Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*IDC **01** 00:03:09.0±0.9, 7.38N×93.91E, h0km, mb4.0/14, mbtmp4.0/16, ML4.0/2, Error ellipse: s-maj=35.8km s-min=18.0km az=55.0*

ISC 01 00:03:12.5±0.7, 7.44N±0.09×93.9E±0.1, h20km, n26, σ0.69/24, mb4.2/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.37**	**145**	S	**Sb**	**00 04 23.3**	**+0.1**
BSI	**Banda Aceh**	**2.37**	**145**	P	**Pb**	**00 03 55.2**	**+0.8**
LHMI	**Lhok Sumawe**	**3.72**	**126**	P	Pn	00 04 03.0	-5.9
MLSI	**Meulaboh, Aceh**	**4.00**	**142**	P	**Pn**	**00 04 13.3**	**+0.6**
SNSI	**Sinabang, Aceh**	**5.54**	**154**	P	Pb	00 04 41.4	-7.2
TSI	**Tuntungan**	**6.05**	**130**	P	**Pn**	**00 04 39.1**	**-1.8**
PSI	**Prapat**	**6.79**	**133**	Pn	**Pn**	**00 04 51.9**	**+0.8**
	0.7nm,0.3s,baz=306,slow=15,SNR=6.5						
	6.1nm,0.4s						
MNSI	**Mandailing Nat**	**8.68**	**139**	P	**Pn**	**00 05 17.1**	**+0.1**
	0.3nm23nm,0.4s						
CMAR	**Chiang Mai Arr**	**11.99**	**24**	Pn	**Pn**	**00 06 03.0**	**+0.6**
	0.7nm,0.3s,baz=204,slow=13,SNR=2.0						
	1.7nm,0.3s						
PZH	**PanZhiHua**	**20.36**	**21**	P	**P**	**00 07 48.8**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,580nm,8.3s						
MKAR	**Makanchi Array**	**40.46**	**348**	P	**P**	**00 10 50.0**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=165,slow=7.9,SNR=9.6						
	comp=Z,2.5nm,0.7s						
SONM	**Songino Array**	**41.63**	**13**	P	**P**	**00 10 59.6**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=204,slow=8.2,SNR=4.7						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**44.91**	**346**	P	**P**	**00 11 26.0**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=170,slow=7.2,SNR=13						
	comp=Z,3.2nm,0.7s						
ZALV	**Zalesovo Beam**	**46.95**	**353**	P	**P**	**00 11 41.6**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=184,slow=7.4,SNR=8.8						
	comp=Z,2.9nm,0.6s						
WRA	**Warramunga Arr**	**48.19**	**125**	P	**P**	**00 11 51.5**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=305,slow=8.5,SNR=1.5						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**49.33**	**341**	P	**P**	**00 12 00.4**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=138,slow=9.1,SNR=5.0						
	comp=Z,1.8nm,0.8s						
ASAR	**Alice Springs**	**49.80**	**130**	P	**P**	**00 12 02.9**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=303,slow=7.2,SNR=5.0						
	comp=Z,0.6nm,0.6s						
NRIK	**Noril'sk**	**61.96**	**357**	P	**P**	**00 13 29.6**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=167,slow=7.3,SNR=2.4						
	comp=Z,0.9nm,0.5s						
BRTR	**Keskin Array B**	**62.55**	**311**	P	**P**	**00 13 35.0**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=117,slow=7.7,SNR=5.6						
	comp=Z,0.9nm,0.7s						
FINES	**FINESS Array B**	**72.99**	**332**	P	**P**	**00 14 40.5**	**0.0**
	comp=Z,3.0nm,0.7s,baz=106,slow=6.3,SNR=5.8						
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**78.00**	**318**	P	**P**	**00 15 09.7**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=80,slow=3.1,SNR=4.0						
	comp=Z,0.9nm,0.7s						
HFS	**Hagfors**	**78.72**	**330**	P	**P**	**00 15 13.3**	**0.0**
	comp=Z,2.2nm,0.6s,baz=109,slow=11,SNR=4.7						
	comp=Z,2.2nm,0.6s						
NB2	**NORSAR Subarra**	**80.00**	**331**	P	**P**	**00 15 20.1**	**-0.2**
	comp=Z,4.3nm,1.0s,baz=95,slow=5.1						
NOA	**NORSAR Array B**	**80.00**	**331**	P	**P**	**00 15 20.7**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=94,slow=5.3,SNR=4.8						
	comp=Z,0.8nm,0.7s						
EKA	**Eskdalemuir Ar**	**87.95**	**325**	P	**P**	**00 16 01.1**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=82,slow=6.0,SNR=3.7						
	comp=Z,1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**90.49**	**283**	P	**P**	**00 16 14.2**	**+0.4**
	comp=Z,104nm,0.3s,baz=91,slow=5.5,SNR=1.3						

*DJA **01** 00:03:24.0±0.6, 7.N±6.9×95.5E±., h10km, M4.9/10, mB5.7/1, mb4.6/5, MLv5.0/10, Mw(mB)5.2/1*

*IDC **01** 00:03:39.7±0.4, 7.42N×94.07E, h0km, mb4.6/32, mbtmp4.5/36, ML4.7/4, MS4.2/3, Error ellipse: s-maj=15.1km s-min=11.0km az=54.0*

*MOS **01** 00:03:41.0±1.0, 7.64N×94.17E, h14km, mb5.2/65, MS4.7/5, Error ellipse: s-maj=8.5km s-min=4.2km az=112.5*

*BJI **01** 00:03:42.1, 7.77N×93.92E, h9km, mB5.4/21, mb4.7/56, Ms4.9/33, Ms7 4.7/33*

*NEIC **01** 00:03:43.6, 7.21N×94.00E, h12km, Moment Tensor Solution. Duration: 1±8 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.01; $M_{\theta\theta}$=3.46; $M_{r\theta}$=3.47; $M_{r\phi}$=-0.05; $M_{\theta\phi}$=0.87; $M_{\phi r}$=-0.45; Fault plane solution: M_0=3.60000×10^{16} NP1: ϕ_s=232.27000°, δ=84.97000°, λ=5.01000°. NP2: ϕ_s=141.83000°, δ=85.00000°, λ=174.95000°. Principal axes: T 3.6369, Plg7.0000°, Azm97.0000°; N -0.0660, Plg83.0000°, Azm277.0000°; P -3.5709, Plg0.0000°, Azm187.0000°;*

*NEIC **01** 00:03:43.6, 7.81N×94.36E, h12km*

*NEIC **01** 00:03:43.5±1.6, 7.81N±0.06×94.36E±0.07, h10km±1km, mb5.1/207, Mww5.0/20, Error ellipse: s-maj=12.0km s-min=10.4km az=52.0*

*GCMT **01** 00:03:45.5±0.2, 7.53N±0.01×94.29E±0.01, h16km±1km, MW5.0/125, Moment Tensor Solution. s27,c31; s125,c198; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.72±.14; $M_{\theta\theta}$=3.88±.11; $M_{\phi\phi}$=4.60±.12; $M_{r\theta}$=0.70±.37; $M_{\theta\phi}$=1.90±.10; $M_{\phi r}$=0.97±.36; Best double couple: M_0=4.78000×10^{16} NP1: ϕ_s=147.00000°, δ=77.00000°, λ=178.00000°. NP2: ϕ_s=237.00000°, δ=88.00000°, λ=13.00000°. Principal axes: T 5.2090, Plg10.0000°, Azm103.0000°; N -0.8540, Plg77.0000°, Azm245.0000°; P -4.3520, Plg8.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NDI **01** 00:04:00.6±3.0, 7.78N×93.96E, h164km±167km, mb5.0*

ISC 01 00:03:44.4±0.5, 7.69N±0.04×94.23E±0.05, h21km±6km, n782, σ1.19/762, mb5.0/224, MS4.8/32, 17C-30D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.64**	**132**	Pn	**Pn**	**00 04 37.3**	**-2.3**
LHMI	**Lhok Sumawe**	**3.64**	**132**	S	**Pn**	**00 04 37.1**	**-2.5**
SRIT	**Nakonsritamara**	**5.39**	**80**	Pn	**Pn**	**00 05 02.0**	**-1.7**
PSI	**Prapat**	**6.74**	**136**	Pn	**Pn**	**00 05 18.9**	**-3.5**
	12nm,0.3s,baz=332,slow=14,SNR=13						
	26nm,0.3s						
PSI	**Prapat**	**6.74**	**136**	P	**Pn**	**00 05 22.3**	**0.0**
KULM	**Kulim**	**6.81**	**110**	Pn	**Pn**	**00 05 19.9**	**-3.3**
RPSI	**Rantau Prapat**	**6.81**	**137**	Pn	**Pn**	**00 05 22.3**	**-0.9**
GSI	**Gunungsitoli**	**7.17**	**152**	Pn	**Pn**	**00 05 29.4**	**+1.4**
GSI	**Gunungsitoli**	**7.17**	**152**	P	Pn	00 05 22.1	-6.0
BKNI	**Bangkinang**	**9.98**	**137**	Pn	**Pn**	**00 06 06.4**	**-0.3**
MYKOM	**Kota Tinggi**	**11.23**	**121**	Pn	**Pn**	**00 06 20.9**	**-2.9**
CM31	**Chiang Mai Arr**	**11.64**	**23**	Pn	**Pn**	**00 06 32.7**	**+3.3**
CMAR	**Chiang Mai Arr**	**11.64**	**23**	Pn	**Pn**	**00 06 32.9**	**+3.4**
CMAR	**Chiang Mai Arr**	**11.64**	**23**	Pn	**Pn**	**00 06 31.6**	**+2.2**
	2.4nm,0.3s,baz=214,slow=14,SNR=7.5						
	4.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.64**	**23**	P	**Pn**	**00 06 32.9**	**+3.4**
CHTO	**Chiang Mai**	**11.97**	**22**	Pn	**Pn**	**00 06 36.9**	**+3.0**
CHTO	**Chiang Mai**	**11.97**	**22**	P	**Pn**	**00 06 36.9**	**+3.0**
UBPT	**Khong Chiam**	**13.34**	**55**		**Pn**	**00 06 55.5**	**+2.7**
PALK	**Pallekele**	**13.42**	**269**		**P**	**00 07 04.9**	**+1.7**
PALK	**Pallekele**	**13.42**	**269**	Pn	**Pn**	**00 06 49.3**	**-4.6**
	1.3nm,0.3s,baz=73,slow=14,SNR=1.7						
	7.6nm,0.7s						
CRAI	**Chiangrai**	**13.81**	**25**	Pn	**Pn**	**00 07 02.8**	**+3.7**
MNAI	**Manna**	**14.80**	**144**		**P**	**00 07 19.1**	**+0.7**
RAGD	**RAYAGADA**	**15.54**	**319⇑**	*e*P	**P**	**00 07 28.4**	**+1.8**
RAGD				IAmb	IAmb	00 07 36.2	
	comp=Z,49nm,0.8s						
SALM	**Salem**	**16.29**	**285**	*e*P	**P**	**00 07 38.4**	**+3.5**
SALM				IAmb	IAmb	00 07 48.4	
	comp=Z,42nm,1.1s						
SLVN	**Son La**	**16.47**	**34**	P	**P**	**00 07 36.4**	**-0.6**
KOD	**Kodaikanal**	**16.75**	**280**	*e*P	**P**	**00 07 41.6**	**+1.2**
KOD				IAmb	IAmb	00 07 47.9	
	comp=Z,133nm,1.7s						
KSM	**Kuching**	**17.17**	**110**		**P**	**00 07 44.4**	**-0.3**
TNCH	**TengChong**	**17.72**	**13**	P	**Pn**	**00 07 50.4**	**+0.2**
TNCH				pP	pP	00 07 53.8	-2.5
TNCH				PP	**PnPn**	**00 08 04.6**	**+3.5**
TNCH				S	**Sn**	**00 11 03.2**	**-4.1**
TNCH				sS	S	00 11 09.4	-4.8
TNCH				pmax	pmax		
	comp=Z,90nm,17.5s						
TNCH				pmax	pmax		
	comp=Z,830nm,4.5s						
TNCH				LR	LR		
	comp=Z,2μm,11.2s						
TNCH				LR	LR		
	comp=Z,2μm,10.9s						
TNCH				LR	LR		
	comp=Z,2μm,11.3s						
HYB	**Hyderabad**	**18.09**	**304**	*e*P	**P**	**00 07 55.3**	**+0.3**
SBUM	**Sibu**	**18.65**	**105**	P	**P**	**00 08 00.4**	**-0.7**
QIZ	**Qiongzhong**	**18.89**	**52**	P	**P**	**00 08 02.0**	**-1.7**
QIZ				S	**Sn**	**00 11 33.2**	**-2.2**
QIZ				LR	LR		
	comp=N,8μm,11.8s						
QIZ				LR	LR		
	comp=E,3μm,13.3s						
QIZ				LR	LR		
	comp=Z,1μm,11.8s						
KMI	**Kunming**	**19.14**	**24**	P	**Pn**	**00 08 11.1**	**+3.5**
KMI				S	**Sn**	**00 11 34.3**	**-7.5**
KMI				pmax	pmax		
	comp=Z,36nm,1.1s						
KMI				LR	LR		
	comp=Z,1μm,15.1s						
KMI				LR	LR		
	comp=Z,2μm,16.2s						
KMI				LR	LR		
	comp=Z,2μm,12.5s						
LEM	**Lembang**	**19.65**	**137**	P	**P**	**00 08 10.4**	**-1.9**
	comp=Z,2.8nm,0.3s,baz=291,slow=5.9,SNR=5.5						
	comp=Z,14nm,0.5s						
MNGI	**Mangalore**	**19.79**	**287⇓**	*e*P	**P**	**00 08 13.8**	**+0.2**
MNGI				IAmb	IAmb	00 08 22.5	
	comp=Z,29nm,1.1s						
COCO	**West Island**	**19.92**	**173**	P	**Pn**	**00 08 18.5**	**+1.8**
COCO				IAmb	IAmb	00 08 23.3	
	comp=Z,121nm,1.0s						
COCO	**West Island**	**19.92**	**173**	P	**Pn**	**00 08 18.5**	**+1.8**
COCO				pmax	pmax		
	comp=Z,121nm,1.0s						
PZH	**PanZhiHua**	**20.02**	**20**	P	Pn	00 08 19.3	+1.3
PZH				pmax	pmax		
	comp=Z,60nm,1.6s						
PZH				pmax	pmax		
	comp=Z,460nm,4.9s						
LATR	**Latur**	**20.23**	**304**	*e*P	Pn	00 08 19.4	-0.9
LATR				IAmb	IAmb	00 08 22.5	
	comp=Z,41nm,1.0s						
AKL	**Akola**	**21.09**	**310**	*e*P	**P**	**00 08 29.6**	**+2.0**
AKL				IAmb	IAmb	00 08 36.8	
	comp=Z,58nm,1.0s						
ALBI	**Allahabad**	**21.16**	**327⇑**	*e*P	**P**	**00 08 29.4**	**+1.0**
ALBI				IAmb	IAmb	00 08 37.0	
	comp=Z,106nm,0.9s						
XMIS	**Christmas Isla**	**21.33**	**148**	P	**P**	**00 08 33.0**	**+2.7**
XMIS				IAmb	IAmb	00 08 37.4	
	comp=Z,111nm,1.1s						
KAD	**Karad**	**21.76**	**298**	*e*P	**P**	**00 08 36.6**	**+1.6**
KAD				IAmb	IAmb	00 08 43.3	
	comp=Z,97nm,1.2s						
SMRI	**Semarang**	**21.81**	**132**	P	**P**	**00 08 39.2**	**+3.8**
SMRI				IAmb	IAmb	00 08 43.2	
	comp=Z,69nm,0.9s						
KKM	**Kota Kinabalu**	**21.88**	**93**	P	**P**	**00 08 37.6**	**+1.3**
GYA	**Guiyang**	**22.09**	**31**	P	**P**	**00 08 40.7**	**+2.2**
GYA				S	**S**	**00 12 44.3**	**+3.0**
GYA				pmax	pmax		
	comp=Z,25nm,1.0s						
GYA				pmax	pmax		
	comp=Z,1μm,6.1s						
GYA				LR	LR		
	comp=Z,3μm,14.0s						
GYA				LR	LR		
	comp=Z,5μm,14.8s						
GYA				LR	LR		
	comp=Z,2μm,14.6s						
KAAM	**Kaadhehdhoo**	**22.35**	**252**	P	**P**	**00 08 46.8**	**+5.5**
KAAM				IAmb	IAmb	00 08 49.4	
	comp=Z,58nm,1.2s						
MYLDM	**Lahad Datu**	**24.24**	**94**	P	**P**	**00 09 01.6**	**+1.5**
BKB	**Balikpapan**	**24.29**	**111**	P	**P**	**00 09 02.2**	**+1.6**
CD2	**Chengdu**	**24.76**	**20**	*e*P	**P**	**00 09 05.2**	**+0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
LGTI	**Lohaghat**	**25.33**	**330**	*e*P	**P**	**00 09 10.5**	**+0.6**
LGTI				IAmb	IAmb	00 09 18.5	
	comp=Z,56nm,0.8s						
PTH	**Pithoragarh**	**25.43**	**331**	*e*P	**P**	**00 09 12.3**	**+1.2**
PTH				IAmb	IAmb	00 09 19.6	
	comp=Z,85nm,0.8s						
BHV	**Bhavnagar**	**25.48**	**306⇑**	*e*P	**P**	**00 09 13.3**	**+1.9**
BHV				IAmb	IAmb	00 09 22.9	
	comp=Z,32nm,0.6s						
JAGI	**Jajag, Banyuwa**	**25.53**	**129**	P	**P**	**00 09 14.9**	**+3.1**
JAGI				IAmb	IAmb	00 09 33.1	
	comp=Z,93nm,1.6s						
AYAN	**Aya Nagar**	**26.24**	**324**	*e*P	**P**	**00 09 18.6**	**+0.5**
NDI	**New Delhi**	**26.34**	**325**	*e*P	**P**	**00 09 19.5**	**+0.4**
KUDL	**Kundal**	**26.36**	**323**	*e*P	**P**	**00 09 19.8**	**+0.5**
KUDL				IAmb	IAmb	00 09 30.0	
	comp=Z,16nm,0.7s						
H08S3	**Diego Garcia H**	**26.49**	**235**	T	T	00 36 09.8	
	baz=54,slow=75,SNR=34						
H08S2	**Diego Garcia H**	**26.50**	**235**	T	T	00 36 10.0	
	baz=54,slow=75,SNR=35						
H08S1	**Diego Garcia H**	**26.51**	**235**	T	T	00 36 23.0	
	baz=54,slow=75,SNR=25						
XAN	**Xi'an**	**29.52**	**25**	⇑P	P	00 09 52.8	+5.3
XAN				pP	pwP	00 09 58.4	+2.2
XAN				pmax	pmax		
	comp=Z,22nm,0.9s						
WHN	**Wuhan**	**29.52**	**37**	P	**P**	**00 09 48.7**	**+1.2**
LZH	**Lanzhou**	**29.60**	**16**	*e*P	**P**	**00 09 48.8**	**+0.5**
LZH				sP	sP	00 09 55.9	-0.4
LZH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LZH				LR	LR		
	comp=Z,890nm,15.3s						
LZH				LR	LR		
	comp=Z,1μm,12.4s						
LZH				LR	LR		
	comp=Z,1μm,15.5s						
LYN	**LuoYang**	**31.56**	**30**	P	P	00 10 11.5	+6.0
LYN				pmax	pmax		
	comp=Z,22nm,1.0s						
LYN				LR	LR		
	comp=Z,2μm,18.9s						
LYN				LR	LR		
	comp=Z,2μm,16.8s						
LYN				LR	LR		
	comp=Z,3μm,17.9s						
GTA	**Gaotai**	**31.98**	**8**	*e*P	**P**	**00 10 10.9**	**+1.6**
GTA				pP	pP	00 10 15.3	+0.3
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				LR	LR		
	comp=Z,480nm,15.3s						
GTA				LR	LR		
	comp=Z,690nm,12.4s						
GTA				LR	LR		
	comp=Z,590nm,16.7s						
NIL	**Nilore**	**32.30**	**326**	P	**P**	**00 10 12.0**	**-0.1**
NIL	**Nilore**	**32.30**	**326**	P	**P**	**00 10 12.0**	**-0.1**
NIL				pmax	pmax		
	comp=Z,61nm,0.9s						
NJ2	**Nanjing**	**33.35**	**40**	*e*P	**P**	**00 10 21.0**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,4μm,11.6s						
NJ2				LR	LR		
	comp=Z,5μm,19.4s						
NJ2				LR	LR		
	comp=Z,5μm,17.0s						
NJ2				LR	LR		
	comp=Z,5μm,22.3s						
SOEI	**Soe**	**34.57**	**120**	P	**P**	**00 10 30.9**	**-1.3**
SOEI				IAmb	IAmb	00 10 37.7	
	comp=Z,40nm,1.3s						
HNS	**HongShan**	**34.93**	**29**	⇑P	**P**	**00 10 37.5**	**+2.7**
HNS				pmax	pmax		
	comp=Z,19nm,1.1s						
HNS				LR	LR		
	comp=Z,800nm,15.2s						
HNS				LR	LR		
	comp=Z,2μm,14.1s						
HNS				LR	LR		
	comp=Z,1μm,16.9s						
TIA	**Tai'an**	**35.25**	**33**	P	**P**	**00 10 38.7**	**+1.0**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KBL	**Kabul**	**35.37**	**323**	P	**P**	**00 10 38.2**	**-0.8**
KBL	**Kabul**	**35.37**	**323**	P	**P**	**00 10 38.2**	**-0.8**
KBL				pmax	pmax		
	comp=Z,11nm,0.7s						
BTO	**Baotou**	**35.67**	**21**	*e*P	**P**	**00 10 44.1**	**+2.7**
BTO				pP	**sP**	**00 10 48.3**	**-1.1**
BTO				sP	**pwP**	**00 10 51.7**	**+1.6**
BTO				PP	**PP**	**00 12 01.0**	**-1.6**
BTO				S	**S**	**00 16 23.8**	**+6.9**
BTO				pmax	pmax		
	comp=Z,15nm,0.5s						
BTO				pmax	pmax		
	comp=Z,1μm,8.8s						
BTO				LR	LR		
	comp=Z,2μm,12.9s						
BTO				LR	LR		
	comp=Z,3μm,12.9s						
BTO				LR	LR		
	comp=Z,1μm,11.6s						
KSH	**Kashi**	**35.68**	**335**	P	**P**	**00 10 39.4**	**-2.0**
KSH				pP	pP	00 10 44.9	-2.3
KSH				PcP	**PcP**	**00 13 13.8**	**+4.2**
KSH				sS	S	00 16 20.3	+3.2
KSH				ScS	**ScS**	**00 20 58.7**	**-0.9**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KSH				LR	LR		
	comp=Z,750nm,19.9s						
KSH				LR	LR		
	comp=Z,740nm,21.3s						
KSH				LR	LR		
	comp=Z,770nm,16.5s						
WUS	**Wushi**	**35.94**	**341**	P	**P**	**00 10 43.5**	**-0.2**
WUS				IAmb	IAmb	00 10 50.2	
	comp=Z,26nm,0.7s						
WMQ	**Urumqi**	**36.44**	**352**	*e*P	**P**	**00 10 48.6**	**+0.8**
WMQ				LR	LR		
	comp=Z,500nm,11.5s						
WMQ				LR	LR		
	comp=Z,740nm,16.5s						
WMQ				LR	LR		
	comp=Z,530nm,24.3s						
HHC	**Hu-ho-hao-te**	**36.45**	**22**	*e*P	**P**	**00 10 48.8**	**+0.8**
HHC				sP	pwP	00 10 59.0	+2.3
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,930nm,9.9s						
HHC				LR	LR		
	comp=Z,1μm,14.5s						
HHC				LR	LR		
	comp=Z,2μm,13.8s						
HHC				LR	LR		
	comp=Z,1μm,15.3s						
SHLS	**Shalkode**	**37.63**	**342**	*e*P	**P**	**00 10 56.8**	**-1.2**
SHLS	**Shalkode**	**37.63**	**342**	*e*P	**P**	**00 10 56.9**	**-1.2**
BJT	**Baijiatuau**	**37.70**	**28**	P	**P**	**00 10 58.3**	**-0.2**
BJT	**Baijiatuau**	**37.70**	**28**	P	**P**	**00 10 58.3**	**-0.2**
BJT				pmax	pmax		
	comp=Z,20nm,1.1s						
UZB	**Uzynbulak**	**37.76**	**342**	*e*P	**P**	**00 10 58.9**	**-0.2**
UZB	**Uzynbulak**	**37.76**	**342**	*e*P	**P**	**00 10 58.9**	**-0.2**
SATY	**Saty**	**37.88**	**341**	*e*P	**P**	**00 11 00.0**	**-0.1**
SATY	**Saty**	**37.88**	**341**	*e*P	**P**	**00 11 00.0**	**-0.1**
GAR	**Garm**	**37.88**	**329**	P	**P**	**00 11 00.1**	**-0.1**
ZHN	**Zhinishke**	**37.97**	**341**	*e*P	**P**	**00 11 00.6**	**-0.2**
ZHN	**Zhinishke**	**37.97**	**341**	*e*P	**P**	**00 11 00.7**	**-0.2**
MBWA	**Marble Bar**	**38.07**	**139**	P	**P**	**00 11 02.0**	**+0.2**
MBWA				IAmb	IAmb	00 11 09.3	
	comp=Z,61nm,1.9s						
CHGR	**Chuyangaron**	**38.23**	**328**	P	**P**	**00 11 02.1**	**-1.0**
CHGR	**Chuyangaron**	**38.23**	**328**	P	**P**	**00 11 02.1**	**-1.0**
SIMJ	**Simiganj**	**38.31**	**327**	P	**P**	**00 11 03.5**	**-0.4**
SIMJ				IAmb	IAmb	00 11 09.2	
	comp=Z,30nm,0.9s						
TNSS	**Tian-Shan**	**38.35**	**339**	*e*P	**P**	**00 11 03.6**	**-0.8**
TNSS	**Tian-Shan**	**38.35**	**339**	*e*P	**P**	**00 11 03.7**	**-0.8**
MDOK	**Medeo**	**38.42**	**340**	*e*P	**P**	**00 11 04.5**	**-0.2**
MDOK	**Medeo**	**38.42**	**340**	*e*P	**P**	**00 11 04.6**	**-0.2**
AAK	**Ala-Archa**	**38.91**	**337**	P	**P**	**00 11 08.7**	**-0.2**
AAK	**Ala-Archa**	**38.91**	**337**	*i*P	**P**	**00 11 10.2**	**+1.3**
AAK				pmax	pmax		
	comp=Z,20nm,1.0s						
FRU1	**Bishkek**	**39.00**	**337**	P	**P**	**00 11 09.3**	**-0.2**
FRU1	**Bishkek**	**39.00**	**337**	P	**P**	**00 11 09.3**	**-0.2**
FRU1				pmax	pmax		
	comp=Z,22nm,1.2s						
SGDS	**Sogindy**	**39.55**	**337**	*e*P	**P**	**00 11 13.9**	**-0.2**
SGDS	**Sogindy**	**39.55**	**337**	*e*P	**P**	**00 11 14.0**	**-0.2**
TDK	**Taldyqorghan**	**39.63**	**342**	*e*P	**P**	**00 11 14.7**	**+0.1**
TDK	**Taldyqorghan**	**39.63**	**342**	*e*P	**P**	**00 11 14.7**	**+0.1**
DL2	**Dalian**	**39.67**	**34**	P	**P**	**00 11 19.2**	**+4.2**
DL2				pmax	pmax		
	comp=Z,26nm,1.3s						
DL2				pmax	pmax		
	comp=Z,780nm,10.2s						
DL2				LR	LR		
	comp=Z,1μm,13.9s						
DL2				LR	LR		
	comp=Z,1μm,13.7s						
DL2				LR	LR		
	comp=Z,1μm,18.4s						
UOSS	**Minazif**	**40.14**	**300**	P	**P**	**00 11 18.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**40.22**	**130**	P	**P**	**00 11 20.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**40.22**	**130**	P	**P**	**00 11 16.6**	**-3.3**
	comp=Z,2.0nm,0.7s,baz=300,slow=5.5,SNR=5.0						
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**40.28**	**347**	P	**P**	**00 11 19.6**	**-0.5**
MK31	**Makanchi Array**	**40.28**	**347**	*d i*P	**P**	**00 11 19.8**	**-0.3**
MKAR	**Makanchi Array**	**40.28**	**347**	P	**P**	**00 11 19.3**	**-0.8**
MKAR	**Makanchi Array**	**40.28**	**347**	P	**P**	**00 11 20.0**	**-0.1**
	comp=Z,16nm,0.8s,baz=166,slow=8.0,SNR=30						
MKAR				LR	LR	00 31 25.8	
	comp=Z,359nm,20.1s,baz=160,slow=41						
	comp=Z,16nm,0.8s						
MAKZ	**Makanchi**	**40.37**	**347**	P	**P**	**00 11 19.7**	**-1.1**
MAKZ	**Makanchi**	**40.37**	**347**	P	**P**	**00 11 19.7**	**-1.1**
MAKZ				pmax	pmax		
	comp=Z,20nm,0.9s						
ZSN	**Zaisan**	**40.42**	**350**	*e*P	**P**	**00 11 21.4**	**+0.3**
ZSN	**Zaisan**	**40.42**	**350**	*e*P	**P**	**00 11 21.4**	**+0.3**
IUG	**Iuzhnay**	**40.43**	**332**	*e*P	**P**	**00 11 20.7**	**-0.8**
IUG				pmax	pmax		
	comp=Z,37nm,1.6s						
IUG	**Iuzhnay**	**40.43**	**332**	*e*P	**P**	**00

KURK	**Kurchatov**	**44.81**	**346**	P	**P**	**00 11 56.6**	**-0.2**
KURK	**Kurchatov**	**44.81**	**346** *d*	*i*P	**P**	**00 11 57.0**	**+0.3**
KURK				pmax	pmax		
	comp=Z,55nm,1.1s						
BRZS	**Berezniki**	**45.84**	**341**	*e*P	**P**	**00 12 04.9**	**-0.1**
BRZS	**Berezniki**	**45.84**	**341**	*e*P	**P**	**00 12 04.1**	**-0.9**
NWAO	**Narrogin (SRO)**	**45.94**	**153**	P	**P**	**00 12 07.5**	**+1.5**
NWAO	**Narrogin (SRO)**	**45.94**	**153**	P	**P**	**00 12 07.5**	**+1.5**
NWAO				pmax	pmax		
	comp=Z,119nm,1.5s						
HIA	**Hailar**	**46.65**	**23**	P	**P**	**00 12 10.7**	**-0.7**
HIA				IAmb	IAmb	00 12 28.3	
	comp=Z,15nm,1.1s						
HIA	**Hailar**	**46.65**	**23**	P	**P**	**00 12 10.7**	**-0.7**
HIA				pmax	pmax		
	comp=Z,15nm,1.1s						
ZAA0	**Zalesovo Array**	**46.75**	**352**	P	**P**	**00 12 11.8**	**-0.2**
ZALV	**Zalesovo Beam**	**46.75**	**352**	P	**P**	**00 12 11.8**	**-0.2**
ZALV	**Zalesovo Beam**	**46.75**	**352**	P	**P**	**00 12 12.3**	**+0.3**
	comp=Z,20nm,0.6s,baz=179,slow=8.1,SNR=19						
	comp=Z,20nm,0.6s						
CIT	**Chita**	**46.96**	**16**	*e*P	P	00 12 25.0	+11
BNX	**BinXian**	**47.48**	**31**	⇑P	P	00 12 23.2	+5.4
BNX				pmax	pmax		
	comp=Z,11nm,1.3s						
INU	**Inuyama**	**47.84**	**49**	P	**P**	**00 12 20.8**	**-0.1**
MDJ	**Mudanjiang**	**47.91**	**34**	P	**P**	**00 12 25.7**	**+4.5**
MDJ				pmax	pmax		
	comp=Z,12nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,190nm,4.6s						
WB0	**Warramunga Arr**	**48.03**	**125**	P	**P**	**00 12 22.4**	**-0.1**
WB0				IAmb	IAmb	00 12 34.1	
	comp=Z,28nm,1.4s						
WRA	**Warramunga Arr**	**48.08**	**125**	P	**P**	**00 12 23.0**	**+0.1**
WRA	**Warramunga Arr**	**48.08**	**125**	P	**P**	**00 12 19.4**	**-3.6**
	comp=Z,2.8nm,0.9s,baz=302,slow=7.5,SNR=6.2						
WRA				PcP	**PcP**	**00 13 48.7**	**-1.9**
	comp=Z,2.3nm,0.7s,baz=302,slow=3.6,SNR=5.4						
	comp=Z,2.8nm,0.9s						
WRA	**Warramunga Arr**	**48.08**	**125**	P	**P**	**00 12 23.0**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.4s						
WB2	**Warramunga Arr**	**48.09**	**125**	P	**P**	**00 12 22.9**	**-0.1**
WB2				IAmb	IAmb	00 12 40.7	
	comp=Z,27nm,1.4s						
WR0	**Warramunga Arr**	**48.25**	**125**	P	**P**	**00 12 24.5**	**+0.2**
WR0				IAmb	IAmb	00 12 40.6	
	comp=Z,8.1nm,0.6s						
BVAR	**Borovoye Array**	**49.19**	**341**	P	**P**	**00 12 30.9**	**-0.1**
	comp=Z,13nm,0.9s,baz=134,slow=8.4,SNR=17						
BVAR				PcP	**PcP**	**00 13 54.2**	**+0.2**
	comp=Z,6.2nm,0.7s,baz=159,slow=4.7,SNR=6.0						
	comp=Z,13nm,0.9s						
MJB9	**Matsu-Tunnel**	**49.21**	**48**	P	**P**	**00 12 30.3**	**-1.2**
MJB9				IAmb	IAmb	00 13 11.5	
	comp=Z,48nm,1.7s						
MAJO	**Matsushiro**	**49.21**	**48**	P	**P**	**00 12 30.7**	**-0.7**
MAJO				IAmb	IAmb	00 13 11.6	
	comp=Z,51nm,1.8s						
MAJO	**Matsushiro**	**49.21**	**48**	P	**P**	**00 12 30.7**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,51nm,1.8s						
MJAR	**Matsushiro Arr**	**49.22**	**48**	P	**P**	**00 12 32.4**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=241,slow=8.7,SNR=8.2						
MJAR				PcP	**PcP**	**00 13 55.8**	**+1.3**
	comp=Z,2.9nm,0.9s,baz=246,slow=3.2,SNR=4.2						
	comp=Z,1.0nm,0.5s						
RAYN	**Ar Rayn**	**49.24**	**294**	P	**P**	**00 12 33.0**	**+1.0**
RAYN				IAmb	IAmb	00 12 39.6	
	comp=Z,18nm,0.6s						
RAYN	**Ar Rayn**	**49.24**	**294**	P	**P**	**00 12 33.0**	**+1.0**
RAYN				pmax	pmax		
	comp=Z,18nm,0.6s						
BRVK	**Borovoye**	**49.25**	**341**	P	**P**	**00 12 30.9**	**-0.6**
BRVK				IAmb	IAmb	00 12 40.0	
	comp=Z,12nm,0.8s						
BRVK	**Borovoye**	**49.25**	**341**	*de*P	**P**	**00 12 30.8**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,15nm,0.9s						
AS31	**Alice Springs**	**49.73**	**130**	P	**P**	**00 12 37.0**	**+1.4**
ASAR	**Alice Springs**	**49.73**	**130**	P	**P**	**00 12 35.8**	**+0.2**
ASAR	**Alice Springs**	**49.73**	**130**	P	**P**	**00 12 33.3**	**-2.3**
	comp=Z,1.0nm,0.5s,baz=299,slow=7.2,SNR=7.6						
ASAR				PcP	**PcP**	**00 13 57.5**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=311,slow=3.9,SNR=8.3						
	comp=Z,1.0nm,0.5s						
GUMO	**Guam**	**50.04**	**79**	LR	LR	00 33 17.9	
	comp=Z,159nm,20.0s,baz=228,slow=35						
FORT	**Forrest**	**50.14**	**141**	P	**P**	**00 12 39.9**	**+1.4**
ABKAR	**Abkulak array**	**50.44**	**331**	P	**P**	**00 12 40.3**	**-0.2**
ABKAR	**Abkulak array**	**50.44**	**331**	P	**P**	**00 12 39.9**	**-0.6**
ABKAR				IAmb	IAmb	00 12 48.0	
	comp=Z,39nm,1.3s						
HEH	**HeiHe**	**50.62**	**27**	*e*P	P	00 12 48.4	+6.5
HEH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HEH				LR	LR		
	comp=Z,310nm,15.4s						
HEH				LR	LR		
	comp=Z,770nm,14.2s						
HEH				LR	LR		
	comp=Z,930nm,14.9s						
KLR	**Kul'dur**	**51.99**	**30**	P	**P**	**00 12 54.7**	**+2.5**
	comp=Z,1.2nm,1.0s,baz=239,slow=8.4,SNR=4.6						
	comp=Z,1.2nm,1.0s						
KLR	**Kul'dur**	**51.99**	**30**	*e*P	P	00 12 58.8	+6.6
KLR				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ZEA	**Zeya**	**53.08**	**24**	*e*P	**P**	**00 12 57.8**	**-2.4**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEA				MLR	MLR		
	comp=N,800nm,21.0s						
ZEA				MLR	MLR		
	comp=Z,700nm,17.0s						
GNI	**Garni**	**54.63**	**314**	P	**P**	**00 13 11.9**	**-0.1**
GNI				IAmb	IAmb	00 13 33.2	
	comp=Z,18nm,0.9s						
GNI	**Garni**	**54.63**	**314**	*c i*P	**P**	**00 13 11.4**	**-0.6**
GNI				pmax	pmax		
	comp=Z,21nm,1.0s						
GNI	**Garni**	**54.63**	**314**	P	**P**	**00 13 12.0**	**0.0**
	comp=Z,21nm,1.0s						
SVE	**Sverdlovsk**	**55.60**	**338**	*de*P	**P**	**00 13 19.0**	**+0.5**
SVE				pmax	pmax		
	comp=Z,57nm,0.9s						
GURO	**Guroymak-BITLI**	**56.03**	**312**	P	**P**	**00 13 22.0**	**-0.1**
ARTI	**Arti**	**56.13**	**337**	P	**P**	**00 13 22.0**	**-0.3**
ARTI	**Arti**	**56.13**	**337**	*d i*P	**P**	**00 13 22.0**	**-0.3**
ARTI						00 14 18.0	
ARTI				S	**S**	**00 21 13.6**	**+3.5**
ARTI				SS	**SS**	**00 24 52.3**	**-4.4**
ARTI				pmax	pmax		
	comp=Z,26nm,1.0s						
ARTI				MLR	MLR		
	comp=Z,547nm,18.0s						
MARD	**Mardin**	**56.58**	**310**	P	**P**	**00 13 24.7**	**-1.3**
NCK	**Nalchik**	**56.73**	**318**	⇑*e*P	**P**	**00 13 26.7**	**-0.1**
NCK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
YSS	**Yuzhno-Sakhali**	**56.87**	**38**	*e*P	**P**	**00 13 29.4**	**+1.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIBK	**Kibwezi**	**56.93**	**262**	P	**P**	**00 13 29.1**	**+0.3**
KBZ	**Khabaz**	**57.28**	**318**	P	**P**	**00 13 30.4**	**-0.2**
	comp=Z,4.4nm,0.9s,baz=104,slow=8.2,SNR=5.8						
	comp=Z,4.4nm,0.9s						
KBZ	**Khabaz**	**57.28**	**318**	*de*P	**P**	**00 13 30.3**	**-0.4**
KBZ				pmax	pmax		
	comp=Z,11nm,0.9s						
SHA1	**Shidzhatmaz**	**57.45**	**318**	⇓*i*P	**P**	**00 13 32.0**	**-0.2**
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**00 13 33.0**	**0.0**
KMBO				IAmb	IAmb	00 13 41.3	
	comp=Z,21nm,1.1s						
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**00 13 30.6**	**-2.4**
	comp=Z,5.8nm,0.9s,baz=61,slow=12,SNR=13						
	comp=Z,5.8nm,0.9s						
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**00 13 33.0**	**0.0**
KMBO				pmax	pmax		
	comp=Z,21nm,1.1s						
KIV	**Kislovodsk**	**57.51**	**318**	P	**P**	**00 13 31.2**	**-1.3**
KIV				IAmb	IAmb	00 13 39.3	
	comp=Z,13nm,0.8s						
KIV	**Kislovodsk**	**57.51**	**318**	⇑P	**P**	**00 13 32.4**	**0.0**
KIV	**Kislovodsk**	**57.51**	**318**	*e*P	**P**	**00 13 31.3**	**-1.2**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KIV	**Kislovodsk**	**57.51**	**318**	P	**P**	**00 13 32.3**	**-0.2**
	comp=Z,15nm,0.9s						
TYV	**Tymovskoe**	**58.69**	**34**	*e*P	P	00 13 52.6	+12
TYV				pmax	pmax		
	comp=Z,8.0nm,1.3s						
TYV				pmax	pmax		
	comp=Z,200nm,4.4s						
LODK	**Lodwar**	**58.71**	**269**	P	**P**	**00 13 40.9**	**-0.4**
ERBR	**Yeremizino-Bor**	**59.64**	**319**	*e*P	**P**	**00 13 46.0**	**-1.1**
ERBR				*e*		00 15 58.9	
ERBR				*e*S	**S**	**00 21 55.2**	**-1.2**
ERBR				pmax	pmax		
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**59.91**	**134**	P	**P**	**00 13 46.3**	**-2.9**
	comp=Z,2.6nm,0.9s,baz=310,slow=12,SNR=4.2						
	comp=Z,2.6nm,0.9s						
YAK	**Yakutsk**	**60.14**	**18**	P	**P**	**00 13 49.9**	**-0.2**
	comp=Z,15nm,0.5s,baz=259,slow=2.7,SNR=6.6						
	comp=Z,15nm,0.5s						
YAK	**Yakutsk**	**60.14**	**18**	⇑*e*P	**P**	**00 13 50.8**	**+0.6**
YAK				pmax	pmax		
	comp=Z,37nm,0.8s						
VRH	**Novokhopyorsk**	**61.13**	**325**	*e*P	**P**	**00 13 55.9**	**-1.3**
VRH				pmax	pmax		
	comp=Z,17nm,0.8s						
KIRV	**Kirov**	**61.22**	**335**	*ce*P	**P**	**00 13 57.3**	**-0.3**
ANN	**Anapa**	**61.33**	**317**	*e*P	**P**	**00 13 56.2**	**-2.5**
ANN				*e*S	**S**	**00 22 13.7**	**-4.4**
ANN				pmax	pmax		
	comp=Z,13nm,0.7s						
NRIK	**Noril'sk**	**61.73**	**357**	P	**P**	**00 14 00.4**	**-0.5**
NRIK				IAmb	IAmb	00 14 13.6	
	comp=Z,15nm,0.8s						
NRIK	**Noril'sk**	**61.73**	**357**	P	**P**	**00 14 00.1**	**-0.8**
	comp=Z,5.4nm,0.5s,baz=145,slow=6.3,SNR=11						
	comp=Z,5.4nm,0.5s						
NRIK	**Noril'sk**	**61.73**	**357**	*de*P	**P**	**00 14 00.7**	**-0.2**
NRIK				pmax	pmax		
	comp=Z,18nm,0.9s						
CSS	**Mathiatis**	**61.85**	**306**	P	**P**	**00 14 02.6**	**+0.2**
CSS				IAmb	IAmb	00 14 14.3	
	comp=Z,14nm,0.9s						
KIRS	**Kirsehir-Merke**	**62.27**	**310**	⇓P	**P**	**00 14 03.9**	**-1.3**
VSR	**Storozhevoye**	**62.59**	**324**	*e*P	**P**	**00 14 05.0**	**-2.0**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BR131	**Keskin Array S**	**62.62**	**311**	P	**P**	**00 14 05.6**	**-2.0**
BR131	**Keskin Array S**	**62.62**	**311**	*i* P	**P**	**00 14 05.9**	**-1.7**
BRTR	**Keskin Array B**	**62.62**	**311**	P	**P**	**00 14 05.2**	**-2.4**
BRTR	**Keskin Array B**	**62.62**	**311**	P	**P**	**00 14 05.1**	**-2.5**
	comp=Z,2.6nm,0.7s,baz=127,slow=7.1,SNR=11						
	comp=Z,2.6nm,0.7s						
BRTR	**Keskin Array B**	**62.62**	**311**	P	**P**	**00 14 05.2**	**-2.4**
BR106	**Keskin Array S**	**62.63**	**311**	P	**P**	**00 14 05.7**	**-2.0**
	comp=Z,39nmcomp=Z,6.0nm,0.8s						
VORR	**Voronezh**	**62.75**	**325**	*e*P	**P**	**00 14 06.9**	**-1.2**
VORR				pmax	pmax		
	comp=Z,11nm,0.4s						
ILGA	**Ilgaz**	**62.88**	**312**	P	**P**	**00 14 09.2**	**-0.3**
ILGA				IAmb	IAmb	00 14 22.6	
	comp=Z,22nm,1.0s						
ANTO	**Ankara**	**63.28**	**311**	P	**P**	**00 14 11.0**	**-1.0**
ANTO	**Ankara**	**63.28**	**311**	P	**P**	**00 14 11.0**	**-1.0**
ANTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LPSR	**Galich'ya Gora**	**63.29**	**326**	*e*P	**P**	**00 14 10.5**	**-1.1**
LPSR				pmax	pmax		
	comp=Z,12nm,0.8s						
ISP	**Isparta**	**64.61**	**308**	P	**P**	**00 14 20.9**	**+0.1**
ISP				IAmb	IAmb	00 14 27.1	
	comp=Z,15nm,1.1s						
ISP	**Isparta**	**64.61**	**308**	P	**P**	**00 14 20.9**	**+0.1**
ISP				pmax	pmax		
	comp=Z,15nm,1.1s						
ELL	**Elmali**	**64.91**	**307**	P	**P**	**00 14 21.9**	**-0.8**
ELL	**Elmali**	**64.91**	**307**	P	**P**	**00 14 21.9**	**-0.8**
ELL				pmax	pmax		
	comp=Z,76nm,0.9s						
BORA	**Eskisehir**	**65.05**	**310**	P	**P**	**00 14 22.2**	**-1.3**
BORA				IAmb	IAmb	00 14 37.1	
	comp=Z,15nm,1.4s						
MOS	**Moscow**	**65.28**	**329**	*e*P	**P**	**00 14 23.1**	**-1.5**
MOS				*e*		00 14 55.6	
MOS				pmax	pmax		
	comp=Z,30nm,0.9s						
OBN	**Obninsk**	**65.58**	**328**	P	**P**	**00 14 25.6**	**-0.9**
OBN	**Obninsk**	**65.58**	**328**	⇓*i*P	**P**	**00 14 26.1**	**-0.5**
OBN				*i*		00 14 58.6	
OBN				*i*		00 16 47.8	
OBN				pmax	pmax		
	comp=Z,41nm,1.2s						
OBN	**Obninsk**	**65.58**	**328**	P	**P**	**00 14 25.8**	**-0.8**
	comp=Z,37nm,1.3s						
H04N2	**CROZET ISLANDS**	**65.62**	**211**	T	T	01 25 02.8	
	baz=47,slow=75,SNR=14						
H04N1	**CROZET ISLANDS**	**65.63**	**211**	T	T	01 25 24.9	
	baz=47,slow=75,SNR=14						
H04N3	**CROZET ISLANDS**	**65.64**	**211**	T	T	01 25 31.2	
	baz=47,slow=75,SNR=12						
KLMR	**Klimovskoe**	**66.66**	**334**	*e*P	**P**	**00 14 32.6**	**-0.8**
KLMR				pmax	pmax		
	comp=Z,47nm,1.4s						
MA2	**Magadan**	**66.88**	**27**	*d i*P	**P**	**00 14 34.7**	**-0.2**
MA2				pmax	pmax		
	comp=Z,13nm,1.1s						
TIXI	**Tiksi**	**67.39**	**11**	P	**P**	**00 14 37.0**	**-0.9**
TIXI	**Tiksi**	**67.39**	**11**	⇓*e*P	**P**	**00 14 37.0**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,28nm,0.8s						
VLDR	**Vladesti**	**67.96**	**316**	⇓P	**P**	**00 14 41.4**	**-0.6**
PEA0B	**Petropavlovsk-**	**68.10**	**36**	P	**P**	**00 14 42.0**	**-0.7**
PEA0B				IAmb	IAmb	00 14 43.7	
	comp=Z,32nm,1.5s						
PEA0B	**Petropavlovsk-**	**68.10**	**36**	P	**P**	**00 14 42.0**	**-0.7**
PEA0B				pmax	pmax		
	comp=Z,31nm,1.5s						
PETK	**Petropavlovsk-**	**68.10**	**36**	P	**P**	**00 14 41.5**	**-1.2**
PETK	**Petropavlovsk-**	**68.10**	**36**	P	**P**	**00 14 41.5**	**-1.2**
SORM	**Soroca**	**68.28**	**319**	⇑P	**P**	**00 14 42.5**	**-1.4**
AK09	**Malin Array Si**	**68.29**	**322**	P	**P**	**00 14 42.4**	**-1.5**
AKASG	**Malin Array Be**	**68.35**	**322**	P	**P**	**00 14 42.6**	**-1.7**
	comp=Z,1.6nm,0.8s,baz=90,slow=4.8,SNR=8.0						
	comp=Z,1.6nm,0.8s						
AKBB	**Malin Array Si**	**68.35**	**322**	⇓*i*P	**P**	**00 14 42.6**	**-1.7**
AKBB				pmax	pmax		
	comp=Z,61nm,4.6s						
AK01	**Malin Array Si**	**68.36**	**322**	P	**P**	**00 14 43.2**	**-1.1**
AK14	**Malin Array Si**	**68.41**	**322**	P	**P**	**00 14 43.5**	**-1.1**
AK16	**Malin Array Si**	**68.42**	**322**	P	**P**	**00 14 43.6**	**-1.1**
PLOR5	**Plostina Array**	**68.94**	**316**	P	**P**	**00 14 48.1**	**0.0**
	comp=Z,34nm,0.7s						
SEY	**Seymchan**	**69.05**	**25**	P	**P**	**00 14 49.0**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=236,slow=5.4,SNR=7.0						
	comp=Z,0.7nm,0.3s						
SEY	**Seymchan**	**69.05**	**25**	⇓*e*P	**P**	**00 14 48.4**	**0.0**
SEY				pmax	pmax		
	comp=Z,10.0nm,1.6s						
TESR	**Tescani**	**69.07**	**317**	⇑P	**P**	**00 14 48.6**	**-0.4**
LUBAR	**Lubar, Ukraine**	**69.08**	**321**	P	**P**	**00 14 47.5**	**-1.3**
MI29	**MI29, Kamyanyy**	**69.13**	**321**	P	**P**	**00 14 48.2**	**-1.0**
	comp=Z,125nm,2.1s						
LSZ	**Lusaka**	**69.30**	**251**	P	**P**	**00 14 51.0**	**0.0**
LSZ				IAmb	IAmb	00 14 58.0	
	comp=Z,19nm,1.3s						
LSZ	**Lusaka**	**69.30**	**251**	P	**P**	**00 14 51.0**	**0.0**
LSZ				pmax	pmax		
	comp=Z,19nm,1.3s						
MLR	**Muntele Rosu**	**69.36**	**316**	P	**P**	**00 14 50.0**	**-0.9**
MLR				IAmb	IAmb	00 14 56.0	
	comp=Z,16nm,1.0s						
MLR	**Muntele Rosu**	**69.36**	**316**	⇑P	**P**	**00 14 51.2**	**+0.3**
MLR	**Muntele Rosu**	**69.36**	**316**	P	**P**	**00 14 50.0**	**-0.9**
MLR				pmax	pmax		
	comp=Z,16nm,1.0s						
MLR	**Muntele Rosu**	**69.36**	**316**	P	**P**	**00 14 51.2**	**+0.3**
	comp=Z,17nm,1.3s						
TAU	**Tasmania Unive**	**69.69**	**141**	P	**P**	**00 14 53.2**	**+0.5**
TAU	**Tasmania Unive**	**69.69**	**141**	P	**P**	**00 14 53.2**	**+0.5**
TAU				pmax	pmax		
	comp=Z,119nm,1.6s						
MNK	**Minsk**	**70.13**	**325**	*i* P	**P**	**00 14 53.0**	**-2.2**
MNK				*i*		00 15 14.7	
MNK				*i*		00 17 28.0	
MNK				*i* PPP	PPP	00 19 09.9	
MNK				*i* S	**S**	**00 24 05.1**	**-0.1**
MNK				*i*		00 24 55.5	
MNK				*i* SS	**SS**	**00 28 35.9**	**+0.8**
MNK				pmax	pmax		
	comp=E,18nm,1.1s						
MNK				pmax	pmax		
	comp=N,29nm,1.2s						
MNK				pmax	pmax		
	comp=Z,16nm,1.0s						
BURAR	**Bucovina Array**	**70.24**	**318**	P	**P**	**00 14 55.3**	**-0.9**
BURAR	**Bucovina Array**	**70.24**	**318**	⇓P	**P**	**00 14 56.1**	**-0.1**
BUR08	**Bucovina Ar. S**	**70.26**	**318**	P	**P**	**00 14 55.7**	**-0.7**
JOF	**Joensuu**	**71.05**	**334**	*e*P	**P**	**00 15 01.1**	**+0.4**
LIT	**Litokhoron**	**71.13**	**310**	P	**P**	**00 14 59.7**	**-2.0**
LIT				IAmb	IAmb	00 15 10.7	
	comp=Z,13nm,0.8s						
LIT	**Litokhoron**	**71.13**	**310**	P	**P**	**00 14 59.7**	**-2.0**
LIT				pmax	pmax		
	comp=Z,13nm,0.8s						
ITM	**Ithomi**	**71.30**	**307**	P	**P**	**00 15 02.0**	**-0.8**
ITM				IAmb	IAmb	00 15 13.6	
	comp=Z,20nm,0.8s						
MARR	**Marisel-Cluj**	**71.50**	**317**	⇓P	**P**	**00 15 03.6**	**-0.3**
VSU	**Vasula**	**71.79**	**329**	⇑*e*P	**P**	**00 15 05.7**	**+0.5**
VSU				pmax	pmax		
	comp=Z,40nm,1.2s						
VSU	**Vasula**	**71.79**	**329**	*e*P	**P**	**00 15 04.1**	**-1.1**
MREMI	**Moremi**	**71.92**	**243**	*i* P	**P**	**00 15 06.9**	**+0.1**
MREMI	**Moremi**	**71.92**	**243**	*i* P	**P**	**00 15 07.2**	**+0.3**
FNA	**Florina**	**72.04**	**310**	P	**P**	**00 15 06.7**	**-0.5**
FNA	**Florina**	**72.04**	**310**	P	**P**	**00 15 06.7**	**-0.5**
FNA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BERU	**Beregovo**	**72.05**	**318**	P	**P**	**00 15 07.1**	**+0.1**
SURR	**Surduc**	**72.06**	**316**	⇓P	**P**	**00 15 06.6**	**-0.5**
BOVS	**Bovan**	**72.09**	**313**	⇓P	**P**	**00 15 06.3**	**-1.1**
BZS	**Buzias**	**72.39**	**315**	⇓P	**P**	**00 15 08.3**	**-0.8**
KOLS	**Kolonicke sedl**	**72.40**	**319**	*e*P	**P**	**00 15 13.9**	**+4.7**
KOLS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KOLS	**Kolonicke sedl**	**72.40**	**319**	*e*P	**P**	**00 15 13.9**	**+4.7**
ARBE	**Arbavere**	**72.42**	**330**	*e*P	**P**	**00 15 08.6**	**-0.4**
PABE	**Paberze**	**72.56**	**326**	P	**P**	**00 15 09.0**	**-0.9**
PABE	**Paberze**	**72.56**	**326**	*e*P	**P**	**00 15 09.5**	**-0.3**
SUW	**Suwalki**	**72.71**	**324**	*e*P	**P**	**00 15 10.4**	**-0.5**
SUW	**Suwalki**	**72.71**	**324**	P	**P**	**00 15 09.8**	**-1.0**
SUW	**Suwalki**	**72.71**	**324**	P	**P**	**00 15 09.8**	**-1.0**
SUW				pmax	pmax		
	comp=Z,40nm,1.0s						
SUW	**Suwalki**	**72.71**	**324**	*e*P	**P**	**00 15 10.3**	**-0.5**
KSANE	**Kasane**	**72.73**	**249**	*i* P	**P**	**00 15 12.5**	**+0.7**
KSANE	**Kasane**	**72.73**	**249**	*i* P	**P**	**00 15 09.3**	**-2.4**
FIA1	**FINESS Array S**	**72.91**	**332**	P	**P**	**00 15 10.4**	**-1.4**
FINES	**FINESS Array B**	**72.91**	**332**	P	**P**	**00 15 11.2**	**-0.7**
FINES	**FINESS Array B**	**72.91**	**332**	P	**P**	**00 15 10.9**	**-1.0**
	comp=Z,10.0nm,0.6s,baz=98,slow=5.7,SNR=17						
	comp=Z,10.0nm,0.6s						
FINES	**FINESS Array B**	**72.91**	**332**	P	**P**	**00 15 11.2**	**-0.7**
MEF	**Metsahovi**	**73.40**	**331**	*e*P	**P**	**00 15 14.6**	**-0.1**
KHWEE	**KHWEE**	**73.53**	**244**	*i* P	**P**	**00 15 16.9**	**+0.5**
KHWEE	**KHWEE**	**73.53**	**244**	*i* P	**P**	**00 15 16.6**	**+0.2**
LPHEP	**Lephephe**	**73.55**	**243**	*i* P	**P**	**00 15 15.2**	**-1.3**
LPHEP	**Lephephe**	**73.55**	**243**	*i* P	**P**	**00 15 17.0**	**+0.5**
KEF	**Keuruu**	**73.66**	**333**	*e*P	**P**	**00 15 16.0**	**-0.3**
PBUR	**Paburge**	**73.79**	**326**	*e*P	**P**	**00 15 16.1**	**-1.0**
PSZ	**Piszkesteto**	**73.84**	**318**	⇑P	**P**	**00 15 17.6**	**-0.2**
PSZ	**Piszkesteto**	**73.84**	**318**	*e*P	**P**	**00 15 17.5**	**-0.2**
OJC	**Ojcow**	**74.17**	**320**	*e*P	**P**	**00 15 19.7**	**+0.1**
OJC	**Ojcow**	**74.17**	**320**	P	**P**	**00 15 19.1**	**-0.5**
OJC	**Ojcow**	**74.17**	**320**	P	**P**	**00 15 19.1**	**-0.5**
OJC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
OJC	**Ojcow**	**74.17**	**320**	P	**P**	**00 15 19.3**	**-0.3**
	comp=Z,12nm,1.4s						
LBTB	**Lobatse**	**74.24**	**241**	P	**P**	**00 15 21.7**	**+1.2**
LBTB	**Lobatse**	**74.24**	**241**	P	**P**	**00 15 21.7**	**+1.2**
LBTB				pmax	pmax		
	comp=Z,11nm,1.0s						
MORH	**Mrgy, Hungar**	**74.52**	**316**	⇓P	**P**	**00 15 20.8**	**-0.8**
KDWAN	**Kaudwane**	**74.61**	**243**	*i* P	**P**	**00 15 22.3**	**-0.5**
KDWAN	**Kaudwane**	**74.61**	**243**	*i* P	**P**	**00 15 22.4**	**-0.3**
RAF	**Rauma**	**74.84**	**331**	*e*P	**P**	**00 15 23.0**	**-0.2**
VAF	**Ylistaro**	**74.86**	**333**	*e*P	**P**	**00 15 23.3**	**+0.1**
MAKGR	**Makgori**	**75.15**	**241**	*i* P	**P**	**00 15 25.5**	**-0.3**
OKC	**Ostrava-Krasne**	**75.19**	**319**	AMS	AMS	00 37 50.0	
	comp=Z,400nm,15.1s						
MPLH	**Magyarpolny**	**75.36**	**317**	P	**P**	**00 15 26.3**	**-0.2**
	comp=Z,36nm,1.1s						
JAVC	**Velka Javorina**	**75.41**	**318**	*e*P	**P**	**00 15 26.9**	**+0.1**
ARCES	**ARCESS Array B**	**75.47**	**340**	P	**P**	**00 15 26.4**	**-0.3**
	comp=Z,6.6nm,0.8s,baz=90,slow=6

BLEU	Blekinge	77.22 326	*i* P	P	00 15 35.7	-1.1
GOPC	GO Pecny, Ondr	77.36 319	AMS	AMS	00 35 20.0	
	comp=Z,400nm,17.0s					
PRU	Pruhonice	77.52 319	AMS	AMS	00 38 10.0	
	comp=Z,300nm,14.9s					
PVCC	Panska Ves	77.53 320	AMS	AMS	00 37 20.0	
	comp=Z,400nm,15.7s					
CKRC	Cesky Krumlov	77.62 318	AMS	AMS	00 36 00.0	
	comp=Z,400nm,25.4s					
BSD	Bornholm Skovb	77.62 325	*i* P	P	00 15 37.4	-1.7
BSD			IAmb	IAmb	00 15 42.8	
	comp=Z,44nm,1.2s					
ZVC	Zvikov	77.72 319	AMS	AMS	00 37 10.0	
	comp=Z,400nm,6.8s					
SHEM	Shemya Is, Ala	77.78 38	P	P	00 15 41.4	+1.4
	comp=Z,30nm,0.6s,baz=295,slow=4.7,SNR=4.7					
	comp=Z,30nm,0.6s					
RICC	Richard	77.84 320	AMS	AMS	00 39 00.0	
	comp=Z,600nm,16.9s					
BRG	Berggiesshubel	77.95 320	*e*P	P	00 15 45.2	+4.2
BRG			Amp		00 15 49.0	
	comp=Z,2.9nm,0.8s					
SABO	M.te Sabotino	78.01 315	P	P	00 15 41.9	+0.4
SABO			IAmb	IAmb	00 15 43.9	
	comp=Z,12nm,0.9s					
GEC2	GERESS Array S	78.02 318	P	P	00 15 41.1	-0.5
GERES	GERESS Array B	78.02 318	P	P	00 15 40.9	-0.8
GERES	GERESS Array B	78.02 318	P	P	00 15 41.4	-0.2
	comp=Z,4.7nm,0.7s,baz=90,slow=5.3,SNR=12					
	comp=Z,4.7nm,0.7s					
BIOA	Bad Ischl, Aus	78.03 317	*i* P	P	00 15 41.4	-0.2
	comp=Z,7.9nm,1.2s					
PRED	Cave del Predi	78.04 316	P	P	00 15 40.7	-1.1
PRED			IAmb	IAmb	00 15 45.2	
	comp=Z,9.9nm,0.9s					
KHC	Kasperske Hory	78.11 319	*e*P	P	00 15 42.2	+0.1
KHC			AMS	AMS	00 37 40.0	
	comp=Z,300nm,14.9s					
KHC	Kasperske Hory	78.11 319⇓	*e*P	P	00 15 43.3	+1.2
KHC			pmax	pmax		
	comp=Z,8.0nm,0.8s					
GUMA	Gualdo di Mace	78.15 312	P	P	00 15 42.4	0.0
GUMA			IAmb	IAmb	00 15 56.5	
	comp=Z,11nm,1.0s					
KBA	Koelnbreinsper	78.21 316	*i* P	P	00 15 42.3	-0.5
	comp=Z,6.2nm,1.2s					
HSKC	Hora Svate Kat	78.26 320	AMS	AMS	00 39 30.0	
	comp=Z,600nm,16.2s					
DEL	Delary	78.31 326	*i* P	P	00 15 41.2	-1.7
NRCA	Norcia	78.31 312	P	P	00 15 43.1	-0.2
NRCA			IAmb	IAmb	00 16 00.4	
	comp=Z,33nm,2.0s					
FDMO	Fiordimonte	78.33 312	P	P	00 15 43.2	-0.1
KOOLE	Kule	78.49 245	*i* P	P	00 15 44.7	-0.1
KOOLE	Kule	78.49 245	*i* P	P	00 15 45.2	+0.4
LUNU	Lund	78.49 325	*i* P	P	00 15 42.0	-1.9
CLL	Collm	78.56 321	P	P	00 15 44.4	0.0
CLL	Collm	78.56 321	*e*P	P	00 15 44.0	-0.4
CLL			*i*		00 15 51.0	
CLL			pmax	pmax		
	comp=Z,4.0nm,0.9s					
CLL			MLR	MLR		
	comp=Z,300nm,18.0s					
CLL	Collm	78.56 321	*e*P	P	00 15 44.0	-0.4
	comp=Z,4.0nm,0.9s					
CLL			*i* sP	pP	00 15 51.0	+0.4
	comp=Z,17nm,1.4s					
CLL			AMS	AMS	00 56 00.0	
	comp=Z,300nm,18.0s					
HFS	Hagfors	78.66 330	P	P	00 15 44.1	-0.7
	comp=Z,7.2nm,0.5s,baz=104,slow=6.3,SNR=15					
	comp=Z,7.2nm,0.5s					
LESA	Schwarzleotal	78.67 317	*i* P	P	00 15 44.7	-0.6
	comp=Z,9.6nm,1.1s					
CESX	Cesi	78.70 312	P	P	00 15 44.9	-0.6
BJUU	Bjuv	78.75 326	*i* P	P	00 15 44.2	-1.2
ABTA	Abfaltersbach	78.78 316	*i* P	P	00 15 45.3	-0.5
	comp=Z,5.1nm,0.9s					
CIMO	Cimolais	78.82 316	P	P	00 15 45.5	-0.5
CIMO			IAmb	IAmb	00 15 50.7	
	comp=Z,14nm,0.9s					
NKC	Novy Kostel	78.88 320	AMS	AMS	00 39 50.0	
	comp=Z,600nm,7.0s					
FABU	Falkenberg	78.97 327	*i* P	P	00 15 45.6	-1.0
BORU	Boraas	78.98 327	*i* P	P	00 15 47.3	+0.7
COP	Copenhagen	79.07 325	*i* P	P	00 15 43.9	-3.2
COP			IAmb	IAmb	00 15 54.2	
	comp=Z,92nm,1.2s					
LLD	Lille Linde	79.18 325	*i* P	P	00 15 45.7	-2.0
LLD			IAmb	IAmb	00 15 51.4	
	comp=Z,28nm,1.0s					
TEOL	Teolo	79.36 315	P	P	00 15 48.2	-0.7
CTI	Castel Tesino	79.37 315	P	P	00 15 49.0	-0.1
CTI			IAmb	IAmb	00 16 02.0	
	comp=Z,38nm,1.6s					
CTI	Castel Tesino	79.37 315	P	P	00 15 49.0	-0.1
CTI			pmax	pmax		
	comp=Z,38nm,1.6s					
WTTA	Wattenberg	79.38 317	*i* P	P	00 15 48.6	-0.6
	comp=Z,6.8nm,0.8s					
WATA	Walderalm	79.42 317	*i* P	P	00 15 48.7	-0.8
	comp=Z,7.2nm,1.2s					
ONAU	Onsala	79.42 327	*i* P	P	00 15 49.6	+0.6
GRA1	Grafenberg Arr	79.66 319	P	P	00 15 51.0	+0.5
GRF	Grafenberg Arr	79.66 319	P	P	00 15 51.0	+0.5
GRF			pmax	pmax		
	comp=Z,15nm,1.2s					
GRFO	Grafenberg	79.67 319		P	00 15 49.3	-1.2
GRFO	Grafenberg	79.67 319	P	P	00 15 49.3	-1.2
GRFO			pmax	pmax		
	comp=Z,16nm,1.2s					
SQTA	Sankt Quirin	79.67 317	*i* P	P	00 15 50.2	-0.6
	comp=Z,11nm,1.2s					
OSSC	Osservatorio P	79.67 313	P	P	00 15 50.2	-0.6
NC405	NORSAR Array S	79.69 331	P	P	00 15 50.0	-0.5
MOTA	Moosalm	79.74 317	*i* P	P	00 15 50.5	-0.7
	comp=Z,7.7nm,0.9s					
NC602	NORSAR Array S	79.76 330	P	P	00 15 50.1	-0.7
NC602			IAmb	IAmb	00 16 02.5	
	comp=Z,23nm,1.1s					
ZCCA	Zocca	79.86 314	P	P	00 15 52.4	+0.7
ZCCA			IAmb	IAmb	00 15 58.1	
	comp=Z,19nm,0.9s					
NC303	NORSAR Array S	79.87 331	P	P	00 15 51.1	-0.3
STRU	Stroemstad	79.87 329	*i* P	P	00 15 50.6	-0.8
NB2	NORSAR Subarra	79.93 331	P	P	00 15 50.9	-0.9
	comp=Z,5.1nm,0.6s,baz=96,slow=5.1					
NOA	NORSAR Array B	79.93 331	P	P	00 15 51.2	-0.6
	comp=Z,5.5nm,0.8s,baz=92,slow=5.6,SNR=11					
	comp=Z,5.5nm,0.8s					
RETA	Reutte	79.97 317	*i* P	P	00 15 52.0	-0.3
	comp=Z,3.2nm,0.5s					
FETA	Feichten	80.00 316	*i* P	P	00 15 52.3	-0.3
	comp=Z,5.1nm,0.9s					
SPB2	Spitsbergen Ar	80.03 348	P	P	00 15 52.2	+0.3
SPITS	Spitsbergen Ar	80.03 348	P	P	00 15 51.4	-0.7
	comp=Z,30nm,1.1s,baz=99,slow=8.9,SNR=7.7					
	comp=Z,30nm,1.1s					
TSUM	Tsumeb	80.05 249	P	P	00 15 53.6	+0.3
NC204	NORSAR Array S	80.16 331	P	P	00 15 52.4	-0.7
FUORN	Ofenpass-Fuorn	80.32 316	P	P	00 15 53.9	-0.6
DAVA	Damuels	80.57 317	*i* P	P	00 15 54.7	-1.0
	comp=Z,5.5nm,1.0s					
SSRD	Sdr. Stenderup	80.66 325	*i* P	P	00 15 51.6	-4.1
SSRD			IAmb	IAmb	00 15 55.8	
	comp=Z,60nm,1.5s					
TUE	Stuetta	80.96 316	P	P	00 15 57.9	+0.1
TUE			IAmb	IAmb	00 16 16.5	
	comp=Z,39nm,1.9s					
KEST	Kesra	81.42 305	P	P	00 15 59.0	-1.4
	comp=Z,1.8nm,0.6s,baz=74,slow=4.0,SNR=5.8					
	comp=Z,1.8nm,0.6s					
ECH	Echery	82.38 318	P	P	00 16 05.2	+0.1
ECH	Echery	82.38 318	P	P	00 16 05.2	+0.1
ECH			pmax	pmax		
	comp=Z,4.0nm,1.0s					
SENIN	Lac Senin/Sane	82.38 316	P	P	00 16 04.8	-0.6
SENIN			IAmb	IAmb	00 16 09.7	
	comp=Z,18nm,0.8s					
BNI	Bardonecchia	82.89 314	P	P	00 16 09.2	+1.3
BNI	Bardonecchia	82.89 314	P	P	00 16 09.2	+1.3
BNI			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BMRD	Maredsous	83.80 320	*d*P	P	00 16 12.7	+0.4
BMRD			*dp*P	PcP	00 16 15.2	-1.1
DOU	Dourbes	83.93 320	*d*P	P	00 16 13.9	+0.9
GAMB	Gambell	84.96 26	P	P	00 16 17.7	-0.1
	baz=277					
TAM	Tamanrasset	85.88 292	P	P	00 16 24.0	+0.4
TAM	Tamanrasset	85.88 292	P	P	00 16 24.0	+0.4
TAM			pmax	pmax		
	comp=Z,5.0nm,1.1s					
TNA	Tin City	86.29 24	P	P	00 16 24.5	0.0
	baz=280					
SPIA	Saint Paul Isl	86.58 33	P	P	00 16 26.0	-0.1
	baz=279					
C16K	Lisburne Hills	86.75 22	P	P	00 16 27.4	+0.7
	baz=282					
F14K	Arctic Creek	86.96 24	P	P	00 16 28.3	+0.5
	baz=282					
C17K	DeLong Mountai	87.49 21	P	P	00 16 30.4	+0.1
	baz=284					
ANM	Nome	87.55 25	P	P	00 16 30.7	0.0
	baz=283					
F15K	North Star Dit	87.59 24	P	P	00 16 31.2	+0.4
	baz=283					
RDOG	Red Dog Mine	87.69 22	P	P	00 16 31.4	+0.1
	baz=285					
D17K	Noatak River	87.72 22	P	P	00 16 31.4	0.0
	baz=285,SNR=6.0					
B18K	Kokolik River	87.73 20	P	P	00 16 31.6	+0.1
	baz=286					
A19K	Wainwright	87.75 19	P	P	00 16 31.6	+0.2
	baz=286					
EKA	Eskdalemuir Ar	87.92 325	P	P	00 16 32.0	-0.6
	comp=Z,5.2nm,0.8s,baz=99,slow=5.8,SNR=7.9					
	comp=Z,5.2nm,0.8s					
G15K	Niukluk	88.01 25	P	P	00 16 33.4	+0.6
	baz=284					
M11K	Mekoryuk	88.07 29	P	P	00 16 33.2	0.0
	baz=282					
C18K	Utukok River	88.14 21	P	P	00 16 34.0	+0.5
C18K			IAmb	IAmb	00 16 40.1	
	comp=Z,13nm,1.1s					
C18K	Utukok River	88.14 21	P	P	00 16 34.0	+0.5
	baz=286					
E17K	Hotham Inlet	88.35 22	P	P	00 16 34.9	+0.5
	baz=286					
K13K	Kusilvak Mount	88.46 28	P	P	00 16 35.3	+0.3
	baz=283					
G16K	Koyuk River	88.60 24	P	P	00 16 34.9	-0.7
G16K			IAmb	IAmb	00 16 42.9	
	comp=Z,20nm,1.4s					
G16K	Koyuk River	88.60 24	P	P	00 16 35.6	0.0
	baz=285					
E18K	Tukpahlearik C	88.71 22	P	P	00 16 35.8	-0.3
E18K			IAmb	IAmb	00 16 43.6	
	comp=Z,18nm,1.2s					
E18K	Tukpahlearik C	88.71 22	P	P	00 16 36.5	+0.4
	baz=287					
F17K	Baldwin Pennin	88.75 23	P	P	00 16 36.4	+0.1
F17K			IAmb	IAmb	00 16 42.9	
	comp=Z,6.8nm,0.7s					
F17K	Baldwin Pennin	88.75 23	P	P	00 16 36.6	+0.3
	baz=286					
J14K	Nanvaranak Lak	88.77 27	P	P	00 16 36.4	0.0
J14K			IAmb	IAmb	00 16 42.8	
	comp=Z,13nm,1.2s					
J14K	Nanvaranak Lak	88.77 27	P	P	00 16 36.7	+0.2
	baz=284					
BKZ	Black Stump Fm	88.84 130	P	P	00 16 35.5	-1.8
H16K	Elim	88.84 25	P	P	00 16 36.9	+0.1
	baz=286					
B20K	Meade River	89.08 19	P	P	00 16 38.2	+0.5
B20K			IAmb	IAmb	00 16 46.4	
	comp=Z,26nm,1.4s					
B20K	Meade River	89.08 19	P	P	00 16 38.4	+0.6
	baz=290					
G17K	Kiwalik Mounta	89.25 24	P	P	00 16 38.7	0.0
	baz=287					
D19K	Kuna River	89.27 21	P	P	00 16 38.7	-0.1
D19K	Kuna River	89.27 21	P	P	00 16 39.1	+0.4
	baz=289					
UNV	Unalaska Valle	89.28 36	P	P	00 16 39.5	+0.4
UNV	Unalaska Valle	89.28 36	P	P	00 16 39.3	+0.3
	baz=282					
F18K	Selawik	89.31 23	P	P	00 16 39.4	+0.5
	baz=288,SNR=6.2					
A22K	Sinclair Lake	89.40 18	P	P	00 16 39.9	+0.6
	baz=292					
M13K	Dall Lake	89.44 29	P	P	00 16 39.0	-0.6
	baz=285					
L14K	Kuka Creek	89.52 28	P	P	00 16 40.9	+0.9
L14K			IAmb	IAmb	00 16 47.1	
	comp=Z,18nm,1.4s					
L14K	Kuka Creek	89.52 28	P	P	00 16 39.8	-0.2
	baz=285					
I17K	Unalakleet	89.70 25	P	P	00 16 40.6	-0.2
	baz=287					
D20K	Etivluk River	89.71 20	P	P	00 16 40.6	-0.2
	baz=291					
H17K	Granite Mounta	89.72 24	P	P	00 16 40.6	-0.3
H17K			IAmb	IAmb	00 16 47.7	
	comp=Z,19nm,1.4s					
H17K	Granite Mounta	89.72 24	P	P	00 16 40.4	-0.5
	baz=288					
K15K	Wolf Creek Mou	89.79 27	P	P	00 16 40.8	-0.5
	baz=286					
G18K	Tagagawik	89.92 23	P	P	00 16 41.2	-0.6
	baz=289					
J16K	Anvik River	89.92 26	P	P	00 16 41.2	-0.6
	baz=287					
E19K	Redstone River	89.93 21	P	P	00 16 41.8	-0.1
E19K			IAmb	IAmb	00 16 50.9	
	comp=Z,18nm,1.1s					
E19K	Redstone River	89.93 21	P	P	00 16 41.5	-0.3
	baz=290					
F19K	Shaleruckik Mo	89.94 22	P	P	00 16 42.2	+0.4
F19K			IAmb	IAmb	00 16 49.0	
	comp=Z,18nm,1.1s					
F19K	Shaleruckik Mo	89.94 22	P	P	00 16 42.3	+0.4
	baz=290,SNR=5.5					
L15K	Ungalak Mounta	89.98 28	P	P	00 16 42.2	0.0
	baz=286					
M14K	Bethel	90.02 28	P	P	00 16 42.1	-0.2
M14K			IAmb	IAmb	00 16 51.6	
	comp=Z,12nm,1.1s					
M14K	Bethel	90.02 28	P	P	00 16 42.3	-0.1
	baz=286					
E20K	Nigu River	90.02 21	P	P	00 16 42.5	+0.2
	baz=291					
B21K	Ikpikpuk River	90.04 19	P	P	00 16 42.3	0.0
B21K			IAmb	IAmb	00 16 53.9	
	comp=Z,12nm,1.1s					
B21K	Ikpikpuk River	90.04 19	P	P	00 16 42.3	0.0
	baz=292					
B22K	Teshekpuk Lake	90.14 18	P	P	00 16 43.6	+0.9
B22K			IAmb	IAmb	00 16 49.2	
	comp=Z,14nm,1.2s					
B22K	Teshekpuk Lake	90.14 18	P	P	00 16 42.7	0.0
	baz=294					
C21K	Knifeblade Rid	90.16 20	P	P	00 16 43.2	+0.3
	baz=292					
H18K	Honhosa River	90.27 24	P	P	00 16 43.8	+0.3
H18K			IAmb	IAmb	00 16 50.1	
	comp=Z,18nm,1.4s					
H18K	Honhosa River	90.27 24	P	P	00 16 43.8	+0.3
	baz=289					
N14K	Kuskokwak Cree	90.38 29	P	P	00 16 44.3	+0.3
	baz=286					
G19K	Purcell Mounta	90.44 23	P	P	00 16 44.0	-0.2
G19K			IAmb	IAmb	00 16 51.7	
	comp=Z,17nm,0.9s					
G19K	Purcell Mounta	90.44 23	P	P	00 16 44.6	+0.3
	baz=290					
J17K	VABM Dome	90.54 26	P	P	00 16 45.4	+0.7
J17K			IAmb	IAmb	00 16 54.0	
	comp=Z,11nm,1.1s					
J17K	VABM Dome	90.54 26	P	P	00 16 45.0	+0.3
	baz=288					
F20K	Avaraart Lake	90.62 22	P	P	00 16 45.3	+0.2
F20K	Avaraart Lake	90.62 22	P	P	00 16 45.7	+0.6
	baz=291					
M15K	Kasigluk River	90.64 28	P	P	00 16 45.2	0.0
	baz=287					
E21K	Killik River	90.71 20	P	P	00 16 45.6	+0.1
E21K			IAmb	IAmb	00 16 52.6	
	comp=Z,18nm,1.1s					
E21K	Killik River	90.71 20	P	P	00 16 45.8	+0.3
	baz=293					
TORD	Torodi Ar. Bea	90.73 283	P	P	00 16 46.1	-0.6
	comp=Z,285nm,0.4s,baz=67,slow=4.9,SNR=2.9					
O14K	Tigyukauivet M	90.77 30	P	P	00 16 45.8	-0.1
	baz=286					
L16K	Owhat River	90.89 27	P	P	00 16 46.3	-0.1
	baz=288					
H19K	Roundabout Mou	90.90 23	P	P	00 16 46.8	+0.4
H19K	Roundabout Mou	90.90 23	P	P	00 16 46.9	+0.6
	baz=291,SNR=12					
D22K	Ayikyak River	90.97 19	P	P	00 16 47.2	+0.5
D22K			IAmb	IAmb	00 16 55.9	
	comp=Z,14nm,1.2s					
D22K	Ayikyak River	90.97 19	P	P	00 16 47.0	+0.3
	baz=294					
GCSA	Galena City Sc	91.00 24	P	P	00 16 47.2	+0.3
	baz=290					
N15K	Kwethluk River	91.07 29	P	P	00 16 46.5	-0.8
N15K	Kwethluk River	91.07 29	P	P	00 16 47.4	+0.1
	baz=287					
K17K	Iditarod	91.09 26	P	P	00 16 47.9	+0.5
K17K			IAmb	IAmb	00 16 55.0	
	comp=Z,14nm,0.9s					
K17K	Iditarod	91.09 26	P	P	00 16 47.5	+0.1
	baz=289					
C23K	Itkillik River	91.22 18	P	P	00 16 48.7	+0.9
C23K	Itkillik River	91.22 18	P	P	00 16 48.0	+0.2
	baz=296					
L17K	Donlin	91.28 27	P	P	00 16 48.1	-0.1
	baz=289					
M16K	Timber Creek	91.34 28	P	P	00 16 48.3	-0.3
	baz=288					
F21K	Alatna River	91.37 21	P	P	00 16 48.5	-0.1
F21K			IAmb	IAmb	00 16 55.6	
	comp=Z,9.8nm,0.9s					
F21K	Alatna River	91.37 21	P	P	00 16 48.8	+0.2
	baz=294					
ESDC	Sonseca Array	91.41 310	P	P	00 16 49.2	-0.2
ESDC			IAmb	IAmb	00 17 29.4	
	comp=Z,13nm,1.4s					
ESDC	Sonseca Array	91.41 310	P	P	00 16 49.2	-0.2
	comp=Z,2.1nm,0.9s,baz=54,slow=4.0,SNR=9.0					
	comp=Z,2.1nm,0.9s					
ELIB	Princess Elisa	91.44 197	*d*P	P	00 16 50.8	+1.9
	comp=Z,4.4nm,1.4s					
O15K	Ungalikthiuk R	91.50 30	P	P	00 16 49.0	-0.3
	baz=288					
J18K	Innoko River	91.52 25	P	P	00 16 49.5	+0.2
J18K			IAmb	IAmb	00 16 56.6	
	comp=Z,12nm,1.1s					
J18K	Innoko River	91.52 25	P	P	00 16 49.4	+0.1
	baz=290,SNR=6.4					
H20K	Anotleneega Mo	91.52 23	P	P	00 16 49.2	-0.1
	baz=292,SNR=6.9					
E22K	Anaktuvuk Pass	91.57 20	P	P	00 16 49.0	-0.5
E22K			IAmb	IAmb	00 16 56.8	
	comp=Z,12nm,1.4s					
E22K	Anaktuvuk Pass	91.57 20	P	P	00 16 49.9	+0.4
	baz=295					
D23K	Nanushuk River	91.59 19	P	P	00 16 49.2	-0.3
D23K			IAmb	IAmb	00 16 57.1	
	comp=Z,14nm,1.1s					
D23K	Nanushuk River	91.59 19	P	P	00 16 49.9	+0.3
	baz=296					
N16K	Nishlik Lake	91.61 28	P	P	00 16 49.8	0.0
	baz=289					
G21K	Allakaket	91.64 22	P	P	00 16 49.9	0.0
G21K	Allakaket	91.64 22	P	P	00 16 50.2	+0.4
	baz=294					
F22K	John River	91.71 21	P	P	00 16 50.2	+0.1
	baz=295					
J19K	Poorman	91.78 24	P	P	00 16 50.8	+0.3
J19K	Poorman	91.78 24	P	P	00 16 50.8	+0.3
	baz=292,SNR=14					
C24K	Franklin Bluff	91.87 18	P	P	00 16 50.2	-0.5
C24K			IAmb	IAmb	00 16 58.0	
	comp=Z,25nm,1.8s					
C24K	Franklin Bluff	91.87 18	P	P	00 16 51.1	+0.3
	baz=298					
M17K	Holitna River	91.91 27	P	P	00 16 50.8	-0.4
M17K			IAmb	IAmb	00 17 00.9	
	comp=Z,15nm,1.2s					
M17K	Holitna River	91.91 27	P	P	00 16 51.3	+0.1
	baz=290					
I20K	Naaghedeneel	91.94 24	P	P	00 16 51.0	-0.2
I20K	Naaghedeneel	91.94 24	P	P	00 16 51.2	0.0
	baz=292,SNR=6.4					
L18K	Granite Mounta	91.97 26	P	P	00 16 51.2	-0.2
L18K			IAmb	IAmb	00 16 59.0	
	comp=Z,10nm,1.1s					
L18K	Granite Mounta	91.97 26	P	P	00 16 51.5	+0.1
	baz=290					
TOLK	Toolik Lake Re	92.09 19	P	P	00 16 51.4	-0.5
TOLK			IAmb	IAmb	00 16 58.6	
	comp=Z,8.8nm,0.9s					
TOLK	Toolik Lake Re	92.09 19	P	P	00 16 52.2	+0.3
	baz=297					
D24K	Happy Valley	92.10 19	P	P	00 16 52.2	+0.4
	baz=298					
O16K	Kokwok River B	92.21 29	P	P	00 16 52.8	+0.3
	baz=289					
H21K	Melozitna Rive	92.25 22	P	P	00 16 54.4	+1.7
H21K	Melozitna Rive	92.25 22	P	P	00 16 53.0	+0.4
	baz=294					
J20K	Nowinta River	92.31 24	P	P	00 16 53.7	+0.7
J20K	Nowinta River	92.31 24	P	P	00 16 53.4	+0.5
	baz=293					
N17K	Nushagak Hills	92.33 28	P	P	00 16 54.0	+0.9
N17K			IAmb	IAmb	00 17 00.8	
	comp=Z,16nm,1.1s					
N17K	Nushagak Hills	92.33 28	P	P	00 16 53.5	+0.4
	baz=290					
P16K	Nushagak River	92.44 30	P	P	00 16 53.6	-0.1
	baz=289					
S14K	Fog Glacier	92.52 32	P	P	00 16 53.8	-0.4
	baz=288					
COLD	Coldfoot	92.52 21	P	P	00 16 53.9	0.0
COLD			IAmb	IAmb	00 17 03.1	
	comp=Z,18nm,1.8s					
COLD	Coldfoot	92.52 21	P	P	00 16 54.4	+0.5
	baz=296					
M18K	Stony River	92.61 27	P	P	00 16 55.1	+0.8
	baz=291					
O17K	Koliganek Bris	92.63 29	P	P	00 16 54.6	+0.2
	baz=290					
K20K	Telida	92.67 25	P	P	00 16 55.0	+0.4
K20K	Telida	92.67 25	P	P	00 16 55.0	+0.4
	baz=293,SNR=9.0					
H22K	Ishtalitna Cre	92.69 22	P	P	00 16 55.0	+0.3
	baz=295					
E24K	Your Creek	92.72 20	P	P	00 16 55.4	+0.6
E24K	Your Creek	92.72 20	P	P	00 16 55.2	+0.3
	baz=298					
VNDA	Vanda	92.73 168	P	P	00 16 52.6	-2.0
	comp=Z,0.7nm,0.9s,baz=285,slow=8.0,SNR=1.6					
	comp=Z,0.7nm,0.9s					
D25K	Kavik River	92.78 18	P	P	00 16 55.5	+0.5
D25K	Kavik River	92.78 18	P	P	00 16 55.6	+0.5
	baz=300,SNR=7.5					
L19K	White Mountain	92.78 26	P	P	00 16 55.5	+0.3
L19K			IAmb	IAmb	00 17 02.9	
	comp=Z,14nm,1.1s					
L19K	White Mountain	92.78 26	P	P	00 16 55.5	+0.3
	baz=292,SNR=5.8					
G23K	Bananza Creek	92.82 21	P	P	00 16 56.1	+0.8
G23K			IAmb	IAmb	00 17 12.9	
	comp=Z,6.5nm,1.0s					
G23K	Bananza Creek	92.82 21	P	P	00 16 55.4	+0.1
	baz=297					
N18K	Kilae Creek	92.87 28	P	P	00 16 56.3	+0.6
N18K			IAmb	IAmb	00 17 02.5	
	comp=Z,9.6nm,1.1s					
N18K	Kilae Creek	92.87 28	P	P	00 16 55.3	-0.3
	baz=291					
C26K	Camden Bay	92.91 17	P	P	00 16 55.4	-0.2
	baz=302					
CHNA	Chernabura Isl	92.94 34	P	P	00 16 56.4	+0.4
	baz=288					
L20K	Farewell, AK	93.09 26	P	P	00 16 56.9	+0.2
	baz=293,SNR=5.5					
M19K	Big River Lodg	93.09 26	P	P	00 16 57.6	+1.0
M19K			IAmb	IAmb	00 17 06.2	
	comp=Z,10nm,0.9s					
M19K	Big River Lodg	93.09 26	P	P	00 16 57.2	+0.6
	baz=292					
CHGN	Chignik	93.12 32	P	P	00 16 57.1	+0.3
	baz=289					
P17K	Kvichak River	93.14 29	P	P	00 16 57.5	+0.6
	baz=291					
CHUM	Lake Minchumin	93.17 24	P	P	00 16 57.4	+0.5
	baz=294					

F24K	Squaw Lake	93.18	20	P	P	00 16 57.1	+0.2
F24K				IAmb	IAmb	00 17 09.2	
	comp=Z,24nm,1.9s						
F24K	Squaw Lake	93.18	20	P	P	00 16 57.4	+0.4
	baz=299						
Q16K	King Salmon	93.22	30	P	P	00 16 57.7	+0.5
	baz=290						
H23K	Yukon River	93.39	22	P	P	00 16 58.4	+0.4
	baz=297						
C27K	Jago River	93.42	17	P	P	00 16 58.6	+0.6
C27K				IAmb	IAmb	00 17 05.6	
	comp=Z,13nm,1.4s						
C27K	Jago River	93.42	17	P	P	00 16 58.4	+0.4
	baz=303						
CAST	Castle Rocks	93.46	24	P	P	00 16 58.6	+0.3
CAST	Castle Rocks	93.46	24	P	P	00 16 58.6	+0.3
	baz=295,SNR=7.3						
N19K	Bonanza Creek	93.47	27	P	P	00 16 58.5	0.0
N19K	Bonanza Creek	93.47	27	P	P	00 16 58.7	+0.2
	baz=292						
O18K	Koktuh Hills	93.49	28	P	P	00 16 58.5	0.0
O18K	Koktuh Hills	93.49	28	P	P	00 16 58.5	0.0
	baz=292						
BPAW	Bear Paw Mtn.	93.61	24	P	P	00 16 59.3	+0.3
BPAW	Bear Paw Mtn.	93.61	24	P	P	00 16 59.1	+0.1
	baz=296,SNR=6.6						
PPLA	Purkeypile	93.63	25	P	P	00 16 59.2	0.0
	baz=294						
E25K	Arctic Village	93.65	19	P	P	00 16 59.3	+0.2
	baz=301						
M20K	Styx River	93.65	26	P	P	00 16 58.0	-1.3
M20K				IAmb	IAmb	00 17 14.1	
	comp=Z,7.4nm,0.8s						
M20K	Styx River	93.65	26	P	P	00 16 59.5	+0.2
	baz=294						
P18K	Big Mountain,	93.65	29	P	P	00 16 58.9	-0.4
	baz=292						
G24K	Hadweenzic Riv	93.72	21	P	P	00 16 59.9	+0.4
	baz=299						
I23K	Minto, Yukon-K	93.77	22	P	P	00 16 59.9	+0.3
I23K				IAmb	IAmb	00 17 08.8	
	comp=Z,7.0nm,1.2s						
I23K	Minto, Yukon-K	93.77	22	P	P	00 17 00.1	+0.5
	baz=297						
O19K	Port Alsworth	93.78	28	P	P	00 16 58.8	-0.9
O19K				IAmb	IAmb	00 17 06.0	
	comp=Z,9.8nm,0.8s						
F25K	Christian Rive	93.89	19	P	P	00 17 00.8	+0.5
	baz=301						
H24K	Noodor Dome	93.99	21	P	P	00 17 01.0	+0.2
	baz=299						
Q18K	Katmai Hardscr	94.03	29	P	P	00 17 01.2	0.0
	baz=292						
NEA2	Nenana	94.14	23	P	P	00 17 01.7	+0.3
	baz=298						
G25K	Bearman Lake	94.16	20	P	P	00 17 01.7	+0.3
	baz=300						
TRF	Thorofare Moun	94.17	24	P	P	00 17 01.6	-0.2
	baz=296						
SKT	Skwentna	94.30	26		P	00 17 01.0	-1.2
SKT	Skwentna	94.30	26	P	P	00 17 01.7	-0.5
	baz=295,SNR=10						
BMAR	Burnt Mountain	94.33	19	P	P	00 17 03.1	+0.9
F26K	Sheenjek River	94.33	19	P	P	00 17 02.9	+0.6
F26K				IAmb	IAmb	00 17 09.1	
	comp=Z,5.6nm,0.9s						
F26K	Sheenjek River	94.33	19	P	P	00 17 02.7	+0.4
	baz=302						
SPCR	Spurr Chakacha	94.33	26	P	P	00 17 02.4	0.0
	baz=294						
STLK	Strandline Lak	94.37	26	P	P	00 17 02.0	-0.6
STLK				IAmb	IAmb	00 17 11.8	
	comp=Z,6.3nm,0.9s						
ILSW	Iliamna Southw	94.40	28	P	P	00 17 02.4	-0.4
ILSW				IAmb	IAmb	00 17 10.1	
	comp=Z,11nm,1.2s						
D27M	Malcolm River	94.44	17	P	P	00 17 03.3	+0.5
	baz=305						
P19K	Oil Pt	94.49	28	P	P	00 17 03.5	+0.4
	baz=293						
POKR	Poker Plat Res	94.50	22	P	P	00 17 03.7	+0.6
	baz=299						
H25L	Birch Creek	94.51	21	P	P	00 17 03.5	+0.5
	baz=301						
FYU	Fort Yukon	94.56	20	P	P	00 17 03.9	+0.7
FYU				IAmb	IAmb	00 17 10.9	
	comp=Z,20nm,1.4s						
MCK	McKinley	94.59	23	P	P	00 17 03.4	-0.1
MCK				IAmb	IAmb	00 17 14.1	
	comp=Z,7.2nm,1.1s						
MCK	McKinley	94.59	23	P	P	00 17 03.4	-0.1
MCK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MCK	McKinley	94.59	23	P	P	00 17 03.8	+0.3
	baz=298						
O20K	Slope Mountain	94.60	28	P	P	00 17 03.5	-0.1
	baz=294						
CUT	Chulitna	94.65	25	P	P	00 17 03.5	-0.2
	baz=296						
R18K	Karluk	94.71	30	P	P	00 17 03.8	-0.3
	baz=292						
G26K	Porcupine Rive	94.85	20	P	P	00 17 05.0	+0.5
	baz=302						
SUA	Susitna One	94.86	26	P	P	00 17 04.4	-0.5
SUA	Susitna One	94.86	26	P	P	00 17 05.2	+0.3
	baz=296						
E27K	Coleen River	94.86	18	P	P	00 17 05.2	+0.5
E27K	Coleen River	94.86	18	P	P	00 17 05.1	+0.5
	baz=305						
ILAR	Eielson Array	94.88	22	P	P	00 17 05.7	+0.9
	comp=Z,0.9nm,0.9s,baz=300,slow=4.2,SNR=5.5						
	comp=Z,0.9nm,0.9s						
CAPN	Captain Cook N	94.98	27	P	P	00 17 05.7	+0.5
	baz=295						
M22K	Willow	95.00	26	P	P	00 17 05.4	+0.1
M22K	Willow	95.00	26	P	P	00 17 05.8	+0.5
	baz=296						
PRP	Porcupine Dome	95.00	21	P	P	00 17 05.5	0.0
PRP				IAmb	IAmb	00 17 12.0	
	comp=Z,6.8nm,1.1s						
PRP	Porcupine Dome	95.00	21	P	P	00 17 05.8	+0.3
	baz=301						
D28M	Stokes Point	95.03	17	P	P	00 17 05.7	+0.4
	baz=307						
HDA	Harding Lake	95.03	22	P	P	00 17 05.5	0.0
	baz=299						
HOM	Homer	95.23	28	P	P	00 17 06.7	+0.3
	baz=295						
SII	Sitkinak Islan	95.23	31	P	P	00 17 06.7	+0.2
	baz=292						
E28M	Babbage River	95.24	17	P	P	00 17 06.9	+0.5
	baz=307,SNR=5.6						
Q20K	Shuyak Island	95.31	29	P	P	00 17 06.5	-0.3
	baz=294						
OHAK	Old Harbor	95.43	30	P	P	00 17 07.4	0.0
	baz=293						
RC01	Rabbit Creek A	95.46	26	P	P	00 17 07.1	-0.4
RC01	Rabbit Creek A	95.46	26	P	P	00 17 07.4	-0.1
	baz=297,SNR=6.2						
CNPM	China Poot	95.47	28	P	P	00 17 07.3	-0.3
CNPM				IAmb	IAmb	00 17 15.2	
	comp=Z,14nm,1.2s						
PMR	Palmer	95.49	25	P	P	00 17 07.8	+0.2
PMR				IAmb	IAmb	00 17 13.9	
	comp=Z,8.6nm,0.9s						
PMR	Palmer	95.49	25	P	P	00 17 07.8	+0.2
PMR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PMR	Palmer	95.49	25	P	P	00 17 07.6	0.0
	baz=297						
GHO	Glory Hole Cre	95.50	25	P	P	00 17 07.8	+0.1
GHO				IAmb	IAmb	00 17 27.9	
	comp=Z,15nm,1.3s						
SLKM	Skilak Lake	95.50	27	P	P	00 17 07.3	-0.5
SLKM				IAmb	IAmb	00 17 14.0	
	comp=Z,10nm,0.8s						
J25K	Salcha River,	95.52	22	P	P	00 17 07.8	0.0
	baz=301						
BRLK	Bradley Lake	95.53	27	P	P	00 17 07.2	-0.7
KDAK	Kodiak Island	95.55	30	P	P	00 17 07.8	-0.1
KDAK				IAmb	IAmb	00 17 14.5	
	comp=Z,12nm,1.1s						
KDAK	Kodiak Island	95.55	30	P	P	00 17 07.8	-0.1
KDAK				pmax	pmax		
	comp=Z,13nm,1.2s						
KDAK	Kodiak Island	95.55	30	P	P	00 17 08.2	+0.2
	baz=294						
BRSE	Bradley Lake S	95.61	27	P	P	00 17 08.1	-0.1
	baz=296						
G27K	Doyon Strip	95.63	19	P	P	00 17 08.4	+0.2
	baz=304						
SML	Sawmill	95.73	25	P	P	00 17 08.6	-0.2
SML				IAmb	IAmb	00 17 19.9	
	comp=Z,11nm,1.0s						
SML	Sawmill	95.73	25	P	P	00 17 08.4	-0.4
	baz=298						
O22K	Cooper Landing	95.74	27	P	P	00 17 08.9	+0.2
	baz=297						
K24K	Donnelly Dome	95.78	23	P	P	00 17 08.5	-0.4
	baz=300						
E29M	Blow River	95.85	17	P	P	00 17 09.4	+0.3
	baz=308						
KNK	Knik Glacier	95.86	25	P	P	00 17 09.7	+0.3
KNK				IAmb	IAmb	00 17 16.2	
	comp=Z,8.8nm,1.0s						
KNK	Knik Glacier	95.86	25	P	P	00 17 09.1	-0.2
	baz=298,SNR=5.2						
I26K	Coal Creek Min	95.95	21	P	P	00 17 09.3	-0.3
	baz=303						
M23K	Glacier View	95.99	25	P	P	00 17 09.4	-0.6
	baz=298						
H27K	Steamboat Moun	96.00	20	P	P	00 17 09.8	-0.2
	baz=305						
SEW	Seward	96.03	27	P	P	00 17 10.6	+0.6
SEW				IAmb	IAmb	00 17 19.5	
	comp=Z,12nm,1.1s						
SEW	Seward	96.03	27	P	P	00 17 09.8	-0.3
	baz=297						
SCM	Sheep Creek Mo	96.14	25	P	P	00 17 10.6	-0.1
	baz=299						
RIDG	Independent Ri	96.17	23	P	P	00 17 10.7	0.0
	baz=301						
PWL	Port Wells	96.17	26	P	P	00 17 10.2	-0.5
PWL	Port Wells	96.17	26	P	P	00 17 11.0	+0.2
	baz=298						
J26L	Joseph Creek	96.24	22	P	P	00 17 10.7	-0.5
J26L				IAmb	IAmb	00 17 17.1	
	comp=Z,10nm,1.6s						
J26L	Joseph Creek	96.24	22	P	P	00 17 11.1	0.0
	baz=302						
I27K	Kandik River	96.32	20	P	P	00 17 11.7	+0.3
	baz=304						
PAX	Paxson	96.33	23	P	P	00 17 12.3	+0.8
PAX	Paxson	96.33	23	P	P	00 17 12.3	+0.8
PAX				pmax	pmax		
	comp=Z,5.0nm,1.2s						
PAX	Paxson	96.33	23	P	P	00 17 11.8	+0.3
	baz=301						
SCRK	Sand Creek	96.37	22	P	P	00 17 12.0	+0.2
	baz=302						
A36M	Sachs Harbour	96.41	11	P	P	00 17 12.0	+0.4
A36M	Sachs Harbour	96.41	11	P	P	00 17 11.6	+0.1
	baz=321						
M24K	Tolsona, Glenn	96.48	24	P	P	00 17 12.2	+0.1
	baz=300						
GLI	Glacier Island	96.70	26	P	P	00 17 13.3	+0.2
	baz=299						
G29M	Pine Creek	96.72	18	P	P	00 17 13.4	+0.2
	baz=308						
HARP	HAARP	96.74	24	P	P	00 17 13.1	-0.2
	baz=301						
KLU	Klutina	96.89	25	P	P	00 17 14.0	-0.1
	baz=300						
F30M	Barrier River	96.96	17	P	P	00 17 14.5	+0.3
	baz=310						
I28M	Miner Creek	96.99	20	P	P	00 17 14.5	+0.1
	baz=306						
H29M	Whitestone	97.04	19	P	Pdif	00 17 14.8	+0.1
	baz=308						
K27K	Chicken	97.05	22	P	P	00 17 14.6	-0.1
	baz=304						
INK	Inuvik	97.14	16	P	P	00 17 13.9	-1.0
INK				IAmb	IAmb	00 17 26.3	
	comp=Z,3.7nm,1.1s						
INK	Inuvik	97.14	16	P	P	00 17 13.9	-1.0
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
INK	Inuvik	97.14	16	P	Pdif	00 17 15.3	+0.3
	baz=312						
HIN	Hinchinbrook I	97.19	26	P	P	00 17 15.1	-0.3
G30M	tAoh Zraii Nji	97.23	18	P	P	00 17 15.3	-0.3
G30M				IAmb	IAmb	00 17 20.9	
	comp=Z,4.9nm,0.9s						
G30M	tAoh Zraii Nji	97.23	18	P	P	00 17 15.2	-0.3
	baz=310						
N25K	Chitina, Valde	97.38	24	P	P	00 17 15.9	-0.4
N25K				IAmb	IAmb	00 17 24.7	
	comp=Z,2.8nm,0.7s						
N25K	Chitina, Valde	97.38	24	P	P	00 17 16.0	-0.3
	baz=301						
EPYK	Eagle Plains	97.47	18	P	P	00 17 16.2	-0.4
EPYK				IAmb	IAmb	00 17 22.1	
	comp=Z,4.9nm,0.8s						
EPYK	Eagle Plains	97.47	18		Pdif	00 17 17.2	+0.6
EPYK	Eagle Plains	97.47	18	P	P	00 17 16.5	-0.1
	baz=309						
M26K	Nabesna, AK	97.60	23	P	P	00 17 17.2	0.0
	baz=303						
F31M	Tsiigehtchic	97.66	17	P	Pdif	00 17 17.7	+0.3
	baz=312						
L27K	Beaver Creek,	97.68	22	P	P	00 17 17.5	-0.1
	baz=304						
BMRM	Bremner River	97.71	25	P	P	00 17 17.6	-0.1
	baz=301						
G31M	Satah River	97.86	17	P	Pdif	00 17 18.4	+0.2
	baz=312						
DAWY	Dawson	97.99	21	P	Pdif	00 17 19.2	+0.2
	baz=306						
M27K	Edge Creek, AK	98.06	23	P	P	00 17 19.4	0.0
	baz=304						
I30M	Mount Dempster	98.31	19	P	P	00 17 20.4	-0.1
	baz=309						
KAIM	Kayak Island	98.33	26	P	Pdif	00 17 20.6	+0.1
	baz=301						
BVCY	Beaver Creek	98.42	23	P	Pdif	00 17 21.0	+0.1
	baz=305						
H31M	Peel River	98.58	18	P	P	00 17 21.3	-0.2
H31M				IAmb	IAmb	00 17 28.1	
	comp=Z,7.2nm,1.1s						
H31M	Peel River	98.58	18	P	Pdif	00 17 21.9	+0.4
	baz=311						
BGLC	Bering Glacier	98.71	25	P	Pdif	00 17 22.5	+0.4
	baz=302						
C36M	Paulatuk	98.72	13	P	Pdif	00 17 22.3	+0.2
	baz=322						
J30M	Hart River	98.73	20	P	P	00 17 22.3	-0.1
	baz=309						
K29M	Barlow Dome	98.79	21	P	Pdif	00 17 22.8	+0.1
	baz=308						
YUK3	Moose Creek	98.94	23	P	P	00 17 23.1	-0.4
	baz=305						
MESA	MESA	99.24	25	P	Pdif	00 17 24.6	-0.2
	baz=304						
M29M	Somme Creek	99.30	22	P	Pdif	00 17 24.9	0.0
	baz=307						
YUK8	Steele Glacier	99.49	23	P	Pdif	00 17 25.8	-0.3
	baz=306						
O28M	Mount Upton	99.62	24	P	Pdif	00 17 26.1	-0.5
	baz=305						
M30M	Minto, Yukon	99.83	21	P	Pdif	00 17 27.5	+0.3
	baz=309						
YUK4	Talbot Arm	99.89	23	P	Pdif	00 17 27.6	-0.2
	baz=307						
PINM	Pinnacle	99.99	24	P	Pdif	00 17 27.6	-0.4
	baz=305						
YUK6	Outpost Mounta	100.25	23	P	Pdif	00 17 28.7	-0.6
	baz=307						
N30M	Aishikik Lake	100.42	22	P	Pdif	00 17 29.3	-0.6
	baz=308						
O29M	Mount Kennedy	100.55	24	P	Pdif	00 17 30.2	-0.4
	baz=307						
PNL	Peninsula	100.59	25	P	Pdif	00 17 30.1	-0.5
	baz=306						
HYT	Haines Junctio	100.65	23	P	Pdif	00 17 30.3	-0.7
	baz=308						
N31M	Braeburn, Yuko	100.89	22	P	Pdif	00 17 31.6	-0.3
	baz=309						
O30N	Mendenhall	101.23	23	P	Pdif	00 17 32.8	-0.7
	baz=309						
S31K	Pelican	102.93	25	P	Pdif	00 17 40.3	-0.7
	baz=308						
R32K	Eaglecrest	103.44	24	P	Pdif	00 17 42.6	-0.7
	baz=310						
SIT	Sitka	103.88	25	P	Pdif	00 17 44.7	-0.5
	baz=309						
S32K	Killisnoo	103.93	25	P	Pdif	00 17 44.5	-1.0
	baz=310						
TBI	Tubuai	117.13	112	eLR	LR	00 57 54.0	
	comp=Z,1μm,28.0s						
PPT2	Papeete2	117.20	106	eLR	LR	00 58 00.3	
	comp=Z,171nm,25.0s						
ULM	Lac du Bonnet	121.63	8	PKP	PKPdf	00 22 36.0	-0.8
	comp=Z,2.4nm,0.6s,baz=14,slow=2.8,SNR=6.1						
NVAR	Mina Array Bea	125.03	31	PKP	PKPdf	00 22 43.9	-0.1
	comp=Z,0.6nm,0.6s,baz=260,slow=0.9,SNR=3.7						
PDAR	Pinedale Array	125.30	21	PKP	PKiKP	00 22 45.6	+0.9
	comp=Z,1.7nm,1.0s,baz=346,slow=3.1,SNR=9.1						
FW16	Waxahatchie	138.66	14		PKPpre	00 22 57.6	
TXAR	Lajitas Array	139.35	24	PKP	PKPdf	00 23 08.0	-3.0
	comp=Z,0.5nm,0.8s,baz=96,slow=0.5,SNR=3.8						
TXAR	Lajitas Array	139.35	24	PKIKP	PKPdf	00 23 08.0	-3.0
BDFB	Brasilia	142.24	254	PKP	PKPdf	00 23 14.0	-2.5
	comp=Z,2.2nm,0.8s,baz=146,slow=5.8,SNR=4.1						
PLCA	Paso Flores	144.41	200	PKPdf	PKPab	00 23 17.7	-0.1
PLCA	Paso Flores	144.41	200	PKP	PKPab	00 23 16.5	-1.3
	comp=Z,4.2nm,0.7s,baz=248,slow=1.8,SNR=8.5						
PLCA	Paso Flores	144.41	200	PKIKP	PKPab	00 23 17.7	-0.1
LR05	Currie	145.34	199		PKPbc	00 23 19.7	-1.3
CPUP	Villa Florida	147.22	232	PKPab	PKPbc	00 23 27.1	+0.1
CPUP	Villa Florida	147.22	232	PKPbc	PKPdf	00 23 25.6	+0.8
	comp=Z,5.8nm,0.7s,baz=128,slow=2.4,SNR=9.6						
CPUP	Villa Florida	147.22	232	PKP2	PKPbc	00 23 27.1	+0.1
MAL2	Monte Alegre,	148.04	279	PKPab	PKiKP	00 23 31.8	+0.3
CELP	Cerrillos	148.15	324	PKPab	PKPab	00 23 32.7	+0.1
MT02	Curacav	151.18	206	PKPdf	PKPdf	00 23 29.6	-1.4
VA03	San Esteban	151.33	207		PKPbc	00 23 36.2	-1.1
VA03				PKPab	pPKPbc	00 23 42.9	-0.9
BOAV	Boa Vista	152.90	291		PKPbc	00 23 41.1	-0.1
LPAZ	La Paz	160.76	242	PKP	PKPdf	00 23 44.0	-0.8
	comp=Z,1.7nm,0.8s,baz=60,slow=7.0,SNR=6.0						
LPAZ	La Paz	160.76	242	PKIKP	PKPdf	00 23 44.0	-0.8

IDC 01 00:05:21.9±18.0, 25°.87N×141°.84E, h0km, mb4.2/5, mbtmp4.2/5, Error ellipse: s-maj=536.9km s-min=130.6km az=4.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	50.22	320	P	P	00 14 19.2	-0.3
	0.7nm,0.4s,baz=114,slow=6.1,SNR=1.2						
	0.7nm,0.4s						
MKAR	Makanchi Array	51.03	310	P	P	00 14 25.5	-0.3
	0.6nm,0.4s,baz=92,slow=9.0,SNR=2.0						
	0.6nm,0.4s						
KURBB	Kurchatov Arra	53.68	315	P	P	00 14 45.4	0.0
	3.4nm,0.6s,baz=92,slow=8.3,SNR=11						
	3.4nm,0.6s						
BVAR	Borovoye Array	58.74	318	P	P	00 15 21.6	+0.1
	3.4nm,0.4s,baz=90,slow=6.8,SNR=15						
	3.4nm,0.4s						
FINES	FINESS Array B	78.91	334	P	P	00 17 26.9	0.0
	1.5nm,0.5s,baz=63,slow=5.2,SNR=5.3						
	1.5nm,0.5s						

*PDG **01** 00:14:45.8±0.1, 41°.54N×19°.42E, h11km, ML1.9/10, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
*RHSSO **01** 00:14:45.8±0.9, 41°.55N×19°.46E, h6km±3km, ML1.9/5*
BEO 01 00:14:46.1±0.5, 41°.54N×19°.39E, h2km±2km, ML1.6/6, 3C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.40	118	ePg	Pg	00 14 52.9	-0.9
TIR				eSg	Sg	00 14 59.0	0.0
ULC	Ulcinj	0.44	345	ePg	Pg	00 14 53.2	-1.4
ULC				i Sg	Sg	00 15 01.2	+0.8
DRME	Dracevica, Mon	0.67	347	⇑iPg	Pg	00 14 57.9	-1.1
DRME				eSg	Sg	00 15 08.0	+0.4
DRME	Dracevica, Mon	0.67	347	ePg	Pg	00 14 58.3	-0.7
DRME				i Sg	Sg	00 15 08.9	+1.3
BUM	Brajici-Budva	0.85	334	ePg	Pg	00 15 01.7	-0.7
BUM				i Sg	Sb	00 15 15.3	-0.3
PDG	Podgorica	0.90	353	⇑iPg	Pg	00 15 01.5	-1.9
PDG				eSg	Sg	00 15 14.5	-0.6
PDG	Podgorica	0.90	353	ePg	Pg	00 15 01.8	-1.6
PDG				eSg	Sg	00 15 14.6	-0.5
PDG	Podgorica	0.90	353	ePg	Pg	00 15 02.5	-0.9
PDG				i Sg	Sb	00 15 16.5	-0.4
PDG	Podgorica	0.90	353	P	Sb	00 15 16.2	-0.7
CEME	Cevo	1.07	341	ePg	Pg	00 15 05.7	-0.9
CEME				i Sg	Sb	00 15 22.6	+0.7
HCY	Herceg Novi	1.13	324	⇑iPg	Pg	00 15 06.5	-1.3
HCY				eSg	Sg	00 15 22.3	-0.2
HCY	Herceg Novi	1.13	324	ePg	Pg	00 15 06.9	-0.9
HCY				i Sg	Sb	00 15 24.1	+0.5
PVY	Plav	1.14	21	ePg	Pg	00 15 06.7	-1.2
PVY				i Sg	Sb	00 15 24.3	+0.4
OHR	Ohrid	1.14	111	eSg	Sb	00 15 23.5	-0.3
KOME	Kolasin	1.32	4	ePg	Pg	00 15 10.1	-1.3
KOME				i Sg	Sn	00 15 30.6	+0.8
IVA	Berane	1.39	15	ePg	Pn	00 15 11.1	-1.5
IVA				i Sg	Sn	00 15 32.9	+1.4
TREB	Trebinje	1.41	327	ePg	Pn	00 15 11.4	-1.5
TREB				eSg	Sg	00 15 31.3	-0.2
TREB	Trebinje	1.41	327	ePg	Pn	00 15 11.6	-1.3
TREB				eSg	Sg	00 15 30.7	-0.8
BRY	Bratogost	1.51	335	ePn	Pn	00 15 13.0	-1.3
BRY				eSg	Sb	00 15 33.5	-1.0
BRY	Bratogost	1.51	335	ePg	Pn	00 15 13.7	-0.6
BRY				i Sg	Sn	00 15 36.0	+1.5
FNA	Florina	1.67	116	ePn	Pn	00 15 16.5	0.0
FNA				eSn	Sn	00 15 37.9	-0.7
UPM	Unac-Piva	1.71	348	ePn	Pn	00 15 15.5	-1.6
UPM				eSn	Sn	00 15 38.4	-1.1
UPM	Unac-Piva	1.71	348	ePn	Pn	00 15 16.5	-0.6
UPM				i Sn	Sb	00 15 40.6	+0.3
SJES	Sjenica	1.78	14	ePn	Pn	00 15 17.2	-0.8
SJES				eSn	Sn	00 15 39.4	-1.8
SJES	Sjenica	1.78	14	ePn	Pn	00 15 17.7	-0.3
SJES				eSn	Sb	00 15 42.1	-0.2
STON	Ston	1.83	317	ePn	Pn	00 15 18.4	-0.2
STON				eSn	Sn	00 15 41.9	-0.5
STON	Ston	1.83	317	ePn	Pn	00 15 18.4	-0.2
STON				eSn	Sn	00 15 42.8	+0.4
RUDO	Rudo	2.08	360	ePn	Pn	00 15 20.5	-1.6
RUDO				eSn	Sn	00 15 46.9	-1.7
SELS	Selova	2.11	37	eSn	Sn	00 15 48.0	-1.4

*IDC **01** 00:15:01.9±9.0, 8°.79N×93°.17E, h0km, mb3.6/6, mbtmp3.6/7, ML3.4/1, Error ellipse: s-maj=186.0km s-min=45.3km az=146.0*
ISC 01 00:15:08.1±7.4, 8°.9N±0°.9×93°.0E±0°.6, h37km, n13, σ0°25/7, mb3.4/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	12.31	263	Pn	Pn	00 18 00.9	0.0
	0.2nm,0.3s,baz=65,slow=10,SNR=2.0						
	5.3nm,0.8s						
H08S3	Diego Garcia H	26.23	232	T	T	00 47 24.9	
	baz=54,slow=75,SNR=2.8						
H08S2	Diego Garcia H	26.24	232	T	T	00 47 23.3	
	baz=54,slow=75,SNR=3.2						
H08S1	Diego Carcia H	26.25	232	T	T	00 47 25.8	
	baz=54,slow=75,SNR=2.7						
MKAR	Makanchi Array	38.87	348	P	P	00 22 29.8	-0.1
	0.3nm,0.7s,baz=166,slow=8.5,SNR=5.3

FINES	FINESS Array B	71.31	332	P	P	00 26 23.6	0.0
	2.5nm,0.9s,baz=112,slow=7.5,SNR=2.0						
	2.5nm,0.9s						

IDC 01 00:17:16.4±18.0, 6°74N×94°54E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=566.5km s-min=143.3km az=114.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	41.27	347	P	P	00 25 03.4	-0.1
	0.6nm,0.7s,baz=167,slow=7.7,SNR=4.0						
	0.6nm,0.7s						
KURBB	Kurchatov Arra	45.73	346	P	P	00 25 39.3	0.0
	0.9nm,0.6s,baz=171,slow=7.0,SNR=6.3						
	0.9nm,0.6s						
ZALV	Zalesovo Beam	47.72	352	P	P	00 25 54.5	-0.3
	0.5nm,0.3s,baz=172,slow=7.1,SNR=1.7						
	0.5nm,0.3s						
FINES	FINESS Array B	73.89	332	P	P	00 28 53.1	+0.1
	3.1nm,1.0s,baz=116,slow=6.3,SNR=3.8						
	3.1nm,1.0s						

*NORS **01** 00:17:22.9, 42°62N×43°54E, h11km, MPVA3.8*
*ISK **01** 00:17:22.1, 42°58N×43°56E, h5km, ML2.3/7*
*MOS **01** 00:17:23.4, 42°70N×43°44E, h8km, MPVA3.5*
*DRS **01** 00:17:24.2, 43°02N×42°91E, h16km*
*AFAD **01** 00:17:26.3, 42°46N×43°08E, h14km±1km, ML2.1*

ISC 01 00:17:22.6±1.3, 42°58N±0°03×43°47E±0°03, h5km±10km, n33, σ1§56/57, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	Digorskoe uzhe	0.33	14	*i* Pg	Pg	00 17 29.5	+0.3
DIGR				*e*Sg	Sg	00 17 34.5	+0.8
KORR	Kora	0.67	40	*i* Pg	Pg	00 17 36.1	+0.5
KORR				*e*Sg	Sb	00 17 46.4	-0.2
LSNR	Lesken	0.75	20	*i* Pg	Pb	00 17 38.1	-0.1
LSNR				*e*Sg	Sb	00 17 49.1	+0.3
ARNR	Ardon	0.85	44	*e*Pg	Pb	00 17 40.0	0.0
ARNR				*e*Sg	Sn	00 17 52.9	-1.4
NEUR	Neytrino	0.89	321	*e*Pg	Pg	00 17 31.8	-7.9
NEUR				*e*Sg	Sg	00 17 43.8	-7.5
STDR	Stavd-Durt	0.91	29	*e*Pg	Pn	00 17 41.7	-0.3
STDR				*e*Sg	Sn	00 17 55.4	-0.2
NCK	Nalchik	0.93	6	*e*Pg	Pg	00 17 40.1	-0.3
NCK				*e*Sg	Sg	00 17 51.5	-0.9
BTKR	Batakoyurt	1.12	44	*i* Pg	Pn	00 17 46.2	+1.1
BTKR				*e*Sg	Sn	00 18 03.3	+2.4
KMGR	Komgaron	1.13	64	*e*Pg	Pn	00 17 45.3	0.0
KMGR				*e*Sg	Sn	00 18 01.7	+0.4
EPOS	Posof	1.21	208	P	Pn	00 17 45.9	-0.4
EPOS				S	Sb	00 17 59.9	-2.1
EPOS				*i* AML	AML	00 18 06.0	
	comp=E,40nm,0.4s						
KBZ	Khabaz	1.23	340	*e*Pg	Pg	00 17 46.4	+0.3
KBZ				*e*Sg	Sn	00 18 02.3	-1.1
SHA1	Shidzhatmaz	1.31	333	*e*Pg	Pg	00 17 48.0	+0.4
SHA1				*e*Sg	Sn	00 18 05.6	-0.2
KIV0	Kislovodsk Arr	1.49	338	*e*Pg	Pg	00 17 51.4	+0.2
KIV0				*e*Sg	Sg	00 18 10.7	+0.1
KIV	Kislovodsk	1.49	338	Pn	Pb	00 17 50.6	-0.4
KIV				Sn	Sg	00 18 11.3	+0.7
KIV	Kislovodsk	1.49	338	*e*Pg	Pg	00 17 51.4	+0.1
KIV				*e*Sg	Sg	00 18 10.8	+0.1
PYA1	Pyatigorsk	1.51	350	*e*Pg	Pb	00 17 50.9	-0.4
PYA1				*e*Sg	Sg	00 18 10.4	-0.8
BEYR	Belyy Ugol+	1.51	342	*e*Pg	Pg	00 17 52.0	+0.3
BEYR				*e*Sg	Sg	00 18 11.2	-0.1
DOMR	Dombai	1.53	298	*e*Pg	Pg	00 17 53.3	+1.3
DOMR				*e*Sg	Sg	00 18 15.1	+3.1
AHAN	Ardahan-Merkez	1.54	204	P	Pn	00 17 52.0	+0.9
AHAN				S	Sn	00 18 11.0	-0.6
AHAN				*i* AML	AML	00 18 15.0	
	comp=N,38nm,1.0s						
AHAN				*i* AML	AML	00 18 15.0	
	comp=E,32nm,1.0s						
BCA	Borcka	1.78	231	Pn	Pn	00 17 54.9	+0.8
BCA				Sn	Sb	00 18 19.4	+1.0
DBOC	Borcka	1.82	228	P	Pn	00 17 55.3	+0.6
DBOC				*i* AML	AML	00 18 23.0	
	comp=E,28nm,0.4s						
GOLE	Ardahan-G¶le	1.86	201	P	Pb	00 17 57.4	+0.2
ARXR	Arkhyz	1.89	302	*i* Pg	Pg	00 17 58.3	-0.5
ARXR				*e*Sg	Sg	00 18 22.8	-0.5
EAK	Akyaka	1.89	177	P	Pn	00 17 56.9	+1.2
EAK				S	Sn	00 18 15.7	-4.4
EAK				*i* AML	AML	00 18 44.0	
	comp=E,20nm,1.7s						
DAGI	Agillar	1.90	218	P	Pn	00 17 57.2	+1.4
DAGI				S	Sn	00 18 20.8	+0.7
DAGI				*i* AML	AML	00 18 26.0	
	comp=E,17nm,0.7s						
BOZK	Kars-Merkez-Bo	2.02	191	P	Pn	00 17 59.2	+1.7
DBAD	Bademkaya	2.04	221	P	Pb	00 17 59.8	-0.5
DBAD				S	Sn	00 18 24.2	+0.4
DBAD				*i* AML	AML	00 18 29.0	
	comp=N,34nm,0.6s						
DBAD				*i* AML	AML	00 18 29.0	
	comp=E,30nm,0.4s						
DDEM	Demirkent	2.12	218	P	Pn	00 18 00.6	+1.8
DDEM				S	Sn	00 18 25.0	-0.6
DDEM				*i* AML	AML	00 18 31.0	
	comp=E,32nm,0.5s						
SENK	Senkaya-Erzuru	2.18	203	Pn	Pn	00 18 00.8	+1.0
CHOM	Cayeli-Rize	2.51	235	Pn	Pn	00 18 05.5	+1.4
TASB	TASBURUN-IGDIR	2.65	167	Pn	Pn	00 18 06.6	+0.4
KOPR	Koprukoy-ERZUR	2.85	206	Pn	Pn	00 18 10.2	+1.2
BAYT	Aydintepe-Bayb	3.32	230	Pn	Pn	00 18 17.2	+1.8

*IDC **01** 00:18:22.0±1.2, 7°32N×93°84E, h0km, mb3.6/8, mbtmp3.6/10, ML3.9/2, Error ellipse: s-maj=48.6km s-min=18.5km az=56.0*

ISC 01 00:18:25.5±1.1, 7°4N±0°1×93°8E±0°2, h20km, n16, σ1§02/10, mb3.5/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.81	131	Pn	Pn	00 20 05.6	+1.1
	0.6nm,0.3s,baz=163,slow=23,SNR=1.5						
	2.5nm,0.4s						
CMAR	Chiang Mai Arr	12.10	24	Pn	Pn	00 21 17.1	+0.1
	0.5nm,0.3s,baz=202,slow=14,SNR=1.8						
	0.6nm,0.3s						
H08S3	Diego Garcia H	25.97	235	T	T	00 50 53.5	
	baz=55,slow=76,SNR=3.3						
H08S2	Diego Garcia H	25.97	235	T	T	00 50 40.8	
	baz=55,slow=76,SNR=3.2						
H08S1	Diego Carcia H	25.99	235	T	T	00 50 57.2	
	baz=55,slow=76,SNR=4.4						
MKAR	Makanchi Array	40.52	348	P	P	00 26 03.7	+0.5
	0.6nm,0.8s,baz=173,slow=8.2,SNR=4.4						
	0.6nm,0.8s						
SONM	Songino Array	41.73	13	P	P	00 26 13.4	+0.1
	0.4nm,0.5s,baz=190,slow=8.5,SNR=3.9						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	44.96	346	P	P	00 26 38.1	-1.1
	0.6nm,0.7s,baz=172,slow=7.1,SNR=13						
	0.6nm,0.7s						
ZALV	Zalesovo Beam	47.02	353	P	P	00 26 54.6	-0.8
	0.5nm,0.5s,baz=176,slow=7.1,SNR=5.6						
	0.5nm,0.5s						
WRA	Warramunga Arr	48.23	125	P	P	00 27 03.9	-1.4
	0.6nm,0.8s,baz=297,slow=8.7,SNR=5.6						
	0.6nm,0.8s						
ASAR	Alice Springs	49.83	129	P	P	00 27 16.5	-1.1
	0.2nm,0.5s,baz=294,slow=8.2,SNR=5.0						
	0.2nm,0.5s						
BRTR	Keskin Array B	62.52	311	P	P	00 28 48.3	+0.1
	0.2nm,0.7s,baz=148,slow=6.2,SNR=4.1						
	0.2nm,0.7s						
H04N2	CROZET ISLANDS	65.13	211	T	T	01 39 43.0	
	baz=48						
H04N1	CROZET ISLANDS	65.14	211	T	T	01 39 44.9	
	baz=48						
H04N3	CROZET ISLANDS	65.15	211	T	T	01 39 42.8	
	baz=48						
FINES	FINESS Array B	73.01	332	P	P	00 29 54.6	+0.9
	2.6nm,1.0s,baz=96,slow=5.0,SNR=4.3						
	2.6nm,1.0s						

*IDC **01** 00:20:11.8±1.0, 7°84N×94°26E, h0km, mb3.8/11, mbtmp3.8/13, ML3.2/2, Error ellipse: s-maj=45.9km s-min=18.9km az=52.0*

ISC 01 00:20:14.7±0.8, 7°8N±0°2×94°2E±0°1, h18km, n20, σ1§81/14, mb3.8/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.83	136	Pn	Pn	00 21 53.9	-0.2
	0.3nm,0.3s,baz=295,slow=8.6,SNR=4.1						
	4.9nm,0.5s						
PALK	Pallekele	13.41	269	Pn	Pn	00 23 23.8	-0.5
	0.2nm,0.3s,baz=94,slow=13,SNR=1.9						
	5.4nm,0.8s						
H08S3	Diego Garcia H	26.54	235	T	T	00 52 44.1	
	baz=55,slow=76,SNR=7.9						
H08S2	Diego Garcia H	26.54	235	T	T	00 52 43.8	
	baz=55,slow=76,SNR=5.3						
H08S1	Diego Carcia H	26.56	235	T	T	00 52 37.5	
	baz=55,slow=76,SNR=5.6						
MKAR	Makanchi Array	40.18	347	P	P	00 27 48.7	-1.2
	0.9nm,0.6s,baz=169,slow=7.6,SNR=5.8						
	0.9nm,0.6s						
KURBB	Kurchatov Arra	44.64	346	P	P	00 28 26.2	+0.2
	1.2nm,0.8s,baz=170,slow=6.9,SNR=7.1						
	1.2nm,0.8s						
ZALV	Zalesovo Beam	46.64	352	P	P	00 28 42.1	+0.3
	0.9nm,0.5s,baz=184,slow=7.6,SNR=3.6						
	0.9nm,0.5s						
WRA	Warramunga Arr	48.16	126	P	P	00 28 53.2	-1.0
	0.6nm,0.6s,baz=302,slow=7.9,SNR=1.8						
	0.6nm,0.6s						
BVAR	Borovoye Array	49.09	341	P	P	00 29 00.1	-0.8
	0.5nm,0.6s,baz=141,slow=9.6,SNR=3.7						
	0.5nm,0.6s						
ASAR	Alice Springs	49.81	130	P	P	00 29 07.6	+0.7
	0.4nm,0.6s,baz=300,slow=8.1,SNR=2.1						
	0.4nm,0.6s						
NRIK	Noril'sk	61.62	357	P	P	00 30 29.8	-1.0
	0.7nm,0.6s,baz=151,slow=10,SNR=1.8						
	0.7nm,0.6s						
BRTR	Keskin Array B	62.53	311	P	P	00 30 36.3	-1.5
	0.2nm,0.6s,baz=146,slow=6.5,SNR=2.5						
	0.2nm,0.6s						
H04N2	CROZET ISLANDS	65.70	211	T	T	01 41 53.9	
	baz=48,slow=74						
H04N1	CROZET ISLANDS	65.71	211	T	T	01 41 42.6	
	baz=48,slow=74						
H04N3	CROZET ISLANDS	65.72	211	T	T	01 41 51.3	
	baz=48						
FINES	FINESS Array B	72.81	332	P	P	00 31 41.0	-1.0
	2.7nm,1.0s,baz=90,slow=7.6,SNR=3.4						
	2.7nm,1.0s						
GERES	GERESS Array B	77.93	318	P	P	00 32 13.5	+1.6
	0.4nm,0.6s,baz=84,slow=5.6,SNR=3.7						
	0.4nm,0.6s						
NB2	NORSAR Subarra	79.83	331	P	P	00 32 26.6	+4.6
	comp=Z,1.4nm,0.8s,baz=94,slow=5.1						
NOA	NORSAR Array B	79.83	331	P	P	00 32 23.9	+1.9
	comp=Z,1.3nm,0.8s,baz=93,slow=5.2,SNR=3.5						
	comp=Z,1.3nm,0.8s						

*IDC **01** 00:20:42.5±1.5, 8°23N×92°57E, h0km, mb3.9/12, mbtmp3.9/13, ML4.5/1, Error ellipse: s-maj=39.9km s-min=29.8km az=52.0*

ISC 01 00:20:44.2±1.2, 8°2N±0°2×92°6E±0°2, h10km, n13, σ0§89/13, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.90	31	Pn	Pn	00 23 34.6	+0.6
	0.8nm,0.3s,baz=222,slow=12,SNR=5.2						
	0.8nm,0.3s						
MKAR	Makanchi Array	39.42	349	P	P	00 28 14.6	+0.2
	1.7nm,0.7s,baz=167,slow=7.8,SNR=7.1						
	1.7nm,0.7s						
SONM	Songino Array	41.18	14	P	P	00 28 28.8	-0.2
	0.5nm,0.4s,baz=201,slow=7.6,SNR=3.9						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	43.84	347	P	P	00 28 50.0	-0.5
	1.8nm,0.7s,baz=171,slow=7.2,SNR=7.7						
	1.8nm,0.7s						
ZALV	Zalesovo Beam	46.02	354	P	P	00 29 07.2	-0.5
	3.3nm,0.9s,baz=179,slow=7.7,SNR=4.9						
	3.3nm,0.9s						
BVAR	Borovoye Array	48.17	342	P	P	00 29 25.0	+0.4
	0.9nm,0.7s,baz=134,slow=8.5,SNR=4.0						
	0.9nm,0.7s						
WRA	Warramunga Arr	49.73	125	P	P	00 29 37.1	+0.1
	0.5nm,0.6s,baz=300,slow=7.9,SNR=1.7						
	0.5nm,0.6s						
BRTR	Keskin Array B	61.03	311	P	P	00 30 59.4	+0.9
	0.5nm,0.8s,baz=123,slow=7.2,SNR=3.8						
	0.5nm,0.8s						
NRIK	Noril'sk	61.12	358	P	P	00 30 58.0	-0.4
	1.3nm,0.6s,baz=177,slow=7.2,SNR=3.6						
	1.3nm,0.6s						
FINES	FINESS Array B	71.68	332	P	P	00 32 05.3	-0.8
	2.0nm,0.7s,baz=97,slow=5.9,SNR=5.2						
	2.0nm,0.7s						
GERES	GERESS Array B	76.53	318	P	P	00 32 35.9	+1.0
	0.5nm,0.6s,baz=77,slow=7.8,SNR=3.7						
	0.5nm,0.6s						
HFS	Hagfors	77.37	330	P	P	00 32 38.8	-0.4
	2.9nm,0.8s,baz=100,slow=7.5,SNR=4.9						
	2.9nm,0.8s						
NOA	NORSAR Array B	78.67	331	P	P	00 32 44.5	-2.0
	1.8nm,1.1s,baz=92,slow=5.7,SNR=2.1						
	1.8nm,1.1s						

*IDC **01** 00:21:23.5±1.5, 7°78N×93°51E, h0km, mb3.9/10, mbtmp3.9/11, Error ellipse: s-maj=48.4km s-min=30.0km az=57.0*

ISC 01 00:21:30.4±1.3, 7°9N±0°2×93°7E±0°2, h46km, n11, σ0§59/11, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.65	25	Pn	Pn	00 24 13.9	-0.2
	0.7nm,0.4s,baz=208,slow=12,SNR=1.1						
MKAR	Makanchi Array	39.94	348	P	P	00 29 00.2	0.0
	1.8nm,0.7s,baz=166,slow=7.7,SNR=5.7						
	1.8nm,0.7s						
SONM	Songino Array	41.21	13	P	P	00 29 10.5	-0.3
	0.5nm,0.8s,baz=197,slow=9.0,SNR=1.9						
	0.5nm,0.8s						
KURBB	Kurchatov Arra	44.39	346	P	P	00 29 37.4	+1.1
	2.4nm,0.7s,baz=172,slow=7.0,SNR=7.0						
	2.4nm,0.7s						
ZALV	Zalesovo Beam	46.45	353	P	P	00 29 53.4	+0.8
	2.7nm,0.7s,baz=183,slow=8.6,SNR=4.6						
	2.7nm,0.7s						
WRA	Warramunga Arr	48.65	125	P	P	00 30 10.4	+0.1
	0.3nm,0.6s,baz=299,slow=8.0,SNR=1.3						
	0.3nm,0.6s						
BVAR	Borovoye Array	48.80	341	P	P	00 30 10.9	0.0
	1.1nm,0.7s,baz=134,slow=8.3,SNR=3.7						
	1.1nm,0.7s						
FINES	FINESS Array B	72.46	332	P	P	00 32 52.1	+0.3
	3.7nm,1.0s,baz=93,slow=7.0,SNR=4.0						
	3.7nm,1.0s						
GERES	GERESS Array B	77.49	318	P	P	00 33 20.6	-0.7
	0.5nm,0.7s,baz=80,slow=6.7,SNR=2.1						
	0.5nm,0.7s						
HFS	Hagfors	78.19	330	P	P	00 33 25.0	+0.1
	1.5nm,0.5s,baz=126,slow=6.6,SNR=4.6						
	1.5nm,0.5s						
NOA	NORSAR Array B	79.47	331	P	P	00 33 31.5	-0.4
	0.6nm,0.7s,baz=94,slow=5.1,SNR=1.6						
	0.6nm,0.7s						

*BJI **01** 00:23:31.5, 7°07N×94°20E, h10km, mB4.8/7, mb4.5/34, Ms4.7/12, Ms7 4.4/12*
*IDC **01** 00:23:34.4±0.6, 7°54N×94°18E, h0km, mb4.2/20, mbtmp4.2/23, ML4.1/3, Error ellipse: s-maj=20.9km s-min=15.2km az=63.0*
*NEIC **01** 00:23:37.7±1.8, 7°65N±0°07×94°33E±0°08, h10km±1km, mb4.9/93, Error ellipse: s-maj=13.0km s-min=11.4km az=239.0*
*DJA **01** 00:23:40.0±0.4, 8°N±3°×9°5E±°, h10km, M4.7/11, mb4.6/11, mB5.6/2, MLv4.8/8, Mw(mB)5.1/2*
*GCMT **01** 00:23:46.7±0.3, 7°60N±0°02×94°27E±0°02, h16km±1km, MW4.9/104, Moment Tensor Solution. s19,c19; s104,c145; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.59±.14; $M_{\theta\theta}$=2.21±.11; $M_{\phi\phi}$=2.80±.12; $M_{r\theta}$=0.84±.38; $M_{\theta\phi}$=1.89±.11; $M_{\phi r}$=0.34±.34; Best double couple: M_0=3.27900×10^{16} NP1:φ=154.00000°, δ73.00000°, λ=174.00000°. NP2:φ=62.00000°, δ85.00000°, λ=17.00000°. Principal axes: T 3.5190, Plg8.0000°, Azm109.0000°; N -0.4800, Plg72.0000°, Azm226.0000°; P -3.0400, Plg16.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 00:23:39.0±0.4, 7°62N±0°05×94°26E±0°05, h24km, n187, σ1§18/179, mb4.7/69, MS4.5/3, 4C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	2.35	154	P	Pn	00 24 18.1	+1.9
BSI				S	Sn	00 24 46.2	+2.0
LHMI	Lhok Sumawe	3.57	131	Pn	Pn	00 24 32.0	-1.0
LHMI	Lhok Sumawe	3.57	131	P	Pn	00 24 32.4	-0.6
MLSI	Meulaboh, Aceh	3.96	147	P	Pn	00 24 40.3	+2.0
SRIT	Nakonsritamara	5.38	79		Pn	00 24 57.6	-0.2
PSI	Prapat	6.67	136	Pn	Pn	00 25 16.9	+1.2
	1.7nm,0.3s,baz=311,slow=16,SNR=5.7						
	12nm,0.7s						
RPSI	Rantau Prapat	6.75	136		Pn	00 25 16.2	-0.5
KULM	Kulim	6.76	110		Pn	00 25 15.2	-1.6
GSI	Gunungsitoli	7.09	152	Pn	Pn	00 25 20.5	-0.9
GSI	Gunungsitoli	7.09	152	P	Pn	00 25 21.0	-0.4
	0.3nm4μm44nm,1.7s						
PPI	Padang Panjang	10.09	142	P	Pn	00 26 01.2	-1.4
	42nm,1.1s						
MYKOM	Kota Tinggi	11.17	121	Pn	Pn	00 26 15.8	-1.6
CMAR	Chiang Mai Arr	11.70	22	Pn	Pn	00 26 23.0	-1.5
CMAR	Chiang Mai Arr	11.70	22	Pn	Pn	00 26 25.9	+1.3
	1.0nm,0.3s,baz=216,slow=14,SNR=5.4						
	1.8nm,0.4s						
CHTO	Chiang Mai	12.02	22	Pn	Pn	00 26 27.6	-1.4
UBPT	Khong Chiam	13.36	54	Pn	Pn	00 26 46.6	-0.7
PALK	Pallekele	13.45	269	Pn	Pn	00 26 49.2	+0.6
PALK	Pallekele	13.45	269	Pn	Pn	00 26 47.2	-1.3
	0.5nm,0.3s,baz=215,slow=19,SNR=1.7						
	2.8nm,0.5s						
CRAI	Chiangrai	13.86	25	Pn	Pn	00 26 53.8	-0.4
MDSI	Maura Dua	15.57	140	P	Pn	00 27 12.2	-5.0
SLVN	Son La	16.51	33		Pn	00 27 27.8	-1.5
TPI	Tanjungpandan	16.88	127	P	Pn	00 27 32.5	-1.4
KSM	Kuching	17.12	110		P	00 27 39.1	+0.7
TNCH	TengChong	17.79	13	*e*P	P	00 27 48.2	+2.3
TNCH				sP	sP	00 27 53.6	-1.1
TNCH				S	S	00 31 09.4	-0.2
TNCH				sS	sS	00 31 13.6	-5.5
TNCH				pmax	pmax		
	comp=Z,130nm,0.6s						
TNCH				pmax	pmax		
	comp=Z,250nm,3.4s						
TNCH				LR	LR		
	comp=N,1μm,14.4s						
TNCH				LR	LR		
	comp=E,1μm,11.1s						
TNCH				LR	LR		
	comp=Z,1μm,14.6s						
SBUM	Sibu	18.61	105	P	P	00 27 53.8	-1.1
QIZ	Qiongzhong	18.92	52	P	P	00 27 57.3	-0.9
QIZ				S	Sn	00 31 30.1	-0.1
QIZ				LR	LR		
	comp=N,3μm,13.5s						
QIZ				LR	LR		
	comp=E,1μm,11.7s						
QIZ				LR	LR		
	comp=Z,690nm,11.6s						
KMI	Kunming	19.20	24	P	Pn	00 28 03.4	+0.8
KMI				pmax	pmax		
	comp=Z,18nm,0.4s						
PZH	PanZhiHua	20.08	20	P	Pn	00 28 14.1	+1.1
PZH				S	S	00 31 54.5	-1.3
PZH				pmax	pmax		
	comp=Z,20nm,1.3s						
PZH				pmax	pmax		
	comp=Z,230nm,5.9s						
PZH				LR	LR		
	comp=N,840nm,12.8s						
PZH				LR	LR		
	comp=E,660nm,11.8s						
PZH				LR	LR		
	comp=Z,710nm,13.7s						
XMIS	Christmas Isla	21.26	148	P	P	00 28 25.2	+1.4
XMIS				IAmb	IAmb	00 28 32.9	
	comp=Z,110nm,1.4s						
SMRI	Semarang	21.74	132	P	P	00 28 27.2	-1.8
SMRI				IAmb	IAmb	00 28 45.9	
	comp=Z,44nm,1.0s						
KKM	Kota Kinabalu	21.86	93	P	P	00 28 30.2	-0.1
LSA	Lhasa	22.16	353	P	P	00 28 34.4	+0.6
MYLDM	Lahad Datu	24.21	94	P	P	00 28 54.7	+0.6
MYLDM				IAmb	IAmb	00 29 02.3	
	comp=Z,35nm,1.1s						
H08S3	Diego Garcia H	26.47	236	T	T	00 56 01.2	
	baz=55,slow=76,SNR=32						
H08S2	Diego Garcia H	26.48	236	T	T	00 56 03.2	
	baz=55,slow=76,SNR=35						
H08S1	Diego Carcia H	26.49	236	T	T	00 56 02.7	
	baz=55,slow=76,SNR=33						
LZH	Lanzhou	29.66	16	*e*P	P	00 29 48.0	+4.9
LZH				pP	sP	00 29 52.7	+0.3
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
GTA	Gaotai	32.05	8	*e*P	P	00 30 05.5	+1.4
GTA				sP	sP	00 30 16.0	+2.6
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NIL	Nilore	32.37	326	P	P	00 30 05.5	-1.4
NIL				IAmb	IAmb	00 30 20.4	
	comp=Z,14nm,0.8s						
NJ2	Nanjing	33.39	40	*e*P	P	00 30 16.0	+0.3
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
NJ2				LR	LR		
	comp=Z,2μm,17.1s						
NJ2				LR	LR		
	comp=Z,3μm,15.2s						
NJ2				LR	LR		
	comp=Z,5μm,18.0s						
SOEI	Soe	34.51	120	P	P	00 30 26.4	+0.5
SOEI				IAmb	IAmb	00 30 34.3	
	comp=Z,20nm,1.0s						
HNS	HongShan	34.98	29	⇑P	P	00 30 33.4	+3.9
HNS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HNS				LR	LR		
	comp=Z,450nm,13.9s						
HNS				LR	LR		
	comp=Z,630nm,16.1s						
HNS				LR	LR		
	comp=Z,500nm,14.5s						
KBL	Kabul	35.45	323	P	P	00 30 33.5	-0.3
KSH	Kashi	35.75	335	P	P	00 30 34.8	-1.5
KSH				pmax	pmax		
	comp=Z,3.0nm,1.1s						
WUS	Wushi	36.02	341	P	P	00 30 38.1	-0.4
WUS				IAmb	IAmb	00 30 52.0	
	comp=Z,7.6nm,0.6s						
HHC	Hu-ho-hao-te	36.51	22	*e*P	P	00 30 44.6	+1.9
HHC				sP	sP	00 30 52.6	+0.5
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
WMQ	Urumqi	36.52	352	*e*P	P

KURBB **Kurchatov Arra** 44.82 346 P **P** 00 31 51.2 +0.2
comp=Z,4.9nm,0.7s,baz=170,slow=7.0,SNR=26
comp=Z,4.9nm,0.7s
KURK **Kurchatov** 44.88 346 P **P** 00 31 51.2 -0.3
KURK IAmb IAmb 00 32 01.1
comp=Z,22nm,1.2s
ZAA0 **Zalesovo Array** 46.82 352 P **P** 00 32 06.8 0.0
ZAA0 IAmb IAmb 00 32 18.7
comp=Z,12nm,1.0s
ZALV **Zalesovo Beam** 46.82 352 P **P** 00 32 06.4 -0.4
ZALV **Zalesovo Beam** 46.82 352 P **P** 00 32 07.0 +0.3
comp=Z,5.3nm,0.5s,baz=174,slow=6.7,SNR=15
comp=Z,5.3nm,0.5s
BNX **BinXian** 47.52 31 ⇓P **P** 00 32 13.3 +0.9
BNX pmax pmax
comp=Z,5.0nm,1.1s
WRA **Warramunga Arr** 48.02 125 P **P** 00 32 15.1 -1.6
comp=Z,2.3nm,0.9s,baz=305,slow=8.6,SNR=6.9
comp=Z,2.3nm,0.9s
JSG **Sagara** 48.47 50 P **P** 00 32 19.9 0.0
USA0B **Ussuriysk Arra** 49.05 36 P **P** 00 32 24.1 -0.1
BVAR **Borovoye Array** 49.27 341 P **P** 00 32 25.2 -0.5
comp=Z,2.2nm,0.8s,baz=141,slow=9.4,SNR=5.8
comp=Z,2.2nm,0.8s
RAYN **Ar Rayn** 49.30 294 P **P** 00 32 27.1 +0.5
RAYN IAmb IAmb 00 32 35.3
comp=Z,10nm,0.8s
AS31 **Alice Springs** 49.66 130 P **P** 00 32 28.5 -0.7
ASAR **Alice Springs** 49.66 130 P **P** 00 32 29.2 0.0
ASAR **Alice Springs** 49.66 130 P **P** 00 32 27.9 -1.3
comp=Z,1.6nm,0.7s,baz=304,slow=7.0,SNR=8.6
comp=Z,1.6nm,0.7s
JSD **Sado** 49.92 46 P **P** 00 32 30.3 -0.7
ABKAR **Akbulak array** 50.51 331 P **P** 00 32 34.8 -0.4
HEH **HeiHe** 50.67 27 *e*P **P** 00 32 40.6 +4.2
HEH pmax pmax
comp=Z,3.0nm,0.5s
GURO **Guroymak-BITLI** 56.09 312 P **P** 00 33 16.1 -0.6
ARTI **Arti** 56.21 337 P **P** 00 33 17.6 +0.7
MARD **Mardin** 56.64 310 P **P** 00 33 20.5 -0.2
KIBK **Kibwezi** 56.94 262 P **P** 00 33 24.3 +1.2
KMBO **Kilima Mbogo** 57.51 264 P **P** 00 33 28.2 +0.9
KMBO IAmb IAmb 00 34 49.1
comp=Z,15nm,1.1s
KMBO **Kilima Mbogo** 57.51 264 P **P** 00 33 27.1 -0.2
comp=Z,2.3nm,0.6s,baz=30,slow=4.5,SNR=10
comp=Z,2.3nm,0.6s
KIV **Kislovodsk** 57.58 318 P **P** 00 33 27.3 +0.1
KIV IAmb IAmb 00 33 34.9
comp=Z,9.8nm,0.9s
KOPT **Kop Dagi** 57.70 313 P **P** 00 33 28.7 +0.5
LODK **Lodwar** 58.74 269 P **P** 00 33 36.4 +0.7
LODK IAmb IAmb 00 35 08.5
comp=Z,5.7nm,0.5s
NRIK **Noril'sk** 61.80 357 P **P** 00 33 55.0 -0.5
NRIK **Noril'sk** 61.80 357 P **P** 00 33 54.2 -1.3
comp=Z,1.7nm,0.5s,baz=141,slow=5.2,SNR=6.0
comp=Z,1.7nm,0.5s
MGBR **Mount Gambier** 62.44 140 P **P** 00 34 01.0 +0.6
BR131 **Keskin Array S** 62.68 311 P **P** 00 34 00.8 -1.5
BR131 IAmb IAmb 00 34 03.3
comp=Z,13nm,1.8s
BRTR **Keskin Array B** 62.68 311 P **P** 00 34 00.9 -1.3
BRTR **Keskin Array B** 62.68 311 P **P** 00 34 00.4 -1.8
comp=Z,1.1nm,0.8s,baz=122,slow=7.6,SNR=7.3
comp=Z,1.1nm,0.8s
H04N2 **CROZET ISLANDS** 65.57 211 T T 01 45 01.5
baz=47,slow=75,SNR=14
H04N1 **CROZET ISLANDS** 65.58 211 T T 01 45 02.2
baz=47,slow=75,SNR=14
H04N3 **CROZET ISLANDS** 65.59 211 T T 01 45 02.8
baz=47,slow=75,SNR=3.7
TIXI **Tiksi** 67.46 11 P **P** 00 34 31.5 -1.0
AKASG **Malin Array Be** 68.42 322 P **P** 00 34 37.3 -1.6
comp=Z,0.3nm,0.2s,baz=92,slow=5.0,SNR=5.2
comp=Z,0.3nm,0.2s
VRI **Vrincioaia** 68.96 316 ⇑P **P** 00 34 43.2 +0.7
PLOR **Plostina** 69.02 316 ⇑P **P** 00 34 42.9 +0.1
TESR **Tescani** 69.14 317 ⇓P **P** 00 34 43.4 -0.1
MLR **Muntele Rosu** 69.43 316 P **P** 00 34 45.3 -0.2
MLR **Muntele Rosu** 69.43 316 P **P** 00 34 44.6 -0.9
comp=Z,2.9nm,0.9s,baz=116,slow=5.3,SNR=4.0
comp=Z,2.9nm,0.9s
MLR **Muntele Rosu** 69.43 316 ⇓P **P** 00 34 45.9 +0.4
BURAR **Bucovina Array** 70.31 318 P **P** 00 34 50.1 -0.7
BURAR **Bucovina Array** 70.31 318 ⇑P **P** 00 34 53.2 +2.4
LIT **Litokhoron** 71.19 310 **P** 00 34 55.7 -0.6
FINES **FINESS Array B** 72.99 332 P **P** 00 35 06.0 -0.5
comp=Z,3.3nm,0.7s,baz=106,slow=5.5,SNR=12
comp=Z,3.3nm,0.7s
ARCES **ARCESS Array B** 75.54 340 P **P** 00 35 21.0 -0.3
comp=Z,3.7nm,1.0s,baz=79,slow=6.3,SNR=3.9
comp=Z,3.7nm,1.0s
BOSA **Boshof** 75.55 238 P **P** 00 35 21.2 -1.0
comp=Z,3.0nm,0.8s,baz=82,slow=5.0,SNR=6.2
comp=Z,3.0nm,0.8s
MORC **Moravsky Berou** 75.64 319 P **P** 00 35 22.8 +0.5
MORC IAmb IAmb 00 35 31.6
comp=Z,9.2nm,1.3s
MORC **Moravsky Berou** 75.64 319 *e*P **P** 00 35 22.2 -0.1
CEL **Celeste** 76.20 307 P **P** 00 35 25.6 -0.1
CEL IAmb IAmb 00 35 32.6
comp=Z,23nm,1.3s
RONA **Rosalia, Austr** 76.30 317 *e*P **P** 00 35 28.1 +2.0
comp=Z,3.9nm,1.1s
ARSA **Arzberg** 76.80 317 *i* P **P** 00 35 30.6 +1.7
comp=Z,6.1nm,1.6s
SOKA **Soboth** 77.11 316 *i* P **P** 00 35 30.9 +0.2
comp=Z,4.2nm,1.0s
MOA **Molln** 77.68 317 *i* P **P** 00 35 35.8 +2.0
comp=Z,2.5nm,0.9s
BRG **Berggiesshubel** 78.02 320 *e*P **P** 00 35 37.5 +1.9
BRG Amp 00 35 38.1
comp=Z,9.4nm,1.4s
BRG **Berggiesshubel** 78.02 320 P P 00 35 44.2 +8.5
BRG Amp 00 35 45.1
comp=Z,6.1nm,1.2s
GEC2 **GERESS Array S** 78.09 318 P **P** 00 35 37.2 +1.0
GEC2 IAmb IAmb 00 35 44.7
comp=Z,12nm,1.4s
GERES **GERESS Array B** 78.09 318 P **P** 00 35 35.8 -0.4
GERES **GERESS Array B** 78.09 318 P **P** 00 35 35.3 -0.9
comp=Z,1.0nm,0.6s,baz=95,slow=4.4,SNR=6.3
comp=Z,1.0nm,0.6s
PRED **Cave del Predi** 78.11 316 P **P** 00 35 35.7 -0.6
KBA **Koelnbreinsper** 78.28 316 *i* P **P** 00 35 39.1 +1.8
comp=Z,5.6nm,1.2s
CLL **Collm** 78.63 321 *e*P **P** 00 35 41.0 +2.0
HFS **Hagfors** 78.73 330 P **P** 00 35 37.8 -1.6
comp=Z,1.1nm,0.3s,baz=74,slow=7.9,SNR=8.7
comp=Z,1.1nm,0.3s
LESA **Schwarzleotal** 78.74 317 *e*P **P** 00 35 41.4 +1.6
comp=Z,7.3nm,1.6s
CIMO **Cimolais** 78.89 316 P **P** 00 35 40.0 -0.6
CIMO IAmb IAmb 00 35 46.1
comp=Z,9.1nm,1.0s
CTI **Castel Tesino** 79.44 315 P **P** 00 35 44.9 +1.2
WTTA **Wattenberg** 79.45 317 *i* P **P** 00 35 45.2 +1.4
comp=Z,4.8nm,1.1s
WATA **Walderalm** 79.49 317 *i* P **P** 00 35 43.9 -0.1
comp=Z,4.2nm,1.2s
MOTA **Moosalm** 79.81 317 *i* P **P** 00 35 45.9 +0.2
comp=Z,6.1nm,1.0s
ZCCA **Zocca** 79.92 314 P **P** 00 35 46.4 +0.1
NB2 **NORSAR Subarra** 80.01 331 P **P** 00 35 45.4 -1.0
comp=Z,6.1nm,1.0s,baz=95,slow=5.1
NOA **NORSAR Array B** 80.01 331 P **P** 00 35 45.1 -1.2
comp=Z,1.1nm,0.7s,baz=93,slow=5.6,SNR=7.9
comp=Z,1.1nm,0.7s
RETA **Reutte** 80.04 317 *i* P **P** 00 35 48.5 +1.6
comp=Z,4.3nm,0.8s
FETA **Feichten** 80.07 316 *i* P **P** 00 35 46.6 -0.6
comp=Z,3.6nm,1.2s
DAVA **Damuels** 80.64 317 *i* P **P** 00 35 51.2 +1.0
comp=Z,6.0nm,1.3s
TUE **Stuetta** 81.03 316 P **P** 00 35 52.8 +0.5
EKA **Eskdalemuir Ar** 88.00 325 P **P** 00 36 26.6 -0.5
comp=Z,1.3nm,0.7s,baz=94,slow=5.6,SNR=6.1
comp=Z,1.3nm,0.7s
C18K **Utukok River** 88.20 21 P **P** 00 36 28.3 +0.4
C18K IAmb IAmb 00 36 35.8
comp=Z,10.0nm,1.3s
E18K **Tukpahlearik C** 88.77 22 P **P** 00 36 31.7 +1.2
E18K IAmb IAmb 00 38 38.6
comp=Z,4.6nm,0.9s
F17K **Baldwin Pennin** 88.80 23 P **P** 00 36 30.4 -0.2
BFZ **Birch Farm** 88.88 131 P **P** 00 36 32.2 +0.6

D19K **Kuna River** 89.33 21 P **P** 00 36 33.1 -0.1
J16K **Anvik River** 89.97 26 P **P** 00 36 37.2 +1.0
E19K **Redstone River** 89.99 21 P **P** 00 36 36.9 +0.6
F19K **Shaleruckik Mo** 90.00 22 P **P** 00 36 36.9 +0.6
F19K IAmb IAmb 00 38 44.1
comp=Z,7.5nm,1.2s
B21K **Ikpikpuk River** 90.10 19 P **P** 00 36 37.7 +1.0
B22K **Teshekpuk Lake** 90.20 18 P **P** 00 36 37.4 +0.3
B22K IAmb IAmb 00 36 45.5
comp=Z,15nm,1.5s
H18K **Honhosa River** 90.33 24 P **P** 00 36 38.6 +0.7
H18K IAmb IAmb 00 36 46.5
comp=Z,23nm,1.9s
G19K **Purcell Mounta** 90.49 23 P **P** 00 36 40.3 +1.6
J17K **VABM Dome** 90.59 26 P **P** 00 36 39.4 +0.2
J17K IAmb IAmb 00 39 00.8
comp=Z,16nm,1.7s
F20K **Avaraart Lake** 90.68 22 P **P** 00 36 38.8 -0.6
TORD **Torodi Ar. Bea** 90.77 283 P **P** 00 36 39.4 -1.6
comp=Z,196nm,0.4s,baz=93,slow=5.8,SNR=3.8
E21K **Killik River** 90.77 20 P **P** 00 36 40.8 +0.8
H19K **Roundabout Mou** 90.96 23 P **P** 00 36 42.2 +1.4
D22K **Ayikyak River** 91.03 19 P **P** 00 36 42.4 +1.3
D22K IAmb IAmb 00 39 01.4
comp=Z,8.7nm,1.4s
F21K **Alatna River** 91.43 21 P **P** 00 36 43.8 +0.8
ESDC **Sonseca Array** 91.47 310 P **P** 00 36 42.4 -1.4
comp=Z,0.4nm,0.5s,baz=70,slow=3.6,SNR=4.9
comp=Z,0.4nm,0.5s
G21K **Allakaket** 91.70 22 P **P** 00 36 44.9 +0.7
J19K **Poorman** 91.84 24 P **P** 00 36 46.1 +1.2
I20K **Naaghedeneel** 92.00 24 P **P** 00 36 46.9 +1.3
TOLK **Toolik Lake Re** 92.15 19 P **P** 00 36 48.0 +1.7
H21K **Melozitna Rive** 92.31 22 P **P** 00 36 47.4 +0.3
H21K IAmb IAmb 00 38 54.9
comp=Z,3.9nm,0.8s
J20K **Nowinta River** 92.37 24 P **P** 00 36 48.6 +1.2
K20K **Telida** 92.72 25 P **P** 00 36 49.0 -0.1
L19K **White Mountain** 92.84 26 P **P** 00 36 50.2 +0.6
D25K **Kavik River** 92.84 18 P **P** 00 36 51.4 +1.8
G23K **Bananza Creek** 92.88 21 P **P** 00 36 50.4 +0.7
G23K IAmb IAmb 00 37 44.1
comp=Z,14nm,1.8s
CAST **Castle Rocks** 93.52 24 P **P** 00 36 54.3 +1.6
N19K **Bonanza Creek** 93.52 27 P **P** 00 36 53.4 +0.5
BPAW **Bear Paw Mtn.** 93.67 24 P **P** 00 36 54.5 +1.1
BPAW IAmb IAmb 00 37 02.5
comp=Z,9.1nm,1.4s
SKT **Skwentna** 94.35 26 P **P** 00 36 57.1 +0.5
BMAR **Burnt Mountain** 94.39 19 P **P** 00 36 57.7 +1.0
F26K **Sheenjek River** 94.39 19 P **P** 00 36 57.1 +0.4
F26K IAmb IAmb 00 39 04.2
comp=Z,2.7nm,0.7s
SUA **Susitna One** 94.91 26 P **P** 00 37 00.1 +0.8
M22K **Willow** 95.05 26 P **P** 00 37 00.1 +0.3
BRLK **Bradley Lake** 95.58 27 P **P** 00 37 01.3 -1.0
E29M **Blow River** 95.91 17 P **P** 00 37 03.9 +0.4
E29M IAmb IAmb 00 37 11.7
comp=Z,5.6nm,1.4s
PWL **Port Wells** 96.23 26 P **P** 00 37 05.5 +0.3
N25K **Chitina, Valde** 97.43 24 P Pdif 00 37 10.8 0.0
N25K IAmb IAmb 00 39 19.2
comp=Z,2.2nm,0.7s
BMRM **Bremner River** 97.76 25 P Pdif 00 37 12.4 +0.2
BMRM IAmb IAmb 00 39 20.1
comp=Z,3.8nm,0.7s
RAGM **Ragged Mountai** 98.03 25 P **P** 00 37 12.1 -1.3
NVAR **Mina Array Bea** 125.07 31 PKP **PKiKP** 00 42 38.6 +0.1
comp=Z,0.2nm,0.6s,baz=4.5,slow=7.1,SNR=3.1
PDAR **Pinedale Array** 125.36 21 PKP **PKPdf** 00 42 38.3 -0.3
comp=Z,0.5nm,0.8s,baz=4.1,slow=2.1,SNR=4.8
TXAR **Lajitas Array** 139.41 24 PKP **PKPdf** 00 43 04.4 -0.8
comp=Z,0.1nm,0.5s,baz=262,slow=2.5,SNR=1.7
PLCA **Paso Flores** 144.35 200 PKP PKPbc 00 43 12.1 0.0
comp=Z,3.8nm,1.0s,baz=150,slow=6.9,SNR=6.5
CPUP **Villa Florida** 147.20 232 PKPbc **PKPdf** 00 43 18.9 0.0
comp=Z,3.4nm,0.9s,baz=79,slow=3.6,SNR=5.7

---

*BJI **01** 00:25:36.3, 7.°00N×94.°08E, h10km, mB5.1/9, mb4.6/43, Ms4.6/11, Ms7 4.3/11*
*IDC **01** 00:25:40.4±0.5, 7.°49N×94.°15E, h0km, mb4.5/27, mbtmp4.5/30, ML3.9/3, MS4.3/6, Error ellipse: s-maj=19.4km s-min=13.2km az=53.0*
*NEIC **01** 00:25:43.5±1.4, 7.°67N±0.°07×94.°31E±0.°09, h10km±1km, mb5.0/95, Error ellipse: s-maj=16.1km s-min=11.7km az=248.0*
*GCMT **01** 00:25:47.5±0.3, 7.°54N±0.°02×94.°29E±0.°02, h17km±1km, MW5.0/95, Moment Tensor Solution. s10,c10; s95,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.65±.17; $M_{\theta\theta}$-2.05±.12; $M_{\phi\phi}$2.70±.15; $M_{r\theta}$-1.47±.40; $M_{\theta\phi}$1.89±.11; $M_{\phi r}$-1.52±.40; Best double couple: $M_0$3.63500×10^{16} NP1:ϕ_s153.00000°, δ56.00000°, λ-178.00000°. NP2: ϕ_s61.00000°, δ88.00000°, λ-34.00000°. Principal axes: T 4.1470, Plg22.0000°, Azm112.0000°; N -1.0240, Plg56.0000°, Azm239.0000°; P -3.1230, Plg25.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 00:25:44.6±2.4, 7.°60N±0.°06×94.°24E±0.°06, h24km±17km, n362, σ1$01/341, mb4.9/92, MS4.3/7, 2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	3.57	131	Pn	Pn	00 26 39.0	+0.4
SRIT	Nakonsritamara	5.40	79		Pn	00 27 02.5	-1.2
PSI	Prapat	6.66	135	Pn	Pn	00 27 21.9	+0.6
2.6nm,0.3s,baz=315,slow=14,SNR=3.9							
20nm,0.8s							
RPSI	Rantau Prapat	6.74	136	Pn	Pn	00 27 23.3	+1.1
KULM	Kulim	6.77	109	Pn	Pn	00 27 20.4	-2.1
GSI	Gunungsitoli	7.08	152	Pn	Pn	00 27 27.8	+1.0
CMAR	Chiang Mai Arr	11.73	23	Pn	Pn	00 28 30.7	+0.1
CMAR	Chiang Mai Arr	11.73	23	Pn	Pn	00 28 32.7	+2.1
0.5nm,0.3s,baz=338,slow=30,SNR=1.1							
1.7nm,0.4s							
UBPT	Khong Chiam	13.39	54	Pn	Pn	00 28 51.0	-2.3
PALK	Pallekele	13.43	270	Pn	Pn	00 28 52.5	-1.4
0.3nm,0.3s,baz=69,slow=14,SNR=1.5							
4.9nm,0.9s							
BRDH	Bariadhala	15.20	351	LR	LR	00 34 53.6	
comp=Z,832nm,19.6s,baz=157,slow=36							
SLVN	Son La	16.54	33		Pn	00 29 34.2	-1.1
KSM	Kuching	17.12	110		P	00 29 43.6	-0.5
SBUM	Sibu	18.62	105		Pn	00 30 01.9	+0.9
QIZ	Qiongzhong	18.94	52	P	P	00 30 02.7	-1.5
QIZ				S	Sn	00 33 35.7	-0.8
QIZ				LR	LR		
comp=N,610nm,10.3s							
QIZ				LR	LR		
comp=E,860nm,9.2s							
QIZ				LR	LR		
comp=Z,880nm,8.7s							
KMI	Kunming	19.23	24	P	Pn	00 30 12.3	+3.8
KMI				pmax	pmax		
comp=Z,22nm,0.7s							
KMI				LR	LR		
comp=N,340nm,11.1s							
KMI				LR	LR		
comp=E,400nm,8.1s							
KMI				LR	LR		
comp=Z,420nm,15.9s							
PZH	PanZhiHua	20.11	20	P	Pn	00 30 20.2	+1.3
PZH				pmax	pmax		
comp=Z,30nm,0.9s							
PZH				pmax	pmax		
comp=Z,360nm,8.8s							
KKM	Kota Kinabalu	21.87	93	P	P	00 30 35.8	-0.3
GYA	Guiyang	22.17	31	P	P	00 30 41.0	+1.8
GYA				pmax	pmax		
comp=Z,29nm,0.6s							
GYA				pmax	pmax		
comp=Z,220nm,3.7s							
GYA				LR	LR		
comp=N,1μm,12.3s							
GYA				LR	LR		
comp=E,2μm,13.2s							
GYA				LR	LR		
comp=Z,1μm,13.5s							
LSA	Lhasa	22.18	353	P	P	00 30 38.2	-1.4
LSA				IAmb	IAmb	00 30 43.5	
comp=Z,39nm,0.8s							
MYLDM	Lahad Datu	24.22	94	P	P	00 31 00.4	+0.5
MYLDM				IAmb	IAmb	00 31 06.7	
comp=Z,81nm,1.4s							
H08S3	Diego Garcia H	26.45	236	T	T	00 57 54.9	
baz=55,slow=76,SNR=4.8							
H08S2	Diego Garcia H	26.45	236	T	T	00 57 58.6	
baz=55,slow=76,SNR=4.6							
H08S1	Diego Garcia H	26.46	236	T	T	00 57 60.0	
baz=55,slow=76,SNR=4.7							
LZH	Lanzhou	29.69	16	*e*P	P	00 31 50.3	+1.3
LZH				pP	pwP	00 31 57.1	-0.9
LZH				pmax	pmax		
comp=Z,11nm,1.0s							
GTA	Gaotai	32.07	8	*e*P	P	00 32 11.0	+1.1
GTA				pP	pP	00 32 16.0	-0.5
GTA				pmax	pmax		
comp=Z,8.0nm,1.1s							
NIL	Nilore	32.38	326	P	P	00 32 12.0	-0.6
NJ2	Nanjing	33.42	40	*e*P	P	00 32 22.4	+0.8
NJ2				pmax	pmax		
comp=Z,26nm,0.6s							
SOEI	Soe	34.52	119	P	P	00 32 32.2	+0.7
SOEI				IAmb	IAmb	00 32 46.7	
comp=Z,41nm,1.4s							
TIA	Tai'an	35.33	33	P	P	00 32 40.7	+2.5
TIA				pmax	pmax		
comp=Z,11nm,0.8s							
KBL	Kabul	35.45	323	P	P	00 32 39.4	-0.2
KSH	Kashi	35.77	335	P	P	00 32 39.1	-2.9
KSH				pmax	pmax		
comp=Z,5.0nm,1.0s							
WUS	Wushi	36.03	341	P	P	00 32 44.4	0.0
WUS				IAmb	IAmb	00 32 45.5	
comp=Z,13nm,0.7s							
HHC	Hu-ho-hao-te	36.54	22	*e*P	P	00 32 50.5	+1.9
HHC				S	S	00 38 29.5	-0.2
HHC				pmax	pmax		
comp=Z,10.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,230nm,6.1s							
HHC				LR	LR		
comp=Z,410nm,9.9s							
HHC				LR	LR		
comp=Z,440nm,9.2s							
HHC				LR	LR		
comp=Z,420nm,11.5s							
WMQ	Urumqi	36.54	352	*e*P	P	00 32 49.9	+1.4
WMQ				pmax	pmax		
comp=Z,15nm,0.9s							
GAR	Garm	37.97	329	P	P	00 33 00.4	-0.4
GAR				IAmb	IAmb	00 33 01.2	
comp=Z,12nm,0.7s							
MBWA	Marble Bar	37.99	139	P	P	00 32 59.1	-1.9
MBWA				IAmb	IAmb	00 33 00.1	
comp=Z,29nm,1.4s							
CHGR	Chuyangaron	38.31	328	P	P	00 33 04.5	+0.8
SIMJ	Simiganj	38.39	327	P	P	00 33 03.9	-0.5
AAK	Ala-Archa	39.00	337	LR	LR	00 50 33.8	
comp=Z,514nm,20.1s,baz=158,slow=38							
FITZ	Fitzroy Crossi	40.16	130	LR	LR	00 51 34.9	
comp=Z,282nm,19.5s,baz=296,slow=39							
MK31	Makanchi Array	40.38	347	P	P	00 33 20.4	-0.3
MKAR	Makanchi Array	40.38	347	P	P	00 33 20.6	-0.1
comp=Z,14nm,0.7s,baz=167,slow=8.0,SNR=20							
MKAR				PcP	PcP	00 35 24.4	+0.8
comp=Z,1.1nm,0.8s,baz=146,slow=2.8,SNR=2.1							
comp=Z,14nm,0.7s							
MAKZ	Makanchi	40.46	347	P	P	00 33 21.4	0.0
KKAR	Karatay Array	41.06	333	P	P	00 33 26.5	+0.2
SONM	Songino Array	41.41	12	P	P	00 33 29.9	+0.5
SONM	Songino Array	41.41	12	P	P	00 33 29.9	+0.5
comp=Z,4.6nm,0.9s,baz=198,slow=9.2,SNR=6.5							
SONM				PcP	PcP	00 35 28.0	+0.9
comp=Z,1.8nm,0.7s,baz=196,slow=3.9,SNR=4.5							
comp=Z,4.6nm,0.9s							
MORW	Morawa	42.07	151	P	P	00 33 36.3	+1.5
MORW				IAmb	IAmb	00 35 09.8	
comp=Z,56nm,2.0s							
KSRS	Korea Array	42.61	41	P	P	00 33 39.8	+0.7
comp=Z,2.2nm,0.9s,baz=226,slow=9.9,SNR=2.8							
comp=Z,2.2nm,0.9s							
KURBB	Kurchatov Arra	44.84	346	P	P	00 33 57.1	+0.3
comp=Z,19nm,0.8s,baz=169,slow=7.2,SNR=23							
KURBB				PcP	PcP	00 35 39.0	+0.6
comp=Z,2.3nm,0.7s,baz=160,slow=2.9,SNR=5.8							
KURBB				LR	LR	00 55 17.6	
comp=Z,300nm,19.9s,baz=156,slow=40							
comp=Z,19nm,0.8s							
KURK	Kurchatov	44.90	346	P	P	00 33 57.8	+0.5
KURK				IAmb	IAmb	00 33 58.3	
comp=Z,16nm,0.8s							
ZAA0	Zalesovo Array	46.84	352	P	P	00 34 12.7	+0.1
ZAA0				IAmb	IAmb	00 34 14.1	
comp=Z,16nm,0.8s							
ZALV	Zalesovo Beam	46.84	352	P	P	00 34 13.3	+0.7
ZALV	Zalesovo Beam	46.84	352	P	P	00 34 13.1	+0.5
comp=Z,18nm,0.7s,baz=179,slow=7.8,SNR=15							
comp=Z,18nm,0.7s							
BNX	BinXian	47.55	31	⇓P	P	00 34 19.1	+0.8
BNX				pmax	pmax		
comp=Z,5.0nm,0.7s							
WB0	Warramunga Arr	47.97	125	P	P	00 34 19.2	-2.8
WB0				IAmb	IAmb	00 34 19.9	
comp=Z,22nm,1.6s							
WRA	Warramunga Arr	48.02	125	P	P	00 34 20.9	-1.4
comp=Z,1.8nm,0.6s,baz=301,slow=9.4,SNR=4.8							
WRA				PcP	PcP	00 35 50.2	0.0
comp=Z,0.9nm,0.6s,baz=305,slow=3.1,SNR=3.7							
comp=Z,1.8nm,0.6s							
WB2	Warramunga Arr	48.03	125	P	P	00 34 20.9	-1.5
WB2				IAmb	IAmb	00 35 32.1	
comp=Z,41nm,2.0s							
MJAR	Matsushiro Arr	49.27	48	P	P	00 34 33.1	+1.3
comp=Z,0.9nm,0.4s,baz=243,slow=8.7,SNR=4.6							
MJAR				PcP	PcP	00 35 55.3	+0.8
comp=Z,2.5nm,0.8s,baz=220,slow=2.2,SNR=4.1							
comp=Z,0.9nm,0.4s							
BVAR	Borovoye Array	49.28	341	P	P	00 34 31.6	+0.1
comp=Z,7.6nm,0.8s,baz=142,slow=7.5,SNR=12							
BVAR				PcP	PcP	00 35 54.7	+0.6
comp=Z,3.0nm,0.6s,baz=149,slow=2.8,SNR=5.8							
comp=Z,7.6nm,0.8s							
RAYN	Ar Rayn	49.29	294	P	P	00 34 33.4	+1.2
RAYN				IAmb	IAmb	00 34 34.9	
comp=Z,7.1nm,0.6s							
BRVK	Borovoye	49.35	341	P	P	00 34 31.8	-0.1
ASAR	Alice Springs	49.66	130	P	P	00 34 33.9	-1.0
comp=Z,1.7nm,0.6s,baz=303,slow=6.9,SNR=4.4							
ASAR				PcP	PcP	00 35 56.3	+0.2
comp=Z,2.1nm,0.8s,baz=307,slow=3.8,SNR=6.2							
comp=Z,1.7nm,0.6s							
FORT	Forrest	50.06	141	P	P	00 34 38.5	+0.8
ABKAR	Akbulak array	50.52	331	P	P	00 34 41.3	+0.3
ABKAR	Akbulak array	50.52	331	P	P	00 34 41.5	+0.5
ABKAR				IAmb	IAmb	00 34 42.1	
comp=Z,10nm,1.1s							
ARTI	Arti	56.22	337	P	P	00 35 22.6	-0.2
ARTI				IAmb	IAmb	00 35 23.9	
comp=Z,16nm,1.0s							
ARTI	Arti	56.22	337	LR	LR	01 01 47.4	
comp=Z,280nm,19.0s,baz=142,slow=38							
KIBK	Kibwezi	56.92	262	P	P	00 35 29.1	+0.6
KIBK				IAmb	IAmb	00 35 39.6	
comp=Z,5.5nm,0.5s							
STKA	Stephens Creek	59.84	134	P	P	00 35 47.8	-0.7
comp=Z,1.8nm,0.6s,baz=315,slow=8.6,SNR=3.1							
comp=Z,1.8nm,0.6s							
KIRV	Kirov	61.31	335	LR	LR	01 04 23.8	
comp=Z,198nm,18.8s,baz=143,slow=38							
NRIK	Noril'sk	61.82	357	P	P	00 36 00.3	-1.1
NRIK				IAmb	IAmb	00 36 02.0	
comp=Z,5.7nm,0.7s							
NRIK	Noril'sk	61.82	357	P	P	00 36 00.7	-0.6
comp=Z,5.2nm,0.7s,baz=159,slow=3.7,SNR=7.7							
comp=Z,5.2nm,0.7s							
BR131	Keskin Array S	62.69	311	P	P	00 36 05.2	-2.8
BR131				IAmb	IAmb	00 37 56.7	
comp=Z,13nm,1.7s							
BRTR	Keskin Array B	62.69	311	P	P	00 36 06.0	-1.9
BRTR	Keskin Array B	62.69	311	P	P	00 36 06.5	-1.4
comp=Z,1.4nm,0.6s,baz=139,slow=6.5,SNR=6.9							
comp=Z,1.4nm,0.6s							
H04N2	CROZET ISLANDS	65.54	211	T	T	01 46 57.8	
baz=47,slow=75,SNR=3.4							
H04N1	CROZET ISLANDS	65.55	211	T	T	01 46 58.1	
baz=47,slow=75,SNR=3.7							

H04N3	CROZET ISLANDS	65.56	211		T		T	01 46 55.9
	baz=47,slow=75,SNR=3.7							
OBN	Obninsk	65.67	328		P		P	00 36 25.5 -1.4
	comp=Z,9.8nm,0.8s,baz=40,slow=5.8,SNR=4.0							
	comp=Z,9.8nm,0.8s							
TIXI	Tiksi	67.48	11		P		P	00 36 36.5 -1.7
AKASG	Malin Array Be	68.43	322		P		P	00 36 43.0 -1.6
	comp=Z,0.2nm,0.2s,baz=82,slow=4.3,SNR=4.4							
	comp=Z,0.2nm,0.2s							
IDI	Anoyia	68.81	305		P		P	00 36 46.2 -1.2
	comp=Z,15nm,0.7s,baz=100,slow=6.1,SNR=2.2							
	comp=Z,15nm,0.7s							
MLR	Muntele Rosu	69.44	316		P		P	00 36 51.0 -0.2
	comp=Z,4.0nm,0.9s,baz=68,slow=9.1,SNR=2.8							
	comp=Z,4.0nm,0.9s							
KOLS	Kolonicke sedl	72.48	319		eP		P	00 37 09.8 +0.4
FINES	FINESS Array B	73.00	332		P		P	00 37 12.0 -0.2
	comp=Z,8.3nm,0.7s,baz=94,slow=5.2,SNR=14							
	comp=Z,8.3nm,0.7s							
BOSA	Boshof	75.52	238		P		P	00 37 28.0 +0.3
	comp=Z,3.0nm,0.7s,baz=97,slow=4.5,SNR=6.1							
	comp=Z,3.0nm,0.7s							
ARCES	ARCESS Array B	75.56	340		P		P	00 37 26.9 -0.1
	comp=Z,6.1nm,0.9s,baz=158,slow=1.3,SNR=5.0							
	comp=Z,6.1nm,0.9s							
CONA	Conrad Observa	76.62	317	i	P		P	00 37 33.6 0.0
	comp=Z,3.7nm,1.1s							
SOKA	Soboth	77.11	316	i	P		P	00 37 36.8 +0.4
	comp=Z,6.6nm,1.2s							
BLEU	Blekinge	77.30	326	i	P		P	00 37 36.3 -0.8
OBKA	Obir	77.44	316	i	P		P	00 37 38.4 +0.2
	comp=Z,6.1nm,1.0s							
BSD	Bornholm Skovb	77.70	325	i	P		P	00 37 39.0 -0.4
BSD					IAmb		IAmb	00 37 39.5
	comp=Z,40nm,1.1s							
GERES	GERESS Array B	78.10	318		P		P	00 37 42.2 +0.3
	comp=Z,2.5nm,0.7s,baz=84,slow=5.5,SNR=6.9							
	comp=Z,2.5nm,0.7s							
DEL	Delary	78.39	326	i	P		P	00 37 42.8 -0.4
LUNU	Lund	78.58	325	i	P		P	00 37 44.0 -0.2
HFS	Hagfors	78.75	330		P		P	00 37 45.0 0.0
	comp=Z,6.5nm,0.5s,baz=103,slow=6.7,SNR=14							
	comp=Z,6.5nm,0.5s							
BJUU	Bjuv	78.84	326	i	P		P	00 37 45.8 +0.1
CIMO	Cimolais	78.89	316		P		P	00 37 45.4 -0.9
CIMO					IAmb		IAmb	00 37 55.8
	comp=Z,8.1nm,0.9s							
FABU	Falkenberg	79.06	327	i	P		P	00 37 46.2 -0.6
BORU	Boraas	79.06	327	i	P		P	00 37 47.1 +0.3
COP	Copenhagen	79.15	325	i	P		P	00 37 48.1 +0.7
COP					IAmb		IAmb	00 37 49.1
	comp=Z,19nm,0.6s							
LLD	Lille Linde	79.26	325	i	P		P	00 37 48.7 +0.8
LLD					IAmb		IAmb	00 37 55.6
	comp=Z,25nm,0.9s							
WTTA	Wattenberg	79.45	317	i	P		P	00 37 49.1 -0.4
	comp=Z,6.1nm,1.0s							
WATA	Walderalm	79.50	317	i	P		P	00 37 49.1 -0.6
	comp=Z,1.8nm,0.6s							
ONAU	Onsala	79.51	327	i	P		P	00 37 47.1 -2.1
TJOU	Tjoern	79.69	328	i	P		P	00 37 49.4 -0.9
GRA1	Grafenberg Arr	79.74	319		P		P	00 37 51.2 +0.4
GRA1					IAmb		IAmb	00 38 45.5
	comp=Z,35nm,1.7s							
GRFO	Grafenberg	79.74	319		P		P	00 37 50.0 -0.8
GRFO					IAmb		IAmb	00 38 45.5
	comp=Z,39nm,1.8s							
SQTA	Sankt Quirin	79.75	317	i	P		P	00 37 50.7 -0.3
	comp=Z,3.6nm,0.7s							
MOTA	Moosalm	79.82	317	i	P		P	00 37 50.9 -0.5
	comp=Z,5.2nm,1.0s							
STRU	Stroemstad	79.96	329	i	P		P	00 37 50.8 -0.9
NB2	NORSAR Subarra	80.02	331		P		P	00 37 51.4 -0.7
	comp=Z,4.1nm,0.7s,baz=96,slow=5.1							
NOA	NORSAR Array B	80.02	331		P		P	00 37 51.6 -0.5
	comp=Z,2.8nm,0.7s,baz=93,slow=5.6,SNR=9.1							
	comp=Z,2.8nm,0.7s							
FETA	Feichten	80.07	316	i	P		P	00 37 52.8 0.0
	comp=Z,3.1nm,1.0s							
SPITS	Spitsbergen Ar	80.13	348		P		P	00 37 51.9 -0.4
	comp=Z,7.0nm,0.6s,baz=91,slow=10,SNR=8.3							
	comp=Z,7.0nm,0.6s							
DAVOX	Davos/Dischmat	80.66	316		P		P	00 37 56.0 0.0
	comp=Z,2.2nm,0.5s,baz=150,slow=10,SNR=4.1							
	comp=Z,2.2nm,0.5s							
MUD	Monsted U'grnd	81.00	326	i	P		P	00 37 52.7 -4.6
MUD					IAmb		IAmb	00 37 58.7
	comp=Z,7.8nm,0.5s							
TNA	Tin City	86.38	24		P		P	00 38 25.4 +0.8
	baz=280							
SPIA	Saint Paul Isl	86.66	33		P		P	00 38 26.8 +0.6
	baz=279							
C16K	Lisburne Hills	86.84	22		P		P	00 38 27.8 +0.9
	baz=282							
F14K	Arctic Creek	87.05	24		P		P	00 38 28.5 +0.5
	baz=282							
C17K	DeLong Mountai	87.57	21		P		P	00 38 30.8 +0.2
	baz=284							
ANM	Nome	87.64	25		P		P	00 38 31.6 +0.7
	baz=283							
F15K	North Star Dit	87.68	24		P		P	00 38 30.7 -0.3
F15K	North Star Dit	87.68	24		P		P	00 38 31.3 +0.2
	baz=283							
D17K	Noatak River	87.80	22		P		P	00 38 32.1 +0.5
	baz=284,SNR=8.3							
B18K	Kokolik River	87.82	20		P		P	00 38 32.4 +0.7
	baz=286							
A19K	Wainwright	87.83	19		P		P	00 38 32.3 +0.7
	baz=286							
EKA	Eskdalemuir Ar	88.01	325		P		P	00 38 33.1 +0.3
	comp=Z,2.7nm,0.6s,baz=94,slow=5.3,SNR=9.4							
	comp=Z,2.7nm,0.6s							
G15K	Niukluk	88.09	25		P		P	00 38 33.6 +0.6
	baz=284							
NIKH	Nikolski High	88.14	37		P		P	00 38 33.4 -0.1
	baz=280							
M11K	Mekoryuk	88.15	29		P		P	00 38 33.8 +0.4
	baz=282							
C18K	Utukok River	88.23	21		P		P	00 38 33.2 -0.5
C18K					IAmb		IAmb	00 38 35.2
	comp=Z,4.0nm,0.7s							
C18K	Utukok River	88.23	21		P		P	00 38 34.7 +1.0
	baz=286							
E17K	Hotham Inlet	88.43	22		P		P	00 38 35.3 +0.7
	baz=286							
K13K	Kusilvak Mount	88.54	28		P		P	00 38 35.7 +0.5
	baz=283							
G16K	Koyuk River	88.68	24		P		P	00 38 36.3 +0.6
G16K					IAmb		IAmb	00 38 37.4
	comp=Z,4.1nm,0.8s							
G16K	Koyuk River	88.68	24		P		P	00 38 36.4 +0.6
	baz=285							
E18K	Tukpahlearik C	88.79	22		P		P	00 38 37.1 +0.8
E18K	Tukpahlearik C	88.79	22		P		P	00 38 37.1 +0.8
	baz=287,SNR=5.1							
F17K	Baldwin Pennin	88.83	23		P		P	00 38 36.9 +0.4
F17K					IAmb		IAmb	00 38 38.1
	comp=Z,4.9nm,0.8s							
F17K	Baldwin Pennin	88.83	23		P		P	00 38 37.3 +0.9
	baz=286							
J14K	Nanvaranak Lak	88.85	27		P		P	00 38 37.3 +0.7
	baz=284							
H16K	Elim	88.93	25		P		P	00 38 37.7 +0.7
	baz=285							
B20K	Meade River	89.17	19		P		P	00 38 38.3 +0.3
B20K					IAmb		IAmb	00 38 39.7
	comp=Z,4.1nm,0.8s							
B20K	Meade River	89.17	19		P		P	00 38 38.9 +0.9
	baz=290							
G17K	Kiwalik Mounta	89.33	24		P		P	00 38 39.7 +0.8
	baz=287							
D19K	Kuna River	89.35	21		P		P	00 38 38.8 -0.2
D19K	Kuna River	89.35	21		P		P	00 38 39.6 +0.7
	baz=289							
F18K	Selawik	89.40	23		P		P	00 38 39.8 +0.7
	baz=288							
A22K	Sinclair Lake	89.49	18		P		P	00 38 40.0 +0.5
	baz=292							
I17K	Unalakleet	89.79	25		P		P	00 38 42.0 +1.0
	baz=287							
D20K	Etivluk River	89.80	20		P		P	00 38 41.5 +0.5
	baz=290							
H17K	Granite Mounta	89.80	24		P		P	00 38 41.8 +0.8
H17K	Granite Mounta	89.80	24		P		P	00 38 41.4 +0.4
	baz=288							
K15K	Wolf Creek Mou	89.87	27		P		P	00 38 41.9 +0.4
	baz=286							
G18K	Tagagawik	90.00	23		P		P	00 38 42.5 +0.5
	baz=289							
J16K	Anvik River	90.00	26		P		P	00 38 42.9 +0.9
J16K					IAmb		IAmb	00 38 44.3
	comp=Z,5.9nm,0.8s							
J16K	Anvik River	90.00	26		P		P	00 38 42.4 +0.3
	baz=287							
E19K	Redstone River	90.02	21		P		P	00 38 42.7 +0.6
E19K					IAmb		IAmb	00 38 43.6
	comp=Z,6.4nm,0.8s							
E19K	Redstone River	90.02	21		P		P	00 38 42.5 +0.4
	baz=290							
F19K	Shaleruckik Mo	90.03	22		P		P	00 38 42.5 +0.4
F19K	Shaleruckik Mo	90.03	22		P		P	00 38 42.6 +0.4
	baz=289							
L15K	Ungalak Mounta	90.06	28		P		P	00 38 43.0 +0.6
	baz=286							
M14K	Bethel	90.10	28		P		P	00 38 43.2 +0.7
	baz=286							
E20K	Nigu River	90.11	21		P		P	00 38 43.4 +0.8
	baz=291							
B21K	Ikpikpuk River	90.13	19		P		P	00 38 42.4 -0.1
B21K	Ikpikpuk River	90.13	19		P		P	00 38 43.5 +1.0
	baz=292							
B22K	Teshekpuk Lake	90.23	18		P		P	00 38 43.8 +0.9
	baz=294							
C21K	Knifeblade Rid	90.25	20		P		P	00 38 44.4 +1.3
	baz=292							
H18K	Honhosa River	90.36	24		P		P	00 38 44.8 +1.1
	baz=289							
N14K	Kuskokwak Cree	90.46	29		P		P	00 38 45.1 +0.9
	baz=286							
G19K	Purcell Mounta	90.52	23		P		P	00 38 45.7 +1.2
	baz=290,SNR=7.8							
J17K	VABM Dome	90.62	26		P		P	00 38 45.8 +0.8
	baz=288							
F20K	Avaraart Lake	90.71	22		P		P	00 38 45.5 +0.3
F20K					IAmb		IAmb	00 38 47.4
	comp=Z,9.4nm,0.9s							
F20K	Avaraart Lake	90.71	22		P		P	00 38 46.4 +1.2
	baz=291,SNR=11							
M15K	Kasigluk River	90.72	28		P		P	00 38 46.4 +1.0
	baz=287							
TORD	Torodi Ar. Bea	90.76	283		P		P	00 38 46.6 +0.1
	comp=Z,97nm,0.3s,baz=56,slow=3.6,SNR=1.3							
E21K	Killik River	90.80	20		P		P	00 38 45.6 -0.1
E21K					IAmb		IAmb	00 38 47.1
	comp=Z,6.4nm,0.7s							
E21K	Killik River	90.80	20		P		P	00 38 46.5 +0.7
	baz=293							
L16K	Owhat River	90.97	27		P		P	00 38 47.8 +1.3
	baz=288							
H19K	Roundabout Mou	90.98	23		P		P	00 38 47.2 +0.7
H19K					IAmb		IAmb	00 38 49.3
	comp=Z,8.6nm,0.9s							
H19K	Roundabout Mou	90.98	23		P		P	00 38 48.1 +1.5
	baz=291,SNR=9.3							
D22K	Ayikyak River	91.06	19		P		P	00 38 48.0 +1.1
	baz=294							
GCSA	Galena City Sc	91.09	24		P		P	00 38 48.5 +1.5
	baz=290							
N15K	Kwethluk River	91.15	29		P		P	00 38 48.7 +1.2
	baz=287							
K17K	Iditarod	91.17	26		P		P	00 38 47.5 0.0
K17K					IAmb		IAmb	00 38 49.3
	comp=Z,4.9nm,0.8s							
K17K	Iditarod	91.17	26		P		P	00 38 48.9 +1.4
	baz=289							
C23K	Itkillik River	91.31	18		P		P	00 38 48.2 +0.2
C23K					IAmb		IAmb	00 38 50.3
	comp=Z,18nm,1.7s							
C23K	Itkillik River	91.31	18		P		P	00 38 49.3 +1.3
	baz=296							
ELIB	Princess Elisa	91.35	197		dP		P	00 38 48.0 -0.3
L17K	Donlin	91.37	27		P		P	00 38 49.9 +1.5
	baz=289							
M16K	Timber Creek	91.42	28		P		P	00 38 49.7 +1.0
	baz=288							
F21K	Alatna River	91.45	21		P		P	00 38 48.7 -0.1
F21K	Alatna River	91.45	21		P		P	00 38 49.7 +0.9
	baz=293							
ESDC	Sonseca Array	91.47	310		P		P	00 38 49.1 -0.3
ESDC	Sonseca Array	91.47	310		P		P	00 38 49.9 +0.4
	comp=Z,1.2nm,0.7s,baz=63,slow=4.0,SNR=5.9							
	comp=Z,1.2nm,0.7s							
O15K	Ungalikthiuk R	91.58	30		P		P	00 38 50.0 +0.5
	baz=288							
J18K	Innoko River	91.60	25		P		P	00 38 51.0 +1.5
	baz=290							
H20K	Anotleneega Mo	91.61	23		P		P	00 38 51.0 +1.5
	baz=292,SNR=10							
E22K	Anaktuvuk Pass	91.66	20		P		P	00 38 50.8 +1.0
	baz=295							
D23K	Nanushuk River	91.68	19		P		P	00 38 50.4 +0.7
D23K					IAmb		IAmb	00 38 51.6
	comp=Z,4.0nm,0.8s							
D23K	Nanushuk River	91.68	19		P		P	00 38 51.0 +1.2
	baz=296							
N16K	Nishlik Lake	91.69	28		P		P	00 38 51.2 +1.3
	baz=288							
G21K	Allakaket	91.73	22		P		P	00 38 49.7 -0.4
G21K	Allakaket	91.73	22		P		P	00 38 51.3 +1.3
	baz=293							
F22K	John River	91.80	21		P		P	00 38 51.4 +1.1
	baz=295							
J19K	Poorman	91.87	24		P		P	00 38 50.7 0.0
J19K					IAmb		IAmb	00 38 53.2
	comp=Z,6.3nm,0.8s							
J19K	Poorman	91.87	24		P		P	00 38 52.3 +1.6
	baz=291,SNR=8.5							
C24K	Franklin Bluff	91.96	18		P		P	00 38 51.9 +0.9
	baz=298							
M17K	Holitna River	92.00	27		P		P	00 38 52.7 +1.4
	baz=290							
I20K	Naaghedeneel	92.03	24		P		P	00 38 52.0 +0.6
I20K	Naaghedeneel	92.03	24		P		P	00 38 53.2 +1.8
	baz=292,SNR=6.0							
L18K	Granite Mounta	92.05	26		P		P	00 38 52.6 +1.0
	baz=290							
TOLK	Toolik Lake Re	92.18	19		P		P	00 38 52.6 +0.5
TOLK					IAmb		IAmb	00 38 54.1
	comp=Z,4.0nm,0.7s							
TOLK	Toolik Lake Re	92.18	19				PcP	00 38 53.2 +0.3
D24K	Happy Valley	92.19	19		P		P	00 38 53.2 +1.1
	baz=298							
O16K	Kokwok River B	92.29	29		P		P	00 38 53.7 +1.0
	baz=289							
H21K	Melozitna Rive	92.33	22		P		P	00 38 53.7 +0.9
H21K					IAmb		IAmb	00 40 55.5
	comp=Z,6.9nm,1.0s							
H21K	Melozitna Rive	92.33	22		P		P	00 38 54.4 +1.5
	baz=294,SNR=5.5							
J20K	Nowinta River	92.40	24		P		P	00 38 53.5 +0.3
J20K					IAmb		IAmb	00 38 55.4
	comp=Z,6.7nm,0.8s							
J20K	Nowinta River	92.40	24		P		P	00 38 54.5 +1.4
	baz=293,SNR=6.0							
N17K	Nushagak Hills	92.41	28		P		P	00 38 54.4 +1.2
	baz=290							
E23K	Chandalar	92.43	20		P		P	00 38 53.5 +0.1
E23K					IAmb		IAmb	00 38 55.0
	comp=Z,3.7nm,0.7s							
E23K	Chandalar	92.43	20		P		P	00 38 54.6 +1.2
	baz=297							
S14K	Fog Glacier	92.59	32		P		P	00 38 55.8 +1.4
	baz=288							
COLD	Coldfoot	92.61	21		P		P	00 38 54.8 +0.7
	baz=296							
M18K	Stony River	92.69	27		P		P	00 38 56.2 +1.6
	baz=291							
O17K	Koliganek Bris	92.71	29		P		P	00 38 56.2 +1.5
	baz=290							
K20K	Telida	92.75	25		P		P	00 38 56.0 +1.2
K20K	Telida	92.75	25		P		P	00 38 56.5 +1.7
	baz=293,SNR=15							
H22K	Ishtalitna Cre	92.77	22		P		P	00 38 56.1 +1.2
	baz=295							
E24K	Your Creek	92.80	20		P		P	00 38 55.5 +0.5
E24K					IAmb		IAmb	00 38 57.0
	comp=Z,18nm,1.9s							
E24K	Your Creek	92.80	20		P		P	00 38 56.2 +1.2
	baz=298							
L19K	White Mountain	92.86	26		P		P	00 38 56.0 +0.6
L19K					IAmb		IAmb	00 38 57.5
	comp=Z,5.1nm,0.9s							
L19K	White Mountain	92.86	26		P		P	00 38 57.3 +1.9
	baz=292,SNR=5.6							
D25K	Kavik River	92.87	18		P		P	00 38 55.6 +0.4
D25K					IAmb		IAmb	00 38 57.2
	comp=Z,5.7nm,0.7s							
D25K	Kavik River	92.87	18		P		P	00 38 56.7 +1.4
	baz=300							
G23K	Bananza Creek	92.90	21		P		P	00 38 56.3 +0.8
	baz=297							
N18K	Kilae Creek	92.95	28		P		P	00 38 57.1 +1.2
	baz=291							
C26K	Camden Bay	93.00	17		P		P	00 38 57.3 +1.5
	baz=302							
L20K	Farewell, AK	93.17	26		P		P	00 38 58.5 +1.6
	baz=293,SNR=6.3							
M19K	Big River Lodg	93.17	26		P		P	00 38 57.0 +0.2
M19K					IAmb		IAmb	00 39 02.5
	comp=Z,4.4nm,1.0s							
M19K	Big River Lodg	93.17	26		P		P	00 38 58.4 +1.6
	baz=292							
P17K	Kvichak River	93.22	29		P		P	00 38 58.0 +0.9
	baz=290							
CHUM	Lake Minchumin	93.26	24		P		P	00 38 58.8 +1.8
	baz=294,SNR=5.9							
F24K	Squaw Lake	93.27	20		P		P	00 38 57.5 +0.3
F24K	Squaw Lake	93.27	20		P		P	00 38 58.3 +1.1
	baz=299							
Q16K	King Salmon	93.30	30		P		P	00 38 58.3 +0.9
	baz=290							
H23K	Yukon River	93.48	22		P		P	00 38 59.5 +1.3
	baz=297							
C27K	Jago River	93.51	17		P		P	00 38 59.7 +1.5
	baz=303							
CAST	Castle Rocks	93.54	24		P		P	00 38 59.0 +0.5
CAST	Castle Rocks	93.54	24		P		P	00 38 59.7 +1.2
	baz=294,SNR=12							
N19K	Bonanza Creek	93.55	27		P		P	00 38 58.3 -0.4
N19K	Bonanza Creek	93.55	27		P		P	00 39 00.1 +1.4
	baz=292,SNR=14							
O18K	Koktuh Hills	93.57	28		P		P	00 39 00.0 +1.3
	baz=292							
BPAW	Bear Paw Mtn.	93.70	24		P		P	00 38 59.2 +0.1
BPAW					IAmb		IAmb	00 39 00.6
	comp=Z,3.8nm,0.9s							
BPAW	Bear Paw Mtn.	93.70	24		P		P	00 38 60.0 +0.8
	baz=296							
PPLA	Purkeypile	93.72	25		P		P	00 38 60.0 +0.5
	baz=294							
M20K	Styx River	93.73	26		P		P	00 39 00.3 +0.8
M20K					IAmb		IAmb	00 39 01.6
	comp=Z,5.4nm,0.7s							
M20K	Styx River	93.73	26		P		P	00 39 00.4 +0.9
	baz=294							
E25K	Arctic Village	93.73	19		P		P	00 39 00.2 +0.9
	baz=301							
G24K	Hadweenzic Riv	93.81	21		P		P	00 39 00.9 +1.3
	baz=299							
O19K	Port Alsworth	93.86	28		P		P	00 38 59.7 -0.2
O19K	Port Alsworth	93.86	28		P		P	00 39 01.1 +1.2
	baz=292							
I23K	Minto, Yukon-K	93.86	22		P		P	00 39 01.3 +1.5
	baz=297							
F25K	Christian Rive	93.98	19		P		P	00 39 01.0 +0.5
F25K	Christian Rive	93.98	19		P		P	00 39 01.4 +0.9
	baz=301							
H24K	Noodor Dome	94.08	21		P		P	00 39 01.0 0.0
	baz=298							
Q18K	Katmai Hardscr	94.11	29		P		P	00 39 01.6 +0.3
	baz=292							
NEA2	Nenana	94.22	23		P		P	00 39 02.0 +0.5
	baz=297							
G25K	Bearman Lake	94.25	20		P		P	00 39 02.6 +1.0
	baz=300							
TRF	Thorofare Moun	94.26	24		P		P	00 39 02.7 +0.7
	baz=296							
SKT	Skwentna	94.38	26		P		P	00 39 02.1 -0.3
SKT	Skwentna	94.38	26		P		P	00 39 02.6 +0.2
	baz=295,SNR=12							
SPCR	Spurr Chakacha	94.41	26		P		P	00 39 03.5 +0.9
	baz=294							
BMAR	Burnt Mountain	94.42	19		P		P	00 39 03.3 +0.9
F26K	Sheenjek River	94.42	19		P		P	00 39 03.1 +0.6
F26K	Sheenjek River	94.42	19		P		P	00 39 03.5 +1.1
	baz=302							
STLK	Strandline Lak	94.45	26		P		P	00 39 02.1 -0.7
D27M	Malcolm River	94.53	17		P		P	00 39 04.1 +1.2
	baz=305							
MCK	McKinley	94.67	23		P		P	00 39 04.5 +0.9
	baz=297							
G26K	Porcupine Rive	94.93	20		P		P	00 39 05.7 +0.9
	baz=302							
SUA	Susitna One	94.94	26		P		P	00 39 05.1 0.0
SUA	Susitna One	94.94	26		P		P	00 39 05.8 +0.8
	baz=296,SNR=8.0							
E27K	Coleen River	94.95	18		P		P	00 39 05.9 +1.1
	baz=305							
ILAR	Eielson Array	94.96	22		P		P	00 39 04.1 -0.9
	comp=Z,0.5nm,0.7s,baz=272,slow=4.6,SNR=5.5							
	comp=Z,0.5nm,0.7s							
M22K	Willow	95.08	26		P		P	00 39 04.0 -1.5
M22K	Willow	95.08	26		P		P	00 39 06.3 +0.8
	baz=296							
PRP	Porcupine Dome	95.09	21		P		P	00 39 06.8 +1.1
	baz=301							
D28M	Stokes Point	95.12	17		P		P	00 39 06.5 +1.0
	baz=307							
E28M	Babbage River	95.33	17		P		P	00 39 06.9 +0.4
E28M	Babbage River	95.33	17		P		P	00 39 07.5 +1.0
	baz=306							
OHAK	Old Harbor	95.50	30		P		P	00 39 07.4 -0.1
	baz=293							
RC01	Rabbit Creek A	95.54	26		P		P	00 39 07.5 -0.2
RC01	Rabbit Creek A	95.54	26		P		P	00 39 08.4 +0.7
	baz=296,SNR=5.9							
PMR	Palmer	95.58	25		P		P	00 39 07.3 -0.5
PMR					IAmb		IAmb	00 39 09.5
	comp=Z,4.1nm,0.9s							
PMR	Palmer	95.58	25		P		P	00 39 08.2 +0.4
	baz=297							
GHO	Glory Hole Cre	95.58	25		P		P	00 39 08.5 +0.6
GHO					IAmb		IAmb	00 39 12.2
	comp=Z,4.4nm,0.8s							
SLKM	Skilak Lake	95.59	27		P		P	00 39 07.0 -1.0
SLKM					IAmb		IAmb	00 39 08.6
	comp=Z,5.1nm,0.8s							
J25K	Salcha River,	95.61	22		P		P	00 39 09.0 +1.0
	baz=301							
BRLK	Bradley Lake	95.61	27		P		P	00 39 06.8 -1.3
KDAK	Kodiak Island	95.63	30		P		P	00 39 09.3 +1.2
	baz=294							
BRSE	Bradley Lake S	95.69	27		P		P	00 39 08.6 +0.2
	baz=296							
G27K	Doyon Strip	95.71	19		P		P	00 39 08.8 +0.4
	baz=304							
SML	Sawmill	95.81	25		P		P	00 39 07.9 -1.1
SML	Sawmill	95.81	25		P		P	00 39 09.5 +0.5
	baz=298							
K24K	Donnelly Dome	95.

baz=300
I28M Miner Creek 97.07 20 P Pdif 00 39 14.8 +0.1
baz=306
H29M Whitestone 97.13 19 P Pdif 00 39 15.4 +0.5
baz=307
INK Inuvik 97.23 16 P Pdif 00 39 15.6 +0.4
baz=312
G30M tAoh Zraii Nji 97.32 18 P Pdif 00 39 16.1 +0.4
baz=310
N25K Chitina, Valde 97.46 24 P Pdif 00 39 17.1 +0.5
N25K Chitina, Valde 97.46 24 P Pdif 00 39 16.9 +0.3
baz=301
EYAK Cordova Ski Ar 97.52 26 P Pdif 00 39 17.2 +0.5
baz=300
EPYK Eagle Plains 97.56 18 P Pdif 00 39 17.0 +0.2
baz=309
M26K Nabesna, AK 97.68 23 P Pdif 00 39 18.3 +0.8
baz=303
L27K Beaver Creek, 97.77 22 P Pdif 00 39 18.7 +0.9
baz=304
BMRM Bremner River 97.79 25 P Pdif 00 39 18.7 +0.8
BMRM Bremner River 97.79 25 P Pdif 00 39 18.9 +0.9
baz=301
RAGM Ragged Mountai 98.06 25 P Pdif 00 39 20.0 +0.8
M27K Edge Creek, AK 98.14 23 P Pdif 00 39 20.9 +1.3
baz=304
I30M Mount Dempster 98.39 19 P Pdif 00 39 21.2 +0.6
baz=309
KAIM Kayak Island 98.41 26 P Pdif 00 39 21.1 +0.4
baz=301
H31M Peel River 98.66 18 P Pdif 00 39 22.0 +0.2
baz=311
C36M Paulatuk 98.81 13 P Pdif 00 39 22.8 +0.5
baz=322
YUK6 Outpost Mounta 100.33 23 P **Pdif 00 39 29.2 -0.3**
baz=307
HYT Haines Junctio 100.74 23 P **Pdif 00 39 31.7 +0.5**
baz=308
N31M Braeburn, Yuko 100.98 22 P **Pdif 00 39 32.8 +0.7**
baz=309
M31M Drury Creek, Y 101.02 21 P **Pdif 00 39 32.3 0.0**
baz=311
P29M Windy Craggy 101.37 24 P **Pdif 00 39 33.4 -0.5**
baz=307
MMPY Sheldon Lake, 101.82 20 P **Pdif 00 39 36.0 +0.2**
baz=314
PLBC Pleasant Camp 102.03 24 P **Pdif 00 39 37.7 +0.9**
baz=308
S31K Pelican 103.02 25 P **Pdif 00 39 41.7 +0.5**
baz=308
R32K Eaglecrest 103.52 24 P **Pdif 00 39 43.9 +0.5**
baz=310
SIT Sitka 103.97 25 P **Pdif 00 39 46.2 +0.8**
baz=309
S34M Telegraph Cree 105.11 23 P **Pdif 00 39 51.3 +0.8**
baz=313
U33K Whale Pass 105.51 25 P **PKiKP 00 44 07.2 +1.5**
baz=311
ULM Lac du Bonnet 121.73 8 PKP **PKPdf 00 44 34.6 -2.1**
comp=Z,1.1nm,0.6s,baz=344,slow=2.9,SNR=4.5
NVAR Mina Array Bea 125.10 31 PKP **PKPdf 00 44 41.5 -2.4**
comp=Z,1.3nm,0.8s,baz=255,slow=2.8,SNR=6.0
PDAR Pinedale Array 125.39 21 PKP **PKPdf 00 44 43.6 -0.7**
comp=Z,1.0nm,0.8s,baz=214,slow=1.1,SNR=6.4
TXAR Lajitas Array 139.44 24 PKP **PKPdf 00 45 11.7 +0.7**
comp=Z,0.4nm,0.7s,baz=357,slow=0.9,SNR=4.3
PLCA Paso Flores 144.32 200 PKP **PKPab 00 45 17.1 -0.1**
comp=Z,1.6nm,0.7s,baz=258,slow=1.1,SNR=7.6
LR05 Currie 145.25 199 PKPbc
CPUP Villa Florida 147.17 232 PKPbc **PKPdf 00 45 24.1 -0.3**
comp=Z,1.7nm,0.6s,baz=98,slow=3.3,SNR=4.1

---

*IDC **01** 00:29:50.8±3.3, 7.˙46N×94.˙02E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=142.0km s-min=23.9km az=61.0*

ISC 01 00:29:55.5±3.1, 7.˙6N±0.˙4×94.˙3E±0.˙8, h24km, n6, σ0°65/6, mb3.6/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.36**	**347**	P	**P**	**00 37 31.5**	**+0.1**
	0.7nm,0.6s,baz=163,slow=9.3,SNR=3.5						
	0.7nm,0.6s						
SONM	**Songino Array**	**41.36**	**12**	P	**P**	**00 37 40.1**	**+0.4**
	0.6nm,0.4s,baz=198,slow=7.6,SNR=3.1						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**44.83**	**346**	P	**P**	**00 38 07.3**	**-0.2**
	0.4nm,0.4s,baz=168,slow=7.2,SNR=4.2						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**46.82**	**352**	P	**P**	**00 38 22.7**	**-0.6**
	0.7nm,0.3s,baz=179,slow=6.9,SNR=3.7						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**47.98**	**125**	P	**P**	**00 38 32.1**	**-0.6**
	0.3nm,0.7s,baz=298,slow=8.2,SNR=2.0						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**49.62**	**130**	P	**P**	**00 38 46.0**	**+0.6**
	0.4nm,0.7s,baz=303,slow=7.1,SNR=1.9						
	0.4nm,0.7s						

---

*IDC **01** 00:32:55.0±5.5, 8.˙36N×94.˙17E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=300.9km s-min=22.6km az=58.0*

ISC 01 00:32:58.5±4.8, 8.˙4N±1.˙0×9.˙4E±.˙, h22km, n6, σ0°35/6, mb3.9/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.60**	**347**	P	**P**	**00 40 28.4**	**0.0**
	1.8nm,0.8s,baz=162,slow=8.8,SNR=7.8						
	1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**44.06**	**346**	P	**P**	**00 41 05.0**	**+0.3**
	2.3nm,0.8s,baz=166,slow=7.2,SNR=7.2						
	2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**46.05**	**352**	P	**P**	**00 41 20.6**	**+0.1**
	2.4nm,0.7s,baz=179,slow=7.7,SNR=6.0						
	2.4nm,0.7s						
WRA	**Warramunga Arr**	**48.50**	**126**	P	**P**	**00 41 40.0**	**-0.1**
	0.4nm,0.9s,baz=302,slow=7.6,SNR=1.7						
	0.4nm,0.9s						
BVAR	**Borovoye Array**	**48.52**	**341**	P	**P**	**00 41 39.3**	**-0.5**
	0.8nm,0.6s,baz=144,slow=11,SNR=3.8						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**50.19**	**130**	P	**P**	**00 41 53.1**	**+0.1**
	0.4nm,0.7s,baz=312,slow=7.5,SNR=1.7						
	0.4nm,0.7s						

---

*BJI **01** 00:34:03.2, 7.˙09N×94.˙34E, h10km, mB5.1/8, mb4.5/35, Ms4.5/8, Ms7 4.2/8*

*IDC **01** 00:34:05.7±0.6, 7.˙59N×94.˙21E, h0km, mb4.3/27, mbtmp4.2/30, ML3.9/3, MS4.1/3, Error ellipse: s-maj=20.3km s-min=14.0km az=63.0*

*NEIC **01** 00:34:09.3±1.3, 7.˙62N±0.˙07×94.˙45E±0.˙10, h10km±1km, mb4.9/77, Error ellipse: s-maj=16.8km s-min=11.9km az=250.0*

*GCMT **01** 00:34:13.3±0.3, 7.˙59N±0.˙02×94.˙33E±0.˙02, h24km±1km, MW5.0/105, Moment Tensor Solution. s16,c17; s105,c160; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.12±.19; Mθθ=2.75±.12; Mφφ=2.87±.13; Mrθ=1.21±.31; Mφφ=2.26±.11; Mφr=0.10±.29; Best double couple: Mo=3.80400×1016 NP1:φs=155.00000°, δ73.00000°, λ=174.00000°. NP2:φs=64.00000°, δ84.00000°, λ=17.00000°. Principal axes: T 3.7330, Plg8.0000°, Azm111.0000°; N 0.1420, Plg72.0000°, Azm225.0000°; P -3.8760, Plg17.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **01** 00:34:14.0±1.2, 8.˙N±5.˙×9.˙5E±.˙, h27km±16km, M4.8/7, mB5.9/2, mb4.9/5, MLv4.7/7, Mw(mB)5.5/2*

ISC 01 00:34:10.0±0.3, 7.˙57N±0.˙05×94.˙35E±0.˙05, h24km, n179, σ1°39/174, mb4.6/84, MS4.2/3, 3C-6D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.27**	**155**	P	**Pb**	**00 34 49.2**	**-1.1**
BSI				S	**Sb**	**00 35 15.9**	**-2.0**
LHMI	**Lhok Sumawe**	**3.48**	**132**	Pn	**Pn**	**00 35 02.8**	**+0.1**
LHMI	**Lhok Sumawe**	**3.48**	**132**	P	**Pn**	**00 35 03.0**	**+0.4**
LHMI				S	**Sn**	**00 35 42.7**	**-0.4**
MLSI	**Meulaboh, Aceh**	**3.87**	**148**	P	**Pn**	**00 35 12.1**	**+4.1**
MLSI				S	**Sn**	**00 35 54.2**	**+1.5**
SRIT	**Nakonsritamara**	**5.30**	**79**	Pn	**Pn**	**00 35 27.8**	**+0.1**
PSI	**Prapat**	**6.58**	**136**	Pn	**Pn**	**00 35 47.7**	**+2.4**
	2.0nm,0.3s,baz=306,slow=9.6,SNR=7.2						
	11nm,0.5s						
RPSI	**Rantau Prapat**	**6.65**	**136**	Pn	**Pn**	**00 35 46.0**	**-0.3**
KULM	**Kulim**	**6.66**	**110**	Pn	**Pn**	**00 35 45.4**	**-1.1**
GSI	**Gunungsitoli**	**7.01**	**152**	Pn	**Pn**	**00 35 51.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**11.71**	**22**	Pn	**Pn**	**00 36 56.5**	**+0.8**
	0.6nm,0.3s,baz=212,slow=14,SNR=8.4						
CMAR				LR	LR	00 41 31.9	
	comp=Z,870nm,18.8s,baz=205,slow=38						
	1.2nm,0.3s						
CHTO	**Chiang Mai**	**12.04**	**21**	Pn	**Pn**	**00 37 02.7**	**+2.5**
UBPT	**Khong Chiam**	**13.32**	**54**	Pn	**Pn**	**00 37 18.5**	**+0.8**
PALK	**Pallekele**	**13.53**	**270**	Pn	**Pn**	**00 37 19.1**	**-1.6**
	0.3nm,0.3s,baz=112,slow=16,SNR=1.2						
	3.8nm,0.7s						
CRAI	**Chiangrai**	**13.87**	**24**	Pn	**P**	**00 37 30.0**	**-3.3**
SLVN	**Son La**	**16.51**	**33**		**P**	**00 38 04.5**	**+1.8**
KSM	**Kuching**	**17.02**	**110**		**P**	**00 38 08.7**	**+0.4**
SBUM	**Sibu**	**18.51**	**105**		**Pn**	**00 38 25.5**	**+0.4**
QIZ	**Qiongzhong**	**18.88**	**51**	P	**P**	**00 38 28.9**	**+0.1**
QIZ				S	**Sn**	**00 41 57.5**	**-2.8**
QIZ				LR	LR		
	comp=E,920nm,11.4s						
QIZ				LR	LR		
	comp=Z,940nm,9.4s						
KMI	**Kunming**	**19.21**	**24**	P	**Pn**	**00 38 37.3**	**+3.7**
KMI				pmax	pmax		
	comp=Z,16nm,1.2s						
KMI				LR	LR		
	comp=N,370nm,17.7s						
KMI				LR	LR		
	comp=E,550nm,15.8s						
KMI				LR	LR		
	comp=Z,600nm,15.7s						
PZH	**PanZhiHua**	**20.10**	**20**	P	Pn	00 38 45.6	+1.5
PZH				pmax	pmax		
	comp=Z,30nm,1.2s						
SMRI	**Semarang**	**21.65**	**132**	P	**P**	**00 39 00.2**	**+1.3**
SMRI				IAmb	IAmb	00 39 05.0	
	comp=Z,44nm,0.9s						
KKM	**Kota Kinabalu**	**21.77**	**93**	P	**P**	**00 39 00.7**	**+0.4**
KKM				IAmb	IAmb	00 39 17.7	
	comp=Z,62nm,1.5s						
GYA	**Guiyang**	**22.14**	**30**	P	P	00 39 13.1	+8.9
GYA				pmax	pmax		
	comp=Z,35nm,0.7s						
GYA				pmax	pmax		
	comp=Z,610nm,9.0s						
GYA				LR	LR		
	comp=N,800nm,15.4s						
GYA				LR	LR		
	comp=E,1μm,14.3s						
GYA				LR	LR		
	comp=Z,690nm,17.8s						
LSA	**Lhasa**	**22.22**	**353**		**P**	**00 39 06.0**	**+0.5**
LSA				IAmb	IAmb	00 39 15.3	
	comp=Z,24nm,0.8s						
LSA	**Lhasa**	**22.22**	**353**	P	**P**	**00 39 04.7**	**-0.7**
UGM	**Wanagama**	**22.29**	**133**	P	**P**	**00 39 05.6**	**-0.2**
MYLDM	**Lahad Datu**	**24.12**	**94**	P	**P**	**00 39 25.5**	**+1.2**
MYLDM				IAmb	IAmb	00 39 33.1	
	comp=Z,54nm,1.3s						
H08S3	**Diego Garcia H**	**26.52**	**236**	T	T	01 06 32.0	
	baz=54,slow=75,SNR=18						
H08S2	**Diego Garcia H**	**26.52**	**236**	T	T	01 06 33.1	
	baz=54,slow=75,SNR=15						
H08S1	**Diego Carcia H**	**26.53**	**236**	T	T	01 06 31.7	
	baz=54,slow=75,SNR=26						
LZH	**Lanzhou**	**29.68**	**16**	*e*P	**P**	**00 40 16.0**	**+1.7**
LZH				pP	pP	00 40 22.1	+1.3
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
GTA	**Gaotai**	**32.08**	**8**	*e*P	**P**	**00 40 37.0**	**+1.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
NIL	**Nilore**	**32.46**	**326**	P	**P**	**00 40 38.3**	**-0.4**
NJ2	**Nanjing**	**33.37**	**40**	*e*P	**P**	**00 40 47.3**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,19nm,0.6s						
KBL	**Kabul**	**35.54**	**323**	P	**P**	**00 41 05.2**	**-0.3**
WUS	**Wushi**	**36.09**	**340**	P	**P**	**00 41 10.5**	**+0.3**
HHC	**Hu-ho-hao-te**	**36.52**	**22**	*e*P	**P**	**00 41 16.5**	**+2.7**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WMQ	**Urumqi**	**36.58**	**352**	*e*P	**P**	**00 41 16.3**	**+2.2**
KDJ	**Kajisay**	**37.62**	**339**	P	**P**	**00 41 23.3**	**+0.1**
GAR	**Garm**	**38.04**	**329**	P	**P**	**00 41 26.2**	**-0.5**
GAR				IAmb	IAmb	00 41 35.4	
	comp=Z,14nm,1.0s						
CHGR	**Chuyangaron**	**38.39**	**328**	P	**P**	**00 41 31.1**	**+1.5**
SIMJ	**Simiganj**	**38.47**	**327**	P	**P**	**00 41 29.9**	**-0.5**
AAK	**Ala-Archa**	**39.07**	**337**	P	**P**	**00 41 36.7**	**+1.4**
MK31	**Makanchi Array**	**40.43**	**347**	P	**P**	**00 41 45.0**	**-1.4**
MKAR	**Makanchi Array**	**40.43**	**347**	P	**P**	**00 41 45.5**	**-1.0**
MKAR	**Makanchi Array**	**40.43**	**347**	P	**P**	**00 41 45.8**	**-0.6**
	comp=Z,4.9nm,0.9s,baz=160,slow=7.8,SNR=16						
MKAR				LR	LR	01 02 12.8	
	comp=Z,154nm,19.1s,baz=159,slow=42						
	comp=Z,4.9nm,0.9s						
MAKZ	**Makanchi**	**40.51**	**347**	P	**P**	**00 41 46.8**	**-0.3**
KK31	**Karatay Array**	**41.12**	**333**	P	**P**	**00 41 53.5**	**+1.2**
KKAR	**Karatay Array**	**41.12**	**333**		**P**	**00 41 52.6**	**+0.3**
KNRA	**Kununurra**	**41.18**	**124**	P	**P**	**00 41 51.9**	**-1.1**
SONM	**Songino Array**	**41.41**	**12**	P	**P**	**00 41 54.7**	**0.0**
SONM	**Songino Array**	**41.41**	**12**	P	**P**	**00 41 54.3**	**-0.3**
	comp=Z,3.2nm,1.1s,baz=199,slow=8.5,SNR=8.5						
SONM				LR	LR	01 00 28.3	
	comp=Z,290nm,18.2s,baz=187,slow=38						
	comp=Z,3.2nm,1.1s						
KURBB	**Kurchatov Arra**	**44.89**	**346**	P	**P**	**00 42 22.6**	**0.0**
	comp=Z,8.4nm,1.0s,baz=163,slow=7.0,SNR=15						
	comp=Z,8.4nm,1.0s						
KURK	**Kurchatov**	**44.95**	**346**	P	**P**	**00 42 22.3**	**-0.7**
KURK				IAmb	IAmb	00 42 29.1	
	comp=Z,10nm,0.8s						
ZAA0	**Zalesovo Array**	**46.88**	**352**	P	**P**	**00 42 38.5**	**+0.3**
ZAA0				IAmb	IAmb	00 42 48.7	
	comp=Z,11nm,0.9s						
ZALV	**Zalesovo Beam**	**46.88**	**352**	P	**P**	**00 42 38.0**	**-0.3**
ZALV	**Zalesovo Beam**	**46.88**	**352**	P	**P**	**00 42 37.4**	**-0.8**
	comp=Z,7.1nm,0.9s,baz=168,slow=7.6,SNR=12						
	comp=Z,7.1nm,0.9s						
BNX	**BinXian**	**47.52**	**31**	⇓P	**P**	**00 42 43.2**	**-0.1**
BNX				pmax	pmax		
	comp=Z,5.0nm,2.2s						
WRA	**Warramunga Arr**	**47.92**	**125**	P	**P**	**00 42 46.3**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=305,slow=8.6,SNR=6.1						
	comp=Z,1.2nm,0.8s						
BVAR	**Borovoye Array**	**49.34**	**341**	P	**P**	**00 42 55.4**	**-1.9**
	comp=Z,4.1nm,0.8s,baz=151,slow=6.8,SNR=12						
	comp=Z,4.1nm,0.8s						
RAYN	**Ar Rayn**	**49.40**	**294**	P	**P**	**00 42 58.8**	**+0.5**
RAYN				IAmb	IAmb	00 43 07.1	
	comp=Z,10nm,0.8s						
ASAR	**Alice Springs**	**49.57**	**130**	P	**P**	**00 42 59.0**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=306,slow=7.5,SNR=8.1						
ASAR				PcP	**PcP**	**00 44 22.2**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=310,slow=2.3,SNR=4.7						
	comp=Z,1.1nm,0.6s						
FORT	**Forrest**	**49.98**	**141**	P	**P**	**00 43 02.0**	**-0.4**
ABKAR	**Akbulak array**	**50.59**	**331**	P	**P**	**00 43 07.2**	**+0.4**
ABKAR	**Akbulak array**	**50.59**	**331**	P	**P**	**00 43 06.8**	**0.0**
AKTO	**Aktyubinsk**	**52.31**	**331**	P	**P**	**00 43 18.4**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=135,slow=5.5,SNR=5.0						
	comp=Z,1.9nm,0.7s						
GNI	**Garni**	**54.79**	**314**	P	**P**	**00 43 39.6**	**+1.3**
	comp=Z,9.1nm,1.3s						
GURO	**Guroymak-BITLI**	**56.19**	**312**	P	**P**	**00 43 49.1**	**+0.8**
ARTI	**Arti**	**56.29**	**337**	P	**P**	**00 43 49.1**	**+0.6**
ARTI				IAmb	IAmb	00 44 01.8	
	comp=Z,19nm,1.2s						
ARTI	**Arti**	**56.29**	**337**	P	**P**	**00 43 47.6**	**-0.9**
	comp=Z,8.0nm,0.9s,baz=162,slow=5.5,SNR=9.5						
	comp=Z,8.0nm,0.9s						
KBZ	**Khabaz**	**57.45**	**318**	P	**P**	**00 43 55.5**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=108,slow=6.4,SNR=2.5						
	comp=Z,1.5nm,0.9s						
KMBO	**Kilima Mbogo**	**57.59**	**264**	P	**P**	**00 44 00.6**	**+1.8**
KMBO	**Kilima Mbogo**	**57.59**	**264**	P	**P**	**00 43 58.3**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=97,slow=9.4,SNR=7.7						
	comp=Z,1.4nm,0.4s						
KIRV	**Kirov**	**61.37**	**335**	P	**P**	**00 44 22.1**	**-1.7**
	comp=Z,6.2nm,0.6s,baz=108,slow=3.2,SNR=4.9						
	comp=Z,6.2nm,0.6s						
NRIK	**Noril'sk**	**61.85**	**357**	P	**P**	**00 44 27.9**	**+1.0**
NRIK				IAmb	IAmb	00 44 34.3	
	comp=Z,4.9nm,0.7s						
NRIK	**Noril'sk**	**61.85**	**357**	P	**P**	**00 44 25.6**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=154,slow=4.0,SNR=13						
	comp=Z,1.9nm,0.6s						
BRTR	**Keskin Array B**	**62.78**	**311**	P	**P**	**00 44 35.0**	**+1.1**
BRTR	**Keskin Array B**	**62.78**	**311**	P	**P**	**00 44 32.0**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=122,slow=6.8,SNR=7.7						
	comp=Z,0.8nm,0.6s						
ANTO	**Ankara**	**63.45**	**311**	P	**P**	**00 44 39.8**	**+1.6**
	comp=Z,3.4nm,1.4s						
H04N2	**CROZET ISLANDS**	**65.57**	**211**	T	T	01 55 32.2	
	baz=47,slow=75,SNR=11						
H04N1	**CROZET ISLANDS**	**65.58**	**211**	T	T	01 55 34.3	
	baz=47,slow=75,SNR=14						
H04N3	**CROZET ISLANDS**	**65.59**	**211**	T	T	01 55 31.7	
	baz=47,slow=75,SNR=14						
TIXI	**Tiksi**	**67.49**	**11**	P	**P**	**00 45 03.1**	**-0.5**
SORM	**Soroca**	**68.45**	**319**	⇑P	**P**	**00 45 11.0**	**+1.0**
SORM	**Soroca**	**68.45**	**319**	P	**P**	**00 45 11.1**	**+1.0**
	comp=Z,7.5nm,1.5s						
AKASG	**Malin Array Be**	**68.52**	**322**	P	**P**	**00 45 07.9**	**-2.5**
	comp=Z,0.2nm,0.2s,baz=81,slow=4.8,SNR=4.4						
	comp=Z,0.2nm,0.2s						
AK19	**Malin Array Si**	**68.65**	**322**	P	**P**	**00 45 13.1**	**+1.8**
AK20	**Malin Array Si**	**68.66**	**322**	P	**P**	**00 45 13.1**	**+1.8**
VRI	**Vrincioaia**	**69.06**	**316**	⇓P	**P**	**00 45 13.5**	**-0.4**
VRI	**Vrincioaia**	**69.06**	**316**	P	**P**	**00 45 16.2**	**+2.2**
	comp=Z,11nm,1.1s						
PLOR5	**Plostina Array**	**69.10**	**316**	P	**P**	**00 45 17.0**	**+2.7**
	comp=Z,11nm,1.1s						
PLOR	**Plostina**	**69.11**	**316**	⇓P	**P**	**00 45 14.9**	**+0.5**
TESR	**Tescani**	**69.24**	**317**	P	**P**	**00 45 17.1**	**+2.0**
	comp=Z,8.5nm,2.0s						
LUBAR	**Lubar, Ukraine**	**69.24**	**321**	P	**P**	**00 45 17.7**	**+2.7**
MLR	**Muntele Rosu**	**69.53**	**316**	P	**P**	**00 45 18.0**	**+0.9**
MLR				IAmb	IAmb	00 45 42.1	
	comp=Z,9.5nm,1.1s						
MLR	**Muntele Rosu**	**69.53**	**316**	P	**P**	**00 45 15.6**	**-1.5**
	comp=Z,4.0nm,1.0s,baz=95,slow=7.5,SNR=4.1						
	comp=Z,4.0nm,1.0s						
MLR	**Muntele Rosu**	**69.53**	**316**	⇓P	**P**	**00 45 18.9**	**+1.9**
MLR	**Muntele Rosu**	**69.53**	**316**	P	**P**	**00 45 19.2**	**+2.1**
BURAR	**Bucovina Array**	**70.41**	**318**	P	**P**	**00 45 23.0**	**+0.7**
BURAR	**Bucovina Array**	**70.41**	**318**	⇑P	**P**	**00 45 21.3**	**-1.1**
SHIU	**Shidnytsya**	**71.90**	**319**	P	**P**	**00 45 33.9**	**+2.6**
DRGR		**71.96**	**317**	⇑P	**P**	**00 45 31.1**	**-0.6**
BERU	**Beregovo**	**72.21**	**318**	P	**P**	**00 45 35.7**	**+2.6**
FINES	**FINESS Array B**	**73.07**	**332**	P	**P**	**00 45 36.5**	**-1.4**
	comp=Z,2.5nm,0.8s,baz=92,slow=6.1,SNR=8.8						
	comp=Z,2.5nm,0.8s						
OJC	**Ojcow**	**74.34**	**320**	P	**P**	**00 45 47.8**	**+2.2**
BOSA	**Boshof**	**75.60**	**238**	P	**P**	**00 45 51.9**	**-1.5**
	comp=Z,2.3nm,0.6s,baz=84,slow=4.0,SNR=6.5						
	comp=Z,2.3nm,0.6s						
ARCES	**ARCESS Array B**	**75.62**	**340**	P	**P**	**00 45 52.1**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=101,slow=5.4,SNR=4.3						
	comp=Z,2.1nm,0.8s						
CONA	**Conrad Observa**	**76.70**	**317**	*i* P	**P**	**00 46 02.4**	**+3.0**
	comp=Z,4.5nm,1.2s						
ARSA	**Arzberg**	**76.89**	**317**	*i* P	**P**	**00 46 03.0**	**+2.6**
	comp=Z,3.3nm,0.8s						
SOKA	**Soboth**	**77.20**	**316**	*e*P	**P**	**00 46 04.8**	**+2.6**
	comp=Z,5.9nm,1.3s						
GERES	**GERESS Array B**	**78.19**	**318**	P	**P**	**00 46 06.8**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=93,slow=5.7,SNR=5.2						
	comp=Z,1.2nm,0.8s						
PRED	**Cave del Predi**	**78.21**	**316**	P	**P**	**00 46 08.7**	**+0.9**
PRED				IAmb	IAmb	00 48 32.5	
	comp=Z,12nm,1.3s						
HFS	**Hagfors**	**78.82**	**330**	P	**P**	**00 46 09.9**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=104,slow=6.3,SNR=15						
	comp=Z,2.4nm,0.6s						
LESA	**Schwarzleotal**	**78.84**	**317**	*e*P	**P**	**00 46 12.9**	**+1.7**
	comp=Z,2.8nm,1.1s						
ABTA	**Abfaltersbach**	**78.94**	**316**	*e*P	**P**	**00 46 13.4**	**+1.6**
	comp=Z,5.2nm,1.4s						
CIMO	**Cimolais**	**78.98**	**316**	P	**P**	**00 46 12.6**	**+0.5**
CIMO				IAmb	IAmb	00 46 30.9	
	comp=Z,9.1nm,1.0s						
CTI	**Castel Tesino**	**79.53**	**315**	P	**P**	**00 46 15.9**	**+0.7**
WTTA	**Wattenberg**	**79.54**	**317**	*e*P	**P**	**00 46 18.2**	**+2.9**
	comp=Z,4.6nm,1.0s						
WATA	**Walderalm**	**79.58**	**317**	*e*P	**P**	**00 46 18.3**	**+2.8**
	comp=Z,2.4nm,0.7s						
SQTA	**Sankt Quirin**	**79.83**	**317**	*i* P	**P**	**00 46 17.4**	**+0.7**
	comp=Z,4.4nm,1.1s						
MOTA	**Moosalm**	**79.90**	**317**	*e*P	**P**	**00 46 18.7**	**+1.5**
	comp=Z,4.6nm,1.1s						
NB2	**NORSAR Subarra**	**80.09**	**331**	P	**P**	**00 46 17.1**	**-0.7**
	comp=Z,4.1nm,1.1s,baz=91,slow=5.9						
NOA	**NORSAR Array B**	**80.09**	**331**	P	**P**	**00 46 17.0**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=95,slow=5.3,SNR=5.8						
	comp=Z,1.3nm,0.7s						
RETA	**Reutte**	**80.14**	**317**	*e*P	**P**	**00 46 18.4**	**+0.1**
	comp=Z,6.8nm,1.2s						
FETA	**Feichten**	**80.16**	**316**	*i* P	**P**	**00 46 17.3**	**-1.3**
	comp=Z,3.0nm,1.0s						
SPITS	**Spitsbergen Ar**	**80.17**	**348**	P	**P**	**00 46 17.4**	**-0.4**
	comp=Z,8.5nm,0.9s,baz=99,slow=5.4,SNR=7.2						
	comp=Z,8.5nm,0.9s						
DAVA	**Damuels**	**80.74**	**317**	*i* P	**P**	**00 46 22.8**	**+1.2**
	comp=Z,4.2nm,1.0s						
DAVOX	**Davos/Dischmat**	**80.75**	**316**	P	**P**	**00 46 21.1**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=129,slow=6.5,SNR=3.2						
	comp=Z,1.2nm,0.6s						
KEST	**Kesra**	**81.58**	**305**	P	**P**	**00 46 25.9**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=102,slow=9.3,SNR=2.3						
	comp=Z,2.8nm,0.9s						
SYO	**Syowa Base**	**85.18**	**197**	⇓*e*P	**P**	**00 46 45.5**	**+1.6**
EKA	**Eskdalemuir Ar**	**88.08**	**325**	P	**P**	**00 46 58.5**	**0.0**
	comp=Z,2.2nm,0.9s,baz=90,slow=5.0,SNR=4.4						
	comp=Z,2.2nm,0.9s						
C18K	**Utukok River**	**88.22**	**21**	P	**P**	**00 46

I20K	Naaghedeneel	92.01	24	P	P	00 47 18.2	+1.6
H21K	Melozitna Rive	92.32	22	P	P	00 47 19.2	+1.1
H21K				IAmb	IAmb	00 47 28.4	
comp=Z,6.7nm,1.1s							
J20K	Nowinta River	92.38	24	P	P	00 47 19.8	+1.4
K20K	Telida	92.73	25	P	P	00 47 20.8	+0.8
E24K	Your Creek	92.79	20	P	P	00 47 21.4	+1.1
E24K				IAmb	IAmb	00 47 34.2	
comp=Z,2.4nm,0.9s							
D25K	Kavik River	92.86	18	P	P	00 47 21.4	+0.9
D25K				IAmb	IAmb	00 47 35.0	
comp=Z,6.1nm,0.9s							
H23K	Yukon River	93.47	22	P	P	00 47 25.1	+1.7
H23K				IAmb	IAmb	00 47 33.0	
comp=Z,5.9nm,1.3s							
N19K	Bonanza Creek	93.52	27	P	P	00 47 24.3	+0.4
CAST	Castle Rocks	93.52	24	P	P	00 47 24.3	+0.6
O18K	Koktuh Hills	93.55	28	P	P	00 47 25.0	+1.1
O18K				IAmb	IAmb	00 47 33.2	
comp=Z,6.3nm,0.9s							
BPAW	Bear Paw Mtn.	93.68	24	P	P	00 47 24.8	+0.4
BPAW				IAmb	IAmb	00 47 34.2	
comp=Z,8.9nm,1.2s							
SKT	Skwentna	94.36	26	P	P	00 47 27.8	+0.2
BMAR	Burnt Mountain	94.41	19	P	P	00 47 28.7	+1.0
F26K	Sheenjek River	94.41	19	P	P	00 47 29.8	+2.1
STLK	Strandline Lak	94.43	26	P	P	00 47 27.9	-0.1
SUA	Susitna One	94.92	26	P	P	00 47 31.0	+0.7
SUA				IAmb	IAmb	00 47 39.2	
comp=Z,6.0nm,0.9s							
M22K	Willow	95.06	26	P	P	00 47 31.5	+0.8
RC01	Rabbit Creek A	95.52	26	P	P	00 47 34.2	+1.3
RC01				IAmb	IAmb	00 47 41.2	
comp=Z,6.1nm,1.0s							
CNPM	China Poot	95.53	28	P	P	00 47 33.8	+0.8
BRLK	Bradley Lake	95.59	27	P	P	00 47 32.5	-0.8
PWL	Port Wells	96.23	26	P	P	00 47 37.2	+1.1
A36M	Sachs Harbour	96.51	12	P	P	00 47 38.2	+1.1
FID	Port Fidalgo	97.09	26	P	Pdif	00 47 41.2	+1.2
NVAR	Mina Array Bea	125.07	31	PKP	PKPdf	00 53 09.0	-0.2
comp=Z,0.5nm,0.7s,baz=262,slow=1.6,SNR=4.8							
PDAR	Pinedale Array	125.37	21	PKP	PKPdf	00 53 09.4	-0.2
comp=Z,0.5nm,0.9s,baz=288,slow=0.9,SNR=4.0							
TXAR	Lajitas Array	139.42	25	PKP	PKPdf	00 53 37.0	+0.8
comp=Z,0.1nm,0.6s,baz=82,slow=2.7,SNR=3.4							
PLCA	Paso Flores	144.33	200	PKP	PKPbc	00 53 43.0	+0.1
comp=Z,2.5nm,0.8s,baz=182,slow=1.1,SNR=11							
CPUP	Villa Florida	147.24	232	PKPbc	PKPbc	00 53 51.1	-1.0
comp=Z,2.5nm,0.8s,baz=62,slow=1.7,SNR=9.4							

*IDC **01** 00:36:03.2±3.2, 8°.05N×93°.95E, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=128.4km s-min=30.2km az=57.0*

ISC 01 00:36:05.4±2.7, 8°.0N±0°.4×93°.8E±0°.6, h18km, n6, σ0s58/6, mb4.1/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	39.90	348	P	P	00 43 38.2	-0.1
3.9nm,0.9s,baz=162,slow=8.4,SNR=5.4							
3.9nm,0.9s							
SONM	Songino Array	41.11	13	P	P	00 43 48.2	-0.3
0.9nm,0.7s,baz=190,slow=7.3,SNR=2.5							
0.9nm,0.7s							
KURBB	Kurchatov Arra	44.35	346	P	P	00 44 15.2	+0.7
4.2nm,0.9s,baz=165,slow=6.5,SNR=4.1							
4.2nm,0.9s							
ZALV	Zalesovo Beam	46.39	353	P	P	00 44 31.3	+0.7
3.2nm,0.7s,baz=170,slow=8.8,SNR=4.2							
3.2nm,0.7s							
WRA	Warramunga Arr	48.59	125	P	P	00 44 48.3	0.0
0.6nm,0.6s,baz=301,slow=7.7,SNR=1.4							
0.6nm,0.6s							
BVAR	Borovoye Array	48.77	341	P	P	00 44 49.4	+0.2
1.5nm,0.7s,baz=138,slow=8.8,SNR=2.5							
1.5nm,0.7s							

*BJI **01** 00:37:21.3, 6°.98N×94°.04E, h10km, mB5.0/7, mb4.5/33, Ms4.7/5, Ms7 4.4/5*
*IDC **01** 00:37:25.4±0.6, 7°.55N×94°.26E, h0km, mb4.3/23, mbtmp4.2/25, ML4.3/2, Error ellipse: s-maj=25.6km s-min=14.9km az=60.0*
*NEIC **01** 00:37:27.2±1.5, 7°.47N±0°.06×94°.22E±0°.08, h10km±1km, mb4.8/65, Error ellipse: s-maj=16.1km s-min=5.8km az=54.0*
*DJA **01** 00:37:37.1±1.6, 7°N±12°×9°5E±1°3, h21km±27km, M4.5/7, mb4.6/3, MLv4.5/7*

ISC 01 00:37:28.7±0.4, 7°.45N±0°.05×94°.28E±0°.06, h24km, n132, σ1s16/126, mb4.8/67, 3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	2.19	152	P	Pb	00 38 08.6	+0.9
BSI				S	Sb	00 38 33.2	-1.3
LHMI	Lhok Sumawe	3.45	130	Pn	Pn	00 38 22.3	+1.3
LHMI	Lhok Sumawe	3.45	130	P	Pn	00 38 22.8	+1.7
LHMI				S	Sn	00 38 58.3	-3.0
SRIT	Nakonsritamara	5.40	77	Pn	Pn	00 38 48.7	+0.9
PSI	Prapat	6.54	135	Pn	Pn	00 39 07.2	+3.6
2.1nm,0.3s,baz=320,slow=16,SNR=4.6							
9.6nm,0.4s							
RPSI	Rantau Prapat	6.62	135	Pn	Pn	00 39 05.5	+1.0
KULM	Kulim	6.69	108	Pn	Pn	00 39 05.9	+0.4
MYKOM	Kota Tinggi	11.07	120	Pn	Pn	00 40 07.4	+1.7
CMAR	Chiang Mai Arr	11.84	22	Pn	Pn	00 40 15.3	-1.0
CMAR	Chiang Mai Arr	11.84	22	Pn	Pn	00 40 15.7	-0.6
1.3nm,0.3s,baz=212,slow=14,SNR=4.8							
1.2nm,0.3s							
CHTO	Chiang Mai	12.17	21	Pn	Pn	00 40 20.3	-0.5
SLVN	Son La	16.64	33	Pn	Pn	00 41 20.0	-0.7
SBUM	Sibu	18.55	105	P	P	00 41 42.3	-1.6
QIZ	Qiongzhong	19.01	51	P	Pn	00 41 50.6	+0.8
QIZ				S	S	00 45 24.1	+0.8
QIZ				LR	LR		
comp=N,1μm,11.0s							
QIZ				LR	LR		
comp=E,850nm,7.9s							
QIZ				LR	LR		
comp=Z,690nm,9.2s							
KMI	Kunming	19.34	24	P	Pn	00 41 57.8	+3.8
KMI				pmax	pmax		
comp=Z,17nm,0.6s							
COCO	West Island	19.68	173	P	P	00 41 56.1	-0.1
PZH	PanZhiHua	20.23	20	P	Pn	00 42 05.4	+1.0
PZH				pmax	pmax		
comp=Z,20nm,0.9s							
PZH				pmax	pmax		
comp=Z,180nm,5.9s							
XMIS	Christmas Isla	21.11	147	P	P	00 42 11.7	-0.2
XMIS				IAmb	IAmb	00 42 29.8	
comp=Z,26nm,0.7s							
SMRI	Semarang	21.62	131	P	P	00 42 18.3	+0.9
SMRI				IAmb	IAmb	00 42 23.2	
comp=Z,33nm,0.5s							
LSA	Lhasa	22.33	353	P	P	00 42 25.1	-0.2
LSA				IAmb	IAmb	00 42 28.7	
comp=Z,36nm,0.8s							
CD2	Chengdu	24.97	20	P	P	00 42 53.0	+2.4
CD2				pmax	pmax		
comp=Z,10.0nm,0.9s							
H08S3	Diego Garcia H	26.39	236	T	T	01 09 57.5	
baz=54,slow=76,SNR=8.5							
H08S2	Diego Garcia H	26.39	236	T	T	01 09 58.5	
baz=54,slow=76,SNR=12							
H08S1	Diego Carcia H	26.41	236	T	T	01 09 59.8	
baz=54,slow=76,SNR=10							
LZH	Lanzhou	29.82	16	eP	P	00 43 35.4	+1.2
LZH				pP	pP	00 43 40.6	0.0
LZH				sP	sP	00 43 43.5	+0.2
LZH				pmax	pmax		
comp=Z,15nm,0.8s							
GTA	Gaotai	32.21	8	eP	P	00 43 56.7	+1.5
GTA				pP	pP	00 44 00.9	-0.8
GTA				pmax	pmax		
comp=Z,5.0nm,1.0s							
NIL	Nilore	32.52	326	P	P	00 43 57.6	-0.3
HNS	HongShan	35.12	29	⦚P	P	00 44 26.9	+6.6
HNS				pmax	pmax		
comp=Z,11nm,0.9s							
WUS	Wushi	36.18	341	P	P	00 44 29.1	-0.5
WUS				IAmb	IAmb	00 44 30.3	
comp=Z,11nm,0.7s							
HHC	Hu-ho-hao-te	36.66	22	eP	P	00 44 36.1	+2.4
HHC				pmax	pmax		
comp=Z,9.0nm,0.7s							
WMQ	Urumqi	36.68	352	eP	P	00 44 36.0	+2.2
KDJ	Kajisay	37.70	339	P	P	00 44 41.7	-1.0
GAR	Garm	38.10	329	P	P	00 44 45.2	-0.8
GAR				IAmb	IAmb	00 44 54.5	
comp=Z,23nm,1.1s							
ARSB	Arslanbob	38.68	334	P	P	00 44 50.2	-0.6
AAK	Ala-Archa	39.15	337	P	P	00 44 54.8	0.0
MK31	Makanchi Array	40.53	347	P	P	00 45 05.2	-0.8
MKAR	Makanchi Array	40.53	347	P	P	00 45 05.4	-0.6
MKAR	Makanchi Array	40.53	347	P	P	00 45 05.6	-0.4
comp=Z,8.7nm,0.7s,baz=167,slow=8.1,SNR=27							
comp=Z,8.7nm,0.7s							
MAKZ	Makanchi	40.61	347	P	P	00 45 06.1	-0.6
KK31	Karatay Array	41.20	333	P	P	00 45 12.8	+1.2
KKAR	Karatay Array	41.20	333	P	P	00 45 10.8	-0.7
KKAR	Karatay Array	41.20	333	P	P	00 45 11.9	+0.4
KKAR				IAmb	IAmb	00 45 20.8	
comp=Z,2.5nm,0.8s							
SONM	Songino Array	41.54	12	P	P	00 45 13.2	-1.2
SONM	Songino Array	41.54	12	P	P	00 45 14.9	+0.5
comp=Z,3.1nm,0.9s,baz=196,slow=8.8,SNR=6.7							
comp=Z,3.1nm,0.9s							
KURBB	Kurchatov Arra	44.98	346	P	P	00 45 42.1	+0.1
comp=Z,9.8nm,0.7s,baz=170,slow=7.2,SNR=36							
comp=Z,9.8nm,0.7s							
KURK	Kurchatov	45.05	346	P	P	00 45 42.3	-0.2
KURK				IAmb	IAmb	00 45 43.6	
comp=Z,11nm,0.8s							
ZAA0	Zalesovo Array	46.99	352	P	P	00 45 57.8	0.0
ZAA0				IAmb	IAmb	00 45 59.3	
comp=Z,8.9nm,0.8s							
ZALV	Zalesovo Beam	46.99	352	P	P	00 45 57.9	+0.1
ZALV	Zalesovo Beam	46.99	352	P	P	00 45 58.2	+0.4
comp=Z,12nm,0.8s,baz=178,slow=8.1,SNR=17							
comp=Z,12nm,0.8s							
RER	Riviere de l'E	47.32	232	P	P	00 45 57.9	-3.1
BNX	BinXian	47.66	31	⦚P	P	00 46 12.9	+10
BNX				pmax	pmax		
comp=Z,5.0nm,0.8s							
WRA	Warramunga Arr	47.91	125	P	P	00 46 05.3	-0.2
comp=Z,1.3nm,0.9s,baz=298,slow=8.5,SNR=5.8							
comp=Z,1.3nm,0.9s							
RAYN	Ar Rayn	49.38	295	P	P	00 46 17.6	+0.7
RAYN				IAmb	IAmb	00 46 27.2	
comp=Z,6.8nm,0.7s							
BVAR	Borovoye Array	49.43	341	P	P	00 46 14.7	-1.9
comp=Z,5.2nm,0.8s,baz=138,slow=9.0,SNR=10							
comp=Z,5.2nm,0.8s							
BRVK	Borovoye	49.49	341	P	P	00 46 16.4	-0.7
ASAR	Alice Springs	49.54	130	P	P	00 46 17.6	-0.5
comp=Z,1.2nm,0.7s,baz=313,slow=8.2,SNR=4.5							
ASAR				PcP	PcP	00 47 40.8	+1.0
comp=Z,1.2nm,1.0s,baz=294,slow=2.3,SNR=4.1							
comp=Z,1.2nm,0.7s							
FORT	Forrest	49.93	141	P	P	00 46 20.5	-0.3
ABKAR	Abkulak array	50.66	331	P	P	00 46 24.7	-1.4
ATD	Arta Tunnel	50.83	279	P	P	00 46 27.6	-0.4
AKTO	Aktyubinsk	52.38	331	P	P	00 46 38.3	-0.7
comp=Z,1.3nm,0.4s,baz=139,slow=9.9,SNR=2.3							
comp=Z,1.3nm,0.4s							
ARTI	Arti	56.37	337	P	P	00 47 07.5	-0.3
ARTI				IAmb	IAmb	00 47 16.4	
comp=Z,15nm,1.3s							
ARTI	Arti	56.37	337	P	P	00 47 07.4	-0.4
comp=Z,5.2nm,0.7s,baz=141,slow=1.9,SNR=5.8							
comp=Z,5.2nm,0.7s							
KBZ	Khabaz	57.49	318	P	P	00 47 16.3	+0.3
comp=Z,2.1nm,0.9s,baz=137,slow=6.7,SNR=2.7							
comp=Z,2.1nm,0.9s							
KMBO	Kilima Mbogo	57.51	264	P	P	00 47 18.8	+1.8
KIRV	Kirov	61.45	335	P	P	00 47 42.1	-1.0
comp=Z,6.7nm,0.6s,baz=144,slow=5.0,SNR=3.6							
comp=Z,6.7nm,0.6s							
NRIK	Noril'sk	61.97	357	P	P	00 47 44.9	-1.4
NRIK				IAmb	IAmb	00 47 55.5	
comp=Z,4.1nm,0.7s							
NRIK	Noril'sk	61.97	357	P	P	00 47 45.0	-1.4
comp=Z,2.4nm,0.7s,baz=135,slow=5.7,SNR=5.3							
comp=Z,2.4nm,0.7s							
BR131	Keskin Array S	62.80	311	P	P	00 47 50.9	-1.9
BRTR	Keskin Array B	62.80	311	P	P	00 47 51.2	-1.6
BRTR	Keskin Array B	62.80	311	P	P	00 47 51.4	-1.3
comp=Z,1.1nm,0.8s,baz=132,slow=6.4,SNR=6.1							
comp=Z,1.1nm,0.8s							
H04N2	CROZET ISLANDS	65.44	211	T	T	01 58 53.4	
baz=47							
H04N1	CROZET ISLANDS	65.44	211	T	T	01 58 53.9	
baz=47,slow=74							
H04N3	CROZET ISLANDS	65.45	211	T	T	01 58 52.6	
baz=47,slow=74							
TIXI	Tiksi	67.62	11	P	P	00 48 22.5	-0.7
AKASG	Malin Array Be	68.56	322	P	P	00 48 28.3	-1.2
comp=Z,0.2nm,0.4s,baz=98,slow=4.8,SNR=1.3							
comp=Z,0.2nm,0.4s							
FINES	FINESS Array B	73.14	332	P	P	00 48 56.7	-0.4
comp=Z,2.3nm,0.6s,baz=97,slow=6.4,SNR=5.8							
comp=Z,2.3nm,0.6s							
BOSA	Boshof	75.48	238	P	P	00 49 12.9	+1.4
comp=Z,2.5nm,0.8s,baz=134,slow=8.6,SNR=3.6							
comp=Z,2.5nm,0.8s							
SOKA	Soboth	77.24	316	eP	P	00 49 23.6	+2.4
comp=Z,5.9nm,1.2s							
GERES	GERESS Array B	78.23	318	P	P	00 49 26.9	+0.2
comp=Z,1.2nm,0.7s,baz=94,slow=4.0,SNR=6.1							
comp=Z,1.2nm,0.7s							
PRED	Cave del Predi	78.24	316	P	P	00 49 27.5	+0.7
PRED				IAmb	IAmb	00 49 30.3	
comp=Z,6.4nm,1.0s							
GUMA	Gualdo di Mace	78.34	312	P	P	00 49 28.1	+0.8
GUMA				IAmb	IAmb	00 49 38.7	
comp=Z,12nm,1.2s							
LESA	Schwarzleotal	78.87	317	iP	P	00 49 30.2	0.0
comp=Z,2.6nm,0.8s							
HFS	Hagfors	78.89	330	P	P	00 49 30.4	+0.5
comp=Z,2.4nm,0.6s,baz=103,slow=6.7,SNR=7.2							
comp=Z,2.4nm,0.6s							
CIMO	Cimolais	79.02	316	P	P	00 49 30.8	-0.2
CIMO				IAmb	IAmb	00 49 39.4	
comp=Z,25nm,1.7s							
CTI	Castel Tesino	79.57	315	P	P	00 49 33.6	-0.4
WTTA	Wattenberg	79.58	317	epP	P	00 49 36.6	+2.4
comp=Z,3.7nm,0.8s							
WATA	Wateralm	79.62	317	iP	P	00 49 36.5	+2.1
comp=Z,3.1nm,1.3s							
SQTA	Sankt Quirin	79.87	317	iP	P	00 49 36.5	+0.8
comp=Z,3.9nm,0.9s							
GRFO	Grafenberg	79.87	319	P	P	00 49 33.1	-2.4
MOTA	Moosalm	79.94	317	iP	P	00 49 36.9	+0.7
comp=Z,5.7nm,1.1s							
ZCCA	Zocca	80.05	314	P	P	00 49 37.6	+0.9
ZCCA				IAmb	IAmb	00 49 45.9	
comp=Z,11nm,1.1s							
NB2	NORSAR Subarra	80.16	331	P	P	00 49 37.0	+0.1
comp=Z,4.4nm,0.8s,baz=96,slow=5.1							
NOA	NORSAR Array B	80.16	331	P	P	00 49 37.0	+0.1
comp=Z,1.1nm,0.7s,baz=92,slow=5.7,SNR=6.9							
comp=Z,1.1nm,0.7s							
RETA	Reutte	80.17	317	iP	P	00 49 38.9	+1.6
comp=Z,3.5nm,0.9s							
FETA	Feichten	80.20	316	eP	P	00 49 37.4	-0.2
comp=Z,3.0nm,1.0s							
SPB2	Spitsbergen Ar	80.27	348	P	P	00 49 37.1	0.0
SPITS	Spitsbergen Ar	80.28	348	P	P	00 49 37.7	+0.5
comp=Z,20nm,1.1s,baz=94,slow=10,SNR=4.1							
DAVOX	Davos/Dischmat	80.78	316	P	P	00 49 41.2	+0.5
comp=Z,1.0nm,0.5s,baz=98,slow=7.1,SNR=4.2							
comp=Z,1.0nm,0.5s							
KONO	Kongsberg	80.93	329	P	P	00 49 40.2	-0.7
SYO	Syowa Base	85.05	197	⦚esP	sP	00 50 11.0	-0.5
EKA	Eskdalemuir Ar	88.14	325	P	P	00 50 18.3	+0.8
comp=Z,1.1nm,0.6s,baz=89,slow=5.9,SNR=5.5							
comp=Z,1.1nm,0.6s							
C18K	Utukok River	88.35	21	P	P	00 50 19.4	+1.0
C18K				IAmb	IAmb	00 50 28.1	
comp=Z,12nm,1.5s							
D19K	Kuna River	89.48	21	P	P	00 50 23.8	+0.2
D19K				IAmb	IAmb	00 50 33.6	
comp=Z,11nm,1.6s							
E19K	Redstone River	90.14	21	P	P	00 50 26.9	+0.2
F19K	Shaleruckik Mo	90.15	22	P	P	00 50 27.5	+0.8
F19K				IAmb	IAmb	00 50 37.7	
comp=Z,9.5nm,1.5s							
G19K	Purcell Mounta	90.64	23	P	P	00 50 29.3	+0.2
G19K				IAmb	IAmb	00 50 39.1	
comp=Z,8.8nm,1.4s							
J17K	VABM Dome	90.74	26	P	P	00 50 31.1	+1.6
TORD	Torodi Ar. Bea	90.82	283	P	P	00 50 31.4	+0.4
comp=Z,155nm,0.3s,baz=78,slow=4.7,SNR=3.1							
F20K	Avaraart Lake	90.83	22	P	P	00 50 31.4	+1.5
F20K				IAmb	IAmb	00 50 39.8	
comp=Z,4.6nm,0.8s							
E21K	Killik River	90.92	20	P	P	00 50 31.2	+0.9
E21K				IAmb	IAmb	00 50 40.7	
comp=Z,3.8nm,0.8s							
H19K	Roundabout Mou	91.10	23	P	P	00 50 30.8	-0.3
H19K				IAmb	IAmb	00 50 42.4	
comp=Z,7.0nm,1.1s							
ESDC	Sonseca Array	91.59	310	P	P	00 50 34.8	+0.7
comp=Z,0.7nm,0.7s,baz=65,slow=4.0,SNR=5.2							
comp=Z,0.7nm,0.7s							
G21K	Allakaket	91.85	22	P	P	00 50 35.3	+0.7
G21K				IAmb	IAmb	00 50 46.4	
comp=Z,4.4nm,0.7s							
J19K	Poorman	91.98	24	P	P	00 50 35.7	+0.4
J19K				IAmb	IAmb	00 50 38.5	
comp=Z,3.8nm,1.0s							
I20K	Naaghedeneel	92.14	24	P	P	00 50 35.7	-0.3
TOLK	Toolik Lake Re	92.31	19	P	P	00 50 37.8	+1.1
J20K	Nowinta River	92.52	24	P	P	00 50 38.0	+0.3
K20K	Telida	92.86	25	P	P	00 50 40.3	+0.9
K20K				IAmb	IAmb	00 50 42.7	
comp=Z,5.5nm,0.8s							
D25K	Kavik River	92.99	18	P	P	00 50 39.8	-0.1
D25K				IAmb	IAmb	00 50 49.2	
comp=Z,3.6nm,0.9s							
N19K	Bonanza Creek	93.66	27	P	P	00 50 44.0	+0.7
N19K				IAmb	IAmb	00 50 46.2	
comp=Z,5.5nm,0.8s							
CAST	Castle Rocks	93.66	24	P	P	00 50 43.3	+0.2
CAST				IAmb	IAmb	00 50 46.3	
comp=Z,3.7nm,0.8s							
SKT	Skwentna	94.49	26	P	P	00 50 46.8	-0.2
SKT				IAmb	IAmb	00 50 55.7	
comp=Z,4.7nm,0.9s							
F26K	Sheenjek River	94.54	19	P	P	00 50 48.2	+1.1
F26K				IAmb	IAmb	00 50 57.0	
comp=Z,9.7nm,1.7s							
SUA	Susitna One	95.05	26	P	P	00 50 50.0	+0.4
SUA				IAmb	IAmb	00 50 58.6	
comp=Z,5.6nm,1.2s							
ILAR	Eielson Array	95.08	22	P	P	00 50 49.8	+0.2
comp=Z,0.3nm,0.8s,baz=289,slow=3.6,SNR=4.0							
comp=Z,0.3nm,0.8s							
M22K	Willow	95.19	26	P	P	00 50 50.6	+0.6
RC01	Rabbit Creek A	95.66	26	P	P	00 50 52.9	+0.7
RC01				IAmb	IAmb	00 50 54.5	
comp=Z,3.5nm,0.9s							
NVAR	Mina Array Bea	125.21	31	PKP	PKiKP	00 56 28.4	-0.1
comp=Z,0.5nm,0.8s,baz=87,slow=1.4,SNR=3.5							
PDAR	Pinedale Array	125.51	21	PKP	PKiKP	00 56 29.1	+0.1
comp=Z,0.2nm,0.7s,baz=159,slow=1.3,SNR=3.6							
TXAR	Lajitas Array	139.55	24	PKP	PKPdf	00 56 55.4	+0.2
comp=Z,0.1nm,0.6s,baz=260,slow=1.4,SNR=1.9							
PLCA	Paso Flores	144.20	200	PKP	PKPdf	00 57 02.8	-0.3
comp=Z,1.7nm,0.9s,baz=70,slow=5.8,SNR=4.3							
CPUP	Villa Florida	147.11	232	PKPbc	PKiKP	00 57 12.7	-0.3
comp=Z,0.7nm,0.4s,baz=103,slow=5.0,SNR=3.3							

*IDC **01** 00:39:18.8±0.9, 7°.56N×94°.17E, h0km, mb4.0/17, mbtmp4.1/20, ML4.2/3, Error ellipse: s-maj=33.3km s-min=18.5km az=51.0*

ISC 01 00:39:22.3±0.7, 7°.6N±0°.1×94°.2E±0°.1, h20km, n27, σ0s73/21, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.73	135	Pn	Pn	00 41 00.9	+0.8
1.5nm,0.3s,baz=115,slow=18,SNR=1.5							
9.6nm,0.4s							
CMAR	Chiang Mai Arr	11.71	23	Pn	Pn	00 42 09.1	+0.7
1.5nm,0.3s,baz=201,slow=14,SNR=4.0							
1.7nm,0.3s							
PALK	Pallekele	13.38	269	Pn	Pn	00 42 31.8	+0.5
0.5nm,0.3s,baz=80,slow=12,SNR=1.0							
2.9nm,0.4s							
H08S3	Diego Garcia H	26.42	235	T	T	01 11 34.8	
baz=55							
H08S2	Diego Garcia H	26.43	235	T	T	01 11 37.3	
baz=55							
H08S1	Diego Carcia H	26.44	235	T	T	01 11 36.6	
baz=55							
MKAR	Makanchi Array	40.33	347	P	P	00 46 58.0	-0.5
3.1nm,0.8s,baz=163,slow=8.9,SNR=5.7							
3.1nm,0.8s							
SONM	Songino Array	41.39	12	P	P	00 47 06.6	-0.7
0.6nm,0.4s,baz=194,slow=7.9,SNR=3.7							
0.6nm,0.4s							
KURBB	Kurchatov Arra	44.79	346	P	P	00 47 35.5	+1.0
3.5nm,0.8s,baz=174,slow=6.9,SNR=9.4							
3.5nm,0.8s							
ZALV	Zalesovo Beam	46.80	352	P	P	00 47 52.1	+1.7
3.3nm,0.6s,baz=178,slow=7.9,SNR=5.2							
3.3nm,0.6s							
WRA	Warramunga Arr	48.08	125	P	P	00 48 00.2	-0.8
0.5nm,0.7s,baz=300,slow=7.6,SNR=1.7							
0.5nm,0.7s							
BVAR	Borovoye Array	49.23	341	P	P	00 48 08.9	-0.3
2.3nm,0.8s,baz=140,slow=7.7,SNR=3.8							
2.3nm,0.8s							
ASAR	Alice Springs	49.72	130	P	P	00 48 12.7	-0.8
0.5nm,0.5s,baz=303,slow=8.2,SNR=2.0							
0.5nm,0.5s							
AKTO	Aktyubinsk	52.18	331	P	P	00 48 31.0	-0.6
1.4nm,0.6s,baz=112,slow=5.4,SNR=1.7							
1.4nm,0.6s							
ARTI	Arti	56.17	337	P	P	00 49 00.7	+0.2
2.6nm,0.8s,baz=119,slow=10,SNR=1.9	

0.7nm,0.9s
BVAR Borovoye Array 49.37 341 P P 00 51 41.0 +0.4
1.2nm,0.8s,baz=152,slow=9.5,SNR=4.3
1.2nm,0.8s
ASAR Alice Springs 49.53 130 P P 00 51 42.6 +0.2
0.4nm,0.7s,baz=297,slow=8.5,SNR=2.3
0.4nm,0.7s
BRTR Keskin Array B 62.81 311 P P 00 53 16.9 -0.3
0.4nm,0.8s,baz=111,slow=7.9,SNR=3.8
0.4nm,0.8s
GERES GERESS Array B 78.22 318 P P 00 54 51.8 +0.8
0.8nm,0.8s,baz=98,slow=9.6,SNR=3.9
0.8nm,0.8s
HFS Hagfors 78.85 330 P P 00 54 53.4 -0.7
2.4nm,0.8s,baz=87,slow=8.9,SNR=2.3
2.4nm,0.8s

IDC 01 00:43:35.0±9.9, 6°.93N×92°.21E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=460.6km s-min=28.3km az=57.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.62**	**350**	P	P	00 51 16.4	-0.3
	1.6nm,0.7s,baz=164,slow=7.9,SNR=6.3						
	1.6nm,0.7s						
KURBB	**Kurchatov Arra**	**45.02**	**348**	P	P	00 51 52.9	+0.7
	1.7nm,0.7s,baz=167,slow=7.3,SNR=6.7						
	1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**47.26**	**354**	P	P	00 52 08.8	-1.0
	1.7nm,0.7s,baz=182,slow=8.1,SNR=4.3						
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**49.31**	**124**	P	P	00 52 26.1	-0.1
	0.2nm,0.3s,baz=300,slow=8.7,SNR=5.9						
	0.2nm,0.3s						

---

*BJI **01** 00:44:17.4, 6°.86N×94°.13E, h10km, mB5.1/8, mb4.5/42, Ms4.5/10, Ms7 4.3/10*
*IDC **01** 00:44:22.8±0.5, 7°.60N×94°.23E, h0km, mb4.4/29, mbtmp4.3/32, ML4.1/3, Error ellipse: s-maj=20.3km s-min=12.9km az=57.0*
*NEIC **01** 00:44:24.9±2.0, 7°.52N±0°.03×94°.40E±0°.08, h10km±1km, mb4.9/79, Error ellipse: s-maj=14.0km s-min=4.1km az=288.0*
*DJA **01** 00:44:30.4±1.2, 8°.N±4°×9°.E±°, h19km±13km, M4.9/9, mB6.1/2, mb5.0/6, MLv4.8/9, Mw(mB)5.8/2*

ISC 01 00:44:26.8±0.3, 7°.54N±0°.04×94°.33E±0°.05, h24km, n173, σ1°27/166, mb4.7/82, 1C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.24**	**155**	P	**Pb**	**00 45 05.7**	**-1.0**
BSI				S	**Sb**	**00 45 32.1**	**-1.9**
LHMI	**Lhok Sumawe**	**3.47**	**131**		**Pn**	**00 45 17.7**	**-1.6**
LHMI	**Lhok Sumawe**	**3.47**	**131**	P	**Pn**	**00 45 18.6**	**-0.7**
LHMI				S	**Sn**	**00 45 59.1**	**-0.5**
MLSI	**Meulaboh, Aceh**	**3.85**	**148**	P	**Pn**	**00 45 28.2**	**+3.7**
MLSI				S	**Sn**	**00 46 10.7**	**+1.7**
SRIT	**Nakonsritamara**	**5.32**	**78**	Pn	**Pn**	**00 45 44.9**	**+0.1**
PSI	**Prapat**	**6.56**	**136**	Pn	**Pn**	**00 46 04.5**	**+2.5**
	2.6nm,0.3s,baz=322,slow=14,SNR=9.1						
	24nm,0.6s						
RPSI	**Rantau Prapat**	**6.64**	**136**	Pn	**Pn**	**00 46 03.2**	**+0.3**
KULM	**Kulim**	**6.66**	**109**	Pn	**Pn**	**00 46 02.2**	**-1.1**
GSI	**Gunungsitoli**	**6.99**	**152**	P	**Pn**	**00 46 10.0**	**+2.3**
	0.3nm4μm46nm,1.1s						
MYKOM	**Kota Tinggi**	**11.07**	**121**	Pn	**Pn**	**00 47 03.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**11.74**	**22**	Pn	**Pn**	**00 47 15.9**	**+3.0**
CMAR	**Chiang Mai Arr**	**11.74**	**22**	Pn	**Pn**	**00 47 13.5**	**+0.5**
	0.7nm,0.3s,baz=220,slow=15,SNR=7.4						
	1.6nm,0.4s						
CHTO	**Chiang Mai**	**12.07**	**21**		**Pn**	**00 47 18.6**	**+1.2**
PALK	**Pallekele**	**13.52**	**270**	Pn	**Pn**	**00 47 35.1**	**-2.2**
	0.3nm,0.3s,baz=76,slow=8.3,SNR=1.9						
	5.0nm,0.8s						
CRAI	**Chiangrai**	**13.91**	**24**	Pn	**Pn**	**00 47 44.3**	**+1.7**
KSM	**Kuching**	**17.02**	**110**	P	**Pn**	**00 48 23.0**	**-0.4**
SBUM	**Sibu**	**18.52**	**105**		**P**	**00 48 40.9**	**-0.7**
QIZ	**Qiongzhong**	**18.91**	**51**	P	**P**	**00 48 44.8**	**-1.1**
QIZ				S	**Sn**	**00 52 17.4**	**-0.4**
QIZ				LR	LR		
	comp=N,2μm,12.2s						
QIZ				LR	LR		
	comp=E,840nm,14.1s						
QIZ				LR	LR		
	comp=Z,1μm,10.6s						
KMI	**Kunming**	**19.24**	**24**	P	**Pn**	**00 48 54.5**	**+3.7**
KMI				pmax	pmax		
	comp=Z,17nm,0.8s						
PZH	**PanZhiHua**	**20.13**	**20**	P	Pn	00 49 01.7	+0.4
PZH				pmax	pmax		
	comp=Z,30nm,1.3s						
PZH				pmax	pmax		
	comp=Z,460nm,7.8s						
LSA	**Lhasa**	**22.25**	**353**	P	**P**	**00 49 22.6**	**+0.1**
LSA				IAmb	IAmb	00 49 25.5	
	comp=Z,30nm,0.8s						
LSA	**Lhasa**	**22.25**	**353**	P	**P**	**00 49 24.4**	**+1.9**
LSA				pmax	pmax		
	comp=Z,39nm,0.7s						
KAAM	**Kaadhehdhoo**	**22.39**	**253**	P	**P**	**00 49 24.9**	**+1.1**
KAAM				IAmb	IAmb	00 49 35.5	
	comp=Z,28nm,1.1s						
CD2	**Chengdu**	**24.87**	**20**	P	**P**	**00 49 49.1**	**+1.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
H08S3	**Diego Garcia H**	**26.49**	**236**	T	T	01 16 53.7	
	baz=54,slow=75,SNR=25						
H08S2	**Diego Garcia H**	**26.49**	**236**	T	T	01 16 52.5	
	baz=54,slow=75,SNR=23						
H08S1	**Diego Carcia H**	**26.51**	**236**	T	T	01 16 56.1	
	baz=54,slow=75,SNR=23						
LZH	**Lanzhou**	**29.72**	**16**	*e*P	**P**	**00 50 33.0**	**+1.7**
LZH				pP	sP	00 50 39.9	-0.7
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA	**Gaotai**	**32.11**	**8**	*e*P	**P**	**00 50 53.4**	**+1.0**
GTA				pP	pP	00 50 58.2	-0.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NIL	**Nilore**	**32.48**	**326**	P	**P**	**00 50 54.4**	**-1.2**
NIL				IAmb	IAmb	00 51 00.5	
	comp=Z,15nm,0.7s						
NJ2	**Nanjing**	**33.40**	**40**	*e*P	**P**	**00 51 04.2**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,23nm,0.5s						
HNS	**HongShan**	**35.01**	**29**	⇑P	P	00 51 22.6	+5.1
HNS				pmax	pmax		
	comp=Z,11nm,0.8s						
KBL	**Kabul**	**35.55**	**323**	P	**P**	**00 51 22.0**	**-0.5**
KSH	**Kashi**	**35.86**	**335**	P	**P**	**00 51 24.0**	**-0.9**
KSH				pP	pP	00 51 27.5	-4.0
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				LR	LR		
	comp=Z,320nm,19.2s						
KSH				LR	LR		
	comp=Z,660nm,23.4s						
KSH				LR	LR		
	comp=Z,570nm,24.4s						
WUS	**Wushi**	**36.12**	**340**	P	**P**	**00 51 26.1**	**-1.1**
WUS				IAmb	IAmb	00 51 29.6	
	comp=Z,8.7nm,0.7s						
HHC	**Hu-ho-hao-te**	**36.55**	**22**	*e*P	**P**	**00 51 31.5**	**+0.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ	**Urumqi**	**36.60**	**352**	*e*P	**P**	**00 51 34.9**	**+3.7**
WMQ				pmax	pmax		
	comp=Z,23nm,1.1s						
TARG	**Taragay, Kyrgy**	**37.07**	**339**	P	**P**	**00 51 35.1**	**-0.5**
KDJ	**Kajisay**	**37.64**	**339**	P	**P**	**00 51 39.2**	**-1.0**
GAR	**Garm**	**38.06**	**329**	P	**P**	**00 51 42.3**	**-1.4**
GAR				IAmb	IAmb	00 51 51.3	
	comp=Z,19nm,1.0s						
CHGR	**Chuyangaron**	**38.41**	**328**	P	**P**	**00 51 45.2**	**-1.3**
BOOM	**Boomskoye usch**	**38.41**	**338**	P	**P**	**00 51 45.2**	**-1.5**
SIMJ	**Simiganj**	**38.49**	**327**	P	**P**	**00 51 45.9**	**-1.4**
BTK	**Batken**	**38.62**	**331**	P	**P**	**00 51 47.7**	**-0.6**
ARSB	**Arslanbob**	**38.63**	**334**	P	**P**	**00 51 47.6**	**-0.9**
ARSB				IAmb	IAmb	00 51 55.4	
	comp=Z,23nm,1.2s						
AAK	**Ala-Archa**	**39.09**	**337**	P	**P**	**00 51 52.3**	**0.0**
MK31	**Makanchi Array**	**40.45**	**347**	P	**P**	**00 52 02.1**	**-1.3**
MKAR	**Makanchi Array**	**40.45**	**347**	P	**P**	**00 52 02.0**	**-1.5**
MKAR	**Makanchi Array**	**40.45**	**347**	P	**P**	**00 52 02.4**	**-1.1**
	comp=Z,7.8nm,0.8s,baz=164,slow=8.2,SNR=29						
	comp=Z,7.8nm,0.8s						
MAKZ	**Makanchi**	**40.54**	**347**	P	**P**	**00 52 03.2**	**-1.0**
KK31	**Karatay Array**	**41.15**	**333**	P	**P**	**00 52 09.4**	**+0.2**
KKAR	**Karatay Array**	**41.15**	**333**	P	**P**	**00 52 08.6**	**-0.6**
SONM	**Songino Array**	**41.45**	**12**	P	**P**	**00 52 12.0**	**+0.2**
SONM	**Songino Array**	**41.45**	**12**	P	**P**	**00 52 11.7**	**0.0**
	comp=Z,4.2nm,1.0s,baz=200,slow=8.7,SNR=9.9						
	comp=Z,4.2nm,1.0s						
ULN	**Ulaanbaatar**	**41.62**	**13**	P	**P**	**00 52 14.2**	**+1.0**
MTN	**Manton Dam**	**41.80**	**119**	P	**P**	**00 52 13.2**	**-1.7**
MTN				IAmb	IAmb	00 52 39.6	
	comp=Z,70nm,1.8s						
KURBB	**Kurchatov Arra**	**44.92**	**346**	P	**P**	**00 52 38.9**	**-0.6**
	comp=Z,11nm,0.9s,baz=165,slow=7.2,SNR=31						
KURBB				PcP	**PcP**	**00 54 19.4**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=157,slow=3.0,SNR=4.0						
	comp=Z,11nm,0.9s						
KURK	**Kurchatov**	**44.98**	**346**	P	**P**	**00 52 39.4**	**-0.7**
KURK				IAmb	IAmb	00 52 42.9	
	comp=Z,18nm,1.0s						
ZAA0	**Zalesovo Array**	**46.91**	**352**	P	**P**	**00 52 54.3**	**-0.9**
ZALV	**Zalesovo Beam**	**46.91**	**352**	P	**P**	**00 52 54.5**	**-0.8**
ZALV	**Zalesovo Beam**	**46.91**	**352**	P	**P**	**00 52 55.0**	**-0.3**
	comp=Z,10nm,0.8s,baz=177,slow=7.9,SNR=20						
	comp=Z,10nm,0.8s						
BNX	**BinXian**	**47.55**	**31**	⇓P	**P**	**00 53 03.7**	**+3.3**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.7s						
WRA	**Warramunga Arr**	**47.91**	**125**	P	**P**	**00 53 04.8**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=303,slow=8.7,SNR=10						
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**49.37**	**341**	P	**P**	**00 53 12.8**	**-1.4**
	comp=Z,4.1nm,0.8s,baz=142,slow=7.4,SNR=12						
	comp=Z,4.1nm,0.8s						
RAYN	**Ar Rayn**	**49.40**	**294**	P	**P**	**00 53 15.7**	**+0.7**
RAYN				IAmb	IAmb	00 53 24.4	
	comp=Z,11nm,1.1s						
BRVK	**Borovoye**	**49.43**	**341**	P	**P**	**00 53 13.6**	**-1.1**
ASAR	**Alice Springs**	**49.55**	**130**	P	**P**	**00 53 15.2**	**-1.0**
ASAR	**Alice Springs**	**49.55**	**130**	P	**P**	**00 53 15.8**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=311,slow=6.8,SNR=7.0						
ASAR				PcP	**PcP**	**00 54 37.6**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=299,slow=4.0,SNR=4.1						
	comp=Z,1.8nm,0.8s						
FORT	**Forrest**	**49.96**	**141**	P	**P**	**00 53 18.6**	**-0.5**
ABKAR	**Akbulak array**	**50.62**	**331**	P	**P**	**00 53 23.1**	**-0.7**
ABKAR				IAmb	IAmb	00 53 31.7	
	comp=Z,33nm,1.9s						
ABKAR	**Akbulak array**	**50.62**	**331**	P	**P**	**00 53 24.3**	**+0.5**
AKTO	**Aktyubinsk**	**52.33**	**331**	P	**P**	**00 53 34.3**	**-2.3**
	comp=Z,2.3nm,0.6s,baz=113,slow=3.3,SNR=3.8						
	comp=Z,2.3nm,0.6s						
GURO	**Guroymak-BITLI**	**56.20**	**312**	P	**P**	**00 54 05.1**	**-0.2**
ARTI	**Arti**	**56.31**	**337**	P	**P**	**00 54 04.7**	**-0.8**
ARTI				IAmb	IAmb	00 54 12.4	
	comp=Z,8.6nm,0.8s						
ARTI	**Arti**	**56.31**	**337**	P	**P**	**00 54 03.6**	**-1.9**
	comp=Z,5.2nm,0.9s,baz=150,slow=7.1,SNR=5.7						
	comp=Z,5.2nm,0.9s						
KBZ	**Khabaz**	**57.46**	**318**	P	**P**	**00 54 13.2**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=264,slow=7.1,SNR=3.5						
	comp=Z,2.0nm,0.8s						
KMBO	**Kilima Mbogo**	**57.58**	**264**	P	**P**	**00 54 16.5**	**+1.0**
KMBO	**Kilima Mbogo**	**57.58**	**264**	P	**P**	**00 54 15.0**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=47,slow=9.5,SNR=7.7						
	comp=Z,2.0nm,0.7s						
KIV	**Kislovodsk**	**57.69**	**318**	P	**P**	**00 54 17.1**	**+1.5**
KIV				IAmb	IAmb	00 55 50.3	
	comp=Z,5.5nm,0.8s						
STKA	**Stephens Creek**	**59.74**	**134**	P	**P**	**00 54 30.9**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=321,slow=9.8,SNR=3.1						
	comp=Z,1.5nm,0.7s						
KIRV	**Kirov**	**61.40**	**335**	P	**P**	**00 54 39.2**	**-1.5**
	comp=Z,4.9nm,0.6s,baz=145,slow=11,SNR=5.3						
	comp=Z,4.9nm,0.6s						
NRIK	**Noril'sk**	**61.88**	**357**	P	**P**	**00 54 43.4**	**-0.5**
NRIK				IAmb	IAmb	00 54 50.8	
	comp=Z,6.0nm,0.6s						
NRIK	**Noril'sk**	**61.88**	**357**	P	**P**	**00 54 42.9**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=170,slow=5.1,SNR=8.8						
	comp=Z,2.1nm,0.6s						
BR131	**Keskin Array S**	**62.79**	**311**	P	**P**	**00 54 48.6**	**-2.1**
BRTR	**Keskin Array B**	**62.79**	**311**	P	**P**	**00 54 48.5**	**-2.3**
BRTR	**Keskin Array B**	**62.79**	**311**	P	**P**	**00 54 48.2**	**-2.5**
	comp=Z,1.2nm,0.7s,baz=124,slow=7.0,SNR=8.5						
	comp=Z,1.2nm,0.7s						
H04N2	**CROZET ISLANDS**	**65.54**	**211**	T	T	02 05 44.8	
	baz=47,slow=75,SNR=11						
H04N1	**CROZET ISLANDS**	**65.55**	**211**	T	T	02 05 52.1	
	baz=47,slow=75,SNR=11						
H04N3	**CROZET ISLANDS**	**65.56**	**211**	T	T	02 05 43.7	
	baz=47,slow=75,SNR=11						
OBN	**Obninsk**	**65.76**	**328**	P	**P**	**00 55 09.0**	**-0.6**
	comp=Z,4.4nm,0.6s,baz=109,slow=17,SNR=3.0						
	comp=Z,4.4nm,0.6s						
TIXI	**Tiksi**	**67.52**	**11**	P	**P**	**00 55 19.9**	**-0.7**
AKASG	**Malin Array Be**	**68.53**	**322**	P	**P**	**00 55 26.1**	**-1.3**
	comp=Z,0.3nm,0.2s,baz=86,slow=4.9,SNR=5.7						
	comp=Z,0.3nm,0.2s						
MLR	**Muntele Rosu**	**69.54**	**316**	P	**P**	**00 55 33.6**	**-0.3**
MLR				IAmb	IAmb	00 55 46.3	
	comp=Z,9.0nm,1.0s						
MLR	**Muntele Rosu**	**69.54**	**316**	P	**P**	**00 55 33.9**	**-0.1**
	comp=Z,5.2nm,0.9s,baz=85,slow=6.1,SNR=5.9						
	comp=Z,5.2nm,0.9s						
BURAR	**Bucovina Array**	**70.42**	**318**	P	**P**	**00 55 40.1**	**+0.8**
KOLS	**Kolonicke sedl**	**72.58**	**319**	*e*P	**P**	**00 55 53.5**	**+1.4**
SUW	**Suwalki**	**72.89**	**324**	P	**P**	**00 55 53.3**	**-0.5**
FINES	**FINESS Array B**	**73.09**	**332**	P	**P**	**00 55 54.8**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=101,slow=6.0,SNR=9.8						
	comp=Z,3.2nm,0.6s						
STHS	**Stebnicka Huta**	**73.32**	**319**	*e*P	**P**	**00 55 59.7**	**+3.2**
SRO	**Srobarova**	**75.06**	**317**	*e*P	**P**	**00 56 09.2**	**+2.5**
BOSA	**Boshof**	**75.57**	**238**	P	**P**	**00 56 10.3**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=51,slow=9.4,SNR=4.1						
	comp=Z,2.4nm,0.8s						
ARCES	**ARCESS Array B**	**75.64**	**340**	P	**P**	**00 56 08.5**	**-1.1**
	comp=Z,13nm,1.2s,baz=77,slow=4.0,SNR=4.7						
	comp=Z,13nm,1.2s						
MORC	**Moravsky Berou**	**75.75**	**319**		**P**	**00 56 11.1**	**+0.4**
MODS	**Modra-Piesok**	**75.81**	**318**	*e*P	**P**	**00 56 13.9**	**+2.9**
CONA	**Conrad Observa**	**76.72**	**317**	*i* P	**P**	**00 56 18.1**	**+1.9**
	comp=Z,5.5nm,1.5s						
SOKA	**Soboth**	**77.22**	**316**	*i* P	**P**	**00 56 20.1**	**+1.0**
	comp=Z,4.5nm,0.9s						
BRG	**Berggiesshubel**	**78.13**	**320**	*e*P	P	00 56 30.1	+6.1
BRG				Amp		00 56 30.7	
	comp=Z,1.6nm,0.6s						
BRG	**Berggiesshubel**	**78.13**	**320**	P	PKiKP	01 01 50.2	-11
BRG				Amp		01 01 51.1	
	comp=Z,2.8nm,1.0s						
GEC2	**GERESS Array S**	**78.20**	**318**	P	**P**	**00 56 24.2**	**-0.4**
GEC2				IAmb	IAmb	00 56 35.3	
	comp=Z,18nm,1.7s						
GERES	**GERESS Array B**	**78.20**	**318**	P	**P**	**00 56 24.9**	**+0.4**
GERES	**GERESS Array B**	**78.20**	**318**	P	**P**	**00 56 23.7**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=90,slow=2.7,SNR=8.2						
	comp=Z,1.6nm,0.8s						
PRED	**Cave del Predi**	**78.22**	**316**	P	**P**	**00 56 24.6**	**0.0**
PRED				IAmb	IAmb	00 56 36.9	
	comp=Z,5.3nm,0.8s						
GUMA	**Gualdo di Mace**	**78.33**	**312**	P	**P**	**00 56 26.1**	**+0.8**
GUMA				IAmb	IAmb	00 56 31.9	
	comp=Z,20nm,1.3s						
KBA	**Koelnbreinsper**	**78.39**	**316**	*i* P	**P**	**00 56 24.4**	**-1.4**
	comp=Z,3.8nm,1.1s						
HFS	**Hagfors**	**78.84**	**330**	P	**P**	**00 56 27.3**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=116,slow=6.8,SNR=8.3						
	comp=Z,3.4nm,0.6s						
LESA	**Schwarzleotal**	**78.85**	**317**	*i* P	**P**	**00 56 28.4**	**+0.3**
	comp=Z,3.4nm,1.0s						
CIMO	**Cimolais**	**79.00**	**316**	P	**P**	**00 56 28.1**	**-0.9**
CIMO				IAmb	IAmb	00 56 48.3	
	comp=Z,28nm,1.7s						
CTI	**Castel Tesino**	**79.55**	**315**	P	**P**	**00 56 33.2**	**+1.2**
CTI				IAmb	IAmb	00 56 45.2	
	comp=Z,13nm,1.3s						
WTTA	**Wattenberg**	**79.56**	**317**	*e*P	**P**	**00 56 32.4**	**+0.3**
	comp=Z,6.7nm,1.3s						
SQTA	**Sankt Quirin**	**79.85**	**317**	*e*P	**P**	**00 56 33.2**	**-0.5**
	comp=Z,5.5nm,1.3s						
MOTA	**Moosalm**	**79.92**	**317**	*e*P	**P**	**00 56 34.2**	**+0.2**
	comp=Z,7.0nm,1.1s						
ZCCA	**Zocca**	**80.03**	**314**	P	**P**	**00 56 35.0**	**+0.4**
ZCCA				IAmb	IAmb	00 56 40.2	
	comp=Z,8.6nm,0.9s						
NB2	**NORSAR Subarra**	**80.11**	**331**	P	**P**	**00 56 34.1**	**-0.6**
	comp=Z,6.3nm,1.0s,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**80.11**	**331**	P	**P**	**00 56 34.5**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=93,slow=5.7,SNR=8.6						
	comp=Z,1.6nm,0.6s						
RETA	**Reutte**	**80.15**	**317**	*e*P	**P**	**00 56 35.1**	**-0.1**
	comp=Z,4.9nm,1.0s						
FETA	**Feichten**	**80.18**	**316**	*e*P	**P**	**00 56 35.5**	**0.0**
	comp=Z,3.9nm,1.3s						
SPITS	**Spitsbergen Ar**	**80.20**	**348**	P	**P**	**00 56 34.8**	**0.0**
	comp=Z,5.2nm,0.7s,baz=116,slow=9.4,SNR=4.6						
	comp=Z,5.2nm,0.7s						
DAVA	**Damuels**	**80.75**	**317**	*e*P	**P**	**00 56 37.6**	**-0.9**
	comp=Z,5.6nm,1.0s						
DAVOX	**Davos/Dischmat**	**80.76**	**316**	P	**P**	**00 56 38.4**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=91,slow=15,SNR=4.9						
	comp=Z,2.8nm,0.8s						
SYO	**Syowa Base**	**85.14**	**197**	⇓*e*pP	pP	00 57 06.8	-0.8
EKA	**Eskdalemuir Ar**	**88.10**	**325**	P	**P**	**00 57 15.5**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=96,slow=4.7,SNR=6.4						
	comp=Z,1.3nm,0.6s						
C18K	**Utukok River**	**88.25**	**21**	P	**P**	**00 57 16.2**	**+0.3**
C18K				IAmb	IAmb	00 57 25.5	
	comp=Z,4.1nm,0.9s						
E18K	**Tukpahlearik C**	**88.81**	**22**	P	**P**	**00 57 19.7**	**+1.2**
E18K				IAmb	IAmb	00 57 27.3	
	comp=Z,5.9nm,1.0s						
F17K	**Baldwin Pennin**	**88.85**	**23**	P	**P**	**00 57 19.1**	**+0.5**
D19K	**Kuna River**	**89.38**	**21**	P	**P**	**00 57 21.5**	**+0.3**
D19K				IAmb	IAmb	00 58 06.8	
	comp=Z,7.3nm,1.2s						
E19K	**Redstone River**	**90.04**	**21**	P	**P**	**00 57 23.9**	**-0.3**
E19K				IAmb	IAmb	00 57 33.5	
	comp=Z,18nm,1.8s						
F19K	**Shaleruckik Mo**	**90.05**	**22**	P	**P**	**00 57 24.4**	**+0.1**
F19K				IAmb	IAmb	00 57 33.2	
	comp=Z,11nm,1.4s						
B21K	**Ikpikpuk River**	**90.15**	**19**	P	**P**	**00 57 24.9**	**+0.2**
B21K				IAmb	IAmb	00 57 35.3	
	comp=Z,17nm,1.6s						
G19K	**Purcell Mounta**	**90.54**	**23**	P	**P**	**00 57 26.5**	**-0.1**
G19K				IAmb	IAmb	01 00 51.0	
	comp=Z,5.6nm,0.5s						
F20K	**Avaraart Lake**	**90.73**	**22**	P	**P**	**00 57 27.7**	**+0.2**
F20K				IAmb	IAmb	00 57 36.1	
	comp=Z,6.6nm,0.9s						
E21K	**Killik River**	**90.82**	**20**	P	**P**	**00 57 28.0**	**0.0**
E21K				IAmb	IAmb	00 57 37.5	
	comp=Z,6.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**90.86**	**283**	P	**P**	**00 57 29.1**	**-0.1**
	comp=Z,154nm,0.3s,baz=54,slow=5.2,SNR=2.7						
H19K	**Roundabout Mou**	**91.00**	**23**	P	**P**	**00 57 29.6**	**+0.9**
D22K	**Ayikyak River**	**91.08**	**19**	P	**P**	**00 57 30.0**	**+0.9**
D22K				IAmb	IAmb	00 57 41.5	
	comp=Z,10nm,1.4s						
N15K	**Kwethluk River**	**91.16**	**29**	P	**P**	**00 57 28.5**	**-1.1**
K17K	**Iditarod**	**91.19**	**26**	P	**P**	**00 57 30.3**	**+0.6**
K17K				IAmb	IAmb	00 57 38.6	
	comp=Z,6.7nm,1.1s						
ELIB	**Princess Elisa**	**91.33**	**197**	*d*P	**P**	**00 57 33.4**	**+3.2**
F21K	**Alatna River**	**91.47**	**21**	P	**P**	**00 57 32.0**	**+1.0**
F21K				IAmb	IAmb	00 57 39.9	
	comp=Z,4.7nm,1.1s						
ESDC	**Sonseca Array**	**91.58**	**310**	P	**P**	**00 57 31.6**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=58,slow=5.7,SNR=5.8						
	comp=Z,0.8nm,0.7s						
G21K	**Allakaket**	**91.75**	**22**	P	**P**	**00 57 31.3**	**-0.9**
G21K				IAmb	IAmb	00 57 40.6	
	comp=Z,7.3nm,1.0s						
J19K	**Poorman**	**91.88**	**24**	P	**P**	**00 57 33.8**	**+0.9**
J19K				IAmb	IAmb	00 57 42.4	
	comp=Z,7.1nm,1.1s						
I20K	**Naaghedeneel**	**92.04**	**24**	P	**P**	**00 57 33.4**	**-0.2**
H21K	**Melozitna Rive**	**92.35**	**22**	P	**P**	**00 57 35.1**	**+0.1**
J20K	**Nowinta River**	**92.41**	**24**	P	**P**	**00 57 34.7**	**-0.6**
K20K	**Telida**	**92.76**	**25**	P	**P**	**00 57 37.4**	**+0.4**
L19K	**White Mountain**	**92.88**	**26**	P	**P**	**00 57 37.8**	**+0.2**
D25K	**Kavik River**	**92.89**	**18**	P	**P**	**00 57 37.1**	**-0.4**
D25K				IAmb	IAmb	00 57 47.1	
	comp=Z,9.8nm,1.3s						
N19K	**Bonanza Creek**	**93.56**	**27**	P	**P**	**00 57 41.1**	**+0.3**
CAST	**Castle Rocks**	**93.56**	**24**	P	**P**	**00 57 41.4**	**+0.8**
CAST				IAmb	IAmb	00 57 49.2	
	comp=Z,6.8nm,1.0s						
BPAW	**Bear Paw Mtn.**	**93.71**	**24**	P	**P**	**00 57 38.2**	**-3.2**
SKT	**Skwentna**	**94.39**	**26**	P	**P**	**00 57 43.7**	**-0.9**
SKT				IAmb	IAmb	00 57 52.7	
	comp=Z,6.1nm,0.8s						
BMAR	**Burnt Mountain**	**94.44**	**19**	P	**P**	**00 57 44.9**	**+0.3

```
DL2                                     pmax    pmax
     comp=Z,21nm,0.8s
DL2                                     pmax    pmax
     comp=Z,350nm,10.4s
DL2                                     LR      LR
     comp=N,940nm,12.0s
DL2                                     LR      LR
     comp=E,680nm,10.1s
DL2                                     LR      LR
     comp=Z,740nm,12.2s
MKAR Makanchi Array      40.34 347  P       P       00 56 53.3 -0.4
     comp=Z,2.4nm,0.8s,baz=162,slow=8.8,SNR=6.3
MKAR                                    LR      LR      01 17 07.3
     comp=Z,160nm,19.2s,baz=160,slow=41
     comp=Z,2.4nm,0.8s
KURBB Kurchatov Arra     44.79 346  P       P       00 57 30.0 +0.2
     comp=Z,4.1nm,1.0s,baz=164,slow=7.0,SNR=7.2
     comp=Z,4.1nm,1.0s
ZALV Zalesovo Beam       46.80 352  P       P       00 57 45.7 +0.1
     comp=Z,2.3nm,0.6s,baz=176,slow=6.7,SNR=5.5
     comp=Z,2.3nm,0.6s
WRA  Warramunga Arr      48.08 125  P       P       00 57 55.8 -0.4
     comp=Z,0.7nm,0.7s,baz=301,slow=7.6,SNR=2.7
     comp=Z,0.7nm,0.7s
BVAR Borovoye Array      49.23 341  P       P       00 58 04.0 -0.5
     comp=Z,1.3nm,0.8s,baz=134,slow=8.2,SNR=4.5
     comp=Z,1.3nm,0.8s
ASAR Alice Springs       49.73 130  P       P       00 58 06.5 -2.3
     comp=Z,0.4nm,0.7s,baz=302,slow=7.9,SNR=4.3
     comp=Z,0.4nm,0.7s
FINES FINESS Array B     72.95 332  P       P       01 00 44.7 -0.7
     comp=Z,1.6nm,0.7s,baz=99,slow=4.8,SNR=4.3
     comp=Z,1.6nm,0.7s
GERES GERESS Array B     78.04 318  P       P       01 01 16.0 +1.0
     comp=Z,0.4nm,0.5s,baz=77,slow=5.8,SNR=3.4
     comp=Z,0.4nm,0.5s
HFS  Hagfors             78.69 330  P       P       01 01 19.7 +1.4
     comp=Z,1.0nm,0.5s,baz=108,slow=7.7,SNR=4.1
     comp=Z,1.0nm,0.5s
NOA  NORSAR Array B      79.97 331  P       P       01 01 25.2  0.0
     comp=Z,1.1nm,0.9s,baz=93,slow=5.5,SNR=3.3
     comp=Z,1.1nm,0.9s
```

BJI ***01*** *00:49:34.5, 7°.33N×94°.06E, h19km, mB5.1/12, mb4.7/49, Ms4.6/34, Ms7 4.5/35*
IDC ***01*** *00:49:35.0±0.6, 7°.55N×94°.15E, h0km, mb4.5/32, mbtmp4.4/35, ML4.4/3, Error ellipse: s-maj=17.0km s-min=14.4km az=48.0*
NEIC ***01*** *00:49:37.6±1.6, 7°.61N±0°.07×94°.32E±0°.09, h10km±1km, mb4.9/118, Error ellipse: s-maj=16.2km s-min=11.3km az=248.0*
GCMT ***01*** *00:49:38.6±0.2, 7°.59N±0°.01×94°.29E±0°.01, h19km±1km, MW5.0/124, Moment Tensor Solution. s34,c41; s124,c192; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.02±.13; $M_{\theta\theta}$-2.56±.11; $M_{\phi\phi}$2.59±.12; $M_{r\theta}$-1.75±.30; $M_{\theta\phi}$3.07±.11; $M_{\phi r}$0.34±.23; Best double couple: $M_0$4.35700×10^16^ NP1:ϕ_s162.00000°, δ71.00000°, λ-170.00000°. NP2:ϕ_s69.00000°, δ80.00000°, λ-20.00000°. Principal axes: T 4.0710, Plg7.0000°, Azm116.0000°; N 0.5790, Plg68.0000°, Azm223.0000°; P -4.6440, Plg21.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***01*** *00:49:45.4±1.8, 7°N±3°×9°5E±°, h13km±13km, M5.0/12, mb4.7/12, mB6.0/6, MLv4.8/8, Mw(mB)5.6/6*
ISC 01 00:49:38.7±0.3,**7°.54N**±0°.04×**94°.20E**±0°.05,**h20**km,**n426,**
σ1§**19**/414,**mb4.9**/117,**MS4.5**/10,**9C-4D,Nicobar Islands region**

```
Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
BSI  Banda Aceh          2.31 152   P     Pb          00 50 19.6  0.0
BSI                                 S     Sn          00 50 44.9 +1.5
LHMI Lhok Sumawe         3.57 130   Pn    Pn          00 50 32.2 -0.8
LHMI Lhok Sumawe         3.57 130   P     Pn          00 50 31.9 -1.1
MLSI Meulaboh, Aceh      3.92 146   P     Pn          00 50 39.3 +1.5
SRIT Nakonsritamara      5.46  79   Pn    Pn          00 50 57.8 -1.1
PSI  Prapat              6.66 135   Pn    Pn          00 51 15.2 -0.3
     3.2nm,0.3s,baz=310,slow=9.3,SNR=9.2
     12nm,0.5s
PSI  Prapat              6.66 135   P     Pn          00 51 18.0 +2.4
RPSI Rantau Prapat       6.73 135   Pn    Pn          00 51 16.3 -0.1
KULM Kulim               6.79 109   Pn    Pn          00 51 14.6 -2.6
GSI  Gunungsitoli        7.05 151   Pn    Pn          00 51 21.7 +0.9
GSI  Gunungsitoli        7.05 151   P     Pn          00 51 24.2 +3.3
     0.3nm45nm,0.8s
MNSI Mandailing Nat      8.59 141   P     Pn          00 51 42.6 +0.7
     3μm32nm,0.7s
NAYO Nakonayok           9.71  45   P     Pn          00 51 58.8 +1.5
BKNI Bangkinang          9.90 136   Pn    Pn          00 52 01.0 +1.1
BKNI Bangkinang          9.90 136   P     Pn          00 52 01.5 +1.6
BKNI Bangkinang          9.90 136   P     Pn          00 52 00.5 +0.6
     2μm94nm,1.0s
PPI  Padang Panjang     10.07 142   P     Pn          00 52 01.5 -0.7
MYKOM Kota Tinggi        11.19 120   Pn    Pn          00 52 17.0 -0.6
CMAR Chiang Mai Arr      11.79  23   Pn    Pn          00 52 27.7 +1.8
CMAR Chiang Mai Arr      11.79  23   Pn    Pn          00 52 23.6 -2.3
     2.0nm,0.3s,baz=213,slow=14,SNR=9.1
     2.7nm,0.4s
CHTO Chiang Mai          12.12  22   Pn    Pn          00 52 30.8 +0.4
CHTO Chiang Mai          12.12  22   P     Pn          00 52 32.1 +1.8
PALK Pallekele           13.38 270   Pn    Pn          00 52 46.7 -0.9
     1.3nm,0.3s,baz=60,slow=14,SNR=4.8
     7.4nm,0.7s
UBPT Khong Chiam         13.46  54   Pn    Pn          00 52 47.0 -1.6
UBPT Khong Chiam         13.46  54   P     Pn          00 52 49.9 +1.3
NONG Nongkai             13.62  39   P     Pn          00 52 52.2 +1.4
CRAI Chiangrai           13.96  25   Pn    Pn          00 52 54.2 -1.3
MNAI Manna               14.70 143   P     P           00 53 11.9 +0.2
MDSI Maura Dua           15.55 140   P     P           00 53 20.0 -1.2
     25nm,1.1s
SLVN Son La              16.61  33   P     Pn          00 53 31.2 +0.6
SLVN Son La              16.61  33   P     P           00 53 32.8 -0.2
TPI  Tanjungpandan       16.88 127   P     Pn          00 53 33.2 -0.7
     19nm,1.1s
KSM  Kuching             17.15 110   P     Pn          00 53 37.1 -0.2
KSM  Kuching             17.15 110   P     P           00 53 39.8 +0.9
TNCH TengChong           17.88  13   ⇑P    Pn          00 53 44.3 -2.1
TNCH                                 sP    sP          00 53 53.6 -0.8
TNCH                                 PP    PnPn        00 54 03.1 +5.6
TNCH                                 S     Sn          00 57 02.5 -2.9
TNCH                                 SS    SnSn        00 57 25.8 +6.3
TNCH                                 pmax  pmax
     comp=Z,120nm,0.4s
TNCH                                 pmax  pmax
     comp=Z,850nm,6.6s
TNCH                                 LR    LR
     comp=N,1μm,16.6s
TNCH                                 LR    LR
     comp=E,2μm,18.1s
TNCH                                 LR    LR
     comp=Z,2μm,16.2s
SBUM Sibu                18.65 105   P     P           00 53 54.6 -0.8
SBUM Sibu                18.65 105   P     Pn          00 53 56.7 +0.9
QIZ  Qiongzhong          19.01  52   P     P           00 53 57.9 -1.5
QIZ                                  S     Sn          00 57 30.6 -2.2
QIZ                                  LR    LR
     comp=N,4μm,12.2s
QIZ                                  LR    LR
     comp=E,2μm,13.5s
QIZ                                  LR    LR
     comp=Z,2μm,10.2s
KMI  Kunming             19.30  24   P     Pn          00 54 06.5 +2.7
KMI                                  pmax  pmax
     comp=Z,33nm,1.1s
KMI                                  LR    LR
     comp=N,630nm,13.4s
KMI                                  LR    LR
     comp=E,1μm,13.4s
KMI                                  LR    LR
     comp=Z,1μm,13.2s
PZH  PanZhiHua           20.18  20   P     Pn          00 54 14.0 -0.2
PZH                                  S     S           00 57 57.5 -0.6
PZH                                  pmax  pmax
     comp=Z,60nm,1.4s
PZH                                  pmax  pmax
     comp=Z,310nm,5.5s
PZH                                  LR    LR
     comp=N,1μm,13.7s
PZH                                  LR    LR
     comp=E,1μm,13.7s
PZH                                  LR    LR
     comp=Z,1μm,14.7s
XMIS Christmas Isla      21.23 147   P     P           00 54 22.0 -1.5
XMIS                                 IAmb  IAmb        00 54 31.7
     comp=Z,83nm,1.2s
SMRI Semarang            21.74 131   P     P           00 54 29.6 +0.6
SMRI                                 IAmb  IAmb        00 54 36.6
     comp=Z,51nm,1.1s
KKM  Kota Kinabalu       21.91  93   P     P           00 54 30.1 -0.9
LSA  Lhasa               22.23 353   P     P           00 54 33.9 -0.8
LSA                                  IAmb  IAmb        00 54 38.5
     comp=Z,57nm,0.9s
GYA  Guiyang             22.24  31   P     P           00 54 37.3 +2.8
GYA                                  PP    PnPn        00 55 01.5 +4.3
GYA                                  S     S           00 58 32.7 -5.9
GYA                                  SS    SnSn        00 59 16.9 +11
GYA                                  pmax  pmax
     comp=Z,40nm,1.1s
GYA                                  pmax  pmax
     comp=Z,270nm,3.9s
GYA                                  LR    LR
     comp=Z,670nm,9.2s
GYA                                  LR    LR
     comp=Z,1μm,13.9s
GYA                                  LR    LR
     comp=Z,2μm,14.2s
NGJI Ngawi               22.71 130   P     P           00 54 48.8 +9.4
MYLDM Lahad Datu         24.27  94   P     P           00 54 53.2 -1.6
MYLDM                                IAmb  IAmb        00 55 03.0
     comp=Z,42nm,1.2s
KMMI Kalianget           24.47 126   P     P           00 55 09.1  +12
CD2  Chengdu             24.91  20   P     P           00 55 01.0 +0.5
CD2                                  S     S           00 59 22.8 -0.2
CD2                                  pmax  pmax
     comp=Z,20nm,0.5s
CD2                                  pmax  pmax
     comp=Z,270nm,6.7s
CD2                                  LR    LR
     comp=Z,2μm,9.8s
CD2                                  LR    LR
     comp=Z,2μm,11.4s
H08S3 Diego Garcia H     26.38 236   T     T           01 22 08.8
     baz=54,slow=75,SNR=23
H08S2 Diego Garcia H     26.38 236   T     T           01 22 01.9
     baz=54,slow=75,SNR=16
H08S1 Diego Carcia H     26.39 236   T     T           01 22 09.4
     baz=54,slow=75,SNR=16
TOLI2 Tolitoli           27.26 102   P     P           00 55 19.4 -2.4
KAPI Kappang             28.39 115   P     P           00 55 31.6 -0.3
KAPI                                 IAmb  IAmb        00 55 44.2
     comp=Z,33nm,1.2s
GOMU GeErMu              28.53   1   P     P           00 55 33.6 +0.2
GOMU                                 pP    pP          00 55 37.2  -1.7
GOMU                                 sP    sP          00 55 41.2 +0.1
GOMU                                 S     S           01 00 25.6 +4.9
GOMU                                 pmax  pmax
     comp=Z,14nm,0.7s
GOMU                                 LR    LR
     comp=Z,350nm,8.9s
GOMU                                 LR    LR
     comp=Z,760nm,9.0s
GOMU                                 LR    LR
     comp=Z,490nm,8.7s
XAN  Xi'an               29.67  25   ⇑P    P           00 55 42.9 -0.3
XAN                                  pP    pP          00 55 48.4  -0.3
XAN                                  pmax  pmax
     comp=Z,16nm,1.1s
LZH  Lanzhou             29.75  16   eP    P           00 55 46.4 +2.3
LZH                                  sP    pwP         00 55 58.0 +5.6
LZH                                  pmax  pmax
     comp=Z,14nm,1.1s
LZH                                  LR    LR
     comp=Z,510nm,11.3s
LZH                                  LR    LR
     comp=Z,750nm,13.1s
LZH                                  LR    LR
     comp=Z,1μm,16.7s
GTA  Gaotai              32.13   8   eP    P           00 56 05.3 +0.3
GTA                                  pmax  pmax
     comp=Z,9.0nm,1.1s
GTA                                  LR    LR
     comp=Z,520nm,16.0s
GTA                                  LR    LR
     comp=Z,380nm,15.6s
GTA                                  LR    LR
     comp=Z,560nm,17.5s
NIL  Nilore              32.40 326   P     P           00 56 05.6 -1.7
NJ2  Nanjing             33.49  40   eP    P           00 56 17.6 +0.8
NJ2                                  pmax  pmax
     comp=Z,30nm,0.6s
HNS  HongShan            35.08  29   ⇓P    P           00 56 32.4 +1.9
HNS                                  pmax  pmax
     comp=Z,15nm,1.0s
HNS                                  LR    LR
     comp=Z,530nm,17.7s
HNS                                  LR    LR
     comp=Z,950nm,14.9s
HNS                                  LR    LR
     comp=Z,820nm,16.3s
TIA  Tai'an              35.40  33   P     P           00 56 34.2 +0.9
TIA                                  pmax  pmax
     comp=Z,11nm,0.9s
KBL  Kabul               35.47 323   P     P           00 56 34.2 +0.1
KSH  Kashi               35.80 336   P     P           00 56 34.6  -2.2
KSH                                  pP    pP          00 56 39.0  -3.6
KSH                                  pmax  pmax
     comp=Z,4.0nm,1.2s
KSH                                  LR    LR
     comp=Z,420nm,15.8s
KSH                                  LR    LR
     comp=Z,570nm,18.2s
KSH                                  LR    LR
     comp=Z,570nm,23.4s
WUS  Wushi               36.07 341   P     P           00 56 38.1 -1.0
WUS                                  IAmb  IAmb        00 56 48.3
     comp=Z,20nm,1.0s
WMQ  Urumqi              36.58 352   eP    P           00 56 44.0 +0.6
WMQ                                  LR    LR
     comp=Z,410nm,19.1s
WMQ                                  LR    LR
     comp=Z,690nm,24.1s
WMQ                                  LR    LR
     comp=Z,260nm,19.1s
HHC  Hu-ho-hao-te        36.60  22   eP    P           00 56 44.5 +0.8
HHC                                  pmax  pmax
     comp=Z,18nm,0.6s
KDJ  Kajisay             37.59 339   P     P           00 56 52.3 +0.1
BJT  Baijiatuau          37.85  28   P     P           00 56 53.9  -0.2
BJI  Beijing             37.87  28   P     P           00 56 54.3  0.0
BJI                                  S     S           01 02 54.1 +9.4
BJI                                  pmax  pmax
     comp=Z,5.0nm,1.2s
BJI                                  LR    LR
     comp=Z,260nm,20.8s
BJI                                  LR    LR
     comp=Z,280nm,19.2s
BJI                                  LR    LR
     comp=Z,300nm,22.4s
GAR  Garm                37.99 329   P     P           00 56 54.8 -0.7
GAR                                  IAmb  IAmb        00 56 58.2
     comp=Z,21nm,1.0s
BOOM Boomskoye usch      38.36 338   P     P           00 56 58.3 -0.3
SIMJ Simiganj            38.41 328   P     P           00 56 58.1 -1.0
BTK  Batken              38.55 331   P     P           00 56 59.9 -0.3
ARSB Arslanbob           38.56 334   P     P           00 56 59.9 -0.4
ARSB                                 IAmb  IAmb        00 57 10.5
     comp=Z,19nm,0.8s
AAK  Ala-Archa           39.03 337   P     P           00 57 04.8 +0.5
MK31 Makanchi Array      40.42 347   P     P           00 57 14.6 -1.0
MKAR Makanchi Array      40.42 347   P     P           00 57 14.6 -1.0
     comp=Z,17nm,0.8s,baz=161,slow=7.7,SNR=28
     comp=Z,17nm,0.8s
MAKZ Makanchi            40.51 347   P     P           00 57 14.3 -2.0
MAKZ                                 IAmb  IAmb        00 57 17.2
     comp=Z,14nm,0.8s
KK31 Karatay Array       41.08 333   P     P           00 57 20.9 -0.2
KKAR Karatay Array       41.08 333   P     P           00 57 21.0 -0.1
SONM Songino Array       41.48  12   P     P           00 57 23.2 -1.1
SONM Songino Array       41.48  12   P     P           00 57 23.8 -0.6
     comp=Z,6.2nm,0.9s,baz=199,slow=8.5,SNR=15
     comp=Z,6.2nm,0.9s
ULN  Ulaanbaatar         41.65  13   P     P           00 57 25.1 -0.8
KSRS Korea Array         42.68  41   P     P           00 57 34.4 +0.2
     comp=Z,3.4nm,1.0s,baz=224,slow=8.7,SNR=6.4
     comp=Z,3.4nm,1.0s
KURBB Kurchatov Arra     44.88 346   P     P           00 57 51.3 -0.4
     comp=Z,20nm,0.8s,baz=163,slow=7.0,SNR=29
     comp=Z,20nm,0.8s
KURK Kurchatov           44.95 346   P     P           00 57 51.2 -0.9
KURK                                 IAmb  IAmb        00 57 53.4
     comp=Z,29nm,1.0s
NWAO Narrogin (SRO)      45.83 153   P     P           00 57 59.6 +0.2
ZAA0 Zalesovo Array      46.89 352   P     P           00 58 06.7  -0.8
ZALV Zalesovo Beam       46.89 352   P     P           00 58 06.7  -0.8
ZALV Zalesovo Beam       46.89 352   P     P           00 58 07.2  -0.3
     comp=Z,24nm,0.9s,baz=169,slow=8.5,SNR=20
     comp=Z,24nm,0.9s
BNX  BinXian             47.62  31   ⇓P    P           00 58 13.8 +0.4
BNX                                  pmax  pmax
     comp=Z,4.0nm,0.8s
WRA  Warramunga Arr      48.02 125   P     P           00 58 16.1  -0.8
     comp=Z,3.6nm,1.0s,baz=305,slow=8.5,SNR=5.7
     comp=Z,3.6nm,1.0s
RAYN Ar Rayn             49.27 295   P     P           00 58 26.9 +0.4
RAYN                                 IAmb  IAmb        00 58 37.5
     comp=Z,13nm,0.9s
BVAR Borovoye Array      49.32 341   P     P           00 58 25.8  -0.6
     comp=Z,9.8nm,0.9s,baz=142,slow=7.5,SNR=22
BVAR                                 PcP   PcP         00 59 49.8 +0.9
     comp=Z,1.3nm,0.7s,baz=186,slow=4.8,SNR=5.8
     comp=Z,9.8nm,0.9s
MJAR Matsushiro Arr      49.34  48   P     P           00 58 27.2 +0.4
     comp=Z,3.1nm,1.0s,baz=230,slow=7.8,SNR=5.9
     comp=Z,3.1nm,1.0s
BRVK Borovoye            49.38 341   P     P           00 58 26.0  -0.8
BRVK                                 IAmb  IAmb        00 58 31.7
     comp=Z,14nm,1.1s
ASAR Alice Springs       49.66 130   P     P           00 58 28.7  -0.7
     comp=Z,2.0nm,0.9s,baz=304,slow=7.1,SNR=7.4
     comp=Z,2.0nm,0.9s
FORT Forrest             50.05 141   P     P           00 58 32.4 +0.2
ABKAR Akbulak array      50.55 331   P     P           00 58 36.1 +0.4
KLR  Kul'dur             52.14  30   P     P           00 58 47.0  -0.7
     comp=Z,0.6nm,0.5s,baz=252,slow=3.9,SNR=5.0
     comp=Z,0.6nm,0.5s
AKTO Aktyubinsk          52.27 331   P     P           00 58 47.7  -0.9
     comp=Z,2.8nm,0.4s,baz=112,slow=5.0,SNR=4.0
     comp=Z,2.8nm,0.4s
GURO Guroymak-BITLI      56.10 312   P     P           00 59 17.0 +0.1
ARTI Arti                56.25 337   P     P           00 59 17.6 +0.1
ARTI Arti                56.25 337   P     P           00 59 16.9  -0.6
     comp=Z,13nm,0.9s,baz=162,slow=4.2,SNR=11
     comp=Z,13nm,0.9s
MARD Mardin              56.65 310   P     P           00 59 20.8  -0.1
KBZ  Khabaz              57.37 318   P     P           00 59 24.9  -0.7
     comp=Z,1.8nm,0.8s,baz=104,slow=4.2,SNR=3.2
     comp=Z,1.8nm,0.8s
KMBO Kilima Mbogo        57.44 264   P     P           00 59 28.3 +1.3
KMBO Kilima Mbogo        57.44 264   P     P           00 59 26.4  -0.6
     comp=Z,1.9nm,0.7s,baz=98,slow=7.9,SNR=6.0
     comp=Z,1.9nm,0.7s
ASF  Jabal al Asfar      58.44 303   P     P           00 59 33.3  -0.2
     comp=Z,4.0nm,0.8s,baz=80,slow=5.2,SNR=3.9
     comp=Z,4.0nm,0.8s
KIRV Kirov               61.34 335   P     P           00 59 51.6  -1.2
     comp=Z,14nm,0.6s,baz=143,slow=7.1,SNR=4.1
     comp=Z,14nm,0.6s
NRIK Noril'sk            61.88 357   P     P           00 59 55.7  -0.5
NRIK                                 IAmb  IAmb        01 00 03.4
     comp=Z,13nm,1.2s
NRIK Noril'sk            61.88 357   P     P           00 59 54.9  -1.4
     comp=Z,3.0nm,0.5s,baz=159,slow=7.1,SNR=6.5
     comp=Z,3.0nm,0.5s
BR131 Keskin Array S     62.69 311   P     P           01 00 01.0  -1.5
BRTR Keskin Array B      62.69 311   P     P           01 00 01.5  -1.0
BRTR Keskin Array B      62.69 311   P     P           01 00 00.7  -1.8
     comp=Z,1.2nm,0.7s,baz=115,slow=7.0,SNR=7.2
     comp=Z,1.2nm,0.7s
H04N2 CROZET ISLANDS     65.47 211   T     T           02 10 59.0
     baz=47,slow=75,SNR=24
H04N1 CROZET ISLANDS     65.48 211   T     T           02 11 00.5
     baz=47,slow=75,SNR=25
H04N3 CROZET ISLANDS     65.49 211   T     T           02 10 55.7
     baz=47,slow=75,SNR=25
OBN  Obninsk             65.69 328   P     P           01 00 20.6  -1.0
     comp=Z,6.2nm,0.4s,baz=153,slow=4.5,SNR=4.3
     comp=Z,6.2nm,0.4s
TIXI Tiksi               67.55  11   P     P           01 00 32.2  -1.0
AKASG Malin Array Be     68.45 322   P     P           01 00 38.0  -1.2
     comp=Z,0.3nm,0.5s,baz=86,slow=4.7,SNR=4.8
     comp=Z,0.3nm,0.5s
SPBR Spulber             68.94 316   ⇑P    P           01 00 45.6 +3.1
VRI  Vrincioaia          68.98 316   ⇑P    P           01 00 42.4  -0.3
PLOR Plostina            69.03 316   ⇑P    P           01 00 42.8  -0.2
TESR Tescani             69.16 317   ⇑P    P           01 00 43.8  0.0
MLR  Muntele Rosu        69.45 316   P     P           01 00 45.5  -0.3
MLR                                  IAmb  IAmb        01 00 55.4
     comp=Z,8.3nm,0.8s
MLR  Muntele Rosu        69.45 316   P     P           01 00 45.2  -0.5
     comp=Z,4.7nm,1.0s,baz=147,slow=7.9,SNR=4.3
     comp=Z,4.7nm,1.0s
MLR  Muntele Rosu        69.45 316   ⇑P    P           01 00 46.1 +0.4
BURAR Bucovina Array     70.33 318   P     P           01 00 50.9  -0.2
BURAR Bucovina Array     70.33 318   ⇓P    P           01 00 51.0  -0.2
MARR Marisel-Cluj        71.58 317   ⇑P    P           01 00 59.1 +0.3
HERR Herculane           71.81 315   ⇑P    P           01 00 59.9  -0.2
SUW  Suwalki             72.81 324   P     P           01 01 06.1 +0.3
FINES FINESS Array B     73.03 332   P     P           01 01 06.4  -0.6
     comp=Z,5.0nm,0.8s,baz=84,slow=5.8,SNR=7.9
     comp=Z,5.0nm,0.8s
LHI  Lord Howe Isla      73.03 126   P     P           01 01 06.7  -0.9
OJC  Ojcow               74.26 320   P     P           01 01 14.7 +0.2
BOSA Boshof              75.45 238   P     P           01 01 21.4  -0.5
     comp=Z,3.5nm,0.8s,baz=92,slow=3.7,SNR=4.5
     comp=Z,3.5nm,0.8s
ARCES ARCESS Array B     75.59 340   P     P           01 01 21.3  -0.5
     comp=Z,11nm,1.0s,baz=100,slow=6.7,SNR=5.5
     comp=Z,11nm,1.0s
MORC Moravsky Berou      75.66 319   P     P           01 01 23.1 +0.5
MORC                                 IAmb  IAmb        01 01 32.8
     comp=Z,7.8nm,1.0s
MORC Moravsky Berou      75.66 319   eP    P           01 01 22.2  -0.4
CEL  Celeste             76.19 307   P     P           01 01 26.4 +0.5
CEL                                  IAmb  IAmb        01 01 37.9
     comp=Z,8.8nm,1.0s
RONA Rosalia, Austr      76.32 317   i P   P           01 01 28.3 +1.9
     comp=Z,4.5nm,1.0s
KRUC Moravsky            76.35 319   eP    P           01 01 25.8  -0.7
CONA Conrad Observa      76.62 317   i P   P           01 01 30.0 +1.8
     comp=Z,3.4nm,1.3s
ARSA Arzberg             76.81 317   i P   P           01 01 30.6 +1.4
     comp=Z,4.9nm,1.4s
SOKA Soboth              77.12 316   i P   P           01 01 31.7 +0.7
     comp=Z,8.4nm,1.3s
BLEU Blekinge            77.32 326   i P   P           01 01 31.9 +0.2
MOA  Molln               77.69 317   eP    P           01 01 35.1 +1.0
     comp=Z,6.9nm,1.7s
BRG  Berggiesshubel      78.04 320   eP    P           01 01 41.4 +5.5
BRG                                  Amp               01 01 42.5
     comp=Z,2.0nm,0.8s
GEC2 GERESS Array S      78.11 318   P     P           01 01 35.7  -0.8
GERES GERESS Array B     78.11 318   P     P           01 01 35.6  -0.8
GERES GERESS Array B     78.11 318   P     P           01 01 36.1  -0.3
     comp=Z,1.7nm,0.7s,baz=83,slow=4.2,SNR=7.2
     comp=Z,1.7nm,0.7s
PRED Cave del Predi      78.12 316   P     P           01 01 36.4  -0.2
GUMA Gualdo di Mace      78.22 312   P     P           01 01 34.9  -2.2
GUMA                                 IAmb  IAmb        01 01 37.0
     comp=Z,18nm,1.4s
KBA  Koelnbreinsper      78.29 316   eP    P           01 01 37.4  -0.2
     comp=Z,6.0nm,1.2s
DEL  Delary              78.41 326   i P   P           01 01 37.0  -0.8
LUNU Lund                78.59 325   i P   P           01 01 38.2  -0.6
CLL  Collm               78.65 321   i P   P           01 01 40.6 +1.3
     comp=Z,4.0nm,1.0s
CLL                                  AMS   AMS         01 42 00.0
     comp=Z,200nm,20.8s
LESA Schwarzleotal       78.75 317   i P   P           01 01 39.8  -0.2
     comp=Z,2.1nm,0.5s
HFS  Hagfors             78.77 330   P     P           01 01 39.2  -0.6
     comp=Z,2.0nm,0.4s,baz=103,slow=4.7,SNR=7.6
     comp=Z,2.0nm,0.4s
BJUU Bjuv                78.86 326   i P   P           01 01 39.3  -1.0
CIMO Cimolais            78.90 316   P     P           01 01 40.4  -0.5
CIMO                                 IAmb  IAmb        01 01 47.4
     comp=Z,7.4nm,0.8s
FABU Falkenberg          79.08 327   i P   P           01 01 42.4 +1.0
COP  Copenhagen          79.17 325   i P   P           01 01 41.3  -0.7
COP                                  IAmb  IAmb        01 01 44.7
     comp=Z,30nm,0.6s
LLD  Lille Linde         79.28 325   i P   P           01 01 40.2  -2.4
LLD                                  IAmb  IAmb        01 01 49.4
     comp=Z,34nm,0.9s
WTTA Wattenberg          79.46 317   i P   P           01 01 42.8  -1.2
```

comp=Z,7.9nm,1.9s
WATA Walderalm 79.50 317 *e*P **P 01 01 43.7 -0.5**
comp=Z,6.7nm,1.4s
ONAU Onsala 79.53 327 *i* P **P 01 01 40.6 -3.3**
GRA1 Grafenberg Arr 79.75 319 P **P 01 01 45.7 +0.3**
GRA1 IAmb IAmb 01 01 57.4
comp=Z,18nm,1.3s
SQTA Sankt Quirin 79.75 317 *i* P **P 01 01 45.3 -0.3**
comp=Z,3.4nm,0.7s
GRFO Grafenberg 79.75 319 P **P 01 01 46.2 +0.8**
GRFO IAmb IAmb 01 01 57.3
comp=Z,18nm,1.3s
MOTA Moosalm 79.82 317 *i* P **P 01 01 44.8 -1.2**
comp=Z,5.4nm,1.1s
ZCCA Zocca 79.93 314 P **P 01 01 47.0 +0.5**
STRU Stroemstad 79.98 329 *i* P **P 01 01 46.5 +0.2**
NB2 NORSAR Subarra 80.05 331 P **P 01 01 45.7 -1.1**
comp=Z,7.1nm,1.1s,baz=96,slow=5.1
NOA NORSAR Array B 80.05 331 P **P 01 01 46.1 -0.7**
comp=Z,4.2nm,0.9s,baz=93,slow=5.5,SNR=7.1
comp=Z,4.2nm,0.9s
RETA Reutte 80.06 317 *i* P **P 01 01 46.4 -0.7**
comp=Z,12nm,1.6s
SPITS Spitsbergen Ar 80.17 348 P **P 01 01 46.7 -0.4**
comp=Z,15nm,0.9s,baz=81,slow=8.9,SNR=8.2
comp=Z,15nm,0.9s
DAVOX Davos/Dischmat 80.67 316 P **P 01 01 49.3 -1.3**
comp=Z,3.3nm,0.7s,baz=126,slow=8.7,SNR=6.8
comp=Z,3.3nm,0.7s
SSRD Sdr. Stenderup 80.76 325 *i* P **P 01 01 50.5 -0.1**
SSRD IAmb IAmb 01 01 58.2
comp=Z,54nm,1.2s
MUD Monsted U'grnd 81.01 326 *i* P **P 01 01 52.9 +0.9**
MUD IAmb IAmb 01 01 57.1
comp=Z,18nm,1.2s
SYO Syowa Base 85.11 197⇓*e*P **P 01 02 14.8 +2.0**
GAMB Gambell 85.11 26 P **P 01 02 13.2 +0.2**
baz=277
TNA Tin City 86.45 24 P **P 01 02 19.8 +0.2**
baz=280
SPIA Saint Paul Isl 86.73 33 P **P 01 02 21.1 -0.1**
baz=279
C16K Lisburne Hills 86.91 22 P **P 01 02 21.7 -0.1**
baz=282
F14K Arctic Creek 87.11 24 P **P 01 02 23.5 +0.6**
baz=282
P08K Saint George I 87.20 33 P **P 01 02 24.4 +0.9**
baz=279
C17K DeLong Mountai 87.64 21 P **P 01 02 26.0 +0.6**
baz=284
ANM Nome 87.70 25 P **P 01 02 26.4 +0.6**
baz=282
F15K North Star Dit 87.75 24 P **P 01 02 26.2 +0.3**
baz=283
RDOG Red Dog Mine 87.84 22 P **P 01 02 27.5 +1.1**
baz=285
D17K Noatak River 87.87 22 P **P 01 02 26.9 +0.5**
baz=284
B18K Kokolik River 87.89 20 P **P 01 02 27.8 +1.3**
baz=286
A19K Wainwright 87.90 19 P **P 01 02 27.6 +1.0**
baz=286
EKA Eskdalemuir Ar 88.02 325 P **P 01 02 27.0 -0.5**
comp=Z,2.5nm,0.7s,baz=96,slow=6.0,SNR=6.2
comp=Z,2.5nm,0.7s
G15K Niukluk 88.16 25 P **P 01 02 27.7 -0.2**
baz=284
NIKH Nikolski High 88.21 37 P **P 01 02 28.5 +0.1**
baz=280
M11K Mekoryuk 88.22 29 P **P 01 02 29.3 +1.0**
baz=282
C18K Utukok River 88.30 21 P **P 01 02 28.4 -0.2**
C18K IAmb IAmb 01 02 42.9
comp=Z,8.4nm,1.1s
C18K Utukok River 88.30 21 P **P 01 02 29.4 +0.8**
baz=286
E17K Hotham Inlet 88.50 22 P **P 01 02 30.5 +1.0**
baz=286
K13K Kusilvak Mount 88.61 28 P **P 01 02 30.7 +0.5**
baz=283
G16K Koyuk River 88.75 24 P **P 01 02 30.6 -0.1**
G16K Koyuk River 88.75 24 P **P 01 02 31.3 +0.6**
baz=285
E18K Tukpahlearik C 88.86 22 P **P 01 02 31.3 +0.1**
E18K IAmb IAmb 01 02 45.9
comp=Z,10nm,1.2s
E18K Tukpahlearik C 88.86 22 P **P 01 02 32.3 +1.1**
baz=287
F17K Baldwin Pennin 88.90 23 P **P 01 02 31.0 -0.3**
F17K IAmb IAmb 01 02 43.6
comp=Z,6.7nm,0.9s
F17K Baldwin Pennin 88.90 23 P **P 01 02 31.7 +0.3**
baz=286
J14K Nanvaranak Lak 88.92 27 P **P 01 02 32.0 +0.5**
baz=284
A21K Barrow 88.94 18 P **P 01 02 32.4 +0.9**
baz=290
H16K Elim 89.00 25 P **P 01 02 32.8 +0.9**
baz=285
B20K Meade River 89.23 19 P **P 01 02 33.4 +0.6**
B20K IAmb IAmb 01 02 37.5
comp=Z,12nm,1.5s
B20K Meade River 89.23 19 P **P 01 02 33.2 +0.4**
baz=290
D19K Kuna River 89.42 21 P **P 01 02 33.6 -0.3**
D19K IAmb IAmb 01 02 48.4
comp=Z,7.1nm,0.9s
D19K Kuna River 89.42 21 P **P 01 02 34.7 +0.8**
baz=289
UNV Unalaska Valle 89.42 36 P **P 01 02 34.3 +0.2**
baz=282
F18K Selawik 89.47 23 P **P 01 02 34.6 +0.7**
baz=288
A22K Sinclair Lake 89.56 18 P **P 01 02 35.0 +0.6**
baz=292
L14K Kuka Creek 89.67 28 P **P 01 02 34.9 -0.2**
baz=285
I17K Unalakleet 89.86 25 P **P 01 02 36.0 +0.1**
baz=287
D20K Etivluk River 89.86 20 P **P 01 02 36.5 +0.6**
baz=290
H17K Granite Mounta 89.87 24 P **P 01 02 36.2 +0.2**
baz=287
K15K Wolf Creek Mou 89.94 27 P **P 01 02 37.1 +0.7**
baz=286
G18K Tagagawik 90.07 23 P **P 01 02 36.9 0.0**
baz=289
J16K Anvik River 90.07 26 P **P 01 02 37.8 +0.9**
J16K Anvik River 90.07 26 P **P 01 02 37.6 +0.6**
baz=287
E19K Redstone River 90.08 21 P **P 01 02 37.1 +0.2**
E19K IAmb IAmb 01 02 38.6
comp=Z,6.2nm,0.8s
E19K Redstone River 90.08 21 P **P 01 02 37.0 0.0**
baz=290
F19K Shaleruckik Mo 90.10 22 P **P 01 02 36.3 -0.6**
F19K IAmb IAmb 01 02 45.8
comp=Z,7.0nm,1.2s
F19K Shaleruckik Mo 90.10 22 P **P 01 02 37.4 +0.4**
baz=289
L15K Ungalak Mounta 90.14 28 P **P 01 02 37.3 0.0**
baz=286
M14K Bethel 90.17 28 P **P 01 02 37.6 +0.2**
baz=286
E20K Nigu River 90.17 21 P **P 01 02 38.0 +0.5**
baz=291
B21K Ikpikpuk River 90.20 19 P **P 01 02 37.2 -0.1**
B21K IAmb IAmb 01 02 52.0
comp=Z,8.6nm,1.1s
B21K Ikpikpuk River 90.20 19 P **P 01 02 38.2 +0.8**
baz=292
B22K Teshekpuk Lake 90.29 18 P **P 01 02 38.8 +1.0**
B22K Teshekpuk Lake 90.29 18 P **P 01 02 38.6 +0.8**
baz=293
C21K Knifeblade Rid 90.32 20 P **P 01 02 38.6 +0.6**
baz=292
H18K Honhosa River 90.42 24 P **P 01 02 39.3 +0.7**
baz=289
N14K Kuskokwak Cree 90.53 29 P **P 01 02 39.7 +0.6**
baz=286
G19K Purcell Mounta 90.59 23 P **P 01 02 39.8 +0.4**
baz=290
J17K VABM Dome 90.69 26 P **P 01 02 40.2 +0.4**
baz=288
F20K Avaraart Lake 90.78 22 P **P 01 02 39.9 -0.2**
F20K IAmb IAmb 01 02 46.0
comp=Z,9.7nm,0.9s
F20K Avaraart Lake 90.78 22 P **P 01 02 41.0 +0.8**
baz=291
M15K Kasigluk River 90.78 28 P **P 01 02 40.8 +0.5**
baz=287
E21K Killik River 90.87 20 P **P 01 02 40.5 -0.1**
E21K IAmb IAmb 01 02 54.9
comp=Z,11nm,1.1s
E21K Killik River 90.87 20 P **P 01 02 41.0 +0.4**
baz=293
L16K Owhat River 91.04 27 P **P 01 02 41.9 +0.5**
baz=288
H19K Roundabout Mou 91.05 23 P **P 01 02 41.8 +0.3**
H19K IAmb IAmb 01 02 43.9
comp=Z,11nm,1.0s
H19K Roundabout Mou 91.05 23 P **P 01 02 42.6 +1.2**
baz=291,SNR=6.8
D22K Ayikyak River 91.12 19 P **P 01 02 41.4 -0.4**
D22K IAmb IAmb 01 03 41.6
comp=Z,9.5nm,1.4s
D22K Ayikyak River 91.12 19 P **P 01 02 42.1 +0.3**
baz=294
GCSA Galena City Sc 91.16 24 P **P 01 02 42.1 +0.2**
baz=290
N15K Kwethluk River 91.22 29 P **P 01 02 42.5 +0.2**
baz=287
K17K Iditarod 91.25 26 P **P 01 02 42.8 +0.3**
K17K IAmb IAmb 01 02 55.0
comp=Z,9.1nm,1.1s
K17K Iditarod 91.25 26 P **P 01 02 43.5 +1.0**
baz=289
C23K Itkillik River 91.38 18 P **P 01 02 43.2 +0.3**
C23K IAmb IAmb 01 02 55.5
comp=Z,12nm,1.4s
C23K Itkillik River 91.38 18 P **P 01 02 43.6 +0.8**
baz=296
L17K Donlin 91.44 27 P **P 01 02 43.4 +0.1**
baz=289
ESDC Sonseca Array 91.47 310 P **P 01 02 44.0 -0.1**
comp=Z,0.4nm,0.4s,baz=56,slow=4.0,SNR=5.2
comp=Z,0.4nm,0.4s
M16K Timber Creek 91.49 28 P **P 01 02 43.7 +0.1**
baz=288
F21K Alatna River 91.52 21 P **P 01 02 43.8 +0.2**
baz=293
J18K Innoko River 91.67 25 P **P 01 02 44.2 -0.2**
J18K IAmb IAmb 01 02 52.3
comp=Z,5.8nm,1.1s
J18K Innoko River 91.67 25 P **P 01 02 44.6 +0.2**
baz=290
H20K Anotleneega Mo 91.67 23 P **P 01 02 45.0 +0.6**
baz=292
E22K Anaktuvuk Pass 91.73 20 P **P 01 02 45.0 +0.4**
E22K IAmb IAmb 01 02 59.1
comp=Z,7.3nm,1.4s
E22K Anaktuvuk Pass 91.73 20 P **P 01 02 45.0 +0.4**
baz=295
D23K Nanushuk River 91.74 19 P **P 01 02 44.7 +0.1**
D23K IAmb IAmb 01 02 50.9
comp=Z,9.9nm,1.4s
D23K Nanushuk River 91.74 19 P **P 01 02 45.1 +0.5**
baz=296
N16K Nishlik Lake 91.75 28 P **P 01 02 45.5 +0.6**
baz=288
G21K Allakaket 91.80 22 P **P 01 02 44.6 -0.3**
G21K IAmb IAmb 01 02 56.9
comp=Z,8.1nm,0.8s
G21K Allakaket 91.80 22 P **P 01 02 45.3 +0.4**
baz=293
F22K John River 91.86 21 P **P 01 02 45.6 +0.4**
baz=295
J19K Poorman 91.94 24 P **P 01 02 46.0 +0.4**
J19K IAmb IAmb 01 02 52.0
comp=Z,9.0nm,1.1s
J19K Poorman 91.94 24 P **P 01 02 46.4 +0.8**
baz=291,SNR=6.7
C24K Franklin Bluff 92.02 18 P **P 01 02 46.2 +0.3**
baz=298
M17K Holitna River 92.07 27 P **P 01 02 46.3 +0.1**
baz=290
I20K Naaghedeneel 92.10 24 P **P 01 02 46.2 0.0**
I20K Naaghedeneel 92.10 24 P **P 01 02 47.8 +1.5**
baz=292,SNR=5.6
L18K Granite Mounta 92.12 26 P **P 01 02 47.4 +0.9**
baz=290
TOLK Toolik Lake Re 92.25 19 **P 01 02 46.6 -0.4**
TOLK Toolik Lake Re 92.25 19 P **P 01 02 46.1 -1.0**
TOLK IAmb IAmb 01 03 01.5
comp=Z,5.9nm,1.1s
TOLK Toolik Lake Re 92.25 19 P **P 01 02 47.9 +0.8**
baz=297
D24K Happy Valley 92.25 19 P **P 01 02 46.5 -0.5**
D24K Happy Valley 92.25 19 P **P 01 02 47.5 +0.6**
baz=298
O16K Kokwok River B 92.36 29 P **P 01 02 48.5 +0.8**
baz=289
H21K Melozitna Rive 92.40 22 P **P 01 02 46.8 -1.0**
H21K IAmb IAmb 01 02 50.0
comp=Z,8.1nm,1.1s
H21K Melozitna Rive 92.40 22 P **P 01 02 48.7 +0.9**
baz=294
SDPT Sand Point 92.45 33 P **P 01 02 48.6 +0.5**
baz=287
J20K Nowinta River 92.47 24 P **P 01 02 47.9 -0.2**
J20K Nowinta River 92.47 24 P **P 01 02 49.0 +0.9**
baz=293
N17K Nushagak Hills 92.48 28 P **P 01 02 48.9 +0.7**
baz=290
E23K Chandalar 92.50 20 P **P 01 02 47.6 -0.6**
E23K IAmb IAmb 01 02 53.7
comp=Z,3.3nm,0.8s
E23K Chandalar 92.50 20 P **P 01 02 49.0 +0.8**
baz=297
P16K Nushagak River 92.59 30 P **P 01 02 49.4 +0.7**
baz=289
M18K Stony River 92.76 27 P **P 01 02 50.2 +0.7**
baz=291
O17K Koliganek Bris 92.78 29 P **P 01 02 49.8 +0.3**
baz=290
K20K Telida 92.82 25 P **P 01 02 49.4 -0.4**
K20K Telida 92.82 25 P **P 01 02 50.9 +1.1**
baz=293,SNR=8.4
H22K Ishtalitna Cre 92.84 22 P **P 01 02 50.4 +0.7**
baz=295
E24K Your Creek 92.87 20 P **P 01 02 49.4 -0.6**
E24K Your Creek 92.87 20 P **P 01 02 50.3 +0.3**
baz=298
D25K Kavik River 92.93 18 P **P 01 02 50.1 -0.1**
D25K IAmb IAmb 01 03 05.1
comp=Z,11nm,1.1s
D25K Kavik River 92.93 18 P **P 01 02 50.7 +0.5**
baz=300
L19K White Mountain 92.93 26 P **P 01 02 49.0 -1.3**
L19K IAmb IAmb 01 02 52.5
comp=Z,9.7nm,1.1s
L19K White Mountain 92.93 26 P **P 01 02 51.0 +0.7**
baz=292,SNR=5.4
G23K Bananza Creek 92.97 21 P **P 01 02 51.0 +0.7**
G23K IAmb IAmb 01 03 02.6
comp=Z,5.1nm,1.2s
G23K Bananza Creek 92.97 21 P **P 01 02 51.1 +0.7**
baz=296
N18K Kilae Creek 93.02 28 P **P 01 02 51.7 +1.0**
baz=291
C26K Camden Bay 93.07 17 P **P 01 02 51.5 +0.8**
baz=302
CHNA Chernabura Isl 93.09 34 P **P 01 02 51.7 +0.6**
baz=288
L20K Farewell, AK 93.24 26 P **P 01 02 52.7 +1.0**
baz=293,SNR=5.7
M19K Big River Lodg 93.24 26 P **P 01 02 52.6 +0.9**
baz=292
CHGN Chignik 93.27 32 P **P 01 02 50.7 -1.2**
CHGN Chignik 93.27 32 P **P 01 02 52.7 +0.9**
baz=289
P17K Kvichak River 93.29 29 P **P 01 02 52.7 +0.8**
baz=290
CHUM Lake Minchumin 93.33 24 P **P 01 02 52.9 +0.9**
baz=294,SNR=5.7
F24K Squaw Lake 93.34 20 P **P 01 02 51.8 -0.2**
F24K Squaw Lake 93.34 20 P **P 01 02 52.7 +0.7**
baz=299
Q16K King Salmon 93.37 30 P **P 01 02 52.9 +0.6**
baz=290
H23K Yukon River 93.55 22 P **P 01 02 53.2 +0.1**
H23K IAmb IAmb 01 03 07.8
comp=Z,5.6nm,1.2s
H23K Yukon River 93.55 22 P **P 01 02 53.5 +0.4**
baz=297
C27K Jago River 93.58 17 P **P 01 02 53.6 +0.5**
C27K IAmb IAmb 01 02 59.0
comp=Z,10nm,1.4s
C27K Jago River 93.58 17 P **P 01 02 54.1 +1.0**
baz=303
CAST Castle Rocks 93.61 24 P **P 01 02 52.2 -1.2**
CAST Castle Rocks 93.61 24 P **P 01 02 54.1 +0.7**
baz=294,SNR=7.8
N19K Bonanza Creek 93.62 27 P **P 01 02 54.0 +0.4**
N19K Bonanza Creek 93.62 27 P **P 01 02 54.0 +0.4**
baz=292,SNR=6.3
O18K Koktuh Hills 93.64 28 P **P 01 02 54.3 +0.7**
baz=292
BPAW Bear Paw Mtn. 93.76 24 P **P 01 02 53.3 -0.7**
BPAW IAmb IAmb 01 03 03.0
comp=Z,5.4nm,1.0s
BPAW Bear Paw Mtn. 93.76 24 P **P 01 02 54.2 +0.1**
baz=296
PPLA Purkeypile 93.79 25 P **P 01 02 54.1 -0.2**
PPLA IAmb IAmb 01 03 02.0
comp=Z,7.9nm,1.1s
PPLA Purkeypile 93.79 25 P **P 01 02 54.0 -0.4**
baz=294
M20K Styx River 93.80 26 P **P 01 02 54.0 -0.3**
M20K IAmb IAmb 01 03 03.0
comp=Z,6.9nm,1.0s
M20K Styx River 93.80 26 P **P 01 02 54.9 +0.6**
baz=294
E25K Arctic Village 93.80 19 P **P 01 02 54.6 +0.5**
baz=301
P18K Big Mountain, 93.80 29 P **P 01 02 54.7 +0.4**
baz=292
G24K Hadweenzic Riv 93.87 21 P **P 01 02 54.7 +0.2**
baz=299
I23K Minto, Yukon-K 93.92 22 P **P 01 02 55.1 +0.4**
baz=297
O19K Port Alsworth 93.93 28 P **P 01 02 54.4 -0.4**
O19K Port Alsworth 93.93 28 P **P 01 02 55.3 +0.5**
baz=292
F25K Christian Rive 94.05 19 P **P 01 02 55.3 0.0**
F25K IAmb IAmb 01 02 57.5
comp=Z,4.4nm,1.1s
F25K Christian Rive 94.05 19 P **P 01 02 55.7 +0.4**
baz=301
H24K Noodor Dome 94.15 21 P **P 01 02 56.2 +0.4**
baz=298
Q18K Katmai Hardscr 94.18 29 P **P 01 02 56.2 0.0**
baz=292
NEA2 Nenana 94.29 23 P **P 01 02 56.2 -0.3**
baz=297
G25K Bearman Lake 94.31 20 P **P 01 02 57.1 +0.6**
baz=300
TRF Thorofare Moun 94.33 24 P **P 01 02 57.0 +0.2**
baz=296
SKT Skwentna 94.45 26 P **P 01 02 56.0 -1.2**
SKT Skwentna 94.45 26 P **P 01 02 56.8 -0.4**
baz=295,SNR=7.0
SPCR Spurr Chakacha 94.48 26 P **P 01 02 57.7 +0.2**
baz=294
BMAR Burnt Mountain 94.48 19 P **P 01 02 58.7 +1.4**
F26K Sheenjek River 94.48 19 P **P 01 02 57.1 -0.3**
F26K IAmb IAmb 01 03 01.8
comp=Z,14nm,1.9s
F26K Sheenjek River 94.48 19 P **P 01 02 57.6 +0.3**
baz=302
STLK Strandline Lak 94.52 26 P **P 01 02 55.2 -2.4**
H25L Birch Creek 94.67 21 P **P 01 02 58.7 +0.6**
baz=300
MCK McKinley 94.74 23 P **P 01 02 58.9 +0.3**
baz=297
G26K Porcupine Rive 95.00 20 P **P 01 02 59.6 0.0**
baz=302
SUA Susitna One 95.01 26 P **P 01 02 59.0 -0.9**
SUA Susitna One 95.01 26 P **P 01 03 00.2 +0.3**
baz=296,SNR=6.7
ILAR Eielson Array 95.03 22 P **P 01 02 59.0 -0.8**
comp=Z,0.6nm,0.9s,baz=285,slow=4.5,SNR=4.2
comp=Z,0.6nm,0.9s
M22K Willow 95.15 25 P **P 01 02 59.8 -0.5**
M22K Willow 95.15 25 P **P 01 03 00.5 +0.1**
baz=296
PRP Porcupine Dome 95.15 21 P **P 01 03 01.0 +0.4**
baz=301
HDA Harding Lake 95.19 22 P **P 01 03 01.2 +0.7**
HDA IAmb IAmb 01 04 26.8
comp=Z,13nm,1.8s
HDA Harding Lake 95.19 22 P **P 01 03 00.7 +0.1**
baz=299
SII Sitkinak Islan 95.38 31 P **P 01 03 01.1 -0.5**
baz=292
E28M Babbage River 95.39 17 P **P 01 03 01.4 0.0**
baz=306
TULEG Thule 95.48 356 P **P 01 03 02.7 +1.0**
OHAK Old Harbor 95.58 30 **P 01 03 03.2 +0.8**
OHAK Old Harbor 95.58 30 P **P 01 03 02.4 0.0**
baz=293
RC01 Rabbit Creek A 95.61 26 P **P 01 03 01.6 -0.9**
RC01 IAmb IAmb 01 03 03.9
comp=Z,5.6nm,0.8s
RC01 Rabbit Creek A 95.61 26 P **P 01 03 02.3 -0.3**
baz=296
PMR Palmer 95.64 25 P **P 01 03 01.5 -1.2**
PMR IAmb IAmb 01 03 03.6
comp=Z,7.4nm,1.2s
PMR Palmer 95.64 25 P **P 01 03 02.4 -0.2**
baz=297
GHO Glory Hole Cre 95.65 25 P **P 01 03 03.0 +0.2**
GHO IAmb IAmb 01 03 16.8
comp=Z,5.0nm,0.9s
SLKM Skilak Lake 95.66 27 P **P 01 03 01.6 -1.2**
SLKM IAmb IAmb 01 03 07.2
comp=Z,7.6nm,1.1s
J25K Salcha River, 95.67 22 P **P 01 03 02.7 -0.2**
baz=301
BRLK Bradley Lake 95.68 27 P **P 01 03 01.6 -1.3**
KDAK Kodiak Island 95.70 30 P **P 01 03 03.5 +0.5**
baz=294
BRSE Bradley Lake S 95.76 27 P **P 01 03 02.8 -0.5**
baz=295
G27K Doyon Strip 95.78 19 P **P 01 03 03.3 0.0**
baz=304
SML Sawmill 95.88 25 P **P 01 03 03.0 -0.9**
SML Sawmill 95.88 25 P **P 01 03 03.5 -0.4**
baz=298
K24K Donnelly Dome 95.93 23 P **P 01 03 04.1 0.0**
baz=300
E29M Blow River 96.00 17 P **P 01 03 04.4 +0.2**
baz=308
KNK Knik Glacier 96.01 25 P **P 01 03 04.5 +0.1**
baz=298
I26K Coal Creek Min 96.11 21 P **P 01 03 04.8 +0.1**
baz=303
M23K Glacier View 96.14 25 P **P 01 03 05.0 0.0**
baz=298
H27K Steamboat Moun 96.15 20 P **P 01 03 04.9 0.0**
baz=304
SEW Seward 96.18 27 P **P 01 03 05.0 -0.1**
baz=297
SCM Sheep Creek Mo 96.29 25 P **P 01 03 05.3 -0.4**
baz=299
PWL Port Wells 96.33 26 P **P 01 03 04.9 -0.9**
PWL Port Wells 96.33 26 P **P 01 03 06.2 +0.3**
baz=298
J26L Joseph Creek 96.40 22 P **P 01 03 06.2 0.0**
baz=302
I27K Kandik River 96.48 20 P **P 01 03 07.0 +0.5**
baz=304
PAX Paxson 96.48 23 P **P 01 03 07.0 +0.4**
baz=300
SCRK Sand Creek 96.52 22 P **P 01 03 07.2 +0.3**
baz=302
A36M Sachs Harbour 96.56 11 P **P 01 03 06.6 0.0**
A36M Sachs Harbour 96.56 11 P **P 01 03 07.4 +0.8**
baz=320
M24K Tolsona, Glenn 96.63 24 P **P 01 03 07.6 +0.4**
baz=300
GLI Glacier Island 96.85 26 P **P 01 03 08.6 +0.4**
baz=299
F30M Barrier River 97.11 17 P Pdif 01 03 09.7 +0.4
baz=310
I28M Miner Creek 97.14 20 P Pdif 01 03 10.2 +0.5
baz=306
H29M Whitestone 97.19 19 P Pdif 01 03 10.3 +0.6
baz=307
N25K Chitina, Valde 97.53 24 P Pdif 01 03 12.1 +0.7
baz=301
EYAK Cordova Ski Ar 97.59 26 P Pdif 01 03 12.6 +1.1

baz=300
EPYK Eagle Plains 97.62 18 P Pdif 01 03 12.1 +0.4
baz=309
M26K Nabesna, AK 97.75 23 P Pdif 01 03 12.5 +0.2
baz=303
F31M Tsiigehtchic 97.82 17 P Pdif 01 03 13.0 +0.5
baz=312
L27K Beaver Creek, 97.83 22 P Pdif 01 03 13.0 +0.3
baz=304
BMRM Bremner River 97.86 25 P Pdif 01 03 13.1 +0.3
baz=301
G31M Satah River 98.01 17 P Pdif 01 03 13.6 +0.3
baz=311
DAWY Dawson 98.15 21 P **P 01 03 13.9 -0.1**
baz=306
M27K Edge Creek, AK 98.21 23 P **P 01 03 14.1 -0.4**
baz=304
I30M Mount Dempster 98.46 19 P Pdif 01 03 15.7 +0.1
baz=309
H31M Peel River 98.73 18 P **P 01 03 16.5 0.0**
baz=311
BGLC Bering Glacier 98.86 25 P **P 01 03 16.9 -0.3**
baz=302
C36M Paulatuk 98.88 13 P Pdif 01 03 17.2 +0.1
baz=322
NVAR Mina Array Bea 125.17 31 PKP **PKPdf 01 08 38.2 -0.4**
comp=Z,0.4nm,0.6s,baz=280,slow=2.6,SNR=4.4
PDAR Pinedale Array 125.45 21 PKP **PKPdf 01 08 38.7 -0.4**
comp=Z,0.9nm,0.9s,baz=243,slow=0.3,SNR=6.0
TXAR Lajitas Array 139.50 24 PKP **PKPdf 01 09 06.3 +0.6**
comp=Z,0.3nm,0.7s,baz=243,slow=1.1,SNR=3.4
PLCA Paso Flores 144.26 200 PKP PKPbc 01 09 12.4 +0.5
comp=Z,3.8nm,0.9s,baz=175,slow=4.8,SNR=7.5
CPUP Villa Florida 147.10 232 PKPbc **PKPbc 01 09 20.5 -0.5**
comp=Z,3.3nm,0.8s,baz=134,slow=2.6,SNR=7.8

---

*IDC **01** 00:54:12.8±0.7, 7°.54N×94°.20E, h0km, mb4.0/21, mbtmp4.0/23, ML3.9/2, Error ellipse: s-maj=27.7km s-min=16.0km az=60.0*
*NEIC **01** 00:54:15.0±1.2, 7°.56N±0°.09×94°.15E±0°.04, h10km±1km, mb4.5/11, Error ellipse: s-maj=15.2km s-min=6.3km az=196.0*
ISC 01 00:54:16.1±0.5, 7°.58N±0°.08×94°.24E±0°.09, h20km, n51, σ0§84/45, mb4.1/27, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.56**	**131**	Pn	**Pn**	**00 55 11.0**	**+0.7**
SRIT	**Nakonsritamara**	**5.40**	**79**	Pn	**Pn**	**00 55 36.8**	**+1.2**
PSI	**Prapat**	**6.65**	**135**	Pn	**Pn**	**00 55 53.9**	**+1.0**
	2.2nm,0.3s,baz=329,slow=13,SNR=6.1 12nm,0.6s						
RPSI	**Rantau Prapat**	**6.73**	**136**	Pn	**Pn**	**00 55 54.7**	**+0.9**
KULM	**Kulim**	**6.76**	**109**	Pn	**Pn**	**00 55 53.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**11.74**	**22**	Pn	**Pn**	**00 57 02.2**	**-0.4**
	0.2nm,0.3s,baz=201,slow=13,SNR=1.4 1.1nm,0.3s						
H08S3	**Diego Garcia H**	**26.44**	**236**	T	T	01 26 53.6	
	baz=54,slow=76,SNR=6.1						
H08S2	**Diego Garcia H**	**26.44**	**236**	T	T	01 26 26.0	
	baz=54,slow=76,SNR=9.8						
H08S1	**Diego Carcia H**	**26.45**	**236**	T	T	01 26 33.0	
	baz=54,slow=76,SNR=6.2						
MK31	**Makanchi Array**	**40.40**	**347**		**P**	**01 01 52.5**	**-0.2**
MKAR	**Makanchi Array**	**40.40**	**347**		**P**	**01 01 52.2**	**-0.6**
MKAR	**Makanchi Array**	**40.40**	**347**	P	**P**	**01 01 52.6**	**-0.2**
	1.4nm,0.6s,baz=169,slow=7.9,SNR=6.3 1.4nm,0.6s						
MAKZ	**Makanchi**	**40.48**	**347**	P	**P**	**01 01 52.7**	**-0.8**
SONM	**Songino Array**	**41.43**	**12**	P	**P**	**01 02 01.9**	**+0.5**
	0.5nm,0.8s,baz=195,slow=7.4,SNR=7.1 0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**44.86**	**346**	P	**P**	**01 02 28.9**	**0.0**
	1.9nm,0.7s,baz=171,slow=7.1,SNR=12 1.9nm,0.7s						
KURK	**Kurchatov**	**44.92**	**346**	P	**P**	**01 02 29.3**	**-0.1**
KURK				IAmb	IAmb	01 02 38.8	
	comp=Z,3.6nm,0.8s						
NWAO	**Narrogin (SRO)**	**45.84**	**153**	P	**P**	**01 02 36.6**	**-0.3**
ZAA0	**Zalesovo Array**	**46.86**	**352**	P	**P**	**01 02 45.5**	**+0.8**
ZAA0				IAmb	IAmb	01 02 54.1	
	comp=Z,5.9nm,0.8s						
ZALV	**Zalesovo Beam**	**46.86**	**352**	P	**P**	**01 02 43.5**	**-1.1**
ZALV	**Zalesovo Beam**	**46.86**	**352**	P	**P**	**01 02 45.0**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=176,slow=7.7,SNR=8.4 comp=Z,1.6nm,0.4s						
WRA	**Warramunga Arr**	**48.01**	**125**	P	**P**	**01 02 53.3**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=306,slow=8.3,SNR=4.7 comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**49.30**	**341**	P	**P**	**01 03 02.5**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=141,slow=9.6,SNR=5.7 comp=Z,0.8nm,0.7s						
RAYN	**Ar Rayn**	**49.30**	**294**	P	**P**	**01 03 05.7**	**+1.5**
RAYN				IAmb	IAmb	01 03 13.3	
	comp=Z,7.3nm,0.8s						
ASAR	**Alice Springs**	**49.65**	**130**	P	**P**	**01 03 06.0**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=301,slow=7.6,SNR=4.7 comp=Z,0.9nm,0.8s						
ABKAR	**Akbulak array**	**50.54**	**331**	P	**P**	**01 03 12.5**	**-0.5**
AKTO	**Aktyubinsk**	**52.26**	**331**	P	**P**	**01 03 26.7**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=129,slow=6.5,SNR=3.7 comp=Z,0.7nm,0.3s						
ARTI	**Arti**	**56.24**	**337**	P	**P**	**01 03 55.3**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=126,slow=11,SNR=3.9 comp=Z,1.1nm,0.5s						
BBOO	**Buckleboo**	**56.53**	**138**	P	**P**	**01 03 56.0**	**-1.3**
MARD	**Mardin**	**56.66**	**310**	P	**P**	**01 03 57.3**	**-1.0**
MARD				IAmb	IAmb	01 04 04.8	
	comp=Z,2.9nm,0.7s						
KBZ	**Khabaz**	**57.37**	**318**	P	**P**	**01 04 03.6**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=117,slow=9.0,SNR=3.5 comp=Z,0.6nm,0.9s						
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**01 04 04.8**	**0.0**
KMBO				IAmb	IAmb	01 04 15.5	
	comp=Z,2.3nm,0.9s						
BRTR	**Keskin Array B**	**62.70**	**311**	P	**P**	**01 04 39.1**	**-0.8**
BRTR	**Keskin Array B**	**62.70**	**311**	P	**P**	**01 04 38.9**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=139,slow=8.1,SNR=4.8 comp=Z,0.6nm,0.6s						
H04N2	**CROZET ISLANDS**	**65.53**	**211**	T	T	02 15 27.4	
	baz=48,slow=74						
H04N1	**CROZET ISLANDS**	**65.53**	**211**	T	T	02 15 41.4	
	baz=48						
H04N3	**CROZET ISLANDS**	**65.54**	**211**	T	T	02 15 41.3	
	baz=48,slow=74						
TOO	**Toolangi**	**65.57**	**137**	P	**P**	**01 05 00.2**	**+1.6**
TOO				IAmb	IAmb	01 05 32.5	
	comp=Z,11nm,1.5s						
AKASG	**Malin Array Be**	**68.45**	**322**	P	**P**	**01 05 16.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=85,slow=5.7,SNR=4.9 comp=Z,0.1nm,0.3s						
FINES	**FINESS Array B**	**73.02**	**332**	P	**P**	**01 05 43.9**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=68,slow=5.9,SNR=8.8 comp=Z,2.5nm,0.8s						
BOSA	**Boshof**	**75.51**	**238**	P	**P**	**01 05 59.5**	**-0.1**
	comp=Z,2.8nm,1.0s,baz=53,slow=3.3,SNR=4.5 comp=Z,2.8nm,1.0s						
ARCES	**ARCESS Array B**	**75.58**	**340**	P	**P**	**01 05 57.4**	**-1.7**
	comp=Z,5.4nm,1.0s,baz=103,slow=5.5,SNR=1.9 comp=Z,5.4nm,1.0s						
GERES	**GERESS Array B**	**78.11**	**318**	P	**P**	**01 06 13.8**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=90,slow=4.4,SNR=5.9 comp=Z,0.6nm,0.6s						
HFS	**Hagfors**	**78.76**	**330**	P	**P**	**01 06 17.4**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=95,slow=3.7,SNR=11 comp=Z,2.3nm,0.5s						
NB2	**NORSAR Subarra**	**80.04**	**331**	P	**P**	**01 06 23.3**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=90,slow=5.3						
NOA	**NORSAR Array B**	**80.04**	**331**	P	**P**	**01 06 24.2**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=93,slow=5.5,SNR=3.7 comp=Z,1.5nm,0.8s						
DAVOX	**Davos/Dischmat**	**80.67**	**316**	P	**P**	**01 06 28.7**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=122,slow=9.5 comp=Z,1.0nm,0.6s						
EKA	**Eskdalemuir Ar**	**88.02**	**325**	P	**P**	**01 07 05.5**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=98,slow=5.1,SNR=4.2 comp=Z,0.9nm,0.6s						
ESDC	**Sonseca Array**	**91.48**	**310**	P	**P**	**01 07 21.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=59,slow=3.8,SNR=5.6 comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**125.40**	**21**	PKP	**PKiKP**	**01 13 18.3**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=6.6,slow=3.3,SNR=3.7						
PLCA	**Paso Flores**	**144.31**	**200**	PKP	**PKPdf**	**01 13 50.6**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=68,slow=4.5,SNR=4.5						
CPUP	**Villa Florida**	**147.16**	**232**	PKPbc	**PKPbc**	**01 13 57.6**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=198,slow=6.4,SNR=1.7						

---

*IDC **01** 00:56:28.8±0.7, 7°.72N×94°.43E, h0km, mb4.2/20, mbtmp4.2/22, ML4.3/2, Error ellipse: s-maj=25.8km s-min=15.8km az=65.0*
*NEIC **01** 00:56:31.2±1.7, 7°.6N±0°.1×94°.3E±0°.2, h10km±2km, mb4.6/5, Error ellipse: s-maj=28.1km s-min=18.8km az=247.0*
ISC 01 00:56:32.7±0.6, 7°.69N±0°.08×94°.4E±0°.1, h24km, n43, σ0§96/36, mb4.3/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.52**	**134**	Pn	**Pn**	**00 57 25.8**	**-0.1**
SRIT	**Nakonsritamara**	**5.23**	**80**	Pn	**Pn**	**00 57 51.4**	**+1.9**
PSI	**Prapat**	**6.62**	**137**	Pn	**Pn**	**00 58 09.5**	**+0.7**
	2.2nm,0.3s,baz=316,slow=14,SNR=4.4 6.6nm,0.3s						
KULM	**Kulim**	**6.66**	**111**		**Pn**	**00 58 09.0**	**0.0**
RPSI	**Rantau Prapat**	**6.70**	**137**		Sb	00 59 59.1	+11
RPSI	**Rantau Prapat**	**6.70**	**137**	Pn	**Pn**	**00 58 09.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**11.59**	**22**	Pn	**Pn**	**00 59 15.3**	**-1.3**
	1.0nm,0.3s,baz=215,slow=11,SNR=2.7 1.9nm,0.3s						
H08S3	**Diego Garcia H**	**26.62**	**236**	T	T	01 28 42.4	
	baz=56,slow=74						
H08S2	**Diego Garcia H**	**26.62**	**236**	T	T	01 28 43.2	
	baz=56						
H08S1	**Diego Carcia H**	**26.64**	**236**	T	T	01 28 43.6	
	baz=56,slow=74						
AAK	**Ala-Archa**	**38.98**	**336**	P	**P**	**01 03 57.7**	**+0.5**
	1.5nm,0.6s,baz=195,slow=9.5,SNR=4.4 1.5nm,0.6s						
MK31	**Makanchi Array**	**40.33**	**347**	P	**P**	**01 04 08.4**	**+0.2**
MKAR	**Makanchi Array**	**40.33**	**347**	P	**P**	**01 04 07.9**	**-0.3**
MKAR	**Makanchi Array**	**40.33**	**347**	P	**P**	**01 04 08.3**	**0.0**
	4.6nm,0.8s,baz=168,slow=7.8,SNR=12 4.6nm,0.8s						
MAKZ	**Makanchi**	**40.41**	**347**	P	**P**	**01 04 08.7**	**-0.2**
MAKZ				IAmb	IAmb	01 04 10.1	
	comp=Z,4.2nm,0.6s						
KKAR	**Karatay Array**	**41.04**	**333**	P	**P**	**01 04 14.6**	**+0.3**
SONM	**Songino Array**	**41.29**	**12**	P	**P**	**01 04 16.8**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=192,slow=5.9,SNR=3.7 comp=Z,1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**44.79**	**346**	P	**P**	**01 04 44.9**	**+0.5**
	comp=Z,4.4nm,0.7s,baz=173,slow=6.8,SNR=18 comp=Z,4.4nm,0.7s						
KURK	**Kurchatov**	**44.85**	**346**	P	**P**	**01 04 45.2**	**+0.3**
KURK				IAmb	IAmb	01 04 46.8	
	comp=Z,12nm,1.1s						
ZAA0	**Zalesovo Array**	**46.77**	**352**	P	**P**	**01 05 01.8**	**+1.7**
ZAA0				IAmb	IAmb	01 05 07.4	
	comp=Z,11nm,1.1s						
ZALV	**Zalesovo Beam**	**46.77**	**352**	P	**P**	**01 05 01.6**	**+1.6**
ZALV	**Zalesovo Beam**	**46.77**	**352**	P	**P**	**01 05 00.5**	**+0.4**
	comp=Z,3.4nm,0.5s,baz=176,slow=8.3,SNR=7.6 comp=Z,3.4nm,0.5s						
WRA	**Warramunga Arr**	**47.95**	**126**	P	**P**	**01 05 09.4**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=304,slow=8.6,SNR=6.4 comp=Z,0.6nm,0.5s						
BVAR	**Borovoye Array**	**49.25**	**341**	P	**P**	**01 05 17.9**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=148,slow=8.5,SNR=6.9 comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**49.60**	**130**	P	**P**	**01 05 21.5**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=300,slow=8.2,SNR=6.0 comp=Z,0.7nm,0.6s						
KMBO	**Kilima Mbogo**	**57.65**	**264**	P	**P**	**01 06 23.6**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=79,slow=12,SNR=2.6 comp=Z,0.8nm,0.5s						
NRIK	**Noril'sk**	**61.74**	**357**	P	**P**	**01 06 48.2**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=143,slow=4.4,SNR=4.4 comp=Z,1.2nm,0.5s						
BRTR	**Keskin Array B**	**62.74**	**311**	P	**P**	**01 06 55.9**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=140,slow=6.6,SNR=4.1 comp=Z,0.6nm,0.6s						
H04N2	**CROZET ISLANDS**	**65.69**	**211**	T	T	02 17 40.9	
	baz=47,slow=74,SNR=6.0						
H04N1	**CROZET ISLANDS**	**65.70**	**211**	T	T	02 17 40.7	
	baz=47,slow=74,SNR=6.4						
H04N3	**CROZET ISLANDS**	**65.71**	**211**	T	T	02 17 49.0	
	baz=47,slow=74,SNR=6.5						
FINES	**FINESS Array B**	**72.99**	**332**	P	**P**	**01 07 59.7**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=92,slow=6.5,SNR=7.5 comp=Z,1.8nm,0.6s						
ARCES	**ARCESS Array B**	**75.53**	**340**	P	**P**	**01 08 14.1**	**-0.7**
	comp=Z,10.0nm,1.0s,baz=77,slow=5.3,SNR=2.4 comp=Z,10.0nm,1.0s						
BOSA	**Boshof**	**75.70**	**238**	P	**P**	**01 08 16.3**	**-0.4**
	comp=Z,6.2nm,1.1s,baz=28,slow=4.0,SNR=3.7 comp=Z,6.2nm,1.1s						
GERES	**GERESS Array B**	**78.13**	**318**	P	**P**	**01 08 28.9**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=80,slow=7.7,SNR=3.0 comp=Z,0.5nm,0.6s						
HFS	**Hagfors**	**78.74**	**330**	P	**P**	**01 08 32.3**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=102,slow=3.5,SNR=4.7 comp=Z,2.4nm,0.6s						
NB2	**NORSAR Subarra**	**80.02**	**331**	P	**P**	**01 08 40.6**	**+0.6**
	comp=Z,4.7nm,1.0s,baz=95,slow=5.1						
NOA	**NORSAR Array B**	**80.02**	**331**	P	**P**	**01 08 39.2**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=95,slow=5.2,SNR=4.6 comp=Z,0.8nm,0.7s						
SPITS	**Spitsbergen Ar**	**80.07**	**348**	P	**P**	**01 08 39.0**	**-1.0**
	comp=Z,14nm,1.0s,baz=106,slow=8.9,SNR=6.1 comp=Z,14nm,1.0s						
EKA	**Eskdalemuir Ar**	**88.02**	**325**	P	**P**	**01 09 20.5**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=103,slow=5.1,SNR=4.9 comp=Z,1.3nm,0.8s						
ESDC	**Sonseca Array**	**91.53**	**310**	P	**P**	**01 09 39.2**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=99,slow=5.1,SNR=2.2 comp=Z,0.4nm,0.7s						
PLCA	**Paso Flores**	**144.46**	**200**	PKP	**PKPdf**	**01 16 09.7**	**+2.2**
	comp=Z,1.5nm,1.0s,baz=153,slow=4.7,SNR=4.4						
CPUP	**Villa Florida**	**147.35**	**232**	PKPbc	**PKPbc**	**01 16 15.8**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=45,slow=2.5,SNR=3.4						

IDC 01 00:56:33.6±35.0, 10°.53N×93°.34E, h0km, mb4.0/5, mbtmp4.0/5, MS3.8/1, Error ellipse: s-maj=647.3km s-min=97.3km az=175.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.34**	**347**	P	P	01 03 47.3	-0.5
	1.8nm,0.8s,baz=167,slow=8.5,SNR=5.5 1.8nm,0.8s						
SONM	**Songino Array**	**38.78**	**14**	P	P	01 03 60.0	-0.1
	0.5nm,0.6s,baz=197,slow=9.6,SNR=5.4 0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**41.80**	**346**	P	P	01 04 25.6	+0.7
	5.1nm,1.0s,baz=166,slow=7.2,SNR=12 5.1nm,1.0s						
ZALV	**Zalesovo Beam**	**43.84**	**353**	P	P	01 04 41.1	-0.3
	1.2nm,0.5s,baz=188,slow=9.6,SNR=5.2 1.2nm,0.5s						
BVAR	**Borovoye Array**	**46.24**	**341**	P	P	01 05 00.1	-0.5
	1.8nm,0.8s,baz=133,slow=8.9,SNR=4.7 1.8nm,0.8s						
GUMO	**Guam**	**50.41**	**81**	LR	LR	01 25 12.7	
	comp=Z,100nm,21.9s,baz=270,slow=34						

---

*BJI **01** 00:58:13.4, 7°.04N×94°.11E, h10km, mB5.2/9, mb4.6/40, Ms4.8/10, Ms7 4.6/10*
*IDC **01** 00:58:17.0±0.6, 7°.57N×94°.24E, h0km, mb4.3/26, mbtmp4.3/28, ML4.4/2, MS4.4/6, Error ellipse: s-maj=19.1km s-min=14.0km az=63.0*
*NEIC **01** 00:58:18.9±1.4, 7°.46N±0°.04×94°.20E±0°.07, h10km±1km, mb4.9/98, Error ellipse: s-maj=13.1km s-min=3.1km az=297.0*
*GCMT **01** 00:58:23.9±0.3, 7°.52N±0°.02×94°.27E±0°.02, h24km±1km, MW5.0/114, Moment Tensor Solution. s13,c13; s114,c160; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.59±.27; $M_{\theta\theta}$-2.91±.16; $M_{\phi\phi}$3.49±.19; $M_{r\theta}$-0.60±.24; $M_{\theta\phi}$2.67±.14; $M_{\phi r}$-0.55±.22; Best double couple: M_o4.24000×10^{16} NP1:ϕ_s155.00000°, δ80.00000°, λ179.00000°. NP2:ϕ_s245.00000°, δ89.00000°, λ10.00000°. Principal axes: T 4.5580, Plg8.0000°, Azm110.0000°; N -0.6420, Plg80.0000°, Azm250.0000°; P -3.9220, Plg7.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **01** 00:58:39.2±0.6, 7°N±4°×9°6E±°, h10km, M4.3/7, mB5.9/1, mb4.4/5, MLv4.2/7, Mw(mB)5.5/1*
ISC 01 00:58:20.2±0.4, 7°.49N±0°.05×94°.22E±0°.06, h20km, n216, σ1§21/204, mb4.8/90, MS4.3/5, 6C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.25**	**152**	P	Pb	00 59 08.2	+8.0
BSI				S	**Sb**	**00 59 31.4**	**+3.8**
LHMI	**Lhok Sumawe**	**3.52**	**129**	Pn	**Pn**	**00 59 13.7**	**-0.2**
LHMI	**Lhok Sumawe**	**3.52**	**129**	P	**Pn**	**00 59 14.5**	**+0.7**
MLSI	**Meulaboh, Aceh**	**3.87**	**146**	S	**Sn**	**01 00 01.3**	**-2.2**
SRIT	**Nakonsritamara**	**5.44**	**78**	Pn	**Pn**	**00 59 40.1**	**-0.1**
PSI	**Prapat**	**6.61**	**135**	Pn	**Pn**	**00 59 59.1**	**+2.7**
	3.8nm,0.3s,baz=318,slow=8.5,SNR=6.0						
PSI				LR	LR	01 02 50.4	
	comp=Z,4μm,18.6s,baz=304,slow=41 16nm,0.5s						
RPSI	**Rantau Prapat**	**6.68**	**135**	Pn	**Pn**	**00 59 56.5**	**-0.8**
KULM	**Kulim**	**6.75**	**108**		**Pn**	**00 59 57.4**	**-0.9**
GSI	**Gunungsitoli**	**7.00**	**151**	Pn	**Pn**	**01 00 00.1**	**-1.6**
MNSI	**Mandailing Nat**	**8.53**	**141**	P	Pn	01 00 31.2	+8.5
PPI	**Padang Panjang**	**10.01**	**142**	P	Pn	01 00 50.9	+7.9
MYKOM	**Kota Tinggi**	**11.14**	**120**	Pn	**Pn**	**01 00 57.1**	**-1.4**
CM31	**Chiang Mai Arr**	**11.83**	**22**	Pn	**Pn**	**01 01 09.3**	**+1.4**
CMAR	**Chiang Mai Arr**	**11.83**	**22**	Pn	**Pn**	**01 01 08.0**	**0.0**
CMAR	**Chiang Mai Arr**	**11.83**	**22**	Pn	**Pn**	**01 01 08.1**	**+0.1**
	1.3nm,0.3s,baz=214,slow=14,SNR=6.5						
CMAR				LR	LR	01 05 41.5	
	comp=Z,2μm,18.9s,baz=205,slow=38 2.0nm,0.4s						
CHTO	**Chiang Mai**	**12.16**	**22**	Pn	**Pn**	**01 01 13.0**	**+0.5**
PALK	**Pallekele**	**13.41**	**270**	LR	LR	01 05 55.8	
	comp=Z,2μm,21.5s,baz=84,slow=34						
CRAI	**Chiangrai**	**14.00**	**25**	P	**P**	**01 01 46.7**	**+1.3**
MDSI	**Maura Dua**	**15.50**	**140**	P	**P**	**01 02 07.5**	**+5.4**
SLVN	**Son La**	**16.64**	**33**	P	**P**	**01 02 15.0**	**+0.1**
TPI	**Tanjungpandan**	**16.83**	**127**	P	**P**	**01 02 16.7**	**-0.2**
KSM	**Kuching**	**17.11**	**110**		**Pn**	**01 02 16.2**	**-2.2**
CGJI	**Cibinong**	**18.09**	**140**	P	**Pn**	**01 02 30.3**	**-0.2**
SBUM	**Sibu**	**18.61**	**105**	P	**P**	**01 02 36.3**	**-0.3**
STKI	**Sintang**	**18.72**	**112**	P	**Pn**	**01 02 42.4**	**+4.1**
QIZ	**Qiongzhong**	**19.03**	**51**	P	**Pn**	**01 02 41.8**	**-0.1**
QIZ				S	**Sn**	**01 06 14.2**	**-0.5**
QIZ				LR	LR		
	comp=N,4μm,12.7s						
QIZ				LR	LR		
	comp=E,1μm,12.2s						
QIZ				LR	LR		
	comp=Z,1μm,9.0s						
KMI	**Kunming**	**19.34**	**24**	P	Pn	01 02 54.0	+8.2
KMI				pmax	pmax		
	comp=Z,17nm,1.3s						
LEM	**Lembang**	**19.51**	**136**	LR	LR	01 11 38.3	
	comp=Z,1μm,18.2s,baz=302,slow=41						
PZH	**PanZhiHua**	**20.22**	**20**	P	Pn	01 02 56.5	+0.3
PZH				pmax	pmax		
	comp=Z,30nm,0.8s						
XMIS	**Christmas Isla**	**21.17**	**147**	P	**P**	**01 03 02.8**	**-1.6**
XMIS				IAmb	IAmb	01 03 19.2	
	comp=Z,48nm,0.8s						
SMRI	**Semarang**	**21.69**	**131**	P	**P**	**01 03 10.6**	**+0.6**
SMRI				IAmb	IAmb	01 03 21.9	
	comp=Z,57nm,1.0s						
KKM	**Kota Kinabalu**	**21.89**	**92**	P	**P**	**01 03 10.4**	**-1.9**
GYA	**Guiyang**	**22.27**	**31**	P	**P**	**01 03 22.6**	**+6.2**
GYA				pmax	pmax		
	comp=Z,35nm,0.7s						
GYA				LR	LR		
	comp=N,1μm,14.7s						
GYA				LR	LR		
	comp=E,3μm,14.5s						
GYA				LR	LR		
	comp=Z,1μm,13.5s						
LSA	**Lhasa**	**22.28**	**353**	P	**P**	**01 03 17.6**	**+0.8**
LSA				IAmb	IAmb	01 03 19.9	
	comp=Z,26nm,0.6s						
LSA	**Lhasa**	**22.28**	**353**	P	**P**	**01 03 18.6**	**+1.8**
LSA				pmax	pmax		
	comp=Z,35nm,0.7s						
MYLDM	**Lahad Datu**	**24.24**	**94**	P	**P**	**01 03 36.0**	**-0.1**
CD2	**Chengdu**	**24.95**	**20**	P	**P**	**01 03 43.2**	**+0.7**
CD2				sP	pP	01 03 47.5	-0.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
H08S3	**Diego Garcia H**	**26.37**	**236**	T	T	01 30 47.9	
	baz=54,slow=76,SNR=13						
H08S2	**Diego Garcia H**	**26.37**	**236**	T	T	01 30 49.4	
	baz=54,slow=76,SNR=30						
H08S1	**Diego Carcia H**	**26.38**	**236**	T	T	01 30 49.4	
	baz=54,slow=76,SNR=10						
TGY	**Tagaytay City**	**27.04**	**74**	LR	LR	01 14 24.6	
	comp=Z,395nm,18.4s,baz=224,slow=36						
KAPI	**Kappang**	**28.34**	**115**	LR	LR	01 15 04.2	
	comp=Z,555nm,20.7s,baz=294,slow=36						
WHN	**Wuhan**	**29.70**	**37**	P	**P**	**01 04 26.3**	**+1.3**
WHN				pmax	pmax		
	comp=Z,30nm,0.6s						
LZH	**Lanzhou**	**29.80**	**16**	*e*P	**P**	**01 04 28.1**	**+2.1**
LZH				sP	pwP	01 04 35.4	+1.4
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
TWG	**Pinlang**	**29.98**	**57**	P	**P**	**01 04 26.9**	**-0.7**
GTA	**Gaotai**	**32.18**	**8**	*e*P	**P**	**01 04 47.2**	**+0.3**
GTA				sP	pwP	01 05 00.0	+5.0
GTA				ScP	**ScP**	**01 11 17.8**	**-0.6**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				LR	LR		
	comp=Z,330nm,14.5s						
GTA				LR	LR		
	comp=Z,390nm,15.6s						
GTA				LR	LR		
	comp=Z,500nm,15.3s						
NIL	**Nilore**	**32.46**	**326**	P	**P**	**01 04 48.0**	**-1.4**
NIL				IAmb	IAmb	01 04 54.7	
	comp=Z,19nm,0.7s						
NJ2	**Nanjing**	**33.51**	**40**	*e*P	**P**	**01 04 59

MK31 Makanchi Array 40.48 347 P **P** **01 05 55.9 -1.7**
MKAR Makanchi Array 40.48 347 P **P** **01 05 56.2 -1.5**
MKAR Makanchi Array 40.48 347 P **P** **01 05 56.9 -0.7**
comp=Z,7.1nm,0.6s,baz=168,slow=7.9,SNR=25
comp=Z,7.1nm,0.6s
MAKZ Makanchi 40.56 347 P **P** **01 05 57.2 -1.1**
KK31 Karatay Array 41.14 333 P **P** **01 06 03.4 +0.3**
KKAR Karatay Array 41.14 333 P **P** **01 06 03.1 0.0**
KKAR Karatay Array 41.14 333 P **P** **01 06 03.7 +0.6**
KKAR IAmb IAmb 01 06 33.7
comp=Z,3.4nm,0.8s
SONM Songino Array 41.52 12 P **P** **01 06 06.0 -0.3**
SONM Songino Array 41.52 12 P **P** **01 06 05.7 -0.6**
comp=Z,1.9nm,0.7s,baz=197,slow=7.8,SNR=8.0
comp=Z,1.9nm,0.7s
ULN Ulaanbaatar 41.69 13 P **P** **01 06 07.4 -0.3**
KSAR Wonju Array Be 42.67 41 P **P** **01 06 16.2 +0.5**
KSRS Korea Array 42.70 41 P **P** **01 06 16.5 +0.6**
comp=Z,1.4nm,0.6s,baz=220,slow=11,SNR=2.4
comp=Z,1.4nm,0.6s
KURBB Kurchatov Arra 44.94 346 P **P** **01 06 33.4 -0.3**
comp=Z,7.9nm,0.6s,baz=170,slow=7.1,SNR=33
comp=Z,7.9nm,0.6s
KURK Kurchatov 45.00 346 P **P** **01 06 33.7 -0.5**
KURK IAmb IAmb 01 06 39.7
comp=Z,12nm,0.8s
ZAA0 Zalesovo Array 46.95 352 P **P** **01 06 49.3 -0.2**
ZAA0 IAmb IAmb 01 06 50.5
comp=Z,8.1nm,0.7s
ZALV Zalesovo Beam 46.95 352 P **P** **01 06 48.6 -0.9**
ZALV Zalesovo Beam 46.95 352 P **P** **01 06 49.5 0.0**
comp=Z,12nm,0.7s,baz=183,slow=7.9,SNR=17
comp=Z,12nm,0.7s
BNX BinXian 47.66 31 ⇓P **P** **01 06 55.6 +0.4**
BNX pmax pmax
comp=Z,4.0nm,1.7s
WRA Warramunga Arr 47.98 125 P **P** **01 06 57.1 -0.9**
comp=Z,0.9nm,0.5s,baz=305,slow=8.4,SNR=7.3
comp=Z,0.9nm,0.5s
INU Inuyama 47.98 48 P **P** **01 06 57.7 -0.2**
RAYN Ar Rayn 49.31 295 P **P** **01 07 09.8 +1.4**
BVAR Borovoye Array 49.38 341 P **P** **01 07 07.6 -0.7**
comp=Z,4.4nm,0.7s,baz=134,slow=8.5,SNR=10.0
comp=Z,4.4nm,0.7s
BRVK Borovoye 49.44 341 P **P** **01 07 08.0 -0.8**
BRVK IAmb IAmb 01 07 22.4
comp=Z,5.8nm,0.8s
AS31 Alice Springs 49.61 130 P **P** **01 07 08.4 -2.1**
ASAR Alice Springs 49.61 130 P **P** **01 07 10.4 -0.2**
ASAR Alice Springs 49.61 130 P **P** **01 07 09.3 -1.2**
comp=Z,1.6nm,0.7s,baz=307,slow=7.6,SNR=8.1
ASAR PcP **PcP** **01 08 32.5 +0.4**
comp=Z,2.0nm,0.8s,baz=309,slow=3.1,SNR=6.1
comp=Z,1.6nm,0.7s
FORT Forrest 49.99 141 P **P** **01 07 13.0 -0.3**
ABKAR Akbulak array 50.60 331 P **P** **01 07 17.4 -0.3**
ABKAR Akbulak array 50.60 331 P **P** **01 07 17.7 0.0**
ABKAR IAmb IAmb 01 07 21.2
comp=Z,6.9nm,1.0s
KLR Kul'dur 52.17 30 P **P** **01 07 27.9 -1.5**
comp=Z,0.4nm,0.5s,baz=256,slow=12,SNR=1.4
comp=Z,0.4nm,0.5s
GURO Guroymak-BITLI 56.15 312 P **P** **01 07 58.0 -0.8**
ARTI Arti 56.31 337 P **P** **01 07 58.4 -1.1**
ARTI IAmb IAmb 01 08 12.9
comp=Z,12nm,0.9s
ARTI Arti 56.31 337 P **P** **01 07 58.6 -0.8**
comp=Z,5.4nm,0.6s,baz=165,slow=2.8,SNR=7.0
comp=Z,5.4nm,0.6s
MARD Mardin 56.70 310 P **P** **01 08 01.9 -0.8**
KBZ Khabaz 57.42 318 P **P** **01 08 06.9 -0.6**
comp=Z,3.2nm,0.9s,baz=104,slow=5.5,SNR=4.9
comp=Z,3.2nm,0.9s
KMBO Kilima Mbogo 57.46 264 P **P** **01 08 09.8 +1.2**
KMBO Kilima Mbogo 57.46 264 P **P** **01 08 09.5 +0.8**
comp=Z,2.3nm,0.8s,baz=52,slow=11,SNR=7.8
comp=Z,2.3nm,0.8s
KIV Kislovodsk 57.65 318 P **P** **01 08 08.7 -0.7**
KIV IAmb IAmb 01 08 16.9
comp=Z,12nm,0.9s
NRIK Noril'sk 61.93 357 P **P** **01 08 37.5 -0.6**
NRIK IAmb IAmb 01 08 51.1
comp=Z,7.1nm,1.1s
NRIK Noril'sk 61.93 357 P **P** **01 08 36.4 -1.8**
comp=Z,3.2nm,0.6s,baz=148,slow=6.1,SNR=7.9
comp=Z,3.2nm,0.6s
BR131 Keskin Array S 62.74 311 P **P** **01 08 42.5 -1.8**
BR131 IAmb IAmb 01 08 58.9
comp=Z,17nm,1.9s
BRTR Keskin Array B 62.74 311 P **P** **01 08 43.1 -1.3**
comp=Z,0.9nm,0.7s,baz=138,slow=7.2,SNR=6.6
comp=Z,0.9nm,0.7s
H04N2 CROZET ISLANDS 65.44 211 T T 02 19 18.9
baz=47,slow=74,SNR=21
H04N1 CROZET ISLANDS 65.45 211 T T 02 19 18.5
baz=47,slow=74,SNR=7.8
H04N3 CROZET ISLANDS 65.46 211 T T 02 19 43.8
baz=47,slow=74,SNR=6.7
TIXI Tiksi 67.59 11 P **P** **01 09 14.0 -1.0**
TIXI IAmb IAmb 01 09 23.4
comp=Z,7.9nm,0.6s
AKASG Malin Array Be 68.50 322 P **P** **01 09 19.2 -1.9**
comp=Z,0.4nm,0.5s,baz=89,slow=4.9,SNR=5.8
comp=Z,0.4nm,0.5s
VRI Vrincioaia 69.03 316 ⇑P **P** **01 09 23.5 -1.1**
PLOR Plostina 69.08 316 ⇑P **P** **01 09 25.3 +0.4**
TESR Tescani 69.21 317 ⇓P **P** **01 09 25.2 -0.5**
MLR Muntele Rosu 69.50 316 P **P** **01 09 27.3 -0.3**
MLR IAmb IAmb 01 09 33.6
comp=Z,8.5nm,1.0s
MLR Muntele Rosu 69.50 316 ⇓P **P** **01 09 27.9 +0.2**
VOIR 70.11 316 ⇑P **P** **01 09 29.9 -1.5**
BURAR Bucovina Array 70.38 318 P **P** **01 09 32.4 -0.6**
BURAR Bucovina Array 70.38 318 ⇑P **P** **01 09 33.1 0.0**
MARR Marisel-Cluj 71.64 317 ⇑P **P** **01 09 40.6 -0.1**
DRGR 71.93 317 ⇓P **P** **01 09 43.5 +1.1**
KOLS Kolonicke sedl 72.54 319 *e*P **P** **01 09 45.8 -0.1**
FINES FINESS Array B 73.09 332 P **P** **01 09 48.5 -0.4**
comp=Z,4.2nm,0.5s,baz=82,slow=5.4,SNR=19
comp=Z,4.2nm,0.5s
MORH Mrgy, Hungar 74.65 316 ⇓P **P** **01 09 58.1 -0.3**
BOSA Boshof 75.45 238 P **P** **01 10 04.8 +1.4**
comp=Z,5.3nm,0.9s,baz=73,slow=4.9,SNR=6.8
comp=Z,5.3nm,0.9s
ARCES ARCESS Array B 75.65 340 P **P** **01 10 03.0 -0.7**
comp=Z,5.7nm,0.9s,baz=68,slow=4.5,SNR=6.6
comp=Z,5.7nm,0.9s
MORC Moravsky Berou 75.72 319 *e*P **P** **01 10 07.6 +3.1**
VRAC Vranov 76.29 319 *e*P **P** **01 10 08.7 +1.0**
KRUC Moravsky 76.40 319 *e*P **P** **01 10 08.5 +0.2**
SOKA Soboth 77.17 316 *i* P **P** **01 10 12.4 -0.4**
comp=Z,4.7nm,1.0s
BLEU Blekinge 77.37 326 *i* P **P** **01 10 12.9 -0.7**
BSD Bornholm Skovb 77.78 325 *i* P **P** **01 10 19.0 +3.1**
BSD IAmb IAmb 01 10 20.1
comp=Z,27nm,1.1s
GEC2 GERESS Array S 78.16 318 P **P** **01 10 19.2 +0.8**
GEC2 IAmb IAmb 01 10 21.2
comp=Z,23nm,1.9s
GERES GERESS Array B 78.16 318 P **P** **01 10 18.2 -0.1**
GERES GERESS Array B 78.16 318 P **P** **01 10 18.0 -0.3**
comp=Z,1.7nm,0.8s,baz=107,slow=4.5,SNR=6.5
comp=Z,1.7nm,0.8s
PRED Cave del Predi 78.18 316 P **P** **01 10 17.2 -1.2**
PRED IAmb IAmb 01 10 29.4
comp=Z,12nm,1.3s
DEL Delary 78.47 326 *i* P **P** **01 10 19.0 -0.7**
LUNU Lund 78.65 325 *i* P **P** **01 10 19.3 -1.4**
LESA Schwarzleotal 78.81 317 *i* P **P** **01 10 21.4 -0.5**
comp=Z,1.5nm,0.5s
HFS Hagfors 78.83 330 P **P** **01 10 21.5 -0.1**
comp=Z,4.5nm,0.5s,baz=104,slow=6.3,SNR=19
comp=Z,4.5nm,0.5s
BJUU Bjuv 78.91 326 *i* P **P** **01 10 21.6 -0.6**
CIMO Cimolais 78.95 316 P **P** **01 10 22.2 -0.5**
CIMO IAmb IAmb 01 10 36.1
comp=Z,7.7nm,0.9s
FABU Falkenberg 79.13 327 *i* P **P** **01 10 22.6 -0.8**
BORU Boraas 79.14 327 *i* P **P** **01 10 22.6 -0.8**
COP Copenhagen 79.23 325 *i* P **P** **01 10 22.3 -1.5**
COP IAmb IAmb 01 10 28.3
comp=Z,40nm,0.9s
LLD Lille Linde 79.33 325 *i* P **P** **01 10 22.0 -2.5**
CTI Castel Tesino 79.50 315 P **P** **01 10 24.6 -1.2**
WTTA Wattenberg 79.52 317 *i* P **P** **01 10 25.4 -0.5**
comp=Z,5.4nm,1.1s

WATA Walderalm 79.56 317 *i* P **P** **01 10 24.9 -1.2**
comp=Z,3.7nm,1.1s
ONAU Onsala 79.58 327 *i* P **P** **01 10 23.8 -2.0**
TJOU Tjoern 79.77 328 *i* P **P** **01 10 26.2 -0.5**
SQTA Sankt Quirin 79.81 317 *i* P **P** **01 10 27.0 -0.5**
comp=Z,3.8nm,0.9s
MOTA Moosalm 79.88 317 *e*P **P** **01 10 27.2 -0.7**
comp=Z,3.2nm,0.9s
STRU Stroemstad 80.04 329 *i* P **P** **01 10 27.8 -0.4**
NB2 NORSAR Subarra 80.10 331 P **P** **01 10 27.9 -0.7**
comp=Z,2.9nm,0.6s,baz=96,slow=5.1
NOA NORSAR Array B 80.10 331 P **P** **01 10 28.1 -0.6**
comp=Z,1.4nm,0.7s,baz=95,slow=5.0,SNR=7.9
comp=Z,1.4nm,0.7s
RETA Reutte 80.11 317 *i* P **P** **01 10 28.7 -0.3**
comp=Z,4.3nm,0.8s
FETA Feichten 80.13 316 *i* P **P** **01 10 29.0 -0.2**
comp=Z,3.4nm,1.1s
SPITS Spitsbergen Ar 80.23 348 P **P** **01 10 29.1 +0.1**
comp=Z,8.1nm,0.6s,baz=102,slow=12,SNR=11
comp=Z,8.1nm,0.6s
DAVA Damuels 80.71 317 *e*P **P** **01 10 32.3 0.0**
comp=Z,6.2nm,0.8s
SSRD Sdr. Stenderup 80.81 325 *i* P P 01 10 25.6 -6.9
EKA Eskdalemuir Ar 88.08 325 P **P** **01 11 09.8 +0.5**
comp=Z,1.0nm,0.5s,baz=87,slow=4.8,SNR=8.4
comp=Z,1.0nm,0.5s
C18K Utkok River 88.34 21 P **P** **01 11 10.0 -0.4**
E18K Tukpahlearik C 88.90 22 IAmb IAmb 01 11 22.1
comp=Z,5.4nm,1.1s
F17K Baldwin Pennin 88.94 23 P **P** **01 11 12.9 -0.1**
F17K IAmb IAmb 01 11 23.6
comp=Z,15nm,1.6s
B20K Meade River 89.27 19 P **P** **01 11 14.8 +0.2**
B20K IAmb IAmb 01 14 05.7
comp=Z,12nm,1.6s
D19K Kuna River 89.46 21 P **P** **01 11 15.7 +0.1**
H17K Granite Mounta 89.91 24 P **P** **01 11 18.2 +0.5**
H17K IAmb IAmb 01 11 31.2
comp=Z,20nm,1.9s
J16K Anvik River 90.11 26 P **P** **01 11 19.1 +0.5**
J16K IAmb IAmb 01 11 48.0
comp=Z,21nm,1.8s
E19K Redstone River 90.12 21 P **P** **01 11 18.6 0.0**
E19K IAmb IAmb 01 11 37.7
comp=Z,4.4nm,0.9s
F19K Shaleruckik Mo 90.14 22 P **P** **01 11 19.4 +0.7**
F19K IAmb IAmb 01 11 25.6
comp=Z,4.8nm,1.1s
G19K Purcell Mounta 90.63 23 P **P** **01 11 21.2 +0.2**
G19K IAmb IAmb 01 11 30.2
comp=Z,4.7nm,0.8s
TORD Torodi Ar. Bea 90.76 283 P **P** **01 11 22.4 -0.3**
comp=Z,191nm,0.3s,baz=62,slow=6.3,SNR=3.0
F20K Avaraart Lake 90.82 22 P **P** **01 11 22.7 +0.8**
F20K IAmb IAmb 01 11 29.1
comp=Z,10.0nm,1.1s
E21K Killik River 90.91 20 P **P** **01 11 22.6 +0.2**
E21K IAmb IAmb 01 11 29.3
comp=Z,5.0nm,1.0s
H19K Roundabout Mou 91.09 23 P **P** **01 11 22.4 -0.8**
H19K IAmb IAmb 01 11 31.0
comp=Z,6.7nm,1.1s
C23K Itkillik River 91.42 18 P **P** **01 11 24.9 +0.3**
ESDC Sonseca Array 91.52 310 P **P** **01 11 25.1 -0.7**
ESDC Sonseca Array 91.52 310 P **P** **01 11 26.0 +0.1**
comp=Z,0.4nm,0.5s,baz=63,slow=4.1,SNR=6.1
comp=Z,0.4nm,0.5s
F21K Alatna River 91.56 21 P **P** **01 11 24.7 -0.7**
F21K IAmb IAmb 01 11 32.4
comp=Z,4.0nm,1.1s
J18K Innoko River 91.71 25 P **P** **01 11 26.0 -0.2**
G21K Allakaket 91.83 22 P **P** **01 11 27.3 +0.6**
J19K Poorman 91.97 24 P **P** **01 11 28.2 +0.9**
J19K IAmb IAmb 01 11 36.2
comp=Z,8.3nm,1.1s
I20K Naaghedeneel 92.14 24 P **P** **01 11 28.2 +0.2**
D24K Happy Valley 92.29 19 P **P** **01 11 29.1 +0.4**
D24K IAmb IAmb 01 14 36.4
comp=Z,15nm,1.9s
H21K Melozitna Rive 92.44 22 P **P** **01 11 29.1 -0.4**
H21K IAmb IAmb 01 11 42.0
comp=Z,12nm,1.4s
J20K Nowinta River 92.51 24 P **P** **01 11 30.2 +0.4**
J20K IAmb IAmb 01 11 43.0
comp=Z,11nm,1.3s
E23K Chandalar 92.54 20 P **P** **01 11 30.2 +0.3**
K20K Telida 92.86 25 P **P** **01 11 32.0 +0.5**
E24K Your Creek 92.91 20 P **P** **01 11 32.5 +0.8**
E24K IAmb IAmb 01 11 44.8
comp=Z,8.8nm,1.6s
L19K White Mountain 92.97 26 P **P** **01 11 32.8 +0.8**
L19K IAmb IAmb 01 11 39.6
comp=Z,7.0nm,1.2s
D25K Kavik River 92.97 18 P **P** **01 11 32.4 +0.5**
D25K IAmb IAmb 01 11 57.4
comp=Z,3.6nm,0.8s
C27K Jago River 93.62 17 P **P** **01 11 34.5 -0.3**
C27K IAmb IAmb 01 12 08.7
comp=Z,3.8nm,1.2s
CAST Castle Rocks 93.65 24 P **P** **01 11 35.9 +0.8**
CAST IAmb IAmb 01 11 43.6
comp=Z,6.5nm,0.8s
N19K Bonanza Creek 93.65 27 P **P** **01 11 35.5 +0.3**
BPAW Bear Paw Mtn. 93.80 24 P **P** **01 11 36.3 +0.5**
M20K Styx River 93.83 26 P **P** **01 11 36.5 +0.4**
M20K IAmb IAmb 01 11 44.0
comp=Z,3.2nm,0.8s
O19K Port Alsworth 93.96 28 P **P** **01 11 36.5 0.0**
O19K IAmb IAmb 01 11 44.5
comp=Z,7.1nm,0.8s
SKT Skwentna 94.48 26 P **P** **01 11 38.5 -0.5**
F26K Sheenjek River 94.52 19 P **P** **01 11 39.4 +0.3**
STLK Strandline Lak 94.56 26 P **P** **01 11 38.5 -0.8**
SUA Susitna One 95.04 26 P **P** **01 11 41.2 -0.5**
SUA IAmb IAmb 01 11 49.3
comp=Z,7.1nm,0.9s
ILAR Eielson Array 95.07 22 P **P** **01 11 41.0 -0.6**
comp=Z,0.2nm,0.6s,baz=301,slow=6.4,SNR=4.3
comp=Z,0.2nm,0.6s
M22K Willow 95.19 26 P **P** **01 11 42.4 +0.3**
RC01 Rabbit Creek A 95.65 26 P **P** **01 11 44.4 +0.1**
RC01 IAmb IAmb 01 11 51.9
comp=Z,4.7nm,0.8s
SLKM Skilak Lake 95.69 27 P **P** **01 11 43.4 -1.1**
SLKM IAmb IAmb 01 11 51.7
comp=Z,8.7nm,1.2s
BRLK Bradley Lake 95.72 27 P **P** **01 11 43.4 -1.2**
PWL Port Wells 96.36 26 P **P** **01 11 48.0 +0.5**
A36M Sachs Harbour 96.61 11 P **P** **01 11 46.9 -1.5**
H29M Whitestone 97.24 19 P **P** **01 11 50.7 -0.7**
NVAR Mina Array Bea 125.21 31 PKP **PKiKP** **01 17 21.4 +0.8**
comp=Z,0.6nm,0.8s,baz=329,slow=1.7,SNR=4.8
PDAR Pinedale Array 125.50 21 PKP **PKiKP** **01 17 20.9 -0.1**
comp=Z,0.8nm,0.9s,baz=62,slow=3.5,SNR=4.6
TXAR Lajitas Array 139.54 24 PKP **PKiKP** **01 17 49.1 -0.5**
comp=Z,0.3nm,0.6s,baz=347,slow=0.5,SNR=4.5
PLCA Paso Flores 144.22 200 PKP PKPbc 01 17 54.2 +0.9
comp=Z,3.5nm,0.8s,baz=205,slow=2.2,SNR=13
CPUP Villa Florida 147.09 232 PKPbc **PKPbc** **01 18 03.2 +0.6**
comp=Z,3.3nm,0.8s,baz=128,slow=2.7,SNR=10

*IDC **01** 01:00:27.4±0.9, 7°.64N×94°.24E, h0km, mb4.2/17, mbtmp4.2/20, ML3.7/2, Error ellipse: s-maj=35.3km s-min=18.0km az=54.0*
ISC 01 01:00:31.1±0.6, **7°.6N**±0°.1×**94°.3E**±0°.1, **h24km, n29,**
σ1°06/23, mb4.2/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.65**	**136**	Pn	**Pn**	**01 02 06.6**	**-1.0**
	2.0nm,0.3s,baz=170,slow=21,SNR=1.3						
	9.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.69**	**22**	Pn	**Pn**	**01 03 15.9**	**-0.6**
	0.7nm,0.3s,baz=216,slow=13,SNR=1.1						
PALK	**Pallekele**	**13.47**	**269**	Pn	**Pn**	**01 03 40.3**	**-0.7**
	0.3nm,0.3s,baz=90,slow=6.9,SNR=1.3						
	3.2nm,0.6s						
H08S3	**Diego Garcia H**	**26.49**	**236**	T	T	01 32 40.2	
	baz=56						
H08S2	**Diego Garcia H**	**26.50**	**236**	T	T	01 32 47.9	
	baz=56						
H08S1	**Diego Carcia H**	**26.51**	**236**	T	T	01 32 47.9	
	baz=56						
AAK	**Ala-Archa**	**38.99**	**337**	P	**P**	**01 07 56.8**	**+1.0**
	2.6nm,0.7s,baz=189,slow=6.4,SNR=3.1						
	2.6nm,0.7s						
MKAR	**Makanchi Array**	**40.37**	**347**	P	**P**	**01 08 06.2**	**-0.8**
	4.3nm,0.7s,baz=161,slow=7.8,SNR=7.9						
	4.3nm,0.7s						
KURBB	**Kurchatov Arra**	**44.83**	**346**	P	**P**	**01 08 42.5**	**-0.7**
	6.6nm,0.8s,baz=168,slow=7.2,SNR=8.9						
	6.6nm,0.8s						
ZALV	**Zalesovo Beam**	**46.82**	**352**	P	**P**	**01 08 58.5**	**-0.3**
	5.5nm,0.7s,baz=180,slow=7.7,SNR=5.9						
	5.5nm,0.7s						
WRA	**Warramunga Arr**	**48.00**	**125**	P	**P**	**01 09 08.6**	**0.0**
	1.0nm,1.0s,baz=298,slow=8.7,SNR=1.7						
	1.0nm,1.0s						
BVAR	**Borovoye Array**	**49.27**	**341**	P	**P**	**01 09 18.0**	**+0.2**
	2.6nm,0.8s,baz=152,slow=9.9,SNR=3.9						
	2.6nm,0.8s						
ASAR	**Alice Springs**	**49.65**	**130**	P	**P**	**01 09 22.5**	**+1.3**
	0.6nm,0.6s,baz=300,slow=7.8,SNR=1.4						
	0.6nm,0.6s						
NRIK	**Noril'sk**	**61.80**	**357**	P	**P**	**01 10 47.6**	**0.0**
	1.3nm,0.4s,baz=303,slow=5.4,SNR=1.5						
	1.3nm,0.4s						
BRTR	**Keskin Array B**	**62.70**	**311**	P	**P**	**01 10 53.0**	**-1.5**
	0.5nm,0.6s,baz=122,slow=7.2,SNR=3.1						
	0.5nm,0.6s						
H04N2	**CROZET ISLANDS**	**65.58**	**211**	T	T	02 21 36.1	
	baz=47						
H04N1	**CROZET ISLANDS**	**65.59**	**211**	T	T	02 21 50.6	
	baz=47						
H04N3	**CROZET ISLANDS**	**65.60**	**211**	T	T	02 21 50.6	
	baz=47,SNR=3.4						
FINES	**FINESS Array B**	**73.00**	**332**	P	**P**	**01 11 58.3**	**-0.3**
	1.3nm,0.5s,baz=104,slow=6.1,SNR=5.2						
	1.3nm,0.5s						
ARCES	**ARCESS Array B**	**75.55**	**340**	P	**P**	**01 12 13.6**	**+0.2**
	9.3nm,1.1s,baz=72,slow=5.0,SNR=2.3						
	9.3nm,1.1s						
GERES	**GERESS Array B**	**78.11**	**318**	P	**P**	**01 12 28.0**	**-0.4**
	0.6nm,0.6s,baz=81,slow=7.7,SNR=2.0						
	0.6nm,0.6s						
HFS	**Hagfors**	**78.75**	**330**	P	**P**	**01 12 31.1**	**-0.3**
	2.1nm,0.5s,baz=90,slow=4.4,SNR=7.1						
	2.1nm,0.5s						
NB2	**NORSAR Subarra**	**80.02**	**331**	P	**P**	**01 12 42.1**	**+3.6**
	comp=Z,2.0nm,0.8s,baz=98,slow=7.9						
SPITS	**Spitsbergen Ar**	**80.11**	**348**	P	**P**	**01 12 38.5**	**-0.1**
	comp=Z,12nm,1.0s,baz=108,slow=9.3,SNR=1.7						
	comp=Z,12nm,1.0s						
EKA	**Eskdalemuir Ar**	**88.01**	**325**	P	**P**	**01 13 19.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=90,slow=5.7,SNR=2.2						
	comp=Z,0.4nm,0.5s						
ESDC	**Sonseca Array**	**91.49**	**310**	P	**P**	**01 13 36.7**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=95,slow=5.1,SNR=3.1						
	comp=Z,0.9nm,0.9s						
ILAR	**Eielson Array**	**94.92**	**22**	P	**P**	**01 13 50.9**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=231,slow=5.6,SNR=4.5						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**125.35**	**21**	PKP	**PKiKP**	**01 19 31.2**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=329,slow=1.0,SNR=2.1						
PLCA	**Paso Flores**	**144.36**	**200**	PKP	**PKPdf**	**01 20 06.0**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=298,slow=2.4,SNR=3.3						

*DJA **01** 01:03:54.0±1.9, 9°.N±9°.×9°.4E±1°.8, h10km, M4.8/4, mb4.4/3, MLv5.0/4*
*IDC **01** 01:04:05.0±1.1, 7°.76N×94°.44E, h0km, mb3.8/10, mbtmp3.8/12, ML3.8/2, Error ellipse: s-maj=42.5km s-min=21.6km az=62.0*
*NEIC **01** 01:04:05.4±1.5, 7°.6N±0°.1×94°.1E±0°.1, h10km±2km, mb4.2/7, Error ellipse: s-maj=27.5km s-min=18.0km az=237.0*
ISC 01 01:04:06.2±0.7, **7°.71N**±0°.07×**94°.3E**±0°.1, **h10km, n29,**
σ0°97/29, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.41**	**156**	P	**Pg**	**01 04 53.7**	**+1.3**
MLSI	**Meulaboh, Aceh**	**4.01**	**149**	P	**Pb**	**01 05 16.7**	**-0.2**
	1.7nm110nm,1.1s						
SRIT	**Nakonsritamara**	**5.32**	**80**		**Pn**	**01 05 27.4**	**+1.7**
PSI	**Prapat**	**6.70**	**136**	Pn	**Pn**	**01 05 45.0**	**+0.1**
	0.4nm,0.3s,baz=178,slow=21,SNR=1.9						
	2.1nm,0.4s						
KULM	**Kulim**	**6.75**	**111**	Pn	**Pn**	**01 05 45.2**	**-0.2**
RPSI	**Rantau Prapat**	**6.78**	**137**		**Pn**	**01 05 45.0**	**-0.8**
RPSI	**Rantau Prapat**	**6.78**	**137**	Pn	**Pn**	**01 05 45.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**11.59**	**22**	Pn	**Pn**	**01 06 51.3**	**-0.6**
	0.5nm,0.3s,baz=203,slow=12,SNR=1.8						
	0.9nm,0.3s						
LSA	**Lhasa**	**22.07**	**353**	P	**P**	**01 09 00.4**	**-1.6**
LSA				IAmb	IAmb	01 09 12.6	
	comp=Z,7.1nm,0.6s						
AAK	**Ala-Archa**	**38.92**	**337**	P	**P**	**01 11 32.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=52,slow=23,SNR=1.5						
	comp=Z,0.6nm,0.6s						
MK31	**Makanchi Array**	**40.28**	**347**	P	**P**	**01 11 43.0**	**-0.5**
MK31				IAmb	IAmb	01 11 48.4	
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**40.28**	**347**	P	**P**	**01 11 42.4**	**-1.1**
MKAR	**Makanchi Array**	**40.28**	**347**	P	**P**	**01 11 43.3**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=161,slow=8.0,SNR=8.8						
	comp=Z,1.7nm,0.8s						
SONM	**Songino Array**	**41.28**	**12**	P	**P**	**01 11 51.6**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=199,slow=8.5,SNR=2.8						
	comp=Z,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**44.74**	**346**	P	**P**	**01 12 19.9**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=165,slow=7.1,SNR=9.3						
	comp=Z,2.4nm,0.9s						
KURK	**Kurchatov**	**44.81**	**346**	P	**P**	**01 12 19.8**	**-0.4**
KURK				IAmb	IAmb	01 12 22.2	
	comp=Z,3.0nm,1.0s						
ZAA0	**Zalesovo Array**	**46.74**	**352**	P	**P**	**01 12 34.3**	**-1.1**
ZAA0				IAmb	IAmb	01 12 50.8	
	comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**46.74**	**352**	P	**P**	**01 12 34.4**	**-1.0**
ZALV	**Zalesovo Beam**	**46.74**	**352**	P	**P**	**01 12 35.6**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=191,slow=7.7,SNR=4.8						
	comp=Z,1.8nm,0.6s						
WB0	**Warramunga Arr**	**47.99**	**125**	P	**P**	**01 12 43.9**	**-1.8**
WRA	**Warramunga Arr**	**48.03**	**126**	P	**P**	**01 12 45.6**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=303,slow=7.2,SNR=2.2						
	comp=Z,0.4nm,0.9s						
WB2	**Warramunga Arr**	**48.04**	**126**	P	**P**	**01 12 44.8**	**-1.3**
WB2				IAmb	IAmb	01 12 46.4	
	comp=Z,7.5nm,1.2s						
BVAR	**Borovoye Array**	**49.19**	**341**	P	**P**	**01 12 54.3**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=132,slow=8.8,SNR=3.8						
	comp=Z,0.9nm,0.7s						
ABKAR	**Akbulak array**	**50.45**	**331**	P	**P**	**01 13 04.5**	**+0.4**
BRTR	**Keskin Array B**	**62.66**	**311**	P	**P**	**01 14 31.7**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=126,slow=5.5,SNR=2.0						
	comp=Z,0.3nm,0.8s						
FINES	**FINESS Array B**	**72.93**	**332**	P	**P**	**01 15 36.5**	**+1.0**
FINES	**FINESS Array B**	**72.93**	**332**	P	**P**	**01 15 35.7**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=111,slow=7.6,SNR=2.2						
	comp=Z,2.9nm,0.9s						
HFS	**Hagfors**	**78.68**	**330**	P	**P**	**01 16 10.8**	**+2.4**
	comp=Z,2.4nm,0.9s,baz=79,slow=10,SNR=1.1						
	comp=Z,2.4nm,0.9s						
CPUP	**Villa Florida**	**147.29**	**232**	PKPbc	**PKPbc**	**01 23 51.3**	**+0.5**
	comp=Z,1.5nm,1.1s,baz=217,slow=2.6,SNR=2.9						

*IDC **01** 01:04:48.1±0.7, 7°.61N×94°.00E, h0km, mb4.0/17, mbtmp4.0/19, ML4.0/2, Error ellipse: s-maj=28.6km s-min=16.2km az=59.0*
*NEIC **01** 01:04:49.8±2.4, 7°.8N±0°.1×94°.1E±0°.1, h10km±1km, mb4.4/18, Error ellipse: s-maj=21.9km s-min=13.0km az=45.0*
ISC 01 01:04:51.2±0.5, **7°.79N**±0°.06×**94°.08E**±0°.08, **h18km, n61,**
σ1°53/57, mb4.2/26, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.57**	**152**	S	**Pb**	**01 05 39.7**	**+2.9**
LHMI	**Lhok Sumawe**	**3.81**	**132**	Pn	**Pn**	**01 05 48.7**	**-0.4**
LHMI	**Lhok Sumawe**	**3.81**	**132**	S	**Sg**	**01 06 52.2**	**-1.6**
LHMI	**Lhok Sum

KULM Kulim 6.98 110 Pn **Pn 01 06 31.7 -0.9**
RPSI Rantau Prapat 6.99 136 **Pn 01 06 29.3 -3.4**
RPSI **Sn 01 07 52.1 +0.4**
RPSI Rantau Prapat 6.99 136 Pn **Pn 01 06 29.2 -3.5**
GSI Gunungsitoli 7.32 151 P **Pn 01 06 37.8 +0.5**
CMAR Chiang Mai Arr 11.61 24 Pn **Pn 01 07 38.8 +2.6**
0.6nm,0.3s,baz=213,slow=15,SNR=1.6
1.3nm,0.5s
SLVN Son La 16.47 34 P **P 01 08 43.5 -0.7**
SLVN IAmb IAmb 01 09 04.7
comp=Z,31nm,1.3s
KSM Kuching 17.34 110 P **Pn 01 08 53.0 +0.5**
SBUM Sibu 18.82 105 P **P 01 09 10.3 +0.2**
LSA Lhasa 21.98 353 P **P 01 09 43.8 -1.0**
LSA IAmb IAmb 01 10 04.9
comp=Z,14nm,0.7s
H08S3 Diego Garcia H 26.42 235 T T 01 37 27.0
baz=54,slow=76,SNR=6.9
H08S2 Diego Garcia H 26.43 235 T T 01 37 17.2
baz=54,slow=76,SNR=6.7
H08S1 Diego Carcia H 26.44 235 T T 01 37 26.3
baz=54,slow=76,SNR=5.9
NIL Nilore 32.14 326 P **P 01 11 17.9 +0.1**
WUS Wushi 35.80 341 P **P 01 11 50.4 +0.7**
WUS IAmb IAmb 01 12 05.6
comp=Z,4.9nm,0.8s
SIMJ Simiganj 38.15 328 P **P 01 12 08.2 -1.5**
SIMJ IAmb IAmb 01 12 26.1
comp=Z,4.9nm,0.7s
AAK Ala-Archa 38.77 337 P **P 01 12 15.9 +1.1**
comp=Z,1.1nm,0.7s,baz=144,slow=12,SNR=2.8
comp=Z,1.1nm,0.7s
MK31 Makanchi Array 40.16 347 P **P 01 12 25.6 -0.6**
MK31 IAmb IAmb 01 12 41.8
comp=Z,5.4nm,1.1s
MKAR Makanchi Array 40.16 347 P **P 01 12 26.3 0.0**
comp=Z,4.2nm,0.7s,baz=166,slow=8.0,SNR=18
comp=Z,4.2nm,0.7s
MAKZ Makanchi 40.24 347 P **P 01 12 27.5 +0.6**
MAKZ IAmb IAmb 01 12 43.2
comp=Z,4.1nm,0.8s
SONM Songino Array 41.26 13 P **P 01 12 35.8 +0.3**
SONM Songino Array 41.26 13 P **P 01 12 36.4 +0.9**
comp=Z,1.7nm,0.9s,baz=198,slow=8.6,SNR=6.0
comp=Z,1.7nm,0.9s
KURBB Kurchatov Arra 44.62 346 P **P 01 13 03.5 +1.1**
comp=Z,5.2nm,0.8s,baz=166,slow=7.1,SNR=20
comp=Z,5.2nm,0.8s
KURK Kurchatov 44.68 346 P **P 01 13 03.6 +0.7**
KURK IAmb IAmb 01 13 19.0
comp=Z,9.9nm,1.1s
ZAA0 Zalesovo Array 46.64 352 P **P 01 13 18.1 -0.2**
ZALV Zalesovo Beam 46.64 352 P **P 01 13 18.1 -0.2**
ZALV Zalesovo Beam 46.64 352 P **P 01 13 19.4 +1.1**
comp=Z,5.5nm,0.7s,baz=173,slow=7.8,SNR=11
comp=Z,5.5nm,0.7s
WB0 Warramunga Arr 48.21 125 P **P 01 13 30.1 -1.0**
WRA Warramunga Arr 48.26 125 P **P 01 13 28.5 -3.0**
WRA Warramunga Arr 48.26 125 P **P 01 13 31.3 -0.2**
comp=Z,0.4nm,0.7s,baz=300,slow=7.8,SNR=2.9
comp=Z,0.4nm,0.7s
WB2 Warramunga Arr 48.27 125 P **P 01 13 28.7 -2.9**
WB2 IAmb IAmb 01 14 02.0
comp=Z,5.3nm,0.9s
BVAR Borovoye Array 49.05 341 P **P 01 13 37.7 +0.6**
comp=Z,2.7nm,0.8s,baz=145,slow=9.0,SNR=9.6
comp=Z,2.7nm,0.8s
BRVK Borovoye 49.12 341 P **P 01 13 35.0 -2.6**
BRVK IAmb IAmb 01 13 53.0
comp=Z,2.8nm,0.8s
ASAR Alice Springs 49.90 130 P **P 01 13 42.9 -1.1**
comp=Z,0.2nm,0.5s,baz=305,slow=7.2,SNR=1.7
comp=Z,0.2nm,0.5s
ABKAR Akbulak array 50.28 331 P **P 01 13 44.5 -2.0**
ABKAR IAmb IAmb 01 14 19.6
comp=Z,7.7nm,1.4s
KMBO Kilima Mbogo 57.36 264 P **P 01 14 38.0 -1.2**
comp=Z,0.3nm,0.3s,baz=225,slow=15,SNR=1.8
comp=Z,0.3nm,0.3s
NRIK Noril'sk 61.63 357 P **P 01 15 07.4 0.0**
comp=Z,1.6nm,0.3s,baz=350,slow=7.2,SNR=1.2
comp=Z,1.6nm,0.3s
BRTR Keskin Array B 62.44 311 P **P 01 15 14.8 +1.1**
comp=Z,0.3nm,0.7s,baz=116,slow=8.5,SNR=3.7
comp=Z,0.3nm,0.7s
H04N2 CROZET ISLANDS 65.62 211 T T 02 26 10.9
baz=47,slow=74,SNR=16
H04N1 CROZET ISLANDS 65.63 211 T T 02 26 26.5
baz=47,slow=74,SNR=8.3
H04N3 CROZET ISLANDS 65.64 211 T T 02 26 24.4
baz=47,slow=74,SNR=8.6
FIA1 FINESS Array S 72.76 332 P **P 01 16 16.5 -1.7**
FINES FINESS Array B 72.76 332 P **P 01 16 17.1 -1.0**
FINES FINESS Array B 72.76 332 P **P 01 16 17.0 -1.2**
comp=Z,2.8nm,0.9s,baz=93,slow=5.6,SNR=2.1
comp=Z,2.8nm,0.9s
GERES GERESS Array B 77.85 318 P **P 01 16 46.2 -1.7**
GERES GERESS Array B 77.85 318 P **P 01 16 47.7 -0.2**
comp=Z,0.6nm,0.7s,baz=84,slow=5.6,SNR=1.0
comp=Z,0.6nm,0.7s
HFS Hagfors 78.50 330 P **P 01 16 51.3 +0.2**
comp=Z,0.5nm,0.3s,baz=109,slow=3.6,SNR=5.1
comp=Z,0.5nm,0.3s
NOA NORSAR Array B 79.78 331 P **P 01 16 58.4 +0.3**
comp=Z,1.1nm,0.9s,baz=92,slow=5.7,SNR=3.3
comp=Z,1.1nm,0.9s
EKA Eskdalemuir Ar 87.76 325 P **P 01 17 39.7 +0.6**
comp=Z,0.3nm,0.5s,baz=83,slow=6.5,SNR=1.8
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 91.23 310 P **P 01 17 56.7 +0.9**
comp=Z,0.3nm,0.6s,baz=66,slow=4.7,SNR=2.0
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 125.02 31 PKP **PKiKP 01 23 53.0 +1.5**
comp=Z,0.1nm,0.3s,baz=321,slow=3.1,SNR=1.4
PDAR Pinedale Array 125.27 21 PKP **PKiKP 01 23 52.4 +0.5**
comp=Z,0.1nm,0.3s,baz=323,slow=4.1,SNR=2.3
PLCA Paso Flores 144.44 200 PKP **PKPab 01 24 24.7 -0.4**
comp=Z,0.8nm,0.8s,baz=227,slow=4.0,SNR=3.7
CPUP Villa Florida 147.16 232 PKPbc **PKPdf 01 24 32.8 +0.9**
comp=Z,0.8nm,0.8s,baz=99,slow=10,SNR=2.0
TEIG Tepich 152.07 5 PKPbc **PKiKP 01 24 47.6 +0.9**
comp=Z,0.4nm,0.6s,baz=145,slow=23,SNR=2.6

RSNC 01 01:05:38.2±0.0, 7°N±1°×7°3W±°, h150km±1km, M2.2, mb3.7, ML2.1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**186**	P	Pn	01 05 58.2	-0.6
BARC				S	Sn	01 06 13.9	-0.6
BRJC	**Barrancabermej**	**0.60**	**287**	P	Pn	01 05 59.8	-0.3
BRJC				S	Sn	01 06 17.1	+0.3
PAMC	**Pamplona, Colo**	**0.70**	**40**	P	Pn	01 06 01.0	-0.3
PAMC				S	Sn	01 06 18.4	-0.5
RUSC	**La Rusia**	**0.91**	**175**	P	Pn	01 06 02.4	-0.4
RUSC				S	Sn	01 06 20.8	-0.7
PTBC	**PUERTO BERRIO,**	**1.31**	**259**	P	Pn	01 06 04.9	-1.0
PTBC				S	Sn	01 06 25.8	-1.2
TAMC	**Tame, Arauca**	**1.41**	**105**	P	Pn	01 06 06.6	-0.3
TAMC				S	Sn	01 06 28.1	-0.6
OCAC	**Ocana**	**1.44**	**354**	P	Pn	01 06 06.3	-1.0
OCAC				S	Sn	01 06 29.0	-0.6
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	P	Pn	01 06 10.9	-0.4
ZARC				S	Sn	01 06 35.9	-0.8
NORC	**Norcasia**	**2.10**	**234**	P	Pn	01 06 14.8	+0.3
NORC				S	Sn	01 06 41.6	-0.9
CHIC	**Chingaza**	**2.23**	**195**	P	Pn	01 06 16.1	-0.4
CHIC				S	Sn	01 06 46.1	+0.2
ROSC	**El Rosal**	**2.26**	**211**	P	Pn	01 06 18.9	+2.0
ROSC				S	Sn	01 06 48.4	+1.8
HELC	**Santa Helena**	**2.43**	**256**	P	Pn	01 06 18.3	-0.5
HELC				S	Sn	01 06 49.2	-0.9
UREC	**San Jos de Ur**	**2.54**	**292**	P	Pn	01 06 18.4	-1.4
UREC				S	Sn	01 06 49.8	-2.1
GUY2C	**Guyana, Caldas**	**2.69**	**235**	P	Pn	01 06 24.1	+1.9
GUY2C				S	Sn	01 06 58.1	+2.0
VILC	**Villavicencio,**	**2.72**	**191**	P	Pn	01 06 21.9	-0.4
VILC				S	Sn	01 06 56.3	0.0
PTGC	**Puerto Gaitan,**	**2.78**	**158**	P	Pn	01 06 21.3	-1.5
PTGC				S	Sn	01 06 56.5	-0.8
ARGC	**Ariguani, Magd**	**3.22**	**341**	P	Pn	01 06 27.7	-0.7
ARGC				S	Sn	01 07 07.4	0.0
PRAC	**Prado**	**3.52**	**209**	P	Pn	01 06 31.8	-0.4
PRAC				S	Sn	01 07 14.0	-0.1
ORTC	**Ortega, Tolima**	**3.54**	**216**	P	Pn	01 06 32.9	+0.3
ORTC				S	Sn	01 07 15.8	+1.0
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn	01 06 31.8	-2.4
SJCC				S	Sn	01 07 15.3	-2.4
URMC	**La Uribe, Meta**	**3.73**	**199**	P	Pn	01 06 34.3	-0.8
URMC				S	Sn	01 07 19.1	-0.2
CRJC	**Cerrejon, Guaj**	**4.20**	**4**	P	Pn	01 06 37.8	-3.4
CRJC				S	Sn	01 07 25.8	-4.5
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	01 06 50.2	-1.5
URIC				S	Sn	01 07 48.6	-0.5

---

*IDC **01** 01:05:38.5±1.4, 7°69N×93°38E, h0km, mb4.2/9, mbtmp4.2/11, ML3.8/2, Error ellipse: s-maj=43.3km s-min=30.6km az=65.0*

ISC 01 01:05:44.5±0.9, 7°4N±0°2×93°3E±0°1, h55km, n12, σ0°93/12, mb4.2/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.26**	**129**	Pn	**Pn**	**01 07 28.1**	**0.0**
1.8nm,0.3s,baz=219,slow=12,SNR=1.5							
10nm,0.7s							
PALK	**Pallekele**	**12.46**	**270**	Pn	**Pn**	**01 08 38.7**	**-0.5**
0.5nm,0.3s,baz=74,slow=21,SNR=1.6							
2.8nm,0.5s							
MKAR	**Makanchi Array**	**40.37**	**348**	P	**P**	**01 13 15.7**	**-1.2**
2.9nm,0.7s,baz=153,slow=8.2,SNR=4.8							
2.9nm,0.7s							
KURBB	**Kurchatov Arra**	**44.80**	**347**	P	**P**	**01 13 52.4**	**-0.4**
3.6nm,0.8s,baz=166,slow=7.1,SNR=5.3							
3.6nm,0.8s							
ZALV	**Zalesovo Beam**	**46.91**	**353**	P	**P**	**01 14 08.4**	**-1.0**
5.1nm,0.8s,baz=168,slow=7.6,SNR=4.5							
5.1nm,0.8s							
BVAR	**Borovoye Array**	**49.16**	**342**	P	**P**	**01 14 25.7**	**-1.1**
2.3nm,0.8s,baz=148,slow=8.7,SNR=4.3							
2.3nm,0.8s							
BRTR	**Keskin Array B**	**62.08**	**311**	P	**P**	**01 16 00.7**	**+0.8**
0.6nm,0.8s,baz=104,slow=6.1,SNR=1.5							
0.6nm,0.8s							
FINES	**FINESS Array B**	**72.72**	**332**	P	**P**	**01 17 07.5**	**+1.0**
3.5nm,1.0s,baz=107,slow=7.4,SNR=1.9							
3.5nm,1.0s							
HFS	**Hagfors**	**78.42**	**330**	P	**P**	**01 17 40.2**	**+1.0**
2.1nm,0.8s,baz=108,slow=4.7,SNR=1.8							
2.1nm,0.8s							
NOA	**NORSAR Array B**	**79.72**	**331**	P	**P**	**01 17 47.2**	**+0.9**
1.4nm,0.9s,baz=91,slow=5.3,SNR=4.1							
1.4nm,0.9s							
EKA	**Eskdalemuir Ar**	**87.61**	**325**	P	**P**	**01 18 27.0**	**+0.2**
1.5nm,0.8s,baz=58,slow=6.8,SNR=2.1							
1.5nm,0.8s							
CPUP	**Villa Florida**	**146.28**	**233**	PKPbc	**PKiKP**	**01 25 22.2**	**-0.6**
0.7nm,0.6s,baz=114,slow=7.0,SNR=1.7							

IDC 01 01:07:40.5±3.6, 7°58N×94°21E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=142.8km s-min=30.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.39**	**347**	P	P	01 15 20.6	+0.4
1.3nm,0.7s,baz=150,slow=7.6,SNR=3.9							
1.3nm,0.7s							
SONM	**Songino Array**	**41.44**	**12**	P	P	01 15 28.2	-0.8
0.2nm,0.3s,baz=189,slow=8.2,SNR=1.9							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**44.85**	**346**	P	P	01 15 56.4	0.0
1.4nm,0.7s,baz=165,slow=7.7,SNR=6.1							
1.4nm,0.7s							
ZALV	**Zalesovo Beam**	**46.86**	**352**	P	P	01 16 12.0	-0.2
1.0nm,0.4s,baz=177,slow=8.5,SNR=4.3							
1.0nm,0.4s							
WRA	**Warramunga Arr**	**48.04**	**125**	P	P	01 16 22.0	0.0
0.3nm,0.9s,baz=298,slow=8.6,SNR=1.3							
0.3nm,0.9s							

---

*IDC **01** 01:08:03.4±0.6, 7°37N×94°02E, h0km, mb4.2/24, mbtmp4.2/27, ML4.0/3, Error ellipse: s-maj=20.8km s-min=14.0km az=50.0*

*NEIC **01** 01:08:06.4±1.7, 7°60N±0°06×94°35E±0°08, h10km±1km, mb4.8/58, Error ellipse: s-maj=17.2km s-min=4.6km az=233.0*

*BJI **01** 01:08:08.0, 7°60N×94°30E, h10km, mB5.3/7, mb4.6/38, Ms4.6/6, Ms7 4.4/6*

ISC 01 01:08:07.7±0.4, 7°57N±0°06×94°27E±0°07, h24km, n122, σ1°04/109, mb4.7/58, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.54**	**131**	Pn	**Pn**	**01 08 59.8**	**-1.3**
SRIT	**Nakonsritamara**	**5.38**	**79**	Pn	**Pn**	**01 09 25.6**	**-1.0**
PSI	**Prapat**	**6.63**	**135**	Pn	**Pn**	**01 09 45.2**	**+1.4**
1.7nm,0.3s,baz=322,slow=9.9,SNR=5.4							
PSI				Sn	**Sn**	**01 10 59.0**	**+0.3**
1.9nm,0.3s,baz=153,slow=22,SNR=1.7							
4.2nm,0.3s							
RPSI	**Rantau Prapat**	**6.70**	**136**	Pn	**Pn**	**01 09 43.8**	**-0.9**
KULM	**Kulim**	**6.74**	**109**	Pn	**Pn**	**01 09 43.9**	**-1.3**
BKNI	**Bangkinang**	**9.87**	**136**		**Pn**	**01 10 28.5**	**+0.4**
CM31	**Chiang Mai Arr**	**11.74**	**22**	Pn	**Pn**	**01 10 52.2**	**-1.7**
CMAR	**Chiang Mai Arr**	**11.74**	**22**	Pn	**Pn**	**01 10 52.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**11.74**	**22**	Pn	**Pn**	**01 10 56.0**	**+2.1**
0.5nm,0.3s,baz=198,slow=12,SNR=2.0							
1.9nm,0.6s							
CHTO	**Chiang Mai**	**12.07**	**22**	Pn	**Pn**	**01 10 58.1**	**-0.3**
PALK	**Pallekele**	**13.45**	**270**	Pn	Pn	01 11 11.7	-5.6
0.5nm,0.3s,baz=181,slow=15,SNR=2.5							
PALK				Sn	Sn	01 13 33.5	-13
1.3nm,0.3s,baz=120,slow=16,SNR=1.9							
7.5nm,0.6s							
SLVN	**Son La**	**16.55**	**33**	Pn	**Pn**	**01 11 58.0**	**-0.5**
KSM	**Kuching**	**17.09**	**110**		**P**	**01 12 07.8**	**+0.9**
SBUM	**Sibu**	**18.59**	**105**	P	**P**	**01 12 21.9**	**-1.5**
KMI	**Kunming**	**19.25**	**24**	P	Pn	01 12 40.5	+8.7
KMI				pmax	pmax		
comp=Z,27nm,1.2s							
PZH	**PanZhiHua**	**20.13**	**20**	P	Pn	01 12 43.8	+1.6
PZH				S	**S**	**01 16 23.4**	**-2.1**
PZH				pmax	pmax		
comp=Z,30nm,1.3s							
PZH				pmax	pmax		
comp=Z,520nm,8.8s							
PZH				LR	LR		
comp=N,1μm,13.7s							
PZH				LR	LR		
comp=E,880nm,16.6s							
PZH				LR	LR		
comp=Z,1μm,14.3s							
LSA	**Lhasa**	**22.21**	**353**	P	**P**	**01 13 03.3**	**+0.2**
LSA				IAmb	IAmb	01 13 11.5	
comp=Z,27nm,0.7s							
H08S3	**Diego Garcia H**	**26.45**	**236**	T	T	01 40 21.3	
baz=55,slow=76,SNR=14							
H08S2	**Diego Garcia H**	**26.45**	**236**	T	T	01 40 14.4	
baz=55,slow=76,SNR=12							
H08S1	**Diego Carcia H**	**26.46**	**236**	T	T	01 40 16.9	
baz=55,slow=76,SNR=11							
LZH	**Lanzhou**	**29.71**	**16**	*eP*	P	01 14 18.3	+6.1
LZH				sP	sP	01 14 25.6	+4.2
LZH				pmax	pmax		
comp=Z,10.0nm,1.3s							
GTA	**Gaotai**	**32.10**	**8**	*eP*	P	01 14 39.0	+5.8
GTA				pP	sP	01 14 43.2	+0.7
GTA				pmax	pmax		
comp=Z,6.0nm,1.0s							
NIL	**Nilore**	**32.42**	**326**	P	**P**	**01 14 35.4**	**-0.6**
NIL				IAmb	IAmb	01 14 41.3	
comp=Z,10nm,0.5s							
NJ2	**Nanjing**	**33.42**	**40**	*eP*	**P**	**01 14 46.1**	**+1.4**
NJ2				pmax	pmax		
comp=Z,20nm,0.5s							
KSH	**Kashi**	**35.80**	**335**	P	**P**	**01 15 08.4**	**+3.0**
KSH				pmax	pmax		
comp=Z,5.0nm,0.7s							
KSH				LR	LR		
comp=Z,400nm,17.2s							
KSH				LR	LR		
comp=Z,450nm,22.0s							
KSH				LR	LR		
comp=Z,590nm,24.1s							
WUS	**Wushi**	**36.07**	**341**	P	**P**	**01 15 07.5**	**-0.2**
WUS				IAmb	IAmb	01 15 13.2	
comp=Z,11nm,0.7s							
HHC	**Hu-ho-hao-te**	**36.55**	**22**	*eP*	**P**	**01 15 14.4**	**+2.6**
HHC				pmax	pmax		
comp=Z,12nm,0.7s							
WMQ	**Urumqi**	**36.57**	**352**	*eP*	**P**	**01 15 13.9**	**+2.1**
WMQ				pmax	pmax		
comp=Z,19nm,0.7s							
TARG	**Taragay, Kyrgy**	**37.02**	**339**	P	**P**	**01 15 14.7**	**-1.4**
KDJ	**Kajisay**	**37.59**	**339**	P	**P**	**01 15 20.6**	**-0.1**
GAR	**Garm**	**38.00**	**329**	P	**P**	**01 15 23.2**	**-0.9**
GAR				IAmb	IAmb	01 15 36.5	
comp=Z,12nm,1.0s							
BOOM	**Boomskoye usch**	**38.36**	**338**	P	**P**	**01 15 26.7**	**-0.4**
SIMJ	**Simiganj**	**38.43**	**327**	P	**P**	**01 15 26.3**	**-1.4**
BTK	**Batken**	**38.56**	**331**	P	**P**	**01 15 28.9**	**+0.1**
ARSB	**Arslanbob**	**38.57**	**334**	P	**P**	**01 15 28.3**	**-0.6**
ARSB				IAmb	IAmb	01 15 42.0	
comp=Z,12nm,0.8s							
AAK	**Ala-Archa**	**39.04**	**337**	P	**P**	**01 15 33.6**	**+0.8**
AAK	**Ala-Archa**	**39.04**	**337**	P	**P**	**01 15 33.0**	**+0.2**
comp=Z,1.9nm,0.9s,baz=194,slow=12,SNR=4.1							
comp=Z,1.9nm,0.9s							
MK31	**Makanchi Array**	**40.41**	**347**	P	**P**	**01 15 43.3**	**-0.8**
MKAR	**Makanchi Array**	**40.41**	**347**	P	**P**	**01 15 43.1**	**-0.9**
MKAR	**Makanchi Array**	**40.41**	**347**	P	**P**	**01 15 44.0**	**-0.1**
comp=Z,11nm,0.9s,baz=166,slow=8.4,SNR=21							
MKAR				PcP	**PcP**	**01 17 47.4**	**+0.6**
comp=Z,0.5nm,0.7s,baz=153,slow=1.3,SNR=1.4							
comp=Z,11nm,0.9s							
MAKZ	**Makanchi**	**40.50**	**347**	P	**P**	**01 15 44.5**	**-0.2**
KKAR	**Karatay Array**	**41.09**	**333**	P	**P**	**01 15 49.1**	**-0.6**
SONM	**Songino Array**	**41.44**	**12**	P	**P**	**01 15 53.9**	**+1.3**
SONM	**Songino Array**	**41.44**	**12**	P	**P**	**01 15 54.4**	**+1.9**
comp=Z,4.9nm,1.0s,baz=198,slow=8.0,SNR=12							
SONM				PcP	**PcP**	**01 17 51.8**	**+1.6**
comp=Z,0.7nm,0.8s,baz=184,slow=4.3,SNR=1.6							
comp=Z,4.9nm,1.0s							
ULN	**Ulaanbaatar**	**41.61**	**13**	P	**P**	**01 15 54.0**	**0.0**
KSRS	**Korea Array**	**42.62**	**41**	P	**P**	**01 16 04.0**	**+1.8**
comp=Z,1.2nm,0.7s,baz=228,slow=9.0,SNR=6.8							
comp=Z,1.2nm,0.7s							
KURBB	**Kurchatov Arra**	**44.87**	**346**	P	**P**	**01 16 20.5**	**+0.4**
comp=Z,1.5nm,0.8s,baz=174,slow=6.8,SNR=19							
comp=Z,1.5nm,0.8s							
KURK	**Kurchatov**	**44.94**	**346**	P	**P**	**01 16 20.2**	**-0.4**
KURK				IAmb	IAmb	01 16 27.6	
comp=Z,18nm,0.9s							
ZAA0	**Zalesovo Array**	**46.88**	**352**	P	**P**	**01 16 36.5**	**+0.6**
ZALV	**Zalesovo Beam**	**46.88**	**352**	P	**P**	**01 16 36.6**	**+0.8**
ZALV	**Zalesovo Beam**	**46.88**	**352**	P	**P**	**01 16 36.8**	**+0.9**
comp=Z,15nm,0.8s,baz=178,slow=7.9,SNR=15							
comp=Z,15nm,0.8s							
BNX	**BinXian**	**47.57**	**31**	⇓P	**P**	**01 16 41.2**	**-0.2**
BNX				pmax	pmax		
comp=Z,9.0nm,1.5s							
WB0	**Warramunga Arr**	**47.94**	**125**	P	**P**	**01 16 42.7**	**-2.0**
WB0				IAmb	IAmb	01 16 58.9	
comp=Z,17nm,1.6s							
WRA	**Warramunga Arr**	**47.98**	**125**	P	**P**	**01 16 44.5**	**-0.6**
comp=Z,1.0nm,0.8s,baz=300,slow=7.8,SNR=3.6							
WRA				PcP	**PcP**	**01 18 12.1**	**-1.0**
comp=Z,0.6nm,0.9s,baz=302,slow=3.5,SNR=2.1							
comp=Z,1.0nm,0.8s							
WB2	**Warramunga Arr**	**47.99**	**125**	P	**P**	**01 16 43.9**	**-1.2**
WB2				IAmb	IAmb	01 17 25.8	
comp=Z,16nm,1.4s							
BVAR	**Borovoye Array**	**49.32**	**341**	P	**P**	**01 16 54.7**	**-0.1**
comp=Z,3.1nm,0.8s,baz=139,slow=7.9,SNR=14							
BVAR				PcP	**PcP**	**01 18 17.0**	**-0.3**
comp=Z,0.9nm,0.6s,baz=134,slow=4.2,SNR=2.7							
comp=Z,3.1nm,0.8s							
RAYN	**Ar Rayn**	**49.33**	**294**	P	**P**	**01 16 56.0**	**+0.6**
RAYN				IAmb	IAmb	01 17 03.6	
comp=Z,5.8nm,0.8s							
BRVK	**Borovoye**	**49.38**	**341**	P	**P**	**01 16 54.5**	**-0.7**
BRVK				IAmb	IAmb	01 17 00.8	
comp=Z,5.5nm,0.8s							
ASAR	**Alice Springs**	**49.62**	**130**	P	**P**	**01 16 56.3**	**-1.4**
comp=Z,0.8nm,0.6s,baz=314,slow=7.8,SNR=4.3							
ASAR				PcP	**PcP**	**01 18 19.3**	**+0.3**
comp=Z,1.1nm,0.7s,baz=309,slow=3.8,SNR=5.3							
comp=Z,0.8nm,0.6s							
ABKAR	**Akbulak array**	**50.56**	**331**	P	**P**	**01 17 04.1**	**-0.2**
ABKAR				IAmb	IAmb	01 17 12.9	
comp=Z,12nm,1.3s							
HEH	**HeiHe**	**50.72**	**27**	*eP*	P	01 17 13.6	+8.1
HEH				pmax	pmax		
comp=Z,5.0nm,0.8s							
ARTI	**Arti**	**56.26**	**337**	P	**P**	**01 17 46.5**	**+0.4**
ARTI				IAmb	IAmb	01 17 51.3	
comp=Z,9.1nm,0.7s							
KBZ	**Khabaz**	**57.40**	**318**	P	**P**	**01 17 53.6**	**-0.7**
comp=Z,1.4nm,0.8s,baz=97,slow=12,SNR=2.4							
comp=Z,1.4nm,0.8s							
KMBO	**Kilima Mbogo**	**57.51**	**264**	P	**P**	**01 17 56.9**	**+1.0**
KMBO				IAmb	IAmb	01 18 04.9	
comp=Z,11nm,1.4s							
KMBO	**Kilima Mbogo**	**57.51**	**264**	P	**P**	**01 17 55.1**	**-0.8**
comp=Z,0.9nm,0.5s,baz=83,slow=9.1,SNR=6.4							
comp=Z,0.9nm,0.5s							
NRIK	**Noril'sk**	**61.85**	**357**	P	**P**	**01 18 25.3**	**+0.7**
comp=Z,2.5nm,0.4s,baz=163,slow=6.7,SNR=6.9							
comp=Z,2.5nm,0.4s							
BRTR	**Keskin Array B**	**62.72**	**311**	P	**P**	**01 18 29.7**	**-1.5**
BRTR	**Keskin Array B**	**62.72**	**311**	P	**P**	**01 18 29.2**	**-2.0**
comp=Z,0.3nm,0.6s,baz=128,slow=7.2,SNR=6.5							
comp=Z,0.3nm,0.6s							
H04N2	**CROZET ISLANDS**	**65.53**	**211**	T	T	02 29 14.5	
baz=47,slow=75,SNR=7.3							
H04N1	**CROZET ISLANDS**	**65.54**	**211**	T	T	02 29 16.9	
baz=47,slow=75,SNR=7.3							
H04N3	**CROZET ISLANDS**	**65.55**	**211**	T	T	02 29 17.2	
baz=47,slow=75,SNR=7.6							
TIXI	**Tiksi**	**67.51**	**11**	P	**P**	**01 19 01.1**	**-0.3**
HNR	**Honiara**	**67.57**	**103**	P	**P**	**01 19 03.1**	**+0.2**
comp=Z,61nm,0.6s,baz=143,slow=8.2,SNR=1.7							
AKASG	**Malin Array Be**	**68.47**	**322**	P	**P**	**01 19 06.5**	**-1.4**
comp=Z,0.3nm,0.5s,baz=86,slow=5.6,SNR=4.5							
comp=Z,0.3nm,0.5s							
FIA1	**FINESS Array S**	**73.04**	**332**	P	**P**	**01 19 35.5**	**+0.1**
FINES	**FINESS Array B**	**73.04**	**332**	P	**P**	**01 19 35.1**	**-0.3**
FINES	**FINESS Array B**	**73.04**	**332**	P	**P**	**01 19 35.2**	**-0.3**
comp=Z,2.2nm,0.6s,baz=72,slow=4.4,SNR=8.5							
comp=Z,2.2nm,0.6s							
ARCES	**ARCESS Array B**	**75.59**	**340**	P	**P**	**01 19 50.5**	**+0.3**
comp=Z,4.9nm,1.

comp=Z,9.3nm,1.2s
J16K Anvik River 90.02 26 P **P 01 21 05.8 +0.7**
E19K Redstone River 90.04 21 IAmb IAmb 01 21 12.2
comp=Z,13nm,1.4s
F19K Shaleruckik Mo 90.05 22 IAmb IAmb 01 21 12.1
comp=Z,6.2nm,1.1s
F20K Avaraart Lake 90.73 22 IAmb IAmb 01 21 15.9
comp=Z,6.7nm,1.0s
H19K Roundabout Mou 91.00 23 IAmb IAmb 01 21 17.3
comp=Z,11nm,1.2s
ESDC Sonseca Array 91.51 310 P **P 01 21 12.7 0.0**
comp=Z,0.1nm,0.3s,baz=62,slow=4.2,SNR=6.3
comp=Z,0.1nm,0.3s
G21K Allakaket 91.75 22 P **P 01 21 13.6 +0.4**
G21K IAmb IAmb 01 21 19.5
comp=Z,4.9nm,0.8s
J19K Poorman 91.89 24 IAmb IAmb 01 24 53.8
comp=Z,6.0nm,1.1s
K20K Telida 92.77 25 P **P 01 21 19.0 +1.1**
D25K Kavik River 92.89 18 P **P 01 21 18.9 +0.4**
D25K IAmb IAmb 01 24 57.8
comp=Z,7.7nm,1.1s
CAST Castle Rocks 93.56 24 P **P 01 21 22.1 +0.5**
N19K Bonanza Creek 93.56 27 P **P 01 21 22.1 +0.3**
SKT Skwentna 94.40 26 P **P 01 21 25.8 +0.3**
ILAR Eielson Array 94.98 22 P **P 01 21 30.2 +2.1**
comp=Z,0.2nm,0.6s,baz=321,slow=6.6,SNR=2.0
comp=Z,0.2nm,0.6s
M22K Willow 95.10 26 P **P 01 21 27.8 -0.8**
RC01 Rabbit Creek A 95.56 26 P **P 01 21 31.2 +0.5**
ULM Lac du Bonnet 121.75 8 PKP **PKiKP 01 27 00.4 +0.5**
comp=Z,0.5nm,0.5s,baz=27,slow=4.5,SNR=1.8
PDAR Pinedale Array 125.41 21 PKP **PKPdf 01 27 07.0 -0.4**
comp=Z,0.2nm,0.6s,baz=349,slow=2.7,SNR=2.2
PLCA Paso Flores 144.30 200 **PKPdf 01 27 41.6 -0.6**
PLCA Paso Flores 144.30 200 PKP PKPbc 01 27 41.1 +0.6
comp=Z,2.1nm,0.9s,baz=188,slow=4.1,SNR=6.6
LL04 Puerto Octay 144.74 198 PKPdf PKPbc 01 27 42.2 +0.5
LR05 Currie 145.23 199 PKPbc **PKPbc 01 27 42.5 -0.9**
CPUP Villa Florida 147.17 232 PKPbc **PKPbc 01 27 49.8 +0.2**
CPUP Villa Florida 147.17 232 PKPbc **PKPdf 01 27 47.0 -0.5**
comp=Z,1.7nm,0.9s,baz=105,slow=4.7,SNR=3.8
HUMP Col San Antoni 147.78 323 PKPbc **PKPbc 01 27 50.7 -0.8**
MT01 Popeta 150.61 205 PKPbc **PKPbc 01 27 57.0 -1.2**

BJI ***01*** *01:11:37.5, 7.°06N×94.°08E, h10km, mB5.3/14, mb4.7/62, Ms4.8/29, Ms7 4.6/29*
IDC ***01*** *01:11:41.3±0.5, 7.°51N×94.°15E, h0km, mb4.4/28, mbtmp4.4/30, ML4.4/2, MS4.5/5, Error ellipse: s-maj=18.8km s-min=12.3km az=52.0*
NEIC ***01*** *01:11:43.1±2.0, 7.°55N±0.°05×94.°35E±0.°09, h10km±1km, mb5.1/116, Error ellipse: s-maj=15.4km s-min=7.6km az=251.0*
GCMT ***01*** *01:11:46.5±0.3, 7.°54N±0.°01×94.°30E±0.°02, h16km±1km, MW5.0/118, Moment Tensor Solution. s22,c24; s118,c173; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.32±.12; Mθθ=1.55±.10; Mφφ=1.87±.11; Mrθ=1.68±.42; Mθφ=2.74±.11; Mφr=0.33±.30; Best double couple: M0=3.65300×10^16 NP1:φs=167.00000°, δ=66.00000°, λ=-168.00000°. NP2:φs=72.00000°, δ=79.00000°, λ=-25.00000°. Principal axes: T 3.4710, Plg9.0000°, Azm121.0000°; N 0.3600, Plg63.0000°, Azm229.0000°; P -3.8340, Plg25.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***01*** *01:11:51.9±1.0, 8.°N±2.°×9.°5E±.°, h33km±16km, M5.1/14, mb4.8/14, mB5.9/5, MLv5.0/9, Mw(mB)5.5/5*
ISC 01 01:11:44.1±0.6, 7.°53N±0.°04×94.°33E±0.°05, h17km±3km, h17km:pP-P, n497, σ1s20/461, mb4.9/133, MS4.6/11, 9C-8D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.23**	**155**	P	**Pg**	**01 12 25.9**	**-1.1**
BSI				S	**Sb**	**01 12 51.0**	**-0.4**
LHMI	**Lhok Sumawe**	**3.46**	**131**	Pn	**Pn**	**01 12 33.1**	**-4.1**
LHMI	**Lhok Sumawe**	**3.46**	**131**	S	**Sn**	**01 13 16.2**	**-1.6**
MLSI	**Meulaboh, Aceh**	**3.84**	**147**	P	**Pb**	**01 12 47.7**	**-3.7**
MLSI				S	**Sn**	**01 13 29.0**	**+1.8**
SRIT	**Nakonsritamara**	**5.32**	**78**	Pn	**Pn**	**01 13 03.1**	**+0.3**
PSI	**Prapat**	**6.55**	**136**	Pn	**Pn**	**01 13 23.2**	**+3.3**
	2.8nm,0.3s,baz=316,slow=10,SNR=8.6						
PSI				Sn	**Sn**	**01 14 39.9**	**+5.6**
	1.7nm,0.3s,baz=1.5,slow=20,SNR=1.0						
PSI				LR	LR	01 16 22.7	
	comp=Z,4μm,18.2s,baz=306,slow=42						
	13nm,0.5s						
RPSI	**Rantau Prapat**	**6.63**	**136**	Pn	**Pn**	**01 13 22.0**	**+1.2**
KULM	**Kulim**	**6.66**	**109**	Pn	**Pn**	**01 13 20.9**	**-0.4**
GSI	**Gunungsitoli**	**6.97**	**152**	Pn	**Pn**	**01 13 28.2**	**+2.6**
GSI	**Gunungsitoli**	**6.97**	**152**	P	**Pn**	**01 13 28.7**	**+3.1**
	0.6nm37nm,1.1s						
BKNI	**Bangkinang**	**9.79**	**137**	Pn	**Pn**	**01 14 04.5**	**+0.2**
BKNI	**Bangkinang**	**9.79**	**137**	P	**Pn**	**01 14 06.3**	**+2.1**
	6μm133nm,1.1s						
PPI	**Padang Panjang**	**9.97**	**142**	P	**Pn**	**01 14 09.3**	**+2.6**
	57nm,1.0s						
CM31	**Chiang Mai Arr**	**11.76**	**22**	Pn	**Pn**	**01 14 32.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**11.76**	**22**	Pn	**Pn**	**01 14 32.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**11.76**	**22**	Pn	**Pn**	**01 14 32.7**	**+1.5**
	1.7nm,0.3s,baz=211,slow=14,SNR=13						
CMAR				LR	LR	01 19 06.6	
	comp=Z,1μm,19.1s,baz=200,slow=38						
	3.7nm,0.5s						
CHTO	**Chiang Mai**	**12.08**	**21**	Pn	**Pn**	**01 14 36.7**	**+1.1**
UBPT	**Khong Chiam**	**13.36**	**54**	Pn	**Pn**	**01 14 53.9**	**+0.8**
PALK	**Pallekele**	**13.52**	**270**	LR	LR	01 19 41.9	
	comp=Z,1μm,20.4s,baz=92,slow=36						
CRAI	**Chiangrai**	**13.92**	**24**	Pn	**Pn**	**01 15 00.3**	**-0.4**
MNAI	**Manna**	**14.61**	**144**	P	**P**	**01 15 14.0**	**-2.5**
	105nm,1.1s						
BRDH	**Bariadhala**	**15.29**	**351**	LR	LR	01 22 51.6	
	comp=Z,2μm,18.8s,baz=132,slow=44						
MDSI	**Maura Dua**	**15.46**	**140**	P	**P**	**01 15 24.3**	**-1.6**
	34nm,1.1s						
SLVN	**Son La**	**16.55**	**33**	P	**P**	**01 15 38.4**	**+0.3**
TPI	**Tanjungpandan**	**16.76**	**127**	P	**Pn**	**01 15 38.5**	**+0.2**
KSM	**Kuching**	**17.02**	**110**	Pn	**Pn**	**01 15 40.9**	**-0.6**
TNCH	**TengChong**	**17.86**	**12**	⇓P	**P**	**01 15 53.2**	**+0.5**
TNCH				sP	sP	01 15 59.1	+0.2
TNCH				S	**Sn**	**01 19 08.7**	**-2.4**
TNCH				pmax	pmax		
	comp=Z,110nm,0.4s						
TNCH				pmax	pmax		
	comp=Z,870nm,5.2s						
TNCH				LR	LR		
	comp=N,1μm,10.1s						
TNCH				LR	LR		
	comp=E,2μm,10.1s						
TNCH				LR	LR		
	comp=Z,2μm,17.4s						
TNG	**Tangerang**	**18.33**	**138**	P	**P**	**01 15 59.9**	**+2.1**
SBUM	**Sibu**	**18.51**	**105**	P	**Pn**	**01 16 00.5**	**+0.5**
QIZ	**Qiongzhong**	**18.92**	**51**	P	**P**	**01 16 03.7**	**-0.5**
QIZ				S	**S**	**01 19 39.0**	**+0.2**
QIZ				LR	LR		
	comp=N,3μm,10.5s						
QIZ				LR	LR		
	comp=E,1μm,12.3s						
QIZ				LR	LR		
	comp=Z,950nm,13.2s						
KMI	**Kunming**	**19.25**	**24**	P	**Pn**	**01 16 12.9**	**+3.7**
KMI				pmax	pmax		
	comp=Z,41nm,1.3s						
KMI				LR	LR		
	comp=N,1μm,11.2s						
KMI				LR	LR		
	comp=E,830nm,10.6s						
KMI				LR	LR		
	comp=Z,1μm,18.5s						
LEM	**Lembang**	**19.46**	**137**	LR	LR	01 25 11.9	
	comp=Z,2μm,19.2s,baz=316,slow=41						
PZH	**PanZhiHua**	**20.15**	**20**	P	Pn	01 16 20.9	+1.2
PZH				pmax	pmax		
	comp=Z,120nm,1.2s						
PZH				pmax	pmax		
	comp=Z,520nm,6.9s						
SMRI	**Semarang**	**21.62**	**132**	P	**P**	**01 16 33.9**	**+0.2**
GYA	**Guiyang**	**22.18**	**30**	P	**P**	**01 16 42.0**	**+2.3**
GYA				pmax	pmax		
	comp=Z,18nm,0.7s						
GYA				LR	LR		
	comp=N,1μm,15.0s						
GYA				LR	LR		
	comp=E,590nm,12.4s						
GYA				LR	LR		
	comp=Z,1μm,13.8s						
LSA	**Lhasa**	**22.26**	**353**	IAmb	IAmb	01 16 44.5	
	comp=Z,39nm,0.8s						
LSA	**Lhasa**	**22.26**	**353**	P	**P**	**01 16 39.8**	**-1.1**
LSA				pmax	pmax		
	comp=Z,49nm,0.8s						
KAAM	**Kaadhehdhoo**	**22.39**	**253**	P	**P**	**01 16 43.6**	**+1.6**
KAAM				IAmb	IAmb	01 17 02.2	
	comp=Z,192nm,2.0s						
MYLDM	**Lahad Datu**	**24.13**	**94**	P	**P**	**01 16 58.0**	**-1.4**
MYLDM				IAmb	IAmb	01 17 07.6	
	comp=Z,71nm,1.3s						
CD2	**Chengdu**	**24.88**	**20**	P	**P**	**01 17 07.2**	**+1.0**
CD2				pmax	pmax		
	comp=Z,30nm,1.3s						
JAGI	**Jajag, Banyuwa**	**25.35**	**128**	P	**P**	**01 17 11.5**	**+1.0**
H08S3	**Diego Garcia H**	**26.48**	**236**	T	T	01 44 12.3	
	baz=54,slow=75,SNR=9.1						
H08S2	**Diego Garcia H**	**26.48**	**236**	T	T	01 44 15.7	
	baz=54,slow=75,SNR=11						
H08S1	**Diego Carcia H**	**26.50**	**236**	T	T	01 44 08.5	
	baz=54,slow=75,SNR=12						
ENH	**Enshi**	**26.72**	**30**	P	**P**	**01 17 21.7**	**-1.1**
ENH				IAmb	IAmb	01 17 33.6	
	comp=Z,64nm,1.2s						
GOMU	**GeErMu**	**28.54**	**1**	P	**P**	**01 17 40.1**	**+0.6**
GOMU				pP	pP	01 17 43.9	-0.1
GOMU				sP	pwP	01 17 47.6	+0.8
GOMU				S	**S**	**01 22 31.9**	**+4.8**
GOMU				pmax	pmax		
	comp=Z,13nm,0.5s						
GOMU				LR	LR		
	comp=Z,2μm,13.8s						
GOMU				LR	LR		
	comp=Z,2μm,13.9s						
GOMU				LR	LR		
	comp=Z,2μm,13.2s						
WHN	**Wuhan**	**29.60**	**37**	P	**P**	**01 17 50.3**	**+1.8**
WHN				pmax	pmax		
	comp=Z,200nm,1.6s						
XAN	**Xi'an**	**29.62**	**25**	⇑P	**P**	**01 17 49.3**	**+0.6**
XAN				pP	pP	01 17 53.6	+0.3
XAN				pmax	pmax		
	comp=Z,20nm,1.4s						
LZH	**Lanzhou**	**29.73**	**16**	*e*P	**P**	**01 17 51.6**	**+1.8**
LZH				sP	pwP	01 17 59.6	+2.6
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				LR	LR		
	comp=Z,590nm,15.8s						
LZH				LR	LR		
	comp=Z,690nm,15.1s						
LZH				LR	LR		
	comp=Z,1μm,15.1s						
LYN	**LuoYang**	**31.66**	**29**	P	**P**	**01 18 08.8**	**+2.2**
LYN				pP	sP	01 18 13.3	+0.4
LYN				pmax	pmax		
	comp=Z,31nm,0.9s						
LYN				LR	LR		
	comp=Z,1μm,11.3s						
LYN				LR	LR		
	comp=Z,1μm,17.2s						
LYN				LR	LR		
	comp=Z,2μm,18.2s						
GTA	**Gaotai**	**32.13**	**8**	P	**P**	**01 18 12.0**	**+1.2**
GTA				pP	pP	01 18 16.2	+0.8
GTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GTA				LR	LR		
	comp=Z,470nm,14.2s						
GTA				LR	LR		
	comp=Z,240nm,16.0s						
GTA				LR	LR		
	comp=Z,550nm,16.0s						
NIL	**Nilore**	**32.49**	**326**	P	**P**	**01 18 12.8**	**-1.3**
NIL				IAmb	IAmb	01 18 25.2	
	comp=Z,20nm,0.8s						
NJ2	**Nanjing**	**33.41**	**40**	*e*P	**P**	**01 18 22.3**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
HNS	**HongShan**	**35.02**	**29**	⇓P	**P**	**01 18 38.2**	**+2.3**
HNS				pmax	pmax		
	comp=Z,48nm,1.0s						
HNS				LR	LR		
	comp=Z,480nm,19.1s						
HNS				LR	LR		
	comp=Z,950nm,16.2s						
HNS				LR	LR		
	comp=Z,750nm,13.7s						
TIA	**Tai'an**	**35.34**	**33**	P	**P**	**01 18 40.5**	**+1.8**
TIA				pmax	pmax		
	comp=Z,14nm,1.0s						
KBL	**Kabul**	**35.56**	**323**	P	**P**	**01 18 39.8**	**-1.2**
BTO	**Baotou**	**35.79**	**21**	*e*P	**P**	**01 18 40.4**	**-2.3**
BTO				pP	**pP**	**01 18 44.6**	**-2.7**
BTO				sP	**sP**	**01 18 48.0**	**-1.0**
BTO				S	**S**	**01 24 16.7**	**-2.8**
BTO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BTO				pmax	pmax		
	comp=Z,570nm,5.3s						
BTO				LR	LR		
	comp=Z,2μm,13.2s						
BTO				LR	LR		
	comp=Z,2μm,10.8s						
BTO				LR	LR		
	comp=Z,2μm,14.7s						
KSH	**Kashi**	**35.87**	**335**	P	**P**	**01 18 41.3**	**-2.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KSH				LR	LR		
	comp=Z,570nm,20.6s						
KSH				LR	LR		
	comp=Z,710nm,19.2s						
KSH				LR	LR		
	comp=Z,940nm,24.2s						
WUS	**Wushi**	**36.13**	**341**	IAmb	IAmb	01 18 51.0	
	comp=Z,22nm,0.8s						
HHC	**Hu-ho-hao-te**	**36.57**	**22**	*e*P	**P**	**01 18 50.5**	**+1.2**
HHC				sP	pwP	01 18 56.3	-0.2
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
WMQ	**Urumqi**	**36.62**	**352**	*e*P	**P**	**01 18 50.5**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,32nm,1.5s						
KDJ	**Kajisay**	**37.66**	**339**	P	**P**	**01 18 57.5**	**-1.1**
WSAR	**Wadi Sarin**	**37.66**	**299**	P	**P**	**01 18 57.9**	**-0.8**
	baz=241,slow=24,SNR=2.0						
BJT	**Baijiatuau**	**37.80**	**28**	P	**P**	**01 19 00.1**	**+0.5**
BJT				IAmb	IAmb	01 19 08.2	
	comp=Z,31nm,1.2s						
BJI	**Beijing**	**37.82**	**28**	P	**P**	**01 19 02.2**	**+2.4**
BJI				pP	**pwP**	**01 19 07.4**	**+0.4**
BJI				sP	**sP**	**01 19 10.3**	**+4.2**
BJI				PP	**PnPn**	**01 20 34.8**	**+7.3**
BJI				S	**S**	**01 24 52.5**	**+2.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BJI				LR	LR		
	comp=Z,300nm,11.2s						
BJI				LR	LR		
	comp=Z,240nm,19.4s						
BJI				LR	LR		
	comp=Z,290nm,19.8s						
GAR	**Garm**	**38.07**	**329**	P	**P**	**01 19 00.9**	**-1.3**
GAR				IAmb	IAmb	01 19 14.2	
	comp=Z,44nm,1.3s						
ULHL	**Ulahol**	**38.10**	**338**	P	**P**	**01 19 01.9**	**-0.4**
	SNR=6.9						
SIMJ	**Simiganj**	**38.50**	**327**	P	**P**	**01 19 04.1**	**-1.7**
BTK	**Batken**	**38.63**	**331**	P	**P**	**01 19 06.0**	**-0.8**
BTK				IAmb	IAmb	01 19 49.0	
	comp=Z,46nm,1.6s						
ARSB	**Arslanbob**	**38.64**	**334**	P	**P**	**01 19 06.1**	**-0.7**
ARSB				IAmb	IAmb	01 19 12.7	
	comp=Z,27nm,1.0s						
KBK	**Karagaybulak**	**38.94**	**337**	P	**P**	**01 19 09.6**	**+0.2**
	SNR=7.3						
AML	**Almayashu**	**39.00**	**335**	P	**P**	**01 19 10.2**	**0.0**
	SNR=11						
AAK	**Ala-Archa**	**39.10**	**337**	P	**P**	**01 19 10.8**	**0.0**
AAK	**Ala-Archa**	**39.10**	**337**	P	**P**	**01 19 09.7**	**-1.1**
	comp=Z,5.3nm,1.0s,baz=217,slow=9.1,SNR=11						
	comp=Z,5.3nm,1.0s						
AAK	**Ala-Archa**	**39.10**	**337**	P	**P**	**01 19 11.2**	**+0.4**
	SNR=6.9						
USP	**Ospenovka**	**39.63**	**337**	P	**P**	**01 19 15.0**	**-0.1**
	SNR=6.4						
DL2	**Dalian**	**39.75**	**34**	P	**P**	**01 19 13.8**	**-2.2**
DL2				S	**S**	**01 25 14.3**	**-5.0**
DL2				pmax	pmax		
	comp=Z,49nm,1.1s						
DL2				pmax	pmax		
	comp=Z,950nm,10.8s						
DL2				LR	LR		
	comp=Z,620nm,13.2s						
DL2				LR	LR		
	comp=Z,350nm,14.1s						
DL2				LR	LR		
	comp=Z,560nm,12.6s						
UOSS	**Minazif**	**40.31**	**300**	P	**P**	**01 19 22.1**	**+1.2**
MK31	**Makanchi Array**	**40.47**	**347**	P	**P**	**01 19 20.9**	**-1.0**
MKAR	**Makanchi Array**	**40.47**	**347**	P	**P**	**01 19 20.6**	**-1.3**
MKAR	**Makanchi Array**	**40.47**	**347**	P	**P**	**01 19 21.4**	**-0.5**
	comp=Z,18nm,0.9s,baz=163,slow=8.6,SNR=47						
	comp=Z,18nm,0.9s						
MAKZ	**Makanchi**	**40.55**	**347**	P	**P**	**01 19 21.7**	**-0.9**
KK31	**Karatay Array**	**41.16**	**333**	P	**P**	**01 19 26.7**	**-1.0**
KKAR	**Karatay Array**	**41.16**	**333**	P	**P**	**01 19 26.1**	**-1.5**
SONM	**Songino Array**	**41.46**	**12**	P	**P**	**01 19 29.4**	**-0.8**
SONM	**Songino Array**	**41.46**	**12**	P	**P**	**01 19 30.5**	**+0.3**
	comp=Z,6.0nm,1.0s,baz=199,slow=8.6,SNR=20						
SONM				PcP	**PcP**	**01 21 28.2**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=198,slow=4.1,SNR=2.1						
	comp=Z,6.0nm,1.0s						
ULN	**Ulaanbaatar**	**41.63**	**13**	P	**P**	**01 19 31.6**	**0.0**
KSAR	**Wonju Array Be**	**42.57**	**41**	P	**P**	**01 19 38.6**	**-0.7**
KSRS	**Korea Array**	**42.60**	**41**	P	**P**	**01 19 40.4**	**+0.9**
	comp=Z,4.7nm,0.9s,baz=228,slow=9.1,SNR=12						
	comp=Z,4.7nm,0.9s						
KURBB	**Kurchatov Arra**	**44.93**	**346**	P	**P**	**01 19 57.6**	**-0.4**
	comp=Z,22nm,0.9s,baz=164,slow=7.1,SNR=56						
	comp=Z,22nm,0.9s						
KURK	**Kurchatov**	**44.99**	**346**	P	**P**	**01 19 57.7**	**-0.8**
ZAA0	**Zalesovo Array**	**46.93**	**352**	P	**P**	**01 20 13.1**	**-0.6**
ZAA0				IAmb	IAmb	01 20 19.5	
	comp=Z,22nm,0.8s						
ZALV	**Zalesovo Beam**	**46.93**	**352**	P	**P**	**01 20 13.2**	**-0.5**
ZALV	**Zalesovo Beam**	**46.93**	**352**	P	**P**	**01 20 13.9**	**+0.2**
	comp=Z,24nm,0.8s,baz=169,slow=8.6,SNR=32						
	comp=Z,24nm,0.8s						
BNX	**BinXian**	**47.56**	**31**	⇑P	**P**	**01 20 19.8**	**+1.0**
BNX				pmax	pmax		
	comp=Z,8.0nm,1.2s						
WRA	**Warramunga Arr**	**47.90**	**125**	P	**P**	**01 20 21.7**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=305,slow=8.5,SNR=8.3						
	comp=Z,1.9nm,0.8s						
WB2	**Warramunga Arr**	**47.91**	**125**	P	**P**	**01 20 21.8**	**-0.2**
MDJ	**Mudanjiang**	**47.99**	**34**	P	**P**	**01 20 21.2**	**-0.9**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.7s						
MJAR	**Matsushiro Arr**	**49.25**	**47**	P	**P**	**01 20 32.6**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=230,slow=6.2,SNR=4.3						
MJAR				PcP	**PcP**	**01 21 55.5**	**+0.5**
	comp=Z,3.4nm,1.0s,baz=270,slow=4.4,SNR=4.6						
	comp=Z,0.6nm,0.3s						
BVAR	**Borovoye Array**	**49.38**	**341**	P	**P**	**01 20 32.0**	**-0.7**
	comp=Z,7.7nm,0.8s,baz=142,slow=7.5,SNR=24						
	comp=Z,7.7nm,0.8s						
RAYN	**Ar Rayn**	**49.40**	**294**	P	**P**	**01 20 34.7**	**+1.2**
RAYN				IAmb	IAmb	01 20 40.6	
	comp=Z,20nm,1.0s						
BRVK	**Borovoye**	**49.44**	**341**	P	**P**	**01 20 31.6**	**-1.6**
BRVK				IAmb	IAmb	01 20 38.3	
	comp=Z,12nm,0.9s						
ASAR	**Alice Springs**	**49.55**	**130**	P	**P**	**01 20 33.6**	**-0.9**
ASAR	**Alice Springs**	**49.55**	**130**	P	**P**	**01 20 34.9**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=299,slow=7.3,SNR=7.1						
ASAR				PcP	**PcP**	**01 21 57.6**	**+1.4**
	comp=Z,3.0nm,0.8s,baz=305,slow=3.3,SNR=8.3						
	comp=Z,1.8nm,0.8s						
AS31	**Alice Springs**	**49.55**	**130**	P	**P**	**01 20 34.2**	**-0.2**
ABKAR	**Akbulak array**	**50.63**	**331**	P	**P**	**01 20 42.0**	**-0.3**
ABKAR				IAmb	IAmb	01 20 45.8	
	comp=Z,36nm,1.7s						
HEH	**HeiHe**	**50.72**	**27**	*e*P	**P**	**01 20 46.3**	**+3.4**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HEH				LR	LR		
	comp=Z,560nm,16.2s						
HEH				LR	LR		
	comp=Z,1μm,17.2s						
HEH				LR	LR		
	comp=Z,1μm,19.6s						
GURO	**Guroymak-BITLI**	**56.21**	**312**	P	**P**	**01 21 23.1**	**-0.6**
ARTI	**Arti**	**56.32**	**337**	P	**P**	**01 21 23.3**	**-0.6**
ARTI				IAmb	IAmb	01 21 29.4	
	comp=Z,29nm,1.1s						
MARD	**Mardin**	**56.76**	**310**	P	**P**	**01 21 27.9**	**+0.3**
KBZ	**Khabaz**	**57.47**	**318**	P	**P**	**01 21 32.0**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=76,slow=16,SNR=4.3						
	comp=Z,2.9nm,0.9s						
KMBO	**Kilima Mbogo**	**57.58**	**264**	P	**P**	**01 21 35.2**	**+1.4**
	comp=Z,3.5nm,0.9s,baz=50,slow=8.6,SNR=9.4						
KIV	**Kislovodsk**	**57.70**	**318**	P	**P**	**01 21 34.0**	**-0.1**
KIV				IAmb	IAmb	01 21 44.4	
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**59.73**	**134**	P	**P**	**01 21 49.2**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=312,slow=9.2,SNR=3.4						
	comp=Z,1.9nm,0.9s						
YAK	**Yakutsk**	**60.26**	**18**	P	**P**	**01 21 51.4**	**+0.1**
TOKA	**Tokat**	**60.84**	**312**	P	**P**	**01 21 56.0**	**+0.1**
NRIK	**Noril'sk**	**61.90**	**357**	P	**P**	**01 22 01.1**	**-1.2**
NRIK				IAmb	IAmb	01 22 09.6	
	comp=Z,6.1nm,0.7s						
NRIK	**Noril'sk**	**61.90**	**357**	P	**P**	**01 22 01.6**	**-0.7**
	comp=Z,4.0nm,0.5s,baz=191,slow=5.0,SNR=5.7						
	comp=Z,4.0nm,0.5s						
KIRS	**Kirsehir-Merke**	**62.45**	**310**	⇑P	**P**	**01 22 06.5**	**-0.3**
BR104	**Keskin Array S**	**62.80**	**311**	P	**P**	**01 22 09.0**	**-0.1**
	comp=Z,3.5nm,1.0s						
BR131	**Keskin Array S**	**62.80**	**311**	P	**P**	**01 22 07.6**	**-1.5**
BRTR	**Keskin Array B**	**62.80**	**311**	P	**P**	**01 22 07.8**	**-1.4**
	comp=Z,2.5nm,0.9s,baz=133,slow=7.7,SNR=11						
	comp=Z,2.5nm,0.9s						
BR105	**Keskin Array S**	**62.81**	**311**	P	**P**	**01 22 08.2**	**-1.1**
	comp=Z,4.5nm,1.0s						
BR106	**Keskin Array S**	**62.82**	**311**	P	**P**	**01 22 08.2**	**-1.1**
	comp=Z,3.9nm,0.9s						
ELL	**Elmali**	**65.08**	**307**	P	**P**	**01 22 22.9**	**-1.4**
H04N2	**CROZET ISLANDS**	**65.53**	**211**	T	T	02 32 56.1	
	baz=47,slow=74,SNR=7.5						
H04N1	**CROZET ISLANDS**	**65.54**	**211**	T	T	02 33 14.7	
	baz=47,slow=74,SNR=6.3						
H04N3	**CROZET ISLANDS**	**65.55**	**211**	T	T	02 33 08.0	
	baz=47,slow=74,SNR=6.7						
OBN	**Obninsk**	**65.78**	**328**	P	**P**	**01 22 27.4**	**-0.7**
	comp=Z,18nm,1.5s						
PURM	**Purcari**	**67.09**	**317**	P	**P**	**01 22 35.7**	**-1.0**
	comp=Z,20nm,1.2s						
TIXI	**Tiksi**	**67.53**	**11**	P	**P**	**01 22 37.9**	**-1.2**
SORM	**Soroca**	**68.47**	**319**	P	**P**	**01 22 45.0**	**-0.4**
	comp=Z,8.3nm,0.9s						
AK10	**Malin Array Si**	**68.50**	**322**	P	**P**	**01 22 43.5**	**-2.1**
AK02	**Malin Array Si**	**68.55**	**322**	P	**P**	**01 22 44.

BURAR **Bucovina Array** 70.43 318 ⇓P P 01 23 01.0 +3.2
ARR **Arges** 70.44 315 ⇑P P 01 22 59.8 +2.0
BUR08 **Bucovina Ar. S** 70.45 318 P P 01 22 56.5 -1.3
BUR08 IAmb IAmb 01 23 10.8
comp=Z,25nm,1.9s
ISAL **Salakas** 71.57 326 *e*P P 01 23 04.4 +0.1
HERR **Herculane** 71.92 315 ⇓P P 01 22 54.0 -13
DRGR 71.98 317 ⇑P P 01 23 06.5 -0.6
VSU **Vasula** 71.98 329 *e*P P 01 23 05.5 -1.2
BZS **Buzias** 72.58 315 ⇑P P 01 23 09.9 -0.7
ARBE **Arbavere** 72.62 330 *e*P P 01 23 10.8 +0.3
PABE **Paberze** 72.75 326 P P 01 23 12.2 +0.8
PABE **Paberze** 72.75 326 *e*P P 01 23 11.3 -0.1
SUW **Suwalki** 72.90 324 P P 01 23 12.0 -0.3
FINES **FINESS Array B** 73.11 332 P P 01 23 13.4 0.0
comp=Z,5.7nm,0.7s,baz=109,slow=6.7,SNR=13
comp=Z,5.7nm,0.7s
KEF **Keuruu** 73.85 333 *e*P P 01 23 17.6 -0.2
PBUR **Paburge** 73.98 326 *e*P P 01 23 18.5 -0.1
OJC **Ojcow** 74.36 320 P P 01 23 20.9 -0.1
comp=Z,13nm,0.8s
MORH **Mrgy, Hungar** 74.71 316 ⇑P P 01 23 22.9 -0.1
MORH **Mrgy, Hungar** 74.71 316 P P 01 23 21.8 -1.2
comp=Z,4.4nm,0.9s
VAF **Vilstaro** 75.05 333 *e*P P 01 23 24.2 -0.5
MPLH **Magyarpolny** 75.54 317 P P 01 23 27.9 0.0
BOSA **Boshof** 75.56 238 P P 01 23 27.2 -1.2
comp=Z,3.7nm,0.9s,baz=55,slow=4.1,SNR=5.2
comp=Z,3.7nm,0.9s
ARCES **ARCESS Array B** 75.66 340 P P 01 23 27.1 -1.0
comp=Z,1.5nm,0.6s,baz=94,slow=5.3,SNR=4.2
comp=Z,1.5nm,0.6s
MORC **Moravsky Berou** 75.76 319 P P 01 23 28.1 -1.0
MORC IAmb IAmb 01 23 48.0
comp=Z,15nm,1.3s
MORC **Moravsky Berou** 75.76 319 *e*P P 01 23 29.9 +0.8
MODS **Modra-Piesok** 75.82 318 *e*P P 01 23 31.1 +1.7
KRLC **Kraliky** 76.28 320 *e*P P 01 23 32.2 +0.1
VRAC **Vranov** 76.34 319 *e*P P 01 23 32.6 +0.2
RONA **Rosalia, Austr** 76.42 317 *e*P P 01 23 32.6 -0.3
comp=Z,2.4nm,0.9s
KRUC **Moravsky** 76.45 319 *e*P P 01 23 33.2 +0.2
DPC **Dobruska-Polom** 76.59 320 *e*P P 01 23 34.3 +0.4
OSTC **Ostas** 76.68 320 *e*P P 01 23 38.1 +3.8
CONA **Conrad Observa** 76.73 317 *e*P P 01 23 35.4 +0.6
comp=Z,6.3nm,1.4s
ARSA **Arzberg** 76.92 317 P P 01 23 35.3 -0.5
ARSA IAmb IAmb 01 23 43.4
comp=Z,15nm,1.5s
ARSA **Arzberg** 76.92 317 *i* P P 01 23 37.0 +1.2
comp=Z,7.7nm,1.3s
SOKA **Soboth** 77.23 316 *i* P P 01 23 38.6 +1.1
comp=Z,10nm,1.3s
BLEU **Blekinge** 77.41 326 *i* P P 01 23 37.6 -0.6
OBKA **Obir** 77.55 316 *i* P P 01 23 39.4 0.0
comp=Z,11nm,1.6s
MOA **Molln** 77.80 317 *i* P P 01 23 39.9 -0.7
comp=Z,3.1nm,1.0s
BSD **Bornholm Skovb** 77.81 325 *i* P P 01 23 44.0 +3.5
BSD IAmb IAmb 01 23 45.4
comp=Z,23nm,1.1s
BRG **Berggiesshubel** 78.14 320 *e*P P 01 23 44.1 +1.6
BRG Amp 01 23 46.0
comp=Z,6.6nm,1.1s
GERES **GERESS Array B** 78.21 318 P P 01 23 41.8 -1.2
GERES **GERESS Array B** 78.21 318 P P 01 23 42.6 -0.4
comp=Z,2.0nm,0.7s,baz=96,slow=2.7,SNR=8.7
comp=Z,2.0nm,0.7s
BIOA **Bad Ischl, Aus** 78.22 317 *e*P P 01 23 43.3 +0.3
comp=Z,4.2nm,1.1s
KHC **Kasperske Hory** 78.30 319 *e*P P 01 23 44.4 +0.9
KBA **Koelnbreinsper** 78.40 316 *e*P P 01 23 44.8 +0.6
comp=Z,5.6nm,1.3s
DEL **Delary** 78.50 326 *i* P P 01 23 43.8 -0.5
LUNU **Lund** 78.69 325 *i* P P 01 23 43.5 -1.8
CLL **Collm** 78.75 321 *i* P P 01 23 45.3 -0.5
comp=Z,22nm,1.9s
CLL *i* (sP) sP 01 23 52.6 +0.2
CLL *i* x x 01 23 57.8
HFS **Hagfors** 78.85 330 P P 01 23 45.5 -0.6
comp=Z,3.6nm,0.6s,baz=113,slow=3.9,SNR=14
comp=Z,3.6nm,0.6s
LESA **Schwarzleotal** 78.86 317 *i* P P 01 23 45.5 -1.2
comp=Z,5.9nm,1.1s
BJUU **Bjuv** 78.95 326 *i* P P 01 23 45.3 -1.5
ABTA **Abfaltersbach** 78.96 316 *e*P P 01 23 44.9 -2.3
comp=Z,4.2nm,1.1s
CIMO **Cimolais** 79.01 316 P P 01 23 46.1 -1.3
FABU **Falkenberg** 79.16 327 *i* P P 01 23 52.4 +4.5
BORU **Boraas** 79.17 327 *i* P P 01 23 52.4 +4.4
COP **Copenhagen** 79.26 325 *i* P P 01 23 48.4 -0.1
LLD **Lille Linde** 79.37 325 *i* P P 01 23 49.3 +0.2
LLD IAmb IAmb 01 23 57.0
comp=Z,22nm,0.9s
CTI **Castel Tesino** 79.56 315 P P 01 23 50.3 -0.2
CTI IAmb IAmb 01 23 57.2
comp=Z,28nm,1.5s
WTTA **Wattenberg** 79.57 317 *i* P P 01 23 49.9 -0.8
comp=Z,12nm,1.3s
WATA **Walderalm** 79.61 317 *i* P P 01 23 49.7 -1.1
comp=Z,12nm,1.5s
TJOU **Tjoern** 79.80 328 *i* P P 01 23 54.6 +3.2
SQTA **Sankt Quirin** 79.86 317 *i* P P 01 23 51.3 -0.8
comp=Z,4.7nm,0.9s
MOTA **Moosalm** 79.93 317 *i* P P 01 23 51.7 -0.9
comp=Z,8.0nm,1.2s
ZCCA **Zocca** 80.04 314 P P 01 23 52.5 -0.6
ZCCA IAmb IAmb 01 24 09.4
comp=Z,22nm,1.1s
STRU **Stroemstad** 80.07 329 *i* P P 01 23 56.6 +3.8
NB2 **NORSAR Subarra** 80.13 331 P P 01 23 52.4 -0.8
comp=Z,7.2nm,0.9s,baz=92,slow=6.2
NOA **NORSAR Array B** 80.13 331 P P 01 23 52.7 -0.4
comp=Z,3.4nm,0.9s,baz=92,slow=5.7,SNR=8.8
comp=Z,3.4nm,0.9s
RETA **Reutte** 80.16 317 *i* P P 01 23 53.3 -0.4
comp=Z,14nm,1.6s
FETA **Feichten** 80.19 316 *i* P P 01 23 53.4 -0.5
comp=Z,3.6nm,1.0s
SPITS **Spitsbergen Ar** 80.22 348 P P 01 23 53.1 -0.2
comp=Z,8.8nm,0.9s,baz=98,slow=9.3,SNR=6.5
comp=Z,8.8nm,0.9s
DAVA **Damuels** 80.76 317 *i* P P 01 23 58.0 +1.0
comp=Z,12nm,1.2s
MSSA **Maissana** 81.09 314 P P 01 23 57.5 -1.3
TUE **Stuetta** 81.15 316 P P 01 23 57.1 -2.1
KEST **Kesra** 81.60 305 P P 01 24 01.5 -0.1
comp=Z,6.2nm,1.1s,baz=197,slow=15,SNR=3.2
comp=Z,6.2nm,1.1s
GAMB **Gambell** 85.06 26 P P 01 24 19.4 +0.7
baz=277
TNA **Tin City** 86.40 24 P P 01 24 25.2 -0.1
baz=280
SPIA **Saint Paul Isl** 86.67 33 P P 01 24 27.1 +0.3
baz=279
C16K **Lisburne Hills** 86.87 22 IAmb IAmb 01 24 33.5
comp=Z,12nm,1.2s
C16K **Lisburne Hills** 86.87 22 P P 01 24 27.0 -0.6
baz=282
F14K **Arctic Creek** 87.07 24 P P 01 24 29.1 +0.4
baz=282
P08K **Saint George I** 87.14 33 P P 01 24 28.9 -0.2
baz=279
C17K **DeLong Mountai** 87.61 21 P P 01 24 31.7 +0.5
baz=284
ANM **Nome** 87.66 25 P P 01 24 30.7 -0.8
ANM IAmb IAmb 01 24 38.2
comp=Z,10.0nm,1.1s
ANM **Nome** 87.66 25 P P 01 24 32.0 +0.5
baz=282
F15K **North Star Dit** 87.70 24 IAmb IAmb 01 24 37.6
comp=Z,6.6nm,1.0s
F15K **North Star Dit** 87.70 24 P P 01 24 31.5 -0.2
baz=283
D17K **Noatak River** 87.83 22 P P 01 24 32.6 +0.3
baz=284
B18K **Kokolik River** 87.86 20 P P 01 24 32.2 -0.1
baz=286,SNR=18
A19K **Wainwright** 87.87 19 P P 01 24 32.5 +0.1
baz=286
EKA **Eskdalemuir Ar** 88.12 325 P P 01 24 33.6 -0.3
comp=Z,2.2nm,0.8s,baz=98,slow=5.5,SNR=7.9
comp=Z,2.2nm,0.8s
G15K **Niukluk** 88.12 25 P P 01 24 33.4 -0.3
baz=284
NIKH **Nikolski High** 88.14 37 P P 01 24 33.1 -0.9
baz=280
M11K **Mekoryuk** 88.17 29 P P 01 24 33.5 -0.5
baz=282
C18K **Utukok River** 88.26 21 IAmb IAmb 01 24 40.6
comp=Z,12nm,1.0s
C18K **Utukok River** 88.26 21 P P 01 24 34.8 +0.4
baz=286
E17K **Hotham Inlet** 88.46 22 P P 01 24 35.8 +0.5
baz=286
K13K **Kusilvak Mount** 88.56 28 P P 01 24 36.0 +0.2
baz=283
G16K **Koyuk River** 88.71 24 IAmb IAmb 01 24 43.2
comp=Z,17nm,1.4s
G16K **Koyuk River** 88.71 24 P P 01 24 36.5 0.0
baz=285
E18K **Tukpahlearik C** 88.83 22 IAmb IAmb 01 24 44.6
comp=Z,18nm,1.2s
E18K **Tukpahlearik C** 88.83 22 P P 01 24 37.4 +0.4
baz=287
F17K **Baldwin Pennin** 88.86 23 IAmb IAmb 01 24 43.4
comp=Z,8.1nm,0.9s
F17K **Baldwin Pennin** 88.86 23 P P 01 24 36.7 -0.4
baz=286
J14K **Nanvaranak Lak** 88.87 27 P P 01 24 36.8 -0.5
baz=284
A21K **Barrow** 88.92 18 P P 01 24 37.1 -0.2
baz=290
H16K **Elim** 88.95 25 P P 01 24 37.4 -0.2
baz=285
B20K **Meade River** 89.20 19 IAmb IAmb 01 24 45.0
comp=Z,7.7nm,0.9s
B20K **Meade River** 89.20 19 P P 01 24 38.1 -0.6
baz=290
UNV **Unalaska Valle** 89.36 36 P P 01 24 39.4 -0.3
baz=282
G17K **Kiwalik Mounta** 89.36 24 P P 01 24 39.3 -0.3
baz=287
D19K **Kuna River** 89.39 21 IAmb IAmb 01 24 46.5
comp=Z,22nm,1.2s
D19K **Kuna River** 89.39 21 P P 01 24 39.3 -0.4
baz=289
F18K **Selawik** 89.43 23 P P 01 24 39.7 -0.1
baz=288,SNR=16
A22K **Sinclair Lake** 89.53 18 P P 01 24 40.1 -0.1
baz=292
L14K **Kuka Creek** 89.62 28 P P 01 24 40.5 -0.3
baz=285
I17K **Unalakleet** 89.81 25 P P 01 24 41.0 -0.6
baz=287
H17K **Granite Mounta** 89.83 24 P P 01 24 41.0 -0.7
baz=287
D20K **Etivluk River** 89.83 20 P P 01 24 41.5 -0.3
baz=290,SNR=16
K15K **Wolf Creek Mou** 89.89 27 P P 01 24 41.3 -0.8
baz=286
J16K **Anvik River** 90.02 26 P P 01 24 41.4 -1.3
J16K IAmb IAmb 01 24 49.8
comp=Z,7.6nm,1.0s
J16K **Anvik River** 90.02 26 P P 01 24 42.3 -0.4
baz=287
G18K **Tagagawik** 90.03 23 P P 01 24 42.5 -0.2
baz=289
E19K **Redstone River** 90.05 21 IAmb IAmb 01 24 49.5
comp=Z,20nm,1.2s
E19K **Redstone River** 90.05 21 P P 01 24 42.4 -0.4
baz=290
F19K **Shaleruckik Mo** 90.06 22 IAmb IAmb 01 24 50.0
comp=Z,21nm,1.2s
F19K **Shaleruckik Mo** 90.06 22 P P 01 24 42.8 0.0
baz=289
L15K **Ungalak Mounta** 90.08 28 P P 01 24 43.3 +0.4
baz=286
M14K **Bethel** 90.12 28 P P 01 24 43.6 +0.5
baz=286
E20K **Nigu River** 90.14 21 P P 01 24 43.4 +0.1
baz=291,SNR=14
B21K **Ikpikpuk River** 90.17 19 IAmb IAmb 01 24 49.6
comp=Z,9.8nm,1.0s
B21K **Ikpikpuk River** 90.17 19 P P 01 24 43.4 +0.2
baz=292
B22K **Teshekpuk Lake** 90.27 18 IAmb IAmb 01 24 55.1
comp=Z,19nm,1.4s
B22K **Teshekpuk Lake** 90.27 18 P P 01 24 43.8 +0.2
baz=293
C21K **Knifeblade Rid** 90.29 20 P P 01 24 43.7 -0.1
baz=292,SNR=6.0
H18K **Honhosa River** 90.38 24 P P 01 24 44.4 0.0
baz=289
N14K **Kuskokwak Cree** 90.47 29 P P 01 24 44.9 +0.1
baz=286
G19K **Purcell Mounta** 90.55 23 IAmb IAmb 01 24 52.1
comp=Z,18nm,1.1s
G19K **Purcell Mounta** 90.55 23 P P 01 24 44.9 -0.2
baz=290
J17K **VABM Dome** 90.65 26 P P 01 24 45.4 -0.2
baz=288
M15K **Kasigluk River** 90.73 28 P P 01 24 46.2 +0.2
baz=287
F20K **Avaraart Lake** 90.74 22 P P 01 24 46.3 +0.3
baz=291
E21K **Killik River** 90.83 20 P P 01 24 46.5 0.0
baz=293
TORD **Torodi Ar. Bea** 90.86 283 P P 01 24 47.4 -0.2
comp=Z,160nm,0.3s,baz=88,slow=2.7,SNR=3.2
L16K **Owhat River** 90.99 27 P P 01 24 47.3 +0.1
baz=288
H19K **Roundabout Mou** 91.01 23 P P 01 24 47.3 +0.1
baz=291,SNR=29
D22K **Ayikyak River** 91.09 19 IAmb IAmb 01 24 54.5
comp=Z,20nm,1.4s
D22K **Ayikyak River** 91.09 19 P P 01 24 47.9 +0.3
baz=294
GCSA **Galena City Sc** 91.11 24 P P 01 24 48.0 +0.3
baz=290
N15K **Kwethluk River** 91.17 29 P P 01 24 48.3 +0.2
baz=287
K17K **Iditarod** 91.20 26 IAmb IAmb 01 24 56.0
comp=Z,18nm,1.2s
K17K **Iditarod** 91.20 26 P P 01 24 48.8 +0.7
baz=289
ELIB **Princess Elisa** 91.31 197 *d*P P 01 24 53.7 +5.1
C23K **Itkillik River** 91.35 18 P P 01 24 49.3 +0.6
baz=296
L17K **Donlin** 91.39 27 P P 01 24 49.4 +0.3
baz=289
M16K **Timber Creek** 91.44 28 P P 01 24 49.5 +0.2
baz=288
F21K **Alatna River** 91.49 21 IAmb IAmb 01 24 56.1
comp=Z,13nm,1.1s
F21K **Alatna River** 91.49 21 P P 01 24 49.6 +0.1
baz=293
ESDC **Sonseca Array** 91.59 310 P P 01 24 49.8 -0.7
ESDC **Sonseca Array** 91.59 310 P P 01 24 49.5 -1.1
comp=Z,1.4nm,0.9s,baz=58,slow=4.2,SNR=7.6
comp=Z,1.4nm,0.9s
O15K **Ungalikthiuk R** 91.60 30 P P 01 24 50.6 +0.5
baz=287
J18K **Innoko River** 91.63 25 P P 01 24 49.7 -0.5
J18K IAmb IAmb 01 24 57.1
comp=Z,12nm,1.2s
J18K **Innoko River** 91.63 25 P P 01 24 50.6 +0.4
baz=290
H20K **Anotleneega Mo** 91.64 23 P P 01 24 50.5 +0.3
baz=292,SNR=21
E22K **Anaktuvuk Pass** 91.69 20 P P 01 24 50.6 +0.2
baz=295,SNR=7.9
N16K **Nushlik Lake** 91.70 28 P P 01 24 50.4 -0.2
baz=288
D23K **Nanushuk River** 91.71 19 IAmb IAmb 01 24 57.5
comp=Z,17nm,1.2s
D23K **Nanushuk River** 91.71 19 P P 01 24 50.6 +0.2
baz=296
G21K **Allakaket** 91.76 22 P P 01 24 50.0 -0.7
G21K **Allakaket** 91.76 22 P P 01 24 50.6 -0.1
baz=293,SNR=26
F22K **John River** 91.83 21 P P 01 24 51.2 +0.1
baz=294
J19K **Poorman** 91.89 24 IAmb IAmb 01 24 58.6
comp=Z,16nm,1.1s
J19K **Poorman** 91.89 24 P P 01 24 51.3 0.0
baz=291,SNR=16
C24K **Franklin Bluff** 92.00 18 P P 01 24 51.9 +0.2
baz=298
M17K **Holitna River** 92.02 27 P P 01 24 52.5 +0.5
baz=290
I20K **Naaghedeneel** 92.06 24 P P 01 24 52.0 -0.1
baz=292,SNR=15
L18K **Granite Mounta** 92.07 26 IAmb IAmb 01 25 00.1
comp=Z,14nm,1.3s
L18K **Granite Mounta** 92.07 26 P P 01 24 52.3 +0.1
baz=290
TOLK **Toolik Lake Re** 92.22 19 IAmb IAmb 01 24 59.1
comp=Z,6.5nm,0.8s
TOLK **Toolik Lake Re** 92.22 19 P P 01 24 52.4 -0.5
baz=297
D24K **Happy Valley** 92.22 19 IAmb IAmb 01 25 03.0
comp=Z,23nm,1.8s
D24K **Happy Valley** 92.22 19 P P 01 24 52.5 -0.3
baz=298
O16K **Kokwok River B** 92.31 29 P P 01 24 53.3 -0.1
baz=289
H21K **Melozitna Rive** 92.36 22 P P 01 24 54.1 +0.5
baz=294,SNR=21
SDPT **Sand Point** 92.38 33 P P 01 24 53.8 0.0
baz=287
J20K **Nowinta River** 92.43 24 P P 01 24 53.5 -0.3
J20K **Nowinta River** 92.43 24 P P 01 24 54.5 +0.7
baz=293,SNR=15
N17K **Nushagak Hills** 92.43 28 P P 01 24 54.4 +0.5
baz=290
E23K **Chandalar** 92.47 20 IAmb IAmb 01 25 00.8
comp=Z,14nm,1.6s
E23K **Chandalar** 92.47 20 P P 01 24 53.9 -0.2
baz=297
P16K **Nushagak River** 92.54 30 P P 01 24 54.9 +0.5
baz=289
COLD **Coldfoot** 92.64 21 P P 01 24 54.9 +0.1
baz=296
M18K **Stony River** 92.71 27 P P 01 24 55.0 -0.2
baz=291
O17K **Koliganek Bris** 92.72 29 P P 01 24 55.6 +0.4
baz=290
K20K **Telida** 92.77 25 P P 01 24 55.8 +0.4
baz=293,SNR=21
H22K **Ishtalitna Cre** 92.80 22 P P 01 24 55.6 +0.1
baz=295
E24K **Your Creek** 92.84 20 IAmb IAmb 01 25 02.4
comp=Z,22nm,1.8s
E24K **Your Creek** 92.84 20 P P 01 24 56.0 +0.3
baz=298
L19K **White Mountain** 92.89 26 P P 01 24 56.5 +0.4
baz=292,SNR=6.3
D25K **Kavik River** 92.91 18 P P 01 24 56.2 +0.2
baz=300
G23K **Bananza Creek** 92.94 21 IAmb IAmb 01 25 03.2
comp=Z,11nm,1.3s
G23K **Bananza Creek** 92.94 21 P P 01 24 56.1 -0.1
baz=296
N18K **Kilae Creek** 92.97 28 P P 01 24 56.3 -0.1
baz=291
CHNA **Chernabura Isl** 93.02 34 P P 01 24 56.7 0.0
baz=288
C26K **Camden Bay** 93.04 17 P P 01 24 57.4 +0.9
baz=301
M19K **Big River Lodg** 93.19 26 IAmb IAmb 01 25 09.0
comp=Z,10nm,1.1s
M19K **Big River Lodg** 93.19 26 P P 01 24 57.2 -0.2
baz=292
L20K **Farewell, AK** 93.19 26 P P 01 24 57.1 -0.4
baz=293,SNR=6.5
CHGN **Chignik** 93.20 32 P P 01 24 57.7 +0.2
baz=288
P17K **Kvichak River** 93.24 29 P P 01 24 56.7 -0.9
baz=290
CHUM **Lake Minchumin** 93.28 24 P P 01 24 57.9 +0.2
baz=294,SNR=14
F24K **Squaw Lake** 93.30 20 P P 01 24 58.0 +0.1
baz=298
Q16K **King Salmon** 93.31 30 P P 01 24 58.1 +0.1
baz=290
H23K **Yukon River** 93.51 22 P P 01 24 58.7 -0.1
baz=297
C27K **Jago River** 93.55 17 IAmb IAmb 01 25 06.0
comp=Z,14nm,1.4s
C27K **Jago River** 93.55 17 P P 01 24 59.0 +0.1
baz=303
N19K **Bonanza Creek** 93.57 27 P P 01 24 59.4 +0.1
baz=292,SNR=16
CAST **Castle Rocks** 93.57 24 P P 01 24 58.9 -0.3
CAST **Castle Rocks** 93.57 24 P P 01 24 59.4 +0.2
baz=294,SNR=15
O18K **Koktuh Hills** 93.59 28 P P 01 24 59.1 -0.2
baz=292
BPAW **Bear Paw Mtn.** 93.72 24 P P 01 24 59.7 -0.1
BPAW **Bear Paw Mtn.** 93.72 24 P P 01 24 59.7 -0.1
baz=296,SNR=16
PPLA **Purkeypile** 93.74 25 P P 01 24 59.7 -0.4
baz=294
P18K **Big Mountain,** 93.75 29 P P 01 24 59.7 -0.3
baz=291
M20K **Styx River** 93.75 26 P P 01 24 59.7 -0.4
baz=293,SNR=8.0
E25K **Arctic Village** 93.77 19 P P 01 24 59.2 -0.8
baz=301
G24K **Hadweenzic Riv** 93.84 21 P P 01 24 59.9 -0.4
baz=299
O19K **Port Alsworth** 93.88 28 P P 01 25 00.3 -0.2
baz=292
I23K **Minto, Yukon-K** 93.89 22 P P 01 24 59.9 -0.6
baz=297
F25K **Christian Rive** 94.02 19 IAmb IAmb 01 25 08.5
comp=Z,14nm,1.4s
F25K **Christian Rive** 94.02 19 P P 01 25 00.6 -0.6
baz=301
H24K **Noodor Dome** 94.11 21 P P 01 25 01.8 +0.2
baz=298
Q18K **Katmai Hardscr** 94.13 29 P P 01 25 01.2 -0.7
baz=292
G25K **Bearman Lake** 94.28 20 P P 01 25 02.5 +0.2
baz=300
TRF **Thorofare Moun** 94.29 24 P P 01 25 02.2 -0.5
baz=296
SKT **Skwentna** 94.40 26 P P 01 25 02.0 -1.0
SKT **Skwentna** 94.40 26 P P 01 25 02.6 -0.4
baz=295,SNR=12
SPCR **Spurr Chakacha** 94.43 26 P P 01 25 02.8 -0.4
baz=294
BMAR **Burnt Mountain** 94.45 19 P P 01 25 01.4 -1.7
F26K **Sheenjek River** 94.45 19 IAmb IAmb 01 25 09.5
comp=Z,5.0nm,0.9s
F26K **Sheenjek River** 94.45 19 P P 01 25 03.0 -0.1
baz=302
STLK **Strandline Lak** 94.47 26 P P 01 25 02.9 -0.5
D27M **Malcolm River** 94.57 17 P P 01 25 03.3 -0.4
baz=305
P19K **Oil Pt** 94.59 28 P P 01 25 03.5 -0.5
baz=293
POKR **Poker Plat Res** 94.62 22 P P 01 25 04.3 +0.3
baz=299
H25L **Birch Creek** 94.63 21 P P 01 25 04.1 +0.2
baz=300
MCK **McKinley** 94.70 24 P P 01 25 04.0 -0.3
baz=297
O20K **Slope Mountain** 94.70 28 P P 01 25 04.0 -0.5
baz=294
R18K **Karluk** 94.80 30 P P 01 25 04.1 -0.7
baz=292
SUA **Susitna One** 94.96 26 P P 01 25 05.1 -0.6
baz=296,SNR=6.2
G26K **Porcupine Rive** 94.97 20 P P 01 25 05.4 -0.1
baz=302
E27K **Coleen River** 94.99 18 P P 01 25 05.0 -0.6
baz=304
ILAR **Eielson Array** 94.99 22 P P 01 25 05.7 0.0
comp=Z,0.6nm,0.8s,baz=293,slow=4.3,SNR=6.7
ILAR PP PP 01 28 56.1 +1.7
comp=Z,0.3nm,0.8s,baz=312,slow=7.4,SNR=2.2
comp=Z,0.6nm,0.8s
CAPN **Captain Cook N** 95.08 27 P P 01 25 05.6 -0.5
baz=295
M22K **Willow** 95.11 26 P P 01 25 05.9 -0.2
baz=296,SNR=5.5
PRP **Porcupine Dome** 95.12 21 P P 01 25 06.0 -0.3
baz=301
HDA **Harding Lake** 95.15 22 P P 01 25 06.2 -0.2
baz=299
D28M **Stokes Point** 95.16 17 P P 01 25 06.2 0.0
baz=307
HOM **Homer** 95.33 28 P P 01 25 07.1 -0.1
baz=295
E28M **Babbage River** 95.36 17 IAmb IAmb 01 25 13.4
comp=Z,4.6nm,0.9s
E28M **Babbage River** 95.36 17 P P 01 25 07.4 +0.1
baz=306
Q20K **Shuyak Island** 95.41 29 P P 01 25 07.4 -0.2
baz=294

OHAK	Old Harbor baz=293	95.52	30	P	P	01 25 08.4 +0.2
RC01	Rabbit Creek A baz=296,SNR=5.9	95.56	26	P	P	01 25 08.0 -0.3
PMR	Palmer baz=297	95.60	25	P	P	01 25 08.9 +0.5
BRLK	Bradley Lake	95.63	27	P	P	01 25 07.7 -0.9
J25K	Salcha River, baz=301	95.64	22	P	P	01 25 08.9 +0.2
KDAK	Kodiak Island comp=Z,2.3nm,0.8s,baz=6.7,slow=18,SNR=1.6 comp=Z,2.3nm,0.8s	95.65	30	P	P	01 25 08.6 -0.1
KDAK	Kodiak Island baz=294	95.65	30	P	P	01 25 08.9 +0.2
BRSE	Bradley Lake S baz=295	95.71	27	P	P	01 25 09.1 +0.1
G27K	Doyon Strip baz=304	95.75	19	P	P	01 25 09.3 +0.3
SML	Sawmill baz=298	95.84	25	P	P	01 25 09.5 -0.1
K24K	Donnelly Dome baz=300	95.89	23	P	P	01 25 10.2 +0.4
KNK	Knik Glacier baz=298	95.97	25	P	P	01 25 10.1 0.0
E29M	Blow River baz=308	95.98	17	P	P	01 25 09.8 -0.2
I26K	Coal Creek Min baz=303	96.07	21	P	P	01 25 11.2 +0.6
M23K	Glacier View baz=298	96.10	25	P	P	01 25 11.2 +0.4
H27K	Steamboat Moun baz=304	96.12	20	P	P	01 25 10.3 -0.5
SEW	Seward baz=297	96.13	27	P	P	01 25 11.2 +0.4
SCM	Sheep Creek Mo baz=299	96.25	25	P	P	01 25 11.8 +0.3
PWL	Port Wells	96.28	26	P	P	01 25 10.8 -0.7
PWL	Port Wells baz=298,SNR=8.3	96.28	26	P	P	01 25 12.1 +0.5
RIDG	Independent Ri baz=301	96.28	23	P	P	01 25 11.7 0.0
J26L	Joseph Creek baz=302	96.36	22	P	P	01 25 12.2 +0.2
PAX	Paxson baz=300	96.44	23	P	P	01 25 12.5 +0.1
I27K	Kandik River baz=304	96.44	20	P	P	01 25 12.4 +0.1
SCRK	Sand Creek baz=302	96.48	22	P	P	01 25 12.5 -0.1
A36M	Sachs Harbour baz=320	96.55	12	P	P	01 25 12.8 +0.3
M24K	Tolsona, Glenn baz=300	96.59	24	P	P	01 25 12.8 -0.2
GLI	Glacier Island baz=299	96.80	26	P	P	01 25 14.1 +0.2
G29M	Pine Creek baz=308	96.85	18	P	P	01 25 14.1 0.0
KLU	Klutina baz=300	97.00	25	P	P	01 25 15.7 +0.7
F30M	Barrier River baz=310	97.09	17	P	Pdif	01 25 16.1 +1.0
I28M	Miner Creek baz=306	97.11	20	P	Pdif	01 25 15.8 +0.3
H29M	Whitestone baz=307	97.16	19	P	Pdif	01 25 15.8 +0.2
K27K	Chicken baz=304	97.16	22	P	Pdif	01 25 15.7 +0.1
INK	Inuvik comp=Z,0.4nm,0.5s,baz=290,slow=8.8,SNR=4.5 comp=Z,0.4nm,0.5s	97.27	16	P	P	01 25 15.2 -0.7
INK	Inuvik baz=312	97.27	16	P	Pdif	01 25 16.3 +0.3
G30M	tAoh Zraii Nji baz=310	97.36	18	P	P	01 25 16.3 -0.1
N25K	Chitina, Valde baz=301	97.49	24	P	Pdif	01 25 17.3 +0.1
EYAK	Cordova Ski Ar baz=300	97.54	26	P	P	01 25 17.1 -0.2
EPYK	Eagle Plains baz=309	97.59	18	P	Pdif	01 25 17.5 0.0
I29M	Ogilvie Camp, baz=307	97.71	20	P	P	01 25 17.4 -0.5
M26K	Nabesna, AK baz=303	97.71	23	P	P	01 25 17.7 -0.4
F31M	Tsiigehtchic baz=312	97.79	17	P	Pdif	01 25 18.4 +0.1
L27K	Beaver Creek, baz=304	97.80	22	P	P	01 25 18.2 -0.3
BMRM	Bremner River baz=301	97.81	25	P	P	01 25 18.5 -0.1
G31M	Satah River baz=311	97.98	17	P	Pdif	01 25 19.2 +0.1
DAWY	Dawson baz=306	98.11	21	P	P	01 25 19.8 0.0
M27K	Edge Creek, AK baz=304	98.17	23	P	Pdif	01 25 20.3 0.0
I30M	Mount Dempster baz=309	98.43	19	P	P	01 25 21.1 -0.3
KAIM	Kayak Island baz=301	98.43	26	P	P	01 25 21.1 -0.1
BVCY	Beaver Creek baz=305	98.53	23	P	P	01 25 21.5 -0.2
H31M	Peel River comp=Z,8.2nm,1.2s	98.70	18	IAmb	IAmb	01 25 30.6
BGLC	Bering Glacier baz=302	98.82	25	P	P	01 25 22.8 -0.1
C36M	Paulatuk baz=321	98.86	13	P	P	01 25 22.4 -0.6
K29M	Barlow Dome baz=308	98.91	21	P	P	01 25 22.7 -0.8
YUK3	Moose Creek baz=305	99.05	23	P	Pdif	01 25 23.3 -1.0
L29M	L29M baz=307	99.14	21	P	Pdif	01 25 23.7 -0.8
M29M	Somme Creek baz=307	99.42	22	P	Pdif	01 25 25.2 -0.6
YUK4	Talbot Arm baz=307	100.01	23	P	Pdif	01 25 27.9 -0.7
PNL	Peninsula baz=306	100.70	25	P	Pdif	01 25 31.1 -0.3
HYT	Haines Junctio baz=308	100.76	23	P	Pdif	01 25 31.1 -0.8
N31M	Braeburn, Yuko baz=309	101.01	22	P	Pdif	01 25 31.7 -1.1
M31M	Drury Creek, Y baz=311	101.05	21	P	Pdif	01 25 32.2 -0.7
O30N	Mendenhall baz=309	101.34	23	P	Pdif	01 25 33.3 -1.0
P29M	Windy Craggy baz=307	101.40	24	P	Pdif	01 25 33.7 -0.9
P30M	Million Dollar baz=308	101.41	23	P	Pdif	01 25 34.3 -0.4
MMPY	Sheldon Lake, baz=314	101.85	20	P	Pdif	01 25 36.2 -0.4
WHY	Whitehorse baz=310	101.87	22	P	Pdif	01 25 36.3 -0.5
PLBC	Pleasant Camp baz=308	102.06	24	P	Pdif	01 25 37.0 -0.4
N32M	Quiet Lake baz=312	102.22	21	P	Pdif	01 25 37.6 -0.6
SKAG	Skagway baz=309	102.47	23	P	Pdif	01 25 38.7 -0.5
P32M	Atlin baz=311	103.01	23	P	Pdif	01 25 40.2 -1.6
S31K	Pelican baz=308	103.04	25	P	Pdif	01 25 40.6 -1.2
Q32M	Nakina River baz=312	103.99	23	P	Pdif	01 25 45.1 -1.2
SIT	Sitka baz=309	103.99	25	P	Pdif	01 25 45.5 -0.6
YKA	Yellowknife Ar comp=Z,0.6nm,1.1s,baz=329,slow=8.1,SNR=4.6	106.72	14	PP	PP	01 30 20.9 -2.0
ULM	Lac du Bonnet comp=Z,1.2nm,0.8s,baz=108,slow=3.4,SNR=3.0	121.78	8	PKP	PKPdf	01 30 36.9 -0.5
NVAR	Mina Array Bea comp=Z,0.9nm,0.8s,baz=286,slow=1.9,SNR=6.2	125.12	31	PKP	PKiKP	01 30 45.7 +0.9
TXAR	Lajitas Array comp=Z,0.2nm,0.6s,baz=327,slow=3.6,SNR=3.7	139.46	25	PKhKP	PKPpre	01 31 08.5
TXAR comp=Z,0.5nm,1.0s,baz=317,slow=5.3,SNR=4.0				PP	PP	01 34 06.0 +1.5
BDFB	Brasilia comp=Z,1.0nm,0.5s,baz=24,slow=15,SNR=1.8	142.29	254	PKP	PKPdf	01 31 16.6 -0.4
PLCA	Paso Flores comp=Z,3.6nm,0.8s,baz=184,slow=1.2,SNR=7.6	144.29	200	PKP	PKPbc	01 31 18.5 +0.5
CPUP	Villa Florida comp=Z,4.1nm,0.9s,baz=57,slow=3.1,SNR=6.8	147.20	232	PKPbc	PKPdf	01 31 26.0 +0.9
HUMP	Col San Antoni	147.86	323		PKPbc	01 31 28.4 -0.9
BI02	San Fabin de	148.16	202	PKPbc	PKPbc	01 31 29.1 -0.6
MAL2	Monte Alegre,	148.16	278	PKPbc	PKPdf	01 31 27.1 +0.1
BO01	Tunca	150.07	205	PKPbc	PKPbc	01 31 33.9 -0.6
LMEL	Las Melosas	150.16	206	PKPbc	PKPdf	01 31 31.6 +1.7
PTLB	Pontes e Lacer	152.86	251	PKPbc	PKPdf	01 31 36.1 +1.9

*IDC **01** 01:13:06.6±1.3, 7°.71N×93°.28E, h0km, mb4.1/8, mbtmp4.0/9, ML4.3/1, Error ellipse: s-maj=46.6km s-min=28.1km az=64.0*

ISC 01 01:13:13.5±1.2, 7°.9N±0°.2×93°.5E±0°.2, h46km, n13, σ0°.26/10, mb4.1/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.6nm,0.3s,baz=207,slow=12,SNR=1.0 1.0nm,0.3s	11.79	26	Pn	Pn	01 15 59.1	-0.1
H08S3	Diego Garcia H baz=54	25.98	234	T	T	01 45 13.6	
H08S2	Diego Garcia H baz=54	25.98	234	T	T	01 45 25.5	
H08S1	Diego Carcia H baz=54	25.99	234	T	T	01 45 13.6	
MKAR	Makanchi Array 3.7nm,0.9s,baz=162,slow=7.1,SNR=2.6 3.7nm,0.9s	39.95	348	P	P	01 20 43.4	0.0
KURBB	Kurchatov Arra 2.5nm,0.6s,baz=167,slow=7.4,SNR=1.9 2.5nm,0.6s	44.39	346	P	P	01 21 19.6	+0.1
ZALV	Zalesovo Beam 1.7nm,0.3s,baz=169,slow=8.4,SNR=2.1 1.7nm,0.3s	46.47	353	P	P	01 21 36.1	+0.2
BVAR	Borovoye Array 1.8nm,0.7s,baz=141,slow=6.5,SNR=4.2 1.8nm,0.7s	48.78	342	P	P	01 21 54.3	+0.5
WRA	Warramunga Arr 1.0nm,0.7s,baz=279,slow=7.8,SNR=1.5 1.0nm,0.7s	48.80	125	P	P	01 21 54.6	+0.1
BRTR	Keskin Array B 0.4nm,0.6s,baz=109,slow=6.5,SNR=0.9 0.4nm,0.6s	61.93	311	P	P	01 23 28.8	-0.1
FINES	FINESS Array B 1.7nm,0.7s,baz=32,slow=7.5,SNR=1.3 1.7nm,0.7s	72.40	332	P	P	01 24 34.5	-0.2
HFS	Hagfors 0.7nm,0.4s,baz=119,slow=8.4,SNR=1.1 0.7nm,0.4s	78.12	330	P	P	01 25 07.7	+0.1
CPUP	Villa Florida 1.2nm,1.0s,baz=192,slow=6.7,SNR=0.9	146.73	233	PKPbc	PKPdf	01 32 49.2	-0.2

IDC 01 01:14:40.5±13.0, 7°.71N×93°.47E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=667.9km s-min=31.8km az=57.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	Diego Garcia H baz=55	25.88	234	T	T	01 47 16.5	
H08S2	Diego Garcia H baz=55	25.88	234	T	T	01 47 40.0	
H08S1	Diego Carcia H baz=55	25.90	234	T	T	01 47 19.9	
MKAR	Makanchi Array 0.3nm,0.6s,baz=156,slow=7.9,SNR=0.6 0.3nm,0.6s	40.10	348	P	P	01 22 17.7	-0.2
KURBB	Kurchatov Arra 0.6nm,0.8s,baz=173,slow=7.0,SNR=1.4 0.6nm,0.8s	44.55	346	P	P	01 22 53.9	-0.1
ZALV	Zalesovo Beam 0.9nm,0.8s,baz=165,slow=6.0,SNR=1.5 0.9nm,0.8s	46.63	353	P	P	01 23 10.4	0.0
WRA	Warramunga Arr 0.5nm,0.8s,baz=303,slow=7.6,SNR=1.3 0.5nm,0.8s	48.71	125	P	P	01 23 27.1	-0.1
H04N2	CROZET ISLANDS baz=48	65.24	211	T	T	02 36 09.0	
H04N1	CROZET ISLANDS baz=48	65.25	211	T	T	02 36 18.5	
H04N3	CROZET ISLANDS baz=48	65.26	211	T	T	02 36 04.3	

*IDC **01** 01:16:33.8±1.1, 7°.64N×94°.14E, h0km, mb3.6/8, mbtmp3.6/9, ML3.5/1, Error ellipse: s-maj=51.6km s-min=22.0km az=58.0*

ISC 01 01:16:36.7±1.0, 7°.7N±0°.2×94°.2E±0°.3, h20km, n12, σ0°.67/12, mb3.5/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat 1.0nm,0.3s,baz=23,slow=1.5,SNR=1.7 2.7nm,0.4s	6.75	135	Pn	Pn	01 18 14.3	-0.6
AAK	Ala-Archa 0.2nm,0.3s,baz=36,slow=22,SNR=1.1 0.2nm,0.3s	38.93	337	P	P	01 24 02.5	+1.1
MKAR	Makanchi Array 0.6nm,0.8s,baz=173,slow=8.3,SNR=2.6 0.6nm,0.8s	40.31	347	P	P	01 24 12.3	-0.4
SONM	Sogjingno Array 0.1nm,0.3s,baz=201,slow=7.7,SNR=1.5 0.1nm,0.3s	41.38	12	P	P	01 24 21.0	-0.6
KURBB	Kurchatov Arra 0.3nm,0.5s,baz=172,slow=7.0,SNR=3.5 0.3nm,0.5s	44.77	346	P	P	01 24 49.2	+0.4
ZALV	Zalesovo Beam 0.4nm,0.4s,baz=181,slow=8.4,SNR=2.0 0.4nm,0.4s	46.78	352	P	P	01 25 04.8	+0.1
WRA	Warramunga Arr 0.2nm,0.5s,baz=297,slow=8.9,SNR=1.9 0.2nm,0.5s	48.10	125	P	P	01 25 16.6	+1.1
BRTR	Keskin Array B 0.3nm,0.7s,baz=111,slow=7.9,SNR=2.2 0.3nm,0.7s	62.60	311	P	P	01 26 59.9	-0.1
FINES	FINESS Array B 4.9nm,1.2s,baz=45,slow=5.3,SNR=1.3 4.9nm,1.2s	72.93	332	P	P	01 28 04.4	0.0
NVAR	Mina Array Bea 0.1nm,0.3s,baz=328,slow=1.8,SNR=1.3	125.09	31	PKP	PKiKP	01 35 36.9	0.0
PDAR	Pinedale Array 0.1nm,0.3s,baz=14,slow=5.3,SNR=1.5	125.36	21	PKP	PKiKP	01 35 37.7	+0.4
CPUP	Villa Florida 0.5nm,0.4s,baz=141,slow=6.5,SNR=2.0	147.15	232	PKPbc	PKPbc	01 36 18.4	-0.8

*NDI **01** 01:21:09.2±0.4, 7°.44N×94°.10E, h10km, mb4.7, MW4.8, mb5.2(NEIC)*
*BJI **01** 01:21:24.3, 7°.04N×93°.91E, h10km, mB5.2/16, mb4.6/53, Ms5.0/40, Ms7 4.8/40*
*IDC **01** 01:21:28.4±0.4, 7°.66N×94°.25E, h0km, mb4.5/35, mbtmp4.4/37, ML4.4/1, MS4.5/1, Error ellipse: s-maj=15.1km s-min=12.2km az=61.0*
*MOS **01** 01:21:30.1±1.1, 7°.69N×94°.20E, h13km, mb5.0/33, Error ellipse: s-maj=9.3km s-min=5.4km az=110.9*
*NEIC **01** 01:21:31.5, 7°.70N×94°.00E, h12km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.02; $M_{\theta\theta}$=-3.78; $M_{\phi\phi}$=6.80; $M_{r\theta}$=3.11; $M_{\theta\phi}$=3.11; $M_{\phi r}$=-0.32; Fault plane solution: M_0=7.35000×10^{16} NP1: ϕ_s=336.72000°, δ=62.02000°, λ=-153.25000°. NP2: ϕ_s=233.42000°, δ=66.58000°, λ=-30.75000°. Principal axes: T 7.6747, Plg=3.0000°, Azm=286.0000°; N -0.6509, Plg=52.0000°, Azm=20.0000°; P -7.0238, Plg=38.0000°, Azm=194.0000°;*
*NEIC **01** 01:21:31.1±1.8, 7°.70N±0°.07×94°.26E±0°.07, h10km±1km, mb5.2/148, Mww5.2/21 Error ellipse: s-maj=13.3km s-min=9.6km az=220.0*
*NEIC **01** 01:21:31.5, 7°.70N×94°.29E, h12km*
*DJA **01** 01:21:35.7±0.4, 8°N±2°×9°5E±°, h10km, M5.1/14, mB5.4/3, mb5.0/14, MLv5.2/11, Mw(mB)4.8/3, MwMwp5.0/2, Mwp5.3/2*
*GCMT **01** 01:21:36.1±0.2, 7°.64N±0°.01×94°.26E±0°.01, h12km, MW5.2/127, Moment Tensor Solution. s51,c66; s127,c207; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.32±.22; $M_{\theta\theta}$=-3.96±.19; $M_{\phi\phi}$=7.28±.18; $M_{r\theta}$=1.47±.65; $M_{\theta\phi}$=4.17±.16; $M_{\phi r}$=0.12±.51; Best double couple: M_0=7.35600×10^{16} NP1:ϕ_s=336.00000°, δ=69.00000°, λ=-162.00000°. NP2:ϕ_s=240.00000°, δ=73.00000°, λ=-22.00000°. Principal axes: T 8.6860, Plg=3.0000°, Azm=289.0000°; N -2.6600, Plg=63.0000°, Azm=24.0000°; P -6.0260, Plg=27.0000°, Azm=197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 01:21:31.9±0.3, 7°.62N±0°.04×94°.20E±0°.04, h20km, n570, σ1s39/543, mb4.7/115, MS4.9/15, 6C-6D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	2.37	153	P	Pb	01 22 12.8	-1.2
BSI				S	Sb	01 22 41.3	-1.6
LHMI	Lhok Sumawe	3.62	131	Pn	Pn	01 22 26.2	-0.7
LHMI	Lhok Sumawe	3.62	131	P	Pn	01 22 26.6	-0.3
LHMI	Lhok Sumawe	3.62	131	P	Pn	01 22 26.1	-0.7
LHMI				S	Sn	01 23 07.6	-1.4
MLSI	Meulaboh, Aceh	3.98	147	P	Pn	01 22 35.0	+3.0
MLSI				S	Sn	01 23 19.1	+1.0
SRIT	Nakonsritamara	5.44	79	Pn	Pn	01 22 51.2	-0.7
SRIT	Nakonsritamara	5.44	79	P	Pn	01 22 52.0	+0.1
SRIT	Nakonsritamara	5.44	79	S	Sn	01 23 49.2	-4.7
PSI	Prapat 6.8nm,0.3s,baz=325,slow=14,SNR=16	6.71	135	Pn	Pn	01 23 09.8	+0.2
PSI				Sn	Sn	01 24 25.1	-0.5
	5.4nm,0.3s,baz=325,slow=6.7,SNR=4.2 22nm,0.5s						
PSI	Prapat	6.71	135	P	Pn	01 23 11.5	+2.0
RPSI	Rantau Prapat	6.79	136	Pn	Pn	01 23 10.4	-0.1
RPSI	Rantau Prapat	6.79	136		Pn	01 23 09.8	-0.7
KULM	Kulim	6.81	109	Pn	Pn	01 23 08.6	-2.3
KULM	Kulim	6.81	109	P	Pn	01 23 09.1	-1.8
GSI	Gunungsitoli	7.12	152	Pn	Pn	01 23 15.9	+0.9
GSI	Gunungsitoli 0.4nm67nm,0.8s	7.12	152	P	Pn	01 23 17.5	+2.5
SRDT	SRDT	8.25	35	P	Pn	01 23 31.2	+0.6
MNSI	Mandailing Nat 7um65nm,1.2s	8.64	141	P	Pn	01 23 37.1	+1.1
NAYO	Nakonayok	9.65	46	P	Pn	01 23 49.8	0.0
BKNI	Bangkinang	9.95	136	Pn	Pn	01 23 54.4	+0.5
PPI	Padang Panjang 93nm,1.0s	10.12	142	P	Pn	01 23 57.4	+1.1
MYKOM	Kota Tinggi	11.22	121	Pn	Pn	01 24 09.8	-1.5
CM31	Chiang Mai Arr	11.72	23	Pn	Pn	01 24 17.6	-0.6
CM31	Chiang Mai Arr	11.72	23	P	Pn	01 24 21.8	+3.6
CMAR	Chiang Mai Arr	11.72	23	Pn	Pn	01 24 18.2	+0.1
CMAR	Chiang Mai Arr 1.2nm,0.3s,baz=215,slow=14,SNR=15	11.72	23	Pn	Pn	01 24 19.6	+1.4
CMAR	Chiang Mai Arr	11.72	23	P	Pn	01 24 18.3	+0.1
CHTO	Chiang Mai	12.05	22	Pn	Pn	01 24 22.8	+0.2
CHTO	Chiang Mai	12.05	22	P	Pn	01 24 24.4	+1.8
CHTO	Chiang Mai	12.05	22	P	Pn	01 24 25.6	+3.0
CHTO	Chiang Mai	12.05	22	P	Pn	01 24 22.8	+0.2
TPRI	Tanjung Pinang	12.26	122	P	Pn	01 24 24.5	-1.0
PALK	Pallekele 11nm,1.0s,baz=85,slow=8.7,SNR=3.6	13.39	269	Pn	Pn	01 24 40.6	-0.5
UBPT	Khong Chiam	13.41	54	Pn	Pn	01 24 41.8	+0.5
CRAI	Chiangrai	13.89	25	Pn	Pn	01 24 47.6	-0.3
MDSI	Maura Dua 35nm,1.0s	15.61	140	P	Pn	01 25 12.6	+1.6
SALM	Salem comp=Z,30nm,0.8s	16.27	285	IAmb	IAmb	01 25 29.8	
SLVN	Son La	16.55	33		Pn	01 25 23.6	+0.6
KASI	Kota Agung	16.61	142	P	P	01 25 25.8	-0.4
TPI	Tanjungpandan	16.92	127	P	Pn	01 25 28.1	+0.3
KSM	Kuching	17.17	110		Pn	01 25 31.2	+0.3
TNCH	TengChong	17.80	13	eP	P	01 25 39.9	+0.4
TNCH				pP	pP	01 25 42.3	-2.2
TNCH	comp=Z,670nm,3.5s			pmax	pmax		
TNCH	comp=Z,2μm,15.0s			LR	LR		
TNCH	comp=Z,2μm,11.1s			LR	LR		
TNCH	comp=Z,3μm,17.8s			LR	LR		
KOHI	KOHIMA comp=Z,38nm,0.6s	18.00	360	IAmb	IAmb	01 25 48.5	
HYB	Hyderabad	18.10	304	eP	P	01 25 42.8	+0.1
SBUM	Sibu	18.66	105	P	Pn	01 25 49.2	-0.1
QIZ	Qiongzhong	18.96	52	P	P	01 25 51.2	-0.9
QIZ				S	Sn	01 29 23.7	-1.1
QIZ	comp=Z,7μm,12.7s			LR	LR		
QIZ	comp=Z,3μm,12.8s			LR	LR		
QIZ	comp=Z,2μm,13.6s			LR	LR		
KMI	Kunming	19.23	24	P	Pn	01 26 00.0	+3.8
KMI	comp=Z,24nm,2.1s			pmax	pmax		
KMI	comp=Z,1μm,11.4s			LR	LR		
KMI	comp=Z,2μm,12.8s			LR	LR		
KMI	comp=Z,2μm,17.5s			LR	LR		
COCO	West Island	19.85	172	P	Pn	01 26 04.2	+0.8
PZH	PanZhiHua	20.11	20	P	Pn	01 26 07.6	+1.0
PZH	comp=Z,60nm,1.0s			pmax	pmax		
PZH	comp=Z,740nm,8.8s			pmax	pmax		
GTK	Tadong comp=Z,61nm,0.7s	20.30	346	IAmb	IAmb	01 26 16.6	
XMIS	Christmas Isla	21.29	147	P	P	01 26 17.0	-0.5
XMIS	comp=Z,64nm,0.9s			IAmb	IAmb	01 26 26.7	
SMRI	Semarang	21.79	132	P	P	01 26 23.0	+0.1
SMRI	comp=Z,61nm,0.8s			IAmb	IAmb	01 26 35.6	
KKM	Kota Kinabalu	21.91	93	P	P	01 26 24.2	-0.1
LSA	Lhasa	22.15	353	P	P	01 26 26.8	-0.4
LSA	Lhasa	22.15	353	P	P	01 26 29.9	+2.7
LSA	Lhasa	22.15	353	P	P	01 26 26.3	-0.9
LSA	Lhasa	22.15	353	P	P	01 26 26.8	-0.4
LSA	comp=Z,37nm,0.7s			pmax	pmax		
GYA	Guiyang	22.17	31	P	P	01 26 34.6	+7.6
GYA	comp=Z,31nm,0.8s			pmax	pmax		
GYA	comp=Z,520nm,4.7s			pmax	pmax		
GYA	comp=N,3μm,14.2s			LR	LR		
GYA	comp=E,4μm,15.0s			LR	LR		
GYA	comp=Z,2μm,12.0s			LR	LR		
KAAM	Kaadhehdhoo	22.29	252	P	P	01 26 34.1	+5.8
GULI	GuiLin	23.39	39	P	P	01 26 42.6	+3.0
GULI				S	S	01 31 00.2	+8.4
GULI	comp=Z,20nm,2.0s			pmax	pmax		
GULI	comp=Z,2μm,18.4s			LR	LR		
GULI	comp=Z,2μm,14.9s			LR	LR		
GULI	comp=Z,3μm,13.0s			LR	LR		
MYLDM	Lahad Datu	24.27	94	P	P	01 26 47.8	-0.3
MYLDM	comp=Z,48nm,1.0s			IAmb	IAmb	01 27 13.9	
CD2	Chengdu	24.84	20	P	P	01 26 54.9	+1.7
CD2				sP	pwP	01 27 01.9	+0.5
CD2				S	S	01 31 16.2	+1.1
CD2	comp=Z,20nm,1.5s			pmax	pmax		
CD2	comp=Z,830nm,8.1s			pmax	pmax		
CD2	comp=Z,3μm,13.1s			LR	LR		
CD2	comp=Z,2μm,14.7s			LR	LR		
H08S3	Diego Garcia H baz=54	26.42	236	T	T	01 53 52.9	
H08S2	Diego Garcia H baz=54	26.43	235	T	T	01 53 54.4	
H08S1	Diego Carcia H baz=54	26.44	235	T	T	01 53 55.3	
TOLI2	Tolitoli	27.27	102	P	P	01 27 14.9	-0.4
GOMU	GeErMu	28.45	1	P	P	01 27 26.9	+0.9
GOMU				pP	pP	01 27 30.3	-1.2
GOMU				sP	sP	01 27 34.0	+0.2
GOMU				S	S	01 32 16.1	+3.3
GOMU	comp=Z,7.0nm,0.6s			pmax	pmax		
GOMU	comp=Z,2μm,13.6s			LR	LR		

GOMU				LR	LR		
	comp=Z,2μm,13.7s						
GOMU				LR	LR		
	comp=Z,2μm,13.1s						
XAN	**Xi'an**	**29.60**	**25**	⇓P	P	01 27 41.8	+5.9
XAN				pP	pwP	01 27 47.2	+3.1
XAN				pmax	pmax		
	comp=Z,13nm,1.1s						
WHN	**Wuhan**	**29.60**	**37**	P	**P**	**01 27 37.8**	**+1.9**
WHN				pmax	pmax		
	comp=Z,36nm,0.7s						
LZH	**Lanzhou**	**29.68**	**16**	*e*P	**P**	**01 27 39.5**	**+2.8**
LZH				sP	pwP	01 27 46.1	+1.2
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
LZH				LR	LR		
	comp=Z,1μm,13.7s						
LZH				LR	LR		
	comp=Z,2μm,15.5s						
LZH				LR	LR		
	comp=Z,2μm,19.2s						
LUWI	**Luwuk**	**29.77**	**106**	P	**P**	**01 27 37.1**	**-0.4**
TATO	**Taipei**	**31.26**	**53**	P	P	01 27 40.5	-10
LYN	**LuoYang**	**31.64**	**30**	P	**P**	**01 27 58.0**	**+4.1**
LYN				pmax	pmax		
	comp=Z,18nm,0.8s						
LYN				LR	LR		
	comp=Z,2μm,11.7s						
LYN				LR	LR		
	comp=Z,2μm,19.9s						
LYN				LR	LR		
	comp=Z,2μm,14.8s						
GTA	**Gaotai**	**32.05**	**8**	*e*P	**P**	**01 27 59.3**	**+1.7**
GTA				sP	pwP	01 28 06.4	+0.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NIL	**Nilore**	**32.34**	**326**	P	**P**	**01 27 59.2**	**-0.9**
NIL				IAmb	IAmb	01 28 08.5	
	comp=Z,24nm,0.8s						
NIL	**Nilore**	**32.34**	**326**	P	**P**	**01 27 59.2**	**-0.9**
NIL	**Nilore**	**32.34**	**326**	P	**P**	**01 27 59.2**	**-0.9**
NIL				pmax	pmax		
	comp=Z,24nm,0.9s						
NJ2	**Nanjing**	**33.43**	**40**	*e*P	**P**	**01 28 10.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
SOEI	**Soe**	**34.56**	**119**	P	**P**	**01 28 19.7**	**-0.1**
SOEI				IAmb	IAmb	01 28 32.3	
	comp=Z,21nm,0.7s						
TIA	**Tai'an**	**35.33**	**33**	P	P	01 28 31.0	+5.0
TIA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KBL	**Kabul**	**35.41**	**323**	P	**P**	**01 28 25.7**	**-1.3**
KBL	**Kabul**	**35.41**	**323**	P	**P**	**01 28 25.1**	**-1.9**
	SNR=5.4						
KBL	**Kabul**	**35.41**	**323**	P	**P**	**01 28 25.7**	**-1.3**
KBL				pmax	pmax		
	comp=Z,11nm,1.0s						
KSH	**Kashi**	**35.73**	**336**	P	**P**	**01 28 26.1**	**-3.4**
KSH				S	**S**	**01 33 57.9**	**-7.7**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSH				LR	LR		
	comp=Z,910nm,17.9s						
KSH				LR	LR		
	comp=Z,1μm,23.4s						
KSH				LR	LR		
	comp=Z,1μm,22.0s						
BTO	**Baotou**	**35.76**	**21**	*e*P	**P**	**01 28 30.8**	**+1.1**
BTO				pP	**pP**	**01 28 34.6**	**-0.6**
BTO				sP	**sP**	**01 28 37.3**	**-0.2**
BTO				S	**S**	**01 34 09.8**	**+3.9**
BTO				pmax	pmax		
	comp=Z,19nm,0.6s						
BTO				pmax	pmax		
	comp=Z,650nm,5.5s						
BTO				LR	LR		
	comp=Z,1μm,13.3s						
BTO				LR	LR		
	comp=Z,2μm,12.6s						
BTO				LR	LR		
	comp=Z,2μm,13.9s						
NGCH	**Negor - Chabah**	**36.13**	**303**	P	**P**	**01 28 33.9**	**+1.0**
JLN	**Jalan Bani Buh**	**36.48**	**297**	P	**P**	**01 28 38.5**	**+2.5**
	SNR=5.3						
WMQ	**Urumqi**	**36.51**	**352**	*e*P	**P**	**01 28 35.8**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,32nm,0.9s						
WMQ				LR	LR		
	comp=Z,880nm,23.9s						
WMQ				LR	LR		
	comp=Z,1μm,18.3s						
WMQ				LR	LR		
	comp=Z,880nm,23.9s						
HHC	**Hu-ho-hao-te**	**36.53**	**22**	*e*P	**P**	**01 28 38.4**	**+2.0**
HHC				S	**S**	**01 34 20.2**	**+2.4**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,59nm,5.4s						
HHC				LR	LR		
	comp=Z,990nm,9.9s						
HHC				LR	LR		
	comp=Z,2μm,14.2s						
HHC				LR	LR		
	comp=Z,1μm,11.7s						
WBK	**Wadi Bani Khal**	**37.01**	**298**	P	**P**	**01 28 42.9**	**+2.3**
MHTO	**MHTO**	**37.43**	**295**	P	**P**	**01 28 46.1**	**+1.9**
WSAR	**Wadi Sarin**	**37.50**	**298**	P	**P**	**01 28 44.5**	**-0.3**
	baz=219,slow=24,SNR=4.1						
WSAR	**Wadi Sarin**	**37.50**	**298**	P	**P**	**01 28 46.1**	**+1.3**
	SNR=6.6						
JMDO	**Jabal Madar**	**37.70**	**297**	P	**P**	**01 28 47.8**	**+1.4**
SMDO	**Samad**	**37.95**	**298**	P	**P**	**01 28 49.7**	**+1.0**
BIDO	**Bidbid**	**38.03**	**299**	P	**P**	**01 28 50.9**	**+1.7**
	SNR=9.0						
MBWA	**Marble Bar**	**38.03**	**139**	P	P	01 28 42.7	-6.5
SIMJ	**Simiganj**	**38.35**	**328**	P	**P**	**01 28 50.3**	**-1.6**
BTK	**Batken**	**38.49**	**331**	P	**P**	**01 28 53.3**	**+0.4**
BTK	**Batken**	**38.49**	**331**	P	**P**	**01 28 53.3**	**+0.4**
BTK				pmax	pmax		
	comp=Z,15nm,0.8s						
BSY	**Bisya**	**38.60**	**297**	P	**P**	**01 28 55.7**	**+1.6**
HOQ	**Hoqain**	**38.76**	**298**	P	**P**	**01 28 56.9**	**+1.5**
AAK	**Ala-Archa**	**38.97**	**337**	P	**P**	**01 28 56.8**	**-0.2**
AAK	**Ala-Archa**	**38.97**	**337**	P	**P**	**01 28 56.9**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=159,slow=5.3,SNR=12						
	comp=Z,3.5nm,0.8s						
AAK	**Ala-Archa**	**38.97**	**337**	P	**P**	**01 28 54.8**	**-2.2**
AAK	**Ala-Archa**	**38.97**	**337**	*i* P	**P**	**01 28 55.7**	**-1.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARQ	**Araqi**	**39.38**	**298**	P	**P**	**01 28 58.4**	**-2.1**
DMTO	**DMTO**	**39.51**	**289**	P	**P**	**01 29 02.1**	**+0.4**
SOHO	**SOHO**	**39.61**	**299**	P	**P**	**01 29 03.3**	**+0.9**
HRA	**Herat**	**39.68**	**317**	P	**P**	**01 29 02.9**	**-0.3**
DL2	**Dalian**	**39.75**	**34**	*e*P	**P**	**01 29 04.6**	**+1.3**
DL2				pmax	pmax		
	comp=Z,23nm,1.2s						
UOSS	**Minazif**	**40.15**	**300**	P	**P**	**01 29 06.5**	**-0.4**
UOSS	**Minazif**	**40.15**	**300**	P	**P**	**01 29 07.8**	**+0.9**
HATD	**Hatta, Dubai**	**40.17**	**300**	P	**P**	**01 29 07.8**	**+0.7**
MDH	**Madha**	**40.18**	**300**	P	**P**	**01 29 07.7**	**+0.6**
ASHO	**Ashiyiah**	**40.19**	**299**	P	**P**	**01 29 08.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**40.20**	**130**	P	**P**	**01 29 07.5**	**+0.1**
ALNE	**Al Ain**	**40.26**	**298**	P	**P**	**01 29 09.2**	**+1.3**
	SNR=5.6						
MK31	**Makanchi Array**	**40.35**	**347**	*i* P	**P**	**01 29 07.1**	**-1.2**
MKAR	**Makanchi Array**	**40.35**	**347**	P	**P**	**01 29 06.8**	**-1.5**
MKAR	**Makanchi Array**	**40.35**	**347**	P	**P**	**01 29 08.0**	**-0.3**
	comp=Z,12nm,0.8s,baz=165,slow=8.1,SNR=90						
	comp=Z,12nm,0.8s						
MKAR	**Makanchi Array**	**40.35**	**347**	P	**P**	**01 29 06.8**	**-1.5**
MAKZ	**Makanchi**	**40.43**	**347**	P	**P**	**01 29 08.3**	**-0.6**
MAKZ	**Makanchi**	**40.43**	**347**	P	**P**	**01 29 08.3**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KKAR	**Karatay Array**	**41.02**	**333**	P	**P**	**01 29 12.8**	**-1.0**
KKAR	**Karatay Array**	**41.02**	**333**	P	**P**	**01 29 12.8**	**-1.0**
SONM	**Songino Array**	**41.40**	**12**	P	**P**	**01 29 16.1**	**-1.0**
SONM	**Songino Array**	**41.40**	**12**	P	**P**	**01 29 17.0**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=196,slow=8.7,SNR=17						
SONM				PcP	**PcP**	**01 31 15.6**	**+0.7**
	comp=Z,3.5nm,0.8s,baz=196,slow=3.0,SNR=5.2						
	comp=Z,2.9nm,0.8s						
ULN	**Ulaanbaatar**	**41.57**	**13**	P	**P**	**01 29 17.8**	**-0.7**
ULN	**Ulaanbaatar**	**41.57**	**13**	P	P	01 29 10.4	-8.1
ULN	**Ulaanbaatar**	**41.57**	**13**	P	**P**	**01 29 17.8**	**-0.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
INCN	**Inchon**	**41.81**	**40**	P	P	01 29 09.7	-11
KSRS	**Korea Array**	**42.62**	**41**	P	**P**	**01 29 26.6**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=241,slow=8.5,SNR=2.4						
	comp=Z,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**44.81**	**346**	P	**P**	**01 29 44.2**	**-0.1**
	comp=Z,12nm,0.8s,baz=165,slow=7.0,SNR=116						
	comp=Z,12nm,0.8s						
KURK	**Kurchatov**	**44.87**	**346**	P	**P**	**01 29 44.3**	**-0.6**
KURK				IAmb	IAmb	01 29 56.4	
	comp=Z,29nm,1.1s						
KURK	**Kurchatov**	**44.87**	**346**	*i* P	**P**	**01 29 43.9**	**-1.0**
KURK				pmax	pmax		
	comp=Z,19nm,1.0s						
HIA	**Hailar**	**46.73**	**23**	*i* P	**P**	**01 29 57.0**	**-2.7**
HIA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ZAA0	**Zalesovo Array**	**46.82**	**352**	IAmb	IAmb	01 30 09.5	
	comp=Z,26nm,0.8s						
ZALV	**Zalesovo Beam**	**46.82**	**352**	P	**P**	**01 30 00.2**	**0.0**
ZALV	**Zalesovo Beam**	**46.82**	**352**	P	**P**	**01 29 59.9**	**-0.3**
	comp=Z,13nm,0.7s,baz=177,slow=7.8,SNR=55						
	comp=Z,13nm,0.7s						
ZALV	**Zalesovo Beam**	**46.82**	**352**	*e*P	**P**	**01 30 00.7**	**+0.5**
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BNX	**BinXian**	**47.56**	**31**	⇑P	**P**	**01 30 08.1**	**+2.0**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.6s						
WB0	**Warramunga Arr**	**48.02**	**125**	IAmb	IAmb	01 30 24.1	
	comp=Z,28nm,1.6s						
WRA	**Warramunga Arr**	**48.06**	**125**	P	**P**	**01 30 08.9**	**-1.6**
	comp=Z,1.5nm,0.5s,baz=307,slow=8.0,SNR=5.2						
	comp=Z,1.5nm,0.5s						
WRA	**Warramunga Arr**	**48.06**	**125**	*e*P	**P**	**01 30 07.0**	**-3.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WB2	**Warramunga Arr**	**48.08**	**125**	P	**P**	**01 30 10.3**	**-0.3**
WB2				IAmb	IAmb	01 30 58.2	
	comp=Z,43nm,1.9s						
JHJ	**Hachijo jima 2**	**49.17**	**52**	LR	LR	01 52 17.5	
	comp=Z,502nm,19.2s,baz=312,slow=38						
RAYN	**Ar Rayn**	**49.24**	**294**	P	**P**	**01 30 19.9**	**+0.3**
RAYN				IAmb	IAmb	01 30 29.9	
	comp=Z,20nm,0.8s						
RAYN	**Ar Rayn**	**49.24**	**294**	P	**P**	**01 30 19.9**	**+0.3**
RAYN				pmax	pmax		
	comp=Z,20nm,0.8s						
BVAR	**Borovoye Array**	**49.25**	**341**	P	**P**	**01 30 18.9**	**-0.2**
	comp=Z,6.0nm,0.7s,baz=134,slow=8.5,SNR=40						
	comp=Z,6.0nm,0.7s						
MJAR	**Matsushiro Arr**	**49.29**	**48**	P	**P**	**01 30 19.1**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=236,slow=8.7,SNR=2.3						
	comp=Z,0.7nm,0.3s						
BRVK	**Borovoye**	**49.31**	**341**	P	**P**	**01 30 18.6**	**-0.9**
BRVK	**Borovoye**	**49.31**	**341**	*i* P	**P**	**01 30 18.6**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ASAR	**Alice Springs**	**49.71**	**130**	P	**P**	**01 30 22.8**	**-0.2**
ASAR	**Alice Springs**	**49.71**	**130**	P	**P**	**01 30 21.9**	**-1.2**
	comp=Z,1.9nm,0.6s,baz=302,slow=7.5,SNR=22						
	comp=Z,1.9nm,0.6s						
FORT	**Forrest**	**50.10**	**141**	P	**P**	**01 30 25.6**	**-0.3**
ABKAR	**Akbulak array**	**50.48**	**331**	P	**P**	**01 30 27.8**	**-0.7**
HEH	**HeiHe**	**50.70**	**27**	*e*P	P	01 30 39.8	+10
HEH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HEH				LR	LR		
	comp=N,1μm,15.4s						
HEH				LR	LR		
	comp=E,1μm,14.9s						
HEH				LR	LR		
	comp=Z,1μm,19.3s						
KLR	**Kul'dur**	**52.07**	**30**	*i* P	**P**	**01 30 40.1**	**-0.3**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZEA	**Zeya**	**53.16**	**24**	*e*P	**P**	**01 30 53.0**	**+4.6**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ZEA				MLR	MLR		
	comp=N,600nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,14.0s						
GNI	**Garni**	**54.66**	**314**	*i* P	**P**	**01 31 00.1**	**+0.3**
GNI				pmax	pmax		
	comp=Z,19nm,1.5s						
SVE	**Sverdlovsk**	**55.66**	**338**	*e*P	**P**	**01 31 07.0**	**+0.5**
SVE				pmax	pmax		
	comp=Z,37nm,1.3s						
ARTI	**Arti**	**56.19**	**337**	P	**P**	**01 31 10.3**	**0.0**
ARTI				IAmb	IAmb	01 31 20.2	
	comp=Z,17nm,0.8s						
ARTI	**Arti**	**56.19**	**337**	*d* P	**P**	**01 31 09.8**	**-0.5**
ARTI						01 32 01.5	
ARTI				S	**S**	**01 39 00.0**	**+1.4**
ARTI				SS	**SS**	**01 42 38.9**	**-6.4**
ARTI				pmax	pmax		
	comp=Z,11nm,0.9s						
MARD	**Mardin**	**56.60**	**310**	P	**P**	**01 31 11.6**	**-2.3**
YSS	**Yuzhno-Sakhali**	**56.95**	**38**	*i* P	**P**	**01 31 14.5**	**-1.4**
YSS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**57.32**	**318**	P	**P**	**01 31 18.3**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=172,slow=3.3,SNR=3.5						
KBZ				PcP	**PcP**	**01 32 12.7**	**+0.1**
	comp=Z,6.4nm,0.8s,baz=170,slow=2.9,SNR=5.8						
	comp=Z,4.3nm,0.9s						
KBZ	**Khabaz**	**57.32**	**318**	*i* P	**P**	**01 31 17.9**	**-0.6**
KBZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	**P**	**01 31 20.8**	**+0.4**
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	**P**	**01 31 21.7**	**+1.3**
	comp=Z,2.2nm,0.6s,baz=53,slow=9.0,SNR=11						
	comp=Z,2.2nm,0.6s						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	**P**	**01 31 20.8**	**+0.4**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SHA1	**Shidzhatmaz**	**57.48**	**318**	*i* P	**P**	**01 31 19.0**	**-1.0**
KIV	**Kislovodsk**	**57.55**	**318**	P	**P**	**01 31 19.4**	**-0.9**
KIV				IAmb	IAmb	01 31 31.4	
	comp=Z,22nm,0.8s						
KIV	**Kislovodsk**	**57.55**	**318**	*e*P	**P**	**01 31 19.5**	**-0.9**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**59.89**	**134**	P	**P**	**01 31 36.0**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=315,slow=9.3,SNR=4.0						
	comp=Z,1.2nm,0.5s						
YAK	**Yakutsk**	**60.22**	**18**	P	**P**	**01 31 36.7**	**-1.7**
YAK	**Yakutsk**	**60.22**	**18**	*e*P	**P**	**01 31 41.1**	**+2.7**
YAK				*e*		01 32 26.7	
YAK				*e*S	**S**	**01 39 55.2**	**+4.2**
YAK				*e*		01 41 29.8	
YAK				*e*SS	**SS**	**01 43 53.2**	**+4.8**
YAK				pmax	pmax		
	comp=Z,35nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				smax	smax		
	comp=E,119nm,5.3s						
YAK				smax	smax		
	comp=N,77nm,4.0s						
VRH	**Novokhopyorsk**	**61.17**	**325**	*e*P	**P**	**01 31 44.0**	**-1.1**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KIRV	**Kirov**	**61.27**	**335**	*i* P	**P**	**01 31 45.0**	**-0.6**
NRIK	**Noril'sk**	**61.80**	**357**	P	**P**	**01 31 48.3**	**-0.7**
NRIK	**Noril'sk**	**61.80**	**357**	P	**P**	**01 31 48.7**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=161,slow=6.4,SNR=10						
	comp=Z,3.9nm,0.6s						
NRIK	**Noril'sk**	**61.80**	**357**	*i* P	**P**	**01 31 48.4**	**-0.7**
NRIK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
VSR	**Storozhevoye**	**62.63**	**325**	*e*P	**P**	**01 31 52.7**	**-2.2**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BR131	**Keskin Array S**	**62.64**	**311**	P	**P**	**01 31 52.7**	**-2.7**
BR131	**Keskin Array S**	**62.64**	**311**	P	**P**	**01 31 53.0**	**-2.5**
	SNR=5.2						
BR131	**Keskin Array S**	**62.64**	**311**	*i* P	**P**	**01 31 53.9**	**-1.5**
BRTR	**Keskin Array B**	**62.64**	**311**	P	**P**	**01 31 52.7**	**-2.7**
BRTR	**Keskin Array B**	**62.64**	**311**	P	**P**	**01 31 53.8**	**-1.6**
	comp=Z,2.7nm,0.7s,baz=127,slow=7.1,SNR=30						
	comp=Z,2.7nm,0.7s						
BRTR	**Keskin Array B**	**62.64**	**311**	P	**P**	**01 31 52.7**	**-2.7**
VORR	**Voronezh**	**62.80**	**325**	*e*P	**P**	**01 31 54.2**	**-1.8**
VORR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ANTO	**Ankara**	**63.31**	**311**	P	**P**	**01 31 58.7**	**-1.1**
ANTO	**Ankara**	**63.31**	**311**	P	**P**	**01 31 58.7**	**-1.1**
ANTO				pmax	pmax		
	comp=Z,12nm,1.2s						
LPSR	**Galich'ya Gora**	**63.33**	**326**	*e*P	**P**	**01 31 57.8**	**-1.8**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ISP	**Isparta**	**64.63**	**308**	*i* P	**P**	**01 32 05.2**	**-3.3**
ISP				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MOS	**Moscow**	**65.33**	**329**	*e*P	**P**	**01 32 12.7**	**+0.1**
MOS				*e*		01 32 42.5	
H04N2	**CROZET ISLANDS**	**65.54**	**211**	T	T	02 42 38.4	
	baz=47						
H04N1	**CROZET ISLANDS**	**65.55**	**211**	T	T	02 42 40.3	
	baz=47						
H04N3	**CROZET ISLANDS**	**65.56**	**211**	T	T	02 42 38.4	
	baz=47						
OBN	**Obninsk**	**65.63**	**328**	P	**P**	**01 32 13.9**	**-0.6**
OBN	**Obninsk**	**65.63**	**328**	*i* P	**P**	**01 32 14.0**	**-0.5**
OBN				*i*		01 32 44.5	
OBN				pmax	pmax		
	comp=Z,11nm,0.8s						
OBN				MLR	MLR		
	comp=Z,768nm,21.0s						
KLMR	**Klimovskoe**	**66.71**	**334**	*e*P	**P**	**01 32 17.6**	**-3.8**
KLMR				pmax	pmax		
	comp=Z,40nm,1.2s						
MA2	**Magadan**	**66.96**	**27**	P	**P**	**01 32 23.1**	**+0.1**
	comp=Z,2.1nm,0.3s,baz=278,slow=7.5,SNR=4.8						
	comp=Z,2.1nm,0.3s						
TIXI	**Tiksi**	**67.47**	**11**	P	**P**	**01 32 25.0**	**-1.0**
TIXI	**Tiksi**	**67.47**	**11**	P	**P**	**01 32 25.3**	**-0.7**
	comp=Z,4.3nm,0.4s,baz=222,slow=3.4,SNR=15						
	comp=Z,4.3nm,0.4s						
TIXI	**Tiksi**	**67.47**	**11**	*i* P	**P**	**01 32 24.4**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,12nm,1.1s						
AKASG	**Malin Array Be**	**68.39**	**322**	P	**P**	**01 32 30.4**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=83,slow=6.0,SNR=9.3						
	comp=Z,0.9nm,0.7s						
AKBB	**Malin Array Si**	**68.39**	**322**	*i* P	**P**	**01 32 30.4**	**-1.8**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIEV	**Kiev**	**68.40**	**322**	P	**P**	**01 32 31.9**	**-0.3**
KIEV				IAmb	IAmb	01 34 59.5	
	comp=Z,10nm,0.9s						
KIEV	**Kiev**	**68.40**	**322**	P	**P**	**01 32 32.0**	**-0.3**
KIEV				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VRI	**Vrincioaia**	**68.93**	**316**	⇓P	**P**	**01 32 35.7**	**0.0**
PLOR	**Plostina**	**68.98**	**316**	⇑P	**P**	**01 32 36.5**	**+0.4**
TESR	**Tescani**	**69.11**	**317**	⇓P	**P**	**01 32 36.1**	**-0.7**
SEY	**Seymchan**	**69.13**	**25**	P	**P**	**01 32 37.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=259,slow=2.9,SNR=11						
	comp=Z,0.6nm,0.3s						
SEY	**Seymchan**	**69.13**	**25**	*e*P	**P**	**01 32 38.1**	**+1.5**
SEY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LSZ	**Lusaka**	**69.24**	**251**	P	**P**	**01 32 38.5**	**+0.2**
LSZ	**Lusaka**	**69.24**	**251**	P	**P**	**01 32 38.5**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VOIR		**70.01**	**316**	⇑P	**P**	**01 32 42.8**	**+0.3**
MNK	**Minsk**	**70.17**	**325**	*i* P	**P**	**01 32 40.5**	**-2.6**
	comp=E,12nm,0.9s						
MNK				*i* P	**P**	**01 32 40.5**	**-2.6**
	comp=N,22nm,1.1s						
MNK				*i* P	**P**	**01 32 40.5**	**-2.6**
	comp=Z,11nm,0.9s,baz=105						
MNK				*i* PcP	**PcP**	**01 33 02.2**	**-2.8**
MNK				*i* PP	**PP**	**01 35 13.8**	**-4.6**
MNK				*i* PPP	PPP	01 36 57.5	
MNK				*i* LQ	LQ	01 58 01.4	
MNK				*i* LR	LR	02 03 57.8	
MNK				*i* LRM	MLR	02 06 03.5	
	comp=N,413nm,19.5s						
MNK				*i* LRM	MLR	02 06 34.9	
	comp=E,304nm,18.9s						
MNK				*i* LRM	MLR	02 07 14.1	
	comp=Z,376nm,18.1s						
MNK	**Minsk**	**70.17**	**325**	*i* P	**P**	**01 32 40.5**	**-2.6**
MNK				*i*		01 33 02.1	
MNK				*i*		01 35 13.8	
MNK				*i* PPP	PPP	01 36 57.5	
MNK				pmax	pmax		
	comp=Z,11nm,0.9s						
MNK				pmax	pmax		
	comp=N,22nm,1.1s						
MNK				pmax	pmax		
	comp=E,12nm,0.9s						
MNK				MLR	MLR		
	comp=N,413nm,20.0s						
MNK				MLR	MLR		
	comp=E,304nm,19.0s						
MNK				MLR	MLR		
	comp=Z,376nm,18.0s						
BURAR	**Bucovina Array**	**70.28**	**318**	P	**P**	**01 32 43.3**	**-0.8**
BURAR	**Bucovina Array**	**70.28**	**318**	⇑P	**P**	**01 32 44.0**	**-0.1**
ARR	**Arges**	**70.28**	**315**	⇑P	**P**	**01 32 42.7**	**-1.4**
JOF	**Joensuu**	**71.10**	**334**	*e*P	**P**	**01 32 49.2**	**+0.6**
HERR	**Herculane**	**71.77**	**315**	⇑P	**P**	**01 32 52.6**	**-0.4**
VSU	**Vasula**	**71.84**	**329**	*e*P	**P**	**01 32 52.1**	**-1.0**
KOLS	**Kolonicke sedl**	**72.44**	**319**	*e*P	**P**	**01 32 59.7**	**+2.7**
KOLS	**Kolonicke sedl**	**72.44**	**319**	*e*P	**P**	**01 32 59.7**	**+2.7**
ARBE	**Arbavere**	**72.47**	**330**	*e*P	**P**	**01 32 57.7**	**+0.8**
PABE	**Paberze**	**72.60**	**326**	*e*P	**P**	**01 32 57.1**	**-0.6**
FINES	**FINESS Array B**	**72.96**	**332**	P	**P**	**01 32 58.7**	**-1.1**
FINES	**FINESS Array B**	**72.96**	**332**	P	**P**	**01 32 59.1**	**-0.7**
	comp=Z,8.8nm,0.7s,baz=104,slow=8.0,SNR=18						
	comp=Z,8.8nm,0.7s						
MEF	**Metsahovi**	**73.44**	**331**	*e*P	**P**	**01 33 02.1**	**-0.6**
KEF	**Keuruu**	**73.71**	**333**	*e*P	**P**	**01 33 04.3**	**+0.1**
PBUR	**Paburge**	**73.83**	**326**	*e*P	**P**	**01 33 05.2**	**+0.1**
RAF	**Rauma**	**74.89**	**331**	*e*P	**P**	**01 33 10.9**	**-0.2**
VAF	**Ylistaro**	**74.91**	**333**	*e*P	**P**	**01 33 11.1**	**0.0**
JAVC	**Velka Javorina**	**75.44**	**318**	*e*P	**P**	**01 33 14.4**	**-0.3**
BOSA	**Boshof**	**75.50**	**238**	P	**P**	**01 33 16

BRG Amp 01 33 38.3
comp=Z,5.1nm,1.0s
MYKA Terra Mystica 78.03 316 *e*P **P 01 33 29.4 +0.1**
comp=Z,3.4nm,0.7s
GERES GERESS Array B 78.06 318 P **P 01 33 29.1 -0.4**
GERES GERESS Array B 78.06 318 P **P 01 33 29.4 0.0**
comp=Z,2.4nm,0.7s,baz=90,slow=5.3,SNR=13
comp=Z,2.4nm,0.7s
BIOA Bad Ischl, Aus 78.06 317 *i* P **P 01 33 29.3 -0.2**
comp=Z,2.6nm,0.7s
KHC Kasperske Hory 78.15 319 *e*P **P 01 33 29.4 -0.5**
KHC Kasperske Hory 78.15 319 *e*P **P 01 33 29.4 -0.5**
KBA Koelnbreinsper 78.24 316 *i* P **P 01 33 30.4 -0.3**
comp=Z,4.8nm,1.0s
DEL Delary 78.35 326 *i* P **P 01 33 29.8 -1.0**
LUNU Lund 78.53 325 *i* P **P 01 33 31.0 -0.8**
CLL Collm 78.60 321 *e*P **P 01 33 32.0 -0.3**
CLL Collm 78.60 321 *e*P **P 01 33 32.0 -0.3**
CLL *e*(sP) **pP 01 33 39.0 +0.9**
LESA Schwarzleotal 78.70 317 *e*P **P 01 33 32.2 -0.9**
comp=Z,8.8nm,1.1s
HFS Hagfors 78.71 330 P **P 01 33 32.1 -0.6**
comp=Z,6.7nm,0.6s,baz=104,slow=6.3,SNR=19
comp=Z,6.7nm,0.6s
BJUU Bjuv 78.80 326 *i* P **P 01 33 32.7 -0.6**
ABTA Abfaltersbach 78.81 316 *e*P **P 01 33 33.2 -0.5**
comp=Z,5.6nm,1.1s
FABU Falkenberg 79.01 327 *i* P **P 01 33 33.2 -1.2**
BORU Boraas 79.02 327 *i* P **P 01 33 35.1 +0.7**
COP Copenhagen 79.11 325 *i* P **P 01 33 34.3 -0.6**
COP IAmb IAmb 01 33 42.9
comp=Z,61nm,0.9s
LLD Lille Linde 79.22 325 *i* P **P 01 33 33.4 -2.2**
LLD IAmb IAmb 01 33 33.6
comp=Z,118nm,1.6s
CTI Castel Tesino 79.40 315 P **P 01 33 35.4 -1.6**
CTI IAmb IAmb 01 36 05.7
comp=Z,22nm,0.9s
CTI Castel Tesino 79.40 315 P **P 01 33 35.4 -1.6**
CTI pmax pmax
comp=Z,22nm,0.9s
WTTA Wattenberg 79.41 317 *e*P **P 01 33 36.5 -0.5**
comp=Z,17nm,1.3s
WATA Walderalm 79.45 317 *e*P **P 01 33 35.9 -1.4**
comp=Z,2.7nm,0.8s
ONAU Onsala 79.47 327 *i* P **P 01 33 37.1 +0.2**
TJOU Tjoern 79.65 328 *i* P **P 01 33 36.4 -1.4**
SQTA Sankt Quirin 79.70 317 *e*P **P 01 33 37.5 -1.1**
comp=Z,4.1nm,0.6s
MOTA Moosalm 79.77 317 *e*P **P 01 33 38.4 -0.6**
comp=Z,12nm,1.1s
STRU Stroemstad 79.92 329 *i* P **P 01 33 38.8 -0.6**
NB2 NORSAR Subarra 79.98 331 P **P 01 33 38.6 -1.1**
comp=Z,2.9nm,0.7s,baz=95,slow=5.3
NOA NORSAR Array B 79.98 331 P **P 01 33 38.8 -1.0**
comp=Z,3.7nm,0.7s,baz=93,slow=5.6,SNR=21
comp=Z,3.7nm,0.7s
NOA NORSAR Array B 79.98 331 *e*P **P 01 33 38.7 -1.0**
NOA pmax pmax
comp=Z,3.0nm,0.7s
RETA Reutte 80.00 317 *e*P **P 01 33 39.3 -0.9**
comp=Z,5.2nm,0.7s
FETA Feichten 80.03 316 *i* P **P 01 33 40.3 -0.1**
comp=Z,7.2nm,0.8s
SPB2 Spitsbergen Ar 80.10 348 P **P 01 33 40.8 +0.8**
SPITS Spitsbergen Ar 80.10 348 P **P 01 33 39.2 -0.8**
comp=Z,7.7nm,0.8s,baz=95,slow=10,SNR=8.1
comp=Z,7.7nm,0.8s
NAO01 NORSAR Array S 80.14 330 P **P 01 33 40.3 -0.2**
NAO01 IAmb IAmb 01 33 48.2
comp=Z,26nm,1.1s
NC204 NORSAR Array S 80.21 331 IAmb IAmb 01 33 50.2
comp=Z,29nm,1.1s
DAVA Damuels 80.60 317 *e*P **P 01 33 42.9 -0.6**
comp=Z,4.3nm,0.7s
SSRD Sdr. Stenderup 80.70 325 *i* P **P 01 33 40.0 -3.6**
SSRD IAmb IAmb 01 33 43.7
comp=Z,26nm,0.9s
MUD Monsted U'grnd 80.95 326 *i* P **P 01 33 40.2 -4.7**
KEST Kesra 81.44 305 P **P 01 33 47.5 -0.6**
comp=Z,1.7nm,0.7s,baz=164,slow=5.1,SNR=4.1
comp=Z,1.7nm,0.7s
BNI Bardonecchia 82.92 314 P **P 01 33 55.1 -0.6**
BNI Bardonecchia 82.92 314 P **P 01 33 55.1 -0.6**
BNI pmax pmax
comp=Z,12nm,1.0s
GAMB Gambell 85.04 26 P **P 01 34 06.4 +0.5**
baz=277
SYO Syowa Base 85.18 197 ⇓ *i* P **P 01 34 08.4 +2.0**
TNA Tin City 86.38 24 P **P 01 34 12.4 -0.1**
baz=280
SPIA Saint Paul Isl 86.66 33 P **P 01 34 14.2 +0.1**
baz=279
C16K Lisburne Hills 86.83 22 P **P 01 34 13.6 -1.2**
C16K Lisburne Hills 86.83 22 P **P 01 34 15.2 +0.5**
baz=282
F14K Arctic Creek 87.04 24 P **P 01 34 16.6 +0.8**
baz=282
P08K Saint George I 87.13 33 P **P 01 34 17.3 +0.8**
baz=279
C17K DeLong Mountai 87.57 21 P **P 01 34 18.8 +0.4**
baz=284
ANM Nome 87.63 25 P **P 01 34 19.3 +0.6**
baz=283
F15K North Star Dit 87.67 24 P **P 01 34 19.4 +0.5**
baz=283
D17K Noatak River 87.80 22 P **P 01 34 20.0 +0.6**
baz=285,SNR=8.4
B18K Kokolik River 87.81 20 P **P 01 34 20.4 +0.9**
baz=286
A19K Wainwright 87.83 19 P **P 01 34 20.6 +1.1**
baz=286
EKA Eskdalemuir Ar 87.97 325 P **P 01 34 19.8 -0.7**
comp=Z,3.4nm,0.7s,baz=97,slow=5.3,SNR=10
comp=Z,3.4nm,0.7s
G15K Niukluk 88.09 25 P **P 01 34 21.5 +0.6**
baz=284
NIKH Nikolski High 88.14 37 P **P 01 34 21.3 -0.1**
baz=280
M11K Mekoryuk 88.16 29 P **P 01 34 20.9 -0.4**
baz=282
C18K Utukok River 88.22 21 P **P 01 34 21.9 +0.3**
baz=286
E17K Hotham Inlet 88.43 22 P **P 01 34 23.1 +0.6**
baz=286
K13K Kusilvak Mount 88.55 28 P **P 01 34 23.3 +0.2**
baz=283
G16K Koyuk River 88.68 24 P **P 01 34 23.9 +0.3**
baz=285
E18K Tukpahlearik C 88.79 22 P **P 01 34 25.2 +1.1**
baz=287
F17K Baldwin Pennin 88.83 23 P **P 01 34 24.6 +0.3**
baz=286
J14K Nanvaranak Lak 88.85 27 P **P 01 34 24.9 +0.5**
baz=284
A21K Barrow 88.87 18 P **P 01 34 24.8 +0.4**
baz=290
H16K Elim 88.93 25 P **P 01 34 25.1 +0.2**
baz=285
B20K Meade River 89.16 19 P **P 01 34 26.5 +0.7**
baz=290
G17K Kiwalik Mounta 89.33 24 P **P 01 34 27.0 +0.2**
baz=287
D19K Kuna River 89.35 21 P **P 01 34 27.2 +0.3**
baz=289
UNV Unalaska Valle 89.36 36 P **P 01 34 27.2 +0.2**
baz=282
F18K Selawik 89.39 23 P **P 01 34 27.4 +0.4**
baz=288
A22K Sinclair Lake 89.48 18 P **P 01 34 27.6 +0.3**
baz=292
M13K Dall Lake 89.53 29 P **P 01 34 27.1 -0.6**
baz=284
L14K Kuka Creek 89.60 28 P **P 01 34 28.1 +0.1**
baz=285
I17K Unalakleet 89.78 25 P **P 01 34 28.6 -0.2**
baz=287
D20K Etivluk River 89.79 20 P **P 01 34 29.1 +0.2**
baz=290
H17K Granite Mounta 89.80 24 P **P 01 34 28.8 -0.1**
baz=288
K15K Wolf Creek Mou 89.87 27 P **P 01 34 29.1 -0.2**
baz=286
G18K Tagagawik 90.00 23 P **P 01 34 29.7 -0.1**
baz=289
J16K Anvik River 90.00 26 P **P 01 34 29.8 -0.1**
baz=287
E19K Redstone River 90.01 21 P **P 01 34 30.1 +0.2**
baz=290
F19K Shaleruckik Mo 90.03 22 P **P 01 34 29.1 -0.8**
F19K Shaleruckik Mo 90.03 22 P **P 01 34 30.8 +0.8**
baz=290
L15K Ungalak Mounta 90.06 28 P **P 01 34 30.5 +0.3**
baz=286
M14K Bethel 90.10 28 P **P 01 34 30.7 +0.3**
baz=286
E20K Nigu River 90.10 21 P **P 01 34 30.8 +0.4**
baz=291
B21K Ikpikpuk River 90.12 19 P **P 01 34 31.1 +0.8**
baz=292
B22K Teshekpuk Lake 90.22 18 P **P 01 34 31.2 +0.5**
baz=294
C21K Knifeblade Rid 90.25 20 P **P 01 34 32.0 +1.1**
baz=292
H18K Honhosa River 90.35 24 P **P 01 34 32.0 +0.5**
baz=289
N14K Kuskokwak Cree 90.46 29 P **P 01 34 32.4 +0.4**
baz=286
G19K Purcell Mounta 90.52 23 P **P 01 34 33.3 +1.0**
baz=290
J17K VABM Dome 90.62 26 P **P 01 34 33.3 +0.5**
J17K VABM Dome 90.62 26 P **P 01 34 33.7 +1.0**
baz=288
F20K Avaraart Lake 90.70 22 P **P 01 34 34.1 +1.0**
baz=291,SNR=9.6
TORD Torodi Ar. Bea 90.71 283 P **P 01 34 34.6 +0.4**
comp=Z,130nm,0.3s,baz=82,slow=4.3,SNR=3.2
M15K Kasigluk River 90.72 28 P **P 01 34 34.2 +0.9**
baz=287
E21K Killik River 90.80 20 P **P 01 34 34.0 +0.4**
baz=293
O14K Tigyukauivet M 90.85 30 P **P 01 34 34.8 +0.9**
baz=286
L16K Owhat River 90.97 27 P **P 01 34 35.7 +1.3**
baz=288
H19K Roundabout Mou 90.98 23 P **P 01 34 35.3 +0.9**
baz=291,SNR=5.7
D22K Ayikyak River 91.05 19 P **P 01 34 35.8 +1.1**
baz=294
GCSA Galena City Sc 91.08 24 P **P 01 34 35.7 +0.8**
baz=290
N15K Kwethluk River 91.15 29 P **P 01 34 35.8 +0.4**
baz=287
K17K Iditarod 91.17 26 P **P 01 34 36.2 +0.8**
baz=289
C23K Itkillik River 91.31 18 P **P 01 34 36.1 +0.3**
C23K Itkillik River 91.31 18 P **P 01 34 37.0 +1.2**
baz=296
ELIB Princess Elisa 91.36 197 *d*P **P 01 34 39.6 +3.4**
comp=Z,4.3nm,1.1s
L17K Donlin 91.37 27 P **P 01 34 37.2 +0.9**
baz=289
M16K Timber Creek 91.42 28 P **P 01 34 37.5 +0.9**
baz=288
ESDC Sonseca Array 91.43 310 P **P 01 34 36.8 -0.4**
ESDC Sonseca Array 91.43 310 P **P 01 34 37.2 +0.1**
comp=Z,0.9nm,0.6s,baz=56,slow=4.0,SNR=12
comp=Z,0.9nm,0.6s
F21K Alatna River 91.45 21 P **P 01 34 37.6 +1.0**
baz=293
O15K Ungalikthiuk R 91.58 30 P **P 01 34 38.4 +1.1**
baz=288
J18K Innoko River 91.60 25 P **P 01 34 37.4 0.0**
J18K Innoko River 91.60 25 P **P 01 34 38.6 +1.2**
baz=290
H20K Anotleneega Mo 91.60 23 P **P 01 34 38.4 +1.1**
baz=292,SNR=10
E22K Anaktuvuk Pass 91.65 20 P **P 01 34 38.6 +1.1**
baz=295
D23K Nanushuk River 91.67 19 P **P 01 34 38.4 +0.8**
baz=296
N16K Nishlik Lake 91.69 28 P **P 01 34 38.4 +0.6**
baz=288
G21K Allakaket 91.72 22 P **P 01 34 38.5 +0.7**
baz=293,SNR=8.8
F22K John River 91.79 21 P **P 01 34 39.3 +1.1**
baz=295
J19K Poorman 91.86 24 P **P 01 34 39.5 +0.9**
baz=291,SNR=20
C24K Franklin Bluff 91.95 18 P **P 01 34 39.9 +1.1**
baz=298
M17K Holitna River 92.00 27 P **P 01 34 40.3 +1.1**
baz=290
I20K Naaghedeneel 92.03 24 P **P 01 34 40.4 +1.2**
baz=292,SNR=17
L18K Granite Mounta 92.05 26 P **P 01 34 40.4 +1.0**
baz=290
TOLK Toolik Lake Re 92.18 19 P **P 01 34 40.8 +0.8**
baz=297
D24K Happy Valley 92.18 19 P **P 01 34 40.8 +0.9**
baz=298
O16K Kokwok River B 92.29 29 P **P 01 34 41.6 +1.0**
baz=289
H21K Melozitna Rive 92.33 22 P **P 01 34 40.8 +0.1**
H21K Melozitna Rive 92.33 22 P **P 01 34 41.5 +0.8**
baz=294
SDPT Sand Point 92.38 33 P **P 01 34 41.6 +0.6**
baz=287
J20K Nowinta River 92.40 24 P **P 01 34 42.3 +1.3**
baz=293,SNR=5.3
N17K Nushagak Hills 92.41 28 P **P 01 34 42.1 +1.0**
baz=290
E23K Chandalar 92.43 20 P **P 01 34 42.1 +0.9**
baz=297
S14K Fog Glacier 92.60 32 P **P 01 34 42.8 +0.5**
baz=288
COLD Coldfoot 92.61 21 P **P 01 34 43.0 +1.1**
baz=296
VNDA Vanda 92.67 168 P **P 01 34 42.4 +0.5**
comp=Z,0.9nm,1.1s,baz=262,slow=8.1,SNR=3.0
comp=Z,0.9nm,1.1s
M18K Stony River 92.69 27 P **P 01 34 42.8 +0.4**
baz=291
O17K Koliganek Bris 92.71 29 P **P 01 34 43.2 +0.7**
baz=290
K20K Telida 92.75 25 P **P 01 34 43.9 +1.2**
baz=293,SNR=11
H22K Ishtalitna Cre 92.77 22 P **P 01 34 44.0 +1.2**
baz=295
E24K Your Creek 92.80 20 P **P 01 34 43.9 +1.0**
baz=298
D25K Kavik River 92.86 18 P **P 01 34 42.9 -0.3**
D25K Kavik River 92.86 18 P **P 01 34 44.0 +0.9**
baz=300
L19K White Mountain 92.86 26 P **P 01 34 43.8 +0.6**
baz=292
G23K Bananza Creek 92.90 21 P **P 01 34 43.9 +0.5**
baz=297
N18K Kilae Creek 92.95 28 P **P 01 34 44.0 +0.3**
baz=291
C26K Camden Bay 92.99 17 P **P 01 34 44.9 +1.3**
baz=302
CHNA Chernabura Isl 93.02 34 P **P 01 34 44.7 +0.7**
baz=288
L20K Farewell, AK 93.17 26 P **P 01 34 45.7 +1.0**
baz=293
M19K Big River Lodg 93.17 26 P **P 01 34 45.2 +0.6**
baz=292
CHGN Chignik 93.20 32 P **P 01 34 45.7 +0.9**
baz=289
P17K Kvichak River 93.22 29 P **P 01 34 46.1 +1.2**
baz=290
CHUM Lake Minchumin 93.25 24 P **P 01 34 45.8 +0.9**
baz=294,SNR=9.1
F24K Squaw Lake 93.26 20 P **P 01 34 45.8 +0.8**
baz=299
Q16K King Salmon 93.30 30 P **P 01 34 45.5 +0.3**
baz=290
H23K Yukon River 93.47 22 P **P 01 34 46.3 +0.3**
baz=297
CAST Castle Rocks 93.54 24 P **P 01 34 46.8 +0.5**
CAST Castle Rocks 93.54 24 P **P 01 34 47.5 +1.2**
baz=295,SNR=23
N19K Bonanza Creek 93.55 27 P **P 01 34 47.5 +1.0**
baz=292,SNR=9.9
O18K Koktuh Hills 93.57 28 P **P 01 34 47.4 +0.9**
baz=292
BPAW Bear Paw Mtn. 93.69 24 P **P 01 34 47.8 +0.8**
baz=296
PPLA Purkeypile 93.72 25 P **P 01 34 47.8 +0.5**
baz=294
E25K Arctic Village 93.73 19 P **P 01 34 48.1 +1.0**
baz=301
M20K Styx River 93.73 26 P **P 01 34 48.5 +1.2**
baz=294
P18K Big Mountain, 93.73 29 P **P 01 34 48.0 +0.7**
baz=292
G24K Hadweenzic Riv 93.80 21 P **P 01 34 48.2 +0.8**
baz=299
I23K Minto, Yukon-K 93.85 22 P **P 01 34 48.0 +0.3**
baz=297
O19K Port Alsworth 93.86 28 P **P 01 34 48.6 +0.8**
baz=292
F25K Christian Rive 93.97 19 P **P 01 34 49.0 +0.7**
baz=301
H24K Noodor Dome 94.08 21 P **P 01 34 49.6 +0.8**
baz=299
NEA2 Nenana 94.22 23 P **P 01 34 50.4 +0.9**
baz=297
G25K Bearman Lake 94.24 20 P **P 01 34 50.5 +1.0**
baz=300
TRF Thorofare Moun 94.26 24 P **P 01 34 49.9 0.0**
baz=296
SKT Skwentna 94.38 26 P **P 01 34 50.6 +0.4**
baz=295,SNR=9.9
BMAR Burnt Mountain 94.41 19 P **P 01 34 51.1 +0.8**
F26K Sheenjek River 94.41 19 P **P 01 34 51.3 +1.1**
baz=302
SPCR Spurr Chakacha 94.41 26 P **P 01 34 51.4 +0.9**
baz=294
P19K Oil Pt 94.57 28 P **P 01 34 52.2 +1.0**
baz=293
H25L Birch Creek 94.59 21 P **P 01 34 52.3 +1.2**
baz=300
MCK McKinley 94.67 23 P **P 01 34 52.3 +0.8**
baz=298
O20K Slope Mountain 94.68 28 P **P 01 34 52.3 +0.5**
baz=294
CUT Chulitna 94.73 25 P **P 01 34 52.5 +0.7**
baz=296
R18K Karluk 94.79 30 P **P 01 34 52.4 +0.3**
baz=292
CHIR Chirikof Islan 94.83 32 P **P 01 34 53.1 +0.7**
baz=291
G26K Porcupine Rive 94.93 20 P **P 01 34 53.8 +1.2**
baz=302
SUA Susitna One 94.94 26 P **P 01 34 53.6 +0.7**
baz=296,SNR=22
E27K Coleen River 94.94 18 P **P 01 34 53.8 +1.1**
baz=305
ILAR Eielson Array 94.96 22 P **P 01 34 50.5 -2.3**
comp=Z,0.3nm,0.7s,baz=295,slow=4.9,SNR=8.5
comp=Z,0.3nm,0.7s
M22K Willow 95.08 25 P **P 01 34 53.3 -0.1**
baz=296,SNR=5.7
PRP Porcupine Dome 95.08 21 P **P 01 34 53.7 +0.2**
PRP Porcupine Dome 95.08 21 P **P 01 34 53.9 +0.4**
baz=301
D28M Stokes Point 95.11 17 P **P 01 34 54.3 +0.9**
baz=307
SII Sitkinak Islan 95.31 31 P **P 01 34 55.3 +0.8**
baz=292
E28M Babbage River 95.32 17 P **P 01 34 55.1 +0.7**
baz=307
OHAK Old Harbor 95.51 30 P **P 01 34 55.4 0.0**
baz=293
RC01 Rabbit Creek A 95.54 26 P **P 01 34 55.6 0.0**
baz=296
PMR Palmer 95.57 25 P **P 01 34 55.7 +0.1**
baz=297
J25K Salcha River, 95.60 22 P **P 01 34 55.7 -0.1**
baz=301
KDAK Kodiak Island 95.63 30 P **P 01 34 54.6 -1.3**
comp=Z,3.0nm,1.0s,baz=251,slow=5.4,SNR=1.9
comp=Z,3.0nm,1.0s
KDAK Kodiak Island 95.63 30 P **P 01 34 56.0 0.0**
baz=294
BRSE Bradley Lake S 95.69 27 P **P 01 34 56.0 -0.2**
baz=296
G27K Doyon Strip 95.71 19 P **P 01 34 56.2 0.0**
baz=304
SML Sawmill 95.81 25 P **P 01 34 56.9 +0.1**
baz=298
O22K Cooper Landing 95.82 27 P **P 01 34 56.6 -0.2**
baz=296
K24K Donnelly Dome 95.86 23 P **P 01 34 57.0 0.0**
baz=300
E29M Blow River 95.93 17 P **P 01 34 57.3 +0.2**
baz=308
KNK Knik Glacier 95.94 25 P **P 01 34 57.0 -0.3**
baz=298
I26K Coal Creek Min 96.03 21 P **P 01 34 57.1 -0.6**
baz=303
M23K Glacier View 96.07 25 P **P 01 34 56.7 -1.2**
baz=298
H27K Steamboat Moun 96.08 20 P **P 01 34 57.8 -0.2**
baz=304
SEW Seward 96.11 27 P **P 01 34 57.8 -0.3**
baz=297
SCM Sheep Creek Mo 96.22 25 P **P 01 34 58.5 -0.2**
baz=299
RIDG Independent Ri 96.25 23 P **P 01 34 59.0 +0.2**
baz=301
PWL Port Wells 96.25 26 P **P 01 34 59.6 +0.8**
baz=298
J26L Joseph Creek 96.33 22 P **P 01 34 59.9 +0.7**
baz=302
I27K Kandik River 96.41 20 P **P 01 35 00.2 +0.8**
baz=304
PAX Paxson 96.41 23 P **P 01 35 00.4 +0.8**
baz=301
SCRK Sand Creek 96.45 22 P **P 01 35 00.2 +0.5**
baz=302
A36M Sachs Harbour 96.49 11 P **P 01 35 00.2 +0.6**
baz=321
M24K Tolsona, Glenn 96.56 24 P **P 01 35 00.7 +0.5**
baz=300
G29M Pine Creek 96.81 18 P **P 01 35 01.9 +0.7**
baz=308
HARP HAARP 96.82 24 P **P 01 35 01.9 +0.5**
baz=301
KLU Klutina 96.97 25 P **P 01 35 02.6 +0.4**
baz=300
F30M Barrier River 97.04 17 P Pdif 01 35 02.6 +0.3
baz=310
I28M Miner Creek 97.07 20 P Pdif 01 35 02.6 +0.1
baz=306
H29M Whitestone 97.12 19 P Pdif 01 35 02.9 +0.2
baz=308
K27K Chicken 97.13 22 P Pdif 01 35 02.9 +0.2
baz=304
L26K Log Cabin Wild 97.20 23 P Pdif 01 35 03.4 +0.2
baz=302
INK Inuvik 97.22 16 P **P 01 35 02.1 -0.8**
comp=Z,1.0nm,1.0s,baz=303,slow=7.2,SNR=3.1
comp=Z,1.0nm,1.0s
INK Inuvik 97.22 16 P Pdif 01 35 03.3 +0.3
baz=312
G30M tAoh Zraii Nji 97.31 18 P Pdif 01 35 03.7 +0.2
baz=310
N25K Chitina, Valde 97.46 24 P Pdif 01 35 05.0 +0.6
baz=301
QSPA South Pole Qui 97.52 180 P Pdif 01 35 04.9 +0.4
comp=Z,1.0nm,0.9s,baz=170,slow=2.8,SNR=1.7
comp=Z,1.0nm,0.9s
EPYK Eagle Plains 97.55 18 P **P 01 35 04.3 -0.3**
EPYK Eagle Plains 97.55 18 P Pdif 01 35 05.2 +0.6
baz=309
RES Resolute Bay 97.65 2 P **P 01 35 04.2 -0.6**
comp=Z,1.2nm,0.8s,baz=349,slow=6.0,SNR=8.6
comp=Z,1.2nm,0.8s
I29M Ogilvie Camp, 97.67 20 P Pdif 01 35 05.3 +0.2
baz=308
M26K Nabesna, AK 97.68 23 P Pdif 01 35 05.4 +0.1
baz=303
F31M Tsiigehtchic 97.74 17 P Pdif 01 35 05.8 +0.4
baz=312
L27K Beaver Creek, 97.76 22 P Pdif 01 35 05.7 +0.1
baz=304
BMRM Bremner River 97.79 25 P Pdif 01 35 06.1 +0.3
baz=301
G31M Satah River 97.94 17 P Pdif 01 35 06.4 +0.2
baz=311
DAWY Dawson 98.07 21 P **P 01 35 07.0 0.0**
baz=306
M27K Edge Creek, AK 98.14 23 P **P 01 35 07.4 0.0**
baz=304
I30M Mount Dempster 98.39 19 P Pdif 01 35 08.7 +0.2
baz=309
KAIM Kayak Island 98.41 26 P Pdif 01 35 09.0 +0.4
baz=301
H31M Peel River 98.66 18 P Pdif 01 35 09.6 0.0
baz=311
C36M Paulatuk 98.80 13 P Pdif 01 35 10.3 +0.3

baz=322
K29M Barlow Dome 98.87 21 P **P 01 35 10.2 -0.5**
baz=308
YUK3 Moose Creek 99.02 23 P **Pdif 01 35 11.5 0.0**
baz=305
L29M L29M 99.10 21 P **Pdif 01 35 11.9 +0.3**
baz=307
M29M Somme Creek 99.38 22 P **Pdif 01 35 13.0 +0.1**
baz=307
YUK8 Steele Glacier 99.58 23 P **Pdif 01 35 13.9 -0.2**
baz=306
O28M Mount Upton 99.70 24 P **Pdif 01 35 14.7 0.0**
baz=305
M30M Minto, Yukon 99.91 21 P **Pdif 01 35 14.9 -0.3**
baz=309
YUK4 Talbot Arm 99.97 23 P **Pdif 01 35 15.0 -0.7**
baz=307
PINM Pinnacle 100.07 24 P **Pdif 01 35 15.5 -0.5**
baz=305
YUK6 Outpost Mounta 100.33 23 P **Pdif 01 35 17.3 0.0**
baz=307
N30M Aishikik Lake 100.50 22 P **Pdif 01 35 17.9 -0.1**
baz=308
N31M Braeburn, Yuko 100.97 22 P **Pdif 01 35 20.3 +0.3**
baz=309
M31M Drury Creek, Y 101.02 21 P **Pdif 01 35 19.9 -0.2**
baz=311
FARO Faro, Yukon 101.36 21 P **Pdif 01 35 21.9 +0.2**
baz=312
P29M Windy Craggy 101.37 24 P **Pdif 01 35 21.8 0.0**
baz=307
P30M Million Dollar 101.38 23 P **Pdif 01 35 21.6 -0.2**
baz=308
MMPY Sheldon Lake, 101.81 20 P **Pdif 01 35 23.4 -0.3**
baz=314
WHY Whitehorse 101.84 22 P **Pdif 01 35 24.0 +0.1**
baz=310
SKAG Skagway 102.44 23 P **Pdif 01 35 26.4 0.0**
baz=310
P33M Teslin, Yukon 102.91 22 P **Pdif 01 35 28.0 -0.6**
baz=312
Q32M Nakina River 103.95 23 P **Pdif 01 35 32.9 -0.6**
baz=312
S32K Killisnoo 104.02 25 P **Pdif 01 35 33.2 -0.3**
baz=310
WRAK Wrangell Islan 105.63 25 P **PKiKP 01 39 54.4 +0.6**
baz=312
YKA Yellowknife Ar 106.66 14 Pdiff **Pdif 01 35 44.9 -0.3**
baz=314,slow=5.0,SNR=1.5
YKA PP **PP 01 40 11.4 +1.7**
comp=Z,0.3nm,0.8s,baz=332,slow=7.3,SNR=4.2
V35K Ketchikan 106.67 25 P **PKiKP 01 39 56.9 +1.2**
baz=312
TBI Tubuai 117.14 112 *e*LR LR 02 15 42.1
comp=Z,914nm,28.8s
TBI *e*LR LR 02 15 42.4
comp=Z,2μm,23.5s
PPT2 Papeete2 117.22 106 *e*LR LR 02 15 49.3
comp=Z,288nm,27.8s
PPT2 *e*LR LR 02 15 50.3
comp=Z,298nm,26.8s
PLID Pearl Lake 120.93 25 PKPdf 01 40 22.0 -1.6
ULM Lac du Bonnet 121.71 8 PKP **PKPdf 01 40 24.1 -0.5**
comp=Z,4.6nm,0.8s,baz=358,slow=3.6,SNR=3.8
NVAR Mina Array Bea 125.11 31 PKP **PKPdf 01 40 31.3 -0.5**
comp=Z,1.0nm,0.9s,baz=257,slow=1.3,SNR=4.3
PDAR Pinedale Array 125.38 21 PKP **PKPdf 01 40 30.1 -2.2**
comp=Z,2.4nm,0.9s,baz=40,slow=2.5,SNR=5.3
TAOE Nuku Hiva Isla 126.24 95 *e*LR LR 02 19 59.3
comp=Z,243nm,26.2s
R11B Troy Canyon, C 126.52 29 PKPdf **PKPdf 01 40 34.4 -0.1**
RKT Rikitea 130.40 114 *e*LR LR 02 21 55.1
comp=Z,1μm,28.5s
TXAR Lajitas Array 139.43 24 PKP **PKPdf 01 40 57.7 -1.1**
comp=Z,0.7nm,0.7s,baz=151,slow=1.0,SNR=5.0
BDFB Brasilia 142.19 254 PKhKP PKPpre 01 41 00.7
comp=Z,4.5nm,0.9s,baz=124,slow=9.6,SNR=5.1
PLCA Paso Flores 144.33 200 PKPdf PKPbc 01 41 05.5 0.0
PLCA Paso Flores 144.33 200 PKP PKPbc 01 41 06.3 +0.9
comp=Z,2.9nm,0.8s,baz=222,slow=2.9,SNR=13
PLCA Paso Flores 144.33 200 PKIKP PKPbc 01 41 05.5 +0.1
PLCA Paso Flores 144.33 200 P PKPbc 01 41 06.3 +0.9
LL04 Puerto Octay 144.76 198 PKPdf **PKPdf 01 41 08.3 +0.5**
LR05 Currie 145.26 199 PKPbc 01 41 07.1 -1.2
CPUP Villa Florida 147.15 232 PKPbc **PKPbc 01 41 14.6 +0.1**
comp=Z,2.8nm,0.7s,baz=146,slow=3.9,SNR=9.5
CELP Cerrillos 148.19 324 PKPbc 01 41 16.9 -0.6
OBIP Obispado Ponce 148.23 324 PKPbc **PKPbc 01 41 16.8 -0.8**
SDDR Presa de Saban 149.94 332 PKPbc **PKPbc 01 41 20.4 -1.6**
PEL Peldehue 150.99 207 PKPbc **PKPbc 01 41 23.9 -0.2**
PEL Peldehue 150.99 207 PKIKP **PKPbc 01 41 23.9 -0.2**
MT02 Curacav 151.09 206 PKPdf 01 41 18.7 +0.3
PTLB Pontes e Lacer 152.76 251 PKPdf 01 41 20.1 -1.2
LPAZ La Paz 160.70 242 PKP **PKPdf 01 41 31.9 -0.5**
comp=Z,1.6nm,0.7s,baz=52,slow=4.2,SNR=8.1
LPAZ PKPab **PKPab 01 42 14.1 -0.1**
comp=Z,0.4nm,0.4s,baz=28,slow=3.8,SNR=1.3
ROSC El Rosal 163.14 317 PKP **PKPdf 01 41 34.1 -0.5**
comp=Z,3.6nm,0.4s,baz=110,slow=20,SNR=1.6

*NDI **01** 01:22:31.6±0.5, 7°.41N×94°.16E, h10km, mb4.2, MW4.4, mb4.6(NEIC)*
*IDC **01** 01:22:46.9±0.7, 7°.42N×93°.97E, h0km, mb4.4/23, mbtmp4.4/24, ML4.9/1, Error ellipse: s-maj=22.8km s-min=18.1km az=56.0*
*NEIC **01** 01:22:48.0±1.1, 7°.40N±0°.08×94°.1E±0°.1, h10km±1km, mb4.6/25, Error ellipse: s-maj=20.8km s-min=12.6km az=247.0*

ISC 01 01:22:49.4±0.4, 7°.36N±0°.07×94°.22E±0°.07, h20km, n77, σ1§26/77, mb4.6/35, 2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.44**	**128**	Pn	**Pn**	**01 23 42.6**	**+0.7**
SRIT	**Nakonsritamara**	**5.47**	**77**	Pn	**Pn**	**01 24 10.8**	**+1.0**
RPSI	**Rantau Prapat**	**6.59**	**134**		**Sn**	**01 25 38.2**	**-1.7**
RPSI	**Rantau Prapat**	**6.59**	**134**	Pn	**Pn**	**01 24 24.2**	**-1.1**
KULM	**Kulim**	**6.72**	**107**	Pn	**Pn**	**01 24 23.7**	**-3.2**
KULM	**Kulim**	**6.72**	**107**	S	**Pn**	**01 24 24.2**	**-2.8**
MYKOM	**Kota Tinggi**	**11.08**	**120**	Pn	**Pn**	**01 25 27.5**	**+0.6**
CM31	**Chiang Mai Arr**	**11.95**	**22**	Pn	**Pn**	**01 25 39.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**11.95**	**22**	Pn	**Pn**	**01 25 37.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**11.95**	**22**	Pn	**Pn**	**01 25 39.8**	**+1.1**
2.1nm,0.3s,baz=340,slow=33,SNR=4.9							
3.9nm,0.5s							
CHTO	**Chiang Mai**	**12.28**	**22**	Pn	**Pn**	**01 25 42.4**	**-0.8**
SLVN	**Son La**	**16.75**	**33**	P	**P**	**01 26 45.1**	**-0.1**
SBUM	**Sibu**	**18.58**	**104**	P	**P**	**01 27 05.5**	**+0.1**
LSA	**Lhasa**	**22.41**	**353**	P	**P**	**01 27 47.9**	**+0.6**
LSA				IAmb	IAmb	01 27 57.6	
comp=Z,20nm,0.7s							
WUS	**Wushi**	**36.24**	**341**	P	**P**	**01 29 50.5**	**-0.9**
WUS				IAmb	IAmb	01 30 06.6	
comp=Z,14nm,1.1s							
KDJ	**Kajisay**	**37.77**	**339**	P	**P**	**01 30 05.7**	**+1.4**
MBWA	**Marble Bar**	**37.83**	**139**	P	**P**	**01 30 05.1**	**+0.2**
MBWA				IAmb	IAmb	01 30 08.3	
comp=Z,20nm,1.5s							
GAR	**Garm**	**38.15**	**329**	P	**P**	**01 30 07.3**	**-0.2**
GAR				IAmb	IAmb	01 30 24.2	
comp=Z,35nm,1.3s							
ARSB	**Arslanbob**	**38.73**	**334**	P	**P**	**01 30 11.1**	**-1.4**
ARSB				IAmb	IAmb	01 30 23.1	
comp=Z,13nm,0.9s							
AAK	**Ala-Archa**	**39.20**	**337**	P	**P**	**01 30 16.0**	**-0.4**
comp=Z,2.0nm,0.7s,baz=185,slow=8.5,SNR=1.3							
comp=Z,2.0nm,0.7s							
MK31	**Makanchi Array**	**40.60**	**347**	P	**P**	**01 30 26.8**	**-1.0**
MKAR	**Makanchi Array**	**40.60**	**347**	P	**P**	**01 30 26.8**	**-1.0**
MKAR	**Makanchi Array**	**40.60**	**347**	P	**P**	**01 30 27.2**	**-0.6**
comp=Z,6.6nm,0.7s,baz=162,slow=8.5,SNR=6.2							
comp=Z,6.6nm,0.7s							
MAKZ	**Makanchi**	**40.68**	**347**	P	**P**	**01 30 26.8**	**-1.6**
MAKZ				IAmb	IAmb	01 30 28.4	
comp=Z,6.8nm,0.8s							
SONM	**Songino Array**	**41.64**	**12**	P	**P**	**01 30 34.3**	**-2.2**
SONM	**Songino Array**	**41.64**	**12**	P	**P**	**01 30 37.0**	**+0.6**
comp=Z,5.9nm,1.1s,baz=195,slow=8.4,SNR=3.0							
comp=Z,5.9nm,1.1s							
JNU	**Nakatsue**	**42.53**	**48**	P	**P**	**01 30 47.2**	**+3.4**
comp=Z,7.1nm,0.8s,baz=316,slow=12,SNR=1.5							
comp=Z,7.1nm,0.8s							
KURBB	**Kurchatov Arra**	**45.06**	**346**	P	**P**	**01 31 03.5**	**-0.2**
comp=Z,7.4nm,0.8s,baz=167,slow=7.2,SNR=6.2							
comp=Z,7.4nm,0.8s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**45.12**	**346**	P	**P**	**01 31 03.4**	**-0.9**
ZAA0	**Zalesovo Array**	**47.07**	**352**	P	**P**	**01 31 19.9**	**+0.3**
ZALV	**Zalesovo Beam**	**47.07**	**352**	P	**P**	**01 31 19.1**	**-0.5**
ZALV	**Zalesovo Beam**	**47.07**	**352**	P	**P**	**01 31 19.6**	**0.0**
comp=Z,7.5nm,0.7s,baz=168,slow=7.4,SNR=3.6							
comp=Z,7.5nm,0.7s							
WB0	**Warramunga Arr**	**47.86**	**125**	P	**P**	**01 31 26.5**	**+0.2**
WB0				IAmb	IAmb	01 31 44.4	
comp=Z,5.5nm,0.9s							
WRA	**Warramunga Arr**	**47.91**	**125**	P	**P**	**01 31 27.2**	**+0.5**
WRA	**Warramunga Arr**	**47.91**	**125**	P	**P**	**01 31 28.7**	**+2.1**
comp=Z,2.1nm,0.9s,baz=301,slow=7.8,SNR=1.6							
comp=Z,2.1nm,0.9s							
RAYN	**Ar Rayn**	**49.37**	**295**	P	**P**	**01 31 40.3**	**+2.4**
RAYN				IAmb	IAmb	01 31 41.3	
comp=Z,8.5nm,0.6s							
MJAR	**Matsushiro Arr**	**49.45**	**47**	P	**P**	**01 31 39.7**	**+1.4**
comp=Z,1.9nm,0.7s,baz=249,slow=7.0,SNR=4.0							
comp=Z,1.9nm,0.7s							
BVAR	**Borovoye Array**	**49.49**	**341**	P	**P**	**01 31 37.9**	**-0.4**
comp=Z,5.6nm,0.9s,baz=140,slow=9.5,SNR=4.4							
comp=Z,5.6nm,0.9s							
ASAR	**Alice Springs**	**49.53**	**130**	P	**P**	**01 31 40.3**	**+1.1**
ASAR	**Alice Springs**	**49.53**	**130**	P	**P**	**01 31 41.2**	**+2.0**
comp=Z,1.8nm,0.8s,baz=301,slow=8.3,SNR=8.0							
comp=Z,1.8nm,0.8s							
ABKAR	**Akbulak array**	**50.71**	**332**	P	**P**	**01 31 47.4**	**-0.3**
ABKAR				IAmb	IAmb	01 32 05.8	
comp=Z,7.3nm,1.1s							
ARTI	**Arti**	**56.42**	**337**	P	**P**	**01 32 28.2**	**-1.3**
ARTI				IAmb	IAmb	01 32 39.7	
comp=Z,13nm,1.2s							
KMBO	**Kilima Mbogo**	**57.44**	**264**	P	**P**	**01 32 39.2**	**+1.5**
comp=Z,3.1nm,0.8s,baz=68,slow=11,SNR=3.6							
BR131	**Keskin Array S**	**62.82**	**311**	P	**P**	**01 33 12.5**	**-1.6**
BR131				IAmb	IAmb	01 33 13.9	
comp=Z,2.4nm,0.7s							
BRTR	**Keskin Array B**	**62.82**	**311**	P	**P**	**01 33 12.9**	**-1.1**
comp=Z,1.6nm,0.6s,baz=135,slow=6.6,SNR=4.3							
comp=Z,1.6nm,0.6s							
TIXI	**Tiksi**	**67.72**	**11**	P	**P**	**01 33 43.2**	**-1.8**
TIXI	**Tiksi**	**67.72**	**11**	P	**P**	**01 33 44.2**	**-0.8**
comp=Z,5.1nm,0.4s,baz=291,slow=1.7,SNR=2.8							
comp=Z,5.1nm,0.4s							
ALN	**Alexandroupoli**	**68.74**	**311**	P	**P**	**01 33 50.9**	**-1.1**
ITM	**Ithomi**	**71.48**	**307**	P	**P**	**01 34 06.5**	**-2.5**
FIA1	**FINESS Array S**	**73.19**	**332**	P	**P**	**01 34 17.8**	**-0.8**
FINES	**FINESS Array B**	**73.19**	**332**	P	**P**	**01 34 18.1**	**-0.5**
FINES	**FINESS Array B**	**73.19**	**332**	P	**P**	**01 34 18.6**	**0.0**
comp=Z,5.3nm,0.8s,baz=106,slow=6.5,SNR=4.5							
comp=Z,5.3nm,0.8s							
BOSA	**Boshof**	**75.38**	**238**	P	**P**	**01 34 33.2**	**+1.0**
comp=Z,3.5nm,0.8s,baz=352,slow=6.4,SNR=1.8							
comp=Z,3.5nm,0.8s							
ARCES	**ARCESS Array B**	**75.77**	**340**	P	**P**	**01 34 33.4**	**-0.1**
comp=Z,11nm,1.2s,baz=107,slow=6.0,SNR=1.8							
comp=Z,11nm,1.2s							
GEC2	**GERESS Array S**	**78.25**	**318**	P	**P**	**01 34 48.0**	**0.0**
GEC2				IAmb	IAmb	01 35 00.0	
comp=Z,4.3nm,1.1s							
GERES	**GERESS Array B**	**78.25**	**318**	P	**P**	**01 34 47.0**	**-1.0**
GERES	**GERESS Array B**	**78.25**	**318**	P	**P**	**01 34 48.2**	**+0.2**
comp=Z,1.2nm,0.7s,baz=94,slow=5.4,SNR=1.8							
comp=Z,1.2nm,0.7s							
NRCA	**Norcia**	**78.52**	**312**	P	**P**	**01 34 46.5**	**-3.1**
NRCA				IAmb	IAmb	01 34 57.1	
comp=Z,5.4nm,1.3s							
HFS	**Hagfors**	**78.93**	**330**	P	**P**	**01 34 51.5**	**+0.1**
comp=Z,2.7nm,0.5s,baz=116,slow=6.8,SNR=5.6							
comp=Z,2.7nm,0.5s							
NC602	**NORSAR Array S**	**80.04**	**330**	P	**P**	**01 34 57.3**	**-0.1**
NB2	**NORSAR Subarra**	**80.21**	**331**	P	**P**	**01 34 57.9**	**-0.5**
comp=Z,8.8nm,1.2s,baz=90,slow=6.2							
NOA	**NORSAR Array B**	**80.21**	**331**	P	**P**	**01 34 58.1**	**-0.3**
comp=Z,1.8nm,0.9s,baz=92,slow=5.5,SNR=5.3							
comp=Z,1.8nm,0.9s							
SPITS	**Spitsbergen Ar**	**80.35**	**348**	P	**P**	**01 34 59.4**	**+0.6**
comp=Z,4.5nm,0.8s,baz=98,slow=10,SNR=1.1							
comp=Z,4.5nm,0.8s							
NC204	**NORSAR Array S**	**80.44**	**331**	P	**P**	**01 34 59.8**	**+0.1**
SYO	**Syowa Base**	**84.94**	**197**	‖*e*P	**P**	**01 35 23.3**	**+0.6**
SYO	**Syowa Base**	**84.94**	**197**	‖*e*PcP	**PcP**	**01 35 26.1**	**+0.2**
EKA	**Eskdalemuir Ar**	**88.18**	**325**	P	**P**	**01 35 39.3**	**+0.4**
comp=Z,1.9nm,0.7s,baz=82,slow=4.9,SNR=3.5							
comp=Z,1.9nm,0.7s							
TORD	**Torodi Ar. Bea**	**90.79**	**283**	P	**P**	**01 35 50.9**	**-1.1**
comp=Z,18nm,0.3s,baz=77,slow=3.9,SNR=0.3							
ESDC	**Sonseca Array**	**91.60**	**310**	P	**P**	**01 35 55.1**	**-0.3**
comp=Z,0.9nm,0.7s,baz=60,slow=4.3,SNR=4.2							
comp=Z,0.9nm,0.7s							
ILAR	**Eielson Array**	**95.19**	**22**	P	**P**	**01 36 13.5**	**+2.2**
comp=Z,0.2nm,0.5s,baz=334,slow=5.3,SNR=1.1							
comp=Z,0.2nm,0.5s							
KDAK	**Kodiak Island**	**95.84**	**30**	P	**P**	**01 36 15.0**	**+0.6**
comp=Z,2.6nm,0.8s,baz=143,slow=5.0,SNR=2.0							
comp=Z,2.6nm,0.8s							
PLID	**Pearl Lake**	**121.15**	**25**	PKPdf	**PKPdf**	**01 41 39.2**	**-2.2**
NVAR	**Mina Array Bea**	**125.31**	**31**	PKP	**PKiKP**	**01 41 50.5**	**+0.5**
comp=Z,0.7nm,0.7s,baz=328,slow=1.8,SNR=3.5							
PDAR	**Pinedale Array**	**125.61**	**21**	PKP	**PKiKP**	**01 41 51.2**	**+0.7**
comp=Z,0.2nm,0.4s,baz=318,slow=0.8,SNR=1.6							
LL04	**Puerto Octay**	**144.53**	**198**	PKPdf	**PKPdf**	**01 42 24.9**	**0.0**
CBE	**Ff. Capester**	**146.61**	**314**	PKPbc	**PKPbc**	**01 42 29.9**	**-0.7**
CPUP	**Villa Florida**	**147.01**	**232**	PKPbc	**PKPbc**	**01 42 30.6**	**-0.9**
comp=Z,1.9nm,0.7s,baz=64,slow=18,SNR=1.5							

*BJI **01** 01:23:51.4, 6°.96N×93°.97E, h10km, mB5.3/27, mb4.9/65, Ms5.1/49, Ms7 4.9/48*
*NDI **01** 01:23:52.2±0.6, 7°.65N×94°.22E, h10km, mb5.1, MW5.0, mb5.2(NEIC)*
*MOS **01** 01:23:55.8±1.0, 7°.58N×94°.18E, h10km, mb5.4/54, MS4.9/11, Error ellipse: s-maj=7.8km s-min=4.0km az=113.1*
*IDC **01** 01:23:56.0±0.4, 7°.52N×94°.15E, h0km, mb4.9/40, mbtmp4.9/44, ML4.5/4, MS4.9/1, Error ellipse: s-maj=14.1km s-min=10.9km az=52.0*
*BGR **01** 01:23:57.3, 6°.81N×94°.48E, h33km, mb5.0, Ms4.7, Hypocentre not reviewed by the ISC*
*NEIC **01** 01:23:58.4, 7°.63N×94°.25E, h12km*
*NEIC **01** 01:23:58.5±1.9, 7°.66N±0°.07×94°.26E±0°.09, h10km±1km, mb5.2/258, Mww5.2/16, Error ellipse: s-maj=15.0km s-min=11.1km az=249.0*
*NEIC **01** 01:23:58.4, 7°.53N×94°.00E, h12km, Moment Tensor Solution. Duration: 2§2 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.58; $M_{\theta\theta}$=-5.16; $M_{\phi\phi}$=6.74; $M_{r\theta}$=-3.26; $M_{\phi r}$=4.23; $M_{\theta r}$=3.58; Fault plane solution: M_0=8.87000×10^{16} NP1:ϕ_s=59.16000°, δ=57.34000°, λ=-12.29000°. NP2:ϕ_s=155.87000°, δ=79.68000°, λ=-146.73000°. Principal axes: T 8.7355, Plg=15.0000°, Azm=284.0000°; N 0.2646, Plg=55.0000°, Azm=171.0000°; P -9.0000, Plg=31.0000°, Azm=23.0000°;*
*GCMT **01** 01:24:00.9±0.2, 7°.63N±0°.01×94°.28E±0°.01, h18km±1km, MW5.2/134, Moment Tensor Solution. s=63, c=73; s=134, c=238; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.13±.02; $M_{\theta\theta}$=-0.51±.02; $M_{\phi\phi}$=0.63±.02; $M_{r\theta}$=-0.20±.05; $M_{\theta\phi}$=0.64±.02; $M_{\phi r}$=0.14±.05; Best double couple: M_0=0.89300×10^{17} NP1:ϕ_s=68.00000°, δ=76.00000°, λ=-11.00000°. NP2:ϕ_s=160.00000°, δ=79.00000°, λ=-165.00000°. Principal axes: T 0.9210, Plg=2.0000°, Azm=294.0000°; N -0.0560, Plg=72.0000°, Azm=196.0000°; P -0.8650, Plg=18.0000°, Azm=24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **01** 01:24:02.8±0.3, 8°.N±2°.×9°.5E±°, h10km, MS.3/49, mB5.7/15, mb5.1/49, MLv5.4/13, Mw5.3/22, Mw(mB)5.2/15, MwMwp5.6/6, Mwp5.7/6*

ISC 01 01:23:59.0±0.6, 7°.57N±0°.04×94°.13E±0°.04, h17km±3km, n868, σ1§38/753, mb5.1/269, MS4.9/30, 37C-15D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.37**	**151**	P	**Pn**	**01 24 38.4**	**+1.3**
LHMI	**Lhok Sumawe**	**3.64**	**130**	Pn	**Pn**	**01 24 53.1**	**-1.5**
LHMI	**Lhok Sumawe**	**3.64**	**130**	P	**Pn**	**01 24 54.0**	**-0.6**
MLSI	**Meulaboh, Aceh**	**3.99**	**145**	P	**Pn**	**01 24 59.5**	**+0.1**
SRIT	**Nakonsritamara**	**5.51**	**79**	Pn	**Pn**	**01 25 19.1**	**-1.4**
SNSI	**Sinabang, Aceh**	**5.58**	**157**	P	**Pn**	**01 25 19.7**	**-1.5**
TSI	**Tuntungan**	**5.99**	**132**	P	**Pn**	**01 25 27.1**	**+0.2**
2.7nm612nm,1.2s							
PSI	**Prapat**	**6.73**	**135**	Pn	**Pn**	**01 25 38.2**	**+1.0**
5.6nm,0.3s,baz=295,slow=13,SNR=6.3							
PSI				Sn	**Sn**	**01 26 52.2**	**-1.3**
3.5nm,0.3s,baz=199,slow=6.1,SNR=1.3							
PSI				LR	LR	01 28 30.1	
comp=Z,10μm,20.3s,baz=306,slow=41							
46nm,0.6s							
PSI	**Prapat**	**6.73**	**135**	P	**Pn**	**01 25 39.7**	**+2.5**
158nm,1.1s							
RPSI	**Rantau Prapat**	**6.80**	**135**	Pn	**Pn**	**01 25 39.0**	**+0.9**
KULM	**Kulim**	**6.87**	**109**	Pn	**Pn**	**01 25 36.9**	**-2.1**
KULM	**Kulim**	**6.87**	**109**	P	**Pn**	**01 25 37.4**	**-1.6**
240nm,0.7s							
GSI	**Gunungsitoli**	**7.11**	**151**	P	**Pn**	**01 25 44.5**	**+2.1**
0.9nm146nm,1.6s							
GSI				S	**Sn**	**01 27 05.0**	**+2.2**
0.9nm146nm,1.6s							
PBSI	**Pulau Batu**	**8.63**	**151**	P	**Pn**	**01 26 04.7**	**+1.5**
153nm,1.3s							
MNSI	**Mandailing Nat**	**8.65**	**141**	P	**Pn**	**01 26 05.8**	**+2.3**
22μm3μm86nm,0.8s							
BKNI	**Bangkinang**	**9.96**	**136**	Pn	**Pn**	**01 26 21.8**	**+0.3**
BKNI	**Bangkinang**	**9.96**	**136**	P	**Pn**	**01 26 23.0**	**+1.5**
354nm,1.2s							
BKNI	**Bangkinang**	**9.96**	**136**	P	**Pn**	**01 26 22.0**	**+0.5**
SISI	**Saibi**	**10.13**	**151**	P	**Pn**	**01 26 25.1**	**+1.3**
92nm,1.2s							
PPI	**Padang Panjang**	**10.13**	**142**	P	**Pn**	**01 26 23.8**	**0.0**
19μm3μm229nm,1.4s							
MYKOM	**Kota Tinggi**	**11.26**	**120**	Pn	**Pn**	**01 26 38.2**	**-1.0**
MYKOM	**Kota Tinggi**	**11.26**	**120**	P	**Pn**	**01 26 39.3**	**0.0**
68nm,0.8s							
CMAR	**Chiang Mai Arr**	**11.79**	**23**		**Pn**	**01 26 45.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**11.79**	**23**	Pn	**Pn**	**01 26 47.3**	**+0.8**
1.3nm,0.3s,baz=217,slow=14,SNR=7.6							
3.3nm,0.3s							
CHTO	**Chiang Mai**	**12.12**	**22**	Pn	**Pn**	**01 26 49.0**	**-1.9**
CHTO	**Chiang Mai**	**12.12**	**22**	P	**Pn**	**01 26 49.1**	**-1.9**
PALK	**Pallekele**	**13.32**	**270**	Pn	**Pn**	**01 27 06.3**	**-1.2**
1.5nm,0.3s,baz=32,slow=11,SNR=4.2							
15nm,0.6s							
UBPT	**Khong Chiam**	**13.50**	**54**	Pn	**Pn**	**01 27 07.7**	**-2.2**
NONG	**Nongkai**	**13.63**	**39**	P	**Pn**	**01 27 15.8**	**+4.1**
71nm,1.9s							
CRAI	**Chiangrai**	**13.96**	**25**	Pn	**Pn**	**01 27 14.9**	**-1.4**
KSI	**Kapahiang**	**13.99**	**143**	P	**Pn**	**01 27 20.3**	**+3.7**
138nm,0.9s							
MNAI	**Manna**	**14.77**	**143**	P	**P**	**01 27 31.8**	**-1.4**
128nm,0.7s							
RAGD	**RAYAGADA**	**15.56**	**319**	*e*P	Pn	01 27 30.4	-7.3
RAGD				IAmb	IAmb	01 27 45.9	
comp=Z,68nm,0.5s							
MDSI	**Maura Dua**	**15.62**	**140**	P	**Pn**	**01 27 35.8**	**-2.8**
comp=Z,63nm,1.1s							
VJD	**Vijayawada**	**15.89**	**305**	*e*P	**Pn**	**01 27 35.3**	**-6.7**
SALM	**Salem**	**16.22**	**286**	*e*P	**Pn**	**01 27 40.6**	**-5.6**
SALM				IAmb	IAmb	01 27 54.9	
comp=Z,2μm,2.7s							
KASI	**Kota Agung**	**16.62**	**141**	P	**Pn**	**01 27 51.8**	**+0.4**
comp=Z,32nm,0.7s							
SLVN	**Son La**	**16.63**	**34**	Pn	**Pn**	**01 27 50.2**	**-1.3**
KOD	**Kodaikanal**	**16.67**	**280**	*e*P	**Pn**	**01 27 46.3**	**-6.0**
KOD				IAmb	IAmb	01 27 59.2	
comp=Z,120nm,1.2s							
TPI	**Tanjungpandan**	**16.95**	**127**	P	**Pn**	**01 27 55.6**	**0.0**
comp=Z,2μmcomp=Z,92nm,1.2s							
IMP	**Imphal**	**17.16**	**359**	*e*P	**Pn**	**01 27 51.2**	**-7.0**
IMP				IAmb	IAmb	01 28 13.4	
comp=Z,46nm,0.9s							
KSM	**Kuching**	**17.22**	**110**	Pn	**Pn**	**01 27 57.2**	**-1.8**
KSM				IAmb	IAmb	01 28 03.5	
comp=Z,170nm,1.1s							
KSM	**Kuching**	**17.22**	**110**	P	**P**	**01 28 00.8**	**+0.3**
comp=Z,148nm,1.3s							
TNCH	**TengChong**	**17.86**	**13**	‖P	**P**	**01 28 07.2**	**-0.4**
TNCH				pP	pP	01 28 10.3	-1.7
TNCH				PP	**PnPn**	**01 28 24.9**	**+6.8**
TNCH				pmax	pmax		
comp=Z,94nm,0.4s							
TNCH				pmax	pmax		
comp=Z,920nm,7.2s							
TNCH				LR	LR		
comp=Z,3μm,9.6s							
TNCH				LR	LR		
comp=Z,5μm,9.7s							
TNCH				LR	LR		
comp=Z,5μm,12.0s							
KOHI	**KOHIMA**	**18.05**	**360**	*e*P	**Pn**	**01 28 03.5**	**-5.8**
HYB	**Hyderabad**	**18.07**	**304**	*e*P	**P**	**01 28 10.4**	**+0.6**
SBJI	**Serang**	**18.12**	**138**	P	**P**	**01 28 10.6**	**+0.3**
comp=Z,80nm,0.5s							
CGJI	**Cibinong**	**18.21**	**140**	P	**Pn**	**01 28 11.1**	**-0.1**
comp=Z,50nm,0.9s							
SBUM	**Sibu**	**18.72**	**105**	P	**P**	**01 28 15.4**	**-1.5**
SBUM	**Sibu**	**18.72**	**105**	P	**Pn**	**01 28 18.3**	**+0.9**
comp=Z,34nm,1.3s							
STKI	**Sintang**	**18.84**	**113**	P	**P**	**01 28 18.2**	**-0.1**
comp=Z,175nm,1.2s							
QIZ	**Qiongzhong**	**19.05**	**52**	P	**P**	**01 28 20.5**	**-0.1**
QIZ				S	**Sn**	**01 31 52.3**	**-2.2**
QIZ				pmax	pmax		
comp=Z,32nm,2.0s							
QIZ				pmax	pmax		
comp=Z,960nm,4.9s							
QIZ

GYA				LR	LR	
	comp=Z,4μm,13.4s					
GYA				LR	LR	
	comp=Z,2μm,12.2s					
TBJI	**Tambak Boyo**	**22.73**	**129**	P	**P**	**01 29 07.5 +7.1**
	comp=Z,5μmcomp=Z,280nm,1.2s					
NGJI	**Ngawi**	**22.78**	**130**	P	P	01 29 08.1 +7.2
	comp=Z,226nm,1.2s					
PCJI	**Pacitan**	**23.11**	**132**	P	**P**	**01 29 06.5 +2.1**
GULI	**GuiLin**	**23.47**	**39**	P	**P**	**01 29 11.0 +3.1**
GULI				pmax	pmax	
	comp=Z,40nm,1.1s					
MYLDM	**Lahad Datu**	**24.34**	**94**	P	**P**	**01 29 16.4 +0.2**
KMMI	**Kalianget**	**24.54**	**126**	P	**P**	**01 29 21.4 +3.3**
	comp=Z,117nm,1.3s					
CD2	**Chengdu**	**24.91**	**20**	P	**P**	**01 29 22.5 +1.2**
CD2				S	**S**	**01 33 44.7 +0.7**
CD2				pmax	pmax	
	comp=Z,30nm,0.9s					
CD2				LR	LR	
	comp=Z,2μm,12.4s					
CD2				LR	LR	
	comp=Z,2μm,11.7s					
H08S3	**Diego Garcia H**	**26.34**	**235**	T	T	01 56 11.5
	baz=55,slow=75,SNR=205					
H08S2	**Diego Garcia H**	**26.34**	**235**	T	T	01 56 10.8
	baz=55,slow=75,SNR=7.2					
H08S1	**Diego Carcia H**	**26.36**	**235**	T	T	01 56 12.8
	baz=55,slow=75,SNR=304					
CNSH	**ChangSha**	**27.13**	**39**	P	**P**	**01 29 38.0 -3.4**
CNSH				pmax	pmax	
	comp=Z,16nm,1.0s					
CNSH				LR	LR	
	comp=Z,2μm,15.1s					
CNSH				LR	LR	
	comp=Z,2μm,13.8s					
CNSH				LR	LR	
	comp=Z,2μm,13.7s					
TOLI2	**Tolitoli**	**27.33**	**102**	P	**P**	**01 29 41.6 -1.7**
TOLI2				IAmb	IAmb	01 29 48.3
	comp=Z,29nm,0.8s					
KAPI	**Kappang**	**28.46**	**115**	P	**P**	**01 29 52.0 -1.4**
KAPI	**Kappang**	**28.46**	**115**	P	**P**	**01 29 52.0 -1.4**
KAPI				pmax	pmax	
	comp=Z,21nm,1.1s					
GOMU	**GeErMu**	**28.50**	**1**	P	**P**	**01 29 54.6 +0.6**
GOMU				pP	pP	01 29 58.5 -0.3
GOMU				sP	sP	01 30 02.3 +1.5
GOMU				S	**S**	**01 34 43.9 +2.6**
GOMU				pmax	pmax	
	comp=Z,26nm,0.9s					
GOMU				LR	LR	
	comp=Z,2μm,13.3s					
GOMU				LR	LR	
	comp=Z,2μm,13.8s					
GOMU				LR	LR	
	comp=Z,2μm,13.3s					
APSI	**Ampana**	**28.71**	**106**	P	P	01 30 04.0 +8.3
XAN	**Xi'an**	**29.67**	**25**	⇓P	**P**	**01 30 04.0 0.0**
XAN				pP	sP	01 30 09.7 -1.2
XAN				pmax	pmax	
	comp=Z,17nm,0.8s					
WHN	**Wuhan**	**29.68**	**37**	P	**P**	**01 30 05.6 +1.5**
WHN				pmax	pmax	
	comp=Z,84nm,0.9s					
LZH	**Lanzhou**	**29.74**	**16**	*e*P	**P**	**01 30 06.2 +1.4**
LZH				sP	sP	01 30 18.0 +6.4
LZH				pmax	pmax	
	comp=Z,21nm,1.0s					
LZH				LR	LR	
	comp=Z,1μm,14.4s					
LZH				LR	LR	
	comp=Z,1μm,15.1s					
LZH				LR	LR	
	comp=Z,2μm,19.6s					
LUWI	**Luwuk**	**29.82**	**105**	P	**P**	**01 30 05.4 -0.1**
LYN	**LuoYang**	**31.72**	**30**	P	**P**	**01 30 24.1 +2.0**
LYN				pmax	pmax	
	comp=Z,30nm,0.7s					
LYN				LR	LR	
	comp=Z,3μm,10.7s					
LYN				LR	LR	
	comp=Z,3μm,11.3s					
LYN				LR	LR	
	comp=Z,3μm,15.8s					
GTA	**Gaotai**	**32.11**	**8**	P	**P**	**01 30 27.0 +1.4**
GTA				pP	sP	01 30 32.0 -0.4
GTA				sP	pP	01 30 35.7 +5.2
GTA				PcP	**PcP**	**01 33 15.9 +1.2**
GTA				pmax	pmax	
	comp=Z,19nm,1.1s					
GTA				LR	LR	
	comp=Z,430nm,15.6s					
GTA				LR	LR	
	comp=Z,1μm,16.0s					
GTA				LR	LR	
	comp=Z,950nm,17.8s					
NIL	**Nilore**	**32.34**	**326**	P	**P**	**01 30 26.6 -0.9**
NIL	**Nilore**	**32.34**	**326**	P	**P**	**01 30 26.7 -0.9**
NIL				pmax	pmax	
	comp=Z,71nm,0.8s					
NJ2	**Nanjing**	**33.51**	**40**	⇑P	**P**	**01 30 39.2 +1.5**
NJ2				pmax	pmax	
	comp=Z,67nm,1.0s					
NJ2				pmax	pmax	
	comp=Z,6μm,10.0s					
NJ2				LR	LR	
	comp=Z,5μm,13.3s					
NJ2				LR	LR	
	comp=Z,8μm,13.3s					
NJ2				LR	LR	
	comp=Z,6μm,15.2s					
SSE	**Sheshan**	**34.45**	**44**	P	**P**	**01 30 44.9 -1.0**
SSE				S	**S**	**01 36 13.3 -0.3**
SSE				pmax	pmax	
	comp=Z,8.0nm,0.5s					
SSE				pmax	pmax	
	comp=Z,81nm,3.8s					
SSE				LR	LR	
	comp=Z,1μm,13.6s					
SSE				LR	LR	
	comp=Z,1μm,14.1s					
SOEI	**Soe**	**34.60**	**119**	P	**P**	**01 30 48.2 +0.6**
	comp=Z,36nm,0.8s					
HNS	**HongShan**	**35.09**	**29**	⇑P	**P**	**01 30 53.8 +2.5**
HNS				pmax	pmax	
	comp=Z,21nm,0.9s					
KBL	**Kabul**	**35.41**	**323**	P	**P**	**01 30 54.6 +0.2**
KBL				IAmb	IAmb	01 30 56.3
	comp=Z,23nm,0.9s					
KBL	**Kabul**	**35.41**	**323**	P	**P**	**01 30 54.6 +0.2**
KBL				pmax	pmax	
	comp=Z,23nm,0.9s					
TIA	**Tai'an**	**35.41**	**33**	P	**P**	**01 30 55.5 +1.3**
TIA				S	**S**	**01 36 21.6 -6.7**
TIA				pmax	pmax	
	comp=Z,16nm,0.7s					
TIA				pmax	pmax	
	comp=Z,370nm,5.3s					
TIA				LR	LR	
	comp=Z,1μm,13.7s					
TIA				LR	LR	
	comp=Z,2μm,14.4s					
TIA				LR	LR	
	comp=Z,2μm,12.9s					
KSH	**Kashi**	**35.74**	**336**	P	**P**	**01 30 55.9 -1.2**
KSH				S	**S**	**01 36 29.8 -3.8**
KSH				pmax	pmax	
	comp=Z,15nm,0.9s					
KSH				LR	LR	
	comp=Z,910nm,18.6s					
KSH				LR	LR	
	comp=Z,1μm,25.4s					
KSH				LR	LR	
	comp=Z,1μm,28.7s					
KSH	**Kashi**	**35.74**	**336**	PcP	**P**	**01 30 55.8 -1.3**
BTO	**Baotou**	**35.83**	**21**	*e*P	**P**	**01 30 59.2 +1.4**
BTO				pP	**sP**	**01 31 04.0 -0.7**
BTO				sP	**pwP**	**01 31 06.1 +3.3**
BTO				PP	**PP**	**01 32 25.9 +6.6**
BTO				S	**S**	**01 36 38.5 +3.7**
BTO				SS	**SS**	**01 39 07.6 -3.5**
BTO				pmax	pmax	
	comp=Z,25nm,1.1s					
BTO				pmax	pmax	
	comp=Z,630nm,4.8s					
BTO				LR	LR	
	comp=Z,2μm,12.8s					
BTO				LR	LR	
	comp=Z,3μm,11.7s					
BTO				LR	LR	
	comp=Z,2μm,11.7s					
WUS	**Wushi**	**36.02**	**341**	IAmb	IAmb	01 31 01.2
	comp=Z,45nm,0.8s					
WMQ	**Urumqi**	**36.55**	**352**	*e*P	**P**	**01 31 05.3 +1.4**
WMQ				pmax	pmax	
	comp=Z,36nm,1.3s					
WMQ				LR	LR	
	comp=Z,730nm,24.3s					
WMQ				LR	LR	
	comp=Z,1μm,21.3s					
WMQ				LR	LR	
	comp=Z,740nm,17.1s					
HHC	**Hu-ho-hao-te**	**36.60**	**22**	⇑*i*P	**P**	**01 31 06.7 +2.2**
HHC				sP	pwP	01 31 18.1 +8.6
HHC				S	**S**	**01 36 48.6 +1.9**
HHC				pmax	pmax	
	comp=Z,16nm,0.7s					
HHC				pmax	pmax	
	comp=Z,150nm,4.6s					
HHC				LR	LR	
	comp=Z,2μm,13.8s					
HHC				LR	LR	
	comp=Z,2μm,14.1s					
HHC				LR	LR	
	comp=Z,2μm,14.5s					
KDJ	**Kajisay**	**37.54**	**339**	P	**P**	**01 31 13.0 +0.5**
KDJ	**Kajisay**	**37.54**	**339**	P	**P**	**01 31 13.0 +0.5**
KDJ				pmax	pmax	
	comp=Z,30nm,1.0s					
SHLS	**Shalkode**	**37.72**	**342**	*e*P	**P**	**01 31 12.3 -1.6**
SHLS				pmax	pmax	
	comp=Z,16nm,0.9s					
SHLS	**Shalkode**	**37.72**	**342**	*e*P	**P**	**01 31 12.4 -1.6**
	comp=Z,16nm,0.9s					
UZB	**Uzynbulak**	**37.84**	**342**	*e*P	**P**	**01 31 14.3 -0.7**
UZB	**Uzynbulak**	**37.84**	**342**	*e*P	**P**	**01 31 14.3 -0.7**
BJI	**Beijing**	**37.88**	**28**	P	**P**	**01 31 15.8 +0.7**
BJI				pP	**sP**	**01 31 20.2 -1.9**
BJI				PP	**PnPn**	**01 32 42.8 -0.3**
BJI				S	**S**	**01 37 08.4 +2.6**
BJI				pmax	pmax	
	comp=Z,6.0nm,1.0s					
BJI				pmax	pmax	
	comp=Z,100nm,9.7s					
BJI				LR	LR	
	comp=Z,570nm,11.8s					
BJI				LR	LR	
	comp=Z,580nm,13.1s					
BJI				LR	LR	
	comp=Z,600nm,12.0s					
GAR	**Garm**	**37.93**	**329**	P	**P**	**01 31 15.7 -0.1**
SATY	**Saty**	**37.96**	**341**	*e*P	**P**	**01 31 15.4 -0.5**
SATY	**Saty**	**37.96**	**341**	*e*P	**P**	**01 31 15.4 -0.5**
SWI	**Sorong**	**37.97**	**101**	P	**P**	**01 31 17.3 +1.0**
	comp=Z,74nm,1.2s					
ZHN	**Zhinishke**	**38.05**	**341**	*e*P	**P**	**01 31 16.1 -0.6**
ZHN	**Zhinishke**	**38.05**	**341**	*e*P	**P**	**01 31 16.1 -0.6**
CHGR	**Chuyangaron**	**38.27**	**328**	P	**P**	**01 31 17.0 -1.6**
CHGR	**Chuyangaron**	**38.27**	**328**	P	**P**	**01 31 17.0 -1.6**
SIMJ	**Simiganj**	**38.35**	**328**	P	**P**	**01 31 19.2 -0.2**
SIMJ				IAmb	IAmb	01 31 20.6
	comp=Z,56nm,0.9s					
PSA00	**Pilbara Seismi**	**38.41**	**139**	P	**P**	**01 31 17.9 -2.0**
PSA00	**Pilbara Seismi**	**38.41**	**139**	P	**P**	**01 31 17.9 -2.0**
TNSS	**Tian-Shan**	**38.42**	**340**	*e*P	**P**	**01 31 19.1 -1.1**
TNSS	**Tian-Shan**	**38.42**	**340**	*e*P	**P**	**01 31 19.2 -1.1**
BTK	**Batken**	**38.49**	**331**	P	**P**	**01 31 21.1 +0.6**
BTK				IAmb	IAmb	01 31 23.3
	comp=Z,33nm,0.9s					
BTK	**Batken**	**38.49**	**331**	P	**P**	**01 31 21.1 +0.6**
BTK				pmax	pmax	
	comp=Z,33nm,0.9s					
MDOK	**Medeo**	**38.50**	**340**	*e*P	**P**	**01 31 19.9 -0.6**
MDOK	**Medeo**	**38.50**	**340**	*e*P	**P**	**01 31 20.0 -0.6**
ARSB	**Arslanbob**	**38.51**	**334**	P	**P**	**01 31 20.4 -0.3**
ARSB				IAmb	IAmb	01 31 22.3
	comp=Z,54nm,0.9s					
ARSB	**Arslanbob**	**38.51**	**334**	P	**P**	**01 31 20.4 -0.3**
ARSB				pmax	pmax	
	comp=Z,54nm,0.9s					
AAA	**Alma-Ata**	**38.59**	**340**	*e*P	**P**	**01 31 20.7 -0.5**
AAA	**Alma-Ata**	**38.59**	**340**	*e*P	**P**	**01 31 20.7 -0.5**
AAK	**Ala-Archa**	**38.98**	**337**	P	**P**	**01 31 24.2 -0.4**
AAK	**Ala-Archa**	**38.98**	**337**	P	**P**	**01 31 25.1 +0.5**
	comp=Z,22nm,1.0s,baz=178,slow=6.4,SNR=8.4					
AAK				PcP	**PcP**	**01 33 36.6 +1.7**
	comp=Z,11nm,0.9s,baz=163,slow=6.9,SNR=5.9					
	comp=Z,22nm,1.0s					
AAK	**Ala-Archa**	**38.98**	**337**	*ce*P	**P**	**01 31 24.7 +0.1**
AAK				pmax	pmax	
	comp=Z,23nm,1.0s					
AAK	**Ala-Archa**	**38.98**	**337**	P	**P**	**01 31 25.8 +1.2**
SOHO	**SOHO**	**39.57**	**299**	P	**P**	**01 31 32.2 +2.7**
TDK	**Taldyqorghan**	**39.71**	**342**	*e*P	**P**	**01 31 29.9 -0.6**
TDK	**Taldyqorghan**	**39.71**	**342**	*e*P	**P**	**01 31 29.9 -0.6**
DL2	**Dalian**	**39.83**	**34**	P	**P**	**01 31 32.6 +1.1**
DL2				S	**S**	**01 37 39.6 +4.3**
DL2				pmax	pmax	
	comp=Z,32nm,0.9s					
DL2				pmax	pmax	
	comp=Z,310nm,4.3s					
DL2				LR	LR	
	comp=Z,930nm,11.8s					
DL2				LR	LR	
	comp=Z,3μm,13.9s					
DL2				LR	LR	
	comp=Z,2μm,12.3s					
UOSS	**Minazif**	**40.11**	**300**	P	**P**	**01 31 37.7 +3.6**
HATD	**Hatta, Dubai**	**40.13**	**300**	P	**P**	**01 31 37.9 +3.6**
MDH	**Madha**	**40.14**	**301**	P	**P**	**01 31 36.7 +2.4**
ASHO	**Ashiyiah**	**40.15**	**300**	P	**P**	**01 31 38.0 +3.5**
ALNE	**Al Ain**	**40.22**	**298**	P	**P**	**01 31 38.6 +3.6**
MK31	**Makanchi Array**	**40.38**	**347**	P	**P**	**01 31 35.4 -0.6**
MK31				IAmb	IAmb	01 31 37.3
	comp=Z,40nm,0.9s					
MK31	**Makanchi Array**	**40.38**	**347**	*ce*P	**P**	**01 31 35.8 -0.2**
MKAR	**Makanchi Array**	**40.38**	**347**	P	**P**	**01 31 35.1 -0.9**
MKAR	**Makanchi Array**	**40.38**	**347**	P	**P**	**01 31 35.9 -0.2**
	comp=Z,44nm,0.8s,baz=163,slow=8.6,SNR=27					
	comp=Z,44nm,0.8s					
MAKZ	**Makanchi**	**40.46**	**347**	P	**P**	**01 31 36.5 -0.2**
MAKZ				IAmb	IAmb	01 31 37.9
	comp=Z,34nm,0.8s					
MAKZ	**Makanchi**	**40.46**	**347**	P	**P**	**01 31 36.2 -0.5**
ZSN	**Zaisan**	**40.52**	**350**	*e*P	**P**	**01 31 36.7 -0.4**
ZSN				pmax	pmax	
	comp=Z,26nm,1.1s					
ZSN	**Zaisan**	**40.52**	**350**	*e*P	**P**	**01 31 36.7 -0.4**
	comp=Z,26nm,1.1s					
ASUD	**Al Ashush, Dub**	**40.76**	**299**	*i*P	**P**	**01 31 42.9 +3.4**
	SNR=7.3					
XLT	**XiLinHaoTe**	**40.96**	**24**	*e*P	**P**	**01 31 42.9 +1.9**
XLT				pP	pwP	01 31 47.6 +1.6
XLT				S	**S**	**01 37 57.4 +5.1**
XLT				sS	sS	01 38 08.8 +8.1
XLT				pmax	pmax	
	comp=Z,18nm,0.9s					
XLT				LR	LR	
	comp=Z,3μm,14.9s					
XLT				LR	LR	
	comp=Z,2μm,16.2s					
KK31	**Karatay Array**	**41.03**	**333**	P	**P**	**01 31 41.1 -0.4**
KK31	**Karatay Array**	**41.03**	**333**	*i*P	**P**	**01 31 41.6 +0.2**
KKAR	**Karatay Array**	**41.03**	**333**	P	**P**	**01 31 41.4 -0.1**
KKAR	**Karatay Array**	**41.03**	**333**	P	**P**	**01 31 41.4 -0.1**
KKAR				pmax	pmax	
	comp=Z,18nm,0.9s					
BTLS	**Baital**	**41.20**	**338**	*e*P	**P**	**01 31 42.3 -0.4**
BTLS	**Baital**	**41.20**	**338**	*e*P	**P**	**01 31 42.4 -0.4**
BRLS	**Borolday**	**41.27**	**333**	*e*P	**P**	**01 31 41.9 -1.5**
BRLS	**Borolday**	**41.27**	**333**	*e*P	**P**	**01 31 42.0 -1.5**
SONM	**Songino Array**	**41.46**	**12**	P	**P**	**01 31 44.6 -0.4**
SONM	**Songino Array**	**41.46**	**12**	P	**P**	**01 31 45.5 +0.4**
	comp=Z,13nm,0.9s,baz=197,slow=7.4,SNR=13					
SONM				PcP	**PcP**	**01 33 43.3 +0.5**
	comp=Z,5.2nm,0.7s,baz=202,slow=4.3,SNR=6.1					
	comp=Z,13nm,0.9s					
MEEK	**Meekatharra**	**41.48**	**146**	P	**P**	**01 31 44.6 -0.8**
	comp=Z,19nm,1.1s					
ULN	**Ulaanbaatar**	**41.63**	**13**	P	**P**	**01 31 46.3 -0.2**
ULN	**Ulaanbaatar**	**41.63**	**13**	*ce*P	**P**	**01 31 46.3 -0.2**
ULN				pmax	pmax	
	comp=Z,10.0nm,1.0s					
MZR	**Muzera**	**41.93**	**296**	*i*P	**P**	**01 31 52.5 +3.3**
	SNR=9.4					
JNU	**Nakatsue**	**42.46**	**48**	P	**P**	**01 31 52.6 -0.7**
JNU				IAmb	IAmb	01 32 00.6
	comp=Z,84nm,1.3s					
JNU	**Nakatsue**	**42.46**	**48**	P	**P**	**01 31 53.9 +0.6**
	comp=Z,18nm,0.8s,baz=106,slow=1.3,SNR=5.9					
	comp=Z,18nm,0.8s					
KSAR	**Wonju Array Be**	**42.67**	**41**	P	**P**	**01 31 55.1 +0.2**
KSAR	**Wonju Array Be**	**42.67**	**41**	P	**P**	**01 31 55.1 +0.2**
KSRS	**Korea Array**	**42.70**	**41**	P	**P**	**01 31 55.4 +0.2**
	comp=Z,6.3nm,1.0s,baz=230,slow=9.3,SNR=10					
	comp=Z,6.3nm,1.0s					
ZAK	**Zakamensk**	**43.35**	**9**	*e*P	**P**	**01 32 00.0 -0.4**
ZAK				*e*		01 33 48.8
ZAK				pmax	pmax	
	comp=Z,6.0nm,1.4s					
ZAK				pmax	pmax	
	comp=Z,5.0nm,1.4s					
MUN	**Mundaring**	**44.62**	**153**	P	**P**	**01 32 10.8 +0.1**
	comp=Z,38nm,1.3s					
KURBB	**Kurchatov Arra**	**44.84**	**346**	P	**P**	**01 32 12.4 +0.3**
	comp=Z,59nm,0.9s,baz=165,slow=7.1,SNR=32					
KURBB				PcP	**PcP**	**01 33 54.0 +0.3**
	comp=Z,7.1nm,0.8s,baz=163,slow=2.8,SNR=6.1					
	comp=Z,59nm,0.9s					
KURK	**Kurchatov**	**44.90**	**346**	P	**P**	**01 32 12.8 +0.2**
KURK	**Kurchatov**	**44.90**	**346**	*ce*P	**P**	**01 32 12.9 +0.2**
KURK				pmax	pmax	
	comp=Z,118nm,1.3s					
KLBR	**Kellerberrin**	**45.02**	**151**	P	**P**	**01 32 13.3 -0.5**
	comp=Z,44nm,1.0s					
NWAO	**Narrogin (SRO)**	**45.88**	**153**	P	**P**	**01 32 20.8 +0.1**
NWAO	**Narrogin (SRO)**	**45.88**	**153**	P	**P**	**01 32 20.8 +0.1**
NWAO				pmax	pmax	
	comp=Z,53nm,1.1s					
BRZS	**Berezniki**	**45.92**	**341**	*e*P	**P**	**01 32 20.5 -0.3**
BRZS	**Berezniki**	**45.92**	**341**	*e*P	**P**	**01 32 20.5 -0.3**
HIA	**Hailar**	**46.80**	**23**	P	**P**	**01 32 27.1 -0.7**
HIA				IAmb	IAmb	01 32 41.4
	comp=Z,40nm,1.2s					
HIA	**Hailar**	**46.80**	**23**	P	**P**	**01 32 27.1 -0.7**
HIA				pmax	pmax	
	comp=Z,40nm,1.2s					
ZAA0	**Zalesovo Array**	**46.85**	**352**	P	**P**	**01 32 27.9 -0.1**
ZALV	**Zalesovo Beam**	**46.85**	**352**	P	**P**	**01 32 27.9 -0.1**
ZALV	**Zalesovo Beam**	**46.85**	**352**	P	**P**	**01 32 28.6 +0.6**
	comp=Z,51nm,0.8s,baz=178,slow=7.8,SNR=23					
	comp=Z,51nm,0.8s					
KMBL	**Kambalda**	**46.95**	**147**	P	**P**	**01 32 28.1 -0.9**
	comp=Z,39nm,1.0s					
RKGY	**Rocky Gully**	**47.19**	**154**	P	**P**	**01 32 32.2 +1.3**
	comp=Z,26nm,1.5s					
BNX	**BinXian**	**47.63**	**31**	⇓P	**P**	**01 32 33.9 -0.3**
BNX				pmax	pmax	
	comp=Z,12nm,1.0s					
INU	**Inuyama**	**48.00**	**48**	P	**P**	**01 32 36.2 -1.0**
INU				IAmb	IAmb	01 32 38.8
	comp=Z,18nm,0.9s					
MDJ	**Mudanjiang**	**48.06**	**34**	P	**P**	**01 32 39.9 +2.3**
MDJ				pmax	pmax	
	comp=Z,13nm,1.2s					
WRA	**Warramunga Arr**	**48.10**	**125**	P	**P**	**01 32 36.6 -1.6**
WRA	**Warramunga Arr**	**48.10**	**125**	P	**P**	**01 32 36.4 -1.9**
	comp=Z,4.9nm,0.7s,baz=303,slow=9.0,SNR=7.5					
WRA				PcP	**PcP**	**01 34 05.6 -0.3**
	comp=Z,2.7nm,0.7s,baz=301,slow=3.5,SNR=4.2					
	comp=Z,4.9nm,0.7s					
WRA	**Warramunga Arr**	**48.10**	**125**	P	**P**	**01 32 36.6 -1.6**
WRA				pmax	pmax	
	comp=Z,1.0nm,1.6s					
JGF	**Kuroka**	**48.35**	**48**	P	**P**	**01 32 39.1 -1.0**
JGF				IAmb	IAmb	01 32 41.9
	comp=Z,27nm,1.0s					
USRK	**Ussuriysk Ar.**	**49.16**	**36**	P	**P**	**01 32 45.6 -0.5**
	comp=Z,3.4nm,0.9s,baz=223,slow=9.8,SNR=2.7					
	comp=Z,3.4nm,0.9s					
RAYN	**Ar Rayn**	**49.20**	**295**	P	**P**	**01 32 48.2 +1.4**
RAYN	**Ar Rayn**	**49.20**	**295**	P	**P**	**01 32 48.2 +1.4**
RAYN				pmax	pmax	
	comp=Z,35nm,0.8s					
RAYN	**Ar Rayn**	**49.20**	**295**	*i*P	**P**	**01 32 49.2 +2.4**
	SNR=15					
BVA0	**Borovoye Array**	**49.27**	**341**	*i*P	**P**	**01 32 46.4 -0.4**
BVAR	**Borovoye Array**	**49.27**	**341**	P	**P**	**01 32 46.7 0.0**
	comp=Z,28nm,0.9s,baz=142,slow=7.5,SNR=20					
BVAR				PcP	**PcP**	**01 34 10.3 +0.8**
	comp=Z,8.7nm,0.7s,baz=161,slow=2.5,SNR=6.6					
	comp=Z,28nm,0.9s					
BRVK	**Borovoye**	**49.33**	**341**	P	**P**	**01 32 46.9 -0.3**
BRVK				IAmb	IAmb	01 32 48.5
	comp=Z,26nm,0.9s					
BRVK	**Borovoye**	**49.33**	**341**	*ce*P	**P**	**01 32 47.2 0.0**
BRVK				pmax	pmax	
	comp=Z,43nm,1.3s					
MJAR	**Matsushiro Arr**	**49.37**	**48**	P	**P**	**01 32 49.0 +1.1**
	comp=Z,5.7nm,0.8s,baz=240,slow=8.0,SNR=8.1					
MJAR				PcP	**PcP**	**01 34 09.5 -0.8**
	comp=Z,6.3nm,0.8s,baz=249,slow=4.0,SNR=9.7					
	comp=Z,5.7nm,0.8s					
ASAR	**Alice Springs**	**49.73**	**130**	P	**P**	**01 32 48.3 -2.4**
ASAR	**Alice Springs**	**49.73**	**130**	P	**P**	**01 32 49.2 -1.6**
	comp=Z,6.0nm,0.8s,baz=307,slow=7.2,SNR=6.9					
ASAR				PcP	**PcP**	**01 34 11.7 -0.1**
	comp=Z,6.2nm,0.8s,baz=309,slow=3.9,SNR=8.7					
	comp=Z,6.0nm,0.8s					
FORT	**Forrest**	**50.11**	**141**	P	**P**	**01 32 52.8 -0.6**
FORT	**Forrest**	**50.11**	**141**	P	**P**	**01 32 54.3 +0.9**
	comp=Z,78nm,1.0s					
GUMO	**Guam**	**50.16**	**79**	P	**P**	**01 32 53.5 -0.6**
	comp=Z,35nm,0.3s,baz=352,slow=22,SNR=1.6					
	comp=Z,35nm,0.3s					
AB31	**Akbulak array**	**50.49**	**332**	*i*P	**P**	**01 32 56.2 +0.1**
ABKAR	**Akbulak array**	**50.49**	**332**	P	**P**	**01 32 55.9 -0.2**
ABKAR				IAmb	IAmb	01 32 57.7
	comp=Z,34nm,1.0s					
HEH	**HeiHe**	**50.78**	**27**	*e*P	**P**	**01 32 58.3 +0.1**
HEH				pmax	pmax	
	comp=Z,8.0nm,0.9s					
HEH				LR	LR	
	comp=Z,950nm,15.3s					
HEH				LR	LR	
	comp=Z,1μm,17.0s					
HEH				LR	LR	
	comp=Z,1μm,14.6s					
KLR	**Kul'dur**	**52.15**	**30**	P	**P**	**01 33 09.1 +0.6**
	comp=Z,2.1nm,0.8s,baz=275,slow=6.6,SNR=2.5					
	comp=Z,2.1nm,0.8s					
KLR	**Kul'dur**	**52.15**	**30**	*i*P	**P**	**01 33 07.8 -0.7**
KLR				pmax	pmax	
	comp=Z,3.0nm,1.1s					
AKTO	**Aktyubinsk**	**52.21**	**332**	P	**P**	**01 33 09.0 +0.1**
QIS	**Mount Isa**	**52.72**	**123**	P	**P**	**01 33 09.9 -3.3**
ZEA	**Zeya**	**53.23**	**24**	*e*P	P	01 33 28.7 +12
ZEA				pmax	pmax	
	comp=Z,10.0nm,0.9s					
ZEA				MLR	MLR	
	comp=E,600nm,16.0s					
ZEA				MLR	MLR	
	comp=N,600nm,15.0s					
ZEA				MLR	MLR	
	comp=Z,600nm,16.0s					
MAK	**Makhachkala**	**53.93**	**319**	*e*P	P	01 33 16.6 -5.2
MAK				*e*		01 35 18.0
MAK				*e*S	**S**	**01 40 49.6 -7.0**
MAK				*e*SS	**SS**	**01 44 38.4 +0.4**
MAK				*e*SSS	SSS	01 46 33.4
MAK				pmax	pmax	
	comp=Z,338nm,1.4s					
GNI	**Garni**	**54.64**	**314**	P	**P**	**01 33 26.6 -0.6**
GNI				IAmb	IAmb	01 33 33.4
	comp=Z,22nm,0.9s					
GNI	**Garni**	**54.64**	**314**	*ce*P	**P**	**01 33 25.4 -1.8**
GNI				pmax	pmax	
	comp=Z,33nm,1.3s					
GNI	**Garni**	**54.64**	**314**	P	**P**	**01 33 28.2 +1.0**
SVE	**Sverdlovsk**	**55.68**	**338**	*e*P	**P**	**01 33 34.5 +0.3**
SVE				pmax	pmax	
	comp=Z,101nm,1.2s					
GURO	**Guroymak-BITLI**	**56.03**	**312**	P	**P**	**01 33 36.5 -0.7**
ARTI	**Arti**	**56.20**	**337**	P	**P**	**01 33 37.2 -0.7**
ARTI	**Arti**	**56.20**	**337**	*c i*P	**P**	**01 33

ARTI							01 35 38.0
ARTI				S	S		01 41 28.9 +2.3
ARTI				SS	SS		01 45 15.7 +2.4
ARTI				pmax	pmax		
	comp=Z,74nm,1.1s						
ARTI				MLR	MLR		
	comp=Z,1μm,19.0s						
MARD	**Mardin**	**56.58**	**310**	IAmb	IAmb		01 33 47.4
	comp=Z,17nm,0.8s						
YSS	**Yuzhno-Sakhali**	**57.03**	**38**	*e*P	P		01 33 43.8 -0.2
YSS				*e*S	S		01 41 39.8 +2.0
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=N,700nm,16.0s						
YSS				MLR	MLR		
	comp=Z,800nm,16.0s						
YSS				MLR	MLR		
	comp=E,800nm,15.0s						
KBZ	**Khabaz**	**57.30**	**318**	P	P		01 33 46.0 0.0
	comp=E,14nm,1.0s,baz=96,slow=5.5,SNR=8.5						
KBZ				PcP	PcP		01 34 41.0 +0.9
	comp=E,6.9nm,0.8s,baz=233,slow=5.0,SNR=2.5						
	comp=E,14nm,1.0s						
KBZ	**Khabaz**	**57.30**	**318**	*ce*P	P		01 33 45.3 -0.7
KBZ				pmax	pmax		
	comp=Z,22nm,1.1s						
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	P		01 33 49.3 +1.9
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	P		01 33 50.1 +2.7
	comp=Z,8.4nm,0.8s,baz=57,slow=10,SNR=12						
KMBO	**Kilima Mbogo**	**57.38**	**264**	*i* P	P		01 33 49.8 +2.5
KMBO	**Kilima Mbogo**	**57.38**	**264**	*i* P	P		01 33 50.8 +3.4
	SNR=10						
SHA1	**Shidzhatmaz**	**57.47**	**318**	*i* P	P		01 33 47.4 -0.1
KIV	**Kislovodsk**	**57.53**	**318**	P	P		01 33 47.0 -0.8
KIV				IAmb	IAmb		01 33 49.2
	comp=Z,36nm,0.9s						
KIV	**Kislovodsk**	**57.53**	**318**	⇑P	P		01 33 47.5 -0.3
KIV	**Kislovodsk**	**57.53**	**318**	*e*P	P		01 33 47.6 -0.2
KIV				pmax	pmax		
	comp=Z,35nm,1.1s						
KIV				MLR	MLR		
	comp=Z,537nm,17.0s						
KIV	**Kislovodsk**	**57.53**	**318**	*i* P	P		01 33 48.1 +0.4
	SNR=11						
LABN	**Labinsk**	**59.10**	**318**	*e*P	P		01 33 57.3 -1.3
LABN				*e*S	S		01 42 04.6 -0.4
LABN				pmax	pmax		
	comp=Z,12nm,1.0s						
QLP	**Quilpie**	**59.26**	**127**	P	P		01 33 59.2 -0.8
	comp=Z,39nm,0.8s						
GAZ	**Gaziantep**	**59.27**	**309**	IAmb	IAmb		01 34 01.4
	comp=Z,14nm,1.0s						
SOC	**Sochi**	**59.39**	**317**	*e*P	P		01 33 57.9 -2.7
SOC				*e*			01 36 06.8
SOC				*e*PPP	PPP		01 37 33.0
SOC				*e*S	S		01 42 06.7 -2.2
SOC				*e*SS	SS		01 46 04.9 +1.0
SOC				pmax	pmax		
	comp=Z,17nm,0.8s						
ERBR	**Yeremizino-Bor**	**59.66**	**319**	*e*P	P		01 33 59.3 -3.1
ERBR				*e*S	S		01 42 12.3 0.0
ERBR				pmax	pmax		
	comp=Z,21nm,0.9s						
ERBR				MLR	MLR		
	comp=Z,592nm,15.0s						
MMAI	**Mount Meron Ar**	**59.77**	**304**	P	P		01 34 02.6 -1.0
	comp=Z,5.5nm,0.8s,baz=76,slow=10,SNR=3.9						
	comp=Z,5.5nm,0.8s						
STKA	**Stephens Creek**	**59.91**	**134**	P	P		01 34 02.6 -1.7
	comp=Z,4.1nm,0.8s,baz=295,slow=9.0,SNR=5.6						
	comp=Z,4.1nm,0.8s						
YAK	**Yakutsk**	**60.28**	**18**	P	P		01 34 05.8 -0.6
YAK	**Yakutsk**	**60.28**	**18**	P	P		01 34 05.6 -0.8
	comp=Z,61nm,0.7s,baz=204,slow=1.3,SNR=8.9						
	comp=Z,61nm,0.7s						
YAK	**Yakutsk**	**60.28**	**18**	*e*P	P		01 34 06.0 -0.4
YAK				*e*			01 34 51.2
YAK				*e*			01 36 19.7
YAK				*e*S	S		01 42 18.2 -1.5
YAK				*e**SS	sS		01 42 39.1 +11
YAK				*e*			01 43 53.9
YAK				*e*SS	SS		01 46 17.8 +0.6
YAK				pmax	pmax		
	comp=Z,56nm,0.9s						
YAK				pmax	pmax		
	comp=N,16nm,1.2s						
YAK				pmax	pmax		
	comp=E,18nm,1.3s						
YAK				pmax	pmax		
	comp=Z,341nm,8.3s						
YAK				smax	smax		
	comp=N,67nm,2.6s						
YAK				smax	smax		
	comp=E,35nm,2.4s						
YAK				MLR	MLR		
	comp=Z,1μm,14.0s						
YAK				MLR	MLR		
	comp=N,582nm,14.0s						
YAK				MLR	MLR		
	comp=E,402nm,14.0s						
TOKA	**Tokat**	**60.66**	**312**	P	P		01 34 08.5 -1.0
BNN	**Bunyan**	**60.74**	**310**	IAmb	IAmb		01 34 10.7
	comp=Z,16nm,0.9s						
VRH	**Novokhopyorsk**	**61.17**	**325**	*e*P	P		01 34 11.7 -0.9
VRH				pmax	pmax		
	comp=Z,60nm,0.9s						
KIRV	**Kirov**	**61.28**	**335**	*ce*P	P		01 34 13.5 +0.3
ANN	**Anapa**	**61.35**	**317**	*e*P	P		01 34 10.0 -4.0
ANN				*e*S	S		01 42 33.2 -0.7
ANN				pmax	pmax		
	comp=Z,32nm,1.1s						
ANN				MLR	MLR		
	comp=Z,584nm,15.0s						
NRIK	**Noril'sk**	**61.84**	**357**	P	P		01 34 15.6 -1.2
NRIK				IAmb	IAmb		01 34 17.7
	comp=Z,23nm,0.9s						
NRIK	**Noril'sk**	**61.84**	**357**	P	P		01 34 16.5 -0.3
	comp=Z,14nm,0.7s,baz=146,slow=5.9,SNR=12						
	comp=Z,14nm,0.7s						
NRIK	**Noril'sk**	**61.84**	**357**	*ce*P	P		01 34 16.3 -0.5
NRIK				pmax	pmax		
	comp=Z,26nm,0.9s						
KIRS	**Kirsehir-Merke**	**62.27**	**310**	⇓P	P		01 34 20.3 -0.1
BR131	**Keskin Array S**	**62.62**	**311**	IAmb	IAmb		01 34 28.4
	comp=Z,12nm,0.7s						
BR131	**Keskin Array S**	**62.62**	**311**	*i* P	P		01 34 22.9 +0.1
BRTR	**Keskin Array B**	**62.62**	**311**	P	P		01 34 21.7 -1.1
BRTR	**Keskin Array B**	**62.62**	**311**	P	P		01 34 21.9 -0.9
	comp=Z,7.4nm,0.7s,baz=126,slow=7.5,SNR=17						
	comp=Z,7.4nm,0.7s						
BRTR	**Keskin Array B**	**62.62**	**311**	P	P		01 34 21.7 -1.1
VSR	**Storozhevoye**	**62.63**	**325**	*e*P	P		01 34 18.4 -4.0
VSR				pmax	pmax		
	comp=Z,20nm,0.9s						
CMSA	**Cobar Meteorol**	**62.73**	**131**	P	P		01 34 22.2 -1.2
	comp=Z,18nm,1.3s						
VORR	**Voronezh**	**62.79**	**325**	*e*P	P		01 34 22.8 -0.7
VORR				pmax	pmax		
	comp=Z,59nm,1.0s						
ANTO	**Ankara**	**63.28**	**311**	P	P		01 34 25.8 -1.3
ANTO				IAmb	IAmb		01 34 27.3
	comp=Z,11nm,0.8s						
ANTO	**Ankara**	**63.28**	**311**	⇑P	P		01 34 27.0 -0.1
ANTO	**Ankara**	**63.28**	**311**	P	P		01 34 25.8 -1.3
ANTO				pmax	pmax		
	comp=Z,11nm,0.9s						
LPSR	**Galich'ya Gora**	**63.33**	**326**	*e*P	P		01 34 26.6 -0.5
LPSR				pmax	pmax		
	comp=Z,50nm,0.9s						
SIM	**Simferopol'**	**63.64**	**317**	*e*P	P		01 34 29.5 +0.2
SIM				pmax	pmax		
	comp=Z,33nm,1.3s						
ISP	**Isparta**	**64.60**	**308**	P	P		01 34 34.5 -1.4
ISP				IAmb	IAmb		01 34 36.9
	comp=Z,23nm,1.1s						
ISP	**Isparta**	**64.60**	**308**	*ce*P	P		01 34 35.4 -0.5
ISP				pmax	pmax		
	comp=Z,24nm,1.3s						
MOS	**Moscow**	**65.33**	**329**	*e*P	P		01 34 38.6 -1.5
MOS				*e*			01 37 02.8
MOS				*e*S	S		01 43 18.4 -4.8
MOS				pmax	pmax		
	comp=Z,85nm,0.7s						
MOS				MLR	MLR		
	comp=Z,1μm,18.0s						
H04N2	**CROZET ISLANDS**	**65.46**	**211**	T	T		02 45 13.0
	baz=47,slow=74,SNR=28						
H04N1	**CROZET ISLANDS**	**65.47**	**211**	T	T		02 45 13.5
	baz=47,slow=74,SNR=63						
H04N3	**CROZET ISLANDS**	**65.48**	**211**	T	T		02 45 12.5
	baz=47,slow=74,SNR=65						
OBN	**Obninsk**	**65.63**	**328**	P	P		01 34 40.9 -1.1
OBN	**Obninsk**	**65.63**	**328**	*e*P	P		01 34 42.0 0.0
OBN				*i*			01 34 46.9
OBN				*i*			01 35 14.1
OBN				pmax	pmax		
	comp=Z,103nm,1.3s						
TOO	**Toolangi**	**65.65**	**137**	P	P		01 34 36.5 -6.0
KLMR	**Klimovskoe**	**66.72**	**334**	*e*P	P		01 34 43.4 -5.6
KLMR				pmax	pmax		
	comp=Z,59nm,1.1s						
KARP	**Karpathos**	**66.92**	**305**	*e*P	P		01 34 50.8 0.0
MA2	**Magadan**	**67.04**	**27**	P	P		01 34 50.6 -0.4
	comp=Z,8.7nm,0.8s,baz=277,slow=7.3,SNR=4.7						
	comp=Z,8.7nm,0.8s						
MA2	**Magadan**	**67.04**	**27**	*ce*P	P		01 34 51.6 +0.6
MA2				pmax	pmax		
	comp=Z,20nm,1.3s						
TIXI	**Tiksi**	**67.53**	**11**	P	P		01 34 53.0 -0.9
TIXI	**Tiksi**	**67.53**	**11**	P	P		01 34 52.4 -1.5
	comp=Z,28nm,0.7s,baz=236,slow=3.3,SNR=14						
	comp=Z,28nm,0.7s						
TIXI	**Tiksi**	**67.53**	**11**	*ce*P	P		01 34 53.4 -0.5
TIXI				pmax	pmax		
	comp=Z,59nm,1.3s						
MILM	**Milestii Mici**	**67.72**	**318**	⇑P	P		01 34 55.0 -0.6
SORM	**Soroca**	**68.31**	**319**	⇓P	P		01 34 58.5 -0.7
AKASG	**Malin Array Be**	**68.38**	**322**	P	P		01 34 58.7 -0.9
	comp=Z,4.6nm,0.8s,baz=92,slow=4.9,SNR=16						
AKASG				PP	PP		01 37 31.7 +1.1
	comp=Z,2.1nm,0.8s,baz=90,slow=6.7,SNR=4.4						
	comp=Z,4.6nm,0.8s						
AKBB	**Malin Array Si**	**68.38**	**322**	*ce*P	P		01 34 58.1 -1.6
AKBB				pmax	pmax		
	comp=Z,12nm,1.0s						
KIEV	**Kiev**	**68.39**	**322**	P	P		01 34 58.1 -1.6
KIEV				IAmb	IAmb		01 35 05.1
	comp=Z,14nm,0.9s						
KIEV	**Kiev**	**68.39**	**322**	P	P		01 34 58.1 -1.6
KIEV				pmax	pmax		
	comp=Z,14nm,0.9s						
KIEV	**Kiev**	**68.39**	**322**	P	P		01 34 58.9 -0.8
ALN	**Alexandroupoli**	**68.54**	**311**	IAmb	IAmb		01 35 01.6
	comp=Z,14nm,0.9s						
VRI	**Vrincioaia**	**68.91**	**316**	⇑P	P		01 35 03.4 +0.3
RDO	**Rodhopi**	**68.95**	**311**	IAmb	IAmb		01 35 04.0
	comp=Z,14nm,1.0s						
PLOR	**Plostina**	**68.96**	**316**	⇓P	P		01 35 04.2 +0.8
TESR	**Tescani**	**69.09**	**317**	⇓P	P		01 35 04.4 +0.2
SGRR	**Singureni**	**69.13**	**314**	⇑P	P		01 35 05.1 +0.6
LSZ	**Lusaka**	**69.16**	**251**	P	P		01 35 06.2 +0.9
LSZ	**Lusaka**	**69.16**	**251**	P	P		01 35 06.2 +0.9
LSZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SEY	**Seymchan**	**69.21**	**25**	P	P		01 35 04.5 -0.1
	comp=Z,4.8nm,0.8s,baz=260,slow=7.1,SNR=6.2						
	comp=Z,4.8nm,0.8s						
COVR	**Voineasa-Covas**	**69.27**	**316**	⇑P	P		01 35 05.5 +0.2
MLR	**Muntele Rosu**	**69.38**	**316**	IAmb	IAmb		01 35 08.1
	comp=Z,40nm,1.1s						
MLR	**Muntele Rosu**	**69.38**	**316**	⇓P	P		01 35 06.8 +0.6
DOPR	**Dopca**	**69.85**	**316**	⇑P	P		01 35 09.1 +0.2
MNK	**Minsk**	**70.17**	**325**	*i* P	P		01 35 08.0 -2.7
MNK				*i*			01 35 29.6
MNK				*i*			01 37 42.7
MNK				*i* PPP	PPP		01 39 25.0
MNK				*i* S	S		01 44 20.2 -1.1
MNK				*i*			01 45 10.5
MNK				*i* SS	SS		01 48 51.1 -0.1
MNK				pmax	pmax		
	comp=Z,54nm,1.0s						
MNK				pmax	pmax		
	comp=N,54nm,1.1s						
MNK				pmax	pmax		
	comp=E,17nm,1.2s						
MNK				MLR	MLR		
	comp=E,176nm,18.0s						
MNK				MLR	MLR		
	comp=N,371nm,18.0s						
MNK				MLR	MLR		
	comp=Z,397nm,17.0s						
BURAR	**Bucovina Array**	**70.26**	**318**	P	P		01 35 10.7 -0.8
BURAR	**Bucovina Array**	**70.26**	**318**	⇑P	P		01 35 11.7 +0.1
ARR	**Arges**	**70.27**	**315**	⇑P	P		01 35 08.7 -2.9
BUR08	**Bucovina Ar. S**	**70.28**	**318**	IAmb	IAmb		01 35 12.8
	comp=Z,5.9nm,0.9s						
PUL	**Pulkovo**	**70.47**	**331**	*ce*P	P		01 35 13.2 +0.8
PUL				pmax	pmax		
	comp=Z,29nm,0.5s						
IDID	**Didziasalis**	**71.02**	**326**	*e*P	P		01 35 14.2 -1.6
JOF	**Joensuu**	**71.11**	**335**	*e*P	P		01 35 16.6 +0.3
LIT	**Litokhoron**	**71.12**	**310**	IAmb	IAmb		01 35 22.0
	comp=Z,30nm,0.8s						
CJR	**Cluj-Napoca**	**71.19**	**317**	⇑P	P		01 35 18.2 +1.0
ITM	**Ithomi**	**71.29**	**307**	P	P		01 35 17.0 -0.9
ISAL	**Salakas**	**71.42**	**326**	*e*P	P		01 35 18.8 +0.5
MARR	**Marisel-Cluj**	**71.52**	**317**	⇓P	P		01 35 19.7 +0.5
DEV	**Deva**	**71.55**	**316**	⇑P	P		01 35 20.3 +1.1
GZR	**Gura Zlata**	**71.56**	**315**	⇑P	P		01 35 21.5 +2.0
HERR	**Herculane**	**71.75**	**315**	⇓P	P		01 35 20.7 +0.2
DRGR		**71.81**	**317**	⇓P	P		01 35 21.3 +0.4
VSU	**Vasula**	**71.84**	**329**	*ce*P	P		01 35 19.9 -0.8
VSU				pmax	pmax		
	comp=Z,91nm,1.3s						
VSU	**Vasula**	**71.84**	**329**	*e*P	P		01 35 19.9 -0.8
SURR	**Surduc**	**72.07**	**316**	⇑P	P		01 35 22.6 +0.2
BOVS	**Bovan**	**72.10**	**313**	⇓P	P		01 35 22.5 -0.1
BZS	**Buzias**	**72.40**	**315**	⇑P	P		01 35 24.7 +0.3
KOLS	**Kolonicke sedl**	**72.42**	**319**	*e*P	P		01 35 25.3 +0.8
KOLS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KOLS	**Kolonicke sedl**	**72.42**	**319**	*e*P	P		01 35 25.3 +0.8
SIRR	**Siria**	**72.46**	**316**	⇓P	P		01 35 25.1 +0.4
ARBE	**Arbavere**	**72.48**	**330**	*e*P	P		01 35 24.9 +0.4
PABE	**Paberze**	**72.60**	**326**	IAmb	IAmb		01 35 26.7
	comp=Z,159nm,1.4s						
PABE	**Paberze**	**72.60**	**326**	*e*P	P		01 35 25.4 +0.1
VSVD	**Vaisvydziai**	**72.72**	**326**	*e*P	P		01 35 26.4 +0.3
SUW	**Suwalki**	**72.74**	**324**	*e*P	P		01 35 26.0 -0.2
SUW	**Suwalki**	**72.74**	**324**	IAmb	IAmb		01 35 27.7
	comp=Z,128nm,1.2s						
SUW	**Suwalki**	**72.74**	**324**	*e*P	P		01 35 26.3 +0.1
FIA1	**FINESS Array S**	**72.97**	**332**	IAmb	IAmb		01 35 28.7
	comp=Z,82nm,0.8s						
FINES	**FINESS Array B**	**72.97**	**332**	P	P		01 35 26.8 -0.7
FINES	**FINESS Array B**	**72.97**	**332**	P	P		01 35 27.5 +0.1
	comp=Z,27nm,0.8s,baz=97,slow=7.7,SNR=20						
	comp=Z,27nm,0.8s						
MTSE	**Matsula**	**73.39**	**329**	*e*P	P		01 35 30.2 +0.3
MEF	**Metsahovi**	**73.45**	**331**	*e*P	P		01 35 30.7 +0.4
KECS	**Kecovo**	**73.53**	**318**	*e*P	P		01 35 32.7 +1.7
KECS				pmax	pmax		
	comp=Z,30nm,1.6s						
KECS	**Kecovo**	**73.53**	**318**	*e*P	P		01 35 32.7 +1.7
KEF	**Keuruu**	**73.72**	**333**	*e*P	P		01 35 30.8 -1.0
PDG	**Podgorica**	**73.77**	**312**	P	P		01 35 30.3 -2.2
NIE	**Niedzica**	**73.77**	**319**	*e*P	P		01 35 33.4 +0.9
PBUR	**Paburge**	**73.83**	**326**	*e*P	P		01 35 32.9 +0.3
PSZ	**Piszkesteto**	**73.86**	**318**	*e*P	P		01 35 33.4 +0.4
LBTB	**Lobatse**	**74.09**	**241**	P	P		01 35 36.5 +1.7
LBTB	**Lobatse**	**74.09**	**241**	P	P		01 35 36.5 +1.7
LBTB				pmax	pmax		
	comp=Z,13nm,0.9s						
OJC	**Ojcow**	**74.20**	**320**	*e*P	P		01 35 35.4 +0.5
OJC	**Ojcow**	**74.20**	**320**	IAmb	IAmb		01 35 36.5
	comp=Z,27nm,1.0s						
MORH	**Mrgy, Hungar**	**74.53**	**316**	⇓P	P		01 35 36.7 -0.2
RAF	**Rauma**	**74.90**	**331**	*e*P	P		01 35 39.1 +0.4
SRO	**Srobarova**	**74.90**	**317**	*e*P	P		01 35 39.8 +0.8
SRO				pmax	pmax		
	comp=Z,16nm,1.0s						
SRO	**Srobarova**	**74.90**	**317**	*e*P	P		01 35 39.8 +0.8
VAF	**Ylistaro**	**74.92**	**333**	*e*P	P		01 35 39.5 +0.8
OKC	**Ostrava-Krasne**	**75.21**	**319**	*e*P	P		01 35 41.2 +0.4
OKC	**Ostrava-Krasne**	**75.21**	**319**	*e*P	P		01 35 41.2 +0.4
BOSA	**Boshof**	**75.41**	**238**	P	P		01 35 43.9 +1.4
	comp=Z,7.4nm,0.7s,baz=88,slow=4.2,SNR=8.0						
	comp=Z,7.4nm,0.7s						
JAVC	**Velka Javorina**	**75.43**	**318**	*e*P	P		01 35 43.3 +1.2
ARCES	**ARCESS Array B**	**75.55**	**340**	P	P		01 35 42.6 +0.2
	comp=Z,15nm,0.9s,baz=116,slow=5.5,SNR=6.1						
	comp=Z,15nm,0.9s						
MORC	**Moravsky Berou**	**75.60**	**319**	IAmb	IAmb		01 35 44.6
	comp=Z,22nm,1.1s						
MORC	**Moravsky Berou**	**75.60**	**319**	*e*P	P		01 35 43.2 +0.1
MODS	**Modra-Piesok**	**75.65**	**318**	*e*P	P		01 35 43.3 0.0
MODS				pmax	pmax		
	comp=Z,43nm,1.6s						
MODS	**Modra-Piesok**	**75.65**	**318**	*e*P	P		01 35 43.3 0.0
BEHE	**Becsehely**	**75.84**	**316**	P	P		01 35 42.7 -1.8
BEHE				IAmb	IAmb		01 35 51.4
	comp=Z,39nm,1.1s						
KRLC	**Kraliky**	**76.11**	**320**	*e*P	P		01 35 46.9 +0.9
KRLC	**Kraliky**	**76.11**	**320**	*e*P	P		01 35 46.9 +0.9
CEL	**Celeste**	**76.12**	**307**	P	P		01 35 45.5 -0.9
CEL				IAmb	IAmb		01 36 02.1
	comp=Z,32nm,1.2s						
KTK1	**Kautokeino**	**76.17**	**339**	*e*P	P		01 35 46.3 +0.4
VRAC	**Vranov**	**76.17**	**319**	*e*P	P		01 35 46.5 +0.2
KOGS	**Kog**	**76.20**	**316**	*i* P	P		01 35 46.5 -0.1
RONA	**Rosalia, Austr**	**76.25**	**317**	*e*P	P		01 35 46.6 -0.2
	comp=Z,6.2nm,0.9s						
KRUC	**Moravsky**	**76.28**	**319**	*e*P	P		01 35 47.2 +0.3
BILL	**Bilibino**	**76.37**	**22**	P	P		01 35 46.6 -0.5
BILL	**Bilibino**	**76.37**	**22**	*ce*P	P		01 35 47.2 +0.2
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
DPC	**Dobruska-Polom**	**76.43**	**320**	*e*P	P		01 35 49.0 +1.2
DPC	**Dobruska-Polom**	**76.43**	**320**	*e*P	P		01 35 49.0 +1.2
KSP	**Ksiaz**	**76.49**	**320**	*e*P	P		01 35 49.1 +1.1
OSTC	**Ostas**	**76.51**	**320**	*e*P	P		01 35 49.0 +0.8
OSTC	**Ostas**	**76.51**	**320**	*e*P	P		01 35 49.0 +0.8
CONA	**Conrad Observa**	**76.56**	**317**	*i* P	P		01 35 48.1 -0.5
	comp=Z,7.8nm,1.1s						
CHVC	**Chvalec**	**76.62**	**320**	*e*P	P		01 35 49.8 +1.0
CHVC	**Chvalec**	**76.62**	**320**	*e*P	P		01 35 49.8 +1.0
UPC	**Upice**	**76.64**	**320**	*e*P	P		01 35 49.6 +0.7
UPC	**Upice**	**76.64**	**320**	*e*P	P		01 35 49.6 +0.7
GROS	**Grobnik**	**76.72**	**316**	*i* P	P		01 35 49.5 0.0
ARSA	**Arzberg**	**76.75**	**317**	*e*P	P		01 35 49.4 -0.3
	comp=Z,12nm,1.0s,SNR=5.2						
SOKA	**Soboth**	**77.05**	**316**	*e*P	P		01 35 51.7 +0.3
	comp=Z,23nm,1.1s,SNR=12						
BLEU	**Blekinge**	**77.26**	**326**	*i* P	P		01 35 51.2 -1.0
LJU	**Ljubljana**	**77.38**	**315**	*i* P	P		01 35 53.3 +0.1
OBKA	**Obir**	**77.38**	**316**	*i* P	P		01 35 53.2 -0.1
	comp=Z,25nm,1.4s,SNR=5.5						
PRU	**Pruhonice**	**77.55**	**319**	*e*P	P		01 35 55.3 +1.3
PRU	**Pruhonice**	**77.55**	**319**	*e*P	P		01 35 55.3 +1.3
PRU				MLR	MLR		
	comp=Z,800nm,13.6s						
PRA	**Prague**	**77.62**	**320**	*e*P	P		01 35 55.7 +1.3
PRA	**Prague**	**77.62**	**320**	*e*P	P		01 35 55.7 +1.3
MOA	**Molin**	**77.63**	**317**	*e*P	P		01 35 54.5 0.0
	comp=Z,14nm,1.2s						
CKRC	**Cesky Krumlov**	**77.64**	**318**	*e*P	P		01 35 55.5 +0.9
CKRC	**Cesky Krumlov**	**77.64**	**318**	*e*P	P		01 35 55.5 +0.9
BSD	**Bornholm Skovb**	**77.66**	**325**	*i* P	P		01 35 54.1 -0.4
BSD				IAmb	IAmb		01 35 55.2
	comp=Z,38nm,1.2s						
ZVC	**Zvikov**	**77.75**	**319**	*e*P	P		01 35 55.8 +0.6
BRG	**Berggiesshubel**	**77.97**	**320**	*i* P	P		01 35 56.9 +0.5
BRG				Amp			01 35 58.1
	comp=Z,12nm,1.1s						
BRG				⇑PP	pwP		01 36 03.9 -0.2
BRG				Amp			01 36 06.0
	comp=Z,9.9nm,0.9s						
BRG	**Berggiesshubel**	**77.97**	**320**	*e*P			01 35 57.2
	comp=Z,12nm,1.1s,baz=91,slow=5.4						
MYKA	**Terra Mystica**	**78.01**	**316**	*i* P	P		01 35 56.8 0.0
	comp=Z,8.2nm,0.9s						
SABO	**M.te Sabotino**	**78.02**	**315**	IAmb	IAmb		01 35 57.4
	comp=Z,18nm,0.8s						
GEC2	**GERESS Array S**	**78.04**	**318**	IAmb	IAmb		01 35 58.4
	comp=Z,18nm,0.9s						
GEC2	**GERESS Array S**	**78.04**	**318**	*e*P			01 35 57.7
	comp=Z,19nm,0.9s,baz=91,slow=5.4						
GERES	**GERESS Array B**	**78.04**	**318**	P	P		01 35 56.4 -0.6
	comp=Z,9.5nm,0.8s,baz=86,slow=5.5,SNR=16						
	comp=Z,9.5nm,0.8s						
BIOA	**Bad Ischl, Aus**	**78.04**	**317**	*i* P	P		01 35 56.3 -0.6
	comp=Z,11nm,0.9s						
PRED	**Cave del Predi**	**78.06**	**316**	IAmb	IAmb		01 35 58.1
	comp=Z,20nm,0.9s						
KHC	**Kasperske Hory**	**78.14**	**319**	*e*P	P		01 35 57.8 +0.4
KHC	**Kasperske Hory**	**78.14**	**319**	*ce*P	P		01 35 58.0 +0.6
KHC				pmax	pmax		
	comp=Z,29nm,1.7s						
RUE	**Ruedersdorf**	**78.16**	**322**	*e*P	P		01 35 57.7 +0.4
RUE	**Ruedersdorf**	**78.16**	**322**	*e*P			01 35 58.1
	comp=Z,38nm,0.9s,baz=91,slow=5.4						
KBA	**Koelnbreinsper**	**78.22**	**316**	*i* P	P		01 35 57.8 -0.3
	comp=Z,8.3nm,0.9s						
FDMO	**Fiordimonte**	**78.33**	**312**	P	P		01 35 58.1 -0.5
DEL	**Delary**	**78.35**	**326**	*i* P	P		01 35 57.7 -0.6
LUNU	**Lund**	**78.53**	**325**	*i* P	P		01 35 59.0 -0.3
CLL	**Collm**	**78.59**	**321**	*i* P	P		01 35 59.5 -0.3
CLL				*i*			01 36 08.5
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CLL				MLR	MLR		
	comp=Z,400nm,19.3s						
CLL	**Collm**	**78.59**	**321**	*i* P	P		01 35 59.5 -0.3
	comp=Z,8.0nm,1.0s						
CLL				*i* (PcP)	PcP		01 36 08.5 -0.3
	comp=Z,32nm,1.8s

comp=Z,27nm,0.8s
MOTA Moosalm 79.76 317 *i* P **P 01 36 05.8 -0.7**
comp=Z,20nm,1.0s
NC602 NORSAR Array S 79.81 330 IAmb IAmb 01 36 07.3
comp=Z,23nm,0.8s
NC602 NORSAR Array S 79.81 330 *eP* **P 01 36 06.2 -0.1**
NSS Namsos 79.83 334 *eP* **P 01 36 06.5 +0.2**
ZCCA Zocca 79.86 314 IAmb IAmb 01 36 25.7
comp=Z,35nm,1.0s
STRU Stromstad 79.92 329 *i* P **P 01 36 06.0 -0.9**
NB2 NORSAR Subarra 79.99 331 P **P 01 36 06.8 -0.5**
comp=Z,21nm,0.9s,baz=92,slow=5.9
NB2 NORSAR Subarra 79.99 331 P **P 01 36 06.8 -0.5**
baz=92,slow=5.9
NOA NORSAR Array B 79.99 331 P **P 01 36 07.2 -0.1**
comp=Z,11nm,0.8s,baz=93,slow=5.6,SNR=17
comp=Z,11nm,0.8s
RETA Reutte 79.99 317 *i* P **P 01 36 07.5 -0.1**
comp=Z,15nm,0.8s,SNR=6.2
FETA Feichten 80.01 316 *i* P **P 01 36 07.8 -0.1**
comp=Z,9.9nm,0.9s,SNR=7.4
ASSE Asse, Remlinge 80.06 322 *eP* 01 36 08.1
comp=Z,24nm,1.2s,baz=91,slow=5.4
SPA0 Spitsbergen Ar 80.13 348 *eP* **P 01 36 08.2 +0.5**
SPITS Spitsbergen Ar 80.13 348 P **P 01 36 07.9 +0.2**
comp=Z,20nm,0.7s,baz=98,slow=9.7,SNR=12
comp=Z,20nm,0.7s
NAO01 NORSAR Array S 80.14 330 IAmb IAmb 01 36 09.2
comp=Z,20nm,0.9s
OSL Oslo 80.19 329 *eP* **P 01 36 09.0 +0.7**
NC204 NORSAR Array S 80.22 331 IAmb IAmb 01 37 10.0
comp=Z,76nm,1.8s
CLZ Clausthal 80.24 321 *eP* 01 36 09.6
comp=Z,14nm,0.9s,baz=91,slow=5.4
BSEG Bad Segeberg 80.28 323 *eP* 01 36 09.8
comp=Z,30nm,1.0s,baz=91,slow=5.4
FUORN Ofenpass-Fuorn 80.34 316 IAmb IAmb 01 36 26.1
comp=Z,41nm,1.9s
NRDL Niedersach Rie 80.40 322 *eP* 01 36 10.7
comp=Z,26nm,1.2s,baz=91,slow=5.4
DAVA Damuels 80.59 317 *eP* **P 01 36 10.9 0.0**
comp=Z,15nm,1.0s,SNR=5.6
KONO Kongsberg 80.75 329 P **P 01 36 10.9 -0.4**
KONO IAmb IAmb 01 36 12.5
comp=Z,31nm,1.1s
KONO Kongsberg 80.75 329 *ceP* **P 01 36 12.2 +0.9**
KONO pmax pmax
comp=Z,27nm,1.3s
KONO Kongsberg 80.75 329 *eP* **P 01 36 11.8 +0.5**
RETH Rethem/Aller, 80.86 322 *eP* 01 36 12.6
comp=Z,102nm,1.3s,baz=91,slow=5.4
MUD Monsted U'grnd 80.95 326 *i* P **P 01 36 12.0 -0.4**
MUD IAmb IAmb 01 36 14.0
comp=Z,29nm,1.0s
TUE Stuetta 80.97 316 IAmb IAmb 01 36 22.1
comp=Z,14nm,0.8s
STU Stuttgart 81.02 318 *eP* **P 01 36 13.6 +0.6**
DOMB Dombas 81.05 332 *eP* **P 01 36 13.0 +0.1**
HOMB Homborsund 81.31 328 *i* P **P 01 36 14.8 +0.5**
SKAR Skarslia 81.40 330 *eP* **P 01 36 15.8 +0.9**
KEST Kesra 81.41 305 P **P 01 36 16.5 +1.0**
comp=Z,7.5nm,0.8s,baz=258,slow=1.1,SNR=6.8
comp=Z,7.5nm,0.8s
BFO Black Forest 81.61 318 P **P 01 36 15.2 -1.0**
BFO Black Forest 81.61 318 P **P 01 36 15.2 -1.0**
BFO pmax pmax
comp=Z,12nm,1.0s
BFO Black Forest 81.61 318 *eP* 01 36 16.2
comp=Z,13nm,1.0s,baz=91,slow=5.4
BLS5 Blasjo 82.35 329 *eP* **P 01 36 20.9 +1.0**
SENIN Lac Senin/Sane 82.39 316 P **P 01 36 19.5 -1.1**
BNI Bardonecchia 82.90 314 IAmb IAmb 01 36 27.9
comp=Z,12nm,0.9s
GAMB Gambell 85.11 26 P **P 01 36 34.2 +0.3**
baz=277
TAM Tamanrasset 85.83 292 IAmb IAmb 01 36 41.6
comp=Z,7.1nm,1.0s
TNA Tin City 86.45 24 P **P 01 36 40.7 +0.3**
baz=280,SNR=6.0
SPIA Saint Paul Isl 86.74 33 P **P 01 36 41.9 -0.1**
baz=279
C16K Lisburne Hills 86.90 22 P **P 01 36 43.0 +0.3**
baz=282
F14K Arctic Creek 87.12 24 P **P 01 36 44.4 +0.7**
baz=282
P08K Saint George I 87.21 33 P **P 01 36 44.2 -0.2**
baz=279
HPK Haverah Park 87.31 324 *eP* **P 01 36 45.2 +0.3**
HPK IAmb IAmb 01 36 47.3
comp=Z,30nm,0.9s
EDMD Edmundbyers 87.37 325 *eP* **P 01 36 45.3 +0.1**
EDMD IAmb IAmb 01 36 47.0
comp=Z,22nm,0.7s
LBWR Ladybower, Pea 87.46 323 *eP* **P 01 36 45.6 -0.1**
LBWR IAmb IAmb 01 36 48.3
comp=Z,32nm,0.9s
C17K DeLong Mountai 87.64 21 P **P 01 36 46.8 +0.6**
baz=284
ANM Nome 87.71 25 IAmb IAmb 01 36 48.6
comp=Z,9.4nm,0.9s
ANM Nome 87.71 25 P **P 01 36 47.0 +0.4**
baz=283,SNR=6.8
F15K North Star Dit 87.75 24 IAmb IAmb 01 36 48.1
comp=Z,8.8nm,0.8s
F15K North Star Dit 87.75 24 P **P 01 36 47.0 +0.2**
baz=283
BIGH Upper Bighouse 87.79 329 *eP* **P 01 36 47.9 +0.9**
BIGH IAmb IAmb 01 36 49.9
comp=Z,23nm,0.8s
RDOG Red Dog Mine 87.84 22 P **P 01 36 47.4 +0.2**
baz=285
D17K Noatak River 87.87 22 P **P 01 36 48.0 +0.7**
baz=285,SNR=12
B18K Kokolik River 87.88 20 P **P 01 36 48.5 +1.1**
baz=286
A19K Wainwright 87.89 19 P **P 01 36 48.6 +1.3**
baz=286,SNR=6.8
EKA Eskdalemuir Ar 87.96 325 P **P 01 36 48.8 +0.7**
comp=Z,12nm,0.8s,baz=99,slow=5.3,SNR=17
comp=Z,12nm,0.8s
ESK Eskdalemuir 87.99 325 *eP* **P 01 36 48.2 +0.1**
ESK IAmb IAmb 01 36 50.0
comp=Z,12nm,0.8s
G15K Niukluk 88.16 25 P **P 01 36 48.9 +0.2**
baz=284
NIKH Nikolski High 88.22 37 P **P 01 36 49.8 +0.5**
baz=280
M11K Mekoryuk 88.23 29 P **P 01 36 49.4 +0.3**
baz=282
C18K Utukok River 88.29 21 IAmb IAmb 01 36 50.9
comp=Z,17nm,0.9s
C18K Utukok River 88.29 21 P **P 01 36 49.8 +0.4**
baz=286
HLM1 Long Mynd 88.30 323 *eP* **P 01 36 49.8 +0.1**
HLM1 IAmb IAmb 01 36 52.0
comp=Z,7.8nm,0.9s
E17K Hotham Inlet 88.50 22 P **P 01 36 50.9 +0.6**
baz=286
K13K Kusilvak Mount 88.62 28 P **P 01 36 51.0 0.0**
baz=283
G16K Koyuk River 88.75 24 P **P 01 36 51.6 +0.1**
G16K IAmb IAmb 01 36 53.1
comp=Z,14nm,0.9s
G16K Koyuk River 88.75 24 P **P 01 36 52.1 +0.6**
baz=285
E18K Tukpahlearik C 88.86 22 IAmb IAmb 01 36 54.4
comp=Z,19nm,0.9s
E18K Tukpahlearik C 88.86 22 P **P 01 36 52.7 +0.7**
baz=287
F17K Baldwin Pennin 88.90 23 IAmb IAmb 01 36 58.8
comp=Z,14nm,0.9s
F17K Baldwin Pennin 88.90 23 P **P 01 36 52.8 +0.6**
baz=286
J14K Nanvaranak Lak 88.92 27 IAmb IAmb 01 36 53.7
comp=Z,9.3nm,0.9s
J14K Nanvaranak Lak 88.92 27 P **P 01 36 52.7 +0.3**
baz=284
A21K Barrow 88.94 18 P **P 01 36 52.8 +0.5**
baz=290
H16K Elim 89.00 25 P **P 01 36 53.0 +0.3**
baz=285,SNR=14
B20K Meade River 89.23 19 IAmb IAmb 01 36 55.4
comp=Z,9.7nm,0.8s
B20K Meade River 89.23 19 P **P 01 36 54.2 +0.5**
baz=290,SNR=6.3
G17K Kiwalik Mounta 89.40 24 P **P 01 36 55.2 +0.6**
baz=287,SNR=8.9
D19K Kuna River 89.42 21 IAmb IAmb 01 36 58.6
comp=Z,18nm,0.9s
D19K Kuna River 89.42 21 P **P 01 36 55.2 +0.5**
baz=289
UNV Unalaska Valle 89.44 36 P **P 01 36 54.8 -0.1**
baz=282
F18K Selawik 89.46 23 P **P 01 36 55.4 +0.6**
baz=288,SNR=13
A22K Sinclair Lake 89.55 18 P **P 01 36 56.0 +0.8**
baz=292
M13K Dall Lake 89.60 29 P **P 01 36 56.1 +0.6**
baz=284
L14K Kuka Creek 89.68 28 IAmb IAmb 01 36 57.8
comp=Z,9.5nm,0.9s
L14K Kuka Creek 89.68 28 P **P 01 36 56.4 +0.5**
baz=285,SNR=5.6
I17K Unalakleet 89.86 25 P **P 01 36 57.4 +0.7**
baz=287,SNR=5.5
D20K Etivluk River 89.86 20 P **P 01 36 57.5 +0.8**
baz=290
H17K Granite Mounta 89.87 24 IAmb IAmb 01 36 58.5
comp=Z,9.6nm,0.9s
H17K Granite Mounta 89.87 24 P **P 01 36 57.4 +0.6**
baz=288
K15K Wolf Creek Mou 89.95 27 P **P 01 36 58.1 +0.9**
baz=286
G18K Tagagawik 90.07 23 IAmb IAmb 01 40 20.7
comp=Z,8.7nm,0.7s
G18K Tagagawik 90.07 23 P **P 01 36 58.4 +0.6**
baz=289
J16K Anvik River 90.07 26 IAmb IAmb 01 37 00.1
comp=Z,17nm,0.8s
J16K Anvik River 90.07 26 P **P 01 36 58.5 +0.7**
baz=287,SNR=12
E19K Redstone River 90.08 21 IAmb IAmb 01 36 59.3
comp=Z,20nm,0.8s
E19K Redstone River 90.08 21 P **P 01 36 58.3 +0.5**
baz=290
F19K Shaleruckik Mo 90.09 22 P **P 01 36 57.5 -0.3**
F19K IAmb IAmb 01 36 59.8
comp=Z,29nm,1.2s
F19K Shaleruckik Mo 90.09 22 P **P 01 36 58.2 +0.4**
baz=290
L15K Ungalak Mounta 90.14 28 P **P 01 36 58.5 +0.4**
baz=286
E20K Nigu River 90.17 21 P **P 01 36 58.8 +0.6**
baz=291
M14K Bethel 90.17 28 IAmb IAmb 01 37 00.1
comp=Z,16nm,0.9s
M14K Bethel 90.17 28 P **P 01 36 58.9 +0.6**
baz=286,SNR=6.0
B21K Ikpikpuk River 90.19 19 IAmb IAmb 01 37 02.9
comp=Z,19nm,1.1s
B21K Ikpikpuk River 90.19 19 P **P 01 36 58.7 +0.5**
baz=292
B22K Teshekpuk Lake 90.29 18 IAmb IAmb 01 37 00.6
comp=Z,54nm,1.8s
B22K Teshekpuk Lake 90.29 18 P **P 01 36 59.1 +0.5**
baz=294
C21K Knifeblade Rid 90.31 20 P **P 01 36 59.6 +0.8**
baz=292
H18K Honhosa River 90.42 24 IAmb IAmb 01 37 00.9
comp=Z,10nm,1.0s
H18K Honhosa River 90.42 24 P **P 01 37 00.1 +0.7**
baz=289
N14K Kuskokwak Cree 90.53 29 P **P 01 37 00.3 +0.4**
baz=286
G19K Purcell Mounta 90.59 23 P **P 01 37 01.0 +0.8**
baz=290,SNR=17
TORD Torodi Ar. Bea 90.65 283 P **P 01 37 02.4 +0.9**
TORD Torodi Ar. Bea 90.65 283 P **P 01 37 01.9 +0.4**
comp=Z,126nm,0.3s,baz=96,slow=4.7,SNR=3.0
J17K VABM Dome 90.69 26 IAmb IAmb 01 37 02.5
comp=Z,9.7nm,0.9s
J17K VABM Dome 90.69 26 P **P 01 37 01.6 +0.9**
baz=288,SNR=7.4
F20K Avaraart Lake 90.78 22 IAmb IAmb 01 37 03.1
comp=Z,33nm,0.9s
F20K Avaraart Lake 90.78 22 P **P 01 37 01.5 +0.5**
baz=291,SNR=23
M15K Kasigluk River 90.79 28 P **P 01 37 01.7 +0.6**
baz=287,SNR=6.3
E21K Killik River 90.86 20 IAmb IAmb 01 37 02.8
comp=Z,21nm,0.9s
E21K Killik River 90.86 20 P **P 01 37 02.0 +0.6**
baz=293
L16K Owhat River 91.05 27 P **P 01 37 03.0 +0.7**
baz=288
H19K Roundabout Mou 91.05 23 IAmb IAmb 01 37 05.0
comp=Z,35nm,0.9s
H19K Roundabout Mou 91.05 23 P **P 01 37 03.2 +1.0**
baz=291,SNR=20
D22K Ayikyak River 91.12 19 IAmb IAmb 01 37 10.0
comp=Z,54nm,1.9s
D22K Ayikyak River 91.12 19 P **P 01 37 03.4 +0.9**
baz=294,SNR=7.6
GCSA Galena City Sc 91.16 24 P **P 01 37 03.9 +1.1**
baz=290,SNR=7.1
N15K Kwethluk River 91.23 29 P **P 01 37 04.0 +0.7**
baz=287,SNR=5.0
K17K Iditarod 91.25 26 IAmb IAmb 01 37 05.6
comp=Z,29nm,1.2s
K17K Iditarod 91.25 26 P **P 01 37 04.1 +0.8**
baz=289
ELIB Princess Elisa 91.30 197 *dP* **P 01 37 05.6 +2.2**
comp=Z,5.4nm,1.3s
C23K Itkillik River 91.37 18 IAmb IAmb 01 37 05.2
comp=Z,9.7nm,0.9s
C23K Itkillik River 91.37 18 P **P 01 37 04.7 +1.1**
baz=296
ESDC Sonseca Array 91.40 310 P **P 01 37 04.3 -0.3**
ESDC Sonseca Array 91.40 310 P **P 01 37 04.5 0.0**
comp=Z,6.8nm,1.0s,baz=56,slow=4.6,SNR=13
comp=Z,6.8nm,1.0s
L17K Donlin 91.44 27 P **P 01 37 04.9 +0.8**
baz=289
M16K Timber Creek 91.50 28 P **P 01 37 05.1 +0.6**
baz=288
F21K Alatna River 91.52 21 IAmb IAmb 01 37 06.5
comp=Z,20nm,1.1s
F21K Alatna River 91.52 21 P **P 01 37 05.0 +0.6**
baz=293
O15K Ungalikthiuk R 91.66 30 P **P 01 37 05.7 +0.5**
baz=288
H20K Anotleneega Mo 91.67 23 P **P 01 37 06.0 +0.8**
baz=292,SNR=18
J18K Innoko River 91.67 25 IAmb IAmb 01 37 06.9
comp=Z,12nm,1.0s
J18K Innoko River 91.67 25 P **P 01 37 06.0 +0.7**
baz=290
PAB San Pablo 91.72 310 P **P 01 37 06.0 -0.1**
PAB IAmb IAmb 01 37 08.5
comp=Z,11nm,1.1s
PAB San Pablo 91.72 310 P **P 01 37 06.0 -0.1**
PAB pmax pmax
comp=Z,11nm,1.2s
E22K Anaktuvuk Pass 91.72 20 IAmb IAmb 01 37 21.2
comp=Z,9.2nm,1.1s
E22K Anaktuvuk Pass 91.72 20 P **P 01 37 06.3 +0.9**
baz=295
D23K Nanushuk River 91.74 19 IAmb IAmb 01 37 07.9
comp=Z,24nm,1.3s
D23K Nanushuk River 91.74 19 P **P 01 37 06.5 +1.1**
baz=296
N16K Nishlik Lake 91.76 28 P **P 01 37 06.8 +1.1**
baz=288,SNR=13
G21K Allakaket 91.79 22 IAmb IAmb 01 37 07.7
comp=Z,29nm,0.9s
G21K Allakaket 91.79 22 P **P 01 37 06.8 +1.1**
baz=293
F22K John River 91.86 21 P **P 01 37 06.9 +0.9**
baz=295
J19K Poorman 91.94 24 IAmb IAmb 01 37 09.0
comp=Z,25nm,0.9s
J19K Poorman 91.94 24 P **P 01 37 07.5 +1.1**
baz=291,SNR=21
C24K Franklin Bluff 92.02 18 P **P 01 37 07.3 +0.6**
baz=298
M17K Holitna River 92.07 27 IAmb IAmb 01 37 09.8
comp=Z,15nm,1.0s
M17K Holitna River 92.07 27 P **P 01 37 07.9 +0.8**
baz=290
I20K Naaghedeneel 92.10 24 IAmb IAmb 01 37 10.0
comp=Z,66nm,0.8s
I20K Naaghedeneel 92.10 24 P **P 01 37 08.1 +1.0**
baz=292,SNR=15
L18K Granite Mounta 92.12 26 IAmb IAmb 01 37 09.8
comp=Z,9.8nm,0.9s
L18K Granite Mounta 92.12 26 P **P 01 37 08.0 +0.7**
baz=290,SNR=8.8
TOLK Toolik Lake Re 92.24 19 IAmb IAmb 01 37 09.4
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 92.24 19 P **P 01 37 08.5 +0.6**
baz=297,SNR=5.2
D24K Happy Valley 92.25 19 IAmb IAmb 01 37 09.3
comp=Z,8.8nm,0.8s
D24K Happy Valley 92.25 19 P **P 01 37 08.2 +0.5**
baz=298
O16K Kokwok River B 92.37 29 IAmb IAmb 01 37 10.6
comp=Z,13nm,1.2s
O16K Kokwok River B 92.37 29 P **P 01 37 09.0 +0.5**
baz=289
H21K Melozitna Rive 92.40 22 IAmb IAmb 01 37 10.6
comp=Z,16nm,0.9s
H21K Melozitna Rive 92.40 22 P **P 01 37 09.6 +1.0**
baz=294,SNR=14
SDPT Sand Point 92.46 33 P **P 01 37 09.5 +0.5**
baz=287
J20K Nowinta River 92.47 24 IAmb IAmb 01 37 11.1
comp=Z,20nm,0.8s
J20K Nowinta River 92.47 24 P **P 01 37 09.9 +1.0**
baz=293,SNR=14
N17K Nushagak Hills 92.48 28 IAmb IAmb 01 37 11.6
comp=Z,12nm,1.0s
N17K Nushagak Hills 92.48 28 P **P 01 37 10.0 +1.0**
baz=290,SNR=7.5
EUNU Eureka 92.49 0 P **P 01 37 08.9 +0.1**
E23K Chandalar 92.50 20 IAmb IAmb 01 37 10.7
comp=Z,9.8nm,0.8s
E23K Chandalar 92.50 20 P **P 01 37 09.8 +0.7**
baz=297
P16K Nushagak River 92.60 30 P **P 01 37 09.9 +0.3**
baz=289
VNDA Vanda 92.64 168 P **P 01 37 08.9 -0.4**
comp=Z,1.2nm,0.9s,baz=261,slow=12,SNR=2.1
comp=Z,1.2nm,0.9s
COLD Coldfoot 92.67 21 P **P 01 37 10.3 +0.5**
baz=296
S14K Fog Glacier 92.68 32 P **P 01 37 10.5 +0.3**
baz=288
M18K Stony River 92.76 27 P **P 01 37 11.0 +0.7**
baz=291,SNR=12
O17K Koliganek Bris 92.78 29 P **P 01 37 10.7 +0.3**
baz=290
K20K Telida 92.82 25 IAmb IAmb 01 37 13.2
comp=Z,44nm,0.8s
K20K Telida 92.82 25 P **P 01 37 11.5 +0.9**
baz=293,SNR=25
H22K Ishtalitna Cre 92.84 22 P **P 01 37 11.5 +0.9**
baz=295
E24K Your Creek 92.86 20 IAmb IAmb 01 37 12.3
comp=Z,6.7nm,0.8s
E24K Your Creek 92.86 20 P **P 01 37 11.2 +0.5**
baz=298
D25K Kavik River 92.93 18 P **P 01 37 11.4 +0.4**
baz=300
L19K White Mountain 92.94 26 IAmb IAmb 01 37 13.6
comp=Z,22nm,0.9s
L19K White Mountain 92.94 26 P **P 01 37 11.9 +0.8**
baz=292,SNR=14
G23K Bananza Creek 92.97 21 IAmb IAmb 01 37 13.0
comp=Z,8.4nm,0.9s
G23K Bananza Creek 92.97 21 P **P 01 37 12.0 +0.8**
baz=297
N18K Kilae Creek 93.03 28 IAmb IAmb 01 37 13.3
comp=Z,9.5nm,0.9s
N18K Kilae Creek 93.03 28 P **P 01 37 12.3 +0.7**
baz=291,SNR=6.0
C26K Camden Bay 93.06 17 P **P 01 37 12.4 +0.9**
baz=302
CHNA Chernabura Isl 93.10 34 P **P 01 37 12.7 +0.7**
baz=288
L20K Farewell, AK 93.24 26 P **P 01 37 13.4 +0.8**
baz=293,SNR=17
M19K Big River Lodg 93.24 26 IAmb IAmb 01 37 18.3
comp=Z,14nm,0.9s
M19K Big River Lodg 93.24 26 P **P 01 37 13.2 +0.7**
baz=292,SNR=14
P17K Kvichak River 93.30 29 P **P 01 37 13.5 +0.7**
baz=290,SNR=8.7
CHUM Lake Minchumin 93.33 24 P **P 01 37 13.9 +1.1**
baz=294,SNR=17
F24K Squaw Lake 93.33 20 IAmb IAmb 01 37 15.0
comp=Z,6.7nm,0.8s
F24K Squaw Lake 93.33 20 P **P 01 37 13.7 +0.9**
baz=299,SNR=5.9
Q16K King Salmon 93.38 30 P **P 01 37 13.6 +0.4**
baz=290
H23K Yukon River 93.54 22 P **P 01 37 13.3 -0.5**
H23K IAmb IAmb 01 37 16.4
comp=Z,14nm,1.2s
H23K Yukon River 93.54 22 P **P 01 37 14.6 +0.7**
baz=297
C27K Jago River 93.57 17 IAmb IAmb 01 37 18.1
comp=Z,7.8nm,0.9s
C27K Jago River 93.57 17 P **P 01 37 14.6 +0.7**
baz=303
CAST Castle Rocks 93.61 24 P **P 01 37 14.8 +0.6**
baz=295,SNR=26
N19K Bonanza Creek 93.62 27 IAmb IAmb 01 37 16.6
comp=Z,45nm,0.8s
N19K Bonanza Creek 93.62 27 P **P 01 37 15.0 +0.6**
baz=292,SNR=26
O18K Koktuh Hills 93.65 28 IAmb IAmb 01 37 16.5
comp=Z,23nm,0.9s
O18K Koktuh Hills 93.65 28 P **P 01 37 15.0 +0.6**
baz=292,SNR=9.0
BPAW Bear Paw Mtn. 93.76 24 IAmb IAmb 01 37 16.9
comp=Z,18nm,1.1s
BPAW Bear Paw Mtn. 93.76 24 P **P 01 37 15.4 +0.5**
baz=296,SNR=14
PPLA Purkeypile 93.79 25 IAmb IAmb 01 37 25.6
comp=Z,13nm,0.9s
PPLA Purkeypile 93.79 25 P **P 01 37 16.0 +0.8**
baz=294,SNR=6.8
E25K Arctic Village 93.79 19 P **P 01 37 15.5 +0.5**
baz=301
M20K Styx River 93.80 26 IAmb IAmb 01 37 29.0
comp=Z,20nm,0.9s
M20K Styx River 93.80 26 P **P 01 37 15.8 +0.6**
baz=294,SNR=16
P18K Big Mountain, 93.81 29 P **P 01 37 15.1 -0.1**
baz=292
G24K Hadweenzic Riv 93.87 21 IAmb IAmb 01 37 17.5
comp=Z,6.9nm,0.8s
G24K Hadweenzic Riv 93.87 21 P **P 01 37 15.8 +0.5**
baz=299
I23K Minto, Yukon-K 93.92 22 P **P 01 37 16.0 +0.5**
baz=297,SNR=5.4
O19K Port Alsworth 93.93 28 IAmb IAmb 01 37 17.2
comp=Z,22nm,0.8s
O19K Port Alsworth 93.93 28 P **P 01 37 16.3 +0.7**
baz=292,SNR=9.4
KTH Kantishna Hill 94.03 24 P **P 01 37 16.2 0.0**
KTH IAmb IAmb 01 37 52.0
comp=Z,12nm,1.1s
F25K Christian Rive 94.04 19 IAmb IAmb 01 37 18.2
comp=Z,7.0nm,0.8s
F25K Christian Rive 94.04 19 P **P 01 37 17.0 +0.9**
baz=301,SNR=8.9
H24K Noodor Dome 94.14 21 P **P 01 37 17.6 +1.0**
baz=299,SNR=5.5
Q18K Katmai Hardscr 94.19 29 P **P 01 37 16.7 -0.4**
baz=292
NEA2 Nenana 94.29 23 P **P 01 37 17.9 +0.6**
baz=297
G25K Bearman Lake 94.31 20 P **P 01 37 18.1 +0.9**
baz=300
TRF Thorofare Moun 94.33 24 IAmb IAmb 01 37 31.7
comp=Z,11nm,1.2s
TRF Thorofare Moun 94.33 24 P **P 01 37 18.8 +1.1**
baz=296,SNR=5.8
SKT Skwentna 94.45 26 IAmb IAmb 01 37 19.2
comp=Z,32nm,0.8s
SKT Skwentna 94.45 26 P **P 01 37 17.9 -0.2**
baz=295,SNR=24
F26K Sheenjek River 94.48 19 IAmb IAmb 01 37 19.9
comp=Z,8.2nm,0.8s
F26K Sheenjek River 94.48 19 P **P 01 37 18.6 +0.5**
baz=302
SPCR Spurr Chakacha 94.48 26 P **P 01 37 18.7 +0.4**
baz=294,SNR=6.0
STLK Strandline Lak 94.52 26 P **P 01 37 17.7 -0.8**
STLK IAmb IAmb 01 37 19.3
comp=Z,6.8nm,0.8s
ILSW Iliamna Southw 94.56 28 IAmb IAmb 01 37 19.1

comp=Z,7.6nm,0.8s
D27M Malcolm River 94.59 17 IAmb IAmb 01 37 28.6
comp=Z,8.6nm,1.0s
D27M Malcolm River 94.59 17 P **P 01 37 19.3 +0.6**
baz=305
COLA College 94.62 22 P **P 01 37 19.6 +0.8**
baz=298
P19K Oil Pt 94.65 28 P **P 01 37 19.4 +0.3**
baz=293
POKR Poker Plat Res 94.66 22 P **P 01 37 18.5 -0.5**
baz=299
H25L Birch Creek 94.66 21 P **P 01 37 19.6 +0.6**
baz=300
MCK McKinley 94.74 23 IAmb IAmb 01 37 23.0
comp=Z,9.0nm,1.0s
MCK McKinley 94.74 23 P **P 01 37 19.2 -0.2**
baz=297,SNR=5.8
O20K Slope Mountain 94.76 28 P **P 01 37 19.4 -0.2**
baz=294
CUT Chulitna 94.80 25 P **P 01 37 19.7 +0.1**
baz=296
R18K Karluk 94.87 30 P **P 01 37 19.8 -0.2**
baz=292
CHIR Chirikof Islan 94.91 32 P **P 01 37 20.3 +0.1**
baz=291
RND Reindeer 94.92 24 IAmb IAmb 01 37 25.7
comp=Z,7.5nm,1.0s
G26K Porcupine Rive 95.00 20 P **P 01 37 21.4 +1.0**
baz=302,SNR=7.2
E27K Coleen River 95.01 18 P **P 01 37 20.9 +0.4**
baz=305
SUA Susitna One 95.01 26 IAmb IAmb 01 37 22.5
comp=Z,28nm,0.8s
SUA Susitna One 95.01 26 P **P 01 37 21.0 +0.2**
baz=296,SNR=22
ILAR Eielson Array 95.03 22 P **P 01 37 20.4 -0.3**
comp=Z,1.3nm,0.8s,baz=298,slow=4.3,SNR=12
ILAR PP **PP 01 41 10.0 +0.4**
comp=Z,0.5nm,0.8s,baz=305,slow=5.5,SNR=2.8
comp=Z,1.3nm,0.8s
PRP Porcupine Dome 95.15 21 IAmb IAmb 01 37 23.3
comp=Z,7.0nm,1.0s
PRP Porcupine Dome 95.15 21 P **P 01 37 21.9 +0.5**
baz=301
M22K Willow 95.15 25 IAmb IAmb 01 37 22.9
comp=Z,84nm,0.9s
M22K Willow 95.15 25 P **P 01 37 21.5 +0.3**
baz=296,SNR=15
D28M Stokes Point 95.17 17 P **P 01 37 21.2 0.0**
baz=307
HDA Harding Lake 95.18 22 P **P 01 37 21.0 -0.4**
baz=299
HOM Homer 95.38 28 P **P 01 37 22.2 -0.1**
baz=295
E28M Babbage River 95.38 17 IAmb IAmb 01 37 23.7
comp=Z,7.6nm,0.9s
E28M Babbage River 95.38 17 P **P 01 37 22.5 +0.3**
baz=307
Q20K Shuyak Island 95.46 29 P **P 01 37 22.8 +0.1**
baz=294
SYI Shuyak Island 95.47 29 IAmb IAmb 01 37 26.1
comp=Z,8.6nm,0.9s
OHAK Old Harbor 95.58 30 P **P 01 37 23.0 -0.3**
baz=293
RC01 Rabbit Creek A 95.61 26 IAmb IAmb 01 37 24.6
comp=Z,26nm,0.8s
RC01 Rabbit Creek A 95.61 26 P **P 01 37 23.3 -0.1**
baz=296,SNR=15
PMR Palmer 95.65 25 P **P 01 37 22.9 -0.6**
PMR Palmer 95.65 25 P **P 01 37 22.9 -0.6**
PMR pmax pmax
comp=Z,16nm,0.9s
PMR Palmer 95.65 25 P **P 01 37 23.6 +0.1**
baz=297,SNR=13
GHO Glory Hole Cre 95.65 25 IAmb IAmb 01 37 27.4
comp=Z,11nm,0.8s
SLKM Skilak Lake 95.66 27 IAmb IAmb 01 37 24.3
comp=Z,17nm,0.8s
J25K Salcha River, 95.67 22 P **P 01 37 23.7 0.0**
baz=301
BRLK Bradley Lake 95.69 27 IAmb IAmb 01 37 24.6
comp=Z,24nm,0.7s
KDAK Kodiak Island 95.71 30 P **P 01 37 23.9 +0.1**
comp=Z,4.1nm,0.7s,baz=203,slow=5.9,SNR=3.8
comp=Z,4.1nm,0.7s
KDAK Kodiak Island 95.71 30 P **P 01 37 23.8 0.0**
baz=294
BRSE Bradley Lake S 95.76 27 P **P 01 37 24.1 0.0**
baz=296,SNR=8.4
G27K Doyon Strip 95.78 19 P **P 01 37 24.3 +0.2**
baz=304
SML Sawmill 95.89 25 P **P 01 37 25.2 +0.6**
baz=298,SNR=20
K24K Donnelly Dome 95.93 23 P **P 01 37 25.0 +0.1**
baz=300
E29M Blow River 95.99 17 P **P 01 37 25.4 +0.5**
baz=308
KNK Knik Glacier 96.02 25 IAmb IAmb 01 37 27.0
comp=Z,14nm,1.0s
KNK Knik Glacier 96.02 25 P **P 01 37 25.4 +0.1**
baz=298,SNR=7.1
I26K Coal Creek Min 96.10 21 P **P 01 37 26.2 +0.6**
baz=303
M23K Glacier View 96.14 25 P **P 01 37 26.6 +0.8**
baz=298,SNR=7.4
H27K Steamboat Moun 96.15 20 P **P 01 37 26.6 +0.8**
baz=304
SEW Seward 96.18 27 P **P 01 37 26.1 +0.1**
baz=297,SNR=5.7
SCM Sheep Creek Mo 96.29 25 IAmb IAmb 01 37 30.2
comp=Z,11nm,1.1s
SCM Sheep Creek Mo 96.29 25 P **P 01 37 26.9 +0.3**
baz=299
RIDG Independent Ri 96.32 23 P **P 01 37 26.7 +0.1**
baz=301
PWL Port Wells 96.33 26 P **P 01 37 25.4 -1.2**
PWL IAmb IAmb 01 37 28.3
comp=Z,23nm,1.0s
PWL Port Wells 96.33 26 P **P 01 37 26.8 +0.1**
baz=298,SNR=13
J26L Joseph Creek 96.39 22 P **P 01 37 27.4 +0.4**
baz=302
I27K Kandik River 96.47 20 P **P 01 37 27.7 +0.4**
baz=304
PAX Paxson 96.48 23 P **P 01 37 27.7 +0.3**
baz=301
SCRK Sand Creek 96.52 22 P **P 01 37 28.1 +0.4**
baz=302,SNR=6.1
A36M Sachs Harbour 96.55 11 IAmb IAmb 01 37 31.1
comp=Z,23nm,0.8s
A36M Sachs Harbour 96.55 11 P **P 01 37 27.5 +0.1**
baz=321,SNR=9.2
M24K Tolsona, Glenn 96.63 24 P **P 01 37 28.5 +0.5**
baz=300
GLI Glacier Island 96.85 26 P **P 01 37 29.6 +0.6**
baz=299
G29M Pine Creek 96.87 18 P **P 01 37 29.4 +0.4**
baz=308
HARP HAARP 96.89 24 P **P 01 37 30.0 +0.7**
baz=301
KLU Klutina 97.04 25 P Pdif 01 37 30.6 +0.5
baz=300
F30M Barrier River 97.10 17 P Pdif 01 37 30.9 +0.8
baz=310
I28M Miner Creek 97.14 20 IAmb IAmb 01 37 31.3
comp=Z,2.9nm,0.8s
I28M Miner Creek 97.14 20 P Pdif 01 37 30.9 +0.5
baz=306
FID Port Fidalgo 97.18 26 IAmb IAmb 01 37 31.8
comp=Z,6.8nm,0.8s
H29M Whitestone 97.19 19 IAmb IAmb 01 37 33.5
comp=Z,8.0nm,1.1s
H29M Whitestone 97.19 19 P Pdif 01 37 30.9 +0.4
baz=308
K27K Chicken 97.20 22 P Pdif 01 37 30.6 -0.1
K27K Chicken 97.20 22 P Pdif 01 37 31.4 +0.8
baz=304
L26K Log Cabin Wild 97.27 23 IAmb IAmb 01 37 35.7
comp=Z,8.4nm,1.2s
L26K Log Cabin Wild 97.27 23 P Pdif 01 37 31.7 +0.7
baz=302
INK Inuvik 97.28 16 IAmb IAmb 01 37 34.7
comp=Z,6.2nm,1.1s
INK Inuvik 97.28 16 P **P 01 37 30.6 -0.2**
comp=Z,8.9nm,1.2s,baz=321,slow=4.3,SNR=6.0
comp=Z,8.9nm,1.2s
INK Inuvik 97.28 16 P Pdif 01 37 31.4 +0.5
baz=312,SNR=9.2

G30M tAoh Zraii Nji 97.38 18 IAmb IAmb 01 37 32.3
comp=Z,4.8nm,0.9s
G30M tAoh Zraii Nji 97.38 18 P **P 01 37 31.2 -0.1**
baz=310
QSPA South Pole Qui 97.47 180 P **P 01 37 31.3 -0.5**
comp=Z,2.1nm,1.1s,baz=41,slow=17,SNR=1.7
comp=Z,2.1nm,1.1s
N25K Chitina, Valde 97.53 24 IAmb IAmb 01 37 34.2
comp=Z,5.1nm,0.7s
N25K Chitina, Valde 97.53 24 P Pdif 01 37 32.7 +0.5
baz=301,SNR=8.0
EYAK Cordova Ski Ar 97.59 26 IAmb IAmb 01 37 35.8
comp=Z,5.9nm,0.9s
EYAK Cordova Ski Ar 97.59 26 P Pdif 01 37 32.7 +0.3
baz=300
EPYK Eagle Plains 97.62 18 IAmb IAmb 01 37 33.7
comp=Z,5.6nm,0.8s
EPYK Eagle Plains 97.62 18 P Pdif 01 37 32.7 +0.2
baz=309,SNR=5.9
RES Resolute Bay 97.70 2 IAmb IAmb 01 37 48.4
comp=Z,6.5nm,0.9s
RES Resolute Bay 97.70 2 P **P 01 37 32.4 -0.2**
comp=Z,4.7nm,0.8s,baz=337,slow=5.3,SNR=12
comp=Z,4.7nm,0.8s
I29M Ogilvie Camp, 97.73 20 P Pdif 01 37 33.1 +0.1
baz=308
M26K Nabesna, AK 97.75 23 IAmb IAmb 01 37 35.3
comp=Z,4.3nm,0.9s
M26K Nabesna, AK 97.75 23 P Pdif 01 37 33.7 +0.6
baz=303,SNR=7.9
F31M Tsiigehtchic 97.81 17 P **P 01 37 32.4 -0.8**
F31M IAmb IAmb 01 37 33.9
comp=Z,12nm,1.4s
F31M Tsiigehtchic 97.81 17 P Pdif 01 37 33.5 +0.3
baz=312
L27K Beaver Creek, 97.83 22 P Pdif 01 37 33.7 +0.1
baz=304
BMRM Bremner River 97.86 25 IAmb IAmb 01 37 39.9
comp=Z,14nm,0.9s
BMRM Bremner River 97.86 25 P Pdif 01 37 34.0 +0.3
baz=301,SNR=10
GLB Gilahina Butte 97.94 24 IAmb IAmb 01 39 03.9
comp=Z,14nm,1.8s
G31M Satah River 98.00 17 P Pdif 01 37 34.3 +0.3
baz=311
DAWY Dawson 98.14 21 P **P 01 37 34.4 -0.5**
DAWY IAmb IAmb 01 39 24.4
comp=Z,17nm,2.0s
DAWY Dawson 98.14 21 P Pdif 01 37 35.2 +0.3
baz=306
M27K Edge Creek, AK 98.21 23 IAmb IAmb 01 37 37.9
comp=Z,4.3nm,0.9s
M27K Edge Creek, AK 98.21 23 P Pdif 01 37 35.3 0.0
baz=304
J29N Klondike Camp 98.32 20 P Pdif 01 37 36.1 +0.4
baz=307
HMT Hamilton 98.33 25 IAmb IAmb 01 37 46.0
comp=Z,7.3nm,0.9s
I30M Mount Dempster 98.45 19 IAmb IAmb 01 37 37.5
comp=Z,4.4nm,0.8s
I30M Mount Dempster 98.45 19 P Pdif 01 37 36.6 +0.2
baz=309,SNR=7.0
KAIM Kayak Island 98.48 26 P Pdif 01 37 36.7 +0.3
baz=301
BERG Berg Lake 98.54 25 IAmb IAmb 01 37 39.7
comp=Z,7.0nm,0.8s
BVCY Beaver Creek 98.57 23 P Pdif 01 37 37.2 +0.4
baz=305
H31M Peel River 98.72 18 IAmb IAmb 01 37 38.8
comp=Z,7.2nm,0.9s
H31M Peel River 98.72 18 P Pdif 01 37 37.4 0.0
baz=311,SNR=5.9
C36M Paulatuk 98.86 13 P **P 01 37 36.8 -1.1**
C36M IAmb IAmb 01 37 38.6
comp=Z,9.3nm,1.0s
WAX Waxell Ridge 98.87 25 IAmb IAmb 01 37 40.5
comp=Z,6.0nm,0.8s
J30M Hart River 98.88 20 P Pdif 01 37 38.4 +0.1
baz=309
K29M Barlow Dome 98.94 21 P Pdif 01 37 38.7 +0.2
baz=308
YUK3 Moose Creek 99.09 23 P **Pdif 01 37 39.2 -0.1**
baz=305
L29M L29M 99.17 21 IAmb IAmb 01 37 44.1
comp=Z,4.4nm,0.9s
L29M L29M 99.17 21 P **Pdif 01 37 39.6 +0.1**
baz=307
MESA MESA 99.39 25 P **Pdif 01 37 40.7 0.0**
baz=304
M29M Somme Creek 99.45 22 P **Pdif 01 37 41.0 +0.1**
baz=307
YUK8 Steele Glacier 99.65 23 P **Pdif 01 37 41.5 -0.4**
baz=306
O28M Mount Upton 99.78 24 P **Pdif 01 37 42.0 -0.5**
baz=305
M30M Minto, Yukon 99.98 21 P **Pdif 01 37 42.9 -0.2**
baz=309
YUK4 Talbot Arm 100.05 23 P **Pdif 01 37 43.2 -0.4**
baz=307
PINM Pinnacle 100.14 24 P **Pdif 01 37 44.0 +0.1**
baz=305
YUK6 Outpost Mounta 100.40 23 P **Pdif 01 37 45.0 -0.2**
baz=307
N30M Aishikik Lake 100.57 22 P **Pdif 01 37 45.7 0.0**
baz=308
O29M Mount Kennedy 100.70 24 P **Pdif 01 37 46.2 -0.2**
baz=307
PNL Peninsula 100.74 25 P **Pdif 01 37 46.6 +0.1**
baz=306
HYT Haines Junctio 100.80 23 P **Pdif 01 37 46.8 -0.1**
baz=308
M31M Drury Creek, Y 101.08 21 P **Pdif 01 37 48.3 +0.3**
baz=311
O30N Mendenhall 101.38 23 P **Pdif 01 37 49.4 +0.1**
baz=309
FARO Faro, Yukon 101.43 21 P **Pdif 01 37 50.2 +0.6**
baz=312
P29M Windy Craggy 101.44 24 P **Pdif 01 37 49.3 -0.3**
baz=307
P30M Million Dollar 101.45 23 P **Pdif 01 37 49.4 -0.2**
baz=308
MMPY Sheldon Lake, 101.88 20 P **Pdif 01 37 51.7 +0.1**
baz=314
WHY Whitehorse 101.91 22 P **Pdif 01 37 51.4 -0.4**
baz=310
PLBC Pleasant Camp 102.10 24 P **Pdif 01 37 52.1 -0.4**
baz=308
N32M Quiet Lake 102.25 21 P **Pdif 01 37 54.1 +0.9**
baz=312
SKAG Skagway 102.51 23 P **Pdif 01 37 54.9 +0.6**
baz=309
P33M Teslin, Yukon 102.98 22 P **Pdif 01 37 57.1 +0.6**
baz=312
R31K City Hall, Gus 103.01 24 P **Pdif 01 37 57.2 +0.7**
baz=309
P32M Atlin 103.05 23 P **Pdif 01 37 57.1 +0.2**
baz=311
R32K Eaglecrest 103.59 24 P **Pdif 01 37 60.0 +0.8**
baz=310
YKA Yellowknife Ar 106.72 13 Pdiff **Pdif 01 38 13.6 +0.6**
comp=Z,0.2nm,0.8s,baz=318,slow=4.6,SNR=2.7
YKA PP **PP 01 42 36.0 -1.7**
comp=Z,1.0nm,1.0s,baz=330,slow=7.2,SNR=6.1
YKA PKKPab **PKKPbc 01 53 41.3 -3.0**
comp=Z,0.6nm,1.0s,baz=156,slow=2.9,SNR=5.3
YKA PKKPab **PKKPdf 01 53 56.9 +0.9**
comp=Z,0.5nm,0.8s,baz=150,slow=4.2,SNR=6.9
J05D Fort Rock, OR 120.06 29 PKPdf PKPdf 01 42 48.6 -0.8
MSO Missoula 120.36 22 PKPdf **PKPdf 01 42 48.8 -1.0**
ULM Lac du Bonnet 121.77 8 PKP **PKPdf 01 42 51.6 -0.7**
comp=Z,3.8nm,0.6s,baz=313,slow=1.8,SNR=8.6
HLID Hailey 122.90 24 PKPdf **PKPdf 01 42 54.9 0.0**
NVAR Mina Array Bea 125.18 31 PKPdf **PKPdf 01 42 59.1 -0.3**
NVAR Mina Array Bea 125.18 31 PKP **PKiKP 01 42 59.7 -0.1**
comp=Z,2.8nm,0.8s,baz=275,slow=1.7,SNR=13
PDAR Pinedale Array 125.45 21 PKPdf **PKPdf 01 42 57.8 -2.1**
PDAR Pinedale Array 125.45 21 PKP **PKPdf 01 42 59.1 -0.8**
comp=Z,3.0nm,0.9s,baz=15,slow=1.3,SNR=11
DUG Dugway, Tooele 126.36 26 PKPdf **PKPdf 01 43 00.7 -0.9**
DUG Dugway, Tooele 126.36 26 PKIKP **PKPdf 01 43 00.7 -0.9**
RDMU Red Mountain 127.35 23 PKPdf **PKPdf 01 43 02.6 -1.0**
ANMO Albuquerque 133.46 23 PKPdf **PKPdf 01 43 15.7 +0.4**
ANMO Albuquerque 133.46 23 PKIKP **PKPdf 01 43 15.7 +0.4**
FCAR Ozark Folk Cen 136.37 7 PKPdf **PKPdf 01 43 19.9 -0.6**
TXAR Lajitas Array 139.50 24 PKP **PKPdf 01 43 23.8 -2.7**
comp=Z,1.1nm,0.7s,baz=336,slow=3.3,SNR=7.2
TXAR PP **PP 01 46 16.7 -2.9**
comp=Z,0.7nm,0.9s,baz=341,slow=3.0,SNR=3.5

BDFB Brasilia 142.11 254 PKhKP PKPpre 01 43 27.0
comp=Z,2.1nm,0.7s,baz=105,slow=5.3,SNR=3.4
PLCA Paso Flores 144.26 200 PKPdf PKPbc 01 43 33.3 +0.5
PLCA Paso Flores 144.26 200 PKP PKPbc 01 43 33.1 +0.3
comp=Z,13nm,0.9s,baz=170,slow=3.1,SNR=15
LL03 Petrohue 144.49 198 PKPdf **PKPab 01 43 33.1 0.0**
LL04 Puerto Octay 144.70 198 PKPdf **PKPab 01 43 32.7 -1.2**
CPUP Villa Florida 147.07 232 PKPbc **PKPdf 01 43 40.7 +1.0**
comp=Z,9.7nm,0.8s,baz=112,slow=2.9,SNR=13
HUMP Col San Antoni 147.70 322 PKPbc **PKPdf 01 43 42.2 +1.2**
SJG San Juan 147.90 323 PKPbc **PKPdf 01 43 42.1 +0.8**
SJG San Juan 147.90 323 PKP2 **PKPdf 01 43 42.1 +0.8**
MAL2 Monte Alegre, 147.96 278 PKPbc **PKPbc 01 43 43.3 -1.3**
BI02 San Fabin de 148.13 203 PKPbc **PKPbc 01 43 43.8 -0.7**
VA03 San Esteban 151.18 208 PKPbc **PKPbc 01 43 51.4 -0.8**
PTLB Pontes e Lacer 152.68 251 PKPdf **PKPdf 01 43 47.4 -1.4**
CO03 El Pedregal 152.84 210 PKPbc **PKPbc 01 43 55.6 -0.3**
LPAZ La Paz 160.61 242 PKP **PKPdf 01 44 00.6 +0.8**
comp=Z,2.1nm,0.8s,baz=224,slow=2.9,SNR=5.9
ROSC El Rosal 163.12 317 PKP **PKPdf 01 44 02.9 +0.6**
comp=Z,2.6nm,0.3s,baz=35,slow=6.5,SNR=4.2

---

*IDC **01** 01:24:03.6±4.7, 9°.89N×92°.89E, h0km, mb4.2/11, mbtmp4.2/12, ML3.9/1, Error ellipse: s-maj=107.2km s-min=47.5km az=141.0*

ISC 01 01:24:00.9±1.0, 9°.4N±0°.1×93°.41E±0°.08, h10km, n22, σ1§97/21, mb4.3/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAYO	**Nakonayok**	**9.18**	**57**	P	Pn	01 26 23.6	+10
329nm,0.7s							
CMAR	**Chiang Mai Arr**	**10.53**	**30**	Pn	**Pn**	**01 26 33.6**	**+1.6**
0.3nm,0.3s,baz=216,slow=13,SNR=1.3							
1.8nm,0.3s							
RAGD	**RAYAGADA**	**13.77**	**317**	*e*S	**S**	**01 30 09.9**	**-2.3**
SALM	**Salem**	**15.13**	**280**	*e*S	**Sn**	**01 30 28.0**	**+5.3**
IMP	**Imphal**	**15.41**	**2**	*e*S	**S**	**01 30 45.7**	**0.0**
KOD	**Kodaikanal**	**15.74**	**275**	*e*S	**Sn**	**01 30 37.8**	**-0.2**
KOHI	**KOHIMA**	**16.30**	**2**	*e*S	**S**	**01 31 05.0**	**+0.9**
KAD	**Karad**	**20.30**	**295**	*e*S	Sn	01 32 34.1	+6.0
GMJI	**Gumukmas**	**26.54**	**131**	P	**P**	**01 29 38.7**	**-0.5**
SRBI	**Singaraja**	**27.77**	**128**	P	**P**	**01 29 51.7**	**+1.4**
AAK	**Ala-Archa**	**37.08**	**337**	P	**P**	**01 31 08.6**	**-3.0**
2.1nm,0.5s,baz=129,slow=3.2,SNR=4.3							
2.1nm,0.5s							
KURBB	**Kurchatov Arra**	**42.95**	**346**	P	**P**	**01 31 59.2**	**-0.8**
2.9nm,0.8s,baz=167,slow=7.4,SNR=2.3							
2.9nm,0.8s							
CN2	**Changchun**	**44.19**	**33**	*e*P	**P**	**01 32 07.4**	**-2.8**
CN2				*e*sP	sP	01 32 14.0	+0.3
CN2				*e*S	**S**	**01 38 46.8**	**+3.3**
CN2				pmax	pmax		
comp=Z,10.0nm,0.5s							
CN2				pmax	pmax		
comp=Z,200nm,5.0s							
CN2				LR	LR		
comp=N,700nm,12.0s							
CN2				LR	LR		
comp=E,700nm,12.0s							
CN2				LR	LR		
comp=Z,700nm,11.0s							
ZALV	**Zalesovo Beam**	**45.01**	**353**	P	**P**	**01 32 15.8**	**-0.7**
comp=Z,5.5nm,0.8s,baz=175,slow=6.8,SNR=2.2							
comp=Z,5.5nm,0.8s							
BVAR	**Borovoye Array**	**47.37**	**341**	P	**P**	**01 32 34.2**	**-1.0**
comp=Z,2.5nm,0.8s,baz=146,slow=8.3,SNR=2.0							
comp=Z,2.5nm,0.8s							
BRTR	**Keskin Array B**	**60.93**	**310**	P	**P**	**01 34 14.5**	**0.0**
comp=Z,0.8nm,0.7s,baz=116,slow=6.6,SNR=2.1							
comp=Z,0.8nm,0.7s							
FINES	**FINESS Array B**	**71.08**	**332**	P	**P**	**01 35 19.9**	**+0.7**
comp=Z,2.0nm,0.7s,baz=102,slow=6.0,SNR=1.7							
comp=Z,2.0nm,0.7s							
GERES	**GERESS Array B**	**76.26**	**318**	P	**P**	**01 35 50.0**	**0.0**
comp=Z,0.9nm,0.7s,baz=84,slow=9.2,SNR=2.0							
comp=Z,0.9nm,0.7s							
HFS	**Hagfors**	**76.83**	**330**	P	**P**	**01 35 52.5**	**-0.4**
comp=Z,2.1nm,0.5s,baz=101,slow=7.5,SNR=1.9							
comp=Z,2.1nm,0.5s							
NOA	**NORSAR Array B**	**78.10**	**330**	P	**P**	**01 36 00.6**	**+0.5**
comp=Z,2.1nm,1.0s,baz=91,slow=5.7,SNR=2.0							
comp=Z,2.1nm,1.0s							
SPITS	**Spitsbergen Ar**	**78.26**	**348**	P	**P**	**01 36 01.5**	**+0.9**
comp=Z,8.6nm,1.0s,baz=163,slow=5.6,SNR=1.4							
comp=Z,8.6nm,1.0s							
EKA	**Eskdalemuir Ar**	**86.11**	**325**	P	**P**	**01 36 41.7**	**-0.4**
comp=Z,1.4nm,0.7s,baz=96,slow=5.8,SNR=2.6							
comp=Z,1.4nm,0.7s							

---

*IDC **01** 01:26:23.5±1.4, 7°.78N×93°.47E, h0km, mb4.0/9, mbtmp4.0/10, ML3.9/1, Error ellipse: s-maj=46.6km s-min=30.3km az=57.0*

ISC 01 01:26:30.3±1.2, 7°.9N±0°.2×93°.6E±0°.2, h46km, n13, σ0§56/10, mb4.1/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.68**	**26**	Pn	**Pn**	**01 29 13.8**	**-0.6**
0.2nm,0.3s,baz=204,slow=13,SNR=1.3							
1.1nm,0.3s							
H08S3	**Diego Garcia H**	**26.14**	**234**	T	T	01 58 45.1	
baz=53							
H08S2	**Diego Garcia H**	**26.15**	**234**	T	T	01 58 45.0	
baz=53							
H08S1	**Diego Carcia H**	**26.16**	**234**	T	T	01 58 45.0	
baz=53							
MKAR	**Makanchi Array**	**39.94**	**348**	P	**P**	**01 34 00.7**	**+0.7**
1.5nm,0.8s,baz=171,slow=9.8,SNR=1.3							
1.5nm,0.8s							
KURBB	**Kurchatov Arra**	**44.39**	**346**	P	**P**	**01 34 36.6**	**+0.4**
1.9nm,0.8s,baz=165,slow=7.6,SNR=1.9							
1.9nm,0.8s							
ZALV	**Zalesovo Beam**	**46.45**	**353**	P	**P**	**01 34 52.8**	**+0.4**
2.2nm,0.7s,baz=182,slow=6.8,SNR=2.3							
2.2nm,0.7s							
ASAR	**Alice Springs**	**50.32**	**130**	P	**P**	**01 35 22.8**	**0.0**
0.6nm,0.7s,baz=299,slow=7.1,SNR=0.7							
0.6nm,0.7s							
BRTR	**Keskin Array B**	**62.03**	**311**	P	**P**	**01 36 45.6**	**-0.8**
1.3nm,0.9s,baz=111,slow=8.1,SNR=3.6							
1.3nm,0.9s							
TIXI	**Tiksi**	**67.29**	**11**	P	**P**	**01 37 20.4**	**+0.6**
1.6nm,0.5s,baz=10.0,slow=1.1,SNR=1.7							
1.6nm,0.5s							
FINES	**FINESS Array B**	**72.44**	**332**	P	**P**	**01 37 51.9**	**+0.2**
2.2nm,0.7s,baz=116,slow=6.3,SNR=2.1							
2.2nm,0.7s							
HFS	**Hagfors**	**78.17**	**330**	P	**P**	**01 38 24.8**	**+0.2**
2.5nm,0.8s,baz=116,slow=6.6,SNR=1.6							
2.5nm,0.8s							
ESDC	**Sonseca Array**	**90.81**	**310**	P	**P**	**01 39 28.8**	**-0.3**
0.1nm,0.3s,baz=64,slow=4.3,SNR=1.0							
0.1nm,0.3s							

---

*IDC **01** 01:29:42.1±2.5, 7°.66N×93°.77E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=99.2km s-min=31.0km az=57.0*

ISC 01 01:29:45.4±2.1, 7°.7N±0°.3×93°.8E±0°.5, h20km, n9, σ0§38/6, mb3.6/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.17**	**235**	T	T	02 01 59.2	
baz=54							
H08S2	**Diego Garcia H**	**26.17**	**235**	T	T	02 01 56.9	
baz=54							
H08S1	**Diego Carcia H**	**26.18**	**235**	T	T	02 02 02.7	
baz=54							
MKAR	**Makanchi Array**	**40.19**	**348**	P	**P**	**01 37 20.2**	**-0.2**
0.4nm,0.6s,baz=146,slow=9.1,SNR=2.5							
0.4nm,0.6s							
SONM	**Songino Array**	**41.40**	**13**	P	**P**	**01 37 30.7**	**+0.2**
0.4nm,0.5s,baz=210,slow=5.0,SNR=3.3							
0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**44.64**	**346**	P	**P**	**01 37 56.7**	**+0.2**
0.4nm,0.4s,baz=172,slow=6.8,SNR=4.1							
0.4nm,0.4s							
ZALV	**Zalesovo Beam**	**46.69**	**353**	P	**P**	**01 38 12.1**	**-0.5**
0.5nm,0.3s,baz=170,slow=7.9,SNR=2.2							
0.5nm,0.3s							
WRA	**Warramunga Arr**	**48.41**	**125**	P	**P**	**01 38 26.5**	**0.0**
0.4nm,0.7s,baz=300,slow=7.8,SNR=1.7							
0.4nm,0.7s							
FINES	**FINESS Array B**	**72.72**	**332**	P	**P**	**01 41 11.9**	**+0.1**

3.4nm,1.1s,baz=104,slow=5.0,SNR=1.6
3.4nm,1.1s

*IDC **01** 01:30:54.2±1.7, 7°.51N×93°.43E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=79.8km s-min=22.4km az=57.0*

ISC 01 01:31:01.8±1.8, 7°.6N±0°.3×93°.5E±0°.4, h55km, n14, σ0§77/8, mb3.6/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**25.86**	**235**	T	T	02 03 17.4	
baz=56							
H08S2	**Diego Garcia H**	**25.86**	**235**	T	T	02 03 20.9	
baz=56							
H08S1	**Diego Carcia H**	**25.88**	**235**	T	T	02 03 20.7	
baz=56							
MKAR	**Makanchi Array**	**40.24**	**348**	P	**P**	**01 38 33.4**	**+0.1**
0.4nm,0.5s,baz=180,slow=9.6,SNR=3.5							
0.4nm,0.5s							
SONM	**Songino Array**	**41.58**	**13**	P	**P**	**01 38 44.3**	**-0.1**
0.4nm,0.7s,baz=193,slow=5.8,SNR=1.8							
0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**44.68**	**346**	P	**P**	**01 39 09.2**	**0.0**
0.8nm,0.7s,baz=178,slow=6.7,SNR=6.8							
0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**46.77**	**353**	P	**P**	**01 39 25.3**	**-0.3**
1.1nm,0.5s,baz=189,slow=7.8,SNR=3.8							
1.1nm,0.5s							
WRA	**Warramunga Arr**	**48.59**	**125**	P	**P**	**01 39 41.4**	**+1.1**
0.6nm,0.8s,baz=302,slow=7.5,SNR=3.0							
0.6nm,0.8s							
ASAR	**Alice Springs**	**50.19**	**129**	P	**P**	**01 39 51.4**	**-1.1**
0.6nm,0.9s,baz=298,slow=7.8,SNR=4.2							
0.6nm,0.9s							
H04N2	**CROZET ISLANDS**	**65.17**	**211**	T	T	02 52 14.7	
baz=48							
H04N1	**CROZET ISLANDS**	**65.18**	**211**	T	T	02 52 14.7	
baz=48							
H04N3	**CROZET ISLANDS**	**65.19**	**211**	T	T	02 52 14.0	
baz=48							
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**01 42 23.4**	**-0.3**
3.0nm,0.8s,baz=104,slow=2.9,SNR=4.0							
3.0nm,0.8s							
HFS	**Hagfors**	**78.40**	**330**	P	**P**	**01 42 57.0**	**+0.6**
2.0nm,0.8s,baz=127,slow=6.3,SNR=4.2							
2.0nm,0.8s							

*NEIC **01** 01:32:20.5±1.8, 14°.49N±0°.08×90°.65W±0°.03, h10km±2km, ML3.3/16, Error ellipse: s-maj=13.2km s-min=5.0km az=187.0*
*GCG **01** 01:32:20.4±1.9, 14°.52N×90°.72W, h4km±4km, MD3.9, MW3.2*
*SNET **01** 01:32:23.1±1.0, 14°.51N×90°.63W, h13km±127km, ML2.8*

ISC 01 01:32:20.4±1.0, 14°.45N±0°.04×90°.65W±0°.03, h7km±8km, n25, σ1§67/30, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.07**	**142**	*eP*	**Pg**	**01 32 23.9**	**+1.4**
GCG4	**OSOP**	**0.18**	**40**	*eP*	**Pg**	**01 32 24.9**	**+0.7**
GCG4				*eS*	**Sg**	**01 32 27.7**	**+1.0**
PS001	**Antigua, Sacat**	**0.25**	**123**	*eP*	**Pg**	**01 32 22.3**	**-3.0**
PS001				*e*		01 32 22.4	
baz=183,slow=28							
PS001				*eS*	**Sg**	**01 32 23.6**	**-5.1**
STG0	**El Palmar, Qui**	**0.67**	**268**	*eP*	**Pn**	**01 32 37.6**	**+1.2**
STG8	**El Palmar, Qui**	**0.68**	**270**	*eP*	**Pn**	**01 32 38.0**	**+1.4**
SOKI	**Kika Raxquin**	**0.82**	**297**	*eP*	**Pg**	**01 32 36.1**	**0.0**
ESSJ	**San Jos, E**	**0.89**	**171**	*i P*	Pg	01 32 33.8	-3.8
NUBE	**Las Nubes**	**1.01**	**123**	*eP*	**Pn**	**01 32 41.3**	**+0.3**
NUBE				*eS*	**Sn**	**01 32 55.9**	**+0.4**
NUBE	**Las Nubes**	**1.01**	**123**	*eP*	**Pn**	**01 32 41.0**	**0.0**
NUBE				*eS*	**Sn**	**01 32 55.9**	**+0.4**
RTAL	**Retalhuleu**	**1.01**	**274**	Pg	**Pg**	**01 32 39.5**	**-0.3**
CEVE	**Cerro Verde**	**1.17**	**122**	*eP*	**Pg**	**01 32 45.0**	**+2.1**
CEVE				IAML		01 33 05.1	
comp=Z,197nm,0.6s							
HUEH	**Huehuetenango**	**1.19**	**317**		**Pb**	**01 32 42.3**	**-1.1**
HUEH				IAML		01 33 12.2	
comp=E,1μm,0.7s							
HUEH				IAML		01 33 15.5	
comp=N,1μm,0.7s							
HUEH	**Huehuetenango**	**1.19**	**317**	*eS*	**Sb**	**01 32 58.1**	**-1.1**
MTO3	**Montecristo**	**1.25**	**92**	Pn	**Pg**	**01 32 44.9**	**+0.4**
MTO3	**Montecristo**	**1.25**	**92**	*eP*	**Pg**	**01 32 45.4**	**+1.0**
MTO3				*eS*	**Sn**	**01 33 03.0**	**+1.3**
MTO3	**Montecristo**	**1.25**	**92**	*eP*	**Pg**	**01 32 45.0**	**+0.5**
JAYA	**Jayaque - finc**	**1.41**	**124**	*eP*	**Pg**	**01 32 48.2**	**+0.8**
JAYA				*eS*	**Sg**	**01 33 07.9**	**+2.1**
JAYA	**Jayaque - finc**	**1.41**	**124**	*eP*	**Pg**	**01 32 48.1**	**+0.6**
JAYA				*eS*	**Sg**	**01 33 08.9**	**+3.1**
COEG	**Centro de Oper**	**1.91**	**115**	IAML		01 33 31.9	
comp=Z,88nm,0.3s							
CCIG	**Comitan**	**2.32**	**322**	Pn	**Pn**	**01 32 59.0**	**-0.1**
CCIG				IAML		01 33 38.9	
comp=E,186nm,0.6s							
CCIG				IAML		01 33 39.7	
comp=N,163nm,0.5s							
PETF	**Flores**	**2.57**	**17**	Pn	**Pn**	**01 33 00.8**	**-1.6**
TGUH	**Tegucigalpa,Un**	**3.30**	**96**	Pn	**Pn**	**01 33 12.2**	**-0.4**
TGUH				IAML		01 34 13.2	
comp=N,48nm,1.4s							
TGUH				IAML		01 34 19.9	
comp=N,47nm,1.1s							
CNGN	**Cerro Negro**	**4.31**	**116**	Pn	**Pn**	**01 33 25.5**	**-0.8**
BOAB	**BOACO BROADBAN**	**6.24**	**112**	Pn	**Pn**	**01 33 38.9**	**-0.3**
BOAB				IAML		01 35 15.7	
comp=N,16nm,2.5s							
BOAB				IAML		01 36 13.0	
comp=E,14nm,1.8s							
TEIG	**Tepich**	**6.18**	**21**	Pn	**Pn**	**01 33 53.2**	**+1.2**

*IDC **01** 01:34:16.4±0.7, 7°.35N×94°.02E, h0km, mb4.1/22, mbtmp4.0/24, ML3.8/2, MS4.1/1, Error ellipse: s-maj=21.3km s-min=15.1km az=51.0*
*NEIC **01** 01:34:20.3±1.2, 7°.71N±0°.04×94°.4E±0°.1, h10km±1km, mb4.7/40, Error ellipse: s-maj=19.8km s-min=5.7km az=255.0*
*BJI **01** 01:34:20.6, 7°.70N×94°.40E, h10km, mB5.3/4, mb4.5/35, Ms4.8/2, Ms7 4.7/2*
*DJA **01** 01:34:24.7±0.7, 8°N±3°×9°5E±°, h10km, M4.5/8, mb4.4/6, MLv4.5/8*

ISC 01 01:34:21.4±0.4, 7°.61N±0°.06×94°.33E±0°.07, h24km, n100, σ1§35/95, mb4.5/50, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.31**	**155**	P	**Pn**	**01 35 00.0**	**+1.9**
BSI				S	**Sn**	**01 35 25.6**	**-0.2**
LHMI	**Lhok Sumawe**	**3.52**	**132**	Pn	**Pn**	**01 35 14.7**	**+0.1**
LHMI	**Lhok Sumawe**	**3.52**	**132**	P	**Pn**	**01 35 13.0**	**-1.6**
LHMI				S	**Sn**	**01 35 52.1**	**-3.4**
MLSI	**Meulaboh, Aceh**	**3.91**	**148**	P	**Pn**	**01 35 20.8**	**+0.7**
SRIT	**Nakonsritamara**	**5.31**	**79**	Pn	**Pn**	**01 35 37.8**	**-1.5**
PSI	**Prapat**	**6.62**	**136**	Pn	**Pn**	**01 35 57.6**	**+0.2**
0.7nm,0.3s,baz=261,slow=3.9,SNR=5.7							
PSI				Sn	**Sn**	**01 37 12.4**	**+0.3**
0.2nm,0.3s,baz=345,slow=22,SNR=1.1							
PSI				LR	LR	01 38 50.5	
comp=Z,2μm,18.3s,baz=282,slow=41							
6.7nm,0.9s							
KULM	**Kulim**	**6.69**	**110**	Pn	**Pn**	**01 35 56.5**	**-1.7**
RPSI	**Rantau Prapat**	**6.69**	**137**	Pn	**Pn**	**01 35 58.8**	**+0.4**
GSI	**Gunungsitoli**	**7.05**	**153**	P	**Pn**	**01 36 05.5**	**+2.2**
0.3nm38nm,1.4s							
PPI	**Padang Panjang**	**10.04**	**143**	P	**Pn**	**01 36 44.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**11.68**	**22**	Pn	**Pn**	**01 37 04.1**	**-2.5**
CMAR	**Chiang Mai Arr**	**11.68**	**22**	Pn	**Pn**	**01 37 08.9**	**+2.3**
0.4nm,0.3s,baz=215,slow=14,SNR=8.5							
1.0nm,0.3s							
CHTO	**Chiang Mai**	**12.00**	**21**	Pn	**Pn**	**01 37 09.3**	**-1.8**
SLVN	**Son La**	**16.48**	**33**	P	**P**	**01 38 13.0**	**-0.8**
KSM	**Kuching**	**17.05**	**110**	P	**P**	**01 38 21.0**	**+0.9**
SBUM	**Sibu**	**18.54**	**105**	P	**P**	**01 38 36.2**	**-0.3**
KMI	**Kunming**	**19.18**	**24**	P	**Pn**	**01 38 49.1**	**+4.4**
KMI				pmax	pmax		
comp=Z,15nm,0.9s							
PZH	**PanZhiHua**	**20.07**	**20**	P	Pn	01 38 57.2	+2.1
PZH				pmax	pmax		
comp=Z,40nm,1.2s							
LSA	**Lhasa**	**22.17**	**353**		**P**	**01 39 15.9**	**-0.5**
LSA				IAmb	IAmb	01 39 24.8	
comp=Z,14nm,0.8s							
H08S3	**Diego Garcia H**	**26.53**	**236**	T	T	02 06 47.5	
baz=54,slow=75,SNR=9.8							
H08S2	**Diego Garcia H**	**26.53**	**236**	T	T	02 06 40.4	
baz=54,slow=75,SNR=14							
H08S1	**Diego Carcia H**	**26.54**	**236**	T	T	02 06 47.2	
baz=54,slow=75,SNR=10							
LZH	**Lanzhou**	**29.65**	**16**	*eP*	P	01 40 31.7	+6.4
LZH				sP	pwP	01 40 40.2	+5.6
LZH				pmax	pmax		
comp=Z,19nm,1.0s							
LYN	**LuoYang**	**31.59**	**29**	P	P	01 40 49.2	+6.9
LYN				pmax	pmax		
comp=Z,19nm,0.9s							
GTA	**Gaotai**	**32.04**	**8**	*eP*	P	01 40 52.9	+6.5
GTA				sP	pwP	01 41 02.0	+6.3
GTA				pmax	pmax		
comp=Z,7.0nm,1.0s							
NIL	**Nilore**	**32.42**	**326**	P	**P**	**01 40 48.3**	**-1.4**
NIL				IAmb	IAmb	01 41 01.2	
comp=Z,11nm,0.9s							
NJ2	**Nanjing**	**33.35**	**40**	*eP*	**P**	**01 40 59.5**	**+1.7**
NJ2				pmax	pmax		
comp=Z,36nm,0.5s							
HNS	**HongShan**	**34.95**	**29**	⇑P	P	01 41 19.3	+7.7
HNS				pmax	pmax		
comp=Z,19nm,0.9s							
TIA	**Tai'an**	**35.26**	**33**	P	**P**	**01 41 16.3**	**+1.9**
TIA				pmax	pmax		
comp=Z,6.0nm,0.7s							
KSH	**Kashi**	**35.79**	**335**	P	**P**	**01 41 15.7**	**-3.2**
KSH				pmax	pmax		
comp=Z,4.0nm,1.3s							
WUS	**Wushi**	**36.05**	**340**	P	**P**	**01 41 20.6**	**-0.6**
WUS				IAmb	IAmb	01 41 26.6	
comp=Z,6.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**36.49**	**22**	*eP*	**P**	**01 41 25.8**	**+0.9**
HHC				pmax	pmax		
comp=Z,15nm,0.8s							
WMQ	**Urumqi**	**36.53**	**352**	*eP*	**P**	**01 41 27.4**	**+2.2**
KDJ	**Kajisay**	**37.57**	**339**	P	**P**	**01 41 33.6**	**-0.6**
GAR	**Garm**	**37.99**	**329**	P	**P**	**01 41 37.4**	**-0.4**
GAR				IAmb	IAmb	01 41 58.5	
comp=Z,28nm,1.4s							
SIMJ	**Simiganj**	**38.42**	**327**	P	**P**	**01 41 40.2**	**-1.2**
BTK	**Batken**	**38.55**	**331**	P	**P**	**01 41 42.4**	**+0.1**
ARSB	**Arslanbob**	**38.56**	**334**	P	**P**	**01 41 41.5**	**-1.0**
ARSB				IAmb	IAmb	01 41 48.8	
comp=Z,17nm,1.2s							
AAK	**Ala-Archa**	**39.02**	**337**	P	**P**	**01 41 45.9**	**-0.4**
MK31	**Makanchi Array**	**40.38**	**347**	P	**P**	**01 41 57.0**	**-0.4**
MKAR	**Makanchi Array**	**40.38**	**347**	P	**P**	**01 41 56.4**	**-1.1**
MKAR	**Makanchi Array**	**40.38**	**347**	P	**P**	**01 41 57.6**	**+0.2**
comp=Z,5.7nm,0.7s,baz=165,slow=7.6,SNR=23							
comp=Z,5.7nm,0.7s							
MAKZ	**Makanchi**	**40.46**	**347**	P	**P**	**01 41 57.5**	**-0.7**
MAKZ				IAmb	IAmb	01 42 03.2	
comp=Z,4.9nm,0.7s							
KKAR	**Karatay Array**	**41.08**	**333**	P	**P**	**01 42 02.6**	**-0.7**
SONM	**Songino Array**	**41.38**	**12**		**P**	**01 42 05.1**	**-0.6**
SONM	**Songino Array**	**41.38**	**12**	P	**P**	**01 42 06.9**	**+1.1**
comp=Z,1.7nm,0.8s,baz=194,slow=9.1,SNR=12							
SONM				PcP	**PcP**	**01 44 04.7**	**+1.0**
comp=Z,0.6nm,0.9s,baz=199,slow=3.1,SNR=1.6							
comp=Z,1.7nm,0.8s							
KSRS	**Korea Array**	**42.54**	**41**	P	**P**	**01 42 17.1**	**+1.9**
comp=Z,1.4nm,0.7s,baz=230,slow=9.2,SNR=4.3							
comp=Z,1.4nm,0.7s							
KURBB	**Kurchatov Arra**	**44.84**	**346**	P	**P**	**01 42 34.0**	**+0.4**
comp=Z,9.7nm,0.9s,baz=166,slow=7.1,SNR=27							
KURBB				PcP	**PcP**	**01 44 15.4**	**+0.2**
comp=Z,0.2nm,0.6s,baz=163,slow=2.7,SNR=1.5							
comp=Z,9.7nm,0.9s							
KURK	**Kurchatov**	**44.91**	**346**	P	**P**	**01 42 34.0**	**-0.1**
KURK				IAmb	IAmb	01 42 41.0	
comp=Z,14nm,1.1s							
ZAA0	**Zalesovo Array**	**46.84**	**352**		**P**	**01 42 48.7**	**-0.6**
ZAA0				IAmb	IAmb	01 42 55.1	
comp=Z,7.6nm,0.8s							
ZALV	**Zalesovo Beam**	**46.84**	**352**	P	**P**	**01 42 49.4**	**+0.2**
ZALV	**Zalesovo Beam**	**46.84**	**352**	P	**P**	**01 42 50.1**	**+0.9**
comp=Z,8.3nm,0.7s,baz=168,slow=7.6,SNR=12							
comp=Z,8.3nm,0.7s							
BNX	**BinXian**	**47.49**	**31**	⇓P	**P**	**01 42 56.8**	**+2.3**
BNX				pmax	pmax		
comp=Z,5.0nm,1.5s							
WRA	**Warramunga Arr**	**47.96**	**125**	P	**P**	**01 42 57.7**	**-0.9**
comp=Z,0.9nm,1.1s,baz=301,slow=7.9,SNR=3.2							
comp=Z,0.9nm,1.1s							
MJAR	**Matsushiro Arr**	**49.20**	**48**	P	**P**	**01 43 11.2**	**+3.3**
comp=Z,0.6nm,0.3s,baz=234,slow=5.4,SNR=1.7							
comp=Z,0.6nm,0.3s							
BVAR	**Borovoye Array**	**49.29**	**341**	P	**P**	**01 43 08.0**	**-0.3**
comp=Z,2.3nm,0.8s,baz=134,slow=8.5,SNR=12							
comp=Z,2.3nm,0.8s							
BRVK	**Borovoye**	**49.36**	**341**	P	**P**	**01 43 08.3**	**-0.4**
BRVK				IAmb	IAmb	01 43 14.4	
comp=Z,3.7nm,0.8s							
RAYN	**Ar Rayn**	**49.36**	**294**	P	**P**	**01 43 10.0**	**+0.6**
RAYN				IAmb	IAmb	01 43 18.6	
comp=Z,6.0nm,0.9s							
ASAR	**Alice Springs**	**49.61**	**130**	P	**P**	**01 43 10.3**	**-0.9**
comp=Z,0.8nm,0.9s,baz=302,slow=6.4,SNR=5.3							
ASAR				PcP	**PcP**	**01 44 32.1**	**-0.6**
comp=Z,0.8nm,0.8s,baz=292,slow=3.0,SNR=5.3							
comp=Z,0.8nm,0.9s							
ABKAR	**Akbulak array**	**50.55**	**331**	P	**P**	**01 43 17.9**	**0.0**
ABKAR				IAmb	IAmb	01 43 30.4	
comp=Z,4.0nm,1.0s							
KLR	**Kul'dur**	**52.01**	**30**	P	**P**	**01 43 29.5**	**+0.6**
comp=Z,0.5nm,0.5s,baz=174,slow=12,SNR=1.9							
comp=Z,0.5nm,0.5s							
ASAJ	**Asahikawa**	**55.49**	**41**	P	**P**	**01 43 55.2**	**+0.7**
comp=Z,1.2nm,0.3s,baz=256,slow=32,SNR=1.4							
comp=Z,1.2nm,0.3s							
ARTI	**Arti**	**56.24**	**337**	P	**P**	**01 43 59.7**	**+0.1**
ARTI				IAmb	IAmb	01 44 05.6	
comp=Z,8.9nm,1.1s							
KMBO	**Kilima Mbogo**	**57.58**	**264**	P	**P**	**01 44 07.6**	**-2.5**
comp=Z,0.3nm,0.5s,baz=46,slow=24,SNR=1.5							
comp=Z,0.3nm,0.5s							
NRIK	**Noril'sk**	**61.81**	**357**	P	**P**	**01 44 37.9**	**-0.1**
comp=Z,1.1nm,0.3s,baz=162,slow=4.5,SNR=4.7							
comp=Z,1.1nm,0.3s							
BRTR	**Keskin Array B**	**62.74**	**311**	P	**P**	**01 44 45.1**	**+0.1**
BRTR	**Keskin Array B**	**62.74**	**311**	P	**P**	**01 44 43.8**	**-1.2**
comp=Z,0.5nm,0.8s,baz=115,slow=5.8,SNR=5.9							
comp=Z,0.5nm,0.8s							
H04N2	**CROZET ISLANDS**	**65.60**	**211**	T	T	02 55 39.1	
baz=47							
H04N1	**CROZET ISLANDS**	**65.61**	**211**	T	T	02 55 37.3	
baz=47							
H04N3	**CROZET ISLANDS**	**65.62**	**211**	T	T	02 55 38.4	
baz=47							
TIXI	**Tiksi**	**67.45**	**11**	P	**P**	**01 45 14.0**	**-0.7**
AKASG	**Malin Array Be**	**68.47**	**322**	P	**P**	**01 45 20.8**	**-0.8**
comp=Z,0.2nm,0.4s,baz=86,slow=5.1,SNR=2.6							
comp=Z,0.2nm,0.4s							
BURAR	**Bucovina Array**	**70.36**	**318**	P	**P**	**01 45 34.3**	**+0.8**
FIA1	**FINESS Array S**	**73.03**	**332**	P	**P**	**01 45 48.9**	**-0.1**
FINES	**FINESS Array B**	**73.03**	**332**	P	**P**	**01 45 49.8**	**+0.7**
FINES	**FINESS Array B**	**73.03**	**332**	P	**P**	**01 45 47.5**	**-1.6**
comp=Z,2.4nm,0.8s,baz=60,slow=4.9,SNR=4.2							
comp=Z,2.4nm,0.8s							
GERES	**GERESS Array B**	**78.14**	**318**	P	**P**	**01 46 19.7**	**+0.9**
GERES	**GERESS Array B**	**78.14**	**318**	P	**P**	**01 46 17.9**	**-0.9**
comp=Z,0.4nm,0.4s,baz=104,slow=4.5,SNR=5.3							
comp=Z,0.4nm,0.4s							
HFS	**Hagfors**	**78.77**	**330**	P	**P**	**01 46 20.5**	**-1.5**
comp=Z,5.1nm,1.0s,baz=164,slow=12,SNR=3.9							
comp=Z,5.1nm,1.0s							
CIMO	**Cimolais**	**78.94**	**316**	P	**P**	**01 46 23.9**	**+0.6**
CIMO				IAmb	IAmb	01 46 31.2	
comp=Z,3.8nm,0.8s							
NC602	**NORSAR Array S**	**79.88**	**330**	P	**P**	**01 46 28.2**	**+0.3**
NOA	**NORSAR Array B**	**80.05**	**331**	P	**P**	**01 46 27.3**	**-1.7**
comp=Z,1.4nm,0.9s,baz=92,slow=5.3,SNR=4.3							
comp=Z,1.4nm,0.9s							
SPITS	**Spitsbergen Ar**	**80.13**	**348**	P	**P**	**01 46 29.5**	**+0.5**
comp=Z,10nm,1.0s,baz=140,slow=3.3,SNR=4.4							
comp=Z,10nm,1.0s							
EKA	**Eskdalemuir Ar**	**88.04**	**325**	P	**P**	**01 47 09.1**	**-0.7**
comp=Z,1.1nm,0.7s,baz=91,slow=2.9,SNR=2.6							
comp=Z,1.1nm,0.7s							
G16K	**Koyuk River**	**88.63**	**24**	P	**P**	**01 47 13.4**	**+1.1**
G16K				IAmb	IAmb	01 47 19.3	
comp=Z,9.4nm,1.4s							
D19K	**Kuna River**	**89.31**	**21**	P	**P**	**01 47 15.8**	**+0.3**
D19K				IAmb	IAmb	01 47 22.6	
comp=Z,8.0nm,1.3s							
E19K	**Redstone River**	**89.97**	**21**	P	**P**	**01 47 19.0**	**+0.5**
E19K				IAmb	IAmb	01 47 25.1	
comp=Z,4.2nm,0.8s							
F19K	**Shaleruckik Mo**	**89.98**	**22**	P	**P**	**01 47 21.0**	**+2.4**
F19K				IAmb	IAmb	01 47 25.5	
comp=Z,6.8nm,1.2s							
B21K	**Ikpikpuk River**	**90.08**	**19**	P	**P**	**01 47 19.9**	**+0.8**
B21K				IAmb	IAmb	01 47 26.0	
comp=Z,8.0nm,1.3s							
H19K	**Roundabout Mou**	**90.93**	**23**	P	**P**	**01 47 23.8**	**+0.7**
ESDC	**Sonseca Array**	**91.53**	**310**	P	**P**	**01 47 24.6**	**-1.9**
comp=Z,0.1nm,0.3s,baz=53,slow=4.8,SNR=4.1							
comp=Z,0.1nm,0.3s							
I20K	**Naaghedeneel**	**91.98**	**24**	P	**P**	**01 47 29.3**	**+1.4**
K20K	**Telida**	**92.70**	**25**	P	**P**	**01 47 32.2**	**+0.9**
D25K	**Kavik River**	**92.82**	**18**	P	**P**	**01 47 32.5**	**+0.7**
D25K				IAmb	IAmb	01 47 38.6	
comp=Z,4.3nm,0.9s							
N19K	**Bonanza Creek**	**93.49**	**27**	P	**P**	**01 47 36.3**	**+1.2**
CAST	**Castle Rocks**	**93.49**	**24**	P	**P**	**01 47 35.7**	**+0.8**
PWL	**Port Wells**	**96.20**	**26**	P	**P**	**01 47 48.1**	**+0.6**
TXAR	**Lajitas Array**	**139.38**	**24**	PKP	**PKPdf**	**01 53 47.8**	**+0.2**
comp=Z,0.4nm,1.0s,baz=300,slow=3.7,SNR=2.7							
PLCA	**Paso Flores**	**144.37**	**200**	PKP	**PKPab**	**01 53 54.0**	**-0.2**
comp=Z,2.2nm,1.1s,baz=259,slow=1.8,SNR=3.9							
CPUP	**Villa Florida**	**147.25**	**232**	PKPbc	**PKPdf**	**01 53 59.1**	**-2.2**
comp=Z,0.9nm,0.7s,baz=185,slow=0.5,SNR=3.2							

IDC 01 01:40:02.5±6.0, 8°.22N×95°.05E, h0km, mb3.4/4, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=343.2km s-min=24.3km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.62**	**144**	Pn	Pn	01 41 42.4	+1.2
0.3nm,0.3s,baz=340,slow=22,SNR=1.5							
1.8nm,0.5s							
MKAR	**Makanchi Array**	**39.96**	**346**	P	P	01 47 39.2	+0.5
0.5nm,0.8s,baz=167,slow=6.3,SNR=4.3							
0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**44.45**	**345**	P	P	01 48 14.9	-0.3
0.7nm,0.9s,baz=166,slow=6.9,SNR=5.5							
0.7nm,0.9s							
ZALV	**Zalesovo Beam**	**46.34**	**352**	P	P	01 48 29.5	-0.7
0.3nm,0.3s,baz=177,slow=9.8,SNR=1.8							
0.3nm,0.3s							
WRA	**Warramunga Arr**	**47.73**	**126**	P	P	01 48 41.4	-0.1
0.2nm,0.8s,baz=299,slow=7.1,SNR=1.6							
0.2nm,0.8s							

IDC 01 01:43:21.7±70.0, 6°.42N×93°.75E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=1298.0km s-min=135.8km az=178.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.42**	**348**	P	P	01 51 09.7	-0.2
0.3nm,0.6s,baz=163,slow=8.5,SNR=3.8							
0.3nm,0.6s							
SONM	**Songino Array**	**42.66**	**13**	P	P	01 51 20.1	-0.1
0.2nm,0.4s,baz=186,slow=8.0,SNR=1.9							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**45.86**	**347**	P	P	01 51 45.5	-0.1
0.6nm,0.9s,baz=162,slow=7.0,SNR=4.1							
0.6nm,0.9s							
ZALV	**Zalesovo Beam**	**47.94**	**353**	P	P	01 52 01.7	-0.1
0.4nm,0.3s,baz=193,slow=5.9,SNR=3.7							
0.4nm,0.3s							

*IDC **01** 01:43:47.7±2.2, 7°.05N×93°.53E, h0km, mb3.5/6, mbtmp3.6/7, ML4.3/1, Error ellipse: s-maj=81.7km s-min=22.5km az=62.0*

ISC 01 01:43:53.0±1.9, 7°.1N±0°.2×93°.6E±0°.3, h35km, n13, σ0§49/7, mb3.5/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.45**	**24**	Pn	**Pn**	**01 46 48.0**	**+0.2**
0.5nm,0.3s,baz=206,slow=13,SNR=1.0							
1.8nm,0.3s							
H08S3	**Diego Garcia H**	**25.63**	**236**	T	T	02 16 19.9	
baz=54,slow=75,SNR=9.6							
H08S2	**Diego Garcia H**	**25.63**	**236**	T	T	02 16 20.7	
baz=54,slow=75,SNR=9.8							
H08S1	**Diego Carcia H**	**25.64**	**236**	T	T	02 16 15.9	
baz=54,slow=75,SNR=10							
MKAR	**Makanchi Array**	**40.73**	**348**	P	**P**	**01 51 30.5**	**+0.1**
0.8nm,0.8s,baz=170,slow=7.4,SNR=5.3							
0.8nm,0.8s							
SONM	**Songino Array**	**42.04**	**13**	P	**P**	**01 51 41.1**	**-0.2**
0.2nm,0.3s,baz=205,slow=6.4,SNR=2.2							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**45.17**	**347**	P	**P**	**01 52 06.7**	**+0.4**
0.8nm,0.8s,baz=169,slow=7.2,SNR=9.9							
0.8nm,0.8s	

HLIG			eS	Sb	01 47 46.0	-0.8
PAVE	**Pavencul**	**3.05 106**	eP	Pn	01 47 05.2	+1.6
PAVE			eS	Sn	01 47 39.0	-1.4
TPIG	**Tehuac#an**	**3.12 319**	eP	Pb	01 47 08.7	-2.0
TPIG			eS	Sn	01 47 46.1	+4.0
FTIG	**Fresnillo de T**	**3.35 304**	eP	Pb	01 47 13.4	-1.0
FTIG			eS	Sb	01 47 55.2	-0.2
MGIG	**Malinaltepec**	**3.48 290**	eP	Pb	01 47 17.3	+0.6
MGIG			eS	Sn	01 47 49.6	-1.3
TLIG	**Tlapa**	**3.54 296**	eP	Pb	01 47 17.6	-0.2
TLIG			eS	Sn	01 47 55.5	+3.2
POHV	**Veracruz**	**3.59 327**	eP	Pn	01 47 13.2	+1.9
POHV			eS	Sn	01 47 56.8	+2.6
JAUV	**Jalcomulco**	**3.63 336**	eP	Pn	01 47 14.8	+3.5
JAUV			eS	Sn	01 47 51.4	-3.0
PPM	**Popocatepetl**	**4.43 313**	eP	Pb	01 47 33.3	+0.2
PPM			eS	Sn	01 48 19.9	+5.2
YAIG	**Yautepec**	**4.62 308**	eP	Pb	01 47 32.0	-4.2
YAIG			eS	Sn	01 48 20.3	+1.3
PLIG	**Platanillo**	**4.71 300**	eP	Pn	01 47 27.1	+0.9
PLIG			eS	Sn	01 48 21.1	-0.1

*IDC **01** 01:46:24.0±1.3,7°.18N×94°.67E,h0km,mb3.6/7, mbtmp3.7/9,ML4.3/2,Error ellipse: s-maj=44.2km s-min=21.5km az=58.0*

ISC 01 01:46:27.7±1.1,7°.2N±0°.1×94°.6E±0°.1,h26km,n15,σ0s60/9, mb3.7/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.97**	**20**	Pn	**Pn**	**01 49 16.3**	**-0.4**
	0.8nm,0.3s,baz=204,slow=13,SNR=1.7 1.1nm,0.3s						
PALK	**Pallekele**	**13.82**	**271**	Pn	**Pn**	**01 49 41.6**	**-0.5**
	0.6nm,0.3s,baz=97,slow=6.4,SNR=2.2 4.1nm,0.6s						
H08S3	**Diego Garcia H**	**26.53**	**237**	T	T	02 18 41.5	
	baz=54,slow=75,SNR=9.3						
H08S2	**Diego Garcia H**	**26.54**	**237**	T	T	02 18 42.7	
	baz=54,slow=75,SNR=8.0						
H08S1	**Diego Carcia H**	**26.55**	**237**	T	T	02 18 58.0	
	baz=54,slow=75,SNR=5.0						
MKAR	**Makanchi Array**	**40.87**	**347**	P	**P**	**01 54 07.3**	**-0.2**
	0.8nm,0.7s,baz=166,slow=7.4,SNR=6.6 0.8nm,0.7s						
SONM	**Songino Array**	**41.73**	**12**	P	**P**	**01 54 14.5**	**-0.2**
	0.2nm,0.5s,baz=206,slow=6.3,SNR=1.3 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**45.33**	**346**	P	**P**	**01 54 44.1**	**+0.7**
	1.6nm,1.0s,baz=165,slow=7.2,SNR=8.1 1.6nm,1.0s						
ZALV	**Zalesovo Beam**	**47.30**	**352**	P	**P**	**01 54 59.1**	**+0.2**
	0.5nm,0.3s,baz=182,slow=6.7,SNR=3.6 0.5nm,0.3s						
WRA	**Warramunga Arr**	**47.47**	**125**	P	**P**	**01 55 00.9**	**+0.2**
	0.2nm,0.3s,baz=296,slow=8.7,SNR=6.1 0.2nm,0.3s						
ASAR	**Alice Springs**	**49.10**	**130**	P	**P**	**01 55 13.0**	**-0.4**
	0.1nm,0.4s,baz=300,slow=7.9,SNR=1.4 0.1nm,0.4s						
H04N2	**CROZET ISLANDS**	**65.39**	**211**	T	T	03 07 44.1	
	baz=48						
H04N1	**CROZET ISLANDS**	**65.39**	**211**	T	T	03 07 40.4	
	baz=48						
H04N3	**CROZET ISLANDS**	**65.40**	**211**	T	T	03 07 40.8	
	baz=48						
HFS	**Hagfors**	**79.29**	**330**	P	**P**	**01 58 31.8**	**+1.0**
	2.5nm,0.8s,baz=98,slow=6.0,SNR=2.4 2.5nm,0.8s						

*IDC **01** 01:49:02.5±1.3,7°.65N×94°.18E,h0km,mb3.7/8, mbtmp3.7/10,ML3.0/1,Error ellipse: s-maj=52.2km s-min=19.5km az=57.0*

ISC 01 01:49:06.2±1.1,7°.7N±0°.1×94°.2E±0°.2,h20km,n10, σ0s85/10,mb3.6/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.78**	**136**	Pn	**Pn**	**01 50 45.7**	**+1.0**
	0.3nm,0.3s,baz=346,slow=18,SNR=1.6 2.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.60**	**23**	Pn	**Pn**	**01 51 50.7**	**0.0**
	0.8nm,0.3s,baz=199,slow=16,SNR=1.3						
MKAR	**Makanchi Array**	**40.23**	**347**	P	**P**	**01 56 42.1**	**+0.6**
	1.0nm,0.7s,baz=174,slow=7.5,SNR=11 1.0nm,0.7s						
SONM	**Songino Array**	**41.28**	**12**	P	**P**	**01 56 50.5**	**+0.3**
	0.4nm,0.6s,baz=198,slow=7.6,SNR=2.3 0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**46.70**	**352**	P	**P**	**01 57 33.1**	**-0.4**
	1.2nm,0.6s,baz=178,slow=9.9,SNR=4.0 1.2nm,0.6s						
WRA	**Warramunga Arr**	**48.12**	**125**	P	**P**	**01 57 44.5**	**-0.6**
	0.3nm,0.7s,baz=298,slow=8.9,SNR=1.3 0.3nm,0.7s						
ASAR	**Alice Springs**	**49.77**	**130**	P	**P**	**01 57 56.2**	**-1.5**
	0.2nm,0.6s,baz=308,slow=8.2,SNR=4.7 0.2nm,0.6s						
AKASG	**Malin Array Be**	**68.31**	**322**	P	**P**	**02 00 06.4**	**+0.5**
	0.2nm,0.4s,baz=101,slow=5.1,SNR=0.9 0.2nm,0.4s						
FINES	**FINESS Array B**	**72.87**	**332**	P	**P**	**02 00 32.7**	**-0.8**
	3.2nm,1.0s,baz=174,slow=9.6,SNR=3.7 3.2nm,1.0s						
HFS	**Hagfors**	**78.61**	**330**	P	**P**	**02 01 06.4**	**+0.1**
	2.4nm,1.0s,baz=108,slow=4.8,SNR=4.2 2.4nm,1.0s						

*ISK **01** 01:49:28.5,37°.49N×29°.39E,h7km,ML4.5/39*
*CFUSG **01** 01:49:28.4,37°.40N×29°.40E,h5km,mb3.1/7,Southwest Turkey Magtype MSH 3.3 from 2 stations*
*IDC **01** 01:49:29.2±0.6,37°.45N×29°.49E,h0km,mb4.3/25, mbtmp4.3/39,ML3.5/12,MS3.9/5,Error ellipse: s-maj=12.4km s-min=9.6km az=176.0*
*AFAD **01** 01:49:29.4,37°.48N×29°.36E,h8km±2km,MW4.5*
*NEIC **01** 01:49:30.6±1.8,37°.45N±0°.05×29°.41E±0°.05,h10km±1km, mb4.4/50,Error ellipse: s-maj=8.5km s-min=6.5km az=188.0*
*MCSM **01** 01:49:30.3±0.3,37°N±3°×2°9E±°,h10km,mb4.5,mB4.9, MLv4.5,Mw(mB)4.1*
*THE **01** 01:49:31.7,37°.51N×29°.43E,h10km±12km,Error ellipse: s-maj=12.9km s-min=1.2km az=83.0*
*HLW **01** 01:49:38.3,36°.74N×29°.09E,h3km±6km,Md4.6,Ml4.0*
*NAO **01** 01:49:52.0,38°.91N×28°.29E,h33km,mb3.7*

ISC 01 01:49:30.3±0.6,37°.47N±0°.02×29°.39E±0°.02,h7km±4km, n639,σ2s22/671,mb4.4/45,MS4.0/3,27C-23D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.07**	**273**	Pg	**Pg**	**01 49 31.2**	**-1.0**
APMY				Sg	**Sg**	01 49 32.7	-0.8
GOLH	**Golhisar**	**0.27**	**149**	P	**Pg**	01 49 35.5	-0.2
GOLH				S	**Sg**	01 49 39.4	+0.1
INCE	**Denizli-Bozkur**	**0.28**	**32**	P	**Pg**	01 49 35.3	-0.6
INCE				S	**Sg**	01 49 39.5	-0.2
DNIZ	**Denizli-Tavas-**	**0.32**	**300**	P	**Pg**	01 49 35.8	-0.8
DNZT	**Denizli-Tavas-**	**0.34**	**237**	P	**Pg**	01 49 36.4	-0.7
DNZT				S	**Sg**	01 49 40.6	-1.1
CAEL	**Denizli, Camel**	**0.35**	**189**	P	**Pg**	01 49 36.8	-0.4
CAEL				S	**Sg**	01 49 42.1	+0.3
TAVA	**DENIZLI_Tavas**	**0.38**	**270**	P	**Pg**	01 49 36.9	-0.8
TAVA				S	**Sg**	01 49 41.7	-0.9
CAME	**Cameli-Denizli**	**0.53**	**187**	Pg	**Pg**	01 49 38.9	-1.6
CAME				Sg	**Sg**	01 49 47.9	+0.5
BRDR	**BURDUR-Merkez**	**0.58**	**67**	P	**Pg**	01 49 40.6	-1.0
BRDR				S	**Sg**	01 49 49.1	-0.1
KNIK	**Mula-Seydike**	**0.64**	**166**	P	**Pg**	01 49 41.8	-0.9
KNIK				S	**Sg**	01 49 50.8	-0.1
BASM	**Basmaki-Afyon**	**0.69**	**49**	Pg	**Pg**	01 49 42.1	-1.6
SABU	**Mula-Dalaman**	**0.72**	**208**	P	**Pg**	01 49 43.9	-0.4
SABU				S	**Sg**	01 49 53.0	-0.6
ELL	**Elmali**	**0.83**	**150**	P	**Pg**	01 49 44.9	-1.4
ELL				Sg	**Sg**	01 49 56.9	-0.2
ELL	**Elmali**	**0.83**	**150**	Pg	**Pg**	01 49 45.0	-1.3
KHL	**Karahalli**	**0.86**	**7**	Pg	**Pg**	01 49 45.1	-1.8
FETY	**Fethiye**	**0.87**	**196**	Pg	**Pg**	01 49 45.2	-1.7
FETY				Sg	**Sb**	01 49 59.0	-0.5
FETY	**Fethiye**	**0.87**	**196**	P	**Pg**	01 49 46.8	-0.2
DALY	**Dalyan (Mula)**	**0.88**	**222**	Pg	**Pg**	01 49 45.9	-1.2
DALY				Sg	**Sg**	01 49 58.9	+0.4
MULA	**Mugla, Merkez-**	**0.88**	**256**	P	**Pg**	01 49 46.5	-0.7
MULA				S	**Sg**	01 49 58.2	-0.3
PASA	**Karahalli, USA**	**0.88**	**5**	P	**Pg**	01 49 46.5	-0.8
PASA				S	**Sb**	01 50 00.1	0.0
ESEN	**Aydn-Nazilli**	**0.89**	**292**	P	**Pg**	01 49 46.2	-1.2
ESEN				S	**Sg**	01 49 56.8	-2.1
KORT	**Korkueli**	**0.90**	**121**	Pg	**Pg**	01 49 45.8	-1.8
KORT	**Korkueli**	**0.90**	**121**	P	**Pb**	01 49 48.0	-0.4
KORT				S	**Sb**	01 50 01.3	+0.7
YER	**Yerkesik**	**0.94**	**250**	Pg	**Pg**	01 49 47.1	-1.3
BUCA	**Burdur, Bucak-**	**0.94**	**98**	P	**Pg**	01 49 47.1	-1.4
BUCA				S	**Sb**	01 50 01.4	-0.4
BCK	**Bucak**	**0.96**	**90**	Pg	**Pg**	01 49 47.2	-1.5
ISP	**Isparta**	**0.97**	**68**	Pg	**Pg**	01 49 46.8	-2.1
ISP				Sg	**Sb**	01 50 03.0	+0.5
ISP	**Isparta**	**0.97**	**68**	Pg	**Pg**	01 49 47.3	-1.6
KZIL	**AFYON_Kizioren**	**0.99**	**37**	P	**Pg**	01 49 48.1	-1.2
NAZL	**Nazilli-Aydin**	**1.00**	**300**	Pg	**Pg**	01 49 48.2	-1.3
IZZE	**Mula-Seydike**	**1.04**	**187**	P	**Pg**	01 49 49.3	-0.9
KIRA	**zmir-Kiraz**	**1.07**	**313**	P	**Pg**	01 49 49.6	-1.3
TURN	**Turunc**	**1.15**	**233**	Pn	**Pg**	01 49 50.5	-1.8
TURN	**Turunc**	**1.15**	**233**	P	**Pg**	01 49 51.2	-1.1
TURN				S	**Sg**	01 50 05.5	-1.6
ANTB	**Antalya**	**1.16**	**119**	Pn	**Pg**	01 49 51.9	-0.7
KULA	**Kula-Manisa**	**1.19**	**331**	Pn	**Pg**	01 49 50.5	-2.7
AFYN	**Afyon-Dinar-K**	**1.19**	**47**	P	**Pg**	01 49 51.6	-1.7
AYDN	**Tasoluk**	**1.21**	**280**	P	**Pg**	01 49 52.3	-1.3
AYDN				S	**Sg**	01 50 07.4	-1.9
MANT	**Manisa**	**1.21**	**328**	Pn	**Pg**	01 49 52.5	-1.1
BAGO	**Egridir - ISPA**	**1.23**	**64**	P	**Pg**	01 49 51.9	-2.0
BAGO				S	**Sg**	01 50 08.1	-1.8
AKAS	**Kas**	**1.25**	**172**	P	**Pg**	01 49 53.8	-0.4
AKAS	**Kas**	**1.25**	**172**	Pn	**Pg**	01 49 53.6	-0.6
AKAS	**Kas**	**1.25**	**172**	P	**Pn**	01 49 54.4	+0.1
AKAS				S	**Sn**	01 50 13.4	+2.0
KEMT	**Kemer-ANTALYA**	**1.27**	**132**	Pn	**Pn**	01 49 53.9	-0.6
USAK	**Uak-Merkez**	**1.28**	**347**	P	**Pn**	01 49 53.4	-1.3
AYDB	**Zeytinkoy-Aydi**	**1.28**	**292**	Pn	**Pn**	01 49 53.2	-1.6
MLSB	**Milas**	**1.29**	**263**	Pn	**Pn**	01 49 53.6	-1.3
DEMR	**Demre-Antalya**	**1.30**	**161**	Pn	**Pn**	01 49 53.9	-1.0
ODEM	**Odemis-Izmir**	**1.31**	**308**	Pn	**Pn**	01 49 53.8	-1.4
IZMR	**zmir-demi**	**1.32**	**301**	P	**Pn**	01 49 53.3	-1.8
IZMR				P	**Pb**	01 49 53.9	-1.5
IZMR				S	**Sb**	01 50 10.9	-1.6
AKUM	**Antalya-Kumluc**	**1.38**	**146**	P	**Pg**	01 49 58.3	+1.6
AKUM				S	**Sg**	01 50 16.9	+2.3
SHUT	**Suhut-Afyon**	**1.42**	**40**	Pn	**Pn**	01 49 55.3	-1.4
AFYO	**Afyonkarahisar**	**1.50**	**28**	P	**Pn**	01 49 56.5	-1.3
AFYO				S	**Sn**	01 50 16.1	-1.6
DATC	**Datca-Mugla**	**1.55**	**243**	Pn	**Pn**	01 49 57.6	-0.7
SHAP	**Saphane-Kutahy**	**1.56**	**355**	Pn	**Pn**	01 49 57.1	-1.5
GEDZ	**Gediz**	**1.57**	**1**	Pn	**Pn**	01 49 57.7	-1.1
BDRM	**Kayabasi**	**1.60**	**256**	P	**Pn**	01 49 58.4	-0.7
ARG	**Arkhangelos**	**1.61**	**219**	P	**Pn**	01 49 59.4	+0.3
ARG	**Arkhangelos**	**1.61**	**219**	Pn	**Pn**	01 49 58.7	-0.4
ARG	**Arkhangelos**	**1.61**	**219**	Pn	**Pn**	01 49 58.7	-0.4
GDZ	**Gediz**	**1.62**	**3**	P	**Pn**	01 49 57.8	-1.7
DAT	**Datca**	**1.62**	**244**	Pn	**Pn**	01 49 58.3	-1.2
SIMA	**Simav-Kutahya**	**1.64**	**349**	Pn	**Pn**	01 49 58.2	-1.6
DEMI	**Demirci**	**1.66**	**342**	P	**Pn**	01 49 58.0	-2.0
SMAA	**Simav-Kutahya**	**1.66**	**349**	Pn	**Pn**	01 49 58.5	-1.5
YVAC	**Isparta, Yalva**	**1.67**	**61**	P	**Pn**	01 49 59.2	-0.9
YVAC				S	**Sg**	01 50 24.4	+0.3
GOMA	**Golmarmara-Man**	**1.70**	**317**	Pn	**Pn**	01 49 59.1	-1.3
BODT	**Bodrum**	**1.71**	**257**	Pn	**Pn**	01 49 59.6	-0.9
DDIM	**Aydin, Didim**	**1.71**	**270**	P	**Pn**	01 49 59.7	-0.8
DIDI	**Didim-Aydin**	**1.71**	**268**	Pn	**Pn**	01 49 59.2	-1.4
YKAV	**Yalikavak-Bodr**	**1.71**	**259**	Pn	**Pn**	01 49 59.3	-1.3
GORD	**Gordes-Manisa**	**1.73**	**327**	Pn	**Pn**	01 49 59.6	-1.2
YAZI	**Mula-Dat§a-**	**1.73**	**244**	P	**Pn**	01 49 60.0	-0.9
MNVG	**Manavgat-Antal**	**1.76**	**112**	Pn	**Pn**	01 50 00.2	-1.0
KURO	**Afyon-Bolvadin**	**1.76**	**44**	P	**Pn**	01 50 00.5	-0.8
KEPZ	**Antalya-Kepez**	**1.86**	**107**	P	**Pn**	01 50 02.8	+0.2
AKS	**Akhisar**	**1.88**	**319**	Pn	**Pn**	01 50 02.1	-0.8
SEDI	**Konya, Seydise**	**1.89**	**90**	P	**Pn**	01 50 02.5	-0.5
EMET	**Ktahya-Emet**	**1.91**	**358**	P	**Pn**	01 50 01.5	-1.8
DOGA	**KONYA_Doganhis**	**1.92**	**70**	P	**Pn**	01 50 02.4	-1.1
BYAT	**Afyon-Bayat**	**1.94**	**40**	P	**Pn**	01 50 02.7	-1.1
SEYD	**Seydisehir-KON**	**1.95**	**91**	Pn	**Pn**	01 50 03.2	-0.8
TVSB	**Tavsanli**	**1.98**	**2**	Pn	**Pn**	01 50 02.9	-1.5
NISR	**Nisiros**	**2.00**	**245**	P	**Pn**	01 50 04.6	+0.1
NISR				S	**Sg**	01 50 34.9	+0.4
GMLD	**Gumuldur**	**2.05**	**288**	Pn	**Pn**	01 50 04.8	-0.4
BLCB	**Balcova**	**2.07**	**297**	Pn	**Pn**	01 50 03.9	-1.6
DST	**Dursunbey**	**2.22**	**344**	Pn	**Pn**	01 50 06.4	-1.2
SOMA	**Soma-Manisa**	**2.23**	**320**	Pn	**Pn**	01 50 06.6	-1.1
KDHN	**Kadinhani**	**2.40**	**63**	P	**Pn**	01 50 09.0	-1.2
AUKUT	**KUTAHYA**	**2.53**	**11**	P	Pn	01 50 03.0	-8.9
BORA	**Eskisehir**	**2.55**	**19**	Pn	**Pn**	01 50 10.7	-1.5
KARP	**Karpathos**	**2.62**	**224**	P	**Pn**	01 50 13.3	+0.1
KARP	**Karpathos**	**2.62**	**224**	Pn	**Pn**	01 50 12.9	-0.2
KARP	**Karpathos**	**2.62**	**224**	Pn	**Pn**	01 50 12.6	-0.6
PRK	**Paraskevi**	**3.02**	**307**	P	**Pn**	01 50 18.2	-0.4
BAND	**Balkesir-Ban**	**3.05**	**341**	⇑P	**Pn**	01 50 19.2	+0.2
YLV	**Yalova**	**3.09**	**360**	Pn	**Pn**	01 50 19.7	0.0
APE	**Apeiranthos**	**3.10**	**264**	⇑P	**Pn**	01 50 19.4	-0.4
MDUB	**Mudurnu**	**3.31**	**25**	Pn	**Pn**	01 50 23.1	+0.3
EZN	**Ezine**	**3.36**	**315**	Pn	**Pn**	01 50 22.6	-0.6
ANTO	**Ankara**	**3.59**	**47**	Pn	**Pn**	01 50 25.7	-0.7
ANTO	**Ankara**	**3.59**	**47**	P	**Pn**	01 50 27.1	+0.6
ANTO				S	**Sn**	01 51 12.3	+3.2
ANTO	**Ankara**	**3.59**	**47**	⇑P	**Pn**	01 50 26.8	+0.4
ANTO	**Ankara**	**3.59**	**47**	Pn	**Pn**	01 50 25.9	-0.5
KIRS	**Kirsehir-Merke**	**3.93**	**64**	⇑P	**Pn**	01 50 31.4	+0.2
BR105	**Keskin Array S**	**4.00**	**55**	Pn	**Pn**	01 50 32.1	-0.1
BR106	**Keskin Array S**	**4.01**	**54**	Pn	**Pn**	01 50 32.3	-0.1
BR104	**Keskin Array S**	**4.01**	**55**	Pn	**Pn**	01 50 32.0	-0.4
BR131	**Keskin Array S**	**4.02**	**55**	Pn	**Pn**	01 50 32.0	-0.5
BR131	**Keskin Array S**	**4.02**	**55**	P	**Pn**	01 50 32.3	-0.3
	SNR=27						
BRTR	**Keskin Array B**	**4.02**	**55**	Pn	**Pn**	01 50 32.2	-0.3
BRTR	**Keskin Array B**	**4.02**	**55**	Pn	**Pn**	01 50 32.8	+0.3
	12nm,0.3s,baz=243,slow=17,SNR=471						
BRTR				Sn	**Sn**	01 51 20.4	+0.4
	6.5nm,0.3s,baz=230,slow=27,SNR=7.4 53nm,0.6s						
CSS	**Mathiatis**	**4.05**	**127**	Pn	**Pn**	01 50 33.0	+0.2
CAVK	**Edirne/Enez-Ca**	**4.08**	**323**	⇑P	**Pn**	01 50 33.9	+0.8
IDI	**Anoyia**	**4.23**	**240**	Pn	**Pn**	01 50 35.1	-0.1
IDI	**Anoyia**	**4.23**	**240**	Pn	**Pn**	01 50 35.7	+0.5
	14nm,0.3s,baz=56,slow=15,SNR=58						
IDI				Sn	**Sn**	01 51 26.6	+1.6
	35nm,0.3s,baz=93,slow=20,SNR=4.8 108nm,0.5s						
ALN	**Alexandroupoli**	**4.30**	**324**	Pn	**Pn**	01 50 35.6	-0.5
RDO	**Rodhopi**	**4.73**	**322**	Pn	**Pn**	01 50 42.3	+0.2
ILGA	**Ilgaz**	**4.91**	**42**	Pn	**Pn**	01 50 43.8	-1.0
CIDE	**Kastamonu/Cide**	**5.19**	**31**	⇑P	**Pn**	01 50 49.6	+1.2
KDZ	**Kurdzhali**	**5.20**	**324**	P	**Pn**	01 50 49.1	+0.5
BNN	**Bunyan**	**5.28**	**73**	Pn	**Pn**	01 50 49.9	+0.2
RZN	**Rozhen**	**5.54**	**321**	P	**Pn**	01 50 53.9	+0.5
BZK	**Bozkurt**	**5.73**	**37**	Pn	**Pn**	01 50 56.6	+0.8
BZK	**Bozkurt**	**5.73**	**37**	⇑P	**Pn**	01 50 56.8	+1.0
ITM	**Ithomi**	**5.95**	**269**	Pn	**Pn**	01 51 00.1	+1.2
MMB	**Musomishta**	**5.96**	**315**	P	**Pn**	01 51 00.3	+1.2
LIT	**Litokhoron**	**6.00**	**298**	Pn	**Pn**	01 50 58.9	-0.6
NEF	**NEVSHA**	**6.01**	**345**	P	**Pn**	01 50 59.0	-0.7
EVR	**Evrytania**	**6.14**	**286**	P	**Pn**	01 51 04.1	+2.5
DIKM	**Dikmen**	**6.17**	**46**	⇑P	**Pn**	01 51 02.9	+1.1
DIKM	**Dikmen**	**6.17**	**46**	Pn	**Pn**	01 51 00.0	-1.8
	0.4nm928nm43nm,1.4s						
TOKA	**Tokat**	**6.22**	**61**	Pn	**Pn**	01 51 02.4	-0.2
GAZ	**Gaziantep**	**6.24**	**90**	Pn	**Pn**	01 51 02.9	-0.1
SZH	**Strazhitsa**	**6.35**	**337**	P	**Pn**	01 51 05.3	+1.0
RAZG	**Razgrad**	**6.47**	**341**	⇓P	**Pn**	01 51 07.0	+0.9
VAY	**Valandovo**	**6.53**	**308**	*i* Pn	**Pn**	01 51 07.9	+1.1
MMAI	**Mount Meron Ar**	**6.63**	**130**	Pn	**Pn**	01 51 08.3	+0.1
	26nm,0.3s,baz=318,slow=12,SNR=479						
MMAI				Sn	**Sn**	01 52 21.9	-2.3
	56nm,0.3s,baz=311,slow=24,SNR=13						
ICOR	**Ion Corvin**	**6.75**	**350**	⇑P	**Pn**	01 51 11.2	+1.4
SLUM	**Salum**	**6.88**	**211**	P	**Pn**	01 51 09.8	-1.9
SLUM				S	Sn	01 52 16.7	-14
SLUM	**Salum**	**6.88**	**211**	⇑P	**Pn**	01 51 10.4	-1.3
SLUM				S	Sn	01 52 17.8	-13
VTS	**Vitosha**	**6.98**	**319**	P	**Pn**	01 51 15.8	+2.7
TIRR	**Tirgusor**	**7.02**	**354**	⇑P	**Pn**	01 51 13.6	0.0
FNA	**Florina**	**7.05**	**300**	Pn	**Pn**	01 51 14.6	+0.6
MPEP	**Malo Peshtene**	**7.29**	**326**	P	**Pn**	01 51 19.4	+2.2
COPA	**Copaceanca**	**7.37**	**336**	⇑P	**Pn**	01 51 19.1	+0.8
TPGR	**Topolog**	**7.42**	**355**	⇓P	**Pn**	01 51 19.4	+0.4
OHR	**Ohrid**	**7.59**	**301**	*i* Pn	Pn	01 51 26.7	+5.3
TLCR		**7.72**	**357**	⇓P	**Pn**	01 51 23.9	+0.7
HMYD	**Mayadein**	**7.74**	**171**	P	**Pn**	01 51 22.6	-0.9
HMYD	**Mayadein**	**7.74**	**171**	P	**Pn**	01 51 23.4	0.0
SEV	**Sevastopol'**	**7.77**	**23**	eP	**Pn**	01 51 23.9	+0.1
SEV				Pm		01 51 26.0	
	comp=Z,3.0nm,0.3s						
SEV				eS	**Sn**	01 52 51.3	-0.8
SEV				Sm		01 52 55.0	
	comp=N,2.0nm,0.6s						
SEV				Sm		01 52 55.0	
	comp=E,1.0nm,0.3s						
KOT	**Kottamia**	**7.79**	**164**	⇓P	**Pn**	01 51 23.4	-0.7
HHAG	**Hagoal**	**7.83**	**162**	P	**Pn**	01 51 24.6	0.0
HHAG	**Hagoal**	**7.83**	**162**	⇓P	**Pn**	01 51 24.7	0.0
KEK	**Kerkira**	**7.84**	**290**	Pn	**Pn**	01 51 26.4	+1.7
HNAT	**Natroun**	**7.88**	**172**	P	**Pn**	01 51 24.5	-0.9
HNAT	**Natroun**	**7.88**	**172**	P	**Pn**	01 51 24.7	-0.7
HNAT				S	Sn	01 52 43.4	-11
YAL	**Yalta**	**7.88**	**26**	eP	**Pn**	01 51 26.2	+0.9
YAL				Pm		01 51 28.1	
	comp=Z,10.0nm,0.4s						
YAL				eS	**Sn**	01 52 56.9	+2.1
YAL				Sm		01 52 57.3	
	comp=N,1.0nm,0.2s						
YAL				Sm		01 52 57.3	
	comp=E,5.0nm,0.5s						
GHAJ	**Ghor Haditha**	**7.99**	**138**	Pn	**Pn**	01 51 27.2	+0.3
ASF	**Jabal al Asfar**	**8.12**	**128**	Pn	**Pn**	01 51 29.4	+0.6
	comp=E,3.6nm,0.3s,baz=345,slow=6.4,SNR=28						
ASF				Sn	**Sn**	01 52 58.3	-2.6
	comp=E,6.1nm,0.3s,baz=157,slow=22,SNR=7.8 comp=E,10nm,0.4s						
ALU	**Alushta**	**8.14**	**26**	eP	**Pn**	01 51 28.5	-0.4
ALU				Pm		01 51 30.7	
	comp=Z,4.0nm,0.4s						
TARU	**Tarkhankut**	**8.25**	**16**	eP	**Pn**	01 51 31.1	+0.8
TARU				Pm		01 51 35.8	
	comp=Z,10.0nm,0.5s						
TARU				eS	**Sn**	01 53 05.1	+1.4
TARU				Sm		01 53 05.5	
	comp=N,10.0nm,0.7s						
TARU				Sm		01 53 05.5	
	comp=E,3.0nm,0.2s						
SCTR	**Scanteiesti**	**8.27**	**353**	⇑P	**Pn**	01 51 31.3	+0.7
SIM	**Simferopol'**	**8.28**	**24**	eP	**Pn**	01 51 33.0	+2.2
SIM				Pm		01 51 33.7	
	comp=Z,20nm,0.4s						
SIM				eS	**Sn**	01 53 07.6	+3.1
SIM				Sm		01 53 11.6	
	comp=N,6.0nm,0.5s						
SIM				Sm		01 53 11.6	
	comp=E,10.0nm,0.7s						
NEHR	**Nehoiu**	**8.28**	**345**	⇓P	**Pn**	01 51 31.4	+0.5
DNZ2	**Donuzlav2**	**8.40**	**19**	eP	**Pn**	01 51 34.5	+2.0
DNZ2				Pm		01 51 37.1	
	comp=Z,6.0nm,0.2s						
DNZ2				eS	**Sn**	01 53 13.1	+5.5
MLR	**Muntele Rosu**	**8.42**	**343**	Pn	**Pn**	01 51 33.2	+0.4
MLR	**Munt

OKC AMS AMS 01 59 40.0
comp=Z,800nm,7.0s
KRUC Moravsky 14.94 325 *e*PN **P** **01 53 07.9 +0.4**
MORC Moravsky Berou 14.97 329 Pn **Pn** **01 53 01.1 -1.3**
MORC IAmb IAmb 01 53 14.6
comp=Z,11nm,1.1s
MORC Moravsky Berou 14.97 329 *e*PN **P** **01 53 08.7 +0.7**
VRAC Vranov 15.03 326 Pn **P** **01 53 06.0 -2.5**
comp=Z,0.3nm,0.3s,baz=154,slow=9.7,SNR=7.3
comp=Z,1.4nm,0.5s
VRAC Vranov 15.03 326 *e*PN **P** **01 53 09.0 +0.5**
OSSC Osservatorio P 15.06 299 Pn **Pn** **01 53 04.0 +0.5**
OSSC IAmb IAmb 01 53 32.3
comp=Z,13nm,1.1s
CASP Castiglione de 15.12 296 Pn **Pn** **01 53 04.6 +0.2**
CASP IAmb IAmb 01 53 11.3
comp=Z,14nm,0.9s
MOA Molln 15.18 318 *i* Pn **Pn** **01 53 06.7 +1.5**
comp=Z,9.0nm,1.2s
KBA Koelnbreinsper 15.24 314 *e*P **P** **01 53 09.8 -1.4**
comp=Z,7.2nm,1.3s
CIMO Cimolais 15.38 310 Pn **Pn** **01 53 07.7 -0.1**
BIOA Bad Ischl, Aus 15.43 316 *e*P **P** **01 53 12.4 -0.6**
comp=Z,11nm,1.0s
KRLC Kraliky 15.52 328 *e*P **P** **01 53 16.5 +2.5**
KRLC AMS AMS 02 00 20.0
comp=Z,500nm,11.2s
TREC Trest 15.52 324 AMS AMS 02 00 00.0
comp=Z,600nm,12.7s
CTI Castel Tesino 15.74 309 Pn **Pn** **01 53 11.6 -1.0**
CTI IAmb IAmb 01 53 29.9
comp=Z,22nm,1.1s
CKRC Cesky Krumlov 15.77 321 *e*P **P** **01 53 18.8 +2.0**
CKRC AMS AMS 02 00 00.0
comp=Z,600nm,13.1s
LESA Schwarzleotal 15.81 314 *ep*P **P** **01 53 17.4 +0.1**
comp=Z,7.5nm,1.7s
DPC Dobruska-Polom 15.92 328 *e*P **P** **01 53 20.1 +1.6**
DPC AMS AMS 02 00 30.0
comp=Z,500nm,11.4s
DPC Dobruska-Polom 15.92 328 P **Pn** **01 53 14.9 +0.1**
comp=Z,10nm,2.0s
GEC2 GERESS Array S 16.10 320 P **P** **01 53 20.4 -0.1**
GERES GERESS Array B 16.10 320 P **P** **01 53 20.4 -0.1**
GERES GERESS Array B 16.10 320 Pn **P** **01 53 20.8 +0.3**
baz=138,slow=8.9,SNR=15
comp=Z,5.4nm,0.9s
OSTC Ostas 16.12 328 AMS AMS 02 00 40.0
comp=Z,700nm,9.1s
UPC Upice 16.17 328 AMS AMS 02 00 40.0
comp=Z,600nm,13.6s
KEST Kesra 16.19 270 Pn **Pn** **01 53 18.0 -0.4**
KEST IAmb IAmb 01 53 20.8
comp=Z,47nm,1.4s
KEST Kesra 16.19 270 Pn **Pn** **01 53 19.7 +1.3**
comp=Z,0.1nm,0.3s,baz=91,slow=9.1,SNR=7.4
comp=Z,18nm,1.1s
CHVC Chvalec 16.21 328 *e*P **P** **01 53 21.6 -0.1**
CHVC AMS AMS 02 00 40.0
comp=Z,700nm,9.9s
ZVC Zvikov 16.24 322 AMS AMS 02 00 20.0
comp=Z,700nm,8.9s
GOPC GO Pecny, Ondr 16.28 324 AMS AMS 02 00 30.0
comp=Z,500nm,11.9s
WTTA Wattenberg 16.33 312 *ep*P **P** **01 53 23.3 0.0**
comp=Z,11nm,0.9s
KHC Kasperske Hory 16.34 321 *e*P **P** **01 53 23.0 -0.1**
KHC AMS AMS 02 00 20.0
comp=Z,800nm,11.0s
WATA Walderalm 16.41 313 *ep*P **P** **01 53 24.2 +0.2**
comp=Z,22nm,1.3s
PRU Pruhonice 16.45 324 AMS AMS 02 00 30.0
comp=Z,600nm,11.7s
PRA Prague 16.55 324 AMS AMS 02 00 40.0
comp=Z,800nm,7.1s
SQTA Sankt Quirin 16.56 312 *ep*P **P** **01 53 25.8 +0.1**
comp=Z,12nm,1.1s
MOTA Moosalm 16.69 312 *i* pP pP 01 53 29.1 -0.2
comp=Z,16nm,1.1s
FETA Feichten 16.76 311 *ep*P pP 01 53 29.3 -0.7
comp=Z,15nm,1.1s
PVCC Panska Ves 16.81 326 AMS AMS 02 01 00.0
comp=Z,600nm,10.0s
FUORN Ofenpass-Fuorn 16.86 309 P **P** **01 53 29.4 +0.2**
RETA Reutte 16.96 312 *ep*P **P** **01 53 30.4 +0.3**
comp=Z,6.3nm,1.1s
RICC Richard 17.04 325 AMS AMS 02 00 50.0
comp=Z,500nm,8.7s
MNK Minsk 17.07 357 *i* P **Pn** **01 53 28.7 -0.6**
comp=E,6.0nm,0.7s
MNK *i* P **Pn** **01 53 28.7 -0.6**
comp=N,8.0nm,1.0s
MNK *i* P **Pn** **01 53 28.7 -0.6**
comp=Z,9.0nm,1.0s,baz=176
MNK *i* PP **PnPn** **01 53 38.4 -0.6**
MNK *i* PPP PPP 01 53 46.2
MNK *i* S **Sn** **01 56 39.5 +0.3**
MNK *i* SS **SnSn** **01 56 54.1 +1.7**
MNK *i* SSS SSS 01 57 06.9
MNK *i* LQ LQ 01 58 13.9
MNK *i* LR LR 01 59 50.2
MNK *i* LRM MLR 02 00 59.3
comp=Z,277nm,15.4s
MNK *i* LRM MLR 02 01 02.7
comp=E,849nm,19.2s
MNK *i* LRM MLR 02 01 02.7
comp=N,403nm,16.9s
DAVOX Davos/Dischmat 17.17 309 P **P** **01 53 33.3 +0.8**
comp=N,0.1nm,0.3s,baz=112,slow=8.6,SNR=6.0
DAVOX LR LR 02 01 19.7
comp=N,271nm,20.9s,baz=98,slow=41
comp=N,1.6nm,0.7s
BRG Berggiesshubel 17.34 326 *e*P **P** **01 53 35.0 +0.8**
BRG Amp 01 53 36.7
comp=Z,7.3nm,1.2s
BRG Berggiesshubel 17.34 326 Amp 01 53 41.5
comp=Z,19nm,1.4s
BRG Berggiesshubel 17.34 326 Amp 01 54 11.5
comp=Z,17nm,1.7s
BRG Berggiesshubel 17.34 326 P **P** **01 53 39.7 +5.6**
BRG Berggiesshubel 17.34 326 P P 01 54 10.9 +37
TUE Stuetta 17.37 308 **Pn** **01 53 33.0 -0.4**
TUE Stuetta 17.37 308 P **Pn** **01 53 33.4 +0.1**
HSKC Hora Svate Kat 17.39 324 AMS AMS 02 01 00.0
comp=Z,600nm,10.4s
DAVA Damuels 17.39 310 *e*P **P** **01 53 35.5 +0.5**
comp=Z,9.3nm,1.2s
NKC Novy Kostel 17.61 322 AMS AMS 02 02 20.0
comp=Z,500nm,16.4s
GRA1 Grafenberg Arr 17.90 319 **Pn** **01 53 39.1 -0.6**
CLL Collm 18.07 325 **Pn** **01 53 41.2 -0.5**
CLL Collm 18.07 325 *e*P **Pn** **01 53 41.0 -0.7**
CLL *i* sP **sP** **01 53 46.5 +1.2**
comp=Z,13nm,1.4s
CLL *i* sPP 01 53 59.3
CLL AMS AMS 02 01 00.0
comp=Z,300nm,20.4s
SENIN Lac Senin/Sane 18.64 305 P **Pn** **01 53 49.5 +0.6**
BNI Bardonecchia 18.64 301 P **P** **01 53 48.6 -0.1**
BFO Black Forest 18.80 312 P **P** **01 53 50.5 +0.2**
ECH Echery 19.45 311 P **P** **01 53 57.4 -0.1**
ECH IAmb IAmb 01 54 03.0
comp=Z,16nm,1.0s
RAYN Ar Rayn 19.61 131 P **P** **01 53 58.4 -0.9**
RAYN Ar Rayn 19.61 131 P **P** **01 53 59.4 +0.1**
RAYN Ar Rayn 19.61 131 *i* P **P** **01 53 59.8 +0.5**
SNR=7.7
WLF Walferdange 20.69 313 *d*P Pn 01 54 14.3 +1.2
LUNU Lund 21.13 334 *i* P **P** **01 54 14.7 -0.8**
RCHB Rochefort 21.45 314 *d*P **P** **01 54 19.2 +0.2**
RCHB *d*PP **PnPn** **01 54 39.0 +0.1**
BCLA Clavier 21.52 315 *d*P **P** **01 54 20.6 +0.7**
BJUU Bjuv 21.62 335 *i* P **P** **01 54 20.5 -0.3**
BGES Gesves 21.63 314 *d*P **P** **01 54 21.5 +0.5**
BGES *d*PP **PnPn** **01 54 41.2 -0.3**
SHMA Al-Shehemyia 21.66 116 P **P** **01 54 19.8 -1.6**
BMRD Maredsous 21.77 314 *d*P **P** **01 54 24.4 +1.9**
comp=Z,6.6nm,1.2s
DOU Dourbes 21.78 313 *d*P **P** **01 54 24.4 +1.8**
comp=Z,7.8nm,1.1s
SMRA Abu-Samra 22.25 119 P **P** **01 54 28.2 +0.4**
TRNA Turayna 22.53 118 P **P** **01 54 27.6 -3.2**
BORU Boraas 22.96 337 *i* P **P** **01 54 38.1 +3.0**
FINES FINESS Array B 24.09 356 P **P** **01 54 45.5 -0.7**
comp=Z,8.5nm,0.8s,baz=161,slow=12,SNR=11
comp=Z,8.5nm,0.8s

GHWR Ruwais 24.19 117 P **P** **01 54 45.8 -1.6**
STRU Stroemstad 24.59 337 *i* P **P** **01 54 52.4 +1.6**
HFS Hagfors 24.80 341 P **P** **01 54 52.9 +0.2**
comp=Z,14nm,0.9s,baz=148,slow=8.7,SNR=14
comp=Z,14nm,0.9s
HOMB Homborsund 24.89 333 *i* P P 01 54 39.0 -15
ABKAR Akbulak array 24.97 52 P **P** **01 54 52.7 -1.7**
ABKAR IAmb IAmb 01 54 60.0
comp=Z,12nm,0.8s
MZWR Madinat Zayed 25.03 116 P **P** **01 54 53.1 -2.0**
TAM Tamanrasset 25.20 241 P **P** **01 54 55.9 -0.9**
TAM IAmb IAmb 01 54 59.3
comp=Z,15nm,1.1s
MZR Muzera 25.23 118 P **P** **01 54 57.6 +0.7**
UMQ Umm Al-Quwin 25.28 111 P **P** **01 54 55.4 -2.0**
AJN Ajban 25.34 113 P **P** **01 54 57.0 -0.9**
NAZ Nazwa, Dubai 25.59 112 P **P** **01 54 58.7 -1.5**
SNR=7.4
NAZ Nazwa, Dubai 25.59 112 P **P** **01 54 58.2 -2.0**
MASF Masafi 25.74 110 P **P** **01 55 00.5 -1.1**
MASF S **S** **01 59 25.8 -5.1**
MDH Madha 25.89 110 P **P** **01 55 02.3 -0.5**
MDH S **S** **01 59 28.9 -4.2**
MDH Madha 25.89 110 *i* P **P** **01 55 00.9 -2.0**
SNR=7.1
UOSS Minazif 26.02 111 P **P** **01 55 01.9 -2.2**
UOSS Minazif 26.02 111 P **P** **01 55 02.8 -1.3**
UOSS S **S** **01 59 30.9 -4.3**
UOSS Minazif 26.02 111 *i* P **P** **01 55 02.1 -2.0**
SNR=7.0
HATD Hatta, Dubai 26.03 111 P **P** **01 55 03.1 -1.1**
HATD S **S** **01 59 32.4 -3.1**
HATD Hatta, Dubai 26.03 111 *i* P **P** **01 55 02.2 -2.0**
SNR=6.7
ASHO Ashiyiah 26.06 112 P **P** **01 55 01.5 -3.0**
SNR=6.8
ASHO S **S** **01 59 30.9 -5.1**
ASHO Ashiyiah 26.06 112 *i* P **P** **01 55 03.1 -1.4**
SNR=7.9
ESDC Sonseca Array 26.09 285 P **P** **01 55 03.5 -1.1**
ESDC IAmb IAmb 01 55 08.9
comp=Z,7.9nm,1.4s
ESDC Sonseca Array 26.09 285 P **P** **01 55 04.5 -0.1**
comp=Z,2.1nm,0.7s,baz=79,slow=8.0,SNR=14
comp=Z,2.1nm,0.7s
ALNE Al Ain 26.20 113 P **P** **01 55 04.2 -1.6**
NB2 NORSAR Subarra 26.22 340 P **P** **01 55 08.0 +2.4**
comp=Z,1.8nm,0.8s,baz=147,slow=10
NOA NORSAR Array B 26.22 340 P **P** **01 55 06.8 +1.1**
comp=Z,1.8nm,0.8s,baz=148,slow=11,SNR=10.0
comp=Z,1.8nm,0.8s
UMZA Um Al Zommool 26.60 116 P **P** **01 55 09.2 -0.2**
SOHO SOHO 26.73 112 P **P** **01 55 08.7 -1.8**
SOHO SOHO 26.73 112 *i* P **P** **01 55 09.2 -1.3**
SNR=15
ARTI Arti 27.07 36 P **P** **01 55 12.3 -1.0**
ARTI IAmb IAmb 01 55 20.3
comp=Z,11nm,0.8s
ARQ Araqi 27.20 113 P **P** **01 55 11.2 -3.5**
SNR=6.1
HOQ Hoqain 27.63 112 P **P** **01 55 17.7 -0.9**
BSY Bisya 28.05 114 P **P** **01 55 18.7 -3.7**
BIDO Bidbid 28.27 111 P **P** **01 55 27.0 +2.7**
EKA Eskdalemuir Ar 28.31 320 P **P** **01 55 24.1 -0.3**
comp=Z,1.3nm,0.9s,baz=121,slow=9.9,SNR=2.2
comp=Z,1.3nm,0.9s
SMDO Samad 28.48 112 P **P** **01 55 25.7 -0.7**
DOK Doka 28.66 124 P **P** **01 55 27.0 -0.8**
DOK S **S** **02 00 14.4 -2.5**
JMDO Jabal Madar 28.94 113 P **P** **01 55 28.5 -1.8**
MHTO MHTO 29.70 116 P **P** **01 55 33.9 -3.2**
DMTO DMTO 29.84 124 P **P** **01 55 37.4 -0.9**
JLN Jalan Bani Buh 30.03 112 P **P** **01 55 38.9 -1.1**
KKAR Karatay Array 31.64 67 P **P** **01 55 51.5 -2.5**
KKAR IAmb IAmb 01 55 53.5
comp=Z,3.8nm,1.1s
ARCES ARCESS Array B 32.20 357 P **P** **01 55 59.4 +0.8**
comp=Z,4.7nm,0.8s,baz=180,slow=4.5,SNR=2.0
comp=Z,4.7nm,0.8s
BRVK Borovoye 32.22 48 P **P** **01 55 58.1 -0.9**
BRVK IAmb IAmb 01 56 40.7
comp=Z,5.2nm,0.8s
BVAR Borovoye Array 32.28 48 P **P** **01 55 58.5 -1.0**
comp=Z,2.3nm,1.0s,baz=274,slow=5.7,SNR=4.9
BVAR LR LR 02 12 12.5
comp=Z,356nm,19.4s,baz=234,slow=42
comp=Z,2.3nm,1.0s
TORD Torodi Ar. Bea 34.59 233 P **P** **01 56 18.4 -1.6**
TORD IAmb IAmb 01 56 19.7
comp=Z,5.4nm,1.1s
TORD Torodi Ar. Bea 34.59 233 P **P** **01 56 18.8 -1.2**
comp=Z,124nm,0.3s,baz=34,slow=8.8,SNR=5.0
AAK Ala-Archa 34.59 67 P **P** **01 56 19.6 -0.5**
AAK IAmb IAmb 01 56 26.2
comp=Z,3.1nm,0.8s
KDJ Kajisay 36.63 67 P **P** **01 56 36.0 -1.6**
KDJ IAmb IAmb 01 56 46.5
comp=Z,3.8nm,0.9s
KURBB Kurchatov Arra 37.01 53 P **P** **01 56 40.1 -0.4**
comp=Z,6.1nm,0.8s,baz=276,slow=8.7,SNR=19
comp=Z,6.1nm,0.8s
KURK Kurchatov 37.07 53 P **P** **01 56 39.6 -1.4**
KURK IAmb IAmb 01 56 45.4
comp=Z,9.1nm,1.0s
MK31 Makanchi Array 39.66 59 P **P** **01 57 01.8 -1.0**
MKAR Makanchi Array 39.66 59 P **P** **01 57 01.0 -1.8**
MKAR Makanchi Array 39.66 59 P **P** **01 57 02.2 -0.7**
comp=Z,4.9nm,1.0s,baz=278,slow=6.8,SNR=15
comp=Z,4.9nm,1.0s
ZAA0 Zalesovo Array 40.94 48 P **P** **01 57 13.4 +0.2**
ZALV Zalesovo Beam 40.94 48 P **P** **01 57 10.7 -2.5**
ZALV Zalesovo Beam 40.94 48 P **P** **01 57 12.1 -1.1**
comp=Z,1.1nm,0.7s,baz=253,slow=9.0,SNR=6.5
ZALV LR LR 02 17 02.8
comp=Z,122nm,19.2s,baz=203,slow=40
comp=Z,1.1nm,0.7s
DBIC Dimbokro 43.68 234 P **P** **01 57 34.3 -1.7**
DBIC IAmb IAmb 01 57 43.3
comp=Z,9.5nm,1.3s
DBIC Dimbokro 43.68 234 P **P** **01 57 36.9 +0.9**
comp=Z,2.7nm,0.8s,baz=8.6,slow=6.9,SNR=3.1
comp=Z,2.7nm,0.8s
NRIK Noril'sk 44.34 26 P **P** **01 57 40.0 -0.7**
NRIK IAmb IAmb 01 57 45.4
comp=Z,5.7nm,0.8s
NRIK Noril'sk 44.34 26 P **P** **01 57 39.7 -0.9**
comp=Z,2.3nm,0.6s,baz=256,slow=5.8,SNR=10
comp=Z,2.3nm,0.6s
NRS Narsarsuaq 50.88 323 P **P** **01 58 30.0 -1.6**
SONM Songino Array 55.38 53 P **P** **01 59 04.7 -0.5**
comp=Z,2.1nm,0.9s,baz=270,slow=7.4,SNR=10.0
comp=Z,2.1nm,0.9s
ULN Ulaanbaatar 55.79 53 P **P** **01 59 07.1 -1.0**
ULN IAmb IAmb 01 59 15.0
comp=Z,4.9nm,1.2s
ULN Ulaanbaatar 55.79 53 P **P** **01 59 10.5 +2.4**
EUNU Eureka 57.57 349 P **P** **01 59 21.4 +1.3**
EUNU IAmb IAmb 01 59 25.3
comp=Z,6.1nm,1.1s
LZH Lanzhou 58.13 67 *e*P **P** **01 59 25.6 +0.7**
PZH PanZhiHua 60.99 78 P **P** **01 59 45.5 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,360nm,7.7s
HHC Hu-ho-hao-te 61.52 59 *e*P **P** **01 59 47.8 -0.3**
HHC pmax pmax
comp=Z,10.0nm,0.7s
RES Resolute Bay 62.30 346 P **P** **01 59 53.0 +0.4**
comp=Z,2.2nm,0.9s,baz=29,slow=12,SNR=11
comp=Z,2.2nm,0.9s
CHTO Chiang Mai 62.78 86 P **P** **01 59 58.3 +1.6**
CMAR Chiang Mai Arr 62.97 87 P **P** **01 59 56.9 -1.1**
comp=Z,1.0nm,0.3s,baz=298,slow=7.8,SNR=4.9
comp=Z,1.0nm,0.3s
SCHQ Schefferville 63.63 320 P **P** **02 00 02.3 +0.5**
comp=Z,1.9nm,0.6s,baz=47,slow=4.6,SNR=5.8
comp=Z,1.9nm,0.6s
A36M Sachs Harbour 69.39 352 P **P** **02 00 41.1 +2.8**
baz=21
A21K Barrow 71.43 2 P **P** **02 00 53.8 +3.0**
baz=355
C36M Paulatuk 71.71 350 P **P** **02 00 51.3 -1.2**
C36M Paulatuk 71.71 350 P **P** **02 00 55.5 +3.0**
baz=22
A22K Sinclair Lake 71.79 2 P **P** **02 00 55.8 +2.9**
baz=356
A19K Wainwright 72.37 4 P **P** **02 00 59.6 +3.2**
baz=351
B22K Teshekpuk Lake 72.48 1 P **P** **02 01 00.6 +3.6**
baz=358
B20K Meade River 72.73 2 P **P** **02 01 02.3 +3.8**
baz=354
M65A Busby, Falmout 72.76 309 P **P** **02 01 02.2 +3.0**
baz=55
USRK Ussuriysk Ar. 72.78 47 P **P** **02 00 59.5 +0.1**
comp=Z,5.2nm,0.8s,baz=327,slow=5.7,SNR=7.0
comp=Z,5.2nm,0.8s
C26K Camden Bay 72.84 358 P **P** **02 01 02.6 +3.3**
baz=4.7
C23K Itkillik River 73.01 360 P **P** **02 01 03.7 +3.4**
baz=360,SNR=10.0
C27K Jago River 73.10 357 P **P** **02 01 04.1 +3.3**
baz=5.7
C24K Franklin Bluff 73.11 359 P **P** **02 01 04.1 +3.2**
baz=1.6
D28M Stokes Point 73.16 356 P **P** **02 01 04.1 +3.0**
baz=9.8
B18K Kokolik River 73.16 4 P **P** **02 01 05.1 +4.0**
baz=351
B21K Ikpikpuk River 73.18 1 P **P** **02 01 04.9 +3.6**
baz=357
D27M Malcolm River 73.36 356 P **P** **02 01 05.5 +3.1**
baz=8.0
D25K Kavik River 73.48 358 P **P** **02 01 06.8 +3.6**
baz=3.5
C21K Knifeblade Rid 73.64 2 P **P** **02 01 07.9 +3.8**
baz=356
D24K Happy Valley 73.68 359 P **P** **02 01 08.0 +3.7**
baz=1.5
INK Inuvik 73.77 353 P **P** **02 01 06.4 +1.7**
INK IAmb IAmb 02 01 09.6
comp=Z,7.0nm,1.2s
INK Inuvik 73.77 353 P **P** **02 01 07.6 +2.9**
baz=14,SNR=7.4
D23K Nanushuk River 73.88 0 P **P** **02 01 08.1 +2.7**
baz=360
C18K Utukok River 73.91 4 P **P** **02 01 08.0 +2.4**
baz=351
E28M Babbage River 73.92 356 P **P** **02 01 08.0 +2.3**
baz=9.1
C17K DeLong Mountai 73.95 5 P **P** **02 01 08.2 +2.3**
baz=350
D22K Ayikyak River 73.96 1 P **P** **02 01 08.7 +2.8**
baz=358
C16K Lisburne Hills 74.00 6 P **P** **02 01 08.8 +2.7**
baz=348
E29M Blow River 74.03 355 P **P** **02 01 09.0 +2.7**
baz=10
D20K Etivluk River 74.04 2 P **P** **02 01 09.8 +3.4**
baz=355
KSRS Korea Array 74.17 55 P **P** **02 01 06.8 -0.8**
comp=Z,1.7nm,0.8s,baz=305,slow=4.1,SNR=4.9
comp=Z,1.7nm,0.8s
D19K Kuna River 74.20 3 P **P** **02 01 10.2 +2.9**
baz=354
TOLK Toolik Lake Re 74.20 360 P **P** **02 01 10.5 +3.1**
baz=0.8
RCBR Riachuelo 74.34 250 LR LR 02 37 08.1
comp=Z,63nm,18.3s,baz=74,slow=38
E21K Killik River 74.38 1 P **P** **02 01 11.4 +3.0**
baz=357,SNR=11
RDOG Red Dog Mine 74.39 5 P **P** **02 01 11.2 +2.8**
baz=350
E27K Coleen River 74.45 357 P **P** **02 01 11.4 +2.6**
baz=7.4
E20K Nigu River 74.51 2 P **P** **02 01 12.2 +3.0**
baz=355
F31M Tsiigehtchic 74.63 353 P **P** **02 01 12.9 +3.2**
baz=14,SNR=7.2
F30M Barrier River 74.64 354 P **P** **02 01 13.0 +3.1**
baz=12
E25K Arctic Village 74.66 358 P **P** **02 01 11.4 +1.4**
E25K Arctic Village 74.66 358 P **P** **02 01 13.3 +3.2**
baz=4.1,SNR=11
E22K Anaktuvuk Pass 74.71 0 P **P** **02 01 13.3 +2.9**
baz=359,SNR=9.8
D17K Noatak River 74.73 5 P **P** **02 01 13.9 +3.5**
baz=350,SNR=7.6
E24K Your Creek 74.76 359 P **P** **02 01 13.9 +3.3**
baz=1.7
E23K Chandalar 74.79 360 P **P** **02 01 14.1 +3.2**
baz=0.8,SNR=7.9
F26K Sheenjek River 75.04 357 P **P** **02 01 15.7 +3.4**
baz=5.3
E18K Tukpahlearik C 75.16 4 P **P** **02 01 15.9 +3.0**
baz=352
G31M Satah River 75.18 353 P **P** **02 01 13.6 +0.6**
G31M IAmb IAmb 02 01 16.6
comp=Z,6.7nm,1.0s
G31M Satah River 75.18 353 P **P** **02 01 15.6 +2.6**
baz=13,SNR=6.8
F25K Christian Rive 75.19 358 P **P** **02 01 15.7 +2.6**
baz=4.1
E19K Redstone River 75.28 3 P **P** **02 01 16.3 +2.8**
baz=354,SNR=17
G30M tAoh Zrail Nji 75.30 354 P **P** **02 01 16.6 +2.8**
baz=12
F24K Squaw Lake 75.31 359 P **P** **02 01 16.8 +2.9**
baz=2.2
BMAR Burnt Mountain 75.33 358 **P** **02 01 15.6 +1.7**
F22K John River 75.34 1 P **P** **02 01 16.7 +2.7**
baz=359
E17K Hotham Inlet 75.42 5 P **P** **02 01 17.5 +3.1**
baz=351
G29M Pine Creek 75.50 355 P **P** **02 01 15.3 +0.5**
G29M Pine Creek 75.50 355 P **P** **02 01 17.9 +3.0**
baz=10
F21K Alatna River 75.61 1 P **P** **02 01 18.8 +3.3**
baz=358
COLD Coldfoot 75.63 360 P **P** **02 01 18.6 +3.0**
baz=0.3
F20K Avaraart Lake 75.73 2 P **P** **02 01 19.1 +2.9**
baz=356
G26K Porcupine Rive 75.78 357 P **P** **02 01 19.8 +3.4**
baz=5.6
G27K Doyon Strip 75.82 356 P **P** **02 01 19.6 +2.8**
baz=7.3
F19K Shaleruckik Mo 75.88 3 P **P** **02 01 20.0 +3.0**
baz=354
EPYK Eagle Plains 75.94 354 P **P** **02 01 20.1 +2.7**
baz=11,SNR=5.6
F18K Selawik 76.03 4 P **P** **02 01 20.7 +2.9**
baz=353,SNR=7.4
G25K Bearman Lake 76.03 358 P **P** **02 01 20.4 +2.6**
baz=3.7
F17K Baldwin Pennin 76.09 4 P **P** **02 01 20.9 +2.7**
baz=351
G24K Hadweenzic Riv 76.13 359 P **P** **02 01 21.2 +2.7**
baz=2.5
G23K Bananza Creek 76.15 360 P **P** **02 01 21.4 +2.8**
baz=0.5
H29M Whitestone 76.21 355 P **P** **02 01 20.1 +1.2**
H29M Whitestone 76.21 355 P **P** **02 01 22.0 +3.1**
baz=10.0,SNR=5.3
YKA Yellowknife Ar 76.25 344 P **P** **02 01 19.7 +0.5**
comp=Z,3.3nm,1.0s,baz=31,slow=5.4,SNR=30
comp=Z,3.3nm,1.0s
H31M Peel River 76.28 353 P **P** **02 01 21.8 +2.4**
baz=13
G21K Allakaket 76.32 1 P **P** **02 01 22.7 +3.2**
baz=358
H27K Steamboat Moun 76.39 356 P **P** **02 01 22.7 +2.7**
baz=7.4,SNR=15
TNA Tin City 76.42 7 P **P** **02 01 22.7 +2.7**
baz=346
H25L Birch Creek 76.53 358 P **P** **02 01 23.7 +3.0**
baz=3.9,SNR=15
F15K North Star Dit 76.58 6 P **P** **02 01 23.6 +2.6**
baz=349
G19K Purcell Mounta 76.59 3 P **P** **02 01 23.7 +2.6**
baz=355
F14K Arctic Creek 76.66 7 P **P** **02 01 23.8 +2.3**
baz=347
G18K Tagagawik 76.78 3 P **P** **02 01 24.9 +2.7**
baz=353
H22K Ishtalitna Cre 76.97 0 P **P** **02 01 25.9 +2.7**
baz=359
H24K Noodor Dome 77.00 359 P **P** **02 01 26.5 +3.0**
baz=2.2
I27K Kandik River 77.02 356 P **P** **02 01 26.9 +3.4**
baz=7.3,SNR=11
H23K Yukon River 77.03 360 P **P** **02 01 26.9 +3.3**
baz=0.9

I30M	Mount Dempster baz=12,SNR=19	77.04 354	P	P	02 01 26.9 +3.2
I29M	Ogilvie Camp,	77.05 355	P	P	02 01 25.1 +1.3
I29M	Ogilvie Camp, baz=10.0,SNR=20	77.05 355	P	P	02 01 26.7 +2.9
G16K	Koyuk River baz=350	77.06 5	P	P	02 01 26.6 +2.9
G17K	Kiwalik Mounta baz=352	77.06 4	P	P	02 01 26.4 +2.6
I28M	Miner Creek baz=8.7	77.08 355	P	P	02 01 26.8 +2.8
H21K	Melozitna Rive baz=358,SNR=7.9	77.19 1	P	P	02 01 27.8 +3.3
H19K	Roundabout Mou baz=355,SNR=8.0	77.23 2	P	P	02 01 27.7 +3.0
PRP	Porcupine Dome baz=4.1	77.27 358	P	P	02 01 28.1 +3.0
H20K	Anotleneega Mo baz=356,SNR=7.7	77.32 2	P	P	02 01 28.4 +3.2
WRGLY	Wrigley baz=22	77.32 348	P	P	02 01 28.0 +2.8
G15K	Niukluk baz=349	77.33 6	P	P	02 01 28.2 +3.0
I26K	Coal Creek Min baz=6.0	77.39 357	P	P	02 01 28.6 +3.0
H18K	Honhosa River baz=354	77.53 3	P	P	02 01 29.0 +2.6
ANM	Nome baz=348	77.64 6	P	P	02 01 29.7 +2.7
H17K	Granite Mounta baz=352	77.67 4	P	P	02 01 30.1 +2.9
J30M	Hart River baz=12,SNR=24	77.67 354	P	P	02 01 30.1 +2.8
GAMB	Gambell baz=343	77.71 9	P	P	02 01 30.3 +3.0
I23K	Minto, Yukon-K baz=1.0,SNR=7.1	77.71 359	P	P	02 01 30.7 +3.3
POKR	Poker Plat Res baz=2.6	77.72 359	P	P	02 01 30.3 +2.8
H16K	Elim baz=351	77.82 5	P	P	02 01 30.9 +3.0
J29N	Klondike Camp baz=10.0	77.94 355	P	P	02 01 32.0 +3.2
COLA	College baz=2.2	77.97 359	P	P	02 01 32.1 +3.4
GCSA	Galena City Sc baz=355	78.00 3	P	P	02 01 32.1 +3.1
I20K	Naaghedeneel baz=357	78.03 2	P	P	02 01 32.2 +3.1
ILAR	Eielson Array comp=Z,2.0nm,0.9s,baz=359,slow=3.8,SNR=19 comp=Z,2.0nm,0.9s	78.05 358	P	P	02 01 29.7 +0.4
J25K	Salcha River, baz=4.2	78.17 358	P	P	02 01 33.2 +3.2
J26L	Joseph Creek baz=5.7,SNR=6.4	78.21 357	P	P	02 01 33.6 +3.3
NEA2	Nenana baz=1.2	78.27 359	P	P	02 01 34.1 +3.6
WRH	Wood River Hil	78.38 359	P	P	02 01 29.6 -1.5
DAWY	Dawson baz=9.1,SNR=13	78.41 355	P	P	02 01 35.0 +3.7
HDA	Harding Lake baz=3.0,SNR=8.5	78.42 358	P	P	02 01 34.5 +3.2
K29M	Barlow Dome baz=11	78.49 354	P	P	02 01 35.3 +3.4
K27K	Chicken baz=6.9	78.61 356	P	P	02 01 35.7 +3.3
J20K	Nowinta River baz=357	78.65 2	P	P	02 01 36.0 +3.4
I17K	Unalakleet baz=352	78.67 5	P	P	02 01 36.4 +3.8
SCRK	Sand Creek baz=5.3,SNR=8.6	78.76 357	P	P	02 01 36.1 +2.8
BPAW	Bear Paw Mtn. baz=360,SNR=8.4	78.77 0	P	P	02 01 36.9 +3.6
J19K	Poorman baz=356,SNR=8.2	78.80 2	P	P	02 01 37.3 +3.8
CHUM	Lake Minchumin baz=359,SNR=5.3	78.98 1	P	P	02 01 38.3 +3.9
K24K	Donnelly Dome baz=3.9	78.99 358	P	P	02 01 38.3 +3.8
RIDG	Independent Ri baz=4.7	79.03 357	P	P	02 01 38.5 +3.8
MMPY	Sheldon Lake, baz=16,SNR=8.3	79.05 351	P	P	02 01 38.7 +3.8
MCK	McKinley baz=1.3	79.13 359	P	P	02 01 38.8 +3.5
FFC FFC	Flin Flon comp=Z,6.9nm,1.1s	79.14 334	P IAmb	P IAmb	02 01 36.4 +1.0 02 01 40.4
J17K J17K	VABM Dome comp=Z,3.7nm,0.8s	79.25 4	P IAmb	P IAmb	02 01 35.3 -0.6 02 01 40.6
J17K	VABM Dome baz=353	79.25 4	P	P	02 01 39.3 +3.4
L29M L29M	L29M comp=Z,6.5nm,1.0s	79.27 354	P IAmb	P IAmb	02 01 35.7 -0.4 02 01 46.5
L29M	L29M baz=10,SNR=7.8	79.27 354	P	P	02 01 39.9 +3.8
J16K	Anvik River baz=352	79.27 5	P	P	02 01 40.0 +4.0
PETK	Petropavlovsk- comp=Z,1.8nm,0.9s,baz=324,slow=3.9,SNR=2.2 comp=Z,1.8nm,0.9s	79.29 29	P	P	02 01 36.9 +0.6
J18K	Innoko River baz=355	79.29 3	P	P	02 01 39.8 +3.7
TRF	Thorofare Moun baz=0.2	79.42 360	P	P	02 01 40.7 +3.6
CAST	Castle Rocks baz=359,SNR=6.1	79.45 1	P	P	02 01 40.4 +3.3
K20K	Telida baz=357	79.48 2	P	P	02 01 40.9 +3.7
L27K	Beaver Creek, baz=7.1,SNR=10	79.56 356	P	P	02 01 41.2 +3.5
J14K	Nanvaranak Lak baz=350	79.58 6	P	P	02 01 41.8 +4.1
FARO	Faro, Yukon baz=14,SNR=6.7	79.67 352	P	P	02 01 42.2 +3.9
L26K	Log Cabin Wild baz=5.8,SNR=5.2	79.68 357	P	P	02 01 42.3 +4.0
M30M	Minto, Yukon baz=11	79.68 354	P	P	02 01 42.3 +4.0
TGTN	Hyland Airport baz=18,SNR=6.1	79.69 349	P	P	02 01 42.5 +4.1
M31M	Drury Creek, Y baz=13,SNR=12	79.81 352	P	P	02 01 42.8 +3.8
PAX	Paxson baz=4.1	79.82 358	P	P	02 01 43.0 +3.8
M29M	Somme Creek baz=9.8,SNR=22	79.95 354	P	P	02 01 43.5 +3.6
K17K	Iditarod baz=354	79.97 4	P	P	02 01 43.4 +3.6
PPLA	Purkeypile baz=359,SNR=6.0	79.97 1	P	P	02 01 44.0 +4.0
BVCY	Beaver Creek baz=7.8,SNR=7.7	80.15 355	P	P	02 01 45.1 +4.2
K15K	Wolf Creek Mou baz=351	80.19 5	P	P	02 01 45.3 +4.3
ULM	Lac du Bonnet comp=Z,5.4nm,1.1s,baz=6.7,slow=3.1,SNR=6.0 comp=Z,5.4nm,1.1s	80.24 328	P	P	02 01 40.6 -0.9
M27K	Edge Creek, AK baz=7.0	80.27 356	P	P	02 01 45.5 +3.9
M26K	Nabesna, AK baz=6.1,SNR=9.9	80.28 356	P	P	02 01 45.6 +4.0
K13K	Kusilvak Mount baz=349	80.29 7	P	P	02 01 45.5 +3.9
KOTAN	Kotaneelee Air baz=21	80.32 347	P	P	02 01 45.9 +4.2
L20K	Farewell, AK baz=357	80.36 2	P	P	02 01 46.5 +4.4
HARP	HAARP baz=4.4	80.38 357	P	P	02 01 46.4 +4.4
CUT	Chulitna baz=0.3	80.47 360	P	P	02 01 46.5 +4.0
L18K	Granite Mounta baz=355	80.54 3	P	P	02 01 46.7 +3.8
L17K	Donlin baz=354	80.55 4	P	P	02 01 47.1 +4.2
L19K	White Mountain baz=357	80.64 2	P	P	02 01 47.5 +4.0
N31M	Braeburn, Yuko baz=12	80.66 353	P	P	02 01 47.2 +3.6
N32M	Quiet Lake baz=14	80.69 351	P	P	02 01 47.1 +3.3
M24K	Tolsona, Glenn baz=3.6	80.70 358	P	P	02 01 47.5 +3.6
YUK3	Moose Creek baz=8.1,SNR=19	80.76 355	P	P	02 01 47.7 +3.3
L15K	Ungalak Mounta baz=351,SNR=5.2	80.81 5	P	P	02 01 47.5 +3.2
N30M	Aishikik Lake baz=11	80.81 353	P	P	02 01 47.6 +3.2
SKT	Skwentna baz=359,SNR=6.6	80.89 0	P	P	02 01 47.4 +2.6
L16K	Owhat River baz=353	80.91 4	P	P	02 01 47.7 +2.8
M19K	Big River Lodg baz=357	80.93 2	P	P	02 01 48.8 +3.8
M20K	Styx River baz=358,SNR=5.7	80.97 1	P	P	02 01 49.0 +3.6
SCM	Sheep Creek Mo baz=2.6,SNR=12	81.01 358	P	P	02 01 49.1 +3.6
L14K	Kuka Creek baz=350	81.05 6	P	P	02 01 48.8 +3.2
YUK4	Talbot Arm baz=9.7,SNR=7.9	81.05 354	P	P	02 01 49.3 +3.4
SML	Sawmill baz=1.8	81.05 359	P	P	02 01 48.8 +3.0
M23K	Glacier View baz=2.3,SNR=8.8	81.06 359	P	P	02 01 48.7 +3.0
WTLY	Watson Lake, Y baz=17,SNR=7.6	81.12 349	P	P	02 01 48.8 +2.7
M22K	Willow baz=0.4	81.12 360	P	P	02 01 49.1 +3.1
N25K	Chitina, Valde baz=4.8	81.15 357	P	P	02 01 49.9 +3.6
YUK8	Steele Glacier baz=8.7	81.20 355	P	P	02 01 49.6 +2.8
MJAR	Matsushiro Arr comp=Z,2.7nm,0.6s,baz=297,slow=4.4,SNR=5.6 comp=Z,2.7nm,0.6s	81.24 50	P	P	02 01 47.1 0.0
PMR	Palmer baz=1.2	81.28 359	P	P	02 01 49.7 +2.8
M18K	Stony River baz=356	81.30 3	P	P	02 01 49.9 +2.9
KLU	Klutina baz=3.8	81.31 358	P	P	02 01 50.2 +3.0
M17K	Holitna River baz=354	81.32 3	P	P	02 01 50.0 +2.9
LIRD	Liard River Hi baz=20,SNR=7.2	81.36 348	P	P	02 01 50.5 +3.1
WHY	Whitehorse baz=13	81.37 352	P	P	02 01 50.2 +2.6
O30N	Mendenhall baz=12	81.39 353	P	P	02 01 50.3 +2.7
SUA	Susitna One baz=360,SNR=13	81.42 0	P	P	02 01 50.0 +2.3
YUK6	Outpost Mounta baz=9.8	81.43 354	P	P	02 01 50.3 +2.4
KNK	Knik Glacier baz=1.7,SNR=9.9	81.45 359	P	P	02 01 50.6 +2.7
HYT	Haines Junctio baz=10,SNR=15	81.47 354	P	P	02 01 50.8 +2.7
P33M	Teslin, Yukon baz=14	81.57 351	P	P	02 01 51.3 +2.8
M16K	Timber Creek baz=353	81.62 4	P	P	02 01 51.5 +2.8
M11K	Mekoryuk baz=348	81.66 8	P	P	02 01 51.8 +2.9
SPCR	Spurr Chakacha baz=359	81.67 1	P	P	02 01 51.8 +2.8
M14K	Bethel baz=351	81.69 6	P	P	02 01 52.2 +3.2
TOAD	Toad River Com baz=20,SNR=12	81.73 347	P	P	02 01 52.5 +3.1
O28M	Mount Upton baz=8.3	81.74 355	P	P	02 01 52.5 +2.9
RC01	Rabbit Creek A baz=0.7,SNR=6.8	81.79 360	P	P	02 01 52.2 +2.7
BMRM	Bremner River baz=4.8	81.79 357	P	P	02 01 52.6 +2.9
M15K	Kasigluk River baz=352	81.84 5	P	P	02 01 52.4 +2.6
M13K	Dall Lake baz=350	81.91 6	P	P	02 01 52.6 +2.5
GLI	Glacier Island baz=2.8	81.96 358	P	P	02 01 53.1 +2.6
PWL	Port Wells baz=1.8	82.00 359	P	P	02 01 53.4 +2.6
N19K	Bonanza Creek baz=357,SNR=6.4	82.02 2	P	P	02 01 53.7 +2.7
O29M	Mount Kennedy baz=9.6	82.08 354	P	P	02 01 54.2 +2.9
N18K	Kilae Creek baz=356	82.11 3	P	P	02 01 54.2 +2.9
CAPN	Captain Cook N baz=360	82.11 0	P	P	02 01 54.6 +3.4
R33M	Jennings River baz=16,SNR=15	82.12 350	P	P	02 01 55.0 +3.5
N17K	Nushagak Hills baz=355	82.21 3	P	P	02 01 55.6 +3.8
EYAK	Cordova Ski Ar baz=3.9,SNR=6.3	82.25 358	P	P	02 01 56.0 +4.0
P32M	Atlin baz=14,SNR=5.2	82.29 351	P	P	02 01 55.8 +3.5
N15K	Kwethluk River baz=352	82.40 5	P	P	02 01 56.8 +4.0
PINM	Pinnacle baz=8.3,SNR=6.5	82.41 355	P	P	02 01 57.2 +4.3
MESA	MESA baz=6.9	82.44 356	P	P	02 01 57.0 +3.8
N14K	Kuskokwak Cree baz=351	82.53 6	P	P	02 01 57.4 +3.9
SKAG	Skagway baz=12	82.60 352	P	P	02 01 58.0 +4.2
O19K	Port Alsworth baz=357	82.64 2	P	P	02 01 58.3 +4.3
P29M	Windy Craggy baz=10	82.67 353	P	P	02 01 58.5 +4.2
Q32M	Nakina River baz=15	82.72 351	P	P	02 01 58.5 +3.7
PNL	Peninsula baz=8.9	82.77 354	P	P	02 01 58.5 +3.8
SEW	Seward baz=0.9	82.78 359	P	P	02 01 58.0 +3.3
O20K	Slope Mountain baz=358	82.79 1	P	P	02 01 58.6 +3.7
KAIM	Kayak Island baz=4.9	82.82 357	P	P	02 01 58.8 +3.8
DLBC	Dease Lake baz=16	82.91 349	P	P	02 01 58.8 +3.2
O18K	Koktuh Hills baz=356	82.96 2	P	P	02 01 59.4 +3.6
O16K	Kokwok River B baz=354	83.09 4	P	P	02 02 00.2 +3.8
BRSE	Bradley Lake S baz=360	83.14 0	P	P	02 01 60.0 +3.3
P19K	Oil Pt baz=358	83.21 1	P	P	02 02 00.7 +3.6
P17K	Kvichak River baz=355	83.57 3	P	P	02 02 02.6 +3.8
S34M	Telegraph Cree baz=15,SNR=7.0	83.58 350	P	P	02 02 03.6 +4.7
R32K	Eaglecrest baz=13	83.67 352	P	P	02 02 03.3 +3.9
SYI	Shuyak Island	84.27 1	P	P	02 02 02.4 0.0
Q20K	Shuyak Island baz=359	84.27 1	P	P	02 02 05.5 +3.1
KDAK	Kodiak Island baz=358	85.09 1	P	P	02 02 09.5 +2.8
CCM	Cathedral Cave	87.03 317	P	P	02 02 14.3 -2.2
BDFB	Brasilia	89.72 250	P	P	02 02 29.3 -0.4
BDFB	Brasilia comp=Z,6.8nm,0.8s,baz=71,slow=3.2,SNR=13 comp=Z,6.8nm,0.8s	89.72 250	P	P	02 02 30.4 +0.7
PDAR	Pinedale Array comp=Z,0.6nm,0.7s,baz=25,slow=3.0,SNR=6.4 comp=Z,0.6nm,0.7s	91.83 331	P	P	02 02 39.7 +0.3
TXAR	Lajitas Array comp=Z,0.7nm,0.9s,baz=34,slow=4.7,SNR=5.0	100.31 320	P	Pdif	02 03 19.0 +1.0

*IDC **01** 01:49:49.7±1.0, 7°.52N×93°.80E, h0km, mb3.8/9, mbtmp3.8/10, ML4.5/1, Error ellipse: s-maj=41.2km s-min=21.0km az=60.0*

ISC 01 01:49:52.4±1.0, 7°.5N±0°.1×93°.8E±0°.2, h20km, n18, σ0°93/12, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.8nm,0.3s,baz=204,slow=13,SNR=1.5 1.3nm,0.3s	12.02	24	Pn	Pn	01 52 42.6	-0.2
H08S3	Diego Garcia H	25.99	235	T	T	02 21 23.5	
	baz=54,slow=76,SNR=12						
H08S2	Diego Garcia H baz=54,slow=76,SNR=14	26.00	235	T	T	02 21 30.3	
H08S1	Diego Carcia H baz=54,slow=76,SNR=8.7	26.01	235	T	T	02 21 47.7	
SONM	Songino Array 0.2nm,0.3s,baz=190,slow=6.6,SNR=1.5 0.2nm,0.3s	41.63	13	P	P	01 57 39.2	-0.2
KURBB	Kurchatov Arra 0.8nm,0.3s,baz=168,slow=7.2,SNR=6.8 0.8nm,0.3s	44.85	346	P	P	01 58 05.5	+0.3
ZALV	Zalesovo Beam 2.0nm,0.7s,baz=187,slow=6.0,SNR=4.6 2.0nm,0.7s	46.91	353	P	P	01 58 21.1	-0.2
WRA	Warramunga Arr 0.2nm,0.3s,baz=298,slow=8.6,SNR=5.7 0.2nm,0.3s	48.32	125	P	P	01 58 32.7	-0.2
BVAR	Borovoye Array 0.8nm,0.8s,baz=146,slow=10,SNR=2.1 0.8nm,0.8s	49.26	342	P	P	01 58 38.7	-0.9
ASAR	Alice Springs 0.4nm,0.8s,baz=310,slow=7.2,SNR=2.0 0.4nm,0.8s	49.94	129	P	P	01 58 46.2	+1.0
BRTR	Keskin Array B 0.4nm,0.8s,baz=111,slow=7.3,SNR=1.6 0.4nm,0.8s	62.42	311	P	P	02 00 14.2	-0.2
H04N2	CROZET ISLANDS baz=47	65.20	211	T	T	03 11 05.6	
H04N1	CROZET ISLANDS baz=47	65.20	211	T	T	03 10 50.2	
H04N3	CROZET ISLANDS baz=47	65.21	211	T	T	03 11 04.2	
FINES	FINESS Array B 3.8nm,1.0s,baz=96,slow=7.5,SNR=3.0 3.8nm,1.0s	72.90	332	P	P	02 01 21.0	+1.1
HFS	Hagfors 0.4nm,0.3s,baz=120,slow=8.5,SNR=1.2 0.4nm,0.3s	78.62	330	P	P	02 01 54.0	+1.3
PLCA	Paso Flores 1.9nm,1.1s,baz=123,slow=5.9,SNR=2.8	144.05	200	PKP	PKiKP	02 09 28.9	-1.7
CPUP	Villa Florida 0.4nm,0.5s,baz=328,slow=8.6,SNR=1.3	146.73	232	PKPbc	PKPbc	02 09 33.6	-0.1

*IDC **01** 01:51:54.1±2.1, 7°.63N×92°.97E, h0km, mb3.7/5, mbtmp3.7/6, ML4.4/1, Error ellipse: s-maj=72.7km s-min=31.0km az=58.0*

ISC 01 01:51:59.6±1.6, 7°.7N±0°.2×93°.1E±0°.3, h35km, n12, σ0°63/6, mb3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.7nm,0.3s,baz=202,slow=17,SNR=1.5 1.4nm,0.3s	12.14	28	Pn	Pn	01 54 50.4	+0.2
H08S3	Diego Garcia H baz=55	25.54	234	T	T	02 24 14.5	
H08S2	Diego Garcia H baz=55	25.54	234	T	T	02 24 33.0	
H08S1	Diego Carcia H baz=55	25.55	234	T	T	02 24 37.4	
MKAR	Makanchi Array 0.3nm,0.6s,baz=156,slow=7.6,SNR=1.3 0.3nm,0.6s	40.05	348	P	P	01 59 30.6	-0.8
KURBB	Kurchatov Arra 0.3nm,0.4s,baz=172,slow=6.9,SNR=6.2 0.3nm,0.4s	44.48	347	P	P	02 00 07.4	0.0
ZALV	Zalesovo Beam 0.5nm,0.4s,baz=166,slow=7.4,SNR=3.7 0.5nm,0.4s	46.61	353	P	P	02 00 23.7	-0.4
WRA	Warramunga Arr 0.5nm,1.1s,baz=302,slow=7.3,SNR=1.5 0.5nm,1.1s	49.03	125	P	P	02 00 43.4	-0.1
H04N2	CROZET ISLANDS baz=48	65.02	210	T	T	03 13 12.8	
H04N1	CROZET ISLANDS baz=48	65.02	210	T	T	03 13 09.8	
H04N3	CROZET ISLANDS baz=48	65.03	210	T	T	03 13 21.3	
FINES	FINESS Array B 5.5nm,1.2s,baz=299,slow=2.9,SNR=1.4 5.5nm,1.2s	72.38	332	P	P	02 03 22.4	+0.5

VIE 01 01:52:15.4±0.5, 45°.09N×14°.60E, h5km±4km, mb1.8/3, ml1.9/3, Error ellipse: s-maj=2.9km s-min=1.9km az=178.0 32 km SSE of Rijeka, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	Rijeka	0.25	340	*e*Pg	Pg	01 52 19.9	-0.4
RIY				Sg	Sg	01 52 23.7	0.0
RABC	Rab	0.36	159	*e*Pg	Pg	01 52 22.8	+0.4
RABC				Sg	Sb	01 52 29.1	-1.1
GBRS	Gornja Briga	0.47	18	*e*Pg	Pg	01 52 24.6	+0.1
GBRS				IAML		01 52 33.2	
	comp=Z,4.1nm,0.1s						
KNDS	Knezji Dol	0.47	340	*e*Pg	Pg	01 52 24.0	-0.5
KNDS				*e*Sg	Sg	01 52 31.5	+0.9
KNDS				IAML		01 52 35.3	
	comp=Z,6.9nm,0.2s						
NVLJ	Novalja	0.56	160	*e*Pg	Pg	01 52 26.4	+0.2
NVLJ				Sg	Sb	01 52 35.4	-0.5
BOJS	Bojanci	0.62	48	*e*Pg	Pg	01 52 27.5	+0.1
BOJS				*e*Sg	Sb	01 52 36.9	-0.8
BOJS				IAML		01 52 37.6	
	comp=Z,8.2nm,0.1s						
SKDS	Skadanscina	0.62	318	*i* Pg	Pg	01 52 26.1	-1.2
SKDS				*e*Sg	Sg	01 52 35.2	-0.2
SKDS				IAML		01 52 36.0	
	comp=Z,4.5nm,0.1s						
BRJN	Brijuni	0.63	253	*e*Pg	Pg	01 52 27.8	+0.2
BRJN				Sg	Sg	01 52 35.8	0.0
CEY	Cerknica	0.66	349	*i* Pg	Pg	01 52 28.1	-0.1
CEY				IAML		01 52 40.6	
	comp=Z,5.9nm,0.1s						
VISS	Visnje	0.73	13	*e*Pg	Pg	01 52 29.0	-0.5
VISS				IAML		01 52 41.9	
	comp=Z,5.8nm,0.2s						
PLIT	Plitvice	0.75	106	*e*Pg	Pg	01 52 30.4	+0.5
PLIT				Sg	Sb	01 52 41.6	0.0
OZLJ	Ozalj	0.80	49	*e*Pg	Pb	01 52 31.7	-0.1
OZLJ				Sg	Sb	01 52 43.0	0.0
VIRC	Vir	0.86	158	*e*Pg	Pg	01 52 32.3	+0.4
VIRC				Sg	Sb	01 52 45.2	+0.7
DUGI	Dugi Otok	1.14	163	*e*Pg	Pg	01 52 37.4	0.0
DUGI				Sg	Sn	01 52 54.4	+0.3
A251A	Rujevac	1.18	87	*e*Pg	Pn	01 52 38.4	-0.1
A251A				Sg	Sn	01 52 55.2	+0.3
OBKA	Obir	1.42	358	*e*Pg	Pb	01 52 42.3	-0.2
	comp=Z,1.2nm,0.2s						
OBKA				*e*Sg	Sg	01 53 02.6	+1.5
	comp=Z,5.4nm,0.3s						
MORI	Morici	1.46	147	*e*Pn	Pb	01 52 42.9	-0.1
MORI				Sn	Sg	01 53 04.5	+2.3
SOKA	Soboth	1.62	11	*e*Pg	Pb	01 52 45.9	+0.1
	comp=Z,0.4nm,0.2s						
SOKA				*e*Sn	Sb	01 53 06.6	+0.1
	comp=Z,1.5nm,0.3s						
ZIRJ	Zirje	1.62	152	*e*Pn	Pn	01 52 45.1	+0.5
ZIRJ				Sn	Sg	01 53 08.0	+0.6
MYKA	Terra Mystica comp=Z,3.7nm,0.3s	1.68	337	*e*Sg	Sg	01 53 11.5	+2.0

*ISK **01** 01:55:13.7, 39°.55N×37°.96E, h5km, ML3.3/29*
*AFAD **01** 01:55:14.3, 39°.52N×37°.94E, h7km±3km, MW3.6*

ISC 01 01:55:14.0±1.0, 39°.55N±0°.02×37°.95E±0°.02, h13km±9km, n71, σ1°11/104, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUZAR	Zara_SIVAS	0.37	338	P	Pb	01 55 23.0	+0.4
CUZAR				S	Sb	01 55 27.5	-0.7
CUKAN	kangal_SIVAS	0.44	239	P	Pg	01 55 22.7	-0.1
CUKAN				S	Sg	01 55 29.4	+0.5
ARPR	Arapgir-MALATY	0.54	147	Pg	Pb	01 55 25.2	-0.3
ARPR				Sg	Sb	01 55 33.9	+0.7
HEKM	Malatya_Hekimh	0.67	180	P	Pb	01 55 27.6	0.0
HEKM				S	Sg	01 55 36.2	+0.3
SUSE	Susehri	0.69	16	P	Pn	01 55 28.7	-0.9
SUSE				S	Sb	01 55 38.2	+0.8
SCER	sogukcermik	0.71	297	P	Pb	01 55 28.7	+0.3
SCER				S	Sb	01 55 38.2	+0.2
SVSK	Karacayir	0.82	297	Pg	Pn	01 55 30.5	-0.8

SVSK			Sg	Sn	01 55 43.6	+0.3
CUAYA	Sivas-Altinyay	0.98 254	P	Pg	01 55 32.9	0.0
CUAYA			S	Sn	01 55 47.0	-0.3
RSDY	Resadiye-TOKAT	0.98 331	Pg	Pn	01 55 33.4	-0.1
CUGUR	Gurin_SVAS	0.98 213	P	Pn	01 55 33.6	0.0
CUGUR			S	Sb	01 55 45.1	-0.7
ALUC	Giresun/Alucra	1.01 38	P	Pn	01 55 34.4	+0.3
DARE	Darende-Malaty	1.04 201	Pg	Pn	01 55 34.4	0.0
DARE			Sg	Sn	01 55 50.4	+1.6
KELT	Kelkit	1.17 59	P	Pg	01 55 36.5	0.0
KELT			S	Sb	01 55 50.0	-1.3
AKCD	Akcadag	1.25 181	P	Pg	01 55 38.6	+0.5
AKCD			S	Sg	01 55 54.7	+0.3
MAYA	Malatya/Merkez	1.27 163	P	Pb	01 55 38.0	+0.1
MAYA			S	Sb	01 55 53.3	-0.9
PTK	Pertek	1.29 120	Pn	Pb	01 55 38.3	0.0
PTK			Sn	Sg	01 55 58.3	+2.5
TNCL	Tunceli-Merkez	1.30 109	P	Pg	01 55 39.0	-0.1
TNCL			S	Sg	01 55 57.3	+1.2
ELZG	Elazig	1.32 142	P	Pg	01 55 39.4	0.0
ELZG			S	Sg	01 55 56.7	+0.1
CUSAR	Sarkisla-SIVAS	1.33 265	P	Pg	01 55 39.3	-0.3
CUSAR			S	Sg	01 55 57.1	+0.2
TOKT	Tokat	1.33 306	Pn	Pg	01 55 39.2	-0.4
TOKT			Sn	Sg	01 55 59.9	+2.9
EUZM	Uzumlu	1.36 83	P	Pg	01 55 40.0	-0.2
EUZM			S	Sg	01 55 58.3	+0.6
TOKA	Tokat	1.38 305	P	Pg	01 55 39.8	-0.6
TOKA			S	Sg	01 55 58.7	+0.3
ELBS	KAHRAMANMARAS	1.38 208	P	Pg	01 55 40.9	+0.3
ELBS			S	Sg	01 55 58.8	+0.3
ORDU	Ordu-Boztepe	1.45 357	P	Pg	01 55 41.9	+0.1
ORDU			S	Sg	01 55 59.7	-0.9
ESPY	Espiye-Giresun	1.49 23	Pn	Pg	01 55 42.5	-0.2
SARI	SarD1z-Kayseri	1.65 227	Pn	Pg	01 55 45.2	-0.6
KOVA	Elazig, Kovanc	1.67 120	P	Pb	01 55 45.0	+0.3
HACI	Hacifakili, Ak	1.72 276	P	Pg	01 55 46.7	-0.4
AZEY	Adyaman-Merk	1.75 172	P	Pg	01 55 47.0	-0.6
AKCA	Adyaman/G¶l	1.76 187	P	Pg	01 55 48.1	+0.2
AKCA			S	Sg	01 56 11.4	+0.7
NARI	Adyaman-Kaht	1.78 159	P	Pg	01 55 48.3	+0.2
NARI			S	Sb	01 56 08.4	-0.3
BNN	Bunyan	1.78 248	Pn	Pb	01 55 47.2	+0.7
BAYT	Aydintepe-Bayb	1.88 63	Pn	Pb	01 55 48.3	0.0
BAYB	BAYBURT	1.91 67	P	Pb	01 55 49.4	+0.6
BAYB			S	Sg	01 56 16.9	+1.5
GUNE	Kayseri	1.92 251	P	Pg	01 55 50.9	0.0
GUNE			S	Sg	01 56 17.3	+1.5
CKRK	Yozgat, Cekere	1.96 286	P	Pb	01 55 50.1	+0.5
CKRK			S	Sn	01 56 12.2	+0.7
MACK	Trabzon	1.97 44	P	Pg	01 55 51.4	-0.4
KTUT	Trabzon	2.00 43	Pn	Pb	01 55 49.5	-0.7
YEDI	Yedisu-Bingol	2.01 92	Pn	Pb	01 55 49.9	-0.6
KOPT	Kop Dagi	2.02 76	P	Pg	01 55 52.3	-0.4
KOPT			S	Sg	01 56 20.9	+2.0
YOZ	Yozgat	2.04 273	Pn	Pb	01 55 50.9	-0.1
ATAB	Bozova	2.09 173	P	Pg	01 55 53.0	-1.2
ATAB			S	Sb	01 56 17.5	-0.2
HANM	anlurfa/Hi	2.09 159	P	Pb	01 55 51.6	-0.3
HANM			S	Sn	01 56 15.6	+0.8
KVT	Kavak	2.12 317	Pn	Pb	01 55 51.6	-0.6
SAIM	ADANA	2.14 224	P	Pg	01 55 54.6	-0.6
KAHM	Kahramanmaras,	2.16 201	P	Pb	01 55 52.4	-0.7
KAHM			S	Sn	01 56 17.0	+0.6
SIRC	Yozgat	2.18 265	P	Pb	01 55 53.8	+0.3
SIRC			S	Sg	01 56 23.1	-1.1
BNGB	Bingl	2.19 104	Pn	Pb	01 55 52.8	-0.7
KMRS	Kahramanmaras	2.20 202	Pn	Pb	01 55 52.9	-0.8
GZT	Gaziantep	2.21 188	P	Pg	01 55 55.5	-0.9
URFA	Urfa	2.21 162	Pn	Pb	01 55 52.9	-1.0
HANI	Diyarbakir_Han	2.22 120	P	Pg	01 55 55.6	-0.9
HAVZ	Havza	2.29 312	P	Pb	01 55 55.0	-0.2
ECAT	Cat-ERZURUM	2.33 88	P	Pb	01 55 56.8	+0.8
IZDR	Rize	2.35 57	P	Pb	01 55 56.6	+0.4
COAL	Corum-Alaca	2.39 288	P	Pb	01 55 56.0	-0.9
COAL			S	Sb	01 56 26.0	-0.3
KARO	Karliova-Bingo	2.41 95	Pn	Pb	01 55 55.8	-1.5
KOZK	Kozakli-Nevseh	2.42 263	Pn	Pb	01 55 56.0	-1.4
GAZ	Gaziantep	2.44 194	Pn	Pb	01 55 56.3	-1.5
YOZG	Bozok Univ. Me	2.45 276	P	Pb	01 55 56.3	-1.7
AVNS	Nevsehir-Avano	2.52 254	P	Pb	01 55 59.6	+0.3
AYAZ	Ayas K¶y, M	2.63 296	S	Sn	01 56 29.7	+1.6
CORM	Corum	2.63 285	Pn	Pb	01 55 59.1	-2.0
CHOM	Cayeli-Rize	2.65 53	Pn	Pb	01 55 59.5	-1.8
KOZT	Kozan	2.65 220	Pn	Pb	01 55 59.5	-1.9
VRTB	Varto-Mus	2.74 97	Pn	Pb	01 56 00.6	-2.4
MAZI	Mazidag	2.86 136	Pn	Pb	01 56 02.6	-2.3
SVAN	Silvan-Diyarba	2.89 118	Pn	Pb	01 56 02.7	-2.8
CMRD	Camardi-Nigde	2.99 232	Pn	Pb	01 56 04.1	-3.1
KOPR	Koprukoy-ERZUR	3.04 80	Pn	Pb	01 56 04.8	-3.2
CEYT	Ceyhan	3.07 215	Pn	Pn	01 56 05.2	+3.0

*IDC **01** 01:58:52.2±1.9, 1°.25N×126°.22E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=194.0km s-min=23.4km az=66.0*
*DJA **01** 01:58:55.7±0.3, 1°N±4°×12°7E±°, h10km, M3.4/5, MLv3.4/5*
ISC 01 01:58:56.5±1.5, 1°.4N±0°.3×126°.6E±0°.3, h35km, n5, σ0§46/5, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.02 129		P	Pn	01 59 14.0	-0.2
TNTI				S	Sn	01 59 27.6	+0.3
WRA	Warramunga Arr	22.55 161		P	P	02 03 53.4	-0.3
	1.5nm,0.7s,baz=338,slow=10,SNR=7.9 1.5nm,0.7s						
ASAR	Alice Springs	25.93 164		P	P	02 04 26.1	+0.4
	0.2nm,0.4s,baz=346,slow=11,SNR=5.6 0.2nm,0.4s						
MKAR	Makanchi Array	59.37 326		P	P	02 08 55.3	0.0
	0.2nm,0.5s,baz=118,slow=7.7,SNR=1.9 0.2nm,0.5s						
KURBB	Kurchatov Arra	63.60 328		P		02 09 25.0	+1.3
	0.2nm,0.4s,baz=127,slow=6.2,SNR=2.9 0.2nm,0.4s						

*CATAC **01** 01:59:40.6±0.3, 12°N±3°×8°7W±°, h49km±3km, M3.7/26, MLv3.7/26, Error ellipse: s-maj=7.1km s-min=3.0km az=31.8, confirmed*
*SNET **01** 01:59:40.5±1.1, 12°.26N×87°.23W, h20km±10km, ML3.2*
ISC 01 01:59:40.1±1.4, 12°.15N±0°.06×87°.21W±0°.03, h33km±6km, n49, σ1§16/65, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACN	Al O del Volca	0.53	50	P	Pn	01 59 52.2	+0.8
PACN				S	Sn	02 00 01.9	+2.6
QUEN	Al S del Volca	0.56	39	P	Pn	01 59 52.3	+0.5
QUEN				S	Sn	02 00 01.9	+1.9
CRIN	San Cristobal	0.56	16	P	Pn	01 59 52.5	+0.6
CRIN	San Cristobal	0.56	16	S	Sn	02 00 02.6	+2.4
CNGA	Al SSO del Vol	0.60	56	P	Pb	01 59 52.6	+0.2
CNGA				S	Sn	02 00 02.8	+1.8
COPN	Copaltepe	0.60	88	P	Pb	01 59 52.8	+0.4
CNGN	Cerro Negro	0.61	55	P	Pb	01 59 52.3	-0.1
CNGN	Cerro Negro	0.61	55	S	Sn	02 00 02.4	+1.2
PLRN	Geotermica Pol	0.61	45	P	Pb	01 59 52.3	-0.2
PLRN				S	Sn	02 00 02.2	+1.1
POLN	Al Sur del Vol	0.63	38	P	Pb	01 59 52.5	-0.2
POLN				S	Sn	02 00 02.7	+1.1
LEVN	Ruinas Leon Vi	0.63	67	P	Pb	01 59 52.8	0.0
LEVN				S	Sb	02 00 02.4	+0.9
BC86	Nagarote	0.64	80	S	Sb	02 00 03.2	+1.4
ILCN	San Idelfonso	0.65	50	P	Pb	01 59 52.7	-0.4
ILCN				S	Sb	02 00 03.4	+1.3
MOMN	Momotombo	0.70	69	P	Pn	01 59 53.2	-0.6
MOMN				S	Sb	02 00 04.1	+0.6
AMTN	Mateare	0.77	84	P	Pn	01 59 54.5	-0.1
AMTN	Mateare	0.77	84	S	Sb	02 00 06.1	+0.9
SAPS	Ciudad Sandino	0.79	89	P	Pn	01 59 54.8	-0.1
SAPS	Ciudad Sandino	0.79	89	S	Sb	02 00 06.4	+0.6
APYN	Apoyeque	0.84	85	P	Pn	01 59 55.4	-0.3
APYN				S	Sb	02 00 06.7	-0.8
APQ2	Apoyeque	0.86	87	P	Pn	01 59 55.7	-0.2
APQ2				S	Sb	02 00 07.9	-0.2
CSGN	Cosiguina Volc	0.89	337	P	Pb	01 59 56.4	-0.7
CSGN				S	Sb	02 00 09.5	+0.8
CRUN	El Crucero	0.91	101	P	Pn	01 59 57.0	+0.4
ALLN	Telcor Managua	0.91	90	S	Sb	02 00 09.2	-0.2
TISN	Laguna Tiscapa	0.92	91	P	Pn	01 59 56.4	-0.3
UNAN	Cigeo UNAN	0.92	93	P	Pn	01 59 56.5	-0.3
UNAN				S	Sb	02 00 09.3	-0.2
MGAN	Managua	0.94	90	P	Pn	01 59 56.7	-0.3
MGAN	Managua	0.94	90	S	Sb	02 00 09.5	-0.6
SABN	Sabanita	1.04 101		P	Sn	02 00 11.0	-1.0
NANN	Nandasmo	1.08 101		P	Pn	01 59 59.5	+0.4
NANN	Nandasmo	1.08 101		S	Sb	02 00 14.0	-0.3
LIMN	Finca el Limon	1.22 42		P	Pn	01 59 59.7	-1.3
CNCH	Conchagua	1.27 331		eP	Pn	02 00 01.3	-0.4
CNCH				eS	Sb	02 00 17.9	-1.8
CNCH				eS	Sn	02 00 18.7	+1.0
CNCH	Conchagua	1.27 331		P	Pn	02 00 01.1	-0.6
LCND	La Caada	1.33 330		eP	Pn	02 00 01.6	-0.8
LCND				eS	Sb	02 00 18.8	-2.4
LCND				IAML		02 00 22.0	
	comp=Z,453nm,0.2s						
LCND	La Caada	1.33 330		P	Pn	02 00 01.8	-0.5
MATN	Matagalpa	1.47 58		P	Pn	02 00 02.6	-1.8
MATN	Matagalpa	1.47 58		S	Sn	02 00 20.4	-2.2
BOAB	BOACO BROADBAN	.54 79		P	Pn	02 00 03.5	-1.7
BOAB	BOACO BROADBAN	.54 79		S	Sn	02 00 21.7	-2.4
BLLM	Bellamira	1.63 322		eP	Pn	02 00 06.9	+0.4
LCY	Lacayo	1.65 320		eP	Pn	02 00 06.9	0.0
PACA	Pacayal	1.70 320		eP	Pn	02 00 08.0	+0.4
PACA				eS	Sb	02 00 29.4	-2.5
PACA	Pacayal	1.70 320		P	Pn	02 00 08.7	+1.1
RCVN	Varillal2	1.73 35		P	Pn	02 00 06.8	-1.3
RCPN	Sur Rio San Ju	1.74 38		P	Pn	02 00 06.9	-1.4
COEG	Centro de Oper	2.19 312		eS	Sn	02 00 41.4	+1.1
COEG				IAML		02 00 48.7	
	comp=Z,138nm,0.2s						
JAYA	Jayaque - finc	2.64 305		eP	Pn	02 00 21.7	+1.0
CEVE	Cerro Verde	2.88 306		eS	Sn	02 00 59.3	+1.6
NUBE	Las Nubes	3.05 305		eP	Pn	02 00 26.7	+0.5
NUBE				IAML		02 01 10.8	
	comp=Z,33nm,0.2s						

GCG 01 02:02:14.5±0.8, 14°.51N×90°.72W, h7km±2km, MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.16	136	eP	Pg	02 02 17.7	-0.1
PS001	Antigua, Sacat	0.34	125	eP	Pg	02 02 16.4	-4.7
PS001				e		02 02 16.5	
	baz=179,slow=22						
PS001				eS	Sg	02 02 17.8	-7.7
STG0	El Palmar, Qui	0.61	263	eP	Pn	02 02 31.6	+1.9
STG0				eS	Sn	02 02 43.6	+3.7
STG8	El Palmar, Qui	0.61	265	eP	Pn	02 02 32.0	+2.1
STG8				eS	Sn	02 02 44.0	+3.8

*IDC **01** 02:02:40.6±0.7, 7°.65N×94°.39E, h0km, mb4.0/17, mbtmp4.0/20, ML4.0/2, MS4.0/5, Error ellipse: s-maj=23.4km s-min=15.2km az=60.0*
*NEIC **01** 02:02:43.0±1.6, 7°.64N±0°.08×94°.36E±0°.06, h10km±1km, mb4.5/28, Error ellipse: s-maj=16.5km s-min=3.9km az=217.0*
*NDI **01** 02:02:46.0±1.2, 7°.62N×94°.46E, h10km, ML4.0, MW4.4, mb4.5(NEIC)*
*DJA **01** 02:02:47.7±0.4, 8°N±2°×9°5E±°, h10km, M4.7/10, mB4.9/3, mb4.7/7, MLv4.7/10, Mw(mB)4.2/3*
ISC 01 02:02:45.0±0.4, 7°.64N±0°.04×94°.28E±0°.05, h24km, n80, σ1§36/79, mb4.4/32, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	0.72	209	eP	Pb	02 02 58.2	-0.7
CMBY				eS	Sn	02 03 09.4	-0.5
CMBY				IAML		02 03 10.3	
	comp=N,18µm,0.4s						
CMBY				IAML		02 03 11.8	
	comp=E,16µm,0.4s						
BSI	Banda Aceh	2.35 155		P	Pb	02 03 26.9	+0.1
BSI				S	Sb	02 03 56.1	+0.6
LHMI	Lhok Sumawe	3.57 132		Pn	Pn	02 03 39.6	+0.7
LHMI	Lhok Sumawe	3.57 132		P	Pn	02 03 40.4	+1.4
LHMI				S	Sn	02 04 21.2	+0.8
MLSI	Meulaboh, Aceh	3.96 148		P	Pn	02 03 47.9	+3.6
MLSI				S	Sn	02 04 33.9	+3.9
PBA	Port Blair	4.27 339		Pn	Pn	02 03 49.5	+0.9
PBA	Port Blair	4.27 339		eP	Pn	02 03 52.3	+3.7
PBA				eS	Sn	02 04 40.2	+2.5
PBA				IAML		02 04 59.9	
	comp=E,383nm,2.3s						
PBA				IAML		02 05 17.0	
	comp=N,312nm,1.6s						
SRIT	Nakonsritamara	5.35 79		Pn	Pn	02 04 03.9	+0.5
DGPR	DIGLIPUR	5.66 347		eP	Pn	02 04 11.6	+3.9
DGPR				eS	Sn	02 05 12.8	+0.7
DGPR				IAML		02 05 36.0	
	comp=N,124nm,2.0s						
DGPR				IAML		02 05 36.0	
	comp=E,140nm,2.4s						
PSI	Prapat	6.67 136		Pn	Pn	02 04 21.1	-0.6
	comp=E,1.9nm,0.3s,baz=289,slow=8.9,SNR=12						
PSI				Sn	Sn	02 05 38.1	+1.1
	comp=E,4.2nm,0.3s,baz=30,slow=15,SNR=5.8						
PSI				LR	LR	02 07 24.8	
	comp=E,1µm,18.1s,baz=311,slow=43 comp=E,5.4nm,0.5s						
KULM	Kulim	6.75 110		Pn	Pn	02 04 20.4	-2.2
RPSI	Rantau Prapat	6.75 136		Pn	Pn	02 04 23.2	+0.6
GSI	Gunungsitoli	7.10 152		P	Pn	02 04 29.9	+2.4
	comp=E,0.8nmcomp=E,3µmcomp=E,29nm,1.0s						
BKNI	Bangkinang	9.91 137		Pn	Pn	02 05 04.7	-1.4
PPI	Padang Panjang	10.09 143		P	Pn	02 05 16.3	+7.7
CMAR	Chiang Mai Arr	11.67 22		Pn	Pn	02 05 28.5	-1.7
	comp=E,0.4nm,0.3s,baz=213,slow=14,SNR=9.7						
CMAR				LR	LR	02 10 05.2	
	comp=E,318nm,20.1s,baz=200,slow=38 comp=E,1.4nm,0.3s						
CHTO	Chiang Mai	12.00 22		Pn	Pn	02 05 34.5	-0.2
PALK	Pallekele	13.47 269		Pn	Pn	02 05 54.9	+0.1
	comp=E,2.1nm,0.6s,baz=92,slow=16,SNR=1.6						
PALK				Sn	Sn	02 08 11.5	-12
	comp=E,0.9nm,0.3s,baz=12,slow=22,SNR=6.5						
PALK				LR	LR	02 10 20.2	
	comp=E,327nm,19.1s,baz=90,slow=34						
KSM	Kuching	17.10 110		P	Pn	02 06 43.0	+0.3
SHL	Shillong	17.98 353			P	02 06 53.5	-0.5
QIZ	Qiongzhong	18.89 52		P	Pn	02 07 04.1	-0.5
QIZ				S	Sn	02 10 35.8	+0.3
QIZ				LR	LR		
	comp=N,690nm,11.4s						
QIZ				LR	LR		
	comp=E,460nm,12.7s						
QIZ				LR	LR		
	comp=Z,350nm,10.0s						
LEM	Lembang	19.58 137		LR	LR	02 15 46.6	
	comp=Z,323nm,18.2s,baz=334,slow=40						
PZH	PanZhiHua	20.06 20		P	Pn	02 07 19.4	+0.7
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,200nm,8.0s						
LSA	Lhasa	22.14 353		P	P	02 07 39.0	-0.6
LSA				IAmb	IAmb	02 07 53.3	
	comp=Z,12nm,0.6s						
H08S3	Diego Garcia H	26.50 236		T	T	02 35 14.9	
	baz=54,slow=75,SNR=124						
H08S2	Diego Garcia H	26.50 236		T	T	02 35 13.5	
	baz=54,slow=75,SNR=78						
H08S1	Diego Carcia H	26.52 236		T	T	02 35 16.2	
	baz=54,slow=75,SNR=55						
LZH	Lanzhou	29.64 16		eP	P	02 08 50.8	+2.0
LZH				sP	pwP	02 08 59.7	+1.4
LZH				pmax	pmax		
	comp=Z,14nm,0.7s						
NIL	Nilore	32.37 326		P	P	02 09 12.3	-0.6
NJ2	Nanjing	33.36 40		eP	P	02 09 22.4	+0.9
NJ2				pmax	pmax		
	comp=Z,21nm,0.6s						
HHC	Hu-ho-hao-te	36.48 22		eP	P	02 09 50.5	+2.0
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
WMQ	Urumqi	36.50 352		eP	P	02 09 50.3	+1.8
GAR	Garm	37.95 329		P	P	02 09 59.6	-1.4
GAR				IAmb	IAmb	02 10 10.4	
	comp=Z,9.9nm,1.0s						
BOOM	Boomskoye usch	38.30 338		P	P	02 10 03.1	-0.9
SIMJ	Simiganj	38.38 327		P	P	02 10 03.2	-1.4
SIMJ				IAmb	IAmb	02 10 14.2	
	comp=Z,16nm,1.5s						
BTK	Batken	38.51 331		P	P	02 10 05.4	-0.2
BTK				IAmb	IAmb	02 10 17.4	
	comp=Z,7.1nm,0.8s						
ARSB	Arslanbob	38.51 334		P	P	02 10 04.4	-1.3
ARSB				IAmb	IAmb	02 10 16.6	
	comp=Z,7.7nm,1.0s						
AAK	Ala-Archa	38.98 337		P	P	02 10 09.0	-0.6
MK31	Makanchi Array	40.35 347		P	P	02 10 20.1	-0.6
MKAR	Makanchi Array	40.35 347		P	P	02 10 19.3	-1.5
MKAR	Makanchi Array	40.35 347		P	P	02 10 20.2	-0.6
	comp=Z,4.0nm,0.9s,baz=172,slow=8.0,SNR=19 comp=Z,4.0nm,0.9s						
MAKZ	Makanchi	40.43 347		P	P	02 10 20.1	-1.3
SONM	Songino Array	41.36 12		P	P	02 10 28.8	-0.5
	comp=Z,0.6nm,0.6s,baz=188,slow=9.0,SNR=4.9 comp=Z,0.6nm,0.6s						
KURBB	Kurchatov Arra	44.81 346		P	P	02 10 56.8	-0.1
	comp=Z,4.4nm,0.9s,baz=167,slow=7.1,SNR=23 comp=Z,4.4nm,0.9s						
KURK	Kurchatov	44.87 346		P	P	02 10 57.1	-0.3
KURK				IAmb	IAmb	02 11 14.7	
	comp=Z,5.5nm,1.0s						
ZAA0	Zalesovo Array	46.81 352		P	P	02 11 11.8	-0.8
ZAA0				IAmb	IAmb	02 11 23.4	
	comp=Z,3.6nm,0.8s						
ZALV	Zalesovo Beam	46.81 352		P	P	02 11 12.1	-0.5
ZALV	Zalesovo Beam	46.81 352		P	P	02 11 11.8	-0.8
	comp=Z,3.9nm,0.7s,baz=187,slow=7.2,SNR=13 comp=Z,3.9nm,0.7s						
WB0	Warramunga Arr	47.97 125		P	P	02 11 21.3	-0.9
WB0				IAmb	IAmb	02 11 31.1	
	comp=Z,9.3nm,1.3s						
WRA	Warramunga Arr	48.01 125		P	P	02 11 21.3	-1.3
	comp=Z,0.4nm,0.5s,baz=306,slow=9.3,SNR=8.0 comp=Z,0.4nm,0.5s						
WB2	Warramunga Arr	48.02 125		P	P	02 11 21.1	-1.5
BVAR	Borovoye Array	49.26 341		P	P	02 11 31.0	-0.7
	comp=Z,1.6nm,0.8s,baz=139,slow=6.8,SNR=5.3 comp=Z,1.6nm,0.8s						
RAYN	Ar Rayn	49.31 294		P	P	02 11 32.4	-0.2
RAYN				IAmb	IAmb	02 11 42.9	
	comp=Z,4.5nm,0.8s						
ASAR	Alice Springs	49.66 130		P	P	02 11 32.5	-2.8
	comp=Z,0.7nm,0.8s,baz=311,slow=6.3,SNR=5.3 comp=Z,0.7nm,0.8s						
ABKAR	Akbulak array	50.50 331		P	P	02 11 40.9	-0.3
HEH	HeiHe	50.65 27		eP	P	02 11 47.6	+5.4
KMBO	Kilima Mbogo	57.54 264		P	P	02 12 34.5	+1.1
	comp=Z,0.5nm,0.4s,baz=43,slow=2.2,SNR=4.3 comp=Z,0.5nm,0.4s						
BRTR	Keskin Array B	62.69 311		P	P	02 13 07.5	-0.7
BRTR	Keskin Array B	62.69 311		P	P	02 13 06.2	-2.1
	comp=Z,0.5nm,0.7s,baz=130,slow=6.6,SNR=5.4 comp=Z,0.5nm,0.7s						
ELL	Elmali	64.97 307		P	P	02 13 23.1	-0.2
TIXI	Tiksi	67.43 11		P	P	02 13 37.3	-1.0
BURAR	Bucovina Array	70.31 318		P	P	02 13 58.3	+1.5
FIA1	FINESS Array S	72.98 332		P	P	02 14 11.3	-1.1
FINES	FINESS Array B	72.98 332		P	P	02 14 11.7	-0.7
	comp=Z,2.2nm,0.8s,baz=39,slow=7.3,SNR=7.1 comp=Z,2.2nm,0.8s						
BOSA	Boshof	75.58 238		P	P	02 14 29.1	+0.8
BOSA	Boshof	75.58 238		P	P	02 14 28.9	+0.5
	comp=Z,1.7nm,0.7s,baz=55,slow=4.8,SNR=3.8 comp=Z,1.7nm,0.7s						
CUC	Castrocucco	76.30 309		P	P	02 14 33.1	+0.9
CUC				IAmb	IAmb	02 15 11.2	
	comp=Z,5.4nm,1.2s						
GERES	GERESS Array B	78.09 318		P	P	02 14 41.6	-0.6
GERES	GERESS Array B	78.09 318		P	P	02 14 42.1	0.0
	comp=Z,0.6nm,0.7s,baz=79,slow=7.2,SNR=5.2 comp=Z,0.6nm,0.7s						
HFS	Hagfors	78.73 330		P	P	02 14 45.1	-0.2
	comp=Z,1.0nm,0.4s,baz=104,slow=6.3,SNR=5.6 comp=Z,1.0nm,0.4s						
CIMO	Cimolais	78.89 316		P	P	02 14 46.5	-0.1
CIMO				IAmb	IAmb	02 14 56.2	
	comp=Z,12nm,1.3s						
NB2	NORSAR Subarra	80.00 331		P	P	02 14 57.6	+5.3
	comp=Z,15nm,1.2s,baz=93,slow=5.9						
NOA	NORSAR Array B	80.00 331		P	P	02 14 51.1	-1.2
	comp=Z,0.6nm,0.7s,baz=92,slow=5.6,SNR=6.2 comp=Z,0.6nm,0.7s						
SPITS	Spitsbergen Ar	80.09 348		P	P	02 14 52.0	-0.4
	comp=Z,8.7nm,1.0s,baz=134,slow=4.7,SNR=1.4 comp=Z,8.7nm,1.0s						
SENIN	Lac Senin/Sane	82.45 316		P	P	02 15 06.8	+0.9
SENIN				IAmb	IAmb	02 15 24.1	
	comp=Z,6.5nm,1.4s						
EKA	Eskdalemuir Ar	87.99 325		P	P	02 15 32.6	-0.5
	comp=Z,0.2nm,0.4s,baz=98,slow=5.1,SNR=4.2 comp=Z,0.2nm,0.4s						
URZ	Urewera	89.08 129		LR	LR	02 56 17.8	
	comp=Z,512nm,21.9s,baz=34,slow=36						
ESDC	Sonseca Array	91.47 310		P	P	02 15 49.9	+0.1
	comp=Z,0.1nm,0.3s,baz=50,slow=4.2,SNR=7.3 comp=Z,0.1nm,0.3s						
PLCA	Paso Flores	144.38 200		PKP	PKPdf	02 22 19.6	-0.1
	comp=Z,2.0nm,1.0s,baz=117,slow=4.5,SNR=3.5						
CPUP	Villa Florida	147.23 232		PKPbc	PKPbc	02 22 26.7	-0.4
	comp=Z,0.9nm,0.7s,baz=22,slow=4.7,SNR=3.0						

IDC 01 02:08:30.9±52.0, 9°.84N×93°.00E, h0km, mb3.5/3, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=938.6km s-min=76.3km az=160.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.32 33		Pn	Pn	02 11 00.4	0.0
	0.8nm,0.3s,baz=186,slow=26,SNR=2.1 1.3nm,0.3s						
MKAR	Makanchi Array

H04N2	CROZET ISLANDS	64.97 211	T	T	03 31 45.6	
	baz=48,slow=75,SNR=7.9					
H04N1	CROZET ISLANDS	64.98 211	T	T	03 31 52.8	
	baz=48,slow=75,SNR=6.2					
H04N3	CROZET ISLANDS	64.99 211	T	T	03 31 38.2	
	baz=48,slow=75,SNR=7.7					
AKASG	Malin Array Be	68.14 322	P	P	02 21 25.0	-0.1
	0.1nm,0.3s,baz=104,slow=11,SNR=2.9 0.1nm,0.3s					
FINES	FINESS Array B	72.84 332	P	P	02 21 54.1	+0.5
	1.5nm,0.8s,baz=108,slow=3.1,SNR=5.0 1.5nm,0.8s					
HFS	Hagfors	78.56 330	P	P	02 22 26.5	+0.3
	1.1nm,0.5s,baz=97,slow=6.4,SNR=5.6 1.1nm,0.5s					

MOS ***01*** *02:16:51.6±1.0, 10°.58N×125°.74E, h56km, mb5.8/71, MS5.0/18, Error ellipse: s-maj=6.7km s-min=3.8km az=110.8*

BJI ***01*** *02:16:52.3, 10°.45N×125°.91E, h74km, mB5.4/56, mb5.6/100, Ms5.0/99, Ms7 5.1/97*

MAN ***01*** *02:16:52.5, 10°.60N×126°.05E, h40km, mb6.0, ML5.1, MS5.6*

MAN INTENSITY V - LORETO DINAGAT ISLANDS; INTENSITY IV - GUIUAN EASTERN SAMAR; SILAGO SOUTHERN LEYTE; INTENSITY III - SURIGAO CITY SURIGAO DEL NORTE; SAN JOSE DINAGAT ISLANDS; MAASIN CITY; HINUNANGAN LIMASAWA SAN FRANCISCO AND SAN JUAN SOUTHERN LEYTE; ORMOC CITY; ; TACLOBAN CITY; ABUYOG BABATNGON BATO CAPOOCAN DAGAMI HINDANG HILONGOS ISABEL JAVIER LEYTE MACARTHUR MATALOM PALO AND TANAUAN LEYTE; CATBALOGAN CITY ; SAMAR; LAWAAN EASTERN SAMAR; INTENSITY II - SAN JULIAN EASTERN SAMAR.

NEIC ***01*** *02:16:53.6±2.5, 10°.60N±0°.06×125°.85E±0°.08, h50km±4km, mb5.8/457, Mww5.6/36, Error ellipse: s-maj=11.8km s-min=9.1km az=86.0*

NEIC ***01*** *02:16:53.5, 10°.60N×125°.86E, h46km*

GCMT ***01*** *02:16:53.6±0.1, 10°.58N±0°.01×125°.93E±0°.01, h45km, MW5.5/153, Moment Tensor Solution. s139,c253; s153,c287; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}1.87±.03; $M_{\theta\theta}$0.18±.02; $M_{\phi\phi}$-2.05±.02; $M_{r\theta}$0.20±.02; $M_{\theta\phi}$0.06±.02; $M_{\phi r}$-1.79±.03; Best double couple: M_o2.66300×10^{17} NP1:ϕ_s3.00000°, δ24.00000°, λ97.00000°. NP2:ϕ_s175.00000°, δ66.00000°, λ87.00000°. Principal axes: T 2.5770, Plg69.0000°, Azm79.0000°; N 0.1720, Plg3.0000°, Azm176.0000°; P -2.7500, Plg21.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***01*** *02:16:53.5, 10°.60N×126°.00E, h46km, Moment Tensor Solution. Duration: 2s1.0 Moment tensor: Scale 10^{17} Nm; M_{rr}2.22; $M_{\theta\theta}$0.07; $M_{\phi\phi}$-2.29; $M_{r\theta}$0.24; $M_{\theta\phi}$0.06; $M_{\phi r}$-1.47; Fault plane solution: M_o2.70000×10^{17} NP1: ϕ_s3.15000°, δ28.54000°, λ97.79000°. NP2:ϕ_s174.30000°, δ61.74000°, λ85.78000°. Principal axes: T 2.6743, Plg73.0000°, Azm74.0000°; N 0.0612, Plg4.0000°, Azm176.0000°; P -2.7356, Plg17.0000°, Azm267.0000°;*

DJA ***01*** *02:16:54.4±0.3, 11°.N±2°×12°.6E±°, h63km±3km, M5.5/113, mb5.5/113, mB5.9/84, MLv6.2/3, Mw(mB)5.5/84, MwMwp5.2/28, Mwp5.4/28*

IDC ***01*** *02:16:56.1±0.8, 10°.52N×125°.77E, h83km±6km, mb5.2/44, mbtmp5.5/49, MS4.7/55, Error ellipse: s-maj=8.4km s-min=5.3km az=77.0*

ISC 01 02:16:53.9±0.2, 10°.58N±0°.02×125°.84E±0°.03, h63km±1km, h63km:pP-P, n1474, σ1°.58/1478, mb5.7/403, 63C-30D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.50	184	P	Pn	02 17 48.1	+2.2
	634nm,0.3s,baz=14,slow=2.8,SNR=34						
DAV				S	Sn	02 18 26.1	0.0
	2μm,0.5s,baz=88,slow=23,SNR=9.5						
DAV	Davao City (W)	3.50	184	P	Pn	02 17 49.2	+3.3
DAV				S	Sn	02 18 29.4	+3.3
DAV	Davao City (W)	3.50	184	P	Pn	02 17 48.7	+2.8
TGY	Tagaytay City	5.93	307	P	Pn	02 18 22.3	+3.0
	6μm,0.8s,baz=149,slow=2.8,SNR=179						
TGY				S	Sn	02 19 24.8	-1.1
	1μm,0.6s,baz=88,slow=22,SNR=1.0						
TGY				LR	LR	02 21 08.1	
	comp=Z,23μm,18.5s,baz=123,slow=43						
SGSI	Sangihe	6.86	183	P	Pn	02 18 35.5	+3.6
MYLDM	Lahad Datu	9.04	234	Pn	Pn	02 19 05.5	+3.8
MYLDM	Lahad Datu	9.04	234	P	Pn	02 19 06.8	+5.1
I39PW	PALAU INFRASON	9.11	109	T	T	02 28 10.0	
	baz=274,slow=23,SNR=0.4						
I39PW				I	I	03 11 50.0	
	baz=292,slow=312,SNR=2.1						
TNTI	Ternate	9.87	171	Pn	Pn	02 19 14.8	+1.7
TNTI	Ternate	9.87	171	P	Pn	02 19 15.6	+2.6
	4μm234nm,1.8s						
KMSI	Cibinong	10.12	191	P	Pn	02 19 20.7	+4.3
	4μm7μm545nm,1.0s						
KKM	Kota Kinabalu	10.54	245	Pn	Pn	02 19 25.1	+2.7
KKM	Kota Kinabalu	10.54	245	P	Pn	02 19 26.5	+4.2
TOLI2	Tolitoli	10.67	208	Pn	Pn	02 19 24.2	+0.2
MRSI	Marisa	10.76	201	P	Pn	02 19 29.6	+4.3
	3μm201nm,0.9s						
LUWI	Luwuk	11.95	195	Pn	Pn	02 19 46.8	+5.3
LUWI	Luwuk	11.95	195	P	Pn	02 19 46.4	+4.9
	10μm633nm,1.3s						
APSI	Ampana	12.16	200	P	P	02 19 51.1	-3.7
	6μm285nm,1.2s						
SANI	Sanana	12.55	179	P	Pn	02 19 46.0	-3.7
	3μm3μm258nm,0.7s						
SWI	Sorong	12.58	154	P	Pn	02 19 51.4	+1.2
	4μm102nm,0.9s						
PCI	Palu	12.88	208	P	P	02 19 59.3	-3.5
	4μm270nm,1.1s						
TWGBT	Beinan	12.99	340	P	Pn	02 19 59.4	+3.7
TWG	Pinlang	13.00	340	Pn	Pn	02 19 58.3	+2.6
YULB	Yu-li	13.46	342	Pn	Pn	02 20 01.5	-0.5
YULB	Yu-li	13.46	342	P	Pn	02 20 04.6	+2.6
TPUB	Ta-pu	13.59	339	Pn	Pn	02 20 03.9	+0.1
TPUB	Ta-pu	13.59	339	P	Pn	02 20 07.0	+3.2
NLAI	Namlea	13.79	175	P	Pn	02 20 06.0	-0.5
	2μm152nm,0.5s						
SMKI	Samarinda	13.92	219	P	P	02 20 13.7	-0.7
	7μm161nm,1.1s						
SSLB	Suanglung	13.93	341	Pn	Pn	02 20 07.8	-0.6
SSLB	Suanglung	13.93	341	P	Pn	02 20 11.1	+2.7
YOJ	Yonaguni jima	14.06	349	Pn	Pn	02 20 10.4	+0.4
YOJ	Yonaguni jima	14.06	349	P	Pn	02 20 10.4	+0.4
NACB	Ninganchiao	14.11	344	Pn	Pn	02 20 11.2	+0.6
NACB	Ninganchiao	14.11	344	P	P	02 20 14.7	-1.7
MSAI	Masohi	14.18	167	P	Pn	02 20 14.4	+2.8
AAI	Ambon	14.37	171	P	P	02 20 17.0	-2.4
	169nm,0.7s						
RKPI	Ransiki, Papua	14.60	145	P	Pn	02 20 17.8	+0.7
	6μm11μm636nm,1.4s						
YHNB	Yeheng	14.64	344	Pn	Pn	02 20 17.8	+0.1
YHNB	Yeheng	14.64	344	P	P	02 20 22.9	+0.5
BKB	Balikpapan	14.75	218	P	P	02 20 22.4	-1.2
BKB	Balikpapan	14.75	218	P	P	02 20 23.3	-0.3
	7μm310nm,0.8s						
TTSI	Tana Toraja	14.81	204	P	P	02 20 25.0	+0.8
	4μm265nm,1.1s						
FAKI	Fak Fak	14.85	154	Pn	Pn	02 20 19.9	-0.5
FAKI	Fak Fak	14.85	154	P	Pn	02 20 21.2	+0.8
FAKI	Fak Fak	14.85	154	P	Pn	02 20 22.2	+1.8
	5μm5μm567nm,0.9s						
TATO	Taipei	14.90	344		P	02 20 23.4	-1.8
TATO	Taipei	14.90	344	P	P	02 20 26.1	+1.0
TATO				S	Sn	02 23 06.7	+1.7
TATO	Taipei	14.90	344	P	P	02 20 24.5	-0.7
KNMB	Chin-men Tao	15.52	334	Pn	Pn	02 20 29.4	+0.5
BAKI	Biak	15.53	138	P	Pn	02 20 29.8	+0.7
	6μm7μm252nm,1.0s						
BNDI	Bandanaira	15.54	165	P	P	02 20 32.5	+0.1
	476nm,1.1s						
SPSI	Sidrap Palu	15.67	203	P	P	02 20 36.2	+2.4
	3μm134nm,0.8s						
SBUM	Sibu	15.75	240		P	02 20 34.0	-0.7
SBUM	Sibu	15.75	240	P	P	02 20 35.6	+0.8
QZH	Quanzhou	15.86	335	P	Pn	02 20 34.3	+1.1
QZH				S	Sn	02 23 31.0	+2.9
QZH				pmax	pmax		
	comp=Z,530nm,0.8s						
QZH				LR	LR		
	comp=N,4μm,17.0s						
QZH				LR	LR		
	comp=E,3μm,16.4s						
QZH				LR	LR		
	comp=Z,6μm,19.5s						
JMZ	Minamidaito 2	15.99	18	P	P	02 20 39.1	+1.8
SRPI	Serui, Papua	16.13	140	P	Pn	02 20 37.8	+1.1
	4μm251nm,0.9s						
HKPS	Hong Kong Po S	16.15	318		P	02 20 38.4	-0.7
KMPI	Kaimana, Papua	16.17	151	P	P	02 20 38.7	-0.7
JOW	Kunigami	16.32	8		Pn	02 20 39.6	+0.5
JOW				IAmb	IAmb	02 20 47.1	
	comp=Z,887nm,1.5s						
JOW	Kunigami	16.32	8	P	P	02 20 42.0	+1.0
	comp=Z,184nm,1.0s,baz=173,slow=7.9,SNR=6.9						
JOW				S	Sn	02 23 42.2	+2.8
	comp=Z,11nm,0.3s,baz=98,slow=24,SNR=1.8						
JOW				LR	LR	02 26 18.4	
	comp=Z,2μm,20.1s,baz=163,slow=34						
JOW	Kunigami	16.32	8	P	P	02 20 43.4	+2.4
KAPI	Kappang	16.64	202		P	02 20 44.3	-0.3
KAPI	Kappang	16.64	202	P	P	02 20 44.6	0.0
	comp=Z,29nm,0.9s,baz=33,slow=10.0,SNR=16						
KAPI				LR	LR	02 28 11.0	
	comp=Z,3μm,20.5s,baz=18,slow=41						
KAPI	Kappang	16.64	202	P	P	02 20 48.7	+4.1
KAPI				S	S	02 23 54.0	-1.3
KAPI	Kappang	16.64	202	P	P	02 20 44.3	-0.3
KAPI				pmax	pmax		
	comp=Z,348nm,1.7s						
BKSI	Bulukumba	16.80	200	P	P	02 20 47.5	+1.2
	comp=Z,131nm,1.1s						
DLV	Lat	17.08	276		P	02 20 50.7	+1.1
GZH	Guangzhou	17.24	318	P	P	02 20 51.2	+0.1
GZH				S	S	02 24 06.6	-0.6
GZH				pmax	pmax		
	comp=Z,120nm,1.0s						
GZH				LR	LR		
	comp=Z,6μm,19.2s						
GZH				LR	LR		
	comp=Z,4μm,16.2s						
GZH				LR	LR		
	comp=Z,8μm,21.0s						
BSSI	Bau Bau, Buton	17.45	198	P	P	02 20 57.9	+4.4
QIZ	Qiongzhong	17.59	300	P	P	02 20 56.9	+1.8
QIZ				pP	pP	02 21 06.4	-2.0
QIZ				S	Sn	02 24 11.3	+1.1
QIZ				sS	sS	02 24 36.7	+0.5
QIZ				pmax	pmax		
	comp=Z,96nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,2μm,3.9s						
QIZ				LR	LR		
	comp=Z,2μm,20.0s						
QIZ				LR	LR		
	comp=Z,4μm,21.8s						
QIZ				LR	LR		
	comp=Z,7μm,23.8s						
STKI	Sintang	17.70	235	P	P	02 21 00.4	+4.1
	comp=Z,7μmcomp=Z,364nm,1.7s						
SMPI	Sarmi	17.89	134	P	Pn	02 20 59.2	+0.7
	comp=Z,13μmcomp=Z,847nm,1.0s						
GUMO	Guam	18.84	79	P	Pn	02 21 11.0	+1.0
	comp=Z,92nm,0.6s,baz=155,slow=8.5,SNR=4.5						
GUMO				S	S	02 24 40.0	+0.2
	comp=Z,35nm,0.3s,baz=207,slow=12,SNR=4.1						
GUMO				LR	LR	02 26 50.7	
	comp=Z,4μm,20.0s,baz=275,slow=31						
SAUI	Saumlaki	19.23	163	P	P	02 21 12.7	-0.3
SAUI				IAmb	IAmb	02 21 21.1	
	comp=Z,1μm,1.5s						
SAUI	Saumlaki	19.23	163	P	Pn	02 21 14.8	+0.2
	comp=Z,506nm,0.9s						
GENI	Genyem	19.36	132	P	Pn	02 21 15.6	-0.5
	comp=Z,1μm,1.8s						
MMRI	Maumere	19.43	191	Pn	Pn	02 21 16.8	-0.1
MMRI				IAmb	IAmb	02 21 27.1	
	comp=Z,922nm,1.8s						
MMRI	Maumere	19.43	191	P	Pn	02 21 19.5	+2.5
	comp=Z,5μmcomp=Z,6μmcomp=Z,271nm,1.4s						
EDFI	Ende, Flores	19.65	192	P	Pn	02 21 21.1	+1.5
	comp=Z,133nm,1.0s						
JAY	Jayapura	19.70	131	P	Pn	02 21 19.5	-0.8
	comp=Z,308nm,0.7s,baz=286,slow=8.5,SNR=74						
JAY				LR	LR	02 29 40.3	
	comp=Z,5μm,18.8s,baz=328,slow=39						
JAY	Jayapura	19.70	131	P	P	02 21 19.2	+0.9
	comp=Z,5μmcomp=Z,395nm,0.8s						
SOEI	Soe	20.27	184	IAmb	IAmb	02 21 38.5	
	comp=Z,180nm,0.6s						
SOEI	Soe	20.27	184	P	Pn	02 21 26.2	-0.8
SOEI	Soe	20.27	184	P	Pn	02 21 28.1	+1.1
	comp=Z,6μcomp=Z,281nm,0.7s						
UBPT	Khong Chiam	20.39	285	P	P	02 21 25.5	-0.2
GULI	GuiLin	20.72	317	P	P	02 21 30.7	+1.5
GULI				S	S	02 25 19.4	+2.2
GULI				pmax	pmax		
	comp=Z,110nm,0.9s						
GULI				pmax	pmax		
	comp=Z,610nm,7.6s						
GULI				LR	LR		
	comp=Z,3μm,24.4s						
GULI				LR	LR		
	comp=Z,4μm,22.9s						
GULI				LR	LR		
	comp=Z,3μm,25.2s						
SSE	Sheshan	20.86	349	P	P	02 21 31.4	+0.7
SSE				S	S	02 25 20.3	+0.4
PLAI	Plampang	20.89	203	P	Pn	02 21 32.8	-1.4
PLAI	Plampang	20.89	203	P	Pn	02 21 34.7	+0.5
	comp=Z,3μcomp=Z,177nm,1.2s						
KMMI	Kalianget	21.14	215	P	P	02 21 37.6	+3.9
	comp=Z,5μcomp=Z,271nm,1.2s						
BASI	Baing, Sumba	21.32	194	P	P	02 21 36.6	+0.9
	comp=Z,5μcomp=Z,216nm,1.6s						
SRBI	Singaraja	21.35	210	P	P	02 21 39.0	+3.0
	comp=Z,3μcomp=Z,152nm,1.3s						
GRJI	Gresik	21.89	218	P	P	02 21 47.2	+5.4
	comp=Z,7μcomp=Z,320nm,1.2s						
TBJI	Tambak Boyo	22.20	219	P	P	02 21 51.8	+6.6
	comp=Z,5μcomp=Z,8μcomp=Z,321nm,2.2s						
JAGI	Jajag, Banyuwa	22.22	212	P	P	02 21 48.6	+3.2
	comp=Z,6μcomp=Z,536nm,1.2s						
NJ2	Nanjing	22.32	344	⇑P	P	02 21 47.3	+1.0
NJ2				pP	pP	02 22 00.1	+0.2
NJ2				S	S	02 25 49.2	+1.4
NJ2				sS	sS	02 26 09.0	-2.1
NJ2				pmax	pmax		
	comp=Z,1μm,1.0s						
NJ2				pmax	pmax		
	comp=Z,2μm,7.6s						
NJ2				LR	LR		
	comp=Z,4μm,15.2s						
NJ2				LR	LR		
	comp=Z,3μm,18.0s						
NJ2				LR	LR		
	comp=Z,8μm,20.8s						
GMJI	Gumukmas	22.43	214	P	P	02 21 50.5	+2.8
	comp=Z,4μcomp=Z,189nm,2.0s						
TPI	Tanjungpandan	22.44	235	P	P	02 21 49.5	+1.7
	comp=Z,4μcomp=Z,3μcomp=Z,166nm,1.7s						
JCJ	Chichijima	22.52	41	P	P	02 21 47.7	-0.7
JCJ				IAmb	IAmb	02 21 50.0	
	comp=Z,513nm,0.9s						
JCJ	Chichijima	22.52	41	LR	LR	02 28 47.4	
	comp=Z,2μm,21.3s,baz=222,slow=32						
JCJ	Chichijima	22.52	41	P	P	02 21 50.3	+1.8
WHN	Wuhan	22.55	333	P	P	02 21 49.7	+0.9
WHN				pP	pP	02 22 02.6	+0.1
WHN				S	S	02 25 54.4	+2.6
WHN				pmax	pmax		
	comp=Z,690nm,1.2s						
WHN				LR	LR		
	comp=Z,13μm,24.8s						
WHN				LR	LR		
	comp=Z,2μm,13.8s						
WHN				LR	LR		
	comp=Z,7μm,16.4s						
NGJI	Ngawi	22.87	219	P	P	02 21 55.7	+3.4
	comp=Z,8μcomp=Z,360nm,2.2s						
JNU	Nakatsue	22.91	11	IAmb	IAmb	02 21 54.4	
	comp=Z,338nm,1.0s						
JNU	Nakatsue	22.91	11	LR	LR	02 30 15.6	
	comp=Z,814nm,21.5s,baz=164,slow=35						
JNU	Nakatsue	22.91	11	P	P	02 21 52.4	-0.1
TPRI	Tanjung Pinang	23.26	247	P	P	02 22 16.9	+21
SMRI	Semarang	23.28	222	P	P	02 21 57.0	+0.6
SMRI	Semarang	23.28	222	P	P	02 22 04.4	+8.1
PPBI	Pangkal Pinang	23.34	238	P	P	02 22 03.0	+6.1
DRS	Darwin Rock St	23.41	167	P	P	02 21 58.5	+1.0
MYKOM	Kota Tinggi	23.52	250	IAmb	IAmb	02 22 16.9	
	comp=Z,381nm,1.7s						
SLVN	Son La	23.61	300	P	P	02 21 59.5	0.0
PCJI	Pacitan	23.69	219	P	P	02 22 04.9	+4.8
MMPI	Merauke	23.82	142	P	P	02 22 04.1	+2.8
MTN	Manton Dam	23.86	167	P	P	02 22 00.7	-0.9
MTN	Manton Dam	23.86	167	P	P	02 22 01.6	0.0
MTN	Manton Dam	23.86	167	P	P	02 22 02.2	+0.6
UGM	Wanagama	23.88	220	P	P	02 22 03.9	+2.1
UGM				IAmb	IAmb	02 22 20.1	
	comp=Z,664nm,1.6s						
UGM	Wanagama	23.88	220	P	P	02 22 05.5	+3.7
UGM	Wanagama	23.88	220	P	P	02 22 07.0	+5.2
	comp=Z,7μcomp=Z,313nm,1.5s						
GYA	Guiyang	24.03	314	P	P	02 22 04.4	+1.2
GYA				pP	pP	02 22 19.0	+0.6
GYA				sP	sP	02 22 26.7	+0.7
GYA				S	S	02 26 13.9	-2.3
GYA				PcS	PcS	02 29 23.7	0.0
GYA				pmax	pmax		
	comp=Z,120nm,0.8s						
GYA				LR	LR		
	comp=Z,3μm,22.7s						
GYA				LR	LR		
	comp=Z,4μm,24.5s						
GYA				LR	LR		
	comp=Z,6μm,23.6s						
KDU	Kakadu	24.04	164	P	P	02 22 03.3	+0.1
KDU	Kakadu	24.04	164	P	P	02 22 03.1	-0.1
JTU	Tsushima	24.05	7	P	P	02 22 05.5	+2.3
JMN	Monobe	24.19	17	IAmb	IAmb	02 22 08.4	
	comp=Z,384nm,0.9s						
JMN	Monobe	24.19	17	P	P	02 22 06.2	+1.7
NAYO	Nakonayok	24.23	281	P	P	02 22 07.1	+2.1
JCJI	Jatiwangi	24.37	227	P	P	02 22 26.7	+20
ENH	Enshi	24.81	325	IAmb	IAmb	02 22 13.2	
	comp=Z,296nm,1.5s						
MANU	Manus Island	24.82	119	P	P	02 22 10.5	+0.1
LEM	Lembang	25.07	227	P	P	02 22 12.2	-0.6
	comp=Z,32nm,0.7s,baz=126,slow=21,SNR=16						
LEM				LR	LR	02 34 03.4	
	comp=Z,2μm,19.9s,baz=46,slow=41						
	comp=Z,32nm,0.7s						
CMJI	Cimerak	25.16	224	P	P	02 22 32.8	+19
BBJI	Bungbulang	25.48	226	P	P	02 22 19.6	+3.1
KULM	Kulim	25.49	260	P	P	02 22 17.2	+0.7
SBJI	Serang	25.70	231	P	P	02 22 22.1	+3.7
CNJI	Cibinong	25.75	227	P	P	02 22 23.8	+5.0
	comp=Z,103nm,1.4s						
JHJ	Hachijo jima 2	25.84	28	LR	LR	02 34 10.8	
	comp=Z,822nm,19.0s,baz=273,slow=40						
SRIT	Nakonsritamara	25.95	268	P	P	02 22 21.5	+0.9
SKJI	Sukabumi	25.96	228	P	P	02 22 38.9	+18
KNRA	Kununurra	26.25	174	P	P	02 22 22.8	-0.5
KNRA				IAmb	IAmb	02 22 31.5	
	comp=Z,679nm,1.6s						
KNRA	Kununurra	26.25	174	P	P	02 22 23.0	-0.3
KMI	Kunming	26.25	306	P	P	02 22 24.6	+1.0
KMI				pP	pP	02 22 39.8	+0.9
KMI				sP	sP	02 22 47.3	+0.9
KMI				S	S	02 26 52.4	+0.5
KMI				pmax	pmax		
	comp=Z,66nm,1.1s						
KMI				LR	LR		
	comp=Z,1μm,14.9s						
KMI				LR	LR		
	comp=Z,3μm,18.9s						
KMI				LR	LR		
	comp=Z,4μm,25.1s						
MDSI	Maura Dua	26.26	236	P	P	02 22 24.6	+1.2
CGJI	Cibinong	26.35	230	P	P	02 22 28.2	+4.0
	comp=Z,98nm,2.2s						
SRDT	SRDT	26.35	281	P	P	02 22 26.9	+2.6
LWLI	Liwa	26.66	235	P	P	02 22 29.6	+2.4
INU	Inuyama	26.67	21	P	P	02 22 26.5	-0.4
INU	Inuyama	26.67	21	P	P	02 22 27.8	+0.9
BKNI	Bangkinang	26.68	249	P	P	02 22 28.2	+0.9
BKNI				IAmb	IAmb	02 22 44.0	
	comp=Z,203nm,1.1s						
BKNI	Bangkinang	26.68	249	P	P	02 22 43.9	+17
TIA	Tai'an	26.71	344	P	P	02 22 28.0	+0.7
TIA				pP	pP	02 22 39.6	-3.0
TIA				PP	PnPn	02 23 13.3	+1.7
TIA				PcP	PcP	02 25 50.7	+1.2
TIA				S	S	02 26 58.5	+0.1
TIA				ScP	ScP	02 29 25.6	+1.3
TIA				ScS	ScS	02 33 13.3	-1.6
TIA				pmax	pmax		
	comp=Z,210nm,0.8s						
TIA				pmax	pmax		
	comp=Z,320nm,4.0s						
TIA				LR	LR		
	comp=Z,2μm,18.7s						
TIA				LR	LR		
	comp=Z,790nm,18.7s						
TIA				LR	LR		
	comp=Z,1μm,14.4s						
INCN	Inchon	26.79	1	P	P	02 22 28.4	+0.3
INCN	Inchon	26.79	1	P	P	02 22 28.3	+0.3
INCN	Inchon	26.79	1	P	P	02 22 28.4	+0.3
INCN				pmax	pmax		
	comp=Z,86nm,1.3s						
KSAR	Wonju Array Be	26.80	4	P	P	02 22 28.5	+0.4
KSAR	Wonju Array Be	26.80	4	P	P	02 22 28.5	+0.4
LYN	LuoYang	26.80	335	P	P	02 22 29.4	+1.2
LYN				pP	pP	02 22 41.4	-2.1
LYN				S	S	02 27 00.2	+0.3
LYN				sS	sS	02 27 31.8	+5.6
LYN				ScP	ScP	02 29 25.8	+1.2
LYN				pmax	pmax		
	comp=Z,230nm,0.7s						
LYN				pmax	pmax		
	comp=Z,400nm,5.4s						
LYN				LR	LR		
	comp=Z,2μm,19.9s						
LYN				LR	LR		
	comp=Z,1μm,14.1s						
LYN				LR	LR		
	comp=Z,3μm,17.2s						
KSRS	Korea Array	26.82	4	P	P	02 22 29.4	+1.1
	comp=Z,32nm,0.7s,baz=183,slow=11,SNR=82						
KSRS				PcP	PcP	02 25 50.6	+1.0
	comp=Z,4.9nm,0.7s,baz=184,slow=2.3,SNR=5.0						
KSRS				ScP	ScP	02 29 24.6	0.0
	comp=Z,8.6nm,0.9s,baz=184,slow=2.8,SNR=13						
KSRS				LR	LR	02 32 26.7	
	comp=Z,1μm,21.2s,baz=185,slow=35						
	comp=Z,32nm,0.7s						
KS19	Wonju Array Si	26.86	4	P	P	02 22 29.0	+0.4
KS19				IAmb	IAmb	02 22 30.7	
	comp=Z,579nm,1.9s						
JGF	Kuroka	27.02	21	P	P	02 22 30.4	+0.3
KSI	Kapahiang	27.13	240	P	P	02 22 37.1	+5.8
	comp=Z,255nm,1.6s						
CM31	Chiang Mai Arr	27.16	290	IAmb	IAmb	02 22 34.9	
	comp=Z,138nm,0.8s						
CM31	Chiang Mai Arr	27.16	290	P	P	02 22 32.9	+1.3
	SNR=51						
CMAR	Chiang Mai Arr	27.16	290	P	P	02 22 31.8	+0.2
CMAR	Chiang Mai Arr	27.16	290	P	P	02 22 32.7	+1

comp=Z,2μmcomp=Z,96nm,1.9s
PZH PanZhiHua 27.72 308 P **P 02 22 36.7 +0.1**
PZH pP **pP 02 22 51.9 -0.1**
PZH S **S 02 27 12.2 -2.5**
PZH pmax pmax
comp=Z,90nm,1.3s
PZH pmax pmax
comp=Z,300nm,3.7s
PZH LR LR
comp=Z,2μm,22.6s
PZH LR LR
comp=Z,2μm,18.6s
PZH LR LR
comp=Z,3μm,19.1s
PSI Prapat 27.81 256 P **P 02 22 37.0 -0.5**
comp=Z,11nm,0.7s,baz=47,slow=7.5,SNR=9.7
PSI ScP **ScP 02 29 24.4 -3.7**
comp=Z,5.9nm,0.5s,baz=119,slow=4.0,SNR=7.1
PSI LR LR 02 35 07.6
comp=Z,2μm,20.9s,baz=94,slow=39
comp=Z,11nm,0.7s
PSI Prapat 27.81 256 P **P 02 22 37.0 -0.5**
RPSI Rantau Prapat 27.84 256 P **P 02 22 38.7 +1.1**
RPSI IAmb IAmb 02 22 55.2
comp=Z,186nm,1.2s
MNSI Mandailing Nat 27.85 251 P **P 02 22 39.3 +1.5**
comp=Z,3μmcomp=Z,98nm,0.8s
TSI Tuntungan 27.95 257 P P 02 22 56.8 +18
XAN Xi'an 28.02 329 ⇑P **P 02 22 39.0 -0.1**
XAN S **S 02 27 16.8 -2.4**
XAN pmax pmax
comp=Z,140nm,1.1s
XAN pmax pmax
comp=Z,390nm,6.6s
XAN LR LR
comp=Z,2μm,23.4s
XAN LR LR
comp=Z,3μm,16.5s
XAN LR LR
comp=Z,3μm,20.6s
MAJO Matsushiro 28.16 21 P **P 02 22 39.1 -1.2**
MAJO PcP **PcP 02 25 54.1 +1.1**
MAJO Matsushiro 28.16 21 P **P 02 22 39.1 -1.2**
MAJO 02 25 54.1
MAJO pmax pmax
comp=Z,123nm,1.5s
MJAR Matsushiro Arr 28.16 21 P **P 02 22 39.9 -0.4**
comp=Z,19nm,0.7s,baz=196,slow=8.5,SNR=35
MJAR PcP **PcP 02 25 54.5 +1.5**
comp=Z,10nm,0.8s,baz=171,slow=2.3,SNR=9.8
MJAR ScP **ScP 02 29 25.6 -3.1**
comp=Z,3.4nm,0.9s,baz=191,slow=4.9,SNR=4.2
MJAR LR LR 02 32 14.2
comp=Z,2μm,21.7s,baz=192,slow=32
comp=Z,19nm,0.7s
DL2 Dalian 28.45 353 P **P 02 22 44.0 +1.2**
DL2 S **S 02 27 28.3 +2.6**
DL2 pmax pmax
comp=Z,440nm,0.8s
DL2 pmax pmax
comp=Z,390nm,9.0s
DL2 LR LR
comp=Z,1μm,17.9s
DL2 LR LR
comp=Z,960nm,19.9s
DL2 LR LR
comp=Z,2μm,20.8s
FITZ Fitzroy Crossi 28.50 180 P **P 02 22 43.4 +0.1**
FITZ Fitzroy Crossi 28.50 180 P **P 02 22 43.5 +0.1**
comp=Z,97nm,0.5s,baz=14,slow=9.1,SNR=462
comp=Z,97nm,0.5s
HNS HongShan 28.52 341 ⇑P **P 02 22 44.4 +1.0**
HNS pP **pP 02 22 57.1 -1.8**
HNS PcP **PcP 02 25 55.6 +1.8**
HNS S **S 02 27 28.1 +1.3**
HNS ScP **SS 02 29 31.2 +1.5**
HNS ScS **ScS 02 33 23.7 +0.8**
HNS pmax pmax
comp=Z,250nm,0.8s
HNS LR LR
comp=Z,2μm,19.4s
HNS LR LR
comp=Z,2μm,17.8s
HNS LR LR
comp=Z,2μm,20.0s
CD2 Chengdu 28.80 318 P **P 02 22 46.2 +0.1**
CD2 pP pP 02 22 59.2 -2.3
CD2 S **S 02 27 33.0 +1.5**
CD2 PcS **PcS 02 29 39.5 +2.0**
CD2 pmax pmax
comp=Z,180nm,0.9s
CD2 LR LR
comp=Z,4μm,22.8s
CD2 LR LR
comp=Z,3μm,22.6s
PMG Port Moresby 29.05 132 P **P 02 22 48.3 -0.1**
comp=Z,78nm,0.8s,baz=335,slow=8.7,SNR=28
PMG PKP2ab 02 59 00.5
comp=Z,5.3nm,0.4s,baz=228,slow=5.2,SNR=3.1
comp=Z,78nm,0.8s
SISI Saibi 29.13 248 P **P 02 22 52.4 +3.3**
comp=Z,115nm,1.2s
GSI Gunungsitoli 29.56 254 IAmb IAmb 02 23 09.3
comp=Z,198nm,1.1s
GSI Gunungsitoli 29.56 254 P **P 02 22 54.8 +1.9**
comp=Z,3μmcomp=Z,200nm,1.5s
TIY Taiyuan 29.58 338 *e*P **P 02 22 54.4 +1.4**
TIY pP **sP 02 23 16.4 +0.5**
TIY PcP **PcP 02 25 57.6 +1.0**
TIY S **S 02 27 45.7 +2.0**
TIY pmax pmax
comp=Z,110nm,0.8s
TIY pmax pmax
comp=Z,350nm,5.1s
TIY LR LR
comp=Z,1μm,17.3s
TIY LR LR
comp=Z,850nm,12.6s
TIY LR LR
comp=Z,2μm,17.8s
TNCH TengChong 29.63 303 *e*P **P 02 22 54.5 +0.8**
TNCH pP pP 02 23 06.6 -2.6
TNCH PP **PnPn 02 23 50.1 -1.1**
TNCH S **S 02 27 45.6 +0.6**
TNCH pmax pmax
comp=Z,310nm,1.2s
TNCH pmax pmax
comp=Z,470nm,3.6s
TNCH LR LR
comp=Z,1μm,11.0s
TNCH LR LR
comp=Z,2μm,15.3s
TNCH LR LR
comp=Z,3μm,19.6s
COEN Coen 29.83 144 P **P 02 22 54.4 -0.9**
COEN Coen 29.83 144 P **P 02 22 55.3 0.0**
comp=Z,0.0nmcomp=Z,199nm,1.5s
COEN Coen 29.83 144 P **P 02 22 55.3 0.0**
JMM Marumori 30.30 24 IAmb IAmb 02 23 00.6
comp=Z,391nm,1.7s
JMM Marumori 30.30 24 P **P 02 22 59.7 +0.5**
BJT Baijiatuau 30.55 345 P **P 02 23 01.6 +0.3**
BJT IAmb IAmb 02 23 03.6
comp=Z,157nm,1.3s
BJT Baijiatuau 30.55 345 P **P 02 23 01.7 +0.3**
BJT pmax pmax
comp=Z,157nm,1.3s
BJT Baijiatuau 30.55 345 P **P 02 23 02.4 +1.1**
BJT pP **pP 02 23 15.7 -1.2**
BJT PcP **PcP 02 25 59.8 +0.9**
BJT ScP **ScP 02 29 37.6 +1.4**
BJI Beijing 30.57 345 P **P 02 23 02.2 +0.7**
BJI pP **pP 02 23 15.5 -1.5**
BJI PP **PnPn 02 24 02.0 -1.0**
BJI PcP **PcP 02 26 00.1 +1.1**
BJI S **S 02 28 00.0 +1.1**
BJI ScP **ScP 02 29 37.5 +1.3**
BJI pmax pmax
comp=Z,47nm,1.3s
BJI pmax pmax
comp=Z,190nm,3.5s
BJI LR LR
comp=Z,420nm,20.9s
BJI LR LR
comp=Z,420nm,20.5s
BJI LR LR
comp=Z,630nm,20.7s
SNY Shenyang 31.19 357 ⇑P **P 02 23 08.6 +1.7**
SNY S **S 02 28 13.0 +4.5**
SNY pmax pmax
comp=Z,260nm,1.1s
SNY pmax pmax
comp=Z,360nm,3.8s
SNY LR LR
comp=Z,480nm,15.7s
SNY LR LR
comp=Z,370nm,12.3s
SNY LR LR
comp=Z,620nm,16.5s
WRAB Tennant Creek 31.46 165 P **P 02 23 07.6 -2.0**
WRAB IAmb IAmb 02 23 09.8
comp=Z,237nm,1.8s
WRAB Tennant Creek 31.46 165 *i* P **P 02 23 08.6 -1.0**
WRAB pmax pmax
comp=Z,30nm,1.0s
WRA Warramunga Arr 31.47 165 P **P 02 23 07.5 -2.1**
WRA Warramunga Arr 31.47 165 P **P 02 23 08.5 -1.2**
comp=Z,27nm,0.6s,baz=345,slow=9.5,SNR=146
WRA PcP **PcP 02 26 01.1 -0.6**
comp=Z,2.8nm,0.6s,baz=319,slow=3.0,SNR=1.0
WRA S **S 02 28 08.4 -5.0**
comp=Z,4.6nm,0.9s,baz=340,slow=15,SNR=4.7
WRA ScP **ScP 02 29 36.6 -3.0**
comp=Z,3.1nm,0.6s,baz=346,slow=3.6,SNR=4.9
WRA LR LR 02 39 01.9
comp=Z,419nm,18.3s,baz=344,slow=42
comp=Z,27nm,0.6s
MBWA Marble Bar 32.11 191 P **P 02 23 14.2 -1.1**
MBWA Marble Bar 32.11 191 P **P 02 23 15.6 +0.3**
MBWA Marble Bar 32.11 191 P **P 02 23 17.2 +1.9**
MBWA Marble Bar 32.11 191 P **P 02 23 16.7 +1.4**
MBWA Marble Bar 32.11 191 P **P 02 23 16.1 +0.8**
MBWA pP **pP 02 23 29.6 -1.3**
MBWA ScP **ScP 02 29 39.7 -2.0**
MSHR Mys Shultsa 32.21 7 *ce*P **P 02 23 15.2 -0.7**
MSHR pmax pmax
comp=Z,46nm,0.6s
PSTR Posyet 32.24 7 *i* P **P 02 23 16.4 +0.2**
LZH Lanzhou 32.28 325 ⇑P **P 02 23 18.3 +1.4**
LZH pP pP 02 23 33.1 +0.7
LZH sP sP 02 23 42.7 +2.8
LZH PP **PP 02 24 30.3 -0.6**
LZH S **S 02 28 27.2 +1.0**
LZH SS **SnSn 02 30 26.6 +3.2**
LZH pmax pmax
comp=Z,130nm,1.0s
LZH pmax pmax
comp=Z,230nm,5.5s
LZH LR LR
comp=Z,2μm,19.9s
LZH LR LR
comp=Z,3μm,18.9s
LZH LR LR
comp=Z,5μm,18.5s
PBA Port Blair 32.49 275 IAmb IAmb 02 23 55.4
comp=Z,137nm,1.2s
PSA00 Pilbara Seismi 32.49 190 P **P 02 23 17.8 -0.8**
PSA00 Pilbara Seismi 32.49 190 IAmb IAmb 02 23 20.8
comp=Z,67nm,0.7s
PSA00 Pilbara Seismi 32.49 190 P **P 02 23 19.0 +0.4**
PSA00 Pilbara Seismi 32.49 190 P **P 02 23 19.9 +1.3**
HHC Hu-ho-hao-te 32.68 340 ⇓ *i* P **P 02 23 22.2 +2.0**
HHC pP pP 02 23 34.2 -1.6
HHC S **S 02 28 31.2 -0.9**
HHC pmax pmax
comp=Z,100nm,1.0s
HHC pmax pmax
comp=Z,230nm,5.4s
HHC LR LR
comp=Z,1μm,16.8s
HHC LR LR
comp=Z,380nm,12.2s
HHC LR LR
comp=Z,2μm,14.5s
VLA Vladivostok 32.84 8 *i* P **P 02 23 21.6 +0.2**
VLA pmax pmax
comp=Z,33nm,1.0s
BTO Baotou 33.02 338 *e*P **P 02 23 25.4 +2.2**
BTO pP **sP 02 23 43.1 -3.1**
BTO sP pP 02 23 50.8 +12
BTO PP **PP 02 24 42.2 +3.3**
BTO S **S 02 28 42.8 +5.5**
BTO SS **SnSn 02 30 38.9 -2.1**
BTO pmax pmax
comp=Z,66nm,0.7s
BTO pmax pmax
comp=Z,350nm,3.5s
BTO LR LR
comp=Z,2μm,16.1s
BTO LR LR
comp=Z,1μm,12.8s
BTO LR LR
comp=Z,2μm,18.4s
CN2 Changchun 33.10 359 ⇑P **P 02 23 24.6 +0.9**
CN2 *es*P sP 02 23 53.5 +7.0
CN2 *e*S **S 02 28 37.8 -0.5**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,300nm,5.0s
IMP Imphal 33.42 299 *e*P **P 02 23 26.1 -0.8**
IMP IAmb IAmb 02 23 27.0
comp=Z,30nm,0.7s
KOHI KOHIMA 33.58 301 *e*P **P 02 23 27.5 -0.9**
KOHI IAmb IAmb 02 23 28.7
comp=Z,67nm,0.9s
QIS Mount Isa 33.78 156 P **P 02 23 28.9 -0.9**
QIS Mount Isa 33.78 156 P **P 02 23 29.8 -0.1**
MTSU Mount Surprise 33.87 147 P **P 02 23 30.8 +0.1**
comp=Z,37nm,0.6s
MTSU Mount Surprise 33.87 147 P **P 02 23 31.0 +0.3**
USA0B Ussuriysk Arra 33.91 8 IAmb IAmb 02 23 33.4
comp=Z,145nm,1.0s
USA0B Ussuriysk Arra 33.91 8 *de*P **P 02 23 31.8 +1.0**
USRK Ussuriysk Ar. 33.91 8 P **P 02 23 31.2 +0.4**
USRK Ussuriysk Ar. 33.91 8 P **P 02 23 32.1 +1.3**
comp=Z,82nm,0.8s,baz=191,slow=8.0,SNR=152
USRK PcP **PcP 02 26 08.6 +0.5**
comp=Z,7.4nm,0.6s,baz=180,slow=2.0,SNR=4.7
USRK LR LR 02 36 08.7
comp=Z,1μm,21.9s,baz=175,slow=34
comp=Z,82nm,0.8s
MDJ Mudanjiang 34.06 5 IAmb IAmb 02 23 35.2
comp=Z,194nm,1.3s
MDJ Mudanjiang 34.06 5 P **P 02 23 33.6 +1.5**
MDJ PcP **PcP 02 26 08.9 +0.4**
MDJ S **S 02 28 54.8 +1.6**
MDJ PcS **PcS 02 29 50.6 -3.9**
MDJ pmax pmax
comp=Z,130nm,1.3s
MDJ pmax pmax
comp=Z,880nm,3.9s
MDJ LR LR
comp=Z,2μm,21.7s
MDJ LR LR
comp=Z,2μm,19.8s
MDJ LR LR
comp=Z,2μm,23.2s
MDJ Mudanjiang 34.06 5 P **P 02 23 33.6 +1.5**
MDJ sP **sP 02 23 53.7 -1.3**
MDJ PcP **PcP 02 26 09.3 +0.8**
XLT XiLinHaoTe 34.26 347 ⇑ *i* P **P 02 23 35.0 +1.1**
XLT pP pP 02 23 47.5 -2.0
XLT S **S 02 28 57.4 +1.0**
XLT SS **SnSn 02 31 10.2 -0.7**
XLT pmax pmax
comp=Z,220nm,0.8s
XLT LR LR
comp=Z,78nm,24.2s
XLT LR LR
comp=Z,380nm,14.0s
XLT LR LR
comp=Z,1μm,21.7s
ZIRO ZIRO 34.47 304 *e*P **P 02 23 35.8 -0.2**
ZIRO IAmb IAmb 02 23 36.4
comp=Z,131nm,1.4s
BRDH Bariadhala 34.81 295 P **P 02 23 38.3 -0.6**
comp=Z,85nm,0.3s,baz=67,slow=14,SNR=3.8
comp=Z,85nm,0.3s
GIRL Giralia 34.93 199 P **P 02 23 41.7 +1.9**
AS31 Alice Springs 34.94 167 P **P 02 23 38.5 -1.4**
ASAR Alice Springs 34.94 167 P **P 02 23 38.9 -1.0**
ASAR Alice Springs 34.94 167 P **P 02 23 39.6 -0.3**
comp=Z,23nm,0.6s,baz=352,slow=6.9,SNR=203
ASAR PP **PP 02 25 02.9 +2.5**
comp=Z,37nm,0.9s,baz=0.4,slow=11,SNR=8.7
ASAR PcP **PcP 02 26 12.1 +0.7**
comp=Z,4.9nm,0.4s,baz=340,slow=2.9,SNR=5.4
ASAR S **S 02 29 07.0 -0.2**
comp=Z,15nm,1.0s,baz=355,slow=21,SNR=11
ASAR ScP **ScP 02 29 49.0 -2.7**
comp=Z,3.8nm,0.8s,baz=340,slow=1.5,SNR=4.1
ASAR LR LR 02 40 22.4
comp=Z,428nm,19.0s,baz=348,slow=40
comp=Z,23nm,0.6s
AS01 Alice Springs 34.95 167 P **P 02 23 40.0 0.0**
BNX BinXian 35.06 2 ⇑P **P 02 23 41.0 +0.3**
BNX pP **pP 02 23 58.6 +2.4**
BNX sP **sP 02 24 08.1 +4.6**
BNX S **S 02 29 07.2 -1.3**
BNX sS **sS 02 29 39.5 +4.4**
BNX pmax pmax
comp=Z,73nm,1.0s
BNX pmax pmax
comp=Z,420nm,7.7s
BNX LR LR
comp=Z,990nm,20.5s
BNX LR LR
comp=Z,650nm,15.8s
BNX LR LR
comp=Z,1μm,19.4s
SHL Shillong 35.42 299 IAmb IAmb 02 23 45.7
comp=Z,170nm,0.9s
SHL Shillong 35.42 299 P **P 02 23 44.2 -0.2**
SNR=27
WRKA Warakurna 35.48 176 P **P 02 23 45.1 +0.5**
TEY Ternei 35.55 13 ⇑ *eP* **P 02 23 46.1 +1.2**
TEY *e* 02 29 10.2
TEY pmax pmax
comp=N,40nm,1.1s
TEY pmax pmax
comp=Z,60nm,1.1s
TEY pmax pmax
comp=E,10.0nm,1.1s
GUWA GUWAHATI 35.79 300 *e*P **P 02 23 47.2 0.0**
ASAJ Asahikawa 36.42 20 P **P 02 23 53.4 +1.0**
comp=E,40nm,0.7s,baz=182,slow=5.3,SNR=23
ASAJ PcP **PcP 02 26 17.0 +1.6**
comp=E,21nm,0.7s,baz=245,slow=10,SNR=5.0
comp=E,40nm,0.7s
JKA Kamikawa-asahi 36.42 20 P **P 02 23 53.4 +1.1**
JKA IAmb IAmb 02 23 55.7
comp=Z,300nm,1.7s
JKA PcP **PcP 02 26 16.5 +1.0**
COCO West Island 36.64 233 P **P 02 23 58.7 +4.2**
GTA Gaotai 36.89 326 P **P 02 23 58.5 +1.9**
GTA PcP **PcP 02 26 18.7 +1.6**
GTA S **S 02 29 38.6 +1.6**
GTA ScS **ScS 02 34 05.2 -0.8**
GTA pmax pmax
comp=Z,300nm,1.0s
GTA pmax pmax
comp=Z,500nm,4.3s
GTA LR LR
comp=Z,2μm,21.1s
GTA LR LR
comp=Z,2μm,20.4s
GTA LR LR
comp=Z,3μm,21.8s
LSA Lhasa 37.50 306 IAmb IAmb 02 24 05.0
comp=Z,163nm,1.4s
LSA Lhasa 37.50 306 P **P 02 24 03.7 +1.4**
LSA pmax pmax
comp=Z,79nm,1.2s
LSA LR LR
comp=Z,1μm,20.8s
LSA LR LR
comp=Z,2μm,20.8s
LSA Lhasa 37.50 306 P **P 02 24 03.8 +1.4**
LSA Lhasa 37.50 306 P **P 02 24 03.1 +0.8**
MEEK Meekatharra 37.66 191 P **P 02 24 03.8 +0.7**
GOMU GeErMu 37.93 317 P **P 02 24 06.8 +1.1**
GOMU S **S 02 29 55.8 +2.5**
GOMU pmax pmax
comp=Z,88nm,0.7s
GOMU LR LR
comp=Z,2μm,19.0s
GOMU LR LR
comp=Z,3μm,19.6s
GOMU LR LR
comp=Z,7μm,19.8s
TATA Tatamba Isabel 38.70 118 P **P 02 24 12.2 +0.2**
GTK Tadong 38.77 301 *eP* **P 02 24 13.2 +0.6**
GTK IAmb IAmb 02 24 14.6
comp=Z,95nm,0.7s
KLR Kul'dur 38.84 6 P **P 02 24 13.8 +1.1**
comp=Z,33nm,0.7s,baz=204,slow=5.3,SNR=71
KLR PcP **PcP 02 26 23.8 +1.1**
comp=Z,17nm,0.7s,baz=307,slow=2.8,SNR=6.8
KLR ScP **ScP 02 30 03.3 -2.4**
comp=Z,3.1nm,0.7s,baz=282,slow=6.1,SNR=4.5
KLR LR LR 02 38 42.7
comp=Z,798nm,21.8s,baz=196,slow=34
comp=Z,33nm,0.7s
KLR Kul'dur 38.84 6 *ce*P **P 02 24 13.2 +0.5**
KLR pmax pmax
comp=Z,20nm,0.9s
HIA Hailar 38.90 354 *i* P **P 02 24 13.4 +0.2**
HIA Hailar 38.90 354 P **P 02 24 14.3 +1.1**
HIA PcP **PcP 02 26 23.9 +0.9**
YSS Yuzhno-Sakhali 38.98 18 P **P 02 24 14.3 +0.4**
YSS Yuzhno-Sakhali 38.98 18 ⇑ *i* P **P 02 24 15.3 +1.4**
YSS *e**PP **sP 02 24 34.6 -1.9**
YSS *e*S **S 02 30 07.3 -0.8**
YSS pmax pmax
comp=Z,50nm,0.8s
YSS pmax pmax
comp=Z,700nm,3.8s
YSS MLR MLR
comp=Z,500nm,16.0s
SAVO Savo Central 39.07 119 P **P 02 24 15.1 -0.1**
OOD Oodnadatta 39.33 166 P **P 02 24 17.1 +0.1**
HNR Honiara 39.33 119 P **P 02 24 15.8 -1.4**
HNR IAmb IAmb 02 24 50.7
comp=Z,274nm,1.1s
HNR Honiara 39.33 119 LR LR 02 41 18.2
comp=Z,373nm,18.4s,baz=286,slow=37
HNR Honiara 39.33 119 P **P 02 24 15.8 -1.4**
HNR pmax pmax
comp=Z,274nm,1.1s
HEH HeiHe 39.57 2 *e*P **P 02 24 19.5 +0.7**
HEH S **S 02 30 17.0 +0.1**
HEH pmax pmax
comp=Z,100nm,1.0s
HEH pmax pmax
comp=Z,560nm,6.7s
HEH LR LR
comp=Z,800nm,21.4s
HEH LR LR
comp=Z,430nm,20.6s
HEH LR LR
comp=Z,1μm,19.2s
ALEG Aligegeo Malai 39.65 118 P **P 02 24 20.7 +0.8**
H11S3 WAKE ISLAND Hy 40.24 74 T T 03 07 31.3
baz=265,slow=75,SNR=2058
H11S1 WAKE ISLAND Hy 40.25 74 T T 03 07 25.0
baz=265,slow=75,SNR=950
H11S2 WAKE ISLAND Hy 40.25 74 T T 03 07 20.3
baz=265,slow=75,SNR=1490
ULN Ulaanbaatar 40.39 340 P **P 02 24 26.4 +0.6**
ULN Ulaanbaatar 40.39 340 P **P 02 24 27.6 +1.8**
ULN S **S 02 30 31.2 +1.7**
ULN Ulaanbaatar 40.39 340 *ce*P **P 02 24 26.8 +1.0**
ULN pmax pmax
comp=Z,72nm,1.0s
ULN Ulaanbaatar 40.39 340 P **P 02 24 27.1 +1.3**
ULN PcP **PcP 02 26 28.6 +0.6**
ULN ScP **ScP 02 30 13.1 +1.2**
NGOA Tingoa Renbel 40.50 122 P **P 02 24 27.1 +0.2**
MORW Morawa 40.54 193 P **P 02 24 26.8 -0.3**
H11N1 WAKE ISLAND Hy 40.56 72 T T 03 07 51.1
baz=264,slow=74,SNR=4270
H11N2 WAKE ISLAND Hy 40.56 72 T T 03 07 45.8
baz=264,slow=74,SNR=4054
H11N3 WAKE ISLAND Hy 40.58 72 T T 03 07 42.2
baz=264,slow=74,SNR=3144
SONM Songino Array 40.58 340 P **P 02 24 27.8 +0.4**

SONM Songino Array 40.58 340 P **P** **02 24 28.5 +1.1**
comp=Z,22nm,0.8s,baz=162,slow=9.3,SNR=111
SONM PcP **PcP** 02 26 29.2 +0.7
comp=Z,12nm,0.8s,baz=162,slow=2.3,SNR=5.4
SONM ScP **ScP** **02 30 10.5 -2.2**
comp=Z,6.7nm,0.9s,baz=178,slow=3.3,SNR=13
SONM LR LR 02 43 52.8
comp=Z,1μm,18.6s,baz=149,slow=40
SONM PKKP **PKKPdf** **02 48 21.8 -0.5**
comp=Z,0.5nm,0.4s,baz=198,slow=7.5,SNR=4.4
comp=Z,22nm,0.8s
UGL Uglegorsk 40.69 16 *e*P **P** **02 24 30.2 +2.2**
UGL *e*S **S** **02 30 40.1 +6.5**
UGL pmax pmax
comp=Z,140nm,0.9s
INKA Innaminka 40.74 160 P **P** **02 24 28.9 +0.2**
QLP Quilpie 41.04 155 P **P** **02 24 31.4 +0.2**
FORT Forrest 41.18 177 P **P** **02 24 32.3 0.0**
FORT Forrest 41.18 177 P **P** **02 24 33.1 +0.8**
RK1H Rockhampton Ha 41.49 145 P **P** **02 24 35.8 +0.8**
RAGD RAYAGADA 41.76 287 *e*P **P** **02 24 37.0 -0.3**
RAGD IAmb IAmb 02 24 39.6
comp=Z,57nm,0.8s
KMBL Kambalda 41.88 185 P **P** **02 24 38.9 +0.8**
BLDU Ballidu 41.89 192 P **P** **02 24 39.2 +1.1**
TYV Tymovskoe 42.47 16 *e*P **P** **02 24 44.9 +2.3**
TYV *e*S **S** **02 31 04.1 +4.2**
TYV pmax pmax
comp=Z,800nm,4.1s
TYV pmax pmax
comp=Z,57nm,1.3s
TYV smax smax
comp=N,500nm,8.4s
TYV smax smax
comp=E,900nm,8.4s
LCRK Leigh Creek 42.49 164 P **P** **02 24 44.2 +1.2**
CIT Chita 42.51 349 *e*P **P** **02 24 44.6 +1.6**
CIT *e* 02 24 57.6
CIT *e* 02 25 04.8
CIT *e* 02 26 26.6
CIT *e* 02 27 02.6
CIT pmax pmax
comp=Z,262nm,1.7s
KLBR Kellerberrin 42.65 190 P **P** **02 24 45.4 +1.1**
ZEA Zeya 43.05 1 *e*P **P** **02 24 47.8 +0.5**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,40nm,0.7s
MUN Mundaring 43.31 192 P **P** **02 24 51.3 +1.7**
EIDS Eidsvold 43.38 146 P **P** **02 24 49.6 -0.7**
EIDS Eidsvold 43.38 146 P **P** **02 24 50.8 +0.5**
ZAK Zakamensk 43.83 339 *e*P **P** **02 24 53.7 0.0**
ZAK pmax pmax
comp=Z,22nm,1.2s
NWAO Narrogin (SRO) 44.04 190 P **P** **02 24 55.1 -0.4**
NWAO IAmb IAmb 02 24 57.8
comp=Z,148nm,1.0s
NWAO Narrogin (SRO) 44.04 190 LR LR 02 45 39.7
comp=Z,577nm,21.8s,baz=14,slow=39
NWAO Narrogin (SRO) 44.04 190 P **P** **02 24 57.6 +2.2**
NWAO S **S** **02 31 23.8 +0.5**
NWAO Narrogin (SRO) 44.04 190 P **P** **02 24 56.6 +1.1**
NWAO Narrogin (SRO) 44.04 190 P **P** **02 24 55.1 -0.4**
NWAO pmax pmax
comp=Z,148nm,1.0s
NWAO Narrogin (SRO) 44.04 190 P **P** **02 24 56.3 +0.9**
NWAO pP **pP** **02 25 10.3 -1.3**
NWAO sP **sP** **02 25 16.6 -2.2**
NKL Nikolayevsk 44.10 13 *e*P **P** **02 24 56.1 +0.4**
NKL *e*S **S** **02 31 23.2 -0.5**
NKL pmax pmax
comp=N,116nm,1.0s
NKL pmax pmax
comp=E,82nm,1.0s
NKL pmax pmax
comp=Z,339nm,1.1s
NKL smax smax
comp=N,372nm,4.1s
NKL smax smax
comp=E,269nm,4.1s
ALBI Allahabad 44.16 295 *e*P **P** **02 24 56.5 -0.2**
ALBI IAmb IAmb 02 24 58.9
comp=Z,55nm,0.8s
BBOO Buckleboo 44.24 168 IAmb IAmb 02 24 59.6
comp=Z,169nm,0.8s
BBOO Buckleboo 44.24 168 P **P** **02 24 57.7 +0.6**
PALK Pallekele 44.69 270 P **P** **02 25 02.5 +1.4**
PALK Pallekele 44.69 270 P **P** **02 25 01.9 +0.8**
comp=Z,17nm,0.8s,baz=67,slow=7.3,SNR=10
PALK LR LR 02 43 02.4
comp=Z,2μm,21.5s,baz=81,slow=35
comp=Z,17nm,0.8s
PALK Pallekele 44.69 270 P **P** **02 25 03.3 +2.3**
PALK S **S** **02 31 35.2 +1.7**
PALK Pallekele 44.69 270 P **P** **02 25 02.5 +1.4**
PALK pmax pmax
comp=Z,40nm,1.2s
STKA Stephens Creek 44.83 161 P **P** **02 25 01.5 -0.4**
STKA Stephens Creek 44.83 161 P **P** **02 25 02.2 +0.4**
comp=Z,80nm,0.8s,baz=337,slow=8.4,SNR=114
STKA PP **PP** **02 26 45.7 -2.0**
comp=Z,20nm,0.8s,baz=328,slow=11,SNR=3.9
STKA LR LR 02 46 02.7
comp=Z,368nm,20.3s,baz=336,slow=39
comp=Z,80nm,0.8s
STKA Stephens Creek 44.83 161 P **P** **02 25 02.2 +0.4**
STKA Stephens Creek 44.83 161 *c i*P **P** **02 25 02.1 +0.3**
IRK Irkutsk 45.08 341 *e*P **P** **02 25 03.8 +0.2**
IRK pmax pmax
comp=Z,143nm,2.3s
LUES Luesalemba Tem 45.09 117 P **P** **02 25 05.7 +1.6**
HTT Hallett 45.51 165 P **P** **02 25 08.2 +1.0**
MOY Mondy 45.70 339 *e*P **P** **02 25 09.6 +1.0**
MOY pmax pmax
comp=Z,106nm,2.4s
CMSA Cobar Meteorol 46.00 156 P **P** **02 25 11.8 +0.7**
HYB Hyderabad 46.29 284 *e*P **P** **02 25 14.4 +0.7**
HYB *e*pP **pP** **02 25 28.1 -1.8**
HYB *e*PcP **PcP** **02 26 48.8 +0.5**
HYB *e*PP **PP** **02 27 03.4 0.0**
HYB *e*S **S** **02 31 57.2 +0.8**
HYB *e*sS **sS** **02 32 21.1 -2.7**
HYB *e* 02 35 00.9
HYB *e*ScS **ScS** **02 35 06.9 +3.1**
HYB *e*SS **SS** **02 35 25.8 +3.1**
SALM Salem 46.72 276 *e*P **P** **02 25 17.6 +0.6**
SALM IAmb IAmb 02 25 19.6
comp=Z,135nm,1.0s
WMQ Urumqi 46.72 322 *e*P **P** **02 25 18.6 +1.9**
WMQ pP pP 02 25 31.9 -1.0
WMQ S **S** **02 32 02.3 +0.4**
WMQ ScS **ScS** **02 35 03.7 -2.0**
WMQ pmax pmax
comp=Z,110nm,0.9s
WMQ pmax pmax
comp=Z,190nm,3.7s
WMQ LR LR
comp=Z,2μm,21.9s
WMQ LR LR
comp=Z,2μm,24.0s
WMQ LR LR
comp=Z,2μm,17.1s
SKR Severo-Kuril's 47.08 26 *e*P **P** **02 25 17.7 -1.6**
SKR *e*S S 02 32 19.2 +13
SKR pmax pmax
comp=Z,1μm,4.5s
SKR MLR MLR
comp=Z,700nm,17.0s
KOD Kodaikanal 47.54 274 *e*P **P** **02 25 23.3 -0.5**
KOD IAmb IAmb 02 25 27.0
comp=Z,51nm,0.8s
ARMA Armidale 47.72 149 P **P** **02 25 24.7 +0.1**
ARMA IAmb IAmb 02 25 27.0
comp=Z,176nm,1.9s
AKL Akola 47.92 288 *e*P **P** **02 25 26.2 -0.2**
AKL IAmb IAmb 02 25 28.8
comp=Z,80nm,0.7s
BOD Bodaibo 48.00 352 ⇓ *i*P **P** **02 25 27.2 +0.9**
BOD pmax pmax
comp=Z,130nm,1.6s
SANVU Saraoutou 48.45 122 P **P** **02 25 31.8 +1.5**
SONA Sohna 48.87 298 *e*P **P** **02 25 33.2 -0.3**
KUDL Kundal 49.37 298 *e*P **P** **02 25 37.0 -0.3**

ARPS Mount Arapiles 49.45 163 P **P** **02 25 38.7 +1.0**
PEA0B Petropavlovsk- 49.53 25 *c e*P **P** **02 25 39.3 +1.2**
PETK Petropavlovsk- 49.53 25 P **P** **02 25 38.3 +0.1**
PETK Petropavlovsk- 49.53 25 P **P** **02 25 39.2 +1.1**
comp=Z,33nm,0.7s,baz=221,slow=3.7,SNR=72
PETK ScP **ScP** **02 30 48.1 -1.2**
comp=Z,9.4nm,0.9s,baz=188,slow=4.2,SNR=8.0
PETK LR LR 02 44 45.4
comp=Z,1μm,21.9s,baz=224,slow=34
comp=Z,33nm,0.7s
PET Petropavlovsk 49.86 25 P **P** **02 25 41.3 +0.7**
PET IAmb IAmb 02 25 43.6
comp=Z,268nm,1.7s
PET Petropavlovsk 49.86 25 *c e*P **P** **02 25 41.5 +0.9**
PET pmax pmax
comp=Z,168nm,1.7s
MNGI Mangalore 49.94 278 *e*P **P** **02 25 41.2 -0.6**
MNGI IAmb IAmb 02 25 43.8
comp=Z,81nm,0.7s
ZSN Zaisan 50.37 325 *e*P **P** **02 25 44.8 +0.2**
ZSN *e*S **S** **02 32 54.1 +0.9**
ZSN pmax pmax
comp=Z,29nm,0.9s
ZSN Zaisan 50.37 325 *e*P **P** **02 25 44.8 +0.2**
comp=Z,29nm,0.9s
ZSN *e*S **S** **02 32 54.1 +0.9**
KAD Karad 50.46 284 *e*P **P** **02 25 45.4 -0.4**
KAD IAmb IAmb 02 25 47.6
comp=Z,91nm,0.9s
CAN Canberra 50.64 155 IAmb IAmb 02 25 49.7
comp=Z,143nm,1.2s
CAN Canberra 50.64 155 P **P** **02 25 48.3 +1.5**
CAN Canberra 50.64 155 P **P** **02 25 48.2 +1.5**
CAN pP **pP** **02 26 02.0 -1.2**
CNB Canberra Magne 50.78 155 P **P** **02 25 49.3 +1.4**
WUS Wushi 51.00 315 P **P** **02 25 50.1 +0.4**
NOUC Port Laguerre 51.28 130 P **P** **02 25 52.8 +1.1**
NOUC pP **pP** **02 26 06.7 -0.1**
DZM Mont Dzumac 51.37 129 P **P** **02 25 52.7 +0.1**
DZM Mont Dzumac 51.37 129 *e*P **P** **02 25 51.3 -1.3**
comp=Z,516nm,1.4s
DZM Mont Dzumac 51.37 129 *e*LR LR 02 40 41.1
comp=Z,3μm,28.7s
DZM Mont Dzumac 51.37 129 P **P** **02 25 53.7 +1.1**
DZM Mont Dzumac 51.37 129 P **P** **02 25 53.8 +1.3**
DZM pP **pP** **02 26 08.6 +1.0**
YAK Yakutsk 51.43 2 P **P** **02 25 53.0 +0.8**
YAK Yakutsk 51.43 2 P **P** **02 25 53.1 +0.8**
comp=Z,310nm,0.9s,baz=185,slow=2.3,SNR=39
YAK ScP **ScP** **02 30 54.9 -2.3**
comp=Z,16nm,0.4s,baz=249,slow=1.7,SNR=5.1
YAK LR LR 02 49 22.1
comp=Z,583nm,21.0s,baz=179,slow=38
comp=Z,310nm,0.9s
YAK Yakutsk 51.43 2 *c i*P **P** **02 25 52.8 +0.5**
YAK *e**PP **sP** **02 26 13.1 -2.8**
YAK *e* 02 27 06.3
YAK *e* 02 27 49.1
YAK *e*S **S** **02 33 07.1 -0.2**
YAK *e* 02 35 35.0
YAK *e*SS **SS** **02 36 46.6 +2.8**
YAK pmax pmax
comp=Z,356nm,0.9s
YAK pmax pmax
comp=E,29nm,1.0s
YAK pmax pmax
comp=N,115nm,1.1s
YAK pmax pmax
comp=Z,59nm,1.8s
YAK pmax pmax
comp=E,34nm,1.8s
YAK pmax pmax
comp=N,36nm,2.1s
YAK smax smax
comp=N,302nm,2.7s
YAK smax smax
comp=E,70nm,1.4s
MK31 Makanchi Array 51.52 323 *i*P **P** **02 25 53.5 +0.2**
MK31 pmax pmax
comp=Z,242nm,0.8s
MKAR Makanchi Array 51.52 323 P **P** **02 25 53.3 -0.1**
MKAR Makanchi Array 51.52 323 P **P** **02 25 54.0 +0.7**
comp=Z,201nm,0.8s,baz=121,slow=8.1,SNR=641
MKAR ScP **ScP** **02 30 55.5 -2.6**
comp=Z,2.4nm,0.8s,baz=82,slow=9.1,SNR=4.4
MKAR LR LR 02 49 58.1
comp=Z,1μm,21.6s,baz=114,slow=38
comp=Z,201nm,0.8s
MKAR Makanchi Array 51.52 323 P **P** **02 25 54.0 +0.7**
SHLS Shalkode 51.63 317 *e*P **P** **02 25 52.2 -2.1**
SHLS pmax pmax
comp=Z,48nm,0.9s
SHLS Shalkode 51.63 317 *e*P **P** **02 25 52.2 -2.1**
comp=Z,48nm,0.9s
PDGK Podgornoye 51.69 318 P **P** **02 25 54.8 +0.1**
YATNC Mamie plateau, 51.70 129 P **P** **02 25 56.6 +1.6**
MAKZ Makanchi 51.72 323 P **P** **02 25 54.3 -0.5**
MAKZ Makanchi 51.72 323 P **P** **02 25 55.1 +0.3**
MAKZ Makanchi 51.72 323 ⇑P **P** **02 25 55.3 +0.6**
MAKZ pP **pP** **02 26 09.6 -1.6**
MAKZ PcP **PcP** **02 27 07.4 0.0**
OUENC Ouen Island, N 51.87 129 P **P** **02 25 57.7 +1.5**
UZB Uzynbulak 51.92 317 *e*P **P** **02 25 56.3 -0.2**
UZB pmax pmax
comp=Z,20nm,0.5s
UZB Uzynbulak 51.92 317 *e*P **P** **02 25 56.4 -0.2**
comp=Z,20nm,0.5s
SATY Saty 52.30 317 *e*P **P** **02 25 59.1 -0.1**
SATY *e*S **S** **02 33 20.5 +0.4**
SATY pmax pmax
comp=Z,40nm,0.8s
SATY Saty 52.30 317 *e*P **P** **02 25 59.2 -0.1**
comp=Z,40nm,0.8s
SATY *e*S **S** **02 33 20.5 +0.4**
ZHN Zhinishke 52.32 317 *e*P **P** **02 25 59.2 -0.2**
ZHN pmax pmax
comp=Z,23nm,0.9s
ZHN Zhinishke 52.32 317 *e*P **P** **02 25 59.3 -0.2**
comp=Z,23nm,0.9s
MA2 Magadan 52.35 16 P **P** **02 25 58.8 -0.4**
MA2 IAmb IAmb 02 26 02.6
comp=Z,51nm,0.8s
MA2 Magadan 52.35 16 P **P** **02 25 60.0 +0.8**
comp=Z,37nm,0.7s,baz=194,slow=6.4,SNR=29
MA2 PcP **PcP** **02 27 11.0 +1.5**
comp=Z,37nm,0.8s,baz=155,slow=3.2,SNR=6.7
MA2 ScP **ScP** **02 30 59.2 -2.0**
comp=Z,9.3nm,0.7s,baz=166,slow=5.0,SNR=5.5
MA2 LR LR 02 46 15.3
comp=Z,635nm,21.8s,baz=190,slow=34
comp=Z,37nm,0.7s
MA2 Magadan 52.35 16 P **P** **02 26 00.0 +0.8**
MA2 02 27 11.0
MA2 Magadan 52.35 16 P **P** **02 26 00.3 +1.2**
MA2 PcP **PcP** **02 27 10.7 +1.3**
MA2 ScP **ScP** **02 31 02.8 +1.5**
PINNC Pines Island, 52.44 129 P **P** **02 26 02.0 +1.6**
KSH Kashi 52.71 312 P **P** **02 26 04.2 +1.8**
KSH pP pP 02 26 18.2 -0.7
KSH S **S** **02 33 27.1 +1.3**
KSH ScS **ScS** **02 35 47.2 +0.5**
KSH pmax pmax
comp=Z,31nm,0.8s
KSH pmax pmax
comp=Z,310nm,6.1s
KSH LR LR
comp=Z,1μm,24.4s
KSH LR LR
comp=Z,980nm,25.8s
KSH LR LR
comp=Z,2μm,23.4s
KDJ Kajisay 52.77 315 IAmb IAmb 02 26 04.5
comp=Z,46nm,0.8s
TDK Taldyqorghan 53.10 319 *e*P **P** **02 26 05.1 +0.1**
TDK pmax pmax
comp=Z,48nm,0.8s
TDK Taldyqorghan 53.10 319 *e*P **P** **02 26 05.2 +0.1**
comp=Z,48nm,0.8s
ARXS Arharly 53.15 318 *e*P **P** **02 26 04.5 -1.0**
NIL Nilore 53.21 304 P **P** **02 26 05.5 -0.6**
NIL IAmb IAmb 02 26 07.4
comp=Z,69nm,0.8s
NIL Nilore 53.21 304 P **P** **02 26 06.1 +0.1**
NIL Nilore 53.21 304 P **P** **02 26 05.5 -0.6**
NIL pmax pmax
comp=Z,69nm,0.8s
NIL Nilore 53.21 304 P **P** **02 26 06.0 -0.1**
NIL pP **pP** **02 26 20.6 -2.0**
MDOK Medeo 53.25 317 *e*P **P** **02 26 06.3 0.0**
MDOK *e*S **S** **02 33 33.3 +0.2**
MDOK Medeo 53.25 317 *e*P **P** **02 26 06.3 0.0**
MDOK *e*S **S** **02 33 33.4 +0.2**
TNSS Tian-Shan 53.27 316 *e*P **P** **02 26 06.4 -0.4**
TNSS Tian-Shan 53.27 316 *e*P **P** **02 26 06.4 -0.4**
AAA Alma-Ata 53.36 317 *e*P **P** **02 26 07.1 +0.1**
AAA pmax pmax
comp=Z,27nm,0.5s
AAA Alma-Ata 53.36 317 *e*P **P** **02 26 07.1 +0.1**
comp=Z,27nm,0.5s
ULHL Ulahol 53.46 315 P **P** **02 26 08.7 +0.7**
SNR=70
KAAM Kaadhehdhoo 53.46 263 P **P** **02 26 08.9 +0.8**
KAAM Kaadhehdhoo 53.46 263 P **P** **02 26 10.8 +2.6**
SNR=10
CHKK Chushkaly 53.56 317 *e*P **P** **02 26 08.2 -0.2**
CHKK Chushkaly 53.56 317 *e*P **P** **02 26 08.3 -0.2**
TKM2 Tokmak 2 54.15 316 P **P** **02 26 13.5 +0.5**
SNR=24
TKM2 Tokmak 2 54.15 316 *i*P **P** **02 26 13.0 0.0**
TKM2 pmax pmax
comp=Z,31nm,0.8s
ZAA0 Zalesovo Array 54.15 331 P **P** **02 26 11.9 -0.6**
ZAA0 IAmb IAmb 02 26 13.9
comp=Z,67nm,0.8s
ZALV Zalesovo Beam 54.15 331 P **P** **02 26 11.4 -1.1**
ZALV Zalesovo Beam 54.15 331 P **P** **02 26 12.4 -0.1**
comp=Z,84nm,0.8s,baz=117,slow=6.9,SNR=143
comp=Z,84nm,0.8s
KBK Karagaybulak 54.50 315 P **P** **02 26 16.4 +0.9**
SNR=18
UCH Uchtor 54.66 315 P **P** **02 26 18.0 +1.0**
SNR=19
CHMS Chumysh 54.76 316 P **P** **02 26 17.5 +0.4**
SNR=18
AAK Ala-Archa 54.81 315 P **P** **02 26 17.7 0.0**
AAK Ala-Archa 54.81 315 P **P** **02 26 18.3 +0.6**
AAK S **S** **02 33 53.0 -1.2**
AAK Ala-Archa 54.81 315 P **P** **02 26 18.3 +0.6**
SNR=17
AAK Ala-Archa 54.81 315 *c e*P **P** **02 26 17.8 0.0**
AAK pmax pmax
comp=Z,41nm,1.7s
AAK Ala-Archa 54.81 315 *i*P **P** **02 26 17.8 0.0**
SNR=18
AAK Ala-Archa 54.81 315 P **P** **02 26 18.1 +0.4**
SGDS Sogindy 55.00 316 *e*P **P** **02 26 18.8 -0.2**
SGDS Sogindy 55.00 316 *e*P **P** **02 26 18.8 -0.2**
USP Ospenovka 55.02 316 P **P** **02 26 19.5 +0.4**
SNR=17
AML Almayashu 55.20 314 P **P** **02 26 21.6 +0.8**
SNR=90
GLAD Gladstone 55.24 160 P **P** **02 26 22.0 +1.5**
EKS2 Erkin-Say 55.31 315 P **P** **02 26 21.8 +0.5**
SNR=51
KURK Kurchatov 55.57 326 P **P** **02 26 22.8 0.0**
KURK Kurchatov 55.57 326 P **P** **02 26 23.7 +0.8**
KURK S **S** **02 34 01.0 -2.7**
KURK Kurchatov 55.57 326 *c e*P **P** **02 26 22.9 +0.1**
KURK pmax pmax
comp=Z,189nm,0.7s
KURK Kurchatov 55.57 326 P **P** **02 26 23.4 +0.5**
KURK pP **pP** **02 26 38.3 -1.1**
KURBB Kurchatov Arra 55.58 325 P **P** **02 26 23.2 +0.3**
comp=Z,64nm,0.6s,baz=128,slow=6.8,SNR=366
KURBB ScP **ScP** **02 31 13.0 -2.6**
comp=Z,1.2nm,0.8s,baz=114,slow=5.2,SNR=1.4
KURBB S **S** **02 34 01.1 -2.7**
comp=Z,2.5nm,1.0s,baz=126,slow=11,SNR=6.9
KURBB LR LR 02 51 54.6
comp=Z,974nm,20.8s,baz=146,slow=38
comp=Z,64nm,0.6s
SEY Seymchan 55.62 14 P **P** **02 26 24.6 +1.6**
comp=Z,24nm,0.7s,baz=226,slow=6.4,SNR=104
SEY ScP **ScP** **02 31 12.4 -3.0**
comp=Z,5.0nm,0.8s,baz=201,slow=4.8,SNR=5.5
SEY LR LR 02 48 12.9
comp=Z,764nm,21.6s,baz=187,slow=34
comp=Z,24nm,0.7s
SEY Seymchan 55.62 14 *c e*P **P** **02 26 24.9 +1.9**
SEY pmax pmax
comp=Z,157nm,1.7s
BTLS Baital 55.96 318 *e*P **P** **02 26 25.7 0.0**
BTLS pmax pmax
comp=Z,22nm,0.8s
BTLS Baital 55.96 318 *e*P **P** **02 26 25.8 0.0**
comp=Z,22nm,0.8s
DGAR Diego Garcia 56.07 254 P **P** **02 26 27.6 +0.6**
DGAR Diego Garcia 56.07 254 P **P** **02 26 29.7 +2.7**
DGAR Diego Garcia 56.07 254 *c e*P **P** **02 26 28.3 +1.3**
DGAR pmax pmax
comp=Z,390nm,1.3s
KBL Kabul 56.81 304 P **P** **02 26 31.2 -1.0**
KBL Kabul 56.81 304 P **P** **02 26 32.2 0.0**
SNR=14
KBL S **S** **02 34 20.3 -0.9**
KBL Kabul 56.81 304 P **P** **02 26 31.2 -1.0**
KBL pmax pmax
comp=Z,36nm,0.8s
SIMJ Simiganj 57.68 309 P **P** **02 26 37.3 -0.9**
SIMJ Simiganj 57.68 309 P **P** **02 26 38.0 -0.3**
SIMJ PcP **PcP** **02 27 31.1 +0.4**
KK31 Karatay Array 57.73 315 IAmb IAmb 02 26 39.3
comp=Z,59nm,0.8s
KK31 Karatay Array 57.73 315 *i*P **P** **02 26 38.1 -0.3**
KKAR Karatay Array 57.73 315 P **P** **02 26 38.1 -0.3**
KKAR Karatay Array 57.73 315 P **P** **02 26 38.1 -0.3**
KKAR pmax pmax
comp=Z,38nm,0.9s
IUG Iuzhnay 57.80 313 *e*P **P** **02 26 38.8 -0.1**
IUG *e*S **S** **02 34 34.2 +0.5**
IUG pmax pmax
comp=Z,41nm,0.7s
IUG Iuzhnay 57.80 313 *e*P **P** **02 26 38.9 -0.1**
comp=Z,41nm,0.7s
IUG *e*S **S** **02 34 34.2 +0.5**
BRLS Borolday 58.19 314 *e*P **P** **02 26 41.7 +0.2**
BRLS pmax pmax
comp=Z,18nm,0.6s
BRLS Borolday 58.19 314 *e*P **P** **02 26 41.8 +0.2**
comp=Z,18nm,0.6s
OTUK Ortayu 58.22 321 P **P** **02 26 41.7 0.0**
BRZS Berezniki 58.67 323 *e*P **P** **02 26 44.9 +0.1**
BRZS Berezniki 58.67 323 *e*P **P** **02 26 44.9 +0.1**
MSVF Nonsavu 58.73 118 P **P** **02 26 46.1 +0.4**
MSVF IAmb IAmb 02 26 49.4
comp=Z,129nm,1.0s
MSVF Nonsavu 58.73 118 LR LR 02 47 27.5
comp=Z,814nm,21.6s,baz=313,slow=31
MSVF Nonsavu 58.73 118 P **P** **02 26 47.1 +1.3**
MSVF Nonsavu 58.73 118 P **P** **02 26 46.1 +0.4**
MSVF pmax pmax
comp=Z,129nm,1.0s
MSVF Nonsavu 58.73 118 P **P** **02 26 47.9 +2.2**
MSVF PcP **PcP** **02 27 37.6 +2.5**
DGTI Dogotuki 59.64 116 P **P** **02 26 52.5 +0.6**
FUTU Fugatoga 60.81 113 P **P** **02 27 01.2 +1.2**
FUTU Fugatoga 60.81 113 P **P** **02 27 02.9 +2.9**
TIXI Tiksi 61.05 1 P **P** **02 27 00.2 -0.4**
TIXI Tiksi 61.05 1 P **P** **02 27 01.1 +0.4**
comp=Z,92nm,0.9s,baz=185,slow=4.4,SNR=155
TIXI S **S** **02 35 12.3 -2.1**
comp=Z,1.9nm,0.6s,baz=179,slow=7.4,SNR=13
TIXI LR LR 02 56 09.9
comp=Z,428nm,20.1s,baz=201,slow=38
comp=Z,92nm,0.9s
TIXI Tiksi 61.05 1 *c e*P **P** **02 27 00.4 -0.2**
TIXI pmax pmax
comp=Z,296nm,1.7s
TIXI Tiksi 61.05 1 P **P** **02 27 01.0 +0.4**
BVA0 Borovoye Array 61.17 325 *i*P **P** **02 27 01.8 0.0**
BVAR Borovoye Array 61.17 325 P **P** **02 27 01.8 0.0**
comp=Z,55nm,0.9s,baz=115,slow=8.7,SNR=144
BVAR S **S** **02 35 15.7 -0.9**
comp=Z,3.9nm,1.1s,baz=113,slow=13,SNR=5.9
BVAR LR LR 02 56 18.4
comp=Z,705nm,19.5s,baz=118,slow=39
comp=Z,55nm,0.9s
BRVK Borovoye 61.24 325 P **P** **02 27 01.7 -0.6**
BRVK IAmb IAmb 02 27 19.5
comp=Z,99nm,0.9s

BRVK Borovoye 61.24 325 P **P 02 27 02.8 +0.5**
BRVK Borovoye 61.24 325 *ce*P **P 02 27 02.1 -0.2**
BRVK pmax pmax
comp=Z,107nm,1.0s
BRVK Borovoye 61.24 325 P **P 02 27 02.6 +0.3**
BRVK pP **pP 02 27 17.9 -1.3**
NGCH Negor - Chabah 62.76 293 P **P 02 27 14.7 +1.7**
NGCH S **S 02 35 39.7 +2.2**
BILL Bilibino 63.22 16 P **P 02 27 15.5 +0.3**
BILL IAmb IAmb 02 27 18.7
comp=Z,117nm,1.2s
BILL Bilibino 63.22 16 *ce*P **P 02 27 15.8 +0.6**
BILL pmax pmax
comp=Z,211nm,1.7s
BILL Bilibino 63.22 16 P **P 02 27 16.2 +1.0**
BILL pP **pP 02 27 31.6 0.0**
ATKA Atka Island 63.47 37 P **P 02 27 17.8 +0.7**
NRIK Noril'sk 63.61 346 P **P 02 27 18.3 +0.5**
NRIK Noril'sk 63.61 346 P **P 02 27 18.5 +0.7**
comp=Z,147nm,0.8s,baz=132,slow=5.2,SNR=244
NRIK S **S 02 35 47.1 +0.4**
comp=Z,2.8nm,0.8s,baz=9.9,slow=23,SNR=27
comp=Z,147nm,0.8s
NRIK Noril'sk 63.61 346 *ce*P **P 02 27 18.0 +0.2**
NRIK pmax pmax
comp=Z,221nm,0.9s
OUZ Omahuta 64.12 138 P **P 02 27 23.1 +1.4**
OUZ Omahuta 64.12 138 P **P 02 27 24.0 +2.3**
JLN Jalan Bani Buh 64.35 290 P **P 02 27 24.4 +0.9**
WBK Wadi Bani Khal 64.75 290 P **P 02 27 26.4 +0.2**
WCZ Waipu Caves 65.04 138 P **P 02 27 30.2 +2.6**
WSAR Wadi Sarin 65.05 291 P **P 02 27 27.7 -0.4**
comp=Z,0.1nm,0.8s,baz=116,slow=24,SNR=13
WSAR Wadi Sarin 65.05 291 P **P 02 27 28.2 +0.1**
BIDO Bidbid 65.50 291 P **P 02 27 32.0 +0.9**
SNR=10
JMDO Jabal Madar 65.56 290 P **P 02 27 33.0 +1.6**
SNR=6.1
SMDO Samad 65.59 291 P **P 02 27 33.0 +1.3**
SNR=5.5
MHTO MHTO 65.73 288 P **P 02 27 32.1 -0.4**
SNR=15
GRZ Great Barrier 65.95 138 P **P 02 27 35.9 +2.4**
DQM DQM 66.18 287 P **P 02 27 35.7 +0.3**
HOQ Hoqain 66.25 291 P **P 02 27 35.9 +0.1**
SNR=7.2
AB31 Akbulak array 66.36 319 *i* P **P 02 27 35.5 -0.6**
ABKAR Akbulak array 66.36 319 P **P 02 27 34.9 -1.2**
BSY Bisya 66.38 290 P **P 02 27 36.4 -0.3**
SNR=6.9
AFI Afiamalu 66.48 110 P **P 02 27 38.8 +1.3**
AFI IAmb IAmb 02 27 40.8
comp=Z,151nm,1.4s
AFI Afiamalu 66.48 110 P **P 02 27 38.8 +1.3**
AFI pmax pmax
comp=Z,151nm,1.4s
NIKH Nikolski High 66.81 37 P **P 02 27 40.3 +1.5**
NIKH Nikolski High 66.81 37 P **P 02 27 39.6 +0.7**
baz=256
TOZ Tahuroa Road 66.83 139 IAmb IAmb 02 27 42.6
comp=Z,157nm,1.4s
TOZ Tahuroa Road 66.83 139 P **P 02 27 41.5 +2.3**
QRZ Quartz Range 66.86 143 P **P 02 27 40.5 +1.2**
QRZ Quartz Range 66.86 143 P **P 02 27 41.0 +1.8**
MSZ Milford Sound 66.87 149 P **P 02 27 41.5 +2.3**
JCZ Jackson Bay 66.90 148 P **P 02 27 40.0 +0.4**
JCZ Jackson Bay 66.90 148 P **P 02 27 41.8 +2.1**
SOHO SOHO 66.95 292 P **P 02 27 40.4 +0.2**
SOHO SOHO 66.95 292 *i* P **P 02 27 39.8 -0.5**
SNR=6.9
ARQ Araqi 66.98 291 P **P 02 27 40.7 +0.1**
DSZ Denniston Nort 67.02 144 P **P 02 27 42.0 +1.7**
SPIA Saint Paul Isl 67.14 32 P **P 02 27 42.1 +1.4**
baz=253
VRZ Vera Road 67.17 140 P **P 02 27 43.6 +2.3**
UOSS Minazif 67.23 293 P **P 02 27 41.1 -0.9**
UOSS Minazif 67.23 293 P **P 02 27 41.2 -0.8**
UOSS Minazif 67.23 293 *i* P **P 02 27 41.1 -0.9**
SNR=7.9
MASF Masafi 67.26 293 P **P 02 27 44.2 +1.9**
SHME Shamm 67.26 294 P **P 02 27 42.6 +0.4**
HATD Hatta, Dubai 67.30 292 P **P 02 27 43.1 +0.6**
SNR=6.1
HATD Hatta, Dubai 67.30 292 *i* P **P 02 27 42.2 -0.3**
SNR=7.8
P08K Saint George I 67.34 33 P **P 02 27 43.9 +1.8**
baz=254
ASHO Ashiyiah 67.37 292 P **P 02 27 43.4 +0.4**
SNR=6.4
ASHO Ashiyiah 67.37 292 *i* P **P 02 27 42.4 -0.5**
SNR=10
MLZ Mavora Lakes 67.45 149 P **P 02 27 44.1 +1.1**
WKZ Wanaka 67.54 148 P **P 02 27 46.2 +2.7**
NNZ Nelson 67.61 143 P **P 02 27 45.4 +1.4**
ALNE Al Ain 67.67 292 P **P 02 27 44.8 0.0**
SNR=9.1
ALNE Al Ain 67.67 292 *i* P **P 02 27 44.5 -0.3**
SNR=7.2
THZ Tophouse 67.67 144 P **P 02 27 44.0 -0.5**
THZ IAmb IAmb 02 27 46.3
comp=Z,46nm,0.7s
THZ Tophouse 67.67 144 P **P 02 27 45.1 +0.7**
NAZ Nazwa, Dubai 67.72 293 P **P 02 27 45.5 +0.4**
SVE Sverdlovsk 67.72 327 *de*P **P 02 27 44.7 +0.2**
SVE *e*S **S 02 36 35.9 -1.3**
SVE pmax pmax
comp=Z,100nm,0.9s
FAQ Al Faqa, Dubai 67.79 292 P **P 02 27 45.9 +0.3**
AKTO Aktyubinsk 67.81 320 P **P 02 27 45.0 -0.3**
comp=Z,33nm,0.7s,baz=92,slow=6.6,SNR=88
comp=Z,33nm,0.7s
AKTO Aktyubinsk 67.81 320 P **P 02 27 45.0 -0.3**
LBZ Lake Benmore 67.85 147 P **P 02 27 46.8 +1.3**
RPZ Rata Peaks 67.88 146 LR LR 02 57 11.9
comp=Z,375nm,21.8s,baz=304,slow=36
RPZ Rata Peaks 67.88 146 P **P 02 27 46.0 +0.3**
RPZ Rata Peaks 67.88 146 P **P 02 27 46.8 +1.1**
LTZ Lake Taylor 67.95 145 P **P 02 27 47.4 +1.2**
EAZ Earnscleugh 67.97 148 P **P 02 27 47.6 +1.4**
OXZ Oxford 68.17 145 P **P 02 27 48.8 +1.3**
URZ Urewera 68.18 139 P **P 02 27 48.7 +1.1**
URZ Urewera 68.18 139 P **P 02 27 48.3 +0.6**
UMZA Um Al Zommool 68.26 290 P **P 02 27 48.3 -0.2**
BKZ Black Stump Fm 68.29 140 P **P 02 27 48.8 +0.4**
BKZ Black Stump Fm 68.29 140 P **P 02 27 49.7 +1.3**
BKZ Black Stump Fm 68.29 140 P **P 02 27 49.5 +1.1**
HAZ Te Kaha 68.34 138 P **P 02 27 48.3 -0.4**
AJN Ajban 68.34 292 P **P 02 27 48.4 -0.6**
UNV Unalaska Valle 68.38 36 IAmb IAmb 02 27 50.4
comp=Z,106nm,0.9s
UNV Unalaska Valle 68.38 36 P **P 02 27 49.3 +0.7**
baz=258,SNR=6.5
KHZ Kahutara 68.44 144 P **P 02 27 50.9 +1.7**
KHZ Kahutara 68.44 144 P **P 02 27 49.9 +0.7**
SNZO South Karori 68.45 142 P **P 02 27 49.8 +0.5**
TSZ Takapari Road 68.48 141 P **P 02 27 50.7 +1.2**
MWZ Matawai 68.49 138 P **P 02 27 50.2 +0.6**
GVZ Greta Valley S 68.50 145 P **P 02 27 51.2 +1.6**
GAMB Gambell 68.56 25 IAmb IAmb 02 27 52.8
comp=Z,276nm,1.8s
GAMB Gambell 68.56 25 P **P 02 27 51.3 +1.7**
baz=249,SNR=7.7
BHW Baring Head 68.61 142 P **P 02 27 49.7 -0.6**
TUZ Tuapeka 68.63 149 P **P 02 27 51.8 +1.5**
MQZ McQueen's Vall 68.75 145 P **P 02 27 52.8 +1.6**
DMTO DMTO 68.78 285 P **P 02 27 53.0 +1.1**
DMTO S **S 02 36 51.4 +0.2**
ARTI Arti 68.82 327 P **P 02 27 50.3 -1.1**
ARTI Arti 68.82 327 P **P 02 27 50.7 -0.7**
comp=Z,46nm,0.8s,baz=123,slow=2.6,SNR=70
ARTI LR LR 03 00 52.6
comp=Z,388nm,19.8s,baz=123,slow=38
comp=Z,46nm,0.8s
ARTI Arti 68.82 327 *c i* P **P 02 27 50.6 -0.8**
ARTI *PP **pP 02 28 05.8 -2.7**
ARTI 02 28 18.6
ARTI S **S 02 36 49.4 -0.9**
ARTI 02 37 42.2
ARTI SS **SS 02 41 10.1 -6.1**
ARTI pmax pmax
comp=Z,63nm,0.9s
ARTI MLR MLR
comp=Z,509nm,18.0s
ARTI Arti 68.82 327 P **P 02 27 50.6 -0.8**

PUZ Puketiti 68.82 138 P **P 02 27 52.4 +0.7**
KNZ Kokohu 68.97 139 P **P 02 27 53.6 +1.1**
BFZ Birch Farm 69.02 141 IAmb IAmb 02 27 54.6
comp=Z,85nm,0.9s
BFZ Birch Farm 69.02 141 P **P 02 27 54.0 +1.2**
PXZ Pawanui 69.02 140 P **P 02 27 55.0 +2.1**
MZWR Madinat Zayed 69.39 291 P **P 02 27 55.9 +0.4**
DOK Doka 69.48 286 P **P 02 27 57.0 +0.7**
SNR=26
DOK S **S 02 36 58.5 -1.0**
RBK Rabkut 69.51 285 P **P 02 27 57.1 +0.7**
SNR=13
RBK S **S 02 36 58.1 -1.7**
MZR Muzera 69.80 291 P **P 02 27 59.5 +1.4**
SNR=5.2
WHFO Wadi Hawf 69.88 285 P **P 02 27 59.0 +0.2**
SNR=13
WHFO S **S 02 37 02.1 -2.2**
M11K Mekoryuk 70.02 29 IAmb IAmb 02 28 01.9
comp=Z,88nm,0.9s
M11K Mekoryuk 70.02 29 P **P 02 28 01.2 +2.6**
baz=256,SNR=16
GHWR Ruwais 70.30 292 P **P 02 28 01.7 +0.6**
FALS False Pass 70.34 35 P **P 02 28 01.2 +0.5**
baz=260
ABTO Aybut 70.38 285 P **P 02 28 03.0 +1.1**
SNR=17
ABTO S **S 02 37 08.5 -1.6**
TNA Tin City 70.68 24 P **P 02 28 04.3 +1.7**
baz=252,SNR=19
K13K Kusilvak Mount 71.12 28 IAmb IAmb 02 28 08.1
comp=Z,78nm,1.1s
K13K Kusilvak Mount 71.12 28 P **P 02 28 07.4 +2.0**
baz=257
F14K Arctic Creek 71.29 24 P **P 02 28 08.6 +2.2**
baz=254
SLWR Sila 71.37 292 P **P 02 28 08.1 +0.4**
M13K Dall Lake 71.41 30 IAmb IAmb 02 28 10.1
comp=Z,88nm,0.8s
M13K Dall Lake 71.41 30 P **P 02 28 09.5 +2.4**
baz=258
ANM Nome 71.44 25 P **P 02 28 09.2 +1.9**
baz=255,SNR=37
TRNA Turayna 71.77 293 P **P 02 28 10.8 +0.8**
TRNA S **S 02 37 23.1 -2.7**
J14K Nanvaranak Lak 71.80 27 IAmb IAmb 02 28 12.8
comp=Z,290nm,1.9s
J14K Nanvaranak Lak 71.80 27 P **P 02 28 11.3 +1.9**
baz=257
L14K Kuka Creek 71.91 29 IAmb IAmb 02 28 13.1
comp=Z,122nm,0.8s
L14K Kuka Creek 71.91 29 P **P 02 28 12.4 +2.2**
baz=259
SHMA Al-Shehemyia 71.93 294 P **P 02 28 11.2 +0.3**
F15K North Star Dit 72.03 24 IAmb IAmb 02 28 13.4
comp=Z,66nm,0.9s
F15K North Star Dit 72.03 24 P **P 02 28 12.8 +2.0**
baz=256,SNR=66
SDPT Sand Point 72.09 35 IAmb IAmb 02 28 12.4
comp=Z,164nm,1.0s
SDPT Sand Point 72.09 35 P **P 02 28 13.5 +2.2**
SDPT Sand Point 72.09 35 P **P 02 28 11.8 +0.5**
baz=263,SNR=5.3
G15K Niukluk 72.10 25 P **P 02 28 12.9 +1.6**
baz=256
SMRA Abu-Samra 72.12 293 P **P 02 28 11.8 -0.3**
SMRA S **S 02 37 28.0 -1.8**
N14K Kuskokwak Cree 72.13 30 P **P 02 28 13.4 +1.9**
baz=260,SNR=20
M14K Bethel 72.15 29 P **P 02 28 13.3 +1.7**
M14K IAmb IAmb 02 28 14.3
comp=Z,156nm,0.8s
M14K Bethel 72.15 29 P **P 02 28 13.6 +2.1**
baz=260,SNR=55
O14K Tigyukauivet M 72.23 31 IAmb IAmb 02 28 14.5
comp=Z,70nm,0.8s
O14K Tigyukauivet M 72.23 31 P **P 02 28 13.8 +1.7**
baz=261
C16K Lisburne Hills 72.44 21 P **P 02 28 14.9 +1.7**
baz=254
CNBA Chernabura Isl 72.53 36 IAmb IAmb 02 28 15.5
comp=Z,95nm,1.2s
CHNA Chernabura Isl 72.53 36 P **P 02 28 14.9 +0.9**
baz=264
L15K Ungalak Mounta 72.54 29 P **P 02 28 15.7 +1.8**
baz=260,SNR=25
K15K Wolf Creek Mou 72.63 28 P **P 02 28 16.6 +2.2**
baz=259
M15K Kasigluk River 72.75 30 P **P 02 28 16.9 +1.7**
baz=261,SNR=39
H16K Elim 72.78 25 P **P 02 28 16.8 +1.6**
baz=258,SNR=71
G16K Koyuk River 72.89 25 P **P 02 28 17.5 +1.6**
baz=258,SNR=42
O15K Ungalikthiuk R 72.95 31 P **P 02 28 18.1 +1.7**
baz=262
N15K Kwethluk River 72.96 30 IAmb IAmb 02 28 19.8
comp=Z,229nm,1.3s
N15K Kwethluk River 72.96 30 P **P 02 28 18.5 +2.0**
baz=261,SNR=48
D17K Noatak River 73.12 22 P **P 02 28 19.5 +2.3**
baz=256,SNR=152
J16K Anvik River 73.23 27 IAmb IAmb 02 28 21.6
comp=Z,325nm,1.9s
J16K Anvik River 73.23 27 P **P 02 28 20.1 +2.1**
baz=260,SNR=37
RDOG Red Dog Mine 73.27 22 IAmb IAmb 02 28 21.5
comp=Z,182nm,1.3s
RDOG Red Dog Mine 73.27 22 P **P 02 28 20.0 +1.9**
baz=256,SNR=28
C17K DeLong Mountai 73.27 21 P **P 02 28 20.0 +1.9**
baz=256
I17K Unalakleet 73.29 26 IAmb IAmb 02 28 21.2
comp=Z,77nm,0.9s
I17K Unalakleet 73.29 26 P **P 02 28 20.6 +2.3**
baz=260,SNR=69
CHGN Chignik 73.35 34 IAmb IAmb 02 28 20.4
comp=Z,168nm,1.2s
CHGN Chignik 73.35 34 P **P 02 28 19.2 +0.4**
baz=264,SNR=5.5
E17K Hotham Inlet 73.45 23 P **P 02 28 21.3 +2.1**
baz=258
L16K Owhat River 73.49 29 P **P 02 28 21.1 +1.6**
L16K Owhat River 73.49 29 P **P 02 28 21.4 +1.9**
baz=262,SNR=62
F17K Baldwin Pennin 73.55 24 P **P 02 28 21.8 +2.1**
baz=258
G17K Kiwalik Mounta 73.61 25 P **P 02 28 22.2 +2.0**
baz=259,SNR=132
M16K Timber Creek 73.64 29 IAmb IAmb 02 28 23.0
comp=Z,76nm,0.8s
M16K Timber Creek 73.64 29 P **P 02 28 22.4 +2.0**
baz=262
N16K Nishlik Lake 73.66 30 P **P 02 28 22.9 +2.3**
baz=262,SNR=44
H17K Granite Mounta 73.81 25 IAmb IAmb 02 28 24.1
comp=Z,72nm,0.8s
H17K Granite Mounta 73.81 25 P **P 02 28 23.5 +2.1**
baz=260
P16K Nushagak River 73.87 32 P **P 02 28 23.5 +1.7**
baz=264,SNR=16
O16K Kokwok River B 73.89 31 IAmb IAmb 02 28 25.0
comp=Z,222nm,1.2s
O16K Kokwok River B 73.89 31 P **P 02 28 23.8 +1.9**
baz=263,SNR=59
J17K VABM Dome 73.92 27 P **P 02 28 24.3 +2.2**
baz=261,SNR=76
R16K Pilot Point 73.94 33 P **P 02 28 23.0 +0.8**
baz=264
KIRV Kirov 73.96 328 LR LR 03 04 12.0
comp=Z,584nm,20.9s,baz=100,slow=38
KIRV Kirov 73.96 328 *ce*P **P 02 28 22.0 -0.3**
B18K Kokolik River 73.96 21 P **P 02 28 24.7 +2.5**
baz=257,SNR=115
E18K Tukpahlearik C 73.99 23 IAmb IAmb 02 28 25.2
comp=Z,89nm,0.8s
E18K Tukpahlearik C 73.99 23 P **P 02 28 24.5 +2.1**
baz=259
C18K Utukok River 74.02 21 P **P 02 28 24.4 +1.8**
baz=258
L17K Donlin 74.10 28 P **P 02 28 25.6 +2.5**
baz=262
K17K Iditarod 74.18 28 P **P 02 28 25.8 +2.3**
baz=262
F18K Selawik 74.20 24 P **P 02 28 25.5 +1.9**
baz=260,SNR=130
MAK Makhachkala 74.35 312 *e*P **P 02 28 22.6 -2.3**

MAK *e**PP **PcP 02 28 40.5 +1.1**
MAK *e**SP **sP 02 28 46.9 -2.3**
MAK *e* 02 31 08.3
MAK *e*PPP PPP 02 32 54.6
MAK *e*S **SKiKP 02 37 49.7 +3.5**
MAK *e**SS **sS 02 38 21.5 -2.2**
MAK *e*SS **SS 02 42 45.4 +4.0**
MAK pmax pmax
comp=Z,249nm,0.9s
MAK MLR MLR
comp=Z,1μm,21.0s
A19K Wainwright 74.39 20 P **P 02 28 27.3 +2.6**
baz=258
O17K Koliganek Bris 74.41 31 P **P 02 28 26.8 +1.9**
baz=264,SNR=46
M17K Holitna River 74.42 29 IAmb IAmb 02 28 28.1
comp=Z,97nm,0.8s
M17K Holitna River 74.42 29 P **P 02 28 27.6 +2.6**
baz=263,SNR=48
N17K Nushagak Hills 74.44 30 P **P 02 28 27.0 +1.9**
N17K Nushagak Hills 74.44 30 P **P 02 28 27.6 +2.5**
baz=264,SNR=61
G18K Tagagawik 74.49 24 IAmb IAmb 02 28 28.1
comp=Z,376nm,2.0s
G18K Tagagawik 74.49 24 P **P 02 28 26.8 +1.5**
baz=261
H18K Honhosa River 74.49 25 IAmb IAmb 02 28 29.2
comp=Z,83nm,1.1s
H18K Honhosa River 74.49 25 P **P 02 28 26.8 +1.4**
baz=262,SNR=68
Q16K King Salmon 74.53 32 P **P 02 28 26.4 +0.7**
baz=265,SNR=9.8
P17K Kvichak River 74.69 31 P **P 02 28 28.5 +2.0**
baz=265,SNR=31
L18K Granite Mounta 74.86 28 IAmb IAmb 02 28 30.4
comp=Z,57nm,0.8s
L18K Granite Mounta 74.86 28 P **P 02 28 29.9 +2.3**
baz=264,SNR=58
CHIR Chirikof Islan 74.87 35 P **P 02 28 29.3 +1.6**
CHIR Chirikof Islan 74.87 35 P **P 02 28 29.6 +1.9**
baz=266
F19K Shaleruckik Mo 74.98 23 IAmb IAmb 02 28 30.8
comp=Z,145nm,1.6s
F19K Shaleruckik Mo 74.98 23 P **P 02 28 29.4 +1.4**
baz=262,SNR=68
J18K Innoko River 74.99 27 P **P 02 28 29.7 +1.5**
baz=264
GCSA Galena City Sc 75.06 26 P **P 02 28 30.4 +1.8**
baz=263,SNR=36
N18K Kilae Creek 75.09 30 P **P 02 28 31.1 +2.2**
baz=265,SNR=42
D19K Kuna River 75.10 22 IAmb IAmb 02 28 31.4
comp=Z,118nm,0.8s
D19K Kuna River 75.10 22 P **P 02 28 30.8 +2.0**
baz=261,SNR=153
G19K Purcell Mounta 75.16 24 IAmb IAmb 02 28 31.5
comp=Z,65nm,0.8s
G19K Purcell Mounta 75.16 24 P **P 02 28 30.9 +1.8**
baz=262
M18K Stony River 75.20 29 P **P 02 28 31.8 +2.3**
baz=265,SNR=56
E19K Redstone River 75.28 23 IAmb IAmb 02 28 33.2
comp=Z,191nm,1.1s
E19K Redstone River 75.28 23 P **P 02 28 31.9 +2.1**
baz=262,SNR=180
P18K Big Mountain, 75.32 31 IAmb IAmb 02 28 32.9
comp=Z,327nm,1.9s
P18K Big Mountain, 75.32 31 P **P 02 28 31.2 +0.9**
baz=266,SNR=9.2
H19K Roundabout Mou 75.34 25 P **P 02 28 32.4 +2.2**
baz=263,SNR=184
O18K Koktuh Hills 75.36 31 P **P 02 28 32.3 +1.8**
O18K Koktuh Hills 75.36 31 P **P 02 28 32.6 +2.2**
baz=266,SNR=116
Q18K Katmai Hardscr 75.38 32 P **P 02 28 31.1 +0.4**
baz=266,SNR=17
J19K Poorman 75.53 27 IAmb IAmb 02 28 34.6
comp=Z,261nm,1.9s
J19K Poorman 75.53 27 P **P 02 28 33.1 +1.8**
baz=264,SNR=50
R18K Karluk 75.62 33 P **P 02 28 32.4 +0.5**
baz=267
B20K Meade River 75.67 20 IAmb IAmb 02 28 34.8
comp=Z,128nm,0.8s
B20K Meade River 75.67 20 P **P 02 28 34.1 +2.1**
baz=261
D20K Etivluk River 75.68 22 P **P 02 28 34.1 +2.0**
baz=262,SNR=281
L19K White Mountain 75.71 28 IAmb IAmb 02 28 35.1
comp=Z,71nm,0.9s
L19K White Mountain 75.71 28 P **P 02 28 34.5 +2.0**
baz=266,SNR=68
SII Sitkinak Islan 75.72 34 P **P 02 28 33.9 +1.3**
SII Sitkinak Islan 75.72 34 P **P 02 28 34.5 +1.9**
baz=268,SNR=5.6
E20K Nigu River 75.78 22 P **P 02 28 34.7 +2.0**
baz=263,SNR=145
N19K Bonanza Creek 75.79 30 P **P 02 28 35.1 +2.1**
baz=266,SNR=60
F20K Avaraart Lake 75.81 23 IAmb IAmb 02 28 35.5
comp=Z,67nm,0.8s
F20K Avaraart Lake 75.81 23 P **P 02 28 34.9 +2.1**
baz=264
O19K Port Alsworth 75.83 30 IAmb IAmb 02 28 35.4
comp=Z,96nm,1.0s
O19K Port Alsworth 75.83 30 P **P 02 28 34.8 +1.7**
baz=266,SNR=39
M19K Big River Lodg 75.91 29 IAmb IAmb 02 28 37.1
comp=Z,259nm,1.9s
M19K Big River Lodg 75.91 29 P **P 02 28 35.6 +2.1**
baz=266,SNR=34
H20K Anotleneega Mo 75.99 25 P **P 02 28 35.9 +2.0**
baz=265,SNR=179
MLH Mauna Loa 76.05 72 IAmb IAmb 02 28 39.2
comp=Z,224nm,1.2s
A21K Barrow 76.05 19 P **P 02 28 36.0 +1.9**
baz=262,SNR=45
I20K Naaghedeneel 76.09 26 P **P 02 28 36.9 +2.4**
baz=265,SNR=63
Q19K Cape Douglas, 76.11 32 IAmb IAmb 02 28 35.8
comp=Z,104nm,0.8s
Q19K Cape Douglas, 76.11 32 P **P 02 28 35.4 +0.6**
baz=267,SNR=17
RSD Rainshed 76.15 72 P **P 02 28 35.6 -0.3**
K20K Telida 76.16 27 IAmb IAmb 02 28 38.5
comp=Z,367nm,1.9s
K20K Telida 76.16 27 P **P 02 28 37.1 +2.2**
baz=266
HATHI Halema'uma'u T 76.17 73 IAmb IAmb 02 28 39.6
comp=Z,250nm,1.3s
J20K Nowinta River 76.19 26 P **P 02 28 37.2 +2.1**
baz=266,SNR=99
L20K Farewell, AK 76.19 28 P **P 02 28 37.0 +1.9**
baz=266,SNR=38
OHAK Old Harbor 76.23 34 IAmb IAmb 02 28 37.5
comp=Z,61nm,0.8s
OHAK Old Harbor 76.23 34 P **P 02 28 37.3 +1.9**
OHAK Old Harbor 76.23 34 P **P 02 28 37.0 +1.6**
baz=268,SNR=18
STCH Steam Cracks 76.30 73 IAmb IAmb 02 28 40.8
comp=Z,194nm,1.0s
P19K Oil Pt 76.35 31 P **P 02 28 36.8 +0.7**
baz=268,SNR=21
C21K Knifeblade Rid 76.39 21 P **P 02 28 38.2 +2.1**
baz=264
JOKA Jonika Flow 76.41 72 IAmb IAmb 02 28 40.8
comp=Z,110nm,1.0s
ILSW Iliamna Southw 76.41 31 IAmb IAmb 02 28 38.2
comp=Z,219nm,1.9s
GNI Garni 76.48 309 P **P 02 28 37.1 -0.3**
GNI Garni 76.48 309 P **P 02 28 37.4 0.0**
GNI Garni 76.48 309 *ce*P **P 02 28 37.3 -0.1**
GNI pmax pmax
comp=Z,65nm,1.4s
GNI Garni 76.48 309 P **P 02 28 38.2 +0.7**
GNI Garni 76.48 309 P **P 02 28 37.7 +0.3**
comp=Z,610nmcomp=Z,25nm,0.8s
B21K Ikpikpuk River 76.50 21 P **P 02 28 39.0 +2.3**
baz=264,SNR=231
M20K Styx River 76.50 29 IAmb IAmb 02 28 39.7
comp=Z,53nm,0.8s
M20K Styx River 76.50 29 P **P 02 28 39.1 +2.1**
baz=267,SNR=54
A22K Sinclair Lake 76.53 19 P **P 02 28 39.1 +2.2**
baz=263
E21K Killik River 76.61 22 P **P 02 28 39.2 +1.8**
baz=265

KDAK	Kodiak Island	76.63	33	P	P	02 28 38.9 +1.3
KDAK	Kodiak Island	76.63	33	P	P	02 28 38.9 +1.3
KDAK				pmax	pmax	
	comp=Z,427nm,1.7s					
KDAK	Kodiak Island	76.63	33	P	P	02 28 39.0 +1.3
	baz=269					
G21K	Allakaket	76.63	24	IAmb	IAmb	02 28 40.8
	comp=Z,149nm,1.0s					
G21K	Allakaket	76.63	24	P	P	02 28 39.5 +2.0
	baz=266,SNR=180					
O20K	Slope Mountain	76.67	31	P	P	02 28 38.6 +0.6
	baz=268,SNR=18					
F21K	Alatna River	76.70	23	P	P	02 28 39.4 +1.5
	baz=266					
Q20K	Shuyak Island	76.75	32	P	P	02 28 39.4 +1.1
	baz=268,SNR=45					
H21K	Melozitna Rive	76.86	25	P	P	02 28 41.0 +2.1
	baz=266,SNR=116					
SPCR	Spurr Chakacha	76.92	29	P	P	02 28 40.3 +1.0
	baz=268,SNR=16					
CHUM	Lake Minchumin	76.97	27	P	P	02 28 41.5 +2.0
	baz=267,SNR=31					
B22K	Teshekpuk Lake	76.98	20	P	P	02 28 41.4 +2.0
	baz=265					
PPLA	Purkeypile	76.99	28	IAmb	IAmb	02 28 42.7
	comp=Z,222nm,1.7s					
PPLA	Purkeypile	76.99	28	P	P	02 28 41.2 +1.4
	baz=268,SNR=29					
CAST	Castle Rocks	77.06	27	P	P	02 28 41.6 +1.6
	baz=268,SNR=103					
RAYN	Ar Rayn	77.06	292	P	P	02 28 39.5 -1.4
RAYN				IAmb	IAmb	02 28 42.3
	comp=Z,84nm,0.9s					
RAYN	Ar Rayn	77.06	292	P	P	02 28 41.4 +0.5
RAYN	Ar Rayn	77.06	292	P	P	02 28 39.5 -1.4
RAYN				pmax	pmax	
	comp=Z,84nm,0.9s					
RAYN	Ar Rayn	77.06	292	*i* P	P	02 28 40.7 -0.2
	SNR=62					
D22K	Ayikyak River	77.12	22	P	P	02 28 42.5 +2.2
	baz=266					
HOM	Homer	77.16	31	P	P	02 28 41.1 +0.5
	baz=269					
F22K	John River	77.22	23	P	P	02 28 43.2 +2.3
	baz=267					
SKT	Skwentna	77.26	29	IAmb	IAmb	02 28 43.1
	comp=Z,210nm,1.6s					
SKT	Skwentna	77.26	29	P	P	02 28 41.6 +0.4
	baz=268,SNR=56					
E22K	Anaktuvuk Pass	77.39	22	IAmb	IAmb	02 28 45.3
	comp=Z,150nm,1.2s					
E22K	Anaktuvuk Pass	77.39	22	P	P	02 28 43.9 +2.0
	baz=267,SNR=121					
CAPN	Captain Cook N	77.42	30	P	P	02 28 43.9 +1.9
	baz=269,SNR=7.7					
H22K	Ishtalitna Cre	77.46	25	P	P	02 28 44.6 +2.3
	baz=268					
CASY	Casey	77.48	186	P	P	02 28 41.8 -0.3
CASY				IAmb	IAmb	02 28 58.0
	comp=Z,61nm,0.8s					
BRLK	Bradley Lake	77.54	31	IAmb	IAmb	02 28 46.2
	comp=Z,82nm,1.0s					
BPAW	Bear Paw Mtn.	77.57	27	P	P	02 28 44.5 +1.6
	baz=268,SNR=221					
KTH	Kantishna Hill	77.58	27	IAmb	IAmb	02 28 45.7
	comp=Z,190nm,1.7s					
BRSE	Bradley Lake S	77.62	31	P	P	02 28 43.9 +0.7
	baz=270,SNR=36					
SUA	Susitna One	77.63	29	IAmb	IAmb	02 28 48.2
	comp=Z,128nm,1.2s					
SUA	Susitna One	77.63	29	P	P	02 28 43.9 +0.5
	baz=269,SNR=66					
KBZ	Khabaz	77.69	313	P	P	02 28 43.6 -0.3
	comp=Z,26nm,0.9s,baz=112,slow=3.6,SNR=38					
	comp=Z,26nm,0.9s					
KBZ	Khabaz	77.69	313	*ce*P	P	02 28 42.9 -1.0
KBZ				pmax	pmax	
	comp=Z,31nm,0.9s					
KIV	Kislovodsk	77.83	313	P	P	02 28 44.1 -0.8
KIV				IAmb	IAmb	02 28 46.7
	comp=Z,81nm,0.8s					
KIV	Kislovodsk	77.83	313	P	P	02 28 45.5 +0.7
KIV				S	S	02 38 32.2 -0.8
KIV	Kislovodsk	77.83	313	‖P	P	02 28 44.9 +0.1
KIV	Kislovodsk	77.83	313	*eP*	P	02 28 44.7 -0.2
KIV				*eS*	S	02 38 32.1 -0.8
KIV				pmax	pmax	
	comp=Z,78nm,1.0s					
KIV				pmax	pmax	
	comp=Z,13nm,3.7s					
KIV				MLR	MLR	
	comp=Z,456nm,18.0s					
KIV	Kislovodsk	77.83	313	*i* P	P	02 28 44.6 -0.2
	SNR=5.2					
KIV	Kislovodsk	77.83	313	P	P	02 28 45.0 +0.1
	comp=Z,532nmcomp=Z,90nm,0.8s					
D23K	Nanushuk River	77.85	22	P	P	02 28 46.7 +2.4
	baz=268					
SHA1	Shidzhatmaz	77.86	313	*i* P	P	02 28 44.9 -0.3
CUT	Chulitna	77.86	28	P	P	02 28 44.9 +0.4
	baz=270,SNR=27					
TRF	Thorofare Moun	77.86	27	P	P	02 28 45.5 +0.8
	baz=269,SNR=59					
SLKM	Skilak Lake	77.88	30	IAmb	IAmb	02 28 46.5
	comp=Z,205nm,1.4s					
C23K	Itkillik River	77.91	21	P	P	02 28 46.7 +2.1
	baz=266					
M22K	Willow	77.93	29	P	P	02 28 45.4 +0.5
	baz=270,SNR=30					
COLD	Coldfoot	77.97	23	IAmb	IAmb	02 28 47.9
	comp=Z,80nm,0.8s					
COLD	Coldfoot	77.97	23	P	P	02 28 47.2 +2.2
	baz=268,SNR=163					
G23K	Bananza Creek	78.03	24	P	P	02 28 47.6 +2.2
	baz=269,SNR=140					
RC01	Rabbit Creek A	78.11	30	P	P	02 28 45.8 -0.1
RC01				IAmb	IAmb	02 28 47.9
	comp=Z,144nm,1.4s					
RC01	Rabbit Creek A	78.11	30	P	P	02 28 46.5 +0.6
	baz=270,SNR=33					
O22K	Cooper Landing	78.12	30	P	P	02 28 46.8 +0.9
	baz=270,SNR=20					
VRH	Novokhopyorsk	78.16	320	*eP*	P	02 28 43.9 -2.4
VRH				pmax	pmax	
	comp=Z,100nm,0.8s					
H23K	Yukon River	78.21	25	P	P	02 28 48.6 +2.2
	baz=269,SNR=106					
E23K	Chandalar	78.21	22	P	P	02 28 48.9 +2.4
	baz=269					
BWN	Browne	78.24	26	IAmb	IAmb	02 28 49.5
	comp=Z,80nm,1.1s					
TOLK	Toolik Lake Re	78.24	22	IAmb	IAmb	02 28 49.3
	comp=Z,90nm,0.8s					
TOLK	Toolik Lake Re	78.24	22	P	P	02 28 48.7 +2.1
	baz=269,SNR=120					
SEW	Seward	78.27	31	P	P	02 28 47.6 +0.9
	baz=271,SNR=24					
I23K	Minto, Yukon-K	78.28	25	P	P	02 28 48.5 +1.8
	baz=270,SNR=90					
PMR	Palmer	78.40	29	P	P	02 28 47.4 -0.1
PMR				IAmb	IAmb	02 28 49.4
	comp=Z,316nm,1.8s					
PMR	Palmer	78.40	29	P	P	02 28 48.9 +1.4
PMR	Palmer	78.40	29	P	P	02 28 47.4 -0.1
PMR				pmax	pmax	
	comp=Z,316nm,1.8s					
PMR	Palmer	78.40	29	P	P	02 28 48.1 +0.6
	baz=271,SNR=49					
NEA2	Nenana	78.41	26	IAmb	IAmb	02 28 50.1
	comp=Z,79nm,0.8s					
NEA2	Nenana	78.41	26	P	P	02 28 48.3 +0.8
	baz=270,SNR=96					
MCK	McKinley	78.47	27	P	P	02 28 48.8 +0.9
	baz=270,SNR=163					
GHO	Glory Hole Cre	78.50	29	IAmb	IAmb	02 28 50.4
	comp=Z,178nm,1.6s					
RND	Reindeer	78.51	27	IAmb	IAmb	02 28 50.1
	comp=Z,257nm,1.4s					
D24K	Happy Valley	78.52	21	IAmb	IAmb	02 28 50.8
	comp=Z,127nm,0.7s					
D24K	Happy Valley	78.52	21	P	P	02 28 50.2 +2.2
	baz=269,SNR=159					
C24K	Franklin Bluff	78.57	21	P	P	02 28 50.1 +1.9
	baz=269					
E24K	Your Creek	78.64	22	IAmb	IAmb	02 28 51.5
	comp=Z,67nm,0.8s					
E24K	Your Creek	78.64	22	P	P	02 28 50.8 +2.1
	baz=270					
GURO	Guroymak-BITLI	78.67	307	IAmb	IAmb	02 28 51.5
	comp=Z,59nm,0.8s					
KNK	Knik Glacier	78.73	29	P	P	02 28 50.6 +1.3
	baz=271,SNR=45					
SML	Sawmill	78.78	29	P	P	02 28 50.0 +0.4
SML	Sawmill	78.78	29	P	P	02 28 50.7 +1.1
	baz=271,SNR=70					
PWL	Port Wells	78.80	30	IAmb	IAmb	02 28 52.0
	comp=Z,242nm,1.3s					
PWL	Port Wells	78.80	30	P	P	02 28 50.7 +0.9
	baz=272,SNR=88					
WRH	Wood River Hil	78.83	26	IAmb	IAmb	02 28 51.9
	comp=Z,146nm,1.3s					
F24K	Squaw Lake	78.87	23	IAmb	IAmb	02 28 53.0
	comp=Z,80nm,0.8s					
F24K	Squaw Lake	78.87	23	P	P	02 28 52.4 +2.3
	baz=271,SNR=128					
H24K	Noodor Dome	78.90	25	P	P	02 28 52.2 +2.0
	baz=271,SNR=75					
COLA	College	78.93	26	P	P	02 28 50.0 -0.3
COLA	College	78.93	26	P	P	02 28 50.0 -0.3
COLA				pmax	pmax	
	comp=Z,64nm,1.3s					
COLA	College	78.93	26	P	P	02 28 51.0 +0.7
	baz=271					
CCB	Clear Creek Bu	78.95	26	IAmb	IAmb	02 28 52.3
	comp=Z,114nm,1.3s					
SBV	Sambava	79.02	254	P	P	02 28 53.1 +1.4
G24K	Hadweenzic Riv	79.04	24	P	P	02 28 53.2 +2.3
	baz=271,SNR=121					
KLMR	Klimovskoe	79.05	330	*eP*	P	02 28 48.8 -2.2
KLMR				*e**PP	pP	02 29 05.5 -3.0
KLMR				*e*		02 31 47.9
KLMR				S	S	02 38 43.5 -1.6
KLMR				pmax	pmax	
	comp=Z,109nm,0.9s					
M23K	Glacier View	79.07	29	P	P	02 28 52.2 +1.0
	baz=272,SNR=40					
POKR	Poker Plat Res	79.10	25	P	P	02 28 52.8 +1.5
	baz=272,SNR=11					
LABN	Labinsk	79.19	314	*eP*	P	02 28 51.3 -0.9
LABN				*e**PP	pP	02 29 07.6 -2.1
LABN				*eS*	S	02 38 44.9 -2.4
LABN				pmax	pmax	
	comp=Z,18nm,0.9s					
LABN				MLR	MLR	
	comp=Z,2μm,24.0s					
SCM	Sheep Creek Mo	79.25	29	P	P	02 28 53.7 +1.4
	baz=272,SNR=70					
ERBR	Yeremizino-Bor	79.28	315	*eP*	P	02 28 50.0 -2.7
ERBR				*e**PP	pP	02 29 07.2 -2.9
ERBR				*eS*	S	02 38 45.4 -2.8
ERBR				pmax	pmax	
	comp=Z,63nm,0.9s					
ERBR				MLR	MLR	
	comp=Z,893nm,21.0s					
HDA	Harding Lake	79.33	26	IAmb	IAmb	02 28 53.2
	comp=Z,56nm,0.6s					
HDA	Harding Lake	79.33	26	P	P	02 28 52.8 +0.2
	baz=272,SNR=84					
ILAR	Eielson Array	79.34	26	P	P	02 28 52.4 -0.2
ILAR	Eielson Array	79.34	26	P	P	02 28 52.2 -0.4
	comp=Z,16nm,0.8s,baz=238,slow=4.7,SNR=161					
ILAR				PKKPbc	PKKPbc	02 47 41.5 -3.2
	comp=Z,0.4nm,0.4s,baz=122,slow=1.9,SNR=9.2					
	comp=Z,16nm,0.8s					
ILAR	Eielson Array	79.34	26	P	P	02 28 52.4 -0.2
D25K	Kavik River	79.39	21	IAmb	IAmb	02 28 55.4
	comp=Z,91nm,0.8s					
D25K	Kavik River	79.39	21	P	P	02 28 54.8 +1.9
	baz=272,SNR=97					
GLI	Glacier Island	79.41	30	P	P	02 28 54.3 +1.2
	baz=273,SNR=29					
RAR	Rarotonga	79.55	114	LR	LR	02 59 20.3
	comp=Z,447nm,18.8s,baz=284,slow=32					
G25K	Bearman Lake	79.59	24	P	P	02 28 56.3 +2.4
	baz=272,SNR=90					
VORD	Divnogorie	79.70	320	*eP*	P	02 28 51.4 -3.4
VORD				pmax	pmax	
	comp=Z,50nm,0.9s					
VORR	Voronezh	79.70	321	*eP*	P	02 28 54.1 -0.7
VORR				pmax	pmax	
	comp=Z,169nm,0.7s					
FID	Port Fidalgo	79.72	30	IAmb	IAmb	02 28 57.4
	comp=Z,320nm,1.8s					
H25L	Birch Creek	79.72	24	P	P	02 28 57.1 +2.5
	baz=273					
HIN	Hinchinbrook I	79.72	30	IAmb	IAmb	02 28 58.4
	comp=Z,92nm,1.2s					
F25K	Christian Rive	79.73	23	P	P	02 28 57.3 +2.6
	baz=273					
E25K	Arctic Village	79.73	22	P	P	02 28 57.0 +2.3
	baz=273,SNR=126					
VSR	Storozhevoye	79.76	320	*eP*	P	02 28 52.0 -3.1
VSR				pmax	pmax	
	comp=Z,50nm,0.8s					
MARD	Mardin	79.77	306	P	P	02 28 55.3 -0.4
M24K	Tolsona, Glenn	79.79	29	P	P	02 28 57.0 +1.8
	baz=273,SNR=39					
LPSR	Galich'ya Gora	79.81	322	*eP*	P	02 28 54.5 -0.9
LPSR				pmax	pmax	
	comp=Z,179nm,0.8s					
K24K	Donnelly Dome	79.87	27	P	P	02 28 56.5 +0.9
	baz=273					
C26K	Camden Bay	79.88	21	P	P	02 28 58.1 +2.7
	baz=273					
PRP	Porcupine Dome	79.88	25	P	P	02 28 55.7 0.0
	baz=273,SNR=24					
KLU	Klutina	79.94	29	IAmb	IAmb	02 28 58.8
	comp=Z,163nm,1.5s					
KLU	Klutina	79.94	29	P	P	02 28 57.5 +1.5
	baz=274,SNR=53					
FYU	Fort Yukon	79.94	24	IAmb	IAmb	02 29 00.4
	comp=Z,315nm,1.5s					
J25K	Salcha River,	80.00	26	P	P	02 28 56.2 0.0
	baz=274,SNR=27					
SOC	Sochi	80.00	313	*eP*	P	02 28 55.0 -1.6
SOC				*e*		02 31 57.9
SOC				*e*PPP	PPP	02 33 46.3
SOC				*eS*	S	02 38 53.8 -2.0
SOC				*e*SS	SS	02 44 08.0 +1.3
SOC				*e*SSS	SSS	02 47 24.0
SOC				pmax	pmax	
	comp=Z,24nm,0.7s					
SOC				MLR	MLR	
	comp=Z,480nm,20.0s					
PAX	Paxson	80.06	28	P	P	02 28 58.0 +1.4
	baz=274,SNR=52					
EYAK	Cordova Ski Ar	80.09	30	IAmb	IAmb	02 29 00.9
	comp=Z,346nm,2.0s					
EYAK	Cordova Ski Ar	80.09	30	P	P	02 28 59.6 +2.9
EYAK	Cordova Ski Ar	80.09	30	P	P	02 28 58.5 +1.8
	baz=274,SNR=20					
BMAR	Burnt Mountain	80.15	23	P	P	02 28 58.8 +1.8
HARP	HAARP	80.24	28	P	P	02 28 59.3 +1.7
	baz=274,SNR=20					
RIDG	Independent Ri	80.29	27	IAmb	IAmb	02 29 00.0
	comp=Z,150nm,1.1s					
RIDG	Independent Ri	80.29	27	P	P	02 28 58.8 +1.0
	baz=274,SNR=103					
F26K	Sheenjek River	80.29	23	IAmb	IAmb	02 29 01.6
	comp=Z,142nm,1.4s					
F26K	Sheenjek River	80.29	23	P	P	02 29 00.2 +2.5
	baz=274					
C27K	Jago River	80.31	21	IAmb	IAmb	02 29 01.3
	comp=Z,130nm,1.1s					
C27K	Jago River	80.31	21	P	P	02 29 00.1 +2.3
	baz=274,SNR=120					
MOS	Moscow	80.34	325	*eP*	P	02 28 56.7 -1.4
MOS				*e*		02 31 56.4
MOS				*eS*	S	02 38 51.5 -7.4
MOS				pmax	pmax	
	comp=Z,80nm,0.6s					
MOS				MLR	MLR	
	comp=Z,700nm,19.0s					
G26K	Porcupine Rive	80.49	24	P	P	02 29 01.1 +2.4
	baz=274,SNR=91					
N25K	Chitina, Valde	80.57	29	IAmb	IAmb	02 29 03.5
	comp=Z,371nm,1.9s					
N25K	Chitina, Valde	80.57	29	P	P	02 29 01.1 +1.8
	baz=275,SNR=48					
BMRM	Bremner River	80.62	30	IAmb	IAmb	02 29 03.5
	comp=Z,217nm,1.5s					
BMRM	Bremner River	80.62	30	P	P	02 29 01.1 +1.5
	baz=275,SNR=58					
DOT	Dot Lake	80.64	27	IAmb	IAmb	02 29 02.0
	comp=Z,216nm,1.6s					
SCRK	Sand Creek	80.65	27	P	P	02 29 00.5 +0.7
SCRK				IAmb	IAmb	02 29 02.3
	comp=Z,138nm,1.4s					
SCRK	Sand Creek	80.65	27	P	P	02 29 00.8 +1.0
	baz=275,SNR=68					
J26L	Joseph Creek	80.79	26	IAmb	IAmb	02 29 02.8
	comp=Z,100nm,1.4s					
J26L	Joseph Creek	80.79	26	P	P	02 29 01.5 +1.0
	baz=275,SNR=63					
KAIM	Kayak Island	80.80	31	IAmb	IAmb	02 29 04.8
	comp=Z,179nm,1.4s					
KAIM	Kayak Island	80.80	31	P	P	02 29 02.6 +2.1
	baz=275,SNR=18					
HMT	Hamilton	80.84	30	IAmb	IAmb	02 29 04.8
	comp=Z,207nm,1.5s					
MENT	Mentasta	80.86	28	IAmb	IAmb	02 29 18.0
	comp=Z,66nm,0.6s					
I26K	Coal Creek Min	80.89	25	P	P	02 29 01.9 +0.9
	baz=275					
GLB	Gilahina Butte	80.96	29	IAmb	IAmb	02 29 05.2
	comp=Z,190nm,1.5s					
OBN	Obninsk	81.00	324	P	P	02 29 00.4 -1.3
OBN	Obninsk	81.00	324	LR	LR	03 07 43.6
	comp=Z,600nm,19.5s,baz=96,slow=38					
OBN	Obninsk	81.00	324	‖P	P	02 29 00.5 -1.1
OBN	Obninsk	81.00	324	*eP*	P	02 29 01.2 -0.4
OBN				*i*		02 32 06.1
OBN				pmax	pmax	
	comp=Z,40nm,0.9s					
OBN				MLR	MLR	
	comp=Z,674nm,19.0s					
L26K	Log Cabin Wild	81.02	27	IAmb	IAmb	02 29 04.8
	comp=Z,244nm,1.9s					
L26K	Log Cabin Wild	81.02	27	P	P	02 29 03.5 +1.8
	baz=276,SNR=31					
SUCK	Suckling Hills	81.11	30	IAmb	IAmb	02 29 05.9
	comp=Z,239nm,1.6s					
BERG	Berg Lake	81.11	30	IAmb	IAmb	02 29 06.2
	comp=Z,278nm,1.4s					
VRDI	Verde Repeater	81.15	29	IAmb	IAmb	02 29 05.5
	comp=Z,240nm,1.9s					
ATD	Arta Tunnel	81.16	280	LR	LR	03 03 59.0
	comp=Z,15nm,19.9s,baz=100,slow=35					
ATD	Arta Tunnel	81.16	280	P	P	02 29 04.9 +1.4
E27K	Coleen River	81.21	22	IAmb	IAmb	02 29 06.1
	comp=Z,215nm,1.4s					
E27K	Coleen River	81.21	22	P	P	02 29 04.8 +2.1
	baz=276					
M26K	Nabesna, AK	81.25	28	IAmb	IAmb	02 29 06.0
	comp=Z,144nm,1.4s					
M26K	Nabesna, AK	81.25	28	P	P	02 29 04.5 +1.6
	baz=276,SNR=87					
D27M	Malcolm River	81.32	21	IAmb	IAmb	02 29 06.7
	comp=Z,157nm,1.1s					
D27M	Malcolm River	81.32	21	P	P	02 29 05.3 +2.1
	baz=277					
G27K	Doyon Strip	81.34	24	IAmb	IAmb	02 29 07.0
	comp=Z,123nm,1.4s					
G27K	Doyon Strip	81.34	24	P	P	02 29 05.5 +2.2
	baz=276					
BGLC	Bering Glacier	81.35	30	P	P	02 29 05.9 +2.5
	baz=276					
H27K	Steamboat Moun	81.46	24	P	P	02 29 06.3 +2.3
	baz=277,SNR=57					
K27K	Chicken	81.48	26	P	P	02 29 06.6 +2.5
	baz=276					
I27K	Kandik River	81.50	25	P	P	02 29 06.4 +2.2
	baz=277,SNR=202					
ANN	Anapa	81.51	314	*eP*	P	02 29 03.1 -1.5
ANN				*e**PP	pP	02 29 19.3 -2.9
ANN				*e*		02 32 09.4
ANN				*eS*	S	02 39 08.5 -3.0
ANN				*e*SSS	SSS	02 47 58.2
ANN				pmax	pmax	
	comp=Z,117nm,0.9s					
ANN				MLR	MLR	
	comp=Z,844nm,19.0s					
WAX	Waxell Ridge	81.52	30	IAmb	IAmb	02 29 08.6
	comp=Z,88nm,1.0s					
L27K	Beaver Creek,	81.71	27	IAmb	IAmb	02 29 08.8
	comp=Z,207nm,1.6s					
L27K	Beaver Creek,	81.71	27	P	P	02 29 07.5 +2.1
	baz=277,SNR=94					
BCAR	Beaver Creek A	81.72	27	P	P	02 29 07.0 +1.5
KHAM	Kharkiv	81.73	319	P	P	02 29 06.5 +0.8
M27K	Edge Creek, AK	81.77	28	IAmb	IAmb	02 29 09.0
	comp=Z,113nm,1.4s					
M27K	Edge Creek, AK	81.77	28	P	P	02 29 07.7 +1.9
	baz=277,SNR=45					
E28M	Babbage River	81.91	22	IAmb	IAmb	02 29 09.7
	comp=Z,128nm,1.1s					
E28M	Babbage River	81.91	22	P	P	02 29 08.4 +2.1
	baz=278					
MESA	MESA	82.00	30	IAmb	IAmb	02 29 10.7
	comp=Z,101nm,1.2s					
MESA	MESA	82.00	30	P	P	02 29 09.4 +2.2
	baz=277,SNR=15					
YAH	Yahtse	82.08	30	IAmb	IAmb	02 29 11.2
	comp=Z,124nm,1.2s					
D28M	Stokes Point	82.09	21	P	P	02 29 09.2 +2.1
	baz=279					
I28M	Miner Creek	82.21	25	IAmb	IAmb	02 29 11.0
	comp=Z,120nm,0.9s					
I28M	Miner Creek	82.21	25	P	P	02 29 10.3 +2.2
	baz=278,SNR=160					
BVCY	Beaver Creek	82.23	28	P	P	02 29 10.4 +2.3
	baz=278,SNR=21					
HOPEN	Hopen	82.30	347	*eP*	P	02 29 08.9 +0.7
YUK3	Moose Creek	82.51	29	P	P	02 29 11.7 +1.9
	baz=278,SNR=67					
E29M	Blow River	82.54	22	IAmb	IAmb	02 29 12.7
	comp=Z,151nm,1.6s					
E29M	Blow River	82.54	22	P	P	02 29 11.3 +1.7
	baz=280					
DAWY	Dawson	82.65	26	P	P	02 29 11.4 +1.1
DAWY				IAmb	IAmb	02 29 13.6
	comp=Z,246nm,1.6s					
DAWY	Dawson	82.65	26	P	P	02 29 12.1 +1.8
	baz=279,SNR=94					
JOF	Joensuu	82.72	333	*eP*	P	02 29 10.6 0.0
H29M	Whitestone	82.73	24	IAmb	IAmb	02 29 13.1
	comp=Z,65nm,0.9s					
H29M	Whitestone	82.73	24	P	P	02 29 12.5 +1.9
	baz=280,SNR=64					
G29M	Pine Creek	82.75	23	P	P	02 29 12.7 +1.9
	baz=280,SNR=87					
O28M	Mount Upton	82.78	30	P	P	02 29 13.6 +2.3
	baz=279,SNR=73					
ABPO	Ambohimpanom	82.85	249	P	P	02 29 11.4 -0.9
ABPO	Ambohimpanom	82.85	249	P	P	02 29 11.4 -0.9
ABPO				pmax	pmax	
	comp=Z,30nm,0.8s					
PINM	Pinnacle	82.86	30	P	P	02 29 13.6 +2.1
	baz=279,SNR=43					
I29M	Ogilvie Camp,	82.90	25	IAmb	IAmb	02 29 15.7
	comp=Z,122nm,1.2s					
I29M	Ogilvie Camp,	82.90	25	P	P	02 29 13.3 +1.8
	baz=280,SNR=77					
YUK8	Steele Glacier	82.91	29	P	P	02 29 14.3 +2.3
	baz=279,SNR=75					
J29N	Klondike Camp	83.09	26	IAmb	IAmb	02 29 16.5
	comp=Z,90nm,0.8s					
J29N	Klondike Camp	83.09	26	P	P	02 29 15.0 +2.4
	baz=280,SNR=31					
M29M	Somme Creek	83.33	28	IAmb	IAmb	02 29 18.0
	comp=Z,100nm,1.1s					
M29M	Somme Creek	83.33	28	P	P	02 29 16.5 +2.6
	baz=280,SNR=112					
PNL	Peninsula	83.35	31	P	P	02 29 16.6 +2.7
PNL	Peninsula	83.35	31	P	P	02 29 16.1 +2.2
	baz=279,SNR=24					
EPYK	Eagle Plains	83.36	24	P	P	02 29 15.2 +1.4
	baz=281,SNR=62					
L29M	L29M	83.36	27	P	P	02 29 16.8 +2.8
	baz=280,SNR=197					
G30M	tAoh Zraii Nji	83.43	23	IAmb	IAmb	02 29 16.8
	comp=Z,194nm,1.5s					
G30M	tAoh Zraii Nji	83.43	23	P	P	02 29 15.3 +1.0
	baz=281,SNR=56					
YUK4	Talbot Arm	83.43	29	P	P	02 29 16.9 +2.3
	baz=280,SNR=55					
BNN	Bunyan	83.45	308	IAmb	IAmb	02 29 16.1
	comp=Z,62nm,1.0s					
F30M	Barrier River	83.47	22	P	P	02 29 16.1 +1.7
	baz=282,SNR=58					
K29M	Barlow Dome	83.50	26	IAmb	IAmb	02 29 18.4

comp=Z,213nm,1.4s
K29M Barlow Dome 83.50 26 P P 02 29 17.0 +2.2
baz=281,SNR=97
ASF Jabal al Asfar 83.57 301 LR LR 03 11 37.1
comp=Z,373nm,21.9s,baz=110,slow=39
SPB2 Spitsbergen Ar 83.63 349 IAmb IAmb 02 29 16.5
comp=Z,114nm,0.8s
SPA0 Spitsbergen Ar 83.63 349 *e*P **P 02 29 15.7 +0.6**
SPITS Spitsbergen Ar 83.63 349 P **P 02 29 15.4 +0.3**
comp=Z,87nm,0.8s,baz=118,slow=14,SNR=37
SPITS PKKPbc **PKKPbc 02 47 34.9 -0.3**
comp=Z,8.1nm,0.9s,baz=287,slow=9.4,SNR=11
comp=Z,87nm,0.8s
YUK6 Outpost Mounta 83.64 29 P **P 02 29 18.1 +2.4**
baz=280,SNR=62
O29M Mount Kennedy 83.65 30 IAmb IAmb 02 29 19.6
comp=Z,143nm,1.4s
O29M Mount Kennedy 83.65 30 P **P 02 29 17.9 +2.3**
baz=280,SNR=53
I30M Mount Dempster 83.72 25 IAmb IAmb 02 29 18.8
comp=Z,84nm,1.1s
I30M Mount Dempster 83.72 25 P **P 02 29 17.6 +1.7**
baz=281,SNR=85
ARA0 ARCESS Array S 83.75 340 *e*P **P 02 29 16.3 +0.5**
ARCES ARCESS Array B 83.75 340 P **P 02 29 16.1 +0.2**
comp=Z,23nm,0.7s,baz=82,slow=5.5,SNR=34
ARCES LR LR 03 12 04.3
comp=Z,426nm,18.1s,baz=80,slow=40
comp=Z,23nm,0.7s
SIM Simferopol' 83.83 314 *e*P **P 02 29 16.2 -0.5**
SIM *e*S **SKSac 02 39 27.3 -7.1**
SIM pmax pmax
comp=Z,79nm,0.7s
SIM MLR MLR
comp=Z,908nm,25.0s
J30M Hart River 83.87 25 P **P 02 29 18.6 +2.0**
baz=282,SNR=53
M30M Minto, Yukon 84.06 27 P **P 02 29 20.0 +2.4**
baz=281,SNR=173
HYT Haines Junctio 84.07 29 IAmb IAmb 02 29 21.4
comp=Z,96nm,1.0s
HYT Haines Junctio 84.07 29 P **P 02 29 20.1 +2.3**
baz=281,SNR=92
HAMF Hammerfest 84.09 341 *e*P **P 02 29 17.6 +0.2**
KBS Kingsbay 84.14 350 *ce*P **P 02 29 18.5 +0.9**
KBS pmax pmax
comp=Z,73nm,1.7s
KBS Kingsbay 84.14 350 *i* P **P 02 29 17.1 -0.5**
INK Inuvik 84.15 22 P **P 02 29 18.8 +1.0**
INK Inuvik 84.15 22 P **P 02 29 18.8 +1.0**
INK pmax pmax
comp=Z,235nm,1.4s
INK Inuvik 84.15 22 P **P 02 29 19.0 +1.2**
baz=284,SNR=119
N30M Aishikik Lake 84.15 29 P **P 02 29 20.5 +2.5**
baz=281,SNR=104
P29M Windy Craggy 84.19 30 P **P 02 29 20.0 +1.8**
P29M Windy Craggy 84.19 30 P **P 02 29 20.9 +2.6**
baz=281,SNR=89
G31M Satah River 84.19 23 P **P 02 29 19.1 +1.1**
baz=283,SNR=79
HSPB Hornsund (broa 84.23 348 *e*P **P 02 29 18.7 +0.6**
MAYO Mayo, Yukon 84.26 26 P **P 02 29 20.8 +2.3**
baz=282,SNR=15
F31M Tsiigehtchic 84.27 22 P **P 02 29 19.5 +1.1**
baz=284,SNR=59
BZK Bozkurt 84.38 311 ⇓P **P 02 29 19.8 +0.2**
BZK Bozkurt 84.38 311 P **P 02 29 19.7 +0.2**
comp=Z,121nm,0.8s
H31M Peel River 84.42 24 IAmb IAmb 02 29 22.0
comp=Z,113nm,0.9s
H31M Peel River 84.42 24 P **P 02 29 20.6 +1.3**
baz=283,SNR=98
P30M Million Dollar 84.47 30 P **P 02 29 22.0 +2.3**
baz=282
KTK1 Kautokeino 84.67 339 *e*P **P 02 29 20.1 -0.3**
MMAI Mount Meron Ar 84.69 302 P **P 02 29 21.4 0.0**
comp=Z,14nm,1.0s,baz=63,slow=3.8,SNR=6.2
comp=Z,14nm,1.0s
ILGA Ilgaz 84.73 311 IAmb IAmb 02 29 22.5
comp=Z,53nm,0.8s
N31M Braeburn, Yuko 84.76 28 P **P 02 29 23.6 +2.5**
baz=282,SNR=110
O30N Mendenhall 84.76 29 P **P 02 29 23.4 +2.2**
baz=282,SNR=70
GHAJ Ghor Haditha 84.82 301 IAmb IAmb 02 29 59.3
comp=Z,157nm,1.9s
KIRS Kirsehir-Merke 84.89 309 ⇓P **P 02 29 21.6 -0.7**
PLBC Pleasant Camp 84.91 31 P **P 02 29 23.7 +1.9**
baz=282
BR131 Keskin Array S 85.01 309 P **P 02 29 22.2 -0.8**
SNR=19
BR131 Keskin Array S 85.01 309 *e*P **P 02 29 21.9 -1.1**
BRTR Keskin Array B 85.01 309 P **P 02 29 21.8 -1.1**
BRTR Keskin Array B 85.01 309 P **P 02 29 22.0 -1.0**
comp=Z,21nm,0.7s,baz=113,slow=4.3,SNR=146
BRTR LR LR 03 12 41.9
comp=Z,382nm,22.0s,baz=90,slow=39
comp=Z,21nm,0.7s
BR104 Keskin Array S 85.01 309 P **P 02 29 22.1 -0.9**
comp=Z,167nmcomp=Z,29nm,0.8s
BR106 Keskin Array S 85.02 309 P **P 02 29 22.3 -0.7**
comp=Z,192nmcomp=Z,27nm,0.7s
BR105 Keskin Array S 85.03 309 P **P 02 29 22.3 -0.8**
comp=Z,195nmcomp=Z,32nm,0.8s
CIDE Kastamonu/Cide 85.17 312 ⇑P **P 02 29 23.0 -0.5**
M31M Drury Creek, Y 85.24 28 P **P 02 29 25.3 +1.8**
baz=284,SNR=84
S31K Pelican 85.29 32 P **P 02 29 26.0 +2.3**
baz=282,SNR=16
WHY Whitehorse 85.37 29 P **P 02 29 26.6 +2.3**
baz=283,SNR=197
FINES FINESS Array B 85.42 332 P **P 02 29 23.6 -0.7**
FINES FINESS Array B 85.42 332 P **P 02 29 23.9 -0.4**
comp=Z,23nm,0.4s,baz=77,slow=4.8,SNR=141
FINES LR LR 03 11 19.1
comp=Z,447nm,20.7s,baz=84,slow=38
comp=Z,23nm,0.4s
SKAG Skagway 85.42 30 IAmb IAmb 02 29 27.4
comp=Z,76nm,0.9s
SKAG Skagway 85.42 30 P **P 02 29 26.5 +2.1**
SKAG Skagway 85.42 30 P **P 02 29 26.8 +2.5**
baz=283,SNR=70
R31K City Hall, Gus 85.44 31 P **P 02 29 26.7 +2.2**
baz=283
JETT Jettan, Norway 85.47 340 *e*P **P 02 29 24.6 0.0**
EIL Elat 85.61 299 LR LR 03 14 32.8
comp=Z,345nm,19.9s,baz=86,slow=40
ANTO Ankara 85.63 310 P **P 02 29 25.1 -0.9**
ANTO IAmb IAmb 02 29 26.3
comp=Z,36nm,0.8s
ANTO Ankara 85.63 310 P **P 02 29 25.8 -0.2**
ANTO Ankara 85.63 310 ⇓P **P 02 29 24.8 -1.1**
ANTO Ankara 85.63 310 P **P 02 29 25.1 -0.9**
ANTO pmax pmax
comp=Z,37nm,0.8s
ANTO Ankara 85.63 310 P **P 02 29 25.5 -0.5**
comp=Z,24nm,1.1s
FARO Faro, Yukon 85.71 27 IAmb IAmb 02 29 29.1
comp=E,161nm,1.6s
FARO Faro, Yukon 85.71 27 P **P 02 29 27.8 +2.0**
baz=284,SNR=190
A36M Sachs Harbour 85.74 17 P **P 02 29 27.2 +1.5**
baz=291,SNR=202
NE56 Odesa 85.76 317 P **P 02 29 24.7 -1.6**
VSU Vasula 85.79 329 *ce*P **P 02 29 25.3 -0.9**
VSU pmax pmax
comp=Z,101nm,1.7s
VSU Vasula 85.79 329 *e*P **P 02 29 25.1 -1.1**
KEF Keuruu 85.80 332 *e*P **P 02 29 25.8 -0.4**
ARBE Arbavere 85.94 330 *e*P **P 02 29 26.8 -0.1**
TRO Tromso 85.94 340 *e*P **P 02 29 26.4 -0.3**
SIT Sitka 85.97 33 P **P 02 29 29.5 +2.4**
baz=283,SNR=8.5
AK09 Malin Array Si 86.04 321 P **P 02 29 26.9 -0.7**
AK08 Malin Array Si 86.05 321 P **P 02 29 26.8 -0.9**
MNK Minsk 86.05 325 *i* P **P 02 29 25.8 -1.8**
MNK *i* 'PP **pP 02 29 42.7 -2.6**
MNK *i* 02 32 46.5
MNK *i* PPP PPP 02 34 40.4
MNK *i* S **SKSac 02 39 45.6 -2.5**
MNK *i* SS **SS 02 45 36.3 +0.7**
MNK *i* SSS SSS 02 49 08.4
MNK pmax pmax
comp=Z,98nm,0.8s
MNK pmax pmax
comp=E,19nm,1.0s
MNK pmax pmax
comp=N,49nm,1.0s
MNK MLR MLR
comp=N,456nm,18.0s
MNK MLR MLR
comp=Z,528nm,18.0s
MNK MLR MLR
comp=E,246nm,18.0s
AKASG Malin Array Be 86.06 321 P **P 02 29 26.8 -1.0**
comp=E,33nm,0.7s,baz=67,slow=4.6,SNR=114
comp=E,33nm,0.7s
AKASG Malin Array Be 86.06 321 *i* P **P 02 29 26.7 -1.0**
AKASG pmax pmax
comp=Z,39nm,0.7s
AKBB Malin Array Si 86.06 321 IAmb IAmb 02 29 28.3
comp=Z,76nm,1.0s
AKBB Malin Array Si 86.06 321 *ce*P **P 02 29 26.5 -1.2**
AKBB Malin Array Si 86.06 321 P **P 02 29 26.9 -0.8**
CSS Mathiatis 86.06 305 P **P 02 29 27.9 -0.2**
comp=Z,745nmcomp=Z,116nm,0.8s
AK01 Malin Array Si 86.07 321 P **P 02 29 26.9 -0.9**
KIEV Kiev 86.07 321 P **P 02 29 26.1 -1.6**
KIEV IAmb IAmb 02 29 28.3
comp=Z,63nm,0.9s
KIEV Kiev 86.07 321 ⇑P **P 02 29 26.7 -1.1**
KIEV Kiev 86.07 321 P **P 02 29 26.1 -1.6**
KIEV pmax pmax
comp=Z,63nm,1.0s
KIEV Kiev 86.07 321 *i* P **P 02 29 26.6 -1.2**
SNR=41
AK04 Malin Array Si 86.09 321 P **P 02 29 26.9 -1.0**
AK06 Malin Array Si 86.10 321 P **P 02 29 27.3 -0.6**
AK11 Malin Array Si 86.10 321 P **P 02 29 27.0 -0.9**
AK07 Malin Array Si 86.10 321 P **P 02 29 27.2 -0.7**
N32M Quiet Lake 86.10 28 P **P 02 29 30.0 +2.1**
baz=285
R32K Eaglecrest 86.10 31 IAmb IAmb 02 29 30.8
comp=Z,50nm,1.2s
R32K Eaglecrest 86.10 31 P **P 02 29 30.2 +2.4**
baz=284,SNR=8.9
AK15 Malin Array Si 86.12 321 P **P 02 29 27.1 -0.9**
AK16 Malin Array Si 86.14 321 P **P 02 29 27.2 -0.9**
AK22 Malin Array Si 86.14 321 P **P 02 29 27.2 -0.9**
AK18 Malin Array Si 86.15 321 P **P 02 29 27.3 -0.9**
AK21 Malin Array Si 86.16 321 P **P 02 29 27.2 -1.0**
AK13 Malin Array Si 86.18 321 P **P 02 29 27.5 -0.8**
P32M Atlin 86.19 30 IAmb IAmb 02 29 31.7
comp=Z,189nm,2.0s
P32M Atlin 86.19 30 P **P 02 29 30.3 +2.0**
baz=284,SNR=32
NOR Nord 86.23 355 *i* P **P 02 29 27.5 -0.5**
NOR IAmb IAmb 02 29 29.4
comp=Z,35nm,1.1s
S32K Killisnoo 86.27 32 P **P 02 29 30.5 +1.9**
baz=284
P33M Teslin, Yukon 86.47 29 P **P 02 29 31.4 +1.7**
baz=285,SNR=54
IDID Didziasalis 86.51 326 *e*P **P 02 29 27.7 -2.2**
MEF Metsahovi 86.52 331 *e*P **P 02 29 29.7 -0.1**
MMPY Sheldon Lake, 86.54 27 P **P 02 29 32.0 +2.1**
baz=286,SNR=76
VAF Ylistaro 86.54 334 *e*P **P 02 29 29.7 -0.1**
ISAL Salakas 86.79 326 *e*P **P 02 29 31.5 +0.3**
MI28 MI28,Pidlybu 86.97 321 P **P 02 29 31.6 -0.6**
Q32M Nakina River 87.07 31 IAmb IAmb 02 29 36.5
comp=Z,138nm,1.9s
Q32M Nakina River 87.07 31 P **P 02 29 34.7 +1.9**
baz=286,SNR=17
C36M Paulatuk 87.09 19 P **P 02 29 33.5 +1.1**
baz=292,SNR=82
MILM Milestii Mici 87.11 317 ⇑P **P 02 29 30.9 -2.0**
LUBAR Lubar, Ukraine 87.14 320 P **P 02 29 32.5 -0.6**
SORM Soroca 87.16 318 ⇓P **P 02 29 31.8 -1.4**
SORM Soroca 87.16 318 P **P 02 29 32.0 -1.1**
comp=Z,48nm,0.8s
MTSE Matsula 87.21 329 *e*P **P 02 29 33.3 +0.1**
U33K Whale Pass 87.38 33 IAmb IAmb 02 29 37.5
comp=Z,84nm,1.7s
U33K Whale Pass 87.38 33 P **P 02 29 35.8 +1.8**
baz=285
TLCR 87.48 315 ⇓P **P 02 29 34.1 -0.6**
RAF Rauma 87.54 332 *e*P **P 02 29 34.3 -0.4**
CRAG Craig 87.54 34 P **P 02 29 36.7 +1.9**
CRAG Craig 87.54 34 P **P 02 29 36.7 +1.9**
baz=285
R33M Jennings River 87.59 30 IAmb IAmb 02 29 38.9
comp=Z,156nm,2.0s
R33M Jennings River 87.59 30 P **P 02 29 37.4 +2.1**
baz=287,SNR=24
NDNU Novodnistrovsk 87.69 319 P **P 02 29 35.0 -0.7**
WRAK Wrangell Islan 87.71 33 P **P 02 29 35.1 -0.6**
WRAK Wrangell Islan 87.71 33 P **P 02 29 37.3 +1.6**
baz=286
ISP Isparta 87.75 308 *ce*P **P 02 29 35.1 -1.3**
ISP pmax pmax
comp=Z,19nm,0.8s
STEI Steigen 87.81 339 *e*P **P 02 29 34.8 -1.1**
VLDR Vladesti 87.84 316 ⇑P **P 02 29 36.3 -0.2**
VSVD Vaisvydziai 87.89 327 *e*P **P 02 29 36.3 -0.1**
TIRR Tirgusor 87.92 315 ⇑P **P 02 29 36.0 -0.9**
TIRR Tirgusor 87.92 315 P **P 02 29 36.3 -0.6**
comp=Z,30nm,0.8s
S34M Telegraph Cree 87.94 31 P **P 02 29 38.7 +2.0**
baz=287,SNR=14
MANR Mangalia 87.94 314 ⇑P **P 02 29 36.2 -0.8**
SCTR Scanteiesti 87.94 316 ⇑P **P 02 29 36.2 -0.8**
RNPP9 Sopachiv 87.95 322 P **P 02 29 36.4 -0.5**
EUNU Eureka 87.99 5 IAmb IAmb 02 29 38.6
comp=Z,73nm,0.8s
VARL Varlezi 87.99 316 ⇓P **P 02 29 37.3 +0.2**
PABE Paberze 88.00 326 IAmb IAmb 02 29 37.6
comp=Z,38nm,0.9s
PABE Paberze 88.00 326 *e*P **P 02 29 36.5 -0.5**
FAUS Fauske 88.01 339 *e*P **P 02 29 35.7 -1.1**
BIR Birlad 88.05 317 ⇑P **P 02 29 38.1 +0.6**
PPT Papeete 88.06 108 P **P 02 29 38.5 +0.5**
comp=Z,50nm,0.8s,baz=302,slow=2.7,SNR=5.3
PPT LR LR 03 01 30.2
comp=Z,572nm,22.0s,baz=285,slow=30
comp=Z,50nm,0.8s
PPT2 Papeete2 88.06 108 *e*PKP1 **P 02 29 38.0 -0.2**
comp=Z,331nm,26.0s
PPT2 Papeete2 88.06 108 *e*S **S 02 40 16.0 -1.6**
comp=Z,584nm,27.8s
PPT2 *e*SS **SS 02 46 06.1 -1.3**
comp=Z,253nm,29.0s
PPT2 *e*LQ LQ 02 53 51.4
comp=Z,428nm,25.2s
PPT2 *e*LR LR 02 57 36.1
comp=Z,950nm,23.8s
PPT2 *e*LR LR 02 57 43.6
comp=Z,1μm,23.0s
TLBR Topalu 88.16 315 ⇑P **P 02 29 37.3 -0.7**
HARR Harsova 88.20 315 ⇑P **P 02 29 37.2 -1.0**
TGTN Hyland Airport 88.21 27 P **P 02 29 39.8 +1.7**
baz=289,SNR=42
GHRR 88.25 316 ⇓P **P 02 29 38.5 +0.1**
KIBK Kibwezi 88.26 267 P **P 02 29 40.5 +1.2**
SNR=7.8
DLBC Dease Lake 88.34 31 P **P 02 29 39.9 +1.2**
DLBC Dease Lake 88.34 31 LR LR 03 04 33.3
comp=Z,348nm,21.9s,baz=291,slow=32
DLBC Dease Lake 88.34 31 P **P 02 29 40.6 +1.9**
baz=288,SNR=15
V35K Ketchikan 88.41 34 P **P 02 29 40.2 +1.2**
baz=286
ICOR Ion Corvin 88.42 314 ⇓P **P 02 29 39.0 -0.2**
WTLY Watson Lake, Y 88.42 29 P **P 02 29 41.0 +2.0**
baz=288,SNR=28
ELL Elmali 88.45 307 IAmb IAmb 02 29 40.9
comp=Z,61nm,0.8s
PANC Panciu 88.47 316 ⇑P **P 02 29 39.4 -0.1**
ODBI Odobesti 88.56 316 ⇓P **P 02 29 41.2 +1.3**
T35M Bob Quinn 88.66 32 P **P 02 29 42.2 +2.0**
baz=287,SNR=8.0
PRAR RASCA 88.73 318 ⇑P **P 02 29 40.4 -0.3**
VRI Vrincioaia 88.76 316 ⇑P **P 02 29 40.9 0.0**
VRI Vrincioaia 88.76 316 P **P 02 29 41.1 +0.2**
comp=Z,28nm,0.8s
MOR8 Moi Rana 88.80 338 *e*P **P 02 29 38.3 -2.3**
PLOR5 Plostina Array 88.81 316 P **P 02 29 41.3 +0.2**
PLOR Plostina 88.81 316 ⇑P **P 02 29 40.9 -0.3**
KMBO Kilima Mbogo 88.82 269 P **P 02 29 42.4 +0.4**
KMBO Kilima Mbogo 88.82 269 P **P 02 29 42.0 -0.1**
comp=Z,20nm,0.9s,baz=57,slow=6.6,SNR=49
KMBO LR LR 03 08 49.8
comp=Z,779nm,18.7s,baz=94,slow=35
comp=Z,20nm,0.9s
KMBO Kilima Mbogo 88.82 269 P **P 02 29 43.1 +1.1**
KMBO Kilima Mbogo 88.82 269 *i* P **P 02 29 42.8 +0.7**
KMBO pmax pmax
comp=Z,21nm,0.9s
KMBO Kilima Mbogo 88.82 269 *i* P **P 02 29 42.5 +0.4**
SNR=29
SUW Suwalki 88.85 325 *e*P **P 02 29 40.0 -1.0**
SUW Suwalki 88.85 325 IAmb IAmb 02 29 44.2
comp=Z,75nm,0.9s
SUW Suwalki 88.85 325 *e*P **P 02 29 40.8 -0.3**
ONER Baraj Valea Uz 88.87 317 ⇓P **P 02 29 41.4 0.0**
PBUR Paburge 88.95 327 *e*P **P 02 29 41.6 +0.1**
NEHR Nehoiu 89.16 316 ⇓P **P 02 29 43.1 +0.3**
LEIR Leirfjorden 89.31 338 *e*P **P 02 29 41.7 -1.2**
BURAR Bucovina Array 89.33 318 P **P 02 29 42.6 -1.0**
BURAR Bucovina Array 89.33 318 ⇑P **P 02 29 43.5 -0.1**
TBI Tubuai 89.33 114 *e*S **S 02 40 27.6 -1.6**
comp=Z,2μm,28.2s
TBI *e*SS **SS 02 46 25.0 -0.5**
comp=Z,1μm,32.0s
TBI *e*LQ LQ 02 54 18.7
comp=Z,3μm,38.8s
TBI *e*LR LR 02 58 13.0
comp=Z,9μm,24.8s
TBI *e*LR LR 02 58 15.8
comp=Z,2μm,27.2s
OZUR 89.34 317 ⇑P **P 02 29 43.3 -0.4**
MLR Muntele Rosu 89.38 316 ⇓P **P 02 29 43.3 -0.7**
MLR Muntele Rosu 89.38 316 P **P 02 29 43.9 0.0**
comp=Z,17nm,0.9s
STNU Starunia 89.50 320 P **P 02 29 44.0 -0.3**
DOPR Dopca 89.64 317 ⇓P **P 02 29 44.1 -0.9**
WRGLY Wrigley 89.69 25 IAmb IAmb 02 29 47.5
comp=Z,31nm,1.0s
WRGLY Wrigley 89.69 25 P **P 02 29 46.3 +1.5**
baz=293,SNR=12
MAW Mawson 89.85 200 P **P 02 29 45.7 +0.4**
comp=Z,20nm,0.9s,baz=22,slow=6.7,SNR=2.1
MAW LR LR 03 06 03.6
comp=Z,416nm,21.5s,baz=30,slow=33
comp=Z,20nm,0.9s
LODK Lodwar 89.85 273 P **P 02 29 47.3 +0.6**
LIRD Liard River Hi 89.95 29 P **P 02 29 47.9 +1.8**
baz=291,SNR=14
VOIR 90.00 316 ⇓P **P 02 29 45.8 -1.0**
ARCR ARCALIA 90.03 318 ⇓P **P 02 29 46.2 -0.6**
VNDA Vanda 90.29 173 IAmb IAmb 02 29 49.3
comp=Z,38nm,1.1s
VNDA Vanda 90.29 173 P **P 02 29 47.8 +0.5**
comp=Z,12nm,0.5s,baz=318,slow=6.8,SNR=61
VNDA LR LR 03 09 30.5
comp=Z,407nm,21.9s,baz=338,slow=35
comp=Z,12nm,0.5s
TOAD Toad River Com 90.56 29 P **P 02 29 50.2 +1.2**
baz=292,SNR=19
CJR Cluj-Napoca 90.63 318 ⇑P **P 02 29 48.8 -0.9**
KOTAN Kotaneelee Air 90.64 28 P **P 02 29 50.9 +1.5**
baz=293,SNR=11
CBBR Cluj-Babes-Bol 90.65 318 ⇑P **P 02 29 48.9 -0.8**
KOLS Kolonicke sedl 90.86 320 *e*P **P 02 29 50.4 -0.2**
KOLS pmax pmax
comp=Z,10.0nm,0.8s
KOLS Kolonicke sedl 90.86 320 *e*P **P 02 29 50.4 -0.2**
LOT Lotru 90.87 316 ⇑P **P 02 29 50.0 -0.9**
BEL Belsk 90.88 323 *e*P **P 02 29 50.1 -0.5**
MARR Marisel-Cluj 90.96 318 ⇑P **P 02 29 51.2 -0.1**
DRGR 91.20 318 ⇑P **P 02 29 52.0 -0.3**
SBA Scott Base 91.20 172 P **P 02 29 51.9 +0.5**
SBA Scott Base 91.20 172 P **P 02 29 51.9 +0.5**
RES Resolute Bay 91.26 10 LR LR 03 15 19.2
comp=Z,104nm,18.2s,baz=358,slow=38
DEV Deva 91.33 317 ⇑P **P 02 29 52.2 -0.6**
BBB Bella Bella 91.35 36 LR LR 03 05 53.8
comp=Z,213nm,21.4s,baz=278,slow=32
BAIL Bailesti 91.56 315 ⇑P **P 02 29 52.4 -1.5**
GZR Gura Zlata 91.56 317 ⇓P **P 02 29 53.6 -0.4**
HFS Hagfors 91.58 332 P **P 02 29 52.8 -0.9**
comp=Z,21nm,0.9s,baz=60,slow=5.8,SNR=20
HFS LR LR 03 14 58.2
comp=Z,513nm,19.1s,baz=70,slow=38
comp=Z,21nm,0.9s
PUNG Punghina 91.77 316 ⇑P **P 02 29 54.8 -0.1**
HOLB Holberg 91.84 38 IAmb IAmb 02 29 58.2
comp=Z,74nm,1.2s
NIE Niedzica 91.94 321 *e*P **P 02 29 55.9 +0.2**
HERR Herculane 91.95 316 ⇑P **P 02 29 54.2 -1.5**
OJC Ojcow 91.99 322 *e*P **P 02 29 55.3 -0.5**
NC405 NORSAR Array S 92.04 334 IAmb IAmb 02 29 57.2
comp=Z,26nm,0.9s
SIRR Siria 92.05 318 ⇑P **P 02 29 55.9 -0.2**
NEEM North Greenlan 92.10 359 *i* P **P 02 29 56.4 +0.2**
NEEM IAmb IAmb 02 29 58.8
comp=Z,95nm,0.9s
KECS Kecovo 92.12 320 *e*P **P 02 29 56.5 0.0**
KECS pmax pmax
comp=Z,21nm,0.8s
KECS Kecovo 92.12 320 *e*P **P 02 29 56.5 0.0**
NB2 NORSAR Subarra 92.29 334 P **P 02 29 55.6 -1.4**
comp=Z,12nm,0.8s,baz=63,slow=4.6
NB2 NORSAR Subarra 92.29 334 P **P 02 29 55.6 -1.4**
baz=63,slow=4.6
NOA NORSAR Array B 92.29 334 P **P 02 29 55.6 -1.4**
comp=Z,9.3nm,0.8s,baz=63,slow=4.6,SNR=38
NOA PP **PP 02 33 34.0 -3.7**
comp=Z,1.3nm,0.7s,baz=48,slow=8.3,SNR=4.0
NOA LR LR 03 14 26.2
comp=Z,562nm,21.3s,baz=50,slow=37
comp=Z,9.3nm,0.8s
NC204 NORSAR Array S 92.38 334 IAmb IAmb 02 29 58.3
comp=Z,26nm,0.9s
NAO01 NORSAR Array S 92.52 334 IAmb IAmb 02 33 29.5
comp=Z,101nm,2.0s
LANS Liptovska Anna 92.54 321 *e*P **P 02 29 59.5 +1.1**
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS Liptovska Anna 92.54 321 *e*P **P 02 29 59.5 +1.1**
DBG Daneborg 92.66 351 *i* P **P 02 29 57.2 -1.2**
DBG IAmb IAmb 02 29 59.3
comp=Z,31nm,0.9s
DOMB Dombas 92.74 335 *e*P **P 02 29 57.2 -1.9**
BOVS Bovan 92.80 315 ⇓P **P 02 29 58.8 -0.9**
OSL Oslo 93.01 333 *e*P **P 02 29 59.9 -0.4**
JMIC Jan Mayen 93.03 346 LR LR 03 16 06.3
comp=Z,235nm,21.8s,baz=80,slow=38
OKC Ostrava-Krasne 93.12 322 *e*P **P 02 30 01.4 +0.4**
OKC AMS AMS 03 17 20.0
comp=Z,500nm,17.2s
OKC Ostrava-Krasne 93.12 322 *e*P **P 02 30 01.4 +0.4**
OKC MLR MLR
comp=Z,500nm,17.2s
MORC Moravsky Berou 93.51 322 *e*P **P 02 30 02.4 -0.5**
MORC *e* 02 30 17.7
MORC Moravsky Berou 93.51 322 ⇑P **P 02 30 02.4 -0.5**
AKN Aaknes 93.52 336 *e*P **P 02 30 02.0 -0.6**
YKA Yellowknife Ar 93.64 24 P **P 02 30 03.5 +0.4**
YKA Yellowknife Ar 93.64 24 P **P 02 30 04.2 +1.0**
comp=Z,18nm,0.8s,baz=300,slow=4.8,SNR=238
YKA PKiKP **PKiKP 02 34 49.1 +0.8**
comp=Z,0.6nm,0.6s,baz=315,slow=2.0,SNR=6.4
YKA PKKPbc **PKKPdf 02 47 07.5 -0.5**
comp=Z,0.2nm,0.4s,baz=118,slow=2.6,SNR=11
YKA LR LR 03 13 39.5
comp=Z,238nm,21.8s,baz=296,slow=36
comp=Z,18nm,0.8s
CBB Campbell River 93.71 38 P **P 02 30 03.6 -0.1**
CBB IAmb IAmb 02 30 06.7
comp=Z,71nm,2.0s
SRO Srobarova 93.72 320 *e*P **P 02 30 04.0 +0.2**
SRO pmax pmax
comp=Z,10.0nm,0.9s
SRO Srobarova 93.72 320 *e*P **P 02 30 04.0 +0.2**
JAVC Velka Javorina 93.75 321 *e*P **P 02 30 04.9 +0.8**
KRLC Kraliky 93.86 322 *e*P **P 02 30 04.3 -0.2**
KRLC AMS AMS 03 18 30.0
comp=Z,500nm,18.1s
KRLC Kraliky 93.86 322 *e*P **P 02 30 04.3 -0.2**
KRLC MLR MLR
comp=Z,500nm,18.1s
KSP Ksiaz 93.87 323 *e*P **P 02 30 04.2 -0.2**
OSTC Ostas 94.02 323 AMS AMS 03 15 10.0
comp=Z,500nm,16.3s
DPC Dobruska-Polom 94.03 323 *e*P **P 02 30 06.0 +0.7**

DPC					AMS	AMS	03 16 00.0	
	comp=Z,500nm,22.5s							
DPC	**Dobruska-Polom**	**94.03**	**323**	*eP*		**P**	**02 30 06.0**	**+0.7**
DPC					MLR	MLR		
	comp=Z,500nm,22.5s							
CHVC	**Chvalec**	**94.10**	**323**	*eP*		**P**	**02 30 05.9**	**+0.3**
CHVC					AMS	AMS	03 15 00.0	
	comp=Z,700nm,19.1s							
CHVC	**Chvalec**	**94.10**	**323**	*eP*		**P**	**02 30 05.9**	**+0.3**
CHVC					MLR	MLR		
	comp=Z,700nm,19.1s							
UPC	**Upice**	**94.16**	**323**		AMS	AMS	03 15 00.0	
	comp=Z,700nm,16.2s							
MODS	**Modra-Piesok**	**94.17**	**321**	*eP*		**P**	**02 30 07.9**	**+2.0**
MODS	**Modra-Piesok**	**94.17**	**321**	*eP*		**P**	**02 30 07.9**	**+2.0**
VRAC	**Vranov**	**94.25**	**322**	*eP*		**P**	**02 30 06.5**	**+0.2**
VRAC	**Vranov**	**94.25**	**322**	⇓*P*		**P**	**02 30 06.8**	**+0.5**
KRUC	**Moravsky**	**94.47**	**322**	*eP*		**P**	**02 30 06.9**	**-0.3**
RUE	**Ruedersdorf**	**94.67**	**325**	*eP*		**P**	**02 30 08.2**	**+0.1**
PDG	**Podgorica**	**94.88**	**315**		IAmb	IAmb	02 30 09.4	
	comp=Z,20nm,0.8s							
PDG	**Podgorica**	**94.88**	**315**	⇓*P*		**P**	**02 30 07.8**	**-1.5**
TREC	**Trest**	**94.93**	**322**		AMS	AMS	03 17 10.0	
	comp=Z,500nm,19.7s							
KULLO	**Kullorsuaq**	**94.98**	**1**	*i P*		**P**	**02 30 08.6**	**-0.5**
KULLO					IAmb	IAmb	02 30 10.4	
	comp=Z,78nm,0.9s							
PVCC	**Panska Ves**	**95.00**	**323**		AMS	AMS	03 12 40.0	
	comp=Z,700nm,24.5s							
RONA	**Rosalia, Austr**	**95.03**	**320**	*i P*		**P**	**02 30 09.3**	**-0.6**
	comp=Z,5.6nm,0.9s							
RONA				*e*PP		**PP**	**02 34 00.5**	**+1.0**
	comp=Z,8.9nm,1.2s							
GOPC	**GO Pecny, Ondr**	**95.11**	**323**		AMS	AMS	03 14 10.0	
	comp=Z,600nm,24.7s							
BLS5	**Blasjo**	**95.15**	**333**	*eP*		**P**	**02 30 08.9**	**-1.2**
CONA	**Conrad Observa**	**95.22**	**321**	*i P*		**P**	**02 30 10.6**	**-0.3**
	comp=Z,11nm,1.5s							
CONA				*e*PP		**PP**	**02 34 02.1**	**+1.0**
	comp=Z,7.3nm,1.5s							
BRG	**Berggiesshubel**	**95.23**	**324**	*eP*		**P**	**02 30 10.6**	**-0.1**
BRG					Amp		02 30 12.5	
	comp=Z,8.7nm,1.2s							
BRG					pP	**pP**	**02 30 32.4**	**+3.9**
BRG					Amp		02 30 33.1	
	comp=Z,9.4nm,1.2s							
BRG					PP	**PP**	**02 33 57.9**	**-3.0**
BRG					Amp		02 34 16.2	
	comp=Z,8.5nm,1.2s							
BRG	**Berggiesshubel**	**95.23**	**324**		SP	SP	02 42 36.0	-1.8
PRU	**Pruhonice**	**95.23**	**323**		AMS	AMS	03 18 10.0	
	comp=Z,600nm,17.0s							
PRA	**Prague**	**95.26**	**323**		AMS	AMS	03 18 00.0	
	comp=Z,800nm,22.6s							
TAOE	**Nuku Hiva Isla**	**95.50**	**98**	*e*LR		LR	03 00 58.7	
	comp=Z,3μm,29.7s							
KOGS	**Kog**	**95.52**	**319**	*i P*		**P**	**02 30 11.4**	**-0.7**
LLLB	**Lillooet**	**95.56**	**36**	P		**P**	**02 30 13.5**	**+1.2**
LLLB					IAmb	IAmb	02 30 15.2	
	comp=Z,93nm,1.8s							
CLL	**Collm**	**95.59**	**324**	*i P*		**P**	**02 30 11.6**	**-0.7**
CLL				*e*S		**S**	**02 41 22.0**	**-2.2**
CLL					pmax	pmax		
	comp=Z,14nm,1.5s							
CLL	**Collm**	**95.59**	**324**	*i P*		**P**	**02 30 11.6**	**-0.7**
	comp=Z,14nm,1.5s							
CLL				*e*x		x	02 33 46.0	
CLL				*e*PP		**PP**	**02 34 03.0**	**-0.7**
CLL				*e*SKKSac		S	02 41 09.0	-15
CLL				*e*S		**S**	**02 41 22.0**	**-2.2**
CLL				*e*SP		**SP**	**02 42 42.0**	**+0.3**
CLL				*es*PS			02 43 13.0	
CLL				*e*SS		**SS**	**02 47 54.0**	**+0.8**
CLL				*es*SS			02 48 27.0	
CLL				*e*SSS		SSS	02 51 39.0	
CLL				*e*x		x	02 52 45.0	
CLL				*e*SSSS			02 54 48.0	
CLL					AMS	AMS	03 18 00.0	
	comp=Z,700nm,21.9s							
NLWA	**Neilton Lookou**	**95.61**	**40**		IAmb	IAmb	02 30 15.9	
	comp=Z,62nm,1.6s							
HSKC	**Hora Svate Kat**	**95.64**	**324**		AMS	AMS	03 12 50.0	
	comp=Z,800nm,26.1s							
ZVC	**Zvikov**	**95.66**	**322**	*eP*		**P**	**02 30 12.8**	**+0.1**
ZVC					AMS	AMS	03 19 40.0	
	comp=Z,700nm,21.9s							
ARSA	**Arzberg**	**95.68**	**320**	*i P*		**P**	**02 30 12.4**	**-0.4**
	comp=Z,7.9nm,1.1s							
A04D	**Lummi Island**	**95.82**	**38**		IAmb	IAmb	02 30 16.4	
	comp=Z,56nm,1.6s							
CKRC	**Cesky Krumlov**	**95.83**	**322**	*eP*		**P**	**02 30 13.8**	**+0.3**
CKRC					AMS	AMS	03 15 50.0	
	comp=Z,500nm,23.7s							
CKRC	**Cesky Krumlov**	**95.83**	**322**	*eP*		**P**	**02 30 13.8**	**+0.3**
CKRC					MLR	MLR		
	comp=Z,500nm,23.7s							
KHC	**Kasperske Hory**	**96.15**	**322**	*eP*		**P**	**02 30 14.7**	**-0.3**
KHC					AMS	AMS	03 17 40.0	
	comp=Z,700nm,21.6s							
KHC	**Kasperske Hory**	**96.15**	**322**	*eP*		**P**	**02 30 14.7**	**-0.3**
KHC					MLR	MLR		
	comp=Z,700nm,21.6s							
SCO	**Scoresbysund**	**96.18**	**350**	*i P*		**P**	**02 30 14.7**	**+0.2**
SCO					IAmb	IAmb	02 30 16.7	
	comp=Z,14nm,0.8s							
GERES	**GERESS Array B**	**96.19**	**322**	P		**P**	**02 30 14.1**	**-1.1**
GERES	**GERESS Array B**	**96.19**	**322**	P		**P**	**02 30 15.2**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=66,slow=4.5,SNR=19							
	comp=Z,4.7nm,0.7s							
GNW	**Green Mountain**	**96.20**	**39**		IAmb	IAmb	02 30 18.3	
	comp=Z,49nm,1.6s							
SOKA	**Soboth**	**96.21**	**320**	*eP*		**P**	**02 30 15.0**	**-0.3**
	comp=Z,9.5nm,1.1s,SNR=5.6							
SOKA				*e*PP		**PP**	**02 34 09.6**	**+0.9**
	comp=Z,5.2nm,0.9s							
MOA	**Molln**	**96.24**	**321**	*i* PcP		**P**	**02 30 15.4**	**0.0**
	comp=Z,21nm,0.8s,SNR=9.3							
NKC	**Novy Kostel**	**96.36**	**324**		AMS	AMS	03 13 10.0	
	comp=Z,800nm,24.7s							
SUMG	**Summit**	**96.38**	**355**		IAmb	IAmb	02 30 31.6	
	comp=Z,86nm,2.0s							
SUMG	**Summit**	**96.38**	**355**	*i P*		**P**	**02 30 16.0**	**0.0**
SUMG					IAmb	IAmb	02 30 18.0	
	comp=Z,30nm,1.4s							
OBKA	**Obir**	**96.58**	**320**	*i P*		**P**	**02 30 16.4**	**-0.7**
	comp=Z,6.3nm,0.9s							
BIOA	**Bad Ischl, Aus**	**96.69**	**321**	*i* PcP		**P**	**02 30 17.3**	**-0.2**
	comp=Z,9.7nm,0.9s							
BIOA				*e*PP		**PP**	**02 34 10.3**	**-2.1**
	comp=Z,5.6nm,1.1s							
UPNV	**Upernavik**	**96.80**	**1**	*i P*		**P**	**02 30 16.7**	**-0.7**
UPNV					IAmb	IAmb	02 30 18.6	
	comp=Z,36nm,0.9s							
D05A	**Enumclaw**	**96.87**	**40**		IAmb	IAmb	02 30 21.5	
	comp=Z,89nm,1.8s							
KBA	**Koelnbreinsper**	**97.12**	**320**	*i P*		**P**	**02 30 18.6**	**-1.0**
	comp=Z,10nm,0.9s,SNR=8.6							
LON	**Longmire**	**97.16**	**40**	P		**P**	**02 30 19.5**	**-0.1**
LON	**Longmire**	**97.16**	**40**	P		**P**	**02 30 19.5**	**-0.1**
LON					pmax	pmax		
	comp=Z,20nm,1.7s							
G04A	**Mulino**	**97.34**	**41**		IAmb	IAmb	02 30 23.0	
	comp=Z,47nm,1.1s							
I03D	**Drain, OR**	**97.34**	**43**		IAmb	IAmb	02 30 23.2	
	comp=Z,44nm,1.5s							
ROBS	**Robic**	**97.35**	**320**	*i P*		**P**	**02 30 19.1**	**-1.3**
LESA	**Schwarzleotal**	**97.39**	**321**	*i P*		**P**	**02 30 20.0**	**-0.7**
	comp=Z,11nm,0.7s,SNR=6.0							
LESA				*i* PP		**PP**	**02 34 16.9**	**-0.9**
	comp=Z,7.1nm,1.0s							
LESA	**Schwarzleotal**	**97.39**	**321**	*i P*		**SKSac**	**02 40 48.6**	**-4.1**
	comp=Z,5.7nm,1.2s							
H04D	**Lebanon**	**97.43**	**42**		IAmb	IAmb	02 30 23.8	
	comp=Z,65nm,1.5s							
DBO	**Dodson Butte**	**97.63**	**44**		IAmb	IAmb	02 30 59.9	
	comp=Z,38nm,1.9s							
LTY	**Liberty**	**97.66**	**39**		IAmb	IAmb	02 30 24.3	
	comp=Z,47nm,1.8s							
H04A	**Detroit Lake**	**97.73**	**42**		IAmb	IAmb	02 30 24.5	
	comp=Z,51nm,1.7s							
ABTA	**Abfaltersbach**	**97.77**	**320**	*i P*		**P**	**02 30 21.1**	**-1.3**
	comp=Z,10nm,0.8s,SNR=8.4							
ABTA				*i* PP		**PP**	**02 34 19.0**	**-1.7**
	comp=Z,3.1nm,1.4s							
HOOD	**Mount Hood Mea**	**97.83**	**41**		IAmb	IAmb	02 30 25.3	
	comp=Z,32nm,1.3s							
I04A	**Tendick Farm,**	**97.93**	**43**		IAmb	IAmb	02 30 25.3	
	comp=Z,58nm,1.7s							
B08A	**Colville Reser**	**98.01**	**38**		IAmb	IAmb	02 30 25.8	
	comp=Z,55nm,1.7s							
NUUG	**Nuugaatsiaq**	**98.06**	**360**	*i P*		**P**	**02 30 23.0**	**0.0**
NUUG					IAmb	IAmb	02 30 24.5	
	comp=Z,12nm,1.0s							
BBOR	**Butler Butte**	**98.10**	**44**		IAmb	IAmb	02 30 26.5	
	comp=Z,33nm,1.8s							
WTTA	**Wattenberg**	**98.10**	**321**	*i P*		**P**	**02 30 23.4**	**-0.6**
	comp=Z,18nm,0.8s,SNR=9.8							
WTTA				*i* PP		**PP**	**02 34 21.9**	**-1.5**
	comp=Z,4.9nm,0.8s							
WTTA	**Wattenberg**	**98.10**	**321**	*i P*		**SKSac**	**02 40 54.9**	**-1.8**
	comp=Z,11nm,1.1s							
WATA	**Walderalm**	**98.11**	**321**	*eP*		**P**	**02 30 22.9**	**-1.1**
	comp=Z,11nm,0.7s,SNR=6.6							
WATA	**Walderalm**	**98.11**	**321**	*i P*		**SKSac**	**02 40 52.8**	**-3.7**
	comp=Z,6.9nm,1.3s							
MXC	**Moxie City**	**98.18**	**40**		IAmb	IAmb	02 30 27.0	
	comp=Z,74nm,1.9s							
SQTA	**Sankt Quirin**	**98.39**	**321**	*e*Pdiff		**P**	**02 30 24.6**	**-0.6**
	comp=Z,14nm,0.9s,SNR=9.2							
SQTA				*i* PP		**PP**	**02 34 22.9**	**-2.6**
	comp=Z,4.1nm,0.7s							
SQTA	**Sankt Quirin**	**98.39**	**321**	*i P*		**SKSac**	**02 40 54.5**	**-3.4**
	comp=Z,6.4nm,1.2s							
MOTA	**Moosalm**	**98.40**	**321**	*i* Pdiff		**P**	**02 30 24.4**	**-0.9**
	comp=Z,9.9nm,0.8s							
MOTA				*i* PP		**PP**	**02 34 23.7**	**-1.9**
	comp=Z,8.9nm,1.1s							
MOTA	**Moosalm**	**98.40**	**321**	*eP*		**SKSac**	**02 40 55.0**	**-3.0**
	comp=Z,11nm,1.6s							
I05D	**Terrebonne, OR**	**98.42**	**42**		IAmb	IAmb	02 30 28.0	
	comp=Z,49nm,1.9s							
SYO	**Syowa Base**	**98.46**	**201**	⇓*i P*		Pdif	02 30 27.6	+2.9
E07A	**Sunnyside**	**98.46**	**39**		IAmb	IAmb	02 30 28.4	
	comp=Z,46nm,1.8s							
YBH	**Yreka Blue Hor**	**98.52**	**45**		IAmb	IAmb	02 30 28.6	
	comp=Z,36nm,1.9s							
YBH	**Yreka Blue Hor**	**98.52**	**45**		LR	LR	03 07 40.8	
	comp=Z,255nm,20.8s,baz=325,slow=31							
G06A	**Carlson Farm,**	**98.52**	**41**		IAmb	IAmb	02 30 28.5	
	comp=Z,51nm,1.9s							
RETA	**Reutte**	**98.54**	**322**	*i* Pdiff		**P**	**02 30 25.2**	**-0.6**
	comp=Z,3.7nm,0.8s							
RETA				*e*PP		**PP**	**02 34 27.1**	**+0.5**
	comp=Z,6.0nm,1.1s							
RETA	**Reutte**	**98.54**	**322**	*i P*		**SKSac**	**02 40 55.3**	**-3.3**
	comp=Z,5.6nm,1.0s							
WAH2	**Wahluke Slope**	**98.56**	**39**		IAmb	IAmb	02 30 28.4	
	comp=Z,98nm,2.0s							
L04D	**Klamath Falls**	**98.61**	**44**	P		**P**	**02 30 25.8**	**-0.6**
F07A	**Phinny Hill Vi**	**98.70**	**40**		IAmb	IAmb	02 30 29.4	
	comp=Z,58nm,1.8s							
GUMA	**Gualdo di Mace**	**98.72**	**317**		IAmb	IAmb	02 30 29.0	
	comp=Z,30nm,1.4s							
HAWA	**Hanford**	**98.73**	**40**		IAmb	IAmb	02 30 30.3	
	comp=Z,36nm,1.8s							
FETA	**Feichten**	**98.77**	**321**	*e*Pdiff		**P**	**02 30 26.5**	**-0.4**
	comp=Z,12nm,1.0s,SNR=5.1							
FETA				*i* PP		**PP**	**02 34 27.1**	**-1.4**
	comp=Z,8.3nm,1.2s							
J05D	**Fort Rock, OR**	**98.92**	**43**		IAmb	IAmb	02 30 30.5	
	comp=Z,34nm,1.7s							
E08A	**Dider Farm, El**	**98.99**	**39**		IAmb	IAmb	02 30 30.6	
	comp=Z,58nm,2.0s							
O02D	**Mt. Diablo Mer**	**99.05**	**46**		IAmb	IAmb	02 30 31.3	
	comp=Z,31nm,1.6s							
DAVA	**Damuels**	**99.17**	**322**	*i* Pdiff		**Pdif**	**02 30 28.2**	**-0.5**
	comp=Z,5.5nm,0.8s							
NEW	**Newport**	**99.37**	**37**		LR	LR	03 08 58.1	
	comp=Z,146nm,22.0s,baz=290,slow=31							
MEM	**Membach**	**99.85**	**326**	*d*Pdif		**Pdif**	**02 30 31.3**	**-0.2**
LSZ	**Lusaka**	**100.03**	**256**		LR	LR	03 12 33.6	
	comp=Z,896nm,20.8s,baz=84,slow=33							
WLF	**Walferdange**	**100.24**	**325**	*d*Pdif		**Pdif**	**02 30 33.6**	**+0.3**
	comp=Z,12nm,1.0s							
QSPA	**South Pole Qui**	**100.45**	**180**	P		**Pdif**	**02 30 32.9**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=239,slow=1.0,SNR=28							
RCHB	**Rochefort**	**100.51**	**326**	*d*Pdif		**Pdif**	**02 30 34.3**	**-0.1**
	comp=Z,7.9nm,0.9s							
UCC	**Uccle**	**100.65**	**327**	*d*Pdif		**Pdif**	**02 30 34.7**	**-0.3**
	comp=Z,6.6nm,0.8s							
DOU	**Dourbes**	**100.89**	**326**	*d*Pdif		**Pdif**	**02 30 36.0**	**-0.1**
	comp=Z,4.8nm,0.8s							
EKA	**Eskdalemuir Ar**	**101.76**	**333**	P		**Pdif**	**02 30 39.4**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=82,slow=4.5,SNR=4.1							
EKA				PP		**PP**	**02 34 49.9**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=44,slow=8.6,SNR=4.5							
RKT	**Rikitea**	**102.46**	**111**	*e*LR		LR	03 04 14.5	
	comp=Z,5μm,29.0s							
NVAR	**Mina Array Bea**	**102.93**	**46**	Pdiff		**Pdif**	**02 30 46.1**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=272,slow=5.0,SNR=10.0							
NVAR				PKiKP		**PKiKP**	**02 35 07.3**	**+1.5**
	comp=Z,1.9nm,0.9s,baz=266,slow=3.2,SNR=3.8							
NVAR				PKKPbc		**PKKPbc**	**02 46 41.4**	**-2.5**
	comp=Z,0.5nm,0.8s,baz=134,slow=4.3,SNR=3.6							
PDAR	**Pinedale Array**	**106.72**	**39**	Pdiff		**Pdif**	**02 31 03.0**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=69,slow=8.1,SNR=3.6							
PDAR				PKiKP		**PKiKP**	**02 35 13.3**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=68,slow=2.2,SNR=6.8							
PDAR				PKKPbc		**PKKPbc**	**02 46 30.1**	**-2.7**
	comp=Z,0.5nm,0.7s,baz=128,slow=4.7,SNR=5.4							
PDAR				PKKPab		**PKKPdf**	**02 46 45.2**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=125,slow=5.1,SNR=12							
ULM	**Lac du Bonnet**	**109.34**	**27**	PKKPbc		PKKPbc	02 46 22.8	-1.7
	comp=Z,1.7nm,0.6s,baz=177,slow=1.7,SNR=3.6							
SNAA	**Sanae**	**111.56**	**195**	PKKPbc		PKKPbc	02 46 16.1	-1.8
	comp=Z,3.7nm,0.7s,baz=300,slow=5.5,SNR=3.7							
SCHQ	**Schefferville**	**113.96**	**8**	PKP		**PKiKP**	**02 35 25.9**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=357,slow=3.4,SNR=7.8							
R32A	**Long Quarter,**	**115.94**	**38**	PKPdf		**PKiKP**	**02 35 29.0**	**-1.0**
CLN7	**Carlsbad 7**	**116.17**	**46**	PKPdf		**PKiKP**	**02 35 31.1**	**+0.4**
ALPN	**Alpine**	**117.40**	**48**	PKPdf		**PKPdf**	**02 35 32.8**	**-0.4**
CSTR	**Hydro, Custer**	**117.71**	**40**	PKPdf		**PKiKP**	**02 35 33.9**	**+0.4**
TXAR	**Lajitas Array**	**117.94**	**49**	PKPdf		**PKiKP**	**02 35 34.7**	**+0.5**
TXAR	**Lajitas Array**	**117.94**	**49**	PKP		**PKPdf**	**02 35 34.0**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=351,slow=3.2,SNR=33							
TXAR				PKKPbc		**PKKPbc**	**02 45 53.8**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=123,slow=6.8,SNR=12							
TXAR	**Lajitas Array**	**117.94**	**49**	PKiKP		**PKiKP**	**02 35 34.7**	**+0.5**
SGCY	**Sterling City**	**118.33**	**45**	PKPdf		**PKiKP**	**02 35 35.0**	**+0.1**
QUOK	**Quay**	**118.61**	**39**	PKPdf		**PKiKP**	**02 35 35.5**	**+0.3**
WTFS	**Witchita Falls**	**119.02**	**42**	PKPdf		**PKiKP**	**02 35 36.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**119.76**	**292**	PKPdf		**PKPdf**	**02 35 36.6**	**-1.3**
BRDY	**Brady**	**120.17**	**44**	PKPdf		**PKPdf**	**02 35 38.0**	**-0.4**
CCM	**Cathedral Cave**	**120.47**	**34**	PKPdf		**PKPdf**	**02 35 37.9**	**-0.8**
CCM	**Cathedral Cave**	**120.47**	**34**	PKiKP		**PKPdf**	**02 35 37.9**	**-0.8**
MIAR	**Mount Ida**	**121.60**	**38**	PKPdf		**PKiKP**	**02 35 41.6**	**+0.5**
MIAR	**Mount Ida**	**121.60**	**38**	PKiKP		**PKiKP**	**02 35 41.6**	**+0.5**
LCAR	**Lake Charles**	**121.95**	**35**	PKPdf		**PKPdf**	**02 35 41.6**	**0.0**
WCI	**Wyandotte Cave**	**122.90**	**30**	PKPdf		**PKPdf**	**02 35 43.2**	**-0.2**
WCI	**Wyandotte Cave**	**122.90**	**30**	PKiKP		**PKPdf**	**02 35 43.2**	**-0.2**
HKT	**Hockley**	**123.14**	**44**	PKPdf		**PKiKP**	**02 35 44.5**	**+0.3**
HKT	**Hockley**	**123.14**	**44**	PKiKP		**PKiKP**	**02 35 44.5**	**+0.3**
P52A	**Corning**	**123.68**	**26**	PKPdf		**PKPdf**	**02 35 44.5**	**-0.4**
WVT	**Waverly**	**123.73**	**33**	PKPdf		**PKPdf**	**02 35 44.6**	**-0.4**
WVT	**Waverly**	**123.73**	**33**	PKiKP		**PKPdf**	**02 35 44.6**	**-0.4**
CLTN	**Cedars of Leba**	**124.54**	**32**	PKPdf		**PKPdf**	**02 35 46.6**	**0.0**
PMSA	**Palmer Station**	**125.45**	**175**	*eP*		**PKiKP**	**02 35 48.0**	**+0.4**
TKL	**Tuckaleechee C**	**126.17**	**30**	PKPdf		**PKiKP**	**02 35 50.0**	**-0.1**
TKL	**Tuckaleechee C**	**126.17**	**30**	PKiKP		**PKiKP**	**02 35 50.0**	**-0.1**
PAULI	**Pauline**	**127.79**	**29**	PKPdf		**PKPdf**	**02 35 52.7**	**-0.1**
DBIC	**Dimbokro**	**128.01**	**287**	PKP		**PKPdf**	**02 35 52.7**	**-1.0**
	comp=Z,4.5nm,0.8s,baz=94,slow=3.9,SNR=5.3							
DBIC				SKPbc		SKPbc	02 39 05.8	
	comp=Z,2.7nm,0.5s,baz=38,slow=5.5,SNR=4.3							
PAYG	**Puerto Ayora**	**142.77**	**77**	PKPdf		**PKPdf**	**02 36 20.6**	**-0.6**
NYURE	**Nandayure**	**142.92**	**58**	*eP*		**PKPdf**	**02 36 19.2**	**-2.2**
JTS	**Las Juntas de**	**143.01**	**57**	PKPdf		PKPbc	02 36 18.9	+0.3
JTS	**Las Juntas de**	**143.01**	**57**	PKiKP		PKPbc	02 36 18.9	+0.4
JTS	**Las Juntas de**	**143.01**	**57**	*eP*		PKPab	02 36 16.4	-0.5
HDC	**Heredia**	**143.86**	**57**	*eP*		PKPbc	02 36 21.9	+0.9
PICV	**PH. Pirrs**	**144.00**	**57**	*eP*		**PKPdf**	**02 36 22.6**	**-0.8**
CVTG	**V. Turrialba,**	**144.06**	**56**	*eP*		**PKPab**	**02 36 20.4**	**-0.6**
VICA	**Volcano Irazu**	**144.09**	**56**	*eP*		PKPbc	02 36 22.4	+0.2
LCR2	**La Lucha 2**	**144.09**	**57**	*eP*		**PKPab**	**02 36 20.1**	**-1.3**
RAFA	**San Farael, Vo**	**144.13**	**56**	*eP*		**PKPdf**	**02 36 23.1**	**-0.9**
VTLA	**Turrialba Volc**	**144.14**	**56**	*eP*		**PKPab**	**02 36 21.8**	**+0.1**
CVTR	**Volcan Turrial**	**144.14**	**56**	*eP*		PKPbc	02 36 22.2	-0.1
CVTV	**Tajo**	**144.16**	**56**	*eP*		**PKPab**	**02 36 21.5**	**-0.3**
VTCV	**VTCV, Calle Va**	**144.19**	**56**	*eP*		**PKPab**	**02 36 21.7**	**-0.1**
PIEC	**Cerro El Cedra**	**144.20**	**57**	*eP*		**PKPdf**	**02 36 23.2**	**-0.8**
IRES	**Siquirres**	**144.31**	**56**	*eP*		**PKPdf**	**02 36 24.1**	**+0.3**
SAJE	**San Jernim**	**144.72**	**57**	*eP*		**PKPdf**	**02 36 25.2**	**+0.4**
DRK0	**Durika**	**144.98**	**57**	*eP*		**PKPdf**	**02 36 26.6**	**+1.3**
FIMO	**Fila Mora**	**145.04**	**57**	⇑*i P*		**PKPdf**	**02 36 26.9**	**+1.6**
EDP2	**Potrero Grande**	**145.17**	**57**	*eP*		**PKiKP**	**02 36 27.8**	**-1.4**
PIRO	**Carate, Puerto**	**145.37**	**58**	*eP*		**PKPab**	**02 36 27.5**	**+1.6**
EDAD	**Golfito**	**145.38**	**58**	*eP*		**PKPab**	**02 36 27.5**	**+1.5**
ALCO	**Alturas Coton,**	**145.49**	**57**	*eP*		**PKPab**	**02 36 27.3**	**+0.8**
NELY	**Ciudad Neily**	**145.56**	**57**	*eP*		**PKPab**	**02 36 28.2**	**+1.6**
LPPC	**Paso Canoas**	**145.72**	**57**	*eP*		**PKPab**	**02 36 28.7**	**+1.6**
LL04	**Puerto Octay**	**145.77**	**155**	PKPdf		**PKPdf**	**02 36 25.1**	**-0.5**
LR05	**Currie**	**146.50**	**155**	PKPdf		**PKPbc**	**02 36 28.2**	**-0.2**
PLCA	**Paso Flores**	**146.66**	**157**	PKPbc		**PKPdf**	**02 36 27.1**	**-0.2**
	comp=Z,13nm,0.7s,baz=219,slow=4.4,SNR=41							
PLCA				SKPbc		**SKPbc**	**02 40 00.4**	**-1.9**
	comp=Z,4.3nm,0.8s,baz=300,slow=0.8,SNR=5.9							
PLCA	**Paso Flores**	**146.66**	**157**	*eP*		**PKPdf**	**02 36 26.2**	**-1.0**
AOPR	**Arecibo Observ**	**148.68**	**23**			**PKPbc**	**02 36 34.7**	**-0.2**
OBIP	**Obispado Ponce**	**149.01**	**23**	PKPdf		**PKPdf**	**02 36 31.1**	**-0.6**
OBIP				PKPbc		**PKPbc**	**02 36 35.5**	**-0.3**
IGPR	**InterUniversit**	**149.28**	**23**	PKPbc		**PKPbc**	**02 36 36.7**	**+0.3**
BO02	**Sierra Bellavi**	**151.53**	**150**	PKPdf		**PKPdf**	**02 36 32.9**	**-2.3**
BO02				PKPbc		**PKPbc**	**02 36 41.4**	**0.0**
TRQA	**Tornquist**	**151.76**	**167**	PKPdf		**PKPdf**	**02 36 34.9**	**-0.6**
TRQA				PKPbc		**PKPbc**	**02 36 41.9**	**+0.1**
TRQA						**PKPab**	**02 36 49.6**	**-1.1**
GDHS	**Morne Mazeau,**	**152.27**	**16**	PKPdf		**PKPdf**	**02 36 35.2**	**-1.6**
MT13	**San Alfonso**	**152.61**	**150**	PKPdf		**PKPdf**	**02 36 36.2**	**-0.7**
PEL	**Peldehue**	**152.89**	**148**	PKPdf		**PKPdf**	**02 36 36.3**	**-1.0**
PEL	**Peldehue**	**152.89**	**148**	PKiKP		**PKPdf**	**02 36 36.3**	**-1.0**
OTAV	**Otavalo**	**153.56**	**68**	*eP*		**PKPdf**	**02 36 36.9**	**-2.4**
SDV	**Santo Domingo**	**154.64**	**41**	*eP*		**PKPdf**	**02 36 38.3**	**-2.2**
ROSC	**El Rosal**	**154.74**	**54**	PKP		**PKPdf**	**02 36 40.2**	**-0.7**
	comp=Z,9.4nm,0.7s,baz=91,slow=14,SNR=7.1							
ROSC				PKPab		**PKPab**	**02 37 03.5**	**-1.0**
	comp=Z,20nm,0.9s,baz=145,slow=16,SNR=5.9							
**RUSC

54nm,1.4s

QRZ	**Quartz Range**	**9.32 217**	P	**Pn**	**02 19 01.2**	**-4.1**
KHZ	**Kahutara**	**10.16 208**	P	Pn	02 19 09.7	-7.0
ODZ	**Otahua Downs**	**13.51 209**	P	Pn	02 19 54.8	-7.7
JCZ	**Jackson Bay**	**13.59 216**	P	Pn	02 19 55.8	-7.9

*IDC **01** 02:16:54.6±1.4, 7°.49N×95°.04E, h0km, mb4.1/13, mbtmp4.1/15, ML3.6/2, MS4.7/2, Error ellipse: s-maj=47.2km s-min=30.8km az=72.0*
*NEIC **01** 02:16:57.5±2.6, 7°.26N±0°.09×94°.2E±0°.1, h10km±2km, mb4.3/8, Error ellipse: s-maj=22.1km s-min=12.0km az=238.0*
*NDI **01** 02:17:10.2±1.3, 7°.23N×94°.16E, h10km, ML3.8, MW4.0, mb4.3(NEIC)*
ISC 01 02:17:00.3±0.7, 7°.48N±0°.04×94°.32E±0°.09, h24km, n42, σ1§77/35, mb4.2/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.61**	**220**	*eP*	**Pb**	**02 17 13.6**	**+1.3**
CMBY				*eS*	**Sb**	**02 17 19.0**	**-1.4**
CMBY				IAML		02 17 27.0	
	comp=N,13μm,0.3s						
CMBY				IAML		02 17 28.8	
	comp=E,10μm,0.5s						
LHMI	**Lhok Sumawe**	**3.44**	**130**	Pn	**Pn**	**02 17 50.8**	**-1.6**
PBA	**Port Blair**	**4.43**	**340**	Pn	**Pn**	**02 18 07.9**	**+1.9**
PBA	**Port Blair**	**4.43**	**340**	*eP*	**Pb**	**02 18 20.1**	**+2.7**
PBA				*eS*	**Sb**	**02 19 11.2**	**+0.8**
SRIT	**Nakonsritamara**	**5.35**	**78**	Pn	**Pn**	**02 18 20.9**	**+2.2**
DGPR	**DIGLIPUR**	**5.82**	**347**	*eP*	**Pb**	**02 18 39.6**	**-1.6**
DGPR				*eS*	**Sb**	**02 19 44.5**	**-6.0**
PSI	**Prapat**	**6.53**	**135**	Pn	Pn	02 18 28.3	-6.8
	comp=E,0.3nm,0.3s,baz=297,slow=21,SNR=1.1						
	comp=E,1.7nm,0.5s						
RPSI	**Rantau Prapat**	**6.61**	**136**	Pn	**Pn**	**02 18 35.0**	**-1.0**
KULM	**Kulim**	**6.66**	**109**	Pn	**Pn**	**02 18 38.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**11.80**	**22**	Pn	Pn	02 19 41.0	-6.2
	comp=E,0.3nm,0.3s,baz=175,slow=23,SNR=1.1						
	comp=E,1.8nm,0.3s						
LSA	**Lhasa**	**22.30**	**353**	P	**P**	**02 21 58.0**	**+1.4**
LSA				IAmb	IAmb	02 22 04.5	
	comp=Z,12nm,0.7s						
H08S3	**Diego Garcia H**	**26.44**	**236**	T	T	02 49 20.1	
	baz=54,slow=75,SNR=24						
H08S2	**Diego Garcia H**	**26.44**	**236**	T	T	02 49 25.9	
	baz=54,slow=75,SNR=16						
H08S1	**Diego Carcia H**	**26.46**	**236**	T	T	02 49 21.4	
	baz=54,slow=75,SNR=26						
KBL	**Kabul**	**35.59**	**323**	P	**P**	**02 23 56.0**	**-0.3**
AAK	**Ala-Archa**	**39.14**	**337**	P	**P**	**02 24 27.7**	**+1.6**
	comp=Z,2.1nm,0.8s,baz=301,slow=23,SNR=4.3						
	comp=Z,2.1nm,0.8s						
MK31	**Makanchi Array**	**40.51**	**347**	P	**P**	**02 24 37.6**	**+0.3**
MKAR	**Makanchi Array**	**40.51**	**347**	P	**P**	**02 24 36.0**	**-1.3**
MKAR	**Makanchi Array**	**40.51**	**347**	P	**P**	**02 24 36.8**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=160,slow=7.8,SNR=15						
	comp=Z,1.9nm,0.8s						
MAKZ	**Makanchi**	**40.59**	**347**	P	**P**	**02 24 37.3**	**-0.8**
KURBB	**Kurchatov Arra**	**44.97**	**346**	P	**P**	**02 25 13.0**	**-0.4**
	comp=Z,3.5nm,1.0s,baz=166,slow=7.1,SNR=20						
	comp=Z,3.5nm,1.0s						
KURK	**Kurchatov**	**45.03**	**346**	P	**P**	**02 25 13.6**	**-0.4**
KURK				IAmb	IAmb	02 25 19.5	
	comp=Z,5.5nm,0.9s						
ZAA0	**Zalesovo Array**	**46.97**	**352**	P	**P**	**02 25 29.4**	**+0.2**
ZALV	**Zalesovo Beam**	**46.97**	**352**	P	**P**	**02 25 29.0**	**-0.1**
ZALV	**Zalesovo Beam**	**46.97**	**352**	P	**P**	**02 25 26.7**	**-2.4**
	comp=Z,2.5nm,0.7s,baz=180,slow=7.8,SNR=13						
	comp=Z,2.5nm,0.7s						
BVAR	**Borovoye Array**	**49.41**	**341**	P	**P**	**02 25 49.0**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=156,slow=7.5,SNR=6.1						
	comp=Z,2.1nm,0.8s						
ABKAR	**Akbulak array**	**50.66**	**331**	P	**P**	**02 25 58.8**	**+1.2**
ABKAR				IAmb	IAmb	02 26 00.7	
	comp=Z,3.2nm,1.1s						
PMG	**Port Moresby**	**55.25**	**107**	LR	LR	02 53 14.5	
	comp=Z,3μm,18.6s,baz=288,slow=40						
BRTR	**Keskin Array B**	**62.82**	**311**	P	**P**	**02 27 21.8**	**-2.6**
BRTR	**Keskin Array B**	**62.82**	**311**	P	**P**	**02 27 26.8**	**+2.4**
	comp=Z,0.9nm,0.6s,baz=143,slow=7.2,SNR=8.8						
	comp=Z,0.9nm,0.6s						
H04N2	**CROZET ISLANDS**	**65.48**	**211**	T	T	03 38 10.7	
	baz=47,slow=75,SNR=7.9						
H04N1	**CROZET ISLANDS**	**65.49**	**211**	T	T	03 38 08.0	
	baz=47,slow=75,SNR=8.6						
H04N3	**CROZET ISLANDS**	**65.50**	**211**	T	T	03 38 09.7	
	baz=47,slow=75,SNR=8.9						
FINES	**FINESS Array B**	**73.14**	**332**	P	**P**	**02 28 29.9**	**+1.3**
	comp=Z,4.3nm,0.7s,baz=90,slow=4.8,SNR=6.6						
	comp=Z,4.3nm,0.7s						
GERES	**GERESS Array B**	**78.23**	**318**	P	**P**	**02 28 58.2**	**0.0**
	comp=Z,0.3nm,0.4s,baz=97,slow=6.9,SNR=5.9						
	comp=Z,0.3nm,0.4s						
HFS	**Hagfors**	**78.88**	**330**	P	**P**	**02 29 00.6**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=99,slow=9.2,SNR=8.1						
	comp=Z,1.2nm,0.4s						
NB2	**NORSAR Subarra**	**80.16**	**331**	P	**P**	**02 29 07.6**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=96,slow=5.1						
NOA	**NORSAR Array B**	**80.16**	**331**	P	**P**	**02 29 07.5**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=93,slow=5.7,SNR=7.3						
	comp=Z,0.6nm,0.8s						
SPITS	**Spitsbergen Ar**	**80.25**	**348**	P	**P**	**02 29 06.7**	**-1.9**
	comp=Z,8.6nm,1.0s,baz=97,slow=7.1,SNR=4.6						
	comp=Z,8.6nm,1.0s						
EKA	**Eskdalemuir Ar**	**88.14**	**325**	P	**P**	**02 29 49.3**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=80,slow=6.0,SNR=5.7						
	comp=Z,0.5nm,0.6s						
ESDC	**Sonseca Array**	**91.60**	**310**	P	**P**	**02 30 06.2**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=66,slow=3.7,SNR=5.6						
	comp=Z,0.4nm,0.8s						
BORG	**Borgarnes**	**93.86**	**337**	LR	LR	03 16 52.9	
	comp=Z,74nm,18.7s,baz=32,slow=38						

*IDC **01** 02:28:02.0±0.8, 7°.45N×94°.05E, h0km, mb4.3/21, mbtmp4.3/23, ML4.1/2, MS4.5/3, Error ellipse: s-maj=23.4km s-min=17.0km az=52.0*
*NDI **01** 02:28:03.3±1.5, 7°.83N×94°.31E, h10km, ML4.6, MW4.6, mb4.7(NEIC)*
*NEIC **01** 02:28:05.8±2.0, 7°.80N±0°.08×94°.5E±0°.1, h10km±1km, mb4.7/34, Error ellipse: s-maj=19.6km s-min=10.4km az=234.0*
*DJA **01** 02:28:18.5±0.5, 7°N±4°×9°5E±°, h10km, M4.4/8, mb4.5/8, MLv4.4/8, MwMwp5.7/1, Mwp5.8/1*
ISC 01 02:28:04.5±0.4, 7°.73N±0°.04×94°.29E±0°.06, h10km, n98, σ1§85/95, mb4.6/43, MS4.6/4, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.80**	**207**	*eP*	Pg	02 28 19.0	-1.0
CMBY				*eS*	**Sg**	**02 28 27.6**	**-2.8**
CMBY				IAML		02 28 29.9	
	comp=E,20μm,0.4s						
CMBY				IAML		02 28 31.4	
	comp=N,34μm,0.3s						
BSI	**Banda Aceh**	**2.43**	**156**	P	**Pn**	**02 28 47.0**	**+2.6**
BSI				S	**Sn**	**02 29 10.9**	**-3.3**
LHMI	**Lhok Sumawe**	**3.62**	**133**	Pn	**Pn**	**02 28 59.7**	**-1.1**
LHMI	**Lhok Sumawe**	**3.62**	**133**	P	**Pn**	**02 29 00.3**	**-0.5**
LHMI				S	Sn	02 29 33.7	-10
MLSI	**Meulaboh, Aceh**	**4.03**	**148**	P	**Pn**	**02 29 08.9**	**+2.5**
MLSI				S	**Sn**	**02 29 47.6**	**-6.1**
PBA	**Port Blair**	**4.19**	**339**	Pn	**Pn**	**02 29 09.7**	**+1.2**
PBA	**Port Blair**	**4.19**	**339**	*eP*	**Pn**	**02 29 05.5**	**-3.0**
PBA				*eS*	**Sn**	**02 29 52.6**	**-5.0**
SRIT	**Nakonsritamara**	**5.33**	**80**	Pn	**Pn**	**02 29 22.5**	**-1.7**
DGPR	**DIGLIPUR**	**5.58**	**346**	*eP*	**Pn**	**02 29 24.4**	**-3.2**
DGPR				*eS*	**Sn**	**02 30 24.4**	**-7.4**
PSI	**Prapat**	**6.73**	**136**	Pn	**Pn**	**02 29 44.8**	**+1.2**
	comp=N,1.2nm,0.3s,baz=0.4,slow=5.9,SNR=5.0						
	comp=N,8.1nm,0.5s						
KULM	**Kulim**	**6.77**	**111**	Pn	**Pn**	**02 29 42.4**	**-1.6**
RPSI	**Rantau Prapat**	**6.80**	**137**	Pn	**Pn**	**02 29 44.9**	**+0.4**
PPI	**Padang Panjang**	**10.16**	**143**	P	**Pn**	**02 30 30.0**	**-0.6**
	comp=N,33μmcomp=N,16nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.59**	**23**	Pn	**Pn**	**02 30 54.5**	**+4.4**
	comp=N,0.7nm,0.3s,baz=217,slow=14,SNR=12						
	comp=N,1.6nm,0.4s						
MDSI	**Maura Dua**	**15.64**	**141**	P	**Pn**	**02 31 45.3**	**+0.1**
	comp=N,13nm,1.2s						
KSM	**Kuching**	**17.13**	**110**	Pn	**Pn**	**02 32 02.8**	**-1.5**
KSM				IAmb	IAmb	02 32 10.2	
	comp=Z,60nm,1.4s						
SHL	**Shillong**	**17.89**	**353**	Pn	**Pn**	**02 32 12.5**	**-1.3**
SBUM	**Sibu**	**18.61**	**105**	P	**Pn**	**02 32 22.9**	**+0.4**
QIZ	**Qiongzhong**	**18.82**	**52**	P	**P**	**02 32 23.4**	**-1.2**
QIZ				S	**Sn**	**02 35 53.3**	**-2.7**
QIZ				LR	LR		
	comp=Z,1μm,11.1s						
QIZ				LR	LR		
	comp=Z,640nm,13.0s						
PZH	**PanZhiHua**	**19.97**	**20**	P	**Pn**	**02 32 41.8**	**+2.8**
PZH				pmax	pmax		
	comp=Z,30nm,0.9s						
SMRI	**Semarang**	**21.79**	**132**	P	**P**	**02 32 56.9**	**-0.1**
LSA	**Lhasa**	**22.06**	**353**	P	**P**	**02 33 01.1**	**+0.9**
LSA				IAmb	IAmb	02 33 05.7	
	comp=Z,27nm,0.8s						
MYLDM	**Lahad Datu**	**24.19**	**95**	P	**P**	**02 33 22.6**	**+1.2**
H08S3	**Diego Garcia H**	**26.56**	**235**	T	T	03 00 38.5	
	baz=54,slow=75,SNR=12						
H08S2	**Diego Garcia H**	**26.56**	**235**	T	T	03 00 29.7	
	baz=54,slow=75,SNR=114						
H08S1	**Diego Carcia H**	**26.58**	**235**	T	T	03 00 30.8	
	baz=54,slow=75,SNR=117						
LZH	**Lanzhou**	**29.55**	**16**	*eP*	**P**	**02 34 09.1**	**-0.5**
LZH				sP	pwP	02 34 22.3	+7.3
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
GTA	**Gaotai**	**31.93**	**8**	*eP*	**P**	**02 34 33.6**	**+3.0**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
NJ2	**Nanjing**	**33.29**	**40**	*eP*	**P**	**02 34 42.2**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
HNS	**HongShan**	**34.87**	**29**	⇑P	**P**	**02 35 00.0**	**+3.9**
HNS				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WUS	**Wushi**	**35.93**	**340**	P	**P**	**02 35 06.5**	**+1.2**
WUS				IAmb	IAmb	02 35 07.3	
	comp=Z,11nm,0.8s						
HHC	**Hu-ho-hao-te**	**36.40**	**22**	*eP*	**P**	**02 35 10.8**	**+1.5**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
WMQ	**Urumqi**	**36.41**	**352**	*eP*	**P**	**02 35 11.4**	**+2.0**
WMQ				LR	LR		
	comp=Z,3μm,23.5s						
WMQ				LR	LR		
	comp=Z,2μm,19.9s						
WMQ				LR	LR		
	comp=Z,2μm,16.3s						
KDJ	**Kajisay**	**37.45**	**339**	P	**P**	**02 35 19.4**	**+1.0**
BJI	**Beijing**	**37.66**	**28**	P	**P**	**02 35 19.4**	**-0.6**
BJI				pP	**sP**	**02 35 23.9**	**+0.6**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GAR	**Garm**	**37.88**	**329**	P	**P**	**02 35 21.6**	**-0.3**
GAR				IAmb	IAmb	02 35 23.3	
	comp=Z,17nm,1.1s						
BOOM	**Boomskoye usch**	**38.22**	**338**	P	**P**	**02 35 25.2**	**+0.3**
AAK	**Ala-Archa**	**38.90**	**337**	P	**P**	**02 35 31.5**	**+0.9**
MK31	**Makanchi Array**	**40.26**	**347**	P	**P**	**02 35 41.6**	**-0.1**
MK31				IAmb	IAmb	02 35 43.8	
	comp=Z,9.1nm,0.9s						
MKAR	**Makanchi Array**	**40.26**	**347**	P	**P**	**02 35 42.0**	**+0.3**
MKAR	**Makanchi Array**	**40.26**	**347**	P	**P**	**02 35 42.1**	**+0.5**
	comp=Z,9.7nm,0.8s,baz=167,slow=8.3,SNR=36						
	comp=Z,9.7nm,0.8s						
MAKZ	**Makanchi**	**40.34**	**347**	P	**P**	**02 35 41.6**	**-0.8**
MAKZ				IAmb	IAmb	02 35 43.9	
	comp=Z,7.6nm,0.7s						
XLT	**XiLinHaoTe**	**40.75**	**24**	*eP*	**P**	**02 35 46.6**	**+0.7**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KKAR	**Karatay Array**	**40.96**	**333**	P	**P**	**02 35 48.4**	**+0.8**
SONM	**Songino Array**	**41.27**	**12**	P	**P**	**02 35 51.0**	**+0.9**
SONM	**Songino Array**	**41.27**	**12**	P	**P**	**02 35 52.5**	**+2.3**
	comp=Z,3.3nm,0.9s,baz=194,slow=8.3,SNR=9.8						
	comp=Z,3.3nm,0.9s						
JNU	**Nakatsue**	**42.23**	**48**	P	**P**	**02 36 00.8**	**+2.7**
	comp=Z,22nm,1.1s,baz=174,slow=7.9,SNR=3.6						
	comp=Z,22nm,1.1s						
KSRS	**Korea Array**	**42.48**	**41**	P	**P**	**02 36 01.1**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=201,slow=38,SNR=1.5						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**44.72**	**346**	P	**P**	**02 36 19.0**	**+1.1**
	comp=Z,13nm,0.9s,baz=166,slow=7.1,SNR=54						
	comp=Z,13nm,0.9s						
KURK	**Kurchatov**	**44.79**	**346**	P	**P**	**02 36 18.8**	**+0.5**
KURK				IAmb	IAmb	02 36 22.1	
	comp=Z,13nm,0.9s						
ZAA0	**Zalesovo Array**	**46.72**	**352**	P	**P**	**02 36 34.6**	**+1.0**
ZALV	**Zalesovo Beam**	**46.72**	**352**	P	**P**	**02 36 35.1**	**+1.5**
ZALV	**Zalesovo Beam**	**46.72**	**352**	P	**P**	**02 36 34.5**	**+0.9**
	comp=Z,11nm,0.8s,baz=176,slow=8.1,SNR=24						
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**48.06**	**126**	P	**P**	**02 36 42.7**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=305,slow=8.5,SNR=3.0						
	comp=Z,0.8nm,0.7s						
BVAR	**Borovoye Array**	**49.17**	**341**	P	**P**	**02 36 52.9**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=141,slow=9.6,SNR=13						
	comp=Z,5.2nm,0.8s						
RAYN	**Ar Rayn**	**49.28**	**294**	P	**P**	**02 36 55.8**	**+1.7**
RAYN				IAmb	IAmb	02 36 59.7	
	comp=Z,5.5nm,0.9s						
ASAR	**Alice Springs**	**49.71**	**130**	P	**P**	**02 36 55.8**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=318,slow=7.3,SNR=5.8						
	comp=Z,0.8nm,0.8s						
ABKAR	**Akbulak array**	**50.43**	**331**	P	**P**	**02 37 01.8**	**-0.5**
ABKAR				IAmb	IAmb	02 37 04.3	
	comp=Z,6.4nm,1.1s						
ARTI	**Arti**	**56.12**	**337**	P	**P**	**02 37 44.7**	**+0.6**
KVAR	**Kislovodsk Arr**	**57.52**	**318**	LR	LR	03 04 06.9	
	comp=Z,571nm,21.8s,baz=200,slow=38						
BR131	**Keskin Array S**	**62.64**	**311**	P	**P**	**02 38 29.1**	**-0.5**
BRTR	**Keskin Array B**	**62.64**	**311**	P	**P**	**02 38 29.1**	**-0.5**
BRTR	**Keskin Array B**	**62.64**	**311**	P	**P**	**02 38 28.1**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=129,slow=7.3,SNR=7.3						
	comp=Z,0.9nm,0.7s						
H04N2	**CROZET ISLANDS**	**65.68**	**211**	T	T	03 49 24.3	
	baz=47,slow=74,SNR=20						
H04N1	**CROZET ISLANDS**	**65.69**	**211**	T	T	03 49 28.9	
	baz=47,slow=74,SNR=19						
H04N3	**CROZET ISLANDS**	**65.70**	**211**	T	T	03 49 27.5	
	baz=47,slow=74,SNR=19						
TIXI	**Tiksi**	**67.35**	**11**	P	**P**	**02 38 59.4**	**0.0**
TIXI	**Tiksi**	**67.35**	**11**	P	**P**	**02 38 59.6**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=183,slow=0.7,SNR=5.5						
	comp=Z,3.8nm,0.6s						
AKASG	**Malin Array Be**	**68.36**	**322**	P	**P**	**02 39 04.0**	**-2.3**
	comp=Z,0.4nm,0.6s,baz=87,slow=5.0,SNR=5.1						
	comp=Z,0.4nm,0.6s						
BURAR	**Buovina Array**	**70.25**	**318**	P	**P**	**02 39 18.8**	**+0.6**
FIA1	**FINESS Array S**	**72.91**	**332**	P	**P**	**02 39 33.3**	**-0.4**
FINES	**FINESS Array B**	**72.91**	**332**	P	**P**	**02 39 33.6**	**-0.2**
FINES	**FINESS Array B**	**72.91**	**332**	P	**P**	**02 39 34.1**	**+0.3**
	comp=Z,4.2nm,0.7s,baz=131,slow=5.3,SNR=8.0						
	comp=Z,4.2nm,0.7s						
BOSA	**Boshof**	**75.63**	**238**	P	**P**	**02 39 48.9**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=156,slow=11,SNR=1.5						
	comp=Z,1.9nm,0.8s						
BRG	**Berggiesshubel**	**77.96**	**320**	*eP*	P	02 40 13.9	+11
BRG				Amp		02 40 17.9	
	comp=Z,3.7nm,1.1s						
GERES	**GERESS Array B**	**78.03**	**318**	P	**P**	**02 40 04.0**	**+0.4**
GERES	**GERESS Array B**	**78.03**	**318**	P	**P**	**02 40 03.5**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=79,slow=6.9,SNR=7.3						
	comp=Z,1.3nm,0.7s						
HFS	**Hagfors**	**78.66**	**330**	P	**P**	**02 40 06.7**	**0.0**
	comp=Z,2.1nm,0.5s,baz=101,slow=6.2,SNR=7.9						
	comp=Z,2.1nm,0.5s						
CIMO	**Cimolais**	**78.83**	**316**	P	**P**	**02 40 08.3**	**+0.3**
CIMO				IAmb	IAmb	02 40 11.4	
	comp=Z,9.0nm,1.1s						
NB2	**NORSAR Subarra**	**79.93**	**331**	P	**P**	**02 40 13.5**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=90,slow=5.9						
NOA	**NORSAR Array B**	**79.93**	**331**	P	**P**	**02 40 13.6**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=93,slow=5.7,SNR=7.3						
	comp=Z,1.3nm,0.7s						
SPITS	**Spitsbergen Ar**	**80.01**	**348**	P	**P**	**02 40 14.3**	**+0.5**
	comp=Z,13nm,1.0s,baz=102,slow=7.8,SNR=2.1						
	comp=Z,13nm,1.0s						
SENIN	**Lac Senin/Sane**	**82.39**	**316**	P	**P**	**02 40 27.1**	**-0.2**
SYO	**Syowa Base**	**85.31**	**197**	‖*eP*	**P**	**02 40 44.2**	**+2.9**
EKA	**Eskdalemuir Ar**	**87.92**	**325**	P	**P**	**02 40 55.0**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=106,slow=6.2,SNR=4.0						
	comp=Z,1.6nm,0.8s						
F20K	**Avaraart Lake**	**90.57**	**22**	P	**P**	**02 41 07.8**	**+1.1**
F20K				IAmb	IAmb	02 41 17.7	
	comp=Z,4.2nm,1.1s						
E21K	**Killik River**	**90.66**	**20**	P	**P**	**02 41 07.7**	**+0.5**
E21K				IAmb	IAmb	02 41 18.0	
	comp=Z,5.2nm,1.2s						
H19K	**Roundabout Mou**	**90.84**	**23**	P	**P**	**02 41 09.7**	**+1.7**
H19K				IAmb	IAmb	02 41 19.7	
	comp=Z,7.1nm,1.1s						
ESDC	**Sonseca Array**	**91.42**	**310**	P	**P**	**02 41 10.4**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=54,slow=4.2,SNR=5.0						
ESDC				LR	LR	03 26 50.0	
	comp=Z,173nm,19.8s,baz=46,slow=39						
	comp=Z,0.9nm,0.9s						
J19K	**Poorman**	**91.73**	**24**	P	**P**	**02 41 12.7**	**+0.5**
J19K				IAmb	IAmb	02 41 15.3	
	comp=Z,6.4nm,1.3s						
MDT	**Midelt**	**93.27**	**304**	LR	LR	03 32 13.7	
	comp=Z,167nm,18.7s,baz=68,slow=41						
CAST	**Castle Rocks**	**93.40**	**24**	P	**P**	**02 41 20.8**	**+0.8**
CAST				IAmb	IAmb	02 41 30.6	
	comp=Z,5.0nm,1.2s						
SKT	**Skwentna**	**94.24**	**26**	P	**P**	**02 41 23.7**	**-0.1**
SKT				IAmb	IAmb	02 41 34.3	
	comp=Z,3.3nm,1.0s						
ILAR	**Eielson Array**	**94.82**	**22**	P	**P**	**02 41 26.7**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=305,slow=5.5,SNR=3.2						
	comp=Z,0.3nm,0.8s						
BMO	**Blue Mountains**	**120.43**	**26**	PKPdf	**PKPdf**	**02 46 57.3**	**+0.6**
LL04	**Puerto Octay**	**144.90**	**198**		**PKPab**	**02 47 40.9**	**-0.4**
LR05	**Currie**	**145.39**	**199**	PKPdf	**PKPbc**	**02 47 42.9**	**-0.1**
CPUP	**Villa Florida**	**147.29**	**232**	PKPdf	**PKPdf**	**02 47 46.5**	**-0.4**

IDC 01 02:32:07.3±9.1, 8°.68N×94°.34E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=461.2km s-min=30.9km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.35**	**347**	P	P	02 39 38.5	0.0
	0.5nm,0.7s,baz=166,slow=7.3,SNR=4.0						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**43.82**	**345**	P	P	02 40 14.8	-0.2
	0.5nm,0.6s,baz=171,slow=7.2,SNR=5.4						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**45.79**	**352**	P	P	02 40 30.6	-0.1
	0.5nm,0.3s,baz=179,slow=7.2,SNR=2.8						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**48.57**	**126**	P	P	02 40 52.8	-0.1
	0.3nm,0.8s,baz=307,slow=8.4,SNR=1.4						
	0.3nm,0.8s						

*IDC **01** 02:36:29.7±2.8, 7°.79N×92°.86E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=146.8km s-min=21.8km az=57.0*
ISC 01 02:36:36.7±2.6, 7°.9N±0°.6×93°.0E±0°.8, h50km, n6, σ1§06/6, mb3.8/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.86**	**349**	P	**P**	**02 44 05.2**	**-0.2**
	0.9nm,0.7s,baz=169,slow=8.5,SNR=5.7						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**44.29**	**347**	P	**P**	**02 44 41.5**	**+0.1**
	1.0nm,0.5s,baz=167,slow=6.9,SNR=8.7						
	1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**46.43**	**353**	P	**P**	**02 44 57.8**	**-0.5**
	1.1nm,0.4s,baz=165,slow=6.9,SNR=4.9						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**49.18**	**125**	P	**P**	**02 45 21.4**	**+1.2**
	0.3nm,0.8s,baz=300,slow=8.0,SNR=7.4						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**50.78**	**129**	P	**P**	**02 45 31.1**	**-1.2**
	0.2nm,0.5s,baz=301,slow=8.2,SNR=2.1						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**72.19**	**332**	P	**P**	**02 47 56.5**	**+0.4**
	2.8nm,0.9s,baz=108,slow=4.5,SNR=4.2						
	2.8nm,0.9s						

*IDC **01** 02:40:38.6±0.6, 7°.65N×94°.45E, h0km, mb4.0/16, mbtmp4.0/18, ML4.1/2, Error ellipse: s-maj=24.6km s-min=14.9km az=62.0*
*NEIC **01** 02:40:40.8±1.7, 7°.66N±0°.07×94°.37E±0°.10, h10km±1km, mb4.5/18, Error ellipse: s-maj=19.2km s-min=3.8km az=235.0*
*NDI **01** 02:40:43.6±1.1, 7°.60N×94°.48E, h10km, ML4.1, MW4.3, mb4.5(NEIC)*
ISC 01 02:40:41.8±0.5, 7°.61N±0°.05×94°.44E±0°.07, h24km, n59, σ1§10/55, mb4.3/28, 1C, Nicobar Islands region

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

```
ZAA0                                   IAmb    IAmb    02 49 20.1
     comp=Z,5.3nm,0.9s
ZALV Zalesovo Beam      46.86 352  P       P       02 49 10.2 +0.4
ZALV Zalesovo Beam      46.86 352  P       P       02 49 11.1 +1.3
     comp=Z,1.4nm,0.4s,baz=182,slow=7.0,SNR=7.6
     comp=Z,1.4nm,0.4s
BNX  BinXian            47.44  31 ⇑P      P       02 49 12.8 -1.7
BNX                                    pmax    pmax
     comp=Z,4.0nm,0.6s
WB0  Warramunga Arr     47.82 125  P       P       02 49 18.2 +0.3
WB0                                    IAmb    IAmb    02 49 45.6
     comp=Z,12nm,1.3s
WRA  Warramunga Arr     47.87 126  P       P       02 49 18.7 +0.5
     comp=Z,0.6nm,0.5s,baz=304,slow=8.6,SNR=8.2
     comp=Z,0.6nm,0.5s
WB2  Warramunga Arr     47.88 126  P       P       02 49 16.5 -1.8
WB2                                    IAmb    IAmb    02 49 33.8
     comp=Z,9.1nm,1.2s
BVAR Borovoye Array     49.34 341  P       P       02 49 29.3 +0.3
     comp=Z,0.7nm,0.6s,baz=134,slow=8.5,SNR=3.5
     comp=Z,0.7nm,0.6s
RAYN Ar Rayn            49.47 294  P       P       02 49 30.4 -0.1
RAYN                                   IAmb    IAmb    02 49 38.9
     comp=Z,5.8nm,0.8s
ASAR Alice Springs      49.52 130  P       P       02 49 31.9 +0.9
     comp=Z,0.5nm,0.5s,baz=301,slow=7.5,SNR=5.5
     comp=Z,0.5nm,0.5s
ABKAR Akbulak array     50.60 331  P       P       02 49 38.9 +0.2
BBOO Buckleboo          56.42 138  P       P       02 50 22.4 +0.8
KMBO Kilima Mbogo       57.69 264  P       P       02 50 31.6 +0.4
     comp=Z,1.0nm,0.6s,baz=130,slow=3.6,SNR=3.6
     comp=Z,1.0nm,0.6s
STKA Stephens Creek     59.71 134  P       P       02 50 44.5 -0.2
STKA Stephens Creek     59.71 134  P       P       02 50 44.6 -0.1
     comp=Z,1.0nm,0.6s,baz=314,slow=1.9,SNR=3.4
     comp=Z,1.0nm,0.6s
BR131 Keskin Array S    62.83 311  P       P       02 51 06.7 +0.8
BR131                                  IAmb    IAmb    02 51 50.1
     comp=Z,2.7nm,1.2s
BRTR Keskin Array B     62.83 311  P       P       02 51 04.5 -1.4
     comp=Z,0.3nm,0.5s,baz=140,slow=7.8,SNR=5.0
     comp=Z,0.3nm,0.5s
H04N2 CROZET ISLANDS 65.65 211  T       T       04 01 59.4
     baz=47,slow=75,SNR=5.5
H04N1 CROZET ISLANDS 65.66 211  T       T       04 02 01.9
     baz=47,slow=75,SNR=6.4
H04N3 CROZET ISLANDS 65.67 211  T       T       04 01 58.9
     baz=47,slow=75,SNR=6.0
TIXI Tiksi              67.43  11  P       P       02 51 34.3 -0.7
     comp=Z,1.9nm,0.5s,baz=320,slow=2.7,SNR=7.6
     comp=Z,1.9nm,0.5s
FINES FINESS Array B    73.08 332  P       P       02 52 09.2 -0.6
FINES FINESS Array B    73.08 332  P       P       02 52 10.3 +0.5
     comp=Z,5.5nm,1.1s,baz=145,slow=7.0,SNR=4.1
     comp=Z,5.5nm,1.1s
BOSA Boshof             75.70 238  P       P       02 52 26.5 +0.7
BOSA Boshof             75.70 238  P       P       02 52 27.6 +1.8
     comp=Z,4.7nm,1.0s,baz=92,slow=3.8,SNR=4.2
     comp=Z,4.7nm,1.0s
GERES GERESS Array B    78.22 318  P       P       02 52 39.6  0.0
GERES GERESS Array B    78.22 318  P       P       02 52 40.2 +0.6
     comp=Z,0.3nm,0.6s,baz=118,slow=4.8,SNR=4.3
     comp=Z,0.3nm,0.6s
HFS  Hagfors            78.83 330  P       P       02 52 43.0 +0.4
     comp=Z,0.8nm,0.4s,baz=100,slow=8.0,SNR=5.0
     comp=Z,0.8nm,0.4s
NOA  NORSAR Array B     80.11 331  P       P       02 52 50.8 +1.2
     comp=Z,1.2nm,0.9s,baz=94,slow=5.4,SNR=3.4
     comp=Z,1.2nm,0.9s
NVAR Mina Array Bea    124.99  31  PKP     PKiKP   02 59 41.4 +0.3
     comp=Z,0.4nm,0.7s,baz=360,slow=0.4,SNR=3.6
PLCA Paso Flores        144.40 200 PKP     PKiKP   03 00 17.1 -3.0
     comp=Z,1.9nm,1.0s,baz=194,slow=4.3,SNR=4.1
CPUP Villa Florida      147.33 232 PKPbc   PKiKP   03 00 25.8 -0.7
     comp=Z,0.9nm,0.7s,baz=188,slow=10,SNR=3.7
TEIG Tepich             152.21   5 PKPbc   PKiKP   03 00 35.5 -1.2
     comp=Z,0.4nm,0.7s,baz=350,slow=24,SNR=3.9
```

*NEIC **01** 02:42:38.3±2.6, 6°.8N±0°.1×94°.3E±0°.1, h10km±2km, mb4.5/15, Error ellipse: s-maj=25.1km s-min=20.0km az=246.0*
*IDC **01** 02:42:45.5±1.9, 8°.26N×93°.42E, h0km, mb4.1/12, mbtmp4.1/13, Error ellipse: s-maj=45.1km s-min=29.1km az=140.0*
ISC 01 02:42:37.9±0.7, 6°.76N±0°.08×94°.3E±0°.1, h10km, n41, σ2°38/36, mb4.2/19, 1C, Nicobar Islands region

```
Code Station Name        Δ°   AZ°  Phase ID                Time     Res
                                  Op      ISC             h m s    ISC
CMBY CAMPBELL BAY       0.45 304  eP      Pn              02 42 55.9 +5.5
CMBY                              eS      Sb              02 43 04.7 +10
CMBY                              IAML                    02 43 09.2
     comp=E,21μm,0.4s
CMBY                              IAML                    02 43 18.6
     comp=E,12μm,0.2s
PBA  Port Blair         5.10 343  eP      Pb              02 44 01.2 -6.0
PBA                               eS      Sn              02 44 56.9 +3.5
SRIT Nakonsritamara     5.56  71  Pn      Pn              02 44 02.2 +1.4
RPSI Rantau Prapat      6.13 131  Pn      Pn              02 44 07.1 -1.5
DGPR DIGLIPUR           6.51 348  eP      Pn              02 44 19.9 +6.1
DGPR                              eS      Sn              02 45 30.1 +1.8
DGPR                              IAML                    02 45 35.5
     comp=N,32nm,1.0s
CMAR Chiang Mai Arr     12.47  21  Pn      Pn              02 45 31.7 -3.9
     comp=N,0.9nm,0.3s,baz=223,slow=13,SNR=5.5
LSA  Lhasa              23.01 353  P       P               02 47 41.9 -1.7
H08S3 Diego Garcia H    26.04 237  T       T               03 15 07.0
     baz=54,slow=75,SNR=14
H08S2 Diego Garcia H    26.04 237  T       T               03 15 18.5
     baz=54,slow=75,SNR=12
H08S1 Diego Carcia H    26.05 237  T       T               03 15 12.3
     baz=54,slow=75,SNR=18
NIL  Nilore             33.10 327  P       P               02 49 15.0 +0.8
NIL                               IAmb    IAmb            02 49 16.6
     comp=Z,9.9nm,0.8s
WUS  Wushi              36.83 341  P       P               02 49 47.6 +1.2
WUS                               IAmb    IAmb            02 49 48.4
     comp=Z,5.7nm,0.7s
KDJ  Kajisay            38.35 339  P       P               02 49 59.1 -0.3
GAR  Garm               38.71 330  P       P               02 50 02.2 -0.1
GAR                               IAmb    IAmb            02 50 06.3
     comp=Z,7.7nm,0.9s
SIMJ Simiganj           39.12 328  P       P               02 50 05.8  0.0
ARSB Arslanbob          39.30 334  P       P               02 50 05.9 -1.4
ARSB                              IAmb    IAmb            02 50 10.0
     comp=Z,6.6nm,0.8s
MK31 Makanchi Array     41.20 347  P       P               02 50 21.4 -1.3
MK31                              IAmb    IAmb            02 50 25.0
     comp=Z,4.5nm,0.9s
MKAR Makanchi Array     41.20 347  P       P               02 50 19.3 -3.5
MKAR Makanchi Array     41.20 347  P       P               02 50 17.7 -5.1
     comp=Z,1.6nm,0.8s,baz=161,slow=7.7,SNR=19
     comp=Z,1.6nm,0.8s
SONM Songino Array      42.21  12  P       P               02 50 28.8 -2.4
     comp=Z,0.6nm,0.7s,baz=204,slow=9.0,SNR=6.1
     comp=Z,0.6nm,0.7s
KSRS Korea Array        43.20  40  P       P               02 50 44.0 +4.8
     comp=Z,4.3nm,0.8s,baz=213,slow=4.7,SNR=7.6
     comp=Z,4.3nm,0.8s
KURBB Kurchatov Arra    45.66 346  P       P               02 50 55.3 -3.3
     comp=Z,2.0nm,0.2s,baz=166,slow=7.1,SNR=20
     comp=Z,2.0nm,0.2s
KURK Kurchatov          45.72 346  P       P               02 50 57.3 -1.8
KURK                              IAmb    IAmb            02 51 01.7
     comp=Z,7.9nm,0.8s
ZAA0 Zalesovo Array     47.67 352  P       P               02 51 13.5 -0.8
ZALV Zalesovo Beam      47.67 352  P       P               02 51 13.6 -0.8
ZALV Zalesovo Beam      47.67 352  P       P               02 51 11.4 -2.9
     comp=Z,1.5nm,0.4s,baz=181,slow=8.0,SNR=8.0
     comp=Z,1.5nm,0.4s
RAYN Ar Rayn            49.69 295  P       P               02 51 30.9 +0.4
RAYN                              IAmb    IAmb            02 51 38.4
     comp=Z,8.6nm,1.1s
BVAR Borovoye Array     50.09 341  P       P               02 51 30.1 -2.8
     comp=Z,2.6nm,0.8s,baz=134,slow=8.5,SNR=7.8
     comp=Z,2.6nm,0.8s
ABKAR Akbulak array     51.28 332  P       P               02 51 40.9 -1.1
BRTR Keskin Array B     63.27 311  P       P               02 53 06.8 -0.4
BRTR Keskin Array B     63.27 311  P       P               02 53 05.9 -1.3
     comp=Z,1.0nm,0.7s,baz=129,slow=7.1,SNR=6.8
     comp=Z,1.0nm,0.7s
FINES FINESS Array B    73.76 332  P       P               02 54 10.0 -2.1
FINES FINESS Array B    73.76 332  P       P               02 54 10.5 -1.6
     comp=Z,1.9nm,0.8s,baz=106,slow=4.2,SNR=6.5
     comp=Z,1.9nm,0.8s
GERES GERESS Array B    78.75 318  P       P               02 54 41.7 +0.7
     comp=Z,1.1nm,0.8s,baz=100,slow=7.2,SNR=5.3
     comp=Z,1.1nm,0.8s
HFS  Hagfors            79.49 330  P       P               02 54 43.4 -1.2
     comp=Z,3.1nm,1.0s,baz=102,slow=6.2,SNR=7.6
     comp=Z,3.1nm,1.0s
NB2  NORSAR Subarra     80.77 331  P       P               02 54 54.8 +3.2
     comp=Z,0.9nm,0.7s,baz=97,slow=5.1
NOA  NORSAR Array B     80.77 331  P       P               02 54 50.9 -0.7
     comp=Z,1.2nm,0.7s,baz=91,slow=5.9,SNR=5.3
     comp=Z,1.2nm,0.7s
SYO  Syowa Base         84.40 197⇑ eP      P               02 55 10.2 +0.1
EKA  Eskdalemuir Ar     88.72 325  P       P               02 55 31.9 +0.2
     comp=Z,0.3nm,0.4s,baz=48,slow=3.7,SNR=4.0
     comp=Z,0.3nm,0.4s
N19K Bonanza Creek      94.25  27  P       P               02 55 58.1 +0.7
CPUP Villa Florida      146.70 231 PKPbc   PKiKP           03 02 30.4 +6.8
     comp=Z,2.0nm,1.0s,baz=77,slow=0.5,SNR=5.3
```

IDC 01 02:44:41.7±39.0, 5°.63N×92°.70E, h0km, mb3.8/3, mbtmp3.8/4, ML4.4/1, Error ellipse: s-maj=779.0km s-min=102.4km az=148.0, Off west coast of northern Sumatera

```
Code Station Name        Δ°   AZ°  Phase ID                Time     Res
                                  Op      ISC             h m s    ISC
CMAR Chiang Mai Arr     14.13  25  Pn      Pn              02 48 03.4 +0.1
     0.6nm,0.3s,baz=188,slow=27,SNR=1.6
     1.2nm,0.3s
MKAR Makanchi Array     41.98 349  P       P               02 52 34.0 -0.6
     0.6nm,0.5s,baz=167,slow=8.7,SNR=4.3
     0.6nm,0.5s
KURBB Kurchatov Arra    46.38 348  P       P               02 53 10.2 +0.5
     0.8nm,0.8s,baz=164,slow=6.7,SNR=5.2
     0.8nm,0.8s
ZALV Zalesovo Beam      48.59 354  P       P               02 53 26.5 -0.4
     0.7nm,0.4s,baz=176,slow=8.2,SNR=2.8
     0.7nm,0.4s
```

*IDC **01** 02:46:47.1±0.9, 7°.52N×93°.88E, h0km, mb4.0/13, mbtmp4.0/15, ML4.0/2, MS4.0/2, Error ellipse: s-maj=41.0km s-min=16.8km az=53.0*
*NEIC **01** 02:46:48.8±1.8, 7°.58N±0°.09×94°.3E±0°.1, h10km±1km, mb4.6/36, Error ellipse: s-maj=19.7km s-min=10.6km az=232.0*
*NDI **01** 02:46:54.3±1.4, 7°.58N×94°.27E, h10km, ML4.0, MW4.4, mb4.6(NEIC)*
ISC 01 02:46:50.2±0.5, 7°.53N±0°.05×94°.27E±0°.07, h24km, n87, σ1°16/79, mb4.5/42, Nicobar Islands region

```
Code Station Name        Δ°   AZ°  Phase ID                Time     Res
                                  Op      ISC             h m s    ISC
CMBY CAMPBELL BAY       0.62 213  eP      Pn              02 47 04.2 +0.8
CMBY                              eS      Sn              02 47 13.2 +0.5
CMBY                              IAML                    02 47 16.9
     comp=N,27μm,0.6s
CMBY                              IAML                    02 47 16.9
     comp=E,24μm,0.5s
LHMI Lhok Sumawe        3.51 130  Pn      Pn              02 47 44.8 +1.4
PBA  Port Blair         4.36 340  Pn      Pn              02 47 55.1  0.0
PBA  Port Blair         4.36 340  ex      x               02 47 39.1
PBA                               eS      Sn              02 48 48.2 +3.1
SRIT Nakonsritamara     5.39  78  Pn      Pn              02 48 09.6 +0.4
DGPR DIGLIPUR           5.76 347  eP      Pn              02 48 19.0 +4.7
DGPR                              eS      Sn              02 49 20.3 +0.7
DGPR                              IAML                    02 49 35.6
     comp=N,70nm,2.2s
DGPR                              IAML                    02 49 36.6
     comp=E,81nm,1.7s
PSI  Prapat             6.61 135  Pn      Pn              02 48 30.6 +4.6
     comp=E,0.8nm,0.3s,baz=299,slow=9.5,SNR=5.1
     comp=E,6.3nm,0.5s
RPSI Rantau Prapat      6.68 136  Pn      Pn              02 48 27.5 +0.6
KULM Kulim              6.72 109  Pn      Pn              02 48 26.6 -0.9
MYKOM Kota Tinggi      11.12 120  Pn      Pn              02 49 29.0 +1.1
CMAR Chiang Mai Arr    11.78  22  Pn      Pn              02 49 38.3 +1.5
CMAR Chiang Mai Arr    11.78  22  Pn      Pn              02 49 38.9 +2.0
     comp=E,0.7nm,0.3s,baz=216,slow=15,SNR=4.9
     comp=E,0.9nm,0.3s
KSM  Kuching           17.08 110          P               02 50 48.1 -1.1
SHL  Shillong          18.08 353          P               02 50 59.6 -0.7
SBUM Sibu              18.58 105  P       P               02 51 05.2 -0.5
QIZ  Qiongzhong        18.96  51  P       P               02 51 09.2 -0.8
QIZ                               S       S               02 54 42.0 -2.0
QIZ                               LR      LR
     comp=N,890nm,13.2s
QIZ                               LR      LR
     comp=E,390nm,13.5s
QIZ                               LR      LR
     comp=Z,370nm,9.8s
PZH  PanZhiHua         20.16  20  P       Pn              02 51 26.9 +1.8
PZH                               pmax    pmax
     comp=Z,20nm,1.4s
PZH                               pmax    pmax
     comp=Z,250nm,9.3s
LSA  Lhasa             22.25 353  P       P               02 51 44.4 -1.5
LSA                               IAmb    IAmb            02 51 55.1
     comp=Z,14nm,0.9s
H08S3 Diego Garcia H   26.43 236  T       T               03 19 03.8
     baz=55,slow=75,SNR=9.1
H08S2 Diego Garcia H   26.43 236  T       T               03 19 10.5
     baz=55,slow=75,SNR=12
H08S1 Diego Carcia H   26.45 236  T       T               03 19 12.6
     baz=55,slow=75,SNR=8.4
LZH  Lanzhou           29.74  16  eP      P               02 53 01.4 +6.4
LZH                               sP      sP              02 53 07.5 +3.2
LZH                               pmax    pmax
     comp=Z,17nm,1.1s
NIL  Nilore            32.45 326  P       P               02 53 18.1 -0.6
NIL                               IAmb    IAmb            02 53 26.0
     comp=Z,9.4nm,0.8s
NJ2  Nanjing           33.45  40  eP      P               02 53 28.3 +0.8
NJ2                               pmax    pmax
     comp=Z,13nm,0.7s
KSH  Kashi             35.83 335  P       P               02 53 51.9 +3.8
KSH                               pmax    pmax
     comp=Z,5.0nm,1.1s
WUS  Wushi             36.10 341  P       P               02 53 49.5 -1.0
WUS                               IAmb    IAmb            02 53 57.3
     comp=Z,12nm,1.1s
HHC  Hu-ho-hao-te      36.59  22  eP      P               02 53 56.5 +2.0
HHC                               pmax    pmax
     comp=Z,10.0nm,0.7s
WMQ  Urumqi            36.60 352  eP      P               02 53 56.3 +1.7
TARG Taragay, Kyrgy    37.05 339  P       P               02 53 57.1 -1.7
KDJ  Kajisay           37.62 339  P       P               02 54 02.9 -0.6
KDJ                               IAmb    IAmb            02 54 10.7
     comp=Z,5.9nm,1.0s
GAR  Garm              38.03 329  P       P               02 54 06.7 -0.2
CHGR Chuyangaron       38.38 328  P       P               02 54 08.5 -1.2
BOOM Boomskoye usch    38.39 338  P       P               02 54 08.5 -1.4
SIMJ Simiganj          38.46 328  P       P               02 54 09.3 -1.2
SIMJ                              IAmb    IAmb            02 54 17.8
     comp=Z,11nm,1.1s
BTK  Batken            38.59 331  P       P               02 54 11.2 -0.3
BTK                               IAmb    IAmb            02 54 19.9
     comp=Z,8.4nm,0.9s
ARSB Arslanbob         38.60 334  P       P               02 54 11.1 -0.5
ARSB                              IAmb    IAmb            02 54 18.9
     comp=Z,14nm,1.0s
AAK  Ala-Archa         39.07 337  P       P               02 54 14.8 -0.8
AAK  Ala-Archa         39.07 337  LR      LR              03 13 37.4
     comp=Z,270nm,18.2s,baz=115,slow=41
MK31 Makanchi Array    40.45 347  P       P               02 54 26.3 -0.5
MKAR Makanchi Array    40.45 347  P       P               02 54 26.0 -0.8
MKAR Makanchi Array    40.45 347  P       P               02 54 26.9 +0.1
     comp=Z,2.6nm,0.8s,baz=164,slow=8.0,SNR=15
     comp=Z,2.6nm,0.8s
MAKZ Makanchi          40.53 347  P       P               02 54 26.7 -0.8
XLT  XiLinHaoTe        40.94  24  eP      P               02 54 30.0 -1.0
XLT                               sP      pP              02 54 36.3 -1.4
XLT                               pmax    pmax
     comp=Z,9.0nm,0.7s
SONM Songino Array     41.47  12  P       P               02 54 36.3 +1.0
JNU  Nakatsue          42.38  48  LR      LR              03 13 12.1
     comp=Z,136nm,19.6s,baz=257,slow=37
KURBB Kurchatov Arra   44.91 346  P       P               02 55 03.0 +0.2
     comp=Z,3.0nm,0.8s,baz=164,slow=7.1,SNR=15
     comp=Z,3.0nm,0.8s
KURK Kurchatov         44.97 346  P       P               02 55 03.2 -0.2
ZAA0 Zalesovo Array    46.91 352  P       P               02 55 17.7 -1.0
ZALV Zalesovo Beam     46.91 352  P       P               02 55 18.5 -0.1
ZALV Zalesovo Beam     46.91 352  P       P               02 55 19.1 +0.5
     comp=Z,2.9nm,0.6s,baz=185,slow=7.2,SNR=8.9
     comp=Z,2.9nm,0.6s
WB0  Warramunga Arr    47.92 125  P       P               02 55 27.1  0.0
WB0                               IAmb    IAmb            02 55 39.1
     comp=Z,9.8nm,1.3s
WRA  Warramunga Arr    47.96 125  P       P               02 55 31.6 +4.2
     comp=Z,1.1nm,0.7s,baz=305,slow=9.3,SNR=8.9
     comp=Z,1.1nm,0.7s
WB2  Warramunga Arr    47.97 125  P       P               02 55 27.7 +0.2
USA0B Ussuriysk Arra   49.12  36  P       P               02 55 34.3 -1.6
USA0B                             IAmb    IAmb            02 55 52.5
     comp=Z,6.7nm,0.7s
USRK Ussuriysk Ar.     49.12  36  P       P               02 55 32.7 -3.2
RAYN Ar Rayn           49.34 295  P       P               02 55 38.6 +0.6
RAYN                              IAmb    IAmb            02 55 46.7
     comp=Z,4.7nm,0.7s
BVAR Borovoye Array    49.35 341  P       P               02 55 37.5 -0.1
     comp=Z,1.8nm,0.9s,baz=142,slow=7.5,SNR=8.7
     comp=Z,1.8nm,0.9s
BRVK Borovoye          49.41 341  P       P               02 55 37.9 -0.1
BRVK                              IAmb    IAmb            02 55 45.1
     comp=Z,4.5nm,0.9s
ASAR Alice Springs     49.60 130  P       P               02 55 41.0 +1.0
     comp=Z,0.5nm,0.5s,baz=301,slow=7.4,SNR=5.7
     comp=Z,0.5nm,0.5s
ABKAR Akbulak array    50.59 331  P       P               02 55 47.0 +0.1
ABKAR                             IAmb    IAmb            02 55 54.4
     comp=Z,8.5nm,1.1s
GURO Guroymak-BITLI    56.15 312  P       P               02 56 28.2 -0.1
GURO                              IAmb    IAmb            02 56 34.6
     comp=Z,3.7nm,1.0s
NRIK Noril'sk          61.89 357  P       P               02 57 06.6 -0.7
     comp=Z,1.1nm,0.4s,baz=153,slow=4.7,SNR=3.5
     comp=Z,1.1nm,0.4s
BRTR Keskin Array B    62.74 311  P       P               02 57 12.6 -1.3
BRTR Keskin Array B    62.74 311  P       P               02 57 12.3 -1.5
     comp=Z,0.4nm,0.6s,baz=133,slow=7.4,SNR=4.4
     comp=Z,0.4nm,0.6s
AKASG Malin Array Be   68.50 322  P       P               02 57 49.7 -0.8
     comp=Z,0.4nm,0.4s,baz=83,slow=4.6,SNR=5.6
     comp=Z,0.4nm,0.4s
BURAR Bucovina Array   70.38 318  P       P               02 58 02.4  0.0
LIT  Litokhoron        71.25 310  P       P               02 58 06.7 -1.1
FINES FINESS Array B   73.07 332  P       P               02 58 17.7 -0.4
FINES FINESS Array B   73.07 332  P       P               02 58 17.0 -1.1
     comp=Z,3.1nm,0.9s,baz=54,slow=3.3,SNR=4.6
     comp=Z,3.1nm,0.9s
RONA Rosalia, Austr    76.37 317  iP      P               02 58 37.8 +0.1
     comp=Z,4.8nm,1.1s
ARSA Arzberg           76.87 317  iP      P               02 58 41.4 +0.9
     comp=Z,4.4nm,1.0s
SOKA Soboth            77.17 316  iP      P               02 58 43.3 +1.0
     comp=Z,6.0nm,1.2s
BRG  Berggiesshubel    78.09 320  eP      P               02 58 53.7 +6.5
BRG                               Amp                     02 58 55.7
     comp=Z,3.7nm,1.1s
GERES GERESS Array B   78.16 318  P       P               02 58 46.9 -0.9
GERES GERESS Array B   78.16 318  P       P               02 58 47.7 -0.1
     comp=Z,0.3nm,0.4s,baz=94,slow=4.0,SNR=9.6
     comp=Z,0.3nm,0.4s
KBA  Koelnbreinsper    78.35 316  iP      P               02 58 49.3 +0.4
     comp=Z,5.9nm,1.5s
LESA Schwarzleotal     78.81 317  iP      P               02 58 51.1 -0.3
     comp=Z,5.0nm,1.1s
CIMO Cimolais          78.95 316  P       P               02 58 51.8 -0.3
CIMO                              IAmb    IAmb            02 58 59.1
     comp=Z,11nm,1.1s
WTTA Wattenberg        79.51 317  iP      P               02 58 55.1 -0.2
     comp=Z,4.8nm,0.8s
WATA Walderalm         79.56 317  eP      P               02 58 55.5  0.0
     comp=Z,4.1nm,0.9s
NOA  NORSAR Array B    80.09 331  P       P               02 58 57.6 -0.3
     comp=Z,0.9nm,0.7s,baz=92,slow=5.7,SNR=5.8
     comp=Z,0.9nm,0.7s
DAVA Damuels           80.71 317  iP      P               02 59 01.5 -0.3
     comp=Z,5.9nm,1.1s
E21K Killik River      90.85  20  P       P               02 59 52.8 +1.3
E21K                              IAmb    IAmb            02 59 55.0
     comp=Z,3.5nm,1.1s
ESDC Sonseca Array     91.53 310  P       P               02 59 55.3  0.0
     comp=Z,0.7nm,0.9s,baz=51,slow=4.8,SNR=7.0
     comp=Z,0.7nm,0.9s
K20K Telida            92.80  25  P       P               03 00 01.6 +1.1
CAST Castle Rocks      93.59  24  P       P               03 00 06.0 +1.7
CAST                              IAmb    IAmb            03 00 09.1
     comp=Z,4.5nm,1.0s
N19K Bonanza Creek     93.59  27  P       P               03 00 05.0 +0.6
```

*BJI **01** 02:49:38.5, 6°.82N×94°.08E, h28km, mB4.9/5, mb4.4/30, Ms4.4/3, Ms7 4.1/3*
*IDC **01** 02:49:40.9±0.7, 7°.50N×94°.26E, h0km, mb4.3/20, mbtmp4.3/22, ML4.4/2, MS3.4/1, Error ellipse: s-maj=23.6km s-min=16.1km az=67.0*
*NEIC **01** 02:49:42.5±1.3, 7°.46N±0°.06×94°.18E±0°.09, h10km±1km, mb4.7/44, Error ellipse: s-maj=14.7km s-min=9.8km az=257.0*
ISC 01 02:49:43.4±0.4, 7°.40N±0°.05×94°.16E±0°.06, h20km, n98, σ1°21/93, mb4.5/44, 1C-1D, Nicobar Islands region

```
Code Station Name        Δ°   AZ°  Phase ID                Time     Res
                                  Op      ISC             h m s    ISC
CMBY CAMPBELL BAY       0.45 211  eP      Pb              02 49 49.5 -3.2
CMBY                              eS      Sb              02 49 56.0 -3.0
CMBY                              IAML                    02 50 09.2
     comp=E,29μm,0.4s
CMBY                              IAML                    02 50 09.4
     comp=N,26μm,0.4s
LHMI Lhok Sumawe        3.51 128  Pn      Pn              02 50 37.3 +0.5
PBA  Port Blair         4.45 342  Pn      Pn              02 50 50.1 +0.3
PBA  Port Blair         4.45 342  eP      Pn              02 50 49.5 -0.3
PBA                               eS      Sn              02 51 38.6 -2.5
SRIT Nakonsritamara     5.51  77  Pn      Pn              02 51 04.6 +0.1
DGPR DIGLIPUR           5.87 348  eP      Pn              02 51 08.6 -0.6
DGPR                              eS      Sn              02 52 11.3 -4.6
PSI  Prapat             6.58 134  Pn      Pn              02 51 19.3 +0.1
     comp=N,1.8nm,0.3s,baz=199,slow=18,SNR=3.8
     comp=N,3.4nm,0.3s
RPSI Rantau Prapat      6.66 134  Pn      Pn              02 51 20.1  0.0
KULM Kulim              6.78 108  Pn      Pn              02 51 20.7 -1.1
CMAR Chiang Mai Arr    11.93  22  Pn      Pn              02 52 30.2 -2.3
     comp=N,2.2nm,0.3s,baz=216,slow=14,SNR=9.4
CMAR                              LR      LR              02 56 37.3
     comp=N,197nm,20.1s,baz=260,slow=35
     comp=N,2.4nm,0.3s
CHTO Chiang Mai        12.26  22  Pn      Pn              02 52 36.2 -0.8
CRAI Chiangrai         14.10  25  Pn      Pn              02 53 01.5 -0.6
SLVN Son La            16.75  33  Pn      Pn              02 53 34.6 -2.4
KSM  Kuching           17.13 109  Pn      Pn              02 53 40.5 -1.3
SHL  Shillong          18.20 353  P       P               02 53 54.1 -1.1
QIZ  Qiongzhong        19.12  51  P       Pn              02 54 04.7 -1.5
QIZ                               S       S               02 57 39.2 -2.3
QIZ                               LR      LR
     comp=N,560nm,9.0s
QIZ                               LR      LR
     comp=N,400nm,12.8s
QIZ                               LR      LR
     comp=N,370nm,9.7s
KMI  Kunming           19.43  24  P       Pn              02 54 15.1 +4.9
KMI                               pmax    pmax
     comp=N,18nm,1.0s
PZH  PanZhiHua         20.32  20  P       Pn              02 54 21.4 +0.9
PZH                               pmax    pmax
     comp=N,10.0nm,0.7s
PZH                               pmax    pmax
     comp=N,250nm,7.1s
LSA  Lhasa             22.36 353  P       P               02 54 39.4 -1.4
LSA                               IAmb    IAmb            02 54 44.1
     comp=Z,18nm,0.6s
H08S3 Diego Garcia H   26.27 236  T       T               03 22 06.8
     baz=54,slow=76,SNR=36
H08S2 Diego Garcia H   26.27 236  T       T               03 22 15.7
     baz=54,slow=76,SNR=8.0
H08S1 Diego Carcia H   26.29 236  T       T               03 22 09.1
     baz=54,slow=76,SNR=9.7
LZH  Lanzhou           29.89  16  eP      P               02 55 53.1 +3.1
LZH                               sP      pwP             02 56 01.9 +3.7
LZH                               pmax    pmax
     comp=Z,9.0nm,0.7s
GTA  Gaotai            32.27   8  eP      P               02 56 12.5 +1.6
GTA                               pP      pwP             02 56 17.9 -1.3
GTA                               pmax    pmax
     comp=Z,5.0nm,0.9s
NIL  Nilore            32.50 326  P       P               02 56 12.3 -0.6
TIA  Tai'an            35.53  33  P       P               02 56 40.8 +1.7
TIA                               pmax    pmax
```

comp=Z,6.0nm,0.6s
KBL Kabul 35.56 323 P P 02 56 39.6 -0.1
WUS Wushi 36.19 341 P P 02 56 43.9 -1.0
WUS IAmb IAmb 02 56 52.0
comp=Z,19nm,1.5s
WMQ Urumqi 36.72 352 eP P 02 56 51.0 +1.8
HHC Hu-ho-hao-te 36.74 22 eP P 02 56 51.2 +1.6
HHC pmax pmax
comp=Z,18nm,0.7s
KDJ Kajisay 37.71 339 P P 02 56 58.0 +0.2
GAR Garm 38.09 329 P P 02 57 00.9 -0.1
GAR IAmb IAmb 02 57 02.6
comp=Z,23nm,1.2s
SIMJ Simiganj 38.51 328 P P 02 57 04.2 -0.4
SIMJ IAmb IAmb 02 57 05.4
comp=Z,8.9nm,0.7s
BTK Batken 38.66 331 P P 02 57 06.5 +0.7
ARSB Arslanbob 38.67 334 P P 02 57 06.6 +0.6
ARSB IAmb IAmb 02 57 14.9
comp=Z,7.7nm,0.7s
MK31 Makanchi Array 40.55 347 P P 02 57 21.0 -0.4
MKAR Makanchi Array 40.55 347 P P 02 57 20.6 -0.8
MKAR Makanchi Array 40.55 347 P P 02 57 21.6 +0.3
comp=Z,6.7nm,0.7s,baz=160,slow=8.0,SNR=32
comp=Z,6.7nm,0.7s
MAKZ Makanchi 40.63 347 P P 02 57 21.6 -0.5
MAKZ IAmb IAmb 02 57 22.7
comp=Z,6.8nm,0.7s
KKAR Karatay Array 41.19 334 P P 02 57 27.2 +0.5
SONM Songino Array 41.62 12 P P 02 57 29.9 -0.4
SONM Songino Array 41.62 12 P P 02 57 31.4 +1.1
comp=Z,1.7nm,0.7s,baz=195,slow=7.5,SNR=7.3
comp=Z,1.7nm,0.7s
KURBB Kurchatov Arra 45.01 346 P P 02 57 58.2 +0.8
comp=Z,8.3nm,0.7s,baz=172,slow=6.9,SNR=74
comp=Z,8.3nm,0.7s
KURK Kurchatov 45.07 346 P P 02 57 57.8 -0.1
KURK IAmb IAmb 02 57 59.4
comp=Z,16nm,1.0s
ZAA0 Zalesovo Array 47.02 352 P P 02 58 13.2 -0.1
ZALV Zalesovo Beam 47.02 352 P P 02 58 12.8 -0.5
ZALV Zalesovo Beam 47.02 352 P P 02 58 14.1 +0.8
comp=Z,7.6nm,0.4s,baz=176,slow=7.8,SNR=27
comp=Z,7.6nm,0.4s
BNX BinXian 47.76 31 ⇑P P 02 58 21.5 +2.4
BNX pmax pmax
comp=Z,5.0nm,1.7s
WRA Warramunga Arr 47.97 125 P P 02 58 21.3 +0.1
comp=Z,1.2nm,0.9s,baz=301,slow=9.8,SNR=4.9
comp=Z,1.2nm,0.9s
WB2 Warramunga Arr 47.98 125 P P 02 58 21.1 -0.1
WB2 IAmb IAmb 02 58 54.1
comp=Z,12nm,1.4s
RAYN Ar Rayn 49.30 295 P P 02 58 31.9 +0.5
BVAR Borovoye Array 49.44 341 P P 02 58 32.2 +0.2
comp=Z,4.7nm,0.8s,baz=149,slow=6.4,SNR=11
comp=Z,4.7nm,0.8s
BRVK Borovoye 49.50 341 P P 02 58 31.8 -0.6
BRVK IAmb IAmb 02 58 33.8
comp=Z,5.3nm,1.1s
ASAR Alice Springs 49.60 130 P P 02 58 33.9 +0.2
comp=Z,0.9nm,0.8s,baz=315,slow=7.7,SNR=5.6
comp=Z,0.9nm,0.8s
ABKAR Akbulak array 50.65 332 P P 02 58 41.9 +0.7
ABKAR IAmb IAmb 02 58 43.0
comp=Z,6.2nm,1.0s
ARTI Arti 56.37 337 P P 02 59 23.1 +0.1
ARTI IAmb IAmb 02 59 24.8
comp=Z,11nm,1.0s
KMBO Kilima Mbogo 57.40 264 P P 02 59 33.6 +2.3
comp=Z,1.3nm,0.6s,baz=59,slow=11,SNR=6.7
comp=Z,1.3nm,0.6s
NRIK Noril'sk 62.01 357 P P 03 00 02.3 +0.4
NRIK IAmb IAmb 03 00 14.4
comp=Z,3.3nm,0.8s
NRIK Noril'sk 62.01 357 P P 03 00 01.2 -0.7
comp=Z,2.5nm,0.7s,baz=150,slow=7.6,SNR=4.4
comp=Z,2.5nm,0.7s
BR131 Keskin Array S 62.75 311 P P 03 00 06.9 -0.7
BRTR Keskin Array B 62.75 311 P P 03 00 06.7 -0.9
BRTR Keskin Array B 62.75 311 P P 03 00 07.2 -0.5
comp=Z,1.0nm,0.5s,baz=137,slow=6.9,SNR=11
comp=Z,1.0nm,0.5s
ELL Elmali 65.02 307 P P 03 00 22.9 +0.3
H04N2 CROZET ISLANDS 65.33 211 T T 04 11 11.2
baz=47,slow=75,SNR=5.9
H04N1 CROZET ISLANDS 65.34 211 T T 04 11 11.8
baz=47,slow=75,SNR=6.3
H04N3 CROZET ISLANDS 65.35 211 T T 04 11 08.3
baz=47,slow=75,SNR=7.5
TIXI Tiksi 67.69 11 P P 03 00 37.0 -1.8
AKASG Malin Array Be 68.54 322 P P 03 00 43.4 -1.1
comp=Z,0.5nm,0.5s,baz=86,slow=4.8,SNR=4.7
comp=Z,0.5nm,0.5s
MLR Muntele Rosu 69.52 316 P P 03 00 49.9 -1.0
MLR IAmb IAmb 03 00 53.1
comp=Z,9.0nm,1.2s
BURAR Bucovina Array 70.41 318 P P 03 00 55.2 -1.1
BUR08 Bucovina Ar. S 70.43 318 P P 03 00 55.9 -0.6
LIT Litokhoron 71.26 310 P P 03 01 00.8 -0.7
LIT IAmb IAmb 03 01 01.7
comp=Z,5.2nm,0.7s
KOLS Kolonicke sedl 72.57 319 eP P 03 01 11.5 +2.3
FIA1 FINESS Array S 73.14 332 P P 03 01 11.6 -0.7
FINES FINESS Array B 73.14 332 P P 03 01 12.5 +0.2
FINES FINESS Array B 73.14 332 P P 03 01 12.2 -0.1
comp=Z,2.9nm,0.5s,baz=92,slow=5.1,SNR=31
comp=Z,2.9nm,0.5s
BOSA Boshof 75.36 238 P P 03 01 28.3 +2.3
comp=Z,1.5nm,0.8s,baz=97,slow=8.1,SNR=3.8
comp=Z,1.5nm,0.8s
TIP Timpagrande 75.61 308 P P 03 01 28.0 +0.8
TIP IAmb IAmb 03 02 08.1
comp=Z,5.9nm,1.3s
ARCES ARCESS Array B 75.72 340 P P 03 01 28.1 +0.9
comp=Z,3.7nm,0.8s,baz=69,slow=6.6,SNR=7.4
comp=Z,3.7nm,0.8s
GERES GERESS Array B 78.19 318 P P 03 01 41.4 -0.3
GERES GERESS Array B 78.19 318 P P 03 01 42.7 +1.1
comp=Z,1.6nm,0.8s,baz=92,slow=6.9,SNR=6.9
comp=Z,1.6nm,0.8s
HFS Hagfors 78.87 330 P P 03 01 45.7 +0.7
comp=Z,2.6nm,0.5s,baz=104,slow=6.3,SNR=21
comp=Z,2.6nm,0.5s
CIMO Cimolais 78.98 316 P P 03 01 46.1 +0.2
CIMO IAmb IAmb 03 01 53.0
comp=Z,5.7nm,1.0s
NC405 NORSAR Array S 79.91 331 P P 03 01 50.8 +0.1
NC405 IAmb IAmb 03 01 52.2
comp=Z,17nm,1.2s
NB2 NORSAR Subarra 80.15 331 P P 03 01 52.3 +0.3
comp=Z,1.1nm,0.6s,baz=96,slow=5.1
NOA NORSAR Array B 80.15 331 P P 03 01 52.3 +0.3
comp=Z,1.8nm,0.7s,baz=91,slow=5.8,SNR=9.0
comp=Z,1.8nm,0.7s
SPITS Spitsbergen Ar 80.30 348 P P 03 01 52.7 +0.2
comp=Z,21nm,1.1s,baz=115,slow=9.3,SNR=9.5
comp=Z,21nm,1.1s
SENIN Lac Senin/Sane 82.54 316 P P 03 02 06.4 +1.1
SYO Syowa Base 84.97 197 eP P 03 02 17.6 +0.8
EKA Eskdalemuir Ar 88.12 325 P P 03 02 33.5 +0.9
comp=Z,1.1nm,0.5s,baz=93,slow=5.1,SNR=6.2
comp=Z,1.1nm,0.5s
E21K Killik River 91.01 20 P P 03 02 46.3 +0.3
E21K IAmb IAmb 03 02 48.3
comp=Z,2.6nm,0.9s
ESDC Sonseca Array 91.54 310 P P 03 02 49.7 +0.6
comp=Z,0.4nm,0.5s,baz=65,slow=4.4,SNR=5.3
comp=Z,0.4nm,0.5s
K20K Telida 92.96 25 P P 03 02 55.9 +0.8
CAST Castle Rocks 93.75 24 P P 03 02 58.9 +0.2
CAST IAmb IAmb 03 03 01.8
comp=Z,3.1nm,0.8s
N19K Bonanza Creek 93.75 27 P P 03 02 59.4 +0.5
SKT Skwentna 94.59 26 P P 03 03 03.4 +0.8
SKT IAmb IAmb 03 03 10.8
comp=Z,4.9nm,1.1s
PLCA Paso Flores 144.12 200 PKP PKPdf 03 09 18.0 -0.3
comp=Z,1.7nm,0.9s,baz=237,slow=2.4,SNR=4.8
CPUP Villa Florida 146.99 232 PKPbc PKiKP 03 09 27.9 0.0
comp=Z,1.3nm,0.8s,baz=66,slow=4.3,SNR=4.4

*IDC **01** 02:54:15.7±2.3, 12°.54N×88°.99W, h0km, mb3.7/5, mbtmp3.6/7, ML2.8/3, Error ellipse: s-maj=56.5km s-min=21.8km az=34.0*

*CATAC **01** 02:54:19.6±0.7, 12°.7N±4°.8°.9W±°, h20km±7km, M3.7/15, MLv3.7/15, Error ellipse: s-maj=10.8km s-min=3.9km az=46.4, confirmed*

ISC 01 02:54:20.7±1.1, 12°.40N±0°.08×89°.20W±0°.06, h40km, n40, σ1§18/42, mb3.8/5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.09**	**354**	P		**Pn**		**02 54 38.9**	**-0.6**
LALI	**Alcalda de L**	**1.09**	**354**	S		**Sn**		**02 54 53.9**	**+0.4**
LOMA	**Loma Larga**	**1.24**	**1**	P		**Pn**		**02 54 41.2**	**-0.5**
COEG	**Centro de Oper**	**1.26**	**14**	P		**Pn**		**02 54 40.9**	**-1.0**
COEG	**Centro de Oper**	**1.26**	**14**	S		**Sn**		**02 54 58.2**	**+0.6**
JAYA	**Jayaque - finc**	**1.27**	**349**	S		**Sn**		**02 54 58.1**	**-0.1**
JAYA	**Jayaque - finc**	**1.27**	**349**	P		**Pn**		**02 54 41.6**	**-0.6**
UDBS	**Universidad Do**	**1.31**	**2**	P		**Pn**		**02 54 45.2**	**+2.6**
PMON	**Piamonte**	**1.31**	**355**	P		**Pn**		**02 54 41.9**	**-0.7**
PAVA	**Las Pavas**	**1.33**	**11**	P		**Pn**		**02 54 42.4**	**-0.5**
PAVA	**Las Pavas**	**1.33**	**11**	S		**Sn**		**02 54 59.9**	**+0.3**
RANC	**El Ranchito**	**1.36**	**41**	P		**Pn**		**02 54 43.1**	**-0.2**
PACA	**Pacayal**	**1.37**	**39**	P		**Pn**		**02 54 43.7**	**+0.4**
PACA	**Pacayal**	**1.37**	**39**	S		**Sn**		**02 55 00.5**	**+0.1**
PQSS	**Presa 15 de Se**	**1.37**	**27**	P		**Pn**		**02 54 43.3**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.38**	**19**	P		**Pn**		**02 54 43.1**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.38**	**19**	S		**Sn**		**02 55 01.3**	**+0.8**
CEVE	**Cerro Verde**	**1.48**	**344**	P		**Pn**		**02 54 44.6**	**-0.5**
CEVE	**Cerro Verde**	**1.48**	**344**	S		**Sn**		**02 55 05.2**	**+1.8**
LCND	**La Caada**	**1.57**	**54**	P		**Pn**		**02 54 45.4**	**-0.6**
CNCH	**Conchagua**	**1.59**	**57**	P		**Pn**		**02 54 46.4**	**-0.1**
NUBE	**Las Nubes**	**1.60**	**339**	P		**Pn**		**02 54 46.3**	**-0.4**
CSGN	**Cosiguina Volc**	**1.70**	**70**	P		**Pn**		**02 54 47.8**	**-0.1**
MTO3	**Montecristo**	**2.00**	**355**	P		**Pn**		**02 54 52.2**	**0.0**
MTO3	**Montecristo**	**2.00**	**355**	S		**Sn**		**02 55 16.8**	**+0.8**
CRIN	**San Cristobal**	**2.12**	**82**	S		**Sn**		**02 55 22.5**	**+3.6**
QUEN	**Al S del Volca**	**2.30**	**85**	P		**Pn**		**02 54 56.3**	**+0.1**
HERN	**Volcan Telica**	**2.32**	**84**	S		**Sn**		**02 55 25.5**	**+1.6**
POLN	**Al Sur del Vol**	**2.34**	**84**	S		**Sn**		**02 55 25.0**	**+0.7**
PLRN	**Geotermica Pol**	**2.38**	**85**	S		**Sn**		**02 55 25.1**	**-0.1**
COPN	**Copaltepe**	**2.56**	**95**	P		**Pn**		**02 54 59.7**	**+0.1**
MOMN	**Momotombo**	**2.60**	**89**	S		**Sn**		**02 55 31.2**	**+0.6**
JTS	**Las Juntas de**	**4.66**	**116**	Pn		**Pn**		**02 55 26.5**	**-2.1**
	3.1nm,0.3s,baz=299,slow=19,SNR=22								
JTS				Sn		**Sn**		**02 56 20.0**	**-1.5**
	3.1nm,0.3s,baz=211,slow=23,SNR=5.3								
	5.3nm,0.3s								
CMIG	**Matias Romero**	**7.21**	**311**	Pn		**Pn**		**02 56 03.2**	**-0.4**
	0.3nm,0.3s,baz=133,slow=11,SNR=1.8								
CMIG				Sn		**Sn**		**02 57 26.6**	**+2.2**
	0.3nm,0.3s,baz=56,slow=22,SNR=1.5								
	0.8nm,0.4s								
TEIG	**Tepich**	**7.84**	**6**	Pn		**Pn**		**02 56 09.8**	**-2.4**
	baz=125,slow=24,SNR=1.5								
TXAR	**Lajitas Array**	**21.57**	**324**	P		**P**		**02 59 08.2**	**+1.2**
	1.2nm,0.7s,baz=148,slow=11,SNR=9.9								
	1.2nm,0.7s								
NVAR	**Mina Array Bea**	**36.63**	**320**	P		**P**		**03 01 23.9**	**+0.3**
	0.5nm,0.8s,baz=121,slow=8.2,SNR=2.3								
	0.5nm,0.8s								
ULM	**Lac du Bonnet**	**38.14**	**353**	P		**P**		**03 01 35.1**	**-0.8**
	0.5nm,0.3s,baz=183,slow=9.6,SNR=4.4								
	0.5nm,0.3s								
SCHQ	**Schefferville**	**45.84**	**18**	P		**P**		**03 02 37.2**	**-1.5**
	0.8nm,0.3s,baz=229,slow=5.8,SNR=7.0								
	0.8nm,0.3s								
YKA	**Yellowknife Ar**	**53.23**	**346**	P		**P**		**03 03 35.2**	**+0.4**
	0.9nm,0.9s,baz=148,slow=7.5,SNR=8.1								
	0.9nm,0.9s								

*BJI **01** 02:54:34.2, 24°.91N×122°.23E, h100km, mB4.5/8, mb4.5/40*
*NEIC **01** 02:54:35.8±1.8, 24°.92N±0°.06×122°.24E±0°.07, h130km±2km, mb4.2/68, Error ellipse: s-maj=9.5km s-min=8.4km az=91.0*
*ASIES **01** 02:54:35.6, 24°.93N×122°.24E, h129km, ML5.1, Mw4.3, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}0.52; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-0.53; $M_{r\theta}$0.00; $M_{\theta\phi}$-1.11; $M_{\phi r}$-3.61; Fault plane solution: $M_0$3.80997×10^{22} NP1:ϕ_s77.05000°, δ17.32000°, λ165.56000°. NP2:ϕ_s180.86000°, δ85.74000°, λ73.20000°. Principal axes: T Plg46.6800°, Azm73.5250°; N Plg16.7560°, Azm182.1450°; P Plg38.5030°, Azm286.0030°;*
*TAP **01** 02:54:35.6, 24°.93N×122°.24E, h129km, ML5.1, C*
*NIED **01** 02:54:36.6, 24°.80N×122°.22E, h126km, MW4.4, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.98; $M_{\theta\theta}$4.29; $M_{\phi\phi}$-1.31; $M_{r\theta}$-0.97; $M_{\theta\phi}$-0.73; $M_{\phi r}$-3.51; Fault plane solution: $M_0$5.17000×10^{15} NP1: ϕ_s308.00000°, δ52.00000°, λ-38.00000°. NP2:ϕ_s64.00000°, δ61.00000°, λ-135.00000°.*
*JMA **01** 02:54:36.6±0.2, 24°.8N±0°.9×122°.2E±0°.4, h126km±1km, MD4.1/19, MV4.6/19, TAIWAN REGION*
*IDC **01** 02:54:36.3±0.6, 24°.94N×122°.25E, h137km±5km, mb3.9/20, mbtmp4.5/26, Error ellipse: s-maj=10.3km s-min=9.5km az=74.0*

ISC 01 02:54:36.1±0.4, 24°.93N±0°.03×122°.19E±0°.03, h134km±3km, n330, σ1§26/492, mb4.2/54, 100C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.20**	**294**	⇑*iP*		**Pn**		**02 54 53.6**	**-0.9**
TWB1				*i* S		**Sn**		**02 55 06.2**	**-2.1**
EGS		**0.24**	**251**	P		**Pn**		**02 54 53.8**	**-0.8**
EGS				*e*S		**Sn**		**02 55 06.3**	**-2.2**
SXI1	**Grass Mountain**	**0.33**	**301**	⇑*iP*		**Pn**		**02 54 54.0**	**-1.0**
SXI1				S		**Sn**		**02 55 07.1**	**-2.1**
TIPB	**Shuangxi**	**0.33**	**278**	⇑*iP*		**Pn**		**02 54 54.1**	**-0.8**
TIPB				*i* S		**Sn**		**02 55 06.9**	**-2.2**
NTC	**Toucheng**	**0.33**	**258**	*e*P		**Pn**		**02 54 54.0**	**-0.9**
NTC				*e*S		**Sn**		**02 55 07.3**	**-1.7**
NWF	**Wu-fen Shan**	**0.40**	**291**	⇑*iP*		**Pn**		**02 54 54.4**	**-0.8**
NWF				*e*S		**Sn**		**02 55 07.5**	**-2.2**
WFSB	**Wu-fen Shan**	**0.40**	**291**	⇑*iP*		**Pn**		**02 54 54.4**	**-0.7**
WFSB				*e*S		**Sn**		**02 55 07.5**	**-2.1**
ILA	**Ilan**	**0.43**	**248**	⇑*iP*		**Pn**		**02 54 54.6**	**-0.6**
ILA				*i* S		**Sn**		**02 55 08.6**	**-1.2**
TNOU	**National Taiwa**	**0.44**	**301**	⇑*iP*		**Pn**		**02 54 55.6**	**+0.3**
TNOU				*i* S		**Sn**		**02 55 09.1**	**-0.7**
TWC	**Suao**	**0.44**	**224**	⇑*iP*		**Pn**		**02 54 54.4**	**-1.0**
TWC				*i* S		**Sn**		**02 55 07.2**	**-2.7**
ESAO	**Su ao**	**0.47**	**222**	⇑*iP*		**Pn**		**02 54 54.6**	**-0.9**
ESAO				*e*S		**Sn**		**02 55 07.7**	**-2.4**
EOS2	**EOS2**	**0.51**	**175**	⇓*iP*		**Pn**		**02 54 55.4**	**-0.2**
TWE	**Neicheng**	**0.52**	**247**	⇑P		**Pn**		**02 54 54.9**	**-0.8**
TWE				*e*S		**Sn**		**02 55 09.4**	**-1.1**
NDS	**Dongshan**	**0.52**	**236**	P		**Pn**		**02 54 55.2**	**-0.6**
NDS				*e*S		**Sn**		**02 55 09.5**	**-1.1**
TWA	**Mucha**	**0.55**	**276**	⇑*iP*		**Pn**		**02 54 56.0**	**0.0**
TWA				*e*S		**Sn**		**02 55 08.9**	**-2.1**
FUSB	**Fushanzhiwuyua**	**0.57**	**253**	⇑*iP*		**Pn**		**02 54 55.3**	**-0.8**
FUSB				*e*S		**Sn**		**02 55 10.4**	**-0.9**
NHY	**Taipei**	**0.57**	**281**	⇑P		**Pn**		**02 54 55.3**	**-0.8**
NHY				*e*S		**Sn**		**02 55 09.1**	**-2.1**
YM01	**YM01**	**0.60**	**292**	⇑*iP*		**Pn**		**02 54 55.4**	**-0.9**
YM01				*e*S		**Sn**		**02 55 09.8**	**-1.8**
YM08	**YM08**	**0.60**	**296**	⇑*iP*		**Pn**		**02 54 55.3**	**-1.0**
EWUT	**Wuta**	**0.61**	**218**	⇑*eP*		**Pn**		**02 54 56.0**	**-0.3**
EWUT				*i* S		**Sn**		**02 55 10.3**	**-1.2**
TAP	**Taipei**	**0.63**	**280**	⇑*iP*		**Pn**		**02 54 55.4**	**-1.0**
TAP				*e*S		**Sn**		**02 55 09.4**	**-2.3**
ZUZH	**Zhuzihu**	**0.63**	**292**	⇑*iP*		**Pn**		**02 54 55.5**	**-1.0**
ZUZH				*e*S		**Sn**		**02 55 09.4**	**-2.5**
ENTT	**Nioudou**	**0.63**	**243**	⇑*iP*		**Pn**		**02 54 56.0**	**-0.5**
ENTT				*i* S		**Sn**		**02 55 11.4**	**-0.5**
TATO	**Taipei**	**0.64**	**275**	Pn		**Pn**		**02 54 55.4**	**-1.0**
TATO				Sn		**Sn**		**02 55 10.6**	**-1.3**
TATO	**Taipei**	**0.64**	**275**	P		**Pn**		**02 54 55.2**	**-1.3**
TWY	**Chenhua**	**0.64**	**303**	⇑*iP*		**Pn**		**02 54 55.0**	**-1.5**
TWY				*i* S		**Sn**		**02 55 09.3**	**-2.6**
NWLT	**Wulai**	**0.64**	**257**	⇑*iP*		**Pn**		**02 54 55.7**	**-0.9**
NWLT				*i* S		**Sn**		**02 55 10.6**	**-1.4**
ENA	**Nanau**	**0.64**	**219**	⇑*iP*		**Pn**		**02 54 56.2**	**-0.4**
ENA				*e*S		**Sn**		**02 55 10.7**	**-1.3**
EOS3	**EOS3**	**0.65**	**169**	⇓*eP*		**Pn**		**02 54 56.4**	**0.0**
ANP	**Anpu**	**0.66**	**293**	⇑*iP*		**Pn**		**02 54 55.7**	**-1.1**
ANP				*e*S		**Sn**		**02 55 11.1**	**-1.3**
BACT	**New Taipei Cit**	**0.68**	**276**	*e*P		**Pn**		**02 54 55.6**	**-1.1**
BACT				*e*S		**Sn**		**02 55 10.6**	**-1.8**
PCYT	**Pengchaiyu**	**0.71**	**352**	⇑*iP*		**Pn**		**02 54 56.6**	**-0.4**
PCYT				*e*S		**Sn**		**02 55 11.8**	**-1.0**
NTST	**Danshui**	**0.71**	**290**	⇑P		**Pn**		**02 54 56.4**	**-0.5**
NTST				*e*S		**Sn**		**02 55 11.7**	**-1.1**
LATG	**Datong**	**0.72**	**237**	⇑*iP*		**Pn**		**02 54 57.1**	**-0.1**
LATG				*e*S		**Sn**		**02 55 12.3**	**-0.8**
TWS1	**Kuangyinshan**	**0.72**	**284**	⇑*iP*		**Pn**		**02 54 55.5**	**-1.6**
TWS1				S		**Sn**		**02 55 11.9**	**-1.0**
EAHA	**Aohua**	**0.72**	**214**	⇑*iP*		**Pn**		**02 54 56.4**	**-0.7**
EAHA				*e*S		**Sn**		**02 55 11.7**	**-1.2**
EHP	**Heping Village**	**0.74**	**214**	*e*P		**Pn**		**02 54 56.7**	**-0.5**
EHP				*e*S		**Sn**		**02 55 12.3**	**-0.9**
YHNB	**Yeheng**	**0.78**	**251**	Pn		**Pn**		**02 54 57.1**	**-0.6**
YHNB				Sn		**Sn**		**02 55 11.7**	**-2.2**
YHNB	**Yeheng**	**0.78**	**251**	P		**Pn**		**02 54 56.7**	**-0.9**
YHNB	**Yeheng**	**0.78**	**251**	S		**Sn**		**02 55 11.9**	**-2.0**
YHNB	**Yeheng**	**0.78**	**251**	⇑*iP*		**Pn**		**02 54 57.1**	**-0.5**
YHNB				*e*S		**Sn**		**02 55 12.2**	**-1.7**
NSK	**Sanguang**	**0.79**	**252**	⇑*iP*		**Pn**		**02 54 57.2**	**-0.6**
NSK				*i* S		**Sn**		**02 55 12.3**	**-1.8**
EOS4	**EOS4**	**0.81**	**171**	*e*P		**Pn**		**02 54 56.6**	**-0.7**
EOS4				*e*S		**Sn**		**02 55 11.7**	**-1.8**
JYNG	**Yonagunijimaku**	**0.84**	**124**	P		**Pn**		**02 54 57.1**	**-0.8**
JYNG				*e*S		**Sn**		**02 55 12.6**	**-1.9**
JYNG	**Yonagunijimaku**	**0.84**	**124**	A		A		02 54 57.1	
	comp=N,12nm,1.4s,comp=E,7.0nm,0.5s								
YOJ	**Yonaguni jima**	**0.88**	**122**	Pn		**Pn**		**02 54 57.2**	**-1.1**
YOJ	**Yonaguni jima**	**0.88**	**122**	P		**Pn**		**02 54 57.4**	**-0.9**
YOJ	**Yonaguni jima**	**0.88**	**122**	P		**Pn**		**02 54 57.5**	**-0.9**
YOJ				S		**Sn**		**02 55 13.1**	**-2.1**
YOJ	**Yonaguni jima**	**0.88**	**122**	A		A		02 54 57.5	
	comp=N,9.0nm,1.2s,comp=E,11nm,1.2s								
YOJ	**Yonaguni jima**	**0.88**	**122**	⇓*iP*		**Pn**		**02 54 57.5**	**-0.9**
YOJ				*e*S		**Sn**		**02 55 13.3**	**-1.8**
NNSB	**Datong**	**0.88**	**236**	⇑*iP*		**Pn**		**02 54 58.3**	**-0.2**
NNSB				*e*S		**Sn**		**02 55 14.1**	**-1.4**
NNS	**Nan Shan**	**0.88**	**237**	⇑*iP*		**Pn**		**02 54 58.3**	**-0.2**
NNS				*i* S		**Sn**		**02 55 14.4**	**-1.1**
NCUH	**Zhongli**	**0.91**	**273**	⇑*iP*		**Pn**		**02 54 58.2**	**-0.4**
NCUH				S		**Sn**		**02 55 15.2**	**-0.5**
ETL	**Fush Village**	**0.92**	**214**	⇑*iP*		**Pn**		**02 54 57.9**	**-0.9**
ETL				*e*S		**Sn**		**02 55 14.1**	**-1.8**
NACB	**Ninganchiao**	**0.92**	**216**	Pn		**Pn**		**02 54 57.7**	**-1.0**
NACB				Sn		**Sn**		**02 55 13.5**	**-2.4**
NACB	**Ninganchiao**	**0.92**	**216**	P		**Pn**		**02 54 57.8**	**-1.0**
NACB	**Ninganchiao**	**0.92**	**216**	S		**Sn**		**02 55 14.3**	**-1.6**
NACB	**Ninganchiao**	**0.92**	**216**	⇑*iP*		**Pn**		**02 54 57.8**	**-0.9**
NACB				S		**Sn**		**02 55 13.8**	**-2.1**
KSHI	**Guanxi Townshi**	**0.93**	**261**	⇑*iP*		**Pn**		**02 54 58.7**	**-0.1**
KSHI				*i* S		**Sn**		**02 55 15.7**	**-0.3**
ETLH	**Xiulin Townshi**	**0.96**	**222**	⇑*iP*		**Pn**		**02 54 58.5**	**-0.7**
ETLH				S		**Sn**		**02 55 14.8**	**-1.8**
TWD	**Chiawan**	**1.00**	**213**	⇑*iP*		**Pn**		**02 54 58.6**	**-0.8**
TWD				*i* S		**Sn**		**02 55 14.9**	**-2.2**
NFF	**Wufeng Townshi**	**1.01**	**253**	⇑*iP*		**Pn**		**02 54 59.1**	**-0.5**
NFF				*e*S		**Sn**		**02 55 15.9**	**-1.5**
HWA	**Hwalien**	**1.08**	**209**	⇑*iP*		**Pn**		**02 54 59.9**	**-0.3**
HWA				*e*S		**Sn**		**02 55 17.6**	**-0.8**
FUSS	**Fushou**	**1.09**	**232**	⇑*iP*		**Pn**		**02 55 00.7**	**+0.2**
FUSS				S		**Sn**		**02 55 18.2**	**-0.9**
SBCB	**Hsinchu**	**1.10**	**263**	⇑*iP*		**Pn**		**02 55 00.2**	**-0.1**
SBCB				*i* S		**Sn**		**02 55 18.0**	**-0.7**
LIOB	**Emei**	**1.10**	**256**	⇑*iP*		**Pn**		**02 55 00.1**	**-0.3**
LIOB				*i* S		**Sn**		**02 55 17.4**	**-1.3**
HSN	**Hsinchu**	**1.11**	**264**	⇑*iP*		**Pn**		**02 54 59.9**	**-0.5**
HSN				*i* S		**Sn**		**02 55 17.5**	**-1.4**
NSTT	**Nanjuang**	**1.12**	**255**	⇑*iP*		**Pn**		**02 55 00.2**	**-0.3**
NSTT				S		**Sn**		**02 55 17.5**	**-1.5**
TWT	**Tachien**	**1.14**	**234**	⇑*iP*		**Pn**		**02 55 01.4**	**+0.4**
TWT				S		**Sn**		**02 55 19.4**	**-0.3**
LXIB	**Xiulin Townshi**	**1.14**	**218**	⇑*iP*		**Pn**		**02 54 60.0**	**-1.0**
LXIB				*e*S		**Sn**		**02 55 18.0**	**-1.8**
WHF	**Hehuan Shan**	**1.14**	**227**	⇓*iP*		**Pn**		**02 55 01.1**	**-0.2**
WHF				*e*S		**Sn**		**02 55 19.4**	**-1.0**
ETM	**Tongmen**	**1.15**	**214**	⇑*iP*		**Pn**		**02 54 59.8**	**-1.1**
ETM				S		**Sn**		**02 55 17.4**	**-2.2**
TEYL	**Yanliau Villag**	**1.18**	**207**	⇑*iP*		**Pn**		**02 55 00.4**	**-0.7**
TEYL				*e*S		**Sn**		**02 55 18.8**	**-1.4**
SHUL	**Shoufeng**	**1.27**	**207**	⇑*iP*		**Pn**		**02 55 01.7**	**-0.4**
SHUL				*e*S		**Sn**		**02 55 20.7**	**-1.1**
WHP	**Taichung City**	**1.30**	**240**	⇑*iP*		**Pn**		**02 55 02.7**	**+0.2**
WHP				*e*S		**Sn**		**02 55 21.1**	**-1.4**
ESL	**Shilin**	**1.30**	**212**	⇑*iP*		**Pn**		**02 55 01.1**	**-1.3**
ESL				*e*S		**Sn**		**02 55 21.2**	**-1.2**
NMLH	**Miaoli**	**1.33**	**253**	⇑P

JISG	Ishigakijimahi	1.96	99	A	A		02 55 09.4
	comp=N,11nm,0.5s,comp=E,6.0nm,0.8s						
CHKT	Chengkung	1.97	203	⇑iP	Pn	02 55 09.1	-0.9
CHKT				eS	Sn	02 55 33.2	-2.7
EHD	Haiduan	1.98	207	⇓iP	Pn	02 55 08.3	-1.9
EHD				eS	Sn	02 55 35.2	-1.0
ECS	Chishang	2.03	206	eP	Pn	02 55 09.8	-0.9
ECS				eS	Sn	02 55 35.8	-1.3
ELDTW	Lidau	2.03	212	P	Pn	02 55 10.5	-0.4
ELDTW				eS	Sn	02 55 35.5	-2.0
WTCT	Ta-ch'eng	2.03	239	⇑P	Pn	02 55 10.4	-0.3
WTCT				i S	Sn	02 55 36.3	-0.9
WTK	Tuku	2.05	233	⇑P	Pn	02 55 11.1	+0.2
WTK				i S	Sn	02 55 37.7	+0.1
WCKO	Fanlu	2.07	225	⇑P	Pn	02 55 11.4	+0.2
WCKO				i S	Sn	02 55 38.2	+0.1
EDH	Donghe	2.11	203	eP	Pn	02 55 10.9	-0.7
EDH				eS	Sn	02 55 37.1	-1.8
CHN4	Tsaushan	2.14	223	⇑iP	Pn	02 55 12.2	+0.1
CHN4				eS	Sn	02 55 39.4	-0.2
CHY	Chiayi	2.15	229	P	Pn	02 55 12.1	0.0
CHY				eS	Sn	02 55 39.9	+0.2
TPUB	Ta-pu	2.15	222	Pn	Pn	02 55 11.9	-0.4
TPUB	Ta-pu	2.15	222	P	Pn	02 55 12.3	0.0
TPUB	Ta-pu	2.15	222	S	Sn	02 55 39.6	-0.3
TPUB	Ta-pu	2.15	222	⇑iP	Pn	02 55 12.3	0.0
TPUB				S	Sn	02 55 39.7	-0.2
STYH	Taoyuan	2.17	217	P	Pn	02 55 11.6	-0.8
STYH				eS	Sn	02 55 38.5	-1.8
WSF	Szhu	2.20	235	⇑iP	Pn	02 55 12.5	-0.3
WSF				i S	Sn	02 55 40.0	-0.9
WTP	Ta-pu	2.21	221	⇑iP	Pn	02 55 12.8	-0.1
WTP				eS	Sn	02 55 39.5	-1.6
LONT	Longtian	2.23	206	P	Pn	02 55 11.9	-1.3
LONT				S	Sn	02 55 38.9	-2.7
TWK	Hsinying	2.27	224	P	Pn	02 55 13.6	-0.1
TWK				eS	Sn	02 55 40.9	-1.6
WSL	Shuilin Townsh	2.27	232	⇑eP	Pn	02 55 13.5	-0.1
WSL				eS	Sn	02 55 42.7	+0.3
SNST	Tainan City	2.30	223	⇑P	Pn	02 55 13.8	-0.1
SNST				i S	Sn	02 55 42.2	-0.8
CHN1	Nanshi	2.30	222	⇑iP	Pn	02 55 14.0	-0.1
CHN1				i S	Sn	02 55 42.5	-0.7
JTJ	Tarama	2.30	97	P	Pn	02 55 14.0	-0.1
JTJ				S	Sn	02 55 41.8	-1.3
TWG	Pinlang	2.33	206	Pn	Pn	02 55 12.7	-1.8
TWG	Pinlang	2.33	206	eP	Pn	02 55 12.8	-1.6
TWG				eS	Sn	02 55 40.9	-2.9
TWGBT	Beinan	2.33	206	P	Pn	02 55 13.2	-1.2
TWGBT	Beinan	2.33	206	eP	Pn	02 55 12.8	-1.6
TWGBT				eS	Sn	02 55 41.3	-2.5
LDUT	Ludao	2.34	196	⇑P	Pn	02 55 13.4	-1.1
LDUT				eS	Sn	02 55 40.5	-3.4
ICHU	Yijhu	2.34	229	⇑eP	Pn	02 55 14.3	-0.2
ICHU				eS	Sn	02 55 43.7	-0.2
SGST	Jiashian	2.35	219	⇑iP	Pn	02 55 13.9	-0.7
SGST				eS	Sn	02 55 43.1	-1.1
TTN	Taitung	2.36	204	eP	Pn	02 55 14.4	-0.4
TTN				eS	Sn	02 55 43.3	-1.2
MATB	Ma-tsu	2.36	302	⇑eP	Pn	02 55 13.9	-0.9
CHN8	Yiju	2.39	229	eP	Pn	02 55 15.1	-0.1
CHN8				i S	Sn	02 55 45.2	0.0
CHN3	Shinhua	2.48	222	eP	Pn	02 55 16.6	+0.4
VWUC	VWUC	2.49	272	⇑iP	Pn	02 55 15.7	-0.5
SSHA	Shanhua	2.49	225	eP	Pn	02 55 15.9	-0.4
SCLT	Jiali	2.52	227	i P	Pn	02 55 16.7	0.0
SCLT				i S	Sn	02 55 48.0	0.0
SHHT	Tainan City	2.54	222	⇑P	Pn	02 55 17.4	+0.5
SHHT				eS	Sn	02 55 49.1	+0.8
SCST	Cishan	2.56	218	⇑P	Pn	02 55 17.8	+0.6
SCST				eS	Sn	02 55 49.4	+0.6
ECL	Taimali	2.58	206	eP	Pn	02 55 15.9	-1.6
ECL				eS	Sn	02 55 46.2	-3.1
TAI1	Yung-k'ang	2.59	224	eP	Pn	02 55 18.3	+0.7
TSCK	Chigu Township	2.61	228	eP	Pn	02 55 17.1	-0.8
TSCK				i S	Sn	02 55 48.8	-1.2
TSMG	Majia	2.62	213	P	Pn	02 55 18.1	0.0
TSMG				eS	Sn	02 55 49.6	-0.8
TWM1	Shoushan	2.64	218	eP	Pn	02 55 19.3	+0.9
SGLT	Jiouru	2.69	216	eP	Pn	02 55 18.7	-0.2
XPSS	Dashiqiu	2.69	318	⇓P	Pn	02 55 18.0	-0.8
XPSS				S	Sn	02 55 50.1	-1.7
MASBT	Mashibuluo	2.71	212	⇑iP	Pn	02 55 19.6	+0.4
MASBT				i S	Sn	02 55 52.1	-0.2
JIRB	Irabujima	2.71	91	P	Pn	02 55 19.1	-0.1
JIRB				eS	Sn	02 55 51.8	-0.6
PNG	Penghu	2.76	241	eP	Pn	02 55 19.0	-0.7
PNG				i S	Sn	02 55 51.1	-2.3
PHUB	P'eng-hu	2.77	240	⇑iP	Pn	02 55 19.1	-0.8
PHUB				S	Sn	02 55 51.0	-2.7
JIKM	Ikemajima	2.78	89	eP	Pn	02 55 20.3	+0.3
JIKM				eS	Sn	02 55 54.0	+0.2
PTMZ	Houxiangcun	2.79	273	eP	Pn	02 55 19.6	-0.5
EAST	Anshuo	2.81	206	eP	Pn	02 55 19.5	-1.0
EAST				eS	Sn	02 55 52.1	-2.7
TAW	Tawu	2.82	205	eP	Pn	02 55 19.9	-0.6
TAW				eS	Sn	02 55 52.3	-2.5
JMJ	Miyako jima 2	2.82	92	P	Pn	02 55 21.4	+0.8
JMJ	Miyako jima 2	2.82	92	S	Sn	02 55 54.9	0.0
TAWH	Dawu Township	2.84	205	eP	Pn	02 55 20.1	-0.7
TAWH				S	Sn	02 55 53.1	-2.1
WDGT	Dungji	2.84	235	⇑eP	Pn	02 55 20.3	-0.6
WDGT				eS	Sn	02 55 53.2	-2.1
JMJ2	Miyako jima3	2.86	93	P	Pn	02 55 21.4	+0.3
JMJ2				eS	Sn	02 55 54.7	-1.0
WSSB	Gushan	2.88	218	eP	Pn	02 55 21.8	+0.4
WSSB				eS	Sn	02 55 55.8	-0.4
SCZT	Fangliau	2.92	210	⇑iP	Pn	02 55 22.3	+0.4
SCZT				eS	Sn	02 55 55.8	-1.3
JOGS	Gusukube	2.93	93	P	Pn	02 55 22.3	+0.4
JOGS				S	Sn	02 55 56.9	-0.4
LAY	Lan-yu	2.93	192	i P	Pn	02 55 21.1	-1.0
LAY				S	Sn	02 55 55.1	-2.4
LYUB	Lan-yu	2.96	191	⇑P	Pn	02 55 21.0	-1.4
LYUB				S	Sn	02 55 54.2	-4.0
SLIU	Shizi	2.98	206	eP	Pn	02 55 22.5	-0.2
SLIU				eS	Sn	02 55 57.8	-0.9
VCHM	Qimei	3.04	236	eP	Pn	02 55 22.8	-0.6
WLCH	Liuqiu	3.05	213	eP	Pn	02 55 24.6	+1.0
MHZQ	Yeshan	3.08	293	eP	Pn	02 55 23.8	-0.1
SMST	Manzhou Townsh	3.15	203	eP	Pn	02 55 25.4	+0.6
HEN	Hengchun	3.20	205	eP	Pn	02 55 26.0	+0.5
HEN				eS	Sn	02 56 01.5	-2.1
TWK1	Hengchun	3.23	203	eP	Pn	02 55 26.0	+0.1
TWKBT	Hengchun	3.23	203	eP	Pn	02 55 25.8	-0.1
TSEB	Hengchuen, Pin	3.24	202	eP	Pn	02 55 26.7	+0.7
QZH	Quanzhou	3.26	271	P	Pn	02 55 25.8	-0.5
QZH				S	Sn	02 56 03.0	-2.0
KNM	Kinmen	3.45	262	eP	Pn	02 55 30.0	+1.3
KNMB	Chin-men Tao	3.48	263	Pn	Pn	02 55 28.0	-1.1
KNMB	Chin-men Tao	3.48	263	eP	Pn	02 55 28.7	-0.4
AXDP	Jialang	3.83	270	eP	Pn	02 55 33.7	0.0
ZPLA	Ao Xicun	4.16	257	eP	Pn	02 55 38.1	0.0
SXFK	Yanhouchang	4.35	291	eP	Pn	02 55 40.5	-0.1
DSXP	Dongshan	4.51	255	eP	Pn	02 55 43.0	+0.2
JOW	Kunigami	5.80	70	Pn	Pn	02 55 58.0	-2.1
JOW	Kunigami	5.80	70	P	Pn	02 55 58.4	-1.6
	comp=E,97nm,0.2s,baz=138,slow=25,SNR=40						
JOW				S	Sn	02 57 03.0	-2.4
	comp=E,26nm,0.3s,baz=285,slow=29,SNR=1.4						
JOW	Kunigami	5.80	70	P	Pn	02 55 58.3	-1.7
NJ2	Nanjing	7.68	338	eP	Pn	02 56 23.6	-1.6
GZH	Guangzhou	8.29	259	P	Pn	02 56 28.3	-5.2
GZH				S	Sn	02 57 56.9	-8.6
CNSH	ChangSha	8.90	293	P	Pn	02 56 42.0	+0.4
CNSH				S	Sn	02 58 19.6	-0.6
CNSH				pmax	pmax		
	comp=E,41nm,1.0s						
WHN	Wuhan	8.91	311	P	Pn	02 56 42.2	+0.4
WHN				S	Sn	02 58 24.1	+3.5
WHN				pmax	pmax		
	comp=E,70nm,0.8s						
JNU	Nakatsue	11.15	41	Pn	Pn	02 57 14.0	+2.2
JNU	Nakatsue	11.15	41	P	Pn	02 57 12.1	+0.3
	comp=E,8.6nm,0.6s,baz=156,slow=7.6,SNR=3.7						
LYN	LuoYang	12.77	321	P	Pn	02 57 35.0	+2.2
LYN				pmax	pmax		
	comp=E,19nm,0.7s						
QIZ	Qiongzhong	12.86	245	P	Pn	02 57 33.8	-0.4
QIZ				S	Sn	02 59 56.1	-0.1
QIZ				LR	LR		
	comp=E,410nm,8.5s						
QIZ				LR	LR		
	comp=E,350nm,9.2s						
QIZ				LR	LR		
	comp=E,360nm,11.9s						
KSAR	Wonju Array Be	13.39	20	P	P	02 57 46.1	+0.6
KSRS	Korea Array	13.41	20	P	Pn	02 57 42.1	+1.1
	comp=E,22nm,0.6s,baz=202,slow=12,SNR=67						
KS19	Wonju Array Si	13.44	20	P	P	02 57 46.4	+0.3
JMN	Monobe	13.44	47		Pn	02 57 37.4	-4.2
HNS	HongShan	13.98	335	⇑P	Pn	02 57 50.6	+2.3
HNS				pmax	pmax		
	comp=E,11nm,1.2s						
BJI	Beijing	15.89	343	P	P	02 58 14.9	+1.7
BJI				pmax	pmax		
	comp=E,3.0nm,0.8s						
JHJ	Hachijo jima 2	17.41	58	P	P	02 58 30.9	+0.9
	comp=E,230nm,0.8s,baz=241,slow=16,SNR=4.1						
KMI	Kunming	17.63	275	P	Pn	02 58 35.5	+1.8
KMI				pmax	pmax		
	comp=E,15nm,0.5s						
MJAR	Matsushiro Arr	17.96	46	P	P	02 58 36.5	+0.4
	comp=E,4.4nm,1.0s,baz=230,slow=7.4,SNR=6.4						
JCJ	Chichijima	18.11	79	P	P	02 58 38.5	+0.8
	comp=E,121nm,0.8s,baz=248,slow=12,SNR=4.1						
HHC	Hu-ho-hao-te	18.19	333	eP	Pn	02 58 40.5	+0.4
HHC				pmax	pmax		
	comp=E,18nm,0.7s						
PZH	PanZhiHua	18.49	279	P	Pn	02 58 49.8	+6.0
PZH				pmax	pmax		
	comp=Z,20nm,0.6s						
PZH				pmax	pmax		
	comp=Z,220nm,5.8s						
BTO	Baotou	18.65	330	eP	Pn	02 58 45.1	-0.5
BTO				S	S	03 02 06.4	-2.8
BTO				pmax	pmax		
	comp=Z,24nm,0.5s						
BTO				LR	LR		
	comp=Z,310nm,9.5s						
BTO				LR	LR		
	comp=Z,280nm,5.7s						
BTO				LR	LR		
	comp=Z,300nm,4.9s						
LZH	Lanzhou	19.29	310	eP	Pn	02 58 52.7	-0.5
LZH				pP	pP	02 59 15.4	+0.8
LZH				sP	sP	02 59 31.1	-0.5
LZH				pmax	pmax		
	comp=Z,17nm,0.7s						
XLT	XiLinHaoTe	19.57	347	eP	Pn	02 58 55.9	-0.4
XLT				pP	pP	02 59 15.5	-2.1
XLT				S	S	03 02 23.4	-3.9
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,180nm,4.7s						
CRAI	Chiangrai	20.67	261	P	P	02 59 07.0	+1.4
CRAI				IAmb	IAmb	02 59 10.5	
	comp=Z,12nm,1.0s						
USRK	Ussuriysk Ar.	20.82	20	P	P	02 59 07.3	+0.4
	comp=Z,2.6nm,0.7s,baz=217,slow=7.3,SNR=5.1						
	comp=Z,2.6nm,0.7s						
BNX	BinXian	21.19	10	⇓P	P	02 59 11.6	+0.8
CHTO	Chiang Mai	22.40	259	P	P	02 59 24.0	+0.3
CHTO				IAmb	IAmb	02 59 26.9	
	comp=Z,13nm,1.1s						
CMAR	Chiang Mai Arr	22.52	258	P	P	02 59 25.4	+0.6
	comp=Z,1.9nm,0.3s,baz=58,slow=7.2,SNR=16						
CMAR				pP	pP	02 59 51.7	+1.7
	comp=Z,1.6nm,0.5s,baz=63,slow=7.4,SNR=1.7						
	comp=Z,1.9nm,0.3s						
GTA	Gaotai	23.73	313	eP	P	02 59 36.8	+0.7
GTA				pmax	pmax		
	comp=Z,13nm,1.1s						
SBUM	Sibu	24.33	205	P	P	02 59 41.6	+0.1
SBUM				IAmb	IAmb	02 59 43.1	
	comp=Z,3.3nm,0.6s						
ASAJ	Asahikawa	25.36	36	P	P	02 59 49.8	-0.8
	comp=Z,7.0nm,0.9s,baz=195,slow=13,SNR=4.6						
	comp=Z,7.0nm,0.9s						
JKA	Kamikawa-asahi	25.36	36	P	P	02 59 49.5	-1.1
JKA				IAmb	IAmb	02 59 59.0	
	comp=Z,8.2nm,0.9s						
KLR	Kul'dur	25.39	15	P	P	02 59 50.8	0.0
	comp=Z,5.5nm,0.9s,baz=229,slow=7.0,SNR=13						
	comp=Z,5.5nm,0.9s						
HEH	HeiHe	25.61	8	eP	P	02 59 53.2	+0.4
HEH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ULN	Ulaanbaatar	25.84	336	P	P	02 59 55.1	0.0
ULN				IAmb	IAmb	02 59 56.3	
	comp=Z,6.4nm,1.1s						
SONM	Songino Array	26.06	335	P	P	02 59 57.1	+0.1
SONM				IAmb	IAmb	02 59 58.3	
	comp=Z,5.4nm,0.8s						
SONM	Songino Array	26.06	335	P	P	02 59 57.7	+0.6
	comp=Z,7.0nm,0.7s,baz=152,slow=10,SNR=26						
SONM				pP	pP	03 00 27.4	+2.0
	comp=Z,3.2nm,1.0s,baz=153,slow=9.5,SNR=3.5						
	comp=Z,7.0nm,0.7s						
SHL	Shillong	27.39	278	P	P	03 00 09.3	0.0
PSI	Prapat	31.41	229	P	P	03 00 45.8	+1.0
	comp=Z,7.2nm,0.7s,baz=96,slow=8.8,SNR=2.2						
	comp=Z,7.2nm,0.7s						
WMQ	Urumqi	33.81	313	eP	P	03 01 07.5	+2.0
MK31	Makanchi Array	38.45	315	P	P	03 01 44.5	-0.3
MK31				IAmb	IAmb	03 01 45.4	
	comp=Z,2.7nm,0.6s						
MKAR	Makanchi Array	38.45	315	P	P	03 01 44.4	-0.4
MKAR	Makanchi Array	38.45	315	P	P	03 01 44.9	+0.1
	comp=Z,3.6nm,0.5s,baz=100,slow=9.1,SNR=46						
	comp=Z,3.6nm,0.5s						
MAKZ	Makanchi	38.66	315	P	P	03 01 46.2	-0.3
ZAA0	Zalesovo Array	40.13	326	P	P	03 01 57.3	-1.3
ZAA0				IAmb	IAmb	03 01 58.5	
	comp=Z,4.9nm,0.7s						
ZALV	Zalesovo Beam	40.13	326	P	P	03 01 56.9	-1.7
ZALV	Zalesovo Beam	40.13	326	P	P	03 01 57.9	-0.7
	comp=Z,5.1nm,0.4s,baz=119,slow=8.7,SNR=18						
ZALV				pP	pP	03 02 27.9	-0.4
	comp=Z,6.2nm,0.7s,baz=117,slow=8.0,SNR=6.2						
	comp=Z,5.1nm,0.4s						
KDJ	Kajisay	40.74	306	P	P	03 02 04.9	+0.9
KSH	Kashi	41.27	302	P	P	03 02 09.5	+1.2
KSH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KURK	Kurchatov	42.12	319	P	P	03 02 14.7	-0.2
KURK				IAmb	IAmb	03 02 15.6	
	comp=Z,3.9nm,0.5s						
KURBB	Kurchatov Arra	42.14	319	P	P	03 02 14.8	-0.3
	comp=Z,1.0nm,0.4s,baz=109,slow=10.0,SNR=15						
KURBB				pP	pP	03 02 45.9	+0.8
	comp=Z,0.9nm,0.8s,baz=113,slow=7.3,SNR=2.5						
	comp=Z,1.0nm,0.4s						
FITZ	Fitzroy Crossi	42.90	175	P	P	03 02 20.6	-0.9
COEN	Coen	43.74	150	P	P	03 02 28.1	-0.2
COEN				IAmb	IAmb	03 02 31.5	
	comp=Z,5.1nm,0.8s						
GAR	Garm	45.61	301	P	P	03 02 44.0	+0.8
KKAR	Karatay Array	45.76	307	P	P	03 02 45.1	+1.0
WB0	Warramunga Arr	45.98	164	P	P	03 02 46.0	0.0
WB0				IAmb	IAmb	03 02 47.8	
	comp=Z,7.2nm,1.1s						
WRA	Warramunga Arr	46.14	164	P	P	03 02 46.9	-0.3
WRA	Warramunga Arr	46.14	164	P	P	03 02 47.0	-0.3
	comp=Z,5.1nm,0.7s,baz=346,slow=8.4,SNR=38						
WRA				pP	pP	03 03 16.5	-0.3
	comp=Z,0.9nm,0.8s,baz=35,slow=8.2,SNR=2.3						
	comp=Z,5.1nm,0.7s						
WB2	Warramunga Arr	46.14	164	P	P	03 02 47.6	+0.4
WR0	Warramunga Arr	46.21	164	P	P	03 02 47.7	0.0
KBL	Kabul	46.68	295	P	P	03 02 51.9	+0.2
TIXI	Tiksi	46.91	3	P	P	03 02 50.7	-1.9
BVAR	Borovoye Array	47.69	320	P	P	03 02 58.8	-0.1
	comp=Z,2.6nm,0.4s,baz=113,slow=11,SNR=14						
BVAR				pP	pP	03 03 29.7	+0.1
	comp=Z,1.8nm,0.6s,baz=99,slow=9.2,SNR=3.6						
	comp=Z,2.6nm,0.4s						
BRVK	Borovoye	47.76	320	P	P	03 02 59.5	+0.1
BRVK				IAmb	IAmb	03 03 00.7	
	comp=Z,4.3nm,0.7s						
ASAR	Alice Springs	49.62	166	P	P	03 03 14.4	+0.4
ASAR	Alice Springs	49.62	166	P	P	03 03 14.2	+0.2
	comp=Z,2.5nm,0.6s,baz=345,slow=6.7,SNR=20						
ASAR				PcP	PcP	03 04 33.2	-0.3
	comp=Z,0.7nm,0.6s,baz=347,slow=3.3,SNR=4.1						
	comp=Z,2.5nm,0.6s						
ABKAR	Akbulak array	53.58	314	P	P	03 03 43.4	+0.2
ABKAR				IAmb	IAmb	03 03 44.4	
	comp=Z,3.1nm,0.9s						
ARTI	Arti	55.16	323	P	P	03 03 53.0	-1.5
BBOO	Buckleboo	58.92	166	P	P	03 04 21.2	+0.1
BBOO				IAmb	IAmb	03 04 39.1	
	comp=Z,3.7nm,1.1s						
STKA	Stephens Creek	59.45	161	P	P	03 04 24.6	-0.2
STKA	Stephens Creek	59.45	161	P	P	03 04 24.3	-0.5
	comp=Z,2.5nm,0.6s,baz=349,slow=8.7,SNR=7.1						
	comp=Z,2.5nm,0.6s						
N15K	Kwethluk River	62.64	33	P	P	03 04 45.8	-0.2
N15K				IAmb	IAmb	03 04 55.5	
	comp=Z,3.6nm,0.9s						
J17K	VABM Dome	62.99	30	P	P	03 04 48.7	+0.4
H19K	Roundabout Mou	64.03	27	P	P	03 04 54.6	-0.5
H19K				IAmb	IAmb	03 04 57.5	
	comp=Z,3.4nm,0.8s						
J19K	Poorman	64.50	29	P	P	03 04 58.4	+0.3
J19K				IAmb	IAmb	03 05 07.2	
	comp=Z,2.7nm,1.1s						
L19K	White Mountain	65.02	31	P	P	03 05 02.1	+0.5
J20K	Nowinta River	65.12	29	P	P	03 05 02.2	0.0
H21K	Melozitna Rive	65.53	27	P	P	03 05 04.9	0.0
H21K				IAmb	IAmb	03 05 15.0	
	comp=Z,2.5nm,1.1s						
M20K	Styx River	65.86	31	P	P	03 05 07.6	+0.5
TOO	Toolangi	65.92	160	P	P	03 05 07.1	-0.5
TOO				IAmb	IAmb	03 05 09.3	
	comp=Z,3.0nm,0.8s						
PPLA	Purkeypile	66.15	30	P	P	03 05 09.0	-0.1
PPLA				IAmb	IAmb	03 05 35.5	
	comp=Z,2.3nm,1.0s						
TOLK	Toolik Lake Re	66.41	24	P	P	03 05 10.4	-0.1
TOLK				IAmb	IAmb	03 05 11.7	
	comp=Z,3.1nm,1.0s						
BPAW	Bear Paw Mtn.	66.51	29	P	P	03 05 11.4	+0.3
BPAW				IAmb	IAmb	03 05 13.5	
	comp=Z,1.6nm,0.8s						
KDAK	Kodiak Island	66.77	36	P	P	03 05 11.5	-1.3
KDAK				IAmb	IAmb	03 05 21.6	
	comp=Z,3.0nm,0.8s						
H23K	Yukon River	66.84	27	P	P	03 05 12.8	-0.4
H23K				IAmb	IAmb	03 05 17.3	
	comp=Z,2.8nm,0.9s						
SUA	Susitna One	67.05	31	P	P	03 05 13.8	-0.9
CNPM	China Poot	67.16	34	P	P	03 05 16.5	+1.2
CNPM				IAmb	IAmb	03 05 24.2	
	comp=Z,4.7nm,1.2s						
RND	Reindeer	67.56	29	P	P	03 05 17.3	-0.5
RND				IAmb	IAmb	03 05 19.9	
	comp=Z,4.1nm,0.8s						
WRH	Wood River Hil	67.69	28	P	P	03 05 18.7	+0.2
ILAR	Eielson Array	68.14	27	P	P	03 05 20.9	-0.5
	comp=Z,0.3nm,0.5s,baz=270,slow=5.3,SNR=12						
	comp=Z,0.3nm,0.5s						
PWL	Port Wells	68.31	32	P	P	03 05 21.5	-1.0
PWL				IAmb	IAmb	03 05 22.5	
	comp=Z,3.0nm,0.7s						
BMAR	Burnt Mountain	68.48	24	P	P	03 05 24.2	+0.7
SPITS	Spitsbergen Ar	68.95	348	P	P	03 05 25.6	-0.6
	comp=Z,15nm,1.0s,baz=91,slow=7.5,SNR=6.6						
	comp=Z,15nm,1.0s						
ARCES	ARCESS Array B	69.19	338	P	P	03 05 27.1	-0.7
	comp=Z,4.6nm,0.9s,baz=69,slow=6.6,SNR=6.8						
	comp=Z,4.6nm,0.9s						
FID	Port Fidalgo	69.22	32	P	P	03 05 27.4	-0.8
FID				IAmb	IAmb	03 05 40.1	
	comp=Z,5.9nm,1.2s						
HIN	Hinchinbrook I	69.30	32	P	P	03 05 28.1	-0.5
SCRK	Sand Creek	69.55	28	P	P	03 05 29.1	-1.1
GLB	Gilahina Butte	70.30	31	P	P	03 05 34.5	-0.2
GLB				IAmb	IAmb	03 05 42.9	
	comp=Z,3.0nm,1.2s						
M26K	Nabesna, AK	70.40	30	P	P	03 05 34.8	-0.6
M26K				IAmb	IAmb	03 05 39.0	
	comp=Z,3.0nm,0.9s						
BCAR	Beaver Creek A	70.75	29	P	P	03 05 37.7	+0.2
H29M	Whitestone	71.17	25	P	P	03 05 39.9	-0.1
FINES	FINESS Array B	71.27	330	P	P	03 05 40.3	-0.2
	comp=Z,1.3nm,0.8s,baz=53,slow=5.9,SNR=7.0						
	comp=Z,1.3nm,0.8s						
DAWY	Dawson	71.46	27	P	P	03 05 41.2	-0.6
EPYK	Eagle Plains	71.75	25	P	P	03 05 42.0	-1.5
INK	Inuvik	72.19	22	P	P	03 05 45.2	-0.8
I30M	Mount Dempster	72.29	26	P	P	03 05 45.3	-1.5
L29M	L29M	72.31	28	P	P	03 05 47.6	+0.8
L29M				IAmb	IAmb	03 05 48.0	
	comp=Z,3.0nm,0.8s						
M29M	Somme Creek	72.40	29	P	P	03 05 47.6	+0.1
M29M				IAmb	IAmb	03 05 50.7	
	comp=Z,2.1nm,0.7s						
G31M	Satah River	72.46	24	P	P	03 05 46.2	-1.3
H31M	Peel River	72.86	25	P	P	03 05 49.0	-1.0
M30M	Minto, Yukon	73.07	28	P	P	03 05 51.4	+0.1
BRTR	Keskin Array B	73.47	306	P	P	03 05 54.0	-0.3
BRTR	Keskin Array B	73.47	306	P	P	03 05 54.6	+0.4
	comp=Z,0.5nm,0.6s,baz=107,slow=5.9,SNR=5.1						
BRTR				pP	pP	03 06 28.6

comp=E,1.8nm,0.3s
RPSI Rantau Prapat 6.77 136 Pn Pn 02 59 33.4 -0.1
KULM Kulim 6.79 110 Pn **Pn 02 59 35.6 +1.9**
CMAR Chiang Mai Arr 11.70 23 Pn **Pn 03 00 42.6 +1.5**
comp=E,0.6nm,0.3s,baz=153,slow=25,SNR=1.6
comp=E,1.3nm,0.3s
PALK Pallekele 13.42 269 LR LR 03 05 04.0
comp=E,264nm,18.1s,baz=87,slow=32
LSA Lhasa 22.14 353 P **P 03 02 50.9 +0.5**
LSA IAmb IAmb 03 03 13.6
comp=Z,11nm,1.0s
H08S3 Diego Garcia H 26.46 236 T T 03 30 15.7
baz=54,slow=75,SNR=9.7
H08S2 Diego Garcia H 26.46 235 T T 03 30 14.4
baz=54,slow=75,SNR=17
H08S1 Diego Carcia H 26.48 236 T T 03 30 15.1
baz=54,slow=75,SNR=12
GAR Garm 37.93 329 P **P 03 05 10.9 -0.9**
GAR IAmb IAmb 03 05 17.6
comp=Z,6.8nm,0.7s
MK31 Makanchi Array 40.34 347 P **P 03 05 32.0 +0.2**
MKAR Makanchi Array 40.34 347 P **P 03 05 31.6 -0.2**
MKAR Makanchi Array 40.34 347 P **P 03 05 31.9 +0.1**
comp=Z,1.7nm,0.8s,baz=158,slow=7.8,SNR=9.1
MKAR PcP **PcP 03 07 29.8 -5.4**
comp=Z,1.3nm,0.8s,baz=102,slow=5.1,SNR=7.2
comp=Z,1.7nm,0.8s
MAKZ Makanchi 40.42 347 P **P 03 05 33.2 +0.8**
SONM Songino Array 41.38 12 P **P 03 05 41.0 +0.6**
comp=Z,0.6nm,0.8s,baz=200,slow=8.2,SNR=6.2
comp=Z,0.6nm,0.8s
KURBB Kurchatov Arra 44.80 346 P **P 03 06 08.7 +0.8**
comp=Z,2.9nm,0.9s,baz=164,slow=7.1,SNR=11
KURBB PcP **PP 03 07 52.4 -0.2**
comp=Z,0.7nm,0.8s,baz=156,slow=2.5,SNR=4.2
comp=Z,2.9nm,0.9s
KURK Kurchatov 44.87 346 P **P 03 06 10.4 +1.9**
KURK IAmb IAmb 03 06 15.3
comp=Z,6.7nm,1.1s
ZAA0 Zalesovo Array 46.81 352 P **P 03 06 24.9 +1.2**
ZAA0 IAmb IAmb 03 06 34.1
comp=Z,3.4nm,1.1s
ZALV Zalesovo Beam 46.81 352 P **P 03 06 23.7 0.0**
ZALV Zalesovo Beam 46.81 352 P **P 03 06 23.9 +0.2**
comp=Z,1.0nm,0.5s,baz=161,slow=9.4,SNR=5.9
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 48.05 125 P **P 03 06 33.4 -0.6**
comp=Z,0.4nm,0.7s,baz=303,slow=8.9,SNR=2.0
comp=Z,0.4nm,0.7s
BVAR Borovoye Array 49.25 341 P **P 03 06 41.3 -1.4**
comp=Z,0.2nm,0.4s,baz=157,slow=8.0,SNR=6.2
BVAR PcP **PcP 03 08 06.9 +1.4**
comp=Z,1.8nm,0.9s,baz=106,slow=5.3,SNR=4.5
comp=Z,0.2nm,0.4s
ASAR Alice Springs 49.69 130 P **P 03 06 45.5 -1.0**
comp=Z,0.4nm,0.5s,baz=310,slow=8.0,SNR=4.7
ASAR PcP **PcP 03 08 08.3 +0.5**
comp=Z,0.5nm,0.6s,baz=264,slow=1.2,SNR=4.3
comp=Z,0.4nm,0.5s
ABKAR Akbulak array 50.49 331 P **P 03 06 53.1 +1.0**
ABKAR IAmb IAmb 03 06 59.7
comp=Z,3.9nm,1.1s
BRTR Keskin Array B 62.65 311 P **P 03 08 18.3 -0.9**
BRTR Keskin Array B 62.65 311 P **P 03 08 18.1 -1.0**
comp=Z,0.5nm,0.6s,baz=128,slow=7.1,SNR=4.9
comp=Z,0.5nm,0.6s
H04N2 CROZET ISLANDS 65.57 211 T T 04 19 00.4
baz=48,slow=75,SNR=8.7
H04N1 CROZET ISLANDS 65.58 211 T T 04 19 05.3
baz=48,slow=75,SNR=8.3
H04N3 CROZET ISLANDS 65.58 211 T T 04 19 01.0
baz=48,slow=75,SNR=7.9
PETK Petropavlovsk- 68.15 36 P **P 03 08 55.1 +0.8**
comp=Z,0.7nm,0.4s,baz=246,slow=10,SNR=1.2
comp=Z,0.7nm,0.4s
FIA1 FINESS Array S 72.97 332 P **P 03 09 23.3 -0.2**
FINES FINESS Array B 72.97 332 P **P 03 09 22.9 -0.7**
FINES FINESS Array B 72.97 332 P **P 03 09 23.2 -0.3**
comp=Z,1.7nm,0.7s,baz=106,slow=6.2,SNR=5.5
comp=Z,1.7nm,0.7s
GERES GERESS Array B 78.07 318 P **P 03 09 54.0 +0.8**
comp=Z,0.4nm,0.6s,baz=98,slow=5.5,SNR=4.2
comp=Z,0.4nm,0.6s
HFS Hagfors 78.71 330 P **P 03 09 56.5 +0.1**
comp=Z,0.8nm,0.5s,baz=111,slow=8.1,SNR=5.2
comp=Z,0.8nm,0.5s
NC602 NORSAR Array S 79.81 330 P **P 03 10 01.6 -0.8**
NB2 NORSAR Subarra 79.98 331 P **P 03 10 03.1 -0.3**
comp=Z,1.5nm,0.8s,baz=94,slow=5.1
NOA NORSAR Array B 79.98 331 P **P 03 10 03.1 -0.3**
comp=Z,0.5nm,0.8s,baz=91,slow=5.7,SNR=5.3
comp=Z,0.5nm,0.8s
EKA Eskdalemuir Ar 87.97 325 P **P 03 10 44.5 +0.3**
comp=Z,0.5nm,0.5s,baz=90,slow=6.7,SNR=3.8
comp=Z,0.5nm,0.5s
ESDC Sonseca Array 91.44 310 P **P 03 11 00.6 -0.3**
comp=Z,0.4nm,0.6s,baz=71,slow=4.6,SNR=4.6
comp=Z,0.4nm,0.6s
PLCA Paso Flores 144.35 200 PKP **PKPab 03 17 29.3 +0.3**
comp=Z,2.5nm,1.1s,baz=207,slow=3.5,SNR=5.3
CPUP Villa Florida 147.19 232 PKPbc **PKPbc 03 17 38.5 +0.3**
comp=Z,0.9nm,0.7s,baz=21,slow=4.3,SNR=4.0

---

*IDC **01** 03:01:10.8±1.4, 7°.70N×93°.51E, h0km, mb3.8/8, mbtmp3.8/10, ML3.5/1, Error ellipse: s-maj=47.8km s-min=23.6km az=54.0*

ISC 01 03:01:17.6±1.1, 7°.78N±0°.1×93°.6E±0°.2, h50km, n13, σ0.57/10, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.21**	**133**	Pn	**Pn**	**03 03 00.6**	**+0.1**
	0.7nm,0.3s,baz=326,slow=18,SNR=2.4						
	4.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.83**	**25**	Pn	**Pn**	**03 04 04.2**	**+0.5**
	1.3nm,0.3s,baz=214,slow=10.0,SNR=1.0						
H08S3	**Diego Garcia H**	**26.04**	**235**	T	T	03 33 28.3	
	baz=55,slow=76						
H08S2	**Diego Garcia H**	**26.04**	**235**	T	T	03 33 18.2	
	baz=55,slow=76						
H08S1	**Diego Carcia H**	**26.06**	**235**	T	T	03 33 33.6	
	baz=55,slow=76						
MKAR	**Makanchi Array**	**40.10**	**348**	P	**P**	**03 08 48.3**	**0.0**
	1.2nm,0.8s,baz=164,slow=7.8,SNR=6.5						
	1.2nm,0.8s						
SONM	**Songino Array**	**41.39**	**13**	P	**P**	**03 08 57.9**	**-1.2**
	0.3nm,0.4s,baz=188,slow=4.1,SNR=1.7						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**44.54**	**346**	P	**P**	**03 09 24.9**	**+0.6**
	1.1nm,0.6s,baz=172,slow=7.1,SNR=9.0						
	1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**46.61**	**353**	P	**P**	**03 09 41.0**	**+0.3**
	0.8nm,0.3s,baz=175,slow=7.0,SNR=4.1						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**48.60**	**125**	P	**P**	**03 09 56.7**	**0.0**
	0.3nm,0.7s,baz=297,slow=8.1,SNR=2.1						
	0.3nm,0.7s						
BRTR	**Keskin Array B**	**62.13**	**311**	P	**P**	**03 11 34.1**	**+0.3**
	0.2nm,0.5s,baz=126,slow=4.1,SNR=2.1						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**72.58**	**332**	P	**P**	**03 12 39.3**	**0.0**
	1.3nm,0.9s,baz=98,slow=16,SNR=1.0						
	1.3nm,0.9s						
HFS	**Hagfors**	**78.31**	**330**	P	**P**	**03 13 12.1**	**-0.2**
	3.1nm,0.9s,baz=106,slow=11,SNR=2.0						
	3.1nm,0.9s						

IDC 01 03:02:31.6±67.0, 6°.88N×94°.01E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=1240.0km s-min=131.6km az=178.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**25.86**	**237**	T	T	03 35 24.6	
	baz=55,slow=75						
H08S2	**Diego Garcia H**	**25.86**	**236**	T	T	03 35 24.5	
	baz=55,slow=75						
H08S1	**Diego Carcia H**	**25.87**	**236**	T	T	03 35 24.2	
	baz=55,slow=75						
MKAR	**Makanchi Array**	**41.03**	**348**	P	P	03 10 16.4	-0.3
	0.9nm,0.8s,baz=168,slow=8.6,SNR=5.5						
	0.9nm,0.8s						
SONM	**Songino Array**	**42.16**	**12**	P	P	03 10 26.0	-0.1
	0.2nm,0.4s,baz=195,slow=9.0,SNR=1.6						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**45.48**	**346**	P	P	03 10 52.9	+0.4
	1.0nm,0.7s,baz=170,slow=7.1,SNR=6.0						
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**47.52**	**353**	P	P	03 11 07.8	-0.7
	0.4nm,0.3s,baz=182,slow=12,SNR=2.5						
	0.4nm,0.3s						

IDC 01 03:03:04.0±37.0, 7°.38N×93°.77E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=687.6km s-min=117.2km az=175.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.49**	**348**	P	P	03 10 44.5	-0.2
	0.8nm,0.7s,baz=157,slow=7.9,SNR=5.9						
	0.8nm,0.7s						
SONM	**Songino Array**	**41.73**	**13**	P	P	03 10 54.6	-0.3
	0.3nm,0.5s,baz=199,slow=3.1,SNR=1.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**44.94**	**346**	P	P	03 11 20.4	-0.3
	0.8nm,0.7s,baz=168,slow=7.4,SNR=6.4						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**47.00**	**353**	P	P	03 11 37.3	+0.4
	0.6nm,0.5s,baz=181,slow=9.5,SNR=2.2						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**49.34**	**342**	P	P	03 11 54.8	-0.2
	0.2nm,0.3s,baz=151,slow=3.3,SNR=1.8						
	0.2nm,0.3s						

---

*IDC **01** 03:11:08.8±0.8, 32°.17N×102°.12E, h0km, mb4.0/14, mbtmp4.0/16, ML3.6/2, MS3.8/4, Error ellipse: s-maj=27.2km s-min=15.4km az=54.0*
*BJI **01** 03:11:08.9, 31°.98N×101°.81E, h17km, mb4.1/23, ML4.0/22, Ms3.9/21, Ms7.3/17*
*NEIC **01** 03:11:10.7±1.8, 32°.24N±0°.08×101°.89E±0°.08, h10km±1km, mb4.5/49, Error ellipse: s-maj=15.0km s-min=11.1km az=153.0*

ISC 01 03:11:10.4±0.4, 32°.14N±0°.03×101°.90E±0°.04, h10km, n92, σ1.84/100, mb4.5/40, MS3.6/3, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.01**	**127**	Pn	**Pn**	**03 11 44.6**	**+0.2**
CD2				Sn	**Sn**	**03 12 10.2**	**+0.6**
CD2				smax	smax		
	comp=N,2μm,0.6s						
LZH	**Lanzhou**	**4.25**	**22**	Pn	**Pn**	**03 12 18.6**	**+3.2**
LZH				Pg	**Pg**	**03 12 30.0**	**-1.9**
LZH				Sg	**Sg**	**03 13 33.0**	**+5.9**
LZH				smax	smax		
	comp=N,130nm,1.0s						
LZH				smax	smax		
	comp=E,200nm,1.1s						
LZH				LR	LR		
	comp=N,720nm,9.3s						
LZH				LR	LR		
	comp=E,1μm,9.6s						
LZH				LR	LR		
	comp=Z,800nm,8.9s						
PZH	**PanZhiHua**	**5.62**	**181**	Pg	**Pb**	**03 12 47.6**	**-1.1**
PZH				Sg	**Sb**	**03 14 02.0**	**+5.8**
PZH				smax	smax		
	comp=N,60nm,1.4s						
PZH				smax	smax		
	comp=E,80nm,0.8s						
XAN	**Xi'an**	**6.19**	**70**	Pn	**Pn**	**03 12 40.6**	**-1.3**
XAN				Pg	Pb	03 13 03.3	+4.9
XAN				Sg	**Sg**	**03 14 26.3**	**-2.9**
XAN				smax	smax		
	comp=N,250nm,0.9s						
XAN				smax	smax		
	comp=E,180nm,1.0s						
ENH	**Enshi**	**6.76**	**104**	Pn	**Pn**	**03 12 50.8**	**+1.0**
GOMU	**GeErMu**	**7.13**	**307**	Pn	**Pn**	**03 12 52.9**	**-2.3**
GOMU				Sn	**Sn**	**03 14 16.0**	**-0.4**
GOMU				LR	LR		
	comp=E,750nm,11.3s						
GOMU				LR	LR		
	comp=Z,790nm,11.3s						
GTA	**Gaotai**	**7.45**	**347**	P	Pn	03 13 04.2	+4.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				smax	smax		
	comp=N,12nm,1.5s						
GTA				smax	smax		
	comp=E,22nm,1.3s						
GTA				LR	LR		
	comp=N,410nm,9.8s						
GTA				LR	LR		
	comp=E,340nm,7.6s						
GTA				LR	LR		
	comp=Z,300nm,9.5s						
TNCH	**TengChong**	**7.68**	**204**	Pg	**Pg**	**03 13 40.2**	**+2.6**
TNCH				Sg	**Sg**	**03 15 17.6**	**+0.5**
TNCH				LR	LR		
	comp=N,1μm,4.7s						
TNCH				LR	LR		
	comp=E,1μm,6.9s						
TNCH				LR	LR		
	comp=Z,810nm,8.9s						
LSA	**Lhasa**	**9.55**	**258**	Pn	**Pn**	**03 13 29.2**	**+0.8**
CNSH	**ChangSha**	**10.33**	**110**	P	**Pn**	**03 13 36.6**	**-2.1**
CNSH				S	**Sn**	**03 15 36.1**	**+1.5**
BTO	**Baotou**	**10.68**	**35**	*e*P	**Pn**	**03 13 46.1**	**+2.5**
BTO				pP		03 13 50.1	
BTO				sP		03 13 52.4	
BTO				PP	**PnPn**	**03 13 54.9**	**+3.6**
BTO				S	**Sn**	**03 15 49.0**	**+5.7**
BTO				pmax	pmax		
	comp=Z,11nm,0.5s						
BTO				LR	LR		
	comp=Z,1μm,8.7s						
BTO				LR	LR		
	comp=Z,1μm,8.9s						
BTO				LR	LR		
	comp=Z,1μm,10.4s						
HHC	**Hu-ho-hao-te**	**11.65**	**39**	*e*P	**Pn**	**03 13 58.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,23nm,0.6s						
HHC				LR	LR		
	comp=Z,460nm,9.6s						
HHC				LR	LR		
	comp=Z,550nm,11.1s						
CHTO	**Chiang Mai**	**13.54**	**192**	Pn	**Pn**	**03 14 24.1**	**+1.5**
CMAR	**Chiang Mai Arr**	**13.88**	**192**	Pn	**Pn**	**03 14 28.9**	**+1.6**
CMAR	**Chiang Mai Arr**	**13.88**	**192**	Pn	**Pn**	**03 14 26.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=16,slow=13,SNR=4.9						
CMAR				LR	LR	03 20 02.6	
	comp=Z,234nm,18.8s,baz=15,slow=38						
	comp=Z,0.8nm,0.4s						
BJI	**Beijing**	**13.97**	**52**	P	**Pn**	**03 14 26.4**	**-2.0**
BJI				S	**Sn**	**03 17 03.2**	**-0.2**
BJI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BJI				LR	LR		
	comp=Z,300nm,14.1s						
BJI				LR	LR		
	comp=Z,200nm,14.3s						
NJ2	**Nanjing**	**14.38**	**86**	*e*P	**Pn**	**03 14 34.4**	**+0.4**
QIZ	**Qiongzhong**	**14.88**	**149**	P	**Pn**	**03 14 38.6**	**-2.4**
QIZ				S	**Sn**	**03 17 26.3**	**+0.3**
QIZ				LR	LR		
	comp=Z,510nm,10.9s						
QIZ				LR	LR		
	comp=Z,360nm,8.7s						
SONM	**Songino Array**	**16.05**	**11**	Pn	**Pn**	**03 14 54.3**	**-1.9**
SONM	**Songino Array**	**16.05**	**11**	Pn	**Pn**	**03 14 55.1**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=194,slow=12,SNR=7.1						
	comp=Z,1.1nm,0.8s						
WMQ	**Urumqi**	**16.14**	**320**	*e*P	**P**	**03 14 59.1**	**-1.6**
XLT	**XiLinHaoTe**	**16.18**	**39**	*e*P	**Pn**	**03 14 58.6**	**+0.7**
XLT				sP	pP	03 15 05.0	+0.1
XLT				PP	**sP**	**03 15 12.2**	**+5.5**
XLT				pmax	pmax		
	comp=Z,16nm,0.8s						
XLT				LR	LR		
	comp=Z,610nm,14.0s						
XLT				LR	LR		
	comp=Z,500nm,12.3s						
ULN	**Ulaanbaatar**	**16.19**	**13**	Pn	**Pn**	**03 14 57.1**	**-0.9**
WUS	**Wushi**	**20.27**	**303**	P	**P**	**03 15 43.9**	**-2.4**
MK31	**Makanchi Array**	**20.97**	**320**	P	**P**	**03 15 51.8**	**-1.9**
MKAR	**Makanchi Array**	**20.97**	**320**	P	**P**	**03 15 51.9**	**-1.8**
MKAR	**Makanchi Array**	**20.97**	**320**	P	Pn	03 15 55.9	-0.3
	comp=Z,3.2nm,0.6s,baz=117,slow=13,SNR=32						
	comp=Z,3.2nm,0.6s						
MAKZ	**Makanchi**	**21.15**	**320**	P	**P**	**03 15 53.4**	**-2.2**
HIA	**Hailar**	**21.72**	**33**	P	**P**	**03 16 01.6**	**0.0**
KSRS	**Korea Array**	**21.99**	**69**	P	**P**	**03 16 01.3**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=237,slow=8.5,SNR=5.3						
	comp=Z,0.4nm,0.3s						
KDJ	**Kajisay**	**22.02**	**304**	P	**P**	**03 16 03.8**	**-1.3**
KSH	**Kashi**	**22.22**	**297**	P	**P**	**03 16 11.9**	**+4.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BOOM	**Boomskoye usch**	**23.00**	**304**	P	**P**	**03 16 14.0**	**-1.6**
BNX	**BinXian**	**23.91**	**48**	||P	**P**	**03 16 24.1**	**-0.3**
BNX				pmax	pmax		
	comp=Z,13nm,0.8s						
AAK	**Ala-Archa**	**24.07**	**304**	P	**P**	**03 16 25.1**	**-1.0**
AAK	**Ala-Archa**	**24.07**	**304**	LR	LR	03 26 38.7	
	comp=Z,219nm,19.2s,baz=102,slow=38						
NIL	**Nilore**	**24.07**	**281**	P	**P**	**03 16 22.7**	**-3.4**
NIL				IAmb	IAmb	03 16 29.6	
	comp=Z,11nm,0.8s						
ZAA0	**Zalesovo Array**	**24.99**	**336**	P	**P**	**03 16 33.3**	**-0.9**
ZAA0				IAmb	IAmb	03 16 36.9	
	comp=Z,6.7nm,0.8s						
ZALV	**Zalesovo Beam**	**24.99**	**336**	P	**P**	**03 16 34.0**	**-0.1**
ZALV	**Zalesovo Beam**	**24.99**	**336**	P	**P**	**03 16 34.8**	**+0.6**
	comp=Z,4.5nm,0.5s,baz=137,slow=9.7,SNR=23						
	comp=Z,4.5nm,0.5s						
KURBB	**Kurchatov Arra**	**25.29**	**324**	P	**P**	**03 16 38.0**	**+1.2**
	comp=Z,5.9nm,0.5s,baz=129,slow=10,SNR=72						
	comp=Z,5.9nm,0.5s						
KURK	**Kurchatov**	**25.30**	**324**	P	**P**	**03 16 35.5**	**-1.4**
KURK				IAmb	IAmb	03 16 40.4	
	comp=Z,11nm,0.9s						
GAR	**Garm**	**26.50**	**294**	P	**P**	**03 16 46.9**	**-1.3**
KBL	**Kabul**	**27.49**	**284**	P	**P**	**03 16 55.8**	**-1.4**
KBL				IAmb	IAmb	03 17 05.1	
	comp=Z,13nm,1.0s						
RPSI	**Rantau Prapat**	**29.42**	**186**	P	**P**	**03 17 14.4**	**+0.2**
BVAR	**Borovoye Array**	**30.82**	**322**	P	**P**	**03 17 27.1**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=118,slow=8.3,SNR=4.4						
	comp=Z,1.0nm,0.7s						
ABKAR	**Akbulak array**	**35.58**	**311**	P	**P**	**03 18 08.3**	**+0.5**
NRIK	**Noril'sk**	**38.12**	**352**	P	**P**	**03 18 29.6**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=168,slow=8.4,SNR=5.6						
	comp=Z,3.7nm,0.8s						
BRTR	**Keskin Array B**	**54.59**	**298**	P	**P**	**03 20 40.0**	**+0.7**
BRTR	**Keskin Array B**	**54.59**	**298**	P	**P**	**03 20 40.3**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=104,slow=7.4,SNR=5.0						
	comp=Z,1.7nm,0.9s						
SHEM	**Shemya Is, Ala**	**54.69**	**45**	LR	LR	03 46 10.4	
	comp=Z,37nm,19.4s,baz=328,slow=38						
AKASG	**Malin Array Be**	**55.30**	**312**	P	**P**	**03 20 42.9**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=70,slow=6.8,SNR=3.1						
	comp=Z,0.3nm,0.4s						
ARCES	**ARCESS Array B**	**55.54**	**336**	P	**P**	**03 20 44.8**	**-0.7**
ARCES	**ARCESS Array B**	**55.54**	**336**	P	**P**	**03 20 44.8**	**-0.7**
	comp=Z,8.0nm,1.1s,baz=60,slow=4.7,SNR=3.7						
	comp=Z,8.0nm,1.1s						
FINES	**FINESS Array B**	**55.66**	**326**	P	**P**	**03 20 46.0**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=66,slow=5.0,SNR=2.1						
	comp=Z,3.1nm,0.9s						
BUR08	**Bucovina Ar. S**	**58.53**	**310**	P	**P**	**03 21 06.4**	**-0.7**
BUR08				IAmb	IAmb	03 21 25.5	
	comp=Z,6.2nm,1.5s						
WB0	**Warramunga Arr**	**60.27**	**144**	P	**P**	**03 21 17.2**	**-2.0**
WRA	**Warramunga Arr**	**60.39**	**145**	P	**P**	**03 21 19.0**	**-1.1**
WRA	**Warramunga Arr**	**60.39**	**145**	P	**P**	**03 21 19.4**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=330,slow=6.6,SNR=9.9						
	comp=Z,2.0nm,0.9s						
WB2	**Warramunga Arr**	**60.40**	**145**	P	**P**	**03 21 18.5**	**-1.6**
C18K	**Utukok River**	**62.92**	**24**	P	**P**	**03 21 35.9**	**-0.6**
C18K				IAmb	IAmb	03 21 38.6	
	comp=Z,3.2nm,0.9s						
ASAR	**Alice Springs**	**63.37**	**147**	P	**P**	**03 21 40.4**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=327,slow=6.7,SNR=6.8						
	comp=Z,0.8nm,0.8s						
F17K	**Baldwin Pennin**	**63.63**	**26**	P	**P**	**03 21 42.0**	**+0.7**
F17K				IAmb	IAmb	03 21 43.4	
	comp=Z,4.0nm,1.1s						
D19K	**Kuna River**	**64.03**	**24**	P	**P**	**03 21 43.4**	**-0.5**
D19K				IAmb	IAmb	03 21 47.9	
	comp=Z,4.1nm,0.9s						
B21K	**Ikpikpuk River**	**64.75**	**22**	P	**P**	**03 21 47.7**	**-0.8**
B21K				IAmb	IAmb	03 21 54.5	
	comp=Z,3.6nm,0.9s						
B22K	**Teshekpuk Lake**	**64.82**	**21**	P	**P**	**03 21 49.5**	**+0.6**
C23K	**Itkillik River**	**65.91**	**21**	P	**P**	**03 21 55.8**	**-0.3**
D23K	**Nanushuk River**	**66.30**	**22**	P	**P**	**03 21 58.4**	**-0.2**
G21K	**Allakaket**	**66.46**	**25**	P	**P**	**03 22 00.0**	**+0.3**
G21K				IAmb	IAmb	03 22 02.0	
	comp=Z,3.6nm,0.9s						
TOLK	**Toolik Lake Re**	**66.81**	**22**	P	**P**	**03 22 01.9**	**0.0**
TOLK				IAmb	IAmb	03 22 07.4	
	comp=Z,4.1nm,1.0s						
COLD	**Coldfoot**	**67.28**	**24**	P	**P**	**03 22 05.6**	**+0.7**
COLD				IAmb	IAmb	03 22 07.3	
	comp=Z,5.1nm,1.0s						
E24K	**Your Creek**	**67.44**	**23**	P	**P**	**03 22 05.1**	**-0.8**
E24K				IAmb	IAmb	03 22 11.7	
	comp=Z,5.2nm,1.1s						
D25K	**Kavik River**	**67.46**	**21**	P	**P**	**03 22 06.2**	**+0.1**
D25K				IAmb	IAmb	03 22 08.2	
	comp=Z,2.7nm,1.1s						
C27K	**Jago River**	**68.08**	**20**	P	**P**	**03 22 10.7**	**+0.7**
C27K				IAmb	IAmb	03 22 14.5	
	comp=Z,6.7nm,1.3s						
G24K	**Hadweenzic Riv**	**68.48**	**24**	P	**P**	**03 22 12.6**	**+0.1**
G24K				IAmb	IAmb	03 22 15.3	
	comp=Z,3.0nm,0.9s						
NEA2	**Nenana**	**69.00**	**26**	P	**P**	**03 22 14.6**	**-1.1**
NEA2				IAmb	IAmb	03 22 21.2	
	comp=Z,5.6nm,1.4s						
BMAR	**Burnt Mountain**	**69.04**	**22**	P	**P**	**03 22 14.0**	**-2.0**
ILAR	**Eielson Array**	**69.71**	**25**	P	**P**	**03 22 18.9**	**-1.2**
	comp=Z,0.9nm,1.0s,baz=282,slow=5.4,SNR=7.2						
	comp=Z,0.9nm,1.0s						
PRP	**Porcupine Dome**	**69.78**	**24**	P	**P**	**03 22 21.1**	**+0.3**
PRP				IAmb	IAmb	03 22 23.5	
	comp=Z,3.5nm,0.9s						
E29M	**Blow River**	**70.51**	**20**	P	**P**	**03 22 24.8**	**-0.1**
E29M				IAmb	IAmb	03 22 28.7	
	comp=Z,5.9nm,1.3s						
J26L	**Joseph Creek**	**71.05**	**25**	P	**P**	**03 22 27.0**	**-1.4**
J26L				IAmb	IAmb	03 22 29.1	
	comp=Z,2.6nm,0.9s						
SCM	**Sheep Creek Mo**	**71.14**	**28**	P	**P**	**03 22 28.4**	**-0.6**
I28M	**Miner Creek**	**71.72**	**23**	P	**P**	**03 22 31.4**	**-1.1**
I28M				IAmb	IAmb	03 22 37.0	
	comp=Z,3.5nm,1.1s						
INK	**Inuvik**	**71.79**	**19**	P	**P**	**03 22 33.0**	**+0.4**
INK				IAmb	IAmb	03 22 34.7	
	comp=Z,4.8nm,1.2s						
G30M	**tAoh Zrail Nji**	**71.91**	**21**	P	**P**	**03 22 32.9**	**-0.6**
L27K	**Beaver Creek,**	**72.52**	**25**	P	**P**	**03 22 37.3**	**0.0**
BCAR	**Beaver Creek A**	**72.54**	**25**	P	**P**	**03 22 38.3**	**+0.9**
BMRM	**Bremner River**	**72.71**	**28**	P	**P**	**03 22 38.5**	**+0.1**
BMRM				IAmb	IAmb	03 22 39.9	
	comp=Z,5.6nm,1.1s						
J29N	**Klondike Camp**	**72.92**	**23**	P	**P**	**03 22 38.9**	**-0.7**
J29N				IAmb	IAmb	03 22 45.4	
	comp=Z,4.9nm,1.2s						
H31M	**Peel River**	**73.26**	**21**	P	**P**	**03 22 41.8**	**+0.2**
H31M				IAmb	IAmb	03 22 42.7	
	comp=Z,6.4nm,1.2s					

NUBE	Las Nubes	1.10	124	eP	Pg	03 14 44.3	-1.0
JAYA	Jayaque - finc	1.51	125	eP	Pn	03 14 51.2	-0.6

*IDC **01** 03:15:35.4±1.0, 7°35N×94°08E, h0km, mb3.8/12, mbtmp3.8/14, ML4.0/2, Error ellipse: s-maj=42.8km s-min=16.4km az=53.0*
*NEIC **01** 03:15:38.4±1.2, 7°58N±0°10×94°3E±0°2, h10km±1km, mb4.2/10, Error ellipse: s-maj=31.4km s-min=8.3km az=241.0*
*NDI **01** 03:15:41.6±0.3, 7°60N×94°27E, h10km, ML4.0, MW4.1, mb4.2(NEIC)*
*DJA **01** 03:15:48.6±2.9, 7°N±5°×9°5E±°, h10km±22km, M4.1/7, mb3.9/1, MLv4.2/7*

ISC 01 03:15:38.3±0.5, 7°57N±0°04×94°27E±0°07, h10km, n39, σ1°56/39, mb3.9/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.65**	**211**	*eP*	**Pg**	**03 15 51.9**	**+1.1**
CMBY				*eS*	**Sg**	**03 15 59.6**	**+0.3**
CMBY				IAML		03 16 05.2	
	comp=N,21μm,0.2s						
CMBY				IAML		03 16 05.8	
	comp=E,18μm,0.2s						
BSI	**Banda Aceh**	**2.30**	**153**	P	**Pb**	**03 16 19.9**	**0.0**
BSI				S	**Sn**	**03 16 44.2**	**-0.4**
LHMI	**Lhok Sumawe**	**3.53**	**131**	Pn	**Pn**	**03 16 32.4**	**-0.9**
LHMI	**Lhok Sumawe**	**3.53**	**131**	P	**Pn**	**03 16 32.8**	**-0.5**
MLSI	**Meulaboh, Aceh**	**3.91**	**147**	P	**Pn**	**03 16 42.5**	**+4.1**
PBA	**Port Blair**	**4.33**	**340**	*eP*	**Pn**	**03 16 47.4**	**+3.2**
PBA				*eS*	**Sn**	**03 17 35.2**	**+0.3**
PBA				IAML		03 17 36.3	
	comp=N,111nm,0.1s						
PBA				IAML		03 17 36.4	
	comp=E,166nm,0.1s						
DGPR	**DIGLIPUR**	**5.73**	**347**	*eP*	**Pn**	**03 17 06.2**	**+2.7**
DGPR				*eS*	**Sn**	**03 18 07.8**	**-1.5**
DGPR				IAML		03 18 44.0	
	comp=E,393nm,0.1s						
DGPR				IAML		03 18 44.6	
	comp=N,302nm,0.1s						
PSI	**Prapat**	**6.63**	**135**	Pn	**Pn**	**03 17 16.8**	**+0.9**
	comp=N,0.9nm,0.3s,baz=298,slow=8.3,SNR=7.0						
PSI				Sn	**Sn**	**03 18 34.0**	**+2.3**
	comp=N,1.4nm,0.3s,baz=336,slow=20,SNR=1.8						
	comp=N,1.8nm,0.3s						
RPSI	**Rantau Prapat**	**6.70**	**136**		**Pn**	**03 17 16.8**	**0.0**
RPSI					**Sn**	**03 18 34.0**	**+0.6**
KULM	**Kulim**	**6.74**	**109**	Pn	**Pn**	**03 17 16.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**11.74**	**22**	Pn	**Pn**	**03 18 29.7**	**+3.6**
	comp=N,0.6nm,0.3s,baz=208,slow=16,SNR=2.0						
	comp=N,1.6nm,0.3s						
SBUM	**Sibu**	**18.59**	**105**	P	**P**	**03 19 55.1**	**-0.8**
H08S3	**Diego Garcia H**	**26.45**	**236**	T	T	03 48 02.1	
	baz=55,slow=75						
H08S2	**Diego Garcia H**	**26.45**	**236**	T	T	03 47 58.2	
	baz=55,slow=75						
H08S1	**Diego Carcia H**	**26.46**	**236**	T	T	03 47 58.6	
	baz=55,slow=75						
SIMJ	**Simiganj**	**38.43**	**327**	P	**P**	**03 22 59.7**	**-0.7**
SIMJ				IAmb	IAmb	03 23 08.2	
	comp=Z,5.7nm,0.9s						
MK31	**Makanchi Array**	**40.41**	**347**	P	**P**	**03 23 15.8**	**-1.0**
MKAR	**Makanchi Array**	**40.41**	**347**	P	**P**	**03 23 16.1**	**-0.6**
MKAR	**Makanchi Array**	**40.41**	**347**	P	**P**	**03 23 15.6**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=162,slow=7.9,SNR=9.6						
	comp=Z,1.0nm,0.8s						
MAKZ	**Makanchi**	**40.50**	**347**	P	**P**	**03 23 16.5**	**-0.9**
MAKZ				IAmb	IAmb	03 23 30.9	
	comp=Z,2.9nm,0.7s						
SONM	**Songino Array**	**41.44**	**12**	P	**P**	**03 23 25.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=188,slow=8.7,SNR=2.9						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**44.87**	**346**	P	**P**	**03 23 52.7**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=166,slow=7.2,SNR=12						
	comp=Z,1.1nm,0.7s						
KURK	**Kurchatov**	**44.94**	**346**	P	**P**	**03 23 52.8**	**-0.5**
KURK				IAmb	IAmb	03 24 07.6	
	comp=Z,3.8nm,0.8s						
ZAA0	**Zalesovo Array**	**46.88**	**352**	P	**P**	**03 24 08.3**	**-0.2**
ZALV	**Zalesovo Beam**	**46.88**	**352**	P	**P**	**03 24 08.0**	**-0.6**
ZALV	**Zalesovo Beam**	**46.88**	**352**	P	**P**	**03 24 08.5**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=173,slow=8.6,SNR=6.4						
	comp=Z,1.2nm,0.5s						
WRA	**Warramunga Arr**	**47.98**	**125**	P	**P**	**03 24 16.2**	**-1.6**
	comp=Z,0.7nm,0.9s,baz=300,slow=7.5,SNR=5.6						
	comp=Z,0.7nm,0.9s						
BVAR	**Borovoye Array**	**49.32**	**341**	P	**P**	**03 24 27.1**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=157,slow=4.1,SNR=5.0						
	comp=Z,0.6nm,0.7s						
BRVK	**Borovoye**	**49.38**	**341**	P	**P**	**03 24 26.3**	**-1.7**
BRVK				IAmb	IAmb	03 24 41.1	
	comp=Z,3.9nm,1.2s						
ASAR	**Alice Springs**	**49.62**	**130**	P	**P**	**03 24 27.9**	**-2.4**
	comp=Z,0.4nm,0.6s,baz=312,slow=7.4,SNR=4.6						
	comp=Z,0.4nm,0.6s						
ABKAR	**Akbulak array**	**50.56**	**331**	P	**P**	**03 24 35.5**	**-1.5**
ABKAR				IAmb	IAmb	03 25 01.5	
	comp=Z,3.5nm,1.1s						
BRTR	**Keskin Array B**	**62.72**	**311**	P	**P**	**03 26 01.5**	**-2.4**
	comp=Z,0.2nm,0.5s,baz=146,slow=9.0,SNR=4.5						
	comp=Z,0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**65.53**	**211**	T	T	04 36 50.1	
	baz=47,slow=75,SNR=19						
H04N1	**CROZET ISLANDS**	**65.53**	**211**	T	T	04 36 59.6	
	baz=47,slow=75,SNR=24						
H04N3	**CROZET ISLANDS**	**65.55**	**211**	T	T	04 36 49.7	
	baz=47,slow=75,SNR=23						
FINES	**FINESS Array B**	**73.04**	**332**	P	**P**	**03 27 07.3**	**-1.0**
	comp=Z,8.6nm,1.2s,baz=90,slow=5.6,SNR=5.1						
	comp=Z,8.6nm,1.2s						
GERES	**GERESS Array B**	**78.14**	**318**	P	**P**	**03 27 38.7**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=81,slow=7.7,SNR=4.0						
	comp=Z,0.2nm,0.4s						
HFS	**Hagfors**	**78.78**	**330**	P	**P**	**03 27 40.4**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=103,slow=4.6,SNR=4.8						
	comp=Z,2.2nm,0.9s						
NOA	**NORSAR Array B**	**80.06**	**331**	P	**P**	**03 27 49.0**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=94,slow=5.2,SNR=2.3						
	comp=Z,1.0nm,0.9s						

*ISK **01** 03:16:50.5, 37°46N×29°47E, h9km, ML3.6/27*
*AFAD **01** 03:16:51.0, 37°45N×29°43E, h11km±2km, MW3.6*
*THE **01** 03:16:52.5, 37°53N×29°43E, h1km±1km, ML3.6/3, Error ellipse: s-maj=2.6km s-min=0.8km az=52.0*
*GII **01** 03:16:55.7±0.0, 37°342N±0°005×29°460E±0°001, h30km, Mws3.4, confirmed*

ISC 01 03:16:51.7±0.9, 37°46N±0°02×29°45E±0°02, h8km±7km, n104, σ1°11/134, 5C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.12**	**275**	Pg	**Pg**	**03 16 54.4**	**0.0**
APMY				Sg	**Sg**	**03 16 56.8**	**+0.5**
GOLH	**Golhisar**	**0.24**	**159**	P	**Pg**	**03 16 56.5**	**0.0**
GOLH				S	**Sg**	**03 16 58.8**	**-1.0**
INCE	**Denizli-Bozkur**	**0.27**	**21**	P	**Pg**	**03 16 57.0**	**0.0**
INCE				S	**Sg**	**03 17 00.8**	**+0.2**
CAEL	**Denizli, Camel**	**0.35**	**198**	P	**Pg**	**03 16 58.1**	**-0.6**
CAEL				S	**Sg**	**03 17 03.8**	**+0.4**
DNIZ	**Denizli-Tavas-**	**0.37**	**296**	P	**Pg**	**03 16 58.6**	**-0.4**
DNIZ				S	**Sg**	**03 17 04.0**	**+0.2**
DNZT	**Denizli-Tavas-**	**0.39**	**242**	P	**Pg**	**03 16 58.6**	**-0.7**
DNZT				S	**Sg**	**03 17 03.6**	**-0.8**
TAVA	**DENIZLI_Tavas**	**0.43**	**271**	P	**Pg**	**03 16 59.6**	**-0.5**
CAME	**Cameli-Denizli**	**0.53**	**193**	Pg	**Pg**	**03 17 00.9**	**-1.1**
CAME				Sg	**Sg**	**03 17 09.4**	**+0.4**
BRDR	**BURDUR-Merkez**	**0.54**	**64**	P	**Pg**	**03 17 01.8**	**-0.3**
BRDR				S	**Sb**	**03 17 11.1**	**-0.3**
KNIK	**Mula-Seydike**	**0.62**	**171**	P	**Pg**	**03 17 03.8**	**0.0**
KNIK				S	**Sg**	**03 17 12.1**	**+0.3**
BASM	**Basmaki-Afyon**	**0.66**	**46**	Pg	**Pg**	**03 17 03.7**	**-0.7**
SABU	**Mula-Dalaman**	**0.75**	**211**	P	**Pg**	**03 17 05.8**	**-0.3**
SABU				S	**Sg**	**03 17 15.3**	**-0.4**
ELL	**Elmali**	**0.80**	**153**	Pg	**Pg**	**03 17 05.9**	**-1.2**
ELL				Sg	**Sg**	**03 17 17.6**	**+0.1**
KORT	**Korkueli**	**0.85**	**122**	Pg	**Pg**	**03 17 06.7**	**-1.4**
KORT	**Korkueli**	**0.85**	**122**	P	**Pg**	**03 17 06.8**	**-1.2**
KORT				S	**Sg**	**03 17 20.2**	**+1.0**
FETY	**Fethiye**	**0.88**	**200**	Pg	**Pg**	**03 17 07.6**	**-1.0**
FETY				Sg	**Sg**	**03 17 20.4**	**+0.5**
PASA	**Karahalli, USA**	**0.89**	**2**	P	**Pg**	**03 17 07.8**	**-0.9**
PASA				S	**Sg**	**03 17 21.4**	**+1.1**
BUCA	**Burdur, Bucak-**	**0.89**	**98**	P	**Pg**	**03 17 08.2**	**-0.7**
BCK	**Bucak**	**0.90**	**90**	Pg	**Pg**	**03 17 08.6**	**-0.5**
DALY	**Dalyan (Mula)**	**0.91**	**225**	Pg	**Pg**	**03 17 08.4**	**-0.7**
DALY				Sg	**Sg**	**03 17 21.9**	**+1.0**
ISP	**Isparta**	**0.92**	**67**	Pg	**Pg**	**03 17 08.4**	**-1.0**
ISP	**Isparta**	**0.92**	**67**	P	**Pg**	**03 17 08.6**	**-0.9**
MULA	**Mugla, Merkez-**	**0.93**	**258**	P	**Pg**	**03 17 08.7**	**-0.8**
ESEN	**Aydn-Nazilli**	**0.94**	**291**	P	**Pg**	**03 17 08.9**	**-0.9**
ESEN				S	**Sg**	**03 17 20.3**	**-1.7**
KZIL	**AFYON_Kizioren**	**0.96**	**34**	P	**Pg**	**03 17 09.3**	**-1.0**
KZIL				S	**Sn**	**03 17 25.2**	**-0.5**
YER	**Yerkesik**	**0.99**	**251**	Pg	**Pg**	**03 17 09.8**	**-0.9**
IZZE	**Mula-Seydike**	**1.04**	**190**	P	**Pg**	**03 17 11.2**	**-0.4**
IZZE				S	**Sn**	**03 17 27.2**	**-0.5**
NAZL	**Nazilli-Aydin**	**1.05**	**299**	Pg	**Pg**	**03 17 10.9**	**-0.9**
KIRA	**zmir-Kiraz**	**1.11**	**312**	P	**Pb**	**03 17 11.8**	**-1.4**
KIRA				S	**Sb**	**03 17 26.3**	**-1.7**
ANTB	**Antalya**	**1.11**	**120**	Pn	**Pb**	**03 17 12.0**	**-1.2**
AFYN	**Afyon-Dinar-K**	**1.16**	**45**	P	**Pb**	**03 17 12.2**	**-1.9**
BAGO	**Egridir - ISPA**	**1.18**	**63**	P	**Pb**	**03 17 13.1**	**-1.4**
BAGO				S	**Sb**	**03 17 29.6**	**-0.4**
TURN	**Turunc**	**1.19**	**235**	Pn	**Pb**	**03 17 13.5**	**-0.9**
TURN	**Turunc**	**1.19**	**235**	P	**Pb**	**03 17 13.3**	**-1.1**
TURN				S	**Sg**	**03 17 30.6**	**+0.8**
KULA	**Kula-Manisa**	**1.22**	**329**	Pn	**Pn**	**03 17 14.4**	**-0.8**
KEMT	**Kemer-ANTALYA**	**1.23**	**134**	Pn	**Pn**	**03 17 14.5**	**-0.7**
AKAS	**Kas**	**1.23**	**174**	Pn	**Pn**	**03 17 14.9**	**-0.5**
AKAS	**Kas**	**1.23**	**174**	P	**Pn**	**03 17 15.1**	**-0.3**
AKAS				S	**Sn**	**03 17 35.0**	**+2.7**
BNAZ	**Uak-Banaz**	**1.26**	**15**	P	**Pn**	**03 17 15.6**	**-0.2**
BNAZ				S	**Sb**	**03 17 32.3**	**0.0**
AYDN	**Tasoluk**	**1.27**	**279**	P	**Pn**	**03 17 15.0**	**-0.8**
AYDN				S	**Sb**	**03 17 31.0**	**-1.3**
DEMR	**Demre-Antalya**	**1.28**	**163**	Pn	**Pn**	**03 17 15.9**	**0.0**
USAK	**Uak-Merkez**	**1.30**	**345**	P	**Pn**	**03 17 15.7**	**-0.6**
KSL	**Kastellorizon**	**1.31**	**175**	P	**Pb**	**03 17 17.1**	**+0.5**
KSL				S	**Sg**	**03 17 36.9**	**+3.0**
	2μm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.33**	**292**	Pn	**Pn**	**03 17 15.8**	**-1.0**
AKUM	**Antalya-Kumluc**	**1.34**	**148**	P	**Pn**	**03 17 17.2**	**+0.5**
MLSB	**Milas**	**1.35**	**263**	Pn	**Pn**	**03 17 16.2**	**-0.7**
ODEM	**Odemis-Izmir**	**1.36**	**307**	Pn	**Pn**	**03 17 16.1**	**-1.0**
IZMR	**zmir-demi**	**1.37**	**300**	P	**Pn**	**03 17 16.4**	**-0.7**
IZMR				S	**Sb**	**03 17 34.4**	**-0.8**
SHUT	**Suhut-Afyon**	**1.39**	**38**	Pn	**Pn**	**03 17 16.8**	**-0.8**
AFYO	**Afyonkarahisar**	**1.48**	**26**	P	**Pn**	**03 17 18.8**	**0.0**
AFYO				S	**Sg**	**03 17 41.8**	**+2.4**
SHAP	**Saphane-Kutahy**	**1.57**	**353**	Pn	**Pn**	**03 17 19.5**	**-0.5**
GEDZ	**Gediz**	**1.58**	**359**	Pn	**Pn**	**03 17 19.6**	**-0.6**
GDZ	**Gediz**	**1.62**	**1**	P	**Pn**	**03 17 20.3**	**-0.5**
YVAC	**Isparta, Yalva**	**1.63**	**60**	P	**Pn**	**03 17 21.0**	**+0.2**
ARG	**Arkhangelos**	**1.64**	**221**	P	**Pn**	**03 17 21.4**	**+0.6**
ARG				S	**Sb**	**03 17 44.2**	**+1.2**
	1μm,0.6s						
ARG	**Arkhangelos**	**1.64**	**221**	Pn	**Pn**	**03 17 20.8**	**0.0**
BDRM	**Kayabasi**	**1.65**	**257**	P	**Pn**	**03 17 21.2**	**+0.1**
SIMA	**Simav-Kutahya**	**1.66**	**347**	Pn	**Pn**	**03 17 20.4**	**-0.9**
DAT	**Datca**	**1.67**	**245**	Pn	**Pn**	**03 17 21.0**	**-0.4**
DEMI	**Demirci**	**1.68**	**340**	P	**Pn**	**03 17 20.7**	**-0.9**
KURO	**Afyon-Bolvadin**	**1.73**	**42**	P	**Pn**	**03 17 22.3**	**+0.1**
KURO				S	**Sb**	**03 17 46.2**	**+0.5**
BODT	**Bodrum**	**1.76**	**258**	Pn	**Pn**	**03 17 22.1**	**-0.4**
DDIM	**Aydin, Didim**	**1.76**	**271**	P	**Pn**	**03 17 21.0**	**-1.6**
DDIM				S	**Sb**	**03 17 46.3**	**-0.2**
GORD	**Gordes-Manisa**	**1.76**	**326**	Pn	**Pn**	**03 17 21.9**	**-0.7**
YAZI	**Mula-Dat§a-**	**1.78**	**245**	P	**Pn**	**03 17 23.1**	**+0.3**
KEPZ	**Antalya-Kepez**	**1.81**	**107**	P	**Pn**	**03 17 24.2**	**+1.0**
SEDI	**Konya, Seydise**	**1.83**	**90**	P	**Pn**	**03 17 24.9**	**+1.2**
DOGA	**KONYA_Doganhis**	**1.87**	**69**	P	**Pn**	**03 17 24.8**	**+0.6**
DOGA				S	**Sb**	**03 17 49.3**	**-0.5**
KARP	**Karpathos**	**2.66**	**225**	P	**Pn**	**03 17 35.6**	**+0.7**
KARP				S	**Sn**	**03 18 08.8**	**+1.4**
	665nm,0.5s						
PRK	**Paraskevi**	**3.07**	**306**	P	**Pn**	**03 17 39.5**	**-1.0**
APE	**Apeiranthos**	**3.15**	**264**	P	**Pn**	**03 17 42.0**	**+0.2**
SIGR	**SIGRI**	**3.33**	**303**	P	**Pn**	**03 17 43.5**	**-0.5**
EZN	**Ezine**	**3.40**	**315**	P	**Pn**	**03 17 44.9**	**-0.2**
ZKR	**Zakros**	**3.51**	**229**	P	**Pn**	**03 17 47.9**	**+1.3**
ANKO	**Ankara**	**3.55**	**46**	⇑P	**Pn**	**03 17 48.0**	**+0.8**
KIRS	**Kirsehir-Merke**	**3.89**	**63**	⇓P	**Pn**	**03 17 52.7**	**+0.9**
CSS	**Mathiatis**	**4.01**	**127**	P	**Pn**	**03 17 54.3**	**+0.9**
CAVK	**Edirne/Enez-Ca**	**4.12**	**323**	⇓P	**Pg**	**03 18 12.8**	**+2.2**
LIA	**Limnos Island**	**4.13**	**307**	P	**Pn**	**03 17 55.4**	**+0.3**
MMA0B	**Mount Meron ar**	**6.58**	**131**	P	**Pn**	**03 18 29.6**	**+0.6**
MMA0B	**Mount Meron ar**	**6.58**	**131**	S	**Sn**	**03 19 43.1**	**-1.1**
GEM	**Giv'at Ha'Em**	**6.61**	**128**	P	**Pn**	**03 18 29.8**	**+0.6**
GEM	**Giv'at Ha'Em**	**6.61**	**128**	S	**Sn**	**03 19 42.9**	**-2.0**
NATI	**Neve Ativ**	**6.62**	**127**	P	**Pn**	**03 18 30.1**	**+0.7**
KSHT	**Keshet**	**6.86**	**129**	P	**Pn**	**03 18 33.9**	**+1.3**
KSHT	**Keshet**	**6.86**	**129**	S	**Sn**	**03 19 48.6**	**-2.3**
MMLI	**Mount Malkishu**	**7.01**	**134**	P	**Pn**	**03 18 35.3**	**+0.6**
SALP	**Salfit**	**7.16**	**137**	P	**Pn**	**03 18 38.0**	**+1.3**
HMDT	**Nahal Hemdat**	**7.20**	**134**	P	**Pn**	**03 18 38.7**	**+1.4**
HMDT	**Nahal Hemdat**	**7.20**	**134**	S	**Sn**	**03 19 58.7**	**-0.7**
DSI	**Dead Sea**	**7.64**	**139**	P	**Pn**	**03 18 44.5**	**+1.1**
DSI	**Dead Sea**	**7.64**	**139**	S	**Sn**	**03 20 09.7**	**-0.6**
KZIT	**Kziot**	**7.71**	**147**	P	**Pn**	**03 18 44.8**	**+0.4**
KZIT	**Kziot**	**7.71**	**147**	S	**Sn**	**03 20 09.7**	**-2.3**
MSBI	**Mazada**	**7.84**	**140**	P	**Pn**	**03 18 46.6**	**+0.6**
MLR	**Muntele Rosu**	**8.44**	**343**	⇑P	Pn	03 19 00.4	+5.9
PRNI	**Paran**	**8.46**	**145**	P	**Pn**	**03 18 55.9**	**+1.3**
VOIR		**8.62**	**339**	⇑P	**Pn**	**03 19 00.7**	**+3.8**
PLOR	**Plostina**	**8.64**	**347**	⇓P	**Pn**	**03 19 01.6**	**+4.6**
VRI	**Vrincioaia**	**8.64**	**347**	⇑P	**Pn**	**03 18 58.2**	**+1.1**
HRFI	**Mount Harif**	**8.74**	**146**	P	**Pn**	**03 18 59.5**	**+1.0**
EIL	**Elat**	**9.02**	**148**	P	**Pn**	**03 19 02.8**	**+0.4**
HERR	**Herculane**	**9.11**	**327**	⇑P	**Pn**	**03 19 03.4**	**-0.1**
TESR	**Tescani**	**9.28**	**348**	⇓P	Pn	03 19 00.4	-5.4

*IDC **01** 03:21:36.6±0.6, 7°42N×94°20E, h0km, mb4.1/19, mbtmp4.1/21, ML4.2/2, MS3.7/9, Error ellipse: s-maj=23.6km s-min=15.5km az=65.0*
*NEIC **01** 03:21:39.6±2.2, 7°44N±0°08×94°26E±0°10, h10km±1km, mb4.6/42, Error ellipse: s-maj=18.2km s-min=10.8km az=236.0*
*NDI **01** 03:21:41.9±0.5, 7°43N×94°34E, h10km, ML4.0, MW4.2, mb4.6(NEIC)*
*DJA **01** 03:21:44.1±0.5, 8°N±3°×9°5E±°, h10km, M4.6/8, mB4.7/1, mb4.8/7, MLv4.5/8, Mw(mB)4.0/1, MwMwp6.3/1, Mwp6.2/1*

ISC 01 03:21:40.6±0.4, 7°45N±0°04×94°23E±0°05, h20km, n99, σ1°36/93, mb4.5/42, MS3.7/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.53**	**214**	*eP*	**Pb**	**03 21 50.9**	**-0.4**
CMBY				*eS*	**Sb**	**03 21 58.2**	**-0.3**
CMBY				IAML		03 22 06.5	
	comp=E,17μm,0.3s						
CMBY				IAML		03 22 08.1	
	comp=N,23μm,0.3s						
BSI	**Banda Aceh**	**2.21**	**151**	P	**Pb**	**03 22 20.1**	**+0.1**
BSI				S	**Sb**	**03 22 48.0**	**+1.0**
LHMI	**Lhok Sumawe**	**3.49**	**129**	Pn	**Pn**	**03 22 32.2**	**-1.6**
LHMI	**Lhok Sumawe**	**3.49**	**129**	P	**Pn**	**03 22 36.4**	**+2.6**
LHMI				S	**Sn**	**03 23 16.7**	**+2.1**
MLSI	**Meulaboh, Aceh**	**3.83**	**146**	P	**Pn**	**03 22 41.6**	**+3.0**
PBA	**Port Blair**	**4.43**	**341**	Pn	**Pn**	**03 22 45.5**	**-1.3**
PBA	**Port Blair**	**4.43**	**341**	*eP*	**Pn**	**03 22 50.1**	**+3.4**
PBA				*eS*	**Sn**	**03 23 39.4**	**+1.7**
PBA				IAML		03 23 41.0	
	comp=N,99nm,0.1s						
SRIT	**Nakonsritamara**	**5.44**	**78**	Pn	**Pn**	**03 22 59.1**	**-1.6**
DGPR	**DIGLIPUR**	**5.83**	**347**	*eP*	**Pn**	**03 23 09.0**	**+2.9**
DGPR				*eS*	**Sn**	**03 24 12.4**	**+0.1**
PSI	**Prapat**	**6.57**	**134**	Pn	**Pn**	**03 23 16.7**	**+0.3**
	comp=N,1.0nm,0.3s,baz=315,slow=16,SNR=10.0						
PSI				LR	LR	03 26 09.6	
	comp=N,974nm,20.4s,baz=304,slow=41						
	comp=N,1.8nm,0.4s						
RPSI	**Rantau Prapat**	**6.65**	**135**	Pn	**Pn**	**03 23 16.5**	**-0.8**
KULM	**Kulim**	**6.73**	**108**	Pn	**Pn**	**03 23 15.6**	**-2.9**
CMAR	**Chiang Mai Arr**	**11.86**	**22**	Pn	**Pn**	**03 24 27.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**11.86**	**22**	Pn	**Pn**	**03 24 28.2**	**-0.6**
	comp=N,1.5nm,0.3s,baz=204,slow=14,SNR=5.6						
CMAR				LR	LR	03 29 03.9	
	comp=N,246nm,19.7s,baz=205,slow=38						
	comp=N,1.2nm,0.3s						
PALK	**Pallekele**	**13.42**	**270**	LR	LR	03 29 47.6	
	comp=N,250nm,19.1s,baz=88,slow=37						
SHL	**Shillong**	**18.15**	**353**		**P**	**03 25 52.2**	**+0.2**
SBUM	**Sibu**	**18.59**	**105**		**P**	**03 25 56.0**	**-0.8**
QIZ	**Qiongzhong**	**19.04**	**51**	P	**P**	**03 26 00.1**	**-1.6**
QIZ				S	**Sn**	**03 29 34.8**	**-0.7**
QIZ				LR	LR		
	comp=N,580nm,11.3s						
QIZ				LR	LR		
	comp=E,360nm,12.1s						
QIZ				LR	LR		
	comp=Z,200nm,15.5s						
LEM	**Lembang**	**19.48**	**136**	LR	LR	03 33 01.8	
	comp=Z,292nm,20.6s,baz=304,slow=35						
PZH	**PanZhiHua**	**20.25**	**20**	P	Pn	03 26 18.3	+1.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,190nm,5.9s						
LSA	**Lhasa**	**22.32**	**353**	P	**P**	**03 26 38.1**	**+0.5**
H08S3	**Diego Garcia H**	**26.35**	**236**	T	T	03 53 57.5	
	baz=55,slow=75						
H08S2	**Diego Garcia H**	**26.36**	**236**	T	T	03 53 50.5	
	baz=55,slow=75						
H08S1	**Diego Carcia H**	**26.37**	**236**	T	T	03 53 58.4	
	baz=55,slow=75						
KAPI	**Kappang**	**28.32**	**115**	LR	LR	03 38 46.0	
	comp=Z,124nm,21.4s,baz=258,slow=36						
LZH	**Lanzhou**	**29.83**	**16**	*eP*	**P**	**03 27 49.8**	**+3.1**
LZH				pP	pwP	03 27 55.3	+0.3
LZH				pmax	pmax		
	comp=Z,15nm,0.8s						
GTA	**Gaotai**	**32.21**	**8**	*eP*	P	03 28 14.2	+6.5
GTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NIL	**Nilore**	**32.49**	**326**	P	**P**	**03 28 11.0**	**+0.9**
NJ2	**Nanjing**	**33.53**	**40**	*eP*	**P**	**03 28 20.6**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
KBL	**Kabul**	**35.56**	**323**	P	**P**	**03 28 37.2**	**+0.3**
WUS	**Wushi**	**36.16**	**341**	P	**P**	**03 28 41.5**	**-0.4**
WUS				IAmb	IAmb	03 28 47.8	
	comp=Z,7.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**36.67**	**22**	*eP*	**P**	**03 28 48.1**	**+1.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WMQ	**Urumqi**	**36.68**	**352**	*eP*	**P**	**03 28 48.0**	**+1.8**
KDJ	**Kajisay**	**37.69**	**339**	P	**P**	**03 28 56.2**	**+1.2**
BJI	**Beijing**	**37.94**	**28**	P	**P**	**03 28 59.5**	**+2.7**
BJI				pP	**pP**	**03 29 03.6**	**+1.2**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GAR	**Garm**	**38.08**	**329**	P	**P**	**03 28 57.5**	**-0.7**
CHGR	**Chuyangaron**	**38.42**	**328**	P	**P**	**03 29 00.6**	**-0.5**
BOOM	**Boomskoye usch**	**38.45**	**338**	P	**P**	**03 29 01.1**	**-0.2**
SIMJ	**Simiganj**	**38.51**	**328**	P	**P**	**03 29 00.9**	**-1.0**
SIMJ				IAmb	IAmb	03 29 07.1	
	comp=Z,7.5nm,0.8s						
BTK	**Batken**	**38.64**	**331**	P	**P**	**03 29 02.6**	**-0.3**
ARSB	**Arslanbob**	**38.66**	**334**	P	**P**	**03 29 03.0**	**-0.1**
ARSB				IAmb	IAmb	03 29 08.9	
	comp=Z,7.7nm,0.6s						
AAK	**Ala-Archa**	**39.13**	**337**	LR	LR	03 46 53.4	
	comp=Z,149nm,21.7s,baz=158,slow=39						
MK31	**Makanchi Array**	**40.52**	**347**	P	**P**	**03 29 17.3**	**-1.1**
MKAR	**Makanchi

SPITS	**Spitsbergen Ar**	**80.27**	**348**	P	**P**	**03 33 49.6**	**-0.1**
	comp=Z,9.7nm,1.0s,baz=92,slow=22,SNR=9.3						
	comp=Z,9.7nm,1.0s						
EKA	**Eskdalemuir Ar**	**88.12**	**325**	P	**P**	**03 34 28.2**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=91,slow=5.0,SNR=4.7						
	comp=Z,1.4nm,0.8s						
D19K	**Kuna River**	**89.49**	**21**	P	**P**	**03 34 37.1**	**+0.9**
D19K				IAmb	IAmb	03 34 43.6	
	comp=Z,7.0nm,1.4s						
F20K	**Avaraart Lake**	**90.85**	**22**	P	**P**	**03 34 43.9**	**+1.5**
F20K				IAmb	IAmb	03 34 49.5	
	comp=Z,4.2nm,0.8s						
E21K	**Killik River**	**90.94**	**20**	P	**P**	**03 34 44.2**	**+1.3**
E21K				IAmb	IAmb	03 34 49.8	
	comp=Z,2.2nm,0.8s						
ESDC	**Sonseca Array**	**91.55**	**310**	P	**P**	**03 34 46.3**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=79,slow=5.2,SNR=4.0						
	comp=Z,0.2nm,0.5s						
G21K	**Allakaket**	**91.86**	**22**	P	**P**	**03 34 47.4**	**+0.2**
G21K				IAmb	IAmb	03 34 54.2	
	comp=Z,3.5nm,0.8s						
K20K	**Telida**	**92.88**	**25**	P	**P**	**03 34 53.8**	**+1.8**
CAST	**Castle Rocks**	**93.68**	**24**	P	**P**	**03 34 57.4**	**+1.7**
CAST				IAmb	IAmb	03 35 02.9	
	comp=Z,3.6nm,0.8s						
N19K	**Bonanza Creek**	**93.68**	**27**	P	**P**	**03 34 57.8**	**+2.0**
SUA	**Susitna One**	**95.07**	**26**	P	**P**	**03 35 02.9**	**+0.7**
SUA				IAmb	IAmb	03 35 08.5	
	comp=Z,3.8nm,1.0s						
PDAR	**Pinedale Array**	**125.53**	**21**	PKP	**PKPdf**	**03 40 38.5**	**-2.7**
	comp=Z,0.3nm,0.5s,baz=339,slow=7.4,SNR=5.0						
PLCA	**Paso Flores**	**144.18**	**200**	PKP	**PKPdf**	**03 41 15.0**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=193,slow=6.6,SNR=4.9						
CPUP	**Villa Florida**	**147.07**	**232**	PKPbc	**PKPdf**	**03 41 19.8**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=133,slow=4.3,SNR=3.7						

*IDC **01** 03:22:53.8±0.8, 7.°98N×94.°56E, h0km, mb4.1/14, mbtmp4.1/16, ML3.9/2, Error ellipse: s-maj=27.2km s-min=17.8km az=69.0*
*NEIC **01** 03:22:53.3±1.2, 7.°49N±0.°09×94.°4E±0.°1, h10km±1km, mb4.5/21, Error ellipse: s-maj=21.3km s-min=10.9km az=234.0*
*NDI **01** 03:22:57.0±1.1, 7.°39N×94.°45E, h10km, ML4.0, MW4.4, mb4.6(NEIC)*

ISC 01 03:22:54.8±0.5, 7.°40N±0.°05×94.°42E±0.°06, h24km, n55, σ1§54/54, mb4.4/28, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.63**	**232**	*e*P	**Pb**	**03 23 07.4**	**+0.2**
CMBY				*e*S	**Sb**	**03 23 16.1**	**+0.5**
CMBY				IAML		03 23 17.6	
	comp=N,25μm,0.2s						
CMBY				IAML		03 23 17.8	
	comp=E,18μm,0.2s						
LHMI	**Lhok Sumawe**	**3.31**	**131**	Pn	**Pn**	**03 23 46.8**	**+1.6**
PBA	**Port Blair**	**4.54**	**339**	Pn	**Pn**	**03 24 01.4**	**-0.6**
PBA	**Port Blair**	**4.54**	**339**	*e*P	**Pn**	**03 24 06.1**	**+4.0**
PBA				*i* S	**Sn**	**03 24 57.1**	**+3.0**
PBA				*e*S	**Sn**	**03 24 57.1**	**+3.0**
PBA				IAML		03 25 01.7	
	comp=N,224nm,0.0s						
SRIT	**Nakonsritamara**	**5.26**	**77**	Pn	**Pn**	**03 24 13.2**	**+1.1**
DGPR	**DIGLIPUR**	**5.92**	**346**	*e*P	**Pn**	**03 24 25.5**	**+4.4**
DGPR				*e*S	**Sn**	**03 25 28.1**	**-0.1**
DGPR				IAML		03 25 55.8	
	comp=E,82nm,1.2s						
PSI	**Prapat**	**6.40**	**135**	Pn	Pn	03 24 33.7	+5.9
	comp=E,1.1nm,0.3s,baz=343,slow=14,SNR=1.2						
	comp=E,4.0nm,0.4s						
KULM	**Kulim**	**6.54**	**108**	Pn	**Pn**	**03 24 29.7**	**+0.1**
GSI	**Gunungsitoli**	**6.83**	**152**	Pn	**Pn**	**03 24 34.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**11.84**	**21**	Pn	Pn	03 25 36.0	-6.3
	comp=E,0.4nm,0.3s,baz=205,slow=11,SNR=1.2						
	comp=E,1.2nm,0.3s						
QIZ	**Qiongzhong**	**18.92**	**51**	P	**P**	**03 27 13.4**	**-0.7**
QIZ				S	**Sn**	**03 30 46.2**	**0.0**
QIZ				LR	LR		
	comp=N,960nm,9.9s						
QIZ				LR	LR		
	comp=E,260nm,8.7s						
QIZ				LR	LR		
	comp=Z,290nm,9.3s						
PZH	**PanZhiHua**	**20.23**	**19**	P	Pn	03 27 31.5	+1.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,200nm,5.7s						
SMRI	**Semarang**	**21.48**	**132**	P	**P**	**03 27 41.2**	**-0.7**
NJ2	**Nanjing**	**33.45**	**40**	*e*P	**P**	**03 29 33.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
WUS	**Wushi**	**36.27**	**340**	P	**P**	**03 29 55.1**	**-1.4**
WUS				IAmb	IAmb	03 30 02.0	
	comp=Z,4.9nm,0.6s						
HHC	**Hu-ho-hao-te**	**36.65**	**22**	*e*P	**P**	**03 30 00.5**	**+0.8**
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
WMQ	**Urumqi**	**36.75**	**352**	*e*P	**P**	**03 30 02.0**	**+1.5**
KDJ	**Kajisay**	**37.80**	**339**	P	**P**	**03 30 08.2**	**-1.4**
BJI	**Beijing**	**37.89**	**28**	P	**P**	**03 30 09.6**	**-0.5**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GAR	**Garm**	**38.22**	**329**	P	**P**	**03 30 11.9**	**-1.2**
GAR				IAmb	IAmb	03 30 22.4	
	comp=Z,5.8nm,0.7s						
SIMJ	**Simiganj**	**38.65**	**327**	P	**P**	**03 30 15.4**	**-1.3**
ARSB	**Arslanbob**	**38.78**	**334**	P	**P**	**03 30 17.5**	**-0.4**
ARSB				IAmb	IAmb	03 30 50.2	
	comp=Z,6.4nm,0.9s						
SAUI	**Saumlaki**	**39.82**	**112**	P	**P**	**03 30 26.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.90**	**130**	P	**P**	**03 30 27.6**	**+0.4**
MK31	**Makanchi Array**	**40.61**	**347**	P	**P**	**03 30 31.0**	**-1.8**
MKAR	**Makanchi Array**	**40.61**	**347**	P	**P**	**03 30 31.4**	**-1.3**
MKAR	**Makanchi Array**	**40.61**	**347**	P	**P**	**03 30 31.6**	**-1.2**
	comp=Z,3.0nm,0.7s,baz=163,slow=7.7,SNR=7.4						
	comp=Z,3.0nm,0.7s						
MAKZ	**Makanchi**	**40.69**	**347**	P	**P**	**03 30 32.4**	**-1.1**
SONM	**Songino Array**	**41.56**	**12**	P	**P**	**03 30 39.8**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=178,slow=7.1,SNR=3.8						
	comp=Z,0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**45.07**	**346**	P	**P**	**03 31 08.3**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=171,slow=7.1,SNR=14						
	comp=Z,2.3nm,0.5s						
KURK	**Kurchatov**	**45.13**	**346**	P	**P**	**03 31 08.7**	**-0.6**
KURK				IAmb	IAmb	03 31 16.5	
	comp=Z,4.4nm,0.8s						
ZAA0	**Zalesovo Array**	**47.06**	**352**	P	**P**	**03 31 23.9**	**-0.5**
ZAA0				IAmb	IAmb	03 31 39.5	
	comp=Z,5.4nm,1.1s						
ZALV	**Zalesovo Beam**	**47.06**	**352**	P	**P**	**03 31 23.8**	**-0.6**
ZALV	**Zalesovo Beam**	**47.06**	**352**	P	**P**	**03 31 24.1**	**-0.3**
	comp=Z,1.7nm,0.4s,baz=180,slow=8.7,SNR=4.6						
	comp=Z,1.7nm,0.4s						
WRA	**Warramunga Arr**	**47.76**	**125**	P	**P**	**03 31 33.2**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=302,slow=7.8,SNR=1.7						
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**49.40**	**130**	P	P	03 31 49.2	+6.2
	comp=Z,0.9nm,0.8s,baz=306,slow=7.9,SNR=4.2						
	comp=Z,0.9nm,0.8s						
BVAR	**Borovoye Array**	**49.52**	**341**	P	**P**	**03 31 42.4**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=145,slow=8.8,SNR=5.6						
	comp=Z,2.1nm,0.7s						
BRVK	**Borovoye**	**49.58**	**341**	P	**P**	**03 31 42.7**	**-1.2**
BRVK				IAmb	IAmb	03 31 49.2	
	comp=Z,2.3nm,0.7s						
ABKAR	**Akbulak array**	**50.77**	**331**	P	**P**	**03 31 52.2**	**-0.8**
ABKAR				IAmb	IAmb	03 32 06.9	
	comp=Z,5.6nm,1.4s						
KMBO	**Kilima Mbogo**	**57.65**	**264**	P	**P**	**03 32 47.8**	**+3.7**
	comp=Z,0.8nm,0.6s,baz=88,slow=8.7,SNR=3.9						
	comp=Z,0.8nm,0.6s						
BR131	**Keskin Array S**	**62.95**	**311**	P	**P**	**03 33 19.2**	**-0.6**
BR131				IAmb	IAmb	03 33 51.7	
	comp=Z,6.1nm,1.4s						
BRTR	**Keskin Array B**	**62.95**	**311**	P	**P**	**03 33 18.5**	**-1.3**
BRTR	**Keskin Array B**	**62.95**	**311**	P	**P**	**03 33 17.6**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=124,slow=5.3,SNR=1.5						
TIXI	**Tiksi**	**67.64**	**11**	P	**P**	**03 33 49.0**	**-0.4**
FIA1	**FINESS Array S**	**73.25**	**332**	P	**P**	**03 34 23.7**	**-0.1**
FINES	**FINESS Array B**	**73.25**	**332**	P	**P**	**03 34 23.1**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=112,slow=7.5,SNR=2.4						
	comp=Z,3.8nm,0.9s						
BOSA	**Boshof**	**75.57**	**238**	P	P	03 34 45.3	+7.2
	comp=Z,3.1nm,0.8s,baz=48,slow=15,SNR=6.8						
	comp=Z,3.1nm,0.8s						
GERES	**GERESS Array B**	**78.36**	**318**	P	**P**	**03 34 53.2**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=97,slow=4.0,SNR=3.8						
	comp=Z,0.5nm,0.7s						
KHC	**Kasperske Hory**	**78.45**	**319**	*e*P	P	03 35 03.0	+9.1
HFS	**Hagfors**	**79.00**	**330**	P	**P**	**03 34 55.7**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=112,slow=6.9,SNR=2.0						
	comp=Z,1.5nm,0.6s						
GRA1	**Grafenberg Arr**	**80.00**	**319**	P	**P**	**03 35 02.3**	**-0.1**
GRA1				IAmb	IAmb	03 35 11.2	
	comp=Z,12nm,1.3s						
GRFO	**Grafenberg**	**80.00**	**319**	P	**P**	**03 35 02.1**	**-0.3**
GRFO				IAmb	IAmb	03 35 11.2	
	comp=Z,9.9nm,1.2s						
NOA	**NORSAR Array B**	**80.28**	**331**	P	**P**	**03 35 03.0**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=93,slow=5.6,SNR=3.4						
	comp=Z,1.1nm,0.8s						
SPITS	**Spitsbergen Ar**	**80.35**	**348**	P	**P**	**03 35 02.4**	**-1.3**
	comp=Z,6.1nm,0.9s,baz=103,slow=7.0,SNR=5.1						
	comp=Z,6.1nm,0.9s						
K20K	**Telida**	**92.85**	**25**	P	**P**	**03 36 07.2**	**+1.8**
K20K				IAmb	IAmb	03 36 08.5	
	comp=Z,3.2nm,0.9s						

DJA 01 03:26:33.6±0.5, 6.°S±18.°×11.°0E±.°, h557km±9km, M3.9/16, mB4.7/4, mb4.1/5, MLv3.8/16, Mw(mB)3.9/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.64**	**158**	P	P	03 27 42.6	0.0
UGM				S	S	03 28 39.6	+1.0
TBJI	**Tambak Boyo**	**1.98**	**103**	P	P	03 27 43.6	-0.3
CMJI	**Cimerak**	**2.00**	**226**	P	P	03 27 44.1	+0.1
CMJI				S	S	03 28 40.7	-0.5
PCJI	**Pacitan**	**2.20**	**145**	P	P	03 27 45.5	+0.6
PCJI				S	S	03 28 43.1	+0.3
GRJI	**Gresik**	**2.62**	**102**	P	P	03 27 46.7	-0.3
CNJI	**Cibinong**	**2.90**	**251**	P	P	03 27 49.1	+0.5
CNJI				S	S	03 28 48.3	-1.3
GMJI	**Gumukmas**	**3.99**	**118**	P	P	03 27 53.9	-2.0
KMMI	**Kalianget**	**4.09**	**100**	P	P	03 27 56.5	-0.2
CGJI	**Cibinong**	**4.19**	**267**	P	P	03 27 57.4	0.0
TPI	**Tanjungpandan**	**4.24**	**328**	P	P	03 27 53.7	-4.1
JAGI	**Jajag, Banyuwa**	**4.70**	**116**	P	P	03 28 01.3	-0.1
JAGI				S	S	03 29 12.7	-0.4
KASI	**Kota Agung**	**5.44**	**279**	P	P	03 28 06.8	-0.8
SRBI	**Singaraja**	**5.54**	**108**	P	P	03 28 09.3	+0.8
	0.2nm65nm,0.6s						
MDSI	**Maura Dua**	**6.00**	**288**	P	P	03 28 12.7	+0.1
MNAI	**Manna**	**7.20**	**286**	P	P	03 28 23.9	+0.1
PLAI	**Plampang**	**8.18**	**108**	P	P	03 28 32.8	-0.5

*IDC **01** 03:36:04.0±0.6, 15.°53N×93.°01W, h95km±5km, mb3.9/11, mbtmp4.3/14, MS3.5/6, Error ellipse: s-maj=21.3km s-min=7.2km az=49.0*
*GCG **01** 03:36:03.9±1.9, 15.°51N×93.°14W, h94km±15km, MD4.9, MW4.4*
*GCMT **01** 03:36:03.7±0.8, 15.°58N±0.°04×93.°16W±0.°04, h72km±5km, MW4.8/73, Moment Tensor Solution. s8, c8; s73, c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.19±.13; Mθθ1.00±.11; Mφφ0.18±.12; Mrθ0.64±.06; Mrφ=-0.70±.08; Mθφ=0.85±.06; Best double couple: Mo1.68000×10^16 NP1:φs103.00000°, δ29.00000°, λ=-119.00000°. NP2: φs315.00000°, δ65.00000°, λ=-75.00000°. Principal axes: T 1.7340, Plg19.0000°, Azm34.0000°; N -0.1120, Plg14.0000°, Azm129.0000°; P -1.6270, Plg66.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*CATAC **01** 03:36:04.2±0.6, 15.°N±4.°×9.°3W±.°, h20km±5km, M5.1/18, mb4.7/1, MLv5.2/18 Error ellipse: s-maj=8.2km s-min=4.2km az=26.3, confirmed*
*NEIC **01** 03:36:05.7±2.1, 15.°51N±0.°05×93.°02W±0.°03, h94km±4km, mb4.6/287, Md4.7/118(MEX), Error ellipse: s-maj=8.1km s-min=2.8km az=203.0*
*MEX **01** 03:36:05.0±0.9, 15.°47N×93.°15W, h101km±6km, MD4.7*
*SNET **01** 03:36:06.9±1.2, 15.°69N×92.°75W, h123km±14km, ML4.7*

ISC 01 03:36:04.3±0.5, 15.°50N±0.°03×93.°13W±0.°03, h96km±4km, n702, σ2§17/713, mb4.6/108, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.22**	**338**		**Pn**	**03 36 18.0**	**-0.2**
PCIG					**Sn**	**03 36 28.9**	**+0.4**
PCIG		**0.22**	**338**	*e*P	**Pn**	**03 36 18.0**	**-0.2**
PCIG				*e*S	**Sn**	**03 36 28.9**	**+0.4**
PATR	**El Naranjo**	**0.94**	**113**	*e*P	**Pn**	**03 36 23.5**	**-0.6**
PATR				*e*S	**Sn**	**03 36 38.0**	**-1.0**
PAVE	**Pavencul**	**0.97**	**108**	*e*P	**Pn**	**03 36 24.2**	**-0.2**
PAVE				*e*S	**Sn**	**03 36 39.5**	**+0.1**
THIG		**1.02**	**125**		**Pn**	**03 36 24.5**	**-0.1**
THIG					**Sn**	**03 36 39.9**	**-0.2**
THIG		**1.02**	**125**	*e*P	**Pn**	**03 36 24.5**	**-0.1**
THIG				*e*S	**Sn**	**03 36 39.9**	**-0.2**
THIG		**1.02**	**125**	*i* P	**Pn**	**03 36 24.6**	**-0.1**
THIG				*i* S	**Sn**	**03 36 40.5**	**+0.5**
SMCA	**Catarina**	**1.20**	**122**	*e*P	**Pn**	**03 36 26.3**	**-0.5**
SMCA				*e*S	**Sn**	**03 36 43.0**	**-0.8**
CCIG	**Comitan**	**1.23**	**51**	Pn	**Pn**	**03 36 27.9**	**+0.5**
CCIG				Sn	**Sn**	**03 36 43.9**	**-0.8**
CCIG	**Comitan**	**1.23**	**51**	*e*P	**Pn**	**03 36 28.1**	**+0.7**
CCIG				*e*S	**Sn**	**03 36 45.4**	**+0.6**
CCIG	**Comitan**	**1.23**	**51**	*e*P	**Pn**	**03 36 28.1**	**+0.7**
CCIG				*e*S	**Sn**	**03 36 44.8**	**0.0**
CCIG	**Comitan**	**1.23**	**51**	P	**Pn**	**03 36 28.9**	**+1.5**
TGIG		**1.27**	**0**		**Pn**	**03 36 28.4**	**+0.6**
TGIG					**Sn**	**03 36 44.6**	**-0.8**
TGIG		**1.27**	**0**	*e*P	**Pn**	**03 36 28.4**	**+0.6**
TGIG				*e*S	**Sn**	**03 36 44.6**	**-0.8**
TGIG		**1.27**	**0**	*e*P	**Pn**	**03 36 28.1**	**+0.4**
HUEH	**Huehuetenango**	**1.58**	**96**	Pn	**Pn**	**03 36 31.7**	**0.0**
HUEH				Sn	**Sn**	**03 36 51.1**	**-1.3**
HUEH	**Huehuetenango**	**1.58**	**96**	*e*P	**Pn**	**03 36 32.0**	**+0.3**
HUEH				*e*S	**Sn**	**03 36 51.3**	**-1.0**
HUEH	**Huehuetenango**	**1.58**	**96**	*e*P	**Pn**	**03 36 32.1**	**+0.5**
HUEH				*e*S	**Sn**	**03 36 53.4**	**+1.0**
HUEH	**Huehuetenango**	**1.58**	**96**	*e*P	**Pn**	**03 36 32.2**	**+0.6**
HUEH				*e*S	**Sn**	**03 36 53.2**	**+0.9**
HUEH	**Huehuetenango**	**1.58**	**96**	P	**Pn**	**03 36 32.2**	**+0.6**
RTAL	**Retalhuleu**	**1.69**	**125**	Pn	**Pn**	**03 36 33.1**	**+0.3**
RTAL				Sn	**Sn**	**03 36 53.3**	**-1.2**
RTAL	**Retalhuleu**	**1.69**	**125**	*e*P	**Pn**	**03 36 32.7**	**-0.1**
RTAL				*e*S	**Sn**	**03 36 54.0**	**-0.5**
RTAL	**Retalhuleu**	**1.69**	**125**	P	**Pn**	**03 36 33.5**	**+0.7**
RTAL	**Retalhuleu**	**1.69**	**125**	S	**Sn**	**03 36 54.9**	**+0.4**
SOKI	**Kika Raxquin**	**1.80**	**112**	*e*P	**Pn**	**03 36 35.6**	**+1.0**
SOKI				*i* S	**Sn**	**03 37 02.4**	**+4.8**
STG8	**El Palmar, Qui**	**2.01**	**121**	*e*P	**Pn**	**03 36 32.6**	**-4.5**
STG0	**El Palmar, Qui**	**2.03**	**121**	*e*P	**Pn**	**03 36 33.1**	**-4.3**
STG0				*e*S	**Sn**	**03 36 56.4**	**-6.1**
UXUV	**UXUV**	**2.06**	**332**	*e*P	**Pn**	**03 36 38.8**	**+1.3**
UXUV				*e*S	**Sn**	**03 36 59.7**	**-3.1**
CMIG	**Matias Romero**	**2.31**	**314**		**Pn**	**03 36 41.4**	**+0.6**
CMIG					**Sn**	**03 37 03.6**	**-5.3**
CMIG	**Matias Romero**	**2.31**	**314**	P	**Pn**	**03 36 42.5**	**+1.6**
	159nm,0.3s,baz=140,slow=13,SNR=23						
CMIG				S	**Sn**	**03 37 09.3**	**+0.4**
	2μm,0.5s,baz=106,slow=13,SNR=12						
CMIG				LR	LR	03 37 43.0	
	comp=Z,320nm,19.9s,baz=6.5,slow=42						
CMIG	**Matias Romero**	**2.31**	**314**	*e*P	**Pn**	**03 36 41.4**	**+0.6**
CMIG				*e*S	**Sn**	**03 37 03.6**	**-5.3**
VHSA	**Villahermosa**	**2.48**	**4**	*e*P	**Pn**	**03 36 45.0**	**+1.9**
VHSA				*e*S	**Sn**	**03 37 13.0**	**+0.3**
AVCB	**Coban**	**2.63**	**90**	*e*P	**Pn**	**03 36 45.2**	**0.0**
AVCB				*i* S	**Sn**	**03 37 15.8**	**-0.8**
GCG4	**OSOP**	**2.67**	**109**	*e*P	**Pn**	**03 36 46.7**	**+1.0**
TUIG	**Tuzandepetl**	**2.81**	**334**	*e*P	**Pn**	**03 36 47.6**	**+0.2**
TUIG				*e*S	**Sn**	**03 37 14.6**	**-6.1**
HUIG	**Huatulco**	**2.88**	**276**		**Pn**	**03 36 46.9**	**-1.5**
HUIG					**Sn**	**03 37 16.2**	**-6.2**
HUIG	**Huatulco**	**2.88**	**276**	*e*P	**Pn**	**03 36 46.9**	**-1.5**
HUIG				*e*S	**Sn**	**03 37 16.2**	**-6.2**
HUIG	**Huatulco**	**2.88**	**276**	*i* P	**Pn**	**03 36 47.0**	**-1.5**
PANG	**Puerto Angel**	**3.23**	**273**		**Pn**	**03 36 55.2**	**+2.1**
PANG					Sn	03 37 21.0	-10
PANG	**Puerto Angel**	**3.23**	**273**	*e*P	**Pn**	**03 36 55.2**	**+2.1**
PANG				*i* S	Sn	03 37 21.0	-10
NEUV	**Arroyo Zacate**	**3.38**	**311**	*e*P	**Pn**	**03 36 55.6**	**+0.6**
NEUV				*e*S	**Sn**	**03 37 27.4**	**-6.9**
FAME	**Alcaldia de Sa**	**3.44**	**118**	S	**Sn**	**03 37 35.9**	**+0.2**
PETF	**Flores**	**3.44**	**65**	Pn	**Pn**	**03 36 56.3**	**+0.4**
PETF				Sn	**Sn**	**03 37 33.5**	**-2.3**
PETF	**Flores**	**3.44**	**65**	*e*P	**Pn**	**03 36 56.6**	**+0.7**
PETF				*e*S	**Sn**	**03 37 34.2**	**-1.5**
PETF	**Flores**	**3.44**	**65**	*e*P	**Pn**	**03 36 56.6**	**+0.7**
PETF				*e*S	**Sn**	**03 37 35.0**	**-0.8**
SLOZ	**Alcaldia de Sa**	**3.55**	**114**	P	**Pn**	**03 36 58.5**	**+1.0**
LOAL	**Lomas de Alarc**	**3.57**	**114**	S	**Sn**	**03 37 41.9**	**+2.9**
LOAL	**Lomas de Alarc**	**3.57**	**114**	P	**Pn**	**03 36 58.6**	**+0.9**
PMUV	**Sontecomapan**	**3.58**	**328**	*e*P	**Pn**	**03 36 55.9**	**-2.0**
PMUV				*e*S	**Sn**	**03 37 35.8**	**-3.5**
NUBE	**Las Nubes**	**3.61**	**116**	*e*P	**Pn**	**03 36 58.5**	**+0.1**
NUBE	**Las Nubes**	**3.61**	**116**	P	**Pn**	**03 36 58.7**	**+0.4**
NUBE	**Las Nubes**	**3.61**	**116**	S	**Sn**	**03 37 42.5**	**+2.4**
OXLC	**Oaxaca**	**3.77**	**295**	*e*P	**Pn**	**03 37 02.5**	**+2.0**
OXLC				*e*S	Sn	03 37 34.6	-9.4
CEVE	**Cerro Verde**	**3.78**	**116**	*e*P	**Pn**	**03 37 02.6**	**+1.9**
CEVE				*e*S	**Sn**	**03 37 44.6**	**+0.2**
CEVE				IAML		03 37 54.8	
	comp=Z,3μm,0.5s						
CEVE	**Cerro Verde**	**3.78**	**116**	P	**Pn**	**03 37 03.0**	**+2.3**
CEVE	**Cerro Verde**	**3.78**	**116**	S	**Sn**	**03 37 48.7**	**+4.4**
UNIC	**Universidad Ca**	**3.78**	**113**	P	**Pn**	**03 37 01.4**	**+0.8**
UNIC	**Universidad Ca**	**3.78**	**113**	S	**Sn**	**03 37 46.8**	**+2.7**
OXBJ	**Oaxaca**	**3.79**	**295**		**Pn**	**03 37 02.1**	**+1.3**
OXBJ					**Sn**	**03 37 41.8**	**-2.7**
OXBJ	**Oaxaca**	**3.79**	**295**	*i* P	**Pn**	**03 37 02.1**	**+1.3**
OXBJ				*i* S	**Sn**	**03 37 41.8**	**-2.7**
OXIG	**Oaxaca**	**3.80**	**295**		**Pn**	**03 37 02.5**	**+1.6**
OXIG					**Sn**	**03 37 37.5**	**-7.3**
VHO	**Vista Hermosa**	**3.80**	**295**	*e*P	**Pn**	**03 37 02.5**	**+1.6**
VHO				*e*S	**Sn**	**03 37 37.5**	**-7.3**
MTO3	**Montecristo**	**3.80**	**106**	Pn	**Pn**	**03 37 00.3**	**-0.7**
MTO3	**Montecristo**	**3.80**	**106**	P	**Pn**	**03 37 00.9**	**-0.2**
PEIG	**Puerto Escondi**	**3.90**	**278**		**Pn**	**03 37 01.1**	**-1.1**
PEIG					**Sn**	**03 37 40.5**	**-6.4**
PEIG	**Puerto Escondi**	**3.90**	**278**	*e*P	**Pn**	**03 37 01.1**	**-1.1**
PEIG				*e*S	**Sn**	**03 37 40.5**	**-6.4**
SCIG	**Sabancuy**	**3.92**	**28**	*e*P	**Pn**	**03 37 02.5**	**+0.2**
SCIG				*e*S	Sn	03 37 30.7	-17
SCIG	**Sabancuy**	**3.92**	**28**	*e*P	**Pn**	**03 37 02.6**	**+0.2**
CEDA	**San Andres**	**3.99**	**114**	IAML		03 38 07.8	
	comp=Z,1μm,0.6s						
CEDA	**San Andres**	**3.99**	**114**	P	**Pn**	**03 37 04.5**	**+1.1**
JAYA	**Jayaque - finc**	**4.01**	**117**	*e*P	**Pn**	**03 37 04.9**	**+1.1**
JAYA	**Jayaque - finc**	**4.01**	**117**	*e*P	**Pn**	**03 37 03.8**	**0.0**
JAYA				*e*S	**Sn**	**03 37 50.3**	**+0.5**
JAYA	**Jayaque - finc**	**4.01**	**117**	P	**Pn**	**03 37 04.2**	**+0.4**
JAYA	**Jayaque - finc**	**4.01**	**117**	S	**Sn**	**03 37 52.5**	**+2.7**
PMON	**Piamonte**	**4.10**	**115**	P	**Pn**	**03 37 05.9**	**+0.9**
PMON	**Piamonte**	**4.10**	**115**	S	**Sn**	**03 37 56.4**	**+4.5**
BOQS	**Boqueron**	**4.12**	**115**	*e*P	**Pn**	**03 37 06.7**	**+1.3**
ITCA	**Escuela Especi**	**4.15**	**115**	S	**Sn**	**03 37 55.1**	**+2.0**
UEES	**Universidad Ev**	**4.16**	**115**	P	**Pn**	**03 37 07.6**	**+1.8**
UEES	**Universidad Ev**	**4.16**	**115**	S	**Sn**	**03 37 56.3**	**+2.9**
SEMO	**Seminario San**	**4.18**	**115**	S	**Sn**	**03 37 56.8**	**+2.9**
LALI	**Alcalda de L**	**4.20**	**118**	P	**Pn**	**03 37 07.3**	**+1.1**
LALI	**Alcalda de L**	**4.20**	**118**	S	**Sn**	**03 37 56.2**	**+2.1**
UTEC	**Universidad Te**	**4.20**	**115**	P	**Pn**	**03 37 07.3**	**+1.0**
UTEC	**Universidad Te**	**4.20**	**115**	S	**Sn**	**03 37 57.3**	**+3.0**
IGN	**Direccin Gen**	**4.22**	**114**	P	**Pn**	**03 37 07.8**	**+1.2**
IGN	**Direccin Gen**	**4.22**	**114**	S	**Sn**	**03 37 59.1**	**+4.2**
UDBS	**Universidad Do**	**4.24**

MEIG Sn 03 38 49.0 -5.5
MEIG Mezcala 6.67 292 eP Pn 03 37 41.9 +2.1
MEIG eS Sn 03 38 49.0 -5.5
PLIG Platanillo 6.74 296 Pn 03 37 43.7 +2.9
PLIG Sn 03 38 52.1 -4.1
PLIG Platanillo 6.74 296 eP Pn 03 37 43.7 +2.9
PLIG eS Sn 03 38 52.1 -4.1
CNGN Cerro Negro 6.92 115 Pn Pn 03 37 43.8 +0.6
AOVM Tlapan 7.00 303 Pn 03 37 47.5 +2.8
AOVM Sn 03 38 59.3 -3.7
AOVM Tlapan 7.00 303 eP Pn 03 37 47.5 +2.8
AOVM i S Sn 03 38 59.3 -3.7
CAIG El Cayaco 7.03 284 Pn 03 37 44.9 +0.3
CAIG Sn 03 38 53.2 -10
CAIG El Cayaco 7.03 284 eP Pn 03 37 44.9 +0.3
CAIG eS Sn 03 38 53.2 -10
DEIG Demacu 7.38 311 eP Pn 03 37 52.9 +3.3
DEIG eS Sn 03 39 09.4 -2.5
DHIG Demacu 7.38 311 Pn 03 37 52.9 +3.3
DHIG Sn 03 39 09.4 -2.5
ARIG Puente Sto Nin 7.44 293 Pn 03 37 53.3 +3.0
ARIG Sn 03 39 06.3 -6.9
ARIG Puente Sto Nin 7.44 293 eP Pn 03 37 53.3 +3.0
ARIG eS Sn 03 39 06.3 -6.9
MGAN Managua 7.47 116 Pn Pn 03 37 48.8 -1.9
CTUV Llano Grande 7.74 321 i P Pn 03 37 43.4 -11
CTUV eS Sn 03 39 15.3 -5.0
BOAB BOACO BROADBAN 7.85 112 Pn Pn 03 37 55.8 -0.1
ZIIG Zihuatanejo 8.26 286 Pn 03 38 03.3 +1.8
ZIIG Sn 03 39 28.1 -5.0
ZIIG Zihuatanejo 8.26 286 eP Pn 03 38 03.3 +1.8
ZIIG i S Sn 03 39 28.1 -5.0
ACON Acoyapa 8.49 113 Pn Pn 03 38 04.0 -0.6
LCRUZ La Cruz 8.52 120 eP Pn 03 38 06.7 +1.7
JRQG Juriquilla Cam 8.67 308 Pn Pn 03 38 11.5 +4.3
MOIG Morelia 8.74 300 Pn Pn 03 38 12.9 +4.8
ELI1 Hacienda Flor 8.82 122 eP Pn 03 38 10.7 +1.6
ALIBA Liberia Airpor 8.85 123 eP Pn 03 38 10.6 +1.1
RPIG Rio Verde 9.08 315 Pn 03 38 14.2 +1.5
RPIG Sn 03 39 52.4 -0.9
RPIG Rio Verde 9.08 315 eP Pn 03 38 14.2 +1.5
RPIG eS Sn 03 39 52.4 -0.9
HORNC Hornillas 9.09 121 eP Pn 03 38 12.9 +0.1
COLC Colonia 9.09 121 eP Pn 03 38 13.3 +0.5
BAGA Bagaces 9.12 122 eP Pn 03 38 16.2 +3.1
CUI Cuipilapa 9.13 121 eP Pn 03 38 13.8 +0.4
VERA Finca Concepci 9.28 119 eP Pn 03 38 14.4 -0.8
QUEB Quebradon, Cot 9.37 120 eP Pn 03 38 16.1 -0.5
NYURE Nandayure 9.43 125 eP Pn 03 38 18.0 +0.6
JUNT Juntas 9.50 122 eP Pn 03 38 18.8 +0.4
JTS Las Juntas de 9.50 122 Pn Pn 03 38 17.9 -0.5
JTS Las Juntas de 9.50 122 P Pn 03 38 17.0 -1.4
comp=Z,64nm,0.8s,baz=279,slow=9.7,SNR=37
JTS S Sn 03 40 00.3 -3.2
comp=Z,3.1nm,0.3s,baz=295,slow=19,SNR=0.8
JTS Las Juntas de 9.50 122 eP Pn 03 38 18.6 +0.1
ARE1 Arenal 1 9.60 120 eP Pn 03 38 19.8 0.0
VARE2 V. Arenal 9.60 120 eP Pn 03 38 20.8 +1.0
JCR1 Jicaral 9.63 125 eP Pn 03 38 21.8 +1.6
VACR Volcan Arenal 9.63 120 eP Pn 03 38 20.9 +0.7
SOCE Pocosol 9.73 120 Pn Pn 03 38 21.3 -0.2
SOCE Pocosol 9.73 120 eP Pn 03 38 21.4 -0.1
VPL3 V. Platanar 10.01 120 eP Pn 03 38 25.4 +0.1
RAMO San Ramon 10.01 121 eP Pn 03 38 27.4 +1.9
TRB2 Turrubares 10.12 122 eP Pn 03 38 28.1 +1.2
BELE Belen 10.30 121 eP Pn 03 38 29.6 +0.2
VBV1 V. Barva 10.30 120 eP Pn 03 38 29.4 -0.2
HDC Heredia 10.35 121 Pn Pn 03 38 30.2 +0.1
HDC Heredia 10.35 121 eP Pn 03 38 31.4 +1.3
PICV PH. Pirrs 10.49 123 eP Pn 03 38 32.7 +0.8
PISJ San Jernim 10.55 122 eP Pn 03 38 33.2 +0.5
CVTG V. Turrialba, 10.56 119 eP Pn 03 38 32.3 -0.6
ABE2 San Pablo 10.56 122 eP Pn 03 38 33.4 +0.3
LCR2 La Lucha 2 10.58 122 Pn Pn 03 38 32.7 -0.6
LCR2 La Lucha 2 10.58 122 eP Pn 03 38 33.7 +0.4
VICA Volcano Irazu 10.59 120 eP Pn 03 38 33.7 +0.2
RAFA San Farael, Vo 10.63 120 eP Pn 03 38 34.2 +0.3
VTLA Turrialba Volc 10.63 120 eP Pn 03 38 34.7 +0.6
CVTV Tajo 10.65 120 eP Pn 03 38 32.3 -2.0
PIEC Cerro El Cedra 10.69 122 eP Pn 03 38 35.3 +0.5
MNGA Volcan de Coli 10.76 293 eP Pn 03 38 39.3 +3.6
MNGA eS Sn 03 40 41.9 +7.6
INCO Volcan de Coli 10.76 293 eP Pn 03 38 41.9 +6.0
INCO eS Sn 03 40 38.7 +4.1
SOMAC Volcano de Col 10.79 293 eP Pn 03 38 40.9 +4.8
SOMAC eS Sn 03 40 44.0 +8.9
CEGR Campo Tres 10.94 292 eP Pn 03 38 42.5 +4.4
CEGR eS Sn 03 40 40.8 +2.1
LNIG Linares 11.08 329 eP Pn 03 38 36.6 -3.2
LNIG eS Sn 03 40 36.1 -5.7
SAJE San Jernim 11.21 122 eP Pn 03 38 41.7 0.0
DRK0 Durika 11.47 122 eP Pn 03 38 44.8 -0.5
FIMO Fila Mora 11.54 123 eP Pn 03 38 46.3 +0.2
PRVC Isla de Provid 11.59 99 Pn Pn 03 38 45.5 -1.2
EDP2 Potrero Grande 11.66 122 eP Pn 03 38 47.9 +0.2
PIRO Carate, Puerto 11.89 125 eP Pn 03 38 52.9 +2.2
ALCO Alturas Coton, 11.98 122 eP Pn 03 38 51.2 -0.9
SOR Soroa 12.00 51 Pn Pn 03 38 49.8 -2.4
PBC Punta Burica 12.08 124 Pn 03 38 42.1 -11
735A Kenedy 13.98 343 Pn Pn 03 39 19.4 +1.2
HKT Hockley 14.60 351 Pn Pn 03 39 26.7 +0.6
HNDO Hondo 15.07 339 Pn Pn 03 39 32.8 +0.6
HNDO IAmb IAmb 03 40 10.6
comp=Z,33nm,0.8s
MTDJ Mount Denham 15.17 78 P P 03 39 37.1 +0.6
441A DeRidder 15.18 360 Pn P 03 39 35.5 -0.9
061Z Ochoppi 15.39 46 Pn Pn 03 39 34.5 -1.7
DRIO Del Rio 15.48 335 Pn P 03 39 38.9 -0.9
435B Jarrell 15.75 346 IAmb IAmb 03 40 27.5
comp=Z,40nm,1.2s
JCT Junction City 16.12 339 IAmb IAmb 03 40 23.8
comp=Z,23nm,0.8s
HPIG 16.30 316 P 03 39 50.5 +1.5
CHIV Chivirico 16.53 72 Pn Pn 03 39 48.8 -1.7
CHIV IAmb IAmb 03 39 54.8
comp=Z,29nm,0.8s
DWPF Disney Wildern 16.58 39 Pn Pn 03 39 49.7 -1.4
BRDY Brady 16.61 342 IAmb IAmb 03 40 35.7
comp=Z,41nm,1.4s
553A Crawfordville 16.66 27 Pn Pn 03 39 51.5 -0.5
TXAR Lajitas Array 16.85 327 P 03 39 57.7 +2.7
TXAR Lajitas Array 16.85 327 P P 03 39 56.4 +1.4
comp=Z,11nm,0.9s,baz=153,slow=14,SNR=43
TXAR S S 03 43 04.2 -1.8
comp=Z,0.3nm,0.6s,baz=128,slow=20,SNR=1.6
WHTX Lake Whitney, 16.89 347 P 03 39 56.0 +0.8
WHTX IAmb IAmb 03 40 29.6
comp=Z,30nm,0.6s
656A Willston 16.91 33 Pn 03 39 54.9 -0.2
OZNA Ozona 17.01 336 IAmb IAmb 03 40 33.1
comp=Z,42nm,1.3s
143A Socs Landing, 17.20 5 P 03 39 58.8 +0.1
143A IAmb IAmb 03 40 03.6
comp=Z,65nm,1.2s
FW14 Alvarado 17.23 348 IAmb IAmb 03 40 40.9
comp=Z,42nm,0.8s
146A Union 17.46 12 Pn 03 40 02.7 +0.9
146A IAmb IAmb 03 40 37.9
comp=Z,34nm,0.8s
250A Grady 17.56 20 P Pn 03 40 03.0 +0.1
FW07 Weatherford 17.64 347 P Pn 03 40 05.9 +2.0
ALPN Alpine 17.67 329 P Pn 03 40 06.7 +2.2
Z41A Richland Creek 17.69 1 P Pn 03 40 05.0 +0.5
GTBY Guantanamo Bay 17.72 73 IAmb IAmb 03 40 14.5
comp=Z,49nm,0.8s
Z38A Mt. Pleasant 17.77 355 IAmb IAmb 03 40 09.3
comp=Z,30nm,0.9s
FW06 Azle 17.86 348 P P 03 40 06.2 +0.3
PLPT Palo Pinto 17.87 346 IAmb IAmb 03 40 41.6
comp=Z,28nm,0.7s
SGCY Sterling City 17.89 337 P Pn 03 40 08.1 +1.0
NMDO Nuevo Mundo 17.97 71 IAmb IAmb 03 40 19.9
comp=Z,18nm,0.8s
ABTX Abilene, Hawle 18.05 342 IAmb IAmb 03 40 43.0
comp=Z,67nm,1.3s
MNHN Monahans 18.06 333 IAmb IAmb 03 40 45.9
comp=Z,25nm,0.9s
WLAR White Oak Lake 18.11 0 IAmb IAmb 03 40 13.2
comp=Z,62nm,1.1s
Z35A Perchaven, San 18.14 349 P Pn 03 40 10.0 0.0
Z35A IAmb IAmb 03 40 48.1
comp=Z,24nm,0.9s

LPIG La Paz 18.27 301 LR LR 03 46 29.7
comp=Z,176nm,19.3s,baz=54,slow=34
LRAL Lakeview Retre 18.33 17 P Pn 03 40 11.5 -0.6
LRAL IAmb IAmb 03 40 18.4
comp=Z,51nm,1.2s
PECS Pecos 18.60 330 P Pn 03 40 17.1 +1.6
PECS IAmb IAmb 03 40 52.7
comp=Z,21nm,1.0s
ODSA Odessa 18.64 334 IAmb IAmb 03 40 19.3
comp=Z,19nm,0.8s
SN05 Snyder 5 18.68 339 IAmb IAmb 03 40 49.9
comp=Z,38nm,1.3s
VHRN Van Horn 18.70 327 P Pn 03 40 18.3 +1.6
152A Waverly Hall 18.73 23 IAmb IAmb 03 40 40.6
comp=Z,19nm,0.6s
APMT Aspermont 18.85 342 IAmb IAmb 03 40 52.5
comp=Z,34nm,1.1s
SN07 Snyder 07 18.88 339 IAmb IAmb 03 40 51.9
comp=Z,34nm,1.0s
MIAR Mount Ida 18.97 359 P P 03 40 18.1 0.0
POST Post 19.07 338 IAmb IAmb 03 40 54.2
comp=Z,43nm,1.2s
UALR University of 19.21 2 P P 03 40 20.8 +0.1
UALR IAmb IAmb 03 40 46.3
comp=Z,32nm,0.8s
Y49A Blount Mountai 19.26 17 P P 03 40 21.1 -0.2
Y49A IAmb IAmb 03 40 43.9
comp=Z,23nm,0.7s
HTMS Hat Mesa 19.41 332 P Pn 03 40 25.1 -0.1
X34A Smith Ranch, M 19.49 348 P Pn 03 40 26.7 +0.8
X34A IAmb IAmb 03 41 10.8
comp=Z,29nm,1.0s
X48A Hartselle 19.65 15 P P 03 40 25.9 +0.3
X48A IAmb IAmb 03 40 31.4
comp=Z,36nm,0.8s
WHAR Wooly Hollow 19.73 2 IAmb IAmb 03 40 33.4
comp=Z,31nm,1.2s
WMOK Wichita Mounta 19.82 346 IAmb IAmb 03 41 05.2
comp=Z,26nm,1.1s
GOGA Godfrey 19.87 24 P P 03 40 27.2 -0.6
GOGA IAmb IAmb 03 40 40.8
comp=Z,32nm,0.9s
PLAL Pickwick Lake 19.93 12 P Pn 03 40 30.2 -0.9
FPAL Fort Paine 20.14 18 IAmb IAmb 03 40 54.8
comp=Z,20nm,0.9s
MSTX Muleshoe 20.35 336 IAmb IAmb 03 41 09.5
comp=Z,34nm,1.1s
X51A Calhoun 20.40 20 IAmb IAmb 03 40 39.8
comp=Z,31nm,0.9s
TUL3 Leonard 20.47 354 P P 03 40 35.3 +1.0
TUL3 IAmb IAmb 03 41 13.4
comp=Z,54nm,1.2s
LCAR Lake Charles 20.56 5 IAmb IAmb 03 40 50.1
comp=Z,15nm,0.7s
CSTR Hydro, Custer 20.67 347 P P 03 40 36.3 -0.3
PEBM Pemiscott Bayo 20.74 7 P P 03 40 38.5 +1.3
W50A Signal Mountai 20.84 18 P P 03 40 39.8 +1.4
W50A IAmb IAmb 03 41 02.7
comp=Z,30nm,0.9s
V48A Smith Brothers 20.93 14 P P 03 40 39.9 +0.5
V48A IAmb IAmb 03 41 02.5
comp=Z,34nm,1.3s
OTAV Otavalo 20.98 135 eP P 03 40 40.9 +0.4
HODGE Hodges 21.07 26 IAmb IAmb 03 40 56.0
comp=Z,22nm,0.9s
WVT Waverly 21.09 12 P P 03 40 41.6 +0.6
WVT IAmb IAmb 03 40 47.6
comp=Z,24nm,0.7s
OK048 Pawnee Station 21.11 351 IAmb IAmb 03 41 17.9
comp=Z,47nm,1.0s
SDDR Presa de Saban 21.14 77 P P 03 40 41.0 -0.8
SDDR IAmb IAmb 03 41 10.3
comp=Z,27nm,0.8s
ELIS Ellis County 21.24 346 IAmb IAmb 03 41 24.0
comp=Z,40nm,1.1s
ROSC El Rosal 21.31 118 P P 03 40 43.7 -0.2
CPCT Cooper Cave 21.32 20 P P 03 40 43.0 -0.5
CLTN Cedars of Leba 21.39 15 P P 03 40 45.1 +0.9
OK038 West end E0370 21.49 348 P P 03 40 46.2 +0.9
OK038 IAmb IAmb 03 41 19.8
comp=Z,35nm,1.0s
T42A Van Buren 21.52 4 P P 03 40 45.7 +0.1
MGMO Mountain Grove 21.59 2 IAmb IAmb 03 41 24.5
comp=Z,19nm,0.8s
319A Douglas 21.62 320 P P 03 40 49.0 +2.1
319A IAmb IAmb 03 41 23.9
comp=Z,16nm,0.9s
NOKA Waynoka 21.68 347 IAmb IAmb 03 41 24.9
comp=Z,33nm,0.9s
OK032 Salt Plains WL 21.70 349 IAmb IAmb 03 41 21.6
comp=Z,24nm,0.8s
SC01 Santiago de lo 21.72 76 P P 03 40 47.4 -0.5
TKL Tuckaleechee C 21.75 21 P P 03 40 50.1 +1.9
TKL IAmb IAmb 03 41 06.2
comp=Z,29nm,0.8s
TKL Tuckaleechee C 21.75 21 P P 03 40 48.5 +0.4
comp=Z,3.8nm,0.6s,baz=198,slow=13,SNR=8.7
comp=Z,3.8nm,0.6s
T45A Paducah 21.80 10 P P 03 40 46.4 -2.2
KAN17 Caldwell West 21.85 350 P P 03 40 48.9 -0.2
KAN17 IAmb IAmb 03 41 23.0
comp=Z,28nm,1.0s
RUSC La Rusia 21.87 114 P P 03 40 49.5 -0.6
KAN09 Caldwell North 21.92 350 IAmb IAmb 03 41 01.4
comp=Z,22nm,0.8s
U49A Red Boiling Sp 21.93 16 IAmb IAmb 03 40 59.1
comp=Z,36nm,1.1s
FLOC Florencia 22.10 127 P P 03 40 51.3 -0.7
FLOC IAmb IAmb 03 41 29.6
comp=Z,54nm,1.3s
V53A Saluda 22.11 23 IAmb IAmb 03 41 11.4
comp=Z,34nm,0.8s
BIRD Birdtown, Kers 22.21 29 IAmb IAmb 03 41 10.0
comp=Z,36nm,1.0s
KMSC Kings Mountain 22.24 26 IAmb IAmb 03 41 19.8
comp=Z,51nm,1.3s
Y22D IRIS PASSCAL I 22.29 329 P P 03 40 57.6 +3.6
baz=142
DUN6 Lazy B Ranch 22.33 322 P P 03 40 55.0 +0.6
SIUC Southern Illin 22.40 8 P P 03 40 56.9 +2.0
CCM Cathedral Cave 22.53 4 P P 03 40 54.2 -2.0
CCM IAmb IAmb 03 41 18.0
comp=Z,38nm,1.0s
ANMO Albuquerque 22.77 331 P P 03 41 00.3 +1.4
TUC Tucson 23.19 319 P P 03 41 04.0 +1.1
R32A Long Quarter, 23.36 349 IAmb IAmb 03 41 39.2
comp=Z,22nm,0.9s
WCI Wyandotte Cave 23.43 14 P P 03 41 03.7 -1.3
WCI IAmb IAmb 03 41 36.5
comp=Z,30nm,0.9s
OLIL Olney 23.57 10 P P 03 41 04.9 -1.3
Q44A Meyer Farm, Va 23.60 8 P P 03 41 05.8 -0.7
Q44A IAmb IAmb 03 41 28.2
comp=Z,34nm,1.0s
T25A Trinidad 23.77 337 P P 03 41 10.1 +1.8
T25A IAmb IAmb 03 41 13.8
comp=Z,22nm,0.7s
P38A Dawn 24.04 359 IAmb IAmb 03 41 33.2
comp=Z,22nm,1.0s
X18A Snowflake 24.25 324 IAmb IAmb 03 41 37.4
comp=Z,16nm,1.0s
BLO Bloomington 24.29 13 P P 03 41 10.9 -1.8
SDCO Great Sand Dun 24.72 336 P P 03 41 18.2 +1.2
N38A Joes South For 25.20 360 P P 03 41 19.7 -1.3
N35A Tabor 25.37 356 P P 03 41 22.7 +0.2
CELP Cerrillos 25.54 80 P P 03 41 24.9 +0.6
CELP IAmb IAmb 03 41 26.3
comp=Z,14nm,0.8s
MVCO Mesa Verde 25.57 331 P P 03 41 26.4 +1.7
MVCO IAmb IAmb 03 41 29.5
comp=Z,16nm,0.9s
Y14A Wickenburg 25.66 319 P P 03 41 27.6 +2.3
WUAZ Wupatki 25.77 324 P P 03 41 28.8 +2.4
N47A Urbana 26.10 13 P P 03 41 30.4 +1.3
GLA Glamis 26.30 316 P P 03 41 32.5 +1.4
GLA IAmb IAmb 03 41 59.8
comp=Z,14nm,0.9s
PV13 Radium Mtn., P 26.48 331 P P 03 41 35.9 +3.0
PV13 IAmb IAmb 03 41 38.4
comp=Z,12nm,1.0s
BLYC Blythe 26.52 317 P P 03 41 35.1 +2.1
PV11 David Mesa, Pa 26.62 332 P P 03 41 36.3 +2.2
PV11 IAmb IAmb 03 41 39.0
comp=Z,15nm,0.9s
PV10 Paradox Valley 26.76 331 IAmb IAmb 03 41 40.0
comp=Z,17nm,0.9s
PV23 Carpenter Ridg 26.81 332 P P 03 41 37.7 +1.9
V12A Nelson 27.98 320 P P 03 41 47.6 +1.5
MTPU Mount Pierson 28.06 327 P P 03 41 50.0 +2.9
SHPR Sheep Range 28.68 321 P P 03 41 54.9 +2.5
MPU Maple Canyon 29.28 330 P P 03 42 00.4 +2.6
TCUT Toone Canyon 30.05 332 P P 03 42 06.6 +2.0
TCUT IAmb IAmb 03 42 10.0
comp=Z,9.7nm,0.8s
GRAC Grapevine Rang 30.35 319 IAmb IAmb 03 42 35.3
comp=Z,14nm,1.4s
PD31 Pinedale Array 30.61 336 P P 03 42 09.6 0.0
PDAR Pinedale Array 30.61 336 P P 03 42 09.2 -0.4
PDAR Pinedale Array 30.61 336 P P 03 42 10.4 +0.8
comp=Z,1.1nm,0.6s,baz=138,slow=6.3,SNR=8.0
PDAR PcP PcP 03 45 05.8 0.0
comp=Z,0.4nm,0.4s,baz=138,slow=5.5,SNR=5.4
comp=Z,1.1nm,0.6s
BGU Big Grassy Mou 30.66 330 P P 03 42 12.6 +2.7
CZSB Cruzeiro do Su 30.69 137 P P 03 42 09.9 -0.3
CZSB Cruzeiro do Su 30.69 137 eP P 03 42 09.9 -0.3
MZP Montezuma Peak 30.80 320 P P 03 42 14.2 +2.9
DSP Deep Springs 30.96 319 P P 03 42 15.1 +2.8
HVU Hansel Valley 31.20 331 P P 03 42 16.9 +2.3
SNOW Snow King Moun 31.68 335 P P 03 42 20.5 +1.6
NV11 Mina Array Sit 31.74 321 IAmb IAmb 03 42 23.8
comp=Z,7.6nm,1.1s
TPAW Teton Pass 31.78 335 IAmb IAmb 03 42 23.5
comp=Z,10.0nm,0.8s
NVAR Mina Array Bea 31.83 321 P P 03 42 22.4 +2.1
NVAR Mina Array Bea 31.83 321 P P 03 42 21.7 +1.4
comp=Z,5.3nm,0.7s,baz=135,slow=8.7,SNR=48
NVAR PcP PcP 03 45 10.2 +1.0
comp=Z,1.7nm,0.7s,baz=93,slow=2.7,SNR=6.7
comp=Z,5.3nm,0.7s
LHV Little Huntoon 31.84 320 IAmb IAmb 03 42 58.0
comp=Z,14nm,1.4s
MOOW Moose Ponds 31.91 335 IAmb IAmb 03 42 25.2
comp=Z,5.9nm,0.8s
YFT Old Faithful 32.53 336 P P 03 42 29.3 +2.9
YNE Yellowstone No 32.69 338 IAmb IAmb 03 42 33.8
comp=Z,5.8nm,0.9s
YMR Madison River 32.77 336 P P 03 42 30.1 +1.7
YMR IAmb IAmb 03 42 33.3
comp=Z,10nm,0.8s
AGMN Agassiz Nation 32.79 357 IAmb IAmb 03 43 03.5
comp=Z,6.2nm,0.8s
CMB Columbia Colle 32.89 318 P P 03 42 31.5 +2.1
YHL Hebgen Lake 33.00 336 IAmb IAmb 03 42 34.7
comp=Z,6.7nm,1.1s
PNTR Pine Nut 33.03 320 IAmb IAmb 03 42 35.0
comp=Z,5.4nm,0.8s
MFID Camas Ranch 33.90 330 P P 03 42 40.1 +1.9
DLMT Dillon 33.99 335 IAmb IAmb 03 42 44.0
comp=Z,9.1nm,0.9s
DGMT Dagmar 34.12 347 IAmb IAmb 03 42 42.7
comp=Z,8.2nm,0.7s
ULM Lac du Bonnet 34.73 357 P P 03 42 43.0 -2.1
comp=Z,3.6nm,0.6s,baz=178,slow=11,SNR=7.4
ULM pP pP 03 43 05.9 -1.4
comp=Z,5.6nm,0.7s,baz=182,slow=5.7,SNR=6.1
comp=Z,3.6nm,0.6s
EGMT Eagleton 35.22 341 IAmb IAmb 03 42 52.8
comp=Z,6.8nm,0.7s
PLID Pearl Lake 35.24 332 P P 03 42 50.6 +0.8
PLID IAmb IAmb 03 42 53.9
comp=Z,5.8nm,0.9s
BMO Blue Mountains 35.68 330 IAmb IAmb 03 43 31.0
comp=Z,8.2nm,1.3s
KHMM Horse Mountain 36.64 320 IAmb IAmb 03 43 05.2
comp=Z,9.7nm,0.9s
J04A Umpqua Nationa 37.10 324 P P 03 43 07.2 +1.5
J04A IAmb IAmb 03 43 08.9
comp=Z,6.3nm,0.8s
H04A Detroit Lake 38.07 326 IAmb IAmb 03 43 16.3
comp=Z,6.0nm,0.8s
NEW Newport 38.18 334 LR LR 04 00 44.2
comp=Z,57nm,18.7s,baz=212,slow=39
HOOD Mount Hood Mea 38.20 327 P P 03 43 16.8 +1.9
MXC Moxie City 38.38 330 IAmb IAmb 03 43 20.8
comp=Z,8.0nm,1.4s
LPAZ La Paz 40.08 141 P P 03 43 31.1 -0.3
comp=Z,3.6nm,0.7s,baz=325,slow=5.2,SNR=15
comp=Z,3.6nm,0.7s
LPAZ La Paz 40.08 141 eP P 03 43 30.9 -0.4
A04D Lummi Island 41.04 330 P P 03 43 40.5 +2.4
A04D IAmb IAmb 03 43 42.5
comp=Z,13nm,1.0s
PGC Sidney 41.35 330 P P 03 43 42.6 +1.9
PGC IAmb IAmb 03 43 44.9
comp=Z,6.8nm,1.1s
LLLB Lillooet 41.99 333 P P 03 43 48.1 +2.1
LLLB IAmb IAmb 03 43 50.3
comp=Z,4.0nm,0.7s
VILB Vilhena 43.14 129 IAmb IAmb 03 43 57.0
comp=Z,8.6nm,0.7s
VILB Vilhena 43.14 129 eP P 03 43 54.6 -1.0
NPGB Novo Progresso 43.61 118 eP P 03 43 56.8 -2.7
SCHQ Schefferville 44.22 22 LR LR 04 03 55.9
comp=Z,110nm,19.4s,baz=320,slow=38
CLDB Colider 45.31 123 eP P 03 44 10.0 -3.1
PTLB Pontes e Lacer 45.53 131 eP P 03 44 14.0 -0.6
U35K Hyder 49.19 333 P P 03 44 45.8 +3.3
baz=130
YKA Yellowknife Ar 49.33 347 P P 03 44 43.0 -0.5
YKA Yellowknife Ar 49.33 347 P P 03 44 43.1 -0.4
comp=Z,2.3nm,0.8s,baz=154,slow=7.5,SNR=34
YKA pP pP 03 45 06.0 -0.9
comp=Z,1.4nm,0.6s,baz=156,slow=7.3,SNR=5.3
comp=Z,2.3nm,0.8s
TOAD Toad River Com 49.35 339 P P 03 44 45.3 +1.5
baz=137
KOTAN Kotaneelee Air 49.92 340 P P 03 44 50.7 +2.7
baz=140
T35M Bob Quinn 49.98 334 IAmb IAmb 03 44 53.9
comp=Z,5.5nm,1.0s
T35M Bob Quinn 49.98 334 P P 03 44 50.9 +2.3
baz=130
LIRD Liard River Hi 50.07 339 P P 03 44 52.2 +3.0
baz=137
BDQN Bodoquena, MS 50.53 134 eP P 03 44 51.6 -1.5
DLBC Dease Lake 50.85 336 P P 03 44 57.4 +2.2
DLBC IAmb IAmb 03 45 00.4
comp=Z,8.5nm,1.0s
DLBC Dease Lake 50.85 336 P P 03 44 58.0 +2.9
baz=132
S34M Telegraph Cree 50.95 335 P P 03 44 58.6 +2.8
baz=130
FRB Frobisher Bay 51.12 14 LR LR 04 09 19.7
comp=Z,70nm,18.1s,baz=204,slow=39
ARAG Araguaiana, MT 51.25 125 eP P 03 44 56.5 -2.2
AQDB Aquidauana 51.28 133 IAmb IAmb 03 45 22.2
comp=Z,8.8nm,1.0s
AQDB Aquidauana 51.28 133 eP P 03 44 57.8 -1.0
WTLY Watson Lake, Y 51.53 338 P P 03 45 01.3 +1.1
WTLY IAmb IAmb 03 45 28.8
comp=Z,10nm,1.2s
WTLY Watson Lake, Y 51.53 338 P P 03 45 02.1 +1.9
baz=134
R33M Jennings River 51.85 336 P P 03 45 04.4 +1.7
R33M IAmb IAmb 03 45 29.6
comp=Z,9.7nm,1.5s
R33M Jennings River 51.85 336 P P 03 45 05.4 +2.7
baz=131
Q32M Nakina River 52.08 336 P P 03 45 07.5 +3.1
baz=129
SIT Sitka 52.22 332 P P 03 45 07.9 +2.7
baz=125
ZON Zonda 52.33 153 IAmb IAmb 03 45 08.4
comp=Z,6.4nm,0.8s
TGTN Hyland Airport 52.35 340 P P 03 45 08.5 +2.3
baz=135
R32K Eaglecrest 52.58 334 P P 03 45 10.4 +2.5
baz=126
RPRD Ribas do Rio P 52.71 132 eP P 03 45 08.9 -0.5
P32M Atlin 53.05 336 IAmb IAmb 03 45 46.5
comp=Z,4.2nm,1.1s
P32M Atlin 53.05 336 P P 03 45 14.0 +2.5
baz=128
P33M Teslin, Yukon 53.09 336 P P 03 45 14.1 +2.3
baz=130
AMBA Amambai (Brazi 53.40 135 eP P 03 45 13.2 -1.2
MT08 Bocatoma Ro 53.44 156 P P 03 45 15.4 +0.6
SKAG Skagway 53.63 335 P P 03 45 18.2 +2.6
baz=126
N32M Quiet Lake 53.80 337 P P 03 45 18.9 +2.0

baz=130
SJPY San Joaquin 54.07 138 *e*P **P** **03 45 18.1 -1.2**
MMPY Sheldon Lake, 54.12 339 P **P** **03 45 20.6 +1.4**
MMPY IAmb IAmb 03 45 22.2
comp=Z,5.3nm,0.8s
MMPY Sheldon Lake, 54.12 339 P **P** **03 45 21.5 +2.2**
baz=132
WHY Whitehorse 54.17 336 P **P** **03 45 21.5 +1.7**
baz=128
CPUP Villa Florida 54.23 140 IAmb IAmb 03 45 19.8
comp=Z,8.3nm,1.1s
CPUP Villa Florida 54.23 140 P **P** **03 45 18.7 -1.7**
comp=Z,4.4nm,1.0s,baz=337,slow=7.5,SNR=10
CPUP pP **pP** **03 45 42.8 -1.1**
comp=Z,3.7nm,0.9s,baz=324,slow=9.0,SNR=4.6
comp=Z,4.4nm,1.0s
BDFB Brasilia 54.25 123 IAmb IAmb 03 45 20.8
comp=Z,6.5nm,0.8s
BDFB Brasilia 54.25 123 P **P** **03 45 19.2 -1.6**
comp=Z,6.0nm,0.7s,baz=298,slow=8.8,SNR=15
comp=Z,6.0nm,0.7s
FARO Faro, Yukon 54.59 338 P **P** **03 45 24.3 +1.7**
baz=130
P30M Million Dollar 54.69 335 P **P** **03 45 25.6 +2.2**
baz=125
O30N Mendenhall 54.72 336 P **P** **03 45 25.5 +1.9**
baz=126
P29M Windy Craggy 54.73 334 P **P** **03 45 25.9 +2.3**
baz=124
M31M Drury Creek, Y 54.95 338 P **P** **03 45 27.2 +2.0**
baz=129
N31M Braeburn, Yuko 55.02 337 P **P** **03 45 27.1 +1.3**
N31M Braeburn, Yuko 55.02 337 P **P** **03 45 28.1 +2.4**
baz=127
HYT Haines Junctio 55.31 335 P **P** **03 45 30.2 +2.3**
baz=125
IPMB Ipameri, GO 55.37 125 *e*P **P** **03 45 27.0 -1.9**
O29M Mount Kennedy 55.45 334 P **P** **03 45 30.5 +1.6**
baz=123
N30M Aishikik Lake 55.51 336 P **P** **03 45 31.5 +2.2**
baz=126
YUK6 Outpost Mounta 55.72 335 P **P** **03 45 33.3 +2.2**
baz=124
PINM Pinnacle 56.05 334 P **P** **03 45 35.7 +2.5**
baz=121
YUK4 Talbot Arm 56.06 336 P **P** **03 45 35.3 +1.9**
baz=124
M30M Minto, Yukon 56.06 337 P **P** **03 45 35.2 +2.0**
baz=126
MAYO Mayo, Yukon 56.36 339 P **P** **03 45 37.2 +1.9**
baz=128
O28M Mount Upton 56.38 334 P **P** **03 45 37.9 +2.2**
baz=122
LDASE Londrina, Braz 56.41 132 *e*P **P** **03 45 34.6 -1.6**
YUK8 Steele Glacier 56.48 335 P **P** **03 45 38.5 +2.1**
baz=123
PTGB Pitanga 56.59 134 *e*P **P** **03 45 36.0 -1.5**
M29M Somme Creek 56.61 337 P **P** **03 45 39.0 +1.8**
M29M IAmb IAmb 03 45 40.0
comp=Z,6.6nm,0.8s
M29M Somme Creek 56.61 337 P **P** **03 45 39.2 +2.0**
baz=125
MESA MESA 56.82 333 P **P** **03 45 40.7 +1.9**
baz=120
L29M L29M 56.87 337 IAmb IAmb 03 45 41.3
comp=Z,4.4nm,1.0s
L29M L29M 56.87 337 P **P** **03 45 40.9 +2.0**
baz=125
YUK3 Moose Creek 57.03 335 P **P** **03 45 41.9 +1.7**
baz=122
K29M Barlow Dome 57.09 338 P **P** **03 45 42.2 +1.6**
baz=126
J30M Hart River 57.12 339 P **P** **03 45 41.4 +0.7**
J30M IAmb IAmb 03 45 43.8
comp=Z,2.5nm,0.7s
J30M Hart River 57.12 339 P **P** **03 45 42.4 +1.6**
baz=128
C36M Paulatuk 57.21 347 P **P** **03 45 41.7 +0.7**
baz=144
H31M Peel River 57.26 341 P **P** **03 45 42.9 +1.3**
baz=131
BGLC Bering Glacier 57.38 333 P **P** **03 45 43.9 +1.5**
baz=118
BVCY Beaver Creek 57.53 336 P **P** **03 45 45.6 +2.1**
baz=122
PSAL Palomas, Salto 57.53 144 *e*P **P** **03 45 43.4 -0.5**
I30M Mount Dempster 57.54 340 P **P** **03 45 44.8 +1.2**
baz=128
DAWY Dawson 57.89 338 P **P** **03 45 47.2 +1.2**
baz=124
M27K Edge Creek, AK 57.90 336 P **P** **03 45 48.8 +2.5**
baz=121
G31M Satah River 57.98 342 IAmb IAmb 03 45 47.9
comp=Z,5.9nm,0.8s
G31M Satah River 57.98 342 P **P** **03 45 47.5 +1.0**
baz=131,SNR=6.9
F31M Tsiigehtchic 58.17 343 IAmb IAmb 03 45 49.2
comp=Z,3.6nm,0.8s
F31M Tsiigehtchic 58.17 343 P **P** **03 45 48.7 +0.8**
baz=132,SNR=5.6
BCAR Beaver Creek A 58.24 336 P **P** **03 45 49.7 +1.2**
GLB Gilahina Butte 58.24 334 IAmb IAmb 03 46 15.1
comp=Z,7.5nm,1.4s
L27K Beaver Creek, 58.25 336 P **P** **03 45 50.3 +1.7**
baz=121
I29M Ogilvie Camp, 58.27 340 P **P** **03 45 49.3 +0.7**
baz=126
BMRM Bremner River 58.35 333 IAmb IAmb 03 45 53.9
comp=Z,5.1nm,0.9s
BMRM Bremner River 58.35 333 P **P** **03 45 52.2 +2.8**
baz=118
EPYK Eagle Plains 58.37 341 P **P** **03 45 50.0 +0.7**
baz=128
M26K Nabesna, AK 58.37 335 P **P** **03 45 51.3 +1.8**
baz=120
G30M tAoh Zraii Nji 58.60 342 P **P** **03 45 52.6 +1.7**
baz=129
N25K Chitina, Valde 58.65 334 P **P** **03 45 54.0 +2.6**
baz=118
EYAK Cordova Ski Ar 58.66 333 P **P** **03 45 54.8 +3.4**
baz=116
INK Inuvik 58.70 344 P **P** **03 45 52.0 +0.5**
INK IAmb IAmb 03 45 53.0
comp=Z,4.9nm,0.8s
INK Inuvik 58.70 344 P **P** **03 45 52.1 +0.5**
baz=133,SNR=7.7
H29M Whitestone 58.80 340 IAmb IAmb 03 45 54.0
comp=Z,3.7nm,0.8s
H29M Whitestone 58.80 340 P **P** **03 45 53.6 +1.3**
baz=127
K27K Chicken 58.85 337 P **P** **03 45 53.8 +1.1**
baz=122
I28M Miner Creek 58.87 339 P **P** **03 45 53.9 +1.0**
baz=125
F30M Barrier River 58.88 342 P **P** **03 45 54.0 +1.2**
baz=130,SNR=6.2
TBOT Tacuaremb 58.94 143 *e*P **P** **03 45 52.8 -0.9**
G29M Pine Creek 59.11 341 P **P** **03 45 55.5 +1.0**
baz=127
KLU Klutina 59.16 334 P **P** **03 45 56.3 +1.4**
KLU IAmb IAmb 03 45 58.0
comp=Z,5.3nm,1.0s
KLU Klutina 59.16 334 P **P** **03 45 56.7 +1.8**
baz=116
DIAM Diamantina, MG 59.17 123 *e*P **P** **03 45 53.1 -2.6**
DOT Dot Lake 59.42 336 IAmb IAmb 03 45 59.1
comp=Z,4.9nm,1.0s
CPSB Cacapava Do Su 59.52 140 *e*P **P** **03 45 56.6 -1.2**
I27K Kandik River 59.54 339 P **P** **03 45 59.3 +1.8**
baz=123,SNR=5.6
M24K Tolsona, Glenn 59.54 334 P **P** **03 45 59.3 +1.8**
baz=116
SCRK Sand Creek 59.55 337 P **P** **03 45 58.8 +1.1**
baz=120
A36M Sachs Harbour 59.58 349 P **P** **03 45 59.0 +1.5**
baz=143
PAX Paxson 59.65 335 P **P** **03 45 59.5 +1.2**
baz=118
J26L Joseph Creek 59.66 337 IAmb IAmb 03 46 02.9
comp=Z,6.0nm,1.1s
J26L Joseph Creek 59.66 337 P **P** **03 46 00.2 +1.9**
baz=120,SNR=7.6
PLCA Paso Flores 59.74 160 P **P** **03 45 59.8 +0.6**
PLCA Paso Flores 59.74 160 P **P** **03 45 59.0 -0.2**
comp=Z,7.7nm,0.9s,baz=333,slow=7.1,SNR=19
PLCA pP **pP** **03 46 23.9 +0.9**
comp=Z,2.7nm,1.0s,baz=317,slow=8.9,SNR=2.8
comp=Z,7.7nm,0.9s

RIDG Independent Ri 59.77 336 IAmb IAmb 03 46 01.5
comp=Z,4.5nm,0.9s
RIDG Independent Ri 59.77 336 P **P** **03 46 00.5 +1.4**
baz=119
H27K Steamboat Moun 59.85 339 P **P** **03 46 00.7 +1.1**
baz=123
SCM Sheep Creek Mo 59.91 334 P **P** **03 46 01.4 +1.3**
baz=115
I26K Coal Creek Min 59.92 338 P **P** **03 46 01.0 +1.0**
baz=121
E29M Blow River 59.99 342 IAmb IAmb 03 46 02.5
comp=Z,8.0nm,1.2s
E29M Blow River 59.99 342 P **P** **03 46 01.8 +1.4**
baz=128,SNR=5.1
M23K Glacier View 60.06 333 P **P** **03 46 02.9 +1.8**
baz=115
SEW Seward 60.16 331 P **P** **03 46 02.8 +1.1**
baz=112
K24K Donnelly Dome 60.16 336 P **P** **03 46 03.6 +1.9**
baz=118,SNR=5.1
G27K Doyon Strip 60.22 340 P **P** **03 46 03.2 +1.1**
baz=124
KNK Knik Glacier 60.23 333 P **P** **03 46 03.8 +1.6**
baz=114
SML Sawmill 60.33 333 P **P** **03 46 04.7 +1.8**
baz=114
PLTB Pedras Altas 60.37 141 P **P** **03 46 02.1 -1.5**
PLTB Pedras Altas 60.37 141 *e*P **P** **03 46 02.5 -1.2**
J25K Salcha River, 60.39 337 P **P** **03 46 04.3 +0.9**
J25K Salcha River, 60.39 337 P **P** **03 46 05.0 +1.6**
baz=119
GHO Glory Hole Cre 60.58 333 P **P** **03 46 06.2 +1.5**
PMR Palmer 60.59 333 P **P** **03 46 06.5 +1.9**
baz=113
E28M Babbage River 60.60 342 P **P** **03 46 05.6 +1.0**
baz=126
BRSE Bradley Lake S 60.63 331 P **P** **03 46 06.8 +1.8**
baz=111
RC01 Rabbit Creek A 60.66 332 P **P** **03 46 06.8 +1.6**
baz=112
LL01 San Ignacio de 60.67 163 P **P** **03 46 05.0 -0.3**
D28M Stokes Point 60.81 343 P **P** **03 46 07.5 +1.5**
baz=128
KDAK Kodiak Island 60.88 328 P **P** **03 46 08.0 +1.4**
baz=108
PRP Porcupine Dome 60.89 338 P **P** **03 46 07.3 +0.6**
PRP IAmb IAmb 03 46 08.7
comp=Z,7.1nm,0.8s
PRP Porcupine Dome 60.89 338 P **P** **03 46 08.2 +1.4**
baz=119,SNR=12
HDA Harding Lake 60.90 336 P **P** **03 46 07.7 +1.0**
baz=117
E27K Coleen River 60.97 341 IAmb IAmb 03 46 09.3
comp=Z,8.0nm,0.9s
E27K Coleen River 60.97 341 P **P** **03 46 08.5 +1.3**
baz=124,SNR=8.2
G26K Porcupine Rive 61.00 340 P **P** **03 46 08.7 +1.4**
baz=121
IL31 61.04 337 P **P** **03 46 08.5 +1.0**
IL31 IAmb IAmb 03 46 11.5
comp=Z,4.0nm,0.8s
ILAR Eielson Array 61.04 337 P **P** **03 46 07.9 +0.2**
ILAR Eielson Array 61.04 337 P **P** **03 46 08.4 +0.8**
comp=Z,2.4nm,0.8s,baz=117,slow=6.0,SNR=28
ILAR pP **pP** **03 46 32.6 +0.8**
comp=Z,1.9nm,0.9s,baz=129,slow=4.5,SNR=5.4
comp=Z,2.4nm,0.8s
Q20K Shuyak Island 61.04 329 P **P** **03 46 09.5 +1.8**
baz=109
OHAK Old Harbor 61.07 327 P **P** **03 46 09.7 +1.8**
baz=107
M22K Willow 61.09 333 P **P** **03 46 09.8 +1.8**
baz=112
RND Reindeer 61.22 335 P **P** **03 46 10.3 +1.4**
SUA Susitna One 61.26 332 P **P** **03 46 11.2 +1.9**
baz=112,SNR=6.0
CCB Clear Creek Bu 61.34 336 IAmb IAmb 03 46 11.8
comp=Z,4.1nm,1.1s
SII Sitkinak Islan 61.35 326 P **P** **03 46 11.4 +1.5**
baz=106
H25L Birch Creek 61.36 338 P **P** **03 46 11.0 +1.3**
baz=119
MCK McKinley 61.39 335 IAmb IAmb 03 46 14.2
comp=Z,5.6nm,1.0s
MCK McKinley 61.39 335 P **P** **03 46 11.5 +1.5**
baz=114
D27M Malcolm River 61.39 342 P **P** **03 46 11.4 +1.4**
baz=125
POKR Poker Plat Res 61.41 337 P **P** **03 46 11.2 +1.1**
baz=117
COLA College 61.45 337 P **P** **03 46 12.3 +1.9**
baz=116
F26K Sheenjek River 61.51 340 P **P** **03 46 12.3 +1.5**
baz=121,SNR=5.6
BMAR Burnt Mountain 61.52 340 P **P** **03 46 11.8 +0.9**
O20K Slope Mountain 61.63 331 P **P** **03 46 13.3 +1.5**
baz=109
G25K Bearman Lake 61.70 339 P **P** **03 46 13.3 +1.3**
baz=119,SNR=6.2
Q19K Cape Douglas, 61.76 329 P **P** **03 46 13.6 +1.0**
baz=108
BWN Browne 61.78 336 P **P** **03 46 13.3 +0.6**
P19K Oil Pt 61.79 330 P **P** **03 46 14.2 +1.4**
baz=108
SKT Skwentna 61.80 333 IAmb IAmb 03 46 16.6
comp=Z,11nm,1.5s
SKT Skwentna 61.80 333 P **P** **03 46 13.2 +0.4**
baz=111
NEA2 Nenana 61.80 336 P **P** **03 46 13.9 +1.1**
baz=115
SPCR Spurr Chakacha 61.82 332 P **P** **03 46 14.7 +1.6**
baz=110
TRF Thorofare Moun 61.83 335 P **P** **03 46 13.5 +0.3**
TRF Thorofare Moun 61.83 335 P **P** **03 46 15.0 +1.8**
baz=113,SNR=7.4
H24K Noodor Dome 61.90 338 P **P** **03 46 14.2 +0.7**
H24K IAmb IAmb 03 46 15.4
comp=Z,5.3nm,0.7s
H24K Noodor Dome 61.90 338 P **P** **03 46 14.9 +1.5**
baz=117,SNR=7.6
F25K Christian Rive 61.95 340 P **P** **03 46 15.8 +2.0**
baz=120,SNR=5.4
G24K Hadweenzic Riv 62.15 339 P **P** **03 46 16.7 +1.6**
baz=118,SNR=5.5
I23K Minto, Yukon-K 62.15 337 P **P** **03 46 16.6 +1.5**
baz=115,SNR=10
E25K Arctic Village 62.20 340 P **P** **03 46 16.6 +1.2**
E25K IAmb IAmb 03 46 18.6
comp=Z,3.4nm,0.8s
E25K Arctic Village 62.20 340 P **P** **03 46 17.0 +1.6**
baz=120,SNR=6.2
RIB01 Linhares ES 62.35 122 *e*P **P** **03 46 14.3 -2.9**
Q18K Katmai Hardscr 62.36 329 P **P** **03 46 18.4 +1.7**
baz=106
BPAW Bear Paw Mtn. 62.37 335 IAmb IAmb 03 47 01.0
comp=Z,5.7nm,1.2s
BPAW Bear Paw Mtn. 62.37 335 P **P** **03 46 18.1 +1.5**
baz=113
C27K Jago River 62.41 342 P **P** **03 46 18.7 +1.9**
baz=123
PPLA Purkeypile 62.41 334 P **P** **03 46 18.6 +1.5**
baz=111
M20K Styx River 62.47 332 P **P** **03 46 18.9 +1.5**
baz=110
O19K Port Alsworth 62.48 330 P **P** **03 46 18.5 +1.2**
baz=108
H23K Yukon River 62.51 337 P **P** **03 46 19.4 +1.9**
baz=115
CAST Castle Rocks 62.56 334 P **P** **03 46 19.2 +1.3**
CAST IAmb IAmb 03 46 20.7
comp=Z,6.3nm,1.2s
CAST Castle Rocks 62.56 334 P **P** **03 46 19.3 +1.4**
baz=111,SNR=6.2
F24K Squaw Lake 62.67 339 P **P** **03 46 20.4 +1.8**
baz=117
N19K Bonanza Creek 62.74 331 IAmb IAmb 03 46 22.5
comp=Z,5.1nm,0.8s
N19K Bonanza Creek 62.74 331 P **P** **03 46 20.3 +1.1**
baz=108
O18K Koktuh Hills 62.80 330 P **P** **03 46 21.0 +1.4**
baz=106
CHUM Lake Minchumin 62.83 335 P **P** **03 46 21.1 +1.5**
baz=111
C26K Camden Bay 62.92 342 P **P** **03 46 21.6 +1.5**
baz=122
L20K Farewell, AK 63.00 333 P **P** **03 46 22.1 +1.3**
baz=109
M19K Big River Lodg 63.04 332 P **P** **03 46 22.9 +1.8**
baz=108
D25K Kavik River 63.05 341 P **P** **03 46 22.4 +1.3**
baz=120
G23K Bananza Creek 63.06 338 P **P** **03 46 22.8 +1.6**
baz=115
E24K Your Creek 63.13 340 P **P** **03 46 23.2 +1.6**
baz=117
Q16K King Salmon 63.20 328 P **P** **03 46 23.8 +1.7**
H22K Ishtalitna Cre 63.23 337 P **P** **03 46 23.4 +1.2**
baz=113
L19K White Mountain 63.34 332 P **P** **03 46 24.5 +1.4**
baz=108
COLD Coldfoot 63.35 339 P **P** **03 46 24.9 +1.9**
baz=115
N18K Kilae Creek 63.36 331 P **P** **03 46 25.0 +1.8**
baz=106
K20K Telida 63.38 334 IAmb IAmb 03 47 01.6
comp=Z,4.7nm,0.8s
K20K Telida 63.38 334 P **P** **03 46 24.4 +1.2**
baz=109,SNR=5.4
E23K Chandalar 63.51 340 P **P** **03 46 25.9 +1.8**
baz=116
M18K Stony River 63.57 332 P **P** **03 46 25.9 +1.3**
baz=107
H21K Melozitna Rive 63.68 336 P **P** **03 46 26.1 +0.8**
baz=112
J20K Nowinta River 63.69 335 P **P** **03 46 26.5 +1.2**
baz=110
O17K Koliganek Bris 63.70 330 P **P** **03 46 26.4 +1.0**
baz=105
D24K Happy Valley 63.74 341 P **P** **03 46 26.5 +1.0**
baz=117
TOLK Toolik Lake Re 63.75 340 P **P** **03 46 26.9 +1.2**
TOLK IAmb IAmb 03 46 27.8
comp=Z,6.2nm,0.7s
TOLK Toolik Lake Re 63.75 340 P **P** **03 46 27.0 +1.2**
baz=116,SNR=10
N17K Nushagak Hills 63.94 330 P **P** **03 46 27.9 +0.9**
baz=105
C24K Franklin Bluff 63.97 341 P **P** **03 46 28.1 +1.1**
baz=118
I20K Naaghedeneel 64.03 335 IAmb IAmb 03 46 30.5
comp=Z,12nm,1.2s
I20K Naaghedeneel 64.03 335 P **P** **03 46 28.6 +1.1**
baz=110
O16K Kokwok River B 64.14 329 P **P** **03 46 29.8 +1.4**
baz=104
F22K John River 64.16 338 P **P** **03 46 29.6 +1.3**
baz=113
L18K Granite Mounta 64.17 332 P **P** **03 46 30.1 +1.7**
baz=106
J19K Poorman 64.24 334 IAmb IAmb 03 46 53.9
comp=Z,8.2nm,1.1s
J19K Poorman 64.24 334 P **P** **03 46 30.2 +1.3**
baz=108
D23K Nanushuk River 64.25 340 P **P** **03 46 30.0 +1.1**
baz=115
G21K Allakaket 64.26 337 P **P** **03 46 29.8 +0.7**
baz=111
E22K Anaktuvuk Pass 64.28 339 P **P** **03 46 30.2 +1.0**
E22K IAmb IAmb 03 46 31.3
comp=Z,5.6nm,0.9s
E22K Anaktuvuk Pass 64.28 339 P **P** **03 46 30.6 +1.3**
baz=114,SNR=6.8
M17K Holitna River 64.28 331 P **P** **03 46 30.0 +0.7**
baz=105
H20K Anotleneega Mo 64.43 336 P **P** **03 46 31.8 +1.6**
baz=110
F21K Alatna River 64.52 338 P **P** **03 46 32.3 +1.6**
baz=112
J18K Innoko River 64.54 334 P **P** **03 46 32.6 +1.7**
baz=107
C23K Itkillik River 64.61 341 P **P** **03 46 32.8 +1.5**
baz=116
N16K Nishlik Lake 64.68 330 P **P** **03 46 33.4 +1.5**
baz=104
D22K Ayikyak River 64.88 340 P **P** **03 46 35.1 +2.0**
baz=113
K17K Iditarod 65.03 333 P **P** **03 46 35.7 +1.6**
baz=105
H19K Roundabout Mou 65.06 336 P **P** **03 46 35.4 +1.2**
baz=108
E21K Killik River 65.14 339 IAmb IAmb 03 46 36.7
comp=Z,5.1nm,0.8s
E21K Killik River 65.14 339 P **P** **03 46 36.1 +1.3**
baz=112
N15K Kwethluk River 65.25 330 P **P** **03 46 37.4 +1.8**
baz=102
F20K Avaraart Lake 65.27 337 P **P** **03 46 37.2 +1.7**
baz=109
L16K Owhat River 65.31 331 P **P** **03 46 37.5 +1.6**
baz=103
G19K Purcell Mounta 65.50 336 P **P** **03 46 38.2 +1.2**
baz=108
J17K VABM Dome 65.54 333 P **P** **03 46 38.5 +1.2**
baz=104
O14K Tigyukauivet M 65.65 328 P **P** **03 46 39.2 +1.1**
baz=101
M15K Kasigluk River 65.65 330 P **P** **03 46 39.4 +1.3**
baz=102
C21K Knifeblade Rid 65.68 340 P **P** **03 46 39.5 +1.3**
baz=111
B22K Teshekpuk Lake 65.70 341 P **P** **03 46 39.3 +1.1**
baz=113
H18K Honhosa River 65.71 335 P **P** **03 46 39.7 +1.2**
baz=106
B21K Ikpikpuk River 65.80 340 P **P** **03 46 40.2 +1.3**
baz=112
E20K Nigu River 65.85 339 P **P** **03 46 40.9 +1.5**
baz=110
E19K Redstone River 65.96 338 P **P** **03 46 41.6 +1.6**
baz=108
F19K Shaleruckik Mo 65.97 337 P **P** **03 46 41.5 +1.5**
baz=107
G18K Tagagawik 66.04 336 P **P** **03 46 42.1 +1.6**
baz=106
D20K Etivluk River 66.15 339 P **P** **03 46 43.0 +1.8**
baz=105
J16K Anvik River 66.18 333 P **P** **03 46 42.5 +1.1**
J16K IAmb IAmb 03 46 45.6
comp=Z,10nm,1.1s
J16K Anvik River 66.18 333 P **P** **03 46 44.4 +2.9**
baz=103,SNR=5.1
L15K Ungalak Mounta 66.24 331 P **P** **03 46 43.3 +1.5**
baz=102
M14K Bethel 66.28 330 P **P** **03 46 43.4 +1.3**
M14K IAmb IAmb 03 46 55.6
comp=Z,9.3nm,1.1s
M14K Bethel 66.28 330 P **P** **03 46 43.4 +1.3**
baz=101
H17K Granite Mounta 66.29 335 P **P** **03 46 43.6 +1.5**
baz=104
I17K Unalakleet 66.36 333 P **P** **03 46 44.2 +1.6**
baz=103
K15K Wolf Creek Mou 66.38 332 P **P** **03 46 44.4 +1.6**
baz=102
A22K Sinclair Lake 66.43 342 P **P** **03 46 44.5 +1.6**
baz=112
D19K Kuna River 66.60 339 P **P** **03 46 45.6 +1.5**
baz=108
F18K Selawik 66.62 336 P **P** **03 46 46.1 +2.0**
baz=105
G17K Kiwalik Mounta 66.73 335 P **P** **03 46 46.9 +1.9**
baz=104
L14K Kuka Creek 66.73 331 P **P** **03 46 46.8 +1.9**
baz=100
B20K Meade River 66.76 340 P **P** **03 46 46.9 +1.8**
baz=109
M13K Dall Lake 66.89 329 P **P** **03 46 47.5 +1.5**
baz=99
H16K Elim 67.19 334 P **P** **03 46 49.4 +1.6**
baz=102
E18K Tukpahlearik C 67.20 337 **P** **03 46 48.4 +0.6**
E18K Tukpahlearik C 67.20 337 P **P** **03 46 49.5 +1.7**
baz=105
F17K Baldwin Pennin 67.20 336 P **P** **03 46 49.8 +2.0**
baz=104
J14K Nanvaranak Lak 67.39 332 P **P** **03 46 51.4 +2.3**
baz=100
G16K Koyuk River 67.40 335 P **P** **03 46 51.2 +2.1**
baz=102
E17K Hotham Inlet 67.57 337 P **P** **03 46 51.9 +1.7**
baz=104
C18K Utukok River 67.73 338 P **P** **03 46 52.4 +1.1**
baz=105
K13K Kusilvak Mount 67.76 331 P **P** **03 46 52.7 +1.2**
baz=99

G15K	Niukluk	68.01	334	P		P	03 46 55.3 +2.2
	baz=100						
A19K	Wainwright	68.10	340	P		P	03 46 55.3 +1.8
	baz=106						
B18K	Kokolik River	68.12	339	P		P	03 46 55.7 +2.0
	baz=104						
D17K	Noatak River	68.19	337	P		P	03 46 56.0 +1.9
	baz=102						
C17K	DeLong Mountai	68.40	338	P		P	03 46 57.4 +2.0
	baz=103						
F15K	North Star Dit	68.40	335			P	03 46 56.9 +1.5
F15K				IAmb		IAmb	03 47 22.1
	comp=Z,13nm,1.5s						
F15K	North Star Dit	68.40	335	P		P	03 46 57.3 +1.9
	baz=100						
ANM	Nome	68.50	334	P		P	03 46 58.1 +2.0
	baz=99						
F14K	Arctic Creek	69.05	335	P		P	03 47 01.4 +2.0
	baz=99						
C16K	Lisburne Hills	69.14	338	P		P	03 47 01.7 +1.8
	baz=101						
TNA	Tin City	69.72	335	P		P	03 47 05.4 +1.9
	baz=97						
MG03	Isla Dawson	71.75	166			P	03 47 16.9 +1.0
EKA	Eskdalemuir Ar	77.40	36	pP		pP	03 48 13.4 -0.6
	comp=Z,6.3nm,1.0s,baz=269,slow=5.8,SNR=7.1						
ESDC	Sonseca Array	79.65	52	P		P	03 47 59.3 -2.3
	comp=Z,0.3nm,0.6s,baz=271,slow=6.2,SNR=2.0						
	comp=Z,0.3nm,0.6s						
VRAC	Vranov	90.70	38	LR		LR	04 30 12.1
	comp=Z,36nm,18.4s,baz=246,slow=36						
MKAR	Makanchi Array	117.86	4	PKPdf		PKPdf	03 54 38.5 -1.3
MKAR	Makanchi Array	117.86	4	PKP		PKPdf	03 54 38.1 -1.7
	comp=Z,0.3nm,0.7s,baz=28,slow=2.9,SNR=3.6						
HHC	Hu-ho-hao-te	119.44	339	*e*P		PKiKP	03 54 43.9 +0.7
BOSA	Boshof	121.97	114	PKPdf		PKPdf	03 54 47.4 -0.9
BOSA	Boshof	121.97	114	PKP		PKPdf	03 54 46.6 -1.7
	comp=Z,4.2nm,1.0s,baz=247,slow=1.7,SNR=3.5						
STKA	Stephens Creek	127.82	242	PKPdf		PKPdf	03 54 59.5 +0.3
STKA	Stephens Creek	127.82	242	PKP		PKPdf	03 54 58.8 -0.5
	comp=Z,3.8nm,0.7s,baz=96,slow=0.6,SNR=10						
BBOO	Buckleboo	132.36	240	PKPdf		PKPdf	03 55 07.3 -0.5
WB0	Warramunga Arr	134.62	257	PKPdf		PKPdf	03 55 12.9 +0.4
WB2	Warramunga Arr	134.67	257	PKPdf		PKPdf	03 55 12.9 +0.3
WRA	Warramunga Arr	134.68	257	PKPdf		PKPdf	03 55 12.7 +0.1
WRA	Warramunga Arr	134.68	257	PKP		PKPdf	03 55 12.8 +0.3
	comp=Z,2.5nm,0.7s,baz=86,slow=2.5,SNR=18						
ASAR	Alice Springs	135.11	252	PKP		PKPdf	03 55 13.1 -0.2
	comp=Z,1.2nm,0.7s,baz=84,slow=1.8,SNR=10						
PZH	PanZhiHua	135.82	341	PKP		PKPdf	03 55 14.3 -0.4
FITZ	Fitzroy Crossi	142.84	260	PKPdf		PKPdf	03 55 24.9 -2.6
CMAR	Chiang Mai Arr	144.22	340	PKP		PKPbc	03 55 28.9 +0.6
	comp=Z,1.4nm,0.3s,baz=331,slow=3.6,SNR=13						
CMAR				pPKP		pPKPdf	03 55 54.1 -2.5
	comp=Z,1.1nm,0.3s,baz=334,slow=3.1,SNR=1.5						
MBWA	Marble Bar	148.34	255	PKPbc		PKPbc	03 55 40.4 0.0

MOS ***01*** *03:38:04.8±1.0, 7.°46N×94.°20E, h11km, mb5.0/35, Error ellipse: s-maj=10.4km s-min=5.0km az=110.2*
IDC ***01*** *03:38:05.3±0.5, 7.°48N×94.°26E, h0km, mb4.4/24, mbtmp4.3/26, ML4.1/2, MS3.7/34, Error ellipse: s-maj=20.7km s-min=13.2km az=58.0*
BJI ***01*** *03:38:06.2, 6.°93N×93.°95E, h42km, mB5.0/12, mb4.6/49, Ms4.3/6, Ms7 4.1/8*
NEIC ***01*** *03:38:07.5±1.3, 7.°54N±0.°06×94.°16E±0.°08, h10km±1km, mb5.0/83, Error ellipse: s-maj=14.1km s-min=9.9km az=243.0*
NDI ***01*** *03:38:12.4±0.3, 7.°55N×94.°14E, h10km, ML4.7, MW4.7, mb5.0(NEIC)*
DJA ***01*** *03:38:12.2±0.5, 8.°N±3.°×9.°5E±.°, h10km, M4.7/8, mB5.1/3, mb4.8/7, MLv4.7/8, Mw(mB)4.5/3*
ISC 01 03:38:08.6±0.3, 7.°47N±0.°04×94.°21E±0.°05, h20km, n499, σ1§23/424, mb4.8/114, MS3.7/32, 18C-11D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	0.53	212	*e*P	Pb	03 38 20.5	+1.1
CMBY				*e*S	Sb	03 38 26.5	-0.1
CMBY				IAML		03 38 38.4	
	comp=E,54μm,0.5s						
CMBY				IAML		03 38 41.8	
	comp=N,62μm,0.5s						
BSI	Banda Aceh	2.23	151	P	Pb	03 38 47.5	-0.8
LHMI	Lhok Sumawe	3.51	129		Pn	03 39 02.1	0.0
LHMI	Lhok Sumawe	3.51	129	P	Pn	03 39 02.6	+0.5
MLSI	Meulaboh, Aceh	3.85	145	P	Pn	03 39 10.9	+4.1
PBA	Port Blair	4.41	341	Pn	Pn	03 39 12.0	-2.5
PBA	Port Blair	4.41	341	*e*P	Pn	03 39 18.3	+3.8
PBA				*e*S	Sn	03 40 06.0	+0.8
SRIT	Nakonsritamara	5.45	78	Pn	Pn	03 39 27.8	-1.1
DGPR	DIGLIPUR	5.81	348	*e*P	Pn	03 39 37.2	+3.5
DGPR				*e*S	Sn	03 40 39.2	-0.7
PSI	Prapat	6.59	134	Pn	Pn	03 39 46.4	+1.8
	comp=N,1.5nm,0.3s,baz=318,slow=14,SNR=9.4						
PSI				Sn	Sn	03 41 00.3	+1.0
	comp=N,1.9nm,0.3s,baz=316,slow=18,SNR=1.7						
PSI				LR	LR	03 43 03.1	
	comp=N,800nm,19.2s,baz=304,slow=45						
	comp=N,4.2nm,0.5s						
PSI	Prapat	6.59	134	P	Pn	03 39 45.2	+0.6
RPSI	Rantau Prapat	6.67	135	Pn	Pn	03 39 45.2	-0.4
KULM	Kulim	6.75	108	Pn	Pn	03 39 45.0	-1.7
BKNI	Bangkinang	9.83	136	Pn	Pn	03 40 29.6	+0.6
PPI	Padang Panjang	10.00	142	P	Pn	03 40 32.8	+1.5
	comp=N,1.8nm,0.5s						
CM31	Chiang Mai Arr	11.86	22	Pn	Pn	03 40 56.6	-0.1
CMAR	Chiang Mai Arr	11.86	22	Pn	Pn	03 40 56.5	-0.2
CMAR	Chiang Mai Arr	11.86	22	Pn	Pn	03 40 57.2	+0.5
	comp=N,0.7nm,0.3s,baz=205,slow=13,SNR=16						
CMAR				LR	LR	03 45 32.8	
	comp=N,250nm,20.1s,baz=190,slow=38						
	comp=N,2.8nm,0.6s						
CMAR	Chiang Mai Arr	11.86	22	P	Pn	03 40 56.5	-0.2
CHTO	Chiang Mai	12.18	22	Pn	Pn	03 41 00.9	-0.3
CHTO	Chiang Mai	12.18	22	P	Pn	03 41 00.9	-0.3
PALK	Pallekele	13.40	270	*e*P	Pn	03 41 18.6	+0.7
CRAI	Chiangrai	14.02	25	Pn	Pn	03 41 27.5	+1.1
SLVN	Son La	16.67	33	P	P	03 42 04.5	+0.9
KSM	Kuching	17.11	110	Pn	Pn	03 42 05.2	-1.6
TNCH	TengChong	17.94	13	P	P	03 42 23.3	+5.5
TNCH				pP	pwP	03 42 27.0	+1.3
TNCH				sP	sP	03 42 30.9	+5.8
TNCH				PP	PnPn	03 42 42.2	+14
TNCH				pmax	pmax		
	comp=N,280nm,3.3s						
SHL	Shillong	18.14	353	Pn	Pn	03 42 16.2	-3.5
SHL	Shillong	18.14	353	P	Pn	03 42 16.2	-3.5
SHL				pmax	pmax		
	comp=Z,46nm,1.4s						
HYB	Hyderabad	18.20	304	*e*P	Pn	03 42 19.2	-1.0
SBUM	Sibu	18.61	105	P	P	03 42 24.7	-0.3
QIZ	Qiongzhong	19.05	51	P	P	03 42 29.0	-0.8
QIZ				S	Sn	03 46 03.2	-0.4
QIZ				LR	LR		
	comp=N,640nm,17.1s						
QIZ				LR	LR		
	comp=E,350nm,18.0s						
QIZ				LR	LR		
	comp=Z,280nm,9.1s						
KMI	Kunming	19.36	24	P	Pn	03 42 38.3	+3.8
KMI				pmax	pmax		
	comp=Z,29nm,1.1s						
LEM	Lembang	19.50	136	LR	LR	03 50 53.8	
	comp=Z,262nm,19.6s,baz=24,slow=40						
PZH	PanZhiHua	20.24	20	P	Pn	03 42 46.3	+1.4
PZH				pmax	pmax		
	comp=Z,50nm,1.1s						
PZH				pmax	pmax		
	comp=Z,190nm,3.9s						
GYA	Guiyang	22.30	31	P	P	03 43 06.8	+1.8
GYA				pmax	pmax		
	comp=Z,13nm,0.8s						
LSA	Lhasa	22.30	353	P	P	03 43 03.8	-1.7
LSA				IAmb	IAmb	03 43 17.3	
	comp=Z,29nm,0.8s						
LSA	Lhasa	22.30	353	P	P	03 43 05.2	-0.3
LSA				pmax	pmax		
	comp=Z,34nm,0.9s						
LSA	Lhasa	22.30	353	P	P	03 43 03.8	-1.7
LSA				pmax	pmax		
	comp=Z,29nm,0.8s						

GULI	GuiLin	23.50	39	P		P	03 43 27.2 +10
CD2	Chengdu	24.98	20	P		P	03 43 32.9 +1.8
CD2				pmax		pmax	
	comp=Z,10.0nm,0.8s						
DGAR	Diego Garcia	26.25	236	*i* P		P	03 43 40.2 -2.6
H08S3	Diego Garcia H	26.35	236	T		T	04 10 29.0
	baz=54,slow=75						
H08S2	Diego Garcia H	26.35	236	T		T	04 10 27.0
	baz=54,slow=75						
H08S1	Diego Garcia H	26.37	236	T		T	04 10 40.3
	baz=54,slow=75						
TOLI2	Tolitoli	27.22	102	P		P	03 43 51.4 -0.1
KAPI	Kappang	28.34	115	LR		LR	03 55 42.4
	comp=Z,59nm,19.0s,baz=298,slow=37						
WHN	Wuhan	29.72	37	P		P	03 44 22.0 +8.4
WHN				pmax		pmax	
	comp=Z,54nm,0.8s						
XAN	Xi'an	29.73	25	⇑P		P	03 44 20.8 +7.1
XAN				pP		pwP	03 44 25.7 +3.7
XAN				pmax		pmax	
	comp=Z,16nm,0.9s						
LZH	Lanzhou	29.82	16	*e*P		P	03 44 17.0 +2.4
LZH				sP		pwP	03 44 28.9 +6.2
LZH				pmax		pmax	
	comp=Z,16nm,1.1s						
LYN	LuoYang	31.77	29	P		P	03 44 38.3 +6.6
LYN				pmax		pmax	
	comp=Z,20nm,0.7s						
GTA	Gaotai	32.20	8	*e*P		P	03 44 36.5 +0.9
GTA				pmax		pmax	
	comp=Z,5.0nm,0.9s						
NIL	Nilore	32.48	326	P		P	03 44 36.8 -1.1
NIL				IAmb		IAmb	03 44 38.7
	comp=Z,16nm,0.8s						
NIL	Nilore	32.48	326	P		P	03 44 36.8 -1.1
NIL				pmax		pmax	
	comp=Z,16nm,0.8s						
NJ2	Nanjing	33.53	40	*e*P		PKiKP	03 54 52.6 -0.5
NJ2				pmax		pmax	
	comp=Z,17nm,0.7s						
NJ2	Nanjing	33.53	40	*e*P		P	03 44 48.4 +1.2
NJ2				pmax		pmax	
	comp=Z,15nm,0.6s						
HNS	HongShan	35.13	29	⇑P		P	03 45 03.5 +2.6
HNS				pmax		pmax	
	comp=Z,8.0nm,0.8s						
KBL	Kabul	35.54	323	P		P	03 45 03.3 -1.5
KBL	Kabul	35.54	323	P		P	03 45 03.3 -1.5
KBL				pmax		pmax	
	comp=Z,5.0nm,0.7s						
KSH	Kashi	35.87	336	P		P	03 45 11.6 +4.2
KSH				sP		sP	03 45 17.1 +2.0
KSH				pmax		pmax	
	comp=Z,5.0nm,1.2s						
BTO	Baotou	35.89	21	*e*P		P	03 45 04.9 -2.7
BTO				PP		PP	03 46 31.9 +2.6
BTO				S		S	03 50 42.7 -2.0
BTO				SS		SnSn	03 53 09.2 +0.5
BTO				pmax		pmax	
	comp=Z,18nm,0.6s						
BTO				pmax		pmax	
	comp=Z,630nm,4.8s						
BTO				LR		LR	
	comp=N,250nm,7.6s						
BTO				LR		LR	
	comp=E,420nm,5.8s						
BTO				LR		LR	
	comp=Z,250nm,4.9s						
WUS	Wushi	36.15	341	P		P	03 45 08.5 -1.3
WUS				IAmb		IAmb	03 45 22.4
	comp=Z,13nm,0.7s						
WMQ	Urumqi	36.66	352	*e*P		P	03 45 15.1 +1.1
HHC	Hu-ho-hao-te	36.67	22	*e*P		P	03 45 16.1 +1.9
HHC				pmax		pmax	
	comp=Z,19nm,0.8s						
HHC				pmax		pmax	
	comp=Z,170nm,6.9s						
WSAR	Wadi Sarin	37.58	299	P		P	03 45 21.9 -0.2
	baz=73,slow=20,SNR=3.7						
KDJ	Kajisay	37.67	339	P		P	03 45 21.6 -1.2
KDJ	Kajisay	37.67	339	P		P	03 45 21.6 -1.2
KDJ				pmax		pmax	
	comp=Z,7.0nm,0.8s						
SHLS	Shalkode	37.84	342	*e*P		P	03 45 22.5 -1.6
SHLS	Shalkode	37.84	342	*e*P		P	03 45 22.5 -1.6
BJI	Beijing	37.93	28	P		P	03 45 25.4 +0.6
BJI				pmax		pmax	
	comp=Z,2.0nm,0.8s						
UZB	Uzynbulak	37.97	342	*e*P		P	03 45 24.7 -0.5
UZB	Uzynbulak	37.97	342	*e*P		P	03 45 24.7 -0.5
GAR	Garm	38.06	329	P		P	03 45 25.0 -1.1
GAR				IAmb		IAmb	03 45 39.0
	comp=Z,33nm,1.0s						
SATY	Saty	38.08	341	*e*P		P	03 45 25.6 -0.6
SATY	Saty	38.08	341	*e*P		P	03 45 25.7 -0.6
ZHN	Zhinishke	38.17	341	*e*P		P	03 45 26.3 -0.6
ZHN	Zhinishke	38.17	341	*e*P		P	03 45 26.3 -0.6
CHGR	Chuyangaron	38.41	328	P		P	03 45 27.7 -1.2
CHGR	Chuyangaron	38.41	328	P		P	03 45 27.7 -1.2
BOOM	Boomskoye usch	38.43	338	P		P	03 45 27.6 -1.6
BOOM	Boomskoye usch	38.43	338	P		P	03 45 27.6 -1.6
BOOM				pmax		pmax	
	comp=Z,8.0nm,1.4s						
SIMJ	Simiganj	38.49	328	P		P	03 45 28.0 -1.7
SIMJ				IAmb		IAmb	03 45 41.6
	comp=Z,24nm,1.1s						
TNSS	Tian-Shan	38.55	340	*e*P		P	03 45 29.6 -0.8
TNSS	Tian-Shan	38.55	340	*e*P		P	03 45 29.6 -0.8
BTK	Batken	38.62	331	P		P	03 45 30.7 0.0
BTK				IAmb		IAmb	03 45 45.2
	comp=Z,32nm,1.4s						
BTK	Batken	38.62	331	P		P	03 45 30.7 0.0
BTK				pmax		pmax	
	comp=Z,32nm,1.4s						
MDOK	Medeo	38.62	340	*e*P		P	03 45 30.0 -0.8
MDOK	Medeo	38.62	340	*e*P		P	03 45 30.1 -0.8
ARSB	Arslanbob	38.64	334	P		P	03 45 29.7 -1.2
ARSB				IAmb		IAmb	03 45 38.6
	comp=Z,20nm,1.0s						
ARSB	Arslanbob	38.64	334	P		P	03 45 29.7 -1.2
ARSB				pmax		pmax	
	comp=Z,20nm,1.0s						
AAA	Alma-Ata	38.71	340	*e*P		P	03 45 30.7 -0.7
AAA				pmax		pmax	
	comp=Z,15nm,0.6s						
AAA	Alma-Ata	38.71	340	*e*P		P	03 45 30.8 -0.7
	comp=Z,15nm,0.6s						
AAK	Ala-Archa	39.11	337	P		P	03 45 33.6 -1.2
AAK	Ala-Archa	39.11	337	P		P	03 45 34.5 -0.4
	comp=Z,2.7nm,0.7s,baz=193,slow=8.1,SNR=6.8						
AAK				LR		LR	04 03 35.8
	comp=Z,208nm,19.5s,baz=155,slow=39						
	comp=Z,2.7nm,0.7s						
AAK	Ala-Archa	39.11	337	⇓*i* P		P	03 45 35.8 +0.9
AAK				pmax		pmax	
	comp=Z,5.0nm,1.0s						
FITZ	Fitzroy Crossi	40.10	130	LR		LR	04 04 55.3
	comp=Z,110nm,19.2s,baz=297,slow=40						
MK31	Makanchi Array	40.50	347	*c i* P		P	03 45 45.6 -0.6
MKAR	Makanchi Array	40.50	347	P		P	03 45 45.2 -1.0
MKAR	Makanchi Array	40.50	347	P		P	03 45 46.1 -0.1
	comp=Z,11nm,0.8s,baz=164,slow=8.1,SNR=88						
MKAR				LR		LR	04 06 12.5
	comp=Z,51nm,18.8s,baz=178,slow=42						
	comp=Z,11nm,0.8s						
MKAR	Makanchi Array	40.50	347	*i* P		P	03 45 46.0 -0.2
MKAR				pmax		pmax	
	comp=Z,11nm,0.8s						
MAKZ	Makanchi	40.58	347	P		P	03 45 45.9 -1.0
MAKZ	Makanchi	40.58	347	P		P	03 45 45.9 -1.0
MAKZ				pmax		pmax	
	comp=Z,10.0nm,0.8s						
IUG	Iuzhnay	40.62	332	*e*P		P	03 45 46.6 -0.8
IUG	Iuzhnay	40.62	332	*e*P		P	03 45 46.6 -0.8
ZSN	Zaisan	40.63	350	*e*P		P	03 45 46.8 -0.5
ZSN	Zaisan	40.63	350	*e*P		P	03 45 46.8 -0.5
XLT	XiLinHaoTe	41.02	24	*e*P		P	03 45 47.8 -2.9
XLT				pmax		pmax	
	comp=Z,14nm,0.8s						
KKAR	Karatay Array	41.16	333	P		P	03 45 50.0 -1.7
KKAR	Karatay Array	41.16	333	P		P	03 45 50.0 -1.7
BTLS	Baital	41.33	338	*e*P		P	03 45 52.5 -0.5
BTLS	Baital	41.33	338	*e*P		P	03 45 52.5 -0.5
BRLS	Borolday	41.40	333	*e*P		P	03 45 51.8 -1.9

BRLS	Borolday	41.40	333	*e*P		P	03 45 51.9 -1.9
SONM	Songino Array	41.54	12	P		P	03 45 55.0 +0.1
SONM	Songino Array	41.54	12	P		P	03 45 55.5 +0.6
	comp=Z,3.3nm,0.9s,baz=192,slow=8.2,SNR=16						
SONM				LR		LR	04 04 28.6
	comp=Z,86nm,19.8s,baz=152,slow=38						
	comp=Z,3.3nm,0.9s						
SONM	Songino Array	41.54	12	P		P	03 45 55.0 +0.1
SONM				pmax		pmax	
	comp=Z,6.0nm,1.0s						
ULN	Ulaanbaatar	41.72	13	P		P	03 45 55.9 -0.5
ULN	Ulaanbaatar	41.72	13	⇑*i* P		P	03 45 57.1 +0.7
ULN				pmax		pmax	
	comp=Z,3.0nm,1.0s						
JNU	Nakatsue	42.46	48	LR		LR	04 04 35.0
	comp=Z,87nm,19.6s,baz=214,slow=38						
KSRS	Korea Array	42.73	41	LR		LR	04 05 35.7
	comp=Z,84nm,18.0s,baz=225,slow=39						
KURBB	Kurchatov Arra	44.96	346	P		P	03 46 22.7 +0.5
	comp=Z,7.0nm,0.4s,baz=172,slow=6.9,SNR=132						
KURBB				PcP		PcP	03 48 03.6 +0.2
	comp=Z,1.1nm,0.7s,baz=161,slow=2.8,SNR=2.9						
KURBB				LR		LR	04 08 08.8
	comp=Z,110nm,20.5s,baz=170,slow=40						
	comp=Z,7.0nm,0.4s						
KURK	Kurchatov	45.02	346	P		P	03 46 22.0 -0.8
KURK				IAmb		IAmb	03 46 30.9
	comp=Z,20nm,0.8s						
KURK	Kurchatov	45.02	346	*c i* P		P	03 46 22.8 0.0
KURK				pmax		pmax	
	comp=Z,26nm,1.1s						
CN2	Changchun	45.34	32	*e*P		P	03 46 27.6 +2.2
CN2				pmax		pmax	
	comp=Z,10.0nm,0.5s						
NWAO	Narrogin (SRO)	45.75	153	LR		LR	04 03 43.5
	comp=Z,110nm,21.4s,baz=229,slow=34						
BRZS	Berezniki	46.05	341	*e*P		P	03 46 30.7 -0.2
BRZS	Berezniki	46.05	341	*e*P		P	03 46 30.8 -0.2
ZALV	Zalesovo Beam	46.97	352	P		P	03 46 37.5 -0.6
ZALV	Zalesovo Beam	46.97	352	P		P	03 46 38.3 +0.3
	comp=Z,6.9nm,0.4s,baz=176,slow=8.3,SNR=50						
ZALV				LR		LR	04 10 54.6
	comp=Z,53nm,20.6s,baz=193,slow=42						
	comp=Z,6.9nm,0.4s						
ZALV	Zalesovo Beam	46.97	352	*i* P		P	03 46 38.2 +0.1
ZALV				pmax		pmax	
	comp=Z,7.0nm,0.4s						
PSTR	Posyet	47.58	37	*e*P		P	03 46 42.3 -0.7
BNX	BinXian	47.68	31	⇑P		P	03 46 43.3 -0.5
BNX				pmax		pmax	
	comp=Z,3.0nm,1.6s						
MSHR	Mys Shultsa	47.75	37	⇑*i* P		P	03 46 44.9 +0.5
MSHR				pmax		pmax	
	comp=Z,8.0nm,0.9s						
WRA	Warramunga Arr	47.97	125	P		P	03 46 45.4 -1.0
	comp=Z,0.8nm,0.7s,baz=305,slow=8.9,SNR=5.9						
	comp=Z,0.8nm,0.7s						
WRA	Warramunga Arr	47.97	125	*i* P		P	03 46 45.5 -0.9
WRA				pmax		pmax	
	comp=Z,1.0nm,0.7s						
WR0	Warramunga Arr	48.14	125	P		P	03 46 48.0 +0.2
WR0				IAmb		IAmb	03 48 26.1
	comp=Z,26nm,1.6s						
USA0B	Ussuriysk Arra	49.20	36	*e*P		P	03 46 54.7 -0.8
USRK	Ussuriysk Ar.	49.20	36	LR		LR	04 08 48.5
	comp=Z,93nm,18.1s,baz=242,slow=38						
RAYN	Ar Rayn	49.32	295	P		P	03 46 55.7 -1.1
RAYN				IAmb		IAmb	03 47 06.0
	comp=Z,9.6nm,0.8s						
RAYN	Ar Rayn	49.32	295	P		P	03 46 55.7 -1.1
RAYN				pmax		pmax	
	comp=Z,10.0nm,0.8s						
MJAR	Matsushiro Arr	49.38	47	LR		LR	04 08 25.4
	comp=Z,64nm,21.0s,baz=216,slow=37						
BVAR	Borovoye Array	49.40	341	P		P	03 46 56.5 -0.4
	comp=Z,5.6nm,0.8s,baz=139,slow=7.7,SNR=21						
BVAR				PcP		PcP	03 48 19.8 +0.7
	comp=Z,1.2nm,0.6s,baz=145,slow=5.3,SNR=2.0						
BVAR				LR		LR	04 09 46.5
	comp=Z,74nm,20.3s,baz=162,slow=38						
	comp=Z,5.6nm,0.8s						
BRVK	Borovoye	49.46	341	P		P	03 46 56.5 -0.9
BRVK				IAmb		IAmb	03 47 05.3
	comp=Z,7.5nm,0.8s						
BRVK	Borovoye	49.46	341	*c i* P		P	03 46 56.9 -0.4
BRVK				pmax		pmax	
	comp=Z,7.0nm,1.0s						
ASAR	Alice Springs	49.60	130	P		P	03 46 58.1 -0.8
	comp=Z,1.2nm,0.6s,baz=305,slow=7.2,SNR=14						
ASAR				PcP		PcP	03 48 20.4 0.0
	comp=Z,1.0nm,0.7s,baz=300,slow=3.8,SNR=5.2						
ASAR				LR		LR	04 08 41.6
	comp=Z,84nm,20.4s,baz=306,slow=37						
	comp=Z,1.2nm,0.6s						
FORT	Forrest	49.98	141	P		P	03 47 01.3 -0.3
ABKAR	Akbulak array	50.62	331	P		P	03 47 05.5 -0.8
ABKAR				IAmb		IAmb	03 47 19.4
	comp=Z,25nm,1.4s						
KLR	Kul'dur	52.20	30	LR		LR	04 11 50.3
	comp=Z,72nm,18.6s,baz=236,slow=39						
KLR	Kul'dur	52.20	30	*e*P		P	03 47 23.2 +5.1
KLR				pmax		pmax	
	comp=Z,5.0nm,2.0s						
AKTO	Aktyubinsk	52.34	332	P		P	03 47 19.4 +0.3
	comp=Z,3.9nm,0.8s,baz=135,slow=7.4,SNR=8.7						
	comp=Z,3.9nm,0.8s						
ZEA	Zeya	53.30	24	*e*P		P	03 47 34.1 +8.0
ASAJ	Asahikawa	55.67	41	LR		LR	04 11 50.8
	comp=Z,65nm,20.8s,baz=262,slow=36						
SVE	Sverdlovsk	55.80	338	*e*P		P	03 47 44.7 +0.4
SVE				pmax		pmax	
	comp=Z,39nm,1.4s						
GURO	Guroymak-BITLI	56.16	312	P		P	03 47 46.5 -0.9
ARTI	Arti	56.33	337	P		P	03 47 47.1 -0.9
ARTI	Arti	56.33	337	LR		LR	04 14 07.9
	comp=Z,167nm,20.7s,baz=166,slow=38						
ARTI	Arti	56.33	337	*c i* P		P	03 47 47.9 -0.1
ARTI							03 48 46.0
ARTI				S		S	03 55 38.5 +1.3
ARTI				SS		SS	03 59 22.4 -1.8
ARTI				pmax		pmax	
	comp=Z,20nm,1.1s						
KBZ	Khabaz	57.44	318	LR		LR	04 16 29.1
	comp=Z,53nm,18.2s,baz=116,slow=40						
KMBO	Kilima Mbogo	57.45	264	P		P	03 47 56.4 -0.6
KMBO	Kilima Mbogo	57.45	264	P

YAK pmax pmax
comp=N,113nm,4.4s
YAK smax smax
comp=N,117nm,4.9s
YAK smax smax
comp=E,89nm,3.9s
VRH Novokhopyorsk 61.30 325 *e*P **P 03 48 25.3 +2.6**
VRH pmax pmax
comp=Z,10.0nm,0.9s
KIRV Kirov 61.41 335 LR LR 04 17 28.3
comp=Z,61nm,19.6s,baz=146,slow=38
KIRV Kirov 61.41 335⇑ *i*P **P 03 48 23.1 -0.1**
NRIK Noril'sk 61.95 357 P **P 03 48 26.2 -0.5**
NRIK IAmb IAmb 03 48 33.9
comp=Z,5.2nm,0.7s
NRIK Noril'sk 61.95 357 P **P 03 48 26.0 -0.7**
comp=Z,4.1nm,0.7s,baz=173,slow=3.6,SNR=5.8
comp=Z,4.1nm,0.7s
NRIK Noril'sk 61.95 357⇓ *i*P **P 03 48 26.9 +0.2**
NRIK pmax pmax
comp=Z,6.0nm,0.8s
KIRS Kirsehir-Merke 62.40 310⇓P **P 03 48 29.5 -1.0**
VORD Divnogorie 62.59 324 *e*P **P 03 48 33.5 +2.2**
VORD pmax pmax
comp=Z,9.0nm,1.0s
BR131 Keskin Array S 62.75 311 P **P 03 48 31.1 -1.8**
BR131 IAmb IAmb 03 48 32.8
comp=Z,8.3nm,1.4s
BR131 Keskin Array S 62.75 311 P **P 03 48 31.1 -1.8**
BR131 pmax pmax
comp=Z,8.0nm,1.4s
BRTR Keskin Array B 62.75 311 P **P 03 48 30.8 -2.1**
BRTR Keskin Array B 62.75 311 P **P 03 48 31.6 -1.3**
comp=Z,1.2nm,0.6s,baz=123,slow=5.3,SNR=12
comp=Z,1.2nm,0.6s
BRTR Keskin Array B 62.75 311 *i*P **P 03 48 31.2 -1.6**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
VSR Storozhevoye 62.76 325 *e*P **P 03 48 34.5 +2.0**
VSR pmax pmax
comp=Z,7.0nm,1.0s
VORR Voronezh 62.92 325 *e*P **P 03 48 35.9 +2.3**
VORR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 63.47 326 *e*P **P 03 48 35.3 -1.8**
LPSR pmax pmax
comp=Z,9.0nm,0.9s
H04N2 CROZET ISLANDS 65.41 211 T T 04 59 25.3
baz=47,slow=75
H04N1 CROZET ISLANDS 65.42 211 T T 04 59 26.4
baz=47,slow=75
H04N3 CROZET ISLANDS 65.43 211 T T 04 59 25.0
baz=47,slow=75
MOS Moscow 65.46 329 *e*P **P 03 48 47.9 -2.2**
MOS pmax pmax
comp=Z,38nm,0.6s
OBN Obninsk 65.76 328 *e*P **P 03 48 51.4 -0.6**
OBN *i* 03 48 56.5
OBN *i* 03 49 26.4
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,119nm,23.0s
KLMR Klimovskoe 66.85 334 *e*P P 03 48 53.9 -5.1
KLMR pmax pmax
comp=Z,64nm,2.0s
MA2 Magadan 67.09 27 LR LR 04 20 33.3
comp=Z,29nm,18.1s,baz=351,slow=38
TIXI Tiksi 67.62 11 P **P 03 49 02.3 -1.3**
TIXI Tiksi 67.62 11 *d i*P **P 03 49 03.3 -0.3**
TIXI pmax pmax
comp=Z,14nm,1.4s
SORM Soroca 68.44 319⇓P **P 03 49 07.9 -1.4**
AKASG Malin Array Be 68.52 322 P **P 03 49 08.0 -1.6**
comp=Z,0.4nm,0.5s,baz=86,slow=5.5,SNR=5.9
AKASG LR LR 04 23 27.8
comp=Z,62nm,19.2s,baz=72,slow=40
comp=Z,0.4nm,0.5s
AKASG Malin Array Be 68.52 322 *i*P **P 03 49 09.1 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 68.52 322 *c e*P **P 03 49 09.4 -0.3**
KIEV Kiev 68.52 322⇑P **P 03 49 08.5 -1.2**
VRI Vrincioaia 69.04 316⇑P **P 03 49 13.4 +0.3**
PLOR Plostina 69.09 316⇓P **P 03 49 13.3 -0.2**
TESR Tescani 69.22 317⇑P P 03 49 20.4 +6.2
COVR Voineasa-Covas 69.40 316⇓P P 03 49 22.1 +6.7
MLR Muntele Rosu 69.51 316 P **P 03 49 15.4 -0.7**
MLR IAmb IAmb 03 49 24.2
comp=Z,15nm,1.2s
MLR Muntele Rosu 69.51 316 LR LR 04 27 00.2
comp=Z,52nm,18.2s,baz=342,slow=42
MLR Muntele Rosu 69.51 316⇓P **P 03 49 16.5 +0.3**
MLR Muntele Rosu 69.51 316 P **P 03 49 15.4 -0.7**
MLR pmax pmax
comp=Z,15nm,1.2s
VOIR 70.12 316⇑P **P 03 49 19.4 -0.4**
BURAR Bucovina Array 70.39 318 P **P 03 49 21.0 -0.5**
ARR Arges 70.40 315⇑P **P 03 49 20.9 -0.7**
MARR Marisel-Cluj 71.65 317⇓P **P 03 49 29.4 +0.3**
HERR Herculane 71.88 315⇑P **P 03 49 29.7 -0.8**
BOVS Bovan 72.23 313⇑P **P 03 49 31.5 -1.0**
PABE Paberze 72.73 326 P **P 03 49 34.5 -0.7**
FINES FINESS Array B 73.10 332 P **P 03 49 37.0 -0.3**
comp=Z,3.7nm,0.6s,baz=93,slow=5.6,SNR=31
comp=Z,3.7nm,0.6s
FINES FINESS Array B 73.10 332 *i*P **P 03 49 37.5 +0.1**
FINES pmax pmax
comp=Z,4.0nm,0.5s
OJC Ojcow 74.33 320 P **P 03 49 44.8 0.0**
OJC IAmb IAmb 03 49 52.7
comp=Z,10nm,1.0s
OJC Ojcow 74.33 320 P **P 03 49 44.8 0.0**
OJC pmax pmax
comp=Z,11nm,1.0s
MORH Mrgy, Hungar 74.66 316⇓P P 03 49 39.6 -7.2
BOSA Boshof 75.43 238 P **P 03 49 52.6 +0.8**
comp=Z,5.4nm,0.9s,baz=90,slow=2.6,SNR=6.4
comp=Z,5.4nm,0.9s
ARCES ARCESS Array B 75.67 340 P **P 03 49 52.0 -0.2**
comp=Z,4.2nm,0.8s,baz=103,slow=5.9,SNR=7.9
comp=Z,4.2nm,0.8s
MORC Moravsky Berou 75.73 319 *e*P **P 03 49 53.7 +0.7**
KRLC Kraliky 76.25 320 *e*P **P 03 49 56.5 +0.6**
KRLC Kraliky 76.25 320 *e*P **P 03 49 56.5 +0.6**
RONA Rosalia, Austr 76.39 317 *e*pP **P 03 49 58.3 +1.6**
comp=Z,3.0nm,0.8s
KRUC Moravsky 76.42 319 *e*P **P 03 49 55.8 -1.0**
DZM Mont Dzumac 76.56 115 *e*LR LR 04 13 41.1
comp=Z,92nm,24.8s
DZM Mont Dzumac 76.56 115 LR LR 04 27 19.1
comp=Z,47nm,18.0s,baz=270,slow=39
ARSA Arzberg 76.88 317 *i*P **P 03 50 00.2 +0.7**
comp=Z,7.1nm,1.1s
SOKA Soboth 77.19 316 *i*P **P 03 50 01.3 0.0**
comp=Z,11nm,1.2s
MOA Molln 77.76 317 *e*P **P 03 50 04.9 +0.5**
comp=Z,5.2nm,1.1s
GEC2 GERESS Array S 78.18 318 P **P 03 50 05.6 -1.3**
GERES GERESS Array B 78.18 318 P **P 03 50 06.7 -0.2**
GERES GERESS Array B 78.18 318 P **P 03 50 06.9 +0.1**
comp=Z,2.0nm,0.8s,baz=81,slow=8.2,SNR=9.6
comp=Z,2.0nm,0.8s
GERES GERESS Array B 78.18 318 P **P 03 50 06.7 -0.2**
BIOA Bad Ischl, Aus 78.18 317 *e*P **P 03 50 06.4 -0.3**
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 78.27 319 *e*P **P 03 50 07.5 +0.2**
KHC Kasperske Hory 78.27 319 *e*P **P 03 50 07.5 +0.2**
KBA Koelnbreinsper 78.36 316 *i*P **P 03 50 07.9 0.0**
comp=Z,5.1nm,1.3s
LESA Schwarzleotal 78.82 317 *e*P **P 03 50 09.4 -1.0**
comp=Z,2.6nm,0.6s
HFS Hagfors 78.84 330 P **P 03 50 10.3 +0.2**
comp=Z,2.6nm,0.4s,baz=104,slow=6.1,SNR=20
HFS LR LR 04 29 03.1
comp=Z,81nm,20.0s,baz=208,slow=39
comp=Z,2.6nm,0.4s
ABTA Abfaltersbach 78.92 316 *e*P **P 03 50 09.7 -1.3**
comp=Z,2.9nm,1.0s
CIMO Cimolais 78.97 316 P **P 03 50 10.2 -1.0**
CIMO IAmb IAmb 03 50 18.4
comp=Z,13nm,1.0s
CTI Castel Tesino 79.51 315 P **P 03 50 13.2 -1.1**
CTI IAmb IAmb 03 50 21.8
comp=Z,19nm,1.6s
CTI Castel Tesino 79.51 315 P **P 03 50 13.2 -1.1**
CTI pmax pmax
comp=Z,19nm,1.6s
WTTA Wattenberg 79.53 317 *e*P **P 03 50 14.3 -0.1**
comp=Z,8.3nm,1.1s
WATA Walderalm 79.57 317 *i*P **P 03 50 14.4 -0.2**
comp=Z,4.8nm,0.7s
SQTA Sankt Quirin 79.82 317 *i*P **P 03 50 15.9 0.0**
comp=Z,6.0nm,1.0s
MOTA Moosalm 79.89 317 *e*P **P 03 50 15.5 -0.9**
comp=Z,10nm,1.3s
NB2 NORSAR Subarra 80.12 331 P **P 03 50 16.9 -0.2**
comp=Z,1.8nm,0.6s,baz=92,slow=5.3
NOA NORSAR Array B 80.12 331 P **P 03 50 16.3 -0.8**
comp=Z,2.2nm,0.8s,baz=90,slow=5.6,SNR=7.5
comp=Z,2.2nm,0.8s
RETA Reutte 80.12 317 *i*P **P 03 50 17.1 -0.4**
comp=Z,5.7nm,1.2s
FETA Feichten 80.15 316 *e*P **P 03 50 17.9 +0.2**
comp=Z,3.6nm,1.1s
SPITS Spitsbergen Ar 80.25 348 P **P 03 50 17.6 +0.1**
comp=Z,13nm,0.9s,baz=89,slow=13,SNR=16
comp=Z,13nm,0.9s
DAVA Damuels 80.72 317 *e*P **P 03 50 21.3 +0.5**
comp=Z,5.4nm,1.2s
DAVOX Davos/Dischmat 80.73 316 LR LR 04 32 15.0
comp=Z,25nm,21.2s,baz=248,slow=40
TUE Stuetta 81.11 316 P **P 03 50 22.1 -0.9**
SYO Syowa Base 85.04 197⇓ *e s*P sP 03 50 49.0 -1.5
GAMB Gambell 85.17 26 P **P 03 50 43.9 +0.7**
baz=277
TNA Tin City 86.51 24 P **P 03 50 51.0 +1.1**
baz=280
SPIA Saint Paul Isl 86.78 33 P **P 03 50 51.9 +0.5**
baz=279
C16K Lisburne Hills 86.97 22 P **P 03 50 53.2 +1.1**
baz=282
F14K Arctic Creek 87.18 24 P **P 03 50 54.2 +1.0**
baz=282
P08K Saint George I 87.25 33 P **P 03 50 54.0 +0.3**
baz=279
C17K DeLong Mountai 87.70 21 P **P 03 50 56.6 +0.9**
baz=284
ANM Nome 87.77 25 IAmb IAmb 03 51 04.7
comp=Z,7.9nm,1.1s
ANM Nome 87.77 25 P **P 03 50 57.2 +1.1**
baz=283
F15K North Star Dit 87.81 24 P **P 03 50 57.3 +1.1**
baz=283
RDOG Red Dog Mine 87.91 22 P **P 03 50 57.7 +1.0**
baz=285
D17K Noatak River 87.93 22 P **P 03 50 57.7 +0.9**
baz=285,SNR=5.9
B18K Kokolik River 87.95 20 P **P 03 50 58.0 +1.2**
baz=286
A19K Wainwright 87.96 19 P **P 03 50 57.9 +1.1**
baz=286
EKA Eskdalemuir Ar 88.10 325 P **P 03 50 58.3 +0.5**
comp=Z,1.0nm,0.5s,baz=79,slow=5.5,SNR=6.8
comp=Z,1.0nm,0.5s
G15K Niukluk 88.22 25 P **P 03 50 59.4 +1.2**
baz=284
NIKH Nikolski High 88.26 37 P **P 03 50 58.7 +0.1**
baz=280
M11K Mekoryuk 88.28 29 P **P 03 50 58.8 +0.3**
baz=282
C18K Utukok River 88.36 21 P **P 03 50 59.9 +1.1**
baz=286
E17K Hotham Inlet 88.56 22 P **P 03 51 00.8 +1.0**
baz=286
K13K Kusilvak Mount 88.67 28 P **P 03 51 01.1 +0.7**
baz=283
G16K Koyuk River 88.81 24 P **P 03 51 01.6 +0.7**
baz=285
E18K Tukpahlearik C 88.92 22 IAmb IAmb 03 51 10.5
comp=Z,9.6nm,1.0s
E18K Tukpahlearik C 88.92 22 P **P 03 51 02.7 +1.2**
baz=287
F17K Baldwin Pennin 88.96 23 P **P 03 51 03.0 +1.4**
baz=286
J14K Nanvaranak Lak 88.98 27 P **P 03 51 02.5 +0.8**
baz=284
A21K Barrow 89.01 18 P **P 03 51 02.7 +1.0**
baz=291
URZ Urewera 89.03 129 LR LR 04 32 53.9
comp=Z,57nm,19.0s,baz=353,slow=37
H16K Elim 89.06 25 P **P 03 51 03.5 +1.3**
baz=286
B20K Meade River 89.30 19 P **P 03 51 04.0 +0.8**
baz=290
G17K Kiwalik Mounta 89.47 24 P **P 03 51 04.9 +0.8**
baz=287
UNV Unalaska Valle 89.47 36 P **P 03 51 05.7 +1.4**
baz=282
D19K Kuna River 89.49 21 P **P 03 51 05.3 +1.2**
baz=289
F18K Selawik 89.53 23 P **P 03 51 05.5 +1.3**
baz=288,SNR=6.2
A22K Sinclair Lake 89.62 18 P **P 03 51 06.0 +1.4**
baz=292
M13K Dall Lake 89.65 29 P **P 03 51 06.0 +1.1**
baz=284
L14K Kuka Creek 89.73 28 P **P 03 51 06.1 +0.7**
baz=285
I17K Unalakleet 89.92 25 P **P 03 51 06.4 +0.3**
baz=287
H17K Granite Mounta 89.93 24 P **P 03 51 06.9 +0.7**
baz=288
D20K Etivluk River 89.93 20 P **P 03 51 07.6 +1.4**
baz=291
K15K Wolf Creek Mou 90.00 27 P **P 03 51 06.4 -0.2**
baz=286
J16K Anvik River 90.13 26 P **P 03 51 07.8 +0.6**
baz=287
G18K Tagagawik 90.13 23 P **P 03 51 07.2 0.0**
baz=289
E19K Redstone River 90.15 21 P **P 03 51 08.4 +1.2**
baz=290
F19K Shaleruckik Mo 90.16 22 IAmb IAmb 03 51 15.8
comp=Z,16nm,1.2s
F19K Shaleruckik Mo 90.16 22 P **P 03 51 08.6 +1.3**
baz=290
L15K Ungalak Mounta 90.19 28 P **P 03 51 07.9 +0.4**
baz=286
M14K Bethel 90.23 28 P **P 03 51 07.9 +0.3**
baz=286
E20K Nigu River 90.24 21 P **P 03 51 09.0 +1.3**
baz=291
B21K Ikpikpuk River 90.26 19 P **P 03 51 08.6 +0.9**
baz=292
B22K Teshekpuk Lake 90.36 18 P **P 03 51 08.9 +0.8**
baz=294
C21K Knifeblade Rid 90.38 20 P **P 03 51 09.7 +1.4**
baz=292,SNR=6.1
H18K Honhosa River 90.49 24 P **P 03 51 09.5 +0.7**
baz=289
N14K Kuskokwak Cree 90.58 29 P **P 03 51 10.5 +1.2**
baz=286
G19K Purcell Mounta 90.65 23 P **P 03 51 10.8 +1.3**
baz=290
J17K VABM Dome 90.75 26 IAmb IAmb 03 53 30.2
comp=Z,26nm,1.9s
J17K VABM Dome 90.75 26 P **P 03 51 11.1 +1.0**
baz=288
F20K Avaraart Lake 90.84 22 P **P 03 51 11.8 +1.4**
baz=291
M15K Kasigluk River 90.84 28 P **P 03 51 11.7 +1.1**
baz=287
E21K Killik River 90.93 20 IAmb IAmb 03 51 19.4
comp=Z,14nm,1.1s
E21K Killik River 90.93 20 P **P 03 51 12.0 +1.1**
baz=293
O14K Tigyukauivet M 90.98 30 P **P 03 51 12.6 +1.5**
baz=286
L16K Owhat River 91.10 27 P **P 03 51 13.0 +1.2**
baz=288
H19K Roundabout Mou 91.11 23 P **P 03 51 11.5 -0.2**
H19K Roundabout Mou 91.11 23 P **P 03 51 13.5 +1.8**
baz=291,SNR=13
D22K Ayikyak River 91.19 19 P **P 03 51 13.4 +1.4**
baz=294
GCSA Galena City Sc 91.22 24 P **P 03 51 14.0 +1.9**
baz=290
N15K Kwethluk River 91.28 29 P **P 03 51 13.7 +1.1**
baz=287
K17K Iditarod 91.30 26 P **P 03 51 13.9 +1.2**
baz=289
C23K Itkillik River 91.44 18 IAmb IAmb 03 51 21.4
comp=Z,13nm,1.4s
C23K Itkillik River 91.44 18 P **P 03 51 14.5 +1.3**
baz=296
L17K Donlin 91.50 27 P **P 03 51 14.7 +1.1**
baz=289
ESDC Sonseca Array 91.53 310 P **P 03 51 15.0 +0.6**
comp=Z,1.0nm,1.0s,baz=79,slow=4.7,SNR=4.8
comp=Z,1.0nm,1.0s
M16K Timber Creek 91.55 28 P **P 03 51 15.2 +1.3**
baz=288
F21K Alatna River 91.58 21 P **P 03 51 14.9 +1.0**
baz=294,SNR=7.3
O15K Ungalikthiuk R 91.71 30 P **P 03 51 15.4 +0.8**
baz=288
J18K Innoko River 91.73 25 P **P 03 51 15.5 +0.8**
baz=290
H20K Anotleneega Mo 91.74 23 P **P 03 51 16.2 +1.5**
baz=292,SNR=9.6
E22K Anaktuvuk Pass 91.79 20 IAmb IAmb 03 51 22.9
comp=Z,8.0nm,1.3s
E22K Anaktuvuk Pass 91.79 20 P **P 03 51 15.3 +0.4**
baz=295
D23K Nanushuk River 91.81 19 P **P 03 51 15.7 +0.8**
baz=296
N16K Nishlik Lake 91.81 28 P **P 03 51 16.0 +0.9**
baz=288
G21K Allakaket 91.86 22 P **P 03 51 16.6 +1.4**
baz=293
F22K John River 91.93 21 P **P 03 51 16.8 +1.3**
baz=295,SNR=8.5
J19K Poorman 92.00 24 IAmb IAmb 03 51 25.1
comp=Z,13nm,1.0s
J19K Poorman 92.00 24 P **P 03 51 17.5 +1.7**
baz=291
C24K Franklin Bluff 92.09 18 P **P 03 51 17.5 +1.4**
baz=298
M17K Holitna River 92.12 27 P **P 03 51 17.3 +0.8**
baz=290
I20K Naaghedeneel 92.16 24 P **P 03 51 16.6 +0.1**
I20K Naaghedeneel 92.16 24 P **P 03 51 17.2 +0.7**
baz=292,SNR=6.6
L18K Granite Mounta 92.18 26 P **P 03 51 17.3 +0.6**
baz=290
TOLK Toolik Lake Re 92.31 19 IAmb IAmb 03 51 25.5
comp=Z,7.0nm,1.1s
TOLK Toolik Lake Re 92.31 19 P **P 03 51 18.2 +0.9**
baz=297
D24K Happy Valley 92.32 19 P **P 03 51 18.6 +1.4**
baz=298
O16K Kokwok River B 92.42 29 P **P 03 51 19.5 +1.6**
baz=289
H21K Melozitna Rive 92.47 22 IAmb IAmb 03 51 27.2
comp=Z,12nm,1.1s
H21K Melozitna Rive 92.47 22 P **P 03 51 19.8 +1.7**
baz=294,SNR=7.7
J20K Nowinta River 92.53 24 P **P 03 51 19.8 +1.5**
baz=293,SNR=7.6
N17K Nushagak Hills 92.53 28 IAmb IAmb 03 51 27.7
comp=Z,11nm,1.1s
N17K Nushagak Hills 92.53 28 P **P 03 51 20.1 +1.7**
baz=290
E23K Chandalar 92.57 20 P **P 03 51 19.7 +1.2**
baz=297
S14K Fog Glacier 92.72 32 P **P 03 51 20.6 +1.1**
baz=288
COLD Coldfoot 92.74 21 P **P 03 51 20.8 +1.5**
baz=296
M18K Stony River 92.82 27 P **P 03 51 20.6 +0.9**
baz=291
O17K Koliganek Bris 92.83 29 P **P 03 51 20.0 +0.3**
baz=290
K20K Telida 92.88 25 P **P 03 51 21.2 +1.2**
baz=293,SNR=9.5
H22K Ishlitna Cre 92.90 22 P **P 03 51 21.8 +1.7**
baz=295
E24K Your Creek 92.93 20 P **P 03 51 21.0 +0.8**
baz=298
L19K White Mountain 92.99 26 IAmb IAmb 03 51 29.6
comp=Z,11nm,1.1s
L19K White Mountain 92.99 26 P **P 03 51 21.2 +0.6**
baz=292,SNR=6.8
D25K Kavik River 93.00 18 P **P 03 51 21.4 +0.9**
baz=300
G23K Bananza Creek 93.03 21 IAmb IAmb 03 51 29.1
comp=Z,5.9nm,1.2s
G23K Bananza Creek 93.03 21 P **P 03 51 21.7 +1.0**
baz=297
N18K Kilae Creek 93.08 28 P **P 03 51 21.4 +0.4**
baz=291
C26K Camden Bay 93.13 17 P **P 03 51 21.5 +0.6**
baz=302
CHNA Chernabura Isl 93.14 34 P **P 03 51 20.8 -0.5**
baz=288
L20K Farewell, AK 93.30 26 P **P 03 51 22.7 +0.7**
baz=293
M19K Big River Lodg 93.30 26 P **P 03 51 22.7 +0.8**
baz=292
CHUM Lake Minchumin 93.39 24 P **P 03 51 24.0 +1.7**
baz=294,SNR=8.2
F24K Squaw Lake 93.40 20 P **P 03 51 22.9 +0.5**
baz=299
Q16K King Salmon 93.42 30 P **P 03 51 22.9 +0.4**
baz=290
H23K Yukon River 93.61 22 P **P 03 51 23.6 +0.3**
baz=297
C27K Jago River 93.64 17 P **P 03 51 23.8 +0.5**
baz=303
CAST Castle Rocks 93.67 24 P **P 03 51 23.6 0.0**
CAST Castle Rocks 93.67 24 P **P 03 51 24.8 +1.2**
baz=295,SNR=7.9
N19K Bonanza Creek 93.67 27 P **P 03 51 24.7 +0.9**
baz=292
O18K Koktuh Hills 93.70 28 IAmb IAmb 03 51 32.1
comp=Z,11nm,1.0s
O18K Koktuh Hills 93.70 28 P **P 03 51 24.3 +0.5**
baz=292
BPAW Bear Paw Mtn. 93.83 24 P **P 03 51 24.8 +0.4**
BPAW IAmb IAmb 03 51 33.0
comp=Z,12nm,1.1s
BPAW Bear Paw Mtn. 93.83 24 P **P 03 51 25.2 +0.9**
baz=296,SNR=7.3
PPLA Purkeypile 93.85 25 P **P 03 51 24.6 0.0**
baz=294
M20K Styx River 93.86 26 IAmb IAmb 03 51 35.2
comp=Z,8.3nm,1.1s
M20K Styx River 93.86 26 P **P 03 51 25.2 +0.6**
baz=294
P18K Big Mountain, 93.86 29 P **P 03 51 25.8 +1.3**
baz=292
E25K Arctic Village 93.86 19 IAmb IAmb 03 53 27.7
comp=Z,13nm,1.9s
E25K Arctic Village 93.86 19 P **P 03 51 25.4 +1.0**
baz=301
G24K Hadweenzic Riv 93.94 21 IAmb IAmb 03 51 33.6
comp=Z,4.8nm,1.1s
G24K Hadweenzic Riv 93.94 21 P **P 03 51 25.4 +0.7**
baz=299
O19K Port Alsworth 93.98 28 P **P 03 51 25.7 +0.7**
baz=292
I23K Minto, Yukon-K 93.99 22 P **P 03 51 25.9 +0.9**
baz=297
F25K Christian Rive 94.11 19 P **P 03 51 26.5 +0.8**
baz=301
H24K Noodor Dome 94.21 21 P **P 03 51 27.0 +0.9**
baz=299
Q18K Katmai Hardscr 94.24 29 P **P 03 51 26.0 -0.5**
baz=292
NEA2 Nenana 94.35 23 P **P 03 51 27.6 +0.9**
baz=297
G25K Bearman Lake 94.38 20 P **P 03 51 27.6 +0.8**
baz=300
TRF Thorofare Moun 94.39 24 P **P 03 51 27.8 +0.6**
baz=296
SKT Skwentna 94.51 26 P **P 03 51 27.9 +0.4**
baz=295,SNR=12
F26K Sheenjek River 94.55 19 IAmb IAmb 03 51 36.0
comp=Z,4.2nm,1.1s
F26K Sheenjek River 94.55 19 P **P 03 51 29.2 +1.6**
baz=302
P19K Oil Pt 94.70 28 P **P 03 51 29.6 +1.1**
baz=293
H25L Birch Creek 94.73 21 P **P 03 51 28.9 +0.6**
baz=301
Q19K Cape Douglas, 94.79 29 P **P 03 51 29.5 +0.7**
baz=293
MCK McKinley 94.80 23 P **P 03 51 29.1 +0.2**
baz=298
O20K Slope Mountain 94.81 28 P **P 03 51 29.5 +0.5**
baz=294

G26K	Porcupine Rive baz=302	95.06	20	P	P	03 51 30.6 +0.7
SUA	Susitna One	95.07	26	P	P	03 51 29.5 -0.7
SUA	Susitna One baz=296,SNR=6.4	95.07	26	P	P	03 51 30.5 +0.3
E27K	Coleen River baz=305	95.08	18	P	P	03 51 30.8 +0.8
ILAR	Eielson Array comp=Z,0.3nm,0.8s,baz=306,slow=5.2,SNR=5.2 comp=Z,0.3nm,0.8s	95.09	22	P	P	03 51 29.3 -0.8
M22K	Willow baz=296,SNR=5.3	95.21	26	P	P	03 51 31.4 +0.8
PRP	Porcupine Dome baz=301	95.22	21	P	P	03 51 30.9 +0.1
HDA	Harding Lake baz=299	95.25	22	P	P	03 51 31.3 +0.5
D28M	Stokes Point baz=307	95.25	17	P	P	03 51 31.6 +0.9
HOM	Homer baz=295	95.44	28	P	P	03 51 32.6 +0.9
E28M	Babbage River baz=307	95.46	17	P	P	03 51 32.8 +1.1
Q20K	Shuyak Island baz=294	95.52	29	P	P	03 51 32.0 -0.1
OHAK	Old Harbor baz=293	95.63	30	P	P	03 51 32.9 +0.2
RC01	Rabbit Creek A baz=297,SNR=5.6	95.67	26	P	P	03 51 33.4 +0.6
PMR	Palmer baz=297,SNR=5.9	95.70	25	P	P	03 51 33.3 +0.4
SLKM	Skilak Lake comp=Z,9.3nm,1.1s	95.72	27	IAmb	IAmb	03 51 40.3
J25K	Salcha River, baz=301	95.74	22	P	P	03 51 32.9 -0.2
KDAK	Kodiak Island baz=294	95.76	30	P	P	03 51 33.6 +0.3
BRSE	Bradley Lake S baz=296,SNR=5.2	95.81	27	P	P	03 51 34.1 +0.6
G27K	Doyon Strip baz=304	95.84	19	P	P	03 51 34.2 +0.7
SML	Sawmill baz=298,SNR=5.7	95.94	25	P	P	03 51 34.6 +0.5
O22K	Cooper Landing baz=296	95.95	27	P	P	03 51 34.8 +0.8
K24K	Donnelly Dome baz=300	96.00	23	P	P	03 51 34.6 +0.3
E29M	Blow River baz=308	96.07	17	P	P	03 51 35.1 +0.6
KNK	Knik Glacier baz=298,SNR=5.1	96.07	25	P	P	03 51 35.4 +0.7
I26K	Coal Creek Min baz=303	96.17	21	P	P	03 51 36.1 +1.1
M23K	Glacier View baz=298	96.20	25	P	P	03 51 36.2 +1.0
H27K	Steamboat Moun baz=305	96.22	20	P	P	03 51 35.9 +0.6
SEW	Seward baz=297	96.24	27	P	P	03 51 36.0 +0.7
SCM	Sheep Creek Mo baz=299	96.35	25	P	P	03 51 35.8 -0.1
PWL	Port Wells baz=298,SNR=6.0	96.39	26	P	P	03 51 36.7 +0.6
RIDG	Independent Ri baz=301	96.39	23	P	P	03 51 35.7 -0.3
J26L	Joseph Creek baz=302	96.46	22	P	P	03 51 36.5 +0.1
PAX	Paxson baz=301	96.54	23	P	P	03 51 36.9 +0.1
I27K	Kandik River baz=304	96.54	20	P	P	03 51 36.8 0.0
SCRK	Sand Creek baz=302	96.58	22	P	P	03 51 37.1 0.0
A36M	Sachs Harbour A36M comp=Z,5.8nm,0.9s	96.63	11	P IAmb	P IAmb	03 51 36.6 -0.3 03 51 45.2
A36M	Sachs Harbour baz=321	96.63	11	P	P	03 51 37.7 +0.7
M24K	Tolsona, Glenn baz=300	96.69	24	P	P	03 51 37.6 +0.1
HARP	HAARP baz=301	96.96	24	P	P	03 51 38.8 +0.1
KLU	Klutina baz=300	97.10	25	P	P	03 51 39.0 -0.4
F30M	Barrier River baz=310	97.18	17	P	Pdif	03 51 39.7 +0.1
P23K	Montague Islan baz=299	97.20	26	P	Pdif	03 51 39.9 +0.1
I28M	Miner Creek baz=306	97.20	20	P	Pdif	03 51 40.2 +0.3
H29M	Whitestone baz=308	97.26	19	P	Pdif	03 51 40.1 +0.1
K27K	Chicken baz=304	97.26	22	P	Pdif	03 51 39.8 -0.3
L26K	Log Cabin Wild baz=303	97.34	23	P	Pdif	03 51 40.5 0.0
INK	Inuvik baz=312	97.36	16	P	Pdif	03 51 40.7 +0.4
G30M	tAoh Zraii Nji baz=310	97.45	18	P	Pdif	03 51 40.7 -0.2
N25K	Chitina, Valde baz=301	97.59	24	P	Pdif	03 51 41.7 +0.1
EYAK	Cordova Ski Ar baz=300	97.65	26	P	Pdif	03 51 41.8 0.0
RES	Resolute Bay comp=Z,3.0nm,1.0s	97.80	2	IAmb	IAmb	03 51 50.4
I29M	Ogilvie Camp, baz=308	97.80	20	P	Pdif	03 51 42.2 -0.3
M26K	Nabesna, AK baz=303	97.81	23	P	Pdif	03 51 42.5 -0.1
F31M	Tsiigehtchic baz=312	97.88	17	P	Pdif	03 51 42.5 -0.2
L27K	Beaver Creek, baz=304	97.90	22	P	Pdif	03 51 42.9 0.0
BMRM	Bremner River baz=301	97.92	25	P	Pdif	03 51 43.3 +0.2
G31M	Satah River baz=312	98.08	17	P	Pdif	03 51 43.8 +0.2
DAWY	Dawson baz=306	98.21	21	P	Pdif	03 51 44.2 -0.1
M27K	Edge Creek, AK baz=304	98.27	23	P	Pdif	03 51 44.6 -0.1
I30M	Mount Dempster baz=309	98.53	19	P	Pdif	03 51 45.6 -0.2
KAIM	Kayak Island baz=301	98.54	26	P	Pdif	03 51 45.8 0.0
H31M	Peel River baz=311	98.80	18	P	Pdif	03 51 46.9 0.0
C36M	Paulatuk baz=322	98.94	13	P	Pdif	03 51 47.7 +0.3
J30M	Hart River baz=309	98.95	20	P	P	03 51 47.4 -0.4
K29M	Barlow Dome baz=308	99.00	21	P		03 51 47.0
YUK3	Moose Creek baz=305	99.15	23	P	Pdif	03 51 47.4 -1.4
MESA	MESA baz=304	99.45	25	P	Pdif	03 51 48.8 -1.3
M29M	Somme Creek baz=307	99.52	22	P	Pdif	03 51 49.3 -1.0
O28M	Mount Upton baz=305	99.84	24	P	Pdif	03 51 50.2 -1.8
M30M	Minto, Yukon baz=309	100.05	21	P	Pdif	03 51 51.1 -1.5
YUK4	Talbot Arm baz=307	100.11	23	P	Pdif	03 51 51.0 -2.0
YUK6	Outpost Mounta baz=307	100.46	23	P	Pdif	03 51 52.1 -2.6
PNL	Peninsula baz=306	100.80	25	P	Pdif	03 51 53.6 -2.3
HYT	Haines Junctio baz=308	100.87	23	P	Pdif	03 51 53.6 -2.7
M31M	Drury Creek, Y baz=311	101.15	21	P	Pdif	03 51 55.7 -1.8
PPT2	Papeete2 comp=Z,89nm,25.0s	117.16	106	eLR	LR	04 32 20.3
NVAR	Mina Array Bea comp=Z,1.0nm,0.9s,baz=312,slow=8.6,SNR=6.3	125.23	31	PKP	PKPdf	03 57 07.8 -1.0
PDAR	Pinedale Array comp=Z,1.2nm,0.9s,baz=330,slow=4.2,SNR=7.8	125.52	21	PKP	PKPdf	03 57 07.8 -1.4
ECSD	EROS Data Cent	128.10	10	PKPdf	PKiKP	03 57 15.3 +0.9
PLCA	Paso Flores	144.19	200		PKPbc	03 57 42.0 +0.3
PLCA	Paso Flores comp=Z,2.0nm,0.9s,baz=153,slow=4.5,SNR=8.9	144.19	200	PKP	PKPbc	03 57 42.5 +0.8
PLCA	Paso Flores	144.19	200	PKIKP	PKPbc	03 57 42.0 +0.3
LR05	Currie	145.12	199		PKPbc	03 57 43.8 -0.7
CPUP	Villa Florida comp=Z,2.4nm,0.9s,baz=117,slow=4.5,SNR=7.2	147.07	232	PKPbc	PKPbc	03 57 51.1 +0.2
HUMP	Col San Antoni	147.83	322		PKPdf	03 57 51.2 +0.9
BI02	San Fabin de	148.06	202	PKPbc	PKPbc	03 57 52.5 -1.0
AQDB	Aquidauana	148.14	243	PKPbc	PKPdf	03 57 51.8 +1.1

*IDC **01** 03:54:21.3±1.0, 7°.30N×94°.04E, h0km, mb4.0/12, mbtmp4.0/14, ML4.1/2, MS3.3/2, Error ellipse: s-maj=40.9km s-min=17.7km az=55.0*
*NEIC **01** 03:54:23.6±0.9, 7°.4N±0°.1×94°.16E±0°.07, h10km±1km, mb4.4/22, Error ellipse: s-maj=19.9km s-min=6.7km az=30.0*
*DJA **01** 03:54:32.6±0.5, 7°N±3°×9°5E±°, h10km, M4.2/7, mb4.1/3, MLv4.2/7*
*NDI **01** 03:54:32.8±1.0, 7°.24N×94°.25E, h10km, ML4.0, MW4.0, mb4.4(NEIC)*

ISC 01 03:54:25.2±0.5, 7°.52N±0°.04×94°.23E±0°.06, h20km, n61, σ1°67/60, mb4.4/27, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	0.59	211	eP	Pn	03 54 38.6	+0.1
CMBY				eS	Sb	03 54 44.7	-0.2
CMBY	comp=N,14μm,1.0s			IAML		03 54 50.6	
CMBY	comp=E,18μm,0.4s			IAML		03 54 50.7	
BSI	Banda Aceh	2.27	152	P	Pn	03 55 02.1	+0.5
BSI				S	Sn	03 55 27.2	-1.9
LHMI	Lhok Sumawe	3.53	130	Pn	Pn	03 55 18.2	-0.7
LHMI	Lhok Sumawe	3.53	130	P	Pn	03 55 19.6	+0.7
LHMI				S	Sn	03 55 56.7	-3.4
MLSI	Meulaboh, Aceh	3.89	146	P	Pn	03 55 25.5	+1.6
PBA	Port Blair	4.37	340	eP	Pb	03 55 43.1	+1.8
PBA				eS	Sb	03 56 33.6	0.0
SRIT	Nakonsritamara	5.42	78		Pn	03 55 45.6	+0.6
DGPR	DIGLIPUR	5.77	347	eP	Pb	03 56 02.5	-2.7
DGPR				eS	Sb	03 57 07.2	-6.7
PSI	Prapat comp=E,1.0nm,0.3s,baz=321,slow=16,SNR=5.3	6.62	135	Pn	Pn	03 56 02.3	+0.7
PSI				LR	LR	03 58 54.0	
	comp=E,272nm,18.8s,baz=281,slow=41 comp=E,10.0nm,1.2s						
RPSI	Rantau Prapat	6.69	136	Pn	Pn	03 56 02.0	-0.4
KULM	Kulim	6.75	109	Pn	Pn	03 56 02.7	-0.5
CMAR	Chiang Mai Arr comp=E,0.8nm,0.3s,baz=215,slow=14,SNR=7.8	11.80	22	Pn	Pn	03 57 14.1	+1.6
CMAR				LR	LR	04 02 08.4	
	comp=E,96nm,19.5s,baz=205,slow=39 comp=E,1.3nm,0.3s						
CRAI	Chiangrai	13.96	25	Pn	Pn	03 57 44.9	+2.7
QIZ	Qiongzhong	19.00	51	P	P	03 58 45.5	-0.3
QIZ				S	S	04 02 22.0	+1.2
QIZ	comp=N,300nm,13.3s			LR	LR		
QIZ	comp=E,220nm,11.1s			LR	LR		
QIZ	comp=Z,230nm,9.4s			LR	LR		
KMI	Kunming	19.30	24	P	Pn	03 58 56.7	+6.3
KMI				pmax	pmax		
	comp=Z,12nm,0.8s						
PZH	PanZhiHua	20.19	20	P	Pn	03 59 03.6	+2.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,180nm,4.7s						
LSA	Lhasa	22.25	353	P	P	03 59 21.8	+0.3
LSA				IAmb	IAmb	03 59 31.1	
	comp=Z,10nm,0.8s						
H08S3	Diego Garcia H baz=54,slow=75	26.40	236	T	T	04 27 51.9	
H08S2	Diego Garcia H baz=54,slow=75	26.40	236	T	T	04 27 44.6	
H08S1	Diego Carcia H baz=54,slow=75	26.41	236	T	T	04 27 49.6	
NIL	Nilore	32.44	326	P	P	04 00 54.0	-0.3
NJ2	Nanjing	33.48	40	eP	P	04 01 05.0	+1.7
NJ2				pmax	pmax		
	comp=Z,31nm,0.6s						
WUS	Wushi	36.10	341	P	P	04 01 25.8	-0.2
WUS				IAmb	IAmb	04 01 32.8	
	comp=Z,4.4nm,0.8s						
HHC	Hu-ho-hao-te	36.61	22	eP	P	04 01 31.2	+0.9
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
WMQ	Urumqi	36.61	352	eP	P	04 01 32.9	+2.7
WMQ				pmax	pmax		
	comp=Z,19nm,0.6s						
GAR	Garm	38.03	329	P	P	04 01 42.3	-0.1
GAR				IAmb	IAmb	04 01 48.9	
	comp=Z,16nm,1.4s						
SIMJ	Simiganj	38.45	328	P	P	04 01 45.9	-0.1
SIMJ				IAmb	IAmb	04 01 48.8	
	comp=Z,3.7nm,0.6s						
BTK	Batken	38.59	331	P	P	04 01 46.9	-0.2
BTK				IAmb	IAmb	04 01 56.9	
	comp=Z,6.6nm,1.1s						
ARSB	Arslanbob	38.60	334	P	P	04 01 47.8	+0.6
ARSB				IAmb	IAmb	04 01 55.6	
	comp=Z,3.8nm,0.7s						
MK31	Makanchi Array	40.45	347	P	P	04 02 02.0	-0.4
MK31				IAmb	IAmb	04 02 09.3	
	comp=Z,4.9nm,0.9s						
MKAR	Makanchi Array	40.45	347	P	P	04 02 02.0	-0.4
MKAR	Makanchi Array comp=Z,2.4nm,0.6s,baz=165,slow=7.8,SNR=28	40.45	347	P	P	04 02 02.8	+0.4
	comp=Z,2.4nm,0.6s						
MAKZ	Makanchi	40.53	347	P	P	04 02 02.7	-0.4
SONM	Songino Array	41.49	12	P	P	04 02 12.2	+1.2
SONM	Songino Array comp=Z,0.8nm,0.8s,baz=201,slow=7.7,SNR=6.3	41.49	12	P	P	04 02 12.1	+1.0
	comp=Z,0.8nm,0.8s						
KURBB	Kurchatov Arra comp=Z,2.3nm,0.5s,baz=173,slow=7.0,SNR=30	44.91	346	P	P	04 02 39.2	+0.7
	comp=Z,2.3nm,0.5s						
KURK	Kurchatov	44.98	346	P	P	04 02 39.2	+0.2
KURK				IAmb	IAmb	04 02 45.9	
	comp=Z,7.4nm,0.8s						
ZAA0	Zalesovo Array	46.92	352	P	P	04 02 54.5	+0.3
ZAA0				IAmb	IAmb	04 03 01.3	
	comp=Z,5.0nm,0.8s						
ZALV	Zalesovo Beam	46.92	352	P	P	04 02 54.5	+0.3
ZALV	Zalesovo Beam comp=Z,2.7nm,0.3s,baz=174,slow=6.7,SNR=16	46.92	352	P	P	04 02 55.1	+0.8
	comp=Z,2.7nm,0.3s						
WB0	Warramunga Arr	47.94	125	P	P	04 03 01.0	-1.8
WRA	Warramunga Arr	47.98	125	P	P	04 03 01.5	-1.6
WRA	Warramunga Arr comp=Z,0.4nm,0.6s,baz=302,slow=7.4,SNR=2.0	47.98	125	P	P	04 03 02.5	-0.7
	comp=Z,0.4nm,0.6s						
WB2	Warramunga Arr	47.99	125	P	P	04 03 02.1	-1.1
WB2				IAmb	IAmb	04 03 22.0	
	comp=Z,7.1nm,1.3s						
BVAR	Borovoye Array comp=Z,0.8nm,0.5s,baz=156,slow=7.9,SNR=4.0	49.35	341	P	P	04 03 13.3	+0.2
	comp=Z,0.8nm,0.5s						
ASAR	Alice Springs comp=Z,0.7nm,0.8s,baz=301,slow=8.5,SNR=6.8	49.62	130	P	P	04 03 14.3	-1.3
	comp=Z,0.7nm,0.8s						
ABKAR	Akbulak array	50.59	331	P	P	04 03 22.3	-0.3
ABKAR				IAmb	IAmb	04 03 30.4	
	comp=Z,7.5nm,1.5s						
GEVA	Gevas	55.30	312	P	P	04 03 56.7	-1.1
GEVA				IAmb	IAmb	04 04 00.1	
	comp=Z,5.0nm,0.9s						
KIV	Kislovodsk	57.64	318	P	P	04 04 14.6	+0.3
BR131	Keskin Array S	62.73	311	P	P	04 04 48.0	-1.3
BRTR	Keskin Array B	62.73	311	P	P	04 04 48.4	-0.9
BRTR	Keskin Array B comp=Z,0.4nm,0.6s,baz=123,slow=8.1,SNR=4.4	62.73	311	P	P	04 04 48.3	-1.0
	comp=Z,0.4nm,0.6s						
H04N2	CROZET ISLANDS baz=47,slow=75,SNR=7.3	65.47	211	T	T	05 17 06.2	
H04N1	CROZET ISLANDS baz=47,slow=75,SNR=13	65.48	211	T	T	05 16 45.8	
H04N3	CROZET ISLANDS baz=47,slow=75,SNR=11	65.49	211	T	T	05 16 48.3	
TIXI	Tiksi	67.56	11	P	P	04 05 19.2	-0.7
FINES	FINESS Array B	73.07	332	P	P	04 05 54.1	+0.4
FINES	FINESS Array B comp=Z,3.7nm,0.8s,baz=91,slow=6.1,SNR=4.5	73.07	332	P	P	04 05 52.9	-0.8
	comp=Z,3.7nm,0.8s						
GERES	GERESS Array B comp=Z,0.6nm,0.7s,baz=76,slow=4.7,SNR=4.2	78.15	318	P	P	04 06 23.4	+0.1
	comp=Z,0.6nm,0.7s						
HFS	Hagfors comp=Z,2.2nm,0.8s,baz=104,slow=6.1,SNR=5.0	78.81	330	P	P	04 06 26.5	0.0
	comp=Z,2.2nm,0.8s						
NOA	NORSAR Array B comp=Z,1.3nm,0.8s,baz=93,slow=5.8,SNR=3.4	80.08	331	P	P	04 06 33.1	-0.4
	comp=Z,1.3nm,0.8s						

*IDC **01** 03:55:28.9±1.1, 8°.09N×94°.45E, h0km, mb3.9/7, mbtmp3.9/8, ML3.5/1, MS3.6/1, Error ellipse: s-maj=37.2km s-min=22.5km az=60.0*

ISC 01 03:55:32.2±1.1, 8°.1N±0°.1×94°.4E±0°.2, h21km, n9, σ0°77/8, mb4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=204,slow=13,SNR=1.2 1.9nm,0.3s	11.23	23	Pn	Pn	03 58 12.2	+0.7
BRDH	Bariadhla	14.78	350	LR	LR	04 04 53.6	
	comp=Z,226nm,19.1s,baz=0.0,slow=38						
MKAR	Makanchi Array 1.7nm,0.7s,baz=164,slow=8.0,SNR=5.4 1.7nm,0.7s	39.97	347	P	P	04 03 05.1	-0.1
KURBB	Kurchatov Arra 0.8nm,0.3s,baz=169,slow=7.3,SNR=5.8 0.8nm,0.3s	44.44	346	P	P	04 03 41.3	-0.2
ZALV	Zalesovo Beam 0.8nm,0.5s,baz=174,slow=6.3,SNR=4.4 0.8nm,0.5s	46.41	352	P	P	04 03 56.8	-0.4
WRA	Warramunga Arr 0.5nm,0.7s,baz=302,slow=7.5,SNR=1.6 0.5nm,0.7s	48.13	126	P	P	04 04 10.7	-0.4
ASAR	Alice Springs 0.7nm,0.7s,baz=303,slow=8.1,SNR=4.0 0.7nm,0.7s	49.81	130	P	P	04 04 24.1	+0.2
KMBO	Kilima Mbogo 0.7nm,0.3s,baz=53,slow=9.5,SNR=4.0 0.7nm,0.3s	57.73	264	P	P	04 05 23.3	+0.9
HFS	Hagfors 0.9nm,0.5s,baz=92,slow=4.3,SNR=5.2 0.9nm,0.5s	78.44	330	P	P	04 07 30.2	-1.1

*IDC **01** 04:03:00.0±2.0, 7°.52N×93°.29E, h0km, mb3.9/9, mbtmp3.9/10, ML3.3/1, Error ellipse: s-maj=54.3km s-min=32.1km az=43.0*

ISC 01 04:03:01.4±1.7, 7°.5N±0°.2×93°.3E±0°.3, h10km, n16, σ1°04/10, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat 0.5nm,0.3s,baz=326,slow=18,SNR=1.6 1.9nm,0.4s	7.30	130	Pn	Pn	04 04 48.0	-0.3
H08S3	Diego Garcia H baz=55	25.63	235	T	T	04 35 10.8	
H08S2	Diego Garcia H baz=55	25.64	234	T	T	04 35 10.9	
H08S1	Diego Carcia H baz=55	25.65	234	T	T	04 35 12.1	
MKAR	Makanchi Array 1.2nm,0.7s,baz=168,slow=8.5,SNR=13 1.2nm,0.7s	40.26	348	P	P	04 10 38.2	-0.4
SONM	Songino Array 0.3nm,0.5s,baz=185,slow=7.1,SNR=2.7 0.3nm,0.5s	41.70	13	P	P	04 10 48.7	-1.8
KSRS	Korea Array 0.7nm,0.4s,baz=228,slow=8.3,SNR=2.0 0.7nm,0.4s	43.28	41	P	P	04 11 05.0	+1.7
KURBB	Kurchatov Arra 0.8nm,0.3s,baz=170,slow=7.6,SNR=17 0.8nm,0.3s	44.70	347	P	P	04 11 14.6	+0.1
ZALV	Zalesovo Beam 2.0nm,0.4s,baz=176,slow=6.8,SNR=9.2 2.0nm,0.4s	46.81	353	P	P	04 11 31.1	-0.1
BVAR	Borovoye Array 0.3nm,0.3s,baz=136,slow=6.7,SNR=2.2 0.3nm,0.3s	49.06	342	P	P	04 11 48.2	-0.5
H04N2	CROZET ISLANDS baz=47	64.99	211	T	T	05 24 20.9	
H04N1	CROZET ISLANDS baz=47	65.00	211	T	T	05 24 27.3	
H04N3	CROZET ISLANDS baz=47	65.01	211	T	T	05 24 14.9	
FINES	FINESS Array B 1.2nm,0.5s,baz=116,slow=8.7,SNR=6.1 1.2nm,0.5s	72.64	332	P	P	04 14 29.6	+0.6
HFS	Hagfors 0.8nm,0.4s,baz=101,slow=7.5,SNR=4.1 0.8nm,0.4s	78.35	330	P	P	04 15 02.5	+0.7
NOA	NORSAR Array B 0.4nm,0.7s,baz=112,slow=2.6,SNR=1.1 0.4nm,0.7s	79.63	331	P	P	04 15 09.3	+0.3

*DJA **01** 04:04:27.4±0.6, 8°N±5°×9°4E±°, h10km, M4.4/7, mb4.4/4, MLv4.5/7*
*IDC **01** 04:04:27.4±1.0, 7°.34N×94°.07E, h0km, mb4.0/12, mbtmp3.9/14, ML4.1/2, Error ellipse: s-maj=39.4km s-min=21.1km az=56.0*
*NEIC **01** 04:04:29.2±1.9, 7°.4N±0°.1×94°.2E±0°.1, h10km±2km, mb4.4/13, Error ellipse: s-maj=28.2km s-min=12.1km az=234.0*
*NDI **01** 04:04:35.5±0.4, 7°.48N×94°.30E, h10km, ML4.1, MW4.2, mb4.4(NEIC)*

ISC 01 04:04:30.9±0.5, 7°.50N±0°.04×94°.24E±0°.06, h20km, n47, σ1°67/46, mb4.2/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	0.58	213	eP	Pn	04 04 44.4	+0.4
CMBY				eS	Sn	04 04 51.5	-1.4
CMBY	comp=E,12μm,0.4s			IAML		04 04 56.0	
CMBY	comp=N,13μm,0.3s			IAML		04 04 57.0	
BSI	Banda Aceh	2.25	152	P	Pb	04 05 12.8	+1.9
BSI				S	Sb	04 05 47.9	+10
LHMI	Lhok Sumawe	3.51	130	Pn	Pn	04 05 25.3	+0.9
LHMI	Lhok Sumawe	3.51	130	P	Pb	04 05 28.9	-3.5
MLSI	Meulaboh, Aceh	3.87	146	P	Pn	04 05 31.6	+2.3
PBA	Port Blair	4.38	340	Pn	Pn	04 05 37.8	+1.3
PBA	Port Blair	4.38	340	eP	Pb	04 05 43.0	-4.3
PBA				eS	Sn	04 06 31.7	+4.8
SRIT	Nakonsritamara	5.42	78	Pn	Pn	04 05 49.6	-1.1
DGPR	DIGLIPUR	5.79	347	eP	Pn	04 06 01.7	+6.0
DGPR				eS	Sn	04 07 04.8	+3.2
PSI	Prapat comp=N,1.2nm,0.3s,baz=315,slow=7.1,SNR=4.2 comp=N,2.8nm,0.4s	6.60	135	Pn	Pn	04 06 06.8	-0.2
RPSI	Rantau Prapat	6.67	135		Pn	04 06 06.8	-1.1
RPSI	Rantau Prapat	6.67	135	Pn	Pn	04 06 07.2	-0.7
KULM	Kulim	6.74	109	Pn	Pn	04 06 06.8	-2.0
CMAR	Chiang Mai Arr comp=N,0.8nm,0.3s,baz=205,slow=14,SNR=4.9 comp=N,1.1nm,0.3s	11.81	22	Pn	Pn	04 07 19.6	+1.2
LSA	Lhasa	22.27	353	P	P	04 09 29.7	+2.3
LSA				IAmb	IAmb	04 09 36.9	
	comp=Z,12nm,0.8s						
H08S3	Diego Garcia H baz=54,slow=75,SNR=26	26.39	236	T	T	04 36 58.3	
H08S2	Diego Garcia H baz=54,slow=75,SNR=30	26.39	236	T	T	04 36 58.6	
H08S1	Diego Carcia H baz=54,slow=75,SNR=19	26.41	236	T	T	04 36 54.2	
WUS	Wushi	36.12	341	P	P	04 11 31.4	-0.5
WUS				IAmb	IAmb	04 11 38.5	
	comp=Z,9.6nm,1.2s						
SIMJ	Simiganj	38.47	328	P	P	04 11 50.0	-1.8
BTK	Batken	38.61	331	P	P	04 11 50.8	-2.1
BTK				IAmb	IAmb	04 12 02.6	
	comp=Z,8.2nm,0.6s						
ARSB	Arslanbob	38.62	334	P	P	04 11 52.0	-1.0
ARSB				IAmb	IAmb	04 12 00.0	
	comp=Z,5.9nm,0.7s						
MK31	Makanchi Array	40.47	347	P	P	04 12 07.1	-1.2
MK31				IAmb	IAmb	04 12 15.1	
	comp=Z,4.8nm,0.9s						
MKAR	Makanchi Array	40.47	347	P	P	04 12 07.4	-0.8
MKAR	Makanchi Array comp=Z,2.2nm,0.7s,baz=168,slow=7.3,SNR=22 comp=Z,2.2nm,0.7s	40.47	347	P	P	04 12 08.4	+0.1
MAKZ	Makanchi	40.55	347	P	P	04 12 08.6	-0.4
SONM	Songino Array comp=Z,0.3nm,0.4s,baz=193,slow=5.9,SNR=3.7	41.50	12	P	P	04 12 18.2	+1.3
SONM				PcP	PcP	04 14 16.0	+1.7

comp=Z,0.2nm,0.4s,baz=207,slow=1.0,SNR=1.6
comp=Z,0.3nm,0.4s
KURBB Kurchatov Arra 44.93 346 P P 04 12 44.7 +0.4
comp=Z,2.9nm,0.7s,baz=166,slow=6.9,SNR=18
KURBB PcP **PcP 04 14 26.7 +1.1**
comp=Z,0.6nm,0.8s,baz=147,slow=2.4,SNR=3.5
comp=Z,2.9nm,0.7s
KURK Kurchatov 44.99 346 P P 04 12 45.1 +0.3
KURK IAmb IAmb 04 12 51.7
comp=Z,8.1nm,0.9s
ZAA0 Zalesovo Array 46.94 352 P P 04 13 00.2 +0.1
ZALV Zalesovo Beam 46.94 352 P P 04 13 00.7 +0.6
ZALV Zalesovo Beam 46.94 352 P P 04 13 00.6 +0.5
comp=Z,1.9nm,0.4s,baz=178,slow=7.9,SNR=10.0
comp=Z,1.9nm,0.4s
BVAR Borovoye Array 49.37 341 P P 04 13 18.6 -0.3
comp=Z,1.2nm,0.7s,baz=142,slow=7.3,SNR=3.6
BVAR PcP **PcP 04 14 42.3 +1.1**
comp=Z,0.5nm,0.7s,baz=106,slow=3.6,SNR=2.0
comp=Z,1.2nm,0.7s
ASAR Alice Springs 49.60 130 P P 04 13 20.0 -1.2
comp=Z,0.4nm,0.6s,baz=304,slow=7.3,SNR=5.1
comp=Z,0.4nm,0.6s
ABKAR Akbulak array 50.60 331 P P 04 13 27.6 -0.8
ABKAR IAmb IAmb 04 13 35.9
comp=Z,4.6nm,1.2s
BRTR Keskin Array B 62.75 311 P P 04 14 53.4 -1.7
comp=Z,0.7nm,0.8s,baz=119,slow=7.4,SNR=5.9
comp=Z,0.7nm,0.8s
H04N2 CROZET ISLANDS 65.46 211 T T 05 26 09.8
baz=47,slow=75,SNR=21
H04N1 CROZET ISLANDS 65.47 211 T T 05 26 02.5
baz=47,slow=75,SNR=12
H04N3 CROZET ISLANDS 65.48 211 T T 05 26 09.7
baz=47,slow=75,SNR=19
FINES FINESS Array B 73.09 332 P P 04 15 59.0 -0.5
FINES FINESS Array B 73.09 332 P P 04 15 58.6 -0.9
comp=Z,2.1nm,0.7s,baz=104,slow=5.9,SNR=6.4
comp=Z,2.1nm,0.7s
GERES GERESS Array B 78.17 318 P P 04 16 29.4 +0.3
comp=Z,0.8nm,0.7s,baz=86,slow=6.6,SNR=4.9
comp=Z,0.8nm,0.7s
HFS Hagfors 78.83 330 P P 04 16 32.8 +0.5
comp=Z,1.0nm,0.5s,baz=92,slow=7.2,SNR=4.5
comp=Z,1.0nm,0.5s
NC405 NORSAR Array S 79.86 331 P P 04 16 37.2 -0.8
NB2 NORSAR Subarra 80.10 331 P P 04 16 38.0 -1.3
comp=Z,5.7nm,1.2s,baz=96,slow=5.1
NOA NORSAR Array B 80.10 331 P P 04 16 39.4 +0.1
comp=Z,1.2nm,0.8s,baz=92,slow=5.4,SNR=4.5
comp=Z,1.2nm,0.8s
ESDC Sonseca Array 91.53 310 P P 04 17 37.5 +0.9
comp=Z,0.7nm,0.9s,baz=81,slow=4.6,SNR=2.4
comp=Z,0.7nm,0.9s

---

*BJI **01** 04:09:11.6, 6°.97N×94°.08E, h30km, mB5.0/12, mb4.7/51, Ms4.4/9, Ms7 4.0/8*
*IDC **01** 04:09:12.4±0.5, 7°.49N×94°.23E, h0km, mb4.4/27, mbtmp4.3/30, ML4.0/3, MS3.7/18, Error ellipse: s-maj=16.9km s-min=13.1km az=57.0*
*NEIC **01** 04:09:14.4±1.4, 7°.50N±0°.04×94°.21E±0°.09, h10km±1km, mb5.0/98, Error ellipse: s-maj=16.1km s-min=5.7km az=249.0*
*NDI **01** 04:09:15.7±0.6, 7°.39N×94°.52E, h10km, ML4.4, MW4.6, mb5.0(NEIC)*
*DJA **01** 04:09:20.3±0.5, 8°N±3°×9°5E±°, h10km, M4.6/6, mB6.1/1, mb4.5/6, MLv4.7/6, Mw(mB)5.8/1*
ISC 01 04:09:16.0±0.3, 7°.47N±0°.04×94°.24E±0°.05, h20km, n392, σ1§06/364, mb4.8/99, MS3.7/16, 2C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.56**	**214**	*eP*	**Pb**	**04 09 28.0**	**+0.9**
CMBY				*eS*	**Sb**	**04 09 36.7**	**+2.1**
CMBY				IAML		04 09 40.6	
	comp=N,50μm,0.4s						
CMBY				IAML		04 09 41.3	
	comp=E,23μm,0.4s						
LHMI	**Lhok Sumawe**	**3.49**	**130**	Pn	**Pn**	**04 10 09.2**	**-0.1**
LHMI	**Lhok Sumawe**	**3.49**	**130**	P	**Pn**	**04 10 10.4**	**+1.2**
LHMI				S	**Sn**	**04 10 50.3**	**+0.3**
MLSI	**Meulaboh, Aceh**	**3.84**	**146**	P	**Pn**	**04 10 17.7**	**+3.7**
PBA	**Port Blair**	**4.41**	**341**	Pn	**Pn**	**04 10 21.0**	**-0.9**
PBA	**Port Blair**	**4.41**	**341**	*eP*	**Pn**	**04 10 25.0**	**+3.1**
PBA				*eS*	**Sn**	**04 11 16.4**	**+3.6**
PBA				IAML		04 11 38.6	
	comp=N,367nm,1.5s						
SRIT	**Nakonsritamara**	**5.42**	**78**	Pn	**Pn**	**04 10 35.9**	**+0.1**
DGPR	**DIGLIPUR**	**5.81**	**347**	*eP*	**Pn**	**04 10 44.1**	**+3.0**
DGPR				*eS*	**Sn**	**04 11 47.8**	**+0.4**
PSI	**Prapat**	**6.58**	**135**	Pn	**Pn**	**04 10 50.8**	**-0.9**
	comp=N,1.4nm,0.3s,baz=315,slow=13,SNR=9.2						
PSI				Sn	**Sn**	**04 12 04.5**	**-1.8**
	comp=N,1.2nm,0.3s,baz=317,slow=19,SNR=1.4						
PSI				LR	LR	04 13 54.3	
	comp=N,963nm,19.2s,baz=302,slow=42						
	comp=N,4.1nm,0.4s						
RPSI	**Rantau Prapat**	**6.65**	**135**	Pn	**Pn**	**04 10 53.6**	**+0.9**
KULM	**Kulim**	**6.73**	**108**	Pn	**Pn**	**04 10 53.1**	**-0.6**
CM31	**Chiang Mai Arr**	**11.84**	**22**	Pn	**Pn**	**04 12 03.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**11.84**	**22**	Pn	**Pn**	**04 12 03.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**11.84**	**22**	Pn	**Pn**	**04 12 01.6**	**-2.2**
	comp=N,0.8nm,0.3s,baz=203,slow=14,SNR=7.8						
	comp=N,1.1nm,0.3s						
CHTO	**Chiang Mai**	**12.16**	**22**	Pn	**Pn**	**04 12 08.5**	**+0.1**
PALK	**Pallekele**	**13.43**	**270**	Pn	**Pn**	**04 12 24.8**	**-0.9**
	comp=N,0.4nm,0.3s,baz=95,slow=18,SNR=2.1						
PALK				Sn	Sn	04 14 43.2	-11
	comp=N,1.3nm,0.3s,baz=18,slow=20,SNR=4.5						
PALK				LR	LR	04 15 57.0	
	comp=N,112nm,21.1s,baz=98,slow=30						
	comp=N,0.9nm,0.3s						
MDSI	**Maura Dua**	**15.47**	**140**	P	**Pn**	**04 12 55.8**	**+2.6**
	comp=N,16nm,1.0s						
RAGD	**RAYAGADA**	**15.71**	**319**	*eP*	**P**	**04 12 59.0**	**-1.3**
SALM	**Salem**	**16.35**	**286**	*eP*	**P**	**04 13 09.3**	**+1.9**
SLVN	**Son La**	**16.64**	**33**	P	**Pn**	**04 13 10.0**	**+1.7**
KSM	**Kuching**	**17.08**	**110**	P	**Pn**	**04 13 14.5**	**+0.6**
TNCH	**TengChong**	**17.93**	**13**	P	**P**	**04 13 27.6**	**+2.6**
TNCH				pP	pP	04 13 30.9	+0.8
TNCH				sP	sP	04 13 35.1	+2.6
TNCH				pmax	pmax		
	comp=N,80nm,0.3s						
TNCH				pmax	pmax		
	comp=N,230nm,4.2s						
TNCH				LR	LR		
	comp=N,350nm,9.3s						
TNCH				LR	LR		
	comp=N,490nm,8.3s						
TNCH				LR	LR		
	comp=N,180nm,9.3s						
SHL	**Shillong**	**18.14**	**353**	P	**P**	**04 13 27.5**	**+0.3**
QIZ	**Qiongzhong**	**19.02**	**51**	P	**P**	**04 13 36.6**	**-0.2**
QIZ				S	**Sn**	**04 17 10.8**	**+0.5**
QIZ				LR	LR		
	comp=N,540nm,13.0s						
QIZ				LR	LR		
	comp=N,310nm,12.9s						
QIZ				LR	LR		
	comp=N,200nm,10.6s						
KMI	**Kunming**	**19.34**	**24**	P	**Pn**	**04 13 44.5**	**+2.8**
KMI				pmax	pmax		
	comp=N,32nm,1.1s						
KMI				LR	LR		
	comp=N,200nm,7.3s						
KMI				LR	LR		
	comp=N,200nm,9.8s						
KMI				LR	LR		
	comp=N,230nm,14.5s						
LEM	**Lembang**	**19.49**	**136**	LR	LR	04 22 06.9	
	comp=N,265nm,19.0s,baz=276,slow=40						
PZH	**PanZhiHua**	**20.23**	**20**	P	Pn	04 13 53.0	+0.9
PZH				pmax	pmax		
	comp=N,40nm,1.2s						
PZH				pmax	pmax		
	comp=N,200nm,7.4s						
GYA	**Guiyang**	**22.27**	**31**	P	**P**	**04 14 13.8**	**+1.6**
GYA				pmax	pmax		
	comp=N,11nm,0.5s						
LSA	**Lhasa**	**22.30**	**353**	P	**P**	**04 14 11.5**	**-1.3**
LSA				IAmb	IAmb	04 14 15.9	
	comp=Z,30nm,0.9s						
CD2	**Chengdu**	**24.96**	**20**	P	**P**	**04 14 39.0**	**+0.7**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
H08S3	**Diego Garcia H**	**26.38**	**236**	T	T	04 41 32.8	
	baz=55,slow=75,SNR=160						
H08S2	**Diego Garcia H**	**26.38**	**236**	T	T	04 41 36.2	
	baz=55,slow=75,SNR=79						
H08S1	**Diego Carcia H**	**26.39**	**236**	T	T	04 41 34.0	
	baz=55,slow=75,SNR=117						
KAPI	**Kappang**	**28.31**	**115**	LR	LR	04 28 39.9	
	comp=Z,110nm,18.2s,baz=270,slow=41						
WHN	**Wuhan**	**29.69**	**37**	P	**P**	**04 15 22.6**	**+1.9**
WHN				pmax	pmax		
	comp=Z,50nm,1.0s						
LZH	**Lanzhou**	**29.80**	**16**	*eP*	**P**	**04 15 24.2**	**+2.3**
LZH				sP	pwP	04 15 33.7	+3.4
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				LR	LR		
	comp=Z,190nm,13.7s						
LZH				LR	LR		
	comp=Z,280nm,15.1s						
LZH				LR	LR		
	comp=Z,210nm,10.3s						
LYN	**LuoYang**	**31.75**	**29**	P	**P**	**04 15 41.0**	**+2.1**
LYN				pmax	pmax		
	comp=Z,15nm,0.7s						
GTA	**Gaotai**	**32.19**	**8**	*eP*	**P**	**04 15 43.6**	**+0.8**
GTA				pP	pP	04 15 48.9	+0.6
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NIL	**Nilore**	**32.49**	**326**	P	**P**	**04 15 43.9**	**-1.5**
NIL				IAmb	IAmb	04 15 55.7	
	comp=Z,13nm,0.7s						
NJ2	**Nanjing**	**33.51**	**40**	*eP*	**P**	**04 15 56.2**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,43nm,0.7s						
HNS	**HongShan**	**35.12**	**29**	⇑P	**P**	**04 16 10.8**	**+2.7**
HNS				pmax	pmax		
	comp=Z,12nm,1.0s						
KBL	**Kabul**	**35.55**	**323**	P	**P**	**04 16 10.7**	**-1.5**
BTO	**Baotou**	**35.88**	**21**	*eP*	**P**	**04 16 16.2**	**+1.4**
BTO				pP	**pP**	**04 16 20.2**	**-0.1**
BTO				PP	**PP**	**04 17 37.0**	**+0.5**
BTO				S	**S**	**04 21 56.5**	**+4.7**
BTO				pmax	pmax		
	comp=Z,17nm,0.5s						
BTO				pmax	pmax		
	comp=Z,280nm,4.9s						
BTO				LR	LR		
	comp=Z,290nm,5.7s						
BTO				LR	LR		
	comp=Z,230nm,5.8s						
BTO				LR	LR		
	comp=Z,290nm,5.2s						
KSH	**Kashi**	**35.88**	**336**	P	**P**	**04 16 15.7**	**+0.8**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WUS	**Wushi**	**36.15**	**341**	P	**P**	**04 16 16.3**	**-0.9**
HHC	**Hu-ho-hao-te**	**36.65**	**22**	*eP*	**P**	**04 16 24.0**	**+2.6**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ	**Urumqi**	**36.66**	**352**	*eP*	**P**	**04 16 20.0**	**-1.4**
WMQ				pmax	pmax		
	comp=Z,37nm,0.7s						
KDJ	**Kajisay**	**37.67**	**339**	P	**P**	**04 16 28.2**	**-2.0**
BJI	**Beijing**	**37.91**	**28**	P	**P**	**04 16 31.8**	**-0.2**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GAR	**Garm**	**38.07**	**329**	P	**P**	**04 16 32.0**	**-1.5**
GAR				IAmb	IAmb	04 16 39.8	
	comp=Z,25nm,1.1s						
BOOM	**Boomskoye usch**	**38.44**	**338**	P	**P**	**04 16 35.2**	**-1.4**
SIMJ	**Simiganj**	**38.50**	**328**	P	**P**	**04 16 35.5**	**-1.6**
BTK	**Batken**	**38.63**	**331**	P	**P**	**04 16 38.2**	**0.0**
ARSB	**Arslanbob**	**38.65**	**334**	P	**P**	**04 16 36.4**	**-1.9**
AAK	**Ala-Archa**	**39.12**	**337**	P	**P**	**04 16 42.3**	**0.0**
AAK	**Ala-Archa**	**39.12**	**337**	LR	LR	04 33 57.4	
	comp=Z,161nm,21.1s,baz=168,slow=38						
MK31	**Makanchi Array**	**40.50**	**347**	P	**P**	**04 16 52.5**	**-1.1**
MKAR	**Makanchi Array**	**40.50**	**347**	P	**P**	**04 16 52.5**	**-1.1**
MKAR	**Makanchi Array**	**40.50**	**347**	P	**P**	**04 16 53.0**	**-0.6**
	comp=Z,14nm,1.0s,baz=166,slow=8.1,SNR=70						
MKAR				PcP	**PcP**	**04 18 56.0**	**0.0**
	comp=Z,1.2nm,0.9s,baz=180,slow=1.4,SNR=3.4						
	comp=Z,14nm,1.0s						
MAKZ	**Makanchi**	**40.58**	**347**	P	**P**	**04 16 52.9**	**-1.4**
XLT	**XiLinHaoTe**	**41.01**	**24**	*eP*	**P**	**04 16 59.5**	**+1.6**
XLT				pP	pP	04 17 04.0	+0.6
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KK31	**Karatay Array**	**41.16**	**333**	P	**P**	**04 16 58.0**	**-1.1**
KKAR	**Karatay Array**	**41.16**	**333**	P	**P**	**04 16 58.3**	**-0.8**
SONM	**Songino Array**	**41.53**	**12**	P	**P**	**04 17 02.0**	**-0.2**
SONM	**Songino Array**	**41.53**	**12**	P	**P**	**04 17 02.5**	**+0.3**
	comp=Z,5.1nm,0.9s,baz=198,slow=8.8,SNR=22						
SONM				PcP	**PcP**	**04 18 59.9**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=192,slow=2.5,SNR=3.8						
	comp=Z,5.1nm,0.9s						
ULN	**Ulaanbaatar**	**41.70**	**13**	P	**P**	**04 17 02.4**	**-1.2**
KSRS	**Korea Array**	**42.70**	**41**	P	**P**	**04 17 12.2**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=225,slow=10,SNR=5.3						
KSRS				LR	LR	04 36 53.8	
	comp=Z,59nm,18.5s,baz=35,slow=39						
	comp=Z,2.2nm,0.8s						
KURBB	**Kurchatov Arra**	**44.96**	**346**	P	**P**	**04 17 29.5**	**-0.2**
	comp=Z,19nm,1.0s,baz=165,slow=7.8,SNR=94						
KURBB				PcP	**PcP**	**04 19 10.4**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=161,slow=2.7,SNR=5.8						
KURBB				LR	LR	04 38 52.7	
	comp=Z,85nm,20.3s,baz=172,slow=40						
	comp=Z,19nm,1.0s						
KURK	**Kurchatov**	**45.02**	**346**	P	**P**	**04 17 29.2**	**-0.9**
KURK				IAmb	IAmb	04 17 31.8	
	comp=Z,31nm,1.1s						
CN2	**Changchun**	**45.31**	**32**	*eP*	**P**	**04 17 34.6**	**+2.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**45.75**	**153**	LR	LR	04 34 10.1	
	comp=Z,88nm,19.9s,baz=94,slow=33						
ZAA0	**Zalesovo Array**	**46.97**	**352**	P	**P**	**04 17 44.2**	**-1.2**
ZAA0				IAmb	IAmb	04 17 46.4	
	comp=Z,22nm,1.0s						
ZALV	**Zalesovo Beam**	**46.97**	**352**	P	**P**	**04 17 44.8**	**-0.6**
ZALV	**Zalesovo Beam**	**46.97**	**352**	P	**P**	**04 17 45.2**	**-0.2**
	comp=Z,8.4nm,0.4s,baz=168,slow=7.4,SNR=49						
ZALV				PcP	**PcP**	**04 19 16.7**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=165,slow=6.0,SNR=1.6						
	comp=Z,8.4nm,0.4s						
WRA	**Warramunga Arr**	**47.95**	**125**	P	**P**	**04 17 51.9**	**-1.7**
WRA	**Warramunga Arr**	**47.95**	**125**	P	**P**	**04 17 52.4**	**-1.2**
	comp=Z,2.9nm,1.0s,baz=302,slow=7.6,SNR=11						
WRA				PcP	**PcP**	**04 19 21.7**	**-0.2**
	comp=Z,3.0nm,1.2s,baz=300,slow=3.8,SNR=5.5						
	comp=Z,2.9nm,1.0s						
RAYN	**Ar Rayn**	**49.34**	**295**	P	**P**	**04 18 04.3**	**-0.1**
RAYN				IAmb	IAmb	04 18 06.7	
	comp=Z,8.9nm,0.8s						
MJAR	**Matsushiro Arr**	**49.35**	**47**	P	**P**	**04 18 04.3**	**0.0**
	comp=Z,0.7nm,0.3s,baz=209,slow=8.4,SNR=1.9						
MJAR				PcP	**PcP**	**04 19 27.8**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=251,slow=3.7,SNR=4.5						
	comp=Z,0.7nm,0.3s						
BVAR	**Borovoye Array**	**49.40**	**341**	P	**P**	**04 18 03.6**	**-0.7**
	comp=Z,4.0nm,0.8s,baz=145,slow=8.1,SNR=20						
BVAR				PcP	**PcP**	**04 19 27.0**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=158,slow=4.2,SNR=5.4						
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**49.46**	**341**	P	**P**	**04 18 03.1**	**-1.6**
AS31	**Alice Springs**	**49.58**	**130**	P	**P**	**04 18 03.9**	**-2.3**
ASAR	**Alice Springs**	**49.58**	**130**	P	**P**	**04 18 05.3**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=304,slow=8.0,SNR=18						
ASAR				PcP	**PcP**	**04 19 27.8**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=302,slow=4.0,SNR=8.3						
ASAR				LR	LR	04 41 53.6	
	comp=Z,83nm,18.5s,baz=286,slow=40						
	comp=Z,1.1nm,0.5s						
FORT	**Forrest**	**49.96**	**141**	P	**P**	**04 18 08.4**	**-0.5**
ABKAR	**Akbulak array**	**50.63**	**331**	P	**P**	**04 18 13.3**	**-0.4**
ABKAR				IAmb	IAmb	04 18 14.9	
	comp=Z,13nm,1.1s						
ABKAR	**Akbulak array**	**50.63**	**331**	P	**P**	**04 18 13.2**	**-0.5**
GURO	**Guroymak-BITLI**	**56.18**	**312**	P	**P**	**04 18 53.8**	**-1.0**
ARTI	**Arti**	**56.34**	**337**	P	**P**	**04 18 54.2**	**-1.2**
ARTI				IAmb	IAmb	04 18 56.0	
	comp=Z,16nm,0.9s						
ARTI	**Arti**	**56.34**	**337**	LR	LR	04 45 19.4	
	comp=Z,79nm,18.3s,baz=198,slow=38						
KMBO	**Kilima Mbogo**	**57.48**	**264**	P	**P**	**04 19 05.5**	**+0.9**
KMBO				IAmb	IAmb	04 19 13.8	
	comp=Z,23nm,1.9s						
KMBO	**Kilima Mbogo**	**57.48**	**264**	P	**P**	**04 19 05.7**	**+1.1**
	comp=Z,3.1nm,0.8s,baz=62,slow=17,SNR=7.9						
	comp=Z,3.1nm,0.8s						
KIV	**Kislovodsk**	**57.68**	**318**	P	**P**	**04 19 03.1**	**-2.3**
	comp=Z,6.7nm,1.0s						
EIL	**Elat**	**59.71**	**300**	LR	LR	04 46 31.1	
	comp=Z,74nm,19.5s,baz=245,slow=38						
STKA	**Stephens Creek**	**59.76**	**134**	LR	LR	04 49 40.0	
	comp=Z,50nm,18.3s,baz=230,slow=41						
MMAI	**Mount Meron Ar**	**59.92**	**304**	LR	LR	04 46 54.8	
	comp=Z,38nm,20.3s,baz=134,slow=38						
YAK	**Yakutsk**	**60.34**	**18**	P	**P**	**04 19 23.0**	**-0.3**
KIRV	**Kirov**	**61.42**	**335**	LR	LR	04 48 01.8	
	comp=Z,37nm,18.9s,baz=300,slow=38						
NRIK	**Noril'sk**	**61.95**	**357**	P	**P**	**04 19 33.2**	**-0.9**
NRIK				IAmb	IAmb	04 19 34.2	
	comp=Z,5.2nm,0.7s						
NRIK	**Noril'sk**	**61.95**	**357**	P	**P**	**04 19 33.9**	**-0.2**
	comp=Z,5.5nm,0.8s,baz=171,slow=6.1,SNR=7.2						
	comp=Z,5.5nm,0.8s						
BR104	**Keskin Array S**	**62.76**	**311**	P	**P**	**04 19 38.0**	**-2.3**
	comp=Z,2.3nm,1.1s						
BR131	**Keskin Array S**	**62.77**	**311**	P	**P**	**04 19 38.3**	**-2.0**
BR131				IAmb	IAmb	04 19 48.5	
	comp=Z,14nm,1.9s						
BRTR	**Keskin Array B**	**62.77**	**311**	P	**P**	**04 19 38.3**	**-2.0**
BRTR	**Keskin Array B**	**62.77**	**311**	P	**P**	**04 19 38.6**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=126,slow=7.3,SNR=12						
	comp=Z,1.3nm,0.7s						
BR106	**Keskin Array S**	**62.78**	**311**	P	**P**	**04 19 38.3**	**-2.1**
	comp=Z,2.1nm,1.2s						
BZK	**Bozkurt**	**63.05**	**313**	P	**P**	**04 19 40.2**	**-1.8**
H04N2	**CROZET ISLANDS 65.44 211**			T	T	05 30 42.3	
	baz=47,slow=75,SNR=22						
H04N1	**CROZET ISLANDS 65.44 211**			T	T	05 30 43.2	
	baz=47,slow=75,SNR=31						
H04N3	**CROZET ISLANDS 65.45 211**			T	T	05 30 41.9	
	baz=47,slow=75,SNR=35						
TIXI	**Tiksi**	**67.60**	**11**	P	**P**	**04 20 09.3**	**-1.7**
PETK	**Petropavlovsk-**	**68.27**	**35**	P	**P**	**04 20 13.4**	**-2.0**
	comp=Z,1.9nm,1.0s,baz=281,slow=10,SNR=2.1						
	comp=Z,1.9nm,1.0s						
AKASG	**Malin Array Be**	**68.53**	**322**	P	**P**	**04 20 15.4**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=86,slow=4.6,SNR=5.8						
	comp=Z,0.6nm,0.7s						
MLR	**Muntele Rosu**	**69.53**	**316**	P	**P**	**04 20 22.4**	**-1.2**
MLR				IAmb	IAmb	04 20 30.4	
	comp=Z,14nm,1.4s						
KMPD	**K-Podol'skiy**	**69.78**	**319**	P	**P**	**04 20 23.2**	**-1.7**
RNPP5	**Staryi Chortor**	**70.71**	**322**	P	**P**	**04 20 28.8**	**-1.8**
KOLS	**Kolonicke sedl**	**72.57**	**319**	*eP*	**P**	**04 20 41.7**	**-0.2**
PABE	**Paberze**	**72.74**	**326**	P	**P**	**04 20 41.6**	**-1.1**
FINES	**FINESS Array B**	**73.11**	**332**	P	**P**	**04 20 43.6**	**-1.2**
FINES	**FINESS Array B**	**73.11**	**332**	P	**P**	**04 20 43.8**	**-0.9**
	comp=Z,8.7nm,0.9s,baz=92,slow=4.7,SNR=20						
	comp=Z,8.7nm,0.9s						
LBTB	**Lobatse**	**74.14**	**241**	LR	LR	04 49 32.7	
	comp=Z,79nm,19.1s,baz=104,slow=33						
OJC	**Ojcow**	**74.35**	**320**	P	**P**	**04 20 51.4**	**-0.9**
OJC				IAmb	IAmb	04 20 52.9	
	comp=Z,12nm,1.3s						
BOSA	**Boshof**	**75.46**	**238**	P	**P**	**04 20 59.2**	**-0.1**
	comp=Z,4.2nm,0.9s,baz=86,slow=5.2,SNR=5.0						
	comp=Z,4.2nm,0.9s						
JAVC	**Velka Javorina**	**75.58**	**318**	*eP*	**P**	**04 20 59.9**	**+0.4**
ARCES	**ARCESS Array B**	**75.68**	**340**	P	**P**	**04 20 59.2**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=110,slow=7.9,SNR=5.8						
ARCES				LR	LR	04 57 07.3	
	comp=Z,87nm,19.4s,baz=132,slow=38						
	comp=Z,2.7nm,0.7s						
MORC	**Moravsky Berou**	**75.75**	**319**	P	**P**	**04 20 60.0**	**-0.5**
MORC	**Moravsky Berou**	**75.75**	**319**	*eP*	**P**	**04 21 00.2**	**-0.2**
CONA	**Conrad Observa**	**76.71**	**317**	*iP*	**P**	**04 21 05.8**	**-0.2**
	comp=Z,2.7nm,1.2s						
ARSA	**Arzberg**	**76.90**	**317**	*iP*	**P**	**04 21 06.4**	**-0.6**
	comp=Z,6.4nm,1.5s						
SOKA	**Soboth**	**77.20**	**316**	*iP*	**P**	**04 21 08.0**	**-0.9**
	comp=Z,6.8nm,1.3s						
OBKA	**Obir**	**77.53**	**316**	*eP*	**P**	**04 21 09.6**	**-1.1**
	comp=Z,8.5nm,1.2s						
GEC2	**GERESS Array S**	**78.19**	**318**	P	**P**	**04 21 12.9**	**-1.4**
GERES	**GERESS Array B**	**78.19**	**318**	P	**P**	**04 21 13.3**	**-1.0**
GERES	**GERESS Array B**	**78.19**	**318**	P	**P**	**04 21 14.2**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=86,slow=4.8,SNR=13						
	comp=Z,2.5nm,0.8s						
CLL	**Collm**	**78.73**	**321**	*eP*	**P**	**04 21 17.0**	**-0.1**
LESA	**Schwarzleotal**	**78.84**	**317**	*eP*	**P**	**04 21 17.1**	**-0.8**
	comp=Z,1.7nm,0.5s						
HFS	**Hagfors**	**78.85**	**330**	P	**P**	**04 21 16.8**	**-0.8**
	comp=Z,3.2nm,0.5s,baz=92,slow=4.3,SNR=12						
HFS				LR	LR	05 00 15.3	
	comp=Z,49nm,19.5s,baz=86,slow=39						
	comp=Z,3.2nm,0.5s						
CIMO	**Cimolais**	**78.98**	**316**	P	**P**	**04 21 17.3**	**-1.3**
CIMO				IAmb	IAmb	04 21 19.8	
	comp=Z,15nm,1.3s						
WTTA	**Wattenberg**	**79.54**	**317**	*iP*	**P**	**04 21 21.1**	**-0.8**
	comp=Z,4.6nm,0.9s						
SQTA	**Sankt Quirin**	**79.83**	**317**	*iP*	**P**	**04 21 22.6**	**-0.7**
	comp=Z,6.6nm,1.1s						
MOTA	**Moosalm**	**79.91**	**317**	*iP*	**P**	**04 21 23.2**	**-0.6**
	comp=Z,7.0nm,1.2s						
NB2	**NORSAR Subarra**	**80.13**	**331**	P	**P**	**04 21 23.3**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=92,slow=5.9						
NOA	**NORSAR Array B**	**80.13**	**331**	P	**P**	**04 21 23.8**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=92,slow=5.5,SNR=8.2						
	comp=Z,1.8nm,0.7s						
SPITS	**Spitsbergen

	baz=287						
F17K	Baldwin Pennin	88.94	23	P	P	04 22 08.2	-0.7
F17K	Baldwin Pennin	88.94	23	P	P	04 22 09.2	+0.3
	baz=286,SNR=6.7						
J14K	Nanvaranak Lak	88.96	27	P	P	04 22 09.4	+0.3
	baz=284						
A21K	Barrow	89.00	18	P	P	04 22 08.8	-0.2
	baz=290						
H16K	Elim	89.04	25	P	P	04 22 09.5	+0.1
	baz=285						
B20K	Meade River	89.28	19	P	P	04 22 11.0	+0.5
	baz=290						
G17K	Kiwalik Mounta	89.45	24	P	P	04 22 11.8	+0.4
	baz=287						
UNV	Unalaska Valle	89.45	36	P	P	04 22 12.3	+0.8
	baz=282						
D19K	Kuna River	89.47	21	P	P	04 22 10.4	-1.0
D19K				IAmb	IAmb	04 24 22.9	
	comp=Z,10nm,0.7s						
D19K	Kuna River	89.47	21	P	P	04 22 12.2	+0.8
	baz=289						
F18K	Selawik	89.51	23	P	P	04 22 12.3	+0.8
	baz=288,SNR=9.5						
A22K	Sinclair Lake	89.61	18	P	P	04 22 12.4	+0.4
	baz=292						
M13K	Dall Lake	89.63	29	P	P	04 22 12.2	0.0
	baz=284						
L14K	Kuka Creek	89.71	28	P	P	04 22 12.7	+0.1
	baz=285						
I17K	Unalakleet	89.90	25	P	P	04 22 13.4	0.0
	baz=287						
H17K	Granite Mounta	89.91	24	P	P	04 22 13.6	+0.1
	baz=288						
D20K	Etivluk River	89.91	20	P	P	04 22 13.6	+0.1
	baz=290						
K15K	Wolf Creek Mou	89.98	27	P	P	04 22 14.0	+0.1
	baz=286						
J16K	Anvik River	90.11	26	P	P	04 22 13.8	-0.7
J16K				IAmb	IAmb	04 22 16.5	
	comp=Z,8.2nm,1.0s						
J16K	Anvik River	90.11	26	P	P	04 22 14.9	+0.4
	baz=287						
G18K	Tagagawik	90.11	23	P	P	04 22 14.7	+0.3
	baz=289						
E19K	Redstone River	90.13	21	P	P	04 22 15.2	+0.7
	baz=290,SNR=19						
F19K	Shaleruckik Mo	90.14	22	P	P	04 22 15.6	+1.0
	baz=289						
L15K	Ungalak Mounta	90.17	28	P	P	04 22 15.5	+0.7
	baz=286						
M14K	Bethel	90.21	28	P	P	04 22 16.1	+1.2
	baz=286						
E20K	Nigu River	90.22	21	P	P	04 22 16.0	+1.0
	baz=291						
B21K	Ikpikpuk River	90.25	19	P	P	04 22 13.3	-1.7
B21K				IAmb	IAmb	04 22 16.9	
	comp=Z,14nm,1.2s						
B21K	Ikpikpuk River	90.25	19	P	P	04 22 15.7	+0.7
	baz=292						
B22K	Teshekpuk Lake	90.34	18	IAmb	IAmb	04 22 17.1	
	comp=Z,12nm,1.4s						
B22K	Teshekpuk Lake	90.34	18	P	P	04 22 15.8	+0.4
	baz=294						
C21K	Knifeblade Rid	90.37	20	P	P	04 22 16.0	+0.4
	baz=292						
H18K	Honhosa River	90.47	24	P	P	04 22 16.3	+0.1
	baz=289						
N14K	Kuskokwak Cree	90.56	29	P	P	04 22 17.1	+0.5
	baz=286						
G19K	Purcell Mounta	90.64	23	P	P	04 22 17.5	+0.6
	baz=290						
J17K	VABM Dome	90.73	26	IAmb	IAmb	04 22 19.4	
	comp=Z,12nm,1.3s						
J17K	VABM Dome	90.73	26	P	P	04 22 18.4	+1.0
	baz=288						
TORD	Torodi Ar. Bea	90.79	283	P	P	04 22 18.9	+0.2
	comp=Z,0.5nm,0.3s,baz=81,slow=5.5,SNR=4.1						
	comp=Z,0.5nm,0.3s						
M15K	Kasigluk River	90.82	28	P	P	04 22 18.5	+0.7
	baz=287						
F20K	Avaraart Lake	90.82	22	P	P	04 22 17.3	-0.4
F20K	Avaraart Lake	90.82	22	P	P	04 22 18.8	+1.1
	baz=291						
E21K	Killik River	90.92	20	P	P	04 22 18.7	+0.5
	baz=293						
O14K	Tigyukauivet M	90.95	30	P	P	04 22 19.0	+0.6
	baz=286						
L16K	Owhat River	91.08	27	P	P	04 22 19.2	+0.2
	baz=288						
H19K	Roundabout Mou	91.10	23	P	P	04 22 19.7	+0.8
	baz=291,SNR=22						
D22K	Ayikyak River	91.17	19	IAmb	IAmb	04 25 02.4	
	comp=Z,13nm,1.4s						
D22K	Ayikyak River	91.17	19	P	P	04 22 20.3	+1.0
	baz=294						
GCSA	Galena City Sc	91.20	24	P	P	04 22 20.0	+0.5
	baz=290						
ELIB	Princess Elisa	91.23	197	dP	P	04 22 22.2	+2.6
N15K	Kwethluk River	91.26	29	P	P	04 22 20.6	+0.7
	baz=287						
K17K	Iditarod	91.28	26	P	P	04 22 20.3	+0.3
	baz=289						
C23K	Itkillik River	91.43	18	P	P	04 22 20.7	+0.2
	baz=296						
L17K	Donlin	91.48	27	P	P	04 22 21.1	+0.2
	baz=289						
M16K	Timber Creek	91.53	28	P	P	04 22 21.5	+0.4
	baz=288						
ESDC	Sonseca Array	91.55	310	P	P	04 22 21.5	-0.3
	comp=Z,1.1nm,0.8s,baz=100,slow=5.3,SNR=5.1						
	comp=Z,1.1nm,0.8s						
F21K	Alatna River	91.57	21	P	P	04 22 22.1	+0.9
	baz=293						
O15K	Ungalikthiuk R	91.69	30	P	P	04 22 22.5	+0.6
	baz=288						
J18K	Innoko River	91.71	25	P	P	04 22 22.1	+0.2
	baz=290						
H20K	Anotleneega Mo	91.72	23	P	P	04 22 22.1	+0.2
	baz=292,SNR=18						
E22K	Anaktuvuk Pass	91.78	20	IAmb	IAmb	04 24 39.8	
	comp=Z,5.6nm,0.6s						
E22K	Anaktuvuk Pass	91.78	20	P	P	04 22 23.0	+0.8
	baz=295						
D23K	Nanushuk River	91.79	19	P	P	04 22 23.0	+0.8
	baz=296						
N16K	Nishlik Lake	91.79	28	P	P	04 22 23.1	+0.7
	baz=288						
G21K	Allakaket	91.84	22	P	P	04 22 23.3	+0.8
	baz=293						
F22K	John River	91.91	21	P	P	04 22 23.7	+0.9
	baz=295						
J19K	Poorman	91.98	24	P	P	04 22 22.9	-0.2
J19K				IAmb	IAmb	04 22 25.9	
	comp=Z,12nm,1.0s						
J19K	Poorman	91.98	24	P	P	04 22 23.9	+0.8
	baz=291,SNR=15						
C24K	Franklin Bluff	92.07	18	IAmb	IAmb	04 22 25.1	
	comp=Z,11nm,1.4s						
C24K	Franklin Bluff	92.07	18	P	P	04 22 23.4	0.0
	baz=298						
M17K	Holitna River	92.10	27	P	P	04 22 24.4	+0.6
	baz=290						
I20K	Naaghedeneel	92.14	24	P	P	04 22 24.5	+0.6
I20K	Naaghedeneel	92.14	24	P	P	04 22 24.9	+1.1
	baz=292,SNR=12						
L18K	Granite Mounta	92.16	26	P	P	04 22 24.9	+0.9
	baz=290						
TOLK	Toolik Lake Re	92.30	19	IAmb	IAmb	04 25 08.5	
	comp=Z,5.2nm,0.7s						
TOLK	Toolik Lake Re	92.30	19	P	P	04 22 25.9	+1.3
	baz=297						
D24K	Happy Valley	92.30	19	P	P	04 22 25.5	+1.0
	baz=298						
O16K	Kokwok River B	92.40	29	P	P	04 22 25.8	+0.6
	baz=289						
H21K	Melozitna Rive	92.45	22	P	P	04 22 25.8	+0.5
	baz=294,SNR=14						
J20K	Nowinta River	92.51	24	P	P	04 22 26.4	+0.8
	baz=293,SNR=10						
N17K	Nushagak Hills	92.52	28	IAmb	IAmb	04 22 28.5	
	comp=Z,13nm,1.3s						
N17K	Nushagak Hills	92.52	28	P	P	04 22 26.1	+0.4
	baz=290						
E23K	Chandalar	92.55	20	P	P	04 22 26.2	+0.3
	baz=297						
P16K	Nushagak River	92.63	30	P	P	04 22 26.0	-0.2
	baz=289						
S14K	Fog Glacier	92.70	32	P	P	04 22 26.8	+0.1
	baz=288						
COLD	Coldfoot	92.72	21	P	P	04 22 27.1	+0.6
	baz=296						
M18K	Stony River	92.80	27	P	P	04 22 27.7	+0.7
	baz=291,SNR=6.3						
O17K	Koliganek Bris	92.81	29	P	P	04 22 28.0	+0.9
	baz=290						
K20K	Telida	92.86	25	P	P	04 22 27.5	+0.3
K20K	Telida	92.86	25	P	P	04 22 27.5	+0.3
	baz=293,SNR=17						
H22K	Ishtalitna Cre	92.89	22	P	P	04 22 28.1	+0.7
	baz=295						
E24K	Your Creek	92.92	20	P	P	04 22 27.9	+0.4
	baz=298						
L19K	White Mountain	92.97	26	P	P	04 22 28.4	+0.6
	baz=292,SNR=7.1						
D25K	Kavik River	92.98	18	IAmb	IAmb	04 22 30.0	
	comp=Z,12nm,1.1s						
D25K	Kavik River	92.98	18	P	P	04 22 28.0	+0.3
	baz=300						
G23K	Bananza Creek	93.02	21	IAmb	IAmb	04 24 38.8	
	comp=Z,6.7nm,0.6s						
G23K	Bananza Creek	93.02	21	P	P	04 22 28.7	+0.7
	baz=297						
N18K	Kilae Creek	93.06	28	IAmb	IAmb	04 22 31.2	
	comp=Z,10nm,1.3s						
N18K	Kilae Creek	93.06	28	P	P	04 22 28.9	+0.7
	baz=291						
C26K	Camden Bay	93.12	17	P	P	04 22 29.7	+1.4
	baz=302						
L20K	Farewell, AK	93.28	26	P	P	04 22 29.9	+0.7
	baz=293						
M19K	Big River Lodg	93.28	26	P	P	04 22 30.1	+0.9
	baz=292						
P17K	Kvichak River	93.33	29	P	P	04 22 30.7	+1.3
	baz=290						
CHUM	Lake Minchumin	93.37	24	P	P	04 22 30.6	+1.1
	baz=294,SNR=13						
MDT	Midelt	93.37	304	LR	LR	05 12 00.7	
	comp=Z,16nm,18.0s,baz=89,slow=40						
F24K	Squaw Lake	93.38	20	IAmb	IAmb	04 25 10.8	
	comp=Z,6.1nm,0.8s						
F24K	Squaw Lake	93.38	20	P	P	04 22 30.2	+0.6
	baz=299						
Q16K	King Salmon	93.40	30	P	P	04 22 30.2	+0.5
	baz=290						
H23K	Yukon River	93.59	22	P	P	04 22 31.6	+1.0
	baz=297						
C27K	Jago River	93.63	17	IAmb	IAmb	04 22 32.8	
	comp=Z,8.0nm,1.4s						
C27K	Jago River	93.63	17	P	P	04 22 31.9	+1.2
	baz=303						
CAST	Castle Rocks	93.66	24	P	P	04 22 31.5	+0.5
	baz=294,SNR=15						
N19K	Bonanza Creek	93.66	27	P	P	04 22 31.0	-0.1
N19K	Bonanza Creek	93.66	27	P	P	04 22 32.1	+1.0
	baz=292,SNR=13						
O18K	Koktuh Hills	93.68	28	P	P	04 22 29.5	-1.6
O18K				IAmb	IAmb	04 22 32.9	
	comp=Z,11nm,1.0s						
O18K	Koktuh Hills	93.68	28	P	P	04 22 31.5	+0.4
	baz=292,SNR=5.6						
BPAW	Bear Paw Mtn.	93.81	24	IAmb	IAmb	04 22 33.9	
	comp=Z,12nm,1.2s						
BPAW	Bear Paw Mtn.	93.81	24	P	P	04 22 32.1	+0.4
	baz=296,SNR=9.9						
PPLA	Purkeypile	93.83	25	P	P	04 22 32.3	+0.4
	baz=294						
M20K	Styx River	93.84	26	IAmb	IAmb	04 22 37.8	
	comp=Z,19nm,1.6s						
M20K	Styx River	93.84	26	P	P	04 22 31.8	-0.1
	baz=294						
E25K	Arctic Village	93.85	19	P	P	04 22 32.7	+0.9
	baz=301						
G24K	Hadweenzic Riv	93.92	21	P	P	04 22 32.9	+0.8
	baz=299						
O19K	Port Alsworth	93.97	28	IAmb	IAmb	04 22 33.6	
	comp=Z,7.3nm,0.8s						
O19K	Port Alsworth	93.97	28	P	P	04 22 33.4	+1.0
	baz=292						
I23K	Minto, Yukon-K	93.97	22	P	P	04 22 33.1	+0.9
	baz=297						
F25K	Christian Rive	94.10	19	IAmb	IAmb	04 22 35.7	
	comp=Z,6.1nm,1.2s						
F25K	Christian Rive	94.10	19	P	P	04 22 33.5	+0.5
	baz=301						
H24K	Noodor Dome	94.19	21	P	P	04 22 33.8	+0.4
	baz=298						
Q18K	Katmai Hardscr	94.22	29	P	P	04 22 34.0	+0.2
	baz=292						
G25K	Bearman Lake	94.36	20	P	P	04 22 34.9	+0.9
	baz=300						
TRF	Thorofare Moun	94.37	24	P	P	04 22 34.1	-0.3
	baz=296						
SKT	Skwentna	94.49	26	P	P	04 22 35.0	+0.2
	baz=295,SNR=15						
SPCR	Spurr Chakacha	94.52	26	P	P	04 22 35.3	+0.3
	baz=294						
F26K	Sheenjek River	94.53	19	P	P	04 22 35.0	+0.1
	baz=302						
STLK	Strandline Lak	94.56	26	IAmb	IAmb	04 22 37.1	
	comp=Z,3.8nm,1.0s						
P19K	Oil Pt	94.68	28	P	P	04 22 35.9	+0.2
	baz=293						
H25L	Birch Creek	94.71	21	P	P	04 22 36.0	+0.4
	baz=300						
Q19K	Cape Douglas,	94.77	29	P	P	04 22 36.2	+0.1
	baz=293						
MCK	McKinley	94.78	23	P	P	04 22 36.0	-0.1
	baz=297						
O20K	Slope Mountain	94.79	28	P	P	04 22 36.0	-0.3
	baz=294						
CHIR	Chirikof Islan	94.93	32	P	P	04 22 36.9	0.0
	baz=291						
G26K	Porcupine Rive	95.05	20	P	P	04 22 37.2	0.0
	baz=302						
SUA	Susitna One	95.05	26	P	P	04 22 37.7	+0.3
	baz=296,SNR=16						
ILAR	Eielson Array	95.08	22	P	P	04 22 36.8	-0.6
	comp=Z,0.5nm,0.9s,baz=282,slow=5.2,SNR=4.6						
	comp=Z,0.5nm,0.9s						
M22K	Willow	95.19	26	P	P	04 22 38.3	+0.4
	baz=296,SNR=11						
PRP	Porcupine Dome	95.20	21	P	P	04 22 38.7	+0.6
	baz=301						
HDA	Harding Lake	95.23	22	P	P	04 22 38.4	+0.3
	baz=299						
D28M	Stokes Point	95.23	17	P	P	04 22 37.7	-0.3
	baz=307						
SII	Sitkinak Islan	95.41	31	P	P	04 22 38.9	-0.2
	baz=292						
HOM	Homer	95.42	28	P	P	04 22 38.6	-0.4
	baz=295						
E28M	Babbage River	95.44	17	P	P	04 22 38.9	-0.1
	baz=307						
Q20K	Shuyak Island	95.49	29	P	P	04 22 38.7	-0.7
	baz=294						
RC01	Rabbit Creek A	95.65	26	IAmb	IAmb	04 22 41.0	
	comp=Z,8.6nm,0.9s						
RC01	Rabbit Creek A	95.65	26	P	P	04 22 39.9	-0.2
	baz=296,SNR=7.3						
PMR	Palmer	95.69	25	P	P	04 22 38.9	-1.3
PMR				IAmb	IAmb	04 22 41.6	
	comp=Z,7.5nm,1.0s						
PMR	Palmer	95.69	25	P	P	04 22 40.6	+0.5
	baz=297,SNR=6.3						
GHO	Glory Hole Cre	95.69	25	P	P	04 22 40.5	+0.1
GHO				IAmb	IAmb	04 22 50.9	
	comp=Z,4.9nm,1.0s						
SLKM	Skilak Lake	95.70	27	IAmb	IAmb	04 22 40.6	
	comp=Z,9.0nm,1.0s						
J25K	Salcha River,	95.72	22	P	P	04 22 39.9	-0.5
	baz=301						
KDAK	Kodiak Island	95.74	30	P	P	04 22 40.5	0.0
	baz=294						
BRSE	Bradley Lake S	95.80	27	P	P	04 22 40.4	-0.4
	baz=296,SNR=5.4						
G27K	Doyon Strip	95.83	19	P	P	04 22 40.4	-0.4
	baz=304						
SML	Sawmill	95.92	25	IAmb	IAmb	04 22 43.3	
	comp=Z,7.6nm,0.9s						
SML	Sawmill	95.92	25	P	P	04 22 41.1	-0.3
	baz=298,SNR=5.9						
O22K	Cooper Landing	95.93	27	P	P	04 22 41.5	+0.1
	baz=296						
K24K	Donnelly Dome	95.98	23	P	P	04 22 41.2	-0.4
	baz=300						
E29M	Blow River	96.05	17	P	P	04 22 41.7	0.0
	baz=308						
KNK	Knik Glacier	96.06	25	P	P	04 22 41.9	0.0
	baz=298,SNR=6.1						
I26K	Coal Creek Min	96.16	21	P	P	04 22 42.0	-0.3
	baz=303						
M23K	Glacier View	96.19	25	P	P	04 22 42.3	-0.3
	baz=298						
H27K	Steamboat Moun	96.20	20	P	P	04 22 42.2	-0.4
	baz=304						
SEW	Seward	96.22	27	IAmb	IAmb	04 22 43.5	
	comp=Z,7.8nm,1.0s						
SEW	Seward	96.22	27	P	P	04 22 42.2	-0.4
	baz=297						
PWL	Port Wells	96.37	26	P	P	04 22 43.0	-0.4
	baz=298,SNR=11						
J26L	Joseph Creek	96.44	22	P	P	04 22 43.7	0.0
	baz=302						
I27K	Kandik River	96.53	20	P	P	04 22 43.8	-0.3
	baz=304						
SCRK	Sand Creek	96.57	22	P	P	04 22 44.9	+0.5
	baz=302						
A36M	Sachs Harbour	96.62	11	IAmb	IAmb	04 22 46.1	
	comp=Z,5.8nm,0.8s						
A36M	Sachs Harbour	96.62	11	P	P	04 22 45.1	+0.8
	baz=321						
GLI	Glacier Island	96.89	26	P	P	04 22 46.1	+0.4
	baz=299						
G29M	Pine Creek	96.93	18	P	P	04 22 46.1	+0.3
	baz=308						
KLU	Klutina	97.08	25	P	P	04 22 46.7	+0.1
	baz=300						
F30M	Barrier River	97.16	17	P	P	04 22 47.4	+0.6
	baz=310						
P23K	Montague Islan	97.18	26	P	P	04 22 47.3	+0.3
	baz=298						
I28M	Miner Creek	97.19	20	P	P	04 22 47.5	+0.4
	baz=306						
H29M	Whitestone	97.24	19	P	P	04 22 47.4	+0.2
	baz=308						
K27K	Chicken	97.25	22	P	P	04 22 48.0	+0.8
	baz=304						
L26K	Log Cabin Wild	97.32	23	P	P	04 22 48.0	+0.4
	baz=302						
INK	Inuvik	97.35	16	IAmb	IAmb	04 22 49.2	
	comp=Z,7.9nm,1.4s						
INK	Inuvik	97.35	16	P	P	04 22 47.6	+0.1
	baz=312						
QSPA	South Pole Qui	97.38	180	P	P	04 22 47.9	0.0
	comp=Z,0.8nm,0.7s,baz=301,slow=5.9,SNR=1.9						
	comp=Z,0.8nm,0.7s						
G30M	tAoh Zraii Nji	97.44	18	P	P	04 22 48.3	+0.1
	baz=310						
N25K	Chitina, Valde	97.57	24	P	P	04 22 49.0	+0.1
	baz=301						
M26K	Nabesna, AK	97.79	23	P	P	04 22 49.9	+0.1
	baz=303						
RES	Resolute Bay	97.80	2	P	P	04 22 49.4	-0.1
RES				IAmb	IAmb	04 22 51.1	
	comp=Z,2.6nm,1.1s						
F31M	Tsiigehtchic	97.87	17	P	P	04 22 50.4	+0.5
	baz=312						
L27K	Beaver Creek,	97.88	22	P	P	04 22 50.0	-0.2
	baz=304						
BMRM	Bremner River	97.90	25	P	P	04 22 51.0	+0.6
	baz=301						
G31M	Satah River	98.06	17	P	P	04 22 51.5	+0.7
	baz=311						
DAWY	Dawson	98.19	21	P	P	04 22 51.8	+0.2
	baz=306						
M27K	Edge Creek, AK	98.25	23	P	P	04 22 52.4	+0.4
	baz=304						
I30M	Mount Dempster	98.51	19	P	P	04 22 53.0	0.0
	baz=309						
KAIM	Kayak Island	98.52	26	P	P	04 22 52.4	-0.6
	baz=301						
H31M	Peel River	98.78	18	P	P	04 22 53.9	-0.3
	baz=311						
K29M	Barlow Dome	98.99	21	P	P	04 22 55.5	+0.3
	baz=308						
O29M	Mount Kennedy	100.74	24	P	Pdif	04 23 02.6	-0.6
	baz=306						
PNL	Peninsula	100.78	25	P	Pdif	04 23 02.9	-0.3
	baz=306						
M31M	Drury Creek, Y	101.14	21	P	Pdif	04 23 04.9	+0.1
	baz=311						
O30N	Mendenhall	101.43	23	P	Pdif	04 23 05.7	-0.4
	baz=309						
N32M	Quiet Lake	102.30	21	P	Pdif	04 23 09.8	-0.2
	baz=312						
P32M	Atlin	103.10	23	P	Pdif	04 23 13.3	-0.2
	baz=311						
Q32M	Nakina River	104.07	23	P	Pdif	04 23 17.8	-0.3
	baz=312						
YKA	Yellowknife Ar	106.79	14	PKKPab	PKKPab	04 39 13.1	-2.5
	comp=Z,0.3nm,0.9s,baz=145,slow=4.5,SNR=4.6						
NVAR	Mina Array Bea	125.21	31	PKP	PKPdf	04 28 15.4	-0.7
	comp=Z,0.8nm,0.8s,baz=321,slow=3.1,SNR=6.7						
PDAR	Pinedale Array	125.50	21	PKP	PKPdf	04 28 15.9	-0.6
	comp=Z,1.5nm,1.0s,baz=329,slow=2.8,SNR=8.1						
TXAR	Lajitas Array	139.55	24	PKP	PKPdf	04 28 43.9	+0.8
	comp=Z,0.4nm,0.7s,baz=289,slow=0.9,SNR=4.4						
PLCA	Paso Flores	144.21	200	PKPdf	PKPab	04 28 48.9	+0.2
PLCA	Paso Flores	144.21	200	PKP	PKPab	04 28 49.8	+1.0
	comp=Z,4.4nm,0.9s,baz=154,slow=2.5,SNR=13						
CPUP	Villa Florida	147.10	232		PKPdf	04 28 57.0	+0.8
CPUP	Villa Florida	147.10	232	PKPbc	PKPdf	04 28 58.5	+2.3
	comp=Z,1.8nm,0.7s,baz=127,slow=6.2,SNR=8.6						
HUMP	Col San Antoni	147.84	323	PKPdf	PKPdf	04 28 55.4	-2.4
BI02	San Fabin de	148.08	202	PKPbc	PKPdf	04 29 00.1	+2.4
AQDB	Aquidauana	148.17	243	PKPbc	PKPdf	04 28 59.0	+0.8
OBIP	Obispado Ponce	148.37	323	PKPbc	PKPdf	04 29 00.7	+2.1
BO02	Sierra Bellavi	149.52	205	PKPbc	PKPdf	04 29 03.3	+3.2

IDC 01 04:13:12.7±11.0, 6°29N×95°28E, h0km, mb3.7/4, mbtmp3.8/5, ML5.0/1, Error ellipse: s-maj=222.2km s-min=91.5km az=143.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.61	16	Pn	Pn	04 16 13.5	0.0
	2.4nm,0.3s,baz=201,slow=20,SNR=5.1						
	3.2nm,0.3s						
MKAR	Makanchi Array	41.88	347	P	P	04 21 04.0	-0.7
	0.8nm,0.7s,baz=154,slow=7.9,SNR=5.0						
	0.8nm,0.7s						
KURBB	Kurchatov Arra	46.35	345	P	P	04 21 40.4	-0.1
	0.4nm,0.4s,baz=166,slow=7.0,SNR=5.8						
	0.4nm,0.4s						
ZALV	Zalesovo Beam	48.27	352	P	P	04 21 55.9	+0.5
	0.9nm,0.3s,baz=170,slow=8.4,SNR=5.3						
	0.9nm,0.3s						
BVAR	Borovoye Array	50.85	341	P	P	04 22 15.0	-0.1
	0.3nm,0.4s,baz=162,slow=8.1,SNR=1.7						
	0.3nm,0.4s						

IDC 01 04:15:03.7±375.0, 6°61S×80°63E, h0km, Error ellipse: s-maj=174.4km s-min=144.7km az=26.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I52GB	DIEGO GARCIA I	8.12	264	I	I	05 03 20.0	
	0.1nm,0.7s,baz=86,slow=318,SNR=5.0						
I06AU	Cocos Islands	16.89	110	I	I	05 45 50.0	
	baz=290,slow=318,SNR=1.7						
I07AU	WARRAMUNGA IN	53.70	110	I	I	09 52 06.4	
	baz=276,slow=329,SNR=0.9						

IDC 01 04:16:01.8±8.3, 7°32N×94°73E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=171.8km s-min=95.1km az=145.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	40.75	347	P	P	04 23 44.3	-0.3
	0.7nm,0.7s,baz=163,slow=7.5,SNR=6.0						
	0.7nm,0.7s						
SONM	Songino Array	41.58	12	P	P	04 23 51.2	-0.2
	0.2nm,0.3s,baz=205,slow=6.4,SNR=1.7						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	45.22	346	P	P	04 24 20.6	-0.1
	0.6nm,0.5s,baz=167,slow=7.1,SNR=6.9						
	0.6nm,0.5s						
ZALV	Zalesovo Beam	47.18	352	P	P	04 24 36.2	+0.2
	0.7nm,0.5s,baz=169,slow=8

BVAR Borovoye Array 49.70 341 P P 04 24 55.4 -0.1
0.4nm,0.4s,baz=150,slow=3.2,SNR=1.8
0.4nm,0.4s
HFS Hagfors 79.22 330 P P 04 28 08.8 0.0
0.8nm,0.5s,baz=99,slow=9.2,SNR=1.9
0.8nm,0.5s

*IDC **01** 04:21:57.6±8.1, 7°.73N×93°.29E, h0km, mb3.8/6, mbtmp3.8/7, Error ellipse: s-maj=182.1km s-min=47.3km az=144.0*
ISC 01 04:22:01.4±8.1, 8°N±1°×93°.2E±0°.7, h10km, n13, σ1$11/7, mb3.9/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.78**	**28**	Pn	**Pn**	**04 24 49.3**	**-0.3**
	0.7nm,0.3s,baz=206,slow=13,SNR=0.9						
H08S3	**Diego Garcia H**	**25.85**	**234**	T	T	04 54 14.5	
	baz=55,slow=75,SNR=7.4						
H08S2	**Diego Garcia H**	**25.85**	**233**	T	T	04 54 10.0	
	baz=55,slow=75,SNR=11						
H08S1	**Diego Carcia H**	**25.87**	**233**	T	T	04 54 11.2	
	baz=55,slow=75,SNR=6.4						
MKAR	**Makanchi Array**	**39.74**	**348**	P	**P**	**04 29 34.6**	**+0.4**
	1.0nm,0.7s,baz=163,slow=7.9,SNR=12						
	1.0nm,0.7s						
SONM	**Songino Array**	**41.22**	**14**	P	**P**	**04 29 47.6**	**+1.0**
	0.3nm,0.5s,baz=206,slow=6.3,SNR=2.0						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.28**	**353**	P	**P**	**04 30 26.9**	**-0.1**
	1.5nm,0.4s,baz=179,slow=6.5,SNR=7.7						
	1.5nm,0.4s						
BRTR	**Keskin Array B**	**61.62**	**311**	P	**P**	**04 32 20.2**	**+0.6**
	0.2nm,0.7s,baz=119,slow=7.4,SNR=1.9						
	0.2nm,0.7s						
H04N2	**CROZET ISLANDS**	**65.38**	**210**	T	T	05 43 20.2	
	baz=47						
H04N1	**CROZET ISLANDS**	**65.39**	**210**	T	T	05 43 23.6	
	baz=47						
H04N3	**CROZET ISLANDS**	**65.40**	**210**	T	T	05 43 37.3	
	baz=47						
FINES	**FINESS Array B**	**72.14**	**332**	P	**P**	**04 33 24.2**	**-1.8**
	2.5nm,0.9s,baz=98,slow=4.2,SNR=3.8						
	2.5nm,0.9s						
HFS	**Hagfors**	**77.85**	**330**	P	**P**	**04 33 58.9**	**-0.2**
	1.2nm,0.7s,baz=95,slow=8.8,SNR=1.5						
	1.2nm,0.7s						

*CATAC **01** 04:30:07.9±0.5, 12°N±3°×8°9W±°, h1km, M3.3/17, MLv3.3/17, Error ellipse: s-maj=6.7km s-min=3.8km az=34.9, confirmed*
*SNET **01** 04:30:09.9±1.1, 12°.33N×88°.92W, h11km±10km, ML3.1*
ISC 01 04:30:12.4±2.0, 12°.32N±0°.10×88°.96W±0°.06, h40km, n48, σ1$22/52, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**1.28**	**31**	*eP*	**Pn**	**04 30 32.7**	**-1.2**
RANC	**El Ranchito**	**1.29**	**31**	P	**Pn**	**04 30 32.9**	**-1.2**
RANC	**El Ranchito**	**1.29**	**31**	S	**Sn**	**04 30 51.2**	**+1.0**
COEG	**Centro de Oper**	**1.29**	**4**	*eP*	**Pn**	**04 30 33.5**	**-0.6**
COEG				IAML		04 30 59.2	
	comp=Z,192nm,0.4s						
COEG	**Centro de Oper**	**1.29**	**4**	P	**Pn**	**04 30 32.7**	**-1.5**
PACA	**Pacayal**	**1.30**	**29**	*eP*	**Pn**	**04 30 33.1**	**-1.1**
PACA				*eS*	**Sn**	**04 30 49.9**	**-0.6**
PACA	**Pacayal**	**1.30**	**29**	P	**Pn**	**04 30 33.3**	**-1.0**
UESV	**Universidad de**	**1.32**	**7**	P	**Pn**	**04 30 32.9**	**-1.6**
UESV	**Universidad de**	**1.32**	**7**	S	**Sn**	**04 30 50.2**	**-0.7**
BLLM	**Bellamira**	**1.32**	**32**	*eP*	**Pn**	**04 30 33.2**	**-1.3**
LOMA	**Loma Larga**	**1.33**	**351**	*eP*	**Pn**	**04 30 33.5**	**-1.2**
LOMA	**Loma Larga**	**1.33**	**351**	P	**Pn**	**04 30 33.6**	**-1.1**
LOMA	**Loma Larga**	**1.33**	**351**	S	**Sn**	**04 30 51.8**	**+0.5**
PQSS	**Presa 15 de Se**	**1.35**	**17**	*eP*	**Pn**	**04 30 33.6**	**-1.2**
PQSS	**Presa 15 de Se**	**1.35**	**17**	P	**Pn**	**04 30 33.5**	**-1.3**
PAVA	**Las Pavas**	**1.39**	**1**	*eP*	**Pn**	**04 30 33.9**	**-1.5**
PAVA	**Las Pavas**	**1.39**	**1**	P	**Pn**	**04 30 34.1**	**-1.3**
SCLA	**Alcaldia de Sa**	**1.39**	**9**	P	**Pn**	**04 30 34.4**	**-1.1**
SCLA	**Alcaldia de Sa**	**1.39**	**9**	S	**Sn**	**04 30 52.0**	**-0.7**
JAYA	**Jayaque - finc**	**1.41**	**340**	*eP*	**Pn**	**04 30 34.7**	**-1.1**
JAYA				*eS*	**Sn**	**04 30 54.1**	**+0.9**
JAYA	**Jayaque - finc**	**1.41**	**340**	P	**Pn**	**04 30 34.5**	**-1.3**
JAYA	**Jayaque - finc**	**1.41**	**340**	S	**Sn**	**04 30 53.2**	**-0.1**
PMON	**Piamonte**	**1.43**	**346**	*eP*	**Pn**	**04 30 34.7**	**-1.3**
PMON	**Piamonte**	**1.43**	**346**	P	**Pn**	**04 30 35.1**	**-0.8**
PMON	**Piamonte**	**1.43**	**346**	S	**Sn**	**04 30 53.6**	**0.0**
LCND	**La Caada**	**1.44**	**47**	*eP*	**Pn**	**04 30 34.5**	**-1.5**
LCND				IAML		04 30 57.4	
	comp=Z,291nm,0.3s						
LCND	**La Caada**	**1.44**	**47**	P	**Pn**	**04 30 34.4**	**-1.6**
BOQS	**Boqueron**	**1.44**	**348**	*eP*	**Pn**	**04 30 35.6**	**-0.6**
CNCH	**Conchagua**	**1.46**	**49**	*eP*	**Pn**	**04 30 35.1**	**-1.2**
CNCH	**Conchagua**	**1.46**	**49**	P	**Pn**	**04 30 35.1**	**-1.2**
CNCH	**Conchagua**	**1.46**	**49**	S	**Sn**	**04 30 54.8**	**+0.5**
CSGN	**Cosiguina Volc**	**1.52**	**64**	S	**Sn**	**04 30 57.0**	**+1.2**
CEDA	**San Andres**	**1.53**	**344**	*eP*	**Pn**	**04 30 37.5**	**+0.2**
CEDA				IAML		04 31 02.8	
	comp=Z,288nm,0.4s						
CEVE	**Cerro Verde**	**1.63**	**337**	*eP*	**Pn**	**04 30 38.9**	**0.0**
CEVE				IAML		04 31 02.4	
	comp=Z,344nm,0.4s						
SBLS	**San Blas**	**1.64**	**337**	*eP*	**Pn**	**04 30 38.6**	**-0.5**
NUBE	**Las Nubes**	**1.76**	**333**	*eP*	**Pn**	**04 30 40.0**	**-0.6**
NUBE				*eS*	**Sn**	**04 31 03.3**	**+1.4**
NUBE	**Las Nubes**	**1.76**	**333**	P	**Pn**	**04 30 39.7**	**-0.9**
LLGN	**La Laguna**	**1.83**	**1**	*eS*	**Sn**	**04 31 05.9**	**+2.4**
MTO3	**Montecristo**	**2.10**	**349**	*eP*	**Pn**	**04 30 45.2**	**-0.1**
MTO3	**Montecristo**	**2.10**	**349**	P	**Pn**	**04 30 45.1**	**-0.2**
MTO3	**Montecristo**	**2.10**	**349**	S	**Sn**	**04 31 12.7**	**+2.3**
POLN	**Al Sur del Vol**	**2.12**	**81**	P	**Pn**	**04 30 44.7**	**-0.8**
COPN	**Copaltepe**	**2.32**	**93**	P	**Pn**	**04 30 47.5**	**-0.7**
TGUH	**Tegucigalpa,Un**	**2.39**	**43**	P	**Pn**	**04 30 49.1**	**0.0**
TGUH				S	**Sn**	**04 31 20.8**	**+3.5**
LIMN	**Finca el Limon**	**2.64**	**73**	P	**Pn**	**04 30 52.1**	**-0.5**
RCVN	**Varillal2**	**2.98**	**65**	P	**Pn**	**04 30 56.8**	**-0.5**
RCVN	**Varillal2**	**2.98**	**65**	S	**Sn**	**04 31 33.3**	**+1.4**
ESPN	**Las Esperanzas**	**4.56**	**91**	P	**Pn**	**04 31 17.7**	**-1.2**

*IDC **01** 04:30:24.9±0.8, 7°.63N×94°.52E, h0km, mb3.9/14, mbtmp3.9/16, ML4.3/2, MS3.7/2, Error ellipse: s-maj=36.6km s-min=15.0km az=57.0*
*NEIC **01** 04:30:27.1±1.8, 7°.64N±0°.09×94°.32E±0°.06, h10km±1km, mb4.3/19, Error ellipse: s-maj=17.0km s-min=6.0km az=210.0*
*NDI **01** 04:30:29.9±0.8, 7°.58N×94°.46E, h10km, ML4.0, MW4.2, mb4.3(NEIC)*
*DJA **01** 04:30:30.7±0.3, 8°N±2°×9°5E±°, h10km, M4.5/8, mB5.9/1, mb4.5/8, MLv4.6/8, Mw(mB)5.5/1*
ISC 01 04:30:29.0±0.4, 7°.60N±0°.04×94°.36E±0°.06, h24km, n67, σ1$68/66, mb4.2/25, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.72**	**216**	*eP*	**Pb**	**04 30 42.1**	**-0.9**
CMBY				*eS*	**Sb**	**04 30 52.4**	**-0.1**
CMBY				IAML		04 30 55.1	
	comp=E,31μm,0.6s						
CMBY				IAML		04 30 56.4	
	comp=N,24μm,0.5s						
BSI	**Banda Aceh**	**2.29**	**156**	P	**Pn**	**04 31 09.1**	**+3.8**
LHMI	**Lhok Sumawe**	**3.48**	**132**	Pn	**Pn**	**04 31 23.1**	**+1.4**
LHMI	**Lhok Sumawe**	**3.48**	**132**	P	**Pn**	**04 31 23.3**	**+1.5**
LHMI				S	**Sn**	**04 32 02.5**	**+0.2**
MLSI	**Meulaboh, Aceh**	**3.88**	**148**	P	**Pn**	**04 31 30.7**	**+3.5**
MLSI				S	**Sn**	**04 32 14.0**	**+1.9**
PBA	**Port Blair**	**4.34**	**339**	Pn	**Pn**	**04 31 32.9**	**-0.6**
PBA	**Port Blair**	**4.34**	**339**	*eP*	**Pn**	**04 31 36.8**	**+3.3**
PBA				*eS*	**Sn**	**04 32 25.5**	**+2.2**
PBA				IAML		04 32 28.0	
	comp=E,85nm,0.1s						
PBA				IAML		04 32 28.6	
	comp=N,89nm,0.1s						
SRIT	**Nakonsritamara**	**5.28**	**79**	Pn	**Pn**	**04 31 47.2**	**+0.7**
DGPR	**DIGLIPUR**	**5.72**	**346**	*eP*	**Pn**	**04 31 56.0**	**+3.5**
DGPR				*eS*	**Sn**	**04 32 57.5**	**+0.1**
PSI	**Prapat**	**6.58**	**136**	Pn	**Pn**	**04 32 04.0**	**-0.5**
	comp=N,1.7nm,0.3s,baz=326,slow=14,SNR=11						
PSI				Sn	**Sn**	**04 33 14.5**	**-4.4**
	comp=N,0.8nm,0.3s,baz=317,slow=19,SNR=1.1						
	comp=N,2.9nm,0.3s						
KULM	**Kulim**	**6.66**	**110**	Pn	**Pn**	**04 32 04.9**	**-0.5**
RPSI	**Rantau Prapat**	**6.66**	**137**	Pn	**Pn**	**04 32 05.8**	**+0.4**
MNSI	**Mandailing Nat**	**8.53**	**142**	P	**Pn**	**04 32 32.8**	**+1.7**
	comp=N,32nm,0.7s						
PPI	**Padang Panjang**	**10.01**	**143**	P	**Pn**	**04 32 52.3**	**+0.8**
	comp=N,21nm,0.7s						
MYKOM	**Kota Tinggi**	**11.08**	**121**	Pn	**Pn**	**04 33 06.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**11.68**	**22**	Pn	**Pn**	**04 33 11.7**	**-2.6**
	comp=N,1.3nm,0.3s,baz=204,slow=14,SNR=6.6						
	comp=N,1.3nm,0.3s						
PALK	**Pallekele**	**13.55**	**270**	Pn	**P**	**04 33 46.7**	**-2.1**
	comp=N,1.1nm,0.3s,baz=94,slow=15,SNR=5.1						
CRAI	**Chiangrai**	**13.84**	**24**	Pn	**Pn**	**04 33 43.0**	**-0.8**
KSM	**Kuching**	**17.02**	**110**	P	**Pn**	**04 34 27.0**	**+1.4**
KSM				IAmb	IAmb	04 34 32.0	
	comp=Z,11nm,0.8s						
SHL	**Shillong**	**18.03**	**353**		**Pn**	**04 34 36.2**	**-2.0**
SHL				IAmb	IAmb	04 34 58.6	
	comp=Z,29nm,1.5s						
SBUM	**Sibu**	**18.51**	**105**	P	**P**	**04 34 43.4**	**-0.4**
QIZ	**Qiongzhong**	**18.85**	**51**	P	**P**	**04 34 48.1**	**+0.6**
QIZ				S	**Sn**	**04 38 19.3**	**+0.7**
QIZ				LR	LR		
	comp=N,650nm,12.8s						
QIZ				LR	LR		
	comp=E,240nm,13.9s						
QIZ				LR	LR		
	comp=Z,340nm,14.5s						
PZH	**PanZhiHua**	**20.07**	**20**	P	**Pn**	**04 35 03.8**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,180nm,6.3s						
LSA	**Lhasa**	**22.19**	**353**	P	**P**	**04 35 23.0**	**-1.1**
H08S3	**Diego Garcia H**	**26.54**	**236**	T	T	05 02 55.3	
	baz=54,slow=75,SNR=22						
H08S2	**Diego Garcia H**	**26.55**	**236**	T	T	05 02 55.6	
	baz=54,slow=75,SNR=22						
H08S1	**Diego Carcia H**	**26.56**	**236**	T	T	05 02 55.3	
	baz=54,slow=75,SNR=18						
LZH	**Lanzhou**	**29.65**	**16**	*eP*	**P**	**04 36 36.4**	**+3.4**
LZH				sP	pwP	04 36 43.1	+1.0
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
HHC	**Hu-ho-hao-te**	**36.49**	**22**	*eP*	**P**	**04 37 34.6**	**+2.1**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
WMQ	**Urumqi**	**36.55**	**352**	*eP*	**P**	**04 37 34.3**	**+1.4**
KDJ	**Kajisay**	**37.60**	**339**	P	**P**	**04 37 41.2**	**-0.8**
GAR	**Garm**	**38.02**	**329**	P	**P**	**04 37 44.0**	**-1.5**
GAR				IAmb	IAmb	04 37 52.0	
	comp=Z,6.0nm,0.7s						
SIMJ	**Simiganj**	**38.45**	**327**	P	**P**	**04 37 47.1**	**-2.1**
SIMJ				IAmb	IAmb	04 38 02.4	
	comp=Z,4.8nm,0.8s						
BTK	**Batken**	**38.58**	**331**	P	**P**	**04 37 49.6**	**-0.6**
BTK				IAmb	IAmb	04 37 57.9	
	comp=Z,5.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.07**	**130**	P	**P**	**04 38 03.7**	**+0.9**
FITZ	**Fitzroy Crossi**	**40.07**	**130**	P	**P**	**04 38 01.7**	**-1.1**
	comp=Z,3.1nm,1.2s,baz=319,slow=9.3,SNR=1.3						
	comp=Z,3.1nm,1.2s						
MK31	**Makanchi Array**	**40.40**	**347**	P	**P**	**04 38 03.5**	**-1.7**
MKAR	**Makanchi Array**	**40.40**	**347**	P	**P**	**04 38 03.6**	**-1.6**
MKAR	**Makanchi Array**	**40.40**	**347**	P	**P**	**04 38 03.5**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=164,slow=7.9,SNR=13						
	comp=Z,1.9nm,0.8s						
SONM	**Songino Array**	**41.38**	**12**	P	**P**	**04 38 13.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=190,slow=7.3,SNR=5.0						
	comp=Z,0.3nm,0.5s						
JNU	**Nakatsue**	**42.27**	**48**	LR	LR	04 56 37.7	
	comp=Z,94nm,19.2s,baz=206,slow=37						
KURBB	**Kurchatov Arra**	**44.87**	**346**	P	**P**	**04 38 40.7**	**-0.7**
	comp=Z,2.5nm,0.2s,baz=166,slow=6.7,SNR=7.6						
	comp=Z,2.5nm,0.2s						
KURK	**Kurchatov**	**44.93**	**346**	P	**P**	**04 38 41.2**	**-0.7**
KURK				IAmb	IAmb	04 38 50.1	
	comp=Z,4.8nm,0.9s						
ZAA0	**Zalesovo Array**	**46.86**	**352**	P	**P**	**04 38 56.6**	**-0.4**
ZAA0				IAmb	IAmb	04 39 12.4	
	comp=Z,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**46.86**	**352**	P	**P**	**04 38 56.0**	**-1.0**
ZALV	**Zalesovo Beam**	**46.86**	**352**	P	**P**	**04 38 56.5**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=167,slow=7.5,SNR=8.7						
	comp=Z,1.5nm,0.4s						
WB0	**Warramunga Arr**	**47.88**	**125**	P	**P**	**04 39 04.4**	**-1.1**
WRA	**Warramunga Arr**	**47.92**	**125**	P	**P**	**04 39 05.0**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=302,slow=7.5,SNR=8.4						
	comp=Z,0.5nm,0.6s						
WB2	**Warramunga Arr**	**47.93**	**125**	P	**P**	**04 39 05.0**	**-1.0**
WB2				IAmb	IAmb	04 39 48.1	
	comp=Z,11nm,1.5s						
BVAR	**Borovoye Array**	**49.32**	**341**	P	**P**	**04 39 16.0**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=165,slow=6.7,SNR=4.5						
	comp=Z,0.9nm,0.7s						
RAYN	**Ar Rayn**	**49.40**	**294**	P	**P**	**04 39 17.9**	**+0.6**
RAYN				IAmb	IAmb	04 39 28.1	
	comp=Z,5.3nm,0.8s						
ASAR	**Alice Springs**	**49.57**	**130**	P	**P**	**04 39 16.3**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=299,slow=8.0,SNR=5.6						
	comp=Z,0.4nm,0.5s						
ABKAR	**Akbulak array**	**50.58**	**331**	P	**P**	**04 39 24.3**	**-1.4**
ABKAR				IAmb	IAmb	04 39 33.2	
	comp=Z,2.2nm,0.9s						
KMBO	**Kilima Mbogo**	**57.61**	**264**	P	P	04 40 23.5	+5.6
	comp=Z,1.3nm,0.5s,baz=60,slow=20,SNR=5.1						
KMBO				LR	LR	05 03 20.9	
	comp=Z,52nm,18.3s,baz=86,slow=34						
H04N2	**CROZET ISLANDS**	**65.60**	**211**	T	T	05 52 21.1	
	baz=48,slow=74						
H04N1	**CROZET ISLANDS**	**65.61**	**211**	T	T	05 52 23.7	
	baz=48,slow=74						
H04N3	**CROZET ISLANDS**	**65.62**	**211**	T	T	05 52 22.6	
	baz=48						
TIXI	**Tiksi**	**67.46**	**11**	P	**P**	**04 41 20.8**	**-1.6**
AKASG	**Malin Array Be**	**68.50**	**322**	P	**P**	**04 41 31.3**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=74,slow=6.8,SNR=1.5						
	comp=Z,0.1nm,0.3s						
FINES	**FINESS Array B**	**73.06**	**332**	P	**P**	**04 41 55.1**	**-1.7**
FINES	**FINESS Array B**	**73.06**	**332**	P	**P**	**04 41 55.9**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=97,slow=4.6,SNR=5.0						
	comp=Z,1.6nm,0.7s						
GERES	**GERESS Array B**	**78.18**	**318**	P	**P**	**04 42 28.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=83,slow=5.0,SNR=5.9						
	comp=Z,0.1nm,0.3s						
HFS	**Hagfors**	**78.80**	**330**	P	**P**	**04 42 29.0**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=95,slow=7.2,SNR=4.6						
	comp=Z,0.7nm,0.3s						
NOA	**NORSAR Array B**	**80.08**	**331**	P	**P**	**04 42 35.6**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=90,slow=5.5,SNR=1.4						
	comp=Z,1.2nm,0.9s						
ESDC	**Sonseca Array**	**91.56**	**310**	P	**P**	**04 43 36.1**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=99,slow=5.3,SNR=4.3						
	comp=Z,0.1nm,0.3s						
PLCA	**Paso Flores**	**144.36**	**200**	PKP	**PKPab**	**04 50 01.8**	**+0.1**
	comp=Z,1.5nm,1.1s,baz=149,slow=5.9,SNR=4.3						
CPUP	**Villa Florida**	**147.26**	**232**	PKPbc	**PKPdf**	**04 50 10.2**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=96,slow=6.8,SNR=4.4						

*IDC **01** 04:33:31.6±0.8, 7°.56N×94°.47E, h0km, mb4.0/14, mbtmp3.9/16, ML4.0/2, MS3.6/10, Error ellipse: s-maj=36.3km s-min=17.6km az=60.0*
*NEIC **01** 04:33:34.1±1.6, 7°.50N±0°.07×94°.4E±0°.1, h10km±1km, mb4.3/14, Error ellipse: s-maj=22.6km s-min=10.0km az=248.0*
*NDI **01** 04:33:38.5±0.6, 7°.11N×94°.38E, h10km, ML4.0, MW4.0, mb4.3(NEIC)*
ISC 01 04:33:35.3±0.6, 7°.50N±0°.05×94°.33E±0°.08, h24km, n56, σ1$06/42, mb4.2/21, MS3.6/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.63**	**220**	*eP*	**Pb**	**04 33 47.3**	**-0.4**
CMBY				*eS*	**Sb**	**04 33 54.0**	**-2.1**
CMBY				IAML		04 33 59.7	
	comp=E,17μm,0.2s						
CMBY				IAML		04 34 00.0	
	comp=N,12μm,0.2s						
LHMI	**Lhok Sumawe**	**3.44**	**131**	Pn	**Pn**	**04 34 28.3**	**+0.9**
PBA	**Port Blair**	**4.42**	**339**	Pn	**Pn**	**04 34 40.3**	**-0.6**
PBA	**Port Blair**	**4.42**	**339**	*eP*	**Pb**	**04 34 50.9**	**-1.4**
PBA				*eS*	**Sb**	**04 35 43.9**	**-1.2**
PBA				IAML		04 35 50.4	
	comp=E,224nm,0.1s						
PBA				IAML		04 35 50.4	
	comp=N,319nm,0.1s						
SRIT	**Nakonsritamara**	**5.33**	**78**	Pn	**Pn**	**04 34 53.8**	**+0.3**
DGPR	**DIGLIPUR**	**5.81**	**346**	*eP*	Pb	04 35 09.8	-6.2
DGPR				*eS*	Sn	04 36 15.9	+10
PSI	**Prapat**	**6.53**	**135**	Pn	**Pn**	**04 35 09.9**	**-0.2**
	comp=N,0.8nm,0.3s,baz=348,slow=16,SNR=1.3						
PSI				LR	LR	04 38 06.1	
	comp=N,536nm,21.5s,baz=301,slow=42						
	comp=N,2.1nm,0.3s						
RPSI	**Rantau Prapat**	**6.61**	**136**		**Pn**	**04 35 09.9**	**-1.1**
KULM	**Kulim**	**6.65**	**109**	Pn	**Pn**	**04 35 11.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**11.78**	**22**	Pn	**Pn**	**04 36 21.5**	**-0.5**
	comp=N,0.9nm,0.3s,baz=202,slow=14,SNR=6.1						
CMAR				LR	LR	04 40 43.5	
	comp=N,228nm,18.8s,baz=200,slow=37						
	comp=N,1.2nm,0.3s						
CHTO	**Chiang Mai**	**12.11**	**21**	Pn	**Pn**	**04 36 26.1**	**-0.4**
LSA	**Lhasa**	**22.29**	**353**	P	**P**	**04 38 30.3**	**-1.1**
LSA				IAmb	IAmb	04 38 38.3	
	comp=Z,13nm,0.9s						
H08S3	**Diego Garcia H**	**26.46**	**236**	T	T	05 05 55.9	
	baz=54						
H08S2	**Diego Garcia H**	**26.47**	**236**	T	T	05 05 56.4	
	baz=54,slow=74,SNR=13						
H08S1	**Diego Carcia H**	**26.48**	**236**	T	T	05 05 57.4	
	baz=54,slow=74,SNR=13						
KDJ	**Kajisay**	**37.68**	**339**	P	**P**	**04 40 49.5**	**+0.5**
BTK	**Batken**	**38.65**	**331**	P	**P**	**04 40 57.8**	**+0.7**
BTK				IAmb	IAmb	04 41 20.6	
	comp=Z,5.5nm,1.1s						
ARSB	**Arslanbob**	**38.66**	**334**	P	**P**	**04 40 57.2**	**-0.1**
ARSB				IAmb	IAmb	04 41 01.7	
	comp=Z,6.6nm,1.0s						
MK31	**Makanchi Array**	**40.49**	**347**	P	**P**	**04 41 12.3**	**0.0**
MKAR	**Makanchi Array**	**40.49**	**347**	P	**P**	**04 41 11.4**	**-0.9**
MKAR	**Makanchi Array**	**40.49**	**347**	P	**P**	**04 41 09.9**	**-2.4**
	comp=Z,1.7nm,0.9s,baz=159,slow=8.4,SNR=14						
	comp=Z,1.7nm,0.9s						
MAKZ	**Makanchi**	**40.58**	**347**	P	**P**	**04 41 13.8**	**+0.8**
MAKZ				IAmb	IAmb	04 41 16.7	
	comp=Z,2.6nm,0.8s						
SONM	**Songino Array**	**41.49**	**12**	P	**P**	**04 41 22.7**	**+2.1**
SONM	**Songino Array**	**41.49**	**12**	P	**P**	**04 41 19.5**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=197,slow=8.6,SNR=9.2						
	comp=Z,0.4nm,0.4s						
KSRS	**Korea Array**	**42.62**	**41**	LR	LR	04 59 27.5	
	comp=Z,100nm,18.9s,baz=25,slow=37						
KURBB	**Kurchatov Arra**	**44.95**	**346**	P	**P**	**04 41 48.5**	**+0.1**
	comp=Z,4.6nm,0.9s,baz=164,slow=7.1,SNR=12						
	comp=Z,4.6nm,0.9s						
KURK	**Kurchatov**	**45.02**	**346**	P	**P**	**04 41 50.0**	**+1.1**
KURK				IAmb	IAmb	04 41 53.2	
	comp=Z,9.4nm,1.2s						
NWAO	**Narrogin (SRO)**	**45.73**	**153**	LR	LR	05 00 15.2	
	comp=Z,71nm,21.8s,baz=318,slow=35						
ZAA0	**Zalesovo Array**	**46.95**	**352**	P	**P**	**04 42 04.4**	**+0.4**
ZAA0				IAmb	IAmb	04 42 10.2	
	comp=Z,6.6nm,0.9s						
ZALV	**Zalesovo Beam**	**46.95**	**352**	P	**P**	**04 42 04.7**	**+0.6**
ZALV	**Zalesovo Beam**	**46.95**	**352**	P	**P**	**04 42 04.8**	**+0.7**
	comp=Z,5.9nm,0.8s,baz=175,slow=6.7,SNR=11						
	comp=Z,5.9nm,0.8s						
WB0	**Warramunga Arr**	**47.84**	**125**	P	**P**	**04 42 10.8**	**-0.8**
WRA	**Warramunga Arr**	**47.89**	**125**	P	**P**	**04 42 11.4**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=301,slow=7.8,SNR=4.6						
	comp=Z,0.5nm,0.9s						
MJAR	**Matsushiro Arr**	**49.27**	**47**	LR	LR	05 05 44.8	
	comp=Z,39nm,18.3s,baz=198,slow=39						
BVAR	**Borovoye Array**	**49.40**	**341**	P	**P**	**04 42 21.7**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=134,slow=8.3,SNR=7.0						
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**49.53**	**130**	P	**P**	**04 42 23.3**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=303,slow=8.3,SNR=2.3						
	comp=Z,0.3nm,0.7s						
ABKAR	**Akbulak array**	**50.65**	**331**	P	**P**	**04 42 33.0**	**+0.4**
ABKAR				IAmb	IAmb	04 42 43.3	
	comp=Z,3.8nm,1.3s						
ASAJ	**Asahikawa**	**55.57**	**41**	LR	LR	05 07 40.7	
	comp=Z,52nm,21.1s,baz=174,slow=37						
EIL	**Elat**	**59.78**	**300**	LR	LR	05 12 10.9	
	comp=Z,49nm,18.2s,baz=92,slow=39						
BRTR	**Keskin Array B**	**62.82**	**311**	P	**P**	**04 44 01.4**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=129,slow=6.5,SNR=2.8						
	comp=Z,0.4nm,

H08S3	Diego Garcia H	26.30	236	T	T	05 07 28.1	
	baz=54,slow=75,SNR=19						
H08S2	Diego Garcia H	26.30	236	T	T	05 07 27.3	
	baz=54,slow=75,SNR=4.3						
H08S1	Diego Carcia H	26.32	236	T	T	05 07 29.5	
	baz=54,slow=75,SNR=3.2						
NIL	Nilore	32.52	326	P	P	04 41 33.5	-1.2
WUS	Wushi	36.20	341	P	P	04 42 06.1	-0.6
WUS				IAmb	IAmb	04 42 12.9	
	comp=Z,8.4nm,1.1s						
KDJ	Kajisay	37.73	339	P	P	04 42 19.2	-0.4
GAR	Garm	38.11	329	P	P	04 42 21.9	-0.9
GAR				IAmb	IAmb	04 42 25.7	
	comp=Z,16nm,1.2s						
BOOM	Boomskoye usch	38.49	338	P	P	04 42 26.3	+0.3
SIMJ	Simiganj	38.53	328	P	P	04 42 25.4	-1.1
SIMJ				IAmb	IAmb	04 42 27.2	
	comp=Z,11nm,1.4s						
BTK	Batken	38.67	331	P	P	04 42 27.8	+0.3
BTK				IAmb	IAmb	04 42 37.1	
	comp=Z,6.8nm,1.1s						
ARSB	Arslanbob	38.69	334	P	P	04 42 27.1	-0.6
ARSB				IAmb	IAmb	04 42 32.5	
	comp=Z,12nm,1.3s						
AAK	Ala-Archa	39.16	337	P	P	04 42 31.7	+0.1
MK31	Makanchi Array	40.56	347	P	P	04 42 41.5	-1.5
MK31				IAmb	IAmb	04 42 49.4	
	comp=Z,7.1nm,1.1s						
MKAR	Makanchi Array	40.56	347	P	P	04 42 42.2	-0.8
MKAR	Makanchi Array	40.56	347	P	P	04 42 42.5	-0.5
	comp=Z,3.1nm,0.6s,baz=165,slow=7.9,SNR=19						
	comp=Z,3.1nm,0.6s						
MAKZ	Makanchi	40.64	347	P	P	04 42 42.7	-1.1
KK31	Karatay Array	41.21	333	P	P	04 42 47.3	-1.2
KK31				IAmb	IAmb	04 42 49.7	
	comp=Z,4.7nm,0.8s						
KKAR	Karatay Array	41.21	333	P	P	04 42 47.2	-1.3
KKAR				IAmb	IAmb	04 42 49.7	
	comp=Z,4.9nm,0.8s						
SONM	Songino Array	41.61	12	P	P	04 42 51.5	-0.3
SONM	Songino Array	41.61	12	P	P	04 42 52.5	+0.7
	comp=Z,1.8nm,0.9s,baz=192,slow=8.5,SNR=6.0						
	comp=Z,1.8nm,0.9s						
KURBB	Kurchatov Arra	45.02	346	P	P	04 43 19.1	0.0
	comp=Z,2.4nm,0.4s,baz=164,slow=7.5,SNR=15						
	comp=Z,2.4nm,0.4s						
KURK	Kurchatov	45.08	346	P	P	04 43 18.8	-0.8
ZAA0	Zalesovo Array	47.03	352	P	P	04 43 34.4	-0.5
ZAA0				IAmb	IAmb	04 43 36.0	
	comp=Z,4.7nm,0.8s						
ZALV	Zalesovo Beam	47.03	352	P	P	04 43 33.8	-1.1
ZALV	Zalesovo Beam	47.03	352	P	P	04 43 35.0	+0.1
	comp=Z,3.1nm,0.4s,baz=177,slow=7.2,SNR=11						
	comp=Z,3.1nm,0.4s						
WRA	Warramunga Arr	47.94	125	P	P	04 43 42.3	-0.2
	comp=Z,0.7nm,0.8s,baz=301,slow=7.4,SNR=2.2						
	comp=Z,0.7nm,0.8s						
BVAR	Borovoye Array	49.45	341	P	P	04 43 53.6	-0.1
	comp=Z,10nm,1.2s,baz=145,slow=6.3,SNR=6.9						
	comp=Z,10nm,1.2s						
BRVK	Borovoye	49.52	341	P	P	04 43 53.4	-0.8
BRVK				IAmb	IAmb	04 44 00.6	
	comp=Z,3.5nm,1.0s						
ASAR	Alice Springs	49.57	130	P	P	04 43 53.5	-1.6
	comp=Z,0.9nm,0.8s,baz=306,slow=7.7,SNR=4.8						
ASAR				PcP	PcP	04 45 17.4	+0.7
	comp=Z,0.6nm,0.8s,baz=320,slow=4.0,SNR=2.3						
	comp=Z,0.9nm,0.8s						
ABKAR	Akbulak array	50.67	332	P	P	04 44 03.1	+0.1
ABKAR				IAmb	IAmb	04 44 04.4	
	comp=Z,4.5nm,1.1s						
ARTI	Arti	56.38	337	P	P	04 44 43.7	-1.1
BRTR	Keskin Array B	62.78	311	P	P	04 45 28.4	-1.0
	comp=Z,0.7nm,0.7s,baz=101,slow=7.5,SNR=5.2						
	comp=Z,0.7nm,0.7s						
TIXI	Tiksi	67.68	11	P	P	04 45 59.2	-1.2
FINES	FINESS Array B	73.15	332	P	P	04 46 33.3	-0.8
	comp=Z,2.3nm,0.6s,baz=101,slow=5.8,SNR=5.7						
	comp=Z,2.3nm,0.6s						
ARCES	ARCESS Array B	75.73	340	P	P	04 46 49.4	+0.5
	comp=Z,5.1nm,0.9s,baz=99,slow=6.7,SNR=4.1						
	comp=Z,5.1nm,0.9s						
GERES	GERESS Array B	78.22	318	P	P	04 47 04.1	+0.7
	comp=Z,0.7nm,0.7s,baz=46,slow=2.8,SNR=3.7						
	comp=Z,0.7nm,0.7s						
HFS	Hagfors	78.89	330	P	P	04 47 07.1	+0.4
	comp=Z,3.0nm,0.8s,baz=88,slow=4.9,SNR=5.4						
	comp=Z,3.0nm,0.8s						
NB2	NORSAR Subarra	80.17	331	P	P	04 47 13.3	-0.5
	comp=Z,0.6nm,0.6s,baz=95,slow=5.1						
NOA	NORSAR Array B	80.17	331	P	P	04 47 13.2	-0.5
	comp=Z,1.1nm,0.7s,baz=90,slow=5.6,SNR=3.9						
	comp=Z,1.1nm,0.7s						
SPITS	Spitsbergen Ar	80.31	348	P	P	04 47 15.0	+0.8
	comp=Z,3.2nm,0.7s,baz=87,slow=10,SNR=5.9						
	comp=Z,3.2nm,0.7s						
EKA	Eskdalemuir Ar	88.14	325	P	P	04 47 53.6	-0.7
	comp=Z,0.5nm,0.5s,baz=74,slow=5.5,SNR=2.5						
	comp=Z,0.5nm,0.5s						
ESDC	Sonseca Array	91.56	310	P	P	04 48 12.2	+1.3
	comp=Z,0.3nm,0.4s,baz=58,slow=3.2,SNR=3.4						
	comp=Z,0.3nm,0.4s						
PLCA	Paso Flores	144.13	200	PKP	PKPbc	04 54 38.5	+0.6
	comp=Z,0.9nm,0.8s,baz=153,slow=2.3,SNR=3.4						
CPUP	Villa Florida	147.02	232	PKPbc	PKPab	04 54 48.1	-0.5
	comp=Z,1.0nm,0.9s,baz=148,slow=2.1,SNR=3.0						

*IDC **01** 04:37:12.1±2.5, 7.°03N×93.°12E, h0km, mb3.6/4, mbtmp3.7/5, ML4.9/1, Error ellipse: s-maj=89.6km s-min=31.0km az=63.0*

ISC 01 04:37:16.2±1.5, 7.°1N±0.°2×93.°2E±0.°2, h27km, n9, σ0§47/6, mb3.5/4, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.63	26	Pn	Pn	04 40 14.0	-0.2
	1.9nm,0.3s,baz=204,slow=14,SNR=5.8						
	2.7nm,0.3s						
H08S3	Diego Garcia H	25.28	235	T	T	05 09 23.6	
	baz=54						
H08S2	Diego Garcia H	25.28	235	T	T	05 09 28.5	
	baz=54						
H08S1	Diego Carcia H	25.30	235	T	T	05 09 28.4	
	baz=54						
MKAR	Makanchi Array	40.65	349	P	P	04 44 54.1	+0.1
	0.7nm,0.8s,baz=163,slow=6.8,SNR=2.9						
	0.7nm,0.8s						
KURBB	Kurchatov Arra	45.08	347	P	P	04 45 29.9	0.0
	0.8nm,0.9s,baz=163,slow=6.6,SNR=4.3						
	0.8nm,0.9s						
ZALV	Zalesovo Beam	47.22	353	P	P	04 45 47.3	+0.7
	0.8nm,0.3s,baz=178,slow=8.4,SNR=2.7						
	0.8nm,0.3s						
ASAR	Alice Springs	50.16	129	P	P	04 46 09.8	0.0
	0.1nm,0.3s,baz=303,slow=8.0,SNR=1.4						
	0.1nm,0.3s						
VOIR		69.67	316	⇑P	P	04 48 23.3	-0.3

*IDC **01** 04:52:10.2±2.1, 7.°70N×93.°96E, h0km, mb3.6/6, mbtmp3.6/8, ML3.9/2, Error ellipse: s-maj=79.6km s-min=20.3km az=62.0*

ISC 01 04:52:13.4±1.8, 7.°7N±0.°2×94.°1E±0.°3, h20km, n14, σ0§98/8, mb3.5/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.87	135	Pn	Pn	04 53 52.3	-0.9
	0.6nm,0.3s,baz=310,slow=17,SNR=4.5						
	2.4nm,0.4s						
CMAR	Chiang Mai Arr	11.68	23	Pn	Pn	04 54 59.2	0.0
	0.7nm,0.3s,baz=204,slow=14,SNR=1.6						
	1.1nm,0.3s						
H08S3	Diego Garcia H	26.37	235	T	T	05 24 34.5	
	baz=54,slow=76,SNR=14						
H08S2	Diego Garcia H	26.38	235	T	T	05 24 27.3	
	baz=54,slow=76,SNR=13						
H08S1	Diego Carcia H	26.39	235	T	T	05 24 34.3	
	baz=54,slow=76,SNR=8.7						
MKAR	Makanchi Array	40.23	347	P	P	04 59 47.6	-1.1
	0.7nm,0.7s,baz=167,slow=7.2,SNR=5.2						
	0.7nm,0.7s						
SONM	Songino Array	41.33	13	P	P	04 59 58.3	+0.3
	0.2nm,0.3s,baz=188,slow=8.7,SNR=3.0						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	44.68	346	P	P	05 00 24.8	-0.1
	1.1nm,0.8s,baz=168,slow=6.8,SNR=6.5						
	1.1nm,0.8s						
ZALV	Zalesovo Beam	46.70	352	P	P	05 00 40.8	0.0
	0.8nm,0.4s,baz=169,slow=8.2,SNR=1.5						
	0.8nm,0.4s						
WRA	Warramunga Arr	48.22	125	P	P	05 00 53.4	+0.2
	0.3nm,0.8s,baz=301,slow=7.7,SNR=1.9						
	0.3nm,0.8s						
ASAR	Alice Springs	49.87	130	P	P	05 01 07.4	+1.6
	0.2nm,0.4s,baz=302,slow=7.8,SNR=1.7						
	0.2nm,0.4s						
H04N2	CROZET ISLANDS	65.55	211	T	T	06 13 17.0	
	baz=47,slow=75,SNR=7.4						
H04N1	CROZET ISLANDS	65.56	211	T	T	06 13 16.7	
	baz=47,slow=75,SNR=7.2						
H04N3	CROZET ISLANDS	65.57	211	T	T	06 13 17.9	
	baz=47,slow=75,SNR=10						

*IDC **01** 04:52:45.2±3.2, 7.°86N×94.°04E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=140.4km s-min=23.2km az=60.0*

ISC 01 04:52:48.0±3.1, 7.°9N±0.°4×94.°1E±0.°8, h18km, n6, σ0§26/6, mb3.6/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	40.08	347	P	P	05 00 22.2	-0.1
	1.6nm,0.7s,baz=160,slow=7.8,SNR=7.8						
	1.6nm,0.7s						
SONM	Songino Array	41.19	13	P	P	05 00 31.7	0.0
	0.6nm,0.8s,baz=182,slow=6.5,SNR=2.8						
	0.6nm,0.8s						
KURBB	Kurchatov Arra	44.53	346	P	P	05 00 58.5	-0.1
	2.0nm,0.8s,baz=165,slow=7.0,SNR=8.4						
	2.0nm,0.8s						
ZALV	Zalesovo Beam	46.55	352	P	P	05 01 14.6	+0.1
	1.7nm,0.6s,baz=160,slow=9.3,SNR=4.4						
	1.7nm,0.6s						
WRA	Warramunga Arr	48.33	125	P	P	05 01 28.5	-0.3
	0.3nm,0.7s,baz=302,slow=7.4,SNR=1.8						
	0.3nm,0.7s						
ASAR	Alice Springs	49.98	130	P	P	05 01 41.7	+0.3
	0.3nm,0.6s,baz=302,slow=7.8,SNR=1.5						
	0.3nm,0.6s						

*NDI **01** 04:54:02.2±0.3, 7.°72N×94.°48E, h10km, ML4.0, MW4.1, mb4.3(NEIC)*
*IDC **01** 04:54:08.2±0.9, 7.°89N×94.°21E, h0km, mb3.9/12, mbtmp3.9/14, ML3.8/2, MS3.4/1, Error ellipse: s-maj=41.0km s-min=17.6km az=54.0*
*NEIC **01** 04:54:09.1±1.0, 7.°8N±0.°1×94.°4E±0.°1, h10km±1km, mb4.3/11, Error ellipse: s-maj=22.1km s-min=16.0km az=245.0*

ISC 01 04:54:11.2±0.6, 7.°97N±0.°07×94.°27E±0.°08, h21km, n42, σ1§91/38, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	1.02	200	eS	Pn	04 54 27.7	-2.5
CMBY				IAML		04 54 32.3	
	comp=E,12μm,0.5s						
CMBY				IAML		04 54 32.6	
	comp=N,11μm,0.4s						
LHMI	Lhok Sumawe	3.81	136	Pn	Pn	04 55 04.9	-3.8
PBA	Port Blair	3.96	338	eP	Pn	04 55 07.2	-3.4
PBA				eS	Sn	04 55 54.9	-1.5
PBA				IAML		04 55 57.0	
	comp=N,177nm,0.1s						
SRIT	Nakonsritamara	5.31	83	Pn	Pn	04 55 29.0	-0.4
DGPR	DIGLIPUR	5.34	346	eP	Pn	04 55 25.9	-3.7
DGPR				eS	Sn	04 56 27.0	-3.5
DGPR				IAML		04 56 55.5	
	comp=E,140nm,0.1s						
KULM	Kulim	6.87	112	Pn	Pn	04 55 47.0	-3.8
PSI	Prapat	6.92	138	Pn	Pn	04 55 52.4	+0.9
	comp=E,1.2nm,0.3s,baz=297,slow=9.0,SNR=2.3						
	comp=E,4.9nm,0.4s						
RPSI	Rantau Prapat	7.00	138	Pn	Pn	04 55 50.4	-2.0
CMAR	Chiang Mai Arr	11.37	23	Pn	Pn	04 56 53.5	+1.0
	comp=E,0.3nm,0.3s,baz=205,slow=13,SNR=1.0						
	comp=E,1.9nm,0.3s						
PALK	Pallekele	13.47	268	LR	LR	05 02 17.6	
	comp=E,146nm,18.6s,baz=114,slow=36						
H08S3	Diego Garcia H	26.68	235	T	T	05 26 28.3	
	baz=54,slow=75,SNR=20						
H08S2	Diego Garcia H	26.68	235	T	T	05 26 27.5	
	baz=54,slow=75,SNR=30						
H08S1	Diego Carcia H	26.70	235	T	T	05 26 28.6	
	baz=54,slow=75,SNR=27						
MK31	Makanchi Array	40.02	347	P	P	05 01 45.6	+1.0
MKAR	Makanchi Array	40.02	347	P	P	05 01 44.9	+0.3
MKAR	Makanchi Array	40.02	347	P	P	05 01 44.8	+0.2
	comp=E,0.8nm,0.6s,baz=167,slow=7.1,SNR=7.3						
	comp=E,0.8nm,0.6s						
MAKZ	Makanchi	40.10	347	P	P	05 01 45.7	+0.4
SONM	Songino Array	41.04	12	P	P	05 01 52.4	-0.7
SONM				IAmb	IAmb	05 02 03.5	
	comp=Z,6.0nm,0.8s						
ULN	Ulaanbaatar	41.21	13	P	P	05 01 54.4	-0.2
ULN				IAmb	IAmb	05 02 03.9	
	comp=Z,5.2nm,0.7s						
KS19	Wonju Array Si	42.30	41	P	P	05 02 02.3	-1.2
KURBB	Kurchatov Arra	44.48	346	P	P	05 02 21.1	+0.3
	comp=Z,0.8nm,0.6s,baz=167,slow=7.1,SNR=8.6						
	comp=Z,0.8nm,0.6s						
KURK	Kurchatov	44.55	346	P	P	05 02 22.1	+0.7
KURK				IAmb	IAmb	05 02 27.9	
	comp=Z,6.1nm,1.3s						
ZAA0	Zalesovo Array	46.48	352	P	P	05 02 37.2	+0.6
ZAA0				IAmb	IAmb	05 02 46.9	
	comp=Z,2.4nm,0.8s						
ZALV	Zalesovo Beam	46.48	352	P	P	05 02 36.4	-0.2
ZALV	Zalesovo Beam	46.48	352	P	P	05 02 36.9	+0.3
	comp=Z,0.9nm,0.4s,baz=185,slow=6.9,SNR=5.5						
	comp=Z,0.9nm,0.4s						
WRA	Warramunga Arr	48.21	126	P	P	05 02 48.9	-1.7
	comp=Z,0.6nm,0.7s,baz=303,slow=7.5,SNR=4.9						
	comp=Z,0.6nm,0.7s						
WB2	Warramunga Arr	48.22	126	P	P	05 02 47.7	-3.0
ASAR	Alice Springs	49.88	130	P	P	05 03 04.6	+1.1
	comp=Z,0.7nm,0.7s,baz=306,slow=8.2,SNR=6.1						
ASAR				PcP	PcP	05 04 27.1	+3.2
	comp=Z,0.6nm,0.8s,baz=302,slow=3.8,SNR=3.2						
	comp=Z,0.7nm,0.7s						
ABKAR	Akbulak array	50.21	331	P	P	05 03 06.1	+0.6
ABKAR				IAmb	IAmb	05 03 15.0	
	comp=Z,4.3nm,1.1s						
BRTR	Keskin Array B	62.46	311	P	P	05 04 33.7	+0.4
BRTR	Keskin Array B	62.46	311	P	P	05 04 33.1	-0.2
	comp=Z,0.5nm,0.6s,baz=111,slow=7.9,SNR=3.7						
	comp=Z,0.5nm,0.6s						
H04N2	CROZET ISLANDS	65.88	211	T	T	06 15 48.8	
	baz=47,slow=75,SNR=7.9						
H04N1	CROZET ISLANDS	65.89	211	T	T	06 15 38.3	
	baz=47,slow=75,SNR=6.0						
H04N3	CROZET ISLANDS	65.90	211	T	T	06 15 21.6	
	baz=47,slow=75,SNR=24						
PETK	Petropavlovsk-	67.85	36	P	P	05 05 09.8	+2.0
	comp=Z,1.9nm,0.9s,baz=277,slow=12,SNR=3.5						
	comp=Z,1.9nm,0.9s						
FINES	FINESS Array B	72.68	332	P	P	05 05 38.9	+1.7
FINES	FINESS Array B	72.68	332	P	P	05 05 39.2	+2.0
	comp=Z,1.3nm,0.7s,baz=100,slow=3.1,SNR=4.6						
	comp=Z,1.3nm,0.7s						
ARCES	ARCESS Array B	75.22	340	P	P	05 05 54.2	+2.3
	comp=Z,8.2nm,1.1s,baz=107,slow=6.2,SNR=1.9						
	comp=Z,8.2nm,1.1s						
GERES	GERESS Array B	77.84	318	P	P	05 06 08.0	+0.7
	comp=Z,0.2nm,0.2s,baz=76,slow=7.9,SNR=3.8						
	comp=Z,0.2nm,0.2s						
HFS	Hagfors	78.44	330	P	P	05 06 10.4	+0.1
	comp=Z,1.0nm,0.5s,baz=103,slow=10,SNR=4.9						
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	79.71	331	P	P	05 06 18.3	+1.0
	comp=Z,0.4nm,0.6s,baz=90,slow=5.6,SNR=1.4						
	comp=Z,0.4nm,0.6s						
PLCA	Paso Flores	144.69	200	PKP	PKPdf	05 13 47.5	+0.7
	comp=Z,0.6nm,0.6s,baz=145,slow=3.9,SNR=4.7						

*UPA **01** 04:55:58.5±1.2, 7.°59N×81.°88W, h0km±5km, ML3.6, MW4.0*
*UCR **01** 04:56:00.1±1.9, 7.°55N×81.°89W, h10km, MW3.7*

ISC 01 04:55:59.4±1.7, 7.°57N±0.°08×81.°90W±0.°04, h4km±11km, n42, σ1§43/54, 2C-2D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	Guarumal, Vera	0.69	73⇓	eP	Pg	04 56 11.9	-0.7
GMAL				eS	Sg	04 56 22.9	+1.3
GMAL	Guarumal, Vera	0.69	73⇓	eP	Pg	04 56 12.0	-0.7
GMAL				AMP		04 56 13.0	
	comp=Z,2μm,0.1s						
GMAL				eS	Sg	04 56 23.1	+1.5
DVD	David	1.02	328	eP	Pg	04 56 17.1	-2.0
DVD				eS	Sg	04 56 33.8	+1.4
CACAO	El Cacao, Vera	1.05	102⇑	eP	Pg	04 56 19.0	-0.6
CACAO				eS	Sn	04 56 35.2	-0.9
LPPC	Paso Canoas	1.34	316	eP	Pn	04 56 22.6	-2.3
CHGR2	Aguacate	1.38	350	eP	Pn	04 56 22.6	-2.9
CHGR2				eS	Sg	04 56 44.9	+0.9
NELY	Ciudad Neily	1.49	316	eP	Pn	04 56 25.7	-1.4
CHIT3	Chitre	1.52	75	eP	Pn	04 56 25.9	-1.4
CHIT3				AMP		04 56 27.8	
	comp=Z,465nm,0.1s						
CHIT3				eS	Sn	04 56 47.1	-0.4
AZU	Azuero	1.63	82	eP	Pn	04 56 27.6	-1.2
AZU				eS	Sb	04 56 50.8	-0.1
AZU	Azuero	1.63	82⇑	eP	Pn	04 56 27.9	-1.0
AZU				AMP		04 56 30.7	
	comp=Z,623nm,0.3s						
AZU				eS	Sn	04 56 50.2	-0.1
PIRO	Carate, Puerto	1.65	300	eP	Pn	04 56 28.9	-0.3
ALCO	Alturas Coton,	1.66	326	eP	Pn	04 56 27.5	-1.9
EDP2	Potrero Grande	1.92	319	eP	Pn	04 56 32.1	-0.8
FIMO	Fila Mora	2.02	315	eP	Pn	04 56 32.7	-1.6
DRK0	Durika	2.15	322	eP	Pn	04 56 35.1	-1.0
DRK0	Durika	2.15	322	eP	Pn	04 56 35.7	-0.5
DRK0				eS	Sn	04 57 03.7	+0.3
SAJE	San Jernim	2.38	318	eP	Pn	04 56 38.0	-1.3
ZANG	Zanguenga, Cho	2.44	55	eP	Pn	04 56 40.7	+0.7
BCIP	Isla Barro Col	2.59	52	eP	Pn	04 56 43.1	+1.1
BCIP	Isla Barro Col	2.59	52	eP	Pn	04 56 43.1	+1.1
BCIP				AMP		04 56 45.8	
	comp=Z,1μm,0.3s						
BCIP				eS	Sn	04 57 14.7	+0.8
UPA	Univ. de Panam	2.73	59	eP	Pn	04 56 43.3	-0.7
UPA				eS	Sn	04 57 17.6	+0.1
PIEC	Cerro El Cedra	2.88	315	eP	Pn	04 56 45.7	-0.7
LLNJ	Naranjito	2.89	311	eP	Pn	04 56 47.8	+1.6
VERB	Verbena	2.96	323	eP	Pn	04 56 48.0	+0.7
LCR2	La Lucha 2	3.00	316	eP	Pn	04 56 47.9	-0.1
VTCV	VTCV, Calle Va	3.00	323	eP	Pn	04 56 48.8	+0.7
PISJ	San Jernim	3.01	313	eP	Pn	04 56 48.2	+0.2
ABE2	San Pablo	3.01	315	eP	Pn	04 56 48.6	+0.5
CVTV	Tajo	3.04	323	eP	Pn	04 56 49.4	+0.9
RAFA	San Farael, Vo	3.04	322	eP	Pn	04 56 49.8	+1.3
VTLA	Turrialba Volc	3.05	323	eP	Pn	04 56 49.0	+0.2
PICV	PH. Pirrs	3.06	312	eP	Pn	04 56 49.6	+1.0
VICA	Volcano Irazu	3.08	321	eP	Pn	04 56 49.3	+0.1
ACOS	Acosta	3.15	315	eP	Pn	04 56 51.8	+1.9
CVTG	V. Turrialba,	3.16	324	eP	Pn	04 56 51.1	+1.0
VBV1	V. Barva	3.34	319	eP	Pn	04 56 53.0	+0.4
TRB2	Turrubares	3.43	313	eP	Pn	04 56 56.0	+2.2
VPL3	V. Platanar	3.65	319	eP	Pn	04 56 57.3	+0.6
SOCE	Pocosol	3.88	316	eP	Pn	04 57 03.0	+3.1
ARE1	Arenal 1	4.00	316	eP	Pn	04 57 06.0	+4.4
JTS	Las Juntas de	4.05	312	eP	Pn	04 57 04.8	+2.5
JTS	Las Juntas de	4.05	312	eP	Pn	04 57 01.4	-0.8
JTS				eS	Sn	04 57 50.2	-0.1

*IDC **01** 05:03:25.8±1.2, 7.°26N×93.°87E, h0km, mb3.7/9, mbtmp3.8/11, ML4.4/1, Error ellipse: s-maj=42.9km s-min=22.1km az=55.0*

ISC 01 05:03:29.1±1.0, 7.°3N±0.°1×94.°0E±0.°2, h20km, n17, σ0§48/11, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.69	132	Pn	Pn	05 05 06.2	-0.2
	2.8nm,0.3s,baz=321,slow=18,SNR=3.7						
CMAR	Chiang Mai Arr	12.07	23	Pn	Pn	05 06 19.6	-0.5
	0.6nm,0.3s,baz=204,slow=14,SNR=1.6						
	1.2nm,0.3s						
H08S3	Diego Garcia H	26.07	236	T	T	05 35 58.6	
	baz=54,slow=76,SNR=40						
H08S2	Diego Garcia H	26.07	236	T	T	05 35 51.4	
	baz=54,slow=76,SNR=24						
H08S1	Diego Carcia H	26.09	236	T	T	05 35 60.0	
	baz=54,slow=76,SNR=13						
MKAR	Makanchi Array	40.57	348	P	P	05 11 07.2	-0.1
	0.8nm,0.6s,baz=168,slow=8.3,SNR=12						
	0.8nm,0.6s						
SONM	Songino Array	41.72	13	P	P	05 11 17.3	+0.4
	0.3nm,0.6s,baz=192,slow=5.6,SNR=4.0						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	45.02	346	P	P	05 11 43.6	+0.4
	0.8nm,0.7s,baz=170,slow=6.9,SNR=9.4						
	0.8nm,0.7s						
ZALV	Zalesovo Beam	47.06	353	P	P	05 12 00.0	+0.8
	0.8nm,0.3s,baz=176,slow=7.7,SNR=5.8						
	0.8nm,0.3s						
ASAR	Alice Springs	49.71	129	P	P	05 12 20.4	+0.2
	0.5nm,0.6s,baz=308,slow=7.9,SNR=4.7						
	0.5nm,0.6s						
BRTR	Keskin Array B	62.65	311	P	P	05 13 52.1	-0.5
	0.2nm,0.3s,baz=112,slow=6.1,SNR=4.4						
	0.2nm,0.3s						
H04N2	CROZET ISLANDS	65.18	211	T	T	06 24 40.4	
	baz=48,slow=75,SNR=3.8						
H04N1	CROZET ISLANDS	65.19	211	T	T	06 24 45.9	
	baz=48,slow=75,SNR=4.7						
H04N3	CROZET ISLANDS	65.20	211	T	T	06 24 43.0	
	baz=48,slow=75,SNR=7.

Plg74.0000°, Azm265.0000°; P -2.5960, Plg12.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 01 05:09:17.8±0.3, 7.55N±0.04×94.21E±0.05, h20km, n146, σ1§81/140, mb4.8/63, MS3.9/23, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.60**	**208**	*eP*	**Pb**	**05 09 28.2**	**-1.5**
CMBY				*eS*	**Sn**	**05 09 40.3**	**-0.1**
CMBY				IAML		05 09 42.2	
	comp=E,26μm,0.3s						
CMBY				IAML		05 09 42.4	
	comp=N,51μm,0.4s						
BSI	**Banda Aceh**	**2.31**	**152**	P	**Pb**	**05 09 57.0**	**-1.7**
BSI				S	**Sb**	**05 10 28.4**	**+1.6**
LHMI	**Lhok Sumawe**	**3.56**	**130**		**Pn**	**05 10 11.6**	**-0.4**
LHMI	**Lhok Sumawe**	**3.56**	**130**	P	**Pn**	**05 10 11.8**	**-0.2**
MLSI	**Meulaboh, Aceh**	**3.92**	**146**	P	**Pn**	**05 10 18.8**	**+1.9**
PBA	**Port Blair**	**4.33**	**341**	Pn	**Pn**	**05 10 21.6**	**-0.9**
PBA	**Port Blair**	**4.33**	**341**	*eP*	**Pn**	**05 10 18.9**	**-3.6**
PBA				*eS*	**Sn**	**05 11 06.0**	**-6.4**
SRIT	**Nakonsritamara**	**5.44**	**79**		**Pn**	**05 10 37.9**	**+0.2**
DGPR	**DIGLIPUR**	**5.73**	**347**	*eP*	**Pn**	**05 10 38.4**	**-3.4**
DGPR				*eS*	**Sn**	**05 11 38.3**	**-8.7**
DGPR				IAML		05 12 09.8	
	comp=E,630nm,2.4s						
PSI	**Prapat**	**6.65**	**135**	Pn	**Pn**	**05 10 55.3**	**+0.7**
	comp=E,1.8nm,0.3s,baz=293,slow=9.0,SNR=12						
PSI				Sn	**Sn**	**05 12 09.5**	**-0.4**
	comp=E,1.7nm,0.3s,baz=318,slow=14,SNR=1.3						
PSI				LR	LR	05 13 45.3	
	comp=E,2μm,19.5s,baz=307,slow=41						
	comp=E,15nm,0.6s						
RPSI	**Rantau Prapat**	**6.73**	**136**		**Pn**	**05 10 57.4**	**+1.9**
KULM	**Kulim**	**6.78**	**109**		**Pn**	**05 10 55.0**	**-1.2**
GSI	**Gunungsitoli**	**7.05**	**151**	P	**Pn**	**05 10 59.8**	**-0.1**
	comp=E,0.2nmcomp=E,25nm,0.9s						
MNSI	**Mandailing Nat**	**8.58**	**141**	P	**Pn**	**05 11 20.6**	**-0.3**
PPI	**Padang Panjang**	**10.06**	**142**	P	**Pn**	**05 11 40.2**	**-1.1**
	comp=E,35nm,1.1s						
MYKOM	**Kota Tinggi**	**11.18**	**120**	Pn	**Pn**	**05 11 56.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**11.78**	**23**	Pn	**Pn**	**05 12 05.1**	**+0.3**
	comp=E,3.4nm,0.3s,baz=327,slow=18,SNR=18						
CMAR				LR	LR	05 16 50.5	
	comp=E,593nm,18.6s,baz=205,slow=39						
	comp=E,3.3nm,0.3s						
PALK	**Pallekele**	**13.40**	**270**	Pn	**Pn**	**05 12 29.0**	**+2.0**
	comp=E,0.4nm,0.3s,baz=81,slow=18,SNR=1.4						
PALK				LR	LR	05 17 23.8	
	comp=E,550nm,19.0s,baz=89,slow=36						
	comp=E,1.3nm,0.3s						
BRDH	**Bariadhala**	**15.24**	**351**	LR	LR	05 20 05.6	
	comp=E,593nm,20.2s,baz=164,slow=43						
MDSI	**Maura Dua**	**15.55**	**140**	P	**P**	**05 12 58.2**	**-2.0**
	comp=E,26nm,1.1s						
SLVN	**Son La**	**16.60**	**33**		**Pn**	**05 13 08.8**	**-0.7**
TPI	**Tanjungpandan**	**16.87**	**127**	P	**Pn**	**05 13 12.2**	**-0.7**
TNCH	**TengChong**	**17.86**	**13**	*eP*	**P**	**05 13 26.3**	**+0.3**
TNCH				sP	sP	05 13 32.2	-1.2
TNCH				PP	**PnPn**	**05 13 43.0**	**+6.5**
TNCH				S	**Sn**	**05 16 46.1**	**+1.9**
TNCH				sS	S	05 16 51.4	+0.8
TNCH				SS	**SnSn**	**05 17 06.7**	**+8.4**
TNCH				pmax	pmax		
	comp=E,75nm,0.5s						
TNCH				pmax	pmax		
	comp=E,220nm,4.8s						
TNCH				LR	LR		
	comp=E,900nm,11.7s						
TNCH				LR	LR		
	comp=E,1μm,10.3s						
TNCH				LR	LR		
	comp=E,700nm,11.4s						
SHL	**Shillong**	**18.05**	**353**		**Pn**	**05 13 25.9**	**-1.9**
HYB	**Hyderabad**	**18.15**	**304**	*eP*	**P**	**05 13 28.9**	**-0.1**
QIZ	**Qiongzhong**	**19.00**	**52**	P	**P**	**05 13 37.4**	**-0.9**
QIZ				S	**Sn**	**05 17 11.3**	**-0.1**
QIZ				LR	LR		
	comp=E,1μm,12.5s						
QIZ				LR	LR		
	comp=E,500nm,9.8s						
QIZ				LR	LR		
	comp=E,490nm,9.2s						
KMI	**Kunming**	**19.28**	**24**	P	**Pn**	**05 13 47.2**	**+4.5**
KMI				pmax	pmax		
	comp=E,35nm,0.9s						
KMI				LR	LR		
	comp=E,490nm,10.8s						
KMI				LR	LR		
	comp=E,370nm,11.5s						
KMI				LR	LR		
	comp=E,380nm,18.7s						
LEM	**Lembang**	**19.56**	**137**	LR	LR	05 22 33.3	
	comp=E,725nm,18.1s,baz=322,slow=41						
PZH	**PanZhiHua**	**20.17**	**20**	P	Pn	05 13 54.4	+1.3
PZH				S	Sn	05 17 37.9	-1.8
PZH				pmax	pmax		
	comp=E,30nm,1.3s						
PZH				pmax	pmax		
	comp=E,200nm,4.9s						
PZH				LR	LR		
	comp=E,520nm,12.0s						
PZH				LR	LR		
	comp=E,430nm,13.3s						
PZH				LR	LR		
	comp=E,560nm,13.5s						
SMRI	**Semarang**	**21.73**	**131**	P	**P**	**05 14 08.8**	**+0.7**
	comp=E,3μmcomp=E,66nm,0.9s						
KKM	**Kota Kinabalu**	**21.90**	**93**	P	**P**	**05 14 09.0**	**-1.0**
KKM				IAmb	IAmb	05 14 19.5	
	comp=Z,55nm,1.6s						
LSA	**Lhasa**	**22.22**	**353**	P	**P**	**05 14 12.4**	**-1.3**
LSA				IAmb	IAmb	05 14 20.2	
	comp=Z,33nm,0.9s						
LSA	**Lhasa**	**22.22**	**353**	P	**P**	**05 14 13.5**	**-0.2**
LSA				pmax	pmax		
	comp=Z,32nm,0.7s						
GYA	**Guiyang**	**22.23**	**31**	P	**P**	**05 14 18.5**	**+5.1**
GYA				PP	**PnPn**	**05 14 40.2**	**+4.1**
GYA				pmax	pmax		
	comp=Z,26nm,0.5s						
GYA				pmax	pmax		
	comp=Z,210nm,3.5s						
GYA				LR	LR		
	comp=Z,320nm,10.1s						
GYA				LR	LR		
	comp=Z,660nm,10.6s						
GYA				LR	LR		
	comp=Z,510nm,14.3s						
NGJI	**Ngawi**	**22.70**	**130**	P	P	05 14 28.9	+10
KMMI	**Kalianget**	**24.46**	**126**	P	**P**	**05 14 35.6**	**-0.1**
	comp=Z,40nm,0.9s						
CD2	**Chengdu**	**24.90**	**20**	P	**P**	**05 14 40.5**	**+1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CD2				pmax	pmax		
	comp=Z,280nm,3.9s						
CD2				LR	LR		
	comp=Z,640nm,9.8s						
CD2				LR	LR		
	comp=Z,540nm,12.3s						
SRBI	**Singaraja**	**26.07**	**126**	P	**P**	**05 14 50.5**	**+0.3**
	comp=Z,39nm,1.0s						
H08S3	**Diego Garcia H**	**26.39**	**236**	T	T	05 41 43.5	
	baz=54,slow=76,SNR=42						
H08S2	**Diego Garcia H**	**26.40**	**236**	T	T	05 41 44.7	
	baz=54,slow=76,SNR=27						
H08S1	**Diego Carcia H**	**26.41**	**236**	T	T	05 41 41.8	
	baz=54,slow=76,SNR=23						
BKSI	**Bulukumba**	**28.84**	**116**	P	**P**	**05 15 14.3**	**-0.8**
	comp=Z,14nm,0.9s						
WHN	**Wuhan**	**29.65**	**37**	P	**P**	**05 15 23.7**	**+1.6**
WHN				pmax	pmax		
	comp=Z,30nm,0.5s						
LZH	**Lanzhou**	**29.74**	**16**	*eP*	**P**	**05 15 26.4**	**+3.4**
LZH				sP	sP	05 15 33.2	+2.5
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				LR	LR		
	comp=Z,250nm,13.7s						
LZH				LR	LR		
	comp=Z,330nm,13.1s						
LZH				LR	LR		
	comp=Z,320nm,15.8s						
LYN	**LuoYang**	**31.70**	**29**	P	P	05 15 47.2	+7.0
LYN				pmax	pmax		
	comp=Z,16nm,1.3s						
LYN				LR	LR		
	comp=Z,560nm,13.7s						
LYN				LR	LR		
	comp=Z,540nm,13.7s						
LYN				LR	LR		
	comp=Z,630nm,16.8s						
GTA	**Gaotai**	**32.12**	**8**	P	**P**	**05 15 45.5**	**+1.5**
GTA				sP	sP	05 15 51.8	+0.1
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				LR	LR		
	comp=Z,230nm,14.2s						
GTA				LR	LR		
	comp=Z,120nm,13.1s						
GTA				LR	LR		
	comp=Z,210nm,15.6s						
NIL	**Nilore**	**32.41**	**326**	P	**P**	**05 15 46.1**	**-0.4**
NJ2	**Nanjing**	**33.47**	**40**	*eP*	**P**	**05 15 56.2**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,21nm,0.6s						
HNS	**HongShan**	**35.06**	**29**	P	P	05 16 15.2	+5.8
HNS				sP	sP	05 16 20.6	+3.3
HNS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HNS				LR	LR		
	comp=Z,290nm,11.8s						
HNS				LR	LR		
	comp=Z,220nm,11.4s						
HNS				LR	LR		
	comp=Z,380nm,17.1s						
WUS	**Wushi**	**36.07**	**341**	P	**P**	**05 16 17.6**	**-0.7**
WUS				IAmb	IAmb	05 16 20.1	
	comp=Z,34nm,1.5s						
WMQ	**Urumqi**	**36.58**	**352**	*eP*	**P**	**05 16 23.9**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,27nm,0.9s						
WMQ				LR	LR		
	comp=Z,120nm,24.3s						
HHC	**Hu-ho-hao-te**	**36.59**	**22**	*eP*	**P**	**05 16 23.5**	**+0.8**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KDJ	**Kajisay**	**37.59**	**339**	P	**P**	**05 16 31.3**	**0.0**
BJI	**Beijing**	**37.86**	**28**	P	**P**	**05 16 34.3**	**+1.0**
BJI				S	**S**	**05 22 26.1**	**+2.6**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BJI				LR	LR		
	comp=Z,110nm,20.0s						
BJI				LR	LR		
	comp=Z,120nm,21.2s						
BJI				LR	LR		
	comp=Z,140nm,23.1s						
GAR	**Garm**	**37.99**	**329**	P	**P**	**05 16 34.2**	**-0.3**
GAR				IAmb	IAmb	05 16 41.6	
	comp=Z,27nm,1.1s						
CHGR	**Chuyangaron**	**38.33**	**328**	P	**P**	**05 16 37.4**	**0.0**
PSA00	**Pilbara Seismi**	**38.34**	**140**	P	**P**	**05 16 36.3**	**-1.3**
BOOM	**Boomskoye usch**	**38.35**	**338**	P	**P**	**05 16 38.0**	**+0.4**
SIMJ	**Simiganj**	**38.41**	**328**	P	**P**	**05 16 38.1**	**-0.1**
SIMJ				IAmb	IAmb	05 16 39.3	
	comp=Z,36nm,1.4s						
BTK	**Batken**	**38.55**	**331**	P	**P**	**05 16 40.5**	**+1.3**
BTK				IAmb	IAmb	05 16 43.0	
	comp=Z,21nm,1.2s						
ARSB	**Arslanbob**	**38.56**	**334**	P	**P**	**05 16 39.9**	**+0.5**
ARSB				IAmb	IAmb	05 16 43.8	
	comp=Z,51nm,1.6s						
AAK	**Ala-Archa**	**39.03**	**337**	P	**P**	**05 16 43.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**40.15**	**130**	LR	LR	05 35 47.5	
	comp=Z,183nm,19.4s,baz=310,slow=40						
MK31	**Makanchi Array**	**40.42**	**347**	P	**P**	**05 16 54.6**	**0.0**
MKAR	**Makanchi Array**	**40.42**	**347**	P	**P**	**05 16 55.1**	**+0.5**
MKAR	**Makanchi Array**	**40.42**	**347**	P	**P**	**05 16 54.5**	**-0.1**
	comp=Z,7.5nm,0.7s,baz=168,slow=7.9,SNR=54						
MKAR				PcP	**PcP**	**05 18 58.2**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=116,slow=3.4,SNR=1.2						
MKAR				LR	LR	05 37 19.6	
	comp=Z,86nm,19.6s,baz=164,slow=42						
	comp=Z,7.5nm,0.7s						
MAKZ	**Makanchi**	**40.50**	**347**	P	**P**	**05 16 55.7**	**+0.4**
SONM	**Songino Array**	**41.46**	**12**	P	**P**	**05 17 04.1**	**+0.7**
SONM	**Songino Array**	**41.46**	**12**	P	**P**	**05 17 03.9**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=199,slow=8.9,SNR=18						
SONM				PcP	**PcP**	**05 19 01.6**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=185,slow=4.9,SNR=2.4						
	comp=Z,3.7nm,0.9s						
KSRS	**Korea Array**	**42.66**	**41**	P	**P**	**05 17 12.7**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=260,slow=7.3,SNR=4.3						
	comp=Z,1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**44.88**	**346**	P	**P**	**05 17 31.1**	**+0.4**
	comp=Z,6.4nm,0.4s,baz=172,slow=7.0,SNR=72						
	comp=Z,6.4nm,0.4s						
KURK	**Kurchatov**	**44.94**	**346**	P	**P**	**05 17 32.0**	**+0.8**
KURK				IAmb	IAmb	05 17 33.3	
	comp=Z,24nm,1.1s						
NWAO	**Narrogin (SRO)**	**45.83**	**153**	LR	LR	05 35 43.9	
	comp=Z,125nm,20.1s,baz=7.0,slow=35						
ZAA0	**Zalesovo Array**	**46.88**	**352**	P	**P**	**05 17 46.8**	**+0.3**
ZAA0				IAmb	IAmb	05 17 48.0	
	comp=Z,17nm,1.0s						
ZALV	**Zalesovo Beam**	**46.88**	**352**	P	**P**	**05 17 46.8**	**+0.3**
ZALV	**Zalesovo Beam**	**46.88**	**352**	P	**P**	**05 17 47.0**	**+0.5**
	comp=Z,9.9nm,0.6s,baz=177,slow=7.8,SNR=41						
ZALV				LR	LR	05 42 11.1	
	comp=Z,76nm,18.9s,baz=194,slow=42						
	comp=Z,9.9nm,0.6s						
BNX	**BinXian**	**47.61**	**31**	⇑P	**P**	**05 17 53.7**	**+1.4**
BNX				pmax	pmax		
	comp=Z,4.0nm,1.4s						
WRA	**Warramunga Arr**	**48.02**	**125**	P	**P**	**05 17 53.9**	**-2.1**
	comp=Z,2.2nm,0.9s,baz=305,slow=8.4,SNR=8.2						
WRA				PcP	**PcP**	**05 19 22.1**	**-1.8**
	comp=Z,0.9nm,0.9s,baz=302,slow=3.2,SNR=3.2						
	comp=Z,2.2nm,0.9s						
RAYN	**Ar Rayn**	**49.28**	**295**	P	**P**	**05 18 06.4**	**+0.7**
RAYN				IAmb	IAmb	05 18 08.5	
	comp=Z,12nm,1.0s						
BVAR	**Borovoye Array**	**49.32**	**341**	P	**P**	**05 18 05.0**	**-0.4**
	comp=Z,4.6nm,0.8s,baz=147,slow=8.8,SNR=15						
BVAR				PcP	**PcP**	**05 19 28.4**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=143,slow=4.3,SNR=2.0						
	comp=Z,4.6nm,0.8s						
BRVK	**Borovoye**	**49.38**	**341**	P	**P**	**05 18 05.7**	**-0.2**
ASAR	**Alice Springs**	**49.66**	**130**	P	**P**	**05 18 07.4**	**-1.0**
ASAR	**Alice Springs**	**49.66**	**130**	P	**P**	**05 18 06.8**	**-1.7**
	comp=Z,2.9nm,0.9s,baz=307,slow=7.2,SNR=17						
ASAR				PcP	**PcP**	**05 19 29.8**	**0.0**
	comp=Z,1.8nm,0.9s,baz=310,slow=4.4,SNR=7.0						
	comp=Z,2.9nm,0.9s						
FORT	**Forrest**	**50.04**	**141**	P	**P**	**05 18 10.9**	**-0.3**
AB31	**Akbulak array**	**50.55**	**331**	P	**P**	**05 18 15.2**	**+0.4**
AB31				IAmb	IAmb	05 18 16.4	
	comp=Z,15nm,1.2s						
ABKAR	**Akbulak array**	**50.55**	**331**	P	**P**	**05 18 15.2**	**+0.4**
ATD	**Arta Tunnel**	**50.76**	**279**	LR	LR	05 36 05.3	
	comp=Z,5.7nm,21.9s,baz=122,slow=32						
ARTI	**Arti**	**56.25**	**337**	P	**P**	**05 18 56.6**	**0.0**
ARTI				IAmb	IAmb	05 18 57.7	
	comp=Z,16nm,1.0s						
KBZ	**Khabaz**	**57.37**	**318**	LR	LR	05 47 14.7	
	comp=Z,70nm,19.0s,baz=110,slow=40						
KMBO	**Kilima Mbogo**	**57.46**	**264**	P	**P**	**05 19 08.0**	**+1.8**
	comp=Z,1.1nm,0.3s,baz=53,slow=9.3,SNR=8.0						
KMBO				LR	LR	05 41 51.5	
	comp=Z,92nm,18.2s,baz=86,slow=34						
	comp=Z,1.1nm,0.3s						
STKA	**Stephens Creek**	**59.83**	**134**	P	**P**	**05 19 20.9**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=320,slow=3.5,SNR=3.7						
	comp=Z,1.7nm,0.7s						
NRIK	**Noril'sk**	**61.87**	**357**	P	**P**	**05 19 35.4**	**+0.1**
NRIK				IAmb	IAmb	05 19 36.3	
	comp=Z,8.3nm,1.1s						
NRIK	**Noril'sk**	**61.87**	**357**	P	**P**	**05 19 35.0**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=165,slow=5.1,SNR=5.8						
	comp=Z,3.8nm,0.7s						
BR131	**Keskin Array S**	**62.69**	**311**	P	**P**	**05 19 40.4**	**-1.2**
BRTR	**Keskin Array B**	**62.69**	**311**	P	**P**	**05 19 40.4**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=114,slow=6.5,SNR=8.9						
BRTR				LR	LR	05 51 34.9	
	comp=Z,32nm,18.3s,baz=136,slow=40						
	comp=Z,1.2nm,0.7s						
H04N2	**CROZET ISLANDS**	**65.48**	**211**	T	T	06 30 44.2	
	baz=48,slow=75,SNR=8.2						
H04N1	**CROZET ISLANDS**	**65.49**	**211**	T	T	06 30 41.1	
	baz=48,slow=75,SNR=8.0						
H04N3	**CROZET ISLANDS**	**65.50**	**211**	T	T	06 30 38.2	
	baz=48,slow=75,SNR=7.1						
TIXI	**Tiksi**	**67.53**	**11**	P	**P**	**05 20 11.7**	**-0.6**
TIXI				IAmb	IAmb	05 20 13.2	
	comp=Z,9.1nm,0.8s						
HNR	**Honiara**	**67.62**	**103**	LR	LR	05 52 57.9	
	comp=Z,25nm,18.5s,baz=112,slow=39						
AKASG	**Malin Array Be**	**68.45**	**322**	P	**P**	**05 20 17.1**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=90,slow=5.2,SNR=4.8						
	comp=Z,0.3nm,0.4s						
SEY	**Seymchan**	**69.19**	**25**	LR	LR	05 52 22.5	
	comp=Z,201nm,21.6s,baz=236,slow=37						
LSZ	**Lusaka**	**69.23**	**251**	LR	LR	05 47 59.6	
	comp=Z,112nm,20.2s,baz=148,slow=34						
MLR	**Muntele Rosu**	**69.45**	**316**	P	**P**	**05 20 24.3**	**-0.6**
MLR				IAmb	IAmb	05 20 26.5	
	comp=Z,9.6nm,1.2s						
BURAR	**Bucovina Array**	**70.33**	**318**	P	**P**	**05 20 30.6**	**+0.4**
LIT	**Litokhoron**	**71.20**	**310**	P	**P**	**05 20 34.6**	**-1.0**
LIT				IAmb	IAmb	05 20 41.1	
	comp=Z,6.4nm,0.8s						
KOLS	**Kolonicke sedl**	**72.49**	**319**	*eP*	**P**	**05 20 44.2**	**+1.0**
FINES	**FINESS Array B**	**73.03**	**332**	P	**P**	**05 20 46.2**	**+0.2**
FINES	**FINESS Array B**	**73.03**	**332**	P	**P**	**05 20 45.5**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=96,slow=4.9,SNR=12						
FINES				LR	LR	05 55 30.0	
	comp=Z,68nm,20.1s,baz=124,slow=38						
	comp=Z,4.9nm,0.7s						
BOSA	**Boshof**	**75.47**	**238**	P	**P**	**05 21 02.1**	**+1.0**
	comp=Z,3.9nm,0.8s,baz=101,slow=5.9,SNR=6.7						
	comp=Z,3.9nm,0.8s						
ARCES	**ARCESS Array B**	**75.59**	**340**	P	**P**	**05 21 01.0**	**+0.1**
	comp=Z,17nm,1.2s,baz=90,slow=4.9,SNR=5.2						
	comp=Z,17nm,1.2s						
BRG	**Berggiesshubel**	**78.04**	**320**	*eP*	P	05 21 21.7	+6.6
BRG				Amp		05 21 22.0	
	comp=Z,2.3nm,0.7s						
GEC2	**GERESS Array S**	**78.11**	**318**	P	**P**	**05 21 15.6**	**0.0**
GERES	**GERESS Array B**	**78.11**	**318**	P	**P**	**05 21 15.4**	**-0.3**
GERES	**GERESS Array B**	**78.11**	**318**	P	**P**	**05 21 15.6**	**0.0**
	comp=Z,1.6nm,0.7s,baz=97,slow=6.9,SNR=9.5						
	comp=Z,1.6nm,0.7s						
HFS	**Hagfors**	**78.77**	**330**	P	**P**	**05 21 18.7**	**-0.2**
	comp=Z,3.1nm,0.5s,baz=106,slow=5.3,SNR=14						
	comp=Z,3.1nm,0.5s						
CIMO	**Cimolais**	**78.91**	**316**	P	**P**	**05 21 19.4**	**-0.5**
CIMO				IAmb	IAmb	05 21 20.7	
	comp=Z,9.0nm,1.1s						
NB2	**NORSAR Subarra**	**80.05**	**331**	P	**P**	**05 21 25.3**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=91,slow=5.9						
NOA	**NORSAR Array B**	**80.05**	**331**	P	**P**	**05 21 25.6**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=93,slow=5.6,SNR=6.9						
	comp=Z,1.9nm,0.7s						
SPITS	**Spitsbergen Ar**	**80.17**	**348**	P	**P**	**05 21 24.6**	**-1.6**
	comp=Z,8.8nm,0.8s,baz=90,slow=9.3,SNR=9.7						
	comp=Z,8.8nm,0.8s						
KEST	**Kesra**	**81.48**	**305**	P	**P**	**05 21 33.9**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=24,slow=19,SNR=2.4						
	comp=Z,3.0nm,0.7s						
JMIC	**Jan Mayen**	**87.03**	**341**	LR	LR	06 03 52.0	
	comp=Z,46nm,18.9s,baz=116,slow=38						
EKA	**Eskdalemuir Ar**	**88.03**	**325**	P	**P**	**05 22 06.7**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=95,slow=5.8,SNR=4.8						
	comp=Z,2.1nm,0.8s						
D19K	**Kuna River**	**89.41**	**21**	P	**P**	**05 22 13.9**	**+1.0**
B22K	**Teshekpuk Lake**	**90.28**	**18**	P	**P**	**05 22 17.3**	**+0.4**
H19K	**Roundabout Mou**	**91.04**	**23**	P	**P**	**05 22 21.4**	**+1.0**
ELIB	**Princess Elisa**	**91.30**	**197**	*dP*	**P**	**05 22 21.9**	**+0.3**
	comp=Z,3.3nm,1.0s						
ESDC	**Sonseca Array**	**91.48**	**310**	P	**P**	**05 22 23.5**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=72,slow=4.5,SNR=4.9						
	comp=Z,0.7nm,0.6s						
J19K	**Poorman**	**91.92**	**24**	P	**P**	**05 22 25.5**	**+0.8**
I20K	**Naaghedeneel**	**92.08**	**24**	P	**P**	**05 22 25.8**	**+0.5**
H21K	**Melozitna Rive**	**92.39**	**22**	P	**P**	**05 22 27.1**	**+0.3**
J20K	**Nowinta River**	**92.45**	**24**	P	**P**	**05 22 27.8**	**+0.7**
K20K	**Telida**	**92.80**	**25**	P	**P**	**05 22 30.3**	**+1.6**
L19K	**White Mountain**	**92.92**	**26**	P	**P**	**05 22 29.6**	**+0.3**
L19K				IAmb	IAmb	05 26 06.7	
	comp=Z,4.3nm,0.8s						
MDT	**Midelt**	**93.30**	**304**	LR	LR	06 12 08.8	
	comp=Z,23nm,18.3s,baz=86,slow=40						
CAST	**Castle Rocks**	**93.60**	**24**	P	**P**	**05 22 33.5**	**+1.0**
CAST				IAmb	IAmb	05 25 40.8	
	comp=Z,10nm,1.2s						
N19K	**Bonanza Creek**	**93.60**	**27**	P	**P**	**05 22 33.3**	**+0.8**
N19K				IAmb	IAmb	05 22 35.1	
	comp=Z,7.0nm,1.1s						
SKT	**Skwentna**	**94.43**	**26**	P	**P**	**05 22 36.8**	**+0.5**
SKT				IAmb	IAmb	05 22 37.7	
	comp=Z,5.4nm,1.0s						
SUA	**Susitna One**	**94.99**	**26**	P	**P**	**05 22 39.9**	**+0.9**
SUA				IAmb	IAmb	05 22 40.9	
	comp=Z,4.8nm,1.0s						
M22K	**Willow**	**95.14**	**26**	P	**P**	**05 22 39.7**	**+0.3**
BRLK	**Bradley Lake**	**95.67**	**27**	P	**P**	**05 22 42.8**	**+0.8**
E29M	**Blow River**	**95.99**	**17**	P	**P**	**05 22 44.1**	**+0.9**
E29M				IAmb	IAmb	05 26 07.0	
	comp=Z,8.6nm,1.6s						
A36M	**Sachs Harbour**	**96.55**	**11**	P	**P**	**05 22 45.9**	**+0.2**
A36M				IAmb	IAmb	05 22 47.7	
	comp=Z,4.0nm,1.0s						
PDAR	**Pinedale Array**	**125.44**	**21**	PKP	**PKiKP**	**05 28 18.0**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=316,slow=4.6,SNR=3.6						
PLCA	**Paso Flores**	**144.27**	**200**	PKP	**PKPdf**	**05 28 50.8**	**-2.1**
	comp=Z,4.1nm,1.0s,baz=177,slow=6.4,SNR=9.9						
CPUP	**Villa Florida**	**147.12**	**232**	PKPbc	**PKPab**	**05 28 59.9**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=101,slow=2.3,SNR=6.8						

*MEX **01** 05:17:02.3±0.6, 15.48N×93.12W, h106km±8km, MD3.9*
*GCG **01** 05:17:03.0±0.6, 15.62N×92.96W, h98km±18km, MD4.0*

ISC 01 05:17:00.3±1.8, 15.47N±0.06×93.06W±0.06, h111km±12km, n13, σ1§86/24, Near coast of Chiapas

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

*IDC **01** 05:35:14.1±3.2, 37.°17N×70.°91E, h0km, mb3.3/1, mbtmp3.8/7, ML3.4/6, Error ellipse: s-maj=46.4km s-min=27.8km az=148.0*
*NNC **01** 05:35:20.4±1.9, 37.87N×70.°01E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=17.4km s-min=17.2km az=146.0*
ISC 01 05:35:16.3±3.0, 37.°5N±0.°2×70.0E±0.°1, h10km, n11, σ1§82/14, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.64**	**4**	⇑Pn	**Pn**	**05 36 40.0**	**-0.1**
	0.7nm,0.2s,baz=190,slow=13,SNR=20						
KK31				⇑Pg	**Pb**	**05 36 55.8**	**+1.0**
	3.0nm,0.3s,baz=184,slow=16,SNR=9.4						
KK31				⇑Lg	Lg	05 38 07.8	
	9.2nm,0.7s,baz=178,slow=28,SNR=4.5						
AAK	**Ala-Archa**	**6.22**	**33**	Pn	**Pn**	**05 36 49.0**	**+0.7**
	2.5nm,0.3s,baz=211,slow=7.8,SNR=18						
AAK				Pg	**Pb**	**05 37 05.4**	**+0.6**
	1.2nm,0.3s,baz=204,slow=13,SNR=7.1						
AAK				Lg	Lg	05 38 28.0	
	0.5nm,0.3s,baz=133,slow=23,SNR=11						
	5.1nm,0.4s						
AAK	**Ala-Archa**	**6.22**	**33**	⇓Pn	**Pn**	**05 36 49.5**	**+1.2**
	2.7nm,0.3s						
AAK				⇓Lg	Lg	05 38 26.5	
	9.9nm,0.8s						
TKM2	**Tokmak 2**	**6.94**	**37**	⇓Pn	**Pn**	**05 36 58.8**	**+0.5**
	1.8nm,0.4s						
TKM2				⇓Pg	**Pb**	**05 37 19.7**	**+2.6**
	3.0nm,0.7s						
TKM2				⇑Lg	Lg	05 38 51.7	
	2.8nm,0.7s						
MKAR	**Makanchi Array**	**13.04**	**41**	Pn	**Pn**	**05 38 19.5**	**-2.1**
	0.1nm,0.3s,baz=221,slow=13,SNR=6.0						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**14.50**	**22**	Pn	**Pn**	**05 38 38.5**	**-3.0**
	0.1nm,0.3s,baz=198,slow=11,SNR=2.3						
	1.4nm,0.2s						
AKTO	**Aktyubinsk**	**15.52**	**330**	Pn	**P**	**05 39 00.2**	**+0.7**
	0.7nm,0.3s,baz=134,slow=9.5,SNR=12						
	3.9nm,0.5s						
BVAR	**Borovoye Array**	**15.55**	**1**	Pn	**Pn**	**05 38 53.0**	**-2.5**
	0.1nm,0.3s,baz=167,slow=10,SNR=6.0						
	0.7nm,0.3s						
ZALV	**Zalesovo Beam**	**19.40**	**27**	P	**P**	**05 39 40.2**	**-2.1**
	0.3nm,0.3s,baz=210,slow=10,SNR=6.4						
	1.2nm,0.4s						
ARTI	**Arti**	**20.45**	**341**	P	**P**	**05 39 54.6**	**+0.9**
	1.2nm,0.3s,baz=124,slow=2.7,SNR=4.6						
YKA	**Yellowknife Ar**	**80.31**	**2**	P	**P**	**05 47 27.9**	**+0.9**
	0.2nm,0.8s,baz=354,slow=5.4,SNR=4.2						
	0.2nm,0.8s						

*DJA **01** 05:39:52.1±1.7, 9.°N±7.°×9.°4E±1.°5, h10km, M4.4/7, mB5.3/1, mb4.2/3, MLv4.5/7, Mw(mB)4.7/1*
*IDC **01** 05:40:00.0±2.2, 7.°43N×94.°14E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=99.4km s-min=22.0km az=58.0*
ISC 01 05:40:00.9±1.6, 7.°3N±0.°2×94.°0E±0.°4, h10km, n16, σ1§18/10, mb3.5/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.24**	**145**	P	**Pg**	**05 40 44.8**	**+0.9**
BSI				S	Sg	05 41 27.0	+14
LHMI	**Lhok Sumawe**	**3.60**	**125**	P	**Pn**	**05 40 58.2**	**+1.3**
MLSI	**Meulaboh, Aceh**	**3.88**	**142**	P	**Pb**	**05 41 07.4**	**-2.1**
H08S3	**Diego Garcia H**	**26.10**	**236**	T	T	06 12 44.3	
	baz=54,slow=75,SNR=35						
H08S2	**Diego Garcia H**	**26.10**	**236**	T	T	06 12 38.5	
	baz=54,slow=75,SNR=32						
H08S1	**Diego Carcia H**	**26.11**	**236**	T	T	06 12 43.3	
	baz=54,slow=75,SNR=23						
MKAR	**Makanchi Array**	**40.58**	**348**	P	**P**	**05 47 40.1**	**-0.7**
	0.5nm,0.5s,baz=162,slow=8.4,SNR=8.1						
	0.5nm,0.5s						
SONM	**Songino Array**	**41.72**	**13**	P	**P**	**05 47 49.4**	**-0.8**
	0.2nm,0.5s,baz=186,slow=8.0,SNR=2.0						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**45.03**	**346**	P	**P**	**05 48 17.6**	**+0.9**
	0.5nm,0.4s,baz=172,slow=7.1,SNR=13						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**47.07**	**353**	P	**P**	**05 48 33.4**	**+0.6**
	1.0nm,0.4s,baz=170,slow=7.0,SNR=5.1						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**48.07**	**125**	P	**P**	**05 48 40.6**	**-0.4**
	0.3nm,0.9s,baz=304,slow=7.6,SNR=2.3						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**49.68**	**130**	P	**P**	**05 48 54.0**	**+0.6**
	0.4nm,0.8s,baz=305,slow=8.4,SNR=4.6						
	0.4nm,0.8s						
H04N2	**CROZET ISLANDS**	**65.19**	**211**	T	T	07 01 37.0	
	baz=48,slow=75,SNR=12						
H04N1	**CROZET ISLANDS**	**65.20**	**211**	T	T	07 01 38.0	
	baz=48,slow=75,SNR=14						
H04N3	**CROZET ISLANDS**	**65.21**	**211**	T	T	07 01 36.2	
	baz=48,slow=75,SNR=15						
FINES	**FINESS Array B**	**73.12**	**332**	P	**P**	**05 51 31.6**	**+0.2**
	5.1nm,1.1s,baz=96,slow=7.2,SNR=3.3						
	5.1nm,1.1s						

IDC 01 05:42:42.2±72.0, 11.°08N×93.°64E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=1287.0km s-min=116.3km az=179.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**28.09**	**229**	T	T	06 14 40.2	
	baz=54,slow=76,SNR=10.0						
H08S2	**Diego Garcia H**	**28.09**	**229**	T	T	06 14 42.1	
	baz=54,slow=76,SNR=7.9						
H08S1	**Diego Carcia H**	**28.10**	**229**	T	T	06 14 41.2	
	baz=54,slow=76,SNR=6.8						
MKAR	**Makanchi Array**	**36.87**	**347**	P	P	05 49 52.2	-0.3
	1.1nm,0.7s,baz=161,slow=8.3,SNR=6.9						
	1.1nm,0.7s						
SONM	**Songino Array**	**38.17**	**14**	P	P	05 50 03.2	-0.4
	0.5nm,0.8s,baz=198,slow=7.0,SNR=2.7						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**41.34**	**345**	P	P	05 50 29.1	-0.6
	1.6nm,0.8s,baz=162,slow=7.7,SNR=7.0						
	1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**43.33**	**352**	P	P	05 50 46.8	+0.9
	1.4nm,0.5s,baz=186,slow=6.8,SNR=4.6						
	1.4nm,0.5s						
H04N2	**CROZET ISLANDS**	**68.22**	**210**	T	T	07 03 59.3	
	baz=47						
H04N1	**CROZET ISLANDS**	**68.23**	**210**	T	T	07 03 45.0	
	baz=47						
H04N3	**CROZET ISLANDS**	**68.24**	**210**	T	T	07 03 53.4	
	baz=47						

*DJA **01** 05:45:44.4±2.7, 3.°S±4.°×13.°8E±.°, h20km±26km, M4.0/7, mb4.0/1, MLv4.0/7*
*IDC **01** 05:45:45.6±1.3, 3.°83S×138.°75E, h0km, mb3.6/3, mbtmp3.7/6, ML3.7/3, Error ellipse: s-maj=35.8km s-min=21.1km az=125.0*
ISC 01 05:45:44.2±1.0, 3.°00S±0.°08×138.°01E±0.°04, h35km, n12, σ1§41/15, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.22**	**35**	P	**Pn**	**05 46 05.1**	**+0.3**
SMPI				S	**Sn**	**05 46 20.9**	**+0.8**
GENI	**Genyem**	**2.19**	**79**	P	**Pn**	**05 46 19.2**	**+1.0**
GENI				S	**Sn**	**05 46 45.8**	**+1.7**
BAKI	**Biak**	**2.62**	**313**	P	**Pn**	**05 46 23.7**	**-0.4**
BAKI				S	**Sn**	**05 46 53.7**	**-1.0**
JAY	**Jayapura**	**2.73**	**80**	Pn	**Pn**	**05 46 25.9**	**+0.3**
	16nm,0.3s,baz=231,slow=13,SNR=38						
JAY				Sn	**Sn**	**05 46 54.6**	**-2.9**
	12nm,0.3s,baz=134,slow=19,SNR=7.7						
	39nm,0.3s						
JAY	**Jayapura**	**2.73**	**80**	P	**Pn**	**05 46 26.3**	**+0.6**
JAY				S	Sn	05 46 45.0	-13
RKPI	**Ransiki, Papua**	**4.11**	**291**	P	**Pn**	**05 46 44.8**	**+0.2**
RKPI				S	**Sn**	**05 47 31.8**	**+0.3**
FAKI	**Fak Fak**	**5.76**	**271**	P	**Pn**	**05 47 08.5**	**+1.2**
WRA	**Warramunga Arr**	**17.22**	**192**	Pn	**Pn**	**05 49 40.5**	**-1.7**
	0.5nm,0.3s,baz=15,slow=12,SNR=18						
WRA				Sn	Sn	05 52 40.5	-12
	0.2nm,0.3s,baz=17,slow=23,SNR=2.6						
	1.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.29**	**218**	P	**Pn**	**05 50 09.4**	**+1.9**
	0.1nm,0.3s,baz=30,slow=11,SNR=0.9						
FITZ				S	S	05 53 31.4	-11
	2.6nm,0.8s,baz=191,slow=18,SNR=5.7						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**20.93**	**191**	P	**P**	**05 50 23.1**	**-1.0**
	3.3nm,0.7s,baz=17,slow=11,SNR=36						
ASAR				S	S	05 54 04.4	-11
	2.2nm,0.9s,baz=12,slow=24,SNR=6.1						
	3.3nm,0.7s						
MKAR	**Makanchi Array**	**69.59**	**323**	P	P	05 57 04.9	+15
	0.3nm,0.7s,baz=104,slow=6.1,SNR=2.4						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**73.56**	**325**	P	P	05 57 25.6	+12
	0.4nm,0.7s,baz=106,slow=4.9,SNR=2.8						
	0.4nm,0.7s						

*IDC **01** 05:46:38.7±1.6, 7.°47N×93.°85E, h0km, mb3.8/8, mbtmp3.8/10, ML3.7/2, Error ellipse: s-maj=61.8km s-min=18.6km az=59.0*
*NEIC **01** 05:46:41.1±0.7, 7.°5N±0.°1×94.°19E±0.°07, h10km±2km, mb4.2/3, Error ellipse: s-maj=25.7km s-min=8.6km az=200.0*
*NDI **01** 05:46:45.1±0.4, 7.°48N×94.°20E, h10km, ML3.8, MW3.9, mb4.2(NEIC)*
*DJA **01** 05:46:48.2±3.0, 7.°N±16.°×9.°5E±2.°5, h10km, M4.0/6, mB4.7/1, mb3.7/2, MLv4.1/6, Mw(mB)3.9/1*
ISC 01 05:46:41.9±0.7, 7.°45N±0.°05×94.°07E±0.°08, h20km, n30, σ1§62/26, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.46**	**198**	*e*P	**Pn**	**05 46 52.9**	**-0.5**
CMBY				*e*S	**Sn**	**05 46 58.5**	**-2.4**
CMBY				IAML		05 47 03.2	
	comp=N,10μm,0.2s						
CMBY				IAML		05 47 03.6	
	comp=E,7μm,0.2s						
BSI	**Banda Aceh**	**2.29**	**148**	P	**Pb**	**05 47 20.8**	**-1.8**
BSI				S	**Sb**	**05 47 53.3**	**+2.8**
LHMI	**Lhok Sumawe**	**3.61**	**127**	Pn	**Pn**	**05 47 36.0**	**-0.8**
MLSI	**Meulaboh, Aceh**	**3.92**	**144**	P	**Pn**	**05 47 43.6**	**+2.5**
PBA	**Port Blair**	**4.38**	**343**	*e*P	Pn	05 47 51.6	+4.3
PBA				*e*S	**Sn**	**05 48 40.6**	**+2.8**
SRIT	**Nakonsritamara**	**5.60**	**78**	Pn	**Pn**	**05 48 02.4**	**-1.7**
DGPR	**DIGLIPUR**	**5.80**	**349**	*e*P	Pn	05 48 11.2	+4.3
DGPR				*e*S	**Sn**	**05 49 13.9**	**+1.0**
PSI	**Prapat**	**6.69**	**133**	Pn	**Pn**	**05 48 22.6**	**+3.4**
	comp=E,0.6nm,0.3s,baz=285,slow=13,SNR=5.3						
	comp=E,4.6nm,0.3s						
KULM	**Kulim**	**6.88**	**108**	Pn	**Pn**	**05 48 19.9**	**-1.9**
CMAR	**Chiang Mai Arr**	**11.93**	**23**	Pn	**Pn**	**05 49 30.6**	**-0.3**
	comp=E,0.3nm,0.3s,baz=213,slow=16,SNR=5.4						
	comp=E,0.7nm,0.3s						
H08S3	**Diego Garcia H**	**26.22**	**236**	T	T	06 19 01.4	
	baz=54,slow=75,SNR=16						
H08S2	**Diego Garcia H**	**26.22**	**236**	T	T	06 19 08.1	
	baz=54,slow=75,SNR=17						
H08S1	**Diego Carcia H**	**26.24**	**236**	T	T	06 19 04.4	
	baz=54,slow=75,SNR=14						
MK31	**Makanchi Array**	**40.48**	**348**	P	**P**	**05 54 18.8**	**-0.6**
MK31				IAmb	IAmb	05 54 27.5	
	comp=Z,1.5nm,0.9s						
MKAR	**Makanchi Array**	**40.48**	**348**	P	**P**	**05 54 18.7**	**-0.6**
MKAR	**Makanchi Array**	**40.48**	**348**	P	**P**	**05 54 18.6**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=166,slow=8.0,SNR=17						
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**41.59**	**13**	P	**P**	**05 54 28.3**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=187,slow=6.0,SNR=3.6						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**44.94**	**346**	P	**P**	**05 54 55.0**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=169,slow=7.1,SNR=12						
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**46.97**	**353**	P	**P**	**05 55 11.6**	**+0.3**
ZALV	**Zalesovo Beam**	**46.97**	**353**	P	**P**	**05 55 11.1**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=168,slow=7.6,SNR=6.7						
	comp=Z,1.1nm,0.3s						
WRA	**Warramunga Arr**	**48.07**	**125**	P	**P**	**05 55 22.8**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=310,slow=7.6,SNR=1.9						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**49.37**	**341**	P	**P**	**05 55 29.2**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=138,slow=12,SNR=1.8						
	comp=Z,0.4nm,0.3s						
ASAR	**Alice Springs**	**49.70**	**130**	P	**P**	**05 55 33.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=313,slow=6.6,SNR=5.4						
	comp=Z,0.5nm,0.7s						
AB31	**Akbulak array**	**50.57**	**332**	P	**P**	**05 55 39.7**	**+0.5**
AB31				IAmb	IAmb	05 55 48.1	
	comp=Z,5.2nm,1.4s						
ABKAR	**Akbulak array**	**50.57**	**332**	P	**P**	**05 55 39.5**	**+0.4**
ABKAR				IAmb	IAmb	05 55 48.1	
	comp=Z,5.2nm,1.4s						
H04N2	**CROZET ISLANDS**	**65.33**	**211**	T	T	07 08 03.5	
	baz=48,slow=75,SNR=9.4						
H04N1	**CROZET ISLANDS**	**65.34**	**211**	T	T	07 08 04.9	
	baz=48,slow=75,SNR=11						
H04N3	**CROZET ISLANDS**	**65.34**	**211**	T	T	07 07 58.5	
	baz=48,slow=75,SNR=9.6						
FINES	**FINESS Array B**	**73.05**	**332**	P	**P**	**05 58 10.1**	**-0.3**
HFS	**Hagfors**	**78.78**	**330**	P	**P**	**05 58 42.1**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=128,slow=6.3,SNR=1.8						
	comp=Z,0.8nm,0.4s						

*IDC **01** 05:52:36.1±0.4, 7.°59N×94.°34E, h0km, mb4.5/31, mbtmp4.4/34, ML4.5/3, MS4.5/78, Error ellipse: s-maj=15.6km s-min=10.7km az=58.0*
*BJI **01** 05:52:38.4, 7.°33N×93.°84E, h33km, mB5.1/38, mb4.7/73, Ms5.1/67, Ms7 4.8/66*
*NEIC **01** 05:52:38.8±1.8, 7.°54N±0.°04×94.°39E±0.°06, h10km±1km, mb5.1/163, Mww5.1/22, Error ellipse: s-maj=9.8km s-min=6.9km az=115.0*
*MOS **01** 05:52:38.8±1.4, 7.°58N×94.°28E, h16km, mb5.1/50, MS4.7/5, Error ellipse: s-maj=8.8km s-min=4.8km az=110.4*
*NEIC **01** 05:52:39.3, 7.°52N×94.°40E, h12km*
*DJA **01** 05:52:39.2±0.2, 7.°N±2.°×9.°4E±.°, h10km, M5.1/35, mb5.0/35, mB5.5/22, MLv5.5/13, Mw(mB)5.0/22, MwMwp4.8/7, Mwp5.2/7*
*NEIC **01** 05:52:39.3, 7.°52N×94.°00E, h12km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 1016Nm; Mrr=0.54; Mθθ=4.60; Mφφ5.15; Mrθ=0.26; Mθφ3.03; Mφr0.07; Fault plane solution: M0=5.75000×1016 NP1:φs60.91000°, δ87.81000°, λ-2.17000°. NP2:φs150.99000°, δ87.83000°, λ-177.81000°. Principal axes: T 6.0123, Plg0.0000°, Azm286.0000°; N -0.5297, Plg87.0000°, Azm196.0000°; P -5.4827, Plg3.0000°, Azm16.0000°;*
*GCMT **01** 05:52:40.8±0.2, 7.°49N±0.°01×94.°27E±0.°01, h14km±1km, MW5.2/136, Moment Tensor Solution. s82,c109; s136,c235; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.01±.12; Mθθ-4.88±.12; Mφφ4.87±.13; Mrθ-2.29±.33; Mθφ4.97±.12; Mφr0.34±.25; Best double couple: M0=7.31700×1016 NP1:φs159.00000°, δ75.00000°, λ-172.00000°. NP2:φs67.00000°, δ82.00000°, λ-15.00000°. Principal axes: T 7.0060, Plg5.0000°, Azm114.0000°; N 0.6240, Plg73.0000°, Azm220.0000°; P -7.6280, Plg16.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*
*NDI **01** 05:52:40.3±1.1, 7.°44N×94.°42E, h10km, ML4.5, MW4.9, mb5.1/(NEIC)*
ISC 01 05:52:39.1±0.6, 7.°46N±0.°03×94.°23E±0.°04, h16km±3km, n544, σ1§95/508, mb5.0/192, MS4.6/99, 16C-17D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.54**	**214**	*e*P	**Pb**	**05 52 50.5**	**+0.2**
CMBY				*e*S	**Sb**	**05 52 59.4**	**+1.7**
CMBY				IAML		05 53 03.8	
	comp=E,115μm,0.2s						
CMBY				IAML		05 53 03.9	
	comp=N,123μm,0.5s						
BSI	**Banda Aceh**	**2.22**	**151**	P	**Pn**	**05 53 16.8**	**+1.4**
LHMI	**Lhok Sumawe**	**3.50**	**129**		**Pn**	**05 53 33.1**	**+0.2**
LHMI	**Lhok Sumawe**	**3.50**	**129**	P	**Pn**	**05 53 31.8**	**-1.1**
MLSI	**Meulaboh, Aceh**	**3.84**	**146**	P	**Pn**	**05 53 39.3**	**+1.7**
PBA	**Port Blair**	**4.42**	**341**	Pn	**Pn**	**05 53 46.7**	**+1.1**
PBA	**Port Blair**	**4.42**	**341**	P	**Pn**	**05 53 47.1**	**+1.6**
PBA	**Port Blair**	**4.42**	**341**	*e*P	**Pn**	**05 53 49.0**	**+3.4**
PBA				*e*S	**Sn**	**05 54 38.7**	**+2.1**
PBA				IAML		05 54 48.0	
	comp=E,380nm,2.6s						
SNSI	**Sinabang, Aceh**	**5.44**	**157**	P	**Pn**	**05 53 59.0**	**-0.6**
SRIT	**Nakonsritamara**	**5.44**	**78**	Pn	**Pn**	**05 53 59.2**	**-0.4**
DGPR	**DIGLIPUR**	**5.82**	**347**	*e*P	**Pn**	**05 54 06.5**	**+1.7**
DGPR				*e*S	**Sn**	**05 55 11.9**	**+0.6**
DGPR				IAML		05 55 34.7	
	comp=N,232nm,3.0s						
TSI	**Tuntungan**	**5.84**	**132**	P	**Pn**	**05 54 03.6**	**-1.5**
	comp=N,3.2nmcomp=N,6μmcomp=N,276nm,1.0s						
PSI	**Prapat**	**6.58**	**134**	Pn	**Pn**	**05 54 15.8**	**+0.4**
	comp=N,6.1nm,0.3s,baz=313,slow=12,SNR=21						
PSI				Sn	**Sn**	**05 55 31.4**	**+1.2**
	comp=N,11nm,0.3s,baz=326,slow=14,SNR=4.8						
PSI				LR	LR	05 57 07.6	
	comp=N,11μm,19.2s,baz=305,slow=41						
	comp=N,14nm,0.4s						
RPSI	**Rantau Prapat**	**6.66**	**135**	Pn	**Pn**	**05 54 15.9**	**-0.4**
KULM	**Kulim**	**6.74**	**108**	Pn	**Pn**	**05 54 15.9**	**-1.6**
GSI	**Gunungsitoli**	**6.97**	**151**		**Pn**	**05 54 19.8**	**-0.8**
GSI	**Gunungsitoli**	**6.97**	**151**	P	**Pn**	**05 54 19.4**	**-1.2**
	comp=N,0.7nmcomp=N,3μmcomp=N,129nm,0.8s						
MNSI	**Mandailing Nat**	**8.51**	**141**	P	**Pn**	**05 54 40.9**	**-0.8**
	comp=N,4μmcomp=N,69nm,0.4s						
BKNI	**Bangkinang**	**9.82**	**136**		**Pn**	**05 54 59.8**	**+0.1**
BKNI	**Bangkinang**	**9.82**	**136**	P	**Pn**	**05 55 00.6**	**+0.9**
	comp=N,3μmcomp=N,8μmcomp=N,158nm,0.9s						
PPI	**Padang Panjang**	**9.99**	**142**	P	**Pn**	**05 55 01.6**	**-0.5**
	comp=N,3μmcomp=N,1μmcomp=N,94nm,1.0s						
MYKOM	**Kota Tinggi**	**11.12**	**120**	Pn	**Pn**	**05 55 16.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**11.85**	**22**	Pn	**Pn**	**05 55 24.7**	**-2.9**
	comp=N,3.2nm,0.3s,baz=210,slow=14,SNR=14						
CMAR				LR	LR	06 00 12.7	
	comp=N,4μm,18.3s,baz=195,slow=39						
	comp=N,4.2nm,0.3s						
TPRI	**Tanjung Pinang**	**12.15**	**122**	P	Pn	05 55 26.7	-5.0
CHTO	**Chiang Mai**	**12.18**	**22**	Pn	**Pn**	**05 55 31.1**	**-1.0**
CHTO	**Chiang Mai**	**12.18**	**22**	P	**Pn**	**05 55 28.6**	**-3.5**
CHTO	**Chiang Mai**	**12.18**	**22**	P	**Pn**	**05 55 31.1**	**-1.0**
PALK	**Pallekele**	**13.42**	**270**	Pn	**Pn**	**05 55 49.6**	**+0.5**
	comp=N,0.7nm,0.3s,baz=71,slow=14,SNR=4.4						
PALK				LR	LR	06 00 36.6	
	comp=N,3μm,21.1s,baz=87,slow=36						
	comp=N,3.2nm,0.5s						
UBPT	**Khong Chiam**	**13.48**	**54**		**Pn**	**05 55 47.7**	**-2.2**
KSI	**Kapahiang**	**13.84**	**143**	P	**Pn**	**05 55 55.2**	**+0.3**
CRAI	**Chiangrai**	**14.02**	**25**	Pn	**Pn**	**05 55 56.2**	**-1.0**
DLV	**Lat**	**14.74**	**71**	Pn	**Pn**	**05 56 04.7**	**-2.6**
SAIH	**SAIHA**	**14.99**	**356**	*e*P	**Pn**	**05 56 11.3**	**+0.8**
SAIH				IAML		05 56 43.6	
	comp=Z,30nm,0.7s						
BRDH	**Bariadhala**	**15.33**	**351**	LR	LR	06 03 18.7	
	comp=Z,3μm,21.1s,baz=176,slow=42						
MDSI	**Maura Dua**	**15.47**	**140**	P	**Pn**	**05 56 14.5**	**-2.4**
	comp=Z,721nmcomp=Z,64nm,0.9s						
RAGD	**RAYAGADA**	**15.71**	**319**	*e*P	**P**	**05 56 22.6**	**-1.2**
RAGD				IAML		05 56 30.8	
	comp=Z,33nm,0.7s						
RAGD				*e*S	**Sn**	**05 59 03.9**	**-10**
LWLI	**Liwa**	**15.81**	**141**	P	**P**	**05 56 24.1**	**-1.0**
SALM	**Salem**	**16.34**	**286**	*e*P	**P**	**05 56 32.3**	**+1.4**
SALM				*e*S	**Sn**	**05 59 20.8**	**-8.4**
KASI	**Kota Agung**	**16.47**	**141**	P	**Pn**	**05 56 29.0**	**-0.7**
	comp=Z,31nm,0.9s						
SLVN	**Son La**	**16.66**	**33**	Pn	**Pn**	**05 56 30.1**	**-2.1**
KOD	**Kodaikanal**	**16.79**	**281**	*e*P	**P**	**05 56 38.4**	**+2.2**
TPI	**Tanjungpandan**	**16.81**	**127**	P	**Pn**	**05 56 34.5**	**+0.5**
KSM	**Kuching**	**17.09**	**110**		**Pn**	**05 56 35.7**	**-1.9**
IMP	**Imphal**	**17.27**	**359**	*e*P	**P**	**05 56 42.3**	**+1.0**
JHSG	**JHARSUGUGA**	**17.43**	**326**	*e*P	**P**	**05 56 44.8**	**+1.8**
JHSG				IAML		05 56 55.7	
	comp=Z,98nm,1.6s						
TNCH	**TengChong**	**17.94**	**13**	⇓P	**P**	**05 56 49.5**	**+0.7**
TNCH				PP	**PnPn**	**05 57 03.9**	**+4.5**
TNCH				S	**Sn**	**06 00 04.6**	**-3.6**
TNCH				SS	**SnSn**	**06 00 27.6**	**+5.3**
TNCH				pmax	pmax		
	comp=Z,150nm,1.2s						
TNCH				pmax	pmax		
	comp=Z,310nm,2.8s						
TNCH				LR	LR		
	comp=Z,3μm,11.8s						
TNCH				LR	LR		
	comp=Z,3μm,10.9s						
TNCH				LR	LR		
	comp=Z,4μm,13.2s						
CGJI	**Cibinong**	**18.06**	**140**	P	**Pn**	**05 56 47.5**	**-2.1**
	comp=Z,48nm,0.8s						
SHL	**Shillong**	**18.14**	**353**		**Pn**	**05 56 47.5**	**-3.2**
SHL	**Shillong**	**18.14**	**353**	P	**P**	**05 56 51.1**	**+0.2**
	SNR=10						
SHL	**Shillong**	**18.14**	**353**	P	**Pn**	**05 56 47.5**	**-3.2**
SHL				pmax	pmax		
	comp=Z,38nm,1.2s						
KOHI	**KOHIMA**	**18.16**	**360**	*e*P	**P**	**05 56 54.6**	**+3.5**
HYB	**Hyderabad**	**18.21**	**304**	*e*P	**Pn**	**05 56 51.6**	**+0.1**
HYB				IVMs_BB	IVMs_BB	06 06 58.1	
	comp=Z,572nm,14.0s						
SBUM	**Sibu**	**18.60**	**105**	P	**P**	**05 56 52.4**	**-3.5**
STKI	**Sintang**	**18.70**	**112**	P	**Pn**	**05 56 59.1**	**+1.6**
	comp=Z,86nm,1.0s						
QIZ	**Qiongzhong**	**19.04**	**51**	P	**Pn**	**05 57 03.3**	**+1.8**
QIZ				S	**Sn**	**06 00 33.6**	**-0.9**
QIZ				pmax	pmax		
	comp=Z,560nm,4.5s						
QIZ				LR	LR		
	comp=Z,6μm,12.7s		

GYA				LR	LR		
	comp=Z,4μm,13.4s						
GYA				LR	LR		
	comp=Z,3μm,13.4s						
LSA	**Lhasa**	**22.31**	**353**	P	**P**	**05 57 34.9**	**-1.7**
LSA				IAmb	IAmb	05 57 48.9	
	comp=Z,50nm,0.8s						
LSA	**Lhasa**	**22.31**	**353**	P	**P**	**05 57 35.0**	**-1.6**
LSA				pmax	pmax		
	comp=Z,24nm,0.7s						
LSA	**Lhasa**	**22.31**	**353**	P	**P**	**05 57 35.4**	**-1.2**
LSA				P	**P**	**05 57 35.4**	**-1.2**
LSA	**Lhasa**	**22.31**	**353**	P	**P**	**05 57 34.9**	**-1.7**
LSA				pmax	pmax		
	comp=Z,50nm,0.8s						
NRDN	**NARMADA NAGAR**	**22.35**	**315**	*ex*	x	05 57 39.6	
TBJI	**Tambak Boyo**	**22.59**	**128**	P	P	05 57 48.9	+10
NGJI	**Ngawi**	**22.64**	**130**	P	**P**	**05 57 42.3**	**+2.6**
	comp=Z,91nm,1.1s						
GULI	**GuiLin**	**23.49**	**39**	P	**P**	**05 57 52.9**	**+4.6**
GULI				pmax	pmax		
	comp=Z,30nm,1.9s						
GULI				pmax	pmax		
	comp=Z,390nm,3.9s						
GULI				LR	LR		
	comp=Z,2μm,17.1s						
GULI				LR	LR		
	comp=Z,2μm,15.7s						
GULI				LR	LR		
	comp=Z,2μm,14.3s						
GUNA	**GUNA**	**23.52**	**319**	*ex*	x	05 57 50.3	
MYLDM	**Lahad Datu**	**24.23**	**94**	P	**P**	**05 57 54.4**	**-1.1**
KMMI	**Kalianget**	**24.40**	**126**	P	**P**	**05 58 00.5**	**+3.5**
CD2	**Chengdu**	**24.97**	**20**	P	**P**	**05 58 03.0**	**+0.9**
CD2				S	**S**	**06 02 27.2**	**+1.8**
CD2				pmax	pmax		
	comp=Z,30nm,1.1s						
CD2				pmax	pmax		
	comp=Z,600nm,5.5s						
CD2				LR	LR		
	comp=Z,2μm,13.8s						
CD2				LR	LR		
	comp=Z,2μm,14.6s						
JAGI	**Jajag, Banyuwa**	**25.39**	**128**	P	**P**	**05 58 05.0**	**-1.1**
JAGI				IAmb	IAmb	05 58 25.9	
	comp=Z,35nm,0.8s						
LGTI	**Lohaghat**	**25.53**	**331**	*ex*	x	05 58 06.8	
PTH	**Pithoragarh**	**25.62**	**331**	*ex*	x	05 58 07.8	
H08S3	**Diego Garcia H**	**26.36**	**236**	T	T	06 24 59.3	
	baz=54,slow=75,SNR=356						
H08S2	**Diego Garcia H**	**26.36**	**236**	T	T	06 25 03.0	
	baz=54,slow=75,SNR=441						
H08S1	**Diego Garcia H**	**26.38**	**236**	T	T	06 24 48.7	
	baz=54,slow=75,SNR=259						
KUDL	**Kundal**	**26.54**	**323**	*ex*	x	05 58 15.5	
AJM	**Ajmer**	**26.54**	**318**	*ex*	x	05 58 17.1	
TGY	**Tagaytay City**	**27.04**	**74**	LR	LR	06 07 36.1	
	comp=Z,912nm,21.4s,baz=248,slow=34						
CNSH	**ChangSha**	**27.15**	**38**	P	**P**	**05 58 25.5**	**+3.7**
CNSH				pmax	pmax		
	comp=Z,21nm,0.9s						
CNSH				LR	LR		
	comp=Z,2μm,16.1s						
CNSH				LR	LR		
	comp=Z,2μm,16.2s						
CNSH				LR	LR		
	comp=Z,1μm,13.8s						
TOLI2	**Tolitoli**	**27.21**	**102**	P	**P**	**05 58 20.1**	**-2.4**
TOLI2				IAmb	IAmb	05 58 27.1	
	comp=Z,26nm,0.8s						
KAPI	**Kappang**	**28.32**	**115**	LR	LR	06 09 44.5	
	comp=Z,1μm,21.5s,baz=286,slow=36						
GOMU	**GeErMu**	**28.61**	**1**	P	**P**	**05 58 36.8**	**+1.6**
GOMU				pP	pP	05 58 39.8	+0.3
GOMU				sP	pwP	05 58 44.1	+1.9
GOMU				S	**S**	**06 03 24.9**	**+1.6**
GOMU				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GOMU				LR	LR		
	comp=Z,2μm,14.5s						
GOMU				LR	LR		
	comp=Z,920nm,14.8s						
GOMU				LR	LR		
	comp=Z,2μm,14.4s						
HNLY	**HANLEY**	**28.90**	**333**	*ex*	x	05 58 37.4	
WHN	**Wuhan**	**29.71**	**37**	P	**P**	**05 58 46.3**	**+1.7**
WHN				pmax	pmax		
	comp=Z,78nm,0.9s						
XAN	**Xi'an**	**29.73**	**25**	⇑P	**P**	**05 58 46.5**	**+1.7**
XAN				pP	pwP	05 58 52.4	+0.5
XAN				pmax	pmax		
	comp=Z,30nm,1.1s						
LZH	**Lanzhou**	**29.82**	**16**	*e*P	**P**	**05 58 45.9**	**+0.2**
LZH				S	**S**	**06 03 39.3**	**-2.7**
LZH				SS	**SnSn**	**06 05 14.4**	**+1.8**
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
LZH				LR	LR		
	comp=Z,1μm,14.4s						
LZH				LR	LR		
	comp=Z,1μm,13.1s						
LZH				LR	LR		
	comp=Z,2μm,16.5s						
NACB	**Ninganchiao**	**31.03**	**55**	P	**P**	**05 58 52.9**	**-3.5**
NACB				IAmb	IAmb	05 59 26.7	
	comp=Z,35nm,1.0s						
LYN	**LuoYang**	**31.77**	**29**	P	**P**	**05 59 04.4**	**+1.7**
LYN				S	**S**	**06 04 13.6**	**+1.4**
LYN				pmax	pmax		
	comp=Z,39nm,0.9s						
LYN				pmax	pmax		
	comp=Z,440nm,6.5s						
LYN				LR	LR		
	comp=Z,2μm,18.5s						
LYN				LR	LR		
	comp=Z,4μm,16.5s						
LYN				LR	LR		
	comp=Z,4μm,17.2s						
GTA	**Gaotai**	**32.20**	**8**	P	**P**	**05 59 07.3**	**+0.7**
GTA				ScP	**ScP**	**06 05 36.3**	**-2.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				LR	LR		
	comp=Z,830nm,19.6s						
GTA				LR	LR		
	comp=Z,690nm,17.8s						
GTA				LR	LR		
	comp=Z,1μm,20.0s						
NIL	**Nilore**	**32.49**	**326**	P	**P**	**05 59 08.5**	**-0.6**
NIL				IAmb	IAmb	05 59 11.3	
	comp=Z,41nm,0.9s						
NIL	**Nilore**	**32.49**	**326**	P	**P**	**05 59 08.6**	**-0.5**
NIL				P	**P**	**05 59 08.6**	**-0.5**
NIL	**Nilore**	**32.49**	**326**	P	**P**	**05 59 08.5**	**-0.6**
NIL				pmax	pmax		
	comp=Z,41nm,1.0s						
NJ2	**Nanjing**	**33.53**	**40**	*e*P	**P**	**05 59 18.4**	**+0.2**
NJ2				S	**S**	**06 04 45.2**	**+5.5**
NJ2				pmax	pmax		
	comp=Z,32nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,2μm,11.6s						
NJ2				LR	LR		
	comp=Z,5μm,14.7s						
NJ2				LR	LR		
	comp=Z,4μm,12.3s						
NJ2				LR	LR		
	comp=Z,5μm,19.9s						
SSE	**Sheshan**	**34.46**	**43**	P	**P**	**05 59 25.6**	**-0.7**
SSE				S	**S**	**06 04 54.0**	**-0.1**
SSE				pmax	pmax		
	comp=Z,3.0nm,0.4s						
SSE				pmax	pmax		
	comp=Z,110nm,3.5s						
SSE				LR	LR		
	comp=Z,1μm,15.2s						
SSE				LR	LR		
	comp=Z,810nm,14.8s						
HNS	**HongShan**	**35.13**	**29**	⇑P	**P**	**05 59 34.0**	**+2.0**
HNS				S	**S**	**06 05 10.2**	**+5.9**
HNS				pmax	pmax		
	comp=Z,32nm,1.0s						
HNS				LR	LR		
	comp=Z,1μm,17.5s						
HNS				LR	LR		
	comp=Z,1μm,19.2s						
HNS				LR	LR		
	comp=Z,1μm,16.5s						
KBL	**Kabul**	**35.55**	**323**	P	**P**	**05 59 35.2**	**-0.7**
KBL	**Kabul**	**35.55**	**323**	P	**P**	**05 59 35.5**	**-0.5**
	SNR=6.2						
KBL				P	**P**	**05 59 35.5**	**-0.5**
	SNR=6.2						
KBL	**Kabul**	**35.55**	**323**	P	**P**	**05 59 35.2**	**-0.7**
KBL				pmax	pmax		
	comp=Z,11nm,0.7s						
BTO	**Baotou**	**35.89**	**21**	*e*P	**P**	**05 59 39.8**	**+1.2**
BTO				pP	**sP**	**05 59 44.3**	**-0.5**
BTO				PP	**PP**	**06 01 05.4**	**+5.1**
BTO				S	**S**	**06 05 19.7**	**+3.6**
BTO				pmax	pmax		
	comp=Z,17nm,0.5s						
BTO				pmax	pmax		
	comp=Z,350nm,5.3s						
BTO				LR	LR		
	comp=Z,2μm,14.5s						
BTO				LR	LR		
	comp=Z,2μm,9.9s						
BTO				LR	LR		
	comp=Z,2μm,13.0s						
WUS	**Wushi**	**36.15**	**341**	P	**P**	**05 59 40.3**	**-0.6**
WUS				IAmb	IAmb	05 59 49.1	
	comp=Z,47nm,1.4s						
JLN	**Jalan Bani Buh**	**36.57**	**297**	P	**P**	**05 59 46.5**	**+1.9**
	SNR=7.2						
JLN				P	**P**	**05 59 46.5**	**+1.9**
	SNR=7.2						
HHC	**Hu-ho-hao-te**	**36.66**	**22**	*e*P	**P**	**05 59 46.5**	**+1.3**
HHC				pP	sP	05 59 52.0	+0.6
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WMQ	**Urumqi**	**36.66**	**352**	*e*P	**P**	**05 59 46.1**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,15nm,1.5s						
WMQ				LR	LR		
	comp=Z,850nm,16.1s						
WMQ				LR	LR		
	comp=Z,870nm,19.1s						
WMQ				LR	LR		
	comp=Z,590nm,23.9s						
WBK	**Wadi Bani Khal**	**37.10**	**298**	P	**P**	**05 59 52.0**	**+2.9**
WBK				P	**P**	**05 59 52.0**	**+2.9**
TARG	**Taragay, Kyrgy**	**37.10**	**339**	P	**P**	**05 59 48.6**	**-0.8**
TARG	**Taragay, Kyrgy**	**37.10**	**339**	P	**P**	**05 59 48.6**	**-0.8**
TARG				pmax	pmax		
	comp=Z,21nm,1.3s						
MHTO	**MHTO**	**37.52**	**295**	P	**P**	**05 59 54.1**	**+1.4**
MHTO				P	**P**	**05 59 54.1**	**+1.4**
WSAR	**Wadi Sarin**	**37.60**	**299**	LR	LR	06 15 47.3	
	comp=Z,4.6nm,19.1s,baz=116,slow=37						
WSAR	**Wadi Sarin**	**37.60**	**299**	P	**P**	**05 59 56.1**	**+2.8**
	SNR=9.1						
JOW	**Kunigami**	**37.62**	**55**	LR	LR	06 17 43.1	
	comp=Z,667nm,18.3s,baz=19,slow=40						
DQM	**DQM**	**37.64**	**293**	P	**P**	**05 59 56.1**	**+2.4**
DQM				P	**P**	**05 59 56.1**	**+2.4**
KDJ	**Kajisay**	**37.68**	**339**	P	**P**	**05 59 53.3**	**-0.7**
KDJ	**Kajisay**	**37.68**	**339**	P	**P**	**05 59 53.3**	**-0.7**
KDJ				pmax	pmax		
	comp=Z,11nm,1.0s						
JMDO	**Jabal Madar**	**37.79**	**297**	P	**P**	**05 59 57.6**	**+2.6**
	SNR=5.7						
JMDO				P	**P**	**05 59 57.6**	**+2.6**
	SNR=5.7						
MBWA	**Marble Bar**	**37.90**	**139**	P	**P**	**05 59 55.0**	**-0.8**
BJT	**Baijiatuau**	**37.91**	**28**	P	**P**	**05 59 53.8**	**-1.8**
BJT	**Baijiatuau**	**37.91**	**28**	P	**P**	**05 59 53.8**	**-1.8**
BJT				pmax	pmax		
	comp=Z,20nm,1.2s						
BJI	**Beijing**	**37.93**	**28**	P	**P**	**05 59 55.4**	**-0.4**
BJI				S	**S**	**06 05 46.1**	**-0.8**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,110nm,8.8s						
BJI				LR	LR		
	comp=Z,320nm,12.9s						
BJI				LR	LR		
	comp=Z,430nm,14.0s						
BJI				LR	LR		
	comp=Z,490nm,12.4s						
SMDO	**Samad**	**38.05**	**298**	P	**P**	**05 59 60.0**	**+2.7**
	SNR=5.5						
SMDO				P	**P**	**05 59 60.0**	**+2.7**
	SNR=5.5						
GAR	**Garm**	**38.07**	**329**	P	**P**	**05 59 56.3**	**-0.9**
GAR				IAmb	IAmb	06 00 12.5	
	comp=Z,65nm,1.2s						
BIDO	**Bidbid**	**38.13**	**299**	P	**P**	**05 59 59.4**	**+1.7**
	SNR=12						
PSA00	**Pilbara Seismi**	**38.27**	**139**	P	**P**	**05 59 57.8**	**-1.2**
SIMJ	**Simiganj**	**38.50**	**328**	P	**P**	**05 59 59.2**	**-1.6**
BTK	**Batken**	**38.63**	**331**	P	**P**	**06 00 02.0**	**+0.1**
BTK				IAmb	IAmb	06 00 17.4	
	comp=Z,35nm,0.9s						
BTK	**Batken**	**38.63**	**331**	P	**P**	**06 00 02.0**	**+0.1**
BTK				pmax	pmax		
	comp=Z,35nm,0.9s						
ARSB	**Arslanbob**	**38.65**	**334**	P	**P**	**06 00 01.7**	**-0.4**
ARSB				IAmb	IAmb	06 00 13.4	
	comp=Z,21nm,0.8s						
ARSB	**Arslanbob**	**38.65**	**334**	P	**P**	**06 00 01.7**	**-0.4**
ARSB				pmax	pmax		
	comp=Z,21nm,0.8s						
BSY	**Bisya**	**38.70**	**297**	P	**P**	**06 00 04.1**	**+1.5**
	SNR=14						
BSY				P	**P**	**06 00 04.1**	**+1.5**
	SNR=14						
HOQ	**Hoqain**	**38.86**	**299**	P	**P**	**06 00 06.0**	**+2.1**
	SNR=10						
HOQ				P	**P**	**06 00 06.0**	**+2.1**
	SNR=10						
AAK	**Ala-Archa**	**39.12**	**337**	P	**P**	**06 00 05.2**	**-0.8**
AAK	**Ala-Archa**	**39.12**	**337**	LR	LR	06 17 43.2	
	comp=Z,1μm,21.5s,baz=156,slow=39						
AAK	**Ala-Archa**	**39.12**	**337**	P	**P**	**06 00 05.4**	**-0.6**
AAK				P	**P**	**06 00 05.4**	**-0.6**
AAK	**Ala-Archa**	**39.12**	**337**	*ce*P	**P**	**06 00 05.9**	**-0.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARQ	**Araqi**	**39.47**	**298**	P	**P**	**06 00 12.9**	**+3.8**
ARQ				P	**P**	**06 00 12.9**	**+3.8**
SOHO	**SOHO**	**39.70**	**299**	P	**P**	**06 00 13.4**	**+2.4**
DL2	**Dalian**	**39.86**	**34**	P	P	06 00 17.5	+5.5
DL2				S	**S**	**06 06 22.4**	**+6.3**
DL2				pmax	pmax		
	comp=Z,45nm,1.1s						
DL2				pmax	pmax		
	comp=Z,470nm,4.1s						
DL2				LR	LR		
	comp=Z,1μm,11.4s						
DL2				LR	LR		
	comp=Z,1μm,12.9s						
DL2				LR	LR		
	comp=Z,930nm,13.7s						
FITZ	**Fitzroy Crossi**	**40.08**	**130**	P	**P**	**06 00 13.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**40.08**	**130**	P	**P**	**06 00 12.8**	**-1.4**
	comp=Z,5.6nm,1.1s,baz=318,slow=7.5,SNR=4.7						
FITZ				LR	LR	06 19 19.3	
	comp=Z,788nm,19.3s,baz=298,slow=40						
	comp=Z,5.6nm,1.1s						
UOSS	**Minazif**	**40.25**	**300**	P	**P**	**06 00 16.5**	**+1.0**
UOSS	**Minazif**	**40.25**	**300**	P	**P**	**06 00 20.1**	**+4.6**
HATD	**Hatta, Dubai**	**40.27**	**300**	P	**P**	**06 00 18.5**	**+2.8**
	SNR=9.5						
HATD				P	**P**	**06 00 18.5**	**+2.8**
	SNR=9.5						
MDH	**Madha**	**40.28**	**301**	P	**P**	**06 00 19.3**	**+3.5**
MDH				P	**P**	**06 00 19.3**	**+3.5**
ASHO	**Ashiyiah**	**40.29**	**300**	P	**P**	**06 00 18.5**	**+2.6**
ASHO				P	**P**	**06 00 18.5**	**+2.6**
ALNE	**Al Ain**	**40.36**	**299**	P	**P**	**06 00 20.2**	**+3.7**
	SNR=9.3						
ALNE				P	**P**	**06 00 20.2**	**+3.7**
	SNR=9.3						
UMZA	**Um Al Zommool**	**40.50**	**296**	P	**P**	**06 00 20.1**	**+2.5**
UMZA				P	**P**	**06 00 20.1**	**+2.5**
MK31	**Makanchi Array**	**40.51**	**347**	P	**P**	**06 00 16.2**	**-1.1**
MK31	**Makanchi Array**	**40.51**	**347**	*ce*P	**P**	**06 00 16.1**	**-1.2**
MKAR	**Makanchi Array**	**40.51**	**347**	P	**P**	**06 00 16.1**	**-1.3**
MKAR	**Makanchi Array**	**40.51**	**347**	P	**P**	**06 00 15.9**	**-1.3**
	comp=Z,13nm,0.8s,baz=170,slow=7.4,SNR=57						
MKAR				PcP	**PcP**	**06 02 19.1**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=198,slow=2.5,SNR=1.2						
MKAR				LR	LR	06 20 51.8	
	comp=Z,331nm,18.1s,baz=160,slow=42						
	comp=Z,13nm,0.8s						
DOK	**Doka**	**40.51**	**290**	P	**P**	**06 00 19.5**	**+1.8**
DOK				P	**P**	**06 00 19.5**	**+1.8**
MAKZ	**Makanchi**	**40.59**	**347**	P	**P**	**06 00 16.6**	**-1.4**
MAKZ	**Makanchi**	**40.59**	**347**	P	**P**	**06 00 16.6**	**-1.4**
MAKZ				pmax	pmax		
	comp=Z,13nm,0.7s						
WHFO	**Wadi Hawf**	**40.73**	**289**	P	**P**	**06 00 20.5**	**+0.9**
WHFO				P	**P**	**06 00 20.5**	**+0.9**
ASUD	**Al Ashush, Dub**	**40.90**	**299**	P	**P**	**06 00 23.5**	**+2.6**
XLT	**XiLinHaoTe**	**41.02**	**24**	*e*P	**P**	**06 00 19.7**	**-2.0**
XLT				S	**S**	**06 06 33.3**	**-0.2**
XLT				pmax	pmax		
	comp=Z,11nm,0.8s						
XLT				pmax	pmax		
	comp=Z,120nm,4.6s						
XLT				LR	LR		
	comp=Z,1μm,19.6s						
XLT				LR	LR		
	comp=Z,2μm,17.9s						
ABTO	**Aybut**	**41.08**	**288**	P	**P**	**06 00 25.2**	**+2.6**
ABTO				P	**P**	**06 00 25.2**	**+2.6**
KK31	**Karatay Array**	**41.17**	**333**	P	**P**	**06 00 21.9**	**-1.0**
KK31	**Karatay Array**	**41.17**	**333**	P	**P**	**06 00 21.9**	**-1.0**
KK31				pmax	pmax		
	comp=Z,12nm,1.2s						
KKAR	**Karatay Array**	**41.17**	**333**	P	**P**	**06 00 21.5**	**-1.3**
KKAR	**Karatay Array**	**41.17**	**333**	P	**P**	**06 00 21.5**	**-1.3**
SONM	**Songino Array**	**41.54**	**12**	P	**P**	**06 00 25.6**	**-0.4**
SONM	**Songino Array**	**41.54**	**12**	P	**P**	**06 00 24.8**	**-1.2**
	comp=Z,3.8nm,1.0s,baz=200,slow=7.8,SNR=16						
SONM				PcP	**PcP**	**06 02 22.9**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=191,slow=3.8,SNR=12						
SONM				LR	LR	06 18 59.7	
	comp=Z,916nm,19.2s,baz=188,slow=38						
	comp=Z,3.8nm,1.0s						
SONM	**Songino Array**	**41.54**	**12**	P	**P**	**06 00 25.6**	**-0.4**
SONM				pmax	pmax		
	comp=Z,19nm,1.2s						
ULN	**Ulaanbaatar**	**41.72**	**13**	P	**P**	**06 00 26.0**	**-1.4**
ULN	**Ulaanbaatar**	**41.72**	**13**	P	**P**	**06 00 27.8**	**+0.3**
ULN	**Ulaanbaatar**	**41.72**	**13**	*ce*P	**P**	**06 00 27.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MZR	**Muzera**	**42.07**	**296**	P	**P**	**06 00 32.8**	**+2.3**
MZR				P	**P**	**06 00 32.8**	**+2.3**
JNU	**Nakatsue**	**42.45**	**48**	LR	LR	06 18 42.5	
	comp=Z,718nm,20.2s,baz=248,slow=37						
KSAR	**Wonju Array Be**	**42.69**	**41**	P	**P**	**06 00 34.2**	**-1.1**
KSAR	**Wonju Array Be**	**42.69**	**41**	P	**P**	**06 00 34.2**	**-1.1**
KSRS	**Korea Array**	**42.72**	**41**	P	**P**	**06 00 33.8**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=229,slow=8.5,SNR=7.7						
KSRS				LR	LR	06 20 15.0	
	comp=Z,1μm,18.5s,baz=225,slow=39						
	comp=Z,0.8nm,0.5s						
ZAK	**Zakamensk**	**43.44**	**8**	*e*P	**P**	**06 00 40.5**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KURBB	**Kurchatov Arra**	**44.96**	**346**	P	**P**	**06 00 52.3**	**-1.1**
	comp=Z,15nm,0.8s,baz=165,slow=7.2,SNR=64						
KURBB				PcP	**PcP**	**06 02 34.8**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=157,slow=2.6,SNR=6.2						
KURBB				LR	LR	06 22 37.1	
	comp=Z,758nm,21.5s,baz=162,slow=40						
	comp=Z,15nm,0.8s						
KURK	**Kurchatov**	**45.03**	**346**	P	**P**	**06 00 52.9**	**-1.0**
KURK	**Kurchatov**	**45.03**	**346**	P	**P**	**06 00 53.9**	**0.0**
KURK				P	**P**	**06 00 53.9**	**0.0**
KURK	**Kurchatov**	**45.03**	**346**	*ce*P	**P**	**06 00 53.3**	**-0.6**
KURK				pmax	pmax		
	comp=Z,38nm,1.3s						
CN2	**Changchun**	**45.33**	**32**	*e*P	**P**	**06 00 59.3**	**+2.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**45.74**	**153**	LR	LR	06 18 55.7	
	comp=Z,644nm,21.7s,baz=308,slow=34						
HIA	**Hailar**	**46.87**	**23**	*i* P	**P**	**06 01 10.1**	**+1.6**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAA0	**Zalesovo Array**	**46.97**	**352**	P	**P**	**06 01 08.8**	**-0.4**
ZALV	**Zalesovo Beam**	**46.97**	**352**	P	**P**	**06 01 08.7**	**-0.5**
ZALV	**Zalesovo Beam**	**46.97**	**352**	P	**P**	**06 01 08.4**	**-0.8**
	comp=Z,7.6nm,0.4s,baz=181,slow=6.2,SNR=20						
ZALV				LR	LR	06 25 34.0	
	comp=Z,422nm,18.7s,baz=182,slow=42						
	comp=Z,7.6nm,0.4s						
ZALV	**Zalesovo Beam**	**46.97**	**352**	*i* P	**P**	**06 01 08.8**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,16nm,0.7s						
BNX	**BinXian**	**47.67**	**31**	⇓P	**P**	**06 01 14.9**	**+0.1**
BNX				S	**S**	**06 08 10.6**	**+0.5**
BNX				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BNX				pmax	pmax		
	comp=Z,250nm,5.4s						
BNX				LR	LR		
	comp=Z,730nm,14.9s						
BNX				LR	LR		
	comp=Z,1μm,16.2s						
BNX				LR	LR		
	comp=Z,780nm,15.1s						
WRA	**Warramunga Arr**	**47.95**	**125**	P	**P**	**06 01 16.9**	**-0.5**
WRA	**Warramunga Arr**	**47.95**	**125**	P	**P**	**06 01 15.7**	**-1.7**
	comp=Z,3.5nm,0.8s,baz=304,slow=8.8,SNR=17						
WRA				PcP	**PcP**	**06 02 45.2**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=306,slow=3.2,SNR=2.1						
WRA				LR	LR	06 22 51.6	
	comp=Z,636nm,21.2s,baz=254,slow=38						
	comp=Z,3.5nm,0.8s						
WRA	**Warramunga Arr**	**47.95**	**125**	*i* P	**P**	**06 01 16.0**	**-1.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRAB	**Tennant Creek**	**47.96**	**125**	P	**P**	**06 01 15.8**	**-1.6**
WRAB				IAmb	IAmb	06 01 31.8	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**47.96**	**125**	*i* P	**P**	**06 01 18.9**	**+1.5**
WRAB				pmax	pmax		
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**47.96**	**125**	P	**P**	**06 01 16.3**	**-1.1**
WB2				IAmb	IAmb	06 01 32.1	
	comp=Z,16nm,0.9s						
WR8	**Warramunga Arr**	**48.09**	**125**	P	**P**	**06 01 16.9**	**-1.5**
WR8				IAmb	IAmb	06 01 24.1	
	comp=Z,20nm,1.1s						
MDJ	**Mudanjiang**	**48.10**	**34**	P	**P**	**06 01 19.9**	**+1.8**
MDJ				S	**S**	**06 08 21.8**	**+5.6**
MDJ				pmax	pmax		
	comp=Z,12nm,1.6s						
MDJ				LR	LR		
	comp=Z,960nm,16.2s						
MDJ				LR	LR		
	comp=Z,1μm,11.9s						
MDJ				LR	LR		
	comp=Z,1μm,18.2s						
WR0	**Warramunga Arr**	**48.12**	**125**	IAmb	IAmb	06 01 33.5	
	comp=Z,15nm,1.1s						
USRK	**Ussuriysk Ar.**	**49.19**	**36**	P	**P**	**06 01 24.2**	**-2.4**
	comp=Z,1.6nm,0.7s,baz=235,slow=6.7,SNR=5.2						
USRK				LR	LR	06 23 09.9	
	comp=Z,859nm,19.0s,baz=220,slow=37						
	comp=Z,1.6nm,0.7s						
JHJ	**Hachijo jima 2**	**49.24**	**52**	LR	LR	06 21 23.6	
	comp=Z,396nm,21.3s,baz=78,slow=35						
RAYN	**Ar Rayn**	**49.33**	**295**	P	**P**	**06 01 28.5**	**+0.4**
RAYN	**Ar Rayn**	**49.33**	**295**	P	**P**	**06 01 29.8**	**+1.7**
RAYN	**Ar Rayn**	**49.33**	**295**	P	**P**	**06 01 28.5**	**+0.4**
RAYN				pmax	pmax		
	comp=Z,32nm,0.7s						
MJAR	**Matsushiro Arr**	**49.37**	**47**	P	**P**	**06 01 27.7**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=238,slow=8.4,SNR=6.1						
MJAR				LR	LR	06 24 25.6	
	comp=Z,628nm,18.2s,baz=231,slow=39						
	comp=Z,1.4nm,0.6s						
BVAR	**Borovoye Array**	**49.40**	**341**	P	**P**	**06 01 26.9**	**-1.1**
	comp=Z,8.6nm,

comp=Z,198nm,21.9s,baz=282,slow=33
BRVK Borovoye 49.47 341 P P 06 01 26.9 -1.6
BRVK Borovoye 49.47 341 P P 06 01 27.7 -0.8
BRVK P **P 06 01 27.7 -0.8**
BRVK Borovoye 49.47 341 *ce*P **P 06 01 27.9 -0.6**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
AS31 Alice Springs 49.59 130 P **P 06 01 28.7 -1.2**
ASAR Alice Springs 49.59 130 P **P 06 01 29.3 -0.6**
ASAR Alice Springs 49.59 130 P **P 06 01 29.1 -0.8**
comp=Z,9.3nm,0.9s,baz=308,slow=7.5,SNR=40
ASAR PcP **PcP 06 02 50.9 -0.7**
comp=Z,5.0nm,0.9s,baz=305,slow=4.7,SNR=4.3
ASAR ScP **ScP 06 06 48.2 +1.7**
comp=Z,0.3nm,0.6s,baz=283,slow=4.6,SNR=2.1
ASAR LR LR 06 25 05.0
comp=Z,638nm,19.9s,baz=300,slow=39
comp=Z,9.3nm,0.9s
FORT Forrest 49.97 141 P **P 06 01 32.4 -0.2**
ABKAR Akbulak array 50.63 331 P **P 06 01 36.6 -0.8**
ATD Arta Tunnel 50.79 279 LR LR 06 19 49.8
comp=Z,23nm,21.9s,baz=78,slow=32
HEH HeiHe 50.83 27 *e*P **P 06 01 39.2 +0.4**
HEH pmax pmax
comp=Z,10.0nm,1.0s
HEH LR LR
comp=Z,660nm,17.5s
HEH LR LR
comp=Z,830nm,16.7s
HEH LR LR
comp=Z,1μm,15.3s
KLR Kul'dur 52.19 30 LR LR 06 25 33.1
comp=Z,583nm,19.0s,baz=228,slow=38
KLR Kul'dur 52.19 30 *i* P **P 06 01 50.7 +1.6**
KLR pmax pmax
comp=Z,4.0nm,1.1s
AKTO Aktyubinsk 52.35 331 LR LR 06 26 52.5
comp=Z,269nm,18.2s,baz=60,slow=39
BOD Bodaibo 52.53 13 *e*P **P 06 01 50.9 -0.5**
BOD pmax pmax
comp=Z,44nm,1.3s
ZEA Zeya 53.29 24 *e*P P 06 02 02.8 +5.6
ZEA MLR MLR
comp=N,500nm,16.0s
ZEA MLR MLR
comp=Z,800nm,16.0s
GNI Garni 54.79 314 P **P 06 02 08.5 0.0**
GNI IAmb IAmb 06 02 16.6
comp=Z,15nm,0.8s
GNI Garni 54.79 314 *i* P **P 06 02 11.1 +2.6**
GNI pmax pmax
comp=Z,18nm,0.9s
GNI Garni 54.79 314 P **P 06 02 09.2 +0.7**
comp=Z,23nm,1.1s
ASAJ Asahikawa 55.67 41 LR LR 06 27 00.7
comp=Z,430nm,19.0s,baz=270,slow=37
SVE Sverdlovsk 55.81 338 *e*P **P 06 02 15.2 -0.2**
SVE pmax pmax
comp=Z,52nm,1.2s
GURO Guroymak-BITLI 56.17 312 P **P 06 02 20.0 +1.5**
ARTI Arti 56.34 337 P **P 06 02 17.7 -1.5**
ARTI IAmb IAmb 06 02 29.7
comp=Z,21nm,0.9s
ARTI Arti 56.34 337 LR LR 06 28 34.8
comp=Z,900nm,20.4s,baz=146,slow=38
ARTI Arti 56.34 337 *c i* P **P 06 02 17.9 -1.3**
ARTI 06 03 09.9
ARTI S **S 06 10 12.2 +3.4**
ARTI SS **SS 06 13 58.2 +2.4**
ARTI pmax pmax
comp=Z,24nm,1.0s
ARTI MLR MLR
comp=Z,832nm,19.0s
BBOO Buckleboo 56.45 138 P **P 06 02 18.9 -1.5**
KIBK Kibwezi 56.89 262 P **P 06 02 26.1 +2.1**
KIBK Kibwezi 56.89 262 P **P 06 02 26.5 +2.5**
YSS Yuzhno-Sakhali 57.05 38 *i* P **P 06 02 26.1 +1.7**
YSS pmax pmax
comp=Z,13nm,1.2s
KBZ Khabaz 57.45 318 P **P 06 02 27.4 +0.1**
comp=Z,3.3nm,0.9s,baz=127,slow=5.1,SNR=5.7
KBZ PcP **PcP 06 03 22.2 +1.3**
comp=Z,8.3nm,0.8s,baz=106,slow=2.3,SNR=6.0
KBZ LR LR 06 30 36.4
comp=Z,163nm,21.2s,baz=113,slow=40
comp=Z,3.3nm,0.9s
KBZ Khabaz 57.45 318 *i* P **P 06 02 29.2 +1.9**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 57.47 264 P **P 06 02 29.4 +1.2**
KMBO IAmb IAmb 06 02 36.9
comp=Z,21nm,1.1s
KMBO Kilima Mbogo 57.47 264 P **P 06 02 29.8 +1.5**
comp=Z,4.7nm,0.8s,baz=52,slow=10,SNR=10.0
KMBO LR LR 06 24 00.9
comp=Z,522nm,19.5s,baz=92,slow=33
comp=Z,4.7nm,0.8s
KMBO Kilima Mbogo 57.47 264 P **P 06 02 31.1 +2.8**
KMBO P **P 06 02 31.1 +2.8**
KMBO Kilima Mbogo 57.47 264 *i* P **P 06 02 32.5 +4.3**
KMBO pmax pmax
comp=Z,9.0nm,0.8s
KVAR Kislovodsk Arr 57.67 318 LR LR 06 32 23.1
comp=Z,135nm,18.3s,baz=177,slow=41
KIV Kislovodsk 57.68 318 *e*P **P 06 02 28.4 -0.7**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,209nm,17.0s
ASF Jabal al Asfar 58.51 303 LR LR 06 30 24.7
comp=Z,437nm,20.0s,baz=121,slow=39
LODK Lodwar 58.70 269 P P 06 02 41.9 +5.2
TYV Tymovskoe 58.88 34 *e*P P 06 02 48.6 +11
TYV pmax pmax
comp=Z,13nm,1.5s
TYV pmax pmax
comp=Z,100nm,4.7s
EIL Elat 59.70 300 LR LR 06 30 03.3
comp=Z,494nm,19.5s,baz=81,slow=38
STKA Stephens Creek 59.76 134 P **P 06 02 42.6 -1.0**
comp=Z,3.0nm,0.8s,baz=317,slow=14,SNR=4.4
STKA LR LR 06 29 13.7
comp=Z,358nm,21.3s,baz=297,slow=37
comp=Z,3.0nm,0.8s
STKA Stephens Creek 59.76 134 *i* P **P 06 02 45.6 +2.0**
MMAI Mount Meron Ar 59.92 304 LR LR 06 32 05.6
comp=Z,264nm,18.6s,baz=88,slow=40
YAK Yakutsk 60.35 18 LR LR 06 30 48.8
comp=Z,634nm,18.3s,baz=209,slow=38
YAK Yakutsk 60.35 18 *e*P **P 06 02 45.1 -2.0**
YAK *e* 06 03 29.7
YAK *e*PPP PPP 06 06 21.9
YAK *e*S **S 06 11 01.0 0.0**
YAK *e**SS **pS 06 11 06.7 0.0**
YAK *e* 06 12 36.6
YAK *e*SS **SS 06 15 00.8 +2.2**
YAK pmax pmax
comp=Z,18nm,1.3s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,144nm,3.8s
YAK pmax pmax
comp=N,54nm,4.7s
YAK pmax pmax
comp=E,128nm,5.2s
YAK smax smax
comp=E,54nm,3.8s
YAK smax smax
comp=N,37nm,3.4s
YAK MLR MLR
comp=Z,884nm,14.0s
YAK MLR MLR
comp=E,667nm,14.0s
YAK MLR MLR
comp=N,465nm,14.0s
VRH Novokhopyorsk 61.31 325 *e*P **P 06 02 51.9 -2.0**
VRH pmax pmax
comp=Z,14nm,0.6s
KIRV Kirov 61.42 335 LR LR 06 32 13.1
comp=Z,479nm,18.0s,baz=134,slow=39
KIRV Kirov 61.42 335 *i* P **P 06 02 54.2 -0.2**
NRIK Noril'sk 61.95 357 P **P 06 02 57.1 -0.8**
NRIK Noril'sk 61.95 357 P **P 06 02 56.1 -1.7**
comp=Z,3.1nm,0.5s,baz=133,slow=5.4,SNR=5.9
NRIK LR LR 06 34 03.2
comp=Z,486nm,21.0s,baz=186,slow=40
comp=Z,3.1nm,0.5s
NRIK Noril'sk 61.95 357 *i* P **P 06 03 00.2 +2.3**
NRIK pmax pmax
comp=Z,27nm,1.6s
CSS Mathiatis 61.98 306 P **P 06 03 00.1 +1.3**
comp=Z,16nm,1.8s
KIRS Kirsehir-Merke 62.41 310 ⇑P **P 06 03 00.5 -1.2**
VORD Divnogorie 62.60 324 *e*P **P 06 03 01.3 -1.2**
VORD pmax pmax
comp=Z,20nm,1.0s
BR131 Keskin Array S 62.76 311 P **P 06 03 01.8 -2.2**
BR131 Keskin Array S 62.76 311 P **P 06 03 02.1 -1.9**
BR131 Keskin Array S 62.76 311 P **P 06 03 01.8 -2.2**
BR131 pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 62.76 311 P **P 06 03 02.2 -1.9**
comp=Z,1.9nm,0.7s,baz=126,slow=7.2,SNR=11
BRTR LR LR 06 33 48.2
comp=Z,199nm,20.3s,baz=111,slow=39
comp=Z,1.9nm,0.7s
BRTR Keskin Array B 62.76 311 *i* P **P 06 03 04.0 0.0**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
VSR Storozhevoye 62.77 325 *e*P **P 06 03 02.2 -1.5**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 62.94 325 *e*P **P 06 03 09.3 +4.5**
VORR pmax pmax
comp=Z,112nm,0.5s
BZK Bozkurt 63.05 313 P **P 06 03 06.7 +1.0**
LPSR Galich'ya Gora 63.48 326 *e*P **P 06 03 06.2 -2.1**
LPSR pmax pmax
comp=Z,15nm,0.6s
H04N2 CROZET ISLANDS 65.42 211 T T 07 14 14.7
baz=48,slow=75,SNR=28
H04N1 CROZET ISLANDS 65.43 211 T T 07 13 48.4
baz=48,slow=75,SNR=40
H04N3 CROZET ISLANDS 65.44 211 T T 07 13 52.3
baz=48,slow=75,SNR=40
MOS Moscow 65.47 329 *e*P **P 06 03 18.8 -2.5**
MOS *e* 06 03 52.0
MOS pmax pmax
comp=Z,41nm,1.0s
TOO Toolangi 65.50 137 P **P 06 03 23.0 +1.1**
TOO IAmb IAmb 06 03 29.2
comp=Z,9.8nm,1.1s
TOO Toolangi 65.50 137 P **P 06 03 23.0 +1.1**
TOO pmax pmax
comp=Z,10.0nm,1.1s
OBN Obninsk 65.77 328 LR LR 06 35 32.6
comp=Z,414nm,20.4s,baz=86,slow=39
OBN Obninsk 65.77 328 *i* P **P 06 03 26.9 +3.7**
OBN pmax pmax
comp=Z,39nm,1.1s
OBN MLR MLR
comp=Z,459nm,22.0s
H04S1 CROZET ISLANDS 65.82 210 T T 07 14 06.5
baz=47
H04S3 CROZET ISLANDS 65.83 210 T T 07 14 17.4
baz=47
H04S2 CROZET ISLANDS 65.84 210 T T 07 14 17.2
baz=47
YLV Yalova 66.14 311 P **P 06 03 27.1 +1.1**
comp=Z,14nm,0.8s
KLMR Klimovskoe 66.86 334 *e*P **P 06 03 26.6 -3.5**
KLMR pmax pmax
comp=Z,52nm,1.2s
KARP Karpathos 67.06 305 P **P 06 03 33.0 +1.0**
comp=Z,85nm,2.1s
MA2 Magadan 67.09 27 LR LR 06 34 29.5
comp=Z,273nm,18.9s,baz=272,slow=38
MA2 Magadan 67.09 27 *i* P **P 06 03 35.0 +3.4**
MA2 pmax pmax
comp=Z,9.0nm,1.1s
MA2 Magadan 67.09 27 P **P 06 03 31.3 -0.3**
comp=Z,15nm,1.7s
HNR Honiara 67.58 103 LR LR 06 36 47.2
comp=Z,88nm,18.6s,baz=300,slow=39
TIRR Tirgusor 67.61 315 P **P 06 03 36.3 +1.1**
comp=Z,15nm,1.1s
TIXI Tiksi 67.62 11 P **P 06 03 33.4 -1.3**
TIXI Tiksi 67.62 11 P **P 06 03 32.6 -2.1**
comp=Z,8.7nm,0.6s,baz=218,slow=3.9,SNR=16
TIXI LR LR 06 37 28.7
comp=Z,477nm,18.1s,baz=238,slow=40
comp=Z,8.7nm,0.6s
TIXI Tiksi 67.62 11 *i* P **P 06 03 37.8 +3.1**
TIXI pmax pmax
comp=Z,61nm,1.3s
PETK Petropavlovsk- 68.29 35 LR LR 06 34 39.7
comp=Z,286nm,20.0s,baz=237,slow=37
EZN Ezine 68.31 310 P **P 06 03 40.9 +1.2**
SORM Soroca 68.45 319 P **P 06 03 41.5 +1.1**
comp=Z,6.7nm,0.9s
AK10 Malin Array Si 68.48 322 P **P 06 03 40.2 -0.4**
AKASG Malin Array Be 68.53 322 P **P 06 03 38.6 -2.3**
comp=Z,1.4nm,0.7s,baz=89,slow=4.9,SNR=9.2
AKASG LR LR 06 38 15.7
comp=Z,222nm,19.0s,baz=90,slow=40
comp=Z,1.4nm,0.7s
AKASG Malin Array Be 68.53 322 *i* P **P 06 03 41.5 +0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 68.53 322 P **P 06 03 41.4 +0.5**
AKBB Malin Array Si 68.53 322 *i* P **P 06 03 43.9 +3.0**
AKBB pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 68.54 322 P **P 06 03 41.2 +0.4**
KIEV Kiev 68.54 322 P **P 06 03 41.3 +0.4**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
IDI Anoyia 68.87 305 LR LR 06 37 50.3
comp=Z,153nm,21.7s,baz=90,slow=39
VRI Vrincioaia 69.06 316 ⇓P **P 06 03 43.7 -0.6**
VRI Vrincioaia 69.06 316 ⇓P **P 06 03 43.7 -0.6**
PLOR Plostina 69.11 316 ⇓P **P 06 03 43.9 -0.8**
PLOR Plostina 69.11 316 ⇓P **P 06 03 43.9 -0.8**
LSZ Lusaka 69.22 251 LR LR 06 29 55.2
comp=Z,474nm,20.8s,baz=95,slow=32
TESR Tescani 69.24 317 ⇑P **P 06 03 44.5 -0.8**
SEY Seymchan 69.26 25 *i* P **P 06 03 46.1 +0.9**
SEY pmax pmax
comp=Z,3.0nm,1.1s
MLR Muntele Rosu 69.52 316 P **P 06 03 47.0 -0.4**
MLR IAmb IAmb 06 03 55.3
comp=Z,22nm,1.1s
MLR Muntele Rosu 69.52 316 ⇓P **P 06 03 46.7 -0.6**
MLR Muntele Rosu 69.52 316 ⇓P **P 06 03 46.7 -0.6**
KMPD K-Podol'skiy 69.78 319 P **P 06 03 48.9 +0.3**
DOPR Dopca 69.99 316 ⇓P **P 06 03 48.8 -1.3**
VOIR 70.14 316 ⇑P **P 06 03 49.3 -1.8**
VOIR 70.14 316 ⇑P **P 06 03 49.3 -1.8**
MNK Minsk 70.31 325 *i* P **P 06 03 51.0 -0.8**
MNK *i* 06 04 12.2
MNK *i* PPP PPP 06 08 08.7
MNK *i* S **S 06 13 04.2 +0.9**
MNK *i* 06 13 53.8
MNK *i* SS **SS 06 17 35.8 +2.0**
MNK pmax pmax
comp=N,19nm,0.9s
MNK pmax pmax
comp=E,29nm,0.9s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK MLR MLR
comp=E,890nm,26.0s
MNK MLR MLR
comp=N,985nm,25.0s
MNK MLR MLR
comp=Z,323nm,19.0s
BURAR Bucovina Array 70.41 318 P **P 06 03 52.1 -0.6**
BURAR Bucovina Array 70.41 318 ⇓P **P 06 03 51.6 -1.1**
BURAR Bucovina Array 70.41 318 ⇓P **P 06 03 51.6 -1.1**
ARR Arges 70.41 315 ⇑P **P 06 03 49.6 -3.2**
BUR08 Bucovina Ar. S 70.42 318 P **P 06 03 52.6 -0.2**
BUR08 IAmb IAmb 06 04 09.5
comp=Z,55nm,2.0s
PUL Pulkovo 70.61 331 *i* P **P 06 03 55.8 +2.3**
PUL pmax pmax
comp=Z,46nm,0.7s
RNPP5 Staryi Chortor 70.70 322 P **P 06 03 54.6 +0.3**
LIT Litokhoron 71.27 310 P **P 06 03 58.0 0.0**
LIT IAmb IAmb 06 04 05.3
comp=Z,18nm,0.8s
LIT Litokhoron 71.27 310 P **P 06 03 58.0 0.0**
LIT pmax pmax
comp=Z,18nm,0.8s
MARR Marisel-Cluj 71.66 317 ⇑P **P 06 03 59.7 -0.6**
HERR Herculane 71.89 315 ⇓P **P 06 04 02.8 +1.2**
VSU Vasula 71.98 329 *i* P **P 06 04 04.3 +2.5**
VSU pmax pmax
comp=Z,34nm,1.0s
BOVS Bovan 72.24 313 ⇓P **P 06 03 59.1 -4.7**
APA Apatity 72.26 339 ⇓*i*P P 06 03 55.5 -7.9
APA pmax pmax
comp=Z,14nm,1.0s
APA MLR MLR
comp=Z,2μm,18.0s
KOLS Kolonicke sedl 72.57 319 *e*P P 06 04 12.2 +6.6
KOLS Kolonicke sedl 72.57 319 *e*P P 06 04 12.2 +6.6
FIA1 FINESS Array S 73.11 332 P **P 06 04 09.3 +0.8**
FINES FINESS Array B 73.11 332 P **P 06 04 08.1 -0.4**
FINES FINESS Array B 73.11 332 P **P 06 04 06.8 -1.7**
comp=Z,7.0nm,0.8s,baz=110,slow=7.6,SNR=21
FINES LR LR 06 40 35.7
comp=Z,296nm,19.3s,baz=110,slow=39
comp=Z,7.0nm,0.8s
FINES FINESS Array B 73.11 332 P **P 06 04 08.1 -0.4**
STHS Stebnicka Huta 73.31 319 *e*P **P 06 04 14.5 +4.5**
STHS Stebnicka Huta 73.31 319 *e*P **P 06 04 14.5 +4.5**
LBTB Lobatse 74.12 241 LR LR 06 34 00.0
comp=Z,273nm,19.0s,baz=78,slow=33
OJC Ojcow 74.34 320 IAmb IAmb 06 04 24.8
comp=Z,14nm,0.9s
LANS Liptovska Anna 74.43 319 *e*P P 06 04 22.4 +5.8
LANS Liptovska Anna 74.43 319 *e*P P 06 04 22.4 +5.8
CASY Casey 74.51 173 P **P 06 04 17.4 +0.9**
CASY IAmb IAmb 06 04 22.4
comp=Z,17nm,1.1s
MORH Mrgy, Hungar 74.68 316 ⇓P P 06 04 06.6 -11
BOSA Boshof 75.44 238 P **P 06 04 23.8 +0.9**
comp=Z,6.6nm,0.7s,baz=88,slow=6.3,SNR=7.6
BOSA LR LR 06 34 36.4
comp=Z,190nm,18.8s,baz=73,slow=33
comp=Z,6.6nm,0.7s
ARCES ARCESS Array B 75.68 340 P **P 06 04 22.8 -0.6**
comp=Z,1.8nm,0.5s,baz=106,slow=6.2,SNR=5.4
ARCES LR LR 06 40 31.7
comp=Z,761nm,20.4s,baz=116,slow=38
comp=Z,1.8nm,0.5s
MORC Moravsky Berou 75.74 319 *e*P **P 06 04 23.4 -0.8**
MODS Modra-Piesok 75.79 318 *e*P **P 06 04 28.3 +3.9**
MODS Modra-Piesok 75.79 318 *e*P **P 06 04 28.3 +3.9**
KRLC Kraliky 76.26 320 *e*P **P 06 04 29.6 +2.5**
KRLC Kraliky 76.26 320 *e*P **P 06 04 29.6 +2.5**
VRAC Vranov 76.32 319 LR LR 06 42 14.6
comp=Z,148nm,21.0s,baz=94,slow=39
RONA Rosalia, Austr 76.40 317 *i* P **P 06 04 29.9 +2.0**
comp=Z,4.4nm,0.8s
KRUC Moravsky 76.43 319 *e*P **P 06 04 25.7 -2.3**
BILL Bilibino 76.44 22 *i* P **P 06 04 29.6 +1.9**
BILL pmax pmax
comp=Z,6.0nm,1.0s
DZM Mont Dzumac 76.54 115 *e*SS SS 06 19 03.6 -7.0
comp=Z,191nm,33.6s
DZM *e*LR LR 06 28 01.7
comp=Z,485nm,29.2s
DZM Mont Dzumac 76.54 115 LR LR 06 43 00.6
comp=Z,206nm,18.1s,baz=294,slow=40
DPC Dobruska-Polom 76.58 320 *e*P **P 06 04 32.4 +3.5**
DPC Dobruska-Polom 76.58 320 *e*P **P 06 04 32.4 +3.5**
CONA Conrad Observa 76.70 317 *i* P **P 06 04 31.6 +1.9**
comp=Z,5.3nm,1.3s
CHVC Chvalec 76.76 320 *e*P **P 06 04 31.7 +1.8**
CHVC Chvalec 76.76 320 *e*P **P 06 04 31.7 +1.8**
ARSA Arzberg 76.89 317 *e*P **P 06 04 30.7 -0.1**
comp=Z,4.4nm,0.7s
SOKA Soboth 77.20 316 *e*P **P 06 04 32.4 -0.1**
comp=Z,16nm,1.1s
VAE Valguarnera 77.43 307 LR LR 06 42 29.3
comp=Z,146nm,18.9s,baz=153,slow=39
OBKA Obir 77.53 316 *i* P **P 06 04 35.9 +1.5**
comp=Z,7.1nm,1.0s
MOA Molln 77.77 317 *i* P **P 06 04 35.1 -0.6**
comp=Z,3.9nm,1.0s
SHEM Shemya Is, Ala 77.97 38 LR LR 06 40 04.4
comp=Z,85nm,20.9s,baz=233,slow=37
BRG Berggiesshubel 78.12 320 *e*P **P 06 04 37.8 +0.3**
BRG Amp 06 04 38.9
comp=Z,17nm,1.4s
BRG Berggiesshubel 78.12 320 P P 06 04 44.5 +7.0
BRG Amp 06 04 46.1
comp=Z,6.4nm,0.9s
MAW Mawson 78.15 192 LR LR 06 34 29.9
comp=Z,391nm,19.2s,baz=311,slow=32
GERES GERESS Array B 78.19 318 P **P 06 04 37.4 -0.7**
comp=Z,2.0nm,0.7s,baz=97,slow=5.8,SNR=11
GERES LR LR 06 43 24.9
comp=Z,146nm,21.8s,baz=85,slow=39
comp=Z,2.0nm,0.7s
PRED Cave del Predi 78.20 316 P **P 06 04 36.4 -1.7**
PRED IAmb IAmb 06 04 46.7
comp=Z,18nm,0.9s
KHC Kasperske Hory 78.28 319 *e*P **P 06 04 38.0 -0.5**
KHC Kasperske Hory 78.28 319 *ce*P **P 06 04 41.9 +3.4**
KHC pmax pmax
comp=Z,35nm,2.5s
KBA Koelnbreinsper 78.37 316 *e*P **P 06 04 36.9 -2.3**
comp=Z,7.8nm,0.9s
CLL Collm 78.73 321 *e*P **P 06 04 39.0 -1.8**
CLL *e*S **S 06 14 29.0 -8.7**
LESA Schwarzleotal 78.83 317 *i* P **P 06 04 40.7 -0.9**
comp=Z,12nm,1.0s
HFS Hagfors 78.85 330 P **P 06 04 39.9 -1.4**
comp=Z,3.7nm,0.6s,baz=102,slow=6.2,SNR=17
HFS LR LR 06 43 40.9
comp=Z,488nm,19.7s,baz=94,slow=39
comp=Z,3.7nm,0.6s
ABTA Abfaltersbach 78.94 316 *e*P **P 06 04 42.9 +0.7**
comp=Z,3.0nm,0.5s
CIMO Cimolais 78.98 316 P **P 06 04 41.7 -0.7**
CIMO IAmb IAmb 06 04 51.1
comp=Z,25nm,0.9s
CTI Castel Tesino 79.53 315 P **P 06 04 45.1 -0.4**
CTI IAmb IAmb 06 05 09.0
comp=Z,21nm,1.2s
CTI Castel Tesino 79.53 315 P **P 06 04 45.1 -0.4**
CTI pmax pmax
comp=Z,21nm,1.2s
WTTA Wattenberg 79.54 317 *e*P **P 06 04 46.3 +0.7**
comp=Z,14nm,1.2s
WATA Walderalm 79.58 317 *e*P **P 06 04 47.2 +1.4**
comp=Z,7.2nm,0.5s
SQTA Sankt Quirin 79.83 317 *e*P **P 06 04 47.7 +0.6**
comp=Z,15nm,1.1s
NC405 NORSAR Array S 79.89 331 P **P 06 04 46.7 -0.3**
NC405 IAmb IAmb 06 06 57.0
comp=Z,54nm,1.6s
MOTA Moosalm 79.90 317 *e*P **P 06 04 46.5 -1.1**
comp=Z,19nm,1.2s
NC602 NORSAR Array S 79.96 330 P **P 06 04 47.4 +0.1**
NC602 IAmb IAmb 06 04 56.0
comp=Z,14nm,0.8s
TSUM Tsumeb 79.96 249 LR LR 06 37 05.9
comp=Z,366nm,19.4s,baz=70,slow=33
ZCCA Zocca 80.01 314 IAmb IAmb 06 05 00.2
comp=Z,24nm,0.9s
NB2 NORSAR Subarra 80.13 331 P **P 06 04 46.8 -1.5**
comp=Z,11nm,0.9s,baz=95,slow=5.1
NOA NORSAR Array B 80.13 331 P **P 06 04 46.9 -1.5**
comp=Z,3.3nm,0.8s,baz=93,slow=5.4,SNR=8.4
NOA LR LR 06 44 04.4
comp=Z,224nm,19.9s,baz=110,slow=39
comp=Z,3.3nm,0.8s
RETA Reutte 80.13 317 *e*P **P 06 04 46.8 -1.9**
comp=Z,11nm,0.7s
FETA Feichten 80.16 316 *e*P **P 06 04 48.3 -0.6**
comp=Z,16nm,1.3s
SUR Sutherland 80.17 235 LR LR 06 32 40.6
comp=Z,214nm,21.5s,baz=82,slow=30
SPITS Spitsbergen Ar 80.25 348 P **P 06 04 48.1 -0.6**
comp=Z,49nm,1.3s,baz=106,slow=8.8,SNR=5.5
SPITS LR LR 06 46 39.5
comp=Z,442nm,19.4s,baz=83,slow=40
comp=Z,49nm,1.3s
DAVA Damuels 80.73 317 *e*P **P 06 04 51.8 -0.2**
comp=Z,16nm,1.4s
DAVOX Davos/Dischmat 80.74 316 LR LR 06 46 32.3
comp=Z,102nm,20.1s,baz=76,slow=40
TUE Stuetta 81.12 316 P **P 06 04 53.5 -0.6**

KEST Kesra 81.55 305 P P 06 04 56.6 +0.1
comp=Z,2.8nm,1.0s,baz=90,slow=6.1,SNR=6.8
KEST LR LR 06 46 24.6
comp=Z,174nm,19.6s,baz=65,slow=40
comp=Z,2.8nm,1.0s
BFO Black Forest 81.75 318 P P 06 04 57.8 +0.5
BFO Black Forest 81.75 318 P P 06 04 57.8 +0.5
BFO pmax pmax
comp=Z,7.0nm,1.0s
SENIN Lac Senin/Sane 82.54 316 P P 06 05 01.9 +0.2
BNI Bardonecchia 83.05 314 P P 06 05 04.2 0.0
BNI IAmb IAmb 06 05 14.6
comp=Z,12nm,1.0s
BNI Bardonecchia 83.05 314 P P 06 05 04.2 0.0
BNI pmax pmax
comp=Z,12nm,1.0s
SSB Saint Sauveur 84.54 315 P P 06 05 11.4 -0.3
SSB Saint Sauveur 84.54 315 P P 06 05 11.4 -0.3
SSB pmax pmax
comp=Z,5.0nm,0.8s
SYO Syowa Base 85.04 197⇑ *eP* **P 06 05 16.0 +2.5**
SYO Syowa Base 85.04 197⇓ *e*PcP **PcP 06 05 18.2 +1.4**
MSVF Nonsavu 86.41 108 LR LR 06 45 17.3
comp=Z,120nm,20.8s,baz=247,slow=37
TNA Tin City 86.50 24 P P 06 05 20.0 -0.9
C16K Lisburne Hills 86.97 22 P P 06 05 23.4 +0.2
C16K IAmb IAmb 06 05 32.2
comp=Z,24nm,1.4s
JMIC Jan Mayen 87.12 341 LR LR 06 46 24.8
comp=Z,195nm,20.7s,baz=61,slow=37
ANM Nome 87.76 25 P P 06 05 27.5 +0.4
ANM IAmb IAmb 06 05 36.3
comp=Z,9.3nm,1.1s
ANM Nome 87.76 25 P P 06 05 27.5 +0.4
ANM pmax pmax
comp=Z,9.0nm,1.1s
F15K North Star Dit 87.80 24 P P 06 05 27.2 -0.2
F15K IAmb IAmb 06 05 37.6
comp=Z,8.8nm,1.0s
EKA Eskdalemuir Ar 88.11 325 P P 06 05 28.3 -0.7
comp=Z,1.6nm,0.6s,baz=95,slow=5.4,SNR=6.6
comp=Z,1.6nm,0.6s
EKB Eskdalemuir 88.12 325 P P 06 05 29.1 0.0
C18K Utukok River 88.36 21 P P 06 05 30.1 +0.1
C18K IAmb IAmb 06 05 39.1
comp=Z,20nm,1.2s
G16K Koyuk River 88.81 24 P P 06 05 32.2 +0.2
G16K IAmb IAmb 06 05 41.2
comp=Z,15nm,1.2s
E18K Tukpahlearik C 88.92 22 P P 06 05 32.0 -0.6
E18K IAmb IAmb 06 05 42.0
comp=Z,15nm,1.1s
F17K Baldwin Pennin 88.96 23 P P 06 05 32.1 -0.6
F17K IAmb IAmb 06 05 43.5
comp=Z,9.6nm,0.9s
B20K Meade River 89.30 19 P P 06 05 35.2 +1.0
B20K IAmb IAmb 06 05 43.7
comp=Z,21nm,1.3s
D19K Kuna River 89.48 21 P P 06 05 35.5 +0.3
D19K IAmb IAmb 06 05 44.6
comp=Z,19nm,1.1s
I17K Unalakleet 89.91 25 P P 06 05 37.2 0.0
I17K IAmb IAmb 06 05 46.8
comp=Z,12nm,1.4s
H17K Granite Mounta 89.92 24 P P 06 05 37.9 +0.5
H17K IAmb IAmb 06 05 46.7
comp=Z,26nm,1.6s
J16K Anvik River 90.12 26 P P 06 05 38.7 +0.4
G18K Tagagawik 90.13 23 P P 06 05 39.4 +1.1
G18K IAmb IAmb 06 05 47.7
comp=Z,19nm,1.6s
E19K Redstone River 90.14 21 P P 06 05 38.8 +0.4
F19K Shaleruckik Mo 90.16 22 P P 06 05 38.8 +0.4
F19K IAmb IAmb 06 05 48.0
comp=Z,27nm,1.3s
B21K Ikpikpuk River 90.26 19 IAmb IAmb 06 05 51.1
comp=Z,18nm,1.1s
H18K Honhosa River 90.48 24 IAmb IAmb 06 05 50.0
comp=Z,16nm,1.4s
G19K Purcell Mounta 90.65 23 IAmb IAmb 06 05 50.1
comp=Z,22nm,1.2s
J17K VABM Dome 90.75 26 P P 06 05 40.9 -0.3
TORD Torodi Ar. Bea 90.78 283 LR LR 06 47 02.5
comp=Z,217nm,18.1s,baz=86,slow=36
E21K Killik River 90.93 20 P P 06 05 42.0 0.0
ELIB Princess Elisa 91.22 197 *dP* **P 06 05 45.2 +1.9**
comp=Z,7.8nm,1.1s
C23K Itkillik River 91.44 18 P P 06 05 44.3 0.0
C23K IAmb IAmb 06 05 53.5
comp=Z,24nm,1.4s
ESDC Sonseca Array 91.55 310 P P 06 05 45.2 -0.3
ESDC Sonseca Array 91.55 310 P P 06 05 45.0 -0.6
comp=Z,0.7nm,0.6s,baz=87,slow=5.5,SNR=5.0
ESDC LR LR 06 50 14.6
comp=Z,160nm,20.4s,baz=75,slow=38
comp=Z,0.7nm,0.6s
F21K Alatna River 91.58 21 P P 06 05 44.9 -0.1
F21K IAmb IAmb 06 05 54.6
comp=Z,11nm,1.1s
J18K Innoko River 91.73 25 IAmb IAmb 06 05 55.1
comp=Z,20nm,1.4s
E22K Anaktuvuk Pass 91.79 20 IAmb IAmb 06 05 55.2
comp=Z,8.0nm,1.2s
D23K Nanushuk River 91.81 19 P P 06 05 45.7 -0.3
D23K IAmb IAmb 06 05 55.6
comp=Z,16nm,1.1s
G21K Allakaket 91.86 22 P P 06 05 46.4 +0.1
L18K Granite Mounta 92.17 26 IAmb IAmb 06 06 06.7
comp=Z,8.0nm,1.1s
TOLK Toolik Lake Re 92.31 19 P P 06 05 48.6 +0.1
TOLK IAmb IAmb 06 05 57.6
comp=Z,18nm,1.3s
H21K Melozitna River 92.46 22 P P 06 05 49.0 -0.2
VNDA Vanda 92.51 168 P P 06 05 49.6 +0.6
comp=Z,0.8nm,0.7s,baz=304,slow=7.6,SNR=7.6
VNDA LR LR 06 44 23.3
comp=Z,310nm,18.4s,baz=292,slow=34
comp=Z,0.8nm,0.7s
E23K Chandalar 92.56 20 IAmb IAmb 06 05 58.4
comp=Z,19nm,1.6s
E24K Your Creek 92.93 20 IAmb IAmb 06 05 59.8
comp=Z,17nm,1.6s
L19K White Mountain 92.99 26 P P 06 05 50.9 -0.8
L19K IAmb IAmb 06 06 01.3
comp=Z,13nm,1.1s
D25K Kavik River 93.00 18 P P 06 05 51.8 +0.2
G23K Bananza Creek 93.03 21 P P 06 05 51.6 -0.2
G23K IAmb IAmb 06 06 04.8
comp=Z,15nm,1.4s
MDT Midelt 93.36 304 LR LR 06 55 01.3
comp=Z,67nm,18.0s,baz=100,slow=40
H23K Yukon River 93.61 22 IAmb IAmb 06 06 06.9
comp=Z,17nm,1.4s
C27K Jago River 93.64 17 IAmb IAmb 06 06 04.6
comp=Z,8.5nm,1.1s
CAST Castle Rocks 93.67 24 P P 06 05 55.2 +0.4
CAST IAmb IAmb 06 06 02.1
comp=Z,12nm,0.9s
N19K Bonanza Creek 93.67 27 P P 06 05 54.9 0.0
BORG Borgarnes 93.84 337 LR LR 06 50 20.7
comp=Z,170nm,19.4s,baz=62,slow=37
O19K Port Alsworth 93.98 28 IAmb IAmb 06 06 03.3
comp=Z,7.0nm,0.8s
F25K Christian Rive 94.11 19 IAmb IAmb 06 06 06.5
comp=Z,10nm,1.2s
SKT Skwentna 94.50 26 IAmb IAmb 06 06 06.8
comp=Z,14nm,1.0s
F26K Sheenjek River 94.55 19 IAmb IAmb 06 06 08.7
comp=Z,8.0nm,1.2s
STLK Strandline Lak 94.58 26 P P 06 05 59.8 +0.8
STLK IAmb IAmb 06 06 06.4
comp=Z,9.8nm,1.4s
E27K Coleen River 95.08 18 IAmb IAmb 06 08 11.3
comp=Z,12nm,1.8s
ILAR Eielson Array 95.09 22 P P 06 06 00.2 -1.0
comp=Z,0.4nm,0.8s,baz=303,slow=3.2,SNR=4.5
ILAR PP PP 06 09 49.2 -1.1
comp=Z,0.3nm,0.8s,baz=279,slow=6.2,SNR=2.3
ILAR LR LR 06 51 14.8
comp=Z,331nm,19.6s,baz=280,slow=37
comp=Z,0.4nm,0.8s
PMR Palmer 95.70 25 IAmb IAmb 06 06 11.7
comp=Z,14nm,1.4s
GHO Glory Hole Cre 95.70 25 IAmb IAmb 06 08 39.4
comp=Z,5.5nm,0.6s
SLKM Skilak Lake 95.71 27 IAmb IAmb 06 06 14.8
comp=Z,6.8nm,1.0s
BRLK Bradley Lake 95.73 27 IAmb IAmb 06 06 14.6
comp=Z,8.6nm,0.7s
KDAK Kodiak Island 95.75 30 LR LR 06 55 03.0
comp=Z,137nm,18.2s,baz=136,slow=39
G27K Doyon Strip 95.84 19 IAmb IAmb 06 06 14.2
comp=Z,8.3nm,1.7s
E29M Blow River 96.07 17 P P 06 06 05.2 -0.4
E29M IAmb IAmb 06 06 15.1
comp=Z,6.9nm,1.1s
PWL Port Wells 96.38 26 P P 06 06 06.5 -0.7
A36M Sachs Harbour 96.63 11 IAmb IAmb 06 06 18.6
comp=Z,7.7nm,0.8s
KLU Klutina 97.10 25 IAmb IAmb 06 08 54.4
comp=Z,4.7nm,0.6s
INK Inuvik 97.36 16 IAmb IAmb 06 06 20.5
comp=Z,6.9nm,1.2s
INK Inuvik 97.36 16 LR LR 06 56 19.9
comp=Z,416nm,18.2s,baz=266,slow=39
QSPA South Pole Qui 97.37 180 P P 06 06 11.1 -0.4
comp=Z,2.0nm,1.1s,baz=298,slow=4.0,SNR=1.6
QSPA LR LR 06 44 44.3
comp=Z,393nm,20.3s,baz=291,slow=32
comp=Z,2.0nm,1.1s
RES Resolute Bay 97.81 2 IAmb IAmb 06 06 24.1
comp=Z,5.1nm,0.9s
RES Resolute Bay 97.81 2 LR LR 06 55 07.9
comp=Z,121nm,19.4s,baz=12,slow=38
DBIC Dimbokro 98.08 278 LR LR 06 50 43.9
comp=Z,342nm,18.7s,baz=70,slow=36
I30M Mount Dempster 98.52 19 IAmb IAmb 06 06 33.9
comp=Z,6.6nm,1.2s
SNAA Sanae 99.27 199 LR LR 06 46 49.2
comp=Z,235nm,18.2s,baz=9.0,slow=33
YKA Yellowknife Ar 106.80 14 PP **PP 06 11 17.1 -1.5**
comp=Z,1.4nm,1.2s,baz=327,slow=7.4,SNR=7.3
YKA PKKPbc **PKKPbc 06 22 24.2 -0.2**
comp=Z,0.3nm,0.8s,baz=160,slow=2.7,SNR=4.6
YKA PKKPab **PKKPab 06 22 41.0 +1.7**
comp=Z,0.7nm,0.9s,baz=147,slow=3.8,SNR=8.2
TBI Tubuai 117.05 112 *e*LR LR 06 46 46.8
comp=Z,1μm,33.2s
TBI *e*LR LR 06 46 52.1
comp=Z,1μm,25.2s
PPT2 Papeete2 117.15 106 *e*LR LR 06 46 49.4
comp=Z,159nm,23.5s
PPT2 *e*LR LR 06 46 52.1
comp=Z,203nm,32.5s
ULM Lac du Bonnet 121.86 8 PKP **PKPdf 06 11 31.8 -0.9**
comp=Z,2.7nm,0.7s,baz=353,slow=5.0,SNR=5.1
SNOW Snow King Moun 124.47 22 PKPdf 06 11 38.4 +0.1
RYN Ryan 124.96 31 PKPdf **PKPdf 06 11 37.1 -2.2**
NVAR Mina Array Bea 125.22 31 PKP **PKPdf 06 11 40.0 +0.1**
comp=Z,2.0nm,0.9s,baz=266,slow=1.6,SNR=4.9
PDAR Pinedale Array 125.52 21 PKPdf **PKPdf 06 11 39.0 -1.3**
PDAR Pinedale Array 125.52 21 PKP **PKPdf 06 11 39.5 -0.8**
comp=Z,1.8nm,0.9s,baz=295,slow=5.6,SNR=11
TAOE Nuku Hiva Isla 126.19 96 *e*LR LR 06 50 56.4
comp=Z,119nm,25.6s
RKT Rikitea 130.31 114 *e*LR LR 06 53 02.1
comp=Z,1μm,37.0s
TXAR Lajitas Array 139.56 24 PKP **PKPdf 06 12 05.6 -1.3**
comp=Z,0.8nm,0.8s,baz=338,slow=2.4,SNR=6.1
TXAR PP **PP 06 14 58.2 -2.0**
comp=Z,0.1nm,0.4s,baz=329,slow=7.8,SNR=2.1
BDFB Brasilia 142.18 254 PKP **PKPdf 06 12 08.9 -3.0**
comp=Z,1.7nm,0.5s,baz=122,slow=9.1,SNR=3.6
BDFB SKP 06 15 47.7
comp=Z,1.7nm,0.8s,baz=11,slow=13,SNR=3.0
PLCA Paso Flores 144.19 200 PKPdf PKPbc 06 12 13.8 +0.9
PLCA Paso Flores 144.19 200 PKP **PKPab 06 12 12.4 0.0**
comp=Z,5.7nm,0.9s,baz=170,slow=3.9,SNR=17
PLCA SKP 06 15 50.8
comp=Z,1.3nm,0.9s,baz=159,slow=4.1,SNR=4.0
LL03 Petrohue 144.42 197 PKPdf PKPbc 06 12 13.9 +0.5
LL04 Puerto Octay 144.63 198 PKPab 06 12 14.1 +0.1
LR05 Currie 145.12 199 PKPbc 06 12 15.6 -0.1
LR03 Panguipulli 145.78 199 PKPbc 06 12 18.0 +0.2
CPUP Villa Florida 147.08 232 PKPbc **PKPbc 06 12 22.9 +0.8**
CPUP Villa Florida 147.08 232 PKPbc **PKPbc 06 12 22.3 +0.2**
comp=Z,4.9nm,0.8s,baz=117,slow=3.9,SNR=14
CPUP Villa Florida 147.08 232 PKP2 **PKPbc 06 12 22.9 +0.8**
HUMP Col San Antoni 147.84 322 PKPbc **PKPbc 06 12 24.1 -0.3**
GCPR Guaynabo City 147.85 323 PKPbc **PKPbc 06 12 23.8 -0.6**
PDPR Patillas Dam, 148.04 323 PKPbc **PKiKP 06 12 26.6 -0.2**
BI02 San Fabin de 148.07 202 PKPbc **PKiKP 06 12 25.6 -0.8**
MAL2 Monte Alegre, 148.07 278 PKPbc 06 12 26.0 +0.8
AQDB Aquidauana 148.15 243 PKPbc **PKPbc 06 12 25.2 0.0**
UUPR Utuado, UPR, P 148.27 324 PKPbc **PKPbc 06 12 25.9 +0.3**
CELP Cerrillos 148.33 323 PKPbc **PKPbc 06 12 25.8 +0.2**
OBIP Obispado Ponce 148.37 323 PKPbc **PKPbc 06 12 25.1 -0.7**
ML02 Panimavida 148.91 203 PKPbc 06 12 27.1 +0.4
LMEL Las Melosas 150.06 207 PKPbc **PKiKP 06 12 32.1 +1.4**
SDDR Presa de Saban 150.09 332 PKPab **PKPab 06 12 36.4 +0.5**
MT16 CCHEN 150.56 207 PKPdf **PKPdf 06 12 24.0 -1.5**
MT16 **PKiKP 06 12 31.7 0.0**
MT16 **sPKPbc 06 12 38.8 +1.2**
PEL Peldehue 150.87 207 PKPbc **PKiKP 06 12 32.3 0.0**
PEL Peldehue 150.87 207 PKIKP **PKiKP 06 12 32.3 0.0**
CO03 El Pedregal 152.79 209 PKiKP 06 12 36.6 +0.2
BOAV Boa Vista 152.97 290 PKPbc **PKPbc 06 12 35.2 -1.8**
CO01 Juntas del Tor 153.20 211 PKPbc 06 12 36.2 -1.1
AC05 El Transito 154.20 213 PKPdf **PKPdf 06 12 28.9 -2.2**
AC05 PKPbc **pPKPdf 06 12 36.9 +0.8**
AC05 PKPab **PKPab 06 12 52.0 -0.9**
VILB Vilhena 154.26 256 PKPdf **PKPdf 06 12 27.4 -4.0**
VILB **PKiKP 06 12 40.2 +0.4**
VILB PKPab **PKPab 06 12 52.7 -0.9**
TGUH Tegucigalpa,Un 158.57 4 PKPdf **PKPdf 06 12 35.5 -1.7**
TGUH PKPab **PKPab 06 13 09.8 -2.1**
LPAZ La Paz 160.65 241 PKP **PKPdf 06 12 40.6 +0.5**
comp=Z,2.1nm,0.9s,baz=90,slow=2.0,SNR=5.8
ROSC El Rosal 163.27 317 PKP **PKPdf 06 12 43.3 +0.6**
comp=Z,2.5nm,0.3s,baz=79,slow=5.2,SNR=4.3
OTAV Otavalo 169.43 316 PKPdf **PKPdf 06 12 44.1 -3.5**
OTAV **PKPab 06 13 58.0 -2.1**
OTAV Otavalo 169.43 316 PKIKP **PKPdf 06 12 44.1 -3.5**
OTAV 06 13 58.1

ROM 01 06:01:29.2±0.1, 42°.776N±0°.009×13°.08E±0°.01, h11km, ML0.9/6, 2C-2D, Error ellipse: s-maj=1.1km s-min=0.8km az=305.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.07**	**26**	P	Pg	06 01 32.3	+0.7
NRCA				S	Sg	06 01 33.5	+0.2
NRCA				AML	AML		
	comp=E,158μm,0.5s						
NRCA				AML	AML		
	comp=N,210μm,0.1s						
NRCA				AML	AML		
	comp=E,135μm,0.1s						
NRCA				AML	AML		
	comp=N,210μm,0.1s						
NRCA				AML	AML		
	comp=E,137μm,0.1s						
NRCA				AML	AML		
	comp=N,189μm,0.1s						
GAVE	**Gavelli**	**0.16**	**238**	⇑P	Pb	06 01 33.7	-0.5
GAVE				S	Sg	06 01 35.9	+0.5
MC2	**Monte Cornacci**	**0.16**	**32**	P	Pg	06 01 33.5	+0.6
MC2				S	Sg	06 01 36.0	+0.4
MMO1	**Montemonaco**	**0.22**	**56**	⇑P	Pg	06 01 34.6	+0.7
MMO1				S	Sg	06 01 37.5	+0.4
MTRA	**Matera**	**0.24**	**94**	P	Pb	06 01 35.0	-0.5
MTRA				S	Sg	06 01 38.5	+1.0
FDMO	**Fiordimonte**	**0.26**	**2**	⇓P	Pb	06 01 35.5	-0.4
FDMO				S	Sb	06 01 39.4	-1.1
FDMO				AML	AML		
	comp=E,12μm,0.1s						
FDMO				AML	AML		
	comp=N,10μm,0.1s						
CSP1	**Cessapalombo**	**0.33**	**17**	⇓P	Pb	06 01 36.7	-0.5
CSP1				S	Sg	06 01 41.4	+1.0
VIVA	**Pratoni del Vi**	**1.05**	**193**	AML	AML		
	comp=N,1255μm,1.5s						
VIVA				AML	AML		
	comp=E,1830μm,0.1s						

*NEIC **01** 06:02:04.4±2.4, 7°.58N±0°.09×94°.1E±0°.1, h10km±1km, mb4.4/10, Error ellipse: s-maj=25.0km s-min=10.6km az=244.0*

*IDC **01** 06:02:09.3±4.4, 7°.56N×94°.34E, h47km±43km, mb3.6/10, mbtmp3.8/11, ML3.4/1, MS3.7/1, Error ellipse: s-maj=49.5km s-min=17.5km az=63.0*

*NDI **01** 06:02:12.3±2.3, 7°.33N×93°.43E, h10km, ML4.0, MW4.2, mb4.4(NEIC)*

*DJA **01** 06:02:13.4±0.5, 7°N±5°×9°5E±°, h10km, M4.3/8, mb4.2/4, MLv4.3/8*

ISC 01 06:02:05.6±0.6, 7°.60N±0°.04×94°.24E±0°.08, h20km, n48, σ1$67/43, mb4.2/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.66**	**208**	*e*P	**Pn**	**06 02 20.7**	**+0.9**
CMBY				*e*S	**Sn**	**06 02 30.6**	**+1.0**
CMBY				*e*S	**Sn**	**06 02 30.6**	**+1.0**
CMBY				IAML		06 02 32.5	
	comp=E,10μm,0.8s						
CMBY				IAML		06 02 32.6	
	comp=N,10μm,0.6s						
BSI	**Banda Aceh**	**2.33**	**153**	P	**Pb**	**06 02 45.8**	**-1.2**
LHMI	**Lhok Sumawe**	**3.57**	**131**	Pn	**Pn**	**06 02 59.9**	**0.0**
LHMI	**Lhok Sumawe**	**3.57**	**131**	P	**Pn**	**06 03 00.4**	**+0.5**
MLSI	**Meulaboh, Aceh**	**3.94**	**147**	P	**Pn**	**06 03 08.4**	**+3.4**
PBA	**Port Blair**	**4.30**	**340**	*e*P	**Pb**	**06 03 19.7**	**-0.8**
PBA				*e*S	**Sb**	**06 04 07.7**	**-4.2**
SRIT	**Nakonsritamara**	**5.40**	**79**		**Pn**	**06 03 26.6**	**+1.5**
DGPR	**DIGLIPUR**	**5.70**	**347**	*e*P	Pb	06 03 38.8	-5.5
DGPR				*e*S	**Sn**	**06 04 40.3**	**+6.4**
DGPR				IAML		06 05 22.3	
	comp=N,214nm,3.1s						
PSI	**Prapat**	**6.66**	**135**	P	**Pn**	**06 03 45.0**	**+2.5**
	comp=N,0.8nm,0.3s,baz=333,slow=16,SNR=4.9						
	comp=N,2.6nm,0.3s						
RPSI	**Rantau Prapat**	**6.74**	**136**		**Pn**	**06 03 45.8**	**+2.3**
RPSI	**Rantau Prapat**	**6.74**	**136**		**Pn**	**06 03 45.0**	**+1.5**
KULM	**Kulim**	**6.77**	**109**		**Pn**	**06 03 43.8**	**-0.1**
MYKOM	**Kota Tinggi**	**11.18**	**121**	Pn	**Pn**	**06 04 44.1**	**-0.2**
PALK	**Pallekele**	**13.43**	**270**	LR	LR	06 09 41.0	
	comp=N,330nm,21.2s,baz=71,slow=33						
H08S3	**Diego Garcia H**	**26.45**	**236**	T	T	06 34 25.4	
	baz=55,slow=76,SNR=9.8						
H08S2	**Diego Garcia H**	**26.45**	**236**	T	T	06 34 12.8	
	baz=55,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**26.46**	**236**	T	T	06 34 15.0	
	baz=55,slow=76,SNR=9.1						
FITZ	**Fitzroy Crossi**	**40.16**	**130**	P	**P**	**06 09 40.5**	**-0.2**
MK31	**Makanchi Array**	**40.38**	**347**	P	**P**	**06 09 42.5**	**+0.3**
MKAR	**Makanchi Array**	**40.38**	**347**	P	**P**	**06 09 43.1**	**+1.0**
MKAR	**Makanchi Array**	**40.38**	**347**	P	**P**	**06 09 42.8**	**+0.6**
	comp=N,1.6nm,0.8s,baz=162,slow=8.4,SNR=11						
	comp=N,1.6nm,0.8s						
KK31	**Karatay Array**	**41.05**	**333**	P	**P**	**06 09 46.1**	**-1.7**
KK31				IAmb	IAmb	06 09 59.8	
	comp=Z,8.9nm,0.9s						
KKAR	**Karatay Array**	**41.05**	**333**	P	**P**	**06 09 46.2**	**-1.6**
KKAR				IAmb	IAmb	06 09 59.8	
	comp=Z,9.4nm,0.9s						
KNRA	**Kununurra**	**41.28**	**124**	P	**P**	**06 09 48.6**	**-1.3**
KNRA				IAmb	IAmb	06 10 23.0	
	comp=Z,15nm,1.3s						
SONM	**Songino Array**	**41.41**	**12**	P	**P**	**06 09 50.7**	**-0.1**
	comp=Z,0.6nm,1.0s,baz=210,slow=8.3,SNR=2.1						
	comp=Z,0.6nm,1.0s						
KURBB	**Kurchatov Arra**	**44.84**	**346**	P	**P**	**06 10 19.3**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=167,slow=7.3,SNR=16						
	comp=Z,2.5nm,0.9s						
KURK	**Kurchatov**	**44.90**	**346**	P	**P**	**06 10 18.5**	**-0.3**
KURK				IAmb	IAmb	06 10 21.6	
	comp=Z,7.2nm,1.2s						
ZAA0	**Zalesovo Array**	**46.84**	**352**	P	**P**	**06 10 32.9**	**-1.2**
ZAA0				IAmb	IAmb	06 10 44.7	
	comp=Z,3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**46.84**	**352**	P	**P**	**06 10 33.7**	**-0.4**
ZALV	**Zalesovo Beam**	**46.84**	**352**	P	**P**	**06 10 35.5**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=183,slow=8.7,SNR=7.1						
	comp=Z,1.5nm,0.6s						
WB0	**Warramunga Arr**	**47.97**	**125**	P	**P**	**06 10 43.6**	**+0.2**
WRA	**Warramunga Arr**	**48.02**	**125**	P	**P**	**06 10 43.7**	**0.0**
WRA	**Warramunga Arr**	**48.02**	**125**	P	**P**	**06 10 42.7**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=301,slow=7.7,SNR=2.5						
	comp=Z,0.5nm,0.7s						
USA0B	**Ussuriysk Arra**	**49.08**	**36**	P	**P**	**06 10 52.3**	**+0.7**
USRK	**Ussuriysk Ar.**	**49.08**	**36**	P	**P**	**06 10 52.4**	**+0.9**
BVAR	**Borovoye Array**	**49.28**	**341**	P	**P**	**06 10 53.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=155,slow=12,SNR=4.2						
	comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**49.66**	**130**	P	**P**	**06 10 56.1**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=308,slow=7.2,SNR=6.2						
	comp=Z,0.6nm,0.8s						
AB31	**Akbulak array**	**50.52**	**331**	P	**P**	**06 11 01.7**	**-0.8**
AB31				IAmb	IAmb	06 11 05.2	
	comp=Z,3.9nm,1.2s						
ABKAR	**Akbulak array**	**50.52**	**331**	P	**P**	**06 11 00.6**	**-1.8**
BRTR	**Keskin Array B**	**62.69**	**311**	P	**P**	**06 12 29.3**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=119,slow=8.9,SNR=3.6						
	comp=Z,0.3nm,0.5s						
H04N2	**CROZET ISLANDS**	**65.54**	**211**	T	T	07 23 38.2	
	baz=47						
H04N1	**CROZET ISLANDS**	**65.55**	**211**	T	T	07 23 25.2	
	baz=47						
H04N3	**CROZET ISLANDS**	**65.56**	**211**	T	T	07 23 14.3	
	baz=47						
FINES	**FINESS Array B**	**73.00**	**332**	P	**P**	**06 13 33.9**	**+0.2**
FINES	**FINESS Array B**	**73.00**	**332**	P	**P**	**06 13 34.6**	**+0.8**
	comp=Z,4.2nm,0.9s,baz=106,slow=6.9,SNR=4.9						
	comp=Z,4.2nm,0.9s						
HFS	**Hagfors**	**78.75**	**330**	P	**P**	**06 14 07.6**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=96,slow=8.9,SNR=5.5						
	comp=Z,0.6nm,0.5s						
PLCA	**Paso Flores**	**144.32**	**200**	PKP	PKPbc	06 21 39.9	+0.8
	comp=Z,2.0nm,0.9s,baz=130,slow=1.6,SNR=6.8						
CPUP	**Villa Florida**	**147.17**	**232**	PKPbc	**PKPbc**	**06 21 47.9**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=104,slow=12,SNR=5.3						

TRN 01 06:05:36.4, 16°.73N×60°.78W, h22km, MD3.5, North-east of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.99**	**289**	*e*P	Pn	06 05 56.0	+1.0
ANBD				*e*S	Sn	06 06 11.1	+2.7
TBG	**Guadaloupe-3**	**1.20**	**224**	*e*P	Pb	06 05 59.3	+0.8
ANWB	**Willy Bob**	**1.34**	**314**	*e*P	Pb	06 06 01.2	+0.4
ANWB				*e*S	Sb	06 06 20.1	+2.6
MBWH		**1.35**	**271**	*e*P	Pb	06 06 02.4	+1.4
MBFL	**Flemmings, Mon**	**1.37**	**271**	*e*P	Pb	06 06 02.7	+1.3
DSLB	**Salisbury**	**1.42**	**206**	*e*P	Pb	06 06 02.2	0.0
DSLB				*e*S	Sb	06 06 21.3	+1.3
BIM	**Bigot**	**2.22**	**187**	*e*P	Pn	06 06 13.6	+1.7
BIM				*e*S	Sn	06 06 40.3	+1.7
SLBI	**Saint Lucia, B**	**2.70**	**184**	*e*P	Pn	06 06 20.9	+2.4
SLBI				*e*S	Sb	06 06 53.8	-2.9

*IDC **01** 06:06:39.7±6.5, 36°.53N×71°.40E, h152km±52km, mb3.2/4, mbtmp3.6/7, Error ellipse: s-maj=51.2km s-min=30.1km az=36.0*

*NNC **01** 06:06:46.9±2.5, 37°.09N×71°.15E, h181km±29km, mb2.7, mpv3.6, Error ellipse: s-maj=21.4km s-min=14.9km az=22.0*

ISC 01 06:06:39.9±1.3, 36°.69N±0°.10×71°.1E±0°.1, h150km, n13, σ1$73/19, mb3.2/4, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.43**	**356**	⇑P	**Pn**	**06 08 14.9**	**+2.7**
	5.2nm,0.2s,baz=174,slow=12,SNR=190						
KK31				⇑S	**Sn**	**06 09 23.8**	**-0.8**
	11nm,0.4s,baz=178,slow=20						
AAK	**Ala-Archa**	**6.48**	**23**	P	**Pn**	**06 08 15.1**	**+2.0**
	2.7nm,0.3s,baz=171,slow=8.6,SNR=11						
AAK				S	**Sn**	**06 09 25.5**	**-0.5**
	6.4nm,0.4s,baz=144,slow=22,SNR=9.1						
AAK	**Ala-Archa**	**6.48**	**23**	⇑P	**Pn**	**06 08 14.9**	**+1.8**
	0.9nm,0.3s						
AAK				⇑S	**Sn**	**06 09 25.3**	**-0.8**
	6.7nm,0.5s						
TKM2	**Tokmak 2**	**7.11**	**27**	⇓P	**Pn**	**06 08 23.4**	**+1.9**
	1.1nm,0.4s						
TKM2				⇑S	**Sn**	**06 09 41.1**	**-0.1**
	3.0nm,0.6s						
KURBB	**Kurchatov Arra**	**14.91**	**19**	P	**P**	**06 10 04.1**	**-0.8**

0.2nm,0.5s,baz=208,slow=11,SNR=3.1
AB31 Akbulak array 14.97 331 ⇓P **P 06 10 05.9 +0.3**
0.6nm,0.3s,baz=142,slow=13,SNR=37
AB31 ⇓S **Sn 06 12 47.3 -2.7**
0.3nm,0.4s,baz=162,slow=21,SNR=5.8
AKTO Aktyubinsk 16.67 330 ⇓P **Pn 06 10 25.8 +1.2**
0.7nm,0.4s
AKTO ⇑S **S 06 13 27.1 -2.7**
0.3nm,0.5s
ZALV Zalesovo Beam 19.70 25 P **Pn 06 10 59.5 -0.8**
1.5nm,0.3s,baz=216,slow=11,SNR=6.7
HFS Hagfors 42.99 322 P **P 06 14 25.3 +1.4**
1.2nm,0.4s,baz=100,slow=7.5,SNR=6.4
1.2nm,0.4s
NB2 NORSAR Subarra 44.30 323 P **P 06 14 35.7 +1.3**
comp=Z,0.3nm,0.3s,baz=98,slow=7.9
NOA NORSAR Array B 44.30 323 P **P 06 14 35.8 +1.4**
comp=Z,0.4nm,0.4s,baz=100,slow=8.1,SNR=1.4
comp=Z,0.4nm,0.4s
YKA Yellowknife Ar 81.05 3 P **P 06 18 37.8 +0.1**
comp=Z,0.2nm,0.7s,baz=350,slow=5.4,SNR=5.9
comp=Z,0.2nm,0.7s
ASAR Alice Springs 84.27 125 P **P 06 18 52.6 -2.3**
comp=Z,0.2nm,0.6s,baz=318,slow=4.1,SNR=4.1
comp=Z,0.2nm,0.6s

---

*IDC **01** 06:20:48.6±2.3, 6°.93N×92°.89E, h0km, mb3.6/5, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=88.9km s-min=24.0km az=61.0*
ISC 01 06:20:52.8±1.9, 7°.0N±0°.2×93°.0E±0°.3, h27km, n9, σ0s70/6, mb3.7/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.82**	**27**	Pn		**Pn**		**06 23 53.6**	**+0.1**
	0.2nm,0.3s,baz=214,slow=11,SNR=4.8								
	0.6nm,0.3s								
MKAR	**Makanchi Array**	**40.72**	**349**	P		**P**		**06 28 30.8**	**-0.5**
	0.7nm,0.7s,baz=175,slow=8.4,SNR=5.4								
	0.7nm,0.7s								
KURBB	**Kurchatov Arra**	**45.14**	**347**	P		**P**		**06 29 07.9**	**+0.9**
	0.7nm,0.5s,baz=166,slow=7.3,SNR=6.6								
	0.7nm,0.5s								
ZALV	**Zalesovo Beam**	**47.30**	**353**	P		**P**		**06 29 23.3**	**-0.6**
	0.8nm,0.4s,baz=186,slow=6.8,SNR=2.4								
	0.8nm,0.4s								
WRA	**Warramunga Arr**	**48.71**	**124**	P		**P**		**06 29 35.6**	**+0.2**
	0.8nm,1.1s,baz=301,slow=7.6,SNR=2.9								
	0.8nm,1.1s								
ASAR	**Alice Springs**	**50.26**	**129**	P		**P**		**06 29 47.0**	**-0.1**
	0.3nm,0.7s,baz=306,slow=8.4,SNR=2.5								
	0.3nm,0.7s								
H04N2	**CROZET ISLANDS**	**64.35**	**210**	T		T		07 42 13.7	
	baz=48,slow=75,SNR=4.1								
H04N1	**CROZET ISLANDS**	**64.36**	**211**	T		T		07 42 13.7	
	baz=48,slow=75,SNR=4.6								
H04N3	**CROZET ISLANDS**	**64.37**	**210**	T		T		07 42 06.4	
	baz=48,slow=75,SNR=4.4								

---

*GCG **01** 06:23:04.1±1.4, 14°.63N×92°.50W, h74km±8km, MD4.0, MW3.2*
*CATAC **01** 06:23:05.8±0.8, 15°N±3°×9°3W±°, h30km±4km, M4.6/9, mb5.7/1, mBe6.8/2, MLv4.0/9, Mw(mB)6.7/2, Error ellipse: s-maj=10.6km s-min=6.0km az=63.4, confirmed*
*MEX **01** 06:23:06.2±0.6, 14°.66N×92°.49W, h71km±6km, MD4.2*
ISC 01 06:23:02.3±1.3, 14°.55N±0°.05×92°.59W±0°.03, h81km±8km, n45, σ2s56/71, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.47**	**41**	*e*P			**Pn**	**06 23 16.3**	**+0.3**
THIG				*e*S			**Sn**	**06 23 24.4**	**-1.6**
THIG		**0.47**	**41**	*i* P			**Pn**	**06 23 16.3**	**+0.3**
THIG				*e*S			**Sn**	**06 23 25.6**	**-0.5**
SMCA	**Catarina**	**0.58**	**58**	*e*P			**Pn**	**06 23 17.2**	**+0.2**
SMCA				*i* S			**Sn**	**06 23 26.4**	**-1.4**
PATR	**El Naranjo**	**0.66**	**31**	*e*P			**Pn**	**06 23 17.7**	**-0.3**
PATR				*e*S			**Sn**	**06 23 27.5**	**-2.1**
CHUJ	**Union Juarez**	**0.71**	**40**	*e*P			**Pn**	**06 23 18.6**	**+0.1**
CHUJ				*e*S			**Sn**	**06 23 27.9**	**-2.6**
PAVE	**Pavencul**	**0.76**	**32**	*e*P			**Pn**	**06 23 18.8**	**-0.2**
PAVE				*e*S			**Sn**	**06 23 29.8**	**-1.4**
RTAL	**Retalhuleu**	**0.86**	**91**	*e*P			**Pn**	**06 23 20.6**	**+0.7**
RTAL				*e*S			**Sn**	**06 23 32.1**	**-0.9**
RTAL	**Retalhuleu**	**0.86**	**91**	P			**Pn**	**06 23 20.9**	**+1.0**
SOKI	**Kika Raxquin**	**1.18**	**77**	*e*P			**Pn**	**06 23 25.4**	**+1.4**
SOKI				*i* S			**Sn**	**06 23 41.6**	**+1.3**
STG8	**El Palmar, Qui**	**1.20**	**94**	*e*P			**Pn**	**06 23 21.7**	**-2.4**
STG0	**El Palmar, Qui**	**1.21**	**96**	*e*P			**Pn**	**06 23 21.8**	**-2.4**
STG0				*i* S			**Sn**	**06 23 35.4**	**-5.2**
HUEH	**Huehuetenango**	**1.30**	**54**	*e*P			**Pn**	**06 23 26.0**	**+0.6**
HUEH				*i* S			**Sn**	**06 23 43.0**	**+0.4**
HUEH	**Huehuetenango**	**1.30**	**54**	*e*P			**Pn**	**06 23 26.2**	**+0.8**
HUEH				*i* S			**Sn**	**06 23 44.1**	**+1.5**
HUEH	**Huehuetenango**	**1.30**	**54**	P			**Pn**	**06 23 26.4**	**+1.0**
PCIG		**1.30**	**332**	*e*P			**Pn**	**06 23 26.8**	**+1.6**
PCIG				*i* S			**Sn**	**06 23 42.7**	**+0.3**
CCIG	**Comitan**	**1.78**	**14**	*e*P			**Pn**	**06 23 32.7**	**+1.2**
CCIG				*e*S			**Sn**	**06 23 48.5**	**-5.2**
CCIG	**Comitan**	**1.78**	**14**	*e*P			**Pn**	**06 23 32.4**	**+0.8**
CCIG	**Comitan**	**1.78**	**14**	P			**Pn**	**06 23 33.2**	**+1.7**
CCIG	**Comitan**	**1.78**	**14**	S			**Sn**	**06 23 52.6**	**-1.0**
TGIG		**2.28**	**347**	*e*P			**Pn**	**06 23 38.0**	**0.0**
TGIG				*e*S			**Sn**	**06 24 04.5**	**-0.9**
TGIG		**2.28**	**347**	*e*P			**Pn**	**06 23 38.3**	**+0.3**
NUBE	**Las Nubes**	**2.80**	**103**	*e*P			**Pn**	**06 23 47.1**	**+1.9**
NUBE	**Las Nubes**	**2.80**	**103**	P			**Pn**	**06 23 47.4**	**+2.3**
UXUV	**UXUV**	**3.14**	**332**	*e*P			**Pn**	**06 23 52.0**	**+2.4**
UXUV				*e*S			**Sn**	**06 24 26.6**	**+0.6**
JAYA	**Jayaque - finc**	**3.17**	**106**	P			**Pn**	**06 23 52.5**	**+2.3**
JAYA	**Jayaque - finc**	**3.17**	**106**	S			**Sn**	**06 24 29.9**	**+2.8**
PMON	**Piamonte**	**3.28**	**104**	P			**Pn**	**06 23 55.5**	**+3.9**
PMON	**Piamonte**	**3.28**	**104**	S			**Sn**	**06 24 33.3**	**+3.6**
CMIG	**Matias Romero**	**3.36**	**319**	*e*P			**Pn**	**06 23 54.8**	**+2.2**
CMIG				*e*S			**Sn**	**06 24 33.5**	**+2.1**
PETF	**Flores**	**3.52**	**48**	*e*P			**Pn**	**06 23 55.3**	**+0.5**
PETF				*e*S			**Sn**	**06 24 29.4**	**-6.0**
PETF	**Flores**	**3.52**	**48**	*i* P			**Pn**	**06 23 55.4**	**+0.6**
HUIG	**Huatulco**	**3.61**	**290**	*e*P			**Pn**	**06 23 57.7**	**+1.7**
HUIG				*e*S			**Sn**	**06 24 34.6**	**-2.9**
COEG	**Centro de Oper**	**3.71**	**104**	P			**Pn**	**06 24 01.7**	**+4.2**
COEG	**Centro de Oper**	**3.71**	**104**	S			**Sn**	**06 24 43.7**	**+3.6**
NEUV	**Arroyo Zacate**	**4.41**	**316**	*e*P			**Pn**	**06 24 10.8**	**+3.9**
NEUV				*e*S			**Sn**	**06 24 53.6**	**-3.4**
SCIG	**Sabancuy**	**4.60**	**17**	*e*P			**Pn**	**06 24 09.4**	**0.0**
SCIG				*e*S			**Sn**	**06 24 57.5**	**-4.1**
PEIG	**Puerto Escondi**	**4.63**	**289**	*e*P			**Pn**	**06 24 12.5**	**+2.6**
PEIG				*e*S			**Sn**	**06 24 59.5**	**-2.9**
YOIG	**Yosondua**	**5.30**	**296**	*e*P			Pn	06 24 28.8	+10
YOIG				*e*S			**Sn**	**06 25 15.9**	**-3.3**
TOIG	**Toxpalan**	**5.56**	**310**	*e*P			**Pn**	**06 24 26.6**	**+3.9**
TOIG				*e*S			**Sn**	**06 25 21.8**	**-3.5**
PNIG	**Pinotepa**	**5.65**	**290**	*e*P			**Pn**	**06 24 27.0**	**+3.2**
PNIG				*e*S			**Sn**	**06 25 24.7**	**-2.7**
TXIG	**Tlaxiaco**	**5.66**	**299**	*e*P			Pn	06 24 29.4	+5.2
TXIG				*e*S			**Sn**	**06 25 26.4**	**-1.7**
JAUV	**Jalcomulco**	**6.26**	**320**	*e*P			**Pn**	**06 24 34.0**	**+1.8**
JAUV				*e*S			**Sn**	**06 25 41.3**	**-1.2**
FTIG	**Fresnillo de T**	**6.29**	**303**	*e*P			**Pn**	**06 24 37.3**	**+4.6**
FTIG				*e*S			**Sn**	**06 25 42.0**	**-1.1**
TLIG	**Tlapa**	**6.48**	**298**	*e*P			**Pn**	**06 24 38.9**	**+3.6**
TLIG				*e*S			**Sn**	**06 25 43.9**	**-4.1**
CRUN	**El Crucero**	**6.63**	**112**	P			**Pn**	**06 24 41.3**	**+4.0**

---

*ASRS **01** 06:39:21.0±1.1, 53°.56N×86°.87E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 01 06:39:21.9±2.6, 53°.72N×87°.05E, h0km, mbtmp2.6/2, ML2.6/2, Error ellipse: s-maj=24.7km s-min=15.7km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**281**	I			I	06 48 30.0	
	0.1nm,0.9s,baz=99,slow=331,SNR=1.2								
ZALV	**Zalesovo Beam**	**1.34**	**281**	Pg			Pg	06 39 46.9	-0.8
	1.1nm,0.3s,baz=101,slow=17,SNR=10								
ZALV				Lg			Lg	06 40 04.2	
	0.9nm,0.3s,baz=101,slow=30,SNR=5.8								
KURBB	**Kurchatov Arra**	**6.09**	**243**	Pn			Pn	06 40 54.2	+1.0
	0.1nm,0.3s,baz=61,slow=14,SNR=4.3								
KURBB				Lg			Lg	06 42 36.7	
	0.1nm,0.3s,baz=60,slow=28,SNR=4.3								
	0.3nm,0.3s								
MKAR	**Makanchi Array**	**7.58**	**206**	Pn			Pn	06 41 14.8	+1.2
	0.2nm,0.3s,baz=27,slow=13,SNR=9.2								
MKAR				Lg			Lg	06 43 23.4	
	0.1nm,0.3s,baz=28,slow=30,SNR=6.5								
	0.1nm,0.3s								

---

*IDC **01** 06:45:09.2±1.3, 8°.12N×93°.24E, h0km, mb3.5/8, mbtmp3.6/9, ML4.0/1, Error ellipse: s-maj=48.9km s-min=20.2km az=64.0*
ISC 01 06:45:10.0±1.3, 8°.1N±0°.2×93°.2E±0°.2, h10km, n13, σ1s36/10, mb3.5/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.76**	**28**	Pn		**Pn**		**06 47 56.9**	**-1.2**
	0.3nm,0.3s,baz=202,slow=14,SNR=0.9								
	0.9nm,0.3s								
H08S3	**Diego Garcia H**	**25.84**	**233**	T		T		07 17 21.3	
	baz=54,slow=75,SNR=20								
H08S2	**Diego Garcia H**	**25.84**	**233**	T		T		07 17 41.1	
	baz=54,slow=75,SNR=15								
H08S1	**Diego Garcia H**	**25.85**	**233**	T		T		07 17 39.0	
	baz=54,slow=75,SNR=11								
AAK	**Ala-Archa**	**38.15**	**338**	P		**P**		**06 52 29.0**	**-0.7**
	0.4nm,0.3s,baz=176,slow=14,SNR=1.5								
	0.4nm,0.3s								
MKAR	**Makanchi Array**	**39.69**	**348**	P		**P**		**06 52 42.4**	**0.0**
	0.4nm,0.7s,baz=161,slow=7.7,SNR=10								
	0.4nm,0.7s								
SONM	**Songino Array**	**41.20**	**14**	P		**P**		**06 52 56.5**	**+1.4**
	0.4nm,0.4s,baz=193,slow=8.2,SNR=4.5								
	0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**44.12**	**347**	P		**P**		**06 53 18.8**	**+0.2**
	0.4nm,0.5s,baz=164,slow=7.1,SNR=4.5								
	0.4nm,0.5s								
ZALV	**Zalesovo Beam**	**46.24**	**353**	P		**P**		**06 53 35.3**	**0.0**
	0.4nm,0.3s,baz=169,slow=8.5,SNR=4.9								
	0.4nm,0.3s								
BVAR	**Borovoye Array**	**48.49**	**342**	P		**P**		**06 53 54.1**	**+1.2**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=3.1								
	0.4nm,0.5s								
WRA	**Warramunga Arr**	**49.18**	**125**	P		**P**		**06 54 00.6**	**+1.9**
	0.3nm,0.7s,baz=302,slow=7.7,SNR=2.0								
	0.3nm,0.7s								
ASAR	**Alice Springs**	**50.80**	**129**	P		**P**		**06 54 09.6**	**-1.4**
	0.2nm,0.7s,baz=300,slow=6.6,SNR=6.3								
	0.2nm,0.7s								
CPUP	**Villa Florida**	**146.59**	**233**	PKPbc		**PKiKP**		**07 04 54.1**	**-1.4**
	0.7nm,0.6s,baz=102,slow=4.7,SNR=3.1								

---

*ASRS **01** 06:50:02.0±1.1, 53°.80N×88°.26E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 01 06:50:04.7±3.1, 53°.79N×88°.34E, h0km, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=25.1km s-min=18.2km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.09**	**276**	I			I	07 03 26.9	
	0.1nm,0.9s,baz=91,slow=331,SNR=2.5								
ZALV	**Zalesovo Beam**	**2.09**	**276**	Pn			Pn	06 50 41.4	+0.5
	1.7nm,0.3s,baz=92,slow=14,SNR=32								
ZALV				Lg			Lg	06 51 11.7	
	3.4nm,0.3s,baz=94,slow=22,SNR=23								
	6.3nm,0.5s								
KURBB	**Kurchatov Arra**	**6.81**	**246**	Pn			Pn	06 51 45.8	+0.1
	0.1nm,0.3s,baz=62,slow=14,SNR=6.2								
KURBB				Sn			Sn	06 53 02.4	-1.4
	baz=59,slow=34,SNR=1.7								
KURBB				Lg			Lg	06 53 41.0	
	0.1nm,0.3s,baz=65,slow=33,SNR=7.5								
	0.8nm,0.4s								
MKAR	**Makanchi Array**	**8.00**	**211**	Pn			Pn	06 52 03.5	+1.4
	0.1nm,0.3s,baz=24,slow=12,SNR=3.0								
MKAR				Sn			Sn	06 53 32.8	-0.5
	0.1nm,0.3s,baz=24,slow=28,SNR=2.5								
MKAR				Lg			Lg	06 54 19.2	
	0.1nm,0.3s,baz=26,slow=39,SNR=2.3								
	0.2nm,0.4s								

---

*IDC **01** 06:56:36.6±0.7, 7°.36N×93°.93E, h0km, mb4.0/15, mbtmp4.0/17, ML4.2/2, MS3.7/40, Error ellipse: s-maj=34.8km s-min=14.8km az=55.0*
*NEIC **01** 06:56:41.0±1.5, 7°.71N±0°.08×94°.35E±0°.09, h10km±1km, mb4.6/31, Error ellipse: s-maj=16.9km s-min=10.5km az=233.0*
*DJA **01** 06:56:43.2±3.0, 8°N±4°×9°5E±°, h18km±24km, M4.5/8, mBe.2/2, mb4.5/6, MLv4.5/8, Mw(mB)5.8/2*
*NDI **01** 06:56:43.2±1.1, 7°.70N×94°.34E, h10km, ML4.1, MW4.4, mb4.6(NEIC)*
ISC 01 06:56:41.9±0.4, 7°.62N±0°.04×94°.30E±0°.06, h24km, n107, σ1s38/80, mb4.5/35, MS3.7/35, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.71**	**211**	*e*P		**Pb**	**Pb**	**06 56 55.0**	**-0.6**
CMBY				*e*S		**Sb**	**Sb**	**06 57 05.7**	**+0.6**
CMBY				IAML				06 57 08.5	
	comp=N,18μm,0.5s								
CMBY				IAML				06 57 09.2	
	comp=E,14μm,0.4s								
BSI	**Banda Aceh**	**2.33**	**155**	P		**Pb**		**06 57 22.1**	**-1.3**
LHMI	**Lhok Sumawe**	**3.55**	**132**	Pn		**Pn**		**06 57 36.2**	**+0.6**
LHMI	**Lhok Sumawe**	**3.55**	**132**	P		**Pn**		**06 57 36.1**	**+0.6**
MLSI	**Meulaboh, Aceh**	**3.94**	**148**	P		**Pn**		**06 57 42.3**	**+1.4**
PBA	**Port Blair**	**4.29**	**339**	Pn		**Pn**		**06 57 45.6**	**-0.1**
PBA	**Port Blair**	**4.29**	**339**	*e*P		**Pn**		**06 57 47.9**	**+2.1**
PBA				*e*S		**Sn**		**06 58 34.9**	**-0.2**
PBA				IAML				06 58 51.0	
	comp=E,167nm,1.7s								
SRIT	**Nakonsritamara**	**5.34**	**79**	Pn		**Pn**		**06 58 01.3**	**+1.1**
DGPR	**DIGLIPUR**	**5.68**	**346**	*e*P		**Pn**		**06 58 07.4**	**+2.5**
DGPR				*e*S		**Sn**		**06 59 07.4**	**-2.0**
PSI	**Prapat**	**6.65**	**136**	Pn		**Pn**		**06 58 19.9**	**+1.7**
	comp=E,1.3nm,0.3s,baz=336,slow=16,SNR=6.2								
PSI				Sn		**Sn**		**06 59 34.9**	**+1.5**
	comp=E,0.3nm,0.3s,baz=319,slow=20,SNR=1.7								
PSI				LR		LR		07 01 12.0	
	comp=E,872nm,19.9s,baz=306,slow=40								
	comp=E,3.1nm,0.3s								
RPSI	**Rantau Prapat**	**6.72**	**136**	Pn		**Pn**		**06 58 20.6**	**+1.4**
KULM	**Kulim**	**6.72**	**110**	Pn		**Pn**		**06 58 18.7**	**-0.6**
MYKOM	**Kota Tinggi**	**11.14**	**121**	Pn		**Pn**		**06 59 19.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**11.68**	**22**	Pn		**Pn**		**06 59 31.4**	**+4.2**
	comp=E,0.9nm,0.3s,baz=215,slow=15,SNR=7.7								
CMAR				LR		LR		07 04 11.5	
	comp=E,228nm,18.8s,baz=210,slow=38								
	comp=E,1.4nm,0.3s								
PALK	**Pallekele**	**13.48**	**269**	Pn		**Pn**		**06 59 54.1**	**+2.1**
PALK	**Pallekele**	**13.48**	**269**	LR		LR		07 04 28.2	
	comp=E,531nm,20.8s,baz=89,slow=36								
BRDH	**Bariadhala**	**15.19**	**351**	LR		LR		07 07 47.1	
	comp=E,482nm,18.7s,baz=134,slow=44								
MDSI	**Maura Dua**	**15.55**	**140**	P		**Pn**		**07 00 21.9**	**+2.1**
	comp=E,7.9nm,1.1s								
QIZ	**Qiongzhong**	**18.89**	**52**	P		**P**		**07 00 58.0**	**-2.8**
QIZ				S		**Sn**		**07 04 31.5**	**-0.9**
QIZ				pmax		pmax			
	comp=Z,470nm,4.9s								
QIZ				LR		LR			
	comp=N,1μm,12.5s								
QIZ				LR		LR			
	comp=E,420nm,14.4s								
QIZ				LR		LR			
	comp=Z,280nm,10.6s								
LEM	**Lembang**	**19.56**	**137**	LR		LR		07 10 29.1	
	comp=Z,285nm,18.9s,baz=302,slow=42								
PZH	**PanZhiHua**	**20.07**	**20**	P		Pn		07 01 17.2	+1.5
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,200nm,7.3s								
LSA	**Lhasa**	**22.16**	**353**	P		**P**		**07 01 36.7**	**0.0**
LSA				IAmb		IAmb		07 01 46.7	
	comp=Z,15nm,0.5s								
H08S3	**Diego Garcia H**	**26.50**	**236**	T		T		07 28 48.7	
	baz=55,slow=76,SNR=44								
H08S2	**Diego Garcia H**	**26.51**	**236**	T		T		07 28 50.8	
	baz=55,slow=76,SNR=48								
H08S1	**Diego Carcia H**	**26.52**	**236**	T		T		07 29 08.2	
	baz=55,slow=76,SNR=25								
KAPI	**Kappang**	**28.33**	**116**	LR		LR		07 15 50.4	
	comp=Z,98nm,18.4s,baz=301,slow=40								
GTA	**Gaotai**	**32.04**	**8**	*e*P		**P**		**07 03 08.7**	**+1.8**
GTA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
NJ2	**Nanjing**	**33.36**	**40**	*e*P		**P**		**07 03 18.0**	**-0.4**
NJ2				pmax		pmax			
	comp=Z,12nm,0.6s								
TIA	**Tai'an**	**35.27**	**33**	P		**P**		**07 03 37.6**	**+2.6**
TIA				pmax		pmax			
	comp=Z,6.0nm,0.7s								
WUS	**Wushi**	**36.03**	**341**	P		**P**		**07 03 40.0**	**-1.5**
WUS				IAmb		IAmb		07 03 52.7	
	comp=Z,3.4nm,0.7s								
HHC	**Hu-ho-hao-te**	**36.49**	**22**	*e*P		**P**		**07 03 47.6**	**+2.2**
HHC				pmax		pmax			
	comp=Z,20nm,0.7s								
WMQ	**Urumqi**	**36.52**	**352**	*e*P		**P**		**07 03 48.3**	**+2.7**
KDJ	**Kajisay**	**37.55**	**339**	P		**P**		**07 03 54.5**	**-0.1**
DRK	**Karamyk**	**37.60**	**331**	P		**P**		**07 03 55.5**	**+0.3**
DRK				IAmb		IAmb		07 04 02.5	
	comp=Z,9.9nm,0.7s								
GAR	**Garm**	**37.97**	**329**	P		**P**		**07 03 58.1**	**+0.1**
GAR				IAmb		IAmb		07 04 04.4	
	comp=Z,6.3nm,0.5s								
BOOM	**Boomskoye usch**	**38.32**	**338**	P		**P**		**07 04 00.7**	**-0.3**
SIMJ	**Simiganj**	**38.40**	**327**	P		**P**		**07 04 01.3**	**-0.4**
SIMJ				IAmb		IAmb		07 04 08.1	
	comp=Z,15nm,1.4s								
ARSB	**Arslanbob**	**38.53**	**334**	P		**P**		**07 04 02.6**	**-0.2**
ARSB				IAmb		IAmb		07 04 09.9	
	comp=Z,5.2nm,0.6s								
AAK	**Ala-Archa**	**39.00**	**337**	LR		LR		07 21 42.9	
	comp=Z,174nm,21.6s,baz=159,slow=38								
FITZ	**Fitzroy Crossi**	**40.13**	**130**	P		**P**		**07 04 15.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**40.13**	**130**	LR		LR		07 23 25.0	
	comp=Z,164nm,18.3s,baz=296,slow=40								
MK31	**Makanchi Array**	**40.37**	**347**	P		**P**		**07 04 17.5**	**-0.3**
MKAR	**Makanchi Array**	**40.37**	**347**	P		**P**		**07 04 17.0**	**-0.9**
MKAR	**Makanchi Array**	**40.37**	**347**	P		**P**		**07 04 17.1**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=161,slow=8.7,SNR=13								
	comp=Z,2.7nm,0.8s								
MAKZ	**Makanchi**	**40.45**	**347**	P		**P**		**07 04 17.6**	**-1.0**
SONM	**Songino Array**	**41.37**	**12**	P		**P**		**07 04 26.9**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=202,slow=9.0,SNR=5.7								
SONM				PcP		**PcP**		**07 06 24.3**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=228,slow=1.7,SNR=1.3								
SONM				LR		LR		07 22 10.6	
	comp=Z,76nm,21.0s,baz=187,slow=37								
	comp=Z,0.6nm,0.5s								
JNU	**Nakatsue**	**42.30**	**48**	LR		LR		07 23 42.7	
	comp=Z,109nm,18.2s,baz=219,slow=38								
KSRS	**Korea Array**	**42.55**	**41**	LR		LR		07 24 25.6	
	comp=Z,99nm,18.1s,baz=210,slow=39								
KURBB	**Kurchatov Arra**	**44.83**	**346**	P		**P**		**07 04 53.9**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=166,slow=7.2,SNR=25								
KURBB				PcP		**PcP**		**07 06 35.7**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=166,slow=3.0,SNR=4.1								
KURBB				LR		LR		07 26 26.0	
	comp=Z,105nm,19.8s,baz=180,slow=40								
	comp=Z,3.7nm,0.8s								
KURK	**Kurchatov**	**44.89**	**346**	P		**P**		**07 04 54.5**	**0.0**
KURK				IAmb		IAmb		07 04 57.0	
	comp=Z,5.4nm,0.9s								
NWAO	**Narrogin (SRO)**	**45.85**	**153**	LR		LR		07 26 46.3	
	comp=Z,52nm,18.1s,baz=340,slow=40								
ZAA0	**Zalesovo Array**	**46.83**	**352**	P		**P**		**07 05 10.0**	**+0.3**
ZAA0				IAmb		IAmb		07 05 17.1	
	comp=Z,5.9nm,0.9s								
ZALV	**Zalesovo Beam**	**46.83**	**352**	P		**P**		**07 05 10.1**	**+0.4**
	comp=Z,3.3nm,0.6s,baz=174,slow=8.3,SNR=12								
ZALV				LR		LR		07 29 20.8	
	comp=Z,57nm,18.3s,baz=206,slow=42								
	comp=Z,3.3nm,0.6s								
WB0	**Warramunga Arr**	**47.95**	**125**	P		**P**		**07 05 18.8**	**-0.2**
WB0				IAmb		IAmb		07 05 25.1	
	comp=Z,7.4nm,1.2s								
WRA	**Warramunga Arr**	**47.99**	**125**	P		**P**		**07 05 18.0**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=304,slow=8.6,SNR=9.3								
	comp=Z,0.4nm,0.5s								
WB2	**Warramunga Arr**	**48.00**	**125**	P		**P**		**07 05 17.7**	**-1.6**

NOA	**NORSAR Array B**	**80.03**	**331**	P	**P**	**07 08 46.3**	**-3.1**
	comp=Z,1.1nm,0.8s,baz=92,slow=5.4,SNR=2.1						
NOA				LR	LR	07 48 14.1	
	comp=Z,35nm,19.7s,baz=105,slow=39						
	comp=Z,1.1nm,0.8s						
SPITS	**Spitsbergen Ar**	**80.11**	**348**	P	**P**	**07 08 48.5**	**-1.0**
	comp=Z,5.9nm,0.9s,baz=88,slow=7.9,SNR=5.0						
SPITS				LR	LR	07 52 42.4	
	comp=Z,46nm,18.5s,baz=68,slow=42						
	comp=Z,5.9nm,0.9s						
DAVOX	**Davos/Dischmat**	**80.68**	**316**	LR	LR	07 49 05.9	
	comp=Z,29nm,21.6s,baz=208,slow=39						
JMIC	**Jan Mayen**	**86.99**	**341**	LR	LR	07 50 35.4	
	comp=Z,32nm,19.5s,baz=144,slow=37						
EKA	**Eskdalemuir Ar**	**88.01**	**325**	P	**P**	**07 09 26.7**	**-3.4**
	comp=Z,1.6nm,0.8s,baz=91,slow=5.7,SNR=3.5						
	comp=Z,1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**90.81**	**283**	LR	LR	07 50 37.4	
	comp=Z,61nm,18.1s,baz=114,slow=36						
H19K	**Roundabout Mou**	**90.94**	**23**	P	**P**	**07 09 44.9**	**+1.4**
H19K				IAmb	IAmb	07 09 46.2	
	comp=Z,4.9nm,1.1s						
G21K	**Allakaket**	**91.68**	**22**	P	**P**	**07 09 47.8**	**+0.7**
TOLK	**Toolik Lake Re**	**92.14**	**19**	P	**P**	**07 09 50.4**	**+1.2**
TOLK				IAmb	IAmb	07 09 58.2	
	comp=Z,6.0nm,1.4s						
J20K	**Nowinta River**	**92.35**	**24**	P	**P**	**07 09 51.9**	**+1.7**
J20K				IAmb	IAmb	07 09 59.5	
	comp=Z,3.0nm,1.1s						
MDT	**Midelt**	**93.33**	**304**	LR	LR	08 00 05.9	
	comp=Z,52nm,18.0s,baz=120,slow=41						
N19K	**Bonanza Creek**	**93.50**	**27**	P	**P**	**07 09 56.2**	**+0.6**
O18K	**Koktuh Hills**	**93.52**	**28**	P	**P**	**07 09 56.5**	**+0.8**
BPAW	**Bear Paw Mtn.**	**93.65**	**24**	P	**P**	**07 09 56.8**	**+0.6**
BPAW				IAmb	IAmb	07 10 05.0	
	comp=Z,2.4nm,1.2s						
M22K	**Willow**	**95.03**	**26**	P	**P**	**07 10 01.4**	**-1.2**
KDAK	**Kodiak Island**	**95.58**	**30**	LR	LR	07 58 06.0	
	comp=Z,93nm,18.0s,baz=354,slow=38						
PLCA	**Paso Flores**	**144.37**	**200**	PKP	**PKPab**	**07 16 14.3**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=177,slow=3.4,SNR=4.3						
CPUP	**Villa Florida**	**147.23**	**232**	PKPbc	**PKPdf**	**07 16 21.2**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=150,slow=10,SNR=3.0						

*ASRS **01** 06:59:57.0±0.6, 54°.26N×87°.10E, h0^{km}, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **01** 06:59:58.5±2.7, 54°.15N×87°.33E, h0^{km}, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=23.6km s-min=17.1km az=47.0*
ISC 01 06:59:59.6±3.8, 54°.3N±0°.2×87°.0E±0°.2, h0^{km}, n5, σ2.9 38/6, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**257**	I	I	07 09 42.8	
	0.2nm,0.8s,baz=77,slow=334,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.33**	**257**	Pg	**Pn**	**07 00 24.5**	**-0.9**
	2.7nm,0.3s,baz=82,slow=14,SNR=28						
ZALV				Lg	Lg	07 00 45.7	
	3.1nm,0.3s,baz=81,slow=26,SNR=7.1						
KURBB	**Kurchatov Arra**	**6.34**	**238**	Pn	**Pn**	**07 01 35.5**	**+1.2**
	0.2nm,0.3s,baz=54,slow=13,SNR=11						
KURBB				Sn	**Sn**	**07 02 48.5**	**+1.1**
	baz=51,slow=29,SNR=1.9						
KURBB				Lg	Lg	07 03 22.9	
	baz=52,slow=34,SNR=4.4						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**8.07**	**204**	Pn	**Pn**	**07 01 56.3**	**-1.6**
	0.2nm,0.3s,baz=21,slow=14,SNR=4.2						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**9.95**	**270**	Pn	**Pn**	**07 02 26.0**	**+2.3**
	0.1nm,0.3s,baz=71,slow=17,SNR=3.3						
BVAR				Sn	**Sn**	**07 04 13.6**	**-2.4**
	baz=78,slow=21,SNR=3.0						
	0.6nm,0.3s						

*GCG **01** 07:32:46.1±1.6, 14°.52N×92°.48W, h52^{km}±15^{km}, MD4.0*
*MEX **01** 07:32:46.2±0.8, 14°.48N×92°.66W, h21^{km}±56^{km}, MD3.9*
ISC 01 07:32:41.1±2.1, 14°.41N±0°.08×92°.61W±0°.05, h17^{km}±14^{km}, n15, σ1.9 74/29, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.60**	**35**	*e*P	**Pn**	**07 32 56.2**	**+1.4**
THIG				*e*S	**Sn**	**07 33 04.7**	**+0.5**
THIG		**0.60**	**35**	*e*P	**Pn**	**07 32 56.2**	**+1.4**
THIG				*e*S	**Sn**	**07 33 04.6**	**+0.5**
SMCA	**Catarina**	**0.68**	**50**	*e*P	**Pn**	**07 32 57.4**	**+1.4**
SMCA				*e*S	**Sn**	**07 33 06.6**	**+0.3**
PATR	**El Naranjo**	**0.79**	**28**	*e*P	**Pn**	**07 32 58.1**	**+0.4**
PATR				*i* S	**Sn**	**07 33 08.0**	**-1.2**
PAVE	**Pavencul**	**0.88**	**29**	*e*P	**Pn**	**07 32 59.6**	**+0.6**
PAVE				*e*S	**Sn**	**07 33 10.5**	**-1.1**
RTAL	**Retalhuleu**	**0.90**	**83**	*e*P	**Pn**	**07 33 00.9**	**+2.0**
RTAL				*e*S	**Sb**	**07 33 11.5**	**+1.6**
STG8	**El Palmar, Qui**	**1.23**	**88**	*e*P	**Pb**	**07 33 02.4**	**-1.6**
STG8				*e*S	**Sb**	**07 33 15.5**	**-4.1**
HUEH	**Huehuetenango**	**1.40**	**50**	*e*P	**Pb**	**07 33 07.8**	**+0.9**
HUEH				*e*S	**Sb**	**07 33 24.5**	**-0.2**
HUEH	**Huehuetenango**	**1.40**	**50**	*i* P	**Pg**	**07 33 08.2**	**0.0**
PCIG		**1.41**	**336**	*i* P	**Pn**	**07 33 06.5**	**+0.5**
PCIG				*e*S	**Sb**	**07 33 22.4**	**-2.3**
CCIG	**Comitan**	**1.91**	**14**	*e*P	**Pb**	**07 33 15.3**	**-0.3**
CCIG				*e*S	**Sn**	**07 33 36.6**	**-0.3**
CCIG	**Comitan**	**1.91**	**14**	⇑*i* P	**Pb**	**07 33 15.4**	**-0.3**
CCIG				*e*S	**Sb**	**07 33 38.7**	**-0.7**
TGIG		**2.40**	**348**	*i* P	**Pn**	**07 33 21.2**	**+1.5**
TGIG				*e*S	**Sn**	**07 33 46.2**	**-2.6**
UXUV	**UXUV**	**3.24**	**333**	*e*P	**Pn**	**07 33 32.3**	**+1.1**
UXUV				*e*S	**Sn**	**07 34 13.8**	**+4.3**
CMIG	**Matias Romero**	**3.44**	**321**	*e*P	**Pn**	**07 33 35.5**	**+1.5**
CMIG				*e*S	**Sn**	**07 34 13.0**	**-1.5**

*BJI **01** 07:37:41.3, 6°.67N×94°.02E, h10^{km}, mB4.9/9, mb4.6/33, Ms4.5/16, Ms7 4.0/19*
*IDC **01** 07:37:47.4±0.6, 7°.40N×94°.02E, h0^{km}, mb4.4/28, mbtmp4.3/31, ML4.1/3, MS3.9/28, Error ellipse: s-maj=23.7km s-min=12.2km az=52.0*
*NEIC **01** 07:37:50.1±1.9, 7°.52N±0°.07×94°.27E±0°.07, h10^{km}±1^{km}, mb4.9/90, Error ellipse: s-maj=12.9km s-min=9.2km az=222.0*
*DJA **01** 07:37:52.6±0.5, 7°N±3°×9°4E±°, h10^{km}, M5.0/12, mb4.8/12, mB5.6/6, MLv5.0/10, Mw(mB)5.1/6*
*GCMT **01** 07:37:53.1±0.4, 7°.52N±0°.02×94°.38E±0°.02, h27^{km}±1^{km}, MW4.8/81, Moment Tensor Solution. s10,c10; s81,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.09±.15; $M_{\theta\theta}$-0.99±.11; $M_{\phi\phi}$0.90±.11; $M_{r\theta}$-1.00±.21; $M_{\theta\phi}$1.82±.12; $M_{\phi r}$0.26±.19; Best double couple: $M_0$2.27000×10^{16} NP1:ϕ_s168.00000°, δ68.00000°, λ-172.00000°. NP2: ϕ_s75.00000°, δ82.00000°, λ-22.00000°. Principal axes: T 2.0600, Plg10.0000°, Azm124.0000°; N 0.4210, Plg66.0000°, Azm237.0000°; P -2.4800, Plg21.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NDI **01** 07:37:53.0±1.1, 7°.49N×94°.40E, h10^{km}, ML4.3, MW4.6, mb4.9(NEIC)*
ISC 01 07:37:52.2±1.2, 7°.47N±0°.05×94°.25E±0°.05, h28^{km}±9^{km}, n190, σ1.9 40/177, mb4.8/78, MS3.9/27, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.56**	**215**	*e*P	**Pb**	**07 38 02.9**	**-0.5**
CMBY				*e*S	**Sb**	**07 38 12.1**	**+1.0**
CMBY				IAML		07 38 13.2	
	comp=N,50μm,0.2s						
CMBY				IAML		07 38 15.8	
	comp=E,46μm,0.2s						
BSI	**Banda Aceh**	**2.22**	**152**	P	**Pb**	**07 38 29.9**	**-1.7**
LHMI	**Lhok Sumawe**	**3.48**	**130**	Pn	**Pn**	**07 38 45.0**	**+0.4**
LHMI	**Lhok Sumawe**	**3.48**	**130**	P	**Pn**	**07 38 44.9**	**+0.4**
MLSI	**Meulaboh, Aceh**	**3.83**	**146**	P	**Pn**	**07 38 51.8**	**+2.4**
PBA	**Port Blair**	**4.42**	**340**	Pn	**Pn**	**07 38 58.2**	**+0.8**
PBA	**Port Blair**	**4.42**	**340**	*e*P	**Pn**	**07 39 00.8**	**+3.4**
PBA				*e*S	**Sn**	**07 39 49.7**	**+1.7**
PBA				IAML		07 39 50.9	
	comp=E,91nm,0.1s						
SRIT	**Nakonsritamara**	**5.42**	**78**		**Pn**	**07 39 11.6**	**+0.4**
DGPR	**DIGLIPUR**	**5.82**	**347**	*e*P	**Pn**	**07 39 20.0**	**+3.3**
DGPR				*e*S	**Sn**	**07 40 22.4**	**-0.2**
PSI	**Prapat**	**6.57**	**135**	Pn	**Pn**	**07 39 29.3**	**+2.2**
	comp=E,1.7nm,0.3s,baz=312,slow=14,SNR=9.3						
PSI				Sn	**Sn**	**07 40 47.0**	**+5.9**
	comp=E,2.1nm,0.3s,baz=6.7,slow=21,SNR=1.6						
PSI				LR	LR	07 42 18.8	
	comp=E,2μm,19.5s,baz=307,slow=40						
	comp=E,8.4nm,0.5s						
RPSI	**Rantau Prapat**	**6.64**	**135**		**Pn**	**07 39 28.8**	**+0.8**
KULM	**Kulim**	**6.72**	**108**		**Pn**	**07 39 28.2**	**-0.8**
GSI	**Gunungsitoli**	**6.96**	**151**	Pn	**Pn**	**07 39 33.3**	**+0.9**
GSI	**Gunungsitoli**	**6.96**	**151**	P	**Pn**	**07 39 31.0**	**-1.4**
	comp=E,1.5nmcomp=E,24μmcomp=E,42nm,0.8s						
MNSI	**Mandailing Nat**	**8.49**	**141**	P	**Pn**	**07 39 55.0**	**+1.6**
	comp=E,36nm,0.6s						
BKNI	**Bangkinang**	**9.80**	**136**	Pn	**Pn**	**07 40 12.6**	**+1.2**
PPI	**Padang Panjang**	**9.98**	**142**	P	Pn	07 40 18.2	+4.4
MYKOM	**Kota Tinggi**	**11.10**	**120**		**Pn**	**07 40 27.2**	**-2.0**
CMAR	**Chiang Mai Arr**	**11.84**	**22**	Pn	**Pn**	**07 40 37.6**	**-1.7**
CMAR	**Chiang Mai Arr**	**11.84**	**22**	Pn	**Pn**	**07 40 39.8**	**+0.4**
	comp=E,1.0nm,0.3s,baz=215,slow=15,SNR=19						
CMAR				LR	LR	07 45 24.7	
	comp=E,504nm,19.3s,baz=205,slow=38						
	comp=E,3.5nm,0.6s						
CHTO	**Chiang Mai**	**12.17**	**22**	Pn	**Pn**	**07 40 43.6**	**-0.2**
PALK	**Pallekele**	**13.44**	**270**	Pn	**Pn**	**07 40 59.8**	**-1.4**
PALK	**Pallekele**	**13.44**	**270**	Pn	Pn	07 40 55.8	-5.4
	comp=E,0.4nm,0.3s,baz=50,slow=15,SNR=2.1						
PALK				Sn	Sn	07 43 17.0	-13
	comp=E,3.3nm,0.3s,baz=154,slow=8.7,SNR=9.3						
PALK				LR	LR	07 45 37.6	
	comp=E,404nm,21.4s,baz=87,slow=36						
	comp=E,2.0nm,0.5s						
UBPT	**Khong Chiam**	**13.46**	**54**	Pn	**Pn**	**07 41 00.1**	**-1.3**
BRDH	**Bariadhala**	**15.33**	**351**	LR	LR	07 48 38.9	
	comp=E,728nm,19.2s,baz=170,slow=42						
SLVN	**Son La**	**16.64**	**33**		**P**	**07 41 45.2**	**-0.7**
TPI	**Tanjungpandan**	**16.79**	**127**	P	**P**	**07 41 45.7**	**-1.8**
	comp=E,17nm,1.1s						
KSM	**Kuching**	**17.07**	**110**	Pn	**P**	**07 41 48.5**	**-2.1**
TNCH	**TengChong**	**17.93**	**13**	P	**P**	**07 42 04.1**	**+3.9**
TNCH				sP	pwP	07 42 12.2	+2.3
TNCH				PP	**PnPn**	**07 42 18.0**	**+6.9**
TNCH				SS	S	07 45 52.1	+27
TNCH				pmax	pmax		
	comp=E,390nm,4.3s						
TNCH				LR	LR		
	comp=E,820nm,17.1s						
TNCH				LR	LR		
	comp=E,960nm,11.8s						
TNCH				LR	LR		
	comp=E,660nm,15.1s						
SHL	**Shillong**	**18.14**	**353**	Pn	**Pn**	**07 41 59.3**	**-3.1**
SBUM	**Sibu**	**18.58**	**105**	P	**P**	**07 42 05.3**	**-1.9**
QIZ	**Qiongzhong**	**19.02**	**51**	P	**Pn**	**07 42 10.8**	**-2.1**
QIZ				S	**S**	**07 45 45.6**	**-0.8**
QIZ				LR	LR		
	comp=E,930nm,12.6s						
QIZ				LR	LR		
	comp=E,570nm,13.3s						
QIZ				LR	LR		
	comp=E,400nm,17.9s						
KMI	**Kunming**	**19.34**	**24**	P	**Pn**	**07 42 20.3**	**+3.3**
KMI				pmax	pmax		
	comp=E,23nm,0.8s						
KMI				LR	LR		
	comp=E,420nm,12.1s						
KMI				LR	LR		
	comp=E,320nm,9.3s						
KMI				LR	LR		
	comp=E,350nm,14.9s						
LEM	**Lembang**	**19.48**	**136**	LR	LR	07 51 06.9	
	comp=E,627nm,18.1s,baz=341,slow=41						
PZH	**PanZhiHua**	**20.23**	**20**	P	Pn	07 42 27.7	+0.3
PZH				pmax	pmax		
	comp=E,30nm,1.6s						
PZH				pmax	pmax		
	comp=E,140nm,3.8s						
PZH				LR	LR		
	comp=E,500nm,15.1s						
PZH				LR	LR		
	comp=E,450nm,17.9s						
PZH				LR	LR		
	comp=E,490nm,14.3s						
MNCI	**Minicoy**	**21.01**	**274**	P	**P**	**07 42 35.3**	**+1.5**
KKM	**Kota Kinabalu**	**21.86**	**92**	P	**P**	**07 42 40.6**	**-2.4**
KKM				IAmb	IAmb	07 42 52.2	
	comp=Z,55nm,1.4s						
LSA	**Lhasa**	**22.31**	**353**	P	**P**	**07 42 46.5**	**-1.5**
LSA				IAmb	IAmb	07 42 58.9	
	comp=Z,23nm,0.7s						
LSA	**Lhasa**	**22.31**	**353**	P	**P**	**07 42 50.0**	**+1.9**
LSA				pmax	pmax		
	comp=Z,30nm,0.8s						
H08S3	**Diego Garcia H**	**26.38**	**236**	T	T	08 10 09.3	
	baz=55,slow=76,SNR=290						
H08S2	**Diego Garcia H**	**26.38**	**236**	T	T	08 10 13.5	
	baz=55,slow=76,SNR=301						
H08S1	**Diego Carcia H**	**26.40**	**236**	T	T	08 10 10.2	
	baz=55,slow=76,SNR=103						
KAPI	**Kappang**	**28.30**	**115**	LR	LR	07 54 55.6	
	comp=Z,182nm,21.6s,baz=287,slow=36						
DAV	**Davao City (W)**	**31.08**	**89**	LR	LR	07 58 14.7	
	comp=Z,212nm,18.4s,baz=68,slow=39						
LYN	**LuoYang**	**31.75**	**29**	P	P	07 44 18.8	+4.8
LYN				pmax	pmax		
	comp=Z,28nm,0.7s						
LYN				LR	LR		
	comp=Z,520nm,12.7s						
LYN				LR	LR		
	comp=Z,550nm,13.1s						
LYN				LR	LR		
	comp=Z,500nm,17.2s						
GTA	**Gaotai**	**32.20**	**8**	*e*P	**P**	**07 44 19.0**	**+1.0**
GTA				pP	pP	07 44 24.4	-1.3
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				LR	LR		
	comp=Z,170nm,18.9s						
GTA				LR	LR		
	comp=Z,140nm,18.2s						
GTA				LR	LR		
	comp=Z,200nm,19.3s						
NIL	**Nilore**	**32.50**	**326**	P	**P**	**07 44 19.6**	**-1.0**
NIL				IAmb	IAmb	07 44 20.6	
	comp=Z,18nm,0.7s						
NJ2	**Nanjing**	**33.51**	**40**	*e*P	**P**	**07 44 30.5**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,25nm,0.5s						
HNS	**HongShan**	**35.12**	**29**	⇓P	**P**	**07 44 46.2**	**+3.0**
HNS				pmax	pmax		
	comp=Z,14nm,1.2s						
HNS				LR	LR		
	comp=Z,230nm,11.3s						
HNS				LR	LR		
	comp=Z,340nm,11.3s						
HNS				LR	LR		
	comp=Z,390nm,14.8s						
TIA	**Tai'an**	**35.43**	**33**	P	P	07 44 53.0	+7.0
TIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WUS	**Wushi**	**36.16**	**341**	P	**P**	**07 44 51.8**	**-0.5**
WUS				IAmb	IAmb	07 44 58.2	
	comp=Z,9.8nm,0.8s						
HHC	**Hu-ho-hao-te**	**36.65**	**22**	*e*P	**P**	**07 44 57.5**	**+1.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
WMQ	**Urumqi**	**36.66**	**352**	*e*P	**P**	**07 44 58.1**	**+1.6**
TARG	**Taragay, Kyrgy**	**37.11**	**339**	P	**P**	**07 44 59.9**	**-0.9**
JOW	**Kunigami**	**37.60**	**55**	P	**P**	**07 45 03.6**	**-1.0**
JOW	**Kunigami**	**37.60**	**55**	LR	LR	08 02 35.0	
	comp=Z,146nm,18.4s,baz=320,slow=39						
KDJ	**Kajisay**	**37.68**	**339**	P	**P**	**07 45 04.7**	**-0.7**
DRK	**Karamyk**	**37.72**	**331**	P	**P**	**07 45 06.0**	**+0.2**
DRK				IAmb	IAmb	07 45 06.6	
	comp=Z,22nm,0.6s						
GAR	**Garm**	**38.08**	**329**	P	**P**	**07 45 07.6**	**-1.1**
GAR				IAmb	IAmb	07 45 08.7	
	comp=Z,39nm,1.3s						
SIMJ	**Simiganj**	**38.51**	**328**	P	**P**	**07 45 11.1**	**-1.2**
BTK	**Batken**	**38.64**	**331**	P	**P**	**07 45 13.2**	**-0.2**
ARSB	**Arslanbob**	**38.65**	**334**	P	**P**	**07 45 13.3**	**-0.2**
ARSB				IAmb	IAmb	07 45 20.0	
	comp=Z,23nm,1.2s						
AAK	**Ala-Archa**	**39.12**	**337**	P	**P**	**07 45 17.4**	**-0.1**
AAK	**Ala-Archa**	**39.12**	**337**	P	**P**	**07 45 16.4**	**-1.0**
	comp=Z,2.4nm,0.8s,baz=164,slow=7.6,SNR=5.9						
AAK				PcP	**PcP**	**07 47 28.4**	**+1.6**
	comp=Z,1.4nm,0.6s,baz=85,slow=9.4,SNR=3.5						
AAK				LR	LR	08 02 54.0	
	comp=Z,280nm,21.2s,baz=158,slow=38						
	comp=Z,2.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.07**	**130**	LR	LR	08 04 20.9	
	comp=Z,142nm,19.9s,baz=286,slow=40						
MK31	**Makanchi Array**	**40.51**	**347**	P	**P**	**07 45 27.8**	**-0.9**
MKAR	**Makanchi Array**	**40.51**	**347**	P	**P**	**07 45 27.9**	**-0.9**
	comp=Z,8.3nm,0.7s,baz=164,slow=8.1,SNR=85						
MKAR				LR	LR	08 06 03.7	
	comp=Z,66nm,18.9s,baz=168,slow=42						
	comp=Z,8.3nm,0.7s						
MAKZ	**Makanchi**	**40.59**	**347**	P	**P**	**07 45 28.6**	**-0.8**
KK31	**Karatay Array**	**41.17**	**333**	P	**P**	**07 45 34.1**	**-0.2**
KKAR	**Karatay Array**	**41.17**	**333**	P	**P**	**07 45 33.7**	**-0.6**
SONM	**Songino Array**	**41.53**	**12**	P	**P**	**07 45 36.1**	**-1.2**
SONM	**Songino Array**	**41.53**	**12**	P	**P**	**07 45 37.9**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=197,slow=8.4,SNR=8.1						
SONM				LR	LR	08 04 10.6	
	comp=Z,156nm,18.5s,baz=182,slow=38						
	comp=Z,1.6nm,0.8s						
JNU	**Nakatsue**	**42.44**	**48**	LR	LR	08 05 34.6	
	comp=Z,134nm,18.9s,baz=234,slow=39						
KSRS	**Korea Array**	**42.70**	**41**	P	**P**	**07 45 47.9**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=219,slow=9.7,SNR=5.7						
KSRS				LR	LR	08 05 26.0	
	comp=Z,194nm,18.5s,baz=220,slow=39						
	comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**44.97**	**346**	P	**P**	**07 46 04.4**	**-0.4**
	comp=Z,8.4nm,0.6s,baz=166,slow=7.0,SNR=118						
KURBB				PcP	**PcP**	**07 47 46.1**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=156,slow=2.9,SNR=4.9						
KURBB				LR	LR	08 07 58.0	
	comp=Z,126nm,19.5s,baz=188,slow=40						
	comp=Z,8.4nm,0.6s						
KURK	**Kurchatov**	**45.03**	**346**	P	**P**	**07 46 05.0**	**-0.3**
KURK				IAmb	IAmb	07 46 12.8	
	comp=Z,22nm,1.0s						
NWAO	**Narrogin (SRO)**	**45.74**	**153**	LR	LR	08 04 17.1	
	comp=Z,117nm,19.4s,baz=46,slow=35						
ZAA0	**Zalesovo Array**	**46.97**	**352**	P	**P**	**07 46 20.3**	**-0.2**
ZALV	**Zalesovo Beam**	**46.97**	**352**	P	**P**	**07 46 19.9**	**-0.6**
ZALV	**Zalesovo Beam**	**46.97**	**352**	P	**P**	**07 46 20.3**	**-0.2**
	comp=Z,8.3nm,0.3s,baz=174,slow=7.8,SNR=45						
ZALV				LR	LR	08 10 44.7	
	comp=Z,78nm,18.4s,baz=193,slow=42						
	comp=Z,8.3nm,0.3s						
BNX	**BinXian**	**47.66**	**31**	⇑P	P	07 46 30.0	+4.0
BNX				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WB0	**Warramunga Arr**	**47.89**	**125**	P	**P**	**07 46 27.2**	**-1.0**
WB0				IAmb	IAmb	07 47 45.3	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**47.94**	**125**	P	**P**	**07 46 27.3**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=305,slow=8.6,SNR=7.8						
	comp=Z,1.2nm,0.9s						
WB2	**Warramunga Arr**	**47.95**	**125**	P	**P**	**07 46 27.4**	**-1.3**
WB2				IAmb	IAmb	07 47 16.0	
	comp=Z,17nm,1.4s						
USRK	**Ussuriysk Ar.**	**49.18**	**36**	LR	LR	08 08 21.2	
	comp=Z,108nm,21.5s,baz=235,slow=37						
RAYN	**Ar Rayn**	**49.35**	**295**	P	**P**	**07 46 40.9**	**+1.4**
RAYN				IAmb	IAmb	07 46 47.8	
	comp=Z,11nm,0.8s						
MJAR	**Matsushiro Arr**	**49.35**	**47**	LR	LR	08 09 27.5	
	comp=Z,83nm,18.0s,baz=217,slow=38						
BVAR	**Borovoye Array**	**49.41**	**341**	P	**P**	**07 46 38.6**	**-0.8**
	comp=Z,3.3nm,0.6s,baz=145,slow=9.0,SNR=23						
BVAR				PcP	**PcP**	**07 48 01.8**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=141,slow=5.0,SNR=3.6						
BVAR				LR	LR	08 10 54.6	
	comp=Z,96nm,18.3s,baz=156,slow=40						
	comp=Z,3.3nm,0.6s						
BRVK	**Borovoye**	**49.47**	**341**	P	**P**	**07 46 39.2**	**-0.6**
BRVK				IAmb	IAmb	07 46 46.0	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**49.57**	**130**	P	**P**	**07 46 40.7**	**-0.5**
AS31				PcP	**PcP**	**07 48 05.1**	**+2.4**
ASAR	**Alice Springs**	**49.57**	**130**	P	**P**	**07 46 39.2**	**-2.0**
ASAR				PcP	**PcP**	**07 48 04.0**	**+1.3**
ASAR	**Alice Springs**	**49.57**	**130**	P	**P**	**07 46 40.5**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=311,slow=7.9,SNR=11						
ASAR				PcP	**PcP**	**07 48 03.0**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=307,slow=4.5,SNR=5.0						
ASAR				LR	LR	08 10 06.0	
	comp=Z,129nm,19.9s,baz=292,slow=39						
	comp=Z,1.3nm,0.7s						
FORT	**Forrest**	**49.95**	**141**	P	**P**	**07 46 44.7**	**+0.9**
ABKAR	**Abkulak array**	**50.64**	**331**	P	**P**	**07 46 48.5**	**-0.3**
KLR	**Kul'dur**	**52.18**	**30**	LR	LR	08 10 44.6	
	comp=Z,102nm,19.1s,baz=228,slow=38						
AKTO	**Aktyubinsk**	**52.36**	**331**	P	**P**	**07 47 01.2**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=120,slow=8.4,SNR=9.0						
AKTO				PcP	**PcP**	**07 48 12.4**	**0.0**
	comp=Z,3.6nm,0.8s,baz=11,slow=2.8,SNR=4.0						
AKTO				LR	LR	08 12 41.4	
	comp=Z,79nm,18.5s,baz=21,slow=40						
	comp=Z,2.6nm,0.6s						
ASAJ	**Asahikawa**	**55.65**	**41**	LR	LR	08 12 12.1	
	comp=Z,122nm,19.1s,baz=282,slow=37						
ARTI	**Arti**	**56.34**	**337**	P	**P**	**07 47 30.1**	**-0.4**
ARTI				IAmb	IAmb	07 47 30.9	
	comp=Z,9.6nm,0.7s			

comp=Z,12nm,1.2s
MLR Muntele Rosu 69.54 316 P P 07 48 57.3 -1.4
comp=Z,2.7nm,0.6s,baz=204,slow=20,SNR=3.8
comp=Z,2.7nm,0.6s
BURAR Bucovina Array 70.42 318 P P 07 49 03.6 -0.5
BUR08 Bucovina Ar. S 70.44 318 P P 07 49 05.0 +0.8
BUR08 IAmb IAmb 07 50 13.7
comp=Z,13nm,1.9s
LVZ Lovozero 71.98 340 P P 07 49 12.2 -0.8
FIA1 FINESS Array S 73.12 332 P P 07 49 19.5 -0.3
FINES FINESS Array B 73.12 332 P P 07 49 19.4 -0.4
FINES FINESS Array B 73.12 332 P P 07 49 19.0 -0.9
comp=Z,3.2nm,0.4s,baz=88,slow=4.4,SNR=27
comp=Z,3.2nm,0.4s
STHS Stebnicka Huta 73.32 319 *e*P **P 07 49 21.5 +0.2**
ARCES ARCESS Array B 75.68 340 P P 07 49 34.0 -0.7
comp=Z,3.5nm,0.8s,baz=95,slow=4.7,SNR=9.0
ARCES LR LR 08 25 42.5
comp=Z,154nm,18.8s,baz=146,slow=38
comp=Z,3.5nm,0.8s
GERES GERESS Array B 78.20 318 P P 07 49 48.9 -0.4
comp=Z,1.7nm,0.7s,baz=84,slow=6.0,SNR=12
comp=Z,1.7nm,0.7s
PRED Cave del Predi 78.22 316 P P 07 49 49.4 0.0
PRED IAmb IAmb 07 50 10.6
comp=Z,36nm,1.9s
HFS Hagfors 78.86 330 P P 07 49 52.2 -0.4
comp=Z,2.7nm,0.4s,baz=111,slow=6.5,SNR=26
comp=Z,2.7nm,0.4s
CIMO Cimolais 78.99 316 P P 07 49 53.7 0.0
CIMO IAmb IAmb 07 49 59.5
comp=Z,12nm,1.0s
NC405 NORSAR Array S 79.90 331 P P 07 49 58.3 0.0
NC602 NORSAR Array S 79.96 330 P P 07 49 58.1 -0.5
NC602 IAmb IAmb 07 52 49.6
comp=Z,36nm,1.5s
NC303 NORSAR Array S 80.07 331 P P 07 49 58.9 -0.3
NB2 NORSAR Subarra 80.14 331 P P 07 49 58.5 -1.1
comp=Z,6.6nm,1.0s,baz=90,slow=5.3
NOA NORSAR Array B 80.14 331 P P 07 49 58.8 -0.8
comp=Z,2.5nm,0.8s,baz=92,slow=5.7,SNR=11
comp=Z,2.5nm,0.8s
SPITS Spitsbergen Ar 80.26 348 P P 07 49 59.7 -0.2
comp=Z,4.6nm,0.7s,baz=94,slow=11,SNR=14
comp=Z,4.6nm,0.7s
NC204 NORSAR Array S 80.37 331 P P 07 50 01.0 +0.1
DAVOX Davos/Dischmat 80.76 316 P P 07 50 02.2 -1.2
comp=Z,2.2nm,0.5s,baz=344,slow=23,SNR=4.4
comp=Z,2.2nm,0.5s
ANM Nome 87.75 25 P P 07 50 39.0 +0.7
ANM IAmb IAmb 07 51 12.8
comp=Z,5.9nm,1.3s
EKA Eskdalemuir Ar 88.12 325 P P 07 50 39.7 -0.6
comp=Z,1.4nm,0.5s,baz=88,slow=5.2,SNR=4.7
comp=Z,1.4nm,0.5s
G16K Koyuk River 88.79 24 P P 07 50 44.0 +0.8
G16K IAmb IAmb 07 50 54.7
comp=Z,4.3nm,1.0s
J14K Nanvaranak Lak 88.96 27 P P 07 50 44.5 +0.4
J14K IAmb IAmb 07 50 57.3
comp=Z,6.8nm,1.1s
I17K Unalakleet 89.90 25 P P 07 50 49.7 +1.3
I17K IAmb IAmb 07 51 11.9
comp=Z,18nm,1.8s
H17K Granite Mounta 89.91 24 P P 07 50 49.0 +0.5
H17K IAmb IAmb 07 51 06.8
comp=Z,18nm,1.9s
J16K Anvik River 90.11 26 P P 07 50 51.3 +1.9
J16K IAmb IAmb 07 53 34.0
comp=Z,10nm,1.4s
H18K Honhosa River 90.47 24 P P 07 50 52.0 +0.8
J17K VABM Dome 90.73 26 P P 07 50 53.7 +1.3
J17K IAmb IAmb 07 53 49.8
comp=Z,22nm,1.9s
L16K Owhat River 91.08 27 P P 07 50 53.8 -0.2
H19K Roundabout Mou 91.10 23 P P 07 50 55.1 +1.1
K17K Iditarod 91.29 26 P P 07 50 56.1 +1.2
K17K IAmb IAmb 07 51 13.1
comp=Z,17nm,1.6s
M16K Timber Creek 91.53 28 P P 07 50 55.3 -0.8
ESDC Sonseca Array 91.56 310 P P 07 50 57.5 +0.7
ESDC Sonseca Array 91.56 310 P P 07 50 56.4 -0.5
comp=Z,0.5nm,0.5s,baz=71,slow=4.0,SNR=4.8
comp=Z,0.5nm,0.5s
J19K Poorman 91.98 24 P P 07 50 59.0 +0.8
J19K IAmb IAmb 07 51 06.2
comp=Z,4.1nm,0.9s
I20K Naaghedeneel 92.14 24 P P 07 50 59.9 +1.0
TOLK Toolik Lake Re 92.30 19 P P 07 50 59.8 +0.3
TOLK IAmb IAmb 07 51 08.1
comp=Z,18nm,2.0s
H21K Melozitna River 92.45 22 P P 07 51 01.2 +0.9
H21K IAmb IAmb 07 51 08.5
comp=Z,6.4nm,1.2s
J20K Nowinta River 92.51 24 P P 07 51 01.6 +1.0
J20K IAmb IAmb 07 51 35.4
comp=Z,8.8nm,1.4s
K20K Telida 92.86 25 P P 07 51 02.2 0.0
E24K Your Creek 92.92 20 P P 07 51 02.2 -0.3
E24K IAmb IAmb 07 52 22.0
comp=Z,6.0nm,1.4s
L19K White Mountain 92.98 26 P P 07 51 02.2 -0.6
L19K IAmb IAmb 07 51 10.9
comp=Z,3.9nm,0.9s
F24K Squaw Lake 93.39 20 P P 07 51 05.2 +0.6
F24K IAmb IAmb 07 52 51.3
comp=Z,11nm,1.7s
CAST Castle Rocks 93.66 24 P P 07 51 06.2 +0.2
CAST IAmb IAmb 07 51 14.1
comp=Z,5.2nm,0.8s
N19K Bonanza Creek 93.66 27 P P 07 51 06.9 +0.9
BPAW Bear Paw Mtn. 93.81 24 P P 07 51 06.3 -0.3
M20K Styx River 93.84 26 P P 07 51 05.5 -1.4
M20K IAmb IAmb 07 51 16.0
comp=Z,12nm,1.4s
E25K Arctic Village 93.85 19 P P 07 51 06.9 +0.1
E25K IAmb IAmb 07 52 32.5
comp=Z,12nm,1.9s
O19K Port Alsworth 93.97 28 P P 07 51 07.0 -0.3
O19K IAmb IAmb 07 51 48.9
comp=Z,13nm,1.6s
I23K Minto, Yukon-K 93.97 22 P P 07 51 08.7 +1.5
I23K IAmb IAmb 07 51 47.6
comp=Z,5.9nm,1.3s
SKT Skwentna 94.49 26 P P 07 51 09.8 +0.1
SKT IAmb IAmb 07 51 16.4
comp=Z,7.3nm,0.9s
BMAR Burnt Mountain 94.53 19 P P 07 51 10.9 +1.1
F26K Sheenjek River 94.53 19 P P 07 51 10.9 +1.0
ILAR Eielson Array 95.08 22 P P 07 51 12.0 -0.4
comp=Z,0.3nm,0.9s,baz=300,slow=4.3,SNR=2.9
comp=Z,0.3nm,0.9s
A36M Sachs Harbour 96.62 11 P P 07 51 19.1 -0.1
A36M IAmb IAmb 07 51 37.3
comp=Z,4.1nm,0.9s
WHY Whitehorse 101.96 22 Pdif **Pdif 07 51 46.2 +2.7**
NVAR Mina Array Bea 125.21 31 PKP **PKiKP 07 56 51.1 -0.2**
comp=Z,0.5nm,0.8s,baz=348,slow=4.5,SNR=3.5
PDAR Pinedale Array 125.50 21 PKP **PKPdf 07 56 50.9 -0.5**
comp=Z,0.4nm,0.7s,baz=342,slow=4.7,SNR=3.0
PLCA Paso Flores 144.21 200 PKP **PKPdf 07 57 25.9 0.0**
comp=Z,1.4nm,0.8s,baz=120,slow=2.4,SNR=6.4
CPUP Villa Florida 147.10 232 PKPbc **PKPbc 07 57 33.3 0.0**
comp=Z,2.3nm,0.9s,baz=110,slow=5.1,SNR=5.5
BOAV Boa Vista 152.99 290 PKPbc **PKPbc 07 57 48.0 -0.2**
AC02 Maricunga 155.09 217 PKPab **PKPab 07 58 06.1 -2.4**

IDC 01 07:42:22.5±2.3, 7°.52N×93°.83E, h0km, mb3.5/4, mbtmp3.6/5, ML4.2/1, Error ellipse: s-maj=88.8km s-min=25.0km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.96**	**24**	Pn	Pn	07 45 14.4	+0.1
	0.4nm,0.3s,baz=196,slow=13,SNR=1.2 1.3nm,0.3s						
H08S3	**Diego Garcia H**	**26.07**	**235**	T	T	08 14 46.0	
	baz=56						
H08S2	**Diego Garcia H**	**26.07**	**235**	T	T	08 14 36.3	
	baz=56						
H08S1	**Diego Carcia H**	**26.09**	**235**	T	T	08 14 44.1	
	baz=56						
MKAR	**Makanchi Array**	**40.37**	**348**	P	P	07 50 01.7	-0.4
	0.8nm,0.8s,baz=168,slow=9.3,SNR=5.1 0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**44.81**	**346**	P	P	07 50 38.3	+0.1
	0.7nm,0.7s,baz=166,slow=6.8,SNR=5.6 0.7nm,0.7s						
WRA	**Warramunga Arr**	**48.31**	**125**	P	P	07 51 06.1	0.0
	0.4nm,0.9s,baz=300,slow=8.0,SNR=1.9 0.4nm,0.9s						
ASAR	**Alice Springs**	**49.92**	**130**	P	P	07 51 18.2	-0.3
	0.4nm,0.9s,baz=308,slow=7.8,SNR=3.0 0.4nm,0.9s						
H04N2	**CROZET ISLANDS**	**65.27**	**211**	T	T	09 03 30.2	
	baz=46						
H04N1	**CROZET ISLANDS**	**65.28**	**211**	T	T	09 03 33.9	
	baz=46						
H04N3	**CROZET ISLANDS**	**65.29**	**211**	T	T	09 03 38.0	
	baz=46						

---

*IDC **01** 07:43:21.4±0.7, 40°.49N×144°.38E, h0km, mb4.0/16, mbtmp3.9/19, ML3.3/3, MS3.0/1, Error ellipse: s-maj=18.8km s-min=17.7km az=4.0*
*NEIC **01** 07:43:22.0±1.8, 40°.89N±0°.05×143°.6E±0°.1, h10km±1km, mb4.2/24, Error ellipse: s-maj=14.0km s-min=7.6km az=95.0*
*JMA **01** 07:43:21.9±0.1, 40°.9N±0°.5×143°.7E±0°.9, h31km, MV3.8/38, FAR E OFF SANRIKU*
*NIED **01** 07:43:21.9, 40°.90N×143°.68E, h31km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}6.31; $M_{\theta\theta}$-7.93; $M_{\phi\phi}$1.62; $M_{r\theta}$1.26; $M_{\theta\phi}$-0.45; $M_{\phi r}$-1.26; Fault plane solution: $M_0$7.40000×10^14^ NP1: ϕ_s253.00000°, δ42.00000°, λ68.00000°. NP2: ϕ_s101.00000°, δ51.00000°, λ108.00000°.*

ISC 01 07:43:21.0±2.2, 40°.94N±0°.05×143°.73E±0°.06, h8km±13km, n92, σ1§49/80, mb4.2/28, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.16**	**339**	Pn	**Pn**	**07 43 43.2**	**-0.4**
JEM	**Erimo**	**1.16**	**339**	*i*P	**Pg**	**07 43 42.7**	**-0.5**
JTHR	**Tokachihiroo**	**1.39**	**347**	P	**Pn**	**07 43 45.9**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.53**	**332**	P	**Pn**	**07 43 48.0**	**-0.6**
JCH	**Churui**	**1.70**	**351**	P	**Pn**	**07 43 50.0**	**-1.0**
JKEN	**Kujiedanarisaw**	**1.70**	**245**	*e*P	**Pn**	**07 43 49.3**	**-1.6**
JTH	**Tanohata**	**1.74**	**236**	P	**Pn**	**07 43 50.2**	**-1.2**
JANG	**Nango**	**1.77**	**252**	P	**Pn**	**07 43 50.5**	**-1.5**
JOB	**Onbets**	**1.97**	**2**	P	**Pn**	**07 43 54.2**	**-0.4**
JOB				*e*S	**Sn**	**07 44 18.5**	**-1.0**
JTM	**Tenmabayashi**	**2.02**	**267**	Pn	**Pn**	**07 43 55.2**	**-0.2**
JTM	**Tenmabayashi**	**2.02**	**267**	P	**Pn**	**07 43 54.9**	**-0.4**
JTM				*e*S	**Sn**	**07 44 19.0**	**-1.9**
JOT	**Ohata**	**2.07**	**283**	P	**Pn**	**07 43 55.2**	**-0.9**
JOT				*e*S	**Sn**	**07 44 21.0**	**-1.0**
JBT2	**Biratori 2**	**2.10**	**332**	P	**Pn**	**07 43 57.2**	**+0.6**
JAK	**Akkeshi**	**2.18**	**19**	P	**Pn**	**07 43 56.9**	**-0.7**
JAK				S	**Sn**	**07 44 22.9**	**-1.9**
JAR	**Ashorobuto**	**2.36**	**1**	P	**Pn**	**07 43 59.2**	**-0.9**
JAR				*e*S	**Sn**	**07 44 26.9**	**-2.3**
JOM	**Ohasama**	**2.37**	**233**	P	**Pn**	**07 44 00.1**	**-0.1**
JEW	**Eniwo**	**2.55**	**319**	P	**Pn**	**07 44 03.3**	**+0.6**
JMK	**Ichinoseki**	**2.76**	**225**	P	**Pn**	**07 44 05.6**	**0.0**
NEM2	**Nemuro 2**	**2.85**	**31**	P	**Pn**	**07 44 06.0**	**-0.8**
NEM2				*e*S	**Sn**	**07 44 38.7**	**-2.7**
JKK2	**Kamakawa 2**	**3.02**	**346**	P	**Pn**	**07 44 09.1**	**0.0**
JTKR	**Abashiri--Toko**	**3.04**	**2**	P	**Pn**	**07 44 09.0**	**-0.3**
JTKR				S	**Sn**	**07 44 43.9**	**-2.0**
JKA	**Kamikawa-asahi**	**3.29**	**346**	Pn	**Pn**	**07 44 13.8**	**+1.0**
ASAJ	**Asahikawa**	**3.29**	**346**	Pn	**Pn**	**07 44 14.8**	**+2.0**
	3.0nm,0.3s,baz=182,slow=13,SNR=12						
JMM	**Marumori**	**3.82**	**217**	Pn	**Pn**	**07 44 19.3**	**-0.8**
JSD	**Sado**	**5.12**	**237**	Pn	**Pn**	**07 44 37.9**	**-0.1**
YSS	**Yuzhno-Sakhali**	**6.06**	**354**	Pn	**Pn**	**07 44 53.2**	**+2.4**
MJAR	**Matsushiro Arr**	**6.15**	**226**	Pn	**Pn**	**07 44 53.0**	**+0.9**
	0.2nm,0.3s,baz=30,slow=12,SNR=6.0 1.7nm,0.5s						
MJB9	**Matsu-Tunnel**	**6.15**	**226**	Pn	**Pn**	**07 44 52.6**	**+0.5**
MAJO	**Matsushiro**	**6.15**	**226**	Pn	**Pn**	**07 44 52.4**	**+0.2**
JGF	**Kuroka**	**7.31**	**225**	Pn	**Pn**	**07 45 07.2**	**-0.9**
JSG	**Sagara**	**7.63**	**217**	Pn	**Pn**	**07 45 09.9**	**-2.6**
JHJ2	**Mitsune**	**8.41**	**203**	Pn	**Pn**	**07 45 21.5**	**-1.6**
USA0B	**Ussuriysk Arra**	**9.25**	**295**	Pn	**Pn**	**07 45 35.5**	**+0.8**
USRK	**Ussuriysk Ar.**	**9.25**	**295**	Pn	**Pn**	**07 45 35.2**	**+0.5**
USRK	**Ussuriysk Ar.**	**9.25**	**295**	Pn	Pn	07 45 43.2	+8.6
	0.5nm,0.3s,baz=93,slow=13,SNR=9.2 7.7nm,0.7s						
KLR	**Kul'dur**	**11.84**	**318**	Pn	Pn	07 46 18.0	+7.9
	0.1nm,0.3s,baz=138,slow=13,SNR=4.0						
KSRS	**Korea Array**	**12.74**	**259**	Pn		07 46 29.9	
	0.3nm,0.3s,baz=75,slow=13,SNR=1.8 1.2nm,0.6s						
KSAR	**Wonju Array Be**	**12.78**	**259**	Pn	**Pn**	**07 46 22.8**	**-0.1**
YAK	**Yakutsk**	**22.76**	**343**	LR	LR	07 58 28.5	
	comp=Z,35nm,18.4s,baz=164,slow=39						
KNMB	**Chin-men Tao**	**26.78**	**240**	P	**P**	**07 49 01.2**	**-0.2**
ULN	**Ulaanbaatar**	**26.91**	**297**	P	**P**	**07 49 03.7**	**+1.1**
ULN				IAmb	IAmb	07 49 12.5	
	comp=Z,4.7nm,0.6s						
SONM	**Songino Array**	**27.35**	**297**	P	**P**	**07 49 06.9**	**+0.3**
SONM	**Songino Array**	**27.35**	**297**	P	**P**	**07 49 13.4**	**+6.8**
	comp=Z,1.3nm,0.6s,baz=92,slow=10,SNR=6.4 comp=Z,1.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.94**	**130**	T	T	08 19 45.4	
	baz=322,slow=75,SNR=74						
H11N1	**WAKE ISLAND Hy**	**28.95**	**130**	T	T	08 19 47.3	
	baz=322,slow=75,SNR=67						
H11N3	**WAKE ISLAND Hy**	**28.95**	**130**	T	T	08 19 46.6	
	baz=322,slow=75,SNR=68						
H11S1	**WAKE ISLAND Hy**	**29.79**	**132**	T	T	08 20 55.9	
	baz=324,slow=76,SNR=89						
H11S3	**WAKE ISLAND Hy**	**29.80**	**132**	T	T	08 20 50.2	
	baz=324,slow=76,SNR=57						
H11S2	**WAKE ISLAND Hy**	**29.81**	**132**	T	T	08 20 50.2	
	baz=324,slow=76,SNR=48						
F15K	**North Star Dit**	**37.93**	**32**	P	**P**	**07 50 39.1**	**+0.6**
ZALV	**Zalesovo Beam**	**40.74**	**309**	P	P	07 51 08.8	+6.7
	comp=Z,4.3nm,0.5s,baz=92,slow=8.8,SNR=4.0 comp=Z,4.3nm,0.5s						
E22K	**Anaktuvuk Pass**	**43.32**	**30**	P	**P**	**07 51 24.4**	**+1.3**
MK31	**Makanchi Array**	**43.69**	**299**	P	**P**	**07 51 25.8**	**-0.5**
MKAR	**Makanchi Array**	**43.69**	**299**	P	**P**	**07 51 25.6**	**-0.7**
MKAR	**Makanchi Array**	**43.69**	**299**	P	P	07 51 33.0	+6.7
	comp=Z,1.0nm,0.6s,baz=84,slow=9.1,SNR=8.5 comp=Z,1.0nm,0.6s						
GHO	**Glory Hole Cre**	**44.53**	**39**	P	**P**	**07 51 33.3**	**+0.4**
H24K	**Noodor Dome**	**44.79**	**33**	P	**P**	**07 51 36.1**	**+1.2**
H24K				IAmb	IAmb	07 51 49.5	
	comp=Z,4.1nm,1.2s						
KURBB	**Kurchatov Arra**	**45.12**	**305**	P	P	07 51 44.2	+6.5
	comp=Z,2.9nm,0.7s,baz=78,slow=8.8,SNR=5.9 comp=Z,2.9nm,0.7s						
ILAR	**Eielson Array**	**45.25**	**34**	P	**P**	**07 51 39.2**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=266,slow=6.1,SNR=6.4 comp=Z,0.6nm,0.8s						
SCRK	**Sand Creek**	**46.57**	**35**	P	**P**	**07 51 50.0**	**+0.9**
SCRK				IAmb	IAmb	07 52 05.7	
	comp=Z,2.7nm,1.3s						
DOT	**Dot Lake**	**46.58**	**36**	P	**P**	**07 51 49.9**	**+0.9**
E27K	**Coleen River**	**47.14**	**29**	P	**P**	**07 51 55.2**	**+1.8**
WAX	**Waxell Ridge**	**47.62**	**40**	P	**P**	**07 51 59.0**	**+1.7**
BCAR	**Beaver Creek A**	**47.67**	**36**	P	**P**	**07 51 59.9**	**+2.3**
I28M	**Miner Creek**	**48.11**	**33**	P	**P**	**07 52 03.4**	**+2.4**
I28M				IAmb	IAmb	07 52 07.2	
	comp=Z,4.0nm,1.4s						
E29M	**Blow River**	**48.49**	**29**	P	**P**	**07 52 06.0**	**+2.3**
E29M				IAmb	IAmb	07 52 06.8	
	comp=Z,3.6nm,1.1s						
G29M	**Pine Creek**	**48.65**	**31**	P	**P**	**07 52 07.5**	**+2.4**
G30M	**tAoh Zraii Nji**	**49.34**	**31**	P	**P**	**07 52 12.0**	**+1.6**
G30M				IAmb	IAmb	07 52 26.5	
	comp=Z,3.1nm,0.9s						
BVAR	**Borovoye Array**	**49.35**	**310**	P	P	07 52 17.1	+6.4
	comp=Z,1.9nm,0.4s,baz=68,slow=9.6,SNR=9.5 comp=Z,1.9nm,0.4s						
I30M	**Mount Dempster**	**49.62**	**33**	P	**P**	**07 52 14.5**	**+1.9**
I30M				IAmb	IAmb	07 52 14.9	
	comp=Z,2.3nm,0.8s						
INK	**Inuvik**	**50.10**	**29**	P	**P**	**07 52 17.4**	**+1.4**
INK				IAmb	IAmb	07 52 17.6	
	comp=Z,1.8nm,0.8s						
G31M	**Satah River**	**50.10**	**31**	P	**P**	**07 52 17.6**	**+1.5**
G31M				IAmb	IAmb	07 52 31.9	
	comp=Z,2.1nm,0.8s						
F31M	**Tsiigehtchic**	**50.20**	**30**	P	**P**	**07 52 17.9**	**+1.1**
F31M				IAmb	IAmb	07 52 32.3	
	comp=Z,2.8nm,1.1s						
KKAR	**Karatay Array**	**52.80**	**298**	P	**P**	**07 52 36.0**	**-0.7**
AB31	**Akbulak array**	**56.85**	**309**	P	**P**	**07 53 05.3**	**-0.6**
ABKAR	**Akbulak array**	**56.85**	**309**	P	**P**	**07 53 05.3**	**-0.6**
AKTO	**Aktyubinsk**	**57.45**	**311**	P	P	07 53 16.8	+6.6
	comp=Z,1.7nm,0.8s,baz=100,slow=5.4,SNR=4.2 comp=Z,1.7nm,0.8s						
WRA	**Warramunga Arr**	**61.19**	**190**	P	**P**	**07 53 35.3**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=6.5,slow=6.9,SNR=12 comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**64.92**	**190**	P	**P**	**07 53 59.9**	**-1.1**
ASAR	**Alice Springs**	**64.92**	**190**	P	**P**	**07 54 00.7**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=354,slow=3.9,SNR=5.5 comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**66.20**	**332**	P	P	07 54 15.2	+6.4
	comp=Z,1.9nm,0.5s,baz=55,slow=7.2,SNR=7.0 comp=Z,1.9nm,0.5s						
BOZ	**Bozeman (W)**	**70.71**	**46**	P	**P**	**07 54 38.0**	**+0.4**
BOZ				IAmb	IAmb	07 54 39.3	
	comp=Z,2.1nm,0.8s						
NVAR	**Mina Array Bea**	**71.25**	**55**	P	**P**	**07 54 42.9**	**+1.9**
	comp=Z,0.4nm,0.9s,baz=298,slow=4.1,SNR=2.0 comp=Z,0.4nm,0.9s						
HFS	**Hagfors**	**71.27**	**336**	P	P	07 54 46.6	+6.1
	comp=Z,1.5nm,0.6s,baz=73,slow=5.1,SNR=4.1 comp=Z,1.5nm,0.6s						
NOA	**NORSAR Array B**	**71.28**	**338**	P	P	07 54 46.5	+5.9
	comp=Z,0.5nm,0.6s,baz=55,slow=6.5,SNR=1.5 comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**72.31**	**323**	P	P	07 54 53.0	+6.1
	comp=Z,0.9nm,0.7s,baz=36,slow=6.8,SNR=5.2 comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**73.67**	**47**	P	**P**	**07 54 55.5**	**+0.1**
PDAR	**Pinedale Array**	**73.67**	**47**	P	**P**	**07 54 56.1**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=257,slow=1.9,SNR=12 comp=Z,0.6nm,0.5s						
BUR08	**Bucovina Ar. S**	**76.34**	**322**	P	**P**	**07 55 10.2**	**-0.4**
BURAR	**Bucovina Array**	**76.35**	**322**	P	**P**	**07 55 08.5**	**-2.2**
PV03	**Paradox Valley**	**77.07**	**50**	P	**P**	**07 55 15.7**	**+0.6**
PV03				IAmb	IAmb	07 55 17.2	
	comp=Z,3.5nm,1.2s						
TXAR	**Lajitas Array**	**86.34**	**54**	P	**P**	**07 56 04.7**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=310,slow=4.2,SNR=6.7 comp=Z,0.7nm,0.8s						

ASRS 01 07:48:15.0±0.9, 54°.20N×87°.13E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*NNC **01** 07:48:30.6±2.3, 53°.18N×86°.03E, h0km, mb2.7, mpv2.5, Error ellipse: s-maj=26.2km s-min=6.6km az=71.0, Suspected Mining explosion.*
*ASRS **01** 07:48:30.0±0.6, 54°.73N×83°.72E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **01** 07:48:33.6±1.6, 54°.65N×83°.76E, h0km, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=14.4km s-min=9.5km az=8.0*

ISC 01 07:48:30.5±2.5, 53°.20N±0°.08×86°.1E±0°.2, h0km, n10, σ1§51/12, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**316**	I	I	07 54 07.8	
	0.5nm,0.9s,baz=318,slow=330,SNR=9.9						
ZAA0	**Zalesovo Array**	**1.05**	**316**	⇑P	**Pg**	**07 48 50.6**	**-0.1**
	0.1nm,0.3s						
ZAA0				⇑S	**Sb**	**07 49 05.4**	**-0.4**
	2.4nm,0.4s						
ZALV	**Zalesovo Beam**	**1.05**	**316**	Pg	**Pg**	**07 48 50.6**	**0.0**
	3.0nm,0.3s,baz=319,slow=15,SNR=15						
ZALV				Lg	Lg	07 49 05.0	
	9.6nm,0.3s,baz=315,slow=30,SNR=9.7						
KURK	**Kurchatov**	**5.23**	**245**	⇑Pn	**Pn**	**07 49 50.8**	**+0.9**
	0.7nm,0.6s						
KURK				⇑Lg	Lg	07 51 14.0	
	3.2nm,0.6s						
KURBB	**Kurchatov Arra**	**5.33**	**244**	Pn	**Pn**	**07 49 52.1**	**+0.8**
	0.1nm,0.3s,baz=39,slow=14,SNR=4.8						
KURBB				Sn	**Sn**	**07 50 52.3**	**-1.0**
	0.1nm,0.3s,baz=40,slow=23,SNR=2.0						
KURBB				Lg	Lg	07 51 15.4	
	0.2nm,0.3s,baz=31,slow=27,SNR=6.8 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**5.33**	**244**	⇑Pn	**Pn**	**07 49 51.9**	**+0.6**
	0.8nm,0.6s						
KURBB				⇓Lg	Lg	07 51 16.6	
	3.9nm,0.6s						
MK31	**Makanchi Array**	**6.86**	**202**	⇓Pn	**Pn**	**07 50 13.0**	**+0.6**
	0.3nm,0.6s,baz=23,slow=13,SNR=6.5						
MK31				⇑Sn	**Sn**	**07 51 28.0**	**-3.1**
	1.6nm,0.7s,baz=85,slow=9.7,SNR=3.5						
MKAR	**Makanchi Array**	**6.86**	**202**	Pn	**Pb**	**07 50 30.6**	**+0.1**
	0.1nm,0.3s,baz=7.7,slow=14,SNR=4.0						
MKAR				Lg	Lg	07 52 46.7	
	0.1nm,0.3s,baz=17,slow=30,SNR=2.2 0.4nm,0.5s						
MAKZ	**Makanchi**	**6.92**	**204**	⇑Pn	**Pn**	**07 50 12.6**	**-0.6**
	0.7nm,0.7s						
MAKZ				⇓Sn	**Sn**	**07 51 35.3**	**+2.7**
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**9.43**	**275**	Pn	Pn	07 50 30.9	-17
	0.1nm,0.3s,baz=67,slow=15,SNR=7.2 1.1nm,0.4s						

---

*IDC **01** 07:49:21.3±1.1, 7°.12N×93°.85E, h0km, mb3.9/11, mbtmp3.9/14, ML3.8/3, MS2.9/2, Error ellipse: s-maj=38.9km s-min=17.4km az=54.0*
*NEIC **01** 07:49:22.9±2.4, 7°.24N±0°.10×93°.94E±0°.09, h10km±2km, mb4.1/5, Error ellipse: s-maj=16.8km s-min=14.2km az=208.0*
*DJA **01** 07:49:30.1±0.6, 7°N±5°×9°5E±°, h10km, M4.0/7, mb4.0/4, MLv4.1/7*
*NDI **01** 07:49:38.7±2.6, 7°.24N×93°.94E, h10km, ML3.7, MW3.7, mb4.1(NEIC)*

ISC 01 07:49:22.5±0.6, 7°.29N±0°.05×93°.96E±0°.09, h10km, n39, σ1§80/33, mb3.9/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.27**	**187**	*e*P	Pg	07 49 38.6	+11
CMBY				*e*S	Sg	07 49 44.5	+13
CMBY				IAML		07 49 50.7	
	comp=E,20μm,0.4s						
CMBY				IAML		07 49 51.0	
	comp=N,21μm,0.2s						
BSI	**Banda Aceh**	**2.22**	**143**	P	**Pg**	**07 50 05.3**	**+0.3**
LHMI	**Lhok Sumawe**	**3.60**	**124**	P	**Pn**	**07 50 20.3**	**+1.9**
MLSI	**Meulaboh, Aceh**	**3.86**	**141**	P	**Pb**	**07 50 27.0**	**-3.7**
PBA	**Port Blair**	**4.51**	**345**	*e*P	**Pg**	**07 50 47.6**	**-1.2**
PBA				*e*S	**Sb**	**07 51 38.0**	**+1.8**
SRIT	**Nakonsritamara**	**5.74**	**77**	Pn	**Pn**	**07 50 47.7**	**0.0**
DGPR	**DIGLIPUR**	**5.94**	**350**	*e*P	**Pb**	**07 51 06.8**	**+0

comp=Z,0.6nm,0.4s
MK31 Makanchi Array 40.62 348 P **P** **07 57 03.8 +1.2**
MK31 IAmb IAmb 07 57 10.7
comp=Z,3.6nm,1.0s
MKAR Makanchi Array 40.62 348 P **P** **07 57 04.1 +1.5**
comp=Z,1.8nm,0.8s,baz=163,slow=8.9,SNR=13
comp=Z,1.8nm,0.8s
MAKZ Makanchi 40.70 347 P **P** **07 57 04.4 +1.1**
SONM Songino Array 41.77 13 P **P** **07 57 13.6 +1.4**
comp=Z,0.4nm,0.6s,baz=194,slow=6.9,SNR=6.9
comp=Z,0.4nm,0.6s
KURBB Kurchatov Arra 45.07 346 P **P** **07 57 40.6 +2.0**
comp=Z,1.9nm,0.7s,baz=165,slow=7.0,SNR=17
comp=Z,1.9nm,0.7s
ZALV Zalesovo Beam 47.11 353 P **P** **07 57 56.0 +1.4**
comp=Z,1.6nm,0.4s,baz=174,slow=7.4,SNR=4.8
comp=Z,1.6nm,0.4s
WB0 Warramunga Arr 48.02 125 P **P** **07 58 02.2 -0.1**
WRA Warramunga Arr 48.07 125 P **P** **07 58 02.8 +0.2**
comp=Z,0.4nm,0.9s,baz=299,slow=7.6,SNR=5.6
comp=Z,0.4nm,0.9s
BVAR Borovoye Array 49.49 341 P **P** **07 58 14.2 +1.2**
comp=Z,0.8nm,0.7s,baz=151,slow=8.8,SNR=3.8
comp=Z,0.8nm,0.7s
ASAR Alice Springs 49.68 129 P **P** **07 58 14.0 -1.0**
ASAR Alice Springs 49.68 129 P **P** **07 58 14.8 -0.1**
comp=Z,0.5nm,0.9s,baz=313,slow=7.4,SNR=4.8
comp=Z,0.5nm,0.9s
AB31 Abkulak array 50.66 332 P **P** **07 58 22.8 +0.9**
AB31 IAmb IAmb 07 58 34.4
comp=Z,2.2nm,1.0s
ABKAR Abkulak array 50.66 332 P **P** **07 58 22.7 +0.7**
AKTO Aktyubinsk 52.38 332 P **P** **07 58 35.5 +0.7**
comp=Z,0.8nm,0.7s,baz=342,slow=2.1,SNR=2.0
comp=Z,0.8nm,0.7s
H04N2 CROZET ISLANDS 65.13 211 T T 09 10 49.5
baz=47,slow=74,SNR=16
H04N1 CROZET ISLANDS 65.14 211 T T 09 10 41.7
baz=47,slow=74,SNR=18
H04N3 CROZET ISLANDS 65.15 211 T T 09 10 40.5
baz=47,slow=74,SNR=17
FINES FINESS Array B 73.15 332 P **P** **08 00 54.1 +1.1**
comp=Z,5.6nm,1.1s,baz=112,slow=6.6,SNR=4.5
comp=Z,5.6nm,1.1s
HFS Hagfors 78.87 330 P **P** **08 01 26.5 +0.7**
comp=Z,4.7nm,1.1s,baz=97,slow=5.1,SNR=4.3
comp=Z,4.7nm,1.1s

---

*ASRS **01** 07:55:03.0±0.9, 53°.64N×87°.98E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 07:55:02.5±3.0, 53°.78N×88°.08E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=25.5km s-min=16.6km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**276**	I	I	08 07 36.5	
	0.1nm,0.9s,baz=97,slow=332,SNR=8.4						
ZALV	**Zalesovo Beam**	**1.94**	**276**	Pn	Pn	07 55 36.4	-0.3
	1.0nm,0.3s,baz=92,slow=14,SNR=11						
ZALV				Lg	Lg	07 56 03.4	
	2.1nm,0.3s,baz=92,slow=32,SNR=12						
KURBB	**Kurchatov Arra**	**6.67**	**246**	Pn	Pn	07 56 42.5	+0.9
	baz=61,slow=14,SNR=4.5						
KURBB				Lg	Lg	07 58 34.2	
	0.1nm,0.3s,baz=59,slow=32,SNR=4.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.92**	**210**	Pn	Pn	07 56 59.5	+0.7
	0.1nm,0.3s,baz=26,slow=13,SNR=5.3						
MKAR				Sn	Sn	07 58 29.6	+0.6
	baz=27,slow=23,SNR=2.2						
MKAR				Lg	Lg	07 59 13.4	
	baz=27,slow=32,SNR=3.4						
	0.6nm,0.8s						

---

*ASRS **01** 07:57:11.0±1.0, 53°.74N×91°.05E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 07:57:13.9±3.5, 53°.83N×90°.96E, h0km, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=28.4km s-min=24.8km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.64**	**274**	I	I	08 20 15.0	
	0.2nm,1.1s,baz=91,slow=334,SNR=16						
ZALV	**Zalesovo Beam**	**3.64**	**274**	Pn	Pn	07 58 12.3	+0.9
	0.4nm,0.3s,baz=90,slow=13,SNR=1.4						
ZALV				Lg	Lg	07 59 09.4	
	1.3nm,0.3s,baz=87,slow=27,SNR=7.6						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**8.28**	**252**	Pn	Pn	07 59 14.7	-0.5
	0.3nm,0.3s,baz=63,slow=14,SNR=4.7						
KURBB				Sn	Sn	08 00 46.8	-2.5
	0.1nm,0.3s,baz=66,slow=26,SNR=5.7						
KURBB				Lg	Lg	08 01 37.6	
	baz=67,slow=32						
	1.4nm,0.3s						
MKAR	**Makanchi Array**	**8.96**	**222**	Pn	Pn	07 59 25.2	+0.7
	0.1nm,0.3s,baz=31,slow=12,SNR=4.4						
MKAR				Sn	Sn	08 01 05.8	-0.4
	0.1nm,0.3s,baz=37,slow=24,SNR=2.7						
MKAR				Lg	Lg	08 02 00.0	
	0.1nm,0.3s,baz=35,slow=31,SNR=2.3						
	0.2nm,0.4s						

BEO 01 08:03:14.4±0.7, 44°.18N×22°.18E, h0km, ML1.3/6, 5C-4D, Mining explosion., Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORS2	**Bor- Borsko je**	**0.15**	**233**	*e*Pg	Pg	08 03 14.5	-2.7
BORS2				*e*Sg	Sg	08 03 16.8	-2.4
BORS2	**Bor- Borsko je**	**0.15**	**233**	*e*Pg	Pg	08 03 14.5	-2.7
BORS2				*e*Sg	Sg	08 03 16.5	-2.7
ZAGS	**Zajecar**	**0.37**	**174**	*e*Pg	Pg	08 03 21.5	0.0
ZAGS				*e*Sg	Sg	08 03 26.0	-0.2
ZAGS	**Zajecar**	**0.37**	**174**	*e*Pg	Pg	08 03 21.4	-0.1
KUBS	**Kucevo**	**0.43**	**303**	*e*Pg	Pg	08 03 21.4	-1.3
KUBS				*e*Sg	Sg	08 03 27.9	-0.4
KUBS	**Kucevo**	**0.43**	**303**	*e*Pg	Pg	08 03 21.1	-1.6
KUBS				*e*Sg	Sg	08 03 28.1	-0.2
BOVS	**Bovan**	**0.65**	**213**	↑P	Pg	08 03 25.7	-1.0
BOVS				↑S	Sg	08 03 33.4	-1.6
BLKB	**Belogradchik**	**0.66**	**147**	↑S	Sg	08 03 36.7	+1.1
HERR	**Herculane**	**0.72**	**13**	↓P	Pb	08 03 29.5	-0.3
HERR				↓S	Sb	08 03 39.5	-0.8
ZAPS	**Zavoj**	**0.96**	**160**	*e*Sg	Sg	08 03 44.7	-0.6
ZAPS	**Zavoj**	**0.96**	**160**	*e*Sg	Sg	08 03 44.3	-1.0
GRUS	**Gruza**	**1.10**	**255**	*e*Pg	Pb	08 03 35.9	-0.4
GRUS				*e*Sg	Sg	08 03 49.9	+0.2
GRUS	**Gruza**	**1.10**	**255**	*e*Pg	Pg	08 03 35.7	+0.3
GRUS				*e*Sg	Sg	08 03 50.2	+0.5
GOCS	**Kraljevo Serbi**	**1.13**	**237**	*e*Pg	Pg	08 03 36.0	-0.1
GOCS				*e*Sg	Sg	08 03 50.9	+0.2
SELS	**Selova**	**1.23**	**219**	*e*Pg	Pg	08 03 37.2	-0.8
SELS				*e*Sg	Sg	08 03 54.2	+0.3
GZR	**Gura Zlata**	**1.28**	**19**	↓P	Pn	08 03 40.0	+0.3
GZR				↓S	Sn	08 03 58.6	+0.9
GZR	**Gura Zlata**	**1.28**	**19**	*e*Pg	Pn	08 03 40.7	+1.0
GZR				*e*Sg	Sn	08 03 58.0	+0.4
BZS	**Buzias**	**1.49**	**345**	↓P	Pn	08 03 42.2	-0.2
BZS				↓S	Sn	08 04 03.2	+0.5
LANS	**Liptovska Anna**	**5.31**	**340**	*e*SG	Sg	08 06 03.1	-1.8

---

*IDC **01** 08:05:02.7±0.8, 7°.35N×94°.10E, h0km, mb4.0/13, mbtmp4.0/15, ML4.0/2, Error ellipse: s-maj=37.8km s-min=14.9km az=55.0*

*NEIC **01** 08:05:04.5±1.2, 7°.36N±0°.09×94°.2E±0°.1, h10km±1km, mb4.4/31, Error ellipse: s-maj=19.8km s-min=11.8km az=237.0*

*DJA **01** 08:05:08.9±1.3, 8°N±3°×9°4E±°, h16km±12km, M4.3/7, mb4.4/5, MLv4.3/7*

*NDI **01** 08:05:13.8±1.1, 7°.33N×94°.23E, h10km, ML4.0, MW4.1, mb4.4(NEIC)*

ISC 01 08:05:05.9±0.5, 7°.38N±0°.04×94°.19E±0°.06, h20km, n68, σ1°51/69, mb4.3/28, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.45**	**215**	*e*P	**Pn**	**08 05 19.6**	**+2.3**
CMBY				*e*S	**Sn**	**08 05 25.9**	**+1.1**
CMBY				IAML		08 05 32.5	
	comp=N,20μm,0.5s						
CMBY				IAML		08 05 33.1	
	comp=E,22μm,0.4s						
BSI	**Banda Aceh**	**2.17**	**150**	P	**Pb**	**08 05 44.5**	**-0.1**
LHMI	**Lhok Sumawe**	**3.48**	**128**	Pn	**Pn**	**08 05 57.2**	**-1.6**
LHMI	**Lhok Sumawe**	**3.48**	**128**	P	**Pn**	**08 06 01.1**	**+2.2**
MLSI	**Meulaboh, Aceh**	**3.80**	**144**	P	**Pb**	**08 06 08.9**	**-3.4**
PBA	**Port Blair**	**4.48**	**342**	Pn	**Pn**	**08 06 12.2**	**-0.5**
PBA	**Port Blair**	**4.48**	**342**	*e*P	**Pb**	**08 06 23.1**	**-0.8**
PBA				*e*S	**Sb**	**08 07 12.6**	**-5.0**
SRIT	**Nakonsritamara**	**5.49**	**77**	Pn	**Pn**	**08 06 26.6**	**-0.1**
DGPR	**DIGLIPUR**	**5.89**	**348**	*e*P	Pb	08 06 42.3	-5.7
DGPR				*e*S	**Sn**	**08 07 46.1**	**+7.0**
DGPR				IAML		08 07 54.4	
	comp=N,81nm,0.8s						
PSI	**Prapat**	**6.55**	**134**	Pn	**Pn**	**08 06 42.2**	**+0.9**
	comp=N,0.9nm,0.3s,baz=135,slow=22,SNR=10						
PSI				Sn	**Sn**	**08 08 00.4**	**+4.8**
	comp=N,1.2nm,0.3s,baz=340,slow=22,SNR=1.3						
	comp=N,2.0nm,0.3s						
RPSI	**Rantau Prapat**	**6.63**	**134**		**Pn**	**08 06 42.2**	**0.0**
RPSI	**Rantau Prapat**	**6.63**	**134**	Pn	**Pn**	**08 06 41.4**	**-0.8**
KULM	**Kulim**	**6.75**	**108**	Pn	**Pn**	**08 06 43.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**11.94**	**22**	Pn	**Pn**	**08 07 55.8**	**+0.7**
	comp=N,0.6nm,0.3s,baz=215,slow=14,SNR=14						
	comp=N,0.9nm,0.3s						
KSM	**Kuching**	**17.10**	**109**	Pn	**Pn**	**08 09 03.5**	**-0.5**
H08S3	**Diego Garcia H**	**26.28**	**236**	T	T	08 37 35.9	
	baz=54,slow=76,SNR=46						
H08S2	**Diego Garcia H**	**26.29**	**236**	T	T	08 37 14.4	
	baz=54,slow=76,SNR=70						
H08S1	**Diego Carcia H**	**26.30**	**236**	T	T	08 37 37.2	
	baz=54,slow=76,SNR=27						
WUS	**Wushi**	**36.22**	**341**	P	**P**	**08 12 07.4**	**-0.2**
WUS				IAmb	IAmb	08 12 12.2	
	comp=Z,5.3nm,0.7s						
TARG	**Taragay, Kyrgy**	**37.17**	**340**	P	**P**	**08 12 14.9**	**-1.1**
KDJ	**Kajisay**	**37.74**	**339**	P	**P**	**08 12 18.6**	**-2.0**
GAR	**Garm**	**38.12**	**329**	P	**P**	**08 12 23.1**	**-0.7**
GAR				IAmb	IAmb	08 12 24.7	
	comp=Z,9.6nm,1.0s						
BOOM	**Boomskoye usch**	**38.50**	**338**	P	**P**	**08 12 26.5**	**-0.6**
SIMJ	**Simiganj**	**38.54**	**328**	P	**P**	**08 12 27.1**	**-0.3**
SIMJ				IAmb	IAmb	08 12 27.9	
	comp=Z,4.5nm,0.8s						
BTK	**Batken**	**38.69**	**331**	P	**P**	**08 12 28.4**	**-0.1**
BTK				IAmb	IAmb	08 12 34.7	
	comp=Z,3.3nm,0.7s						
ARSB	**Arslanbob**	**38.70**	**334**	P	**P**	**08 12 29.3**	**+0.5**
ARSB				IAmb	IAmb	08 12 33.7	
	comp=Z,5.3nm,0.6s						
AAK	**Ala-Archa**	**39.18**	**337**	P	**P**	**08 12 32.1**	**-0.5**
MK31	**Makanchi Array**	**40.58**	**347**	P	**P**	**08 12 43.5**	**-0.6**
MKAR	**Makanchi Array**	**40.58**	**347**	P	**P**	**08 12 43.4**	**-0.7**
MKAR	**Makanchi Array**	**40.58**	**347**	P	**P**	**08 12 43.6**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=166,slow=8.8,SNR=24						
	comp=Z,2.0nm,0.6s						
MAKZ	**Makanchi**	**40.66**	**347**	P	**P**	**08 12 44.3**	**-0.5**
SONM	**Songino Array**	**41.63**	**12**	P	**P**	**08 12 53.0**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=202,slow=6.4,SNR=4.2						
SONM				PcP	**PcP**	**08 14 50.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=188,slow=3.1,SNR=1.6						
	comp=Z,1.0nm,0.9s						
KSAR	**Wonju Array Be**	**42.77**	**41**	P	**P**	**08 13 02.1**	**0.0**
KURBB	**Kurchatov Arra**	**45.03**	**346**	P	**P**	**08 13 20.2**	**+0.1**
	comp=Z,5.2nm,0.9s,baz=166,slow=6.9,SNR=33						
KURBB				PcP	**PcP**	**08 15 00.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=158,slow=4.2,SNR=2.1						
	comp=Z,5.2nm,0.9s						
KURK	**Kurchatov**	**45.10**	**346**	P	**P**	**08 13 20.8**	**+0.2**
ZAA0	**Zalesovo Array**	**47.05**	**352**	P	**P**	**08 13 36.2**	**+0.3**
ZAA0				IAmb	IAmb	08 13 37.2	
	comp=Z,4.6nm,1.1s						
ZALV	**Zalesovo Beam**	**47.05**	**352**	P	**P**	**08 13 36.1**	**+0.2**
ZALV	**Zalesovo Beam**	**47.05**	**352**	P	**P**	**08 13 36.0**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=178,slow=8.5,SNR=14						
	comp=Z,3.3nm,0.7s						
WRA	**Warramunga Arr**	**47.94**	**125**	P	**P**	**08 13 43.2**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=303,slow=9.0,SNR=5.9						
WRA				PcP	**PcP**	**08 15 11.9**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=286,slow=3.0,SNR=1.0						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**49.47**	**341**	P	**P**	**08 13 54.5**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=142,slow=7.5,SNR=7.7						
	comp=Z,2.1nm,0.7s						
BRVK	**Borovoye**	**49.53**	**341**	P	**P**	**08 13 55.1**	**0.0**
BRVK				IAmb	IAmb	08 13 59.8	
	comp=Z,2.4nm,0.9s						
ASAR	**Alice Springs**	**49.56**	**130**	P	**P**	**08 13 56.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=310,slow=8.1,SNR=5.3						
ASAR				PcP	**PcP**	**08 15 18.2**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=302,slow=3.0,SNR=1.4						
	comp=Z,0.4nm,0.6s						
AB31	**Abkulak array**	**50.68**	**332**	P	**P**	**08 14 03.8**	**-0.2**
AB31				IAmb	IAmb	08 14 09.2	
	comp=Z,7.8nm,1.3s						
ABKAR	**Abkulak array**	**50.68**	**332**	P	**P**	**08 14 03.8**	**-0.2**
BR131	**Keskin Array S**	**62.79**	**311**	P	**P**	**08 15 28.8**	**-1.6**
BR131				IAmb	IAmb	08 15 29.2	
	comp=Z,5.2nm,1.4s						
BRTR	**Keskin Array B**	**62.79**	**311**	P	**P**	**08 15 28.2**	**-2.1**
BRTR	**Keskin Array B**	**62.79**	**311**	P	**P**	**08 15 29.8**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=105,slow=7.1,SNR=4.7						
	comp=Z,0.7nm,0.6s						
H04N2	**CROZET ISLANDS**	**65.33**	**211**	T	T	09 26 16.9	
	baz=47,slow=75,SNR=21						
H04N1	**CROZET ISLANDS**	**65.34**	**211**	T	T	09 26 20.4	
	baz=47,slow=75,SNR=17						
H04N3	**CROZET ISLANDS**	**65.35**	**211**	T	T	09 26 16.6	
	baz=47,slow=75,SNR=17						
TIXI	**Tiksi**	**67.70**	**11**	P	**P**	**08 16 01.0**	**-0.5**
RDO	**Rodhopi**	**69.12**	**311**	P	**P**	**08 16 09.6**	**-1.3**
RDO				IAmb	IAmb	08 16 35.0	
	comp=Z,5.2nm,1.1s						
MLR	**Muntele Rosu**	**69.56**	**316**	P	**P**	**08 16 13.3**	**-0.4**
FINES	**FINESS Array B**	**73.17**	**332**	P	**P**	**08 16 35.1**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=113,slow=6.1,SNR=6.4						
	comp=Z,2.8nm,1.0s						
GERES	**GERESS Array B**	**78.22**	**318**	P	**P**	**08 17 04.3**	**-0.1**
GERES	**GERESS Array B**	**78.22**	**318**	P	**P**	**08 17 04.5**	**+0.2**
	comp=Z,0.4nm,0.2s,baz=94,slow=6.0,SNR=5.4						
	comp=Z,0.4nm,0.2s						
HFS	**Hagfors**	**78.90**	**330**	P	**P**	**08 17 07.9**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=119,slow=5.2,SNR=7.9						
	comp=Z,1.7nm,0.5s						
NOA	**NORSAR Array B**	**80.18**	**331**	P	**P**	**08 17 14.6**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=93,slow=5.5,SNR=2.3						
	comp=Z,1.0nm,0.8s						
G16K	**Koyuk River**	**88.89**	**24**	P	**P**	**08 17 58.9**	**+0.3**
G16K				IAmb	IAmb	08 18 07.1	
	comp=Z,1.7nm,1.0s						
B20K	**Meade River**	**89.38**	**19**	P	**P**	**08 18 02.2**	**+1.4**
B20K				IAmb	IAmb	08 18 42.1	
	comp=Z,2.5nm,1.2s						
D19K	**Kuna River**	**89.57**	**21**	P	**P**	**08 18 02.5**	**+0.7**
D19K				IAmb	IAmb	08 18 06.6	
	comp=Z,4.1nm,1.2s						
E21K	**Killik River**	**91.02**	**20**	P	**P**	**08 18 09.4**	**+0.8**
E21K				IAmb	IAmb	08 18 13.7	
	comp=Z,1.7nm,0.9s						
ESDC	**Sonseca Array**	**91.57**	**310**	P	**P**	**08 18 11.8**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=79,slow=4.6,SNR=2.8						
	comp=Z,0.6nm,0.8s						
G21K	**Allakaket**	**91.94**	**22**	P	**P**	**08 18 12.6**	**-0.3**
G21K				IAmb	IAmb	08 18 14.5	
	comp=Z,1.9nm,0.9s						
H21K	**Melozitna Rive**	**92.55**	**22**	P	**P**	**08 18 16.4**	**+0.7**
H21K				IAmb	IAmb	08 18 32.0	
	comp=Z,2.3nm,1.1s						
E23K	**Chandalar**	**92.65**	**20**	P	**P**	**08 18 17.6**	**+1.4**
K20K	**Telida**	**92.96**	**25**	P	**P**	**08 18 17.7**	**+0.1**
PLCA	**Paso Flores**	**144.11**	**200**	PKP	**PKPdf**	**08 24 40.0**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=52,slow=5.8,SNR=3.7						

---

*MOS **01** 08:11:29.6±1.2, 7°.53N×94°.20E, h10km, mb5.4/76, MS4.9/26, Error ellipse: s-maj=7.2km s-min=3.6km az=113.6*

*BJI **01** 08:11:30.4, 7°.20N×93°.97E, h29km, mB5.5/69, mb5.0/80, Ms5.7/94, Ms7 5.5/93*

*NEIC **01** 08:11:32.5, 7°.56N×94°.38E, h22km*

*NDI **01** 08:11:32.8±1.3, 7°.57N×94°.35E, h10km, mb5.0, ML5.1, MW5.2*

*NEIC **01** 08:11:32.5, 7°.56N×94°.38E, h10km*

*NEIC **01** 08:11:32.5, 7°.26N×94°.00E, h22km, Moment Tensor Solution. Duration: 2ᵗ9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.51; $M_{\theta\theta}$-1.70; $M_{\phi\phi}$2.20; $M_{r\theta}$0.58; $M_{\theta\phi}$-0.54; $M_{\theta r}$-0.35; Fault plane solution: $M_0$2.15000×10^{17} NP1: ϕ_s216.17000°, δ69.29000°, λ-8.59000°. NP2:ϕ_s309.23000°, δ81.97000°, λ-159.08000°. Principal axes: T 2.3388, Plg9.0000°, Azm81.0000°; N -0.3732, Plg68.0000°, Azm329.0000°; P -1.9656, Plg20.0000°, Azm174.0000°;*

*NEIC **01** 08:11:32.4±1.7, 7°.58N±0°.06×94°.34E±0°.06, h10km±1km, mb5.5/277, Ms_20 5.4/418, Mwb5.3/18, Mww5.5/41 Error ellipse: s-maj=11.3km s-min=9.2km az=61.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.38; $M_{\theta\theta}$-1.10; $M_{\phi\phi}$0.72; $M_{r\theta}$0.08; $M_{\theta\phi}$-0.79; $M_{\phi r}$0.06; Fault plane solution: $M_0$1.25000×10^{17} NP1: ϕ_s204.56000°, δ89.43000°, λ-3.91000°. NP2:ϕ_s294.60000°, δ86.09000°, λ-179.42000°. Principal axes: T 1.0118, Plg2.0000°, Azm250.0000°; N 0.3872, Plg86.0000°, Azm16.0000°; P -1.3990, Plg3.0000°, Azm160.0000°;*

*DJA **01** 08:11:34.6±0.1, 8°N±2°×9°4E±°, h10km, M5.4/97, mB5.8/67, mb5.4/97, MLv5.8/14, Mw5.4/33, Mw(mB)5.4/67, MwMwp5.2/19, Mwp5.4/19*

*GCMT **01** 08:11:35.4±0.1, 7°.48N±0°.01×94°.30E±0°.01, h12km, MW5.5/144, Moment Tensor Solution. s107,c171; s144,c279; Duration: 1ᵗ3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.31±.02; $M_{\theta\theta}$-1.54±.02; $M_{\phi\phi}$1.85±.02; $M_{r\theta}$-0.50±.04; $M_{\theta\phi}$-0.27±.02; $M_{\phi r}$-0.47±.04; Best double couple: $M_0$1.86000×10^{17} NP1:ϕ_s131.00000°, δ67.00000°, λ-173.00000°. NP2:ϕ_s39.00000°, δ83.00000°, λ-23.00000°. Principal axes: T 1.9560, Plg11.0000°, Azm87.0000°; N -0.1890, Plg66.0000°, Azm203.0000°; P -1.7650, Plg21.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **01** 08:11:36.5±1.2, 7°.55N×94°.24E, h41km±10km, mb4.5/38, mbtmp4.7/42, ML4.9/5, MS5.0/80 Error ellipse: s-maj=12.9km s-min=8.0km az=52.0*

ISC 01 08:11:34.3±0.4, 7°.56N±0°.03×94°.15E±0°.03, h23km±2km, h23km:pP-P, n1375, σ2ᵗ21/1255, mb5.3/292, MS5.3/331, 32C-23D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.58**	**202**	*e*P	**Pb**	**08 11 44.2**	**-1.7**
CMBY				*e*S	**Sb**	**08 11 52.2**	**-1.5**
CMBY				IAML		08 11 54.8	
	comp=E,611μm,0.7s						
CMBY				IAML		08 11 56.2	
	comp=N,1482μm,0.6s						
BSI	**Banda Aceh**	**2.34**	**151**	P	**Pn**	**08 12 09.5**	**-2.0**
LHMI	**Lhok Sumawe**	**3.62**	**130**	Pn	**Pn**	**08 12 26.3**	**-2.7**
LHMI	**Lhok Sumawe**	**3.62**	**130**	P	**Pn**	**08 12 27.3**	**-1.7**
LHMI	**Lhok Sumawe**	**3.62**	**130**	P	**Pn**	**08 12 27.4**	**-1.6**
MLSI	**Meulaboh, Aceh**	**3.97**	**145**	P	**Pn**	**08 12 35.0**	**+1.2**
PBA	**Port Blair**	**4.30**	**341**		**Pn**	**08 12 38.7**	**+0.3**
PBA	**Port Blair**	**4.30**	**341**	P	**Pn**	**08 12 41.7**	**+3.3**
	SNR=23						
PBA	**Port Blair**	**4.30**	**341**	*e*P	**Pn**	**08 12 39.1**	**+0.7**
PBA				*e*S	**Sn**	**08 13 28.2**	**+0.3**
SRIT	**Nakonsritamara**	**5.50**	**79**	Pn	**Pn**	**08 12 53.0**	**-1.9**
SRIT	**Nakonsritamara**	**5.50**	**79**	P	**Pn**	**08 12 53.3**	**-1.6**
SNSI	**Sinabang, Aceh**	**5.56**	**157**	P	**Pn**	**08 12 56.8**	**+1.1**
DGPR	**DIGLIPUR**	**5.71**	**348**	*e*P	**Pn**	**08 12 58.0**	**+0.2**
DGPR				*e*S	**Sn**	**08 14 00.6**	**-2.1**
DGPR				IAML		08 14 29.6	
	comp=N,459nm,1.8s						
DGPR				IAML		08 15 10.2	
	comp=E,474nm,1.9s						
TSI	**Tuntungan**	**5.96**	**132**	P	**Pn**	**08 12 58.7**	**-2.6**
	comp=E,7.9nmcomp=E,475nm,1.2s						
PSI	**Prapat**	**6.71**	**135**	P	**Pn**	**08 13 11.7**	**+0.2**
	comp=E,10nm,0.3s,baz=293,slow=8.6,SNR=40						
PSI				LR	LR	08 15 56.1	
	comp=E,14μm,20.4s,baz=284,slow=39						
	comp=E,19nm,0.5s						
PSI	**Prapat**	**6.71**	**135**	P	**Pn**	**08 13 11.9**	**+0.3**
PSI	**Prapat**	**6.71**	**135**	P	**Pn**	**08 13 11.1**	**-0.5**
RPSI	**Rantau Prapat**	**6.78**	**135**	Pn	**Pn**	**08 13 11.1**	**-1.4**
KULM	**Kulim**	**6.84**	**109**	Pn	**Pn**	**08 13 10.4**	**-3.0**
KULM	**Kulim**	**6.84**	**109**	P	**Pn**	**08 13 10.7**	**-2.7**
GSI	**Gunungsitoli**	**7.09**	**151**	Pn	**Pn**	**08 13 14.5**	**-2.2**
GSI	**Gunungsitoli**	**7.09**	**151**	P	**Pn**	**08 13 17.7**	**+0.9**
GSI	**Gunungsitoli**	**7.09**	**151**	P	**Pn**	**08 13 16.5**	**-0.3**
	comp=E,1.4nmcomp=E,8μmcomp=E,289nm,1.5s						
SRDT	**SRDT**	**8.33**	**35**	P	**Pn**	**08 13 34.4**	**+0.6**
PBSI	**Pulau Batu**	**8.61**	**151**	P	**Pn**	**08 13 39.5**	**+1.9**
	comp=E,12μmcomp=E,4μmcomp=E,271nm,1.0s						
MNSI	**Mandailing Nat**	**8.63**	**141**	P	**Pn**	**08 13 38.3**	**+0.4**
	comp=E,127nm,0.5s						
NAYO	**Nakonayok**	**9.73**	**46**	P	**Pn**	**08 13 53.8**	**+0.8**
BKNI	**Bangkinang**	**9.94**	**136**	Pn	**Pn**	**08 13 55.4**	**-0.5**
BKNI	**Bangkinang**	**9.94**	**136**	P	**Pn**	**08 13 57.4**	**+1.5**
BKNI	**Bangkinang**	**9.94**	**136**	P	**Pn**	**08 13 56.4**	**+0.5**
SISI	**Saibi**	**10.11**	**151**	P	**Pn**	**08 13 58.2**	**0.0**
	comp=E,9μmcomp=E,3μmcomp=

SALM IAmb IAmb 08 15 35.1
SALM eS Sn 08 18 09.5 -11
KASI Kota Agung 16.60 141 P **P 08 15 26.7 -1.4**
SLVN Son La 16.63 34 Pn **Pn 08 15 23.4 -2.8**
SLVN Son La 16.63 34 P **P 08 15 31.3 +2.9**
KOD Kodaikanal 16.69 280 eP **P 08 15 29.2 -0.3**
KOD IAmb IAmb 08 15 39.2
comp=Z,100nm,0.8s
TPI Tanjungpandan 16.93 127 P **Pn 08 15 30.1 +0.2**
TRD Trivandrum 17.05 274 eP **P 08 15 33.6 +0.6**
TRD eS **Sn 08 18 30.7 -10**
IMP Imphal 17.18 359 eP **Pn 08 15 32.7 -0.3**
IMP IAmb IAmb 08 15 41.1
comp=Z,95nm,1.1s
KSM Kuching 17.20 110 **Pn 08 15 31.4 -1.9**
KSM Kuching 17.20 110 P **P 08 15 34.0 -0.8**
JHSG JHARSUGUGA 17.31 326 eP **P 08 15 36.2 +0.3**
JHSG IAmb IAmb 08 15 46.5
comp=Z,546nm,1.3s
KNTI KHUNTI 17.61 332 eS **Sn 08 18 50.9 -3.2**
TNCH TengChong 17.87 13 ⇓iP **P 08 15 42.7 +0.4**
TNCH pP pwP 08 15 50.9 +0.2
TNCH PP **PnPn 08 15 58.2 +5.3**
TNCH S **S 08 19 06.7 -0.2**
TNCH sS sS 08 19 16.6 +0.8
TNCH pmax pmax
comp=Z,280nm,2.5s
TNCH LR LR
comp=Z,7μm,10.1s
TNCH LR LR
comp=Z,14μm,8.9s
TNCH LR LR
comp=Z,8μm,12.3s
BOK Bokaro 17.99 335 eP **P 08 15 44.8 +1.4**
BOK eS Sn 08 18 50.3 -13
SHL Shillong 18.04 353 Pn **Pn 08 15 41.5 -2.3**
SHL Shillong 18.04 353 P **Pn 08 15 42.4 -1.4**
SNR=30
SHL Shillong 18.04 353 eP **Pn 08 15 43.2 -0.6**
SHL eS Sn 08 18 48.4 -16
SHL Shillong 18.04 353 P **Pn 08 15 41.5 -2.3**
SHL pmax pmax
comp=Z,59nm,0.8s
KOHI KOHIMA 18.06 360 eP **P 08 15 44.4 0.0**
KOHI IAmb IAmb 08 15 56.0
comp=Z,182nm,1.1s
HYB Hyderabad 18.09 304 eP **P 08 15 46.0 +1.4**
HYB eS **S 08 19 09.4 -1.7**
CGJI Cibinong 18.19 140 P **Pn 08 15 45.1 -0.4**
comp=Z,101nm,1.2s
BLSP Bilaspur 18.55 323 eP **Pn 08 15 52.0 +2.1**
BLSP eS Sn 08 19 01.4 -15
GUWA GUWAHATI 18.68 353 eP **Pn 08 15 51.9 +0.5**
GUWA IAmb IAmb 08 15 58.0
comp=Z,288nm,1.8s
SBUM Sibu 18.70 105 P **P 08 15 47.2 -4.1**
SBUM Sibu 18.70 105 P **Pn 08 15 52.3 +0.5**
STKI Sintang 18.82 113 P **Pn 08 15 53.8 +0.6**
comp=Z,155nm,1.4s
TEZP TEZPUR 19.00 356 eP **Pn 08 15 56.6 +1.3**
TEZP IAmb IAmb 08 16 08.9
comp=Z,67nm,1.2s
QIZ Qiongzhong 19.04 52 P **Pn 08 15 56.8 +0.9**
QIZ S **Sn 08 19 27.3 -1.4**
QIZ pmax pmax
comp=Z,57nm,1.8s
QIZ pmax pmax
comp=Z,3μm,5.8s
QIZ LR LR
comp=Z,31μm,12.7s
QIZ LR LR
comp=Z,12μm,13.7s
QIZ LR LR
comp=Z,8μm,10.6s
QIZ Qiongzhong 19.04 52 P **Pn 08 15 58.3 +2.4**
KMI Kunming 19.30 24 P **Pn 08 16 01.8 +2.6**
KMI S **Sn 08 19 32.6 -2.6**
KMI pmax pmax
comp=Z,53nm,0.9s
KMI pmax pmax
comp=Z,2μm,5.1s
KMI LR LR
comp=Z,10μm,14.3s
KMI LR LR
comp=Z,10μm,12.8s
KMI LR LR
comp=Z,9μm,14.0s
JPG JALPAIGURI 19.58 345 eP **Pn 08 16 04.1 +1.9**
LEM Lembang 19.61 136 P **P 08 16 00.4 -1.1**
comp=Z,6.7nm,0.3s,baz=324,slow=2.1,SNR=9.5
LEM LR LR 08 25 29.3
comp=Z,10μm,19.8s,baz=296,slow=43
comp=Z,20nm,0.3s
LEM Lembang 19.61 136 P **Pn 08 16 03.6 +0.7**
CNJI Cibinong 19.64 138 P **Pn 08 16 03.0 -0.1**
LKP Lekhapani 19.74 4 eP **Pn 08 16 05.8 +1.6**
MNGI Mangalore 19.75 287 eP **Pn 08 16 09.1 +4.7**
MNGI IAmb IAmb 08 16 12.1
comp=Z,51nm,1.1s
MNGI eS S 08 19 29.6 -15
COCO West Island 19.80 172 P **P 08 16 01.8 -1.5**
COCO West Island 19.80 172 P **Pn 08 16 11.9 +7.0**
COCO West Island 19.80 172 P **Pn 08 16 07.6 +2.7**
COCO West Island 19.80 172 P **P 08 16 01.8 -1.5**
COCO pmax pmax
comp=Z,469nm,1.1s
ZIRO ZIRO 19.86 359 eP **Pn 08 16 07.5 +1.7**
ZIRO IAmb IAmb 08 16 09.2
comp=Z,31nm,0.7s
TAWA Tawang 20.05 354 eP Pn 08 16 10.5 +2.4
BBJI Bungbulang 20.10 138 P **P 08 16 06.2 -0.5**
PZH PanZhiHua 20.18 20 P Pn 08 16 10.0 +0.5
PZH S **S 08 19 54.3 +1.0**
PZH pmax pmax
comp=Z,130nm,1.7s
PZH pmax pmax
comp=Z,2μm,4.5s
PZH LR LR
comp=Z,7μm,12.9s
PZH LR LR
comp=Z,15μm,13.1s
PZH LR LR
comp=Z,6μm,14.3s
HMDM Hanimaadhoo 20.81 269 P Pn 08 16 16.3 -0.6
HMDM Hanimaadhoo 20.81 269 P Pn 08 16 17.6 +0.7
SNR=34
CMJI Cimerak 20.87 137 P Pn 08 16 26.7 +9.2
AKL Akola 21.11 310 eS **S 08 20 02.8 -8.8**
XMI Christmas Isla 21.26 147 P **P 08 16 23.2 +4.0**
XMIS Christmas Isla 21.27 147 P **P 08 16 17.3 -1.9**
XMIS Christmas Isla 21.27 147 P **P 08 16 22.5 +3.2**
SMRI Semarang 21.79 131 P **P 08 16 22.1 -2.8**
SMRI IAmb IAmb 08 16 39.2
comp=Z,227nm,0.9s
SMRI Semarang 21.79 131 P **P 08 16 27.1 +2.2**
SMRI Semarang 21.79 131 P **P 08 16 26.3 +1.4**
comp=Z,5μmcomp=Z,272nm,1.1s
KKM Kota Kinabalu 21.96 93 P **P 08 16 23.4 -3.6**
KKM Kota Kinabalu 21.96 93 P **P 08 16 28.3 +1.4**
LSA Lhasa 22.21 353 P **P 08 16 28.1 -1.6**
LSA IAmb IAmb 08 16 39.3
comp=Z,141nm,0.8s
LSA Lhasa 22.21 353 P **P 08 16 28.2 -1.6**
LSA S **S 08 20 30.8 -2.8**
LSA LR LR
comp=Z,3μm,20.1s
LSA LR LR
comp=Z,5μm,19.4s
LSA Lhasa 22.21 353 P **P 08 16 28.1 -1.6**
LSA pmax pmax
comp=Z,141nm,0.8s
LSA MLR MLR
comp=Z,2μm,19.0s
KAAM Kaadhehdhoo 22.22 253 P **P 08 16 30.2 +0.6**
KAAM IAmb IAmb 08 16 53.0
comp=Z,429nm,1.6s
KAAM Kaadhehdhoo 22.22 253 P **P 08 16 35.2 +5.7**
SNR=17
GYA Guiyang 22.25 31 ⇓P **P 08 16 31.2 +1.3**
GYA S **S 08 20 35.5 +1.6**
GYA pmax pmax
comp=Z,34nm,1.0s
GYA pmax pmax
comp=Z,2μm,4.9s

GYA LR LR
comp=Z,18μm,14.1s
GYA LR LR
comp=Z,27μm,13.7s
GYA LR LR
comp=Z,13μm,14.0s
BHPL Bhopal 22.39 316 eS **S 08 20 31.8 -4.6**
UGM Wanagama 22.42 133 P **P 08 16 35.0 +3.3**
UGM Wanagama 22.42 133 P P 08 16 57.7 +26
TBJI Tambak Boyo 22.71 129 P **P 08 16 36.5 +1.8**
NGJI Ngawi 22.76 130 P **P 08 16 37.4 +2.2**
comp=Z,382nm,1.2s
LKN LUCKNOW 22.89 328 eS **S 08 20 42.9 -2.2**
PCJI Pacitan 23.09 132 P **P 08 16 39.9 +1.2**
comp=Z,84nm,1.3s
GRJI Gresik 23.26 128 P **P 08 16 42.4 +2.0**
comp=Z,4μmcomp=Z,7μmcomp=Z,231nm,1.2s
GUNA GUNA 23.40 318 eS **S 08 20 56.5 +2.7**
GULI GuiLin 23.47 39 P **P 08 16 44.2 +1.8**
GULI pmax pmax
comp=Z,170nm,1.2s
GULI pmax pmax
comp=Z,2μm,4.6s
GULI LR LR
comp=Z,2μm,14.1s
GULI LR LR
comp=Z,2μm,11.9s
GULI LR LR
comp=Z,690nm,14.4s
GZH Guangzhou 24.06 48 P **P 08 16 52.6 +4.6**
GZH S S 08 21 15.2 +11
GZH LR LR
comp=Z,28μm,15.9s
GZH LR LR
comp=Z,14μm,14.9s
GZH LR LR
comp=Z,15μm,13.5s
MYLDM Lahad Datu 24.32 94 P **P 08 16 48.0 -2.5**
MYLDM Lahad Datu 24.32 94 P **P 08 16 53.0 +2.5**
SMKI Samarinda 24.34 108 P P 08 16 59.2 +8.5
KMMI Kalianget 24.52 126 P **P 08 16 53.0 +0.6**
comp=Z,4μmcomp=Z,4μmcomp=Z,225nm,0.8s
GMJI Gumukmas 24.85 129 P **P 08 16 57.5 +2.2**
comp=Z,2μmcomp=Z,91nm,1.2s
CD2 Chengdu 24.91 20 P **P 08 16 56.7 +0.9**
CD2 S **S 08 21 20.0 +1.9**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,1μm,4.1s
CD2 LR LR
comp=Z,8μm,10.1s
CD2 LR LR
comp=Z,8μm,10.9s
JAGI Jajag, Banyuwa 25.52 128 P **P 08 16 58.6 -2.8**
JAGI IAmb IAmb 08 17 33.0
comp=Z,126nm,1.1s
JAGI Jajag, Banyuwa 25.52 128 P **P 08 17 04.3 +2.9**
JAGI Jajag, Banyuwa 25.52 128 P **P 08 17 03.0 +1.6**
comp=Z,2μmcomp=Z,118nm,1.0s
SRBI Singaraja 26.12 126 P **P 08 17 08.8 +1.9**
comp=Z,4μmcomp=Z,304nm,1.5s
DGAR Diego Garcia 26.25 236 P **P 08 17 08.2 +0.2**
DGAR Diego Garcia 26.25 236 P **P 08 17 14.6 +6.5**
DGAR Diego Garcia 26.25 236 P **P 08 17 08.2 +0.2**
DGAR pmax pmax
comp=Z,240nm,1.3s
DGAR MLR MLR
comp=Z,3μm,20.0s
H08S3 Diego Garcia H 26.34 236 T T 08 43 50.5
baz=54,slow=75,SNR=3943
H08S2 Diego Garcia H 26.35 235 T T 08 44 00.9
baz=54,slow=75,SNR=4297
H08S1 Diego Garcia H 26.36 236 T T 08 44 02.0
baz=54,slow=75,SNR=2692
ENH Enshi 26.79 31 IAMs_20 IAMs_20 08 27 56.3
comp=Z,8μm,18.0s
ENH Enshi 26.79 31 P **P 08 17 18.1 +5.3**
TGY Tagaytay City 27.09 74 LR LR 08 27 45.5
comp=Z,4μm,18.2s,baz=280,slow=36
CNSH ChangSha 27.13 39 P **P 08 17 17.4 +1.5**
CNSH S **S 08 21 56.8 +3.7**
CNSH pmax pmax
comp=Z,26nm,1.7s
CNSH LR LR
comp=Z,7μm,16.1s
CNSH LR LR
comp=Z,7μm,14.5s
CNSH LR LR
comp=Z,6μm,14.7s
TOLI2 Tolitoli 27.31 102 P **P 08 17 13.4 -4.2**
TOLI2 IAmb IAmb 08 17 27.5
comp=Z,242nm,1.6s
TOLI2 Tolitoli 27.31 102 P **P 08 17 20.5 +2.9**
TTSI Tana Toraja 27.70 111 P P 08 17 28.3 +7.2
TWSI Taliwang, Sumb 27.85 125 P **P 08 17 24.4 +2.0**
comp=Z,19nm,0.6s
SPSI Sidrap Palu 28.01 113 P **P 08 17 26.4 +2.5**
comp=Z,39nm,1.1s
KAPI Kappang 28.44 115 P **P 08 17 25.4 -2.3**
KAPI IAmb IAmb 08 17 33.7
comp=Z,112nm,1.4s
KAPI Kappang 28.44 115 LR LR 08 28 29.5
comp=Z,3μm,22.0s,baz=292,slow=36
KAPI Kappang 28.44 115 P P 08 17 32.5 +4.8
KAPI Kappang 28.44 115 P **P 08 17 31.4 +3.7**
KAPI Kappang 28.44 115 P **P 08 17 25.4 -2.3**
KAPI pmax pmax
comp=Z,112nm,1.4s
KAPI MLR MLR
comp=Z,3μm,22.0s
GOMU GeErMu 28.52 1 P **P 08 17 29.6 +1.0**
GOMU sP pwP 08 17 37.0 -0.3
GOMU S **S 08 22 17.6 +2.1**
GOMU pmax pmax
comp=Z,12nm,1.3s
GOMU LR LR
comp=Z,4μm,13.9s
GOMU LR LR
comp=Z,2μm,13.6s
GOMU LR LR
comp=Z,5μm,13.0s
MRSI Marisa 28.59 103 P **P 08 17 32.0 +2.9**
comp=Z,1μmcomp=Z,98nm,0.9s
PLAI Plampang 28.63 124 P **P 08 17 31.3 +1.9**
comp=Z,34nm,0.9s
APSI Ampana 28.69 106 P P 08 17 41.4 +11
BKSI Bulukumba 28.90 116 P **P 08 17 33.7 +1.9**
comp=Z,930nmcomp=Z,89nm,0.9s
QZH Quanzhou 29.06 51 P **P 08 17 36.1 +3.0**
QZH LR LR
comp=Z,21μm,14.2s
QZH LR LR
comp=Z,9μm,15.3s
QZH LR LR
comp=Z,14μm,14.5s
WHN Wuhan 29.68 37 P **P 08 17 40.1 +1.5**
WHN pP **pP 08 17 44.9 +0.2**
WHN S **S 08 22 36.7 +3.4**
WHN pmax pmax
comp=Z,49nm,0.5s
WHN pmax pmax
comp=Z,2μm,4.4s
WHN LR LR
comp=Z,12μm,8.4s
WHN LR LR
comp=Z,13μm,10.2s
WHN LR LR
comp=Z,25μm,14.2s
LZH Lanzhou 29.75 16 P **P 08 17 40.8 +1.5**
LZH PP **PP 08 18 40.7 -6.0**
LZH S **S 08 22 33.2 -1.3**
LZH SS **SnSn 08 24 12.3 +7.3**
LZH pmax pmax
comp=Z,33nm,1.6s
LZH pmax pmax
comp=Z,540nm,6.5s
LZH LR LR
comp=Z,6μm,14.1s
LZH LR LR
comp=Z,9μm,13.1s
LZH LR LR
comp=Z,8μm,13.7s
LUWI Luwuk 29.80 105 P **P 08 17 36.8 -3.0**
LUWI Luwuk 29.80 105 P **P 08 17 42.6 +2.8**
LUWI Luwuk 29.80 105 P **P 08 17 41.5 +1.7**

TPUB Ta-pu 29.86 55 IAMs_20 IAMs_20 08 31 23.4
comp=Z,5μm,18.0s
SSLB Suanglung 30.35 55 P **P 08 17 49.0 +4.4**
WBSI Waikabubak, Su 30.40 124 P **P 08 17 48.0 +2.8**
comp=Z,1μmcomp=Z,42nm,1.4s
KMSI Cibinong 30.54 102 P P 08 17 59.7 +13
NACB Ninganchiao 31.05 55 IAMs_20 IAMs_20 08 29 57.9
comp=Z,8μm,20.0s
YHNB Yeheng 31.10 54 IAMs_20 IAMs_20 08 29 59.4
comp=Z,10μm,19.0s
DAV Davao City (W) 31.18 89 LR LR 08 31 54.5
comp=Z,1μm,21.2s,baz=269,slow=39
DAV Davao City (W) 31.18 89 P **P 08 17 55.6 +3.6**
DAV S **S 08 23 04.3 +7.2**
TATO Taipei 31.34 53 IAMs_20 IAMs_20 08 30 16.9
comp=Z,9μm,20.0s
TATO Taipei 31.34 53 P **P 08 17 55.4 +2.1**
LYN LuoYang 31.72 30 P **P 08 17 57.3 +0.7**
LYN pP pP 08 18 02.9 +0.2
LYN S **S 08 23 07.2 +2.0**
LYN SS **SnSn 08 24 56.4 +3.6**
LYN pmax pmax
comp=Z,28nm,0.6s
LYN pmax pmax
comp=Z,930nm,4.2s
LYN LR LR
comp=Z,13μm,14.4s
LYN LR LR
comp=Z,18μm,13.7s
LYN LR LR
comp=Z,17μm,14.8s
EDFI Ende, Flores 31.87 120 P **P 08 17 58.1 -0.1**
GTA Gaotai 32.12 8 eP **P 08 18 01.1 +0.9**
GTA pP pP 08 18 05.7 -1.0
GTA S **S 08 23 16.8 +5.3**
GTA ScP **ScP 08 24 31.6 0.0**
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA pmax pmax
comp=Z,340nm,6.5s
GTA LR LR
comp=Z,2μm,16.4s
GTA LR LR
comp=Z,4μm,12.7s
GTA LR LR
comp=Z,3μm,18.9s
MMRI Maumere 32.29 119 P **P 08 17 58.5 -3.2**
MMRI Maumere 32.29 119 P **P 08 18 04.4 +2.6**
MMRI Maumere 32.29 119 P **P 08 18 03.8 +2.0**
comp=Z,75nm,1.2s
YOJ Yonaguni jima 32.33 55 IAMs_20 IAMs_20 08 30 51.9
comp=Z,6μm,19.0s
NIL Nilore 32.36 326 P **P 08 18 02.3 0.0**
NIL Nilore 32.36 326 P **P 08 18 02.3 0.0**
NIL pmax pmax
comp=Z,87nm,0.8s
SANI Sanana 33.17 105 P **P 08 18 11.7 +2.2**
SANI Sanana 33.17 105 P **P 08 18 11.0 +1.5**
comp=Z,955nmcomp=Z,32nm,1.4s
NJ2 Nanjing 33.51 40 ⇓P **P 08 18 13.1 +0.9**
NJ2 S **S 08 23 34.6 +1.6**
NJ2 pmax pmax
comp=Z,32nm,0.7s
NJ2 pmax pmax
comp=Z,2μm,6.6s
NJ2 LR LR
comp=Z,24μm,22.3s
TNTI Ternate 33.79 100 P **P 08 18 12.9 -2.0**
TNTI IAmb IAmb 08 19 00.4
comp=Z,54nm,1.0s
TIY Taiyuan 34.30 26 eP **P 08 18 20.9 +1.8**
TIY S **S 08 23 46.0 +0.8**
TIY pmax pmax
comp=Z,540nm,5.3s
TIY LR LR
comp=Z,10μm,12.8s
TIY LR LR
comp=Z,6μm,16.7s
TIY LR LR
comp=Z,10μm,13.5s
SSE Sheshan 34.45 44 P **P 08 18 17.9 -2.5**
SSE S **S 08 23 44.5 -3.0**
SSE pmax pmax
comp=Z,12nm,0.5s
SSE pmax pmax
comp=Z,320nm,5.6s
SSE LR LR
comp=Z,5μm,15.5s
SSE LR LR
comp=Z,3μm,15.9s
SOEI Soe 34.58 119 P **P 08 18 19.5 -2.4**
SOEI IAmb IAmb 08 18 32.9
comp=Z,76nm,0.9s
SOEI IAMs_20 IAMs_20 08 34 22.1
comp=Z,6μm,18.0s
SOEI Soe 34.58 119 P **P 08 18 22.9 +1.0**
SOEI Soe 34.58 119 P **P 08 18 22.8 +0.9**
HNS HongShan 35.09 29 ⇓P **P 08 18 27.4 +1.6**
HNS S **S 08 24 00.1 +2.9**
HNS pmax pmax
comp=Z,36nm,1.0s
HNS pmax pmax
comp=Z,970nm,5.1s
HNS LR LR
comp=Z,7μm,15.1s
HNS LR LR
comp=Z,8μm,13.7s
HNS LR LR
comp=Z,8μm,15.1s
TIA Tai'an 35.41 33 P **P 08 18 30.0 +1.3**
TIA S **S 08 24 01.4 -0.9**
TIA pmax pmax
comp=Z,13nm,0.9s
TIA pmax pmax
comp=Z,410nm,3.9s
TIA LR LR
comp=Z,4μm,8.6s
TIA LR LR
comp=Z,4μm,10.1s
TIA LR LR
comp=Z,5μm,9.4s
KBL Kabul 35.43 323 P **P 08 18 29.5 +0.4**
KBL Kabul 35.43 323 P **P 08 18 29.7 +0.7**
KBL P **P 08 18 29.7 +0.7**
KBL Kabul 35.43 323 P **P 08 18 29.5 +0.4**
KBL pmax pmax
comp=Z,20nm,0.8s
KSH Kashi 35.76 336 P **P 08 18 30.3 -1.5**
KSH S **S 08 24 04.0 -3.9**
KSH SS **SnSn 08 26 25.5 -5.4**
KSH LR LR
comp=Z,2μm,19.9s
KSH LR LR
comp=Z,2μm,19.9s
KSH LR LR
comp=Z,2μm,23.4s
BTO Baotou 35.83 21 eP **P 08 18 34.0 +1.7**
BTO pP **pP 08 18 38.4 -0.1**
BTO sP **pwP 08 18 41.0 -0.5**
BTO PP **PP 08 19 58.0 +4.0**
BTO S **S 08 24 14.6 +5.8**
BTO SS **SnSn 08 26 30.6 -1.9**
BTO pmax pmax
comp=Z,26nm,0.7s
BTO pmax pmax
comp=Z,1μm,4.7s
BTO LR LR
comp=Z,11μm,13.6s
BTO LR LR
comp=Z,14μm,13.6s
BTO LR LR
comp=Z,7μm,14.6s
GIRL Giralia 35.89 147 P **P 08 18 34.2 +1.4**
comp=Z,113nm,1.3s
WUS Wushi 36.04 341 P **P 08 18 33.6 -0.5**
WUS IAmb IAmb 08 18 44.9
comp=Z,60nm,1.1s
NGCH Negor - Chabah 36.11 303 P **P 08 18 39.2 +4.3**
SNR=6.5
NGCH S **S 08 24 20.7 +7.4**
MSAI Masohi 36.36 106 P P 08 18 44.7 +7.6
JLN Jalan Bani Buh 36.46 297 P **P 08 18 40.5 +2.7**
SNR=19
JLN P **P 08 18 40.5 +2.7**
SNR=19
JLN S **S 08 24 25.2 +6.5**

JLN				S	S	08 24 25.2 +6.5
WMQ	Urumqi	36.56	352	eP	P	08 18 39.8 +1.3
WMQ				S	S	08 24 21.4 +1.5
WMQ				pmax	pmax	
	comp=Z,35nm,2.1s					
WMQ				pmax	pmax	
	comp=Z,560nm,4.3s					
WMQ				LR	LR	
	comp=Z,2μm,17.1s					
WMQ				LR	LR	
	comp=Z,2μm,14.3s					
WMQ				LR	LR	
	comp=Z,1μm,16.1s					
HHC	Hu-ho-hao-te	36.61	22	eP	P	08 18 39.4 +0.4
HHC				sP	pwP	08 18 50.5 +2.4
HHC				S	S	08 24 22.5 +1.8
HHC				pmax	pmax	
	comp=Z,19nm,1.0s					
HHC				pmax	pmax	
	comp=Z,610nm,4.6s					
HHC				LR	LR	
	comp=Z,5μm,13.8s					
HHC				LR	LR	
	comp=Z,8μm,14.1s					
HHC				LR	LR	
	comp=Z,6μm,13.4s					
WBK	Wadi Bani Khal	36.99	298	P	P	08 18 46.3 +3.9
	SNR=15					
WBK				P	P	08 18 46.3 +3.9
	SNR=15					
WBK				S	S	08 24 33.4 +6.6
WBK				S	S	08 24 33.4 +6.6
TARG	Taragay, Kyrgy	36.99	340	P	P	08 18 43.0 +0.4
TARG	Taragay, Kyrgy	36.99	340	P	P	08 18 43.0 +0.4
TARG				pmax	pmax	
	comp=Z,101nm,2.0s					
TARG				MLR	MLR	
	comp=Z,1μm,21.0s					
MHTO	MHTO	37.41	295	P	P	08 18 48.4 +2.5
	SNR=22					
MHTO				P	P	08 18 48.4 +2.5
	SNR=22					
MHTO				S	S	08 24 36.6 +3.4
MHTO				S	S	08 24 36.6 +3.4
WSAR	Wadi Sarin	37.48	299	LR	LR	08 34 25.7
	comp=Z,15nm,19.0s,baz=126,slow=36					
WSAR	Wadi Sarin	37.48	299	P	P	08 18 50.3 +3.8
	SNR=18					
WSAR				S	S	08 24 41.3 +7.0
DQM	DQM	37.53	293	P	P	08 18 50.2 +3.3
	SNR=8.9					
DQM				P	P	08 18 50.2 +3.3
	SNR=8.9					
KDJ	Kajisay	37.56	339	P	P	08 18 47.1 -0.1
KDJ	Kajisay	37.56	339	P	P	08 18 47.1 -0.1
KDJ				pmax	pmax	
	comp=Z,25nm,1.1s					
KDJ				MLR	MLR	
	comp=Z,900nm,20.0s					
DRK	Karamyk	37.59	331	P	P	08 18 48.0 +0.5
DRK				IAmb	IAmb	08 19 04.3
	comp=Z,112nm,0.8s					
DRK	Karamyk	37.59	331	P	P	08 18 48.1 +0.5
DRK				pmax	pmax	
	comp=Z,112nm,0.8s					
DRK				MLR	MLR	
	comp=Z,3μm,21.0s					
JOW	Kunigami	37.63	55	LR	LR	08 35 50.0
	comp=Z,2μm,18.4s,baz=298,slow=39					
JMDO	Jabal Madar	37.68	297	P	P	08 18 51.8 +3.6
	SNR=17					
JMDO				P	P	08 18 51.8 +3.6
	SNR=17					
JMDO				S	S	08 24 44.1 +6.8
JMDO				S	S	08 24 44.1 +6.8
SHLS	Shalkode	37.74	342	eP	P	08 18 46.8 -1.7
SHLS				pmax	pmax	
	comp=Z,29nm,1.2s					
SHLS	Shalkode	37.74	342	eP	P	08 18 46.9 -1.7
	comp=Z,29nm,1.2s					
BJT	Baijiatuau	37.86	28	P	P	08 18 54.9 +5.4
UZB	Uzynbulak	37.86	342	eP	P	08 18 49.0 -0.6
UZB				pmax	pmax	
	comp=Z,27nm,1.6s					
UZB	Uzynbulak	37.86	342	eP	P	08 18 49.0 -0.6
	comp=Z,27nm,1.6s					
BJI	Beijing	37.88	28	P	P	08 18 49.7 +0.1
BJI				PP	PnPn	08 20 17.8 +0.1
BJI				S	S	08 24 40.2 +0.3
BJI				SS	SnSn	08 27 15.5 -6.4
BJI				pmax	pmax	
	comp=Z,430nm,4.5s					
BJI				LR	LR	
	comp=Z,2μm,15.5s					
BJI				LR	LR	
	comp=Z,2μm,16.1s					
BJI				LR	LR	
	comp=Z,2μm,17.3s					
SMDO	Samad	37.93	298	P	P	08 18 54.3 +3.8
	SNR=24					
SMDO				P	P	08 18 54.3 +3.8
	SNR=24					
SMDO				S	S	08 24 47.7 +6.4
SMDO				S	S	08 24 47.7 +6.4
GAR	Garm	37.95	329	P	P	08 18 50.9 +0.4
SWI	Sorong	37.95	101	P	P	08 18 55.1 +4.5
	comp=Z,61nm,0.9s					
SATY	Saty	37.98	341	eP	P	08 18 49.9 -0.7
SATY				pmax	pmax	
	comp=Z,22nm,1.3s					
SATY	Saty	37.98	341	eP	P	08 18 50.0 -0.7
	comp=Z,22nm,1.3s					
BIDO	Bidbid	38.01	299	P	P	08 18 55.0 +4.0
	SNR=34					
BIDO				P	P	08 18 55.0 +4.0
	SNR=34					
BIDO				S	S	08 24 50.2 +7.9
BIDO				S	S	08 24 50.2 +7.9
MBWA	Marble Bar	38.02	139	P	P	08 18 48.5 -2.6
MBWA				IAmb	IAmb	08 18 55.3
	comp=Z,85nm,1.2s					
MBWA	Marble Bar	38.02	139	P	P	08 18 48.8 -2.2
MBWA	Marble Bar	38.02	139	P	P	08 18 52.1 +1.0
MBWA				P	P	08 18 52.1 +1.0
MBWA	Marble Bar	38.02	139	P	P	08 18 50.8 -0.3
ZHN	Zhinishke	38.06	341	eP	P	08 18 50.6 -0.7
ZHN	Zhinishke	38.06	341	eP	P	08 18 50.7 -0.7
BOOM	Boomskoye usch	38.32	338	P	P	08 18 53.2 -0.4
BOOM	Boomskoye usch	38.32	338	P	P	08 18 53.2 -0.4
BOOM				pmax	pmax	
	comp=Z,14nm,0.9s					
SIMJ	Simiganj	38.37	328	P	P	08 18 53.6 -0.4
SIMJ				IAmb	IAmb	08 19 03.4
	comp=Z,67nm,0.8s					
PSA00	Pilbara Seismi	38.39	139	P	P	08 18 52.2 -2.0
PSA00				IAmb	IAmb	08 18 58.4
	comp=Z,64nm,1.0s					
PSA00	Pilbara Seismi	38.39	139	P	P	08 18 51.7 -2.5
PSA00	Pilbara Seismi	38.39	139	P	P	08 18 54.7 +0.5
TNSS	Tian-Shan	38.44	340	eP	P	08 18 53.8 -1.0
TNSS	Tian-Shan	38.44	340	eP	P	08 18 53.9 -1.0
BTK	Batken	38.51	331	P	P	08 18 55.8 +0.7
BTK				IAmb	IAmb	08 19 15.1
	comp=Z,92nm,1.1s					
BTK	Batken	38.51	331	P	P	08 18 55.8 +0.7
BTK				pmax	pmax	
	comp=Z,92nm,1.1s					
BTK				MLR	MLR	
	comp=Z,2μm,22.0s					
MDOK	Medeo	38.52	340	eP	P	08 18 54.5 -0.6
MDOK	Medeo	38.52	340	eP	P	08 18 54.6 -0.6
ARSB	Arslanbob	38.53	334	P	P	08 18 55.8 +0.5
ARSB				IAmb	IAmb	08 19 13.4
	comp=Z,57nm,0.9s					
ARSB	Arslanbob	38.53	334	P	P	08 18 55.8 +0.5
ARSB				pmax	pmax	
	comp=Z,57nm,0.9s					
ARSB				MLR	MLR	
	comp=Z,2μm,20.0s					
BSY	Bisya	38.58	297	P	P	08 18 60.0 +4.1
	SNR=47					
BSY				P	P	08 18 60.0 +4.1
	SNR=47					
AAA	Alma-Ata	38.60	340	eP	P	08 18 55.3 -0.5
AAA				pmax	pmax	
	comp=Z,23nm,0.6s					
AAA	Alma-Ata	38.60	340	eP	P	08 18 55.3 -0.5
	comp=Z,23nm,0.6s					
HOQ	Hoqain	38.74	298	P	P	08 19 01.0 +3.8
	SNR=42					
HOQ				P	P	08 19 01.0 +3.8
	SNR=42					
HOQ				S	S	08 25 00.4 +7.1
HOQ				S	S	08 25 00.4 +7.1
TKM2	Tokmak 2	38.82	338	i P	P	08 18 57.3 -0.5
TKM2				pmax	pmax	
	comp=Z,15nm,0.8s					
AAK	Ala-Archa	39.00	337	P	P	08 18 59.6 +0.4
AAK	Ala-Archa	39.00	337	P	P	08 18 59.5 +0.2
	comp=Z,3.5nm,0.7s,baz=161,slow=7.3,SNR=15					
AAK				PcP	PcP	08 21 08.9 -0.4
	comp=Z,8.7nm,0.7s,baz=196,slow=5.8,SNR=5.0					
AAK				ScP	ScP	08 24 52.9 -3.6
	comp=Z,1.4nm,0.6s,baz=21,slow=22,SNR=2.3					
AAK				LR	LR	08 37 31.4
	comp=Z,3μm,19.8s,baz=156,slow=40					
	comp=Z,3.5nm,0.7s					
AAK	Ala-Archa	39.00	337	P	P	08 18 59.8 +0.6
AAK				P	P	08 18 59.8 +0.6
AAK				S	S	08 24 58.5 +1.4
AAK				S	S	08 24 58.5 +1.4
AAK	Ala-Archa	39.00	337	i P	P	08 18 59.6 +0.4
	SNR=14					
ARXS	Arharly	39.20	341	i P	P	08 18 59.8 -1.0
ARQ	Araqi	39.35	298	P	P	08 19 05.9 +3.6
	SNR=20					
ARQ				P	P	08 19 05.9 +3.6
	SNR=20					
ARQ				S	S	08 25 06.3 +3.7
ARQ				S	S	08 25 06.3 +3.7
DMTO	DMTO	39.48	289	P	P	08 19 07.0 +3.6
DMTO				P	P	08 19 07.0 +3.6
DMTO				S	S	08 25 08.7 +4.1
DMTO				S	S	08 25 08.7 +4.1
SOHO	SOHO	39.59	299	P	P	08 19 07.3 +3.1
SOHO				P	P	08 19 07.3 +3.1
SOHO				S	S	08 25 10.5 +4.4
SOHO				S	S	08 25 10.5 +4.4
SOHO	SOHO	39.59	299	i P	P	08 19 07.1 +2.9
	SNR=23					
SGDS	Sogindy	39.64	338	eP	P	08 19 04.0 -0.4
SGDS	Sogindy	39.64	338	eP	P	08 19 04.1 -0.4
HRA	Herat	39.69	317	P	P	08 19 05.9 +0.7
TDK	Taldyqorghan	39.73	342	eP	P	08 19 04.6 -0.5
TDK	Taldyqorghan	39.73	342	eP	P	08 19 04.6 -0.5
DL2	Dalian	39.83	34	P	P	08 19 04.2 -1.8
DL2				S	S	08 25 09.2 -0.1
DL2				pmax	pmax	
	comp=Z,65nm,1.1s					
DL2				pmax	pmax	
	comp=Z,540nm,7.0s					
DL2				LR	LR	
	comp=Z,4μm,13.5s					
DL2				LR	LR	
	comp=Z,2μm,11.1s					
DL2				LR	LR	
	comp=Z,4μm,12.5s					
UOSS	Minazif	40.13	300	P	P	08 19 10.8 +2.1
UOSS	Minazif	40.13	300	P	P	08 19 11.4 +2.7
UOSS				P	P	08 19 11.4 +2.7
UOSS				S	S	08 25 18.7 +4.5
UOSS				S	S	08 25 18.7 +4.5
UOSS	Minazif	40.13	300	i P	P	08 19 11.2 +2.4
	SNR=11					
RBK	Rabkut	40.14	288	P	P	08 19 13.5 +4.5
	SNR=16					
RBK				P	P	08 19 13.5 +4.5
	SNR=16					
HATD	Hatta, Dubai	40.15	300	P	P	08 19 12.1 +3.2
	SNR=34					
HATD				P	P	08 19 12.1 +3.2
	SNR=34					
HATD				S	S	08 25 19.6 +5.0
HATD				S	S	08 25 19.6 +5.0
HATD	Hatta, Dubai	40.15	300	i P	P	08 19 12.2 +3.2
	SNR=31					
MDH	Madha	40.16	301	P	P	08 19 10.8 +1.8
MDH				P	P	08 19 10.8 +1.8
ASHO	Ashiyiah	40.17	300	P	P	08 19 12.8 +3.7
	SNR=21					
ASHO				P	P	08 19 12.8 +3.7
	SNR=21					
ASHO	Ashiyiah	40.17	300	i P	P	08 19 12.0 +2.8
	SNR=14					
FITZ	Fitzroy Crossi	40.20	130	P	P	08 19 06.6 -2.7
FITZ	Fitzroy Crossi	40.20	130	P	P	08 19 05.5 -3.9
FITZ	Fitzroy Crossi	40.20	130	P	P	08 19 07.0 -2.4
	comp=Z,19nm,1.0s,baz=314,slow=7.2,SNR=16					
FITZ				PcP	PcP	08 21 13.6 +0.2
	comp=Z,18nm,0.8s,baz=263,slow=0.9,SNR=4.0					
FITZ				ScP	ScP	08 24 59.0 -2.4
	comp=Z,4.8nm,0.9s,baz=211,slow=3.0,SNR=3.9					
FITZ				LR	LR	08 37 11.6
	comp=Z,3μm,19.2s,baz=306,slow=38					
	comp=Z,19nm,1.0s					
FITZ	Fitzroy Crossi	40.20	130	P	P	08 19 12.2 +2.8
ALNE	Al Ain	40.24	299	P	P	08 19 13.1 +3.4
	SNR=27					
ALNE				P	P	08 19 13.1 +3.4
	SNR=27					
ALNE				S	S	08 25 20.4 +4.4
ALNE				S	S	08 25 20.4 +4.4
ALNE	Al Ain	40.24	299	i P	P	08 19 13.1 +3.4
	SNR=22					
MSFE	Esma-Masafi	40.30	301	i P	P	08 19 13.6 +3.4
	SNR=8.8					
MASF	Masafi	40.31	301	P	P	08 19 14.7 +4.4
	SNR=8.0					
MASF				P	P	08 19 14.7 +4.4
	SNR=8.0					
MASF				S	S	08 25 22.0 +5.1
MASF				S	S	08 25 22.0 +5.1
BANOM	Banah	40.38	301	P	P	08 19 14.8 +4.0
BANOM				P	P	08 19 14.8 +4.0
BANOM	Banah	40.38	301	i P	P	08 19 13.5 +2.7
	SNR=9.5					
UMZA	Um Al Zommool	40.38	296	P	P	08 19 14.0 +3.1
UMZA				P	P	08 19 14.0 +3.1
UMZA				S	S	08 25 22.7 +4.7
UMZA				S	S	08 25 22.7 +4.7
MK31	Makanchi Array	40.40	347	P	P	08 19 10.5 -0.2
MK31	Makanchi Array	40.40	347	ceP	P	08 19 10.3 -0.4
MKAR	Makanchi Array	40.40	347	P	P	08 19 10.2 -0.4
	comp=Z,10nm,0.6s,baz=167,slow=7.7,SNR=107					
MKAR				LR	LR	08 39 16.3
	comp=Z,1μm,18.9s,baz=168,slow=41					
	comp=Z,10nm,0.6s					
DOK	Doka	40.40	290	P	P	08 19 14.1 +3.1
	SNR=17					
DOK				P	P	08 19 14.1 +3.1
	SNR=17					
MAKZ	Makanchi	40.48	347	P	P	08 19 10.9 -0.4
MAKZ	Makanchi	40.48	347	P	P	08 19 10.9 -0.4
MAKZ				pmax	pmax	
	comp=Z,23nm,0.8s					
MAKZ				MLR	MLR	
	comp=Z,1μm,20.0s					
IUG	Iuzhnay	40.51	332	eP	P	08 19 11.3 -0.4
IUG				pmax	pmax	
	comp=Z,57nm,1.7s					
IUG	Iuzhnay	40.51	332	eP	P	08 19 11.4 -0.4
	comp=Z,57nm,1.7s					
DZA	Taraz	40.52	334	eP	P	08 19 11.2 -0.5
DZA	Taraz	40.52	334	eP	P	08 19 11.2 -0.5
ZSN	Zaisan	40.53	350	eP	P	08 19 11.2 -0.5
ZSN				pmax	pmax	
	comp=Z,38nm,1.3s					
ZSN	Zaisan	40.53	350	eP	P	08 19 11.3 -0.5
	comp=Z,38nm,1.3s					
SHME	Shamm	40.55	302	P	P	08 19 16.9 +4.6
SHME				P	P	08 19 16.9 +4.6
SHME				S	S	08 25 25.1 +4.7
SHME				S	S	08 25 25.1 +4.7
SHME	Shamm	40.55	302	i P	P	08 19 14.3 +2.1
	SNR=9.1					
FAQ	Al Faqa, Dubai	40.59	299	P	P	08 19 17.1 +4.5
	SNR=8.8					
FAQ				P	P	08 19 17.1 +4.5
	SNR=8.8					
FAQ				S	S	08 25 24.0 +2.9
FAQ				S	S	08 25 24.0 +2.9
NAZ	Nazwa, Dubai	40.61	300	P	P	08 19 17.9 +5.1
NAZ				P	P	08 19 17.9 +5.1
NAZ	Nazwa, Dubai	40.61	300	i P	P	08 19 16.2 +3.5
	SNR=7.3					
WHFO	Wadi Hawf	40.62	289	P	P	08 19 15.5 +2.6
	SNR=24					
WHFO				P	P	08 19 15.5 +2.6
	SNR=24					
ASUD	Al Ashush, Dub	40.78	299	P	P	08 19 18.7 +4.5
	SNR=8.2					
ASUD				P	P	08 19 18.7 +4.5
	SNR=8.2					
ASUD				S	S	08 25 28.2 +4.2
ASUD				S	S	08 25 28.2 +4.2
ASUD	Al Ashush, Dub	40.78	299	i P	P	08 19 16.5 +2.4
	SNR=9.2					
XLT	XiLinHaoTe	40.97	24	eP	P	08 19 16.6 +1.1
XLT				pP	pP	08 19 20.7 -1.0
XLT				sP	pwP	08 19 24.2 -0.5
XLT				PP	PnPn	08 20 54.6 +0.1
XLT				PcP	PcP	08 21 12.4 -3.1
XLT				S	S	08 25 28.0 +1.6
XLT				SS	SS	08 28 24.3 -4.4
XLT				pmax	pmax	
	comp=Z,18nm,0.8s					
XLT				pmax	pmax	
	comp=Z,510nm,4.3s					
XLT				LR	LR	
	comp=Z,17μm,14.9s					
XLT				LR	LR	
	comp=Z,6μm,14.5s					
ABTO	Aybut	40.98	288	P	P	08 19 18.8 +2.9
	SNR=19					
ABTO				P	P	08 19 18.8 +2.9
	SNR=19					
KK31	Karatay Array	41.05	333	P	P	08 19 17.3 +1.2
KK31	Karatay Array	41.05	333	P	P	08 19 17.3 +1.2
KK31				pmax	pmax	
	comp=Z,26nm,1.0s					
KKAR	Karatay Array	41.05	333	P	P	08 19 16.2 +0.2
KKAR	Karatay Array	41.05	333	P	P	08 19 16.4 +0.3
KKAR				IAmb	IAmb	08 19 34.1
	comp=Z,15nm,0.9s					
KKAR	Karatay Array	41.05	333	P	P	08 19 16.4 +0.3
KKAR				pmax	pmax	
	comp=Z,15nm,0.9s					
AJN	Ajban	41.06	299	P	P	08 19 20.4 +3.9
	SNR=5.4					
AJN				P	P	08 19 20.4 +3.9
	SNR=5.4					
AJN				S	S	08 25 31.5 +3.5
AJN				S	S	08 25 31.5 +3.5
AJN	Ajban	41.06	299	i P	P	08 19 19.0 +2.5
	SNR=7.8					
BTLS	Baital	41.22	338	eP	P	08 19 16.9 -0.5
BTLS	Baital	41.22	338	eP	P	08 19 17.0 -0.5
BRLS	Borolday	41.29	333	eP	P	08 19 16.4 -1.7
BRLS	Borolday	41.29	333	eP	P	08 19 16.5 -1.7
KNRA	Kununurra	41.34	124	P	P	08 19 16.2 -2.5
KNRA	Kununurra	41.34	124	P	P	08 19 21.1 +2.3
MEEK	Meekatharra	41.46	146	P	P	08 19 19.0 -0.6
	comp=Z,31nm,1.8s					
MEEK	Meekatharra	41.46	146	P	P	08 19 23.0 +3.3
SONM	Songino Array	41.47	12	P	P	08 19 19.8 +0.2
SONM	Songino Array	41.47	12	P	P	08 19 19.4 -0.2
	comp=Z,8.3nm,1.0s,baz=195,slow=7.8,SNR=16					
SONM				PcP	PcP	08 21 16.9 -0.3
	comp=Z,8.8nm,0.9s,baz=191,slow=3.5,SNR=5.4					
SONM				ScP	ScP	08 25 01.4 -4.7
	comp=Z,1.0nm,0.8s,baz=199,slow=2.6,SNR=2.8					
SONM				LR	LR	08 37 33.6
	comp=Z,3μm,22.0s,baz=191,slow=38					
	comp=Z,8.3nm,1.0s					
DRS	Darwin Rock St	41.58	118	P	P	08 19 22.5 +1.7
ULN	Ulaanbaatar	41.64	13	P	P	08 19 20.8 -0.3
ULN	Ulaanbaatar	41.64	13	P	P	08 19 22.0 +1.0
ULN	Ulaanbaatar	41.64	13	ceP	P	08 19 21.2 +0.1
ULN				pmax	pmax	
	comp=Z,28nm,2.5s					
TJN	Taejon	41.71	42	P	P	08 19 20.3 -1.3
TJN	Taejon	41.71	42	P	P	08 19 27.2 +5.6
TJN	Taejon	41.71	42	P	P	08 19 20.3 -1.3
TJN				pmax	pmax	
	comp=Z,421nm,1.7s					
TJN				MLR	MLR	
	comp=Z,9μm,19.0s					
MZWR	Madinat Zayed	41.80	297	P	P	08 19 29.1 +6.6
INCN	Inchon	41.89	40	IAMs_20	IAMs_20	08 38 06.8
	comp=Z,5μm,18.0s					
INCN	Inchon	41.89	40	P	P	08 19 27.0 +4.0
INCN				P	P	08 19 27.0 +4.0
MZR	Muzera	41.95	296	P	P	08 19 26.6 +2.8
	SNR=14					
MZR				P	P	08 19 26.6 +2.8
	SNR=14					
MZR				S	S	08 25 45.6 +4.2
MZR				S	S	08 25 45.6 +4.2
MZR	Muzera	41.95	296	i P	P	08 19 25.7 +1.9
	SNR=15					
MTN	Manton Dam	41.97	119	P	P	08 19 22.3 -1.7
MTN	Manton Dam	41.97	119	P	P	08 19 20.8 -3.1
MTN	Manton Dam	41.97	119	P	P	08 19 26.9 +2.9
MORW	Morawa	42.08	151	P	P	08 19 23.6 -1.1
MORW	Morawa	42.08	151	P	P	08 19 23.5 -1.2
	comp=Z,28nm,1.0s					
MORW	Morawa	42.08	151	P	P	08 19 28.7 +4.0
JNU	Nakatsue	42.45	48	IAMs_20	IAMs_20	08 37 22.4
	comp=Z,4μm,19.0s					
JNU	Nakatsue	42.45	48	LR	LR	08 38 47.6
	comp=Z,4μm,18.4s,baz=244,slow=38					
KSAR	Wonju Array Be	42.67	41	P	P	08 19 27.5 -1.9
KSAR	Wonju Array Be	42.67	41	P	P	08 19 27.5 -1.9
KS19	Wonju Array Si	42.69	41	P	P	08 19 26.6 -3.0
KS19				IAmb	IAmb	08 19 36.7
	comp=Z,109nm,1.7s					
KSRS	Korea Array	42.70	41	P	P	08 19 29.9 +0.3
	comp=Z,4.2nm,1.0s,baz=231,slow=9.0,SNR=12					
KSRS				LR	LR	08 38 08.9
	comp=Z,2μm,18.5s,baz=235,slow=37					
	comp=Z,4.2nm,1.0s					
SNY	Shenyang	42.94	33	⇓P	P	08 19 32.2 +0.8
SNY				S	S	08 26 01.4 +6.1
SNY				pmax	pmax	
	comp=Z,9.0nm,0.5s					
SNY				pmax	pmax	
	comp=Z,420nm,4.4s					
SNY				LR	LR	
	comp=Z,2μm,12.2s					
SNY				LR	LR	
	comp=Z,2μm,13.9s					
SNY				LR	LR	
	comp=Z,3μm,16.7s					
ZAK	Zakamensk	43.36	9	eP	P	08 19 34.6 -0.3
ZAK				e		08 21 23.1
ZAK				pmax	pmax	
	comp=Z,10.0nm,1.2s					
ZAK				pmax	pmax	
	comp=Z,10.0nm,1.6s					
BLDU	Ballidu	43.69	151	P	P	08 19 40.7 +3.0
BLDU	Ballidu	43.69	151	P	P	08 19 41.5 +3.8
SLWR	Sila	43.81	297	P	P	08 19 45.1 +6.2
SLWR				P	P	08 19 45.1 +6.2
SLWR				S	S	08 26 11.8 +3.2
SLWR				S	S	08 26 11.8 +3.2
MOY	Mondy	44.34	6	eP	P	08 19 42.6 -0.1
MOY				pmax	pmax	
	comp=Z,20nm,3.6s					
OTUK	Ortayu	44.56	339	P	P	08 19 44.7 +0.2
MUN	Mundaring	44.60	153	P	P	08 19 46.9 +2.0
	comp=Z,63nm,1.1s					
MUN	Mundaring	44.60	153	P	P	08 19 48.9 +3.9
SMRA	Abu-Samra	44.75	298	P	P	08 19 51.3 +5.0
SMRA				S	S	08 26 25.3 +3.0
KURBB	Kurchatov Arra	44.85	346	P	P	08 19 46.8 0.0
	comp=Z,17nm,0.8s,baz=171,slow=7.1,SNR=118					
KURBB				PcP	PcP	08 21 27.8 -0.5
	comp=Z,8.6nm,0.7s,baz=158,slow=3.0,SNR=6.1					
KURBB				ScP	ScP	08 25 15.7 -3.8
	comp=Z,1.5nm,0.8s,baz=168,slow=4.0,SNR=2.7					
KURBB				S	S	08 26 16.2 -6.8
	comp=Z,0.2nm,0.4s,baz=156,slow=15,SNR=1.7					
KURBB				LR	LR	08 41 32.1
	comp=Z,1μm,21.4s,baz=166,slow=40					
	comp=Z,17nm,0.8s					

KURBB **Kurchatov Arra** 44.85 346 P **P** **08 19 45.5 -1.2**
KURK Kurchatov 44.92 346 P **P** **08 19 47.4 +0.1**
KURK IAmb IAmb 08 19 56.6
comp=Z,80nm,1.0s
KURK Kurchatov 44.92 346 P **P** **08 19 48.6 +1.3**
KURK S **S** **08 26 25.5 +1.5**
KURK Kurchatov 44.92 346 *ce*P **P** **08 19 47.3 +0.1**
KURK pmax pmax
comp=Z,64nm,1.3s
JMN Monobe 44.96 49 IAMs_20 IAMs_20 08 40 10.7
comp=Z,3μm,19.0s
JMN Monobe 44.96 49 P **P** **08 19 52.4 +4.5**
KLBR Kellerberrin 45.00 151 P **P** **08 19 50.7 +2.5**
KLBR Kellerberrin 45.00 151 P **P** **08 19 51.5 +3.3**
CN2 Changchun 45.29 32 *e*P **P** **08 19 51.6 +1.2**
CN2 *e*S **S** **08 26 32.2 +2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,400nm,5.0s
CN2 LR LR
comp=Z,2μm,13.0s
CN2 LR LR
comp=Z,3μm,13.0s
CN2 LR LR
comp=Z,2μm,13.0s
NWAO Narrogin (SRO) 45.87 153 P **P** **08 19 53.2 -1.8**
NWAO Narrogin (SRO) 45.87 153 P **P** **08 19 56.7 +1.7**
comp=Z,172nm,1.3s
NWAO Narrogin (SRO) 45.87 153 LR LR 08 37 41.6
comp=Z,2μm,21.2s,baz=318,slow=34
NWAO Narrogin (SRO) 45.87 153 P **P** **08 19 59.6 +4.6**
NWAO P **P** **08 19 59.6 +4.6**
NWAO Narrogin (SRO) 45.87 153 P **P** **08 19 57.3 +2.3**
NWAO Narrogin (SRO) 45.87 153 P **P** **08 19 59.4 +4.4**
NWAO Narrogin (SRO) 45.87 153 P **P** **08 19 53.2 -1.8**
NWAO pmax pmax
comp=Z,87nm,1.0s
BRZS Berezniki 45.94 341 *e*P **P** **08 19 55.1 -0.3**
BRZS Berezniki 45.94 341 *e*P **P** **08 19 55.1 -0.3**
WRKA Warakurna 46.43 135 P **P** **08 19 57.9 -1.7**
comp=Z,57nm,1.2s
WRKA Warakurna 46.43 135 P **P** **08 20 00.3 +0.7**
HIA Hailar 46.81 23 IAMs_20 IAMs_20 08 41 14.6
comp=Z,4μm,20.0s
HIA Hailar 46.81 23 P **P** **08 20 06.9 +4.6**
HIA Hailar 46.81 23 *i* P **P** **08 20 01.0 -1.3**
HIA pmax pmax
comp=Z,10.0nm,1.1s
ZAA0 Zalesovo Array 46.87 352 P **P** **08 20 02.7 +0.1**
ZALV Zalesovo Beam 46.87 352 P **P** **08 20 02.8 +0.2**
comp=Z,20nm,0.4s,baz=175,slow=7.8,SNR=96
ZALV LR LR 08 44 27.8
comp=Z,1μm,18.6s,baz=181,slow=42
comp=Z,20nm,0.4s
KMBL Kambalda 46.92 147 P **P** **08 20 02.9 -0.5**
comp=Z,73nm,0.9s
KMBL Kambalda 46.92 147 P **P** **08 20 04.0 +0.6**
CIT Chita 47.11 16 *e*P P 08 20 12.8 +8.2
CIT *e* 08 21 30.8
CIT *e* 08 21 58.6
CIT pmax pmax
comp=Z,139nm,2.5s
JAY Jayapura 47.52 100 LR LR 08 43 31.5
comp=Z,663nm,18.0s,baz=286,slow=40
BNX BinXian 47.63 31 ⇑P **P** **08 20 09.5 +0.8**
BNX sP pwP 08 20 25.0 +7.1
BNX PP **PP** **08 22 01.0 +0.5**
BNX S **S** **08 27 04.0 +0.9**
BNX pmax pmax
comp=Z,7.0nm,0.9s
BNX LR LR
comp=Z,4μm,12.9s
BNX LR LR
comp=Z,5μm,14.7s
INU Inuyama 47.99 48 IAMs_20 IAMs_20 08 41 46.3
comp=Z,3μm,18.0s
INU Inuyama 47.99 48 P **P** **08 20 15.6 +3.9**
WB0 Warramunga Arr 48.03 125 P **P** **08 20 08.8 -3.4**
MDJ Mudanjiang 48.07 34 IAMs_20 IAMs_20 08 41 03.9
comp=Z,3μm,18.0s
MDJ Mudanjiang 48.07 34 P **P** **08 20 13.8 +1.7**
MDJ S **S** **08 27 13.6 +4.3**
MDJ pmax pmax
comp=Z,570nm,4.8s
MDJ LR LR
comp=Z,2μm,17.6s
MDJ LR LR
comp=Z,2μm,16.3s
MDJ LR LR
comp=Z,2μm,17.9s
MDJ Mudanjiang 48.07 34 P P 08 20 17.2 +5.1
WRA Warramunga Arr 48.07 125 P **P** **08 20 10.0 -2.6**
WRA Warramunga Arr 48.07 125 P **P** **08 20 10.2 -2.4**
comp=Z,6.6nm,0.8s,baz=304,slow=8.6,SNR=74
WRA PcP **PcP** **08 21 40.0 -0.2**
comp=Z,7.7nm,0.7s,baz=313,slow=2.7,SNR=5.5
WRA ScP **ScP** **08 25 30.4 -3.2**
comp=Z,1.1nm,1.1s,baz=299,slow=4.3,SNR=4.5
WRA S **S** **08 27 05.9 -4.2**
comp=Z,0.8nm,1.0s,baz=297,slow=14,SNR=2.9
WRA LR LR 08 43 15.1
comp=Z,2μm,18.5s,baz=298,slow=40
comp=Z,6.6nm,0.8s
WRAB Tennant Creek 48.08 125 P **P** **08 20 10.9 -1.7**
WRAB IAmb IAmb 08 20 17.3
comp=Z,52nm,0.8s
WRAB Tennant Creek 48.08 125 *i* P **P** **08 20 09.7 -2.8**
WRAB pmax pmax
comp=Z,51nm,1.0s
WB2 Warramunga Arr 48.08 125 P **P** **08 20 10.2 -2.4**
WB2 IAmb IAmb 08 20 17.3
comp=Z,57nm,0.9s
WB2 Warramunga Arr 48.08 125 P **P** **08 20 10.5 -2.1**
WB1 Warramunga Ar. 48.09 125 P **P** **08 20 12.0 -0.6**
WR0 Warramunga Arr 48.25 125 P **P** **08 20 11.2 -2.6**
WR0 IAmb IAmb 08 20 18.6
comp=Z,63nm,0.9s
JGF Kuroka 48.35 48 P **P** **08 20 12.4 -2.1**
JGF Kuroka 48.35 48 P **P** **08 20 18.7 +4.2**
JSG Sagara 48.60 50 IAMs_20 IAMs_20 08 40 04.9
comp=Z,4μm,19.0s
SBV Sambava 48.62 245 P P 08 20 25.4 +8.6
SNR=6.3
TABU Tabubil 48.67 104 P **P** **08 20 20.3 +3.0**
USRK Ussuriysk Ar. 49.16 36 P **P** **08 20 20.7 +0.2**
comp=Z,1.8nm,0.7s,baz=227,slow=5.5,SNR=5.7
USRK PP **PP** **08 22 16.0 +1.6**
comp=Z,2.1nm,0.7s,baz=235,slow=6.7,SNR=4.7
USRK LR LR 08 41 18.9
comp=Z,2μm,18.8s,baz=220,slow=36
comp=Z,1.8nm,0.7s
RAYN Ar Rayn 49.22 295 P **P** **08 20 23.0 +1.6**
RAYN Ar Rayn 49.22 295 P **P** **08 20 24.4 +3.0**
RAYN Ar Rayn 49.22 295 P **P** **08 20 23.0 +1.6**
RAYN pmax pmax
comp=Z,195nm,1.6s
RAYN Ar Rayn 49.22 295 P **P** **08 20 22.7 +1.3**
JHJ Hachijo jima 2 49.25 52 LR LR 08 40 37.5
comp=Z,2μm,21.1s,baz=270,slow=35
BVA0 Borovoye Array 49.29 341 *i* P **P** **08 20 20.8 -0.6**
BVAR Borovoye Array 49.29 341 P **P** **08 20 21.3 0.0**
comp=Z,9.8nm,0.7s,baz=143,slow=9.0,SNR=25
BVAR PcP **PcP** **08 21 45.0 +1.1**
comp=Z,8.9nm,0.7s,baz=146,slow=3.7,SNR=5.7
BVAR LR LR 08 44 36.1
comp=Z,1μm,18.4s,baz=152,slow=40
comp=Z,9.8nm,0.7s
BRVK Borovoye 49.35 341 P **P** **08 20 21.9 +0.1**
BRVK IAmb IAmb 08 20 32.2
comp=Z,128nm,2.0s
BRVK Borovoye 49.35 341 P **P** **08 20 22.2 +0.4**
BRVK P **P** **08 20 22.2 +0.4**
BRVK Borovoye 49.35 341 *ce*P **P** **08 20 20.9 -0.9**
BRVK pmax pmax
comp=Z,23nm,1.3s
MAJO Matsushiro 49.37 48 P **P** **08 20 26.7 +4.4**
MJAR Matsushiro Arr 49.37 48 P **P** **08 20 23.0 +0.8**
comp=Z,2.6nm,0.8s,baz=243,slow=7.2,SNR=9.5
MJAR PcP **PcP** **08 21 44.7 +0.1**
comp=Z,7.3nm,0.9s,baz=247,slow=2.9,SNR=6.4
MJAR LR LR 08 44 06.1
comp=Z,1μm,18.2s,baz=243,slow=40
comp=Z,2.6nm,0.8s
JCJ Chichijima 49.45 61 LR LR 08 39 48.0
comp=Z,1μm,20.3s,baz=252,slow=34

ASAR Alice Springs 49.71 130 P **P** **08 20 22.1 -3.0**
ASAR Alice Springs 49.71 130 P **P** **08 20 23.5 -1.6**
comp=Z,17nm,1.0s,baz=301,slow=7.7,SNR=68
ASAR PcP **PcP** **08 21 46.3 +0.2**
comp=Z,21nm,0.9s,baz=314,slow=2.8,SNR=5.3
ASAR ScP **ScP** **08 25 36.2 -4.4**
comp=Z,0.8nm,0.8s,baz=314,slow=5.2,SNR=2.9
ASAR S **S** **08 27 30.1 -2.9**
comp=Z,1.2nm,0.9s,baz=301,slow=14,SNR=4.8
ASAR LR LR 08 43 17.6
comp=Z,2μm,19.5s,baz=304,slow=38
comp=Z,17nm,1.0s
AS31 Alice Springs 49.71 130 P **P** **08 20 22.6 -2.5**
AS31 Alice Springs 49.71 130 P **P** **08 20 23.5 -1.5**
comp=Z,7.3nm,1.0s
AS01 Alice Springs 49.74 130 P **P** **08 20 28.5 +3.2**
FORT Forrest 50.09 141 P **P** **08 20 26.5 -1.2**
FORT Forrest 50.09 141 P **P** **08 20 28.0 +0.3**
GUMO Guam 50.15 79 LR LR 08 41 09.1
comp=Z,947nm,20.8s,baz=266,slow=35
AB31 Akbulak array 50.51 331 P **P** **08 20 30.7 0.0**
ABKAR **Akbulak array** 50.51 331 P **P** **08 20 30.9 +0.3**
ATD Arta Tunnel 50.69 279 P **P** **08 20 33.4 +0.7**
ATD IAmb IAmb 08 20 43.7
comp=Z,68nm,1.3s
ATD Arta Tunnel 50.69 279 LR LR 08 38 56.5
comp=Z,46nm,21.7s,baz=77,slow=32
ATD Arta Tunnel 50.69 279 P P 08 20 38.7 +6.0
HEH HeiHe 50.78 27 *e*P **P** **08 20 34.1 +1.4**
HEH PP **PP** **08 22 29.0 0.0**
HEH S **S** **08 27 48.6 +1.5**
HEH SS **SS** **08 31 24.9 +3.0**
HEH pmax pmax
comp=Z,23nm,1.0s
HEH pmax pmax
comp=Z,460nm,6.1s
HEH LR LR
comp=Z,4μm,18.6s
HEH LR LR
comp=Z,3μm,17.2s
HEH LR LR
comp=Z,4μm,15.7s
JMM Marumori 51.79 47 P **P** **08 20 39.1 -1.4**
JMM IAmb IAmb 08 20 49.2
comp=Z,110nm,1.4s
JMM Marumori 51.79 47 P P 08 20 45.3 +4.8
KLR Kul'dur 52.15 30 *ce*P **P** **08 20 42.6 -0.4**
KLR pmax pmax
comp=Z,17nm,1.7s
AKTO Aktyubinsk 52.23 332 LR LR 08 45 35.8
comp=Z,742nm,19.2s,baz=112,slow=39
AKTO Aktyubinsk 52.23 332 P **P** **08 20 42.3 -1.3**
TEY Ternei 52.36 37 *e*P **P** **08 20 40.7 -3.9**
BOD Bodaibo 52.45 13 *e*P **P** **08 20 44.6 -0.5**
BOD pmax pmax
comp=Z,65nm,1.7s
QIS Mount Isa 52.70 123 P **P** **08 20 48.3 +0.8**
ZEA Zeya 53.24 24 *e*P **P** **08 20 53.0 +2.0**
ZEA *e*S **S** **08 28 29.0 +8.2**
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA smax smax
comp=E,200nm,12.1s
ZEA MLR MLR
comp=E,1μm,13.0s
ZEA MLR MLR
comp=N,2μm,17.0s
ZEA MLR MLR
comp=Z,3μm,15.0s
ABPO Ambohimpanom 53.25 240 P **P** **08 20 53.6 +1.8**
ABPO IAmb IAmb 08 21 03.0
comp=Z,49nm,1.1s
ABPO Ambohimpanom 53.25 240 P **P** **08 20 53.6 +1.8**
ABPO pmax pmax
comp=Z,49nm,1.1s
OOD Oodnadatta 53.36 133 P **P** **08 20 55.5 +3.3**
MAK Makhachkala 53.96 319 *e*P P 08 20 51.2 -5.2
MAK *e*PPP PPP 08 24 01.6
MAK *e*S **S** **08 28 25.1 -5.8**
MAK *e*SS **SKiKP** **08 32 09.1 +0.6**
MAK *e*SSS SSS 08 34 08.9
MAK pmax pmax
comp=Z,253nm,1.0s
MAK MLR MLR
comp=Z,1μm,14.0s
GNI Garni 54.66 314 P **P** **08 21 02.0 +0.1**
GNI IAmb IAmb 08 21 13.5
comp=Z,48nm,1.2s
GNI Garni 54.66 314 P **P** **08 21 05.4 +3.6**
GNI Garni 54.66 314 *ce*P **P** **08 21 01.8 0.0**
GNI pmax pmax
comp=Z,29nm,1.3s
GNI Garni 54.66 314 P **P** **08 21 01.9 +0.1**
comp=Z,824nmcomp=Z,29nm,1.0s
VOI Vohitsoka 54.88 237 P **P** **08 21 04.3 +0.7**
VOI Vohitsoka 54.88 237 P P 08 21 12.3 +8.7
SNR=5.1
ERM Erimo 55.13 43 IAMs_20 IAMs_20 08 47 03.3
comp=Z,2μm,18.0s
GEVA Gevas 55.21 312 P **P** **08 21 06.6 +0.7**
ASAJ Asahikawa 55.65 41 LR LR 08 46 06.0
comp=Z,1μm,19.5s,baz=244,slow=37
SVE Sverdlovsk 55.70 338 ‖ *e*P **P** **08 21 09.7 +0.9**
SVE *e*S **S** **08 28 55.2 +1.4**
SVE pmax pmax
comp=Z,120nm,1.1s
SVE MLR MLR
comp=Z,1μm,22.0s
MTSU Mount Surprise 55.71 118 P **P** **08 21 12.9 +3.4**
KARS Kars 56.02 314 P **P** **08 21 12.5 +0.9**
KARS IAMs_20 IAMs_20 08 48 02.2
comp=Z,3μm,21.0s
KARS Kars 56.02 314 P **P** **08 21 12.5 +0.9**
KARS pmax pmax
comp=Z,179nm,1.4s
KARS MLR MLR
comp=Z,3μm,21.0s
GURO Guroymak-BITLI 56.05 312 P **P** **08 21 12.0 +0.2**
FOMA Nahampoana Res 56.16 233 P **P** **08 21 13.5 +0.9**
FOMA IAmb IAmb 08 21 26.1
comp=Z,108nm,1.5s
ARTI Arti 56.22 337 P **P** **08 21 12.3 -0.2**
ARTI IAmb IAmb 08 21 27.6
comp=Z,68nm,0.9s
ARTI Arti 56.22 337 LR LR 08 48 01.0
comp=Z,1μm,18.2s,baz=148,slow=39
ARTI Arti 56.22 337 *d* *i*P **P** **08 21 12.3 -0.2**
ARTI 08 22 12.9
ARTI 08 23 13.2
ARTI S **S** **08 29 03.1 +2.3**
ARTI SS **SS** **08 32 48.3 +0.7**
ARTI pmax pmax
comp=Z,61nm,1.6s
ARTI MLR MLR
comp=Z,967nm,16.0s
BBOO Buckleboo 56.58 138 P **P** **08 21 13.7 -1.8**
BBOO IAmb IAmb 08 21 19.7
comp=Z,112nm,1.6s
BBOO IAMs_20 IAMs_20 08 45 54.4
comp=Z,2μm,19.0s
BBOO Buckleboo 56.58 138 P **P** **08 21 19.3 +3.9**
MARD Mardin 56.60 310 P **P** **08 21 14.8 -1.0**
LCRK Leigh Creek 56.68 134 P **P** **08 21 20.1 +3.9**
KIBK Kibwezi 56.82 262 P **P** **08 21 18.4 +0.7**
KIBK IAmb IAmb 08 21 26.2
comp=Z,27nm,0.8s
KIBK IAMs_20 IAMs_20 08 41 24.0
comp=Z,2μm,21.0s
KIBK Kibwezi 56.82 262 P P 08 21 23.5 +5.9
SNR=19
YSS Yuzhno-Sakhali 57.03 38 P **P** **08 21 16.9 -1.6**
YSS IAmb IAmb 08 21 48.2
comp=Z,74nm,1.6s
YSS Yuzhno-Sakhali 57.03 38 P P 08 21 23.9 +5.5
YSS Yuzhno-Sakhali 57.03 38 *d* *i*P **P** **08 21 18.3 -0.1**
YSS *e*S **S** **08 29 09.5 -2.3**
YSS *e*SS **SS** **08 32 57.6 -3.0**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS pmax pmax
comp=Z,400nm,4.3s
YSS MLR MLR
comp=Z,1μm,13.0s
YSS MLR MLR
comp=N,2μm,12.0s

YSS MLR MLR
comp=E,2μm,13.0s
INKA Innaminka 57.09 130 P **P** **08 21 22.8 +3.6**
KBZ Khabaz 57.33 318 P **P** **08 21 20.1 -0.5**
comp=E,7.2nm,0.9s,baz=161,slow=3.0,SNR=9.5
KBZ LR LR 08 49 36.9
comp=E,410nm,20.4s,baz=126,slow=40
comp=E,7.2nm,0.9s
KBZ Khabaz 57.33 318 *ce*P **P** **08 21 20.2 -0.4**
KBZ pmax pmax
comp=Z,38nm,2.3s
KMBO Kilima Mbogo 57.39 264 P **P** **08 21 23.8 +1.8**
KMBO IAmb IAmb 08 21 30.7
comp=Z,43nm,0.9s
KMBO Kilima Mbogo 57.39 264 IAMs_20 IAMs_20 08 41 24.9
comp=Z,2μm,22.0s
KMBO Kilima Mbogo 57.39 264 P **P** **08 21 23.7 +1.8**
comp=Z,8.6nm,0.5s,baz=62,slow=11,SNR=25
KMBO LR LR 08 44 05.8
comp=Z,2μm,18.3s,baz=92,slow=34
comp=Z,8.6nm,0.5s
KMBO Kilima Mbogo 57.39 264 P **P** **08 21 25.8 +3.9**
KMBO P **P** **08 21 25.8 +3.9**
KMBO Kilima Mbogo 57.39 264 *i* P **P** **08 21 23.3 +1.4**
KMBO pmax pmax
comp=Z,9.0nm,0.5s
KMBO Kilima Mbogo 57.39 264 *i* P **P** **08 21 24.4 +2.5**
SNR=17
SHA1 Shidzhatmaz 57.49 318 *i* P **P** **08 21 21.8 -0.3**
KVAR Kislovodsk Arr 57.55 318 LR LR 08 50 55.3
comp=Z,566nm,18.8s,baz=142,slow=41
KIV Kislovodsk 57.55 318 P **P** **08 21 21.8 -0.6**
KIV IAmb IAmb 08 21 34.1
comp=Z,34nm,0.8s
KIV Kislovodsk 57.55 318 P **P** **08 21 23.4 +1.0**
KIV P **P** **08 21 23.4 +1.0**
KIV Kislovodsk 57.55 318 *e*P **P** **08 21 21.4 -1.0**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,281nm,17.0s
KOPT Kop Dagi 57.66 313 P **P** **08 21 23.3 -0.1**
WHYH Whyalla 57.73 137 P **P** **08 21 27.0 +3.4**
ASF Jabal al Asfar 58.39 303 LR LR 08 49 01.7
comp=Z,1μm,19.9s,baz=117,slow=38
LODK Lodwar 58.62 269 P **P** **08 21 30.5 +0.2**
LODK Lodwar 58.62 269 P P 08 21 36.3 +6.0
SNR=14
TYV Tymovskoe 58.85 34 *e*P P 08 21 36.4 +5.3
TYV *e*S S 08 29 46.9 +11
TYV pmax pmax
comp=Z,14nm,1.4s
TYV pmax pmax
comp=Z,500nm,6.0s
TYV smax smax
comp=N,900nm,9.3s
TYV smax smax
comp=E,700nm,9.3s
TYV MLR MLR
comp=E,3μm,16.0s
TYV MLR MLR
comp=Z,4μm,16.0s
HTT Hallett 58.88 137 P **P** **08 21 34.2 +2.5**
LABN Labinsk 59.12 318 *e*P **P** **08 21 29.2 -4.0**
LABN *e*S **S** **08 29 36.8 -2.5**
LABN pmax pmax
comp=Z,23nm,0.9s
QLP Quilpie 59.24 127 P **P** **08 21 36.9 +2.6**
GAZ Gaziantep 59.29 309 P **P** **08 21 34.3 -0.3**
GAZ IAmb IAmb 08 21 46.1
comp=Z,36nm,1.1s
SOC Sochi 59.41 317 *e*P P 08 21 30.5 -4.7
SOC *e* 08 23 48.6
SOC *e*S **S** **08 29 38.2 -4.9**
SOC pmax pmax
comp=Z,16nm,0.6s
SOC MLR MLR
comp=Z,601nm,18.0s
EIL Elat 59.59 300 LR LR 08 48 59.3
comp=Z,2μm,19.1s,baz=92,slow=38
ERBR Yeremizino-Bor 59.68 319 *e*P **P** **08 21 35.1 -1.9**
ERBR *e*PPP PPP 08 25 09.8
ERBR *e*S **S** **08 29 48.4 +1.9**
ERBR pmax pmax
comp=Z,26nm,0.9s
ERBR MLR MLR
comp=Z,970nm,17.0s
MMAI Mount Meron Ar 59.80 304 P **P** **08 21 38.0 -0.2**
comp=Z,0.9nm,0.4s,baz=141,slow=5.4,SNR=3.7
MMAI LR LR 08 51 18.7
comp=Z,1μm,18.8s,baz=91,slow=40
comp=Z,0.9nm,0.4s
STKA Stephens Creek 59.88 134 P **P** **08 21 37.0 -1.6**
STKA Stephens Creek 59.88 134 P **P** **08 21 37.5 -1.2**
comp=Z,14nm,1.0s,baz=307,slow=9.1,SNR=11
STKA LR LR 08 52 07.6
comp=Z,2μm,18.5s,baz=295,slow=41
comp=Z,14nm,1.0s
STKA Stephens Creek 59.88 134 P **P** **08 21 41.3 +2.7**
STKA Stephens Creek 59.88 134 P **P** **08 21 37.0 -1.6**
STKA pmax pmax
comp=Z,103nm,1.1s
YAK Yakutsk 60.29 18 P **P** **08 21 40.6 -0.3**
YAK Yakutsk 60.29 18 LR LR 08 50 24.3
comp=Z,3μm,18.7s,baz=214,slow=39
YAK Yakutsk 60.29 18 *e*P **P** **08 21 39.8 -1.1**
YAK *e* 08 22 27.8
YAK *e* 08 23 53.0
YAK *e*S **S** **08 29 54.3 +0.6**
YAK *e* 08 31 30.3
YAK *e*SS **SS** **08 33 53.0 +1.7**
YAK pmax pmax
comp=Z,101nm,1.2s
YAK pmax pmax
comp=E,40nm,1.4s
YAK pmax pmax
comp=N,26nm,1.2s
YAK pmax pmax
comp=Z,147nm,3.7s
YAK pmax pmax
comp=E,64nm,3.1s
YAK pmax pmax
comp=N,78nm,3.3s
YAK smax smax
comp=N,48nm,2.0s
YAK smax smax
comp=E,37nm,2.3s
YAK MLR MLR
comp=Z,3μm,14.0s
YAK MLR MLR
comp=E,2μm,15.0s
YAK MLR MLR
comp=N,2μm,16.0s
VRH Novokhopyorsk 61.19 325 *e*P **P** **08 21 46.4 -0.8**
VRH pmax pmax
comp=Z,38nm,0.8s
KIRV Kirov 61.30 335 LR LR 08 51 13.2
comp=Z,839nm,18.1s,baz=135,slow=39
KIRV Kirov 61.30 335 *ce*P **P** **08 21 48.1 +0.3**
ANN Anapa 61.37 317 *e*P **P** **08 21 44.9 -3.6**
ANN *e*S **S** **08 30 07.6 -0.5**
ANN pmax pmax
comp=Z,23nm,1.0s
ANN MLR MLR
comp=Z,623nm,18.0s
NRIK Noril'sk 61.86 357 P **P** **08 21 51.5 +0.1**
NRIK IAmb IAmb 08 21 58.3
comp=Z,29nm,0.6s
NRIK Noril'sk 61.86 357 P **P** **08 21 51.1 -0.3**
comp=Z,9.5nm,0.7s,baz=145,slow=5.1,SNR=18
NRIK LR LR 08 53 08.9
comp=Z,1μm,18.8s,baz=188,slow=40
comp=Z,9.5nm,0.7s
NRIK Noril'sk 61.86 357 *ce*P **P** **08 21 51.0 -0.3**
NRIK pmax pmax
comp=Z,27nm,0.6s
CSS Mathiatis 61.86 306 P **P** **08 21 52.6 +0.5**
comp=Z,491nmcomp=Z,21nm,1.3s
KIRS Kirsehir-Merke 62.29 310 ⇑P **P** **08 21 52.0 -3.0**
VORD Divnogorie 62.48 324 *i* P **P** **08 21 52.7 -3.2**
VORD pmax pmax
comp=Z,10.0nm,1.0s
BR131 Keskin Array S 62.64 311 P **P** **08 21 57.7 +0.3**
SNR=7.4
BR131 P **P** **08 21 57.7 +0.3**
SNR=7.4

BRTR Keskin Array B 62.64 311 P **P 08 21 56.0 -1.4**
BRTR Keskin Array B 62.64 311 P **P 08 21 55.9 -1.4**
comp=Z,5.4nm,0.7s,baz=128,slow=7.6,SNR=21
BRTR LR LR 08 51 14.9
comp=Z,749nm,22.0s,baz=109,slow=38
comp=Z,5.4nm,0.7s
VSR Storozhevoye 62.65 325 *e*P P 08 21 52.3 -4.7
VSR pmax pmax
comp=Z,10.0nm,0.9s
CMSA Cobar Meteorol 62.71 131 P **P 08 21 59.2 +1.4**
ARPS Mount Arapiles 62.74 138 P **P 08 22 01.7 +3.8**
VORR Voronezh 62.81 325 *e*P **P 08 21 56.4 -1.7**
VORR pmax pmax
comp=Z,30nm,0.9s
ILGA Ilgaz 62.90 312 P **P 08 21 58.5 -0.7**
ILGA IAmb IAmb 08 22 08.0
comp=Z,55nm,1.2s
BZK Bozkurt 62.92 313 ⇓P **P 08 21 56.1 -2.9**
LPSR Galich'ya Gora 63.35 326 *e*P **P 08 21 59.9 -1.8**
LPSR pmax pmax
comp=Z,20nm,0.8s
SIM Simferopol' 63.66 317 *e*P **P 08 22 00.1 -3.8**
SIM *e*S **S 08 30 35.1 -1.8**
SIM pmax pmax
comp=Z,23nm,0.9s
MBAR Mbarara 63.74 266 P **P 08 22 05.5 +0.3**
MBAR Mbarara 63.74 266 IAMs_20 IAMs_20 08 46 31.2
comp=Z,3μm,20.0s
MBAR Mbarara 63.74 266 P P 08 22 10.9 +5.7
MBAR P P 08 22 10.9 +5.7
MBAR Mbarara 63.74 266 P **P 08 22 05.5 +0.3**
MBAR pmax pmax
comp=Z,147nm,1.8s
ISP Isparta 64.62 308 P **P 08 22 10.0 -0.5**
ISP IAmb IAmb 08 22 36.0
comp=Z,19nm,0.8s
ISP Isparta 64.62 308 P **P 08 22 10.0 -0.5**
ISP pmax pmax
comp=Z,19nm,0.8s
ISP MLR MLR
comp=Z,700nm,21.0s
GEXS Deakin Univers 65.16 138 P **P 08 22 17.6 +3.9**
MOS Moscow 65.35 329 *e*P **P 08 22 12.5 -2.2**
MOS *e* 08 22 43.1
MOS pmax pmax
comp=Z,155nm,1.5s
MOS MLR MLR
comp=Z,1μm,17.0s
H04N2 CROZET ISLANDS 65.46 211 T T 09 32 45.0
baz=47,slow=75,SNR=331
H04N1 CROZET ISLANDS 65.47 211 T T 09 32 45.7
baz=47,slow=75,SNR=381
H04N3 CROZET ISLANDS 65.48 211 T T 09 32 44.3
baz=47,slow=75,SNR=265
TOO Toolangi 65.62 137 P **P 08 22 15.6 -1.3**
TOO IAmb IAmb 08 22 23.6
comp=Z,37nm,1.1s
TOO Toolangi 65.62 137 P **P 08 22 15.6 -1.3**
TOO pmax pmax
comp=Z,37nm,1.1s
TOO MLR MLR
comp=Z,700nm,20.0s
OBN Obninsk 65.65 328 P **P 08 22 16.6 0.0**
OBN Obninsk 65.65 328 LR LR 08 54 51.4
comp=Z,846nm,19.9s,baz=126,slow=40
OBN Obninsk 65.65 328 *e*P **P 08 22 16.5 -0.1**
OBN *i* 08 22 50.3
OBN pmax pmax
comp=Z,34nm,1.1s
H04S1 CROZET ISLANDS 65.86 210 T T 09 33 12.0
baz=47,slow=76,SNR=5.3
H04S3 CROZET ISLANDS 65.87 210 T T 09 33 09.6
baz=47,slow=76,SNR=15
TW1H Toowoomba 1 Ha 65.88 125 P **P 08 22 22.2 +3.5**
H04S2 CROZET ISLANDS 65.88 210 T T 09 33 11.2
baz=47,slow=76,SNR=8.3
AUWSH Wavell State H 66.70 124 P **P 08 22 28.3 +4.4**
KLMR Klimovskoe 66.74 334 *e*P **P 08 22 20.1 -3.4**
KLMR SSS SSS 08 38 26.5
KLMR pmax pmax
comp=Z,74nm,1.1s
ARMA Armidale 66.76 128 P **P 08 22 21.2 -3.2**
ARMA IAmb IAmb 08 22 47.6
comp=Z,28nm,1.1s
ARMA IAMs_20 IAMs_20 08 54 17.6
comp=Z,2μm,19.0s
ARMA Armidale 66.76 128 P **P 08 22 27.2 +2.8**
KARP Karpathos 66.94 305 P **P 08 22 25.0 -0.4**
CAN Canberra 66.95 133 P **P 08 22 22.5 -2.9**
CAN Canberra 66.95 133 P **P 08 22 28.4 +3.0**
CAN Canberra 66.95 133 P **P 08 22 22.5 -2.9**
CAN pmax pmax
comp=Z,60nm,1.1s
CAN MLR MLR
comp=Z,2μm,21.0s
MA2 Magadan 67.04 27 IAMs_20 IAMs_20 08 54 38.3
comp=Z,2μm,18.0s
MA2 Magadan 67.04 27 P P 08 22 31.2 +5.7
MA2 Magadan 67.04 27 *i* P **P 08 22 24.6 -0.9**
MA2 pmax pmax
comp=Z,13nm,0.8s
CNB Canberra Magne 67.21 133 P **P 08 22 31.3 +4.2**
TIRR Tirgusor 67.48 315 P **P 08 22 27.7 -0.8**
TIRR Tirgusor 67.48 315 ⇑P **P 08 22 26.0 -2.6**
TIRR Tirgusor 67.48 315 P **P 08 22 25.9 -2.6**
SYDH Sydney Hard Ro 67.52 131 P **P 08 22 33.3 +4.4**
TIXI Tiksi 67.54 11 P **P 08 22 27.3 -1.1**
TIXI Tiksi 67.54 11 IAMs_20 IAMs_20 08 55 23.4
comp=Z,2μm,22.0s
TIXI Tiksi 67.54 11 LR LR 08 55 59.3
comp=Z,1μm,19.1s,baz=232,slow=39
TIXI Tiksi 67.54 11 *ce*P **P 08 22 27.1 -1.3**
TIXI pmax pmax
comp=Z,47nm,1.7s
TPGR Topolog 67.56 315 ⇑P **P 08 22 26.0 -3.1**
HNR Honiara 67.69 103 LR LR 08 55 04.0
comp=Z,396nm,20.4s,baz=277,slow=39
HARR Harsova 67.87 315 ⇑P **P 08 22 28.0 -3.0**
HARR Harsova 67.87 315 P **P 08 22 27.9 -3.0**
PETK Petropavlovsk- 68.26 36 P **P 08 22 30.9 -2.4**
PETK Petropavlovsk- 68.26 36 P **P 08 22 33.6 +0.3**
comp=Z,0.6nm,0.5s,baz=245,slow=6.0,SNR=1.9
PETK PKP2bc 08 50 52.1
comp=Z,4.8nm,1.0s,baz=57,slow=5.3,SNR=5.0
PETK LR LR 08 54 06.8
comp=Z,817nm,18.9s,baz=236,slow=37
comp=Z,0.6nm,0.5s
PETK Petropavlovsk- 68.26 36 P **P 08 22 30.9 -2.4**
AKASG Malin Array Be 68.40 322 P **P 08 22 32.7 -1.5**
comp=Z,2.6nm,0.7s,baz=91,slow=4.9,SNR=13
AKASG PP **PP 08 25 04.0 -1.3**
comp=Z,0.5nm,0.5s,baz=106,slow=9.7,SNR=4.7
AKASG LR LR 08 57 17.1
comp=Z,523nm,19.1s,baz=102,slow=40
comp=Z,2.6nm,0.7s
AKBB Malin Array Si 68.40 322 P **P 08 22 34.0 -0.2**
AKBB IAmb IAmb 08 23 15.0
comp=Z,52nm,1.9s
AKBB Malin Array Si 68.40 322 *ce*P **P 08 22 35.2 +1.0**
AKBB pmax pmax
comp=Z,40nm,2.2s
AKBB Malin Array Si 68.40 322 P **P 08 22 32.6 -1.6**
KIEV Kiev 68.41 322 P **P 08 22 33.1 -1.2**
KIEV IAmb IAmb 08 23 15.1
comp=Z,46nm,1.9s
KIEV Kiev 68.41 322 P **P 08 22 33.1 -1.2**
KIEV pmax pmax
comp=Z,46nm,1.9s
IDI Anoyia 68.75 305 LR LR 08 58 30.8
comp=Z,273nm,18.3s,baz=96,slow=41
PET Petropavlovsk 68.78 36 IAMs_20 IAMs_20 08 51 36.9
comp=Z,2μm,21.0s
PET Petropavlovsk 68.78 36 *e*P P 08 22 31.5 -5.1
PET *e*S **S 08 31 32.8 -6.1**
PET MLR MLR
comp=Z,1μm,16.0s
PET MLR MLR
comp=Z,1μm,16.0s
VRI Vrincioaia 68.93 316 ⇓P **P 08 22 35.0 -2.7**
VRI Vrincioaia 68.93 316 P **P 08 22 34.9 -2.7**
PLOR Plostina 68.98 316 ⇓P **P 08 22 35.3 -2.7**
PLOR Plostina 68.98 316 P **P 08 22 35.3 -2.7**
GLAD Gladstone 69.07 139 P **P 08 22 42.6 +4.1**
TESR Tescani 69.11 317 ⇓P **P 08 22 35.9 -2.9**
LSZ Lusaka 69.17 251 P **P 08 22 39.8 0.0**
LSZ IAmb IAmb 08 22 52.5
comp=Z,62nm,1.1s
LSZ Lusaka 69.17 251 LR LR 08 50 35.2
comp=Z,2μm,18.1s,baz=90,slow=34
LSZ Lusaka 69.17 251 P P 08 22 47.0 +7.2
LSZ P P 08 22 47.0 +7.2
LSZ Lusaka 69.17 251 P **P 08 22 39.8 0.0**
LSZ pmax pmax
comp=Z,62nm,1.2s
LSZ Lusaka 69.17 251 *i* P **P 08 22 35.4 -4.4**
SEY Seymchan 69.21 25 LR LR 08 55 22.7
comp=Z,2μm,19.0s,baz=228,slow=38
SEY Seymchan 69.21 25 *ce*P **P 08 22 38.2 -0.8**
SEY pmax pmax
comp=Z,23nm,1.3s
ONER Baraj Valea Uz 69.25 317 ⇑P **P 08 22 36.9 -2.7**
MLR Muntele Rosu 69.40 316 IAmb IAmb 08 22 52.8
comp=Z,60nm,1.2s
MLR Muntele Rosu 69.40 316 LR LR 09 00 22.9
comp=Z,692nm,18.9s,baz=92,slow=42
MLR Muntele Rosu 69.40 316 ⇑P **P 08 22 37.9 -2.8**
MLR Muntele Rosu 69.40 316 P **P 08 22 37.9 -2.8**
MUSN Musina, Limpop 69.56 243 *i* P **P 08 22 40.2 -1.9**
DOPR Dopca 69.87 316 ⇑P **P 08 22 41.1 -2.4**
MTUR Matau 69.97 315 ⇑P **P 08 22 41.4 -2.8**
MTUR Matau 69.97 315 P **P 08 22 41.4 -2.8**
VOIR 70.01 316 ⇑P **P 08 22 41.7 -2.7**
VOIR 70.01 316 P **P 08 22 41.7 -2.7**
BLWY Bulawayo 70.06 245 *i* P **P 08 22 43.6 -1.7**
MNK Minsk 70.19 325 *i* P **P 08 22 42.5 -2.7**
MNK *i* 08 23 04.0
MNK *i* 08 25 17.9
MNK *i* PPP PPP 08 26 59.9
MNK *i* S **S 08 31 55.3 -0.1**
MNK *i* 08 32 45.2
MNK *i* SS **SS 08 36 26.6 +1.1**
MNK pmax pmax
comp=E,19nm,0.7s
MNK pmax pmax
comp=N,43nm,1.0s
MNK pmax pmax
comp=Z,32nm,0.9s
MNK MLR MLR
comp=N,924nm,21.0s
MNK MLR MLR
comp=Z,626nm,21.0s
MNK MLR MLR
comp=E,1μm,23.0s
BURAR Bucovina Array 70.28 318 P **P 08 22 45.9 -0.2**
BURAR Bucovina Array 70.28 318 ⇑P **P 08 22 43.8 -2.4**
BURAR Bucovina Array 70.28 318 P **P 08 22 43.7 -2.4**
ARR Arges 70.29 315 ⇑P **P 08 22 43.3 -2.8**
BUR08 Bucovina Ar. S 70.30 318 P **P 08 22 45.7 -0.5**
RNPP5 Staryi Chortor 70.58 322 P **P 08 22 46.6 -1.1**
LOT Lotru 70.90 315 ⇓P **P 08 22 47.5 -2.5**
IDID Didziasalis 71.04 326 *e*P **P 08 22 48.5 -1.9**
JOF Joensuu 71.14 335 *e*P **P 08 22 50.4 -0.4**
LIT Litokhoron 71.15 310 IAmb IAmb 08 22 53.0
comp=Z,28nm,0.9s
ITM Ithomi 71.31 307 IAmb IAmb 08 23 18.5
comp=Z,43nm,1.2s
BROLN Tlhalogang 71.47 245 *i* P **P 08 22 54.5 +0.8**
BROLN Tlhalogang 71.47 245 *i* P **P 08 22 54.7 +0.9**
MARR Marisel-Cluj 71.54 317 ⇑P **P 08 22 51.0 -2.8**
GZR Gura Zlata 71.59 315 ⇓P **P 08 22 51.7 -2.4**
GZR Gura Zlata 71.59 315 P **P 08 22 51.6 -2.4**
HERR Herculane 71.77 315 ⇑P **P 08 22 52.6 -2.4**
DRGR 71.83 317 ⇓P **P 08 22 53.1 -2.4**
DRGR 71.83 317 P **P 08 22 53.0 -2.4**
VSU Vasula 71.86 329 *i* P **P 08 22 54.9 -0.4**
VSU pmax pmax
comp=Z,107nm,1.7s
VSU Vasula 71.86 329 *e*P **P 08 22 54.3 -1.0**
FNA Florina 72.06 310 P **P 08 22 55.7 -1.3**
FNA Florina 72.06 310 P **P 08 22 55.7 -1.3**
FNA pmax pmax
comp=Z,18nm,0.9s
SURR Surduc 72.09 316 ⇑P **P 08 22 54.7 -2.3**
BOVS Bovan 72.12 313 ⇓P **P 08 22 54.7 -2.5**
APA Apatity 72.14 339 ⇓*i*P **P 08 22 56.0 -0.8**
APA pmax pmax
comp=Z,18nm,1.0s
APA MLR MLR
comp=Z,2μm,17.0s
BZS Buzias 72.42 315 ⇓P **P 08 22 56.6 -2.4**
BZS Buzias 72.42 315 P **P 08 22 56.5 -2.4**
KOLS Kolonicke sedl 72.44 319 *e*P **P 08 23 01.1 +2.0**
KOLS pmax pmax
comp=Z,11nm,0.7s
KOLS Kolonicke sedl 72.44 319 *e*P **P 08 23 01.0 +2.0**
SIRR Siria 72.48 316 ⇓P **P 08 22 56.8 -2.5**
ARBE Arbavere 72.50 330 *e*P **P 08 22 58.5 -0.5**
KSANE Kasane 72.60 249 *i* P **P 08 23 02.0 +1.4**
KSANE Kasane 72.60 249 *i* P **P 08 23 01.8 +1.2**
PABE Paberze 72.62 326 P **P 08 22 59.9 +0.1**
PABE Paberze 72.62 326 *e*P **P 08 23 00.1 +0.2**
SUW Suwalki 72.76 324 *e*P **P 08 22 58.6 -2.2**
SUW Suwalki 72.76 324 *e*P **P 08 23 01.0 +0.2**
FINES FINESS Array B 72.99 332 P **P 08 23 01.4 -0.6**
comp=Z,9.5nm,0.5s,baz=101,slow=5.9,SNR=57
FINES LR LR 08 57 50.3
comp=Z,734nm,21.2s,baz=116,slow=38
comp=Z,9.5nm,0.5s
KHWEE KHWEE 73.39 245 *i* P **P 08 23 05.6 +0.3**
KHWEE KHWEE 73.39 245 *i* P **P 08 23 06.5 +1.2**
MTSE Matsula 73.41 329 *e*P **P 08 23 05.2 +0.7**
LPHEP Lephephe 73.41 243 *i* P **P 08 23 05.4 +0.1**
LPHEP Lephephe 73.41 243 *i* P **P 08 23 06.5 +1.2**
MEF Metsahovi 73.47 331 *e*P **P 08 23 04.1 -0.7**
KEF Keuruu 73.74 333 *e*P **P 08 23 05.9 -0.5**
PHDHD Phuduhudu 73.76 246 *i* P **P 08 23 08.6 +1.1**
PHDHD Phuduhudu 73.76 246 *i* P **P 08 23 08.2 +0.8**
PDG Podgorica 73.79 312 ⇑P **P 08 23 04.8 -2.3**
PBUR Paburge 73.85 326 *e*P **P 08 23 06.8 -0.3**
PSZ Piszkesteto 73.88 318 ⇑P **P 08 23 04.9 -2.7**
PSZ Piszkesteto 73.88 318 P **P 08 23 04.9 -2.7**
LBTB Lobatse 74.10 241 IAmb IAmb 08 23 22.0
comp=Z,51nm,1.0s
LBTB Lobatse 74.10 241 LR LR 08 51 38.7
comp=Z,2μm,20.6s,baz=73,slow=32
LBTB Lobatse 74.10 241 *i* P **P 08 23 07.8 -1.5**
OJC Ojcow 74.22 320 *e*P **P 08 23 09.7 +0.2**
OJC Ojcow 74.22 320 P **P 08 23 09.3 -0.2**
OJC Ojcow 74.22 320 P **P 08 23 09.3 -0.2**
OJC pmax pmax
comp=Z,15nm,0.6s
LANS Liptovska Anna 74.30 319 *e*P **P 08 23 10.5 +0.5**
LANS Liptovska Anna 74.30 319 *e*P **P 08 23 10.5 +0.5**
KDWAN Kaudwane 74.47 243 *i* P **P 08 23 10.9 -0.6**
KDWAN Kaudwane 74.47 243 *i* P **P 08 23 12.8 +1.3**
CASY Casey 74.61 173 P **P 08 23 11.0 -0.3**
CASY IAmb IAmb 08 23 23.2
comp=Z,61nm,1.1s
RAF Rauma 74.92 331 *e*P **P 08 23 13.4 +0.2**
VAF Ylistaro 74.94 333 *e*P **P 08 23 12.9 -0.4**
MAKGR Makgori 75.01 241 *i* P **P 08 23 15.1 +0.5**
MAKGR Makgori 75.01 241 *i* P **P 08 23 15.1 +0.5**
SKOMA Sekoma 75.42 242 *i* P **P 08 23 17.8 +0.9**
SKOMA Sekoma 75.42 242 *i* P **P 08 23 17.9 +1.0**
BOSA Boshof 75.42 238 P **P 08 23 17.0 +0.1**
BOSA Boshof 75.42 238 P **P 08 23 17.9 +0.9**
comp=Z,16nm,0.9s,baz=86,slow=6.1,SNR=19
BOSA LR LR 08 52 12.8
comp=Z,1μm,21.0s,baz=68,slow=32
comp=Z,16nm,0.9s
BOSA Boshof 75.42 238 P **P 08 23 17.0 +0.1**
BOSA pmax pmax
comp=Z,310nm,2.0s
BOSA Boshof 75.42 238 *i* P **P 08 23 16.8 -0.1**
JAVC Velka Javorina 75.45 318 *e*P **P 08 23 17.3 +0.6**
TIP Timpagrande 75.50 308 P **P 08 23 17.0 -0.2**
TIP IAmb IAmb 08 23 28.4
comp=Z,62nm,1.8s
ARA0 ARCESS Array S 75.56 340 *e*P **P 08 23 17.1 +0.2**
ARCES ARCESS Array B 75.56 340 P **P 08 23 16.9 0.0**
comp=Z,4.7nm,0.8s,baz=92,slow=6.5,SNR=18
ARCES LR LR 08 59 31.9
comp=Z,1μm,19.9s,baz=114,slow=38
comp=Z,4.7nm,0.8s
SMOL Smolenice 75.58 318 *e*P **P 08 23 18.5 +1.1**
MORC Moravsky Berou 75.62 319 IAmb IAmb 08 23 24.7
comp=Z,125nm,2.0s
MORC Moravsky Berou 75.62 319 *e*P **P 08 23 17.4 -0.2**
MORC Moravsky Berou 75.62 319 ⇑P **P 08 23 15.0 -2.6**
MORC Moravsky Berou 75.62 319 P **P 08 23 15.0 -2.6**
MODS Modra-Piesok 75.67 318 *e*P **P 08 23 17.7 -0.2**
MODS pmax pmax
comp=Z,140nm,2.3s
MODS Modra-Piesok 75.67 318 *e*P **P 08 23 17.7 -0.2**
KRLC Kraliky 76.13 320 *e*P **P 08 23 20.8 +0.3**
KRLC Kraliky 76.13 320 *e*P **P 08 23 20.8 +0.3**
CEL Celeste 76.14 307 IAmb IAmb 08 23 56.5
comp=Z,66nm,1.5s
KTK1 Kautokeino 76.19 339 *e*P **P 08 23 20.8 +0.4**
VRAC Vranov 76.19 319 P **P 08 23 19.9 -1.0**
comp=Z,2.5nm,0.5s,baz=97,slow=6.8,SNR=3.0
VRAC LR LR 09 03 11.6
comp=Z,404nm,18.4s,baz=93,slow=41
comp=Z,2.5nm,0.5s
VRAC Vranov 76.19 319 *e*P **P 08 23 20.1 -0.8**
RONA Rosalia, Austr 76.27 317 *i* P **P 08 23 21.6 +0.2**
comp=Z,12nm,1.4s
KRUC Moravsky 76.30 319 *e*P **P 08 23 21.0 -0.5**
BILL Bilibino 76.38 22 P **P 08 23 19.5 -2.0**
BILL Bilibino 76.38 22 *ce*P **P 08 23 20.3 -1.2**
BILL pmax pmax
comp=Z,18nm,1.3s
DPC Dobruska-Polom 76.45 320 *e*P **P 08 23 22.9 +0.6**
DPC Dobruska-Polom 76.45 320 *e*P **P 08 23 22.9 +0.6**
KSP Ksiaz 76.51 320 *e*P **P 08 23 22.8 +0.2**
KGCAE Kacgae 76.52 244 *i* P **P 08 23 24.3 +1.0**
KGCAE Kacgae 76.52 244 *i* P **P 08 23 24.2 +0.9**
CONA Conrad Observa 76.58 317 *i* P **P 08 23 23.2 0.0**
comp=Z,4.6nm,0.8s
CHVC Chvalec 76.64 320 *e*P **P 08 23 23.4 0.0**
CHVC Chvalec 76.64 320 *e*P **P 08 23 23.4 0.0**
DZM Mont Dzumac 76.66 115 P **P 08 23 21.8 -2.2**
DZM Mont Dzumac 76.66 115 *e*S **S 08 33 03.0 -6.9**
comp=Z,130nm,28.4s
DZM *e*SS **SS 08 38 04.9 -1.1**
comp=Z,399nm,36.0s
DZM *e*LQ LQ 08 43 41.0
comp=Z,1μm,40.9s
DZM *e*LR LR 08 46 53.3
comp=Z,1μm,27.4s
DZM Mont Dzumac 76.66 115 P P 08 23 29.7 +5.6
QNGWA Qangwa 76.68 248 *i* P **P 08 23 25.4 +1.2**
QNGWA Qangwa 76.68 248 *i* P **P 08 23 25.4 +1.2**
ARSA Arzberg 76.77 317 IAmb IAmb 08 23 35.8
comp=Z,51nm,1.7s
ARSA Arzberg 76.77 317 *e*P **P 08 23 24.1 -0.1**
comp=Z,11nm,1.2s
YATNC Mamie plateau, 77.06 115 P **P 08 23 30.2 +4.0**
GRTLG Ghanzi 77.06 246 *i* P **P 08 23 27.4 +1.0**
GRTLG Ghanzi 77.06 246 *i* P **P 08 23 27.4 +1.0**
SOKA Soboth 77.08 316 *i* P **P 08 23 25.6 -0.3**
comp=Z,15nm,1.1s
BLEU Blekinge 77.28 326 *i* P **P 08 23 25.4 -1.4**
JETT Jettan, Norway 77.30 340 *e*P **P 08 23 27.0 +0.3**
VAE Valguarnera 77.31 307 LR LR 09 01 16.3
comp=Z,349nm,19.7s,baz=154,slow=38
OBKA Obir 77.40 316 *e*P **P 08 23 27.5 -0.4**
comp=Z,27nm,1.8s
MOA Molln 77.65 317 *i* P **P 08 23 28.5 -0.6**
comp=Z,7.1nm,0.9s
BSD Bornholm Skovb 77.68 325 *e*P **P 08 23 29.0 0.0**
LKGWB Lokgwabe 77.71 243 *i* P **P 08 23 30.1 +0.2**
LKGWB Lokgwabe 77.71 243 *i* P **P 08 23 30.2 +0.2**
HOPEN Hopen 77.88 347 *e*P **P 08 23 28.9 -0.9**
SHEM Shemya Is, Ala 77.94 38 LR LR 08 56 43.0
comp=Z,243nm,21.5s,baz=260,slow=35
BRG Berggiesshubel 78.00 320 *e*P **P 08 23 31.5 +0.6**
BRG Amp 08 23 33.7
comp=Z,5.1nm,0.8s
BRG Berggiesshubel 78.00 320 P P 08 23 37.1 +6.2
BRG Amp 08 23 38.0
comp=Z,11nm,0.9s
BRG Berggiesshubel 78.00 320 S **S 08 33 24.0 +0.6**
MYKA Terra Mystica 78.03 316 *i* P **P 08 23 30.5 -0.8**
comp=Z,8.5nm,1.0s
GEC2 GERESS Array S 78.06 318 IAmb IAmb 08 23 46.0
comp=Z,43nm,1.5s
GERES GERESS Array B 78.06 318 P **P 08 23 31.5 0.0**
comp=Z,7.1nm,0.8s,baz=86,slow=5.5,SNR=27
GERES LR LR 09 02 36.9
comp=Z,484nm,20.5s,baz=87,slow=39
comp=Z,7.1nm,0.8s
BIOA Bad Ischl, Aus 78.07 317 *i* P **P 08 23 30.7 -0.7**
comp=Z,4.7nm,0.8s
PRED Cave del Predi 78.08 316 IAmb IAmb 08 23 54.0
comp=Z,53nm,1.4s
KHC Kasperske Hory 78.16 319 *e*P **P 08 23 32.0 +0.1**
KHC Kasperske Hory 78.16 319 *ce*P **P 08 23 31.2 -0.7**
KHC pmax pmax
comp=Z,8.0nm,0.9s
MAW Mawson 78.23 192 P **P 08 23 33.2 +1.5**
comp=Z,13nm,0.8s,baz=273,slow=8.9,SNR=6.5
MAW LR LR 08 53 13.6
comp=Z,880nm,18.7s,baz=17,slow=32
comp=Z,13nm,0.8s
KBA Koelnbreinsper 78.25 316 *i* P **P 08 23 31.7 -1.0**
comp=Z,6.2nm,1.1s
DEL Delary 78.37 326 *i* P **P 08 23 32.0 -0.8**
LUNU Lund 78.55 325 *i* P **P 08 23 32.7 -1.2**
CLL Collm 78.61 321 *e*P **P 08 23 34.0 -0.3**
CLL *e* 08 23 40.0
CLL pmax pmax
comp=Z,33nm,2.0s
CLL MLR MLR
comp=Z,600nm,19.2s
LESA Schwarzleotal 78.71 317 *i* P **P 08 23 33.8 -1.3**
comp=Z,16nm,1.2s
HFS Hagfors 78.73 330 P **P 08 23 34.5 -0.3**
comp=Z,10.0nm,0.5s,baz=101,slow=6.2,SNR=48
HFS LR LR 09 02 32.4
comp=Z,819nm,18.6s,baz=88,slow=39
comp=Z,10.0nm,0.5s
FAUS Fauske 78.78 337 *e*P **P 08 23 34.8 -0.1**
ABTA Abfaltersbach 78.81 316 *e*P **P 08 23 35.2 -0.5**
comp=Z,9.7nm,1.3s
BJUU Bjuv 78.82 326 *i* P **P 08 23 34.2 -1.1**
CIMO Cimolais 78.85 316 P **P 08 23 35.4 -0.4**
CIMO IAmb IAmb 08 23 46.8
comp=Z,84nm,1.5s
FABU Falkenberg 79.03 327 *i* P **P 08 23 35.7 -0.8**
BORU Boraas 79.04 327 *i* P **P 08 23 37.2 +0.7**
LLD Lille Linde 79.24 325 *i* P **P 08 23 36.7 -0.9**
LLD IAmb IAmb 08 23 37.5
comp=Z,26nm,0.3s
TEOL Teolo 79.39 315 P **P 08 23 39.0 +0.2**
CTI Castel Tesino 79.40 315 P **P 08 23 38.0 -0.9**
CTI IAmb IAmb 08 23 55.8
comp=Z,34nm,1.1s
CTI Castel Tesino 79.40 315 P **P 08 23 38.0 -0.9**
CTI pmax pmax
comp=Z,34nm,1.1s
WTTA Wattenberg 79.42 317 *i* P **P 08 23 38.6 -0.4**
comp=Z,16nm,1.1s
WATA Walderalm 79.46 317 *e*P **P 08 23 38.5 -0.7**
comp=Z,9.4nm,0.6s
LEIR Leirfjorden 79.50 336 *e*P **P 08 23 40.3 +1.5**
SQTA Sankt Quirin 79.71 317 *e*P **P 08 23 39.8 -0.8**
comp=Z,9.1nm,0.6s
NC405 NORSAR Array S 79.77 331 IAmb IAmb 08 23 56.5
comp=Z,75nm,1.4s
MOTA Moosalm 79.78 317 *i* P **P 08 23 39.9 -1.1**
comp=Z,23nm,0.9s
NC602 NORSAR Array S 79.83 330 IAmb IAmb 08 23 51.6
comp=Z,128nm,1.6s
NC602 NORSAR Array S 79.83 330 *e*P **P 08 23 39.9 -0.9**
ZCCA Zocca 79.89 314 P **P 08 23 41.8 +0.3**
ZCCA IAmb IAmb 08 23 57.7
comp=Z,47nm,1.1s
TSUM Tsumeb 79.92 249 P **P 08 23 41.9 -0.4**
TSUM Tsumeb 79.92 249 LR LR 08 55 47.4
comp=Z,2μm,20.1s,baz=68,slow=33
TSUM Tsumeb 79.92 249 *i* P **P 08 23 38.3 -4.0**
NC303 NORSAR Array S 79.94 331 P **P 08 23 40.5 -0.9**
NC303 IAmb IAmb 08 23 53.9
comp=Z,156nm,1.9s
NB201 NORSAR Array S 79.97 331 P **P 08 23 41.3 -0.3**
NB201 IAmb IAmb 08 24 53.8
comp=Z,66nm,1.6s
NB2 NORSAR Subarra 80.01 331 P **P 08 23 40.6 -1.2**
comp=Z,20nm,1.0s,baz=91,slow=5.1
NB2 NORSAR Subarra 80.01 331 P **P 08 23 40.6 -1.2**
baz=91,slow=5.1
NOA NORSAR Array B 80.01 331 P **P 08 23 41.0 -0.8**

comp=Z,5.6nm,0.8s,baz=93,slow=5.6,SNR=18
NOA LR LR 09 03 47.2
comp=Z,301nm,19.1s,baz=120,slow=39
comp=Z,5.6nm,0.8s
RETA Reutte 80.01 317 *e*P **P 08 23 41.4 -0.8**
comp=Z,20nm,0.9s
FETA Feichten 80.03 316 *e*P **P 08 23 41.7 -0.7**
comp=Z,13nm,1.0s
SPB2 Spitsbergen Ar 80.14 348 P **P 08 23 42.1 -0.1**
SPB2 IAmb IAmb 08 23 49.8
comp=Z,56nm,1.1s
SPA0 Spitsbergen Ar 80.15 348 *e*P **P 08 23 42.1 -0.2**
SPITS Spitsbergen Ar 80.15 348 P **P 08 23 41.7 -0.5**
comp=Z,3.8nm,0.4s,baz=95,slow=10,SNR=30
SPITS LR LR 09 05 22.3
comp=Z,1μm,21.2s,baz=76,slow=40
comp=Z,3.8nm,0.4s
SPITS Spitsbergen Ar 80.15 348 P **P 08 23 42.4 +0.2**
SPITS pmax pmax
comp=Z,94nm,1.3s
SUR Sutherland 80.16 235 LR LR 08 54 58.5
comp=Z,565nm,19.6s,baz=76,slow=32
NAO01 NORSAR Array S 80.16 330 P **P 08 23 42.5 -0.1**
NAO01 IAmb IAmb 08 24 04.4
comp=Z,152nm,2.0s
NC204 NORSAR Array S 80.24 331 P **P 08 23 42.8 -0.3**
NC204 IAmb IAmb 08 23 54.0
comp=Z,145nm,1.9s
DAVA Damuels 80.61 317 *i* P **P 08 23 45.6 +0.1**
comp=Z,16nm,0.9s
DAVOX Davos/Dischmat 80.62 316 P **P 08 23 45.6 0.0**
comp=Z,13nm,0.9s,baz=116,slow=3.6,SNR=11
DAVOX LR LR 09 04 00.3
comp=Z,418nm,21.9s,baz=76,slow=39
comp=Z,13nm,0.9s
KONO Kongsberg 80.77 329 P **P 08 23 45.7 -0.2**
KONO IAmb IAmb 08 23 49.9
comp=Z,125nm,1.9s
KONO Kongsberg 80.77 329 P **P 08 23 45.7 -0.2**
KONO pmax pmax
comp=Z,125nm,1.9s
MSSA Maissana 80.93 314 P **P 08 23 46.2 -1.0**
TUE Stuetta 80.99 316 IAmb IAmb 08 24 15.2
comp=Z,108nm,2.0s
WIN Windhoek 81.05 246 IAmb IAmb 08 23 57.4
comp=Z,26nm,0.7s
DOMB Dombas 81.07 332 *e*P **P 08 23 48.6 +1.1**
HOMB Homborsund 81.33 328 *i* P P 08 23 55.2 +6.3
KEST Kesra 81.43 305 IAmb IAmb 08 24 36.7
comp=Z,44nm,1.4s
KEST Kesra 81.43 305 P **P 08 23 50.4 +0.4**
comp=Z,8.8nm,1.0s,baz=325,slow=5.5,SNR=5.7
KEST LR LR 09 05 20.1
comp=Z,343nm,18.8s,baz=65,slow=40
comp=Z,8.8nm,1.0s
KEST Kesra 81.43 305 P P 08 23 54.9 +4.9
KEST P P 08 23 54.9 +4.9
BFO Black Forest 81.63 318 P **P 08 23 49.9 -0.8**
BFO Black Forest 81.63 318 P **P 08 23 49.9 -0.8**
BFO pmax pmax
comp=Z,16nm,1.2s
BLS5 Blasjo 82.37 329 *e*P **P 08 23 54.9 +0.5**
WLF Walferdange 83.00 319 *d*P **P 08 23 58.3 +0.5**
RCHB Rochefort 83.56 320 *d*P **P 08 24 00.9 +0.2**
DOU Dourbes 83.98 320 *d*P **P 08 24 04.1 +1.3**
GAMB Gambell 85.11 26 IAmb IAmb 08 24 23.7
comp=Z,25nm,1.0s
GAMB Gambell 85.11 26 P **P 08 24 07.9 -0.3**
baz=277
RPZ Rata Peaks 85.82 135 LR LR 09 06 14.8
comp=Z,899nm,18.8s,baz=290,slow=38
TAM Tamanrasset 85.85 292 IAmb IAmb 08 24 26.1
comp=Z,84nm,1.9s
TNA Tin City 86.45 24 P **P 08 24 14.0 -0.8**
TNA Tin City 86.45 24 P **P 08 24 15.1 +0.3**
baz=280
MSVF Nonsavu 86.52 108 LR LR 09 06 17.4
comp=Z,336nm,18.8s,baz=241,slow=38
MSVF Nonsavu 86.52 108 P **P 08 24 20.5 +4.2**
THZ Tophouse 86.68 133 P **P 08 24 14.8 -1.7**
SPIA Saint Paul Isl 86.74 33 P **P 08 24 15.8 -0.7**
baz=279
C16K Lisburne Hills 86.91 22 IAmb IAmb 08 24 29.9
comp=Z,66nm,1.6s
C16K Lisburne Hills 86.91 22 P **P 08 24 16.8 -0.2**
baz=282
F14K Arctic Creek 87.12 24 P **P 08 24 17.9 -0.2**
baz=282
C17K DeLong Mountai 87.64 21 P **P 08 24 21.1 +0.4**
baz=284
ANM Nome 87.71 25 IAmb IAmb 08 24 36.8
comp=Z,30nm,1.2s
ANM IAMs_20 IAMs_20 09 07 57.7
comp=Z,1μm,20.0s
ANM Nome 87.71 25 P **P 08 24 21.4 +0.4**
baz=282
F15K North Star Dit 87.75 24 IAmb IAmb 08 24 34.0
comp=Z,56nm,1.6s
F15K IAMs_20 IAMs_20 09 07 20.9
comp=Z,1μm,18.0s
F15K North Star Dit 87.75 24 P **P 08 24 21.1 -0.1**
baz=283
TOZ Tahuroa Road 87.79 128 IAMs_20 IAMs_20 09 01 54.4
comp=Z,1μm,22.0s
RDOG Red Dog Mine 87.85 22 IAmb IAmb 08 24 36.5
comp=Z,25nm,1.3s
RDOG Red Dog Mine 87.85 22 P **P 08 24 22.1 +0.5**
baz=285,SNR=8.7
D17K Noatak River 87.87 22 P **P 08 24 22.2 +0.5**
baz=284,SNR=18
B18K Kokolik River 87.89 20 P **P 08 24 22.3 +0.5**
baz=286
A19K Wainwright 87.90 19 P **P 08 24 22.3 +0.5**
baz=286,SNR=18
EKA Eskdalemuir Ar 87.98 325 P **P 08 24 22.5 0.0**
comp=Z,5.3nm,0.7s,baz=96,slow=5.1,SNR=16
comp=Z,5.3nm,0.7s
G15K Niukluk 88.17 25 P **P 08 24 23.0 -0.2**
baz=284
NIKH Nikolski High 88.22 37 P **P 08 24 23.0 -0.7**
baz=280
M11K Mekoryuk 88.23 29 IAMs_20 IAMs_20 09 08 26.4
comp=Z,1μm,18.0s
M11K Mekoryuk 88.23 29 P **P 08 24 23.1 -0.5**
baz=282
C18K Utukok River 88.30 21 IAmb IAmb 08 24 47.3
comp=Z,34nm,1.1s
C18K IAMs_20 IAMs_20 09 07 40.6
comp=Z,2μm,19.0s
C18K Utukok River 88.30 21 P **P 08 24 23.6 -0.2**
baz=286,SNR=28
E17K Hotham Inlet 88.50 22 P **P 08 24 24.5 -0.2**
baz=286
K13K Kusilvak Mount 88.62 28 IAmb IAmb 08 24 38.1
comp=Z,56nm,1.7s
K13K Kusilvak Mount 88.62 28 P **P 08 24 24.9 -0.5**
baz=283
G16K Koyuk River 88.75 24 IAmb IAmb 08 24 41.8
comp=Z,39nm,1.2s
G16K Koyuk River 88.75 24 P **P 08 24 25.7 -0.3**
baz=285
BKZ Black Stump Fm 88.83 130 P P 08 24 31.7 +4.8
E18K Tukpahlearik C 88.87 22 IAmb IAmb 08 24 39.7
comp=Z,34nm,1.1s
E18K Tukpahlearik C 88.87 22 P **P 08 24 26.6 +0.1**
baz=287
F17K Baldwin Pennin 88.90 23 P **P 08 24 26.5 -0.1**
F17K IAmb IAmb 08 24 34.7
comp=Z,16nm,0.7s
F17K Baldwin Pennin 88.90 23 P **P 08 24 26.1 -0.5**
baz=286
J14K Nanvaranak Lak 88.93 27 IAmb IAmb 08 24 39.5
comp=Z,63nm,1.8s
J14K Nanvaranak Lak 88.93 27 P **P 08 24 26.3 -0.4**
baz=284
A21K Barrow 88.94 18 P **P 08 24 26.3 -0.4**
baz=290
H16K Elim 89.00 25 P **P 08 24 26.8 -0.3**
baz=285
RTZ Ruatahuna 89.10 129 P **P 08 24 25.6 -2.6**
URZ Urewera 89.14 129 LR LR 09 07 19.9
comp=Z,405nm,19.4s,baz=10,slow=38
B20K Meade River 89.23 19 P **P 08 24 28.2 +0.1**
baz=290
G17K Kiwalik Mounta 89.41 24 P **P 08 24 29.3 +0.3**
baz=287
D19K Kuna River 89.42 21 IAmb IAmb 08 24 45.0
comp=Z,56nm,1.4s
D19K IAMs_20 IAMs_20 09 07 23.3
comp=Z,1μm,19.0s
D19K Kuna River 89.42 21 P **P 08 24 29.2 +0.1**
baz=289
UNV Unalaska Valle 89.44 36 P **P 08 24 29.1 -0.3**
baz=282
F18K Selawik 89.47 23 P **P 08 24 29.5 +0.3**
baz=288,SNR=34
A22K Sinclair Lake 89.56 18 P **P 08 24 29.9 +0.3**
baz=292
M13K Dall Lake 89.61 29 P **P 08 24 29.5 -0.5**
baz=284
L14K Kuka Creek 89.68 28 IAmb IAmb 08 24 43.3
comp=Z,39nm,1.4s
L14K Kuka Creek 89.68 28 P **P 08 24 30.2 -0.2**
baz=285
I17K Unalakleet 89.86 25 IAmb IAmb 08 24 44.5
comp=Z,34nm,1.4s
I17K Unalakleet 89.86 25 P **P 08 24 31.4 +0.3**
baz=287
D20K Etivluk River 89.87 20 P **P 08 24 31.6 +0.5**
baz=290
H17K Granite Mounta 89.87 24 IAmb IAmb 08 24 44.4
comp=Z,65nm,1.6s
H17K IAMs_20 IAMs_20 09 06 41.9
comp=Z,1μm,18.0s
H17K Granite Mounta 89.87 24 P **P 08 24 31.1 -0.1**
baz=287,SNR=19
K15K Wolf Creek Mou 89.95 27 IAMs_20 IAMs_20 09 04 18.9
comp=Z,1μm,18.0s
K15K Wolf Creek Mou 89.95 27 P **P 08 24 32.0 +0.4**
baz=286
G18K Tagagawik 90.07 23 IAmb IAmb 08 24 44.8
comp=Z,50nm,1.8s
G18K IAMs_20 IAMs_20 09 02 27.4
comp=Z,1μm,20.0s
G18K Tagagawik 90.07 23 P **P 08 24 32.0 -0.2**
baz=288
J16K Anvik River 90.08 26 IAMs_20 IAMs_20 09 08 34.2
comp=Z,1μm,18.0s
J16K Anvik River 90.08 26 P **P 08 24 32.5 +0.3**
baz=287
E19K Redstone River 90.09 21 P **P 08 24 32.4 +0.2**
baz=290,SNR=40
L15K Ungalak Mounta 90.14 28 P **P 08 24 32.2 -0.3**
baz=286
E20K Nigu River 90.18 21 P **P 08 24 32.8 +0.2**
baz=291
M14K Bethel 90.18 28 P **P 08 24 31.2 -1.5**
M14K Bethel 90.18 28 P **P 08 24 32.4 -0.3**
baz=286
B21K Ikpikpuk River 90.20 19 IAmb IAmb 08 24 48.0
comp=Z,31nm,1.3s
B21K Ikpikpuk River 90.20 19 P **P 08 24 33.1 +0.4**
baz=292
B22K Teshekpuk Lake 90.29 18 IAMs_20 IAMs_20 09 07 53.3
comp=Z,1μm,20.0s
B22K Teshekpuk Lake 90.29 18 P **P 08 24 33.3 +0.2**
baz=293
C21K Knifeblade Rid 90.32 20 P **P 08 24 33.7 +0.5**
baz=292
H18K Honhosa River 90.43 24 IAmb IAmb 08 24 47.0
comp=Z,42nm,1.4s
H18K Honhosa River 90.43 24 P **P 08 24 33.9 +0.1**
baz=289,SNR=15
N14K Kuskokwak Cree 90.54 29 P **P 08 24 33.7 -0.7**
baz=286
G19K Purcell Mounta 90.59 23 IAMs_20 IAMs_20 09 08 24.1
comp=Z,1μm,18.0s
G19K Purcell Mounta 90.59 23 P **P 08 24 34.2 -0.4**
baz=290
TORD Torodi Ar. Bea 90.67 283 P **P 08 24 36.2 +0.2**
TORD Torodi Ar. Bea 90.67 283 P **P 08 24 36.0 0.0**
comp=Z,2.0nm,0.4s,baz=87,slow=4.8,SNR=1.3
TORD LR LR 09 06 07.3
comp=Z,901nm,18.1s,baz=80,slow=36
comp=Z,2.0nm,0.4s
J17K VABM Dome 90.70 26 IAMs_20 IAMs_20 09 08 52.7
comp=Z,1μm,18.0s
J17K VABM Dome 90.70 26 P **P 08 24 34.5 -0.6**
baz=288
F20K Avaraart Lake 90.78 22 IAmb IAmb 08 24 51.2
comp=Z,40nm,1.0s
F20K Avaraart Lake 90.78 22 P **P 08 24 35.1 -0.2**
baz=291
M15K Kasigluk River 90.80 28 P **P 08 24 34.9 -0.7**
baz=287
E21K Killik River 90.87 20 IAMs_20 IAMs_20 09 10 10.5
comp=Z,1μm,19.0s
E21K Killik River 90.87 20 P **P 08 24 35.2 -0.6**
baz=293
O14K Tigyukauivet M 90.93 30 IAMs_20 IAMs_20 09 09 53.6
comp=Z,1μm,18.0s
O14K Tigyukauivet M 90.93 30 P **P 08 24 35.5 -0.7**
baz=286
L16K Owhat River 91.05 27 IAmb IAmb 08 24 49.9
comp=Z,56nm,1.7s
L16K IAMs_20 IAMs_20 09 12 19.9
comp=Z,1μm,18.0s
L16K Owhat River 91.05 27 P **P 08 24 36.5 -0.2**
baz=288
H19K Roundabout Mou 91.06 23 P **P 08 24 36.0 -0.6**
H19K IAMs_20 IAMs_20 09 04 21.2
comp=Z,1μm,18.0s
H19K Roundabout Mou 91.06 23 P **P 08 24 36.5 -0.2**
baz=290,SNR=45
D22K Ayikyak River 91.12 19 P **P 08 24 37.3 +0.3**
baz=294
GCSA Galena City Sc 91.16 24 P **P 08 24 37.8 +0.6**
baz=290,SNR=32
N15K Kwethluk River 91.23 29 IAmb IAmb 08 24 50.7
comp=Z,45nm,1.2s
N15K IAMs_20 IAMs_20 09 08 37.7
comp=Z,1μm,18.0s
N15K Kwethluk River 91.23 29 P **P 08 24 38.0 +0.4**
baz=287
K17K Iditarod 91.25 26 P **P 08 24 37.5 -0.2**
baz=289
ELIB Princess Elisa 91.29 197 *d*P **P 08 24 39.2 +1.4**
comp=Z,20nm,1.1s
C23K Itkillik River 91.38 18 IAmb IAmb 08 24 51.1
comp=Z,47nm,1.4s
C23K Itkillik River 91.38 18 P **P 08 24 38.2 +0.1**
baz=296
ESBB Sonseca Array 91.42 310 IAmb IAmb 08 24 50.9
comp=Z,43nm,1.7s
ESDC Sonseca Array 91.42 310 P **P 08 24 39.2 +0.1**
ESDC Sonseca Array 91.42 310 P **P 08 24 38.7 -0.4**
comp=Z,3.2nm,0.9s,baz=75,slow=4.2,SNR=16
ESDC LR LR 09 10 23.6
comp=Z,294nm,19.4s,baz=74,slow=38
comp=Z,3.2nm,0.9s
L17K Donlin 91.44 27 P **P 08 24 39.0 +0.5**
baz=289
M16K Timber Creek 91.50 28 IAmb IAmb 08 24 52.1
comp=Z,33nm,1.4s
M16K IAMs_20 IAMs_20 09 05 00.8
comp=Z,949nm,19.0s
M16K Timber Creek 91.50 28 P **P 08 24 39.0 +0.1**
baz=288
F21K Alatna River 91.52 21 IAmb IAmb 08 24 48.8
comp=Z,23nm,1.1s
F21K Alatna River 91.52 21 P **P 08 24 38.9 0.0**
baz=293
O15K Ungalikthiuk R 91.66 30 P **P 08 24 39.4 -0.2**
baz=287
J18K Innoko River 91.68 25 IAMs_20 IAMs_20 09 09 23.6
comp=Z,1μm,21.0s
J18K Innoko River 91.68 25 P **P 08 24 39.3 -0.3**
baz=290,SNR=20
H20K Anotleneega Mo 91.68 23 P **P 08 24 39.7 +0.1**
baz=292,SNR=27
E22K Anaktuvuk Pass 91.73 20 IAMs_20 IAMs_20 09 11 19.1
comp=Z,1μm,18.0s
E22K Anaktuvuk Pass 91.73 20 P **P 08 24 39.5 -0.3**
baz=295
PAB San Pablo 91.74 310 P **P 08 24 40.0 -0.6**
PAB San Pablo 91.74 310 P **P 08 24 40.0 -0.6**
PAB pmax pmax
comp=Z,12nm,1.2s
D23K Nanushuk River 91.74 19 IAmb IAmb 08 24 46.6
comp=Z,39nm,1.4s
D23K Nanushuk River 91.74 19 P **P 08 24 39.6 -0.2**
baz=296
N16K Nishlik Lake 91.77 28 P **P 08 24 39.6 -0.6**
baz=288
G21K Allakaket 91.80 22 P **P 08 24 40.4 +0.2**
G21K IAMs_20 IAMs_20 09 04 09.0
comp=Z,1μm,21.0s
G21K Allakaket 91.80 22 P **P 08 24 39.7 -0.4**
baz=293
F22K John River 91.87 21 P **P 08 24 40.5 0.0**
baz=294
J19K Poorman 91.94 24 IAMs_20 IAMs_20 09 12 28.6
comp=Z,867nm,18.0s
J19K Poorman 91.94 24 P **P 08 24 41.1 +0.3**
baz=291,SNR=34
C24K Franklin Bluff 92.02 18 IAmb IAmb 08 24 56.8
comp=Z,37nm,1.5s
C24K IAMs_20 IAMs_20 09 10 55.1
comp=Z,1μm,20.0s
C24K Franklin Bluff 92.02 18 P **P 08 24 41.4 +0.3**
baz=298
M17K Holitna River 92.07 27 P **P 08 24 39.5 -2.1**
M17K IAmb IAmb 08 24 58.0
comp=Z,26nm,1.2s
M17K IAMs_20 IAMs_20 09 06 25.0
comp=Z,1μm,19.0s
M17K Holitna River 92.07 27 P **P 08 24 41.1 -0.4**
baz=290
I20K Naaghedeneel 92.10 24 IAMs_20 IAMs_20 09 03 29.8
comp=Z,1μm,20.0s
I20K Naaghedeneel 92.10 24 P **P 08 24 41.9 +0.3**
baz=292,SNR=27
L18K Granite Mounta 92.13 26 IAmb IAmb 08 24 57.9
comp=Z,29nm,1.2s
L18K IAMs_20 IAMs_20 09 07 21.4
comp=Z,1μm,18.0s
L18K Granite Mounta 92.13 26 P **P 08 24 41.2 -0.6**
baz=290,SNR=7.5
TOLK Toolik Lake Re 92.25 19 P **P 08 24 42.0 -0.3**
TOLK IAmb IAmb 08 24 48.8
comp=Z,25nm,1.2s
TOLK Toolik Lake Re 92.25 19 P **P 08 24 41.9 -0.3**
baz=297
D24K Happy Valley 92.25 19 P **P 08 24 41.8 -0.4**
D24K IAmb IAmb 08 24 51.7
comp=Z,13nm,0.9s
D24K IAMs_20 IAMs_20 09 10 32.2
comp=Z,1μm,20.0s
D24K Happy Valley 92.25 19 P **P 08 24 42.0 -0.2**
baz=298
G22K Bettles 92.35 21 P **P 08 24 42.5 -0.2**
baz=295
O16K Kokwok River B 92.37 29 P **P 08 24 42.7 -0.2**
baz=289
H21K Melozitna Rive 92.41 22 P **P 08 24 42.3 -0.7**
H21K IAMs_20 IAMs_20 09 04 27.0
comp=Z,1μm,19.0s
H21K Melozitna Rive 92.41 22 P **P 08 24 43.4 +0.4**
baz=294,SNR=22
J20K Nowinta River 92.47 24 IAMs_20 IAMs_20 09 09 57.7
comp=Z,1μm,19.0s
J20K Nowinta River 92.47 24 P **P 08 24 42.7 -0.6**
baz=293,SNR=34
N17K Nushagak Hills 92.49 28 IAmb IAmb 08 24 57.0
comp=Z,41nm,1.3s
N17K IAMs_20 IAMs_20 09 06 54.8
comp=Z,954nm,18.0s
N17K Nushagak Hills 92.49 28 P **P 08 24 43.4 -0.1**
baz=290
E23K Chandalar 92.50 20 IAmb IAmb 08 24 56.8
comp=Z,46nm,1.6s
E23K IAMs_20 IAMs_20 09 06 00.6
comp=Z,1μm,19.0s
E23K Chandalar 92.50 20 P **P 08 24 43.1 -0.4**
baz=297
VNDA Vanda 92.62 168 P **P 08 24 44.2 +0.6**
VNDA IAmb IAmb 08 24 56.6
comp=Z,19nm,1.2s
VNDA Vanda 92.62 168 P **P 08 24 44.1 +0.4**
comp=Z,4.4nm,0.9s,baz=279,slow=5.3,SNR=14
VNDA LR LR 09 05 09.0
comp=Z,736nm,18.3s,baz=304,slow=35
comp=Z,4.4nm,0.9s
VNDA Vanda 92.62 168 P **P 08 24 44.2 +0.6**
VNDA pmax pmax
comp=Z,19nm,1.2s
COLD Coldfoot 92.68 21 P **P 08 24 44.3 +0.1**
baz=296,SNR=5.2
M18K Stony River 92.77 27 P **P 08 24 44.6 -0.2**
baz=291
O17K Koliganek Bris 92.79 29 P **P 08 24 44.6 -0.2**
baz=290
K20K Telida 92.82 25 P **P 08 24 43.7 -1.3**
K20K IAMs_20 IAMs_20 09 13 14.9
comp=Z,1μm,18.0s
K20K Telida 92.82 25 P **P 08 24 45.1 +0.1**
baz=293,SNR=34
H22K Ishtalitna Cre 92.84 22 P **P 08 24 44.6 -0.4**
baz=295
E24K Your Creek 92.87 20 P **P 08 24 44.0 -1.2**
E24K Your Creek 92.87 20 P **P 08 24 44.7 -0.5**
baz=298
D25K Kavik River 92.93 18 IAMs_20 IAMs_20 09 05 35.2
comp=Z,2μm,22.0s
D25K Kavik River 92.93 18 P **P 08 24 45.2 -0.2**
baz=300
L19K White Mountain 92.94 26 IAmb IAmb 08 25 03.7
comp=Z,31nm,1.1s
L19K IAMs_20 IAMs_20 09 07 55.0
comp=Z,1μm,18.0s
L19K White Mountain 92.94 26 P **P 08 24 44.9 -0.7**
baz=292,SNR=17
G23K Bananza Creek 92.97 21 IAmb IAmb 08 24 58.9
comp=Z,28nm,1.4s
G23K Bananza Creek 92.97 21 P **P 08 24 45.2 -0.4**
baz=296
N18K Kilae Creek 93.03 28 IAmb IAmb 08 24 59.0
comp=Z,27nm,1.4s
N18K IAMs_20 IAMs_20 09 12 33.3
comp=Z,1μm,18.0s
N18K Kilae Creek 93.03 28 P **P 08 24 45.1 -0.9**
baz=291
C26K Camden Bay 93.07 17 P **P 08 24 45.7 -0.2**
baz=301
CHNA Chernabura Isl 93.10 34 P **P 08 24 45.2 -1.1**
baz=287
MDT Midelt 93.24 304 LR LR 09 13 19.3
comp=Z,256nm,18.7s,baz=106,slow=40
L20K Farewell, AK 93.25 26 P **P 08 24 46.7 -0.3**
baz=293,SNR=26
M19K Big River Lodg 93.25 26 IAmb IAmb 08 25 01.7
comp=Z,23nm,1.1s
M19K IAMs_20 IAMs_20 09 08 07.1
comp=Z,883nm,18.0s
M19K Big River Lodg 93.25 26 P **P 08 24 46.9 -0.1**
baz=292
CHGN Chignik 93.28 32 IAMs_20 IAMs_20 09 10 18.6
comp=Z,1μm,19.0s
P17K Kvichak River 93.30 29 P **P 08 24 46.8 -0.4**
baz=290
CHUM Lake Minchumin 93.33 24 P **P 08 24 46.6 -0.7**
baz=294,SNR=27
F24K Squaw Lake 93.34 20 P **P 08 24 47.0 -0.3**
baz=298
Q16K King Salmon 93.38 30 P **P 08 24 47.1 -0.5**
baz=290
H23K Yukon River 93.55 22 IAmb IAmb 08 24 58.2
comp=Z,20nm,1.2s
H23K IAMs_20 IAMs_20 09 07 49.3
comp=Z,1μm,20.0s
H23K Yukon River 93.55 22 P **P 08 24 48.1 -0.2**
baz=297
C27K Jago River 93.58 17 P **P 08 24 47.3 -1.0**
C27K IAmb IAmb 08 25 01.7
comp=Z,36nm,1.6s
C27K Jago River 93.58 17 P **P 08 24 48.4 +0.1**
baz=302
CAST Castle Rocks 93.62 24 P **P 08 24 48.6 -0.1**
baz=294,SNR=48
N19K Bonanza Creek 93.62 27 P **P 08 24 48.3 -0.5**
N19K Bonanza Creek 93.62 27 P **P 08 24 48.4 -0.5**
baz=292,SNR=37
O18K Koktuh Hills 93.65 28 IAMs_20 IAMs_20 09 06 28.6
comp=Z,936nm,20.0s
O18K Koktuh Hills 93.65 28 P **P 08 24 48.5 -0.4**
baz=291,SNR=14
BORG Borgarnes 93.72 337 LR LR 09 10 30.3
comp=Z,510nm,19.8s,baz=67,slow=38
BPAW Bear Paw Mtn. 93.77 24 IAMs_20 IAMs_20 09 11 12.0
comp=Z,909nm,20.0s
BPAW Bear Paw Mtn. 93.77 24 P **P 08 24 49.3 0.0**
baz=296,SNR=24
PPLA Purkeypile 93.79 25 P **P 08 24 48.7 -0.9**

PPLA IAmb IAmb 08 25 13.9
comp=Z,25nm,1.0s
PPLA Purkeypile 93.79 25 P P 08 24 49.5 -0.1
baz=294
E25K Arctic Village 93.80 19 P P 08 24 49.3 -0.1
baz=301
M20K Styx River 93.81 26 P P 08 24 48.6 -1.0
M20K IAmb IAmb 08 25 05.7
comp=Z,30nm,1.1s
M20K IAMs_20 IAMs_20 09 08 22.8
comp=Z,1µm,18.0s
M20K Styx River 93.81 26 P P 08 24 49.8 +0.1
baz=293,SNR=22
P18K Big Mountain, 93.81 29 IAMs_20 IAMs_20 09 09 56.9
comp=Z,1µm,18.0s
G24K Hadweenzic Riv 93.88 21 P P 08 24 49.5 -0.3
baz=299
I23K Minto, Yukon-K 93.93 22 IAMs_20 IAMs_20 09 06 42.2
comp=Z,1µm,22.0s
I23K Minto, Yukon-K 93.93 22 P P 08 24 50.1 +0.2
baz=297
O19K Port Alsworth 93.94 28 IAmb IAmb 08 24 58.1
comp=Z,22nm,0.8s
O19K IAMs_20 IAMs_20 09 12 49.2
comp=Z,996nm,19.0s
O19K Port Alsworth 93.94 28 P P 08 24 49.5 -0.5
baz=292,SNR=14
KTH Kantishna Hill 94.03 24 IAMs_20 IAMs_20 09 06 35.9
comp=Z,894nm,19.0s
F25K Christian Rive 94.05 19 P P 08 24 50.4 -0.2
baz=301
H24K Noodor Dome 94.15 21 P P 08 24 49.4 -1.7
H24K IAMs_20 IAMs_20 09 10 19.1
comp=Z,1µm,18.0s
H24K Noodor Dome 94.15 21 P P 08 24 51.2 +0.1
baz=298
Q18K Katmai Hardscr 94.19 29 P P 08 24 51.4 -0.1
baz=292
NEA2 Nenana 94.30 23 IAMs_20 IAMs_20 09 04 58.9
comp=Z,894nm,19.0s
NEA2 Nenana 94.30 23 P P 08 24 50.9 -0.8
baz=297
G25K Bearman Lake 94.32 20 P P 08 24 51.5 -0.2
baz=300
TRF Thorofare Moun 94.33 24 IAmb IAmb 08 25 04.7
comp=Z,16nm,1.1s
TRF Thorofare Moun 94.33 24 P P 08 24 51.4 -0.7
baz=296
SKT Skwentna 94.45 26 IAMs_20 IAMs_20 09 11 20.0
comp=Z,1µm,18.0s
SKT Skwentna 94.45 26 P P 08 24 51.7 -0.8
baz=295,SNR=28
BMAR Burnt Mountain 94.48 19 P P 08 24 52.5 -0.1
F26K Sheenjek River 94.48 19 P P 08 24 50.7 -1.8
F26K IAMs_20 IAMs_20 09 11 30.0
comp=Z,1µm,20.0s
F26K Sheenjek River 94.48 19 P P 08 24 52.1 -0.4
baz=302
STLK Strandline Lak 94.53 26 IAmb IAmb 08 25 04.0
comp=Z,14nm,1.0s
ILSW Iliamna Southw 94.56 28 IAMs_20 IAMs_20 09 10 37.8
comp=Z,894nm,19.0s
D27M Malcolm River 94.59 17 IAmb IAmb 08 25 05.4
comp=Z,16nm,1.1s
D27M IAMs_20 IAMs_20 09 14 08.1
comp=Z,1µm,19.0s
D27M Malcolm River 94.59 17 P P 08 24 52.8 -0.3
baz=305
P19K Oil Pt 94.65 28 P P 08 24 53.5 0.0
baz=293
POKR Poker Plat Res 94.66 22 IAMs_20 IAMs_20 09 13 27.6
comp=Z,1µm,20.0s
POKR Poker Plat Res 94.66 22 P P 08 24 53.5 +0.1
baz=299
H25L Birch Creek 94.67 21 P P 08 24 53.4 +0.1
baz=300
FYU Fort Yukon 94.72 20 IAmb IAmb 08 25 07.0
comp=Z,39nm,1.6s
WRH Wood River Hil 94.73 23 IAMs_20 IAMs_20 09 07 18.3
comp=Z,984nm,19.0s
Q19K Cape Douglas, 94.74 29 IAMs_20 IAMs_20 09 11 49.5
comp=Z,947nm,18.0s
Q19K Cape Douglas, 94.74 29 P P 08 24 53.4 -0.5
baz=293
MCK McKinley 94.75 23 P P 08 24 52.5 -1.3
MCK IAmb IAmb 08 25 08.9
comp=Z,30nm,1.4s
MCK McKinley 94.75 23 P P 08 24 52.5 -1.3
MCK pmax pmax
comp=Z,30nm,1.4s
MCK McKinley 94.75 23 P P 08 24 53.3 -0.5
baz=297
O20K Slope Mountain 94.76 28 P P 08 24 53.3 -0.7
baz=294
R18K Karluk 94.87 30 P P 08 24 54.1 -0.3
baz=292
CHIR Chirikof Islan 94.91 32 P P 08 24 54.5 -0.2
baz=291
RND Reindeer 94.93 24 IAmb IAmb 08 25 06.6
comp=Z,20nm,1.3s
G26K Porcupine Rive 95.00 20 P P 08 24 54.6 -0.3
baz=302
E27K Coleen River 95.02 18 IAMs_20 IAMs_20 09 06 09.1
comp=Z,1µm,21.0s
E27K Coleen River 95.02 18 P P 08 24 54.7 -0.3
baz=304
SUA Susitna One 95.02 26 P P 08 24 54.5 -0.7
baz=296,SNR=28
ILAR Eielson Array 95.03 22 P P 08 24 52.9 -2.2
ILAR Eielson Array 95.03 22 P P 08 24 55.2 +0.1
comp=Z,0.8nm,1.0s,baz=300,slow=4.0,SNR=14
ILAR PP **PP 08 28 42.9 -1.2**
comp=Z,0.9nm,0.9s,baz=294,slow=6.4,SNR=5.6
ILAR PKKP **PKKPbc 08 41 52.2 -0.3**
comp=Z,0.8nm,0.8s,baz=144,slow=2.0,SNR=10
ILAR LR LR 09 12 30.3
comp=Z,805nm,18.2s,baz=298,slow=38
comp=Z,0.8nm,1.0s
CAPN Captain Cook N 95.14 27 P P 08 24 55.1 -0.5
CAPN Captain Cook N 95.14 27 P P 08 24 54.3 -1.2
baz=295
M22K Willow 95.16 25 IAMs_20 IAMs_20 09 11 43.6
comp=Z,836nm,18.0s
M22K Willow 95.16 25 P P 08 24 55.0 -0.6
baz=296,SNR=24
PRP Porcupine Dome 95.16 21 IAmb IAmb 08 25 08.5
comp=Z,16nm,1.3s
PRP IAMs_20 IAMs_20 09 07 21.7
comp=Z,1µm,19.0s
PRP Porcupine Dome 95.16 21 P P 08 24 55.4 -0.4
baz=301
D28M Stokes Point 95.18 17 P P 08 24 54.9 -0.7
baz=307
HDA Harding Lake 95.19 22 IAMs_20 IAMs_20 09 06 06.6
comp=Z,1µm,19.0s
HDA Harding Lake 95.19 22 P P 08 24 55.4 -0.4
baz=299
HOM Homer 95.39 28 P P 08 24 55.7 -1.1
baz=295
SII Sitkinak Islan 95.39 31 P P 08 24 56.0 -0.9
baz=292
E28M Babbage River 95.39 17 IAmb IAmb 08 25 04.5
comp=Z,7.8nm,0.7s
E28M IAMs_20 IAMs_20 09 07 26.1
comp=Z,1µm,19.0s
E28M Babbage River 95.39 17 P P 08 24 56.4 -0.3
baz=306
AVE Averroes 95.45 304 IAMs_20 IAMs_20 09 12 40.2
comp=Z,790nm,18.0s
Q20K Shuyak Island 95.47 29 P P 08 24 56.6 -0.6
baz=294
OHAK Old Harbor 95.59 30 P P 08 25 04.2 +6.5
OHAK Old Harbor 95.59 30 P P 08 24 56.9 -0.8
baz=293
RC01 Rabbit Creek A 95.62 26 IAmb IAmb 08 25 05.5
comp=Z,21nm,0.8s
RC01 IAMs_20 IAMs_20 09 07 49.7
comp=Z,1µm,18.0s
RC01 Rabbit Creek A 95.62 26 P P 08 24 57.1 -0.7
baz=296,SNR=20
CNPM China Poot 95.63 28 P P 08 24 56.8 -1.2
CNPM IAmb IAmb 08 25 05.1
comp=Z,16nm,0.8s
CNPM IAMs_20 IAMs_20 09 08 16.0
comp=Z,860nm,19.0s
PMR Palmer 95.65 25 IAmb IAmb 08 25 08.7
comp=Z,14nm,1.0s
PMR Palmer 95.65 25 P P 08 25 03.3 +5.4
baz=297,SNR=8.4
GHO Glory Hole Cre 95.66 25 P P 08 24 56.1 -2.0
GHO IAmb IAmb 08 25 16.5
comp=Z,38nm,1.5s
GHO IAMs_20 IAMs_20 09 13 32.8
comp=Z,906nm,18.0s
SLKM Skilak Lake 95.66 27 IAmb IAmb 08 25 07.2
comp=Z,19nm,1.0s
J25K Salcha River, 95.68 22 IAMs_20 IAMs_20 09 16 51.5
comp=Z,861nm,19.0s
J25K Salcha River, 95.68 22 P P 08 24 57.3 -0.8
baz=301
BRLK Bradley Lake 95.69 27 P P 08 24 57.1 -1.1
KDAK Kodiak Island 95.71 30 LR LR 09 12 29.1
comp=Z,523nm,19.5s,baz=131,slow=38
KDAK Kodiak Island 95.71 30 P P 08 24 57.1 -1.2
baz=294
BRSE Bradley Lake S 95.77 27 P P 08 24 57.3 -1.3
baz=295
G27K Doyon Strip 95.78 19 P P 08 24 58.2 -0.3
baz=304
SML Sawmill 95.89 25 P P 08 24 57.4 -1.7
SML Sawmill 95.89 25 P P 08 24 58.4 -0.7
baz=298
O22K Cooper Landing 95.90 27 IAMs_20 IAMs_20 09 10 28.1
comp=Z,846nm,19.0s
K24K Donnelly Dome 95.94 23 P P 08 24 58.9 -0.4
baz=300
E29M Blow River 96.00 17 IAmb IAmb 08 25 14.2
comp=Z,24nm,1.6s
E29M IAMs_20 IAMs_20 09 12 13.3
comp=Z,1µm,21.0s
E29M Blow River 96.00 17 P P 08 24 59.5 +0.1
baz=308
KNK Knik Glacier 96.02 25 P P 08 24 57.6 -2.1
KNK IAmb IAmb 08 25 08.3
comp=Z,18nm,1.0s
KNK Knik Glacier 96.02 25 P P 08 24 58.9 -0.8
baz=298
I26K Coal Creek Min 96.11 21 IAMs_20 IAMs_20 09 12 25.0
comp=Z,1µm,18.0s
I26K Coal Creek Min 96.11 21 P P 08 24 59.6 -0.4
baz=303
M23K Glacier View 96.15 25 P P 08 24 59.6 -0.7
baz=298
H27K Steamboat Moun 96.15 20 P P 08 24 59.8 -0.4
baz=304
SEW Seward 96.19 27 P P 08 24 58.4 -2.0
SEW IAmb IAmb 08 25 15.5
comp=Z,27nm,1.0s
SEW Seward 96.19 27 P P 08 25 00.2 -0.2
baz=297,SNR=9.7
SCM Sheep Creek Mo 96.30 25 IAmb IAmb 08 25 18.5
comp=Z,29nm,1.4s
SCM Sheep Creek Mo 96.30 25 P P 08 25 00.3 -0.7
baz=299
RIDG Independent Ri 96.33 23 IAmb IAmb 08 25 37.2
comp=Z,15nm,1.4s
RIDG Independent Ri 96.33 23 P P 08 24 60.0 -1.1
baz=301
PWL Port Wells 96.33 26 IAMs_20 IAMs_20 09 12 40.7
comp=Z,1µm,20.0s
PWL Port Wells 96.33 26 P P 08 25 00.5 -0.6
baz=298
J26L Joseph Creek 96.40 22 P P 08 25 00.1 -1.3
J26L IAmb IAmb 08 25 16.0
comp=Z,19nm,1.6s
J26L IAMs_20 IAMs_20 09 09 27.6
comp=Z,1µm,20.0s
J26L Joseph Creek 96.40 22 P P 08 25 01.0 -0.4
baz=302
I27K Kandik River 96.48 20 P P 08 25 01.4 -0.4
baz=304
PAX Paxson 96.48 23 P P 08 25 00.6 -1.3
baz=300
SCRK Sand Creek 96.53 22 IAmb IAmb 08 25 14.4
comp=Z,15nm,1.5s
SCRK IAMs_20 IAMs_20 09 08 24.9
comp=Z,1µm,20.0s
SCRK Sand Creek 96.53 22 P P 08 25 01.2 -0.8
baz=302
A36M Sachs Harbour 96.56 11 P P 08 25 00.2 -1.7
A36M Sachs Harbour 96.56 11 P P 08 25 01.5 -0.3
baz=320
M24K Tolsona, Glenn 96.64 24 P P 08 25 02.4 -0.1
baz=300
GLI Glacier Island 96.86 26 P P 08 25 03.1 -0.3
baz=299
G29M Pine Creek 96.88 18 P P 08 25 03.2 -0.3
baz=308
HARP HAARP 96.90 24 P P 08 25 03.3 -0.3
baz=301
KLU Klutina 97.05 25 P P 08 25 03.8 -0.7
baz=300
F30M Barrier River 97.11 17 P P 08 25 03.6 -0.9
baz=310
I28M Miner Creek 97.14 20 P P 08 25 04.6 -0.2
baz=306
P23K Montague Islan 97.15 26 P P 08 25 04.4 -0.4
baz=298
MENT Mentasta 97.18 23 IAmb IAmb 08 25 17.9
comp=Z,15nm,1.0s
MENT Mentasta 97.18 23 P Pdif 08 25 11.3 +6.3
H29M Whitestone 97.19 19 IAMs_20 IAMs_20 09 09 31.7
comp=Z,1µm,20.0s
H29M Whitestone 97.19 19 P P 08 25 04.2 -0.6
baz=307
K27K Chicken 97.20 22 IAMs_20 IAMs_20 09 09 50.8
comp=Z,906nm,21.0s
K27K Chicken 97.20 22 P P 08 24 05.5 -0.5
baz=304
L26K Log Cabin Wild 97.28 23 P P 08 25 04.5 -0.9
L26K IAMs_20 IAMs_20 09 06 53.8
comp=Z,1µm,20.0s
L26K Log Cabin Wild 97.28 23 P P 08 25 04.5 -0.9
baz=302
INK Inuvik 97.29 16 P P 08 25 03.4 -1.8
INK Inuvik 97.29 16 LR LR 09 15 14.4
comp=Z,825nm,18.5s,baz=308,slow=39
INK Inuvik 97.29 16 P P 08 25 03.4 -1.8
INK pmax pmax
comp=Z,9.0nm,1.2s
INK Inuvik 97.29 16 P P 08 25 04.6 -0.6
baz=312
G30M tAoh Zraii Nji 97.39 18 P P 08 25 05.0 -0.8
baz=310
QSPA South Pole Qui 97.46 180 P Pdif 08 25 06.2 0.0
comp=Z,2.7nm,1.1s,baz=289,slow=2.2,SNR=8.2
QSPA LR LR 09 04 44.2
comp=Z,2µm,19.0s,baz=296,slow=33
comp=Z,2.7nm,1.1s
N25K Chitina, Valde 97.54 24 IAmb IAmb 08 25 15.1
comp=Z,6.7nm,0.8s
N25K Chitina, Valde 97.54 24 P P 08 25 05.8 -0.8
baz=301
EYAK Cordova Ski Ar 97.60 26 P P 08 25 05.2 -1.6
EYAK Cordova Ski Ar 97.60 26 P Pdif 08 25 13.2 +6.4
EYAK Cordova Ski Ar 97.60 26 P P 08 25 05.8 -0.9
baz=300
EPYK Eagle Plains 97.62 18 IAMs_20 IAMs_20 09 13 48.1
comp=Z,1µm,18.0s
EPYK Eagle Plains 97.62 18 P P 08 25 05.9 -0.9
baz=309
RES Resolute Bay 97.72 2 P P 08 25 05.8 -1.3
RES IAmb IAmb 08 25 15.5
comp=Z,6.4nm,0.8s
RES Resolute Bay 97.72 2 LR LR 09 14 04.7
comp=Z,392nm,19.6s,baz=8.0,slow=38
RES Resolute Bay 97.72 2 P P 08 25 05.8 -1.3
RES pmax pmax
comp=Z,6.0nm,0.9s
I29M Ogilvie Camp, 97.74 20 P P 08 25 06.4 -0.9
baz=307
M26K Nabesna, AK 97.75 23 IAmb IAmb 08 25 20.6
comp=Z,10nm,1.1s
M26K IAMs_20 IAMs_20 09 13 57.3
comp=Z,974nm,18.0s
M26K Nabesna, AK 97.75 23 P P 08 25 06.7 -0.9
baz=303
F31M Tsiigehtchic 97.82 17 IAmb IAmb 08 25 19.8
comp=Z,21nm,1.5s
F31M IAMs_20 IAMs_20 09 08 53.2
comp=Z,1µm,19.0s
F31M Tsiigehtchic 97.82 17 P P 08 25 07.3 -0.3
baz=312
L27K Beaver Creek, 97.84 22 IAMs_20 IAMs_20 09 13 20.6
comp=Z,1µm,20.0s
L27K Beaver Creek, 97.84 22 P P 08 25 07.4 -0.5
baz=304
BMRM Bremner River 97.86 25 P P 08 25 07.2 -0.9
baz=301
GLB Gilahina Butte 97.94 24 IAMs_20 IAMs_20 09 13 31.3
comp=Z,838nm,19.0s
DBIC Dimbokro 97.99 278 P Pdif 08 25 09.9 +0.3
comp=Z,4.6nm,1.0s,baz=56,slow=4.0,SNR=4.9
DBIC LR LR 09 09 18.2
comp=Z,2µm,19.2s,baz=68,slow=35
comp=Z,4.6nm,1.0s
G31M Satah River 98.01 17 IAMs_20 IAMs_20 09 14 00.3
comp=Z,1µm,19.0s
G31M Satah River 98.01 17 P P 08 25 08.2 -0.2
baz=311
DAWY Dawson 98.15 21 IAMs_20 IAMs_20 09 17 09.8
comp=Z,1µm,19.0s
DAWY Dawson 98.15 21 P P 08 25 09.0 -0.2
baz=306
M27K Edge Creek, AK 98.21 23 IAMs_20 IAMs_20 09 14 11.4
comp=Z,1µm,20.0s
M27K Edge Creek, AK 98.21 23 P P 08 25 09.2 -0.5
baz=304
J29N Klondike Camp 98.33 20 P P 08 25 09.5 -0.6
baz=307
HMT Hamilton 98.34 25 IAMs_20 IAMs_20 09 14 26.7
comp=Z,1µm,20.0s
I30M Mount Dempster 98.46 19 IAmb IAmb 08 25 19.9
comp=Z,8.7nm,1.2s
I30M Mount Dempster 98.46 19 P P 08 25 10.2 -0.5
baz=309
KAIM Kayak Island 98.48 26 P P 08 25 10.0 -0.8
baz=301
H31M Peel River 98.73 18 IAMs_20 IAMs_20 09 14 31.3
comp=Z,1µm,19.0s
H31M Peel River 98.73 18 P P 08 25 11.0 -0.9
baz=311
BGLC Bering Glacier 98.87 25 P P 08 25 11.5 -1.0
baz=302
C36M Paulatuk 98.87 13 Pdif 08 25 12.3 0.0
C36M IAmb IAmb 08 25 23.2
comp=Z,23nm,1.4s
C36M Paulatuk 98.87 13 P P 08 25 11.6 -0.6
baz=321
J30M Hart River 98.89 20 P P 08 25 11.0 -1.7
baz=309
K29M Barlow Dome 98.94 21 IAMs_20 IAMs_20 09 13 36.8
comp=Z,905nm,21.0s
K29M Barlow Dome 98.94 21 P P 08 25 11.5 -1.4
baz=308
YUK3 Moose Creek 99.09 23 P Pdif 08 25 13.3 -0.5
baz=305
L29M L29M 99.18 21 IAMs_20 IAMs_20 09 14 42.0
comp=Z,927nm,18.0s
L29M L29M 99.18 21 P Pdif 08 25 13.6 -0.3
baz=307
SNAA Sanae 99.33 199 LR LR 09 05 41.3
comp=Z,673nm,18.3s,baz=3.5,slow=33
MESA MESA 99.40 25 P Pdif 08 25 14.6 -0.5
baz=303
M29M Somme Creek 99.46 22 IAMs_20 IAMs_20 09 10 17.4
comp=Z,922nm,20.0s
M29M Somme Creek 99.46 22 P Pdif 08 25 15.0 -0.2
baz=307
YUK8 Steele Glacier 99.65 23 P Pdif 08 25 15.4 -0.9
baz=306
O28M Mount Upton 99.78 24 P Pdif 08 25 16.3 -0.6
baz=305
M30M Minto, Yukon 99.99 21 IAMs_20 IAMs_20 09 18 30.5
comp=Z,1µm,18.0s
M30M Minto, Yukon 99.99 21 P Pdif 08 25 16.8 -0.7
baz=308
YUK4 Talbot Arm 100.05 23 P Pdif 08 25 17.2 -0.8
baz=307
YUK6 Outpost Mounta 100.40 23 P Pdif 08 25 19.0 -0.7
baz=307
N30M Aishikik Lake 100.58 22 IAMs_20 IAMs_20 09 08 46.9
comp=Z,1µm,18.0s
N30M Aishikik Lake 100.58 22 P Pdif 08 25 19.9 -0.3
baz=308
O29M Mount Kennedy 100.70 24 P Pdif 08 25 20.5 -0.3
baz=306
PNL Peninsula 100.75 25 P Pdif 08 25 20.0 -0.9
baz=306
HYT Haines Junctio 100.81 23 IAMs_20 IAMs_20 09 14 50.0
comp=Z,1µm,19.0s
M31M Drury Creek, Y 101.09 21 IAMs_20 IAMs_20 09 20 34.6
comp=Z,1µm,18.0s
M31M Drury Creek, Y 101.09 21 P Pdif 08 25 21.8 -0.6
baz=311
O30N Mendenhall 101.39 23 P Pdif 08 25 22.9 -0.9
baz=309
P29M Windy Craggy 101.44 24 IAMs_20 IAMs_20 09 17 22.8
comp=Z,989nm,18.0s
P29M Windy Craggy 101.44 24 P Pdif 08 25 22.9 -1.2
baz=307
N32M Quiet Lake 102.26 21 IAMs_20 IAMs_20 09 14 52.4
comp=Z,1µm,20.0s
SKAG Skagway 102.51 23 IAMs_20 IAMs_20 09 16 18.1
comp=Z,1µm,18.0s
P32M Atlin 103.06 23 IAMs_20 IAMs_20 09 12 18.5
comp=Z,1µm,21.0s
WRGLY Wrigley 103.84 17 IAMs_20 IAMs_20 09 18 00.5
comp=Z,1µm,18.0s
YKA Yellowknife Ar 106.73 13 Pdiff **Pdif 08 25 47.1 -0.3**
comp=Z,0.1nm,0.6s,baz=321,slow=4.6,SNR=0.8
YKA PKIKP **PKiKP 08 29 57.7 +0.1**
comp=Z,0.2nm,0.8s,baz=339,slow=1.7,SNR=4.0
YKA PKKPbc **PKKPbc 08 41 20.3 +1.6**
comp=Z,1.0nm,0.7s,baz=161,slow=3.1,SNR=14
YKA PKKPab **PKKPab 08 41 35.9 +2.2**
comp=Z,2.0nm,0.8s,baz=152,slow=4.0,SNR=14
V35K Ketchikan 106.74 25 IAMs_20 IAMs_20 09 19 56.9
comp=Z,930nm,20.0s
OZB Mount Ozzard 113.89 27 IAMs_20 IAMs_20 09 23 37.8
comp=Z,863nm,20.0s
NLWA Neilton Lookou 115.78 28 IAMs_20 IAMs_20 09 24 59.8
comp=Z,795nm,19.0s
B08A Colville Reser 117.01 24 IAMs_20 IAMs_20 09 19 23.6
comp=Z,842nm,19.0s
TBI Tubuai 117.16 112 *e*S 08 37 48.6
comp=Z,603nm,34.0s
TBI Tubuai 117.16 112 *e*LQ LQ 09 00 45.5
comp=Z,3µm,39.5s
TBI *e*LR LR 09 05 42.9
comp=Z,4µm,34.8s
TBI *e*LR LR 09 05 46.3
comp=Z,1µm,26.2s
PPT2 Papeete2 117.25 106 *e*S 08 37 49.2
comp=Z,151nm,26.5s
PPT2 *e*SS SS 08 47 36.4 -2.7
comp=Z,195nm,28.8s
PPT2 Papeete2 117.25 106 *e*LR LR 09 05 42.7
comp=Z,550nm,22.8s
PPT2 *e*LR LR 09 05 49.1
comp=Z,479nm,31.5s
LNOR Lincton Mounta 119.42 25 PKPdf **PKPdf 08 30 20.2 -2.2**
J04A Umpqua Nationa 119.67 30 PKPdf **PKPdf 08 30 21.4 -1.7**
PINE Pine Mountain 119.83 29 PKPdf **PKPdf 08 30 19.9 -3.4**
J05D Fort Rock, OR 120.07 29 PKPdf **PKPdf 08 30 22.3 -1.5**
I07A Izee 120.28 28 PKPdf **PKPdf 08 30 21.5 -2.6**
L04D Klamath Falls 120.33 31 PKPdf **PKPdf 08 30 21.0 -3.3**
MSO Missoula 120.37 22 PKPdf 08 30 21.3 -2.9
EGMT Eagleton 120.77 18 PKPdf **PKPdf 08 30 24.1 -0.8**
PLID Pearl Lake 121.01 25 PKPdf **PKPdf 08 30 24.9 -0.7**
J08A Circle Bar Ran 121.31 27 PKPdf **PKPdf 08 30 25.9 -0.2**
ULM Lac du Bonnet 121.78 8 PKPdf **PKPdf 08 30 25.2 -1.5**
ULM Lac du Bonnet 121.78 8 PKP **PKPdf 08 30 25.6 -1.1**
comp=Z,3.6nm,0.7s,baz=28,slow=0.4,SNR=7.7
ULM PKKPbc **PKKPbc 08 40 26.9 -0.1**
comp=Z,2.4nm,0.6s,baz=178,slow=3.3,SNR=7.2
DLMT Dillon 122.11 22 IAMs_20 IAMs_20 09 25 11.5
comp=Z,638nm,18.0s
BOZ Bozeman (W) 122.26 21 PKPdf 08 30 27.7 -0.3
BOZ IAMs_20 IAMs_20 09 24 21.6
comp=Z,1µm,20.0s
BOZ Bozeman (W) 122.26 21 PKIKP **PKPdf 08 30 27.7 -0.3**
BOZ MLR MLR
comp=Z,1µm,20.0s
MFID Camas Ranch 122.44 26 PKPdf **PKPdf 08 30 27.9 -0.4**
HLID Hailey 122.91 24 PKPdf **PKPdf 08 30 28.5 -0.8**
HLID IAMs_20 IAMs_20 09 29 22.6
comp=Z,801nm,18.0s
LAO LASA Array 123.03 17 PKPdf **PKPdf 08 30 28.5 -0.8**
YHL Hebgen Lake 123.06 21 PKPdf **PKPdf 08 30 28.4 -1.3**
YHL IAMs_20 IAMs_20 09 24 46.8
comp=Z,830nm,19.0s

YHB	Horse Butte	123.15	21		IAMs_20	IAMs_20	09 24 49.0	
	comp=Z,908nm,20.0s							
YMR	Madison River	123.30	21		IAMs_20	IAMs_20	09 25 05.0	
	comp=Z,842nm,19.0s							
YNE	Yellowstone No	123.34	20		IAMs_20	IAMs_20	09 28 51.2	
	comp=Z,788nm,18.0s							
LMQ	La Malbaie	123.44	347		IAMs_20	IAMs_20	09 34 45.7	
	comp=Z,793nm,20.0s							
MDND	Maddock	123.51	11			PKPdf	08 30 29.7	-0.4
YMP	Mirror Lake Pl	123.53	21		IAMs_20	IAMs_20	09 27 08.0	
	comp=Z,718nm,20.0s							
LMN	Caledonia Moun	123.59	342		IAMs_20	IAMs_20	09 28 08.5	
	comp=Z,680nm,21.0s							
AGMN	Agassiz Nation	123.69	8		IAMs_20	IAMs_20	09 25 13.0	
	comp=Z,688nm,20.0s							
PNTR	Pine Nut	124.02	31			PKPdf	08 30 30.7	-0.9
FXWY	Fox Creek	124.17	22			PKPdf	08 30 30.5	-1.3
MOOW	Moose Ponds	124.17	22			PKPdf	08 30 30.2	-1.5
LOHW	Long Hollow	124.34	22			PKPdf	08 30 31.2	-0.9
SNOW	Snow King Moun	124.42	22			PKPdf	08 30 30.0	-2.3
E28A	Huff	124.51	12	PKPdf		PKPdf	08 30 31.8	-0.3
E28A					IAMs_20	IAMs_20	09 27 50.3	
	comp=Z,685nm,19.0s							
EYMN	Ely	124.51	5	PKPdf		PKPdf	08 30 32.1	+0.1
EYMN	Ely	124.51	5		IAMs_20	IAMs_20	09 31 35.0	
	comp=Z,754nm,20.0s							
ELK	Elko	124.85	27			PKPdf	08 30 32.8	-0.4
ELK	Elko	124.85	27	PKIKP		PKPdf	08 30 32.8	-0.4
HVU	Hansel Valley	125.06	24	PKPdf		PKPdf	08 30 32.3	-1.1
HVU	Hansel Valley	125.06	24	PKIKP		PKPdf	08 30 32.3	-1.1
NVAR	Mina Array Bea	125.19	31	PKPdf		PKPdf	08 30 33.0	-0.8
NVAR	Mina Array Bea	125.19	31	PKP		PKPdf	08 30 33.4	-0.5
	comp=Z,5.1nm,0.9s,baz=275,slow=1.2,SNR=12							
LHV	Little Huntoon	125.22	31	PKPdf		PKiKP	08 30 34.2	+0.3
PD31	Pinedale Array	125.46	21	PKPdf		PKPdf	08 30 33.5	-0.7
PDAR	Pinedale Array	125.46	21	PKPdf		PKPdf	08 30 33.1	-1.2
PDAR	Pinedale Array	125.46	21	PKP		PKPdf	08 30 33.6	-0.7
	comp=Z,1.7nm,0.8s,baz=175,slow=1.2,SNR=11							
E38A	The Farm, Brul	125.84	5		IAMs_20	IAMs_20	09 29 30.1	
	comp=Z,754nm,21.0s							
TAOE	Nuku Hiva Isla	126.28	95	*e*S		SKSdf	08 37 45.8	-1.7
	comp=Z,55nm,26.0s							
TAOE	Nuku Hiva Isla	126.28	95	*e*PP		P'P'df	08 49 28.5	+23
	comp=Z,117nm,30.3s							
TAOE	Nuku Hiva Isla	126.28	95	*e*LR		LR	09 09 58.1	
	comp=Z,585nm,24.3s							
COWI	Conover	126.50	3		IAMs_20	IAMs_20	09 35 03.9	
	comp=Z,795nm,19.0s							
K22A	Casper	126.60	19	PKPdf		PKPdf	08 30 34.8	-1.6
SUSD	Miller	126.91	12		IAMs_20	IAMs_20	09 30 45.8	
	comp=Z,844nm,22.0s							
SPMN	Marine on St.	127.09	6		IAMs_20	IAMs_20	09 28 21.1	
	comp=Z,966nm,22.0s							
DELO	Deloro Mine	127.64	353		IAMs_20	IAMs_20	09 32 12.0	
	comp=Z,720nm,19.0s							
P18A	Preston Nutter	127.91	24		IAMs_20	IAMs_20	09 28 18.8	
	comp=Z,778nm,21.0s							
ECSD	EROS Data Cent	128.03	10		IAMs_20	IAMs_20	09 33 02.6	
	comp=Z,864nm,20.0s							
PECO	Prince Edward	128.13	352		IAMs_20	IAMs_20	09 30 18.1	
	comp=Z,719nm,20.0s							
J55A	Hilton	128.89	352		IAMs_20	IAMs_20	09 29 00.3	
	comp=Z,632nm,20.0s							
ISCO	Idaho Springs	129.46	20		IAMs_20	IAMs_20	09 27 12.1	
	comp=Z,572nm,20.0s							
L40A	Anamosa	130.38	5		IAMs_20	IAMs_20	09 32 46.1	
	comp=Z,959nm,21.0s							
RKT	Rikitea	130.42	114	*e*LQ		LQ	09 06 21.1	
RKT				*e*LR		LR	09 11 54.7	
	comp=Z,3μm,34.8s							
	comp=Z,3μm,28.5s							
L42A	Oliver, Polo	130.56	4		IAMs_20	IAMs_20	09 29 49.0	
	comp=Z,659nm,20.0s							
CBX	Cerro Bola	130.66	35		IAMs_20	IAMs_20	09 33 10.8	
	comp=Z,578nm,20.0s							
KSCO	Kaye Shedlock'	131.12	17		IAMs_20	IAMs_20	09 35 38.1	
	comp=Z,789nm,20.0s							
M44A	Midewin, Midew	131.25	2		IAMs_20	IAMs_20	09 38 35.6	
	comp=Z,657nm,18.0s							
N38A	Joes South For	131.41	7		IAMs_20	IAMs_20	09 35 03.3	
	comp=Z,846nm,20.0s							
N41A	Harden Midland	131.75	5		IAMs_20	IAMs_20	09 30 13.6	
	comp=Z,706nm,22.0s							
KSU1	Kansas State U	132.52	11		IAMs_20	IAMs_20	09 34 09.4	
	comp=Z,563nm,20.0s							
P38A	Dawn	132.52	8		IAMs_20	IAMs_20	09 32 18.7	
	comp=Z,899nm,21.0s							
P43A	Skaggs, Pawnee	132.92	4		IAMs_20	IAMs_20	09 30 57.5	
	comp=Z,626nm,20.0s							
Q44A	Meyer Farm, Va	133.69	3		IAMs_20	IAMs_20	09 31 30.8	
	comp=Z,811nm,20.0s							
SLM	Saint Louis	133.86	5		IAMs_20	IAMs_20	09 33 19.5	
	comp=Z,702nm,19.0s							
OLIL	Olney	133.90	2		IAMs_20	IAMs_20	09 37 28.6	
	comp=Z,788nm,19.0s							
CCM	Cathedral Cave	134.35	6		IAMs_20	IAMs_20	09 35 43.1	
	comp=Z,829nm,21.0s							
R50A	Paris	134.38	358		IAMs_20	IAMs_20	09 32 35.7	
	comp=Z,799nm,22.0s							
FVM	French Village	134.50	5		IAMs_20	IAMs_20	09 31 54.2	
	comp=Z,836nm,21.0s							
OK038	West end E0370	134.56	15		IAMs_20	IAMs_20	09 35 57.2	
	comp=Z,804nm,20.0s							
S44A	Carbondale	134.87	4		IAMs_20	IAMs_20	09 31 55.5	
	comp=Z,872nm,20.0s							
MGMO	Mountain Grove	135.12	7		IAMs_20	IAMs_20	09 33 21.5	
	comp=Z,617nm,20.0s							
AMTX	Amarillo	135.22	19		IAMs_20	IAMs_20	09 39 08.5	
	comp=Z,916nm,22.0s							
CGM3	Cape Girardeau	135.24	4		IAMs_20	IAMs_20	09 38 11.9	
	comp=Z,784nm,19.0s							
T42A	Van Buren	135.38	6		IAMs_20	IAMs_20	09 36 22.4	
	comp=Z,894nm,21.0s							
OK029	Liberty Lake	135.52	13		IAMs_20	IAMs_20	09 35 37.6	
	comp=Z,627nm,21.0s							
T50A	Nancy	135.65	359		IAMs_20	IAMs_20	09 33 53.3	
	comp=Z,926nm,22.0s							
T47A	Sharon Grove	135.68	1		IAMs_20	IAMs_20	09 31 21.7	
	comp=Z,676nm,22.0s							
PBMO	Poplar Bluff	135.69	5		IAMs_20	IAMs_20	09 36 08.8	
	comp=Z,747nm,22.0s							
HICK	Hickman	136.02	4		IAMs_20	IAMs_20	09 32 37.7	
	comp=Z,855nm,22.0s							
WMOK	Wichita Mounta	136.19	15		IAMs_20	IAMs_20	09 36 56.5	
	comp=Z,617nm,20.0s							
UTMT	University of	136.24	4		IAMs_20	IAMs_20	09 35 16.3	
	comp=Z,734nm,20.0s							
LCAR	Lake Charles	136.32	6		IAMs_20	IAMs_20	09 36 41.4	
	comp=Z,663nm,19.0s							
CPCT	Cooper Cave	137.21	358		IAMs_20	IAMs_20	09 35 13.6	
	comp=Z,745nm,21.0s							
UALR	University of	137.45	8		IAMs_20	IAMs_20	09 44 15.2	
	comp=Z,659nm,21.0s							
PLAL	Pickwick Lake	137.64	3		IAMs_20	IAMs_20	09 38 28.6	
	comp=Z,692nm,19.0s							
X40A	Basin Creek Fa	137.67	9		IAMs_20	IAMs_20	09 39 57.8	
	comp=Z,747nm,19.0s							
PAULI	Pauline	137.68	355		IAMs_20	IAMs_20	09 35 48.5	
	comp=Z,922nm,22.0s							
Z35A	Perchaven, San	137.92	14		IAMs_20	IAMs_20	09 32 00.2	
	comp=Z,771nm,22.0s							
ABTX	Abilene, Hawle	137.94	17			PKPdf	08 30 56.7	-1.1
ABTX					IAMs_20	IAMs_20	09 39 32.6	
	comp=Z,603nm,19.0s							
X48A	Hartselle	138.21	1		IAMs_20	IAMs_20	09 34 04.7	
	comp=Z,684nm,21.0s							
HODGE	Hodges	138.30	356		IAMs_20	IAMs_20	09 38 59.9	
	comp=Z,880nm,21.0s							
WHTX	Lake Whitney,	139.14	15		IAMs_20	IAMs_20	09 44 44.5	
	comp=Z,570nm,21.0s							
GOGA	Godfrey	139.20	357		IAMs_20	IAMs_20	09 42 18.3	
	comp=Z,728nm,18.0s							
Z47A	Carrollton	139.42	3		IAMs_20	IAMs_20	09 34 39.5	
	comp=Z,789nm,22.0s							
TXAR	Lajitas Array	139.51	24	PKhKP		PKPpre	08 30 52.8	
	comp=Z,0.2nm,0.6s,baz=282,slow=2.0,SNR=3.5							
TXAR				PKP		PKPdf	08 31 01.0	+0.1
	comp=Z,0.7nm,0.5s,baz=316,slow=1.9,SNR=9.2							
TXAR				PP		PP	08 33 55.1	+1.0
	comp=Z,2.5nm,1.1s,baz=29,slow=2.9,SNR=5.5							
TXAR				SKPbc		SKPbc	08 34 33.5	-1.7
	comp=Z,1.2nm,0.8s,baz=260,slow=1.7,SNR=5.2							
SAND	Sanderson	139.56	22			PKPdf	08 30 58.3	-2.6
JCT	Junction City	139.88	19		IAMs_20	IAMs_20	09 44 33.0	
	comp=Z,587nm,21.0s							
154A	Montrose	139.97	356		IAMs_20	IAMs_20	09 41 55.9	
	comp=Z,613nm,20.0s							
250A	Grady	140.69	1		IAMs_20	IAMs_20	09 35 45.4	
	comp=Z,717nm,22.0s							
BDFB	Brasilia	142.12	254	PKhKP		PKPpre	08 31 00.9	
	comp=Z,1.9nm,0.4s,baz=195,slow=4.8,SNR=4.6							
BDFB				PKP		PKPdf	08 31 06.8	+0.9
	comp=Z,8.0nm,0.8s,baz=143,slow=2.8,SNR=9.5							
PLCA	Paso Flores	144.25	200	PKP		PKPab	08 31 06.8	0.0
	comp=Z,7.6nm,0.8s,baz=161,slow=2.9,SNR=26							
DWPF	Disney Wildern	144.29	353		IAMs_20	IAMs_20	09 39 40.6	
	comp=Z,671nm,22.0s							
ANBD	Bethesda, Anti	145.87	316	*e*P		PKPdf	08 31 12.5	+0.2
061Z	Ochoppi	146.43	352		IAMs_20	IAMs_20	09 40 47.6	
	comp=Z,699nm,22.0s							
DSLB	Salisbury	146.71	313	*e*P		PKPdf	08 31 13.8	+0.1
CPUP	Villa Florida	147.07	232			PKPdf	08 31 14.3	+0.3
CPUP	Villa Florida	147.07	232	PKPbc		PKPdf	08 31 14.7	+0.6
	comp=Z,5.6nm,0.7s,baz=112,slow=2.4,SNR=24							
GCPR	Guaynabo City	147.73	323			PKPbc	08 31 17.4	-0.8
SJG	San Juan	147.92	323		IAMs_20	IAMs_20	09 44 10.7	
	comp=Z,512nm,20.0s							
MAL2	Monte Alegre,	147.97	278	PKPbc		PKPbc	08 31 19.1	0.0
UUPR	Utuado, UPR, P	148.15	324			PKPbc	08 31 18.6	-0.7
OBIP	Obispado Ponce	148.25	323			PKPbc	08 31 18.2	-1.3
MOIG	Morelia	149.01	29	PKPbc		PKPdf	08 31 18.8	+1.0
SDDR	Presa de Saban	149.97	332		IAMs_20	IAMs_20	09 52 31.1	
	comp=Z,556nm,20.0s							
NMDO	Nuevo Mundo	150.09	339		IAMs_20	IAMs_20	09 42 06.5	
	comp=Z,856nm,21.0s							
MT16	CCHEN	150.60	207			PKPbc	08 31 24.8	-0.3
MT16				PKPab		pPKPbc	08 31 30.5	-1.8
CHIV	Chivirico	151.11	341		IAMs_20	IAMs_20	09 41 23.2	
	comp=Z,467nm,20.0s							
TEIG	Tepich	152.29	5	PKPdf		PKPdf	08 31 19.6	-3.0
TEIG				PKPab		pPKPbc	08 31 34.9	-1.6
TEIG					IAMs_20	IAMs_20	09 50 46.3	
	comp=Z,488nm,19.0s							
PTLB	Pontes e Lacer	152.69	251	PKPdf		PKPdf	08 31 20.6	-2.6
PTLB				PKPbc		pPKPdf	08 31 28.7	-1.7
PTLB				PKPab		sPKPbc	08 31 39.5	-0.4
CO03	El Pedregal	152.83	210	PKPdf		PKPdf	08 31 19.9	-3.3
CO03						pPKPdf	08 31 29.6	-0.8
BOAV	Boa Vista	152.86	290	PKPdf		PKPdf	08 31 22.1	-1.5
BOAV				PKPbc		pPKPdf	08 31 29.2	-1.7
BOAV				PKPab		sPKPbc	08 31 40.1	-0.3
MTDJ	Mount Denham	153.10	342		IAMs_20	IAMs_20	09 48 20.8	
	comp=Z,547nm,20.0s							
LCO	Las Campanas	154.32	212	PKPdf		PKPdf	08 31 22.0	-3.6
LCO						pPKPdf	08 31 31.8	-1.0
LCO				PKPab		sPKPbc	08 31 45.0	+1.4
LCO	Las Campanas	154.32	212	PKIKP		PKPdf	08 31 22.0	-3.6
LCO							08 31 45.0	
MACA	Manacapuru-AM	154.57	279	PKPdf		PKPdf	08 31 22.3	-3.7
MACA						sPKPbc	08 31 45.4	+1.3
AC02	Maricunga	155.10	218	PKPdf		PKPdf	08 31 24.0	-3.0
AC02				PKPbc		pPKPdf	08 31 33.6	-0.6
AC02				PKPab		PKPab	08 31 50.3	-1.2
GO03	Copiapo	155.18	215	PKPdf		PKPdf	08 31 23.9	-2.6
GO03				PKPbc		sPKPdf	08 31 34.2	-2.1
GO03				PKPab		PKPab	08 31 50.0	-1.2
PETF	Flores	155.36	9		IAMs_20	IAMs_20	09 52 22.4	
	comp=Z,546nm,21.0s							
SDV	Santo Domingo	157.71	317		IAMs_20	IAMs_20	09 49 45.0	
	comp=Z,546nm,20.0s							
TGUH	Tegucigalpa,Un	158.48	4	PKPdf		PKPdf	08 31 28.5	-2.7
TGUH				PKPab		PKPab	08 32 06.2	+0.6
TGUH					IAMs_20	IAMs_20	09 55 47.5	
	comp=Z,512nm,18.0s							
HERN	Volcan Telica	159.94	3		IAMs_20	IAMs_20	09 51 12.3	
	comp=Z,441nm,21.0s							
BOAB	BOACO BROADBAND	160.12	359	PKPdf		PKPdf	08 31 31.5	-1.4
BOAB				PKPab		PKPab	08 32 09.9	-2.7
LPAZ	La Paz	160.62	242	PKPdf		PKPdf	08 31 32.8	-1.4
LPAZ				PKPab		PKPab	08 32 13.6	-2.2
LPAZ	La Paz	160.62	242	PKP		PKPdf	08 31 33.8	-0.5
	comp=Z,3.6nm,0.7s,baz=142,slow=1.6,SNR=5.2							
LPAZ	La Paz	160.62	242	PKP2		PKPab	08 32 13.6	-2.2
LPAZ							09 31 32.8	
PB16	IPOC Station P	160.82	234	PKPdf		PKPdf	08 31 31.0	-3.3
PB16				PKPab		PKPab	08 32 15.1	-1.5
SOCE	Pocosol	162.14	356	PKPdf		PKPdf	08 31 32.0	-3.1
SOCE				PKPab		PKPab	08 32 18.3	-3.1
ROSC	El Rosal	163.15	317	PKP		PKPdf	08 31 36.4	-0.2
	comp=Z,3.5nm,0.4s,baz=138,slow=3.7,SNR=4.1							

KRSC 01 08:17:59.3±3.0, 49°.54N×156°.94E, h16km±53km, MI3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.26	335	*e*P	Pn	08 18 20.2	-2.1
SKR				*e*S	Sb	08 18 35.9	-2.8
PAU	Pauzhetka	1.93	358	*e*P	Pb	08 18 32.9	-1.2
PAU				*e*S	Sb	08 18 57.1	-0.9
KDTR	Khodutka, Kamc	2.38	17	*e*P	Pb	08 18 41.1	-0.7
KDTR				*e*S	Sb	08 19 10.6	-0.4
RUS	Russkaya	3.06	18	*e*P	Pn	08 18 49.3	+2.3
RUS				*e*S	Sn	08 19 25.7	+2.4
GRL	Gorelyy	3.10	13	*e*P	Pb	08 18 51.1	-3.0
GRL				*e*S	Sb	08 19 29.5	-2.2
APC	Apacha	3.39	2	*e*P	Pn	08 18 53.4	+1.9
DALK	Dalny	3.68	17	*e*P	Pb	08 19 00.1	-3.7
DALK				*e*S	Sb	08 19 43.7	-4.5
UGLR	Uglovaya	3.86	17	*e*P	Pb	08 19 02.8	-4.3
AVH	Avacha	3.90	16	*e*P	Pn	08 19 03.0	+4.5
KOK	Koryaka	3.91	15	*e*P	Pb	08 19 03.5	-4.3
SDLR	Sedlovina	3.94	17	*e*P	Pn	08 19 03.0	+3.9
KRX	Arik	3.97	15	*e*P	Pb	08 19 05.2	-3.8
GNL	Ganaly	4.21	8	*e*P	Pn	08 19 06.7	+3.8
MKZ	Mys Kozlova	5.83	29	*e*P	Pn	08 19 27.3	+2.3
KBTR	Krutoberegovo	7.56	26	*e*P	Pn	08 19 52.1	+3.3

*ASRS **01** 08:25:27.0±1.5, 53°.58N×86°.92E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 08:25:27.6±2.5, 53°.66N×87°.12E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=23.3km s-min=13.9km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.39	283	I	I	08 34 20.0	
	baz=103,slow=331,SNR=1.0						
ZALV	Zalesovo Beam	1.39	283	Pg	Pn	08 25 51.9	-2.4
	1.9nm,0.3s,baz=98,slow=17,SNR=13						
ZALV				Lg	Lg	08 26 12.5	
	2.5nm,0.3s,baz=104,slow=30,SNR=9.4						
KURBB	Kurchatov Arra	6.09	244	Pn	Pn	08 26 59.8	+0.9
	0.1nm,0.3s,baz=58,slow=13,SNR=2.9						
KURBB				Lg	Lg	08 28 41.4	
	baz=58,slow=32,SNR=1.9						
	0.3nm,0.3s						
MKAR	Makanchi Array	7.53	206	Pn	Pn	08 27 20.2	+1.6
	0.2nm,0.3s,baz=27,slow=14,SNR=8.9						
MKAR				Sn	Sn	08 28 44.4	-0.4
	0.1nm,0.3s,baz=24,slow=32,SNR=2.2						
	0.3nm,0.3s						

*IDC **01** 08:25:30.6±1.6, 5°.99S×150°.70E, h0km, mb3.7/5, mbtmp3.7/6, ML1.4/1, Error ellipse: s-maj=63.5km s-min=22.6km az=120.0*

ISC 01 08:25:37.2±1.4, 6°.1S±0°.3×150°.7E±0°.3, h48km, n6, σ0s61/7, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.80	226	Pn	Pn	08 26 46.2	-0.7
	1.2nm,0.3s,baz=45,slow=13,SNR=3.6						
PMG				Sn	Sn	08 27 41.6	+0.3
	1.5nm,0.3s,baz=49,slow=19,SNR=1.8						
	6.7nm,0.7s						
WRA	Warramunga Arr	21.02	228	P	P	08 30 17.7	+0.7
	2.2nm,0.8s,baz=52,slow=11,SNR=14						
	2.2nm,0.8s						
ASAR	Alice Springs	23.79	221	P	P	08 30 46.2	+0.6
	1.3nm,0.5s,baz=55,slow=9.3,SNR=26						
	1.3nm,0.5s						
STKA	Stephens Creek	27.02	197	P	P	08 31 14.8	-0.1
	1.5nm,0.7s,baz=22,slow=10,SNR=4.2						
	1.5nm,0.7s						
KURBB	Kurchatov Arra	83.52	322	P	P	08 37 59.9	0.0
	0.2nm,0.4s,baz=108,slow=3.3,SNR=2.2						
	0.2nm,0.4s						
ILAR	Eielson Array	84.15	22	P	P	08 38 02.9	0.0
	0.5nm,0.9s,baz=230,slow=5.3,SNR=4.5						
	0.5nm,0.9s						

*NEIC **01** 08:33:35.3±1.5, 19°.18N±0°.06×65°.90W±0°.03, h35km±2km, ML3.0/32, Md3.2/16(RSPR), Error ellipse: s-maj=11.1km s-min=4.8km az=188.0*

*RSPR **01** 08:33:37.2, 19°.13N×65°.99W, h10km±11km, MD3.1/16*

*OSPL **01** 08:33:38.1±0.8, 19°.05N×66°.14W, h0km±9km, ML2.6*

ISC 01 08:33:32.3±1.9, 19°.22N±0°.07×65°.97W±0°.05, h17km±9km, n53, σ0s73/66, 14C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	Esperanza - Ma	0.91	215		Pn	08 33 51.9	+1.6
EMPR					Sn	08 34 03.2	+0.2
EMPR				IAML		08 34 03.7	
	comp=N,308nm,0.7s						
EMPR				IAML		08 34 06.8	
	comp=E,487nm,0.6s						
EMPR	Esperanza - Ma	0.91	215	*e*P	Pn	08 33 51.9	+1.6
EMPR	Esperanza - Ma	0.91	215	*e*S	Sn	08 34 03.3	+0.2
GCPR	Guaynabo City	0.92	187		Pn	08 33 51.4	+1.0
GCPR					Sg	08 34 02.1	-0.1
GCPR				IAML		08 34 05.8	
	comp=N,278nm,0.4s						
GCPR	Guaynabo City	0.92	187	*e*P	Pn	08 33 51.5	+1.0
GCPR	Guaynabo City	0.92	187	*e*S	Sg	08 34 01.9	-0.3
ECPR	Experimental S	0.97	202	*e*P	Pn	08 33 52.3	+1.1
ECPR	Experimental S	0.97	202	*e*S	Sg	08 34 03.8	-0.2
HUMP	Col San Antoni	1.08	174		Pg	08 33 54.0	+0.8
HUMP					Sb	08 34 05.7	-0.8
HUMP				IAML		08 34 07.3	
	comp=N,246nm,0.2s						
HUMP				IAML		08 34 07.4	
	comp=E,233nm,0.2s						
HUMP	Col San Antoni	1.08	174	*e*P	Pg	08 33 53.9	+0.6
HUMP	Col San Antoni	1.08	174	*e*S	Sn	08 34 07.1	-0.2
SJG	San Juan	1.12	189		Pg	08 33 54.6	+0.6
SJG				IAML		08 34 09.3	
	comp=E,261nm,0.5s						
SJG				IAML		08 34 09.5	
	comp=E,244nm,0.4s						
SJG	San Juan	1.12	189	*e*P	Pg	08 33 54.8	+0.8
SJG	San Juan	1.12	189	*e*S	Sg	08 34 08.1	-0.6
SJG	San Juan	1.12	189	*i*P	Pg	08 33 54.7	+0.8
SJG				*e*S	Sb	08 34 07.3	-0.2
SJG				IAML		08 34 08.2	
	comp=Z,254nm,0.5s						
AOPR	Arecibo Observ	1.14	220		Pg	08 33 55.1	+0.6
AOPR					Sg	08 34 09.0	-0.4
AOPR				IAML		08 34 09.6	
	comp=N,502nm,0.5s						
AOPR	Arecibo Observ	1.14	220	*e*P	Pg	08 33 55.1	+0.6
AOPR	Arecibo Observ	1.14	220	*e*S	Sn	08 34 08.6	-0.3
UUPR	Utuado, UPR, P	1.20	216		Pg	08 33 55.8	+0.4
UUPR					Sn	08 34 09.9	-0.4
UUPR	Utuado, UPR, P	1.20	216	*e*P	Pg	08 33 55.9	+0.4
UUPR	Utuado, UPR, P	1.20	216	*e*S	Sn	08 34 09.8	-0.4
PDPR	Patillas Dam,	1.20	182		Pg	08 33 56.0	+0.4
PDPR				IAML		08 34 10.6	
	comp=N,246nm,0.5s						
PDPR				IAML		08 34 10.8	
	comp=E,203nm,0.2s						
PDPR	Patillas Dam,	1.20	182	*e*P	Pg	08 33 55.9	+0.4
PDPR	Patillas Dam,	1.20	182	*e*S	Sg	08 34 10.4	-0.8
IGPR	InterUniversit	1.26	186		Pg	08 33 56.7	+0.1
IGPR					Sb	08 34 11.1	-0.4
IGPR				IAML		08 34 12.3	
	comp=N,449nm,0.2s						
IGPR				IAML		08 34 14.0	
	comp=E,300nm,0.3s						
IGPR	InterUniversit	1.26	186	*e*S	Sn	08 34 11.6	0.0
CELP	Cerrillos	1.28	207		Pg	08 33 56.8	-0.2
CELP					Sn	08 34 11.8	-0.4
CELP	Cerrillos	1.28	207	*e*P	Pg	08 33 56.8	-0.2
CELP	Cerrillos	1.28	207	*e*S	Sg	08 34 13.1	-0.7
AGPR	Aguadilla, PR	1.31	235		Pg	08 33 57.3	-0.3
AGPR				IAML		08 34 31.6	
	comp=E,100nm,1.2s						
AGPR	Aguadilla, PR	1.31	235	*e*P	Pg	08 33 57.4	-0.3
AGPR	Aguadilla, PR	1.31	235	*i*P	Pg	08 33 57.4	-0.3
AGPR				IAML		08 34 20.7	
	comp=Z,65nm,0.2s						
OBIP	Obispado Pon

SVSK			Sn	Sg	08 44 03.2	+1.1
KHMN	Narli-Kahraman	1.59 211	Pn	Pn	08 43 44.3	+0.4
KMRS	Kahramanmaras	1.61 219	Pn	Pn	08 43 44.4	+0.3
RSDY	Resadiye-TOKAT	1.76 338	Pn	Pn	08 43 46.5	+0.3
GAZ	Gaziantep	1.76 206	Pn	Pn	08 43 46.5	+0.2
BNN	Bunyan	1.82 273	Pn	Pn	08 43 47.7	+0.6
BNGB	Bingl	1.97 83	Pn	Pn	08 43 49.9	+0.8
TOKT	Tokat	2.00 321	Pn	Pn	08 43 50.1	+0.6
ESPY	Espiye-Giresun	2.19 11	Pn	Pn	08 43 52.5	+0.4
MAZI	Mazidag	2.22 125	Pn	Pn	08 43 53.1	+0.5
KOZT	Kozan	2.25 236	Pn	Pn	08 43 53.7	+0.8
YOZ	Yozgat	2.38 292	Pn	Pn	08 43 55.5	+0.6
CMRD	Camardi-Nigde	2.74 247	Pn	Pn	08 44 00.4	+0.7
TAHT	Tahtakopru-Hat	2.86 214	Pn	Pn	08 44 02.4	+1.1

*IDC **01** 08:45:58.3±2.2,26°.08N×141°.01E,h128km±22km,mb3.3/5, mbtmp3.7/5,Error ellipse: s-maj=46.6km s-min=25.1km az=96.0*

ISC 01 08:45:60.0±1.1,26°.1N±0°.2×141°.3E±0°.2,h150km,n6, σ1ᵮ37/7,mb3.1/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.26	40	P	Pn	08 46 26.7	-0.3
	81nm,0.3s,baz=269,slow=23,SNR=23						
JCJ				S	Sn	08 46 46.5	-1.4
	262nm,0.3s,baz=263,slow=22,SNR=57						
WRA	Warramunga Arr	46.29	189	P	P	08 54 10.2	-0.5
	0.2nm,0.4s,baz=8.8,slow=8.6,SNR=5.1						
	0.2nm,0.4s						
MKAR	Makanchi Array	50.47	310	P	P	08 54 41.5	-1.0
	0.2nm,0.5s,baz=103,slow=7.3,SNR=3.5						
	0.2nm,0.5s						
YKA	Yellowknife Ar	73.37	28	P	P	08 57 17.0	+1.9
	0.2nm,0.6s,baz=282,slow=4.1,SNR=4.0						
	0.2nm,0.6s						
FINES	FINESS Array B	78.45	334	P	P	08 57 44.3	+0.4
	2.0nm,0.8s,baz=63,slow=5.6,SNR=5.4						
	2.0nm,0.8s						
HFS	Hagfors	83.99	336	P	P	08 58 13.8	+0.7
	2.1nm,0.9s,baz=56,slow=5.5,SNR=4.8						
	2.1nm,0.9s						

*IDC **01** 08:48:00.1±0.9,33°.09S×67°.14W,h0km,mb4.3/3, mbtmp3.8/7,ML3.7/4,Error ellipse: s-maj=22.0km s-min=12.4km az=67.0*

*SJA **01** 08:48:02.2±0.6,32°.97S×67°.21W,h8km±2km,ML3.7, MW3.5*

ISC 01 08:48:01.1±1.5,33°.06S±0°.04×67°.17W±0°.04,h4km±10km, n26,σ1ᵮ20/39,mb4.4/3,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVIZ	Vizcacheras	1.20	250	*i* P	Pn	08 48 25.2	+0.4
AVIZ				*i* S	Sn	08 48 42.5	+0.9
MRA	San Martin	1.38	63	*i* P	Pg	08 48 28.4	+0.8
MRA				*i* S	Sn	08 48 46.3	+0.3
MRA				IAML		08 48 52.6	
	comp=Z,2μm,0.4s						
AAGR	Agrelo	1.39	269	*i* P	Pg	08 48 28.3	+0.5
AAGR				*i* S	Sn	08 48 47.6	+1.3
AAGR				IAML		08 48 57.5	
	comp=Z,752nm,0.5s						
ASAL	Salagasta	1.48	288	*i* P	Pg	08 48 29.4	-0.1
ASAL				*i* S	Sg	08 48 48.9	+0.3
ASAL				IAML		08 48 50.6	
	comp=Z,605nm,0.4s						
ARCO	CERRO ARCO	1.50	278	*i* P	Pg	08 48 30.1	+0.3
ARCO				*i* S	Sg	08 48 50.2	+1.0
ARCO				IAML		08 48 53.4	
	comp=Z,2μm,0.2s						
CFA	Coronel Fontan	1.71	328	Pg	Pb	08 48 32.2	-0.8
	comp=Z,68nm,0.3s,baz=151,slow=14,SNR=1988						
CFA				Lg	Lg	08 48 55.2	
	comp=Z,87nm,0.3s,baz=169,slow=16,SNR=18						
CFA	Coronel Fontan	1.71	328	*i* P	Pb	08 48 32.3	-0.8
CFA				*i* S	Sg	08 48 55.1	-0.9
ZON	Zonda	1.98	319	*i* P	Pb	08 48 37.2	-0.5
ZON				*i* S	Sb	08 49 02.9	+0.2
ZON				IAML		08 49 11.7	
	comp=Z,599nm,0.7s						
RTLL	Cerro Villicun	2.05	327	*i* P	Pb	08 48 37.6	-1.3
RTLL				*i* S	Sb	08 49 04.7	-0.1
MT08	Bocatoma Ro	2.42	260	*i* P	Pb	08 48 44.5	-0.8
MT08				*i* S	Sb	08 49 15.8	+0.3
MT08				IAML		08 49 19.3	
	comp=Z,258nm,0.3s						
MT04	Ro Olivares	2.51	261	*i* P	Pb	08 48 45.9	-1.0
MT04				*i* S	Sb	08 49 17.8	-0.5
MT04				IAML		08 49 22.8	
	comp=Z,211nm,0.3s						
LMEL	Las Melosas	2.66	252	*i* P	Pb	08 48 47.9	-1.4
LMEL				*i* S	Sb	08 49 21.7	-0.6
DOCA	Reserva Natura	2.66	322	*i* P	Pn	08 48 46.7	+1.7
DOCA				*i* S	Sb	08 49 20.1	-2.6
DOCA				IAML		08 49 24.4	
	comp=Z,290nm,0.7s						
VA03	San Esteban	2.86	275	*i* P	Pb	08 48 50.6	-2.1
VA03				*i* S	Sn	08 49 25.2	+2.7
VA03				IAML		08 49 32.7	
	comp=Z,688nm,0.7s						
ACCO	Cerro Coronel	2.95	326	*i* P	Pb	08 48 52.3	-2.0
MT05	Renca	3.01	263	*i* P	Pb	08 48 52.7	-2.6
MT05				IAML		08 49 38.3	
	comp=Z,234nm,0.3s						
PLCA	Paso Flores	8.12	198	Pn	Pn	08 50 00.2	+0.3
	comp=Z,0.1nm,0.3s,baz=11,slow=14,SNR=8.4						
PLCA				Lg	Lg	08 52 16.7	
	comp=Z,2.0nm,0.3s,baz=120,slow=14,SNR=5.4						
	comp=Z,1.2nm,1.1s						
CPUP	Villa Florida	10.87	54	Pn	Pn	08 50 37.7	+0.3
	comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=6.4						
CPUP				Lg	Lg	08 53 44.7	
	comp=Z,0.5nm,0.3s,baz=291,slow=12,SNR=3.1						
	comp=Z,0.9nm,0.4s						
LPAZ	La Paz	16.72	357	Pn	Pn	08 51 57.8	+0.9
	comp=Z,0.2nm,0.3s,baz=186,slow=7.6,SNR=5.8						
	comp=Z,0.6nm,0.5s						
SIV	San Ignacio	17.87	19	Pn	P	08 52 11.6	+0.2
	baz=227,slow=15,SNR=4.9						
	comp=Z,1.0nm,0.8s						
QSPA	South Pole Qui	57.18	180	P	P	08 57 48.9	0.0
	comp=Z,1.7nm,1.1s,baz=245,slow=0.5,SNR=5.8						
	comp=Z,1.7nm,1.1s						
BOSA	Boshof	76.85	116	P	P	08 59 53.9	-0.8
	comp=Z,3.2nm,1.0s,baz=258,slow=5.5,SNR=3.8						
	comp=Z,3.2nm,1.0s						
TORD	Torodi Ar. Bea	80.08	67	P	P	09 00 12.3	-0.2
	comp=Z,2.0nm,0.4s,baz=227,slow=5.7,SNR=1.4						
	comp=Z,2.0nm,0.4s						
KURBB	Kurchatov Arra	149.37	45	PKPbc	PKPbc	09 07 50.0	-0.9
	comp=Z,0.4nm,0.6s,baz=298,slow=3.2,SNR=4.5						
ZALV	Zalesovo Beam	151.18	35	PKPbc	PKPbc	09 07 54.2	-0.9
	comp=Z,1.0nm,0.4s,baz=316,slow=3.8,SNR=4.3						
MKAR	Makanchi Array	153.05	50	PKPbc	PKPbc	09 07 58.4	-1.2
	comp=Z,0.2nm,0.6s,baz=274,slow=2.6,SNR=2.2						

TRN 01 08:54:20.8,18°.07N×63°.69W,h238km,MD3.6, South-west of the British Virgin Islands.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	Saint Kitts	1.17	129	*e*P	Pn	08 54 52.6	-3.0
SKI				*e*S	S	08 55 20.3	-2.6
ANWB	Willy Bob	1.86	102	*e*P	Pn	08 54 59.8	-1.2
ANWB				*e*S	S	08 55 32.2	-0.2
ANBD	Bethesda, Anti	2.10	119	*e*P	Pn	08 55 03.1	-0.1
ANBD				*e*S	S	08 55 36.2	-0.3
SJG	San Juan	2.34	271	*e*P	Pn	08 55 08.2	+2.7

*SDD **01** 08:54:49.9±2.5, 19°.36N×67°.20W,h20km±97km,MD3.6, ML3.5,MW3.7*

*RSPR **01** 08:54:54.6, 19°.06N×67°.20W,h8km±3km,MD3.2/18*

*OSPL **01** 08:54:54.3±0.9, 19°.07N×67°.31W,h10km±11km,ML3.1*

*NEIC **01** 08:54:55.1±2.0, 19°.03N±0°.06×67°.23W±0°.03,h35km±2km, ML3.2/34,Md3.2/18(RSPR),Error ellipse: s-maj=10.1km s-min=4.9km az=196.0*

ISC 01 08:54:50.2±1.7,19°.18N±0°.06×67°.19W±0°.03,h3km±10km, n82,σ1ᵮ24/107,42C-50,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.71	174		Pg	08 55 05.5	+1.7
AGPR					Sg	08 55 12.6	-0.5
AGPR				IAML		08 55 20.7	
	comp=N,987nm,0.5s						
AGPR				IAML		08 55 23.1	
	comp=E,800nm,0.4s						
AGPR	Aguadilla, PR	0.71	174	⇑*e*Pg	Pg	08 55 06.0	+2.1
AGPR				⇑*e*Sg	Sb	08 55 17.2	+1.8
AGPR				IAML		08 55 20.6	
	comp=N,969nm,0.4s						
AGPR	Aguadilla, PR	0.71	174	⇑*e*P	Pg	08 55 05.3	+1.5
AGPR	Aguadilla, PR	0.71	174	*e*S	Sg	08 55 14.5	+1.4
AGPR	Aguadilla, PR	0.71	174	*i* P	Pg	08 55 06.0	+2.1
AGPR				IAML		08 55 20.9	
	comp=Z,474nm,0.3s						
IDE	Isla Desecheo	0.83	199		Pg	08 55 07.2	+1.0
IDE					Sb	08 55 18.8	-0.1
IDE	Isla Desecheo	0.83	199	⇑*e*P	Pg	08 55 07.2	+1.0
IDE	Isla Desecheo	0.83	199	*e*S	Sb	08 55 18.8	-0.1
AOPR	Arecibo Observ	0.92	153		Pg	08 55 09.7	+1.8
AOPR					Sg	08 55 19.5	-0.5
AOPR				IAML		08 55 26.2	
	comp=E,2μm,0.4s						
AOPR				IAML		08 55 27.0	
	comp=N,862nm,0.5s						
AOPR	Arecibo Observ	0.92	153	⇑*e*Pg	Pg	08 55 09.9	+1.9
AOPR				⇑*e*Sg	Sn	08 55 24.0	+0.1
AOPR				IAML		08 55 26.9	
	comp=N,790nm,0.3s						
AOPR	Arecibo Observ	0.92	153	⇑*e*P	Pg	08 55 08.7	+0.7
AOPR	Arecibo Observ	0.92	153	*e*S	Sg	08 55 19.1	-0.9
AOPR	Arecibo Observ	0.92	153	*e*P	Pg	08 55 10.1	+2.2
EMPR	Esperanza - Ma	0.94	138		Pg	08 55 08.8	+0.6
EMPR				IAML		08 55 36.0	
	comp=N,611nm,0.6s						
EMPR				IAML		08 55 38.9	
	comp=E,747nm,0.6s						
EMPR	Esperanza - Ma	0.94	138	⇓*e*P	Pg	08 55 10.5	+2.3
PRSN	Puerto Rico Se	0.96	177		Pg	08 55 09.7	+1.1
PRSN					Sg	08 55 21.2	+0.2
PRSN				IAML		08 55 29.0	
	comp=E,2μm,0.3s						
PRSN				IAML		08 55 35.5	
	comp=N,2μm,0.3s						
PRSN	Puerto Rico Se	0.96	177	⇑*e*P	Pg	08 55 08.9	+0.3
PRSN	Puerto Rico Se	0.96	177	*e*S	Sg	08 55 21.0	0.0
LSP	Las Mesas	1.00	174		Pg	08 55 09.7	+0.3
LSP					Sg	08 55 22.1	-0.4
LSP	Las Mesas	1.00	174	⇑*e*P	Pg	08 55 09.7	+0.3
LSP	Las Mesas	1.00	174	*e*S	Sg	08 55 22.1	-0.4
UUPR	Utuado, UPR, P	1.02	154		Pg	08 55 11.3	+1.4
UUPR					Sg	08 55 22.5	-0.6
UUPR	Utuado, UPR, P	1.02	154	⇑*e*P	Pg	08 55 10.7	+0.8
UUPR	Utuado, UPR, P	1.02	154	*e*S	Sg	08 55 21.2	-1.9
ECPR	Experimental S	1.16	137	⇑*e*P	Pg	08 55 12.1	-0.4
ECPR	Experimental S	1.16	137	*e*S	Sg	08 55 25.6	-1.9
CRPR	Cabo Rojo, PR	1.17	176		Pg	08 55 13.4	+0.8
CRPR	Cabo Rojo, PR	1.17	176	⇑*e*Pg	Pg	08 55 13.4	+0.8
CRPR				⇑*e*Sg	Sn	08 55 29.7	-0.2
CRPR				IAML		08 55 34.5	
	comp=N,270nm,0.8s						
CRPR	Cabo Rojo, PR	1.17	176	⇓*e*P	Pg	08 55 12.6	-0.1
CRPR	Cabo Rojo, PR	1.17	176	*e*S	Sg	08 55 26.2	-1.6
CRPR	Cabo Rojo, PR	1.17	176	*i* P	Pg	08 55 13.4	+0.8
CRPR				IAML		08 55 29.9	
	comp=Z,445nm,0.8s						
MLPR	Magueyes Islan	1.21	173	⇑*e*Pg	Pg	08 55 13.6	+0.1
MLPR				⇑*e*Sg	Sb	08 55 30.7	+0.9
MLPR				IAML		08 55 30.9	
	comp=N,78nm,0.5s						
MLPR	Magueyes Islan	1.21	173	⇑*e*P	Pg	08 55 12.7	-0.8
MLPR	Magueyes Islan	1.21	173	*e*S	Sg	08 55 27.1	-2.1
GBPR	Guanica, Bosqu	1.23	166		Pg	08 55 13.6	-0.3
GBPR					Sg	08 55 29.4	-0.5
GBPR	Guanica, Bosqu	1.23	166	⇑*e*P	Pg	08 55 13.6	-0.3
GBPR	Guanica, Bosqu	1.23	166	*e*S	Sg	08 55 29.4	-0.5
CELP	Cerrillos	1.24	152		Pg	08 55 14.8	+0.9
CELP					Sg	08 55 29.9	-0.2
CELP				IAML		08 55 37.1	
	comp=N,386nm,0.5s						
CELP				IAML		08 55 38.3	
	comp=E,264nm,0.6s						
CELP	Cerrillos	1.24	152	⇑*e*Pg	Pg	08 55 14.9	+0.9
CELP				⇑*e*Sg	Sn	08 55 33.0	+1.3
CELP				IAML		08 55 35.5	
	comp=N,354nm,0.3s						
CELP	Cerrillos	1.24	152	⇓*e*P	Pg	08 55 14.6	+0.6
CELP	Cerrillos	1.24	152	*e*S	Sg	08 55 27.4	-2.7
OBIP	Obispado Ponce	1.26	154		Pg	08 55 14.2	-0.1
OBIP					Sb	08 55 32.1	+0.9
OBIP				IAML		08 55 33.0	
	comp=N,329nm,0.8s						
OBIP				IAML		08 55 36.8	
	comp=E,367nm,0.5s						
OBIP	Obispado Ponce	1.26	154	⇑*e*P	Pg	08 55 13.6	-0.8
OBIP	Obispado Ponce	1.26	154	*e*S	Sg	08 55 28.9	-1.8
PCDR	Punta Cana, DR	1.31	240		Pn	08 55 13.9	-1.5
PCDR				Sn	Sb	08 55 33.3	+0.7
PCDR				IAML		08 55 35.3	
	comp=E,723nm,0.6s						
PCDR	Punta Cana, DR	1.31	240	⇑*e*Pg	Pn	08 55 13.6	-1.8
PCDR				⇑*e*Sg	Sb	08 55 32.9	+0.3
PCDR				IAML		08 55 34.1	
	comp=N,1μm,0.7s						
PCDR	Punta Cana, DR	1.31	240	⇓*e*P	Pn	08 55 13.9	-1.5
PCDR	Punta Cana, DR	1.31	240	*e*S	Sb	08 55 32.2	-0.4
PCDR	Punta Cana, DR	1.31	240	*i* P	Pn	08 55 13.9	-1.5
PCDR				*e*S	Sb	08 55 29.7	-2.9
PCDR				IAML		08 55 36.0	
	comp=Z,1μm,0.5s						
GCPR	Guaynabo City	1.36	129		Pn	08 55 16.5	+0.4
GCPR	Guaynabo City	1.36	129	⇓*e*P	Pn	08 55 16.5	+0.4
GCPR	Guaynabo City	1.36	129	*e*S	Sb	08 55 31.2	-2.8
SJG	San Juan	1.45	137	Pn	Pn	08 55 17.7	+0.4
SJG				IAML		08 55 56.8	
	comp=Z,180nm,0.5s						
SJG	San Juan	1.45	137	⇑*e*P	Pn	08 55 19.1	+1.8
SJG	San Juan	1.45	137	*i* P	Pn	08 55 18.7	+1.4
SJG				IAML		08 55 42.5	
	comp=Z,102nm,0.8s						
IGPR	InterUniversit	1.58	139		Pn	08 55 19.9	+0.7
IGPR					Sn	08 55 40.5	+0.4
IGPR				IAML		08 55 46.7	
	comp=N,266nm,0.4s						
IGPR				IAML		08 55 49.2	
	comp=E,276nm,0.3s						
IGPR	InterUniversit	1.58	139	⇑*e*P	Pn	08 55 20.2	+1.1
IGPR	InterUniversit	1.58	139	*e*S	Sn	08 55 38.4	-1.7
PDPR	Patillas Dam,	1.60	136		Pn	08 55 20.6	+1.2
PDPR	Patillas Dam,	1.60	136	⇑*e*P	Pn	08 55 20.5	+1.2
PDPR	Patillas Dam,	1.60	136	*e*S	Sn	08 55 38.5	-2.1
HUMP	Col San Antoni	1.64	129	Pn	Pn	08 55 21.1	+1.2
HUMP					Sn	08 55 42.0	+0.5
HUMP				IAML		08 55 55.1	
	comp=E,135nm,0.4s						
HUMP	Col San Antoni	1.64	129	⇑*e*P	Pn	08 55 21.1	+1.2
HUMP	Col San Antoni	1.64	129	*e*S	Sn	08 55 40.3	-1.2
MIDR	Miches	1.77	264	⇑*e*Pg	Pn	08 55 21.0	-0.8
MIDR				⇑*e*Sg	Sn	08 55 44.7	-0.1
MIDR				IAML		08 55 45.2	
	comp=N,201nm,0.3s						
MIDR	Miches	1.77	264	⇑*e*P	Pn	08 55 20.9	-0.8
MIDR	Miches	1.77	264	*e*S	Sn	08 55 44.2	-0.6
SADR	Isla Saona	1.80	237	⇑*e*Pg	Pn	08 55 21.8	-0.3
SADR				⇑*e*Pg	Pb	08 55 23.0	-0.8
SADR				⇑*e*Sg	Sn	08 55 46.2	+0.8
SADR				⇑*e*Sg	Sb	08 55 46.4	-0.3
SADR				IAML		08 55 48.8	
	comp=N,1μm,0.5s						
SMDR	Samana, DR	1.89	274	⇑*e*Pg	Pn	08 55 21.5	-1.9
SMDR				⇑*e*Sg	Sn	08 55 48.4	+0.7
SMDR				IAML		08 56 02.8	
	comp=N,162nm,0.8s						
DR12	Loma Pena Alta	2.11	260	Pn	Pn	08 55 26.5	0.0
HATOM	Hato Mayor del	2.11	260	⇑*e*Pg	Pn	08 55 25.7	-0.7
HATOM				⇑*e*Sg	Sn	08 55 53.5	+0.3
HATOM				IAML		08 55 58.4	
	comp=N,219nm,0.3s						
SDD	Santo Domingo	2.68	255		Pn	08 55 35.8	+1.6
SDD	Santo Domingo	2.68	255	*i* P	Pn	08 55 33.9	-0.3
DR08	Loma La Naviza	2.69	266	⇑*e*Pg	Pn	08 55 36.6	+2.2
DR08				⇑*e*Sg	Sn	08 56 09.8	+2.3
DR08				IAML		08 56 15.1	
	comp=N,3μm,0.2s						
BANI	BANI	3.10	256		Pn	08 55 40.7	+0.5
BANI	BANI	3.10	256	⇑*e*Pg	Pn	08 55 43.4	+3.2
BANI				IAML		08 56 30.7	
	comp=N,231nm,0.2s						
ABDR	Alto Bandera	3.27	264	⇑*e*Pg	Pn	08 55 43.7	+1.0
ABDR				IAML		08 56 37.3	
	comp=N,160nm,0.5s						
SC01	Santiago de lo	3.35	275	Pn	Pn	08 55 43.9	+0.4
SDDR	Presa de Saban	3.88	268		Pn	08 55 51.2	+0.3
SDDR				IAML		08 56 57.8	
	comp=N,109nm,0.7s						
SDDR	Presa de Saban	3.88	268	⇑*e*P	Pn	08 55 51.2	+0.3
SDDR	Presa de Saban	3.88	268	*e*S	Sn	08 56 37.8	+0.8
SDDR	Presa de Saban	3.88	268	*i* P	Pn	08 55 51.3	+0.3
SDDR				IAML		08 56 55.9	
	comp=Z,85nm,0.9s						

*ASRS **01** 08:55:13.0±1.1, 54°.70N×83°.69E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 08:55:13.6±2.3,54°.68N×83°.72E,h0km,mbtmp2.6/2, ML2.4/2,Error ellipse: s-maj=18.1km s-min=10.4km az=167.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.97	138	I	I	09 00 48.5	
	0.5nm,0.9s,baz=319,slow=326,SNR=8.1						
ZALV	Zalesovo Beam	0.97	138	Pg	Pg	08 55 32.0	-0.1
	5.4nm,0.3s,baz=316,slow=16,SNR=23						
ZALV				Lg	Lg	08 55 46.5	
	12nm,0.3s,baz=321,slow=30,SNR=9.4						
ZALV				I	I	09 00 49.1	
	baz=306,slow=34,SNR=4.6						
KURBB	Kurchatov Arra	5.14	220	Pn	Pn	08 56 31.9	+0.2
	0.1nm,0.3s,baz=40,slow=14,SNR=5.6						
KURBB				Sn	Sn	08 57 30.1	-1.6
	0.1nm,0.3s,baz=39,slow=25,SNR=1.3						
KURBB				Lg	Lg	08 57 56.4	
	0.1nm,0.3s,baz=42,slow=30,SNR=4.9						
	0.3nm,0.3s						
MKAR	Makanchi Array	7.94	187	Pn	Pn	08 57 10.1	-0.1
	0.1nm,0.3s,baz=10,slow=14,SNR=3.6						
MKAR				Sn	Sn	08 58 39.6	-1.1
	0.1nm,0.3s,baz=12,slow=26,SNR=1.5						
MKAR				Lg	Lg	08 59 25.8	
	0.1nm,0.3s,baz=6.7,slow=29,SNR=3.5						
	0.1nm,0.3s						

TXNET 01 09:14:00.9,31°.6N±0°.6×104°.2W±0°.7,h5km±2km,ML2.4/11, 5C,Error ellipse: s-maj=1.1km s-min=0.9km az=69.4, final,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.35	28	⇑P	Pg	09 14 07.8	0.0
TPB11				S	Sg	09 14 12.6	+0.1
PECS	Pecos	0.40	129	P	Pg	09 14 08.7	+0.1
PECS				S	Sg	09 14 13.9	+0.1
TPB12	Southwest of T	0.47	150	⇑P	Pg	09 14 10.0	+0.1
TPB12				S	Sg	09 14 15.9	-0.2
TPB07	Mentone	0.48	95	P	Pg	09 14 10.5	+0.4
TPB07				S	Sg	09 14 16.8	+0.4
TPB10	Southeast of T	0.53	130	P	Pg	09 14 11.1	+0.1
TPB10				S	Sg	09 14 18.4	+0.5
GDL2	Guadalupe Moun	0.59	349	P	Pg	09 14 12.8	+0.6
PCOS	Crockett Middl	0.65	109	S	Sg	09 14 22.6	+0.8
CLNB	Carlsbad	0.70	25	P	Pg	09 14 14.1	-0.4
CLNB				S	Sg	09 14 23.7	+0.1
TPB01	Permian Basin	0.78	150	⇑P	Pg	09 14 15.1	-0.7
TPB01				S	Sg	09 14 25.1	-0.8
TPB03	Saragosa	0.81	131	P	Pg	09 14 16.4	-0.1
TPB03				S	Sg	09 14 27.3	+0.2
TPB06	Permian Basin	0.86	88	S	Sg	09 14 28.4	-0.3
CLN7	Carlsbad 7	0.86	24	P	Pg	09 14 17.1	-0.4
TPB04	Verhalen	0.93	118	P	Pg	09 14 18.4	-0.3
TPB04				S	Sg	09 14 30.5	-0.3
TPB16	Coyonosa	0.97	120	S	Sg	09 14 31.9	-0.3
HTMS	Hat Mesa	0.99	31	P	Pg	09 14 19.3	-0.5
HTMS				S	Sg	09 14 32.5	-0.2
MNTX	Cornudas Mount	0.99	275	P	Pb	09 14 20.2	-0.3
MNTX				S	Sg	09 14 33.2	+0.6
NM01	Eunice	1.01	44	P	Pg	09 14 19.7	-0.7
NM01				S	Sg	09 14 32.9	-0.7
TPB05	Hovey Rd	1.04	132	P	Pg	09 14 20.3	-0.6
TPB05				S	Sg	09 14 34.0	-0.5
VHRN	Van Horn	1.06	218	⇑P	Pg	09 14 20.8	-0.4
VHRN				S	Sb	09 14 35.7	-0.3
MNHN	Monahans	1.28	102	P	Pg	09 14 24.6	-0.9
MNHN				S	Sg	09 14 41.9	-0.3
ALPN	Alpine	1.34	158	⇑P	Pn	09 14 24.9	-1.6
ALPN				S	Sg	09 14 42.3	-1.8
TPB08	Permian Basin	1.35	122	P	Pg	09 14 27.4	+0.7
CPRX	Cap Rock	1.44	12	P	Pn	09 14 27.3	-0.5
ODSA	Odessa	1.51	70	P	Pn	09 14 27.9	-0.8
ODSA				S	Sn	09 14 47.4	-1.5
TMB04	Seminole	1.78	55	P	Pn	09 14 32.7	+0.3
TMB04				S	Sb	09 14 56.4	-0.4
TMB02	Rankin	1.92	102	P	Pn	09 14 35.4	+1.0
TMB02				S	Sb	09 15 00.3	-0.5
EPT	El Paso	1.95	275	P	Pn	09 14 35.1	+0.3
EPT	El Paso	1.95	275	S	Sb	09 15 00.9	-0.7
TMB05	Klondike	2.25	63	P	Pn	09 14 40.3	+1.4
TMB05				S	Sb	09 15 09.6	-0.6
TX31	Lajitas Ar. Si	2.33	168	P	Pn	09 14

TXNET 01 09:36:22.5, 31°.1N±0°.7×103°.5W±0°.5, h5km±1km, ML1.9/10, 1C, Error ellipse: s-maj=1.1km s-min=0.8km az=175.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.05**	**208**	⇑P	Pg	09 36 23.9	0.0
TPB03				S	Sg	09 36 25.6	+0.8
TPB04	**Verhalen**	**0.19**	**73**	P	Pg	09 36 26.2	-0.2
TPB04				S	Sg	09 36 30.1	+1.1
TPB16	**Coyonosa**	**0.20**	**91**	P	Pg	09 36 26.6	+0.1
TPB16				S	Sg	09 36 30.5	+1.3
TPB16	**Coyonosa**	**0.20**	**91**	P	Pg	09 36 26.6	+0.1
TPB16				S	Sg	09 36 30.5	+1.3
TPB05	**Hovey Rd**	**0.25**	**147**	P	Pg	09 36 28.4	+1.0
TPB05				S	Sb	09 36 32.9	-1.4
TPB10	**Southeast of T**	**0.28**	**304**	P	Pg	09 36 28.7	+0.7
TPB10				S	Sb	09 36 33.4	-1.7
PCOS	**Crockett Middl**	**0.28**	**356**	S	Sg	09 36 33.3	+1.6
TPB01	**Permian Basin**	**0.31**	**234**	P	Pg	09 36 29.3	+0.6
TPB01				S	Sg	09 36 34.5	+1.7
PECS	**Pecos**	**0.41**	**306**	P	Pg	09 36 30.5	+0.2
PECS				S	Sb	09 36 37.6	-1.2
TPB12	**Southwest of T**	**0.41**	**282**	S	Sb	09 36 37.7	-1.4
TPB07	**Mentone**	**0.47**	**341**	S	Sg	09 36 38.5	+0.6
TPB08	**Permian Basin**	**0.55**	**115**	P	Pb	09 36 34.0	-0.7
TPB08				S	Sb	09 36 42.7	-0.3
TPB06	**Permian Basin**	**0.56**	**24**	S	Sb	09 36 43.0	-0.4
MNHN	**Monahans**	**0.66**	**71**	P	Pg	09 36 35.3	+0.1
MNHN				S	Sg	09 36 44.4	+0.7
ALPN	**Alpine**	**0.77**	**190**	P	Pb	09 36 37.8	-0.6
ALPN				S	Sb	09 36 49.0	-0.2
TPB11	**China Draw**	**0.93**	**330**	S	Sg	09 36 52.8	+0.4
CLNB	**Carlsbad**	**1.18**	**344**	S	Sn	09 37 02.2	-0.2
TMB02	**Rankin**	**1.24**	**86**	P	Pg	09 36 46.4	0.0
TMB02				S	Sg	09 37 02.7	+0.2
ODSA	**Odessa**	**1.27**	**39**	P	Pg	09 36 45.2	-1.7
ODSA				S	Sg	09 37 03.3	-0.1
VHRN	**Van Horn**	**1.33**	**255**	P	Pn	09 36 47.9	-0.1
VHRN				S	Sn	09 37 07.2	+1.0
HTMS	**Hat Mesa**	**1.34**	**355**	S	Sn	09 37 07.3	+0.8
SAND	**Sanderson**	**1.66**	**135**	P	Pg	09 36 54.0	-0.3
SAND				S	Sg	09 37 16.7	+0.8
TMB04	**Seminole**	**1.72**	**29**	P	Pn	09 36 53.8	+0.6
TMB04				S	Sb	09 37 17.1	+0.5
MNTX	**Cornudas Mount**	**1.72**	**290**	P	Pn	09 36 53.8	+0.6
MNTX				S	Sg	09 37 18.2	+0.5
TX31	**Lajitas Ar. Si**	**1.80**	**185**	P	Pb	09 36 55.7	-0.4
TX31				S	Sg	09 37 20.5	+0.2
OZNA	**Ozona**	**2.04**	**95**	P	Pn	09 36 58.7	+1.1
OZNA				S	Sb	09 37 26.7	+0.9
TMB05	**Klondike**	**2.04**	**42**	P	Pn	09 36 58.8	+1.2
TMB05				S	Sb	09 37 25.2	-0.5
SGCY	**Sterling City**	**2.16**	**68**	P	Pb	09 37 01.1	-1.1
SGCY				S	Sb	09 37 29.7	+0.3

*IDC **01** 09:37:14.8±1.5, 18°.47N×145°.41E, h388km±18km, mb2.9/11, mbtmp3.6/13, Error ellipse: s-maj=25.3km s-min=14.1km az=82.0*
*NEIC **01** 09:37:16.7±1.5, 18°.5N±0°.1×145°.3E±0°.1, h402km±8km, mb3.6/14, Error ellipse: s-maj=17.5km s-min=15.8km az=122.0*

ISC 01 09:37:15.9±0.7, 18°.42N±0°.07×145°.3E±0°.2, h400km, n31, σ0°76/33, mb3.5/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.82**	**185**	Pn	**Pn**	**09 38 37.1**	**+0.9**
GUMO				Sn	**S**	**09 39 40.9**	**-0.4**
GUMO	**Guam**	**4.82**	**185**	P	**Pn**	**09 38 36.7**	**+0.6**
	19nm,0.4s,baz=28,slow=17,SNR=2.4						
GUMO				S	**S**	**09 39 40.1**	**-1.2**
	37nm,0.6s,baz=8.4,slow=19,SNR=1.7						
INU	**Inuyama**	**18.39**	**338**	P	**P**	**09 41 03.6**	**-0.9**
JGF	**Kuroka**	**18.50**	**339**	P	**P**	**09 41 06.7**	**+1.0**
MJAR	**Matsushiro Arr**	**19.10**	**342**	P	**P**	**09 41 10.2**	**-1.7**
	1.2nm,0.6s,baz=177,slow=10,SNR=4.8						
JMM	**Marumori**	**19.77**	**349**	P	**P**	**09 41 18.2**	**+0.1**
KSRS	**Korea Array**	**24.32**	**325**	P	**P**	**09 41 59.9**	**+0.5**
	1.9nm,0.6s,baz=146,slow=9.0,SNR=7.9						
	1.9nm,0.6s						
WB0	**Warramunga Arr**	**39.43**	**196**	P	**P**	**09 44 09.7**	**+0.3**
WB0				IAmb	IAmb	09 44 39.1	
	comp=Z,5.8nm,1.3s						
WRA	**Warramunga Arr**	**39.61**	**196**	P	**P**	**09 44 10.8**	**-0.1**
WRA	**Warramunga Arr**	**39.61**	**196**	P	**P**	**09 44 11.1**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=13,slow=8.2,SNR=5.0						
	comp=Z,0.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**41.11**	**209**	P	**P**	**09 44 22.7**	**-0.3**
SONM	**Songino Array**	**43.12**	**322**	P	**P**	**09 44 39.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=120,slow=8.6,SNR=2.0						
	comp=Z,0.3nm,0.3s						
ASAR	**Alice Springs**	**43.28**	**195**	P	**P**	**09 44 40.3**	**0.0**
ASAR	**Alice Springs**	**43.28**	**195**	P	**P**	**09 44 40.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=13,slow=7.1,SNR=5.7						
	comp=Z,0.2nm,0.3s						
K13K	**Kusilvak Mount**	**55.60**	**26**	P	**P**	**09 46 12.3**	**+0.8**
K13K				IAmb	IAmb	09 46 32.6	
	comp=Z,7.8nm,1.4s						
MKAR	**Makanchi Array**	**58.38**	**314**	P	**P**	**09 46 30.9**	**-0.2**
MKAR	**Makanchi Array**	**58.38**	**314**	P	**P**	**09 46 31.8**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=88,slow=7.7,SNR=2.7						
	comp=Z,0.2nm,0.4s						
H17K	**Granite Mounta**	**58.85**	**24**	P	**P**	**09 46 33.9**	**0.0**
H17K				IAmb	IAmb	09 46 49.1	
	comp=Z,2.5nm,1.2s						
F17K	**Baldwin Pennin**	**59.02**	**22**	P	**P**	**09 46 35.5**	**+0.5**
F17K				IAmb	IAmb	09 46 40.3	
	comp=Z,3.0nm,1.4s						
C18K	**Utukok River**	**60.07**	**20**	P	**P**	**09 46 42.0**	**-0.2**
KURBB	**Kurchatov Arra**	**61.27**	**318**	P	**P**	**09 46 50.1**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=98,slow=7.5,SNR=7.7						
	comp=Z,0.4nm,0.4s						
B20K	**Meade River**	**61.96**	**19**	P	**P**	**09 46 55.5**	**+0.9**
B20K				IAmb	IAmb	09 46 56.3	
	comp=Z,1.8nm,0.7s						
B21K	**Ikpikpuk River**	**62.62**	**20**	P	**P**	**09 46 59.7**	**+0.8**
B21K				IAmb	IAmb	09 47 02.5	
	comp=Z,1.8nm,1.1s						
TOLK	**Toolik Lake Re**	**63.99**	**22**	P	**P**	**09 47 09.0**	**+1.1**
TOLK				IAmb	IAmb	09 47 42.9	
	comp=Z,2.2nm,1.2s						
ILAR	**Eielson Array**	**64.07**	**26**	P	**P**	**09 47 07.1**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=244,slow=6.3,SNR=4.6						
	comp=Z,0.3nm,0.5s						
ABKAR	**Akbulak array**	**73.28**	**317**	P	**P**	**09 48 03.7**	**-1.2**
ABKAR	**Akbulak array**	**73.28**	**317**	P	**P**	**09 48 03.8**	**-1.1**
ABKAR				IAmb	IAmb	09 48 46.1	
	comp=Z,1.3nm,1.1s						
YKA	**Yellowknife Ar**	**78.42**	**28**	P	**P**	**09 48 33.2**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=286,slow=5.1,SNR=6.0						
	comp=Z,0.2nm,0.7s						
ARCES	**ARCESS Array B**	**82.64**	**342**	P	**P**	**09 48 55.9**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=359,slow=4.9,SNR=4.2						
	comp=Z,3.3nm,0.9s						
NVAR	**Mina Array Bea**	**83.62**	**52**	P	**P**	**09 49 00.4**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=290,slow=2.0,SNR=2.6						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**88.30**	**45**	P	**P**	**09 49 24.3**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=306,slow=5.7,SNR=2.2						
	comp=Z,0.1nm,0.4s						

IDC 01 09:37:46.5±3.4, 8°.35N×92°.99E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=141.4km s-min=29.9km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**25.88**	**233**	T	T	10 10 09.5	
	baz=59,slow=74						
H08S2	**Diego Garcia H**	**25.88**	**233**	T	T	10 10 06.0	
	baz=59,slow=74						
H08S1	**Diego Garcia H**	**25.89**	**233**	T	T	10 10 12.6	
	baz=59						
MKAR	**Makanchi Array**	**39.39**	**348**	P	P	09 45 17.9	-0.1
	0.5nm,0.7s,baz=170,slow=8.7,SNR=5.4						
	0.5nm,0.7s						
SONM	**Songino Array**	**40.97**	**14**	P	P	09 45 30.8	-0.4
	0.2nm,0.4s,baz=187,slow=7.1,SNR=1.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**43.82**	**347**	P	P	09 45 53.9	-0.3
	0.6nm,0.7s,baz=166,slow=6.7,SNR=6.4						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**45.95**	**353**	P	P	09 46 11.5	+0.3
	0.9nm,0.7s,baz=170,slow=8.8,SNR=4.2						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**51.09**	**129**	P	P	09 46 51.2	-0.1
	0.2nm,0.8s,baz=297,slow=7.3,SNR=3.3						
	0.2nm,0.8s						
H04N2	**CROZET ISLANDS**	**65.55**	**210**	T	T	10 58 49.9	
	baz=47						
H04N1	**CROZET ISLANDS**	**65.56**	**210**	T	T	10 59 17.2	
	baz=47						
H04N3	**CROZET ISLANDS**	**65.57**	**210**	T	T	10 59 26.1	
	baz=47						

*GUC **01** 09:43:16.7±1.0, 25°.38S×70°.85W, h55km±4km, ML3.6*
*IDC **01** 09:43:21.7±4.6, 25°.31S×70°.73W, h77km±39km, mb3.5/2, mbtmp3.6/5, ML3.7/3, MS3.4/1, Error ellipse: s-maj=87.0km s-min=24.7km az=98.0*

ISC 01 09:43:15.1±2.3, 25°.38S±0°.04×70°.98W±0°.10, h24km±16km, n23, σ1°47/24, 1C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.84**	**156**	⇓*i*P	**Pn**	**09 43 30.7**	**-0.7**
AC01				*i*S	**Sb**	**09 43 41.4**	**-0.6**
AC01				IAML		09 43 42.9	
	comp=E,3μm,0.2s						
PB14	**IPOC Station P**	**0.91**	**35**	⇓*i*P	**Pn**	**09 43 31.4**	**-1.3**
PB14				*i*S	**Sb**	**09 43 43.1**	**-1.2**
GO02	**Mina Guanaco**	**1.27**	**81**	⇓*i*P	**Pn**	**09 43 36.8**	**-0.9**
GO02				*i*S	**Sn**	**09 43 51.6**	**-2.6**
AC06	**Mina Casimiro**	**2.05**	**164**	*e*P	**Pn**	**09 43 48.4**	**+0.3**
AC06				*i*S	**Sn**	**09 44 11.8**	**-1.1**
AC06				IAML		09 44 19.2	
	comp=E,435nm,0.4s						
AC02	**Maricunga**	**2.21**	**131**	⇓*e*P	**Pn**	**09 43 51.5**	**+0.8**
AC02				*e*P		09 44 17.3	
GO03	**Copiapo**	**2.30**	**163**	*e*P	**Pn**	**09 43 52.0**	**+0.4**
GO03				*i*S	**Sn**	**09 44 18.1**	**-1.2**
GO03				IAML		09 44 20.5	
	comp=E,418nm,0.6s						
PB05	**IPOC Station P**	**2.61**	**16**	⇑*e*P	**Pn**	**09 43 54.7**	**-1.3**
PB05				*e*S	**Sn**	**09 44 24.8**	**-2.1**
AC04	**Llanos de Chal**	**2.82**	**182**	*e*P	**Pn**	**09 43 57.0**	**-1.6**
PB06	**IPOC Station P**	**2.96**	**26**	*e*P	**Pn**	**09 44 00.2**	**-0.5**
PB06				IAML		09 44 51.1	
	comp=E,207nm,0.2s						
LCO	**Las Campanas**	**3.63**	**176**	*e*P	Pn	09 43 59.3	-11
PB09	**IPOC Station P**	**3.91**	**24**	*e*P	**Pn**	**09 44 13.9**	**+0.1**
LPAZ	**La Paz**	**9.43**	**17**	P	**Pn**	**09 45 33.2**	**+3.2**
	comp=E,0.2nm,0.3s,baz=261,slow=7.1,SNR=2.9						
	comp=E,0.6nm,0.4s						
H03N1	**Juan Fernandez**	**10.60**	**219**	T	T	09 56 58.0	
	baz=45,slow=72,SNR=47						
H03N2	**Juan Fernandez**	**10.61**	**219**	T	T	09 57 01.6	
	baz=45,slow=72,SNR=54						
H03N3	**Juan Fernandez**	**10.61**	**219**	T	T	09 57 04.9	
	baz=45,slow=72,SNR=61						
SIV	**San Ignacio**	**13.15**	**47**	P	**Pn**	**09 46 23.0**	**+2.5**
	comp=E,0.1nm,0.3s,baz=255,slow=8.1,SNR=13						
	comp=E,1.1nm,0.4s						
PLCA	**Paso Flores**	**15.32**	**179**	P	**P**	**09 46 54.6**	**+0.2**
	comp=E,0.1nm,0.3s,baz=1.9,slow=11,SNR=6.8						
	comp=E,1.1nm,0.8s						
RCBR	**Riachuelo**	**38.78**	**66**	LR	LR	10 06 21.4	
	comp=E,58nm,20.9s,baz=262,slow=36						
QSPA	**South Pole Qui**	**64.83**	**180**	P	**P**	**09 53 52.6**	**+0.8**
	comp=E,0.6nm,0.5s,baz=223,slow=4.8,SNR=8.4						
	comp=E,0.6nm,0.5s						
YKA	**Yellowknife Ar**	**94.22**	**341**	P	**P**	**09 56 31.8**	**+0.3**
	comp=E,0.2nm,0.7s,baz=145,slow=4.6,SNR=4.3						
	comp=E,0.2nm,0.7s						
ASAR	**Alice Springs**	**125.61**	**208**	PKP	**PKPdf**	**10 02 15.0**	**-0.1**
	comp=E,0.4nm,0.4s,baz=131,slow=1.7,SNR=10						
KURBB	**Kurchatov Arra**	**145.60**	**35**	PKPbc	**PKPdf**	**10 02 50.4**	**-0.6**
	comp=E,0.6nm,0.6s,baz=320,slow=4.1,SNR=2.3						
ZALV	**Zalesovo Beam**	**146.26**	**26**	PKPbc	**PKPdf**	**10 02 51.0**	**-1.1**
	comp=E,2.5nm,0.7s,baz=289,slow=4.5,SNR=6.4						

*IDC **01** 09:50:08.2±3.5, 54°.23N×87°.35E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=31.6km s-min=19.7km az=53.0*

ASRS 01 09:50:08.0±1.7, 54°.18N×87°.28E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**262**	I	I	10 00 10.0	
	baz=81,slow=326,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.47**	**262**	Pg	Pn	09 50 34.9	-0.9
	1.9nm,0.3s,baz=80,slow=16,SNR=16						
ZALV				Lg	Lg	09 50 57.0	
	2.0nm,0.3s,baz=77,slow=27,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.43**	**240**	Pn	Pn	09 51 45.1	+1.2
	0.1nm,0.3s,baz=54,slow=14,SNR=5.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.05**	**205**	Pn	Pn	09 52 09.0	+2.9
	0.1nm,0.3s,baz=24,slow=12,SNR=2.1						
	0.1nm,0.2s						

*IDC **01** 09:50:32.3±16.0, 33°.62N×45°.56E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=345.2km s-min=35.4km az=13.0*
*ISN **01** 09:50:33.6±1.5, 33°.77N×45°.68E, h2km±7km, ML3.1*
*TEH **01** 09:50:34.7, 33°.72N×45°.73E, h12km±86km*

ISC 01 09:50:35.5±0.7, 33°.75N±0°.04×45°.72E±0°.04, h13km, n22, σ1°46/26, mb3.8/3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.40**	**23**	Pg	**Pg**	**09 50 43.8**	**+0.2**
IBDR	**Badra**	**0.66**	**164**	*e*Pg	**Pb**	**09 50 48.0**	**-0.9**
IBDR				*e*Sg	**Sb**	**09 50 58.0**	**+0.1**
IBDR				AML	AML	09 51 02.1	
	comp=N,812nm,0.6s						
IBDR				AML	AML	09 51 07.6	
	comp=E,915nm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.77**	**352**	Pg	**Pn**	**09 50 51.1**	**-1.0**
IGHG	**Ghaleghazi**	**0.92**	**50**	Pg	**Pn**	**09 50 53.9**	**-0.4**
IDHR	**Dehrash**	**1.10**	**30**	Pg	**Pg**	**09 50 57.3**	**+0.5**
BHD	**Baghdad**	**1.21**	**247**	*e*Pn	**Pg**	**09 51 00.0**	**+1.1**
BHD				*e*Sn	**Sn**	**09 51 17.0**	**+2.5**
KCHF	**Cheshme Sefid,**	**1.22**	**64**	Pg	**Pg**	**09 50 59.1**	**0.0**
SNQR	**Sonqor, Kerman**	**1.93**	**54**	Pn	**Pb**	**09 51 10.6**	**-0.2**
IKRK	**Kirkuk**	**2.00**	**326**	*e*Pn	**Pn**	**09 51 09.0**	**-0.1**
IKRK				*e*Sn	**Sb**	**09 51 37.0**	**+0.3**
IKRK				AML	AML	09 51 50.8	
	comp=N,210nm,0.5s						
RAFI	**Al-Rafai**	**2.04**	**170**	*e*Pn	**Pb**	**09 51 11.0**	**-1.5**
RAFI				*e*Sn	**Sg**	**09 51 39.0**	**-2.3**
BDRS	**Dareh Seyedi**	**2.64**	**85**	Pn	**Pb**	**09 51 20.6**	**-2.3**
HGHA	**Hamedan- Ghaye**	**3.12**	**55**	Pn	**Pn**	**09 51 26.7**	**+2.0**
QABG	**Abgarm-Qazvin**	**3.74**	**57**	Pn	**Pn**	**09 51 35.4**	**+2.2**
ISHB	**Shabestar**	**4.53**	**359**	Pn	**Pn**	**09 51 45.6**	**+1.5**
IQOM	**Qom**	**4.56**	**75**	Pn	**Pn**	**09 51 46.4**	**+1.8**
QAMS	**Qamsar**	**4.73**	**89**	Pn	**Pn**	**09 51 48.7**	**+1.9**
IVRN	**Varamin**	**5.12**	**74**	Pn	**Pn**	**09 51 53.6**	**+1.5**
KRSH	**Karshahi**	**5.34**	**86**	Pn	**Pn**	**09 51 57.2**	**+2.0**
AKASG	**Malin Array Be**	**20.81**	**329**	P	**P**	**09 55 15.7**	**-0.8**
	comp=N,0.9nm,0.4s,baz=142,slow=10.0,SNR=5.0						
	comp=N,0.9nm,0.4s						
MKAR	**Makanchi Array**	**30.51**	**54**	P	**P**	**09 56 49.1**	**+0.7**
	comp=N,0.5nm,0.6s,baz=246,slow=9.1,SNR=4.3						
	comp=N,0.5nm,0.6s						
HFS	**Hagfors**	**33.67**	**331**	P	**P**	**09 57 15.0**	**-0.9**
	comp=N,1.0nm,0.4s,baz=133,slow=8.7,SNR=7.8						
	comp=N,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**34.09**	**42**	P	**P**	**09 57 19.5**	**-0.1**
	comp=N,0.4nm,0.3s,baz=260,slow=8.1,SNR=3.0						
	comp=N,0.4nm,0.3s						

TXNET 01 09:51:21.4, 31°.6N±0°.6×104°.2W±0°.9, h9km±2km, ML2.3/9, 1C, Error ellipse: s-maj=1.4km s-min=0.9km az=76.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**27**	⇑P	Pg	09 51 28.3	0.0
TPB11				S	Sg	09 51 33.2	+0.1
PECS	**Pecos**	**0.40**	**130**	P	Pg	09 51 29.3	+0.1
PECS				S	Sg	09 51 34.5	+0.1
TPB12	**Southwest of T**	**0.47**	**151**	P	Pg	09 51 30.6	0.0
TPB12				S	Sg	09 51 36.5	-0.2
TPB07	**Mentone**	**0.47**	**95**	P	Pg	09 51 31.2	+0.5
TPB07				S	Sg	09 51 37.3	+0.3
TPB10	**Southeast of T**	**0.53**	**130**	P	Pg	09 51 31.8	+0.1
TPB10				S	Sg	09 51 36.5	-2.1
GDL2	**Guadalupe Moun**	**0.59**	**348**	P	Pb	09 51 33.4	-0.5
CLNB	**Carlsbad**	**0.70**	**25**	P	Pg	09 51 34.9	-0.1
CLNB				S	Sg	09 51 44.5	+0.3
TPB01	**Permian Basin**	**0.78**	**151**	P	Pg	09 51 36.2	-0.3
TPB01				S	Sg	09 51 47.1	+0.5
CBET	**Carlsbad E Tow**	**0.82**	**14**	P	Pg	09 51 36.9	-0.3
HTMS	**Hat Mesa**	**0.98**	**30**	P	Pg	09 51 39.8	-0.5
HTMS				S	Sg	09 51 53.1	-0.1
MNTX	**Cornudas Mount**	**0.99**	**275**	P	Pg	09 51 40.5	0.0
MNTX				S	Sb	09 51 53.8	-0.1
NM01	**Eunice**	**1.01**	**44**	P	Pg	09 51 40.3	-0.6
NM01				S	Sg	09 51 53.6	-0.5
TPB05	**Hovey Rd**	**1.04**	**132**	S	Sg	09 51 54.6	-0.4
VHRN	**Van Horn**	**1.06**	**218**	P	Pg	09 51 41.3	-0.5
VHRN				S	Sn	09 51 57.3	-0.2
MNHN	**Monahans**	**1.28**	**102**	P	Pn	09 51 45.2	-0.3
MNHN				S	Sn	09 52 02.9	+0.1
ALPN	**Alpine**	**1.34**	**158**	P	Pn	09 51 45.5	-1.0
ALPN				S	Sb	09 52 02.8	-1.4
CPRX	**Cap Rock**	**1.43**	**12**	P	Pn	09 51 47.8	+0.1
TX31	**Lajitas Ar. Si**	**2.33**	**168**	P	Pb	09 52 03.3	-0.4

TXNET 01 09:51:25.3, 31°.1N±0°.9×103°.5W±0°.7, h5km±1km, ML2.0/6, Error ellipse: s-maj=1.4km s-min=1.1km az=162.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.06**	**219**	P	Pg	09 51 27.0	+0.2
TPB03				S	Sg	09 51 28.4	+0.7
TPB04	**Verhalen**	**0.18**	**71**	P	Pg	09 51 29.1	+0.1
TPB04				S	Sg	09 51 33.0	+1.6
TPB16	**Coyonosa**	**0.19**	**91**	P	Pg	09 51 29.5	+0.5
TPB16				S	Sg	09 51 33.3	+1.7
TPB16	**Coyonosa**	**0.19**	**91**	P	Pg	09 51 29.5	+0.5
TPB16				S	Sg	09 51 33.3	+1.7
TPB05	**Hovey Rd**	**0.24**	**149**	P	Pg	09 51 31.4	+1.4
TPB05				S	Sg	09 51 36.0	+2.7
PCOS	**Crockett Middl**	**0.28**	**353**	P	Pg	09 51 31.2	+0.4
PCOS				S	Sg	09 51 36.1	+1.5
TPB01	**Permian Basin**	**0.32**	**235**	P	Pg	09 51 32.3	+0.7
TPB01				S	Sb	09 51 38.1	-1.1
TPB08	**Permian Basin**	**0.54**	**116**	P	Pb	09 51 38.5	+1.2
MNHN	**Monahans**	**0.65**	**71**	P	Pb	09 51 39.8	+0.6
MNHN				S	Sn	09 51 50.7	-1.2
ALPN	**Alpine**	**0.77**	**191**	P	Pg	09 51 40.1	+0.1
ALPN				S	Sb	09 51 51.5	-0.5
ODSA	**Odessa**	**1.26**	**38**	P	Pg	09 51 48.6	-0.9
ODSA				S	Sn	09 52 08.1	+0.8
TMB04	**Seminole**	**1.71**	**29**	P	Pn	09 51 53.4	-2.5
TMB04				S	Sn	09 52 17.3	-1.0
TX31	**Lajitas Ar. Si**	**1.80**	**185**	P	Pb	09 51 58.7	-0.1
OZNA	**Ozona**	**2.02**	**95**	P	Pb	09 52 01.7	-1.0
OZNA				S	Sg	09 52 29.4	-0.9
TMB05	**Klondike**	**2.03**	**42**	P	Pn	09 52 01.0	+0.7
TMB05				S	Sb	09 52 29.1	+0.7
POST	**Post**	**2.56**	**40**	P	Pn	09 52 07.9	+0.4

*IDC **01** 09:53:04.1±3.7, 53°.81N×88°.24E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=34.4km s-min=20.4km az=42.0*

ASRS 01 09:53:02.0±0.6, 53°.87N×88°.27E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.04**	**274**	I	I	10 06 30.0	
	baz=92,slow=334,SNR=8.9						
ZALV	**Zalesovo Beam**	**2.04**	**274**	Pg	Pg	09 53 40.6	-0.5
	0.7nm,0.3s,baz=89,slow=11,SNR=12						
ZALV				Lg	Lg	09 54 08.3	
	2.1nm,0.3s,baz=95,slow=25,SNR=11						
KURBB	**Kurchatov Arra**	**6.81**	**245**	Pn	Pn	09 54 45.5	+2.5
	0.1nm,0.3s,baz=60,slow=14,SNR=5.9						
KURBB				Lg	Lg	09 56 39.1	
	baz=57,slow=30,SNR=4.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.05**	**211**	Pn	Pn	09 55 02.0	+1.9
	0.2nm,0.3s,baz=30,slow=12,SNR=1.2						
	0.1nm,0.3s						

*SNET **01** 09:53:49.4±1.2, 12°.09N×89°.39W, h32km±69km, ML3.8*
*IDC **01** 09:53:53.6±1.9, 13°.23N×88°.56W, h0km, mb3.5/4, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=71.9km s-min=22.9km az=43.0*
*CATAC **01** 09:53:54.3±0.8, 13°N±5°×8°9W±°, h5km, M3.6/13, MLv3.6/13, Error ellipse: s-maj=11.0km s-min=7.1km az=18.8, confirmed

ULM Lac du Bonnet 38.10 353 P P 10 01 08.2 -2.5
comp=Z,1.0nm,0.6s,baz=167,slow=11,SNR=3.8
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 53.18 346 P P **10 03 08.2 -1.6**
comp=Z,0.7nm,0.7s,baz=151,slow=7.0,SNR=11
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 137.59 254 PKP **PKiKP 10 13 23.3 +4.3**
comp=Z,0.4nm,0.9s,baz=88,slow=2.1,SNR=2.8

---

*NEIC **01** 09:56:02.0±1.5, 9.77N±0.07×126.31E±0.08, h84km±8km, mb4.5/39, Error ellipse: s-maj=13.1km s-min=7.8km az=121.0*
*IDC **01** 09:56:02.0±1.6, 9.76N×126.36E, h94km±16km, mb4.0/28, mbtmp4.3/30, MS3.5/12, Error ellipse: s-maj=17.4km s-min=9.2km az=78.0*
ISC 01 09:56:02.9±0.4, 9.75N±0.05×126.32E±0.09, h100km, n91, σ1§03/74, mb4.4/47, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.76**	**195**		**Pn**	**09 56 43.9**	**-1.6**
DAV	**Davao City (W)**	**2.76**	**195**	P	**Pn**	**09 56 44.5**	**-1.1**
	108nm,0.4s,baz=350,slow=2.3,SNR=9.1						
DAV				S	**Sn**	**09 57 19.1**	**+0.8**
	409nm,0.7s,baz=61,slow=19,SNR=4.2						
DAV				LR	LR	09 57 45.9	
	comp=Z,979nm,20.8s,baz=81,slow=37						
DAV	**Davao City (W)**	**2.76**	**195**	P	**Pn**	**09 56 45.0**	**-0.5**
TGY	**Tagaytay City**	**6.81**	**310**	P	**Pn**	**09 57 39.6**	**-0.7**
	84nm,0.3s,baz=106,slow=18,SNR=3.8						
TGY				LR	LR	10 00 28.8	
	comp=Z,771nm,18.6s,baz=116,slow=39						
MYLDM	**Lahad Datu**	**8.98**	**240**		**Pn**	**09 58 06.2**	**-3.6**
LUWI	**Luwuk**	**11.29**	**198**		**Pn**	**09 58 40.5**	**-0.7**
YULB	**Yu-li**	**14.39**	**341**	Pn	**Pn**	**09 59 19.4**	**-2.4**
TPUB	**Ta-pu**	**14.53**	**339**	Pn	**Pn**	**09 59 24.2**	**+0.6**
SBUM	**Sibu**	**15.78**	**244**	P	**Pn**	**09 59 39.7**	**+0.3**
KAPI	**Kappang**	**16.06**	**204**	LR	LR	10 06 30.2	
	comp=Z,188nm,19.9s,baz=0.5,slow=39						
GUMO	**Guam**	**18.56**	**76**	LR	LR	10 05 31.7	
	comp=Z,156nm,20.5s,baz=230,slow=31						
JCJ	**Chichijima**	**22.85**	**39**	LR	LR	10 07 55.3	
	comp=Z,106nm,21.9s,baz=185,slow=31						
MTN	**Manton Dam**	**22.95**	**168**	P	**P**	**10 00 59.3**	**+0.4**
MTN				IAmb	IAmb	10 01 38.2	
	comp=Z,22nm,0.9s						
JNU	**Nakatsue**	**23.63**	**10**	LR	LR	10 09 15.2	
	comp=Z,92nm,21.7s,baz=168,slow=34						
MYKOM	**Kota Tinggi**	**23.69**	**252**		**P**	**10 01 07.2**	**+1.4**
MYKOM				IAmb	IAmb	10 01 14.5	
	comp=Z,22nm,1.0s						
KNRA	**Kununurra**	**25.38**	**174**	P	**P**	**10 01 21.4**	**+0.4**
KNRA				IAmb	IAmb	10 01 42.5	
	comp=Z,18nm,0.8s						
JHJ	**Hachijo jima 2**	**26.36**	**26**	LR	LR	10 12 07.3	
	comp=Z,127nm,18.8s,baz=122,slow=37						
KSRS	**Korea Array**	**27.62**	**3**	P	**P**	**10 01 40.4**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=174,slow=10,SNR=6.1						
KSRS				LR	LR	10 15 14.0	
	comp=Z,102nm,18.1s,baz=185,slow=42						
	comp=Z,1.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.68**	**181**	P	**P**	**10 01 41.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**27.89**	**291**	P	**P**	**10 01 44.0**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=103,slow=7.8,SNR=11						
	comp=Z,1.9nm,0.3s						
PSI	**Prapat**	**28.07**	**258**	P	**P**	**10 01 45.6**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=63,slow=14,SNR=3.9						
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**28.77**	**20**	P	**P**	**10 01 49.1**	**-2.1**
	comp=Z,1.8nm,0.8s,baz=203,slow=8.8,SNR=4.3						
MJAR				LR	LR	10 13 25.7	
	comp=Z,112nm,18.1s,baz=192,slow=36						
	comp=Z,1.8nm,0.8s						
COEN	**Coen**	**28.89**	**144**	P	**P**	**10 01 51.8**	**-0.7**
COEN				IAmb	IAmb	10 02 27.1	
	comp=Z,19nm,1.4s						
WB0	**Warramunga Arr**	**30.39**	**165**	P	**P**	**10 02 03.6**	**-2.2**
WRAB	**Tennant Creek**	**30.54**	**165**	P	**P**	**10 02 04.6**	**-2.4**
WRA	**Warramunga Arr**	**30.55**	**165**	P	**P**	**10 02 06.8**	**-0.3**
WRA	**Warramunga Arr**	**30.55**	**165**	P	**P**	**10 02 04.9**	**-2.2**
	comp=Z,1.2nm,0.8s,baz=343,slow=9.7,SNR=9.5						
WRA				PcP	**PcP**	**10 05 04.4**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=341,slow=3.0,SNR=2.1						
	comp=Z,1.2nm,0.8s						
WR8	**Warramunga Arr**	**30.60**	**165**	P	**P**	**10 02 08.0**	**+0.4**
MBWA	**Marble Bar**	**31.39**	**192**	P	**P**	**10 02 14.2**	**-0.3**
MBWA				IAmb	IAmb	10 02 27.9	
	comp=Z,26nm,1.5s						
PSA00	**Pilbara Seismi**	**31.77**	**191**	P	**P**	**10 02 17.5**	**-0.4**
PSA00				IAmb	IAmb	10 02 48.5	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**34.03**	**168**	P	**P**	**10 02 38.9**	**+1.3**
ASAR	**Alice Springs**	**34.03**	**168**	P	**P**	**10 02 39.4**	**+1.8**
ASAR	**Alice Springs**	**34.03**	**168**	P	**P**	**10 02 35.9**	**-1.7**
	comp=Z,0.7nm,0.4s,baz=350,slow=7.4,SNR=19						
ASAR				PcP	**PcP**	**10 05 13.8**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=356,slow=2.5,SNR=5.0						
	comp=Z,0.7nm,0.4s						
USRK	**Ussuriysk Ar.**	**34.67**	**7**	P	**P**	**10 02 41.5**	**-1.3**
	comp=Z,2.6nm,0.9s,baz=184,slow=5.8,SNR=3.0						
USRK				LR	LR	10 14 54.7	
	comp=Z,74nm,21.8s,baz=195,slow=33						
	comp=Z,2.6nm,0.9s						
ASAJ	**Asahikawa**	**37.03**	**20**	P	**P**	**10 03 02.9**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=223,slow=15,SNR=5.0						
ASAJ				LR	LR	10 19 01.9	
	comp=Z,97nm,18.1s,baz=212,slow=37						
	comp=Z,3.0nm,0.6s						
JKA	**Kamikawa-asahi**	**37.04**	**20**	P	**P**	**10 03 03.2**	**+0.2**
HNR	**Honiara**	**38.52**	**119**	LR	LR	10 19 03.1	
	comp=Z,50nm,19.9s,baz=308,slow=36						
KLR	**Kul'dur**	**39.61**	**6**	P	**P**	**10 03 24.4**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=209,slow=4.3,SNR=15						
	comp=Z,3.3nm,0.7s						
MORW	**Morawa**	**39.85**	**194**	P	**P**	**10 03 27.1**	**+0.4**
H11S3	**WAKE ISLAND Hy**	**40.02**	**73**	T	T	10 46 22.2	
	baz=262,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**40.04**	**73**	T	T	10 46 37.2	
	baz=262,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**40.04**	**73**	T	T	10 46 21.2	
	baz=262,slow=75,SNR=19						
FORT	**Forrest**	**40.33**	**178**	P	**P**	**10 03 30.7**	**0.0**
H11N1	**WAKE ISLAND Hy**	**40.38**	**71**	T	T	10 46 58.1	
	baz=265,slow=74,SNR=61						
H11N2	**WAKE ISLAND Hy**	**40.38**	**71**	T	T	10 47 02.6	
	baz=265,slow=74,SNR=40						
H11N3	**WAKE ISLAND Hy**	**40.39**	**71**	T	T	10 46 59.5	
	baz=265,slow=74,SNR=50						
ULN	**Ulaanbaatar**	**41.32**	**340**	P	**P**	**10 03 39.3**	**+0.5**
ULN				IAmb	IAmb	10 03 43.4	
	comp=Z,4.8nm,0.8s						
SONM	**Songino Array**	**41.52**	**340**	P	**P**	**10 03 41.0**	**+0.6**
SONM	**Songino Array**	**41.52**	**340**	P	**P**	**10 03 40.6**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=156,slow=10,SNR=8.4						
	comp=Z,2.1nm,0.5s						
NWAO	**Narrogin (SRO)**	**43.32**	**191**	P	**P**	**10 03 55.9**	**+1.0**
BBOO	**Buckleboo**	**43.33**	**168**	P	**P**	**10 03 55.0**	**-0.1**
BBOO				IAmb	IAmb	10 04 05.7	
	comp=Z,15nm,1.1s						
STKA	**Stephens Creek**	**43.90**	**161**	P	**P**	**10 03 59.2**	**-0.5**
STKA	**Stephens Creek**	**43.90**	**161**	P	**P**	**10 03 58.8**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=323,slow=9.4,SNR=6.0						
	comp=Z,1.2nm,0.4s						
PEA0B	**Petropavlovsk-**	**50.09**	**24**	P	**P**	**10 04 48.4**	**+0.8**
PETK	**Petropavlovsk-**	**50.09**	**24**	P	**P**	**10 04 47.3**	**-0.2**
PETK	**Petropavlovsk-**	**50.09**	**24**	P	**P**	**10 04 48.0**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=199,slow=3.7,SNR=11						
	comp=Z,2.8nm,0.6s						
DZM	**Mont Dzumac**	**50.49**	**129**	P	**P**	**10 04 51.0**	**-0.1**
DZM				IAmb	IAmb	10 05 07.2	
	comp=Z,6.9nm,1.0s						
DZM	**Mont Dzumac**	**50.49**	**129**	P	**P**	**10 04 51.6**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=332,slow=5.4,SNR=6.7						
	comp=Z,2.5nm,0.6s						
YAK	**Yakutsk**	**52.24**	**2**	P	**P**	**10 05 03.3**	**-0.1**
	comp=Z,13nm,0.3s,baz=150,slow=11,SNR=4.6						
	comp=Z,13nm,0.3s						
MK31	**Makanchi Array**	**52.47**	**323**	P	**P**	**10 05 05.4**	**0.0**
MK31				IAmb	IAmb	10 05 11.8	
	comp=Z,2.8nm,0.8s						
MKAR	**Makanchi Array**	**52.47**	**323**	P	**P**	**10 05 05.1**	**-0.4**
MKAR	**Makanchi Array**	**52.47**	**323**	P	**P**	**10 05 04.9**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=122,slow=8.2,SNR=11						
	comp=Z,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**55.10**	**331**	P	**P**	**10 05 23.7**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=96,slow=9.1,SNR=5.6						
ZALV				LR	LR	10 31 19.4	
	comp=Z,892nm,18.1s,baz=248,slow=38						
	comp=Z,1.5nm,0.7s						
KURK	**Kurchatov**	**56.52**	**326**	P	**P**	**10 05 34.7**	**0.0**
KURK				IAmb	IAmb	10 05 46.2	
	comp=Z,5.7nm,0.8s						
KURBB	**Kurchatov Arra**	**56.52**	**326**	P	**P**	**10 05 34.0**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=126,slow=6.8,SNR=13						
	comp=Z,2.1nm,0.7s						
KKAR	**Karatay Array**	**58.65**	**315**	P	**P**	**10 05 49.6**	**-0.2**
TIXI	**Tiksi**	**61.87**	**1**	P	**P**	**10 06 10.4**	**-0.7**
BVAR	**Borovoye Array**	**62.12**	**326**	P	**P**	**10 06 13.1**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=122,slow=7.2,SNR=6.2						
	comp=Z,2.0nm,0.8s						
NRIK	**Noril'sk**	**64.52**	**346**	P	**P**	**10 06 28.9**	**+0.1**
	comp=Z,4.9nm,0.9s,baz=134,slow=6.0,SNR=6.3						
	comp=Z,4.9nm,0.9s						
ABKAR	**Akbulak array**	**67.30**	**319**	P	**P**	**10 06 46.9**	**-0.1**
F15K	**North Star Dit**	**72.59**	**24**	P	**P**	**10 07 20.5**	**+1.5**
F15K				IAmb	IAmb	10 07 30.4	
	comp=Z,10nm,1.5s						
K15K	**Wolf Creek Mou**	**73.14**	**28**	P	**P**	**10 07 23.8**	**+1.4**
K15K				IAmb	IAmb	10 07 45.8	
	comp=Z,10nm,1.2s						
L16K	**Owhat River**	**73.99**	**28**	P	**P**	**10 07 28.0**	**+0.7**
L16K				IAmb	IAmb	10 07 41.6	
	comp=Z,8.0nm,1.1s						
H17K	**Granite Mounta**	**74.36**	**25**	IAmb	IAmb	10 07 33.3	
	comp=Z,7.2nm,1.3s						
J17K	**VABM Dome**	**74.45**	**27**	IAmb	IAmb	10 07 38.7	
	comp=Z,6.2nm,1.1s						
K17K	**Iditarod**	**74.69**	**28**	IAmb	IAmb	10 07 36.4	
	comp=Z,8.1nm,1.1s						
L18K	**Granite Mounta**	**75.37**	**28**	IAmb	IAmb	10 07 50.5	
	comp=Z,14nm,1.4s						
O18K	**Koktuh Hills**	**75.84**	**31**	P	**P**	**10 07 39.7**	**+1.7**
H19K	**Roundabout Mou**	**75.89**	**25**	IAmb	IAmb	10 07 42.1	
	comp=Z,16nm,1.5s						
CAST	**Castle Rocks**	**77.58**	**27**	IAmb	IAmb	10 08 02.5	
	comp=Z,4.8nm,1.0s						
SUA	**Susitna One**	**78.12**	**29**	IAmb	IAmb	10 07 53.0	
	comp=Z,5.4nm,0.8s						
ILAR	**Eielson Array**	**79.88**	**26**	P	**P**	**10 07 59.6**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=236,slow=5.1,SNR=18						
	comp=Z,1.2nm,0.8s						
SPITS	**Spitsbergen Ar**	**84.53**	**349**	P	**P**	**10 08 24.8**	**+0.4**
	comp=Z,7.6nm,0.9s,baz=90,slow=7.5,SNR=7.4						
	comp=Z,7.6nm,0.9s						
ARCES	**ARCESS Array B**	**84.69**	**340**	P	**P**	**10 08 25.8**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=76,slow=5.7,SNR=7.7						
	comp=Z,1.5nm,0.5s						
FINES	**FINESS Array B**	**86.36**	**332**	P	**P**	**10 08 33.4**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=83,slow=6.0,SNR=14						
	comp=Z,2.6nm,0.5s						
AKASG	**Malin Array Be**	**86.99**	**321**	P	**P**	**10 08 37.3**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=66,slow=5.2,SNR=3.1						
	comp=Z,0.8nm,0.5s						
VNDA	**Vanda**	**89.41**	**173**	P	**P**	**10 08 48.3**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=303,slow=4.9,SNR=5.1						
	comp=Z,0.8nm,0.7s						
HFS	**Hagfors**	**92.53**	**332**	P	**P**	**10 09 02.2**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=77,slow=9.4,SNR=5.8						
	comp=Z,1.7nm,0.6s						
YKA	**Yellowknife Ar**	**94.21**	**24**	P	**P**	**10 09 11.5**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=299,slow=4.8,SNR=42						
	comp=Z,2.1nm,0.7s						
GERES	**GERESS Array B**	**97.13**	**322**	P	Pdif	10 09 24.0	-0.3
	comp=Z,0.2nm,0.3s,baz=66,slow=3.3,SNR=2.0						
	comp=Z,0.2nm,0.3s						
PLCA	**Paso Flores**	**145.72**	**157**	PKPbc	**PKPbc**	**10 15 29.9**	**-0.7**
	comp=Z,8.1nm,1.2s,baz=247,slow=1.5,SNR=12						

---

*IDC **01** 10:02:08.6±1.1, 7.22N×94.08E, h0km, mb3.9/8, mbtmp3.9/11, ML3.8/3, Error ellipse: s-maj=32.9km s-min=17.2km az=53.0*
*NEIC **01** 10:02:11.3±0.7, 7.3N±0.1×94.3E±0.1, h10km±1km, mb4.2/6, Error ellipse: s-maj=24.0km s-min=18.6km az=228.0*
*NDI **01** 10:02:17.9±1.7, 7.33N×94.29E, h10km, ML3.6, MW3.9, mb4.2(NEIC)*
ISC 01 10:02:12.0±0.7, 7.24N±0.06×94.23E±0.06, h21km, n31, σ1§56/27, mb4.2/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.38**	**232**	*e*P	**Pn**	**10 02 23.9**	**+1.7**
CMBY				*e*S	**Sn**	**10 02 31.7**	**+2.8**
CMBY				IAML		10 02 35.0	
	comp=N,13μm,0.5s						
CMBY				IAML		10 02 35.3	
	comp=E,7μm,0.4s						
PBA	**Port Blair**	**4.62**	**342**	*e*S	**Sn**	**10 04 17.9**	**+4.2**
PBA				IAML		10 04 22.6	
	comp=E,93nm,0.0s						
PBA				IAML		10 04 24.8	
	comp=N,82nm,0.0s						
SRIT	**Nakonsritamara**	**5.49**	**75**		**Pn**	**10 03 32.0**	**-0.6**
DGPR	**DIGLIPUR**	**6.03**	**348**	*e*P	Pn	10 03 46.5	+6.4
DGPR				*e*S	**Sn**	**10 04 50.9**	**+2.3**
PSI	**Prapat**	**6.43**	**133**	Pn	**Pn**	**10 03 47.0**	**+1.4**
	comp=N,1.0nm,0.3s,baz=310,slow=15,SNR=6.5						
	comp=N,3.0nm,0.4s						
RPSI	**Rantau Prapat**	**6.50**	**134**		**Pn**	**10 03 47.0**	**+0.5**
KULM	**Kulim**	**6.67**	**107**	Pn	**Pn**	**10 03 48.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**12.06**	**22**	Pn	**Pn**	**10 05 03.0**	**+0.3**
	comp=N,0.7nm,0.3s,baz=204,slow=13,SNR=1.9						
	comp=N,0.9nm,0.3s						
PALK	**Pallekele**	**13.42**	**271**	Pn	**Pn**	**10 05 18.6**	**-2.8**
	comp=N,0.2nm,0.3s,baz=47,slow=19,SNR=1.9						
PALK				Sn	**Sn**	**10 07 46.8**	**-3.3**
	comp=N,0.4nm,0.3s,baz=50,slow=11,SNR=2.4						
	comp=N,1.8nm,0.5s						
H08S3	**Diego Garcia H**	**26.24**	**236**	T	T	10 34 36.2	
	baz=54,slow=76,SNR=29						
H08S2	**Diego Garcia H**	**26.24**	**236**	T	T	10 34 38.8	
	baz=54,slow=76,SNR=33						
H08S1	**Diego Carcia H**	**26.25**	**236**	T	T	10 34 37.2	
	baz=54,slow=76,SNR=8.7						
ARSB	**Arslanbob**	**38.84**	**334**	P	**P**	**10 09 35.6**	**-0.3**
ARSB				IAmb	IAmb	10 09 42.9	
	comp=Z,4.6nm,0.5s						
MK31	**Makanchi Array**	**40.72**	**347**	P	**P**	**10 09 50.9**	**-0.3**
MKAR	**Makanchi Array**	**40.72**	**347**	P	**P**	**10 09 50.6**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=173,slow=7.6,SNR=15						
	comp=Z,2.0nm,0.6s						
MAKZ	**Makanchi**	**40.80**	**347**	P	**P**	**10 09 51.7**	**-0.3**
MAKZ				IAmb	IAmb	10 09 52.1	
	comp=Z,2.5nm,0.6s						
SONM	**Songino Array**	**41.76**	**12**	P	**P**	**10 09 59.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=197,slow=4.5,SNR=1.3						
	comp=Z,0.2nm,0.3s						
JNU	**Nakatsue**	**42.60**	**48**	P	**P**	**10 10 07.5**	**+0.5**
	comp=Z,10nm,0.9s,baz=254,slow=12,SNR=2.2						
	comp=Z,10nm,0.9s						
KURBB	**Kurchatov Arra**	**45.17**	**346**	P	**P**	**10 10 27.2**	**0.0**
	comp=Z,2.0nm,0.5s,baz=172,slow=7.1,SNR=26						
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**45.24**	**346**	P	**P**	**10 10 27.9**	**+0.1**
KURK				IAmb	IAmb	10 10 29.8	
	comp=Z,3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**47.19**	**352**	P	**P**	**10 10 43.2**	**+0.2**
ZALV	**Zalesovo Beam**	**47.19**	**352**	P	**P**	**10 10 43.1**	**0.0**
	comp=Z,1.0nm,0.4s,baz=180,slow=6.9,SNR=5.9						
	comp=Z,1.0nm,0.4s						
WB0	**Warramunga Arr**	**47.78**	**125**	P	**P**	**10 10 48.5**	**+0.3**
WRA	**Warramunga Arr**	**47.83**	**125**	P	**P**	**10 10 48.7**	**+0.1**
WRA	**Warramunga Arr**	**47.83**	**125**	P	**P**	**10 10 49.1**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=305,slow=8.4,SNR=6.1						
	comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	**49.45**	**130**	P	**P**	**10 11 02.0**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=303,slow=7.8,SNR=11						
	comp=Z,0.4nm,0.5s						
AKTO	**Aktyubinsk**	**52.54**	**332**	P	**P**	**10 11 23.8**	**0.0**
	comp=Z,1.2nm,0.5s,baz=113,slow=2.7,SNR=4.5						
	comp=Z,1.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**65.23**	**211**	T	T	11 23 19.9	
	baz=48,slow=75,SNR=8.9						
H04N1	**CROZET ISLANDS**	**65.24**	**211**	T	T	11 23 20.3	
	baz=48,slow=75,SNR=9.5						
H04N3	**CROZET ISLANDS**	**65.25**	**211**	T	T	11 23 25.3	
	baz=48,slow=75,SNR=9.4						
PDAR	**Pinedale Array**	**125.72**	**21**	PKP	**PKPdf**	**10 21 11.7**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=319,slow=4.4,SNR=2.3						

---

*GEN **01** 10:02:20.9, 44.33N×8.22E, h4km, MI0.4*

STR 01 10:02:20.7±0.4, 44.N±4.×.±., h0km, MLv1.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=158.7, preliminary, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLNO	**Quiliano**	**0.07**	**92**	P	Pg	10 02 23.6	+1.7
QLNO				S	Sg	10 02 24.4	+1.6
CANO	**Canova, Maglio**	**0.12**	**185**	Pg	Pg	10 02 23.7	+0.8
CANO				Sg	Sg	10 02 24.3	-0.2
CANO	**Canova, Maglio**	**0.12**	**185**	P	Pg	10 02 24.2	+1.3
CANO				S	Sg	10 02 26.5	+2.0
RORO	**Rocca Rossa**	**0.25**	**212**	Pg	Pg	10 02 26.2	+0.7
RORO	**Rocca Rossa**	**0.25**	**212**	P	Pg	10 02 26.4	+0.9
RORO				S	Sg	10 02 29.9	+1.2
PCP	**Piancastagn**	**0.30**	**44**	Pg	Pg	10 02 27.4	+1.0
PCP	**Piancastagn**	**0.30**	**44**	P	Pg	10 02 27.4	+1.0
GBOS	**Grotte di Boss**	**0.31**	**254**	Pg	Pg	10 02 26.9	+0.3
GBOS	**Grotte di Boss**	**0.31**	**254**	Sg	Sg	10 02 31.2	+0.7
GBOS	**Grotte di Boss**	**0.31**	**254**	P	Pg	10 02 26.9	+0.4
GBOS				S	Sg	10 02 31.3	+0.7
MGRO	**Montegrosso**	**0.43**	**229**	Pg	Pg	10 02 29.6	+0.7
MGRO	**Montegrosso**	**0.43**	**229**	P	Pg	10 02 29.6	+0.7
PIAF	**les Granges de**	**0.50**	**246**	Pg	Pg	10 02 30.7	+0.4
PIAF				Sg	Sg	10 02 37.8	+1.0
ENR	**Entracque**	**0.61**	**261**	Pg	Pg	10 02 32.4	+0.1
STV	**Sant Anna di V**	**0.67**	**263**	Pg	Pg	10 02 34.0	+0.4
STV	**Sant Anna di V**	**0.67**	**263**	Sg	Sg	10 02 43.5	+1.3
TURF	**col de Turini**	**0.71**	**241**	Pg	Pg	10 02 34.8	+0.5
SPIF	**crte de Spivo**	**0.78**	**250**	Pg	Pg	10 02 36.0	+0.4
GORR	**Gorreto**	**0.80**	**69**	Pn	Pn	10 02 38.6	-0.6
JAUF	**Jausiers**	**1.08**	**276**	Pg	Pg	10 02 40.9	-0.5
CALF	**Calern**	**1.12**	**240**	Pn	Pb	10 02 43.2	+0.3

ROM 01 10:03:10.0±0.1, 46.154N±0.007×11.20E±0.01, h0km, ML0.8/8, 3C, Error ellipse: s-maj=0.9km s-min=0.8km az=245.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANI	**Panarotta**	**0.14**	**139**	↑*e*Pg	Pg	10 03 13.3	+0.7
PANI	**Panarotta**	**0.14**	**139**	P	Pg	10 03 13.3	+0.7
PANI				AML	AML		
	comp=E,50μm,0.8s						
PANI				AML	AML		
	comp=N,91μm,0.7s						
PANI				AML	AML		
	comp=N,91μm,0.7s						
PANI				AML	AML		
	comp=E,50μm,0.8s						
GAGG	**Gaggia**	**0.18**	**248**	↑*e*Pg	Pg	10 03 14.4	+0.9
GAGG	**Gaggia**	**0.18**	**248**	P	Pg	10 03 14.4	+0.8
GAGG				AML	AML		
	comp=E,37μm,1.6s						
GAGG				AML	AML		
	comp=N,33μm,0.8s						
GAGG				AML	AML		
	comp=E,37μm,0.4s						
GAGG				AML	AML		
	comp=N,33μm,0.8s						
LUSI	**Trento, Gardas**	**0.27**	**223**	P	Pg	10 03 15.9	+0.8
OZOL	**Ozolo**	**0.27**	**337**	P	Pg	10 03 16.2	+1.0
OZOL				AML	AML		
	comp=E,354μm,0.5s						
OZOL				AML	AML		
	comp=N,348μm,1.6s						
OZOL				AML	AML		
	comp=N,348μm,0.4s						
DOSS	**Dosso del Somm**	**0.27**	**182**	↑*e*Pg	Pg	10 03 15.8	+0.6
DOSS	**Dosso del Somm**	**0.27**	**182**	P	Pg	10 03 15.8	+0.6
DOSS				AML	AML		
	comp=E,23μm,1.1s						
DOSS				AML	AML		
	comp=E,23μm,0.9s						
DOSS				AML	AML		
	comp=N,28μm,0.4s						
CTI	**Castel Tesino**	**0.33**	**109**	P	Pg	10 03 16.9	+0.7
KOSI	**Kohlern**	**0.33**	**21**	P	Pg	10 03 17.5	+1.1
CARE	**Lago del Cares**	**0.45**	**308**	P	Pg	10 03 19.5	+0.9

IDC 01 10:04:26.8±12.0, 5.90N×91.89E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=623.5km s-min=31.3km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.57**	**350**	P	P	10 12 15.1	-1.2
	0.3nm,0.5s,baz=156,slow=9.3,SNR=3.8						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**45.95**	**348**	P	P	10 12 51.6	+0.2
	0.4nm,0.6s,baz=172,slow=6.9,SNR=4.8						
	0.4nm,0.6s						
**

az=234.0
NEIC ***01*** *10:07:24.2, 33°.77N×46°.00E, h20km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^17Nm; Mrr1.07; Mθθ-0.46; Mφφ-0.61; Mrθ0.23; Mrφ0.46; Mθφ-0.39; Fault plane solution: M0 1.13000×10^17 NP1: φs316.33000°, δ33.49000°, λ83.98000°. NP2: φs143.54000°, δ56.71000°, λ93.97000°. Principal axes: T 1.1615, Plg78.0000°, Azm67.0000°; N -0.0729, Plg3.0000°, Azm321.0000°; P -1.0886, Plg12.0000°, Azm231.0000°;*
DSN ***01*** *10:07:25.3±0.5, 33°.48N×45°.81E, h15km, mb6.0/1 Error ellipse: s-maj=12.3km s-min=5.6km az=38.0*
GCMT ***01*** *10:07:25.9±0.1, 33°.62N±0°.01×45°.62E±0°.01, h13km, MW5.2/146, Moment Tensor Solution. s104, c156; s146, c276; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.87±.02; Mθθ-0.39±.01; Mφφ-0.48±.01; Mrθ0.26±.03; Mrφ0.49±.01; Mθφ-0.16±.03; Best double couple: M0 0.94400×10^17 NP1: φs323.00000°, δ36.00000°, λ99.00000°. NP2: φs133.00000°, δ54.00000°, λ84.00000°. Principal axes: T 0.9190, Plg80.0000°, Azm17.0000°; N 0.0490, Plg5.0000°, Azm136.0000°; P -0.9690, Plg9.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NAO ***01*** *10:07:32.1, 34°.52N×45°.85E, h33km, mb4.5*
ISC 01 10:07:23.9±0.5, 33°.62N±0°.02×45°.86E±0°.02, h15km±2km, h15km:pP-P, n1217, σ1.94/1184, mb5.1/302, MS4.5/98, 73C-18D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.49**	**5**	**Pg**	**Pg**		**10 07 32.8**	**-0.9**
IBDR	**Badra**	**0.52**	**173**	*e*Pg	**Pn**		**10 07 36.0**	**-0.7**
IBDR				*e*Sg	**Sn**		**10 07 44.0**	**-1.2**
IBDR				AML	AML		10 07 51.8	
	comp=N,206μm,0.6s							
IBDR				AML	AML		10 07 55.2	
	comp=E,284μm,0.6s							
KGS1	**Ghasr-e-Shirin**	**0.91**	**346**	Pg	**Pb**		**10 07 40.2**	**-1.2**
IGHG	**Ghaleghazi**	**0.92**	**40**	Pg	**Pn**		**10 07 42.8**	**+0.2**
IDHR	**Dehrash**	**1.16**	**22**	Pg	**Pn**		**10 07 45.8**	**0.0**
KCHF	**Cheshme Sefid,**	**1.18**	**56**	Pg	**Pg**		**10 07 47.6**	**+0.9**
BHD	**Baghdad**	**1.28**	**254**	*e*Pn	**Pb**		**10 07 48.0**	**+0.2**
BHD				*e*Sn	**Sg**		**10 08 05.0**	**-0.4**
RAFI	**Al-Rafai**	**1.91**	**173**	*e*Pn	**Pb**		**10 07 59.0**	**+0.6**
RAFI				*e*Sn	**Sg**		**10 08 25.0**	**-0.3**
SNQR	**Sonqor, Kerman**	**1.92**	**50**	Pn	**Pb**		**10 07 59.5**	**+0.7**
IDOB	**Doab**	**1.94**	**85**	Pn	**Pg**		**10 08 00.5**	**-0.7**
SLY	**Sulaymaniyah**	**1.99**	**352**	Pn	**Pb**		**10 08 00.2**	**+0.3**
NSR4	**Al Neser**	**2.10**	**172**	Pn	**Pb**		**10 08 02.6**	**+0.9**
IKRK	**Kirkuk**	**2.17**	**325**	*e*Pn	**Pn**		**10 08 00.0**	**+0.5**
IKRK				*e*Sn	**Sn**		**10 08 27.0**	**+0.9**
IKRK				AML	AML		10 08 36.5	
	comp=N,13μm,0.2s							
IKRK				AML	AML		10 08 40.1	
	comp=E,11μm,0.3s							
SDS1	**Sardasht. Az.**	**2.54**	**353**	Pn	**Pn**		**10 08 06.5**	**+1.8**
BDRS	**Dareh Seyedi**	**2.54**	**82**	Pn	**Pb**		**10 08 08.7**	**-0.7**
SRSL	**SARDASHT**	**2.61**	**352**	*e*PnA			10 08 07.4	
SRSL				*e*Sg	**Sb**		**10 08 40.3**	**-2.0**
SRSL				IAML			10 08 59.6	
	comp=Z,28nm,1.0s							
GTMR	**Gotvand**	**2.97**	**112**	*e*PnA			10 08 14.4	
GTMR				IAML			10 09 17.7	
	comp=Z,37nm,1.0s							
HAGD	**Aghdareh**	**2.97**	**65**	Pn	**Pb**		**10 08 14.4**	**-2.3**
HGHA	**Hamedan- Ghaye**	**3.10**	**52**	Pn	**Pn**		**10 08 15.7**	**+3.2**
MAHB	**Mahabad**	**3.14**	**358**	Pn	**Pn**		**10 08 13.9**	**+0.9**
AHWZ	**Ahwaz**	**3.28**	**133**	Pn	**Pb**		**10 08 19.2**	**-2.7**
KHMZ	**Khomeyn**	**3.42**	**87**	*e*PnA			10 08 20.5	
KHMZ				IAML			10 09 37.6	
	comp=Z,7.1nm,1.0s							
ASAO	**Ashtian**	**3.58**	**74**	*e*PnA			10 08 23.4	
ASAO				IAML			10 09 37.2	
	comp=Z,9.1nm,1.0s							
QABG	**Abgarm-Qazvin**	**3.71**	**55**	Pn	**Pn**		**10 08 24.2**	**+3.3**
IAZR	**Azarshahr**	**4.05**	**1**	Pn	**Pn**		**10 08 27.0**	**+1.4**
CUKT	**Cukurca**	**4.05**	**334**	Pn	**Pn**		**10 08 25.6**	**+0.1**
ISRB	**Sarab**	**4.44**	**19**	Pn	**Pn**		**10 08 33.8**	**+2.9**
JIR1	**Jirandeh**	**4.46**	**45**	Pn	**Pn**		**10 08 33.9**	**+2.7**
IQOM	**Qom**	**4.49**	**73**	Pn	**Pn**		**10 08 34.6**	**+3.0**
IGZV	**Ghazvin**	**4.52**	**51**	Pn	**Pn**		**10 08 35.2**	**+3.2**
GHVR	**GHOM**	**4.59**	**78**	*e*PnA			10 08 36.8	
GHVR				IAML			10 10 08.3	
	comp=Z,9.6nm,1.0s							
QAMS	**Qamsar**	**4.62**	**87**	Pn	**Pn**		**10 08 37.7**	**+4.2**
ISHB	**Shabestar**	**4.65**	**358**	Pn	**Pn**		**10 08 34.3**	**+0.4**
GIDE	**GILAN DEYLAMAN**	**4.67**	**44**	IAML			10 10 10.2	
	comp=Z,9.0nm,1.0s							
KBD	**Kabd**	**4.70**	**160**	P	**Pn**		**10 08 37.5**	**+3.1**
KBD				S	**Sn**		**10 09 25.4**	**-3.2**
KBD	**Kabd**	**4.70**	**160**	P	**Pn**		**10 08 37.6**	**+3.3**
KBD				S	**Sn**		**10 09 30.5**	**+1.9**
CSN1	**Caspian**	**4.73**	**33**	Pn	**Pn**		**10 08 36.9**	**+2.2**
IHSB	**Hasanabad**	**4.83**	**66**	Pn	**Pn**		**10 08 39.4**	**+3.2**
IBRJ	**Brojen**	**4.86**	**109**	Pn	**Pn**		**10 08 39.4**	**+2.6**
TEH	**Tehran**	**5.02**	**64**	Pn	**Pn**		**10 08 42.1**	**+3.3**
TEHA	**Amirabad Tehra**	**5.02**	**64**	Pn	**Pn**		**10 08 41.3**	**+2.4**
IVRN	**Varamin**	**5.05**	**73**	Pn	**Pn**		**10 08 42.2**	**+3.1**
GEVA	**Gevas**	**5.20**	**335**	Pn	**Pn**		**10 08 42.6**	**+1.3**
KRSH	**Karshahi**	**5.24**	**84**	Pn	**Pn**		**10 08 45.3**	**+3.4**
GAS1	**Astara - Iran**	**5.33**	**26**	Pn	**Pn**		**10 08 45.2**	**+2.2**
VANB	**Van**	**5.35**	**339**	Pn	**Pn**		**10 08 43.9**	**+0.6**
ISFB	**Sefidab**	**5.35**	**80**	Pn	**Pn**		**10 08 46.1**	**+2.8**
DAMV	**Damavand**	**5.42**	**67**	*e*PnA			10 08 47.5	
DAMV				IAML			10 10 10.1	
	comp=Z,0.0nm,1.0s							
GRMI	**Germi**	**5.43**	**17**	Pn	**Pn**		**10 08 47.1**	**+2.7**
GRMI	**Germi**	**5.43**	**17**	*e*PnA			10 08 47.6	
GRMI				IAML			10 10 28.1	
	comp=Z,0.9nm,1.0s							
IDMV	**Damavand**	**5.45**	**67**	Pn	**Pn**		**10 08 47.8**	**+2.9**
MZPU	**Pul - Mazandar**	**5.46**	**57**	Pn	**Pn**		**10 08 48.2**	**+3.2**
KLNJ	**Kolanjah**	**5.51**	**117**	Pn	**Pn**		**10 08 49.4**	**+3.7**
KLNJ	**Kolanjah**	**5.51**	**117**	*e*PnA			10 08 52.1	
KLNJ				IAML			10 10 45.3	
	comp=Z,4μm,1.0s							
MARD	**Mardin**	**5.54**	**313**	Pn	**Pn**		**10 08 45.2**	**-0.8**
BLIS	**Bitlis-Merkez**	**5.66**	**329**	Pn	**Pn**		**10 08 47.3**	**-0.3**
MAKU	**Maku**	**5.80**	**351**	Pn	**Pn**		**10 08 51.0**	**+1.4**
GURO	**Guroymak-BITLI**	**5.81**	**329**		**Pn**		**10 08 49.8**	**+0.1**
NASN	**Na'in**	**5.88**	**96**	*e*PnA			10 08 57.4	
NASN				IAML			10 11 00.0	
	comp=Z,2.1nm,1.0s							
IPRN	**Peran**	**5.93**	**62**	Pn	**Pn**		**10 08 55.0**	**+3.7**
KAZ2	**Kazeron-Fars-I**	**6.36**	**127**	Pn	**Pn**		**10 09 01.1**	**+3.9**
GNI	**Garni**	**6.57**	**353**		**Pn**		**10 09 00.1**	**-0.1**
GNI	**Garni**	**6.57**	**353**	Pn	**Pn**		**10 09 01.6**	**+1.5**
	comp=Z,2.3nm,0.3s,baz=162,slow=8.7,SNR=3.3							
GNI				Lg	Lg		10 10 48.6	
	baz=162,slow=19							
GNI				LR	LR		10 11 27.0	
	comp=Z,1μm,21.9s,baz=182,slow=38							
	comp=Z,14nm,0.6s							
GNI	**Garni**	**6.57**	**353**	*i* P	**Pn**		**10 08 59.9**	**-0.3**
ANAR	**Anarak**	**6.60**	**92**	Pn	**Pn**		**10 09 04.5**	**+4.0**
AHBU	**AHRAM**	**6.65**	**134**	Pn	**Pn**		**10 09 03.8**	**+2.8**
DSBU	**Dashti - Bushe**	**7.00**	**137**	Pn	**Pn**		**10 09 09.0**	**+3.1**
KARS	**Kars**	**7.33**	**343**		**Pn**		**10 09 11.6**	**+1.0**
KARS	**Kars**	**7.33**	**343**	P	**Pn**		**10 09 11.6**	**+1.0**
YZKH	**Yazd**	**7.44**	**97**	*e*PnA			10 09 16.8	
YZKH				IAML			10 11 36.4	
	comp=Z,0.8nm,1.0s							
ASF	**Jabal al Asfar**	**7.67**	**262**	Pn	**Pn**		**10 09 14.8**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=95,slow=11,SNR=14							
ASF				Lg	Lg		10 11 24.0	
	comp=Z,9.7nm,0.3s,baz=54,slow=19,SNR=1.4							
	comp=Z,7.0nm,0.3s							
KOPT	**Kop Dagi**	**7.69**	**328**		**Pn**		**10 09 16.8**	**+1.2**
GAZ	**Gaziantep**	**7.90**	**299**	Pn	**Pn**		**10 09 20.6**	**+2.4**
QIR1	**Qir**	**8.02**	**128**	Pn	**Pn**		**10 09 21.5**	**+1.5**
KSHT	**Keshet**	**8.43**	**268**	P	**Pn**		**10 09 23.6**	**-2.0**
IBAF	**Bafgh**	**8.44**	**101**	Pn	**Pn**		**10 09 28.8**	**+3.0**
NATI	**Neve Ativ**	**8.47**	**270**	P	**Pn**		**10 09 24.3**	**-1.7**
GEM	**Giv'at Ha'Em**	**8.53**	**270**	P	**Pn**		**10 09 25.1**	**-1.8**
IMND	**Minoodasht**	**8.59**	**62**	Pn	**Pn**		**10 09 29.7**	**+2.0**
SAKB	**Bahrain**	**8.63**	**151**	P	**Pn**		**10 09 26.5**	**-1.8**
SAKB				S	**Sn**		**10 11 03.1**	**-2.3**
SAKB	**Bahrain**	**8.63**	**151**	P	**Pn**		**10 09 32.4**	**+4.1**
SAKB				S	**Sn**		**10 11 03.1**	**-2.3**
SHRO	**Shahrood**	**8.68**	**71**	*e*PnA			10 09 34.0	
SHRO				IAML			10 11 02.2	
	comp=Z,92nm,1.0s							
MMAI	**Mount Meron Ar**	**8.77**	**269**	Pn	**Pn**		**10 09 29.3**	**-1.0**
	comp=Z,4.3nm,0.3s,baz=73,slow=18,SNR=6.3							
MMAI				Lg	Lg		10 11 58.1	
	comp=Z,17nm,0.3s,baz=106,slow=36,SNR=5.2							
MMAI				LR	LR		10 13 41.8	
	comp=Z,4μm,19.1s,baz=92,slow=44							
LMD1	**Lamerd**	**8.88**	**133**	Pn	**Pn**		**10 09 36.4**	**+4.6**
SHMA	**Al-Shehemyia**	**8.92**	**149**	P	**Pn**		**10 09 30.5**	**-1.7**
SHMA				S	**Sn**		**10 11 09.6**	**-2.9**
SHMA	**Al-Shehemyia**	**8.92**	**149**	P	**Pn**		**10 09 36.4**	**+4.1**
SHMA				S	**Sn**		**10 11 09.6**	**-2.9**
GHAJ	**Ghor Haditha**	**9.00**	**258**		**Pn**		**10 09 33.0**	**-0.3**
GHAJ	**Ghor Haditha**	**9.00**	**258**	P	**Pn**		**10 09 31.3**	**-2.0**
DSI	**Dead Sea**	**9.07**	**260**	P	**Pn**		**10 09 32.0**	**-2.3**
TPRV	**Parvadeh(Tabas**	**9.08**	**91**	Pn	**Pn**		**10 09 38.4**	**+3.8**
MRVT	**Maraveh tapeh**	**9.25**	**61**	*e*PnA			10 09 40.2	
TABS	**Tabas**	**9.39**	**87**	IAML			10 13 34.7	
	comp=Z,0.0nm,1.3s							
TKDS	**Koohdasht(Taba**	**9.40**	**87**	Pn	**Pn**		**10 09 41.8**	**+2.9**
MAK	**Makhachkala**	**9.41**	*7d*	*i* P	**Pn**		**10 09 34.9**	**-4.0**
MAK				*e*S	**Sn**		**10 11 19.2**	**-5.2**
MAK				pmax	pmax			
	comp=Z,233nm,1.0s							
MAK				MLR	MLR			
	comp=Z,4μm,13.0s							
LAR1	**LAR**	**9.43**	**127**	Pn	**Pn**		**10 09 42.7**	**+3.3**
TAPT	**Tabas- Tapeh t**	**9.44**	**79**	Pn	**Pn**		**10 09 43.6**	**+4.1**
AMAZ	**Amatzia**	**9.46**	**260**	P	**Pn**		**10 09 35.9**	**-3.8**
BNN	**Bunyan**	**9.62**	**306**		**Pn**		**10 09 42.6**	**+0.6**
PRNI	**Paran**	**9.78**	**253**	P	**Pn**		**10 09 40.7**	**-3.3**
SMRA	**Abu-Samra**	**9.85**	**153**	P	**Pn**		**10 09 43.8**	**-1.2**
SMRA				S	**Sn**		**10 11 33.8**	**-1.5**
SMRA	**Abu-Samra**	**9.85**	**153**	P	**Pn**		**10 09 46.7**	**+1.6**
SMRA				S	**Sn**		**10 11 33.8**	**-1.5**
HRFI	**Mount Harif**	**9.87**	**252**	P	**Pn**		**10 09 42.3**	**-3.1**
RAYN	**Ar Rayn**	**10.07**	**182**	Pn	**Pn**		**10 09 47.8**	**-0.3**
RAYN	**Ar Rayn**	**10.07**	**182**	P	**Pn**		**10 09 47.3**	**-0.8**
RAYN	**Ar Rayn**	**10.07**	**182**	P	**Pn**		**10 09 47.8**	**-0.3**
RAYN	**Ar Rayn**	**10.07**	**182**	P	**Pn**		**10 09 47.5**	**-0.6**
MBRI	**Mt Berech**	**10.07**	**251**	P	**Pn**		**10 09 46.0**	**-2.1**
KRMI	**Paran Flat**	**10.09**	**253**	P	**Pn**		**10 09 46.3**	**-2.0**
EIL	**Elat**	**10.09**	**250**	Pn	**Pn**		**10 09 47.7**	**-0.7**
	comp=Z,3.2nm,0.3s,baz=102,slow=3.5,SNR=21							
	comp=Z,11nm,0.4s							
EIL	**Elat**	**10.09**	**250**	P	**Pn**		**10 09 45.9**	**-2.4**
KBZ	**Khabaz**	**10.35**	**348**	Pn	**Pn**		**10 09 55.0**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=165,slow=11,SNR=17							
KBZ				LR	LR		10 14 48.5	
	comp=Z,2μm,20.3s,baz=154,slow=43							
	comp=Z,14nm,0.9s							
KBZ	**Khabaz**	**10.35**	**348**	P	**Pn**		**10 09 55.0**	**+3.2**
SHA1	**Shidzhatmaz**	**10.40**	**347**	*i* P	**Pn**		**10 09 54.0**	**+1.3**
CSS	**Mathiatis**	**10.45**	**281**	P	**Pn**		**10 09 53.5**	**+0.3**
	comp=Z,25nm,1.1s							
KVAR	**Kislovodsk Arr**	**10.61**	**348**	Pn	**Pn**		**10 09 59.5**	**+4.1**
	baz=180,slow=20							
KVAR				LR	LR		10 14 43.3	
	comp=Z,2μm,21.1s,baz=34,slow=42							
	comp=Z,9.0nm,0.8s							
KIV	**Kislovodsk**	**10.61**	**347**	Pn	**Pn**		**10 09 58.2**	**+2.8**
KIV	**Kislovodsk**	**10.61**	**347**	P	Pn		10 10 00.7	+5.3
KIV				P	Pn		10 10 00.7	+5.3
KIV	**Kislovodsk**	**10.61**	**347**	*e*P	**Pn**		**10 09 58.7**	**+3.3**
KIV				*e*S	**Sn**		**10 11 59.1**	**+5.2**
KIV				pmax	pmax			
	comp=Z,74nm,1.1s							
KIV				MLR	MLR			
	comp=Z,1μm,13.0s							
KIV	**Kislovodsk**	**10.61**	**347**	*i* P	**Pn**		**10 09 59.7**	**+4.3**
	SNR=6.3							
SLWR	**Sila**	**10.80**	**150**	P	**Pn**		**10 09 56.6**	**-1.5**
SLWR				S	**Sn**		**10 11 56.4**	**-2.3**
SLWR	**Sila**	**10.80**	**150**	P	**Pn**		**10 09 59.2**	**+1.2**
SLWR				S	**Sn**		**10 11 56.4**	**-2.3**
BNDS	**Bandar-Abbas**	**10.84**	**122**	Pn	**Pn**		**10 09 59.4**	**+0.7**
AFRZ	**Afriz**	**10.99**	**87**	Pn	**Pn**		**10 10 01.0**	**+0.3**
SOC	**Sochi**	**11.04**	**336**	*e*P	**Pn**		**10 10 02.7**	**+1.5**
SOC				*e*			10 12 09.9	
SOC				pmax	pmax			
	comp=Z,25nm,0.7s							
SOC				MLR	MLR			
	comp=Z,2μm,15.0s							
IBND	**Bandar-abas**	**11.07**	**121**	Pn	**Pn**		**10 10 02.8**	**+1.0**
KIRS	**Kirsehir-Merke**	**11.08**	**303**	⇑P	**Pn**		**10 10 05.3**	**+3.4**
IPAY	**Payeh**	**11.13**	**72**	Pn	**Pn**		**10 10 06.3**	**+3.5**
BSRN	**Basiran**	**11.29**	**95**	Pn	**Pn**		**10 10 09.2**	**+4.3**
BSRN	**Basiran**	**11.29**	**95**	*e*PnA			10 10 11.6	
BSRN				IAML			10 14 40.2	
	comp=Z,0.0nm,1.6s							
GHWR	**Ruwais**	**11.42**	**146**	P	**Pn**		**10 10 07.0**	**+0.5**
BR104	**Keskin Array S**	**11.53**	**305**	P	**Pn**		**10 10 08.6**	**+0.5**
	comp=Z,106nmcomp=Z,11nm,1.2s							
BR131	**Keskin Array S**	**11.54**	**305**	Pn	**Pn**		**10 10 10.3**	**+2.1**
BR131	**Keskin Array S**	**11.54**	**305**	P	**Pn**		**10 10 12.3**	**+4.1**
BR131	**Keskin Array S**	**11.54**	**305**	P	**Pn**		**10 10 10.3**	**+2.1**
BRTR	**Keskin Array B**	**11.54**	**305**	Pn	**Pn**		**10 10 09.9**	**+1.7**
BRTR	**Keskin Array B**	**11.54**	**305**	Pn	**Pn**		**10 10 10.1**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=127,slow=12,SNR=25							
BRTR				Lg	Lg		10 13 26.2	
	comp=Z,0.1nm,0.3s,baz=132,slow=35,SNR=1.1							
BRTR				LR	LR		10 15 36.6	
	comp=Z,4μm,18.3s,baz=114,slow=43							
	comp=Z,6.2nm,0.8s							
BRTR	**Keskin Array B**	**11.54**	**305**	*ce*P	**Pn**		**10 10 11.8**	**+3.6**
BRTR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BR105	**Keskin Array S**	**11.55**	**305**	P	**Pn**		**10 10 08.9**	**+0.5**
	comp=Z,143nmcomp=Z,15nm,1.1s							
BR106	**Keskin Array S**	**11.56**	**305**	P	**Pn**		**10 10 09.0**	**+0.5**
	comp=Z,119nmcomp=Z,14nm,1.1s							
GOF	**Gofitskoye**	**11.62**	**350**	*ce*P	**Pn**		**10 10 12.9**	**+3.7**
KBAM	**BAM**	**11.65**	**109**	Pn	**Pn**		**10 10 12.2**	**+2.4**
SHME	**Shamm**	**11.69**	**128**	P	**Pn**		**10 10 10.2**	**+0.1**
	SNR=28							
SHME				S	**Sn**		**10 12 14.7**	**-5.7**
SHME	**Shamm**	**11.69**	**128**	P	**Pn**		**10 10 11.1**	**+1.0**
	SNR=28							
SHME				S	**Sn**		**10 12 14.7**	**-5.7**
SHME	**Shamm**	**11.69**	**128**	*i* P	**Pn**		**10 10 10.9**	**+0.7**
	SNR=21							
LABN	**Labinsk**	**11.70**	**342**	*e*P	**Pn**		**10 10 05.7**	**-4.5**
LABN				*e*S	**Sn**		**10 12 16.4**	**-4.1**
LABN				pmax	pmax			
	comp=Z,13nm,0.8s							
LABN				MLR	MLR			
	comp=Z,4μm,15.0s							
BANOM	**Banah**	**11.88**	**128**	P	**Pn**		**10 10 12.9**	**+0.1**
BANOM				S	**Sn**		**10 12 19.4**	**-5.7**
BANOM	**Banah**	**11.88**	**128**	*i* P	**Pn**		**10 10 12.6**	**-0.2**
	SNR=45							
IMYA	**Miami**	**11.99**	**73**	Pn	Pn		10 10 19.7	+5.2
SHRT	**Shahrakht**	**12.03**	**86**	IAML			10 15 21.7	
	comp=Z,0.0nm,1.4s							
AJN	**Ajban**	**12.04**	**136**	P	**Pn**		**10 10 13.3**	**-1.7**
	SNR=8.7							
AJN				S	**Sn**		**10 12 25.2**	**-4.0**
AJN	**Ajban**	**12.04**	**136**	*i* P	**Pn**		**10 10 16.6**	**+1.5**
	SNR=14							
MZWR	**Madinat Zayed**	**12.08**	**142**	P	**Pn**		**10 10 14.5**	**-1.1**
MZWR				S	**Sn**		**10 12 26.9**	**-3.2**
MZWR	**Madinat Zayed**	**12.08**	**142**	P	**Pn**		**10 10 18.0**	**+2.4**
MZWR				S	**Sn**		**10 12 26.9**	**-3.2**
NAZ	**Nazwa, Dubai**	**12.13**	**133**	P	**Pn**		**10 10 14.4**	**-1.8**
	SNR=9.6							
NAZ				S	**Sn**		**10 12 27.4**	**-3.8**
NAZ	**Nazwa, Dubai**	**12.13**	**133**	P	**Pn**		**10 10 17.7**	**+1.5**
	SNR=9.6							
NAZ				S	**Sn**		**10 12 27.4**	**-3.8**
NAZ	**Nazwa, Dubai**	**12.13**	**133**	P	**Pn**		**10 10 17.5**	**+1.3**
MASF	**Masafi**	**12.16**	**130**	P	**Pn**		**10 10 17.5**	**+0.7**
	SNR=40							
MASF				S	**Sn**		**10 12 26.8**	**-5.4**
	SNR=12							
ILGA	**Ilgaz**	**12.17**	**311**	Pn	**Pn**		**10 10 18.8**	**+1.9**
MSFE	**Esma-Masafi**	**12.17**	**130**	*i* P	**Pn**		**10 10 17.1**	**+0.2**
	SNR=40							
ANTO	**Ankara**	**12.19**	**304**		**Pn**		**10 10 19.1**	**+2.2**
ANTO	**Ankara**	**12.19**	**304**	P	**Pn**		**10 10 20.6**	**+3.5**
ANTO	**Ankara**	**12.19**	**304**	⇑P	**Pn**		**10 10 20.5**	**+3.5**
ANTO	**Ankara**	**12.19**	**304**	P	**Pn**		**10 10 20.5**	**+3.5**
ANTO	**Ankara**	**12.19**	**304**	P	**Pn**		**10 10 17.6**	**+0.6**
	comp=Z,469nmcomp=Z,28nm,1.3s							
ASUD	**Al Ashush, Dub**	**12.20**	**135**	P	**Pn**		**10 10 19.0**	**+1.8**
	SNR=5.9							
ASUD				S	**Sn**		**10 12 28.4**	**-4.5**
ASUD	**Al Ashush, Dub**	**12.20**	**135**	*i* P	**Pn**		**10 10 18.4**	**+1.2**
	SNR=5.9							
FAQ	**Al Faqa, Dubai**	**12.27**	**134**	P	**Pn**		**10 10 16.7**	**-1.4**
	SNR=6.1							
FAQ				P	**Pn**		**10 10 16.7**	**-1.4**
	SNR=6.1							
FAQ				S	**Sn**		**10 12 29.4**	**-5.1**
	SNR=6.5							
FAQ				S	**Sn**		**10 12 29.4**	**-5.1**
	SNR=6.5							
FAQ	**Al Faqa, Dubai**	**12.27**	**134**	P	**Pn**		**10 10 20.3**	**+2.2**
	SNR=6.1							
FAQ				P	**Pn**		**10 10 20.3**	**+2.2**
	SNR=6.1							
FAQ				S	**Sn**		**10 12 29.4**	**-5.1**
	SNR=6.5							
FAQ				S	**Sn**		**10 12 29.4**	**-5.1**
	SNR=6.5							
MDH	**Madha**	**12.30**	**130**	P	**Pn**		**10 10 19.1**	**+0.5**
	SNR=33							
MDH				S	**Sn**		**10 12 29.5**	**-6.0**
MDH	**Madha**	**12.30**	**130**	*i* P	**Pn**		**10 10 18.8**	**+0.2**
	SNR=33							
UOSS	**Minazif**	**12.50**	**131**	Pn	**Pn**		**10 10 20.6**	**-0.6**
UOSS	**Minazif**	**12.50**	**131**	P	**Pn**		**10 10 21.2**	**0.0**
UOSS				P	**Pn**		**10 10 21.2**	**0.0**
UOSS				S	**Sn**		**10 12 35.3**	**-4.9**
UOSS				S	**Sn**		**10 12 35.3**	**-4.9**
UOSS	**Minazif**	**12.50**	**131**	P	**Pn**		**10 10 23.0**	**+1.8**
UOSS				P	**Pn**		**10 10 23.0**	**+1.8**
UOSS				S	**Sn**		**10 12 35.3**	**-4.9**
UOSS				S	**Sn**		**10 12 35.3**	**-4.9**
UOSS	**Minazif**	**12.50**	**131**	*i* P	**Pn**		**10 10 20.6**	**-0.6**
	SNR=18							
MZR	**Muzera**	**12.53**	**146**	P	**Pn**		**10 10 22.5**	**+0.8**
	SNR=17							
MZR				S	**Sn**		**10 12 36.8**	**-4.2**
MZR	**Muzera**	**12.53**	**146**	*i* P	**Pn**		**10 10 22.0**	**+0.3**
	SNR=17							
HATD	**Hatta, Dubai**	**12.54**	**132**	P	**Pn**		**10 10 22.0**	**+0.2**
	SNR=15							
HATD				P	**Pn**		**10 10 22.0**	**+0.2**
	SNR=15							
HATD				S	**Sn**		**10 12 35.8**	**-5.5**
	SNR=5.6							
HATD				S	**Sn**		**10 12 35.8**	**-5.5**
	SNR=5.6							
HATD	**Hatta, Dubai**	**12.54**	**132**	*i* P	**Pn**		**10 10 22.0**	**+0.2**
	SNR=15							
ASHO	**Ashiyiah**	**12.60**	**132**	P	**Pn**		**10 10 22.0**	**-0.6**
	SNR=26							
ASHO				P	**Pn**		**10 10 22.0**	**-0.6**
	SNR=26							
ASHO				S	**Sn**		**10 12 37.0**	**-5.7**
ASHO				S	**Sn**		**10 12 37.0**	**-5.7**
ASHO	**Ashiyiah**	**12.60**	**132**	*i* P	**Pn**		**10 10 22.6**	**-0.1**
	SNR=14							
ERBR	**Yeremizino-Bor**	**12.76**	**343**	*e*P	**Pn**		**10 10 26.4**	**+1.7**
ERBR				pmax	pmax			
	comp=Z,46nm,0.9s							
ERBR				MLR	MLR			
	comp=Z,3μm,17.0s							
ALNE	**Al Ain**	**12.88**	**135**	P	**Pn

SNR=14
JLN S **Sn** **10 14 08.4 -10**
JLN S **Sn** **10 14 08.4 -10**
MHTO MHTO 16.54 136 P **Pn** **10 11 14.0 -1.5**
SNR=42
MHTO S **Sn** **10 14 09.8 -9.0**
DOK Doka 16.68 152 P **Pn** **10 11 15.0 -2.1**
SNR=45
DOK S **Sn** **10 14 13.8 -8.3**
SNR=5.7
EZN Ezine 16.82 297 P **Pn** **10 11 19.6 +0.7**
comp=Z,29nm,1.1s
MANR Mangalia 16.86 312 ⇑P **Pn** **10 11 20.1 +0.8**
EFOR EFORIE 16.97 313 ⇑P **P** **10 11 22.1 -0.4**
PSN Preselentsi 17.05 311 P **Pn** **10 11 22.2 +0.6**
DQM DQM 17.15 140 P **Pn** **10 11 21.5 -1.6**
SNR=16
DQM S **Sn** **10 14 23.9 -10**
WHFO Wadi Hawf 17.18 154 P **Pn** **10 11 21.5 -2.0**
SNR=30
JURR Jurilovca 17.20 315 ⇑P **Pn** **10 11 23.5 0.0**
PRD Provadia 17.28 309 P **P** **10 11 26.0 0.0**
NE56 Odesa 17.30 323 P **Pn** **10 11 24.7 -0.1**
TIRR Tirgusor 17.30 314 ⇑P **Pn** **10 11 25.3 +0.5**
TIRR Tirgusor 17.30 314 P **P** **10 11 25.5 -0.7**
TIRR Tirgusor 17.30 314 P **P** **10 11 25.5 -0.7**
comp=Z,813nmcomp=Z,71nm,1.2s
IDI Anoyia 17.37 281 P **Pn** **10 11 24.8 -1.1**
comp=Z,2.8nm,0.3s,baz=74,slow=13,SNR=8.4
comp=Z,44nm,0.9s
TLCR 17.47 316 ⇑P **P** **10 11 27.5 -0.6**
TLCR 17.47 316 P **P** **10 11 27.4 -0.6**
TPGR Topolog 17.52 315 ⇑P **Pn** **10 11 27.8 +0.2**
ABTO Aybut 17.53 156 P **Pn** **10 11 25.4 -2.5**
SNR=31
RBK Rabkut 17.72 153 P **Pn** **10 11 28.7 -1.5**
SNR=19
HARR Harsova 17.72 314 ⇓P **P** **10 11 30.6 -0.2**
HARR Harsova 17.72 314 P **P** **10 11 30.6 -0.2**
PURM Purcari 17.73 321 P **Pn** **10 11 29.6 -0.5**
DMTO DMTO 17.82 151 P **Pn** **10 11 29.2 -2.2**
SNR=9.6
DMTO S **Sn** **10 14 44.0 -5.8**
SNR=7.0
VRH Novokhopyorsk 17.82 351 *e*P **Pn** **10 11 29.5 -1.7**
VRH pmax pmax
comp=Z,82nm,0.8s
VORD Divnogorie 17.98 346 *e*P **Pn** **10 11 32.1 -1.1**
VORD pmax pmax
comp=Z,40nm,0.6s
VSR Storozhevoye 18.25 346 *e*P **Pn** **10 11 35.2 -1.2**
VSR pmax pmax
comp=Z,130nm,1.1s
VSR MLR MLR
comp=Z,2μm,16.0s
SZH Strazhitsa 18.27 308 *i* P **Pn** **10 11 32.9 -3.9**
MILM Milestii Mici 18.53 321 ⇓*i*P **Pn** **10 11 43.0 +3.0**
comp=Z,430nm,3.7s
MILM Milestii Mici 18.53 321 *d i*P **Pn** **10 11 43.0 +3.0**
MILM *e*S **Sn** **10 15 00.0 -6.7**
MILM pmax pmax
comp=Z,430nm,3.7s
VORR Voronezh 18.67 347 *e*P **P** **10 11 40.0 -1.3**
VORR pmax pmax
comp=Z,179nm,0.6s
ISR Istrita 18.78 313 P **Pn** **10 11 43.6 +0.5**
comp=Z,131nm,1.1s
ABKAR Akbulak array 18.80 30 P **Pn** **10 11 44.1 +0.9**
AKTO Aktyubinsk 19.03 24 P **Pn** **10 11 45.9 -0.1**
comp=Z,1.7nm,0.3s,baz=208,slow=10,SNR=29
AKTO S **Sn** **10 15 16.3 -2.4**
comp=Z,4.5nm,1.0s,baz=252,slow=20,SNR=1.1
comp=Z,18nm,0.9s
VRI Vrincioaia 19.07 316 ⇑P **P** **10 11 44.7 -1.0**
VRI Vrincioaia 19.07 316 P **P** **10 11 44.7 -1.0**
VRI Vrincioaia 19.07 316 P **P** **10 11 45.4 -0.3**
comp=Z,19nm,0.7s
NEHR Nehoiu 19.09 314 ⇓P **Pn** **10 11 46.5 -0.3**
PLOR5 Plostina Array 19.10 315 P **P** **10 11 45.6 -0.4**
comp=Z,1μmcomp=Z,29nm,1.1s
PLOR Plostina 19.11 315 ⇑P **P** **10 11 46.1 -0.1**
PLOR Plostina 19.11 315 P **P** **10 11 46.0 -0.1**
MMB Musomishta 19.19 301 ⇑*i*P **P** **10 11 47.3 +0.2**
PGB Panagyurishte 19.20 304 *i* P **Pn** **10 11 48.3 +0.2**
KBL Kabul 19.22 81 P **Pn** **10 11 50.3 +1.6**
KBL Kabul 19.22 81 P **P** **10 11 47.3 -0.4**
SNR=36
KBL Kabul 19.22 81 P **Pn** **10 11 50.3 +1.6**
KBL pmax pmax
comp=Z,86nm,1.3s
KBU Kabul Universi 19.30 81 P **P** **10 11 45.5 -3.0**
MLR Muntele Rosu 19.34 314 P **P** **10 11 47.7 -1.0**
comp=Z,14nm,0.6s,baz=125,slow=6.7,SNR=14
MLR LR LR 10 21 26.9
comp=Z,2μm,19.0s,baz=138,slow=44
MLR Muntele Rosu 19.34 314 ⇑P **P** **10 11 48.6 -0.2**
MLR Muntele Rosu 19.34 314 P **Pn** **10 11 49.3 -0.5**
comp=Z,32nm,0.9s
SIMJ Simiganj 19.34 68 P **Pn** **10 11 51.2 +1.2**
COVR Voineasa-Covas 19.37 315 ⇓P **P** **10 11 48.9 -0.1**
TESR Tescani 19.48 317 ⇓P **P** **10 11 49.4 -0.8**
TESR Tescani 19.48 317 P **P** **10 11 49.3 -0.8**
comp=Z,53nm,1.3s
ONER Baraj Valea Uz 19.52 316 ⇑P **P** **10 11 50.4 -0.3**
SORM Soroca 19.56 323 ⇑P **P** **10 11 49.4 -1.6**
SORM Soroca 19.56 323 P **P** **10 11 49.4 -1.6**
LPSR Galich'ya Gora 19.61 347 *e*P **P** **10 11 49.9 -1.6**
LPSR pmax pmax
comp=Z,361nm,0.8s
KKB Krupnik 19.72 301 ⇑*i*P **P** **10 11 52.6 -0.3**
MTUR Matau 19.74 312 ⇓P **P** **10 11 53.7 +0.5**
MTUR Matau 19.74 312 P **P** **10 11 53.7 +0.5**
OZUR 19.75 315 ⇑P **P** **10 11 53.4 +0.2**
MPEP Malo Peshtene 19.80 306 *i* P **P** **10 11 53.6 -0.1**
VOIR 19.85 313 ⇓P **P** **10 11 55.0 +0.6**
VOIR 19.85 313 P **P** **10 11 55.1 +0.7**
VOIR 19.85 313 P **P** **10 11 54.9 +0.6**
comp=Z,2μmcomp=Z,244nm,1.0s
VTS Vitosha 19.89 303 ⇑*i*P **P** **10 11 54.7 -0.1**
DOPR Dopca 19.91 314 ⇑P **P** **10 11 55.2 +0.2**
VAY Valandovo 19.98 299 *i* P **P** **10 11 55.4 -0.2**
ARR Arges 20.08 312 ⇑P **P** **10 11 57.4 +0.6**
VALD Valchedram 20.13 307 *e*P **P** **10 11 57.6 +0.3**
PRAR RASCA 20.20 319 ⇑P **P** **10 11 57.7 -0.3**
GAR Garm 20.40 68 IAmb IAmb 10 12 14.2
comp=Z,119nm,1.2s
TNR Turnu Rosu 20.44 312 ⇓P **P** **10 12 00.9 +0.3**
TNR Turnu Rosu 20.44 312 P **P** **10 12 00.9 +0.3**
CHM Chimkent 20.59 58 *e*P Pn 10 12 03.5 -1.0
CHM pmax pmax
comp=Z,35nm,0.7s
CHM Chimkent 20.59 58 *e*P Pn 10 12 03.5 -1.0
comp=Z,35nm,0.7s
MDB Medias 20.61 314 ⇓P **P** **10 12 03.0 +0.5**
MDB Medias 20.61 314 P **P** **10 12 03.0 +0.5**
LOT Lotru 20.65 311 ⇑P **P** **10 12 02.7 -0.4**
FNA Florina 20.73 297 IAmb IAmb 10 12 08.6
comp=Z,65nm,0.7s
IUG Iuzhnay 20.84 59 *e*P **P** **10 12 06.3 +1.2**
IUG *e*S Sn 10 16 00.2 -2.5
IUG pmax pmax
comp=Z,29nm,0.9s
IUG Iuzhnay 20.84 59 *e*P **P** **10 12 06.4 +1.2**
comp=Z,29nm,0.9s
IUG *e*S Sn 10 16 00.3 -2.4
AK09 Malin Array Si 20.88 329 P **P** **10 12 03.6 -1.7**
AK10 Malin Array Si 20.88 329 P **P** **10 12 03.7 -1.7**
BURAR Bucovina Array 20.91 318 P **P** **10 12 05.4 -0.4**
BURAR Bucovina Array 20.91 318 ⇑P **P** **10 12 05.4 -0.4**
BURAR Bucovina Array 20.91 318 P **P** **10 12 05.2 -0.6**
BUR08 Bucovina Ar. S 20.93 318 P **P** **10 12 05.3 -0.8**
BRLS Borolday 20.97 56 *e*P **P** **10 12 05.5 -0.9**
BRLS *e*S **S** **10 15 58.9 -0.6**
BRLS pmax pmax
comp=Z,26nm,1.0s
BRLS Borolday 20.97 56 *e*P **P** **10 12 05.6 -0.9**
comp=Z,26nm,1.0s
BRLS *e*S **S** **10 15 59.0 -0.6**
AKASG Malin Array Be 20.97 329 P **P** **10 12 04.9 -1.4**
comp=Z,31nm,0.4s,baz=142,slow=10.0,SNR=64
AKASG PcP **PcP** **10 16 14.1 +0.8**
comp=Z,2.4nm,0.6s,baz=84,slow=2.1,SNR=4.9
AKASG ScP **ScP** **10 19 49.6 +0.1**
comp=Z,1.9nm,0.6s,baz=141,slow=9.9,SNR=5.8
AKASG LR LR 10 23 05.5
comp=Z,1μm,19.0s,baz=108,slow=45
comp=Z,31nm,0.4s
AKBB Malin Array Si 20.97 329 *ce*P **P** **10 12 03.9 -2.4**
AKBB Malin Array Si 20.97 329 P **P** **10 12 04.4 -1.9**
KIEV Kiev 20.97 329 P **P** **10 12 05.1 -1.2**
KIEV IAmb IAmb 10 12 05.9
comp=Z,102nm,0.8s
KIEV Kiev 20.97 329 P **P** **10 12 05.1 -1.2**
KIEV pmax pmax
comp=Z,102nm,0.8s
KIEV Kiev 20.97 329 *i* P **P** **10 12 04.9 -1.4**
SNR=11
LUBAR Lubar, Ukraine 21.06 326 P **P** **10 12 05.7 -1.6**
LUBAR pP **pP** **10 12 10.0 -1.7**
ARCR ARCALIA 21.11 316 ⇑P **P** **10 12 08.1 +0.2**
OHR Ohrid 21.23 298 *i* P **P** **10 12 09.7 +0.5**
GZR Gura Zlata 21.26 310 ⇑P **P** **10 12 08.4 -1.1**
GZR Gura Zlata 21.26 310 P **P** **10 12 08.4 -1.1**
HERR Herculane 21.27 309 ⇑P **P** **10 12 08.8 -0.9**
BOVS Bovan 21.28 305 ⇑P **P** **10 12 09.3 -0.5**
CJR Cluj-Napoca 21.36 314 ⇑P **P** **10 12 10.3 -0.3**
CJR Cluj-Napoca 21.36 314 P **P** **10 12 10.3 -0.3**
KK31 Karatay Array 21.46 57 P **P** **10 12 13.7 +2.0**
KK31 Karatay Array 21.46 57 P **P** **10 12 13.7 +2.0**
KK31 pmax pmax
comp=Z,53nm,0.9s
KKAR Karatay Array 21.46 57 P **P** **10 12 13.5 +1.8**
KKAR Karatay Array 21.46 57 P **P** **10 12 13.5 +1.8**
MARR Marisel-Cluj 21.63 314 ⇑P **P** **10 12 13.1 -0.5**
KEK Kerkira 21.73 294 IAmb IAmb 10 12 22.0
comp=Z,52nm,0.8s
DRGR 21.93 314 ⇓P **P** **10 12 16.1 -0.7**
DRGR 21.93 314 P **P** **10 12 16.4 -0.4**
MESR Meseseni 21.96 315 ⇑P **P** **10 12 17.4 +0.4**
BZS Buzias 22.09 310 ⇑P **P** **10 12 18.1 -0.3**
BZS Buzias 22.09 310 P **P** **10 12 18.1 -0.3**
IVA Berane 22.31 302 ⇑*i*P **P** **10 12 19.6 -1.3**
SIRR Siria 22.34 312 ⇑P **P** **10 12 20.3 -0.8**
SJES Sjenica 22.36 303 ⇑*i*P **P** **10 12 19.6 -1.9**
OBN Obninsk 22.45 346 P **P** **10 12 19.7 -2.4**
comp=Z,40nm,0.4s,baz=208,slow=4.2,SNR=8.6
OBN LR LR 10 22 29.5
comp=Z,2μm,18.8s,baz=160,slow=40
comp=Z,40nm,0.4s
OBN Obninsk 22.45 346 *e*P **P** **10 12 20.1 -2.0**
OBN *i* 10 12 27.0
OBN *i* 10 12 48.2
OBN pmax pmax
comp=Z,51nm,0.7s
OBN MLR MLR
comp=Z,2μm,18.0s
ULC Ulcinj 22.55 299 *e*P **P** **10 12 23.5 +0.1**
KOME Kolasin 22.57 302 ⇑*i*P **P** **10 12 23.2 -0.5**
DRME Dracevica, Mon 22.65 300 ⇑*i*P **P** **10 12 23.9 -0.5**
PDG Podgorica 22.65 301 *e*P **P** **10 12 25.1 +0.7**
PDG Podgorica 22.65 301 ⇑*i*P **P** **10 12 23.6 -0.8**
NIL Nilore 22.79 82 P **P** **10 12 27.4 +1.4**
NIL IAmb IAmb 10 12 29.5
comp=Z,62nm,1.0s
NIL Nilore 22.79 82 P **P** **10 12 27.4 +1.4**
NIL pmax pmax
comp=Z,62nm,1.0s
SCTE Santa Cesarea 22.79 294 IAmb IAmb 10 12 25.1
comp=Z,41nm,0.7s
PLE Pljevlja 22.79 303 *e*P **P** **10 12 25.7 -0.4**
ARSB Arslanbob 22.80 62 IAmb IAmb 10 12 43.4
comp=Z,55nm,1.0s
RNPP5 Staryi Chortor 22.83 326 P **P** **10 12 24.2 -2.0**
MOS Moscow 22.84 348 *e*P **P** **10 12 22.2 -4.1**
MOS *e*S **S** **10 16 30.7 -4.3**
MOS pmax pmax
comp=Z,188nm,1.2s
MOS MLR MLR
comp=Z,1μm,18.0s
BUM Brajici-Budva 22.88 300 ⇑*i*P **P** **10 12 26.3 -0.7**
RUDO Rudo 22.89 304 *e*P **P** **10 12 24.2 -2.7**
CEME Cevo 22.92 301 ⇑*i*P **P** **10 12 27.5 +0.1**
BBLS Lazi&#263i 22.94 304 *e*P **P** **10 12 23.8 -3.7**
NKME Niksic 22.95 301 ⇑*i*P **P** **10 12 27.3 -0.4**
HOLU Holmets 23.00 317 P **P** **10 12 27.3 -0.7**
TEKS Tekeris 23.07 306 *e*P **P** **10 12 27.1 -1.7**
FRGS Fruska Gora 23.09 308 *e*P **P** **10 12 27.4 -1.6**
UPM Unac-Piva 23.10 302 *e*P **P** **10 12 28.6 -0.7**
HCY Herceg Novi 23.20 300 ⇑*i*P **P** **10 12 28.9 -1.3**
HCY Herceg Novi 23.20 300 ⇑*i*P **P** **10 12 29.1 -1.1**
KOLS Kolonicke sedl 23.27 318 *e*P **P** **10 12 31.5 +0.6**
KOLS pmax pmax
comp=Z,36nm,0.8s
KOLS Kolonicke sedl 23.27 318 *e*P **P** **10 12 31.5 +0.6**
BRY Bratogost 23.28 301 ⇑*i*P **P** **10 12 30.5 -0.6**
BRY Bratogost 23.28 301 ⇑*i*P **P** **10 12 29.8 -1.3**
HAPS Han Pijesak,Bl 23.32 305 ⇑*i*P **P** **10 12 29.3 -2.1**
TREB Trebinje 23.37 301 *e*P **P** **10 12 28.4 -3.5**
STON Ston 23.87 301 ⇑*i*P **P** **10 12 34.9 -1.8**
TIP Timpagrande 24.01 292 ⇑P **P** **10 12 37.1 -1.1**
KECS Kecovo 24.07 316 *e*P **P** **10 12 39.7 +1.2**
KECS pmax pmax
comp=Z,48nm,0.8s
KECS Kecovo 24.07 316 *e*P **P** **10 12 39.7 +1.2**
PSZ Piszkesteto 24.15 314 P **P** **10 12 38.7 -0.7**
PSZ Piszkesteto 24.15 314 ⇑P **P** **10 12 38.3 -1.1**
PSZ Piszkesteto 24.15 314 P **P** **10 12 38.3 -1.1**
PSZ Piszkesteto 24.15 314 *e*P **P** **10 12 39.0 -0.4**
AAK Ala-Archa 24.16 60 P **P** **10 12 41.6 +1.9**
AAK Ala-Archa 24.16 60 P **P** **10 12 40.7 +1.0**
AAK Ala-Archa 24.16 60 *ce*P **P** **10 12 41.6 +1.9**
AAK pmax pmax
comp=Z,20nm,2.5s
MATE Matera 24.20 295 ⇑P **P** **10 12 38.6 -1.2**
MATE Matera 24.20 295 *e*P **P** **10 12 36.9 -2.9**
MORH Mrgy, Hungar 24.23 309 ⇑P **P** **10 12 38.9 -1.2**
MORH Mrgy, Hungar 24.23 309 P **P** **10 12 39.2 -0.9**
comp=Z,26nm,0.8s
ARTI Arti 24.35 17 P **P** **10 12 41.1 +0.1**
ARTI IAmb IAmb 10 13 00.2
comp=Z,47nm,1.1s
ARTI Arti 24.35 17 P **P** **10 12 41.1 +0.1**
comp=Z,11nm,0.6s,baz=221,slow=5.7,SNR=14
comp=Z,11nm,0.6s
ARTI Arti 24.35 17 *c i*P **P** **10 12 41.5 +0.5**
ARTI 10 13 09.6
ARTI S **S** **10 17 02.4 +2.8**
ARTI pmax pmax
comp=Z,32nm,1.0s
ARTI MLR MLR
comp=Z,992nm,16.0s
MNK Minsk 24.41 334 *i* P **P** **10 12 39.7 -1.9**
comp=E,29nm,0.8s
MNK *i* P **P** **10 12 39.7 -1.9**
comp=N,81nm,0.9s
MNK *i* P **P** **10 12 39.7 -1.9**
comp=Z,107nm,0.7s,baz=142
MNK *i* PP **PnPn** **10 13 10.0 -2.1**
MNK *i* PPP PPP 10 13 17.9
MNK *i* S **S** **10 17 00.4 -0.3**
MNK *i* SS **SnSn** **10 17 45.2 +0.7**
MNK *i* SSS SSS 10 17 58.8
MNK *i* LQ LQ 10 20 16.2
MNK *i* LR LR 10 21 59.6
MNK *i* LRM MLR 10 23 41.9
comp=Z,812nm,16.5s
MNK *i* LRM MLR 10 23 51.5
comp=N,833nm,18.7s
MNK *i* LRM MLR 10 23 56.2
comp=E,1μm,17.7s
MNK Minsk 24.41 334 *i* P **P** **10 12 39.6 -1.9**
MNK *i* PPP PPP 10 13 17.9
MNK *i* S **S** **10 17 00.3 -0.3**
MNK *i* SS **SnSn** **10 17 45.1 +0.7**
MNK pmax pmax
comp=E,29nm,0.8s
MNK pmax pmax
comp=N,81nm,0.9s
MNK pmax pmax
comp=Z,107nm,0.7s
MNK MLR MLR
comp=Z,812nm,17.0s
MNK MLR MLR
comp=N,833nm,19.0s
MNK MLR MLR
comp=E,1μm,18.0s
SGDS Sogindy 24.45 58 *e*P **P** **10 12 43.2 +1.0**
SGDS pmax pmax
comp=Z,19nm,1.2s
SGDS Sogindy 24.45 58 *e*P **P** **10 12 43.2 +1.0**
comp=Z,19nm,1.2s
BTLS Baital 24.48 54 *e*P **P** **10 12 43.5 +1.2**
BTLS pmax pmax
comp=Z,32nm,1.5s
BTLS Baital 24.48 54 *e*P **P** **10 12 43.5 +1.2**
comp=Z,32nm,1.5s
NIE Niedzica 24.63 317 P **P** **10 12 43.1 -0.6**
comp=Z,11nm,1.2s
CEL Celeste 24.64 289 IAmb IAmb 10 12 47.0
comp=Z,57nm,0.9s
CEL Celeste 24.64 289 P **P** **10 12 43.4 -0.5**
comp=Z,818nmcomp=Z,84nm,1.1s
BLY Banja Luka 24.72 305 *e*P **P** **10 12 43.5 -1.0**
CUC Castrocucco 24.80 294 IAmb IAmb 10 12 46.5
comp=Z,49nm,0.9s
KSH Kashi 24.82 68 P **P** **10 12 45.2 -0.5**
KSH PP **PnPn** **10 13 24.6 +6.6**
KSH S **S** **10 17 02.9 -5.0**
KSH pmax pmax
comp=Z,18nm,0.8s
KSH pmax pmax
comp=Z,570nm,9.0s
KSH LR LR
comp=Z,2μm,13.7s
KSH LR LR
comp=Z,3μm,20.6s
KSH LR LR
comp=Z,3μm,25.4s
LANS Liptovska Anna 24.98 316 *e*P **P** **10 12 47.5 +0.7**
LANS pmax pmax
comp=Z,13nm,0.9s
LANS Liptovska Anna 24.98 316 *e*P **P** **10 12 47.5 +0.7**
A051A Mrakovica 24.99 306 ⇑*i*P **P** **10 12 43.3 -3.7**
VYHS Vyhne 25.04 314 *e*P **P** **10 12 49.3 +1.9**
VYHS pmax pmax
comp=Z,12nm,1.0s
VYHS Vyhne 25.04 314 *e*P **P** **10 12 49.3 +1.9**
SRO Srobarova 25.07 313 *e*P **P** **10 12 48.3 +0.7**
SRO pmax pmax
comp=Z,51nm,1.4s
SRO Srobarova 25.07 313 *e*P **P** **10 12 48.3 +0.7**
KIRV Kirov 25.08 4 P **P** **10 12 46.5 -1.0**
comp=Z,33nm,0.5s,baz=168,slow=3.2,SNR=15
comp=Z,33nm,0.5s
A050A Klekovaca 25.09 304 ⇑*i*P **P** **10 12 46.5 -1.5**
NACGM Naroch 25.12 334 *e*P **P** **10 12 47.5 -0.5**
MPLH Magyarpolny 25.30 311 P **P** **10 12 49.4 -0.3**
comp=Z,122nm,1.0s
SVE Sverdlovsk 25.32 19 *de*P **P** **10 12 50.7 +0.9**
SVE *e*S **S** **10 17 19.2 +4.0**
SVE pmax pmax
comp=Z,77nm,1.0s
OJC Ojcow 25.32 319 *e*P **P** **10 12 49.4 -0.5**
OJC Ojcow 25.32 319 IAmb IAmb 10 12 51.4
comp=Z,40nm,0.8s
OJC Ojcow 25.32 319 P **P** **10 12 49.2 -0.7**
comp=Z,60nm,1.0s
IDID Didziasalis 25.46 334 *e*P **P** **10 12 48.8 -2.2**
BRZS Berezniki 25.63 42 *e*P **P** **10 12 53.2 +0.5**
BRZS Berezniki 25.63 42 *e*P **P** **10 12 53.3 +0.5**
R9F13 Warsaw-Wawer 25.73 324 *e*P **P** **10 12 54.8 +1.2**
RAFF Raffo Rosso 25.85 287 IAmb IAmb 10 13 21.6
comp=Z,81nm,1.0s
PAOL Paolisi 25.86 296 IAmb IAmb 10 13 01.0
comp=Z,68nm,1.3s
KOGS Kog 25.87 308 *e*P **P** **10 12 54.8 -0.1**
KOGS *e*S S 10 17 56.6 +33
ISAL Salakas 25.88 334 *e*P **P** **10 12 55.7 +0.8**
SMOL Smolenice 25.90 314 *e*P **P** **10 12 55.1 -0.1**
SMOL pmax pmax
comp=Z,23nm,1.0s
JAVC Velka Javorina 25.90 314 *e*P **P** **10 12 55.8 +0.6**
MODS Modra-Piesok 25.93 313 *e*P **P** **10 12 55.2 -0.3**
MODS pmax pmax
comp=Z,105nm,1.2s
MODS Modra-Piesok 25.93 313 *e*P **P** **10 12 55.2 -0.3**
SUW Suwalki 25.93 329 *e*P **P** **10 12 54.5 -0.8**
SUW Suwalki 25.93 329 P **P** **10 12 54.8 -0.6**
SUW Suwalki 25.93 329 P **P** **10 12 54.8 -0.6**
SUW pmax pmax
comp=Z,147nm,1.0s
SUW Suwalki 25.93 329 *e*P **P** **10 12 55.1 -0.2**
TNSS Tian-Shan 26.01 60 *e*P **P** **10 12 57.4 +0.7**
TNSS Tian-Shan 26.01 60 *e*P **P** **10 12 57.4 +0.7**
AAA Alma-Ata 26.02 59 *e*P **P** **10 12 57.6 +1.2**
AAA pmax pmax
comp=Z,32nm,1.1s
AAA Alma-Ata 26.02 59 *e*P **P** **10 12 57.6 +1.2**
comp=Z,32nm,1.1s
OKC Ostrava-Krasne 26.06 317 *e*P **P** **10 12 55.1 -1.5**
OKC AMS AMS 10 24 50.0
comp=Z,900nm,21.4s
OKC Ostrava-Krasne 26.06 317 *e*P **P** **10 12 55.1 -1.5**
OKC MLR MLR
comp=Z,900nm,21.4s
BRVK Borovoye 26.11 35 P **P** **10 12 57.6 +0.6**
BRVK Borovoye 26.11 35 P **P** **10 12 59.1 +2.2**
BRVK Borovoye 26.11 35 *ce*P **P** **10 12 58.1 +1.1**
BRVK pmax pmax
comp=Z,19nm,1.3s
MDOK Medeo 26.11 59 *e*P **P** **10 12 58.3 +1.0**
MDOK *e*S **S** **10 17 30.9 +2.6**
MDOK Medeo 26.11 59 *e*P **P** **10 12 58.4 +1.0**
MDOK *e*S **S** **10 17 30.9 +2.6**
BVAR Borovoye Array 26.13 35 P **P** **10 12 57.8 +0.6**
comp=Z,5.4nm,0.6s,baz=235,slow=5.2,SNR=21
BVAR PcP **PcP** **10 16 25.2 +0.9**
comp=Z,3.7nm,0.5s,baz=184,slow=3.9,SNR=4.8
BVAR LR LR 10 25 27.5
comp=Z,731nm,21.4s,baz=240,slow=42
comp=Z,5.4nm,0.6s
BOJS Bojanci 26.25 306 *e*P **P** **10 12 57.8 -0.5**
RONA Rosalia, Austr 26.28 311 *e*P **P** **10 12 58.5 -0.1**
comp=Z,46nm,1.5s,SNR=14
MORC Moravsky Berou 26.38 316 IAmb IAmb 10 13 02.3
comp=Z,48nm,1.2s
MORC Moravsky Berou 26.38 316 *e*P **P** **10 12 59.0 -0.6**
MORC Moravsky Berou 26.38 316 ⇑P **P** **10 12 58.7 -0.9**
MORC Moravsky Berou 26.38 316 P **P** **10 12 58.6 -0.9**
ARSA Arzberg 26.61 310 IAmb IAmb 10 13 07.7
comp=Z,70nm,1.8s
ARSA Arzberg 26.61 310 *e*P **P** **10 13 01.1 -0.5**
comp=Z,19nm,0.9s,SNR=10
ARSA *e*PcP **PcP** **10 16 24.9 -0.6**
comp=Z,3.1nm,0.5s
CONA Conrad Observa 26.63 311 *i* P **P** **10 13 01.8 -0.1**
comp=Z,43nm,1.4s,SNR=17
PABE Paberze 26.65 332 *e*P **P** **10 13 01.4 -0.4**
VRAC Vranov 26.73 315 P **P** **10 13 01.6 -1.1**
comp=Z,10.0nm,0.8s,baz=106,slow=9.3,SNR=15
VRAC LR LR 10 25 11.7
comp=Z,936nm,21.7s,baz=109,slow=40
comp=Z,10.0nm,0.8s
VRAC Vranov 26.73 315 *e*P **P** **10 13 02.6 -0.1**
SOKA Soboth 26.74 308 *e*P **P** **10 13 02.6 -0.3**
comp=Z,17nm,1.1s,SNR=10.0
SOKA *i* PcP **PcP** **10 16 26.7 +0.8**
comp=Z,6.9nm,0.8s
KRUC Moravsky 26.75 314 *e*P **P** **10 13 02.3 -0.5**
CEY Cerknica 26.87 306 ⇑*i*P **P** **10 13 03.3 -0.7**
LJU Ljubljana 26.89 307 *i* P **P** **10 13 04.2 +0.1**
CAMP Campotosto 26.91 299 IAmb IAmb 10 13 06.2
comp=Z,44nm,1.0s
KRLC Kraliky 26.95 316 *e*P **P** **10 13 04.5 -0.2**
KRLC AMS AMS 10 25 20.0
comp=Z,900nm,15.5s
KRLC Kraliky 26.95 316 *e*P **P** **10 13 04.5 -0.2**
KRLC MLR MLR
comp=Z,900nm,15.5s
OBKA Obir 27.01 308 *e*P **P** **10 13 04.7 -0.6**
OBKA Obir 27.01 308 *e*P **P** **10 13 05.0 -0.3**
comp=Z,31nm,0.9s,SNR=14
OBKA *e*PcP **PcP** **10 16 22.9 -3.6**
comp=Z,15nm,1.6s
SATY Saty 27.07 60 *e*P **P** **10 13 06.8 +0.9**
SATY Saty 27.07 60 *e*P **P** **10 13 06.9 +0.9**
ZHN Zhinishke 27.11 60 *e*P **P** **10 13 07.3 +1.0**
ZHN Zhinishke 27.11 60 *e*P **P** **10 13 07.4 +1.0**
DPC Dobruska-Polom 27.34 317 *e*P **P** **10 13 08.1 -0.1**
DPC AMS AMS 10 25 40.0
comp=Z,900nm,15.6s
DPC Dobruska-Polom 27.34 317 *e*P **P** **10 13 08.1 -0.1**

DPC MLR MLR
comp=Z,900nm,15.6s
TREC Trest 27.39 314 AMS AMS 10 26 50.0
comp=Z,2μm,15.0s
TDK Taldyqorghan 27.45 56 *e*P **P** **10 13 10.3 +1.1**
TDK Taldyqorghan 27.45 56 *e*P **P** **10 13 10.3 +1.1**
CADS Cadrg 27.46 307 *i* P **P** **10 13 08.5 -0.8**
SABO M.te Sabotino 27.49 306 IAmb IAmb 10 13 18.3
comp=Z,31nm,1.0s
OSTC Ostas 27.49 317 *e*P **P** **10 13 09.3 -0.2**
OSTC AMS AMS 10 27 10.0
comp=Z,700nm,13.2s
OSTC Ostas 27.49 317 *e*P **P** **10 13 09.3 -0.2**
OSTC MLR MLR
comp=Z,700nm,13.2s
UZB Uzynbulak 27.53 60 *e*P **P** **10 13 11.1 +1.0**
UZB Uzynbulak 27.53 60 *e*P **P** **10 13 11.2 +1.0**
CESX Cesi 27.53 299 IAmb IAmb 10 13 13.5
comp=Z,33nm,0.9s
KLMR Klimovskoe 27.55 353 *e*P **P** **10 13 05.6 -4.3**
KLMR *e* 10 13 52.2
KLMR S **S** **10 17 47.2 -3.2**
KLMR pmax pmax
comp=Z,69nm,0.8s
KSP Ksiaz 27.58 317 *e*P **P** **10 13 09.9 -0.4**
UPC Upice 27.59 317 *e*P **P** **10 13 09.8 -0.6**
UPC *e*S S 10 18 34.3 +43
UPC AMS AMS 10 25 50.0
comp=Z,800nm,15.4s
UPC Upice 27.59 317 *e*P **P** **10 13 09.8 -0.6**
UPC MLR MLR
comp=Z,800nm,15.4s
CHVC Chvalec 27.60 317 *e*P **P** **10 13 10.4 -0.1**
CHVC AMS AMS 10 26 00.0
comp=Z,1μm,15.6s
CHVC Chvalec 27.60 317 *e*P **P** **10 13 10.4 -0.1**
CHVC MLR MLR
comp=Z,1μm,15.6s
MOA Molln 27.61 310 *e*P **P** **10 13 10.4 -0.2**
comp=Z,26nm,1.4s,SNR=9.1
PRED Cave del Predi 27.64 307 IAmb IAmb 10 13 19.5
comp=Z,23nm,0.8s
MYKA Terra Mystica 27.64 308 *i* P **P** **10 13 11.7 +0.7**
comp=Z,18nm,0.9s
SHLS Shalkode 27.85 60 *e*P **P** **10 13 16.6 +3.7**
SHLS Shalkode 27.85 60 *e*P **P** **10 13 16.6 +3.7**
CKRC Cesky Krumlov 27.92 312 *e*S S 10 18 42.0 +45
CKRC AMS AMS 10 27 30.0
comp=Z,1μm,15.4s
BIOA Bad Ischl, Aus 27.96 310 *e*P **P** **10 13 13.5 -0.2**
comp=Z,41nm,1.7s,SNR=8.8
VSU Vasula 27.96 338 *ce*P **P** **10 13 12.0 -1.6**
VSU pmax pmax
comp=Z,22nm,1.0s
KBA Koelnbreinsper 27.96 308 *i* P **P** **10 13 13.5 -0.4**
comp=Z,18nm,1.1s,SNR=8.8
GOPC GO Pecny, Ondr 28.05 315 AMS AMS 10 27 30.0
comp=Z,1μm,15.2s
ZVC Zvikov 28.22 314 *e*P **P** **10 13 15.7 -0.3**
ZVC *e*S S 10 18 46.1 +45
ZVC AMS AMS 10 27 40.0
comp=Z,900nm,15.9s
PRU Pruhonice 28.23 315 *e*S S 10 18 43.9 +43
PRU AMS AMS 10 27 30.0
comp=Z,800nm,13.6s
GERES GERESS Array B 28.30 312 P **P** **10 13 15.1 -1.8**
GERES GERESS Array B 28.30 312 P **P** **10 13 15.8 -1.1**
comp=Z,2.9nm,0.8s,baz=111,slow=9.3,SNR=12
GERES PcP **PcP** **10 16 30.3 +0.7**
comp=Z,1.9nm,0.6s,baz=126,slow=1.8,SNR=5.8
GERES LR LR 10 26 04.6
comp=Z,460nm,19.2s,baz=119,slow=40
comp=Z,2.9nm,0.8s
PRA Prague 28.32 315 AMS AMS 10 27 50.0
comp=Z,900nm,14.5s
ABTA Abfaltersbach 28.42 307 *i* P **P** **10 13 17.5 -0.5**
comp=Z,12nm,1.3s
ABTA *i* PcP **PcP** **10 16 29.2 -0.8**
comp=Z,5.4nm,0.9s
PVCC Panska Ves 28.43 316 AMS AMS 10 27 50.0
comp=Z,1μm,14.0s
KHC Kasperske Hory 28.48 313 *e*P **P** **10 13 14.9 -3.5**
KHC *e*S S 10 18 48.2 +43
KHC AMS AMS 10 28 00.0
comp=Z,800nm,14.4s
KHC Kasperske Hory 28.48 313 *i* P **P** **10 13 18.3 -0.1**
KHC pmax pmax
comp=Z,9.0nm,1.1s
LESA Schwarzleotal 28.50 309 *i* P **P** **10 13 17.9 -0.7**
comp=Z,14nm,0.7s,SNR=11
LESA *i* PcP **PcP** **10 16 30.0 -0.1**
comp=Z,4.2nm,0.5s
RICC Richard 28.71 316 AMS AMS 10 27 50.0
comp=Z,1μm,15.2s
BRG Berggiesshubel 28.93 316 *e*P **P** **10 13 21.5 -0.9**
BRG Amp 10 13 22.8
comp=Z,7.7nm,1.1s
BRG Berggiesshubel 28.93 316 P **P** **10 13 26.8 +4.4**
BRG Amp 10 13 27.2
comp=Z,6.6nm,1.1s
ARBE Arbavere 28.98 339 *e*P **P** **10 13 21.8 -0.8**
MTSE Matsula 29.10 336 *e*P **P** **10 13 24.2 +0.6**
HSKC Hora Svate Kat 29.12 315 *e*S S 10 19 03.6 +48
HSKC AMS AMS 10 28 00.0
comp=Z,1μm,15.6s
WTTA Wattenberg 29.14 308 *e*P **P** **10 13 23.3 -1.1**
comp=Z,30nm,1.3s,SNR=12
WTTA *i* PcP **PcP** **10 16 31.5 -0.3**
comp=Z,7.6nm,0.7s
WATA Walderalm 29.19 308 *i* P **P** **10 13 23.8 -1.1**
comp=Z,13nm,0.7s,SNR=8.6
WATA *i* PcP **PcP** **10 16 32.4 +0.5**
comp=Z,12nm,1.2s
KURBB Kurchatov Arra 29.28 45 P **P** **10 13 26.9 +1.5**
comp=Z,9.5nm,0.8s,baz=251,slow=8.9,SNR=45
KURBB PcP **PcP** **10 16 32.6 +0.8**
comp=Z,2.5nm,0.7s,baz=249,slow=3.0,SNR=6.6
KURBB ScP **ScP** **10 20 12.2 -0.9**
comp=Z,3.3nm,1.0s,baz=251,slow=4.1,SNR=8.1
KURBB LR LR 10 26 49.8
comp=Z,777nm,19.0s,baz=9.0,slow=40
comp=Z,9.5nm,0.8s
VLC Villacollemand 29.34 302 P **P** **10 13 24.4 -1.7**
KURK Kurchatov 29.37 45 P **P** **10 13 27.4 +1.2**
KURK Kurchatov 29.37 45 P **P** **10 13 28.3 +2.1**
KURK Kurchatov 29.37 45 *ce*P **P** **10 13 27.2 +1.0**
KURK pmax pmax
comp=Z,25nm,1.7s
SQTA Sankt Quirin 29.41 308 *e*P **P** **10 13 25.6 -1.1**
comp=Z,9.1nm,0.5s,SNR=11
SQTA *i* PcP **PcP** **10 16 33.5 +1.0**
comp=Z,8.3nm,0.8s
MOTA Moosalm 29.51 308 *i* P **P** **10 13 26.1 -1.6**
comp=Z,7.8nm,0.6s
MOTA *i* PcP **PcP** **10 16 33.2 +0.5**
comp=Z,8.5nm,0.8s
NKC Novy Kostel 29.57 314 AMS AMS 10 28 30.0
comp=Z,900nm,16.2s
CLL Collm 29.65 317 *i* P **P** **10 13 27.4 -1.3**
comp=Z,21nm,1.3s
CLL *i* sP **pP** **10 13 32.1 -1.4**
CLL *e*S **S** **10 18 24.0 +0.4**
CLL *e*x x 10 19 00.0
CLL *e*x x 10 21 24.0
CLL AMS AMS 10 27 00.0
comp=N,900nm,20.4s
CLL AMS AMS 10 27 00.0
comp=E,400nm,21.3s
FETA Feichten 29.67 307 *e*P **P** **10 13 28.0 -1.2**
comp=E,13nm,1.1s,SNR=6.1
FETA *i* PcP **PcP** **10 16 33.6 +0.4**
comp=E,12nm,0.9s
RETA Reutte 29.77 308 *i* P **P** **10 13 28.5 -1.3**
comp=E,4.4nm,0.5s
RETA *i* PcP **PcP** **10 16 34.1 +0.8**
comp=E,8.1nm,0.8s
MSSA Maissana 29.98 302 IAmb IAmb 10 13 31.7
comp=Z,25nm,1.0s
KEST Kesra 29.99 284 P **P** **10 13 32.5 +0.4**
comp=Z,7.2nm,0.9s,baz=24,slow=6.4,SNR=6.1
KEST PcP **PcP** **10 16 34.1 0.0**
comp=Z,4.9nm,0.8s,baz=109,slow=1.6,SNR=2.7
comp=Z,7.2nm,0.9s
KEST Kesra 29.99 284 P **P** **10 13 33.6 +1.6**
KEST P **P** **10 13 33.6 +1.6**
MEF Metsahovi 30.09 339 *e*P **P** **10 13 32.0 -0.4**

GRA1 Grafenberg Arr 30.12 313 IAmb IAmb 10 13 33.0
comp=Z,26nm,1.0s
GRFO Grafenberg 30.12 313 P **P** **10 13 32.6 -0.3**
GRFO IAmb IAmb 10 13 33.0
comp=Z,24nm,1.0s
GRFO Grafenberg 30.12 313 P **P** **10 13 32.6 -0.3**
GRFO pmax pmax
comp=Z,24nm,1.0s
DAVOX Davos/Dischmat 30.18 307 P **P** **10 13 32.7 -1.0**
comp=Z,3.2nm,0.6s,baz=44,slow=2.3,SNR=5.7
DAVOX PcP **PcP** **10 16 34.3 -0.2**
comp=Z,2.6nm,0.7s,baz=344,slow=21,SNR=2.2
DAVOX LR LR 10 27 54.7
comp=Z,820nm,20.1s,baz=80,slow=41
comp=Z,3.2nm,0.6s
MAKZ Makanchi 30.29 53 P **P** **10 13 36.3 +1.9**
MAKZ Makanchi 30.29 53 P **P** **10 13 36.3 +1.9**
MAKZ pmax pmax
comp=Z,13nm,0.6s
DAVA Damuels 30.30 308 *i* P **P** **10 13 33.3 -1.4**
comp=Z,10.0nm,0.5s,SNR=7.7
DAVA *i* PcP **PcP** **10 16 35.7 +0.9**
comp=Z,6.3nm,0.8s
BSD Bornholm Skovb 30.43 324 *i* P **P** **10 13 33.0 -2.5**
BSD IAmb IAmb 10 13 35.1
comp=Z,14nm,0.8s
MK31 Makanchi Array 30.49 54 IAmb IAmb 10 13 43.5
comp=Z,16nm,0.7s
MK31 Makanchi Array 30.49 54 *ce*P **P** **10 13 37.1 +0.9**
MKAR Makanchi Array 30.49 54 P **P** **10 13 37.9 +1.6**
MKAR Makanchi Array 30.49 54 P **P** **10 13 38.0 +1.8**
comp=Z,20nm,0.6s,baz=249,slow=7.2,SNR=181
comp=Z,20nm,0.6s
MKAR Makanchi Array 30.49 54 *ce*P **P** **10 13 38.0 +1.8**
MKAR pmax pmax
comp=Z,20nm,0.6s
FINES FINESS Array B 30.61 341 P **P** **10 13 35.8 -1.3**
comp=Z,7.5nm,0.9s,baz=145,slow=9.2,SNR=10
FINES LR LR 10 28 15.7
comp=Z,1μm,19.4s,baz=138,slow=41
comp=Z,7.5nm,0.9s
FINES FINESS Array B 30.61 341 *ce*P **P** **10 13 36.2 -0.8**
FINES pmax pmax
comp=Z,8.0nm,0.9s
BLEU Blekinge 30.66 327 *i* P **P** **10 13 36.1 -1.4**
JOF Joensuu 30.72 347 *e*P **P** **10 13 36.8 -1.2**
LUNU Lund 31.41 324 *i* P **P** **10 13 42.2 -2.0**
KEF Keuruu 31.53 341 *e*P **P** **10 13 45.0 -0.2**
RAF Rauma 31.54 338 *e*P **P** **10 13 44.4 -0.8**
LODK Lodwar 31.61 200 P **P** **10 13 47.4 +1.1**
DEL Delary 31.65 326 *i* P **P** **10 13 44.6 -1.6**
BJUU Bjuv 31.84 325 *i* P **P** **10 13 46.9 -1.0**
ECH Echery 32.30 309 IAmb IAmb 10 13 52.0
comp=Z,27nm,1.2s
ZSN Zaisan 32.35 53 *e*P **P** **10 13 53.3 +0.8**
ZSN pmax pmax
comp=Z,15nm,1.3s
ZSN Zaisan 32.35 53 *e*P **P** **10 13 53.3 +0.8**
comp=Z,15nm,1.3s
FABU Falkenberg 32.47 326 *i* P **P** **10 13 52.1 -1.3**
BORU Boraas 32.79 327 *i* P **P** **10 13 54.8 -1.4**
VAF Ylistaro 32.84 341 *e*P **P** **10 13 56.4 -0.3**
ONAU Onsala 33.05 326 *i* P **P** **10 13 57.1 -1.4**
SSRD Sdr. Stenderup 33.25 322 *i* P **P** **10 13 57.0 -3.3**
SSRD IAmb IAmb 10 13 59.4
comp=Z,52nm,0.7s
WLF Walferdange 33.27 311 IAmb IAmb 10 14 00.5
comp=Z,23nm,1.0s
WLF Walferdange 33.27 311 P **P** **10 13 58.6 -2.0**
WLF Walferdange 33.27 311 *d*P **P** **10 13 59.5 -1.1**
HYB Hyderabad 33.45 111 *e*P **P** **10 14 03.6 +1.1**
HYB IVmB_BB 10 14 04.6
comp=Z,534nm,2.0s
HYB *e*PnPn **PnPn** **10 15 14.9 +1.3**
HYB *e*S **S** **10 19 25.3 +1.7**
HYB IVMs_BB IVMs_BB 10 30 30.2
comp=Z,641nm,12.6s
SSB Saint Sauveur 33.61 303 IAmb IAmb 10 14 03.3
comp=Z,17nm,0.8s
OVD Ostervraa, Den 33.81 325 *i* P **P** **10 14 06.2 +1.1**
OVD IAmb IAmb 10 14 07.0
comp=Z,68nm,0.5s
HFS Hagfors 33.83 331 P **P** **10 14 04.7 -0.6**
comp=Z,39nm,0.4s,baz=128,slow=9.6,SNR=255
HFS LR LR 10 30 13.7
comp=Z,365nm,20.7s,baz=124,slow=41
comp=Z,39nm,0.4s
WMQ Urumqi 33.88 60 *e*P **P** **10 14 08.7 +2.7**
WMQ pP sP 10 14 12.3 -0.5
WMQ pmax pmax
comp=Z,33nm,0.9s
WMQ LR LR
comp=Z,1μm,12.9s
WMQ LR LR
comp=Z,1μm,15.5s
WMQ LR LR
comp=Z,490nm,24.1s
MUD Monsted U'grnd 33.91 324 *i* P **P** **10 14 06.0 0.0**
MUD IAmb IAmb 10 14 07.4
comp=Z,72nm,1.1s
ZALV Zalesovo Beam 34.10 42 P **P** **10 14 08.6 +0.8**
comp=Z,12nm,0.5s,baz=259,slow=8.4,SNR=48
comp=Z,12nm,0.5s
STRU Stroemstad 34.25 328 *i* P **P** **10 14 06.5 -2.4**
DOU Dourbes 34.35 311 *d*P **P** **10 14 09.0 -0.9**
comp=Z,9.6nm,1.1s
UCC Uccle 34.66 312 *d*P **P** **10 14 13.0 +0.4**
APA Apatity 34.75 352 ↓*i*P **P** **10 14 11.9 -1.3**
APA *i* 10 15 28.7
APA *i* 10 16 43.0
APA pmax pmax
comp=Z,33nm,0.8s
OSL Oslo 34.94 330 *e*P **P** **10 14 14.3 -0.5**
NC602 NORSAR Array S 35.05 331 *e*P **P** **10 14 14.9 -0.9**
HOMB Homborsund 35.07 326 *i* P **P** **10 14 14.5 -1.5**
NC405 NORSAR Array S 35.20 332 P **P** **10 14 16.3 -0.9**
NB2 NORSAR Subarra 35.35 331 P **P** **10 14 17.4 -1.1**
comp=Z,5.1nm,0.7s,baz=124,slow=9.3
NB2 NORSAR Subarra 35.35 331 P **P** **10 14 17.4 -1.1**
baz=124,slow=9.3
NOA NORSAR Array B 35.35 331 P **P** **10 14 17.2 -1.3**
comp=Z,7.6nm,0.7s,baz=125,slow=8.6,SNR=30
NOA PP **PnPn** **10 15 36.0 -0.8**
comp=Z,4.5nm,0.8s,baz=128,slow=11,SNR=6.1
NOA LR LR 10 31 09.5
comp=Z,524nm,19.8s,baz=135,slow=40
comp=Z,7.6nm,0.7s
KMBO Kilima Mbogo 35.50 195 P **P** **10 14 21.8 +1.4**
KMBO Kilima Mbogo 35.50 195 P **P** **10 14 20.8 +0.3**
comp=Z,1.2nm,0.3s,baz=5.7,slow=7.6,SNR=8.4
KMBO LR LR 10 28 04.1
comp=Z,817nm,19.4s,baz=16,slow=35
comp=Z,1.2nm,0.3s
KMBO Kilima Mbogo 35.50 195 *i* P **P** **10 14 21.6 +1.1**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
EIBI Ibiza 35.99 292 P **P** **10 14 23.5 -0.8**
SKAR Skarslia 36.35 330 *e*P **P** **10 14 27.5 +0.4**
KIBK Kibwezi 36.52 193 P **P** **10 14 28.4 -0.6**
KIBK IAmb IAmb 10 14 33.4
comp=Z,50nm,2.0s
DOMB Dombas 36.77 332 *e*P **P** **10 14 29.7 -1.0**
TAM Tamanrasset 36.94 264 P **P** **10 14 33.5 +0.8**
TAM Tamanrasset 36.94 264 P **P** **10 14 33.5 +0.8**
TAM pmax pmax
comp=Z,31nm,1.2s
NSS Namsos 37.21 337 *e*P **P** **10 14 34.1 -0.1**
MOR8 Moi Rana 37.54 340 *e*P **P** **10 14 36.6 -0.5**
MOL Molde 37.66 332 *e*P **P** **10 14 38.2 +0.1**
KTK1 Kautokeino 37.66 347 *e*P **P** **10 14 37.1 -1.0**
VADS Vadso 37.67 351 *e*P **P** **10 14 38.4 +0.3**
ARA0 ARCESS Array S 37.71 348 *e*P **P** **10 14 38.3 -0.2**
ARCES ARCESS Array B 37.71 348 P **P** **10 14 38.2 -0.3**
comp=Z,16nm,0.8s,baz=163,slow=8.4,SNR=23
ARCES PcP **PcP** **10 16 55.9 +0.6**
comp=Z,5.9nm,0.7s,baz=133,slow=5.0,SNR=2.6
ARCES LR LR 10 31 33.0
comp=Z,945nm,19.5s,baz=146,slow=38
comp=Z,16nm,0.8s
ECHE Chera 37.72 293 P **P** **10 14 38.3 -0.7**
LEIR Leirfjorden 37.89 339 *e*P **P** **10 14 39.3 -0.7**
STOK Stokkvaagen 38.07 339 *e*P **P** **10 14 40.7 -0.8**
EMUR La Murta 38.15 290 P **P** **10 14 41.4 -1.3**
FAUS Fauske 38.17 341 *e*P **P** **10 14 41.6 -0.8**
LSA Lhasa 38.52 83 P **P** **10 14 48.1 +1.8**

LSA pmax pmax
comp=Z,21nm,1.3s
LSA LR LR
comp=Z,920nm,13.7s
LSA LR LR
comp=Z,1μm,14.4s
JSA Saint Aubin 38.55 308 *e*P **P** **10 14 44.6 -1.2**
JSA IAmb IAmb 10 14 45.3
comp=Z,32nm,0.7s
GDLE Glaisdale, N Y 38.57 317 *e*P **P** **10 14 45.2 -0.7**
STEI Steigen 38.59 342 *e*P **P** **10 14 45.4 -0.4**
JETT Jettan, Norway 38.67 346 *e*P **P** **10 14 46.4 -0.2**
STRD Stroud 38.87 313 *e*P **P** **10 14 47.6 -0.8**
STRD IAmb IAmb 10 14 48.9
comp=Z,55nm,0.7s
LBWR Ladybower, Pea 38.88 315 *e*P **P** **10 14 48.3 -0.2**
LBWR IAmb IAmb 10 14 49.9
comp=Z,47nm,0.8s
TRO Tromso 39.04 345 *e*P **P** **10 14 48.6 -1.0**
ENIJ Nijar 39.05 289 P **P** **10 14 48.9 -1.3**
MONM Monmouth 39.27 313 *e*P **P** **10 14 50.7 -1.0**
MONM IAmb IAmb 10 14 52.0
comp=Z,32nm,0.8s
EDMD Edmundbyers 39.31 317 *e*P **P** **10 14 51.4 -0.7**
EDMD IAmb IAmb 10 14 52.9
comp=Z,32nm,0.8s
MCH1 Michaelchurch 39.41 313 *e*P **P** **10 14 51.8 -1.1**
MCH1 IAmb IAmb 10 14 53.2
comp=Z,44nm,0.8s
HLM1 Long Mynd 39.42 314 *e*P **P** **10 14 52.2 -0.8**
HLM1 IAmb IAmb 10 14 53.6
comp=Z,30nm,0.8s
EBER Berja 39.60 289 P **P** **10 14 54.9 0.0**
FOEL Foel Wylfa 39.67 314 *e*P **P** **10 14 54.5 -0.6**
FOEL IAmb IAmb 10 14 56.1
comp=Z,46nm,0.8s
GOMU GeErMu 39.89 72 P **P** **10 14 58.4 +0.7**
GOMU pP pP 10 15 01.9 -0.7
GOMU sP sP 10 15 06.0 +1.5
GOMU pmax pmax
comp=Z,16nm,0.9s
GOMU LR LR
comp=Z,690nm,18.3s
GOMU LR LR
comp=Z,970nm,19.0s
GOMU LR LR
comp=Z,2μm,19.0s
KESW Keswick, Cumbr 39.91 317 *e*P **P** **10 14 56.8 -0.3**
KESW IAmb IAmb 10 14 58.0
comp=Z,64nm,0.7s
ESY Stoneypath 39.92 319 *e*P **P** **10 14 56.6 -0.5**
LLW Llanuwychllyn 39.94 314 *e*P **P** **10 14 56.8 -0.5**
LLW IAmb IAmb 10 14 58.0
comp=Z,12nm,0.8s
ESDC Sonseca Array 40.01 293 P **P** **10 14 57.6 -0.5**
ESDC IAmb IAmb 10 14 58.5
comp=Z,119nm,1.6s
ESDC Sonseca Array 40.01 293 P **P** **10 14 57.7 -0.5**
comp=Z,7.8nm,0.9s,baz=70,slow=8.7,SNR=39
ESDC PcP **PcP** **10 17 03.5 +0.4**
comp=Z,1.8nm,0.9s,baz=53,slow=3.1,SNR=8.0
ESDC LR LR 10 33 59.8
comp=Z,329nm,18.2s,baz=82,slow=40
comp=Z,7.8nm,0.9s
DRUM Mains of Drumt 40.09 320 *e*P **P** **10 14 58.0 -0.5**
EKA Eskdalemuir Ar 40.09 318 P **P** **10 14 57.8 -0.8**
comp=Z,23nm,0.7s,baz=107,slow=8.5,SNR=55
EKA PcP **PcP** **10 17 04.0 +1.0**
comp=Z,4.5nm,0.7s,baz=90,slow=3.3,SNR=5.1
comp=Z,23nm,0.7s
ESK Eskdalemuir 40.11 318 P **P** **10 14 58.2 -0.6**
ESK IAmb IAmb 10 14 59.0
comp=Z,28nm,0.8s
ESK Eskdalemuir 40.11 318 *e*P **P** **10 14 58.0 -0.8**
ESK IAmb IAmb 10 14 59.2
comp=Z,20nm,0.7s
ESK Eskdalemuir 40.11 318 P **P** **10 14 58.2 -0.6**
ESK pmax pmax
comp=Z,29nm,0.8s
HTL Hartland 40.21 311 *e*P **P** **10 14 58.9 -0.7**
EDI Edinburgh 40.23 319 *e*P **P** **10 14 59.5 -0.3**
EDI IAmb IAmb 10 15 00.9
comp=Z,54nm,0.6s
SBD Saint Breward 40.30 310 *e*P **P** **10 14 59.6 -0.7**
PAB San Pablo 40.32 293 P **P** **10 14 59.9 -0.9**
PAB San Pablo 40.32 293 P **P** **10 14 59.9 -0.9**
PAB pmax pmax
comp=Z,17nm,1.2s
RSBS Rosebush, Pemb 40.48 313 *e*P **P** **10 15 00.9 -0.9**
RSBS IAmb IAmb 10 15 01.9
comp=Z,14nm,0.8s
WPS Cemaes, Angles 40.52 315 *e*P **P** **10 15 02.1 0.0**
WPS IAmb IAmb 10 15 03.8
comp=Z,17nm,0.7s
SHL Shillong 40.55 89 P **P** **10 15 03.1 +0.1**
SHL Shillong 40.55 89 P **P** **10 15 02.1 -0.9**
SNR=9.0
SHL Shillong 40.55 89 P **P** **10 15 03.1 +0.1**
SHL pmax pmax
comp=Z,224nm,2.0s
CCA1 Carnmenellis 40.61 310 *e*P **P** **10 15 02.1 -0.8**
CCA1 IAmb IAmb 10 15 03.5
comp=Z,21nm,0.9s
NEWG New Galloway 40.65 317 *e*P **P** **10 15 02.4 -0.8**
NEWG IAmb IAmb 10 15 03.5
comp=Z,13nm,0.7s
MCD Coleburn Disti 40.66 321 *e*P **P** **10 15 02.9 -0.4**
MCD IAmb IAmb 10 15 04.1
comp=Z,79nm,0.7s
IOMK Kirk Michael 40.69 316 *e*P **P** **10 15 03.0 -0.6**
WIM Isle of Man 40.74 316 *e*P **P** **10 15 03.6 -0.3**
EMAL Malaga-Limoner 40.84 289 P **P** **10 15 03.6 -1.4**
PGBU Glenifferbraes 40.92 318 *e*P **P** **10 15 05.0 -0.4**
PGBU IAmb IAmb 10 15 06.5
comp=Z,82nm,0.8s
BIGH Upper Bighouse 41.23 323 *e*P **P** **10 15 07.3 -0.6**
BIGH IAmb IAmb 10 15 08.5
comp=Z,22nm,0.8s
LAWE Loch Awe, Argy 41.52 319 *e*P **P** **10 15 09.7 -0.6**
LAWE IAmb IAmb 10 15 10.6
comp=Z,22nm,0.7s
BRDH Bariadhala 41.52 93 LR LR 10 35 21.3
comp=Z,2μm,19.1s,baz=306,slow=40
PALK Pallekele 41.52 121 P **P** **10 15 10.6 -0.3**
PALK IAmb IAmb 10 15 14.1
comp=Z,62nm,1.6s
PALK Pallekele 41.52 121 P **P** **10 15 11.4 +0.5**
comp=Z,11nm,0.8s,baz=317,slow=10.0,SNR=8.5
PALK LR LR 10 33 53.0
comp=Z,608nm,18.3s,baz=328,slow=38
comp=Z,11nm,0.8s
PALK Pallekele 41.52 121 P **P** **10 15 12.2 +1.2**
PALK Pallekele 41.52 121 P **P** **10 15 12.8 +1.9**
PALK Pallekele 41.52 121 P **P** **10 15 10.6 -0.3**
PALK pmax pmax
comp=Z,62nm,1.6s
DSB Dublin 41.61 314 P **P** **10 15 10.8 -0.4**
LINV Loch Inver, As 41.80 322 *e*P **P** **10 15 11.9 -0.7**
LINV IAmb IAmb 10 15 13.0
comp=Z,33nm,0.7s
MDT Midelt 41.88 283 P **P** **10 15 14.5 +0.7**
comp=Z,10nm,0.9s,baz=92,slow=9.1,SNR=14
MDT LR LR 10 37 31.6
comp=Z,174nm,18.5s,baz=90,slow=43
comp=Z,10nm,0.9s
IFR Ifrane 42.12 285 P **P** **10 15 16.2 +0.4**
IDGL Inch Island, C 42.50 317 *e*P **P** **10 15 17.9 -0.5**
IDGL IAmb IAmb 10 15 19.7
comp=Z,38nm,0.9s
IDGL Inch Island, C 42.50 317 P **P** **10 15 18.0 -0.4**
NRIK Noril'sk 42.58 20 P **P** **10 15 20.3 +1.5**
NRIK IAmb IAmb 10 15 21.4
comp=Z,43nm,1.1s
NRIK Noril'sk 42.58 20 P **P** **10 15 20.1 +1.3**
comp=Z,26nm,1.0s,baz=229,slow=4.5,SNR=23
comp=Z,26nm,1.0s
NRIK Noril'sk 42.58 20 *ce*P **P** **10 15 20.5 +1.7**
MTE Manteigas 42.63 295 P **P** **10 15 19.4 -0.4**
GTA Gaotai 43.21 66 P **P** **10 15 25.9 +1.4**
GTA pP sP 10 15 30.7 -0.7
GTA PcP **PcP** **10 17 12.0 -1.8**
GTA S **S** **10 21 54.4 +3.5**
GTA SS **SS** **10 25 01.2 -2.6**
GTA pmax pmax
comp=Z,10.0nm,1.2s

GTA pmax pmax
comp=Z,200nm,9.7s
GTA LR LR
comp=Z,480nm,16.0s
GTA LR LR
comp=Z,640nm,16.0s
GTA LR LR
comp=Z,950nm,15.6s
MOY Mondy 43.26 48 *e*P **P 10 15 26.6 +1.9**
MOY *e* 10 17 08.0
MOY pmax pmax
comp=Z,34nm,2.6s
COI Coimbra 43.31 295 IAmb IAmb 10 15 26.2
comp=Z,37nm,0.9s
IGLA Glengowla, Co 43.42 314 *e*P **P 10 15 25.3 -0.5**
IGLA IAmb IAmb 10 15 26.0
comp=Z,34nm,0.8s
IGLA Glengowla, Co 43.42 314 P **P 10 15 25.5 -0.3**
VAL Valentia 43.87 312 P **P 10 15 29.1 -0.3**
HOPEN Hopen 44.04 353 *e*P **P 10 15 31.5 +0.9**
ZAK Zakamensk 44.68 50 *e*P **P 10 15 37.6 +1.4**
ZAK pmax pmax
comp=Z,10.0nm,1.8s
TORD Torodi Ar. Bea 44.95 254 P **P 10 15 38.0 -0.6**
TORD Torodi Ar. Bea 44.95 254 P **P 10 15 38.4 -0.2**
comp=Z,7.1nm,0.5s,baz=46,slow=11,SNR=5.9
TORD LR LR 10 36 49.1
comp=Z,321nm,20.1s,baz=56,slow=39
comp=Z,7.1nm,0.5s
IRK Irkutsk 45.30 47 *e*P **P 10 15 40.9 -0.1**
IRK pmax pmax
comp=Z,56nm,2.4s
TNCH TengChong 46.29 86 P **P 10 15 50.8 +1.5**
TNCH sP sP 10 15 57.2 +0.9
TNCH S **S 10 22 34.7 -1.3**
TNCH SS **SS 10 25 54.3 -7.2**
TNCH pmax pmax
comp=Z,290nm,5.0s
TNCH LR LR
comp=Z,890nm,19.5s
TNCH LR LR
comp=Z,800nm,14.4s
TNCH LR LR
comp=Z,600nm,21.8s
SPB2 Spitsbergen Ar 46.44 352 P **P 10 15 50.2 +0.6**
SPA0 Spitsbergen Ar 46.44 352 *e*P **P 10 15 50.4 +0.8**
SPITS Spitsbergen Ar 46.44 352 P **P 10 15 50.0 +0.4**
comp=Z,57nm,0.8s,baz=138,slow=8.9,SNR=42
SPITS LR LR 10 38 08.1
comp=Z,299nm,18.3s,baz=122,slow=40
comp=Z,57nm,0.8s
SPITS Spitsbergen Ar 46.44 352 P **P 10 15 50.4 +0.8**
SPITS pmax pmax
comp=Z,74nm,1.0s
SONM Songino Array 46.86 54 P **P 10 15 54.8 +1.3**
SONM Songino Array 46.86 54 P **P 10 15 54.2 +0.8**
comp=Z,3.3nm,0.6s,baz=278,slow=11,SNR=11
SONM PcP **PcP 10 17 26.4 +0.2**
comp=Z,1.3nm,0.5s,baz=292,slow=4.8,SNR=2.7
SONM ScP **ScP 10 21 19.2 -0.1**
comp=Z,0.9nm,0.5s,baz=270,slow=3.0,SNR=4.9
SONM LR LR 10 38 03.8
comp=Z,857nm,18.2s,baz=248,slow=39
comp=Z,3.3nm,0.6s
LZH Lanzhou 47.04 70 *e*P **P 10 15 56.4 +1.3**
LZH pP sP 10 16 01.2 -0.8
LZH sP pP 10 16 04.8 +4.8
LZH pmax pmax
comp=Z,19nm,1.3s
LZH LR LR
comp=Z,900nm,18.2s
LZH LR LR
comp=Z,980nm,20.6s
LZH LR LR
comp=Z,1μm,20.3s
JMIC Jan Mayen 47.15 339 LR LR 10 37 30.0
comp=Z,668nm,18.5s,baz=112,slow=38
ULN Ulaanbaatar 47.30 53 P **P 10 15 58.0 +1.1**
ULN IAmb IAmb 10 16 03.4
comp=Z,31nm,1.2s
ULN Ulaanbaatar 47.30 53 P **P 10 15 58.4 +1.5**
ULN Ulaanbaatar 47.30 53*ce*P **P 10 15 58.4 +1.5**
ULN pmax pmax
comp=Z,41nm,1.7s
PZH PanZhiHua 48.40 83 P **P 10 16 06.9 +1.2**
PZH SS SS 10 26 27.5 -8.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,7.4s
PZH LR LR
comp=Z,930nm,19.8s
PZH LR LR
comp=Z,680nm,20.2s
PZH LR LR
comp=Z,600nm,16.7s
CD2 Chengdu 48.49 77 P **P 10 16 07.2 +1.0**
CD2 S **S 10 23 07.6 +0.7**
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 pmax pmax
comp=Z,180nm,8.0s
CD2 LR LR
comp=Z,1μm,17.3s
CD2 LR LR
comp=Z,590nm,13.1s
CHTO Chiang Mai 49.35 93 P **P 10 16 13.2 +0.3**
CHTO IAmb IAmb 10 16 26.0
comp=Z,19nm,0.8s
CHTO Chiang Mai 49.35 93 P **P 10 16 12.8 -0.1**
CHTO P **P 10 16 12.8 -0.1**
CHTO Chiang Mai 49.35 93 P **P 10 16 13.2 +0.3**
CHTO Chiang Mai 49.35 93 P **P 10 16 13.2 +0.3**
CHTO pmax pmax
comp=Z,19nm,0.9s
CM31 Chiang Mai Arr 49.52 94 IAmb IAmb 10 16 15.2
comp=Z,15nm,0.7s
CMAR Chiang Mai Arr 49.52 94 P **P 10 16 14.3 +0.1**
CMAR Chiang Mai Arr 49.52 94 P **P 10 16 14.6 +0.3**
comp=Z,10nm,0.7s,baz=292,slow=8.3,SNR=49
CMAR LR LR 10 41 38.0
comp=Z,412nm,19.8s,baz=305,slow=42
comp=Z,10nm,0.7s
CMAR Chiang Mai Arr 49.52 94 P **P 10 16 14.3 +0.1**
KMI Kunming 49.76 84 P **P 10 16 16.8 +0.5**
KMI pmax pmax
comp=Z,14nm,0.6s
KMI LR LR
comp=Z,800nm,17.9s
KMI LR LR
comp=Z,460nm,16.4s
KMI LR LR
comp=Z,530nm,23.6s
CRAI Chiangrai 49.89 91 P **P 10 16 17.6 +0.6**
CRAI IAmb IAmb 10 16 18.5
comp=Z,11nm,0.6s
BORG Borgarnes 50.46 329 LR LR 10 40 07.0
comp=Z,288nm,19.2s,baz=93,slow=39
BTO Baotou 50.64 62 *e*P **P 10 16 23.0 +0.4**
BTO pP **pP 10 16 27.2 -0.3**
BTO sP **sP 10 16 30.0 +0.6**
BTO S **S 10 23 38.4 +1.4**
BTO pmax pmax
comp=Z,35nm,0.5s
BTO pmax pmax
comp=Z,360nm,6.4s
BTO LR LR
comp=Z,2μm,13.6s
BTO LR LR
comp=Z,750nm,12.6s
BTO LR LR
comp=Z,570nm,10.7s
CIT Chita 51.02 47 *e*P **P 10 16 23.0 -2.2**
CIT *e* 10 16 29.6
LSZ Lusaka 51.47 202 P **P 10 16 30.1 +1.3**
LSZ Lusaka 51.47 202 P **P 10 16 30.4 +1.5**
LSZ Lusaka 51.47 202 P **P 10 16 30.2 +1.3**
LSZ pmax pmax
comp=Z,14nm,1.0s
DBG Daneborg 51.51 341 *i* P **P 10 16 28.7 +0.3**
DBG IAmb IAmb 10 16 32.3
comp=Z,23nm,1.3s
XAN Xi'an 51.61 71 ⇑P **P 10 16 30.5 +0.6**
XAN pP sP 10 16 37.1 +0.4
XAN S **S 10 23 54.8 +4.3**
XAN pmax pmax
comp=Z,57nm,0.7s
XAN pmax pmax
comp=Z,460nm,9.2s
XAN LR LR
comp=Z,2μm,19.6s
XAN LR LR
comp=Z,1μm,17.9s
XAN LR LR
comp=Z,1μm,16.5s
SLVN Son La 52.34 88 P **P 10 16 36.7 +1.2**
ABPO Ambohimpanom 52.36 178 P **P 10 16 34.8 -0.8**
ABPO IAmb IAmb 10 16 38.4
comp=Z,23nm,1.1s
ABPO Ambohimpanom 52.36 178 P **P 10 16 34.8 -0.8**
ABPO pmax pmax
comp=Z,23nm,1.1s
NOR Nord 53.01 351 *i* P **P 10 16 37.6 -1.9**
NOR IAmb IAmb 10 16 40.4
comp=Z,8.7nm,0.9s
NONG Nongkai 53.21 92 P **P 10 16 42.1 +0.2**
ENH Enshi 53.34 75 P **P 10 16 46.0 +3.3**
DBIC Dimbokro 53.95 252 P **P 10 16 46.2 -1.1**
DBIC Dimbokro 53.95 252 P **P 10 16 47.0 -0.3**
comp=Z,11nm,0.7s,baz=27,slow=7.9,SNR=12
DBIC LR LR 10 44 42.6
comp=Z,225nm,18.4s,baz=358,slow=42
comp=Z,11nm,0.7s
XLT XiLinHaoTe 54.20 57 *e*P **P 10 16 49.1 +0.2**
XLT pP pP 10 16 53.6 -0.3
XLT sP sP 10 16 56.0 +0.2
XLT S **S 10 24 25.0 -0.6**
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,170nm,5.1s
XLT LR LR
comp=Z,630nm,16.6s
XLT LR LR
comp=Z,650nm,14.0s
LYN LuoYang 54.23 69 P **P 10 16 50.2 +1.1**
LYN pmax pmax
comp=Z,43nm,0.7s
LYN pmax pmax
comp=Z,380nm,5.5s
LYN LR LR
comp=Z,1μm,18.2s
LYN LR LR
comp=Z,1μm,16.5s
LYN LR LR
comp=Z,1μm,16.5s
KSANE Kasane 54.82 204 *i* P **P 10 16 54.6 +1.1**
VOI Vohitsoka 55.23 179 P **P 10 16 58.4 +1.9**
BJI Beijing 55.33 62 P **P 10 16 57.8 +0.8**
BJI pP **pP 10 17 02.4 +0.5**
BJI sP **sP 10 17 05.0 +1.2**
BJI S **S 10 24 39.5 -1.0**
BJI pmax pmax
comp=Z,3.0nm,0.7s
BJI LR LR
comp=Z,140nm,14.7s
BJI LR LR
comp=Z,130nm,18.4s
BJI LR LR
comp=Z,220nm,16.7s
HIA Hailar 55.38 50 P P 10 17 02.8 +5.5
TIXI Tiksi 56.29 22 P **P 10 17 03.6 +0.2**
TIXI Tiksi 56.29 22*ce*P **P 10 17 03.6 +0.2**
TIXI pmax pmax
comp=Z,19nm,1.3s
UBPT Khong Chiam 56.52 93 P **P 10 17 06.0 +0.2**
SUMG Summit 56.60 339 P **P 10 17 06.4 +0.3**
SUMG IAmb IAmb 10 17 07.8
comp=Z,24nm,1.0s
SUMG Summit 56.60 339 P **P 10 17 06.4 +0.3**
SUMG pmax pmax
comp=Z,24nm,1.0s
SUMG Summit 56.60 339 *i* P **P 10 17 06.0 -0.1**
SUMG IAmb IAmb 10 17 07.5
comp=Z,22nm,1.0s
BROLN Tlhalogang 57.21 201 *i* P **P 10 17 12.1 +1.4**
PHDHD Phuduhudu 57.25 204 *i* P **P 10 17 13.4 +2.4**
TIA Tai'an 57.26 66 P **P 10 17 11.4 +0.5**
TIA pmax pmax
comp=Z,17nm,0.8s
TIA pmax pmax
comp=Z,230nm,8.4s
TIA LR LR
comp=Z,670nm,15.1s
TIA LR LR
comp=Z,280nm,15.8s
TIA LR LR
comp=Z,510nm,10.8s
ANGG Ammassalik, Gr 57.27 331 *i* P **P 10 17 09.8 -0.7**
ANGG IAmb IAmb 10 17 11.9
comp=Z,26nm,0.9s
ICESG Greenland Ices 57.46 335 *i* P **P 10 17 11.8 -0.4**
ICESG IAmb IAmb 10 17 13.1
comp=Z,17nm,0.6s
ISOG Isortoq, Green 57.83 331 *i* P **P 10 17 13.3 -1.1**
ISOG IAmb IAmb 10 17 15.1
comp=Z,15nm,0.7s
QNGWA Qangwa 57.86 208 *i* P **P 10 17 17.3 +2.0**
YAK Yakutsk 58.10 34 LR LR 10 46 17.2
comp=Z,453nm,19.2s,baz=274,slow=40
PSI Prapat 58.16 110 LR LR 10 46 48.5
comp=Z,367nm,18.1s,baz=308,slow=41
QIZ Qiongzhong 58.34 87 P **P 10 17 18.5 -0.2**
QIZ S **S 10 25 21.6 +0.6**
QIZ LR LR
comp=Z,530nm,18.5s
QIZ LR LR
comp=Z,550nm,16.6s
QIZ LR LR
comp=Z,590nm,19.4s
MREMI Moremi 58.57 200 *i* P **P 10 17 21.9 +1.8**
KHWEE KHWEE 58.59 202 *i* P **P 10 17 22.8 +2.5**
ZEA Zeya 58.83 43 *e*P P 10 17 27.5 +5.9
ZEA MLR MLR
comp=E,400nm,15.0s
ZEA MLR MLR
comp=N,300nm,13.0s
ZEA MLR MLR
comp=Z,600nm,15.0s
NEEM North Greenlan 58.95 345 *i* P **P 10 17 20.8 -1.6**
NEEM IAmb IAmb 10 17 23.2
comp=Z,9.7nm,0.9s
TSUM Tsumeb 59.05 211 P **P 10 17 23.6 0.0**
TSUM Tsumeb 59.05 211 LR LR 10 43 18.2
comp=Z,602nm,18.3s,baz=338,slow=36
GRTLG Ghanzi 59.51 207 *i* P **P 10 17 28.9 +2.2**
DL2 Dalian 59.69 61 P **P 10 17 27.7 0.0**
DL2 S **S 10 25 34.6 -3.3**
DL2 pmax pmax
comp=Z,22nm,0.7s
DL2 pmax pmax
comp=Z,380nm,6.1s
DL2 LR LR
comp=Z,510nm,10.4s
DL2 LR LR
comp=Z,520nm,11.7s
DL2 LR LR
comp=Z,780nm,16.7s
LPHEP Lephephe 59.79 201 *i* P **P 10 17 30.3 +1.7**
HEH HeiHe 59.92 47 *e*P **P 10 17 29.2 +0.1**
HEH pmax pmax
comp=Z,12nm,1.0s
HEH LR LR
comp=Z,930nm,14.6s
HEH LR LR
comp=Z,420nm,14.2s
HEH LR LR
comp=Z,1μm,14.8s
NJ2 Nanjing 60.12 69 *e*P **P 10 17 31.5 +0.7**
NJ2 pmax pmax
comp=Z,20nm,0.6s
KDWAN Kaudwane 60.17 203 *i* P **P 10 17 32.7 +1.5**
KGCAE Kacgae 60.52 205 *i* P **P 10 17 35.9 +2.3**
CN2 Changchun 60.70 55 *e*P **P 10 17 35.8 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KULLO Kullorsuaq 61.28 343 *i* P **P 10 17 37.2 -0.8**
KULLO IAmb IAmb 10 17 38.6
comp=Z,14nm,0.8s
BNX BinXian 61.36 52 ⇑P **P 10 17 39.8 +0.7**
BNX pmax pmax
comp=Z,7.0nm,1.3s
LBTB Lobatse 61.42 201 P **P 10 17 40.6 +0.9**
LBTB Lobatse 61.42 201 LR LR 10 45 29.5
comp=Z,546nm,19.6s,baz=26,slow=37
LBTB Lobatse 61.42 201 P **P 10 17 40.6 +0.9**
LBTB pmax pmax
comp=Z,40nm,1.1s
SKOMA Sekoma 61.47 203 *i* P **P 10 17 41.8 +1.7**
UPNV Upernavik 61.67 341 *i* P **P 10 17 40.0 -0.7**
UPNV IAmb IAmb 10 17 41.4
comp=Z,13nm,0.8s
NRS Narsarsuaq 61.77 327 P **P 10 17 41.5 -0.1**
NRS Narsarsuaq 61.77 327 P **P 10 17 41.5 -0.1**
NRS pmax pmax
comp=Z,42nm,0.8s
NRS Narsarsuaq 61.77 327 *i* P **P 10 17 40.3 -1.2**
NRS IAmb IAmb 10 17 42.3
comp=Z,40nm,0.7s
SFJD Kangerlussuaq 61.98 334 LR LR 10 46 26.3
comp=Z,393nm,18.1s,baz=70,slow=38
SFJD Kangerlussuaq 61.98 334 *i* P **P 10 17 41.4 -1.5**
SFJD IAmb IAmb 10 17 42.7
comp=Z,12nm,0.8s
WIN Windhoek 62.23 210 P **P 10 17 46.8 +1.5**
WIN Windhoek 62.23 210 P **P 10 17 46.8 +1.5**
WIN pmax pmax
comp=Z,29nm,0.8s
MAKGR Makgori 62.41 201 *i* P **P 10 17 48.2 +1.9**
KLR Kul'dur 62.91 47 P **P 10 17 49.1 -0.3**
comp=Z,2.2nm,0.7s,baz=303,slow=5.9,SNR=6.0
comp=Z,2.2nm,0.7s
KLR Kul'dur 62.91 47*ce*P **P 10 17 49.7 +0.3**
KLR pmax pmax
comp=Z,12nm,1.7s
MDJ Mudanjiang 63.20 53 P **P 10 17 54.8 +3.3**
MDJ pmax pmax
comp=Z,7.0nm,1.6s
NUUK Nuuk 63.43 331 *i* P **P 10 17 51.5 -1.0**
NUUK IAmb IAmb 10 17 52.9
comp=Z,63nm,1.1s
EUNU Eureka 63.56 352 P **P 10 17 54.4 +1.0**
KSAR Wonju Array Be 64.80 61 P **P 10 18 01.4 -0.7**
KSAR Wonju Array Be 64.80 61 P **P 10 18 01.4 -0.7**
KSRS Korea Array 64.82 61 P **P 10 18 01.3 -0.9**
comp=Z,2.4nm,0.6s,baz=286,slow=7.1,SNR=10
KSRS LR LR 10 50 32.5
comp=Z,279nm,18.6s,baz=270,slow=40
comp=Z,2.4nm,0.6s
BOSA Boshof 64.91 200 P **P 10 18 04.1 +1.3**
BOSA Boshof 64.91 200 P **P 10 18 03.5 +0.7**
comp=Z,26nm,0.9s,baz=18,slow=6.6,SNR=31
BOSA LR LR 10 49 22.3
comp=Z,561nm,18.1s,baz=23,slow=39
comp=Z,26nm,0.9s
BOSA Boshof 64.91 200 P **P 10 18 04.1 +1.3**
BOSA pmax pmax
comp=Z,21nm,0.8s
USRK Ussuriysk Ar. 64.95 52 P **P 10 18 01.7 -1.2**
USRK Ussuriysk Ar. 64.95 52 P **P 10 18 02.2 -0.7**
comp=Z,6.3nm,0.7s,baz=280,slow=5.9,SNR=7.5
USRK LR LR 10 50 53.2
comp=Z,367nm,19.3s,baz=290,slow=40
comp=Z,6.3nm,0.7s
SEY Seymchan 67.57 28*ce*P **P 10 18 21.0 +1.6**
SEY pmax pmax
comp=Z,15nm,1.3s
MA2 Magadan 68.58 32 LR LR 10 54 36.8
comp=Z,165nm,20.3s,baz=306,slow=41
JNU Nakatsue 68.87 64 LR LR 10 51 34.0
comp=Z,317nm,19.0s,baz=294,slow=38
RES Resolute Bay 68.92 350 P **P 10 18 28.3 +0.6**
RES Resolute Bay 68.92 350 P **P 10 18 28.3 +0.6**
RES pmax pmax
comp=Z,4.0nm,0.9s
SBUM Sibu 69.05 101 P **P 10 18 29.5 +0.1**
CGJI Cibinong 69.30 113 P **P 10 18 30.2 -0.7**
BILL Bilibino 69.40 20 P **P 10 18 30.8 0.0**
BILL Bilibino 69.40 20*ce*P **P 10 18 32.1 +1.3**
BILL pmax pmax
comp=Z,21nm,1.3s
SUR Sutherland 69.76 202 LR LR 10 51 28.1
comp=Z,701nm,18.5s,baz=28,slow=38
JOW Kunigami 69.77 71 LR LR 10 51 53.4
comp=Z,559nm,21.5s,baz=304,slow=38
TGY Tagaytay City 70.01 86 LR LR 10 53 50.8
comp=Z,216nm,18.3s,baz=126,slow=40
FRB Frobisher Bay 70.10 334 LR LR 10 51 00.7
comp=Z,267nm,19.3s,baz=43,slow=37
YSS Yuzhno-Sakhali 70.56 46 *e*P **P 10 18 42.0 +3.8**
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,400nm,13.0s
LEM Lembang 70.92 112 LR LR 10 53 05.4
comp=Z,203nm,18.6s,baz=312,slow=39
ASAJ Asahikawa 71.83 49 P **P 10 18 45.2 -0.8**
comp=Z,1.6nm,0.6s,baz=7.6,slow=11,SNR=4.1
ASAJ LR LR 10 54 21.4
comp=Z,447nm,19.3s,baz=308,slow=39
comp=Z,1.6nm,0.6s
MJAR Matsushiro Arr 72.59 57 P **P 10 18 50.8 +0.1**
comp=Z,2.2nm,1.0s,baz=316,slow=3.2,SNR=2.3
MJAR LR LR 10 53 50.4
comp=Z,294nm,18.5s,baz=294,slow=38
comp=Z,2.2nm,1.0s
A21K Barrow 74.14 7 P **P 10 19 00.3 +1.2**
baz=341
A36M Sachs Harbour 74.49 357 P **P 10 19 01.4 +0.2**
A36M Sachs Harbour 74.49 357 P **P 10 19 01.8 +0.6**
baz=7.7,SNR=65
A22K Sinclair Lake 74.61 7 P **P 10 19 03.2 +1.4**
baz=342
A19K Wainwright 74.65 9 P **P 10 19 03.9 +1.7**
baz=337
SCHQ Schefferville 74.73 326 IAmb IAmb 10 19 03.7
comp=Z,18nm,0.8s
SCHQ Schefferville 74.73 326 P **P 10 19 02.8 -0.1**
comp=Z,14nm,0.7s,baz=43,slow=6.2,SNR=24
SCHQ LR LR 10 53 25.2
comp=Z,247nm,19.1s,baz=32,slow=37
comp=Z,14nm,0.7s
B20K Meade River 75.32 8 P **P 10 19 07.4 +1.4**
baz=340
B18K Kokolik River 75.32 10 P **P 10 19 08.0 +1.9**
baz=336
B22K Teshekpuk Lake 75.40 7 P **P 10 19 07.8 +1.4**
baz=344
JHJ Hachijo jima 2 75.42 60 LR LR 10 55 17.3
comp=Z,245nm,19.3s,baz=106,slow=38
C16K Lisburne Hills 75.77 11 P **P 10 19 09.4 +0.8**
baz=334
C17K DeLong Mountai 75.94 11 P **P 10 19 11.0 +1.4**
baz=335
B21K Ikpikpuk River 75.97 7 IAmb IAmb 10 19 12.5
comp=Z,29nm,1.1s
B21K Ikpikpuk River 75.97 7 P **P 10 19 11.1 +1.4**
baz=342
C18K Utukok River 76.07 10 P **P 10 19 11.7 +1.2**
baz=337
C23K Itkillik River 76.14 6 P **P 10 19 12.4 +1.7**
baz=346
RDOG Red Dog Mine 76.36 11 IAmb IAmb 10 19 18.3
comp=Z,29nm,1.1s
RDOG Red Dog Mine 76.36 11 P **P 10 19 13.0 +0.9**
baz=336
C21K Knifeblade Rid 76.40 7 P **P 10 19 13.8 +1.5**
baz=342
C24K Franklin Bluff 76.41 5 P **P 10 19 13.7 +1.4**
baz=348
C26K Camden Bay 76.46 4 P **P 10 19 14.0 +1.4**
baz=351
D20K Etivluk River 76.61 8 P **P 10 19 14.9 +1.4**
baz=341
D19K Kuna River 76.63 9 P **P 10 19 14.9 +1.2**
baz=340
D17K Noatak River 76.66 11 P **P 10 19 14.7 +0.9**
baz=336,SNR=62
C27K Jago River 76.81 3 P **P 10 19 16.1 +1.5**
baz=352
D22K Ayikyak River 76.88 7 IAmb IAmb 10 19 17.6
comp=Z,22nm,1.0s
D22K Ayikyak River 76.88 7 P **P 10 19 16.3 +1.3**
baz=344
D24K Happy Valley 76.96 5 IAmb IAmb 10 19 22.2
comp=Z,50nm,1.6s
D24K Happy Valley 76.96 5 P **P 10 19 16.6 +1.2**
baz=348
D25K Kavik River 76.96 4 P **P 10 19 16.7 +1.2**

	baz=350					
D23K	Nanushuk River	76.98	6	IAmb	IAmb	10 19 18.2
	comp=Z,20nm,0.9s					
D23K	Nanushuk River	76.98	6	P	P	10 19 17.1 +1.6
	baz=346,SNR=24					
C36M	Paulatuk	77.06	356	P	P	10 19 15.7 -0.2
C36M				IAmb	IAmb	10 19 16.8
	comp=Z,17nm,0.8s					
C36M	Paulatuk	77.06	356	P	P	10 19 15.9 0.0
	baz=8.6,SNR=24					
E20K	Nigu River	77.10	8	P	P	10 19 17.2 +1.0
	baz=341					
E21K	Killik River	77.17	7	P	P	10 19 17.4 +0.8
	baz=343					
E18K	Tukpahlearik C	77.29	10	IAmb	IAmb	10 19 19.4
	comp=Z,24nm,0.8s					
E18K	Tukpahlearik C	77.29	10	P	P	10 19 18.2 +0.9
	baz=338					
D28M	Stokes Point	77.30	2	P	P	10 19 18.4 +1.2
	baz=356					
D27M	Malcolm River	77.31	2	IAmb	IAmb	10 19 24.4
	comp=Z,33nm,1.6s					
D27M	Malcolm River	77.31	2	P	P	10 19 18.4 +0.9
	baz=354					
TOLK	Toolik Lake Re	77.40	6	P	P	10 19 19.2 +1.3
	baz=347,SNR=39					
E17K	Hotham Inlet	77.42	11	P	P	10 19 18.6 +0.6
	baz=337					
E22K	Anaktuvuk Pass	77.69	7	IAmb	IAmb	10 19 25.5
	comp=Z,21nm,0.9s					
E22K	Anaktuvuk Pass	77.69	7	P	P	10 19 20.7 +1.1
	baz=345,SNR=33					
TNA	Tin City	77.72	14	IAmb	IAmb	10 19 25.9
	comp=Z,39nm,1.8s					
TNA	Tin City	77.72	14	P	P	10 19 20.6 +0.9
	baz=332,SNR=5.4					
E19K	Redstone River	77.73	9	P	P	10 19 20.6 +0.9
	baz=340					
E23K	Chandalar	77.96	6	IAmb	IAmb	10 19 29.5
	comp=Z,11nm,0.8s					
E23K	Chandalar	77.96	6	P	P	10 19 22.4 +1.3
	baz=347					
E28M	Babbage River	78.00	2	IAmb	IAmb	10 19 23.7
	comp=Z,17nm,0.9s					
E28M	Babbage River	78.00	2	P	P	10 19 22.6 +1.3
	baz=355,SNR=21					
E24K	Your Creek	78.04	5	P	P	10 19 22.5 +1.0
	baz=348					
F17K	Baldwin Pennin	78.10	11	P	P	10 19 22.8 +1.0
	baz=337					
F14K	Arctic Creek	78.11	13	P	P	10 19 23.0 +1.1
	baz=333,SNR=7.0					
F18K	Selawik	78.20	10	P	P	10 19 23.2 +0.9
	baz=338,SNR=44					
E25K	Arctic Village	78.20	4	IAmb	IAmb	10 19 24.8
	comp=Z,19nm,0.9s					
E25K	Arctic Village	78.20	4	P	P	10 19 23.5 +1.1
	baz=350,SNR=28					
F15K	North Star Dit	78.21	12	IAmb	IAmb	10 19 24.7
	comp=Z,30nm,1.3s					
F15K	North Star Dit	78.21	12	P	P	10 19 23.3 +0.9
	baz=334					
F19K	Shaleruckik Mo	78.24	9	P	P	10 19 23.1 +0.5
	baz=340					
E29M	Blow River	78.26	1	P	P	10 19 23.9 +1.2
	baz=357					
F22K	John River	78.26	7	P	P	10 19 24.3 +1.6
	baz=345					
F20K	Avaraart Lake	78.30	8	P	P	10 19 24.1 +1.2
	baz=342					
E27K	Coleen River	78.35	3	IAmb	IAmb	10 19 30.0
	comp=Z,40nm,1.2s					
E27K	Coleen River	78.35	3	P	P	10 19 24.5 +1.3
	baz=354					
INK	Inuvik	78.38	360	P	P	10 19 23.3 0.0
INK	Inuvik	78.38	360	LR	LR	11 02 33.5
	comp=Z,103nm,18.6s,baz=12,slow=42					
INK	Inuvik	78.38	360	P	P	10 19 23.3 0.0
INK				pmax	pmax	
	comp=Z,9.0nm,1.1s					
INK	Inuvik	78.38	360	P	P	10 19 23.5 +0.2
	baz=0.6,SNR=14					
F21K	Alatna River	78.40	8	IAmb	IAmb	10 19 30.4
	comp=Z,38nm,1.1s					
F21K	Alatna River	78.40	8	P	P	10 19 24.7 +1.2
	baz=344					
GAMB	Gambell	78.47	16	P	P	10 19 25.2 +1.3
	baz=329					
F24K	Squaw Lake	78.64	5	P	P	10 19 26.2 +1.4
	baz=348					
F26K	Sheenjek River	78.71	4	P	P	10 19 26.6 +1.4
	baz=352					
F25K	Christian Rive	78.72	4	P	P	10 19 26.9 +1.6
	baz=350					
COLD	Coldfoot	78.72	6	IAmb	IAmb	10 19 27.7
	comp=Z,19nm,1.0s					
COLD	Coldfoot	78.72	6	P	P	10 19 26.8 +1.5
	baz=346,SNR=12					
G16K	Koyuk River	78.89	12	P	P	10 19 27.3 +1.2
	baz=336					
BMAR	Burnt Mountain	78.95	4	P	P	10 19 27.1 +0.6
G15K	Niukluk	78.96	12	P	P	10 19 27.3 +0.7
	baz=335					
G19K	Purcell Mounta	78.99	9	P	P	10 19 27.7 +1.0
	baz=341					
G18K	Tagagawik	79.00	10	IAmb	IAmb	10 19 33.0
	comp=Z,41nm,1.2s					
G18K	Tagagawik	79.00	10	P	P	10 19 27.5 +0.7
	baz=339					
F30M	Barrier River	79.07	1	P	P	10 19 27.9 +0.8
	baz=359					
G17K	Kiwalik Mounta	79.07	11	P	P	10 19 27.9 +0.7
	baz=338					
G21K	Allakaket	79.08	8	IAmb	IAmb	10 19 33.6
	comp=Z,29nm,0.9s					
G21K	Allakaket	79.08	8	P	P	10 19 28.4 +1.2
	baz=344					
ANM	Nome	79.11	13	IAmb	IAmb	10 19 34.1
	comp=Z,50nm,1.4s					
ANM	Nome	79.11	13	P	P	10 19 28.6 +1.2
	baz=334,SNR=22					
G23K	Bananza Creek	79.25	6	IAmb	IAmb	10 19 35.1
	comp=Z,21nm,1.4s					
G23K	Bananza Creek	79.25	6	P	P	10 19 29.5 +1.3
	baz=347					
F31M	Tsiigehtchic	79.25	360	IAmb	IAmb	10 19 34.1
	comp=Z,47nm,1.2s					
F31M	Tsiigehtchic	79.25	360	P	P	10 19 28.5 +0.5
	baz=0.4,SNR=27					
KAPI	Kappang	79.47	103	LR	LR	10 59 51.1
	comp=Z,170nm,18.1s,baz=304,slow=40					
G24K	Hadweenzic Riv	79.47	5	P	P	10 19 30.8 +1.5
	baz=349					
G26K	Porcupine Rive	79.47	4	P	P	10 19 31.0 +1.7
	baz=352					
G25K	Bearman Lake	79.51	5	P	P	10 19 30.9 +1.4
	baz=350					
H16K	Elim	79.61	12	P	P	10 19 31.1 +1.0
	baz=336,SNR=12					
H19K	Roundabout Mou	79.66	9	IAmb	IAmb	10 19 37.1
	comp=Z,24nm,1.1s					
H19K	Roundabout Mou	79.66	9	P	P	10 19 31.3 +1.0
	baz=341,SNR=25					
G30M	tAoh Zraii Nji	79.70	1	IAmb	IAmb	10 19 36.7
	comp=Z,39nm,1.1s					
G30M	tAoh Zraii Nji	79.70	1	P	P	10 19 31.1 +0.5
	baz=358					
H17K	Granite Mounta	79.71	11	IAmb	IAmb	10 19 36.8
	comp=Z,16nm,0.8s					
H17K	Granite Mounta	79.71	11	P	P	10 19 31.5 +0.8
	baz=338,SNR=20					
G27K	Doyon Strip	79.72	3	IAmb	IAmb	10 19 38.0
	comp=Z,30nm,1.2s					
G27K	Doyon Strip	79.72	3	P	P	10 19 32.4 +1.6
	baz=354					
G29M	Pine Creek	79.74	2	IAmb	IAmb	10 19 37.2
	comp=Z,30nm,1.1s					
G29M	Pine Creek	79.74	2	P	P	10 19 31.7 +0.8
	baz=357					
H18K	Honhosa River	79.75	10	IAmb	IAmb	10 19 37.3
	comp=Z,24nm,0.9s					
H18K	Honhosa River	79.75	10	P	P	10 19 31.9 +1.1
	baz=340,SNR=28					
G31M	Satah River	79.77	0	IAmb	IAmb	10 19 32.5
	comp=Z,29nm,1.0s					
G31M	Satah River	79.77	0	P	P	10 19 31.4 +0.5
	baz=360,SNR=24					
H20K	Anotleneega Mo	79.90	9	P	P	10 19 32.9 +1.2
	baz=343,SNR=51					
H22K	Ishtalitna Cre	79.91	7	P	P	10 19 33.7 +1.9
	baz=346,SNR=26					
BKSI	Bulukumba	79.95	103	P	P	10 19 32.2 -0.6
	comp=Z,22nm,1.1s					
H21K	Melozitna Rive	79.98	8	IAmb	IAmb	10 19 39.3
	comp=Z,33nm,0.9s					
H21K	Melozitna Rive	79.98	8	P	P	10 19 33.8 +1.6
	baz=344,SNR=42					
H25L	Birch Creek	80.02	5	P	P	10 19 34.0 +1.7
	baz=350,SNR=19					
H23K	Yukon River	80.16	6	IAmb	IAmb	10 19 40.6
	comp=Z,31nm,1.1s					
H23K	Yukon River	80.16	6	P	P	10 19 34.9 +1.8
	baz=347					
H24K	Noodor Dome	80.29	6	P	P	10 19 35.5 +1.7
	baz=348,SNR=13					
H27K	Steamboat Moun	80.30	3	P	P	10 19 35.5 +1.6
	baz=354,SNR=17					
EPYK	Eagle Plains	80.31	1	P	P	10 19 34.6 +0.7
EPYK				IAmb	IAmb	10 19 39.9
	comp=Z,36nm,1.2s					
EPYK	Eagle Plains	80.31	1	P	P	10 19 34.4 +0.5
	baz=358					
GCSA	Galena City Sc	80.34	10	P	P	10 19 35.2 +1.2
	baz=341,SNR=30					
JCJ	Chichijima	80.34	64	LR	LR	10 59 07.2
	comp=Z,174nm,19.7s,baz=280,slow=39					
H29M	Whitestone	80.42	2	IAmb	IAmb	10 19 36.6
	comp=Z,19nm,1.0s					
H29M	Whitestone	80.42	2	P	P	10 19 35.5 +0.9
	baz=356,SNR=18					
I17K	Unalakleet	80.56	12	IAmb	IAmb	10 19 42.0
	comp=Z,31nm,1.3s					
I17K	Unalakleet	80.56	12	P	P	10 19 36.6 +1.3
	baz=338,SNR=20					
I20K	Naugheneel	80.61	9	P	P	10 19 37.1 +1.5
	baz=343,SNR=19					
PRP	Porcupine Dome	80.78	5	P	P	10 19 37.8 +1.2
	baz=350,SNR=8.3					
I23K	Minto, Yukon-K	80.84	6	IAmb	IAmb	10 19 43.8
	comp=Z,55nm,2.0s					
I23K	Minto, Yukon-K	80.84	6	P	P	10 19 38.1 +1.4
	baz=347,SNR=8.2					
H31M	Peel River	80.89	0	IAmb	IAmb	10 19 43.1
	comp=Z,49nm,1.7s					
H31M	Peel River	80.89	0	P	P	10 19 37.5 +0.4
	baz=360,SNR=14					
I27K	Kandik River	80.92	3	P	P	10 19 38.2 +0.9
	baz=354,SNR=12					
POKR	Poker Plat Res	81.04	6	IAmb	IAmb	10 19 44.8
	comp=Z,25nm,0.8s					
POKR	Poker Plat Res	81.04	6	P	P	10 19 38.9 +1.0
	baz=349,SNR=9.9					
J14K	Nanvaranak Lak	81.10	13	IAmb	IAmb	10 19 44.7
	comp=Z,18nm,0.9s					
J14K	Nanvaranak Lak	81.10	13	P	P	10 19 39.4 +1.2
	baz=336,SNR=9.1					
J16K	Anvik River	81.14	12	IAmb	IAmb	10 19 45.0
	comp=Z,24nm,1.1s					
J16K	Anvik River	81.14	12	P	P	10 19 39.5 +1.1
	baz=338,SNR=14					
I26K	Coal Creek Min	81.14	4	IAmb	IAmb	10 19 44.9
	comp=Z,22nm,1.0s					
I26K	Coal Creek Min	81.14	4	P	P	10 19 39.4 +1.0
	baz=352					
I28M	Miner Creek	81.15	2	IAmb	IAmb	10 19 44.6
	comp=Z,15nm,0.9s					
I28M	Miner Creek	81.15	2	P	P	10 19 39.1 +0.6
	baz=355,SNR=25					
J19K	Poorman	81.23	9	IAmb	IAmb	10 19 45.8
	comp=Z,26nm,1.1s					
J19K	Poorman	81.23	9	P	P	10 19 40.2 +1.3
	baz=342,SNR=20					
COLA	College	81.24	6	P	P	10 19 39.5 +0.7
COLA				IAmb	IAmb	10 19 45.4
	comp=Z,40nm,1.1s					
COLA	College	81.24	6	P	P	10 19 40.2 +1.4
COLA	College	81.24	6	P	P	10 19 39.5 +0.7
COLA				pmax	pmax	
	comp=Z,41nm,1.1s					
COLA	College	81.24	6	P	P	10 19 40.0 +1.1
	baz=346					
J20K	Nowinta River	81.25	9	P	P	10 19 40.3 +1.4
	baz=343,SNR=23					
I29M	Ogilvie Camp,	81.28	2	P	P	10 19 39.7 +0.6
	baz=356,SNR=14					
J17K	VABM Dome	81.29	11	IAmb	IAmb	10 19 45.6
	comp=Z,22nm,1.2s					
J17K	VABM Dome	81.29	11	P	P	10 19 40.2 +1.1
	baz=339,SNR=11					
NEA2	Nenana	81.41	6	P	P	10 19 40.6 +0.8
	baz=348,SNR=8.5					
ILAR	Eielson Array	81.42	5	P	P	10 19 39.9 +0.1
ILAR	Eielson Array	81.42	5	P	P	10 19 40.6 +0.7
	comp=Z,5.1nm,0.9s,baz=332,slow=4.3,SNR=46					
ILAR				PKKPbc	PKKPbc	10 38 13.8 -0.5
	comp=Z,0.5nm,0.7s,baz=166,slow=3.7,SNR=4.2					
ILAR				PKPPKP	P'P'df	10 46 18.4 -6.2
	comp=Z,0.3nm,0.9s,baz=202,slow=3.1,SNR=4.1					
I30M	Mount Dempster	81.46	1	IAmb	IAmb	10 19 46.5
	comp=Z,20nm,1.0s					
I30M	Mount Dempster	81.46	1	P	P	10 19 40.9 +0.6
	baz=358,SNR=28					
CCB	Clear Creek Bu	81.47	6	IAmb	IAmb	10 19 46.1
	comp=Z,36nm,1.5s					
J18K	Innoko River	81.58	10	P	P	10 19 41.8 +1.1
	baz=341,SNR=9.6					
WRH	Wood River Hil	81.61	6	P	P	10 19 41.3 +0.4
K13K	Kusilvak Mount	81.63	14	P	P	10 19 42.0 +1.1
	baz=335,SNR=8.5					
J25K	Salcha River,	81.69	5	P	P	10 19 42.3 +0.9
	baz=351,SNR=16					
BPAW	Bear Paw Mtn.	81.70	7	P	P	10 19 42.2 +0.8
BPAW				IAmb	IAmb	10 19 47.8
	comp=Z,31nm,1.0s					
BPAW	Bear Paw Mtn.	81.70	7	P	P	10 19 42.2 +0.8
	baz=346,SNR=28					
CHUM	Lake Minchumin	81.76	8	P	P	10 19 42.9 +1.3
	baz=345,SNR=24					
HDA	Harding Lake	81.77	6	IAmb	IAmb	10 19 47.3
	comp=Z,43nm,1.7s					
HDA	Harding Lake	81.77	6	P	P	10 19 41.9 +0.1
	baz=349,SNR=14					
K15K	Wolf Creek Mou	81.90	13	P	P	10 19 43.8 +1.4
	baz=337,SNR=12					
J26L	Joseph Creek	81.92	4	IAmb	IAmb	10 19 48.7
	comp=Z,14nm,0.9s					
J26L	Joseph Creek	81.92	4	P	P	10 19 43.4 +0.7
	baz=352,SNR=16					
K17K	Iditarod	82.05	11	IAmb	IAmb	10 19 49.3
	comp=Z,29nm,1.1s					
K17K	Iditarod	82.05	11	P	P	10 19 44.4 +1.1
	baz=340,SNR=16					
K20K	Telida	82.05	9	IAmb	IAmb	10 19 50.0
	comp=Z,22nm,0.9s					
K20K	Telida	82.05	9	P	P	10 19 44.5 +1.2
	baz=343,SNR=29					
J30M	Hart River	82.11	1	IAmb	IAmb	10 19 50.4
	comp=Z,30nm,1.2s					
J30M	Hart River	82.11	1	P	P	10 19 44.8 +1.1
	baz=358,SNR=31					
J29N	Klondike Camp	82.20	2	IAmb	IAmb	10 19 50.9
	comp=Z,20nm,1.1s					
J29N	Klondike Camp	82.20	2	P	P	10 19 45.1 +1.1
	baz=357,SNR=11					
CAST	Castle Rocks	82.23	8	P	P	10 19 45.1 +0.9
CAST				IAmb	IAmb	10 19 50.7
	comp=Z,30nm,1.0s					
CAST	Castle Rocks	82.23	8	P	P	10 19 45.2 +1.0
	baz=345,SNR=35					
KTH	Kantishna Hill	82.23	7	IAmb	IAmb	10 19 51.0
	comp=Z,13nm,0.9s					
MCK	McKinley	82.26	7	IAmb	IAmb	10 19 50.3
	comp=Z,21nm,1.0s					
MCK	McKinley	82.26	7	P	P	10 19 45.0 +0.6
	baz=348,SNR=17					
TRF	Thorofare Moun	82.40	7	P	P	10 19 46.5 +1.2
	baz=346,SNR=8.4					
SCRK	Sand Creek	82.42	4	P	P	10 19 46.7 +1.4
	baz=352,SNR=35					
K24K	Donnelly Dome	82.46	5	P	P	10 19 46.2 +0.8
	baz=350,SNR=20					
K27K	Chicken	82.47	4	P	P	10 19 46.6 +1.2
	baz=353					
L15K	Ungalak Mounta	82.47	13	P	P	10 19 46.6 +1.2
	baz=337					
DAWY	Dawson	82.55	2	P	P	10 19 46.6 +0.8
DAWY				IAmb	IAmb	10 19 52.3
	comp=Z,22nm,1.2s					
DAWY	Dawson	82.55	2	P	P	10 19 46.7 +0.8
	baz=356,SNR=15					
L14K	Kuka Creek	82.56	13	IAmb	IAmb	10 19 52.5
	comp=Z,19nm,0.9s					
L14K	Kuka Creek	82.56	13	P	P	10 19 46.9 +1.1
	baz=336,SNR=13					
RND	Reindeer	82.59	7	IAmb	IAmb	10 19 51.5
	comp=Z,26nm,1.4s					
RIDG	Independent Ri	82.59	5	IAmb	IAmb	10 19 52.6
	comp=Z,33nm,1.2s					
RIDG	Independent Ri	82.59	5	P	P	10 19 47.2 +1.0
	baz=351,SNR=19					
L17K	Donlin	82.60	11	P	P	10 19 47.2 +1.2
	baz=340					
M11K	Mekoryuk	82.70	15	P	P	10 19 47.6 +1.1
	baz=334					
PPLA	Purkeypile	82.73	8	IAmb	IAmb	10 19 53.0
	comp=Z,34nm,1.5s					
PPLA	Purkeypile	82.73	8	P	P	10 19 48.2 +1.2
	baz=345,SNR=7.9					
DOT	Dot Lake	82.74	4	IAmb	IAmb	10 19 53.6
	comp=Z,17nm,0.9s					
L18K	Granite Mounta	82.77	10	IAmb	IAmb	10 19 49.3
	comp=Z,24nm,1.5s					
L18K	Granite Mounta	82.77	10	P	P	10 19 48.2 +1.2
	baz=341,SNR=7.4					
L16K	Owhat River	82.80	12	IAmb	IAmb	10 19 54.1
	comp=Z,12nm,1.1s					
L16K	Owhat River	82.80	12	P	P	10 19 48.3 +1.2
	baz=339,SNR=7.4					
K29M	Barlow Dome	82.83	2	IAmb	IAmb	10 19 54.0
	comp=Z,17nm,1.1s					
K29M	Barlow Dome	82.83	2	P	P	10 19 48.5 +1.1
	baz=357,SNR=18					
L20K	Farewell, AK	82.92	9	P	P	10 19 49.1 +1.3
	baz=344,SNR=29					
YKA	Yellowknife Ar	82.93	351	P	P	10 19 47.2 -0.6
YKA	Yellowknife Ar	82.93	351	P	P	10 19 47.8 0.0
	comp=Z,7.1nm,1.0s,baz=18,slow=5.4,SNR=53					
YKA				LR	LR	10 58 22.1
	comp=Z,229nm,20.6s,baz=316,slow=37					
	comp=Z,7.1nm,1.0s					
L19K	White Mountain	83.07	10	IAmb	IAmb	10 19 56.9
	comp=Z,12nm,1.1s					
L19K	White Mountain	83.07	10	P	P	10 19 49.7 +1.1
	baz=343,SNR=9.1					
MAYO	Mayo, Yukon	83.10	1	P	P	10 19 49.6 +0.9
	baz=359					
WRGLY	Wrigley	83.10	355	P	P	10 19 49.6 +0.9
	baz=9.0					
M14K	Bethel	83.24	13	IAmb	IAmb	10 19 55.5
	comp=Z,29nm,1.4s					
M14K	Bethel	83.24	13	P	P	10 19 50.7 +1.3
	baz=337					
M13K	Dall Lake	83.28	14	P	P	10 19 51.2 +1.6
	baz=336					
PAX	Paxson	83.31	5	P	P	10 19 50.6 +0.7
	baz=350					
L26K	Log Cabin Wild	83.40	4	IAmb	IAmb	10 19 57.3
	comp=Z,12nm,0.9s					
L26K	Log Cabin Wild	83.40	4	P	P	10 19 51.5 +1.3
	baz=352,SNR=9.7					
M19K	Big River Lodg	83.40	9	IAmb	IAmb	10 19 58.7
	comp=Z,31nm,1.6s					
M19K	Big River Lodg	83.40	9	P	P	10 19 51.7 +1.4
	baz=343,SNR=7.4					
CUT	Chulitna	83.43	7	IAmb	IAmb	10 19 56.0
	comp=Z,29nm,1.4s					
CUT	Chulitna	83.43	7	P	P	10 19 50.2 -0.1
	baz=347					
M17K	Holitna River	83.43	11	IAmb	IAmb	10 19 53.2
	comp=Z,14nm,0.8s					
M17K	Holitna River	83.43	11	P	P	10 19 52.0 +1.6
	baz=341,SNR=9.0					
BCAR	Beaver Creek A	83.45	3	P	P	10 19 51.9 +1.3
L27K	Beaver Creek,	83.45	4	IAmb	IAmb	10 19 57.6
	comp=Z,19nm,1.1s					
L27K	Beaver Creek,	83.45	4	P	P	10 19 52.0 +1.4
	baz=354,SNR=23					
MENT	Mentasta	83.47	4	P	P	10 19 52.1 +1.5
MENT				IAmb	IAmb	10 19 57.5
	comp=Z,22nm,1.0s					
MENT	Mentasta	83.47	4	P	P	10 19 52.3 +1.7
M15K	Kasigluk River	83.53	13	P	P	10 19 52.2 +1.3
	baz=338					
M16K	Timber Creek	83.53	12	IAmb	IAmb	10 19 58.0
	comp=Z,12nm,0.9s					
M16K	Timber Creek	83.53	12	P	P	10 19 52.4 +1.5
	baz=339					
L29M	L29M	83.55	2	IAmb	IAmb	10 19 57.9
	comp=Z,28nm,1.4s					
L29M	L29M	83.55	2	P	P	10 19 52.0 +1.0
	baz=357,SNR=12					
M20K	Styx River	83.59	9	P	P	10 19 51.9 +0.6
	baz=344					
M18K	Stony River	83.59	10	P	P	10 19 52.4 +1.1
	baz=342,SNR=9.2					
SKT	Skwentna	83.70	8	P	P	10 19 51.5 -0.3
SKT				IAmb	IAmb	10 19 58.0
	comp=Z,17nm,0.9s					
SKT	Skwentna	83.70	8	P	P	10 19 52.1 +0.3
	baz=346,SNR=15					
HARP	HAARP	83.90	5	P	P	10 19 54.1 +1.2
	baz=351,SNR=8.0					
M26K	Nabesna, AK	84.04	4	IAmb	IAmb	10 20 00.5
	comp=Z,16nm,1.1s					
M26K	Nabesna, AK	84.04	4	P	P	10 19 54.9 +1.2
	baz=353,SNR=17					
N14K	Kuskokwak Cree	84.06	14	P	P	10 19 54.3 +0.7
	baz=337					
M22K	Willow	84.08	8	P	P	10 19 54.3 +0.6
	baz=347,SNR=12					
N16K	Nishlik Lake	84.08	12	P	P	10 19 54.8 +1.0
	baz=340					
M24K	Tolsona, Glenn	84.11	6	P	P	10 19 55.5 +1.5
	baz=350,SNR=18					
M30M	Minto, Yukon	84.11	1	IAmb	IAmb	10 20 00.2
	comp=Z,14nm,1.4s					
M30M	Minto, Yukon	84.11	1	P	P	10 19 54.6 +0.7
	baz=358					
N15K	Kwethluk River	84.13	13	P	P	10 19 55.8 +1.7
	baz=338					
BVCY	Beaver Creek	84.14	3	P	P	10 19 55.8 +1.7
	baz=354,SNR=8.9					
M27K	Edge Creek, AK	84.15	4	P	P	10 19 55.8 +1.6
	baz=354,SNR=25					
GHO	Glory Hole Cre	84.19	7	IAmb	IAmb	10 20 00.9
	comp=Z,14nm,0.9s					
M29M	Somme Creek	84.20	2	IAmb	IAmb	10 19 57.1
	comp=Z,15nm,1.4s					
M29M	Somme Creek	84.20	2	P	P	10 19 55.9 +1.4
	baz=356,SNR=8.7					
SML	Sawmill	84.21	7	P	P	10 19 55.2 +0.7
SML	Sawmill	84.21	7	P	P	10 19 55.4 +0.9
	baz=348,SNR=16					
SCM	Sheep Creek Mo	84.28	6	IAmb	IAmb	10 20 02.5
	comp=Z,13nm,0.8s					
SCM	Sheep Creek Mo	84.28	6	P	P	10 19 55.9 +1.0
	baz=349,SNR=8.6					
M23K	Glacier View	84.28	6	P	P	10 19 55.7 +0.9
	baz=349,SNR=11					
SUA	Susitna One	84.29	8	P	P	10 19 55.8 +0.9
	baz=346,SNR=29					
N17K	Nushagak Hills	84.30	11	P	P	10 19 56.0 +1.1
	baz=341					
PMR	Palmer	84.34	7	P	P	10 19 56.0 +1.0
PMR	Palmer	84.34	7	P	P	10 19 56.0 +1.0
	baz=348,SNR=20					
N18K	Kilae Creek	84.36	11	P	P	10 19 56.6 +1.4
	baz=342,SNR=8.0					
SPCR	Spurr Chakacha	84.37	9	P	P	10 19 56.6 +1.2
	baz=345					
N19K	Bonanza Creek	84.44	10	P	P	10 19 57.2 +1.5
	baz=343,SNR=18					
FARO	Faro, Yukon	84.48	360	IAmb	IAmb	10 20 02.7
	comp=Z,29nm,1.3s					
FARO	Faro, Yukon	84.48	360	P	P	10 19 57.1 +1.2
	baz=0.7,SNR=20					
M31M	Drury Creek, Y	84.51	0	IAmb	IAmb	10 20 02.6
	comp=Z,21nm,1.2s					
M31M	Drury Creek, Y	84.51	0	P	P	10 19 57.2 +1.3
	baz=360,SNR=17					
KNK	Knik Glacier	84.59	7	P	P	10 19 57.5 +1.1
	baz=348,SNR=17					
N25K	Chitina, Valde	84.73	5	P	P	10 19 58.1 +1.0

	baz=351					
KLU	Klutina	84.74	6	P	P	10 19 58.6 +1.4
	baz=350,SNR=14					
O14K	Tigyukauivet M	84.76	14	P	P	10 19 58.5 +1.3
	baz=338					
RC01	Rabbit Creek A	84.77	8	P	P	10 19 57.9 +0.7
	baz=347,SNR=13					
YUK3	Moose Creek	84.80	3	P	P	10 19 58.8 +1.1
	baz=355,SNR=20					
CAPN	Captain Cook N	84.92	8	P	P	10 19 57.0 -1.0
CAPN	Captain Cook N	84.92	8	P	P	10 19 59.4 +1.5
	baz=346					
O17K	Koliganek Bris	85.03	11	P	P	10 19 59.8 +1.2
	baz=341,SNR=10					
O16K	Kokwok River B	85.03	12	IAmb	IAmb	10 20 05.4
	comp=Z,22nm,1.2s					
O16K	Kokwok River B	85.03	12	P	P	10 19 59.9 +1.3
	baz=340					
O19K	Port Alsworth	85.06	10	IAmb	IAmb	10 20 08.1
	comp=Z,33nm,1.8s					
O19K	Port Alsworth	85.06	10	P	P	10 19 59.4 +0.8
	baz=343					
TGTN	Hyland Airport	85.07	357	P	P	10 20 00.0 +1.2
	baz=4.9					
O15K	Ungalikthiuk R	85.11	13	P	P	10 20 00.0 +1.1
	baz=339					
M65A	Busby, Falmout	85.13	318	P	P	10 20 00.2 +0.8
	baz=48					
PWL	Port Wells	85.14	7	IAmb	IAmb	10 20 01.3
	comp=Z,18nm,1.1s					
PWL	Port Wells	85.14	7	P	P	10 20 00.1 +1.0
	baz=348,SNR=10.0					
VRDI	Verde Repeater	85.18	5	P	P	10 20 00.3 +0.7
VRDI				IAmb	IAmb	10 20 06.1
	comp=Z,22nm,1.4s					
N31M	Braeburn, Yuko	85.22	1	P	P	10 20 00.1 +0.6
	baz=359					
N30M	Aishikik Lake	85.23	1	P	P	10 20 00.6 +1.0
	baz=358,SNR=5.8					
GLI	Glacier Island	85.24	6	IAmb	IAmb	10 20 06.1
	comp=Z,12nm,0.9s					
GLI	Glacier Island	85.24	6	P	P	10 20 00.5 +0.8
	baz=349					
O18K	Koktuh Hills	85.25	10	P	P	10 20 01.0 +1.3
	baz=342,SNR=12					
SLKM	Skilak Lake	85.28	8	IAmb	IAmb	10 20 06.1
	comp=Z,21nm,1.0s					
YUK4	Talbot Arm	85.30	2	P	P	10 20 00.9 +0.7
	baz=356,SNR=14					
YUK8	Steele Glacier	85.32	3	P	P	10 20 01.0 +0.6
	baz=355					
BMRM	Bremner River	85.36	5	P	P	10 20 01.2 +0.9
BMRM				IAmb	IAmb	10 20 16.7
	comp=Z,17nm,1.2s					
BMRM	Bremner River	85.36	5	P	P	10 20 01.2 +0.9
	baz=351					
O22K	Cooper Landing	85.36	8	P	P	10 20 01.2 +1.0
	baz=347					
FID	Port Fidalgo	85.42	6	P	P	10 20 01.4 +0.8
P16K	Nushagak River	85.58	12	P	P	10 20 02.7 +1.4
	baz=340,SNR=6.5					
P17K	Kvichak River	85.69	11	P	P	10 20 03.3 +1.5
	baz=342,SNR=13					
EYAK	Cordova Ski Ar	85.69	6	P	P	10 20 04.0 +2.2
EYAK	Cordova Ski Ar	85.69	6	P	P	10 20 03.5 +1.7
	baz=350,SNR=10.0					
P18K	Big Mountain,	85.69	11	P	P	10 20 02.1 +0.2
	baz=342					
YUK6	Outpost Mounta	85.71	2	P	P	10 20 03.3 +1.1
	baz=356					
P19K	Oil Pt	85.73	10	IAmb	IAmb	10 20 03.9
	comp=Z,16nm,1.4s					
P19K	Oil Pt	85.73	10	P	P	10 20 03.0 +0.9
	baz=344					
SEW	Seward	85.76	8	IAmb	IAmb	10 20 08.7
	comp=Z,24nm,1.1s					
SEW	Seward	85.76	8	P	P	10 20 03.1 +0.9
	baz=347,SNR=10					
O28M	Mount Upton	85.81	3	P	P	10 20 03.4 +0.6
	baz=355					
SOEI	Soe	85.84	104	P	P	10 20 03.2 -0.3
SOEI	Soe	85.84	104	P	P	10 20 05.3 +1.8
	comp=Z,41nm,1.0s					
HYT	Haines Junctio	85.85	2	IAmb	IAmb	10 20 09.3
	comp=Z,14nm,0.9s					
HYT	Haines Junctio	85.85	2	P	P	10 20 03.8 +0.9
	baz=357,SNR=16					
BRLK	Bradley Lake	85.93	8	IAmb	IAmb	10 20 09.1
	comp=Z,21nm,1.0s					
RAGM	Ragged Mountai	85.93	5	P	P	10 20 04.3 +1.2
O30N	Mendenhall	85.93	1	P	P	10 20 03.8 +0.6
	baz=358					
HOM	Homer	85.94	9	P	P	10 20 03.9 +0.9
	baz=346					
BRSE	Bradley Lake S	85.97	8	P	P	10 20 04.0 +0.7
	baz=346,SNR=5.6					
WAX	Waxell Ridge	86.00	4	IAmb	IAmb	10 20 10.7
	comp=Z,39nm,1.5s					
HMT	Hamilton	86.01	5	IAmb	IAmb	10 20 06.1
	comp=Z,18nm,1.0s					
WHY	Whitehorse	86.06	0	IAmb	IAmb	10 20 08.9
	comp=Z,36nm,1.9s					
WHY	Whitehorse	86.06	0	P	P	10 20 04.6 +0.8
	baz=359					
P23K	Montague Islan	86.08	7	P	P	10 20 04.9 +1.1
	baz=349					
CNPM	China Poot	86.12	9	IAmb	IAmb	10 20 05.5
	comp=Z,17nm,0.8s					
Q16K	King Salmon	86.14	12	P	P	10 20 05.1 +1.0
	baz=341,SNR=9.2					
YAH	Yahtse	86.15	4	IAmb	IAmb	10 20 11.6
	comp=Z,40nm,1.5s					
KOTAN	Kotaneelee Air	86.22	355	P	P	10 20 05.6 +1.2
	baz=8.4					
BGLC	Bering Glacier	86.30	5	P	P	10 20 06.0 +1.2
	baz=352					
MESA	MESA	86.32	4	P	P	10 20 06.0 +0.8
	baz=354					
O29M	Mount Kennedy	86.35	2	IAmb	IAmb	10 20 11.9
	comp=Z,12nm,1.1s					
O29M	Mount Kennedy	86.35	2	P	P	10 20 06.0 +0.8
	baz=356,SNR=6.7					
RCBR	Riachuelo	86.36	261	LR	LR	10 59 13.1
	comp=Z,80nm,18.8s,baz=65,slow=36					
Q19K	Cape Douglas,	86.37	10	P	P	10 20 06.1 +0.8
	baz=344					
KAIM	Kayak Island	86.41	5	P	P	10 20 06.4 +1.0
	baz=352					
Q18K	Katmai Hardscr	86.44	11	P	P	10 20 05.6 -0.1
	baz=343					
PCA	Pinnacle	86.49	3	IAmb	IAmb	10 20 13.2
	comp=Z,20nm,1.0s					
PINM	Pinnacle	86.49	3	P	P	10 20 07.4 +1.5
	baz=355,SNR=6.4					
P33M	Teslin, Yukon	86.50	359	P	P	10 20 06.3 +0.4
	baz=1.1					
P30M	Million Dollar	86.57	1	P	P	10 20 07.6 +1.3
	baz=358					
Q20K	Shuyak Island	86.86	9	P	P	10 20 08.4 +0.8
	baz=345,SNR=10					
PNL	Peninsula	86.95	3	P	P	10 20 09.7 +1.6
PNL	Peninsula	86.95	3	P	P	10 20 09.2 +1.1
	baz=356					
P29M	Windy Craggy	87.04	2	P	P	10 20 09.4 +0.9
	baz=357					
LIRD	Liard River Hi	87.07	356	P	P	10 20 09.7 +1.0
	baz=6.7,SNR=6.4					
P32M	Atlin	87.13	360	P	P	10 20 09.6 +0.6
	baz=0.4					
SKAG	Skagway	87.26	1	IAmb	IAmb	10 20 25.2
	comp=Z,12nm,1.2s					
SKAG	Skagway	87.26	1	P	P	10 20 11.4 +1.9
SKAG	Skagway	87.26	1	P	P	10 20 10.6 +1.1
	baz=359					
R33M	Jennings River	87.29	358	IAmb	IAmb	10 20 17.1
	comp=Z,11nm,1.2s					
R33M	Jennings River	87.29	358	P	P	10 20 10.9 +1.0
	baz=2.7,SNR=6.3					
SADO	Sadowa	87.37	324	LR	LR	11 00 02.8
	comp=Z,159nm,19.5s,baz=69,slow=36					
R18K	Karluk	87.56	11	P	P	10 20 12.2 +1.2
	baz=343					
TOAD	Toad River Com	87.57	355	P	P	10 20 12.2 +1.0
	baz=7.5,SNR=14					
KDAK	Kodiak Island	87.63	10	P	P	10 20 12.5 +1.1
KDAK	Kodiak Island	87.63	10	P	P	10 20 12.5 +1.1
KDAK				pmax	pmax	
	comp=Z,28nm,0.8s					
KDAK	Kodiak Island	87.63	10	P	P	10 20 12.6 +1.3
	baz=345					
Q32M	Nakina River	87.75	359	IAmb	IAmb	10 20 14.0
	comp=Z,11nm,1.1s					
Q32M	Nakina River	87.75	359	P	P	10 20 13.3 +1.1
	baz=1.6					
FFC	Flin Flon	87.75	342	P	P	10 20 11.8 -0.2
FFC	Flin Flon	87.75	342	P	P	10 20 11.8 -0.2
FFC				pmax	pmax	
	comp=Z,6.0nm,0.8s					
S14K	Fog Glacier	87.87	14	P	P	10 20 13.9 +1.3
	baz=339					
OHAK	Old Harbor	88.07	10	IAmb	IAmb	10 20 21.9
	comp=Z,13nm,0.8s					
OHAK	Old Harbor	88.07	10	P	P	10 20 15.3 +1.9
OHAK	Old Harbor	88.07	10	P	P	10 20 14.6 +1.2
	baz=344					
DLBC	Dease Lake	88.22	358	LR	LR	11 06 19.4
	comp=Z,140nm,19.5s,baz=341,slow=40					
DLBC	Dease Lake	88.22	358	P	P	10 20 15.7 +1.4
	baz=3.5,SNR=11					
R31K	City Hall, Gus	88.30	1	P	P	10 20 15.8 +1.3
	baz=359					
JIS	Juneau Island	88.45	0	P	P	10 20 16.8 +1.6
R32K	Eaglecrest	88.45	0	IAmb	IAmb	10 20 18.4
	comp=Z,13nm,0.8s					
R32K	Eaglecrest	88.45	0	P	P	10 20 16.8 +1.5
	baz=360,SNR=13					
UNV	Unalaska Valle	88.49	18	P	P	10 20 17.4 +1.9
	baz=334					
SDPT	Sand Point	88.55	15	P	P	10 20 17.1 +1.3
	baz=338					
SII	Sitkinak Islan	88.57	11	P	P	10 20 17.4 +1.5
	baz=343					
NIKH	Nikolski High	88.62	20	P	P	10 20 18.1 +1.9
	baz=332					
S31K	Pelican	88.75	1	IAmb	IAmb	10 20 24.2
	comp=Z,19nm,1.1s					
S31K	Pelican	88.75	1	P	P	10 20 18.5 +1.9
	baz=358					
S34M	Telegraph Cree	88.78	358	IAmb	IAmb	10 20 19.9
	comp=Z,14nm,0.8s					
S34M	Telegraph Cree	88.78	358	P	P	10 20 18.7 +1.9
	baz=2.5,SNR=12					
MBWA	Marble Bar	88.94	116	P	P	10 20 17.8 -0.3
MBWA				IAmb	IAmb	10 20 18.9
	comp=Z,15nm,0.9s					
MBWA	Marble Bar	88.94	116	P	P	10 20 17.1 -1.0
	comp=Z,22nm,1.4s					
MBWA	Marble Bar	88.94	116	P	P	10 20 18.1 +0.1
S32K	Killisnoo	89.26	0	P	P	10 20 20.6 +1.5
	baz=360					
PSA00	Pilbara Seismi	89.27	117	P	P	10 20 19.2 -0.4
PSA00				IAmb	IAmb	10 21 49.7
	comp=Z,17nm,1.3s					
PSA00	Pilbara Seismi	89.27	117	P	P	10 20 19.3 -0.4
	comp=Z,20nm,1.2s					
SIT	Sitka	89.67	1	P	P	10 20 22.7 +1.7
	baz=359					
T35M	Bob Quinn	89.69	358	IAmb	IAmb	10 20 28.5
	comp=Z,14nm,1.2s					
T35M	Bob Quinn	89.69	358	P	P	10 20 22.9 +1.8
	baz=3.3,SNR=6.8					
ULM	Lac du Bonnet	89.88	337	P	P	10 20 21.4 -0.7
	comp=Z,2.5nm,0.6s,baz=41,slow=3.9,SNR=6.7					
ULM				LR	LR	11 02 22.3
	comp=Z,183nm,19.2s,baz=16,slow=37					
	comp=Z,2.5nm,0.6s					
EYMN	Ely	90.26	333	IAmb	IAmb	10 20 29.9
	comp=Z,26nm,1.4s					
WRAK	Wrangell Islan	90.30	359	P	P	10 20 25.8 +1.9
	baz=1.5					
U33K	Whale Pass	90.61	359	P	P	10 20 26.9 +1.5
	baz=0.9					
FITZ	Fitzroy Crossi	91.69	111	LR	LR	11 05 13.0
	comp=Z,204nm,19.2s,baz=318,slow=38					
KNRA	Kununurra	92.79	107	P	P	10 20 36.5 +0.4
MDP	Montagnes des	94.25	279	LR	LR	11 08 50.7
	comp=Z,114nm,18.4s,baz=80,slow=39					
BBB	Bella Bella	94.39	356	LR	LR	11 07 32.4
	comp=Z,96nm,20.7s,baz=356,slow=38					
TKL	Tuckaleechee C	96.52	321	LR	LR	11 06 32.4
	comp=Z,148nm,19.5s,baz=40,slow=37					
NEW	Newport	97.07	349	IAmb	IAmb	10 21 00.9
	comp=Z,15nm,1.9s					
NEW	Newport	97.07	349	LR	LR	11 06 11.3
	comp=Z,402nm,21.0s,baz=12,slow=36					
SJG	San Juan	97.30	297	LR	LR	11 03 54.3
	comp=Z,57nm,20.7s,baz=64,slow=35					
WRA	Warramunga Arr	99.56	108	P	Pdif	10 21 06.5 -0.4
	comp=Z,1.2nm,0.6s,baz=316,slow=4.0,SNR=32					
	comp=Z,1.2nm,0.6s					
PDAR	Pinedale Array	100.71	342	PKiKP	PKiKP	10 25 39.0 +1.1
	comp=Z,0.4nm,0.8s,baz=97,slow=4.6,SNR=3.7					
PDAR				PKKPbc	PKKPbc	10 37 25.4 -0.1
	comp=Z,0.5nm,0.8s,baz=0.0,slow=0.0,SNR=3.8					
ASAR	Alice Springs	101.18	111	P	Pdif	10 21 13.2 -0.8
	comp=Z,1.1nm,0.7s,baz=311,slow=4.7,SNR=18					
ASAR				PKiKP	PKiKP	10 25 39.3 +0.4
	comp=Z,0.2nm,0.4s,baz=315,slow=1.4,SNR=4.5					
ASAR				PKKPbc	PKKPbc	10 37 24.1 +0.4
	comp=Z,0.5nm,0.8s,baz=112,slow=4.0,SNR=6.5					
NVAR	Mina Array Bea	106.82	347	PKiKP	PKiKP	10 25 49.9 +0.7
	comp=Z,0.3nm,0.6s,baz=11,slow=2.3,SNR=3.9					
NVAR				PKKPbc	PKKPbc	10 37 06.6 -0.7
	comp=Z,0.5nm,0.6s,baz=200,slow=6.0,SNR=5.2					
STKA	Stephens Creek	111.14	115	PKiKP	PKiKP	10 25 57.4 +0.4
	comp=Z,1.9nm,0.8s,baz=294,slow=7.7,SNR=3.0					
QSPA	South Pole Qui	123.46	180		PKiKP	10 26 20.2 +0.3
QSPA	South Pole Qui	123.46	180	PKP	PKiKP	10 26 20.1 +0.2
	comp=Z,4.7nm,0.7s,baz=273,slow=1.5,SNR=23					
HPO	Honuapo	123.74	25		PKPdf	10 26 21.1 -0.6
DZM	Mont Dzumac	126.85	94	eSS	SS	10 45 32.9 +0.6
	comp=Z,184nm,27.8s					
DZM	Mont Dzumac	126.85	94	eLR	LR	11 06 06.7
	comp=Z,228nm,23.6s					
MT16	CCHEN	127.75	251		PKPdf	10 26 27.0 -1.9
MT05	Renca	127.91	251		PKPdf	10 26 26.5 -2.8
VNDA	Vanda	128.13	166	PKP	PKiKP	10 26 29.2 +0.3
	comp=Z,0.5nm,0.7s,baz=334,slow=2.9,SNR=1.6					
TAOE	Nuku Hiva Isla	154.74	14	eLR	LR	11 19 07.3
	comp=Z,169nm,29.1s					
PPT2	Papeete2	158.86	45	eSS	SS	10 51 44.2 +3.6
	comp=Z,196nm,28.2s					
PPT2				eSS	SS	10 51 45.8 +5.2
	comp=Z,117nm,27.2s					
PPT2	Papeete2	158.86	45	eLR	LR	11 20 51.8
	comp=Z,262nm,25.5s					
PPT2				eLR	LR	11 21 00.8
	comp=Z,211nm,35.0s					
TBI	Tubuai	163.10	57	eLR	LR	11 23 00.3
	comp=Z,936nm,32.0s					
TBI				eLR	LR	11 23 02.8
	comp=Z,2μm,40.8s					
RKT	Rikitea	169.51	4	eLR	LR	11 25 57.4
	comp=Z,1μm,24.2s					

*IDC **01** 10:08:07.7±0.9,50.°45N×160.°01E,h0km,mb3.5/8,*
mbtmp3.6/10,ML3.3/2,Error ellipse: s-maj=24.1km
s-min=21.1km az=156.0
*KRSC **01** 10:08:08.6±1.8,50.°53N×160.°13E,h68km±36km,Ml3.9*
ISC 01 10:08:12.5±0.8,50.°51N±0.°07×160.°09E±0.°06,h35km,n32,
σ1°60/46,mb3.5/8,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	1.81	317	eP	Pn	10 08 39.5	-1.6
KDTR				eS	Sn	10 09 00.6	-2.2
RUS	Russkaya	2.16	334	eP	Pn	10 08 44.3	-1.6
RUS				eS	Sn	10 09 09.5	-2.0
PAU	Pauzhetka	2.28	296	eP	Pn	10 08 46.9	-0.6
GRL	Gorelyy	2.40	329	eP	Pn	10 08 48.8	-0.5
GRL				eS	Sn	10 09 17.4	-0.1
SKR	Severo-Kuril's	2.53	275	eP	Pn	10 08 49.1	-1.9
SKR				eS	Sn	10 09 17.1	-3.5
SPN	Mys Shipunski	2.59	359	eS	Sn	10 09 19.9	-2.1
KRMR	Karymshinskiy	2.62	333	eP	Pn	10 08 51.3	-0.9
KRMR				eS	Sn	10 09 22.6	-0.2
DALK	Dalny	2.66	342	eP	Pn	10 08 51.4	-1.3
DALK				eS	Sn	10 09 22.0	-1.6
PET	Petropavlovsk	2.67	341	eP	Pn	10 08 51.7	-1.2
PET				eS	Sn	10 09 22.1	-1.8
NLC	Nalytchevo	2.70	351	eS	Sn	10 09 24.1	-0.7
UGLR	Uglovaya	2.81	344	eP	Pn	10 08 54.8	-0.2
SDLR	Sedlovina	2.87	345	eP	Pn	10 08 55.3	-0.5
AVH	Avacha	2.88	344	eP	Pn	10 08 56.4	+0.5
KRX	Arik	2.99	343	eP	Pn	10 08 56.7	-0.7
PETK	Petropavlovsk-	2.99	331	Pn	Pn	10 08 56.4	-1.0
	3.1nm,0.3s,baz=119,slow=19,SNR=104						
PETK				Sn	Sn	10 09 32.9	+0.9
	4.0nm,0.3s,baz=145,slow=16,SNR=8.9						
	17nm,0.6s						
APC	Apacha	3.03	324	eP	Pn	10 08 57.5	-0.3
APC				eS	Sn	10 09 32.9	+0.2
GNL	Ganaly	3.45	338	eP	Pn	10 09 04.0	+0.2
GNL				eS	Sn	10 09 44.3	+0.9
KII	Karymskiy	3.55	354	eS	Sn	10 09 44.7	-1.2
MKZ	Mys Kozlova	4.17	13	eP	Pn	10 09 12.0	-1.6
MKZ				eS	Sn	10 09 58.0	-3.0
TUMD	Tumrok D	4.70	2	eP	Pn	10 09 20.5	-0.4
TUMD				eS	Sn	10 10 11.8	-2.3
BKI	Bering	5.90	35	eP	Pn	10 09 35.6	-1.6
KBTR	Krutoberegovo	5.94	15	eP	Pn	10 09 36.9	-0.8
KBTR				eS	Sn	10 10 41.8	-2.6
KBG	Krutoberegovo	5.96	14	eP	Pn	10 09 37.7	-0.4
SHEM	Shemya Is, Ala	9.00	70	Pn	Pn	10 10 20.1	+0.4
	2.4nm,0.3s,baz=305,slow=22,SNR=1.5						
SHEM				Sn	Sn	10 11 54.6	-5.1
	1.2nm,0.3s,baz=254,slow=20,SNR=1.8						
	15nm,0.5s						
ILAR	Eielson Array	30.69	42	P	P	10 14 24.2	+0.8
	0.4nm,0.8s,baz=267,slow=9.5,SNR=2.8						
	0.4nm,0.8s						
YKA	Yellowknife Ar	45.10	41	P	P	10 16 26.1	+1.4
	0.4nm,0.9s,baz=294,slow=7.7,SNR=4.8						
	0.4nm,0.9s						
KURBB	Kurchatov Arra	49.23	304	P	P	10 16 57.4	+0.3
	0.5nm,0.4s,baz=60,slow=7.3,SNR=2.4						
	0.5nm,0.4s						
MKAR	Makanchi Array	49.31	298	P	P	10 16 58.8	+1.1
	0.5nm,0.5s,baz=44,slow=3.7,SNR=1.3						
	0.5nm,0.5s						
NVAR	Mina Array Bea	56.66	68	P	P	10 17 53.1	+0.8
	0.1nm,0.4s,baz=315,slow=9.9,SNR=2.0						
	0.1nm,0.4s						
TXAR	Lajitas Array	71.67	66	P	P	10 19 31.7	+1.0
	0.4nm,0.5s,baz=301,slow=4.6,SNR=5.5						
	0.4nm,0.5s						
WRA	Warramunga Arr	73.74	205	P	P	10 19 42.3	-0.4
	0.7nm,1.0s,baz=15,slow=6.1,SNR=3.6						
	0.7nm,1.0s						
ASAR	Alice Springs	77.40	204	P	P	10 20 04.3	+0.7
	0.2nm,0.6s,baz=15,slow=4.5,SNR=4.4						
	0.2nm,0.6s						

ROM 01 10:09:27.8±0.1,42.°478N±0.°005×13.°276E±0.°005,
h12km,ML0.9/10,2D,Error ellipse: s-maj=0.5km
s-min=0.4km az=331.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	Pellescritta (	0.06	305	P	Pg	10 09 30.6	+0.3
RM33				S	Sg	10 09 32.5	+0.3
RM33				AML	AML		
	comp=E,105μm,1.1s						
RM33				AML	AML		
	comp=E,105μm,1.1s						
RM33				AML	AML		
	comp=N,84μm,1.4s						
RM33				AML	AML		
	comp=E,105μm,0.9s						
RM33				AML	AML		
	comp=N,84μm,0.6s						
CAMP	Campotosto	0.11	59	P	Pg	10 09 31.4	+0.4
CAMP				S	Sg	10 09 33.6	+0.2
CAMP				AML	AML		
	comp=E,19μm,0.4s						
CAMP				AML	AML		
	comp=E,19μm,0.4s						
CAMP				AML	AML		
	comp=N,31μm,0.4s						
CAMP				AML	AML		
	comp=E,19μm,1.6s						
SMA1	SAN MARTINO	0.16	16	⇓P	Pg	10 09 32.1	+0.4
SMA1				S	Sg	10 09 35.1	+0.8
SMA1				AML	AML		
	comp=E,300μm,0.4s						
SMA1				AML	AML		
	comp=E,300μm,0.4s						
SMA1				AML	AML		
	comp=N,180μm,0.3s						
LNSS	Leonessa	0.21	306	P	Pg	10 09 32.9	+0.4
LNSS				S	Sg	10 09 36.4	+0.7
TERO	Teramo	0.28	59	P	Pg	10 09 33.8	+0.1
TERO				AML	AML		
	comp=N,15μm,0.6s						
TERO				AML	AML		
	comp=E,14μm,1.5s						
TERO				AML	AML		
	comp=N,15μm,1.4s						
FAGN	Fagnano	0.31	133	⇓P	Pg	10 09 34.6	+0.5
FAGN				AML	AML		
	comp=E,372μm,0.1s						
FAGN				AML	AML		
	comp=N,228μm,0.1s						

IDC 01 10:09:54.6±86.0,18.°39S×167.°84E,h0km,mb4.3/3,
mbtmp4.3/3,MS3.6/1,Error ellipse: s-maj=1450.0km
s-min=109.3km az=71.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	25.39	175	LR	LR	10 24 39.6	
	comp=Z,126nm,18.4s,baz=114,slow=35						
STKA	Stephens Creek	27.21	235	P	P	10 15 40.1	-0.1
	7.5nm,0.9s,baz=71,slow=11,SNR=12						
	7.5nm,0.9s						
WRA	Warramunga Arr	31.66	262	P	P	10 16 19.8	-0.2
	0.8nm,0.3s,baz=92,slow=9.0,SNR=16						
	0.8nm,0.3s						
ASAR	Alice Springs	32.06	255	P	P	10 16 23.7	+0.2
	3.0nm,0.9s,baz=81,slow=9.2,SNR=27						
	3.0nm,0.9s						

*JMA **01** 10:10:32.3±0.1,24.°N±1.°×122.°3E±0.°4,h39km±4km,*
MV2.5/11,TAIWAN REGION
*TAP **01** 10:10:32.3,24.°52N×122.°27E,h14km±1km,ML2.9,B*
ISC 01 10:10:32.3±1.0,24.°53N±0.°03×122.°31E±0.°02,h19km±2km,
n67,σ0°55/79,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.13	211	iP	Pg	10 10 36.0	-0.2
EOS2				eS	Sg	10 10 39.4	+0.5
EOS3	EOS3	0.25	178	eP	Pb	10 10 38.0	+0.2
EOS4	EOS4	0.41	179	eP	Pg	10 10 41.0	+0.4
ESAO	Su ao	0.42	276	eP	Pg	10 10 40.1	-0.9
TWC	Suao	0.42	280	eP	Pg	10 10 39.9	-1.1
EWUT	Wuta	0.49	260	eP	Pg	10 10 41.6	-0.6
EWUT				eS	Sg	10 10 48.3	-0.5
ENA	Nanau	0.53	259	P	Pb	10 10 42.6	-0.2
ENA				eS	Sg	10 10 49.2	-0.7
NDS	Dongshan	0.55	281	eP	Pb	10 10 43.1	-0.1
TWB1	Santiao Chiao	0.55	329	eP	Pb	10 10 43.6	+0.3
EAHA	Aohua	0.56	249	eP	Pb	10 10 43.3	0.0
EAHA				eS	Sb	10 10 50.0	-0.8
JYNG	Yonaguni jima	0.59	98	eP	Pb	10 10 43.6	-0.3
JYNG				eS	Sg	10 10 52.9	+1.0
TWE	Neicheng	0.61	288	eP	Pb	10 10 43.9	-0.4
TIPB	Shuangxi	0.62	315	P	Pb	10 10 44.5	+0.1
YOJ	Yonaguni jima	0.65	96	eP	Pb	10 10 44.8	-0.1
YOJ				eS	Sg	10 10 54.8	+1.1
YOJ	Yonaguni jima	0.65	96	eP	Pb	10 10 45.3	+0.4
ENTT	Nioudou	0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	Yeheng	0.86	279	eP	Pb	10 10 48.7	+0.1
NSK	Sanguang	0.88	280	P	Pb	10 10 49.0	+0.1
NSK				i S	Sb	10 11 00.4	+0.2
YM01	YM01	0.91	313	eP	Pb	10 10 50.0	+0.6
ETM	Tongmen	0.93	233	eP	Pb	10 10 50.6	+0.7
ZUZH	Zhuzihu	0.93	312	eP	Pb	10 10 50.4	+0.5
LXIB	Xiulin Townshi	0.96	238	P	Pg	10 10 51.7	+0.7
FUSS	Fushou	1.01	254	eP	Pb	10 10 51.4	+0.1
WHF	Hehuan Shan	1.02	248	eP	Pb	10 10 51.8	+0.1
KSHI	Guanxi Townshi	1.06	283	eP	Pg	10 10 53.1	+0.3
TWT	Tachien	1.07	255	eP	Pg	10 10 53.7	+0.7
ESL	Shilin	1.07	228	eP	Pn	10 10 53.0	+0.7
NFF	Wufeng Townshi	1.09	275	eP	Pn	10 10 53.2	+0.6
PCYT	Pengchaiyu	1.11	349	eP	Pg	10 10 54.3	+0.4
WARBT	Fenglin Townsh	1.17	226	eP	Pn	10 10 53.9	+0.3
LIOB	Emei	1.18	276	eP	Pg	10 10 55.2	+0.1
OWD	Renai	1.18	241	eP	Pg	10 10 55.3	+0.1
NSTT	Nanjuang	1.19	275	eP	Pb	10 10 55.2	+0.9
WUSB	Renai	1.21	244	eP	Pb	10 10 55.2	+0.5
WHP	Taichung City	1.27	259	eP	Pg	10 10 57.4	+0.6
IRIF	Iriomote-Funau	1.31	98	eP	Pn	10 10 54.7	-0.9
HGSD	Ruisui	1.31	218	eP	Pb	10 10 57.1	+0.7
VWDT	VWDT	1.32	234	eP	Pb	10 10 57.1	+0.7
WCS	Beigang Elemen	1.36	250	eP	Pg	10 10 58.3	-0.2
EHY	Hungye	1.36	222	eP	Pb	10 10 57.5	+0.3
TWQ1	Liyutan	1.41	263	eP	Pg	10 10 59.3	-0.2
SMLT	Sun Moon Lake	1.44	244	eP	Pb	10 10 59.3	+0.7
SSLB	Suanglung	1.44	239	eP	Pb	10 10 59.1	+0.5
YULB	Yu-li	1.46	219	eP	Pn	10 10 57.8	+0.1
TYC	Yuchr	1.46	245	eP	Pg	10 11 00.3	-0.2
EYUL	Yuli	1.49	218	eP	Pb	10 11 00.1	+0.8
TWF1	Yuli	1.50	218	eP	Pb	10 10 59.5	0.0
WHYT	Xinyi Township	1.57	238	eP	Pb	10 11 01.3	+0.6
JKRS	Kuro-shima	1.58	100	eP	Pn	10 10 59.2	-0.1
JKRS				eS	Sn	10 11 18.5	-0.7
FULB	Fuli	1.62	215	eP	Pb	10 11 01.3	-0.3
CHN5	Tsauling	1.76	238	eP	Pb	10 11 04.0	+0.1
ELDTW	Lidau	1.78	222	eP	Pb	10 11 04.5	+0.1
JISG	Ishigakijimahi	1.83	88	eP	Pn	10 11 02.0	-0.6
JISG				eS	Sn	10 11 24.2	-1.1
STYH	Taoyuan	1.95	226	eP	Pn	10 11 05.2	+0.8
CHN4	Tsaushan	1.96	233	eP	Pb	10 11 06.9	-0.5
TPUB	Ta-pu	1.96	232	eP	Pb	10 11 06.7	-0.8
WTP	Ta-pu	2.01	231	eP	Pb	10 11 07.6	-0.7

IDC ***01*** *10:14:02.0±0.6, 7°.41N×94°.22E, h0km, mb4.3/20, mbtmp4.2/23, ML4.1/3, MS4.0/9, Error ellipse: s-maj=25.1km s-min=13.8km az=51.0*
NEIC ***01*** *10:14:04.6±1.7, 7°.41N±0°.08×94°.21E±0°.04, h10km±1km, mb4.7/24, Error ellipse: s-maj=14.1km s-min=4.4km az=201.0*
NDI ***01*** *10:14:08.5±1.2, 7°.49N×94°.40E, h10km, ML4.2, MW4.6, mb4.7(NEIC)*
DJA ***01*** *10:14:11.9±2.5, 7°N±14°×9°5E±2°0, h10km, M4.5/7, mB4.9/4, mb4.5/5, MLv4.5/7, Mw(mB)4.2/4*
ISC 01 10:14:06.0±0.4, 7°.42N±0°.04×94°.26E±0°.05, h24km, n78, σ1§32/74, mb4.5/32, MS4.0/6, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	0.52	219	eP	Pn	10 14 18.5	+0.5
CMBY				eS	Sn	10 14 27.7	+1.6
CMBY				IAML		10 14 32.9	
	comp=E,46μm,0.6s						
CMBY				IAML		10 14 34.3	
	comp=E,56μm,0.5s						
BSI	Banda Aceh	2.17	152	P	Pb	10 14 44.4	-0.2
LHMI	Lhok Sumawe	3.44	129	Pn	Pn	10 14 59.4	+1.2
LHMI	Lhok Sumawe	3.44	129	P	Pn	10 14 56.6	-1.6
MLSI	Meulaboh, Aceh	3.79	146	P	Pn	10 15 07.0	+4.0
PBA	Port Blair	4.47	341	eP	Pn	10 15 15.8	+3.5
PBA				eS	Sn	10 16 05.0	+1.4
SRIT	Nakonsritamara	5.42	77	Pn	Pn	10 15 25.9	+0.5
DGPR	DIGLIPUR	5.87	347	eP	Pn	10 15 35.8	+4.2
DGPR				eS	Sn	10 16 38.2	0.0
DGPR				IAML		10 17 13.0	
	comp=E,108nm,2.3s						
DGPR				IAML		10 17 14.4	
	comp=E,133nm,1.9s						
PSI	Prapat	6.53	134	Pn	Pn	10 15 41.2	+0.5
	comp=E,1.4nm,0.3s,baz=322,slow=20,SNR=7.5						
PSI				Sn	Sn	10 16 53.2	-1.3
	comp=E,0.3nm,0.3s,baz=334,slow=18,SNR=1.1						
PSI				LR	LR	10 18 25.7	
	comp=E,869nm,19.1s,baz=297,slow=40 comp=E,4.9nm,0.5s						
RPSI	Rantau Prapat	6.60	135	Pn	Pn	10 15 42.6	+0.9
RPSI	Rantau Prapat	6.60	135		Pn	10 15 41.2	-0.4
RPSI					Sn	10 16 53.2	-3.0
KULM	Kulim	6.69	108	Pn	Pn	10 15 42.5	-0.4
GSI	Gunungsitoli	6.91	151	P	Pn	10 15 49.1	+3.1
	comp=E,0.3nmcomp=E,35nm,1.2s						
PPI	Padang Panjang	9.93	142	P	Pn	10 16 30.2	+2.8
CMAR	Chiang Mai Arr	11.88	22	Pn	Pn	10 16 53.9	-0.2
	comp=E,1.2nm,0.3s,baz=209,slow=14,SNR=5.5						
CMAR				LR	LR	10 21 28.5	
	comp=E,553nm,19.0s,baz=205,slow=38 comp=E,1.6nm,0.3s						
PALK	Pallekele	13.45	270	Pn	Pn	10 17 12.9	-2.7
	comp=E,0.5nm,0.3s,baz=69,slow=17,SNR=1.7						
PALK				Sn	Sn	10 19 32.5	-12
	comp=E,0.2nm,0.3s,baz=353,slow=18,SNR=1.8						
PALK				LR	LR	10 21 53.1	
	comp=E,706nm,21.8s,baz=87,slow=35 comp=E,2.2nm,0.5s						
KSM	Kuching	17.05	110	P	P	10 18 04.4	-0.2
SBUM	Sibu	18.55	105	P	Pn	10 18 23.1	+1.5
LEM	Lembang	19.43	136	LR	LR	10 27 19.6	
	comp=E,592nm,19.0s,baz=298,slow=41						
H08S3	Diego Garcia H	26.36	236	T	T	10 46 27.8	
	baz=55,slow=76,SNR=186						
H08S2	Diego Garcia H	26.36	236	T	T	10 46 29.4	
	baz=55,slow=76,SNR=155						
H08S1	Diego Carcia H	26.38	236	T	T	10 46 27.6	
	baz=55,slow=76,SNR=84						
KAPI	Kappang	28.27	115	LR	LR	10 31 11.9	
	comp=E,191nm,21.9s,baz=282,slow=36						
NIL	Nilore	32.54	326	P	P	10 20 35.2	-0.1
TARG	Taragay, Kyrgy	37.16	339	P	P	10 21 15.5	0.0
KDJ	Kajisay	37.73	339	P	P	10 21 19.4	-0.8
MK31	Makanchi Array	40.56	347	P	P	10 21 43.2	-0.3
MKAR	Makanchi Array	40.56	347	P	P	10 21 43.1	-0.5
MKAR	Makanchi Array	40.56	347	P	P	10 21 43.2	-0.3
	comp=E,6.5nm,0.8s,baz=162,slow=8.4,SNR=25 comp=E,6.5nm,0.8s						
MAKZ	Makanchi	40.64	347	P	P	10 21 43.9	-0.3
MAKZ				IAmb	IAmb	10 21 49.6	
	comp=Z,7.4nm,0.8s						
SONM	Songino Array	41.58	12	P	P	10 21 52.1	+0.1
SONM	Songino Array	41.58	12	P	P	10 21 52.2	+0.1
	comp=Z,2.6nm,1.0s,baz=202,slow=7.6,SNR=5.7						
SONM				PcP	PcP	10 23 48.4	-0.6
	comp=Z,0.3nm,0.3s,baz=183,slow=2.7,SNR=1.9 comp=Z,2.6nm,1.0s						
NWAO	Narrogin (SRO)	45.69	153	P	P	10 22 26.2	+1.0
NWAO				IAmb	IAmb	10 22 39.2	
	comp=Z,23nm,1.4s						
NWAO	Narrogin (SRO)	45.69	153	LR	LR	10 40 44.7	
	comp=Z,130nm,19.3s,baz=324,slow=35						
ZAA0	Zalesovo Array	47.02	352	P	P	10 22 34.8	-0.6
ZALV	Zalesovo Beam	47.02	352	P	P	10 22 35.3	0.0
ZALV	Zalesovo Beam	47.02	352	P	P	10 22 34.3	-1.1
	comp=Z,2.5nm,0.3s,baz=177,slow=7.4,SNR=19 comp=Z,2.5nm,0.3s						
BNX	BinXian	47.69	31	‖P	P	10 22 47.8	+7.1
BNX				pmax	pmax		
	comp=Z,6.0nm,1.6s						
WB0	Warramunga Arr	47.86	125	P	P	10 22 42.0	-0.4
WB0				IAmb	IAmb	10 22 59.1	
	comp=Z,3.6nm,0.8s						
WRA	Warramunga Arr	47.90	125	P	P	10 22 42.0	-0.8
WRA	Warramunga Arr	47.90	125	P	P	10 22 42.5	-0.2
	comp=Z,0.8nm,0.7s,baz=306,slow=8.4,SNR=10						
WRA				LR	LR	10 44 49.0	
	comp=Z,175nm,19.3s,baz=294,slow=38 comp=Z,0.8nm,0.7s						
WR8	Warramunga Arr	48.04	125	P	P	10 22 44.0	+0.2
WR8				IAmb	IAmb	10 23 05.7	
	comp=Z,8.3nm,1.2s						
ASAR	Alice Springs	49.53	130	P	P	10 22 56.1	+0.9
ASAR	Alice Springs	49.53	130	P	P	10 22 54.7	-0.6
	comp=Z,1.0nm,0.6s,baz=299,slow=7.9,SNR=12						
ASAR				PcP	PcP	10 24 16.4	-0.6
	comp=Z,1.1nm,0.8s,baz=306,slow=2.7,SNR=4.5						
ASAR				LR	LR	10 45 58.6	
	comp=Z,158nm,19.1s,baz=308,slow=39 comp=Z,1.0nm,0.6s						
FORT	Forrest	49.91	141	P	P	10 22 58.6	+0.6
AB31	Akbulak array	50.69	331	P	P	10 23 04.3	+0.7
AB31				IAmb	IAmb	10 23 13.5	
	comp=Z,11nm,1.1s						
ABKAR	Akbulak array	50.69	331	P	P	10 23 04.4	+0.9
ATD	Arta Tunnel	50.83	279	LR	LR	10 41 30.4	
	comp=Z,5.3nm,18.9s,baz=14,slow=32						
AKTO	Aktyubinsk	52.40	331	P	P	10 23 17.1	+0.7
	comp=Z,3.2nm,0.6s,baz=177,slow=3.7,SNR=1.6 comp=Z,3.2nm,0.6s						
ABPO	Ambohimpanom	53.28	240	P	P	10 23 22.6	-0.9
ABPO				IAmb	IAmb	10 23 23.0	
	comp=Z,13nm,0.9s						
ARTI	Arti	56.39	337	P	P	10 23 45.6	+0.3
	comp=Z,11nm,0.8s,baz=105,slow=2.6,SNR=3.1 comp=Z,11nm,0.8s						
BBOO	Buckleboo	56.40	138	P	P	10 23 46.0	+0.3
BBOO				IAmb	IAmb	10 24 03.6	
	comp=Z,8.0nm,1.3s						
KMBO	Kilima Mbogo	57.49	264	P	P	10 23 54.0	-0.2
	comp=Z,1.1nm,0.3s,baz=59,slow=7.5,SNR=5.7 comp=Z,1.1nm,0.3s						
STKA	Stephens Creek	59.71	134	P	P	10 24 09.2	+0.3
	comp=Z,0.5nm,0.5s,baz=317,slow=12,SNR=1.6 comp=Z,0.5nm,0.5s						
BRTR	Keskin Array B	62.82	311	P	P	10 24 29.4	-0.7
BRTR	Keskin Array B	62.82	311	P	P	10 24 29.3	-0.8
	comp=Z,1.7nm,0.7s,baz=125,slow=9.4,SNR=4.1 comp=Z,1.7nm,0.7s						
TIXI	Tiksi	67.65	11	P	P	10 25 00.3	-0.3
AKASG	Malin Array Be	68.58	322	P	P	10 25 05.6	-1.3
	comp=Z,0.4nm,0.5s,baz=81,slow=4.5,SNR=4.0 comp=Z,0.4nm,0.5s						
MLR	Muntele Rosu	69.58	316	P	P	10 25 12.6	-0.8
	comp=Z,2.9nm,0.7s,baz=131,slow=9.3,SNR=3.2 comp=Z,2.9nm,0.7s						
FINES	FINESS Array B	73.17	332	P	P	10 25 33.2	-1.3
	comp=Z,3.2nm,0.7s,baz=120,slow=11,SNR=6.1 comp=Z,3.2nm,0.7s						
GERES	GERESS Array B	78.24	318	P	P	10 26 04.8	+0.7
	comp=Z,2.1nm,0.7s,baz=81,slow=8.2,SNR=6.1 comp=Z,2.1nm,0.7s						
HFS	Hagfors	78.91	330	P	P	10 26 07.5	+0.2
	comp=Z,1.2nm,0.4s,baz=103,slow=5.3,SNR=5.7 comp=Z,1.2nm,0.4s						
NB2	NORSAR Subarra	80.19	331	P	P	10 26 14.0	-0.3
	comp=Z,5.5nm,1.0s,baz=91,slow=5.1						
NOA	NORSAR Array B	80.19	331	P	P	10 26 13.9	-0.3
	comp=Z,1.7nm,0.8s,baz=93,slow=5.6,SNR=6.0 comp=Z,1.7nm,0.8s						
SPITS	Spitsbergen Ar	80.31	348	P	P	10 26 14.3	-0.3
	comp=Z,15nm,1.0s,baz=98,slow=4.4,SNR=2.6 comp=Z,15nm,1.0s						
DAVOX	Davos/Dischmat	80.80	316	P	P	10 26 18.1	0.0
	comp=Z,2.3nm,0.7s,baz=108,slow=10,SNR=3.9 comp=Z,2.3nm,0.7s						
EKA	Eskdalemuir Ar	88.16	325	P	P	10 26 55.0	0.0
	comp=Z,1.9nm,0.7s,baz=72,slow=2.3,SNR=3.5 comp=Z,1.9nm,0.7s						
D19K	Kuna River	89.51	21	P	P	10 27 02.2	+1.1
D19K				IAmb	IAmb	10 27 09.9	
	comp=Z,7.8nm,1.1s						
E19K	Redstone River	90.17	21	IAmb	IAmb	10 27 11.3	
	comp=Z,3.9nm,0.8s						
ESDC	Sonseca Array	91.60	310	P	P	10 27 11.8	+0.3
	comp=Z,0.6nm,0.7s,baz=50,slow=4.3,SNR=4.4 comp=Z,0.6nm,0.7s						
G21K	Allakaket	91.88	22	IAmb	IAmb	10 27 20.8	
	comp=Z,7.5nm,1.1s						
K20K	Telida	92.90	25	P	P	10 27 18.7	+1.8
K20K				IAmb	IAmb	10 27 26.3	
	comp=Z,5.9nm,1.0s						
N19K	Bonanza Creek	93.69	27	P	P	10 27 22.3	+1.6
SNAA	Sanae	99.23	199	LR	LR	11 08 37.5	
	comp=Z,176nm,18.4s,baz=15,slow=33						
NVAR	Mina Array Bea	125.24	31	PKP	PKiKP	10 33 07.0	+1.2
	comp=Z,0.4nm,0.7s,baz=327,slow=5.0,SNR=3.6						
PDAR	Pinedale Array	125.54	21	PKP	PKPdf	10 33 04.1	-1.9
	comp=Z,0.4nm,0.8s,baz=337,slow=1.3,SNR=1.4						
PLCA	Paso Flores	144.16	200	PKP	PKPdf	10 33 40.2	-0.1
	comp=Z,2.4nm,1.0s,baz=144,slow=2.4,SNR=6.3						
CPUP	Villa Florida	147.08	232	PKPbc	PKPbc	10 33 47.0	-0.7
	comp=Z,3.4nm,1.1s,baz=90,slow=2.0,SNR=4.1						

NAO ***01*** *10:16:09.8, 32°.97N×46°.01E, h33km, mb4.3*
IDC ***01*** *10:16:11.7±0.5, 33°.59N×45°.76E, h0km, mb4.5/30, mbtmp4.5/38, ML3.7/8, MS3.9/2, Error ellipse: s-maj=11.5km s-min=9.8km az=11.0*
ISN ***01*** *10:16:12.1±1.4, 33°.72N×45°.73E, h7km±8km, ML4.6*
MOS ***01*** *10:16:12.9±1.2, 33°.63N×45°.74E, h19km, mb5.0/22, MS4.0/5, Error ellipse: s-maj=7.1km s-min=4.2km az=100.9*
BJI ***01*** *10:16:12.0, 33°.70N×45°.80E, h10km, mB5.1/12, mb4.8/49, Ms5.0/8, Ms7 4.8/9*
NEIC ***01*** *10:16:14.5±1.5, 33°.68N±0°.06×45°.78E±0°.09, h10km±1km, mb4.8/181, Error ellipse: s-maj=12.9km s-min=10.6km az=111.0*
TEH ***01*** *10:16:14.9, 33°.70N×45°.71E, h16km±41km*
GCMT ***01*** *10:16:14.5±0.4, 33°.58N±0°.04×45°.55E±0°.04, h21km±1km, MW4.4/79, Moment Tensor Solution. s3,c3; s79,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.07±.23; Mθθ-0.99±.13; Mφφ-1.08±.13; Mrθ0.67±.20; Mrφ0.92±.07; Mθφ-0.96±.19; Best double couple: M=2.33000×10^16 NP1:φs312.00000°, δ30.00000°, λ83.00000°. NP2: φs141.00000°, δ60.00000°, λ94.00000°. Principal axes: T 2.3900, Plg75.0000°, Azm62.0000°; N -0.1220, Plg4.0000°, Azm319.0000°; P -2.2700, Plg15.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
OMAN ***01*** *10:16:21.5±0.8, 33°.11N×46°.39E, h10km, mb4.7/17 Error ellipse: s-maj=9.5km s-min=5.9km az=58.0*
DSN ***01*** *10:16:22.8±2.2, 32°.85N×46°.25E, h15km, Error ellipse: s-maj=27.6km s-min=14.6km az=176.0*
ISC 01 10:16:14.0±0.7, 33°.59N±0°.03×45°.79E±0°.03, h16km±4km, n614, σ2§02/598, mb4.8/161, MS4.3/4, 16C-7D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.49	167	ePg	Pg	10 16 24.0	+0.2
IBDR				eSg	Sb	10 16 34.0	+2.7
IBDR				AML	AML	10 16 41.3	
	comp=N,61μm,0.6s						
IBDR				AML	AML	10 16 49.3	
	comp=E,46μm,0.6s						
GLG1	Gilan-e-Gharb	0.53	10	Pg	Pg	10 16 23.3	-1.3
IGHG	Ghaleghazi	0.98	41	Pg	Pg	10 16 33.3	+0.3
IDHR	Dehrash	1.21	24	Pg	Pn	10 16 36.9	+0.4
BHD	Baghdad	1.23	255	ePn	Pg	10 16 38.0	+0.4
BHD				eSn	Sn	10 16 55.0	+2.2
KCHF	Cheshme Sefid,	1.24	56	Pg	Pg	10 16 38.4	+0.4
RAFI	Al-Rafai	1.88	172	ePn	Pb	10 16 48.0	0.0
RAFI				eSn	Sg	10 17 15.0	+0.4
SNQR	Sonqor, Kerman	1.98	50	Pn	Pn	10 16 49.0	+1.9
IDOB	Doab	2.00	84	Pn	Pb	10 16 50.8	+0.7
IKRK	Kirkuk	2.17	327	ePn	Pn	10 16 48.0	-1.5
IKRK				eSn	Sn	10 17 16.0	-0.1
IKRK				AML	AML	10 17 28.5	
	comp=E,2μm,0.5s						
SDS1	Sardasht. Az.	2.56	354	Pn	Pn	10 16 56.1	+1.0
BDRS	Dareh Seyedi	2.60	81	Pn	Pn	10 16 58.6	+2.9
HAGD	Aghdareh	3.03	65	Pn	Pn	10 17 04.7	+3.1
HGHA	Hamedan- Ghaye	3.16	52	Pn	Pn	10 17 06.2	+2.9
MAHB	Mahabad	3.17	359	Pn	Pn	10 17 05.1	+1.7
AHWZ	Ahwaz	3.30	132	Pn	Pb	10 17 09.9	-2.2
QABG	Abgarm-Qazvin	3.77	55	Pn	Pn	10 17 14.7	+2.9
JIR1	Jirandeh	4.52	45	Pn	Pn	10 17 24.6	+2.6
IQOM	Qom	4.55	73	Pn	Pn	10 17 24.6	+2.2
QAMS	Qamsar	4.67	87	Pn	Pn	10 17 27.5	+3.3
KBD	Kabd	4.69	159	P	Pn	10 17 25.0	+0.8
KBD				S	Sn	10 18 15.1	-3.2
IHSB	Hasanabad	4.89	66	Pn	Pn	10 17 29.7	+2.7
TEH	Tehran	5.08	64	Pn	Pn	10 17 32.6	+2.9
TEHA	Amirabad Tehra	5.09	63	Pn	Pn	10 17 31.5	+1.8
IVRN	Varamin	5.11	72	Pn	Pn	10 17 32.6	+2.6
GEVA	Gevas	5.21	336	Pn	Pn	10 17 32.6	+1.2
GAS1	Astara - Iran	5.38	26	Pn	Pn	10 17 36.0	+2.3
GRMI	Germi	5.48	17	Pn	Pn	10 17 37.2	+2.1
MZPU	Pul - Mazandar	5.53	57	Pn	Pn	10 17 38.6	+2.7
MARD	Mardin	5.53	314	Pn	Pn	10 17 35.4	-0.4
KLNJ	Kolanjah	5.54	116	Pn	Pn	10 17 40.0	+3.8
GURO	Guroymak-BITLI	5.81	329		Pn	10 17 39.7	0.0
MAKU	Maku	5.82	351	Pn	Pn	10 17 41.9	+2.0
IPRN	Peran	5.99	62	Pn	Pn	10 17 44.2	+2.0
GNI	Garni	6.60	353	Pn	Pn	10 17 54.0	+3.4
	comp=E,1.6nm,0.3s,baz=151,slow=9.8,SNR=5.2						
GNI				Lg	Lg	10 19 42.7	
	comp=E,0.3nm,0.3s,baz=156,slow=23,SNR=0.8						
GNI				LR	LR	10 20 54.0	
	comp=E,796nm,19.2s,baz=154,slow=43 comp=E,7.9nm,0.5s						
GNI	Garni	6.60	353	P	Pb	10 18 06.6	-1.9
GNI	Garni	6.60	353	i P	Pn	10 17 48.1	-2.5
GNI	Garni	6.60	353	Pn	Pn	10 17 50.0	-0.6
	comp=E,0.4nmcomp=E,53nm,0.9s						
ANAR	Anarak	6.65	91	Pn	Pn	10 17 54.6	+3.3
ASF	Jabal al Asfar	7.62	262	Pn	Pn	10 18 04.5	0.0
	comp=E,4.7nm,0.3s,baz=109,slow=9.9,SNR=6.1						
ASF				Sn	Sn	10 19 28.2	-2.3
	comp=E,3.0nm,0.3s,baz=116,slow=16,SNR=1.4						
ASF				Lg	Lg	10 20 17.0	
	comp=E,12nm,0.3s,baz=143,slow=22,SNR=7.8 comp=E,16nm,0.7s						
MMAI	Mount Meron Ar	8.72	269		Pn	10 18 20.0	+0.4
MMAI	Mount Meron Ar	8.72	269	Pn	Pn	10 18 20.0	+0.4
	comp=E,2.2nm,0.3s,baz=78,slow=12,SNR=4.3						
MMAI				Sn	Sn	10 19 58.3	+0.8
	comp=E,2.3nm,0.3s,baz=102,slow=16,SNR=1.9						
MMAI				Lg	Lg	10 20 46.9	
	comp=E,9.0nm,0.3s,baz=70,slow=24,SNR=3.0						
GHAJ	Ghor Haditha	8.94	258	Pn	Pn	10 18 24.3	+1.8
TPRV	Parvadeh(Tabas	9.13	91	Pn	Pn	10 18 28.3	+3.0
MRVT	Maraveh tapeh	9.31	61	Pn	Pn	10 18 30.3	+2.7
MAK	Makhachkala	9.45	8c	iP	Pn	10 18 24.4	-5.1
MAK				eS	Sn	10 20 08.6	-6.8
MAK				pmax	pmax		
	comp=Z,512nm,1.6s						
MAK				MLR	MLR		
	comp=Z,2μm,16.0s						
SMRA	Abu-Samra	9.85	152	P	Pn	10 18 35.3	+0.3
SMRA				S	Sn	10 20 21.9	-3.3
EIL	Elat	10.03	250	Pn	Pn	10 18 38.4	+0.8
	comp=Z,3.5nm,0.3s,baz=73,slow=6.7,SNR=9.2						
EIL				Lg	Lg	10 21 28.7	
	comp=Z,1.5nm,0.3s,baz=50,slow=16,SNR=1.6 comp=Z,16nm,0.5s						
RAYN	Ar Rayn	10.03	182	Pn	Pn	10 18 37.3	-0.3
RAYN	Ar Rayn	10.03	182	P	Pn	10 18 37.6	0.0
RAYN				S	Sn	10 20 27.5	-2.4
RAYN	Ar Rayn	10.03	182	P	Pn	10 18 37.3	-0.3
RAYN	Ar Rayn	10.03	182	P	Pn	10 18 36.6	-1.0
NCK	Nalchik	10.04	351	i P	Pn	10 18 37.3	-0.3
KBZ	Khabaz	10.37	348	Pn	Pn	10 18 46.0	+3.9
	comp=Z,0.2nm,0.3s,baz=159,slow=11,SNR=9.1 comp=Z,7.6nm,0.8s						
KBZ	Khabaz	10.37	348	i P	Pn	10 18 41.5	-0.6
KBZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SHA1	Shidzhatmaz	10.42	347	i P	Pn	10 18 44.3	+1.3
KVAR	Kislovodsk Arr	10.63	348	Pn	Pn	10 18 49.2	+3.5
	baz=127,slow=10						
KVAR				LR	LR	10 23 34.9	
	comp=Z,739nm,21.2s,baz=43,slow=42 comp=Z,3.1nm,0.4s						
KIV	Kislovodsk	10.63	348		Pn	10 18 44.4	-1.3
KIV	Kislovodsk	10.63	348	eP	Pn	10 18 46.6	+0.9
KIV				pmax	pmax		
	comp=Z,24nm,1.1s						
KIV				MLR	MLR		
	comp=Z,323nm,13.0s						
KIV	Kislovodsk	10.63	348	P	Pn	10 18 44.8	-0.9
	comp=Z,20nm,0.8s						
SLWR	Sila	10.80	150	P	Pn	10 18 49.0	+0.9
SLWR				S	Sn	10 20 43.3	-5.3
SOC	Sochi	11.05	336	eP	Pn	10 18 50.8	-0.6
SOC				e		10 20 57.8	
SOC				pmax	pmax		
	comp=Z,13nm,0.7s						
SOC				MLR	MLR		
	comp=Z,924nm,16.0s						
BR104	Keskin Array S	11.51	306	P	Pn	10 18 57.2	-0.6
	comp=Z,3.7nm,0.7s						
BRTR	Keskin Array B	11.52	306	Pn	Pn	10 19 00.2	+2.3
	comp=Z,0.1nm,0.3s,baz=127,slow=14,SNR=6.2						
BR105	Keskin Array S	11.53	306	P	Pn	10 18 57.4	-0.7
	comp=Z,4.9nm,0.8s						
BR106	Keskin Array S	11.54	306	P	Pn	10 18 57.8	-0.4
	comp=Z,5.0nm,0.8s						
SHME	Shamm	11.71	127	P	Pn	10 19 01.0	+0.5
SHME				S	Sn	10 21 04.5	-6.4
SHME	Shamm	11.71	127	P	Pn	10 18 59.7	-0.8
BANOM	Banah	11.90	127	P	Pn	10 19 03.2	+0.1
BANOM				S	Sn	10 21 09.2	-6.4
BANOM	Banah

JMDO S **Sn** **10 22 37.5 -7.9**
NGCH Negor - Chabah 15.66 118 P **Pn** **10 19 52.7 -1.5**
NGCH S Sn 10 22 37.3 -10
CTYL Yalikoy Yolu 15.94 305 P **Pn** **10 19 57.5 -0.2**
comp=Z,28nm,1.3s
WBK Wadi Bani Khal 15.95 130 P **Pn** **10 19 57.1 -0.7**
WBK S **Sn** **10 22 46.2 -8.2**
MHTO MHTO 16.55 136 P **Pn** **10 20 04.1 -1.5**
JLN Jalan Bani Buh 16.56 130 P **Pn** **10 20 04.7 -0.9**
DOK Doka 16.67 151 P **Pn** **10 20 06.3 -0.8**
DOK S **Sn** **10 23 03.5 -8.5**
EZN Ezine 16.79 297 P **Pn** **10 20 08.1 -0.4**
DQM DQM 17.16 140 P **Pn** **10 20 13.3 +0.1**
DQM S **Sn** **10 23 14.0 -10**
WHFO Wadi Hawf 17.17 153 P **Pn** **10 20 12.3 -1.1**
SNR=7.0
WHFO S **Sn** **10 23 16.0 -8.1**
TIRR Tirgusor 17.29 314 P **Pn** **10 20 16.3 +1.6**
TIRR Tirgusor 17.29 314 ⇑P **Pn** **10 20 16.5 +1.8**
TIRR Tirgusor 17.29 314 ⇑P **Pn** **10 20 16.5 +1.8**
TIRR Tirgusor 17.29 314 P **Pn** **10 20 14.3 -0.4**
comp=Z,9.8nm,0.6s
IDI Anoyia 17.33 281 Pn **Pn** **10 20 14.2 -1.2**
comp=Z,18nm,1.1s,baz=178,slow=16,SNR=1.4
TPGR Topolog 17.50 315 ⇑P **Pn** **10 20 18.5 +1.1**
ABTO Aybut 17.52 156 P **Pn** **10 20 19.1 +1.3**
RBK Rabkut 17.71 153 P **Pn** **10 20 20.8 +0.7**
RDO Rodhopi 17.76 301 P **P** **10 20 23.5 +2.3**
DMTO DMTO 17.82 150 P **Pn** **10 20 22.2 +0.8**
SNR=6.1
DMTO S **Sn** **10 23 31.2 -8.5**
VRH Novokhopyorsk 17.85 352 *e*P **Pn** **10 20 20.3 -1.3**
VRH pmax pmax
comp=Z,37nm,0.7s
VORD Divnogorie 18.00 347 *e*P **Pn** **10 20 22.9 -0.6**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 18.27 347 *e*P **Pn** **10 20 25.0 -1.7**
VSR pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 18.69 347 *e*P **P** **10 20 31.0 -0.5**
VORR pmax pmax
comp=Z,72nm,0.4s
ABKAR Akbulak array 18.86 30 P **P** **10 20 33.8 +0.4**
ABKAR Akbulak array 18.86 30 P **P** **10 20 33.7 +0.4**
ABKAR **Pn** **10 20 33.9 0.0**
AKTO Aktyubinsk 19.08 24 P **P** **10 20 36.0 +0.3**
comp=Z,17nm,0.7s,baz=205,slow=9.8,SNR=27
PLOR5 Plostina Array 19.08 316 P **P** **10 20 35.7 -0.2**
comp=Z,10nm,0.8s
PLOR Plostina 19.09 316 ⇓P **P** **10 20 37.7 +1.7**
PLOR Plostina 19.09 316 ⇓P **P** **10 20 37.7 +1.7**
KBL Kabul 19.28 81 P **P** **10 20 39.4 +1.1**
KBL IAmb IAmb 10 20 42.6
KBL Kabul 19.28 81 P **Pn** **10 20 40.9 +1.5**
SNR=13
KBL Kabul 19.28 81 P **P** **10 20 39.4 +1.1**
KBL pmax pmax
comp=Z,76nm,1.2s
MLR Muntele Rosu 19.32 314 P **P** **10 20 38.7 +0.1**
MLR Muntele Rosu 19.32 314 P **P** **10 20 40.3 +1.7**
comp=Z,4.3nm,0.5s,baz=87,slow=6.1,SNR=4.9
MLR Muntele Rosu 19.32 314 ⇑P **P** **10 20 40.5 +1.9**
MLR Muntele Rosu 19.32 314 ⇑P **P** **10 20 40.5 +1.9**
MLR Muntele Rosu 19.32 314 P **P** **10 20 38.3 -0.3**
comp=Z,18nm,0.9s
SIMJ Simiganj 19.41 68 P **Pn** **10 20 42.0 +1.2**
TESR Tescani 19.46 317 P **P** **10 20 39.9 -0.1**
comp=Z,26nm,0.8s
SORM Soroca 19.56 323 P **P** **10 20 39.5 -1.5**
comp=Z,34nm,0.6s
LPSR Galich'ya Gora 19.64 347 *e*P **P** **10 20 40.4 -1.4**
LPSR pmax pmax
comp=Z,220nm,0.8s
LIT Litokhoron 19.72 296 P **P** **10 20 44.7 +1.8**
LIT Litokhoron 19.72 296 P **P** **10 20 44.7 +1.8**
LIT pmax pmax
comp=Z,11nm,0.8s
ITM Ithomi 19.77 287 P **P** **10 20 44.6 +1.1**
VOIR 19.84 313 ⇓P **P** **10 20 46.1 +1.9**
VOIR 19.84 313 ⇓P **P** **10 20 46.1 +1.9**
VOIR 19.84 313 P **P** **10 20 44.0 -0.2**
comp=Z,59nm,0.9s
DOPR Dopca 19.90 314 ⇓P **P** **10 20 45.7 +0.9**
ARR Arges 20.06 312 ⇓P **P** **10 20 48.1 +1.5**
GAR Garm 20.46 68 P **P** **10 20 53.1 +2.0**
GAR IAmb IAmb 10 20 56.1
comp=Z,60nm,1.1s
FNA Florina 20.70 297 P **P** **10 20 54.1 +0.6**
FNA Florina 20.70 297 P **P** **10 20 54.1 +0.6**
FNA pmax pmax
comp=Z,15nm,0.5s
KMPD K-Podol'skiy 20.80 322 P **P** **10 20 53.4 -1.1**
AK07 Malin Array Si 20.87 329 P **P** **10 20 53.7 -1.5**
AK09 Malin Array Si 20.88 329 P **P** **10 20 53.9 -1.5**
AK10 Malin Array Si 20.89 329 P **P** **10 20 54.0 -1.4**
AK06 Malin Array Si 20.90 329 P **P** **10 20 54.2 -1.3**
BURAR Bucovina Array 20.90 318 P **P** **10 20 55.8 +0.1**
BURAR Bucovina Array 20.90 318 ⇑P **P** **10 20 55.6 -0.1**
BURAR Bucovina Array 20.90 318 ⇑P **P** **10 20 55.6 -0.1**
AK05 Malin Array Si 20.92 329 P **P** **10 20 54.5 -1.3**
BUR08 Bucovina Ar. S 20.92 318 P **P** **10 20 55.8 -0.2**
AKASG Malin Array Be 20.97 330 P **P** **10 20 55.1 -1.3**
comp=Z,20nm,0.6s,baz=140,slow=10.0,SNR=42
comp=Z,20nm,0.6s
AKBB Malin Array Si 20.97 330 P **P** **10 20 54.9 -1.4**
AKBB IAmb IAmb 10 20 56.3
comp=Z,34nm,0.7s
AKBB Malin Array Si 20.97 330 *i* P **P** **10 20 55.0 -1.4**
AKBB pmax pmax
comp=Z,37nm,0.8s
KIEV Kiev 20.97 330 P **P** **10 20 54.9 -1.4**
KIEV IAmb IAmb 10 20 56.3
comp=Z,31nm,0.7s
KIEV Kiev 20.97 330 ⇑P **P** **10 20 55.0 -1.4**
KIEV Kiev 20.97 330 ⇑P **P** **10 20 55.0 -1.4**
LUBAR Lubar, Ukraine 21.06 326 P **P** **10 20 55.5 -1.8**
ARCR ARCALIA 21.10 316 ⇑P **P** **10 20 59.3 +1.5**
GZR Gura Zlata 21.24 310 ⇑P **P** **10 20 60.0 +0.6**
GZR Gura Zlata 21.24 310 ⇑P **P** **10 21 00.0 +0.6**
MI29 MI29, Kamyanyy 21.37 327 P **P** **10 20 59.7 -0.9**
comp=Z,320nm,0.8s
KSV Kosov 21.38 320 P **P** **10 20 59.3 -1.5**
MI30 MI30,Zelenitsa 21.45 328 P **P** **10 20 59.5 -2.0**
comp=Z,99nm,0.9s
KK31 Karatay Array 21.52 57 P **P** **10 21 03.4 +1.0**
KK31 Karatay Array 21.52 57 P **P** **10 21 03.4 +1.0**
KK31 pmax pmax
comp=Z,149nm,1.8s
KKAR Karatay Array 21.52 57 P **P** **10 21 03.0 +0.6**
KKAR Karatay Array 21.52 57 IAmb IAmb 10 21 12.6
comp=Z,95nm,1.8s
KKAR Karatay Array 21.52 57 P **P** **10 21 03.0 +0.6**
MARR Marisel-Cluj 21.62 314 ⇑P **P** **10 21 04.4 +1.0**
DRK Karamyk 21.67 67 P **P** **10 21 04.1 -0.2**
DRK Karamyk 21.67 67 P **P** **10 21 04.1 -0.2**
DRK pmax pmax
comp=Z,23nm,0.8s
RAKU Rahkiv 21.71 318 P **P** **10 21 04.7 +0.3**
MI28 Mi28,Pidlybu 21.81 328 P **P** **10 21 03.7 -1.7**
STNU Starunia 21.92 320 P **P** **10 21 06.3 -0.3**
MEZ Mezhgor'ye 22.35 318 P **P** **10 21 10.9 -0.3**
OBN Obninsk 22.47 346 P **P** **10 21 11.9 -0.5**
comp=Z,25nm,0.4s,baz=141,slow=15,SNR=4.8
comp=Z,25nm,0.4s
OBN Obninsk 22.47 346 *c i*P **P** **10 21 10.6 -1.7**
OBN *i* 10 21 18.0
OBN *i* 10 21 34.6
OBN pmax pmax
comp=Z,28nm,0.9s
OBN MLR MLR
comp=Z,553nm,17.0s
BRIU Brid 22.53 318 P **P** **10 21 13.0 -0.1**
RNPP5 Staryi Chortor 22.83 327 P **P** **10 21 14.8 -1.4**
NIL Nilore 22.84 82 P **P** **10 21 17.7 +1.1**
NIL IAmb IAmb 10 21 19.3
comp=Z,44nm,1.0s
NIL Nilore 22.84 82 P **P** **10 21 18.1 +1.5**
NIL Nilore 22.84 82 P **P** **10 21 17.7 +1.1**
NIL pmax pmax
comp=Z,44nm,1.0s
MOS Moscow 22.86 348 *e*P **P** **10 21 14.2 -2.3**

MOS pmax pmax
comp=Z,44nm,0.6s
RNPP8 Varash 22.91 327 P **P** **10 21 16.5 -0.6**
RNPP9 Sopachiv 22.95 327 P **P** **10 21 16.4 -1.1**
HOLU Holmets 22.99 317 P **P** **10 21 17.7 -0.2**
KOLS Kolonicke sedl 23.27 318 *e*P **P** **10 21 22.3 +1.5**
KOLS Kolonicke sedl 23.27 318 *e*P **P** **10 21 22.2 +1.5**
KOLS Kolonicke sedl 23.27 318 *e*PN **P** **10 21 22.3 +1.5**
TIP Timpagrande 23.98 292 P **P** **10 21 28.1 +0.3**
comp=Z,6.4nm,0.7s
MORH Mrgy, Hungar 24.21 309 P **P** **10 21 29.9 0.0**
comp=Z,5.2nm,1.3s
AAK Ala-Archa 24.23 60 P **P** **10 21 27.8 -2.5**
AAK Ala-Archa 24.23 60 P **P** **10 21 32.2 +1.9**
comp=Z,2.1nm,0.7s,baz=190,slow=3.6,SNR=4.7
AAK PcP **PcP** **10 25 11.5 +1.1**
comp=Z,3.2nm,0.6s,baz=203,slow=4.6,SNR=4.2
comp=Z,2.1nm,0.7s
AAK Ala-Archa 24.23 60 P **P** **10 21 34.4 +4.1**
ARTI Arti 24.39 17 P **P** **10 21 30.6 -0.9**
ARTI Arti 24.39 17 P **P** **10 21 31.1 -0.3**
comp=Z,14nm,0.8s,baz=208,slow=6.9,SNR=9.0
comp=Z,14nm,0.8s
ARTI Arti 24.39 17 *c i*P **P** **10 21 31.9 +0.4**
ARTI 10 22 01.9
ARTI S **S** **10 25 54.2 +3.9**
ARTI SS **SnSn** **10 26 39.1 +5.0**
ARTI pmax pmax
comp=Z,50nm,1.9s
MNK Minsk 24.42 334 *i* P **P** **10 21 28.6 -3.0**
comp=E,45nm,0.9s
MNK *i* P **P** **10 21 28.6 -3.0**
comp=N,27nm,0.9s
MNK *i* P **P** **10 21 28.6 -3.0**
comp=Z,39nm,0.8s,baz=142
MNK *i* PP **PnPn** **10 21 58.8 -3.4**
MNK *i* PPP PPP 10 22 06.7
MNK *i* PcP **PcP** **10 25 07.6 -2.7**
MNK *i* S **S** **10 25 49.0 -1.7**
MNK *i* SS **SnSn** **10 26 33.5 -1.1**
MNK *i* SSS SSS 10 26 47.1
MNK *i* LQ LQ 10 29 24.8
MNK *i* LR LR 10 30 55.6
MNK *i* LRM MLR 10 32 20.1
comp=E,828nm,18.0s
MNK *i* LRM MLR 10 32 27.9
comp=N,682nm,20.1s
MNK *i* LRM MLR 10 32 42.4
comp=Z,614nm,18.2s
MNK Minsk 24.42 334 *i* P **P** **10 21 28.6 -3.0**
MNK *i* PPP PPP 10 22 06.7
MNK *i* 10 25 07.5
MNK *i* S **S** **10 25 49.0 -1.7**
MNK *i* SSS SSS 10 26 47.1
MNK pmax pmax
comp=N,27nm,0.9s
MNK pmax pmax
comp=E,45nm,0.9s
MNK pmax pmax
comp=Z,39nm,0.8s
MNK MLR MLR
comp=E,828nm,18.0s
MNK MLR MLR
comp=N,682nm,20.0s
MNK MLR MLR
comp=Z,614nm,18.0s
CEL Celeste 24.60 289 P **P** **10 21 33.5 -0.1**
comp=Z,20nm,1.0s
KSH Kashi 24.88 68 P **P** **10 21 35.3 -0.9**
KSH pmax pmax
comp=Z,22nm,0.8s
KIRV Kirov 25.12 4 P **P** **10 21 37.6 -0.3**
comp=Z,14nm,0.4s,baz=228,slow=1.9,SNR=6.9
comp=Z,14nm,0.4s
KIRV Kirov 25.12 4 *i* P **P** **10 21 38.2 +0.3**
NACGM Naroch 25.13 334 *e*P **P** **10 21 38.8 +0.7**
comp=Z,611nm,4.0s,baz=140
OJC Ojcow 25.31 319 P **P** **10 21 39.8 0.0**
comp=Z,18nm,0.8s
SVE Sverdlovsk 25.37 19 *e*P **P** **10 21 41.6 +1.4**
SVE pmax pmax
comp=Z,63nm,1.0s
MODS Modra-Piesok 25.92 313 *e*P **P** **10 21 46.4 +1.0**
MODS Modra-Piesok 25.92 313 *e*P **P** **10 21 46.4 +1.0**
SUW Suwalki 25.93 329 P **P** **10 21 44.7 -0.7**
SUW Suwalki 25.93 329 P **P** **10 21 44.7 -0.7**
SUW pmax pmax
comp=Z,53nm,0.8s
BRVK Borovoye 26.16 35 P **P** **10 21 48.6 +1.1**
BRVK IAmb IAmb 10 21 57.3
comp=Z,11nm,0.7s
BRVK Borovoye 26.16 35 P **P** **10 21 48.6 +1.1**
BRVK pmax pmax
comp=Z,11nm,0.7s
BVAR Borovoye Array 26.19 35 P **P** **10 21 48.3 +0.5**
comp=Z,5.6nm,0.5s,baz=235,slow=6.4,SNR=13
BVAR PcP **PcP** **10 25 15.4 +1.0**
comp=Z,2.5nm,0.6s,baz=231,slow=2.0,SNR=4.8
comp=Z,5.6nm,0.5s
RONA Rosalia, Austr 26.26 311 *i* P **P** **10 21 49.9 +1.4**
comp=Z,4.7nm,0.7s
MORC Moravsky Berou 26.37 316 *e*P **P** **10 21 50.4 +0.9**
ARSA Arzberg 26.59 310 *i* P **P** **10 21 52.9 +1.4**
comp=Z,5.2nm,1.1s
CONA Conrad Observa 26.61 311 *e*P **P** **10 21 52.8 +1.0**
comp=Z,5.9nm,0.8s
VRAC Vranov 26.72 315 *e*P **P** **10 21 53.5 +0.9**
SOKA Soboth 26.72 308 *e*P **P** **10 21 52.6 -0.2**
comp=Z,4.9nm,1.1s
KRUC Moravsky 26.73 314 *e*P **P** **10 21 52.9 +0.2**
OBKA Obir 26.98 308 *e*P **P** **10 21 54.6 -0.5**
comp=Z,10nm,1.2s
NRCA Norcia 27.14 299 IAmb IAmb 10 22 07.6
comp=Z,32nm,1.6s
KLMR Klimovskoe 27.58 353 *e*P **P** **10 21 54.8 -5.4**
KLMR pmax pmax
comp=Z,62nm,1.1s
MOA Molln 27.59 310 *e*P **P** **10 22 00.8 +0.3**
comp=Z,5.6nm,0.7s
KBA Koelnbreinsper 27.94 309 *e*P **P** **10 22 05.0 +1.2**
comp=Z,4.4nm,1.0s
GERES GERESS Array B 28.29 312 P **P** **10 22 06.1 -0.6**
comp=Z,0.7nm,0.7s,baz=155,slow=6.6,SNR=3.4
GERES PcP **PcP** **10 25 20.6 +1.0**
comp=Z,1.5nm,0.9s,baz=99,slow=6.9,SNR=3.5
comp=Z,0.7nm,0.7s
ABTA Abfaltersbach 28.40 307 *e*P **P** **10 22 08.7 +1.0**
comp=Z,4.3nm,1.4s
LESA Schwarzleotal 28.48 309 *e*P **P** **10 22 09.0 +0.5**
comp=Z,3.4nm,0.8s
WTTA Wattenberg 29.11 308 *i* P **P** **10 22 14.8 +0.6**
comp=Z,3.6nm,0.6s
KURBB Kurchatov Arra 29.34 45 P **P** **10 22 17.3 +1.3**
comp=Z,9.0nm,0.8s,baz=251,slow=8.9,SNR=39
KURBB PcP **PcP** **10 25 22.4 +0.4**
comp=Z,1.8nm,0.7s,baz=245,slow=2.6,SNR=5.3
comp=Z,9.0nm,0.8s
SQTA Sankt Quirin 29.38 308 *e*P **P** **10 22 16.2 -0.3**
comp=Z,5.4nm,0.5s
KURK Kurchatov 29.43 45 P **P** **10 22 17.8 +1.0**
KURK Kurchatov 29.43 45 P **P** **10 22 17.3 +0.6**
KURK 10 25 22.4
MOTA Moosalm 29.49 308 *e*P **P** **10 22 16.9 -0.6**
comp=Z,4.9nm,0.6s
CLL Collm 29.64 317 *e*P **P** **10 22 19.0 +0.4**
CLL *e* 10 22 24.0
CLL Collm 29.64 317 *e*P **P** **10 22 19.0 +0.4**
CLL *es*P **sP** **10 22 24.0 -1.4**
CLL *es*PP 10 23 20.0
FETA Feichten 29.65 307 *e*P **P** **10 22 17.7 -1.3**
comp=Z,3.4nm,0.6s
DAVA Damuels 30.28 308 *e*P **P** **10 22 24.0 -0.5**
comp=Z,6.5nm,0.5s
MAKZ Makanchi 30.35 53 P **P** **10 22 25.8 +0.8**
MAKZ Makanchi 30.35 53 P **P** **10 22 25.8 +0.8**
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 30.55 54 IAmb IAmb 10 22 29.8
comp=Z,10nm,0.8s
MK31 Makanchi Array 30.55 54 *i* P **P** **10 22 27.5 +0.7**
MKAR Makanchi Array 30.55 54 P **P** **10 22 27.4 +0.6**
MKAR Makanchi Array 30.55 54 P **P** **10 22 28.0 +1.2**
comp=Z,11nm,0.6s,baz=250,slow=7.2,SNR=31
MKAR PcP **PcP** **10 25 25.8 +0.5**
comp=Z,0.6nm,0.6s,baz=238,slow=8.2,SNR=1.7
comp=Z,11nm,0.6s

FINES FINESS Array B 30.63 341 P **P** **10 22 26.6 -0.6**
comp=Z,2.0nm,0.6s,baz=150,slow=9.8,SNR=7.9
FINES PcP **PcP** **10 25 24.9 -0.3**
comp=Z,3.4nm,0.8s,baz=139,slow=9.9,SNR=4.7
comp=Z,2.0nm,0.6s
WMQ Urumqi 33.94 60 *e*P **P** **10 22 57.5 +0.9**
WMQ pmax pmax
comp=Z,16nm,0.7s
ZALV Zalesovo Beam 34.16 42 P **P** **10 22 58.7 +0.4**
comp=Z,6.7nm,0.3s,baz=250,slow=9.2,SNR=22
comp=Z,6.7nm,0.3s
LVZ Lovozero 34.95 353 P **P** **10 23 05.3 +0.3**
LVZ Lovozero 34.95 353 P **P** **10 23 05.3 +0.3**
LVZ pmax pmax
comp=Z,188nm,1.7s
NB2 NORSAR Subarra 35.36 331 P **P** **10 23 07.2 -1.4**
comp=Z,4.0nm,0.8s,baz=125,slow=8.6
NOA NORSAR Array B 35.36 331 P **P** **10 23 07.3 -1.3**
comp=Z,2.8nm,0.6s,baz=125,slow=8.6,SNR=11
comp=Z,2.8nm,0.6s
ARCES ARCESS Array B 37.73 349 P **P** **10 23 28.2 -0.5**
comp=Z,10nm,1.0s,baz=164,slow=8.7,SNR=23
ARCES PP **PnPn** **10 24 57.9 +2.0**
comp=Z,6.1nm,0.9s,baz=138,slow=9.2,SNR=3.6
ARCES PcP **PcP** **10 25 46.1 +0.7**
comp=Z,2.1nm,0.6s,baz=126,slow=4.6,SNR=1.5
comp=Z,10nm,1.0s
ESDC Sonseca Array 39.97 294 P **P** **10 23 48.5 +0.6**
comp=Z,1.7nm,0.7s,baz=78,slow=8.5,SNR=7.4
ESDC PcP **PcP** **10 25 53.6 +0.6**
comp=Z,0.4nm,0.6s,baz=43,slow=3.8,SNR=5.1
comp=Z,1.7nm,0.7s
EKA Eskdalemuir Ar 40.08 318 P **P** **10 23 47.9 -0.6**
comp=Z,7.8nm,0.7s,baz=103,slow=8.9,SNR=18
comp=Z,7.8nm,0.7s
SHL Shillong 40.60 89 IAmb IAmb 10 23 54.1
comp=Z,21nm,0.8s
PALK Pallekele 41.55 121 P **P** **10 24 02.5 +1.4**
PALK Pallekele 41.55 121 P **P** **10 24 01.0 -0.1**
comp=Z,8.4nm,0.9s,baz=323,slow=5.4,SNR=5.1
comp=Z,8.4nm,0.9s
NRIK Noril'sk 42.62 20 P **P** **10 24 09.6 +0.4**
NRIK IAmb IAmb 10 24 11.7
comp=Z,23nm,1.1s
NRIK Noril'sk 42.62 20 P **P** **10 24 10.2 +1.0**
comp=Z,16nm,1.0s,baz=233,slow=5.1,SNR=14
comp=Z,16nm,1.0s
NRIK Noril'sk 42.62 20 *i* P **P** **10 24 09.8 +0.6**
NRIK pmax pmax
comp=Z,24nm,1.1s
GTA Gaotai 43.27 66 *e*P **P** **10 24 16.2 +1.2**
GTA pP sP 10 24 21.8 -0.3
GTA pmax pmax
comp=Z,7.0nm,1.1s
MOY Mondy 43.32 48 *e*P **P** **10 24 16.4 +1.2**
MOY pmax pmax
comp=Z,21nm,1.8s
ZAK Zakamensk 44.74 50 *e*P **P** **10 24 26.4 -0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.6s
TORD Torodi Ar. Bea 44.90 254 P **P** **10 24 27.5 -0.7**
SPITS Spitsbergen Ar 46.47 352 P **P** **10 24 39.8 0.0**
comp=Z,5.5nm,0.6s,baz=138,slow=11,SNR=24
comp=Z,5.5nm,0.6s
SONM Songino Array 46.92 53 P **P** **10 24 44.4 +0.4**
SONM Songino Array 46.92 53 P **P** **10 24 44.6 +0.6**
comp=Z,2.0nm,0.8s,baz=279,slow=12,SNR=8.0
SONM PcP **PcP** **10 26 15.9 -0.6**
comp=Z,0.7nm,0.5s,baz=253,slow=3.8,SNR=3.6
comp=Z,2.0nm,0.8s
LZH Lanzhou 47.10 70 *e*P **P** **10 24 47.1 +1.6**
LZH sP sP 10 24 54.1 +1.5
LZH pmax pmax
comp=Z,20nm,1.2s
ULN Ulaanbaatar 47.36 53 P **P** **10 24 47.2 -0.2**
ULN IAmb IAmb 10 24 49.3
comp=Z,16nm,1.1s
ULN Ulaanbaatar 47.36 53 *i* P **P** **10 24 47.9 +0.5**
ULN pmax pmax
comp=Z,17nm,1.2s
PZH PanZhiHua 48.45 83 P **P** **10 24 56.9 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.9s
CD2 Chengdu 48.54 76 P **P** **10 24 57.9 +1.2**
CD2 pmax pmax
comp=Z,20nm,0.4s
CHTO Chiang Mai 49.41 93 P **P** **10 25 03.0 -0.4**
CHTO Chiang Mai 49.41 93 P **P** **10 25 03.6 +0.3**
CHTO Chiang Mai 49.41 93 P **P** **10 25 03.0 -0.4**
CHTO pmax pmax
comp=Z,14nm,0.8s
CM31 Chiang Mai Arr 49.57 94 P **P** **10 25 04.5 -0.1**
CM31 IAmb IAmb 10 25 05.4
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 49.57 94 P **P** **10 25 03.7 -0.9**
CMAR Chiang Mai Arr 49.57 94 P **P** **10 25 04.5 -0.2**
comp=Z,7.6nm,0.6s,baz=291,slow=8.3,SNR=28
CMAR PcP **PcP** **10 26 26.8 +0.6**
comp=Z,1.0nm,0.3s,baz=300,slow=3.8,SNR=2.5
comp=Z,7.6nm,0.6s
CRAI Chiangrai 49.94 91 P **P** **10 25 07.7 +0.2**
CRAI IAmb IAmb 10 25 08.4
comp=Z,8.3nm,0.6s
HHC Hu-ho-hao-te 51.78 62 *e*P **P** **10 25 22.6 +1.5**
HHC pmax pmax
comp=Z,14nm,0.9s
DBIC Dimbokro 53.90 252 P **P** **10 25 36.4 -0.6**
comp=Z,2.7nm,0.6s,baz=36,slow=6.2,SNR=4.5
comp=Z,2.7nm,0.6s
XLT XiLinHaoTe 54.27 57 *e*P **P** **10 25 39.9 +0.5**
XLT pP pP 10 25 44.0 -0.5
XLT sP sP 10 25 46.6 +0.1
XLT pmax pmax
comp=Z,12nm,0.7s
XLT pmax pmax
comp=Z,110nm,5.0s
LYN LuoYang 54.29 69 P **P** **10 25 40.8 +1.2**
LYN pmax pmax
comp=Z,33nm,0.8s
BJI Beijing 55.39 61 P **P** **10 25 47.9 +0.5**
BJI S **S** **10 33 29.1 -2.2**
BJI pmax pmax
comp=Z,3.0nm,0.7s
BJI LR LR
comp=Z,220nm,14.6s
BJI LR LR
comp=Z,290nm,14.3s
BJI LR LR
comp=Z,290nm,14.5s
TIA Tai'an 57.32 66 P **P** **10 26 01.8 +0.5**
TIA pmax pmax
comp=Z,13nm,0.8s
ZEA Zeya 58.89 43 *e*P P 10 26 06.0 -6.0
ZEA MLR MLR
comp=E,200nm,17.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
HEH HeiHe 59.98 47 *e*P **P** **10 26 19.0 -0.6**
HEH pmax pmax
comp=Z,10.0nm,0.9s
HEH pmax pmax
comp=Z,240nm,5.5s
NJ2 Nanjing 60.17 69 *e*P **P** **10 26 21.5 +0.3**
NJ2 pmax pmax
comp=Z,31nm,0.6s
EUNU Eureka 63.59 352 P **P** **10 26 44.0 +0.4**
BOSA Boshof 64.86 200 P **P** **10 26 52.8 +0.3**
comp=Z,4.6nm,0.8s,baz=23,slow=6.5,SNR=3.9
comp=Z,4.6nm,0.8s
KSRS Korea Array 64.89 61 P **P** **10 26 52.0 -0.6**
comp=Z,2.0nm,0.5s,baz=288,slow=7.0,SNR=6.3
comp=Z,2.0nm,0.5s
KSRS Korea Array 64.89 61 P **P** **10 26 52.0 -0.6**
USRK Ussuriysk Ar. 65.01 52 P **P** **10 26 51.9 -1.4**
comp=Z,1.4nm,0.6s,baz=288,slow=5.1,SNR=7.4
comp=Z,1.4nm,0.6s
SEY Seymchan 67.63 28 *e*P **P** **10 27 09.1 -0.6**
SEY pmax pmax
comp=Z,7.0nm,1.3s
BILL Bilibino 69.45 20 *i* P **P** **10 27 22.2 +1.1**
BILL pmax pmax
comp=Z,4.0nm,1.0s
A21K Barrow 74.18 7 P **P** **10 27 50.4 +1.0**
baz=341
A36M Sachs Harbour 74.53 357 P **P** **10 27 52.0 +0.6**

baz=7.8,SNR=6.8
A22K **Sinclair Lake** 74.65 7 P P 10 27 53.2 +1.1
baz=342
A19K **Wainwright** 74.69 9 P P 10 27 53.6 +1.3
baz=337
SCHQ **Schefferville** 74.73 326 P P 10 27 52.9 -0.1
comp=Z,4.7nm,0.6s,baz=30,slow=4.4,SNR=11
comp=Z,4.7nm,0.6s
B20K **Meade River** 75.36 8 IAmb IAmb 10 27 58.8
comp=Z,8.6nm,0.8s
B20K **Meade River** 75.36 8 P P 10 27 58.1 +1.8
baz=340
B18K **Kokolik River** 75.36 10 P P 10 27 58.1 +1.8
baz=336
B22K **Teshekpuk Lake** 75.44 7 IAmb IAmb 10 27 59.2
comp=Z,19nm,1.2s
B22K **Teshekpuk Lake** 75.44 7 P P 10 27 58.2 +1.4
baz=344
C16K **Lisburne Hills** 75.81 11 P P 10 27 59.6 +0.7
baz=334
C17K **DeLong Mountai** 75.98 11 P P 10 28 01.2 +1.3
baz=335
B21K **Ikpikpuk River** 76.01 7 IAmb IAmb 10 28 02.6
comp=Z,16nm,1.1s
B21K **Ikpikpuk River** 76.01 7 P P 10 28 01.1 +1.1
baz=343
C18K **Utukok River** 76.11 10 P P 10 28 01.5 +0.8
baz=337
C23K **Itkillik River** 76.18 6 IAmb IAmb 10 28 03.9
comp=Z,11nm,1.1s
C23K **Itkillik River** 76.18 6 P P 10 28 02.5 +1.5
baz=346
C21K **Knifeblade Rid** 76.44 7 P P 10 28 03.8 +1.3
baz=342
C24K **Franklin Bluff** 76.45 5 P P 10 28 04.3 +1.8
baz=348
C26K **Camden Bay** 76.50 4 P P 10 28 04.9 +2.1
baz=351
D20K **Etivluk River** 76.65 8 P P 10 28 05.2 +1.5
baz=341
D19K **Kuna River** 76.67 9 P P 10 28 05.0 +1.1
baz=340
D17K **Noatak River** 76.70 11 P P 10 28 04.9 +1.0
baz=336
C27K **Jago River** 76.85 3 IAmb IAmb 10 28 07.6
comp=Z,9.3nm,1.1s
C27K **Jago River** 76.85 3 P P 10 28 06.3 +1.5
baz=352,SNR=5.6
D22K **Ayikyak River** 76.92 7 IAmb IAmb 10 28 07.8
comp=Z,8.8nm,1.0s
D22K **Ayikyak River** 76.92 7 P P 10 28 06.5 +1.3
baz=344
D24K **Happy Valley** 76.99 5 P P 10 28 07.0 +1.4
baz=348
D25K **Kavik River** 77.00 4 IAmb IAmb 10 28 08.1
comp=Z,7.7nm,0.9s
D25K **Kavik River** 77.00 4 P P 10 28 07.3 +1.6
baz=350
D23K **Nanushuk River** 77.02 6 IAmb IAmb 10 28 08.4
comp=Z,9.4nm,0.9s
D23K **Nanushuk River** 77.02 6 P P 10 28 07.3 +1.5
baz=346
C36M **Paulatuk** 77.09 356 P P 10 28 06.7 +0.6
baz=8.7
E20K **Nigu River** 77.14 8 P P 10 28 07.4 +0.9
baz=341
E21K **Killik River** 77.21 7 IAmb IAmb 10 28 08.9
comp=Z,14nm,1.2s
E21K **Killik River** 77.21 7 P P 10 28 08.1 +1.2
baz=343
D28M **Stokes Point** 77.33 2 P P 10 28 08.8 +1.3
baz=356
E18K **Tukpahlearik C** 77.34 10 IAmb IAmb 10 28 09.5
comp=Z,10nm,0.8s
E18K **Tukpahlearik C** 77.34 10 P P 10 28 08.5 +1.0
baz=338
D27M **Malcolm River** 77.35 2 P P 10 28 08.9 +1.2
baz=354
TOLK **Toolik Lake Re** 77.44 6 P P 10 28 08.9 +0.8
TOLK **Toolik Lake Re** 77.44 6 P P 10 28 09.1 +1.0
baz=347,SNR=11
E17K **Hotham Inlet** 77.47 11 P P 10 28 09.3 +1.1
baz=337
E22K **Anaktuvuk Pass** 77.73 7 IAmb IAmb 10 28 11.9
comp=Z,6.8nm,0.8s
E22K **Anaktuvuk Pass** 77.73 7 P P 10 28 10.7 +0.9
baz=345,SNR=6.9
E19K **Redstone River** 77.77 9 IAmb IAmb 10 28 12.0
comp=Z,11nm,0.8s
E19K **Redstone River** 77.77 9 P P 10 28 10.8 +0.8
baz=341
TNA **Tin City** 77.77 14 P P 10 28 11.7 +1.7
baz=332
E23K **Chandalar** 78.00 6 P P 10 28 12.8 +1.4
baz=347
E28M **Babbage River** 78.04 2 IAmb IAmb 10 28 13.9
comp=Z,9.4nm,1.1s
E28M **Babbage River** 78.04 2 P P 10 28 12.2 +0.8
baz=356,SNR=8.2
E24K **Your Creek** 78.08 5 IAmb IAmb 10 28 14.3
comp=Z,14nm,1.4s
E24K **Your Creek** 78.08 5 P P 10 28 12.5 +0.7
baz=348
F17K **Baldwin Pennin** 78.15 11 IAmb IAmb 10 28 13.9
comp=Z,8.5nm,0.8s
F17K **Baldwin Pennin** 78.15 11 P P 10 28 12.7 +0.7
baz=337
F14K **Arctic Creek** 78.15 13 P P 10 28 13.5 +1.3
baz=333
E25K **Arctic Village** 78.24 4 IAmb IAmb 10 28 15.0
comp=Z,8.3nm,0.8s
E25K **Arctic Village** 78.24 4 P P 10 28 13.6 +1.0
baz=350,SNR=9.0
F18K **Selawik** 78.24 10 P P 10 28 13.3 +0.8
baz=339,SNR=9.2
F15K **North Star Dit** 78.25 12 IAmb IAmb 10 28 14.7
comp=Z,9.6nm,1.1s
F15K **North Star Dit** 78.25 12 P P 10 28 13.3 +0.6
baz=334
F19K **Shaleruckik Mo** 78.29 9 IAmb IAmb 10 28 14.3
comp=Z,11nm,0.9s
F19K **Shaleruckik Mo** 78.29 9 P P 10 28 13.5 +0.7
baz=340
E29M **Blow River** 78.29 1 IAmb IAmb 10 28 15.2
comp=Z,13nm,1.0s
E29M **Blow River** 78.29 1 P P 10 28 14.1 +1.3
baz=357
F22K **John River** 78.30 7 P P 10 28 14.3 +1.4
baz=345
F20K **Avaraart Lake** 78.34 8 IAmb IAmb 10 28 15.1
comp=Z,6.7nm,0.8s
F20K **Avaraart Lake** 78.34 8 P P 10 28 14.2 +1.0
baz=342
E27K **Coleen River** 78.38 3 IAmb IAmb 10 28 15.9
comp=Z,9.7nm,0.9s
E27K **Coleen River** 78.38 3 P P 10 28 14.3 +0.9
baz=354
INK **Inuvik** 78.41 360 P P 10 28 13.9 +0.4
baz=0.6
F21K **Alatna River** 78.44 8 IAmb IAmb 10 28 16.1
comp=Z,9.0nm,0.8s
F21K **Alatna River** 78.44 8 P P 10 28 14.4 +0.7
baz=344
F24K **Squaw Lake** 78.67 5 P P 10 28 15.9 +0.9
baz=348
F26K **Sheenjek River** 78.75 4 P P 10 28 16.4 +0.9
baz=352
F25K **Christian Rive** 78.76 4 P P 10 28 16.0 +0.5
baz=350
COLD **Coldfoot** 78.76 6 P P 10 28 16.0 +0.5
COLD **Coldfoot** 78.76 6 P P 10 28 16.4 +0.9
baz=346,SNR=6.2
G16K **Koyuk River** 78.94 12 IAmb IAmb 10 28 18.5
comp=Z,8.3nm,1.1s
G16K **Koyuk River** 78.94 12 P P 10 28 16.9 +0.5
baz=336
BMAR **Burnt Mountain** 78.99 4 P P 10 28 17.7 +0.9
G15K **Niukluk** 79.01 12 P P 10 28 17.5 +0.6
baz=335
G19K **Purcell Mounta** 79.03 9 P P 10 28 17.9 +1.0
baz=341
G18K **Tagagawik** 79.05 10 IAmb IAmb 10 28 18.7
comp=Z,11nm,1.1s
G18K **Tagagawik** 79.05 10 P P 10 28 17.4 +0.3
baz=340
F30M **Barrier River** 79.11 1 P P 10 28 18.0 +0.7
baz=359
G17K **Kiwalik Mounta** 79.11 11 P P 10 28 18.0 +0.6
baz=338
G21K **Allakaket** 79.12 8 IAmb IAmb 10 28 19.5
comp=Z,10nm,0.9s
G21K **Allakaket** 79.12 8 P P 10 28 17.9 +0.5
baz=344
ANM **Nome** 79.15 13 IAmb IAmb 10 28 19.8
comp=Z,14nm,1.2s
ANM **Nome** 79.15 13 P P 10 28 18.5 +0.8
baz=334,SNR=6.3
F31M **Tsiigehtchic** 79.28 360 IAmb IAmb 10 28 19.9
comp=Z,7.6nm,0.8s
F31M **Tsiigehtchic** 79.28 360 P P 10 28 18.6 +0.4
baz=0.4,SNR=6.6
G23K **Bananza Creek** 79.28 6 P P 10 28 19.4 +1.0
baz=347
G26K **Porcupine Rive** 79.51 4 P P 10 28 21.0 +1.5
baz=352
G24K **Hadweenzic Riv** 79.51 5 IAmb IAmb 10 28 22.3
comp=Z,11nm,1.1s
G24K **Hadweenzic Riv** 79.51 5 P P 10 28 20.9 +1.3
baz=349
G25K **Bearman Lake** 79.55 5 P P 10 28 21.5 +1.7
baz=350
H16K **Elim** 79.65 12 P P 10 28 21.4 +1.1
baz=337,SNR=6.3
H19K **Roundabout Mou** 79.70 9 IAmb IAmb 10 28 22.8
comp=Z,11nm,1.1s
H19K **Roundabout Mou** 79.70 9 P P 10 28 21.5 +1.0
baz=341,SNR=5.6
G30M **tAoh Zraii Nji** 79.73 1 P P 10 28 21.8 +0.9
baz=358
G27K **Doyon Strip** 79.75 3 P P 10 28 22.2 +1.3
baz=354
H17K **Granite Mounta** 79.75 11 IAmb IAmb 10 28 22.6
comp=Z,7.8nm,0.8s
H17K **Granite Mounta** 79.75 11 P P 10 28 21.8 +0.8
baz=338,SNR=8.7
G29M **Pine Creek** 79.77 2 P P 10 28 21.8 +0.7
baz=357
H18K **Honhosa River** 79.79 10 IAmb IAmb 10 28 23.1
comp=Z,11nm,0.9s
H18K **Honhosa River** 79.79 10 P P 10 28 21.9 +0.8
baz=340,SNR=9.4
G31M **Satah River** 79.80 0 IAmb IAmb 10 28 22.7
comp=Z,14nm,1.1s
G31M **Satah River** 79.80 0 P P 10 28 21.6 +0.5
baz=360,SNR=7.4
H20K **Anotleneega Mo** 79.94 9 P P 10 28 22.7 +0.8
baz=343,SNR=8.3
H22K **Ishtalitna Cre** 79.95 7 P P 10 28 23.3 +1.3
baz=346,SNR=5.9
H21K **Melozitna Rive** 80.03 8 IAmb IAmb 10 28 25.1
comp=Z,16nm,1.1s
H21K **Melozitna Rive** 80.03 8 P P 10 28 23.6 +1.2
baz=344,SNR=9.1
H25L **Birch Creek** 80.06 5 P P 10 28 24.6 +2.1
baz=350,SNR=5.5
H23K **Yukon River** 80.19 6 IAmb IAmb 10 28 26.4
comp=Z,9.4nm,0.9s
H23K **Yukon River** 80.19 6 P P 10 28 25.6 +2.2
baz=347
H24K **Noodor Dome** 80.33 6 IAmb IAmb 10 28 26.8
comp=Z,22nm,1.9s
H24K **Noodor Dome** 80.33 6 P P 10 28 25.3 +1.2
baz=348,SNR=5.7
H27K **Steamboat Moun** 80.34 3 P P 10 28 25.2 +1.0
baz=354,SNR=6.5
EPYK **Eagle Plains** 80.34 1 IAmb IAmb 10 28 25.8
comp=Z,20nm,1.4s
EPYK **Eagle Plains** 80.34 1 P P 10 28 24.8 +0.7
baz=358
GCSA **Galena City Sc** 80.39 10 P P 10 28 25.1 +0.8
baz=341,SNR=5.1
H29M **Whitestone** 80.46 2 P P 10 28 26.3 +1.5
baz=356
I17K **Unalakleet** 80.61 12 IAmb IAmb 10 28 27.8
comp=Z,21nm,1.6s
I17K **Unalakleet** 80.61 12 P P 10 28 26.9 +1.4
baz=338,SNR=6.2
I20K **Naaghedeneel** 80.66 9 P P 10 28 26.9 +1.2
baz=343
PRP **Porcupine Dome** 80.82 5 P P 10 28 28.0 +1.2
baz=350
I23K **Minto, Yukon-K** 80.88 6 IAmb IAmb 10 28 29.6
comp=Z,33nm,2.0s
I23K **Minto, Yukon-K** 80.88 6 P P 10 28 28.2 +1.3
baz=347
H31M **Peel River** 80.93 0 IAmb IAmb 10 28 29.0
comp=Z,20nm,1.8s
H31M **Peel River** 80.93 0 P P 10 28 29.1 +1.8
baz=360
I27K **Kandik River** 80.96 3 P P 10 28 29.1 +1.6
baz=354
POKR **Poker Plat Res** 81.07 6 P P 10 28 29.1 +1.1
POKR IAmb IAmb 10 28 30.6
comp=Z,9.8nm,0.8s
POKR **Poker Plat Res** 81.07 6 P P 10 28 29.7 +1.7
baz=349
J14K **Nanvaranak Lak** 81.14 13 IAmb IAmb 10 28 30.5
comp=Z,8.7nm,0.9s
J14K **Nanvaranak Lak** 81.14 13 P P 10 28 29.6 +1.2
baz=336
I26K **Coal Creek Min** 81.18 4 P P 10 28 29.3 +0.8
baz=352
I28M **Miner Creek** 81.18 2 P P 10 28 29.3 +0.6
baz=355,SNR=5.8
J16K **Anvik River** 81.18 12 IAmb IAmb 10 28 30.8
comp=Z,7.2nm,0.8s
J16K **Anvik River** 81.18 12 P P 10 28 29.5 +0.9
baz=338,SNR=5.9
J19K **Poorman** 81.28 9 IAmb IAmb 10 28 31.6
comp=Z,16nm,1.2s
J19K **Poorman** 81.28 9 P P 10 28 30.2 +1.1
baz=342,SNR=6.9
COLA **College** 81.28 6 P P 10 28 29.9 +0.8
COLA IAmb IAmb 10 28 31.1
comp=Z,13nm,1.0s
COLA **College** 81.28 6 P P 10 28 29.9 +0.8
COLA pmax pmax
comp=Z,13nm,1.0s
COLA **College** 81.28 6 P P 10 28 30.3 +1.3
baz=349
J20K **Nowinta River** 81.29 9 P P 10 28 30.6 +1.4
baz=343,SNR=8.1
I29M **Ogilvie Camp,** 81.32 2 P P 10 28 30.2 +0.8
baz=357,SNR=6.3
J17K **VABM Dome** 81.33 11 IAmb IAmb 10 28 31.2
comp=Z,13nm,1.4s
J17K **VABM Dome** 81.33 11 P P 10 28 30.3 +0.9
baz=339
NEA2 **Nenana** 81.45 6 P P 10 28 30.8 +0.8
baz=348
ILAR **Eielson Array** 81.46 5 P P 10 28 29.7 -0.4
ILAR **Eielson Array** 81.46 5 P P 10 28 30.8 +0.7
comp=Z,2.3nm,0.8s,baz=329,slow=4.0,SNR=21
comp=Z,2.3nm,0.8s
I30M **Mount Dempster** 81.50 1 IAmb IAmb 10 28 32.3
comp=Z,16nm,1.6s
I30M **Mount Dempster** 81.50 1 P P 10 28 31.2 +0.8
baz=358,SNR=8.5
J18K **Innoko River** 81.62 10 IAmb IAmb 10 28 33.5
comp=Z,23nm,1.9s
J18K **Innoko River** 81.62 10 P P 10 28 31.9 +0.9
baz=341
K13K **Kusilvak Mount** 81.67 14 P P 10 28 32.1 +0.9
baz=335
J25K **Salcha River,** 81.73 5 IAmb IAmb 10 28 33.8
comp=Z,10nm,1.3s
J25K **Salcha River,** 81.73 5 P P 10 28 32.4 +0.8
baz=351
BPAW **Bear Paw Mtn.** 81.74 7 IAmb IAmb 10 28 33.5
comp=Z,7.2nm,1.0s
BPAW **Bear Paw Mtn.** 81.74 7 P P 10 28 32.2 +0.6
baz=346,SNR=9.6
CHUM **Lake Minchumin** 81.80 8 P P 10 28 32.8 +0.9
baz=345,SNR=9.6
HDA **Harding Lake** 81.81 6 P P 10 28 32.5 +0.6
baz=349
K15K **Wolf Creek Mou** 81.94 13 P P 10 28 33.9 +1.3
baz=337
J26L **Joseph Creek** 81.96 4 P P 10 28 33.2 +0.4
baz=352
K20K **Telida** 82.09 9 IAmb IAmb 10 28 35.8
comp=Z,11nm,1.1s
K20K **Telida** 82.09 9 P P 10 28 34.5 +1.1
baz=343,SNR=6.9
K17K **Iditarod** 82.09 11 P P 10 28 33.9 +0.4
baz=340
FCC **Fort Churchill** 82.11 340 P P 10 28 34.8 +1.2
FCC **Fort Churchill** 82.11 340 P P 10 28 34.8 +1.2
FCC pmax pmax
comp=Z,4.0nm,0.6s
J30M **Hart River** 82.15 1 IAmb IAmb 10 28 36.2
comp=Z,14nm,1.4s
J30M **Hart River** 82.15 1 P P 10 28 34.5 +0.7
baz=358,SNR=9.3
J29N **Klondike Camp** 82.23 2 P P 10 28 35.0 +0.8
baz=357
CAST **Castle Rocks** 82.28 8 IAmb IAmb 10 28 36.5
comp=Z,11nm,0.9s
CAST **Castle Rocks** 82.28 8 P P 10 28 34.5 +0.1
baz=345,SNR=8.3
MCK **McKinley** 82.30 7 P P 10 28 35.1 +0.5
baz=348
SCRK **Sand Creek** 82.45 4 IAmb IAmb 10 28 38.0
comp=Z,12nm,1.1s
SCRK **Sand Creek** 82.45 4 P P 10 28 36.3 +0.8
baz=352,SNR=11
K24K **Donnelly Dome** 82.50 5 P P 10 28 36.2 +0.6
baz=350,SNR=7.7
K27K **Chicken** 82.51 3 IAmb IAmb 10 28 38.0
comp=Z,7.6nm,1.2s
K27K **Chicken** 82.51 3 P P 10 28 36.5 +0.9
baz=353
L15K **Ungalak Mounta** 82.52 13 P P 10 28 36.5 +0.8
baz=337
DAWY **Dawson** 82.59 2 IAmb IAmb 10 28 38.1
comp=Z,9.4nm,1.4s
DAWY **Dawson** 82.59 2 P P 10 28 36.4 +0.3
baz=356
L14K **Kuka Creek** 82.60 13 P P 10 28 37.4 +1.3
baz=336
RND **Reindeer** 82.63 7 IAmb IAmb 10 28 36.5
comp=Z,5.7nm,0.9s
RIDG **Independent Ri** 82.63 5 IAmb IAmb 10 28 38.3
comp=Z,14nm,1.2s
RIDG **Independent Ri** 82.63 5 P P 10 28 37.2 +0.9
baz=351,SNR=6.1
L17K **Donlin** 82.64 11 P P 10 28 37.1 +0.8
baz=340
PPLA **Purkeypile** 82.77 8 IAmb IAmb 10 28 53.4
comp=Z,5.5nm,0.9s
PPLA **Purkeypile** 82.77 8 P P 10 28 37.5 +0.3
baz=345
DOT **Dot Lake** 82.77 4 P P 10 28 38.0 +0.9
DOT IAmb IAmb 10 28 39.4
comp=Z,10nm,1.2s
L18K **Granite Mounta** 82.81 10 P P 10 28 38.2 +1.0
baz=341
L16K **Owhat River** 82.84 12 P P 10 28 38.4 +1.0
baz=339
K29M **Barlow Dome** 82.86 1 P P 10 28 38.4 +0.8
baz=357
YKA **Yellowknife Ar** 82.96 351 P P 10 28 37.9 -0.1
comp=Z,0.9nm,0.6s,baz=60,slow=10,SNR=16
comp=Z,0.9nm,0.6s
L20K **Farewell, AK** 82.96 9 P P 10 28 39.1 +1.0
baz=344,SNR=7.0
L19K **White Mountain** 83.11 10 P P 10 28 40.1 +1.3
baz=343
WRGLY **Wrigley** 83.13 355 IAmb IAmb 10 28 41.3
comp=Z,15nm,1.4s
WRGLY **Wrigley** 83.13 355 P P 10 28 39.8 +1.0
baz=9.0
M14K **Bethel** 83.28 13 P P 10 28 41.1 +1.5
baz=337
M19K **Big River Lodg** 83.44 9 IAmb IAmb 10 28 49.1
comp=Z,16nm,1.6s
M19K **Big River Lodg** 83.44 9 P P 10 28 42.1 +1.6
baz=343
M17K **Holitna River** 83.47 11 P P 10 28 42.4 +1.8
baz=341,SNR=5.8
BCAR **Beaver Creek A** 83.48 3 P P 10 28 42.2 +1.4
L27K **Beaver Creek,** 83.49 3 IAmb IAmb 10 28 43.3
comp=Z,7.2nm,1.4s
L27K **Beaver Creek,** 83.49 3 P P 10 28 42.6 +1.9
baz=354,SNR=6.9
MENT **Mentasta** 83.50 4 IAmb IAmb 10 28 43.2
comp=Z,7.5nm,1.0s
M15K **Kasigluk River** 83.58 13 P P 10 28 42.6 +1.5
baz=338
M16K **Timber Creek** 83.58 12 P P 10 28 42.4 +1.2
baz=340
L29M **L29M** 83.58 2 IAmb IAmb 10 28 44.5
comp=Z,9.4nm,1.4s
L29M **L29M** 83.58 2 P P 10 28 42.6 +1.3
baz=357
M20K **Styx River** 83.63 9 P P 10 28 42.9 +1.3
baz=344
M18K **Stony River** 83.64 10 P P 10 28 42.9 +1.4
baz=342,SNR=6.3
SKT **Skwentna** 83.74 8 IAmb IAmb 10 28 43.7
comp=Z,7.3nm,0.7s
SKT **Skwentna** 83.74 8 P P 10 28 42.3 +0.3
baz=346,SNR=8.0
HARP **HAARP** 83.94 5 P P 10 28 44.8 +1.7
baz=351
M26K **Nabesna, AK** 84.08 4 IAmb IAmb 10 28 46.2
comp=Z,5.6nm,1.1s
M26K **Nabesna, AK** 84.08 4 P P 10 28 45.0 +1.1
baz=353
N16K **Nishlik Lake** 84.13 12 P P 10 28 45.3 +1.3
baz=340
M24K **Tolsona, Glenn** 84.15 6 P P 10 28 45.0 +0.8
baz=350
BVCY **Beaver Creek** 84.18 3 P P 10 28 45.3 +1.0
baz=354
M27K **Edge Creek, AK** 84.19 4 P P 10 28 45.3 +0.9
baz=354,SNR=6.5
M29M **Somme Creek** 84.24 2 P P 10 28 45.5 +0.8
baz=356
SML **Sawmill** 84.25 7 P P 10 28 45.2 +0.5
SML **Sawmill** 84.25 7 P P 10 28 45.1 +0.5
baz=348,SNR=8.2
SCM **Sheep Creek Mo** 84.32 6 IAmb IAmb 10 28 48.3
comp=Z,7.3nm,0.9s
SCM **Sheep Creek Mo** 84.32 6 P P 10 28 45.9 +0.9
baz=349
M23K **Glacier View** 84.32 6 P P 10 28 46.0 +1.0
baz=349,SNR=5.3
SUA **Susitna One** 84.33 8 P P 10 28 45.6 +0.4
SUA **Susitna One** 84.33 8 P P 10 28 45.6 +0.4
baz=346,SNR=15
PMR **Palmer** 84.38 7 IAmb IAmb 10 28 47.1
comp=Z,6.0nm,0.9s
PMR **Palmer** 84.38 7 P P 10 28 46.3 +1.1
baz=348,SNR=5.2
N18K **Kilae Creek** 84.40 11 P P 10 28 46.5 +1.1
baz=342
N19K **Bonanza Creek** 84.48 10 P P 10 28 46.9 +1.0
baz=343,SNR=5.2
FARO **Faro, Yukon** 84.51 360 IAmb IAmb 10 28 48.4
comp=Z,10nm,1.5s
FARO **Faro, Yukon** 84.51 360 P P 10 28 47.0 +1.0
baz=0.8
M31M **Drury Creek, Y** 84.54 0 P P 10 28 46.9 +0.8
baz=360
KNK **Knik Glacier** 84.62 7 P P 10 28 48.0 +1.5
baz=348,SNR=5.7
KLU **Klutina** 84.78 6 P P 10 28 48.6 +1.2
baz=350,SNR=12
RC01 **Rabbit Creek A** 84.81 8 P P 10 28 48.3 +0.8
baz=347,SNR=6.6
YUK3 **Moose Creek** 84.84 3 P P 10 28 48.6 +0.8
baz=355,SNR=5.9
O17K **Koliganek Bris** 85.07 11 P P 10 28 50.3 +1.6
baz=341,SNR=5.4
O16K **Kokwok River B** 85.07 12 P P 10 28 49.9 +1.1
baz=340
O19K **Port Alsworth** 85.10 10 P P 10 28 49.6 +0.8
baz=343
O15K **Ungalikthiuk R** 85.15 13 P P 10 28 50.0 +0.8
baz=339
PWL **Port Wells** 85.18 7 IAmb IAmb 10 28 51.3
comp=Z,7.9nm,1.0s
PWL **Port Wells** 85.18 7 P P 10 28 50.0 +0.7
baz=348
N31M **Braeburn, Yuko** 85.25 1 P P 10 28 51.1 +1.3
baz=359
N30M **Aishikik Lake** 85.26 1 P P 10 28 50.9 +1.1
baz=358
GLI **Glacier Island** 85.28 6 P P 10 28 50.6 +0.8
baz=349
O18K **Koktuh Hills** 85.29 10 IAmb IAmb 10 28 52.4
comp=Z,7.2nm,0.8s
O18K **Koktuh Hills** 85.29 10 P P 10 28 50.9 +0.9

baz=343,SNR=5.5
YUK4 Talbot Arm 85.33 2 P P 10 28 50.7 +0.3
baz=356
YUK8 Steele Glacier 85.36 3 P P 10 28 50.8 +0.2
baz=355
BMRM Bremner River 85.40 5 P P 10 28 50.8 +0.3
baz=351
O20K Slope Mountain 85.44 9 P P 10 28 51.1 +0.4
baz=345
P16K Nushagak River 85.62 12 P P 10 28 52.7 +1.2
baz=340,SNR=5.7
EYAK Cordova Ski Ar 85.72 6 P P 10 28 53.6 +1.7
baz=350
P17K Kvichak River 85.73 11 P P 10 28 53.7 +1.7
baz=342,SNR=8.5
P18K Big Mountain, 85.73 11 IAmb IAmb 10 28 53.0
comp=Z,5.1nm,0.7s
YUK6 Outpost Mounta 85.75 2 P P 10 28 53.4 +1.0
baz=357
P19K Oil Pt 85.77 10 P P 10 28 52.4 +0.1
baz=344
SEW Seward 85.80 8 IAmb IAmb 10 28 54.4
comp=Z,8.3nm,0.9s
SEW Seward 85.80 8 P P 10 28 52.9 +0.5
baz=347
O28M Mount Upton 85.85 3 P P 10 28 53.5 +0.5
baz=355
HYT Haines Junctio 85.89 2 IAmb IAmb 10 28 55.5
comp=Z,6.4nm,0.8s
HYT Haines Junctio 85.89 2 P P 10 28 54.0 +1.0
baz=357
O30N Mendenhall 85.97 1 P P 10 28 54.5 +1.2
baz=358
BRSE Bradley Lake S 86.01 8 P P 10 28 54.7 +1.3
baz=346
WHY Whitehorse 86.09 0 P P 10 28 54.6 +0.6
baz=360
Q16K King Salmon 86.19 12 P P 10 28 54.8 +0.6
baz=342,SNR=5.4
O29M Mount Kennedy 86.38 2 P P 10 28 56.4 +1.0
baz=356
Q18K Katmai Hardscr 86.48 11 P P 10 28 56.2 +0.3
baz=343
Q20K Shuyak Island 86.90 9 P P 10 28 58.6 +0.8
baz=345,SNR=5.9
PNL Peninsula 86.99 3 P P 10 28 59.8 +1.5
baz=356
P29M Windy Craggy 87.08 2 P P 10 28 59.9 +1.2
baz=357
SKAG Skagway 87.29 1 P P 10 29 01.3 +1.6
baz=359
R33M Jennings River 87.32 358 P P 10 29 01.2 +1.2
baz=2.7
TOAD Toad River Com 87.60 355 P P 10 29 02.5 +1.2
baz=7.5
KDAK Kodiak Island 87.67 10 P P 10 29 02.7 +1.1
KDAK Kodiak Island 87.67 10 P P 10 29 02.7 +1.1
KDAK pmax pmax
comp=Z,15nm,0.8s
KDAK Kodiak Island 87.67 10 P P 10 29 02.9 +1.3
baz=345
Q32M Nakina River 87.78 359 IAmb IAmb 10 29 04.3
comp=Z,5.5nm,1.1s
Q32M Nakina River 87.78 359 P P 10 29 03.6 +1.2
baz=1.6
OHAK Old Harbor 88.11 10 P P 10 29 04.5 +0.9
baz=344
DLBC Dease Lake 88.25 358 P P 10 29 06.0 +1.6
DLBC Dease Lake 88.25 358 P P 10 29 05.6 +1.1
baz=3.5
R32K Eaglecrest 88.48 0 P P 10 29 06.6 +1.2
baz=360
S31K Pelican 88.78 1 P P 10 29 08.4 +1.6
baz=358
S34M Telegraph Cree 88.81 358 P P 10 29 08.8 +1.8
baz=2.6
T35M Bob Quinn 89.72 358 P P 10 29 13.0 +1.7
baz=3.3
ULM Lac du Bonnet 89.89 337 P P 10 29 10.8 -1.4
comp=Z,1.2nm,0.6s,baz=85,slow=3.7,SNR=3.3
comp=Z,1.2nm,0.6s
U33K Whale Pass 90.65 359 P P 10 29 17.2 +1.7
baz=0.9
FITZ Fitzroy Crossi 91.72 111 P P 10 29 21.1 0.0
comp=Z,4.5nm,0.9s,baz=223,slow=2.7,SNR=6.5
comp=Z,4.5nm,0.9s
HDIL Hopedale 95.38 327 P P 10 29 36.4 -1.4
WRA Warramunga Arr 99.60 107 P Pdif 10 29 56.4 -0.7
comp=Z,0.7nm,0.5s,baz=316,slow=4.0,SNR=19
comp=Z,0.7nm,0.5s
ASAR Alice Springs 101.22 111 P Pdif 10 30 03.6 -0.5
comp=Z,0.5nm,0.6s,baz=304,slow=4.8,SNR=9.6
ELIB Princess Elisa 106.42 187 *d*PKiKP **PKiKP 10 34 38.5 +1.3**
QSPA South Pole Qui 123.42 180 PKP **PKPdf 10 35 09.9 +0.3**
comp=Z,2.1nm,0.9s,baz=355,slow=0.5,SNR=8.3
VNDA Vanda 128.12 166 PKP **PKPdf 10 35 19.0 +0.8**
comp=Z,0.4nm,0.7s,baz=304,slow=2.3,SNR=1.2

---

*IDC **01** 10:16:46.9±1.6, 33°.41N×45°.58E, h0km, mb4.3/16, mbtmp4.3/17, ML4.6/1, MS4.3/1, Error ellipse: s-maj=38.4km s-min=18.2km az=16.0*
ISC 01 10:16:48.8±1.1, 33°.4N±0°.2×45°.6E±0°.1, h13km, n18, σ0§64/17, mb4.3/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASF	**Jabal al Asfar**	**7.39**	**263**	Pn	**Pn**	**10 18 36.5**	**-0.1**
	10.0nm,0.3s,baz=51,slow=6.4,SNR=5.4						
	33nm,0.6s						
AKASG	**Malin Array Be**	**21.03**	**330**	P	**P**	**10 21 31.9**	**-0.3**
	8.0nm,0.4s,baz=140,slow=10.0,SNR=7.5						
	8.0nm,0.4s						
OBN	**Obninsk**	**22.60**	**346**	LR	LR	10 31 10.7	
	comp=Z,644nm,18.4s,baz=188,slow=38						
KURBB	**Kurchatov Arra**	**29.61**	**45**	P	**P**	**10 22 53.9**	**+0.4**
	1.9nm,0.6s,baz=251,slow=9.2,SNR=1.2						
	1.9nm,0.6s						
MKAR	**Makanchi Array**	**30.82**	**53**	P	**P**	**10 23 04.6**	**+0.2**
	3.4nm,0.5s,baz=252,slow=8.4,SNR=5.4						
	3.4nm,0.5s						
HFS	**Hagfors**	**33.90**	**332**	P	**P**	**10 23 31.5**	**+0.4**
	9.9nm,0.4s,baz=128,slow=9.6,SNR=8.3						
	9.9nm,0.4s						
ZALV	**Zalesovo Beam**	**34.43**	**41**	P	**P**	**10 23 35.5**	**-0.3**
	2.9nm,0.5s,baz=248,slow=7.6,SNR=1.3						
	2.9nm,0.5s						
NOA	**NORSAR Array B**	**35.42**	**332**	P	**P**	**10 23 43.8**	**-0.6**
	1.0nm,0.5s,baz=126,slow=8.6,SNR=2.2						
	1.0nm,0.5s						
ARCES	**ARCESS Array B**	**37.87**	**349**	P	**P**	**10 24 04.7**	**-0.4**
	5.2nm,0.9s,baz=134,slow=5.2,SNR=4.2						
	5.2nm,0.9s						
EKA	**Eskdalemuir Ar**	**40.08**	**318**	P	**P**	**10 24 24.6**	**+0.8**
	3.3nm,0.6s,baz=100,slow=9.0,SNR=4.6						
	3.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**46.62**	**352**	P	**P**	**10 25 16.5**	**+0.3**
	5.9nm,0.6s,baz=131,slow=10,SNR=5.3						
	5.9nm,0.6s						
SONM	**Songino Array**	**47.19**	**53**	P	**P**	**10 25 22.3**	**+1.0**
	0.4nm,0.4s,baz=289,slow=9.0,SNR=1.6						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**49.76**	**94**	P	**P**	**10 25 41.4**	**+0.1**
	2.9nm,0.5s,baz=300,slow=8.6,SNR=4.7						
	2.9nm,0.5s						
KSRS	**Korea Array**	**65.15**	**60**	P	**P**	**10 27 29.0**	**-0.5**
	0.8nm,0.4s,baz=288,slow=6.8,SNR=1.8						
	0.8nm,0.4s						
USRK	**Ussuriysk Ar.**	**65.28**	**52**	P	**P**	**10 27 28.9**	**-1.4**
	1.5nm,0.7s,baz=298,slow=5.3,SNR=2.2						
	1.5nm,0.7s						
ILAR	**Eielson Array**	**81.66**	**5**	P	**P**	**10 29 06.9**	**+0.5**
	1.2nm,0.9s,baz=336,slow=4.0,SNR=4.3						
	1.2nm,0.9s						
YKA	**Yellowknife Ar**	**83.10**	**351**	P	**P**	**10 29 13.3**	**-0.6**
	0.6nm,0.7s,baz=14,slow=5.5,SNR=3.8						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**99.74**	**107**	P	**Pdif**	**10 30 32.9**	**0.0**
	0.6nm,0.7s,baz=317,slow=4.0,SNR=2.4						
	0.6nm,0.7s						

---

*IDC **01** 10:19:15.0±1.6, 6°.26S×104°.13E, h0km, mb3.7/6, mbtmp3.7/7, ML3.6/1, Error ellipse: s-maj=61.4km s-min=19.3km az=48.0*
ISC 01 10:19:19.9±1.2, 6°.3S±0°.2×104°.1E±0°.2, h35km, n14, σ1§04/10, mb3.6/6, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**3.56**	**99**	Pn	**Pn**	**10 20 11.3**	**-1.4**
	5.1nm,0.3s,baz=283,slow=14,SNR=2.2						
LEM				Sn	**Sn**	**10 20 55.3**	**+1.6**
	4.6nm,0.3s,baz=230,slow=20,SNR=3.7						
	13nm,0.5s						
H08S2	**Diego Garcia H**	**31.38**	**266**	T	T	10 59 19.8	
	baz=89,slow=76,SNR=29						
H08S3	**Diego Garcia H**	**31.39**	**266**	T	T	10 59 19.1	
	baz=89,slow=76,SNR=25						
H08S1	**Diego Garcia H**	**31.39**	**266**	T	T	10 59 20.6	
	baz=89,slow=76,SNR=16						
WRA	**Warramunga Arr**	**32.36**	**118**	P	**P**	**10 25 45.3**	**-1.0**
	0.5nm,0.8s,baz=302,slow=7.9,SNR=4.9						
WRA				PcP	**PcP**	**10 28 34.0**	**+0.3**
	0.3nm,1.0s,baz=309,slow=2.9,SNR=1.4						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**33.47**	**124**	P	**P**	**10 25 55.8**	**-0.3**
	0.4nm,0.6s,baz=304,slow=8.2,SNR=5.5						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**43.28**	**131**	P	**P**	**10 27 19.3**	**+1.0**
	2.7nm,0.7s,baz=305,slow=8.0,SNR=4.5						
	2.7nm,0.7s						
SONM	**Songino Array**	**53.93**	**2**	P	**P**	**10 28 39.9**	**-0.2**
	0.3nm,0.4s,baz=177,slow=2.5,SNR=1.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**56.28**	**342**	P	**P**	**10 28 57.0**	**0.0**
	0.2nm,0.4s,baz=156,slow=7.6,SNR=4.9						
	0.2nm,0.4s						
H04N2	**CROZET ISLANDS**	**59.93**	**219**	T	T	11 35 25.0	
	baz=65,slow=75,SNR=40						
H04N1	**CROZET ISLANDS**	**59.95**	**219**	T	T	11 35 20.4	
	baz=65,slow=75,SNR=20						
H04N3	**CROZET ISLANDS**	**59.95**	**219**	T	T	11 35 17.1	
	baz=65,slow=75,SNR=36						
ZALV	**Zalesovo Beam**	**62.17**	**347**	P	**P**	**10 29 38.4**	**+0.9**
	0.7nm,0.4s,baz=168,slow=5.2,SNR=4.2						
	0.7nm,0.4s						
TXAR	**Lajitas Array**	**145.21**	**45**	PKPbc	**PKPbc**	**10 38 54.0**	**-0.3**
	0.6nm,0.7s,baz=318,slow=2.0,SNR=5.5						

---

*VAO **01** 10:19:49.5±0.3, 17°.91S×66°.99W, h294km±3km, mb4.8*
*IDC **01** 10:19:50.0±0.4, 17°.79S×66°.86W, h287km±2km, mb4.0/17, mbtmp4.7/22, Error ellipse: s-maj=12.0km s-min=7.9km az=53.0*
*SJA **01** 10:19:49.8±1.0, 17°.98S×67°.09W, h293km±10km, ML5.4, MW4.6*
*NEIC **01** 10:19:49.5±2.6, 17°.87S±0°.06×66°.94W±0°.08, h286km±7km, mb4.6/323, Error ellipse: s-maj=11.1km s-min=9.0km az=97.0*
*GUC **01** 10:19:50.0±0.6, 18°.16S×67°.57W, h323km±8km, ML4.8*
*SCB **01** 10:19:50.2±1.3, 18°.00S×67°.05W, h290km±9km, ML5.1/3, MW4.1, Error ellipse: s-maj=5.3km s-min=4.0km az=0.0*
ISC 01 10:19:48.3±0.3, 17°.93S±0°.03×67°.01W±0°.04, h280km, n336, σ1§64/259, mb4.7/150, 7C, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEO	**Opoqueri**	**1.05**	**233**	Pg	**Pn**	**10 20 31.1**	**+3.8**
SOET	**ToroToro**	**1.15**	**99**	Pg	**Pn**	**10 20 30.7**	**+2.9**
SOET				Sg	**S**	**10 21 02.2**	**+3.2**
SOET				IAML		10 21 03.5	
	453nm,0.6s						
BBOE	**La Paz, Chanca**	**1.45**	**320**	Pg	**Pn**	**10 20 34.0**	**+4.1**
SOEJ	**Jacaque**	**1.48**	**310**	Pg	**Pn**	**10 20 34.0**	**+4.0**
AOEA	**Aiquile**	**1.71**	**99**	Pg	**Pn**	**10 20 34.4**	**+3.1**
AOEA	**Aiquile**	**1.71**	**99**	Pg	**Pn**	**10 20 34.5**	**+3.1**
BS00	**La Paz**	**1.79**	**323**	Pg	**Pn**	**10 20 35.5**	**+3.3**
LPAZ	**La Paz**	**1.96**	**327**	P	**Pn**	**10 20 36.5**	**+2.8**
	3μm,0.3s,baz=118,slow=2.8						
LPAZ				S	**S**	**10 21 11.4**	**+1.7**
	2μm,0.6s,baz=198,slow=20,SNR=28						
LPAZ	**La Paz**	**1.96**	**327**	*e*P	**Pn**	**10 20 36.5**	**+2.8**
LPAZ				*e*S	**S**	**10 21 10.7**	**+1.1**
LPAZ	**La Paz**	**1.96**	**327**	Pg	**Pn**	**10 20 36.8**	**+3.1**
LPAZ	**La Paz**	**1.96**	**327**	*e*P	**Pn**	**10 20 36.6**	**+2.8**
PB18	**Visviri**	**2.38**	**278**		**Pn**	**10 20 40.7**	**+3.5**
PB18	**Visviri**	**2.38**	**278**	*e*P	**Pn**	**10 20 41.1**	**+3.8**
PB18				*i* S	S	10 21 28.9	+13
PB18				IAML		10 22 02.1	
	comp=E,2μm,1.0s						
PB08	**IPOC Station P**	**2.99**	**222**		**Pn**	**10 20 45.5**	**+2.5**
PB08	**IPOC Station P**	**2.99**	**222**	⇑*i*P	**Pn**	**10 20 45.6**	**+2.5**
PB08				*i* S	**S**	**10 21 28.1**	**+1.6**
PB08	**IPOC Station P**	**2.99**	**222**	*e*P	**Pn**	**10 20 45.5**	**+2.5**
PB08				IAML		10 21 34.6	
	comp=Z,3μm,0.5s						
PB08	**IPOC Station P**	**2.99**	**222**	Pg	**Pn**	**10 20 45.9**	**+2.9**
PB11	**IPOC Station P**	**3.10**	**234**		**Pn**	**10 20 45.5**	**+1.7**
PB11	**IPOC Station P**	**3.10**	**234**	⇑*i*P	**Pn**	**10 20 45.6**	**+1.7**
PB11				*i* S	**S**	**10 21 28.5**	**+0.3**
PB11	**IPOC Station P**	**3.10**	**234**	*e*P	**Pn**	**10 20 45.7**	**+1.9**
PB11				*e*S	**S**	**10 21 26.5**	**-1.6**
PB11				IAML		10 21 30.3	
	comp=Z,8μm,0.2s						
PB11	**IPOC Station P**	**3.10**	**234**	Pg	**Pn**	**10 20 46.1**	**+2.2**
PB11				Sg	**S**	**10 21 28.8**	**+0.7**
PB11				IAML		10 21 30.0	
	comp=Z,10μm,0.2s						
PX02	**IPOC Station P**	**3.20**	**251**	*e*P	**Pn**	**10 20 45.4**	**+0.5**
PX02				*i* S	**S**	**10 21 28.5**	**-1.4**
AP01	**Chacalluta**	**3.20**	**262**		**Pn**	**10 20 46.3**	**+1.5**
AP01	**Chacalluta**	**3.20**	**262**	*e*P	**Pn**	**10 20 46.3**	**+1.5**
AP01				*i* S	**S**	**10 21 29.3**	**-0.5**
AP01	**Chacalluta**	**3.20**	**262**	*e*P	**Pn**	**10 20 46.3**	**+1.5**
AP01				IAML		10 21 35.0	
	comp=Z,7μm,0.3s						
PB12	**IPOC Station P**	**3.23**	**257**	Pn	**Pn**	**10 20 46.8**	**+1.6**
PB12	**IPOC Station P**	**3.23**	**257**	⇑*i*P	**Pn**	**10 20 46.3**	**+1.1**
PB12				*i* S	**S**	**10 21 29.6**	**-0.9**
PB12	**IPOC Station P**	**3.23**	**257**	*e*P	**Pn**	**10 20 46.6**	**+1.4**
PB12				*e*S	**S**	**10 21 29.8**	**-0.6**
PB12				IAML		10 21 32.4	
	comp=Z,4μm,0.2s						
PB12	**IPOC Station P**	**3.23**	**257**	Pg	**Pn**	**10 20 47.4**	**+2.2**
PX03	**IPOC Station P**	**3.49**	**225**	*e*P	**Pn**	**10 20 49.2**	**+1.2**
PX03				*i* S	**S**	**10 21 34.9**	**-0.7**
MOCB	**Mochara**	**3.55**	**159**	Pg	**Pn**	**10 20 52.4**	**+3.5**
HMBC	**Humberstone**	**3.59**	**229**		**Pn**	**10 20 50.1**	**+1.0**
HMBC	**Humberstone**	**3.59**	**229**	⇑*i*P	**Pn**	**10 20 50.0**	**+0.9**
HMBC				*i* S	**S**	**10 21 36.4**	**-1.1**
HMBC	**Humberstone**	**3.59**	**229**	*e*P	**Pn**	**10 20 50.4**	**+1.4**
HMBC				*e*S	**S**	**10 21 35.0**	**-2.5**
TA02	**Huaiquique**	**3.76**	**231**		**Pn**	**10 20 52.1**	**+1.3**
TA02	**Huaiquique**	**3.76**	**231**	*e*P	**Pn**	**10 20 52.0**	**+1.2**
TA02				*i* S	**S**	**10 21 38.8**	**-2.0**
TA02	**Huaiquique**	**3.76**	**231**	*e*P	**Pn**	**10 20 52.2**	**+1.4**
TA02				*e*S	**S**	**10 21 38.6**	**-2.1**
PB01	**IPOC Station P**	**3.88**	**217**		**Pn**	**10 20 53.8**	**+1.6**
PB01	**IPOC Station P**	**3.88**	**217**	⇑*i*P	**Pn**	**10 20 53.8**	**+1.6**
PB01				*i* S	**S**	**10 21 42.6**	**-0.7**
PB01	**IPOC Station P**	**3.88**	**217**	Pg	**Pn**	**10 20 54.7**	**+2.5**
PB01				Sg	**S**	**10 21 42.8**	**-0.5**
PB01				IAML		10 21 45.9	
	comp=Z,6μm,0.3s						
TA01	**Diego Aracena**	**3.98**	**228**	Pn	**Pn**	**10 20 54.2**	**+1.0**
TA01	**Diego Aracena**	**3.98**	**228**	⇑*i*P	**Pn**	**10 20 54.2**	**+1.0**
TA01				*i* S	**S**	**10 21 42.9**	**-2.3**
TA01	**Diego Aracena**	**3.98**	**228**	*e*P	**Pn**	**10 20 54.4**	**+1.1**
TA01				*e*S	**S**	**10 21 43.4**	**-1.8**
TA01				IAML		10 21 45.9	
	comp=Z,2μm,0.3s						
PATCX	**Punta Patache**	**4.13**	**225**		**Pn**	**10 20 56.8**	**+1.7**
PATCX	**Punta Patache**	**4.13**	**225**	*e*P	**Pn**	**10 20 56.0**	**+0.9**
PATCX				*i* S	**S**	**10 21 46.5**	**-1.9**
PATCX	**Punta Patache**	**4.13**	**225**	*e*P	**Pn**	**10 20 56.2**	**+1.1**
PATCX				IAML		10 21 56.1	
	comp=Z,3μm,0.4s						
AOVT	**TarijaAcel**	**4.19**	**149**	Pg	**Pn**	**10 20 58.5**	**+2.6**
PB09	**IPOC Station P**	**4.38**	**208**		**Pn**	**10 21 00.7**	**+2.6**
PB09	**IPOC Station P**	**4.38**	**208**	*e*P	**Pn**	**10 21 00.5**	**+2.4**
PB09				*i* S	**S**	**10 21 54.5**	**+0.7**
PB09	**IPOC Station P**	**4.38**	**208**	*e*P	**Pn**	**10 21 00.3**	**+2.3**
PB09				IAML		10 22 00.6	
	comp=Z,2μm,0.4s						
PB09	**IPOC Station P**	**4.38**	**208**	Pg	**Pn**	**10 21 00.9**	**+2.9**
YJA	**Yavi**	**4.45**	**162**	*e*P	**Pn**	**10 21 01.9**	**+2.8**
YJA				*e*S	**S**	**10 21 55.5**	**-0.1**
YJA	**Yavi**	**4.45**	**162**	Pg	**Pn**	**10 21 02.3**	**+3.2**
AF01	**San Pedro de A**	**5.12**	**192**		**Pn**	**10 21 09.8**	**+3.1**
AF01	**San Pedro de A**	**5.12**	**192**	Pg	**Pn**	**10 21 09.8**	**+3.1**
PB05	**IPOC Station P**	**5.74**	**211**	Pn	**Pn**	**10 21 14.9**	**+0.9**
SIV	**San Ignacio**	**6.00**	**72**	P	**Pn**	**10 21 17.4**	**+0.2**
	comp=Z,141nm,0.4s,baz=255,slow=11,SNR=909						
SIV				S	**S**	**10 22 23.2**	**-5.4**
	comp=Z,60nm,0.7s,baz=254,slow=14,SNR=3.5						
PB14	**IPOC Station P**	**7.38**	**205**	Pn	**Pn**	**10 21 34.9**	**+0.6**
GO02	**Mina Guanaco**	**7.59**	**198**	Pn	**Pn**	**10 21 37.5**	**+0.6**
PTLB	**Pontes e Lacer**	**7.94**	**73**	Pn	**Pn**	**10 21 41.9**	**+0.9**
PTLB	**Pontes e Lacer**	**7.94**	**73**	*e*P	**Pn**	**10 21 41.9**	**+0.9**
VILB	**Vilhena**	**8.22**	**54**	Pn	**Pn**	**10 21 44.8**	**+0.2**
VILB	**Vilhena**	**8.22**	**54**	*e*P	**Pn**	**10 21 44.8**	**+0.2**
AC01	**Pan de Azucar**	**8.83**	**202**	Pn	**Pn**	**10 21 52.0**	**0.0**
AC02	**Maricunga**	**9.08**	**192**	Pn	**Pn**	**10 21 56.2**	**+0.7**
MURT	**Porto Murtinho**	**9.59**	**114**	*e*P	**Pn**	**10 22 02.5**	**+0.9**
AC06	**Mina Casimiro**	**9.88**	**198**		**Pn**	**10 22 05.6**	**+0.6**
PANT	**Pantanal (Braz**	**9.92**	**98**	*e*P	**Pn**	**10 22 06.1**	**+0.5**
BDQN	**Bodoquena, MS**	**10.01**	**106**	*e*P	**P**	**10 22 07.8**	**-3.4**
AC04	**Llanos de Chal**	**10.89**	**199**	Pn	**Pn**	**10 22 17.1**	**-0.4**
AQDB	**Aquidauana**	**10.98**	**105**	*e*P	**P**	**10 22 20.1**	**-1.9**
SALV	**Santo Antonio**	**11.02**	**81**	*e*P	**P**	**10 22 19.9**	**-2.5**
NNA	**Nana**	**11.19**	**301**	Pn	**Pn**	**10 22 22.7**	**+1.3**
NNA	**Nana**	**11.19**	**301**	P	**Pn**	**10 22 22.5**	**+1.1**
	comp=Z,114nm,0.7s,baz=148,slow=6.8,SNR=24						
NNA				S	**S**	**10 24 21.2**	**-5.4**
	comp=Z,37nm,0.3s,baz=212,slow=23,SNR=4.4						
LCO	**Las Campanas**	**11.54**	**196**	Pn	**Pn**	**10 22 26.8**	**+1.0**
CZSB	**Cruzeiro do Su**	**11.56**	**331**	Pn	**Pn**	**10 22 24.0**	**-2.0**
CZSB	**Cruzeiro do Su**	**11.56**	**331**	*e*P	**Pn**	**10 22 23.7**	**-2.3**
PDRB	**Porto dos Gac**	**11.76**	**59**	*e*P	**Pn**	**10 22 27.9**	**-0.5**
CPUP	**Villa Florida**	**12.26**	**135**		**P**	**10 22 35.2**	**-0.9**
CPUP	**Villa Florida**	**12.26**	**135**	P	**P**	**10 22 34.9**	**-1.2**
	comp=Z,27nm,0.9s,baz=307,slow=11,SNR=34						
CPUP	**Villa Florida**	**12.26**	**135**	*e*P	**P**	**10 22 34.9**	**-1.2**
AMBA	**Amambai (Brazi**	**12.31**	**116**	*e*P	**P**	**10 22 36.7**	**-0.1**
SJPY	**San Joaquin**	**12.34**	**127**	*e*P	**P**	**10 22 36.6**	**-0.5**
RPRD	**Ribas do Rio P**	**12.82**	**104**	*e*P	**P**	**10 22 43.4**	**+0.9**
CLDB	**Colider**	**12.92**	**59**	*e*P	**P**	**10 22 43.8**	**+0.1**
C2SB	**Chapadao do Su**	**13.48**	**96**	*e*P	**P**	**10 22 50.7**	**+0.9**
CFA	**Coronel Fontan**	**13.66**	**184**	P	**P**	**10 22 53.3**	**+1.6**
	comp=Z,25nm,0.4s,baz=7.0,slow=11,SNR=46						
CFA				S	**S**	**10 25 15.4**	**-7.1**
	comp=Z,9.0nm,0.3s,baz=304,slow=22,SNR=9.3						
TBTG	**Tabatinga, AM**	**13.95**	**348**	P	**Pn**	**10 22 55.7**	**+0.7**
TBTG	**Tabatinga, AM**	**13.95**	**348**	*e*P	**Pn**	**10 22 55.8**	**+0.8**
TEFE	**Tefe**	**14.52**	**9**	*e*P	**Pn**	**10 23 01.8**	**0.0**
ARAG	**Araguaiana, MT**	**14.72**	**84**	*e*P	**Pn**	**10 23 04.3**	**+0.2**
PTGB	**Pitanga**	**15.47**	**118**	*e*P	**Pn**	**10 23 13.3**	**+0.3**
PEL	**Peldehue**	**15.51**	**192**	P	**Pn**	**10 23 14.4**	**+1.0**
PEL				IAmb	IAmb	10 23 25.7	
	comp=Z,27nm,0.9s						
PSAL	**Palomas, Salto**	**15.63**	**149**	*e*P	**Pn**	**10 23 14.3**	**-0.5**
NPGB	**Novo Progresso**	**15.69**	**48**	*e*P	**Pn**	**10 23 14.1**	**-1.5**
LDASE	**Londrina, Braz**	**15.83**	**113**	*e*P	**Pn**	**10 23 16.9**	**-0.4**
ITRB	**Iturama**	**15.86**	**99**	*e*P	**Pn**	**10 23 17.7**	**+0.1**
MACA	**Manacapuru-AM**	**15.93**	**24**		**Pn**	**10 23 17.8**	**-0.8**
MACA	**Manacapuru-AM**	**15.93**	**24**	*e*P	**Pn**	**10 23 17.3**	**-1.2**
MT09	**Talagante**	**16.18**	**192**	IAmb	IAmb	10 23 44.2	
	comp=Z,55nm,1.1s						
SNDB	**Serra Nova Dou**	**16.29**	**71**	*e*P	**Pn**	**10 23 21.6**	**-1.1**
ITAB	**Concordia**	**16.55**	**127**	P	**Pn**	**10 23 24.6**	**-1.1**
ITAB	**Concordia**	**16.55**	**127**	*e*P	**Pn**	**10 23 24.1**	**-1.6**
BO01	**Tunca**	**16.79**	**192**	P	**Pn**	**10 23 28.0**	**-0.4**
TBOT	**Tacuaremb**	**16.97**	**146**	*e*P	**P**	**10 23 28.4**	**+0.5**
FRTB	**Fartura**	**17.19**	**111**	*e*P	**Pn**	**10 23 31.4**	**-1.8**
ITTB	**Itaituba**	**17.42**	**41**	*e*P	**P**	**10 23 33.0**	**0.0**
CPSB	**Cacapava Do Su**	**17.51**	**138**	*e*P	**P**	**10 23 34.0**	**+0.1**
BB19B	**Bebedouro**	**17.70**	**103**	*e*P	**Pn**	**10 23 36.7**	**-2.5**
IPMB	**Ipameri, GO**	**17.88**	**93**	*e*P	**P**	**10 23 38.0**	**-0.1**
BDFB	**Brasilia**	**18.33**	**86**	P	**P**	**10 23 43.3**	**+0.4**
BDFB	**Brasilia**	**18.33**	**86**	P	**P**	**10 23 43.0**	**+0.1**
	comp=Z,39nm,0.5s,baz=260,slow=11,SNR=47						
PLTB	**Pedras Altas**	**18.35**	**141**	*e*P	**P**	**10 23 42.1**	**-0.8**
CNLB	**Canela**	**18.62**	**130**	*e*P	**P**	**10 23 44.2**	**-1.6**
BI02	**San Fabin de**	**19.04**	**191**	IAmb	IAmb	10 23 59.7	
	comp=Z,40nm,0.9s						
MAJ01	**Sao Joao Batis**	**19.07**	**123**	*e*P	**P**	**10 23 48.8**	**-1.9**
VAO	**Valinhos**	**19.44**	**108**	P	**P**	**10 23 54.1**	**-0.5**
VAO	**Valinhos**	**19.44**	**108**	*e*P	**P**	**10 23 53.6**	**-1.1**
PET01	**Itanhaem-SP**	**19.46**	**112**	*e*P	**P**	**10 23 53.3**	**-1.5**
TER01	**Tubaro-SC**	**19.50**	**126**	*e*P	**P**	**10 23 54.8**	**-0.4**
COHC	**Cochancay**	**19.51**	**321**	P	**P**	**10 23 56.8**	**+1.5**
COHC				IAmb	IAmb	10 24 00.1	
	comp=Z,14nm,0.8s						
PMNB	**Patos De Minas**	**19.55**	**95**	*e*P	**P**	**10 23 55.4**	**-0.5**
MAL2	**Monte Alegre,**	**20.21**	**40**	P	**P**	**10 24 03.0**	**+0.1**
PRPB	**Parauapebas**	**20.45**	**57**	*e*P	**P**	**10 24 05.2**	**-0.1**
SLOR	**San Lorenzo -**	**20.49**	**325**	IAmb	IAmb	10 24 12.9	
	comp=Z,57nm,1.0s						
TRQA	**Tornquist**	**20.53**	**169**	P	**P**	**10 24 06.3**	**+0.4**
TRQA				IAmb	IAmb	10 24 08.2	
	comp=Z,34nm,0.9s						
TRQA	**Tornquist**	**20.53**	**169**	*e*P	**P**	**10 24 06.5**	**+0.5**
PARB	**Paraibuna**	**20.72**	**109**	*e*P	**P**	**10 24

SJG San Juan 35.83 1 P P 10 26 19.3 -2.5
SJG IAmb IAmb 10 26 20.4
comp=Z,23nm,0.7s
MTO3 Montecristo 38.96 324 IAmb IAmb 10 26 50.9
comp=Z,28nm,0.7s
PETF Flores 41.30 326 P **P 10 27 06.3 -0.7**
PETF IAmb IAmb 10 27 10.1
comp=Z,17nm,0.8s
CCIG Comitan 42.05 322 P **P 10 27 13.8 +0.4**
TEIG Tepich 43.28 330 P **P 10 27 22.8 -0.1**
TEIG IAmb IAmb 10 27 23.4
comp=Z,17nm,0.7s
PMSA Palmer Station 46.85 178 *e*P **P 10 27 51.5 +1.2**
TLIG Tlapa 46.99 317 P **P 10 27 54.2 +2.0**
ZAIG Zacatecas 53.34 318 P **P 10 28 41.4 +1.7**
LRAL Lakeview Retre 54.16 339 IAmb IAmb 10 28 44.9
comp=Z,11nm,0.5s
V55A Taylorsville 55.16 346 IAmb IAmb 10 28 52.8
comp=Z,16nm,0.5s
X48A Hartselle 55.47 340 IAmb IAmb 10 28 54.5
comp=Z,15nm,0.8s
143A Socs Landing, 55.49 335 IAmb IAmb 10 28 56.3
comp=Z,20nm,0.6s
TKL Tuckaleechee C 55.62 343 IAmb IAmb 10 28 55.5
comp=Z,12nm,0.7s
W50A Signal Mountai 55.62 342 IAmb IAmb 10 28 56.2
comp=Z,26nm,1.4s
HNDO Hondo 56.53 326 IAmb IAmb 10 29 04.5
comp=Z,9.6nm,0.7s
V48A Smith Brothers 56.58 341 IAmb IAmb 10 29 02.2
comp=Z,22nm,0.7s
CCAR Cane Creek 56.71 335 IAmb IAmb 10 29 04.1
comp=Z,24nm,0.6s
CLTN Cedars of Leba 56.76 341 IAmb IAmb 10 29 03.5
comp=Z,9.9nm,0.7s
WLAR White Oak Lake 57.05 334 IAmb IAmb 10 29 07.1
comp=Z,28nm,0.6s
WVT Waverly 57.26 340 P **P 10 29 05.6 -1.4**
WVT IAmb IAmb 10 29 06.5
comp=Z,24nm,0.7s
TREL Terrell 57.55 331 IAmb IAmb 10 29 11.5
comp=Z,16nm,0.8s
WHTX Lake Whitney, 57.58 329 IAmb IAmb 10 29 11.4
comp=Z,11nm,0.7s
UALR University of 57.68 335 IAmb IAmb 10 29 10.4
comp=Z,21nm,0.7s
T47A Sharon Grove 57.82 341 IAmb IAmb 10 29 10.8
comp=Z,31nm,1.0s
MIAR Mount Ida 57.98 334 IAmb IAmb 10 29 12.6
comp=Z,17nm,0.6s
WHAR Wooly Hollow 58.11 336 IAmb IAmb 10 29 13.6
comp=Z,12nm,0.9s
R50A Paris 58.23 344 IAmb IAmb 10 29 13.8
comp=Z,10nm,0.8s
HPIG 58.28 319 P **P 10 29 14.7 +0.2**
LCAR Lake Charles 58.37 337 IAmb IAmb 10 29 14.8
comp=Z,16nm,0.7s
Q52A Bidwell 58.37 346 IAmb IAmb 10 29 15.2
comp=Z,20nm,0.8s
SAND Sanderson 58.41 324 IAmb IAmb 10 29 17.9
comp=Z,11nm,0.7s
FW06 Azle 58.44 330 IAmb IAmb 10 29 17.5
comp=Z,16nm,0.8s
OZNA Ozona 58.61 326 IAmb IAmb 10 29 18.5
comp=Z,6.2nm,0.6s
WCI Wyandotte Cave 58.73 342 P **P 10 29 15.5 -1.6**
WCI IAmb IAmb 10 29 16.6
comp=Z,18nm,0.7s
TXAR Lajitas Array 58.82 322 P **P 10 29 18.9 +0.8**
comp=Z,1.7nm,0.7s,baz=150,slow=8.2,SNR=18
TXAR pP **pP 10 30 23.2 +2.3**
comp=Z,0.5nm,0.8s,baz=142,slow=6.9,SNR=1.7
comp=Z,1.7nm,0.7s
CGM3 Cape Girardeau 58.94 339 IAmb IAmb 10 29 18.6
comp=Z,17nm,0.7s
SIUC Southern Illin 59.16 340 IAmb IAmb 10 29 20.9
comp=Z,11nm,0.6s
ABTX Abilene, Hawle 59.18 328 IAmb IAmb 10 29 22.4
comp=Z,14nm,1.2s
T42A Van Buren 59.20 338 IAmb IAmb 10 29 20.3
comp=Z,11nm,0.7s
WTFS Witchita Falls 59.52 330 IAmb IAmb 10 29 24.7
comp=Z,24nm,0.8s
HHAR Hobbs 59.63 335 IAmb IAmb 10 29 23.8
comp=Z,18nm,0.7s
MGMO Mountain Grove 59.74 337 IAmb IAmb 10 29 24.6
comp=Z,20nm,0.7s
ACSO Alum Creek Sta 59.75 346 IAmb IAmb 10 29 24.3
comp=Z,22nm,0.7s
MNHN Monahans 59.82 325 IAmb IAmb 10 29 27.2
comp=Z,8.8nm,0.6s
X34A Smith Ranch, M 59.91 331 IAmb IAmb 10 29 27.6
comp=Z,20nm,0.9s
W35A Tecumseh 59.92 332 IAmb IAmb 10 29 26.6
comp=Z,13nm,0.6s
U38A Gravette 59.95 335 IAmb IAmb 10 29 26.3
comp=Z,7.0nm,0.4s
APMT Aspermont 59.98 328 IAmb IAmb 10 29 28.4
comp=Z,9.2nm,0.6s
SN05 Snyder 5 60.01 327 IAmb IAmb 10 29 27.8
comp=Z,9.9nm,0.6s
O49A Covington 60.03 345 IAmb IAmb 10 29 25.8
comp=Z,22nm,0.7s
CCM Cathedral Cave 60.17 338 P **P 10 29 26.0 -0.9**
FNO Franklin 60.25 332 IAmb IAmb 10 29 29.3
comp=Z,19nm,0.6s
P46A Rosedale 60.28 342 IAmb IAmb 10 29 26.9
comp=Z,14nm,0.7s
O48B Farmland 60.31 344 IAmb IAmb 10 29 28.1
comp=Z,17nm,0.8s
QUOK Quay 60.70 333 IAmb IAmb 10 29 32.6
comp=Z,18nm,0.8s
R40A Maddies Statio 60.75 337 IAmb IAmb 10 29 30.9
comp=Z,29nm,0.8s
SFIN Lafayette 60.95 343 IAmb IAmb 10 29 31.4
comp=Z,26nm,0.8s
OK051 E0350 and S346 61.04 333 IAmb IAmb 10 29 34.4
comp=Z,32nm,1.2s
T35A Sooner Cattle 61.25 333 P **P 10 29 33.8 -0.4**
T35A IAmb IAmb 10 29 35.6
comp=Z,15nm,0.7s
SMWD Samnorwood 61.46 329 IAmb IAmb 10 29 37.7
comp=Z,26nm,1.3s
J59A Piesco 61.48 354 IAmb IAmb 10 29 37.2
comp=Z,24nm,0.9s
KAN13 South Haven SW 61.75 333 IAmb IAmb 10 29 39.3
comp=Z,17nm,0.6s
ELIS Ellis County 61.84 330 IAmb IAmb 10 29 40.5
comp=Z,32nm,1.3s
OK032 Salt Plains WL 61.90 332 IAmb IAmb 10 29 39.8
comp=Z,33nm,1.4s
KAN17 Caldwell West 61.90 332 IAmb IAmb 10 29 40.3
comp=Z,28nm,1.2s
KAN14 Manchester OK 61.91 332 IAmb IAmb 10 29 40.4
comp=Z,26nm,1.2s
KAN01 Argonia South 61.99 332 IAmb IAmb 10 29 41.0
comp=Z,19nm,0.6s
KAN05 Bluff City Nor 62.00 332 IAmb IAmb 10 29 41.2
comp=Z,16nm,0.6s
KAN12 Harper NE Stat 62.21 332 IAmb IAmb 10 29 42.6
comp=Z,19nm,0.7s
LONY Lake Ozonia 62.63 354 IAmb IAmb 10 29 44.1
comp=Z,14nm,0.7s
WBO Williamsburg 63.08 353 IAmb IAmb 10 29 47.0
comp=Z,22nm,0.8s
N38A Joes South For 63.30 338 IAmb IAmb 10 29 47.4
comp=Z,15nm,0.7s
R32A Long Quarter, 63.46 333 IAmb IAmb 10 29 50.7
comp=Z,22nm,1.2s
319A Douglas 63.64 320 IAmb IAmb 10 29 52.7
comp=Z,10.0nm,0.6s
L40A Anamosa 63.75 340 IAmb IAmb 10 30 12.0
comp=Z,23nm,1.3s
DUN6 Lazy B Ranch 64.35 321 IAmb IAmb 10 29 57.6
comp=Z,17nm,0.9s
ANMO Albuquerque 64.57 325 P **P 10 29 56.4 +0.2**
SNAA Sanae 65.07 162 P **P 10 30 00.4 +1.7**
comp=Z,4.2nm,0.8s,baz=306,slow=7.1,SNR=6.0
comp=Z,4.2nm,0.8s
I40A Norwalk 65.21 341 IAmb IAmb 10 30 00.7
comp=Z,13nm,0.7s
DBIC Dimbokro 66.02 74 P **P 10 30 04.7 -0.9**
DBIC IAmb IAmb 10 30 05.0
comp=Z,7.7nm,0.8s
DBIC Dimbokro 66.02 74 P **P 10 30 04.8 -0.9**
comp=Z,4.2nm,0.4s,baz=245,slow=3.8,SNR=21
DBIC pP **pP 10 31 11.2 +1.3**
comp=Z,12nm,0.9s,baz=214,slow=4.3,SNR=5.9
comp=Z,4.2nm,0.4s
SDCO Great Sand Dun 66.16 327 IAmb IAmb 10 30 09.7
comp=Z,5.3nm,0.7s
I37A Lemond, Waseca 66.21 339 IAmb IAmb 10 30 10.3
comp=Z,18nm,0.9s
MVCO Mesa Verde 67.35 325 IAmb IAmb 10 30 17.9
comp=Z,8.3nm,0.8s
VTX Valle De La Tr 67.80 316 IAmb IAmb 10 30 20.0
comp=Z,18nm,1.3s
PV15 Paradox Valley 68.17 326 IAmb IAmb 10 30 22.9
comp=Z,9.1nm,0.9s
PV11 David Mesa, Pa 68.35 326 IAmb IAmb 10 30 22.7
comp=Z,12nm,1.3s
PV23 Carpenter Ridg 68.53 326 IAmb IAmb 10 30 24.7
comp=Z,6.1nm,0.7s
U15A North Rim 68.94 322 IAmb IAmb 10 30 26.8
comp=Z,5.6nm,0.6s
KNB Kanab 69.66 322 IAmb IAmb 10 30 31.6
comp=Z,11nm,0.8s
SRU San Rafael Swe 69.83 325 IAmb IAmb 10 30 31.4
comp=Z,9.4nm,0.6s
V12A Nelson 70.00 320 P **P 10 30 32.5 +2.4**
V12A IAmb IAmb 10 30 33.2
comp=Z,8.3nm,1.2s
Q16A Castle Valley 70.04 325 IAmb IAmb 10 30 33.5
comp=Z,7.2nm,0.6s
P18A Preston Nutter 70.05 326 IAmb IAmb 10 30 33.2
comp=Z,11nm,0.6s
TMUT Trail Mountain 70.33 325 IAmb IAmb 10 30 36.0
comp=Z,5.5nm,0.6s
AGMN Agassiz Nation 70.79 340 IAmb IAmb 10 30 39.4
comp=Z,8.7nm,0.8s
BSUT Blindstream Ca 70.97 326 IAmb IAmb 10 30 38.5
comp=Z,6.1nm,0.6s
PSUT Pine Spring 71.29 323 IAmb IAmb 10 30 41.0
comp=Z,4.9nm,0.6s
GWY Greenwater Val 71.42 319 IAmb IAmb 10 30 41.7
comp=Z,12nm,1.2s
CCAC Calif City Air 71.61 318 IAmb IAmb 10 30 42.4
comp=Z,6.9nm,0.7s
TPNV Topopah Spring 71.65 320 IAmb IAmb 10 30 43.8
comp=Z,17nm,1.2s
WCT Wildcat Mounta 71.78 320 IAmb IAmb 10 30 44.5
comp=Z,15nm,1.3s
PDAR Pinedale Array 71.97 328 P **P 10 30 42.7 +0.8**
PDAR Pinedale Array 71.97 328 P **P 10 30 43.0 +1.1**
comp=Z,2.8nm,0.5s,baz=123,slow=8.8,SNR=61
comp=Z,2.8nm,0.5s
HWUT Hardware Ranch 72.16 326 IAmb IAmb 10 30 44.9
comp=Z,4.2nm,0.5s
ISA Isabella, Lake 72.22 318 IAmb IAmb 10 30 46.9
comp=Z,13nm,1.4s
QSPA South Pole Qui 72.24 180 P **P 10 30 45.4 +2.4**
QSPA IAmb IAmb 10 30 47.1
comp=Z,17nm,1.4s
QSPA South Pole Qui 72.24 180 P **P 10 30 45.0 +2.0**
comp=Z,7.6nm,1.0s,baz=147,slow=2.2,SNR=15
QSPA pP **pP 10 31 49.3 +0.8**
comp=Z,2.0nm,1.1s,baz=307,slow=9.6,SNR=1.3
comp=Z,7.6nm,1.0s
SCHQ Schefferville 72.47 0 P **P 10 30 44.3 +0.1**
SCHQ IAmb IAmb 10 30 45.0
comp=Z,8.1nm,0.8s
SCHQ Schefferville 72.47 0 P **P 10 30 43.9 -0.4**
comp=Z,7.8nm,0.7s,baz=191,slow=4.4,SNR=9.1
SCHQ pP **pP 10 31 49.8 +0.3**
comp=Z,8.3nm,1.0s,baz=192,slow=5.1,SNR=3.9
comp=Z,7.8nm,0.7s
ULM Lac du Bonnet 72.50 341 IAmb IAmb 10 30 44.7
comp=Z,7.0nm,0.6s
ULM Lac du Bonnet 72.50 341 P **P 10 30 44.2 -0.3**
comp=Z,6.0nm,0.5s,baz=153,slow=6.7,SNR=21
ULM pP **pP 10 31 50.1 +0.1**
comp=Z,3.5nm,0.7s,baz=152,slow=7.3,SNR=3.2
comp=Z,6.0nm,0.5s
DSP Deep Springs 72.98 320 P **P 10 30 48.5 +0.9**
RLMT Red Lodge 73.58 330 IAmb IAmb 10 30 53.5
comp=Z,6.2nm,0.5s
H17A Grant Village 73.67 329 IAmb IAmb 10 30 55.3
comp=Z,6.6nm,0.6s
YNE Yellowstone No 73.84 330 IAmb IAmb 10 30 55.2
comp=Z,11nm,0.6s
NVAR Mina Array Bea 73.85 320 P **P 10 30 52.8 -0.1**
NVAR Mina Array Bea 73.85 320 P **P 10 30 54.2 +1.3**
comp=Z,2.2nm,0.8s,baz=149,slow=6.5,SNR=15
NVAR pP **pP 10 32 00.4 +1.7**
comp=Z,0.3nm,0.8s,baz=75,slow=21,SNR=1.3
comp=Z,2.2nm,0.8s
DGMT Dagmar 73.96 335 IAmb IAmb 10 30 55.4
comp=Z,11nm,0.5s
YMR Madison River 74.06 329 IAmb IAmb 10 30 57.5
comp=Z,9.3nm,0.7s
YHB Horse Butte 74.23 329 IAmb IAmb 10 30 58.0
comp=Z,10nm,0.6s
YHL Hebgen Lake 74.30 329 IAmb IAmb 10 30 58.6
comp=Z,5.3nm,0.6s
TORD Torodi Ar. Bea 74.47 70 P **P 10 30 55.5 -1.2**
TORD IAmb IAmb 10 30 56.3
comp=Z,8.3nm,0.9s
TORD Torodi Ar. Bea 74.47 70 P **P 10 30 55.4 -1.3**
comp=Z,7.0nm,0.5s,baz=258,slow=6.2,SNR=3.1
TORD pP **pP 10 32 02.2 -0.1**
comp=Z,11nm,0.7s,baz=276,slow=6.7,SNR=2.6
comp=Z,7.0nm,0.5s
HLID Hailey 75.03 326 IAmb IAmb 10 31 02.8
comp=Z,5.3nm,0.6s
PNTR Pine Nut 75.05 320 IAmb IAmb 10 31 03.4
comp=Z,7.2nm,0.8s
PAHR Pah Rah Range 75.31 321 IAmb IAmb 10 31 04.7
comp=Z,13nm,0.9s
MFID Camas Ranch 75.69 326 IAmb IAmb 10 31 06.6
comp=Z,14nm,1.4s
AFDM Forest Hills D 75.81 319 P **P 10 31 04.2 +0.3**
EGMT Eagleton 75.96 332 IAmb IAmb 10 31 06.6
comp=Z,8.4nm,0.6s
PLID Pearl Lake 76.91 327 IAmb IAmb 10 31 12.6
comp=Z,5.9nm,0.7s
BMO Blue Mountains 77.44 326 IAmb IAmb 10 31 15.3
comp=Z,6.0nm,0.8s
J05D Fort Rock, OR 78.62 323 IAmb IAmb 10 31 22.7
comp=Z,7.9nm,1.2s
PINE Pine Mountain 78.76 323 IAmb IAmb 10 31 23.9
comp=Z,11nm,1.0s
SYO Syowa Base 79.20 159⇑*e*PcP **PcP 10 31 26.8 -2.5**
L02F Cave Junction 79.29 321 IAmb IAmb 10 31 26.9
comp=Z,10nm,1.3s
I05D Terrebonne, OR 79.33 324 IAmb IAmb 10 31 26.2
comp=Z,9.4nm,0.7s
TSUM Tsumeb 79.35 107 P **P 10 31 23.8 -0.2**
TSUM IAmb IAmb 10 31 25.9
comp=Z,6.8nm,0.7s
FCC Fort Churchill 79.59 346 IAmb IAmb 10 31 26.2
comp=Z,4.3nm,0.6s
WAH2 Wahluke Slope 79.88 326 IAmb IAmb 10 31 28.4
comp=Z,5.3nm,0.8s
C09A Chrisman Ranch 79.89 328 IAmb IAmb 10 31 28.6
comp=Z,11nm,0.6s
H04A Detroit Lake 80.02 324 IAmb IAmb 10 32 01.5
comp=Z,9.8nm,1.5s
HOOD Mount Hood Mea 80.11 324 IAmb IAmb 10 31 30.9
comp=Z,24nm,1.5s
VNDA Vanda 80.65 190 P **P 10 31 32.2 +2.5**
comp=Z,2.7nm,1.1s,baz=194,slow=2.7,SNR=5.4
comp=Z,2.7nm,1.1s
LTY Liberty 80.78 326 IAmb IAmb 10 31 33.0
comp=Z,4.9nm,0.8s
D05A Enumclaw 81.44 326 IAmb IAmb 10 31 40.5
comp=Z,17nm,1.2s
ESDC Sonseca Array 82.04 44 P **P 10 31 38.3 +0.7**
ESDC Sonseca Array 82.04 44 P **P 10 31 38.0 +0.4**
comp=Z,2.3nm,0.8s,baz=252,slow=5.6,SNR=14
ESDC pP **pP 10 32 45.4 +0.4**
comp=Z,1.6nm,0.7s,baz=244,slow=6.0,SNR=4.8
comp=Z,2.3nm,0.8s
GNW Green Mountain 82.12 326 IAmb IAmb 10 31 40.2
comp=Z,13nm,1.4s
BOSA Boshof 83.53 118 P **P 10 31 46.2 +0.5**
comp=Z,5.6nm,0.6s,baz=252,slow=3.7,SNR=14
comp=Z,5.6nm,0.6s
YKA Yellowknife Ar 88.45 340 P **P 10 32 09.4 +1.0**
comp=Z,8.0nm,0.5s,baz=132,slow=4.3,SNR=192
YKA pP **pP 10 33 17.1 +0.1**
comp=Z,1.8nm,0.9s,baz=132,slow=4.5,SNR=2.6
comp=Z,8.0nm,0.5s
KEST Kesra 89.72 52 P **P 10 32 15.4 +0.1**
comp=Z,3.4nm,0.8s,baz=324,slow=5.8,SNR=2.7
KEST pP **pP 10 33 23.8 +0.6**
comp=Z,4.9nm,0.9s,baz=280,slow=6.1,SNR=2.9
comp=Z,3.4nm,0.8s
EKA Eskdalemuir Ar 90.65 31 P **P 10 32 18.6 -0.3**
comp=Z,0.4nm,0.3s,baz=231,slow=4.3,SNR=2.4
comp=Z,0.4nm,0.3s
PETK Petropavlovsk- 130.70 326 PKP **PKPdf 10 38 25.6 -0.3**
comp=Z,2.8nm,1.1s,baz=60,slow=5.8,SNR=3.8
PETK pPKP **pPKPdf 10 39 38.8 +0.9**
comp=Z,2.2nm,0.9s,baz=116,slow=10,SNR=2.1
PETK SKPbc **SKPab 10 41 23.3 -0.1**
comp=Z,2.6nm,0.9s,baz=59,slow=6.1,SNR=6.0
BVAR Borovoye Array 131.85 33 pPKP pPKPdf 10 39 40.9 +0.7
comp=Z,2.1nm,1.0s,baz=349,slow=4.4,SNR=3.9
ASAR Alice Springs 133.89 207 PKhKP PKPpre 10 38 20.4
comp=Z,0.3nm,0.8s,baz=126,slow=2.6,SNR=1.8
ASAR PKP **PKiKP 10 38 33.7 -0.6**
comp=Z,0.8nm,0.7s,baz=158,slow=2.1,SNR=7.4
ASAR pPKP pPKPdf 10 39 45.5 +0.6
comp=Z,0.3nm,0.7s,baz=151,slow=2.1,SNR=2.2
ASAR SKP 10 41 36.2
comp=Z,0.4nm,0.6s,baz=142,slow=4.0,SNR=4.5
WRA Warramunga Arr 136.92 210 PKhKP PKPpre 10 38 27.6
comp=Z,0.5nm,0.9s,baz=137,slow=3.1,SNR=6.4
WRA PKP **PKiKP 10 38 39.9 -0.6**
comp=Z,2.1nm,0.9s,baz=159,slow=1.6,SNR=7.8
WRA pPKP pPKPdf 10 39 52.9 +2.3
comp=Z,1.4nm,0.9s,baz=172,slow=1.6,SNR=4.4
KURBB Kurchatov Arra 137.38 32 PKP **PKPdf 10 38 38.1 -0.3**
comp=Z,0.4nm,0.7s,baz=318,slow=2.6,SNR=4.5
KURBB pPKP **pPKPdf 10 39 51.1 +0.5**
comp=Z,1.5nm,0.9s,baz=302,slow=2.8,SNR=8.4
KURBB SKPbc **SKPbc 10 41 43.3 -1.8**
comp=Z,0.1nm,0.4s,baz=41,slow=20,SNR=4.0
ZALV Zalesovo Beam 137.98 25 PKP **PKPdf 10 38 39.3 -0.1**
comp=Z,0.9nm,0.4s,baz=300,slow=2.9,SNR=4.8
ZALV pPKP **pPKPdf 10 39 52.1 +0.5**
comp=Z,7.1nm,1.1s,baz=298,slow=3.2,SNR=6.5
MKAR Makanchi Array 141.70 34 PKP **PKPdf 10 38 45.1 -1.3**
comp=Z,0.3nm,0.5s,baz=339,slow=3.1,SNR=3.8
MKAR pPKP **pPKPdf 10 40 00.4 +1.7**
comp=Z,1.1nm,0.8s,baz=306,slow=2.9,SNR=5.4
MKAR SKPbc **SKPbc 10 41 54.8 -2.1**
comp=Z,1.3nm,0.8s,baz=336,slow=2.7,SNR=4.0
FITZ Fitzroy Crossi 142.10 200 PKhKP PKPpre 10 38 45.2
comp=Z,1.7nm,0.7s,baz=190,slow=6.0,SNR=5.3
HEH HeiHe 145.74 344 PKPbc **PKPab 10 38 55.6 +0.4**
JAY Jayapura 145.96 236 PKPbc **PKPab 10 38 58.2 +1.0**
comp=Z,15nm,0.9s,baz=225,slow=2.9,SNR=3.9
USRK Ussuriysk Ar. 149.32 333 PKPbc **PKiKP 10 39 05.0 -0.2**
comp=Z,4.8nm,0.8s,baz=42,slow=3.5,SNR=12
USRK pPKPbc **pPKPbc 10 40 16.9 +1.1**
comp=Z,3.8nm,0.6s,baz=337,slow=1.0,SNR=6.4
SONM Songino Array 149.69 9 PKPbc **PKiKP 10 39 05.4 -0.6**
comp=Z,1.3nm,0.5s,baz=321,slow=1.8,SNR=9.7
SONM pPKPbc **pPKPbc 10 40 18.1 +1.3**
comp=Z,3.7nm,0.8s,baz=325,slow=1.6,SNR=7.8
MJAR Matsushiro Arr 151.05 315 PKPbc **PKiKP 10 39 09.6 +0.6**
comp=Z,1.3nm,0.5s,baz=4.6,slow=27,SNR=3.0
HHC Hu-ho-hao-te 157.13 3 *e*P **PKPdf 10 39 09.8 -1.1**
NJ2 Nanjing 164.97 340 *e*P **PKPdf 10 39 19.3 0.0**
NJ2 pmax pmax
comp=Z,23nm,0.5s
PZH PanZhiHua 166.54 49 PKP **PKPdf 10 39 20.6 -0.3**
CMAR Chiang Mai Arr 166.64 86 PKPab **PKPab 10 40 23.1 -2.3**
comp=Z,0.4nm,0.3s,baz=278,slow=4.7,SNR=6.4

---

*SDD **01** 10:20:09.9±0.6, 18°.05N×67°.42W, h52km±5km, MD2.0, ML1.8, MW2.4*
*RSPR **01** 10:20:10.7, 18°.09N×67°.34W, h52km±1km, MD2.6/8*
*NEIC **01** 10:20:10.3±1.1, 18°.10N±0°.05×67°.31W±0°.04, h54km±4km, ML2.0/14, Md2.6/8(RSPR), Error ellipse: s-maj=7.3km s-min=5.2km az=212.0*
ISC 01 10:20:09.2±3.1, 18°.07N±0°.09×67°.36W±0°.09, h57km±16km, n34, σ0°.34/42, 18C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.24**	**104**		**Pn**	**10 20 18.7**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.24**	**104**		**Sn**	**10 20 24.9**	**-0.4**
CRPR	**Cabo Rojo, PR**	**0.24**	**104**	⇑*e*Pg	**Pn**	**10 20 18.6**	**+0.1**
CRPR				⇑*e*Sg	**Sn**	**10 20 24.9**	**-0.4**
CRPR				IAML		10 20 25.8	
comp=N,51nm,0.2s							
CRPR	**Cabo Rojo, PR**	**0.24**	**104**	⇑*e*P	**Pn**	**10 20 18.7**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.24**	**104**	*e*S	**Sn**	**10 20 24.9**	**-0.4**
PRSN	**Puerto Rico Se**	**0.25**	**54**	Pn	**Pn**	**10 20 19.3**	**+0.7**
PRSN				IAML		10 20 25.8	
comp=N,127nm,0.2s							
PRSN				IAML		10 20 28.2	
comp=E,102nm,0.2s							
LSP	**Las Mesas**	**0.28**	**67**		**Pn**	**10 20 19.0**	**+0.1**
LSP					**Sn**	**10 20 26.1**	**+0.2**
LSP	**Las Mesas**	**0.28**	**67**	⇑*e*P	**Pn**	**10 20 19.0**	**+0.1**
LSP	**Las Mesas**	**0.28**	**67**	*e*S	**Sn**	**10 20 26.1**	**+0.2**
MLPR	**Magueyes Islan**	**0.32**	**108**	⇑*e*Pg	**Pn**	**10 20 19.2**	**+0.2**
MLPR				⇑*e*Sg	**Sn**	**10 20 26.2**	**0.0**
MLPR				IAML		10 20 26.9	
comp=N,18nm,0.2s							
MLPR	**Magueyes Islan**	**0.32**	**108**	⇑*e*P	**Pn**	**10 20 19.3**	**+0.2**
MLPR	**Magueyes Islan**	**0.32**	**108**	*e*S	**Sn**	**10 20 26.3**	**0.0**
IDE	**Isla Desecheo**	**0.34**	**341**		**Pn**	**10 20 19.5**	**+0.1**
IDE					**Sn**	**10 20 26.4**	**-0.3**
IDE	**Isla Desecheo**	**0.34**	**341**	⇑*e*P	**Pn**	**10 20 19.5**	**+0.1**
IDE	**Isla Desecheo**	**0.34**	**341**	*e*S	**Sn**	**10 20 26.4**	**-0.3**
AGPR	**Aguadilla, PR**	**0.46**	**31**	⇑*e*Pg	**Pn**	**10 20 20.7**	**+0.1**
AGPR				⇑*e*Sg	**Sn**	**10 20 28.8**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.64**	**73**		**Pn**	**10 20 22.6**	**+0.1**
UUPR					**Sn**	**10 20 31.9**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.64**	**73**	⇑*e*P	**Pn**	**10 20 22.6**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.64**	**73**	*e*S	**Sn**	**10 20 31.9**	**-0.3**
AOPR	**Arecibo Observ**	**0.64**	**64**		**Pn**	**10 20 22.7**	**+0.1**
AOPR					**Sn**	**10 20 31.7**	**-0.6**
AOPR	**Arecibo Observ**	**0.64**	**64**	IAML		10 20 32.7	
comp=N,59nm,0.2s							
AOPR				IAML		10 20 33.3	
comp=E,68nm,0.6s							
AOPR	**Arecibo Observ**	**0.64**	**64**	⇑*e*Pg	**Pn**	**10 20 22.7**	**+0.1**
AOPR				⇑*e*Sg	**Sn**	**10 20 32.1**	**-0.2**
AOPR				IAML		10 20 32.4	
comp=N,64nm,0.6s							
AOPR	**Arecibo Observ**	**0.64**	**64**	⇑*e*P	**Pn**	**10 20 22.7**	**+0.1**
AOPR	**Arecibo Observ**	**0.64**	**64**	*e*S	**Sn**	**10 20 31.7**	**-0.6**
OBIP	**Obispado Ponce**	**0.72**	**92**		**Pn**	**10 20 23.0**	**-0.5**
OBIP					**Sn**	**10 20 33.5**	**-0.4**
OBIP	**Obispado Ponce**	**0.72**	**92**	IAML		10 20 33.8	
comp=E,64nm,0.5s							
OBIP	**Obispado Ponce**	**0.72**	**92**	⇑*e*P	**Pn**	**10 20 23.0**	**-0.5**
OBIP	**Obispado Ponce**	**0.72**	**92**	*e*S	**Sn**	**10 20 33.5**	**-0.4**
CELP	**Cerrillos**	**0.74**	**89**		**Pn**	**10 20 24.3**	**+0.5**
CELP					**Sn**	**10 20 34.8**	**+0.3**
CELP	**Cerrillos**	**0.74**	**89**	IAML		10 20 35.6	
comp=E,66nm,0.3s							
CELP				IAML		10 20 35.8	
comp=N,42nm,0.3s							
CELP	**Cerrillos**	**0.74**	**89**	⇑*e*Pg	**Pn**	**10 20 24.3**	**+0.5**
CELP				⇑*e*Sg	**Sn**	**10 20 35.1**	**+0.6**
CELP				IAML		10 20 35.7	
comp=N,44nm,0.3s							
CELP	**Cerrillos**	**0.74**	**89**	⇑*e*P	**Pn**	**10 20 24.3**	**+0.5**
CELP	**Cerrillos**	**0.74**	**89**	*e*S	**Sn**	**10 20 34.8**	**+0.3**
EMPR	**Esperanza - Ma**	**0.89**	**62**	Pn	**Pn**	**10 20 25.7**	**+0.1**
EMPR				IAML		10 21 00.6	
comp=E,77nm,1.1s							

---

*ISN **01** 10:21:59.1±0.5, 33°.71N×45°.62E, h9km±3km, ML3.6*
*TEH **01** 10:22:04.6, 33°.93N×45°.84E, h6km±137km*
ISC 01 10:22:01.0±0.9, 33°.72N±0°.03×45°.67E±0°.05, h10km, n12, σ1§30/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.44**	**27**	Pg	**Pg**	**10 22 07.6**	**-2.2**
IBDR	**Badra**	**0.64**	**160**	*e*Pg	**Pg**	**10 22 12.0**	**-1.5**
IBDR				*e*Sg	**Sg**	**10 22 21.0**	**-0.9**
IBDR				AML	AML	10 22 24.2	
comp=E,2μm,0.6s							
IBDR				AML	AML	10 22 28.8	
comp=N,3μm,0.5s							
KGS1	**Ghasr-e-Shirin**	**0.79**	**355**	Pg	**Pb**	**10 22 16.6**	**-0.2**
IGHG	**Ghaleghazi**	**0.96**	**51**	Pg	**Pg**	**10 22 18.9**	**-0.7**
IDHR	**Dehrash**	**1.15**	**31**	Pg	**Pg**	**10 22 21.8**	**-1.2**
BHD	**Baghdad**	**1.17**	**248**	*e*Pn	**Pb**	**10 22 23.0**	**-0.2**
BHD				*e*Sn	**Sb**	**10 22 40.0**	**+1.6**
KCHF	**Cheshme Sefid,**	**1.27**	**64**	Pg	**Pn**	**10 22 24.6**	**-0.4**

SNQR	Sonqor, Kerman	1.98	54	Pg	Pn	10 22 36.1	+1.2
IKRK	Kirkuk	2.00	327	ePn	Pn	10 22 35.0	+0.1
IKRK				eSn	Sn	10 23 01.0	+0.9
RAFI	Al-Rafai	2.02	169	ePn	Pn	10 22 35.0	-0.1
RAFI				eSn	Sn	10 23 02.0	+1.5
HAGD	Aghdareh	3.08	68	Pn	Pn	10 22 51.8	+1.9
HGHA	Hamedan- Ghaye	3.17	55	Pn	Pn	10 22 52.1	+1.0

*IDC **01** 10:22:18.8±4.2, 6°.53N×93°.80E, h0km, mb3.8/5, mbtmp3.7/6, Error ellipse: s-maj=137.1km s-min=34.7km az=50.0*

ISC 01 10:22:23.5±3.4, **6°.5N**±0°.5×**93°.8E**±0°.6, **h35**km, **n9**, σ0**°28/6, mb3.9**/5, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.30	125	Pn	Pn	10 23 54.0	0.0
	1.5nm,0.3s,baz=312,slow=15,SNR=1.4						
H08S3	Diego Garcia H	25.46	237	T	T	10 54 44.9	
	baz=54,slow=76,SNR=15						
H08S2	Diego Garcia H	25.46	237	T	T	10 54 52.8	
	baz=54,slow=76,SNR=17						
H08S1	Diego Garcia H	25.48	237	T	T	10 54 47.5	
	baz=54,slow=76,SNR=8.3						
MKAR	Makanchi Array	41.35	348	P	P	10 30 05.8	-0.2
	1.1nm,0.8s,baz=152,slow=9.2,SNR=6.1						
	1.1nm,0.8s						
SONM	Songino Array	42.58	13	P	P	10 30 16.2	+0.1
	0.4nm,0.5s,baz=206,slow=6.4,SNR=3.5						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	45.79	346	P	P	10 30 42.1	+0.4
	1.8nm,1.0s,baz=165,slow=7.2,SNR=7.2						
	1.8nm,1.0s						
ZALV	Zalesovo Beam	47.87	353	P	P	10 30 57.8	-0.1
	1.8nm,0.8s,baz=179,slow=7.4,SNR=5.5						
	1.8nm,0.8s						
BVAR	Borovoye Array	50.18	342	P	P	10 31 15.8	+0.1
	0.9nm,0.8s,baz=162,slow=6.1,SNR=2.8						
	0.9nm,0.8s						

*CATAC **01** 10:27:57.0±0.7, 11°.5N×8°.8W±°, h25km±11km, M3.9/23, MLv3.9/23, Error ellipse: s-maj=12.2km s-min=4.4km az=33.8, confirmed*
*SNET **01** 10:27:59.5±1.1, 11°.35N×87°.79W, h34km±149km, ML3.3*
*UCR **01** 10:27:59.6±1.4, 11°.37N×87°.63W, h36km, MW3.6*

ISC 01 10:27:57.8±1.5, **11°.32N**±0°.06×**87°.70W**±0°.05, **h20**km±6km, **n65**, σ0**°91/84, 2C, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.38	52	⇑iP	Pn	10 28 21.4	-0.6
COPN	Copaltepe	1.38	52	P	Pn	10 28 21.7	-0.3
BC86	Nagarote	1.46	50	S	Sn	10 28 42.3	+0.8
LEVN	Ruinas Leon Vi	1.51	45	P	Pn	10 28 23.2	-0.6
LEVN				S	Sb	10 28 44.3	+0.4
CRIN	San Cristobal	1.51	25	eP	Pn	10 28 23.6	-0.2
CRIN				eS	Sn	10 28 42.7	-0.2
CRIN	San Cristobal	1.51	25	P	Pn	10 28 23.8	0.0
CRIN	San Cristobal	1.51	25	S	Sb	10 28 44.5	+0.5
QUEN	Al S del Volca	1.51	33	P	Pn	10 28 23.7	-0.1
QUEN				S	Sn	10 28 43.2	+0.2
ROCN	Rota Cerro Neg	1.52	38	P	Pn	10 28 19.3	-4.5
CNGA	Al SSO del Vol	1.52	40	P	Pn	10 28 23.4	-0.6
CNGA				S	Sn	10 28 44.0	+0.8
CRUN	El Crucero	1.52	64	P	Pn	10 28 22.8	-1.2
CNGN	Cerro Negro	1.53	40	P	Pn	10 28 23.3	-0.7
CNGN	Cerro Negro	1.53	40	S	Sn	10 28 44.3	+1.0
HERN	Volcan Telica	1.54	34	S	Sn	10 28 43.4	-0.2
AMTN	Mateare	1.54	54	P	Pn	10 28 23.7	-0.4
AMTN	Mateare	1.54	54	S	Sb	10 28 44.7	-0.1
PLRN	Geotermica Pol	1.55	36	P	Pn	10 28 23.1	-1.2
PLRN				S	Sn	10 28 44.5	+0.7
BC84	Volcan Momotom	1.56	47	S	Sn	10 28 44.4	+0.4
MOMN	Momotombo	1.57	46	P	Pn	10 28 23.9	-0.7
MOMN				S	Sn	10 28 45.5	+1.1
ABCN	Banco Central	1.58	60	S	Sb	10 28 45.7	-0.2
POLN	Al Sur del Volc	1.58	33	P	Pn	10 28 24.5	-0.3
POLN				S	Sn	10 28 45.9	+1.3
ILCN	San Idelfonso	1.59	38	P	Pn	10 28 24.0	-0.8
ILCN				S	Sn	10 28 45.5	+0.7
APYN	Apoyeque	1.60	55	S	Sn	10 28 45.8	+0.6
APQ2	Apoyeque	1.60	57	P	Pn	10 28 24.5	-0.6
APQ2				S	Sn	10 28 45.6	+0.5
UNAN	Cigeo UNAN	1.61	61	P	Pn	10 28 24.7	-0.4
UNAN				S	Sb	10 28 46.4	-0.3
USIM	UNAN	1.61	60	S	Sn	10 28 46.2	+1.0
USIM	UNAN	1.61	60	P	Pn	10 28 24.0	-1.1
ENAN	Enatrel Managu	1.62	61	S	Sb	10 28 46.7	-0.3
TISN	Laguna Tiscapa	1.62	60	P	Pn	10 28 24.7	-0.6
ALLN	Telcor Managua	1.62	59	S	Sb	10 28 46.8	-0.5
ALLN	Telcor Managua	1.62	59	P	Pn	10 28 25.2	-0.1
MAFN	Magfor	1.63	62	S	Sn	10 28 45.8	+0.1
MGAN	Managua	1.64	60	⇑eP	Pn	10 28 24.9	-0.7
MGAN	Managua	1.64	60	P	Pn	10 28 24.9	-0.7
MGAN	Managua	1.64	60	S	Sn	10 28 46.2	+0.1
MGAN	Managua	1.64	60	P	Pn	10 28 25.3	-0.3
MGAN	Managua	1.64	60	S	Sn	10 28 46.0	-0.1
MAS3	Al N del Volca	1.65	65	P	Pn	10 28 24.5	-1.2
MAS3				S	Sn	10 28 46.6	+0.3
CSGN	Cosiguina Volc	1.65	5	eP	Pn	10 28 25.4	-0.4
CSGN				eS	Sn	10 28 45.3	-1.1
CSGN	Cosiguina Volc	1.65	5	P	Pn	10 28 25.5	-0.2
CSGN				S	Sn	10 28 46.4	0.0
MASN	Masaya	1.66	66	S	Sn	10 28 46.2	-0.3
NANN	Nandasmo	1.67	68	P	Pn	10 28 25.9	0.0
NANN	Nandasmo	1.67	68	S	Sn	10 28 46.1	-0.5
AERN	Aeropuerto Man	1.71	61	S	Sn	10 28 48.6	+0.8
BC87	San Francisco	1.82	49	S	Sn	10 28 50.3	-0.1
CNCH	Conchagua	1.95	356	eP	Pn	10 28 29.6	-0.2
CNCH				eS	Sn	10 28 54.7	+0.9
CNCH	Conchagua	1.95	356	P	Pn	10 28 29.8	0.0
LCND	La Caada	1.98	355	eP	Pn	10 28 30.2	0.0
LCND				eS	Sn	10 28 54.1	-0.5
LCND				IAML		10 28 56.2	
	comp=Z,284nm,0.3s						
LCND	La Caada	1.98	355	P	Pn	10 28 30.3	0.0
CONN	Concepcion	2.05	83	P	Pn	10 28 30.5	-0.7
CONN				S	Sn	10 28 55.6	-0.5
CARN	Rivas	2.14	93	P	Pn	10 28 30.7	-1.7
RANC	El Ranchito	2.18	345	S	Sn	10 29 00.5	+1.0
PACA	Pacayal	2.22	344	eP	Pn	10 28 34.1	+0.4
PACA				eS	Sn	10 29 00.1	-0.5
ACON	Acoyapa	2.56	75	eP	Pn	10 28 37.9	-0.2
COEG	Centro de Oper	2.56	333	eS	Sn	10 29 08.9	+0.1
COEG				IAML		10 29 11.9	
	comp=Z,74nm,0.2s						
SCLA	Alcaldia de Sa	2.57	337	eP	Pn	10 28 38.6	+0.2
VMAR	Armenia, Volca	2.59	101	eP	Pn	10 28 38.0	-0.7
VMAR				eS	Sn	10 29 08.2	-1.4
JAYA	Jayaque - finc	2.88	324	eS	Sn	10 29 15.0	-1.9
JAYA				IAML		10 29 15.3	
	comp=Z,183nm,0.2s						
JTS	Las Juntas de	2.89	111	eP	Pn	10 28 41.6	-1.1
NUBE	Las Nubes	3.27	322	eS	Sn	10 29 24.6	-1.9
MTO3	Montecristo	3.46	332	eP	Pn	10 28 51.7	+1.0
ABE2	San Pablo	3.93	114	eP	Pn	10 28 57.8	+0.5
ABE2				eS	Sn	10 29 43.3	+0.3
VICA	Volcano Irazu	4.02	109	eP	Pn	10 29 00.7	+2.0
PIEC	Cerro El Cedra	4.05	114	eP	Pn	10 28 58.8	-0.1
ALCO	Alturas Coton,	5.34	116	eP	Pn	10 29 18.2	+1.6

*IDC **01** 10:35:01.7±0.9, 33°.61N×45°.81E, h0km, mb3.8/17, mbtmp3.8/26, ML3.9/7, Error ellipse: s-maj=18.1km s-min=11.5km az=169.0*
*TEH **01** 10:35:03.2, 33°.57N×45°.81E, h13km±99km*
*NEIC **01** 10:35:03.9±1.6, 33°.46N±0°.06×45°.73E±0°.09, h10km±2km, mb4.0/6, Error ellipse: s-maj=13.4km s-min=10.3km az=80.0*
*ISN **01** 10:35:03.3±0.5, 33°.52N×45°.77E, h8km±3km, ML4.0*

ISC 01 10:35:04.5±0.4, **33°.53N**±0°.03×**45°.82E**±0°.03, **h19**km, **n70**, σ1**°23/78, mb3.8/17, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.42	167	ePg	Pg	10 35 12.0	-1.2
IBDR				eSg	Sg	10 35 18.0	-1.1
GLG1	Gilan-e-Gharb	0.59	7	Pg	Pb	10 35 14.4	-1.8
KGS1	Ghasr-e-Shirin	1.00	349	Pg	Pb	10 35 22.8	-0.3
IGHG	Ghaleghazi	1.02	38	Pg	Pb	10 35 23.4	-0.2
BHD	Baghdad	1.23	258	ePn	Pg	10 35 28.0	-0.3
BHD				eSn	Sg	10 35 46.0	+1.6
KCHF	Cheshme Sefid,	1.26	53	Pg	Pg	10 35 28.4	-0.5
IDHR	Dehrash	1.26	22	Pg	Pb	10 35 27.9	+0.1
RAFI	Al-Rafai	1.81	172	ePn	Pb	10 35 37.0	-0.1
RAFI				eSn	Sb	10 36 01.0	+1.6
IDOB	Doab	1.98	82	Pn	Pb	10 35 39.5	-0.6
SNQR	Sonqor, Kerman	2.00	48	Pn	Pb	10 35 39.6	-0.9
IKRK	Kirkuk	2.23	327	ePn	Pn	10 35 42.0	+1.5
IKRK				eSn	Sb	10 36 11.0	-0.5
IKRK				AML	AML	10 36 20.7	
	comp=N,1μm,0.7s						
IKRK				AML	AML	10 36 24.0	
	comp=E,2μm,0.8s						
BDRS	Dareh Seyedi	2.59	80	Pn	Pn	10 35 47.8	+2.2
SDS1	Sardasht. Az.	2.63	354	Pn	Pn	10 35 47.7	+1.6
HAGD	Aghdareh	3.04	64	Pn	Pn	10 35 54.5	+2.7
HGHA	Hamedan- Ghaye	3.18	51	Pn	Pn	10 35 55.9	+2.2
MAHB	Mahabad	3.24	358	Pn	Pn	10 35 55.6	+1.2
QABG	Abgarm-Qazvin	3.79	54	Pn	Pn	10 36 04.0	+1.9
IAZR	Azarshahr	4.15	2	Pn	Pn	10 36 08.3	+1.3
IQOM	Qom	4.55	72	Pn	Pn	10 36 13.9	+1.4
ISRB	Sarab	4.55	19	Pn	Pn	10 36 14.0	+1.5
JIR1	Jirandeh	4.55	45	Pn	Pn	10 36 14.3	+1.7
QAMS	Qamsar	4.66	86	Pn	Pn	10 36 16.8	+2.8
ISHB	Shabestar	4.75	358	Pn	Pn	10 36 15.5	+0.2
IHRS	Heris	4.88	11	Pn	Pn	10 36 18.2	+1.1
IVRN	Varamin	5.11	72	Pn	Pn	10 36 21.7	+1.6
IMRD	Marand	5.18	359	Pn	Pn	10 36 22.5	+1.4
GEVA	Gevas	5.28	336	Pn	Pn	10 36 24.2	+1.8
GEVA					Sn	10 37 24.6	+1.8
KRSH	Karshahi	5.28	83	Pn	Pn	10 36 24.7	+2.2
GRMI	Germi	5.53	17	Pn	Pn	10 36 27.7	+1.8
MZPU	Pul - Mazandar	5.54	57	Pn	Pn	10 36 28.6	+2.4
MARD	Mardin	5.59	314	Pn	Pn	10 36 26.9	+0.2
GNI	Garni	6.67	353	Pn	Pn	10 36 42.4	+0.8
	comp=E,0.7nm,0.3s,baz=165,slow=20,SNR=1.3						
GNI				Pg	Pb	10 37 00.1	+0.2
	comp=E,1.9nm,0.3s,baz=144,slow=19,SNR=2.1						
GNI				Lg	Lg	10 38 31.0	
	comp=E,1.5nm,0.3s,baz=100,slow=17,SNR=1.5						
	comp=E,2.6nm,0.4s						
ASF	Jabal al Asfar	7.63	262	Pn	Pn	10 36 55.0	+0.3
	comp=E,0.8nm,0.3s,baz=120,slow=16,SNR=2.4						
ASF				Sn	Sn	10 38 21.4	+0.7
	comp=E,0.6nm,0.3s,baz=150,slow=20,SNR=1.5						
ASF				Lg	Lg	10 39 01.4	
	comp=E,3.7nm,0.3s,baz=23,slow=18,SNR=3.3						
	comp=E,1.7nm,0.3s						
MMAI	Mount Meron Ar	8.74	270	Pn	Pn	10 37 08.6	-1.3
	comp=E,1.3nm,0.3s,baz=82,slow=14,SNR=2.0						
MMAI				Lg	Lg	10 39 40.2	
	comp=E,3.1nm,0.3s,baz=84,slow=20,SNR=3.9						
	comp=E,0.5nm,0.2s						
RAYN	Ar Rayn	9.97	182	Pn	Pn	10 37 26.7	-0.1
EIL	Elat	10.03	250	Pn	Pn	10 37 27.4	-0.2
	comp=E,0.6nm,0.3s,baz=47,slow=14,SNR=1.5						
	comp=E,4.3nm,0.6s						
KVAR	Kislovodsk Arr	10.70	348	Pn	Pn	10 37 37.7	+1.0
	baz=170,slow=17						
	comp=E,1.3nm,0.3s						
BRTR	Keskin Array B	11.57	306	Pn	Pn	10 37 49.1	+0.3
	comp=E,0.2nm,0.4s,baz=135,slow=18,SNR=1.5						
UOSS	Minazif	12.46	131		Pn	10 38 02.0	+1.3
UOSS					Sn	10 40 16.5	-2.6
WSAR	Wadi Sarin	15.22	129	Pn	Pn	10 38 39.4	+0.9
	baz=308,slow=19,SNR=6.6						
IDI	Annyia	17.36	282	P	P	10 39 06.2	-0.8
	comp=E,6.2nm,0.7s,baz=45,slow=16,SNR=1.6						
AB31	Akbulak array	18.90	30	P	Pn	10 39 24.6	+0.2
AB31				IAmb	IAmb	10 39 25.0	
	comp=Z,5.2nm,0.7s						
ABKAR	Akbulak array	18.90	30	P	Pn	10 39 24.6	+0.1
AKTO	Aktyubinsk	19.13	24	P	P	10 39 26.3	0.0
	comp=Z,0.7nm,0.3s,baz=203,slow=9.0,SNR=9.4						
	comp=Z,3.3nm,0.6s						
MLR	Muntele Rosu	19.38	314	P	Pn	10 39 29.6	-0.8
	comp=Z,0.3nm,0.3s,baz=138,slow=14,SNR=1.6						
	comp=Z,1.5nm,0.5s						
ITM	Ithomi	19.81	287	P	P	10 39 33.2	-0.8
ITM				IAmb	IAmb	10 39 42.4	
	comp=Z,22nm,1.3s						
FNA	Florina	20.75	297	P	P	10 39 43.5	-0.5
BURAR	Bucovina Array	20.96	318	P	P	10 39 46.5	+0.1
BUR08	Bucovina Ar. S	20.99	318	P	P	10 39 46.9	+0.3
BUR08				IAmb	IAmb	10 39 57.2	
	comp=Z,7.2nm,1.1s						
AKASG	Malin Array Be	21.04	330	P	P	10 39 46.5	-0.6
	comp=Z,1.4nm,0.4s,baz=142,slow=9.9,SNR=13						
	comp=Z,1.4nm,0.4s						
KIEV	Kiev	21.04	330	P	P	10 39 47.0	-0.1
KIEV				IAmb	IAmb	10 39 57.5	
	comp=Z,8.5nm,1.2s						
KKAR	Karatay Array	21.54	56	P	P	10 39 53.7	+1.2
ARTI	Arti	24.45	17	P	P	10 40 20.6	-1.3
	comp=Z,1.3nm,0.4s,baz=202,slow=5.4,SNR=3.7						
	comp=Z,1.3nm,0.4s						
BVAR	Borovoye Array	26.23	35	P	P	10 40 37.5	-0.7
	comp=Z,1.2nm,0.6s,baz=227,slow=8.2,SNR=10						
	comp=Z,1.2nm,0.6s						
KURBB	Kurchatov Arra	29.37	45	P	P	10 41 06.7	+0.5
	comp=Z,1.4nm,0.7s,baz=251,slow=8.9,SNR=7.0						
	comp=Z,1.4nm,0.7s						
KEST	Kesra	29.99	285	P	P	10 41 12.0	+0.1
	comp=Z,2.4nm,1.0s,baz=117,slow=6.8,SNR=1.5						
	comp=Z,2.4nm,1.0s						
MKAR	Makanchi Array	30.57	53	P	P	10 41 18.0	+1.1
MKAR	Makanchi Array	30.57	53	P	P	10 41 17.6	+0.7
	comp=Z,1.0nm,0.6s,baz=252,slow=6.9,SNR=8.3						
	comp=Z,1.0nm,0.6s						
BNI	Bardonecchia	32.11	303	P	P	10 41 30.8	+0.2
HFS	Hagfors	33.90	332	P	P	10 41 45.1	-0.8
	comp=Z,0.9nm,0.4s,baz=122,slow=7.4,SNR=7.3						
	comp=Z,0.9nm,0.4s						
ZALV	Zalesovo Beam	34.19	41	P	P	10 41 46.5	-2.0
	comp=Z,0.8nm,0.4s,baz=300,slow=2.9,SNR=4.9						
	comp=Z,0.8nm,0.4s						
NOA	NORSAR Array B	35.43	332	P	P	10 41 57.3	-1.8
	comp=Z,0.6nm,0.7s,baz=126,slow=8.7,SNR=2.0						
	comp=Z,0.6nm,0.7s						
ARCES	ARCESS Array B	37.80	349	P	P	10 42 19.3	+0.1
	comp=Z,1.3nm,0.7s,baz=128,slow=7.6,SNR=5.6						
	comp=Z,1.3nm,0.7s						
ESDC	Sonseca Array	40.02	294	P	P	10 42 38.2	-0.1
	comp=Z,2.2nm,1.2s,baz=95,slow=9.1,SNR=4.7						
	comp=Z,2.2nm,1.2s						
EKA	Eskdalemuir Ar	40.14	318	P	P	10 42 38.9	-0.1
	comp=Z,1.5nm,0.6s,baz=100,slow=9.4,SNR=4.8						
	comp=Z,1.5nm,0.6s						
TORD	Torodi Ar. Bea	44.90	254	P	P	10 43 18.0	-0.1
	comp=Z,2.9nm,0.4s,baz=49,slow=9.7,SNR=1.7						
	comp=Z,2.9nm,0.4s						
SONM	Songino Array	46.94	53	P	P	10 43 33.6	-0.4
	comp=Z,0.2nm,0.4s,baz=292,slow=8.7,SNR=2.1						
	comp=Z,0.2nm,0.4s						
CMAR	Chiang Mai Arr	49.55	94	P	P	10 43 53.7	-0.6
	comp=Z,1.0nm,0.3s,baz=287,slow=8.1,SNR=6.0						
	comp=Z,1.0nm,0.3s						
ILAR	Eielson Array	81.52	5	P	P	10 47 20.9	+0.6
	comp=Z,0.2nm,0.7s,baz=350,slow=2.7,SNR=1.8						
	comp=Z,0.2nm,0.7s						
YKA	Yellowknife Ar	83.02	351	P	P	10 47 28.8	+0.6
	comp=Z,0.1nm,0.5s,baz=184,slow=2.1,SNR=3.6						
	comp=Z,0.1nm,0.5s						

*IDC **01** 10:40:24.7±3.0, 33°.62N×45°.64E, h0km, mb3.8/8, mbtmp3.8/8, ML1.7/1, MS3.8/1, Error ellipse: s-maj=65.0km s-min=24.7km az=18.0*
*TEH **01** 10:40:26.3, 33°.58N×45°.65E, h12km±92km*
*ISN **01** 10:40:26.4±0.5, 33°.49N×45°.85E, h10km±2km, ML3.8*

ISC 01 10:40:26.5±0.6, **33°.55N**±0°.03×**45°.81E**±0°.04, **h10**km, **n27**, σ1**°72/30, mb3.8/8, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.45	167	ePg	Pg	10 40 34.0	-1.3
IBDR				eSg	Sg	10 40 40.0	-1.3
KGS1	Ghasr-e-Shirin	0.97	349	Pg	Pg	10 40 43.8	-1.5
IGHG	Ghaleghazi	1.00	39	Pg	Pn	10 40 47.1	+0.3
BHD	Baghdad	1.23	257	ePn	Pg	10 40 52.0	+1.9
BHD				eSn	Sn	10 41 10.0	+3.7
BHD				AML	AML	10 41 11.4	
	comp=E,6μm,0.4s						
IDHR	Dehrash	1.24	23	Pg	Pb	10 40 50.4	+0.1
KCHF	Cheshme Sefid,	1.25	54	Pg	Pg	10 40 51.7	+1.1
RAFI	Al-Rafai	1.84	172	ePn	Pn	10 40 59.0	+0.9
RAFI				eSn	Sn	10 41 23.0	+1.5
IDOB	Doab	1.99	83	Pn	Pb	10 41 03.8	+0.8
SNQR	Sonqor, Kerman	1.99	49	Pn	Pb	10 41 03.1	+0.1
IKRK	Kirkuk	2.21	327	ePn	Pb	10 41 06.0	-0.6
IKRK				eSn	Sb	10 41 35.0	+1.0
IKRK				AML	AML	10 41 42.0	
	comp=E,522nm,0.7s						
IKRK				AML	AML	10 41 45.6	
	comp=N,450nm,0.5s						
BDRS	Dareh Seyedi	2.59	80	Pn	Pb	10 41 11.6	-1.7
SDS1	Sardasht. Az.	2.61	354	Pn	Pn	10 41 09.9	+1.0
HAGD	Aghdareh	3.04	64	Pn	Pn	10 41 17.1	+2.2
HGHA	Hamedan- Ghaye	3.17	52	Pn	Pn	10 41 19.2	+2.5
QABG	Abgarm-Qazvin	3.78	54	Pn	Pn	10 41 27.4	+2.3
IHRS	Heris	4.86	12	Pn	Pn	10 41 42.5	+2.5
ISFB	Sefidab	5.41	80	Pn	Pn	10 41 50.3	+3.0
WSAR	Wadi Sarin	15.24	129	Pn	Pn	10 44 02.9	+1.0
	baz=307,slow=20,SNR=1.5						
AKASG	Malin Array Be	21.01	330	P	P	10 45 07.9	-2.2
	comp=N,1.4nm,0.3s,baz=141,slow=9.8,SNR=12						
	comp=N,1.4nm,0.3s						
KURBB	Kurchatov Arra	29.36	45	P	P	10 46 29.6	+0.1
	comp=N,0.3nm,0.7s,baz=246,slow=9.2,SNR=2.0						
	comp=N,0.3nm,0.7s						
MKAR	Makanchi Array	30.57	53	P	P	10 46 41.0	+0.7
	comp=N,0.8nm,0.6s,baz=254,slow=10,SNR=5.4						
	comp=N,0.8nm,0.6s						
HFS	Hagfors	33.88	331	P	P	10 47 07.6	-1.5
	comp=N,2.5nm,0.4s,baz=120,slow=8.8,SNR=23						
	comp=N,2.5nm,0.4s						
ZALV	Zalesovo Beam	34.18	41	P	P	10 47 11.4	-0.4
	comp=N,0.4nm,0.3s,baz=266,slow=9.8,SNR=2.0						
	comp=N,0.4nm,0.3s						
NOA	NORSAR Array B	35.40	332	P	P	10 47 20.2	-2.1
	comp=N,0.2nm,0.5s,baz=128,slow=10,SNR=2.2						
	comp=N,0.2nm,0.5s						
EKA	Eskdalemuir Ar	40.12	318	P	P	10 48 00.9	-1.3
	comp=N,0.4nm,0.4s,baz=102,slow=7.8,SNR=1.8						
	comp=N,0.4nm,0.4s						
MDT	Midelt	41.86	283	LR	LR	11 08 50.9	
	comp=N,104nm,18.1s,baz=141,slow=41						
SPITS	Spitsbergen Ar	46.51	352	P	P	10 48 52.7	-0.8
	comp=N,6.6nm,0.9s,baz=138,slow=6.7,SNR=4.7						
	comp=N,6.6nm,0.9s						

*ISN **01** 10:43:54.3±0.9, 33°.71N×45°.71E, h8km±5km, ML2.7*
*TEH **01** 10:43:54.7, 33°.72N×45°.76E, h9km*

ISC 01 10:43:54.8±1.2, **33°.71N**±0°.03×**45°.75E**±0°.05, **h7**km±14km, **n8**, σ1**°07/13, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.42	18	Pg	Pg	10 44 02.9	0.0
GLG1				Sg	Sg	10 44 09.4	+0.9
IBDR	Badra	0.62	166	ePg	Pg	10 44 07.0	+0.3
IBDR				eSg	Sg	10 44 15.0	+0.2
IBDR				AML	AML	10 44 16.9	
	comp=E,328nm,0.3s						
IBDR				AML	AML	10 44 18.1	
	comp=N,374nm,0.5s						
IGHG	Ghaleghazi	0.92	48	Pg	Pb	10 44 12.7	-0.4
IDHR	Dehrash	1.11	28	Pg	Pb	10 44 16.3	-0.3
KCHF	Cheshme Sefid,	1.21	62	Pg	Pb	10 44 17.5	-0.6
BHD	Baghdad	1.23	249	ePn	Pg	10 44 19.0	+0.6
BHD				eSn	Sn	10 44 37.0	+1.7
RAFI	Al-Rafai	2.01	171	ePn	Pb	10 44 30.0	-1.6
RAFI				eSn	Sb	10 44 57.0	+0.2
IKRK	Kirkuk	2.05	326	ePn	Pb	10 44 31.0	-1.3
IKRK				eSn	Sb	10 44 57.0	-1.0

*NAO **01** 10:53:15.7, 31°.53N×47°.46E, h33km, mb3.8*
*IDC **01** 10:53:32.9±0.6, 33°.61N×45°.74E, h0km, mb4.2/24, mbtmp4.2/32, ML2.5/4, MS3.2/5, Error ellipse: s-maj=12.4km s-min=10.2km az=167.0*
*ISN **01** 10:53:34.2±1.1, 33°.67N×45°.81E, h11km±5km, ML4.3*
*THR **01** 10:53:35.0±0.0, 33°.66N×45°.72E, h10km±8km, mb4.2*
*NEIC **01** 10:53:35.2±1.8, 33°.52N±0°.07×45°.69E±0°.02, h10km±1km, mb4.4/34, Error ellipse: s-maj=11.1km s-min=3.8km az=176.0*
*TEH **01** 10:53:36.3, 33°.70N×45°.80E, h17km±36km*

ISC 01 10:53:35.2±0.3, **33°.62N**±0°.03×**45°.75E**±0°.03, **h13**km, **n375**, σ1**°18/378, mb4.4/43, MS3.1/3, 13C-4D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.51	15	Pg	Pg	10 53 44.6	-0.7
IBDR	Badra	0.53	163	ePg

comp=Z,3.4nm,0.3s,baz=91,slow=23,SNR=5.6
MMAI Mount Meron Ar 8.68 269 Pn Pn 10 55 40.3 -0.2
baz=76,slow=15
MMAI Sn Sn 10 57 18.1 -0.2
comp=Z,3.1nm,0.3s,baz=76,slow=15,SNR=3.9
MMAI Lg Lg 10 58 08.0
comp=Z,6.4nm,0.3s,baz=88,slow=39,SNR=3.5
MMAI LR LR 10 59 51.7
comp=Z,117nm,20.0s,baz=120,slow=44
TABS Tabas 9.48 87 *e*PnA 10 55 54.4
TABS IAML 10 59 37.4
comp=Z,0.0nm,1.0s
EIL Elat 10.01 250 Pn Pn 10 55 58.1 -0.6
comp=Z,2.1nm,0.3s,baz=32,slow=14,SNR=1.3
EIL Lg Lg 10 58 50.0
comp=Z,1.1nm,0.3s,baz=60,slow=8.6,SNR=4.8
EIL LR LR 11 00 22.1
comp=Z,136nm,21.4s,baz=66,slow=41
RAYN Ar Rayn 10.06 181 Pn Pn 10 55 58.5 -1.0
RAYN Ar Rayn 10.06 181 Pn Pn 10 55 58.3 -1.1
KBZ Khabaz 10.34 348 Pn Pn 10 56 06.6 +3.5
baz=152,slow=15,SNR=6.1
comp=Z,5.7nm,1.0s
KVAR Kislovodsk Arr 10.59 348 Pn Pn 10 56 09.5 +2.7
comp=Z,5.1nm,0.8s,baz=134,slow=14,SNR=2.0
KIV Kislovodsk 10.60 348 P Pn 10 56 07.4 +0.6
comp=Z,11nm,1.1s
BRTR Keskin Array B 11.47 306 Pn Pn 10 56 22.7 +3.8
BRTR Keskin Array B 11.47 306 Pn Pn 10 56 20.3 +1.4
baz=123,slow=14,SNR=7.7
BRTR LR LR 11 01 46.6
comp=Z,262nm,19.5s,baz=108,slow=43
comp=Z,2.6nm,1.1s
BR105 Keskin Array S 11.48 305 P Pn 10 56 21.3 +2.3
comp=Z,4.1nm,1.2s
SHME Shamm 11.75 127 Pn Pn 10 56 18.8 -3.8
BANOM Banah 11.94 127 Pn Pn 10 56 23.0 -2.2
ILGA Ilgaz 12.11 311 Pn Pn 10 56 31.0 +3.4
MSFE Esma-Masafi 12.24 130 Pn Pn 10 56 28.0 -1.2
MDH Madha 12.37 129 Pn Pn 10 56 29.7 -1.3
UOSS Minazif 12.56 131 Pn Pn 10 56 34.2 +0.5
UOSS Minazif 12.56 131 Pn Pn 10 56 32.1 -1.5
ASHO Ashiyiah 12.66 132 Pn Pn 10 56 32.1 -2.9
ASHO Sn Sn 10 58 46.4 -9.5
WSAR Wadi Sarin 15.32 129 Pn Pn 10 57 08.5 -2.8
baz=343,slow=19,SNR=12
TIRR Tirgusor 17.24 314 P 10 57 37.0 -0.1
TIRR IAmb IAmb 10 57 38.4
comp=Z,18nm,1.0s
TIRR Tirgusor 17.24 314 P P 10 57 36.4 -0.7
comp=Z,19nm,1.0s
IDI Anoyia 17.29 281 P Pn 10 57 34.6 -1.7
comp=Z,0.5nm,0.3s,baz=104,slow=12,SNR=1.5
comp=Z,13nm,1.0s
PURM Purcari 17.68 322 P P 10 57 41.5 -0.4
RDO Rodhopi 17.71 301 P 10 57 43.5 +1.2
ISR Istrita 18.72 313 P Pn 10 57 54.3 +0.4
comp=Z,8μmcomp=Z,56nm,0.9s
ABKAR Abkulak array 18.85 30 P Pn 10 57 55.4 0.0
ABKAR Abkulak array 18.85 30 P Pn 10 57 55.5 +0.1
ABKAR IAmb IAmb 10 57 57.2
comp=Z,4.6nm,0.8s
VRI Vrincioaia 19.01 316 ⇑P **Pn 10 57 57.7 +0.3**
PLOR5 Plostina Array 19.04 316 P Pn 10 57 57.8 +0.1
comp=Z,7.5nm,0.7s
PLOR Plostina 19.05 316 ⇓P **Pn 10 57 58.3 +0.4**
AKTO Aktyubinsk 19.07 25 P P 10 57 56.6 -0.7
comp=Z,3.7nm,0.6s,baz=198,slow=9.4,SNR=9.9
MLR Muntele Rosu 19.28 314 P P 10 57 59.9 +0.2
MLR Muntele Rosu 19.28 314 P P 10 57 59.4 -0.3
comp=Z,2.6nm,0.9s,baz=125,slow=12,SNR=4.2
MLR Muntele Rosu 19.28 314 ⇑P **Pn 10 58 01.8 +1.1**
MLR Muntele Rosu 19.28 314 P Pn 10 58 00.4 -0.3
comp=Z,7.7nm,1.8s
COVR Voineasa-Covas 19.31 315 ⇑P **Pn 10 58 01.0 +0.1**
KBL Kabul 19.31 81 P Pn 10 58 01.3 0.0
ONER Baraj Valea Uz 19.46 316 ⇑P **P 10 58 01.7 +0.1**
SORM Soroca 19.51 323 ⇑P **P 10 58 01.0 -1.1**
LIT Litokhoron 19.68 296 IAmb IAmb 10 58 11.2
comp=Z,19nm,1.2s
VOIR 19.79 313 ⇑P **Pn 10 58 06.5 -0.4**
VOIR 19.79 313 P Pn 10 58 06.4 -0.4
comp=Z,59nm,1.1s
DOPR Dopca 19.86 314 ⇓P **P 10 58 05.5 -0.4**
ARR Arges 20.02 312 ⇓P Pn 10 58 09.0 -0.4
GAR Garm 20.49 68 IAmb IAmb 10 58 21.1
comp=Z,22nm,1.5s
KMPD K-Podol'skiy 20.75 322 P P 10 58 14.3 -1.3
AK07 Malin Array Si 20.83 329 P P 10 58 15.2 -1.1
AK09 Malin Array Si 20.84 330 P P 10 58 15.4 -1.1
AK10 Malin Array Si 20.84 329 P P 10 58 15.4 -1.1
BURAR Bucovina Array 20.85 318 P P 10 58 17.0 +0.3
BURAR Bucovina Array 20.85 318 ⇑P **P 10 58 13.0 -3.8**
AK06 Malin Array Si 20.86 329 P P 10 58 15.5 -1.1
BUR08 Bucovina Ar. S 20.88 318 P P 10 58 17.6 +0.5
AKASG Malin Array Be 20.93 330 P P 10 58 15.7 -1.8
AKASG Malin Array Be 20.93 330 P P 10 58 16.6 -0.8
comp=Z,5.7nm,0.3s,baz=142,slow=9.7,SNR=79
comp=Z,5.7nm,0.3s
AKBB Malin Array Si 20.93 330 P P 10 58 16.4 -1.0
KIEV Kiev 20.93 330 P P 10 58 16.0 -1.5
KIEV Kiev 20.93 330 ⇑P **P 10 58 16.6 -0.9**
KIEV Kiev 20.93 330 P P 10 58 16.4 -1.1
comp=Z,135nm,1.1s
KIEV pP Pn 10 58 20.1 +0.1
comp=Z,135nm,1.1s
LUBAR Lubar, Ukraine 21.02 326 P P 10 58 17.9 -0.5
ARCR ARCALIA 21.05 316 ⇓P **P 10 58 14.9 -3.9**
GZR Gura Zlata 21.19 310 ⇑P **P 10 58 19.1 -1.3**
HERR Herculane 21.21 309 ⇑P **P 10 58 21.1 +0.6**
KSV Kosov 21.34 320 P P 10 58 20.8 -1.1
MI30 MI30,Zelenitsa 21.41 328 P P 10 58 21.1 -1.5
comp=Z,57nm,1.0s
MI30 pP **pP 10 58 24.4 -2.0**
comp=Z,57nm,1.0s
KKAR Karatay Array 21.54 57 P P 10 58 25.1 +1.0
MARR Marisel-Cluj 21.57 314 ⇑P **P 10 58 22.1 -2.4**
KEK Kerkira 21.65 294 P P 10 58 24.7 -0.6
KEK IAmb IAmb 10 59 06.9
comp=Z,23nm,1.1s
MI28 MI28,Pidlybu 21.77 328 P P 10 58 25.2 -1.3
DRGR 21.87 314 ⇑P **P 10 58 23.2 -4.5**
STNU Starunia 21.88 320 P P 10 58 28.5 +0.8
ATD Arta Tunnel 22.14 188 LR LR 11 06 37.8
comp=Z,5.3nm,18.3s,baz=22,slow=36
SIRR Siria 22.28 312 ⇑P **P 10 58 28.3 -3.7**
MEZ Mezhgor'ye 22.30 318 P P 10 58 32.6 +0.3
BRIU Brid 22.48 318 P P 10 58 34.7 +0.6
BERU Beregovo 22.64 317 P P 10 58 36.4 +0.6
RNPP5 Staryi Chortor 22.79 327 P P 10 58 36.6 -0.7
RNPP8 Varash 22.87 327 P P 10 58 37.5 -0.7
RNPP9 Sopachiv 22.91 327 P P 10 58 37.8 -0.8
KOLS Kolonicke sedl 23.22 318 *e*P **P 10 58 43.4 +1.5**
KECS Kecovo 24.01 316 *e*P **P 10 58 51.4 +1.8**
MORH Mrgy, Hungar 24.17 309 P P 10 58 51.0 -0.1
comp=Z,5.0nm,1.5s
MNK Minsk 24.38 334 *i* P **P 10 58 50.2 -2.6**
comp=E,31nm,0.9s
MNK *i* P **P 10 58 50.2 -2.6**
comp=N,30nm,0.8s
MNK *i* P **P 10 58 50.2 -2.6**
comp=Z,33nm,0.9s,baz=142
MNK *i* PP **PnPn 10 59 20.4 -2.7**
MNK *i* PPP PPP 10 59 28.4
MNK *i* S **S 11 03 10.7 -1.2**
MNK *i* SS **SnSn 11 03 55.3 0.0**
MNK *i* SSS SSS 11 04 08.8
MNK *i* LQ LQ 11 06 26.1
MNK *i* LR LR 11 08 17.4
MNK *i* LRM MLR 11 09 14.0
comp=E,967nm,19.2s
MNK *i* LRM MLR 11 09 15.0
comp=N,831nm,20.1s
MNK *i* LRM MLR 11 09 20.8
comp=Z,93nm,16.6s
ARTI Arti 24.38 17 P P 10 58 53.1 +0.2
ARTI IAmb IAmb 10 59 12.8
comp=Z,14nm,1.2s
CEL Celeste 24.56 289 IAmb IAmb 10 58 58.6
comp=Z,13nm,1.0s
CEL Celeste 24.56 289 P P 10 58 55.1 +0.3
comp=Z,15nm,1.1s
CUC Castrocucco 24.73 294 IAmb IAmb 10 58 58.1
comp=Z,9.7nm,0.9s
LANS Liptovska Anna 24.92 316 *e*P **P 10 58 59.7 +1.8**

NACGM Naroch 25.09 334 *e*P **P 10 58 59.9 +0.5**
comp=Z,630nm,5.8s,baz=140
MPLH Magyarpolny 25.23 311 P **P 10 59 01.1 +0.4**
comp=Z,26nm,0.7s
OJC Ojcow 25.27 319 P P 10 59 01.6 +0.6
comp=Z,25nm,2.8s
JAVC Velka Javorina 25.84 315 *e*P **P 10 59 07.5 +1.2**
MODS Modra-Piesok 25.87 313 *e*P **P 10 59 07.9 +1.4**
BVAR Borovoye Array 26.19 35 P **P 10 59 09.6 +0.3**
comp=Z,1.2nm,0.5s,baz=224,slow=8.3,SNR=6.7
comp=Z,1.2nm,0.5s
MORC Moravsky Berou 26.32 316 IAmb IAmb 10 59 14.0
comp=Z,12nm,1.2s
MORC Moravsky Berou 26.32 316 *e*P **P 10 59 11.2 +0.6**
VRAC Vranov 26.67 315 *e*P **P 10 59 14.6 +0.8**
KRUC Moravsky 26.69 314 *e*P **P 10 59 14.7 +0.8**
NRCA Norcia 27.10 299 IAmb IAmb 10 59 28.5
comp=Z,8.1nm,1.0s
KSP Ksiaz 27.52 318 P P 10 59 21.9 +0.5
comp=Z,7.7nm,1.1s
GERES GERESS Array B 28.24 312 P P 10 59 27.4 -0.5
comp=Z,0.2nm,0.4s,baz=134,slow=9.6,SNR=3.6
comp=Z,0.2nm,0.4s
CIMO Cimolais 28.29 307 P P 10 59 28.7 +0.4
CIMO IAmb IAmb 10 59 29.4
comp=Z,11nm,1.3s
KURBB Kurchatov Arra 29.35 45 P P 10 59 38.1 +0.6
comp=Z,2.0nm,0.8s,baz=252,slow=9.5,SNR=9.2
KURBB PcP **PcP 11 02 43.6 -0.1**
comp=Z,0.3nm,0.5s,baz=251,slow=2.1,SNR=3.4
comp=Z,2.0nm,0.8s
KURK Kurchatov 29.43 45 P P 10 59 39.4 +1.0
KURK IAmb IAmb 10 59 40.5
comp=Z,10nm,1.4s
MAKZ Makanchi 30.36 53 P P 10 59 47.7 +1.0
MAKZ IAmb IAmb 10 59 49.5
comp=Z,6.1nm,1.4s
MK31 Makanchi Array 30.57 54 P P 10 59 49.1 +0.6
MKAR Makanchi Array 30.57 54 P P 10 59 49.0 +0.5
MKAR Makanchi Array 30.57 54 P P 10 59 49.3 +0.8
comp=Z,1.7nm,0.5s,baz=248,slow=7.2,SNR=25
comp=Z,1.7nm,0.5s
FINES FINESS Array B 30.59 341 P P 10 59 48.1 -0.3
comp=Z,1.3nm,0.6s,baz=143,slow=11,SNR=6.5
comp=Z,1.3nm,0.6s
ECH Echery 32.23 309 IAmb IAmb 11 00 04.2
comp=Z,8.5nm,1.2s
HFS Hagfors 33.79 331 P P 11 00 16.4 -0.2
comp=Z,7.7nm,0.5s,baz=126,slow=9.3,SNR=56
comp=Z,7.7nm,0.5s
WMQ Urumqi 33.96 60 *e*P **P 11 00 22.0 +3.7**
ZAA0 Zalesovo Array 34.16 42 IAmb IAmb 11 00 21.4
comp=Z,2.3nm,0.8s
ZALV Zalesovo Beam 34.16 42 P P 11 00 18.9 -0.9
ZALV Zalesovo Beam 34.16 42 P P 11 00 19.4 -0.5
comp=Z,1.1nm,0.3s,baz=253,slow=9.4,SNR=9.9
ZALV LR LR 11 17 02.0
comp=Z,41nm,21.5s,baz=260,slow=41
comp=Z,1.1nm,0.3s
NB2 NORSAR Subarra 35.32 331 P P 11 00 28.7 -1.2
comp=Z,0.8nm,0.5s,baz=125,slow=8.6
NOA NORSAR Array B 35.32 331 P P 11 00 28.6 -1.2
comp=Z,1.2nm,0.8s,baz=125,slow=8.6,SNR=5.0
comp=Z,1.2nm,0.8s
ARCES ARCESS Array B 37.70 349 P P 11 00 49.5 -0.5
comp=Z,4.8nm,0.8s,baz=163,slow=8.6,SNR=12
comp=Z,4.8nm,0.8s
ESDC Sonseca Array 39.93 293 P P 11 01 09.2 +0.1
ESDC Sonseca Array 39.93 293 P P 11 01 09.3 +0.2
comp=Z,1.4nm,0.8s,baz=75,slow=7.6,SNR=10
comp=Z,1.4nm,0.8s
EKA Eskdalemuir Ar 40.04 318 P P 11 01 09.1 -0.6
comp=Z,2.5nm,0.5s,baz=106,slow=8.8,SNR=9.3
comp=Z,2.5nm,0.5s
NRIK Noril'sk 42.61 20 P P 11 01 30.7 0.0
NRIK IAmb IAmb 11 01 32.8
comp=Z,7.3nm,0.9s
NRIK Noril'sk 42.61 20 P P 11 01 30.4 -0.3
comp=Z,4.1nm,0.6s,baz=232,slow=5.1,SNR=7.8
comp=Z,4.1nm,0.6s
GTA Gaotai 43.30 66 *e*P **P 11 01 37.4 +0.6**
GTA sP sP 11 01 43.4 +0.8
GTA pmax pmax
comp=Z,3.0nm,1.3s
TORD Torodi Ar. Bea 44.87 254 P P 11 01 49.6 +0.1
TORD IAmb IAmb 11 01 51.0
comp=Z,6.3nm,1.4s
TORD Torodi Ar. Bea 44.87 254 P P 11 01 48.6 -0.9
comp=Z,1.4nm,0.3s,baz=52,slow=9.8,SNR=1.4
comp=Z,1.4nm,0.3s
SPITS Spitsbergen Ar 46.44 352 P P 11 02 01.2 0.0
comp=Z,13nm,0.8s,baz=135,slow=9.5,SNR=10
comp=Z,13nm,0.8s
SONM Songino Array 46.94 53 P P 11 02 05.4 -0.2
comp=Z,0.4nm,0.5s,baz=270,slow=7.2,SNR=3.9
comp=Z,0.4nm,0.5s
PZH PanZhiHua 48.49 83 P P 11 02 19.6 +1.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,200nm,6.3s
CMAR Chiang Mai Arr 49.61 94 P P 11 02 25.6 -1.0
comp=Z,1.5nm,0.6s,baz=293,slow=8.1,SNR=9.6
comp=Z,1.5nm,0.6s
HHC Hu-ho-hao-te 51.80 62 *e*P **P 11 02 42.8 -0.1**
HHC pmax pmax
comp=Z,9.0nm,0.5s
DBIC Dimbokro 53.87 252 P P 11 02 58.1 -0.2
comp=Z,2.6nm,0.8s,baz=36,slow=6.3,SNR=3.6
comp=Z,2.6nm,0.8s
TIXI Tiksi 56.33 22 P P 11 03 15.7 +0.3
TIXI IAmb IAmb 11 03 16.9
comp=Z,4.8nm,1.1s
EUNU Eureka 63.56 352 P 11 04 05.3 +0.3
BOSA Boshof 64.87 200 P P 11 04 14.8 +0.7
comp=Z,1.8nm,0.6s,baz=20,slow=7.3,SNR=6.1
comp=Z,1.8nm,0.6s
A21K Barrow 74.16 7 P P 11 05 11.0 +0.1
baz=341
A36M Sachs Harbour 74.50 357 P P 11 05 13.2 +0.4
baz=7.8
A22K Sinclair Lake 74.63 7 P P 11 05 14.4 +0.8
baz=342
A19K Wainwright 74.67 9 P P 11 05 14.7 +0.8
baz=337
SCHQ Schefferville 74.69 326 P P 11 05 14.1 -0.2
comp=Z,3.2nm,0.8s,baz=45,slow=6.5,SNR=5.6
comp=Z,3.2nm,0.8s
B20K Meade River 75.34 8 P P 11 05 18.9 +1.1
baz=340
B18K Kokolik River 75.35 10 P P 11 05 18.9 +1.1
baz=336
B22K Teshekpuk Lake 75.42 7 P P 11 05 19.1 +0.9
baz=344
C16K Lisburne Hills 75.80 11 P P 11 05 20.6 +0.2
baz=334
C17K DeLong Mountai 75.96 11 P P 11 05 21.8 +0.5
baz=335
B21K Ikpikpuk River 75.99 7 P P 11 05 22.6 +1.1
baz=343
C18K Utukok River 76.09 10 P P 11 05 22.7 +0.5
baz=337
C23K Itkillik River 76.16 6 P P 11 05 23.3 +0.9
baz=346
RDOG Red Dog Mine 76.39 11 P P 11 05 24.7 +0.9
baz=336
C21K Kniflelade Rid 76.42 7 P P 11 05 25.1 +1.2
baz=342
C24K Franklin Bluff 76.42 5 P P 11 05 25.2 +1.2
baz=348
C26K Camden Bay 76.47 4 P P 11 05 25.2 +1.0
baz=351
D20K Etivluk River 76.63 8 P P 11 05 25.9 +0.7
baz=341
D19K Kuna River 76.65 9 P P 11 05 26.0 +0.6
baz=340
D17K Noatak River 76.68 11 P P 11 05 25.8 +0.4
baz=336,SNR=12
C27K Jago River 76.83 3 P P 11 05 27.3 +1.1
baz=352
D22K Ayikyak River 76.90 7 P P 11 05 27.9 +1.1
baz=344
D24K Happy Valley 76.97 5 P P 11 05 27.5 +0.4
baz=348
D25K Kavik River 76.98 4 P P 11 05 28.1 +0.9
baz=350
D23K Nanushuk River 77.00 6 P P 11 05 28.0 +0.7
baz=346

C36M Paulatuk 77.07 356 P P 11 05 28.6 +1.0
baz=8.7,SNR=5.5
E20K Nigu River 77.12 8 P P 11 05 28.8 +0.8
baz=341
E21K Killik River 77.19 7 P P 11 05 29.0 +0.6
baz=343
D28M Stokes Point 77.31 2 P P 11 05 29.8 +0.9
baz=356
E18K Tukpahlearik C 77.32 10 P P 11 05 29.9 +0.8
baz=338
D27M Malcolm River 77.33 2 P P 11 05 29.7 +0.5
baz=354
TOLK Toolik Lake Re 77.41 6 P P 11 05 30.3 +0.6
baz=347
E17K Hotham Inlet 77.45 11 P P 11 05 29.9 +0.1
baz=337
E22K Anaktuvuk Pass 77.71 7 P P 11 05 31.6 +0.3
baz=345
E19K Redstone River 77.75 9 P P 11 05 31.8 +0.3
baz=340
E23K Chandalar 77.98 6 P P 11 05 33.4 +0.6
baz=347
E28M Babbage River 78.01 2 P P 11 05 33.2 +0.2
baz=356
E24K Your Creek 78.06 5 P P 11 05 33.7 +0.5
baz=348
E25K Arctic Village 78.22 4 P P 11 05 35.1 +1.0
baz=350
F18K Selawik 78.22 10 P P 11 05 34.8 +0.8
baz=338,SNR=12
F15K North Star Dit 78.23 12 P P 11 05 35.0 +0.8
baz=334
F19K Shaleruckik Mo 78.27 9 P P 11 05 35.1 +0.8
baz=340
E29M Blow River 78.27 1 P P 11 05 35.0 +0.7
baz=357
F22K John River 78.28 7 P P 11 05 35.2 +0.8
baz=345
F20K Avaraart Lake 78.33 8 P P 11 05 35.1 +0.5
baz=342
E27K Coleen River 78.36 3 P P 11 05 35.4 +0.5
baz=354
INK Inuvik 78.39 360 P P 11 05 35.5 +0.5
baz=0.6
F21K Alatna River 78.42 8 P P 11 05 35.6 +0.4
baz=344
GAMB Gambell 78.50 16 P P 11 05 36.7 +1.0
baz=329
F24K Squaw Lake 78.65 5 P P 11 05 37.4 +0.8
baz=348
F26K Sheenjek River 78.72 4 P P 11 05 38.0 +1.1
baz=352
F25K Christian Rive 78.74 4 P P 11 05 37.9 +0.9
baz=350
COLD Coldfoot 78.74 6 P P 11 05 37.8 +0.8
baz=346,SNR=5.2
G16K Koyuk River 78.92 12 P P 11 05 38.6 +0.7
baz=336
G15K Niukluk 78.99 12 P P 11 05 38.9 +0.5
baz=335
G19K Purcell Mounta 79.01 9 P P 11 05 38.8 +0.3
baz=341
G18K Tagagawik 79.03 10 P P 11 05 39.3 +0.7
baz=339
F30M Barrier River 79.08 1 P P 11 05 39.3 +0.4
baz=359
G17K Kiwalik Mounta 79.09 11 P P 11 05 39.8 +0.9
baz=338
G21K Allakaket 79.10 8 P P 11 05 39.5 +0.5
baz=344
ANM Nome 79.13 13 P P 11 05 40.1 +1.0
baz=334
F31M Tsiigehtchic 79.26 360 P P 11 05 40.6 +0.9
baz=0.4,SNR=6.8
G23K Bananza Creek 79.26 6 P P 11 05 40.9 +1.0
baz=347
G26K Porcupine Rive 79.49 4 P P 11 05 41.9 +0.9
baz=352
G24K Hadweenzic Riv 79.49 5 P P 11 05 41.7 +0.6
baz=349
G25K Bearman Lake 79.53 5 P P 11 05 42.0 +0.8
baz=350
H16K Elim 79.63 12 P P 11 05 42.6 +0.8
baz=336
H19K Roundabout Mou 79.68 9 P P 11 05 43.1 +1.0
baz=341
G30M tAoh Zraii Nji 79.71 1 P P 11 05 43.1 +0.8
baz=358
G27K Doyon Strip 79.73 3 P P 11 05 43.5 +1.1
baz=354
H17K Granite Mounta 79.74 11 P P 11 05 43.5 +1.1
baz=338,SNR=5.3
G29M Pine Creek 79.75 2 P P 11 05 43.5 +1.0
baz=357
H18K Honhosa River 79.77 10 P P 11 05 43.2 +0.6
baz=340
G31M Satah River 79.78 0 P P 11 05 43.3 +0.7
baz=360
H20K Anotleneega Mo 79.92 9 P P 11 05 43.9 +0.5
baz=343,SNR=7.1
H22K Ishtalitna Cre 79.93 7 P P 11 05 44.4 +0.9
baz=346,SNR=5.4
H21K Melozitna Rive 80.00 8 P P 11 05 44.5 +0.6
baz=344,SNR=7.1
H25L Birch Creek 80.04 5 P P 11 05 45.1 +1.1
baz=350
H23K Yukon River 80.17 6 P P 11 05 46.1 +1.3
baz=347
H24K Noodor Dome 80.31 6 P P 11 05 46.5 +0.9
baz=348
EPYK Eagle Plains 80.31 1 P P 11 05 46.9 +1.3
baz=358,SNR=5.1
H27K Steamboat Moun 80.31 3 P P 11 05 46.3 +0.7
baz=354,SNR=5.0
GCSA Galena City Sc 80.37 10 P P 11 05 46.7 +0.9
baz=341
H29M Whitestone 80.43 2 P P 11 05 47.1 +0.9
baz=356,SNR=5.2
I17K Unalakleet 80.59 12 P P 11 05 48.1 +1.1
baz=338
I20K Naaghedeneel 80.64 9 P P 11 05 48.4 +1.1
baz=343
PRP Porcupine Dome 80.80 5 P P 11 05 49.1 +0.8
baz=350
I23K Minto, Yukon-K 80.85 6 P P 11 05 49.5 +1.1
baz=347
H31M Peel River 80.90 0 P P 11 05 49.4 +0.7
baz=360
I27K Kandik River 80.94 3 P P 11 05 49.7 +0.8
baz=354
POKR Poker Plat Res 81.05 6 P P 11 05 50.4 +0.8
baz=349
J14K Nanvaranak Lak 81.13 13 P P 11 05 50.4 +0.5
baz=336
I26K Coal Creek Min 81.16 4 P P 11 05 50.8 +0.7
baz=352
I28M Miner Creek 81.16 2 P P 11 05 50.8 +0.6
baz=355
J16K Anvik River 81.17 12 P P 11 05 51.0 +0.8
baz=338
J19K Poorman 81.25 9 P P 11 05 52.1 +1.5
baz=342
COLA College 81.26 6 P P 11 05 51.4 +0.9
baz=348
I29M Ogilvie Camp, 81.30 2 P P 11 05 51.6 +0.8
baz=357
J17K VABM Dome 81.31 11 P P 11 05 51.8 +0.9
baz=339
NEA2 Nenana 81.42 6 P P 11 05 52.6 +1.0
baz=348
ILAR Eielson Array 81.44 5 P P 11 05 51.1 -0.5
comp=Z,2.2nm,1.2s,baz=340,slow=4.7,SNR=9.2
comp=Z,2.2nm,1.2s
I30M Mount Dempster 81.47 1 P P 11 05 52.4 +0.5
baz=358,SNR=6.3
J18K Innoko River 81.61 10 P P 11 05 53.1 +0.6
baz=341
K13K Kusilvak Mount 81.66 14 P P 11 05 53.3 +0.6
baz=335
J25K Salcha River, 81.71 5 P P 11 05 53.5 +0.4
baz=351
BPAW Bear Paw Mtn. 81.72 7 P P 11 05 53.3 +0.2
baz=346,SNR=5.8
CHUM Lake Minchumin 81.78 8 P P 11 05 54.4 +1.1
baz=345
HDA Harding Lake 81.79 6 P P 11 05 53.9 +0.5
baz=349
K15K Wolf Creek Mou 81.92 12 P P 11 05 54.7 +0.6
baz=337

J26L	Joseph Creek baz=352	81.93	4	P	P	11 05 55.0 +0.7
K20K	Telida baz=343	82.07	9	P	P	11 05 55.7 +0.8
K17K	Iditarod baz=340	82.08	11	P	P	11 05 55.3 +0.3
J30M	Hart River baz=358,SNR=5.1	82.12	1	P	P	11 05 56.2 +0.9
J29N	Klondike Camp baz=357	82.21	2	P	P	11 05 56.2 +0.5
CAST	Castle Rocks baz=345	82.25	8	P	P	11 05 56.9 +1.0
MCK	McKinley baz=348	82.28	7	P	P	11 05 56.9 +0.9
TRF	Thorofare Moun baz=346	82.42	7	P	P	11 05 57.6 +0.6
SCRK	Sand Creek baz=352,SNR=8.5	82.43	4	P	P	11 05 57.5 +0.5
K24K	Donnelly Dome baz=350,SNR=5.7	82.48	5	P	P	11 05 57.9 +0.8
K27K	Chicken baz=353	82.49	3	P	P	11 05 58.1 +1.0
L15K	Ungalak Mounta baz=337	82.50	13	P	P	11 05 58.2 +1.0
DAWY	Dawson baz=356,SNR=5.2	82.56	2	P	P	11 05 58.6 +1.0
L14K	Kuka Creek baz=336	82.59	13	P	P	11 05 58.1 +0.5
RIDG	Independent Ri baz=351,SNR=5.1	82.61	5	P	P	11 05 58.5 +0.7
L17K	Donlin baz=340	82.62	11	P	P	11 05 58.7 +0.9
PPLA	Purkeypile baz=345	82.75	8	P	P	11 05 59.4 +0.7
L18K	Granite Mounta baz=341	82.79	10	P	P	11 05 59.4 +0.7
L16K	Owhat River baz=339	82.83	12	P	P	11 05 59.7 +0.8
K29M	Barlow Dome baz=357	82.83	1	P	P	11 05 60.0 +0.9
YKA	Yellowknife Ar comp=Z,1.2nm,1.0s,baz=12,slow=5.3,SNR=15 comp=Z,1.2nm,1.0s	82.92	351	P	P	11 05 58.9 -0.5
L20K	Farewell, AK baz=344	82.94	9	P	P	11 06 00.7 +1.2
L19K	White Mountain baz=343	83.09	10	P	P	11 06 00.8 +0.5
WRGLY	Wrigley baz=9.0	83.10	355	P	P	11 06 01.0 +0.7
PAX	Paxson baz=351	83.33	5	P	P	11 06 02.0 +0.4
L26K	Log Cabin Wild baz=352	83.42	4	P	P	11 06 02.8 +0.9
M19K	Big River Lodg baz=343	83.43	9	P	P	11 06 02.2 +0.2
CUT	Chulitna baz=347	83.44	7	P	P	11 06 02.4 +0.4
M17K	Holitna River baz=341	83.45	11	P	P	11 06 02.7 +0.5
L27K	Beaver Creek, baz=354	83.46	3	P	P	11 06 03.1 +0.8
L29M	L29M baz=357	83.56	2	P	P	11 06 03.7 +0.9
M15K	Kasigluk River baz=338	83.56	13	P	P	11 06 03.6 +0.9
M16K	Timber Creek baz=339	83.56	12	P	P	11 06 03.7 +1.0
M20K	Styx River baz=344	83.61	9	P	P	11 06 03.8 +0.8
M18K	Stony River baz=342	83.62	10	P	P	11 06 03.9 +0.9
SKT	Skwentna baz=346	83.72	8	P	P	11 06 04.6 +1.1
HARP	HAARP baz=351	83.92	5	P	P	11 06 05.7 +1.2
M26K	Nabesna, AK baz=353	84.06	4	P	P	11 06 05.8 +0.5
M22K	Willow baz=347	84.10	8	P	P	11 06 06.4 +1.0
N16K	Nishlik Lake baz=340	84.11	12	P	P	11 06 06.4 +0.8
M30M	Minto, Yukon baz=358	84.12	1	P	P	11 06 06.5 +0.9
M24K	Tolsona, Glenn baz=350	84.13	6	P	P	11 06 06.3 +0.7
M27K	Edge Creek, AK baz=354	84.16	4	P	P	11 06 06.2 +0.2
M29M	Somme Creek baz=356	84.22	2	P	P	11 06 06.6 +0.4
SML	Sawmill baz=348	84.23	7	P	P	11 06 06.9 +0.7
SCM	Sheep Creek Mo baz=349	84.30	6	P	P	11 06 07.2 +0.7
M23K	Glacier View baz=349	84.30	6	P	P	11 06 07.1 +0.6
SUA	Susitna One baz=346	84.31	8	P	P	11 06 07.3 +0.6
N17K	Nushagak Hills baz=341	84.32	11	P	P	11 06 07.7 +1.1
PMR	Palmer baz=348	84.36	7	P	P	11 06 07.6 +0.9
N18K	Kilae Creek baz=342	84.38	11	P	P	11 06 07.6 +0.7
N19K	Bonanza Creek baz=343	84.46	10	P	P	11 06 07.8 +0.4
FARO	Faro, Yukon baz=0.7	84.49	360	P	P	11 06 08.5 +1.1
M31M	Drury Creek, Y baz=360	84.52	0	P	P	11 06 08.5 +0.8
KNK	Knik Glacier baz=348	84.60	7	P	P	11 06 08.7 +0.6
N25K	Chitina, Valde baz=351	84.74	5	P	P	11 06 09.5 +0.6
KLU	Klutina baz=350	84.75	6	P	P	11 06 09.8 +0.9
RC01	Rabbit Creek A baz=347	84.79	7	P	P	11 06 10.0 +1.1
O14K	Tigyukauivet M baz=338	84.79	14	P	P	11 06 09.9 +1.0
YUK3	Moose Creek baz=355	84.81	3	P	P	11 06 09.9 +0.6
O17K	Koliganek Bris baz=341	85.05	11	P	P	11 06 11.3 +1.0
O16K	Kokwok River B baz=340	85.06	12	P	P	11 06 11.7 +1.4
PWL	Port Wells baz=348	85.16	7	P	P	11 06 11.7 +0.8
GLI	Glacier Island baz=349	85.26	6	P	P	11 06 12.3 +1.0
P08K	Saint George I baz=331	85.27	19	P	P	11 06 11.6 +0.2
O18K	Koktuh Hills baz=343	85.27	10	P	P	11 06 12.5 +1.0
YUK4	Talbot Arm baz=356	85.31	2	P	P	11 06 12.1 +0.3
YUK8	Steele Glacier baz=355	85.33	3	P	P	11 06 12.4 +0.4
EYAK	Cordova Ski Ar baz=350	85.70	6	P	P	11 06 15.1 +1.6
P17K	Kvichak River baz=342	85.71	11	P	P	11 06 14.8 +1.2
SEW	Seward baz=347	85.78	8	P	P	11 06 15.0 +1.1
O30N	Mendenhall baz=358	85.94	1	P	P	11 06 15.1 +0.3
HOM	Homer baz=346	85.96	9	P	P	11 06 15.3 +0.5
Q16K	King Salmon baz=341	86.17	12	P	P	11 06 16.8 +1.0
Q20K	Shuyak Island baz=345	86.88	9	P	P	11 06 20.2 +0.8
PNL	Peninsula baz=356	86.96	3	P	P	11 06 20.6 +0.8
P29M	Windy Craggy baz=357	87.05	2	P	P	11 06 21.1 +0.9
LIRD	Liard River Hi baz=6.8	87.07	356	P	P	11 06 21.1 +0.8
P32M	Atlin baz=0.4	87.14	360	P	P	11 06 21.4 +0.8
R33M	Jennings River baz=2.7	87.30	358	P	P	11 06 22.5 +1.0
TOAD	Toad River Com baz=7.5	87.57	355	P	P	11 06 24.0 +1.2
DLBC	Dease Lake baz=3.5	88.23	358	P	P	11 06 27.5 +1.5
R32K	Eaglecrest baz=360	88.46	0	P	P	11 06 28.4 +1.5
S34M	Telegraph Cree baz=2.6	88.78	358	P	P	11 06 29.8 +1.4
T35M	Bob Quinn baz=3.3	89.69	358	P	P	11 06 34.0 +1.2
FITZ	Fitzroy Crossi comp=Z,1.6nm,0.7s,baz=264,slow=5.3,SNR=2.4 comp=Z,1.6nm,0.7s	91.77	110	P	P	11 06 42.6 -0.3
WRA	Warramunga Arr comp=Z,0.3nm,0.6s,baz=317,slow=4.1,SNR=6.4 comp=Z,0.3nm,0.6s	99.64	107	P	Pdif	11 07 17.5 -1.4
ASAR	Alice Springs comp=Z,0.2nm,0.7s,baz=307,slow=4.3,SNR=5.4	101.26	111	P	Pdif	11 07 24.9 -1.1
QSPA	South Pole Qui comp=Z,0.7nm,0.6s,baz=274,slow=1.3,SNR=1.8	123.45	180	PKP	PKPdf	11 12 31.0 -0.3

ISN ***01*** *10:59:03.6±0.8, 33°.68N×45°.66E, h14km±19km, ML3.0*
TEH ***01*** *10:59:04.3, 33°.70N×45°.66E, h8km*
ISC 01 10:59:04.6±1.0, 33°.68N±0°.04×45°.70E±0°.05, h13km, n7, σ0°69/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.47	22	Pg	Pg	10 59 13.4	-0.4
GLG1				Sg	Sg	10 59 20.6	+0.5
IBDR	Badra	0.60	161	*e*Pg	Pg	10 59 16.0	-0.3
IBDR				*e*Sg	Sg	10 59 24.0	-0.2
IGHG	Ghaleghazi	0.97	48	Pg	Pb	10 59 23.3	0.0
IDHR	Dehrash	1.16	29	Pg	Pg	10 59 26.9	-0.1
BHD	Baghdad	1.18	250	*e*Pn	Pg	10 59 27.0	-0.3
BHD				*e*Sn	Sn	10 59 44.0	+1.3
KCHF	Cheshme Sefid,	1.26	62	Pg	Pg	10 59 28.9	0.0
IKRK	Kirkuk	2.05	327	*e*Pn	Pn	10 59 39.0	+0.2
IKRK				*e*Sn	Sb	11 00 06.0	-1.1
IKRK				AML	AML	11 00 15.6	
	comp=N,213nm,0.5s						
IKRK				AML	AML	11 00 15.9	
	comp=E,114nm,0.4s						

NEIC ***01*** *11:00:40.8±1.5, 19°.3S±0°.1×176°.20W±0°.09, h290km±10km, mb4.5/27, Error ellipse: s-maj=16.8km s-min=12.5km az=182.0*
IDC ***01*** *11:00:47.0±1.6, 19°.32S×176°.67W, h332km±13km, mb3.6/15, mbtmp4.3/16, Error ellipse: s-maj=20.7km s-min=10.2km az=158.0*
ISC 01 11:00:42.2±0.4, 19°.51S±0°.06×176°.32W±0°.06, h300km, n345, σ1s42/350, mb4.3/27, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	Fugatoga	5.46	341	Pn	Pn	11 02 00.8	-4.3
MSVF	Nonsavu	5.63	287	Pn	Pn	11 02 07.8	+0.5
MSVF	Nonsavu	5.63	287	P	Pn	11 02 07.5	+0.3
	67nm,0.9s,baz=118,slow=14,SNR=33						
MSVF				S	S	11 03 15.6	-0.1
	9.2nm,0.8s,baz=38,slow=18,SNR=0.7						
NIUE	Niue	6.05	87	Pn	Pn	11 02 08.8	-3.3
NIUE	Niue	6.05	87	P	Pn	11 02 11.5	-0.6
NIUE				S	S	11 03 20.6	-4.1
AFI	Afiamalu	7.07	39	Pn	Pn	11 02 18.8	-5.8
GLKZ	Green Lake	9.82	188	P	Pn	11 02 59.1	+1.0
GLKZ				S	S	11 04 42.5	-6.4
PINNC	Pines Island,	15.47	256	Pn	Pn	11 04 06.8	+0.6
DZM	Mont Dzumac	16.32	258		P	11 04 14.9	+1.0
DZM				IAmb	IAmb	11 04 29.5	
	comp=Z,23nm,1.2s						
DZM	Mont Dzumac	16.32	258	P	Pn	11 04 16.6	+0.3
	comp=Z,7.7nm,0.5s,baz=82,slow=20,SNR=16						
OUZ	Omahuta	18.01	208	P	P	11 04 34.1	+2.2
HAZ	Te Kaha	18.89	195	P	P	11 04 43.1	+1.8
HAZ				S	S	11 07 58.3	-1.4
PKGZ	Pakihiroa	18.93	194	P	P	11 04 44.5	+2.8
PKGZ				S	S	11 07 59.5	-1.0
PUZ	Puketiti	19.09	193	P	P	11 04 44.7	+1.2
PUZ				S	S	11 08 01.9	-1.7
TWGZ	Tauwhareparae	19.25	194	P	P	11 04 47.8	+2.6
TWGZ				S	S	11 08 08.9	+2.2
CNGZ	Carnagh Statio	19.50	193	P	P	11 04 49.1	+1.4
MWZ	Matawai	19.50	195	P	P	11 04 49.0	+1.1
TOZ	Tahuroa Road	19.51	200	P	P	11 04 49.3	+1.5
TOZ				IAmb	IAmb	11 04 52.4	
	comp=Z,18nm,0.8s						
TOZ	Tahuroa Road	19.51	200	P	P	11 04 51.7	+3.8
URZ	Urewera	19.54	196	P	P	11 04 47.3	-0.8
	comp=Z,28nm,0.5s,baz=307,slow=2.8,SNR=10						
URZ				S	S	11 08 13.3	+1.4
	comp=Z,9.3nm,0.4s,baz=338,slow=21,SNR=12						
URZ	Urewera	19.54	196	P	P	11 04 48.4	+0.3
URZ				S	S	11 08 13.3	+1.4
RRRZ	Republican Roa	19.77	197	P	P	11 04 54.6	+3.9
MUGZ	Murupara	19.83	196	P	P	11 04 55.4	+4.1
HRRZ	Handcock Road	19.88	197	P	P	11 04 53.9	+2.1
SNGZ	Shannon Statio	19.98	195	P	P	11 04 54.6	+1.8
PRGZ	Paritu Road	19.99	193	P	P	11 04 53.6	+0.7
TLZ	Tolley Road	20.04	199	P	P	11 04 56.9	+3.4
KNZ	Kokohu	20.13	194	P	P	11 04 55.0	+0.7
RAHZ	Arahi	20.16	195	P	P	11 04 56.2	+1.4
MTHZ	Maungataniwha	20.16	196	P	P	11 04 57.5	+2.8
WHHZ	Waihua	20.28	195	P	P	11 04 58.2	+2.3
NMHZ	Naumai	20.41	196	P	P	11 05 00.3	+3.0
HIZ	Hauiti	20.43	200	P	P	11 05 01.0	+3.6
BKZ	Black Stump Fm	20.55	196	P	P	11 04 57.4	-1.3
NGZ	Ngauruhoe	20.80	198	P	P	11 05 05.7	+4.4
KWHZ	Kaweka Forest	20.81	196	P	P	11 05 01.8	+0.6
MOVZ	Moawhango	20.98	197	P	P	11 05 04.2	+1.3
VRZ	Vera Road	21.01	200	P	P	11 05 06.7	+3.6
KAHZ	Kahuranaki	21.05	195	P	P	11 05 05.3	+1.8
PXZ	Pawanui	21.28	195	P	P	11 05 07.4	+1.9
TSZ	Takapari Road	21.53	196	P	P	11 05 09.0	+1.1
PRHZ	Porangahau	21.55	195	P	P	11 05 11.5	+3.5
BFZ	Birch Farm	22.04	195	P	P	11 05 12.0	-0.5
INZ	Inchbonnie	25.35	201	P	P	11 05 43.3	+1.0
OXZ	Oxford	25.68	200	P	P	11 05 47.0	+1.6
EIDS	Eidsvold	30.64	253	P	P	11 06 30.1	+0.6
EIDS				IAmb	IAmb	11 07 05.9	
	comp=Z,21nm,1.4s						
ARMA	Armidale	30.92	243	P	P	11 06 30.5	-1.5
ARMA				IAmb	IAmb	11 07 14.0	
	comp=Z,23nm,1.4s						
CAN	Canberra	34.37	236	P	P	11 07 01.1	-0.5
CAN				IAmb	IAmb	11 07 16.0	
	comp=Z,18nm,1.3s						
PMG	Port Moresby	36.69	281	P	P	11 07 20.8	-0.6
	comp=Z,12nm,0.9s,baz=109,slow=5.2,SNR=4.4 comp=Z,12nm,0.9s						
TOO	Toolangi	37.76	233	P	P	11 07 30.2	+0.1
COEN	Coen	39.12	272	P	P	11 07 40.5	-1.1
COEN				IAmb	IAmb	11 08 18.0	
	comp=Z,25nm,1.4s						
MANU	Manus Island	39.53	292	P	P	11 07 44.1	-0.9
MANU				IAmb	IAmb	11 07 45.9	
	comp=Z,34nm,0.7s						
STKA	Stephens Creek	39.64	243	P	P	11 07 46.0	+0.3
STKA				IAmb	IAmb	11 07 47.5	
	comp=Z,12nm,0.8s						
STKA	Stephens Creek	39.64	243	P	P	11 07 46.5	+0.7
	comp=Z,1.6nm,0.5s,baz=98,slow=9.5,SNR=6.8 comp=Z,1.6nm,0.5s						
BBOO	Buckleboo	44.40	243	P	P	11 08 24.7	+0.7
BBOO				IAmb	IAmb	11 08 25.7	
	comp=Z,8.1nm,0.5s						
JAY	Jayapura	45.26	286	P	P	11 08 31.0	+0.1
	comp=Z,13nm,0.5s,baz=172,slow=3.9,SNR=3.0 comp=Z,13nm,0.5s						
WR0	Warramunga Arr	46.12	261	P	P	11 08 36.7	-0.8
WB0	Warramunga Arr	46.29	261	P	P	11 08 38.1	-0.8
WB0				IAmb	IAmb	11 08 39.0	
	comp=Z,15nm,1.0s						
AS31	Alice Springs	46.29	256	P	P	11 08 38.7	-0.2
ASAR	Alice Springs	46.29	256	P	P	11 08 38.6	-0.2
	comp=Z,25nm,0.6s,baz=89,slow=8.3,SNR=275						
ASAR				PcP	PcP	11 10 09.0	+0.2
	comp=Z,1.0nm,0.7s,baz=98,slow=3.7,SNR=2.6						
ASAR				S	S	11 14 59.7	-3.1
	comp=Z,1.8nm,0.8s,baz=94,slow=16,SNR=15 comp=Z,25nm,0.6s						
WB2	Warramunga Arr	46.30	261	P	P	11 08 38.1	-0.9
WB2				IAmb	IAmb	11 08 39.6	
	comp=Z,22nm,1.2s						
WRAB	Tennant Creek	46.30	261	P	P	11 08 38.0	-0.9
WRAB				IAmb	IAmb	11 08 39.6	
	comp=Z,20nm,1.2s						
WRA	Warramunga Arr	46.31	261	P	P	11 08 37.7	-1.4
WRA	Warramunga Arr	46.31	261	P	P	11 08 38.4	-0.7
	comp=Z,5.7nm,0.4s,baz=96,slow=7.3,SNR=267						
WRA				PcP	PcP	11 10 08.9	-0.1
	comp=Z,1.0nm,0.9s,baz=92,slow=4.8,SNR=2.3						
WRA				S	S	11 14 57.3	-5.8
	comp=Z,2.2nm,0.9s,baz=95,slow=13,SNR=8.4 comp=Z,5.7nm,0.4s						
MTN	Manton Dam	50.75	269	P	P	11 09 11.2	-1.4
MTN				IAmb	IAmb	11 09 12.6	
	comp=Z,21nm,0.7s						
FORT	Forrest	51.14	246	P	P	11 09 14.3	-1.1
FORT				IAmb	IAmb	11 09 44.3	
	comp=Z,34nm,1.4s						
KNRA	Kununurra	52.31	265	P	P	11 09 24.0	-0.2
FITZ	Fitzroy Crossi	54.73	261	P	P	11 09 41.4	-0.2
MJAR	Matsushiro Arr	70.38	322	P	P	11 11 23.2	-0.8
	comp=Z,2.3nm,0.7s,baz=162,slow=6.7,SNR=5.4 comp=Z,2.3nm,0.7s						
QSPA	South Pole Qui	70.55	180	P	P	11 11 26.3	+1.4
QSPA	South Pole Qui	70.55	180	P	P	11 11 27.4	+2.5
	comp=Z,0.9nm,1.0s,baz=351,slow=13,SNR=6.6 comp=Z,0.9nm,1.0s						
NIKH	Nikolski High baz=187	72.47	5	P	P	11 11 35.8	-0.3
UNV	Unalaska Valle baz=190	73.54	6	P	P	11 11 42.8	+0.5
FALS	False Pass baz=192	74.88	8	P	P	11 11 50.6	+0.6
CHNA	Chernabura Isl baz=196	75.41	10	P	P	11 11 53.0	0.0
PEA0B	Petropavlovsk-	75.74	344	P	P	11 11 54.4	-0.5
PEA0B				IAmb	IAmb	11 11 56.2	
	comp=Z,14nm,0.8s						
PETK	Petropavlovsk-	75.74	344	P	P	11 11 54.3	-0.6
PETK	Petropavlovsk-	75.74	344	P	P	11 11 54.8	-0.2
	comp=Z,8.6nm,0.6s,baz=104,slow=8.6,SNR=35 comp=Z,8.6nm,0.6s						
SDPT	Sand Point baz=195	75.77	9	P	P	11 11 55.1	+0.1
P08K	Saint George I baz=186	76.03	4	P	P	11 11 56.7	+0.3
SPIA	Saint Paul Isl baz=186	76.56	3	P	P	11 11 59.6	+0.2
S14K	Fog Glacier baz=196	76.82	10	P	P	11 11 59.7	-1.2
SII	Sitkinak Islan baz=201	78.04	12	P	P	11 12 07.4	-0.2
R16K	Pilot Point baz=198	78.36	10	P	P	11 12 08.9	-0.4
YBH	Yreka Blue Hor	78.54	38	P	P	11 12 11.5	+0.8
	comp=Z,0.8nm,0.6s,baz=204,slow=5.6,SNR=3.2 comp=Z,0.8nm,0.6s						
OHAK	Old Harbor baz=202	78.84	13	P	P	11 12 12.4	+0.5
R18K	Karluk baz=201	78.92	12	P	P	11 12 12.0	-0.3
NVAR	Mina Array Bea	79.22	43	P	P	11 12 17.4	+2.7
	comp=Z,0.5nm,0.7s,baz=223,slow=7.8,SNR=4.4 comp=Z,0.5nm,0.7s						
O14K	Tigyukauivet M baz=194	79.44	8	P	P	11 12 15.1	0.0
KDAK	Kodiak Island baz=202	79.50	13	P	P	11 12 15.5	+0.1
O15K	Ungalikthiuk R baz=196	79.56	9	P	P	11 12 16.0	+0.3
Q16K	King Salmon baz=199	79.58	10	P	P	11 12 16.9	+1.1
P16K	Nushagak River baz=197	79.70	10	P	P	11 12 17.3	+0.8
Q18K	Katmai Hardscr baz=200	79.84	11	P	P	11 12 16.8	-0.6
M11K	Mekoryuk baz=190	80.03	5	P	P	11 12 18.9	+0.7
N14K	Kuskokwak Cree baz=194	80.05	7	P	P	11 12 18.6	+0.3
P17K	Kvichak River baz=199	80.10	10	P	P	11 12 18.9	+0.3
O16K	Kokwok River B baz=197	80.22	9	P	P	11 12 18.9	-0.3
Q20K	Shuyak Island baz=203	80.30	12	P	P	11 12 19.8	+0.1
M13K	Dall Lake baz=192	80.33	6	P	P	11 12 20.3	+0.5
Q19K	Cape Douglas, baz=202	80.35	12	P	P	11 12 19.5	-0.6
N15K	Kwethluk River baz=195	80.49	8	P	P	11 12 21.2	+0.5
P18K	Big Mountain, baz=200,SNR=5.6	80.50	11	P	P	11 12 20.9	+0.1
O17K	Koliganek Bris baz=198	80.55	10	P	P	11 12 21.0	0.0
M14K	Bethel baz=194	80.82	7	P	P	11 12 22.8	+0.4
M15K	Kasigluk River baz=195	80.92	8	P	P	11 12 23.4	+0.5
O18K	Koktuh Hills baz=200,SNR=5.7	80.94	11	P	P	11 12 23.5	+0.4
N16K	Nishlik Lake baz=197	80.96	9	P	P	11 12 23.3	+0.1
P19K	Oil Pt baz=202	81.11	12	P	P	11 12 23.5	-0.5
N17K	Nushagak Hills baz=198	81.25	9	P	P	11 12 24.3	-0.4
L14K	Kuka Creek baz=193	81.31	7	P	P	11 12 24.6	-0.3
O19K	Port Alsworth baz=201	81.41	11	P	P	11 12 25.4	-0.1
M16K	Timber Creek baz=196,SNR=6.0	81.46	8	P	P	11 12 26.9	+1.1
N18K	Kilae Creek baz=199	81.60	10	P	P	11 12 27.2	+0.7
O20K	Slope Mountain baz=202	81.62	12	P	P	11 12 25.9	-0.8
BRSE	Bradley Lake S baz=204	81.69	13	P	P	11 12 26.0	-1.0
K13K	Kusilvak Mount baz=191	81.70	6	P	P	11 12 27.4	+0.4
L15K	Ungalak Mounta baz=194	81.78	7	P	P	11 12 28.9	+1.5
N19K	Bonanza Creek baz=201	81.96	11	P	P	11 12 29.0	+0.5
M17K	Holitna River baz=198	82.04	9	P	P	11 12 30.0	+1.2
L16K	Owhat River baz=196,SNR=6.6	82.06	8	P	P	11 12 29.4	+0.6
SEW	Seward baz=205	82.29	13	P	P	11 12 30.1	0.0
K15K	Wolf Creek Mou baz=194,SNR=13	82.37	7	P	P	11 12 32.0	+1.5
M18K	Stony River baz=199	82.38	10	P	P	11 12 30.9	+0.4
CAPN	Captain Cook N baz=204	82.54	12	P	P	11 12 30.8	-0.5
O22K	Cooper Landing baz=205	82.57	13	P	P	11 12 31.5	0.0
L17K	Donlin baz=197,SNR=5.5	82.62	8	P	P	11 12 32.8	+1.0
P23K	Montague Islan baz=207	82.65	14	P	P	11 12 31.8	-0.1
SPCR	Spurr Chakacha baz=203	82.74	12	P	P	11 12 33.4	+1.0
L18K	Granite Mounta baz=198,SNR=5.5	82.94	9	P	P	11 12 34.0	+0.7
M19K	Big River Lodg baz=201	83.00	10	P	P	11 12 34.0	+0.3
GAMB	Gambell baz=184	83.09	2	P	P	11 12 34.0	-0.1
RC01	Rabbit Creek A baz=205	83.12	13	P	P	11 12 34.1	-0.2
K17K	Iditarod baz=197	83.18	8	P	P	11 12 34.8	+0.2
L19K	White Mountain baz=200	83.19	10	P	P	11 12 33.9	-0.8
PWL	Port Wells baz=206	83.21	13	P	P	11 12 35.3	+0.5
SUA	Susitna One baz=204	83.26	12	P	P	11 12 35.7	+0.5
KAIM	Kayak Island baz=210	83.31	16	P	P	11 12 36.0	+0.7
J16K	Anvik River baz=195,SNR=7.0	83.44	7	P	P	11 12 36.1	+0.2
GLI	Glacier Island baz=207	83.50	14	P	P	11 12 37.3	+1.0
EYAK	Cordova Ski Ar baz=209	83.53	15	P	P	11 12 36.6	+0.2
L20K	Farewell, AK baz=201	83.63	10	P	P	11 12 37.4	+0.5
U33K	Whale Pass baz=220	83.68	23	P	P	11 12 36.6	-0.6

KNK	Knik Glacier	83.68	13	P		P	11 12 38.0 +0.8
	baz=206						
PMR	Palmer	83.70	13	P		P	11 12 38.6 +1.4
	baz=206						
J17K	VABM Dome	83.73	8	P		P	11 12 39.3 +1.9
	baz=196,SNR=5.9						
I17K	Unalakleet	84.01	7	P		P	11 12 40.6 +1.9
	baz=195						
SML	Sawmill	84.06	13	P		P	11 12 39.6 +0.5
	baz=206						
J18K	Innoko River	84.12	9	P		P	11 12 40.9 +1.5
	baz=198						
BMRM	Bremner River	84.17	15	P		P	11 12 40.1 +0.4
	baz=210						
M23K	Glacier View	84.18	13	P		P	11 12 40.0 +0.3
	baz=207						
S32K	Killisnoo	84.21	21	P		P	11 12 39.4 -0.4
	baz=219						
ANM	Nome	84.23	5	P		P	11 12 40.5 +0.7
	baz=190						
SCM	Sheep Creek Mo	84.30	13	P		P	11 12 40.6 +0.2
	baz=207						
KLU	Klutina	84.32	14	P		P	11 12 41.1 +0.6
	baz=208						
K20K	Telida	84.42	10	P		P	11 12 41.3 +0.5
	baz=201						
PNL	Peninsula	84.45	18	P		P	11 12 42.5 +1.4
	baz=214						
H16K	Elim	84.58	6	P		P	11 12 43.1 +1.6
	baz=193,SNR=5.9						
N25K	Chitina, Valde	84.72	15	P		P	11 12 43.9 +1.4
	baz=210						
G15K	Niukluk	84.77	5	P		P	11 12 43.9 +1.4
	baz=191						
J19K	Poorman	84.78	9	P		P	11 12 44.4 +1.8
	baz=199						
M24K	Tolsona, Glenn	84.80	14	P		P	11 12 44.2 +1.3
	baz=208						
CAST	Castle Rocks	84.81	11	P		P	11 12 43.2 +0.4
	baz=203						
R32K	Eaglecrest	84.85	21	P		P	11 12 44.4 +1.3
	baz=219						
P29M	Windy Craggy	84.91	19	P		P	11 12 45.0 +1.6
	baz=216						
TNA	Tin City	85.05	3	P		P	11 12 45.6 +1.7
	baz=188						
F14K	Arctic Creek	85.06	4	P		P	11 12 45.6 +1.6
	baz=189						
H17K	Granite Mounta	85.12	7	P		P	11 12 46.3 +2.0
	baz=195						
O28M	Mount Upton	85.14	17	P		P	11 12 45.7 +0.8
	baz=214						
TRF	Thorofare Moun	85.16	11	P		P	11 12 45.6 +0.9
	baz=204						
TXAR	Lajitas Array	85.19	57	P		P	11 12 49.0 +3.5
	comp=Z,0.5nm,0.8s,baz=212,slow=14,SNR=3.9						
	comp=Z,0.5nm,0.8s						
CHUM	Lake Minchumin	85.20	10	P		P	11 12 45.4 +0.7
	baz=202						
O29M	Mount Kennedy	85.21	18	P		P	11 12 46.3 +1.4
	baz=215						
G16K	Koyuk River	85.31	6	P		P	11 12 46.6 +1.5
	baz=193						
GCSA	Galena City Sc	85.31	8	P		P	11 12 47.0 +1.9
	baz=198						
T35M	Bob Quinn	85.38	23	P		P	11 12 47.4 +1.7
	baz=223						
F15K	North Star Dit	85.42	5	P		P	11 12 46.5 +0.8
	baz=191						
H18K	Honhosa River	85.51	8	P		P	11 12 47.3 +1.1
	baz=197						
SKAG	Skagway	85.52	20	P		P	11 12 47.9 +1.6
	baz=218						
P30M	Million Dollar	85.54	19	P		P	11 12 47.2 +0.7
	baz=217						
ANMO	Albuquerque	85.55	51	P		P	11 12 49.2 +1.8
	comp=Z,0.7nm,1.1s,baz=270,slow=19,SNR=1.6						
	comp=Z,0.7nm,1.1s						
G17K	Kiwalik Mounta	85.59	6	P		P	11 12 47.5 +0.9
	baz=195						
BPAW	Bear Paw Mtn.	85.63	11	P		P	11 12 47.5 +0.6
	baz=204						
MCK	McKinley	85.68	12	P		P	11 12 48.6 +1.6
	baz=206						
YUK8	Steele Glacier	85.69	17	P		P	11 12 47.8 +0.3
	baz=214,SNR=6.0						
I20K	Naaghedeneel	85.70	9	P		P	11 12 48.8 +1.7
	baz=200						
PAX	Paxson	85.72	14	P		P	11 12 48.9 +1.5
	baz=209						
S34M	Telegraph Cree	85.75	22	P		P	11 12 49.2 +1.7
	baz=222						
YUK6	Outpost Mounta	85.79	18	P		P	11 12 48.8 +0.9
	baz=215						
M26K	Nabesna, AK	85.80	15	P		P	11 12 49.5 +1.8
	baz=211						
YUK3	Moose Creek	85.91	16	P		P	11 12 49.9 +1.4
	baz=214,SNR=7.2						
HYT	Haines Junctio	85.94	18	P		P	11 12 49.0 +0.4
	baz=216						
M27K	Edge Creek, AK	86.03	15	P		P	11 12 50.0 +1.1
	baz=212						
YUK4	Talbot Arm	86.04	17	P		P	11 12 50.2 +1.1
	baz=215						
H19K	Roundabout Mou	86.12	8	P		P	11 12 50.3 +1.2
	baz=199						
Q32M	Nakina River	86.14	21	P		P	11 12 50.9 +1.3
	baz=221						
G18K	Tagagawik	86.19	7	P		P	11 12 50.2 +0.7
	baz=196						
L26K	Log Cabin Wild	86.25	14	P		P	11 12 51.0 +1.1
	baz=211						
H20K	Anotleneega Mo	86.30	9	P		P	11 12 50.4 +0.4
	baz=200						
O30N	Mendenhall	86.32	19	P		P	11 12 50.8 +0.5
	baz=218						
BVCY	Beaver Creek	86.34	16	P		P	11 12 52.3 +2.0
	baz=213						
K24K	Donnelly Dome	86.38	13	P		P	11 12 52.8 +2.3
	baz=208						
RIDG	Independent Ri	86.53	13	P		P	11 12 53.1 +1.8
	baz=209						
DLBC	Dease Lake	86.53	22	P		P	11 12 53.0 +1.6
	baz=223						
N30M	Aishikik Lake	86.58	18	P		P	11 12 53.4 +1.8
	baz=217						
WHY	Whitehorse	86.60	19	P		P	11 12 53.1 +1.4
	baz=219						
G19K	Purcell Mounta	86.62	8	P		P	11 12 52.9 +1.3
	baz=198						
L27K	Beaver Creek,	86.64	15	P		P	11 12 53.7 +1.9
	baz=212						
HDA	Harding Lake	86.68	12	P		P	11 12 53.1 +1.2
	baz=207						
F18K	Selawik	86.76	7	P		P	11 12 53.1 +1.0
	baz=196						
H21K	Melozitna Rive	86.77	10	P		P	11 12 54.5 +2.2
	baz=202						
P33M	Teslin, Yukon	86.90	20	P		P	11 12 53.7 +0.5
	baz=220						
R33M	Jennings River	86.91	21	P		P	11 12 53.9 +0.6
	baz=222						
SCRK	Sand Creek	86.92	14	P		P	11 12 54.6 +1.4
	baz=210						
M29M	Somme Creek	86.99	17	P		P	11 12 54.4 +0.8
	baz=215,SNR=5.2						
E17K	Hotham Inlet	87.01	6	P		P	11 12 54.4 +1.1
	baz=194						
PDAR	Pinedale Array	87.16	43	P		P	11 12 57.3 +2.3
	comp=Z,0.1nm,0.5s,baz=234,slow=5.8,SNR=1.8						
	comp=Z,0.1nm,0.5s						
J25K	Salcha River,	87.18	13	P		P	11 12 54.9 +0.5
	baz=209						
F19K	Shaleruckik Mo	87.20	7	P		P	11 12 55.6 +1.3
	baz=197						
POKR	Poker Plat Res	87.21	12	P		P	11 12 55.0 +0.6
	baz=207						
H22K	Ishtalitna Cre	87.22	10	P		P	11 12 55.7 +1.2
	baz=203						
K27K	Chicken	87.41	14	P		P	11 12 56.6 +1.2
	baz=212						
E18K	Tukpahlearik C	87.46	6	P		P	11 12 56.9 +1.4
	baz=195,SNR=6.6						
G21K	Allakaket	87.46	9	P		P	11 12 56.1 +0.6
	baz=201						
J26L	Joseph Creek	87.47	14	P		P	11 12 56.0 +0.2
	baz=211						
D17K	Noatak River	87.50	5	P		P	11 12 56.6 +0.9
	baz=192						
M30M	Minto, Yukon	87.56	17	P		P	11 12 57.1 +1.0
	baz=217						
L29M	L29M	87.62	16	P		P	11 12 57.1 +0.7
	baz=216,SNR=6.6						
F20K	Avaraart Lake	87.66	8	P		P	11 12 57.6 +1.2
	baz=199						
H24K	Noodor Dome	87.77	11	P		P	11 12 57.7 +0.6
	baz=207						
E19K	Redstone River	87.86	7	P		P	11 12 58.3 +0.9
	baz=198						
C16K	Lisburne Hills	87.90	4	P		P	11 12 58.0 +0.5
	baz=190						
PRP	Porcupine Dome	87.94	12	P		P	11 12 59.8 +1.8
	baz=209						
M31M	Drury Creek, Y	87.95	18	P		P	11 12 58.0 +0.1
	baz=219						
DAWY	Dawson	88.09	15	P		P	11 13 00.8 +2.2
	baz=219						
F21K	Alatna River	88.13	9	P		P	11 12 59.9 +1.3
	baz=201						
G23K	Bananza Creek	88.19	10	P		P	11 13 00.4 +1.4
	baz=205						
I26K	Coal Creek Min	88.26	13	P		P	11 13 00.7 +1.4
	baz=211						
C17K	DeLong Mountai	88.26	5	P		P	11 13 00.6 +1.3
	baz=192						
FARO	Faro, Yukon	88.28	19	P		P	11 13 00.4 +0.8
	baz=220						
K29M	Barlow Dome	88.38	16	P		P	11 13 02.3 +2.2
	baz=216						
H25L	Birch Creek	88.55	12	P		P	11 13 02.2 +1.6
	baz=208						
F22K	John River	88.58	9	P		P	11 13 01.8 +0.9
	baz=202						
C18K	Utukok River	88.59	5	P		P	11 13 01.0 +0.1
	baz=194						
TOAD	Toad River Com	88.60	24	P		P	11 13 03.2 +2.0
	baz=227						
MAYO	Mayo, Yukon	88.62	17	P		P	11 13 02.1 +1.0
	baz=218						
G24K	Hadweenzic Riv	88.62	11	P		P	11 13 02.1 +1.1
	baz=207						
COLD	Coldfoot	88.63	10	P		P	11 13 02.8 +1.7
	baz=204						
LIRD	Liard River Hi	88.66	23	P		P	11 13 02.5 +1.2
	baz=226						
E20K	Nigu River	88.75	7	P		P	11 13 02.3 +0.6
	baz=199						
D19K	Kuna River	88.75	7	P		P	11 13 02.9 +1.3
	baz=197						
I27K	Kandik River	88.85	14	P		P	11 13 03.2 +1.1
	baz=212						
G25K	Bearman Lake	88.93	12	P		P	11 13 03.4 +1.0
	baz=208						
I28M	Miner Creek	89.10	14	P		P	11 13 04.3 +0.9
	baz=214						
D20K	Etivluk River	89.13	7	P		P	11 13 04.8 +1.4
	baz=198,SNR=7.2						
E21K	Killik River	89.20	8	P		P	11 13 04.8 +1.1
	baz=201						
E22K	Anaktuvuk Pass	89.22	9	P		P	11 13 05.2 +1.4
	baz=203,SNR=8.7						
B18K	Kokolik River	89.24	5	P		P	11 13 05.2 +1.4
	baz=194						
F24K	Squaw Lake	89.28	11	P		P	11 13 05.4 +1.3
	baz=206						
J30M	Hart River	89.28	16	P		P	11 13 05.3 +1.0
	baz=217						
H27K	Steamboat Moun	89.40	13	P		P	11 13 06.5 +1.8
	baz=212						
I29M	Ogilvie Camp,	89.42	15	P		P	11 13 06.4 +1.6
	baz=215						
E23K	Chandalar	89.48	10	P		P	11 13 06.8 +1.7
	baz=205						
G26K	Porcupine Rive	89.54	12	P		P	11 13 07.5 +2.2
	baz=210						
E24K	Your Creek	89.68	10	P		P	11 13 07.6 +1.6
	baz=206						
F25K	Christian Rive	89.75	11	P		P	11 13 08.2 +1.9
	baz=209						
C21K	Knifeblade Rid	89.77	8	P		P	11 13 08.4 +2.1
	baz=200						
D22K	Ayikyak River	89.78	8	P		P	11 13 07.2 +0.8
	baz=202						
I30M	Mount Dempster	89.79	16	P		P	11 13 08.8 +2.1
	baz=217						
G27K	Doyon Strip	89.86	13	P		P	11 13 08.2 +1.4
	baz=212						
KOTAN	Kotaneelee Air	89.91	23	P		P	11 13 08.6 +1.4
	baz=228						
TOLK	Toolik Lake Re	90.02	9	P		P	11 13 09.1 +1.6
	baz=205						
H29M	Whitestone	90.11	14	P		P	11 13 08.7 +0.7
	baz=215						
F26K	Sheenjek River	90.12	12	P		P	11 13 09.1 +1.1
	baz=210						
A19K	Wainwright	90.12	5	P		P	11 13 09.3 +1.4
	baz=194						
D23K	Nanushuk River	90.15	9	P		P	11 13 09.6 +1.6
	baz=204						
E25K	Arctic Village	90.23	11	P		P	11 13 10.1 +1.6
	baz=209						
B21K	Ikpikpuk River	90.23	7	P		P	11 13 10.1 +1.7
	baz=200						
B20K	Meade River	90.30	6	P		P	11 13 10.1 +1.4
	baz=198						
D24K	Happy Valley	90.60	10	P		P	11 13 10.9 +0.8
	baz=206						
EPYK	Eagle Plains	90.62	15	P		P	11 13 11.4 +1.0
	baz=217						
G29M	Pine Creek	90.75	14	P		P	11 13 12.0 +1.1
	baz=216						
H31M	Peel River	90.77	16	P		P	11 13 11.7 +0.7
	baz=219						
C23K	Itkillik River	90.96	9	P		P	11 13 13.1 +1.4
	baz=204						
E27K	Coleen River	91.04	12	P		P	11 13 13.1 +0.9
	baz=212						
B22K	Teshekpuk Lake	91.05	8	P		P	11 13 12.8 +0.7
	baz=201						
C24K	Franklin Bluff	91.13	9	P		P	11 13 13.8 +1.2
	baz=206						
D25K	Kavik River	91.15	10	P		P	11 13 13.2 +0.5
	baz=208						
G30M	tAoh Zraii Nji	91.23	15	P		P	11 13 13.2 0.0
	baz=217						
CMAR	Chiang Mai Arr	91.28	289	P		P	11 13 13.2 -1.3
	comp=Z,0.5nm,0.3s,baz=92,slow=2.8,SNR=6.2						
	comp=Z,0.5nm,0.3s						
A22K	Sinclair Lake	91.49	7	P		P	11 13 14.8 +0.7
	baz=200						
A21K	Barrow	91.61	6	P		P	11 13 15.2 +0.4
	baz=198						
G31M	Satah River	91.66	15	P		P	11 13 15.8 +0.8
	baz=219						
E28M	Babbage River	91.81	13	P		P	11 13 18.1 +2.3
	baz=214						
F30M	Barrier River	91.83	14	P		P	11 13 18.6 +2.7
	baz=218						
C27K	Jago River	91.87	11	P		P	11 13 17.6 +1.6
	baz=210						
C26K	Camden Bay	91.92	10	P		P	11 13 18.0 +1.8
	baz=209						
E29M	Blow River	91.98	13	P		P	11 13 18.3 +1.7
	baz=216						
F31M	Tsiigehtchic	92.19	15	P		P	11 13 18.4 +0.9
	baz=220						
D28M	Stokes Point	92.58	13	P		P	11 13 19.8 +0.6
	baz=215						
INK	Inuvik	92.92	15	P		P	11 13 21.5 +0.7
	baz=220						
YKA	Yellowknife Ar	94.96	24	P		P	11 13 30.5 +0.2
	comp=Z,0.6nm,0.9s,baz=239,slow=4.9,SNR=7.2						
	comp=Z,0.6nm,0.9s						
C36M	Paulatuk	96.06	16	P		P	11 13 35.6 +0.4
	baz=228						
A36M	Sachs Harbour	97.53	14	P		Pdif	11 13 42.0 +0.3
	baz=228						
MKAR	Makanchi Array	111.67	314	PKiKP		PKiKP	11 18 41.0 -0.2
	comp=Z,0.3nm,0.4s,baz=78,slow=1.6,SNR=6.4						
KURBB	Kurchatov Arra	114.39	318	PKiKP		PKPdf	11 18 44.9 -1.4
	comp=Z,0.1nm,0.3s,baz=82,slow=2.0,SNR=5.9						
BVAR	Borovoye Array	119.34	320	PKP		PKiKP	11 18 55.8 0.0
	comp=Z,1.7nm,0.5s,baz=128,slow=1.9,SNR=7.2						
SPITS	Spitsbergen Ar	120.97	357	PKP		PKiKP	11 18 58.4 +0.1
	comp=Z,4.8nm,0.9s,baz=340,slow=11,SNR=1.3						
ARCES	ARCESS Array B	128.23	350	PKP		PKiKP	11 19 13.4 +0.5
	comp=Z,1.2nm,0.4s,baz=17,slow=1.3,SNR=14						
FINES	FINESS Array B	135.25	345	PKhKP		PKPpre	11 19 16.7
	comp=Z,2.7nm,0.9s,baz=48,slow=2.1,SNR=3.4						
FINES				PKP		PKiKP	11 19 27.3 -0.1
	comp=Z,1.9nm,0.6s,baz=48,slow=2.8,SNR=6.6						
NOA	NORSAR Array B	138.17	355	PKP		PKiKP	11 19 32.4 -1.0
	comp=Z,0.7nm,0.9s,baz=312,slow=9.2,SNR=1.7						
HFS	Hagfors	138.79	352	PKhKP		PKPpre	11 19 21.9
	comp=Z,2.4nm,0.9s,baz=87,slow=7.4,SNR=2.0						
AKASG	Malin Array Be	142.89	333	PKhKP		PKPpre	11 19 36.7
	comp=Z,1.4nm,0.4s,baz=45,slow=4.0,SNR=5.8						
EKA	Eskdalemuir Ar	143.86	7	PKP		PKPbc	11 19 40.5 +0.4
	comp=Z,2.1nm,0.5s,baz=323,slow=2.8,SNR=9.0						
BRTR	Keskin Array B	147.31	315	PKPbc		PKPbc	11 19 51.2 +0.3
	comp=Z,2.0nm,0.7s,baz=130,slow=3.7,SNR=8.1						
CLL	Collm	147.43	349	*i* (PKPab)		PKPab	11 19 54.1 +0.6
	comp=Z,10.0nm,0.9s						
CLL	Collm	147.43	349	↓*i* PKPbc		PKiKP	11 19 51.9 -0.7
	comp=Z,20nm,1.1s						
OSTC	Ostas	147.46	345	*e*P		PKPab	11 19 53.3 -0.4
DPC	Dobruska-Polom	147.63	345	*e*P		PKiKP	11 19 53.3 +0.2
BRG	Berggiesshubel	147.67	348	Amp			11 19 53.6
	comp=Z,6.5nm,0.6s						
BRG	Berggiesshubel	147.67	348	Amp			11 19 56.6
	comp=Z,7.4nm,0.8s						
BRG	Berggiesshubel	147.67	348	*i* P		PKiKP	11 19 52.9 -0.2
BRG	Berggiesshubel	147.67	348	P		PKPab	11 19 55.3 +0.8
ZVC	Zvikov	148.97	347	*e*P		PKiKP	11 19 56.5 +0.6
KHC	Kasperske Hory	149.40	347	*e*P		PKiKP	11 19 57.5 +0.7
CKRC	Cesky Krumlov	149.53	346	*e*P		PKiKP	11 19 57.9 +0.8
GERES	GERESS Array B	149.64	347	PKPbc		PKiKP	11 19 57.6 +0.2
	comp=Z,4.5nm,0.7s,baz=29,slow=3.0,SNR=16						
CONA	Conrad Observa	149.98	344	*i* P		PKiKP	11 19 58.9 +0.8
	comp=Z,6.6nm,0.6s,SNR=6.5						
RONA	Rosalia, Austr	150.07	343	*i* P		PKiKP	11 19 59.0 +0.8
	comp=Z,11nm,0.5s,SNR=7.2						
MOA	Molln	150.45	345	*i* P		PKiKP	11 19 59.3 +0.3
	comp=Z,6.7nm,0.6s,SNR=5.1						
ARSA	Arzberg	150.69	343	*i* P		PKPbc	11 19 59.1 +0.2
	comp=Z,0.9nm,0.4s						
BIOA	Bad Ischl, Aus	150.75	346	*i* P		PKiKP	11 19 60.0 +0.4
	comp=Z,3.6nm,0.5s						
LESA	Schwarzleotal	151.21	347	*i* P		PKiKP	11 20 01.1 +0.4
	comp=Z,5.4nm,0.5s						
SOKA	Soboth	151.35	344	*i* P		PKiKP	11 20 01.3 +0.3
	comp=Z,5.7nm,0.8s						
KBA	Koelnbreinsper	151.39	346	*i* P		PKiKP	11 20 01.2 0.0
	comp=Z,8.1nm,0.5s						
RETA	Reutte	151.50	350	*i* P		PKiKP	11 20 02.0 +0.7
	comp=Z,2.8nm,0.5s						
WATA	Walderalm	151.51	349	*i* P		PKiKP	11 20 02.0 +0.6
	comp=Z,7.9nm,0.5s						
WTTA	Wattenberg	151.57	349	*i* P		PKiKP	11 20 02.3 +0.8
	comp=Z,17nm,0.5s						
MOTA	Moosalm	151.58	349	*i* P		PKiKP	11 20 02.1 +0.5
	comp=Z,5.9nm,0.6s						
OBKA	Obir	151.63	344	*i* P		PKiKP	11 20 01.5 0.0
	comp=Z,1.8nm,0.5s						
SQTA	Sankt Quirin	151.69	349	*i* P		PKiKP	11 20 02.5 +0.8
	comp=Z,9.6nm,0.6s						
MYKA	Terra Mystica	151.74	345	*i* P		PKiKP	11 20 01.9 +0.1
	comp=Z,7.8nm,0.5s						
DAVA	Damuels	151.84	351	*i* P		PKiKP	11 20 02.9 +0.9
	comp=Z,11nm,0.8s						
ABTA	Abfaltersbach	151.89	347	*i* P		PKiKP	11 20 02.4 +0.3
	comp=Z,15nm,0.5s						
FETA	Feichten	151.96	350	*i* P		PKiKP	11 20 03.3 +1.0
	comp=Z,5.9nm,0.7s						

JMA ***01*** *11:02:12.2±0.2, 24°N±1°×122°3E±0°4, h47km±4km,*
MV2.3/9, TAIWAN REGION
TAP ***01*** *11:02:12.2, 24°55N×122°28E, h10km, ML3.0, C*
ISC 01 11:02:12.2±0.9, 24°53N±0°02×122°30E±0°02, h15km±6km,
n105, σ0°88/190, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.13**	**208**	*i* P	**Pb**	**11 02 15.9**	**-0.3**
EOS2				*i* S	**Sg**	**11 02 19.4**	**+1.4**
EOS3	**EOS3**	**0.24**	**176**	*i* P	**Pb**	**11 02 18.0**	**-0.2**
EOS3				S	**Sg**	**11 02 22.4**	**+1.4**
EOS4	**EOS4**	**0.41**	**177**	*i* P	**Pb**	**11 02 20.9**	**0.0**
EOS4				*e*S	**Sb**	**11 02 29.4**	**+2.7**
ESAO	**Su ao**	**0.41**	**276**	*e*P	**Pg**	**11 02 20.2**	**-0.4**
ESAO				S	**Sb**	**11 02 26.8**	**-0.5**
TWC	**Suao**	**0.42**	**281**	P	**Pg**	**11 02 19.7**	**-0.9**
TWC				*e*S	**Sb**	**11 02 27.6**	**+0.3**
EGS		**0.46**	**313**	P	**Pb**	**11 02 21.7**	**-0.2**
EGS				*e*S	**Sb**	**11 02 28.9**	**+0.4**
EWUT	**Wuta**	**0.48**	**260**	*e*P	**Pg**	**11 02 21.4**	**-0.4**
EWUT				*i* S	**Sb**	**11 02 28.6**	**-0.6**
ENA	**Nanau**	**0.52**	**259**	*e*P	**Pg**	**11 02 20.9**	**-1.6**
ENA				*e*S	**Sg**	**11 02 29.3**	**-0.2**
NDS	**Dongshan**	**0.54**	**281**	*e*P	**Pb**	**11 02 22.5**	**-0.8**
NDS				*e*S	**Sb**	**11 02 30.8**	**-0.1**
EAHA	**Aohua**	**0.55**	**249**	*e*P	**Pb**	**11 02 23.0**	**-0.5**
EAHA				*e*S	**Sg**	**11 02 29.9**	**-0.5**
ILA	**Ilan**	**0.55**	**295**	P	**Pb**	**11 02 23.0**	**-0.6**
ILA				*e*S	**Sb**	**11 02 31.5**	**+0.2**
TWB1	**Santiao Chiao**	**0.55**	**329**	*e*P	**Pb**	**11 02 23.1**	**-0.5**
TWB1				*e*S	**Sg**	**11 02 29.4**	**-1.2**
JYNG	**Yonagunijimaku**	**0.59**	**98**	*e*S	**Sb**	**11 02 33.0**	**+0.5**
TWE	**Neicheng**	**0.60**	**288**	P	**Pb**	**11 02 23.6**	**-0.8**
TWE				*i* S	**Sb**	**11 02 32.1**	**-0.6**
TIPB	**Shuangxi**	**0.61**	**316**	*e*P	**Pb**	**11 02 24.6**	**-0.1**
TIPB				*e*S	**Sg**	**11 02 31.4**	**-1.1**
YOJ	**Yonaguni jima**	**0.65**	**96**	P	**Pb**	**11 02 25.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.65**	**96**	P	**Pb**	**11 02 25.2**	**0.0**
YOJ				*e*S	**Sb**	**11 02 34.8**	**+0.6**
YOJ	**Yonaguni jima**	**0.65**	**96**	P	**Pb**	**11 02 25.0**	**-0.3**
YOJ				*i* S	**Sb**	**11 02 34.7**	**+0.5**
ENTT	**Nioudou**	**0.68**	**279**	P	**Pb**	**11 02 25.3**	**-0.4**
ENTT				*e*S	**Sb**	**11 02 35.6**	**+0.8**
SXI1	**Grass Mountain**	**0.68**	**326**	*e*P	**Pb**	**11 02 25.9**	**+0.1**
SXI1				S	**Sb**	**11 02 35.8**	**+0.7**
FUSB	**Fushanzhiwuyua**	**0.69**	**290**	*i* P	**Pb**	**11 02 25.9**	**0.0**
FUSB				*e*S	**Sb**	**11 02 35.5**	**+0.3**
LATG	**Datong**	**0.70**	**271**	*e*P	**Pg**	**11 02 25.4**	**-0.6**
LATG				S	**Sb**	**11 02 35.7**	**0.0**
NWF	**Wu-fen Shan**	**0.71**	**319**	*e*P	**Pn**	**11 02 27.4**	**-0.4**
NWF				*e*S	**Sb**	**11 02 37.0**	**+0.9**
WFSB	**Wu-fen Shan**	**0.71**	**319**	*e*P	**Pn**	**11 02 27.6**	**-0.1**
WFSB				*e*S	**Sb**	**11 02 37.0**	**+1.1**
ETL	**Fush Village**	**0.72**	**239**	*e*P	**Pb**	**11 02 26.2**	**-0.2**
ETL				S	**Sn**	**11 02 37.4**	**-1.2**
NACB	**Ninganchiao**	**0.73**	**241**	P	**Pb**	**11 02 26.1**	**-0.5**
NACB	**Ninganchiao**	**0.73**	**241**	S	**Sb**	**11 02 36.3**	**-0.2**
NACB	**Ninganchiao**	**0.73**	**241**	*i* P	**Pb**	**11 02 26.0**	**-0.6**
NACB				*e*S	**Sb**	**11 02 36.0**	**-0.4**
NWLT	**Wulai**	**0.76**	**289**	*i* P	**Pb**	**11 02 27.1**	**-0.1**
NWLT				*e*S	**Sg**	**11 02 36.6**	**-0.6**
TWA	**Mucha**	**0.79**	**305**	P	**Pn**	**11 02 27.9**	**-0.9**
TWA				*e*S	**

ANP eS **Sn** **11 02 44.5 -0.2**
TWY Chenhua 0.98 320 P **Pn** **11 02 31.3 0.0**
TWY eS **Sb** **11 02 43.5 0.0**
TWS1 Kuangyinshan 0.98 306 eP **Pg** **11 02 30.2 -1.0**
TWS1 eS **Sg** **11 02 43.0 -1.1**
NTST Danshui 1.00 309 P **Pn** **11 02 31.3 -0.3**
NTST eS **Sn** **11 02 46.4 +1.1**
SHUL Shoufeng 1.00 222 eP **Pn** **11 02 32.8 +1.1**
SHUL S **Sn** **11 02 46.6 +1.2**
FUSS Fushou 1.00 254 P **Pn** **11 02 31.9 -0.1**
FUSS eS **Sg** **11 02 43.6 -1.2**
WHF Hehuan Shan 1.02 248 eP **Pg** **11 02 31.2 -0.8**
WHF eS **Sb** **11 02 45.2 +0.1**
KSHI Guanxi Townshi 1.05 284 eP **Pn** **11 02 33.6 +1.3**
KSHI eS **Sn** **11 02 48.2 +1.5**
TWT Tachien 1.06 255 P **Pn** **11 02 33.4 +0.8**
TWT S **Sn** **11 02 47.4 +0.2**
ESL Shilin 1.06 228 eP **Pn** **11 02 33.3 +0.7**
ESL S **Sn** **11 02 48.1 +1.0**
TEGC Jichi Village 1.07 220 eS **Sn** **11 02 49.7 +2.5**
NFF Wufeng Townshi 1.08 276 P **Pn** **11 02 33.7 +0.9**
NFF eS **Sn** **11 02 48.1 +0.6**
NCUH Zhongli 1.10 294 eP **Pn** **11 02 34.9 +1.8**
NCUH eS **Sn** **11 02 50.1 +2.1**
PCYT Pengchaiyu 1.11 349 eP **Pn** **11 02 34.3 +1.1**
WARBT Fenglin Townsh 1.16 226 eP **Pg** **11 02 34.1 -0.5**
WARBT S **Sn** **11 02 50.2 +0.7**
EGFH Guangfu 1.17 223 eS **Sn** **11 02 50.9 +1.3**
LIOB Emei 1.17 276 P **Pg** **11 02 35.5 +0.6**
LIOB eS **Sn** **11 02 52.1 +2.3**
OWD Renai 1.17 241 eP **Pg** **11 02 34.3 -0.6**
OWD S **Sn** **11 02 51.1 +1.1**
NSTT Nanjuang 1.19 275 eP **Pg** **11 02 35.8 +0.7**
NSTT S **Sn** **11 02 50.6 +0.6**
WUSB Renai 1.20 244 *i* P **Pg** **11 02 35.3 -0.1**
WUSB eS **Sn** **11 02 51.9 +1.3**
SBCB Hsinchu 1.22 283 P **Pg** **11 02 35.3 -0.5**
SBCB eS **Sn** **11 02 53.0 +2.0**
HSN Hsinchu 1.24 283 P **Pb** **11 02 34.9 -0.4**
HSN eS **Sg** **11 02 53.6 +1.4**
WHP Taichung City 1.26 259 eP **Pg** **11 02 36.8 +0.3**
HGSD Ruisui 1.31 218 eP **Pg** **11 02 37.2 -0.2**
VWDT VWDT 1.31 234 eP **Pg** **11 02 37.5 +0.1**
VWDT eS **Sg** **11 02 55.6 +1.1**
DPDB Guoxing 1.35 249 eP **Pg** **11 02 38.5 +0.4**
DPDB S **Sg** **11 02 56.0 +0.3**
WCS Beigang Elemen 1.35 250 eP **Pg** **11 02 38.5 +0.3**
WCS S **Sg** **11 02 56.4 +0.6**
EHY Hungye 1.35 221 eP **Pb** **11 02 36.6 -0.7**
EHY S **Sg** **11 02 55.7 -0.2**
NMLH Miaoli 1.37 271 P **Pg** **11 02 38.3 -0.3**
NMLH eS **Sg** **11 02 59.8 +3.3**
TWQ1 Liyutan 1.40 263 eP **Pg** **11 02 40.4 +1.2**
NSY Sanyi 1.41 266 eP **Pg** **11 02 39.1 -0.2**
SMLT Sun Moon Lake 1.43 243 eP **Pg** **11 02 40.4 +0.6**
SMLT eS **Sg** **11 03 00.2 +1.8**
SSLB Suanglung 1.43 239 P **Pg** **11 02 39.0 -0.8**
SSLB Suanglung 1.43 239 eP **Pg** **11 02 39.3 -0.5**
SSLB eS **Sg** **11 02 58.9 +0.5**
TYC Yuchr 1.46 245 eP **Pb** **11 02 38.1 -0.8**
TYC eS **Sg** **11 02 58.3 -0.9**
YULB Yu-li 1.46 219 P **Pb** **11 02 38.7 -0.3**
YULB Yu-li 1.46 219 eP **Pb** **11 02 38.5 -0.5**
YULB eS **Sb** **11 02 57.2 -0.1**
EYUL Yuli 1.48 217 P **Pb** **11 02 39.4 0.0**
EYUL S **Sg** **11 02 59.1 -0.8**
TWF1 Yuli 1.49 218 eP **Pb** **11 02 38.7 -0.8**
TWF1 eS **Sn** **11 02 57.6 +0.1**
WHYT Xinyi Township 1.56 238 P **Pg** **11 02 41.1 -1.2**
WHYT eS **Sg** **11 03 01.9 -0.6**
CHKH Chenggong 1.57 212 eP **Pb** **11 02 40.4 -0.5**
CHKH eS **Sb** **11 03 01.1 +0.5**
JKRS Kuro-shima 1.59 100 eP **Pn** **11 02 38.9 -0.8**
JKRS eS **Sn** **11 02 59.3 -0.7**
WJS Zhushan 1.60 244 eP **Pb** **11 02 41.3 -0.1**
FULB Fuli 1.61 215 eP **Pg** **11 02 42.1 -1.1**
FULB S **Sb** **11 03 02.5 +0.7**
ALS Alishan 1.70 234 P **Pb** **11 02 42.8 -0.6**
ALS S **Sb** **11 03 05.1 +0.4**
CHN5 Tsauling 1.75 238 P **Pb** **11 02 44.2 +0.2**
CHN5 eS **Sg** **11 03 08.7 +0.2**
ELDTW Lidau 1.78 222 eP **Pb** **11 02 43.3 -1.2**
ELDTW eS **Sn** **11 03 03.4 -1.4**
WCKO Fanlu 1.89 235 eP **Pg** **11 02 47.9 -0.6**
WCKO eS **Sg** **11 03 12.4 -0.7**
CHN4 Tsaushan 1.95 233 P **Pb** **11 02 45.8 -0.6**
CHN4 eS **Sg** **11 03 13.6 -1.5**
TPUB Ta-pu 1.96 232 P **Pb** **11 02 47.7 +0.2**
TPUB Ta-pu 1.96 232 eP **Pg** **11 02 48.2 -1.6**
TPUB eS **Sg** **11 03 13.3 -1.9**
STYT Tauyuan 1.96 226 eP **Pb** **11 02 47.2 -0.4**
STYT eS **Sn** **11 03 09.6 +0.3**
WTP Ta-pu 2.00 231 eP **Pb** **11 02 48.7 +0.4**
WTP eS **Sb** **11 03 14.0 +0.9**
TWGBT Beinan 2.04 213 P **Pb** **11 02 48.7 -0.2**
TWK Hsinying 2.08 233 P **Pb** **11 02 48.5 -1.2**
TWK eS **Sb** **11 03 16.8 +1.5**
CHN1 Nanshi 2.10 231 eP **Pg** **11 02 51.3 -1.3**
CHN1 eS **Sb** **11 03 17.2 +1.3**
SGST Jiashian 2.13 228 P **Pb** **11 02 49.1 -1.4**
SGST eS **Sb** **11 03 15.9 -0.8**
MASBT Mashibuluo 2.45 219 eP **Pb** **11 02 54.2 -1.6**
MASBT eS **Sb** **11 03 23.6 -2.2**

---

*IDC **01** 11:02:45.8±2.4, 33°.71N×45°.64E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=52.3km s-min=35.0km az=156.0*
*ISN **01** 11:02:46.7±0.6, 33°.67N×45°.63E, h11km±3km, ML3.0*
*TEH **01** 11:02:47.4, 33°.69N×45°.77E, h13km±93km*
ISC 01 11:02:47.7±0.7, 33°.69N±0°.03×45°.65E±0°.04, h13km, n19, σ1§09/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.47**	**27**	Pg	**Pg**	**11 02 56.7**	**-0.3**
IBDR	**Badra**	**0.63**	**158**	*e*Pg	**Pg**	**11 02 59.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**11 03 07.0**	**-1.2**
IBDR				AML	AML	11 03 11.7	
	comp=N,766nm,0.3s						
KGS1	**Ghasr-e-Shirin**	**0.81**	**356**	Pg	**Pn**	**11 03 04.6**	**-0.2**
IGHG	**Ghaleghazi**	**0.99**	**50**	Pg	**Pg**	**11 03 06.6**	**-0.2**
BHD	**Baghdad**	**1.14**	**249**	*e*Pn	**Pg**	**11 03 10.0**	**+0.3**
BHD				*e*Sn	**Sn**	**11 03 27.0**	**+2.2**
IDHR	**Dehrash**	**1.17**	**31**	Pg	**Pn**	**11 03 10.0**	**0.0**
KCHF	**Cheshme Sefid,**	**1.29**	**63**	Pg	**Pb**	**11 03 11.8**	**-0.1**
RAFI	**Al-Rafai**	**2.00**	**169**	*e*Pn	**Pn**	**11 03 22.0**	**+0.8**
RAFI				*e*Sn	**Sb**	**11 03 48.0**	**-0.8**
SNQR	**Sonqor, Kerman**	**2.01**	**54**	Pn	**Pb**	**11 03 23.2**	**-1.0**
IKRK	**Kirkuk**	**2.02**	**328**	*e*Pn	**Pb**	**11 03 23.0**	**-1.2**
IKRK				*e*Sn	**Sb**	**11 03 49.0**	**-0.2**
IKRK				AML	AML	11 03 58.0	
	comp=N,104nm,0.2s						
IKRK				AML	AML	11 03 58.0	
	comp=E,165nm,0.4s						
IDOB	**Doab**	**2.11**	**87**	Pn	**Pn**	**11 03 23.9**	**+1.1**
HAGD	**Aghdareh**	**3.10**	**68**	Pn	**Pn**	**11 03 38.6**	**+2.0**
HGHA	**Hamedan- Ghaye**	**3.19**	**55**	Pn	**Pn**	**11 03 39.5**	**+1.8**
QABG	**Abgarm-Qazvin**	**3.81**	**57**	Pn	**Pn**	**11 03 48.3**	**+2.0**
IQOM	**Qom**	**4.63**	**74**	Pn	**Pn**	**11 03 58.3**	**+0.7**
AKASG	**Malin Array Be**	**20.82**	**330**	P	**P**	**11 07 28.5**	**-0.2**
	comp=E,0.5nm,0.4s,baz=144,slow=10,SNR=4.6 comp=E,0.5nm,0.4s						
MKAR	**Makanchi Array**	**30.59**	**54**	P	**P**	**11 09 01.3**	**+0.1**
	comp=E,0.3nm,0.6s,baz=260,slow=8.6,SNR=2.4 comp=E,0.3nm,0.6s						
HFS	**Hagfors**	**33.69**	**331**	P	**P**	**11 09 28.0**	**-0.2**
	comp=E,0.6nm,0.4s,baz=110,slow=7.8,SNR=2.0 comp=E,0.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**44.81**	**254**	P	**P**	**11 11 01.5**	**0.0**
	comp=E,2.1nm,0.3s,baz=68,slow=8.2,SNR=1.3 comp=E,2.1nm,0.3s						

---

*IDC **01** 11:08:36.7±2.0, 33°.79N×45°.68E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=46.5km s-min=24.4km az=166.0*
*TEH **01** 11:08:36.9, 33°.61N×45°.81E, h6km±999km*
*ISN **01** 11:08:36.3±1.0, 33°.70N×45°.65E, h3km±5km, ML3.4*

ISC 01 11:08:38.4±0.7, 33°.71N±0°.03×45°.70E±0°.04, h13km, n26, σ0§97/30, mb3.7/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.44**	**24**	Pg	**Pg**	**11 08 47.1**	**-0.2**
IBDR	**Badra**	**0.63**	**162**	*e*Pg	**Pg**	**11 08 50.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**11 08 58.0**	**-0.9**
KGS1	**Ghasr-e-Shirin**	**0.80**	**354**	Pg	**Pn**	**11 08 55.6**	**+0.1**
IGHG	**Ghaleghazi**	**0.96**	**49**	Pg	**Pg**	**11 08 56.7**	**-0.3**
IDHR	**Dehrash**	**1.15**	**30**	Pg	**Pg**	**11 09 00.7**	**+0.1**
BHD	**Baghdad**	**1.18**	**249**	*e*Pn	**Pg**	**11 09 01.0**	**-0.2**
BHD				*e*Sn	**Sn**	**11 09 19.0**	**+2.4**
BHD				AML	AML	11 09 22.5	
	comp=E,2μm,0.4s						
SNQR	**Sonqor, Kerman**	**1.97**	**54**	Pn	**Pb**	**11 09 13.8**	**-0.5**
RAFI	**Al-Rafai**	**2.01**	**170**	*e*Pn	**Pn**	**11 09 13.0**	**+1.0**
RAFI				*e*Sn	**Sb**	**11 09 40.0**	**+0.3**
IKRK	**Kirkuk**	**2.03**	**327**	*e*Pn	**Pn**	**11 09 13.0**	**+0.7**
IKRK				*e*Sn	**Sb**	**11 09 40.0**	**-0.3**
IKRK				AML	AML	11 09 47.7	
	comp=N,272nm,0.5s						
IKRK				AML	AML	11 10 05.0	
	comp=E,162nm,0.5s						
IDOB	**Doab**	**2.07**	**87**	Pn	**Pn**	**11 09 14.0**	**+0.9**
BDRS	**Dareh Seyedi**	**2.66**	**84**	Pn	**Pn**	**11 09 22.1**	**+0.7**
HAGD	**Aghdareh**	**3.06**	**68**	Pn	**Pn**	**11 09 28.4**	**+1.7**
HGHA	**Hamedan- Ghaye**	**3.16**	**55**	Pn	**Pn**	**11 09 30.2**	**+2.1**
QABG	**Abgarm-Qazvin**	**3.77**	**57**	Pn	**Pn**	**11 09 38.3**	**+1.7**
IQOM	**Qom**	**4.59**	**74**	Pn	**Pn**	**11 09 48.4**	**+0.5**
IVRN	**Varamin**	**5.15**	**74**	Pn	**Pn**	**11 09 56.2**	**+0.8**
ISFB	**Sefidab**	**5.47**	**81**	Pn	**Pn**	**11 10 00.3**	**+0.5**
IDMV	**Damavand**	**5.55**	**69**	Pn	**Pn**	**11 10 01.9**	**+1.0**
AKASG	**Malin Array Be**	**20.83**	**330**	P	**P**	**11 13 18.8**	**-0.8**
	comp=E,0.8nm,0.4s,baz=142,slow=10.0,SNR=6.9 comp=E,0.8nm,0.4s						
BVAR	**Borovoye Array**	**26.14**	**35**	P	**P**	**11 14 11.3**	**-0.9**
	comp=E,0.4nm,0.3s,baz=231,slow=9.1,SNR=1.9 comp=E,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**29.31**	**45**	P	**P**	**11 14 40.9**	**+0.4**
	comp=E,0.7nm,0.8s,baz=246,slow=9.1,SNR=5.0 comp=E,0.7nm,0.8s						
MKAR	**Makanchi Array**	**30.55**	**54**	P	**P**	**11 14 51.5**	**-0.1**
	comp=E,0.8nm,0.6s,baz=248,slow=7.0,SNR=9.7 comp=E,0.8nm,0.6s						
HFS	**Hagfors**	**33.69**	**331**	P	**P**	**11 15 18.2**	**-0.8**
	comp=E,2.0nm,0.6s,baz=107,slow=9.9,SNR=6.6 comp=E,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**34.13**	**42**	P	**P**	**11 15 22.1**	**-0.7**
	comp=E,0.4nm,0.4s,baz=243,slow=9.5,SNR=2.3 comp=E,0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**44.85**	**254**	P	**P**	**11 16 52.8**	**+0.2**
	comp=E,1.2nm,0.3s,baz=44,slow=6.9,SNR=1.6 comp=E,1.2nm,0.3s						
SPITS	**Spitsbergen Ar**	**46.34**	**352**	P	**P**	**11 17 03.8**	**+0.1**
	comp=E,11nm,1.1s,baz=133,slow=8.1,SNR=1.7 comp=E,11nm,1.1s						

---

*IDC **01** 11:09:49.5±0.5, 12°.55N×139°.14E, h0km, mb4.6/28, mbtmp4.6/29, ML3.9/1, MS3.7/24, Error ellipse: s-maj=19.5km s-min=10.9km az=77.0*
*BJI **01** 11:09:49.3, 12°.53N×139°.39E, h18km, mB5.1/16, mb4.9/59, Ms4.4/4, Ms7 4.3/5*
*NEIC **01** 11:09:52.4±2.1, 12°.61N±0°.09×139°.18E±0°.04, h10km±1km, mb4.9/208, Error ellipse: s-maj=15.8km s-min=3.3km az=157.0*
*DJA **01** 11:09:55.1±0.7, 13°N±4°×13°9E±1°1, h10km, M5.0/24, mb4.9/24, mB5.5/7, Mw(mB)5.0/7, MwMwp5.3/1, Mwp5.5/1*
ISC 01 11:09:51.6±0.3, 12°.58N±0°.05×139°.21E±0°.06, h10km, n450, σ1§12/361, mb4.9/154, MS3.7/21, 2C, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.60**	**79**	Pn	**Pn**	**11 11 16.2**	**+1.2**
GUMO	**Guam**	**5.60**	**79**	Pn	**Pn**	**11 11 17.0**	**+1.9**
	3.4nm,0.3s,baz=325,slow=18,SNR=2.9 88nm,1.0s						
GUMO				LR	LR	11 13 16.5	
	comp=Z,1μm,21.6s,baz=232,slow=36						
DAV	**Davao City (W)**	**14.50**	**249**	LR	LR	11 17 35.1	
	comp=Z,336nm,20.3s,baz=70,slow=32						
JCJ	**Chichijima**	**14.71**	**10**	LR	LR	11 18 15.5	
	comp=Z,189nm,18.4s,baz=169,slow=34						
JAY	**Jayapura**	**15.06**	**174**	Pn	**Pn**	**11 13 26.2**	**+1.4**
	0.6nm,0.3s,baz=345,slow=19,SNR=2.2						
JAY				Sn	**Sn**	**11 16 08.9**	**-2.9**
	0.2nm,0.3s,baz=288,slow=20,SNR=1.4						
JAY				LR	LR	11 17 54.4	
	comp=Z,266nm,20.9s,baz=351,slow=32						
MANU	**Manus Island**	**16.63**	**150**		**Pn**	**11 13 45.2**	**+0.2**
FAKI	**Fak Fak**	**16.88**	**205**		**P**	**11 13 51.6**	**+1.5**
FAKI				IAmb	IAmb	11 13 53.0	
	comp=Z,100nm,1.2s						
FAKI	**Fak Fak**	**16.88**	**205**	P	**P**	**11 13 52.2**	**+2.0**
	comp=Z,74nm,1.2s						
SANI	**Sanana**	**19.59**	**223**	P	**P**	**11 14 17.9**	**-2.1**
TWG	**Pinlang**	**20.04**	**303**	P	**P**	**11 14 25.9**	**+1.0**
TWG				IAmb	IAmb	11 14 34.8	
	comp=Z,73nm,1.1s						
YULB	**Yu-li**	**20.13**	**305**	P	**P**	**11 14 27.2**	**+1.2**
YULB				IAmb	IAmb	11 14 27.7	
	comp=Z,46nm,0.9s						
JHJ	**Hachijo jima 2**	**20.46**	**1**	LR	LR	11 20 37.3	
	comp=Z,168nm,18.9s,baz=102,slow=32						
SSLB	**Suanglung**	**20.60**	**305**		**P**	**11 14 32.0**	**+1.0**
YHNB	**Yeheng**	**20.72**	**308**	P	**P**	**11 14 32.9**	**+0.5**
MRSI	**Marisa**	**20.93**	**236**	P	**P**	**11 14 35.6**	**+1.0**
	comp=Z,2μmcomp=Z,163nm,1.2s						
LUWI	**Luwuk**	**21.20**	**232**	P	P	11 14 48.7	+11
TOLI2	**Tolitoli**	**21.53**	**239**	P	**P**	**11 14 42.5**	**+1.3**
TOLI2				IAmb	IAmb	11 14 46.0	
	comp=Z,90nm,1.3s						
JMN	**Monobe**	**21.61**	**348**	P	**P**	**11 14 40.2**	**-1.7**
JMN				IAmb	IAmb	11 14 45.6	
	comp=Z,65nm,1.0s						
MYLDM	**Lahad Datu**	**21.73**	**252**	P	**P**	**11 14 44.8**	**+1.5**
JNU	**Nakatsue**	**21.83**	**341**	P	**P**	**11 14 42.6**	**-1.7**
JNU				IAmb	IAmb	11 14 47.6	
	comp=Z,53nm,1.0s						
JNU	**Nakatsue**	**21.83**	**341**	P	**P**	**11 14 43.6**	**-0.6**
	comp=Z,36nm,0.9s,baz=164,slow=4.3,SNR=11						
JNU				S	**S**	**11 18 48.3**	**+2.7**
	comp=Z,13nm,1.0s,baz=84,slow=11,SNR=2.5 comp=Z,36nm,0.9s						
APSI	**Ampana**	**21.99**	**234**	P	P	11 15 04.5	+18
MJAR	**Matsushiro Arr**	**23.88**	**358**	P	**P**	**11 15 02.0**	**-3.5**
	comp=Z,2.9nm,0.8s,baz=170,slow=8.0,SNR=4.3						
MJAR				LR	LR	11 23 28.8	
	comp=Z,131nm,20.2s,baz=163,slow=34						
BBSI	**Bau Bau**	**24.41**	**224**	P	**P**	**11 15 17.1**	**+6.6**
	comp=Z,1μmcomp=Z,65nm,1.1s						
TTSI	**Tana Toraja**	**24.74**	**232**	P	**P**	**11 15 12.1**	**-1.4**
	comp=Z,42nm,1.0s						
SPSI	**Sidrap Palu**	**25.36**	**231**	P	**P**	**11 15 22.3**	**+3.1**
	comp=Z,25nm,1.2s						
KAPI	**Kappang**	**26.07**	**229**	LR	LR	11 24 33.2	
	comp=Z,159nm,20.4s,baz=42,slow=34						
SOEI	**Soe**	**26.70**	**214**	P	**P**	**11 15 31.7**	**+0.4**
SOEI				IAmb	IAmb	11 15 57.5	
	comp=Z,38nm,1.0s						
SOEI	**Soe**	**26.70**	**214**	P	**P**	**11 15 35.4**	**+4.1**
	comp=Z,41nm,1.1s						
KSRS	**Korea Array**	**26.76**	**340**	P	**P**	**11 15 30.9**	**-0.7**
	comp=Z,8.5nm,0.8s,baz=164,slow=10,SNR=28 comp=Z,8.5nm,0.8s						
KS19	**Wonju Array Si**	**26.82**	**340**	P	**P**	**11 15 30.8**	**-1.4**
KS19				IAmb	IAmb	11 16 08.7	
	comp=Z,58nm,1.7s						
NJ2	**Nanjing**	**26.94**	**319**	*e*P	**P**	**11 15 35.2**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**27.10**	**74**	T	T	11 44 05.5	
	baz=261,slow=74,SNR=20						
H11S1	**WAKE ISLAND Hy**	**27.11**	**74**	T	T	11 44 13.8	
	baz=261,slow=74,SNR=14						
H11S2	**WAKE ISLAND Hy**	**27.11**	**74**	T	T	11 44 06.5	
	baz=261,slow=74,SNR=10.0						
EDFI	**Ende, Flores**	**27.42**	**220**	P	**P**	**11 15 44.3**	**+6.4**
H11N1	**WAKE ISLAND Hy**	**27.49**	**71**	T	T	11 44 59.2	
	baz=265,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hy**	**27.50**	**71**	T	T	11 45 05.4	
	baz=265,slow=74,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.51**	**71**	T	T	11 45 12.2	
	baz=265,slow=74,SNR=16						
SBUM	**Sibu**	**28.55**	**252**	P	**P**	**11 15 46.5**	**-1.5**
TIA	**Tai'an**	**30.81**	**324**	P	**P**	**11 16 05.8**	**-1.9**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ASAJ	**Asahikawa**	**31.57**	**5**	LR	LR	11 28 02.0	
	comp=Z,92nm,21.6s,baz=162,slow=35						
USRK	**Ussuriysk Ar.**	**32.12**	**350**	P	**P**	**11 16 19.0**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=198,slow=9.8,SNR=3.1						
USRK				LR	LR	11 27 21.4	
	comp=Z,94nm,21.1s,baz=160,slow=33 comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**32.67**	**189**	P	**P**	**11 16 22.4**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=5.4,slow=9.6,SNR=13						
WRA				PcP	**PcP**	**11 19 10.2**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=351,slow=3.0,SNR=7.8 comp=Z,1.2nm,0.7s						
LYN	**LuoYang**	**32.67**	**317**	P	**P**	**11 16 23.8**	**-0.3**
LYN				pmax	pmax		
	comp=Z,27nm,0.6s						
HNS	**HongShan**	**33.04**	**323**	⇑P	**P**	**11 16 26.2**	**-1.0**
HNS				pmax	pmax		
	comp=Z,20nm,1.0s						
FITZ	**Fitzroy Crossi**	**33.29**	**204**	P	P	11 16 26.1	-3.5
	comp=Z,2.2nm,0.9s,baz=52,slow=12,SNR=3.3						
BJT	**Baijiatuau**	**34.05**	**328**	P	**P**	**11 16 35.8**	**-0.3**
BJI	**Beijing**	**34.07**	**328**	P	**P**	**11 16 35.6**	**-0.6**
BJI				sP	**sP**	**11 16 42.6**	**+4.0**
BJI				S	**S**	**11 22 01.1**	**-0.8**
BJI				pmax	pmax		
	comp=Z,21nm,0.8s						
BJI				LR	LR		
	comp=Z,41nm,10.6s						
BJI				LR	LR		
	comp=Z,53nm,9.2s						
BJI				LR	LR		
	comp=Z,82nm,17.0s						
BNX	**BinXian**	**34.54**	**345**	⇑P	**P**	**11 16 40.7**	**+0.5**
BNX				pmax	pmax		
	comp=Z,13nm,1.1s						
SLVN	**Son La**	**34.81**	**289**	P	**P**	**11 16 42.5**	**-0.5**
SLVN				IAmb	IAmb	11 16 44.3	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**36.39**	**188**	P	**P**	**11 16 55.7**	**-0.6**
ASAR	**Alice Springs**	**36.39**	**188**	P	**P**	**11 16 55.5**	**-0.9**
ASAR	**Alice Springs**	**36.39**	**188**	P	**P**	**11 16 55.0**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=16,slow=12,SNR=34						
ASAR				PcP	**PcP**	**11 19 21.3**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=4.3,slow=2.8,SNR=6.0						
ASAR				LR	LR	11 31 31.5	
	comp=Z,143nm,20.7s,baz=322,slow=36 comp=Z,0.8nm,0.5s						
LEM	**Lembang**	**36.85**	**240**	LR	LR	11 34 18.3	
	comp=Z,116nm,19.4s,baz=27,slow=40						
XLT	**XiLinHaoTe**	**37.01**	**332**	*e*P	**P**	**11 17 00.9**	**-0.7**
XLT				pP	pP	11 17 04.7	+1.4
XLT				sP	sP	11 17 07.9	+3.9
XLT				pmax	pmax		
	comp=Z,26nm,0.8s						
XLT				pmax	pmax		
	comp=Z,160nm,5.0s						
HHC	**Hu-ho-hao-te**	**37.15**	**324**	*e*P	**P**	**11 17 05.6**	**+2.7**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
CD2	**Chengdu**	**37.43**	**305**	P	**P**	**11 17 04.9**	**-0.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH	**PanZhiHua**	**37.78**	**297**	P	**P**	**11 17 08.7**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,180nm,5.8s						
BTO	**Baotou**	**37.89**	**323**	*e*P	**P**	**11 17 10.4**	**+1.3**
BTO				sP	**pwP**	**11 17 17.5**	**+0.8**
BTO				PP	**PnPn**	**11 18 40.0**	**+3.1**
BTO				S	**S**	**11 23 04.0**	**+3.3**
BTO				pmax	pmax		
	comp=Z,70nm,0.9s						
BTO				pmax	pmax		
	comp=Z,360nm,6.1s						
BTO				LR	LR		
	comp=Z,270nm,4.4s						
BTO				LR	LR		
	comp=Z,190nm,4.9s						
BTO				LR	LR		
	comp=Z,370nm,6.4s						
CRAI	**Chiangrai**	**37.96**	**287**	P	**P**	**11 17 10.2**	**+0.4**
CRAI				IAmb	IAmb	11 17 11.0	
	comp=Z,21nm,1.3s						
HEH	**HeiHe**	**38.80**	**348**	*e*P	**P**	**11 17 16.0**	**-0.4**
HEH				PcP	**PcP**	**11 19 27.3**	**-0.4**
HEH				pmax	pmax		
	comp=Z,30nm,0.7s						
CM31	**Chiang Mai Arr**	**39.18**	**284**	P	**P**	**11 17 20.4**	**+0.3**
CM31				IAmb	IAmb	11 17 21.4	
	comp=Z,28nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.18**	**284**	P	**P**	**11 17 20.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**39.18**	**284**	P	**P**	**11 17 20.5**	**+0.4**
	comp=Z,17nm,0.7s,baz=88,slow=6.6,SNR=98						
CMAR				PcP	**PcP**	**11 19 29.9**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=111,slow=1.8,SNR=6.1 comp=Z,17nm,0.7s						
CHTO	**Chiang Mai**	**39.20**	**284**	P	**P**	**11 17 19.8**	**-0.5**
LZH	**Lanzhou**	**39.49**	**313**	*e*P	**P**	**11 17 22.3**	**-0.4**
LZH				sP	pwP	11 17 32.5	+2.3
LZH				pmax	pmax		
	comp=Z,14nm,0.8s						
TNCH	**TengChong**	**40.31**	**294**	P	**P**	**11 17 28.7**	**-1.0**
TNCH				PP	**PP**	**11 19 01.9**	**-0.5**
TNCH				S	**S**	**11 23 39.1**	**+1.4**
TNCH				sS	sS	11 23 50.5	+10
TNCH				pmax	pmax		
	comp=Z,39nm,0.2s						
TNCH				pmax	pmax		
	comp=Z,88nm,2.6s						
TNCH				LR	LR		
	comp=Z,120nm,2.6s						
PSI	**Prapat**	**41.03**	**260**	LR	LR	11 38 13.2	
	comp=Z,197nm,18.6s,baz=323,slow=42						
RPSI	**Rantau Prapat**	**41.06**	**260**	P	**P**	**11 17 33.7**	**-2.0**
PETK	**Petropavlovsk-**	**43.04**	**16**	P	**P**	**11 17 51.5**	**0.0**
	comp=Z,6.8nm,1.0s,baz=268,slow=6.6,SNR=17 comp=Z,6.8nm,1.0s						
GTA	**Gaotai**	**43.84**	**315**	P	**P**	**11 17 58.4**	**+0.1**
GTA				pP	sP	11 18 04.0	+3.3
GT

MAKZ	Makanchi	58.66	317	P	P	11 19 49.1	-0.1	
UNV	Unalaska Valle	59.20	34	P	P	11 19 53.9	+1.1	
	baz=247							
ZAA0	Zalesovo Array	59.30	326	IAmb	IAmb	11 19 53.1		
	comp=Z,6.2nm,0.8s							
ZALV	Zalesovo Beam	59.30	326	P	P	11 19 53.1	-0.5	
ZALV	Zalesovo Beam	59.30	326	P	P	11 19 52.7	-0.8	
	comp=Z,5.7nm,0.7s,baz=100,slow=6.5,SNR=19							
ZALV				PcP	PcP	11 20 40.0	-1.6	
	comp=Z,4.6nm,0.5s,baz=117,slow=3.1,SNR=9.1							
	comp=Z,5.7nm,0.7s							
TIXI	Tiksi	59.38	356	P	P	11 19 53.2	-0.6	
TIXI	Tiksi	59.38	356	P	P	11 19 53.0	-0.8	
	comp=Z,2.3nm,0.3s,baz=171,slow=4.3,SNR=8.9							
TIXI				LR	LR	11 46 06.0		
	comp=Z,37nm,18.3s,baz=212,slow=37							
	comp=Z,2.3nm,0.3s							
SHLS	Shalkode	59.51	313	eP	P	11 19 52.3	-3.1	
	comp=Z,5.4nm,0.7s							
UZB	Uzynbulak	59.83	313	eP	P	11 19 56.5	-1.1	
	comp=Z,14nm,1.0s							
SATY	Saty	60.25	313	eP	P	11 19 59.6	-0.8	
	comp=Z,9.5nm,1.0s							
ZHN	Zhinishke	60.25	313	eP	P	11 19 59.4	-1.0	
TDK	Taldyqorghan	60.64	315	eP	P	11 20 01.9	-1.0	
MDOK	Medeo	61.25	312	eP	P	11 20 06.2	-1.1	
TNSS	Tian-Shan	61.30	312	eP	P	11 20 06.6	-1.4	
AAA	Alma-Ata	61.35	312	eP	P	11 20 07.0	-0.9	
CHKK	Chushkaly	61.41	313	eP	P	11 20 07.3	-0.9	
GAMB	Gambell	61.45	22	P	P	11 20 09.5	+1.5	
	baz=237							
KSH	Kashi	61.50	308	P	P	11 20 11.1	+2.1	
KSH				sP	pwP	11 20 19.3	+2.5	
KSH				ScS	SKiKP	11 29 53.8	-45	
KSH				pmax	pmax			
	comp=Z,15nm,0.9s							
KURK	Kurchatov	61.85	321	P	P	11 20 10.6	-0.4	
KURBB	Kurchatov Arra	61.88	321	P	P	11 20 10.6	-0.6	
	comp=Z,26nm,0.7s,baz=104,slow=7.2,SNR=166							
	comp=Z,26nm,0.7s							
SDPT	Sand Point	63.01	34	P	P	11 20 18.2	-0.4	
	baz=252							
AAK	Ala-Archa	63.02	312	P	P	11 20 18.9	-0.3	
SGDS	Sogindy	63.04	312	eP	P	11 20 18.1	-1.1	
NIL	Nilore	63.19	301	P	P	11 20 19.1	-1.2	
M13K	Dall Lake	63.35	28	P	P	11 20 22.2	+1.4	
	baz=247							
K13K	Kusilvak Mount	63.39	26	IAmb	IAmb	11 20 23.1		
	comp=Z,7.8nm,0.9s							
K13K	Kusilvak Mount	63.39	26	P	P	11 20 22.3	+1.2	
	baz=245							
BTLS	Baital	63.69	314	eP	P	11 20 22.5	-0.9	
	comp=Z,6.5nm,1.2s							
TNA	Tin City	63.77	22	IAmb	IAmb	11 20 25.2		
	comp=Z,6.8nm,1.0s							
TNA	Tin City	63.77	22	P	P	11 20 23.9	+0.4	
	baz=240							
O14K	Tigyukauivet M	63.90	30	P	P	11 20 24.7	+0.2	
	baz=250							
N14K	Kuskokwak Cree	63.93	29	P	P	11 20 25.0	+0.4	
	baz=249							
L14K	Kuka Creek	64.01	27	IAmb	IAmb	11 20 27.2		
	comp=Z,11nm,1.0s							
L14K	Kuka Creek	64.01	27	P	P	11 20 25.0	-0.2	
	baz=247							
M14K	Bethel	64.11	28	P	P	11 20 26.4	+0.6	
	baz=248,SNR=5.2							
J14K	Nanvaranak Lak	64.20	25	P	P	11 20 27.0	+0.7	
	baz=246							
ANM	Nome	64.25	23	P	P	11 20 27.4	+0.7	
ANM	Nome	64.25	23	P	P	11 20 27.2	+0.6	
	baz=243							
F14K	Arctic Creek	64.31	22	P	P	11 20 27.5	+0.5	
	baz=242							
O15K	Ungalikthiuk R	64.57	30	P	P	11 20 29.0	+0.2	
	baz=251							
L15K	Ungalak Mounta	64.67	27	P	P	11 20 30.3	+0.8	
	baz=248							
M15K	Kasigluk River	64.67	28	P	P	11 20 30.3	+0.8	
	baz=249							
N15K	Kwethluk River	64.77	29	P	P	11 20 30.7	+0.5	
	baz=250,SNR=5.4							
K15K	Wolf Creek Mou	64.88	26	P	P	11 20 31.6	+0.8	
K15K				IAmb	IAmb	11 20 34.4		
	comp=Z,12nm,1.1s							
K15K	Wolf Creek Mou	64.88	26	P	P	11 20 31.9	+1.0	
	baz=248							
G15K	Niukluk	64.95	23	P	P	11 20 32.6	+1.4	
	baz=244							
F15K	North Star Dit	65.04	22	P	P	11 20 32.7	+0.9	
	baz=243							
NRIK	Noril'sk	65.34	342	P	P	11 20 32.9	-0.8	
NRIK	Noril'sk	65.34	342	P	P	11 20 33.2	-0.5	
	comp=Z,8.3nm,0.8s,baz=123,slow=7.6,SNR=14							
	comp=Z,8.3nm,0.8s							
BRZS	Berezniki	65.41	319	eP	P	11 20 33.7	-0.8	
N16K	Nishlik Lake	65.49	29	P	P	11 20 35.7	+0.8	
	baz=251							
H16K	Elim	65.50	24	P	P	11 20 35.5	+0.7	
	baz=246,SNR=7.0							
BTK	Batken	65.51	308	P	P	11 20 35.2	-0.3	
O16K	Kokwok River B	65.54	30	P	P	11 20 36.1	+1.0	
	baz=252							
L16K	Owhat River	65.58	27	P	P	11 20 36.7	+1.4	
	baz=250							
M16K	Timber Creek	65.58	28	P	P	11 20 36.2	+0.8	
	baz=251							
J16K	Anvik River	65.65	25	IAmb	IAmb	11 20 39.1		
	comp=Z,7.3nm,0.9s							
J16K	Anvik River	65.65	25	P	P	11 20 37.1	+1.3	
	baz=248							
G16K	Koyuk River	65.77	23	P	P	11 20 37.4	+0.9	
	baz=246							
GAR	Garm	65.83	307	P	P	11 20 37.3	-0.3	
I17K	Unalakleet	65.83	25	IAmb	IAmb	11 20 39.3		
	comp=Z,9.6nm,1.0s							
I17K	Unalakleet	65.83	25	P	P	11 20 37.9	+1.0	
	baz=248,SNR=6.7							
KKAR	Karatay Array	65.98	312	P	P	11 20 37.3	-1.1	
KKAR	Karatay Array	65.98	312	IAmb	IAmb	11 20 38.8		
	comp=Z,13nm,1.4s							
C16K	Lisburne Hills	65.99	20	P	P	11 20 38.8	+1.0	
	baz=242							
O17K	Koliganek Bris	66.08	30	P	P	11 20 39.4	+0.8	
	baz=253							
L17K	Donlin	66.24	27	P	P	11 20 40.5	+0.8	
	baz=251							
N17K	Nushagak Hills	66.25	29	P	P	11 20 40.5	+0.7	
	baz=253							
IUG	Iuzhnay	66.25	311	eP	P	11 20 39.4	-0.9	
	comp=Z,7.4nm,0.8s							
J17K	VABM Dome	66.33	26	P	P	11 20 41.9	+1.7	
	baz=250,SNR=6.0							
M17K	Holitna River	66.40	28	IAmb	IAmb	11 20 43.0		
	comp=Z,11nm,0.8s							
M17K	Holitna River	66.40	28	P	P	11 20 41.8	+1.1	
	baz=252,SNR=7.8							
K17K	Iditarod	66.43	26	IAmb	IAmb	11 20 43.1		
	comp=Z,9.0nm,1.0s							
K17K	Iditarod	66.43	26	P	P	11 20 41.4	+0.6	
	baz=251,SNR=5.1							
G17K	Kiwalik Mounta	66.46	23	P	P	11 20 41.3	+0.3	
	baz=247							
BRLS	Boroldoy	66.47	312	eP	P	11 20 41.2	-0.3	
	comp=Z,7.5nm,1.5s							
D17K	Noatak River	66.48	21	P	P	11 20 41.8	+0.7	
	baz=244,SNR=9.9							
H17K	Granite Mounta	66.54	24	IAmb	IAmb	11 20 43.6		
	comp=Z,9.2nm,0.8s							
H17K	Granite Mounta	66.54	24	P	P	11 20 42.1	+0.6	
	baz=248,SNR=11							
CHM	Chimkent	66.58	311	eP	P	11 20 41.4	-0.9	
E17K	Hotham Inlet	66.66	21	P	P	11 20 43.7	+1.5	
	baz=246							
RDOG	Red Dog Mine	66.70	20	P	P	11 20 43.7	+1.2	
	baz=244							
C17K	DeLong Mountai	66.79	20	P	P	11 20 44.6	+1.4	
	baz=244							
Q18K	Katmai Hardscr	66.81	31	P	P	11 20 44.7	+1.2	
	baz=256							
SIMJ	Simiganj	66.83	307	P	P	11 20 43.1	-0.9	
N18K	Kilae Creek	66.91	29	P	P	11 20 44.7	+0.7	
	baz=254							
L18K	Granite Mounta	66.99	27	IAmb	IAmb	11 21 16.2		
	comp=Z,12nm,1.5s							
L18K	Granite Mounta	66.99	27	P	P	11 20 45.2	+0.8	
	baz=253							
O18K	Koktuh Hills	67.02	30	IAmb	IAmb	11 20 46.5		
	comp=Z,8.7nm,0.8s							
O18K	Koktuh Hills	67.02	30	P	P	11 20 45.9	+1.2	
	baz=255,SNR=6.9							
M18K	Stony River	67.17	28	P	P	11 20 46.3	+0.7	
	baz=254							
H18K	Honhosa River	67.23	24	IAmb	IAmb	11 20 47.6		
	comp=Z,11nm,1.1s							
H18K	Honhosa River	67.23	24	P	P	11 20 46.5	+0.6	
	baz=250,SNR=6.8							
E18K	Tukpahlearik C	67.23	21	P	P	11 20 46.9	+1.0	
	baz=247							
F18K	Selawik	67.26	22	P	P	11 20 46.9	+0.9	
	baz=248							
BVAR	Borovoye Array	67.33	322	P	P	11 20 46.2	-0.6	
	comp=Z,20nm,0.7s,baz=101,slow=7.7,SNR=55							
	comp=Z,20nm,0.7s							
J18K	Innoko River	67.36	26	P	P	11 20 47.7	+1.0	
	baz=252							
OHAK	Old Harbor	67.37	33	P	P	11 20 48.2	+1.2	
	baz=258							
G18K	Tagagawik	67.38	23	IAmb	IAmb	11 20 48.6		
	comp=Z,11nm,1.1s							
G18K	Tagagawik	67.38	23	P	P	11 20 47.4	+0.6	
	baz=249							
BRVK	Borovoye	67.40	322	P	P	11 20 46.0	-1.2	
C18K	Utukok River	67.53	20	IAmb	IAmb	11 20 49.3		
	comp=Z,7.0nm,0.9s							
C18K	Utukok River	67.53	20	P	P	11 20 48.5	+0.7	
	baz=246,SNR=6.9							
O19K	Port Alsworth	67.53	30	IAmb	IAmb	11 20 49.5		
	comp=Z,6.5nm,0.8s							
O19K	Port Alsworth	67.53	30	P	P	11 20 48.6	+0.7	
	baz=256							
Q19K	Cape Douglas,	67.56	31	P	P	11 20 48.1	-0.1	
	baz=257							
N19K	Bonanza Creek	67.61	29	IAmb	IAmb	11 20 51.7		
	comp=Z,7.7nm,0.8s							
N19K	Bonanza Creek	67.61	29	P	P	11 20 49.3	+0.8	
	baz=255,SNR=7.9							
B18K	Kokolik River	67.63	19	P	P	11 20 49.3	+0.9	
	baz=245							
GCSA	Galena City Sc	67.69	25	P	P	11 20 49.1	+0.3	
	baz=251							
L19K	White Mountain	67.80	28	IAmb	IAmb	11 20 51.6		
	comp=Z,6.9nm,1.1s							
L19K	White Mountain	67.80	28	P	P	11 20 50.3	+0.7	
	baz=254							
KDAK	Kodiak Island	67.86	32	P	P	11 20 49.4	-0.6	
	baz=258							
P19K	Oil Pt	67.94	30	P	P	11 20 50.6	+0.1	
	baz=257							
M19K	Big River Lodg	67.94	28	P	P	11 20 51.1	+0.6	
	baz=255							
J19K	Poorman	67.98	26	P	P	11 20 51.6	+0.9	
	baz=253,SNR=6.4							
F19K	Shaleruckik Mo	68.04	22	P	P	11 20 51.7	+0.7	
	baz=250							
G19K	Purcell Mounta	68.06	23	P	P	11 20 53.1	+1.9	
	baz=251							
H19K	Roundabout Mou	68.11	24	P	P	11 20 51.9	+0.5	
	baz=252,SNR=15							
Q20K	Shuyak Island	68.13	32	P	P	11 20 52.0	+0.3	
	baz=258							
A19K	Wainwright	68.22	18	P	P	11 20 53.1	+1.1	
	baz=245							
L20K	Farewell, AK	68.32	27	P	P	11 20 53.4	+0.6	
	baz=255							
E19K	Redstone River	68.45	22	P	P	11 20 54.0	+0.4	
	baz=250,SNR=17							
K20K	Telida	68.46	26	IAmb	IAmb	11 20 57.2		
	comp=Z,7.8nm,0.9s							
K20K	Telida	68.46	26	P	P	11 20 54.4	+0.6	
	baz=255,SNR=8.3							
D19K	Kuna River	68.51	21	P	P	11 20 54.2	+0.2	
	baz=249							
M20K	Styx River	68.51	28	IAmb	IAmb	11 21 05.4		
	comp=Z,6.5nm,1.1s							
M20K	Styx River	68.51	28	P	P	11 20 54.7	+0.6	
	baz=256							
J20K	Nowinta River	68.65	26	IAmb	IAmb	11 20 58.3		
	comp=Z,8.9nm,0.9s							
J20K	Nowinta River	68.65	26	P	P	11 20 55.9	+1.0	
	baz=254,SNR=11							
I20K	Naaghedeneel	68.69	25	P	P	11 20 55.6	+0.6	
	baz=254							
H20K	Anotleneega Mo	68.72	24	P	P	11 20 55.9	+0.5	
	baz=253,SNR=5.8							
F20K	Avaraart Lake	68.87	22	IAmb	IAmb	11 20 58.4		
	comp=Z,7.1nm,1.1s							
F20K	Avaraart Lake	68.87	22	P	P	11 20 57.0	+0.8	
	baz=252							
STLK	Strandline Lak	69.02	29	IAmb	IAmb	11 21 01.3		
	comp=Z,4.2nm,0.6s							
E20K	Nigu River	69.10	21	P	P	11 20 58.4	+0.7	
	baz=251							
D20K	Etivluk River	69.10	21	P	P	11 20 58.1	+0.5	
	baz=250							
BRLK	Bradley Lake	69.12	31	IAmb	IAmb	11 20 58.4		
	comp=Z,6.7nm,0.7s							
PPLA	Purkeypile	69.18	27	P	P	11 20 58.8	+0.5	
PPLA				IAmb	IAmb	11 21 31.3		
	comp=Z,14nm,1.4s							
PPLA	Purkeypile	69.18	27	P	P	11 20 58.3	0.0	
	baz=256							
BRSE	Bradley Lake S	69.19	31	P	P	11 20 58.6	+0.3	
	baz=259							
SKT	Skwentna	69.27	28	P	P	11 20 58.9	+0.1	
	baz=258							
CAST	Castle Rocks	69.35	27	P	P	11 20 59.3	+0.1	
CAST				IAmb	IAmb	11 21 00.9		
	comp=Z,8.9nm,0.8s							
CAST	Castle Rocks	69.35	27	P	P	11 20 59.8	+0.6	
	baz=256,SNR=19							
CHUM	Lake Minchumin	69.36	26	P	P	11 20 59.4	+0.2	
	baz=256							
B20K	Meade River	69.37	19	P	P	11 20 59.4	+0.2	
	baz=249							
SUA	Susitna One	69.53	29	IAmb	IAmb	11 21 02.2		
	comp=Z,5.1nm,0.6s							
SUA	Susitna One	69.53	29	P	P	11 21 00.4	-0.1	
	baz=258,SNR=6.8							
G21K	Allakaket	69.56	23	P	P	11 21 01.0	+0.5	
	baz=254							
SLKM	Skilak Lake	69.59	30	IAmb	IAmb	11 21 11.8		
	comp=Z,5.8nm,0.8s							
H21K	Melozitna Rive	69.60	24	IAmb	IAmb	11 21 03.0		
	comp=Z,8.6nm,0.9s							
H21K	Melozitna Rive	69.60	24	P	P	11 21 01.5	+0.7	
	baz=255,SNR=7.2							
F21K	Alatna River	69.76	23	P	P	11 21 01.9	+0.2	
	baz=254							
O22K	Cooper Landing	69.83	30	P	P	11 21 01.7	-0.5	
	baz=260							
C21K	Knifeblade Rid	69.87	20	P	P	11 21 02.5	+0.1	
	baz=252							
KTH	Kantishna Hill	69.88	27	IAmb	IAmb	11 21 18.8		
	comp=Z,9.2nm,1.1s							
SEW	Seward	69.89	30	IAmb	IAmb	11 21 03.7		
	comp=Z,8.1nm,0.9s							
SEW	Seward	69.89	30	P	P	11 21 02.3	-0.3	
	baz=260							
RC01	Rabbit Creek A	69.93	29	P	P	11 21 02.3	-0.5	
RC01				IAmb	IAmb	11 21 03.5		
	comp=Z,18nm,1.5s							
RC01	Rabbit Creek A	69.93	29	P	P	11 21 02.4	-0.5	
	baz=259							
CUT	Chulitna	69.94	28	P	P	11 21 02.4	-0.4	
	baz=258							
E21K	Killik River	69.94	21	P	P	11 21 03.3	+0.5	
E21K	Killik River	69.94	21	P	P	11 21 03.3	+0.5	
	baz=253							
BPAW	Bear Paw Mtn.	69.98	26	IAmb	IAmb	11 21 04.7		
	comp=Z,8.5nm,0.8s							
BPAW	Bear Paw Mtn.	69.98	26	P	P	11 21 03.5	+0.3	
	baz=257,SNR=17							
A21K	Barrow	70.01	18	P	P	11 21 03.6	+0.5	
	baz=249,SNR=5.2							
B21K	Ikpikpuk River	70.08	20	IAmb	IAmb	11 21 05.5		
	comp=Z,14nm,1.1s							
B21K	Ikpikpuk River	70.08	20	P	P	11 21 04.6	+1.0	
	baz=252							
TRF	Thorofare Moun	70.14	27	IAmb	IAmb	11 21 06.3		
	comp=Z,8.4nm,0.9s							
TRF	Thorofare Moun	70.14	27	P	P	11 21 04.2	-0.1	
	baz=258,SNR=9.8							
H22K	Ishtalitna Cre	70.23	24	P	P	11 21 05.5	+0.8	
	baz=256,SNR=6.9							
PMR	Palmer	70.31	29	IAmb	IAmb	11 21 06.8		
	comp=Z,6.6nm,0.8s							
PMR	Palmer	70.31	29	P	P	11 21 04.5	-0.6	
	baz=260,SNR=12							
F22K	John River	70.33	22	P	P	11 21 05.8	+0.6	
	baz=255							
A22K	Sinclair Lake	70.40	18	P	P	11 21 05.9	+0.3	
	baz=251							
GHO	Glory Hole Cre	70.44	29	IAmb	IAmb	11 21 06.8		
	comp=Z,6.4nm,0.9s							
D22K	Ayikyak River	70.51	21	IAmb	IAmb	11 21 08.5		
	comp=Z,11nm,0.8s							
D22K	Ayikyak River	70.51	21	P	P	11 21 07.1	+0.8	
	baz=254							
PWL	Port Wells	70.57	30	P	P	11 21 06.5	-0.3	
	baz=261,SNR=13							
KNK	Knik Glacier	70.60	29	IAmb	IAmb	11 21 07.6		
	comp=Z,5.7nm,0.7s							
KNK	Knik Glacier	70.60	29	P	P	11 21 07.0	0.0	
	baz=260							
E22K	Anaktuvuk Pass	70.62	22	IAmb	IAmb	11 21 09.1		
	comp=Z,15nm,1.1s							
E22K	Anaktuvuk Pass	70.62	22	P	P	11 21 07.4	+0.4	
	baz=255,SNR=13							
B22K	Teshekpuk Lake	70.69	19	P	P	11 21 07.5	+0.2	
	baz=253							
SML	Sawmill	70.72	29	P	P	11 21 07.3	-0.4	
SML				IAmb	IAmb	11 21 08.9		
	comp=Z,10nm,0.9s							
SML	Sawmill	70.72	29	P	P	11 21 07.8	0.0	
	baz=260,SNR=8.8							
RND	Reindeer	70.77	27	IAmb	IAmb	11 21 08.8		
	comp=Z,7.3nm,1.0s							
MCK	McKinley	70.79	27	IAmb	IAmb	11 21 09.0		
	comp=Z,8.5nm,1.0s							
MCK	McKinley	70.79	27	P	P	11 21 08.0	-0.2	
	baz=259,SNR=7.2							
I23K	Minto, Yukon-K	70.88	25	P	P	11 21 08.7	+0.1	
	baz=258,SNR=11							
NEA2	Nenana	70.90	26	P	P	11 21 08.8	+0.1	
	baz=259,SNR=6.2							
H23K	Yukon River	70.95	24	IAmb	IAmb	11 21 11.2		
	comp=Z,12nm,1.1s							
H23K	Yukon River	70.95	24	P	P	11 21 09.6	+0.6	
	baz=258							
G23K	Bananza Creek	70.95	23	IAmb	IAmb	11 21 11.3		
	comp=Z,12nm,1.0s							
G23K	Bananza Creek	70.95	23	P	P	11 21 10.1	+1.0	
	baz=257							
COLD	Coldfoot	71.00	23	P	P	11 21 10.4	+1.1	
	baz=257,SNR=18							
M23K	Glacier View	71.00	29	P	P	11 21 09.9	+0.4	
	baz=261,SNR=6.1							
GLI	Glacier Island	71.17	30	P	P	11 21 09.9	-0.5	
	baz=262							
SCM	Sheep Creek Mo	71.20	29	P	P	11 21 10.6	0.0	
	baz=261,SNR=10							
D23K	Nanushuk River	71.23	21	IAmb	IAmb	11 21 14.2		
	comp=Z,13nm,1.0s							
D23K	Nanushuk River	71.23	21	P	P	11 21 11.4	+0.7	
	baz=256							
WRH	Wood River Hil	71.29	26	IAmb	IAmb	11 21 12.0		
	comp=Z,14nm,1.4s							
E23K	Chandalar	71.40	22	P	P	11 21 12.5	+0.6	
	baz=257							
CCB	Clear Creek Bu	71.44	26	IAmb	IAmb	11 21 13.4		
	comp=Z,24nm,1.9s							
FID	Port Fidalgo	71.45	30	IAmb	IAmb	11 21 13.3		
	comp=Z,8.4nm,0.9s							
COLA	College	71.46	25	P	P	11 21 12.6	+0.5	
	baz=260							
C23K	Itkillik River	71.47	20	P	P	11 21 12.5	+0.4	
	baz=256							
TOLK	Toolik Lake Re	71.55	21	P	P	11 21 12.9	+0.2	
	baz=257,SNR=24							
H24K	Noodor Dome	71.62	24	IAmb	IAmb	11 21 16.1		
	comp=Z,9.6nm,1.2s							
H24K	Noodor Dome	71.62	24	P	P	11 21 13.2	+0.1	
	baz=260,SNR=7.4							
HDA	Harding Lake	71.77	26	P	P	11 21 14.0	0.0	
	baz=261,SNR=5.4							
EYAK	Cordova Ski Ar	71.78	30	IAmb	IAmb	11 21 16.9		
	comp=Z,7.4nm,0.9s							
EYAK	Cordova Ski Ar	71.78	30	P	P	11 21 14.4	+0.3	
	baz=263							
KLU	Klutina	71.81	29	IAmb	IAmb	11 21 16.0		
	comp=Z,6.7nm,0.9s							
KLU	Klutina	71.81	29	P	P	11 21 14.9	+0.5	
	baz=263,SNR=5.6							
E24K	Your Creek	71.82	22	IAmb	IAmb	11 21 16.4		
	comp=Z,8.5nm,1.1s							
E24K	Your Creek	71.82	22	P	P	11 21 15.2	+0.9	
	baz=258							
ILAR	Eielson Array	71.85	26	P	P	11 21 13.3	-1.2	
ILAR	Eielson Array	71.85	26	P	P	11 21 13.7	-0.8	
	comp=Z,3.3nm,0.6s,baz=252,slow=5.8,SNR=27							
ILAR				LR	LR	11 48 56.0		
	comp=Z,47nm,21.8s,baz=244,slow=33							
	comp=Z,3.3nm,0.6s							
D24K	Happy Valley	71.93	21	P	P	11 21 16.2	+1.3	
	baz=258							
F24K	Squaw Lake	71.94	23	IAmb	IAmb	11 21 17.3		
	comp=Z,7.5nm,0.9s							
F24K	Squaw Lake	71.94	23	P	P	11 21 15.7	+0.7	
	baz=259							
G24K	Hadweenzic Riv	71.94	24	IAmb	IAmb	11 21 17.1		
	comp=Z,9.3nm,0.9s							
G24K	Hadweenzic Riv	71.94	24	P	P	11 21 15.7	+0.7	
	baz=260							
C24K	Franklin Bluff	72.09	20	P	P	11 21 15.9	+0.1	
	baz=258							
K24K	Donnelly Dome	72.19	27	P	P	11 21 16.0	-0.5	
	baz=262							
PAX	Paxson	72.21	28	P	P	11 21 17.0	+0.2	
	baz=263,SNR=6.5							
HARP	HAARP	72.28	28	P	P	11 21 17.5	+0.4	
	baz=263,SNR=6.1							
HRA	Herat	72.32	302	IAmb	IAmb	11 21 18.6		
	comp=Z,13nm,0.8s							
BMRM	Bremner River	72.39	30	IAmb	IAmb	11 21 19.5		
	comp=Z,8.7nm,0.9s							
BMRM	Bremner River	72.39	30	P	P	11 21 17.7	-0.2	
	baz=264							
N25K	Chitina, Valde	72.46	29	P	P	11 21 18.1	-0.2	
	baz=264							
J25K	Salcha River,	72.47	26	P	P	11 21 18.3	0.0	
	baz=262							
G25K	Bearman Lake	72.49	24	P	P	11 21 18.4	+0.2	
	baz=261							
H25L	Birch Creek	72.52	24	P	P	11 21 18.6	+0.2	
	baz=261,SNR=7.6							
PRP	Porcupine Dome	72.53	25	P	P	11 21 18.7	-0.1	
	baz=262							
RIDG	Independent Ri	72.59	27	IAmb	IAmb	11 21 21.3		
	comp=Z,9.1nm,1.0s							
RIDG	Independent Ri	72.59	27	P	P	11 21 18.9	-0.1	
	baz=263							
F25K	Christian

C26K	Camden Bay	73.42	20	P	P	11 21 24.5 +0.8
	baz=261,SNR=11					
G26K	Porcupine Rive	73.42	24	P	P	11 21 25.2 +1.4
	baz=263					
I26K	Coal Creek Min	73.49	25	P	P	11 21 24.3 +0.1
	baz=264					
ABKAR	Akbulak array	73.59	318	P	P	11 21 24.2 -0.9
ABKAR	Akbulak array	73.59	318	IAmb	IAmb	11 21 25.1
	comp=Z,9.4nm,0.8s					
C27K	Jago River	73.79	21	IAmb	IAmb	11 21 27.4
	comp=Z,6.1nm,0.6s					
M27K	Edge Creek, AK	73.80	28	P	P	11 21 26.1 -0.2
	baz=266					
K27K	Chicken	73.84	27	IAmb	IAmb	11 21 28.8
	comp=Z,27nm,1.9s					
K27K	Chicken	73.84	27	P	P	11 21 26.9 +0.6
	baz=265					
L27K	Beaver Creek,	73.87	28	P	P	11 21 27.1 +0.5
	baz=266					
BCAR	Beaver Creek A	73.89	28	P	P	11 21 26.8 +0.1
I27K	Kandik River	74.16	25	P	P	11 21 29.0 +0.8
	baz=265,SNR=6.7					
G27K	Doyon Strip	74.24	24	P	P	11 21 30.3 +1.6
	baz=265					
H27K	Steamboat Moun	74.25	24	P	P	11 21 30.0 +1.3
	baz=265,SNR=12					
BVCY	Beaver Creek	74.28	28	P	P	11 21 30.1 +1.2
	baz=267					
E27K	Coleen River	74.39	22	P	P	11 21 30.7 +1.2
	baz=265					
YUK3	Moose Creek	74.44	29	P	P	11 21 31.1 +1.0
	baz=268,SNR=6.8					
O28M	Mount Upton	74.53	30	P	P	11 21 31.8 +1.1
	baz=268,SNR=9.4					
ARTI	Arti	74.55	325	P	P	11 21 29.2 -1.4
	comp=Z,9.3nm,0.8s,baz=98,slow=1.8,SNR=12					
	comp=Z,9.3nm,0.8s					
YUK8	Steele Glacier	74.75	30	P	P	11 21 33.1 +1.1
	baz=268,SNR=5.7					
I28M	Miner Creek	74.85	25	P	P	11 21 33.2 +1.0
	baz=267,SNR=8.6					
DAWY	Dawson	75.02	27	P	P	11 21 34.0 +0.8
	baz=268,SNR=8.5					
E28M	Babbage River	75.18	22	IAmb	IAmb	11 21 36.2
	comp=Z,16nm,1.1s					
E28M	Babbage River	75.18	22	P	P	11 21 35.0 +1.0
	baz=266,SNR=15					
YUK4	Talbot Arm	75.29	30	P	P	11 21 36.7 +1.7
	baz=269,SNR=6.2					
O29M	Mount Kennedy	75.32	31	P	P	11 21 36.7 +1.6
	baz=270,SNR=6.6					
M29M	Somme Creek	75.39	28	P	P	11 21 36.6 +1.1
	baz=269,SNR=11					
YUK6	Outpost Mounta	75.43	30	P	P	11 21 36.8 +0.9
	baz=270,SNR=6.4					
H29M	Whitestone	75.52	25	P	P	11 21 37.1 +1.1
	baz=268					
I29M	Ogilvie Camp,	75.53	25	IAmb	IAmb	11 21 37.9
	comp=Z,27nm,1.9s					
I29M	Ogilvie Camp,	75.53	25	P	P	11 21 36.6 +0.6
	baz=268					
J29N	Klondike Camp	75.54	26	IAmb	IAmb	11 21 38.5
	comp=Z,22nm,1.8s					
J29N	Klondike Camp	75.54	26	P	P	11 21 37.3 +1.1
	baz=269					
L29M	L29M	75.56	28	IAmb	IAmb	11 21 38.9
	comp=Z,8.2nm,0.8s					
L29M	L29M	75.56	28	P	P	11 21 37.3 +0.9
	baz=269,SNR=14					
G29M	Pine Creek	75.68	24	IAmb	IAmb	11 21 39.3
	comp=Z,16nm,1.1s					
G29M	Pine Creek	75.68	24	P	P	11 21 37.5 +0.6
	baz=268					
P29M	Windy Craggy	75.74	31	P	P	11 21 38.1 +0.7
	baz=270					
E29M	Blow River	75.78	22	P	P	11 21 38.1 +0.7
	baz=268					
K29M	Barlow Dome	75.84	27	IAmb	IAmb	11 21 40.3
	comp=Z,7.4nm,0.9s					
K29M	Barlow Dome	75.84	27	P	P	11 21 38.8 +0.7
	baz=270,SNR=9.3					
HYT	Haines Junctio	75.85	30	IAmb	IAmb	11 21 41.8
	comp=Z,7.7nm,0.9s					
HYT	Haines Junctio	75.85	30	P	P	11 21 38.9 +0.8
	baz=270,SNR=10					
N30M	Aishikik Lake	76.04	29	P	P	11 21 39.7 +0.5
	baz=271					
P30M	Million Dollar	76.12	31	P	P	11 21 39.8 +0.2
	baz=271					
M30M	Minto, Yukon	76.17	28	P	P	11 21 40.3 +0.5
	baz=271,SNR=7.4					
EPYK	Eagle Plains	76.19	24	IAmb	IAmb	11 24 29.1
	comp=Z,18nm,1.7s					
EPYK	Eagle Plains	76.19	24	P	P	11 21 41.0 +1.1
	baz=270					
I30M	Mount Dempster	76.33	26	P	P	11 21 41.2 +0.4
	baz=270,SNR=5.1					
J30M	Hart River	76.36	26	P	P	11 21 40.8 -0.2
	baz=270					
G30M	tAoh Zraii Nji	76.39	24	IAmb	IAmb	11 21 42.4
	comp=Z,7.5nm,0.9s					
G30M	tAoh Zraii Nji	76.39	24	P	P	11 21 41.0 0.0
	baz=270					
O30N	Mendenhall	76.54	30	P	P	11 21 42.4 +0.4
	baz=272					
F30M	Barrier River	76.56	23	P	P	11 21 42.0 0.0
	baz=270					
SKAG	Skagway	76.97	32	P	P	11 21 45.5 +1.2
	baz=273					
WHY	Whitehorse	77.14	30	IAmb	IAmb	11 21 48.9
	comp=Z,16nm,1.0s					
WHY	Whitehorse	77.14	30	P	P	11 21 46.1 +0.7
	baz=273,SNR=8.9					
G31M	Satah River	77.16	24	IAmb	IAmb	11 21 47.5
	comp=Z,7.1nm,0.9s					
G31M	Satah River	77.16	24	P	P	11 21 45.6 +0.4
	baz=272,SNR=13					
H31M	Peel River	77.17	25	P	P	11 21 46.6 +1.2
	baz=272					
M31M	Drury Creek, Y	77.30	29	P	P	11 21 47.1 +0.9
	baz=273,SNR=6.0					
F31M	Tsiigehtchic	77.35	23	P	P	11 21 47.0 +0.6
	baz=272					
INK	Inuvik	77.40	22	P	P	11 21 46.6 +0.1
	baz=272,SNR=6.7					
R32K	Eaglecrest	77.45	33	P	P	11 21 47.8 +0.7
	baz=274					
S32K	Killisnoo	77.47	34	P	P	11 21 47.5 +0.4
	baz=274					
P32M	Atlin	77.78	31	P	P	11 21 49.7 +0.7
	baz=274					
FARO	Faro, Yukon	77.79	29	P	P	11 21 49.0 +0.1
	baz=274					
Q32M	Nakina River	78.57	32	P	P	11 21 53.4 -0.2
	baz=275					
WRAK	Wrangell Islan	78.78	34	P	P	11 21 55.4 +1.0
	baz=276					
R33M	Jennings River	79.20	31	P	P	11 21 57.4 +0.5
	baz=276					
KIRV	Kirov	79.28	328	P	P	11 21 56.4 -0.7
	comp=Z,9.8nm,0.5s,baz=72,slow=7.7,SNR=4.3					
	comp=Z,9.8nm,0.5s					
S34M	Telegraph Cree	79.28	33	P	P	11 21 57.5 +0.3
	baz=276					
V35K	Ketchikan	79.31	36	P	P	11 21 57.3 -0.1
	baz=277					
A36M	Sachs Harbour	79.85	18	P	P	11 21 60.0 0.0
A36M				IAmb	IAmb	11 22 02.4
	comp=Z,14nm,0.8s					
A36M	Sachs Harbour	79.85	18	P	P	11 21 59.9 -0.2
	baz=279,SNR=22					
C36M	Paulatuk	80.69	21	P	P	11 22 04.0 -0.6
	baz=281,SNR=7.9					
BBB	Bella Bella	81.81	38	LR	LR	11 53 20.1
	comp=Z,77nm,18.4s,baz=176,slow=32					
KOTAN	Kotaneelee Air	82.53	30	P	P	11 22 14.2 -0.3
	baz=282					
SPITS	Spitsbergen Ar	84.12	350	P	P	11 22 22.1 -0.3
	comp=Z,14nm,0.8s,baz=92,slow=9.2,SNR=7.4					
	comp=Z,14nm,0.8s					
KBZ	Khabaz	85.92	314	P	P	11 22 31.8 -0.3
	comp=Z,5.4nm,0.8s,baz=140,slow=3.2,SNR=8.4					
	comp=Z,5.4nm,0.8s					
GNW	Green Mountain	86.12	42	P	P	11 22 33.4 +0.3
YKA	Yellowknife Ar	86.26	27	P	P	11 22 32.9 -0.5
YKA	Yellowknife Ar	86.26	27	P	P	11 22 33.3 0.0
	comp=Z,2.1nm,0.8s,baz=292,slow=5.4,SNR=29					
YKA				LR	LR	11 57 44.6
	comp=Z,56nm,20.7s,baz=292,slow=33					
	comp=Z,2.1nm,0.8s					
ARCES	ARCESS Array B	86.31	341	P	P	11 22 32.7 -0.8
	comp=Z,4.4nm,0.5s,baz=76,slow=7.6,SNR=36					
	comp=Z,4.4nm,0.5s					
YBH	Yreka Blue Hor	87.66	48	P	P	11 22 42.0 +1.2
YBH				IAmb	IAmb	11 22 51.0
	comp=Z,7.0nm,1.3s					
YBH	Yreka Blue Hor	87.66	48	LR	LR	11 54 26.1
	comp=Z,54nm,21.4s,baz=326,slow=30					
GURO	Guroymak-BITLI	87.79	309	IAmb	IAmb	11 22 41.7
	comp=Z,8.3nm,0.9s					
O02D	Mt. Diablo Mer	88.00	49	IAmb	IAmb	11 22 56.9
	comp=Z,7.1nm,1.1s					
J05D	Fort Rock, OR	88.31	46	P	P	11 22 43.9 -0.1
J05D				IAmb	IAmb	11 23 58.3
	comp=Z,12nm,1.6s					
PINE	Pine Mountain	88.38	46	IAmb	IAmb	11 22 54.3
	comp=Z,5.6nm,1.0s					
NEW	Newport	89.61	40	LR	LR	11 54 58.7
	comp=Z,66nm,19.9s,baz=251,slow=30					
FINES	FINESS Array B	89.69	334	P	P	11 22 47.7 -2.1
	comp=Z,10.0nm,0.9s,baz=62,slow=4.9,SNR=17					
	comp=Z,10.0nm,0.9s					
NVAR	Mina Array Bea	91.83	50	P	P	11 23 00.5 -0.1
	comp=Z,0.7nm,0.7s,baz=252,slow=5.8,SNR=5.7					
	comp=Z,0.7nm,0.7s					
ELK	Elko	93.34	47	LR	LR	11 59 52.5
	comp=Z,92nm,19.0s,baz=305,slow=32					
BRTR	Keskin Array B	93.69	312	P	P	11 23 06.7 -2.4
	comp=Z,0.6nm,0.6s,baz=48,slow=2.9,SNR=2.7					
	comp=Z,0.6nm,0.6s					
YHL	Hebgen Lake	94.64	42	IAmb	IAmb	11 23 23.7
	comp=Z,5.7nm,1.1s					
PFO	Pinyon Flats O	94.73	54	LR	LR	12 03 50.3
	comp=Z,51nm,18.1s,baz=278,slow=34					
YMR	Madison River	94.86	42	IAmb	IAmb	11 23 18.5
	comp=Z,4.7nm,0.8s					
HFS	Hagfors	95.54	336	P	P	11 23 15.0 -1.9
	comp=Z,0.9nm,0.6s,baz=357,slow=6.1,SNR=1.3					
	comp=Z,0.9nm,0.6s					
NB2	NORSAR Subarra	95.94	337	P	P	11 23 17.6 -1.1
	comp=Z,1.9nm,0.8s,baz=48,slow=5.1					
NOA	NORSAR Array B	95.94	337	P	P	11 23 17.2 -1.5
	comp=Z,1.4nm,0.8s,baz=49,slow=4.9,SNR=4.7					
	comp=Z,1.4nm,0.8s					
PDAR	Pinedale Array	96.54	44	P	P	11 23 22.4 +0.2
	comp=Z,0.1nm,0.5s,baz=306,slow=6.4,SNR=1.9					
PDAR				LR	LR	12 01 26.6
	comp=Z,38nm,19.6s,baz=268,slow=32					
	comp=Z,0.1nm,0.5s					
ESDC	Sonseca Array	117.75	328	PP	PP	11 29 49.7 -1.1
	comp=Z,0.9nm,0.9s,baz=42,slow=7.3,SNR=4.8					
TORD	Torodi Ar. Bea	130.73	300	PKP	PKPdf	11 29 02.7 -1.4
	comp=Z,1.5nm,0.3s,baz=87,slow=4.7,SNR=1.8					
PLCA	Paso Flores	141.69	143	PKP	PKPdf	11 29 20.8 -3.0
	comp=Z,1.5nm,0.9s,baz=206,slow=9.2,SNR=3.0					
LPAZ	La Paz	153.27	101	PKPbc	PKPbc	11 29 52.0 +0.3
	comp=Z,2.2nm,0.7s,baz=241,slow=3.1,SNR=7.2					
CPUP	Villa Florida	159.28	134	PKPab	PKPab	11 30 30.0 +1.8
	comp=Z,0.6nm,0.4s,baz=256,slow=4.2,SNR=4.0					

*TEH **01** 11:13:45.6, 33°.55N×45°.77E, h18km±83km*
*ISN **01** 11:13:46.3±0.9, 33°.60N×45°.75E, h8km±5km, ML3.9*
*IDC **01** 11:13:46.3±7.0, 33°.71N×45°.62E, h0km, mb4.0/4, mbtmp4.1/4, MS3.6/3, Error ellipse: s-maj=152.9km s-min=41.0km az=111.0*

ISC 01 11:13:47.9±0.7, 33°.59N±0°.03×45°.78E±0°.04, h19km, n28, σ1§28/29, mb4.2/3, MS3.8/3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	Badra	0.50	165	ePg	Pg	11 13 57.0	-0.9
IBDR				eSg	Sg	11 14 03.0	-1.7
GLG1	Gilan-e-Gharb	0.53	12	Pg	Pb	11 13 57.6	-1.1
KGS1	Ghasr-e-Shirin	0.93	350	Pg	Pn	11 14 05.5	-0.5
IGHG	Ghaleghazi	0.99	42	Pg	Pb	11 14 06.4	-0.1
BHD	Baghdad	1.21	255	ePn	Pg	11 14 11.0	-0.3
BHD				eSn	Sg	11 14 29.0	+1.8
IDHR	Dehrash	1.22	24	Pg	Pb	11 14 10.3	-0.2
KCHF	Cheshme Sefid,	1.25	57	Pg	Pg	11 14 11.6	-0.6
RAFI	Al-Rafai	1.88	171	ePn	Pb	11 14 21.0	-0.7
RAFI				eSn	Sb	11 14 46.0	+1.2
SNQR	Sonqor, Kerman	1.99	50	Pn	Pb	11 14 23.0	-0.6
IDOB	Doab	2.01	84	Pn	Pb	11 14 22.7	-1.3
IKRK	Kirkuk	2.16	327	ePn	Pn	11 14 24.0	+1.1
IKRK				eSn	Sb	11 14 52.0	-0.8
IKRK				AML	AML	11 15 00.4	
	comp=N,2μm,0.2s						
IKRK				AML	AML	11 15 01.2	
	comp=E,999nm,0.5s						
SDS1	Sardasht. Az.	2.56	355	Pn	Pb	11 14 31.4	-2.0
BDRS	Dareh Seyedi	2.61	81	Pn	Pn	11 14 31.1	+1.7
HAGD	Aghdareh	3.05	65	Pn	Pn	11 14 36.0	+0.8
HGHA	Hamedan- Ghaye	3.17	52	Pn	Pn	11 14 39.3	+2.3
QABG	Abgarm-Qazvin	3.78	55	Pn	Pn	11 14 48.2	+2.8
IQOM	Qom	4.56	73	Pn	Pn	11 14 57.0	+0.9
ISHB	Shabestar	4.68	358	Pn	Pn	11 14 58.7	+0.9
IHRS	Heris	4.83	12	Pn	Pn	11 15 01.5	+1.8
IBRJ	Brojen	4.92	108	Pn	Pn	11 15 01.3	+0.3
ISFB	Sefidab	5.42	80	Pn	Pn	11 15 08.7	+0.8
AKASG	Malin Array Be	20.96	330	P	P	11 18 29.5	-0.2
	comp=E,1.0nm,0.3s,baz=141,slow=10,SNR=11						
	comp=E,1.0nm,0.3s						
KEST	Kesra	29.93	284	LR	LR	11 33 31.0	
	comp=E,42nm,20.3s,baz=285,slow=40						
HFS	Hagfors	33.83	331	P	P	11 20 27.8	-0.9
	comp=E,1.2nm,0.6s,baz=125,slow=7.2,SNR=4.4						
	comp=E,1.2nm,0.6s						
ARCES	ARCESS Array B	37.73	349	P	P	11 21 02.5	+0.5
	comp=E,3.9nm,0.9s,baz=149,slow=8.3,SNR=2.0						
	comp=E,3.9nm,0.9s						
TORD	Torodi Ar. Bea	44.88	254	P	P	11 22 02.0	+0.7
	comp=E,1.5nm,0.3s,baz=62,slow=9.1,SNR=1.1						
	comp=E,1.5nm,0.3s						
RES	Resolute Bay	68.94	350	LR	LR	11 57 19.4	
	comp=E,50nm,19.2s,baz=1.5,slow=38						
TKL	Tuckaleechee C	96.50	321	LR	LR	12 13 54.5	
	comp=E,51nm,18.3s,baz=308,slow=38						

BEO 01 11:18:15.0±0.3, 44°.61N×21°.84E, h0km, ML1.5/7, 7C-3D, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUBS	Kucevo	0.23	211	ePg	Pg	11 18 17.3	-2.1
KUBS				eSg	Sg	11 18 21.5	-0.9
HERR	Herculane	0.49	56	↑↑P	Pg	11 18 23.9	-0.5
HERR				↓↓S	Sg	11 18 32.2	+1.4
VRSS	Vrsac	0.63	325	ePg	Pg	11 18 25.3	-1.8
VRSS				eSg	Sg	11 18 36.6	+1.3
BOVS	Bovan	0.98	186	↑↑P	Pg	11 18 33.1	-0.6
BOVS				↑↑S	Sg	11 18 46.2	-0.2
BZS	Buzias	1.02	351	↑↑P	Pg	11 18 33.3	-1.2
BZS				↓↓S	Sg	11 18 46.5	-1.3
BZS	Buzias	1.02	351	ePg	Pg	11 18 33.0	-1.5
BZS				eSg	Sg	11 18 47.2	-0.6
GZR	Gura Zlata	1.03	40	↑↑P	Pg	11 18 34.1	-0.6
GZR				↑↑S	Sb	11 18 49.1	-0.7
GZR	Gura Zlata	1.03	40	ePg	Pg	11 18 33.9	-0.8
GZR				eSg	Sg	11 18 46.7	-1.3
GRUS	Gruza	1.08	229	eSg	Sg	11 18 49.1	-0.7
BLKB	Belogradchik	1.16	148	↓↓S	Sb	11 18 53.2	-0.2
SURR	Surduc	1.16	10	↑↑S	Sg	11 18 51.3	-1.0
GOCS	Kraljevo Serbi	1.26	214	ePg	Pg	11 18 38.8	-0.3
GOCS				eSg	Sg	11 18 55.4	0.0
ZAPS	Zavoj	1.45	157	ePg	Pn	11 18 42.0	-0.6
ZAPS				eSg	Sg	11 19 01.6	-0.1

*ISN **01** 11:19:49.5±0.3, 33°.58N×45°.63E, h25km, ML2.5*
*TEH **01** 11:19:49.7, 33°.61N×45°.64E, h10km±990km*

ISC 01 11:19:47.7±5.0, 33°.57N±0°.05×45°.5E±0°.4, h13km, n4, σ0§65/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	Badra	0.61	139	ePg	Pg	11 20 00.0	+0.4
	baz=332						
IBDR				eSg	Sb	11 20 08.0	-0.6
IBDR				AML	AML	11 20 18.2	
	comp=N,4.1nm,0.6s						
GLG1	Gilan-e-Gharb	0.66	35	Pg	Pg	11 20 00.2	-0.3
IGHG	Ghaleghazi	1.19	50	Pg	Pn	11 20 10.1	-0.2
IDHR	Dehrash	1.36	34	Pg	Pg	11 20 14.5	+0.6
IDHR				Sg	Sg	11 20 32.1	+0.5

IDC 01 11:34:32.9±12.0, 8°.02N×91°.98E, h0km, mb3.8/4, mbtmp3.7/5, MS3.7/2, Error ellipse: s-maj=246.9km s-min=70.4km az=148.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	12.39	32	Pn	Pn	11 37 31.4	+0.7
	0.4nm,0.3s,baz=204,slow=14,SNR=1.5						
H08S3	Diego Garcia H	24.88	232	T	T	12 06 42.4	
	baz=55,slow=76,SNR=15						
H08S2	Diego Garcia H	24.89	232	T	T	12 06 42.6	
	baz=55,slow=76,SNR=18						
H08S1	Diego Carcia H	24.90	232	T	T	12 06 51.8	
	baz=55,slow=76,SNR=9.4						
MKAR	Makanchi Array	39.52	350	P	P	11 42 05.5	+0.2
	0.6nm,0.6s,baz=162,slow=8.3,SNR=5.8						
	0.6nm,0.6s						
KURBB	Kurchatov Arra	43.92	348	P	P	11 42 41.8	+0.5
	0.4nm,0.3s,baz=166,slow=7.1,SNR=5.4						
	0.4nm,0.3s						
ZALV	Zalesovo Beam	46.16	354	P	P	11 42 57.4	-1.7
	0.6nm,0.4s,baz=180,slow=9.5,SNR=3.7						
	0.6nm,0.4s						
KMBO	Kilima Mbogo	55.31	263	LR	LR	12 06 13.3	
	comp=Z,46nm,18.2s,baz=86,slow=34						
H04N2	CROZET ISLANDS	64.77	210	T	T	12 55 47.0	
	baz=48,slow=75,SNR=6.5						
H04N1	CROZET ISLANDS	64.78	210	T	T	12 55 41.9	
	baz=48,slow=75,SNR=9.4						
H04N3	CROZET ISLANDS	64.78	210	T	T	12 55 50.2	
	baz=48,slow=75,SNR=10						
LSZ	Lusaka	67.30	250	LR	LR	12 12 29.6	
	comp=Z,69nm,18.2s,baz=157,slow=34						
FINES	FINESS Array B	71.59	332	P	P	11 45 56.2	+0.3
	1.5nm,0.8s,baz=158,slow=1.5,SNR=1.9						
	1.5nm,0.8s						

*ISN **01** 11:54:24.3±0.7, 33°.68N×45°.78E, h8km±4km, ML3.0*
*TEH **01** 11:54:24.8, 33°.70N×45°.83E, h9km*

ISC 01 11:54:24.7±1.3, 33°.69N±0°.03×45°.86E±0°.05, h7km±13km, n8, σ0§73/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLG1	Gilan-e-Gharb	0.42	5	Pg	Pg	11 54 32.9	0.0
GLG1				Sg	Sb	11 54 40.0	-1.1
IBDR	Badra	0.58	175	ePg	Pg	11 54 36.0	0.0
IBDR				eSg	Sg	11 54 44.0	+0.4
IGHG	Ghaleghazi	0.86	43	Pg	Pg	11 54 41.4	0.0
IDHR	Dehrash	1.09	23	Pg	Pn	11 54 46.5	-0.2
BHD	Baghdad	1.31	252	ePn	Pg	11 54 50.0	+0.1
BHD				eSn	Sn	11 55 08.0	+0.9
BHD				AML	AML	11 55 08.4	
	comp=E,843nm,0.3s						
SNQR	Sonqor, Kerman	1.87	51	Pn	Pb	11 55 00.0	+0.7
RAFI	Al-Rafai	1.98	174	ePn	Pb	11 55 00.0	-1.0
RAFI				eSn	Sb	11 55 26.0	+0.2
IKRK	Kirkuk	2.12	324	ePn	Pn	11 55 01.0	+0.4
IKRK				eSn	Sb	11 55 29.0	-0.9
IKRK				AML	AML	11 55 32.6	
	comp=E,88nm,0.5s						
IKRK				AML	AML	11 55 36.1	
	comp=N,91nm,0.4s						

IDC 01 11:55:16.5±2.6, 7°.41S×128°.06E, h0km, mb3.5/1, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=303.3km s-min=33.3km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	13.87	155	Pn	Pn	11 58 32.7	-1.8
	0.2nm,0.3s,baz=331,slow=12,SNR=14						
WRA				Sn	Sn	12 00 55.3	-14
	0.6nm,0.3s,baz=339,slow=22,SNR=9.7						
	0.6nm,0.9s						
ASAR	Alice Springs	17.11	161	P	P	11 59 18.8	-0.3
	0.2nm,0.3s,baz=337,slow=9.2,SNR=11						
ASAR				S	Sn	12 02 17.3	-11
	0.3nm,0.6s,baz=344,slow=26,SNR=2.1						
	0.5nm,0.8s						
MKAR	Makanchi Array	67.53	328	P	P	12 06 14.6	0.0
	0.2nm,0.4s,baz=130,slow=5.8,SNR=1.7						
	0.2nm,0.4s						

*IDC **01** 11:58:36.6±0.7, 54°.76N×164°.64E, h0km, mb3.7/19, mbtmp3.7/22, ML3.3/3, MS2.7/3, Error ellipse: s-maj=22.0km s-min=12.6km az=158.0*
*KRSC **01** 11:58:37.9±1.8, 54°.81N×164°.47E, h61km±29km, Ml4.2*
*MOS **01** 11:58:40.1±0.9, 54°.82N×164°.51E, h41km, mb3.8/1, Error ellipse: s-maj=6.6km s-min=5.8km az=50.7*

ISC 01 11:58:41.0±1.4, 54°.80N±0°.04×164°.61E±0°.05, h27km±11km, n111, σ2§26/153, mb3.7/19, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	0.89	62	PN	Pb	11 58 55.7	-2.0
BKI				S	Sb	11 59 07.4	-1.8
BKI	Bering	0.89	62	eP	Pb	11 58 55.8	-2.0
BKI				eS	Sb	11 59 07.5	-1.8
MKZ	Mys Kozlova	1.69	263	PN	Pn	11 59 06.6	-2.1
MKZ				S	Sn	11 59 25.3	-4.1
MKZ	Mys Kozlova	1.69	263	eP	Pn	11 59 06.6	-2.1
MKZ				eS	Sn	11 59 25.4	-4.1
KBTR	Krutoberegovo	1.74	325	PN	Pn	11 59 05.8	-3.7
KBTR				S	Sn	11 59 25.7	-5.1
KBTR	Krutoberegovo	1.74	325	eP	Pn	11 59 05.8	-3.7
KBTR				eS	Sn	11 59 25.7	-5.1
KBG	Krutoberegovo	1.82	324	PN	Pn	11 59 07.4	-3.1
KBG				S	Sn	11 59 27.9	-4.7
KBG	Krutoberegovo	1.82	324	eP	Pn	11 59 07.4	-3.1
KBG				eS	Sn	11 59 28.0	-4.7
TUMD	Tumrok D	2.46	281	PN	Pn	11 59 17.6	-1.8
TUMD				S	Sn	11 59 46.9	-1.6
TUMD	Tumrok D	2.46	281	eP	Pn	11 59 17.6	-1.8
TUMD				eS	Sn	11 59 47.0	-1.6
ZLN	Zelenaya	2.49	301	PN	Pn	11 59 18.8	-1.1
ZLN				S	Sn	11 59 47.4	-2.0
ZLN	Zelenaya	2.49	301	eP	Pn	11 59 18.8	-1.1
ZLN				eS	Sn	11 59 47.5	-2.0
BZGR	Bezymyannyi-Gr	2.51	299	PN	Pn	11 59 19.0	-1.1
BZGR				S	Sn	11 59 48.7	-1.2
BZGR	Bezymyannyi-Gr	2.51	299	eP	Pn	11 59 19.1	-1.1
BZGR				eS

KII	**Karymskiy**	3.11 258	*e*P	Pn	11 59 27.5	-0.9
KII			*e*S	Sn	12 00 01.7	-3.0
SPN	**Mys Shipunski**	3.20 240	PN	Pn	11 59 27.9	-1.6
SPN	**Mys Shipunski**	3.20 240	*e*P	Pn	11 59 28.0	-1.6
SPN			*e*S	Sn	12 00 01.4	-5.3
NLC	**Nalytchevo**	3.51 244	PN	Pn	11 59 33.2	-0.5
NLC	**Nalytchevo**	3.51 244	*e*P	Pn	11 59 33.3	-0.5
NLC			*e*S	Sn	12 00 10.1	-4.2
ESO	**Esso**	3.56 291	PN	Pn	11 59 32.9	-1.5
ESO	**Esso**	3.56 291	*e*P	Pn	11 59 33.0	-1.5
SDLR	**Sedlovina**	3.70 248	PN	Pn	11 59 35.6	-0.9
SDLR			S	Sn	12 00 15.8	-3.5
SDLR	**Sedlovina**	3.70 248	*e*P	Pn	11 59 35.7	-0.9
SDLR			*e*S	Sn	12 00 15.9	-3.5
KRER	**Koryakskii**	3.76 249	PN	Pn	11 59 37.0	-0.4
KRER			S	Sn	12 00 17.9	-3.0
KRER	**Koryakskii**	3.76 249	*e*P	Pn	11 59 37.0	-0.4
KRER			*e*S	Sn	12 00 18.0	-3.0
UGLR	**Uglovaya**	3.76 247	PN	Pn	11 59 36.2	-1.2
UGLR	**Uglovaya**	3.76 247	*e*P	Pn	11 59 36.2	-1.2
UGLR			*e*S	Sn	12 00 17.0	-3.9
AVH	**Avacha**	3.79 248	PN	Pn	11 59 37.0	-0.6
AVH			S	Sn	12 00 18.5	-2.8
AVH	**Avacha**	3.79 248	*e*P	Pn	11 59 37.1	-0.6
AVH			*e*S	Sn	12 00 18.5	-2.8
KRX	**Arik**	3.79 250	PN	Pn	11 59 36.9	-0.9
KRX	**Arik**	3.79 250	*e*P	Pn	11 59 37.0	-0.9
KRX			*e*S	Sn	12 00 17.5	-4.1
KOK	**Koryaka**	3.83 249	PN	Pn	11 59 37.4	-0.8
KOK	**Koryaka**	3.83 249	*e*P	Pn	11 59 37.5	-0.8
KOK			*e*S	Sn	12 00 18.2	-4.2
DALK	**Dalny**	3.89 245	PN	Pn	11 59 37.8	-1.1
DALK	**Dalny**	3.89 245	*e*P	Pn	11 59 37.8	-1.1
DALK			*e*S	Sn	12 00 19.7	-4.0
PET	**Petropavlovsk**	3.94 246	PN	Pn	11 59 38.8	-0.9
PET	**Petropavlovsk**	3.94 246	*e*P	Pn	11 59 38.8	-0.9
PET			*e*S	Sn	12 00 20.6	-4.4
INSR	**Institute**	3.95 246	PN	Pn	11 59 38.2	-1.6
INSR	**Institute**	3.95 246	*e*P	Pn	11 59 38.2	-1.6
INSR			*e*S	Sn	12 00 20.6	-4.6
GNL	**Ganaly**	4.06 257	PN	Pn	11 59 41.3	-0.2
GNL			S	Sn	12 00 25.6	-2.6
GNL	**Ganaly**	4.06 257	*e*P	Pn	11 59 41.4	-0.2
GNL			*e*S	Sn	12 00 25.7	-2.6
KRMR	**Karymshinskiy**	4.31 245	PN	Pn	11 59 44.3	-0.5
KRMR	**Karymshinskiy**	4.31 245	*e*P	Pn	11 59 44.3	-0.5
KRMR			*e*S	Sn	12 00 30.1	-4.1
RUS	**Russkaya**	4.33 239	PN	Pn	11 59 45.1	+0.1
RUS	**Russkaya**	4.33 239	*e*P	Pn	11 59 45.2	+0.1
RUS			*e*S	Sn	12 00 30.7	-4.0
PEA0B	**Petropavlovsk-**	4.42 250	PN	Pn	11 59 45.9	-0.4
PETK	**Petropavlovsk-**	4.42 250	Pn	Pn	11 59 45.2	-1.1
	2.5nm,0.3s,baz=72,slow=18,SNR=94					
PETK			Sn	Sn	12 00 33.6	-3.2
	4.5nm,0.3s,baz=89,slow=24,SNR=2.8					
PETK			LR	LR	12 01 38.2	
	comp=Z,70nm,20.6s,baz=63,slow=41					
	3.9nm,0.4s					
GRL	**Gorelyy**	4.49 243	PN	Pn	11 59 47.0	-0.3
GRL	**Gorelyy**	4.49 243	*e*P	Pn	11 59 47.1	-0.3
GRL			*e*S	Sn	12 00 34.6	-4.1
OSSR	**Ossora**	4.54 350	PN	Pn	11 59 46.2	-1.8
OSSR	**Ossora**	4.54 350	*e*P	Pn	11 59 46.2	-1.8
OSSR			*e*S	Sn	12 00 34.7	-5.1
APC	**Apacha**	4.79 250	PN	Pn	11 59 51.1	-0.3
APC	**Apacha**	4.79 250	*e*P	Pn	11 59 51.1	-0.3
APC			*e*S	Sn	12 00 44.0	-1.9
KDTR	**Khodutka, Kamc**	4.93 235	PN	Pn	11 59 51.7	-1.6
KDTR	**Khodutka, Kamc**	4.93 235	*e*P	Pn	11 59 51.7	-1.6
KDTR			*e*S	Sn	12 00 43.8	-5.5
PAU	**Pauzhetka**	5.76 238	PN	Pn	12 00 03.4	-1.2
PAU	**Pauzhetka**	5.76 238	*e*P	Pn	12 00 03.4	-1.2
SHEM	**Shemya Is, Ala**	6.00 106	Pn	Pn	12 00 07.1	-0.9
	1.9nm,0.3s,baz=253,slow=21,SNR=1.3					
SHEM			Sn	Sn	12 01 11.9	-3.7
	1.0nm,0.3s,baz=305,slow=24,SNR=1.4					
	31nm,0.9s					
SKR	**Severo-Kuril's**	6.60 235	PN	Pn	12 00 15.8	-0.4
SKR	**Severo-Kuril's**	6.60 235	*e*P	Pn	12 00 15.8	-0.4
MA2	**Magadan**	8.90 308	LR	LR	12 04 34.4	
	comp=Z,34nm,20.4s,baz=64,slow=40					
ASAJ	**Asahikawa**	17.78 242	P	P	12 02 46.7	-0.3
	0.2nm,0.3s,baz=53,slow=7.3,SNR=2.1					
	2.6nm,0.9s					
KLR	**Kul'dur**	20.84 268	LR	LR	12 12 21.8	
	comp=Z,40nm,21.1s,baz=100,slow=40					
KDAK	**Kodiak Island**	23.65 65	P	P	12 03 48.3	-1.6
	2.7nm,0.5s,baz=341,slow=0.5,SNR=22					
	2.7nm,0.5s					
ILAR	**Eielson Array**	25.71 48	P	P	12 04 07.3	-1.3
	1.4nm,0.8s,baz=263,slow=8.9,SNR=15					
	1.4nm,0.8s					
KSRS	**Korea Array**	30.32 250	P	P	12 04 48.3	-1.7
	0.9nm,0.7s,baz=53,slow=8.1,SNR=3.1					
	0.9nm,0.7s					
INK	**Inuvik**	30.87 40	P	P	12 04 53.8	-0.7
	0.7nm,0.5s,baz=300,slow=9.3,SNR=2.4					
	0.7nm,0.5s					
DLBC	**Dease Lake**	34.88 57	P	P	12 05 30.3	+0.5
	1.1nm,0.5s,baz=325,slow=5.6,SNR=4.6					
	1.1nm,0.5s					
H11N2	**WAKE ISLAND Hy**	35.05 176	T	T	12 43 14.5	
	baz=359,slow=76,SNR=91					
H11N3	**WAKE ISLAND Hy**	35.06 176	T	T	12 43 17.5	
	baz=359,slow=76,SNR=67					
H11N1	**WAKE ISLAND Hy**	35.07 176	T	T	12 43 18.0	
	baz=359,slow=76,SNR=70					
SONM	**Songino Array**	36.10 284	P	P	12 05 41.3	+0.8
	0.2nm,0.4s,baz=60,slow=12,SNR=1.9					
	0.2nm,0.4s					
H11S1	**WAKE ISLAND Hy**	36.26 177	T	T	12 44 46.2	
	baz=359					
H11S3	**WAKE ISLAND Hy**	36.27 177	T	T	12 44 42.8	
	baz=359					
H11S2	**WAKE ISLAND Hy**	36.28 177	T	T	12 44 50.0	
	baz=359					
YKA	**Yellowknife Ar**	40.08 45	P	P	12 06 13.3	-0.4
	0.2nm,0.5s,baz=253,slow=7.5,SNR=7.3					
	0.2nm,0.5s					
RES	**Resolute Bay**	40.72 24	P	P	12 06 19.8	+1.0
	0.4nm,0.7s,baz=313,slow=7.5,SNR=5.0					
	0.4nm,0.7s					
KURK	**Kurchatov**	49.07 303	P	P	12 07 25.4	-0.1
KURBB	**Kurchatov Arra**	49.18 303	P	P	12 07 25.4	-0.9
	0.4nm,0.4s,baz=55,slow=7.6,SNR=2.0					
	0.4nm,0.4s					
MKAR	**Makanchi Array**	49.79 297	P	P	12 07 30.9	-0.2
	0.4nm,0.7s,baz=54,slow=7.3,SNR=3.1					
	0.4nm,0.7s					
BVAR	**Borovoye Array**	51.39 310	P	P	12 07 41.8	-1.2
	0.4nm,0.4s,baz=48,slow=6.8,SNR=2.5					
	0.4nm,0.4s					
NVAR	**Mina Array Bea**	52.68 74	P	P	12 07 50.7	-2.4
	0.1nm,0.3s,baz=301,slow=4.3,SNR=1.9					
	0.1nm,0.3s					
PDAR	**Pinedale Array**	54.37 65	P	P	12 08 05.7	+0.3
	0.2nm,0.6s,baz=296,slow=7.6,SNR=1.9					
	0.2nm,0.6s					
NOA	**NORSAR Array B**	62.60 346	P	P	12 09 03.7	+1.4
	0.5nm,0.6s,baz=17,slow=6.7,SNR=1.9					
	0.5nm,0.6s					
HFS	**Hagfors**	63.09 344	P	P	12 09 04.8	-0.7
	1.7nm,0.9s,baz=56,slow=7.9,SNR=4.2					
	1.7nm,0.9s					
TXAR	**Lajitas Array**	67.53 71	P	P	12 09 35.4	+0.5
	0.5nm,0.4s,baz=296,slow=4.8,SNR=6.7					
	0.5nm,0.4s					
WRA	**Warramunga Arr**	78.81 209	P	P	12 10 40.9	-0.3
	0.9nm,0.8s,baz=22,slow=5.7,SNR=5.5					
	0.9nm,0.8s					
ASAR	**Alice Springs**	82.47 208	P	P	12 11 01.2	+0.4
	1.3nm,0.8s,baz=13,slow=5.7,SNR=18					
	1.3nm,0.8s					
ESDC	**Sonseca Array**	85.39 351	P	P	12 11 15.7	0.0
	0.5nm,0.9s,baz=354,slow=12,SNR=4.1					
	0.5nm,0.9s					
QSPA	**South Pole Qui**	144.55 180	PKP	PKPab	12 18 10.4	-1.6
	1.0nm,0.9s,baz=339,slow=0.5,SNR=5.8					

*ISN **01** 12:04:53.4±0.8, 33°.68N×45°.64E, h10km±4km, ML2.8*
*TEH **01** 12:04:54.0, 33°.70N×45°.68E, h10km±990km*
ISC 01 12:04:54.2±1.3, 33°.68N±0°.03×45°.72E±0°.08, h12km±14km, n7, σ0°81/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	0.46	20	Pg	Pg	12 05 02.9	-0.3
GLG1				Sg	Sg	12 05 10.2	+0.9
IBDR	**Badra**	0.60	163	*e*Pg	Pg	12 05 06.0	+0.2
IBDR				*e*Sg	Sg	12 05 14.0	+0.3
IGHG	**Ghaleghazi**	0.95	47	Pg	Pg	12 05 12.8	+0.2
IDHR	**Dehrash**	1.15	28	Pg	Pn	12 05 16.8	+0.3
BHD	**Baghdad**	1.19	250	*e*Pn	Pn	12 05 17.0	+0.3
BHD				*e*Sn	Sn	12 05 34.0	+1.1
RAFI	**Al-Rafai**	1.98	170	*e*Pn	Pb	12 05 29.0	-1.2
RAFI				*e*Sn	Sb	12 05 55.0	+0.1
IKRK	**Kirkuk**	2.06	327	*e*Pn	Pn	12 05 29.0	+0.4
IKRK				*e*Sn	Sb	12 05 56.0	-1.0
IKRK				AML	AML	12 06 05.4	
	comp=E,9.1nm,0.8s						
IKRK				AML	AML	12 06 12.1	
	comp=N,5.2nm,0.7s						

*ISN **01** 12:06:18.5±0.8, 33°.71N×45°.77E, h9km±4km, ML3.1*
*TEH **01** 12:06:19.0, 33°.73N×45°.81E, h8km±999km*
ISC 01 12:06:19.0±1.2, 33°.73N±0°.03×45°.80E±0°.06, h5km±13km, n8, σ0°95/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	0.39	13	Pg	Pg	12 06 26.4	-0.2
GLG1				Sg	Sg	12 06 33.1	+1.4
IBDR	**Badra**	0.63	170	*e*Pg	Pg	12 06 31.0	-0.1
IBDR				*e*Sg	Sg	12 06 39.0	-0.2
KGS1	**Ghasr-e-Shirin**	0.79	347	Pg	Pb	12 06 34.8	-0.4
IGHG	**Ghaleghazi**	0.87	47	Pg	Pb	12 06 36.3	-0.4
IDHR	**Dehrash**	1.08	27	Pg	Pb	12 06 40.0	-0.3
BHD	**Baghdad**	1.27	249	*e*Pn	Pg	12 06 44.0	+0.6
BHD				*e*Sn	Sn	12 07 02.0	+1.2
RAFI	**Al-Rafai**	2.02	172	*e*Pn	Pn	12 06 54.0	+0.4
RAFI				*e*Sn	Sb	12 07 21.0	-0.6
IKRK	**Kirkuk**	2.06	324	*e*Pn	Pb	12 06 55.0	-1.8
IKRK				*e*Sn	Sb	12 07 22.0	-0.6
IKRK				AML	AML	12 07 28.1	
	comp=N,202nm,0.4s						
IKRK				AML	AML	12 07 35.8	
	comp=E,158nm,0.5s						

*ISN **01** 12:15:03.4±1.0, 33°.65N×45°.74E, h9km±6km, ML2.8*
*TEH **01** 12:15:04.1, 33°.67N×45°.80E, h10km*
ISC 01 12:15:03.9±1.4, 33°.68N±0°.03×45°.78E±0°.05, h2km±13km, n7, σ0°78/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	0.44	14	Pg	Pg	12 15 13.0	+0.6
GLG1				Sg	Sb	12 15 20.1	-1.5
IBDR	**Badra**	0.59	168	*e*Pg	Pg	12 15 15.0	-0.1
IBDR				*e*Sg	Sg	12 15 22.0	-0.7
IGHG	**Ghaleghazi**	0.92	45	Pg	Pg	12 15 21.8	+0.3
IDHR	**Dehrash**	1.13	26	Pg	Pb	12 15 26.5	+0.2
BHD	**Baghdad**	1.24	251	*e*Pn	Pg	12 15 28.0	+0.3
BHD				*e*Sn	Sn	12 15 46.0	+0.4
RAFI	**Al-Rafai**	1.98	172	*e*Pn	Pn	12 15 39.0	+0.7
RAFI				*e*Sn	Sn	12 16 04.0	+0.3
IKRK	**Kirkuk**	2.09	326	*e*Pn	Pn	12 15 40.0	+0.1
IKRK				*e*Sn	Sb	12 16 08.0	-0.9
IKRK				AML	AML	12 16 25.0	
	comp=E,11nm,0.8s						

*NEIC **01** 12:17:31.7±2.1, 38°.57N±0°.09×142°.2E±0°.2, h49km±15km, mb4.2/6, Error ellipse: s-maj=20.4km s-min=8.8km az=119.0*
*NIED **01** 12:17:33.1, 38°.62N×141°.89E, h48km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.77; Mθθ-0.09; Mφφ-0.68; Mrθ0.25; Mθφ-0.21; Mφr0.90; Fault plane solution: M0 1.21000×10^15 NP1: φs200.00000°, δ20.00000°, λ93.00000°. NP2: φs16.00000°, δ70.00000°, λ89.00000°.*
*IDC **01** 12:17:33.4±0.6, 38°.58N×141°.94E, h55km±5km, mb3.5/18, mbtmp3.8/25, MS3.1/8 Error ellipse: s-maj=14.8km s-min=10.4km az=98.0*
*JMA **01** 12:17:33.1±0.1, 38°.6N±0°.2×141°.9E±0°.6, h48km, MD3.9/40, MV4.0/40, KINKAZAN REGION*
JMA Felt II J1 at KINKAZAN REGION .
ISC 01 12:17:33.0±0.7, 38°.59N±0°.05×142°.00E±0°.07, h50km±5km, n78, σ1°32/73, mb4.0/22, MS3.2/3, 16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	0.46	298	⇓*i*P	Pn	12 17 42.9	-0.8
JKMT				⇓S	Sn	12 17 49.6	-1.9
JKMT	**Kesennumamotoy**	0.46	298	A	A	12 17 42.9	
	comp=N,4.0nm,1.9s,comp=E,12nm,0.5s						
JIKH	**Ishinomakikobu**	0.50	236	⇓*i*P	Pn	12 17 43.6	-0.6
JIKH				⇓S	Sn	12 17 50.8	-1.5
JIKH	**Ishinomakikobu**	0.50	236	A	A	12 17 43.6	
	comp=N,12nm,1.4s,comp=E,23nm,0.9s						
JIO	**Ouri**	0.53	255	⇓*i*P	Pn	12 17 43.7	-0.8
JIO				⇓S	Sn	12 17 50.9	-1.9
JIO	**Ouri**	0.53	255	A	A	12 17 43.7	
	comp=N,18nm,0.5s,comp=E,22nm,0.5s						
OFUJ	**Ofunato**	0.55	332	⇓*i*P	Pn	12 17 44.2	-0.6
OFUJ				⇓S	Sn	12 17 51.9	-1.5
OFUJ	**Ofunato**	0.55	332	A	A	12 17 44.2	
	comp=N,11nm,0.4s,comp=E,24nm,0.4s						
JMK	**Ichinoseki**	0.70	301	⇓*i*P	Pn	12 17 45.9	-0.8
JMK				⇓S	Sn	12 17 55.1	-1.6
JMK	**Ichinoseki**	0.70	301	A	A	12 17 45.9	
	comp=N,7.0nm,0.4s,comp=E,9.0nm,0.8s						
JOFO	**Osakifurukawao**	0.85	271	A	A	12 17 47.7	
	comp=N,35nm,0.8s,comp=E,14nm,0.4s						
MIYJ	**Miyakonagasawa**	0.99	352	A	A	12 17 50.4	
	comp=N,5.0nm,0.6s,comp=E,6.0nm,0.5s						
JOM	**Ohasama**	1.03	328	⇓*i*P	Pn	12 17 50.6	-0.6
JOM	**Ohasama**	1.03	328	A	A	12 17 50.6	
	comp=N,4.0nm,2.4s,comp=E,6.0nm,0.2s						
JOU	**Okura**	1.07	258	⇓*i*P	Pn	12 17 50.8	-0.9
JOU	**Okura**	1.07	258	A	A	12 17 50.8	
	comp=N,6.0nm,0.5s,comp=E,7.0nm,2.2s						
JMM	**Marumori**	1.19	233	Pn	Pn	12 17 52.5	-0.8
JMM	**Marumori**	1.19	233	⇓*i*P	Pn	12 17 52.3	-1.0
JMM				⇓*e*S	Sn	12 18 06.7	-1.7
JMST	**Minamisoumatoc**	1.23	226	A	A	12 17 53.8	
	comp=N,3.0nm,0.4s,comp=E,2.0nm,0.8s						
JYK	**Kaneyama**	1.32	285	⇓*i*P	Pn	12 17 54.2	-0.8
JYK	**Kaneyama**	1.32	285	A	A	12 17 54.2	
	comp=N,2.0nm,5.0s,comp=E,2.0nm,2.0s						
JRG	**Rokugo**	1.33	308	⇓*i*P	Pn	12 17 54.3	-0.8
JKEN	**Kujiedanarisaw**	1.62	352	A	A	12 17 59.5	
	comp=N,7.0nm,0.4s,comp=E,9.0nm,0.5s						
JYA	**Atsumi**	1.79	271	A	A	12 18 01.2	
	comp=N,3.0nm,0.7s,comp=E,3.0nm,3.3s						
JTM	**Tennabayashi**	2.30	342		Pn	12 18 08.7	+0.2
ERM	**Erimo**	3.53	14	Pn	Pn	12 18 25.2	0.0
MJAR	**Matsushiro Arr**	3.64	237	P	Pn	12 18 27.9	+1.1
	comp=E,13nm,0.6s,baz=39,slow=12,SNR=50						
MJAR				S	Sn	12 19 14.4	+5.9
	comp=E,16nm,0.8s,baz=339,slow=31,SNR=5.0						
MJAR				LR	LR	12 20 03.9	
	comp=E,168nm,20.7s,baz=66,slow=42						
MAJO	**Matsushiro**	3.64	237		Pn	12 18 28.3	+1.5
MJB9	**Matsu-Tunnel**	3.64	237		Pn	12 18 28.1	+1.3
JGF	**Kuroka**	4.76	233	Pn	Pn	12 18 41.9	-0.3
JSG	**Sagara**	4.97	219	Pn	Pn	12 18 45.3	+0.3
INU	**Inuyama**	5.13	232		Pn	12 18 46.9	-0.4
ASAJ	**Asahikawa**	5.54	4	P	Pn	12 18 52.5	-0.2
	comp=E,5.0nm,0.3s,baz=228,slow=9.0,SNR=21						
ASAJ				S	Sn	12 19 56.0	+0.9
	comp=E,14nm,0.6s,baz=231,slow=14,SNR=5.8						
ASAJ				LR	LR	12 21 24.3	
	comp=E,77nm,18.9s,baz=134,slow=42						
JKA	**Kamikawa-asahi**	5.54	5	Pn	Pn	12 18 51.6	-1.2
JHJ	**Hachijo jima 2**	5.75	199	P	Pn	12 18 55.3	-0.4
	comp=E,80nm,0.7s,baz=77,slow=23,SNR=1.1						
JHJ				S	Sn	12 19 56.6	-3.8
	comp=E,70nm,0.4s,baz=60,slow=18,SNR=6.4						
JMN	**Monobe**	8.16	236	Pn	Pn	12 19 29.9	+1.1
USA0B	**Ussuriysk Arra**	9.37	310	Pn	Pn	12 19 45.8	+0.5
USRK	**Ussuriysk Ar.**	9.37	310	P	Pn	12 19 45.3	0.0
	comp=E,5.7nm,0.7s,baz=125,slow=15,SNR=6.8						
USRK				LR	LR	12 23 00.4	
	comp=E,97nm,21.5s,baz=163,slow=35						
JNU	**Nakatsue**	10.54	242	Pn	Pn	12 20 00.3	-1.0
JNU	**Nakatsue**	10.54	242	P	Pn	12 20 02.5	+1.1
	comp=E,8.5nm,0.8s,baz=18,slow=11,SNR=2.5						
KSRS	**Korea Array**	11.16	269	P	Pn	12 20 11.9	+2.2
	comp=E,1.4nm,0.6s,baz=76,slow=13,SNR=4.8						
KSRS				LR	LR	12 24 05.4	
	comp=E,64nm,19.3s,baz=75,slow=35						
KLR	**Kul'dur**	12.93	329	P	Pn	12 20 35.7	+1.8
	comp=E,0.5nm,0.5s,baz=167,slow=14,SNR=1.6						
KLR				LR	LR	12 25 36.4	
	comp=E,70nm,18.3s,baz=172,slow=37						
MA2	**Magadan**	21.73	12	P	P	12 22 22.0	+2.2
	comp=E,5.4nm,1.0s,baz=194,slow=17,SNR=2.2						
	comp=E,5.4nm,1.0s						
SONM	**Songino Array**	27.33	301	P	P	12 23 12.6	-0.5
	comp=E,0.7nm,0.6s,baz=89,slow=8.6,SNR=5.0						
	comp=E,0.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	28.59	124	T	T	12 53 51.3	
	baz=317,slow=75,SNR=676						
H11N1	**WAKE ISLAND Hy**	28.60	124	T	T	12 53 52.0	
	baz=317,slow=75,SNR=415						
H11N3	**WAKE ISLAND Hy**	28.61	124	T	T	12 53 52.7	
	baz=317,slow=75,SNR=505						
H11S1	**WAKE ISLAND Hy**	29.36	126	T	T	12 54 53.0	
	baz=318,slow=76,SNR=123						
H11S3	**WAKE ISLAND Hy**	29.36	126	T	T	12 54 53.2	
	baz=318,slow=76,SNR=190						
H11S2	**WAKE ISLAND Hy**	29.38	126	T	T	12 54 54.2	
	baz=318,slow=76,SNR=165						
ZAA0	**Zalesovo Array**	41.22	311	P	P	12 25 11.8	-0.8
ZAA0				IAmb	IAmb	12 25 12.8	
	comp=Z,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	41.22	311	P	P	12 25 11.3	-1.4
ZALV	**Zalesovo Beam**	41.22	311	P	P	12 25 12.2	-0.4
	comp=Z,2.4nm,0.5s,baz=84,slow=7.6,SNR=15						
ZALV				PcP	PcP	12 27 08.8	-1.9
	comp=Z,0.8nm,0.5s,baz=98,slow=4.2,SNR=3.4						
	comp=Z,2.4nm,0.5s						
NRIK	**Noril'sk**	42.05	334	LR	LR	12 46 09.7	
	comp=Z,23nm,19.8s,baz=226,slow=41						
CMAR	**Chiang Mai Arr**	42.35	254	P	P	12 25 22.5	+0.2
	comp=Z,0.3nm,0.3s,baz=49,slow=8.6,SNR=1.4						
	comp=Z,0.3nm,0.3s						
MK31	**Makanchi Array**	43.70	301	P	P	12 25 31.7	-1.2
MK31				IAmb	IAmb	12 25 33.3	
	comp=Z,3.9nm,1.1s						
MKAR	**Makanchi Array**	43.70	301	P	P	12 25 32.2	-0.7
MKAR	**Makanchi Array**	43.70	301	P	P	12 25 32.4	-0.5
	comp=Z,2.7nm,0.9s,baz=85,slow=10.0,SNR=17						
	comp=Z,2.7nm,0.9s						
MAKZ	**Makanchi**	43.91	301	P	P	12 25 33.9	-0.7
KURK	**Kurchatov**	45.35	307	P	P	12 25 45.4	-0.6
KURBB	**Kurchatov Arra**	45.42	307	P	P	12 25 46.0	-0.6
	comp=Z,8.4nm,0.5s,baz=82,slow=8.3,SNR=39						
ILAR	**Eielson Array**	47.94	33	P	P	12 26 06.2	+0.2
	comp=Z,0.3nm,0.6s,baz=272,slow=6.3,SNR=6.2						
ILAR				pP	pP	12 26 19.9	+0.5
	comp=Z,0.3nm,0.6s,baz=270,slow=6.4,SNR=3.2						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	49.88	311	P	P	12 26 20.4	-0.7
	comp=Z,1.8nm,0.5s,baz=73,slow=8.7,SNR=11						
BVAR				pP	pP	12 26 36.0	+1.4
	comp=Z,1.0nm,0.5s,baz=45,slow=9.3,SNR=3.7						
BVAR				PcP	PcP	12 27 40.7	-0.2
	comp=Z,0.9nm,0.5s,baz=129,slow=2.1,SNR=4.2						
	comp=Z,1.8nm,0.5s						
ABKAR	**Akbulak array**	57.30	310	P	P	12 27 14.4	-1.0
ABKAR				IAmb	IAmb	12 27 15.0	
	comp=Z,2.4nm,0.7s						
WRA	**Warramunga Arr**	58.67	188	P	P	12 27 24.8	-0.5
	comp=Z,1.2nm,0.7s,baz=5.0,slow=7.0,SNR=11						
WRA				pP	pP	12 27 38.6	-0.4
	comp=Z,1.2nm,0.5s,baz=6.4,slow=7.2,SNR=6.6						
	comp=Z,1.2nm,0.7s						
YKA	**Yellowknife Ar**	62.23	31	P	P	12 27 49.6	+0.5
	comp=Z,0.2nm,0.8s,baz=302,slow=7.0,SNR=2.8						
	comp=Z,0.2nm,0.8s						
ASAR	**Alice Springs**	62.40	188	P	P	12 27 50.3	-0.3
	comp=Z,0.3nm,0.7s,baz=3.6,slow=5.6,SNR=8.2						
ASAR				pP	pP	12 28 05.2	+0.8
	comp=Z,0.7nm,0.6s,baz=13,slow=12,SNR=6.8						
	comp=Z,0.3nm,0.7s						
FINES	**FINES

comp=Z,8.0nm,0.4s
NAO01 NORSAR Array S 1.32 26 *e*P **Pg 12 35 53.1 +0.3**
NAO01 *e*S **Sg 12 36 10.2 +0.4**
NAO01 IAML 12 36 12.3
comp=Z,3.8nm,0.2s
FINU Finntorp 1.43 99 P **Pn 12 35 54.5 -0.2**
FINU S **Sg 12 36 13.9 +0.5**
FINU Finntorp 1.43 99 P **Pn 12 35 54.5 -0.2**
FINU S **Sg 12 36 13.9 +0.5**
HOMB Homborsund 1.53 205 *i* P **Pn 12 35 54.6 -1.5**
HOMB *i* S **Sn 12 36 12.7 -4.0**
BLS5 Blasjo 1.68 263 *e*P **Pb 12 35 59.4 +0.1**
BLS5 *e*S **Sg 12 36 21.8 +0.4**
BLS5 IAML 12 36 23.4
comp=Z,3.2nm,0.3s
VANU Vaenersborg 1.69 133 P **Pn 12 35 58.7 +0.4**
VANU Vaenersborg 1.69 133 P **Pn 12 35 58.7 +0.4**
SNART Snartemo 1.86 225 *i* P **Pb 12 36 02.4 +0.1**
SNART *i* S **Sn 12 36 23.7 -1.0**
TJOU Tjoern 1.92 148 P **Pn 12 36 01.7 +0.4**
TJOU Tjoern 1.92 148 P **Pn 12 36 01.7 +0.4**
TJOU *i* P **Pb 12 36 03.6 +0.3**
TJOU *i* S **Sg 12 36 28.9 -0.1**
NASU Vaermlandsnaes 1.93 111 P **Pn 12 36 02.5 +1.0**
NASU Vaermlandsnaes 1.93 111 P **Pn 12 36 02.5 +1.0**
UDD Uddeholm 2.01 76 P **Pn 12 36 02.9 +0.2**
UDD Uddeholm 2.01 76 P **Pn 12 36 02.9 +0.2**
HYA Hoyanger 2.31 312 *e*Sg **Sb 12 36 39.4 +0.4**
KMY Karmoy 2.33 261 *e*P **Pn 12 36 07.9 +0.9**
ONAU Onsala 2.55 152 P **Pn 12 36 10.4 +0.3**
ONAU Onsala 2.55 152 P **Pn 12 36 10.4 +0.3**
ONAU *i* P **Pb 12 36 14.9 +0.7**
ONAU *i* S **Sn 12 36 39.9 -1.9**
BORU Boraas 2.59 141 *i* P **Pb 12 36 15.7 +0.9**
BORU *i* S **Sb 12 36 45.8 -1.2**
FABU Falkenberg 3.11 148 *i* S **Sn 12 36 54.4 -1.1**

---

*TEH **01** 12:39:25.6, 33°.79N×45°.62E, h9km*
*ISN **01** 12:39:26.0±1.5, 33°.74N×45°.56E, h9km±8km, ML3.0*
ISC 01 12:39:26.0±1.9, **33°.77N**±0°.05×**45°.6E**±0°.1, **h4**km±23km, **n7,**
σ0°59/12, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.41**	**33**	Pg	**Pg**	**12 39 33.6**	**-0.3**
GLG1				Sg	**Sg**	**12 39 40.1**	**+0.7**
IBDR	**Badra**	**0.70**	**160**	*e*Pg	**Pb**	**12 39 40.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**12 39 49.0**	**+0.6**
IGHG	**Ghaleghazi**	**0.95**	**54**	Pg	**Pg**	**12 39 44.2**	**-0.1**
IDHR	**Dehrash**	**1.12**	**33**	Pg	**Pg**	**12 39 47.3**	**-0.2**
BHD	**Baghdad**	**1.16**	**245**	*e*Pn	**Pn**	**12 39 49.0**	**0.0**
BHD				*e*Sn	**Sn**	**12 40 06.0**	**+0.7**
IKRK	**Kirkuk**	**1.95**	**327**	*e*Pn	**Pb**	**12 40 02.0**	**-0.1**
IKRK				*e*Sn	**Sb**	**12 40 26.0**	**-0.7**
IKRK				AML	AML	12 40 47.4	
	comp=E,8.9nm,0.6s						
RAFI	**Al-Rafai**	**2.08**	**169**	*e*Pn	**Pn**	**12 40 02.0**	**+0.4**
RAFI				*e*Sn	**Sb**	**12 40 30.0**	**-0.3**

---

*HEL **01** 12:46:44.8±0.3, 60°.95N×29°.33E, h0km, ML2.0, Explosion*
*IDC **01** 12:46:49.7±2.3, 61°.11N×29°.03E, h0km, mbtmp3.3/2, ML2.4/2, Error ellipse: s-maj=20.7km s-min=13.1km az=168.0*
ISC 01 12:46:45.5±1.3, **60°.98N**±0°.05×**29°.12E**±0°.06, **h0**km, **n28,**
σ1°25/37, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.46**	**350**	PG	**Pg**	**12 46 54.3**	**0.0**
RUF				SG	**Sg**	**12 47 00.5**	**+0.3**
RUF				MSG		12 47 01.1	
	comp=Z,26nm,0.2s						
VJF	**Virojoki**	**0.89**	**241**	PG	**Pg**	**12 47 02.8**	**+0.3**
VJF				MSG		12 47 14.4	
	comp=Z,30nm,0.2s						
VJF				SB	**Sb**	**12 47 15.7**	**-0.4**
FIA0	**FINESS Array S**	**1.55**	**289**	PG	**Pn**	**12 47 14.5**	**+0.2**
	baz=106						
FIA0				MSG		12 47 34.0	
	comp=Z,11nm,0.2s						
FIA0				SG	**Sg**	**12 47 35.6**	**+0.4**
FINES	**FINESS Array B**	**1.55**	**289**	Pg	**Pn**	**12 47 14.3**	**0.0**
	comp=Z,0.8nm,0.3s,baz=107,slow=16,SNR=22						
FINES				Lg	Lg	12 47 35.8	
	comp=Z,4.7nm,0.3s,baz=98,slow=30,SNR=36						
PVF	**Pernaja**	**1.66**	**256**	PG	**Pn**	**12 47 15.9**	**+0.1**
	baz=75						
PVF				MSG		12 47 37.1	
	comp=Z,12nm,0.2s						
PVF				SN	**Sg**	**12 47 40.3**	**+1.6**
KAF	**Kangasniemi**	**1.77**	**311**	PG	**Pb**	**12 47 18.8**	**0.0**
	baz=125						
KAF				MSG		12 47 40.0	
	comp=Z,9.1nm,0.2s						
KAF				SG	**Sg**	**12 47 42.3**	**+0.1**
JOF	**Joensuu**	**2.21**	**27**	*e*P	**Pn**	**12 47 22.7**	**-0.7**
JOF	**Joensuu**	**2.21**	**27**	PG	**Pn**	**12 47 24.0**	**+0.6**
	baz=203						
JOF				SG	**Sn**	**12 47 51.9**	**+0.6**
HEL1	**Helsinki**	**2.24**	**251**	SB	**Sb**	**12 47 55.3**	**+0.2**
SUF	**Sumiainen**	**2.25**	**322**	PG	**Pb**	**12 47 26.5**	**-0.4**
SUF				MSG		12 47 53.7	
	comp=Z,6.1nm,0.2s						
SUF				SG	**Sg**	**12 47 56.8**	**-0.8**
NUR	**Nurmijarvi**	**2.25**	**260**	PB	**Pn**	**12 47 25.4**	**+1.4**
NUR				MSG		12 47 54.0	
	comp=Z,4.2nm,0.2s						
NUR				SB	**Sb**	**12 47 55.5**	**+0.3**
KEF	**Keuruu**	**2.36**	**302**	*e*P	**Pn**	**12 47 26.4**	**+0.9**
KEF	**Keuruu**	**2.36**	**302**	PG	**Pb**	**12 47 28.3**	**-0.6**
KEF				MSG		12 47 57.4	
	comp=Z,4.6nm,0.2s						
KEF				SG	**Sg**	**12 48 00.1**	**-1.1**
MEF	**Metsahovi**	**2.45**	**254**	*e*P	**Pn**	**12 47 28.2**	**+1.4**
MEF	**Metsahovi**	**2.45**	**254**	PB	**Pn**	**12 47 28.1**	**+1.4**
MEF				MSG		12 47 60.0	
	comp=Z,5.2nm,0.2s						
MEF				SB	**Sb**	**12 48 00.2**	**-1.0**
NIF	**Nilsia**	**2.50**	**346**	PG	**Pn**	**12 47 29.5**	**+2.1**
	baz=164						
NIF				SG	**Sb**	**12 48 02.7**	**+0.2**
RMF	**Romuvaara**	**3.27**	**6**	PG	**Pb**	**12 47 44.2**	**-0.3**
MTSE	**Matsula**	**3.51**	**232**	*e*P	**Pb**	**12 47 46.5**	**-1.9**
MTSE	**Matsula**	**3.51**	**232**	SB	**Sb**	**12 48 30.4**	**-1.1**
RAF	**Rauma**	**3.58**	**274**	*e*P	**Pn**	**12 47 44.1**	**+1.8**
RAF	**Rauma**	**3.58**	**274**	SG	**Sg**	**12 48 39.6**	**-1.0**
VAF	**Ylistaro**	**3.68**	**307**	*e*P	**Pn**	**12 47 44.1**	**+0.5**
VAF	**Ylistaro**	**3.68**	**307**	PG	**Pb**	**12 47 50.0**	**-1.4**
	baz=116						
OUL	**Oulu**	**4.38**	**342**	SG	**Sg**	**12 49 02.2**	**-3.8**
I43RU	**DUBNA INFRASON**	**5.99**	**132**	I	I	13 21 50.0	
	baz=320,slow=322,SNR=2.0						
HFS	**Hagfors**	**7.65**	**270**	Lg	Lg	12 50 42.8	
	comp=Z,0.2nm,0.3s,baz=78,slow=32,SNR=3.8						
NOA	**NORSAR Array B**	**8.70**	**278**	Pn	**Pn**	**12 48 55.0**	**+2.6**
	baz=83,slow=14,SNR=1.3						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**8.72**	**352**	Pn	**Pn**	**12 48 53.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=170,slow=11,SNR=1.5						
	comp=Z,3.3nm,1.0s						

---

*TEH **01** 12:49:02.0, 33°.86N×45°.56E, h10km*
*ISN **01** 12:49:03.8±1.1, 33°.69N×45°.54E, h2km±12km, ML2.5*
ISC 01 12:49:03.7±1.0, **33°.81N**±0°.05×**45°.77E**±0°.08, **h10**km, **n5,**
σ0°51/8, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.32**	**22**	Pg	**Pg**	**12 49 09.9**	**-0.3**
IBDR	**Badra**	**0.71**	**169**	*e*Pg	**Pg**	**12 49 17.0**	**-0.5**
	baz=330						
IBDR				*e*Sg	**Sg**	**12 49 27.0**	**+0.2**
IBDR				AML	AML	12 49 35.7	
	comp=N,6.7nm,0.5s						
IGHG	**Ghaleghazi**	**0.84**	**52**	Pg	**Pb**	**12 49 20.7**	**+0.2**
IGHG				Sg	**Sn**	**12 49 34.9**	**+0.5**
IDHR	**Dehrash**	**1.02**	**30**	Pg	**Pb**	**12 49 23.0**	**-0.6**
BHD	**Baghdad**	**1.28**	**245**	*e*Pn	**Pn**	**12 49 28.0**	**+0.4**
BHD				*e*Sn	**Sn**	**12 49 45.0**	**+0.2**

---

*IDC **01** 12:49:17.9±1.8, 20°.34S×177°.66W, h512km±18km, mb3.3/11, mbtmp4.2/13, Error ellipse: s-maj=20.6km s-min=15.6km az=135.0*
ISC 01 12:49:16.4±0.6, **20°.50S**±0°.08×**177°.6W**±0°.1, **h500**km, **n56,**
σ1°25/59, **mb3.6/11, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.94**	**303**	P	**P**	**12 50 44.8**	**+1.8**
	27nm,0.4s,baz=114,slow=10.0,SNR=82						
GLKZ	**Green Lake**	**8.73**	**182**	P	**P**	**12 51 17.7**	**-2.5**
GLKZ				S	**S**	**12 53 02.7**	**+0.8**
DZM	**Mont Dzumac**	**14.95**	**261**	P	**P**	**12 52 26.9**	**+0.7**
	2.8nm,0.6s,baz=91,slow=16,SNR=3.0						
OUZ	**Omahuta**	**16.58**	**206**	P	**P**	**12 52 45.2**	**+2.3**
HAZ	**Te Kaha**	**17.65**	**192**	P	**P**	**12 52 54.8**	**+1.5**
MKAZ	**Moumakai**	**17.70**	**199**	P	**P**	**12 52 56.2**	**+2.3**
PKGZ	**Pakihiroa**	**17.70**	**191**	P	**P**	**12 52 56.8**	**+2.9**
PKGZ				S	S	12 56 11.7	+20
AWAZ	**Awhitu Peninsu**	**17.83**	**201**	P	**P**	**12 52 56.0**	**+1.0**
PUZ	**Puketiti**	**17.87**	**191**	P	**P**	**12 52 56.4**	**+0.9**
PUZ				S	S	12 56 11.9	+18
TWGZ	**Tauwhareparae**	**18.02**	**191**	P	**P**	**12 52 58.3**	**+1.4**
TWGZ				S	S	12 56 17.4	+21
MWZ	**Matawai**	**18.26**	**192**	P	**P**	**12 52 58.9**	**-0.2**
MWZ				S	S	12 56 20.9	+20
URZ	**Urewera**	**18.28**	**193**	P	**P**	**12 52 58.4**	**-0.7**
	6.7nm,0.3s,baz=355,slow=4.1,SNR=1.7						
URZ	**Urewera**	**18.28**	**193**	P	**P**	**12 52 58.7**	**-0.4**
URZ				S	S	12 56 21.8	+21
CNGZ	**Carnagh Statio**	**18.28**	**191**	P	**P**	**12 53 00.7**	**+1.6**
OMRZ	**Omania**	**18.30**	**195**	P	**P**	**12 53 01.0**	**+1.6**
TKGZ	**Te Karaka**	**18.30**	**191**	P	**P**	**12 53 00.4**	**+1.1**
TKGZ				S	S	12 56 21.4	+20
RIGZ	**Rimuhau**	**18.58**	**191**	P	**P**	**12 53 02.8**	**+0.9**
RIGZ				S	S	12 56 29.3	+24
HRRZ	**Handcock Road**	**18.59**	**195**	P	**P**	**12 53 02.8**	**+0.7**
SNGZ	**Shannon Statio**	**18.73**	**192**	P	**P**	**12 53 00.8**	**-2.5**
SNGZ				S	S	12 56 35.1	+27
KNZ	**Kokohu**	**18.90**	**191**	P	**P**	**12 53 06.0**	**+1.2**
KNZ				S	S	12 56 34.6	+24
MTHZ	**Maungataniwha**	**18.91**	**193**	P	**P**	**12 53 05.1**	**+0.2**
MTHZ				S	S	12 56 35.4	+24
RAHZ	**Arahi**	**18.91**	**193**	P	**P**	**12 53 05.3**	**+0.4**
MRHZ	**Matea Rd**	**18.98**	**194**	P	**P**	**12 53 05.1**	**-0.6**
BKZ	**Black Stump Fm**	**19.28**	**194**	P	**P**	**12 53 07.2**	**-1.2**
TMVZ	**Te Maari**	**19.43**	**196**	P	**P**	**12 53 10.3**	**+0.6**
ETVZ	**East Tongariro**	**19.44**	**196**	P	**P**	**12 53 09.9**	**0.0**
OTVZ	**Oturere**	**19.48**	**196**	P	**P**	**12 53 10.6**	**+0.3**
MCHZ	**McNeill Hill**	**19.50**	**193**	P	**P**	**12 53 10.0**	**-0.3**
KWHZ	**Kaweka Forest**	**19.55**	**194**	P	**P**	**12 53 10.3**	**-0.4**
MOVZ	**Moawhango**	**19.69**	**195**	P	**P**	**12 53 11.6**	**-0.5**
VRZ	**Vera Road**	**19.69**	**198**	P	**P**	**12 53 14.4**	**+2.4**
KRHZ	**Kereru**	**19.77**	**194**	P	**P**	**12 53 12.1**	**-0.7**
KAHZ	**Kahuranaki**	**19.80**	**193**	P	**P**	**12 53 13.8**	**+0.7**
PXZ	**Pawanui**	**20.03**	**192**	P	**P**	**12 53 15.1**	**0.0**
PNHZ	**Pukenui**	**20.06**	**194**	P	**P**	**12 53 15.5**	**+0.1**
MRZ	**Mangatainoka R**	**20.92**	**195**	P	**P**	**12 53 22.0**	**-1.2**
ASAR	**Alice Springs**	**44.87**	**257**	P	**P**	**12 56 46.2**	**+0.4**
	3.8nm,0.5s,baz=90,slow=7.8,SNR=147						
ASAR				PcP	**PcP**	**12 58 17.4**	**+0.2**
	0.9nm,0.5s,baz=103,slow=3.7,SNR=10						
ASAR				ScP	**ScP**	**13 01 22.3**	**+0.7**
	0.3nm,1.0s,baz=109,slow=4.6,SNR=2.0						
ASAR				S	**S**	**13 02 44.3**	**-2.6**
	1.7nm,0.9s,baz=93,slow=16,SNR=11						
	3.8nm,0.5s						
WRA	**Warramunga Arr**	**44.96**	**262**	P	**P**	**12 56 46.5**	**0.0**
	2.3nm,0.3s,baz=97,slow=7.6,SNR=125						
WRA				PcP	**PcP**	**12 58 17.7**	**+0.2**
	0.3nm,0.5s,baz=111,slow=2.6,SNR=2.4						
WRA				S	**S**	**13 02 45.5**	**-2.7**
	1.1nm,1.0s,baz=97,slow=14,SNR=5.7						
	2.3nm,0.3s						
QSPA	**South Pole Qui**	**69.57**	**180**	P	**P**	**12 59 36.0**	**+1.6**
	1.8nm,0.6s,baz=83,slow=8.1,SNR=17						
	1.8nm,0.6s						
MJAR	**Matsushiro Arr**	**70.43**	**323**	P	**P**	**12 59 39.2**	**-0.6**
	2.2nm,0.5s,baz=158,slow=5.7,SNR=8.2						
	2.2nm,0.5s						
PETK	**Petropavlovsk-**	**76.37**	**345**	P	**P**	**13 00 12.8**	**-0.6**
	1.8nm,0.9s,baz=146,slow=11,SNR=4.6						
	1.8nm,0.9s						
KSRS	**Korea Array**	**77.13**	**318**	P	**P**	**13 00 18.0**	**+0.1**
	0.6nm,0.6s,baz=127,slow=4.9,SNR=2.7						
	0.6nm,0.6s						
NVAR	**Mina Array Bea**	**80.78**	**43**	P	**P**	**13 00 38.1**	**+0.5**
	0.7nm,0.7s,baz=222,slow=8.2,SNR=8.4						
	0.7nm,0.7s						
TXAR	**Lajitas Array**	**86.75**	**57**	P	**P**	**13 01 08.0**	**+0.7**
	0.9nm,0.7s,baz=207,slow=6.9,SNR=7.4						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**88.23**	**13**	P	**P**	**13 01 12.3**	**-1.0**
	0.5nm,0.6s,baz=222,slow=5.9,SNR=9.0						
	0.5nm,0.6s						
PDAR	**Pinedale Array**	**88.71**	**43**	P	**P**	**13 01 16.4**	**0.0**
	0.5nm,0.7s,baz=267,slow=5.7,SNR=7.1						
	0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**90.46**	**289**	P	**P**	**13 01 26.2**	**+1.5**
	0.5nm,0.3s,baz=126,slow=2.9,SNR=8.2						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**111.47**	**313**	PKiKP	**PKiKP**	**13 06 51.8**	**-1.6**
	0.4nm,0.6s,baz=126,slow=2.0,SNR=6.3						
KURBB	**Kurchatov Arra**	**114.30**	**317**	PKiKP	PKPdf	13 06 57.0	-1.6
	0.2nm,0.3s,baz=99,slow=1.6,SNR=6.0						
BVAR	**Borovoye Array**	**119.31**	**320**	PKP	**PKPdf**	**13 07 07.2**	**-1.0**
	1.3nm,0.4s,baz=90,slow=2.9,SNR=8.0						
ARCES	**ARCESS Array B**	**128.99**	**350**	PKP	**PKPdf**	**13 07 25.9**	**-0.3**
	2.3nm,0.8s,baz=36,slow=2.1,SNR=3.9						
HFS	**Hagfors**	**139.60**	**351**	PKhKP	PKPpre	13 07 38.5	
	5.1nm,1.1s,baz=66,slow=5.0,SNR=5.1						
AKASG	**Malin Array Be**	**143.19**	**331**	PKhKP	PKPpre	13 07 49.8	
	2.0nm,0.5s,baz=44,slow=4.4,SNR=16						
BRTR	**Keskin Array B**	**147.11**	**313**	PKPbc	**PKPbc**	**13 08 03.0**	**-0.3**
	1.1nm,0.5s,baz=46,slow=4.2,SNR=6.6						
MMAI	**Mount Meron Ar**	**148.13**	**300**	PKPbc	**PKPbc**	**13 08 06.0**	**+0.1**
	1.4nm,0.5s,baz=79,slow=6.4,SNR=1.3						
GERES	**GERESS Array B**	**150.30**	**345**	PKPbc	**PKPbc**	**13 08 10.2**	**-0.5**
	0.2nm,0.3s,baz=56,slow=3.4,SNR=4.9						

---

*ISN **01** 12:51:17.2±0.7, 33°.73N×45°.70E, h8km±4km, ML2.8*
*TEH **01** 12:51:17.6, 33°.72N×45°.76E, h8km*
ISC 01 12:51:18.0±0.9, **33°.73N**±0°.04×**45°.80E**±0°.05, **h10**km, **n9,**
σ0°62/13, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.39**	**13**	Pg	**Pg**	**12 51 25.0**	**-0.7**
IBDR	**Badra**	**0.63**	**170**	*e*Pn	**Pb**	**12 51 31.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**12 51 39.0**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**0.79**	**347**	Pg	**Pg**	**12 51 33.5**	**+0.1**
IGHG	**Ghaleghazi**	**0.87**	**47**	Pg	**Pb**	**12 51 35.6**	**+0.2**
IDHR	**Dehrash**	**1.08**	**26**	Pg	**Pn**	**12 51 39.7**	**+0.3**
BHD	**Baghdad**	**1.28**	**249**	*e*Pn	**Pb**	**12 51 42.0**	**-0.1**
BHD				*e*Sn	**Sn**	**12 52 00.0**	**+0.9**
SNQR	**Sonqor, Kerman**	**1.88**	**53**	Pn	**Pb**	**12 51 52.7**	**0.0**
RAFI	**Al-Rafai**	**2.02**	**172**	*e*Pn	**Pb**	**12 51 54.0**	**-0.8**
RAFI				*e*Sn	**Sb**	**12 52 20.0**	**0.0**
IKRK	**Kirkuk**	**2.06**	**324**	*e*Pn	**Pn**	**12 51 53.0**	**+0.3**
IKRK				*e*Sn	**Sb**	**12 52 20.0**	**-1.1**
IKRK				AML	AML	12 52 26.5	
	comp=N,132nm,0.3s						
IKRK				AML	AML	12 52 27.6	
	comp=E,87nm,0.3s						

---

*ISN **01** 12:53:43.1±0.4, 33°.68N×45°.72E, h8km±2km, ML2.7*
*TEH **01** 12:53:44.5, 33°.68N×45°.76E, h10km*
ISC 01 12:53:44.6±1.3, **33°.65N**±0°.03×**45°.8E**±0°.1, **h9**km±14km, **n7,**
σ0°68/12, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.47**	**11**	Pg	**Pg**	**12 53 53.5**	**-0.3**
GLG1				Sg	**Sg**	**12 54 00.7**	**+0.6**
IBDR	**Badra**	**0.54**	**169**	*e*Pg	**Pg**	**12 53 55.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**12 54 03.0**	**+0.7**
IGHG	**Ghaleghazi**	**0.93**	**43**	Pg	**Pb**	**12 54 02.7**	**-0.4**
IDHR	**Dehrash**	**1.16**	**24**	Pg	**Pg**	**12 54 07.1**	**+0.2**
BHD	**Baghdad**	**1.25**	**253**	*e*Pn	**Pn**	**12 54 08.0**	**-0.2**
BHD				Sn	**Sn**	**12 54 26.0**	**+0.9**
RAFI	**Al-Rafai**	**1.94**	**172**	*e*Pn	**Pb**	**12 54 19.0**	**-1.0**
RAFI				Sn	**Sb**	**12 54 45.0**	**+0.7**
IKRK	**Kirkuk**	**2.13**	**326**	*e*Pn	**Pn**	**12 54 20.0**	**-0.3**
IKRK				AML	AML	12 54 26.6	
	comp=E,59nm,0.4s						
IKRK				Sn	**Sn**	**12 54 47.0**	**+0.1**
IKRK				AML	AML	12 54 56.2	
	comp=N,81nm,0.5s						

---

*ISN **01** 12:56:52.6±0.6, 33°.78N×45°.85E, h11km±3km, ML3.0*
*TEH **01** 12:56:52.3, 33°.77N×45°.84E, h10km*
ISC 01 12:56:51.3±1.4, **33°.79N**±0°.03×**45°.95E**±0°.05, **h3**km±14km,
n9, σ0°92/14, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.33**	**354**	Pg	**Pg**	**12 56 58.5**	**+0.8**
GLG1				Sg	**Sb**	**12 57 04.8**	**-0.8**
IBDR	**Badra**	**0.67**	**181**	*e*Pg	**Pb**	**12 57 06.0**	**+0.3**
IBDR				*e*Sg	**Sb**	**12 57 15.0**	**-0.4**
IGHG	**Ghaleghazi**	**0.75**	**43**	Pg	**Pn**	**12 57 09.2**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.78**	**338**	Pg	**Pb**	**12 57 07.9**	**+0.4**
IDHR	**Dehrash**	**0.98**	**22**	Pg	**Pn**	**12 57 12.1**	**-0.1**
BHD	**Baghdad**	**1.41**	**249**	*e*Pn	**Pg**	**12 57 19.0**	**+0.7**
BHD				*e*Sn	**Sn**	**12 57 38.0**	**+1.2**
SNQR	**Sonqor, Kerman**	**1.75**	**52**	Pn	**Pg**	**12 57 25.6**	**+0.6**
RAFI	**Al-Rafai**	**2.06**	**176**	*e*Pn	**Pb**	**12 57 29.0**	**-0.3**
RAFI				*e*Sn	**Sg**	**12 57 56.0**	**-1.5**
IKRK	**Kirkuk**	**2.09**	**321**	*e*Pn	**Pb**	**12 57 29.0**	**-0.8**
IKRK				*e*Sn	**Sb**	**12 57 55.0**	**-1.1**
IKRK				AML	AML	12 58 06.7	
	comp=E,118nm,0.3s						
IKRK				AML	AML	12 58 08.4	
	comp=N,165nm,0.7s						

---

*GUC **01** 13:04:56.8±0.8, 21°.14S×68°.68W, h125km±5km, ML3.6*
*SJA **01** 13:04:56.0±0.6, 21°.13S×68°.72W, h131km±4km, ML3.5, MW3.5*
ISC 01 13:04:56.9±1.4, **21°.16S**±0°.03×**68°.80W**±0°.05,
h133km±10km, **n27,** σ0°99/51, **5C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.65**	**280**	⇑*i*P	**Pn**	**13 05 16.8**	**-0.5**
PB01				*i* S	**Sn**	**13 05 31.8**	**-1.0**
PB01				IAML		13 05 35.6	
	comp=E,757nm,0.2s						
PB01	**IPOC Station P**	**0.65**	**280**	*e*P	**Pn**	**13 05 16.9**	**-0.5**
PB01				*e*S	**Sn**	**13 05 34.0**	**+1.1**
PB01				IAML		13 05 35.8	
	comp=Z,492nm,0.2s						
PB09	**IPOC Station P**	**0.76**	**213**	⇑*i*P	**Pn**	**13 05 18.1**	**-0.1**
PB09				*i* S	**Sn**	**13 05 33.8**	**-0.6**
PB09				IAML		13 05 35.5	
	comp=N,1μm,0.6s						
PB09	**IPOC Station P**	**0.76**	**213**	*e*P	**Pn**	**13 05 18.3**	**+0.1**
PB09				*e*S	**Sn**	**13 05 34.5**	**+0.1**
PB09				IAML		13 05 35.6	
	comp=Z,899nm,0.6s						
PB08	**IPOC Station P**	**1.06**	**342**	⇓*i*P	**Pn**	**13 05 20.8**	**-0.3**
PB08				*i* S	**Sn**	**13 05 38.5**	**-1.0**
PB08				IAML		13 05 41.0	
	comp=N,701nm,0.6s						
PB08	**IPOC Station P**	**1.06**	**342**	*e*P	**Pn**	**13 05 20.8**	**-0.3**
PB08				*e*S	**Sn**	**13 05 39.4**	**-0.1**
PB08				IAML		13 05 40.5	
	comp=Z,367nm,1.0s						
PB03	**IPOC Station P**	**1.25**	**225**	⇑*i*P	**Pn**	**13 05 23.1**	**+0.4**
PB03				*i* S	**Sn**	**13 05 42.5**	**+0.1**
PB03				IAML		13 05 44.6	
	comp=E,768nm,0.2s						
PB03	**IPOC Station P**	**1.25**	**225**	*e*P	**Pn**	**13 05 22.9**	**+0.2**
PB03				*e*S	**Sn**	**13 05 42.0**	**-0.4**
PB03				IAML		13 05 44.8	
	comp=Z,799nm,0.2s						
HMBC	**Humberstone**	**1.34**	**311**	⇑*i*P	**Pn**	**13 05 23.6**	**0.0**
HMBC				*i* S	**Sn**	**13 05 43.7**	**-0.3**
HMBC				IAML		13 05 44.6	
	comp=N,2μm,0.8s						
HMBC	**Humberstone**	**1.34**	**311**	*e*P	**Pn**	**13 05 23.6**	**0.0**
HMBC				*e*S	**Sn**	**13 05 44.2**	**+0.2**
HMBC				IAML		13 05 45.8	
	comp=Z,815nm,0.3s						
TA01	**Diego Aracena**	**1.42**	**294**	⇑*i*P	**Pn**	**13 05 24.6**	**+0.3**
TA01				*i* S	**Sn**	**13 05 45.5**	**+0.4**
TA01				IAML		13 05 46.3	
	comp=N,1μm,0.2s						
TA01	**Diego Aracena**	**1.42**	**294**	*e*P	**Pn**	**13 05 24.6**	**+0.3**
TA01				*e*S	**Sn**	**13 05 46.6**	**+1.5**
TA01				IAML		13 05 48.9	
	comp=Z,258nm,0.4s						
TA02	**Huaiquique**	**1.53**	**305**	*e*P	**Pn**	**13 05 25.8**	**+0.3**
TA02	**Huaiquique**	**1.53**	**305**	*e*P	**Pn**	**13 05 25.8**	**+0.3**
TA02				*e*S	**Sn**	**13 05 47.8**	**+0.5**
TA02				IAML		13 05 54.4	
	comp=Z,517nm,0.1s						
PB11	**IPOC Station P**	**1.60**	**330

comp=N,8μm,0.1s
GCAM G?zelcaml? 0.36 144 P **Pg 13 08 39.7 +0.5**
GCAM *i* AML AML 13 08 45.0
comp=E,4μm,0.2s
GCAM S **Sg 13 08 45.2 +1.0**
ZEYE Izmir, Urla-Ze 0.44 304 P **Pg 13 08 40.7 +0.2**
ZEYE S **Sb 13 08 47.5 -0.2**
URLA Izmir 0.47 321 P **Pg 13 08 41.0 -0.1**
URLA S **Sg 13 08 47.6 +0.2**
URLA *i* AML AML 13 08 48.0
comp=N,2μm,0.5s
IZMR zmir-demi 0.79 79 P **Pb 13 08 47.2 -0.1**
IZMR S **Sg 13 08 56.5 -1.1**
IZMR *i* AML AML 13 08 58.0
comp=N,784nm,0.3s
IZMR *i* AML AML 13 08 59.0
comp=E,1μm,0.4s
KARB zmir-Karabur 0.80 327 P **Pg 13 08 46.7 -0.5**
KARB S **Sb 13 08 58.2 +0.2**
KARB *i* AML AML 13 09 00.0
comp=N,1μm,0.5s
KARB *i* AML AML 13 09 00.0
comp=E,1μm,0.5s
AYDN Tasoluk 0.80 115 P **Pb 13 08 47.6 +0.1**
AYDN S **Sb 13 08 59.0 +0.9**
EAG2 Marmaro, Chios 0.87 309 P **Pg 13 08 48.4 -0.2**
EAG2 S **Sb 13 09 00.4 +0.4**
ZEDA zmir-Bergama 0.97 5 P **Pb 13 08 50.6 +0.1**
ZEDA S **Sb 13 09 04.0 +0.9**
ZEDA *i* AML AML 13 09 07.0
comp=N,841nm,0.4s
ZEDA *i* AML AML 13 09 07.0
comp=E,585nm,0.8s
IZMD zmir-Dikili- 0.99 358 P **Pb 13 08 51.0 +0.3**
IZMD S **Sb 13 09 03.5 -0.2**
KLNA Kalymnos 1.04 180 P **Pg 13 08 51.5 -0.4**
KLNA S **Sg 13 09 04.8 -0.6**
DKL Dikili 1.07 358 P **Pg 13 08 52.0 -0.6**
DKL S **Sn 13 09 07.0 -0.1**
AKHS Akhisar 1.10 37 P **Pb 13 08 52.9 +0.2**
AKHS S **Sb 13 09 07.2 +0.2**
AKHS *i* AML AML 13 09 16.0
comp=E,347nm,0.4s
ESEN Aydn-Nazilli 1.11 100 P **Pb 13 08 53.1 +0.3**
ESEN S **Sn 13 09 08.3 +0.3**
KIRA zmir-Kiraz 1.15 80 P **Pb 13 08 53.8 +0.3**
KIRA S **Sb 13 09 08.5 +0.2**
KIRA *i* AML AML 13 09 10.0
comp=N,321nm,0.4s
AYVA Ayvalik 1.33 351 P **Pg 13 08 57.3 -0.1**
AYVA S **Sn 13 09 15.3 +2.0**
AYVA *i* AML AML 13 09 16.0
comp=N,412nm,0.4s
AYVA *i* AML AML 13 09 17.0
comp=E,546nm,0.8s
PRK Paraskevi 1.36 337 P **Pn 13 08 56.0 -0.3**
PRK S **Sb 13 09 14.3 0.0**
2μm,0.5s
PRK Paraskevi 1.36 337 P **Pn 13 08 56.1 -0.2**
PRK S **Sb 13 09 14.6 +0.4**
APE Apeiranthos 1.47 231 P **Pn 13 08 56.8 -1.1**
APE S **Sg 13 09 19.3 +0.1**
435nm,0.3s
APE Apeiranthos 1.47 231 P **Pn 13 08 57.1 -0.8**
APE S **Sn 13 09 16.1 -0.7**
SIGR SIGRI 1.49 325 P **Pn 13 08 57.5 -0.6**
SIGR S **Sb 13 09 18.6 +0.5**
635nm,0.5s
SIGR SIGRI 1.49 325 P **Pn 13 08 57.5 -0.6**
SIGR S **Sn 13 09 17.7 +0.3**
STEP BALIKESIR_Sava 1.50 23 P **Pg 13 09 00.3 -0.4**
STEP S **Sg 13 09 21.6 +1.4**
STEP *i* AML AML 13 09 25.0
comp=E,299nm,0.5s
STEP *i* AML AML 13 09 26.0
comp=N,350nm,0.6s
TNSA Tinos 1.50 253 P **Pn 13 08 57.6 -0.6**
BUHA Balikesir, Bur 1.50 3 P **Pb 13 08 59.6 +0.1**
BUHA S **Sg 13 09 20.3 0.0**
BUHA *i* AML AML 13 09 23.0
comp=N,489nm,0.5s
BUHA *i* AML AML 13 09 23.0
comp=E,651nm,0.7s
DEMI Demirci 1.73 52 P **Pg 13 09 04.5 -0.4**
DEMI S **Sg 13 09 25.9 -1.4**
DEMI *i* AML AML 13 09 29.0
comp=N,187nm,0.5s
DEMI *i* AML AML 13 09 31.0
comp=E,175nm,0.3s
USAK Uak-Merkez 1.77 65 P **Pg 13 09 05.3 -0.5**
USAK S **Sb 13 09 27.0 +1.0**
BALY Balya 1.81 16 P **Pb 13 09 05.0 +0.2**
BALY S **Sg 13 09 30.1 -0.1**
BALY *i* AML AML 13 09 33.0
comp=E,183nm,0.4s
BALY *i* AML AML 13 09 35.0
comp=N,242nm,0.3s
BKES Balkesir-Mer 1.89 23 P **Pb 13 09 06.2 +0.1**
BKES S **Sg 13 09 32.3 -0.3**
DURS Dursunbey 1.99 36 P **Pb 13 09 07.3 -0.5**
DURS S **Sg 13 09 34.8 -1.1**
KARY Karystos 2.00 272 P **Pn 13 09 05.0 -0.1**
KYMI Kymi, Euboea I 2.34 287 P **Pn 13 09 09.4 -0.4**
LIA Limnos Island 2.35 324 P **Pn 13 09 09.4 -0.6**
LIA S **Sn 13 09 39.5 +0.9**
215nm,0.6s
LIA Limnos Island 2.35 324 P **Pn 13 09 09.8 -0.1**
DION Dionisos Attik 2.40 273 P **Pn 13 09 10.3 -0.3**
KARP Karpathos 2.45 176 P **Pn 13 09 11.0 -0.3**
SMTH Samothraki Isl 2.71 336 P **Pn 13 09 14.0 -0.9**
SMTH S **Sn 13 09 47.9 +0.4**
60nm,0.5s
SMTH Samothraki Isl 2.71 336 P **Pn 13 09 14.7 -0.2**
ALN Alexandroupoli 2.98 346 P **Pn 13 09 18.3 -0.3**
ALN S **Sn 13 09 55.3 +1.1**
68nm,0.5s

TXNET 01 13:14:42.8,31°.6N±0°.6×104°.2W±0°.8, h5km±2km, ML1.9/7, Error ellipse: s-maj=1.3km s-min=0.8km az=66.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**27**	P	Pg	13 14 49.7	-0.1
TPB11				S	Sg	13 14 54.4	-0.1
PECS	**Pecos**	**0.40**	**129**	P	Pg	13 14 50.6	+0.2
PECS				S	Sg	13 14 55.8	+0.2
PECS	**Pecos**	**0.40**	**129**	P	Pg	13 14 50.7	+0.2
PECS				P	Pn	13 14 55.9	+0.6
TPB12	**Southwest of T**	**0.47**	**150**	P	Pg	13 14 52.0	+0.2
TPB12				S	Sg	13 14 58.1	+0.2
TPB07	**Mentone**	**0.48**	**95**	S	Sg	13 14 58.7	+0.4
TPB10	**Southeast of T**	**0.52**	**130**	P	Pg	13 14 53.1	+0.1
TPB10				S	Sg	13 15 00.3	+0.5
GDL2	**Guadalupe Moun**	**0.59**	**349**	P	Pg	13 14 54.6	+0.3
CLNB	**Carlsbad**	**0.71**	**25**	P	Pg	13 14 56.6	+0.1
TPB01	**Permian Basin**	**0.77**	**150**	P	Pg	13 14 57.1	-0.6
TPB01				S	Sg	13 15 07.2	-0.5
TPB03	**Saragosa**	**0.81**	**131**	S	Sg	13 15 09.2	+0.3
TPB04	**Verhalen**	**0.93**	**118**	S	Sg	13 15 12.5	-0.1
HTMS	**Hat Mesa**	**0.99**	**30**	S	Sb	13 15 15.7	-0.2
MNTX	**Cornudas Mount**	**0.99**	**275**	P	Pg	13 15 02.0	+0.2
MNTX				S	Sg	13 15 15.0	+0.4
MNTX	**Cornudas Mount**	**0.99**	**275**	P	Pg	13 15 02.0	+0.2
MNTX				S	Sg	13 15 15.2	+0.5
TPB05	**Hovey Rd**	**1.04**	**132**	P	Pg	13 15 02.4	-0.4
TPB05				S	Sg	13 15 15.9	-0.4
VHRN	**Van Horn**	**1.05**	**218**	P	Pg	13 15 02.7	-0.3
VHRN				S	Sb	13 15 18.3	+0.5
VHRN	**Van Horn**	**1.05**	**218**	P	Pg	13 15 02.9	-0.2
VHRN				S	Sn	13 15 18.7	-0.9
CPRX	**Cap Rock**	**1.44**	**12**	P	Pn	13 15 09.3	-0.4
ODSA	**Odessa**	**1.51**	**70**	S	Sn	13 15 28.8	-2.0
TMB04	**Seminole**	**1.78**	**55**	P	Pn	13 15 14.8	+0.4
TMB04				S	Sb	13 15 38.6	-0.2
TMB02	**Rankin**	**1.92**	**102**	P	Pn	13 15 17.2	+1.0
TMB02				S	Sb	13 15 42.0	-0.6
TMB05	**Klondike**	**2.25**	**63**	S	Sb	13 15 51.4	-0.7
TX31	**Lajitas Ar. Si**	**2.33**	**168**	Pg	Pb	13 15 24.6	-0.7

---

*ISN **01** 13:17:00.9±0.3, 33°.79N×45°.59E, h14km±7km, ML2.7*
*TEH **01** 13:17:01.1, 33°.78N×45°.60E, h10km*
ISC 01 13:17:01.8±1.0, 33°.76N±0°.04×45°.69E±0°.07, h10km, n6, σ0s64/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.40**	**27**	Pg	**Pg**	**13 17 09.3**	**-0.5**
GLG1				Sg	**Sg**	**13 17 16.2**	**+1.1**
IBDR	**Badra**	**0.68**	**162**	*e*Pg	**Pg**	**13 17 15.0**	**+0.1**
IBDR				*e*Sg	**Sb**	**13 17 25.0**	**-0.1**
IBDR				AML	AML	13 17 33.6	
	comp=N,69nm,0.6s						
IBDR				AML	AML	13 17 35.6	
	comp=E,69nm,0.4s						
IGHG	**Ghaleghazi**	**0.93**	**52**	Pg	**Pb**	**13 17 20.2**	**0.0**
IDHR	**Dehrash**	**1.10**	**31**	Pg	**Pg**	**13 17 23.2**	**+0.1**
BHD	**Baghdad**	**1.20**	**246**	*e*Pn	**Pn**	**13 17 24.0**	**-0.6**
BHD				*e*Sn	**Sb**	**13 17 41.0**	**+0.9**
IKRK	**Kirkuk**	**1.98**	**326**	*e*Pn	**Pn**	**13 17 35.0**	**-0.4**
IKRK				*e*Sn	**Sn**	**13 18 00.0**	**-0.3**

---

*ISN **01** 13:28:51.6±1.0, 33°.69N×45°.54E, h16km±15km, ML2.6*
*TEH **01** 13:28:54.2, 33°.77N×45°.57E, h10km*
ISC 01 13:28:52.8±1.0, 33°.66N±0°.05×45°.61E±0°.07, h13km, n5, σ1s07/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.52**	**29**	Pg	**Pg**	**13 29 02.8**	**-0.3**
GLG1				Sg	**Sb**	**13 29 10.1**	**-1.3**
IBDR	**Badra**	**0.61**	**154**	*e*Pg	**Pg**	**13 29 04.0**	**-0.7**
	baz=330						
IBDR				*e*Sg	**Sg**	**13 29 14.0**	**+1.2**
IBDR				AML	AML	13 29 19.8	
	comp=N,55nm,0.6s						
IGHG	**Ghaleghazi**	**1.04**	**50**	Pg	**Pn**	**13 29 13.8**	**+0.4**
BHD	**Baghdad**	**1.10**	**250**	*e*Pn	**Pb**	**13 29 13.0**	**-0.7**
BHD				*e*Sn	**Sn**	**13 29 30.0**	**+1.1**
IDHR	**Dehrash**	**1.22**	**32**	Pg	**Pg**	**13 29 16.8**	**+0.4**

TXNET 01 13:34:17.5, 31°.6N±0°.7×104°.4W±°, h4km±1km, ML1.7/6, Error ellipse: s-maj=1.6km s-min=0.9km az=67.5, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**27**	P	Pg	13 34 23.8	-0.4
TPB11				S	Sg	13 34 29.0	+0.1
PECS	**Pecos**	**0.40**	**130**	P	Pg	13 34 25.2	+0.1
PECS				S	Sg	13 34 30.4	0.0
TPB12	**Southwest of T**	**0.47**	**151**	P	Pg	13 34 26.6	+0.1
TPB12				S	Sg	13 34 33.0	+0.4
TPB07	**Mentone**	**0.47**	**96**	S	Sg	13 34 33.5	+0.7
TPB10	**Southeast of T**	**0.53**	**131**	P	Pg	13 34 27.6	0.0
TPB10				S	Sg	13 34 34.8	+0.4
GDL2	**Guadalupe Moun**	**0.58**	**348**	P	Pg	13 34 29.0	+0.2
TPB01	**Permian Basin**	**0.78**	**151**	P	Pg	13 34 31.6	-0.8
TPB01				S	Sg	13 34 41.8	-0.8
MNTX	**Cornudas Mount**	**0.99**	**274**	P	Pb	13 34 37.0	-0.3
MNTX				S	Sg	13 34 49.6	+0.1
TPB05	**Hovey Rd**	**1.04**	**132**	P	Pg	13 34 36.8	-0.7
TPB05				S	Sg	13 34 50.6	-0.4
VHRN	**Van Horn**	**1.06**	**218**	P	Pg	13 34 37.4	-0.6
VHRN				S	Sb	13 34 53.0	+0.2
ALPN	**Alpine**	**1.34**	**158**	P	Pn	13 34 41.5	-1.6
ALPN				S	Sg	13 34 58.9	-1.9
CPRX	**Cap Rock**	**1.43**	**12**	P	Pn	13 34 44.2	-0.2
TMB04	**Seminole**	**1.77**	**55**	P	Pn	13 34 48.7	-0.3
TMB04				S	Sb	13 35 12.8	-0.5
TMB02	**Rankin**	**1.91**	**102**	S	Sn	13 35 16.1	+0.6
TMB05	**Klondike**	**2.24**	**63**	S	Sb	13 35 26.0	-0.6
TX31	**Lajitas Ar. Si**	**2.33**	**168**	Pg	Pb	13 34 59.2	-1.0

KRSC 01 13:34:55.6±1.7, 50°.58N×157°.22E, h68km±20km, MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.71**	**279**	*e*P	Pn	13 35 10.8	+0.4
SKR				*e*S	Sn	13 35 21.2	-0.1
PAU	**Pauzhetka**	**0.92**	**344**	*e*P	Pn	13 35 14.2	+1.2
PAU				*e*S	Sn	13 35 27.5	+1.6
KDTR	**Khodutka, Kamc**	**1.34**	**23**	*e*P	Pn	13 35 20.5	+2.1
KDTR				*e*S	Sn	13 35 38.2	+2.7
RUS	**Russkaya**	**2.02**	**23**	*e*P	Pn	13 35 29.3	+1.8
RUS				*e*S	Sn	13 35 53.2	+1.5
GRL	**Gorelyy**	**2.05**	**15**	*e*P	Pn	13 35 30.6	+2.8
GRL				*e*S	Sn	13 35 55.8	+3.4
KRMR	**Karymshinskiy**	**2.32**	**14**	*e*P	Pn	13 35 34.4	+2.9
APC	**Apacha**	**2.35**	**359**	*e*P	Pn	13 35 33.2	+1.4
PET	**Petropavlovsk**	**2.60**	**19**	*e*P	Pn	13 35 37.5	+2.2
PET				*e*S	Sn	13 36 09.1	+3.3
DALK	**Dalny**	**2.63**	**21**	*e*P	Pn	13 35 38.4	+2.7
DALK				*e*S	Sn	13 36 08.4	+1.9
UGLR	**Uglovaya**	**2.81**	**20**	*e*P	Pn	13 35 41.9	+3.6
AVH	**Avacha**	**2.85**	**19**	*e*P	Pn	13 35 43.2	+4.5
KOK	**Koryaka**	**2.85**	**17**	*e*P	Pn	13 35 42.7	+3.9
SDLR	**Sedlovina**	**2.89**	**20**	*e*P	Pn	13 35 42.1	+2.7
KRX	**Arik**	**2.92**	**17**	*e*P	Pn	13 35 43.2	+3.5
GNL	**Ganaly**	**3.15**	**8**	*e*P	Pn	13 35 45.4	+2.6
KII	**Karymskiy**	**3.72**	**21**	*e*P	Pn	13 35 53.7	+3.1
MKZ	**Mys Kozlova**	**4.84**	**33**	*e*P	Pn	13 36 07.2	+1.4
KBTR	**Krutoberegovo**	**6.56**	**29**	*e*P	Pn	13 36 30.9	+1.7

---

*ISN **01** 13:35:33.7±0.5, 33°.72N×45°.74E, h8km±9km, ML2.8*
*TEH **01** 13:35:39.6, 33°.74N×45°.82E, h10km*
ISC 01 13:35:36.5±1.0, 33°.62N±0°.05×45°.79E±0°.07, h19km, n7, σ0s93/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.52**	**167**	*e*Pg	**Pb**	**13 35 46.0**	**-1.0**
IBDR				*e*Sg	**Sb**	**13 35 55.0**	**+0.9**
IBDR				AML	AML	13 36 01.4	
	comp=N,247nm,0.5s						
IBDR				AML	AML	13 36 04.2	
	comp=E,184nm,0.7s						
KGS1	**Ghasr-e-Shirin**	**0.90**	**349**	Pg	**Pn**	**13 35 54.8**	**+0.6**
IGHG	**Ghaleghazi**	**0.96**	**42**	Pg	**Pb**	**13 35 56.1**	**+0.9**
IDHR	**Dehrash**	**1.19**	**24**	Pg	**Pg**	**13 36 00.5**	**+0.9**
BHD	**Baghdad**	**1.23**	**254**	*e*Pn	**Pn**	**13 35 59.0**	**+0.3**
BHD				*e*Sn	**Sg**	**13 36 17.0**	**+0.5**
BHD				AML	AML	13 36 23.1	
	comp=E,1μm,0.5s						
SNQR	**Sonqor, Kerman**	**1.96**	**50**	Pn	**Pg**	**13 36 13.9**	**-0.3**
IKRK	**Kirkuk**	**2.15**	**326**	*e*Pn	**Pn**	**13 36 10.0**	**-1.3**
IKRK				*e*Sn	**Sn**	**13 36 37.0**	**-0.4**

---

*AFAD **01** 13:36:54.6, 39°.51N×28°.26E, h6km±3km, ML2.7*
ISC 01 13:36:54.1±1.3, 39°.53N±0°.04×28°.21E±0°.05, h8km±9km, n16, σ0s61/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.22**	**70**	P	**Pg**	**13 36 58.3**	**-0.3**
DURS				*i* AML	AML	13 37 01.0	
	comp=N,3μm,0.1s						
DURS				*i* AML	AML	13 37 01.0	
	comp=E,3μm,0.2s						
DURS				S	**Sg**	**13 37 01.8**	**+0.1**
DEMI	**Demirci**	**0.62**	**140**	P	**Pg**	**13 37 06.3**	**+0.1**
DEMI				S	**Sg**	**13 37 14.5**	**+0.2**
EMET	**Ktahya-Emet**	**0.88**	**99**	P	**Pg**	**13 37 11.0**	**0.0**
EMET				S	**Sn**	**13 37 26.5**	**+0.6**
EMET				*i* AML	AML	13 37 27.0	
	comp=N,199nm,0.2s						
EMET				*i* AML	AML	13 37 27.0	
	comp=E,160nm,0.2s						
ULDT	**Uludag**	**0.95**	**49**	P	**Pg**	**13 37 12.1**	**-0.3**
ULDT				S	**Sb**	**13 37 26.5**	**+0.9**
ULDT				*i* AML	AML	13 37 27.0	
	comp=N,302nm,0.3s						
ULDT				*i* AML	AML	13 37 27.0	
	comp=E,326nm,0.8s						
USAK	**Uak-Merkez**	**1.03**	**142**	P	**Pn**	**13 37 14.7**	**-0.2**
USAK				S	**Sb**	**13 37 27.0**	**-0.9**
GDZ	**Gediz**	**1.08**	**113**	P	**Pb**	**13 37 15.3**	**+0.1**
GDZ				S	**Sb**	**13 37 29.2**	**-0.3**
DOMA	**Ktahya-Doman**	**1.18**	**77**	P	**Pg**	**13 37 16.0**	**-0.8**
DOMA				S	**Sn**	**13 37 32.8**	**-0.5**
DOMA				*i* AML	AML	13 37 35.0	
	comp=N,107nm,0.2s						
DOMA				*i* AML	AML	13 37 35.0	
	comp=E,154nm,0.3s						
ANDZ	**Kutahya, Merke**	**1.31**	**90**	P	**Pn**	**13 37 19.2**	**+0.3**
ANDZ				S	**Sn**	**13 37 36.5**	**-0.1**
ANDZ				*i* AML	AML	13 37 39.0	
	comp=N,78nm,0.6s						
AUBOZ	**BOZOYUK**	**1.46**	**74**	P	**Pb**	**13 37 21.4**	**-0.2**
AUBOZ				S	**Sg**	**13 37 41.9**	**+0.8**
AUBOZ				*i* AML	AML	13 37 44.0	
	comp=E,75nm,0.3s						
AUKUT	**KUTAHYA**	**1.47**	**72**	P	**Pb**	**13 37 21.6**	**-0.1**
AUKUT				S	**Sg**	**13 37 41.9**	**+0.7**
AUKUT				*i* AML	AML	13 37 42.0	
	comp=N,520nm,0.4s						
AUKUT				*i* AML	AML	13 37 42.0	
	comp=E,290nm,0.4s						
BNAZ	**Uak-Banaz**	**1.55**	**122**	P	**Pn**	**13 37 22.5**	**+0.4**
BNAZ				S	**Sg**	**13 37 44.3**	**+0.2**
ISK	**Istanbul-Kandi**	**1.67**	**23**	P	**Pn**	**13 37 22.4**	**-1.3**
SIGR	**SIGRI**	**1.85**	**261**	P	**Pn**	**13 37 25.9**	**-0.2**
ALN	**Alexandroupoli**	**2.15**	**310**	P	**Pn**	**13 37 29.8**	**-0.4**
SMTH	**Samothraki Isl**	**2.26**	**296**	P	**Pn**	**13 37 32.0**	**+0.2**
EDRB	**Edirne**	**2.57**	**335**	P	**Pn**	**13 37 37.5**	**+1.4**

IDC 01 13:40:53.0±28.0, 7°.01N×94°.21E, h0km, mb3.7/3, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=562.7km s-min=91.7km az=145.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.28**	**22**	Pn	Pn	13 43 49.3	0.0
	0.1nm,0.3s,baz=204,slow=13,SNR=4.2						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**40.94**	**347**	P	P	13 48 36.7	-0.7
	0.6nm,0.8s,baz=169,slow=7.4,SNR=6.0						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**45.39**	**346**	P	P	13 49 13.3	0.0
	0.9nm,0.8s,baz=165,slow=6.7,SNR=8.5						
	0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**47.41**	**352**	P	P	13 49 29.4	+0.3
	0.5nm,0.4s,baz=150,slow=6.0,SNR=1.9						
	0.5nm,0.4s						

---

*IDC **01** 13:44:46.5±0.9, 9°.57N×82°.62W, h0km, mb4.2/7, mbtmp4.4/12, ML4.3/4, MS3.8/35, Error ellipse: s-maj=27.9km s-min=12.4km az=17.0*
*RSNC **01** 13:44:47.0±0.0, 9°N±5°×8°2W±°, h200km±32km, M4.1, mB5.0, mb4.1, ML4.1, Mw(mB)4.3*
*UPA **01** 13:44:47.8±1.7, 9°.47N×82°.64W, h0km±6km, MD5.0, MW4.6, Fault plane solution: NP1:ϕs15.00000°, δ78.00000°, λ38.00000°.*
*CATAC **01** 13:44:48.0±0.4, 10°N±2°×8°3W±°, h6km±3km, M5.3/24, mb5.8/3, mB5.2/4, MLv5.3/24, Mw(mB)4.5/4, Error ellipse: s-maj=4.4km s-min=3.8km az=153.9, confirmed*
*UCR **01** 13:44:48.9±1.0, 9°.50N×82°.63W, h10km±3km, MW5.2, Fault plane solution: NP1:ϕs359.16000°, δ17.96000°, λ-32.95000°.*
*NEIC **01** 13:44:48.7±1.7, 9°.470N±0°.010×82°.65W±0°.05, h10km±1km, mb4.7/72, Error ellipse: s-maj=8.9km s-min=3.0km az=93.0*
ISC 01 13:44:49.3±0.9, 9°.50N±0°.02×82°.63W±0°.02, h16km±6km, n457, σ1s15/414, mb4.7/42, MS3.9/28, 43C-19D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRIBI	**Bribri**	**0.22**	**302⇓**	*e*P	**Pg**	**13 44 55.9**	**+1.5**
BRIBI				*e*S	**Sg**	**13 45 01.5**	**+3.8**
ALCO	**Alturas Coton,**	**0.58**	**200⇑**	*e*P	**Pg**	**13 44 59.6**	**-1.3**
ALCO				*e*S	**Sg**	**13 45 07.3**	**-1.5**
DRK0	**Durika**	**0.65**	**249⇑**	*e*P	**Pg**	**13 45 01.1**	**-1.1**
DRK0				*e*S	**Sg**	**13 45 09.8**	**-1.1**
DRK0	**Durika**	**0.65**	**249⇑**	*i*P	**Pg**	**13 45 01.1**	**-1.1**
DRK0				*e*S	**Sg**	**13 45 10.2**	**-0.7**
DRK0	**Durika**	**0.65**	**249**	P	**Pg**	**13 45 01.3**	**-0.9**
BRU2	**Volcan**	**0.71**	**185**	Sg	**Sg**	**13 45 10.5**	**-2.0**
BRU2	**Volcan**	**0.71**	**185**	P	**Pg**	**13 45 02.1**	**-1.0**
BRU2	**Volcan**	**0.71**	**185**	S	**Sg**	**13 45 11.5**	**-1.0**
EDP2	**Potrero Grande**	**0.72**	**228⇑**	*e*P	**Pg**	**13 45 02.3**	**-1.2**
EDP2				*e*S	**Sg**	**13 45 12.3**	**-0.8**
CHGR2	**Aguacate**	**0.74**	**139⇓**	*i*P	**Pg**	**13 45 02.6**	**-1.1**
CHGR2				*e*S	**Sb**	**13 45 12.9**	**-0.8**
VITO	**San Vito**	**0.76**	**206**	*e*P	**Pg**	**13 45 03.3**	**-0.8**
BURE	**Buenos Aires**	**0.77**	**245⇑**	*e*P	**Pg**	**13 45 03.2**	**-1.2**
BURE				*e*S	**Sg**	**13 45 13.4**	**-1.2**
FIMO	**Fila Mora**	**0.88**	**235⇑**	*e*P	**Pg**	**13 45 05.3**	**-1.1**
SAJE	**San Jermim**	**0.88**	**260⇑**	*e*P	**Pg**	**13 45 05.1**	**-1.3**
NELY	**Ciudad Neily**	**0.90**	**200⇑**	*e*P	**Pg**	**13 45 06.0**	**-0.8**
TAAN	**Batan**	**0.92**	**309⇓**	*e*P	**Pb**	**13 45 06.4**	**-0.5**
CDITO	**Canoas**	**0.95**	**195**	P	**Pg**	**13 45 06.6**	**-1.2**
CDITO	**Canoas**	**0.95**	**195**	S	**Sb**	**13 45 20.5**	**+0.6**
LPPC	**Paso Canoas**	**0.98**	**192⇑**	*e*P	**Pg**	**13 45 07.0**	**-1.4**
EDAD	**Golfito**	**1.00**	**212⇑**	*e*P	**Pg**	**13 45 06.8**	**-1.8**
FITO	**Golfito**	**1.01**	**211⇑**	*e*P	**Pg**	**13 45 07.0**	**-2.0**
IRES	**Siquirres**	**1.05**	**304⇓**	*e*P	**Pb**	**13 45 08.3**	**-0.8**
DVD	**David**	**1.07**	**171⇓**	*i*P	**Pg**	**13 45 08.4**	**-1.7**
DVD				*e*S	**Sg**	**13 45 22.6**	**-1.5**
OCHAL	**Ojochal**	**1.08**	**248**	P	**Pg**	**13 45 09.3**	**-1.0**
OCHAL	**Ojochal**	**1.08**	**248**	S	**Sb**	**13 45 24.7**	**+1.0**
BUS1	**Rivas**	**1.10**	**273**	*e*P	**Pg**	**13 45 09.3**	**-1.5**
RVSTA	**Santa Teresita**	**1.11**	**295**	*e*P	**Pg**	**13 45 09.2**	**-1.6**
TURIB	**Turrialba**	**1.12**	**291**	*e*P	**Pg**	**13 45 09.2**	**-1.8**
RVLA	**Villa Bonita**	**1.12**	**303**	*e*P	**Pg**	**13 45 09.3**	**-1.7**
VERB	**Verbena**	**1.14**	**293⇑**	*e*P	**Pg**	**13 45 09.9**	**-1.5**
PTJ1	**Puerto Jimnez**	**1.17**	**215⇑**	*e*P	**Pg**	**13 45 09.8**	**-2.0**
PTJ1	**Puerto Jimnez**	**1.17**	**215⇑**	*e*P	**Pg**	**13 45 09.9**	**-2.0**
PTJ1				*e*S	**Sg**	**13 45 26.5**	**-0.7**
PTJ1	**Puerto Jimnez**	**1.17**	**215**	P	**Pg**	**13 45 10.2**	**-1.7**
VINA	**Juan Vinas**	**1.17**	**290**	*e*P	**Pg**	**13 45 10.1**	**-1.8**
JIME	**Puerto Jimenez**	**1.18**	**216⇑**	*e*P	**Pg**	**13 45 10.0**	**-2.1**
VTCV	**VTCV, Calle Va**	**1.18**	**294**	*e*P	**Pg**	**13 45 10.6**	**-1.7**
CVTV	**Tajo**	**1.21**	**294⇓**	*e*P	**Pg**	**13 45 11.2**	**-1.6**
CVTR	**Volcan Turrial**	**1.23**	**295⇓**	*e*P	**Pg**	**13 45 11.2**	**-1.9**
VTLA	**Turrialba Volc**	**1.23**	**294⇓**	*e*P	**Pg**	**13 45 11.5**	**-1.7**
PCAYA	**Pacayas**	**1.24**	**290⇑**	*e*P	**Pn**	**13 45 12.3**	**+0.1**
RAFA	**San Farael, Vo**	**1.25**	**291⇑**	*e*P	**Pg**	**13 45 11.6**	**-1.9**
REPA	**Paraso**	**1.27**	**285⇑**	*e*P	**Pg**	**13 45 11.5**	**-2.2**
VICA	**Volcano Irazu**	**1.29**	**292⇑**	*e*P	**Pg**	**13 45 12.2**	**-2.1**
PIRO	**Carate, Puerto**	**1.30**	**213⇑**	*e*P	**Pn**	**13 45 11.6**	**-1.2**
PIRO	**Carate, Puerto**	**1.30**	**213⇑**	*i*P	**Pn**	**13 45 11.6**	**-1.2**
PIRO				*i* S	**S

PICV PH. Pirrs 1.55 275⇑ eP Pn 13 45 16.1 -0.3
HEME Heredia, Merce 1.57 288⇑ eP Pn 13 45 16.8 +0.2
VBV1 V. Barva 1.57 293 eP Pn 13 45 15.3 -1.6
SANTA Santa Ana 1.59 286⇑ eP Pn 13 45 16.8 -0.2
BELE Belen 1.61 287⇑ eP Pn 13 45 17.1 -0.1
POAS San Pedro de P 1.69 290 eP Pn 13 45 19.0 +0.6
VPS5 V. Poas 1.72 294 eP Pn 13 45 19.0 0.0
VPS8 V Poas 1.73 293⇓ eP Pn 13 45 19.1 0.0
TCS1 Tacares 1.73 288⇑ eP Pn 13 45 19.6 +0.7
TCS1 Tacares 1.73 288 P Pb 13 45 20.0 -0.9
GREC Grecia 1.75 289⇑ eP Pn 13 45 19.9 +0.7
SARCI Sarchi 1.79 289⇑ eP Pb 13 45 20.7 -1.2
TRB2 Turrubares 1.84 283⇑ eP Pn 13 45 20.5 +0.2
VPL3 V. Platanar 1.86 297⇓ eP Pn 13 45 20.6 -0.1
ZARE Zarcero 1.86 291 eP Pn 13 45 21.7 +0.8
ITAL Pital 1.87 300 eP Pn 13 45 20.6 -0.1
RAMO San Ramon 1.90 288 eP Pb 13 45 22.9 -0.9
OROT Orotina 1.92 282 eP Pn 13 45 21.9 +0.5
SRA1 San Ramn 1.92 288 eP Pn 13 45 21.9 +0.4
ARZA Esparza 2.07 284 eP Pn 13 45 24.2 +0.7
COVE Coope Vega, Sa 2.12 305 S Sb 13 45 52.7 -1.0
COVE Coope Vega, Sa 2.12 305 P Pn 13 45 23.9 -0.4
SOCE Pocosol 2.15 294 eP Pn 13 45 24.9 +0.3
SOCE Pocosol 2.15 294 P Pn 13 45 25.6 +1.0
SOCE Pocosol 2.15 294 S Sb 13 45 53.5 -0.8
GMAL Guarumal, Vera 2.21 141 P Pn 13 45 25.2 -0.2
GMAL Guarumal, Vera 2.21 141 eP Pn 13 45 24.8 -0.7
GMAL Guarumal, Vera 2.21 141⇓ eP Pn 13 45 25.4 -0.1
GMAL i S Sn 13 45 52.5 0.0
FORC Fortuna 2.23 296 eP Pn 13 45 26.3 +0.6
VACR Volcan Arenal 2.24 296 eP Pn 13 45 26.1 +0.3
CEDE Laguna Cedeo 2.27 296 eP Pn 13 45 26.6 +0.4
ARE1 Arenal 1 2.27 295⇓ eP Pn 13 45 26.4 +0.1
VARE2 V. Arenal 2.27 295⇓ eP Pn 13 45 26.5 +0.2
JTS Las Juntas de 2.42 289 Pn Pn 13 45 28.8 +0.5
JTS Las Juntas de 2.42 289 Pn Pn 13 45 29.0 +0.7
252nm,0.3s,baz=102,slow=19,SNR=135
JTS Pg Pb 13 45 30.5 -2.1
252nm,0.3s,baz=90,slow=20,SNR=113
JTS Lg Lg 13 46 01.1
629nm,0.3s,baz=290,slow=21,SNR=24
JTS LR LR 13 46 26.3
comp=Z,1µm,20.4s,baz=106,slow=42
975nm,0.4s
JTS Las Juntas de 2.42 289 P Pn 13 45 29.3 +1.0
JTS Las Juntas de 2.42 289⇑ eP Pn 13 45 28.8 +0.5
JTS Las Juntas de 2.42 289⇑ iP Pn 13 45 28.9 +0.6
JCR1 Jicaral 2.47 278⇑ eP Pn 13 45 30.5 +1.4
PNME Penonome 2.49 114 eP Pn 13 45 29.0 -0.2
PNME eS Sn 13 46 00.8 +1.5
QUEB Quebradon, Cot 2.50 297 eP Pn 13 45 29.1 -0.3
VERA Finca Concepci 2.58 302 eP Pn 13 45 30.3 -0.2
CHIT3 Chitre 2.67 125⇓ eP Pn 13 45 31.6 -0.2
CHIT3 eS Sb 13 46 06.9 -2.5
BLUN Bluefields 2.73 336 P Pn 13 45 30.9 -1.7
BLUN Bluefields 2.73 336 P Pn 13 45 31.7 -0.9
CUI Cuipilapa 2.75 295 eP Pn 13 45 33.1 +0.2
CACAO El Cacao, Vera 2.77 141 P Pn 13 45 35.0 +1.9
CACAO El Cacao, Vera 2.77 141⇓ eP Pn 13 45 34.5 +1.4
comp=Z,120nm,0.1s
CACAO eS Sn 13 46 08.4 +2.2
BCIP Isla Barro Col 2.77 97 Pn Pn 13 45 32.1 -1.1
BCIP Isla Barro Col 2.77 97 P Pn 13 45 32.4 -0.8
BCIP Isla Barro Col 2.77 97 eP Pn 13 45 31.9 -1.3
BCIP Isla Barro Col 2.77 97⇓ eP Pn 13 45 31.8 -1.3
BCIP eS Sn 13 46 06.0 -0.4
COLC Colonia 2.79 295 eP Pn 13 45 33.7 +0.3
INDI Punta indio, G 2.86 278 P Pn 13 45 35.1 +0.8
INDI Punta indio, G 2.86 278 S Sn 13 46 10.6 +2.2
AZU Azuero 2.88 126 P Pn 13 45 36.6 +1.9
AZU Azuero 2.88 126 eP Pn 13 45 33.8 -0.9
AZU Azuero 2.88 126⇑ eP Pn 13 45 34.1 -0.5
AZU i S Sn 13 46 10.4 +1.3
CHOR3 La Chorrera 2.89 102 eP Pn 13 45 34.9 +0.1
CHOR3 eS Sn 13 46 11.1 +1.8
VRLE La Escondida, 2.98 296 eP Pn 13 45 36.4 +0.3
ELI1 Hacienda Flor 3.10 292 eP Pn 13 45 38.9 +1.2
UPA Univ. de Panam 3.10 99 eP Pn 13 45 37.9 +0.3
ESPN Las Esperanzas 3.14 329 P Pn 13 45 37.5 -0.7
ESPN Las Esperanzas 3.14 329⇓ eP Pn 13 45 37.1 -1.1
ESPN Las Esperanzas 3.14 329 P Pn 13 45 38.5 +0.2
ESPN Las Esperanzas 3.14 329 S Sn 13 46 15.6 +0.2
SAIC Isla e San And 3.15 17 P Pn 13 45 36.7 -1.6
ACON Acoyapa 3.50 315 P Pn 13 45 42.5 -0.7
ACON Acoyapa 3.50 315⇓ eP Pn 13 45 42.4 -0.9
ACON Acoyapa 3.50 315 S Sn 13 46 23.5 -0.8
CONN Concepcion 3.59 305 P Pn 13 45 44.1 -0.3
CONN S Sb 13 46 32.2 -3.7
JAPN Al SSO del Vol 3.61 304 P Pn 13 45 45.1 +0.4
JAPN S Sn 13 46 31.9 +4.8
PRVC Isla de Provid 4.04 18 Pn Pn 13 45 50.0 -0.7
PRVC Isla de Provid 4.04 18 P Pn 13 45 49.4 -1.3
PRVC Isla de Provid 4.04 18⇑ eP Pn 13 45 51.0 +0.3
PRVC eS Sn 13 46 36.9 -0.9
PRVC Isla de Provid 4.04 18 P Pn 13 45 51.0 +0.3
PRVC S Sn 13 46 38.8 +1.0
BOAB BOACO BROADBAN 4.18 315 Pn Pn 13 45 51.8 -0.8
BOAB BOACO BROADBAN 4.18 315 P Pn 13 45 52.3 -0.3
BOAB BOACO BROADBAN 4.18 315 S Sn 13 46 42.0 +0.9
NANN Nandasmo 4.20 306 P Pn 13 45 54.6 +1.8
BILN Bilwi Airport 4.58 351 P Pn 13 45 57.6 -0.4
MATN Matagalpa 4.70 317 P Pn 13 45 58.5 -1.3
MATN Matagalpa 4.70 317 S Sn 13 46 55.5 +1.5
COPN Copaltepe 4.72 305 P Pn 13 46 00.5 +0.6
LIMN Finca el Limon 5.09 314 P Pn 13 46 05.3 +0.1
RCPN Sur Rio San Ju 5.25 320 P Pn 13 46 08.0 +0.6
RCPN Sur Rio San Ju 5.25 320 S Sn 13 47 08.8 +1.1
PTAC Punta Ardita, 5.31 116 P Pn 13 46 06.9 -1.2
PTAC Punta Ardita, 5.31 116 eP Pn 13 46 07.8 -0.3
RCVN Varilla!2 5.35 320 P Pn 13 46 09.1 +0.2
RCVN Varilla!2 5.35 320 S Sn 13 47 12.7 +2.4
APAC Apartado, Choc 6.19 104 P Pn 13 46 22.3 +2.1
comp=Z,64nm,1.0s
LCBC Los crdobas, 6.21 95⇓ eP Pn 13 46 23.9 +3.4
TGUH Tegucigalpa,Un 6.42 315 Pn Pn 13 46 22.6 -0.8
TGUH Tegucigalpa,Un 6.42 315 P Pn 13 46 21.2 -2.2
comp=Z,3µmcomp=Z,141nm,0.7s
DBBC Dabeiba 6.81 111 P Pn 13 46 30.2 +1.3
UREC San Jos de Ur 7.23 103 P Pn 13 46 33.3 -1.2
comp=Z,14nm,0.6s
UREC San Jos de Ur 7.23 103 eP Pn 13 46 35.2 +0.7
SJCC San Jacinto, C 7.35 86 P Pn 13 46 35.3 -0.9
comp=Z,2µmcomp=Z,121nm,1.1s
SJCC S Sn 13 47 50.2 -9.3
comp=Z,2µmcomp=Z,121nm,1.1s
SJCC San Jacinto, C 7.35 86 P Pn 13 46 37.0 +0.7
CBOC Ciudad Bolivar 7.49 118 P Pn 13 46 37.5 -0.7
comp=Z,11nm,1.0s
ARGC Ariguani, Magd 8.27 87 P Pn 13 46 49.4 +0.6
comp=Z,1µmcomp=Z,44nm,1.3s
YOTC Yotoco, Valle 8.30 131 P Pn 13 46 49.8 +0.4
comp=Z,6.2nm,0.6s
GUY2C Guyana, Caldas 8.36 120 P Pn 13 46 50.5 0.0
comp=Z,22nm,0.8s
SMRC Santa Marta, M 8.43 78 Pn Pn 13 46 52.1 +1.1
SMRC Santa Marta, M 8.43 78 P Pn 13 46 49.8 -1.2
comp=Z,35nm,1.1s
PTBC PUERTO BERRIO, 8.61 109 P Pn 13 46 51.0 -2.5
ROSC El Rosal 9.45 119 LR LR 13 51 04.7
comp=Z,167nm,21.0s,baz=7.5,slow=40
MTDJ Mount Denham 9.98 29 Pn Pn 13 47 13.0 +0.6
OTAV Otavalo 10.10 155 eP Pn 13 47 19.3 +5.1
RUSC La Rusia 10.12 110 Pn Pn 13 47 19.9 -0.6
FLOC Florencia 10.49 138 Pn Pn 13 47 18.4 -0.8
SDV Santo Domingo 11.86 92 Pn Pn 13 47 36.8 -1.3
comp=Z,3.3nm,0.3s,baz=256,slow=11,SNR=3.1
SDV LR LR 13 53 24.0
comp=Z,351nm,20.5s,baz=277,slow=44
CMIG Matias Romero 14.11 304 Pn Pn 13 48 08.3 -0.4
comp=Z,0.8nm,0.3s,baz=112,slow=6.0,SNR=5.5
CMIG LR LR 13 53 59.8
comp=Z,394nm,21.3s,baz=127,slow=39
comp=Z,6.1nm,0.7s
BANI BANI 14.82 52 Pn Pn 13 48 18.0 -0.5
ATAH Atahualpa 17.06 166 LR LR 13 54 52.3
comp=Z,416nm,19.2s,baz=342,slow=35
PCRV Puerto La Cruz 17.74 86 P Pn 13 48 55.4 -0.6
comp=Z,0.6nm,0.3s,baz=298,slow=15,SNR=4.0
PCRV LR LR 13 58 11.6
comp=Z,384nm,18.1s,slow=45
comp=Z,6.2nm,0.6s
SJG San Juan 18.14 60 P Pn 13 48 59.9 -0.8
comp=Z,0.9nm,0.3s,baz=259,slow=7.8,SNR=7.7
SJG LR LR 13 55 15.4
comp=Z,312nm,19.2s,baz=231,slow=35
comp=Z,7.0nm,0.2s
TEFE Tefe 22.10 125 eP P 13 49 47.5 +3.3
BOAV Boa Vista 23.08 106 eP P 13 49 57.3 +2.7
Y49A Blount Mountai 24.49 352 P P 13 50 08.9 +1.0
TKL Tuckaleechee C 26.06 358 LR LR 14 01 23.2
comp=Z,256nm,18.6s,baz=185,slow=38
LPAZ La Paz 29.37 151 LR LR 14 02 51.8
comp=Z,186nm,21.5s,baz=324,slow=37
MDP Montagnes des 30.05 96 LR LR 14 04 17.3
comp=Z,310nm,18.9s,baz=294,slow=39
LPIG La Paz 30.13 302 LR LR 14 02 18.3
comp=Z,170nm,21.7s,baz=103,slow=35
PDRB Porto dos Gac 33.21 129 eP P 13 51 29.1 +3.2
ANMO Albuquerque 33.40 323 LR LR 14 07 34.2
comp=Z,51nm,18.5s,baz=304,slow=41
SADO Sadowa 35.27 4 LR LR 14 06 33.8
comp=Z,92nm,18.4s,baz=250,slow=37
SPMN Marine on St. 36.66 348 P P 13 51 54.2 -1.1
SPMN IAmb IAmb 13 51 55.4
comp=Z,14nm,1.0s
PFO Pinyon Flats O 39.27 313 LR LR 14 09 47.8
comp=Z,95nm,21.4s,baz=135,slow=38
ARAG Araguaiana, MT 39.48 129 eP P 13 52 22.5 +3.1
PDAR Pinedale Array 40.66 329 P P 13 52 29.0 -0.3
comp=Z,1.2nm,1.0s,baz=146,slow=9.0,SNR=7.3
comp=Z,1.2nm,1.0s
ULM Lac du Bonnet 42.08 347 P P 13 52 38.9 -1.6
ULM Lac du Bonnet 42.08 347 P P 13 52 38.7 -1.8
comp=Z,6.4nm,0.9s,baz=150,slow=8.7,SNR=10
comp=Z,6.4nm,0.9s
ELK Elko 42.44 323 LR LR 14 12 19.3
comp=Z,145nm,18.9s,baz=149,slow=39
DGMT Dagmar 42.87 339 P P 13 52 47.4 +0.4
NVAR Mina Array Bea 43.04 318 LR LR 14 11 37.0
comp=Z,164nm,19.5s,baz=159,slow=38
IPMB Ipueri, GO 43.60 129 eP P 13 52 55.8 +2.6
BOZ Bozeman (W) 43.74 331 P P 13 52 54.0 -0.2
DRLN Deer Lake 44.84 23 P P 13 53 03.4 +0.6
DRLN IAmb IAmb 13 53 04.7
comp=Z,13nm,0.8s
SCHQ Schefferville 46.93 12 LR LR 14 13 58.6
comp=Z,130nm,19.2s,baz=255,slow=37
YBH Yreka Blue Hor 47.65 319 LR LR 14 16 02.7
comp=Z,122nm,18.0s,baz=167,slow=39
NEW Newport 48.30 330 LR LR 14 15 47.5
comp=Z,121nm,19.0s,baz=149,slow=39
RCBR Riachuelo 48.99 106 LR LR 14 14 31.2
comp=Z,79nm,20.5s,baz=266,slow=36
PLCA Paso Flores 51.21 168 P P 13 53 52.5 +0.2
comp=Z,2.2nm,0.8s,baz=330,slow=5.8,SNR=5.3
comp=Z,2.2nm,0.8s
PLCA Paso Flores 51.21 168 eP P 13 53 53.9 +1.7
FRB Frobisher Bay 55.08 8 LR LR 14 18 22.1
comp=Z,138nm,20.0s,baz=151,slow=37
BBB Bella Bella 56.29 328 LR LR 14 23 02.9
comp=Z,74nm,18.8s,baz=161,slow=41
YKA Yellowknife Ar 57.74 343 P P 13 54 38.7 -0.6
comp=Z,6.6nm,0.9s,baz=138,slow=7.5,SNR=76
comp=Z,6.6nm,0.9s
KOTAN Kotaneelee Air 59.19 337 P P 13 54 50.8 +1.3
baz=131
TAOE Nuku Hiva Isla 60.10 254 eLR LR 14 12 32.7
comp=Z,86nm,25.2s
DLBC Dease Lake 60.61 334 P P 13 54 59.9 +0.5
baz=124
SFJD Kangerlussuaq 61.34 14 LR LR 14 21 20.6
comp=Z,104nm,21.5s,baz=221,slow=36
R33M Jennings River 61.55 334 IAmb IAmb 13 55 30.9
comp=Z,6.2nm,1.4s
R33M Jennings River 61.55 334 P P 13 55 06.2 +0.4
baz=123
Q32M Nakina River 61.88 333 P P 13 55 08.0 -0.1
baz=122
P33M Teslin, Yukon 62.78 334 P P 13 55 14.7 +0.7
baz=122
S31K Pelican 63.21 331 P P 13 55 16.9 +0.2
baz=117
SKAG Skagway 63.49 333 P P 13 55 19.6 +1.0
baz=119
FARO Faro, Yukon 64.06 336 P P 13 55 22.9 +0.6
baz=122
O30N Mendenhall 64.46 334 P P 13 55 26.2 +1.2
baz=119
M31M Drury Creek, Y 64.46 336 P P 13 55 26.2 +1.2
baz=121
P30M Million Dollar 64.53 333 P P 13 55 27.0 +1.5
baz=118
P29M Windy Craggy 64.66 333 P P 13 55 27.3 +0.9
baz=116
HYT Haines Junctio 65.10 334 P P 13 55 30.3 +1.0
baz=117
N30M Aishikik Lake 65.21 335 P P 13 55 30.4 +0.5
baz=118
O29M Mount Kennedy 65.34 333 P P 13 55 31.3 +0.5
baz=116
C36M Paulatuk 65.44 345 P P 13 55 31.9 +0.7
baz=134
PNL Peninsula 65.44 332 P P 13 55 32.4 +1.0
baz=115
RES Resolute Bay 65.53 356 LR LR 14 24 57.0
comp=Z,58nm,18.8s,baz=268,slow=37
YUK6 Outpost Mounta 65.53 334 P P 13 55 31.8 -0.3
baz=116
M30M Minto, Yukon 65.62 336 P P 13 55 33.7 +1.2
baz=119
YUK4 Talbot Arm 65.83 334 P P 13 55 34.0 -0.1
baz=116
M29M Somme Creek 66.25 335 IAmb IAmb 13 55 38.2
comp=Z,5.0nm,1.1s
M29M Somme Creek 66.25 335 P P 13 55 37.4 +0.7
baz=117
O28M Mount Upton 66.26 333 P P 13 55 37.5 +0.5
baz=115
YUK8 Steele Glacier 66.29 334 P P 13 55 37.4 +0.3
baz=115
H31M Peel River 66.34 339 P P 13 55 37.7 +0.6
baz=122
L29M L29M 66.41 336 IAmb IAmb 13 55 44.8
comp=Z,4.7nm,1.1s
L29M L29M 66.41 336 P P 13 55 38.5 +0.8
baz=118
J30M Hart River 66.42 338 IAmb IAmb 13 55 39.4
comp=Z,6.1nm,1.2s
J30M Hart River 66.42 338 P P 13 55 38.4 +0.7
baz=120
K29M Barlow Dome 66.52 337 IAmb IAmb 13 55 40.0
comp=Z,4.1nm,0.9s
K29M Barlow Dome 66.52 337 P P 13 55 39.1 +0.8
baz=118
I30M Mount Dempster 66.76 338 P P 13 55 40.2 +0.2
I30M Mount Dempster 66.76 338 P P 13 55 39.6 -0.3
baz=120,SNR=16
YUK3 Moose Creek 66.80 334 P P 13 55 40.7 +0.3
baz=115
MESA MESA 66.82 332 P P 13 55 40.5 +0.1
baz=113
G31M Satah River 66.92 340 P P 13 55 41.0 +0.4
baz=123,SNR=13
F31M Tsiigehtchic 67.03 341 IAmb IAmb 13 55 42.6
comp=Z,7.3nm,1.0s
F31M Tsiigehtchic 67.03 341 P P 13 55 41.7 +0.3
baz=124,SNR=5.5
J29N Klondike Camp 67.08 337 IAmb IAmb 13 55 49.3
comp=Z,7.3nm,0.9s
BVCY Beaver Creek 67.24 335 P P 13 55 43.8 +0.9
baz=115
DAWY Dawson 67.35 337 P P 13 55 44.1 +0.5
baz=117
INK Inuvik 67.44 342 LR LR 14 27 27.1
comp=Z,126nm,18.2s,baz=250,slow=38
INK Inuvik 67.44 342 P P 13 55 43.8 -0.2
baz=124,SNR=16
EPYK Eagle Plains 67.46 339 IAmb IAmb 13 55 45.6
comp=Z,8.1nm,1.0s
EPYK Eagle Plains 67.46 339 P P 13 55 44.5 +0.2
baz=120,SNR=5.3
I29M Ogilvie Camp, 67.54 338 IAmb IAmb 13 55 46.0
comp=Z,6.8nm,0.9s
I29M Ogilvie Camp, 67.54 338 P P 13 55 45.2 +0.4
baz=118,SNR=5.0
A36M Sachs Harbour 67.56 347 P P 13 55 44.0 -0.6
baz=134
G30M tAoh Zraii Nji 67.60 340 P P 13 55 45.8 +0.7
baz=121
M27K Edge Creek, AK 67.65 334 P P 13 55 46.5 +0.9
baz=114
F30M Barrier River 67.78 341 P P 13 55 47.3 +1.1
baz=122
KAIM Kayak Island 67.88 331 P P 13 55 47.7 +0.8
baz=110
L27K Beaver Creek, 67.91 335 IAmb IAmb 13 55 49.3
comp=Z,6.6nm,1.0s
L27K Beaver Creek, 67.91 335 P P 13 55 48.6 +1.5
baz=114
H29M Whitestone 67.97 339 P P 13 55 47.9 +0.5
baz=118,SNR=5.4
M26K Nabesna, AK 68.14 334 P P 13 55 49.7 +1.1
baz=113
G29M Pine Creek 68.18 340 P P 13 55 49.7 +0.9
baz=119
I28M Miner Creek 68.18 338 IAmb IAmb 13 55 59.0
comp=Z,4.5nm,1.0s
I28M Miner Creek 68.18 338 P P 13 55 49.7 +0.8
baz=117
K27K Chicken 68.41 336 P P 13 55 51.0 +0.9
baz=114
N25K Chitina, Valde 68.55 333 P P 13 55 52.0 +0.8
baz=111
EYAK Cordova Ski Ar 68.72 332 P P 13 55 52.8 +0.7
baz=109
E29M Blow River 68.87 341 IAmb IAmb 13 55 54.4
comp=Z,7.2nm,1.1s
E29M Blow River 68.87 341 P P 13 55 53.7 +0.8
baz=120,SNR=7.7
I27K Kandik River 68.88 338 P P 13 55 54.1 +0.9
baz=115,SNR=20
KLU Klutina 69.11 333 P P 13 55 55.7 +1.0
baz=110
H27K Steamboat Moun 69.12 338 P P 13 55 55.5 +0.8
baz=115,SNR=6.9
SCRK Sand Creek 69.16 336 IAmb IAmb 13 56 12.4
comp=Z,5.5nm,1.3s
SCRK Sand Creek 69.16 336 P P 13 55 55.7 +0.7
baz=112
J26L Joseph Creek 69.19 336 IAmb IAmb 13 56 03.6
comp=Z,8.8nm,1.1s
J26L Joseph Creek 69.19 336 P P 13 55 55.4 +0.3
baz=113,SNR=7.6
I26K Coal Creek Min 69.35 337 P P 13 55 56.9 +0.9
baz=114
G27K Doyon Strip 69.41 339 P P 13 55 56.6 +0.2
baz=116
PAX Paxson 69.41 334 P P 13 55 56.7 +0.1
baz=110
RIDG Independent Ri 69.43 335 P P 13 55 56.9 +0.3
baz=111,SNR=7.9
BORG Borgarnes 69.43 24 LR LR 14 22 30.0
comp=Z,70nm,21.0s,baz=264,slow=33
E28M Babbage River 69.50 341 P P 13 55 57.0 +0.1
baz=116
D28M Stokes Point 69.60 342 P P 13 55 57.9 +0.5
baz=119
K24K Donnelly Dome 69.84 335 P P 13 55 59.5 +0.4
baz=110
SCM Sheep Creek Mo 69.86 333 P P 13 55 59.7 +0.4
baz=108
J25K Salcha River, 69.96 336 P P 13 56 00.5 +0.6
J25K Salcha River, 69.96 336 P P 13 56 00.1 +0.3
baz=111,SNR=6.4
E27K Coleen River 69.99 340 IAmb IAmb 13 56 03.1
comp=Z,5.9nm,1.0s
E27K Coleen River 69.99 340 P P 13 56 00.5 +0.5
baz=116,SNR=8.4
M23K Glacier View 70.02 333 P P 13 56 01.2 +0.9
baz=108
G26K Porcupine Rive 70.24 338 P P 13 56 02.3 +0.9
baz=113
KNK Knik Glacier 70.24 332 P P 13 56 02.0 +0.3
baz=107
D27M Malcolm River 70.26 341 P P 13 56 02.4 +0.7
baz=117
PRP Porcupine Dome 70.34 337 P P 13 56 02.5 +0.2
baz=111
HDA Harding Lake 70.53 335 P P 13 56 04.2 +0.9
baz=110,SNR=11
GHO Glory Hole Cre 70.56 333 IAmb IAmb 13 56 13.0
comp=Z,4.1nm,0.8s
IL31 70.62 336 IAmb IAmb 13 56 11.4
comp=Z,8.2nm,1.1s
ILAR Eielson Array 70.62 336 P P 13 56 03.7 -0.1
ILAR Eielson Array 70.62 336 P P 13 56 03.5 -0.3
comp=Z,2.4nm,0.9s,baz=107,slow=4.6,SNR=19
ILAR LR LR 14 30 34.8
comp=Z,67nm,19.5s,baz=161,slow=39
comp=Z,2.4nm,0.9s
F26K Sheenjek River 70.66 339 IAmb IAmb 13 56 12.2
comp=Z,6.8nm,1.2s
F26K Sheenjek River 70.66 339 P P 13 56 04.7 +0.6
baz=113,SNR=5.7
H25L Birch Creek 70.73 338 P P 13 56 05.5 +1.1
baz=111,SNR=7.3
BRSE Bradley Lake S 70.87 330 P P 13 56 06.8 +1.3
baz=104
POKR Poker Plat Res 70.96 336 P P 13 56 07.0 +1.1
baz=109
RND Reindeer 71.01 334 P P 13 56 07.0 +0.7
G25K Bearman Lake 71.01 338 P P 13 56 07.0 +0.9
baz=111
WRH Wood River Hil 71.01 335 IAmb IAmb 13 56 15.6
comp=Z,5.1nm,1.0s
M22K Willow 71.10 332 P P 13 56 07.5 +0.8
baz=106
MCK McKinley 71.14 334 IAmb IAmb 13 56 14.8
comp=Z,7.8nm,1.0s
MCK McKinley 71.14 334 P P 13 56 07.9 +0.8
baz=107
F25K Christian Rive 71.15 339 P P 13 56 07.8 +0.7
baz=112
C27K Jago River 71.30 341 P P 13 56 08.8 +0.9
baz=114
HOM Homer 71.30 330 P P 13 56 08.5 +0.5
baz=104
SUA Susitna One 71.31 332 P P 13 56 08.6 +0.3
baz=105
E25K Arctic Village 71.32 339 IAmb IAmb 13 56 09.7
comp=Z,4.3nm,0.9s
E25K Arctic Village 71.32 339 P P 13 56 08.7 +0.6
baz=112,SNR=8.0
H24K Noodor Dome 71.37 337 IAmb IAmb 13 56 11.7
comp=Z,6.2nm,1.1s
H24K Noodor Dome 71.37 337 P P 13 56 09.4 +1.0
baz=109
NEA2 Nenana 71.45 335 IAmb IAmb 13 56 16.8
comp=Z,8.4nm,1.1s
NEA2 Nenana 71.45 335 P P 13 56 10.1 +1.2
baz=108,SNR=5.5
G24K Hadweenzic Riv 71.50 338 P P 13 56 10.7 +1.5
baz=110
OHAK Old Harbor 71.62 327 P P 13 56 11.5 +1.5
baz=101
TRF Thorofare Moun 71.64 334 IAmb IAmb 13 56 17.3
comp=Z,10.0nm,1.1s
TRF Thorofare Moun 71.64 334 P P 13 56 11.3 +1.1
baz=106
I23K Minto, Yukon-K 71.74 336 P P 13 56 11.3 +0.7
baz=108,SNR=6.5
C26K Camden Bay 71.80 341 P P 13 56 12.1 +1.3
baz=113
SKT Skwentna 71.81 332 P P 13 56 12.1 +1.0
baz=104
F24K Squaw Lake 71.93 338 P P 13 56 13.7 +1.9
baz=110
KTH Kantishna Hill 71.94 334 IAmb IAmb 13 56 12.7
comp=Z,5.7nm,1.1s
SII Sitkinak Islan 71.98 326 P P 13 56 12.8 +0.6
baz=100
H23K Yukon River 72.02 337 P P 13 56 13.0 +0.8
baz=108
D25K Kavik River 72.04 340 P P 13 56 13.0 +0.6
baz=112
P19K Oil Pt 72.08 330 P P 13 56 13.3 +0.5
baz=102
BPAW Bear Paw Mtn. 72.11 335 IAmb IAmb 13 56 20.4
comp=Z,8.5nm,1.0s
BPAW Bear Paw Mtn. 72.11 335 P P 13 56 13.2 +0.3
baz=106,SNR=6.6
PPLA Purkeypile 72.33 333 P P 13 56 15.1 +0.7
baz=104
E24K Your Creek 72.33 339 P P 13 56 15.2 +1.0
baz=109
CAST Castle Rocks 72.41 334 P P 13 56 15.0 +0.3
baz=104
G23K Bananza Creek 72.47 337 P P 13 56 16.1 +1.1

baz=107
CHUM Lake Minchumin 72.62 334 P **P** **13 56 16.5 +0.6**
baz=104
COLD Coldfoot 72.69 338 IAmb IAmb 13 56 25.0
comp=Z,7.6nm,1.0s
COLD Coldfoot 72.69 338 P **P** **13 56 16.6 +0.4**
baz=107,SNR=7.8
E23K Chandalar 72.73 339 IAmb IAmb 13 56 28.7
comp=Z,11nm,1.1s
E23K Chandalar 72.73 339 P **P** **13 56 16.9 +0.4**
baz=108
H22K Ishtalitna Cre 72.76 336 P **P** **13 56 16.5 -0.2**
baz=106
D24K Happy Valley 72.80 340 P **P** **13 56 17.1 +0.2**
baz=109
TOLK Toolik Lake Re 72.89 339 P **P** **13 56 17.7 +0.2**
baz=108
N19K Bonanza Creek 72.93 331 P **P** **13 56 18.4 +0.5**
baz=101
C24K Franklin Bluff 72.95 341 P **P** **13 56 18.0 +0.2**
C24K Franklin Bluff 72.95 341 P **P** **13 56 18.3 +0.6**
baz=110
L20K Farewell, AK 72.99 333 P **P** **13 56 18.4 +0.3**
baz=102
K20K Telida 73.27 333 P **P** **13 56 20.1 +0.3**
baz=102
H21K Melozitna Rive 73.27 336 P **P** **13 56 21.1 +1.4**
baz=104
D23K Nanushuk River 73.38 340 P **P** **13 56 21.3 +1.0**
baz=107
J20K Nowinta River 73.48 334 IAmb IAmb 13 56 27.9
comp=Z,12nm,1.5s
J20K Nowinta River 73.48 334 P **P** **13 56 22.3 +1.4**
baz=103
F22K John River 73.50 338 P **P** **13 56 22.2 +1.1**
baz=106
E22K Anaktuvuk Pass 73.54 339 P **P** **13 56 21.6 +0.3**
E22K Anaktuvuk Pass 73.54 339 P **P** **13 56 21.9 +0.6**
baz=106
N18K Kilae Creek 73.58 331 P **P** **13 56 22.6 +0.9**
baz=100
C23K Itkillik River 73.62 340 P **P** **13 56 22.9 +1.2**
baz=108
M18K Stony River 73.70 331 P **P** **13 56 22.8 +0.5**
baz=100
G21K Allakaket 73.75 337 P **P** **13 56 23.9 +1.3**
baz=104
F21K Alatna River 73.92 337 IAmb IAmb 13 56 32.4
F21K Alatna River 73.92 337 P **P** **13 56 24.3 +0.7**
baz=104
D22K Ayikyak River 74.05 339 P **P** **13 56 24.6 +0.3**
baz=105
H20K Anotleneega Mo 74.07 336 P **P** **13 56 25.5 +1.0**
baz=102
J19K Poorman 74.07 334 P **P** **13 56 25.3 +0.8**
baz=101
E21K Killik River 74.39 339 P **P** **13 56 26.7 +0.4**
baz=104
B22K Teshekpuk Lake 74.68 341 P **P** **13 56 28.8 +1.0**
baz=105
H19K Roundabout Mou 74.72 335 IAmb IAmb 13 56 36.0
comp=Z,12nm,1.1s
H19K Roundabout Mou 74.72 335 P **P** **13 56 28.9 +0.7**
baz=101
F20K Avaraart Lake 74.73 337 P **P** **13 56 28.6 +0.4**
baz=102
GCSA Galena City Sc 74.75 335 P **P** **13 56 29.1 +0.7**
baz=100
B21K Ikpikpuk River 74.90 340 P **P** **13 56 30.0 +0.8**
baz=104
G19K Purcell Mounta 75.09 336 P **P** **13 56 30.9 +0.6**
baz=100
E20K Nigu River 75.16 338 P **P** **13 56 31.4 +0.7**
baz=102
ESDC Sonseca Array 75.29 51 P **P** **13 56 32.0 -0.1**
comp=Z,1.2nm,0.8s,baz=277,slow=7.9,SNR=8.3
ESDC LR LR 14 26 25.3
comp=Z,44nm,18.4s,baz=244,slow=33
comp=Z,1.2nm,0.8s
A22K Sinclair Lake 75.35 341 P **P** **13 56 32.3 +0.6**
baz=104
E19K Redstone River 75.39 337 P **P** **13 56 32.5 +0.5**
baz=101
D20K Etivluk River 75.40 339 P **P** **13 56 33.2 +1.1**
baz=102
H18K Honhosa River 75.44 335 IAmb IAmb 13 56 40.9
comp=Z,7.5nm,1.1s
H18K Honhosa River 75.44 335 P **P** **13 56 33.3 +0.9**
baz=99
L16K Owhat River 75.45 331 P **P** **13 56 33.3 +0.8**
baz=97
F19K Shaleruckik Mo 75.48 337 P **P** **13 56 33.6 +1.1**
baz=100
J17K VABM Dome 75.49 333 P **P** **13 56 34.0 +1.3**
baz=98
G18K Tagagawik 75.68 336 P **P** **13 56 34.5 +0.8**
baz=99
B20K Meade River 75.85 340 P **P** **13 56 35.4 +0.8**
baz=101
D19K Kuna River 75.90 338 P **P** **13 56 35.7 +0.7**
baz=100
JMIC Jan Mayen 75.91 19 LR LR 14 28 39.7
comp=Z,28nm,20.0s,baz=228,slow=35
M15K Kasigluk River 75.92 330 P **P** **13 56 36.0 +0.8**
baz=96
A21K Barrow 75.94 341 P **P** **13 56 36.3 +1.2**
baz=102
H17K Granite Mounta 76.06 335 P **P** **13 56 36.9 +1.0**
baz=98
F18K Selawik 76.18 336 P **P** **13 56 37.6 +1.1**
baz=98
I17K Unalakleet 76.27 334 P **P** **13 56 38.4 +1.3**
baz=97
L15K Ungalak Mounta 76.41 331 P **P** **13 56 39.2 +1.3**
baz=95
G17K Kiwalik Mounta 76.44 335 P **P** **13 56 39.4 +1.3**
baz=97
K15K Wolf Creek Mou 76.48 332 P **P** **13 56 39.3 +0.9**
baz=95
M14K Bethel 76.55 330 P **P** **13 56 40.0 +1.3**
baz=95
E18K Tukpahlearik C 76.67 337 P **P** **13 56 40.3 +1.0**
baz=98
F17K Baldwin Pennin 76.80 336 P **P** **13 56 41.1 +1.1**
baz=97
DBIC Dimbokro 76.91 85 P **P** **13 56 41.5 -0.2**
comp=Z,4.6nm,1.0s,baz=187,slow=5.0,SNR=3.2
comp=Z,4.6nm,1.0s
H16K Elim 77.02 334 P **P** **13 56 41.8 +0.5**
baz=95
C18K Utukok River 77.04 338 P **P** **13 56 41.8 +0.3**
baz=97
E17K Hotham Inlet 77.10 337 P **P** **13 56 42.5 +0.8**
baz=96
G16K Koyuk River 77.14 335 P **P** **13 56 43.0 +1.0**
baz=95
A19K Wainwright 77.20 340 P **P** **13 56 43.5 +1.2**
baz=98
M13K Dall Lake 77.21 330 P **P** **13 56 43.7 +1.2**
baz=93
B18K Kokolik River 77.35 339 P **P** **13 56 43.8 +0.7**
baz=97
J14K Nanvaranak Lak 77.45 332 IAmb IAmb 13 56 52.5
comp=Z,11nm,1.0s
J14K Nanvaranak Lak 77.45 332 P **P** **13 56 44.4 +0.6**
baz=94
RDOG Red Dog Mine 77.61 338 P **P** **13 56 46.3 +1.7**
baz=96
D17K Noatak River 77.64 337 P **P** **13 56 46.5 +1.7**
baz=95
C17K DeLong Mountai 77.75 338 P **P** **13 56 46.6 +1.2**
baz=95
G15K Niukluk 77.81 335 P **P** **13 56 47.2 +1.4**
baz=94
K13K Kusilvak Mount 77.92 331 P **P** **13 56 46.7 +0.3**
baz=93
F15K North Star Dit 78.11 335 P **P** **13 56 48.4 +0.9**
baz=93
ANM Nome 78.36 334 P **P** **13 56 49.4 +0.6**
baz=92
C16K Lisburne Hills 78.53 338 P **P** **13 56 50.4 +0.7**
baz=93
F14K Arctic Creek 78.80 335 P **P** **13 56 52.2 +0.9**
baz=92
TORD Torodi Ar. Bea 82.41 78 P **P** **13 57 10.8 -0.7**
comp=Z,220nm,0.5s,baz=291,slow=4.5,SNR=1.5
SPITS Spitsbergen Ar 82.61 12 LR LR 14 35 19.6
comp=Z,87nm,19.9s,baz=224,slow=37

NOA NORSAR Array B 83.62 29 LR LR 14 34 25.8
comp=Z,23nm,18.0s,baz=255,slow=36
DAVOX Davos/Dischmat 84.87 44 LR LR 14 31 24.1
comp=Z,89nm,18.9s,baz=250,slow=33
HFS Hagfors 84.97 30 LR LR 14 31 52.3
comp=Z,52nm,18.8s,baz=292,slow=33
FINES FINESS Array B 90.47 27 LR LR 14 33 11.9
comp=Z,48nm,21.2s,baz=232,slow=32
TIXI Tiksi 96.37 350 LR LR 14 46 13.2
comp=Z,48nm,18.2s,baz=310,slow=38
HHC Hu-ho-hao-te 128.22 346 *eP* **PKPdf 14 03 50.8 -4.8**
NJ2 Nanjing 133.86 334 *eP* **PKPdf 14 04 05.4 -1.0**
NJ2 pmax pmax
comp=Z,21nm,0.6s
ASAR Alice Springs 142.39 243 PKhKP PKPpre 14 04 16.9
comp=Z,0.2nm,0.4s,baz=106,slow=3.9,SNR=9.7
WRA Warramunga Arr 142.85 250 PKhKP PKPpre 14 04 18.4
comp=Z,1.3nm,0.9s,baz=89,slow=3.0,SNR=6.4
PZH PanZhiHua 143.96 353 PKP PKPab 14 04 22.9 +0.6
CMAR Chiang Mai Arr 152.18 357 PKPbc **PKPbc 14 04 43.7 -1.6**
comp=Z,0.5nm,0.3s,baz=326,slow=1.3,SNR=4.4

*ISN **01** 13:56:14.9±0.7, 33°.83N×45°.58E, h16km±17km, ML2.9*
*TEH **01** 13:56:19.3, 33°.83N×45°.61E, h10km*
ISC 01 13:56:17.0±0.9, 33°.74N±0°.04×45°.55E±0°.05, h10km, n6,
σ1§55/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.48**	**39**	Pg	**Pg**	**13 56 26.9**	**+0.5**
GLG1				Sg	**Sg**	**13 56 33.0**	**+0.2**
IBDR	**Badra**	**0.70**	**153**	*e*Pg	**Pg**	**13 56 30.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**13 56 40.0**	**+0.2**
IBDR				AML	AML	13 56 43.8	
	comp=N,169nm,0.2s						
IBDR				AML	AML	13 56 47.2	
	comp=E,124nm,0.5s						
IGHG	**Ghaleghazi**	**1.03**	**55**	Pg	**Pb**	**13 56 37.8**	**+0.6**
BHD	**Baghdad**	**1.08**	**245**	*e*Pn	**Pb**	**13 56 38.0**	**+0.3**
BHD				*e*Sn	**Sb**	**13 56 55.0**	**+3.1**
IDHR	**Dehrash**	**1.19**	**36**	Pg	**Pg**	**13 56 40.5**	**+0.7**
IKRK	**Kirkuk**	**1.93**	**329**	*e*Pn	**Pn**	**13 56 48.0**	**-2.0**
IKRK				*e*Sn	**Sn**	**13 57 13.0**	**-1.3**

*IDC **01** 14:04:35.8±1.3, 29°.59N×101°.50E, h0km, mb3.2/4,*
mbtmp3.2/5, MS3.5/2, Error ellipse: s-maj=74.9km
s-min=20.2km az=58.0
ISC 01 14:04:37.5±1.2, 29°.7N±0°.1×101°.6E±0°.1, h10km, n9,
σ0§86/8, mb3.3/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.27**	**56**	Pg	**Pn**	**14 05 14.5**	**-0.6**
CD2				Sg	**Sn**	**14 05 43.6**	**+0.5**
CD2				smax	smax		
	comp=N,140nm,0.7s						
SONM	**Songino Array**	**18.52**	**10**	P	**P**	**14 08 53.9**	**-0.2**
	comp=N,0.3nm,0.4s,baz=208,slow=12,SNR=1.1						
MKAR	**Makanchi Array**	**22.74**	**324**	P	**P**	**14 09 39.6**	**-0.1**
	comp=N,0.3nm,0.7s,baz=134,slow=12,SNR=4.1						
	comp=N,0.3nm,0.7s						
KSRS	**Korea Array**	**23.25**	**64**	LR	LR	14 19 43.1	
	comp=N,18nm,18.1s,baz=30,slow=39						
KURBB	**Kurchatov Arra**	**27.15**	**327**	P	**P**	**14 10 21.6**	**+0.8**
	comp=N,0.2nm,0.6s,baz=138,slow=7.1,SNR=1.8						
	comp=N,0.2nm,0.6s						
DAV	**Davao City (W)**	**31.87**	**130**	P	**P**	**14 11 04.1**	**+1.1**
	comp=N,281nm,0.6s,baz=321,slow=6.5,SNR=3.6						
WRA	**Warramunga Arr**	**58.57**	**143**	P	**P**	**14 14 33.8**	**-0.8**
	comp=N,0.6nm,0.7s,baz=335,slow=7.6,SNR=8.6						
	comp=N,0.6nm,0.7s						
ASAR	**Alice Springs**	**61.47**	**146**	P	**P**	**14 14 53.7**	**-0.7**
	comp=N,0.2nm,0.8s,baz=332,slow=8.2,SNR=4.9						
	comp=N,0.2nm,0.8s						
MDT	**Midelt**	**86.47**	**306**	LR	LR	15 02 41.2	
	comp=N,120nm,19.5s,baz=238,slow=40						

*IDC **01** 14:05:16.2±0.6, 42°.99S×82°.66W, h0km, mb4.4/12,*
mbtmp4.4/15, ML4.0/3, MS4.5/37, Error ellipse:
s-maj=21.6km s-min=16.9km az=115.0
*GCMT **01** 14:05:19.4±0.1, 43°.06S±0°.01×82°.88W±0°.01, h17km,*
MW5.2/143, Moment Tensor Solution. s83,c118;
s143,c255; Duration: 1s0 Moment tensor: Scale 1016
Nm; Mrr-0.25±.15; Mθθ2.50±.15; Mφφ-2.25±.15;
Mrθ2.90±.40; Mφθ-8.49±.13; Mφr1.05±.36; Best double
couple: M0 9.34100×1016 NP1:φs171.00000°, δ71.00000°,
λ-4.00000°. NP2:φs263.00000°, δ86.00000°,
λ-161.00000°. Principal axes: T 9.2490, Plg10.0000°,
Azm36.0000°; N 0.1840, Plg71.0000°, Azm274.0000°; P
-9.4330, Plg16.0000°, Azm129.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
*NEIC **01** 14:05:19.4±1.2, 42°.9S±0°.1×82°.6W±0°.1, h10km±2km,*
mb4.9/64 Error ellipse: s-maj=20.0km s-min=16.0km
az=176.0
ISC 01 14:05:17.9±0.4, 42°.92S±0°.07×82°.74W±0°.05, h10km, n168,
σ1§86/113, mb4.8/42, MS4.5/35, 1C-3D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**6.66**	**95**	Pn	**Pn**	**14 06 54.5**	**-1.2**
LL06	**Loncomilla**	**6.77**	**87**	Pn	**Pn**	**14 06 56.3**	**-0.9**
LL06	**Loncomilla**	**6.77**	**87**	*e*P	**Pn**	**14 06 54.4**	**-2.8**
LL06				*e*S	**Sn**	**14 08 08.4**	**-5.9**
ETRA	**Estrella**	**7.15**	**112**	*e*P	**Pn**	**14 07 03.9**	**+1.5**
USPA	**Uspallante**	**7.25**	**110**	*e*P	**Pn**	**14 07 04.3**	**+0.5**
CUEV	**Cuervo**	**7.30**	**111**	*e*P	**Pn**	**14 07 07.1**	**+2.4**
MGDN	**Magdalena**	**7.31**	**107**	*e*P	**Pn**	**14 07 05.5**	**+0.9**
AY01	**Puguhuapi**	**7.47**	**105**		**Pn**	**14 07 07.7**	**+0.8**
LJUN	**La Junta**	**7.56**	**102**	*e*P	**Pn**	**14 07 07.8**	**-0.2**
CHAC	**Puerto Chacabu**	**7.60**	**113**	*e*P	**Pn**	**14 07 11.4**	**+2.8**
AYSN	**Puerto Aysn**	**7.64**	**112**	*e*P	**Pn**	**14 07 11.6**	**+2.5**
LL04	**Puerto Octay**	**7.97**	**79**	*e*P	**Pn**	**14 07 10.1**	**-3.6**
BI04	**Isla Mocha**	**8.10**	**59**	*e*P	Pn	14 07 05.9	-10
COYC	**Coyhaique**	**8.10**	**113**	*e*P	**Pn**	**14 07 18.5**	**+3.0**
CYQE	**Coyhaique**	**8.11**	**112**	*e*P	**Pn**	**14 07 17.7**	**+2.1**
LR05	**Currie**	**8.49**	**75**	Pn	**Pn**	**14 07 21.2**	**+0.4**
LR05	**Currie**	**8.49**	**75**	*e*P	**Pn**	**14 07 17.1**	**-3.7**
GO08	**Villa O'Higgin**	**9.03**	**131**	*e*P	**Pn**	**14 07 29.5**	**+1.3**
GO06	**Curarrehue**	**9.12**	**72**	*e*P	**Pn**	**14 07 26.6**	**-3.0**
PLCA	**Paso Flores**	**9.36**	**81**	Pn	**Pn**	**14 07 32.9**	**0.0**
	0.4nm,0.3s,baz=254,slow=13,SNR=12						
PLCA				Sn	**Sn**	**14 09 18.2**	**0.0**
	baz=234,slow=21						
	5.7nm,0.8s						
PLCA	**Paso Flores**	**9.36**	**81**	*e*P	**Pn**	**14 07 34.0**	**+1.1**
H03S1	**Juan Fernandez**	**9.55**	**20**	T	T	14 17 44.0	
	baz=196,slow=73,SNR=3328						
H03S2	**Juan Fernandez**	**9.55**	**20**	T	T	14 17 45.6	
	baz=196,slow=73,SNR=5291						
H03S3	**Juan Fernandez**	**9.57**	**20**	T	T	14 17 44.7	
	baz=196,slow=73,SNR=5292						
H03N3	**Juan Fernandez**	**9.92**	**19**	T	T	14 18 12.3	
	baz=203,slow=71,SNR=160						
H03N2	**Juan Fernandez**	**9.93**	**19**	T	T	14 18 10.0	
	baz=203,slow=71,SNR=652						
H03N1	**Juan Fernandez**	**9.93**	**19**	T	T	14 18 10.8	
	baz=203,slow=71,SNR=356						
BI02	**San Fabin de**	**10.81**	**58**	Pn	**Pn**	**14 07 49.7**	**-3.1**
MG05	**Puerto Natales**	**11.17**	**145**	Pn	**Pn**	**14 07 58.2**	**+0.7**
ML02	**Panimavida**	**11.31**	**55**		**Pn**	**14 07 56.3**	**-3.2**
BO02	**Sierra Bellavi**	**12.35**	**53**	Pn	**Pn**	**14 08 10.1**	**-3.7**
MT01	**Popeta**	**12.76**	**49**		**Pn**	**14 08 15.1**	**-4.2**
MT09	**Talagante**	**12.97**	**49**		**Pn**	**14 08 19.0**	**-3.3**
BO04	**La Punta**	**13.03**	**51**		**Pn**	**14 08 19.3**	**-3.7**
MT02	**Curacav**	**13.28**	**47**		**Pn**	**14 08 22.6**	**-3.7**
USHA	**Ushuaia**	**15.15**	**147**	Pn	**Pn**	**14 08 50.1**	**-1.6**
	0.4nm,0.3s,baz=306,slow=9.8,SNR=4.0						
USHA				LR	LR	14 14 13.5	
	comp=Z,2μm,18.3s,baz=315,slow=36						
	9.4nm,0.9s						
GO04	**Tololo Observa**	**15.92**	**41**	Pn	**Pn**	**14 09 00.5**	**-1.7**
CFA	**Coronel Fontan**	**16.13**	**50**	Pn	**Pn**	**14 09 04.3**	**-0.3**
	0.8nm,0.3s,baz=229,slow=14,SNR=7.0						
CFA				LR	LR	14 14 21.8	
	comp=Z,1μm,20.0s,baz=196,slow=34						
	1.6nm,0.3s						
PB05	**IPOC Station P**	**22.57**	**31**		**P**	**14 10 18.8**	**+0.4**
PSAL	**Palomas, Salto**	**23.20**	**68**	*e*P	**P**	**14 10 25.0**	**+0.2**
TBOT	**Tacuaremb**	**23.99**	**71**	*e*P	**P**	**14 10 33.6**	**+1.0**

PB01 IPOC Station P 24.48 31 P **P** **14 10 37.2 0.0**
PB01 IAmb IAmb 14 10 39.8
comp=Z,22nm,0.9s
HMBC Humberstone 25.03 30 P **P** **14 10 42.8 +0.5**
PLTB Pedras Altas 25.58 74 *e*P **P** **14 10 47.7 +0.6**
PB11 IPOC Station P 25.59 30 P **P** **14 10 47.6 +0.2**
PB11 IAmb IAmb 14 10 58.3
comp=Z,28nm,1.1s
CPSB Cacapava Do Su 26.48 72 *e*P **P** **14 10 56.9 +1.7**
CPUP Villa Florida 26.52 60 P **P** **14 10 55.5 -0.1**
comp=Z,5.1nm,0.8s,baz=231,slow=7.0,SNR=9.2
CPUP LR LR 14 21 23.3
comp=Z,2μm,18.9s,baz=234,slow=36
comp=Z,5.1nm,0.8s
SJPY San Joaquin 28.25 59 *e*P **P** **14 11 13.2 +2.1**
ITAB Concordia 29.34 68 **P** **14 11 21.2 +0.4**
ITAB Concordia 29.34 68 *e*P **P** **14 11 23.4 +2.6**
LPAZ La Paz 29.34 30 P **P** **14 11 22.4 +0.8**
comp=Z,6.9nm,0.9s,baz=189,slow=7.3,SNR=14
LPAZ LR LR 14 22 13.9
comp=Z,372nm,18.7s,baz=168,slow=35
comp=Z,6.9nm,0.9s
LPAZ La Paz 29.34 30 *e*P **P** **14 11 20.8 -0.7**
MURT Porto Murtinho 29.82 53 *e*P **P** **14 11 24.5 -0.6**
AMBA Amambai (Brazi 30.44 58 *e*P **P** **14 11 31.3 +0.7**
PTGB Pitanga 31.05 64 *e*P **P** **14 11 38.3 +2.2**
NNA Nana 31.25 11 LR LR 14 20 47.4
comp=Z,992nm,19.8s,baz=186,slow=30
BDQN Bodoquena, MS 31.26 52 *e*P **P** **14 11 37.7 -0.1**
AQDB Aquidauana 31.86 54 P **P** **14 11 42.5 -0.6**
AQDB IAmb IAmb 14 11 50.3
comp=Z,17nm,1.1s
AQDB Aquidauana 31.86 54 *e*P **P** **14 11 43.3 +0.2**
SIV San Ignacio 32.62 41 LR LR 14 24 34.1
comp=Z,1μm,21.1s,baz=276,slow=36
RPRD Ribas do Rio P 33.06 57 *e*P **P** **14 11 55.4 +1.8**
PTLB Pontes e Lacer 34.04 44 *e*P **P** **14 12 02.6 +0.5**
SALV Santo Antonio 35.49 49 *e*P **P** **14 12 15.5 +0.8**
VILB Vilhena 35.66 40 *e*P **P** **14 12 17.0 +0.8**
ITRB Iturama 35.72 60 *e*P **P** **14 12 18.9 +2.1**
ATAH Atahualpa 35.85 7 LR LR 14 23 20.6
comp=Z,503nm,20.0s,baz=200,slow=30
CZSB Cruzeiro do Su 36.15 17 *e*P **P** **14 12 21.0 +0.6**
PDRB Porto dos Gac 38.51 44 *e*P **P** **14 12 41.2 +0.8**
CLDB Colider 39.61 44 *e*P **P** **14 12 50.3 +0.6**
BDFB Brasilia 40.23 58 P **P** **14 12 54.3 -0.7**
comp=Z,7.1nm,1.0s,baz=232,slow=8.3,SNR=6.1
BDFB LR LR 14 30 06.6
comp=Z,2μm,19.0s,baz=204,slow=37
comp=Z,7.1nm,1.0s
COHC Cochancay 40.40 5 P **P** **14 12 57.0 +0.9**
DIAM Diamantina, MG 41.10 66 *e*P **P** **14 13 05.2 +3.1**
SNDB Serra Nova Dou 41.14 51 *e*P **P** **14 13 02.2 -0.1**
TEFE Tefe 42.43 27 *e*P **P** **14 13 12.8 +0.1**
SNAA Sanae 46.81 155 LR LR 14 29 27.5
comp=Z,258nm,19.4s,baz=15,slow=31
RKT Rikitea 47.22 278 *e*S **S** **14 20 41.8 -2.2**
comp=Z,845nm,37.5s
RKT *e*LR LR 14 27 11.0
comp=Z,2μm,36.2s
QSPA South Pole Qui 47.32 180 P **P** **14 13 50.5 -1.0**
comp=Z,2.5nm,0.9s,baz=60,slow=8.2,SNR=6.8
QSPA PcP **PcP** **14 15 21.5 -0.6**
comp=Z,3.6nm,0.7s,baz=166,slow=3.0,SNR=6.1
QSPA LR LR 14 31 37.1
comp=Z,491nm,19.0s,baz=137,slow=34
comp=Z,2.5nm,0.9s
ROSC El Rosal 48.15 11 P **P** **14 13 58.5 -0.1**
comp=Z,5.9nm,0.3s,baz=105,slow=14,SNR=4.3
ROSC LR LR 14 32 36.7
comp=Z,1μm,18.8s,baz=219,slow=34
comp=Z,5.9nm,0.3s
RUSC La Rusia 49.37 13 **P** **14 14 08.7 +0.5**
SDV Santo Domingo 52.73 15 LR LR 14 34 57.8
comp=Z,524nm,21.2s,baz=211,slow=34
JTS Las Juntas de 52.99 357 LR LR 14 31 52.2
comp=Z,342nm,18.5s,baz=128,slow=30
VNDA Vanda 53.58 194 P **P** **14 14 38.0 -0.4**
comp=Z,3.6nm,1.2s,baz=108,slow=6.7,SNR=5.7
VNDA LR LR 14 33 40.7
comp=Z,925nm,19.5s,baz=124,slow=32
comp=Z,3.6nm,1.2s
ELIB Princess Elisa 54.46 158 *d*P **P** **14 14 44.7 -0.4**
ELIB *d*PcP **PcP** **14 15 49.2 +0.8**
MDP Montagnes des 55.04 38 LR LR 14 39 09.8
comp=Z,598nm,18.1s,baz=150,slow=37
BOAB BOACO BROADBAND 56.17 357 **P** **14 14 51.6 +1.0**
RCBR Riachuelo 55.37 62 LR LR 14 38 54.6
comp=Z,918nm,18.3s,baz=235,slow=36
PCRV Puerto La Cruz 55.38 22 LR LR 14 36 39.3
comp=Z,504nm,18.3s,slow=34
TBI Tubuai 57.71 267 *e*SS **SS** **14 26 56.4 -1.2**
comp=Z,2μm,34.8s
TBI *e*LQ LQ 14 29 37.0
comp=Z,6μm,31.5s
TBI *e*LR LR 14 32 04.2
comp=Z,968nm,26.2s
TBI *e*LR LR 14 32 04.6
comp=Z,1μm,25.2s
TAOE Nuku Hiva Isla 60.34 287 *e*S **S** **14 23 43.1 +1.0**
comp=Z,174nm,28.0s
TAOE *e*SS **SS** **14 27 32.4 -7.3**
comp=Z,62nm,27.8s
TAOE *e*LQ LQ 14 30 44.4
comp=Z,640nm,25.7s
SYO Syowa Base 60.57 160 *e*P **P** **14 15 25.8 -2.1**
PPT2 Papeete2 61.35 272 *e*S **S** **14 23 55.2 +0.3**
comp=Z,165nm,27.0s
PPT2 *e*SS **SS** **14 27 55.8 +0.6**
comp=Z,70nm,26.5s
PPT2 *e*LQ LQ 14 31 04.0
comp=Z,996nm,36.0s
PPT2 *e*LR LR 14 33 41.0
comp=Z,212nm,23.2s
PPT2 *e*LR LR 14 33 42.2
comp=Z,156nm,24.8s
PPT Papeete 61.36 272 LR LR 14 35 51.4
comp=Z,217nm,19.9s,baz=123,slow=30
CELP Cerrillos 62.49 17 **P** **14 15 41.9 +0.4**
SJG San Juan 62.62 18 LR LR 14 42 59.8
comp=Z,168nm,18.3s,baz=193,slow=36
MAW Mawson 66.77 166 LR LR 14 44 22.6
comp=Z,300nm,18.1s,baz=209,slow=35
LPIG La Paz 71.37 333 LR LR 14 40 30.9
comp=Z,210nm,20.2s,baz=164,slow=30
URZ Urewera 71.54 235 LR LR 14 40 02.5
comp=Z,611nm,20.4s,baz=231,slow=29
TXAR Lajitas Array 74.43 341 P **P** **14 16 56.5 +0.5**
comp=Z,1.5nm,0.9s,baz=167,slow=6.9,SNR=9.7
comp=Z,1.5nm,0.9s
SAND Sanderson 74.68 343 IAmb IAmb 14 17 05.5
comp=Z,15nm,1.4s
OZNA Ozona 75.40 344 IAmb IAmb 14 17 09.4
comp=Z,18nm,1.2s
ALPN Alpine 75.42 341 IAmb IAmb 14 17 10.2
comp=Z,17nm,1.4s
SUR Sutherland 77.53 123 LR LR 14 44 11.3
comp=Z,425nm,21.3s,baz=218,slow=30
TKL Tuckaleechee C 78.21 359 LR LR 14 46 33.6
comp=Z,170nm,20.2s,baz=178,slow=32
WHAR Wooly Hollow 78.33 352 IAmb IAmb 14 17 26.7
comp=Z,12nm,1.0s
WMOK Wichita Mounta 78.67 347 IAmb IAmb 14 17 29.0
comp=Z,26nm,1.8s
MSTX Muleshoe 78.69 343 IAmb IAmb 14 17 27.9
comp=Z,16nm,1.2s
ANMO Albuquerque 80.47 340 LR LR 14 47 57.9
comp=Z,139nm,18.5s,baz=318,slow=32
PFO Pinyon Flats O 82.18 332 LR LR 14 46 21.8
comp=Z,138nm,19.0s,baz=150,slow=30
BOSA Boshof 82.89 123 P **P** **14 17 42.5 -0.5**
comp=Z,11nm,1.1s,baz=219,slow=8.5,SNR=5.5
BOSA LR LR 14 48 29.2
comp=Z,355nm,21.8s,baz=212,slow=31
comp=Z,11nm,1.1s
BBTS Babate 83.33 63 LR LR 14 53 06.5
comp=Z,548nm,19.5s,baz=108,slow=34
GSC Goldstone, Bar 83.84 333 IAmb IAmb 14 17 56.5
comp=Z,8.0nm,1.1s
SHPR Sheep Range 84.39 334 P **P** **14 17 51.4 +1.1**
SHPR IAmb IAmb 14 17 59.7
comp=Z,7.3nm,1.2s
GWY Greenwater Val 84.59 333 IAmb IAmb 14 17 60.0
comp=Z,6.0nm,1.1s
MSVF Nonsavu 84.64 251 LR LR 14 48 30.9
comp=Z,132nm,20.0s,baz=178,slow=31
ISA Isabella, Lake 84.74 331 IAmb IAmb 14 18 06.9

comp=Z,17nm,1.6s
WCT Wildcat Mounta 85.13 333 IAmb IAmb 14 18 03.4
comp=Z,11nm,1.1s
TPNV Topopah Spring 85.15 334 IAmb IAmb 14 18 03.4
comp=Z,7.2nm,1.2s
PRN Pahroc Range 85.19 335 IAmb IAmb 14 18 03.8
comp=Z,16nm,1.2s
Q16A Castle Valley 85.45 338 IAmb IAmb 14 18 04.4
comp=Z,10nm,1.2s
LBTB Lobatse 85.66 120 LR LR 14 49 33.8
comp=Z,279nm,21.4s,baz=220,slow=31
DBIC Dimbokro 85.71 77 P **P 14 17 57.1 -0.1**
comp=Z,5.6nm,0.9s,baz=206,slow=5.3,SNR=3.7
DBIC LR LR 14 55 25.6
comp=Z,123nm,19.0s,baz=244,slow=35
comp=Z,5.6nm,0.9s
SPR3 Spring Creek 3 86.43 336 P **P 14 18 01.7 +1.1**
SPR3 IAmb IAmb 14 18 09.8
comp=Z,6.8nm,1.1s
BSUT Blindstream Ca 86.85 339 P **P 14 18 04.2 +1.5**
ECSD EROS Data Cent 87.17 350 IAmb IAmb 14 18 12.3
comp=Z,7.3nm,1.0s
NVAR Mina Array Bea 87.17 333 P **P 14 18 03.5 -0.7**
comp=Z,1.4nm,0.8s,baz=147,slow=5.4,SNR=7.2
comp=Z,1.4nm,0.8s
SADO Sadowa 87.37 3 LR LR 14 56 37.5
comp=Z,62nm,18.7s,baz=223,slow=35
BGU Big Grassy Mou 87.83 338 IAmb IAmb 14 18 28.7
comp=Z,7.0nm,1.3s
HWUT Hardware Ranch 88.07 339 IAmb IAmb 14 18 17.1
comp=Z,9.9nm,1.0s
ELK Elko 88.31 336 IAmb IAmb 14 18 20.0
comp=Z,6.8nm,1.1s
ELK Elko 88.31 336 LR LR 14 50 41.4
comp=Z,73nm,20.4s,baz=168,slow=31
PD31 Pinedale Array 88.64 341 IAmb IAmb 14 18 24.3
comp=Z,13nm,1.9s
PDAR Pinedale Array 88.64 341 P **P 14 18 11.3 +0.3**
comp=Z,0.8nm,0.7s,baz=134,slow=6.4,SNR=9.7
comp=Z,0.8nm,0.7s
BEKR Beckworth 89.17 332 IAmb IAmb 14 18 22.3
comp=Z,6.6nm,1.2s
F33A 5 Mile Ranch, 89.20 351 IAmb IAmb 14 18 20.1
comp=Z,5.5nm,1.1s
DZM Mont Dzumac 89.35 240 *e*S **S 14 29 04.0 -1.0**
DZM comp=Z,59nm,23.1s
*e*SS **SS 14 35 00.0 +1.2**
DZM comp=Z,74nm,23.4s
*e*LQ LQ 14 42 57.3
DZM comp=Z,496nm,27.2s
*e*LR LR 14 46 51.5
DZM comp=Z,735nm,24.9s
TPAW Teton Pass 89.67 340 IAmb IAmb 14 18 23.7
comp=Z,7.0nm,0.9s
YMR Madison River 90.78 340 IAmb IAmb 14 18 30.6
comp=Z,8.1nm,1.0s
YNE Yellowstone No 90.86 341 IAmb IAmb 14 19 15.6
comp=Z,11nm,1.7s
YHL Hebgen Lake 91.00 340 IAmb IAmb 14 18 31.8
comp=Z,6.7nm,1.2s
YBH Yreka Blue Hor 91.64 331 IAmb IAmb 14 18 33.3
comp=Z,4.3nm,0.9s
PINE Pine Mountain 92.86 333 IAmb IAmb 14 18 40.8
comp=Z,6.0nm,0.9s
ULM Lac du Bonnet 93.50 352 P **P 14 18 33.2 +0.1**
comp=Z,1.5nm,0.7s,baz=168,slow=5.8,SNR=3.4
comp=Z,1.5nm,0.7s
LSZ Lusaka 94.33 115 LR LR 14 56 23.3
comp=Z,294nm,20.1s,baz=234,slow=32
STKA Stephens Creek 95.18 217 LR LR 14 53 00.1
comp=Z,272nm,20.0s,baz=188,slow=30
NEW Newport 95.73 338 LR LR 14 55 55.0
comp=Z,113nm,18.8s,baz=150,slow=32
SCHQ Schefferville 98.32 9 LR LR 15 05 31.3
comp=Z,55nm,18.5s,baz=269,slow=37
H11S2 WAKE ISLAND Hyl 17.30 270 T T 16 31 35.2
baz=130,slow=76,SNR=76
H11S1 WAKE ISLAND Hyl 17.31 270 T T 16 31 34.6
baz=130,slow=76,SNR=42
H11S3 WAKE ISLAND Hyl 17.31 270 T T 16 31 35.7
baz=130,slow=76,SNR=89
H11N3 WAKE ISLAND Hyl 17.92 272 T T 16 32 21.0
baz=130,slow=76,SNR=28
H11N1 WAKE ISLAND Hyl 17.93 272 T T 16 32 22.6
baz=130,slow=76,SNR=29
H11N2 WAKE ISLAND Hyl 17.93 272 T T 16 32 22.4
baz=130,slow=76,SNR=17
ILAR Eielson Array 118.41 334 PKP **PKiKP 14 24 05.7 +1.2**
comp=Z,0.6nm,0.9s,baz=64,slow=2.1,SNR=6.3
GERES GERESS Array B 124.33 53 PKP **PKPdf 14 24 16.0 -0.4**
comp=Z,2.2nm,0.9s,baz=222,slow=3.6,SNR=6.0
VYHS Vyhne 127.21 55 *e*PKP **PKiKP 14 24 24.4 +2.0**
STHS Stebnicka Huta 129.04 55 *e*PKP **PKiKP 14 24 29.1 +3.1**
BRTR Keskin Array B 133.13 71 PKP **PKPdf 14 24 34.0 +0.4**
comp=Z,0.8nm,0.7s,baz=241,slow=3.0,SNR=4.7
AKASG Malin Array Be 134.30 55 PKP **PKPdf 14 24 35.4 +0.3**
comp=Z,0.4nm,0.5s,baz=279,slow=2.1,SNR=1.5
PETK Petropavlovsk- 139.45 306 PKP **PKPdf 14 24 44.8 +0.1**
comp=Z,5.0nm,1.0s,baz=97,slow=6.1,SNR=7.7
MJAR Matsushiro Arr 148.11 272 PKPbc **PKPbc 14 25 04.2 +0.6**
comp=Z,5.0nm,1.0s,baz=165,slow=3.4,SNR=7.6
CMAR Chiang Mai Arr 155.57 184 PKP **PKPdf 14 25 10.7 -1.4**
comp=Z,0.6nm,0.3s,baz=247,slow=3.2,SNR=4.2
NJ2 Nanjing 159.77 245 *e*P **PKPdf 14 25 18.4 +1.6**
NJ2 pmax pmax
comp=Z,20nm,0.5s
PZH PanZhiHua 163.21 194 PKP **PKPdf 14 25 21.4 +0.6**
KSH Kashi 163.63 95 PKP **PKPdf 14 25 23.7 +2.9**
KURBB Kurchatov Arra 165.06 53 PKP **PKPdf 14 25 20.9 -0.6**
comp=Z,1.1nm,1.0s,baz=341,slow=1.6,SNR=5.8
KURBB PKPab **PKPab 14 26 17.8 -0.7**
comp=Z,0.8nm,0.8s,baz=292,slow=6.0,SNR=4.8
ZALV Zalesovo Beam 166.25 32 PKP **PKPdf 14 25 22.5 +0.1**
comp=Z,0.9nm,0.6s,baz=103,slow=3.2,SNR=3.9
ZALV PKPab **PKPab 14 26 22.5 -1.0**
comp=Z,0.5nm,0.4s,baz=337,slow=6.3,SNR=1.4
MKAR Makanchi Array 168.70 65 PKP **PKPdf 14 25 24.6 +0.2**
comp=Z,0.5nm,0.9s,baz=318,slow=1.9,SNR=4.0
MKAR PKPab **PKPab 14 26 33.9 -0.9**
comp=Z,1.7nm,0.8s,baz=287,slow=4.7,SNR=12
MKAR PP **PP 14 30 25.9 +1.3**
comp=Z,0.7nm,1.0s,baz=265,slow=6.1,SNR=3.6
HHC Hu-ho-hao-te 169.13 264 *e*P **PKPdf 14 25 22.2 -2.8**

ISN ***01*** *14:16:47.4±0.7,33°.78N×45°.56E,h26km±10km,ML2.6*
TEH ***01*** *14:16:49.7,33°.83N×45°.56E,h17km*
ISC 01 14:16:48.5±1.1,33°.71N±0°.05×45°.59E±0°.06,h10km,n5,
σ0$69/8,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.49**	**33**	Pg	**Pg**	**14 16 58.1**	**+0.1**
GLG1				Sg	**Sg**	**14 17 04.5**	**0.0**
IBDR	**Badra**	**0.66**	**154**	*e*Pg	**Pg**	**14 17 01.0**	**-0.2**
IBDR	baz=335			*e*Sg	**Sb**	**14 17 12.0**	**+0.7**
IBDR				AML	AML	14 17 19.5	
IBDR	comp=N,44nm,0.4s						
IGHG	**Ghaleghazi**	**1.02**	**52**	Pg	**Pb**	**14 17 08.4**	**-0.1**
BHD	**Baghdad**	**1.10**	**247**	*e*Pn	**Pb**	**14 17 09.0**	**-0.6**
BHD				*e*Sn	**Sb**	**14 17 25.0**	**+1.0**
IDHR	**Dehrash**	**1.19**	**33**	Pg	**Pb**	**14 17 10.7**	**-0.6**

BJI ***01*** *14:25:55.6,6°.37S×131°.72E,h93km,mB5.2/8,mb4.7/34*
NEIC ***01*** *14:25:58.2±1.7,6°.02S±0°.04×131°.61E±0°.07,h74km±10km,*
mb4.6/15,Error ellipse: s-maj=11.0km s-min=2.1km
az=63.0
DJA ***01*** *14:25:58.2±0.2,6°S±2°×13°1E±°,h73km±4km,M5.0/44,*
mb4.8/44,mB5.5/13,MLv5.3/18,Mw(mB)5.0/13
IDC ***01*** *14:26:01.9±0.6,5°.93S×131°.55E,h101km±4km,mb4.0/14,*
mbtmp4.5/17,MS3.5/7,Error ellipse: s-maj=19.7km
s-min=11.8km az=68.0
ISC 01 14:25:58.3±0.5,5°.97S±0°.04×131°.45E±0°.05,h65km±4km,
h65km:pP-P,n149,σ1$33/150,mb4.6/31,1C-3D,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.01**	**184**	Pn	**Pn**	**14 26 31.0**	**+1.0**
SAUI				Sn	**Sn**	**14 26 52.8**	**-1.2**
SAUI	**Saumlaki**	**2.01**	**184**	P	**Pn**	**14 26 31.2**	**+1.3**
SAUI	**Saumlaki**	**2.01**	**184**	S	**Sn**	**14 26 53.8**	**-0.2**
SAUI	**Saumlaki**	**2.01**	**184**	P	**Pn**	**14 26 31.3**	**+1.3**
BNDI	**Bandanaira**	**2.11**	**313**	P	**Pn**	**14 26 32.4**	**+1.1**
BNDI	**Bandanaira**	**2.11**	**313**	S	**Sn**	**14 26 57.0**	**+0.5**
BNDI	**Bandanaira**	**2.11**	**313**	P	**Pn**	**14 26 32.7**	**+1.4**
FAKI	**Fak Fak**	**3.13**	**15**		**Pn**	**14 26 45.6**	**+0.3**
FAKI	**Fak Fak**	**3.13**	**15**	P	**Pn**	**14 26 45.5**	**+0.3**
FAKI	**Fak Fak**	**3.13**	**15**	S	**Sn**	**14 27 20.8**	**-0.7**
FAKI	**Fak Fak**	**3.13**	**15**	P	**Pn**	**14 26 45.4**	**+0.2**
KMPI	**Kaimana, Papua**	**3.21**	**44**	P	**Pn**	**14 26 46.9**	**+0.7**
MSAI	**Masohi**	**3.62**	**316**	P	**Pn**	**14 26 52.4**	**+0.4**
MSAI				S	**Sn**	**14 27 31.1**	**-2.4**
AAI	**Ambon**	**3.96**	**305**	P	**Pn**	**14 26 57.5**	**+0.9**
AAI				S	**Sn**	**14 27 40.2**	**-1.6**
SWI	**Sorong**	**5.08**	**358**	P	**Pn**	**14 27 11.1**	**-0.7**
NLAI	**Namlea**	**5.12**	**302**	P	**Pn**	**14 27 13.9**	**+1.5**
RKPI	**Ransiki, Papua**	**5.20**	**32**	P	**Pn**	**14 27 14.7**	**+1.2**
SRPI	**Serui, Papua**	**6.27**	**50**	P	**Pn**	**14 27 28.2**	**-0.1**
DRS	**Darwin Rock St**	**6.45**	**185**	P	**Pn**	**14 27 29.6**	**-1.0**
BAKI	**Biak**	**6.64**	**45**	P	**Pn**	**14 27 35.7**	**+2.4**
SANI	**Sanana**	**6.70**	**305**	P	**Pn**	**14 27 34.3**	**+0.2**
SANI	**Sanana**	**6.70**	**305**	P	**Pn**	**14 27 34.0**	**-0.1**
KDU	**Kakadu**	**6.75**	**172**	P	**Pn**	**14 27 33.1**	**-1.7**
MTN	**Manton Dam**	**6.84**	**183**	Pn	**Pn**	**14 27 35.0**	**-1.0**
MTN	**Manton Dam**	**6.84**	**183**	P	**Pn**	**14 27 34.8**	**-1.2**
WAMI	**Wamena**	**7.52**	**74**	P	**Pn**	**14 27 49.0**	**+3.7**
TNTI	**Ternate**	**7.84**	**329**	Pn	**Pn**	**14 27 49.5**	**-0.2**
TNTI	**Ternate**	**7.84**	**329**	P	**Pn**	**14 27 50.8**	**+1.1**
TNTI	**Ternate**	**7.84**	**329**	P	**Pn**	**14 27 49.5**	**-0.2**
SOEI	**Soe**	**8.05**	**242**	Pn	**Pn**	**14 27 52.4**	**-0.3**
SOEI	**Soe**	**8.05**	**242**	P	**Pn**	**14 27 53.0**	**+0.3**
SOEI	**Soe**	**8.05**	**242**	P	**Pn**	**14 27 52.7**	**0.0**
SMPI	**Sarmi**	**8.25**	**62**	P	**Pn**	**14 27 55.1**	**-0.1**
BBSI	**Bau Bau**	**8.85**	**273**	P	**Pn**	**14 28 06.8**	**+3.2**
MMPI	**Merauke**	**9.20**	**106**	P	**Pn**	**14 28 06.7**	**-1.6**
GENI	**Genyem**	**9.31**	**69**	P	**Pn**	**14 28 10.2**	**+0.3**
MMRI	**Maumere**	**9.52**	**253**	P	**Pn**	**14 28 14.2**	**+1.5**
TABU	**Tabubil**	**9.75**	**86**	P	**Pn**	**14 28 15.8**	**0.0**
JAY	**Jayapura**	**9.84**	**70**	P	**Pn**	**14 28 17.9**	**+0.7**
JAY	14nm,0.4s,baz=217,slow=11,SNR=18			S	**Sn**	**14 30 04.3**	**-1.8**
JAY	**Jayapura**	**9.84**	**70**	P	**Pn**	**14 28 17.6**	**+0.5**
KMSI	**Cibinong**	**9.89**	**311**	P	**Pn**	**14 28 18.2**	**+0.4**
KNRA	**Kununurra**	**10.00**	**195**	Pn	**Pn**	**14 28 17.2**	**-2.0**
EDFI	**Ende, Flores**	**10.07**	**253**	P	**Pn**	**14 28 21.9**	**+1.6**
BSSI	**Bau Bau, Buton**	**10.90**	**269**	P	**Pn**	**14 28 31.9**	**+0.3**
APSI	**Ampana**	**11.00**	**297**	P	**Pn**	**14 28 34.5**	**+1.6**
BKSI	**Bulukumba**	**11.30**	**273**	P	**Pn**	**14 28 38.4**	**+1.5**
MRSI	**Marisa**	**11.45**	**304**	P	**Pn**	**14 28 39.8**	**+0.7**
BASI	**Baing, Sumba**	**11.56**	**248**	P	**Pn**	**14 28 39.5**	**-1.1**
WSI	**Waingapu**	**11.65**	**251**	P	**Pn**	**14 28 41.5**	**-0.2**
KAPI	**Kappang**	**11.69**	**274**	Pn	**Pn**	**14 28 44.1**	**+1.8**
KAPI	**Kappang**	**11.69**	**274**	P	Pn	14 28 47.7	+5.4
SPSI	**Sidrap Palu**	**11.81**	**279**	P	**Pn**	**14 28 44.7**	**+0.7**
WBSI	**Waikabubak, Su**	**12.49**	**252**	P	**Pn**	**14 28 52.0**	**-1.4**
TOLI2	**Tolitoli**	**12.77**	**303**	Pn	**Pn**	**14 28 57.7**	**+0.7**
TOLI2	**Tolitoli**	**12.77**	**303**	P	**Pn**	**14 28 56.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**13.32**	**205**	P	Pn	14 28 59.0	-5.6
FITZ	46nm,0.5s,baz=107,slow=9.5,SNR=9.2			S	Sn	14 31 15.2	-16
FITZ				LR	LR	14 35 56.6	
PLAI	**Plampang**	**13.86**	**257**	P	**Pn**	**14 29 10.9**	**-0.8**
PLAI	**Plampang**	**13.86**	**257**	P	**Pn**	**14 29 10.5**	**-1.2**
COEN	**Coen**	**14.00**	**125**	Pn	**Pn**	**14 29 10.5**	**-3.1**
WRA	**Warramunga Arr**	**14.17**	**169**	P	Pn	14 29 09.9	-5.9
WRA	30nm,0.6s,baz=349,slow=13,SNR=150			S	Sn	14 31 36.9	-15
WB2	**Warramunga Arr**	**14.17**	**169**	Pn	Pn	14 29 10.0	-5.9
TWSI	**Taliwang, Sumb**	**14.71**	**258**	P	**Pn**	**14 29 20.7**	**-2.2**
PMG	**Port Moresby**	**15.93**	**103**	P	**Pn**	**14 29 38.8**	**+0.2**
PMG	51nm,0.7s,baz=292,slow=2.7,SNR=25			S	Sn	14 32 19.0	-15
MYLDM	**Lahad Datu**	**17.03**	**310**	P	**P**	**14 29 55.3**	**+2.2**
JAGI	**Jajag, Banyuwa**	**17.34**	**261**	P	**P**	**14 29 57.4**	**+0.8**
JAGI	comp=Z,19nm,0.9s			IAmb	IAmb	14 30 18.0	
JAGI	**Jajag, Banyuwa**	**17.34**	**261**	P	**P**	**14 29 56.2**	**-0.4**
KMMI	**Kalianget**	**17.41**	**265**	P	**P**	**14 29 58.1**	**+0.8**
ASAR	comp=Z,58nm,0.8s			S	Sn	14 33 04.4	-14
MTSU	**Mount Surprise**	**17.43**	**135**	P	**Pn**	**14 29 56.4**	**-0.8**
ASAR	**Alice Springs**	**17.75**	**173**	P	**P**	**14 29 57.3**	**-3.8**
ASAR	comp=Z,10.0nm,0.4s,baz=352,slow=8.4,SNR=354			S	Sn	14 33 04.4	-14
ASAR	comp=Z,13nm,0.5s,baz=358,slow=28,SNR=9.4			LR	LR	14 36 24.8	
GMJI	**Gumukmas**	**18.02**	**262**	P	**Pn**	**14 30 04.1**	**-0.2**
MBWA	**Maple Bar**	**18.90**	**216**	P	**P**	**14 30 13.3**	**-0.4**
PSA00	**Pilbara Seismi**	**19.16**	**215**	P	**P**	**14 30 17.2**	**+0.7**
WRKA	**Warakurna**	**19.20**	**189**	P	**P**	**14 30 15.8**	**-1.2**
KKM	**Kota Kinabalu**	**19.33**	**308**	P	**Pn**	**14 30 18.5**	**-1.8**
KKM				IAmb	IAmb	14 30 21.3	
KKM	**Kota Kinabalu**	**19.33**	**308**	P	**Pn**	**14 30 19.3**	**-1.0**
TV1H	**Townsville Har**	**19.94**	**133**	P	**P**	**14 30 26.3**	**+1.2**
PCJI	**Pacitan**	**20.24**	**263**	P	**P**	**14 30 27.5**	**-0.9**
OOD	**Oodnadatta**	**22.08**	**170**	P	**P**	**14 30 47.8**	**-0.1**
INKA	**Innaminka**	**23.38**	**159**	P	**P**	**14 31 02.9**	**+1.5**
GIRL	**Giralia**	**23.47**	**223**	P	**P**	**14 31 02.7**	**+0.4**
QLP	**Quilpie**	**23.85**	**151**	P	**P**	**14 31 07.0**	**+1.3**
MEEK	**Meekatharra**	**23.93**	**209**	P	**P**	**14 31 06.9**	**+0.5**
FORT	**Forrest**	**24.89**	**187**	P	**P**	**14 31 15.3**	**+0.3**
LCRK	**Leigh Creek**	**25.17**	**166**	P	**P**	**14 31 19.0**	**+1.4**
RK1H	**Rockhampton Ha**	**25.22**	**135**	P	**P**	**14 31 19.1**	**+0.9**
KMBL	**Kambalda**	**26.81**	**198**	P	**P**	**14 31 32.0**	**-0.5**
BBOO	**Buckleboo**	**27.05**	**171**	P	**P**	**14 31 34.8**	**+0.2**
MORW	**Morawa**	**27.21**	**211**	P	**P**	**14 31 34.6**	**-1.4**
MORW				IAmb	IAmb	14 32 12.9	
STKA	**Stephens Creek**	**27.47**	**161**	P	**P**	**14 31 38.2**	**-0.1**
BLDU	**Baliudu**	**28.16**	**208**	P	**P**	**14 31 45.1**	**+0.5**
HTT	**Hallett**	**28.19**	**167**	P	**P**	**14 31 46.3**	**+1.4**
TATA	**Tatamba Isabel**	**28.23**	**97**	P	**P**	**14 31 46.2**	**+0.9**
HNR	**Honiara**	**28.44**	**99**	LR	LR	14 42 58.8	
HNR	**Honiara**	**28.44**	**99**	P	**P**	**14 31 47.8**	**+0.6**
KLBR	**Kellerberrin**	**28.54**	**205**	P	**P**	**14 31 49.3**	**+1.4**
CMSA	**Cobar Meteorol**	**28.72**	**154**	P	**P**	**14 31 49.6**	**+0.1**
NGOA	**Tingoa Renbel**	**28.80**	**103**	P	**P**	**14 31 50.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**29.91**	**204**	P	**P**	**14 31 59.0**	**-1.1**
NWAO				IAmb	IAmb	14 32 20.7	
TPUB	**Ta-pu**	**30.95**	**340**	P	**P**	**14 32 07.0**	**-2.3**
SSLB	**Suanglung**	**31.30**	**341**	P	**P**	**14 32 10.8**	**-1.6**
SSLB	**Suanglung**	**31.30**	**341**	P	**P**	**14 32 12.8**	**+0.4**
NACB	**Ningnchiao**	**31.46**	**343**	P	**P**	**14 32 12.2**	**-1.6**
YHNB	**Yeheng**	**32.00**	**343**	P	**P**	**14 32 17.7**	**-0.9**
MGBR	**Mount Gambier**	**32.69**	**167**	P	**P**	**14 32 21.9**	**-2.4**
UBPT	**Khong Chiam**	**33.30**	**310**	P	**P**	**14 32 29.8**	**-0.2**
TOO	**Toolangi**	**33.96**	**160**	P	P	14 32 31.1	-4.5
LHI	**Lord Howe Isla**	**36.25**	**138**	P	P	14 32 49.4	-5.9
YATNC	**Mamie plateau,**	**37.78**	**119**	P	**P**	**14 33 09.0**	**+0.6**
JMN	**Monobe**	**39.55**	**3**	P	**P**	**14 33 24.4**	**+1.4**
NJ2	**Nanjing**	**39.67**	**343**	*e*P	**P**	**14 33 26.5**	**+2.5**
NJ2				pmax	pmax		
CMAR	**Chiang Mai Arr**	**40.21**	**308**	P	**P**	**14 33 28.3**	**-0.5**
CMAR	comp=Z,5.8nm,0.7s,baz=140,slow=7.5,SNR=41			pP	**pwP**	**14 33 52.9**	**+0.6**
CMAR	comp=Z,2.8nm,0.5s,baz=134,slow=7.3,SNR=4.1						
KMI	**Kunming**	**41.66**	**319**	P	**P**	**14 33 40.6**	**-0.2**
KMI	comp=Z,5.8nm,0.7s			pmax	pmax		
MJAR	**Matsushiro Arr**	**42.76**	**8**	P	**P**	**14 33 48.2**	**-1.1**
MJAR	comp=Z,7.3nm,0.8s,baz=187,slow=9.3,SNR=12			LR	LR	14 48 51.3	
MAJO	**Matsushiro**	**42.76**	**8**	P	**P**	**14 33 48.6**	**-0.7**
MAJO	comp=Z,40nm,20.2s,baz=139,slow=32			IAmb	IAmb	14 33 50.2	
MAJO	**Matsushiro**	**42.76**	**8**	P	**P**	**14 33 48.8**	**-0.5**
PZH	**PanZhiHua**	**43.26**	**320**	P	**P**	**14 33 57.4**	**+3.7**
PZH	comp=Z,7.0nm,0.8s			pmax	pmax		
PZH	comp=Z,10.0nm,0.5s			pmax	pmax		
KSRS	**Korea Array**	**43.32**	**356**	P	**P**	**14 33 53.2**	**-0.6**
HNS	**HongShan**	**45.89**	**341**	⇓P	**P**	**14 34 13.7**	**-0.6**
HNS	comp=Z,1.3nm,0.5s,baz=169,slow=9.5,SNR=9.4			pmax	pmax		
BJI	**Beijing**	**47.90**	**344**	P	**P**	**14 34 29.6**	**-0.3**
BJI	comp=Z,1.3nm,0.5s			pP	**sP**	**14 34 47.6**	**-3.8**
USRK	**Ussuriysk Ar.**	**49.94**	**1**	P	**P**	**14 34 45.7**	**+0.2**
HHC	**Hu-ho-hao-te**	**50.04**	**340**	*e*P	**P**	**14 34 49.6**	**+3.1**
HHC	comp=Z,5.9nm,0.5s,baz=180,slow=7.4,SNR=19			pmax	pmax		
XLT	**XiLinHaoTe**	**51.54**	**346**	*e*P	**P**	**14 34 57.0**	**-0.7**
XLT	comp=Z,5.9nm,0.5s			pP	sP	14 35 16.0	-3.3
BNX	**BinXian**	**51.60**	**356**	⇑P	**P**	**14 34 58.7**	**+0.7**
BNX	comp=Z,12nm,0.6s			pmax	pmax		
KHZ	**Kahutara**	**51.97**	**141**	P	**P**	**14 35 01.1**	**+0.3**
BKZ	**Black Stump Fm**	**52.31**	**136**	P	**P**	**14 35 05.1**	**+1.6**
GTA	**Gaotai**	**53.79**	**330**	*e*P	**P**	**14 35 15.2**	**+0.7**
GTA	comp=Z,5.0nm,1.2s			pmax	pmax		
HEH	**HeiHe**	**56.10**	**357**	*e*P	**P**	**14 35 30.6**	**-0.1**
SONM	**Songino Array**	**57.95**	**340**	P	**P**	**14 35 44.1**	**+0.1**
SONM	comp=Z,3.3nm,0.6s,baz=162,slow=7.1,SNR=17			pP	**pwP**	**14 36 08.5**	**+1.2**
PETK	**Petropavlovsk-**	**62.91**	**17**	P	**P**	**14 36 18.4**	**+0.9**
MK31	**Makanchi Array**	**68.17**	**326**	P	**P**	**14 36 51.5**	**-0.2**
MK31	comp=Z,1.5nm,0.7s,baz=200,slow=6.8,SNR=5.6			IAmb	IAmb	14 36 52.5	
MKAR	**Makanchi Array**	**68.17**	**326**	P	**P**	**14 36 51.8**	**0.0**
MKAR	comp=Z,1.5nm,0.7s			pP	**PcP**	**14 37 16.9**	**-0.3**
KSH	**Kashi**	**68.25**	**317**	P	**P**	**14 36 53.1**	**+0.6**
KSH				PcP	**PcP**	**14 37 18.4**	**+0.6**
ARSB	**Arslanbob**	**71.11**	**317**	P	**P**	**14 37 09.4**	**-0.7**
ZAA0	**Zalesovo Array**	**71.31**	**333**	IAmb	IAmb	14 37 44.2	
ZALV	**Zalesovo Beam**	**71.31**	**333**	P	**P**	**14 37 09.0**	**-1.8**
ZALV	**Zalesovo Beam**	**71.31**	**333**	P	**P**	**14 37 09.7**	**-1.1**
ZALV	comp=Z,4.1nm,0.6s,baz=122,slow=4.8,SNR=17			pP	**pwP**	**14 37 36.2**	**+1.7**
KURBB	**Kurchatov Arra**	**72.40**	**328**	P	**P**	**14 37 16.9**	**-0.5**
KURBB	comp=Z,1.5nm,0.5s,baz=111,slow=4.7,SNR=3.6			pP	**pwP**	**14 37 43.1**	**+1.1**
KURK	**Kurchatov**	**72.41**	**328**	P	**P**	**14 37 16.8**	**-0.7**
KURK	comp=Z,4.1nm,0.6s			IAmb	IAmb	14 37 45.5	
VNDA	**Vanda**	**73.30**	**173**	P	**P**	**14 37 22.5**	**+0.2**
BVAR	**Borovoye Array**	**77.97**	**327**	P	**P**	**14 37 48.9**	**-0.5**
BVAR	comp=Z,9.9nm,0.6s,baz=130,slow=9.3,SNR=22			pP	**pwP**	**14 38 15.7**	**+1.4**
QSPA	**South Pole Qui**	**84.00**	**180**	P	**P**	**14 38 21.0**	**-0.4**
QSPA	comp=Z,1.2nm,0.6s,baz=109,slow=0.9,SNR=11			pP	**pwP**	**14 38 47.7**	**+3.8**
ELIB	**Princess Elisa**	**89.90**	**197**	*d*P	P	14 38 44.0	-6.0
ELIB				*d*pP	pP	14 39 05.3	-0.8
GNI	**Garni**	**91.30**	**310**	LR	LR	15 28 17.1	
ILAR	**Eielson Array**	**91.81**	**25**	P	**P**	**14 38 57.1**	**-1.7**
KBZ	**Khabaz**	**93.04**	**313**	LR	LR	15 26 52.7	
INK	**Inuvik**	**97.37**	**22**	LR	LR	15 18 55.4	
TORD	**Torodi Ar. Bea**	**130.02**	**282**	PKP	**PKPdf**	**14 45 01.0**	**-0.7**
CPUP	**Villa Florida**	**146.78**	**166**	PKPbc	**PKPdf**	**14 45 32.6**	**+0.6**
CPUP	comp=Z,1.3nm,0.6s,baz=222,slow=2.4,SNR=4.4			pPKPbc	sPKPab	14 45 59.1	+1.3
LPAZ	**La Paz**	**150.60**	**139**	PKPbc	**PKPbc**	**14 45 44.5**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=190,slow=3.9,SNR=6.6						

ISN ***01*** *14:36:56.0±0.4,34°.21N×45°.57E,h7km±2km,ML3.6*
TEH ***01*** *14:36:57.5,34°.14N×45°.56E,h8km±38km*
ISC 01 14:36:57.4±1.6,34°.14N±0°.03×45°.55E±0°.04,h1km±14km,
n18,σ1$06/23,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.30**	**94**	Pg	**Pg**	**14 37 03.8**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.37**	**4**	Pg	**Pg**	**14 37 05.0**	**+0.4**
IGHG	**Ghaleghazi**	**0.86**	**77**	Pg	**Pg**	**14 37 14.2**	**+0.2**
IGHG				Sg	**Sb**	**14 37 27.2**	**-0.3**
IDHR	**Dehrash**	**0.89**	**51**	Pg	**Pg**	**14 37 13.9**	**-0.6**
IBDR	**Badra**	**1.07**	**163**	*e*Pg	**Pg**	**14 37 18.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**14 37 34.0**	**-1.0**
IBDR				AML	AML	14 37 40.1	
BHD	**Baghdad**	**1.30**	**229**	*e*Pn	**Pg**	**14 37 23.0**	**+0.5**
BHD	comp=N,1μm,0.4s			*e*Sn	**Sn**	**14 37 43.0**	**+2.2**
IKRK	**Kirkuk**	**1.61**	**322**	*e*Pn	**Pn**	**14 37 26.0**	**-1.0**
IKRK				*e*Sn	**Sb**	**14 37 48.0**	**-0.8**
IKRK				AML	AML	14 37 53.2	
IKRK	comp=N,878nm,0.3s			AML	AML	14 37 53.6	
SNQR	**Songor, Kerman**	**1.86**	**67**	Pn	**Pb**	**14 37 31.9**	**-0.4**
SDS1	**Sardasht. Az.**	**2.01**	**358**	Pn	**Pb**	**14 37 34.4**	**-0.4**
RAFI	**Al-Rafai**	**2.45**	**169**	*e*Pn	**Pn**	**14 37 39.0**	**+0.5**
RAFI				*e*Sn	**Sb**	**14 38 11.0**	**-2.0**
BDRS	**Dareh Seyedi**	**2.77**	**93**	Pn	**Pn**	**14 37 44.2**	**+1.0**
HGHA	**Hamedan- Ghaye**	**3.03**	**63**	Pn	**Pn**	**14 37 47.3**	**+0.5**
HAGD	**Aghdareh**	**3.04**	**76**	Pn	**Pn**	**14 37 48.8**	**+2.0**
IAZR	**Azarshahr**	**3.55**	**5**	Pn	**Pn**	**14 37 55.1**	**+1.2**
QABG	**Abgarm-Qazvin**	**3.66**	**64**	Pn	**Pn**	**14 37 56.5**	**+

s-maj=51.0km s-min=17.1km az=57.0
*DJA **01** 14:40:00.9±0.8, 8°N±3°×9°4E±°, h10km, M4.3/8, mB5.6/1, mb4.4/7, MLv4.3/8, Mw(mB)5.1/*
ISC 01 14:39:58.9±0.8, 7°.68N±0°.08×94°.3E±0°.1, h10km, n28, σ1°30/23, mb3.6/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.40**	**155**	P	**Pn**	**14 40 39.0**	**+0.8**
BSI				S	**Sn**	**14 41 09.1**	**+1.4**
LHMI	**Lhok Sumawe**	**3.61**	**132**	P	**Pn**	**14 40 55.3**	**+0.4**
LHMI				S	**Sn**	**14 41 38.6**	**+1.0**
MLSI	**Meulaboh, Aceh**	**4.00**	**148**	P	**Pn**	**14 41 02.0**	**+1.7**
MLSI				S	**Sn**	**14 41 48.0**	**+0.7**
SRIT	**Nakonsritamara**	**5.36**	**80**	P	**Pn**	**14 41 20.3**	**+1.3**
PSI	**Prapat**	**6.71**	**136**	Pn	**Pn**	**14 41 37.8**	**+0.1**
	1.4nm,0.3s,baz=321,slow=13,SNR=6.9						
PSI				Sn	**Sn**	**14 42 51.7**	**-2.5**
	1.9nm,0.3s,baz=187,slow=22,SNR=3.7						
	4.5nm,0.3s						
GSI	**Gunungsitoli**	**7.14**	**152**	P	**Pn**	**14 41 44.5**	**+1.0**
	0.1nm12nm,0.7s						
SRDT	**SRDT**	**8.16**	**35**	P	**Pn**	**14 41 58.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**11.64**	**23**	Pn	**Pn**	**14 42 47.6**	**+2.4**
	0.5nm,0.3s,baz=205,slow=14,SNR=7.7						
CMAR				LR	LR	14 47 30.7	
	comp=Z,61nm,19.8s,baz=245,slow=38						
PALK	**Pallekele**	**13.46**	**269**	LR	LR	14 47 46.8	
	comp=Z,96nm,20.8s,baz=89,slow=35						
H08S3	**Diego Garcia H**	**26.51**	**235**	T	T	15 12 29.1	
	baz=54,slow=76,SNR=30						
H08S2	**Diego Garcia H**	**26.51**	**235**	T	T	15 12 27.6	
	baz=54,slow=76,SNR=31						
H08S1	**Diego Carcia H**	**26.53**	**235**	T	T	15 12 25.9	
	baz=54,slow=76,SNR=10						
MKAR	**Makanchi Array**	**40.31**	**347**	P	**P**	**14 47 36.2**	**-0.2**
	1.1nm,0.9s,baz=168,slow=7.6,SNR=9.0						
	1.1nm,0.9s						
SONM	**Songino Array**	**41.33**	**12**	P	**P**	**14 47 44.9**	**-0.1**
	0.2nm,0.3s,baz=199,slow=8.6,SNR=4.7						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**44.77**	**346**	P	**P**	**14 48 12.8**	**+0.2**
	1.7nm,0.9s,baz=166,slow=7.1,SNR=10						
	1.7nm,0.9s						
ZALV	**Zalesovo Beam**	**46.77**	**352**	P	**P**	**14 48 29.4**	**+1.1**
	0.8nm,0.4s,baz=183,slow=8.2,SNR=5.5						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**48.05**	**125**	P	**P**	**14 48 37.1**	**-1.8**
	0.4nm,0.8s,baz=305,slow=8.5,SNR=5.6						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**49.22**	**341**	P	**P**	**14 48 47.2**	**-0.1**
	0.4nm,0.6s,baz=141,slow=9.6,SNR=5.0						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**49.69**	**130**	P	**P**	**14 48 49.6**	**-1.8**
	0.2nm,0.5s,baz=302,slow=7.7,SNR=9.7						
	0.2nm,0.5s						
ASF	**Jabal al Asfar**	**58.43**	**303**	LR	LR	15 18 37.1	
	comp=Z,116nm,19.9s,baz=331,slow=40						
H04N2	**CROZET ISLANDS**	**65.62**	**211**	T	T	16 01 18.3	
	baz=47,slow=75,SNR=13						
H04N1	**CROZET ISLANDS**	**65.63**	**211**	T	T	16 01 20.1	
	baz=47,slow=75,SNR=11						
H04N3	**CROZET ISLANDS**	**65.64**	**211**	T	T	16 01 18.6	
	baz=47,slow=75,SNR=12						
FINES	**FINESS Array B**	**72.94**	**332**	P	**P**	**14 51 27.3**	**-1.0**
	0.9nm,0.8s,baz=113,slow=8.7,SNR=6.0						
	0.9nm,0.8s						
HFS	**Hagfors**	**78.69**	**330**	P	**P**	**14 52 00.4**	**-0.8**
	3.5nm,1.0s,baz=120,slow=5.3,SNR=8.4						
	3.5nm,1.0s						
NOA	**NORSAR Array B**	**79.96**	**331**	P	**P**	**14 52 08.9**	**+0.7**
	0.7nm,0.9s,baz=117,slow=3.4,SNR=1.8						
	0.7nm,0.9s						
SPITS	**Spitsbergen Ar**	**80.05**	**348**	P	**P**	**14 52 07.1**	**-1.2**
	14nm,1.2s,baz=66,slow=8.4,SNR=1.4						
QSPA	**South Pole Qui**	**97.58**	**180**	LR	LR	15 32 54.5	
	comp=Z,120nm,19.5s,baz=222,slow=33						

*NEIC **01** 14:43:27.2±0.6, 39°.05N±0°.02×118°.90W±0°.02, h6km±1km, Error ellipse: s-maj=2.4km s-min=1.6km az=206.0*
*NEIC **01** 14:43:27, 39°.03N×119°.00W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.46; $M_{\theta\theta}$-3.69; $M_{\phi\phi}$3.23; $M_{r\theta}$0.66; $M_{\theta\phi}$1.02; $M_{\phi r}$1.24; Fault plane solution: $M_0$3.89000×10^{14} NP1:ϕ_s55.00000°, δ80.00000°, λ20.00000°. NP2:ϕ_s321.00000°, δ70.00000°, λ169.00000°. Principal axes: T 3.8917, Plg21.0000°, Azm280.0000°; N -0.0010, Plg68.0000°, Azm81.0000°; P -3.8907, Plg7.0000°, Azm187.0000°;*
*REN **01** 14:43:27.5±0.8, 39°.03N±0°.01×118°.90W±0°.02, h6km±5km, Mwr3.6, ML3.4/123(NEIC), Mwr3.7/21(SLM) Error ellipse: s-maj=2.2km s-min=1.5km az=209.0*
*NEIC **01** 14:43:27, 39°.03N×119°.00W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.24; $M_{\theta\theta}$-3.33; $M_{\phi\phi}$3.09; $M_{r\theta}$0.08; $M_{\theta\phi}$0.73; $M_{\phi r}$0.90; Fault plane solution: $M_0$3.42000×10^{14} NP1:ϕ_s53.00000°, δ79.00000°, λ11.00000°. NP2:ϕ_s320.00000°, δ79.00000°, λ168.00000°. Principal axes: T 3.4279, Plg16.0000°, Azm276.0000°; N -0.0158, Plg74.0000°, Azm98.0000°; P -3.4121, Plg0.0000°, Azm6.0000°;*
*IDC **01** 14:43:28.2±2.0, 39°.05N×118°.91W, h0km, mb3.1/1, mbtmp3.1/2, ML3.5/1 Error ellipse: s-maj=21.5km s-min=7.8km az=74.0*
ISC 01 14:43:27.9±1.3, 39°.03N±0°.03×118°.93W±0°.03, h4km±11km, n72, σ0°82/52, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RYN	**Ryan**	**0.51**	**142**	Pg	**Pg**	**14 43 37.4**	**-0.3**
RYN					**Sg**	**14 43 44.2**	**-0.2**
PNTR	**Pine Nut**	**0.53**	**276**		**Pg**	**14 43 38.0**	**0.0**
PNTR					**Sg**	**14 43 46.2**	**+1.3**
PNTR	**Pine Nut**	**0.53**	**276**	IAML		14 43 50.9	
	comp=E,2μm,0.9s						
PNTR				IAML		14 43 53.9	
	comp=N,2μm,0.9s						
TVH1	**TV Hill, Hawth**	**0.59**	**168**		**Pg**	**14 43 38.9**	**-0.3**
TVH1					**Sg**	**14 43 47.4**	**+0.5**
WAKR	**Walker**	**0.66**	**217**		**Pg**	**14 43 40.5**	**-0.1**
WAKR					**Sg**	**14 43 50.0**	**+0.7**
NV09	**Mina Array Sit**	**0.76**	**142**		**Pg**	**14 43 41.8**	**-0.5**
PAHR	**Pah Rah Range**	**0.76**	**332**		**Pg**	**14 43 42.0**	**-0.4**
PAHR					**Sn**	**14 43 56.7**	**-0.8**
PAHR	**Pah Rah Range**	**0.76**	**332**	IAML		14 43 57.1	
	comp=E,2μm,0.8s						
NVAR	**Mina Array Bea**	**0.78**	**141**	Pg	**Pg**	**14 43 42.0**	**-0.7**
	comp=E,352nm,0.3s,baz=324,slow=19,SNR=2511						
NVAR				Lg	Lg	14 43 53.3	
	comp=E,676nm,0.3s,baz=332,slow=33,SNR=21						
NV08	**Mina Array Sit**	**0.79**	**143**		**Pg**	**14 43 42.2**	**-0.8**
LHV	**Little Huntoon**	**0.85**	**157**		**Pg**	**14 43 43.7**	**-0.4**
LHV					**Sg**	**14 43 55.6**	**+0.5**
NV11	**Mina Array Sit**	**0.85**	**135**		**Pg**	**14 43 43.6**	**-0.6**
NV11					**Sg**	**14 43 55.3**	**0.0**
NV11	**Mina Array Sit**	**0.85**	**135**	IAML		14 44 00.0	
	comp=E,2μm,0.2s						
NV11				IAML		14 44 03.1	
	comp=N,2μm,0.6s						
MPK	**Martis Peak**	**0.90**	**287**		**Pg**	**14 43 44.9**	**-0.2**
MPK					**Sn**	**14 44 01.6**	**+0.5**
MPK	**Martis Peak**	**0.90**	**287**	IAML		14 44 02.2	
	comp=N,1μm,0.8s						
MPK				IAML		14 44 03.4	
	comp=E,1μm,1.0s						
PEAR	**Peavine Mounta**	**0.99**	**306**		**Pg**	**14 43 46.5**	**-0.3**
PEAR					**Sb**	**14 44 00.6**	**-0.5**
DONR	**Donner Summit**	**1.13**	**287**		**Pg**	**14 43 48.9**	**-0.6**
DONR					**Sb**	**14 44 05.1**	**-0.2**
ANTCA	**Antelope Range**	**1.15**	**166**		**Pg**	**14 43 49.4**	**-0.6**
BENR	**Benton**	**1.35**	**168**		**Pn**	**14 43 52.7**	**-1.0**
BEKR	**Beckworth**	**1.39**	**307**		**Pn**	**14 43 53.2**	**-1.0**
BEKR	**Beckworth**	**1.39**	**307**	IAML		14 44 14.3	
	comp=N,352nm,1.0s						
BEKR				IAML		14 44 15.1	
	comp=E,367nm,0.9s						
MCBM	**Casa Benchmark**	**1.39**	**179**		**Pn**	**14 43 53.7**	**-0.5**
MDPB	**Devils Postpil**	**1.41**	**185**		**Pn**	**14 43 53.8**	**-0.7**
MDPB	**Devils Postpil**	**1.41**	**185**	IAML		14 44 19.8	
	comp=E,385nm,0.7s						
CMB	**Columbia Colle**	**1.52**	**229**		**Pn**	**14 43 55.7**	**-0.2**
CMB	**Columbia Colle**	**1.52**	**229**	IAML		14 44 19.5	
	comp=E,605nm,0.7s						
AFDM	**Forest Hills D**	**1.60**	**268**		**Pn**	**14 43 56.4**	**-0.5**
BHPR	**Bishop**	**1.77**	**169**		**Pn**	**14 43 59.5**	**0.0**
MZP	**Montezuma Peak**	**1.80**	**137**		**Pn**	**14 43 59.1**	**-0.9**
MZP	**Montezuma Peak**	**1.80**	**137**	IAML		14 44 28.2	
	comp=N,578nm,0.8s						
DSP	**Deep Springs**	**1.82**	**155**		**Pn**	**14 43 59.9**	**-0.1**
ORV	**Oroville**	**2.06**	**285**		**Pn**	**14 44 02.7**	**-0.6**
GRAC	**Grapevine Rang**	**2.38**	**148**	IAML		14 44 53.4	
	comp=E,410nm,1.0s						
SGV	**South Grapevin**	**2.54**	**143**		**Pn**	**14 44 09.7**	**-0.3**
HATC	**Hat Creek Radi**	**2.64**	**313**	Pn	**Pn**	**14 44 10.7**	**-0.6**
HATC				IAML		14 44 59.7	
	comp=E,240nm,1.6s						
HATC				IAML		14 45 09.9	
	comp=N,165nm,1.8s						
CWC	**Cottonwood Cre**	**2.68**	**165**		**Pn**	**14 44 12.6**	**+0.7**
R11B	**Troy Canyon, C**	**2.70**	**104**	Pn	**Pn**	**14 44 11.0**	**-1.2**
WCT	**Wildcat Mounta**	**2.88**	**140**		**Pn**	**14 44 13.6**	**-1.1**
WCT				IAML		14 45 00.8	
	comp=N,233nm,0.5s						
TPNV	**Topopah Spring**	**2.97**	**134**		**Pn**	**14 44 14.9**	**-1.0**
SAO	**San Andreas Ge**	**3.02**	**222**	Pn	**Pn**	**14 44 16.1**	**-0.4**
SDH	**Striped Hills**	**3.15**	**139**		**Pn**	**14 44 18.9**	**+0.7**
NSP	**Numbskull Pass**	**3.15**	**136**		**Pn**	**14 44 18.4**	**0.0**
PMPB	**Monarch Peak**	**3.18**	**208**	Pn	**Pn**	**14 44 17.9**	**-0.8**
ELK	**Elko**	**3.31**	**58**		**Pn**	**14 44 20.0**	**-0.7**
ELK	**Elko**	**3.31**	**58**	IAML		14 45 13.2	
	comp=N,91nm,0.5s						
ELK				IAML		14 45 14.7	
	comp=N,93nm,0.4s						
AMDNV	**Amargosa**	**3.32**	**140**		**Pn**	**14 44 21.3**	**+0.7**
MCY	**Mercury**	**3.33**	**134**		**Pn**	**14 44 21.1**	**+0.2**
GWY	**Greenwater Val**	**3.36**	**147**		**Pn**	**14 44 21.0**	**-0.3**
GWY	**Greenwater Val**	**3.36**	**147**	IAML		14 45 21.7	
	comp=E,170nm,0.9s						
GWY				IAML		14 45 25.2	
	comp=N,139nm,0.8s						
ISA	**Isabella, Lake**	**3.38**	**174**	IAML		14 45 17.5	
	comp=E,88nm,0.3s						
SPR3	**Spring Creek 3**	**3.58**	**89**		**Pn**	**14 44 25.3**	**+0.8**
SPR3	**Spring Creek 3**	**3.58**	**89**	IAML		14 45 22.6	
	comp=E,139nm,1.1s						
KCPM	**Cahto Peak**	**3.67**	**282**	IAML		14 45 47.4	
	comp=E,42nm,1.7s						
KMRM	**Mail Ridge**	**3.88**	**289**	IAML		14 45 50.5	
	comp=N,34nm,1.9s						
SHPR	**Sheep Range**	**3.91**	**129**		**Pn**	**14 44 29.2**	**+0.4**
SHPR	**Sheep Range**	**3.91**	**129**	IAML		14 45 35.9	
	comp=E,59nm,0.5s						
SHPR				IAML		14 45 36.1	
	comp=N,46nm,0.5s						
CCAC	**Calif City Air**	**3.94**	**169**	IAML		14 45 43.5	
	comp=N,58nm,1.1s						
CCAC				IAML		14 45 59.4	
	comp=E,74nm,1.4s						
GSC	**Goldstone, Bar**	**4.09**	**155**	IAML		14 45 46.3	
	comp=N,37nm,1.0s						
GSC				IAML		14 45 54.4	
	comp=E,41nm,1.4s						
KMPM	**Mount Pierce**	**4.24**	**291**	IAML		14 45 07.8	
	comp=E,28nm,3.7s						
KMPM				IAML		14 46 09.3	
	comp=N,28nm,3.2s						
J08A	**Circle Bar Ran**	**4.33**	**4**	IAML		14 45 52.8	
	comp=E,38nm,1.2s						
J08A				IAML		14 46 09.7	
	comp=N,41nm,1.3s						
J05D	**Fort Rock, OR**	**4.59**	**338**	IAML		14 46 07.8	
	comp=N,32nm,1.1s						
J05D				IAML		14 46 21.9	
	comp=E,24nm,1.0s						
V12A	**Nelson**	**4.63**	**134**	IAML		14 45 55.4	
	comp=N,54nm,0.7s						
V12A				IAML		14 46 00.5	
	comp=E,57nm,0.8s						
J04A	**Umpqua Nationa**	**4.84**	**331**	IAML		14 46 37.9	
	comp=E,58nm,1.3s						
PASC	**Pasadena Art C**	**4.89**	**173**	IAML		14 46 06.5	
	comp=E,24nm,2.0s						
PASC				IAML		14 47 03.3	
	comp=N,23nm,0.1s						
LCMT	**Little Creek M**	**4.92**	**112**	IAML		14 46 03.2	
	comp=E,37nm,0.9s						
LCMT				IAML		14 46 08.5	
	comp=N,30nm,0.9s						
MFID	**Camas Ranch**	**4.96**	**27**	IAML		14 46 13.6	
	comp=N,37nm,1.2s						
MFID				IAML		14 46 14.3	
	comp=N,29nm,0.8s						
PINE	**Pine Mountain**	**4.99**	**343**	IAML		14 46 21.8	
	comp=N,24nm,1.6s						
PINE				IAML		14 46 26.4	
	comp=E,20nm,3.9s						
DBO	**Dodson Butte**	**5.22**	**323**	IAML		14 47 17.0	
	comp=N,16nm,4.9s						
KNB	**Kanab**	**5.22**	**111**	IAML		14 46 11.5	
	comp=N,40nm,1.3s						
MTPU	**Mount Pierson**	**5.38**	**99**	IAML		14 46 21.5	
	comp=N,39nm,1.0s						
MTPU				IAML		14 46 22.9	
	comp=E,25nm,1.1s						
PDAR	**Pinedale Array**	**8.02**	**59**	Pn	**Pn**	**14 45 28.8**	**+3.5**
	comp=E,0.1nm,0.3s,baz=234,slow=12,SNR=7.3						
PDAR				Lg	Lg	14 47 36.4	
	comp=E,0.2nm,0.3s,baz=235,slow=23,SNR=5.9						
	comp=E,0.7nm,0.7s						
YKA	**Yellowknife Ar**	**23.64**	**5**	P	**P**	**14 48 40.9**	**+1.1**
	comp=E,0.5nm,0.9s,baz=191,slow=9.4,SNR=5.3						
	comp=E,0.5nm,0.9s						

*IDC **01** 14:45:02.3±0.6, 35°.07S×107°.18W, h0km, mb4.1/11, mbtmp4.1/11, MS4.0/27, Error ellipse: s-maj=26.7km s-min=17.5km az=94.0*
*NEIC **01** 14:45:04.7±1.4, 35°.18S±0°.06×107°.2W±0°.2, h10km±1km, mb4.6/45, Error ellipse: s-maj=24.2km s-min=10.6km az=275.0*
*GCMT **01** 14:45:07.7±0.2, 35°.18S±0°.01×107°.10W±0°.01, h12km, MW4.9/116, Moment Tensor Solution. s33,c37; s116,c167; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.89±.09; $M_{\theta\theta}$-0.23±.09; $M_{\phi\phi}$1.12±.09; $M_{r\theta}$-0.25±.25; $M_{\theta\phi}$-2.78±.06; $M_{\phi r}$-0.49±.23; Best double couple: $M_0$2.94200×10^{16} NP1:ϕ_s98.00000°, δ76.00000°, λ-170.00000°. NP2:ϕ_s5.00000°, δ81.00000°, λ-14.00000°. Principal axes: T 3.3200, Plg3.0000°, Azm52.0000°; N -0.7570, Plg73.0000°, Azm153.0000°; P -2.5630, Plg17.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 14:45:04.0±0.6, 35°.1S±0°.1×107°.3W±0°.1, h10km, n91, σ1°01/63, mb4.5/31, MS4.1/27, 1C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**27.12**	**117**	P	**P**	**14 50 45.8**	**-1.3**
AY01	**Puyuhuapi**	**28.00**	**120**	P	**P**	**14 50 55.1**	**+0.1**
AY01				IAmb	IAmb	14 50 56.8	
	comp=Z,7.8nm,0.9s						
COYC	**Coyhaique**	**28.56**	**122**	P	**P**	**14 51 00.3**	**+0.3**
PLCA	**Paso Flores**	**29.34**	**112**	P	**P**	**14 51 06.8**	**-0.3**
PLCA	**Paso Flores**	**29.34**	**112**	P	**P**	**14 51 06.5**	**-0.6**
	comp=Z,2.6nm,1.0s,baz=279,slow=12,SNR=3.8						
	comp=Z,2.6nm,1.0s						
VA05	**Santo Domingo**	**29.35**	**98**	P	**P**	**14 51 08.7**	**+1.6**
BO01	**Tunca**	**29.62**	**99**	P	**P**	**14 51 09.7**	**+0.2**
BO01				IAmb	IAmb	14 51 24.0	
	comp=Z,6.3nm,0.9s						
USHA	**Ushuaia**	**33.22**	**139**	LR	LR	15 01 41.0	
	comp=Z,691nm,21.0s,baz=264,slow=30						
NNA	**Nana**	**35.90**	**58**	LR	LR	15 02 55.6	
	comp=Z,407nm,19.1s,baz=236,slow=30						
ATAH	**Atahualpa**	**38.44**	**50**	LR	LR	15 04 56.1	
	comp=Z,334nm,18.3s,baz=233,slow=31						
PMSA	**Palmer Station**	**39.34**	**152**	LR	LR	15 04 59.8	
	comp=Z,345nm,19.2s,baz=290,slow=30						
LPAZ	**La Paz**	**39.60**	**72**	P	**P**	**14 52 38.3**	**+1.8**
LPAZ	**La Paz**	**39.60**	**72**	P	**P**	**14 52 36.4**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=210,slow=9.2,SNR=4.6						
LPAZ				LR	LR	15 05 07.6	
	comp=Z,145nm,21.5s,baz=234,slow=30						
	comp=Z,0.6nm,0.4s						
PPT	**Papeete**	**41.41**	**284**	LR	LR	15 05 09.9	
	comp=Z,146nm,21.1s,baz=118,slow=29						
COHC	**Cochancay**	**41.60**	**45**	P	**P**	**14 52 52.1**	**-0.2**
CZSB	**Cruzeiro do Su**	**41.77**	**58**	P	**P**	**14 52 53.3**	**-0.5**
CPUP	**Villa Florida**	**43.42**	**93**	LR	LR	15 07 58.2	
	comp=Z,184nm,19.1s,baz=254,slow=32						
OTAV	**Otavalo**	**44.26**	**44**	P	**P**	**14 53 13.2**	**-1.3**
OTAV				IAmb	IAmb	14 53 18.3	
	comp=Z,12nm,1.4s						
PLTB	**Pedras Altas**	**44.44**	**102**	P	**P**	**14 53 14.2**	**-1.0**
PLTB				IAmb	IAmb	14 53 15.4	
	comp=Z,13nm,1.4s						
SIV	**San Ignacio**	**45.35**	**77**	LR	LR	15 08 58.8	
	comp=Z,81nm,21.4s,baz=283,slow=32						
FLOC	**Florencia**	**46.97**	**46**	P	**P**	**14 53 35.1**	**-0.3**
FLOC				IAmb	IAmb	14 53 39.9	
	comp=Z,9.3nm,1.1s						
AQDB	**Aquidauana**	**47.38**	**86**	P	**P**	**14 53 39.8**	**+1.3**
AQDB				IAmb	IAmb	14 53 43.2	
	comp=Z,6.8nm,1.2s						
RAR	**Rarotonga**	**47.83**	**272**	LR	LR	15 08 37.2	
	comp=Z,54nm,19.4s,baz=303,slow=30						
JTS	**Las Juntas de**	**49.84**	**29**	LR	LR	15 09 45.2	
	comp=Z,430nm,20.1s,baz=287,slow=30						
ROSC	**El Rosal**	**50.37**	**45**	P	**P**	**14 54 01.7**	**-0.2**
ROSC	**El Rosal**	**50.37**	**45**	P	**P**	**14 54 01.6**	**-0.4**
	comp=Z,6.8nm,0.3s,baz=162,slow=4.3,SNR=5.3						
ROSC				LR	LR	15 11 17.6	
	comp=Z,291nm,21.2s,baz=266,slow=31						
	comp=Z,6.8nm,0.3s						
RUSC	**La Rusia**	**51.94**	**45**	P	**P**	**14 54 13.5**	**-0.4**
CMIG	**Matias Romero**	**53.22**	**15**	LR	LR	15 11 41.4	
	comp=Z,70nm,21.1s,baz=178,slow=30						
QSPA	**South Pole Qui**	**55.09**	**180**	P	**P**	**14 54 36.4**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=122,slow=0.5,SNR=9.9						
	comp=Z,3.3nm,1.0s						
BDFB	**Brasilia**	**56.12**	**86**	LR	LR	15 16 25.9	
	comp=Z,90nm,18.3s,baz=149,slow=34						
VNDA	**Vanda**	**56.22**	**195**	P	**P**	**14 54 44.6**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=116,slow=2.9,SNR=5.7						
	comp=Z,0.6nm,0.8s						
URZ	**Urewera**	**59.13**	**243**	LR	LR	15 14 03.0	
	comp=Z,228nm,21.6s,baz=194,slow=29						
PCRV	**Puerto La Cruz**	**60.43**	**50**	LR	LR	15 18 02.5	
	comp=Z,261nm,21.7s,slow=33						
SNAA	**Sanae**	**61.41**	**160**	P	**P**	**14 55 19.4**	**-0.5**
	comp=Z,6.2nm,1.0s,baz=305,slow=5.4,SNR=3.4						
	comp=Z,6.2nm,1.0s						
TXAR	**Lajitas Array**	**64.19**	**3**	P	**P**	**14 55 37.6**	**-1.3**
	comp=Z,0.6nm,0.9s,baz=179,slow=12,SNR=4.6						
	comp=Z,0.6nm,0.9s						
MDP	**Montagnes des**	**65.01**	**64**	LR	LR	15 21 06.8	
	comp=Z,442nm,18.9s,baz=268,slow=33						
SJG	**San Juan**	**65.75**	**43**	LR	LR	15 22 22.1	
	comp=Z,74nm,18.8s,baz=172,slow=34						
DUN6	**Lazy B Ranch**	**67.33**	**358**	P	**P**	**14 55 59.9**	**+0.7**
DWPF	**Disney Wildern**	**67.44**	**25**	P	**P**	**14 56 00.5**	**+0.7**
MSVF	**Nonsavu**	**67.70**	**264**	LR	LR	15 17 52.4	
	comp=Z,135nm,21.2s,baz=181,slow=29						
BCW	**Bitter Crk WRg**	**70.61**	**349**	P	**P**	**14 56 20.1**	**+0.6**
SHPR	**Sheep Range**	**71.63**	**353**	P	**P**	**14 56 25.9**	**+0.2**
SHPR				IAmb	IAmb	14 56 36.1	
	comp=Z,5.2nm,1.5s						
KNB	**Kanab**	**71.95**	**355**	P	**P**	**14 56 29.2**	**+1.6**
KNB				IAmb	IAmb	14 56 46.3	
	comp=Z,5.5nm,1.3s						
WCT	**Wildcat Mounta**	**72.07**	**352**	P	**P**	**14 56 29.7**	**+1.5**
U38A	**Gravette**	**72.18**	**11**	P	**P**	**14 56 28.6**	**-0.2**
U38A				IAmb	IAmb	14 56 38.2	
	comp=Z,4.5nm,0.7s						
PKCU	**Pink Cliffs**	**72.34**	**356**	P	**P**	**14 56 31.8**	**+1.7**
PKCU				IAmb	IAmb	14 56 41.4	
	comp=Z,11nm,1.4s						
DSP	**Deep Springs**	**72.80**	**351**	P	**P**	**14 56 33.9**	**+1.5**
DSP				IAmb	IAmb	14 56 43.7	
	comp=Z,8.8nm,1.4s						
MZP	**Montezuma Peak**	**73.05**	**352**	P	**P**	**14 56 35.1**	**+0.8**
SYO	**Syowa Base**	**73.34**	**168**	*ePcP*	**PcP**	**14 56 49.4**	**-2.3**
R11B	**Troy Canyon, C**	**73.50**	**353**	P	**P**	**14 56 38.4**	**+1.6**
PSUT	**Pine Spring**	**73.53**	**355**	P	**P**	**14 56 38.7**	**+1.6**
TKL	**Tuckaleechee C**	**73.73**	**20**	LR	LR	15 24 06.1	
	comp=Z,73nm,21.4s,baz=184,slow=32						
CMB	**Columbia Colle**	**73.79**	**349**	P	**P**	**14 56 39.1**	**+0.7**
NVAR	**Mina Array Bea**	**73.88**	**351**	P	**P**	**14 56 40.1**	**+0.9**
NVAR	**Mina Array Bea**	**73.88**	**351**	P	**P**	**14 56 39.7**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=181,slow=7.7,SNR=6.6						
	comp=Z,1.4nm,0.8s						
TMUT	**Trail Mountain**	**74.13**	**357**	P	**P**	**14 56 41.3**	**+0.6**
TMUT				IAmb	IAmb	14 56 59.8	
	comp=Z,7.2nm,1.3s						
DZM	**Mont Dzumac**	**74.76**	**254**	LR	LR	15 21 59.3	
	comp=Z,126nm,20.8s,baz=94,slow=30						
BSUT	**Blindstream Ca**	**75.34**	**357**	P	**P**	**14 56 48.6**	**+0.8**
BEKR	**Beckworth**	**75.58**	**350**	P	**P**	**14 56 49.1**	**+0.2**
BEKR				IAmb	IAmb	14 56 59.2	
	comp=Z,5.4nm,1.1s						
PDAR	**Pinedale Array**	**77.53**	**358**	P	**P**	**14 56 59.6**	**-0.3**
PDAR	**Pinedale Array**	**77.53**	**358**	P	**P**	**14 57 00.1**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=155,slow=5.8,SNR=15						
	comp=Z,1.7nm,0.8s						
WVOR	**Wild Horse Val**	**77.87**	**351**	P	**P**	**14 57 03.2**	**+1.5**
WVOR				IAmb	IAmb	14 57 12.7	
	comp=

ISN 01 14:45:25.8±1.4, 33.°84N×45.°56E, h6km±24km, ML3.0
TEH 01 14:45:34.4, 33.°77N×45.°62E, h9km
ISC 01 14:45:31.7±1.2, 33.°71N±0.°06×45.°51E±0.°07, h10km, n6, σ2°83/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.52**	**39**	Pg	**Pg**	**14 45 41.8**	**-0.2**
GLG1				Sg	**Sg**	**14 45 48.9**	**0.0**
IBDR	**Badra**	**0.69**	**149**	*e*Pg	Pg	14 45 42.0	-3.2
IBDR				*e*Sg	**Sg**	**14 45 52.0**	**-2.2**
BHD	**Baghdad**	**1.04**	**245**	*e*Pn	Pb	14 45 49.0	-2.9
BHD				*e*Sn	**Sb**	**14 46 08.0**	**+2.4**
IGHG	**Ghaleghazi**	**1.07**	**55**	Pg	**Pb**	**14 45 53.4**	**+0.8**
IDHR	**Dehrash**	**1.23**	**36**	Pg	**Pn**	**14 45 56.5**	**+1.3**
IKRK	**Kirkuk**	**1.94**	**331**	*e*Pn	Pn	14 46 00.0	-4.8
IKRK				*e*Sn	**Sn**	**14 46 25.0**	**-4.3**
IKRK				AML	AML	14 46 38.7	
	comp=E,50nm,0.1s						
IKRK				AML	AML	14 46 43.1	
	comp=N,60nm,0.6s						

WEL 01 14:49:58.4±0.8, 35.°S±12.°×18.°0E±1.°7, h259km±11km, M3.7/10, ML3.9/19, MLv3.7/10, Error ellipse: s-maj=26.1km s-min=8.9km az=123.5, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.56**	**201**	P	Pn	14 50 47.3	+0.5
WMGZ				S	S	14 51 25.4	0.0
PKGZ	**Pakihiroa**	**2.71**	**205**	P	Pn	14 50 48.1	-0.3
PKGZ				S	S	14 51 28.1	0.0
HAZ	**Te Kaha**	**2.73**	**211**	P	Pn	14 50 48.6	+0.1
HAZ				S	S	14 51 27.5	-0.8
PUZ	**Puketiti**	**2.84**	**201**	P	Pn	14 50 49.6	-0.1
PUZ				S	S	14 51 29.8	-0.7
RUGZ	**Raukumara Rang**	**2.95**	**210**	P	Pn	14 50 50.7	-0.3
TWGZ	**Tauwhareparae**	**3.03**	**204**	P	Pn	14 50 53.0	+1.3
TWGZ				S	S	14 51 34.8	+0.7
CNGZ	**Carnagh Statio**	**3.24**	**199**	P	Pn	14 50 55.0	+1.0
TKGZ	**Te Karaka**	**3.31**	**204**	P	Pn	14 50 55.0	+0.3
TKGZ				P		14 51 40.3	
MWZ	**Matawai**	**3.33**	**209**	P	Pn	14 50 55.1	+0.1
MWZ				S	S	14 51 40.4	+0.4
URZ	**Urewera**	**3.44**	**214**	P	Pn	14 50 55.7	-0.5
URZ				S	S	14 51 41.5	-0.6
RAGZ	**Rawiri**	**3.52**	**208**	P	Pn	14 50 57.2	+0.1
RAGZ				S	S	14 51 45.3	+1.5
RIGZ	**Rimuhau**	**3.58**	**203**	P	Pn	14 50 58.2	+0.5
RIGZ				S	S	14 51 45.8	+0.8
PRGZ	**Paritu Road**	**3.74**	**200**	P	Pn	14 50 59.1	-0.5
PRGZ				S	S	14 51 49.9	+1.6
SNGZ	**Shannon Statio**	**3.79**	**207**	P	Pn	14 51 00.7	+0.6
SNGZ				S	S	14 51 49.9	+0.5
RTZ	**Ruatahuna**	**3.80**	**212**	P	Pn	14 50 59.7	-0.6
KNZ	**Kokohu**	**3.90**	**202**	P	Pn	14 51 01.4	+0.1
KNZ				S	S	14 51 51.5	+0.1
MHGZ	**Mahia Peninsul**	**3.95**	**199**	P	Pn	14 51 02.5	+0.6
MHGZ				S	S	14 51 50.4	-2.2
RAHZ	**Arahi**	**4.01**	**209**	P	Pn	14 51 02.8	+0.2
RAHZ				S	S	14 51 54.8	+1.0
MTHZ	**Maungataniwha**	**4.05**	**211**	P	Pn	14 51 03.5	+0.4
MTHZ				S	S	14 51 55.4	+0.6
MRHZ	**Matea Rd**	**4.23**	**215**	P	Pn	14 51 05.1	-0.2
MRHZ				S	S	14 51 58.1	-0.4
NMHZ	**Naumai**	**4.27**	**210**	P	Pn	14 51 05.5	-0.3
NMHZ				S	S	14 52 01.7	+2.2
ARHZ	**Aropaoanui**	**4.34**	**207**	P	Pn	14 51 06.8	+0.3
ARHZ				S	S	14 52 03.0	+2.1
BKZ	**Black Stump Fm**	**4.46**	**212**	P	Pn	14 51 07.8	-0.2
BKZ				S	S	14 52 04.6	+1.0
NTVZ	**North Tongarir**	**4.80**	**219**	P	Pn	14 51 13.1	+1.0
KRHZ	**Kereru**	**4.92**	**210**	P	Pn	14 51 12.6	-0.8
KRHZ				S	S	14 52 12.9	-0.4
PXZ	**Pawanui**	**5.07**	**204**	P	Pn	14 51 14.6	-0.6
PXZ				S	S	14 52 16.9	+0.2
PNHZ	**Pukenui**	**5.21**	**210**	P	Pn	14 51 16.1	-0.9
PNHZ				S	S	14 52 19.4	-0.5
TSZ	**Takapari Road**	**5.43**	**210**	P	Pn	14 51 19.1	-0.6
TSZ				S	S	14 52 24.1	-0.6
DVHZ	**Dannevirke**	**5.56**	**208**	P	Pn	14 51 20.4	-0.8
DVHZ				S	S	14 52 28.0	+0.5

ISN 01 14:51:12.6±0.8, 33.°64N×45.°62E, h3km±4km, ML3.5
TEH 01 14:51:16.3, 33.°80N×45.°80E, h12km±39km
ISC 01 14:51:15.0±0.9, 33.°67N±0.°03×45.°69E±0.°04, h13km, n19, σ1°36/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.48**	**22**	Pg	**Pg**	**14 51 23.2**	**-1.3**
IBDR	**Badra**	**0.59**	**160**	*e*Pg	**Pg**	**14 51 25.0**	**-1.6**
IBDR				*e*Sg	**Sg**	**14 51 33.0**	**-1.4**
KGS1	**Ghasr-e-Shirin**	**0.84**	**354**	Pg	**Pg**	**14 51 30.4**	**-0.9**
IGHG	**Ghaleghazi**	**0.98**	**48**	Pg	**Pg**	**14 51 32.6**	**-1.4**
BHD	**Baghdad**	**1.17**	**250**	*e*Pn	**Pn**	**14 51 37.0**	**0.0**
BHD				*e*Sn	**Sg**	**14 51 54.0**	**+1.3**
BHD				AML	AML	14 51 59.0	
	comp=E,2μm,0.4s						
IDHR	**Dehrash**	**1.18**	**29**	Pg	**Pb**	**14 51 36.2**	**-1.2**
IKFM	**Kafar-mosalman**	**1.80**	**94**	Pg	**Pb**	**14 51 48.2**	**+0.4**
RAFI	**Al-Rafai**	**1.97**	**170**	*e*Pn	**Pn**	**14 51 49.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**14 52 15.0**	**+2.3**
SNQR	**Sonqor, Kerman**	**1.99**	**53**	Pn	**Pb**	**14 51 50.2**	**-1.1**
IKRK	**Kirkuk**	**2.06**	**327**	*e*Pn	**Pn**	**14 51 50.0**	**+0.7**
IKRK				*e*Sn	**Sb**	**14 52 17.0**	**-0.7**
IKRK				AML	AML	14 52 31.6	
	comp=E,302nm,0.4s						
IKRK				AML	AML	14 52 33.2	
	comp=N,456nm,0.6s						
SDS1	**Sardasht. Az.**	**2.48**	**356**	Pn	**Pn**	**14 51 56.4**	**+1.2**
HGHA	**Hamedan- Ghaye**	**3.18**	**54**	Pn	**Pn**	**14 52 05.8**	**+0.9**
QABG	**Abgarm-Qazvin**	**3.80**	**56**	Pn	**Pn**	**14 52 14.7**	**+1.3**
IAZR	**Azarshahr**	**4.01**	**3**	Pn	**Pn**	**14 52 17.8**	**+1.5**
IQOM	**Qom**	**4.60**	**74**	Pn	**Pn**	**14 52 25.6**	**+1.1**
IHRS	**Heris**	**4.77**	**13**	Pn	**Pn**	**14 52 28.7**	**+1.9**
IVRN	**Varamin**	**5.17**	**73**	Pn	**Pn**	**14 52 33.0**	**+1.0**
GRMI	**Germi**	**5.43**	**18**	Pn	**Pn**	**14 52 37.3**	**+1.5**
ISFB	**Sefidab**	**5.48**	**81**	Pn	**Pn**	**14 52 38.0**	**+1.6**

IDC 01 14:58:39.2±2.6, 7.°92N×93.°49E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=145.5km s-min=29.5km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.02**	**234**	T	T	15 30 58.0	
	baz=54,slow=74						
H08S2	**Diego Garcia H**	**26.02**	**234**	T	T	15 30 55.0	
	baz=54,slow=74						
H08S1	**Diego Carcia H**	**26.04**	**234**	T	T	15 31 05.2	
	baz=54						
MKAR	**Makanchi Array**	**39.91**	**348**	P	P	15 06 14.5	-0.5
	1.0nm,0.7s,baz=160,slow=7.8,SNR=10.0						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**44.35**	**346**	P	P	15 06 50.9	-0.2
	1.0nm,0.8s,baz=170,slow=7.4,SNR=9.7						
	1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**46.43**	**353**	P	P	15 07 07.3	-0.2
	0.8nm,0.3s,baz=184,slow=6.8,SNR=5.2						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**48.74**	**342**	P	P	15 07 26.4	+0.8
	0.5nm,0.7s,baz=135,slow=8.7,SNR=2.5						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**50.44**	**130**	P	P	15 07 39.0	0.0
	0.1nm,0.7s,baz=302,slow=8.4,SNR=1.8						
	0.1nm,0.7s						
HFS	**Hagfors**	**78.09**	**330**	P	P	15 10 39.7	-0.1
	1.6nm,0.9s,baz=87,slow=10,SNR=1.3						
	1.6nm,0.9s						

IDC 01 15:02:56.1±1.4, 28.°77N×81.°49E, h0km, mb3.6/7, mbtmp3.5/9, ML3.2/1, Error ellipse: s-maj=62.4km s-min=19.3km az=57.0
ISC 01 15:03:01.2±1.6, 28.°8N±0.°3×81.°6E±0.°3, h33km, n9, σ0°51/9, mb3.4/7, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.94**	**2**	P	**P**	**15 07 08.7**	**+0.3**
	0.1nm,0.3s,baz=174,slow=11,SNR=2.3						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**18.96**	**119**	P	**Pn**	**15 07 21.1**	**+0.5**
	0.3nm,0.3s,baz=317,slow=13,SNR=1.4						
KURBB	**Kurchatov Arra**	**21.88**	**355**	P	**P**	**15 07 50.9**	**-0.2**
	0.3nm,0.6s,baz=179,slow=11,SNR=4.8						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**25.20**	**5**	P	**P**	**15 08 23.2**	**-0.5**
	0.5nm,0.5s,baz=182,slow=9.8,SNR=1.4						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**48.72**	**328**	P	**P**	**15 11 42.9**	**+0.6**
	2.3nm,1.0s,baz=102,slow=7.4,SNR=5.7						
	2.3nm,1.0s						
ARCES	**ARCESS Array B**	**51.57**	**338**	P	**P**	**15 12 03.2**	**-0.6**
	3.6nm,0.9s,baz=106,slow=5.1,SNR=1.7						
	3.6nm,0.9s						
HFS	**Hagfors**	**54.49**	**325**	P	**P**	**15 12 25.6**	**+0.2**
	1.2nm,0.6s,baz=92,slow=7.5,SNR=1.8						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**70.33**	**127**	P	**P**	**15 14 11.7**	**-0.2**
	0.1nm,0.5s,baz=318,slow=6.4,SNR=1.6						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**72.55**	**130**	P	**P**	**15 14 24.9**	**-0.4**
	0.3nm,0.8s,baz=311,slow=6.0,SNR=6.2						
	0.3nm,0.8s						

NNC 01 15:17:52.8±0.6, 41.°93N×76.°47E, h0km, mb3.5, mpv3.7, Error ellipse: s-maj=3.7km s-min=2.0km az=170.0
SOME 01 15:17:52.6, 41.°92N×76.°47E, h15km
KRNET 01 15:17:52.3±0.1, 41.°92N×76.°50E, h19km, mb3.1
KNET 01 15:17:53.9±0.5, 41.°94N×76.°38E, h13km±3km, ml2.5, Error ellipse: s-maj=7.2km s-min=3.1km az=61.0
ISC 01 15:17:52.9±1.1, 41.°93N±0.°03×76.°45E±0.°02, h5km±9km, n76, σ1°17/132, 47C-31D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.35**	**334**	⇓P	**Pg**	**15 18 00.4**	**+0.6**
	286nm,0.1s						
ULHL				⇑S	**Sg**	**15 18 06.0**	**+1.6**
	322nm,0.1s						
ULHL	**Ulahol**	**0.35**	**334**	⇑*i*P	**Pg**	**15 18 00.2**	**+0.4**
ULHL				⇑*i*S	**Sg**	**15 18 05.6**	**+1.1**
KDJ	**Kajisay**	**0.58**	**70**	⇑*i*P	**Pg**	**15 18 03.1**	**-1.1**
KDJ				⇑*i*S	**Sg**	**15 18 11.1**	**-0.6**
NRN	**Naryn**	**0.60**	**214**	⇓*e*P	**Pg**	**15 18 03.8**	**-0.7**
NRN				⇓*e*S	**Sg**	**15 18 13.0**	**+0.7**
BOOM	**Boomskoye usch**	**0.67**	**326**	⇓*i*P	**Pg**	**15 18 05.7**	**-0.2**
BOOM				⇓*i*S	**Sg**	**15 18 15.7**	**+1.0**
TNSS	**Tian-Shan**	**1.17**	**18**	P	**Pg**	**15 18 14.6**	**-0.7**
	52nm,0.2s						
TNSS				S	**Sg**	**15 18 30.2**	**-0.3**
	125nm,0.3s						
TNSS	**Tian-Shan**	**1.17**	**18**	*e*P	**Pg**	**15 18 14.6**	**-0.7**
	52nm,0.2s						
TNSS				*e*S	**Sg**	**15 18 30.2**	**-0.3**
	125nm,0.3s						
KST	**Kastek**	**1.17**	**342**	P	**Pg**	**15 18 15.1**	**-0.2**
	55nm,0.1s						
KST				S	**Sb**	**15 18 31.0**	**-0.2**
	85nm,0.2s						
KST	**Kastek**	**1.17**	**342**	*e*P	**Pg**	**15 18 15.1**	**-0.2**
	55nm,0.1s						
KST				*e*S	**Sb**	**15 18 30.9**	**-0.2**
	85nm,0.2s						
TKM2	**Tokmak 2**	**1.17**	**328**	⇑P	**Pg**	**15 18 15.2**	**-0.2**
	24nm,0.1s,SNR=123						
TKM2				⇓S	**Sn**	**15 18 31.9**	**-0.8**
	64nm,0.1s						
TKM2	**Tokmak 2**	**1.17**	**328**	⇓P	**Pg**	**15 18 14.6**	**-0.8**
	7.3nm,0.2s						
TKM2				⇓S	**Sb**	**15 18 31.5**	**+0.1**
	28nm,0.4s						
TKM2	**Tokmak 2**	**1.17**	**328**	⇑*i*P	**Pg**	**15 18 14.7**	**-0.8**
TKM2				⇑*i*S	**Sg**	**15 18 30.6**	**0.0**
MTBS	**Maitube**	**1.20**	**359**	P	**Pg**	**15 18 15.4**	**-0.5**
	19nm,0.1s						
MTBS				S	**Sb**	**15 18 31.9**	**-0.1**
	158nm,0.2s						
MTBS	**Maitube**	**1.20**	**359**	*e*P	**Pg**	**15 18 15.4**	**-0.5**
	19nm,0.1s						
MTBS				*e*S	**Sb**	**15 18 31.9**	**-0.1**
	158nm,0.2s						
MDOK	**Medeo**	**1.31**	**20**	P	**Pn**	**15 18 16.8**	**-1.2**
	17nm,0.4s						
MDOK				Pg	**Pb**	**15 18 17.0**	**-1.1**
	28nm,0.2s						
MDOK				Lg	Lg	15 18 34.5	
	72nm,0.3s						
MDOK				S	**Sn**	**15 18 36.2**	**+0.3**
	50nm,0.6s						
AAA	**Alma-Ata**	**1.32**	**15**	P	**Pn**	**15 18 17.8**	**-0.4**
	182nm,0.3s						
AAA				S	**Sn**	**15 18 36.0**	**-0.1**
	55nm,0.1s						
AAA	**Alma-Ata**	**1.32**	**15**	*e*P	**Pn**	**15 18 17.8**	**-0.4**
	182nm,0.3s						
AAA				*e*S	**Sn**	**15 18 36.0**	**-0.1**
	55nm,0.1s						
KBK	**Karagaybulak**	**1.33**	**304**	⇓P	**Pb**	**15 18 18.2**	**-0.2**
	17nm,0.1s,SNR=19						
KBK				⇓S	**Sn**	**15 18 36.5**	**+0.2**
	75nm,0.2s						
KBK	**Karagaybulak**	**1.33**	**304**	⇓*i*P	**Pn**	**15 18 17.7**	**-0.6**
KBK				⇓*i*S	**Sn**	**15 18 35.9**	**-0.5**
KNDC	**Almaty**	**1.34**	**16**	⇑P	**Pn**	**15 18 17.9**	**-0.4**
	47nm,0.3s						
KNDC				⇑S	**Sn**	**15 18 36.9**	**+0.3**
	337nm,0.8s						
KOTS	**Kotyrbulak**	**1.39**	**20**	P	**Pn**	**15 18 18.9**	**-0.2**
	35nm,0.2s						
KOTS				S	**Sg**	**15 18 37.9**	**+0.2**
	228nm,0.3s						
KOTS	**Kotyrbulak**	**1.39**	**20**	*e*P	**Pn**	**15 18 18.9**	**-0.2**
	35nm,0.2s						
KOTS				*e*S	**Sg**	**15 18 37.9**	**+0.2**
	228nm,0.3s						
DGS	**Degeres**	**1.40**	**339**	P	**Pb**	**15 18 19.4**	**-0.2**
	84nm,0.1s						
DGS				S	**Sg**	**15 18 38.5**	**+0.5**
	78nm,0.2s						
UCH	**Uchtor**	**1.47**	**282**	⇓*i*P	**Pn**	**15 18 20.1**	**-0.4**
UCH				⇓*i*S	**Sg**	**15 18 40.5**	**+0.3**
PRZ	**Przheval'sk**	**1.55**	**69**	⇑*i*P	**Pn**	**15 18 20.3**	**-1.1**
PRZ				⇑*i*S	**Sn**	**15 18 41.0**	**-1.0**
ARLS	**Aral**	**1.59**	**268**	*e*P	**Pn**	**15 18 21.8**	**0.0**
ARLS				⇑*i*S	**Sg**	**15 18 43.6**	**-0.3**
FRU1	**Bishkek**	**1.61**	**304**	⇓*i*P	**Pb**	**15 18 22.6**	**-0.5**
FRU1				⇓*i*S	**Sg**	**15 18 44.3**	**-0.3**
AAK	**Ala-Archa**	**1.61**	**297**	⇓P	**Pb**	**15 18 22.9**	**-0.3**
	13nm,0.2s,SNR=25						
AAK				⇓S	**Sg**	**15 18 44.7**	**0.0**
	42nm,0.2s						
AAK	**Ala-Archa**	**1.61**	**297**	P	**Pb**	**15 18 22.9**	**-0.3**
	6.1nm,0.3s						
AAK				S	**Sb**	**15 18 44.3**	**+0.3**
	23nm,0.6s						
AAK	**Ala-Archa**	**1.61**	**297**	⇑P	**Pn**	**15 18 22.4**	**+0.3**
AAK				⇑*i*S	**Sb**	**15 18 44.2**	**+0.3**
CHMS	**Chumysh**	**1.65**	**311**	⇓P	**Pb**	**15 18 23.6**	**-0.2**
	13nm,0.2s,SNR=10						
CHMS				⇑S	**Sg**	**15 18 46.9**	**+1.1**
	49nm,0.2s						
CHMS	**Chumysh**	**1.65**	**311**	⇑P	**Pb**	**15 18 23.4**	**-0.4**
	6.9nm,0.5s						
CHMS				⇑S	**Sg**	**15 18 46.6**	**+0.8**
	23nm,0.6s						
CHMS	**Chumysh**	**1.65**	**311**	⇑*i*P	**Pn**	**15 18 22.7**	**+0.2**
CHMS				⇑*i*S	**Sb**	**15 18 44.6**	**-0.2**
KTBS	**Karatobe**	**1.79**	**5**	P	**Pb**	**15 18 26.0**	**-0.2**
	50nm,0.1s						
KTBS				S	**Sg**	**15 18 50.0**	**-0.4**
	248nm,0.2s						
SATY	**Saty**	**1.84**	**51**	P	**Pb**	**15 18 26.2**	**-0.8**
	22nm,0.1s						
SATY				S	**Sb**	**15 18 50.3**	**-0.1**
	394nm,0.1s						
KRBS	**Karabastau**	**1.85**	**342**	P	**Pb**	**15 18 27.3**	**0.0**
	25nm,0.1s						
KRBS				S	**Sg**	**15 18 52.2**	**-0.3**
	129nm,0.3s						
ZHN	**Zhinishke**	**1.92**	**49**	P	**Pb**	**15 18 27.8**	**-0.7**
	13nm,0.1s						
ZHN				S	**Sb**	**15 18 52.7**	**-0.1**
	322nm,0.2s						
ZHN	**Zhinishke**	**1.92**	**49**	*e*P	**Pb**	**15 18 27.8**	**-0.7**
	13nm,0.1s						
ZHN				*e*S	**Sb**	**15 18 52.7**	**-0.1**
	322nm,0.2s						
USP	**Ospenovka**	**1.96**	**314**	⇓P	**Pb**	**15 18 29.1**	**0.0**
	29nm,0.2s,SNR=37						
USP				⇑S	**Sg**	**15 18 56.2**	**+0.2**
	62nm,0.3s						
USP	**Ospenovka**	**1.96**	**314**	⇓*i*P	**Pn**	**15 18 27.1**	**+0.2**
USP				⇓*i*S	**Sn**	**15 18 52.4**	**+0.5**
CHKK	**Chushkaly**	**1.96**	**12**	Pg	**Pb**	**15 18 29.0**	**-0.2**
	14nm,0.1s						
CHKK				Lg	Lg	15 18 54.9	
	358nm,0.2s						
CHKK	**Chushkaly**	**1.96**	**12**	*e*P	**Pb**	**15 18 29.0**	**-0.2**
	14nm,0.1s						
CHKK				*e*S	**Sg**	**15 18 54.9**	**-1.1**
	358nm,0.2s						
KURS	**Kuram**	**2.01**	**39**	*e*P	**Pb**	**15 18 29.0**	**-1.0**
	14nm,0.1s						
KURS				*e*S	**Sb**	**15 18 54.9**	**-0.4**
	358nm,0.2s						
SGDS	**Sogindy**	**2.03**	**319**	Pg	**Pb**	**15 18 30.5**	**+0.2**
	17nm,0.2s						
SGDS				Lg	Lg	15 18 57.6	
	46nm,0.2s						
AML	**Almayashu**	**2.06**	**276**	P	**Pg**	**15 18 31.6**	**-0.8**
	SNR=17						
AML	**Almayashu**	**2.06**	**276**	⇓*i*P	**Pn**	**15 18 29.0**	**+0.5**
AML				⇓*i*S	**Sb**	**15 18 55.7**	**-1.4**
EKS2	**Erkin-Say**	**2.11**	**291**	⇓P	**Pb**	**15 18 32.1**	**+0.4**
	10nm,0.2s,SNR=18						
EKS2	**Erkin-Say**	**2.11**	**291**	⇑*i*P	**Pn**	**15 18 29.4**	**+0.4**
EKS2				⇑*i*S	**Sn**	**15 18 56.4**	**+0.8**
SALK	**Salom-Alik**	**2.23**	**243**	⇑*i*P	**Pn**	**15 18 31.2**	**+0.5**
SALK				⇑*i*S	**Sn**	**15 18 59.5**	**+0.7**
UZB	**Uzynbulak**	**2.26**	**57**	Pg	**Pb**	**15 18 33.6**	**-0.7**
	9.7nm,0.2s						
UZB				Lg	Lg	15 19 02.5	
	90nm,0.2s						
UZB	**Uzynbulak**	**2.26**	**57**	*e*P	**Pb**	**15 18 33.5**	**-0.7**
	9.7nm,0.2s						
UZB				*e*S	**Sb**	**15 19 02.5**	**0.0**
	90nm,0.2s						
ARXS	**Arharly**	**2.50**	**23**	Pg	**Pb**	**15 18 38.6**	**+0.3**
	12nm,0.2s						
ARXS				Lg	Lg	15 19 11.3	
	65nm,0.2s						
MRKS	**Merke**	**2.52**	**290**	Pg	**Pg**	**15 18 39.9**	**-1.3**
	5.8nm,0.2s						
MRKS				Lg	Lg	15 19 14.0	
	52nm,0.4s						
MRKS	**Merke**	**2.52**	**290**	*e*P	**Pg**	**15 18 39.9**	**-1.3**
	5.8nm,0.2s						
MRKS				*e*S	**Sg**	**15 19 14.0**	**0.0**
	52nm,0.4s						
SHLS	**Shalkode**	**2.54**	**60**	Pg	**Pg**	**15 18 43.6**	**+1.9**
	10.0nm,0.2s						
SHLS				Lg	Lg	15 19 19.9	
	104nm,0.4s						
SHLS	**Shalkode**	**2.54**	**60**	*e*P	**Pg**	**15 18 43.6**	**+1.9**
	10.0nm,0.2s						
SHLS				*e*S	**Sg**	**15 19 19.9**	**+5.2**
	104nm,0.4s						
BLB	**Baldybastay**	**2.63**	**34**	Pg	**Pb**	**15 18 40.5**	**-0.1**
	40nm,0.2s						
BLB				Lg	Lg	15 19 14.7	
	184nm,0.3s						
PDGK	**Podgornoye**	**2.65**	**57**	⇑Pg	**Pb**	**15 18 38.4**	**-2.5**
	11nm,0.6s						
PDGK				⇑Lg	Lg	15 19 13.8	
	55nm,0.6s						
ARSB	**Arslanbob**	**2.67**	**258**	⇑*i*P	**Pn**	**15 18 37.2**	**+0.6**
ARSB				⇑*i*S	**Sn**	**15 19 09.9**	**+0.5**
SFK	**Sufi-Kurgan**	**2.94**	**230**	⇑*e*P	**Pn**	**15 18 40.6**	**+0.1**
SFK				⇑*e*S	**Sn**	**15 19 16.0**	**-0.2**
MNAS	**Manas**	**2.98**	**282**	⇑*i*P	**Pn**	**15 18 41.6**	**+0.6**
MNAS				⇑*i*S	**Sn**	**15 19 17.3**	**+0.2**
OHH	**Osh**	**3.10**	**244**	⇓*i*P	**Pn**	**15 18 43.1**	**+0.6**
OHH				⇓*i*S	**Sn**	**15 19 20.0**	**+0.1**
KNOS	**Konyrlen**	**3.15**	**39**	Pg	**Pb**	**15 18 49.7**	**+0.3**
	2.7nm,0.1s						
KNOS				Lg	Lg	15 19 30.6	
	40nm,0.3s						
DJR	**Jarkent**	**3.43**	**44**	Pg	**Pb**	**15 18 54.5**	**+0.4**
	2.2nm,0.1s						
DJR				Lg	Lg	15 19 38.8	
	36nm,0.3s						
DJR	**Jarkent**	**3.43**	**44**	*e*P	**Pb**	**15 18 54.5**	**+0.4**
	2.2nm,0.1s						
DJR				*e*S	**Sb**	**15 19 38.8**	**+2.7**
	36nm,0.3s						
BTLS	**Baital**	**3.57**	**331**	Pg	**Pb**	**15 18 57.9**	**+1.5**
	6.0nm,0.4s						
BTLS				Lg	Lg	15 19 44.7	
	32nm,0.5s						
BTLS	**Baital**	**3.57**	**331**	*e*P	**Pb**	**15 18 57.9**	**+1.5**
	6.0nm,0.4s						
BTLS				*e*S	**Sg**	**15 19 44.7**	**-2.8**
	32nm,0.5s						
TRKS	**Terek-Say**	**3.99**	**266**	⇑*e*P	**Pn**	**15 18 55.2**	**+0.3**
TRKS				⇑*i*S	**Sn**	**15 19 41.4**	**-0.7**
KK31	**Karatay Array**	**4.54**	**287**	⇑Pg	**Pg**	**15 19 17.9**	**-2.0**
	0.9nm,0.3s,baz=97,slow=16,SNR=11						
KK31				⇓Lg	Lg	15 20 15.5	
	2.5nm,0.3s,baz=106,slow=25,SNR=5.6						
KKAR	**Karatay Array**	**4.54**	**287**	⇑*e*P	**Pn**	**15 19 03.1**	**+0.8**
KKAR				⇑*i*S	**Sn**	**15 19 54.6**	**-0.8**
IUG	**Iuzhnay**	**4.78**	**275**	Pg	**Pg**	**15 19 20.9**	**-3.6**
	4.4nm,0.3s						
IUG				Lg	Lg	15

ENDD				Sg	Sg	15 26 52.2	+0.1
ENDD	**Endenburg**	**0.44**	**222**	Pg	Pg	15 26 46.3	0.0
ZELS	**Zelsheim**	**0.45**	**306**	Pg	Pg	15 26 46.4	0.0
ZELS				Sg	Sg	15 26 52.8	+0.5
OPP	**Oppenau**	**0.45**	**1**	Pg	Pg	15 26 46.6	+0.1
OPP	**Oppenau**	**0.45**	**1**	Sg	Sg	15 26 52.6	+0.1
EMING	**Emmingen-Lipti**	**0.47**	**108**	⇑Pg	Pg	15 26 46.8	0.0
BOBI	**Bbikon, Wasse**	**0.51**	**167**	⇓Pg	Pg	15 26 47.6	+0.1
ROTHE	**Rothenfluh**	**0.59**	**197**	Pg	Pg	15 26 49.1	0.0
EMMET	**Emmethof**	**0.62**	**190**	Pg	Pg	15 26 49.7	+0.2
GUT	**Gutenstein**	**0.63**	**87**	⇑Pg	Pg	15 26 49.7	-0.2
GUT	**Gutenstein**	**0.63**	**87**	Pg	Pg	15 26 49.7	-0.2
GUT	**Gutenstein**	**0.63**	**87**	Sg	Sg	15 26 58.0	-0.2
BABA	**Baden-Baden-Ne**	**0.68**	**1**	Sg	Sg	15 26 59.4	-0.2
BABA	**Baden-Baden-Ne**	**0.68**	**1**	Pg	Pg	15 26 50.6	-0.1
ECH	**Echery**	**0.70**	**285**	Pg	Pg	15 26 51.0	-0.2
ECH				Sg	Sg	15 27 00.4	0.0
CDF	**Champ du Feu**	**0.70**	**302**	*e*Pg	Pg	15 26 50.7	-0.6
CDF				*e*Sg	Sg	15 27 00.0	-0.5
	12nm,0.3s						
HINF	**Hinteralfeld**	**0.92**	**256**	*e*Pg	Pg	15 26 54.4	-0.9
HINF				*e*Sg	Sg	15 27 06.5	-0.7
	1.6nm,0.2s						
HAU	**Haudompre**	**1.23**	**269**	*e*Pg	Pn	15 26 59.9	-0.8
HAU				*e*Sg	Sb	15 27 16.1	-0.6
	2.6nm,0.2s						

TRN 01 15:27:30.6, 15.°06N×60.°70W, h37km, MD3.6, South-east of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIM	**Bigot**	**0.65**	**214**	*e*P	Pn	15 27 45.0	+1.6
BIM				*e*S	Sn	15 27 54.1	+1.7
MDN	**Morne-Daniel**	**0.72**	**291**	*e*P	Pn	15 27 46.8	+2.5
MDN				*e*S	Sn	15 27 57.1	+2.9
DSLB	**Salisbury**	**0.80**	**299**	*e*P	Pn	15 27 47.5	+2.1
DSLB				*e*S	Sn	15 27 58.7	+2.7
SLBI	**Saint Lucia, B**	**1.06**	**195**	*e*P	Pn	15 27 50.5	+1.5
SLBI				*e*S	Sn	15 28 03.5	+1.0
SLAC	**Saint Lucia, A**	**1.17**	**190**	*e*P	Pn	15 27 51.6	+1.1
SLAC				*e*S	Sn	15 28 06.8	+1.7
TBG	**Guadaloupe-3**	**1.21**	**311**	*e*P	Pn	15 27 53.2	+2.2
TBG				*e*S	Sn	15 28 07.3	+1.1
SSV	**Crater Summit**	**1.78**	**196**	*e*P	Pn	15 28 02.0	+3.0
SVV	**Soufriere Volc**	**1.80**	**196**	*e*P	Pn	15 28 02.3	+3.2
SVB	**Belmont**	**1.85**	**197**	*e*P	Pn	15 28 02.0	+2.1
SVB				*e*S	Sn	15 28 24.3	+2.3
SVT	**Saint Vincent**	**1.95**	**196**	*e*P	Pn	15 28 03.0	+1.9
SVT				*e*S	Sn	15 28 26.2	+1.9
SVOC	**Richmond Hill,**	**1.96**	**195**	*e*P	Pn	15 28 03.7	+2.4
SVOC				*e*S	Sn	15 28 25.4	+0.8
MLYT	**Lee's Yard**	**2.19**	**319**	*e*S	Sn	15 28 32.8	+2.3
MBWH		**2.21**	**320**	*e*P	Pn	15 28 07.3	+2.5
MBWH				*e*S	Sn	15 28 33.9	+3.0
MBFL	**Flemmings, Mon**	**2.23**	**319**	*e*P	Pn	15 28 07.8	+2.8
MBFL				*e*S	Sn	15 28 34.3	+3.0
ANBD	**Bethesda, Anti**	**2.23**	**333**	*e*P	Pn	15 28 07.1	+2.0
ANBD				*e*S	Sn	15 28 31.9	+0.5
GCMP	**Grenada, Carri**	**2.65**	**196**	*e*P	Pn	15 28 13.1	+2.2
GCMP				*e*S	Sn	15 28 44.9	+3.1
ANWB	**Willy Bob**	**2.80**	**338**	*e*P	Pn	15 28 14.1	+1.2
ANWB				*e*S	Sn	15 28 46.1	+0.7
GRGR	**Grenville**	**3.05**	**198**	*e*P	Pn	15 28 18.2	+1.9
GRGR				*e*S	Sn	15 28 52.6	+0.9

IDC 01 15:28:47.6±2.0, 1.°28N×125.°78E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=181.1km s-min=26.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.70**	**159**	P	P	15 33 49.5	-1.6
	0.5nm,0.7s,baz=337,slow=10,SNR=3.6						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**26.03**	**163**	P	P	15 34 23.6	+0.9
	0.5nm,0.7s,baz=351,slow=15,SNR=7.8						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**59.04**	**327**	P	P	15 38 49.5	0.0
	0.5nm,0.7s,baz=118,slow=7.5,SNR=5.4						
	0.5nm,0.7s						

*IDC **01** 15:33:46.5±1.6, 33.°64N×45.°67E, h0km, mb3.8/5, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=36.1km s-min=24.5km az=179.0*
*NEIC **01** 15:33:48.6±1.8, 33.°52N±0.°07×45.°59E±0.°05, h10km±1km, mb4.1/18, Error ellipse: s-maj=12.1km s-min=6.8km az=160.0*
*ISN **01** 15:33:49.5±0.8, 33.°71N×45.°77E, h9km±4km, ML3.5*
*TEH **01** 15:33:49.7, 33.°74N×45.°72E, h15km±58km*
ISC 01 15:33:49.2±0.5, 33.°71N±0.°03×45.°76E±0.°03, h13km, n54, σ1§51/58, mb4.1/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.42**	**17**	Pg	**Pg**	**15 33 57.6**	**-0.1**
IBDR	**Badra**	**0.62**	**166**	*e*Pg	**Pb**	**15 34 02.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**15 34 10.0**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.81**	**350**	Pg	**Pg**	**15 34 04.9**	**+0.1**
IGHG	**Ghaleghazi**	**0.91**	**47**	Pg	**Pn**	**15 34 07.8**	**-0.2**
IDHR	**Dehrash**	**1.12**	**28**	Pg	**Pb**	**15 34 10.4**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.21**	**62**	Pg	**Pg**	**15 34 13.3**	**+0.8**
BHD	**Baghdad**	**1.23**	**249**	*e*Pn	**Pg**	**15 34 15.0**	**+2.0**
BHD				*e*Sn	**Sg**	**15 34 33.0**	**+4.0**
IKFM	**Kafar-mosalman**	**1.75**	**96**	Pg	**Pb**	**15 34 22.3**	**+1.0**
SNQR	**Sonqor, Kerman**	**1.93**	**53**	Pn	**Pb**	**15 34 24.7**	**+0.3**
RAFI	**Al-Rafai**	**2.00**	**171**	*e*Pn	**Pb**	**15 34 25.0**	**-0.5**
RAFI				*e*Sn	**Sb**	**15 34 52.0**	**+1.6**
IDOB	**Doab**	**2.02**	**87**	Pn	**Pb**	**15 34 25.2**	**-0.8**
IKRK	**Kirkuk**	**2.05**	**326**	*e*Pn	**Pb**	**15 34 26.0**	**-0.4**
IKRK				*e*Sn	**Sb**	**15 34 53.0**	**+1.2**
IKRK				AML	AML	15 35 05.5	
	comp=E,478nm,0.5s						
IKRK				AML	AML	15 35 07.6	
	comp=N,593nm,0.7s						
SDS1	**Sardasht. Az.**	**2.44**	**355**	Pn	**Pn**	**15 34 31.0**	**+2.0**
HGHA	**Hamedan- Ghaye**	**3.11**	**54**	Pn	**Pn**	**15 34 41.0**	**+2.8**
QABG	**Abgarm-Qazvin**	**3.73**	**57**	Pn	**Pn**	**15 34 48.9**	**+2.2**
ISRB	**Sarab**	**4.39**	**20**	Pn	**Pn**	**15 34 58.2**	**+2.4**
IQOM	**Qom**	**4.54**	**74**	Pn	**Pn**	**15 34 59.6**	**+1.7**
ISHB	**Shabestar**	**4.56**	**359**	Pn	**Pn**	**15 34 59.0**	**+0.8**
IHRS	**Heris**	**4.71**	**12**	Pn	**Pn**	**15 35 03.0**	**+2.7**
GEVA	**Gevas**	**5.09**	**335**	Pn	**Pn**	**15 35 05.6**	**+0.2**
IVRN	**Varamin**	**5.10**	**74**	Pn	**Pn**	**15 35 07.4**	**+1.9**
GRMI	**Germi**	**5.37**	**18**	Pn	**Pn**	**15 35 11.4**	**+2.2**
ISFB	**Sefidab**	**5.42**	**81**	Pn	**Pn**	**15 35 13.0**	**+3.1**
MARD	**Mardin**	**5.42**	**313**		**Pn**	**15 35 09.4**	**-0.5**
MZPU	**Pul - Mazandar**	**5.49**	**59**	Pn	**Pn**	**15 35 13.9**	**+3.0**
KOPT	**Kop Dagi**	**7.57**	**328**	Pn	**Pn**	**15 35 40.0**	**+0.4**
RAYN	**Ar Rayn**	**10.15**	**181**	Pn	**Pn**	**15 36 11.4**	**-3.4**
TIRR	**Tirgusor**	**17.18**	**314**	P	**P**	**15 37 51.1**	**+0.6**
ABKAR	**Akbulak array**	**18.77**	**30**	P	**Pn**	**15 38 08.9**	**+0.5**
AKTO	**Aktyubinsk**	**18.98**	**25**	P	**P**	**15 38 10.8**	**+0.4**
	comp=N,0.1nm,0.3s,baz=203,slow=13,SNR=2.3						
	comp=N,0.7nm,0.6s						
FNA	**Florina**	**20.61**	**297**	P	**P**	**15 38 27.8**	**-0.4**
BURAR	**Bucovina Array**	**20.79**	**318**	P	**P**	**15 38 30.3**	**+0.2**
BUR08	**Bucovina Ar. S**	**20.81**	**318**	P	**P**	**15 38 30.8**	**+0.4**
AKASG	**Malin Array Be**	**20.85**	**329**	P	**P**	**15 38 29.2**	**-1.5**
	comp=N,1.7nm,0.5s,baz=140,slow=9.6,SNR=19						
	comp=N,1.7nm,0.5s						
AKBB	**Malin Array Si**	**20.85**	**329**	P	**P**	**15 38 30.1**	**-0.6**
AKBB				IAmb	IAmb	15 38 30.6	
	comp=Z,12nm,1.4s						
KIEV	**Kiev**	**20.86**	**329**	P	**P**	**15 38 30.1**	**-0.6**
KIEV				IAmb	IAmb	15 38 30.6	
	comp=Z,10.0nm,1.3s						
SABO	**M.te Sabotino**	**27.37**	**306**	P	**P**	**15 39 34.2**	**+0.1**
KEST	**Kesra**	**29.89**	**284**	P	**P**	**15 39 54.7**	**-2.0**
KEST				IAmb	IAmb	15 40 03.2	
	comp=Z,9.9nm,1.4s						
MK31	**Makanchi Array**	**30.51**	**54**		**P**	**15 40 02.7**	**+0.7**
MKAR	**Makanchi Array**	**30.51**	**54**	P	**P**	**15 40 03.0**	**+1.0**
MKAR	**Makanchi Array**	**30.51**	**54**	P	**P**	**15 40 02.9**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=248,slow=7.6,SNR=8.9						
	comp=Z,0.8nm,0.6s						
BNI	**Bardonecchia**	**31.97**	**302**	P	**P**	**15 40 14.8**	**-0.2**
HFS	**Hagfors**	**33.71**	**331**	P	**P**	**15 40 29.3**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=141,slow=9.6,SNR=12						
	comp=Z,1.8nm,0.5s						
ZALV	**Zalesovo Beam**	**34.09**	**42**	P	**P**	**15 40 33.5**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=250,slow=8.8,SNR=4.1						
	comp=Z,0.7nm,0.3s						
TORD	**Torodi Ar. Bea**	**44.90**	**254**	P	**P**	**15 42 02.9**	**-1.0**
	comp=Z,166nm,0.3s,baz=46,slow=8.3,SNR=1.2						
CMAR	**Chiang Mai Arr**	**49.61**	**94**	P	**P**	**15 42 39.3**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=294,slow=6.0,SNR=2.1						
	comp=Z,0.3nm,0.3s						
EUNU	**Eureka**	**63.47**	**352**	P	**P**	**15 44 18.6**	**+0.2**
EUNU				IAmb	IAmb	15 44 31.9	
	comp=Z,1.4nm,1.2s						
COCO	**West Island**	**66.66**	**124**	P	**P**	**15 44 38.2**	**-1.7**
ILON	**Igloolik, Nuna**	**70.34**	**343**	P	**P**	**15 45 02.0**	**-0.2**
ILON				IAmb	IAmb	15 45 26.4	
	comp=Z,1.1nm,1.1s						
C18K	**Utukok River**	**76.00**	**10**	P	**P**	**15 45 37.1**	**+1.4**
C18K				IAmb	IAmb	15 45 48.0	
	comp=Z,3.0nm,1.2s						
F20K	**Avaraart Lake**	**78.23**	**8**	P	**P**	**15 45 49.3**	**+1.2**
F20K				IAmb	IAmb	15 46 18.5	
	comp=Z,1.4nm,1.1s						
G21K	**Allakaket**	**79.00**	**8**	P	**P**	**15 45 53.9**	**+1.4**
G21K				IAmb	IAmb	15 45 57.9	
	comp=Z,2.5nm,1.1s						
G30M	**tAoh Zraii Nji**	**79.61**	**1**	P	**P**	**15 45 56.8**	**+0.9**
G30M				IAmb	IAmb	15 46 15.9	
	comp=Z,4.3nm,1.4s						
H21K	**Melozitna Rive**	**79.91**	**8**	P	**P**	**15 45 59.2**	**+1.7**
H21K				IAmb	IAmb	15 46 42.2	
	comp=Z,4.6nm,1.4s						

*IDC **01** 15:35:30.4±7.2, 38.°21N×74.°35E, h200km±43km, mb3.7/3, mbtmp4.2/8, MS3.5/1, Error ellipse: s-maj=69.7km s-min=39.4km az=179.0*
*NNC **01** 15:35:31.3±3.6, 38.°38N×74.°06E, h232km±32km, mb2.2, mpv3.2, Error ellipse: s-maj=34.8km s-min=25.5km az=16.0*
ISC 01 15:35:31.9±2.0, 38.°4N±0.°1×74.°0E±0.°1, h200km, n15, σ1§87/20, mb3.9/3, 6C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.29**	**5**	P	**Pn**	**15 36 37.7**	**+0.3**
	2.3nm,0.3s,baz=166,slow=8.3,SNR=21						
AAK				S	**Sn**	**15 37 31.4**	**+2.4**
	3.6nm,0.5s,baz=149,slow=20,SNR=7.6						
AAK	**Ala-Archa**	**4.29**	**5**	⇑P	**Pn**	**15 36 37.1**	**-0.3**
	1.4nm,0.4s						
AAK				⇓S	**Sn**	**15 37 30.9**	**+1.9**
	8.2nm,0.8s						
TKM2	**Tokmak 2**	**4.72**	**15**	⇓P	**Pn**	**15 36 41.3**	**-1.5**
	4.0nm,0.6s						
TKM2				⇑S	**Sn**	**15 37 40.7**	**+1.9**
	5.2nm,0.7s						
KK31	**Karatay Array**	**5.42**	**332**	⇑P	**Pn**	**15 36 52.4**	**+0.8**
	1.1nm,0.3s,baz=142,slow=13,SNR=22						
KK31				⇓S	**Sn**	**15 37 55.4**	**+0.7**
	32nm,0.5s,baz=146,slow=23,SNR=44						
MKAR	**Makanchi Array**	**10.42**	**33**	P	**Pn**	**15 37 55.2**	**-1.2**
	0.3nm,0.7s,baz=230,slow=13,SNR=2.8						
KURBB	**Kurchatov Arra**	**12.68**	**13**	P	**Pn**	**15 38 23.6**	**-1.5**
	2.4nm,0.2s,baz=203,slow=11,SNR=4.2						
AB31	**Akbulak array**	**14.85**	**322**	⇑P	**Pn**	**15 38 54.0**	**+1.9**
	0.6nm,0.6s,baz=125,slow=12,SNR=7.6						
AB31				⇓S	**S**	**15 41 34.8**	**-2.0**
	0.6nm,0.5s,baz=133,slow=24,SNR=4.5						
BVAR	**Borovoye Array**	**14.88**	**352**	P	**Pn**	**15 38 52.0**	**-0.4**
	1.9nm,0.4s,baz=156,slow=11,SNR=8.6						
AKTO	**Aktyubinsk**	**16.57**	**322**	P	**P**	**15 39 13.3**	**+1.5**
	2.8nm,0.3s,baz=119,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**16.57**	**322**	⇑P	**P**	**15 39 10.3**	**-1.5**
	1.1nm,0.4s						
AKTO				⇑S	**S**	**15 42 10.1**	**-4.6**
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**17.27**	**22**	P	**P**	**15 39 17.5**	**-2.0**
	2.4nm,0.4s,baz=216,slow=12,SNR=18						
MLR	**Muntele Rosu**	**36.00**	**297**	LR	LR	16 01 25.3	
	comp=Z,78nm,20.5s,baz=268,slow=43						
FINES	**FINESS Array B**	**37.32**	**324**	P	**P**	**15 42 25.5**	**+1.0**
	2.9nm,1.0s,baz=90,slow=6.9,SNR=3.6						
	2.9nm,1.0s						
HFS	**Hagfors**	**43.11**	**320**	P	**P**	**15 43 12.6**	**+0.6**
	2.2nm,1.0s,baz=110,slow=7.8,SNR=4.9						
	2.2nm,1.0s						
SPITS	**Spitsbergen Ar**	**46.25**	**346**	P	**P**	**15 43 37.3**	**+0.7**
	7.7nm,0.9s,baz=104,slow=9.1,SNR=5.3						
	7.7nm,0.9s						

*ISN **01** 15:37:13.4±1.1, 33.°67N×45.°52E, h9km±6km, ML3.1*
*TEH **01** 15:37:13.9, 33.°70N×45.°66E, h11km*
ISC 01 15:37:14.2±0.9, 33.°70N±0.°03×45.°60E±0.°04, h13km, n12, σ0§98/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.49**	**32**	Pg	**Pg**	**15 37 23.4**	**-0.5**
IBDR	**Badra**	**0.65**	**155**	*e*Pg	**Pb**	**15 37 27.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**15 37 35.0**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.81**	**359**	Pg	**Pn**	**15 37 30.9**	**-0.4**
IGHG	**Ghaleghazi**	**1.02**	**52**	Pg	**Pg**	**15 37 34.0**	**+0.1**
BHD	**Baghdad**	**1.11**	**248**	*e*Pn	**Pg**	**15 37 36.0**	**+0.5**
BHD				*e*Sn	**Sn**	**15 37 52.0**	**+1.5**
BHD				AML	AML	15 37 58.8	
	comp=E,1μm,0.6s						
IDHR	**Dehrash**	**1.19**	**33**	Pg	**Pg**	**15 37 37.1**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.33**	**64**	Pg	**Pg**	**15 37 40.4**	**+0.6**
IKFM	**Kafar-mosalman**	**1.88**	**95**	Pn	**Pg**	**15 37 49.4**	**-1.0**
IKRK	**Kirkuk**	**1.99**	**329**	*e*Pn	**Pb**	**15 37 49.0**	**-1.3**
IKRK				*e*Sn	**Sb**	**15 38 15.0**	**0.0**
IKRK				AML	AML	15 38 30.3	
	comp=N,98nm,0.5s						
IKRK				AML	AML	15 38 30.8	
	comp=E,160nm,0.5s						
RAFI	**Al-Rafai**	**2.02**	**167**	*e*Pn	**Pb**	**15 37 49.0**	**-1.7**
RAFI				*e*Sn	**Sb**	**15 38 16.0**	**+0.2**
SNQR	**Sonqor, Kerman**	**2.04**	**55**	Pn	**Pb**	**15 37 51.1**	**-0.2**
HGHA	**Hamedan- Ghaye**	**3.22**	**55**	Pn	**Pn**	**15 38 06.6**	**+1.8**

*IDC **01** 15:39:22.0±0.5, 20.°44S×94.°63E, h0km, mb4.4/22, mbtmp4.4/22, MS3.6/18, Error ellipse: s-maj=18.6km s-min=12.9km az=64.0*
*BJI **01** 15:39:22.0, 20.°40S×94.°60E, h10km, mB5.2/12, mb4.7/41*
*NEIC **01** 15:39:24.5±1.4, 20.°4S±0.°1×94.°60E±0.°04, h10km±1km, mb4.9/40, Error ellipse: s-maj=21.1km s-min=6.7km az=184.0*
ISC 01 15:39:23.4±0.4, 20.°52S±0.°07×94.°64E±0.°08, h10km, n110, σ1§76/94, mb4.7/50, MS3.6/17, 2C-2D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**8.55**	**15**	Pn	**Pn**	**15 41 28.6**	**+1.3**
MNAI	**Manna**	**17.99**	**28**		**Pn**	**15 43 33.5**	**-0.3**
GIRL	**Giralia**	**18.35**	**100**		**Pn**	**15 43 41.0**	**+2.9**
GIRL	**Giralia**	**18.35**	**100**	P	**Pn**	**15 43 40.9**	**+2.8**
LEM	**Lembang**	**18.54**	**45**	P	**Pn**	**15 43 47.4**	**+6.7**
	28nm,0.6s,baz=324,slow=1.4,SNR=8.1						
LEM				LR	LR	15 49 40.7	
	comp=Z,203nm,18.1s,baz=198,slow=34						
UGM	**Wanagama**	**19.83**	**53**	P	**P**	**15 43 55.7**	**+1.1**
UGM				IAmb	IAmb	15 43 60.0	
	comp=Z,81nm,1.3s						
MORW	**Morawa**	**21.19**	**118**	P	**P**	**15 44 09.4**	**+0.2**
MORW				IAmb	IAmb	15 44 29.0	
	comp=Z,51nm,1.4s						
MORW	**Morawa**	**21.19**	**118**	P	P	15 44 19.4	+10
PSI	**Prapat**	**23.56**	**11**	LR	LR	15 51 42.4	
	comp=Z,253nm,20.3s,baz=185,slow=32						
NWAO	**Narrogin (SRO)**	**23.61**	**126**	LR	LR	15 51 48.3	
	comp=Z,139nm,20.1s,baz=274,slow=32						
H08S2	**Diego Garcia H**	**24.96**	**298**	T	T	16 11 12.4	
	baz=124						
H08S1	**Diego Carcia H**	**24.97**	**298**	T	T	16 11 08.4	
	baz=124						
H08S3	**Diego Garcia H**	**24.97**	**298**	T	T	16 11 06.8	
	baz=124						
KAPI	**Kappang**	**28.87**	**61**	LR	LR	15 59 10.4	
	comp=Z,77nm,18.2s,baz=175,slow=41						
FITZ	**Fitzroy Crossi**	**29.34**	**91**	LR	LR	15 56 33.3	
	comp=Z,95nm,21.0s,baz=270,slow=35						
PALK	**Pallekele**	**30.83**	**332**	LR	LR	15 54 55.9	
	comp=Z,97nm,20.4s,baz=167,slow=30						
DLV	**Lat**	**35.02**	**24**	P	**P**	**15 46 14.7**	**-1.9**
ASAR	**Alice Springs**	**36.44**	**102**	P	**P**	**15 46 29.1**	**+0.4**
ASAR	**Alice Springs**	**36.44**	**102**	P	**P**	**15 46 29.4**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=274,slow=7.7,SNR=70						
ASAR				PP	**PnPn**	**15 47 41.5**	**-10**
	comp=Z,1.5nm,0.6s,baz=270,slow=9.9,SNR=6.6						
ASAR				PcP	**PcP**	**15 48 52.2**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=280,slow=2.8,SNR=8.3						
ASAR				LR	LR	16 00 23.5	
	comp=Z,72nm,20.3s,baz=268,slow=35						
	comp=Z,3.0nm,0.7s						
AS31	**Alice Springs**	**36.45**	**102**	P	**P**	**15 46 29.1**	**+0.4**
WRA	**Warramunga Arr**	**37.20**	**96**	P	**P**	**15 46 36.0**	**+0.8**
WRA	**Warramunga Arr**	**37.20**	**96**	P	**P**	**15 46 35.7**	**+0.6**
	comp=Z,4.2nm,0.9s,baz=267,slow=9.3,SNR=22						
WRA				PP	**PP**	**15 47 52.9**	**-7.0**
	comp=Z,1.3nm,0.6s,baz=265,slow=10.0,SNR=7.3						
WRA				PcP	**PcP**	**15 48 54.2**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=264,slow=2.9,SNR=5.8						
	comp=Z,4.2nm,0.9s						
WB2	**Warramunga Arr**	**37.21**	**96**	P	**P**	**15 46 35.3**	**0.0**
WB2				IAmb	IAmb	15 46 51.8	
	comp=Z,18nm,1.1s						
WRAB	**Tennant Creek**	**37.21**	**96**	P	**P**	**15 46 36.0**	**+0.8**
WRAB				IAmb	IAmb	15 46 52.4	
	comp=Z,18nm,1.1s						
WB0	**Warramunga Arr**	**37.27**	**96**	P	**P**	**15 46 36.1**	**+0.3**
WB0				IAmb	IAmb	15 46 52.9	
	comp=Z,15nm,1.1s						
WR0	**Warramunga Arr**	**37.38**	**96**	P	**P**	**15 46 37.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**38.97**	**7**	P	**P**	**15 46 49.5**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=190,slow=7.1,SNR=13						
CMAR				LR	LR	16 02 50.2	
	comp=Z,29nm,20.0s,baz=85,slow=36						
	comp=Z,2.3nm,0.7s						
FAKI	**Fak Fak**	**40.61**	**69**	P	**P**	**15 47 03.4**	**-0.4**
DAV	**Davao City (W)**	**40.95**	**51**	LR	LR	16 06 31.8	
	comp=Z,23nm,18.6s,baz=313,slow=40						
SLVN	**Son La**	**42.57**	**13**	P	**P**	**15 47 20.7**	**+0.9**
H04N2	**CROZET ISLANDS**	**43.26**	**224**	T	T	16 33 49.2	
	baz=67						
H04N1	**CROZET ISLANDS**	**43.27**	**224**	T	T	16 33 42.5	
	baz=67						
H04N3	**CROZET ISLANDS**	**43.27**	**224**	T	T	16 33 37.0	
	baz=67						
STKA	**Stephens Creek**	**43.33**	**115**	P	**P**	**15 47 26.7**	**+0.9**
STKA	**Stephens Creek**	**43.33**	**115**	P	**P**	**15 47 26.6**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=280,slow=9.2,SNR=7.5						
STKA				LR	LR	16 05 34.2	
	comp=Z,96nm,18.3s,baz=209,slow=36						
	comp=Z,2.7nm,0.6s						
TNCH	**TengChong**	**45.43**	**5**	P	**P**	**15 47 43.8**	**+1.0**
TNCH				pP	sP	15 47 46.1	+1.2
TNCH				sP	pwP	15 47 49.1	-2.0
TNCH				S	**S**	**15 54 22.0**	**-2.4**
TNCH				sS	sS	15 54 28.3	+1.3
TNCH				pmax	pmax		
	comp=Z,16nm,0.8s						
TNCH				pmax	pmax		
	comp=Z,92nm,3.8s						
KMI	**Kunming**	**46.05**	**10**	P	**P**	**15 47 50.5**	**+2.8**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH	**PanZhiHua**	**47.25**	**9**	P	**P**	**15 47 58.2**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,200nm,7.3s						
CAN	**Canberra**	**49.67**	**119**	P	**P**	**15 48 17.0**	**+1.3**
LSA	**Lhasa**	**50.04**	**356**	P	**P**	**15 48 19.7**	**+0.9**
LSA				IAmb	IAmb	15 48 21.1	
	comp=Z,14nm,0.8s						
LSA	**Lhasa**	**50.04**	**356**	P	**P**	**15 48 20.2**	**+1.3**
LSA				pmax	pmax		
	comp=Z,17nm,0.8s						
CD2	**Chengdu**	**51.88**	**10**	P	**P**	**15 48 33.0**	**+0.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.4s						
WSAR	**Wadi Sarin**	**55.89**	**319**	P	**P**	**15 49 01.7**	**0.0**
	baz=154,slow=24,SNR=5.0						
SYO	**Syowa Base**	**58.76**	**200**	⇓*e*P	**P**	**15 49 21.5**	**+0.2**
SYO	**Syowa Base**	**58.76**	**200**	⇑*e*sP	sP	15 49 28.3	+4.9
KMBO	**Kilima Mbogo**	**59.21**	**281**	P	**P**	**15 49 25.7**	**+0.1**
KMBO	**Kilima Mbogo**	**59.21**	**281**	P	**P**	**15 49 26.8**	**+1.3**

MAKZ Makanchi 67.98 351 P P 15 50 22.1 -0.5
MAKZ IAmb IAmb 15 50 23.6
comp=Z,5.1nm,0.8s
SONM Songino Array 68.85 8 P P 15 50 28.3 +0.1
comp=Z,2.1nm,0.7s,baz=192,slow=6.2,SNR=11
comp=Z,2.1nm,0.7s
QSPA South Pole Qui 69.56 180 P P 15 50 32.7 +0.3
comp=Z,11nm,0.6s,baz=288,slow=1.7,SNR=82
QSPA LR LR 16 17 59.6
comp=Z,87nm,18.2s,baz=269,slow=33
comp=Z,11nm,0.6s
MJAR Matsushiro Arr 70.11 36 P P 15 50 35.3 -0.7
comp=Z,3.0nm,0.8s,baz=201,slow=8.0,SNR=6.7
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 72.24 349 P P 15 50 48.8 +0.3
comp=Z,5.0nm,0.9s,baz=175,slow=5.6,SNR=32
comp=Z,5.0nm,0.9s
BNX BinXian 72.35 23 ⇑P P 15 50 51.2 +1.9
BNX pmax pmax
comp=Z,8.0nm,1.2s
USRK Ussuriysk Ar. 72.92 27 P P 15 50 53.0 +0.3
comp=Z,8.5nm,0.7s,baz=206,slow=3.1,SNR=9.4
comp=Z,8.5nm,0.7s
SNAA Sanae 73.02 199 P P 15 50 54.2 +1.1
comp=Z,6.2nm,0.9s,baz=46,slow=3.5,SNR=4.9
comp=Z,6.2nm,0.9s
ZAA0 Zalesovo Array 74.64 354 P P 15 51 02.0 -0.7
ZAA0 IAmb IAmb 15 51 03.4
comp=Z,8.2nm,0.8s
ZALV Zalesovo Beam 74.64 354 P P 15 51 02.3 -0.3
ZALV Zalesovo Beam 74.64 354 P P 15 51 02.6 0.0
comp=Z,7.4nm,0.7s,baz=181,slow=4.5,SNR=32
comp=Z,7.4nm,0.7s
ABKAR Akbulak array 76.01 337 P P 15 51 10.5 -0.2
HEH HeiHe 76.19 21 *eP* **P 15 51 10.3 -1.3**
HEH pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 76.20 345 P P 15 51 11.2 -0.5
comp=Z,2.3nm,0.7s,baz=153,slow=8.9,SNR=11
comp=Z,2.3nm,0.7s
BRVK Borovoye 76.26 345 P P 15 51 11.5 -0.5
AKTO Aktyubinsk 77.69 337 P P 15 51 19.0 -1.1
comp=Z,0.7nm,0.4s,baz=146,slow=4.8,SNR=3.7
comp=Z,0.7nm,0.4s
MSVF Nonsavu 78.00 105 LR LR 16 24 05.9
comp=Z,61nm,21.7s,baz=185,slow=34
KBZ Khabaz 79.59 325 P P 15 51 31.1 +0.5
comp=Z,5.4nm,0.7s,baz=132,slow=5.7,SNR=11
comp=Z,5.4nm,0.7s
ARTI Arti 82.49 341 P P 15 51 45.3 -0.6
comp=Z,6.1nm,1.0s,baz=140,slow=2.0,SNR=4.8
comp=Z,6.1nm,1.0s
BRTR Keskin Array B 82.61 317 P P 15 51 46.6 -0.5
comp=Z,1.2nm,0.7s,baz=167,slow=5.6,SNR=8.1
comp=Z,1.2nm,0.7s
YAK Yakutsk 86.88 16 P P 15 52 06.6 -1.2
NRIK Noril'sk 89.75 357 P P 15 52 20.9 -0.5
NRIK IAmb IAmb 15 52 22.1
comp=Z,13nm,1.2s
NRIK Noril'sk 89.75 357 P P 15 52 21.1 -0.2
comp=Z,3.7nm,0.5s,baz=140,slow=3.3,SNR=9.8
comp=Z,3.7nm,0.5s
AKASG Malin Array Be 91.20 325 LR LR 16 32 12.3
comp=Z,19nm,21.8s,baz=56,slow=35
PETK Petropavlovsk- 91.26 33 P P 15 52 27.4 -1.4
comp=Z,0.7nm,0.6s,baz=266,slow=2.4,SNR=4.6
comp=Z,0.7nm,0.6s
GERES GERESS Array B 99.44 319 LR LR 16 40 31.0
comp=Z,20nm,18.3s,baz=236,slow=37
PPT2 Papeete2 106.52 116 *e*LR LR 16 28 42.4
comp=Z,74nm,25.0s
TAOE Nuku Hiva Isla 118.74 113 *e*LR LR 16 34 22.9
comp=Z,45nm,24.4s
BDFB Brasilia 128.65 228 PKP PKPdf 15 58 31.5 -0.4
comp=Z,2.2nm,0.4s,baz=104,slow=0.6,SNR=4.0
YKA Yellowknife Ar 133.50 18 PKP PKPdf 15 58 38.5 -1.0
comp=Z,0.6nm,0.8s,baz=321,slow=2.6,SNR=6.8
NVAR Mina Array Bea 146.46 51 PKPbc PKPbc 15 59 05.7 +0.3
comp=Z,8.4nm,0.7s,baz=259,slow=4.5,SNR=55
ULM Lac du Bonnet 149.19 13 PKPbc PKPbc 15 59 10.8 -1.3
comp=Z,7.0nm,0.6s,baz=338,slow=3.1,SNR=18
PDAR Pinedale Array 149.93 37 PKPbc PKPbc 15 59 13.5 -1.0
comp=Z,1.3nm,0.6s,baz=179,slow=0.9,SNR=15
TXAR Lajitas Array 161.24 59 PKP PKPdf 15 59 24.2 -0.7
comp=Z,1.0nm,0.8s,baz=308,slow=0.2,SNR=7.1
TXAR PKPab **PKPab 16 00 08.7 +0.1**
comp=Z,0.4nm,0.7s,baz=292,slow=3.5,SNR=4.2

---

*NEIC **01** 15:44:03.5±1.6, 50.°8N±0.°1×171.°28W±0.°07, h10km±2km, mb3.6/16, Error ellipse: s-maj=19.5km s-min=6.1km az=195.0*
*IDC **01** 15:44:03.2±1.4, 51.°25N×171.°78W, h0km, mb3.7/4, mbtmp3.5/6, ML2.7/2, Error ellipse: s-maj=44.0km s-min=26.6km az=162.0*
ISC 01 15:44:06.6±1.1, 51.°0N±0.°2×171.°42W±0.°08, h22km, n35, σ1§36/35, mb3.6/6, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**2.13**	**307**		**Pn**	**15 44 40.8**	**0.0**
NIKH	**Nikolski High**	**2.56**	**37**	Pn	**Pn**	**15 44 46.2**	**-0.5**
GSTR	**Great Sitkin T**	**3.11**	**293**	Pn	**Pn**	**15 44 55.9**	**+1.6**
ADK	**Adak**	**3.42**	**288**	Pn	**Pn**	**15 44 58.0**	**-0.5**
UNV	**Unalaska Valle**	**4.17**	**44**	Pn	**Pn**	**15 45 08.1**	**-0.7**
CNBA	**Chernabura Isl**	**8.13**	**57**	Pn	**Pn**	**15 46 02.5**	**-0.6**
CHIR	**Chirikof Islan**	**10.61**	**57**	Pn	**Pn**	**15 46 35.2**	**-1.9**
OHAK	**Old Harbor**	**12.33**	**52**	Pn	**Pn**	**15 46 58.9**	**-1.7**
KDAK	**Kodiak Island**	**12.90**	**51**	Pn	**Pn**	**15 47 05.7**	**-2.7**
	0.2nm,0.3s,baz=311,slow=1.7,SNR=7.9						
Q19K	**Cape Douglas,**	**12.93**	**45**	Pn	**Pn**	**15 47 08.8**	**-0.1**
ILSW	**Iliamna Southw**	**13.71**	**42**	Pn	**Pn**	**15 47 20.5**	**+1.1**
CNPM	**China Poot**	**14.30**	**45**	Pn	**Pn**	**15 47 25.7**	**-1.9**
J18K	**Innoko River**	**14.79**	**27**	P	**P**	**15 47 41.2**	**+1.3**
SLKM	**Skilak Lake**	**15.22**	**43**	Pn	**Pn**	**15 47 39.0**	**-1.0**
SLKM				IAmb	IAmb	15 47 49.3	
	comp=Z,4.4nm,1.1s						
CAST	**Castle Rocks**	**16.20**	**32**	P	**P**	**15 47 56.5**	**+0.9**
KNK	**Knik Glacier**	**16.42**	**42**	Pn	**Pn**	**15 47 54.2**	**-1.2**
KNK				IAmb	IAmb	15 47 54.6	
	comp=Z,2.6nm,0.6s						
KTH	**Kantishna Hill**	**16.69**	**33**	P	**Pn**	**15 48 00.6**	**+1.8**
KTH				IAmb	IAmb	15 48 06.5	
	comp=Z,3.5nm,1.0s						
BPAW	**Bear Paw Mtn.**	**17.02**	**32**	P	**Pn**	**15 48 04.9**	**+2.0**
HMT	**Hamilton**	**17.84**	**48**		**Pn**	**15 48 12.9**	**-0.3**
N25K	**Chitina, Valde**	**18.16**	**44**	P	**Pn**	**15 48 17.9**	**+0.8**
N25K				IAmb	IAmb	15 48 23.1	
	comp=Z,2.3nm,0.7s						
ILAR	**Eielson Array**	**18.83**	**33**	P	**P**	**15 48 22.6**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=231,slow=10,SNR=4.7						
	comp=Z,0.3nm,0.8s						
PETK	**Petropavlovsk-**	**19.05**	**289**	P	**P**	**15 48 23.4**	**-3.6**
	baz=95,slow=12,SNR=1.6						
	comp=Z,1.2nm,1.0s						
H24K	**Noodor Dome**	**19.16**	**30**	P	**P**	**15 48 28.9**	**+0.8**
J25K	**Salcha River,**	**19.28**	**35**	P	**P**	**15 48 28.9**	**-0.7**
SCRK	**Sand Creek**	**19.47**	**38**	P	**P**	**15 48 31.5**	**-0.3**
SCRK				IAmb	IAmb	15 48 57.7	
	comp=Z,5.9nm,1.5s						
J26L	**Joseph Creek**	**19.89**	**36**	P	**P**	**15 48 35.6**	**-0.6**
J26L				IAmb	IAmb	15 49 11.3	
	comp=Z,4.8nm,1.4s						
BILL	**Bilibino**	**20.31**	**336**	P	**P**	**15 48 41.1**	**+0.5**
I28M	**Miner Creek**	**21.70**	**36**	P	**P**	**15 48 55.9**	**+0.1**
I28M				IAmb	IAmb	15 49 01.7	
	comp=Z,2.4nm,0.7s						
H29M	**Whitestone**	**22.62**	**35**	P	**P**	**15 49 05.6**	**0.0**
G29M	**Pine Creek**	**23.06**	**34**	P	**P**	**15 49 09.8**	**-0.3**
R33M	**Jennings River**	**24.25**	**54**	P	**P**	**15 49 20.6**	**-1.1**
R33M				IAmb	IAmb	15 49 26.3	
	comp=Z,1.2nm,0.9s						
INK	**Inuvik**	**25.22**	**32**	P	**P**	**15 49 29.5**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=273,slow=8.2,SNR=3.7						
	comp=Z,0.4nm,0.4s						
PDAR	**Pinedale Array**	**41.95**	**76**	P	**P**	**15 51 57.1**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=304,slow=6.3,SNR=5.6						
	comp=Z,0.8nm,0.9s						
TXAR	**Lajitas Array**	**54.08**	**86**	P	**P**	**15 53 31.0**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=298,slow=5.1,SNR=13						
	comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**88.51**	**228**	P	**P**	**15 56 57.5**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=24,slow=4.5,SNR=4.7						
	comp=Z,0.4nm,0.7s						

IDC 01 15:56:34.0±1.4, 19.°13N×120.°90E, h0km, mb3.3/3, mbtmp3.3/3, MS2.7/1, Error ellipse: s-maj=84.8km s-min=31.3km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**19.27**	**17**	LR	LR	16 09 23.7	
	comp=Z,24nm,19.9s,baz=305,slow=40						
MKAR	**Makanchi Array**	**41.90**	**320**	P	P	16 04 26.0	-0.2
	0.2nm,0.7s,baz=130,slow=8.6,SNR=2.5						
	0.2nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**43.27**	**81**	T	T	16 50 11.1	
	baz=277,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**43.28**	**81**	T	T	16 50 13.4	
	baz=277,slow=75,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**43.29**	**81**	T	T	16 50 13.4	
	baz=277,slow=75,SNR=6.7						
ASAR	**Alice Springs**	**44.39**	**163**	P	P	16 04 46.4	-0.1
	0.1nm,0.5s,baz=346,slow=7.0,SNR=7.4						
	0.1nm,0.5s						
YKA	**Yellowknife Ar**	**87.72**	**23**	P	P	16 09 24.5	0.0
	0.5nm,0.8s,baz=311,slow=4.6,SNR=6.1						
	0.5nm,0.8s						

---

*ISN **01** 16:06:27.6±1.1, 33.°73N×46.°09E, h6km±13km, ML2.7*
*TEH **01** 16:06:39.0, 33.°71N×46.°11E, h10km*
ISC 01 16:06:34.3±1.1, 33.°49N±0.°05×45.°77E±0.°07, h10km, n6, σ2§55/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.40**	**161**	*e*Pg	**Pg**	**16 06 40.0**	**-2.1**
IBDR				*e*Sg	**Sg**	**16 06 49.0**	**+1.7**
IBDR				AML	AML	16 06 56.0	
	comp=E,421nm,0.4s						
IBDR				AML	AML	16 06 56.6	
	comp=N,368nm,0.9s						
KGS1	**Ghasr-e-Shirin**	**1.03**	**351**	Pg	**Pn**	**16 06 55.7**	**+0.9**
KGS1				Sg	**Sn**	**16 07 11.0**	**+1.7**
BHD	**Baghdad**	**1.19**	**260**	*e*Pg	**Pn**	**16 06 56.0**	**-0.9**
BHD				*e*Sg	**Sn**	**16 07 17.0**	**+3.9**
IDHR	**Dehrash**	**1.31**	**23**	Pg	**Pn**	**16 06 58.0**	**-0.9**
IKFM	**Kafar-mosalman**	**1.73**	**88**	Pg	**Pg**	**16 07 07.7**	**+0.2**
IKRK	**Kirkuk**	**2.25**	**329**	*e*Pn	Pn	16 07 06.0	-5.5
IKRK				*e*Sn	**Sn**	**16 07 36.0**	**-3.3**

IDC 01 16:24:56.8±2.6, 10.°91N×125.°75E, h0km, mb3.4/5, mbtmp3.4/5, MS3.0/1, Error ellipse: s-maj=252.0km s-min=21.6km az=67.0, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**5.67**	**305**	LR	LR	16 29 18.1	
	comp=Z,160nm,20.9s,baz=113,slow=46						
WRA	**Warramunga Arr**	**31.80**	**165**	P	P	16 31 22.9	-0.4
	0.2nm,0.5s,baz=344,slow=8.3,SNR=1.6						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**35.27**	**167**	P	P	16 31 53.6	+0.1
	0.2nm,0.3s,baz=345,slow=7.0,SNR=11						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**51.21**	**323**	P	P	16 34 02.4	+0.3
	0.3nm,0.7s,baz=125,slow=8.8,SNR=4.3						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**53.83**	**331**	P	P	16 34 20.3	-1.0
	0.3nm,0.3s,baz=121,slow=7.6,SNR=2.5						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**55.26**	**325**	P	P	16 34 32.1	+0.4
	0.3nm,0.6s,baz=126,slow=7.2,SNR=3.0						
	0.3nm,0.6s						

OTT 01 16:27:06.3±0.1, 64.°93N×88.°07W, h18km, MN3.6/11, 197km southwest from Repulse Bay, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLKN	**Baker Lake**	**3.47**	**263**	PN	Pn	16 27 58.9	-0.5
BLKN				SN	Sn	16 28 37.5	-2.4
BLKN				LG	Lg	16 28 52.8	
BLKN				Trac		16 28 53.3	
	comp=Z,88nm,0.2s						
ILON	**Igloolik, Nuna**	**5.08**	**26**	PN	Pn	16 28 20.5	-0.8
ILON				SN	Sn	16 29 16.2	-3.1
ILON				LG	Lg	16 29 44.2	
ILON				Trac		16 29 47.5	
	comp=Z,88nm,0.3s						
FCC	**Fort Churchill**	**6.81**	**207**	PN	Pn	16 28 43.9	-1.3
FCC				SN	Sn	16 29 57.5	-4.7
FCC				LG	Lg	16 30 37.4	
FCC				Trac		16 30 45.7	
	comp=Z,17nm,0.3s						
CB31	**Cambridge Bay**	**7.87**	**310**	PN	Pn	16 28 57.9	-1.6
CB31				SN	Sn	16 30 22.2	-5.7
CB31				LG	Lg	16 31 09.3	
FRB	**Frobisher Bay**	**8.55**	**89**	PN	Pn	16 29 07.5	-1.3
FRB				SN	Sn	16 30 37.9	-6.7
FRB				LG	Lg	16 31 31.4	
FRB				Trac		16 31 37.7	
	comp=Z,26nm,0.3s						
POIN	**Pond Inlet**	**8.60**	**21**	PN	Pn	16 29 08.2	-1.4
POIN				SN	Sn	16 30 39.6	-6.4
POIN				LG	Lg	16 31 32.7	
POIN				Trac		16 31 41.0	
	comp=Z,11nm,0.3s						
CLRN	**Clyde River**	**9.22**	**44**	PN	Pn	16 29 19.4	+1.4
CLRN				SN	Sn	16 30 54.0	-7.2
CLRN				LG	Lg	16 31 54.5	
CLRN				Trac		16 32 00.2	
	comp=Z,31nm,0.3s						
SAKN	**Sanikiluaq**	**9.46**	**149**	PN	Pn	16 29 20.3	-1.1
SAKN				SN	Sn	16 30 59.9	-7.2
SAKN				LG	Lg	16 32 01.0	
SAKN				Trac		16 32 09.2	
	comp=Z,2.8nm,0.1s						
RES	**Resolute Bay**	**10.07**	**350**	PN	Pn	16 29 28.3	-1.4
RES				SN	Sn	16 31 14.4	-7.5
RES				LG	Lg	16 32 19.5	
RES				Trac		16 32 26.0	
	comp=Z,14nm,0.6s						
KUKN	**Kugluktuk,NWT**	**11.17**	**297**	PN	Pn	16 29 43.5	-1.3
KUKN				SN	Sn	16 31 39.9	-9.1
KUKN				LG	Lg	16 32 49.0	
KUKN				Trac		16 32 53.6	
	comp=Z,2.9nm,0.2s						
KUQ	**Kuujjuuaa**	**11.57**	**117**	SN	Sn	16 31 52.7	-6.0
KUQ				LG	Lg	16 33 10.1	
KUQ				Trac		16 33 34.0	
	comp=Z,45nm,1.1s						
YKAW1	**Yellowknife Wh**	**11.93**	**270**	PN	Pn	16 29 54.1	-1.0
YKAW1				SN	Sn	16 31 57.0	-10
YKAW1				LG	Lg	16 33 16.6	
YKAW3	**Yellowknife Wh**	**11.95**	**271**	PN	Pn	16 29 53.5	-2.0
YKAW3				SN	Sn	16 31 58.4	-10
FL31	**Flin Flon Arra**	**12.37**	**221**	PN	Pn	16 30 03.5	+2.2
FL31				SN	Sn	16 32 08.8	-10
SCHQ	**Schefferville**	**14.61**	**124**	PN	Pn	16 30 28.5	-3.3
SCHQ				SN	Sn	16 33 01.2	-12
SCHQ				Trac		16 34 47.6	
	comp=Z,217nm,2.9s						
SOLO	**Sioux Lookout**	**15.10**	**190**	PN	Pn	16 30 36.6	-1.8
SOLO				SN	Sn	16 33 13.2	-12
SOLO				Trac		16 35 01.1	
	comp=Z,14nm,0.7s						
EUNU	**Eureka**	**15.21**	**1**	PN	Pn	16 30 38.0	-1.8
EUNU				SN	Sn	16 33 13.9	-14
FNSB	**Fort Nelson**	**17.28**	**265**	SN	Sn	16 33 56.9	-21

---

*BKK **01** 16:28:17.6±1.3, 7.°N±8.°×9.°4E±.°, h19km±12km, M4.6/9, mB5.0/3, mb4.7/5, Mjma4.1/9, ML4.8/7, MLv4.7/8, Mw(mB)4.3/3*
*NDI **01** 16:28:18.5±0.5, 7.°49N×94.°30E, h10km, ML4.0, MW4.2, mb4.5(NEIC)*
*IDC **01** 16:28:19.2±1.2, 7.°43N×94.°27E, h0km, mb3.7/7, mbtmp3.7/9, ML3.9/2, MS3.4/2, Error ellipse: s-maj=56.7km s-min=17.7km az=55.0*
*NEIC **01** 16:28:20.6±0.6, 7.°52N±0.°07×94.°25E±0.°09, h5km±5km, mb4.5/4, Error ellipse: s-maj=13.7km s-min=9.1km az=119.0*
*DJA **01** 16:28:28.0±1.4, 8.°N±3.°×9.°5E±.°, h23km±13km, M4.2/9, mB5.7/2, mb4.2/6, MLv4.2/9, Mw(mB)5.2/2*
ISC 01 16:28:20.3±0.5, 7.°48N±0.°04×94.°15E±0.°06, h10km, n38, σ1§71/36, mb3.8/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.51**	**205**	*e*P	**Pg**	**16 28 27.9**	**-2.4**
CMBY				*e*S	**Sg**	**16 28 34.8**	**-2.3**
CMBY				IAML		16 28 50.5	
	comp=E,11μm,0.7s						
CMBY				IAML		16 28 52.3	
	comp=N,9μm,0.5s						
BSI	**Banda Aceh**	**2.28**	**150**	P	**Pg**	**16 29 03.4**	**-0.6**
BSI				S	**Sb**	**16 29 28.7**	**-1.1**
LHMI	**Lhok Sumawe**	**3.57**	**129**	Pn	**Pn**	**16 29 16.8**	**+1.0**
LHMI	**Lhok Sumawe**	**3.57**	**129**	P	**Pn**	**16 29 17.3**	**+1.5**
LHMI				S	**Sn**	**16 29 55.4**	**-2.7**
MLSI	**Meulaboh, Aceh**	**3.90**	**145**	P	**Pn**	**16 29 22.1**	**+1.8**
PBA	**Port Blair**	**4.38**	**342**	*e*P	**Pn**	**16 29 26.1**	**-0.8**
PBA				*e*S	**Sn**	**16 30 14.9**	**-3.0**
RNTT	**Ranong**	**4.69**	**66**	P	**Pn**	**16 29 31.4**	**+0.2**
SRIT	**Nakonsritamara**	**5.52**	**78**	Pn	**Pn**	**16 29 42.7**	**+0.2**
SRIT	**Nakonsritamara**	**5.52**	**78**	P	**Pn**	**16 29 42.8**	**+0.2**
DGPR	**DIGLIPUR**	**5.79**	**348**	*e*P	**Pn**	**16 29 44.5**	**-1.8**
DGPR				*e*S	**Sn**	**16 30 47.2**	**-5.6**
PSI	**Prapat**	**6.65**	**134**	Pn	**Pn**	**16 29 59.3**	**+1.0**
	comp=N,1.0nm,0.3s,baz=322,slow=13,SNR=5.1						
	comp=N,3.8nm,0.3s						
RPSI	**Rantau Prapat**	**6.72**	**135**		**Pn**	**16 29 59.3**	**+0.1**
KULM	**Kulim**	**6.82**	**108**	Pn	**Pn**	**16 29 59.8**	**-0.6**
GSI	**Gunungsitoli**	**7.02**	**151**	P	**Pn**	**16 30 06.3**	**+3.0**
	comp=N,0.1nmcomp=N,11nm,0.9s						
SRDT	**SRDT**	**8.39**	**35**	P	**Pn**	**16 30 22.3**	**+0.2**
MYKOM	**Kota Tinggi**	**11.20**	**120**	Pn	**Pn**	**16 30 60.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**11.87**	**23**	Pn	**Pn**	**16 31 10.8**	**+1.0**
	comp=N,0.5nm,0.3s,baz=213,slow=14,SNR=8.2						
	comp=N,0.7nm,0.5s						
H08S3	**Diego Garcia H**	**26.30**	**236**	T	T	17 00 42.7	
	baz=54,slow=75,SNR=26						
H08S2	**Diego Garcia H**	**26.30**	**236**	T	T	17 00 47.0	
	baz=54,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**26.32**	**236**	T	T	17 00 47.5	
	baz=54,slow=75,SNR=9.6						
NIL	**Nilore**	**32.43**	**326**	P	**P**	**16 34 51.9**	**+1.2**
JOW	**Kunigami**	**37.67**	**55**	P	**P**	**16 35 36.0**	**0.0**
AAK	**Ala-Archa**	**39.07**	**337**	P	**P**	**16 35 49.6**	**+1.9**
	comp=N,0.3nm,0.3s,baz=200,slow=9.9,SNR=4.1						
AAK				LR	LR	16 53 44.5	
	comp=N,61nm,18.3s,baz=174,slow=39						
	comp=N,0.3nm,0.3s						
MSEY	**Mahe Island**	**40.43**	**254**	P	**P**	**16 36 00.3**	**+1.0**
MSEY				IAmb	IAmb	16 36 40.7	
	comp=Z,14nm,0.9s						
MKAR	**Makanchi Array**	**40.47**	**347**	P	**P**	**16 35 59.5**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=172,slow=8.2,SNR=13						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**44.93**	**346**	P	**P**	**16 36 36.2**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=167,slow=7.1,SNR=9.7						
	comp=Z,0.8nm,0.4s						
WRA	**Warramunga Arr**	**48.03**	**125**	P	**P**	**16 36 58.8**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=305,slow=8.6,SNR=5.4						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**49.66**	**130**	P	**P**	**16 37 12.1**	**-0.5**
ASAR	**Alice Springs**	**49.66**	**130**	P	**P**	**16 37 11.9**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=302,slow=8.1,SNR=8.5						
	comp=Z,0.4nm,0.8s						
ABKAR	**Akbulak array**	**50.58**	**332**	P	**P**	**16 37 19.7**	**+0.5**
MMAI	**Mount Meron Ar**	**59.84**	**304**	LR	LR	17 09 00.9	
	comp=Z,24nm,19.1s,baz=146,slow=41						
H04N2	**CROZET ISLANDS**	**65.39**	**211**	T	T	17 49 32.6	
	baz=47,slow=74,SNR=7.9						
H04N1	**CROZET ISLANDS**	**65.40**	**211**	T	T	17 49 31.6	
	baz=47,slow=74,SNR=7.7						
H04N3	**CROZET ISLANDS**	**65.41**	**211**	T	T	17 49 35.0	
	baz=47,slow=74,SNR=7.3						
TIXI	**Tiksi**	**67.62**	**11**	P	**P**	**16 39 15.8**	**-1.1**
TIXI				IAmb	IAmb	16 39 31.6	
	comp=Z,2.3nm,0.8s						
GERES	**GERESS Array B**	**78.12**	**318**	P	**P**	**16 40 21.4**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=92,slow=5.6,SNR=4.3						
	comp=Z,0.2nm,0.4s						
HFS	**Hagfors**	**78.80**	**330**	P	**P**	**16 40 24.2**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=108,slow=4.7,SNR=4.5						
	comp=Z,0.9nm,0.6s						
SPITS	**Spitsbergen Ar**	**80.22**	**348**	P	**P**	**16 40 31.7**	**+1.0**
	comp=Z,19nm,1.2s,baz=81,slow=9.1,SNR=1.5						

---

*ISN **01** 16:30:48.4±0.3, 33.°64N×45.°50E, h12km±6km, ML2.9*
*TEH **01** 16:30:55.8, 33.°91N×45.°85E, h14km*
ISC 01 16:30:49.6±1.0, 33.°61N±0.°04×45.°64E±0.°06, h10km, n7, σ0§83/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.55**	**24**	Pg	**Pg**	**16 31 00.4**	**0.0**
IBDR	**Badra**	**0.56**	**154**	*e*Pg	**Pg**	**16 31 01.0**	**+0.6**
IBDR				*e*Sg	**Sb**	**16 31 10.0**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**0.89**	**358**	Pg	**Pg**	**16 31 08.4**	**+1.5**
IGHG	**Ghaleghazi**	**1.06**	**47**	Pg	**Pg**	**16 31 10.2**	**+0.3**
BHD	**Baghdad**	**1.10**	**252**	*e*Pn	**Pb**	**16 31 10.0**	**-0.8**
BHD				*e*Sn	**Sb**	**16 31 26.0**	**+0.8**
IDHR	**Dehrash**	**1.25**	**30**	Pg	**Pn**	**16 31 13.4**	**0.0**
IKRK	**Kirkuk**	**2.08**	**329**	*e*Pn	**Pn**	**16 31 24.0**	**-0.6**
IKRK				*e*Sn	**Sn**	**16 31 50.0**	**-0.6**
IKRK				AML	AML	16 32 02.6	
	comp=E,124nm,0.6s						
IKRK				AML	AML	16 32 02.6	
	comp=N,136nm,0.5s						

---

*IDC **01** 16:34:12.2±0.9, 9.°68S×159.°12E, h0km, mb3.7/6, mbtmp3.8/7, ML3.9/1, MS3.0/2, Error ellipse: s-maj=36.0km s-min=13.7km az=161.0*
*NEIC **01** 16:34:14.3±2.6, 9.°5S±0.°2×159.°08E±0.°07, h10km±2km, mb4.3/5, Error ellipse: s-maj=33.0km s-min=10.9km az=180.0*
ISC 01 16:34:16.2±0.8, 9.°6S±0.°2×159.°12E±0.°09, h27km, n23, σ0§91/17, mb3.7/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.84**	**76**	Pg	**Pn**	**16 34 31.5**	**-0.7**
HNR	**Honiara**	**0.84**	**76**	Pn	**Pn**	**16 34 31.7**	**-0.4**
	155nm,0.3s,baz=215,slow=3.5,SNR=158						
HNR				LR	LR	16 34 39.1	
	comp=Z,82nm,19.3s,baz=152,slow=32						

comp=Z,20nm,1.4s
PEA0B Petropavlovsk- 62.50 359 P P 16 44 36.1 -1.1
PETK Petropavlovsk- 62.50 359 P P 16 44 36.1 -1.1
CMAR Chiang Mai Arr 65.60 295 P P 16 44 58.2 0.0
comp=Z,0.4nm,0.3s,baz=111,slow=5.9,SNR=5.6
comp=Z,0.4nm,0.3s
ILAR Eielson Array 84.36 20 P P 16 46 46.9 +1.3
comp=Z,0.1nm,0.5s,baz=210,slow=4.4,SNR=1.5
comp=Z,0.1nm,0.5s
MKAR Makanchi Array 88.08 318 P P 16 47 04.3 -0.1
MKAR Makanchi Array 88.08 318 P P 16 47 04.4 +0.1
comp=Z,0.3nm,0.5s,baz=112,slow=4.5,SNR=3.6
comp=Z,0.3nm,0.5s

---

*NOU **01** 16:41:58.9, 19°.69S×176°.27W, h541km, MLv4.5/10, Fiji Islands Region*
*NEIC **01** 16:42:05.9±1.5, 20°.33S±0°.1×177°.4W±0°.1, h516km±9km, mb4.2/37, Error ellipse: s-maj=19.5km s-min=13.5km az=140.0*
*IDC **01** 16:42:08.8±1.2, 20°.32S×177°.84W, h532km±11km, mb3.3/15, mbtmp4.2/18, Error ellipse: s-maj=15.8km s-min=11.8km az=147.0*
ISC 01 16:42:05.4±0.5, 20°.33S±0°.09×177°.56W±0°.07, h500km, n116, σ1§42/117, mb4.1/33, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.89	301	P	P	16 43 34.8	+3.2
MSVF	Nonsavu	4.89	301	P	P	16 43 34.3	+2.7
	11nm,0.4s,baz=280,slow=23,SNR=27						
MSVF				S	S	16 44 45.0	+3.3
	6.4nm,0.9s,baz=335,slow=22,SNR=1.1						
MSVF	Nonsavu	4.89	301	P	P	16 43 34.6	+3.0
FUTU	Fugatoga	6.02	355	P	P	16 43 43.9	+1.9
NIUE	Niue	7.30	81	P	P	16 43 54.8	+0.1
AFI	Afiamalu	8.45	42	P	P	16 44 06.0	-0.7
PINNC	Pines Island,	14.14	258	P	P	16 45 09.2	+2.6
DZM	Mont Dzumac	15.02	261	P	P	16 45 18.1	+2.1
DZM				IAmb	IAmb	16 45 21.3	
	comp=Z,8.1nm,0.7s						
DZM	Mont Dzumac	15.02	261	P	P	16 45 17.6	+1.6
	comp=Z,7.8nm,0.8s,baz=85,slow=22,SNR=4.4						
DZM	Mont Dzumac	15.02	261	P	P	16 45 21.0	+5.0
OUZ	Omahuta	16.75	206	P	P	16 45 37.0	+3.3
HAZ	Te Kaha	17.83	192	P	P	16 45 45.4	+1.4
PKGZ	Pakihiroa	17.88	191	P	P	16 45 47.5	+3.0
PUZ	Puketiti	18.05	191	P	P	16 45 46.9	+0.9
RUGZ	Raukumara Rang	18.05	192	P	P	16 45 47.8	+1.6
TGRZ	Tauranga	18.15	196	P	P	16 45 49.6	+2.6
TWGZ	Tauwhareparae	18.20	191	P	P	16 45 49.3	+1.8
MWZ	Matawai	18.44	192	P	P	16 45 49.6	0.0
URZ	Urewera	18.45	193	P	P	16 45 49.1	-0.6
	comp=Z,19nm,0.3s,baz=1.1,slow=2.8,SNR=36						
URZ	Urewera	18.45	193	P	P	16 45 49.5	-0.2
URZ	Urewera	18.45	193	P	P	16 45 48.0	-1.7
CNGZ	Carnagh Statio	18.45	191	P	P	16 45 51.5	+1.8
TKGZ	Te Karaka	18.48	191	P	P	16 45 50.7	+0.8
RAGZ	Rawiri	18.61	192	P	P	16 45 52.1	+0.7
RIGZ	Rimuhau	18.75	191	P	P	16 45 53.3	+0.8
RTZ	Ruatahuna	18.82	193	P	P	16 45 52.6	-0.6
RTZ	Ruatahuna	18.82	193	P	P	16 45 52.7	-0.6
SNGZ	Shannon Statio	18.91	192	P	P	16 45 54.5	+0.6
KNZ	Kokohu	19.07	191	P	P	16 45 56.1	+0.7
MTHZ	Maungataniwha	19.08	193	P	P	16 45 56.3	+0.8
RAHZ	Arahi	19.09	193	P	P	16 45 56.3	+0.8
MRHZ	Matea Rd	19.16	194	P	P	16 45 56.0	-0.3
NMHZ	Naumai	19.32	193	P	P	16 45 58.8	+1.1
BKZ	Black Stump Fm	19.46	194	P	P	16 45 58.0	-1.0
BKZ	Black Stump Fm	19.46	194	P	P	16 45 57.7	-1.2
TMVZ	Te Maari	19.60	196	P	P	16 46 00.9	+0.5
MCHZ	McNeill Hill	19.68	193	P	P	16 46 02.1	+1.2
SNVZ	South Ngauruho	19.68	196	P	P	16 46 01.5	+0.3
TUVZ	Tukino	19.75	196	P	P	16 46 02.1	+0.3
VRZ	Vera Road	19.86	198	P	P	16 46 04.0	+1.4
KRHZ	Kereru	19.94	194	P	P	16 46 00.3	-3.1
KAHZ	Kahuranaki	19.98	193	P	P	16 46 04.2	+0.5
PXZ	Pawanui	20.21	192	P	P	16 46 05.9	+0.2
PNHZ	Pukenui	20.24	194	P	P	16 46 05.4	-0.7
BFZ	Birch Farm	20.96	193	P	P	16 46 12.2	-0.4
TCW	Tory Channel	21.94	197	P	P	16 46 21.6	+0.2
QRZ	Quartz Range	22.11	200	P	P	16 46 23.5	+0.6
KHZ	Kahutara	23.26	197	P	P	16 46 33.0	-0.2
LTZ	Lake Taylor	23.96	199	P	P	16 46 38.6	-1.0
TATA	Tatamba Isabel	24.90	295	P	P	16 46 47.0	-1.2
JCZ	Jackson Bay	26.27	203	P	P	16 47 00.5	+0.5
EIDS	Eidsvold	29.29	254	P	P	16 47 27.0	+0.4
TOO	Toolangi	36.33	234	P	P	16 48 27.1	+0.8
COEN	Coen	37.98	273	P	P	16 48 40.1	-0.1
STKA	Stephens Creek	38.23	244	P	P	16 48 42.4	+0.3
STKA	Stephens Creek	38.23	244	P	P	16 48 42.0	0.0
	comp=Z,1.0nm,0.5s,baz=108,slow=14,SNR=2.8						
	comp=Z,1.0nm,0.5s						
MGBR	Mount Gambier	40.13	235	P	P	16 48 56.7	-0.6
BBOO	Buckleboo	42.99	243	P	P	16 49 19.7	-0.4
JAY	Jayapura	44.38	288	P	P	16 49 30.5	-0.7
	comp=Z,14nm,0.7s,baz=88,slow=4.4,SNR=7.3						
	comp=Z,14nm,0.7s						
AS31	Alice Springs	44.96	257	P	P	16 49 35.1	-0.4
ASAR	Alice Springs	44.96	257	P	P	16 49 34.6	-0.9
ASAR	Alice Springs	44.96	257	P	P	16 49 35.2	-0.4
	comp=Z,9.1nm,0.8s,baz=89,slow=8.3,SNR=150						
ASAR				PcP	PcP	16 51 05.3	-1.1
	comp=Z,1.0nm,0.6s,baz=104,slow=3.7,SNR=8.8						
ASAR				S	S	16 55 32.9	-4.2
	comp=Z,0.8nm,0.8s,baz=97,slow=14,SNR=6.1						
	comp=Z,9.1nm,0.8s						
WB0	Warramunga Arr	45.01	262	P	P	16 49 35.0	-0.9
WB2	Warramunga Arr	45.02	262	P	P	16 49 35.1	-1.0
WB2				IAmb	IAmb	16 49 35.8	
	comp=Z,8.7nm,1.1s						
WRAB	Tennant Creek	45.02	262	P	P	16 49 35.1	-1.0
WRAB				IAmb	IAmb	16 49 35.7	
	comp=Z,4.8nm,1.0s						
WRA	Warramunga Arr	45.03	262	P	P	16 49 35.1	-1.1
WRA	Warramunga Arr	45.03	262	P	P	16 49 35.0	-1.1
	comp=Z,2.9nm,0.4s,baz=97,slow=7.8,SNR=122						
WRA				PcP	PcP	16 51 05.5	-1.2
	comp=Z,0.6nm,0.7s,baz=96,slow=3.1,SNR=3.2						
WRA				S	S	16 55 32.5	-5.7
	comp=Z,0.3nm,0.7s,baz=95,slow=12,SNR=7.5						
	comp=Z,2.9nm,0.4s						
HATHI	Halema'uma'u T	45.15	30	P	P	16 49 34.8	-2.3
MTN	Manton Dam	49.58	270	P	P	16 50 09.3	-1.1
FORT	Forrest	49.74	246	P	P	16 50 10.8	-0.6
FORT				IAmb	IAmb	16 50 26.0	
	comp=Z,17nm,1.0s						
KNRA	Kununurra	51.08	266	P	P	16 50 20.6	-0.8
KNRA				IAmb	IAmb	16 50 48.9	
	comp=Z,16nm,1.4s						
FITZ	Fitzroy Crossi	53.46	262	P	P	16 50 38.3	-0.2
PSA00	Pilbara Seismi	58.11	257	P	P	16 51 10.1	-0.8
MBWA	Marble Bar	58.29	257	P	P	16 51 11.2	-0.9
MBWA				IAmb	IAmb	16 51 14.2	
	comp=Z,14nm,1.4s						
MORW	Morawa	60.27	247	P	P	16 51 25.0	-0.2
MORW				IAmb	IAmb	16 51 25.5	
	comp=Z,18nm,1.4s						
QSPA	South Pole Qui	69.73	180	P	P	16 52 25.9	+1.5
QSPA	South Pole Qui	69.73	180	P	P	16 52 26.1	+1.7
	comp=Z,1.1nm,0.6s,baz=166,slow=0.8,SNR=9.5						
	comp=Z,1.1nm,0.6s						
MJAR	Matsushiro Arr	70.32	323	P	P	16 52 27.2	-1.1
	comp=Z,1.4nm,0.6s,baz=159,slow=5.8,SNR=5.1						
	comp=Z,1.4nm,0.6s						
JKA	Kamikawa-asahi	73.78	331	P	P	16 52 49.2	+1.1
JKA				IAmb	IAmb	16 53 03.5	
	comp=Z,22nm,1.5s						
PEA0B	Petropavlovsk-	76.22	345	P	P	16 53 01.4	-0.2
PEA0B				IAmb	IAmb	16 53 22.0	
	comp=Z,11nm,1.1s						
PETK	Petropavlovsk-	76.22	345	P	P	16 53 01.2	-0.4
PETK	Petropavlovsk-	76.22	345	P	P	16 53 00.9	-0.6
	comp=Z,2.5nm,0.7s,baz=130,slow=8.0,SNR=5.6						
	comp=Z,2.5nm,0.7s						
KSRS	Korea Array	77.04	318	P	P	16 53 06.5	+0.1
	comp=Z,0.6nm,0.6s,baz=123,slow=6.0,SNR=2.5						
	comp=Z,0.6nm,0.6s						
USRK	Ussuriysk Ar.	79.06	326	P	P	16 53 17.9	+0.7
USRK	Ussuriysk Ar.	79.06	326	P	P	16 53 18.2	+1.0
	comp=Z,3.3nm,0.7s,baz=92,slow=3.0,SNR=12						
	comp=Z,3.3nm,0.7s						
OHAK	Old Harbor	79.89	13	P	P	16 53 21.2	0.0
OHAK				IAmb	IAmb	16 53 49.9	
	comp=Z,10nm,1.4s						
O16K	Kokwok River B	81.22	10	P	P	16 53 27.1	-1.0
O16K				IAmb	IAmb	16 53 32.4	
	comp=Z,4.9nm,1.1s						
N15K	Kwethluk River	81.47	9	P	P	16 53 29.2	-0.2
N15K				IAmb	IAmb	16 53 33.3	
	comp=Z,7.9nm,1.1s						
P18K	Big Mountain,	81.52	11	P	P	16 53 29.0	-0.8
O18K	Koktuh Hills	81.96	11	P	P	16 53 31.3	-0.7
O18K				IAmb	IAmb	16 53 32.3	
	comp=Z,5.2nm,1.1s						
M16K	Timber Creek	82.45	9	P	P	16 53 35.0	+0.6
M16K				IAmb	IAmb	16 53 36.4	
	comp=Z,15nm,1.4s						
N19K	Bonanza Creek	82.99	11	P	P	16 53 36.4	-0.9
N19K				IAmb	IAmb	16 53 40.6	
	comp=Z,9.2nm,1.4s						
STLK	Strandline Lak	84.12	12	P	P	16 53 41.4	-1.5
GHO	Glory Hole Cre	84.97	13	P	P	16 53 46.3	-0.8
GHO				IAmb	IAmb	16 53 47.4	
	comp=Z,4.2nm,0.7s						
CAST	Castle Rocks	85.83	11	P	P	16 53 49.3	-1.8
TXAR	Lajitas Array	86.62	57	P	P	16 53 57.1	+1.4
	comp=Z,0.4nm,0.6s,baz=224,slow=8.8,SNR=5.6						
	comp=Z,0.4nm,0.6s						
WRH	Wood River Hil	87.55	12	P	P	16 53 58.4	-0.8
CCB	Clear Creek Bu	87.77	12	P	P	16 53 59.2	-0.9
CCB				IAmb	IAmb	16 53 60.0	
	comp=Z,2.9nm,0.7s						
ILAR	Eielson Array	88.06	13	P	P	16 54 00.6	-1.0
	comp=Z,0.8nm,0.7s,baz=217,slow=5.8,SNR=12						
	comp=Z,0.8nm,0.7s						
PDAR	Pinedale Array	88.56	43	P	P	16 54 05.4	+0.7
	comp=Z,0.4nm,0.6s,baz=170,slow=1.7,SNR=6.4						
	comp=Z,0.4nm,0.6s						
E19K	Redstone River	88.82	8	P	P	16 54 04.3	-0.8
E19K				IAmb	IAmb	16 54 06.3	
	comp=Z,3.0nm,0.9s						
D19K	Kuna River	89.70	7	P	P	16 54 08.3	-0.8
D19K				IAmb	IAmb	16 54 15.2	
	comp=Z,5.9nm,1.5s						
CMAR	Chiang Mai Arr	90.45	289	P	P	16 54 14.5	+0.8
	comp=Z,1.7nm,0.6s,baz=122,slow=3.1,SNR=17						
	comp=Z,1.7nm,0.6s						
SONM	Songino Array	95.90	319	P	P	16 54 37.6	-0.6
	comp=Z,0.2nm,0.6s,baz=107,slow=3.5,SNR=1.9						
	comp=Z,0.2nm,0.6s						
YKA	Yellowknife Ar	96.19	25	P	P	16 54 41.1	+2.2
	comp=Z,0.1nm,0.5s,baz=233,slow=5.4,SNR=2.3						
	comp=Z,0.1nm,0.5s						
MKAR	Makanchi Array	111.38	313	PKiKP	PKiKP	16 59 40.6	-1.6
	comp=Z,0.3nm,0.5s,baz=262,slow=0.6,SNR=5.9						
KURBB	Kurchatov Arra	114.20	317	PKiKP	PKPdf	16 59 45.8	-1.6
	comp=Z,0.4nm,0.6s,baz=98,slow=1.8,SNR=6.6						
BVAR	Borovoye Array	119.22	320	PKP	PKPdf	16 59 56.0	-1.1
	comp=Z,0.8nm,0.4s,baz=132,slow=1.8,SNR=8.7						
FINES	FINESS Array B	135.73	344	PKP	PKiKP	17 00 29.6	-0.2
	comp=Z,1.3nm,0.7s,baz=65,slow=4.7,SNR=1.7						
HFS	Hagfors	139.44	351	PKhKP	PKPpre	17 00 26.8	
	comp=Z,0.9nm,0.5s,baz=85,slow=3.1,SNR=6.2						
AKASG	Malin Array Be	143.07	332	PKhKP	PKPpre	17 00 38.1	
	comp=Z,3.6nm,0.5s,baz=44,slow=4.1,SNR=31						
EKA	Eskdalemuir Ar	144.80	6	PKP	PKPdf	17 00 43.7	-0.9
	comp=Z,0.5nm,0.5s,baz=352,slow=3.3,SNR=2.2						
BRTR	Keskin Array B	147.03	313	PKPbc	PKPbc	17 00 51.4	-0.6
	comp=Z,1.8nm,0.6s,baz=150,slow=5.6,SNR=11						
BUR08	Bucovina Ar. S	147.10	331	PKPbc	PKPbc	17 00 52.9	+0.9
MMAI	Mount Meron Ar	148.09	300	PKPbc	PKPbc	17 00 54.9	0.0
	comp=Z,1.3nm,0.4s,baz=74,slow=3.9,SNR=7.9						
GERES	GERESS Array B	150.15	345	PKPbc	PKPbc	17 00 58.7	-0.7
	comp=Z,1.1nm,0.6s,baz=35,slow=3.3,SNR=8.5						

IDC 01 16:58:25.2±3.1, 6°.72N×93°.23E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=180.9km s-min=28.5km az=57.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	41.02	349	P	P	17 06 09.6	-0.6
	0.6nm,0.6s,baz=168,slow=7.3,SNR=11						
	0.6nm,0.6s						
KURBB	Kurchatov Arra	45.45	347	P	P	17 06 46.6	+0.7
	0.6nm,0.5s,baz=170,slow=7.2,SNR=14						
	0.6nm,0.5s						
BVAR	Borovoye Array	49.79	342	P	P	17 07 18.6	-1.0
	0.5nm,0.8s,baz=123,slow=5.3,SNR=2.6						
	0.5nm,0.8s						
ASAR	Alice Springs	49.89	129	P	P	17 07 20.8	-0.1
	0.2nm,0.9s,baz=298,slow=8.7,SNR=4.2						
	0.2nm,0.9s						
FINES	FINESS Array B	73.30	332	P	P	17 09 58.8	+0.4
	1.8nm,0.9s,baz=91,slow=5.6,SNR=1.5						
	1.8nm,0.9s						

---

*IDC **01** 17:00:59.1±1.4, 7°.06N×93°.67E, h0km, mb3.6/8, mbtmp3.6/9, Error ellipse: s-maj=61.0km s-min=19.4km az=61.0*
ISC 01 17:01:00.6±1.2, 7°.0N±0°.2×93°.6E±0°.2, h10km, n15, σ1§00/10, mb3.7/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	12.51	24	Pn	Pn	17 03 59.3	+0.4
	0.2nm,0.3s,baz=226,slow=14,SNR=4.9						
H08S3	Diego Garcia H	25.60	236	T	T	17 33 18.9	
	baz=55,slow=76						
H08S2	Diego Garcia H	25.60	236	T	T	17 33 13.9	
	baz=55,slow=76						
H08S1	Diego Garcia H	25.62	236	T	T	17 33 27.3	
	baz=55,slow=76						
MKAR	Makanchi Array	40.82	348	P	P	17 08 41.2	-1.2
	0.9nm,0.6s,baz=167,slow=7.9,SNR=12						
	0.9nm,0.6s						
SONM	Songino Array	42.12	13	P	P	17 08 52.9	-0.3
	0.1nm,0.4s,baz=185,slow=6.5,SNR=1.8						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	45.26	347	P	P	17 09 17.5	-0.7
	1.1nm,0.7s,baz=172,slow=7.1,SNR=16						
	1.1nm,0.7s						
ZALV	Zalesovo Beam	47.35	353	P	P	17 09 33.2	-1.4
	0.7nm,0.6s,baz=183,slow=9.7,SNR=4.2						
	0.7nm,0.6s						
WRA	Warramunga Arr	48.19	125	P	P	17 09 41.2	-0.5
	0.3nm,1.0s,baz=299,slow=7.1,SNR=1.5						
	0.3nm,1.0s						
BVAR	Borovoye Array	49.64	342	P	P	17 09 52.5	+0.2
	0.5nm,0.6s,baz=127,slow=3.8,SNR=2.8						
BVAR				PcP	PcP	17 11 15.3	+1.7
	0.3nm,0.5s,baz=104,slow=6.1,SNR=2.0						
	0.5nm,0.6s						
ASAR	Alice Springs	49.77	129	P	P	17 09 53.0	-0.7
	0.4nm,0.8s,baz=298,slow=7.9,SNR=8.5						
ASAR				PcP	PcP	17 11 15.9	+1.1
	0.4nm,0.9s,baz=294,slow=3.4,SNR=3.1						
	0.4nm,0.8s						
H04N2	CROZET ISLANDS	64.72	211	T	T	18 22 18.2	
	baz=48,slow=74						
H04N1	CROZET ISLANDS	64.73	211	T	T	18 22 18.0	
	baz=48,slow=74						
H04N3	CROZET ISLANDS	64.74	211	T	T	18 22 17.3	
	baz=48,slow=74						
FINES	FINESS Array B	73.23	332	P	P	17 12 31.7	-0.1
	2.6nm,0.9s,baz=108,slow=8.6,SNR=3.4						
	2.6nm,0.9s						

---

*ISN **01** 17:08:31.7±0.6, 33°.63N×45°.63E, h16km±12km, ML2.6*
*TEH **01** 17:08:31.7, 33°.65N×45°.64E, h10km±36km*
ISC 01 17:08:31.8±1.3, 33°.60N±0°.05×45°.74E±0°.04, h9km±12km, n7, σ0§41/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	Badra	0.52	162	*e*Pg	Pb	17 08 43.0	0.0
IBDR				*e*Sg	Sb	17 08 51.0	+0.4
IBDR				AML	AML	17 08 55.4	
	comp=N,310nm,0.6s						
IBDR				AML	AML	17 08 59.4	
	comp=E,264nm,0.5s						
GLG1	Gilan-e-Gharb	0.53	16	Pg	Pg	17 08 41.8	-0.3
GLG1				Sg	Sg	17 08 49.7	+0.6
IGHG	Ghaleghazi	1.00	43	Pg	Pn	17 08 51.8	-0.5
IGHG				Sg	Sn	17 09 06.6	-0.1
BHD	Baghdad	1.18	254	*e*Pn	Pg	17 08 54.0	-0.5
BHD				*e*Sn	Sn	17 09 11.0	+0.3
IDHR	Dehrash	1.22	26	Pg	Pg	17 08 55.1	-0.1
IKFM	Kafar-mosalman	1.76	92	Pn	Pg	17 09 05.5	-0.1
IKRK	Kirkuk	2.13	328	*e*Pn	Pn	17 09 08.0	+0.3
IKRK				*e*Sn	Sn	17 09 34.0	-0.3

---

*ISN **01** 17:22:39.1±0.9, 33°.72N×45°.51E, h14km±18km, ML2.6*
*TEH **01** 17:22:39.4, 33°.74N×45°.55E, h9km±80km*
ISC 01 17:22:39.2±1.1, 33°.67N±0°.04×45°.68E±0°.05, h13km, n7, σ0§59/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLG1	Gilan-e-Gharb	0.48	23	Pg	Pg	17 22 48.8	0.0
GLG1				Sg	Sb	17 22 56.3	-0.5
IBDR	Badra	0.59	160	*e*Pg	Pn	17 22 53.0	-0.4
IBDR				*e*Sg	Sn	17 23 02.0	-0.9
IBDR				AML	AML	17 23 11.6	
	comp=N,155nm,0.6s						
IGHG	Ghaleghazi	0.99	48	Pg	Pn	17 22 59.4	+0.4
BHD	Baghdad	1.16	250	*e*Pn	Pn	17 23 01.0	-0.2
BHD				*e*Sn	Sb	17 23 17.0	+0.9
BHD				AML	AML	17 23 24.4	
	comp=E,431nm,0.5s						
IDHR	Dehrash	1.18	29	Pg	Pg	17 23 02.4	+0.4
IKFM	Kafar-mosalman	1.81	94	Pn	Pg	17 23 14.5	+0.5
IKRK	Kirkuk	2.05	328	*e*Pn	Pn	17 23 13.0	-0.5
IKRK				*e*Sn	Sn	17 23 39.0	0.0
IKRK				AML	AML	17 23 43.6	
	comp=N,46nm,0.3s						
IKRK				AML	AML	17 23 46.8	
	comp=E,44nm,0.5s						

---

*NSSP **01** 17:34:23.6, 41°.98N×45°.92E, h10km, Ms3.6*
*MOS **01** 17:34:24.6, 42°.06N×45°.97E, h20km, MPVA4.3*
*NORS **01** 17:34:24.6, 42°.10N×45°.97E, h8km, MPVA4.3*
*TIF **01** 17:34:25.2, 42°.10N×45°.88E, h18km*
*AFAD **01** 17:34:25.4, 42°.03N×45°.90E, h6km±4km, ML3.0*
*DRS **01** 17:34:25.7, 42°.06N×45°.99E, h18km*
*AZER **01** 17:34:26.2, 41°.83N×45°.94E, h5km, ml3.4*
*IDC **01** 17:34:28.8±7.9, 40°.84N×43°.99E, h132km±46km, mb3.1/2, mbtmp3.5/3, MS3.1/1, Error ellipse: s-maj=94.3km s-min=40.4km az=31.0*
ISC 01 17:34:25.6±1.0, 42°.07N±0°.01×45°.90E±0°.01, h9km±7km, n161, σ1§39/298, 18C-10D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGD	Lagodekhi	0.34	133	P	Pg	17 34 32.4	-0.1
LGD	Lagodekhi	0.34	133	⇑*i*PG	Pg	17 34 32.4	-0.1
LGD				*e*S	Sg	17 34 37.7	+0.7
BTLR	Botlikh	0.64	22	*i* Pg	Pg	17 34 38.2	+0.1
BTLR				*e*Sg	Sg	17 34 47.2	+0.8
BTLR	Botlikh	0.64	22	*i* PG	Pg	17 34 38.1	+0.1
BTLR				*i* S	Sg	17 34 46.8	+0.3
BTLR				pmax	pmax		
	comp=Z,475nm,0.3s						
ZKTA	Zakatala	0.69	128	P	Pg	17 34 38.7	-0.2
ZKTA				S	Sb	17 34 48.8	-0.5
DGRG	David-gareji	0.73	213	P	Pb	17 34 40.8	+0.2
DGRG				S	Sn	17 34 53.3	-0.3
DGRG	David-gareji	0.73	213	*e*Pg	Pb	17 34 40.8	+0.2
DGRG				*e*Sg	Sn	17 34 53.1	-0.3
DGRG	David-gareji	0.73	213	*e*PG	Pb	17 34 40.8	+0.2
DGRG				*e*S	Sn	17 34 53.2	-0.3
XNZR	Khunzakh	0.76	51	*i* Pg	Pg	17 34 40.6	+0.3
XNZR				*e*Sg	Sb	17 34 51.1	-0.5
CHRG	Chargali	0.77	290	P	Pg	17 34 39.9	-0.6
CHRG				S	Sg	17 34 50.6	0.0
HNZR	Khunzah	0.78	51	*i* PG	Pg	17 34 40.6	-0.1
HNZR				*e*S	Sg	17 34 51.1	+0.3
SHTL	Shatili	0.81	317	P	Pg	17 34 40.3	-1.0
SHTL				S	Sg	17 34 51.2	-0.6
SHTL	Shatili	0.81	317	*i* Pg	Pg	17 34 40.3	-1.0
SHTL				*e*Sg	Sg	17 34 51.2	-0.6
SHTL	Shatili	0.81	317	*e*PG	Pg	17 34 40.2	-1.0
SHTL				*e*S	Sg	17 34 51.2	-0.6
GNBR	Gunib	0.85	68	*i* Pg	Pg	17 34 41.9	-0.2
GNBR				*e*Sg	Sb	17 34 53.8	-0.3
GNBR	Gunib	0.85	68	*d*iPG	Pg	17 34 41.8	-0.2
GNBR				*i* S	Sb	17 34 53.7	-0.4
GNBR				pmax	pmax		
	comp=Z,449nm,0.3s						
SEAG	Tbilisi Sea	0.88	250	P	Pg	17 34 42.5	-0.1
SEAG				S	Sb	17 34 55.6	+0.8
SEAG	Tbilisi Sea	0.88	250	*e*Pg	Pg	17 34 42.5	-0.1
SEAG				*e*Sg	Sb	17 34 55.6	+0.8
SEAG	Tbilisi Sea	0.88	250	*e*PG	Pg	17 34 42.4	-0.1
SEAG				*e*S	Sb	17 34 55.6	+0.8
KMKR	Kumukh	0.89	86	*i* Pg	Pg	17 34 42.5	-0.4
KMKR				*e*Sg	Sg	17 34 54.5	0.0
KMKR	Kumukh	0.89	86	⇓*i*PG	Pg	17 34 42.5	-0.4
KMKR				*e*S	Sg	17 34 54.5	0.0
DVE	Vedeno	0.90	10	*e*Pg	Pg	17 34 42.9	-0.1
DVE				*e*Sg	Sb	17 34 55.9	+0.2
DVE	Vedeno	0.90	10	*e*PG	Pg	17 34 42.8	-0.2
DVE				*i* S	Sb	17 34 55.6	0.0
DVE				pmax	pmax		
	comp=Z,302nm,0.4s						
BTNK	Botanikuri	0.91	245	*e*PG	Pg	17 34 43.0	-0.2
VSHL	Vashlovani	0.92	156	P	Pb

SGKR eS Sg 17 35 09.6 +0.2
LACR Lac 1.41 303 ePg Pn 17 34 51.0 -0.6
LACR eSg Sn 17 35 10.3 0.0
LACR Lac 1.41 303 ePG Pn 17 34 51.0 -0.6
LACR eS Sn 17 35 10.3 0.0
TRLG Trialeti 1.45 249 P Pn 17 34 51.4 -0.8
TRLG S Sb 17 35 11.7 +0.3
GANJ Ganja 1.46 167 P Pn 17 34 51.1 -1.0
GANJ S Sn 17 35 10.6 -0.7
MAK Makhachkala 1.48 52 ePG Pn 17 34 52.5 +0.1
MAK eS Sg 17 35 13.2 -0.1
MAK pmax pmax
comp=Z,309nm,0.3s
MAK smax smax
comp=E,1μm,0.6s
MAK smax smax
comp=E,1μm,0.6s
AKT Akhty 1.49 113 ePG Pn 17 34 52.2 -0.4
AKT eS Sn 17 35 11.8 -0.4
SRTK Saratovka 1.55 230 ⇓iP Pn 17 34 52.4 -1.2
SRTK ⇓iS Sn 17 35 13.2 -0.7
MNGR Mingechevir, A 1.57 145 P Pn 17 34 53.9 +0.3
MNGR S Sg 17 35 17.2 +1.1
KANR Karaman 1.62 46 ePg Pg 17 34 56.3 -0.5
KANR eSg Sg 17 35 17.1 -0.7
KANR Karaman 1.62 46 ePN Pg 17 34 56.3 -0.5
KANR eS Sg 17 35 17.1 -0.7
ARNR Ardon 1.63 313 ePN Pg 17 34 56.8 -0.1
ARNR eS Sg 17 35 20.2 +2.1
BTKR Batakoyurt 1.64 323 ePg Pg 17 34 57.5 +0.3
BTKR eSg Sg 17 35 22.2 +3.7
BTKR Batakoyurt 1.64 323 ePN Pg 17 34 57.5 +0.3
BTKR eS Sg 17 35 22.2 +3.7
ALIG Mtskhetisjvari 1.68 272 PN Pn 17 34 55.2 0.0
KORR Kora 1.69 307 ePg Pb 17 34 56.9 -0.1
KORR eSg Sg 17 35 21.5 +1.4
KORR Kora 1.69 307 ePN Pb 17 34 56.9 -0.1
KORR eS Sg 17 35 21.5 +1.4
KSMR Kasumkent 1.73 105 ePg Pb 17 34 57.5 0.0
KSMR eSg Sb 17 35 19.7 +0.4
KSMR Kasumkent 1.73 105 ePN Pb 17 34 57.5 0.0
KSMR eS Sb 17 35 19.7 +0.4
DRN Derbent 1.81 90 ePg Pb 17 34 59.4 +0.5
DRN i Sg Sg 17 35 22.6 -1.1
DRN Derbent 1.81 90 ePN Pb 17 34 59.3 +0.5
DRN i S Sg 17 35 22.6 -1.1
QBL Gabala 1.83 127 P Pb 17 34 58.8 -0.5
QBL S Sg 17 35 25.4 +0.8
QSAR Qusar 1.85 107 P Pg 17 35 01.0 -0.1
QSAR S Sg 17 35 27.7 +2.7
TRKR Terskaya 1.86 333 ePg Pb 17 34 59.9 +0.1
TRKR eSg Sb 17 35 23.6 +0.4
TRKR Terskaya 1.86 333 ePN Pb 17 34 59.9 +0.1
STDR Stavd-Durt 1.88 314 ePg Pb 17 34 59.6 -0.5
STDR eSg Sb 17 35 24.9 +1.3
STDR Stavd-Durt 1.88 314 ePN Pb 17 34 59.6 -0.5
GARIG Gari 1.88 287 P Pn 17 34 59.0 +1.0
GARIG S Sb 17 35 25.1 +1.3
XNQ Khinaliq 1.90 117 P Pb 17 35 00.3 -0.2
XNQ S Sg 17 35 26.8 0.0
DIGR Digorskoe uzhe 1.91 297 ePN Pb 17 35 00.3 -0.4
KMOZ Kamo 1.93 230 ⇑iP Pn 17 34 59.3 +0.6
KMOZ ⇑iS Sb 17 35 25.4 +0.2
LSNR Lesken 1.95 309 ePg Pg 17 35 02.5 -0.6
LSNR eSg Sg 17 35 30.6 +2.2
LSNR Lesken 1.95 309 ePN Pg 17 35 02.5 -0.6
LSNR eS Sg 17 35 30.5 +2.2
AYRK Ayrk 1.95 183 ⇑iP Pn 17 34 59.3 +0.2
AYRK ⇑iS Sb 17 35 25.6 -0.4
KAPZ Kaputan 1.97 208 ⇑iP Pn 17 35 00.0 +0.7
KAPZ ⇓iS Sb 17 35 26.5 +0.1
BRDA Brd 2.04 151 P Pb 17 35 01.7 -1.2
BRDA S Sb 17 35 29.5 +1.2
PRTR Priterechnaya 2.06 325 ePg Pb 17 35 02.1 -1.1
PRTR eSg Sb 17 35 30.2 +1.3
PRTR Priterechnaya 2.06 325 ePN Pb 17 35 02.1 -1.1
PRTR eS Sb 17 35 30.2 +1.3
QUBA Quba, Azerbaij 2.06 109 P Pb 17 35 03.9 +0.6
QUBA S Sg 17 35 32.5 +0.5
AMBZ Amberd 2.09 217 ⇑iP Pn 17 35 02.3 +1.3
AMBZ ⇓iS Sb 17 35 30.0 +0.1
GNI Garni 2.11 205 eP Pn 17 35 02.2 +1.0
GNI eS Sb 17 35 30.9 +0.5
GNI Garni 2.11 205 ⇑iP Pn 17 35 02.0 +0.8
GNI ⇑iS Sb 17 35 30.1 -0.3
GNI Garni 2.11 205 ePg Pn 17 35 01.9 +0.8
GNI eSg Sb 17 35 30.9 +0.5
GNI Garni 2.11 205 ePN Pn 17 35 02.0 +0.8
GNI eS Sb 17 35 30.9 +0.5
IML Ismayilli 2.13 126 P Pb 17 35 03.2 -1.2
IML S Sg 17 35 33.8 -0.4
AGDM Agdam 2.16 155 P Pn 17 35 03.1 +1.3
AGDM S Sb 17 35 32.0 +0.2
TKB Tkibuli 2.18 278 P Pn 17 35 03.1 +1.0
TKB S Sb 17 35 31.2 -1.1
TKB Tkibuli 2.18 278 ePN Pn 17 35 03.0 +1.0
TKB eS Sb 17 35 31.2 -1.1
EAK Akyaka 2.21 232 P Pb 17 35 03.9 +1.2
EAK S Sb 17 35 33.8 +0.3
EAK i AML AML 17 35 42.0
comp=E,317nm,0.7s
EAK i AML AML 17 35 50.0
comp=E,314nm,0.7s
NCK Nalchik 2.22 311 ePn Pb 17 35 05.5 -0.4
NCK eSn Sb 17 35 34.4 +0.9
NCK Nalchik 2.22 311 ePN Pb 17 35 05.5 -0.4
NCK eS Sb 17 35 34.3 +0.9
ZRD Zardab 2.24 142 P Pb 17 35 05.0 -1.2
ZRD S Sb 17 35 32.2 -1.7
ARUZ Aruch 2.25 218 ⇑iP Pb 17 35 05.0 -1.5
ARUZ ⇑iS Sb 17 35 35.0 +0.6
NRKZ NAREK 2.27 205 eP Pb 17 35 05.5 -1.3
NRKZ eS Sb 17 35 36.1 +1.1
METS Metsamor 2.36 216 eP Pn 17 35 06.5 +1.9
METS eS Sb 17 35 37.8 +0.2
PQL Pirkuli 2.39 121 P Pb 17 35 09.7 +0.8
PQL S Sg 17 35 49.3 +6.8
VAYK Vayk 2.40 189 i P Pb 17 35 07.2 -1.8
VAYK i S Sb 17 35 38.7 0.0
KDMR Kurdemir 2.41 134 P Pb 17 35 09.6 +0.4
KDMR S Sb 17 35 39.5 +0.6
TASB TASBURUN-IGDIR 2.43 212 eP Pn 17 35 06.8 +1.2
EPOS Posof 2.44 258 P Pb 17 35 08.2 -1.5
EPOS S Sb 17 35 40.5 +0.5
EPOS i AML AML 17 35 42.0
comp=E,77nm,0.9s
EPOS i AML AML 17 35 48.0
comp=E,121nm,0.6s
SIZA Siyzn 2.46 113 P Pb 17 35 10.5 +0.5
SIZA S Sg 17 35 45.7 +1.2
HYR Heyderabad 2.48 199 P Pb 17 35 09.5 -0.9
HYR S Sg 17 35 43.9 -1.4
VNNZ Vanand 2.52 219 eP Pb 17 35 09.8 -1.2
VNNZ eS Sb 17 35 43.8 +1.7
DIGO Kars 2.52 230 P Pb 17 35 09.3 -2.0
DIGO S Sb 17 35 43.4 +0.9
DIGO i AML AML 17 35 50.0
comp=E,316nm,0.6s
DIGO i AML AML 17 35 51.0
comp=E,393nm,0.6s
KBTC Kuba-Taba 2.53 314 ePn Pn 17 35 08.2 +1.3
KBTC eSn Sn 17 35 39.9 +2.0
KBTC Kuba-Taba 2.53 314 ePN Pn 17 35 08.2 +1.3
KBTC eS Sn 17 35 39.9 +2.0
KARS Kars 2.57 237 eP Pb 17 35 10.9 -1.0
ATGJ Altiaghaj 2.58 117 P Pb 17 35 11.9 -0.2
ATGJ S Sg 17 35 52.4 +3.8
GRS Goris 2.59 173 ⇓iP Pn 17 35 09.0 +1.2
GRS ⇓iS Sb 17 35 44.0 -0.2
IGDI IGDIR 2.60 213 P Pb 17 35 10.8 -1.6
IGDI S Sb 17 35 44.3 -0.1
IGDI i AML AML 17 35 46.0
comp=E,62nm,0.4s
IGDI i AML AML 17 35 52.0
comp=E,57nm,0.6s
AHAN Ardahan-Merkez 2.62 251 P Pb 17 35 12.2 -0.6
AHAN S Sb 17 35 46.3 +1.2
AHAN i AML AML 17 35 55.0
comp=E,115nm,0.7s
AHAN i AML AML 17 35 59.0
comp=E,98nm,0.6s
BOZK Kars-Merkez-Bo 2.65 237 P Pb 17 35 12.1 -1.3
BOZK S Sb 17 35 44.1 -2.1
BOZK i AML AML 17 35 52.0
comp=E,46nm,0.5s
BOZK i AML AML 17 36 02.0
comp=E,63nm,0.8s
BLQ Beylaqan 2.66 151 P Pn 17 35 10.7 +2.0
BLQ S Sb 17 35 47.2 +1.1
SBZ Shahbuz 2.68 186 P Pb 17 35 12.4 -1.4
SBZ S Sb 17 35 48.1 +1.2
KBZ Khabaz 2.76 308 P Pb 17 35 15.6 +0.4
comp=E,16nm,0.4s,baz=158,slow=9.6,SNR=58
KBZ S Sg 17 35 52.1 -2.3
comp=E,11nm,0.4s,baz=356,slow=18,SNR=3.6
QRD Qoradiz 2.82 157 P Pn 17 35 13.0 +2.2
QRD S Sb 17 35 50.3 -0.4
PYA1 Pyatigorsk 2.86 315 ePn Pn 17 35 13.4 +1.9
PYA1 eSn Sn 17 35 46.2 +0.2
PYA1 Pyatigorsk 2.86 315 ePN Pn 17 35 13.4 +1.9
PYA1 eS Sn 17 35 46.2 +0.2
EGVZ Egvard 2.88 170 eP Pn 17 35 13.9 +2.2
EGVZ eS Sb 17 35 50.5 -2.1
NAX Nakhchivan 2.91 186 P Pb 17 35 16.5 -1.2
NAX S Sb 17 35 55.3 +1.9
SHA1 Shidzhatmaz 2.91 306 i PN Pn 17 35 15.1 +2.8
BEYR Belyy Ugol+ 2.98 312 ePn Pn 17 35 13.9 +0.8
BEYR eSn Sn 17 35 51.7 +2.7
BEYR Belyy Ugol+ 2.98 312 ePN Pn 17 35 13.9 +0.8
BEYR eS Sn 17 35 51.7 +2.7
KIV Kislovodsk 3.02 310 eP Pn 17 35 15.8 +2.1
KIV Kislovodsk 3.02 310 ePn Pb 17 35 17.3 -2.3
KIV eSn Sb 17 35 55.4 -1.2
KIV Kislovodsk 3.02 310 ePN Pb 17 35 17.3 -2.3
KIV eS Sb 17 35 55.4 -1.2
KOTA Agri, Merkez-K 3.05 223 P Pb 17 35 20.9 +0.7
KOTA S Sg 17 36 04.1 +0.5
SENK Senkaya-Erzuru 3.07 242 eP Pb 17 35 18.5 -2.0
ORD Ordubad 3.14 179 P Pb 17 35 20.2 -1.4
ORD S Sb 17 36 01.2 +1.2
BATM Batumi 3.18 263 P Pn 17 35 18.5 +2.7
BATM Batumi 3.18 263 ePN Pn 17 35 18.5 +2.7
BCA Borcka 3.26 260 eP Pb 17 35 21.1 -2.6
AGRB Hanur-Agry 3.33 223 eP Pn 17 35 21.1 +3.1
GLBA Ciliabad 3.40 145 P Pn 17 35 19.8 +1.0
GLBA S Sb 17 36 06.6 -0.8
YRD Yardimli 3.62 150 P Pn 17 35 23.4 +1.4
YRD S Sn 17 36 06.2 +1.4
KOPR Koprukoy-ERZUR 3.70 237 eP Pb 17 35 27.3 -3.9
LRK Lerik 3.90 151 P Pn 17 35 26.6 +0.8
LRK S Sn 17 36 15.5 +3.8
CHOM Cayeli-Rize 3.98 258 eP Pb 17 35 31.6 -4.3
ASTR Astara 4.14 147 P Pn 17 35 29.6 +0.6
ASTR S Sn 17 36 19.8 +2.3
AKTO Aktyubinsk 11.83 41 ⇑Pn Pn 17 37 13.8 -0.6
comp=E,0.7nm,0.8s
AKTO ⇑Sn Sn 17 39 22.2 -4.3
comp=E,1.3nm,0.6s
AKTO Aktyubinsk 11.83 41 P Pn 17 37 13.8 -0.6
AKTO S Sn 17 39 22.2 -4.3
AB31 Akbulak array 12.16 49 ⇑Pn Pn 17 37 18.0 -0.9
comp=E,0.4nm,0.5s,baz=248,slow=15
AB31 ⇑Sn Sn 17 39 31.1 -3.3
comp=E,3.7nm,0.8s,baz=245,slow=27
AB31 Akbulak array 12.16 49 P Pn 17 37 17.9 -0.9
AB31 S Sn 17 39 31.1 -3.3
BRVK Borovoye 19.68 48 i P Pn 17 38 56.6 +0.4
BRVK pmax pmax
comp=Z,18nm,5.2s
BRVK MLR MLR
comp=Z,24nm,16.0s
AAK Ala-Archa 21.10 79 LR LR 17 49 28.9
comp=Z,49nm,18.4s,baz=151,slow=40
FINES FINESS Array B 22.78 335 P P 17 39 24.9 -3.2
comp=Z,2.6nm,0.9s,baz=152,slow=12,SNR=3.5
comp=Z,2.6nm,0.9s
MKAR Makanchi Array 26.25 67 P P 17 40 07.7 +6.7
comp=Z,0.2nm,0.6s,baz=262,slow=7.1,SNR=2.7
comp=Z,0.2nm,0.6s

IDC 01 17:37:15.3±1.9, 26°.00N×95°.62E, h0km, mb3.2/3, mbtmp3.2/4, ML3.1/1, Error ellipse: s-maj=61.9km s-min=25.0km az=70.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.11**	**157**	Pn	Pn	17 39 13.9	-0.4
	0.1nm,0.3s,baz=334,slow=16,SNR=8.6						
CMAR				Sn	Sn	17 40 49.7	+2.9
	0.1nm,0.3s,baz=333,slow=27,SNR=4.7						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**23.30**	**336**	P	P	17 42 25.6	+0.8
	0.8nm,0.7s,baz=141,slow=9.3,SNR=5.9						
	0.8nm,0.7s						
SONM	**Songino Array**	**23.39**	**18**	P	P	17 42 25.4	-0.4
	0.2nm,0.4s,baz=225,slow=9.2,SNR=1.9						
	0.2nm,0.4s						
SONM	**Songino Array**	**23.39**	**18**	P	P	17 42 25.4	-0.4
BVAR	**Borovoye Array**	**32.95**	**332**	P	P	17 43 51.0	-0.5
	0.3nm,0.5s,baz=146,slow=10,SNR=2.4						
	0.3nm,0.5s						

GCG 01 17:45:22.5±5.1, 14°.53N×90°.72W, h5km±9km, MD3.8, MW3.1, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG4	**OSOP**	**0.20**	**72**	i P	Pg	17 45 26.5	+0.1
PS001	**Antigua, Sacat**	**0.35**	**127**	eP	Pg	17 45 24.5	-4.9
PS001				e		17 45 24.5	
	baz=195,slow=16						
PS001				eS	Sg	17 45 25.9	-8.1
STG0	**El Palmar, Qui**	**0.61**	**261**	eP	Pn	17 45 39.4	+1.4
STG8	**El Palmar, Qui**	**0.61**	**263**	eP	Pn	17 45 39.8	+1.7
SOKI	**Kika Raxquin**	**0.72**	**294**	eP	Pb	17 45 37.9	+0.1
SOKI				i S	Sb	17 45 48.9	+0.8
QUEO	**Labor Ovalle**	**0.84**	**294**	i S	Sn	17 45 53.0	-1.1
ESSJ	**San Jos, E**	**0.98**	**167**	eP	Pg	17 45 35.2	-6.2
ESSJ				i S	Sg	17 45 46.0	-8.1
MTO3	**Montecristo**	**1.33**	**95**	eP	Pn	17 45 46.3	-1.6
JAYA	**Jayaque - finc**	**1.51**	**125**	eP	Pn	17 45 49.4	-1.0

*NOU **01** 17:46:52.5, 14°.83S×176°.19W, h383km, mb4.9/13, Fiji Islands Region*
*NEIC **01** 17:46:58.3±2.7, 15°.11S±0°.09×177°.18W±0°.07, h353km±4km, mb4.9/343, Error ellipse: s-maj=13.8km s-min=10.1km az=174.0*
*IDC **01** 17:47:01.2±1.4, 14°.99S×177°.45W, h379km±14km, mb4.0/22, mbtmp4.7/25, Error ellipse: s-maj=15.1km s-min=11.1km az=142.0*

ISC 01 17:46:57.9±0.3, 15°.03S±0°.07×177°.19W±0°.06, h350km, n612, σ0°.98/444, mb4.8/185, 21C-18D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**1.15**	**308**		**Pn**	**17 47 46.1**	**+1.8**
FUTU	**Fugatoga**	**1.15**	**308**	P	**Pn**	**17 47 46.6**	**+2.3**
MSVF	**Nonsavu**	**5.30**	**239**		**Pn**	**17 48 22.3**	**+1.4**
MSVF	**Nonsavu**	**5.30**	**239**	P	**Pn**	**17 48 23.3**	**+2.4**
	55nm,0.7s,baz=57,slow=9.7,SNR=43						
MSVF				S	**S**	**17 49 30.8**	**+2.7**
	50nm,0.9s,baz=122,slow=23,SNR=8.0						
AFI	**Afiamalu**	**5.36**	**79**		**Pn**	**17 48 22.1**	**+0.4**
NIUE	**Niue**	**8.03**	**121**		**Pn**	**17 48 51.4**	**-1.0**
INH	**Isangel**	**13.68**	**249**	P	**Pn**	**17 50 03.2**	**+3.6**
DVP	**Devils Point**	**14.29**	**257**	P	**Pn**	**17 50 09.6**	**+3.0**
PINNC	**Pines Island,**	**16.37**	**240**	P	**P**	**17 50 26.8**	**-0.7**
OUENC	**Ouen Island, N**	**16.81**	**242**	P	**Pn**	**17 50 34.9**	**-0.9**
DZM	**Mont Dzumac**	**17.02**	**243**		**P**	**17 50 35.1**	**+0.5**
DZM	**Mont Dzumac**	**17.02**	**243**	eP	**P**	**17 50 38.8**	**+4.2**
	55nm,1.2s						
DZM				eS	**S**	**17 53 39.4**	**+5.2**
	41nm,1.4s						
DZM	**Mont Dzumac**	**17.02**	**243**	P	**P**	**17 50 35.5**	**+0.9**
	6.9nm,0.4s,baz=70,slow=17,SNR=18						
DZM	**Mont Dzumac**	**17.02**	**243**	P	**P**	**17 50 37.8**	**+3.2**
ONTNC	**Ouen Toro**	**17.09**	**242**		**P**	**17 50 35.5**	**+0.2**
ONTNC	**Ouen Toro**	**17.09**	**242**	P	**P**	**17 50 38.2**	**+2.9**
RAR	**Rarotonga**	**17.66**	**113**	P	**P**	**17 50 46.2**	**+4.9**
	30nm,0.7s,baz=324,slow=19,SNR=1.8						
HNR	**Honiara**	**23.01**	**281**	P	**P**	**17 51 33.2**	**-0.3**
HNR				IAmb	IAmb	17 51 34.9	
	comp=Z,75nm,0.8s						
SAVO	**Savo Central**	**23.22**	**282**	P	**P**	**17 51 36.6**	**+1.2**
PPT2	**Papeete2**	**26.62**	**99**	eSS	sS	17 58 12.6	-0.2
	comp=Z,107nm,25.2s						
TBI	**Tubuai**	**27.43**	**112**	eSS	sS	17 58 24.7	-1.3
	comp=Z,675nm,32.5s						
THZ	**Tophouse**	**27.99**	**196**	P	**P**	**17 52 15.4**	**-2.2**
THZ				IAmb	IAmb	17 52 28.7	
	comp=Z,111nm,1.6s						
KHZ	**Kahutara**	**28.44**	**195**	P	**P**	**17 52 19.0**	**-2.5**
KHZ				IAmb	IAmb	17 53 27.5	
	comp=Z,140nm,1.7s						
GVZ	**Greta Valley S**	**29.08**	**195**	P	**P**	**17 52 25.5**	**-1.8**
JOHN	**Johnston Islan**	**32.45**	**14**	P	**P**	**17 52 57.9**	**+1.1**
PMG	**Port Moresby**	**35.26**	**275**	P	**P**	**17 53 21.8**	**+0.8**
PMG				pP	**pwP**	**17 54 30.6**	**0.0**
QLP	**Quilpie**	**37.71**	**246**	P	**P**	**17 53 40.0**	**-1.3**
COEN	**Coen**	**38.35**	**266**	P	**P**	**17 53 46.6**	**-0.2**
HMH	**Humu'ula Sheep**	**40.50**	**32**	P	**P**	**17 54 05.4**	**+0.8**
STCH	**Steam Cracks**	**40.51**	**33**	P	**P**	**17 54 03.5**	**-0.9**
STCH				IAmb	IAmb	17 54 07.1	
	comp=Z,44nm,0.8s						
MHA	**Mahukona**	**40.77**	**31**	P	**P**	**17 54 07.6**	**+1.2**
DHH	**Diamond Head**	**40.78**	**28**	P	**P**	**17 54 07.3**	**+0.9**
INKA	**Innaminka**	**40.97**	**245**	P	**P**	**17 54 07.8**	**-0.2**
STKA	**Stephens Creek**	**41.08**	**239**	P	**P**	**17 54 07.7**	**-1.1**
STKA				IAmb	IAmb	17 54 08.4	
	comp=Z,119nm,1.9s						
STKA	**Stephens Creek**	**41.08**	**239**	P	**P**	**17 54 07.8**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=118,slow=6.6,SNR=4.8						
STKA				PcP	**PcP**	**17 56 00.5**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=18,slow=4.2,SNR=3.2						
	comp=Z,2.5nm,0.8s						
WR8	**Warramunga Arr**	**46.21**	**257**	P	**P**	**17 54 49.1**	**-0.5**
WB0	**Warramunga Arr**	**46.32**	**257**	P	**P**	**17 54 48.3**	**-2.1**
WRA	**Warramunga Arr**	**46.37**	**257**	P	**P**	**17 54 48.6**	**-2.0**
WRA	**Warramunga Arr**	**46.37**	**257**	P	**P**	**17 54 48.8**	**-2.0**
	comp=Z,2.5nm,0.8s,baz=85,slow=5.9,SNR=39						
WRA				PcP	**PcP**	**17 56 18.7**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=88,slow=3.7,SNR=15						
	comp=Z,2.5nm,0.8s						
AS31	**Alice Springs**	**46.75**	**252**	P	**P**	**17 54 52.0**	**-1.7**
ASAR	**Alice Springs**	**46.75**	**252**	P	**P**	**17 54 52.6**	**-1.1**
ASAR	**Alice Springs**	**46.75**	**252**	P	**P**	**17 54 52.4**	**-1.3**
	comp=Z,28nm,0.6s,baz=85,slow=8.2,SNR=507						
ASAR				PcP	**PcP**	**17 56 20.2**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=92,slow=3.7,SNR=7.3						
	comp=Z,28nm,0.6s						
MTN	**Manton Dam**	**50.11**	**266**	P	**P**	**17 55 18.0**	**-1.1**
WRKA	**Warakurna**	**51.88**	**250**	P	**P**	**17 55 31.3**	**-0.8**
FORT	**Forrest**	**52.33**	**243**	P	**P**	**17 55 33.2**	**-2.0**
FORT				IAmb	IAmb	17 55 34.5	
	comp=Z,29nm,0.7s						
FORT	**Forrest**	**52.33**	**243**	P	**P**	**17 55 34.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**54.70**	**258**	P	**P**	**17 55 50.0**	**-2.5**
SOEI	**Soe**	**57.29**	**268**	P	**P**	**17 56 11.1**	**+0.3**
SOEI				IAmb	IAmb	17 56 12.4	
	comp=Z,29nm,1.0s						
MBWA	**Marble Bar**	**59.95**	**254**	P	**P**	**17 56 28.1**	**-0.7**
VNDA	**Vanda**	**63.40**	**185**	P	**P**	**17 56 51.8**	**+1.2**
JGF	**Kuroka**	**66.23**	**321**	P	**P**	**17 57 08.2**	**-1.2**
MJAR	**Matsushiro Arr**	**66.34**	**322**	P	**P**	**17 57 08.3**	**-1.7**
	comp=Z,4.9nm,0.8s,baz=151,slow=6.4,SNR=7.7						
	comp=Z,4.9nm,0.8s						
JMN	**Monobe**	**67.25**	**317**	P	**P**	**17 57 15.6**	**-0.3**
JAGI	**Jajag, Banyuwa**	**67.32**	**267**	P	**P**	**17 57 13.7**	**-2.9**
JAGI				IAmb	IAmb	17 57 15.3	
	comp=Z,22nm,0.9s						
CCD	**Concordia, Ant**	**67.93**	**194**	P	**P**	**17 57 20.2**	**+0.3**
CCD				pP	**pwP**	**17 58 39.2**	**-0.2**
NIKH	**Nikolski High**	**68.10**	**5**	P	**P**	**17 57 20.4**	**-0.2**
	baz=189						
JNU	**Nakatsue**	**68.91**	**315**	P	**P**	**17 57 25.3**	**-0.8**
	comp=Z,6.7nm,0.7s,baz=96,slow=3.4,SNR=2.6						
	comp=Z,6.7nm,0.7s						
UNV	**Unalaska Valle**	**69.20**	**7**	P	**P**	**17 57 26.5**	**-0.8**
UNV	**Unalaska Valle**	**69.20**	**7**	P	**P**	**17 57 27.1**	**-0.2**
	baz=191						
CASY	**Casey**	**69.23**	**204**	P	**P**	**17 57 27.4**	**0.0**
CASY	**Casey**	**69.23**	**204**	P	**P**	**17 57 27.2**	**-0.2**
JKA	**Kamikawa-asahi**	**69.34**	**330**	P	**P**	**17 57 29.1**	**+0.6**
JKA				IAmb	IAmb	17 57 30.3	
	comp=Z,14nm,0.9s						
ASAJ	**Asahikawa**	**69.34**	**330**	P	**P**	**17 57 28.7**	**+0.3**
	comp=Z,13nm,0.8s,baz=110,slow=5.6,SNR=13						
	comp=Z,13nm,0.8s						
PEA0B	**Petropavlovsk-**	**71.22**	**344**	P	**P**	**17 57 39.2**	**-0.3**
PEA0B				IAmb	IAmb	17 57 40.5	
	comp=Z,38nm,1.1s						
PETK	**Petropavlovsk-**	**71.22**	**344**	P	**P**	**17 57 38.7**	**-0.8**
PETK	**Petropavlovsk-**	**71.22**	**344**	P	**P**	**17 57 39.0**	**-0.5**
	comp=Z,22nm,0.9s,baz=128,slow=7.7,SNR=30						
	comp=Z,22nm,0.9s						
YSS	**Yuzhno-Sakhali**	**71.40**	**332**	P	**P**	**17 57 40.4**	**-0.3**
YSS				IAmb	IAmb	17 57 42.2	
	comp=Z,16nm,0.9s						
YSS	**Yuzhno-Sakhali**	**71.40**	**332**	P	**P**	**17 57 41.1**	**+0.4**
SSLB	**Suanglung**	**71.69**	**302**	P	**P**	**17 57 41.4**	**-1.6**
TPUB	**Ta-pu**	**71.74**	**301**	P	**P**	**17 57 41.7**	**-1.6**
S14K	**Fog Glacier**	**72.56**	**10**	P	**P**	**17 57 47.3**	**-0.1**
	baz=198						
CHGN	**Chignik**	**72.78**	**11**	P	**P**	**17 57 48.7**	**+0.2**
	baz=199						
CHIR	**Chirikof Islan**	**72.88**	**13**	P	**P**	**17 57 49.2**	**+0.1**
CHIR	**Chirikof Islan**	**72.88**	**13**	P	**P**	**17 57 49.3**	**+0.1**
	baz=202						
KSRS	**Korea Array**	**73.36**	**317**	P	**P**	**17 57 52.5**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=126,slow=5.9,SNR=4.3						
	comp=Z,1.6nm,0.9s						
SII	**Sitkinak Islan**	**73.87**	**13**	P	**P**	**17 57 54.3**	**-0.6**
SII	**Sitkinak Islan**	**73.87**	**13**	P	**P**	**17 57 55.3**	**+0.4**
	baz=203						
KMPM	**Mount Pierce**	**73.93**	**39**	P	**P**	**17 57 56.5**	**+0.8**
KMPM				IAmb	IAmb	17 57 58.9	
	comp=Z,33nm,0.9s						
KMRM	**Mail Ridge**	**74.07**	**40**	P	**P**	**17 57 57.5**	**+1.0**
JCC	**Jacoby Creek,**	**74.22**	**39**	P	**P**	**17 57 59.3**	**+2.1**
KHMM	**Horse Mountain**	**74.44**	**39**	P	**P**	**17 58 00.7**	**+1.9**
KHMM				IAmb	IAmb	17 58 01.9	
	comp=Z,25nm,0.9s						
O02D	**Mt. Diablo Mer**	**74.61**	**40**	P	**P**	**17 58 01.6**	**+2.0**
O02D				IAmb	IAmb	17 58 02.9	
	comp=Z,24nm,0.8s						
OHAK	**Old Harbor**	**74.67**	**13**	P	**P**	**17 57 59.4**	**0.0**
OHAK				IAmb	IAmb	17 58 00.7	
	comp=Z,14nm,0.7s						
OHAK	**Old Harbor**	**74.67**	**13**	P	**P**	**17 57 59.7**	**+0.3**
	baz=204,SNR=8.2						
ELS	**Elsinore Mount**	**74.71**	**48**	P	**P**	**17 57 59.2**	**-1.1**
R18K	**Karluk**	**74.74**	**12**	P	**P**	**17 58 00.1**	**+0.3**
	baz=203						
USRK	**Ussuriysk Ar.**	**74.92**	**325**	P	**P**	**17 58 01.5**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=157,slow=7.3,SNR=5.2						
	comp=Z,4.1nm,0.8s						
CMB	**Columbia Colle**	**74.95**	**43**	P	**P**	**17 58 01.9**	**+0.3**
CMB				IAmb	IAmb	17 58 04.0	
	comp=Z,15nm,1.1s						
ISA	**Isabella, Lake**	**74.99**	**46**	P	**P**	**17 58 02.0**	**+0.1**
QSPA	**South Pole Qui**	**75.01**	**180**	P	**P**	**17 58 01.9**	**+0.4**
QSPA				IAmb	IAmb	17 58 03.3	
	comp=Z,30nm,1.6s						
QSPA	**South Pole Qui**	**75.01**	**180**	P	**P**	**17 58 02.1**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=319,slow=0.5,SNR=24						
	comp=Z,2.7nm,0.6s						
AFDM	**Forest Hills D**	**75.07**	**42**	P	**P**	**17 58 03.2**	**+1.0**
O14K	**Tigyukauivet M**	**75.15**	**8**	P	**P**	**17 58 02.1**	**0.0**
	baz=196						
ACHA	**Angle Creek He**	**75.16**	**12**	P	**P**	**17 58 02.6**	**+0.3**
L02F	**Cave Junction**	**75.27**	**38**	IAmb	IAmb	17 58 06.3	
	comp=Z,26nm,1.2s						
O15K	**Ungalikthiuk R**	**75.28**	**9**	P	**P**	**17 58 02.7**	**-0.2**
	baz=197						
KDAK	**Kodiak Island**	**75.34**	**13**	P	**P**	**17 58 03.5**	**+0.3**

comp=Z,19nm,1.1s
YBH Yreka Blue Hor 75.56 39 IAmb IAmb 17 58 08.0
comp=Z,27nm,0.9s
Q18K Katmai Hardscr 75.63 12 P P 17 58 04.8 -0.2
baz=202,SNR=16
M11K Mekoryuk 75.67 6 P P 17 58 05.5 +0.5
baz=191
N14K Kuskokwak Cree 75.74 8 P P 17 58 05.7 +0.3
baz=196
HATC Hat Creek Radi 75.81 40 IAmb IAmb 17 58 09.2
comp=Z,34nm,1.1s
WAKR Walker 75.83 43 IAmb IAmb 17 58 09.6
comp=Z,21nm,1.1s
P17K Kvichak River 75.87 11 P P 17 58 06.3 +0.1
baz=201,SNR=15
O16K Kokwok River B 75.96 10 IAmb IAmb 17 58 06.9
comp=Z,22nm,0.8s
O16K Kokwok River B 75.96 10 P P 17 58 06.5 -0.1
baz=199,SNR=12
M13K Dall Lake 76.00 7 IAmb IAmb 17 58 08.4
comp=Z,19nm,0.9s
M13K Dall Lake 76.00 7 P P 17 58 08.0 +1.2
baz=194
PNTR Pine Nut 76.04 43 IAmb IAmb 17 58 10.7
comp=Z,24nm,0.9s
L04D Klamath Falls 76.09 39 IAmb IAmb 17 58 10.6
comp=Z,24nm,0.8s
Q20K Shuyak Island 76.14 13 P P 17 58 08.4 +0.7
baz=205,SNR=8.0
Q19K Cape Douglas, 76.16 12 IAmb IAmb 17 58 09.0
comp=Z,26nm,0.8s
Q19K Cape Douglas, 76.16 12 P P 17 58 08.2 +0.3
baz=203,SNR=5.7
N15K Kwethluk River 76.19 9 P P 17 58 08.6 +0.6
baz=197,SNR=6.4
BBOR Butler Butte 76.26 38 IAmb IAmb 17 58 11.7
comp=Z,32nm,1.7s
P18K Big Mountain, 76.28 11 P P 17 58 08.4 -0.1
baz=202,SNR=34
O17K Koliganek Bris 76.30 10 P P 17 58 08.3 -0.2
baz=200,SNR=7.6
LHV Little Huntoon 76.32 44 IAmb IAmb 17 58 12.3
comp=Z,29nm,1.2s
I03D Drain, OR 76.34 37 IAmb IAmb 17 58 11.7
comp=Z,21nm,1.2s
M14K Bethel 76.50 8 P P 17 58 10.6 +0.9
baz=195,SNR=13
RYN Ryan 76.50 43 IAmb IAmb 17 58 13.1
comp=Z,15nm,1.1s
NVAR Mina Array Bea 76.55 44 P P 17 58 11.6 +0.8
NVAR Mina Array Bea 76.55 44 P P 17 58 12.2 +1.5
comp=Z,9.1nm,0.9s,baz=229,slow=9.1,SNR=37
comp=Z,9.1nm,0.9s
M15K Kasigluk River 76.62 8 P P 17 58 11.0 +0.7
baz=196,SNR=24
NV11 Mina Array Sit 76.65 44 IAmb IAmb 17 58 13.9
comp=Z,19nm,1.1s
N16K Nishlik Lake 76.69 9 P P 17 58 11.4 +0.6
baz=198,SNR=6.6
O18K Koktuh Hills 76.71 11 P P 17 58 11.1 +0.2
baz=202,SNR=27
WCT Wildcat Mounta 76.85 46 IAmb IAmb 17 58 15.0
comp=Z,16nm,1.3s
BUCK Buck Mountain 76.85 37 IAmb IAmb 17 58 14.9
comp=Z,26nm,1.2s
P19K Oil Pt 76.91 12 P P 17 58 12.3 +0.3
baz=204,SNR=9.9
I04A Tendick Farm, 76.95 37 IAmb IAmb 17 58 14.8
comp=Z,19nm,1.1s
L14K Kuka Creek 76.98 7 IAmb IAmb 17 58 14.2
comp=Z,20nm,0.9s
L14K Kuka Creek 76.98 7 P P 17 58 13.3 +1.0
baz=194
N17K Nushagak Hills 76.99 10 P P 17 58 12.5 +0.1
baz=200
M16K Timber Creek 77.18 9 P P 17 58 14.9 +1.4
baz=198,SNR=19
H04D Lebanon 77.19 37 IAmb IAmb 17 58 16.4
comp=Z,17nm,1.0s
O19K Port Alsworth 77.20 11 P P 17 58 13.7 +0.2
baz=203,SNR=15
K13K Kusilvak Mount 77.34 6 IAmb IAmb 17 58 16.2
comp=Z,19nm,1.2s
K13K Kusilvak Mount 77.34 6 P P 17 58 14.8 +0.5
baz=192,SNR=7.2
N18K Kilae Creek 77.36 11 IAmb IAmb 17 58 15.4
comp=Z,11nm,0.8s
N18K Kilae Creek 77.36 11 P P 17 58 14.7 +0.2
baz=201,SNR=7.7
O20K Slope Mountain 77.43 12 P P 17 58 15.2 +0.2
baz=204,SNR=12
L15K Ungalak Mounta 77.46 8 P P 17 58 15.5 +0.6
baz=196,SNR=14
BRSE Bradley Lake S 77.53 13 P P 17 58 16.0 +0.6
baz=206,SNR=17
H04A Detroit Lake 77.60 37 IAmb IAmb 17 58 18.2
comp=Z,28nm,1.3s
N19K Bonanza Creek 77.74 11 IAmb IAmb 17 58 17.4
comp=Z,17nm,1.0s
N19K Bonanza Creek 77.74 11 P P 17 58 16.5 -0.1
baz=202,SNR=11
L16K Owhat River 77.76 9 IAmb IAmb 17 58 18.7
comp=Z,15nm,1.1s
L16K Owhat River 77.76 9 P P 17 58 17.7 +1.1
baz=198,SNR=6.9
M17K Holitna River 77.78 10 P P 17 58 18.1 +1.4
baz=200,SNR=12
S11A Rachel 77.88 45 IAmb IAmb 17 58 20.0
comp=Z,20nm,1.1s
K15K Wolf Creek Mou 78.05 7 P P 17 58 19.4 +1.3
baz=196,SNR=20
M18K Stony River 78.13 10 P P 17 58 19.2 +0.5
baz=201,SNR=8.4
SEW Seward 78.14 14 IAmb IAmb 17 58 19.7
comp=Z,17nm,0.9s
SEW Seward 78.14 14 P P 17 58 18.8 +0.1
baz=207,SNR=5.9
PRN Pahroc Range 78.25 46 IAmb IAmb 17 58 23.0
comp=Z,19nm,1.1s
KLR Kul'dur 78.25 329 P P 17 58 19.5 -0.1
comp=Z,1.4nm,0.6s,baz=26,slow=3.2,SNR=4.7
comp=Z,1.4nm,0.6s
J14K Nanvaranak Lak 78.26 6 IAmb IAmb 17 58 20.7
comp=Z,24nm,1.6s
J14K Nanvaranak Lak 78.26 6 P P 17 58 19.7 +0.4
baz=194
HOOD Mount Hood Mea 78.28 36 IAmb IAmb 17 58 22.1
comp=Z,22nm,1.2s
L17K Donlin 78.34 9 P P 17 58 21.5 +1.7
baz=199,SNR=23
CAPN Captain Cook N 78.36 13 P P 17 58 21.2 +1.3
baz=206
O22K Cooper Landing 78.42 13 P P 17 58 20.6 +0.4
baz=207
BNX BinXian 78.44 324 ⇑P P 17 58 20.5 -0.2
BNX pmax pmax
comp=Z,12nm,1.0s
WVOR Wild Horse Val 78.47 40 IAmb IAmb 17 58 23.6
comp=Z,15nm,1.2s
P23K Montague Islan 78.54 15 P P 17 58 20.9 +0.1
baz=209
SPCR Spurr Chakacha 78.54 12 P P 17 58 20.8 -0.2
baz=205
GAMB Gambell 78.67 2 P P 17 58 22.0 +0.6
baz=185
L18K Granite Mounta 78.67 10 P P 17 58 23.0 +1.4
baz=200,SNR=42
M19K Big River Lodg 78.77 11 IAmb IAmb 17 58 23.1
comp=Z,11nm,0.8s
M19K Big River Lodg 78.77 11 P P 17 58 22.1 0.0
baz=202,SNR=9.2
G06A Carlson Farm, 78.82 37 IAmb IAmb 17 58 25.0
comp=Z,42nm,2.0s
I07A Izee 78.84 38 IAmb IAmb 17 58 25.1
comp=Z,9.8nm,0.8s
STLK Strandline Lak 78.89 12 IAmb IAmb 17 58 23.1
comp=Z,23nm,1.3s
K17K Iditarod 78.89 9 P P 17 58 24.1 +1.3
baz=199
L19K White Mountain 78.94 10 P P 17 58 23.7 +0.6
baz=202
GNW Green Mountain 78.95 34 IAmb IAmb 17 58 25.7
comp=Z,18nm,1.1s
RC01 Rabbit Creek A 78.96 13 IAmb IAmb 17 58 24.3
comp=Z,19nm,1.1s
RC01 Rabbit Creek A 78.96 13 P P 17 58 23.3 +0.2
baz=207,SNR=6.8
M20K Styx River 78.98 11 P P 17 58 23.2 -0.1
baz=204

CLRS Cowichan Lake 79.02 33 P P 17 58 24.9 +1.2
CLRS IAmb IAmb 17 58 26.0
comp=Z,15nm,1.0s
TUC Tucson 79.02 52 P P 17 58 25.2 +0.9
LON Longmire 79.02 35 P P 17 58 24.1 +0.2
LON IAmb IAmb 17 58 25.8
comp=Z,24nm,1.7s
J08A Circle Bar Ran 79.06 39 P P 17 58 24.8 +0.5
J08A IAmb IAmb 17 58 26.7
comp=Z,16nm,1.2s
PWL Port Wells 79.07 14 P P 17 58 23.3 -0.5
PWL Port Wells 79.07 14 P P 17 58 23.8 0.0
baz=208,SNR=9.6
SUA Susitna One 79.08 13 IAmb IAmb 17 58 24.7
comp=Z,16nm,0.7s
SUA Susitna One 79.08 13 P P 17 58 23.7 -0.2
baz=206,SNR=20
J16K Anvik River 79.12 8 P P 17 58 25.4 +1.4
baz=196,SNR=35
BBB Bella Bella 79.24 28 P P 17 58 25.6 +0.8
comp=Z,14nm,0.7s,baz=276,slow=4.0,SNR=8.6
comp=Z,14nm,0.7s
KAIM Kayak Island 79.25 16 P P 17 58 25.3 +0.6
baz=212
PGC Sidney 79.27 33 IAmb IAmb 17 58 27.2
comp=Z,14nm,0.9s
GLI Glacier Island 79.38 14 P P 17 58 25.4 0.0
baz=210,SNR=10
SKT Skwentna 79.39 12 P P 17 58 25.5 +0.1
baz=205
L20K Farewell, AK 79.39 11 P P 17 58 25.6 +0.1
baz=203,SNR=7.7
CRAG Craig 79.42 24 P P 17 58 26.9 +1.2
baz=223
EYAK Cordova Ski Ar 79.43 15 P P 17 58 25.9 +0.3
baz=211
J17K VABM Dome 79.43 8 P P 17 58 27.0 +1.4
baz=198,SNR=31
M22K Willow 79.47 13 P P 17 58 25.6 -0.2
baz=207
KNK Knik Glacier 79.53 14 IAmb IAmb 17 58 26.8
comp=Z,9.5nm,0.7s
KNK Knik Glacier 79.53 14 P P 17 58 26.3 +0.1
baz=208
PMR Palmer 79.54 13 P P 17 58 26.5 +0.2
baz=208
I17K Unalakleet 79.69 7 IAmb IAmb 18 01 15.9
comp=Z,15nm,0.8s
I17K Unalakleet 79.69 7 P P 17 58 28.3 +1.3
baz=196,SNR=6.8
U15A North Rim 79.73 48 IAmb IAmb 17 58 31.3
comp=Z,12nm,1.0s
GHO Glory Hole Cre 79.75 13 IAmb IAmb 17 58 28.4
comp=Z,19nm,0.9s
ELK Elko 79.77 43 IAmb IAmb 17 58 30.5
comp=Z,32nm,1.8s
SIT Sitka 79.78 22 P P 17 58 28.3 +0.8
baz=221
319A Douglas 79.79 54 IAmb IAmb 17 58 31.7
comp=Z,18nm,1.0s
G08A Pilot Rock 79.83 38 IAmb IAmb 17 58 30.7
comp=Z,23nm,1.1s
BERG Berg Lake 79.83 16 IAmb IAmb 17 59 55.4
comp=Z,17nm,0.7s
J18K Innoko River 79.84 9 P P 17 58 28.8 +1.0
baz=200,SNR=38
ANM Nome 79.86 5 IAmb IAmb 17 58 29.8
comp=Z,12nm,0.9s
ANM Nome 79.86 5 P P 17 58 28.8 +1.0
baz=192,SNR=6.7
U33K Whale Pass 79.90 23 IAmb IAmb 17 58 30.0
comp=Z,16nm,0.8s
U33K Whale Pass 79.90 23 P P 17 58 29.2 +1.0
baz=223
SML Sawmill 79.91 13 P P 17 58 28.4 +0.2
baz=208
V35K Ketchikan 79.92 24 IAmb IAmb 17 58 30.5
comp=Z,14nm,0.9s
V35K Ketchikan 79.92 24 P P 17 58 29.3 +0.9
baz=224
DIV Divide 79.93 15 IAmb IAmb 17 58 29.4
comp=Z,17nm,0.7s
E07A Sunnyside 80.02 36 IAmb IAmb 17 58 31.5
comp=Z,20nm,1.0s
CUT Chulitna 80.03 12 P P 17 58 28.7 -0.1
baz=206,SNR=10
M23K Glacier View 80.04 14 P P 17 58 28.4 -0.5
baz=209
BMRM Bremner River 80.08 15 IAmb IAmb 17 58 30.4
comp=Z,33nm,1.4s
BMRM Bremner River 80.08 15 P P 17 58 29.4 +0.2
baz=212,SNR=6.5
PPLA Purkeypile 80.09 11 IAmb IAmb 18 00 42.0
comp=Z,36nm,1.9s
PPLA Purkeypile 80.09 11 P P 17 58 28.7 -0.7
baz=204
HAWA Hanford 80.11 36 IAmb IAmb 17 58 32.0
comp=Z,19nm,0.9s
MESA MESA 80.14 17 P P 17 58 30.3 +0.6
baz=214,SNR=9.8
S31K Pelican 80.16 21 IAmb IAmb 17 58 31.5
comp=Z,18nm,1.1s
S31K Pelican 80.16 21 P P 17 58 30.6 +1.1
baz=220
SCM Sheep Creek Mo 80.16 14 IAmb IAmb 17 58 30.6
comp=Z,17nm,0.7s
SCM Sheep Creek Mo 80.16 14 P P 17 58 29.9 +0.2
baz=209,SNR=5.7
K20K Telida 80.17 10 IAmb IAmb 17 58 31.1
comp=Z,22nm,0.8s
K20K Telida 80.17 10 P P 17 58 30.2 +0.6
baz=203,SNR=22
PKCU Pink Cliffs 80.18 47 IAmb IAmb 17 58 34.3
comp=Z,17nm,1.2s
KLU Klutina 80.20 15 P P 17 58 29.6 -0.3
baz=211
H16K Elim 80.24 6 P P 17 58 30.8 +0.9
baz=195,SNR=27
S32K Killisnoo 80.36 22 P P 17 58 31.3 +0.7
baz=222
E08A Dider Farm, El 80.43 37 IAmb IAmb 17 58 33.6
comp=Z,21nm,1.1s
PNL Peninsula 80.47 18 P P 17 58 31.8 +0.6
baz=217,SNR=6.6
J19K Poorman 80.51 9 IAmb IAmb 18 01 07.2
comp=Z,11nm,0.7s
J19K Poorman 80.51 9 P P 17 58 32.4 +1.1
baz=201,SNR=7.9
MTPU Mount Pierson 80.55 47 IAmb IAmb 17 58 36.1
comp=Z,26nm,1.8s
PINM Pinnacle 80.56 18 P P 17 58 32.3 +0.5
baz=216
BMO Blue Mountains 80.58 39 IAmb IAmb 17 58 34.3
comp=Z,19nm,1.5s
CAST Castle Rocks 80.59 11 IAmb IAmb 17 58 31.6
comp=Z,12nm,0.8s
CAST Castle Rocks 80.59 11 P P 17 58 30.5 -1.3
baz=205,SNR=19
VRDI Verde Repeater 80.60 16 IAmb IAmb 17 58 33.4
comp=Z,40nm,1.6s
N25K Chitina, Valde 80.63 15 IAmb IAmb 17 58 33.3
comp=Z,14nm,0.8s
N25K Chitina, Valde 80.63 15 P P 17 58 32.5 +0.4
baz=212,SNR=14
TNA Tin City 80.65 4 P P 17 58 33.0 +1.0
baz=189,SNR=20
M24K Tolsona, Glenn 80.67 14 P P 17 58 33.0 +0.6
baz=210,SNR=7.1
F14K Arctic Creek 80.68 5 P P 17 58 32.9 +0.8
baz=191
GLB Gilahina Butte 80.69 16 IAmb IAmb 17 58 33.0
comp=Z,12nm,0.6s
MFID Camas Ranch 80.73 40 IAmb IAmb 17 58 35.5
comp=Z,19nm,1.4s
H17K Granite Mounta 80.80 7 P P 17 58 33.4 +0.6
baz=197,SNR=14
D08A Wollman Farm, 80.83 36 IAmb IAmb 17 58 35.6
comp=Z,19nm,1.2s
J20K Nowinta River 80.92 10 IAmb IAmb 17 58 35.0
comp=Z,17nm,0.7s
J20K Nowinta River 80.92 10 P P 17 58 34.2 +0.7
baz=202,SNR=17
KTH Kantishna Hill 80.93 12 IAmb IAmb 17 58 35.0
comp=Z,17nm,1.0s
P29M Windy Craggy 80.96 19 IAmb IAmb 17 58 35.8
comp=Z,14nm,0.8s
P29M Windy Craggy 80.96 19 P P 17 58 34.9 +1.1
baz=218,SNR=10

G16K Koyuk River 80.96 6 P P 17 58 34.6 +1.0
baz=194
TRF Thorofare Moun 80.96 12 P P 17 58 33.6 -0.4
baz=206,SNR=20
CHUM Lake Minchumin 80.97 11 P P 17 58 33.5 -0.2
baz=204,SNR=7.1
R32K Eaglecrest 80.99 21 P P 17 58 34.9 +0.9
baz=222
GCSA Galena City Sc 81.03 9 P P 17 58 34.7 +0.8
baz=200
F15K North Star Dit 81.05 5 IAmb IAmb 18 01 36.8
comp=Z,13nm,0.8s
F15K North Star Dit 81.05 5 P P 17 58 34.8 +0.6
baz=192,SNR=6.7
HEH HeiHe 81.10 328 eP P 17 58 34.4 -0.3
HEH pmax pmax
comp=Z,7.0nm,1.2s
BESE Bessie Mountai 81.10 21 IAmb IAmb 17 58 36.7
comp=Z,15nm,1.0s
O28M Mount Upton 81.13 17 P P 17 58 35.5 +0.5
baz=216,SNR=19
HARP HAARP 81.17 14 P P 17 58 35.3 +0.4
baz=211,SNR=7.8
H18K Honhosa River 81.20 8 P P 17 58 35.2 +0.3
baz=198,SNR=7.4
O29M Mount Kennedy 81.23 18 IAmb IAmb 18 00 31.1
comp=Z,13nm,0.6s
O29M Mount Kennedy 81.23 18 P P 17 58 36.0 +0.7
baz=218,SNR=6.9
G17K Kiwalik Mounta 81.25 7 P P 17 58 35.9 +0.7
baz=196
BPAW Bear Paw Mtn. 81.41 11 P P 17 58 35.4 -0.7
baz=206,SNR=8.5
I20K Naaghedeneel 81.44 10 P P 17 58 37.0 +0.9
baz=202,SNR=8.5
MCK McKinley 81.49 12 P P 17 58 36.4 -0.1
baz=208,SNR=20
PAX Paxson 81.58 14 P P 17 58 36.9 -0.2
baz=211,SNR=6.9
P30M Million Dollar 81.59 19 P P 17 58 38.4 +1.3
baz=219
SKAG Skagway 81.61 20 IAmb IAmb 17 58 39.6
comp=Z,16nm,1.1s
SKAG Skagway 81.61 20 P P 17 58 38.3 +1.2
baz=221,SNR=5.8
T35M Bob Quinn 81.63 24 P P 17 58 38.3 +1.0
baz=226
YUK8 Steele Glacier 81.66 17 P P 17 58 38.3 +0.5
baz=216,SNR=18
HLID Hailey 81.70 41 IAmb IAmb 17 58 41.0
comp=Z,12nm,0.8s
M26K Nabesna, AK 81.71 15 IAmb IAmb 17 58 39.1
comp=Z,22nm,0.8s
M26K Nabesna, AK 81.71 15 P P 17 58 38.1 +0.4
baz=213,SNR=24
YUK6 Outpost Mounta 81.80 18 P P 17 58 39.0 +0.6
baz=218
H19K Roundabout Mou 81.83 9 P P 17 58 38.9 +0.8
baz=200,SNR=20
YUK3 Moose Creek 81.87 17 P P 17 58 39.3 +0.6
baz=216,SNR=23
G18K Tagagawik 81.87 8 P P 17 58 38.6 +0.2
baz=198
HVU Hansel Valley 81.89 43 IAmb IAmb 17 58 41.6
comp=Z,13nm,0.8s
S34M Telegraph Cree 81.95 23 IAmb IAmb 17 58 41.2
comp=Z,16nm,0.8s
S34M Telegraph Cree 81.95 23 P P 17 58 40.2 +1.3
baz=225,SNR=14
M27K Edge Creek, AK 81.96 16 IAmb IAmb 17 58 41.0
comp=Z,29nm,1.1s
M27K Edge Creek, AK 81.96 16 P P 17 58 40.0 +0.9
baz=214,SNR=17
HYT Haines Junctio 81.97 18 P P 17 58 40.1 +0.9
baz=218,SNR=9.3
H20K Anotleneega Mo 82.03 9 P P 17 58 40.1 +0.9
baz=202,SNR=16
YUK4 Talbot Arm 82.04 18 P P 17 58 40.7 +1.1
baz=218,SNR=7.2
F17K Baldwin Pennin 82.09 6 P P 17 58 40.4 +1.0
baz=196
L26K Log Cabin Wild 82.14 15 IAmb IAmb 17 58 41.4
comp=Z,27nm,1.4s
L26K Log Cabin Wild 82.14 15 P P 17 58 40.5 +0.6
baz=213,SNR=7.2
SRU San Rafael Swe 82.19 46 IAmb IAmb 17 58 43.3
comp=Z,21nm,0.8s
NEA2 Nenana 82.23 12 P P 17 58 39.6 -0.6
baz=207,SNR=7.3
K24K Donnelly Dome 82.23 14 P P 17 58 40.8 +0.5
baz=210,SNR=5.2
P32M Atlin 82.25 21 IAmb IAmb 17 58 42.6
comp=Z,13nm,1.0s
P32M Atlin 82.25 21 P P 17 58 41.5 +1.0
baz=222,SNR=7.9
BVCY Beaver Creek 82.28 16 P P 17 58 41.3 +0.7
baz=215,SNR=13
Q32M Nakina River 82.29 22 IAmb IAmb 17 58 42.5
comp=Z,8.4nm,0.7s
Q32M Nakina River 82.29 22 P P 17 58 42.1 +1.1
baz=224,SNR=9.2
G19K Purcell Mounta 82.32 8 P P 17 58 41.5 +0.8
baz=200
O30N Mendenhall 82.36 19 IAmb IAmb 17 58 43.0
comp=Z,17nm,0.8s
O30N Mendenhall 82.36 19 P P 17 58 41.8 +0.7
baz=220,SNR=25
RIDG Independent Ri 82.39 14 IAmb IAmb 17 58 42.4
comp=Z,22nm,1.1s
RIDG Independent Ri 82.39 14 P P 17 58 41.4 +0.2
baz=211,SNR=11
F18K Selawik 82.43 7 P P 17 58 41.5 +0.3
baz=197,SNR=14
DOT Dot Lake 82.50 14 IAmb IAmb 17 58 42.8
comp=Z,18nm,0.8s
HDA Harding Lake 82.50 13 IAmb IAmb 17 58 42.6
comp=Z,31nm,1.1s
HDA Harding Lake 82.50 13 P P 17 58 41.6 -0.1
baz=205,SNR=14
H21K Melozitna Rive 82.51 10 P P 17 58 42.2 +0.5
baz=204,SNR=15
L27K Beaver Creek, 82.56 15 IAmb IAmb 17 58 43.6
comp=Z,16nm,1.2s
L27K Beaver Creek, 82.56 15 P P 17 58 42.5 +0.5
baz=214,SNR=14
BCAR Beaver Creek A 82.57 15 P P 17 58 42.6 +0.4
N30M Aishikik Lake 82.59 18 P P 17 58 42.6 +0.4
baz=219
P18A Preston Nutter 82.61 46 IAmb IAmb 17 58 45.6
comp=Z,9.7nm,0.8s
E17K Hotham Inlet 82.66 6 P P 17 58 43.2 +0.8
baz=195
WHY Whitehorse 82.66 20 IAmb IAmb 17 58 44.1
comp=Z,20nm,0.8s
WHY Whitehorse 82.66 20 P P 17 58 43.5 +0.8
baz=221,SNR=14
BSUT Blindstream Ca 82.67 45 IAmb IAmb 17 58 46.0
comp=Z,18nm,0.8s
I23K Minto, Yukon-K 82.67 11 IAmb IAmb 17 58 43.4
comp=Z,35nm,1.4s
I23K Minto, Yukon-K 82.67 11 P P 17 58 42.5 0.0
baz=207,SNR=10.0
COLA College 82.72 12 P P 17 58 42.1 -0.6
COLA College 82.72 12 P P 17 58 42.6 -0.2
baz=208
DLBC Dease Lake 82.74 23 IAmb IAmb 17 58 45.1
comp=Z,13nm,1.1s
DLBC Dease Lake 82.74 23 P P 17 58 44.0 +0.9
comp=Z,7.7nm,0.9s,baz=212,slow=7.6,SNR=18
comp=Z,7.7nm,0.9s
DLBC Dease Lake 82.74 23 P P 17 58 44.1 +1.0
baz=226,SNR=8.3
SCRK Sand Creek 82.80 14 IAmb IAmb 17 58 44.6
comp=Z,19nm,1.0s
SCRK Sand Creek 82.80 14 P P 17 58 43.6 +0.3
baz=212,SNR=18
ILAR Eielson Array 82.83 13 P P 17 58 42.6 -0.8
ILAR Eielson Array 82.83 13 P P 17 58 43.0 -0.4
comp=Z,18nm,0.8s,baz=227,slow=6.0,SNR=79
comp=Z,18nm,0.8s
F19K Shaleruckik Mo 82.88 8 P P 17 58 44.0 +0.5
baz=199
VHRN Van Horn 82.94 56 IAmb IAmb 17 58 47.9
comp=Z,10.0nm,0.8s
M29M Somme Creek 82.96 17 P P 17 58 44.7 +0.5
baz=218,SNR=11
H22K Ishtalitna Cre 82.97 10 P P 17 58 44.6 +0.5
baz=205,SNR=14

PV13	Radium Mtn., P	82.98	48	IAmb	IAmb	17 58 47.3
	comp=Z,14nm,1.1s					
PV11	David Mesa, Pa	83.00	47	IAmb	IAmb	17 58 48.7
	comp=Z,22nm,1.1s					
N31M	Braeburn, Yuko	83.01	19	IAmb	IAmb	17 58 46.1
	comp=Z,25nm,1.1s					
N31M	Braeburn, Yuko	83.01	19	P	P	17 58 45.0 +0.7
	baz=220,SNR=15					
P33M	Teslin, Yukon	83.01	21	P	P	17 58 45.1 +0.6
	baz=223,SNR=8.4					
J25K	Salcha River,	83.02	13	P	P	17 58 44.7 +0.3
	baz=211,SNR=14					
POKR	Poker Plat Res	83.02	12	P	P	17 58 44.2 -0.2
	baz=209,SNR=9.2					
R33M	Jennings River	83.07	22	P	P	17 58 45.8 +0.9
	baz=225,SNR=11					
E18K	Tukpahlearik C	83.11	6	P	P	17 58 45.7 +0.9
	baz=196					
D17K	Noatak River	83.14	5	P	P	17 58 45.8 +1.0
	baz=194,SNR=18					
G21K	Allakaket	83.19	9	P	P	17 58 45.9 +0.7
	baz=203					
H23K	Yukon River	83.24	11	P	P	17 58 45.3 -0.2
	baz=207					
PV15	Paradox Valley	83.30	48	IAmb	IAmb	17 58 48.9
	comp=Z,12nm,0.8s					
K27K	Chicken	83.30	15	IAmb	IAmb	17 58 47.8
	comp=Z,18nm,1.0s					
K27K	Chicken	83.30	15	P	P	17 58 46.7 +0.9
	baz=214					
J26L	Joseph Creek	83.34	14	P	P	17 58 47.0 +1.0
	baz=213,SNR=12					
F20K	Avaraart Lake	83.36	8	P	P	17 58 46.5 +0.6
	baz=201,SNR=16					
ANMO	Albuquerque	83.40	51	P	P	17 58 48.1 +0.9
ANMO				IAmb	IAmb	17 58 49.7
	comp=Z,13nm,1.1s					
AHID	Auburn Hatcher	83.45	43	IAmb	IAmb	17 58 49.7
	comp=Z,22nm,1.4s					
TX31	Lajitas Ar. Si	83.47	57	IAmb	IAmb	17 58 50.9
	comp=Z,14nm,1.0s					
TXAR	Lajitas Array	83.47	57	P	P	17 58 49.3 +1.8
TXAR	Lajitas Array	83.47	57	P	P	17 58 49.8 +2.3
	comp=Z,7.1nm,0.8s,baz=222,slow=6.5,SNR=70					
	comp=Z,7.1nm,0.8s					
RDMU	Red Mountain	83.49	45	IAmb	IAmb	17 58 49.6
	comp=Z,12nm,0.7s					
RDOG	Red Dog Mine	83.50	5	P	P	17 58 47.7 +1.0
	baz=194					
C16K	Lisburne Hills	83.51	4	IAmb	IAmb	17 58 48.2
	comp=Z,21nm,1.1s					
C16K	Lisburne Hills	83.51	4	P	P	17 58 47.4 +0.7
	baz=192					
E19K	Redstone River	83.54	8	P	P	17 58 47.7 +0.8
	baz=199					
M30M	Minto, Yukon	83.55	18	IAmb	IAmb	17 58 48.5
	comp=Z,20nm,0.8s					
M30M	Minto, Yukon	83.55	18	P	P	17 58 47.6 +0.5
	baz=219,SNR=31					
L29M	L29M	83.59	17	P	P	17 58 48.3 +1.0
	baz=218,SNR=34					
MSO	Missoula	83.61	38	IAmb	IAmb	17 58 49.6
	comp=Z,36nm,1.9s					
N32M	Quiet Lake	83.62	20	IAmb	IAmb	17 58 49.4
	comp=Z,15nm,0.9s					
N32M	Quiet Lake	83.62	20	P	P	17 58 48.5 +1.0
	baz=223					
ENH	Enshi	83.64	304	IAmb	IAmb	17 58 49.5
	comp=Z,11nm,0.8s					
DLMT	Dillon	83.71	40	IAmb	IAmb	17 58 50.9
	comp=Z,21nm,0.9s					
PRP	Porcupine Dome	83.77	13	P	P	17 58 48.2 -0.1
	baz=211,SNR=12					
F21K	Alatna River	83.85	9	P	P	17 58 49.0 +0.5
	baz=203,SNR=5.6					
TPAW	Teton Pass	83.88	42	IAmb	IAmb	17 58 51.1
	comp=Z,17nm,1.0s					
C17K	DeLong Mountai	83.89	5	P	P	17 58 49.3 +0.6
	baz=194					
G23K	Bananza Creek	83.95	11	P	P	17 58 49.7 +0.7
	baz=206					
M31M	Drury Creek, Y	83.98	19	P	P	17 58 49.2 -0.1
	baz=221,SNR=9.7					
SNOW	Snow King Moun	83.99	42	IAmb	IAmb	17 58 52.7
	comp=Z,26nm,1.0s					
DAWY	Dawson	84.01	16	P	P	17 58 49.9 +0.5
	baz=216,SNR=21					
I26K	Coal Creek Min	84.11	14	P	P	17 58 50.4 +0.7
	baz=213					
C18K	Utukok River	84.24	6	IAmb	IAmb	18 01 25.0
	comp=Z,9.6nm,0.8s					
C18K	Utukok River	84.24	6	P	P	17 58 50.3 -0.1
	baz=196					
F22K	John River	84.31	9	P	P	17 58 51.4 +0.6
	baz=204					
FARO	Faro, Yukon	84.33	19	P	P	17 58 51.2 +0.2
	baz=222,SNR=6.5					
K29M	Barlow Dome	84.34	17	IAmb	IAmb	17 58 52.8
	comp=Z,19nm,1.0s					
K29M	Barlow Dome	84.34	17	P	P	17 58 51.6 +0.5
	baz=218,SNR=24					
COLD	Coldfoot	84.38	10	P	P	17 58 51.9 +0.8
	baz=206,SNR=11					
G24K	Hadweenzic Riv	84.41	11	P	P	17 58 51.9 +0.6
	baz=209					
YMR	Madison River	84.41	41	IAmb	IAmb	17 58 55.1
	comp=Z,23nm,0.9s					
D19K	Kuna River	84.42	7	IAmb	IAmb	18 01 08.0
	comp=Z,24nm,0.9s					
D19K	Kuna River	84.42	7	P	P	17 58 51.6 +0.3
	baz=198					
BOZ	Bozeman (W)	84.42	40	IAmb	IAmb	17 58 54.5
	comp=Z,19nm,1.3s					
E20K	Nigu River	84.43	8	P	P	17 58 51.9 +0.5
	baz=200					
PDAR	Pinedale Array	84.47	43	P	P	17 58 52.6 +0.3
PDAR	Pinedale Array	84.47	43	P	P	17 58 53.0 +0.7
	comp=Z,5.0nm,0.8s,baz=217,slow=3.2,SNR=39					
	comp=Z,5.0nm,0.8s					
H17A	Grant Village	84.53	41	IAmb	IAmb	17 58 56.3
	comp=Z,14nm,0.9s					
MAYO	Mayo, Yukon	84.60	17	P	P	17 58 53.2 +0.9
	baz=220,SNR=7.0					
J29N	Klondike Camp	84.63	16	P	P	17 58 53.5 +1.0
	baz=218					
I27K	Kandik River	84.72	14	P	P	17 58 53.3 +0.4
	baz=214					
G25K	Bearman Lake	84.73	12	P	P	17 58 53.5 +0.7
	baz=210					
D20K	Etivluk River	84.81	7	P	P	17 58 53.7 +0.5
	baz=200					
B18K	Kokolik River	84.87	5	P	P	17 58 54.1 +0.6
	baz=195					
LIRD	Liard River Hi	84.89	24	P	P	17 58 54.6 +0.8
	baz=229					
E21K	Killik River	84.91	8	P	P	17 58 54.2 +0.5
	baz=202					
E22K	Anaktuvuk Pass	84.94	9	IAmb	IAmb	17 58 55.4
	comp=Z,16nm,0.9s					
E22K	Anaktuvuk Pass	84.94	9	P	P	17 58 54.4 +0.5
	baz=205,SNR=11					
I28M	Miner Creek	84.99	15	P	P	17 58 54.5 +0.2
	baz=216					
F24K	Squaw Lake	85.05	11	P	P	17 58 55.1 +0.6
	baz=208					
YNE	Yellowstone No	85.17	41	IAmb	IAmb	17 58 58.6
	comp=Z,18nm,1.1s					
E23K	Chandalar	85.23	10	IAmb	IAmb	18 01 49.8
	comp=Z,8.6nm,0.8s					
E23K	Chandalar	85.23	10	P	P	17 58 55.9 +0.5
	baz=207,SNR=5.3					
J30M	Hart River	85.23	16	P	P	17 58 56.0 +0.4
	baz=219,SNR=5.1					
H27K	Steamboat Moun	85.26	14	P	P	17 58 56.0 +0.5
	baz=214					
MMPY	Sheldon Lake,	85.28	19	IAmb	IAmb	17 58 57.5
	comp=Z,36nm,1.3s					
MMPY	Sheldon Lake,	85.28	19	P	P	17 58 56.6 +0.9
	baz=224,SNR=25					
I29M	Ogilvie Camp,	85.33	15	IAmb	IAmb	17 58 56.8
	comp=Z,22nm,1.3s					
G26K	Porcupine Rive	85.36	13	P	P	17 58 56.6 +0.7
	baz=212					
E24K	Your Creek	85.44	10	P	P	17 58 57.0 +0.6
	baz=208					
C21K	Knifeblade Rid	85.46	8	P	P	17 58 57.0 +0.6
	baz=202					
D22K	Ayikyak River	85.50	9	P	P	17 58 57.3 +0.7
	baz=204					
TGTN	Hyland Airport	85.52	21	P	P	17 58 57.7 +0.8
	baz=227,SNR=9.0					
F25K	Christian Rive	85.54	12	P	P	17 58 57.4 +0.5
	baz=210					
BMAR	Burnt Mountain	85.61	12	P	P	17 58 57.3 0.0
RLMT	Red Lodge	85.69	41	IAmb	IAmb	17 59 01.5
	comp=Z,18nm,1.1s					
G27K	Doyon Strip	85.71	13	P	P	17 58 58.1 +0.4
	baz=214					
I30M	Mount Dempster	85.72	16	IAmb	IAmb	17 58 59.0
	comp=Z,12nm,1.0s					
I30M	Mount Dempster	85.72	16	P	P	17 58 58.1 +0.2
	baz=219,SNR=6.6					
GSI	Gunungsitoli	85.73	272	P	P	17 58 59.4 +0.4
GSI				IAmb	IAmb	17 59 00.5
	comp=Z,15nm,0.7s					
A19K	Wainwright	85.75	5	P	P	17 58 58.2 +0.4
	baz=196					
TOLK	Toolik Lake Re	85.76	10	P	P	17 58 58.1 +0.2
	baz=207					
D23K	Nanushuk River	85.88	9	IAmb	IAmb	17 59 01.1
	comp=Z,9.2nm,0.9s					
D23K	Nanushuk River	85.88	9	P	P	17 58 59.0 +0.6
	baz=206					
B21K	Ikpikpuk River	85.92	8	P	P	17 58 59.0 +0.5
	baz=202					
F26K	Sheenjek River	85.92	12	P	P	17 58 59.3 +0.5
	baz=212					
B20K	Meade River	85.97	7	P	P	17 58 59.4 +0.6
	baz=199					
DRIO	Del Rio	86.00	58	IAmb	IAmb	17 59 02.5
	comp=Z,11nm,1.0s					
H29M	Whitestone	86.00	15	IAmb	IAmb	17 59 00.3
	comp=Z,10nm,0.9s					
H29M	Whitestone	86.00	15	P	P	17 58 59.6 +0.5
	baz=217					
E25K	Arctic Village	86.01	11	P	P	17 58 59.6 +0.4
	baz=210					
KOTAN	Kotaneelee Air	86.15	24	P	P	17 59 00.6 +0.6
	baz=231,SNR=5.6					
D24K	Happy Valley	86.34	10	P	P	17 59 01.4 +0.7
	baz=207					
EPYK	Eagle Plains	86.53	15	P	P	17 59 02.2 +0.5
	baz=219					
G29M	Pine Creek	86.64	14	P	P	17 59 02.4 +0.2
	baz=218					
C23K	Itkillik River	86.67	9	IAmb	IAmb	17 59 03.0
	comp=Z,10nm,0.7s					
C23K	Itkillik River	86.67	9	P	P	17 59 02.8 +0.5
	baz=206					
H31M	Peel River	86.72	16	IAmb	IAmb	17 59 03.5
	comp=Z,23nm,1.8s					
H31M	Peel River	86.72	16	P	P	17 59 03.0 +0.4
	baz=221					
B22K	Teshekpuk Lake	86.74	8	P	P	17 59 03.0 +0.5
	baz=203					
E27K	Coleen River	86.86	13	P	P	17 59 03.5 +0.2
	baz=214					
C24K	Franklin Bluff	86.87	10	IAmb	IAmb	17 59 04.3
	comp=Z,15nm,0.9s					
C24K	Franklin Bluff	86.87	10	P	P	17 59 03.6 +0.4
	baz=208					
D25K	Kavik River	86.91	10	P	P	17 59 03.0 -0.4
	baz=210					
G30M	tAoh Zrail Nji	87.13	15	IAmb	IAmb	17 59 05.2
	comp=Z,7.6nm,0.8s					
G30M	tAoh Zrail Nji	87.13	15	P	P	17 59 04.4 -0.1
	baz=219					
A22K	Sinclair Lake	87.16	7	P	P	17 59 04.5 +0.1
	baz=202					
KMI	Kunming	87.58	297	P	P	17 59 09.1 +1.3
KMI				pmax	pmax	
	comp=Z,9.0nm,0.8s					
G31M	Satah River	87.58	16	IAmb	IAmb	17 59 07.9
	comp=Z,8.9nm,0.8s					
G31M	Satah River	87.58	16	P	P	17 59 06.2 -0.4
	baz=221,SNR=7.5					
E28M	Babbage River	87.65	13	P	P	17 59 07.0 +0.1
	baz=216					
C27K	Jago River	87.65	11	IAmb	IAmb	17 59 08.9
	comp=Z,8.4nm,0.8s					
C27K	Jago River	87.65	11	P	P	17 59 07.2 +0.3
	baz=212					
C26K	Camden Bay	87.68	11	P	P	17 59 07.5 +0.6
	baz=211					
F30M	Barrier River	87.73	15	P	P	17 59 07.5 +0.3
	baz=220					
E29M	Blow River	87.84	14	P	P	17 59 07.9 +0.1
	baz=218					
D27M	Malcolm River	87.87	12	P	P	17 59 07.9 -0.1
	baz=215					
F31M	Tsiigehtchic	88.11	15	IAmb	IAmb	17 59 11.2
	comp=Z,8.8nm,0.7s					
F31M	Tsiigehtchic	88.11	15	P	P	17 59 09.0 -0.1
	baz=222					
D28M	Stokes Point	88.40	13	P	P	17 59 10.1 -0.2
	baz=217					
INK	Inuvik	88.81	15	P	P	17 59 11.9 -0.4
	comp=Z,1.6nm,0.5s,baz=199,slow=6.4,SNR=5.4					
	comp=Z,1.6nm,0.5s					
INK	Inuvik	88.81	15	P	P	17 59 11.9 -0.4
	baz=222					
PLPT	Palo Pinto	88.97	56	IAmb	IAmb	17 59 15.8
	comp=Z,7.7nm,0.8s					
CMAR	Chiang Mai Arr	89.03	289	P	P	17 59 14.5 0.0
	comp=Z,3.1nm,0.9s,baz=94,slow=2.4,SNR=22					
	comp=Z,3.1nm,0.9s					
CHTO	Chiang Mai	89.13	290	P	P	17 59 15.3 +0.4
DGMT	Dagmar	90.24	40	IAmb	IAmb	17 59 21.8
	comp=Z,21nm,0.9s					
YKA	Yellowknife Ar	91.24	24	P	P	17 59 23.4 -0.3
	comp=Z,1.1nm,0.7s,baz=243,slow=4.8,SNR=15					
	comp=Z,1.1nm,0.7s					
ULN	Ulaanbaatar	91.74	319	P	P	17 59 26.2 -0.3
C36M	Paulatuk	92.01	16	IAmb	IAmb	17 59 27.8
	comp=Z,16nm,1.1s					
C36M	Paulatuk	92.01	16	P	P	17 59 26.9 -0.2
	baz=231					
SONM	Songino Array	92.14	319	P	P	17 59 27.4 -1.0
	comp=Z,1.1nm,0.8s,baz=147,slow=3.0,SNR=5.4					
	comp=Z,1.1nm,0.8s					
SYO	Syowa Base	92.21	192	‖ eP	P	17 59 27.0 -1.2
A36M	Sachs Harbour	93.41	14	P	P	17 59 33.6 +0.1
	baz=230					
ECSD	EROS Data Cent	93.60	46	IAmb	IAmb	17 59 36.2
	comp=Z,13nm,1.4s					
TIXI	Tiksi	93.68	345	P	P	17 59 33.8 -0.9
GTA	Gaotai	94.11	310	eP	P	17 59 37.4 -0.2
GTA				pmax	pmax	
	comp=Z,4.0nm,1.0s					
ZALV	Zalesovo Beam	106.69	322	PKiKP	PKiKP	18 04 40.3 -1.4
	comp=Z,0.6nm,0.4s,baz=124,slow=2.6,SNR=4.4					
MKAR	Makanchi Array	107.96	315	PKiKP	PKiKP	18 04 42.9 -1.5
	comp=Z,1.4nm,0.8s,baz=67,slow=2.6,SNR=13					
KURBB	Kurchatov Arra	110.51	319	PKiKP	PKiKP	18 04 47.7 -1.2
	comp=Z,1.0nm,0.6s,baz=90,slow=1.7,SNR=13					
BVAR	Borovoye Array	115.33	322	PKP	PKPdf	18 04 57.4 -0.8
	comp=Z,3.0nm,0.6s,baz=90,slow=1.6,SNR=19					
GAR	Garm	116.71	306		PKPdf	18 05 00.8 -0.6
ARTI	Arti	121.19	328		PKPdf	18 05 08.6 -0.7
ABKAR	Akbulak array	122.56	319	PKPdf	PKPdf	18 05 11.1 -1.1
ARCES	ARCESS Array B	123.69	351	PKP	PKPdf	18 05 12.8 -0.9
	comp=Z,5.1nm,0.7s,baz=8.5,slow=2.5,SNR=17					
FINES	FINESS Array B	130.73	345	PKP	PKPdf	18 05 26.8 -0.5
	comp=Z,2.1nm,0.6s,baz=18,slow=4.6,SNR=9.4					
NB2	NORSAR Subarra	133.65	354	PKP	PKPdf	18 05 33.3 +0.3
	comp=Z,0.5nm,0.7s,baz=17,slow=2.6					
NOA	NORSAR Array B	133.65	354	PKP	PKPdf	18 05 32.6 -0.4
	comp=Z,1.6nm,0.7s,baz=13,slow=4.1,SNR=5.6					
HFS	Hagfors	134.26	352	PKhKP	PKPpre	18 05 27.7
	comp=Z,1.1nm,0.6s,baz=305,slow=5.1,SNR=4.2					
AKASG	Malin Array Be	138.51	335	PKhKP	PKPpre	18 05 37.5
	comp=Z,1.5nm,0.8s,baz=45,slow=1.4,SNR=5.1					
AKASG				PKP	PKPdf	18 05 41.5 -0.7
	comp=Z,1.3nm,0.6s,baz=38,slow=1.7,SNR=8.7					
KMBO	Kilima Mbogo	142.34	248	PKhKP	PKPpre	18 05 46.2
	comp=Z,1.3nm,0.4s,baz=55,slow=6.6,SNR=5.4					
KOLS	Kolonicke sedl	142.60	339	ePKP	PKPdf	18 05 46.9 -2.8
CLL	Collm	142.89	349	i PKPdf	PKPdf	18 05 46.3 -3.8
CLL				i x	x	18 05 48.0
	comp=Z,7.0nm,0.7s					
UPC	Upice	143.03	346	ePKP	PKPbc	18 05 48.1 -0.2
ONER	Baraj Valea Uz	143.06	333	⇑P	PKPbc	18 05 48.7 +0.2
DPC	Dobruska-Polom	143.10	346	ePKP	PKPbc	18 05 48.1 -0.5
BRG	Berggiesshubel	143.13	348	ePKP	PKPbc	18 05 49.5 +0.9
BRG				Amp		18 05 49.8
	comp=Z,2.4nm,0.7s					
BRG	Berggiesshubel	143.13	348	P	PKiKP	18 05 54.3 +0.4
BRG				Amp		18 05 54.6
	comp=Z,2.8nm,0.7s					
TPGR	Topolog	143.21	329	⇑P	PKPbc	18 05 49.2 +0.2
KRLC	Kraliky	143.24	345	ePKP	PKPbc	18 05 48.5 -0.4
VRI	Vrincioaia	143.27	332	⇓P	PKPbc	18 05 48.8 -0.3
PLOR	Plostina	143.32	332	⇑P	PKPab	18 05 48.8 +0.8
MORC	Moravsky Berou	143.32	344	ePKP	PKPab	18 05 48.7 +0.8
MORC	Moravsky Berou	143.32	344	⇑P	PKPab	18 05 48.6 +0.7
PVCC	Panska Ves	143.33	347	ePKP	PKPbc	18 05 49.9 +0.8
TIRR	Tirgusor	143.50	329	⇓P	PKPab	18 05 49.4 +0.7
BRTR	Keskin Array B	143.50	318	PKP	PKPab	18 05 49.5 +0.3
	comp=Z,16nm,0.9s,baz=105,slow=1.7,SNR=66					
COVR	Voineasa-Covas	143.52	332	⇓P	PKPab	18 05 48.9 0.0
KIRS	Kirsehir-Merke	143.65	317	⇑P	PKPab	18 05 50.0 +0.4
MFTR	Murfatlar	143.69	328	⇑P	PKPab	18 05 50.1 +0.6
DOPR	Dopca	143.79	333	⇑P	PKPbc	18 05 50.9 +0.3
PRU	Pruhonice	143.84	347	ePKP	PKPbc	18 05 51.3 +0.8
MANR	Mangalia	143.86	328	⇑P	PKPbc	18 05 50.8 +0.1
GOPC	GO Pecny, Ondr	143.86	347	ePKP	PKPbc	18 05 50.7 +0.1
MLR	Muntele Rosu	143.91	332	PKPdf	PKPab	18 05 50.4 -0.1
MLR	Muntele Rosu	143.91	332	⇓P	PKPbc	18 05 51.1 +0.1
ANTO	Ankara	143.96	319		PKPab	18 05 50.9 +0.1
ANTO	Ankara	143.96	319	⇑P	PKPab	18 05 51.0 +0.2
VRAC	Vranov	144.00	345	ePKP	PKPab	18 05 50.9 +0.3
VRAC	Vranov	144.00	345	⇑P	PKPab	18 05 50.8 +0.3
VYHS	Vyhne	144.11	342	ePKP	PKPbc	18 05 51.5 +0.1
JAVC	Velka Javorina	144.12	343	ePKP	PKPdf	18 05 52.3 -0.1
MARR	Marisel-Cluj	144.17	336	⇑P	PKPab	18 05 51.6 +0.2
DRGR		144.24	336	⇑P	PKPab	18 05 51.6 -0.1
KRUC	Moravsky	144.27	345	ePKP	PKPab	18 05 51.2 -0.4
PSZ	Piszkesteto	144.28	340	⇓P	PKPab	18 05 51.8 +0.1
TREC	Trest	144.28	346	ePKP	PKPab	18 05 51.8 +0.1
VOIR		144.35	333	⇑P	PKPbc	18 05 52.5 +0.1
ZVC	Zvikov	144.44	347	ePKP	PKPbc	18 05 52.6 +0.3
TNR	Turnu Rosu	144.52	334	⇑P	PKPab	18 05 52.8 0.0
ARR	Arges	144.59	333	⇓P	PKPdf	18 05 53.6 +0.2
MODS	Modra-Piesok	144.67	343	ePKP	PKPdf	18 05 54.0 +0.7
GRFO	Grafenberg	144.75	351		PKPbc	18 05 52.7 -0.5
KHC	Kasperske Hory	144.86	348	ePKP	PKPab	18 05 54.0 +0.1
LOT	Lotru	144.90	334	⇓P	PKPdf	18 05 53.5 -0.4
CKRC	Cesky Krumlov	145.00	347	ePKP	PKPbc	18 05 54.4 +0.3
SIRR	Siria	145.07	337	⇑P	PKPbc	18 05 54.8 +0.4
GERES	GERESS Array B	145.11	347	PKPdf	PKPdf	18 05 53.9 -0.3
GERES	GERESS Array B	145.11	347	PKPbc	PKPdf	18 05 54.3 +0.1
	comp=Z,8.5nm,0.8s,baz=26,slow=3.4,SNR=50					
SURR	Surduc	145.32	336	⇑P	PKPbc	18 05 55.0 -0.1
GZR	Gura Zlata	145.36	335	⇑P	PKPdf	18 05 54.7 +0.1
MMAI	Mount Meron Ar	145.45	307	PKPbc	PKPbc	18 05 56.3 +0.3
	comp=Z,18nm,0.6s,baz=69,slow=4.6,SNR=36					
CONA	Conrad Observa	145.46	344	i PKP	PKPbc	18 05 55.9 +0.4
	comp=Z,17nm,0.9s,SNR=14					
RONA	Rosalia, Austr	145.55	344	i PKP	PKPbc	18 05 56.0 +0.2
	comp=Z,20nm,1.1s,SNR=10					
BZS	Buzias	145.63	336	⇑P	PKPbc	18 05 55.8 -0.3
MOA	Molln	145.92	346	i PKP	PKPbc	18 05 56.9 +0.1
	comp=Z,17nm,1.1s,SNR=7.7					
HERR	Herculane	145.92	335	⇑P	PKPbc	18 05 56.5 -0.4
CSS	Mathiatis	146.16	311		PKPdf	18 05 56.9 +0.6
MORH	Mrgy, Hungar	146.19	340	⇑P	PKPdf	18 05 55.9 -0.1
BIOA	Bad Ischl, Aus	146.21	347	i PKP	PKPbc	18 05 57.4 -0.3
	comp=Z,10nm,0.9s,SNR=7.8					
BFO	Black Forest	146.48	353	PKPdf	PKPdf	18 05 56.4 0.0
LESA	Schwarzleotal	146.67	348	i PKP	PKPbc	18 05 58.7 -0.3
	comp=Z,5.2nm,0.6s,SNR=10					
FRGS	Fruska Gora	146.70	338	⇓ i P	PKPbc	18 05 59.0 -0.2
SOKA	Soboth	146.83	345	i PKP	PKPbc	18 05 58.9 -0.6
	comp=Z,13nm,0.9s,SNR=11					
KBA	Koelnbreinsper	146.86	347	i PKP	PKPbc	18 05 58.9 -0.8
	comp=Z,8.6nm,0.6s,SNR=7.9					
RETA	Reutte	146.97	350	i PKP	PKPbc	18 05 59.7 -0.1
	comp=Z,17nm,1.2s,SNR=5.8					
WATA	Walderalm	146.97	349	i PKP	PKPbc	18 05 59.7 -0.3
	comp=Z,11nm,0.8s					
WTTA	Wattenberg	147.03	349	i PKP	PKPbc	18 06 00.0 -0.2
	comp=Z,20nm,0.7s,SNR=9.9					
MOTA	Moosalm	147.04	350	i PKP	PKPbc	18 05 59.8 -0.4
	comp=Z,22nm,1.1s					
CLF	Chambon-Foret	147.09	1		PKPbc	18 06 00.6 +0.5
OBKA	Obir	147.11	345	eP	PKPbc	18 05 59.5 -0.8
OBKA	Obir	147.11	345	i PKP	PKPdf	18 05 59.0 +1.4
	comp=Z,6.6nm,0.9s					
SQTA	Sankt Quirin	147.15	349	i PKP	PKPbc	18 06 00.2 -0.2
	comp=Z,15nm,1.1s,SNR=5.2					
MYKA	Terra Mystica	147.21	346	i PKP	PKPbc	18 05 59.6 -1.0
	comp=Z,17nm,1.0s,SNR=5.6					
BOVS	Bovan	147.23	334	⇓P	PKPbc	18 06 00.1 -0.6
DAVA	Damuels	147.30	351	i PKP	PKPbc	18 06 00.9 0.0
	comp=Z,12nm,0.8s,SNR=6.5					
TEKS	Tekeris	147.33	338	eP	PKPbc	18 05 59.9 -1.0
ABTA	Abfaltersbach	147.35	348	i PKP	PKPbc	18 06 00.1 -0.9
	comp=Z,18nm,0.8s,SNR=9.0					
FETA	Feichten	147.42	350	i PKP	PKPbc	18 06 00.9 -0.3
	comp=Z,18nm,1.3s,SNR=6.5					
ELL	Elmali	147.60	317		PKPbc	18 06 01.8 -0.2
A051A	Mrakovica	147.81	341	⇓ i P	PKPbc	18 06 01.8 -0.4
BOJS	Bojanci	147.85	343	eP	PKPbc	18 06 01.5 -0.7
CEY	Cerknica	147.86	345	eP	PKPbc	18 06 01.4 -0.8
HAPS	Han Pijesak,Bl	147.94	338	⇓ i P	PKPbc	18 06 02.6 0.0
BBLS	Lazi&#263i	147.96	337	⇓ i P	PKPbc	18 06 02.2 -0.4
BLY	Banja Luka	147.96	341	⇓ i P	PKPbc	18 06 02.3 -0.2
AKAS	Kas	148.09	316		PKPbc	18 06 02.7 -0.6
SKDS	Skadanscina	148.14	345	⇓ i P	PKPbc	18 06 01.8 -1.2
RUDO	Rudo	148.18	337	eP	PKPbc	18 06 02.4 -0.7
SJES	Sjenica	148.25	336	⇓ i P	PKPbc	18 06 03.0 -0.4
A050A	Klekovaca	148.41	341	⇓ i P	PKPbc	18 06 02.9 -0.9
UP

WRKA	Warakurna	38.33 250	P	P	18 27 44.5	-0.4
FORT	Forrest	39.47 241	P	P	18 27 54.6	+0.4
QSPA	South Pole Qui	74.14 180	P	P	18 31 59.8	+2.1
	4.0nm,0.8s,baz=357,slow=1.0,SNR=18					
	4.0nm,0.8s					
SONM	Songino Array	83.95 323	P	P	18 32 52.9	+1.7
	0.5nm,0.4s,baz=134,slow=6.2,SNR=4.3					
	0.5nm,0.4s					

IDC 01 18:34:38.9±8.4, 30°.92S×179°.82W, h548km±114km, mb2.5/2, mbtmp3.6/3, Error ellipse: s-maj=130.6km s-min=49.4km az=4.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.75	198	P	P	18 36 33.6	-0.3
	3.2nm,0.4s,baz=344,slow=4.8,SNR=3.1						
URZ				S	S	18 38 09.1	+0.8
	7.2nm,0.5s,baz=148,slow=22,SNR=13						
ASAR	Alice Springs	41.52	268	P	P	18 41 38.0	-0.9
	0.3nm,0.6s,baz=109,slow=8.1,SNR=6.0						
	0.3nm,0.6s						
WRA	Warramunga Arr	42.56	274	P	P	18 41 47.5	+0.4
	0.6nm,0.5s,baz=112,slow=7.0,SNR=5.9						
	0.6nm,0.5s						
FINES	FINESS Array B	145.07	338	PKPbc	PKPdf	18 53 13.5	+0.2
	4.5nm,0.9s,baz=52,slow=5.4,SNR=1.1						

*IDC **01** 18:39:03.7±0.4, 18°.05S×65°.60E, h0km, mb4.7/37, mbtmp4.7/38, ML5.3/1, MS5.3/68, Error ellipse: s-maj=13.5km s-min=10.8km az=51.0*

*BJI **01** 18:39:05.0, 18°.10S×65°.40E, h10km, mB5.6/76, mb5.2/75, Ms5.7/95, Ms7 5.5/92*

*MOS **01** 18:39:05.1±1.7, 18°.08S×65°.67E, h10km, mb5.5/59, MS5.2/36, Error ellipse: s-maj=8.4km s-min=4.7km az=101.4*

*NEIC **01** 18:39:05.9±2.4, 18°.21S±0°.09×65°.37E±0°.08, h10km±1km, mb5.5/113, Ms_20 5.7/696, Mwb5.9/68, Mww6.0/27, Error ellipse: s-maj=19.3km s-min=8.0km az=141.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.48; $M_{\theta\theta}$-8.63; $M_{\phi\phi}$7.15; $M_{r\theta}$-2.36; $M_{\theta\phi}$3.28; $M_{\phi r}$-0.95; Fault plane solution: $M_0$9.00000×10^{17} NP1: ϕ_s146.45000°, δ73.47000°, λ178.98000°. NP2: ϕ_s236.74000°, δ89.02000°, λ16.53000°. Principal axes: T 8.1045, Plg12.0000°, Azm103.0000°; N 1.5864, Plg73.0000°, Azm240.0000°; P -9.6908, Plg11.0000°, Azm10.0000°;*

*ISC-PP **01** 18:39:05, 18°.21S×65°.37E, h24km, Mwppsm6.4, Moment Tensor Solution. s40 Moment tensor: Scale 10^{18}Nm; M_{rr}0.05±.08; $M_{\theta\theta}$-0.76±.10; $M_{\phi\phi}$0.62±.13; $M_{r\theta}$-0.10±.24; $M_{\theta\phi}$0.04±.08; $M_{\phi r}$0.06±.12; Fault plane solution: $M_0$5.13000×10^{18} NP1:ϕ_s47.40000°, δ82.40000°, λ357.60000°. NP2:ϕ_s137.80000°, δ87.60000°, λ-172.40000°.*

*NEIC **01** 18:39:06.5, 17°.98S×65°.00E, h26km, Moment Tensor Solution. Duration: 4s9 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.09; $M_{\theta\theta}$-1.16; $M_{\phi\phi}$1.25; $M_{r\theta}$-0.13; $M_{\theta\phi}$0.50; $M_{\phi r}$-0.02; Fault plane solution: $M_0$1.31000×10^{18} NP1: ϕ_s146.34000°, δ84.58000°, λ-177.09000°. NP2: ϕ_s56.06000°, δ87.10000°, λ-5.43000°. Principal axes: T 1.3492, Plg2.0000°, Azm101.0000°; N -0.0789, Plg84.0000°, Azm208.0000°; P -1.2702, Plg6.0000°, Azm11.0000°;*

*NEIC **01** 18:39:06.3, 18°.13S×65°.38E, h10km*

*NEIC **01** 18:39:06.5, 18°.18S×65°.38E, h26km*

*IPGP **01** 18:39:07.0, 17°.97S×65°.34E, h12km, Mw6.0, Fault plane solution: NP1:ϕ_s240.00000°, δ83.00000°, λ8.00000°. NP2:ϕ_s149.00000°, δ82.00000°, λ173.00000°.*

*GCMT **01** 18:39:09.9±0.1, 17°.77S×65°.23E, h16km, MW6.0/169, Moment Tensor Solution. s161, c349; s169, c630; Duration: 2s4 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.13±.01; $M_{\theta\theta}$-1.00±.01; $M_{\phi\phi}$1.13±.01; $M_{r\theta}$-0.20±.02; $M_{\theta\phi}$0.61±.01; $M_{\phi r}$0.06±.02; Best double couple: $M_0$1.24700×10^{18} NP1:ϕ_s59.00000°, δ82.00000°, λ-8.00000°. NP2:ϕ_s150.00000°, δ82.00000°, λ-172.00000°. Principal axes: T 1.2930, Plg0.0000°, Azm285.0000°; N -0.0940, Plg79.0000°, Azm194.0000°; P -1.2020, Plg11.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 01 18:39:07.6±0.5, 18°.09S±0°.04×65°.27E±0°.03, h16km±2km, h16km:pP-P, n1190, σ2s36/983, mb5.3/275, MS5.7/466, 39C-34D, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	9.48	250		Pn	18 41 20.4	-3.3
H08S1	Diego Garcia H	12.53	35	T	T	18 54 45.8	
	baz=213,slow=76						
H08S2	Diego Garcia H	12.54	35	T	T	18 54 46.6	
	baz=213,slow=76						
H08S3	Diego Garcia H	12.55	35	T	T	18 54 47.2	
	baz=213,slow=76						
DGAR	Diego Garcia	12.72	34	Pn	Pn	18 42 02.6	-5.3
DGAR	Diego Garcia	12.72	34	P	Pn	18 42 06.7	-1.2
DGAR				P	Pn	18 42 06.7	-1.2
DGAR				S	Sn	18 44 30.8	+1.5
DGAR				S	Sn	18 44 30.8	+1.5
DGAR	Diego Garcia	12.72	34	P	Pn	18 42 02.6	-5.3
SBV	Sambava	15.47	285	P	Pn	18 42 42.0	-3.3
	SNR=88						
ABPO	Ambohimpanom	17.13	264	P	P	18 43 07.9	-0.5
ABPO	Ambohimpanom	17.13	264	P	P	18 43 07.9	-0.5
ABPO				pmax	pmax		
	comp=Z,1μm,1.4s						
OPO	Ambohidratompo	17.18	266	P	Pn	18 43 07.7	+0.5
	comp=Z,1.0nm,0.3s,baz=87,slow=12,SNR=47						
OPO				S	Sn	18 46 15.9	-2.3
	comp=Z,19nm,0.5s,baz=50,slow=16,SNR=1.6						
	comp=Z,111nm,0.5s						
VOI	Vohitsoka	17.77	255		Pn	18 43 13.2	-1.4
VOI				IAmb	IAmb	18 43 19.7	
	comp=Z,430nm,1.3s						
VOI	Vohitsoka	17.77	255	P	Pn	18 43 13.6	-1.1
	SNR=23						
FOMA	Nahampoana Res	18.33	245	P	Pn	18 43 18.4	-2.9
FOMA				IAmb	IAmb	18 43 27.6	
	comp=Z,406nm,1.5s						
KAAM	Kaadhehdhoo	19.97	23	P	P	18 43 35.4	-4.0
KAAM				IAmb	IAmb	18 43 49.0	
	comp=Z,273nm,1.4s						
KAAM	Kaadhehdhoo	19.97	23	P	P	18 43 39.0	-0.4
	SNR=10						
HMDM	Hanimaadhoo	25.91	18	P	P	18 44 41.0	+1.8
	SNR=13						
PALK	Pallekele	29.45	32	LR	LR	18 54 36.2	
	comp=Z,2μm,18.1s,baz=206,slow=32						
PALK	Pallekele	29.45	32	P	P	18 45 11.1	+0.1
PALK				P	P	18 45 11.1	+0.1
PALK				S	S	18 50 06.4	+1.5
PALK				S	S	18 50 06.4	+1.5
H04N2	CROZET ISLANDS	30.14	199	T	T	19 17 07.0	
	baz=26,slow=75,SNR=4883						
H04N1	CROZET ISLANDS	30.14	199	T	T	19 17 08.0	
	baz=26,slow=75,SNR=3807						
H04N3	CROZET ISLANDS	30.15	199	T	T	19 17 06.7	
	baz=26,slow=75,SNR=3611						
MALK	Mahakanadarawa	30.34	31	P	P	18 45 16.8	-1.9
KOD	Kodaikanal	30.62	24	eP	P	18 45 19.6	-2.0
KOD				IAmb	IAmb	18 45 59.8	
	comp=Z,567nm,3.9s						
KIBK	Kibwezi	30.95	297	P	P	18 45 23.7	-0.6
KIBK				IAMs_20	IAMs_20	18 55 22.4	
	comp=Z,15μm,20.0s						
KIBK	Kibwezi	30.95	297	P	P	18 45 22.9	-1.4
KIBK	Kibwezi	30.95	297	P	P	18 45 24.1	-0.2
	SNR=7.3						
MOPA	Mopani	32.07	254	i P	P	18 45 34.8	+0.8
SALM	Salem	32.19	24	eP	P	18 45 34.2	-0.9
SALM				IAmb	IAmb	18 45 47.5	
	comp=Z,105nm,2.0s						
KMBO	Kilima Mbogo	32.27	298	P	P	18 45 35.2	-0.9
KMBO	Kilima Mbogo	32.27	298	IAMs_20	IAMs_20	18 55 53.3	
	comp=Z,13μm,20.0s						
KMBO	Kilima Mbogo	32.27	298	P	P	18 45 35.0	-1.2
	comp=Z,9.3nm,0.8s,baz=106,slow=7.3,SNR=20						
KMBO				LR	LR	18 56 05.5	
	comp=Z,13μm,20.6s,baz=118,slow=31						
	comp=Z,9.3nm,0.8s						
KMBO	Kilima Mbogo	32.27	298	P	P	18 45 36.0	-0.2
KMBO				P	P	18 45 36.0	-0.2
KMBO				P	P	18 45 36.0	-0.2
KMBO				S	S	18 50 53.0	+3.6
KMBO				S	S	18 50 53.0	+3.6
KMBO				S	S	18 50 53.0	+3.6
KMBO	Kilima Mbogo	32.27	298	P	P	18 45 35.0	-1.2
KMBO	Kilima Mbogo	32.27	298	i P	P	18 45 34.8	-1.4
	SNR=9.7						
MUSN	Musina, Limpop	33.45	257	i P	P	18 45 46.3	+0.1
MDRS	Chennai	34.31	27	eP	P	18 45 51.9	-1.6
MDRS				IAmb	IAmb	18 46 07.0	
	comp=Z,92nm,1.4s						
BLWY	Bulawayo	34.66	261	i P	P	18 45 57.6	+0.8
LSZ	Lusaka	35.59	269	P	P	18 46 05.0	+0.1
LSZ	Lusaka	35.59	269	LR	LR	18 58 44.1	
	comp=Z,8μm,21.3s,baz=108,slow=33						
LSZ	Lusaka	35.59	269	P	P	18 46 04.5	-0.4
LSZ				S	S	18 51 43.1	+2.4
LSZ	Lusaka	35.59	269	P	P	18 46 05.0	+0.1
LSZ				pmax	pmax		
	comp=Z,317nm,1.3s						
LSZ				MLR	MLR		
	comp=Z,8μm,21.0s						
LSZ	Lusaka	35.59	269	i P	P	18 46 02.7	-2.2
MREMI	Moremi	35.68	256	i P	P	18 46 07.8	+2.3
BROLN	Tlhalogang	35.81	259	i P	P	18 46 08.8	+2.1
KAD	Karad	36.26	14	eP	P	18 46 08.3	-2.1
KAD				IAmb	IAmb	18 46 21.7	
	comp=Z,20nm,0.9s						
LODK	Lodwar	36.41	303	P	P	18 46 11.6	-0.3
	SNR=20						
ATD	Arta Tunnel	36.83	321	LR	LR	18 58 52.3	
	comp=Z,257nm,21.5s,baz=131,slow=32						
ATD	Arta Tunnel	36.83	321	P	P	18 46 17.9	+2.6
ATD				S	S	18 52 02.9	+3.6
DMTO	DMTO	37.01	344	P	P	18 46 16.4	-0.3
DMTO				S	S	18 52 03.4	+1.6
RBK	Rabkut	37.01	342	P	P	18 46 16.8	0.0
RBK				S	S	18 52 05.6	+3.6
ABTO	Aybut	37.14	341	P	P	18 46 17.9	0.0
	SNR=10						
ABTO				P	P	18 46 17.9	0.0
	SNR=10						
ABTO				S	S	18 52 06.8	+2.8
ABTO				S	S	18 52 06.8	+2.8
SISI	Saibi	37.15	67	P	P	18 46 23.4	+5.4
	comp=Z,34nm,1.5s						
LPHEP	Lephephe	37.15	255	i P	P	18 46 20.9	+2.7
GSI	Gunungsitoli	37.18	62	P	P	18 46 16.7	-1.6
GSI	Gunungsitoli	37.18	62	P	P	18 46 19.0	+0.7
	comp=Z,61nm,1.5s						
POO	Poona	37.36	13	eP	P	18 46 18.7	-1.0
POO				IAmb	IAmb	18 46 31.1	
	comp=Z,40nm,0.8s						
LBTB	Lobatse	37.44	252	P	P	18 46 18.8	-1.8
LBTB				IAmb	IAmb	18 46 27.0	
	comp=Z,106nm,1.1s						
LBTB	Lobatse	37.44	252	LR	LR	18 59 12.6	
	comp=Z,14μm,20.4s,baz=89,slow=32						
LBTB	Lobatse	37.44	252	P	P	18 46 18.8	-1.8
LBTB				pmax	pmax		
	comp=Z,106nm,1.1s						
LBTB	Lobatse	37.44	252	i P	P	18 46 21.4	+0.9
WHFO	Wadi Hawf	37.53	342	P	P	18 46 22.7	+1.5
WHFO				P	P	18 46 22.7	+1.5
WHFO				S	S	18 52 12.7	+2.9
WHFO				S	S	18 52 12.7	+2.9
KHWEE	KHWEE	37.54	257	i P	P	18 46 22.7	+1.3
HYB	Hyderabad	37.63	21	eP	P	18 46 22.5	+0.5
HYB				IVmB_BB		18 46 27.8	
	comp=Z,803nm,5.0s						
HYB				eS	S	18 52 13.4	+2.1
HYB				IVMs_BB	IVMs_BB	18 58 20.9	
	comp=Z,4μm,16.8s						
HYB	Hyderabad	37.63	21	eP	P	18 46 20.9	-1.2
HYB				IAmb	IAmb	18 46 31.5	
	comp=Z,16nm,0.8s						
BSI	Banda Aceh	37.78	54	P	P	18 46 26.7	+3.3
	comp=Z,974nmcomp=Z,47nm,1.4s						
BOSA	Boshof	38.04	247	P	P	18 46 27.4	+1.8
BOSA				IAmb	IAmb	18 46 32.3	
	comp=Z,119nm,1.2s						
BOSA	Boshof	38.04	247	P	P	18 46 26.4	+0.8
	comp=Z,20nm,0.8s,baz=79,slow=7.6,SNR=24						
BOSA				LR	LR	18 59 17.3	
	comp=Z,7μm,20.6s,baz=86,slow=32						
	comp=Z,20nm,0.8s						
BOSA	Boshof	38.04	247	i P	P	18 46 27.4	+1.8
DOK	Doka	38.09	343	P	P	18 46 26.6	+0.7
	SNR=8.5						
DOK				P	P	18 46 26.6	+0.7
	SNR=8.5						
DOK				S	S	18 52 16.9	-1.3
DOK				S	S	18 52 16.9	-1.3
KSANE	Kasane	38.10	264	i P	P	18 46 29.0	+2.8
MBAR	Mbarara	38.12	293	P	P	18 46 25.9	-0.6
MBAR	Mbarara	38.12	293	IAMs_20	IAMs_20	19 00 22.7	
	comp=Z,12μm,18.0s						
MBAR	Mbarara	38.12	293	P	P	18 46 26.5	+0.1
MBAR				P	P	18 46 26.5	+0.1
MBAR				S	S	18 52 21.1	+1.8
MBAR				S	S	18 52 21.1	+1.8
MBAR	Mbarara	38.12	293	P	P	18 46 25.9	-0.6
MBAR				pmax	pmax		
	comp=Z,60nm,1.4s						
MBAR				MLR	MLR		
	comp=Z,12μm,18.0s						
MAKGR	Makgori	38.19	251	i P	P	18 46 29.8	+2.8
KDWAN	Kaudwane	38.25	255	i P	P	18 46 29.5	+2.1
PHDHD	Phudududu	38.47	260	i P	P	18 46 30.0	+0.7
SOE	Somerset East	38.47	240	P	P	18 46 31.3	+2.1
SOE				IAmb	IAmb	18 46 40.6	
	comp=Z,126nm,1.2s						
DQM	DQM	38.54	348	P	P	18 46 30.6	+0.9
DQM				S	S	18 52 28.6	+3.6
MNSI	Mandailing Nat	38.62	65	P	P	18 46 33.3	+2.8
	comp=Z,53nm,1.0s						
PPI	Padang Panjang	38.71	67	P	P	18 46 33.9	+2.7
	comp=Z,1μmcomp=Z,36nm,1.3s						
SKOMA	Sekoma	38.93	253	i P	P	18 46 35.8	+2.6
RPSI	Rantau Prapat	39.06	61	P	P	18 46 33.0	-1.2
PSI	Prapat	39.12	61	LR	LR	18 59 19.2	
	comp=Z,4μm,19.8s,baz=202,slow=31						
PSI	Prapat	39.12	61	P	P	18 46 33.4	-1.4
PSI	Prapat	39.12	61	P	P	18 46 33.0	-1.8
PSI				pmax	pmax		
	comp=Z,35nm,1.2s						
PSI				MLR	MLR		
	comp=Z,5μm,18.0s						
MHTO	MHTO	39.49	349	P	P	18 46 37.4	-0.2
	SNR=10						
MHTO				P	P	18 46 37.4	-0.2
	SNR=10						
MHTO				P	P	18 46 37.4	-0.2
	SNR=10						
MHTO				S	S	18 52 38.0	-1.3
MHTO				S	S	18 52 38.0	-1.3
MHTO				S	S	18 52 38.0	-1.3
BKNI	Bangkinang	39.65	66	P	P	18 46 31.9	-7.2
PHPEN	Phepeng	39.93	252	i P	P	18 46 44.1	+2.6
LWLI	Liwa	40.06	76	P	P	18 46 47.5	+4.8
	comp=Z,2μmcomp=Z,98nm,0.8s						
PBA	Port Blair	40.12	45	IAMs_20	IAMs_20	18 59 42.3	
	comp=Z,13μm,20.0s						
PBA	Port Blair	40.12	45	P	P	18 46 44.1	+1.2
AKL	Akola	40.24	17	eP	P	18 46 42.7	-1.2
AKL				IAmb	IAmb	18 47 00.1	
	comp=Z,43nm,1.2s						
MDSI	Maura Dua	40.37	75	P	P	18 46 48.3	+3.2
	comp=Z,3μmcomp=Z,790nmcomp=Z,31nm,1.1s						
JLN	Jalan Bani Buh	40.41	352	P	P	18 46 45.8	+0.6
JLN				P	P	18 46 45.8	+0.6
JLN				S	S	18 52 55.7	+2.7
JLN				S	S	18 52 55.7	+2.7
KGCAE	Kacgae	40.52	256	i P	P	18 46 47.5	+1.1
JMDO	Jabal Madar	40.82	350	P	P	18 46 48.7	+0.1
JMDO				P	P	18 46 48.7	+0.1
JMDO				P	P	18 46 48.7	+0.1
JMDO				S	S	18 52 59.6	+0.4
JMDO				S	S	18 52 59.6	+0.4
JMDO				S	S	18 52 59.6	+0.4
WBK	Wadi Bani Khal	40.92	351	P	P	18 46 50.2	+0.7
	SNR=6.6						
WBK				P	P	18 46 50.2	+0.7
	SNR=6.6						
WBK				P	P	18 46 50.2	+0.7
	SNR=6.6						
WBK				S	S	18 53 05.3	+4.6
WBK				S	S	18 53 05.3	+4.6
WBK				S	S	18 53 05.3	+4.6
CGJI	Cibinong	41.01	79	P	P	18 46 52.9	+2.6
	comp=Z,857nmcomp=Z,34nm,1.4s						
RAGD	RAYAGADA	41.18	27	eP	P	18 46 49.8	-1.9
RAGD				IAmb	IAmb	18 47 12.8	
	comp=Z,88nm,1.4s						
NGP	Nagpur	41.27	20	eP	P	18 46 50.5	-1.9
NGP				IAmb	IAmb	18 47 34.0	
	comp=Z,21nm,1.0s						
BSY	Bisya	41.35	349	P	P	18 46 53.3	+0.3
	SNR=10						
BSY				P	P	18 46 53.3	+0.3
	SNR=10						
GRTLG	Ghanzi	41.50	258	i P	P	18 46 55.4	+0.9
SMDO	Samad	41.51	350	P	P	18 46 54.7	+0.3
	SNR=13						
SMDO				P	P	18 46 54.7	+0.3
	SNR=13						
SMDO				S	S	18 53 12.3	+2.8
SMDO				S	S	18 53 12.3	+2.8
WSAR	Wadi Sarin	41.59	351	LR	LR	19 00 29.9	
	comp=Z,30nm,20.4s,baz=187,slow=31						
WSAR	Wadi Sarin	41.59	351	P	P	18 46 55.8	+0.8
	SNR=7.2						
WSAR				S	S	18 53 08.1	-2.5
XAUDM	Khaudum	41.63	262	i P	P	18 46 57.3	+1.7
QNGWA	Qangwa	41.68	261	i P	P	18 46 56.6	+0.6
UMZA	Um Al Zommool	41.74	346	P	P	18 46 56.8	+0.6
UMZA				P	P	18 46 56.8	+0.6
UMZA				S	S	18 53 13.6	+0.8
UMZA				S	S	18 53 13.6	+0.8
KULM	Kulim	41.93	60	P	P	18 46 55.1	-2.8
BIDO	Bidbid	41.95	350	P	P	18 46 58.6	+0.7
	SNR=12						
BIDO				P	P	18 46 58.6	+0.7
	SNR=12						
BIDO				S	S	18 53 18.6	+2.8
BIDO				S	S	18 53 18.6	+2.8
ARQ	Araqi	42.05	348	P	P	18 47 00.6	+1.9
ARQ				P	P	18 47 00.6	+1.9
ARQ				S	S	18 53 21.7	+4.1
ARQ				S	S	18 53 21.7	+4.1
CNJI	Cibinong	42.12	81	P	P	18 47 02.6	+3.1
	comp=Z,752nmcomp=Z,50nm,1.3s						
HOQ	Hoqain	42.15	349	P	P	18 47 00.6	+1.1
	SNR=8.8						
HOQ				P	P	18 47 00.6	+1.1
	SNR=8.8						
HOQ				S	S	18 53 20.8	+1.9
HOQ				S	S	18 53 20.8	+1.9
NRDN	NARMADA NAGAR	42.20	16	eP	P	18 46 57.9	-2.0
NRDN				IAmb	IAmb	18 47 06.7	
	comp=Z,171nm,1.5s						
SUR	Sutherland	42.36	242	IAMs_20	IAMs_20	19 00 09.7	
	comp=Z,10μm,18.0s						
SUR	Sutherland	42.36	242	LR	LR	19 01 53.5	
	comp=Z,7μm,19.0s,baz=82,slow=32						
SUR	Sutherland	42.36	242	P	P	18 47 02.1	+0.6
SUR				S	S	18 53 16.4	-6.0
KOOLE	Kule	42.37	256	i P	P	18 47 02.6	+1.0
MZR	Muzera	42.44	344	P	P	18 47 01.1	-0.8
BBJI	Bungbulang	42.56	81	P	P	18 47 03.6	+0.4
LEM	Lembang	42.73	80	LR	LR	19 01 05.1	
	comp=Z,5μm,20.6s,baz=240,slow=31						
LEM	Lembang	42.73	80	P	P	18 47 06.4	+1.7
	comp=Z,1μmcomp=Z,96nm,1.0s						
BHPL	Bhopal	42.77	17	eP	P	18 47 03.5	-1.1
BHPL				IAmb	IAmb	18 47 12.9	
	comp=Z,35nm,1.0s						
MYKOM	Kota Tinggi	42.81	67	P	P	18 47 05.2	+0.1
SOHO	SOHO	42.83	348	P	P	18 47 06.8	+1.8
SOHO				P	P	18 47 06.8	+1.8
SOHO				S	S	18 53 31.2	+2.4
SOHO				S	S	18 53 31.2	+2.4
SOHO	SOHO	42.83	348	i P	P	18 47 06.0	+1.0
	SNR=6.8						
ALNE	Al Ain	42.91	347	P	P	18 47 07.9	+2.1
ALNE				S	S	18 53 31.9	+1.8
CMJI	Cimerak	43.21	82	P	P	18 47 15.3	+6.9
	comp=Z,90nm,1.1s						
BLSP	Bilaspur	43.25	23	eP	P	18 47 07.0	-1.5
BLSP				IAmb	IAmb	18 47 18.5	
	comp=Z,91nm,1.1s						
ASHO	Ashiyiah	43.46	348	P	P	18 47 11.0	+0.9
	SNR=16						
ASHO				P	P	18 47 11.0	+0.9
	SNR=16						
ASHO				S	S	18 53 38.5	+0.3
ASHO				S	S	18 53 38.5	+0.3
ASHO	Ashiyiah	43.46	348	i P	P	18 47 11.2	+1.0
	SNR=16						
JHSG	JHARSUGUGA	43.56	25	eP	P	18 47 09.6	-1.4
JHSG				IAmb	IAmb	18 47 30.2	
	comp=Z,170nm,1.4s						
AJN	Ajban	43.57	346	P	P	18 47 11.5	+0.5
	SNR=7.8						
AJN				P	P	18 47 11.5	+0.5
	SNR=7.8						
AJN	Ajban	43.57	346	P	P	18 47 12.1	+1.2
HATD	Hatta, Dubai	43.58	348	P	P	18 47 12.2	+1.1
	SNR=10						
HATD				P	P	18 47 12.2	+1.1
	SNR=10						
HATD				S	S	18 53 40.9	+1.0
HATD				S	S	18 53 40.9	+1.0
HATD	Hatta, Dubai	43.58	348	i P	P	18 47 12.5	+1.4
	SNR=13						
FAQ	Al Faqa, Dubai	43.61	347	P	P	18 47 08.7	-2.6
UOSS	Minazif	43.68	348	P	P	18 47 13.5	+1.6
UOSS				P	P	18 47 13.5	+1.6
UOSS	Minazif	43.68	348	i P	P	18 47 12.1	+0.2
	SNR=9.1						
NAZ	Nazwa, Dubai	43.83	347	P	P	18 47 15.1	+2.0
NAZ				P	P	18 47 15.1	+2.0
NAZ				P	P	18 47 15.1	+2.0
MDH	Madha	44.01	348	P	P	18 47 16.1	+1.5
MDH				P	P	18 47 16.1	+1.5
MDH				S	S	18 53 46.8	+0.7
MDH				S	S	18 53 46.8	+0.7
GUNA	GUNA	44.08	16	eP	P	18 47 13.9	-1.3
GUNA				IAmb	IAmb	18 47 34.4	
	comp=Z,68nm,1.1s						
MSFE	Esma-Masafi	44.09	348	i P	P	18 47 14.0	-1.3
	SNR=7.6						
MASF	Masafi	44.10	348	P	P	18 47 17.1	+1.8
	SNR=8.3						
MASF				P	P	18 47 17.1	+1.8
	SNR=8.3						
MASF				S	S	18 53 50.6	+3.0
MASF				S	S	18 53 50.6	+3.0
TPI	Tanjungpandan	44.23	75	P	P	18 47 18.5	+1.9
	comp=Z,2μmcomp=Z,751nmcomp=Z,39nm,1.5s						
SHME	Shamm	44.77	348	P	P	18 47 21.7	+1.1
SHME				P	P	18 47 21.7	+1.1
SHME				P	P	18 47 21.7	+1.1
TSUM	Tsumeb	45.09	261	LR	LR	19 04 42.0	
	comp=Z,6μm,20.0s,baz=80,slow=34						
SMRI	Semarang	45.32	82	P	P	18 47 25.3	0.0
SMRI	Semarang	45.32	82	P	P	18 47 31.8	+6.5
	comp=Z,1μmcomp=Z,86n

H01W3	Cape Leeuwin H	46.36	121	T	T	19 37 12.2	
	baz=278,slow=75						
H01W1	Cape Leeuwin H	46.38	121	T	T	19 37 13.4	
	baz=278,slow=75						
SRDT	SRDT	46.40	48	P	P	18 47 33.1	-0.6
VAR	Varanasi	46.47	22	eP	P	18 47 31.7	-2.4
BKNR	BIKANER	46.49	10	eP	P	18 47 34.3	0.0
LKN	LUCKNOW	47.10	19	eP	P	18 47 37.4	-1.6
KUDL	Kundal	47.23	14	eP	P	18 47 38.5	-1.5
KUDL				IAmb	IAmb	18 47 49.7	
	comp=Z,295nm,2.1s						
SONA	Sohna	47.47	14	eP	P	18 47 40.1	-1.7
SONA				IAmb	IAmb	18 47 50.0	
	comp=Z,138nm,1.2s						
MORW	Morawa	47.48	113	IAMs_20	IAMs_20	19 03 11.9	
	comp=Z,8µm,20.0s						
MORW	Morawa	47.48	113	P	P	18 47 44.7	+2.6
	comp=Z,33nm,1.3s						
MORW	Morawa	47.48	113	P	P	18 47 42.4	+0.3
AYAN	Aya Nagar	47.70	14	eP	P	18 47 42.4	-1.2
AYAN				IAmb	IAmb	18 47 47.2	
	comp=Z,9µm,3.7s						
UGON	Onchagaon	47.73	15	eP	P	18 47 42.7	-1.1
MUN	Mundaring	47.77	117	P	P	18 47 43.1	-1.3
MUN	Mundaring	47.77	117	P	P	18 47 46.0	+1.7
GMJI	Gumukmas	47.79	85	P	P	18 47 51.8	+7.2
	comp=Z,1µmcomp=Z,62nm,1.5s						
LDR	Lodi Road	47.82	14	eP	P	18 47 42.7	-1.8
JMIU	JAMIA UNIVERSI	47.82	14	eP	P	18 47 43.0	-1.6
BHGR	Bahadurgarh	47.86	14	eP	P	18 47 41.8	-3.0
NPLP	NPLP New Delhi	47.86	14	eP	P	18 47 43.5	-1.4
NPLP				IAmb	IAmb	18 47 53.9	
	comp=Z,39nm,1.3s						
NDI	New Delhi	47.92	14	eP	P	18 47 44.6	-0.7
NDI				IAmb	IAmb	18 47 53.5	
	comp=Z,52nm,1.2s						
NAYO	Nakonayok	47.97	50	P	P	18 47 44.3	-1.6
BRDH	Bariadhala	48.03	33	LR	LR	19 09 02.5	
	comp=Z,2µm,18.6s,baz=205,slow=38						
BLDU	Ballidu	48.12	115	P	P	18 47 49.4	+2.3
	comp=Z,27nm,2.6s						
BLDU	Ballidu	48.12	115	P	P	18 47 50.3	+3.2
GNR	GANAUR	48.30	14	eP	P	18 47 46.6	-1.7
MERT	Meerut	48.32	15	eP	P	18 47 46.3	-2.1
KSM	Kuching	48.39	71	P	P	18 47 47.1	-2.2
KSM				IAmb	IAmb	18 48 09.6	
	comp=Z,54nm,1.2s						
JAGI	Jajag, Banyuwa	48.40	85	P	P	18 47 51.4	+2.0
JAGI	Jajag, Banyuwa	48.40	85	P	P	18 47 54.4	+5.0
	comp=Z,2µmcomp=Z,80nm,1.2s						
SRGN	SRI GANGA NAGA	48.45	10	eP	P	18 47 48.2	-1.2
KMMI	Kalianget	48.64	83	P	P	18 47 59.4	+8.1
	comp=Z,64nm,1.1s						
ABJI	Asem Bagus	48.67	84	P	P	18 47 58.9	+7.4
	comp=Z,2µmcomp=Z,95nm,1.2s						
NWAO	Narrogin (SRO)	48.71	118	LR	LR	19 03 36.0	
	comp=Z,5µm,21.5s,baz=294,slow=30						
NWAO	Narrogin (SRO)	48.71	118	P	P	18 47 52.1	+0.6
NWAO				S	S	18 54 57.9	+4.3
NWAO	Narrogin (SRO)	48.71	118	P	P	18 47 54.5	+2.9
TKRD	Thakurdwara	48.76	16	eP	P	18 47 49.7	-2.2
AGT	Agartala	48.82	32	eP	P	18 47 52.7	+0.3
AGT				IAmb	IAmb	18 48 01.8	
	comp=Z,59nm,0.9s						
STKI	Sintang	48.86	73	P	P	18 47 58.1	+5.2
	comp=Z,2µmcomp=Z,2µmcomp=Z,38nm,1.5s						
KLBR	Kellerberrin	49.06	116	P	P	18 47 52.7	-1.7
CM31	Chiang Mai Arr	49.14	44	P	P	18 47 53.1	-1.9
	SNR=22						
CM31				P	P	18 47 53.1	-1.9
	SNR=22						
CM31				P	P	18 47 53.1	-1.9
	SNR=22						
CM31				S	S	18 55 04.4	+4.5
CM31				S	S	18 55 04.4	+4.5
CM31				S	S	18 55 04.4	+4.5
CMAR	Chiang Mai Arr	49.14	44	P	P	18 47 52.8	-2.2
CMAR	Chiang Mai Arr	49.14	44	P	P	18 47 52.5	-2.4
	comp=Z,6.5nm,1.1s,baz=237,slow=7.8,SNR=16						
CMAR				LR	LR	19 05 42.6	
	comp=Z,4µm,19.7s,baz=235,slow=33						
	comp=Z,6.5nm,1.1s						
CMAR	Chiang Mai Arr	49.14	44	i P	P	18 47 52.5	-2.4
CMAR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CHTO	Chiang Mai	49.40	44	P	P	18 47 55.4	-1.5
CHTO				P	P	18 47 55.4	-1.5
CHTO				P	P	18 47 55.4	-1.5
CHTO				S	S	18 55 06.4	+2.9
CHTO				S	S	18 55 06.4	+2.9
CHTO				S	S	18 55 06.4	+2.9
CHTO	Chiang Mai	49.40	44	P	P	18 47 54.3	-2.6
LGTI	Lohaghat	49.43	17	eP	P	18 47 54.9	-2.0
LGTI				IAmb	IAmb	18 48 06.8	
	comp=Z,41nm,0.7s						
AZL	Aizawl	49.45	34	eP	P	18 47 59.1	+1.8
AZL				IAmb	IAmb	18 48 18.7	
	comp=Z,78nm,1.4s						
MAW	Mawson	49.51	181	P	P	18 47 58.6	+1.5
	comp=Z,13nm,1.6s						
MAW	Mawson	49.51	181	P	P	18 47 57.3	+0.2
	comp=Z,20nm,1.0s,baz=354,slow=9.8,SNR=7.3						
MAW				LR	LR	19 05 48.3	
	comp=Z,2µm,18.1s,baz=358,slow=32						
	comp=Z,20nm,1.0s						
PTH	Pithoragarh	49.51	17	eP	P	18 47 55.5	-2.3
PTH				IAmb	IAmb	18 48 06.5	
	comp=Z,44nm,0.9s						
SRBI	Singaraja	49.52	85	P	P	18 48 01.0	+3.0
	comp=Z,4µmcomp=Z,1µmcomp=Z,75nm,2.0s						
DDI	Dehra Dun	49.69	15	eP	P	18 48 00.1	+1.1
DDI				IAmb	IAmb	18 48 17.1	
	comp=Z,49nm,0.8s						
MEEK	Meekatharra	49.77	110	P	P	18 47 58.3	-1.5
MEEK	Meekatharra	49.77	110	P	P	18 48 02.0	+2.2
JPG	JALPAIGURI	49.88	28	eP	P	18 47 58.9	-1.5
KBD	Kabd	49.97	340	P	P	18 48 02.6	+1.6
SMLA	Simla	50.26	13	eP	P	18 48 02.4	-0.8
BHK	Bhakra	50.38	12	eP	P	18 48 03.8	-0.4
BHK				IAmb	IAmb	18 48 14.4	
	comp=Z,126nm,1.2s						
GTK	Tadong	50.50	27	eP	P	18 48 07.5	+2.2
GTK				IAmb	IAmb	18 48 24.2	
	comp=Z,79nm,1.0s						
SBUM	Sibu	50.54	71	P	P	18 48 04.0	-1.7
SBUM	Sibu	50.54	71	P	P	18 48 04.8	-0.9
SHL	Shillong	50.54	32	P	P	18 48 06.9	+1.2
	SNR=29						
SHL	Shillong	50.54	32	eP	P	18 48 04.3	-1.3
KLP	Kalpa	50.89	14	eP	P	18 48 05.8	-2.6
KLP				IAmb	IAmb	18 48 18.1	
	comp=Z,1µm,2.4s						
IMP	Imphal	51.00	34	eP	P	18 48 07.2	-1.9
IMP				IAmb	IAmb	18 48 17.7	
	comp=Z,27nm,0.9s						
DHRM	DHARAMSHALA	51.16	12	eP	P	18 48 12.4	+2.1
DHRM				IAmb	IAmb	18 48 22.2	
	comp=Z,73nm,0.7s						
MBWA	Marble Bar	51.19	103	P	P	18 48 11.6	+1.0
	comp=Z,36nm,1.2s						
MBWA	Marble Bar	51.19	103	P	P	18 48 10.1	-0.4
MBWA				P	P	18 48 10.1	-0.4
MBWA				S	S	18 55 32.4	+3.8
MBWA				S	S	18 55 32.4	+3.8
MBWA	Marble Bar	51.19	103	P	P	18 48 09.6	-0.9
THN	Thein Dam	51.23	11	eP	P	18 48 08.3	-2.1
THN				IAmb	IAmb	18 48 21.6	
	comp=Z,99nm,0.9s						
PSA00	Pilbara Seismi	51.24	103	P	P	18 48 08.7	-2.3
JMU	Jammu	51.36	10	eP	P	18 48 10.6	-0.8
JMU				IAmb	IAmb	18 48 17.6	
	comp=Z,72nm,0.7s						
UBPT	Khong Chiam	51.66	53	P	P	18 48 11.7	-2.4
UBPT				IAmb	IAmb	18 48 21.6	
	comp=Z,50nm,1.0s						
UBPT	Khong Chiam	51.66	53	P	P	18 48 11.0	-3.1
PLAI	Plampang	51.74	87	P	P	18 48 13.5	-1.3
NONG	Nongkai	51.75	48	P	P	18 48 12.2	-2.5
KOHI	KOHIMA	51.80	34	eP	P	18 48 15.0	-0.2
KOHI				IAmb	IAmb	18 48 25.8	
	comp=Z,61nm,1.0s						
NIL	Nilore	52.02	8	P	P	18 48 18.7	+2.2
TAWA	Tawang	52.22	30	eP	P	18 48 16.8	-1.7
TAWA				IAmb	IAmb	18 48 39.2	
	comp=Z,41nm,1.1s						
KBU	Kabul Universi	52.45	4	P	P	18 48 18.1	-1.7
KBL	Kabul	52.47	4	P	P	18 48 21.2	+1.2
	SNR=66						
KMBL	Kambalda	52.58	116	P	P	18 48 21.8	+0.9
	comp=Z,31nm,1.0s						
WBSI	Waikabubak, Su	53.06	89	P	P	18 48 28.2	+3.6
	comp=Z,3µmcomp=Z,1µmcomp=Z,95nm,1.2s						
SYO	Syowa Base	53.36	191	⇓ epP	P	18 48 27.6	+1.7
LSA	Lhasa	53.67	28	P	P	18 48 25.8	-3.5
LSA				IAMs_20	IAMs_20	19 08 06.4	
	comp=Z,6µm,21.0s						
LSA	Lhasa	53.67	28	P	P	18 48 23.0	-6.3
LSA				S	S	18 55 42.8	-20
LSA				LR	LR		
	comp=N,4µm,20.8s						
LSA				LR	LR		
	comp=Z,6µm,20.8s						
LSA	Lhasa	53.67	28	P	P	18 48 25.8	-3.5
LSA				pmax	pmax		
	comp=Z,30nm,0.9s						
LSA				MLR	MLR		
	comp=Z,6µm,21.0s						
LSA	Lhasa	53.67	28	P	P	18 48 30.8	+1.5
TNCH	TengChong	53.72	38	⇓ P	P	18 48 28.8	-0.6
TNCH				pP	pP	18 48 32.9	-0.8
TNCH				sP	sP	18 48 35.4	0.0
TNCH				PP	PP	18 50 33.6	+3.0
TNCH				S	S	18 56 00.3	-3.0
TNCH				ScS	ScS	18 58 17.0	-1.8
TNCH				SS	SS	18 59 44.4	-0.1
TNCH				pmax	pmax		
	comp=Z,34nm,1.6s						
TNCH				pmax	pmax		
	comp=Z,700nm,5.1s						
TNCH				LR	LR		
	comp=Z,2µm,18.5s						
TNCH				LR	LR		
	comp=Z,2µm,17.0s						
TNCH				LR	LR		
	comp=Z,4µm,20.7s						
WSI	Waingapu	53.91	89	P	P	18 48 35.0	+4.2
SLVN	Son La	54.48	46	P	P	18 48 32.6	-2.2
SLVN				IAmb	IAmb	18 48 54.5	
	comp=Z,43nm,0.8s						
SLVN	Son La	54.48	46	P	P	18 48 33.8	-1.0
KAPI	Kappang	54.74	83		P	18 48 33.7	-3.2
KAPI				IAmb	IAmb	18 48 42.7	
	comp=Z,49nm,1.1s						
KAPI	Kappang	54.74	83	LR	LR	19 08 25.1	
	comp=Z,2µm,21.6s,baz=238,slow=32						
KAPI	Kappang	54.74	83	P	P	18 48 36.5	-0.3
KAPI	Kappang	54.74	83	P	P	18 48 37.9	+1.0
KAPI	Kappang	54.74	83	P	P	18 48 33.7	-3.2
KAPI				pmax	pmax		
	comp=Z,49nm,1.2s						
KAPI				MLR	MLR		
	comp=Z,3µm,22.0s						
BKSI	Bulukumba	54.99	84	P	P	18 48 43.5	+4.8
	comp=Z,777nmcomp=Z,36nm,1.2s						
TTSI	Tana Toraja	55.45	81	P	P	18 48 46.4	+4.4
	comp=Z,2µmcomp=Z,863nmcomp=Z,25nm,1.0s						
EDFI	Ende, Flores	55.48	88	P	P	18 48 44.7	+2.3
EIL	Elat	55.77	328	LR	LR	19 08 38.5	
	comp=Z,3µm,21.6s,baz=148,slow=32						
MMRI	Maumere	56.03	88	P	P	18 48 47.4	+1.2
MMRI	Maumere	56.03	88	P	P	18 48 52.2	+6.0
KMI	Kunming	56.36	41	P	P	18 48 49.3	+0.8
KMI				PP	PP	18 50 56.7	+2.4
KMI				S	S	18 56 39.0	+0.2
KMI				SS	SS	19 00 22.7	-3.5
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,420nm,9.5s						
KMI				LR	LR		
	comp=Z,2µm,20.8s						
KMI				LR	LR		
	comp=Z,3µm,21.0s						
KMI				LR	LR		
	comp=Z,3µm,27.4s						
CASY	Casey	56.42	160	P	P	18 48 51.3	+3.2
CASY				IAmb	IAmb	18 49 02.3	
	comp=Z,97nm,1.4s						
SIMJ	Simiganj	56.56	4	P	P	18 48 50.2	+0.6
SIMJ				IAmb	IAmb	18 49 04.5	
	comp=Z,49nm,1.1s						
PZH	PanZhiHua	56.74	40	P	P	18 48 48.1	-3.0
PZH				S	S	18 56 44.9	+1.2
PZH				pmax	pmax		
	comp=Z,60nm,1.1s						
PZH				pmax	pmax		
	comp=Z,540nm,9.8s						
PZH				LR	LR		
	comp=Z,2µm,18.6s						
PZH				LR	LR		
	comp=Z,2µm,19.6s						
PZH				LR	LR		
	comp=Z,2µm,23.0s						
ASF	Jabal al Asfar	56.90	331	LR	LR	19 11 47.0	
	comp=Z,2µm,18.4s,baz=168,slow=34						
GAR	Garm	56.99	5	IAMs_20	IAMs_20	19 10 06.1	
	comp=Z,6µm,20.0s						
FITZ	Fitzroy Crossi	57.14	100	P	P	18 48 51.7	-2.3
	comp=Z,18nm,0.8s,baz=245,slow=6.7,SNR=12						
FITZ				LR	LR	19 09 45.0	
	comp=Z,5µm,20.6s,baz=268,slow=32						
	comp=Z,18nm,0.8s						
QIZ	Qiongzhong	57.25	52	P	P	18 48 54.0	-0.7
QIZ				PP	PP	18 51 02.9	+0.8
QIZ				S	S	18 56 51.4	+1.0
QIZ				ScS	ScS	18 58 43.9	-0.1
QIZ				pmax	pmax		
	comp=Z,35nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,600nm,7.0s						
QIZ				LR	LR		
	comp=Z,4µm,20.3s						
QIZ				LR	LR		
	comp=Z,3µm,17.8s						
QIZ				LR	LR		
	comp=Z,3µm,19.4s						
BBSI	Bau Bau	57.26	85	P	P	18 49 01.6	+6.7
	comp=Z,1µmcomp=Z,55nm,1.2s						
MYLDM	Lahad Datu	57.36	71	P	P	18 48 57.0	+1.4
DRK	Karamyk	57.60	6	IAmb	IAmb	18 49 05.3	
	comp=Z,52nm,1.0s						
SOEI	Soe	57.66	90	P	P	18 48 52.2	-5.7
SOEI	Soe	57.66	90	P	P	18 48 58.4	+0.5
SOEI	Soe	57.66	90	P	P	18 49 02.2	+4.3
	comp=Z,2µmcomp=Z,110nm,1.2s						
TOLI2	Tolitoli	57.82	77	IAmb	IAmb	18 49 10.6	
	comp=Z,44nm,1.1s						
TOLI2	Tolitoli	57.82	77	P	P	18 48 57.1	-1.8
FORT	Forrest	57.89	115	P	P	18 48 56.1	-3.1
FORT				IAMs_20	IAMs_20	19 09 48.7	
	comp=Z,7µm,20.0s						
FORT	Forrest	57.89	115	P	P	18 48 58.0	-1.1
KSH	Kashi	58.18	10	P	P	18 49 00.5	-0.5
KSH				pP	pP	18 49 05.3	0.0
KSH				S	S	18 56 59.4	-2.6
KSH				SS	SS	19 00 50.7	-3.5
KSH				pmax	pmax		
	comp=Z,64nm,1.6s						
KSH				pmax	pmax		
	comp=Z,500nm,5.9s						
KSH				LR	LR		
	comp=Z,5µm,22.7s						
KSH				LR	LR		
	comp=Z,3µm,23.4s						
KSH				LR	LR		
	comp=Z,12µm,27.5s						
MMAI	Mount Meron Ar	58.29	331	LR	LR	19 10 52.2	
	comp=Z,2µm,21.2s,baz=146,slow=33						
WRKA	Warakurna	58.58	109	P	P	18 49 02.4	-1.7
LUWI	Luwuk	58.90	80	P	P	18 49 03.7	-2.7
LUWI	Luwuk	58.90	80	P	P	18 49 08.3	+1.9
LUWI	Luwuk	58.90	80	P	P	18 49 09.1	+2.7
	comp=Z,2µmcomp=Z,104nm,1.3s						
ELIB	Princess Elisa	59.07	194	d P	P	18 49 07.6	+0.7
	comp=Z,25nm,1.3s						
GYA	Guiyang	59.81	43	⇑ P	P	18 49 12.5	-0.1
GYA				S	S	18 57 23.2	-0.5
GYA				pmax	pmax		
	comp=Z,15nm,1.5s						
GYA				pmax	pmax		
	comp=Z,510nm,4.8s						
GYA				LR	LR		
	comp=Z,2µm,17.2s						
GYA				LR	LR		
	comp=Z,1µm,17.6s						
GYA				LR	LR		
	comp=Z,4µm,19.6s						
IUG	Iuzhnay	60.10	4	eP	P	18 49 13.8	-0.4
IUG	Iuzhnay	60.10	4	eP	P	18 49 13.9	-0.4
WUS	Wushi	60.39	12	IAMs_20	IAMs_20	19 11 54.4	
	comp=Z,5µm,22.0s						
GURO	Guroymak-BITLI	60.42	339	IAmb	IAmb	18 49 32.5	
	comp=Z,114nm,1.9s						
AML	Almayashu	60.42	7	P	P	18 49 19.6	+2.8
	SNR=19						
KNRA	Kununurra	60.54	98	P	P	18 49 15.4	-2.3
GOMU	GeErMu	60.80	27	P	P	18 49 20.3	+0.8
GOMU				pP	pP	18 49 23.3	-0.6
GOMU				sP	pwP	18 49 27.5	+0.5
GOMU				S	S	18 57 38.0	+1.4
GOMU				SS	SS	19 01 29.3	-6.8
GOMU				LR	LR		
	comp=Z,3µm,19.2s						
GOMU				LR	LR		
	comp=Z,3µm,19.5s						
GOMU				LR	LR		
	comp=Z,7µm,19.2s						
CSS	Mathiatis	60.87	330	P	P	18 49 19.2	-0.3
	comp=Z,752nmcomp=Z,53nm,1.1s						
ULHL	Ulahol	60.88	9	P	P	18 49 22.5	+2.7
	SNR=8.7						
EKS2	Erkin-Say	60.96	7	P	P	18 49 23.5	+3.4
	SNR=22						
BRLS	Borolday	60.96	4	eP	P	18 49 18.0	-2.0
BRLS				pmax	pmax		
	comp=Z,19nm,1.1s						
BRLS	Borolday	60.96	4	eP	P	18 49 18.1	-2.0
	comp=Z,19nm,1.1s						
GNI	Garni	61.02	342	P	P	18 49 19.9	-0.7
GNI	Garni	61.02	342	LR	LR	19 16 11.6	
	comp=Z,2µm,18.1s,baz=168,slow=36						
GNI	Garni	61.02	342	P	P	18 49 21.5	+0.8
GNI				P	P	18 49 21.5	+0.8
GNI				S	S	18 57 42.5	+3.7
GNI				S	S	18 57 42.5	+3.7
GNI	Garni	61.02	342	P	P	18 49 19.9	-0.7
GNI				pmax	pmax		
	comp=Z,405nm,2.0s						
GNI	Garni	61.02	342	P	P	18 49 22.0	+1.3
GNI	Garni	61.02	342	P	P	18 49 19.9	-0.7
	comp=Z,2µmcomp=Z,77nm,1.0s						
AAK	Ala-Archa	61.02	8	P	P	18 49 21.1	+0.5
AAK				IAmb	IAmb	18 49 33.5	
	comp=Z,67nm,1.2s						
AAK	Ala-Archa	61.02	8	LR	LR	19 13 38.5	
	comp=Z,3µm,20.9s,baz=196,slow=34						
AAK	Ala-Archa	61.02	8	P	P	18 49 22.7	+2.1
AAK				S	S	18 57 41.3	+2.5
AAK	Ala-Archa	61.02	8	P	P	18 49 23.6	+3.0
	SNR=33						
AAK	Ala-Archa	61.02	8	ceP	P	18 49 18.3	-2.3
AAK				pmax	pmax		
	comp=Z,19nm,2.5s						
AAK	Ala-Archa	61.02	8	i P	P	18 49 19.5	-1.1
	SNR=12						
BOOM	Boomskoye usch	61.08	9	IAmb	IAmb	18 49 29.9	
	comp=Z,65nm,1.3s						
BOOM				IAMs_20	IAMs_20	19 11 58.4	
	comp=Z,6µm,22.0s						
KK31	Karatay Array	61.08	4	IAmb	IAmb	18 49 31.1	
	comp=Z,63nm,1.2s						
KKAR	Karatay Array	61.08	4	P	P	18 49 19.8	-1.0
KKAR	Karatay Array	61.08	4	IAmb	IAmb	18 49 31.0	
	comp=Z,40nm,1.2s						
KKAR	Karatay Array	61.08	4	P	P	18 49 19.8	-1.0
KBK	Karagaybulak	61.10	8	P	P	18 49 24.0	+2.9
	SNR=15						
CD2	Chengdu	61.18	38	P	P	18 49 23.2	+1.5
CD2				sP	sP	18 49 27.6	-0.2
CD2				S	S	18 57 43.3	+2.4
CD2				sS	sS	18 57 48.1	-0.1
CD2				SS	SS	19 01 45.2	+3.7
CD2				pmax	pmax		
	comp=Z,50nm,1.0s						
CD2				pmax	pmax		
	comp=Z,700nm,5.0s						
CD2				LR	LR		
	comp=Z,2µm,21.7s						
CD2				LR	LR		
	comp=Z,2µm,25.6s						
NVL	N'lazarevskaya	61.38	198	eP	P	18 49 28.5	+6.0
NVL				eS	S	18 57 50.3	+8.0
NVL				pmax	pmax		
	comp=Z,59nm,0.9s						
NVL				MLR	MLR		
	comp=Z,838nm,17.0s						
CHMS	Chumysh	61.41	8	P	P	18 49 25.4	+2.4
	SNR=7.8						
TKM2	Tokmak 2	61.45	9	P	P	18 49 19.3	-4.3
	SNR=20						
GULI	GuiLin	61.53	47	P	P	18 49 28.4	+4.2
GULI				S	S	18 57 45.5	0.0
GULI				pmax	pmax		
	comp=Z,30nm,1.6s						
GULI				pmax	pmax		
	comp=Z,470nm,7.3s						
GULI				LR	LR		
	comp=Z,2µm,21.1s						
GULI				LR	LR		
	comp=Z,3µm,21.2s						
GULI				LR	LR		
	comp=Z,3µm,24.9s						
SANI	Sanana	61.58	82	P	P	18 49 23.6	-1.2
SANI	Sanana	61.58	82	P	P	18 49 26.6	+1.8
	comp=Z,2µmcomp=Z,807nmcomp=Z,58nm,1.1s						
USP	Ospenovka	61.64	8	P	P	18 49 26.8	+2.2
	SNR=25						
TNSS	Tian-Shan	61.77	10	eP	P	18 49 25.4	-0.5
TNSS	Tian-Shan	61.77	10	eP	P	18 49 25.4	-0.5
SGDS	Sogindy	61.84	8	eP	P	18 49 25.8	-0.2
SGDS				pmax	pmax		
	comp=Z,14nm,1.1s						
SGDS	Sogindy	61.84	8	eP	P	18 49 25.9	-0.2
	comp=Z,14nm,1.1s						
MDOK	Medeo	61.91	10	eP	P	18 49 26.3	-0.3
MDOK	Medeo	61.91	10	eP	P	18 49 26.3	-0.3
AAA	Alma-Ata	61.93	10	eP	P	18 49 26.5	-0.1
AAA				pmax	pmax		
	comp=Z,12nm,0.9s						
AAA	Alma-Ata	61.93	10	eP	P	18 49 26.5	-0.1
	comp=Z,12nm,0.9s						
SATY	Saty	62.04	11	eP	P	18 49 27.2	-0.2
SATY	Saty	62.04	11	eP	P	18 49 27.3	-0.2
UZB	Uzynbulak	62.24	11	eP	P	18 49 28.7	0.0
UZB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
UZB	Uzynbulak	62.24	11	eP	P	18 49 28.8	0.0
	comp=Z,9.1nm,1.0s						
SHLS	Shalkode	62.33	12	eP	P	18 49 30.1	+0.8
SHLS				pmax	pmax		
	comp=Z,21nm,1.4s						
SHLS	Shalkode	62.33	12	eP	P	18 49 30.1	+0.8
	comp=Z,21nm,1.4s						
MAK	Makhachkala	62.91	345	eP	P	18 49 26.6	-6.4
MAK				eSS	SS	19 02 05.0	-3.1
MAK				eSSS	SSS	19 04 58.2	
MAK				pmax	pmax		
	comp=Z,383nm,1.3s						
MAK				MLR	MLR		
	comp=Z,734nm,18.0s						
ARXS	Arharly	63.06	10	eP	P	18 49 35.1	+1.0
AAI	Ambon	63.14	85	P	P	18 49 39.8	+4.5
	comp=Z,29nm,1.3s						
DRS	Darwin Rock St	63.29	95	P	P	18 49 37.9	+1.7
BTLS	Baital	63.34	7	eP	P	18 49 35.9	+0.1
BTLS				pmax	pmax		
	comp=Z,26nm,1.5s						
BTLS	Baital	63.34	7	eP	P	18 49 36.0	+0.1
	comp=Z,26nm,1.5s						
MTN	Manton Dam	63.41	96	P	P	18 49 38.0

comp=Z,4.6nm,0.8s,baz=282,slow=6.3,SNR=32
ASAR LR LR 19 13 09.9
comp=Z,16μm,21.8s,baz=270,slow=32
ASAR PKPPKP **P'P'df** **19 18 31.4 -5.4**
comp=Z,0.5nm,0.9s,baz=57,slow=4.6,SNR=4.6
comp=Z,4.6nm,0.8s
ASAR Alice Springs 63.84 108 P **P** **18 49 37.6 -2.2**
TNTI Ternate 63.84 80 P **P** **18 49 40.6 +0.8**
TDK Taldyqorghan 63.92 10 *e*P **P** **18 49 39.9 +0.2**
TDK pmax pmax
comp=Z,10.0nm,0.7s
TDK Taldyqorghan 63.92 10 *e*P **P** **18 49 39.9 +0.2**
comp=Z,10nm,0.7s
KIRS Kirsehir-Merke 64.04 333 ⇓P **P** **18 49 43.4 +2.7**
ENH Enshi 64.22 42 IAMs_20 IAMs_20 19 14 44.7
comp=Z,4μm,20.0s
KARP Karpathos 64.43 326 P **P** **18 49 43.0 -0.3**
comp=Z,111nm,0.9s
NCK Nalchik 64.44 343 *i* P **P** **18 49 43.5 +0.3**
NCK pmax pmax
comp=Z,13nm,1.0s
BBOO Buckleboo 64.53 118 P **P** **18 49 48.5 +4.3**
DAV Davao City (W) 64.54 73 LR LR 19 15 46.4
comp=Z,1μm,20.2s,baz=250,slow=34
BR104 Keskin Array S 64.64 333 P **P** **18 49 44.2 -0.5**
comp=Z,121nmcomp=Z,9.7nm,1.1s
BRTR Keskin Array B 64.65 333 P **P** **18 49 44.2 -0.6**
comp=Z,7.5nm,1.1s,baz=156,slow=7.5,SNR=24
BRTR LR LR 19 16 16.9
comp=Z,3μm,19.7s,baz=144,slow=34
comp=Z,7.5nm,1.1s
BR131 Keskin Array S 64.66 333 P **P** **18 49 47.0 +2.2**
SNR=8.3
BR131 P **P** **18 49 47.0 +2.2**
SNR=8.3
BR131 Keskin Array S 64.66 333 *i* P **P** **18 49 44.3 -0.6**
BR105 Keskin Array S 64.66 333 P **P** **18 49 44.5 -0.4**
comp=Z,137nmcomp=Z,12nm,1.1s
BR106 Keskin Array S 64.67 333 P **P** **18 49 44.6 -0.3**
comp=Z,118nmcomp=Z,12nm,1.1s
KDU Kakadu 64.72 96 P **P** **18 49 42.9 -2.8**
KBZ Khabaz 64.85 342 P **P** **18 49 45.8 +0.1**
comp=Z,5.0nm,0.9s,baz=154,slow=10.0,SNR=11
KBZ LR LR 19 17 11.9
comp=Z,2μm,19.2s,baz=162,slow=35
comp=Z,5.0nm,0.9s
KBZ Khabaz 64.85 342 *i* P **P** **18 49 45.4 -0.4**
KBZ pmax pmax
comp=Z,13nm,0.9s
WRA Warramunga Arr 64.89 104 P **P** **18 49 45.0 -1.8**
WRA Warramunga Arr 64.89 104 P **P** **18 49 42.7 -4.1**
comp=Z,10nm,1.0s,baz=264,slow=5.8,SNR=44
WRA LR LR 19 16 25.7
comp=Z,4μm,18.1s,baz=246,slow=35
comp=Z,10nm,1.0s
WRA Warramunga Arr 64.89 104 P **P** **18 49 45.0 -1.8**
WRA pmax pmax
comp=Z,7.0nm,1.2s
WB2 Warramunga Arr 64.90 104 P **P** **18 49 44.8 -2.0**
WRAB Tennant Creek 64.90 104 P **P** **18 49 43.0 -3.8**
WRAB IAMs_20 IAMs_20 19 16 59.1
comp=Z,4μm,18.0s
WRAB Tennant Creek 64.90 104 *i* P **P** **18 49 45.5 -1.3**
WRAB pmax pmax
comp=Z,80nm,1.1s
SHA1 Shidzhatmaz 64.93 342 *i* P **P** **18 49 47.5 +0.9**
WMQ Urumqi 64.95 18 P **P** **18 49 48.9 +2.3**
WMQ S **S** **18 58 25.1 -2.6**
WMQ SS **SS** **19 02 41.3 +1.2**
WMQ pmax pmax
comp=Z,30nm,1.5s
WMQ pmax pmax
comp=Z,590nm,3.9s
WMQ LR LR
comp=Z,7μm,19.7s
WMQ LR LR
comp=Z,3μm,13.9s
WMQ LR LR
comp=Z,4μm,22.7s
WR0 Warramunga Arr 65.08 104 IAmb IAmb 18 50 04.3
comp=Z,40nm,1.0s
LZH Lanzhou 65.08 34 P **P** **18 49 48.2 +0.5**
LZH pP sP 18 49 54.2 +0.4
LZH sP pwP 18 49 56.8 +1.6
LZH PP **PP** **18 52 10.8 -0.4**
LZH S **S** **18 58 25.0 -4.9**
LZH SS **SS** **19 02 42.5 -0.1**
LZH pmax pmax
comp=Z,660nm,8.2s
LZH LR LR
comp=Z,1μm,19.9s
LZH LR LR
comp=Z,3μm,19.3s
LZH LR LR
comp=Z,2μm,20.5s
KIV Kislovodsk 65.12 342 P **P** **18 49 47.1 -0.6**
KIV IAmb IAmb 18 50 23.2
comp=Z,58nm,1.3s
KIV Kislovodsk 65.12 342 P **P** **18 49 50.4 +2.7**
KIV P **P** **18 49 50.4 +2.7**
KIV Kislovodsk 65.12 342 ⇓P **P** **18 49 50.7 +3.0**
KIV Kislovodsk 65.12 342 *e*P **P** **18 49 47.2 -0.4**
KIV *e*S **S** **18 58 29.8 0.0**
KIV *e*SS **SS** **19 02 42.9 +0.1**
KIV *e*SSS SSS 19 05 40.2
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 65.12 342 *i* P **P** **18 49 49.9 +2.2**
SNR=6.7
KIV Kislovodsk 65.12 342 P **P** **18 49 47.3 -0.4**
comp=Z,619nmcomp=Z,21nm,0.9s
CNSH ChangSha 65.14 46 P **P** **18 49 45.4 -2.6**
CNSH S **S** **18 58 30.9 +0.5**
CNSH ScS **SKSac** **18 59 33.6 -9.1**
CNSH SS **SS** **19 02 36.9 -6.4**
CNSH pmax pmax
comp=Z,15nm,1.4s
CNSH pmax pmax
comp=Z,620nm,6.7s
CNSH LR LR
comp=Z,3μm,19.2s
CNSH LR LR
comp=Z,3μm,22.7s
CNSH LR LR
comp=Z,3μm,22.5s
ANTO Ankara 65.14 333 P **P** **18 49 47.6 -0.3**
comp=Z,8.9nm,1.8s
IDI Anoyia 65.47 324 P **P** **18 49 51.1 +0.9**
comp=Z,36nm,1.0s,baz=159,slow=4.9,SNR=6.5
comp=Z,36nm,1.0s
DIKM Dikmen 65.61 336 P **P** **18 49 50.6 -0.2**
comp=Z,42nm,1.9s
GTA Gaotai 65.69 29 P **P** **18 49 51.4 -0.1**
GTA pP pP 18 49 54.2 -1.7
GTA sP sP 18 49 57.4 -0.1
GTA S **S** **18 58 33.6 -3.4**
GTA SS **SS** **19 02 55.5 +3.6**
GTA pmax pmax
comp=Z,460nm,7.7s
GTA LR LR
comp=Z,2μm,20.4s
GTA LR LR
comp=Z,2μm,22.9s
GTA LR LR
comp=Z,3μm,22.9s
SOC Sochi 65.70 340 *e*P **P** **18 49 48.3 -3.0**
SOC *e* 18 52 15.4
SOC *e*PPP PPP 18 53 47.5
SOC *e*S **S** **18 58 32.9 -3.8**
SOC *e*SS **SS** **19 02 46.8 -4.8**
SOC *e*SSS SSS 19 05 44.0
SOC MLR MLR
comp=Z,768nm,16.0s
WHYH Whyalla 65.77 119 P **P** **18 49 55.7 +3.5**
GOF Gofitskoye 66.03 343 *ce*P **P** **18 49 57.7 +4.3**
SNAA Sanae 66.11 199 P **P** **18 49 52.7 -1.1**
comp=Z,7.4nm,0.8s,baz=66,slow=5.1,SNR=6.8
SNAA LR LR 19 13 56.6
comp=Z,3μm,18.9s,baz=18,slow=32
comp=Z,7.4nm,0.8s
LABN Labinsk 66.33 341 *e*P **P** **18 49 53.2 -2.2**
LABN *e* 18 52 20.7
LABN *e*S **S** **18 58 43.3 -1.1**
LABN *e*SS **SS** **19 02 57.9 -3.5**

LABN pmax pmax
comp=Z,28nm,1.0s
LABN MLR MLR
comp=Z,1μm,16.0s
MAKZ Makanchi 66.33 12 P **P** **18 49 55.5 +0.2**
MAKZ IAmb IAmb 18 50 04.4
comp=Z,67nm,1.4s
MAKZ Makanchi 66.33 12 P **P** **18 49 55.6 +0.2**
MAKZ pmax pmax
comp=Z,67nm,1.4s
MAKZ MLR MLR
comp=Z,2μm,22.0s
MK31 Makanchi Array 66.39 13 IAmb IAmb 18 50 04.6
comp=Z,53nm,1.3s
MK31 Makanchi Array 66.39 13 *i* P **P** **18 49 55.1 -0.6**
MKAR Makanchi Array 66.39 13 P **P** **18 49 51.4 -4.3**
MKAR Makanchi Array 66.39 13 P **P** **18 49 52.5 -3.2**
comp=Z,1.9nm,0.7s,baz=209,slow=8.6,SNR=16
MKAR LR LR 19 17 03.9
comp=Z,2μm,20.1s,baz=176,slow=34
MKAR PKP2ab 19 18 34.1
comp=Z,1.7nm,1.0s,baz=29,slow=3.0,SNR=6.1
comp=Z,1.9nm,0.7s
MKAR Makanchi Array 66.39 13 *i* P **P** **18 49 54.0 -1.7**
MKAR pmax pmax
comp=Z,6.0nm,0.9s
XAN Xi'an 66.45 39 ⇑P **P** **18 50 00.4 +3.9**
XAN pP pwP 18 50 04.3 +0.3
XAN S **S** **18 58 45.6 -0.8**
XAN pmax pmax
comp=Z,78nm,1.1s
XAN pmax pmax
comp=Z,710nm,11.6s
XAN LR LR
comp=Z,5μm,17.9s
XAN LR LR
comp=Z,2μm,20.6s
XAN LR LR
comp=Z,4μm,19.2s
HTT Hallett 66.85 119 P **P** **18 50 02.1 +2.9**
SWI Sorong 66.95 83 P P 18 50 06.3 +6.3
comp=Z,1μmcomp=Z,56nm,0.9s
ABKAR Akbulak array 67.21 356 IAmb IAmb 18 50 10.7
comp=Z,46nm,1.1s
FAKI Fak Fak 67.23 85 P **P** **18 50 02.1 +0.3**
FAKI Fak Fak 67.23 85 P P 18 50 07.9 +6.1
comp=Z,69nm,1.5s
YLV Yalova 67.23 331 P **P** **18 50 01.1 -0.2**
comp=Z,779nmcomp=Z,43nm,1.4s
QZH Quanzhou 67.28 52 P **P** **18 50 02.1 +0.3**
QZH S **S** **18 58 58.7 +2.1**
QZH LR LR
comp=Z,6μm,25.6s
QZH LR LR
comp=Z,4μm,24.2s
QZH LR LR
comp=Z,3μm,17.7s
ERBR Yeremizino-Bor 67.37 341 *e*P **P** **18 50 02.7 +0.7**
ERBR *e*S **S** **18 58 59.1 +2.2**
ERBR *e*SSS SSS 19 06 23.6
ERBR pmax pmax
comp=Z,40nm,1.1s
ERBR MLR MLR
comp=Z,1μm,17.0s
ANN Anapa 67.54 339 *e*P **P** **18 50 03.1 +0.1**
ANN *e*S **S** **18 59 01.6 +2.6**
ANN *e*SS **SS** **19 03 18.0 -2.1**
ANN pmax pmax
comp=Z,39nm,1.0s
ANN MLR MLR
comp=Z,1μm,17.0s
SHEL Horse Pasture 67.54 260 IAMs_20 IAMs_20 19 16 14.1
comp=Z,6μm,20.0s
ZSN Zaisan 67.58 14 *e*P **P** **18 50 03.5 +0.2**
ZSN pmax pmax
comp=Z,28nm,1.4s
ZSN Zaisan 67.58 14 *e*P **P** **18 50 03.6 +0.2**
comp=Z,28nm,1.4s
WHN Wuhan 67.58 45 P **P** **18 50 02.0 -1.6**
WHN S **S** **18 58 54.7 -5.3**
WHN pmax pmax
comp=Z,1μm,8.6s
WHN LR LR
comp=Z,7μm,21.7s
WHN LR LR
comp=Z,5μm,16.3s
WHN LR LR
comp=Z,10μm,24.6s
VNA1 Neumayer--Stat 67.61 200 ⇑P P 18 50 10.4 +7.2
comp=Z,51nm,1.1s
BRZS Berezniki 68.09 5 *e*P **P** **18 50 06.8 +0.4**
BRZS pmax pmax
comp=Z,15nm,1.7s
BRZS Berezniki 68.09 5 *e*P **P** **18 50 06.9 +0.4**
comp=Z,15nm,1.7s
EZN Ezine 68.11 329 P **P** **18 50 08.6 +1.8**
EZN Ezine 68.11 329 P **P** **18 50 06.7 -0.1**
comp=Z,951nmcomp=Z,92nm,0.9s
VNA3 Neumayer Olymp 68.16 200 ⇑P **P** **18 50 10.9 +4.2**
comp=Z,46nm,1.2s
CTYL Yalikoy Yolu 68.45 331 P **P** **18 50 08.8 -0.1**
comp=Z,9μmcomp=Z,29nm,0.8s
ITM Ithomi 68.49 324 IAmb IAmb 18 50 23.6
comp=Z,48nm,1.3s
YULB Yu-li 68.50 55 IAMs_20 IAMs_20 19 17 24.9
comp=Z,3μm,19.0s
AKTO Aktyubinsk 68.53 355 LR LR 19 20 05.9
comp=Z,680nm,18.2s,baz=163,slow=36
ACRG Accra 68.73 284 IAMs_20 IAMs_20 19 17 22.9
comp=Z,6μm,21.0s
GUR Goura 68.80 325 P **P** **18 50 10.7 -0.6**
ARPS Mount Arapiles 68.81 123 P **P** **18 50 10.5 -0.9**
SIM Simferopol' 68.86 337 *e*P **P** **18 50 15.4 +4.1**
SIM *e*S **S** **18 59 17.7 +3.0**
SIM pmax pmax
comp=Z,73nm,1.2s
SIM MLR MLR
comp=Z,790nm,21.0s
AOS Alonnisos 68.87 327 P **P** **18 50 12.2 +0.7**
LYN LuoYang 68.95 40 ⇓P **P** **18 50 14.8 +2.6**
LYN S **S** **18 59 18.3 +2.0**
LYN SS **SS** **19 03 43.2 +0.8**
LYN pmax pmax
comp=Z,20nm,0.6s
LYN pmax pmax
comp=Z,990nm,5.0s
LYN LR LR
comp=Z,3μm,16.1s
LYN LR LR
comp=Z,2μm,13.1s
LYN LR LR
comp=Z,3μm,18.9s
SMTH Samothraki Isl 69.00 329 P **P** **18 50 11.4 -0.9**
ALN Alexandroupoli 69.07 329 P **P** **18 50 14.3 +1.6**
YHNB Yeheng 69.24 54 IAMs_20 IAMs_20 19 14 01.5
comp=Z,5μm,22.0s
STKA Stephens Creek 69.30 118 P **P** **18 50 11.5 -3.0**
comp=Z,5.5nm,0.9s,baz=301,slow=7.3,SNR=8.6
STKA LR LR 19 15 57.6
comp=Z,3μm,21.2s,baz=255,slow=32
comp=Z,5.5nm,0.9s
STKA Stephens Creek 69.30 118 *i* P **P** **18 50 13.5 -1.0**
EFP Efpalio 69.39 325 P **P** **18 50 17.3 +2.5**
KURBB Kurchatov Arra 69.41 9 P **P** **18 50 11.2 -3.3**
comp=Z,1.9nm,0.6s,baz=210,slow=6.7,SNR=35
KURBB LR LR 19 18 17.6
comp=Z,2μm,20.6s,baz=174,slow=34
KURBB PKPPKP **P'P'df** **19 18 22.5 +3.8**
comp=Z,3.8nm,1.3s,baz=352,slow=2.2,SNR=17
comp=Z,1.9nm,0.6s
EDRB Edirne 69.46 330 P **P** **18 50 18.0 +2.8**
KURK Kurchatov 69.51 9 P **P** **18 50 11.3 -3.9**
KURK IAmb IAmb 18 50 25.1
comp=Z,67nm,1.2s
KURK Kurchatov 69.51 9 P **P** **18 50 17.1 +1.9**
KURK S **S** **18 59 21.4 -0.8**
KURK Kurchatov 69.51 9 *ce*P **P** **18 50 12.6 -2.6**
KURK pmax pmax
comp=Z,8.0nm,0.6s
AXS Araxos 69.52 324 P **P** **18 50 19.1 +3.5**
QIS Mount Isa 69.61 106 P **P** **18 50 15.2 -1.4**
TORD Torodi Ar. Bea 69.97 292 P **P** **18 50 16.9 -2.0**
TORD Torodi Ar. Bea 69.97 292 LR LR 19 19 47.8
comp=Z,4μm,18.7s,baz=116,slow=35
JMB Yambol 70.06 331 *e*P **P** **18 50 21.9 +3.1**
THL Klokotos Trika 70.14 326 P **P** **18 50 18.4 -1.0**

FSK Fiskardo 70.15 324 P **P** **18 50 16.4 -3.1**
DIM Dimitrovgrad 70.17 330 *e*P **P** **18 50 21.6 +2.1**
PRD Provadia 70.18 331 *e*P **P** **18 50 22.9 +3.4**
PSN Preselentsi 70.23 332 *e*P P 18 50 25.7 +5.9
LIT Litokhoron 70.28 326 IAmb IAmb 18 50 25.6
comp=Z,24nm,0.8s
NEF NEVSHA 70.32 331 *e*P **P** **18 50 22.6 +2.2**
PLD Plovdiv 70.65 329 *e*P **P** **18 50 25.9 +3.4**
MMB Musomishta 70.70 328 *e*P **P** **18 50 25.7 +2.9**
TIRR Tirgusor 70.76 333 IAmb IAmb 18 50 32.6
comp=Z,34nm,1.0s
TIRR Tirgusor 70.76 333 ⇑P **P** **18 50 25.9 +2.8**
TIRR Tirgusor 70.76 333 P **P** **18 50 25.8 +2.8**
TIRR Tirgusor 70.76 333 P **P** **18 50 22.8 -0.2**
comp=Z,42nm,1.0s
BVAR Borovoye Array 70.96 3 P **P** **18 50 20.7 -3.4**
comp=Z,3.7nm,0.6s,baz=163,slow=6.2,SNR=21
BVAR LR LR 19 20 11.8
comp=Z,2μm,20.8s,baz=186,slow=35
comp=Z,3.7nm,0.6s
BRVK Borovoye 70.99 3 P **P** **18 50 20.1 -4.2**
BRVK Borovoye 70.99 3 P **P** **18 50 26.0 +1.7**
BRVK Borovoye 70.99 3 *ce*P **P** **18 50 21.3 -2.9**
BRVK pmax pmax
comp=Z,18nm,2.5s
TIY Taiyuan 71.05 38 *e*P P 18 50 32.1 +7.0
TIY PP PP 18 53 13.2 +10
TIY S **S** **18 59 39.2 -1.7**
TIY sS **SKSac** **19 00 18.3 -9.0**
TIY pmax pmax
comp=Z,40nm,0.6s
TIY pmax pmax
comp=Z,59nm,1.0s
TIY LR LR
comp=N,1μm,18.4s
TIY LR LR
comp=E,1μm,16.9s
TIY LR LR
comp=Z,1μm,20.1s
TAM Tamanrasset 71.14 303 P **P** **18 50 26.1 +0.1**
TAM IAMs_20 IAMs_20 19 19 48.8
comp=Z,4μm,20.0s
TAM Tamanrasset 71.14 303 P **P** **18 50 26.1 +0.1**
TAM pmax pmax
comp=Z,38nm,1.6s
TAM MLR MLR
comp=Z,4μm,20.0s
PVL Pavlikeni 71.19 330 *e*P **P** **18 50 28.8 +3.1**
PGB Panagyurishte 71.21 329 *e*P **P** **18 50 22.1 -3.8**
PLNA Plana 71.55 329 *e*P **P** **18 50 31.0 +3.0**
NJ2 Nanjing 71.55 46 *e*P **P** **18 50 29.1 +1.0**
NJ2 pP **sP** **18 50 34.8 +0.6**
NJ2 PP **PP** **18 53 09.2 +1.9**
NJ2 S **S** **18 59 46.8 0.0**
NJ2 SS **SS** **19 04 26.5 +4.0**
NJ2 pmax pmax
comp=Z,23nm,0.6s
NJ2 pmax pmax
comp=Z,940nm,5.3s
NJ2 LR LR
comp=Z,4μm,19.9s
NJ2 LR LR
comp=Z,4μm,19.9s
NJ2 LR LR
comp=Z,5μm,18.9s
TOO Toolangi 71.59 124 P **P** **18 50 30.9 +2.4**
TOO Toolangi 71.59 124 P **P** **18 50 29.5 +1.0**
comp=Z,15nm,1.6s
TOO Toolangi 71.59 124 P **P** **18 50 30.9 +2.4**
TOO pmax pmax
comp=Z,21nm,1.2s
TOO MLR MLR
comp=Z,1μm,18.0s
BTO Baotou 71.69 34 *e*P **P** **18 50 26.1 -2.8**
BTO pP **pP** **18 50 30.4 -3.0**
BTO PP **PP** **18 53 03.9 -4.5**
BTO S **S** **18 59 43.6 -4.7**
BTO SS **SS** **19 04 23.7 -0.9**
BTO pmax pmax
comp=Z,18nm,0.5s
BTO pmax pmax
comp=Z,610nm,6.6s
BTO LR LR
comp=Z,3μm,16.6s
BTO LR LR
comp=Z,3μm,17.1s
BTO LR LR
comp=Z,3μm,16.3s
VTS Vitosha 71.75 329 *e*P **P** **18 50 31.6 +2.3**
OHR Ohrid 71.90 326 *i* P **P** **18 50 32.3 +2.2**
QSPA South Pole Qui 72.01 180 P **P** **18 50 29.9 -0.7**
QSPA South Pole Qui 72.01 180 P **P** **18 50 29.4 -1.2**
comp=Z,26nm,1.0s,baz=276,slow=3.9,SNR=24
comp=Z,26nm,1.0s
VRH Novokhopyorsk 72.02 345 *e*P **P** **18 50 32.4 +1.9**
VRH pmax pmax
comp=Z,46nm,1.1s
MPEP Malo Peshtene 72.05 329 *e*P **P** **18 50 33.8 +2.9**
ISR Istrita 72.10 332 P **P** **18 50 31.1 -0.1**
comp=Z,112nm,1.3s
TAU Tasmania Unive 72.18 130 IAMs_20 IAMs_20 19 15 19.9
comp=Z,5μm,18.0s
HNS HongShan 72.19 39 ⇑P **P** **18 50 30.2 -1.6**
HNS S **S** **18 59 48.7 -5.2**
HNS SKS **SKSac** **19 00 30.9 -4.8**
HNS SS **SS** **19 04 30.7 -1.4**
HNS pmax pmax
comp=Z,49nm,1.1s
HNS LR LR
comp=Z,2μm,17.1s
HNS LR LR
comp=Z,790nm,15.7s
HNS LR LR
comp=Z,2μm,20.6s
CORO Coronation Par 72.26 129 P P 18 50 39.2 +6.8
ODBI Odobesti 72.38 333 ⇑P **P** **18 50 36.3 +3.5**
VALD Valchedram 72.45 330 *e*P **P** **18 50 36.3 +3.1**
VORD Divnogorie 72.45 343 *e*P **P** **18 50 33.7 +0.6**
VORD pmax pmax
comp=Z,50nm,1.1s
QLP Quilpie 72.52 113 P **P** **18 50 33.0 -1.2**
MILM Milestii Mici 72.56 335 *e*P **P** **18 50 35.0 +1.2**
comp=Z,10μm,1.8s
MILM *i* S **S** **18 59 58.0 +0.2**
comp=Z,2μm,17.0s
MILM Milestii Mici 72.56 335 *e*P **P** **18 50 35.0 +1.2**
MILM *i* S **S** **18 59 58.0 +0.2**
MILM *e*PS PnS 19 00 47.0 +18
MILM pmax pmax
comp=Z,100nm,1.8s
TIR Tirane 72.56 326 ⇓P **P** **18 50 37.4 +3.4**
TIR Tirane 72.56 326 P **P** **18 50 37.4 +3.4**
TIR Tirane 72.56 326 P **P** **18 50 33.9 -0.1**
comp=Z,1μmcomp=Z,83nm,0.8s
TIR pP **pP** **18 50 37.6 -0.6**
comp=Z,1μmcomp=Z,83nm,0.8s
VRI Vrincioaia 72.60 333 ⇑P **P** **18 50 37.7 +3.5**
VRI Vrincioaia 72.60 333 P **P** **18 50 37.6 +3.5**
VRI Vrincioaia 72.60 333 P **P** **18 50 34.0 -0.2**
VRI pP **pP** **18 50 38.5 -0.1**
PLOR Plostina 72.62 333 ⇓P **P** **18 50 37.7 +3.3**
PLOR Plostina 72.62 333 P **P** **18 50 37.6 +3.3**
KIS Kishinev 72.63 335 *i* S **S** **18 59 57.0 -1.5**
KIS *e*L L 19 21 13.0
KIS LRM MLR 19 21 43.0
comp=Z,400nm,15.0s
SSE Sheshan 72.63 48 P **P** **18 50 33.4 -1.2**
SSE S **S** **18 59 55.3 -3.8**
SSE pmax pmax
comp=Z,7.0nm,0.7s
SSE pmax pmax
comp=Z,170nm,3.7s
SSE LR LR
comp=Z,690nm,26.0s
SSE LR LR
comp=Z,690nm,25.4s
MLR Muntele Rosu 72.65 332 P **P** **18 50 33.8 -0.8**
comp=Z,8.7nm,0.8s,baz=148,slow=9.9,SNR=3.1
MLR LR LR 19 21 12.8
comp=Z,2μm,20.3s,baz=128,slow=35
comp=Z,8.7nm,0.8s
MLR Muntele Rosu 72.65 332 ⇓P **P** **18 50 38.0 +3.4**
MLR Muntele Rosu 72.65 332 P **P** **18 50 38.0 +3.4**
MLR Muntele Rosu 72.65 332 P **P** **18 50 34.3 -0.3**
comp=Z,1μmcomp=Z,67nm,1.2s

MLR pP **pP** **18 50 38.2 -0.6**
comp=Z,1μmcomp=Z,67nm,1.2s
HHC Hu-ho-hao-te 72.70 35 ⇓*i*P **P** **18 50 38.8 +3.8**
HHC sP pwP 18 50 45.0 +2.5
HHC PP **PP** **18 53 22.0 +4.9**
HHC S **S** **18 59 59.2 -0.6**
HHC pmax pmax
comp=Z,37nm,1.0s
HHC pmax pmax
comp=Z,270nm,5.4s
HHC LR LR
comp=Z,980nm,17.6s
HHC LR LR
comp=Z,1μm,16.8s
HHC LR LR
comp=Z,2μm,17.9s
VSR Storozhevoye 72.71 343 *e*P **P** **18 50 34.9 +0.3**
VSR pmax pmax
comp=Z,50nm,1.2s
CMSA Cobar Meteorol 72.79 118 P **P** **18 50 34.5 -1.3**
TIP Timpagrande 72.81 322 ⇑P **P** **18 50 38.6 +3.0**
COVR Voineasa-Covas 72.81 333 ⇑P **P** **18 50 38.0 +2.6**
RAFF Raffo Rosso 72.97 320 IAmb IAmb 18 50 47.3
comp=Z,49nm,1.0s
VOIR 73.01 332 ⇓P **P** **18 50 39.3 +2.5**
VOIR 73.01 332 P **P** **18 50 39.2 +2.5**
VAE Valguarnera 73.11 320 LR LR 19 23 24.3
comp=Z,2μm,18.4s,baz=126,slow=36
VORR Voronezh 73.11 343 *e*P **P** **18 50 37.9 +0.9**
VORR pmax pmax
comp=Z,36nm,0.4s
ONER Baraj Valea Uz 73.11 333 ⇓P **P** **18 50 39.6 +2.4**
ARR Arges 73.15 331 ⇑P **P** **18 50 39.6 +2.1**
BOVS Bovan 73.25 328 ⇓P **P** **18 50 40.6 +2.6**
DOPR Dopca 73.27 332 ⇑P **P** **18 50 40.6 +2.5**
DBIC Dimbokro 73.41 283 IAmb IAmb 18 50 50.6
comp=Z,48nm,1.1s
DBIC Dimbokro 73.41 283 P **P** **18 50 38.9 -0.7**
comp=Z,11nm,0.8s,baz=105,slow=7.8,SNR=7.7
DBIC LR LR 19 21 44.0
comp=Z,4μm,19.2s,baz=108,slow=35
comp=Z,11nm,0.8s
DRME Dracevica, Mon 73.52 326 *e*P P 18 50 32.6 -7.0
LOT Lotru 73.61 331 ⇓P **P** **18 50 42.4 +2.1**
IVA Berane 73.63 327 ⇑*i*P **P** **18 50 42.2 +1.8**
SMPI Sarmi 73.65 87 P P 18 50 47.6 +6.6
comp=Z,43nm,1.8s
PDG Podgorica 73.65 326 IAmb IAmb 18 50 50.0
comp=Z,57nm,1.2s
PDG Podgorica 73.65 326 *e*P **P** **18 50 42.5 +2.1**
PDG Podgorica 73.65 326 ⇑P **P** **18 50 42.3 +1.9**
ZALV Zalesovo Beam 73.69 12 P **P** **18 50 36.3 -4.1**
ZALV Zalesovo Beam 73.69 12 P **P** **18 50 36.9 -3.5**
comp=Z,3.8nm,0.7s,baz=218,slow=3.8,SNR=12
ZALV LR LR 19 21 26.8
comp=Z,2μm,20.9s,baz=198,slow=35
comp=Z,3.8nm,0.7s
SORM Soroca 73.73 335 ⇑P **P** **18 50 43.4 +2.6**
SORM Soroca 73.73 335 P **P** **18 50 43.3 +2.6**
KOME Kolasin 73.81 327 ⇑*i*P **P** **18 50 44.2 +2.7**
HERR Herculane 73.82 330 ⇓P **P** **18 50 44.1 +2.7**
MATE Matera 73.82 324 *e*P **P** **18 50 43.0 +1.6**
SJES Sjenica 73.86 327 *e*P **P** **18 50 42.9 +1.1**
VNDA Vanda 73.88 167 P **P** **18 50 44.6 +3.2**
VNDA IAmb IAmb 18 50 47.7
comp=Z,50nm,1.3s
VNDA Vanda 73.88 167 P **P** **18 50 39.2 -2.1**
comp=Z,1.3nm,0.9s,baz=267,slow=7.7,SNR=16
comp=Z,1.3nm,0.9s
VNDA Vanda 73.88 167 P **P** **18 50 44.6 +3.2**
VNDA pmax pmax
comp=Z,51nm,1.3s
LPSR Galich'ya Gora 74.02 344 *e*P **P** **18 50 42.8 +0.5**
LPSR pmax pmax
comp=Z,50nm,1.0s
GZR Gura Zlata 74.03 330 ⇓P **P** **18 50 45.6 +2.9**
GZR Gura Zlata 74.03 330 P **P** **18 50 45.5 +2.9**
NKME Niksic 74.04 326 ⇑*i*P **P** **18 50 45.7 +2.9**
HCY Herceg Novi 74.06 326 *e*P **P** **18 50 44.9 +2.0**
HCY Herceg Novi 74.06 326 ⇑*i*P **P** **18 50 46.0 +3.1**
PLE Pljevlja 74.21 327 ⇑*i*P **P** **18 50 46.7 +2.9**
TREB Trebinje 74.33 326 *e*P **P** **18 50 48.1 +3.7**
BRY Bratogost 74.36 326 *e*P **P** **18 50 46.5 +1.8**
BRY Bratogost 74.36 326 ⇑*i*P **P** **18 50 47.6 +2.9**
UPM Unac-Piva 74.37 327 *e*P **P** **18 50 48.2 +3.3**
UPM Unac-Piva 74.37 327 ⇑*i*P **P** **18 50 47.8 +2.9**
ARTI Arti 74.42 356 IAmb IAmb 18 50 54.5
comp=Z,36nm,0.9s
ARTI Arti 74.42 356 LR LR 19 22 53.0
comp=Z,1μm,18.7s,baz=170,slow=35
ARTI Arti 74.42 356*c i*P **P** **18 50 44.4 -0.2**
ARTI 18 50 57.8
ARTI S **S** **19 00 18.8 +0.4**
ARTI pmax pmax
comp=Z,40nm,1.2s
RUDO Rudo 74.42 327 *e*P **P** **18 50 46.5 +1.6**
MTSU Mount Surprise 74.49 104 P **P** **18 50 44.5 -1.5**
MTSU Mount Surprise 74.49 104 P **P** **18 50 48.2 +2.2**
BBLS Lazi&#263i 74.58 327 *e*P **P** **18 50 46.6 +0.7**
SURR Surduc 74.61 330 ⇑P **P** **18 50 48.4 +2.5**
BURAR Bucovina Array 74.62 333 ⇑P **P** **18 50 49.5 +3.4**
BURAR Bucovina Array 74.62 333 P **P** **18 50 49.4 +3.4**
SVE Sverdlovsk 74.73 357 *e*P **P** **18 50 48.8 +2.4**
SVE *e*S **S** **19 00 25.3 +3.4**
SVE pmax pmax
comp=Z,94nm,1.8s
SVE MLR MLR
comp=Z,2μm,20.0s
BZS Buzias 74.75 330 ⇑P **P** **18 50 49.0 +2.2**
BZS Buzias 74.75 330 P **P** **18 50 48.9 +2.2**
BJI Beijing 74.77 38 P **P** **18 50 48.9 +1.9**
BJI pP **sP** **18 50 53.4 +0.3**
BJI sP **pwP** **18 50 56.2 +1.7**
BJI PcP **PcP** **18 51 03.1 +2.1**
BJI S **S** **19 00 25.2 +2.2**
BJI pmax pmax
comp=Z,7.0nm,1.1s
BJI pmax pmax
comp=Z,190nm,10.8s
BJI LR LR
comp=Z,670nm,23.0s
BJI LR LR
comp=Z,700nm,23.2s
BJI LR LR
comp=Z,1μm,18.7s
CAN Canberra 74.77 123 P P 18 50 53.3 +5.9
STON Ston 74.78 326 *e*P **P** **18 50 48.7 +1.7**
MARR Marisel-Cluj 74.83 331 ⇑P **P** **18 50 50.7 +3.4**
KMPD K-Podol'skiy 74.83 334 P **P** **18 50 46.8 -0.3**
SBA Scott Base 74.84 168 P **P** **18 50 49.6 +2.7**
SBA IAmb IAmb 18 51 12.9
comp=Z,86nm,1.5s
SBA Scott Base 74.84 168 P **P** **18 50 49.6 +2.7**
SBA pmax pmax
comp=Z,86nm,1.5s
HAPS Han Pijesak,BI 74.97 327 *e*P **P** **18 50 49.8 +1.6**
TEKS Tekeris 75.00 328 *e*P **P** **18 50 47.2 -1.1**
TABU Tabubil 75.05 91 P **P** **18 50 51.0 +1.7**
SGRT San Giovanni R 75.10 324 IAmb IAmb 18 50 54.6
comp=Z,44nm,0.7s
DRGR 75.10 331 ⇑P **P** **18 50 50.9 +2.0**
DRGR 75.10 331 P **P** **18 50 50.8 +2.0**
SIRR Siria 75.20 330 ⇑P **P** **18 50 52.2 +2.8**
SONM Songino Array 75.25 27 P **P** **18 50 46.9 -2.9**
SONM Songino Array 75.25 27 P **P** **18 50 47.7 -2.1**
comp=Z,4.3nm,0.8s,baz=211,slow=7.2,SNR=19
SONM LR LR 19 22 23.9
comp=Z,4μm,20.3s,baz=212,slow=35
comp=Z,4.3nm,0.8s
SONM Songino Array 75.25 27 P **P** **18 50 46.9 -2.9**
SONM pmax pmax
comp=Z,28nm,0.8s
KEST Kesra 75.28 316 P **P** **18 50 50.9 +0.8**
KEST IAmb IAmb 18 51 11.8
comp=Z,50nm,1.4s
KEST Kesra 75.28 316 P **P** **18 50 49.9 -0.3**
comp=Z,5.5nm,0.8s,baz=284,slow=2.5,SNR=9.4
KEST LR LR 19 26 21.9
comp=Z,4μm,18.0s,baz=122,slow=38
comp=Z,5.5nm,0.8s
KEST Kesra 75.28 316 P **P** **18 50 50.5 +0.3**
KEST P **P** **18 50 50.5 +0.3**
SNR=10.0

FRGS Fruska Gora 75.29 329 *e*P **P** **18 50 52.8 +2.9**
BMR Baia Mare 75.41 332 ⇓P **P** **18 50 53.9 +3.3**
BMR Baia Mare 75.41 332 P **P** **18 50 53.8 +3.3**
AKASG Malin Array Be 75.47 337 IAmb IAmb 18 51 06.0
comp=Z,71nm,1.1s
AKASG Malin Array Be 75.47 337 P **P** **18 50 50.0 -0.7**
comp=Z,13nm,0.9s,baz=144,slow=4.8,SNR=35
AKASG LR LR 19 23 30.8
comp=Z,680nm,21.3s,baz=140,slow=35
comp=Z,13nm,0.9s
AKASG Malin Array Be 75.47 337 *i*P **P** **18 50 53.0 +2.2**
AKASG pmax pmax
comp=Z,21nm,0.9s
AKBB Malin Array Si 75.47 337 IAmb IAmb 18 51 05.9
comp=Z,67nm,1.1s
AKBB Malin Array Si 75.47 337*ce*P **P** **18 50 51.9 +1.1**
AKBB pmax pmax
comp=Z,51nm,0.9s
AKBB Malin Array Si 75.47 337 P **P** **18 50 50.5 -0.3**
KIEV Kiev 75.47 337 P **P** **18 50 51.5 +0.7**
KIEV IAmb IAmb 18 51 05.9
comp=Z,60nm,1.1s
KIEV Kiev 75.47 337 ⇑P **P** **18 50 53.4 +2.7**
KIEV Kiev 75.47 337 P **P** **18 50 51.5 +0.7**
KIEV pmax pmax
comp=Z,60nm,1.1s
KIEV Kiev 75.47 337 *i*P **P** **18 50 51.9 +1.2**
SNR=15
AK16 Malin Array Si 75.49 337 P **P** **18 50 50.6 -0.3**
ULN Ulaanbaatar 75.56 28 P **P** **18 50 53.3 +1.7**
ULN Ulaanbaatar 75.56 28 IAms_20 IAms_20 19 22 23.8
comp=Z,4μm,22.0s
ULN Ulaanbaatar 75.56 28 P **P** **18 50 54.3 +2.7**
ULN P **P** **18 50 54.3 +2.7**
ULN Ulaanbaatar 75.56 28*ce*P **P** **18 50 49.5 -2.1**
ULN pmax pmax
comp=Z,5.0nm,0.8s
JOW Kunigami 75.69 55 LR LR 19 21 33.1
comp=Z,2μm,20.1s,baz=258,slow=34
ZAK Zakamensk 75.96 24 *e*P **P** **18 50 54.8 +1.1**
ZAK pmax pmax
comp=Z,12nm,1.8s
MOY Mondy 76.15 22 *e*P **P** **18 50 57.0 +2.2**
MOY pmax pmax
comp=Z,52nm,2.1s
INTR Introdacqua 76.31 323 IAmb IAmb 18 51 05.6
comp=Z,55nm,1.0s
BLY Banja Luka 76.34 327 *e*P **P** **18 50 57.5 +1.6**
A050A Klekovaca 76.50 326 *e*P **P** **18 50 57.5 +0.6**
MORH Mrgy, Hungar 76.62 329 ⇓P **P** **18 50 59.7 +2.2**
A051A Mrakovica 76.66 327 *e*P **P** **18 50 57.9 +0.1**
AQU L'Aquila 76.81 323 P **P** **18 50 59.1 +0.4**
KOLS Kolonicke sedl 76.90 333 *e*P **P** **18 51 01.5 +2.5**
KOLS pmax pmax
comp=Z,30nm,1.1s
KOLS Kolonicke sedl 76.90 333 *e*P **P** **18 51 01.5 +2.5**
OBN Obninsk 76.90 344 ⇑P **P** **18 51 01.7 +2.9**
OBN Obninsk 76.90 344 *e*P **P** **18 50 58.7 -0.1**
OBN *i* 18 51 07.6
OBN *i* 18 53 48.6
OBN *i*S S 19 00 37.0 -8.8
OBN *i*SS **SS** **19 05 43.4 +0.4**
OBN pmax pmax
comp=Z,44nm,1.0s
OBN MLR MLR
comp=Z,1μm,20.0s
RNPP5 Staryi Chortor 77.16 336 P **P** **18 51 00.1 -0.3**
MOS Moscow 77.18 344 *e*P **P** **18 51 01.8 +1.5**
MOS *e* 18 51 13.3
MOS *e* 18 54 00.0
MOS *e*S **S** **19 00 47.2 -1.7**
MOS *e*SS **SS** **19 05 45.8 -1.4**
MOS pmax pmax
comp=Z,88nm,1.3s
MOS MLR MLR
comp=Z,2μm,23.0s
XLT XiLinHaoTe 77.22 35 *e*P **P** **18 51 02.7 +1.7**
XLT pP pP 18 51 06.3 +0.8
XLT sP PcP 18 51 11.0 -0.7
XLT PcP **pwP** **18 51 15.1 +6.5**
XLT PP **PP** **18 54 00.5 +5.2**
XLT S **S** **19 00 51.0 +0.9**
XLT ScS **ScS** **19 01 17.8 -0.3**
XLT SS **SS** **19 05 44.2 -4.4**
XLT pmax pmax
comp=Z,20nm,1.1s
XLT LR LR
comp=Z,130nm,16.6s
XLT LR LR
comp=Z,730nm,17.9s
XLT LR LR
comp=Z,2μm,19.6s
PSZ Piszkesteto 77.23 331 ⇓P **P** **18 51 03.5 +2.5**
PSZ Piszkesteto 77.23 331 P **P** **18 51 03.4 +2.5**
PSZ Piszkesteto 77.23 331 *e*P **P** **18 51 02.7 +1.7**
NRCA Norcia 77.28 323 IAmb IAmb 18 51 17.2
comp=Z,68nm,1.2s
GUMA Gualdo di Mace 77.30 324 IAmb IAmb 18 51 06.6
comp=Z,41nm,0.9s
KECS Kecovo 77.37 331 *e*P **P** **18 51 04.9 +3.3**
KECS pmax pmax
comp=Z,38nm,1.3s
KECS Kecovo 77.37 331 *e*P **P** **18 51 04.9 +3.3**
DL2 Dalian 77.41 42 P **P** **18 50 59.2 -2.8**
DL2 S **S** **19 00 48.8 -3.3**
DL2 pmax pmax
comp=Z,16nm,1.4s
DL2 pmax pmax
comp=Z,510nm,9.3s
DL2 LR LR
comp=Z,2μm,22.9s
DL2 LR LR
comp=Z,1μm,20.9s
DL2 LR LR
comp=Z,2μm,28.4s
KIRV Kirov 77.51 352 LR LR 19 24 08.6
comp=Z,2μm,20.8s,baz=165,slow=35
KIRV Kirov 77.51 352 *i*P **P** **18 51 02.1 0.0**
ASCN Ascension 77.77 266 IAms_20 IAms_20 19 21 16.1
comp=Z,5μm,20.0s
IRK Irkutsk 77.82 23 *e*P **P** **18 51 07.1 +3.1**
IRK pmax pmax
comp=Z,71nm,2.0s
BOJS Bojanci 77.86 327 *e*P **P** **18 51 04.0 -0.4**
BOJS Bojanci 77.86 327 *i*P **P** **18 51 07.2 +2.8**
SRO Srobarova 77.90 330 *e*P **P** **18 51 08.2 +3.6**
SRO Srobarova 77.90 330 *e*P **P** **18 51 08.2 +3.6**
KOGS Kog 77.98 328 *i*P **P** **18 51 08.1 +3.0**
ARMA Armidale 78.01 118 IAms_20 IAms_20 19 20 51.5
comp=Z,4μm,22.0s
NIE Niedzica 78.13 332 *e*P **P** **18 51 10.2 +4.3**
VYHS Vyhne 78.14 330 *e*P **P** **18 51 08.7 +2.8**
VYHS pmax pmax
comp=Z,23nm,1.2s
VYHS Vyhne 78.14 330 *e*P **P** **18 51 08.7 +2.8**
LANS Liptovska Anna 78.31 331 *e*P **P** **18 51 09.4 +2.5**
LANS pmax pmax
comp=Z,10.0nm,1.0s
LANS Liptovska Anna 78.31 331 *e*P **P** **18 51 09.3 +2.4**
CEY Cerknica 78.45 326 *e*P **P** **18 51 08.2 +0.5**
SKDS Skadanscina 78.54 326 *e*P **P** **18 51 08.8 +0.6**
CASP Castiglione de 78.55 322 IAmb IAmb 18 51 18.1
comp=Z,60nm,1.0s
LJU Ljubljana 78.59 327 *i*P **P** **18 51 11.3 +2.8**
SOKA Soboth 78.75 327 *i*P **P** **18 51 12.4 +2.9**
comp=Z,30nm,1.8s,SNR=12
EIDS Eidsvold 78.79 113 P **P** **18 51 08.8 -1.4**
MODS Modra-Piesok 78.79 330 *e*P **P** **18 51 11.4 +1.8**
MODS pmax pmax
comp=Z,53nm,1.2s
MODS Modra-Piesok 78.79 330 *e*P **P** **18 51 11.4 +1.8**
RONA Rosalia, Austr 78.81 329 *i*P **P** **18 51 12.8 +3.1**
comp=Z,36nm,1.0s,SNR=13
SMOL Smolenice 78.82 330 *e*P **P** **18 51 13.5 +3.8**
SMOL pmax pmax
comp=Z,9.0nm,1.0s
OBKA Obir 78.89 327 *e*P **P** **18 51 12.3 +2.1**
OBKA Obir 78.89 327 *i*P **P** **18 51 13.2 +2.9**
comp=Z,34nm,1.7s,SNR=13
OJC Ojcow 78.94 332 *e*P **P** **18 51 12.6 +2.4**
OJC Ojcow 78.94 332 IAmb IAmb 18 51 25.6
comp=Z,62nm,1.2s
JAVC Velka Javorina 78.94 330 *e*P **P** **18 51 13.9 +3.5**
SABO M.te Sabotino 79.04 326 IAmb IAmb 18 51 26.3
comp=Z,62nm,1.3s
MNK Minsk 79.05 339 *i*P **P** **18 51 13.1 +2.4**
MNK *i* 18 54 11.4
MNK *i*PPP PPP 18 55 59.8
MNK *i*S **S** **19 01 12.1 +3.1**
MNK *i*SS **SS** **19 06 17.9 +2.5**
MNK *i*SSS SSS 19 09 43.1
MNK pmax pmax
comp=E,14nm,1.0s
MNK pmax pmax
comp=N,21nm,1.0s
MNK pmax pmax
comp=Z,48nm,1.0s
MNK MLR MLR
comp=Z,716nm,18.0s
MNK MLR MLR
comp=N,461nm,18.0s
MNK MLR MLR
comp=E,725nm,19.0s
CADS Cadrg 79.13 326 *i*P **P** **18 51 13.9 +2.4**
CONA Conrad Observa 79.18 329 *i*P **P** **18 51 14.7 +2.9**
comp=E,84nm,1.6s,SNR=18
OKC Ostrava-Krasne 79.41 331 *e*P **P** **18 51 16.4 +3.5**
OKC *e*S **S** **19 01 14.6 +1.5**
OKC AMS AMS 19 12 30.0
comp=E,1μm,23.1s
OKC Ostrava-Krasne 79.41 331 *e*P **P** **18 51 16.4 +3.5**
OKC *e*S **S** **19 01 14.6 +1.5**
OKC MLR MLR
comp=Z,1μm,23.1s
MYKA Terra Mystica 79.44 327 *i*P **P** **18 51 15.9 +2.7**
comp=Z,21nm,1.5s,SNR=6.8
ZCCA Zocca 79.44 324 IAmb IAmb 18 51 37.0
comp=Z,94nm,1.1s
PMG Port Moresby 79.48 97 P **P** **18 51 12.5 -1.6**
comp=Z,19nm,1.0s,baz=282,slow=6.4,SNR=6.5
comp=Z,19nm,1.0s
MORC Moravsky Berou 79.64 331 *e*P **P** **18 51 16.4 +2.1**
MORC Moravsky Berou 79.64 331 ⇓P **P** **18 51 16.3 +2.1**
MORC Moravsky Berou 79.64 331 P **P** **18 51 16.3 +2.1**
KRUC Moravsky 79.69 330 *e*P **P** **18 51 12.6 -1.8**
KRUC *e*S **S** **19 01 12.9 -3.3**
VRAC Vranov 79.77 330 P **P** **18 51 16.0 +1.1**
comp=Z,11nm,1.0s,baz=99,slow=8.5,SNR=3.1
comp=Z,11nm,1.0s
VRAC Vranov 79.77 330 *e*P **P** **18 51 18.1 +3.3**
VRAC *e*S **S** **19 01 18.1 +1.1**
VRAC Vranov 79.77 330 ⇓P **P** **18 51 17.8 +3.0**
VRAC Vranov 79.77 330 P **P** **18 51 17.8 +3.0**
R9F13 Warsaw-Wawer 79.83 334 *e*P **P** **18 51 18.7 +3.7**
R9F13 *e*S SKiKP 19 00 43.4 +24
KBA Koelnbreinsper 79.89 327 *i*P **P** **18 51 18.5 +2.7**
comp=Z,24nm,1.5s,SNR=11
MOA Molln 79.92 328 *i*P **P** **18 51 18.7 +2.9**
comp=Z,57nm,1.5s,SNR=15
IDID Didziasalis 80.09 339 *e*P **P** **18 51 18.6 +2.2**
ABTA Abfaltersbach 80.11 326 *i*P **P** **18 51 20.0 +3.1**
comp=Z,37nm,1.0s,SNR=15
CTI Castel Tesino 80.13 325 IAmb IAmb 18 51 31.4
comp=Z,74nm,1.7s
BIOA Bad Ischl, Aus 80.14 327 *i*P **P** **18 51 19.4 +2.5**
comp=Z,24nm,1.2s,SNR=12
KRLC Kraliky 80.21 331 *e*P **P** **18 51 20.3 +3.0**
KRLC *e*S **S** **19 01 27.0 +5.3**
KRLC AMS AMS 19 16 30.0
comp=Z,900nm,24.8s
KRLC Kraliky 80.21 331 *e*P **P** **18 51 20.3 +3.0**
KRLC *e*S **S** **19 01 27.0 +5.3**
KRLC MLR MLR
comp=Z,900nm,24.8s
TREC Trest 80.29 330 *e*P **P** **18 51 19.6 +1.9**
TREC *e*S **S** **19 01 25.0 +2.5**
TREC AMS AMS 19 21 50.0
comp=Z,1μm,29.3s
TREC Trest 80.29 330 *e*P **P** **18 51 19.6 +1.9**
TREC *e*S **S** **19 01 25.0 +2.5**
TREC MLR MLR
comp=Z,1μm,29.3s
SNY Shenyang 80.31 40 ⇑P **P** **18 51 15.7 -2.2**
SNY S **S** **19 01 24.4 +1.5**
SNY pmax pmax
comp=Z,5.0nm,0.5s
SNY pmax pmax
comp=Z,450nm,5.0s
SNY LR LR
comp=Z,1μm,23.9s
SNY LR LR
comp=Z,620nm,21.0s
SNY LR LR
comp=Z,2μm,21.6s
SUW Suwalki 80.36 336 *e*P **P** **18 51 20.3 +2.4**
SUW Suwalki 80.36 336 *e*P **P** **18 51 20.5 +2.6**
LESA Schwarzleotal 80.46 327 *i*P **P** **18 51 20.8 +2.1**
comp=Z,48nm,0.8s,SNR=18
ISAL Salakas 80.51 339 *e*P **P** **18 51 21.2 +2.6**
CKRC Cesky Krumlov 80.54 329 *e*P **P** **18 51 21.9 +2.8**
CKRC *e*S **S** **19 01 25.6 +0.4**
CKRC AMS AMS 19 18 50.0
comp=Z,3μm,55.2s
CKRC Cesky Krumlov 80.54 329 *e*P **P** **18 51 21.9 +2.8**
CKRC *e*S **S** **19 01 25.6 +0.4**
CKRC MLR MLR
comp=Z,3μm,55.2s
DPC Dobruska-Polom 80.61 331 *e*P **P** **18 51 20.6 +1.2**
DPC *e*S **SKSac** **19 01 34.0 -3.0**
DPC AMS AMS 19 16 50.0
comp=Z,1μm,25.4s
DPC Dobruska-Polom 80.61 331 *e*P **P** **18 51 20.6 +1.2**
DPC *e*S **SKSac** **19 01 34.0 -3.0**
DPC MLR MLR
comp=Z,1μm,25.4s
JNU Nakatsue 80.69 51 LR LR 19 26 53.6
comp=Z,1μm,19.4s,baz=232,slow=36
KSAR Wonju Array Be 80.72 46 P **P** **18 51 17.4 -2.8**
KSAR Wonju Array Be 80.72 46 P **P** **18 51 17.4 -2.8**
KSRS Korea Array 80.75 46 P **P** **18 51 17.8 -2.6**
comp=Z,3.1nm,0.9s,baz=238,slow=5.1,SNR=7.2
KSRS LR LR 19 24 34.5
comp=Z,2μm,20.9s,baz=240,slow=34
comp=Z,3.1nm,0.9s
OSTC Ostas 80.80 331 *e*P **P** **18 51 21.7 +1.3**
OSTC *e*S **S** **19 01 32.7 +4.9**
OSTC Ostas 80.80 331 *e*P **P** **18 51 21.7 +1.3**
OSTC *e*S **S** **19 01 32.7 +4.9**
GERES GERESS Array B 80.86 328 P **P** **18 51 20.5 -0.4**
comp=Z,3.2nm,0.8s,baz=150,slow=5.7,SNR=17
GERES LR LR 19 28 34.7
comp=Z,473nm,18.9s,baz=144,slow=37
comp=Z,3.2nm,0.8s
UPC Upice 80.86 331 *e*P **P** **18 51 24.1 +3.4**
UPC *e*S **S** **19 01 32.1 +3.6**
UPC AMS AMS 19 16 50.0
comp=Z,1μm,19.3s
UPC Upice 80.86 331 *e*P **P** **18 51 24.1 +3.4**
UPC *e*S **S** **19 01 32.1 +3.6**
UPC MLR MLR
comp=Z,1μm,19.3s
CHVC Chvalec 80.90 331 *e*P **P** **18 51 23.4 +2.5**
CHVC *e*S **S** **19 01 32.7 +3.8**
CHVC AMS AMS 19 16 40.0
comp=Z,1μm,26.7s
CHVC Chvalec 80.90 331 *e*P **P** **18 51 23.4 +2.5**
CHVC *e*S **S** **19 01 32.7 +3.8**
CHVC MLR MLR
comp=Z,1μm,26.7s
WTTA Wattenberg 80.90 326 *i*P **P** **18 51 23.8 +2.6**
comp=Z,30nm,0.8s,SNR=11
KSP Ksiaz 80.96 331 *e*P **P** **18 51 23.4 +2.2**
WATA Walderalm 80.98 326 *i*P **P** **18 51 23.9 +2.3**
comp=Z,21nm,0.9s,SNR=10
ZVC Zvikov 81.01 329 *e*P **P** **18 51 23.0 +1.5**
ZVC *e*S **S** **19 01 33.7 +3.7**
ZVC AMS AMS 19 19 20.0
comp=Z,1μm,30.0s
GOPC GO Pecny, Ondr 81.04 330 *e*P **P** **18 51 23.7 +2.0**
GOPC *e*S **S** **19 01 30.5 +0.1**
GOPC GO Pecny, Ondr 81.04 330 *e*P **P** **18 51 23.7 +2.0**
GOPC *e*S **S** **19 01 30.5 +0.1**
SQTA Sankt Quirin 81.10 326 *i*P **P** **18 51 24.6 +2.4**
comp=Z,23nm,0.8s,SNR=9.8
KHC Kasperske Hory 81.11 329 *e*P **P** **18 51 24.6 +2.5**
KHC *e*S **S** **19 01 34.8 +3.6**
KHC AMS AMS 19 19 10.0
comp=Z,3μm,56.1s
KHC Kasperske Hory 81.11 329 *i*P **P** **18 51 22.1 0.0**

KHC pmax pmax
comp=Z,33nm,1.1s
PRU Pruhonice 81.21 330 *e*P **P 18 51 25.9 +3.4**
PRU *e*S **S 19 01 33.8 +1.8**
PRU AMS AMS 19 19 00.0
comp=Z,2μm,38.3s
PRU Pruhonice 81.21 330 *e*P **P 18 51 25.9 +3.4**
PRU *e*S **S 19 01 33.8 +1.8**
PRU MLR MLR
comp=Z,2μm,38.3s
PABE Paberze 81.22 338 IAmb IAmb 18 51 38.8
comp=Z,74nm,1.0s
PABE Paberze 81.22 338 *e*P **P 18 51 24.7 +2.3**
FETA Feichten 81.23 326 *i* P **P 18 51 25.7 +2.7**
comp=Z,27nm,0.9s,SNR=12
MOTA Moosalm 81.24 326 *e*P **P 18 51 25.2 +2.2**
comp=Z,23nm,0.8s
PRA Prague 81.31 330 *e*P **P 18 51 26.4 +3.3**
PRA *e*S **S 19 01 38.3 +5.2**
PRA Prague 81.31 330 *e*P **P 18 51 26.4 +3.3**
PRA *e*S **S 19 01 38.3 +5.2**
KLMR Klimovskoe 81.36 348 *e*P **P 18 51 18.6 -4.5**
KLMR pmax pmax
comp=Z,120nm,1.2s
CIT Chita 81.47 28 *e*P **P 18 51 26.8 +2.9**
CIT pmax pmax
comp=Z,139nm,1.7s
RETA Reutte 81.51 326 *e*P **P 18 51 27.2 +2.9**
comp=Z,8.0nm,0.7s
DAVOX Davos/Dischmat 81.55 325 P **P 18 51 24.1 -0.5**
comp=Z,7.8nm,0.8s,baz=151,slow=7.9,SNR=10
DAVOX LR LR 19 28 27.7
comp=Z,843nm,20.9s,baz=128,slow=36
comp=Z,7.8nm,0.8s
PVCC Panska Ves 81.56 330 *e*P **P 18 51 26.1 +1.7**
PVCC *e*S **SKSac 19 01 43.0 -0.3**
PVCC AMS AMS 19 19 10.0
comp=Z,2μm,51.5s
PVCC Panska Ves 81.56 330 *e*P **P 18 51 26.1 +1.7**
PVCC *e*S **SKSac 19 01 43.0 -0.3**
PVCC MLR MLR
comp=Z,2μm,51.5s
TUE Stuetta 81.65 325 IAmb IAmb 18 51 39.1
comp=Z,76nm,1.4s
RICC Richard 81.79 330 *e*S **SKSac 19 01 46.1 +1.2**
ETOS Mallorca 81.82 316 P **P 18 51 29.3 +3.3**
DAVA Damuels 81.86 326 *i* P **P 18 51 28.9 +2.6**
comp=Z,26nm,0.8s,SNR=12
BRG Berggiesshubel 82.08 330 ||*i* P **P 18 51 30.9 +3.7**
BRG Amp 18 51 32.6
comp=Z,5.9nm,0.8s
BRG Berggiesshubel 82.08 330 P P 18 51 36.5 +9.3
BRG Amp 18 51 37.4
comp=Z,21nm,1.1s
BRG Berggiesshubel 82.08 330 S **S 19 01 44.0 +3.0**
BRG Berggiesshubel 82.08 330 SS SS 19 07 09.0 +8.0
HSKC Hora Svate Kat 82.15 330 *e*P **P 18 51 29.8 +2.2**
HSKC *e*S **SKSac 19 01 49.5 +2.1**
HSKC AMS AMS 19 20 00.0
comp=Z,2μm,34.4s
GKP Gorka Klasztor 82.23 333 *e*P **P 18 51 30.9 +3.1**
GKP Gorka Klasztor 82.23 333 *e*P **P 18 51 30.1 +2.3**
BNI Bardonecchia 82.32 322 IAmb IAmb 18 51 45.4
comp=Z,38nm,1.1s
NKC Novy Kostel 82.39 329 *e*P **P 18 51 32.1 +3.3**
NKC *e*S **SKSac 19 01 48.5 -0.5**
NKC AMS AMS 19 20 00.0
comp=Z,2μm,43.2s
NKC Novy Kostel 82.39 329 *e*P **P 18 51 32.1 +3.3**
NKC *e*S **SKSac 19 01 48.5 -0.5**
NKC MLR MLR
comp=Z,2μm,43.2s
EIBI Ibiza 82.41 315 P **P 18 51 31.9 +2.7**
CN2 Changchun 82.56 39 *e*P **P 18 51 31.3 +1.5**
CN2 *es*P pwP 18 51 38.0 +0.6
CN2 *e*S **S 19 01 46.2 0.0**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,900nm,17.0s
VSU Vasula 82.62 341 *ce*P **P 18 51 31.8 +2.1**
VSU pmax pmax
comp=Z,61nm,0.7s
VSU Vasula 82.62 341 *e*P **P 18 51 32.0 +2.3**
GRA1 Grafenberg Arr 82.65 328 IAmb IAmb 18 51 45.7
comp=Z,54nm,1.1s
CLL Collm 82.81 330 *e*P **P 18 51 34.0 +3.0**
CLL *i* 18 51 37.5
CLL *e*S **S 19 01 48.0 -0.5**
CLL pmax pmax
comp=Z,24nm,1.3s
EJON La Jonquera 83.18 319 P **P 18 51 34.9 +1.7**
CART Cartagena 83.31 313 IAMs_20 IAMs_20 19 30 47.9
comp=Z,2μm,18.0s
CART Cartagena 83.31 313 P **P 18 51 36.0 +2.2**
BFO Black Forest 83.32 326 IAmb IAmb 18 51 54.1
comp=Z,64nm,1.3s
EMUR La Murta 83.59 313 P **P 18 51 37.7 +2.3**
ARBE Arbavere 83.64 341 *e*P **P 18 51 38.5 +3.5**
MDT Midelt 83.74 307 P **P 18 51 36.0 -0.3**
comp=Z,3.7nm,0.9s,baz=132,slow=4.8,SNR=4.2
MDT LR LR 19 30 39.7
comp=Z,4μm,18.0s,baz=126,slow=37
comp=Z,3.7nm,0.9s
MTSE Matsula 83.76 340 *e*P **P 18 51 37.9 +2.3**
ECH Echery 83.88 325 IAmb IAmb 18 51 46.1
comp=Z,32nm,1.1s
ECHE Chera 84.25 315 P **P 18 51 43.1 +4.4**
EBER Berja 84.31 312 P **P 18 51 42.8 +3.6**
IFR Ifrane 84.44 308 P **P 18 51 40.1 +0.2**
BSD Bornholm Skovb 84.49 334 *e*P **P 18 51 41.7 +2.3**
BSD Bornholm Skovb 84.49 334 *i* P P 18 51 44.5 +5.1
GUMO Guam 84.55 74 LR LR 19 27 10.4
comp=Z,127nm,18.3s,baz=246,slow=34
MEF Metsahovi 84.75 341 *e*P **P 18 51 42.6 +2.0**
BNX BinXian 84.78 38 ||P **P 18 51 44.8 +3.6**
BNX pP **pP 18 51 46.4 +0.7**
BNX S **S 19 02 08.7 +0.1**
BNX pmax pmax
comp=Z,14nm,0.9s
BNX pmax pmax
comp=Z,280nm,9.1s
BNX LR LR
comp=Z,1μm,16.2s
BNX LR LR
comp=Z,2μm,17.9s
BNX LR LR
comp=Z,2μm,20.4s
ELGU Los Guajares, 84.82 311 P **P 18 51 43.8 +2.1**
EQTA Presa de Quent 84.85 312 P **P 18 51 43.5 +1.7**
BLEU Blekinge 84.93 335 *i* P **P 18 51 46.1 +4.5**
TIO Tiouine 84.98 305 P **P 18 51 44.9 +2.2**
JOF Joensuu 85.03 345 *e*P **P 18 51 44.3 +2.3**
FINES FINESS Array B 85.21 342 P **P 18 51 42.0 -0.9**
comp=Z,6.7nm,0.9s,baz=126,slow=5.2,SNR=29
comp=Z,6.7nm,0.9s
WLF Walferdange 85.26 326 IAmb IAmb 18 51 53.4
comp=Z,35nm,0.9s
WLF Walferdange 85.26 326 *d*P **P 18 51 45.0 +1.6**
comp=Z,29nm,1.0s
LUNU Lund 85.46 333 *i* P **P 18 51 47.7 +3.4**
MSHR Mys Shultsa 85.47 43 *i* P **P 18 51 45.0 +0.3**
MSHR pmax pmax
comp=Z,23nm,1.3s
MSHR MLR MLR
comp=Z,1μm,17.0s
MDJ Mudanjiang 85.51 40 P **P 18 51 46.2 +1.3**
MDJ sP sP 18 51 50.9 -0.1
MDJ SKS **SKSac 19 02 08.4 -1.1**
MDJ S **SKKSac 19 02 17.0 +0.7**
MDJ pmax pmax
comp=Z,8.0nm,1.1s
MDJ pmax pmax
comp=Z,490nm,5.1s
MDJ LR LR
comp=Z,710nm,22.3s
MDJ LR LR
comp=Z,1μm,24.5s
MDJ LR LR
comp=Z,2μm,24.5s
BOD Bodaibo 85.70 24 *e*P **P 18 51 47.2 +1.7**
BOD pmax pmax
comp=Z,62nm,1.6s
BTNL Ternell 85.80 327 *d*P **P 18 51 50.2 +4.0**
comp=Z,14nm,1.1s
DEL Delary 85.84 334 *i* P **P 18 51 49.7 +3.5**
MEM Membach 85.88 327 *d*P **P 18 51 49.9 +3.3**
comp=Z,16nm,1.1s
BJUU Bjuv 85.93 334 *i* P P 18 51 51.9 +5.3
RCHB Rochefort 86.03 326 *d*P **P 18 51 47.9 +0.6**
comp=Z,10nm,0.9s
KEF Keuruu 86.14 342 *e*P **P 18 51 49.8 +2.2**
BCLA Clavier 86.14 326 *d*P **P 18 51 47.9 +0.1**
comp=Z,15nm,1.0s
RAF Rauma 86.20 340 *e*P **P 18 51 49.8 +1.9**
BGES Gesves 86.24 326 *d*P **P 18 51 51.3 +2.9**
comp=Z,11nm,1.0s
ESDC Sonseca Array 86.33 314 P **P 18 51 47.4 -1.8**
ESDC Sonseca Array 86.33 314 P **P 18 51 50.2 +1.0**
comp=Z,32nm,0.9s,baz=107,slow=3.2,SNR=15
ESDC LR LR 19 30 13.6
comp=Z,3μm,20.0s,baz=116,slow=36
DOU Dourbes 86.34 326 *d*P **P 18 51 52.0 +3.2**
comp=Z,18nm,1.2s
DOU *dx* x 18 52 03.5
BMRD Maredsous 86.36 326 *d*P **P 18 51 52.1 +3.2**
comp=Z,11nm,1.1s
PAB San Pablo 86.54 313 P **P 18 51 48.5 -1.7**
PAB IAmb IAmb 18 51 56.6
comp=Z,48nm,0.9s
PAB San Pablo 86.54 313 IAMs_20 IAMs_20 19 33 01.4
comp=Z,2μm,19.0s
PAB San Pablo 86.54 313 P **P 18 51 48.5 -1.7**
PAB pmax pmax
comp=Z,48nm,1.0s
PAB MLR MLR
comp=Z,2μm,19.0s
FABU Falkenberg 86.67 334 *i* P **P 18 51 52.2 +2.0**
USRK Ussuriysk Ar. 86.79 41 P **P 18 51 48.5 -2.6**
comp=Z,0.7nm,0.6s,baz=205,slow=4.0,SNR=6.4
USRK LR LR 19 31 10.8
comp=Z,891nm,18.8s,baz=238,slow=36
comp=Z,0.7nm,0.6s
UCC Uccle 86.85 326 *d*P **P 18 51 54.9 +3.6**
BBTS Babate 86.93 286 LR LR 19 29 18.9
comp=Z,8μm,20.6s,baz=352,slow=35
JCJ Chichijima 87.01 60 LR LR 19 22 47.5
comp=Z,585nm,20.8s,baz=230,slow=30
BORU Boraas 87.06 335 *i* P **P 18 51 54.8 +2.6**
HEH HeiHe 87.21 35 *e*P **P 18 51 51.8 -1.3**
HEH pP **PcP 18 51 56.1 +0.9**
HEH PP **PP 18 55 20.7 +3.4**
HEH S **SKSac 19 02 21.5 +1.7**
HEH SS **SS 19 08 18.2 +1.4**
HEH LR LR
comp=Z,900nm,18.6s
HEH LR LR
comp=Z,2μm,19.9s
HEH LR LR
comp=Z,2μm,18.6s
ONAU Onsala 87.26 334 *i* P **P 18 51 54.4 +1.3**
JHJ Hachijo jima 2 87.41 54 LR LR 19 29 23.1
comp=Z,688nm,19.1s,baz=331,slow=35
VAF Ylistaro 87.46 342 *e*P **P 18 51 56.5 +2.6**
MJAR Matsushiro Arr 87.61 50 P **P 18 51 53.9 -1.5**
comp=Z,9.1nm,1.0s,baz=232,slow=4.5,SNR=10
MJAR LR LR 19 30 17.8
comp=Z,1μm,20.5s,baz=232,slow=35
comp=Z,9.1nm,1.0s
MUD Monsted U'grnd 87.83 333 *i* P **P 18 51 58.9 +3.0**
HFS Hagfors 88.36 337 P **P 18 51 58.4 +0.1**
comp=Z,1.6nm,0.7s,baz=132,slow=4.2,SNR=16
HFS PP **PP 18 55 24.8 -1.5**
comp=Z,2.5nm,0.8s,baz=126,slow=7.3,SNR=4.5
HFS LR LR 19 31 31.5
comp=Z,916nm,19.8s,baz=133,slow=36
comp=Z,1.6nm,0.7s
PESTR Estremoz 88.52 312 IAMs_20 IAMs_20 19 34 20.8
comp=Z,3μm,20.0s
MESJ Messejana 88.54 311 IAMs_20 IAMs_20 19 31 56.6
comp=Z,3μm,20.0s
MESJ Messejana 88.54 311 *e*P **P 18 52 00.0 +0.3**
MESJ *e*SKSac **SKSac 19 02 28.9 +0.5**
MESJ IAMs_20 IAMs_20 19 28 56.1
comp=Z,4μm,24.2s
MESJ Messejana 88.54 311 *e*P **P 18 52 00.0 +0.3**
MESJ *e* 19 02 28.9
RPZ Rata Peaks 88.57 136 LR LR 19 23 29.2
comp=Z,2μm,21.0s,baz=237,slow=30
APA Apatity 88.57 348 ||*i* P P 18 51 54.3 -4.9
APA pmax pmax
comp=Z,9.0nm,1.0s
APA MLR MLR
comp=Z,2μm,18.0s
STRU Stroemstad 88.61 335 *i* P **P 18 52 01.6 +2.1**
MORF Marmelete 88.64 310 IAMs_20 IAMs_20 19 30 13.2
comp=Z,3μm,22.0s
MORF Marmelete 88.64 310 *e*P **P 18 52 00.5 +0.2**
MORF IAMs_20 IAMs_20 19 28 29.5
comp=Z,4μm,22.1s
MORF Marmelete 88.64 310 *e*P **P 18 52 00.5 +0.2**
NRIK Noril'sk 88.64 8 LR LR 19 29 28.4
comp=Z,2μm,22.0s,baz=204,slow=34
PFVI Vila Bisbo 88.70 310 IAMs_20 IAMs_20 19 31 20.7
comp=Z,3μm,21.0s
PMSA Palmer Station 88.82 199 LR LR 19 25 12.8
comp=Z,1μm,19.4s,baz=140,slow=31
ZEA Zeya 89.02 32 *e*P **P 18 52 04.7 +3.1**
ZEA *e* 18 55 34.1
ZEA *e* 19 02 29.0
ZEA *e* 19 02 51.7
ZEA *e*PS **PnS 19 03 55.2 +0.4**
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA pmax pmax
comp=Z,100nm,3.9s
ZEA pmax pmax
comp=E,100nm,5.5s
ZEA pmax pmax
comp=Z,200nm,6.0s
ZEA MLR MLR
comp=E,1μm,18.0s
ZEA MLR MLR
comp=N,800nm,16.0s
ZEA MLR MLR
comp=Z,2μm,21.0s
KLR Kul'dur 89.10 37 LR LR 19 33 06.4
comp=Z,1μm,19.1s,baz=239,slow=36
KLR Kul'dur 89.10 37 *i* P **P 18 52 01.7 -0.4**
KLR pmax pmax
comp=Z,14nm,1.1s
MTE Manteigas 89.12 313 IAMs_20 IAMs_20 19 34 15.8
comp=Z,2μm,19.0s
HOMB Homborsund 89.23 334 *i* P **P 18 52 05.4 +2.9**
LIS Lisbon 89.57 311 *e*P **P 18 52 04.9 +0.4**
LIS IAMs_20 IAMs_20 19 35 55.5
comp=E,5μm,26.3s
LIS Lisbon 89.57 311 *e*P **P 18 52 04.9 +0.4**
COI Coimbra 89.65 313 IAMs_20 IAMs_20 19 33 10.7
comp=Z,4μm,19.0s
NB2 NORSAR Subarra 89.88 337 P **P 18 52 08.3 +2.8**
comp=Z,51nm,2.0s,baz=129,slow=4.8
NB2 NORSAR Subarra 89.88 337 P **P 18 52 08.3 +2.8**
baz=129,slow=4.8
NOA NORSAR Array B 89.88 337 P **P 18 52 05.7 +0.1**
comp=Z,0.8nm,0.9s,baz=115,slow=4.7,SNR=6.7
NOA PP **PP 18 55 37.0 -1.5**
comp=Z,1.0nm,0.8s,baz=123,slow=8.3,SNR=3.3
NOA LR LR 19 32 27.1
comp=Z,642nm,19.6s,baz=120,slow=36
comp=Z,0.8nm,0.9s
MACI Morro de la Ar 91.45 299 IAMs_20 IAMs_20 19 31 43.9
comp=Z,3μm,21.0s
HNR Honiara 91.50 100 P **P 18 52 11.7 -2.5**
comp=Z,28nm,0.8s,baz=220,slow=8.5,SNR=5.8
HNR LR LR 19 32 01.6
comp=Z,2μm,19.7s,baz=242,slow=35
comp=Z,28nm,0.8s
ARCES ARCESS Array B 91.82 347 P **P 18 52 14.1 -0.3**
comp=Z,5.3nm,0.9s,baz=149,slow=3.0,SNR=21
ARCES LR LR 19 34 08.8
comp=Z,736nm,19.2s,baz=138,slow=36
comp=Z,5.3nm,0.9s
EKA Eskdalemuir Ar 93.07 328 P **P 18 52 20.7 +0.3**
comp=Z,1.3nm,0.6s,baz=118,slow=5.5,SNR=13
comp=Z,1.3nm,0.6s
DZM Mont Dzumac 93.19 114 *e*P P 18 52 16.5 -5.5
comp=Z,102nm,23.4s
DZM Mont Dzumac 93.19 114 *e*PP PP 18 55 56.7 -8.6
comp=Z,189nm,26.9s
DZM Mont Dzumac 93.19 114 *e*SS SS 19 09 43.3 -0.7
comp=Z,4μm,28.6s
DZM *e*LQ LQ 19 18 20.6
comp=Z,2μm,32.0s
DZM *e*LR LR 19 22 14.9
comp=Z,6μm,21.1s
DZM Mont Dzumac 93.19 114 LR LR 19 31 06.5
comp=Z,5μm,20.6s,baz=254,slow=34
SACV Santiago Islan 93.51 285 IAMs_20 IAMs_20 19 32 30.4
comp=Z,3μm,20.0s
OUZ Omahuta 93.88 129 IAMs_20 IAMs_20 19 27 03.7
comp=Z,3μm,20.0s
TOZ Tahuroa Road 94.17 132 IAMs_20 IAMs_20 19 27 13.1
comp=Z,2μm,20.0s
YAK Yakutsk 94.51 25 IAMs_20 IAMs_20 19 34 06.1
comp=Z,3μm,20.0s
YAK Yakutsk 94.51 25 LR LR 19 34 24.2
comp=Z,3μm,19.8s,baz=234,slow=35
YAK Yakutsk 94.51 25 *e*P **P 18 52 30.5 +3.7**
YAK *e* 18 56 17.5
YAK *e*S **SKSac 19 03 05.3 +4.2**
YAK *e*SSS SSS 19 13 34.5
YAK pmax pmax
comp=Z,12nm,1.2s
YAK pmax pmax
comp=Z,113nm,3.2s
YAK pmax pmax
comp=N,43nm,3.7s
YAK smax smax
comp=E,130nm,4.6s
YAK smax smax
comp=N,37nm,3.6s
YAK MLR MLR
comp=Z,3μm,22.0s
YAK MLR MLR
comp=E,2μm,21.0s
YAK MLR MLR
comp=N,1μm,23.0s
YSS Yuzhno-Sakhali 94.80 42 *i* P **P 18 52 28.1 -0.4**
YSS pmax pmax
comp=Z,8.0nm,1.1s
USHA Ushuaia 97.38 205 LR LR 19 26 57.4
comp=Z,2μm,21.8s,baz=121,slow=30
RCBR Riachuelo 98.75 261 LR LR 19 30 46.7
comp=Z,2μm,21.9s,baz=107,slow=31
TIXI Tiksi 99.14 17 IAmb IAmb 18 53 03.3
comp=Z,15nm,1.1s
TIXI Tiksi 99.14 17 IAMs_20 IAMs_20 19 37 15.5
comp=Z,3μm,20.0s
TIXI Tiksi 99.14 17 LR LR 19 37 36.4
comp=Z,3μm,20.2s,baz=258,slow=36
TIXI Tiksi 99.14 17 *ce*P **Pdif 18 52 47.6 0.0**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
SPITS Spitsbergen Ar 99.97 351 LR LR 19 39 05.0
comp=Z,998nm,20.8s,baz=104,slow=36
VAO Valinhos 102.22 241 IAMs_20 IAMs_20 19 30 07.5
comp=Z,2μm,20.0s
TRQA Tornquist 105.36 221 IAMs_20 IAMs_20 19 32 55.6
comp=Z,3μm,20.0s
PET Petropavlovsk 106.26 39 *e*P **Pdif 18 53 25.5 +5.8**
PET *e* 18 57 44.4
PET *e* 19 03 59.1
PET *e*PS **PS 19 06 56.0 -6.3**
PET *e*PPS PPS 19 07 56.8
PET *e*SS SS 19 12 46.3 +0.7
PET pmax pmax
comp=Z,200nm,13.2s
LR05 Currie 109.65 213 IAMs_20 IAMs_20 19 34 03.1
comp=Z,2μm,21.0s
LR04 Corral 110.65 213 IAMs_20 IAMs_20 19 34 03.4
comp=Z,2μm,22.0s
BILL Bilibino 110.75 23 IAMs_20 IAMs_20 19 44 56.2
comp=Z,3μm,21.0s
BILL Bilibino 110.75 23 *i* PKIKP **PKiKP 18 57 39.6 +0.4**
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL MLR MLR
comp=Z,3μm,21.0s
BI02 San Fabin de 111.82 217 IAMs_20 IAMs_20 19 39 36.8
comp=Z,2μm,19.0s
BO02 Sierra Bellavi 112.84 218 IAMs_20 IAMs_20 19 38 49.3
comp=Z,2μm,19.0s
LMEL Las Melosas 113.15 219 IAMs_20 IAMs_20 19 38 45.7
comp=Z,2μm,20.0s
BO04 La Punta 113.30 219 IAMs_20 IAMs_20 19 38 41.4
comp=Z,2μm,20.0s
BO01 Tunca 113.30 218 IAMs_20 IAMs_20 19 39 02.4
comp=Z,2μm,20.0s
MT08 Bocatoma Ro 113.32 220 IAMs_20 IAMs_20 19 39 20.0
comp=Z,2μm,19.0s
MT09 Talagante 113.67 219 IAMs_20 IAMs_20 19 38 53.4
comp=Z,2μm,19.0s
ZON Zonda 113.76 222 IAMs_20 IAMs_20 19 42 19.2
comp=Z,2μm,20.0s
MT01 Popeta 113.77 219 IAMs_20 IAMs_20 19 39 27.8
comp=Z,2μm,20.0s
VA03 San Esteban 114.11 220 IAMs_20 IAMs_20 19 36 24.0
comp=Z,2μm,22.0s
VA01 Torpederas 114.59 219 IAMs_20 IAMs_20 19 40 03.6
comp=Z,2μm,21.0s
CO03 El Pedregal 115.51 221 IAMs_20 IAMs_20 19 36 46.3
comp=Z,2μm,22.0s
CO01 Juntas del Tor 115.71 223 IAMs_20 IAMs_20 19 39 25.8
comp=Z,2μm,20.0s
GO04 Tololo Observa 116.03 222 IAMs_20 IAMs_20 19 40 51.2
comp=Z,2μm,20.0s
AC05 El Transito 116.59 223 IAMs_20 IAMs_20 19 39 36.2
comp=Z,3μm,21.0s
LCO Las Campanas 116.75 223 IAMs_20 IAMs_20 19 38 48.4
comp=Z,2μm,21.0s
AC02 Maricunga 117.13 226 IAMs_20 IAMs_20 19 35 41.0
comp=Z,2μm,20.0s
AC04 Llanos de Chal 117.53 223 IAMs_20 IAMs_20 19 38 31.2
comp=Z,2μm,21.0s
AC06 Mina Casimiro 117.62 225 IAMs_20 IAMs_20 19 39 59.7
comp=Z,2μm,22.0s
VILB Vilhena 117.99 244 IAMs_20 IAMs_20 19 46 49.7
comp=Z,2μm,19.0s
GO02 Mina Guanaco 118.52 227 IAMs_20 IAMs_20 19 42 09.0
comp=Z,2μm,20.0s
C16K Lisburne Hills 120.75 20 IAMs_20 IAMs_20 19 51 15.1
comp=Z,2μm,21.0s
RDOG Red Dog Mine 121.63 19 IAMs_20 IAMs_20 19 52 46.1
comp=Z,2μm,21.0s
PB11 IPOC Station P 121.93 232 IAMs_20 IAMs_20 19 45 43.1
comp=Z,2μm,19.0s
B20K Meade River 122.09 16 IAMs_20 IAMs_20 19 52 01.8
comp=Z,2μm,22.0s
F15K North Star Dit 122.30 22 IAMs_20 IAMs_20 19 52 49.3
comp=Z,2μm,22.0s
RES Resolute Bay 122.37 354 **PKPdf 18 57 58.8 -2.5**
RES Resolute Bay 122.37 354 PKIKP **PKPdf 18 57 58.8 -2.5**
ANM Nome 122.61 23 IAMs_20 IAMs_20 19 52 25.9
comp=Z,1μm,18.0s
PB16 IPOC Station P 122.67 233 IAMs_20 IAMs_20 19 46 20.1
comp=Z,1μm,20.0s
E18K Tukpahlearik C 122.72 19 IAMs_20 IAMs_20 19 51 29.7
comp=Z,2μm,22.0s
LPAZ La Paz 122.79 236 PKP **PKiKP 18 58 05.1 +0.3**
comp=Z,2.2nm,0.6s,baz=101,slow=5.2,SNR=7.0
LPAZ La Paz 122.79 236 *e*P **PKiKP 18 58 06.5 +1.7**
B22K Teshekpuk Lake 122.80 15 IAMs_20 IAMs_20 19 54 42.0
comp=Z,1μm,21.0s
B21K Ikpikpuk River 123.01 16 IAMs_20 IAMs_20 19 51 29.0
comp=Z,2μm,22.0s
D20K Etivluk River 123.09 17 IAMs_20 IAMs_20 19 55 41.6
comp=Z,1μm,19.0s
PB12 IPOC Station P 123.13 232 IAMs_20 IAMs_20 19 52 39.0
comp=Z,1μm,19.0s
AP01 Chacalluta 123.28 233 IAMs_20 IAMs_20 19 49 26.2
comp=Z,2μm,19.0s
E19K Redstone River 123.73 18 IAMs_20 IAMs_20 19 53 37.4
comp=Z,2μm,21.0s
E21K Killik River 123.99 16 IAMs_20 IAMs_20 19 52 15.5
comp=Z,2μm,22.0s
D22K Ayikyak River 124.02 16 IAMs_20 IAMs_20 19 55 18.8
comp=Z,1μm,19.0s
K13K Kusilvak Mount 124.17 26 IAMs_20 IAMs_20 19 53 06.1
comp=Z,2μm,20.0s
M11K Mekoryuk 124.21 28 IAMs_20 IAMs_20 19 54 25.2
comp=Z,1μm,20.0s

G18K	Tagagawik	124.25	20	IAMs_20	IAMs_20	19 54 09.8		
	comp=Z,2µm,21.0s							
F20K	Avaraart Lake	124.44	18	IAMs_20	IAMs_20	19 53 59.2		
	comp=Z,2µm,21.0s							
D23K	Nanushuk River	124.46	15	IAMs_20	IAMs_20	19 54 01.4		
	comp=Z,2µm,21.0s							
G19K	Purcell Mounta	124.60	19	IAMs_20	IAMs_20	19 53 12.1		
	comp=Z,2µm,22.0s							
FRB	Frobisher Bay	124.71	337	PKP	PKPdf	18 58 05.8	-0.3	
	comp=Z,2.3nm,0.9s,baz=131,slow=4.6,SNR=3.4							
D24K	Happy Valley	124.77	14	IAMs_20	IAMs_20	19 55 17.9		
	comp=Z,1µm,20.0s							
E22K	Anaktuvuk Pass	124.78	16	IAMs_20	IAMs_20	19 52 50.3		
	comp=Z,2µm,22.0s							
DRLN	Deer Lake	124.79	318	IAMs_20	IAMs_20	19 52 00.1		
	comp=Z,2µm,21.0s							
H18K	Honhosa River	124.80	21	IAMs_20	IAMs_20	19 53 56.7		
	comp=Z,2µm,21.0s							
F21K	Alatna River	124.97	17	IAMs_20	IAMs_20	19 54 43.8		
	comp=Z,2µm,21.0s							
TOLK	Toolik Lake Re	124.97	15	IAMs_20	IAMs_20	19 54 05.4		
	comp=Z,2µm,21.0s							
J16K	Anvik River	125.08	23	IAMs_20	IAMs_20	19 53 29.1		
	comp=Z,1µm,20.0s							
D25K	Kavik River	125.18	13	IAMs_20	IAMs_20	19 53 08.4		
	comp=Z,1µm,22.0s							
H19K	Roundabout Mou	125.20	20	IAMs_20	IAMs_20	19 53 41.8		
	comp=Z,2µm,22.0s							
L14K	Kuka Creek	125.28	26	IAMs_20	IAMs_20	19 53 41.5		
	comp=Z,2µm,22.0s							
G21K	Allakaket	125.45	18	IAMs_20	IAMs_20	19 54 17.0		
	comp=Z,2µm,22.0s							
M13K	Dall Lake	125.45	27	IAMs_20	IAMs_20	19 53 07.1		
	comp=Z,2µm,21.0s							
C27K	Jago River	125.49	12	IAMs_20	IAMs_20	19 52 29.0		
	comp=Z,2µm,22.0s							
J17K	VABM Dome	125.58	23	IAMs_20	IAMs_20	19 54 19.0		
	comp=Z,1µm,19.0s							
E24K	Your Creek	125.67	15	IAMs_20	IAMs_20	19 54 28.3		
	comp=Z,2µm,20.0s							
M14K	Bethel	125.88	26	IAMs_20	IAMs_20	19 54 11.0		
	comp=Z,2µm,20.0s							
F24K	Squaw Lake	126.24	15	IAMs_20	IAMs_20	19 56 20.4		
	comp=Z,1µm,20.0s							
H21K	Melozitna Rive	126.25	18	IAMs_20	IAMs_20	19 55 48.6		
	comp=Z,1µm,20.0s							
I20K	Naaghedeneel	126.31	20	IAMs_20	IAMs_20	19 54 14.1		
	comp=Z,2µm,21.0s							
E25K	Arctic Village	126.32	14	IAMs_20	IAMs_20	19 56 03.5		
	comp=Z,1µm,20.0s							
J18K	Innoko River	126.40	22	IAMs_20	IAMs_20	19 54 40.5		
	comp=Z,2µm,22.0s							
TBI	Tubuai	126.64	139	eSS	SS	19 17 13.4	+2.2	
	comp=Z,12µm,31.2s							
TBI	Tubuai	126.64	139	eLQ	LQ	19 32 24.7		
	comp=Z,19µm,36.5s							
TBI				eLR	LR	19 37 41.6		
	comp=Z,14µm,30.0s							
TBI				eLR	LR	19 37 43.6		
	comp=Z,3µm,30.2s							
F25K	Christian Rive	126.72	14	IAMs_20	IAMs_20	19 57 08.2		
	comp=Z,2µm,21.0s							
J20K	Nowinta River	126.82	20	IAMs_20	IAMs_20	19 55 50.8		
	comp=Z,1µm,20.0s							
O14K	Tigyukauivet M	126.94	28	IAMs_20	IAMs_20	19 54 08.1		
	comp=Z,2µm,22.0s							
G24K	Hadweenzic Riv	126.97	16	IAMs_20	IAMs_20	19 55 13.8		
	comp=Z,2µm,22.0s							
N15K	Kwethluk River	126.98	26	IAMs_20	IAMs_20	19 54 46.9		
	comp=Z,2µm,20.0s							
M16K	Timber Creek	126.98	25	IAMs_20	IAMs_20	19 54 55.0		
	comp=Z,1µm,20.0s							
F26K	Sheenjek River	126.98	14	IAMs_20	IAMs_20	19 56 04.0		
	comp=Z,2µm,20.0s							
H23K	Yukon River	127.08	17	IAMs_20	IAMs_20	19 55 24.0		
	comp=Z,2µm,22.0s							
L18K	Granite Mounta	127.17	23	IAMs_20	IAMs_20	19 55 28.9		
	comp=Z,2µm,20.0s							
M17K	Holitna River	127.37	24	IAMs_20	IAMs_20	19 55 00.2		
	comp=Z,2µm,21.0s							
H24K	Noodor Dome	127.53	16	IAMs_20	IAMs_20	19 55 50.4		
	comp=Z,2µm,21.0s							
I23K	Minto, Yukon-K	127.63	18	IAMs_20	IAMs_20	19 52 53.0		
	comp=Z,2µm,21.0s							
L19K	White Mountain	127.87	23	IAMs_20	IAMs_20	19 55 26.4		
	comp=Z,2µm,21.0s							
BPAW	Bear Paw Mtn.	127.89	19	IAMs_20	IAMs_20	19 55 24.1		
	comp=Z,2µm,22.0s							
CAST	Castle Rocks	128.01	20	IAMs_20	IAMs_20	19 56 45.2		
	comp=Z,1µm,20.0s							
NEA2	Nenana	128.12	18	IAMs_20	IAMs_20	19 53 21.1		
	comp=Z,1µm,22.0s							
O16K	Kokwok River B	128.14	26	IAMs_20	IAMs_20	19 55 32.6		
	comp=Z,1µm,20.0s							
POKR	Poker Plat Res	128.20	17	IAMs_20	IAMs_20	19 56 30.0		
	comp=Z,2µm,20.0s							
M19K	Big River Lodg	128.21	23	IAMs_20	IAMs_20	19 55 37.0		
	comp=Z,2µm,21.0s							
COLA	College	128.26	17	IAMs_20	IAMs_20	19 57 04.7		
	comp=Z,2µm,20.0s							
G27K	Doyon Strip	128.27	13	IAMs_20	IAMs_20	19 58 01.9		
	comp=Z,2µm,20.0s							
N18K	Kilae Creek	128.40	24	IAMs_20	IAMs_20	19 55 51.6		
	comp=Z,2µm,21.0s							
CCB	Clear Creek Bu	128.45	17	IAMs_20	IAMs_20	19 57 00.7		
	comp=Z,1µm,21.0s							
TRF	Thorofare Moun	128.57	20	IAMs_20	IAMs_20	19 56 29.0		
	comp=Z,1µm,21.0s							
ILAR	Eielson Array	128.61	17		PKPdf	18 58 09.5	-4.0	
ILAR	Eielson Array	128.61	17	PKP	PKPdf	18 58 11.3	-2.2	
	comp=Z,4.7nm,1.1s,baz=315,slow=3.1,SNR=7.3							
MCK	McKinley	128.79	19	PKPdf	PKPdf	18 58 12.0	-1.9	
MCK	McKinley	128.79	19	PKIKP	PKPdf	18 58 12.0	-1.9	
GDSD	La Dsirade Is	128.85	277	IAMs_20	IAMs_20	19 49 08.6		
	comp=Z,1µm,20.0s							
N19K	Bonanza Creek	128.87	24	IAMs_20	IAMs_20	19 56 42.8		
	comp=Z,2µm,20.0s							
HDA	Harding Lake	128.87	17	IAMs_20	IAMs_20	19 56 51.9		
	comp=Z,2µm,20.0s							
G29M	Pine Creek	128.92	12	IAMs_20	IAMs_20	20 00 37.2		
	comp=Z,1µm,19.0s							
MAGL	Barre de l'ile	128.99	276	IAMs_20	IAMs_20	19 52 58.3		
	comp=Z,1µm,20.0s							
RND	Reindeer	129.05	19	IAMs_20	IAMs_20	19 56 20.7		
	comp=Z,2µm,22.0s							
J25K	Salcha River,	129.15	16	IAMs_20	IAMs_20	19 56 13.2		
	comp=Z,1µm,22.0s							
I26K	Coal Creek Min	129.16	15	IAMs_20	IAMs_20	19 58 17.1		
	comp=Z,1µm,20.0s							
F31M	Tsiigehtchic	129.18	9	IAMs_20	IAMs_20	19 56 26.1		
	comp=Z,1µm,21.0s							
ABD	La Joyeuse, An	129.28	277	IAMs_20	IAMs_20	19 51 17.9		
	comp=Z,1µm,21.0s							
O19K	Port Alsworth	129.32	24	IAMs_20	IAMs_20	19 56 49.7		
	comp=Z,2µm,21.0s							
CBE	Ff, Capester	129.32	276	IAMs_20	IAMs_20	19 53 07.1		
	comp=Z,1µm,20.0s							
R16K	Pilot Point	129.48	28	IAMs_20	IAMs_20	19 55 57.3		
	comp=Z,2µm,21.0s							
GDHS	Morne Mazeau,	129.51	276	IAMs_20	IAMs_20	19 53 32.0		
	comp=Z,2µm,21.0s							
ANWB	Willy Bob	129.76	278	IAMs_20	IAMs_20	19 52 54.6		
	comp=Z,1µm,20.0s							
CHGN	Chignik	129.77	30	IAMs_20	IAMs_20	19 37 15.9		
	comp=Z,2µm,22.0s							
ILSW	Iliamna Southw	129.91	24	IAMs_20	IAMs_20	19 57 25.4		
	comp=Z,2µm,20.0s							
RIDG	Independent Ri	129.98	17	IAMs_20	IAMs_20	19 57 02.1		
	comp=Z,2µm,22.0s							
SCRK	Sand Creek	130.02	16	IAMs_20	IAMs_20	19 56 49.3		
	comp=Z,1µm,22.0s							
P19K	Oil Pt	130.08	24	IAMs_20	IAMs_20	19 57 11.1		
	comp=Z,2µm,20.0s							
Q19K	Cape Douglas,	130.38	25	IAMs_20	IAMs_20	19 56 52.8		
	comp=Z,2µm,21.0s							
K27K	Chicken	130.48	15		PKPdf	18 58 15.3	-1.8	
K27K				IAMs_20	IAMs_20	19 59 19.9		
	comp=Z,1µm,20.0s							
PPT2	Papeete2	130.68	134	ePP	PP	19 00 26.8	-6.5	
	comp=Z,158nm,25.8s							
PPT2	Papeete2	130.68	134	eSS	SS	19 18 00.5	-1.4	
	comp=Z,2µm,27.2s							
PPT2	Papeete2	130.68	134	eLQ	LQ	19 33 49.7		
	comp=Z,3µm,37.5s							
PPT2				eLR	LR	19 39 33.5		
	comp=Z,3µm,28.8s							
PPT2				eLR	LR	19 39 36.2		
	comp=Z,2µm,30.2s							
SCM	Sheep Creek Mo	130.69	20	IAMs_20	IAMs_20	19 56 51.0		
	comp=Z,1µm,22.0s							
HOM	Homer	130.70	24	IAMs_20	IAMs_20	19 56 56.2		
	comp=Z,2µm,22.0s							
M24K	Tolsona, Glenn	130.85	19	IAMs_20	IAMs_20	19 58 17.2		
	comp=Z,1µm,20.0s							
O22K	Cooper Landing	130.85	22	IAMs_20	IAMs_20	19 58 37.2		
	comp=Z,1µm,22.0s							
SEUS	St. Eustatius	130.86	278	IAMs_20	IAMs_20	19 56 07.8		
	comp=Z,1µm,19.0s							
BRLK	Bradley Lake	130.91	23	IAMs_20	IAMs_20	19 57 15.0		
	comp=Z,2µm,20.0s							
MENT	Mentasta	130.92	17	IAMs_20	IAMs_20	19 58 14.2		
	comp=Z,1µm,21.0s							
CNPM	China Poot	130.94	24	IAMs_20	IAMs_20	19 57 14.7		
	comp=Z,2µm,21.0s							
L26K	Log Cabin Wild	130.96	17	IAMs_20	IAMs_20	19 56 07.0		
	comp=Z,2µm,22.0s							
SMRT	St. Maarten	131.03	278	IAMs_20	IAMs_20	19 53 03.3		
	comp=Z,2µm,20.0s							
PWL	Port Wells	131.07	21	IAMs_20	IAMs_20	19 57 32.0		
	comp=Z,1µm,21.0s							
SABA	Saba	131.12	278	IAMs_20	IAMs_20	19 53 11.8		
	comp=Z,1µm,21.0s							
L27K	Beaver Creek,	131.34	16	IAMs_20	IAMs_20	19 57 07.1		
	comp=Z,2µm,22.0s							
CHIR	Chirikof Islan	131.35	29	IAMs_20	IAMs_20	19 58 45.6		
	comp=Z,2µm,21.0s							
KLU	Klutina	131.39	19	IAMs_20	IAMs_20	19 58 47.6		
	comp=Z,1µm,21.0s							
KDAK	Kodiak Island	131.53	26	IAMs_20	IAMs_20	19 58 48.3		
	comp=Z,2µm,22.0s							
OHAK	Old Harbor	131.58	27	IAMs_20	IAMs_20	19 57 53.6		
	comp=Z,1µm,20.0s							
HIN	Hinchinbrook I	132.03	21	IAMs_20	IAMs_20	19 58 10.3		
	comp=Z,1µm,21.0s							
NNA	Nana	132.13	234	IAMs_20	IAMs_20	19 57 51.8		
	comp=Z,2µm,21.0s							
VRDI	Verde Repeater	132.36	18	IAMs_20	IAMs_20	19 58 10.0		
	comp=Z,1µm,20.0s							
G65A	Princeton	132.49	315	IAMs_20	IAMs_20	19 57 04.3		
	comp=Z,2µm,20.0s							
RAGM	Ragged Mountai	132.63	20	IAMs_20	IAMs_20	19 55 31.3		
	comp=Z,1µm,21.0s							
F64A	Sherman	132.79	316	IAMs_20	IAMs_20	19 54 13.1		
	comp=Z,2µm,22.0s							
HMT	Hamilton	132.80	20	IAMs_20	IAMs_20	19 59 57.8		
	comp=Z,1µm,18.0s							
D62A	Allapoint, All	132.81	318	IAMs_20	IAMs_20	19 59 26.3		
	comp=Z,2µm,19.0s							
BBSR	BB Station	132.96	298	IAMs_20	IAMs_20	19 51 44.6		
	comp=Z,1µm,20.0s							
WAX	Waxell Ridge	133.15	19	IAMs_20	IAMs_20	19 58 23.1		
	comp=Z,1µm,20.0s							
SUCK	Suckling Hills	133.16	19	IAMs_20	IAMs_20	19 59 11.3		
	comp=Z,2µm,19.0s							
E62A	Clayton Lake	133.28	318	IAMs_20	IAMs_20	20 00 28.8		
	comp=Z,1µm,19.0s							
YAH	Yahtse	133.55	18	IAMs_20	IAMs_20	19 58 46.7		
	comp=Z,2µm,21.0s							
PKME	Peaks-Kenny Pk	133.62	316	IAMs_20	IAMs_20	19 57 12.1		
	comp=Z,2µm,20.0s							
MESA	MESA	133.64	18	IAMs_20	IAMs_20	19 59 26.0		
	comp=Z,1µm,20.0s							
HUMP	Col San Antoni	133.66	278	IAMs_20	IAMs_20	19 55 35.9		
	comp=Z,1µm,20.0s							
SJG	San Juan	133.94	278	IAMs_20	IAMs_20	19 50 11.3		
	comp=Z,2µm,22.0s							
MMPY	Sheldon Lake,	134.05	11	IAMs_20	IAMs_20	19 56 19.9		
	comp=Z,1µm,21.0s							
N31M	Braeburn, Yuko	134.17	14	IAMs_20	IAMs_20	19 58 53.0		
	comp=Z,1µm,22.0s							
HYT	Haines Junctio	134.33	15	IAMs_20	IAMs_20	20 01 28.2		
	comp=Z,1µm,19.0s							
CELP	Cerrillos	134.34	278	IAMs_20	IAMs_20	19 51 09.9		
	comp=Z,1µm,20.0s							
OBIP	Obispado Ponce	134.36	278	IAMs_20	IAMs_20	19 50 41.4		
	comp=Z,1µm,20.0s							
UUPR	Utuado, UPR, P	134.49	278	IAMs_20	IAMs_20	19 51 24.0		
	comp=Z,1µm,20.0s							
O29M	Mount Kennedy	134.50	16	IAMs_20	IAMs_20	20 00 42.7		
	comp=Z,1µm,21.0s							
BCPM	Bancas Point	134.50	17	IAMs_20	IAMs_20	20 00 30.7		
	comp=Z,1µm,20.0s							
RKT	Rikitea	134.51	153	eSS	SS	19 18 41.3	-5.6	
	comp=Z,2µm,35.8s							
RKT	Rikitea	134.51	153	eLQ	LQ	19 35 45.7		
	comp=Z,15µm,33.8s							
RKT				eLR	LR	19 41 22.6		
	comp=Z,9µm,29.0s							
CRPR	Cabo Rojo, PR	134.83	278	IAMs_20	IAMs_20	19 54 09.9		
	comp=Z,1µm,19.0s							
PRSN	Puerto Rico Se	134.89	278	IAMs_20	IAMs_20	19 50 54.5		
	comp=Z,1µm,21.0s							
I63A	Otisfield	134.91	315	IAMs_20	IAMs_20	20 02 21.3		
	comp=Z,2µm,19.0s							
H62A	Milan	135.11	316	IAMs_20	IAMs_20	19 56 49.4		
	comp=Z,1µm,20.0s							
P29M	Windy Craggy	135.29	16	IAMs_20	IAMs_20	20 01 34.7		
	comp=Z,1µm,18.0s							
I62A	Tamworth	135.48	315	IAMs_20	IAMs_20	20 00 15.5		
	comp=Z,2µm,20.0s							
YKA	Yellowknife Ar	135.65	360	PKhKP	PKPpre	18 58 21.7		
YKA	comp=Z,0.4nm,0.7s,baz=12,slow=2.6,SNR=5.7			PP	PP	19 01 02.1	-1.9	
	comp=Z,1.7nm,1.0s,baz=1.8,slow=5.7,SNR=5.2							
PCDR	Punta Cana, DR	136.09	278	IAMs_20	IAMs_20	19 56 12.3		
	comp=Z,1µm,20.0s							
HNH	Hanover	136.18	315	IAMs_20	IAMs_20	20 02 06.0		
	comp=Z,2µm,19.0s							
VT1	Waterbury	136.26	316	IAMs_20	IAMs_20	19 58 49.9		
	comp=Z,2µm,21.0s							
J61A	Chester	136.50	315	IAMs_20	IAMs_20	19 56 51.4		
	comp=Z,2µm,20.0s							
K62A	Royalston	136.53	314	IAMs_20	IAMs_20	19 58 14.4		
	comp=Z,2µm,19.0s							
L61B	Northampton	136.91	313	IAMs_20	IAMs_20	19 57 23.6		
	comp=Z,2µm,20.0s							
LONY	Lake Ozonia	137.33	317	IAMs_20	IAMs_20	20 01 04.2		
	comp=Z,2µm,18.0s							
J59A	Piesco	137.76	316	IAMs_20	IAMs_20	19 59 30.7		
	comp=Z,2µm,20.0s							
N62A	Caumsett State	138.00	312	IAMs_20	IAMs_20	19 55 51.6		
	comp=Z,2µm,21.0s							
SIT	Sitka	138.16	17	IAMs_20	IAMs_20	19 48 47.5		
	comp=Z,1µm,18.0s							
SDDR	Presa de Saban	138.88	278	IAMs_20	IAMs_20	19 57 48.2		
	comp=Z,2µm,19.0s							
T35M	Bob Quinn	139.47	13	IAMs_20	IAMs_20	20 01 47.2		
	comp=Z,1µm,21.0s							
OTAV	Otavalo	140.18	248	eP	PKiKP	18 58 39.4	-0.4	
N58A	Sunbury	140.32	313	IAMs_20	IAMs_20	19 56 39.8		
	comp=Z,2µm,21.0s							
V35K	Ketchikan	140.66	15	IAMs_20	IAMs_20	19 49 50.7		
	comp=Z,1µm,18.0s							
SSPA	Standing Stone	141.22	313	IAMs_20	IAMs_20	19 59 37.5		
	comp=Z,2µm,20.0s							
V61A	Roper	141.98	305	IAMs_20	IAMs_20	19 57 30.7		
	comp=Z,1µm,20.0s							
FFC	Flin Flon	142.15	348	IAMs_20	IAMs_20	20 06 19.0		
	comp=Z,1µm,20.0s							
E46A	Sault Ste Mari	142.25	325	IAMs_20	IAMs_20	20 04 20.4		
	comp=Z,1µm,19.0s							
T59A	Double "B" Far	142.35	308	IAMs_20	IAMs_20	20 02 52.3		
	comp=Z,1µm,20.0s							
GTBY	Guantanamo Bay	142.55	279	IAMs_20	IAMs_20	20 02 47.6		
	comp=Z,1µm,20.0s							
S57A	Dark Hollow, R	143.12	309	IAMs_20	IAMs_20	19 56 26.2		
	comp=Z,2µm,22.0s							
M52A	Chesterland	143.15	316	IAMs_20	IAMs_20	19 58 54.2		
	comp=Z,2µm,22.0s							
TAOE	Nuku Hiva Isla	143.30	135	eP	PKPab	18 58 36.3	-1.9	
	comp=Z,98nm,24.4s							
TAOE	Nuku Hiva Isla	143.30	135	ePP	PP	19 01 46.1	-6.2	
	comp=Z,105nm,28.9s							
TAOE	Nuku Hiva Isla	143.30	135	eSS	SS	19 20 29.4	-2.7	
	comp=Z,892nm,24.2s							
TAOE	Nuku Hiva Isla	143.30	135	eLQ	LQ	19 39 22.9		
	comp=Z,2µm,29.9s							
TAOE				eLR	LR	19 45 24.0		
	comp=Z,2µm,32.0s							
W59A	Clinton	143.62	305	IAMs_20	IAMs_20	20 02 45.2		
	comp=Z,1µm,21.0s							
Y60A	Bolivia	143.79	303	IAMs_20	IAMs_20	19 55 50.9		
	comp=Z,2µm,22.0s							
V58A	Windy Hill, Pi	143.94	306	IAMs_20	IAMs_20	20 05 21.3		
	comp=Z,1µm,19.0s							
X58A	Rowland	144.52	305	IAMs_20	IAMs_20	19 59 05.9		
	comp=Z,1µm,20.0s							
ULM	Lac du Bonnet	144.54	339	PKP	PKPab	18 58 41.1	-0.6	
	comp=Z,6.6nm,0.7s,baz=27,slow=3.0,SNR=8.8							
F42A	Maple Grove Fa	144.67	327	IAMs_20	IAMs_20	20 08 10.4		
	comp=Z,1µm,19.0s							
MTDJ	Mount Denham	144.70	276	IAMs_20	IAMs_20	19 56 16.4		
	comp=Z,1µm,22.0s							
EYMN	Ely	144.70	333	IAMs_20	IAMs_20	20 06 25.4		
	comp=Z,2µm,20.0s							
W57A	Gilead	144.83	306	IAMs_20	IAMs_20	20 04 15.0		
	comp=Z,1µm,18.0s							
COWI	Conover	144.95	328	IAMs_20	IAMs_20	20 06 08.4		
	comp=Z,2µm,20.0s							
Y58A	Scranton	144.97	304	IAMs_20	IAMs_20	19 56 50.1		
	comp=Z,2µm,22.0s							
V55A	Taylorsville	145.51	308	IAMs_20	IAMs_20	20 03 57.9		
	comp=Z,1µm,21.0s							
Y57A	Sumter	145.51	304	IAMs_20	IAMs_20	19 56 55.3		
	comp=Z,2µm,22.0s							
U54A	Nelsons Funny	145.71	309	IAMs_20	IAMs_20	19 58 55.8		
	comp=Z,2µm,22.0s							
E38A	The Farm, Brul	145.74	331	IAMs_20	IAMs_20	20 07 13.0		
	comp=Z,1µm,20.0s							
KMSC	Kings Mountain	145.86	307	IAMs_20	IAMs_20	20 05 31.3		
	comp=Z,1µm,19.0s							
G40A	Rib Lake	146.06	328	IAMs_20	IAMs_20	20 07 05.0		
	comp=Z,1µm,19.0s							
AGMN	Agassiz Nation	146.18	337	IAMs_20	IAMs_20	20 08 33.7		
	comp=Z,2µm,20.0s							
S51A	Beattyville	146.51	312	IAMs_20	IAMs_20	19 59 17.8		
	comp=Z,2µm,21.0s							
R50A	Paris	146.73	313	IAMs_20	IAMs_20	20 04 47.3		
	comp=Z,2µm,20.0s							
V53A	Saluda	146.78	308	IAMs_20	IAMs_20	19 57 16.4		
	comp=Z,2µm,22.0s							
L44A	Lake County Fo	146.87	322	IAMs_20	IAMs_20	20 05 12.2		
	comp=Z,2µm,20.0s							
TZTN	Tazewell	146.96	310	IAMs_20	IAMs_20	20 07 41.0		
	comp=Z,1µm,20.0s							
CBB	Campbell River	147.01	13	IAMs_20	IAMs_20	20 07 19.6		
	comp=Z,997nm,21.0s							
LLLB	Lillooet	147.06	8	IAMs_20	IAMs_20	20 17 21.9		
	comp=Z,1µm,22.0s							
060A	Indiantown	147.12	292	IAMs_20	IAMs_20	19 59 05.2		
	comp=Z,2µm,20.0s							
R49A	Shelbyville	147.30	314	IAMs_20	IAMs_20	20 00 17.4		
	comp=Z,2µm,21.0s							
SPMN	Marine on St.	147.35	331	IAMs_20	IAMs_20	20 03 42.8		
	comp=Z,2µm,20.0s							
M44A	Midewin, Midew	147.44	321	IAMs_20	IAMs_20	20 01 23.2		
	comp=Z,2µm,22.0s							
T50A	Nancy	147.68	312	IAMs_20	IAMs_20	20 06 41.7		
	comp=Z,1µm,19.0s							
456A	Hilliard	147.79	299	IAMs_20	IAMs_20	20 05 16.3		
	comp=Z,2µm,20.0s							
W52A	Murphy	147.85	308	IAMs_20	IAMs_20	20 10 23.6		
	comp=Z,1µm,20.0s							
MDND	Maddock	147.85	341	IAMs_20	IAMs_20	20 09 38.4		
	comp=Z,1µm,20.0s							
DWPF	Disney Wildern	147.88	294	IAMs_20	IAMs_20	20 04 18.1		
	comp=Z,2µm,20.0s							
WCI	Wyandotte Cave	148.10	315	IAMs_20	IAMs_20	20 01 51.3		
	comp=Z,2µm,21.0s							
154A	Montrose	148.12	303	IAMs_20	IAMs_20	19 58 42.4		
	comp=Z,2µm,22.0s							
GOGA	Godfrey	148.13	305	PKPdf	PKPdf	18 58 47.4	-2.5	
GOGA	Godfrey	148.13	305	IAMs_20	IAMs_20	20 06 38.5		
	comp=Z,1µm,20.0s							
GOGA	Godfrey	148.13	305	PKHKP	PKPpre	18 58 47.4		
GOGA				MLR	MLR			
	comp=Z,1µm,20.0s							
Y52A	Lilburn	148.43	306	IAMs_20	IAMs_20	20 06 31.3		
	comp=Z,1µm,19.0s							
DGMT	Dagmar	148.51	347	IAMs_20	IAMs_20	20 09 26.4		
	comp=Z,1µm,20.0s							
X51A	Calhoun	148.76	308	IAMs_20	IAMs_20	20 09 10.4		
	comp=Z,1µm,22.0s							
W50A	Signal Mountai	148.83	309	IAMs_20	IAMs_20	20 03 05.6		
	comp=Z,1µm,21.0s							
LCR2	La Lucha 2	149.08	259	IAMs_20	IAMs_20	20 01 19.8		
	comp=Z,2µm,20.0s							

```
     comp=Z,1μm,21.0s
H04D Lebanon          152.81  13   IAMs_20 IAMs_20  20 16 11.9
     comp=Z,1μm,21.0s
S39A Bolivar          152.93 320   IAMs_20 IAMs_20  20 06 56.1
     comp=Z,1μm,21.0s
BUCK Buck Mountain    153.06  13   IAMs_20 IAMs_20  20 13 40.7
     comp=Z,2μm,19.0s
PLID Pearl Lake       153.06   2   PKPdf   PKPdf   18 58 55.7 -1.9
PLID                              IAMs_20 IAMs_20  20 14 06.9
     comp=Z,1μm,20.0s
YHL  Hebgen Lake      153.16 354   IAMs_20 IAMs_20  20 11 26.7
     comp=Z,2μm,21.0s
YNM  Yellowstone No   153.23 354   IAMs_20 IAMs_20  20 17 52.8
     comp=Z,2μm,20.0s
BMO  Blue Mountains   153.23   4   IAMs_20 IAMs_20  20 17 40.3
     comp=Z,1μm,20.0s
I05D Terrebonne, OR   153.25  11   IAMs_20 IAMs_20  20 16 18.7
     comp=Z,2μm,21.0s
YHB  Horse Butte      153.26 354   IAMs_20 IAMs_20  20 15 11.4
     comp=Z,2μm,20.0s
YMR  Madison River    153.32 354   IAMs_20 IAMs_20  20 12 54.0
     comp=Z,2μm,21.0s
346A Big Creek Wild   153.59 305   IAMs_20 IAMs_20  20 06 21.6
     comp=Z,971nm,21.0s
I07A Izee             153.78   8   IAMs_20 IAMs_20  20 19 07.7
     comp=Z,2μm,19.0s
VBMS Vicksburg        154.04 307   IAMs_20 IAMs_20  20 08 04.2
     comp=Z,2μm,20.0s
J05D Fort Rock, OR    154.29  11   PKPdf   PKPdf   18 58 56.3 -3.0
143A Socs Landing,    154.47 309   IAMs_20 IAMs_20  20 08 00.5
     comp=Z,2μm,21.0s
K04D Chiloquin, OR    154.83  12   IAMs_20 IAMs_20  20 19 04.4
     comp=Z,1μm,19.0s
PDAR Pinedale Array   155.02 351   PKP     PKPdf   18 58 58.2 -2.2
     comp=Z,1.4nm,1.1s,baz=332,slow=3.0,SNR=5.2
PDAR                              PP      PP      19 02 60.0 +0.5
     comp=Z,1.2nm,1.1s,baz=32,slow=7.4,SNR=2.0
MIAR Mount Ida        155.02 315   IAMs_20 IAMs_20  20 05 20.6
     comp=Z,1μm,20.0s
L04D Klamath Falls    155.10  13   IAMs_20 IAMs_20  20 21 31.6
     comp=Z,1μm,18.0s
MTO3 Montecristo      155.38 265   IAMs_20 IAMs_20  20 09 14.1
     comp=Z,1μm,20.0s
CBKS Cedar Bluff      155.57 331   IAMs_20 IAMs_20  20 13 08.4
     comp=Z,1μm,20.0s
TUL3 Leonard          155.59 320   IAMs_20 IAMs_20  20 11 41.1
     comp=Z,1μm,19.0s
OK051 E0350 and S346  155.80 323   IAMs_20 IAMs_20  20 14 28.4
     comp=Z,2μm,22.0s
PETF Flores           156.26 271   IAMs_20 IAMs_20  20 08 33.9
     comp=Z,1μm,20.0s
OK032 Salt Plains WL  156.35 325   IAMs_20 IAMs_20  20 05 10.7
     comp=Z,2μm,22.0s
NATX Nacogdoches      157.33 311   IAMs_20 IAMs_20  20 11 18.3
     comp=Z,1μm,19.0s
HUEH Huehuetenango    157.59 266   IAMs_20 IAMs_20  20 09 53.7
     comp=Z,2μm,21.0s
DUG  Dugway, Tooele   157.91 356   IAMs_20 IAMs_20  20 13 41.5
     comp=Z,1μm,21.0s
PAHR Pah Rah Range    158.09  10   IAMs_20 IAMs_20  20 16 45.6
     comp=Z,1μm,21.0s
WMOK Wichita Mounta   158.17 323   IAMs_20 IAMs_20  20 18 25.1
     comp=Z,1μm,20.0s
Z35A Perchaven, San   158.18 317   IAMs_20 IAMs_20  20 11 35.0
     comp=Z,1μm,21.0s
AFDM Forest Hills D   158.52  13   IAMs_20 IAMs_20  20 18 03.2
     comp=Z,1μm,20.0s
T25A Trinidad         158.97 336   IAMs_20 IAMs_20  20 14 58.8
     comp=Z,1μm,20.0s
Q16A Castle Valley    159.02 352   IAMs_20 IAMs_20  20 15 11.1
     comp=Z,2μm,22.0s
HKT  Hockley          159.13 308   IAMs_20 IAMs_20  20 09 52.7
     comp=Z,1μm,20.0s
SPR3 Spring Creek 3   159.17 359   IAMs_20 IAMs_20  20 16 20.5
     comp=Z,1μm,19.0s
Q09A Carvers          159.22   5   IAMs_20 IAMs_20  20 20 11.8
     comp=Z,1μm,20.0s
NVAR Mina Array Bea   159.50   8   PKP     PKPdf   18 59 04.0 -2.1
     comp=Z,3.0nm,1.1s,baz=355,slow=1.5,SNR=5.7
NVAR                              PKPab   PKPab   18 59 42.6 -1.4
     comp=Z,4.5nm,0.7s,baz=356,slow=2.8,SNR=9.0
NVAR                              PP      PP      19 03 24.2 +0.1
     comp=Z,0.2nm,0.3s,baz=340,slow=5.4,SNR=1.9
TXAR Lajitas Array    164.92 320   PKP     PKPdf   18 59 10.1 -1.7
     comp=Z,1.4nm,1.0s,baz=90,slow=1.3,SNR=10.0
TXAR                              PKPab   PKPab   19 00 08.0 +0.2
     comp=Z,10nm,0.8s,baz=72,slow=4.1,SNR=19
TXAR                              PP      PP      19 03 55.7 +1.9
     comp=Z,0.8nm,1.0s,baz=69,slow=3.4,SNR=2.0
```

*IDC **01** 18:44:39.4±1.0,30.°08S×71.°85W,h0km,mb4.3/2, mbtmp3.8/7,ML3.9/5,Error ellipse: s-maj=35.9km s-min=23.2km az=110.0*
*SJA **01** 18:44:47.6±0.7,30.°24S×71.°42W,h40km±2km,ML4.2, MW4.2*
*GUC **01** 18:44:49.2±0.7,30.°24S×71.°29W,h67km±3km,ML4.5*
*NEIC **01** 18:44:49.2±2.1,30.°19S±0.°04×71.°47W±0.°06,h35km±2km, mb4.4/5,Error ellipse: s-maj=8.9km s-min=6.1km az=99.0*
*VAO **01** 18:45:59.4±3.2,28.°85S×64.°61W,h45km±21km,mb4.3*
ISC 01 18:44:47.5±0.7,30.°22S±0.°03×71.°39W±0.°04,h54km±7km, n119,σ2.°38/137,mb4.4/4,4C-1D,Near coast of central Chile

```
Code Station Name     Δ°   AZ°  Phase ID  Time     Res
                                Op   ISC  h m s    ISC
CO06 Fray Jorge       0.50 205       Pn   18 45 01.5 +2.4
CO06 Fray Jorge       0.50 205 ⇓iP   Pn   18 45 01.7 +2.5
CO06                           i S   Sn   18 45 11.2 +3.7
CO06                           IAML        18 45 12.1
     comp=N,31μm,0.2s
GO04 Tololo Observa   0.51  85       Pn   18 45 00.7 +1.2
GO04                           Sn    Sn   18 45 09.7 +1.6
GO04 Tololo Observa   0.51  85  i P  Pn   18 45 00.7 +1.2
GO04                           i S   Sn   18 45 09.8 +1.7
GO04 Tololo Observa   0.51  85  eP   Pn   18 44 60.0 +0.5
CO03 El Pedregal      0.86 136       Pn   18 45 04.7 +1.0
CO03                           Sn    Sn   18 45 16.3 +0.8
CO03 El Pedregal      0.86 136 ⇑iP   Pn   18 45 04.8 +1.1
CO03                           i S   Sn   18 45 16.5 +0.9
CO03 El Pedregal      0.86 136 eP    Pn   18 44 53.8 -10
CO03                           eS    Sn   18 44 59.2 -16
CO03                           IAML        18 45 17.0
     comp=Z,21μm,0.3s
CO01 Juntas del Tor   1.15  78       Pn   18 45 08.7 +1.1
CO01 Juntas del Tor   1.15  78 ⇑iP   Pn   18 45 09.2 +1.5
CO01                           i S   Sn   18 45 23.8 +1.3
CO01 Juntas del Tor   1.15  78 eP    Pn   18 45 08.3 +0.7
CO01                           eS    Sn   18 45 22.4  0.0
CO01                           IAML        18 45 24.3
     comp=Z,9μm,0.3s
LCO  Las Campanas     1.34  27  Pn   Pn   18 45 11.6 +1.4
LCO  Las Campanas     1.34  27 eP    Pn   18 45 11.5 +1.2
LCO                            i S   Sn   18 45 29.3 +2.1
LCO  Las Campanas     1.34  27 eP    Pn   18 45 11.7 +1.4
LCO                            eS    Sn   18 45 29.6 +2.4
LCO                            IAML        18 45 30.7
     comp=Z,4μm,0.1s
AROD Rodeo            1.66  89 eP    Pn   18 45 17.4 +2.8
AROD                           eS    Sn   18 45 38.7 +3.7
AC05 El Transito      1.69  36       Pn   18 45 16.8 +2.1
AC05 El Transito      1.69  36 ⇑iP   Pn   18 45 16.9 +2.1
AC05 El Transito      1.69  36 eP    Pn   18 45 16.8 +2.1
AC05                           eS    Sn   18 45 38.5 +3.1
ACDV Cuesta del Vie   1.96  89 eP    Pn   18 45 22.0 +3.3
ACDV                           eS    Sn   18 45 42.3 +0.1
ACDV                           IAML        18 45 47.9
     comp=Z,922nm,0.5s
AC04 Llanos de Chal   2.02   8       Pn   18 45 20.8 +1.5
AC04 Llanos de Chal   2.02   8 ⇑iP   Pn   18 45 21.0 +1.7
ACCO Cerro Coronel    2.04 101 eP    Pn   18 45 24.7 +4.9
DOCA Reserva Natura   2.12 111 eP    Pn   18 45 23.8 +2.9
DOCA                           eS    Sn   18 45 49.1 +2.8
DOCA                           IAML        18 45 54.6
     comp=Z,776nm,0.3s
RTLS Leoncito         2.39 132 eP    Pn   18 45 28.0 +3.4
RTLS                           eS    Sn   18 45 44.7 -8.1
RTLS                           IAML        18 45 45.0
     comp=Z,3μm,0.5s
AGUA GUANDACOL        2.62  75 eP    Pn   18 45 31.9 +4.4
AGUA                           IAML        18 46 16.6
     comp=Z,858nm,0.6s
VA03 San Esteban      2.64 164       Pn   18 45 30.3 +2.6
VA03 San Esteban      2.64 164 IAML       18 46 05.6
     comp=E,3μm,0.2s
VA03 San Esteban      2.64 164 eP    Pn   18 45 30.1 +2.3
VA03                           eS    Sn   18 46 04.8 +6.2
VA03                           IAML        18 46 09.1
     comp=Z,1μm,0.2s
ZON  Zonda            2.68 120       Pn   18 45 31.1 +2.8
ZON  Zonda            2.68 120 eP    Pn   18 45 31.0 +2.8
ZON                            eS    Sn   18 45 45.3 -14
ZON                            IAML        18 46 11.5
     comp=Z,538nm,0.9s
RTLL Cerro Villicun   2.74 115 eP    Pn   18 45 31.6 +2.5
RTLL                           eS    Sn   18 46 18.8 +18
SJA  San Juan         2.76 119 eP    Pn   18 45 32.0 +2.7
SJA                            IAML        18 46 17.1
     comp=Z,478nm,0.4s
ROCH El Roble         2.77 173 IAML       18 46 13.4
     comp=N,1μm,0.4s
ROC1 El Roble         2.77 173 eP    Pn   18 45 31.2 +1.5
ROC1                           eS    Sn   18 45 49.8 -12
GO03 Copiapo          2.80  21       Pn   18 45 32.7 +2.7
GO03 Copiapo          2.80  21 eP    Pn   18 45 31.0 +1.0
GO03                           eS    Sn   18 45 50.6 -12
VA01 Torpederas       2.81 184       Pn   18 45 30.9 +0.9
VA01 Torpederas       2.81 184 eP    Pn   18 45 30.8 +0.9
VA01                           eS    Sn   18 46 06.9 +4.4
VA01                           IAML        18 46 16.0
     comp=Z,399nm,0.5s
PEL  Peldehue         2.98 169  Pn   Pn   18 45 34.3 +2.0
PEL  Peldehue         2.98 169 IAML       18 46 18.2
     comp=N,1μm,0.3s
PEL  Peldehue         2.98 169 eP    Pn   18 45 34.5 +2.1
PEL                            eS    Sn   18 45 55.9  -11
AC06 Mina Casimiro    2.99  18       Pn   18 45 35.6 +3.0
MT02 Curacav          3.04 176       Pn   18 45 34.6 +1.4
MT02 Curacav          3.04 176 eP    Pn   18 45 34.4 +1.2
MT02                           IAML        18 46 31.1
     comp=Z,364nm,0.4s
CFA  Coronel Fontan   3.04 118  Pn   Pn   18 45 35.2 +1.9
     comp=Z,33nm,0.3s,baz=290,slow=14,SNR=150
CFA                            Sn    Sn   18 46 10.5 +2.1
     comp=Z,52nm,0.3s,baz=69,slow=20,SNR=7.7
     comp=Z,74nm,0.3s
CFA  Coronel Fontan   3.04 118 eP    Pn   18 45 35.7 +2.5
CFA                            eS    Sn   18 46 11.6 +3.2
CFA                            IAML        18 46 17.4
     comp=Z,3μm,0.1s
MT10 Hacienda Santa   3.13 167 eP    Pn   18 45 36.6 +2.1
MT10                           eS    Sn   18 46 12.3 +1.5
MT10                           IAML        18 46 30.2
     comp=E,4μm,0.6s
VCA  Vinchina         3.14  63 eP    Pn   18 45 39.0 +4.3
VCA                            eS    Sn   18 46 16.8 +5.7
VCA                            IAML        18 46 17.8
     comp=Z,1μm,0.4s
MT05 Renca            3.21 170       Pn   18 45 38.1 +2.5
MT05 Renca            3.21 170 eP    Pn   18 45 37.7 +2.1
MT05                           eS    Sn   18 46 15.8 +3.1
MT05                           IAML        18 46 30.1
     comp=Z,783nm,0.3s
ASAL Salagasta        3.22 138 eP    Pn   18 45 39.5 +3.7
ASAL                           eS    Sn   18 46 32.6  +20
ASAL                           IAML        18 46 40.3
     comp=Z,662nm,1.1s
MT14 Cerro Calı́n     3.25 167 eP    Pn   18 45 37.9 +1.8
MT14                           i S   Sn   18 46 14.6 +0.9
MT14                           IAML        18 46 34.8
     comp=E,2μm,0.3s
MT16 CCHEN            3.29 167       Pn   18 45 39.4 +2.8
MT16 CCHEN            3.29 167 IAML       18 46 35.7
     comp=E,560nm,0.5s
MT16                           IAML        18 46 42.8
     comp=N,582nm,0.5s
MT03 Universidad Ad   3.35 167       Pn   18 45 40.2 +2.7
MT03 Universidad Ad   3.35 167 eP    Pn   18 45 40.0 +2.5
MT03                           eS    Sn   18 46 16.0 -0.1
MT03                           IAML        18 46 39.0
     comp=Z,865nm,0.5s
MT04 Ro Olivares      3.35 162 eP    Pn   18 45 40.9 +3.3
MT04 Ro Olivares      3.35 162 eP    Pn   18 45 41.2 +3.6
MT04                           eS    Sn   18 46 16.8 +0.5
MT04                           eS        18 46 21.2
MT04                           IAML        18 46 34.1
     comp=Z,295nm,0.4s
ARCO CERRO ARCO       3.35 142 eP    Pn   18 45 41.7 +4.1
ARCO                           eS    Sn   18 46 05.5  -11
ARCO                           IAML        18 46 31.9
     comp=Z,449nm,0.4s
MT08 Bocatoma Ro      3.42 160       Pn   18 45 42.5 +3.9
MT08 Bocatoma Ro      3.42 160 eP    Pn   18 45 38.0  -0.7
MT08                           eS    Sn   18 46 20.8 +2.7
MT08                           IAML        18 46 34.9
     comp=Z,520nm,0.8s
AVFE Valle Fertil     3.42  98 eP    Pn   18 45 40.8 +2.3
AVFE                           eS    Sn   18 46 03.9  -14
AVFE                           IAML        18 46 24.4
     comp=Z,463nm,0.6s
VA05 Santo Domingo    3.44 183       Pn   18 45 39.2 +0.7
MT15 Las Vizcachas    3.45 168 i P   Pn   18 45 40.4 +1.5
MT15                           IAML        18 46 33.1
     comp=E,1μm,0.4s
MT09 Talagante        3.56 175       Pn   18 45 42.3 +1.8
AAGR Agrelo           3.60 143 eP    Pn   18 45 40.4  -0.5
AAGR                           IAML        18 46 59.1
     comp=Z,382nm,0.9s
MT01 Popeta           3.64 178       Pn   18 45 42.5 +1.2
MT01 Popeta           3.64 178 eP    Pn   18 45 42.8 +1.4
MT01                           eS    Sn   18 46 25.4 +2.3
MT01                           IAML        18 46 34.0
     comp=Z,535nm,0.9s
MT13 San Alfonso      3.64 165  Pn   Pn   18 45 44.0 +2.5
MT13 San Alfonso      3.64 165 eP    Pn   18 45 44.6 +3.2
MT13                           eS    Sn   18 46 25.9 +2.7
MT13                           IAML        18 46 39.3
     comp=Z,521nm,0.5s
LMEL Las Melosas      3.76 165 eP    Pn   18 45 46.2 +3.0
AC02 Maricunga        3.91  31  Pn   Pn   18 45 48.1 +2.5
AC02 Maricunga        3.91  31 eP    Pn   18 45 47.6 +2.0
AC02                           eS    Sn   18 46 33.0 +2.5
AC02                           IAML        18 46 52.0
     comp=Z,252nm,0.6s
ACLC CERRO LA CRUZ    3.94  80 eP    Pn   18 45 48.0 +2.4
ACLC                           IAML        18 47 02.7
     comp=Z,183nm,0.6s
AC01 Pan de Azucar    4.11  10 eP    Pn   18 45 47.6  -0.3
AC01                           eS    Sn   18 46 52.0  +17
AC01                           IAML        18 47 12.5
     comp=Z,207nm,0.5s
BO01 Tunca            4.17 177  Pn   Pn   18 45 50.0 +1.3
BO01 Tunca            4.17 177 eP    Pn   18 45 49.2 +0.5
BO01                           eS    Sn   18 46 36.8 +0.7
BO01                           IAML        18 47 00.2
     comp=Z,242nm,0.5s
ACHE Chepes           4.18 104 eP    Pn   18 45 50.9 +1.9
APLL PUNTA DE LOS L   4.21  94 eP    Pn   18 45 51.2 +2.0
BO02 Sierra Bellavi   4.59 174  Pn   Pn   18 45 55.7 +1.2
BO02 Sierra Bellavi   4.59 174 eP    Pn   18 45 56.7 +2.2
BO02                           eS    Sn   18 46 49.6 +3.0
BO02                           IAML        18 47 13.1
     comp=Z,406nm,0.5s
CYA  Choya            5.19  71 eP    Pn   18 46 04.1 +1.5
CYA                            eS    Sn   18 47 02.5 +1.2
CYA                            IAML        18 47 03.9
     comp=Z,107nm,0.4s
GO02 Mina Guanaco     5.28  18 eP    Pn   18 46 05.7 +1.4
GO02                           eS    Sn   18 47 15.1  +11
H03N1 Juan Fernandez  7.16 241  T     T    18 53 26.3
     baz=61,slow=72
H03N2 Juan Fernandez  7.18 241  T     T    18 53 37.9
     baz=61,slow=72
H03N3 Juan Fernandez  7.18 241  T     T    18 53 38.2
     baz=61,slow=72
VA04 Juan Fernndez    7.19 240       Pn   18 46 30.9 +0.9
PB05 IPOC Station P   7.41   9  Pn   Pn   18 46 34.1 +0.9
PB09 IPOC Station P   8.61  13  Pn   Pn   18 46 49.5  -0.2
PB01 IPOC Station P   9.29  11  Pn   Pn   18 46 56.3  -2.7
PB08 IPOC Station P  10.23  12  Pn   Pn   18 47 10.8  -1.3
PLCA Paso Flores     10.51 177  Pn   Pn   18 47 17.1 +1.6
PLCA Paso Flores     10.51 177  Pn   Pn   18 47 12.6  -3.0
     comp=Z,0.1nm,0.3s,baz=357,slow=17,SNR=1.9
     comp=Z,0.5nm,0.7s
TRQA Tornquist       11.04 138  Pn   Pn   18 47 22.4  -0.3
PSAL Palomas, Salto  11.90  98 eP    Pn   18 47 32.9  -1.6
CPUP Villa Florida   12.98  76  Pn   Pn   18 47 46.9  -2.4
CPUP Villa Florida   12.98  76  Pn   Pn   18 47 50.1 +0.9
     comp=Z,0.3nm,0.3s,baz=210,slow=5.5,SNR=3.4
     comp=Z,1.0nm,0.6s
TBOT Tacuaremb       13.34 100 eP    Pn   18 47 52.7  -1.5
LPAZ La Paz          14.18  13  Pn   Pn   18 48 01.7  -4.5
     comp=Z,0.1nm,0.3s,baz=184,slow=4.9,SNR=5.1
     comp=Z,0.6nm,0.4s
PLTB Pedras Altas    15.33 100  Pn   Pn   18 48 18.5  -2.1
PLTB Pedras Altas    15.33 100 eP    Pn   18 48 19.1  -1.4
SIV  San Ignacio     17.03  36  P    Pn   18 48 39.1  -3.0
     baz=226,slow=11,SNR=7.4
     comp=Z,0.4nm,0.3s
PTLB Pontes e Lacer  18.51  40 eP    sP   18 49 18.8 +0.1
LDASE Londrina, Braz 19.32  74 eP    P    18 49 05.4  -2.9
SALV Santo Antonio   20.25  49 eP    sP   18 49 31.8  -6.3
BDFB Brasilia        25.89  61  P    P    18 50 15.3 +0.8
     comp=Z,2.2nm,0.6s,baz=240,slow=8.0,SNR=3.8
     comp=Z,2.2nm,0.6s
SNDB Serra Nova Dou  26.02  50 eP    sP   18 50 38.1 +2.2
BOAV Boa Vista       34.05  20  P    P    18 51 27.2 +0.5
BOAV                            IAmb IAmb 18 51 27.5
     comp=Z,3.0nm,0.7s
RUSC La Rusia        35.94 357  P    P    18 51 43.5  0.0
RUSC                            IAmb IAmb 18 51 46.4
     comp=Z,4.9nm,0.7s
CELP Cerrillos       48.23   6  P    P    18 53 23.4 +0.4
TEIG Tepich          52.72 340  P    P    18 53 57.4 +0.6
QSPA South Pole Qui  60.01 180  P    P    18 54 48.8 +0.4
     comp=Z,3.9nm,0.6s,baz=208,slow=1.2,SNR=9.6
     comp=Z,3.9nm,0.6s
WRA  Warramunga Arr  124.32 210 PKP  PKPdf 19 03 39.8 -1.2
     comp=Z,0.2nm,0.5s,baz=137,slow=1.8,SNR=6.5
BVAR Borovoye Array  144.08  40 PKP  PKPbc 19 04 15.7 +0.9
     comp=Z,1.1nm,0.5s,baz=315,slow=3.5,SNR=9.0
KK31 Karatay Array   147.12  56       PKPdf 19 04 23.2 +1.0
KKAR Karatay Array   147.12  56       PKPdf 19 04 22.6 +0.4
KURBB Kurchatov Arra 149.67  39 PKPbc PKPbc 19 04 31.2 +0.5
     comp=Z,2.5nm,0.5s,baz=302,slow=3.0,SNR=51
ZALV Zalesovo Beam   150.70  29 PKPbc PKiKP 19 04 33.6 -0.1
     comp=Z,9.5nm,0.6s,baz=301,slow=3.2,SNR=44
MKAR Makanchi Array  153.75  44 PKPbc PKPbc 19 04 40.0 -0.2
     comp=Z,0.6nm,0.7s,baz=317,slow=2.2,SNR=6.1
```

*NEIC **01** 18:48:22.4±1.3,35.°111N±0.°010×97.°595W±0.°009, h7km±4km,Error ellipse: s-maj=1.5km s-min=1.0km az=166.0*
NEIC 01 18:48:21.9±1.4,35.°099N±0.°006×97.°57W±0.°01,h5km±1km, mb_Lg2.7/72,ML2.5/25,ML2.8/44,Error ellipse: s-maj=2.0km s-min=1.8km az=178.0,Oklahoma

```
Code Station Name     Δ°   AZ°  Phase ID  Time     Res
                                Op   ISC  h m s    ISC
FNO  Franklin         0.21  41  Pg   Pg   18 48 26.3 +0.3
FNO                            Sg   Sg   18 48 29.9 +1.1
OKCSW OKLAHOMA CITY   0.32  19  Pg   Pg   18 48 28.9 +0.7
OKCSW                          Sg   Sg   18 48 32.5  0.0
OKCSW                          IAML        18 48 40.2
     comp=E,734nm,0.8s
OK004 Okla Sci Mus    0.43  10       Pg   18 48 30.9 +0.6
X34A Smith Ranch, M   0.54 204  Pg   Pg   18 48 33.1 +0.8
X34A                           Sg   Sg   18 48 38.8  -0.6
X34A                           IAML        18 48 42.2
     comp=N,327nm,0.5s
BCOK Bluff Creek, N   0.56 357       Pg   18 48 33.1 +0.5
W35A Tecumseh         0.57  84       Pb   18 48 33.8  -0.6
W35A                           Sg   Sg   18 48 39.5  -0.8
W35A                           IAML        18 48 45.7
     comp=E,239nm,0.4s
W35A                           IAML        18 48 48.5
     comp=N,242nm,0.5s
ADOK Arcadia Dam      0.57  16  Pg   Pg   18 48 32.7  -0.3
ADOK                           Sg   Sg   18 48 41.4 +0.9
OK029 Liberty Lake    0.70   8  Pg   Pg   18 48 35.3  -0.1
OK029                          Sg   Sg   18 48 45.5 +1.0
OK029                          IAML        18 48 50.3
     comp=N,230nm,0.2s
OK031 S. Brethren Rd  1.04  35  Pg   Pg   18 48 41.5  -0.3
OK031                          Sg   Sb   18 48 56.2  -0.1
WMOK Wichita Mounta   1.06 250  Pg   Pg   18 48 41.3  -0.9
CSTR Hydro, Custer    1.07 301  Pg   Pg   18 48 42.0  -0.4
CSTR                           Sg   Sg   18 48 55.6  -0.6
OK052 Battle Ridge R  1.09  35  Pg   Pg   18 48 42.6  -0.2
DEOK Depew            1.15  49  Pg   Pg   18 48 43.7  -0.2
DEOK                           IAML        18 49 04.5
     comp=E,375nm,0.2s
DEOK                           IAML        18 49 04.7
     comp=N,346nm,0.2s
LOOK Love County      1.15 164       Pb   18 48 44.3 +0.1
QUOK Quay             1.28  33       Pg   18 48 45.6  -0.9
OK048 Pawnee Station  1.41  21       Pn   18 48 48.0  -0.2
CROK Carrier          1.44 347       Pn   18 48 48.4  -0.3
WTFS Witchita Falls   1.52 209       Pn   18 48 49.5  -0.3
OK051 E0350 and S346  1.52  23       Pn   18 48 49.9  0.0
TUL3 Leonard          1.66  60       Pn   18 51 9.0 +0.2
OK038 West end E0370  1.67 326       Pn   18 48 52.1 +0.2
GC02 Grant County #   1.76 352  Pn   Pn   18 48 52.5  -0.6
OK032 Salt Plains WL  1.78 343  Pn   Pn   18 48 53.1  -0.2
OK032                          IAmb_Lg     18 49 19.5
     comp=Z,35nm,0.7s
Z35A Perchaven, San   1.78 171  Pn   Pn   18 48 54.0 +0.7
ELIS Ellis County     1.79 303  Pn   Pn   18 48 53.7 +0.2
KAN14 Manchester OK   1.88 350  Pn   Pn   18 48 54.9 +0.2
KAN13 South Haven SW  1.91   2  Pn   Pn   18 48 55.4 +0.3
KAN17 Caldwell West   1.95 355  Pn   Pn   18 48 56.0 +0.3
T35A Sooner Cattle    2.00  25  Pn   Pn   18 48 56.6 +0.1
KAN05 Bluff City Nor  2.02 353  Pn   Pn   18 48 56.6  -0.1
KAN09 Caldwell North  2.03 359  Pn   Pn   18 48 56.9  0.0
KAN09                          IAmb_Lg     18 49 31.8
     comp=Z,48nm,0.9s
KAN01 Argonia South   2.06 356  Pn   Pn   18 48 57.8 +0.7
KAN08 Anthony NE Sta  2.15 351  Pn   Pn   18 48 59.6 +1.2
KAN08                          IAmb_Lg     18 49 34.2
     comp=Z,36nm,1.0s
SMWD Samnorwood       2.19 271  IAmb_Lg     18 49 34.8
     comp=Z,44nm,0.9s
PLPT Palo Pinto       2.36 195  Pn   Pn   18 49 02.4 +1.0
FW07 Weatherford      2.40 184  Pn   Pn   18 49 02.1 +0.2
Z38A Mt. Pleasant     2.82 130  IAmb_Lg     18 49 51.7
     comp=Z,17nm,0.8s
ABTX Abilene, Hawle   3.01 216  IAmb_Lg     18 49 58.3
     comp=Z,18nm,0.9s
DKNS Dickens          3.12 244  IAmb_Lg     18 50 06.4
     comp=Z,20nm,0.7s
MIAR Mount Ida        3.33  98  IAmb_Lg     18 50 15.9
     comp=Z,15nm,0.8s
SN07 Snyder 07        3.41 235  IAmb_Lg     18 50 13.5
     comp=Z,17nm,0.9s
SN05 Snyder 5         3.54 232  IAmb_Lg     18 50 15.5
     comp=Z,20nm,0.9s
POST Post             3.84 239  IAmb_Lg     18 50 34.2
     comp=Z,20nm,0.7s
X40A Basin Creek Fa   3.94  98  IAmb_Lg     18 50 30.0
     comp=Z,16nm,0.7s
BRDY Brady            3.99 198  IAmb_Lg     18 50 30.9
     comp=Z,11nm,0.8s
CBKS Cedar Bluff      4.09 336  IAmb_Lg     18 50 42.1
     comp=Z,17nm,0.8s
435B Jarrell          4.30 180  IAmb_Lg     18 50 42.8
     comp=Z,16nm,0.7s
WHAR Wooly Hollow     4.33  86  IAmb_Lg     18 50 42.9
     comp=Z,16nm,0.8s
SGCY Sterling City    4.35 224  IAmb_Lg     18 50 51.0
     comp=Z,14nm,0.8s
RTBA Rita Blanca      4.41 289  IAmb_Lg     18 50 51.7
     comp=Z,9.7nm,0.8s
FCAR Ozark Folk Cen   4.51  78  IAmb_Lg     18 50 47.3
     comp=Z,9.5nm,0.8s
MGMO Mountain Grove   4.75  63  IAmb_Lg     18 51 03.5
     comp=Z,20nm,0.8s
OZNA Ozona            5.13 217  IAmb_Lg     18 51 13.9
     comp=Z,12nm,0.9s
LCAR Lake Charles     5.32  78  IAmb_Lg     18 51 18.1
     comp=Z,8.0nm,1.0s
R40A Maddies Statio   5.32  52  IAmb_Lg     18 51 13.5
     comp=Z,13nm,0.9s
P38A Dawn             5.54  34  IAmb_Lg     18 51 26.5
     comp=Z,12nm,0.8s
T42A Van Buren        5.59  68  IAmb_Lg     18 51 28.7
     comp=Z,11nm,0.8s
MNHN Monahans         5.74 231  IAmb_Lg     18 51 26.5
     comp=Z,13nm,0.9s
DRIO Del Rio          6.22 205  IAmb_Lg     18 51 56.6
     comp=Z,6.3nm,0.8s
SAND Sanderson        6.41 218  IAmb_Lg     18 52 03.4
```

comp=Z,10nm,1.2s
CGM3 Cape Girardeau 6.76 69 IAmb_Lg 18 51 57.7
comp=Z,12nm,1.0s
ALPN Alpine 6.95 229 IAmb_Lg 18 52 12.4
comp=Z,8.3nm,1.0s
Q24A Divide 7.18 305 IAmb_Lg 18 52 25.4
comp=Z,9.0nm,0.7s
MNTX Cornudas Mount 7.36 245 IAmb_Lg 18 52 36.5
comp=Z,6.0nm,0.9s
VHRN Van Horn 7.57 237 IAmb_Lg 18 52 31.1
comp=Z,9.9nm,1.2s
ISCO Idaho Springs 7.93 309 IAmb_Lg 18 52 46.5
comp=Z,4.8nm,0.9s

---

*NEIC **01** 18:50:23.2±2.0, 66°.26N±0°.03×157°.3W±0°.1, h16km±12km, Error ellipse: s-maj=6.2km s-min=5.0km az=91.0*
AEIC 01 18:50:23.4±2.0, 66°.31N±0°.04×157°.5W±0°.1, h15km±7km, ML3.5, ML3.4/150(NEIC), **Error ellipse: s-maj=6.2km s-min=5.4km az=104.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.24**	**133**		Pg	18 50 27.1	-1.6
G19K				IAML		18 50 30.3	
	comp=N,7μm,0.4s						
G19K				IAML		18 50 31.2	
	comp=E,7μm,0.8s						
F19K	**Shaleruckik Mo**	**0.54**	**349**	Pg	Pg	18 50 33.8	-0.2
G18K	**Tagagawik**	**0.62**	**229**		Pb	18 50 35.8	0.0
H19K	**Roundabout Mou**	**0.90**	**150**		Pb	18 50 37.5	-3.1
F20K	**Avaraart Lake**	**1.03**	**43**		Pb	18 50 42.6	-0.3
E19K	**Redstone River**	**1.16**	**6**	Pn	Pn	18 50 44.0	-1.0
E19K				IAML		18 51 24.9	
	comp=N,1μm,0.5s						
H18K	**Honhosa River**	**1.21**	**197**		Pn	18 50 44.4	-1.2
H18K				IAML		18 51 26.1	
	comp=E,575nm,0.8s						
H18K				IAML		18 51 27.1	
	comp=N,860nm,0.7s						
G21K	**Allakaket**	**1.63**	**81**	Pn	Pn	18 50 49.3	-2.1
E18K	**Tukpahlearik C**	**1.65**	**314**	Pn	Pb	18 50 53.4	0.0
E18K				IAML		18 51 41.6	
	comp=N,364nm,0.6s						
H17K	**Granite Mounta**	**1.69**	**217**		Pn	18 50 52.5	+0.1
H17K				IAML		18 51 19.3	
	comp=N,406nm,0.6s						
H17K				IAML		18 51 23.1	
	comp=E,412nm,0.6s						
F21K	**Alatna River**	**1.85**	**58**		Pn	18 50 52.9	-1.6
F21K				IAML		18 51 26.8	
	comp=N,306nm,0.5s						
F21K				IAML		18 51 45.1	
	comp=E,450nm,0.7s						
I20K	**Naaghedeneel**	**1.98**	**139**	Pn	Pn	18 50 54.5	-1.7
H21K	**Melozitna Rive**	**2.04**	**106**		Pn	18 50 56.8	-0.3
H21K				IAML		18 51 24.8	
	comp=E,314nm,0.5s						
H21K				IAML		18 51 25.1	
	comp=N,321nm,0.7s						
G16K	**Koyuk River**	**2.19**	**247**		Pn	18 50 59.0	-0.1
G16K				IAML		18 51 59.2	
	comp=E,209nm,0.8s						
G16K				IAML		18 52 00.1	
	comp=N,266nm,0.8s						
D19K	**Kuna River**	**2.21**	**354**	Pn	Pb	18 51 01.2	-1.7
D19K				IAML		18 51 35.9	
	comp=E,216nm,0.6s						
D19K				IAML		18 51 59.7	
	comp=N,265nm,0.8s						
J19K	**Poorman**	**2.46**	**160**		Pn	18 51 02.1	-0.7
J19K				IAML		18 51 58.9	
	comp=E,160nm,0.8s						
J19K				IAML		18 51 59.0	
	comp=N,173nm,0.5s						
E21K	**Killik River**	**2.55**	**31**		Pn	18 51 03.8	-0.2
E21K				IAML		18 51 47.4	
	comp=N,152nm,0.8s						
J20K	**Nowinta River**	**2.57**	**145**	Pn	Pn	18 51 04.1	-0.2
J20K				IAML		18 52 07.7	
	comp=E,189nm,0.8s						
C18K	**Utukok River**	**2.74**	**331**	Pn	Pn	18 51 07.4	+0.6
I17K	**Unalakleet**	**2.78**	**210**	Pn	Pn	18 51 07.7	+0.5
I17K				IAML		18 52 18.7	
	comp=N,145nm,0.8s						
J18K	**Innoko River**	**2.87**	**173**		Pn	18 51 07.7	-0.8
E22K	**Anaktuvuk Pass**	**2.88**	**48**	Pn	Pn	18 51 08.5	-0.2
F15K	**North Star Dit**	**2.97**	**262**		Pn	18 51 10.6	+0.7
F15K				IAML		18 52 26.0	
	comp=E,119nm,0.6s						
F15K				IAML		18 52 27.3	
	comp=N,110nm,0.8s						
J17K	**VABM Dome**	**3.00**	**194**	Pn	Pn	18 51 10.2	0.0
J17K				IAML		18 52 25.1	
	comp=N,108nm,0.7s						
J17K				IAML		18 52 25.5	
	comp=E,123nm,0.9s						
G23K	**Bananza Creek**	**3.03**	**79**	Pn	Pn	18 51 10.1	-0.6
COLD	**Coldfoot**	**3.05**	**69**		Pn	18 51 08.9	-2.0
D22K	**Ayikyak River**	**3.18**	**33**	Pn	Pn	18 51 13.0	+0.2
D22K				IAML		18 52 13.8	
	comp=E,138nm,1.2s						
D22K				IAML		18 52 32.2	
	comp=N,109nm,0.8s						
H23K	**Yukon River**	**3.29**	**95**	IAML		18 52 21.6	
	comp=N,123nm,0.7s						
J16K	**Anvik River**	**3.31**	**205**		Pn	18 51 14.8	+0.4
J16K				IAML		18 52 34.2	
	comp=N,106nm,0.7s						
J16K				IAML		18 52 42.1	
	comp=E,90nm,0.8s						
K20K	**Telida**	**3.31**	**152**	Pn	Pn	18 51 13.4	-1.1
B21K	**Ikpikpuk River**	**3.51**	**17**		Pn	18 51 16.8	-0.4
B21K				IAML		18 52 42.7	
	comp=N,100nm,0.8s						
B21K				IAML		18 52 49.2	
	comp=E,102nm,1.1s						
BPAW	**Bear Paw Mtn.**	**3.53**	**126**		Pn	18 51 16.5	-1.1
BPAW				IAML		18 52 13.7	
	comp=E,69nm,0.7s						
BPAW				IAML		18 52 35.3	
	comp=N,58nm,0.8s						
E23K	**Chandalar**	**3.55**	**57**	IAML		18 52 39.7	
	comp=E,105nm,1.1s						
I23K	**Minto, Yukon-K**	**3.57**	**105**		Pn	18 51 16.9	-1.1
I23K				IAML		18 52 17.1	
	comp=E,105nm,0.6s						
C16K	**Lisburne Hills**	**3.62**	**307**	Pn	Pn	18 51 20.9	+2.2
K17K	**Iditarod**	**3.62**	**186**		Pn	18 51 17.9	-0.9
K17K				IAML		18 52 25.7	
	comp=E,62nm,1.0s						
CAST	**Castle Rocks**	**3.71**	**139**		Pn	18 51 19.5	-0.6
ANM	**Nome**	**3.71**	**246**		Pn	18 51 19.9	-0.2
ANM				IAML		18 52 29.0	
	comp=N,49nm,0.5s						
ANM				IAML		18 52 51.2	
	comp=E,53nm,0.7s						
B20K	**Meade River**	**3.72**	**2**	Pn	Pn	18 51 21.1	+1.0
B20K				IAML		18 52 25.1	
	comp=E,96nm,1.1s						
D23K	**Nanushuk River**	**3.74**	**41**	IAML		18 52 26.1	
	comp=E,86nm,0.8s						
D23K				IAML		18 52 29.0	
	comp=N,72nm,1.0s						
NEA2	**Nenana**	**3.92**	**112**		Pn	18 51 21.0	-2.0
E24K	**Your Creek**	**3.94**	**59**	IAML		18 52 37.4	
	comp=N,63nm,0.7s						
E24K				IAML		18 52 55.5	
	comp=E,69nm,0.6s						
KTH	**Kantishna Hill**	**3.94**	**131**		Pn	18 51 21.8	-1.5
KTH				IAML		18 52 32.6	
	comp=N,48nm,1.1s						
H24K	**Noodor Dome**	**3.96**	**92**	IAML		18 52 31.9	
	comp=E,78nm,0.9s						
L18K	**Granite Mounta**	**4.12**	**175**	IAML		18 52 58.1	
	comp=N,43nm,1.1s						
PPLA	**Purkeypile**	**4.12**	**144**		Pn	18 51 25.5	-0.3
TRF	**Thorofare Moun**	**4.21**	**130**		Pn	18 51 25.9	-1.1
TRF				IAML		18 52 39.6	
	comp=E,39nm,0.8s						
COLA	**College**	**4.26**	**105**		Pn	18 51 25.8	-1.8
L19K	**White Mountain**	**4.30**	**163**	IAML		18 52 39.5	
	comp=N,50nm,0.9s						
B22K	**Teshekpuk Lake**	**4.33**	**19**	IAML		18 52 55.3	
	comp=E,62nm,0.9s						
B22K				IAML		18 53 06.5	
	comp=N,48nm,0.9s						
POKR	**Poker Plat Res**	**4.34**	**101**	IAML		18 52 37.9	
	comp=E,59nm,0.7s						
CCB	**Clear Creek Bu**	**4.38**	**108**	IAML		18 52 38.1	
	comp=N,44nm,0.6s						
C23K	**Itkillik River**	**4.39**	**33**	IAML		18 53 17.7	
	comp=N,48nm,0.6s						
C23K				IAML		18 53 18.6	
	comp=E,38nm,0.8s						
K15K	**Wolf Creek Mou**	**4.39**	**205**	IAML		18 53 13.9	
	comp=N,35nm,1.1s						
J14K	**Nanvaranak Lak**	**4.42**	**219**	IAML		18 53 09.1	
	comp=E,55nm,0.8s						
J14K				IAML		18 53 19.2	
	comp=N,44nm,1.1s						
M19K	**Big River Lodg**	**4.63**	**161**	IAML		18 52 49.8	
	comp=N,28nm,0.7s						
M19K				IAML		18 53 14.4	
	comp=E,34nm,1.1s						
ILAR	**Eielson Array**	**4.68**	**104**		Pn	18 51 30.9	-2.5
C24K	**Franklin Bluff**	**4.77**	**40**	Pn	Pn	18 51 34.0	-0.5
C24K				IAML		18 53 17.6	
	comp=N,38nm,1.1s						
HDA	**Harding Lake**	**4.82**	**108**	IAML		18 52 50.1	
	comp=E,26nm,0.7s						
HDA				IAML		18 52 57.9	
	comp=N,36nm,0.8s						
M20K	**Styx River**	**4.84**	**155**	IAML		18 52 53.8	
	comp=E,29nm,1.0s						
F25K	**Christian Rive**	**4.84**	**69**	IAML		18 52 57.2	
	comp=N,32nm,1.0s						
M17K	**Holitna River**	**4.93**	**180**	IAML		18 53 16.9	
	comp=E,33nm,1.1s						
M17K				IAML		18 53 32.6	
	comp=N,40nm,1.1s						
PRP	**Porcupine Dome**	**4.98**	**94**	IAML		18 53 01.7	
	comp=N,38nm,0.8s						
E25K	**Arctic Village**	**4.99**	**63**	IAML		18 53 28.4	
	comp=E,38nm,1.0s						
SKT	**Skwentna**	**5.07**	**146**	IAML		18 53 30.7	
	comp=E,25nm,1.1s						
D25K	**Kavik River**	**5.20**	**49**	IAML		18 53 13.6	
	comp=E,22nm,0.8s						
D25K				IAML		18 53 17.0	
	comp=N,28nm,1.0s						
BMAR	**Burnt Mountain**	**5.23**	**72**		Pb	18 51 56.0	+1.7
J25K	**Salcha River,**	**5.34**	**103**	IAML		18 53 09.1	
	comp=E,19nm,0.7s						
J25K				IAML		18 53 36.0	
	comp=N,20nm,0.9s						
K13K	**Kusilvak Mount**	**5.38**	**219**	IAML		18 53 46.9	
	comp=E,19nm,0.8s						
K13K				IAML		18 53 50.1	
	comp=N,23nm,0.8s						
M14K	**Bethel**	**5.92**	**202**		Pn	18 51 49.6	-0.7

IDC 01 19:17:28.7±10.0, 7°.47N×93°.39E, h0km, mb3.4/4, **mbtmp3.4**/4, **Error ellipse: s-maj=579.5km s-min=30.6km az=60.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**25.68**	**235**	T	T	19 49 45.7	
	baz=55,slow=75						
H08S2	**Diego Garcia H**	**25.68**	**235**	T	T	19 49 53.8	
	baz=55,slow=75						
H08S1	**Diego Carcia H**	**25.70**	**235**	T	T	19 49 49.5	
	baz=55,slow=75						
MKAR	**Makanchi Array**	**40.32**	**348**	P	P	19 25 07.7	-0.3
	0.4nm,0.6s,baz=176,slow=7.9,SNR=5.1						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**44.76**	**347**	P	P	19 25 44.2	+0.3
	0.3nm,0.5s,baz=174,slow=6.7,SNR=8.3						
	0.3nm,0.5s						
H01W3	**Cape Leeuwin H**	**46.47**	**156**	T	T	20 15 48.3	
	baz=332,slow=76						
H01W2	**Cape Leeuwin H**	**46.48**	**156**	T	T	20 15 54.8	
	baz=332,slow=76						
H01W1	**Cape Leeuwin H**	**46.48**	**156**	T	T	20 15 42.5	
	baz=332,slow=76						
ZALV	**Zalesovo Beam**	**46.86**	**353**	P	P	19 25 59.8	-0.6
	0.3nm,0.3s,baz=159,slow=8.7,SNR=2.5						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**50.24**	**129**	P	P	19 26 27.0	-0.1
	0.1nm,0.7s,baz=301,slow=8.3,SNR=1.4						
	0.1nm,0.7s						

---

*MDD **01** 19:27:27.4±0.8, 35°.63N×4°.63W, h88km±14km, Mb2.3/6, Error ellipse: s-maj=5.8km s-min=4.7km az=107.0*
*CNRM **01** 19:27:28.9, 35°.78N×4°.55W, h71km, ML1.0*
*SFS **01** 19:27:28.4, 35°.64N×4°.69W, h47km, ML2.6/7, ML2.7/7, MLv2.7/7*
ISC 01 19:27:25.8±1.5, 35°.68N±0°.04×4°.64W±0°.04, h106km±11km, n24, σ1°.39/37, **5C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIR	**Smir Dam**	**0.60**	**271**	P	**Pn**	**19 27 44.1**	**+1.1**
SMIR	**Smir Dam**	**0.60**	**271**	S	**Sn**	**19 27 55.7**	**-0.2**
PALE	**Palemas**	**0.73**	**128**	P	**Pn**	**19 27 44.6**	**+0.5**
PALE	**Palemas**	**0.73**	**128**	S	**Sn**	**19 27 56.4**	**-1.4**
CHEFC	**Chefchaouen**	**0.81**	**226**	P	**Pn**	**19 27 46.7**	**+1.8**
CHEFC	**Chefchaouen**	**0.81**	**226**	S	**Sn**	**19 27 60.0**	**+0.8**
EJIF	**Jimena Fronter**	**1.03**	**319**	P	**Pn**	**19 27 46.4**	**-0.6**
EJIF				S	**Sn**	**19 28 03.2**	**+0.3**
AKLM	**AKL**	**1.32**	**151**	P	**Pn**	**19 27 50.9**	**+0.5**
AKLM	**AKL**	**1.32**	**151**	S	**Sn**	**19 28 07.8**	**-1.2**
ELGU	**Los Guajares,**	**1.44**	**34**	S	**Sn**	**19 28 09.6**	**-1.9**
ELGU				P	**Pn**	**19 27 52.4**	**+0.6**
ELGU	**Los Guajares,**	**1.44**	**34**	P	**Pn**	**19 27 51.9**	**+0.1**
ELGU				⇑*i*Vmb_V		19 27 53.6	
	92nm,SNR=2.0						
ELGU				S	**Sn**	**19 28 09.9**	**-1.6**
JBK	**JBK**	**2.16**	**128**	P	**Pn**	**19 28 02.5**	**+1.6**
JBK	**JBK**	**2.16**	**128**	S	**Sn**	**19 28 28.5**	**+0.8**
IFR	**Ifrane**	**2.19**	**191**	S	**Sn**	**19 28 25.2**	**-3.1**
IFR				P	**Pn**	**19 28 01.2**	**-0.1**
ECAB	**El Cabril**	**2.48**	**346**	P	**Pn**	**19 28 06.0**	**+1.2**
ECAB				S	**Sn**	**19 28 33.6**	**-1.1**
ECAB	**El Cabril**	**2.48**	**346**	P	**Pn**	**19 28 05.7**	**+0.9**
ECAB				⇑*i*Vmb_V		19 28 07.1	
	68nm,SNR=1.8						
ECAB				S	**Sn**	**19 28 33.5**	**-1.3**
EADA	**Adamuz**	**2.49**	**1**	P	**Pn**	**19 28 06.8**	**+1.8**
EADA	**Adamuz**	**2.49**	**1**	P	**Pn**	**19 28 06.8**	**+1.8**
EADA				⇑*i*Vmb_V		19 28 07.3	
	118nm,SNR=3.0						
EADA				S	**Sn**	**19 28 34.3**	**-0.8**
EGRO	**El Granado**	**2.95**	**310**	P	**Pn**	**19 28 11.6**	**+0.6**
EGRO				S	**Sn**	**19 28 44.3**	**-1.5**
EGRO	**El Granado**	**2.95**	**310**	P	**Pn**	**19 28 11.8**	**+0.8**
EGRO				⇑*i*Vmb_V		19 28 12.2	
	107nm,SNR=1.3						
EGRO				S	**Sn**	**19 28 44.1**	**-1.6**
PBAR	**Barrancos**	**3.15**	**323**	P	**Pn**	**19 28 15.0**	**+1.3**
PBAR				S	**Sn**	**19 28 49.0**	**-1.7**
PSIM	**Granatula de C**	**3.22**	**12**	P	**Pn**	**19 28 16.3**	**+1.7**
PSIM				S	**Sn**	**19 28 50.9**	**-1.4**
EBAD	**Badajoz**	**3.61**	**329**	P	**Pn**	**19 28 21.2**	**+1.3**
EBAD				S	**Sn**	**19 29 00.6**	**-1.1**
EBAD	**Badajoz**	**3.61**	**329**	P	**Pn**	**19 28 21.5**	**+1.6**
EBAD				⇑*i*Vmb_V		19 28 22.1	
	185nm,SNR=3.6						
EBAD				S	**Sn**	**19 29 00.6**	**-1.1**

---

*IDC **01** 19:29:08.1±1.4, 7°.03N×94°.33E, h0km, mb3.9/10, mbtmp3.8/11, ML3.7/1, Error ellipse: s-maj=49.3km s-min=29.1km az=62.0*
*NEIC **01** 19:29:11.8±1.7, 7°.34N±0°.10×94°.1E±0°.1, h10km±2km, mb4.1/6, Error ellipse: s-maj=24.6km s-min=15.7km az=259.0*
*NDI **01** 19:29:21.7±1.1, 7°.30N×94°.22E, h10km, ML3.9, MW3.9, mb4.1(NEIC)*
ISC 01 19:29:11.6±0.7, 7°.27N±0°.07×94°.37E±0°.06, h10km, n25, σ2°.33/27, **mb4.0**/14, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.51**	**239**	*e*P	**Pn**	**19 29 27.2**	**+2.3**
CMBY				*e*S	**Sb**	**19 29 33.1**	**+3.1**
CMBY				IAML		19 29 39.3	
	comp=N,11μm,0.3s						
CMBY				IAML		19 29 40.3	
	comp=E,10μm,0.3s						
LHMI	**Lhok Sumawe**	**3.27**	**128**	Pn	**Pn**	**19 30 06.8**	**+3.8**
PBA	**Port Blair**	**4.64**	**340**	*e*P	**Pb**	**19 30 31.4**	**-1.8**
PBA				*e*S	**Sn**	**19 31 21.0**	**+5.2**
SRIT	**Nakonsritamara**	**5.35**	**75**	Pn	**Pn**	**19 30 33.3**	**+1.8**
DGPR	**DIGLIPUR**	**6.04**	**347**	*e*P	Pn	19 30 50.5	+10
DGPR				*e*S	**Sn**	**19 31 54.6**	**+4.5**
KULM	**Kulim**	**6.55**	**107**	Pn	**Pn**	**19 30 51.3**	**+3.3**
CMAR	**Chiang Mai Arr**	**11.98**	**21**	Pn	**Pn**	**19 32 03.9**	**+1.3**
	comp=E,0.1nm,0.3s,baz=214,slow=14,SNR=4.7						
	comp=E,0.2nm,0.4s						
MK31	**Makanchi Array**	**40.72**	**347**	P	**P**	**19 36 50.9**	**-1.6**
MKAR	**Makanchi Array**	**40.72**	**347**	P	**P**	**19 36 51.1**	**-1.4**
MKAR	**Makanchi Array**	**40.72**	**347**	P	**P**	**19 36 51.7**	**-0.8**
	comp=E,1.9nm,0.7s,baz=166,slow=8.0,SNR=22						
	comp=E,1.9nm,0.7s						
SONM	**Songino Array**	**41.70**	**12**	P	**P**	**19 37 01.4**	**+0.8**
	comp=E,0.2nm,0.3s,baz=198,slow=7.8,SNR=2.4						
	comp=E,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**45.18**	**346**	P	**P**	**19 37 28.2**	**-0.3**
	comp=E,1.3nm,0.4s,baz=173,slow=7.1,SNR=34						
	comp=E,1.3nm,0.4s						
KURK	**Kurchatov**	**45.25**	**346**	P	**P**	**19 37 29.0**	**-0.1**
KURK				IAmb	IAmb	19 37 29.7	
	comp=Z,2.5nm,1.0s						
ZALV	**Zalesovo Beam**	**47.18**	**352**	P	**P**	**19 37 42.1**	**-2.1**
ZALV	**Zalesovo Beam**	**47.18**	**352**	P	**P**	**19 37 44.3**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=183,slow=7.9,SNR=9.5						
	comp=Z,1.4nm,0.3s						
ASAR	**Alice Springs**	**49.36**	**130**	P	**P**	**19 37 58.4**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=305,slow=7.9,SNR=1.4						
	comp=Z,0.1nm,0.3s						
BVAR	**Borovoye Array**	**49.63**	**341**	P	**P**	**19 38 02.5**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=120,slow=8.8,SNR=5.3						
	comp=Z,1.1nm,0.8s						
AB31	**Akbulak array**	**50.86**	**331**	P	**P**	**19 38 11.9**	**-0.7**
AB31				IAmb	IAmb	19 38 27.3	
	comp=Z,3.0nm,1.4s						
ABKAR	**Akbulak array**	**50.86**	**331**	P	**P**	**19 38 11.4**	**-1.2**
ABKAR				IAmb	IAmb	19 38 27.3	
	comp=Z,3.0nm,1.4s						
BR131	**Keskin Array S**	**62.99**	**311**	P	**P**	**19 39 36.1**	**-2.9**
TIXI	**Tiksi**	**67.78**	**11**	P	**P**	**19 40 08.6**	**-0.5**
TIXI				IAmb	IAmb	19 40 16.5	
	comp=Z,1.6nm,0.8s						
FINES	**FINESS Array B**	**73.34**	**332**	P	**P**	**19 40 42.9**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=104,slow=8.0,SNR=5.9						
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**78.42**	**318**	P	**P**	**19 41 12.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=79,slow=6.9,SNR=4.5						
	comp=Z,0.2nm,0.3s						
HFS	**Hagfors**	**79.09**	**330**	P	**P**	**19 41 16.0**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=116,slow=6.8,SNR=6.8						
	comp=Z,1.6nm,0.6s						
NOA	**NORSAR Array B**	**80.36**	**331**	P	**P**	**19 41 21.4**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=94,slow=5.3,SNR=1.3						
	comp=Z,0.6nm,0.7s						

---

*NEIC **01** 19:52:13.5±0.8, 66°.27N±0°.02×157°.13W±0°.04, h3km±11km, Error ellipse: s-maj=4.0km s-min=1.2km az=146.0*
AEIC 01 19:52:14.2±1.6, 66°.30N±0°.02×156°.9W±0°.1, h0km±7km, ML3.0, ML3.0/134(NEIC), **Error ellipse: s-maj=6.2km s-min=2.7km az=106.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.17**	**201**		Pg	19 52 16.3	-1.1
F19K	**Shaleruckik Mo**	**0.63**	**329**		Pg	19 52 25.2	-1.0
H19K	**Roundabout Mou**	**0.80**	**165**		Pg	19 52 28.9	-0.5
G18K	**Tagagawik**	**0.81**	**241**		Pg	19 52 27.3	-2.3
G18K				IAML		19 52 39.9	
	comp=N,366nm,0.6s						
F20K	**Avaraart Lake**	**0.90**	**32**		Pg	19 52 31.6	+0.3
E19K	**Redstone River**	**1.17**	**354**		Pg	19 52 35.8	-0.7
E19K				IAML		19 52 54.3	
	comp=N,397nm,0.5s						
H18K	**Honhosa River**	**1.29**	**208**		Pg	19 52 36.2	-2.7
H18K				IAML		19 52 55.8	
	comp=E,304nm,0.4s						
G21K	**Allakaket**	**1.40**	**79**		Pn	19 52 40.8	-0.1
F21K	**Alatna River**	**1.66**	**54**		Pn	19 52 44.3	-0.1
F21K				IAML		19 53 15.0	
	comp=E,137nm,0.7s						
H21K	**Melozitna Rive**	**1.81**	**109**		Pn	19 52 46.2	-0.3
H21K				IAML		19 53 14.4	
	comp=N,126nm,0.6s						
I20K	**Naaghedeneel**	**1.82**	**145**		Pn	19 52 46.3	-0.3
E18K	**Tukpahlearik C**	**1.84**	**310**		Pn	19 52 45.4	-1.5
H17K	**Granite Mounta**	**1.84**	**223**	Pn	Pn	19 52 44.1	-2.9
H17K				IAML		19 53 10.0	
	comp=E,165nm,0.5s						
H17K				IAML		19 53 10.6	
	comp=N,163nm,0.7s						
D19K	**Kuna River**	**2.25**	**349**		Pn	19 52 52.6	0.0
D19K				IAML		19 53 26.8	
	comp=E,78nm,0.6s						
D19K				IAML		19 53 28.1	
	comp=N,72nm,0.9s						
J19K	**Poorman**	**2.38**	**166**	Pn	Pn	19 52 53.3	-1.0
J19K				IAML		19 53 27.6	
	comp=E,73nm,0.8s						
J19K				IAML		19 53 29.3	
	comp=N,89nm,0.4s						
G16K	**Koyuk River**	**2.41**	**250**		Pn	19 52 51.1	-3.6
G16K				IAML		19 53 29.7	
	comp=E,87nm,0.5s						
J20K	**Nowinta River**	**2.43**	**150**		Pn	19 52 55.0	-0.1
J20K				IAML		19 53 37.4	
	comp=E,67nm,0.6s						
E21K	**Killik River**	**2.44**	**27**		Pn	19 52 55.5	+0.3
E21K				IAML		19 53 38.6	
	comp=N,51nm,0.9s						
E22K	**Anaktuvuk Pass**	**2.72**	**45**	Pn	Pn	19 52 59.3	+0.3
E22K				IAML		19 53 47.4	
	comp=N,23nm,1.1s						
E22K				IAML		19 53 48.7	
	comp=E,20nm,1.0s						
G23K	**Bananza Creek**	**2.80**	**78**	Pn	Pn	19 53 00.2	0.0
G23K				IAML		19 53 51.7	
	comp=E,68nm,0.6s						
COLD	**Coldfoot**	**2.83**	**68**	Pn	Pn	19 53 00.1	-0.5
J18K	**Innoko River**	**2.85**	**178**	Pn	Pn	19 52 59.5	-1.3
C18K	**Utukok River**	**2.87**	**327**		Pn	19 52 59.7	-1.5
I17K	**Unalakleet**	**2.90**	**215**		Pn	19 52 59.4	-2.0
I17K				IAML		19 53 50.0	
	comp=E,78nm,0.7s						
I17K				IAML		19 53 50.6	
	comp=N,54nm,0.8s						
RDOG	**Red Dog Mine**	**2.92**	**310**	Pn	Pn	19 53 00.7	-1.0
H23K	**Yukon River**	**3.05**	**96**		Pn	19 53 03.5	-0.1
H23K				IAML		19 53 54.2	
	comp=N,49nm,0.8s						
J17K	**VABM Dome**	**3.05**	**198**		Pn	19 53 01.9	-1.7
J17K				IAML		19 53 54.3	
	comp=E,38nm,0.9s						
J17K				IAML		19 53 54.8	
	comp=N,34nm,0.8s						
D22K	**Ayikyak River**	**3.06**	**30**		Pn	19 53 04.4	+0.6
D22K				IAML		19 54 00.9	
	comp=N

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
B21K	**Ikpikpuk River**	**3.45**	**14**	Pn	Pn	19 53 08.2	-0.9
B21K	comp=N,27nm,1.1s			IAML		19 54 09.3	
B21K	comp=E,34nm,0.6s			IAML		19 54 12.7	
CAST	**Castle Rocks**	**3.56**	**142**		Pn	19 53 10.7	+0.2
D23K	**Nanushuk River**	**3.59**	**39**	IAML		19 54 16.6	
D23K	comp=N,25nm,0.9s			IAML		19 54 17.3	
	comp=E,31nm,0.8s						
K17K	**Iditarod**	**3.65**	**190**	IAML		19 54 12.3	
K17K	comp=N,17nm,1.1s			IAML		19 54 17.1	
	comp=E,24nm,1.1s						
TOLK	**Toolik Lake Re**	**3.68**	**47**	IAML		19 54 17.4	
TOLK	comp=E,19nm,1.2s			IAML		19 54 21.8	
	comp=N,27nm,0.9s						
NEA2	**Nenana**	**3.70**	**114**		Pn	19 53 12.0	-0.5
NEA2	comp=E,12nm,0.7s			IAML		19 54 15.8	
NEA2	comp=N,13nm,1.1s			IAML		19 54 19.0	
B20K	**Meade River**	**3.73**	**359**	Pn	Pn	19 53 12.7	-0.2
B20K	comp=N,21nm,0.9s			IAML		19 54 42.6	
E24K	**Your Creek**	**3.74**	**58**	IAML		19 54 26.6	
	comp=N,20nm,1.0s						
KTH	**Kantishna Hill**	**3.76**	**134**		Pn	19 53 13.1	-0.3
C16K	**Lisburne Hills**	**3.82**	**305**	Pn	Pn	19 53 12.6	-1.4
TRF	**Thorofare Moun**	**4.03**	**132**	IAML		19 54 34.6	
	comp=E,14nm,1.1s						
WRH	**Wood River Hil**	**4.13**	**112**		Pn	19 53 18.0	-0.4
CCB	**Clear Creek Bu**	**4.15**	**109**	IAML		19 54 29.5	
	comp=N,13nm,0.6s						
D24K	**Happy Valley**	**4.21**	**43**	IAML		19 54 42.7	
	comp=E,20nm,1.2s						
D24K	comp=N,19nm,1.0s			IAML		19 54 42.9	
L19K	**White Mountain**	**4.23**	**167**	IAML		19 54 10.0	
	comp=E,17nm,0.6s						
L19K	comp=N,14nm,1.0s			IAML		19 54 10.2	
B22K	**Teshekpuk Lake**	**4.26**	**16**	Pn	Pn	19 53 18.8	-1.4
B22K	comp=N,14nm,1.0s			IAML		19 54 36.3	
C23K	**Itkillik River**	**4.27**	**31**	IAML		19 54 44.5	
	comp=N,16nm,0.9s						
C23K	comp=E,11nm,0.9s			IAML		19 54 49.1	
ILAR	**Eielson Array**	**4.45**	**106**	Pn	Pn	19 53 22.8	0.0
K15K	**Wolf Creek Mou**	**4.49**	**209**	IAML		19 54 43.6	
	comp=E,9.9nm,1.1s						
K15K	comp=N,12nm,0.8s			IAML		19 54 44.1	
M19K	**Big River Lodg**	**4.55**	**165**	IAML		19 54 41.1	
	comp=N,12nm,0.9s						
M19K	comp=E,10nm,0.8s			IAML		19 54 41.7	
J14K	**Nanvaranak Lak**	**4.57**	**222**		Pn	19 53 21.6	-2.8
J14K	comp=N,12nm,0.6s			IAML		19 54 41.7	
C24K	**Franklin Bluff**	**4.62**	**38**	IAML		19 54 52.1	
	comp=E,11nm,1.1s						
C24K	comp=N,10nm,0.8s			IAML		19 54 58.4	
F25K	**Christian Rive**	**4.63**	**69**	IAML		19 54 51.5	
	comp=N,12nm,0.8s						
F25K	comp=E,16nm,1.1s			IAML		19 54 53.1	
M20K	**Styx River**	**4.74**	**158**	IAML		19 54 23.1	
	comp=E,8.6nm,1.0s						
M20K	comp=N,8.6nm,0.8s			IAML		19 54 24.4	
PRP	**Porcupine Dome**	**4.74**	**94**	IAML		19 54 53.1	
	comp=N,14nm,0.7s						
E25K	**Arctic Village**	**4.78**	**62**	IAML		19 54 55.5	
	comp=N,13nm,0.5s						
E25K	comp=E,12nm,0.8s			IAML		19 54 55.9	
SKT	**Skwentna**	**4.94**	**149**	IAML		19 54 58.4	
	comp=E,6.8nm,1.0s						
BMAR	**Burnt Mountain**	**5.00**	**71**		Pn	19 53 30.2	-0.3
J25K	**Salcha River,**	**5.11**	**104**	IAML		19 54 59.5	
	comp=N,8.3nm,1.0s						
J25K	comp=E,7.8nm,0.9s			IAML		19 55 02.4	
F26K	**Sheenjek River**	**5.21**	**69**	IAML		19 55 07.9	

*SOME **01** 20:00:30.6, 43.°17N×86.°28E, h20km*
*NNC **01** 20:00:36.0±2.3, 42.°57N×86.°08E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=17.8km s-min=12.4km az=108.0*
*IDC **01** 20:00:37.0±3.1, 42.°63N×85.°79E, h0km, mbtmp3.3/5, ML2.9/5, Error ellipse: s-maj=27.4km s-min=24.7km az=159.0*

ISC 01 20:00:40.1±1.8, **42.°6N**±0.°1×**85.°88E**±0.°08, **h22**km, **n19**, σ2°**52**/29, **6C, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**4.75**	**281**	⇑Pn	Pn	**20 01 51.3**	**+0.8**
PDGK	1.6nm,0.3s			⇑Lg	Lg	20 03 11.2	
	15nm,0.7s						
SHLS	**Shalkode**	**4.75**	**279**	Pg	**Pb**	**20 02 00.2**	**-2.5**
SHLS	4.9nm,0.2s			Lg	Lg	20 03 04.1	
	25nm,0.5s						
SHLS	**Shalkode**	**4.75**	**279**	*e*P	Pn	20 01 55.9	+5.4
SHLS	4.9nm,0.2s			*e*S	**Sb**	**20 02 56.8**	**-2.7**
	25nm,0.5s						
DJR	**Jarkent**	**4.77**	**294**	Pg	**Pb**	**20 02 01.8**	**-1.2**
DJR	1.0nm,0.1s			Lg	Lg	20 03 07.0	
	8.1nm,0.3s						
DJR	**Jarkent**	**4.77**	**294**	*e*P	**Pb**	**20 01 59.7**	**-3.3**
DJR	1.0nm,0.1s			*e*S	**Sb**	**20 03 03.3**	**+3.3**
	8.1nm,0.3s						
ZSN	**Zaisan**	**4.93**	**352**	Pg	**Pn**	**20 01 53.9**	**+1.0**
ZSN	7.7nm,0.3s			Lg	Lg	20 02 53.5	
	9.6nm,0.3s						
ZSN	**Zaisan**	**4.93**	**352**	*e*P	**Pn**	**20 01 53.9**	**+1.0**
ZSN	7.7nm,0.3s			*e*S	**Sn**	**20 02 53.5**	**+4.3**
	9.6nm,0.3s						
MK31	**Makanchi Array**	**4.94**	**330**	Pn	**Pn**	**20 01 53.8**	**+0.9**
MK31	0.6nm,0.2s,baz=144,slow=14,SNR=80			Sn	**Sn**	**20 02 53.4**	**+4.1**
	2.3nm,0.5s,baz=147,slow=26,SNR=5.8						
MK31				Lg	Lg	20 03 15.2	
	4.5nm,0.4s,baz=144,slow=30,SNR=6.8						
MKAR	**Makanchi Array**	**4.94**	**330**	Pn	**Pn**	**20 01 53.3**	**+0.4**
	1.0nm,0.3s,baz=144,slow=12,SNR=53						
MKAR				Sn	**Sn**	**20 02 47.9**	**-1.4**
	1.7nm,0.3s,baz=150,slow=18,SNR=4.2						
MKAR				Lg	Lg	20 03 11.9	
	4.3nm,0.3s,baz=135,slow=31,SNR=11						
	1.3nm,0.3s						
MAKZ	**Makanchi**	**5.07**	**328**	Pn	**Pn**	**20 01 53.9**	**-0.8**
	1.5nm,0.5s						
MAKZ				Sn	**Sn**	**20 02 57.1**	**+4.5**
	2.6nm,0.6s						
MAKZ				Lg	Lg	20 03 17.8	
	12nm,0.8s						
SATY	**Saty**	**5.52**	**278**	Pg	**Pb**	**20 02 17.9**	**+2.2**
SATY	1.2nm,0.1s			Lg	Lg	20 03 34.6	
	8.8nm,0.2s						
BLB	**Baldybastay**	**5.61**	**288**	Pg	**Pb**	**20 02 20.4**	**+3.1**
BLB	8.2nm,0.2s			Lg	Lg	20 03 38.7	
	17nm,0.4s						
ARXS	**Arharly**	**6.09**	**288**	Pg	**Pb**	**20 02 26.7**	**+1.2**
ARXS	2.0nm,0.3s			Lg	Lg	20 03 49.5	
	8.4nm,0.5s						
AAK	**Ala-Archa**	**8.40**	**274**	Pn	**Pn**	**20 02 40.1**	**-0.5**
	0.1nm,0.3s,baz=112,slow=12,SNR=4.4						
AAK				Sn	**Sn**	**20 04 15.3**	**+0.5**
	baz=229,slow=19,SNR=1.1						
AAK				Lg	Lg	20 05 02.2	
	0.1nm,0.3s,baz=194,slow=19,SNR=1.7						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**9.51**	**330**	Pn	**Pn**	**20 02 53.4**	**-2.2**
	0.1nm,0.3s,baz=139,slow=13,SNR=4.5						
KURBB				Sn	**Sn**	**20 04 37.6**	**-4.0**
	baz=29,slow=2.1,SNR=1.8						
KURBB				Lg	Lg	20 05 34.3	
	baz=151,slow=30,SNR=4.3						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**9.51**	**330**	Pn	**Pn**	**20 02 53.9**	**-1.6**
	0.5nm,0.6s						
KURBB				⇑Sn	**Sn**	**20 04 40.1**	**-1.6**
	2.9nm,0.7s						
KURBB				⇑Lg	Lg	20 05 39.6	
	5.5nm,0.7s						
KURK	**Kurchatov**	**9.55**	**331**	Pn	**Pn**	**20 02 55.0**	**-1.2**
	0.7nm,0.7s						
KURK				⇑Sn	**Sn**	**20 04 43.2**	**+0.5**
	1.6nm,0.7s						
KURK				⇑Lg	Lg	20 05 39.6	
	4.3nm,0.6s						
ZALV	**Zalesovo Beam**	**11.41**	**357**	Pn	**Pn**	**20 03 18.3**	**-3.2**
	0.3nm,0.3s,baz=173,slow=13,SNR=8.3						
ZALV				Sn	**Sn**	**20 05 24.8**	**-3.4**
	0.4nm,0.3s,baz=176,slow=24,SNR=4.5						
	1.0nm,0.3s						
SONM	**Songino Array**	**15.38**	**63**	Pn	**Pn**	**20 04 16.5**	**+0.8**
	baz=258,slow=13,SNR=4.3						
	0.4nm,0.5s						

*NEIC **01** 20:04:39.9±2.7, 43.°72N±0.°05×105.°14W±0.°08, h0km±1km, ML3.4/71, Error ellipse: s-maj=10.4km s-min=9.0km az=113.0*
*IDC **01** 20:04:43.4±1.8, 43.°90N×105.°60W, h0km, mbtmp3.4/5, ML3.3/5, Error ellipse: s-maj=57.1km s-min=8.5km az=147.0*

ISC 01 20:04:41.9±1.2, **43.°77N**±0.°06×**105.°22W**±0.°08, **h0**km, **n32**, σ1°**44**/22, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.47**	**221**		**Pg**	**20 05 09.4**	**-0.7**
K22A	373nm,0.3s			IAML		20 05 33.2	
LAO	**LASA Array**	**3.00**	**347**		**Pn**	**20 05 32.9**	**+2.1**
RLMT	**Red Lodge**	**3.20**	**296**		**Pn**	**20 05 33.3**	**-0.3**
RLMT	91nm,0.7s			IAML		20 06 28.0	
RLMT	73nm,0.8s			IAML		20 06 28.4	
BRIGG	**Briggsdale**	**3.26**	**168**	Pn	**Pn**	**20 05 35.3**	**+0.9**
BRIGG	comp=N,75nm,0.8s			IAML		20 06 31.8	
BRIGG	comp=E,84nm,0.9s			IAML		20 06 32.1	
BW06	**Boulder Array**	**3.33**	**254**	Pn	**Pn**	**20 05 36.1**	**+0.7**
BW06	comp=E,57nm,0.4s			IAML		20 06 26.2	
PD31	**Pinedale Array**	**3.33**	**254**		**Pn**	**20 05 35.1**	**-0.3**
PDAR	**Pinedale Array**	**3.33**	**254**	Pn	**Pn**	**20 05 35.5**	**+0.1**
PDAR	**Pinedale Array**	**3.33**	**254**	Pn	**Pn**	**20 05 37.2**	**+1.9**
PDAR	comp=E,3.7nm,0.3s,baz=58,slow=13,SNR=99			Lg	Lg	20 06 20.6	
	comp=E,10nm,0.3s,baz=64,slow=33,SNR=6.2						
	comp=E,8.1nm,0.3s						
YNE	**Yellowstone No**	**3.65**	**291**		**Pn**	**20 05 40.3**	**+0.5**
YNE	comp=N,87nm,0.5s			IAML		20 06 38.7	
YNE	comp=E,70nm,0.6s			IAML		20 06 41.3	
YMP	**Mirror Lake Pl**	**3.68**	**287**		**Pn**	**20 05 40.8**	**+0.5**
OGNE	**Ogallala**	**3.68**	**139**		**Pn**	**20 05 37.2**	**-2.9**
OGNE	comp=E,102nm,0.9s			IAML		20 06 51.3	
LOHW	**Long Hollow**	**3.91**	**270**		**Pn**	**20 05 42.8**	**-0.6**
H17A	**Grant Village**	**3.91**	**281**		**Pn**	**20 05 45.6**	**+2.2**
H17A	comp=E,32nm,1.2s			IAML		20 06 48.2	
ISCO	**Idaho Springs**	**3.98**	**184**	Pn	**Pn**	**20 05 45.0**	**+0.5**
MOOW	**Moose Ponds**	**4.00**	**272**		**Pn**	**20 05 44.4**	**-0.3**
SNOW	**Snow King Moun**	**4.03**	**268**		**Pn**	**20 05 44.1**	**-1.0**
SNOW	comp=E,58nm,1.6s			IAML		20 07 02.8	
SNOW	comp=E,53nm,1.6s			IAML		20 07 11.2	
YNR	**Norris Junctio**	**4.04**	**285**		**Pn**	**20 05 42.7**	**-2.4**
YFT	**Old Faithful**	**4.10**	**281**	Pn	**Pn**	**20 05 43.8**	**-2.3**
YFT	comp=E,29nm,1.1s			IAML		20 06 56.4	
TPAW	**Teton Pass**	**4.17**	**268**	IAML		20 07 09.8	
TPAW	comp=E,23nm,0.7s			IAML		20 07 12.7	
YMR	**Madison River**	**4.23**	**284**	IAML		20 07 26.6	
O20A	**White River Ci**	**4.28**	**213**	IAML		20 07 47.7	
O20A	comp=E,64nm,1.9s			IAML		20 07 53.0	
AHID	**Auburn Hatcher**	**4.41**	**259**	IAML		20 07 32.5	
YHL	**Hebgen Lake**	**4.42**	**286**	IAML		20 07 12.8	
YHL	comp=E,36nm,1.8s			IAML		20 07 14.2	
RDMU	**Red Mountain**	**4.55**	**227**	IAML		20 07 08.5	
RDMU	comp=E,36nm,1.9s			IAML		20 07 17.0	
Q24A	**Divide**	**4.80**	**179**	IAML		20 07 18.5	
BOZ	**Bozeman (W)**	**4.92**	**294**	IAML		20 07 15.7	
BOZ	comp=E,15nm,0.6s			IAML		20 07 17.5	
HWUT	**Hardware Ranch**	**5.15**	**247**	IAML		20 07 42.6	
BSUT	**Blindstream Ca**	**5.24**	**234**	IAML		20 07 39.9	
BSUT	comp=N,15nm,1.8s			IAML		20 07 48.0	
ELK	**Elko**	**8.02**	**251**	Pn	**Pn**	**20 06 40.8**	**+0.9**
ELK	comp=E,0.4nm,0.3s,baz=78,slow=7.2,SNR=6.7			Lg	Lg	20 08 47.1	
	comp=E,0.1nm,0.3s,baz=333,slow=14,SNR=1.5						
	comp=E,0.7nm,0.3s						
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**20 06 55.0**	**+0.8**
ULM	comp=E,0.6nm,0.3s,baz=229,slow=11,SNR=9.1			Pg		20 07 24.1	
	comp=E,0.5nm,0.3s,baz=219,slow=18,SNR=4.7						
ULM				Lg	Lg	20 09 25.8	
	comp=E,0.4nm,0.3s,baz=319,slow=21,SNR=3.5						
	comp=E,3.0nm,0.5s						
NVAR	**Mina Array Bea**	**11.22**	**246**	Pn	**Pn**	**20 07 24.8**	**+1.1**
	comp=E,0.1nm,0.3s,baz=57,slow=16,SNR=4.0						
	comp=E,0.7nm,0.6s						
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**P**	**20 09 09.9**	**-0.8**
	comp=E,0.1nm,0.3s,baz=161,slow=12,SNR=4.1						
	comp=E,0.3nm,0.6s						

*IDC **01** 20:07:39.5±0.8, 7.°36N×94.°10E, h0km, mb4.0/14, mbtmp4.0/17, ML3.8/3, Error ellipse: s-maj=33.2km s-min=15.7km az=51.0*
*NEIC **01** 20:07:41.6±1.9, 7.°46N±0.°05×94.°27E±0.°10, h10km±1km, mb4.4/18, Error ellipse: s-maj=16.9km s-min=7.6km az=281.0*
*BKK **01** 20:07:45.6±1.1, 8.°N±6.°×9.°4E±.°, h21km±10km, M4.1/12, mB4.3/4, mb4.4/8, Mjma3.7/12, ML4.2/6, MLv4.2/7, Mw(mB)3.5/4*
*NDI **01** 20:07:48.9±1.1, 7.°37N×94.°30E, h10km, ML4.2, MW4.1, mb4.4(NEIC)*

ISC 01 20:07:43.1±0.5, **7.°51N**±0.°04×**94.°16E**±0.°06, **h20**km, **n63**, σ1°**79**/64, **mb4.3**/24, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.54**	**205**	*e*P	**Pn**	**20 07 56.2**	**+0.4**
CMBY				*e*S	**Sb**	**20 08 03.6**	**+2.2**
CMBY	comp=E,21μm,0.3s			IAML		20 08 09.2	
CMBY	comp=N,18μm,0.4s			IAML		20 08 09.2	
LHMI	**Lhok Sumawe**	**3.58**	**129**		Pn	20 08 33.9	-3.6
LHMI					**Sn**	**20 09 16.2**	**-3.0**
LHMI	**Lhok Sumawe**	**3.58**	**129**	P	**Pn**	**20 08 38.2**	**+0.7**
PBA	**Port Blair**	**4.35**	**341**	*e*P	**Pb**	**20 08 58.0**	**-1.0**
PBA				*e*S	**Sb**	**20 09 47.3**	**-3.8**
RNTT	**Ranong**	**4.66**	**66**	P	**Pn**	**20 08 52.3**	**-0.2**
SRIT	**Nakonsritamara**	**5.50**	**78**		**Pn**	**20 09 03.5**	**-0.5**
SRIT	**Nakonsritamara**	**5.50**	**78**	P	**Pn**	**20 09 04.1**	**+0.2**
SRIT	**Nakonsritamara**	**5.50**	**78**	P	**Pn**	**20 09 04.4**	**+0.5**
	comp=N,63nm,0.8s						
DGPR	**DIGLIPUR**	**5.76**	**348**	*e*P	Pb	20 09 17.0	-6.0
DGPR				*e*S	**Sn**	**20 10 20.4**	**+7.2**
PSI	**Prapat**	**6.66**	**134**	Pn	**Pn**	**20 09 20.2**	**+0.2**
	comp=N,1.2nm,0.3s,baz=319,slow=16,SNR=5.7						
PSI				Sn	**Sn**	**20 10 36.4**	**+0.9**
	comp=N,1.3nm,0.3s,baz=256,slow=17,SNR=1.9						
	comp=N,2.3nm,0.3s						
RPSI	**Rantau Prapat**	**6.74**	**135**		**Pn**	**20 09 19.8**	**-1.1**
RPSI	**Rantau Prapat**	**6.74**	**135**		**Pn**	**20 09 20.2**	**-0.7**
RPSI					**Sn**	**20 10 36.4**	**-0.8**
KULM	**Kulim**	**6.82**	**108**		**Pn**	**20 09 19.5**	**-2.6**
KULM	**Kulim**	**6.82**	**108**	P	**Pn**	**20 09 20.6**	**-1.5**
GSI	**Gunungsitoli**	**7.04**	**151**	P	**Pn**	**20 09 28.5**	**+3.4**
SRDT	**SRDT**	**8.37**	**35**	P	**Pn**	**20 09 44.3**	**+1.0**
SRDT	**SRDT**	**8.37**	**35**	P	**Pn**	**20 09 44.3**	**+1.0**
	comp=N,16nm,0.6s						
KHLT	**Khaolaem Dam**	**8.45**	**31**	P	**Pn**	**20 09 45.1**	**+0.6**
	comp=N,9.6nm,0.9s						
UTHA	**Uthaitani**	**9.53**	**32**	P	**Pn**	**20 10 00.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**11.84**	**23**	Pn	**Pn**	**20 10 30.2**	**-0.7**
	comp=N,0.5nm,0.3s,baz=216,slow=14,SNR=9.7						
	comp=N,0.8nm,0.4s						
CHTO	**Chiang Mai**	**12.16**	**22**	P	**Pn**	**20 10 38.0**	**+2.6**
PALK	**Pallekele**	**13.35**	**270**	Pn	**Pn**	**20 10 50.6**	**-1.1**
	comp=N,0.1nm,0.3s,baz=79,slow=16,SNR=1.4						
PALK				Sn	**Sn**	**20 13 12.2**	**-7.4**
	comp=N,0.3nm,0.3s,baz=343,slow=19,SNR=1.7						
	comp=N,2.2nm,0.8s						
LSA	**Lhasa**	**22.26**	**353**	P	**P**	**20 12 38.8**	**-0.6**
LSA				IAmb	IAmb	20 12 43.7	
	comp=Z,8.6nm,0.9s						
H08S3	**Diego Garcia H**	**26.33**	**236**	T	T	20 40 10.7	
	baz=54,slow=75						
H08S2	**Diego Garcia H**	**26.33**	**236**	T	T	20 40 02.1	
	baz=54,slow=75						
H08S1	**Diego Garcia H**	**26.34**	**236**	T	T	20 40 11.4	
	baz=54,slow=75						
WUS	**Wushi**	**36.09**	**341**	P	**P**	**20 14 43.9**	**+0.1**
WUS				IAmb	IAmb	20 14 45.3	
	comp=Z,2.7nm,0.7s						
GAR	**Garm**	**38.00**	**329**	P	**P**	**20 14 60.0**	**-0.1**
GAR				IAmb	IAmb	20 15 01.3	
	comp=Z,7.3nm,1.2s						
SIMJ	**Simiganj**	**38.42**	**328**	P	**P**	**20 15 03.6**	**0.0**
SIMJ				IAmb	IAmb	20 15 04.6	
	comp=Z,3.9nm,0.6s						
BTK	**Batken**	**38.56**	**331**	P	**P**	**20 15 04.8**	**+0.1**
BTK				IAmb	IAmb	20 15 44.7	
	comp=Z,5.8nm,0.4s						
MK31	**Makanchi Array**	**40.45**	**347**	P	**P**	**20 15 19.8**	**-0.4**
MKAR	**Makanchi Array**	**40.45**	**347**	P	**P**	**20 15 19.6**	**-0.6**
MKAR	**Makanchi Array**	**40.45**	**347**	P	**P**	**20 15 20.4**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=165,slow=8.2,SNR=39						
	comp=Z,2.9nm,0.7s						
KK31	**Karatay Array**	**41.10**	**333**	P	**P**	**20 15 26.1**	**+0.5**
KKAR	**Karatay Array**	**41.10**	**333**	P	**P**	**20 15 26.4**	**+0.7**
SONM	**Songino Array**	**41.52**	**12**	P	**P**	**20 15 30.9**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=199,slow=10,SNR=4.3						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**44.91**	**346**	P	**P**	**20 15 57.1**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=167,slow=7.2,SNR=38						
KURBB				PcP	**PcP**	**20 17 39.0**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=171,slow=3.4,SNR=2.3						
	comp=Z,3.5nm,0.7s						
KURK	**Kurchatov**	**44.97**	**346**	P	**P**	**20 15 57.5**	**+0.6**
KURK				IAmb	IAmb	20 15 58.5	
	comp=Z,3.5nm,0.9s						
ZAA0	**Zalesovo Array**	**46.92**	**352**	P	**P**	**20 16 11.0**	**-1.2**
ZAA0				IAmb	IAmb	20 16 14.3	
	comp=Z,3.1nm,0.9s						
ZALV	**Zalesovo Beam**	**46.92**	**352**	P	**P**	**20 16 12.0**	**-0.2**
ZALV	**Zalesovo Beam**	**46.92**	**352**	P	**P**	**20 16 12.7**	**+0.5**
	comp=Z,2.3nm,0.4s,baz=179,slow=7.8,SNR=15						
	comp=Z,2.3nm,0.4s						
WRA	**Warramunga Arr**	**48.03**	**125**	P	**P**	**20 16 20.1**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=304,slow=8.5,SNR=6.3						
	comp=Z,0.2nm,0.6s						
RAYN	**Ar Rayn**	**49.25**	**295**	P	**P**	**20 16 33.1**	**+2.3**
RAYN				IAmb	IAmb	20 16 34.4	
	comp=Z,4.7nm,0.6s						
BVAR	**Borovoye Array**	**49.34**	**341**	P	**P**	**20 16 30.5**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=126,slow=7.3,SNR=7.3						
BVAR				PcP	**PcP**	**20 17 54.1**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=152,slow=6.4,SNR=2.2						
	comp=Z,1.3nm,0.7s						
ASAR	**Alice Springs**	**49.67**	**130**	P	**P**	**20 16 32.6**	**-1.3**
	comp=Z,0.5nm,1.0s,baz=301,slow=7.7,SNR=5.9						
	comp=Z,0.5nm,1.0s						
AB31	**Akbulak array**	**50.56**	**332**	P	**P**	**20 16 39.5**	**-0.7**
AB31				IAmb	IAmb	20 16 42.1	
	comp=Z,2.4nm,0.9s						
ABKAR	**Akbulak array**	**50.56**	**332**	P	**P**	**20 16 39.3**	**-0.9**
ABKAR	**Akbulak array**	**50.56**	**332**	P	**P**	**20 16 39.9**	**-0.3**
ABKAR				IAmb	IAmb	20 16 42.2	
	comp=Z,2.4nm,0.9s						
AKTO	**Aktyubinsk**	**52.28**	**332**	P	**P**	**20 16 53.2**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=146,slow=8.4,SNR=5.2						
	comp=Z,2.0nm,0.7s						
ARTI	**Arti**	**56.27**	**337**	P	**P**	**20 17 22.5**	**+0.4**
BRTR	**Keskin Array B**	**62.68**	**311**	P	**P**	**20 18 05.8**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=108,slow=8.2,SNR=7.1						
	comp=Z,0.9nm,0.6s						
H04N2	**CROZET ISLANDS**	**65.42**	**211**	T	T	21 28 57.1	
	baz=47,slow=75,SNR=34						
H04N1	**CROZET ISLANDS**	**65.43**	**211**	T	T	21 29 03.7	
	baz=47,slow=75,SNR=16						
H04N3	**CROZET ISLANDS**	**65.44**	**211**	T	T	21 28 49.5	
	baz=47,slow=75,SNR=32						
TIXI	**Tiksi**	**67.59**	**11**	P	**P**	**20 18 37.3**	**-0.7**
TIXI				IAmb	IAmb	20 18 44.0	
	comp=Z,2.7nm,0.5s						
BURAR	**Bucovina Array**	**70.33**	**318**	P	**P**	**20 18 56.2**	**+0.6**
FINES	**FINESS Array B**	**73.04**	**332**	P	**P**	**20 19 11.6**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=92,slow=6.3,SNR=6.3						
	comp=Z,2.9nm,0.8s						
SCTE	**Santa Cesarea**	**74.26**	**309**	P	**P**	**20 19 19.0**	**-0.1**
GERES	**GERESS Array B**	**78.11**	**318**	P	**P**	**20 19 41.4**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=76,slow=5.6,SNR=7.4						
	comp=Z,0.9nm,0.7s						
HFS	**Hagfors**	**78.78**	**330**	P	**P**	**20 19 44.6**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=98,slow=6.1,SNR=9.0						
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**80.06**	**331**	P	**P**	**20 19 51.2**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=96,slow=5.1						
NOA	**NORSAR Array B**	**80.06**	**331**	P	**P**	**20 19 50.9**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=92,slow=5.5,SNR=4.7						
	comp=Z,0.9nm,0.7s						
EKA	**Eskdalemuir Ar**	**88.03**	**325**	P	**P**	**20 20 32.8**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=96,slow=4.4,SNR=3.6						
	comp=Z,2.1nm,0.8s						

*MOS **01** 20:23:34.4±1.0, 52.°84N×158.°38E, h141km, mb4.2/13, Error ellipse: s-maj=11.0km s-min=4.3km az=79.4*
*KRSC **01** 20:23:34.0±1.1, 52.°73N×158.°80E, h132km±8km, Ml4.6*
*NEIC **01** 20:23:35.6±0.9, 52.°9N±0.°1×158.°3E±0.°2, h139km±7km, mb4.3/40, Error ellipse: s-maj=21.8km s-min=15.4km az=139.0*
*IDC **01** 20:23:35.8±0.7, 53.°02N×158.°23E, h133km±5km, mb3.7/

INSR Institute 0.26 1 *eP* **Pn 20 23 54.2 +0.3**
INSR *eS* **Sn 20 24 07.8 -0.4**
KRMR Karymshinskiy 0.28 274 PN **Pn 20 23 54.0 +0.1**
KRMR S **Sn 20 24 08.1 -0.1**
KRMR Karymshinskiy 0.28 274 *eP* **Pn 20 23 54.0 +0.1**
KRMR *eS* **Sn 20 24 08.2 -0.1**
RUS Russkaya 0.38 188 PN **Pn 20 23 54.0 -0.3**
RUS S **Sn 20 24 08.1 -0.7**
RUS Russkaya 0.38 188 *eP* **Pn 20 23 54.0 -0.3**
RUS *eS* **Sn 20 24 08.1 -0.7**
GRL Gorelyy 0.41 231 PN **Pn 20 23 55.4 +0.8**
GRL Gorelyy 0.41 231 *eP* **Pn 20 23 55.5 +0.8**
UGLR Uglovaya 0.42 19 PN **Pn 20 23 55.2 +0.6**
UGLR S **Sn 20 24 09.7 +0.2**
UGLR Uglovaya 0.42 19 *eP* **Pn 20 23 55.2 +0.6**
UGLR *eS* **Sn 20 24 09.8 +0.2**
AVH Avacha 0.46 10 PN **Pn 20 23 55.5 +0.8**
AVH S **Sn 20 24 10.2 +0.4**
AVH Avacha 0.46 10 *eP* **Pn 20 23 55.6 +0.8**
AVH *eS* **Sn 20 24 10.2 +0.4**
KOK Koryaka 0.48 3 PN **Pn 20 23 55.6 +0.7**
KOK S **Sn 20 24 10.4 +0.4**
KOK Koryaka 0.48 3 *eP* **Pn 20 23 55.6 +0.7**
KOK *eS* **Sn 20 24 10.5 +0.4**
SDLR Sedlovina 0.50 20 PN **Pn 20 23 55.3 +0.3**
SDLR Sedlovina 0.50 20 *eP* **Pn 20 23 55.4 +0.3**
KRER Koryakskii 0.50 10 PN **Pn 20 23 55.8 +0.7**
KRER S **Sn 20 24 10.4 0.0**
KRER Koryakskii 0.50 10 *eP* **Pn 20 23 55.9 +0.7**
KRER *eS* **Sn 20 24 10.5 0.0**
KRX Arik 0.55 3 PN **Pn 20 23 55.9 +0.6**
KRX S **Sn 20 24 10.2 -0.6**
KRX Arik 0.55 3 *eP* **Pn 20 23 55.9 +0.6**
KRX *eS* **Sn 20 24 10.3 -0.6**
NLC Nalytchevo 0.58 51 PN **Pn 20 23 55.1 -0.1**
NLC S **Sn 20 24 09.6 -1.0**
NLC Nalytchevo 0.58 51 *eP* **Pn 20 23 55.2 -0.1**
NLC *eS* **Sn 20 24 09.7 -1.0**
PEA0B Petropavlovsk- 0.62 299 **Pn 20 23 56.2 +0.5**
PEA0B Petropavlovsk- 0.62 299 PN **Pn 20 23 56.1 +0.5**
PEA0B S **Sn 20 24 11.5 +0.3**
PETK Petropavlovsk- 0.62 299 Pn **Pn 20 23 55.1 -0.5**
PETK Petropavlovsk- 0.62 299 P **Pn 20 23 55.0 -0.6**
1µm,0.4s,baz=103,slow=11,SNR=5696
PETK S **Sn 20 24 10.8 -0.4**
350nm,0.6s,baz=128,slow=39,SNR=11
PETK Petropavlovsk- 0.62 299 PN **Pn 20 23 55.1 -0.5**
APC Apacha 0.88 278 PN **Pn 20 23 58.5 +1.1**
APC S **Sn 20 24 15.2 +0.7**
APC Apacha 0.88 278 *eP* **Pn 20 23 58.6 +1.1**
APC *eS* **Sn 20 24 15.2 +0.7**
SPN Mys Shipunski 0.91 71 PN **Pn 20 23 57.6 -0.1**
SPN S **Sn 20 24 13.7 -1.3**
SPN Mys Shipunski 0.91 71 *eP* **Pn 20 23 57.7 -0.1**
SPN *eS* **Sn 20 24 13.7 -1.3**
GNL Ganaly 0.97 336 PN **Pn 20 23 59.0 +0.6**
GNL S **Sn 20 24 15.2 -1.0**
GNL Ganaly 0.97 336 *eP* **Pn 20 23 59.0 +0.6**
GNL *eS* **Sn 20 24 15.3 -1.0**
KDTR Khodutka, Kamc 1.05 198 PN **Pn 20 23 58.9 -0.1**
KDTR S **Sn 20 24 16.2 -1.0**
KDTR Khodutka, Kamc 1.05 198 *eP* **Pn 20 23 59.0 -0.1**
KDTR *eS* **Sn 20 24 16.2 -1.0**
KII Karymskiy 1.33 22 PN **Pn 20 24 02.5 +0.7**
KII S **Sn 20 24 24.0 +1.7**
KII Karymskiy 1.33 22 *eP* **Pn 20 24 02.6 +0.7**
KII *eS* **Sn 20 24 24.1 +1.7**
MKZ Mys Kozlova 2.56 46 PN **Pn 20 24 16.3 +0.2**
MKZ S **Sn 20 24 45.2 -2.5**
MKZ Mys Kozlova 2.56 46 *eP* **Pn 20 24 16.4 +0.2**
MKZ *eS* **Sn 20 24 45.3 -2.5**
TUMD Tumrok D 2.62 23 PN **Pn 20 24 18.2 +1.2**
TUMD S **Sn 20 24 50.3 +0.9**
TUMD Tumrok D 2.62 23 *eP* **Pn 20 24 18.2 +1.2**
TUMD *eS* **Sn 20 24 50.3 +0.9**
SKR Severo-Kuril's 2.63 217 *e*PN **Pn 20 24 18.2 +1.1**
SKR *eS* **Sn 20 24 49.8 +0.3**
SKR pmax pmax
comp=Z,74nm,0.4s
SKR smax smax
comp=N,1µm,0.5s
SKR smax smax
comp=E,1µm,0.4s
SKR Severo-Kuril's 2.63 217 *eP* **Pn 20 24 18.0 +0.9**
SKR *eS* **Sn 20 24 49.5 0.0**
KMNR Kamenistaya 3.10 17 PN **Pn 20 24 24.9 +1.7**
KMNR Kamenistaya 3.10 17 *eP* **Pn 20 24 25.0 +1.7**
ESO Esso 3.12 1 PN **Pn 20 24 24.4 +1.0**
ESO Esso 3.12 1 *eP* **Pn 20 24 24.5 +1.0**
KPT Kopyto 3.30 16 PN **Pn 20 24 26.7 +0.9**
KPT Kopyto 3.30 16 *eP* **Pn 20 24 26.8 +0.9**
KIRR Kirishev 3.31 17 PN **Pn 20 24 27.1 +1.2**
KIRR Kirishev 3.31 17 *eP* **Pn 20 24 27.2 +1.2**
KOZ Kozyrevsk 3.34 12 PN **Pn 20 24 27.5 +1.3**
KOZ Kozyrevsk 3.34 12 *eP* **Pn 20 24 27.5 +1.3**
BZWR Bezymyannyi-We 3.35 19 PN **Pn 20 24 28.1 +1.6**
BZWR Bezymyannyi-We 3.35 19 *eP* **Pn 20 24 28.2 +1.6**
BZGR Bezymyannyi-Gr 3.37 21 PN **Pn 20 24 28.4 +1.8**
BZGR Bezymyannyi-Gr 3.37 21 *eP* **Pn 20 24 28.5 +1.8**
ZLN Zelenaya 3.46 21 PN **Pn 20 24 30.3 +2.4**
ZLN Zelenaya 3.46 21 *eP* **Pn 20 24 30.4 +2.4**
LGNR Loginova 3.50 20 PN **Pn 20 24 30.4 +1.9**
LGNR Loginova 3.50 20 *eP* **Pn 20 24 30.4 +1.9**
CIRR Tsirk 3.54 20 PN **Pn 20 24 30.9 +1.9**
CIRR Tsirk 3.54 20 *eP* **Pn 20 24 30.9 +1.9**
SRDR Sredinnyy 3.58 10 PN **Pn 20 24 30.3 +1.0**
SRDR Sredinnyy 3.58 10 *eP* **Pn 20 24 30.3 +1.0**
KRSR Krestovskiy 3.60 18 PN **Pn 20 24 30.5 +0.8**
KRSR Krestovskiy 3.60 18 *eP* **Pn 20 24 30.6 +0.8**
KLY Klyuchi 3.71 18 PN **Pn 20 24 33.3 +2.4**
KLY S **Sn 20 25 17.7 +3.4**
KLY Klyuchi 3.71 18 *eP* **Pn 20 24 33.4 +2.4**
KLY *eS* **Sn 20 25 17.8 +3.4**
SMKR Semkarok 4.13 23 PN **Pn 20 24 36.5 -0.1**
SMKR Semkarok 4.13 23 *eP* **Pn 20 24 36.6 -0.1**
KBG Krutoberegovo 4.20 33 PN **Pn 20 24 37.9 +0.5**
KBG S **Sn 20 25 23.2 -2.7**
KBG Krutoberegovo 4.20 33 *eP* **Pn 20 24 37.9 +0.5**
KBG *eS* **Sn 20 25 23.3 -2.7**
KBTR Krutoberegovo 4.20 34 PN **Pn 20 24 37.9 +0.4**
KBTR S **Sn 20 25 22.4 -3.6**
KBTR Krutoberegovo 4.20 34 *eP* **Pn 20 24 37.9 +0.4**
KBTR *eS* **Sn 20 25 22.4 -3.6**
BKI Bering 4.97 58 PN **Pn 20 24 47.8 +0.2**
BKI Bering 4.97 58 *eP* **Pn 20 24 47.8 +0.2**
BKI *eS* **Sn 20 25 39.6 -4.6**
MA2 Magadan 8.06 330 P Pn 20 25 23.5 -5.6
comp=E,2.4nm,0.5s,baz=157,slow=15,SNR=4.0
SEY Seymchan 10.67 344 P **Pn 20 26 02.6 -1.2**
comp=E,0.5nm,0.4s,baz=150,slow=20,SNR=1.5
ASAJ Asahikawa 13.70 237 P **Pn 20 26 44.1 +0.7**
comp=E,2.5nm,0.7s,baz=96,slow=9.2,SNR=4.6
ERM Erimo 14.99 230 Pn **Pn 20 26 58.3 -1.5**
ERM Erimo 14.99 230 P **Pn 20 26 58.3 -1.5**
BILL Bilibino 15.72 11 *i* P **Pn 20 27 05.9 -2.7**
BILL pmax pmax
comp=Z,2.0nm,1.1s
KLR Kul'dur 17.23 269 P **Pn 20 27 26.3 -0.8**
comp=Z,1.6nm,0.7s,baz=75,slow=12,SNR=6.1
YAK Yakutsk 17.95 312 P **P 20 27 32.5 -1.8**
YAK Yakutsk 17.95 312 P **P 20 27 32.5 -1.8**
comp=Z,30nm,0.6s,baz=40,slow=0.7,SNR=27
YAK Yakutsk 17.95 312 *i* P **P 20 27 33.0 -1.3**
YAK pmax pmax
comp=Z,28nm,0.8s
ZEA Zeya 18.70 285 *eP* **Pn 20 27 42.7 -1.8**
K13K Kusilvak Mount 21.53 50 P **P 20 28 13.2 +0.3**
F14K Arctic Creek 21.64 41 P **P 20 28 16.2 +2.1**
baz=252
MJA0 Matsu Arr-Jizo 21.65 229 *eP* **P 20 28 16.4 +1.9**
MJA0 pmax pmax
comp=Z,3.0nm,0.6s
MJAR Matsushiro Arr 21.67 229 P **P 20 28 15.9 +1.3**
comp=Z,1.8nm,0.4s,baz=27,slow=9.9,SNR=6.6
comp=Z,1.8nm,0.4s
ANM Nome 21.76 43 P **P 20 28 17.2 +1.9**
baz=255
J14K Nanvaranak Lak 22.16 48 P **P 20 28 20.7 +1.4**
baz=261
F15K North Star Dit 22.38 41 P **P 20 28 23.6 +2.0**
F15K North Star Dit 22.38 41 P **P 20 28 24.0 +2.4**
baz=253
TIXI Tiksi 22.97 336 P **P 20 28 26.4 -0.7**
TIXI IAmb IAmb 20 28 28.0
comp=Z,9.6nm,0.6s
TIXI Tiksi 22.97 336 *i* P **P 20 28 26.4 -0.7**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
C16K Lisburne Hills 23.04 34 P **P 20 28 28.8 +1.0**
C16K Lisburne Hills 23.04 34 P **P 20 28 29.0 +1.2**
baz=246
H16K Elim 23.09 44 P **P 20 28 30.8 +2.5**
baz=258
G16K Koyuk River 23.21 42 P **P 20 28 30.7 +1.3**
G16K Koyuk River 23.21 42 P **P 20 28 31.1 +1.7**
baz=256
D17K Noatak River 23.61 36 P **P 20 28 34.6 +1.6**
baz=250
I17K Unalakleet 23.61 46 P **P 20 28 35.9 +2.9**
baz=262
RDOG Red Dog Mine 23.80 35 P **P 20 28 35.7 +1.0**
RDOG IAmb IAmb 20 28 37.7
comp=Z,9.5nm,0.8s
RDOG Red Dog Mine 23.80 35 P **P 20 28 35.9 +1.1**
baz=250,SNR=8.8
C17K DeLong Mountai 23.86 34 P **P 20 28 36.9 +1.6**
baz=249
E17K Hotham Inlet 23.87 38 P **P 20 28 37.0 +1.6**
baz=253
JHJ Hachijo jima 2 23.89 222 LR LR 20 38 55.9
comp=Z,114nm,21.2s,baz=120,slow=38
H17K Granite Mounta 24.12 44 P **P 20 28 40.2 +2.5**
baz=260
J17K VABM Dome 24.27 48 P **P 20 28 41.8 +2.8**
J17K VABM Dome 24.27 48 P **P 20 28 42.5 +3.4**
baz=264
E18K Tukpahlearik C 24.43 38 P **P 20 28 41.2 +0.8**
baz=254
C18K Utukok River 24.60 35 P **P 20 28 42.9 +0.8**
C18K IAmb IAmb 20 28 45.5
comp=Z,10nm,0.7s
C18K Utukok River 24.60 35 P **P 20 28 42.9 +0.8**
baz=251,SNR=10
B18K Kokolik River 24.65 33 P **P 20 28 44.3 +1.9**
baz=249
A19K Wainwright 25.20 31 P **P 20 28 49.0 +1.6**
baz=248
F19K Shaleruckik Mo 25.36 40 P **P 20 28 49.6 +0.8**
baz=258
D19K Kuna River 25.63 36 P **P 20 28 52.0 +0.7**
D19K IAmb IAmb 20 28 53.2
comp=Z,5.0nm,0.9s
D19K Kuna River 25.63 36 P **P 20 28 52.3 +0.9**
baz=255
H19K Roundabout Mou 25.66 43 P **P 20 28 53.2 +1.7**
baz=262
E19K Redstone River 25.70 38 P **P 20 28 53.1 +1.2**
baz=258
D20K Ettiluk River 26.22 36 P **P 20 28 57.8 +1.1**
baz=256
E20K Nigu River 26.26 37 P **P 20 28 58.4 +1.3**
baz=257
B20K Meade River 26.39 33 P **P 20 28 59.0 +0.8**
B20K Meade River 26.39 33 P **P 20 28 59.4 +1.3**
baz=253
C21K Knifeblade Rid 26.97 35 P **P 20 29 04.6 +1.3**
baz=257,SNR=7.3
E21K Killik River 27.10 37 P **P 20 29 05.1 +0.6**
E21K Killik River 27.10 37 P **P 20 29 05.3 +0.7**
baz=259
B21K Ikpikpuk River 27.14 34 P **P 20 29 06.1 +1.3**
B21K Ikpikpuk River 27.14 34 P **P 20 29 06.6 +1.8**
baz=256
A22K Sinclair Lake 27.39 31 P **P 20 29 08.4 +1.4**
baz=253
F22K John River 27.62 39 P **P 20 29 10.9 +1.7**
baz=263
D22K Ayikyak River 27.65 36 P **P 20 29 10.5 +1.1**
D22K IAmb IAmb 20 29 11.8
comp=Z,3.5nm,0.5s
D22K Ayikyak River 27.65 36 P **P 20 29 11.1 +1.7**
baz=260
B22K Teshekpuk Lake 27.71 33 P **P 20 29 10.7 +0.9**
B22K IAmb IAmb 20 29 11.7
comp=Z,7.3nm,0.8s
B22K Teshekpuk Lake 27.71 33 P **P 20 29 10.9 +1.0**
baz=256,SNR=10.0
H22K Ishtalitna Cre 27.78 42 P **P 20 29 11.3 +0.7**
baz=267
E22K Anaktuvuk Pass 27.84 38 P **P 20 29 12.1 +0.9**
E22K IAmb IAmb 20 29 12.8
comp=Z,4.2nm,0.4s
E22K Anaktuvuk Pass 27.84 38 P **P 20 29 12.3 +1.1**
baz=262,SNR=10
D23K Nanushuk River 28.38 36 P **P 20 29 18.1 +2.3**
baz=262
H23K Yukon River 28.53 43 P **P 20 29 18.8 +1.6**
baz=269
C23K Itkillik River 28.55 34 IAmb IAmb 20 29 19.4
comp=Z,7.1nm,0.9s
C23K Itkillik River 28.55 34 P **P 20 29 18.8 +1.6**
baz=260
I23K Minto, Yukon-K 28.60 44 P **P 20 29 19.7 +1.9**
baz=270
E23K Chandalar 28.65 38 P **P 20 29 19.3 +0.9**
E23K IAmb IAmb 20 29 21.9
comp=Z,3.6nm,0.8s
E23K Chandalar 28.65 38 P **P 20 29 19.8 +1.4**
baz=264,SNR=7.3
TOLK Toolik Lake Re 28.73 37 P **P 20 29 20.1 +1.1**
baz=264,SNR=5.6
D24K Happy Valley 29.07 36 P **P 20 29 23.1 +1.2**
baz=263
E24K Your Creek 29.08 38 P **P 20 29 23.4 +1.3**
E24K IAmb IAmb 20 29 24.0
comp=Z,3.6nm,0.6s
E24K Your Creek 29.08 38 P **P 20 29 23.6 +1.5**
baz=266,SNR=8.3
C24K Franklin Bluff 29.18 35 P **P 20 29 24.9 +2.0**
baz=262
F24K Squaw Lake 29.26 39 P **P 20 29 25.1 +1.4**
baz=267
PWL Port Wells 29.36 53 P **P 20 29 25.6 +0.9**
baz=279
G24K Hadweenzic Riv 29.39 41 P **P 20 29 26.7 +1.8**
baz=269
ILAR Eielson Array 29.66 45 P **P 20 29 28.1 +0.9**
comp=Z,0.8nm,0.7s,baz=261,slow=6.4,SNR=16
ILAR PcP **PcP 20 32 28.0 +0.2**
comp=Z,0.2nm,0.5s,baz=304,slow=5.5,SNR=1.8
comp=Z,0.8nm,0.7s
D25K Kavik River 29.95 36 P **P 20 29 31.3 +1.5**
baz=266
F25K Christian Rive 30.13 39 P **P 20 29 33.4 +2.0**
baz=269
E25K Arctic Village 30.17 38 P **P 20 29 33.5 +1.7**
E25K Arctic Village 30.17 38 P **P 20 29 33.9 +2.2**
baz=268
PRP Porcupine Dome 30.20 43 P **P 20 29 33.8 +1.7**
baz=273
C26K Camden Bay 30.51 35 P **P 20 29 36.7 +2.0**
baz=266
F26K Sheenjek River 30.70 39 P **P 20 29 38.3 +1.9**
baz=270
G26K Porcupine Rive 30.85 40 P **P 20 29 39.7 +2.1**
baz=272
C27K Jago River 30.91 35 IAmb IAmb 20 29 41.1
comp=Z,7.2nm,1.0s
C27K Jago River 30.91 35 P **P 20 29 40.2 +2.0**
baz=268
E27K Coleen River 31.66 38 P **P 20 29 46.2 +1.4**
baz=272
G27K Doyon Strip 31.70 41 P **P 20 29 46.8 +1.6**
baz=274
H27K Steamboat Moun 31.79 42 P **P 20 29 48.0 +2.0**
baz=275
K27K Chicken 31.80 46 P **P 20 29 47.7 +1.7**
baz=278
D27M Malcolm River 31.87 36 P **P 20 29 48.5 +1.8**
baz=271
L27K Beaver Creek, 32.06 48 P **P 20 29 50.5 +2.1**
baz=280
M27K Edge Creek, AK 32.16 49 P **P 20 29 51.9 +2.5**
baz=281
E28M Babbage River 32.41 37 IAmb IAmb 20 29 54.5
comp=Z,2.2nm,0.6s
E28M Babbage River 32.41 37 P **P 20 29 53.1 +1.8**
baz=273
I28M Miner Creek 32.53 43 P **P 20 29 54.6 +2.1**
baz=278
D28M Stokes Point 32.66 36 P **P 20 29 55.3 +1.9**
baz=273
E29M Blow River 33.02 37 P **P 20 29 58.7 +2.0**
baz=275
H29M Whitestone 33.07 41 P **P 20 29 59.5 +2.4**
baz=278
SONM Songino Array 33.08 283 P **P 20 29 56.8 -0.8**
comp=Z,0.5nm,0.4s,baz=61,slow=7.7,SNR=6.5
SONM PcP **PcP 20 32 37.0 -0.5**
comp=Z,0.7nm,0.7s,baz=116,slow=1.4,SNR=4.4
comp=Z,0.5nm,0.4s
SONM Songino Array 33.08 283 *eP* **P 20 29 57.8 +0.2**
SONM pmax pmax
comp=Z,1.0nm,0.4s
G29M Pine Creek 33.12 40 P **P 20 30 00.0 +2.5**
baz=277
M29M Somme Creek 33.70 48 P **P 20 30 04.9 +2.2**
baz=283
L29M L29M 33.70 47 P **P 20 30 05.4 +2.7**
baz=283
EPYK Eagle Plains 33.71 41 P **P 20 30 04.6 +1.9**
baz=279
G30M tAoh Zraii Nji 33.81 40 IAmb IAmb 20 30 05.7
comp=Z,2.4nm,0.7s
G30M tAoh Zraii Nji 33.81 40 P **P 20 30 05.2 +1.7**
baz=278
F30M Barrier River 33.90 39 P **P 20 30 07.3 +3.1**
baz=278,SNR=5.8
I30M Mount Dempster 34.04 43 P **P 20 30 07.2 +1.6**
baz=281
G31M Satah River 34.58 40 P **P 20 30 11.6 +1.5**
baz=280
INK Inuvik 34.64 37 P **P 20 30 12.0 +1.4**
INK IAmb IAmb 20 30 12.7
comp=Z,3.4nm,0.5s
INK Inuvik 34.64 37 P **P 20 30 12.0 +1.4**
INK pmax pmax
comp=Z,3.0nm,0.5s
INK Inuvik 34.64 37 P **P 20 30 12.3 +1.7**
baz=279
F31M Tsiigehtchic 34.70 39 P **P 20 30 12.5 +1.4**
baz=280,SNR=5.6
H11S1 WAKE ISLAND Hy 34.81 166 T T 21 07 32.1
baz=352,slow=76
H11S3 WAKE ISLAND Hy 34.82 166 T T 21 07 33.8
baz=352
H11S2 WAKE ISLAND Hy 34.83 166 T T 21 07 35.4
baz=352,slow=76
ZALV Zalesovo Beam 42.17 302 PcP **PcP 20 33 05.1 -0.1**
comp=Z,1.1nm,0.4s,baz=75,slow=3.6,SNR=7.7
EUNU Eureka 42.44 14 P **P 20 31 16.7 +1.1**
EUNU IAmb IAmb 20 31 17.9
comp=Z,8.1nm,0.8s
YKA Yellowknife Ar 43.98 42 P **P 20 31 29.4 +1.3**
comp=Z,0.5nm,0.4s,baz=298,slow=8.4,SNR=15
comp=Z,0.5nm,0.4s
YKA Yellowknife Ar 43.98 42 *ce*P **P 20 31 29.7 +1.7**
KURK Kurchatov 47.11 301 P **P 20 31 51.9 -0.9**
KURK 20 33 22.7
KURBB Kurchatov Arra 47.21 301 P **P 20 31 51.9 -1.7**
comp=Z,1.9nm,0.5s,baz=60,slow=7.7,SNR=16
KURBB PcP **PcP 20 33 22.6 0.0**
comp=Z,1.0nm,0.6s,baz=54,slow=3.2,SNR=12
comp=Z,1.9nm,0.5s
SPITS Spitsbergen Ar 47.26 350 P **P 20 31 53.3 -0.4**
comp=Z,3.3nm,0.4s,baz=54,slow=8.4,SNR=35
comp=Z,3.3nm,0.4s
SPITS Spitsbergen Ar 47.26 350 P **P 20 31 53.5 -0.2**
MK31 Makanchi Array 47.46 295 *ce*P **P 20 31 54.0 -1.6**
MKAR Makanchi Array 47.46 295 P **P 20 31 54.0 -1.6**
MKAR Makanchi Array 47.46 295 P **P 20 31 53.9 -1.7**
comp=Z,1.2nm,0.4s,baz=57,slow=6.7,SNR=45
MKAR PcP **PcP 20 33 23.4 -0.2**
comp=Z,0.2nm,0.3s,baz=54,slow=6.2,SNR=2.8
comp=Z,1.2nm,0.4s
MKAR Makanchi Array 47.46 295 *eP* **P 20 31 54.1 -1.6**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 49.85 308 P **P 20 32 12.2 -1.6**
comp=Z,5.0nm,0.5s,baz=57,slow=7.6,SNR=43
BVAR PcP **PcP 20 33 32.3 +0.1**
comp=Z,2.8nm,0.5s,baz=63,slow=3.1,SNR=14
BVAR ScP **ScP 20 37 15.5 +0.8**
comp=Z,0.2nm,0.5s,baz=0.0,slow=3.6,SNR=1.8
comp=Z,5.0nm,0.5s
BRVK Borovoye 49.88 308 P **P 20 32 12.4 -1.6**
BRVK Borovoye 49.88 308 *ce*P **P 20 32 12.6 -1.4**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
ILON Igloolik, Nuna 50.44 24 P **P 20 32 19.0 +1.1**
ILON IAmb IAmb 20 32 19.2
comp=Z,3.8nm,0.6s
KEV Kevo 52.79 341 P **P 20 32 34.0 -1.4**
KEV Kevo 52.79 341 P **P 20 32 34.0 -1.4**
KEV pmax pmax
comp=Z,41nm,1.4s
ARTI Arti 53.09 317 P **P 20 32 36.8 -1.0**
ARTI IAmb IAmb 20 32 37.0
comp=Z,4.7nm,0.8s
ARTI Arti 53.09 317 *d i*P **P 20 32 36.3 -1.5**
ARTI 20 34 36.7
ARTI S **S 20 39 55.6 -1.4**
ARTI SS **SS 20 43 29.1 -8.2**
ARTI pmax pmax
comp=Z,42nm,5.0s
KDJ Kajisay 53.24 293 P **P 20 32 36.8 -2.5**
KDJ IAmb IAmb 20 32 38.6
comp=Z,8.3nm,1.1s
KDJ Kajisay 53.24 293 P **P 20 32 36.8 -2.5**
KDJ pmax pmax
comp=Z,8.0nm,1.1s
ARCES ARCESS Array B 53.27 341 P **P 20 32 38.1 -0.8**
comp=Z,4.2nm,1.0s,baz=35,slow=8.0,SNR=9.7
ARCES LR LR 20 59 18.9
comp=Z,95nm,19.5s,baz=336,slow=40
comp=Z,4.2nm,1.0s
ARCES ARCESS Array B 53.27 341 *eP* **P 20 32 38.6 -0.3**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
BOOM Boomskoye usch 53.69 294 P **P 20 32 40.4 -2.2**
BOOM IAmb IAmb 20 32 43.1
comp=Z,6.4nm,1.4s
BOOM Boomskoye usch 53.69 294 P **P 20 32 40.4 -2.2**
BOOM pmax pmax
comp=Z,6.0nm,1.4s
SUMG Summit 54.34 6 P **P 20 32 47.7 +0.6**
SUMG Summit 54.34 6 P **P 20 32 47.7 +0.6**
SUMG pmax pmax
comp=Z,12nm,0.9s
AAK Ala-Archa 54.39 295 *ce*P **P 20 32 46.9 -0.7**
AAK pmax pmax
comp=Z,3.0nm,0.6s
NVAR Mina Array Bea 56.69 69 P **P 20 33 06.5 +2.3**
comp=Z,0.4nm,0.6s,baz=297,slow=7.1,SNR=3.5
comp=Z,0.4nm,0.6s
CMAR Chiang Mai Arr 57.24 257 P **P 20 33 08.5 +0.5**
comp=Z,0.5nm,0.3s,baz=35,slow=5.8,SNR=7.4
comp=Z,0.5nm,0.3s
CMAR Chiang Mai Arr 57.24 257 *eP* **P 20 33 09.4 +1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 57.28 310 P **P 20 33 06.1 -1.8**
ABKAR IAmb IAmb 20 33 07.6
comp=Z,2.6nm,0.8s
PDAR Pinedale Array 58.45 60 P **P 20 33 18.4 +1.9**
comp=Z,0.5nm,0.6s,baz=21,slow=1.7,SNR=8.0
comp=Z,0.5nm,0.6s
ULM Lac du Bonnet 59.67 46 P **P 20 33 25.2 +0.8**
comp=Z,1.4nm,0.5s,baz=318,slow=7.3,SNR=2.4
comp=Z,1.4nm,0.5s
FINES FINESS Array B 60.02 336 P **P 20 33 24.9 -1.7**
comp=Z,2.4nm,0.7s,baz=51,slow=5.9,SNR=12
FINES LR LR 21 03 34.2
comp=Z,102nm,20.1s,baz=310,slow=40
comp=Z,2.4nm,0.7s
FINES FINESS Array B 60.02 336 *eP* **P 20 33 26.9 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 63.55 343 P **P 20 33 49.8 -0.6**
comp=Z,2.7nm,0.8s,baz=21,slow=6.9
NOA NORSAR Array B 63.55 343 P **P 20 33 49.8 -0.6**
comp=Z,1.0nm,0.3s,baz=21,slow=6.7,SNR=14
comp=Z,1.0nm,0.3s
HFS Hagfors 63.94 341 P **P 20 33 52.1 -0.6**
comp=Z,2.5nm,0.3s,baz=50,slow=4.9,SNR=38
comp=Z,2.5nm,0.3s

SCHQ Schefferville 66.31 27 P P 20 34 08.5 +0.2
comp=Z,1.9nm,0.4s,baz=340,slow=9.4,SNR=5.4
comp=Z,1.9nm,0.4s
AKASG Malin Array Be 68.38 328 P P 20 34 19.8 -1.5
comp=Z,0.5nm,0.3s,baz=31,slow=6.2,SNR=6.1
AKASG LR LR 21 09 09.3
comp=Z,144nm,18.7s,baz=317,slow=40
comp=Z,0.5nm,0.3s
AKASG Malin Array Be 68.38 328 *eP* **P P 20 34 20.0 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
KIV Kislovodsk 69.02 316 *eP* **P P 20 34 25.8 +0.3**
KIV pmax pmax
comp=Z,3.0nm,1.0s
EKA Eskdalemuir Ar 71.17 349 P **P P 20 34 38.5 +0.3**
comp=Z,3.6nm,0.4s,baz=18,slow=5.4,SNR=58
comp=Z,3.6nm,0.4s
TXAR Lajitas Array 71.58 66 P **P P 20 34 43.5 +2.2**
comp=Z,0.4nm,0.5s,baz=286,slow=3.5,SNR=5.3
comp=Z,0.4nm,0.5s
VYHS Vyhne 73.44 333 *eP* **P P 20 34 52.6 +0.7**
VYHS Vyhne 73.44 333 *eP* **P P 20 34 52.6 +0.7**
MODS Modra-Piesok 73.96 334 *eP* **P P 20 34 57.1 +2.1**
MODS Modra-Piesok 73.96 334 *eP* **P P 20 34 57.1 +2.1**
KHC Kasperske Hory 74.19 337 *ceP* **P P 20 34 57.3 +1.0**
KHC pmax pmax
comp=Z,4.0nm,0.9s
GERES GERESS Array B 74.42 337 P **P P 20 34 57.5 -0.2**
comp=Z,1.0nm,0.5s,baz=36,slow=6.8,SNR=10
comp=Z,1.0nm,0.5s
GERES GERESS Array B 74.42 337 *eP* **P P 20 34 58.0 +0.3**
GERES pmax pmax
comp=Z,1.0nm,0.5s
CONA Conrad Observa 74.74 335 *i P* **P P 20 35 00.7 +1.1**
comp=Z,2.4nm,0.7s
RONA Rosalia, Austr 74.84 335 *i P* **P P 20 35 01.3 +1.3**
comp=Z,2.2nm,0.9s
WRA Warramunga Arr 75.45 204 P **P P 20 35 05.0 +1.3**
comp=Z,0.2nm,0.5s,baz=11,slow=5.8,SNR=1.3
comp=Z,0.2nm,0.5s
WRA Warramunga Arr 75.45 204 P **P P 20 35 05.0 +1.3**
LESA Schwarzleotal 76.00 337 *i P* **P P 20 35 07.9 +1.1**
comp=Z,0.8nm,0.4s
SOKA Soboth 76.11 335 *i P* **P P 20 35 08.3 +0.9**
comp=Z,1.3nm,0.4s
KBA Koelnbreinsper 76.16 336 *i P* **P P 20 35 09.2 +1.5**
comp=Z,6.7nm,0.6s
BRTR Keskin Array B 76.25 319 P **P P 20 35 07.6 -0.8**
comp=Z,0.5nm,0.6s,baz=45,slow=6.8,SNR=2.2
comp=Z,0.5nm,0.6s
WATA Walderalm 76.34 338 *i P* **P P 20 35 09.7 +1.0**
comp=Z,4.5nm,1.2s
MOTA Moosalm 76.44 338 *i P* **P P 20 35 10.2 +0.8**
comp=Z,2.4nm,0.9s
SQTA Sankt Quirin 76.53 338 *i P* **P P 20 35 10.9 +1.1**
comp=Z,2.1nm,0.7s
ABTA Abfaltersbach 76.67 337 *i P* **P P 20 35 11.1 +0.6**
comp=Z,3.1nm,0.6s
DAVA Damuels 76.77 339 *i P* **P P 20 35 11.9 +0.7**
comp=Z,4.8nm,1.3s
FETA Feichten 76.83 338 *i P* **P P 20 35 12.6 +1.1**
comp=Z,2.6nm,0.7s
ASAR Alice Springs 79.14 203 P **P P 20 35 25.8 +1.6**
comp=Z,0.1nm,0.4s,baz=17,slow=5.2,SNR=4.3
comp=Z,0.1nm,0.4s
MMAI Mount Meron Ar 81.28 315 P **P P 20 35 35.0 -0.8**
comp=Z,2.1nm,0.5s,baz=32,slow=7.9,SNR=8.2
comp=Z,2.1nm,0.5s
ESDC Sonseca Array 86.66 347 P **P P 20 36 02.3 -0.7**
comp=Z,1.0nm,0.6s,baz=0.3,slow=4.3,SNR=11
comp=Z,1.0nm,0.6s
KEST Kesra 87.85 335 P **P P 20 36 08.0 -0.8**
comp=Z,2.4nm,0.9s,baz=294,slow=3.0,SNR=6.0
comp=Z,2.4nm,0.9s

---

*IDC **01** 20:35:26.5±5.3, 16°.26S×73°.48W, h187km±52km, mb3.5/4, mbtmp3.9/5, Error ellipse: s-maj=70.1km s-min=22.9km az=77.0*
*GUC **01** 20:36:08.8±0.7, 20°.91S×68°.83W, h114km±5km, ML2.5*
ISC 01 20:35:03.5±1.1, 17°.3S±0°.1×73°.9W±0°.1, h10km, n20, σ1§20/11, mb3.9/4, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**4.74**	**122**	*eP*	**Pg**	**20 36 35.0**	**+0.7**
PB11				IAML		20 36 57.3	
	comp=E,160nm,0.1s						
PATCX	**Punta Patache**	**5.00**	**135**	*eP*	**Pb**	**20 36 32.7**	**+1.5**
PB01	**IPOC Station P**	**5.61**	**132**	*eP*	**Pn**	**20 36 26.2**	**-0.9**
PB01				*eS*	**Pb**	**20 36 39.8**	**-1.8**
PB01				IAML		20 36 40.0	
	comp=N,166nm,0.2s						
LPAZ	**La Paz**	**5.66**	**80**	P	**Pb**	**20 36 42.6**	**-0.1**
	comp=N,6.1nm,0.3s,baz=283,slow=8.0,SNR=30						
PB03	**IPOC Station P**	**6.14**	**141**	*eP*	**Pn**	**20 36 35.1**	**+0.6**
PB03				IAML		20 36 56.1	
	comp=E,42nm,0.2s						
PB09	**IPOC Station P**	**6.29**	**136**	*eP*	Pn	20 36 29.8	-6.7
PB09				*eS*	Pb	20 36 46.4	-6.8
PB06	**IPOC Station P**	**6.76**	**143**	*eP*	**Pn**	**20 36 41.5**	**-1.4**
PB06				*eS*	Pb	20 37 06.0	+4.8
PB06				IAML		20 37 09.9	
	comp=E,34nm,0.3s						
PLCA	**Paso Flores**	**23.52**	**174**	P	P	20 40 28.0	+14
	comp=E,1.8nm,0.8s,baz=352,slow=14,SNR=3.6						
	comp=E,1.8nm,0.8s						
TXAR	**Lajitas Array**	**54.54**	**328**	P	**P**	**20 44 31.5**	**-0.5**
	comp=E,0.4nm,0.7s,baz=150,slow=6.9,SNR=2.5						
	comp=E,0.4nm,0.7s						
SNAA	**Sanae**	**67.76**	**161**	P	P	20 46 10.1	+9.0
	comp=E,2.9nm,0.6s,baz=235,slow=12,SNR=5.8						
	comp=E,2.9nm,0.6s						
QSPA	**South Pole Qui**	**72.85**	**180**	P	P	20 46 41.0	+8.5
	comp=E,1.1nm,0.6s,baz=82,slow=1.5,SNR=9.6						
	comp=E,1.1nm,0.6s						
H11N3	**WAKE ISLAND Hy**	**22.52**	**283**	T	T	23 07 01.1	
	baz=97,slow=74						
H11S2	**WAKE ISLAND Hy**	**22.52**	**281**	T	T	23 07 17.5	
	baz=99,slow=75						
H11N2	**WAKE ISLAND Hy**	**22.53**	**283**	T	T	23 07 01.8	
	baz=97,slow=74						
H11S1	**WAKE ISLAND Hy**	**22.53**	**281**	T	T	23 07 20.9	
	baz=99,slow=75						
H11N1	**WAKE ISLAND Hy**	**22.53**	**283**	T	T	23 07 16.0	
	baz=97,slow=74						
H11S3	**WAKE ISLAND Hy**	**22.54**	**281**	T	T	23 07 14.8	
	baz=99,slow=75						
ASAR	**Alice Springs**	**131.02**	**215**	PKP	**PKiKP**	**20 54 16.9**	**-0.3**
	comp=E,0.6nm,1.0s,baz=123,slow=1.4,SNR=4.4						
WRA	**Warramunga Arr**	**133.72**	**218**	PKP	**PKPdf**	**20 54 21.9**	**+0.4**
	comp=E,0.7nm,0.8s,baz=130,slow=2.4,SNR=7.0						
SONM	**Songino Array**	**149.56**	**360**	PKPbc	**PKPdf**	**20 54 50.2**	**+1.4**
	comp=E,0.6nm,0.7s,baz=8.5,slow=2.9,SNR=4.0						

---

*IDC **01** 20:49:43.1±0.7, 20°.89N×122°.30E, h0km, mb4.0/16, mbtmp4.0/18, ML3.7/2, Error ellipse: s-maj=24.0km s-min=14.9km az=67.0*
*JMA **01** 20:49:46.8±0.6, 21°.N±3°.×12°.2E±°, h110km, MV3.5/17, TAIWAN REGION*
*NEIC **01** 20:49:49.1±1.4, 21°.3N±0°.1×122°.34E±0°.09, h18km±6km, mb4.5/54, Error ellipse: s-maj=15.9km s-min=12.4km az=183.0*
ISC 01 20:49:45.9±0.6, 21°.12N±0°.07×122°.32E±0°.06, h10km, n93, σ1§41/66, mb4.5/45, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.05**	**326**	P	**Pn**	**20 50 20.5**	**+0.1**
TWG	**Pinlang**	**2.06**	**326**		**Pn**	**20 50 20.4**	**-0.1**
YULB	**Yu-li**	**2.46**	**337**		**Pn**	**20 50 25.2**	**-0.9**
YULB	**Yu-li**	**2.46**	**337**	P	**Pn**	**20 50 25.2**	**-0.9**
TPUB	**Ta-pu**	**2.68**	**325**		**Pn**	**20 50 30.5**	**+1.4**
TPUB	**Ta-pu**	**2.68**	**325**	P	**Pn**	**20 50 31.0**	**+1.9**
SSLB	**Suanglung**	**2.94**	**335**	Pn	**Pn**	**20 50 33.5**	**+0.7**
SSLB	**Suanglung**	**2.94**	**335**	P	**Pn**	**20 50 33.7**	**+0.9**
NACB	**Ninganchiao**	**3.12**	**348**		Pn	20 50 34.0	-1.1
NACB	**Ninganchiao**	**3.12**	**348**	P	**Pn**	**20 50 34.3**	**-0.8**
HATJ	**Hateruma jima**	**3.23**	**25**	S	**Sn**	**20 51 14.8**	**-0.5**
JYNG	**Yonagunijimaku**	**3.37**	**10**	P	**Pn**	**20 50 40.6**	**+2.1**
JYNG				*eS*	**Sn**	**20 51 19.4**	**+0.7**
IRIF	**Iriomote-Funau**	**3.46**	**22**	*eP*	**Pn**	**20 50 40.6**	**+0.8**
IRIF				S	**Sn**	**20 51 20.2**	**-0.7**
JKRS	**Kuro-shima**	**3.48**	**26**	*eP*	**Pn**	**20 50 41.0**	**+0.9**
JKRS				*eS*	**Sn**	**20 51 21.0**	**-0.3**
JIJ	**Ishigaki jima**	**3.64**	**27**	*eP*	**Pn**	**20 50 42.6**	**+0.3**
JIJ				S	**Sn**	**20 51 23.7**	**-1.8**
YHNB	**Yeheng**	**3.64**	**346**	Pn	**Pn**	**20 50 42.8**	**+0.4**
YHNB	**Yeheng**	**3.64**	**346**	P	**Pn**	**20 50 43.3**	**+0.9**
JISG	**Ishigakijimahi**	**3.91**	**28**	*eP*	**Pn**	**20 50 46.3**	**+0.2**
JISG				S	**Sn**	**20 51 30.8**	**-1.2**
JTJ	**Tarama**	**4.14**	**32**	S	**Sn**	**20 51 36.6**	**-1.0**
JIRB	**Irabujima**	**4.53**	**35**	*eP*	**Pn**	**20 50 55.7**	**+1.1**
JMJ2	**Miyako jima3**	**4.55**	**37**	*eS*	**Sn**	**20 51 47.1**	**-0.6**
KNMB	**Chin-men Tao**	**4.93**	**313**	Pn	**Pn**	**20 51 00.5**	**+0.4**
JNTH	**Nagotoyohara**	**7.49**	**43**	*eP*	**Pn**	**20 51 37.0**	**+1.7**
JOW	**Kunigami**	**7.87**	**43**	Pn	**Pn**	**20 51 40.7**	**+0.1**
JOW	**Kunigami**	**7.87**	**43**	Pn	**Pn**	**20 51 39.9**	**-0.7**
	3.7nm,0.3s,baz=225,slow=13,SNR=6.3						
JOW				Sn	**Sn**	**20 53 04.8**	**-4.9**
	0.7nm,0.3s,baz=219,slow=13,SNR=1.8						
	11nm,0.3s						
KSRS	**Korea Array**	**16.99**	**15**	P	**Pn**	**20 53 43.3**	**-0.4**
	0.1nm,0.3s,baz=199,slow=12,SNR=4.6						
	1.3nm,0.8s						
SBUM	**Sibu**	**21.00**	**209**		**P**	**20 54 28.6**	**-1.1**
CHTO	**Chiang Mai**	**22.09**	**268**	P	**P**	**20 54 38.5**	**-2.9**
CMAR	**Chiang Mai Arr**	**22.15**	**267**	P	**P**	**20 54 44.8**	**+2.6**
CMAR	**Chiang Mai Arr**	**22.15**	**267**	P	**P**	**20 54 39.0**	**-3.1**
	0.2nm,0.2s,baz=66,slow=9.3,SNR=11						
	0.2nm,0.2s						
BNX	**BinXian**	**24.91**	**8**	⇓P	**P**	**20 55 12.2**	**+3.2**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SONM	**Songino Array**	**29.59**	**338**	P	**P**	**20 55 50.7**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=154,slow=8.7,SNR=6.2						
	comp=Z,0.9nm,0.6s						
MK31	**Makanchi Array**	**41.29**	**318**	P	**P**	**20 57 32.1**	**+0.6**
MKAR	**Makanchi Array**	**41.29**	**318**	P	**P**	**20 57 33.0**	**+1.5**
MKAR	**Makanchi Array**	**41.29**	**318**	P	**P**	**20 57 32.3**	**+0.8**
	comp=Z,4.4nm,0.6s,baz=113,slow=9.7,SNR=56						
MKAR				PcP	**PcP**	**20 59 29.2**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=86,slow=8.8,SNR=2.5						
	comp=Z,4.4nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**41.69**	**84**	T	T	21 42 14.9	
	baz=282,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.70**	**84**	T	T	21 42 18.1	
	baz=282,slow=75						
H11N3	**WAKE ISLAND Hy**	**41.71**	**84**	T	T	21 42 19.5	
	baz=282,slow=75						
H11S3	**WAKE ISLAND Hy**	**41.73**	**86**	T	T	21 42 12.4	
	baz=276,slow=75						
H11S1	**WAKE ISLAND Hy**	**41.73**	**86**	T	T	21 42 14.1	
	baz=276,slow=75						
H11S2	**WAKE ISLAND Hy**	**41.74**	**86**	T	T	21 42 13.8	
	baz=276,slow=75						
WRA	**Warramunga Arr**	**42.47**	**163**	P	P	20 57 37.9	-3.5
	comp=Z,2.2nm,0.8s,baz=343,slow=8.8,SNR=7.5						
	comp=Z,2.2nm,0.8s						
WR0	**Warramunga Arr**	**42.54**	**163**	P	**P**	**20 57 44.7**	**+2.8**
ZAA0	**Zalesovo Array**	**43.39**	**328**	P	**P**	**20 57 48.7**	**+0.2**
ZALV	**Zalesovo Beam**	**43.39**	**328**		**P**	**20 57 48.9**	**+0.5**
ZALV	**Zalesovo Beam**	**43.39**	**328**	P	**P**	**20 57 47.7**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=117,slow=7.4,SNR=16						
	comp=Z,2.7nm,0.5s						
KURK	**Kurchatov**	**45.12**	**322**	P	**P**	**20 58 03.1**	**+0.7**
KURBB	**Kurchatov Arra**	**45.14**	**322**	P	**P**	**20 58 03.5**	**+1.0**
	comp=Z,3.9nm,0.8s,baz=120,slow=7.3,SNR=24						
KURBB				PcP	**PcP**	**20 59 41.0**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=117,slow=3.3,SNR=2.6						
	comp=Z,3.9nm,0.8s						
ASAR	**Alice Springs**	**45.92**	**165**	P	P	20 58 06.1	-2.9
	comp=Z,0.6nm,0.8s,baz=352,slow=6.4,SNR=4.6						
	comp=Z,0.6nm,0.8s						
BVAR	**Borovoye Array**	**50.72**	**322**	P	**P**	**20 58 46.6**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=105,slow=11,SNR=10						
BVAR				PcP	**PcP**	**21 00 01.9**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=113,slow=3.3,SNR=3.1						
	comp=Z,1.2nm,0.7s						
STKA	**Stephens Creek**	**55.84**	**160**	P	**P**	**20 59 21.5**	**-2.0**
STKA	**Stephens Creek**	**55.84**	**160**	P	P	20 59 21.2	-2.3
	comp=Z,5.6nm,0.8s,baz=335,slow=8.4,SNR=9.5						
	comp=Z,5.6nm,0.8s						
ABKAR	**Akbulak array**	**56.34**	**316**	P	**P**	**20 59 27.3**	**+0.2**
ABKAR	**Akbulak array**	**56.34**	**316**	P	**P**	**20 59 27.5**	**+0.4**
ABKAR				IAmb	IAmb	20 59 28.8	
	comp=Z,2.7nm,0.8s						
ARTI	**Arti**	**58.28**	**324**	P	**P**	**20 59 40.9**	**+0.3**
J17K	**VABM Dome**	**66.24**	**29**	IAmb	IAmb	21 00 49.1	
	comp=Z,6.8nm,1.2s						
L18K	**Granite Mounta**	**67.36**	**30**	IAmb	IAmb	21 00 45.2	
	comp=Z,5.3nm,1.0s						
H19K	**Roundabout Mou**	**67.36**	**26**	IAmb	IAmb	21 00 52.5	
	comp=Z,6.0nm,1.1s						
O18K	**Koktuh Hills**	**68.23**	**33**	P	**P**	**21 00 46.0**	**-0.6**
J20K	**Nowinta River**	**68.41**	**28**	IAmb	IAmb	21 00 51.3	
	comp=Z,2.9nm,0.8s						
K20K	**Telida**	**68.50**	**29**	IAmb	IAmb	21 00 53.3	
	comp=Z,3.1nm,0.9s						
H21K	**Melozitna Rive**	**68.87**	**26**	P	**P**	**21 00 52.6**	**+2.1**
H21K				IAmb	IAmb	21 01 01.9	
	comp=Z,4.0nm,1.0s						
CAST	**Castle Rocks**	**69.38**	**29**	P	**P**	**21 00 55.8**	**+2.0**
D23K	**Nanushuk River**	**69.41**	**23**	IAmb	IAmb	21 00 57.8	
	comp=Z,4.6nm,1.1s						
H23K	**Yukon River**	**70.19**	**26**	IAmb	IAmb	21 01 02.9	
	comp=Z,4.7nm,0.8s						
SUA	**Susitna One**	**70.23**	**31**	IAmb	IAmb	21 01 10.0	
	comp=Z,4.4nm,0.8s						
E24K	**Your Creek**	**70.31**	**24**	IAmb	IAmb	21 01 03.0	
	comp=Z,3.1nm,0.7s						
F24K	**Squaw Lake**	**70.61**	**24**	IAmb	IAmb	21 01 04.5	
	comp=Z,3.2nm,0.8s						
MCK	**McKinley**	**70.74**	**28**	P	**P**	**21 01 02.9**	**+0.9**
MCK				IAmb	IAmb	21 01 04.9	
	comp=Z,4.1nm,0.8s						
RND	**Reindeer**	**70.83**	**28**	P	**P**	**21 01 03.4**	**+0.8**
H24K	**Noodor Dome**	**70.87**	**26**	IAmb	IAmb	21 01 18.1	
	comp=Z,4.6nm,1.2s						
D25K	**Kavik River**	**70.90**	**22**	IAmb	IAmb	21 01 05.8	
	comp=Z,3.0nm,0.9s						
WRH	**Wood River Hil**	**70.99**	**27**	IAmb	IAmb	21 01 06.8	
	comp=Z,3.6nm,0.6s						
ILAR	**Eielson Array**	**71.45**	**27**	P	**P**	**21 01 06.5**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=267,slow=5.4,SNR=11						
	comp=Z,1.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**72.69**	**348**	P	**P**	**21 01 13.5**	**-0.1**
	comp=Z,6.8nm,0.8s,baz=84,slow=7.4,SNR=8.6						
	comp=Z,6.8nm,0.8s						
DOT	**Dot Lake**	**72.89**	**28**	IAmb	IAmb	21 01 17.4	
	comp=Z,4.2nm,0.9s						
J26L	**Joseph Creek**	**72.91**	**27**	IAmb	IAmb	21 01 17.1	
	comp=Z,3.0nm,0.8s						
E28M	**Babbage River**	**73.46**	**22**	IAmb	IAmb	21 01 21.6	
	comp=Z,6.2nm,1.4s						
GLB	**Gilahina Butte**	**73.51**	**30**	IAmb	IAmb	21 01 34.0	
	comp=Z,7.3nm,1.1s						
K27K	**Chicken**	**73.65**	**27**	IAmb	IAmb	21 01 23.1	
	comp=Z,5.4nm,1.1s						
I28M	**Miner Creek**	**74.17**	**25**	IAmb	IAmb	21 01 34.9	
	comp=Z,4.9nm,1.0s						
FINES	**FINESS Array B**	**74.61**	**330**	P	**P**	**21 01 25.1**	**0.0**
	comp=Z,0.6nm,0.5s,baz=39,slow=5.3,SNR=7.1						
	comp=Z,0.6nm,0.5s						
DAWY	**Dawson**	**74.78**	**27**	IAmb	IAmb	21 01 29.2	
	comp=Z,4.5nm,0.9s						
L29M	**L29M**	**75.61**	**28**	IAmb	IAmb	21 01 34.9	
	comp=Z,4.4nm,0.9s						
M29M	**Somme Creek**	**75.67**	**28**	IAmb	IAmb	21 01 34.8	
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**75.84**	**307**	P	**P**	**21 01 32.0**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=81,slow=4.5,SNR=5.1						
	comp=Z,0.7nm,0.7s						
AKASG	**Malin Array Be**	**75.86**	**319**	P	**P**	**21 01 31.9**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=66,slow=5.8,SNR=3.3						
	comp=Z,0.5nm,0.5s						
M30M	**Minto, Yukon**	**76.36**	**28**	IAmb	IAmb	21 01 45.9	
	comp=Z,4.1nm,1.1s						
N30M	**Aishikik Lake**	**76.60**	**29**	IAmb	IAmb	21 01 40.5	
	comp=Z,3.7nm,1.0s						
HYT	**Haines Junctio**	**76.62**	**30**	IAmb	IAmb	21 01 47.3	
	comp=Z,5.0nm,1.2s						
FARO	**Faro, Yukon**	**77.98**	**28**	IAmb	IAmb	21 01 56.8	
	comp=Z,3.9nm,0.9s						
NOA	**NORSAR Array B**	**81.42**	**333**	P	**P**	**21 02 02.5**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=46,slow=2.2,SNR=3.5						
	comp=Z,0.9nm,0.8s						
YKA	**Yellowknife Ar**	**85.37**	**23**	P	**P**	**21 02 23.9**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=311,slow=4.7,SNR=14						
	comp=Z,0.8nm,0.7s						

---

*IDC **01** 20:50:38.0±1.8, 1°.43S×149°.88E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=69.2km s-min=23.2km az=109.0*
ISC 01 20:50:43.3±1.9, 1°.5S±0°.2×149°.9E±0°.5, h36km, n12, σ0§88/6, mb3.6/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.85**	**219**	P	**P**	**20 55 53.6**	**+0.2**
	2.9nm,0.5s,baz=42,slow=10,SNR=34						
	2.9nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**25.81**	**39**	T	T	21 23 13.6	
	baz=222,slow=75						
H11S2	**WAKE ISLAND Hy**	**25.82**	**39**	T	T	21 23 09.4	
	baz=222,slow=75						
H11S1	**WAKE ISLAND Hy**	**25.83**	**39**	T	T	21 23 10.1	
	baz=222,slow=75						
H11N1	**WAKE ISLAND Hy**	**26.85**	**38**	T	T	21 24 26.1	
	baz=220,slow=76,SNR=251						
H11N3	**WAKE ISLAND Hy**	**26.87**	**38**	T	T	21 24 27.3	
	baz=220,slow=76,SNR=443						
H11N2	**WAKE ISLAND Hy**	**26.87**	**38**	T	T	21 24 29.2	
	baz=220,slow=76,SNR=654						
ASAR	**Alice Springs**	**26.97**	**214**	P	**P**	**20 56 21.4**	**-0.4**
	2.3nm,0.6s,baz=45,slow=7.9,SNR=24						
	2.3nm,0.6s						
SONM	**Songino Array**	**61.97**	**328**	P	**P**	**21 00 58.9**	**-0.9**
	0.3nm,0.7s,baz=120,slow=8.5,SNR=2.0						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**75.92**	**319**	P	**P**	**21 02 27.4**	**+1.0**
	0.1nm,0.5s,baz=110,slow=7.8,SNR=3.2						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**79.40**	**322**	P	**P**	**21 02 46.2**	**+0.6**
	0.4nm,0.8s,baz=108,slow=5.7,SNR=3.3						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**80.20**	**23**	P	**P**	**21 02 49.8**	**0.0**
	0.6nm,0.8s,baz=265,slow=6.7,SNR=5.3						
	0.6nm,0.8s						

---

*IDC **01** 21:12:49.3±1.6, 2°.98S×129°.08E, h0km, mb3.6/4, mbtmp3.6/5, ML3.5/1, MS3.9/1, Error ellipse: s-maj=151.8km s-min=23.5km az=72.0*
*DJA **01** 21:12:53.1±1.0, 3°.S±4°.×13°.0E±°, h11km±9km, M3.4/10, MLv3.4/10*
ISC 01 21:12:53.5±0.9, 2°.76S±0°.08×129°.58E±0°.05, h28km, n14, σ1§63/13, mb3.6/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.87**	**228**	P	**Pb**	**21 13 11.5**	**+1.4**
AAI	**Ambon**	**1.66**	**236**	P	**Pb**	**21 13 24.3**	**+0.9**
BNDI	**Bandanaira**	**1.78**	**169**	P	**Pb**	**21 13 26.5**	**+0.9**
NLAI	**Namlea**	**2.52**	**259**	P	**Pn**	**21 13 33.5**	**+0.9**
SWI	**Sorong**	**2.52**	**42**	P	**Pn**	**21 13 33.2**	**+0.5**
FAKI	**Fak Fak**	**2.67**	**94**	P	**Pn**	**21 13 34.8**	**0.0**
SANI	**Sanana**	**3.65**	**281**	P	**Pn**	**21 13 48.5**	**+0.3**
KMPI	**Kaimana, Papua**	**4.22**	**102**	P	**Pn**	**21 13 58.5**	**+2.5**
WRA	**Warramunga Arr**	**17.70**	**165**	P	**Pn**	**21 16 54.6**	**-3.6**
	0.2nm,0.3s,baz=345,slow=12,SNR=5.7						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**21.20**	**169**	P	**P**	**21 17 36.5**	**-0.7**
	2.5nm,0.7s,baz=350,slow=10,SNR=25						
	2.5nm,0.7s						
PSI	**Prapat**	**31.13**	**280**	LR	LR	21 32 54.8	
	comp=Z,222nm,18.9s,baz=76,slow=39						
SONM	**Songino Array**	**54.31**	**341**	P	**P**	**21 22 18.0**	**+0.4**
	0.2nm,0.5s,baz=126,slow=7.3,SNR=4.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**64.48**	**326**	P	**P**	**21 23 28.2**	**+0.5**
	0.2nm,0.5s,baz=127,slow=8.2,SNR=4.3						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**67.62**	**333**	P	**P**	**21 23 46.5**	**-1.2**
	0.5nm,0.6s,baz=114,slow=5.2,SNR=1.9						
	0.5nm,0.6s						

---

*IDC **01** 21:35:23.6±5.6, 36°.55N×141°.59E, h0km, mb3.6/4, mbtmp3.6/6, ML3.1/2, Error ellipse: s-maj=96.7km s-min=34.9km az=144.0*
*NIED **01** 21:35:27.0, 36°.68N×141°.45E, h51km, MW3.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}1.06; $M_{\theta\theta}$-1.30; $M_{\phi\phi}$0.24; $M_{r\theta}$2.00; $M_{\theta\phi}$0.75; $M_{\phi r}$1.75; Fault plane solution: $M_0$2.91000×10^{14} NP1: ϕ_s313.00000°, δ25.00000°, λ158.00000°. NP2: ϕ_s63.00000°, δ81.00000°, λ67.00000°.*
*JMA **01** 21:35:27.0±0.2, 36°.7N±0°.5×14°.1E±°, h51km±2km, MV3.5/36, E OFF IBARAKI PREF*
ISC 01 21:35:25.4±2.6, 36°.72N±0°.07×141°.48E±0°.09, h7km±14km, n24, σ1§24/25, mb3.5/4, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.67**	**305**	⇓*iP*	**Pn**	**21 35 40.2**	**-1.2**
ONAJ				⇓*eS*	**Sb**	**21 35 49.7**	**+0.8**
JHO	**Hitachi**	**0.74**	**262**	⇓*iP*	**Pn**	**21 35 40.6**	**-1.6**
JHO				⇓*eS*	**Sb**	**21 35 50.9**	**-0.1**
JFK	**Kawauchi**	**0.81**	**323**	P	**Pb**	**21 35 42.3**	**+0.5**
JHYU	**Hitachinakayam**	**0.81**	**243**	⇓*iP*	**Pn**	**21 35 41.8**	**-1.5**
JHYU				⇓S	**Sb**	**21 35 52.5**	**-0.5**
JFFD	**Fukushimafurud**	**0.83**	**297**	⇓*iP*	**Pb**	**21 35 42.2**	**+0.1**

RAFI	Al-Rafai	1.98 170	*e*Pn	Pb	21 38 33.0	-1.3
RAFI			*e*Sn	Sb	21 38 59.0	+0.1
IDOB	Doab	2.05 86	Pn	Pb	21 38 34.9	-0.8
IKRK	Kirkuk	2.06 327	*e*Pn	Pb	21 38 34.0	-1.8
IKRK			*e*Sn	Sb	21 39 01.0	-0.4
IKRK			AML	AML	21 39 15.8	
	comp=E,519nm,0.4s					
IKRK			AML	AML	21 39 17.2	
	comp=N,728nm,0.2s					
SDS1	Sardasht. Az.	2.47 356	Pn	Pb	21 38 40.8	-2.1
HGHA	Hamedan- Ghaye	3.15 54	Pn	Pn	21 38 50.5	+2.4
QABG	Abgarm-Qazvin	3.77 56	Pn	Pn	21 38 58.9	+2.4
IQOM	Qom	4.58 74	Pn	Pn	21 39 09.9	+2.2
IHRS	Heris	4.75 13	Pn	Pn	21 39 12.5	+2.4
IMRD	Marand	5.03 360	Pn	Pn	21 39 15.4	+1.6
IVRN	Varamin	5.14 74	Pn	Pn	21 39 17.0	+1.7
GRMI	Germi	5.41 18	Pn	Pn	21 39 21.1	+2.0
ISFB	Sefidab	5.46 81	Pn	Pn	21 39 21.8	+2.2
GNI	Garni	6.51 353	P	Pn	21 39 33.6	-0.5
	comp=N,0.1nmcomp=N,4.8nm,1.2s					
KIV	Kislovodsk	10.53 348	P	Pn	21 40 28.7	-0.5
	comp=N,6.4nm,1.2s					
PURM	Purcari	17.61 321	P	P	21 42 03.6	-0.9
	comp=N,25nm,1.1s					
TESR	Tescani	19.36 317	P	P	21 42 23.5	-0.2
VOIR		19.73 313	⇑P	Pn	21 42 30.2	+0.7
ARR	Arges	19.96 312	⇑P	Pn	21 42 32.1	0.0
LOT	Lotru	20.53 311	⇑P	Pn	21 42 37.6	-1.3
KMPD	K-Podol'skiy	20.69 322	P	P	21 42 36.9	-1.3
AK07	Malin Array Si	20.76 329	P	P	21 42 38.2	-0.7
AK09	Malin Array Si	20.78 329	P	P	21 42 38.3	-0.8
AK10	Malin Array Si	20.78 329	P	P	21 42 38.3	-0.8
AK06	Malin Array Si	20.79 329	P	P	21 42 38.5	-0.8
BURAR	Bucovina Array	20.79 318	⇑P	Pn	21 42 40.4	-1.4
AK08	Malin Array Si	20.80 329	P	P	21 42 38.6	-0.8
AK05	Malin Array Si	20.81 329	P	P	21 42 38.9	-0.6
AKBB	Malin Array Si	20.87 330	P	P	21 42 39.2	-0.9
KIEV	Kiev	20.87 330	P	P	21 42 39.2	-0.9
LUBAR	Lubar, Ukraine	20.95 326	P	P	21 42 40.0	-1.0
GZR	Gura Zlata	21.14 310	⇑P	P	21 42 43.2	+0.1
HERR	Herculane	21.15 309	⇑P	P	21 42 44.5	+1.3
KSV	Kosov	21.28 320	P	P	21 42 43.6	-1.0
MI30	MI30,Zelenitsa	21.34 328	P	P	21 42 44.1	-1.1
	comp=N,16nm,1.1s					
MARR	Marisel-Cluj	21.51 314	⇑P	P	21 42 47.5	+0.3
DRGR		21.81 314	⇑P	P	21 42 50.8	+0.4
SIRR	Siria	22.22 312	⇑P	P	21 42 45.2	-10
MEZ	Mezhgor'ye	22.24 318	P	P	21 42 55.2	+0.3
KORU	Korolevo	22.26 317	P	P	21 42 54.6	-0.5
MUKU	Mukachevo	22.67 317	P	P	21 42 58.2	-1.2
RNPP5	Staryi Chortor	22.72 326	P	P	21 42 59.8	-0.2
RNPP9	Sopachiv	22.84 327	P	P	21 43 01.1	-0.1
MORH	Mrgy, Hungar	24.11 309	P	P	21 43 13.8	0.0
	comp=N,1.9nm,0.7s					

IDC 01 21:38:47.7±2.0, 5°87S×130°17E, h0km, mb3.6/2, mbtmp3.6/5, ML3.4/3, Error ellipse: s-maj=81.2km s-min=27.9km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.94 200		Pn	Pn	21 41 53.7	+0.7
	0.2nm,0.3s,baz=25,slow=10,SNR=8.3						
FITZ				Sn	Sn	21 44 07.1	-11
	0.2nm,0.3s,baz=150,slow=21,SNR=1.3						
	2.0nm,1.0s						
WRA	Warramunga Arr	14.57 164		Pn	Pn	21 42 15.8	+0.4
	0.1nm,0.3s,baz=346,slow=13,SNR=6.9						
WRA				Sn	Sn	21 44 45.8	-12
	0.2nm,0.3s,baz=339,slow=21,SNR=2.2						
	0.5nm,0.4s						
ASAR	Alice Springs	18.06 169		P	P	21 43 00.8	-0.1
	0.2nm,0.3s,baz=342,slow=9.5,SNR=14						
	0.5nm,0.5s						
STKA	Stephens Creek	28.00 159		P	P	21 44 39.8	-0.7
	1.0nm,0.5s,baz=335,slow=18,SNR=2.2						
	1.0nm,0.5s						
MKAR	Makanchi Array	67.38 326		P	P	21 49 45.0	+0.1
	0.1nm,0.6s,baz=128,slow=8.5,SNR=1.8						
	0.1nm,0.6s						

*IDC **01** 21:59:41.9±5.9, 7°58N×93°77E, h0km, mb3.9/7, mbtmp3.9/7, MS3.3/1, Error ellipse: s-maj=141.0km s-min=78.9km az=132.0*

ISC 01 21:59:45.7±6.3, 7°7N±0°9×93°8E±0°7, h20km, n14, σ0§40/7, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	Diego Garcia H	26.16 235		T	T	22 31 51.6	
	baz=55,slow=75,SNR=7.6						
H08S2	Diego Garcia H	26.17 235		T	T	22 31 52.1	
	baz=55,slow=75,SNR=5.8						
H08S1	Diego Carcia H	26.18 235		T	T	22 31 53.1	
	baz=55,slow=75,SNR=5.0						
AAK	Ala-Archa	38.75 337		LR	LR	22 24 45.0	
	comp=Z,40nm,20.1s,baz=206,slow=39						
MKAR	Makanchi Array	40.20 348		P	P	22 07 20.8	0.0
	0.6nm,0.5s,baz=163,slow=7.5,SNR=11						
	0.6nm,0.5s						
SONM	Songino Array	41.41 13		P	P	22 07 30.9	+0.1
	0.3nm,0.9s,baz=141,slow=5.5,SNR=1.7						
	0.3nm,0.9s						
KURBB	Kurchatov Arra	44.65 346		P	P	22 07 57.1	+0.3
	0.5nm,0.4s,baz=173,slow=7.2,SNR=9.0						
	0.5nm,0.4s						
ZALV	Zalesovo Beam	46.70 353		P	P	22 08 12.5	-0.5
	0.4nm,0.3s,baz=178,slow=9.2,SNR=3.2						
	0.4nm,0.3s						
H04N2	CROZET ISLANDS	65.41 211		T	T	23 20 60.0	
	baz=49						
H04N1	CROZET ISLANDS	65.42 211		T	T	23 21 07.7	
	baz=49						
H04N3	CROZET ISLANDS	65.43 211		T	T	23 21 01.1	
	baz=49						
FINES	FINESS Array B	72.73 332		P	P	22 11 12.1	-0.1
	2.1nm,0.9s,baz=49,slow=4.2,SNR=1.9						
	2.1nm,0.9s						
HFS	Hagfors	78.46 330		P	P	22 11 44.8	-0.3
	0.8nm,0.5s,baz=101,slow=6.2,SNR=4.5						
	0.8nm,0.5s						
SPITS	Spitsbergen Ar	79.95 348		P	P	22 11 53.4	+0.4
	5.9nm,0.9s,baz=229,slow=1.3,SNR=1.2						
	5.9nm,0.9s						

GCG 01 22:27:26.2±0.8, 14°48N×90°68W, h4km±3km, MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG4	OSOP	0.18 52		*i* S	Sg	22 27 34.3	+2.2
PS001	Antigua, Sacat	0.28 125		*e*P	Pg	22 27 28.7	-3.0
PS001				*e*S	Sg	22 27 30.1	-5.4
STG0	El Palmar, Qui	0.65 266		*e*P	Pn	22 27 43.9	+1.5
STG8	El Palmar, Qui	0.66 268		*e*P	Pn	22 27 44.4	+1.9

*IDC **01** 22:46:54.7±1.3, 0°66N×126°81E, h0km, mb3.8/4, mbtmp3.8/4, ML5.6/1, Error ellipse: s-maj=120.4km s-min=19.3km az=69.0*
*DJA **01** 22:47:02.5±0.7, 0°N±3°×12°7E±°, h38km±22km, M3.6/9, MLv3.6/9*

ISC 01 22:47:02.1±1.0, 0°44N±0°08×126°64E±0°05, h47km, n11, σ1§06/12, mb3.8/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.80 65		P	Pn	22 47 17.4	+0.4
TNTI				S	Sn	22 47 29.3	+1.4
LBMI	Labuha	1.37 141		P	Pn	22 47 25.4	+0.6
SANI	Sanana	2.56 195		P	Pn	22 47 41.2	+0.1
KMSI	Cibinong	2.66 273		P	Pn	22 47 43.3	+0.7
KMSI				S	Sn	22 48 14.6	+1.0
NLAI	Namlea	3.68 173		P	Pn	22 47 57.0	+0.5
LUWI	Luwuk	4.14 249		P	Pn	22 48 03.5	+0.7
DAV	Davao City (W)	6.67 351		Pn	Pn	22 48 30.6	-7.0
	138nm,0.3s,baz=46,slow=3.1,SNR=17						
WRA	Warramunga Arr	21.61 160		P	P	22 51 47.2	-1.2
	3.0nm,0.6s,baz=338,slow=10,SNR=20						
	3.0nm,0.6s						
ASAR	Alice Springs	24.98 164		P	P	22 52 22.5	+1.0
	1.5nm,0.4s,baz=351,slow=15,SNR=15						
	1.5nm,0.4s						
MKAR	Makanchi Array	60.21 326		P	P	22 57 04.2	-1.2
	0.2nm,0.4s,baz=116,slow=7.4,SNR=10						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	64.46 328		P	P	22 57 32.4	-1.3
	0.4nm,0.4s,baz=129,slow=6.3,SNR=5.4						
	0.4nm,0.4s						

*IDC **01** 22:47:60.0±1.1, 7°31N×126°38E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=59.7km s-min=20.4km az=76.0*

ISC 01 22:48:08.7±1.1, 7°3N±0°2×126°4E±0°4, h71km, n6, σ1§42/6, mb3.6/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	25.21 182		P	P	22 53 26.5	-1.5
	0.7nm,0.4s,baz=72,slow=23,SNR=1.5						
	0.7nm,0.4s						
WRA	Warramunga Arr	28.16 164		P	P	22 53 54.2	-0.2
	0.8nm,0.8s,baz=347,slow=9.4,SNR=5.8						
	0.8nm,0.8s						
ASAR	Alice Springs	31.62 167		P	P	22 54 26.8	+1.8
	0.4nm,0.3s,baz=349,slow=8.9,SNR=2.1						
	0.4nm,0.3s						
PETK	Petropavlovsk-	52.33 23		P	P	22 57 12.9	-0.2
	1.5nm,0.6s,baz=233,slow=8.4,SNR=3.6						
	1.5nm,0.6s						
MKAR	Makanchi Array	54.48 324		P	P	22 57 29.7	+0.7
	0.3nm,0.4s,baz=114,slow=6.8,SNR=7.5						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	58.60 326		P	P	22 57 57.8	-0.4
	0.3nm,0.6s,baz=125,slow=5.6,SNR=2.7						
	0.3nm,0.6s						

*SOME **01** 22:50:00.9, 39°85N×75°50E, h10km*
*KRNET **01** 22:50:02.1±0.1, 39°77N×75°80E, h0km, mb3.4*
*NNC **01** 22:50:04.4±3.3, 39°62N×75°88E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=23.7km s-min=21.4km az=14.0*

ISC 01 22:50:03.5±1.3, 39°84N±0°05×75°75E±0°04, h10km, n42, σ2§14/74, 31C-23D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.60	7	⇑*e*P	Pb	22 50 32.2	-1.2
NRN				⇑*e*S	Sg	22 50 55.2	+0.1
SFK	Sufi-Kurgan	1.74 276		⇑*e*P	Pb	22 50 35.1	-0.6
SFK				⇑*e*S	Sg	22 50 59.6	+0.2
SALK	Salom-Alik	1.81 306		⇑*e*P	Pb	22 50 36.9	+0.1
SALK				⇑*e*S	Sg	22 51 02.1	+0.5
ARLS	Aral	2.29 332		⇑*e*P	Pb	22 50 43.7	-1.4
ARLS				⇑*e*S	Sb	22 51 14.1	+0.6
OHH	Osh	2.37 288		⇓*e*P	Pb	22 50 44.6	-1.8
OHH				⇓*e*S	Sb	22 51 15.6	-0.2
ULHL	Ulahol	2.43	9	P	Pg	22 50 51.4	+1.3
	SNR=7.5						
ULHL	Ulahol	2.43	9	⇑*e*P	Pb	22 50 45.7	-1.8
ULHL				⇑*e*S	Sb	22 51 17.5	-0.1
KDJ	Kajisay	2.53	25	⇓*e*P	Pb	22 50 46.8	-2.3
KDJ				⇓*e*S	Sb	22 51 19.4	-1.0
UCH	Uchtor	2.56 339		P	Pg	22 50 54.0	+1.3
	SNR=9.7						
UCH	Uchtor	2.56 339		⇑*e*P	Pb	22 50 47.8	-2.1
UCH				⇑*e*S	Sb	22 51 21.2	-0.4
ARSB	Arslanbob	2.58 306		⇓*e*P	Pb	22 50 47.8	-2.1
ARSB				⇓*e*S	Sb	22 51 21.1	-0.6
BOOM	Boomskoye usch	2.65	3	⇓*e*P	Pb	22 50 48.8	-2.4
BOOM				⇓*e*S	Sb	22 51 22.9	-1.0
AML	Almayashu	2.77 326		P	Pb	22 50 52.8	-0.6
	SNR=10						
AML	Almayashu	2.77 326		⇑*e*P	Pb	22 50 50.8	-2.5
AML				⇑*e*S	Sb	22 51 26.1	-1.4
KBK	Karagaybulak	2.88 348		P	Pg	22 50 59.9	+1.2
	SNR=18						
KBK	Karagaybulak	2.88 348		⇓*e*P	Pb	22 50 52.1	-3.0
KBK				⇓*e*S	Sb	22 51 28.4	-2.0
AAK	Ala-Archa	2.95 342		P	Pb	22 50 57.5	+1.2
	SNR=13						
AAK	Ala-Archa	2.95 342		⇑Pn	Pb	22 50 56.9	+0.6
	2.9nm,0.3s						
AAK				⇑Sn	Sg	22 51 35.7	-2.6
	30nm,0.9s						
AAK	Ala-Archa	2.95 342		⇓*e*P	Pb	22 50 53.0	-3.3
AAK				⇓*e*S	Sb	22 51 30.1	-2.4
DRK	Karamyk	3.07 265		⇓*e*P	Pn	22 50 54.1	+1.7
DRK				⇓*e*S	Sb	22 51 32.1	-4.0
TKM2	Tokmak 2	3.08 358		P	Pb	22 50 59.4	+0.8
	SNR=11						
TKM2	Tokmak 2	3.08 358		⇓Pn	Pb	22 50 58.7	+0.1
	4.0nm,0.5s						
TKM2				⇑Sn	Sg	22 51 39.8	-2.7
	23nm,0.6s						
TKM2	Tokmak 2	3.08 358		⇓*e*P	Pn	22 50 54.8	+2.4
TKM2				⇓*e*S	Sb	22 51 33.2	-3.1
FRU1	Bishkek	3.08 344		⇓*e*P	Pb	22 50 55.1	-3.4
FRU1				⇓*e*S	Sb	22 51 33.9	-2.4
EKS2	Erkin-Say	3.19 333		⇓*e*P	Pn	22 50 56.4	+2.6
EKS2				⇓*e*S	Sb	22 51 35.8	-3.5
KST	Kastek	3.20	3	*e*P	Pb	22 50 59.8	-0.8
	6.5nm,0.5s						
KST				*e*S	Sb	22 51 42.4	+2.6
	15nm,0.6s						
CHMS	Chumysh	3.24 347		⇓Pg	Pg	22 51 05.2	-0.4
	1.8nm,0.5s						
CHMS				⇑Lg	Lg	22 51 56.6	
	35nm,1.1s						
CHMS	Chumysh	3.24 347		⇑*e*P	Pn	22 50 57.0	+2.5
CHMS				⇑*e*S	Sb	22 51 37.0	-3.8
TNSS	Tian-Shan	3.32	15	*e*P	Pb	22 51 02.8	+0.1
	5.6nm,0.4s						
TNSS				*e*S	Sg	22 51 48.1	-2.0
	5.7nm,0.5s						
MTBS	Maitube	3.33	9	*e*P	Pb	22 51 01.6	-1.1
	1.3nm,0.1s						
MTBS				*e*S	Sb	22 51 45.6	+2.4
	4.2nm,0.3s						
MDOK	Medeo	3.46	16	Pg	Pg	22 51 09.8	0.0
	5.9nm,0.6s						
MDOK				Lg	Lg	22 51 57.6	
	8.4nm,0.9s						
MRKS	Merke	3.47 328		*e*P	Pb	22 51 03.0	-2.1
	1.1nm,0.2s						
MRKS				*e*S	Sb	22 51 48.0	+0.7
	18nm,0.8s						
KOTS	Kotyrbulak	3.54	16	*e*P	Pb	22 51 07.2	+0.8
	3.3nm,0.3s						
KOTS				*e*S	Sg	22 51 55.2	-2.1
	17nm,0.6s						
USP	Ospenovka	3.55 345		⇑*e*P	Pn	22 51 01.3	+2.6
USP				⇑*e*S	Sn	22 51 44.4	+3.6
MNAS	Manas	3.61 318		⇑*e*P	Pn	22 51 02.1	+2.5
MNAS				⇑*e*S	Sn	22 51 45.8	+3.5
TRKS	Terek-Say	3.89 297		⇑*e*P	Pn	22 51 05.5	+2.0
TRKS				⇑*e*S	Sn	22 51 51.3	+1.9
KURS	Kuram	4.07	26	*e*P	Pg	22 51 17.9	-3.6
	6.0nm,0.6s						
KURS				*e*S	Sg	22 52 13.1	-1.1
	20nm,0.8s						
CHKK	Chushkaly	4.12	13	*e*P	Pb	22 51 17.9	+1.8
	6.0nm,0.6s						
CHKK				*e*S	Sg	22 52 13.1	-2.6
	20nm,0.8s						
GAR	Garm	4.29 260		⇓*e*P	Pn	22 51 10.8	+1.8
GAR				⇓*e*S	Sn	22 52 01.1	+1.9
PDGK	Podgornoye	4.47	38	⇓Pg	Pg	22 51 27.5	-1.7
	3.2nm,0.7s						
PDGK				⇑Lg	Lg	22 52 28.6	
	7.4nm,0.8s						
KK31	Karatay Array	5.11 311		⇑Pg	Pg	22 51 38.8	-2.6
	1.0nm,0.5s,baz=127,slow=16,SNR=10						
KK31				⇑Lg	Lg	22 52 51.2	
	2.9nm,0.7s,baz=122,slow=30,SNR=5.1						
BTLS	Baital	5.35 347		*e*P	Pb	22 51 39.3	+2.3
	0.2nm,0.1s						
BTLS				*e*S	Sg	22 52 50.4	-4.8
	5.0nm,0.7s						

WEL 01 22:50:44.3±0.3, 42°S±2°×17°4E±°, h5km, M2.6/6, ML2.9/10, MLv2.6/6, Error ellipse: s-maj=3.7km s-min=2.2km az=105.5, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.22 178		P	Pg	22 50 48.9	+0.3
KHZ				S	Sg	22 50 52.5	+0.9
MOLW	Molesworth Sta	0.23 298		P	Pg	22 50 48.8	+0.1
MOLW				S	Sg	22 50 52.5	+0.8
KIKS	Kaikoura	0.26 154		P	Pg	22 50 49.8	+0.5
KIKS				S	Sg	22 50 54.4	+1.7
KEKS	Kekerengu Vall	0.41 55		P	Pg	22 50 52.4	+0.2
KEKS				S	Sg	22 50 59.0	+1.4
BSWZ	Blackbirch Sta	0.55 28		P	Pg	22 50 55.0	+0.3
BSWZ				S	Sb	22 51 03.2	-1.2
WTMC	Te Mara Farm W	0.55 219		P	Pg	22 50 54.9	0.0
WTMC				S	Sg	22 51 03.2	+1.2
HSES	Hanmer Springs	0.61 237		P	Pg	22 50 55.6	-0.4
THZ	Tophouse	0.63 313		P	Pg	22 50 56.6	+0.2
THZ				S	Sb	22 51 05.9	-1.1
CMWZ	Cape Campbell	0.68 49		P	Pb	22 50 58.4	-0.2
CMWZ				S	Sn	22 51 11.7	+0.2
BWRS	Waikakaho Road	0.81 21		P	Pg	22 50 59.9	+0.2
BWRS				S	Sb	22 51 11.4	-0.5
GVZ	Greta Valley S	0.85 205		P	Pg	22 51 00.9	+0.2
GVZ				S	Sb	22 51 13.6	+0.2
MRNZ	Matariki Terra	0.98 324		P	Pg	22 51 03.1	0.0
MRNZ				S	Sb	22 51 17.8	+0.8
NNZ	Nelson	0.98 353		P	Pg	22 51 02.7	-0.4
NNZ				S	Sg	22 51 16.4	+0.5
LTZ	Lake Taylor	1.10 237		P	Pg	22 51 04.2	-1.1
TCW	Tory Channel	1.13 30		P	Pg	22 51 05.2	-0.7
TCW				S	Sb	22 51 21.5	+0.2
AMCZ	Amberley	1.18 213		P	Pb	22 51 07.0	0.0
TKNZ	Takaka Hill	1.24 340		P	Pg	22 51 07.3	-0.6
BHW	Baring Head	1.27 52		P	Pg	22 51 06.6	-2.1
DSZ	Denniston Nort	1.36 289		P	Pn	22 51 09.8	-0.2
DUWZ	D'Urville Isla	1.42 12		P	Pn	22 51 09.9	-0.9
PLWZ	Palliser	1.43 65		P	Pn	22 51 08.5	-2.5
MSWZ	Moikau Station	1.50 59		P	Pn	22 51 09.3	-2.5
QRZ	Quartz Range	1.56 331		P	Pn	22 51 12.6	0.0
OKCZ	Okains Bay	1.57 193		P	Pn	22 51 10.2	-2.6
OXZ	Oxford	1.58 224		P	Pn	22 51 10.0	-2.8
PAWZ	Paruwai Farm	1.64 61		P	Pn	22 51 10.9	-2.8
MQZ	McQueen's Vall	1.64 203		P	Pn	22 51 10.3	-3.5
KIW	Kapiti Island	1.69 38		P	Pn	22 51 13.1	-1.3
AKCZ	Akaroa Harbour	1.74 195		P	Pn	22 51 11.3	-3.8
MTW	Mount Morrison	1.81 56		P	Pn	22 51 13.6	-2.4
OGWZ	Otaki Gorge	1.85 42		P	Pn	22 51 14.7	-1.9
HOWZ	Holdsworth Sta	1.98 50		P	Pb	22 51 20.3	-0.4
MRZ	Mangatainoka R	2.17 46		P	Pb	22 51 17.4	-3.7
RPZ	Rata Peaks	2.37 229		P	Pn	22 51 21.4	-2.4

WEL 01 22:51:39.4±0.7, 39°S±4°×17°8E±°, h23km±5km, M2.4/11, ML2.6/14, MLv2.4/11, Error ellipse: s-maj=6.4km s-min=4.0km az=131.0, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	Mahia Peninsul	0.17 44		P	Pn	22 51 46.2	-0.5
KNZ	Kokohu	0.26 346		P	Pb	22 51 46.6	+0.9
KNZ				S	Sn	22 51 52.2	-1.1
PRGZ	Paritu Road	0.37 16		P	Pn	22 51 48.7	-0.7
PRGZ				S	Sn	22 51 57.1	+1.1
WHHZ	Waihua	0.45 296		P	Pb	22 51 49.4	+0.7
WHHZ	Waihua	0.45 296		P	Pb	22 51 49.4	+0.6
WHHZ				S	Sn	22 51 57.9	0.0
RIGZ	Rimuhau	0.57 1		P	Pn	22 51 51.7	-0.5
RIGZ				S	Sn	22 52 01.3	+0.3
ARHZ	Aropaoanui	0.59 271		P	Pb	22 51 51.6	+0.5
ARHZ				S	Sn	22 52 01.3	0.0
SNGZ	Shannon Statio	0.59 327		P	Pb	22 51 51.8	+0.7
SNGZ	Shannon Statio	0.59 327		P	Pb	22 51 51.8	+0.6
SNGZ				S	Sn	22 52 01.3	-0.1
RAHZ	Arahi	0.63 304		P	Pb	22 51 52.3	+0.4
RAHZ	Arahi	0.63 304		P	Pb	22 51 52.2	+0.4
RAHZ				S	Sn	22 52 02.0	-0.4
CKHZ	Cape Kidnapper	0.65 234		P	Pb	22 51 52.5	+0.4
CKHZ				S	Sn	22 52 03.1	+0.3
NMHZ	Naumai	0.76 283		P	Pb	22 51 54.4	+0.4
NMHZ				S	Sn	22 52 05.9	+0.3
RAGZ	Rawiri	0.82 341		P	Pb	22 51 55.4	+0.3
RAGZ				S	Sn	22 52 07.3	+0.1
MTHZ	Maungataniwha	0.83 301		P	Pb	22 51 55.0	-0.2
MTHZ				S	Sn	22 52 07.1	-0.2
MCHZ	McNeill Hill	0.84 258		P	Pb	22 51 55.4	+0.1
MCHZ				S	Sn	22 52 07.6	+0.1
TKGZ	Te Karaka	0.84 5		P	Pn	22 51 56.0	+0.1
KAHZ	Kahuranaki	0.85 232		P	Pb	22 51 55.6	0.0
RTZ	Ruatahuna	0.89 317		P	Pb	22 51 56.3	0.0
MWZ	Matawai	0.96 349		P	Pb	22 51 57.0	-0.4
MWZ	Matawai	0.96 349		P	Pb	22 51 57.0	-0.4
BKZ	Black Stump Fm	0.99 276		P	Pb	22 51 57.7	-0.2
URZ	Urewera	1.13 333		P	Pn	22 51 59.5	-0.4
ETVZ	East Tongariro	1.59 274		P	Pn	22 52 05.7	-0.7

*SJA **01** 22:55:19.9±0.7, 24°24S×71°00W, h17km±3km, ML3.8, MW3.7*
*GUC **01** 22:55:24.2±0.6, 24°30S×70°65W, h39km±2km, ML3.9*

ISC 01 22:55:23.8±1.6, 24°26S±0°03×70°69W±0°08, h16km±9km, n32, σ1§98/46, 6C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	IPOC Station P	0.45 145		⇑*i*P	Pg	22 55 34.2	+1.2
PB14				*i* S	Sg	22 55 40.2	+1.0
PB14	IPOC Station P	0.45 145		*e*P	Pg	22 55 33.5	+0.5
PB14				IAML		22 55 44.9	
	comp=Z,3μm,0.3s						
GO02	Mina Guanaco	1.34 132		⇓*i*P	Pb	22 55 46.9	-2.0
GO02				*i* S	Sb	22 56 02.0	-3.9
GO02				IAML		22 56 05.5	
	comp=E,5μm,0.3s						
GO02	Mina Guanaco	1.34 132		*e*P	Pb	22 55 46.8	-2.0
GO02				*e*S	Sb	22 56 03.5	-2.5
PB05	IPOC Station P	1.47 18		⇑*i*P	Pn	22 55 50.0	+0.1
PB05				*i* S	Sn	22 56 08.1	-0.7
PB05	IPOC Station P	1.47 18		*e*P	Pn	22 55 49.3	-0.6
PB05				*e*S	Sn	22 56 08.5	-0.3
PB05				IAML		22 56 11.8	
	comp=Z,676nm,1.0s						
PB06	IPOC Station P	1.86 34		⇑*i*P	Pn	22 55 55.2	0.0
PB06				*i* S

AC02 IAML 22 56 57.1
comp=Z,287nm,0.7s
AC06 Mina Casimiro 3.10 174 *i* P **Pn 22 56 11.6 -0.6**
AC06 *i* S **Sn 22 56 50.6 +1.7**
AC06 IAML 22 57 01.9
comp=E,278nm,0.2s
GO03 Copiapo 3.34 173 *eP* **Pn 22 56 14.6 -1.0**
GO03 IAML 22 57 07.2
comp=E,251nm,0.1s
GO03 Copiapo 3.34 173 *eP* **Pn 22 56 15.3 -0.3**
GO03 *eS* **Sn 22 56 56.6 +1.6**
PB01 IPOC Station P 3.39 19⇑ *iP* **Pn 22 56 16.2 0.0**
PB01 IAML 22 57 14.3
comp=E,278nm,0.3s
PB01 IPOC Station P 3.39 19 *eP* **Pn 22 56 15.5 -0.7**
PB01 IAML 22 57 11.3
comp=Z,204nm,0.2s
PATCX Punta Patache 3.46 8 *eP* Pn 22 56 15.8 -1.4
PATCX Punta Patache 3.46 8 *eP* **Pn 22 56 16.5 -0.7**
PATCX IAML 22 57 25.8
comp=Z,115nm,0.8s
AC04 Llanos de Chal 3.94 185 *eP* Pn 22 56 20.4 -3.4
AC04 IAML 22 57 29.4
comp=Z,52nm,0.5s
HMBC Humberstone 4.03 11 *eP* **Pn 22 56 24.5 -0.6**
HMBC Humberstone 4.03 11 *eP* **Pn 22 56 24.3 -0.8**
HMBC IAML 22 57 37.5
comp=Z,128nm,0.4s
PB08 IPOC Station P 4.34 19 *i P* **Pn 22 56 29.4 -0.2**
PB08 IPOC Station P 4.34 19 *eP* **Pn 22 56 29.5 -0.1**
PB08 IAML 22 57 49.4
comp=Z,70nm,0.4s
AC05 El Transito 4.57 175 *eP* **Pn 22 56 33.2 +0.7**
AC05 *eS* **Sn 22 57 32.9 +7.4**
AC05 IAML 22 58 09.0
comp=Z,61nm,0.7s
PB11 IPOC Station P 4.58 12 *eP* Pn 22 56 31.1 -1.6
PB11 IAML 22 57 47.6
comp=Z,79nm,0.4s

---

*NNC **01** 22:59:06.6±0.5, 43.°02N×74.°69E, h0km, mb2.1, mpv2.6, Error ellipse: s-maj=5.1km s-min=3.0km az=179.0*
*SOME **01** 22:59:06.9, 43.°05N×74.°68E, h15km*
*KNET **01** 22:59:06.5±0.3, 43.°04N×74.°70E, h18km±2km, ml1.1, Error ellipse: s-maj=2.1km s-min=2.0km az=93.0*

ISC 01 22:59:06.9±0.9, 43.°03N±0.°03×74.°70E±0.°02, h18km±5km, n17, σ0§38/34, 9C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.05**	**131**	⇑P	**Pg**	**22 59 10.2**	**0.0**
	10nm,0.1s,SNR=19						
CHMS				⇑S	**Sg**	**22 59 12.5**	**+0.1**
	155nm,0.1s						
USP	**Ospenovka**	**0.28**	**328**	⇑P	**Pg**	**22 59 12.9**	**-0.2**
	4.9nm,0.1s,SNR=38						
USP				⇑S	**Sg**	**22 59 16.7**	**-0.5**
	28nm,0.1s						
KBK	**Karagaybulak**	**0.42**	**154**	⇑P	**Pb**	**22 59 15.9**	**-0.1**
	2.5nm,0.1s,SNR=9.2						
KBK				⇑S	**Sb**	**22 59 22.0**	**0.0**
	9.4nm,0.1s						
AAK	**Ala-Archa**	**0.42**	**201**	⇓P	**Pb**	**22 59 16.0**	**0.0**
	4.5nm,0.1s,SNR=6.6						
AAK				⇑S	**Sb**	**22 59 22.2**	**+0.1**
	8.3nm,0.2s						
SGDS	**Sogindy**	**0.42**	**353**	P	**Pg**	**22 59 15.6**	**0.0**
	5.0nm,0.1s						
SGDS				S	**Sg**	**22 59 21.1**	**-0.4**
	38nm,0.1s						
TKM2	**Tokmak 2**	**0.67**	**99**	⇓P	**Pg**	**22 59 19.9**	**-0.2**
	0.5nm,0.1s,SNR=15						
TKM2				⇓S	**Sg**	**22 59 29.0**	**-0.1**
	14nm,0.1s						
EKS2	**Erkin-Say**	**0.77**	**242**	⇓P	**Pg**	**22 59 22.1**	**0.0**
	1.3nm,0.1s,SNR=14						
EKS2				⇓S	**Sg**	**22 59 32.8**	**+0.6**
	9.3nm,0.3s						
DGS	**Degeres**	**0.81**	**75**	P	**Pg**	**22 59 22.9**	**+0.1**
	0.9nm,0.1s						
DGS				S	**Sb**	**22 59 33.6**	**+0.2**
	8.2nm,0.2s						
UCH	**Uchtor**	**0.81**	**190**	⇑P	**Pg**	**22 59 23.0**	**0.0**
	2.1nm,0.1s,SNR=5.1						
UCH				⇑S	**Sg**	**22 59 34.2**	**+0.4**
	6.3nm,0.1s						
KST	**Kastek**	**0.93**	**89**	P	**Pn**	**22 59 25.3**	**+0.1**
	0.9nm,0.2s						
KST				S	**Sg**	**22 59 37.5**	**+0.4**
	6.3nm,0.2s						
KST	**Kastek**	**0.93**	**89**	*eP*	**Pg**	**22 59 24.9**	**-0.1**
	0.9nm,0.2s						
KST				*eS*	**Sg**	**22 59 37.6**	**+0.4**
	6.3nm,0.2s						
MRKS	**Merke**	**1.12**	**256**	P	**Pg**	**22 59 28.1**	**-0.5**
	1.4nm,0.2s						
MRKS				S	**Sn**	**22 59 42.5**	**-0.4**
	6.0nm,0.2s						
MRKS	**Merke**	**1.12**	**256**	*eP*	**Pn**	**22 59 27.8**	**-0.1**
	1.4nm,0.2s						
MRKS				*eS*	**Sn**	**22 59 42.5**	**-0.4**
	6.0nm,0.2s						
MTBS	**Maitube**	**1.27**	**85**	P	**Pg**	**22 59 31.2**	**-0.2**
	0.9nm,0.2s						
MTBS				S	**Sg**	**22 59 48.1**	**0.0**
	2.7nm,0.2s						
MTBS	**Maitube**	**1.27**	**85**	*eP*	**Pb**	**22 59 30.8**	**+0.4**
	0.9nm,0.2s						
MTBS				*eS*	**Sg**	**22 59 47.6**	**-0.5**
	2.7nm,0.2s						
TNSS	**Tian-Shan**	**1.65**	**89**	*eP*	**Pg**	**22 59 38.0**	**-0.7**
	0.7nm,0.1s						
TNSS				*eS*	**Sg**	**23 00 00.0**	**-0.2**
	2.1nm,0.2s						
BTLS	**Baital**	**2.06**	**347**	*eP*	**Pb**	**22 59 43.9**	**+0.1**
	1.8nm,0.2s						
BTLS				*eS*	**Sb**	**23 00 10.4**	**+1.2**
	3.7nm,0.3s						

IDC 01 22:59:45.4±6.2, 21.°29S×178.°05W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=182.5km s-min=99.5km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.41**	**245**	P	P	23 06 59.4	-1.0
	0.9nm,0.4s,baz=83,slow=8.1,SNR=3.5						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**44.30**	**258**	P	P	23 07 57.5	+0.1
	1.3nm,0.4s,baz=92,slow=8.1,SNR=19						
	1.3nm,0.4s						
WRA	**Warramunga Arr**	**44.45**	**263**	P	P	23 07 58.9	+0.2
	1.5nm,0.4s,baz=96,slow=8.5,SNR=24						
	1.5nm,0.4s						
HFS	**Hagfors**	**140.31**	**351**	PKP	PKPdf	23 19 15.3	-0.7
	0.6nm,0.3s,baz=33,slow=4.0,SNR=6.7						

DJA 01 23:01:39.9±0.4, 5.°S±3.°×10.°3E±.°, h38km±7km, M3.7/6, mb3.6/1, MLv3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.50**	**353**	P	Pn	23 01 51.5	+0.9
MNAI				S	Sn	23 02 01.2	+3.2
LWLI	**Liwa**	**1.05**	**99**	P	Pn	23 01 58.5	+0.4
LWLI				S	Sn	23 02 12.1	+0.5
MDSI	**Maura Dua**	**1.21**	**72**	P	Pn	23 02 00.6	+0.3
MDSI				S	Sn	23 02 17.0	+1.5
KSI	**Kapahiang**	**1.27**	**340**	P	Pn	23 02 01.1	-0.1
KSI				S	Sn	23 02 18.5	+1.4
CGJI	**Cibinong**	**3.18**	**123**	P	Pn	23 02 27.2	-0.2
CGJI				S	Sn	23 03 04.1	0.0
SISI	**Saibi**	**5.26**	**312**	P	Pn	23 02 56.0	-0.1

---

*DJA **01** 23:05:27.0±0.3, 7.°S±2.°×11.°5E±.°, h11km±3km, M4.5/24, mB4.9/6, mb4.8/8, MLv4.7/24, Mw(mB)4.2/6*
*NEIC **01** 23:05:28.6±1.6, 7.°21S±0.°05×114.°54E±0.°04, h21km±5km, mb4.6/29, Error ellipse: s-maj=9.3km s-min=2.2km az=142.0*
*IDC **01** 23:05:31.9±3.1, 7.°19S×114.°63E, h48km±29km, mb3.9/19, mbtmp4.2/22, ML4.0/3, MS3.3/18, Error ellipse:*
s-maj=22.8km s-min=11.4km az=63.0

ISC 01 23:05:28.3±0.4, 7.°24S±0.°04×114.°58E±0.°04, h21km±3km, n115, σ1§44/125, mb4.5/40, MS3.4/15, 1C, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMMI	**Kalianget**	**0.64**	**287**	P	**Pb**	**23 05 41.2**	**+0.3**
KMMI				S	**Sb**	**23 05 50.1**	**+0.7**
ABJI	**Asem Bagus**	**0.65**	**212**	P	**Pb**	**23 05 40.2**	**-0.9**
ABJI				S	**Sb**	**23 05 50.5**	**+0.7**
SRBI	**Singaraja**	**1.05**	**143**	P	**Pn**	**23 05 48.0**	**+0.2**
SRBI				S	**Sn**	**23 06 02.9**	**+1.2**
JAGI	**Jajag, Banyuwa**	**1.29**	**199**		**Pn**	**23 05 51.4**	**+0.2**
JAGI				Sn	**Sn**	**23 06 08.6**	**+0.7**
JAGI	**Jajag, Banyuwa**	**1.29**	**199**	P	**Pn**	**23 05 51.2**	**0.0**
JAGI	**Jajag, Banyuwa**	**1.29**	**199**	S	**Sb**	**23 06 09.5**	**+1.3**
JAGI	**Jajag, Banyuwa**	**1.29**	**199**	P	**Pn**	**23 05 50.7**	**-0.5**
JAGI				S	**Sn**	**23 06 08.8**	**+0.9**
GMJI	**Gumukmas**	**1.52**	**228**	P	**Pn**	**23 05 54.2**	**-0.1**
GMJI				S	**Sn**	**23 06 15.2**	**+1.7**
DNP	**Denpasar**	**1.56**	**156**	P	**Pn**	**23 05 56.2**	**+1.4**
DNP				S	**Sn**	**23 06 16.3**	**+1.9**
GRJI	**Gresik**	**2.11**	**279**	P	**Pn**	**23 06 02.3**	**-0.1**
GRJI				S	**Sn**	**23 06 29.4**	**+1.4**
TBJI	**Tambak Boyo**	**2.75**	**279**	P	**Pn**	**23 06 10.7**	**-0.4**
TBJI				S	**Sn**	**23 06 44.8**	**+1.1**
NGJI	**Ngawi**	**3.10**	**267**	P	**Pn**	**23 06 16.4**	**+0.4**
PCJI	**Pacitan**	**3.50**	**254**	P	**Pn**	**23 06 21.3**	**-0.3**
PLAI	**Plampang**	**3.54**	**117**	P	**Pn**	**23 06 22.5**	**+0.5**
PLAI	**Plampang**	**3.54**	**117**	P	**Pn**	**23 06 21.3**	**-0.7**
UGM	**Wanagama**	**4.08**	**260**		**Pn**	**23 06 29.6**	**0.0**
UGM	**Wanagama**	**4.08**	**260**	P	**Pn**	**23 06 30.5**	**+1.0**
UGM	**Wanagama**	**4.08**	**260**	P	**Pn**	**23 06 29.2**	**-0.3**
SMRI	**Semarang**	**4.11**	**272**	Pn	**Pn**	**23 06 29.1**	**-0.9**
SMRI	**Semarang**	**4.11**	**272**	P	**Pn**	**23 06 30.0**	**0.0**
SMRI	**Semarang**	**4.11**	**272**	P	**Pn**	**23 06 29.2**	**-0.8**
YOGI	**Yogyakarta**	**4.29**	**262**	P	**Pn**	**23 06 31.4**	**-1.0**
WBSI	**Waikabubak, Su**	**5.32**	**117**	P	**Pn**	**23 06 46.0**	**-0.6**
	0.5nm1µm77nm,0.7s						
KAPI	**Kappang**	**5.60**	**67**	Pn	**Pn**	**23 06 50.5**	**+0.2**
KAPI	**Kappang**	**5.60**	**67**	P	**Pn**	**23 06 50.7**	**+0.3**
	6.1nm,0.3s,baz=238,slow=6.4,SNR=16						
KAPI				S	**Sn**	**23 07 55.7**	**+1.6**
	53nm,0.8s,baz=270,slow=22,SNR=1.8						
KAPI				LR	LR	23 09 16.3	
	comp=Z,87nm,20.5s,baz=252,slow=41						
	14nm,0.3s						
KAPI	**Kappang**	**5.60**	**67**	P	**Pn**	**23 06 51.1**	**+0.7**
BKSI	**Bulukumba**	**5.83**	**71**	P	**Pn**	**23 06 52.6**	**-0.9**
	0.3nm697nm51nm,0.6s						
BSSI	**Bau Bau, Buton**	**5.97**	**80**	P	**Pn**	**23 06 54.7**	**-0.8**
SPSI	**Sidrap Palu**	**6.10**	**58**	P	**Pn**	**23 06 56.6**	**-0.7**
	0.3nm801nm44nm,0.9s						
BKB	**Balikpapan**	**6.37**	**21**	Pn	**Pn**	**23 07 03.3**	**+2.3**
EDFI	**Ende, Flores**	**7.20**	**103**	P	**Pn**	**23 07 12.1**	**-0.4**
	0.1nm36nm,0.7s						
CNJI	**Cibinong**	**7.39**	**269**	P	**Pn**	**23 07 16.0**	**+0.9**
MMRI	**Maumere**	**7.71**	**101**	Pn	**Pn**	**23 07 19.7**	**+0.3**
STKI	**Sintang**	**7.89**	**337**	P	**Pn**	**23 07 23.6**	**+1.7**
KSM	**Kuching**	**9.65**	**334**	Pn	**Pn**	**23 07 45.1**	**-0.9**
MBWA	**Marble Bar**	**14.71**	**161**	P	**Pn**	**23 08 56.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**15.25**	**136**	Pn	**Pn**	**23 09 00.5**	**-2.0**
FITZ	**Fitzroy Crossi**	**15.25**	**136**	P	**Pn**	**23 09 03.2**	**+0.7**
	0.4nm,0.3s,baz=3.6,slow=6.6,SNR=9.6						
FITZ				S	**Sn**	**23 11 45.9**	**-5.0**
	3.4nm,0.8s,baz=111,slow=18,SNR=2.7						
FITZ				LR	LR	23 15 20.7	
	comp=Z,125nm,19.1s,baz=306,slow=39						
	5.3nm,0.8s						
GIRL	**Giralia**	**15.32**	**181**	P	**Pn**	**23 09 04.6**	**+1.2**
DAV	**Davao City (W)**	**17.95**	**38**	LR	LR	23 18 25.0	
	comp=Z,110nm,19.1s,baz=334,slow=43						
RPSI	**Rantau Prapat**	**18.48**	**302**	P	**P**	**23 09 41.0**	**-2.1**
RPSI					**Pn**	**23 09 41.9**	**-1.4**
RPSI					**pP**	**23 09 42.7**	**-6.4**
PSI	**Prapat**	**18.54**	**302**	P	**Pn**	**23 09 44.9**	**+0.8**
	0.4nm,0.3s,baz=117,slow=13,SNR=11						
	9.5nm,0.9s						
MEEK	**Meekatharra**	**19.67**	**169**	P	**P**	**23 09 57.6**	**+1.5**
WB0	**Warramunga Arr**	**22.90**	**125**	P	**P**	**23 10 30.2**	**-0.8**
WB0				IAmb	IAmb	23 10 38.0	
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**22.95**	**125**	P	**P**	**23 10 30.9**	**-0.5**
WRA	**Warramunga Arr**	**22.95**	**125**	P	**P**	**23 10 31.1**	**-0.3**
	comp=Z,4.0nm,0.6s,baz=298,slow=12,SNR=32						
WRA				PcP	**PcP**	**23 14 21.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=300,slow=1.8,SNR=1.8						
	comp=Z,4.0nm,0.6s						
WRAB	**Tennant Creek**	**22.95**	**125**	P	**P**	**23 10 30.6**	**-0.8**
WRAB				IAmb	IAmb	23 10 38.6	
	comp=Z,48nm,1.4s						
WB2	**Warramunga Arr**	**22.96**	**125**	P	**P**	**23 10 31.0**	**-0.5**
WB2				IAmb	IAmb	23 10 36.9	
	comp=Z,28nm,1.2s						
WR0	**Warramunga Arr**	**23.12**	**125**	P	**P**	**23 10 31.1**	**-2.1**
WR0				IAmb	IAmb	23 10 42.8	
	comp=Z,16nm,1.0s						
BLDU	**Ballidu**	**23.34**	**175**	P	**P**	**23 10 36.7**	**+1.4**
AS31	**Alice Springs**	**24.71**	**133**	P	**P**	**23 10 48.5**	**+0.2**
ASAR	**Alice Springs**	**24.71**	**133**	P	**P**	**23 10 48.5**	**+0.2**
ASAR					**PcP**	**23 14 23.8**	**-1.5**
ASAR	**Alice Springs**	**24.71**	**133**	P	**P**	**23 10 49.2**	**+0.9**
	comp=Z,23nm,0.7s,baz=305,slow=8.9,SNR=177						
ASAR				PcP	**PcP**	**23 14 25.1**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=340,slow=2.2,SNR=9.1						
ASAR				LR	LR	23 19 53.7	
	comp=Z,71nm,19.6s,baz=301,slow=35						
	comp=Z,23nm,0.7s						
AS01	**Alice Springs**	**24.75**	**133**	P	**P**	**23 10 50.6**	**+2.0**
NWAO	**Narrogin (SRO)**	**25.68**	**175**	LR	LR	23 21 13.7	
	comp=Z,118nm,21.3s,baz=275,slow=37						
FORT	**Forrest**	**26.61**	**153**	P	**P**	**23 11 04.6**	**-0.7**
FORT	**Forrest**	**26.61**	**153**	P	**P**	**23 11 06.6**	**+1.3**
COEN	**Coen**	**28.87**	**106**	P	**P**	**23 11 26.0**	**+0.2**
CM31	**Chiang Mai Arr**	**29.83**	**329**	P	**P**	**23 11 35.6**	**+1.3**
CM31				IAmb	IAmb	23 11 37.6	
	comp=Z,12nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.83**	**329**	P	**P**	**23 11 35.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**29.83**	**329**	P	**P**	**23 11 36.5**	**+2.3**
	comp=Z,5.1nm,0.9s,baz=160,slow=7.4,SNR=37						
CMAR				LR	LR	23 23 11.7	
	comp=Z,73nm,21.5s,baz=165,slow=36						
	comp=Z,5.1nm,0.9s						
CHTO	**Chiang Mai**	**30.13**	**329**	P	**P**	**23 11 37.0**	**+0.1**
SLVN	**Son La**	**30.27**	**340**	P	**P**	**23 11 37.5**	**-0.6**
SLVN				IAmb	IAmb	23 11 40.9	
	comp=Z,13nm,1.5s						
CRAI	**Chiangrai**	**30.67**	**333**	P	**P**	**23 11 40.7**	**-0.9**
CRAI				IAmb	IAmb	23 11 44.9	
	comp=Z,11nm,1.3s						
LCRK	**Leigh Creek**	**32.00**	**139**	P	**P**	**23 11 54.3**	**+1.0**
HTT	**Hallett**	**34.45**	**142**	P	**P**	**23 12 16.2**	**+1.5**
STKA	**Stephens Creek**	**35.14**	**138**	P	**P**	**23 12 20.6**	**0.0**
STKA	**Stephens Creek**	**35.14**	**138**	P	**P**	**23 12 21.3**	**+0.7**
	comp=Z,4.5nm,0.7s,baz=308,slow=9.5,SNR=8.9						
STKA				LR	LR	23 28 55.0	
	comp=Z,86nm,18.4s,baz=325,slow=40						
	comp=Z,4.5nm,0.7s						
PZH	**PanZhiHua**	**35.78**	**340**	P	**P**	**23 12 28.0**	**+1.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,80nm,5.3s						
PALK	**Pallekele**	**36.74**	**292**	LR	LR	23 29 39.8	
	comp=Z,41nm,18.1s,baz=126,slow=39						
NJ2	**Nanjing**	**39.28**	**6**	*eP*	**P**	**23 12 58.6**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,40nm,0.5s						
SHL	**Shillong**	**39.38**	**327**	P	**P**	**23 12 57.4**	**+0.6**
JNU	**Nakatsue**	**43.03**	**20**	LR	LR	23 32 47.6	
	comp=Z,38nm,20.0s,baz=122,slow=38						
LSA	**Lhasa**	**43.09**	**330**	P	**P**	**23 13 29.3**	**+1.7**
LSA				pmax	pmax		
	comp=Z,11nm,1.0s						
LZH	**Lanzhou**	**44.26**	**348**	*eP*	P	23 13 43.1	+6.5
LZH				pP	sP	23 13 50.4	+4.6
LZH				pmax	pmax		
	comp=Z,12nm,1.2s						
KSRS	**Korea Array**	**46.18**	**15**	P	**P**	**23 13 51.0**	**-0.6**
	comp=Z,2.6nm,1.0s,baz=198,slow=7.3,SNR=5.1						
KSRS				LR	LR	23 34 44.8	
	comp=Z,25nm,19.9s,baz=195,slow=38						
	comp=Z,2.6nm,1.0s						
BJI	**Beijing**	**47.07**	**2**	P	**P**	**23 13 59.3**	**+0.8**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**47.93**	**357**	*eP*	**P**	**23 14 09.3**	**+3.9**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
GTA	**Gaotai**	**48.39**	**345**	P	**P**	**23 14 11.6**	**+2.6**
GTA				pP	sP	23 14 17.8	-0.4
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MJAR	**Matsushiro Arr**	**48.87**	**25**	P	**P**	**23 14 11.2**	**-1.4**
	comp=Z,2.7nm,0.7s,baz=185,slow=8.9,SNR=4.8						
MJAR				LR	LR	23 36 31.3	
	comp=Z,21nm,20.3s,baz=168,slow=38						
	comp=Z,2.7nm,0.7s						
XLT	**XiLinHaoTe**	**50.92**	**1**	*eP*	**P**	**23 14 31.3**	**+3.2**
XLT				sP	sP	23 14 40.1	+2.7
XLT				PcP	**PcP**	**23 15 43.8**	**-0.6**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ULN	**Ulaanbaatar**	**55.27**	**354**	P	**P**	**23 14 59.8**	**-0.4**
ULN				IAmb	IAmb	23 15 02.1	
	comp=Z,5.1nm,1.0s						
SONM	**Songino Array**	**55.31**	**353**	P	**P**	**23 15 00.7**	**+0.2**
SONM				IAmb	IAmb	23 15 02.4	
	comp=Z,5.4nm,1.0s						
SONM	**Songino Array**	**55.31**	**353**	P	**P**	**23 15 01.3**	**+0.8**
	comp=Z,4.4nm,0.9s,baz=176,slow=9.4,SNR=26						
SONM				LR	LR	23 41 17.6	
	comp=Z,34nm,20.1s,baz=188,slow=39						
	comp=Z,4.4nm,0.9s						
WMQ	**Urumqi**	**56.35**	**337**	*eP*	**P**	**23 15 11.9**	**+4.0**
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,13nm,3.8s						
KLR	**Kul'dur**	**58.21**	**13**	LR	LR	23 45 05.2	
	comp=Z,32nm,18.4s,baz=204,slow=41						
KSH	**Kashi**	**58.64**	**326**	P	**P**	**23 15 24.7**	**+0.4**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**60.97**	**335**	P	**P**	**23 15 39.4**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=164,slow=6.3,SNR=3.9						
MKAR				LR	LR	23 45 08.2	
	comp=Z,26nm,20.0s,baz=172,slow=39						
	comp=Z,0.4nm,0.7s						
AAK	**Ala-Archa**	**61.60**	**327**	P	**P**	**23 15 44.8**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=190,slow=11,SNR=2.3						
AAK				LR	LR	23 47 13.8	
	comp=Z,34nm,20.1s,baz=186,slow=41						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**65.52**	**336**	P	**P**	**23 16 10.1**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=144,slow=5.2,SNR=7.3						
	comp=Z,0.8nm,0.8s						
ZAA0	**Zalesovo Array**	**65.91**	**341**		**P**	**23 16 12.1**	**-0.4**
ZAA0				IAmb	IAmb	23 16 13.2	
	comp=Z,4.4nm,0.9s						
ZALV	**Zalesovo Beam**	**65.91**	**341**		**P**	**23 16 11.7**	**-0.8**
ZALV	**Zalesovo Beam**	**65.91**	**341**	P	**P**	**23 16 12.0**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=138,slow=4.7,SNR=13						
	comp=Z,3.3nm,0.7s						
PETK	**Petropavlovsk-**	**70.32**	**26**	LR	LR	23 48 53.9	
	comp=Z,15nm,19.4s,baz=204,slow=37						
BVAR	**Borovoye Array**	**70.74**	**334**	P	**P**	**23 16 41.9**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=142,slow=7.3,SNR=3.7						
BVAR				LR	LR	23 51 13.2	
	comp=Z,36nm,18.9s,baz=132,slow=39						
	comp=Z,0.8nm,0.8s						
ABKAR	**Akbulak array**	**73.64**	**326**	P	**P**	**23 16 59.1**	**-1.1**
VNDA	**Vanda**	**74.42**	**170**	P	**P**	**23 17 05.6**	**+1.3**
VNDA	**Vanda**	**74.42**	**170**	P	**P**	**23 17 05.0**	**+0.7**
	comp=Z,2.3nm,0.9s,baz=303,slow=5.5,SNR=9.2						
	comp=Z,2.3nm,0.9s						
AKTO	**Aktyubinsk**	**75.33**	**327**	P	**P**	**23 17 09.7**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=135,slow=1.4,SNR=1.9						
	comp=Z,0.9nm,0.6s						
KIBK	**Kibwezi**	**76.36**	**269**	P	**P**	**23 17 16.4**	**-0.4**
KIBK				IAmb	IAmb	23 17 18.3	
	comp=Z,4.6nm,1.0s						
KMBO	**Kilima Mbogo**	**77.29**	**270**	P	**P**	**23 17 22.4**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=82,slow=4.5,SNR=4.2						
	comp=Z,0.7nm,0.3s						
SYO	**Syowa Base**	**77.92**	**201⇑**	*eP*	**P**	**23 17 26.0**	**+1.7**
ARTI	**Arti**	**78.29**	**332**	LR	LR	23 56 18.0	
	comp=Z,26nm,19.0s,baz=138,slow=39						
NRIK	**Noril'sk**	**78.66**	**351**	P	**P**	**23 17 28.3**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=214,slow=3.6,SNR=1.7						
	comp=Z,0.8nm,0.5s						
TIXI	**Tiksi**	**79.29**	**5**	P	**P**	**23 17 30.9**	**-0.9**
QSPA	**South Pole Qui**	**82.75**	**180**	P	**P**	**23 17 50.7**	**+0.2**
	comp=Z,5.5nm,1.1s,baz=331,slow=2.1,SNR=9.8						
	comp=Z,5.5nm,1.1s						
LSZ	**Lusaka**	**84.66**	**255**	P	**P**	**23 18 00.4**	**-1.0**
LSZ				IAmb	IAmb	23 18 02.7	
	comp=Z,8.3nm,1.1s						
BR131	**Keskin Array S**	**87.66**	**310**	P	**P**	**23 18 14.2**	**-1.5**
BR131					**PcP**	**23 18 15.2**	**-2.4**
BRTR	**Keskin Array B**	**87.66**	**310**	P	**P**	**23 18 15.1**	**-0.7**
	comp=Z,4.2nm,0.9s,baz=127,slow=5.2,SNR=19						
	comp=Z,4.2nm,0.9s						
OBN	**Obninsk**	**89.09**	**326**	P	**P**	**23 18 19.0**	**-2.9**
AKASG	**Malin Array Be**	**92.61**	**321**	P	**P**	**23 18 36.8**	**-1.6**
	comp=Z,0.2nm,0.2s,baz=73,slow=5.6,SNR=5.2						
	comp=Z,0.2nm,0.2s						
ILAR	**Eielson Array**	**100.15**	**26**	P	**Pdif**	**23 19 12.4**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=241,slow=4.6,SNR=5.0						
YKA	**Yellowknife Ar**	**114.33**	**23**	PKP	**PKiKP**	**23 24 06.5**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=302,slow=3.5,SNR=3.9						
CPUP	**Villa Florida**	**145.72**	**193**	PKPbc	**PKPdf**	**23 25 05.9**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=218,slow=4.7,SNR=5.5					

AAK Ala-Archa 19.38 306 P Pn 23 10 21.3 0.0
comp=Z,0.1nm,0.3s,baz=108,slow=4.5,SNR=6.4
AAK LR LR 23 19 13.1
comp=Z,34nm,19.6s,baz=120,slow=41
comp=Z,2.6nm,1.1s
KURBB Kurchatov Arra 21.69 329 P P 23 10 44.9 +0.1
comp=Z,3.6nm,0.9s,baz=135,slow=11,SNR=28
comp=Z,3.6nm,0.9s
BVAR Borovoye Array 27.05 325 P P 23 11 36.6 +0.4
comp=Z,0.4nm,0.7s,baz=108,slow=9.3,SNR=2.2
comp=Z,0.4nm,0.7s
YAK Yakutsk 36.05 26 LR LR 23 28 33.5
comp=Z,56nm,18.1s,baz=228,slow=38
BRTR Keskin Array B 49.69 296 P P 23 14 46.8 +0.8
comp=Z,0.9nm,0.9s,baz=92,slow=7.9,SNR=3.6
comp=Z,0.9nm,0.9s
AKASG Malin Array Be 50.91 311 P P 23 14 54.0 -0.9
comp=Z,0.3nm,0.4s,baz=76,slow=6.3,SNR=4.4
comp=Z,0.3nm,0.4s
FINES FINESS Array B 52.00 325 P P 23 15 03.0 +0.1
comp=Z,1.3nm,0.8s,baz=88,slow=7.1,SNR=1.5
comp=Z,1.3nm,0.8s
HFS Hagfors 58.17 324 P P 23 15 48.0 +0.5
comp=Z,2.8nm,1.0s,baz=115,slow=6.8,SNR=1.8
comp=Z,2.8nm,1.0s
NOA NORSAR Array B 59.17 326 P P 23 15 53.9 -0.6
comp=Z,0.6nm,0.7s,baz=78,slow=6.8,SNR=1.9
comp=Z,0.6nm,0.7s
WRA Warramunga Arr 64.25 140 P P 23 16 28.7 -0.4
comp=Z,0.7nm,0.9s,baz=330,slow=6.7,SNR=3.1
comp=Z,0.7nm,0.9s
ASAR Alice Springs 67.06 142 P P 23 16 47.2 0.0
comp=Z,0.5nm,0.4s,baz=329,slow=6.6,SNR=5.0
comp=Z,0.5nm,0.4s

---

*ISN **01** 23:08:41.0±0.6, 33.°65N×45.°84E, h7km±3km, ML2.8*
*TEH **01** 23:08:42.5, 33.°65N×45.°89E, h10km±999km*
ISC 01 23:08:42.7±0.9, **33.°64N**±0.°03×**45.°89E**±0.°05, **h19**km, **n9,**
σ1°**28**/13, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.48**	**2**	Pg	**Pg**	**23 08 50.8**	**-1.7**
IBDR	**Badra**	**0.53**	**176**	*e*Pg	**Pb**	**23 08 52.0**	**-1.3**
IBDR				*e*Sg	**Sb**	**23 08 59.0**	**-1.5**
IBDR				AML	AML	23 09 02.0	
	comp=E,543nm,0.7s						
IBDR				AML	AML	23 09 02.5	
	comp=N,580nm,0.7s						
IGHG	**Ghaleghazi**	**0.89**	**39**	Pg	**Pb**	**23 09 00.4**	**+0.7**
KGS1	**Ghasr-e-Shirin**	**0.90**	**344**	Pg	**Pb**	**23 09 00.4**	**+0.6**
IDHR	**Dehrash**	**1.14**	**21**	Pg	**Pn**	**23 09 04.1**	**+0.2**
BHD	**Baghdad**	**1.31**	**254**	*e*Pn	**Pn**	**23 09 07.0**	**+1.0**
BHD				*e*Sn	**Sg**	**23 09 26.0**	**+0.8**
IKFM	**Kafar-mosalman**	**1.64**	**93**	Pg	**Pb**	**23 09 12.7**	**+0.4**
RAFI	**Al-Rafai**	**1.92**	**174**	*e*Pn	**Pn**	**23 09 16.0**	**+1.6**
RAFI				*e*Sn	**Sb**	**23 09 42.0**	**+1.4**
IKRK	**Kirkuk**	**2.17**	**324**	*e*Pn	**Pn**	**23 09 19.0**	**+1.1**
IKRK				*e*Sn	**Sb**	**23 09 47.0**	**-1.0**

---

*IDC **01** 23:24:38.6±1.1, 1.°41S×120.°37E, h0km, mb3.5/5,*
mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=69.1km
s-min=19.5km az=67.0
*DJA **01** 23:24:38.9±0.4, 1.°S±2.°×12.°0E±.°, h10km±3km, M3.9/10,*
MLv3.9/10
ISC 01 23:24:40.1±0.8, **1.°39S**±0.°04×**120.°00E**±0.°07, **h10**km, **n14,**
σ2°**20**/17, **mb3.6/5, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.51**	**342**	P	**Pg**	**23 24 49.8**	**-0.3**
PCI				S	**Sg**	**23 24 58.4**	**+1.6**
TTSI	**Tana Toraja**	**1.65**	**186**	P	Pn	23 25 07.1	-2.1
TTSI				S	**Sn**	**23 25 28.7**	**-1.8**
APSI	**Ampana**	**1.72**	**74**	P	**Pn**	**23 25 10.3**	**+0.2**
SPSI	**Sidrap Palu**	**2.57**	**185**	P	**Pn**	**23 25 21.0**	**-0.8**
SPSI				S	**Sn**	**23 25 51.1**	**-2.0**
MRSI	**Marisa**	**2.69**	**46**	P	**Pn**	**23 25 22.7**	**-0.8**
MRSI				S	**Sn**	**23 25 55.1**	**-1.0**
LUWI	**Luwuk**	**2.80**	**83**	P	Pn	23 25 22.3	-2.7
SMKI	**Samarinda**	**2.94**	**289**	P	**Pn**	**23 25 25.4**	**-1.6**
KAPI	**Kappang**	**3.61**	**184**	Pn	**Pn**	**23 25 35.7**	**-0.4**
	4.4nm,0.3s,baz=308,slow=7.3,SNR=8.4						
KAPI				Sn	**Sn**	**23 26 24.9**	**+6.1**
	5.9nm,0.3s,baz=66,slow=23,SNR=6.3						
	15nm,0.4s						
BKSI	**Bulukumba**	**3.91**	**178**	P	**Pn**	**23 25 39.9**	**-0.3**
WRA	**Warramunga Arr**	**23.17**	**144**	P	**P**	**23 29 45.0**	**-2.0**
	2.1nm,0.8s,baz=321,slow=10,SNR=9.3						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**25.92**	**150**	P	**P**	**23 30 10.8**	**-2.0**
	0.5nm,0.7s,baz=332,slow=9.7,SNR=5.7						
	0.5nm,0.7s						
SONM	**Songino Array**	**50.44**	**348**	P	**P**	**23 33 37.9**	**-0.3**
	0.5nm,0.7s,baz=170,slow=10.0,SNR=1.6						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**58.27**	**330**	P	**P**	**23 34 36.2**	**+1.2**
	0.4nm,0.7s,baz=128,slow=6.8,SNR=4.9						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**62.70**	**332**	P	**P**	**23 35 07.6**	**+2.5**
	0.2nm,0.5s,baz=129,slow=7.3,SNR=1.9						
	0.2nm,0.5s						

---

*IDC **02** 00:01:05.9±1.3, 53.°28S×141.°70E, h0km, mb3.9/5,*
mbtmp3.9/5, MS3.5/7, Error ellipse: s-maj=111.7km
s-min=18.6km az=83.0
ISC 02 00:01:07.4±1.2, **53.°4S**±0.°1×**140.°9E**±0.°7, **h10**km, **n22,**
σ1°**18**/8, **mb3.8**/5, **MS3.5**/7, **West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.48**	**2**	P	**P**	**00 05 56.4**	**+0.5**
	3.9nm,0.9s,baz=176,slow=12,SNR=5.7						
STKA				LR	LR	00 13 01.1	
	comp=Z,60nm,18.1s,baz=206,slow=33						
	3.9nm,0.9s						
VNDA	**Vanda**	**25.43**	**170**	P	**P**	**00 06 35.5**	**+0.8**
	0.7nm,0.4s,baz=17,slow=9.7,SNR=8.6						
	0.7nm,0.4s						
H01W1	**Cape Leeuwin H**	**26.39**	**304**	T	T	00 34 03.2	
	baz=142,slow=75,SNR=21						
H01W2	**Cape Leeuwin H**	**26.40**	**304**	T	T	00 34 00.5	
	baz=142,slow=75,SNR=23						
H01W3	**Cape Leeuwin H**	**26.41**	**304**	T	T	00 34 02.4	
	baz=142,slow=75,SNR=19						
NWAO	**Narrogin (SRO)**	**26.53**	**311**	LR	LR	00 14 38.4	
	comp=Z,67nm,18.0s,baz=154,slow=30						
ASAR	**Alice Springs**	**30.12**	**347**	P	**P**	**00 07 16.5**	**-0.7**
	0.6nm,0.5s,baz=164,slow=9.7,SNR=7.4						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**33.74**	**349**	P	**P**	**00 07 48.0**	**-0.9**
	1.6nm,0.8s,baz=174,slow=7.5,SNR=7.4						
	1.6nm,0.8s						
QSPA	**South Pole Qui**	**36.75**	**180**	P	**P**	**00 08 13.4**	**-1.2**
	3.8nm,1.0s,baz=344,slow=5.2,SNR=5.7						
QSPA				LR	LR	00 22 54.9	
	comp=Z,71nm,19.3s,baz=332,slow=36						
	3.8nm,1.0s						
DZM	**Mont Dzumac**	**36.80**	**42**	LR	LR	00 22 06.0	
	comp=Z,108nm,18.3s,baz=262,slow=35						
MSVF	**Nonsavu**	**45.76**	**53**	LR	LR	00 24 14.6	
	comp=Z,95nm,18.9s,baz=22,slow=31						
KAPI	**Kappang**	**51.22**	**333**	LR	LR	00 34 44.3	
	comp=Z,22nm,18.1s,baz=163,slow=39						
H04S1	**CROZET ISLANDS**	**53.89**	**238**	T	T	01 08 53.9	
	baz=129,slow=76,SNR=3.6						
H04S2	**CROZET ISLANDS**	**53.90**	**238**	T	T	01 08 51.9	
	baz=129,slow=76,SNR=5.7						
H04S3	**CROZET ISLANDS**	**53.91**	**238**	T	T	01 08 57.1	
	baz=129,slow=76,SNR=4.2						
H08S2	**Diego Garcia H**	**71.07**	**283**	T	T	01 29 42.1	
	baz=144						
H08S1	**Diego Carcia H**	**71.08**	**283**	T	T	01 29 43.1	
	baz=144,slow=74						
H08S3	**Diego Garcia H**	**71.09**	**283**	T	T	01 29 43.2	
	baz=144,slow=74						
LBTB	**Lobatse**	**84.02**	**236**	LR	LR	00 44 35.8	
	comp=Z,51nm,18.1s,baz=178,slow=31						
FINES	**FINESS Array B**	**145.38**	**310**	PKPbc	**PKPab**	**00 20 44.8**	**+0.6**
	2.7nm,0.7s,baz=90,slow=1.4,SNR=6.8						
GERES	**GERESS Array B**	**147.18**	**284**	PKPbc	**PKiKP**	**00 20 52.0**	**-0.3**
	0.2nm,0.4s,baz=107,slow=3.3,SNR=2.4						
ESDC	**Sonseca Array**	**152.54**	**254**	PKPbc	**PKiKP**	**00 21 05.3**	**+1.7**
	0.5nm,0.7s,baz=118,slow=0.8,SNR=5.7						

---

*AEIC **02** 00:05:45.0±1.2, 53.°48N±0.°08×160.°2W±0.°1, h42km±10km,*
Error ellipse: s-maj=13.7km s-min=7.9km az=143.0
NEIC 02 00:05:43.2±1.2, **53.°41N**±0.°09×**160.°11W**±0.°10,
h31km±10km, **ML3.2**/10, **ML3.1**(AEIC), **Error ellipse:**
s-maj=14.4km s-min=6.1km az=153.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**1.45**	**12**	Sn	Sn	00 06 24.6	-0.6
CNBA	**Chernabura Isl**	**1.45**	**12**	Pn	Pn	00 06 06.7	-0.5
SDPT	**Sand Point**	**1.96**	**354**		Pn	00 06 13.8	-0.4
SDPT					Sn	00 06 37.1	-0.6
SDPT	**Sand Point**	**1.96**	**354**	IAML		00 06 39.4	
	comp=E,91nm,0.5s						
SDPT				IAML		00 06 42.5	
	comp=N,70nm,1.1s						
HAG	**Hague Volcano**	**2.18**	**332**		Pn	00 06 17.4	0.0
HAG					Sn	00 06 42.9	-0.5
PS4A	**Pavlof South-4**	**2.19**	**333**		Pn	00 06 17.0	-0.5
PS4A					Sn	00 06 42.8	-0.8
PVV	**Pavlof Volcano**	**2.20**	**334**		Pn	00 06 17.7	+0.1
PVV					Sn	00 06 43.4	-0.3
PS1A	**Pavlof South-1**	**2.23**	**335**		Pn	00 06 18.3	+0.3
PS1A					Sn	00 06 44.5	0.0
ISLZ	**Isanotski Laza**	**2.50**	**303**		Pn	00 06 21.5	-0.3
ISLZ					Sn	00 06 49.8	-1.4
ISNN	**Isanotski Nort**	**2.59**	**305**		Pn	00 06 23.5	+0.6
SSLN	**Shishaldin Nor**	**2.69**	**303**		Pn	00 06 24.9	+0.6
WESE	**West Dahl East**	**2.85**	**294**		Pn	00 06 26.8	+0.1
VNFG	**Fog Glacier, M**	**2.90**	**6**		Pn	00 06 27.5	+0.2
VNFG	**Fog Glacier, M**	**2.90**	**6**	IAML		00 06 51.0	
	comp=N,98nm,1.1s						
VNFG				IAML		00 07 06.0	
	comp=E,118nm,1.2s						
CHGN	**Chignik**	**3.06**	**18**	Pn	Pn	00 06 30.4	+1.0
CHIR	**Chirikof Islan**	**3.56**	**45**		Pn	00 06 36.4	+0.2
CHIR	**Chirikof Islan**	**3.56**	**45**	IAML		00 07 20.8	
	comp=N,44nm,1.2s						
CHIR				IAML		00 07 36.7	
	comp=E,62nm,1.1s						
LVA	**Lava Point**	**3.59**	**284**	Pn	Pn	00 06 37.6	+0.8
UNV	**Unalaska Valle**	**3.83**	**279**		Pn	00 06 39.6	-0.4
MREP	**Makushin Rep't**	**3.97**	**278**		Pn	00 06 42.2	+0.2
OKTU	**Okmok Mt. Tuli**	**4.75**	**273**		Pn	00 06 53.1	+0.4
CNTC	**Contact Creek**	**5.42**	**24**		Pn	00 07 02.5	+0.6
OHAK	**Old Harbor**	**5.46**	**43**		Pn	00 07 02.1	-0.2
ANCK	**Angle Creek**	**5.46**	**27**		Pn	00 07 02.8	+0.4
ACHA	**Angle Creek He**	**5.51**	**27**	Pn	Pn	00 07 03.1	-0.1
P16K	**Nushagak River**	**5.76**	**11**	Pn	Pn	00 07 06.9	+0.5
O15K	**Ungalikthiuk R**	**5.78**	**1**	Pn	Pn	00 07 06.2	-0.6
O14K	**Tigyukauivet M**	**5.89**	**354**	Pn	Pn	00 07 08.6	+0.3
KDAK	**Kodiak Island**	**6.11**	**41**		Pn	00 07 10.7	-0.6
KDAK	**Kodiak Island**	**6.11**	**41**		Pn	00 07 11.1	-0.2
O16K	**Kokwok River B**	**6.30**	**9**	Pn	Pn	00 07 13.3	-0.5
P18K	**Big Mountain,**	**6.58**	**22**	Pn	Pn	00 07 17.1	-0.6
N14K	**Kuskokwak Cree**	**6.59**	**353**	Pn	Pn	00 07 17.8	0.0
Q19K	**Cape Douglas,**	**6.60**	**31**	Pn	Pn	00 07 17.5	-0.6
SYI	**Shuyak Island**	**6.77**	**37**	Pn	Pn	00 07 20.7	+0.3
N15K	**Kwethluk River**	**6.78**	**0**	Pn	Pn	00 07 20.3	-0.1
O18K	**Koktuh Hills**	**7.00**	**21**	Pn	Pn	00 07 23.8	+0.2
N17K	**Nushagak Hills**	**7.31**	**11**	Pn	Pn	00 07 27.3	-0.5
M14K	**Bethel**	**7.43**	**353**	Pn	Pn	00 07 29.2	-0.1
M16K	**Timber Creek**	**7.66**	**4**	Pn	Pn	00 07 33.0	+0.4
CNPM	**China Poot**	**7.85**	**35**	Pn	Pn	00 07 35.4	+0.2
M17K	**Holitna River**	**8.14**	**9**	Pn	Pn	00 07 39.3	+0.2
L16K	**Owhat River**	**8.33**	**2**	Pn	Pn	00 07 41.0	-0.7
ATKA	**Atka Island**	**8.62**	**268**	Pn	Pn	00 07 45.1	-0.6
K13K	**Kusilvak Mount**	**8.88**	**346**	Pn	Pn	00 07 49.3	+0.1
K15K	**Wolf Creek Mou**	**8.94**	**356**	Pn	Pn	00 07 50.0	-0.1
L18K	**Granite Mounta**	**9.02**	**10**	Pn	Pn	00 07 50.6	-0.5
M19K	**Big River Lodg**	**9.05**	**17**	Pn	Pn	00 07 51.6	+0.1
L19K	**White Mountain**	**9.23**	**16**	Pn	Pn	00 07 53.7	-0.4
K17K	**Iditarod**	**9.38**	**5**	Pn	Pn	00 07 56.1	0.0
SUA	**Susitna One**	**9.51**	**28**	Pn	Pn	00 07 58.1	+0.1
J14K	**Nanvaranak Lak**	**9.54**	**350**	Pn	Pn	00 07 57.9	-0.3
PWL	**Port Wells**	**9.82**	**36**	Pn	Pn	00 08 02.7	+0.6
J16K	**Anvik River**	**9.91**	**359**	Pn	Pn	00 08 02.9	-0.4
HIN	**Hinchinbrook I**	**10.20**	**41**	Pn	Pn	00 08 06.5	-0.8
GLI	**Glacier Island**	**10.28**	**38**	Pn	Pn	00 08 10.1	+1.7
GHO	**Glory Hole Cre**	**10.29**	**31**	Pn	Pn	00 08 07.7	-0.9
FID	**Port Fidalgo**	**10.43**	**40**	Pn	Pn	00 08 06.6	-3.9
SML	**Sawmill**	**10.51**	**32**	Pn	Pn	00 08 11.9	+0.4
SCM	**Sheep Creek Mo**	**10.85**	**34**	Pn	Pn	00 08 16.7	+0.4
M24K	**Tolsona, Glenn**	**11.44**	**35**	Pn	Pn	00 08 22.4	-1.8

---

*GII **02** 00:10:02.5±0.0, 34.°22N±0.°03×37.°21E±0.°03, h0km,*
Md2.2/3, confirmed
*GRAL **02** 00:10:02.8±0.5, 33.°85N×37.°44E, h2km±5km, MD3.3*
ISC 02 00:10:04.7±2.3, **34.°00N**±0.°06×**37.°2E**±0.°1, **h0**km, **n36,**
σ0°**76**/38, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.67**	**292**	*e*P	**Pb**	**00 10 19.6**	**+0.3**
FKH				*e*S	**Sn**	**00 10 32.2**	**-0.6**
BEIL	**Beino**	**0.97**	**304**	*e*P	**Pb**	**00 10 24.9**	**+0.4**
HWQ	**Hawqa**	**1.04**	**286**	*e*P	**Pb**	**00 10 26.1**	**+0.4**
HWQ				*e*S	**Sn**	**00 10 43.2**	**+1.1**
ZAHL	**Zahle**	**1.07**	**263**	*e*P	**Pg**	**00 10 25.6**	**+0.4**
RCY	**Rachaya**	**1.21**	**246**	*e*P	**Pg**	**00 10 26.9**	**-1.1**
BHL	**Bhannes**	**1.25**	**266**	*e*P	**Pg**	**00 10 28.9**	**+0.2**
QRWL	**Qaraoun**	**1.31**	**250**	*e*P	**Pg**	**00 10 29.0**	**-0.8**
SHBL	**Chebaa**	**1.35**	**242**	*e*P	**Pg**	**00 10 29.3**	**-1.2**
DQRL	**Deir Qamar**	**1.35**	**258**	*e*P	**Pg**	**00 10 30.3**	**-0.4**
BEYL	**Beirut**	**1.39**	**265**	*e*P	**Pb**	**00 10 32.7**	**+1.1**
NATI	**Neve Ativ**	**1.40**	**239**	P	**Pn**	**00 10 30.7**	**-0.7**
NATI	**Neve Ativ**	**1.40**	**239**	S	**Sn**	**00 10 51.8**	**+1.3**
GEM	**Giv'at Ha'Em**	**1.47**	**238**	P	**Pn**	**00 10 31.5**	**-1.1**
GEM	**Giv'at Ha'Em**	**1.47**	**238**	S	**Sn**	**00 10 53.6**	**+1.1**
KSHT	**Keshet**	**1.52**	**228**	P	**Pn**	**00 10 32.0**	**-1.1**
KSHT	**Keshet**	**1.52**	**228**	S	**Sn**	**00 10 54.0**	**+0.4**
MMA0B	**Mount Meron ar**	**1.76**	**237**	P	**Pn**	**00 10 35.9**	**-0.7**
MMA0B	**Mount Meron ar**	**1.76**	**237**	S	**Sb**	**00 11 01.1**	**+0.4**
MMC7	**Mount Meron ar**	**1.77**	**237**	P	**Pn**	**00 10 36.0**	**-0.6**
HNTI	**Hanita**	**1.89**	**242**	P	**Pn**	**00 10 36.6**	**-1.7**
HNTI	**Hanita**	**1.89**	**242**	S	**Sg**	**00 11 05.4**	**-0.1**
BLGI	**Bet Lehem HaGe**	**2.07**	**233**	P	**Pn**	**00 10 40.5**	**-0.3**
BLGI	**Bet Lehem HaGe**	**2.07**	**233**	S	**Sb**	**00 11 09.5**	**-0.1**
MMLI	**Mount Malkishu**	**2.13**	**224**	P	**Pn**	**00 10 41.0**	**-0.6**
MMLI	**Mount Malkishu**	**2.13**	**224**	S	**Sb**	**00 11 10.8**	**-0.4**
HMDT	**Nahal Hemdat**	**2.21**	**219**	P	**Pn**	**00 10 41.9**	**-0.9**
HMDT	**Nahal Hemdat**	**2.21**	**219**	S	**Sb**	**00 11 13.8**	**+0.2**
OFRI	**`Ofer**	**2.28**	**234**	P	**Pn**	**00 10 43.5**	**-0.1**
OFRI	**`Ofer**	**2.28**	**234**	S	**Sb**	**00 11 15.7**	**+0.2**
SLTI	**Sal'it**	**2.50**	**226**	P	**Pn**	**00 10 46.7**	**+0.1**
SLTI	**Sal'it**	**2.50**	**226**	S	**Sb**	**00 11 20.7**	**-1.0**
DSI	**Dead Sea**	**2.85**	**212**	P	**Pn**	**00 10 51.1**	**-0.3**
GHAJ	**Ghor Haditha**	**3.00**	**207**	P	**Pn**	**00 10 53.8**	**+0.2**
AMAZ	**Amatzia**	**3.10**	**218**	P	**Pn**	**00 10 55.8**	**+0.8**
YTIR	**Yattir**	**3.14**	**214**	P	**Pn**	**00 10 55.1**	**-0.5**
PRNI	**Paran**	**4.07**	**207**	P	**Pn**	**00 11 08.3**	**+0.1**

---

*CRAAG **02** 00:22:40.9, 36.°47N×4.°29E, MI2.7, Algerie 03km SW*
Akbil
*MDD **02** 00:22:46.5±1.0, 36.°76N×4.°32E, h9km±13km, Mb3.9/23,*
M_mb3.2/25, Error ellipse: s-maj=15.7km s-min=6.7km
az=167.0
ISC 02 00:22:43.5±1.5, **36.°78N**±0.°07×**4.°29E**±0.°08, **h10**km, **n18,**
σ2°**21**/20, **9C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKB	**Taksebt**	**0.17**	**231**	P	**Pg**	**00 22 46.9**	**-0.3**
AKED	**El Kharrouba**	**0.71**	**260**	P	**Pg**	**00 22 56.2**	**-1.1**
ADJB	**Djebel Djouab**	**0.92**	**228**	P	Pg	00 22 56.5	-4.8
CAZD	**Ain Tagrout**	**0.93**	**130**	P	Pg	00 22 56.8	-4.6
ABSD	**Ouled Sidi Bra**	**1.35**	**183**	P	Pn	00 23 04.2	-4.2
ABKD	**Sidi Amar**	**1.61**	**262**	P	**Pn**	**00 23 13.2**	**+1.2**
EDDR	**Deurdeur**	**1.84**	**246**	P	**Pn**	**00 23 16.0**	**+0.7**
ETOS	**Mallorca**	**3.20**	**339**	⇑*i*Vmb_V		00 23 34.8	
	260nm,SNR=2.0						
ETOS				P	**Pn**	**00 23 34.9**	**+1.0**
ETOS				S	**Sn**	**00 24 11.1**	**-1.0**
EIBI	**Ibiza**	**3.23**	**315**	P	**Pn**	**00 23 35.5**	**+1.2**
EIBI				⇑*i*Vmb_V		00 23 35.9	
	164nm,SNR=0.7						
EIBI				S	**Sn**	**00 24 11.8**	**-1.1**
EBEN2	**Beniarda presa**	**4.02**	**299**	P	**Pn**	**00 23 47.2**	**+2.1**
EBEN2				⇑*i*Vmb_V		00 23 50.5	
	210nm,SNR=1.3						
ECOL	**Islas Columbre**	**4.21**	**319**	P	**Pn**	**00 23 48.4**	**+0.8**
ECOL				S	**Sn**	**00 24 36.5**	**-0.3**
EVIV	**Cofrentes, Val**	**4.94**	**302**	P	**Pn**	**00 24 00.4**	**+2.6**
EVIV				⇑*i*Vmb_V		00 24 04.2	
	136nm,SNR=1.5						
EVIV				S	**Sn**	**00 24 50.1**	**-4.9**
ECHE	**Chera**	**5.00**	**306**	P	**Pn**	**00 24 01.6**	**+3.0**
ECHE				⇑*i*Vmb_V		00 24 01.8	
	83nm,SNR=0.9						
ECHE				S	Sn	00 24 49.8	-6.7
EMOS	**Mosqueruela**	**5.17**	**315**	P	**Pn**	**00 24 02.9**	**+1.9**
EMOS				⇑*i*Vmb_V		00 24 08.0	
	47nm,SNR=0.6						
EMOS				S	Sn	00 24 52.8	-8.0
EPOB	**Poblet**	**5.20**	**332**	P	**Pn**	**00 24 03.5**	**+2.1**
EPOB				⇑*i*Vmb_V		00 24 06.0	
	62nm,SNR=0.9						
EPOB				S	**Sn**	**00 25 00.4**	**-1.2**
DGI	**Dorgali Grotta**	**5.46**	**48**	S	**Sn**	**00 25 05.6**	**-2.3**
EJON	**La Jonquera**	**5.76**	**350**	P	**Pn**	**00 24 11.1**	**+2.0**
EJON				⇑*i*Vmb_V		00 24 14.8	
	128nm,SNR=1.9						
EQES	**Quesada**	**5.95**	**282**	P	**Pn**	**00 24 15.3**	**+3.5**
EQES				⇑*i*Vmb_V		00 24 20.7	
	51nm,SNR=1.3						

---

*TEH **02** 00:49:18.3, 33.°50N×45.°92E, h10km*
*ISN **02** 00:49:18.0±0.4, 33.°46N×45.°92E, h8km±2km, ML2.6*
ISC 02 00:49:18.4±1.2, **33.°47N**±0.°04×**45.°94E**±0.°07, **h19**km, **n6,**
σ1°**31**/10, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.36**	**182**	*e*Pg	**Pg**	**00 49 25.0**	**-1.1**
IBDR				*e*Sg	**Sg**	**00 49 30.0**	**-1.3**
GLG1	**Gilan-e-Gharb**	**0.64**	**358**	Pg	**Pb**	**00 49 29.7**	**-1.3**
KGS1	**Ghasr-e-Shirin**	**1.07**	**344**	Pg	**Pb**	**00 49 38.8**	**+0.4**
KGS1				Sg	**Sg**	**00 49 53.7**	**+0.3**
IDHR	**Dehrash**	**1.28**	**17**	Pg	**Pb**	**00 49 43.0**	**+0.9**
BHD	**Baghdad**	**1.32**	**262**	*e*Pg	**Pb**	**00 49 43.0**	**+0.4**
BHD				*e*Sg	**Sg**	**00 50 01.0**	**-0.3**
BHD				AML	AML	00 50 14.3	
	comp=E,108nm,0.2s						
RAFI	**Al-Rafai**	**1.75**	**175**	*e*Pn	**Pb**	**00 49 50.1**	**+0.2**
RAFI				*e*Sn	**Sb**	**00 50 14.0**	**+2.5**

---

*BJI **02** 00:59:15.0, 52.°00N×178.°20E, h10km, mB5.0/16, mb4.7/48,*
Ms4.8/28, Ms7 4.5/27
*IDC **02** 00:59:17.0±0.6, 52.°06N×178.°07E, h0km, mb4.5/31,*
mbtmp4.5/36, ML4.5/4, MS4.1/68, Error ellipse:
s-maj=16.4km s-min=10.2km az=172.0
*NEIC **02** 00:59:19.9±1.5, 52.°1N±0.°1×178.°12E±0.°08, h10km±1km,*
mb4.7/375, Error ellipse: s-maj=17.6km s-min=8.1km
az=183.0
*GCMT **02** 00:59:19.9±0.2, 52.°15N±0.°01×178.°09E±0.°02, h12km,*
MW4.9/129, Moment Tensor Solution. s31,c35;
s129,c190; Duration: 0 Moment tensor: Scale 10^16Nm;
M_{rr}-0.23±.06; $M_{\theta\theta}$-1.49±.07; $M_{\phi\phi}$1.71±.05; $M_{r\theta}$-0.25±.18;
$M_{\theta\phi}$-1.77±.05; $M_{\phi r}$-0.76±.16; Best double couple:
$M_0$2.51700×10^16 NP1:ϕ_s111.00000°, δ71.00000°,
λ-178.00000°. NP2:ϕ_s21.00000°, δ88.00000°,
λ-19.00000°. Principal axes: T 2.6220, Plg12.0000°,
Azm67.0000°; N -0.2170, Plg71.0000°, Azm196.0000°; P
-2.4120, Plg14.0000°, Azm334.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
ISC 02 00:59:19.3±0.7, **51.°94N**±0.°08×**178.°13E**±0.°04, **h13**km±3km,
n870, σ1°**16**/813, **mb4.7**/232, **MS4.2**/71, **24C-15D, Rat**
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.60**	**289**	Pn	**Pn**	**01 00 00.1**	**-0.8**
	209nm,0.3s,baz=133,slow=2.6,SNR=65						
SHEM				Sn	**Sn**	**01 00 32.5**	**+0.1**
	259nm,0.3s,baz=287,slow=20,SNR=13						
	599nm,0.5s						
SMY	**Shemya**	**2.60**	**289**	Pn	**Pn**	**00 59

O17K	Koliganek Bris	15.89	51	P		Pn	01 03 03.2 +0.8
	baz=252						
J16K	Anvik River	15.99	37	P		P	01 03 08.0 +0.7
	baz=235						
P17K	Kvichak River	16.04	53	P		P	01 03 06.4 -1.3
	baz=255,SNR=33						
Q17K	Contact Creek	16.09	57	P		Pn	01 03 04.5 -0.7
	baz=258,SNR=38						
N17K	Nushagak Hills	16.10	48	P		P	01 03 07.3 -1.1
	baz=249						
H16K	Elim	16.28	31	P		P	01 03 11.2 +0.8
	baz=228						
L17K	Donlin	16.29	42	P		P	01 03 09.5 -1.0
	baz=242,SNR=12						
I17K	Unalakleet	16.32	35	P		P	01 03 13.2 +2.4
I17K	Unalakleet	16.32	35	P		P	01 03 09.8 -1.0
	baz=233,SNR=8.9						
M17K	Holitna River	16.33	45	P		Pn	01 03 09.3 +1.2
	baz=246						
F15K	North Star Dit	16.34	26	P		P	01 03 09.7 -1.3
	baz=221						
ACHA	Angle Creek He	16.37	57	P		P	01 03 11.9 +0.4
K17K	Iditarod	16.57	40	P		P	01 03 12.9 -0.7
	baz=240,SNR=15						
J17K	VABM Dome	16.62	38	P		P	01 03 14.0 -0.2
	baz=237,SNR=9.4						
Q18K	Katmai Hardscr	16.62	56	P		Pn	01 03 10.6 -1.4
	baz=258,SNR=54						
P18K	Big Mountain,	16.69	53			P	01 03 15.2 +0.2
P18K				IAmb		IAmb	01 03 28.0
	comp=Z,90nm,1.2s						
P18K	Big Mountain,	16.69	53	P		Pn	01 03 12.4 -0.3
	baz=256,SNR=25						
R18K	Karluk	16.73	60	P		Pn	01 03 10.6 -2.5
	baz=262						
N18K	Kilae Creek	16.76	48	P		Pn	01 03 14.2 +0.7
	baz=250,SNR=13						
G16K	Koyuk River	16.76	29	P		P	01 03 17.4 +1.6
	baz=226						
SII	Sitkinak Islan	16.76	63	P		Pn	01 03 14.0 +0.4
SII				IAmb		IAmb	01 03 23.3
	comp=Z,55nm,1.2s						
SII	Sitkinak Islan	16.76	63	P		Pn	01 03 10.5 -3.2
	baz=266						
O18K	Koktuh Hills	16.82	51	P		Pn	01 03 14.5 +0.1
O18K				IAmb		IAmb	01 03 31.0
	comp=Z,60nm,0.9s						
O18K	Koktuh Hills	16.82	51	P		Pn	01 03 15.2 +0.8
	baz=254,SNR=49						
L18K	Granite Mounta	17.00	43	Pn		Pn	01 03 16.7 +0.2
L18K				IAmb		IAmb	01 03 30.3
	comp=Z,62nm,1.5s						
L18K	Granite Mounta	17.00	43	P		P	01 03 18.7 +0.3
	baz=245,SNR=13						
M18K	Stony River	17.08	46	P		P	01 03 18.9 -0.3
	baz=248						
MA2	Magadan	17.09	307	Pn		Pn	01 03 17.1 -0.6
	comp=Z,0.3nm,0.3s,baz=107,slow=14,SNR=1.5						
MA2				LR		LR	01 09 27.5
	comp=Z,764nm,18.6s,baz=114,slow=36						
	comp=Z,2.4nm,0.3s						
BILL	Bilibino	17.15	345			Pn	01 03 18.3 -0.1
H17K	Granite Mounta	17.23	33	Pn		Pn	01 03 19.0 -0.5
H17K	Granite Mounta	17.23	33	P		P	01 03 23.6 +2.6
	baz=232						
OHAK	Old Harbor	17.31	61	P		Pn	01 03 19.8 -0.7
OHAK	Old Harbor	17.31	61	P		Pn	01 03 17.8 -2.7
	baz=265						
O19K	Port Alsworth	17.35	51			P	01 03 23.9 +1.7
O19K				IAmb		IAmb	01 03 41.9
	comp=Z,114nm,1.1s						
O19K	Port Alsworth	17.35	51	P		P	01 03 22.0 -0.2
	baz=254,SNR=14						
G17K	Kiwalik Mounta	17.36	30	P		P	01 03 25.6 +3.3
	baz=229						
Q19K	Cape Douglas,	17.38	55	P		P	01 03 22.7 +0.1
Q19K	Cape Douglas,	17.38	55	P		P	01 03 22.0 -0.6
	baz=259,SNR=13						
N19K	Bonanza Creek	17.45	49	P		P	01 03 24.7 +1.2
	baz=252,SNR=40						
SEY	Seymchan	17.55	319	P		Pn	01 03 22.4 -1.0
	comp=Z,0.3nm,0.3s,baz=124,slow=11,SNR=13						
SEY				LR		LR	01 09 36.7
	comp=Z,876nm,18.0s,baz=122,slow=36						
	comp=Z,9.3nm,0.9s						
J18K	Innoko River	17.57	39	P		P	01 03 27.8 +3.1
	baz=241						
P19K	Oil Pt	17.74	53	P		P	01 03 27.2 +0.6
P19K	Oil Pt	17.74	53	P		P	01 03 26.8 +0.2
	baz=257,SNR=59						
KDAK	Kodiak Island	17.75	59			Pn	01 03 24.9 -1.0
KDAK	Kodiak Island	17.75	59	P		Pn	01 03 25.4 -0.5
	comp=Z,0.9nm,0.3s,baz=118,slow=4.8,SNR=21						
KDAK				LR		LR	01 10 22.8
	comp=Z,627nm,21.0s,baz=101,slow=38						
	comp=Z,21nm,1.1s						
KDAK	Kodiak Island	17.75	59	P		Pn	01 03 25.3 -0.5
	baz=264						
L19K	White Mountain	17.77	44	P		P	01 03 27.5 +0.6
	baz=247,SNR=12						
ILSW	Iliamna Southw	17.86	52	P		P	01 03 29.3 +1.3
ILSW				IAmb		IAmb	01 03 38.7
	comp=Z,99nm,1.2s						
M19K	Big River Lodg	17.87	45	P		P	01 03 28.0 +0.1
	baz=249						
H18K	Honhosa River	17.89	33	P		P	01 03 29.6 +1.4
	baz=234						
Q20K	Shuyak Island	17.96	57	P		P	01 03 28.7 -0.3
	baz=261						
SYI	Shuyak Island	17.96	57	P		P	01 03 29.2 +0.2
E17K	Hotham Inlet	18.12	26	P		P	01 03 34.2 +3.4
	baz=223						
O20K	Slope Mountain	18.14	52	P		P	01 03 30.8 -0.3
	baz=257,SNR=41						
GCSA	Galena City Sc	18.17	36	P		P	01 03 33.5 +2.2
	baz=237						
C16K	Lisburne Hills	18.22	20	P		P	01 03 32.7 +0.9
	baz=214						
G18K	Tagagawik	18.25	31	P		P	01 03 34.1 +2.0
	baz=231,SNR=9.7						
J19K	Poorman	18.25	38	P		P	01 03 35.4 +3.2
	baz=241,SNR=11						
D17K	Noatak River	18.27	23	P		P	01 03 34.4 +2.1
	baz=220,SNR=22						
L20K	Farewell, AK	18.30	44	P		P	01 03 34.5 +1.7
	baz=248,SNR=15						
F18K	Selawik	18.40	29	P		P	01 03 35.0 +1.3
	baz=228,SNR=12						
M20K	Styx River	18.42	46	P		P	01 03 35.1 +0.9
	baz=251,SNR=12						
HOM	Homer	18.53	54	P		Pn	01 03 35.2 -0.2
	baz=259						
K20K	Telida	18.58	41	P		Pn	01 03 36.7 +0.7
	baz=245						
RDOG	Red Dog Mine	18.59	23	P		Pn	01 03 38.1 +1.9
	baz=219						
SPCR	Spurr Chakacha	18.63	49	P		P	01 03 36.3 -0.1
	baz=254,SNR=8.9						
E18K	Tukpahlearik C	18.70	26	P		Pn	01 03 40.2 +2.8
	baz=225,SNR=14						
CNPM	China Poot	18.71	54	P		P	01 03 37.1 -0.1
CNPM				IAmb		IAmb	01 03 46.3
	comp=Z,81nm,1.3s						
H19K	Roundabout Mou	18.76	34	P		Pn	01 03 39.9 +1.8
	baz=236						
C17K	DeLong Mountai	18.86	21	P		Pn	01 03 42.4 +3.0
	baz=218						
STLK	Strandline Lak	18.89	48	P		Pn	01 03 40.5 +0.7
STLK				IAmb		IAmb	01 03 51.3
	comp=Z,44nm,0.8s						
G19K	Purcell Mounta	18.91	32	P		Pn	01 03 42.0 +2.0
	baz=233						
J20K	Nowinta River	18.91	39	P		Pn	01 03 42.0 +2.0
	baz=243						
BRLK	Bradley Lake	18.93	53	P		Pn	01 03 39.8 -0.5
BRLK				IAmb		IAmb	01 03 53.3
	comp=Z,62nm,1.1s						
BRSE	Bradley Lake S	18.99	54	P		P	01 03 39.7 -0.7
	baz=260,SNR=15						
CAPN	Captain Cook N	19.01	50	P		Pn	01 03 42.1 +0.9
	baz=256						
I20K	Naaghedeneel	19.08	37	P		Pn	01 03 43.3 +1.3
	baz=241						
F19K	Shaleruckik Mo	19.12	30	P		Pn	01 03 44.6 +2.2
	baz=231						
SKT	Skwentna	19.16	47			Pn	01 03 44.3 +1.2
SKT				IAmb		IAmb	01 03 51.7
	comp=Z,43nm,1.0s						
SKT	Skwentna	19.16	47	P		Pn	01 03 43.4 +0.3
	baz=252,SNR=38						
PPLA	Purkeypile	19.18	44	P		Pn	01 03 44.5 +1.0
	baz=249,SNR=21						
H20K	Anotleneega Mo	19.29	35	P		Pn	01 03 46.3 +1.7
	baz=238						
SUA	Susitna One	19.38	48	P		Pn	01 03 45.7 -0.1
SUA				IAmb		IAmb	01 03 57.0
	comp=Z,54nm,1.1s						
SUA	Susitna One	19.38	48	P		Pn	01 03 45.4 -0.4
	baz=255,SNR=29						
SLKM	Skilak Lake	19.40	51	P		P	01 03 44.9 +0.1
CAST	Castle Rocks	19.42	42	P		Pn	01 03 46.6 +0.4
CAST				IAmb		IAmb	01 03 57.1
	comp=Z,41nm,1.2s						
CAST	Castle Rocks	19.42	42	P		Pn	01 03 47.4 +1.2
	baz=248,SNR=20						
C18K	Utukok River	19.45	23	P		Pn	01 03 49.9 +3.3
	baz=221,SNR=5.8						
CHUM	Lake Minchumin	19.51	41	P		Pn	01 03 49.2 +1.9
	baz=246,SNR=12						
FIS	Fire Island	19.54	50	P		Pn	01 03 48.7 +1.1
FIS				IAmb		IAmb	01 04 06.7
	comp=Z,86nm,1.2s						
O22K	Cooper Landing	19.63	52	P		Pn	01 03 48.1 -0.6
O22K	Cooper Landing	19.63	52	P		Pn	01 03 48.3 -0.4
	baz=259,SNR=22						
E19K	Redstone River	19.68	29	P		Pn	01 03 50.7 +1.5
	baz=230						
SEW	Seward	19.70	53	P		P	01 03 48.5 +0.5
	baz=260						
M22K	Willow	19.74	48	P		Pn	01 03 50.0 0.0
M22K	Willow	19.74	48	P		Pn	01 03 49.8 -0.2
	baz=255,SNR=7.1						
RC01	Rabbit Creek A	19.76	50	P		P	01 03 49.2 +0.5
RC01				IAmb		IAmb	01 03 55.5
	comp=Z,73nm,1.2s						
RC01	Rabbit Creek A	19.76	50	P		Pn	01 03 50.7 +0.5
	baz=257,SNR=30						
CUT	Chulitna	19.86	46	P		Pn	01 03 51.9 +0.5
CUT				IAmb		IAmb	01 04 02.2
	comp=Z,67nm,1.0s						
CUT	Chulitna	19.86	46	P		Pn	01 03 51.5 +0.2
	baz=253						
B18K	Kokolik River	19.87	21	P		Pn	01 03 52.8 +1.3
	baz=219						
F20K	Avaraart Lake	19.89	31	P		Pn	01 03 53.8 +2.2
	baz=234						
KTH	Kantishna Hill	19.96	42	P		Pn	01 03 52.4 -0.2
KTH				IAmb		IAmb	01 03 57.4
	comp=Z,71nm,1.2s						
H21K	Melozitna River	20.12	36	P		Pn	01 03 54.6 +0.2
	baz=241,SNR=14						
D19K	Kuna River	20.13	26	P		Pn	01 03 56.4 +1.8
	baz=227						
BPAW	Bear Paw Mtn.	20.13	41	P		Pn	01 03 55.0 +0.3
BPAW				IAmb		IAmb	01 03 59.1
	comp=Z,35nm,1.2s						
BPAW	Bear Paw Mtn.	20.13	41	P		Pn	01 03 53.8 -0.9
	baz=248,SNR=23						
PMR	Palmer	20.16	49	P		Pn	01 03 54.4 -0.5
PMR				IAmb		IAmb	01 04 06.6
	comp=Z,38nm,1.5s						
TRF	Thorofare Moun	20.18	43	P		Pn	01 03 54.7 -0.8
TRF	Thorofare Moun	20.18	43	P		Pn	01 03 55.9 +0.4
	baz=250,SNR=20						
GHO	Glory Hole Cre	20.30	48	P		Pn	01 03 56.0 -0.6
G21K	Allakaket	20.31	33	P		Pn	01 03 57.6 +0.9
	baz=238						
PWL	Port Wells	20.38	51	P		P	01 03 55.5 0.0
PWL	Port Wells	20.38	51	P		P	01 03 56.0 +0.5
	baz=259,SNR=42						
KNK	Knik Glacier	20.43	49	P		P	01 03 56.3 +0.3
KNK				IAmb		IAmb	01 04 04.3
	comp=Z,32nm,0.8s						
KNK	Knik Glacier	20.43	49	P		P	01 03 55.9 -0.1
	baz=258						
E20K	Nigu River	20.50	27	P		Pn	01 03 59.9 +0.9
	baz=230,SNR=13						
SML	Sawmill	20.58	48	P		Pn	01 03 58.9 -1.0
SML				IAmb		IAmb	01 04 04.9
	comp=Z,35nm,0.8s						
SML	Sawmill	20.58	48	P		Pn	01 03 59.2 -0.8
	baz=257,SNR=17						
D20K	Etivluk River	20.68	26	P		Pn	01 04 01.2 +0.1
	baz=229						
A19K	Wainwright	20.69	20	P		Pn	01 04 00.3 -0.7
	baz=219						
P23K	Montague Islan	20.70	54	P		P	01 03 58.8 -0.1
	baz=263						
F21K	Alatna River	20.70	32	P		Pn	01 04 00.8 -0.4
	baz=237,SNR=26						
H22K	Ishtalitna Cre	20.75	36	P		Pn	01 04 00.9 -0.9
	baz=243						
BWN	Browne	20.78	41	P		Pn	01 04 02.7 +0.5
RND	Reindeer	20.78	44	P		P	01 04 00.7 +0.8
MCK	McKinley	20.85	43	P		Pn	01 04 03.1 0.0
	baz=251,SNR=10						
M23K	Glacier View	20.86	49	P		P	01 04 00.3 -0.3
	baz=258,SNR=7.9						
GLI	Glacier Island	20.98	51	P		P	01 04 01.2 -0.7
GLI				IAmb		IAmb	01 04 09.3
	comp=Z,49nm,0.9s						
GLI	Glacier Island	20.98	51	P		P	01 04 02.0 +0.1
	baz=261,SNR=26						
SCM	Sheep Creek Mo	21.05	49	P		P	01 04 02.5 -0.3
SCM				IAmb		IAmb	01 04 15.5
	comp=Z,65nm,1.0s						
SCM	Sheep Creek Mo	21.05	49	P		P	01 04 03.1 +0.3
	baz=258,SNR=15						
NEA2	Nenana	21.09	40	P		P	01 04 04.1 +0.9
NEA2				IAmb		IAmb	01 04 11.8
	comp=Z,54nm,1.0s						
NEA2	Nenana	21.09	40	P		P	01 04 04.4 +1.2
	baz=249						
I23K	Minto, Yukon-K	21.19	39	P		P	01 04 04.9 +0.8
I23K	Minto, Yukon-K	21.19	39	P		P	01 04 06.2 +2.0
	baz=247						
HIN	Hinchinbrook I	21.20	53	P		P	01 04 04.6 +0.2
FID	Port Fidalgo	21.26	52	P		P	01 04 04.6 -0.3
E21K	Killik River	21.26	28	P		P	01 04 06.8 +1.9
	baz=233						
F22K	John River	21.28	32	P		P	01 04 07.4 +2.2
	baz=238						
H23K	Yukon River	21.39	37	P		P	01 04 08.3 +1.9
H23K	Yukon River	21.39	37	P		P	01 04 08.5 +2.1
	baz=245,SNR=18						
B20K	Meade River	21.43	23	P		P	01 04 08.5 +1.8
	baz=225,SNR=10						
WRH	Wood River Hil	21.45	41	P		P	01 04 07.1 +0.2
C21K	Knifeblade Rid	21.47	26	P		P	01 04 08.3 +1.1
	baz=230,SNR=5.8						
EYAK	Cordova Ski Ar	21.58	52	P		P	01 04 07.8 -0.7
	baz=263,SNR=7.4						
G23K	Bananza Creek	21.61	35	P		P	01 04 10.5 +1.8
	baz=243,SNR=24						
CCB	Clear Creek Bu	21.62	41	P		P	01 04 10.4 +1.6
M24K	Tolsona, Glenn	21.64	48	P		P	01 04 09.5 +0.4
M24K	Tolsona, Glenn	21.64	48	P		P	01 04 09.3 +0.2
	baz=259,SNR=20						
KLU	Klutina	21.64	50	P		P	01 04 09.8 +0.7
KLU				IAmb		IAmb	01 04 21.5
	comp=Z,64nm,1.3s						
KLU	Klutina	21.64	50	P		P	01 04 09.1 -0.1
	baz=260,SNR=12						
COLA	College	21.68	40	P		P	01 04 09.8 +0.4
COLA				IAmb		IAmb	01 04 17.8
	comp=Z,48nm,1.1s						
COLA	College	21.68	40	P		P	01 04 10.5 +1.0
	baz=250						
E22K	Anaktuvuk Pass	21.74	30	P		P	01 04 11.1 +1.0
E22K				IAmb		IAmb	01 04 18.5
	comp=Z,29nm,1.3s						
E22K	Anaktuvuk Pass	21.74	30	P		P	01 04 11.3 +1.2
	baz=237,SNR=19						
COLD	Coldfoot	21.80	33	P		P	01 04 12.7 +2.0
	baz=241						
B21K	Ikpikpuk River	21.82	26	P		P	01 04 12.5 +1.7
	baz=230						
HDA	Harding Lake	21.89	42	P		P	01 04 13.6 +1.8
HDA	Harding Lake	21.89	42	P		P	01 04 12.4 +0.6
	baz=252,SNR=10.0						
D22K	Ayikyak River	21.90	28	P		P	01 04 14.2 +2.4
	baz=234						
POKR	Poker Plat Res	21.93	40	P		P	01 04 13.1 +0.9
POKR				IAmb		IAmb	01 04 20.7
	comp=Z,21nm,1.0s						
POKR	Poker Plat Res	21.93	40	P		P	01 04 13.4 +1.2
	baz=250						
H24K	Noodor Dome	22.03	38	P		P	01 04 13.9 +0.7
	baz=248						
IL31		22.04	41	P		P	01 04 14.2 +0.9
ILAR	Eielson Array	22.04	41	P		P	01 04 14.6 +1.3
ILAR	Eielson Array	22.04	41	P		P	01 04 13.6 +0.3
	comp=Z,4.4nm,0.9s,baz=258,slow=10,SNR=23						
ILAR				LR		LR	01 12 50.9
	comp=Z,422nm,20.6s,baz=250,slow=37						
	comp=Z,4.4nm,0.9s						
RAGM	Ragged Mountai	22.09	53	P		P	01 04 13.6 -0.4
PAX	Paxson	22.14	46	P		P	01 04 15.7 +1.1
	baz=257,SNR=45						
HARP	HAARP	22.16	48	P		P	01 04 14.6 -0.1
	baz=259,SNR=11						
KAIM	Kayak Island	22.18	54	P		P	01 04 14.2 -0.6
KAIM	Kayak Island	22.18	54	P		P	01 04 13.8 -1.1
	baz=266						
BMRM	Bremner River	22.20	51	P		P	01 04 14.8 -0.3
	baz=263,SNR=34						
K24K	Donnelly Dome	22.21	44	P		P	01 04 16.1 +0.9
	baz=255,SNR=7.4						
N25K	Chitina, Valde	22.29	50	P		P	01 04 16.7 +0.6
N25K				IAmb		IAmb	01 04 24.8
	comp=Z,52nm,1.0s						
N25K	Chitina, Valde	22.29	50	P		P	01 04 15.5 -0.6
	baz=262,SNR=30						
HMT	Hamilton	22.30	53	P		P	01 04 15.7 -0.4
E23K	Chandalar	22.40	32	P		P	01 04 18.6 +1.4
	baz=240,SNR=21						
A21K	Barrow	22.50	21	P		P	01 04 17.5 -0.7
	baz=224						
SUCK	Suckling Hills	22.51	54	P		P	01 04 18.1 -0.4
G24K	Hadweenzic Riv	22.52	36	P		P	01 04 19.2 +0.7
	baz=246,SNR=28						
D23K	Nanushuk River	22.55	29	P		P	01 04 18.7 0.0
	baz=237,SNR=13						
BERG	Berg Lake	22.58	53	P		P	01 04 18.7 -0.4
RIDG	Independent Ri	22.60	44	P		P	01 04 18.9 -0.4
RIDG	Independent Ri	22.60	44	P		P	01 04 19.3 0.0
	baz=256						
B22K	Teshekpuk Lake	22.60	25	P		P	01 04 19.5 +0.3
	baz=230,SNR=17						
J25K	Salcha River,	22.61	42	P		P	01 04 18.8 -0.7
	baz=254						
GLB	Gilahina Butte	22.64	50	P		P	01 04 19.2 -0.6
A22K	Sinclair Lake	22.65	23	P		P	01 04 19.1 -0.7
	baz=227						
TOLK	Toolik Lake Re	22.71	30	IAmb		IAmb	01 04 25.9
	comp=Z,25nm,1.0s						
TOLK	Toolik Lake Re	22.71	30	P		P	01 04 20.0 -0.5
	baz=239,SNR=30						
F24K	Squaw Lake	22.73	34	P		P	01 04 20.8 +0.1
	baz=244,SNR=23						
E24K	Your Creek	22.78	32	P		P	01 04 22.7 +1.5
	baz=242						
VRDI	Verde Repeater	22.78	51	P		P	01 04 20.7 -0.8
PRP	Porcupine Dome	22.82	40	P		P	01 04 20.1 -1.7
PRP	Porcupine Dome	22.82	40	P		P	01 04 21.6 -0.2
	baz=251,SNR=5.4						
MENT	Mentasta	22.92	47	P		P	01 04 21.4 -1.4
MENT				IAmb		IAmb	01 04 34.3
	comp=Z,26nm,1.2s						
H25L	Birch Creek	22.97	38	P		P	01 04 24.5 +1.4
	baz=249						
SNH	Sunshine Point	22.99	54	P		P	01 04 21.5 -2.0
SNH				IAmb		IAmb	01 04 38.4
	comp=Z,50nm,1.1s						
WAX	Waxell Ridge	23.00	53	P		P	01 04 22.0 -1.6
SCRK	Sand Creek	23.02	44	P		P	01 04 22.6 -1.3
SCRK	Sand Creek	23.02	44	P		P	01 04 24.5 +0.6
	baz=257,SNR=18						
G25K	Bearman Lake	23.05	36	P		P	01 04 24.3 +0.3
	baz=248,SNR=13						
C23K	Itkillik River	23.05	27	P		P	01 04 24.6 +0.5
	baz=235,SNR=6.2						
L26K	Log Cabin Wild	23.10	46	P		P	01 04 23.4 -1.2
L26K				IAmb		IAmb	01 04 31.8
	comp=Z,47nm,1.3s						
L26K	Log Cabin Wild	23.10	46	P		P	01 04 24.0 -0.6
	baz=260,SNR=24						
M26K	Nabesna, AK	23.16	48	P		P	01 04 24.3 -0.9
	baz=261,SNR=17						
D24K	Happy Valley	23.21	30	P		P	01 04 26.0 +0.4
	baz=239						
FYU	Fort Yukon	23.30	37	P		P	01 04 26.9 +0.4
FYU				IAmb		IAmb	01 04 30.9
	comp=Z,40nm,1.2s						
J26L	Joseph Creek	23.33	43	P		P	01 04 26.2 -0.8
	baz=256						
MESA	MESA	23.43	54	P		P	01 04 25.6 -2.5
MESA	MESA	23.43	54	P		P	01 04 26.2 -1.9
	baz=268,SNR=11						
F25K	Christian Rive	23.54	35	P		P	01 04 30.4 +1.5
	baz=247,SNR=17						
C24K	Franklin Bluff	23.55	29	P		P	01 04 29.3 +0.4
	baz=238						
YAH	Yahtse	23.55	53	P		P	01 04 26.7 -2.6
YAH				IAmb		IAmb	01 04 35.4
	comp=Z,35nm,0.9s						
M27K	Edge Creek, AK	23.66	48	P		P	01 04 30.2 -0.2
	baz=263,SNR=21						
I26K	Coal Creek Min	23.71	41	P		P	01 04 29.1 -1.5
I26K	Coal Creek Min	23.71	41	P		P	01 04 31.0 +0.4
	baz=255						
E25K	Arctic Village	23.78	33	P		P	01 04 31.1 -0.2
E25K	Arctic Village	23.78	33	P		P	01 04 32.0 +0.7
	baz=246,SNR=12						
L27K	Beaver Creek,	23.79	47	P		P	01 04 31.4 -0.1
	baz=261,SNR=68						
BCAR	Beaver Creek A	23.81	47	P		P	01 04 30.5 -1.1
BMAR	Burnt Mountain	23.85	35	P		P	01 04 32.1 +0.1
K27K	Chicken	23.86	44	P		P	01 04 30.5 -1.5
K27K				IAmb		IAmb	01 04 37.1
	comp=Z,23nm,1.1s						
K27K	Chicken	23.86	44	P		P	01 04 33.3 +1.3
	baz=259,SNR=20						
G26K	Porcupine Rive	23.97	37	P		P	01 04 32.9 -0.2
	baz=250						
D25K	Kavik River	24.05	30	P		P	01 04 33.8 -0.1
	baz=242,SNR=11						
F26K	Sheenjek River	24.11	35	P		P	01 04 34.4 0.0
	baz=248,SNR=29						
BVCY	Beaver Creek	24.14	48	P		P	01 04 34.1 -0.7
	baz=264,SNR=7.9						
YUK3	Moose Creek	24.27	50	P		P	01 04 35.1 -1.0
	baz=265,SNR=62						
PINM	Pinnacle	24.28	54	P		P	01 04 34.6 -1.5
	baz=269,SNR=18						
O28M	Mount Upton	24.33	52	P		P	01 04 34.9 -1.9
	baz=268,SNR=115						
I27K	Kandik River	24.41	41	P		P	01 04 37.1 -0.1
	baz=256						
YUK8	Steele Glacier	24.56	51	P		P	01 04 37.2 -1.7
	baz=267,SNR=43						
BCPM	Bancas Point	24.59	54	P		P	01 04 36.7 -2.1
H27K	Steamboat Moun	24.61	39	P		P	01 04 38.4 -0.6
	baz=254						
PNL	Peninsula	24.71	55	P		P	01 04 37.4 -2.5
	baz=271						
G27K	Doyon Strip	24.72	38	P		P	01 04 39.5 -0.5
	baz=253						
C26K	Camden Bay	24.79	30	P		P	01 04 40.9 +0.4
	baz=243,SNR=25						
JKA	Kamikawa-asahi	24.82	266	P		P	01 04 42.0 +1.0
ASAJ	As

comp=Z,41nm,1.4s
O29M Mount Kennedy 25.12 54 P **P** 01 04 41.6 -2.1
baz=270
E27K Coleen River 25.18 35 P **P** 01 04 44.2 +0.1
E27K IAmb IAmb 01 04 50.6
comp=Z,32nm,1.1s
E27K Coleen River 25.18 35 P **P** 01 04 45.5 +1.4
baz=250
YUK6 Outpost Mounta 25.23 52 P **P** 01 04 42.7 -2.2
baz=269,SNR=23
M29M Somme Creek 25.26 49 P **P** 01 04 45.2 +0.3
M29M IAmb IAmb 01 04 55.4
comp=Z,12nm,0.8s
M29M Somme Creek 25.26 49 P **P** 01 04 44.4 -0.5
baz=266,SNR=10
L29M L29M 25.47 47 P **P** 01 04 46.0 -0.7
L29M IAmb IAmb 01 05 05.0
comp=Z,33nm,1.4s
L29M L29M 25.47 47 P **P** 01 04 48.3 +1.6
baz=265,SNR=12
P29M Windy Craggy 25.55 55 P **P** 01 04 47.9 +0.3
P29M IAmb IAmb 01 04 53.8
comp=Z,22nm,1.0s
P29M Windy Craggy 25.55 55 P **P** 01 04 47.2 -0.4
baz=272
J29N Klondike Camp 25.59 44 P **P** 01 04 48.3 +0.3
J29N IAmb IAmb 01 04 52.3
comp=Z,19nm,1.4s
J29N Klondike Camp 25.59 44 P **P** 01 04 49.0 +1.0
baz=262
HYT Haines Junctio 25.65 52 P **P** 01 04 47.6 -1.0
HYT Haines Junctio 25.65 52 P **P** 01 04 47.7 -0.8
baz=270,SNR=18
I29M Ogilvie Camp, 25.70 42 P **P** 01 04 48.1 -0.7
I29M IAmb IAmb 01 04 58.1
comp=Z,22nm,0.9s
I29M Ogilvie Camp, 25.70 42 P **P** 01 04 49.2 +0.3
baz=260
D27M Malcolm River 25.77 32 P **P** 01 04 48.9 -0.6
D27M IAmb IAmb 01 04 57.2
comp=Z,29nm,1.1s
D27M Malcolm River 25.77 32 P **P** 01 04 51.1 +1.7
baz=249
K29M Barlow Dome 25.82 45 P **P** 01 04 49.5 -0.6
K29M IAmb IAmb 01 05 05.7
comp=Z,12nm,0.9s
K29M Barlow Dome 25.82 45 P **P** 01 04 50.2 +0.2
baz=264
H29M Whitestone 25.84 40 P **P** 01 04 49.9 -0.3
H29M IAmb IAmb 01 05 00.2
comp=Z,17nm,1.4s
H29M Whitestone 25.84 40 P **P** 01 04 50.9 +0.8
baz=258
N30M Aishikik Lake 25.86 51 P **P** 01 04 50.2 -0.2
N30M IAmb IAmb 01 04 58.9
comp=Z,33nm,1.2s
N30M Aishikik Lake 25.86 51 P **P** 01 04 49.8 -0.5
baz=269,SNR=22
P30M Million Dollar 25.93 54 P **P** 01 04 49.9 -1.1
baz=272
M30M Minto, Yukon 26.04 48 P **P** 01 04 50.7 -1.3
M30M Minto, Yukon 26.04 48 P **P** 01 04 49.2 -2.8
baz=267
E28M Babbage River 26.04 34 **P** 01 04 52.3 +0.4
E28M IAmb IAmb 01 05 07.8
comp=Z,11nm,0.8s
E28M Babbage River 26.04 34 P **P** 01 04 51.1 -0.8
baz=252
G29M Pine Creek 26.13 38 P **P** 01 04 52.3 -0.5
G29M IAmb IAmb 01 05 07.0
comp=Z,13nm,0.9s
G29M Pine Creek 26.13 38 P **P** 01 04 52.6 -0.2
baz=257,SNR=10
O30N Mendenhall 26.34 52 P **P** 01 04 54.3 -0.4
O30N IAmb IAmb 01 05 06.2
comp=Z,26nm,1.2s
O30N Mendenhall 26.34 52 P **P** 01 04 51.2 -3.5
baz=271,SNR=15
J30M Hart River 26.42 44 P **P** 01 04 55.3 -0.1
J30M IAmb IAmb 01 05 13.0
comp=Z,13nm,0.9s
J30M Hart River 26.42 44 P **P** 01 04 55.8 +0.4
baz=264
I30M Mount Dempster 26.48 42 P **P** 01 04 55.5 -0.5
I30M Mount Dempster 26.48 42 P **P** 01 04 55.2 -0.8
baz=262
N31M Braeburn, Yuko 26.49 51 P **P** 01 04 55.6 -0.4
N31M IAmb IAmb 01 05 05.2
comp=Z,19nm,1.1s
N31M Braeburn, Yuko 26.49 51 P **P** 01 04 54.3 -1.7
baz=270,SNR=6.5
EPYK Eagle Plains 26.53 40 P **P** 01 04 55.8 -0.5
EPYK IAmb IAmb 01 05 13.9
comp=Z,26nm,1.4s
EPYK Eagle Plains 26.53 40 P **P** 01 04 56.2 -0.2
baz=260
D28M Stokes Point 26.54 33 P **P** 01 04 55.6 -0.7
baz=251
E29M Blow River 26.55 35 P **P** 01 04 56.2 -0.3
E29M Blow River 26.55 35 P **P** 01 04 56.6 +0.1
baz=254
SKAG Skagway 26.79 55 P **P** 01 04 58.4 -0.2
SKAG Skagway 26.79 55 P **P** 01 04 55.2 -3.5
baz=275
G30M tAoh Zraii Nji 26.84 39 P **P** 01 04 58.8 -0.3
G30M tAoh Zraii Nji 26.84 39 P **P** 01 05 00.2 +1.0
baz=259
WHY Whitehorse 26.94 53 P **P** 01 04 59.6 -0.6
WHY IAmb IAmb 01 05 05.5
comp=Z,28nm,1.5s
WHY Whitehorse 26.94 53 P **P** 01 04 57.5 -2.7
baz=273,SNR=6.2
SIT Sitka 27.08 61 P **P** 01 04 57.4 -3.8
baz=279
F30M Barrier River 27.14 37 P **P** 01 05 02.0 +0.3
F30M IAmb IAmb 01 05 08.6
comp=Z,23nm,0.9s
F30M Barrier River 27.14 37 P **P** 01 05 01.9 +0.2
baz=258,SNR=19
M31M Drury Creek, Y 27.15 49 P **P** 01 05 01.6 -0.4
M31M IAmb IAmb 01 05 11.9
comp=Z,12nm,1.1s
M31M Drury Creek, Y 27.15 49 P **P** 01 04 59.9 -2.0
baz=270
R32K Eaglecrest 27.33 58 P **P** 01 05 01.7 -1.9
R32K Eaglecrest 27.33 58 P **P** 01 05 00.6 -2.9
baz=278
H31M Peel River 27.40 41 P **P** 01 05 03.5 -0.7
H31M Peel River 27.40 41 P **P** 01 05 04.6 +0.4
baz=263,SNR=9.0
S32K Killisnoo 27.41 60 P **P** 01 05 00.2 -4.0
baz=279
G31M Satah River 27.59 39 P **P** 01 05 04.9 -0.8
G31M IAmb IAmb 01 05 11.6
comp=Z,18nm,1.2s
G31M Satah River 27.59 39 P **P** 01 05 06.1 +0.4
baz=261,SNR=8.0
P32M Atlin 27.60 55 P **P** 01 05 05.3 -0.8
P32M IAmb IAmb 01 05 10.3
comp=Z,22nm,1.3s
P32M Atlin 27.60 55 P **P** 01 05 05.1 -0.9
baz=276,SNR=16
YAK Yakutsk 27.60 310 LR LR 01 16 05.9
comp=Z,479nm,18.2s,baz=94,slow=37
FARO Faro, Yukon 27.63 49 P **P** 01 05 06.8 +0.5
FARO Faro, Yukon 27.63 49 P **P** 01 05 06.0 -0.3
baz=271
N32M Quiet Lake 27.80 51 P **P** 01 05 07.1 -0.6
N32M IAmb IAmb 01 05 13.7
comp=Z,19nm,1.1s
N32M Quiet Lake 27.80 51 P **P** 01 05 06.5 -1.3
baz=273
F31M Tsiigehtchic 27.88 38 P **P** 01 05 06.9 -1.4
F31M IAmb IAmb 01 05 25.9
comp=Z,9.6nm,1.0s
F31M Tsiigehtchic 27.88 38 P **P** 01 05 09.2 +0.8
baz=261
P33M Teslin, Yukon 27.99 53 P **P** 01 05 09.1 -0.5
P33M IAmb IAmb 01 05 16.0
comp=Z,32nm,1.3s
P33M Teslin, Yukon 27.99 53 P **P** 01 05 08.1 -1.5
baz=275,SNR=20
INK Inuvik 28.11 36 P **P** 01 05 09.1 -1.3
INK Inuvik 28.11 36 LR LR 01 18 20.5
comp=Z,274nm,18.4s,baz=246,slow=41
INK Inuvik 28.11 36 P **P** 01 05 11.8 +1.4
baz=259

Q32M Nakina River 28.41 56 P **P** 01 05 14.5 +1.1
Q32M IAmb IAmb 01 05 18.9
comp=Z,13nm,1.0s
Q32M Nakina River 28.41 56 P **P** 01 05 11.6 -1.8
baz=278
MMPY Sheldon Lake, 28.60 48 P **P** 01 05 13.4 -1.5
MMPY IAmb IAmb 01 05 19.6
comp=Z,10nm,0.9s
MMPY Sheldon Lake, 28.60 48 P **P** 01 05 13.0 -1.9
baz=272,SNR=9.5
R33M Jennings River 29.01 55 P **P** 01 05 19.7 +1.0
R33M IAmb IAmb 01 05 23.4
comp=Z,31nm,1.5s
R33M Jennings River 29.01 55 P **P** 01 05 18.1 -0.6
baz=278,SNR=17
S34M Telegraph Cree 29.16 58 P **P** 01 05 18.7 -1.2
S34M Telegraph Cree 29.16 58 P **P** 01 05 17.9 -2.0
baz=281
KLR Kul'dur 29.19 283 LR LR 01 17 31.2
comp=Z,379nm,18.7s,baz=63,slow=38
TIXI Tiksi 29.21 331 P **P** 01 05 18.6 -1.5
TIXI Tiksi 29.21 331 LR LR 01 17 25.8
comp=Z,463nm,19.0s,baz=148,slow=37
DLBC Dease Lake 29.64 57 P **P** 01 05 25.1 +0.8
DLBC IAmb IAmb 01 05 28.2
comp=Z,14nm,1.4s
DLBC Dease Lake 29.64 57 LR LR 01 17 10.2
comp=Z,872nm,21.2s,baz=266,slow=36
DLBC Dease Lake 29.64 57 P **P** 01 05 22.6 -1.7
baz=280,SNR=5.2
T35M Bob Quinn 29.82 60 P **P** 01 05 26.1 +0.4
T35M Bob Quinn 29.82 60 P **P** 01 05 23.8 -1.9
baz=283
WTLY Watson Lake, Y 30.00 53 P **P** 01 05 27.1 -0.3
WTLY IAmb IAmb 01 05 33.5
comp=Z,12nm,1.1s
WTLY Watson Lake, Y 30.00 53 P **P** 01 05 28.2 +0.9
baz=278
TGTN Hyland Airport 30.08 50 P **P** 01 05 28.0 -0.1
baz=276
USRK Ussuriysk Ar. 31.34 274 P **P** 01 05 39.0 -0.2
USRK Ussuriysk Ar. 31.34 274 P **P** 01 05 37.9 -1.4
comp=Z,4.7nm,0.6s,baz=62,slow=9.6,SNR=7.3
USRK LR LR 01 17 03.9
comp=Z,280nm,22.0s,baz=62,slow=34
comp=Z,4.7nm,0.6s
A36M Sachs Harbour 31.53 30 P **P** 01 05 40.7 0.0
A36M IAmb IAmb 01 05 52.1
comp=Z,11nm,0.8s
A36M Sachs Harbour 31.53 30 P **P** 01 05 41.0 +0.3
baz=261,SNR=18
C36M Paulatuk 31.65 35 P **P** 01 05 40.8 -0.9
C36M IAmb IAmb 01 05 47.1
comp=Z,10nm,1.1s
C36M Paulatuk 31.65 35 P **P** 01 05 43.6 +1.9
baz=267,SNR=6.0
MJAR Matsushiro Arr 32.01 257 P **P** 01 05 45.0 -0.4
comp=Z,1.8nm,0.4s,baz=47,slow=7.6,SNR=6.5
comp=Z,1.8nm,0.4s
MAJO Matsushiro 32.02 257 P **P** 01 05 45.5 +0.2
MAJO IAmb IAmb 01 05 48.7
comp=Z,18nm,1.0s
MJB9 Matsu-Tunnel 32.02 257 P **P** 01 05 46.3 +1.0
MJB9 IAmb IAmb 01 05 49.7
comp=Z,18nm,1.0s
TOAD Toad River Com 32.02 55 P **P** 01 05 44.3 -0.9
baz=283,SNR=6.6
WRGLY Wrigley 32.11 47 P **P** 01 05 46.2 +0.4
WRGLY IAmb IAmb 01 05 51.0
comp=Z,12nm,0.8s
WRGLY Wrigley 32.11 47 P **P** 01 05 46.8 +1.0
baz=277
KOTAN Kotaneelee Air 32.34 52 P **P** 01 05 48.9 +1.1
baz=282,SNR=27
BBB Bella Bella 32.41 68 LR LR 01 16 30.6
comp=Z,326nm,21.7s,baz=297,slow=32
JGF Kuroka 33.16 257 P **P** 01 05 55.3 0.0
H11N2 WAKE ISLAND Hy 33.33 200 T T 01 41 08.0
baz=11,slow=76,SNR=113
H11N3 WAKE ISLAND Hy 33.34 199 T T 01 41 06.3
baz=11,slow=76,SNR=70
H11N1 WAKE ISLAND Hy 33.35 200 T T 01 41 07.1
baz=11,slow=76,SNR=107
BNX BinXian 33.38 280 ⇓P **P** 01 05 54.6 -2.5
BNX pmax pmax
comp=Z,20nm,0.6s
JHJ Hachijo jima 2 33.44 251 LR LR 01 17 13.2
comp=Z,160nm,22.0s,baz=97,slow=32
H11S1 WAKE ISLAND Hy 34.56 199 T T 01 42 40.4
baz=10,slow=76,SNR=55
H11S2 WAKE ISLAND Hy 34.57 199 T T 01 42 57.8
baz=10,slow=76,SNR=24
H11S3 WAKE ISLAND Hy 34.57 199 T T 01 42 39.9
baz=10,slow=76,SNR=42
CLRS Cowichan Lake 36.12 71 P **P** 01 06 21.6 +0.9
CLRS IAmb IAmb 01 06 25.5
comp=Z,13nm,1.3s
YKA Yellowknife Ar 36.23 46 P **P** 01 06 21.5 0.0
comp=Z,6.2nm,0.7s,baz=284,slow=8.4,SNR=25
YKA LR LR 01 23 02.0
comp=Z,524nm,18.2s,baz=284,slow=39
comp=Z,6.2nm,0.7s
HIA Hailar 36.30 290 P **P** 01 06 20.9 -1.5
LLLB Lillooet 36.62 68 P **P** 01 06 25.3 +0.2
JCJ Chichijima 36.62 241 LR LR 01 19 24.1
comp=Z,188nm,21.6s,baz=353,slow=33
GNW Green Mountain 37.49 73 P **P** 01 06 31.9 -0.5
KSRS Korea Array 37.73 268 P **P** 01 06 34.3 -0.3
comp=Z,7.6nm,1.0s,baz=57,slow=8.0,SNR=11
KSRS LR LR 01 20 45.8
comp=Z,129nm,21.0s,baz=55,slow=34
comp=Z,7.6nm,1.0s
KSAR Wonju Array Be 37.77 268 P **P** 01 06 34.9 0.0
D05A Enumclaw 38.17 73 P **P** 01 06 37.6 -0.5
D05A IAmb IAmb 01 06 41.2
comp=Z,28nm,1.4s
LON Longmire 38.49 73 P **P** 01 06 41.5 +0.5
INCN Inchon 38.51 269 P **P** 01 06 42.5 +1.3
TJN Taejon 38.76 267 P **P** 01 06 44.7 +1.4
JNU Nakatsue 38.76 260 P **P** 01 06 45.3 +1.9
JNU IAmb IAmb 01 06 50.1
comp=Z,27nm,1.0s
JNU Nakatsue 38.76 260 LR LR 01 21 34.6
comp=Z,309nm,21.2s,baz=68,slow=34
LTY Liberty 38.91 72 P **P** 01 06 44.6 +0.1
B08A Colville Reser 39.14 70 P **P** 01 06 45.6 -0.8
HOOD Mount Hood Mea 39.33 75 P **P** 01 06 48.6 +0.4
HOOD IAmb IAmb 01 06 58.7
comp=Z,16nm,1.3s
H04A Detroit Lake 39.35 76 P **P** 01 06 48.8 +0.6
MXC Moxie City 39.48 73 P **P** 01 06 49.6 +0.4
I04A Tendick Farm, 39.70 78 P **P** 01 06 52.4 +1.3
I04A IAmb IAmb 01 06 54.2
comp=Z,20nm,1.4s
E07A Sunnyside 39.75 72 P **P** 01 06 52.4 +1.0
WAH2 Wahluke Slope 39.82 72 P **P** 01 06 52.0 0.0
RES Resolute Bay 40.02 24 P **P** 01 06 53.4 +0.1
HAWA Hanford 40.02 72 P **P** 01 06 53.8 0.0
C09A Chrisman Ranch 40.04 70 P **P** 01 06 54.2 +0.4
D08A Wollman Farm, 40.04 71 P **P** 01 06 54.0 +0.1
BBOR Butler Butte 40.04 79 P **P** 01 06 55.1 +1.0
BBOR IAmb IAmb 01 06 58.4
comp=Z,24nm,1.5s
I05D Terrebonne, OR 40.05 76 P **P** 01 06 55.0 +1.0
F07A Phinny Hill Vi 40.05 73 P **P** 01 06 54.0 +0.1
NEW Newport 40.47 69 P **P** 01 06 57.2 -0.2
NEW Newport 40.47 69 LR LR 01 24 44.1
comp=Z,235nm,18.4s,baz=310,slow=38
YPT Yellepit 40.54 73 P **P** 01 06 58.3 +0.3
KHMM Horse Mountain 40.56 82 P **P** 01 06 59.5 +1.1
KHMM IAmb IAmb 01 07 03.1
comp=Z,30nm,1.2s
L04D Klamath Falls 40.65 79 P **P** 01 06 59.8 +0.6
L04D IAmb IAmb 01 07 03.2
comp=Z,28nm,1.3s
YBH Yreka Blue Hor 40.68 80 P **P** 01 07 00.3 +1.0
YBH Yreka Blue Hor 40.68 80 LR LR 01 21 17.4
comp=Z,298nm,19.1s,baz=306,slow=32
J05D Fort Rock, OR 40.69 77 P **P** 01 07 00.1 +0.6
J05D IAmb IAmb 01 07 02.9
comp=Z,18nm,1.3s
K04D Chiloquin, OR 40.75 79 **P** 01 07 00.9 +0.9
K04D IAmb IAmb 01 07 09.7
comp=Z,11nm,0.8s
E09A Wood Farm, Sta 40.78 71 P **P** 01 07 00.5 +0.6
E09A IAmb IAmb 01 07 02.4

comp=Z,20nm,1.4s
G08A Pilot Rock 40.95 74 P **P** 01 07 01.5 0.0
LNOR Lincton Mounta 41.04 72 P **P** 01 07 01.9 -0.3
I07A Izee 41.29 75 P **P** 01 07 04.5 +0.1
KCPM Cahto Peak 41.35 83 P **P** 01 07 05.2 +0.2
KCPM IAmb IAmb 01 07 16.9
comp=Z,12nm,1.1s
O02D Mt. Diablo Mer 41.55 82 P **P** 01 07 07.4 +0.9
O02D IAmb IAmb 01 07 10.6
comp=Z,19nm,1.3s
HATC Hat Creek Radi 41.98 81 P **P** 01 07 11.5 +1.5
HATC IAmb IAmb 01 07 14.1
comp=Z,32nm,1.2s
BMO Blue Mountains 42.17 73 P **P** 01 07 11.1 -0.4
GDXM Geysers 42.38 84 P **P** 01 07 14.5 +1.2
GDXM IAmb IAmb 01 07 17.9
comp=Z,29nm,1.3s
ORV Oroville 42.71 82 P **P** 01 07 15.8 -0.1
ORV IAmb IAmb 01 07 18.5
comp=Z,13nm,1.2s
WVOR Wild Horse Val 42.75 77 P **P** 01 07 16.8 +0.6
PLID Pearl Lake 42.81 72 P **P** 01 07 16.9 0.0
NRIK Noril'sk 42.94 329 P **P** 01 07 16.9 -0.4
NRIK Noril'sk 42.94 329 P **P** 01 07 16.2 -1.2
comp=Z,5.1nm,0.9s,baz=93,slow=6.6,SNR=8.9
NRIK PcP **PcP** 01 09 07.8 +0.2
comp=Z,3.8nm,0.9s,baz=149,slow=1.2,SNR=5.5
NRIK LR LR 01 25 55.3
comp=Z,242nm,18.1s,baz=80,slow=37
comp=Z,5.1nm,0.9s
MSO Missoula 43.06 69 P **P** 01 07 18.5 -0.2
BEKR Beckworth 43.22 81 P **P** 01 07 20.9 +0.7
BJT Baijiatuau 43.41 279 P **P** 01 07 23.3 +1.8
AFDM Forest Hills D 43.41 82 P **P** 01 07 22.6 +1.0
MPK Martis Peak 43.77 81 P **P** 01 07 25.6 +0.8
MFID Camas Ranch 43.86 74 P **P** 01 07 24.8 -0.5
PAHR Pah Rah Range 43.92 81 P **P** 01 07 26.6 +0.8
PAHR IAmb IAmb 01 07 28.8
comp=Z,20nm,1.3s
PNTR Pine Nut 44.16 81 P **P** 01 07 29.2 +1.3
PNTR IAmb IAmb 01 07 33.1
comp=Z,17nm,0.9s
ULN Ulaanbaatar 44.29 294 P **P** 01 07 28.6 -0.1
ULN IAmb IAmb 01 07 30.1
comp=Z,7.1nm,0.8s
CMB Columbia Colle 44.34 83 P **P** 01 07 30.2 +1.1
CMB IAmb IAmb 01 07 32.4
comp=Z,12nm,1.2s
SAO San Andreas Ge 44.49 85 P **P** 01 07 29.7 -0.5
SAO IAmb IAmb 01 07 48.7
comp=Z,9.1nm,1.1s
HLID Hailey 44.62 73 P **P** 01 07 31.4 0.0
WAKR Walker 44.63 82 P **P** 01 07 32.7 +1.2
WAKR IAmb IAmb 01 07 35.0
comp=Z,12nm,1.1s
SONM Songino Array 44.68 295 P **P** 01 07 31.7 -0.1
SONM IAmb IAmb 01 07 33.3
comp=Z,4.5nm,0.6s
SONM Songino Array 44.68 295 P **P** 01 07 30.8 -1.0
comp=Z,5.5nm,0.6s,baz=59,slow=7.6,SNR=33
SONM PcP **PcP** 01 09 14.9 +0.8
comp=Z,1.4nm,0.8s,baz=54,slow=2.8,SNR=3.5
SONM LR LR 01 27 22.2
comp=Z,494nm,18.2s,baz=61,slow=38
comp=Z,5.5nm,0.6s
EGMT Eagleton 44.79 65 P **P** 01 07 32.2 -0.3
EGMT IAmb IAmb 01 07 35.7
comp=Z,16nm,1.4s
BBGB Big Mountain B 44.86 85 P **P** 01 07 33.8 +0.5
TULEG Thule 45.03 18 P **P** 01 07 34.9 +0.9
BOZ Bozeman (W) 45.08 69 **P** 01 07 34.9 -0.1
BOZ IAmb IAmb 01 07 36.4
comp=Z,7.2nm,1.0s
RYN Ryan 45.11 81 P **P** 01 07 35.6 +0.3
RYN IAmb IAmb 01 07 38.3
comp=Z,13nm,1.2s
LHV Little Huntoon 45.36 82 P **P** 01 07 38.3 +1.2
LHV IAmb IAmb 01 07 40.8
comp=Z,21nm,1.2s
NVAR Mina Array Bea 45.37 81 P **P** 01 07 38.2 +0.8
NVAR Mina Array Bea 45.37 81 P **P** 01 07 37.6 +0.2
comp=Z,5.1nm,0.9s,baz=294,slow=7.0,SNR=28
NVAR LR LR 01 23 09.7
comp=Z,202nm,21.0s,baz=312,slow=32
comp=Z,5.1nm,0.9s
NV11 Mina Array Sit 45.46 81 P **P** 01 07 39.2 +1.1
NV11 IAmb IAmb 01 07 41.1
comp=Z,7.9nm,1.0s
HHC Hu-ho-hao-te 45.70 283 *e*P **P** 01 07 39.3 -0.6
HHC pmax pmax
comp=Z,10.0nm,0.7s
YHL Hebgen Lake 45.76 70 P **P** 01 07 40.2 -0.4
YHL IAmb IAmb 01 07 50.8
comp=Z,11nm,1.1s
ELK Elko 45.80 77 P **P** 01 07 41.7 +0.8
ELK Elko 45.80 77 LR LR 01 23 05.9
comp=Z,313nm,19.6s,baz=288,slow=31
Q09A Carvers 45.80 80 P **P** 01 07 40.9 +0.1
YHB Horse Butte 45.81 70 P **P** 01 07 40.7 -0.2
YHB IAmb IAmb 01 07 48.9
comp=Z,7.9nm,0.9s
HNS HongShan 45.93 278 ⇓P **P** 01 07 43.1 +1.5
HNS pmax pmax
comp=Z,13nm,1.1s
HNS LR LR
comp=Z,150nm,15.7s
HNS LR LR
comp=Z,430nm,16.5s
HNS LR LR
comp=Z,310nm,22.0s
YHH Holmes Hill 45.99 69 P **P** 01 07 43.0 +0.5
YMR Madison River 45.99 70 P **P** 01 07 42.3 -0.1
YMR IAmb IAmb 01 07 44.0
comp=Z,13nm,1.1s
YNR Norris Junctio 46.13 69 P **P** 01 07 43.9 +0.5
YNR IAmb IAmb 01 07 46.2
comp=Z,14nm,1.3s
YFT Old Faithful 46.20 70 P **P** 01 07 45.4 +1.5
YFT IAmb IAmb 01 07 46.6
comp=Z,5.2nm,0.8s
DSP Deep Springs 46.24 82 P **P** 01 07 45.4 +1.4
DSP IAmb IAmb 01 07 47.7
comp=Z,12nm,1.2s
YNE Yellowstone No 46.35 69 P **P** 01 07 45.4 +0.2
YNE IAmb IAmb 01 07 46.5
comp=Z,6.3nm,1.2s
H17A Grant Village 46.38 70 P **P** 01 07 46.4 +1.0
H17A IAmb IAmb 01 07 49.1
comp=Z,16nm,1.3s
NOR Nord 46.46 3 *i*P **P** 01 07 44.2 -1.1
NOR IAmb IAmb 01 07 48.3
comp=Z,8.1nm,1.3s
FXWY Fox Creek 46.56 71 P **P** 01 07 47.5 +0.6
GUMO Guam 46.63 227 LR LR 01 26 06.0
comp=Z,130nm,18.1s,baz=68,slow=34
HVU Hansel Valley 46.65 74 P **P** 01 07 47.6 +0.2
HVU IAmb IAmb 01 07 50.9
comp=Z,4.9nm,1.0s
TPAW Teton Pass 46.70 71 P **P** 01 07 48.0 +0.1
RLMT Red Lodge 46.71 68 P **P** 01 07 48.3 +0.3
RLMT IAmb IAmb 01 07 49.9
comp=Z,14nm,1.2s
BTO Baotou 46.77 284 *e*P **P** 01 07 49.2 +0.8
BTO pP **sP** 01 07 54.1 +0.3
BTO sP **pP** 01 07 56.6 +4.4
BTO PP **PP** 01 09 34.2 -3.9
BTO S **S** 01 14 40.6 +2.6
BTO pmax pmax
comp=Z,49nm,0.8s
BTO pmax pmax
comp=Z,190nm,4.4s
BTO LR LR
comp=Z,1μm,16.9s
BTO LR LR
comp=Z,970nm,18.1s
BTO LR LR
comp=Z,380nm,10.0s
LOHW Long Hollow 46.83 71 P **P** 01 07 49.1 +0.2
BCW Bitter Crk WRg 46.93 86 P **P** 01 07 50.1 +0.5
FCC Fort Churchill 46.94 45 P **P** 01 07 49.9 +0.7
BGU Big Grassy Mou 47.01 75 P **P** 01 07 50.8 +0.5
ISA Isabella, Lake 47.03 84 P **P** 01 07 51.5 +1.1
ISA IAmb IAmb 01 07 52.8
comp=Z,12nm,1.4s
R11B Troy Canyon, C 47.08 79 P **P** 01 07 51.9 +1.0

R11B IAmb IAmb 01 07 53.2
comp=Z,13nm,1.4s
NEEM North Greenlan 47.33 13 *i* P **P 01 07 50.7 -1.7**
NEEM IAmb IAmb 01 07 53.5
comp=Z,20nm,1.0s
SPR3 Spring Creek 3 47.43 78 P **P 01 07 54.8 +1.0**
WCT Wildcat Mounta 47.43 82 P **P 01 07 54.5 +0.9**
WCT IAmb IAmb 01 07 56.3
comp=Z,9.1nm,1.3s
HWUT Hardware Ranch 47.47 73 P **P 01 07 54.4 +0.6**
LAO LASA Array 47.52 65 **P 01 07 54.2 +0.1**
LAO IAmb IAmb 01 07 55.4
comp=Z,8.4nm,1.2s
TPNV Topopah Spring 47.56 81 P **P 01 07 55.6 +0.9**
DUG Dugway, Tooele 47.59 76 P **P 01 07 56.1 +1.3**
DUG IAmb IAmb 01 07 59.2
comp=Z,6.9nm,1.1s
GWY Greenwater Val 47.80 82 P **P 01 07 57.2 +0.7**
GWY IAmb IAmb 01 07 59.1
comp=Z,10nm,1.1s
PD31 Pinedale Array 47.95 71 P **P 01 07 57.7 0.0**
PD31 IAmb IAmb 01 07 59.1
comp=Z,6.5nm,1.0s
PDAR Pinedale Array 47.95 71 P **P 01 07 57.2 -0.4**
PDAR Pinedale Array 47.95 71 P **P 01 07 56.4 -1.3**
comp=Z,5.0nm,1.0s,baz=304,slow=2.7,SNR=26
PDAR LR LR 01 25 22.5
comp=Z,99nm,21.6s,baz=298,slow=33
comp=Z,5.0nm,1.0s
PRN Pahroc Range 48.00 80 P **P 01 07 59.1 +1.1**
PSUT Pine Spring 48.01 78 P **P 01 07 58.4 +0.3**
PSUT IAmb IAmb 01 08 05.0
comp=Z,3.2nm,0.7s
GSC Goldstone, Bar 48.30 83 P **P 01 08 00.6 +0.4**
KULLO Kullorsuaq 48.51 17 *i* P **P 01 08 00.7 -0.5**
KULLO IAmb IAmb 01 08 03.9
comp=Z,5.6nm,0.8s
SHPR Sheep Range 48.52 81 P **P 01 08 02.3 +0.3**
BSUT Blindstream Ca 48.61 74 P **P 01 08 03.8 +0.9**
BSUT IAmb IAmb 01 08 12.5
comp=Z,7.9nm,1.3s
ELS Elsinore Mount 49.01 86 P **P 01 08 07.0 +1.2**
ELS IAmb IAmb 01 08 10.3
comp=Z,5.8nm,0.9s
TMUT Trail Mountain 49.12 76 P **P 01 08 07.7 +0.8**
TMUT IAmb IAmb 01 08 10.5
comp=Z,5.7nm,0.8s
KBS Kingsbay 49.13 357 *i* P **P 01 08 05.4 -0.6**
LYN LuoYang 49.16 276 P **P 01 08 07.8 +1.0**
LYN pmax pmax
comp=Z,24nm,0.8s
LYN pmax pmax
comp=Z,120nm,10.0s
LYN LR LR
comp=Z,300nm,17.5s
LYN LR LR
comp=Z,420nm,15.8s
LYN LR LR
comp=Z,430nm,15.1s
V12A Nelson 49.22 82 P **P 01 08 08.3 +1.0**
RDMU Red Mountain 49.29 73 P **P 01 08 08.5 +0.5**
RDMU IAmb IAmb 01 08 10.7
comp=Z,18nm,1.3s
MTPU Mount Pierson 49.34 77 P **P 01 08 09.2 +0.7**
LCMT Little Creek M 49.36 79 P **P 01 08 09.4 +0.9**
LCMT IAmb IAmb 01 08 11.3
comp=Z,14nm,1.4s
Q16A Castle Valley 49.38 76 P **P 01 08 09.7 +1.0**
P18A Preston Nutter 49.49 75 P **P 01 08 10.0 +0.4**
KNB Kanab 49.61 79 P **P 01 08 12.2 +1.7**
KNB IAmb IAmb 01 08 22.1
comp=Z,13nm,1.5s
PFO Pinyon Flats O 49.63 85 P **P 01 08 11.8 +1.2**
PFO Pinyon Flats O 49.63 85 LR LR 01 24 49.2
comp=Z,160nm,21.2s,baz=294,slow=31
SRU San Rafael Swe 49.65 75 P **P 01 08 11.3 +0.6**
SRU IAmb IAmb 01 08 14.9
comp=Z,10nm,1.2s
SPITS Spitsbergen Ar 49.67 355 P **P 01 08 08.2 -1.9**
comp=Z,6.1nm,0.6s,baz=35,slow=3.5,SNR=13
SPITS LR LR 01 27 51.5
comp=Z,168nm,21.8s,baz=344,slow=35
comp=Z,6.1nm,0.6s
W13A Hualapai Mount 50.22 82 P **P 01 08 16.3 +1.2**
U15A North Rim 50.32 79 P **P 01 08 16.4 +0.5**
U15A IAmb IAmb 01 08 20.4
comp=Z,9.6nm,1.2s
O20A White River Ci 50.36 73 P **P 01 08 16.1 +0.1**
O20A IAmb IAmb 01 08 18.2
comp=Z,11nm,1.4s
CBX Cerro Bola 50.39 86 P **P 01 08 17.2 +0.9**
MDND Maddock 50.46 60 P **P 01 08 16.8 +0.2**
YUH Yuha Desert 50.62 85 P **P 01 08 18.7 +0.8**
YUH IAmb IAmb 01 08 20.5
comp=Z,9.1nm,1.4s
WHN Wuhan 50.72 271 ⇓P **P 01 08 21.5 +2.8**
BLYC Blythe 50.73 83 P **P 01 08 19.6 +0.9**
BLYC IAmb IAmb 01 08 21.3
comp=Z,9.9nm,1.1s
ULM Lac du Bonnet 50.96 56 P **P 01 08 20.7 +0.5**
ULM Lac du Bonnet 50.96 56 P **P 01 08 19.4 -0.8**
comp=Z,3.9nm,0.9s,baz=288,slow=7.5,SNR=5.5
ULM LR LR 01 31 10.9
comp=Z,412nm,19.5s,baz=315,slow=38
comp=Z,3.9nm,0.9s
PV23 Carpenter Ridg 50.98 75 P **P 01 08 21.2 +0.3**
PV23 IAmb IAmb 01 08 28.2
comp=Z,6.8nm,0.9s
PV10 Paradox Valley 51.01 75 P **P 01 08 21.9 +0.8**
PV10 IAmb IAmb 01 08 25.1
comp=Z,18nm,1.1s
GLA Glamis 51.02 84 P **P 01 08 22.1 +1.2**
GLA IAmb IAmb 01 08 23.5
comp=Z,9.4nm,0.9s
PV14 Lion Creek, Pa 51.02 75 P **P 01 08 21.1 0.0**
ESJX Sierra Juarez 51.04 86 P **P 01 08 21.6 +0.3**
ESJX IAmb IAmb 01 08 24.1
comp=Z,17nm,1.4s
PV22 Blue Mesa, Par 51.06 75 P **P 01 08 22.5 +1.1**
PV22 IAmb IAmb 01 08 24.9
comp=Z,6.8nm,1.0s
PV20 West Nyswonger 51.08 75 P **P 01 08 21.5 0.0**
PV20 IAmb IAmb 01 08 25.0
comp=Z,7.6nm,0.9s
PV04 Paradox Valley 51.08 75 P **P 01 08 21.4 -0.1**
PV17 East Wray Mesa 51.12 75 P **P 01 08 22.0 +0.1**
PV17 IAmb IAmb 01 08 25.9
comp=Z,6.7nm,0.7s
PV16 Nyswonger Mesa 51.13 75 P **P 01 08 22.7 +0.8**
PV11 David Mesa, Pa 51.16 75 P **P 01 08 23.7 +1.6**
PV11 IAmb IAmb 01 08 25.8
comp=Z,12nm,1.1s
PV05 Paradox Valley 51.17 75 P **P 01 08 22.9 +0.6**
PV05 IAmb IAmb 01 08 26.2
comp=Z,7.6nm,1.0s
PV18 Skein Mesa, Pa 51.17 75 P **P 01 08 22.7 +0.4**
PV18 IAmb IAmb 01 08 26.3
comp=Z,10nm,0.8s
PV12 Saucer Basin, 51.19 75 P **P 01 08 22.5 +0.1**
PV12 IAmb IAmb 01 08 25.0
comp=Z,8.8nm,1.1s
PV03 Paradox Valley 51.20 75 P **P 01 08 21.8 -0.7**
PV03 IAmb IAmb 01 08 24.1
comp=Z,6.6nm,1.0s
PV13 Radium Mtn., P 51.28 75 P **P 01 08 22.8 -0.3**
PV13 IAmb IAmb 01 08 27.2
comp=Z,11nm,0.8s
PV02 Paradox Valley 51.30 75 P **P 01 08 22.8 -0.4**
PV02 IAmb IAmb 01 08 24.9
comp=Z,14nm,1.0s
PV01 Paradox Valley 51.45 75 P **P 01 08 24.9 +0.5**
WUAZ Wupatki 51.48 79 P **P 01 08 25.0 +0.5**
WUAZ IAmb IAmb 01 08 33.5
comp=Z,9.5nm,1.1s
Y14A Wickenburg 51.54 82 P **P 01 08 25.0 +0.1**
113A Mohawk Valley, 51.86 84 P **P 01 08 27.6 +0.4**
MVCO Mesa Verde 52.09 76 P **P 01 08 29.9 +0.8**
AGMN Agassiz Nation 52.16 58 P **P 01 08 29.4 +0.1**
AGMN IAmb IAmb 01 08 33.0
comp=Z,11nm,1.3s
X16A Lo Mia Camp, P 52.17 80 P **P 01 08 31.2 +1.5**
ZALV Zalesovo Beam 52.24 312 P **P 01 08 27.5 -2.3**
comp=Z,1.6nm,0.5s,baz=40,slow=7.2,SNR=10
ZALV PcP **PcP 01 09 40.7 -0.3**
comp=Z,2.8nm,0.7s,baz=25,slow=3.4,SNR=7.5
ZALV LR LR 01 32 03.7
comp=Z,188nm,18.2s,baz=50,slow=38
comp=Z,1.6nm,0.5s
S22A 4UR Ranch, Cre 52.74 74 P **P 01 08 35.8 +1.8**
X18A Snowflake 53.00 79 P **P 01 08 37.2 +1.3**
X18A IAmb IAmb 01 08 38.7
comp=Z,11nm,1.4s
SUMG Summit 53.19 13 P **P 01 08 36.6 -0.4**
SUMG Summit 53.19 13 *i* P **P 01 08 36.0 -1.0**
SUMG IAmb IAmb 01 08 39.0
comp=Z,19nm,1.2s
LZH Lanzhou 53.39 284 *eP* **P 01 08 38.5 -0.2**
LZH pP sP 01 08 47.4 +3.2
LZH pmax pmax
comp=Z,14nm,0.9s
LZH LR LR
comp=Z,580nm,16.5s
LZH LR LR
comp=Z,580nm,16.7s
LZH LR LR
comp=Z,470nm,15.6s
DBG Daneborg 53.43 6 *i* P **P 01 08 36.7 -1.6**
DBG IAmb IAmb 01 08 39.1
comp=Z,8.1nm,1.1s
FRB Frobisher Bay 53.53 31 LR LR 01 33 48.5
comp=Z,381nm,19.5s,baz=310,slow=39
SDCO Great Sand Dun 53.53 73 P **P 01 08 40.7 +0.9**
SDCO IAmb IAmb 01 08 42.1
comp=Z,7.9nm,1.2s
GTA Gaotai 53.58 289 *eP* **P 01 08 38.7 -1.3**
GTA pP pP 01 08 41.1 -2.8
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA LR LR
comp=Z,360nm,16.0s
GTA LR LR
comp=Z,410nm,16.7s
GTA LR LR
comp=Z,400nm,14.5s
ILULI Ilulissat 53.89 20 *i* P **P 01 08 41.7 0.0**
ILULI IAmb IAmb 01 08 43.0
comp=Z,30nm,1.1s
T25A Trinidad 54.58 73 P **P 01 08 48.2 +0.8**
T25A IAmb IAmb 01 08 50.8
comp=Z,8.5nm,1.1s
EYMN Ely 54.64 56 P **P 01 08 48.0 +0.5**
ANMO Albuquerque 54.84 77 LR LR 01 29 35.9
comp=Z,182nm,21.8s,baz=113,slow=33
LENM Lemitar 55.06 78 P **P 01 08 51.8 +0.9**
BNM Barren Site 55.28 77 P **P 01 08 53.1 +0.5**
CRNM Carthage 55.35 78 P **P 01 08 54.6 +1.6**
E38A The Farm, Brul 55.49 57 P **P 01 08 54.0 +0.4**
E38A IAmb IAmb 01 08 56.3
comp=Z,13nm,0.9s
319A Douglas 55.57 82 P **P 01 08 55.0 +0.4**
319A IAmb IAmb 01 08 57.8
comp=Z,6.7nm,1.0s
SPMN Marine on St. 55.75 59 P **P 01 08 55.5 0.0**
SPMN IAmb IAmb 01 08 57.7
comp=Z,4.4nm,0.8s
SFJD Kangerlussuaq 55.82 21 LR LR 01 33 59.5
comp=Z,86nm,20.9s,baz=322,slow=37
ICESG Greenland Ices 56.13 15 *i* P **P 01 08 56.2 -2.1**
ICESG IAmb IAmb 01 09 02.0
comp=Z,21nm,1.1s
CBKS Cedar Bluff 56.19 69 P **P 01 08 59.5 +0.7**
HSIG 56.20 85 P **P 01 09 00.1 +1.2**
HSIG IAmb IAmb 01 09 02.0
comp=Z,5.2nm,0.7s
SCO Scoresbysund 57.02 8 P **P 01 09 04.3 +0.1**
N35A Tabor 57.13 64 **P 01 09 05.1 -0.3**
ARCES ARCESS Array B 57.19 349 P **P 01 09 03.5 -1.9**
comp=Z,7.3nm,0.9s,baz=7.4,slow=6.2,SNR=5.4
ARCES LR LR 01 35 55.1
comp=Z,171nm,18.9s,baz=21,slow=38
comp=Z,7.3nm,0.9s
KURK Kurchatov 57.23 312 P **P 01 09 05.5 -0.4**
KURBB Kurchatov Arra 57.34 312 P **P 01 09 05.2 -1.6**
comp=Z,16nm,0.6s,baz=42,slow=6.7,SNR=88
KURBB PcP **PcP 01 10 01.3 +0.7**
comp=Z,1.5nm,0.9s,baz=41,slow=3.7,SNR=4.2
KURBB LR LR 01 35 15.4
comp=Z,306nm,18.6s,baz=196,slow=38
comp=Z,16nm,0.6s
WMQ Urumqi 57.42 301 *eP* **P 01 09 11.5 +4.0**
WMQ LR LR
comp=Z,660nm,19.5s
WMQ LR LR
comp=Z,660nm,19.5s
WMQ LR LR
comp=Z,230nm,23.9s
MNTX Cornudas Mount 57.73 79 P **P 01 09 10.4 +0.7**
MNTX IAmb IAmb 01 09 12.2
comp=Z,6.4nm,1.1s
MK31 Makanchi Array 58.17 306 P **P 01 09 11.4 -1.3**
MK31 IAmb IAmb 01 09 13.2
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 58.17 306 P **P 01 09 11.2 -1.5**
MKAR Makanchi Array 58.17 306 P **P 01 09 10.9 -1.8**
comp=Z,7.1nm,0.8s,baz=46,slow=6.7,SNR=47
MKAR LR LR 01 33 58.5
comp=Z,92nm,18.2s,baz=24,slow=36
comp=Z,7.1nm,0.8s
MAKZ Makanchi 58.32 307 P **P 01 09 12.7 -1.0**
MAKZ IAmb IAmb 01 09 14.7
comp=Z,7.6nm,0.7s
VHRN Van Horn 58.61 79 IAmb IAmb 01 09 18.5
comp=Z,4.0nm,0.9s
L40A Anamosa 58.74 61 P **P 01 09 17.2 +0.5**
L40A IAmb IAmb 01 09 23.9
comp=Z,8.3nm,1.0s
BVAR Borovoye Array 59.21 318 P **P 01 09 18.5 -1.2**
comp=Z,13nm,0.5s,baz=49,slow=7.2,SNR=52
BVAR LR LR 01 36 07.6
comp=Z,452nm,21.2s,baz=48,slow=37
comp=Z,13nm,0.5s
BRVK Borovoye 59.23 318 P **P 01 09 19.0 -0.9**
APMT Aspermont 59.75 74 P **P 01 09 24.4 +0.6**
APMT IAmb IAmb 01 09 25.5
comp=Z,7.6nm,1.0s
OK052 Battle Ridge R 59.82 69 P **P 01 09 24.0 -0.3**
OK052 IAmb IAmb 01 09 25.4
comp=Z,6.3nm,0.7s
SGCY Sterling City 60.14 75 IAmb IAmb 01 09 28.1
comp=Z,8.7nm,0.8s
LPIG La Paz 60.14 88 LR LR 01 32 17.9
comp=Z,56nm,19.7s,baz=298,slow=33
TXAR Lajitas Array 60.44 79 P **P 01 09 28.8 +0.1**
TXAR Lajitas Array 60.44 79 P **P 01 09 27.9 -0.8**
comp=Z,2.3nm,0.7s,baz=302,slow=5.2,SNR=23
TXAR LR LR 01 35 39.2
comp=Z,100nm,18.0s,baz=314,slow=36
comp=Z,2.3nm,0.7s
ABTX Abilene, Hawle 60.52 74 P **P 01 09 29.6 +0.4**
SCHQ Schefferville 60.73 37 P **P 01 09 30.4 +0.3**
SCHQ Schefferville 60.73 37 P **P 01 09 29.1 -1.1**
comp=Z,15nm,1.0s,baz=342,slow=8.4,SNR=7.4
SCHQ LR LR 01 37 41.2
comp=Z,346nm,18.8s,baz=298,slow=38
comp=Z,15nm,1.0s
ARTI Arti 61.19 327 P **P 01 09 32.6 -0.7**
ARTI Arti 61.19 327 LR LR 01 39 09.4
comp=Z,422nm,18.1s,baz=48,slow=39
PZH PanZhiHua 61.37 277 P **P 01 09 34.0 -1.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.8s
BRDY Brady 61.86 74 P **P 01 09 38.7 +0.5**
BRDY IAmb IAmb 01 09 49.3
comp=Z,10nm,1.5s
KIRV Kirov 62.21 332 LR LR 01 38 27.6
comp=Z,187nm,21.6s,baz=35,slow=38
JOF Joensuu 62.54 344 *eP* **P 01 09 42.4 +0.2**
BORG Borgarnes 62.67 9 LR LR 01 36 07.3
comp=Z,122nm,21.8s,baz=345,slow=35
SADO Sadowa 62.99 51 LR LR 01 38 09.4
comp=Z,301nm,19.1s,baz=88,slow=37
VAF Ylistaro 63.74 348 *eP* **P 01 09 51.0 +0.8**
TKM2 Tokmak 2 64.27 307 P **P 01 09 51.8 -2.5**
SNR=8.5
USP Ospenovka 64.55 308 P **P 01 09 55.3 -0.6**
SNR=18
FINES FINESS Array B 64.79 346 P **P 01 09 55.1 -1.9**
comp=Z,14nm,0.9s,baz=23,slow=10,SNR=20
FINES LR LR 01 40 59.7
comp=Z,126nm,19.7s,baz=29,slow=39
comp=Z,14nm,0.9s
AAK Ala-Archa 65.02 308 P **P 01 09 58.6 -0.5**
AAK Ala-Archa 65.02 308 P **P 01 09 58.3 -0.8**
SNR=9.1
EKS2 Erkin-Say 65.35 308 P **P 01 10 00.7 -0.5**
SNR=17
L56A Greenwood 65.72 52 P **P 01 10 04.2 +0.7**
K57A Scipio Center 65.78 51 P **P 01 10 04.3 +0.4**
AML Almayashu 65.79 308 P **P 01 10 04.0 -0.4**
SNR=12
RAF Rauma 65.81 348 *eP* **P 01 10 04.1 +0.4**
AKTO Aktyubinsk 66.10 323 LR LR 01 41 35.1
comp=Z,452nm,18.1s,baz=128,slow=38
MEF Metsahovi 66.21 346 *eP* **P 01 10 07.3 +1.1**
ABKAR Akbulak array 66.31 321 P **P 01 10 06.4 -0.8**
KKAR Karatay Array 66.58 310 P **P 01 10 07.7 -1.3**
NC204 NORSAR Array S 66.68 353 P **P 01 10 08.6 -0.8**
ARBE Arbavere 66.71 345 *eP* **P 01 10 08.6 -0.9**
ARSB Arslanbob 66.75 308 P **P 01 10 10.2 -0.1**
CRAI Chiangrai 66.84 274 P **P 01 10 11.9 +0.9**
CRAI IAmb IAmb 01 10 13.8
comp=Z,8.6nm,1.0s
NB201 NORSAR Array S 66.87 353 P **P 01 10 10.6 +0.1**
NB2 NORSAR Subarra 66.88 353 P **P 01 10 10.0 -0.6**
comp=Z,34nm,1.1s,baz=8.1,slow=6.2
NB2 NORSAR Subarra 66.88 353 P **P 01 10 10.0 -0.6**
baz=8.1,slow=6.2
NOA NORSAR Array B 66.88 353 P **P 01 10 09.7 -0.9**
comp=Z,16nm,1.0s,baz=9.5,slow=6.4,SNR=20
NOA LR LR 01 42 18.8
comp=Z,54nm,18.2s,baz=0.0,slow=39
comp=Z,16nm,1.0s
TKL Tuckaleechee C 67.37 61 LR LR 01 39 35.8
comp=Z,262nm,21.5s,baz=332,slow=36
VSU Vasula 67.52 344 *eP* **P 01 10 14.7 +0.1**
HFS Hagfors 67.58 352 P **P 01 10 13.8 -1.2**
comp=Z,7.6nm,0.7s,baz=57,slow=5.5,SNR=18
HFS LR LR 01 42 34.4
comp=Z,62nm,18.1s,baz=12,slow=38
comp=Z,7.6nm,0.7s
MTSE Matsula 67.74 346 *eP* **P 01 10 16.9 +0.9**
OBN Obninsk 68.64 337 P **P 01 10 21.7 0.0**
OBN Obninsk 68.64 337 LR LR 01 44 05.9
comp=Z,262nm,18.2s,baz=358,slow=39
OBN Obninsk 68.64 337 P **P 01 10 22.2 +0.5**
comp=Z,27nm,0.6s
CHTO Chiang Mai 68.79 274 P **P 01 10 23.5 +0.3**
CHTO IAmb IAmb 01 10 25.0
comp=Z,7.2nm,0.9s
CMAR Chiang Mai Arr 69.06 273 P **P 01 10 23.8 -1.1**
comp=Z,2.4nm,0.3s,baz=26,slow=7.3,SNR=20
comp=Z,2.4nm,0.3s
MSVF Nonsavu 69.38 180 LR LR 01 35 25.0
comp=Z,106nm,20.5s,baz=353,slow=31
IDID Didziasalis 70.51 343 *eP* **P 01 10 32.0 -1.2**
SIMJ Simiganj 70.74 308 P **P 01 10 35.2 0.0**
PABE Paberze 70.80 345 *eP* **P 01 10 35.3 +0.3**
NACGM Naroch 70.89 343 *eP* **P 01 10 36.0 +0.4**
MNK Minsk 71.07 342 *i* P **P 01 10 36.7 0.0**
comp=E,7.0nm,0.7s
MNK *i* P **P 01 10 36.7 0.0**
comp=N,9.0nm,0.8s
MNK *i* P **P 01 10 36.7 0.0**
comp=Z,39nm,0.8s,baz=19
MNK *i* PP **PP 01 13 17.8 +4.4**
MNK *i* PPP PPP 01 16 13.7
MNK *i* S **S 01 19 55.7 +3.4**
MNK *i* SS SS 01 23 46.4 -38
MNK *i* SSS SSS 01 26 52.2
MNK *i* LQ LQ 01 37 52.8
MNK *i* LR LR 01 42 19.0
MNK *i* LRM MLR 01 46 33.3
comp=N,190nm,16.8s
MNK *i* LRM MLR 01 46 51.5
comp=Z,174nm,15.6s
MNK *i* LRM MLR 01 46 55.5
comp=E,143nm,15.7s
SUW Suwalki 72.36 345 *eP* **P 01 10 44.9 +0.4**
SUW Suwalki 72.36 345 *eP* **P 01 10 44.4 -0.1**
NIL Nilore 72.51 302 P **P 01 10 46.0 +0.3**
EKA Eskdalemuir Ar 73.09 1 P **P 01 10 48.2 -0.6**
comp=E,2.9nm,0.8s,baz=10,slow=5.1,SNR=4.1
comp=E,2.9nm,0.8s
KBL Kabul 73.97 306 P **P 01 10 53.0 -1.6**
AK23 Malin Array Si 74.36 340 P **P 01 10 55.5 -0.8**
AK21 Malin Array Si 74.36 340 P **P 01 10 55.5 -0.8**
AK22 Malin Array Si 74.37 340 P **P 01 10 55.1 -1.2**
AK03 Malin Array Si 74.37 340 P **P 01 10 55.1 -1.3**
RNPP9 Sopachiv 74.38 342 P **P 01 10 56.2 -0.2**
AKASG Malin Array Be 74.39 340 P **P 01 10 56.5 0.0**
AKASG Malin Array Be 74.39 340 P **P 01 10 55.5 -1.0**
comp=E,20nm,0.7s,baz=25,slow=5.9,SNR=50
AKASG LR LR 01 47 26.0
comp=E,124nm,20.1s,baz=26,slow=39
comp=E,20nm,0.7s
AKBB Malin Array Si 74.39 340 P **P 01 10 56.0 -0.5**
AKBB Malin Array Si 74.39 340 P **P 01 10 55.8 -0.7**
DZM Mont Dzumac 74.40 191 *e*LR LR 01 33 50.3
comp=E,190nm,22.7s
KIEV Kiev 74.41 340 P **P 01 10 55.8 -0.8**
KIEV Kiev 74.41 340 ⇑P **P 01 10 55.9 -0.7**
KIEV Kiev 74.41 340 P **P 01 10 55.5 -1.0**
comp=E,158nm,0.9s
RNPP8 Varash 74.46 342 P **P 01 10 57.0 +0.1**
AK05 Malin Array Si 74.48 340 P **P 01 10 56.2 -0.7**
MI28 Mi28,Pidlybu 74.50 341 P **P 01 10 56.6 -0.5**
RNPP5 Staryi Chortor 74.56 342 P **P 01 10 58.0 +0.6**
PPT Papeete 74.72 148 LR LR 01 38 03.9
comp=E,234nm,20.6s,baz=346,slow=31
PPT2 Papeete2 74.74 148 *e*LR LR 01 33 51.7
comp=E,311nm,28.5s
PPT2 *e*LR LR 01 33 59.8
comp=E,372nm,24.8s
BEL Belsk 74.84 346 *eP* **P 01 10 59.8 +0.7**
RAR Rarotonga 75.36 159 LR LR 01 36 24.0
comp=E,338nm,20.5s,baz=338,slow=30
CLL Collm 76.36 350 *eP* **P 01 11 08.0 +0.2**
CLL *ep*P **pP 01 11 11.0 -0.9**
CLL *es*P **sP 01 11 12.0 -1.4**
CLL *e*PcP **PcP 01 11 20.0 +0.4**
OJC Ojcow 76.57 346 *eP* **P 01 11 09.2 +0.2**
OJC Ojcow 76.57 346 P **P 01 11 09.5 +0.5**
comp=E,23nm,0.9s
BRG Berggiesshubel 76.69 350 *eP* **P 01 11 09.5 -0.2**
BRG Amp 01 11 11.4
comp=Z,4.6nm,0.8s
BRG Berggiesshubel 76.69 350 P P 01 11 15.9 +6.3
CHVC Chvalec 76.72 348 *eP* **P 01 11 09.7 -0.2**
NDNU Novodnistrovsk 76.78 341 P **P 01 11 09.4 -0.8**
DPC Dobruska-Polom 76.92 348 *eP* **P 01 11 11.4 +0.3**
KMPD K-Podol'skiy 76.99 341 P **P 01 11 10.3 -1.1**
SORM Soroca 77.01 340 ⇑P **P 01 11 11.0 -0.5**
SORM Soroca 77.01 340 P **P 01 11 10.4 -1.1**
comp=Z,50nm,1.0s
KIV Kislovodsk 77.02 329 P **P 01 11 12.4 +0.6**
KIV Kislovodsk 77.02 329 ⇑P **P 01 11 11.4 -0.4**
KIV Kislovodsk 77.02 329 P **P 01 11 12.5 +0.7**
comp=Z,9.0nm,1.2s
STHS Stebnicka Huta 77.12 345 *eP* **P 01 11 15.9 +3.7**
KRLC Kraliky 77.13 348 *eP* **P 01 11 12.2 -0.1**
STEB Steborice 77.14 347 *eP* **P 01 11 12.3 +0.1**
KBZ Khabaz 77.15 328 P **P 01 11 12.3 -0.1**
comp=Z,3.0nm,0.9s,baz=29,slow=2.2,SNR=6.6
KBZ LR LR 01 50 27.5
comp=Z,206nm,18.8s,baz=21,slow=40
comp=Z,3.0nm,0.9s
OKC Ostrava-Krasne 77.18 347 *eP* **P 01 11 14.4 +2.0**
STNU Starunia 77.23 342 P **P 01 11 11.7 -1.1**
NIE Niedzica 77.27 345 *eP* **P 01 11 12.5 -0.5**
NIE Niedzica 77.27 345 P **P 01 11 13.2 +0.2**
comp=Z,3.8nm,1.2s
MORC Moravsky Berou 77.32 347 *eP* **P 01 11 13.7 +0.4**
MORC Moravsky Berou 77.32 347 ⇑P **P 01 11 13.5 +0.2**
CHRU Chernivtsi 77.36 341 P **P 01 11 14.4 +1.0**
comp=Z,39nm,0.7s
HRA Herat 77.41 310 P **P 01 11 14.6 +0.3**
HRA IAmb IAmb 01 11 16.6
comp=Z,9.0nm,0.9s
KOLS Kolonicke sedl 77.42 344 *eP* **P 01 11 14.2 +0.4**
NKC Novy Kostel 77.48 351 *eP* **P 01 11 14.6 +0.4**
KSV Kosov 77.50 342 P **P 01 11 13.6 -0.7**
MEM Membach 77.61 355 *dP* **P 01 11 16.4 +1.6**
comp=Z,8.6nm,1.1s
BTNL Ternell 77.62 355 *dP* **P 01 11 16.6 +1.7**

comp=Z,6.5nm,1.0s
LANS Liptovska Anna 77.66 346 *e*P **P 01 11 16.5 +1.3**
UZHM Uzhgorod 77.71 344 P **P 01 11 17.1 +1.7**
HOLU Holmets 77.79 344 P **P 01 11 17.5 +1.6**
MUKU Mukachevo 77.81 344 P **P 01 11 16.7 +0.7**
BCLA Clavier 77.83 355 *d*P **P 01 11 18.3 +2.2**
BRIU Brid 77.86 343 P **P 01 11 17.0 +0.7**
BGES Gesves 77.88 355 *d*P **P 01 11 18.6 +2.3**
VRAC Vranov 77.91 348 LR LR 01 48 41.3
comp=Z,93nm,19.9s,baz=18,slow=38
VRAC Vranov 77.91 348 *e*P **P 01 11 17.3 +0.7**
VRAC Vranov 77.91 348 ⇑P **P 01 11 17.2 +0.6**
KORU Korolevo 78.01 343 P **P 01 11 18.1 +1.0**
BERU Beregovo 78.03 344 P **P 01 11 18.2 +1.0**
MILM Milestii Mici 78.06 339 ⇑P **P 01 11 16.6 -0.8**
TREC Trest 78.06 348 *e*P **P 01 11 19.2 +1.8**
GRA1 Grafenberg Arr 78.13 351 P **P 01 11 17.6 -0.2**
BURAR Bucovina Array 78.15 342 P **P 01 11 17.8 -0.2**
BURAR Bucovina Array 78.15 342 ⇑P **P 01 11 17.9 -0.1**
KECS Kecovo 78.15 345 *e*P **P 01 11 18.8 +0.9**
KRUC Moravsky 78.18 348 *e*P **P 01 11 18.4 +0.4**
VYHS Vyhne 78.39 346 *e*P **P 01 11 20.3 +1.0**
BMR Baia Mare 78.42 343 ⇑P **P 01 11 20.3 +1.0**
KHC Kasperske Hory 78.45 350 *e*P **P 01 11 17.4 -2.2**
KHC Kasperske Hory 78.45 350 P **P 01 11 20.3 +0.7**
comp=Z,10nm,2.1s
GEC2 GERESS Array S 78.72 350 P **P 01 11 21.6 +0.5**
GEC2 IAmb IAmb 01 11 22.9
comp=Z,5.8nm,1.1s
GERES GERESS Array B 78.72 350 P **P 01 11 21.1 -0.1**
GERES GERESS Array B 78.72 350 P **P 01 11 20.5 -0.7**
comp=Z,2.9nm,1.0s,baz=22,slow=4.8,SNR=16
GERES LR LR 01 51 28.9
comp=Z,85nm,18.1s,baz=40,slow=40
comp=Z,2.9nm,1.0s
MODS Modra-Piesok 78.73 347 *e*P **P 01 11 23.0 +1.9**
PSZ Piszkesteto 78.79 345 ⇓P **P 01 11 22.4 +0.9**
PSZ Piszkesteto 78.79 345 *e*P **P 01 11 22.7 +1.1**
TESR Tescani 78.91 340 ⇑P **P 01 11 21.9 -0.2**
TESR Tescani 78.91 340 P **P 01 11 22.7 +0.6**
comp=Z,22nm,1.1s
ONER Baraj Valea Uz 79.13 340 ⇓P **P 01 11 23.3 -0.1**
CBBR Cluj-Babes-Bol 79.28 343 ⇑P **P 01 11 24.2 +0.1**
CJR Cluj-Napoca 79.32 342 ⇑P **P 01 11 24.7 +0.3**
CONA Conrad Observa 79.36 348 *i*P **P 01 11 25.9 +1.2**
comp=Z,14nm,1.1s,SNR=9.5
DRGR 79.41 343 ⇑P **P 01 11 24.7 -0.2**
MARR Marisel-Cluj 79.44 343 ⇑P **P 01 11 25.2 0.0**
VRI Vrincioaia 79.51 340 ⇓P **P 01 11 25.4 0.0**
VRI Vrincioaia 79.51 340 P **P 01 11 26.5 +1.1**
comp=Z,16nm,0.9s
RONA Rosalia, Austr 79.53 348 *i*P **P 01 11 26.9 +1.4**
comp=Z,11nm,1.1s,SNR=5.4
PLOR Plostina 79.54 340 ⇑P **P 01 11 25.5 -0.1**
PLOR5 Plostina Array 79.55 340 P **P 01 11 26.8 +1.1**
comp=Z,16nm,1.4s
SPBR Spulber 79.62 340 ⇓P **P 01 11 26.5 +0.5**
COVR Voineasa-Covas 79.64 340 ⇓P **P 01 11 26.5 +0.3**
GNI Garni 79.72 326 LR LR 01 51 21.0
comp=Z,236nm,18.6s,baz=36,slow=39
GNI Garni 79.72 326 P **P 01 11 27.4 +0.5**
comp=Z,9.5nm,1.6s
BIOA Bad Ischl, Aus 79.86 349 *i*P **P 01 11 28.0 +0.6**
comp=Z,9.5nm,1.1s
MPLH Magyarpolny 79.87 347 P **P 01 11 28.9 +1.5**
comp=Z,77nm,1.1s
MLR Muntele Rosu 80.03 341 P **P 01 11 28.3 -0.2**
MLR Muntele Rosu 80.03 341 LR LR 01 51 22.9
comp=Z,101nm,18.6s,baz=30,slow=39
MLR Muntele Rosu 80.03 341 ⇑P **P 01 11 28.2 -0.2**
MLR Muntele Rosu 80.03 341 P **P 01 11 29.6 +1.2**
ARSA Arzberg 80.07 348 *i*P **P 01 11 29.8 +1.3**
comp=Z,9.7nm,1.1s
TPGR Topolog 80.10 339 ⇓P **P 01 11 29.1 +0.4**
TBI Tubuai 80.16 150 *e*LR LR 01 36 24.2
comp=Z,942nm,30.0s
TBI *e*LR LR 01 36 35.7
comp=Z,1μm,22.2s
LESA Schwarzleotal 80.23 350 *i*P **P 01 11 30.3 +0.9**
comp=Z,7.6nm,1.3s
VOIR 80.27 341 ⇑P **P 01 11 29.6 0.0**
VOIR 80.27 341 P **P 01 11 30.9 +1.3**
comp=Z,25nm,1.1s
ARR Arges 80.42 341 ⇑P **P 01 11 31.4 +1.0**
WATA Walderalm 80.43 351 *i*P **P 01 11 31.1 +0.6**
comp=Z,20nm,1.2s,SNR=8.4
LHMI Lhok Sumawe 80.47 266 P **P 01 11 31.0 0.0**
MOTA Moosalm 80.47 351 *i*P **P 01 11 31.4 +0.6**
comp=Z,16nm,1.2s
WTTA Wattenberg 80.50 351 *i*P **P 01 11 31.2 +0.2**
comp=Z,14nm,0.9s,SNR=7.2
KBA Koelnbreinsper 80.50 350 *i*P **P 01 11 31.9 +1.0**
comp=Z,37nm,0.9s,SNR=26
LOT Lotru 80.51 342 ⇑P **P 01 11 30.7 -0.2**
SQTA Sankt Quirin 80.58 351 *i*P **P 01 11 32.0 +0.6**
comp=Z,16nm,1.0s,SNR=7.7
DAVA Damuels 80.64 352 *i*P **P 01 11 32.4 +0.7**
comp=Z,4.6nm,0.9s
MORH Mrgy, Hungar 80.64 346 ⇑P **P 01 11 31.4 -0.1**
SOKA Soboth 80.69 348 *i*P **P 01 11 33.1 +1.2**
comp=Z,24nm,1.0s,SNR=19
BZS Buzias 80.74 344 ⇑P **P 01 11 32.5 +0.5**
GZR Gura Zlata 80.75 343 ⇑P **P 01 11 32.2 0.0**
FETA Feichten 80.83 351 *i*P **P 01 11 33.7 +1.0**
comp=Z,11nm,1.0s,SNR=7.4
MYKA Terra Mystica 80.91 349 *i*P **P 01 11 34.1 +1.1**
comp=Z,6.1nm,1.0s
ABTA Abfaltersbach 80.92 350 *i*P **P 01 11 33.4 +0.3**
comp=Z,14nm,1.0s,SNR=8.3
OBKA Obir 80.92 349 *e*P **P 01 11 32.9 -0.2**
OBKA Obir 80.92 349 *i*P **P 01 11 34.2 +1.1**
comp=Z,19nm,0.9s,SNR=6.8
PRED Cave del Predi 81.10 349 P **P 01 11 34.0 -0.1**
PRED IAmb IAmb 01 11 38.5
comp=Z,12nm,0.8s
WRA Warramunga Arr 81.14 221 P **P 01 11 33.7 -0.6**
comp=Z,1.5nm,0.7s,baz=31,slow=5.9,SNR=8.1
comp=Z,1.5nm,0.7s
DAVOX Davos/Dischmat 81.14 352 LR LR 01 50 54.2
comp=Z,50nm,18.4s,baz=34,slow=38
KOPT Kop Dagi 81.27 328 P **P 01 11 36.3 +0.9**
KOPT IAmb IAmb 01 11 40.5
comp=Z,12nm,1.0s
HERR Herculane 81.31 343 ⇓P **P 01 11 34.9 -0.2**
FRGS Fruska Gora 81.49 345 *e*P **P 01 11 34.9 -1.2**
TUE Stuetta 81.49 352 P **P 01 11 36.6 +0.3**
TUE IAmb IAmb 01 11 39.4
comp=Z,7.7nm,0.8s
TUE Stuetta 81.49 352 P **P 01 11 37.4 +1.1**
comp=Z,47nm,1.1s
CEY Cerknica 81.69 349 *e*P **P 01 11 37.3 +0.1**
CTI Castel Tesino 81.70 351 P **P 01 11 36.9 -0.4**
CTI IAmb IAmb 01 11 38.7
comp=Z,8.8nm,1.2s
BOJS Bojanci 81.82 348 *e*P **P 01 11 37.8 0.0**
SKDS Skadanscina 81.93 349 *e*P **P 01 11 36.4 -2.0**
GEVA Gevas 81.95 326 P **P 01 11 38.7 -0.1**
GEVA IAmb IAmb 01 11 45.2
comp=Z,4.8nm,0.8s
A051A Mrakovica 82.08 347 *e*P **P 01 11 38.1 -1.1**
GURO Guroymak-BITLI 82.09 327 P **P 01 11 40.4 +0.9**
TEKS Tekeris 82.13 345 *e*P **P 01 11 38.6 -0.9**
TOKA Tokat 82.24 331 P **P 01 11 41.1 +0.9**
BLY Banja Luka 82.30 346 *e*P **P 01 11 38.4 -1.9**
A050A Klekovaca 82.65 347 *e*P **P 01 11 43.4 +1.1**
HAPS Han Pijesak,BI 82.67 345 *e*P **P 01 11 42.2 -0.2**
BBLS Lazi&#263i 82.81 345 *e*P **P 01 11 43.0 -0.1**
RUDO Rudo 83.06 345 *e*P **P 01 11 43.2 -1.1**
BNI Bardonecchia 83.11 354 P **P 01 11 45.5 +0.8**
BNI IAmb IAmb 01 11 56.4
comp=Z,11nm,1.1s
SJES Sjenica 83.31 344 *e*P **P 01 11 45.1 -0.6**
UPM Unac-Piva 83.54 345 *e*P **P 01 11 46.3 -0.7**
BR106 Keskin Array S 83.61 333 P **P 01 11 48.1 +0.7**
comp=Z,62nmcomp=Z,7.2nm,1.1s
BRTR Keskin Array B 83.61 333 P **P 01 11 48.1 +0.7**
BRTR Keskin Array B 83.61 333 P **P 01 11 46.8 -0.6**
comp=Z,5.8nm,1.0s,baz=43,slow=2.5,SNR=21
BRTR LR LR 01 53 16.7
comp=Z,48nm,19.7s,baz=320,slow=39
comp=Z,5.8nm,1.0s
BR105 Keskin Array S 83.62 333 P **P 01 11 48.2 +0.7**
comp=Z,78nmcomp=Z,9.7nm,1.1s
BR104 Keskin Array S 83.63 333 P **P 01 11 48.2 +0.7**
comp=Z,54nmcomp=Z,7.7nm,1.0s
MARD Mardin 83.63 327 P **P 01 11 48.6 +1.1**
ANTO Ankara 83.71 334 ⇑P **P 01 11 48.2 +0.3**
ANTO Ankara 83.71 334 P **P 01 11 48.7 +0.9**
comp=Z,6.7nm,1.2s
BRY Bratogost 83.89 345 *e*P **P 01 11 48.0 -0.8**
YLV Yalova 83.94 337 P **P 01 11 49.9 +0.9**
STON Ston 84.05 346 *e*P **P 01 11 49.5 +0.1**
KIRS Kirsehir-Merke 84.08 333 ⇑P **P 01 11 49.7 0.0**
PDG Podgorica 84.24 344 P **P 01 11 50.1 -0.3**
PDG Podgorica 84.24 344 *e*P **P 01 11 49.2 -1.1**
PDG Podgorica 84.24 344 ⇑P **P 01 11 50.9 +0.6**
RDO Rodhopi 84.28 340 P **P 01 11 50.8 +0.3**
ALN Alexandroupoli 84.40 339 P **P 01 11 52.1 +0.9**
DRME Dracevica, Mon 84.49 344 *e*P **P 01 11 52.3 +0.7**
ASAR Alice Springs 84.65 220 P **P 01 11 53.3 +0.8**
ASAR Alice Springs 84.65 220 P **P 01 11 53.0 +0.5**
comp=Z,1.1nm,0.8s,baz=18,slow=5.0,SNR=7.8
comp=Z,1.1nm,0.8s
GAZ Gaziantep 84.91 330 P **P 01 11 54.9 +0.9**
RKT Rikitea 85.25 138 *e*LR LR 01 38 49.6
comp=Z,944nm,27.0s
JTS Las Juntas de 86.21 78 LR LR 01 51 35.1
comp=Z,32nm,19.4s,baz=314,slow=36
ESDC Sonseca Array 88.74 2 P **P 01 12 13.3 +0.8**
comp=Z,0.3nm,0.6s,baz=13,slow=3.9,SNR=1.7
comp=Z,0.3nm,0.6s
MMAI Mount Meron Ar 89.31 329 LR LR 01 56 46.5
comp=Z,105nm,20.1s,baz=42,slow=39
STKA Stephens Creek 89.40 210 P **P 01 12 17.0 +1.6**
comp=Z,1.7nm,0.7s,baz=335,slow=6.2,SNR=4.3
comp=Z,1.7nm,0.7s
VAE Valguarnera 89.82 347 LR LR 01 57 59.3
comp=Z,73nm,18.2s,baz=328,slow=39
SJG San Juan 90.73 59 LR LR 01 52 50.8
comp=Z,118nm,21.9s,baz=334,slow=35
EIL Elat 92.55 329 LR LR 01 59 49.7
comp=Z,127nm,18.9s,baz=65,slow=39
RAYN Ar Rayn 94.19 317 P **P 01 12 37.2 -0.9**
RAYN IAmb IAmb 01 12 40.4
comp=Z,3.1nm,0.8s
MDT Midelt 95.57 2 LR LR 01 57 21.7
comp=Z,33nm,18.9s,baz=20,slow=36
PCRV Puerto La Cruz 98.11 62 LR LR 01 56 39.1
comp=Z,93nm,20.7s,slow=35
PLCA Paso Flores 132.96 105 PKP **PKPdf 01 18 31.5 -2.3**
comp=Z,2.3nm,1.0s,baz=298,slow=2.9,SNR=4.5
QSPA South Pole Qui 141.69 180 PKP **PKPdf 01 18 46.7 -2.4**
comp=Z,1.2nm,0.7s,baz=14,slow=0.8,SNR=8.5
BOSA Boshof 149.16 309 PKPbc **PKPbc 01 19 06.8 -0.5**
comp=Z,3.8nm,0.6s,baz=46,slow=2.7,SNR=15
ELIB Princess Elisa 157.05 200 *d*PKP **PKPab 01 19 45.5 +1.7**

SNET ***02*** *01:04:05.3±1.0, 14.°89N×86.°58W, h27km±40km, ML3.7*
CATAC ***02*** *01:04:05.6±0.7, 15.°N±3.°×.8.°7W±.°, h2km±4km, M4.1/15, MLv4.1/15, Error ellipse: s-maj=6.7km s-min=3.4km az=14.6, confirmed*

ISC 02 01:04:03.1±1.7, 14.°88N±0.°06×86.°50W±0.°04, h14km±12km, n40, σ1°19/49, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**1.11**	**222**	S	**Sb**	**01 04 38.4**	**-0.1**
RCVN	**Varillal2**	**1.32**	**167**	P	**Pg**	**01 04 28.5**	**-0.1**
RCPN	**Sur Rio San Ju**	**1.40**	**163**	S	**Sg**	**01 04 50.4**	**+1.9**
RCPN	**Sur Rio San Ju**	**1.40**	**163**	P	**Pg**	**01 04 31.1**	**+0.9**
LIMN	**Finca el Limon**	**1.81**	**176**	P	**Pb**	**01 04 36.3**	**+0.2**
MATN	**Matagalpa**	**2.02**	**164**	P	**Pb**	**01 04 40.1**	**+0.4**
MATN	**Matagalpa**	**2.02**	**164**	S	**Sg**	**01 05 06.9**	**-1.2**
CNCH	**Conchagua**	**2.05**	**219**	*e*P	**Pn**	**01 04 37.6**	**+0.3**
CNCH				*e*S	**Sn**	**01 05 04.0**	**+1.1**
CNCH				IAML		01 05 13.1	
comp=Z,1μm,0.4s
CNCH	**Conchagua**	**2.05**	**219**	S	**Sb**	**01 05 05.7**	**0.0**
CNCH	**Conchagua**	**2.05**	**219**	P	**Pb**	**01 04 39.3**	**-1.0**
LCND	**La Caada**	**2.06**	**221**	*e*P	**Pn**	**01 04 37.5**	**+0.1**
LCND				IAML		01 05 16.1	
comp=Z,341nm,0.3s
IZABA	**Izabal, Puerto**	**2.18**	**293**	*e*P	**Pn**	**01 04 38.6**	**-0.4**
BLLM	**Bellamira**	**2.21**	**230**	*e*P	**Pn**	**01 04 40.0**	**+0.5**
CRIN	**San Cristobal**	**2.23**	**194**	P	**Pb**	**01 04 43.1**	**-0.2**
POLN	**Al Sur del Vol**	**2.24**	**188**	S	**Sb**	**01 05 11.3**	**+0.3**
PACA	**Pacayal**	**2.25**	**232**	*e*P	**Pn**	**01 04 40.7**	**+0.5**
PACA				*e*S	**Sn**	**01 05 08.5**	**+0.6**
PACA				IAML		01 05 19.1	
comp=Z,2μm,0.4s
PACA	**Pacayal**	**2.25**	**232**	S	**Sb**	**01 05 09.8**	**-1.8**
PACA	**Pacayal**	**2.25**	**232**	P	**Pb**	**01 04 43.1**	**-0.6**
CNGN	**Cerro Negro**	**2.37**	**185**	P	**Pb**	**01 04 45.4**	**-0.3**
CNGN	**Cerro Negro**	**2.37**	**185**	S	**Sb**	**01 05 15.7**	**+0.8**
TECA	**Tecapa**	**2.38**	**235**	*e*P	**Pn**	**01 04 42.9**	**+1.0**
CNGA	**Al SSO del Vol**	**2.38**	**185**	P	**Pb**	**01 04 45.1**	**-0.8**
CNGA				S	**Sb**	**01 05 15.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**2.45**	**242**	*e*P	**Pn**	**01 04 43.3**	**+0.5**
SCLA				IAML		01 05 19.8	
comp=Z,75nm,0.6s
SCLA	**Alcaldia de Sa**	**2.45**	**242**	S	**Sn**	**01 05 13.9**	**+1.2**
SCLA	**Alcaldia de Sa**	**2.45**	**242**	P	**Pb**	**01 04 45.3**	**-1.8**
MOMN	**Momotombo**	**2.46**	**181**	P	**Pb**	**01 04 46.8**	**-0.4**
MOMN				S	**Sb**	**01 05 17.0**	**-0.4**
BOAB	**BOACO BROADBAN**	**2.55**	**161**	S	**Sb**	**01 05 20.0**	**+0.1**
BOAB	**BOACO BROADBAN**	**2.55**	**161**	P	**Pb**	**01 04 48.3**	**-0.4**
PAVA	**Las Pavas**	**2.63**	**244**	*e*P	**Pn**	**01 04 45.2**	**-0.1**
PAVA				*e*S	**Sn**	**01 05 16.7**	**-0.4**
PAVA				IAML		01 05 21.7	
comp=Z,226nm,0.4s
COPN	**Copaltepe**	**2.68**	**182**	P	**Pb**	**01 04 49.6**	**-1.4**
MTO3	**Montecristo**	**2.81**	**261**	*e*P	**Pn**	**01 04 49.0**	**+1.2**
MTO3				*e*S	**Sn**	**01 05 21.2**	**-0.4**
MTO3	**Montecristo**	**2.81**	**261**	P	**Pn**	**01 04 49.0**	**+1.2**
MTO3	**Montecristo**	**2.81**	**261**	S	**Sn**	**01 05 23.4**	**+1.7**
BILN	**Bilwi Airport**	**3.14**	**105**	P	**Pb**	**01 04 58.2**	**-0.6**
BILN				S	**Sb**	**01 05 37.7**	**+0.7**
ACON	**Acoyapa**	**3.17**	**156**	S	**Sb**	**01 05 36.9**	**-1.0**
ACON	**Acoyapa**	**3.17**	**156**	P	**Pb**	**01 04 56.9**	**-2.5**
NUBE	**Las Nubes**	**3.32**	**253**	*e*P	**Pn**	**01 04 55.0**	**+0.1**
NUBE				*e*S	**Sn**	**01 05 33.5**	**-0.8**
NUBE	**Las Nubes**	**3.32**	**253**	S	**Sn**	**01 05 36.1**	**+1.8**
NUBE	**Las Nubes**	**3.32**	**253**	P	**Pn**	**01 04 56.7**	**+1.8**
CONN	**Concepcion**	**3.40**	**165**	P	**Pb**	**01 04 59.9**	**-3.4**
CONN				S	**Sb**	**01 05 41.7**	**-2.9**

ISN ***02*** *01:20:37.6±0.3, 33.°55N×45.°84E, h11km±1km, ML3.3*
TEH ***02*** *01:20:40.0, 33.°75N×45.°82E, h16km±69km*

ISC 02 01:20:38.8±0.9, 33.°57N±0.°03×45.°80E±0.°05, h19km, n11, σ1°90/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.47**	**167**	*e*Pg	**Pb**	**01 20 46.5**	**-2.0**
IBDR				*e*Sg	**Sb**	**01 20 53.0**	**-2.1**
GLG1	**Gilan-e-Gharb**	**0.55**	**9**	Pg	**Pg**	**01 20 48.3**	**-1.5**
KGS1	**Ghasr-e-Shirin**	**0.95**	**349**	Pg	**Pb**	**01 20 56.1**	**-0.5**
IGHG	**Ghaleghazi**	**0.99**	**40**	Pg	**Pn**	**01 20 57.7**	**-0.1**
IDHR	**Dehrash**	**1.22**	**23**	Pg	**Pg**	**01 21 01.6**	**-1.0**
BHD	**Baghdad**	**1.23**	**256**	*e*Pg	**Pn**	**01 21 01.5**	**+0.6**
BHD				*e*Sg	**Sb**	**01 21 19.0**	**+2.2**
BHD				AML	AML	01 21 24.0	
comp=E,2μm,0.4s
RAFI	**Al-Rafai**	**1.86**	**172**	*e*Pn	**Pn**	**01 21 11.0**	**+1.3**
RAFI				*e*Sn	**Sn**	**01 21 35.5**	**+2.8**
SNQR	**Sonqor, Kerman**	**1.98**	**49**	Pn	**Pb**	**01 21 14.5**	**+0.1**
IKRK	**Kirkuk**	**2.19**	**327**	*e*Pn	**Pb**	**01 21 16.5**	**-1.3**
IKRK				*e*Sn	**Sb**	**01 21 44.7**	**+0.2**
IKRK				AML	AML	01 21 50.4	
comp=N,158nm,0.5s
IKRK				AML	AML	01 21 50.4	
comp=E,168nm,0.7s
SDS1	**Sardasht. Az.**	**2.58**	**354**	Pn	**Pb**	**01 21 22.3**	**-2.3**
HGHA	**Hamedan- Ghaye**	**3.16**	**52**	Pn	**Pn**	**01 21 30.8**	**+3.0**

IDC ***02*** *01:22:41.4±0.4, 7.°17S×114.°70E, h0km, mb4.6/22, mbtmp4.6/26, ML4.2/4, MS3.8/31, Error ellipse: s-maj=16.5km s-min=8.6km az=51.0*
BJI ***02*** *01:22:43.0, 7.°30S×114.°60E, h10km, mB5.1/13, mb4.8/53, Ms4.6/18, Ms7 4.2/17*
DJA ***02*** *01:22:44.8±0.3, 7.°S±1.°×11.°5E±.°, h14km±3km, M4.9/68, mb4.9/68, mB5.5/32, MLv5.1/30, Mw(mB)4.9/32, MwMwp4.5/4, Mwp4.9/4*

GCMT ***02*** *01:22:45.4±0.3, 7.°27S±0.°01×114.°51E±0.°03, h18km, MW4.9/99, Moment Tensor Solution. s35,c40; s99,c137; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.34±.12; Mθθ-2.23±.08; Mφφ-0.11±.08; Mrθ-0.32±.16; Mrφ0.58±.05; Mθφ-1.05±.23; Best double couple: Mo2.57900×10^16 NP1:φs125.00000°, δ48.00000°, λ120.00000°. NP2: φs264.00000°, δ50.00000°, λ61.00000°. Principal axes: T 2.7790, Plg68.0000°, Azm106.0000°; N -0.4020, Plg22.0000°, Azm284.0000°; P -2.3780, Plg1.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***02*** *01:22:47.4±1.6, 7.°27S±0.°05×114.°59E±0.°06, h35km±1km, mb5.0/66, Mww4.9/14 Error ellipse: s-maj=10.4km s-min=8.3km az=103.0*
NEIC ***02*** *01:22:47.4, 7.°27S×114.°60E, h22km*
NEIC ***02*** *01:22:47.4, 7.°27S×114.°80E, h22km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^16Nm; Mrr1.96; Mθθ-1.47; Mφφ-0.49; Mrθ-2.21; Mθφ0.23; Mφr0.24; Fault plane solution: Mo2.83000×10^16 NP1: φs104.39000°, δ19.11000°, λ96.30000°. NP2: φs277.73000°, δ71.01000°, λ87.82000°. Principal axes: T 3.0501, Plg64.0000°, Azm184.0000°; N -0.4487, Plg2.0000°, Azm278.0000°; P -2.6014, Plg26.0000°, Azm9.0000°;*

ISC 02 01:22:45.1±0.3, 7.°28S±0.°04×114.°61E±0.°04, h21km±3km, n244, σ1°42/239, mb4.9/74, MS3.9/34, 2C-2D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABJI	**Asem Bagus**	**0.64**	**216**	P	**Pb**	**01 22 57.3**	**-0.4**
ABJI				S	**Sb**	**01 23 07.1**	**+0.9**
KMMI	**Kalianget**	**0.68**	**289**	P	**Pb**	**01 22 58.1**	**-0.2**
SRBI	**Singaraja**	**1.00**	**144**	P	**Pn**	**01 23 04.6**	**+0.7**
SRBI				S	**Sn**	**01 23 19.2**	**+1.8**
JAGI	**Jajag, Banyuwa**	**1.27**	**201**		**Pn**	**01 23 07.9**	**+0.1**
JAGI				Sn	**Sn**	**01 23 24.8**	**+0.6**
JAGI	**Jajag, Banyuwa**	**1.27**	**201**	P	**Pn**	**01 23 07.8**	**+0.1**
DNP	**Denpasar**	**1.51**	**157**	P	**Pb**	**01 23 12.7**	**+0.2**
GMJI	**Gumukmas**	**1.52**	**229**	P	**Pn**	**01 23 11.2**	**+0.1**
GRJI	**Gresik**	**2.15**	**279**	P	**Pn**	**01 23 19.0**	**-0.7**
TBJI	**Tambak Boyo**	**2.78**	**279**	P	**Pn**	**01 23 27.9**	**-0.6**
NGJI	**Ngawi**	**3.13**	**268**	P	**Pn**	**01 23 32.0**	**-1.2**
PLAI	**Plampang**	**3.49**	**116**	P	**Pn**	**01 23 39.2**	**+1.0**
PCJI	**Pacitan**	**3.52**	**255**	P	**Pn**	**01 23 38.2**	**-0.5**
UGM	**Wanagama**	**4.10**	**261**		**Pn**	**01 23 47.0**	**+0.3**
UGM	**Wanagama**	**4.10**	**261**	P	**Pn**	**01 23 46.0**	**-0.7**
SMRI	**Semarang**	**4.15**	**273**	Pn	**Pn**	**01 23 46.7**	**-0.6**
SMRI	**Semarang**	**4.15**	**273**	P	**Pn**	**01 23 45.9**	**-1.4**
YOGI	**Yogyakarta**	**4.32**	**263**	P	**Pn**	**01 23 49.8**	**+0.2**
WBSI	**Waikabubak, Su**	**5.28**	**117**	P	**Pn**	**01 24 02.8**	**-0.1**
2.3nm2μm3μm384nm,0.9s
KAPI	**Kappang**	**5.58**	**67**	Pn	**Pn**	**01 24 07.6**	**+0.6**
KAPI	**Kappang**	**5.58**	**67**	Pn	**Pn**	**01 24 05.7**	**-1.3**
65nm,0.3s,baz=261,slow=5.5,SNR=53
KAPI				Sn	**Sn**	**01 25 10.4**	**-0.1**
9.8nm,0.3s,baz=255,slow=20,SNR=1.4
KAPI				LR	LR	01 26 22.4	
comp=Z,632nm,21.9s,baz=250,slow=40
101nm,0.3s
BKSI	**Bulukumba**	**5.81**	**71**	P	**Pn**	**01 24 10.4**	**+0.3**
1.4nm3μm283nm,0.9s
BSSI	**Bau Bau, Buton**	**5.79**	**79**	P	**Pn**	**01 24 11.6**	**-0.4**
SPSI	**Sidrap Palu**	**6.09**	**58**	P	**Pn**	**01 24 13.3**	**-0.7**
1.0nm3μm4μm190nm,0.9s
WSI	**Waingapu**	**6.11**	**113**	P	**Pn**	**01 24 13.4**	**-0.8**
CMJI	**Cimerak**	**6.13**	**265**	P	**Pn**	**01 24 13.4**	**-1.2**
0.5nm73nm,1.0s
BASI	**Baing, Sumba**	**6.58**	**117**	P	**Pn**	**01 24 24.2**	**+3.5**
1.5nm4μm194nm,0.9s
TTSI	**Tana Toraja**	**6.67**	**51**	P	**Pn**	**01 24 23.2**	**+1.2**
1.2nm2μm85nm,0.7s
LEM	**Lembang**	**6.96**	**273**	Pn	**Pn**	**01 24 26.6**	**+0.5**
3.3nm,0.3s,baz=146,slow=12,SNR=6.2
13nm,0.4s
EDFI	**Ende, Flores**	**7.16**	**102**	P	**Pn**	**01 24 29.7**	**+0.9**
0.5nm1μm112nm,0.8s
CNJI	**Cibinong**	**7.42**	**269**	P	**Pn**	**01 24 34.6**	**+2.3**
40nm,1.1s
MMRI	**Maumere**	**7.67**	**101**	Pn	**Pn**	**01 24 36.5**	**+0.8**
MMRI	**Maumere**	**7.67**	**101**	P	**Pn**	**01 24 36.1**	**+0.4**
STKI	**Sintang**	**7.94**	**337**	P	**Pn**	**01 24 39.4**	**+0.1**
12μm110nm,0.7s
BBSI	**Bau Bau**	**8.11**	**78**	P	**Pn**	**01 24 42.3**	**+0.6**
2μm188nm,1.1s
CGJI	**Cibinong**	**8.88**	**274**	P	**Pn**	**01 24 49.9**	**-2.4**
1μm114nm,1.0s
BATI	**Baumata**	**9.41**	**109**	P	**Pn**	**01 25 00.1**	**+0.5**
64nm,0.9s
XMIS	**Christmas Isla**	**9.41**	**250**	Pn	**Pn**	**01 25 00.2**	**+0.6**
APSI	**Ampana**	**9.44**	**48**	P	**Pn**	**01 25 00.4**	**+0.4**
1μm62nm,1.1s
KSM	**Kuching**	**9.70**	**334**		**Pn**	**01 25 02.6**	**-0.8**
SOEI	**Soe**	**9.86**	**105**	Pn	**Pn**	**01 25 07.2**	**+1.3**
SOEI	**Soe**	**9.86**	**105**	P	**Pn**	**01 25 07.4**	**+1.5**
1μm124nm,0.9s
SBUM	**Sibu**	**9.95**	**346**		**Pn**	**01 25 08.7**	**+1.6**
TOLI2	**Tolitoli**	**10.36**	**37**	Pn	**Pn**	**01 25 15.0**	**+2.5**
MRSI	**Marisa**	**10.62**	**44**	P	**Pn**	**01 25 17.4**	**+1.3**
2μm70nm,1.0s
MDSI	**Maura Dua**	**10.74**	**284**	P	**Pn**	**01 25 20.0**	**+2.1**
30nm,1.4s
SANI	**Sanana**	**12.47**	**66**	P	Pn	01 25 46.5	+5.0
SANI	**Sanana**	**12.47**	**66**	P	**Pn**	**01 25 43.8**	**+2.3**
NLAI	**Namlea**	**13.06**	**73**	P	**P**	**01 25 55.2**	**-4.6**
MYKOM	**Kota Tinggi**	**14.02**	**310**	Pn	**Pn**	**01 26 02.1**	**-0.5**
MBWA	**Marble Bar**	**14.66**	**161**	Pn	**Pn**	**01 26 12.0**	**+0.5**
MBWA	**Marble Bar**	**14.66**	**161**	P	**Pn**	**01 26 08.6**	**-2.9**
PSA00	**Pilbara Seismi**	**15.09**	**161**		**Pn**	**01 26 17.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**15.20**	**136**	Pn	**Pn**	**01 26 18.5**	**-0.2**
0.5nm,0.3s,baz=326,slow=8.7,SNR=9.1
FITZ				Sn	**Sn**	**01 28 59.4**	**-7.2**
0.4nm,0.3s,baz=68,slow=8.0,SNR=2.1
FITZ				LR	LR	01 33 14.3	
comp=Z,444nm,19.9s,baz=310,slow=42
13nm,1.1s
GIRL	**Giralia**	**15.28**	**181**	P	**Pn**	**01 26 22.0**	**+2.3**
PPI	**Padang Panjang**	**15.71**	**295**	P	**Pn**	**01 26 26.0**	**+0.6**
28nm,1.3s
KNRA	**Kununurra**	**16.18**	**122**	Pn	**Pn**	**01 26 30.8**	**-0.5**
MNSI	**Mandailing Nat**	**17.01**	**298**	P	**P**	**01 26 42.3**	**-1.3**
5μm27nm,1.1s
MTN	**Manton Dam**	**17.18**	**110**		**Pn**	**01 26 43.5**	**-0.5**
SWI	**Sorong**	**17.78**	**70

comp=Z,50nm,1.2s
WR0 Warramunga Arr 23.07 125 P P 01 27 49.1 -0.4
WR0 IAmb IAmb 01 27 52.5
comp=Z,87nm,1.4s
BSI Banda Aceh 23.08 303 P P 01 27 49.4 -0.2
comp=Z,29nm,1.6s
BLDU Ballidu 23.30 175 P P 01 27 54.0 +2.3
SMPI Sarmi 24.58 79 P P 01 28 05.8 +1.9
AS31 Alice Springs 24.67 133 P P 01 28 04.9 +0.1
ASAR Alice Springs 24.67 133 P P 01 28 04.7 0.0
ASAR **PcP 01 31 40.9 -1.1**
ASAR Alice Springs 24.67 133 P P 01 28 05.6 +0.9
comp=Z,47nm,0.8s,baz=305,slow=8.9,SNR=268
ASAR PcP **PcP 01 31 41.5 -0.5**
comp=Z,4.9nm,0.9s,baz=318,slow=2.2,SNR=7.9
ASAR S **S 01 32 29.1 +3.7**
comp=Z,7.4nm,1.2s,baz=326,slow=24,SNR=5.5
ASAR LR LR 01 38 10.2
comp=Z,195nm,20.8s,baz=308,slow=38
comp=Z,47nm,0.8s
AS01 Alice Springs 24.70 133 P P 01 28 05.6 +0.6
NWAO Narrogin (SRO) 25.64 175 LR LR 01 37 57.7
comp=Z,383nm,21.7s,baz=322,slow=36
NWAO Narrogin (SRO) 25.64 175 P P 01 28 17.1 +3.7
QIZ Qiongzhong 26.56 350 P P 01 28 28.6 +6.8
QIZ S **S 01 32 59.6 +4.3**
QIZ pmax pmax
comp=Z,300nm,7.2s
QIZ LR LR
comp=Z,290nm,13.3s
QIZ LR LR
comp=Z,350nm,13.1s
QIZ LR LR
comp=Z,350nm,13.8s
FORT Forrest 26.56 153 P P 01 28 23.2 +1.5
FORT IAmb IAmb 01 28 47.1
comp=Z,51nm,0.8s
FORT Forrest 26.56 153 P P 01 28 22.8 +1.1
QIS Mount Isa 27.56 121 P P 01 28 32.0 +1.1
OOD Oodnadatta 28.55 138 P P 01 28 39.7 +0.1
COEN Coen 28.83 106 P P 01 28 41.7 -0.5
COEN IAmb IAmb 01 28 43.4
comp=Z,50nm,0.9s
COEN Coen 28.83 106 P P 01 28 42.6 +0.4
CMAR Chiang Mai Arr 29.88 329 P P 01 28 52.6 +1.1
CMAR Chiang Mai Arr 29.88 329 P P 01 28 52.0 +0.6
comp=Z,16nm,1.0s,baz=159,slow=7.2,SNR=74
CMAR PcP **PcP 01 31 54.0 -0.5**
comp=Z,0.7nm,0.3s,baz=139,slow=3.7,SNR=1.5
comp=Z,16nm,1.0s
CHTO Chiang Mai 30.18 329 P P 01 28 54.6 +0.5
CHTO IAmb IAmb 01 28 56.7
comp=Z,27nm,1.3s
CHTO Chiang Mai 30.18 329 P P 01 28 55.4 +1.3
CRAI Chiangrai 30.71 333 P P 01 28 58.8 -0.1
CRAI IAmb IAmb 01 29 01.7
comp=Z,33nm,1.3s
LCRK Leigh Creek 31.95 139 P P 01 29 11.0 +1.3
BBOO Buckleboo 32.28 145 P P 01 29 11.1 -1.5
BBOO IAmb IAmb 01 29 14.4
comp=Z,28nm,1.1s
BBOO Buckleboo 32.28 145 P P 01 29 12.9 +0.3
HTT Hallett 34.41 142 P P 01 29 33.1 +1.9
STKA Stephens Creek 35.09 138 P P 01 29 37.7 +0.7
STKA Stephens Creek 35.09 138 P P 01 29 37.0 -0.1
comp=Z,8.8nm,0.7s,baz=320,slow=8.1,SNR=14
STKA PcP **PcP 01 32 08.0 -0.6**
comp=Z,9.4nm,0.9s,baz=312,slow=8.3,SNR=3.7
comp=Z,8.8nm,0.7s
GHSS Government Hou 35.26 145 P P 01 29 40.0 +1.6
TNCH TengChong 35.73 334 P P 01 29 44.5 +1.7
PZH PanZhiHua 35.83 340 P P 01 29 45.2 +1.7
PZH S **S 01 35 24.1 +3.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,4.7s
PZH LR LR
comp=Z,250nm,18.6s
PZH LR LR
comp=Z,330nm,19.1s
PZH LR LR
comp=Z,350nm,19.2s
JOW Kunigami 36.40 21 LR LR 01 45 03.9
comp=Z,87nm,21.3s,baz=252,slow=37
GUMO Guam 36.50 55 LR LR 01 43 22.3
comp=Z,70nm,20.6s,baz=75,slow=34
BRDH Bariadhala 37.31 324 LR LR 01 46 47.3
comp=Z,204nm,19.6s,baz=91,slow=39
ARPS Mount Arapiles 38.43 144 P P 01 30 06.9 +1.5
NJ2 Nanjing 39.32 6 *e*P **P 01 30 16.6 +3.8**
NJ2 pmax pmax
comp=Z,31nm,0.8s
CD2 Chengdu 39.37 345 P P 01 30 14.8 +1.5
CD2 pmax pmax
comp=Z,40nm,0.5s
SHL Shillong 39.43 327 P P 01 30 14.4 +0.4
TOO Toolangi 41.16 142 P P 01 30 30.1 +2.0
XAN Xi'an 41.44 353 ⇓P **P 01 30 31.0 +0.5**
XAN pP pP 01 30 35.5 -1.4
XAN pmax pmax
comp=Z,26nm,1.3s
XAN Xi'an 41.44 353 P P 01 30 30.8 +0.4
ARMA Armidale 41.61 128 P P 01 30 32.0 -0.1
ARMA IAmb IAmb 01 30 36.1
comp=Z,29nm,1.1s
LYN LuoYang 41.65 357 P P 01 30 32.6 +0.5
LYN pmax pmax
comp=Z,21nm,0.7s
LYN LR LR
comp=Z,210nm,11.3s
LYN LR LR
comp=Z,390nm,14.8s
LYN LR LR
comp=Z,240nm,13.4s
CAN Canberra 42.11 136 P P 01 30 38.0 +2.0
CAN IAmb IAmb 01 30 42.7
comp=Z,58nm,1.7s
KAAM Kaadhehdhoo 42.22 279 P P 01 30 35.7 -1.4
LSA Lhasa 43.13 330 P P 01 30 46.2 +1.4
LSA pmax pmax
comp=Z,25nm,1.1s
LZH Lanzhou 44.30 347 *e*P **P 01 30 54.2 +0.4**
LZH sP sP 01 31 07.4 +4.5
LZH pmax pmax
comp=Z,24nm,1.1s
HNS HongShan 44.44 0 ⇑P **P 01 30 54.5 -0.1**
HNS pmax pmax
comp=Z,11nm,1.3s
HNR Honiara 44.88 96 LR LR 01 50 44.6
comp=Z,87nm,18.6s,baz=349,slow=38
KSAR Wonju Array Be 46.18 15 P P 01 31 08.6 +0.2
KSRS Korea Array 46.20 15 P P 01 31 07.8 -0.9
comp=Z,7.5nm,1.1s,baz=192,slow=7.7,SNR=16
KSRS LR LR 01 51 39.8
comp=Z,71nm,21.9s,baz=205,slow=38
comp=Z,7.5nm,1.1s
GOMU GeErMu 47.08 338 P P 01 31 17.8 +1.8
GOMU pP pP 01 31 20.8 -1.7
GOMU sP sP 01 31 25.1 0.0
GOMU pmax pmax
comp=Z,21nm,0.6s
GOMU LR LR
comp=Z,250nm,12.6s
GOMU LR LR
comp=Z,420nm,12.9s
GOMU LR LR
comp=Z,360nm,12.2s
BJT Baijiatuau 47.08 2 P P 01 31 15.4 0.0
BJI Beijing 47.10 2 P P 01 31 15.6 0.0
BJI pmax pmax
comp=Z,9.0nm,1.1s
BJI pmax pmax
comp=Z,54nm,6.1s
BJI LR LR
comp=Z,87nm,16.3s
BJI LR LR
comp=Z,110nm,14.2s
BJI LR LR
comp=Z,65nm,15.8s
BTO Baotou 47.83 355 *e*P **P 01 31 23.0 +1.6**
BTO pP **pP 01 31 27.1 -0.9**
BTO sP **sP 01 31 29.7 -0.9**
BTO PP **PP 01 33 10.4 -3.1**
BTO S **S 01 38 21.8 +4.5**
BTO pmax pmax
comp=Z,70nm,0.9s
BTO pmax pmax
comp=Z,230nm,4.5s
BTO LR LR
comp=Z,170nm,4.9s
BTO LR LR
comp=Z,310nm,5.7s
BTO LR LR
comp=Z,230nm,6.3s
HHC Hu-ho-hao-te 47.97 357 *e*P P 01 31 27.2 +4.7
HHC pmax pmax
comp=Z,8.0nm,0.6s
GTA Gaotai 48.43 345 P P 01 31 28.4 +2.3
GTA pP pP 01 31 33.3 +0.6
GTA pmax pmax
comp=Z,14nm,1.7s
GTA LR LR
comp=Z,130nm,17.8s
GTA LR LR
comp=Z,310nm,15.6s
GTA LR LR
comp=Z,140nm,13.1s
MJAR Matsushiro Arr 48.89 25 P P 01 31 27.5 -2.1
comp=Z,8.8nm,0.9s,baz=193,slow=6.9,SNR=9.5
MJAR LR LR 01 53 16.4
comp=Z,64nm,20.3s,baz=226,slow=38
comp=Z,8.8nm,0.9s
XLT XiLinHaoTe 50.95 1 *e*P **P 01 31 45.3 +0.1**
XLT pP pP 01 31 48.8 -3.0
XLT pmax pmax
comp=Z,25nm,1.1s
CN2 Changchun 51.78 10 *e*P P 01 31 44.1 -7.2
CN2 pmax pmax
comp=Z,10.0nm,0.5s
DZM Mont Dzumac 52.00 112 *e*LR LR 01 46 55.1
comp=Z,192nm,26.1s
DZM Mont Dzumac 52.00 112 LR LR 01 55 02.7
comp=Z,180nm,18.0s,baz=308,slow=37
SANVU Saraoutou 52.09 104 P P 01 31 55.5 +1.4
SANVU PcP **PcP 01 33 06.6 +0.5**
USRK Ussuriysk Ar. 53.59 15 P P 01 32 03.3 -1.3
comp=Z,5.7nm,0.9s,baz=194,slow=5.1,SNR=6.3
USRK LR LR 01 58 39.6
comp=Z,44nm,18.3s,baz=199,slow=40
comp=Z,5.7nm,0.9s
BNX BinXian 54.01 11 ⇑P **P 01 32 07.1 -0.6**
BNX pmax pmax
comp=Z,7.0nm,1.1s
ULN Ulaanbaatar 55.31 354 P P 01 32 17.9 +0.6
ULN IAmb IAmb 01 32 19.0
comp=Z,26nm,1.2s
ULN PcP **PcP 01 33 17.1 -0.7**
ULN Ulaanbaatar 55.31 354 P P 01 32 18.0 +0.6
SONM Songino Array 55.35 353 P P 01 32 17.2 -0.4
SONM IAmb IAmb 01 32 19.2
comp=Z,30nm,1.2s
SONM Songino Array 55.35 353 P P 01 32 17.0 -0.6
comp=Z,11nm,0.9s,baz=172,slow=8.3,SNR=54
comp=Z,11nm,0.9s
WMQ Urumqi 56.40 337 *e*P **P 01 32 28.3 +3.2**
KLR Kul'dur 58.23 13 LR LR 01 57 26.9
comp=Z,43nm,21.6s,baz=219,slow=36
HEH HeiHe 58.36 10 *e*P **P 01 32 37.8 -0.9**
HEH pmax pmax
comp=Z,12nm,1.3s
BOOM Boomskoye usch 60.78 328 P P 01 32 55.6 -0.2
BOOM IAmb IAmb 01 32 57.9
comp=Z,7.9nm,1.2s
MK31 Makanchi Array 61.02 335 P P 01 32 56.4 -0.7
MKAR Makanchi Array 61.02 335 P P 01 32 56.3 -0.9
MKAR Makanchi Array 61.02 335 P P 01 32 56.5 -0.6
comp=Z,1.0nm,0.5s,baz=151,slow=6.7,SNR=17
MKAR LR LR 02 01 05.8
comp=Z,108nm,20.5s,baz=195,slow=38
comp=Z,1.0nm,0.5s
MAKZ Makanchi 61.16 335 P P 01 32 58.0 -0.1
ARSB Arslanbob 61.59 325 P P 01 33 00.5 -0.8
ARSB IAmb IAmb 01 33 43.7
comp=Z,17nm,1.2s
AAK Ala-Archa 61.65 327 P P 01 33 00.9 -0.8
AAK IAmb IAmb 01 33 44.1
comp=Z,10nm,1.4s
AAK Ala-Archa 61.65 327 P P 01 33 02.7 +1.0
AAK PcP **PcP 01 33 43.6 +0.5**
GAR Garm 61.68 322 P P 01 33 00.3 -1.6
GAR IAmb IAmb 01 33 43.8
comp=Z,16nm,1.1s
DRV Dumont d'Urvil 61.81 169 P P 01 33 03.3 +1.2
BTK Batken 62.03 323 P P 01 33 03.6 -0.6
BTK IAmb IAmb 01 33 13.9
comp=Z,20nm,1.7s
URZ Urewera 64.01 129 LR LR 02 02 08.3
comp=Z,125nm,19.1s,baz=42,slow=37
KURBB Kurchatov Arra 65.56 336 P P 01 33 26.1 -1.1
comp=Z,2.3nm,0.9s,baz=145,slow=5.1,SNR=20
KURBB LR LR 02 03 58.2
comp=Z,95nm,20.4s,baz=174,slow=38
comp=Z,2.3nm,0.9s
KURK Kurchatov 65.60 336 P P 01 33 27.3 -0.1
KURK IAmb IAmb 01 33 28.3
comp=Z,12nm,1.2s
KURK Kurchatov 65.60 336 P P 01 33 27.1 -0.3
KURK PcP **PcP 01 33 57.5 -1.4**
ZAA0 Zalesovo Array 65.96 341 P P 01 33 29.1 -0.5
ZAA0 IAmb IAmb 01 33 29.9
comp=Z,19nm,1.1s
ZALV Zalesovo Beam 65.96 341 P P 01 33 28.9 -0.7
ZALV Zalesovo Beam 65.96 341 P P 01 33 28.6 -1.0
comp=Z,6.6nm,0.7s,baz=148,slow=4.6,SNR=21
comp=Z,6.6nm,0.7s
CCD Concordia, Ant 67.97 178 P P 01 33 44.6 +2.0
CCD PcP **PcP 01 34 08.3 -0.6**
MAW Mawson 69.42 199 LR LR 01 57 47.4
comp=Z,251nm,19.0s,baz=66,slow=30
YAK Yakutsk 70.08 7 LR LR 02 06 47.2
comp=Z,53nm,19.4s,baz=222,slow=38
PETK Petropavlovsk- 70.34 26 P P 01 33 57.0 -0.1
PETK Petropavlovsk- 70.34 26 P P 01 33 56.8 -0.4
comp=Z,6.7nm,0.9s,baz=188,slow=4.5,SNR=6.9
PETK LR LR 02 04 28.4
comp=Z,33nm,21.9s,baz=228,slow=36
comp=Z,6.7nm,0.9s
PET Petropavlovsk 70.70 26 P P 01 34 00.7 +1.4
comp=Z,16nm,0.8s
BVAR Borovoye Array 70.78 334 P P 01 33 58.6 -1.2
comp=Z,1.2nm,0.6s,baz=128,slow=7.4,SNR=8.7
BVAR LR LR 02 07 44.8
comp=Z,127nm,20.1s,baz=110,slow=38
comp=Z,1.2nm,0.6s
MA2 Magadan 72.58 18 LR LR 02 06 05.5
comp=Z,27nm,22.0s,baz=146,slow=36
ABKAR Abkulak array 73.69 326 P P 01 34 16.0 -1.3
RAYN Ar Rayn 74.05 297 P P 01 34 18.1 -2.0
VNDA Vanda 74.38 170 P P 01 34 22.3 +1.4
VNDA IAmb IAmb 01 34 23.7
comp=Z,14nm,1.1s
VNDA Vanda 74.38 170 P P 01 34 21.9 +1.0
comp=Z,5.9nm,1.0s,baz=302,slow=6.5,SNR=16
VNDA LR LR 02 05 57.7
comp=Z,122nm,19.9s,baz=332,slow=35
comp=Z,5.9nm,1.0s
KIBK Kibwezi 76.39 269 P P 01 34 33.3 -0.5
KMBO Kilima Mbogo 77.32 270 P P 01 34 37.1 -2.1
KMBO IAmb IAmb 01 34 40.8
comp=Z,14nm,1.4s
KMBO Kilima Mbogo 77.32 270 P P 01 34 39.1 -0.2
comp=Z,1.1nm,0.3s,baz=74,slow=7.6,SNR=6.9
comp=Z,1.1nm,0.3s
SYO Syowa Base 77.89 201 ⇓*e*P **P 01 34 43.0 +2.0**
NRIK Noril'sk 78.70 351 P P 01 34 44.7 -0.7
NRIK IAmb IAmb 01 34 46.2
comp=Z,31nm,1.9s
NRIK Noril'sk 78.70 351 P P 01 34 44.6 -0.8
comp=Z,1.1nm,0.4s,baz=167,slow=3.9,SNR=7.3
comp=Z,1.1nm,0.4s
TIXI Tiksi 79.33 5 P P 01 34 48.1 -0.6
TIXI Tiksi 79.33 5 LR LR 02 14 34.7
comp=Z,35nm,18.3s,baz=220,slow=39
GURO Guroymak-BITLI 81.10 311 P P 01 34 58.9 -0.4
KBZ Khabaz 82.01 316 P P 01 35 02.8 -1.0
comp=Z,2.5nm,0.9s,baz=194,slow=6.6,SNR=5.1
comp=Z,2.5nm,0.9s
KOPT Kop Dagi 82.65 312 P P 01 35 07.3 -0.2
KOPT IAmb IAmb 01 35 10.0
comp=Z,19nm,1.2s
QSPA South Pole Qui 82.71 180 P P 01 35 07.3 +0.1
QSPA South Pole Qui 82.71 180 P P 01 35 07.6 +0.4
comp=Z,8.6nm,1.0s,baz=50,slow=0.7,SNR=16
comp=Z,8.6nm,1.0s
RAR Rarotonga 83.34 111 LR LR 02 07 57.0
comp=Z,42nm,21.6s,baz=224,slow=33
MBAR Mbarara 83.85 270 P P 01 35 13.6 -0.6
MBAR IAmb IAmb 01 35 15.7
comp=Z,19nm,1.3s
GHAJ Ghor Haditha 84.47 302 P P 01 35 16.4 -0.3
LSZ Lusaka 84.68 255 P P 01 35 18.0 -0.4
LSZ IAmb IAmb 01 35 19.7
comp=Z,20nm,1.3s
MMAI Mount Meron Ar 84.96 304 P P 01 35 18.8 -0.5
comp=Z,10.0nm,1.0s,baz=94,slow=5.9,SNR=6.2
comp=Z,10.0nm,1.0s
TOKA Tokat 85.71 311 P P 01 35 22.6 -0.2
BNN Bunyan 85.85 310 P P 01 35 22.4 -1.3
BOSA Boshof 86.00 242 LR LR 02 07 35.4
comp=Z,107nm,19.5s,baz=60,slow=31
CSS Mathiatis 87.03 306 P P 01 35 28.8 -0.7
comp=Z,14nm,1.2s
BR104 Keskin Array S 87.71 310 P P 01 35 31.5 -1.2
comp=Z,105nmcomp=Z,15nm,1.1s
BR131 Keskin Array S 87.71 310 P P 01 35 31.4 -1.3
BRTR Keskin Array B 87.71 310 P P 01 35 30.7 -2.1
BRTR Keskin Array B 87.71 310 P P 01 35 31.5 -1.3
comp=Z,11nm,1.0s,baz=127,slow=5.3,SNR=43
comp=Z,11nm,1.0s
BR105 Keskin Array S 87.73 310 P P 01 35 31.6 -1.3
comp=Z,117nmcomp=Z,15nm,1.1s
BR106 Keskin Array S 87.73 310 P P 01 35 31.6 -1.3
comp=Z,91nmcomp=Z,13nm,1.1s
ANTO Ankara 88.38 310 P P 01 35 34.7 -1.2
comp=Z,5.1nm,1.4s
OBN Obninsk 89.14 326 P P 01 35 38.1 -0.8
BORA Eskisehir 90.15 310 P P 01 35 41.4 -2.8
SNAA Sanae 91.45 196 LR LR 02 11 00.6
comp=Z,242nm,20.6s,baz=15,slow=32
AKASG Malin Array Be 92.66 321 P P 01 35 53.5 -1.9
comp=Z,1.4nm,0.7s,baz=82,slow=4.5,SNR=12
AKASG LR LR 02 26 10.4
comp=Z,32nm,18.0s,baz=84,slow=41
comp=Z,1.4nm,0.7s
M14K Bethel 93.09 29 P P 01 35 57.1 -0.1
PPT2 Papeete2 93.33 108 *e*LR LR 02 05 57.8
comp=Z,72nm,23.2s
PPT2 *e*LR LR 02 06 06.0
comp=Z,89nm,27.8s
PPT Papeete 93.33 108 LR LR 02 18 50.4
comp=Z,42nm,18.1s,baz=226,slow=36
VRI Vrincioaia 93.69 316 P P 01 36 00.0 -0.4
I17K Unalakleet 94.14 26 P P 01 36 01.9 0.0
TSUM Tsumeb 94.22 250 LR LR 02 14 02.6
comp=Z,65nm,18.3s,baz=112,slow=33
L16K Owhat River 94.41 28 P P 01 36 03.7 +0.4
FINES FINESS Array B 95.63 331 P P 01 36 07.4 -1.4
comp=Z,2.9nm,0.9s,baz=116,slow=3.2,SNR=2.5
comp=Z,2.9nm,0.9s
KDAK Kodiak Island 97.60 33 LR LR 02 16 37.0
comp=Z,36nm,20.2s,baz=95,slow=33
E22K Anaktuvuk Pass 98.04 22 P Pdif 01 36 20.0 +0.3
E22K IAmb IAmb 01 36 23.5
comp=Z,8.6nm,1.3s
BPAW Bear Paw Mtn. 98.42 26 P Pdif 01 36 21.1 -0.4
BPAW IAmb IAmb 01 36 22.8
comp=Z,3.3nm,1.0s
SUA Susitna One 98.56 29 P P 01 36 21.6 -0.7
I23K Minto, Yukon-K 99.09 25 P Pdif 01 36 24.8 +0.4
I23K IAmb IAmb 01 36 25.8
comp=Z,8.4nm,1.1s
NEA2 Nenana 99.24 26 P Pdif 01 36 24.5 -0.6
NEA2 IAmb IAmb 01 36 27.5
comp=Z,3.1nm,0.9s
SML Sawmill 99.71 29 Pdif **Pdif 01 36 25.6 -1.7**
ILAR Eielson Array 100.17 26 P Pdif 01 36 27.7 -1.5
comp=Z,0.5nm,0.7s,baz=259,slow=5.1,SNR=4.8
RIDG Independent Ri 101.15 26 Pdif **Pdif 01 36 33.9 +0.2**
BCAR Beaver Creek A 102.61 27 Pdif **Pdif 01 36 41.0 +0.8**
YKA Yellowknife Ar 114.35 23 PKP **PKiKP 01 41 21.3 -1.7**
comp=Z,0.2nm,0.8s,baz=302,slow=3.5,SNR=3.1
NVAR Mina Array Bea 123.21 48 PKP **PKPdf 01 41 40.1 -1.0**
comp=Z,0.4nm,0.8s,baz=271,slow=3.8,SNR=4.1
R49A Shelbyville 144.31 27 PKPdf PKPbc 01 42 17.9 -0.5
R50A Paris 144.69 26 PKPdf **PKPab 01 42 18.9 -0.6**
WVT Waverly 144.70 32 PKPdf **PKPab 01 42 18.6 -1.0**
P53A Whipple 144.85 22 PKPdf **PKPab 01 42 19.2 -0.8**
Q52A Bidwell 144.97 23 PKPab 01 42 18.3 -2.2
CPUP Villa Florida 145.69 193 PKPdf **PKPdf 01 42 22.5 -0.3**
CPUP Villa Florida 145.69 193 PKPbc **PKPab 01 42 23.2 -0.2**
comp=Z,7.0nm,1.1s,baz=201,slow=2.2,SNR=10
AC02 Maricunga 145.90 174 PKPbc **PKPdf 01 42 23.2 -0.7**
BDFB Brasilia 151.46 217 PKPdf **PKPdf 01 42 31.2 -1.4**
BDFB Brasilia 151.46 217 PKPbc **PKiKP 01 42 38.8 -0.4**
comp=Z,13nm,0.8s,baz=142,slow=1.5,SNR=19
LPAZ La Paz 156.43 173 PKPab **PKPab 01 43 09.1 +0.6**
comp=Z,2.6nm,0.9s,baz=174,slow=5.6,SNR=6.1

---

*ISN **02** 01:24:56.3±0.9, 33°.67N×45°.76E, h14km±5km, ML2.8*
*TEH **02** 01:24:56.3, 33°.70N×45°.77E, h10km*
ISC 02 01:24:56.3±1.0, 33°.68N±0°.03×45°.76E±0°.06, h19km, n8,
σ0s72/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.45**	**16**	Pg	**Pg**	**01 25 04.8**	**-0.8**
IBDR	**Badra**	**0.58**	**166**	*e*Pg	**Pb**	**01 25 08.0**	**+0.2**
IBDR				*e*Sg	**Sb**	**01 25 15.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.84**	**350**	Pg	**Pb**	**01 25 12.2**	**0.0**
IGHG	**Ghaleghazi**	**0.94**	**46**	Pg	**Pb**	**01 25 14.1**	**+0.1**
IDHR	**Dehrash**	**1.14**	**27**	Pg	**Pb**	**01 25 18.2**	**+0.6**
BHD	**Baghdad**	**1.22**	**251**	*e*Pg	**Pn**	**01 25 19.0**	**+0.6**
BHD				*e*Sg	**Sb**	**01 25 35.0**	**+0.8**
RAFI	**Al-Rafai**	**1.97**	**171**	*e*Pn	**Pb**	**01 25 31.0**	**-0.6**
RAFI				*e*Sn	**Sb**	**01 25 56.5**	**+0.8**
IKRK	**Kirkuk**	**2.08**	**326**	*e*Pn	**Pb**	**01 25 32.5**	**-1.0**
IKRK				*e*Sn	**Sb**	**01 25 59.5**	**+0.6**

DJA 02 01:25:12.4±0.5, 4°S±4°×12°9E±°, h10km, M3.9/9, MLv3.9/9,
Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.43**	**96**	P	Pg	01 25 21.0	+0.1
BNDI				S	Sb	01 25 27.9	-0.9
MSAI	**Masohi**	**1.25**	**334**	P	Pn	01 25 34.4	-1.5
MSAI				S	Sb	01 25 50.4	-1.9
AAI	**Ambon**	**1.50**	**302**	P	Pn	01 25 38.3	-1.0
AAI				S	Sb	01 25 59.5	+0.1
NLAI	**Namlea**	**2.67**	**297**	P	Pn	01 25 56.4	+0.9
FAKI	**Fak Fak**	**3.18**	**61**	P	Pn	01 26 03.2	+0.7
SWI	**Sorong**	**4.01**	**27**	P	Pn	01 26 13.6	-0.4
SANI	**Sanana**	**4.23**	**305**	P	Pn	01 26 17.6	+0.6

---

*SJA **02** 01:25:26.2±0.7, 21°.16S×68°.27W, h142km±5km, ML4.4, MW4.2*
*NEIC **02** 01:25:29.3±1.6, 21°.19S±0°.02×68°.31W±0°.08, h120km±6km, mb4.4/57, Error ellipse: s-maj=10.3km s-min=2.5km az=90.0*
*GUC **02** 01:25:29.7±0.8, 21°.21S×68°.54W, h129km±3km, ML4.2*
*IDC **02** 01:25:31.0±1.8, 21°.13S×68°.17W, h131km±16km, mb4.0/11, mbtmp4.4/18, MS2.8/3, Error ellipse: s-maj=18.2km s-min=11.4km az=66.0*
*VAO **02** 01:25:33.8±0.8, 20°.93S×67°.88W, h144km±6km, mb4.6*
ISC 02 01:25:28.8±0.6, 21°.21S±0°.03×68°.33W±0°.04, h119km±6km,
n165, σ1s61/194, mb4.4/34, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.03**	**235**		**Pn**	**01 25 52.6**	**+1.4**
PB09				Sn	**Sn**	**01 26 09.6**	**+1.5**
PB09	**IPOC Station P**	**1.03**	**235**	*e*P	**Pn**	**01 25 52.6**	**+1.4**
PB09				*i* S	**Sn**	**01 26 09.6**	**+1.5**
PB09				IAML		01 26 12.7	
comp=E,4μm,0.4s							
PB09	**IPOC Station P**	**1.03**	**235**	*e*P	**Pn**	**01 25 52.6**	**+1.4**
PB09				*e*S	**Sn**	**01 26 11.2**	**+3.1**
PB09				IAML		01 26 11.9	
comp=Z,3μm,0.7s							
PB01	**IPOC Station P**	**1.09**	**279**		**Pn**	**01 25 52.1**	**+0.3**
PB01				Sn	**Sn**	**01 26 08.7**	**-0.4**
PB01	**IPOC Station P**	**1.09**	**279**	*e*P	**Pn**	**01 25 52.1**	**+0.3**

PB01 *i* S **Sn** **01 26 09.1 0.0**
PB01 IAML 01 26 11.7
comp=E,8μm,0.2s
PB01 IPOC Station P 1.09 279 *e*P **Pn** **01 25 52.1 +0.3**
PB01 *e*S **Sn** **01 26 10.7 +1.6**
PB01 IAML 01 26 12.1
comp=Z,5μm,0.2s
PB08 IPOC Station P 1.31 324 **Pn** **01 25 55.4 +1.0**
PB08 IPOC Station P 1.31 324 *e*P **Pn** **01 25 56.0 +1.5**
PB08 *i* S **Sn** **01 26 15.4 +1.6**
PB08 IAML 01 26 16.7
comp=E,3μm,0.3s
PB08 IPOC Station P 1.31 324 *e*P **Pn** **01 25 50.5 -4.0**
PB08 *e*S **Sn** **01 26 15.9 +2.0**
PB08 IAML 01 26 17.6
comp=Z,2μm,0.8s
PX03 IPOC Station P 1.46 303 *e*P **Pn** **01 25 55.8 0.0**
PX03 *i* S **Sn** **01 26 16.1 -0.2**
PX03 IAML 01 26 19.0
comp=N,5μm,0.2s
PB03 IPOC Station P 1.56 238 *e*P **Pn** **01 25 57.7 +0.6**
PB03 *i* S **Sn** **01 26 19.0 +0.5**
PB03 IAML 01 26 19.4
comp=N,5μm,0.2s
PB03 IPOC Station P 1.56 238 *e*P **Pn** **01 25 57.7 +0.6**
PB03 *e*S **Sn** **01 26 19.1 +0.5**
PB03 IAML 01 26 21.2
comp=Z,4μm,0.3s
HMBC Humberstone 1.73 302 **Pn** **01 25 59.4 +0.4**
HMBC Humberstone 1.73 302 *e*P **Pn** **01 25 59.0 0.0**
HMBC *i* S **Sn** **01 26 21.6 -0.4**
HMBC Humberstone 1.73 302 *e*P **Pn** **01 25 59.0 0.0**
HMBC *e*S **Sn** **01 26 21.9 -0.1**
HMBC IAML 01 26 24.1
comp=Z,6μm,0.5s
AF01 San Pedro de A 1.74 175 **Pn** **01 26 00.7 +1.4**
AF01 San Pedro de A 1.74 175 *e*P **Pn** **01 26 02.3 +3.0**
AF01 *i* S **Sn** **01 26 27.0 +4.5**
AF01 IAML 01 26 49.0
comp=E,2μm,0.5s
AF01 San Pedro de A 1.74 175 *e*P **Pn** **01 25 57.5 -1.8**
AF01 *e*S Sn 01 26 38.1 +16
AF01 IAML 01 26 42.8
comp=Z,3μm,1.0s
PATCX Punta Patache 1.75 283 **Pn** **01 25 59.3 +0.2**
PATCX Punta Patache 1.75 283 *e*P **Pn** **01 25 59.3 +0.2**
PATCX *i* S **Sn** **01 26 21.9 -0.4**
PATCX Punta Patache 1.75 283 *e*P **Pn** **01 25 59.4 +0.2**
PATCX *e*S **Sn** **01 26 22.7 +0.4**
PATCX IAML 01 26 23.9
comp=Z,7μm,0.4s
TA01 Diego Aracena 1.84 290 Pn **Pn** **01 26 00.1 -0.2**
TA01 Diego Aracena 1.84 290 *e*P **Pn** **01 26 00.1 -0.2**
TA01 *i* S **Sn** **01 26 23.4 -0.9**
TA01 Diego Aracena 1.84 290 *e*P **Pn** **01 25 59.6 -0.7**
TA01 *e*S **Sn** **01 26 23.9 -0.4**
TA01 IAML 01 26 27.1
comp=Z,3μm,0.3s
PB06 IPOC Station P 1.88 218 *e*P **Pn** **01 26 01.9 +0.9**
PB06 *i* S **Sn** **01 26 26.0 +0.6**
PB06 IAML 01 26 28.3
comp=N,2μm,0.3s
PB06 IPOC Station P 1.88 218 *e*P **Pn** **01 26 01.8 +0.9**
PB06 *e*S **Sn** **01 26 27.0 +1.6**
PB06 IAML 01 26 28.3
comp=Z,2μm,0.3s
PB11 IPOC Station P 1.91 319 **Pn** **01 26 01.8 +0.6**
PB11 IPOC Station P 1.91 319 *e*P **Pn** **01 26 01.6 +0.4**
PB11 *i* S **Sn** **01 26 25.9 +0.1**
PB11 IPOC Station P 1.91 319 *e*P **Pn** **01 26 00.9 -0.3**
PB11 *e*S **Sn** **01 26 26.1 +0.3**
PB11 IAML 01 26 32.8
comp=Z,3μm,0.3s
TA02 Huaiquique 1.93 299 **Pn** **01 26 01.2 -0.1**
TA02 Huaiquique 1.93 299 *e*P **Pn** **01 26 01.4 +0.1**
TA02 *i* S **Sn** **01 26 25.3 -0.8**
TA02 Huaiquique 1.93 299 *e*P **Pn** **01 26 00.7 -0.6**
TA02 IAML 01 26 29.9
comp=Z,3μm,0.1s
PB05 IPOC Station P 2.38 226 Pn **Pn** **01 26 07.1 -0.1**
PB05 IPOC Station P 2.38 226 *e*P **Pn** **01 26 07.0 -0.1**
PB05 *i* S **Sn** **01 26 36.1 -0.5**
PB05 IAML 01 26 43.2
comp=N,1μm,0.3s
PB05 IPOC Station P 2.38 226 *e*P **Pn** **01 26 07.1 -0.1**
PB05 *e*S **Sn** **01 26 29.3 -7.3**
PB05 IAML 01 26 44.6
comp=Z,746nm,0.3s
YJA Yavi 2.79 111 *e*P **Pn** **01 26 10.6 -2.1**
YJA *e*S **Sn** **01 26 46.0 -0.4**
PB12 IPOC Station P 3.19 324 **Pn** **01 26 16.3 -1.5**
PB12 IPOC Station P 3.19 324 *e*P **Pn** **01 26 16.6 -1.2**
PB12 *e*S **Sn** **01 26 53.5 -2.1**
PB12 IAML 01 27 03.1
comp=Z,454nm,0.2s
AP01 Chacalluta 3.40 326 **Pn** **01 26 19.8 -0.6**
AP01 Chacalluta 3.40 326 *e*P **Pn** **01 26 19.5 -0.9**
AP01 *e*S Sn 01 26 48.3 -12
AP01 IAML 01 27 09.7
comp=Z,855nm,0.1s
PB18 Visviri 3.76 343 **Pn** **01 26 25.6 -0.1**
PB14 IPOC Station P 3.90 209 Pn **Pn** **01 26 27.0 -0.2**
PB14 IPOC Station P 3.90 209 *e*P **Pn** **01 26 26.6 -0.7**
PB14 *e*S **Sn** **01 27 11.3 -1.2**
PB14 IAML 01 27 23.4
comp=Z,420nm,0.5s
GO02 Mina Guanaco 4.10 196 Pn **Pn** **01 26 29.8 -0.2**
GO02 Mina Guanaco 4.10 196 *e*P **Pn** **01 26 30.0 +0.1**
GO02 *e*S **Sn** **01 27 17.8 +0.5**
LPAZ La Paz 4.90 2 **Pn** **01 26 41.8 +0.8**
LPAZ La Paz 4.90 2 P **Pn** **01 26 43.3 +2.3**
comp=Z,44nm,0.3s,baz=173,slow=7.4,SNR=102
LPAZ S **Sn** **01 27 40.2 +3.1**
comp=Z,19nm,0.6s,baz=323,slow=13,SNR=1.6
LPAZ LR LR 01 28 25.1
comp=Z,77nm,18.5s,baz=235,slow=36
LPAZ La Paz 4.90 2 *e*P Pn 01 26 14.8 -26
LPAZ La Paz 4.90 2 *e*P **Pn** **01 26 43.4 +2.3**
AC01 Pan de Azucar 5.33 202 Pn **Pn** **01 26 44.6 -1.7**
AC01 Pan de Azucar 5.33 202 *e*P **Pn** **01 26 44.3 -2.0**
AC01 *e*S **Sn** **01 27 42.4 -4.2**
AC01 IAML 01 28 04.1
comp=Z,144nm,0.5s
AC02 Maricunga 5.64 187 Pn **Pn** **01 26 51.0 +0.1**
AC06 Mina Casimiro 6.39 196 Pn **Pn** **01 26 57.9 -2.6**
GO03 Copiapo 6.59 195 Pn **Pn** **01 27 01.1 -2.1**
AC04 Llanos de Chal 7.39 199 **Pn** **01 27 09.7 -4.4**
AC05 El Transito 7.79 193 **Pn** **01 27 17.0 -2.6**
LCO Las Campanas 8.06 195 Pn **Pn** **01 27 19.7 -3.6**
SIV San Ignacio 8.62 54 P **Pn** **01 27 28.9 -1.9**
comp=Z,136nm,0.5s,baz=241,slow=12,SNR=598
SIV LR LR 01 31 37.7
comp=Z,62nm,21.4s,baz=285,slow=43
CO01 Juntas del Tor 8.87 190 Pn **Pn** **01 27 32.0 -2.3**
GO04 Tololo Observa 9.20 193 **Pn** **01 27 34.7 -4.0**
CO03 El Pedregal 9.82 192 Pn **Pn** **01 27 42.7 -4.2**
CFA Coronel Fontan 10.35 180 P **Pn** **01 27 51.3 -2.7**
comp=Z,2.0nm,0.3s,baz=348,slow=13,SNR=21
PTLB Pontes e Lacer 10.44 58 Pn **Pn** **01 27 53.2 -2.2**
PTLB Pontes e Lacer 10.44 58 *e*P **Pn** **01 27 53.0 -2.3**
BDQN Bodoquena, MS 10.86 88 *e*P **Pn** **01 27 58.4 -2.5**
CPUP Villa Florida 11.29 119 **Pn** **01 28 04.0 -2.6**
CPUP Villa Florida 11.29 119 P **Pn** **01 28 06.6 0.0**
comp=Z,1.3nm,0.4s,baz=312,slow=9.0,SNR=6.9
VILB Vilhena 11.30 45 **Pn** **01 28 05.3 -1.7**
VILB Vilhena 11.30 45 *e*P **Pn** **01 28 05.7 -1.2**
VA03 San Esteban 11.67 189 **Pn** **01 28 11.7 -0.2**
AQDB Aquidauana 11.83 89 Pn **Pn** **01 28 11.9 -2.0**
SJPY San Joaquin 11.87 111 *e*P **Pn** **01 28 14.3 0.0**
NNA Nana 12.27 317 P **Pn** **01 28 20.8 +1.1**
comp=Z,4.8nm,0.4s,baz=157,slow=8.2,SNR=5.5
SALV Santo Antonio 13.09 68 *e*P **Pn** **01 28 27.4 -3.0**
BO01 Tunca 13.35 190 Pn **Pn** **01 28 34.1 +0.5**
RPRD Ribas do Rio P 13.70 90 *e*P **Pn** **01 28 37.5 -0.7**
CZSB Cruzeiro do Su 14.05 342 Pn **Pn** **01 28 42.4 -0.4**
CZSB Cruzeiro do Su 14.05 342 *e*P **P** **01 28 45.0 -1.9**
PDRB Porto dos Gac 14.65 51 *e*P Pn 01 28 45.5 -5.0
TBOT Tacuaremb 15.22 136 *e*P **P** **01 29 00.1 +0.5**
PTGB Pitanga 15.38 106 *e*P **P** **01 29 00.0 -1.6**
BI02 San Fabin de 15.61 189 Pn **Pn** **01 29 00.8 -1.5**
BI02 IAmb IAmb 01 29 04.2
comp=Z,14nm,0.8s
CLDB Colider 15.82 51 *e*P **Pn** **01 29 02.5 -2.6**

LDASE Londrina, Braz 16.08 101 *e*P **Pn** **01 29 06.5 -1.7**
ARAG Araguaiana, MT 16.60 73 *e*P **Pn** **01 29 13.9 -0.7**
TBTG Tabatinga, AM 16.99 355 P **P** **01 29 17.9 -1.5**
TBTG IAmb IAmb 01 29 22.6
comp=Z,31nm,0.8s
ATAH Atahualpa 17.05 324 P **Pn** **01 29 22.5 +2.1**
comp=Z,3.7nm,0.6s,baz=122,slow=9.5,SNR=2.6
TRQA Tornquist 17.66 163 **P** **01 29 26.4 -0.2**
LR05 Currie 19.21 189 P **Pn** **01 29 44.6 -1.1**
LR05 IAmb IAmb 01 30 12.2
comp=Z,13nm,0.8s
MACA Manacapuru-AM 19.42 24 P **P** **01 29 44.4 -1.7**
MACA Manacapuru-AM 19.42 24 *e*P **P** **01 29 44.3 -1.7**
PLCA Paso Flores 19.55 185 P **P** **01 29 48.1 +0.9**
PLCA Paso Flores 19.55 185 P **Pn** **01 29 48.4 -1.3**
comp=Z,5.9nm,0.7s,baz=4.8,slow=12,SNR=16
VAO Valinhos 19.88 99 P **P** **01 29 50.2 -0.7**
VAO IAmb IAmb 01 29 51.9
comp=Z,29nm,1.0s
LL04 Puerto Octay 19.94 189 P **P** **01 29 52.4 +1.1**
BDFB Brasilia 20.05 77 P **P** **01 29 52.6 -0.3**
BDFB IAmb IAmb 01 29 53.8
comp=Z,32nm,1.3s
BDFB Brasilia 20.05 77 P **P** **01 29 52.4 -0.5**
comp=Z,7.0nm,0.4s,baz=246,slow=10,SNR=25
BDFB LR LR 01 37 21.7
comp=Z,39nm,21.9s,baz=209,slow=36
ITTB Itaituba 20.74 38 *e*P **P** **01 29 58.2 -2.0**
PRPB Parauapebas 23.35 53 *e*P **P** **01 30 24.6 -2.2**
DIAM Diamantina, MG 23.38 87 *e*P **P** **01 30 26.4 -0.9**
OTAV Otavalo 23.50 334 P **P** **01 30 28.0 -0.7**
OTAV Otavalo 23.50 334 *e*P **P** **01 30 29.7 +1.0**
MAL2 Monte Alegre, 23.54 38 P **P** **01 30 27.1 -1.5**
JANB Januaria 23.62 79 *e*P **P** **01 30 28.4 -0.9**
FLOC Florencia 23.76 342 P **P** **01 30 29.1 -1.4**
FLOC IAmb IAmb 01 30 32.1
comp=Z,19nm,0.8s
SDBA SAO DESIDERIO 24.05 72 *e*P **P** **01 30 31.8 -1.5**
BOAV Boa Vista 24.68 19 P **P** **01 30 38.0 -0.8**
BOAV IAmb IAmb 01 30 39.8
comp=Z,7.7nm,0.6s
BOAV Boa Vista 24.68 19 *e*P **P** **01 30 38.9 0.0**
RUSC La Rusia 27.34 350 P **P** **01 31 02.6 -0.8**
RUSC IAmb IAmb 01 31 05.2
comp=Z,12nm,0.6s
WLAR White Oak Lake 59.49 336 P **P** **01 35 20.2 +0.8**
BRDY Brady 59.92 330 P **P** **01 35 22.0 -0.5**
BRDY IAmb IAmb 01 35 22.9
comp=Z,2.5nm,0.7s
WVT Waverly 59.94 342 P **P** **01 35 21.8 -0.7**
MIAR Mount Ida 60.42 336 P **P** **01 35 25.6 -0.2**
TXAR Lajitas Array 60.70 325 P **P** **01 35 27.9 0.0**
comp=Z,0.4nm,0.7s,baz=152,slow=8.1,SNR=6.6
comp=Z,0.4nm,0.7s
P53A Whipple 61.60 349 P **P** **01 35 34.0 +0.4**
HHAR Hobbs 62.10 337 P **P** **01 35 37.2 +0.1**
HHAR IAmb IAmb 01 35 38.5
comp=Z,7.4nm,1.0s
SNAA Sanae 62.38 161 P **P** **01 35 39.7 +1.1**
comp=Z,3.3nm,0.7s,baz=265,slow=11,SNR=5.1
comp=Z,3.3nm,0.7s
FVM French Village 62.44 340 P **P** **01 35 38.0 -1.3**
VHRN Van Horn 62.55 325 P **P** **01 35 40.4 +0.1**
VHRN IAmb IAmb 01 35 41.3
comp=Z,2.5nm,0.7s
R40A Maddies Statio 63.31 339 P **P** **01 35 44.9 -0.2**
N49A Columbus Grove 63.55 347 P **P** **01 35 46.2 -0.3**
SMWD Samnorwood 63.67 331 P **P** **01 35 47.7 +0.1**
P40A Paris 64.36 340 P **P** **01 35 51.9 -0.1**
P38A Dawn 64.94 339 P **P** **01 35 55.1 -0.6**
ANMO Albuquerque 66.56 326 P **P** **01 36 06.8 +0.4**
DBIC Dimbokro 68.14 73 P **P** **01 36 16.2 -0.4**
comp=Z,11nm,0.7s,baz=221,slow=5.2,SNR=14
comp=Z,11nm,0.7s
QSPA South Pole Qui 68.98 180 P **P** **01 36 23.2 +2.0**
comp=Z,4.5nm,0.5s,baz=180,slow=8.1,SNR=28
comp=Z,4.5nm,0.5s
MVCO Mesa Verde 69.35 327 P **P** **01 36 25.4 +1.4**
MVCO IAmb IAmb 01 36 26.2
comp=Z,3.7nm,0.7s
WUAZ Wupatki 69.62 324 P **P** **01 36 25.3 -0.2**
WUAZ IAmb IAmb 01 36 28.6
comp=Z,6.9nm,1.0s
ECSD EROS Data Cent 69.65 339 P **P** **01 36 25.2 -0.1**
ECSD IAmb IAmb 01 36 25.7
comp=Z,4.0nm,0.7s
SPMN Marine on St. 69.78 342 P **P** **01 36 25.9 -0.1**
SPMN IAmb IAmb 01 36 26.4
comp=Z,5.7nm,0.5s
W13A Hualapai Mount 70.74 322 P **P** **01 36 34.5 +2.1**
U15A North Rim 70.79 324 P **P** **01 36 32.8 0.0**
U15A IAmb IAmb 01 36 36.0
comp=Z,9.7nm,1.3s
O20A White River Ci 71.47 329 P **P** **01 36 38.1 +1.3**
O20A IAmb IAmb 01 36 39.2
comp=Z,6.8nm,0.9s
KNB Kanab 71.51 324 P **P** **01 36 36.6 -0.4**
KNB IAmb IAmb 01 36 40.5
comp=Z,7.7nm,1.0s
EYMN Ely 71.91 344 P **P** **01 36 38.6 -0.4**
EYMN IAmb IAmb 01 36 39.5
comp=Z,8.1nm,0.6s
BSUT Blindstream Ca 73.02 327 P **P** **01 36 46.6 +0.4**
BSUT IAmb IAmb 01 36 48.4
comp=Z,3.9nm,0.7s
PSUT Pine Spring 73.17 324 P **P** **01 36 47.6 +0.8**
AGMN Agassiz Nation 73.46 341 P **P** **01 36 46.9 -1.1**
AGMN IAmb IAmb 01 36 48.9
comp=Z,6.6nm,0.8s
SPR3 Spring Creek 3 73.76 324 P **P** **01 36 50.5 0.0**
DUG Dugway, Tooele 73.82 326 P **P** **01 36 52.2 +1.7**
PDAR Pinedale Array 74.13 330 P **P** **01 36 53.0 +0.6**
comp=Z,0.6nm,0.8s,baz=121,slow=7.3,SNR=7.1
comp=Z,0.6nm,0.8s
HWUT Hardware Ranch 74.23 328 P **P** **01 36 54.0 +1.1**
HWUT IAmb IAmb 01 36 54.5
comp=Z,3.7nm,0.6s
ULM Lac du Bonnet 75.21 342 P **P** **01 36 57.9 -0.2**
ULM Lac du Bonnet 75.21 342 P **P** **01 36 58.0 -0.1**
comp=Z,8.3nm,0.5s,baz=156,slow=6.4,SNR=32
comp=Z,8.3nm,0.5s
NVAR Mina Array Bea 75.60 322 P **P** **01 37 02.1 +1.2**
comp=Z,1.0nm,0.7s,baz=158,slow=6.9,SNR=7.5
comp=Z,1.0nm,0.7s
YNE Yellowstone No 76.06 331 P **P** **01 37 04.4 +0.9**
YNE IAmb IAmb 01 37 06.0
comp=Z,9.0nm,0.9s
YHL Hebgen Lake 76.48 330 P **P** **01 37 06.4 +0.5**
HLID Hailey 77.09 328 P **P** **01 37 10.6 +1.4**
HLID IAmb IAmb 01 37 12.3
comp=Z,4.3nm,0.8s
VNDA Vanda 77.22 190 P **P** **01 37 11.7 +2.4**
comp=Z,1.3nm,0.7s,baz=130,slow=6.2,SNR=3.7
comp=Z,1.3nm,0.7s
BEKR Beckworth 77.75 322 P **P** **01 37 14.5 +1.5**
PLID Pearl Lake 78.98 328 P **P** **01 37 19.5 -0.2**
PLID IAmb IAmb 01 37 21.9
comp=Z,4.0nm,0.8s
BMO Blue Mountains 79.47 327 P **P** **01 37 22.5 +0.3**
J05D Fort Rock, OR 80.49 324 P **P** **01 37 27.7 -0.1**
J05D IAmb IAmb 01 37 30.5
comp=Z,6.6nm,1.1s
PINE Pine Mountain 80.66 324 P **P** **01 37 28.5 -0.2**
PINE IAmb IAmb 01 37 31.3
comp=Z,5.1nm,0.8s
FCC Fort Churchill 82.47 347 P **P** **01 37 37.9 +0.2**
FCC IAmb IAmb 01 37 39.5
comp=Z,14nm,1.4s
BOSA Boshof 83.11 118 P **P** **01 37 42.5 +0.6**
comp=Z,2.0nm,0.6s,baz=233,slow=2.5,SNR=6.8
comp=Z,2.0nm,0.6s
ESDC Sonseca Array 85.25 44 P **P** **01 37 52.2 -0.1**
comp=Z,0.8nm,0.9s,baz=247,slow=5.5,SNR=5.9
comp=Z,0.8nm,0.9s
YKA Yellowknife Ar 91.10 340 P **P** **01 38 20.0 +0.5**
comp=Z,4.1nm,0.6s,baz=139,slow=4.3,SNR=107
comp=Z,4.1nm,0.6s
ASAR Alice Springs 130.41 207 PKP **PKiKP** **01 44 26.3 -0.7**
comp=Z,0.8nm,0.5s,baz=169,slow=2.2,SNR=7.3
WRA Warramunga Arr 133.47 210 PKP **PKiKP** **01 44 32.5 -0.7**
comp=Z,1.3nm,0.7s,baz=161,slow=1.8,SNR=10
USRK Ussuriysk Ar. 151.55 328 PKPbc **PKiKP** **01 45 10.0 +0.5**
comp=Z,3.9nm,0.6s,baz=56,slow=0.5,SNR=5.3
SONM Songino Array 153.10 8 PKP **PKPdf** **01 45 06.2 +1.0**
comp=Z,0.5nm,0.6s,baz=306,slow=1.0,SNR=4.5

SONM PKPbc **PKiKP** **01 45 13.5 +0.8**
comp=Z,1.3nm,0.4s,baz=7.2,slow=1.1,SNR=9.9
GTA Gaotai 159.21 27 pPKP PKPab 01 45 49.0 -2.0
GTA Gaotai 159.21 27 *e*PKP **PKPdf** **01 45 20.3 +6.9**

ISN ***02*** *01:33:03.4±0.6, 33°.82N×45°.83E, h6km±7km, ML2.7*
TEH ***02*** *01:33:11.8, 33°.84N×45°.87E, h10km*
ISC 02 01:33:06.7±1.0, 33°.62N±0°.05×45°.76E±0°.06, h19km, n7, σ1§20/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.51**	**14**	Pg	**Pb**	**01 33 17.4**	**+0.3**
IBDR	**Badra**	**0.52**	**164**	*e*Pg	**Pb**	**01 33 17.0**	**-0.2**
IBDR				*e*Sg	**Sn**	**01 33 27.5**	**0.0**
IBDR				AML	AML	01 33 30.5	
	comp=E,342nm,0.3s						
IBDR				AML	AML	01 33 33.4	
	comp=N,202nm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.90**	**351**	Pg	**Pg**	**01 33 25.7**	**+1.5**
IGHG	**Ghaleghazi**	**0.98**	**43**	Pg	**Pg**	**01 33 26.8**	**+1.0**
IDHR	**Dehrash**	**1.20**	**25**	Pg	**Pg**	**01 33 30.8**	**+0.8**
BHD	**Baghdad**	**1.20**	**254**	*e*Pg	**Pb**	**01 33 29.0**	**+0.1**
BHD				*e*Sg	**Sg**	**01 33 47.0**	**+1.2**
BHD				AML	AML	01 33 53.5	
	comp=E,427nm,0.7s						
IKRK	**Kirkuk**	**2.13**	**327**	*e*Pn	**Pn**	**01 33 39.5**	**-1.8**
IKRK				*e*Sn	**Sn**	**01 34 06.0**	**-1.3**
IKRK				AML	AML	01 34 19.6	
	comp=E,54nm,0.6s						
IKRK				AML	AML	01 34 24.4	
	comp=N,40nm,0.5s						

IDC ***02*** *01:41:05.6±1.2, 41°.50N×76°.20E, h0km, mb3.7/11, mbtmp3.8/17, ML3.1/6, MS3.6/1, Error ellipse: s-maj=17.4km s-min=11.8km az=174.0*
MOS ***02*** *01:41:06.8±1.3, 41°.64N×76°.18E, h9km, mb4.2/5, Error ellipse: s-maj=5.4km s-min=3.8km az=93.0*
KRNET ***02*** *01:41:07.4±0.1, 41°.70N×76°.33E, h35km, mb4.6*
SOME ***02*** *01:41:07.5, 41°.73N×76°.15E, h10km, MS3.1*
NNC ***02*** *01:41:08.0±0.6, 41°.67N×76°.25E, h0km, mb4.5, mpv4.4, Error ellipse: s-maj=3.9km s-min=2.2km az=177.0*
KNET ***02*** *01:41:08.6±0.5, 41°.70N×76°.11E, h4km±2km, ml3.8, Error ellipse: s-maj=3.1km s-min=1.8km az=131.0*
ISC 02 01:41:08.4±1.0, 41°.71N±0°.02×76°.22E±0°.02, h9km±7km, n168, σ1§47/267, mb3.9/16, 65C-41D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.54**	**2**	⇓P	**Pg**	**01 41 18.9**	**-0.1**
	964nm,0.2s,SNR=2701						
ULHL				⇑S	**Sb**	**01 41 27.7**	**-0.4**
	1μm,0.2s						
ULHL	**Ulahol**	**0.54**	**2**	⇓*i*P	**Pg**	**01 41 19.0**	**+0.1**
ULHL				⇓*i*S	**Sb**	**01 41 27.6**	**-0.5**
ULHL	**Ulahol**	**0.54**	**2**	*i* PG	**Pg**	**01 41 19.0**	**+0.1**
ULHL				S	**Sb**	**01 41 27.6**	**-0.5**
BOOM	**Boomskoye usch**	**0.81**	**345**	⇑*i*P	**Pg**	**01 41 23.6**	**-0.4**
BOOM				⇑*i*S	**Sg**	**01 41 35.2**	**+0.6**
BOOM	**Boomskoye usch**	**0.81**	**345**	*i* PG	**Pg**	**01 41 23.6**	**-0.4**
BOOM				S	**Sg**	**01 41 35.2**	**+0.6**
KDJ	**Kajisay**	**0.83**	**59**	⇑*i*P	**Pg**	**01 41 22.3**	**-2.2**
KDJ				⇑*i*S	**Sg**	**01 41 33.2**	**-2.2**
KDJ	**Kajisay**	**0.83**	**59**	*i* PG	**Pg**	**01 41 22.3**	**-2.2**
KDJ				S	**Sg**	**01 41 32.9**	**-2.5**
TKM2	**Tokmak 2**	**1.30**	**339**	⇑P	**Pn**	**01 41 32.0**	**-0.9**
	227nm,0.2s,SNR=398						
TKM2				⇓S	**Sn**	**01 41 52.4**	**+1.9**
	432nm,0.1s						
TKM2	**Tokmak 2**	**1.30**	**339**	⇓P	**Pn**	**01 41 32.8**	**-0.1**
	113nm,0.4s						
TKM2				⇓S	**Sn**	**01 41 52.1**	**+1.6**
	324nm,0.5s						
TKM2	**Tokmak 2**	**1.30**	**339**	⇑*i*P	**Pn**	**01 41 31.7**	**-1.2**
TKM2				⇑*i*S	**Sb**	**01 41 49.3**	**-0.6**
TKM2	**Tokmak 2**	**1.30**	**339**	PG	**Pn**	**01 41 32.8**	**-0.1**
TKM2				S	**Sn**	**01 41 52.1**	**+1.6**
KBK	**Karagaybulak**	**1.34**	**316**	⇓P	**Pb**	**01 41 33.9**	**+0.1**
	921nm,0.3s,SNR=142						
KBK				⇑S	**Sg**	**01 41 53.2**	**+1.8**
	939nm,0.2s						
KBK	**Karagaybulak**	**1.34**	**316**	⇑*i*P	**Pn**	**01 41 32.6**	**-0.8**
KBK				⇑*i*S	**Sb**	**01 41 50.9**	**-0.2**
KBK	**Karagaybulak**	**1.34**	**316**	*i* PG	**Pn**	**01 41 32.6**	**-0.8**
KBK				S	**Sb**	**01 41 50.9**	**-0.2**
KST	**Kastek**	**1.35**	**352**	P	**Pb**	**01 41 34.0**	**0.0**
	97nm,0.4s						
KST				S	**Sg**	**01 41 53.1**	**+1.2**
	372nm,0.3s						
KST	**Kastek**	**1.35**	**352**	*e*P	**Pb**	**01 41 34.0**	**0.0**
	62nm,0.2s						
KST				*e*S	**Sg**	**01 41 53.1**	**+1.2**
	600nm,0.5s						
UCH	**Uchtor**	**1.37**	**293**	⇑P	**Pn**	**01 41 33.5**	**-0.6**
	293nm,0.3s,SNR=37						
UCH				⇑S	**Sg**	**01 41 53.5**	**+0.9**
	968nm,0.5s						
UCH	**Uchtor**	**1.37**	**293**	⇓*i*P	**Pn**	**01 41 33.5**	**-0.6**
UCH				⇓*i*S	**Sn**	**01 41 52.5**	**-0.2**
UCH	**Uchtor**	**1.37**	**293**	*i* PG	**Pn**	**01 41 33.5**	**-0.6**
UCH				S	**Sn**	**01 41 52.5**	**-0.2**
ARLS	**Aral**	**1.42**	**277**	⇓*i*P	**Pn**	**01 41 34.0**	**-0.6**
ARLS				⇓*i*S	**Sn**	**01 41 53.2**	**-0.3**
ARLS	**Aral**	**1.42**	**277**	*i* PG	**Pn**	**01 41 34.0**	**-0.6**
ARLS				S	**Sn**	**01 41 53.2**	**-0.3**
MTBS	**Maitube**	**1.43**	**6**	P	**Pn**	**01 41 34.9**	**+0.3**
	55nm,0.2s						
MTBS				S	**Sg**	**01 41 55.1**	**+0.6**
	335nm,0.2s						
MTBS	**Maitube**	**1.43**	**6**	*e*P	**Pn**	**01 41 35.0**	**+0.3**
	50nm,0.8s						
MTBS				*e*S	**Sg**	**01 41 54.6**	**+0.2**
	335nm,0.2s						
TNSS	**Tian-Shan**	**1.44**	**22**	P	**Pn**	**01 41 34.8**	**-0.2**
	159nm,0.5s						
TNSS				S	**Sn**	**01 41 54.1**	**0.0**
	194nm,0.4s						
TNSS	**Tian-Shan**	**1.44**	**22**	*e*PG	**Pn**	**01 41 34.7**	**-0.2**
TNSS				*e*S	**Sg**	**01 41 54.7**	**+0.1**
TNSS	**Tian-Shan**	**1.44**	**22**	*e*P	**Pn**	**01 41 34.8**	**-0.2**
	103nm,0.2s						
TNSS				*e*S	**Sn**	**01 41 54.1**	**0.0**
	275nm,0.3s						
TNSS	**Tian-Shan**	**1.44**	**22**	*e*P	**Pn**	**01 41 34.7**	**-0.2**
TNSS				*e*S	**Sg**	**01 41 54.7**	**+0.1**
DGS	**Degeres**	**1.57**	**348**	P	**Pb**	**01 41 38.0**	**+0.3**
	174nm,0.4s						
DGS				S	**Sg**	**01 41 59.9**	**+1.0**
	526nm,0.3s						
MDOK	**Medeo**	**1.58**	**23**	⇑P	**Pn**	**01 41 36.8**	**+0.1**
	144nm,0.6s						
MDOK				Pg	**Pb**	**01 41 37.3**	**-0.6**
	155nm,0.5s						
MDOK				Lg	Lg	01 41 59.1	
	507nm,0.7s						
MDOK				⇑S	**Sg**	**01 41 59.5**	**+0.3**
	192nm,0.6s						
MDOK	**Medeo**	**1.58**	**23**	*e*PN	**Pn**	**01 41 37.1**	**+0.4**
MDOK				*e*S	**Sb**	**01 41 58.8**	**+0.8**
MDOK	**Medeo**	**1.58**	**23**	*e*P	**Pn**	**01 41 37.1**	**+0.4**
MDOK				*e*S	**Sb**	**01 41 58.8**	**+0.8**
AAK	**Ala-Archa**	**1.58**	**307**	Pn	**Pb**	**01 41 37.7**	**-0.2**
	126nm,0.3s,baz=130,slow=7.2,SNR=355						
AAK				Lg	Lg	01 41 59.5	
	83nm,0.3s,baz=334,slow=21,SNR=16						
AAK				LR	LR	01 42 29.5	
	comp=Z,453nm,19.7s,baz=111,slow=49						
AAK	**Ala-Archa**	**1.58**	**307**	⇓P	**Pb**	**01 41 37.7**	**-0.2**
	363nm,0.3s,SNR=590						
AAK				⇑S	**Sg**	**01 41 59.8**	**+0.4**
	358nm,0.2s						
AAK	**Ala-Archa**	**1.58**	**307**	⇓P	**Pb**	**01 41 37.7**	**-0.2**
	250nm,0.4s						
AAK				⇑S	**Sg**	**01 41 59.7**	**+0.4**
	2μm,0.7s						
AAK	**Ala-Archa**	**1.58**	**307**	⇓*i*P	**Pn**	**01 41 36.0**	**-0.8**
AAK				⇓*i*S	**Sn**	**01 41 57.0**	**-0.4**
AAK	**Ala-Archa**	**1.58**	**307**	*i* PN	**Pn**	**01 41 36.0**	**-0.8**
AAK				S	**Sn**	**01 41 57.0**	**-0.4**
AAA	**Alma-Ata**	**1.59**	**19**	P	**Pb**	**01 41 38.0**	**0.0**

	285nm,0.6s							
AAA					S	Sg	01 42 00.2	+0.8
	365nm,0.3s							
AAA	**Alma-Ata**	**1.59**	**19**	*e*PN		**Pb**	**01 41 37.9**	**0.0**
AAA	**Alma-Ata**	**1.59**	**19**	*e*P		**Pb**	**01 41 38.0**	**0.0**
	158nm,0.1s							
AAA				*e*S		**Sg**	**01 42 00.1**	**+0.6**
	336nm,0.4s							
AAA	**Alma-Ata**	**1.59**	**19**	*e*P		**Pb**	**01 41 37.9**	**0.0**
KNDC	**Almaty**	**1.61**	**20**	⇓P		**Pb**	**01 41 37.9**	**-0.5**
	388nm,0.7s							
KNDC				⇓S		**Sg**	**01 42 00.9**	**+0.8**
	314nm,0.3s							
KNDC	**Almaty**	**1.61**	**20**	PN		**Pb**	**01 41 37.8**	**-0.5**
KNDC				S		**Sg**	**01 42 00.9**	**+0.8**
FRU1	**Bishkek**	**1.61**	**314**	⇑*i*P		**Pn**	**01 41 36.6**	**-0.5**
FRU1				⇑*i*S		**Sn**	**01 41 58.0**	**-0.1**
FRU1	**Bishkek**	**1.61**	**314**	*i* PN		**Pn**	**01 41 36.6**	**-0.5**
FRU1				S		**Sn**	**01 41 58.0**	**-0.1**
KOTS	**Kotyrbulak**	**1.66**	**23**	P		**Pb**	**01 41 39.2**	**-0.2**
	191nm,0.4s							
KOTS				S		**Sg**	**01 42 02.4**	**+0.5**
	3μm,0.6s							
KOTS	**Kotyrbulak**	**1.66**	**23**	*e*P		**Pb**	**01 41 39.1**	**-0.2**
	146nm,0.1s							
KOTS				*e*S		**Sg**	**01 42 02.2**	**+0.2**
	3μm,0.6s							
CHMS	**Chumysh**	**1.69**	**320**	⇑P		**Pb**	**01 41 39.9**	**+0.3**
	390nm,0.4s,SNR=79							
CHMS				⇓S		**Sg**	**01 42 04.0**	**+1.4**
	452nm,0.2s							
CHMS	**Chumysh**	**1.69**	**320**	⇑P		**Pb**	**01 41 39.9**	**+0.3**
	316nm,0.5s							
CHMS				⇑S		**Sg**	**01 42 02.5**	**-0.2**
	616nm,0.6s							
CHMS	**Chumysh**	**1.69**	**320**	⇑*i*P		**Pn**	**01 41 37.3**	**-0.8**
CHMS				⇑*i*S		**Sn**	**01 41 59.0**	**-0.8**
CHMS	**Chumysh**	**1.69**	**320**	*i* PN		**Pn**	**01 41 37.3**	**-0.8**
CHMS				S		**Sn**	**01 41 59.0**	**-0.8**
PRZ	**Przheval'sk**	**1.80**	**64**	⇑*e*P		**Pn**	**01 41 37.5**	**-2.3**
PRZ				⇑*e*S		**Sn**	**01 41 59.3**	**-3.6**
AML	**Almayashu**	**1.93**	**284**	⇑P		**Pb**	**01 41 43.5**	**-0.4**
	240nm,0.2s,SNR=828							
AML				⇑S		**Sg**	**01 42 10.1**	**-0.4**
	2μm,0.4s							
AML	**Almayashu**	**1.93**	**284**	⇓*i*P		**Pn**	**01 41 41.3**	**-0.4**
AML				⇓*i*S		**Sn**	**01 42 05.9**	**-0.4**
AML	**Almayashu**	**1.93**	**284**	*i* PN		**Pn**	**01 41 41.3**	**-0.4**
AML				S		**Sn**	**01 42 05.9**	**-0.4**
SALK	**Salom-Alik**	**1.98**	**246**	⇓*i*P		**Pn**	**01 41 41.6**	**-0.7**
SALK				⇓*i*S		**Sn**	**01 42 06.6**	**-0.7**
SALK	**Salom-Alik**	**1.98**	**246**	*i* PN		**Pn**	**01 41 41.6**	**-0.7**
SALK				S		**Sn**	**01 42 06.6**	**-0.7**
USP	**Ospenovka**	**2.01**	**321**	⇑P		**Pb**	**01 41 45.6**	**+0.5**
	237nm,0.3s,SNR=364							
USP				⇓S		**Sg**	**01 42 13.7**	**+0.7**
	542nm,0.3s							
USP	**Ospenovka**	**2.01**	**321**	⇑*i*P		**Pn**	**01 41 41.7**	**-0.8**
USP				⇑*i*S		**Sn**	**01 42 06.8**	**-1.0**
USP	**Ospenovka**	**2.01**	**321**	*i* PN		**Pn**	**01 41 41.7**	**-0.8**
USP				S		**Sn**	**01 42 06.8**	**-1.0**
KRBS	**Karabastau**	**2.03**	**349**	Pg		**Pb**	**01 41 46.1**	**+0.7**
	310nm,0.2s							
KRBS				Lg		Lg	01 42 13.7	
	623nm,0.3s							
KTBS	**Karatobe**	**2.03**	**10**	Pg		**Pb**	**01 41 46.0**	**+0.4**
	312nm,0.4s							
KTBS				Lg		Lg	01 42 13.6	
	752nm,0.5s							
EKS2	**Erkin-Say**	**2.05**	**299**	P		**Pb**	**01 41 46.0**	**+0.2**
	952nm,0.6s,SNR=989							
EKS2	**Erkin-Say**	**2.05**	**299**	⇑*i*P		**Pn**	**01 41 42.5**	**-0.6**
EKS2				⇑*i*S		**Sn**	**01 42 08.3**	**-0.6**
EKS2	**Erkin-Say**	**2.05**	**299**	*i* PN		**Pn**	**01 41 42.5**	**-0.6**
EKS2				S		**Sn**	**01 42 08.3**	**-0.6**
SGDS	**Sogindy**	**2.10**	**327**	Pg		**Pb**	**01 41 47.5**	**+0.8**
	112nm,0.3s							
SGDS				Lg		Lg	01 42 16.1	
	850nm,0.5s							
SGDS	**Sogindy**	**2.10**	**327**	*e*PN		**Pb**	**01 41 47.0**	**+0.3**
SGDS	**Sogindy**	**2.10**	**327**	*e*Pn		**Pb**	**01 41 47.1**	**+0.3**
SATY	**Saty**	**2.11**	**49**	Pg		**Pb**	**01 41 46.1**	**-0.8**
	95nm,0.4s							
SATY				Lg		Lg	01 42 13.8	
	1μm,0.2s							
SATY	**Saty**	**2.11**	**49**	*e*PN		**Pb**	**01 41 45.7**	**-1.2**
SATY	**Saty**	**2.11**	**49**	*e*Pn		**Pb**	**01 41 45.7**	**-1.2**
KUU	**Kurty**	**2.19**	**2**	Pg		**Pb**	**01 41 48.9**	**+0.8**
	113nm,0.3s							
KUU				Lg		Lg	01 42 19.0	
	4μm,0.8s							
KUU	**Kurty**	**2.19**	**2**	*e*P		**Pb**	**01 41 48.9**	**+0.8**
	47nm,0.2s							
KUU				*e*S		**Sg**	**01 42 18.7**	**+0.1**
	2μm,0.3s							
KSH	**Kashi**	**2.19**	**185**	Pn		**Pg**	**01 41 52.0**	**+1.5**
KSH				Sn		**Sg**	**01 42 26.1**	**+7.2**
KSH				smax		smax		
	comp=N,1μm,0.9s							
KSH				smax		smax		
	comp=E,2μm,0.9s							
ZHN	**Zhinishke**	**2.20**	**48**	Pg		**Pb**	**01 41 47.6**	**-0.8**
	comp=E,104nm,0.4s							
ZHN				Lg		Lg	01 42 16.4	
	comp=E,600nm,0.2s							
ZHN	**Zhinishke**	**2.20**	**48**	*e*PN		**Pb**	**01 41 47.2**	**-1.2**
ZHN	**Zhinishke**	**2.20**	**48**	*e*P		**Pb**	**01 41 47.6**	**-0.8**
	comp=E,104nm,0.4s							
ZHN				*e*S		**Sb**	**01 42 16.4**	**+0.7**
	comp=E,600nm,0.2s							
ZHN	**Zhinishke**	**2.20**	**48**	*e*Pn		**Pb**	**01 41 47.2**	**-1.2**
CHKK	**Chushkaly**	**2.22**	**15**	Pg		**Pb**	**01 41 49.6**	**+0.9**
	comp=E,63nm,0.2s							
CHKK				Lg		Lg	01 42 19.9	
	comp=E,894nm,0.3s							
CHKK	**Chushkaly**	**2.22**	**15**	*e*PN		**Pb**	**01 41 48.8**	**+0.1**
CHKK	**Chushkaly**	**2.22**	**15**	*e*P		**Pb**	**01 41 49.6**	**+0.9**
	comp=E,63nm,0.2s							
CHKK				*e*S		**Sg**	**01 42 19.9**	**+0.2**
	comp=E,894nm,0.3s							
CHKK	**Chushkaly**	**2.22**	**15**	*e*Pn		**Pb**	**01 41 48.8**	**+0.1**
KURS	**Kuram**	**2.29**	**38**	*e*P		**Pb**	**01 41 49.6**	**-0.3**
	comp=E,63nm,0.2s							
KURS				*e*S		**Sb**	**01 42 19.9**	**+1.5**
	comp=E,894nm,0.3s							
ARSB	**Arslanbob**	**2.46**	**262**	⇑*i*P		**Pn**	**01 41 48.4**	**-0.4**
ARSB				⇑*i*S		**Sn**	**01 42 18.2**	**-0.8**
ARSB	**Arslanbob**	**2.46**	**262**	*i* PN		**Pn**	**01 41 48.4**	**-0.4**
ARSB				S		**Sn**	**01 42 18.2**	**-0.8**
UZB	**Uzynbulak**	**2.53**	**54**	Pg		**Pb**	**01 41 53.2**	**-0.8**
	comp=E,76nm,0.4s							
UZB				Lg		Lg	01 42 25.7	
	comp=E,307nm,0.5s							
UZB	**Uzynbulak**	**2.53**	**54**	*e*PN		**Pn**	**01 41 51.5**	**+1.8**
UZB	**Uzynbulak**	**2.53**	**54**	*e*P		**Pb**	**01 41 53.2**	**-0.8**
	comp=E,76nm,0.4s							
UZB				*e*S		**Sb**	**01 42 25.7**	**+0.4**
	comp=E,307nm,0.5s							
UZB	**Uzynbulak**	**2.53**	**54**	*e*Pn		**Pn**	**01 41 51.5**	**+1.8**
SFK	**Sufi-Kurgan**	**2.66**	**231**	⇓*e*P		**Pn**	**01 41 50.9**	**-0.8**
SFK				⇓*e*S		**Sn**	**01 42 22.6**	**-1.6**
ARXS	**Arharly**	**2.77**	**25**	Pg		**Pb**	**01 41 57.0**	**-1.1**
	comp=E,30nm,0.3s							
ARXS				Lg		Lg	01 42 32.6	
	comp=E,348nm,0.6s							
ARXS	**Arharly**	**2.77**	**25**	*i* PN		**Pb**	**01 41 55.8**	**-2.3**
SHLS	**Shalkode**	**2.81**	**58**	Pg		**Pg**	**01 42 03.2**	**+1.1**
	comp=E,35nm,0.3s							
SHLS				Lg		Lg	01 42 43.0	
	comp=E,411nm,0.7s							
SHLS	**Shalkode**	**2.81**	**58**	*e*S		**Sg**	**01 42 43.0**	**+4.4**
	comp=E,411nm,0.7s							
SHLS	**Shalkode**	**2.81**	**58**	*e*Pn		**Pb**	**01 41 58.9**	**+0.1**
SHLS				*e*Pg		**Pg**	**01 42 05.1**	**+3.0**
OHH	**Osh**	**2.85**	**247**	⇑*i*P		**Pn**	**01 41 53.5**	**-0.6**
OHH				⇑*i*S		**Sn**	**01 42 27.2**	**-1.3**
OHH	**Osh**	**2.85**	**247**	*i* PN		**Pn**	**01 41 53.5**	**-0.6**
OHH				S		**Sn**	**01 42 27.2**	**-1.3**
MNAS	**Manas**	**2.87**	**287**	⇑*e*P		**Pn**	**01 41 54.1**	**-0.4**
MNAS				⇑*i*S		**Sn**	**01 42 28.1**	**-1.1**
MNAS	**Manas**	**2.87**	**287**	*e*PN		**Pn**	**01 41 54.1**	**-0.4**
BLB	**Baldybastay**	**2.91**	**34**	Pg		**Pb**	**01 42 00.7**	**+0.2**
	comp=E,188nm,0.3s							
BLB				Lg		Lg	01 42 38.9	
	comp=E,750nm,0.4s							
PDGK	**Podgornoye**	**2.91**	**55**	⇑Pn		**Pn**	**01 41 56.5**	**+1.4**
	comp=E,72nm,0.6s							
PDGK				⇓Sn		**Sb**	**01 42 34.8**	**-1.5**
	comp=E,462nm,0.7s							
PDGK	**Podgornoye**	**2.91**	**55**	PN		**Pn**	**01 41 56.4**	**+1.4**
PDGK							01 42 34.9	
ARK	**Arkit**	**3.18**	**273**	⇓*e*P		**Pn**	**01 41 58.4**	**-0.3**
ARK				⇓*i*S		**Sn**	**01 42 35.7**	**-1.2**
ARK	**Arkit**	**3.18**	**273**	*i* PN		**Pn**	**01 41 58.4**	**-0.3**
ARK				S		**Sn**	**01 42 35.7**	**-1.2**
KNOS	**Konyrlen**	**3.43**	**38**	Pg		**Pb**	**01 42 09.7**	**+0.4**
	comp=E,15nm,0.4s							
KNOS				Lg		Lg	01 42 54.0	
	comp=E,221nm,0.6s							
BTLS	**Baital**	**3.69**	**335**	Pg		**Pb**	**01 42 16.0**	**+2.3**
	comp=E,30nm,0.6s							
BTLS				Lg		Lg	01 43 05.1	
	comp=E,406nm,0.8s							
BTLS	**Baital**	**3.69**	**335**	*e*PN		**Pn**	**01 42 08.7**	**+3.2**
BTLS				*e*			01 42 15.7	
BTLS	**Baital**	**3.69**	**335**	*e*P		**Pb**	**01 42 16.0**	**+2.3**
	comp=E,14nm,0.3s							
BTLS				*e*S		**Sg**	**01 43 05.1**	**-1.7**
	comp=E,314nm,0.3s							
BTLS	**Baital**	**3.69**	**335**	*e*Pn		**Pn**	**01 42 08.8**	**+3.2**
BTLS				*e*Pg		**Pb**	**01 42 15.8**	**+2.0**
DJR	**Jarkent**	**3.71**	**44**	Pg		**Pb**	**01 42 14.7**	**+0.6**
	comp=E,16nm,0.3s							
DJR				Lg		Lg	01 43 02.6	
	comp=E,129nm,0.4s							
DJR	**Jarkent**	**3.71**	**44**	*e*P		**Pb**	**01 42 14.7**	**+0.6**
	comp=E,19nm,0.2s							
DJR				*e*S		**Sb**	**01 43 02.6**	**+3.4**
	comp=E,129nm,0.3s							
TRKS	**Terek-Say**	**3.81**	**269**	⇑*i*P		**Pn**	**01 42 06.9**	**-0.5**
TRKS				⇑*i*S		**Sn**	**01 42 50.2**	**-2.2**
TRKS	**Terek-Say**	**3.81**	**269**	*i* PN		**Pn**	**01 42 06.9**	**-0.5**
TRKS				S		**Sn**	**01 42 50.2**	**-2.2**
DRK	**Karamyk**	**4.03**	**238**	⇓*i*P		**Pn**	**01 42 10.0**	**-0.5**
DRK				⇓*i*S		**Sn**	**01 42 55.7**	**-2.3**
DRK	**Karamyk**	**4.03**	**238**	*i* PN		**Pn**	**01 42 10.0**	**-0.5**
DRK				S		**Sn**	**01 42 55.7**	**-2.3**
BTK	**Batken**	**4.41**	**250**	⇑*i*P		**Pn**	**01 42 15.3**	**-0.3**
BTK				⇑*i*S		**Sn**	**01 43 04.7**	**-2.4**
BTK	**Batken**	**4.41**	**250**	*i* PN		**Pn**	**01 42 15.3**	**-0.3**
BTK				S		**Sn**	**01 43 04.7**	**-2.4**
KK31	**Karatay Array**	**4.45**	**290**	⇓Pg		**Pb**	**01 42 30.1**	**+3.4**
	comp=E,18nm,0.5s,baz=105,slow=15,SNR=34							
KK31				Lg		Lg	01 43 27.2	
	comp=E,46nm,0.5s,baz=116,slow=26,SNR=7.8							
KKAR	**Karatay Array**	**4.45**	**290**	⇑*i*P		**Pn**	**01 42 15.9**	**-0.1**
KKAR				⇑*i*S		**Sn**	**01 43 05.7**	**-2.2**
IUG	**Iuzhnay**	**4.64**	**278**	*e*PN		**Pn**	**01 42 21.3**	**+2.7**
IUG				*e*			01 42 32.6	
IUG	**Iuzhnay**	**4.64**	**278**	*e*Pn		**Pn**	**01 42 21.4**	**+2.7**
IUG				*e*Pg		**Pb**	**01 42 32.7**	**+2.8**
BRLS	**Borolday**	**4.91**	**288**	*e*P		**Pg**	**01 42 39.2**	**-3.1**
	comp=E,2.0nm,0.2s							
BRLS				*e*S		**Sg**	**01 43 45.0**	**-1.0**
	comp=E,40nm,0.5s							
GAR	**Garm**	**5.26**	**241**	⇓*e*P		**Pn**	**01 42 26.7**	**-0.5**
GAR				⇓*i*S		**Sn**	**01 43 24.7**	**-3.3**
GAR	**Garm**	**5.26**	**241**	*i* PN		**Pn**	**01 42 26.7**	**-0.5**
GAR				S		**Sn**	**01 43 24.7**	**-3.3**
MAKZ	**Makanchi**	**6.56**	**37**	⇑Pn		**Pn**	**01 42 49.4**	**+4.3**
	comp=E,6.8nm,0.8s							
MAKZ				⇑Lg		Lg	01 44 36.1	
	comp=E,27nm,1.0s							
MK31	**Makanchi Array**	**6.70**	**39**	⇑Pn		**Pn**	**01 42 48.9**	**+1.9**
	comp=E,4.8nm,0.6s,baz=214,slow=12,SNR=16							
MK31				Lg		Lg	01 44 45.2	
	comp=E,19nm,0.7s,baz=221,slow=31,SNR=3.6							
MK31	**Makanchi Array**	**6.70**	**39**	*i* PN		**Pn**	**01 42 48.8**	**+1.9**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**6.70**	**39**	Pn		**Pn**	**01 42 48.6**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=213,slow=13,SNR=23							
MKAR				Lg		Lg	01 44 35.4	
	comp=Z,1.3nm,0.3s,baz=221,slow=32,SNR=6.7							
	comp=Z,2.2nm,0.8s							
OTUK	**Ortayu**	**7.09**	**339**	⇓Pn		**Pn**	**01 42 54.4**	**+2.1**
	comp=Z,3.6nm,0.6s							
OTUK				⇑Lg		Lg	01 44 51.1	
	comp=Z,95nm,0.8s							
OTUK	**Ortayu**	**7.09**	**339**	PN		**Pn**	**01 42 54.4**	**+2.1**
WMQ	**Urumqi**	**8.71**	**72**	P		Pn	01 43 19.7	+5.2
WMQ				smax		smax		
	comp=N,26nm,0.7s							
WMQ				smax		smax		
	comp=E,32nm,0.9s							
KURBB	**Kurchatov Arra**	**9.06**	**9**	Pn		**Pn**	**01 43 20.5**	**+1.3**
	baz=191,slow=12,SNR=9.4							
KURBB				Sn		**Sn**	**01 45 00.1**	**-1.2**
	comp=E,0.1nm,0.3s,baz=206,slow=31,SNR=5.8							
KURBB				Lg		Lg	01 45 53.0	
	comp=E,0.2nm,0.3s,baz=199,slow=30,SNR=8.5							
	comp=E,0.9nm,0.7s							
KURBB	**Kurchatov Arra**	**9.06**	**9**	⇑Pn		**Pn**	**01 43 21.2**	**+1.9**
	comp=E,5.0nm,0.8s							
KURBB				⇑Lg		Lg	01 45 56.4	
	comp=E,128nm,0.8s							
KURK	**Kurchatov**	**9.16**	**10**	⇓Pn		**Pn**	**01 43 21.7**	**+1.0**
	comp=E,2.6nm,0.8s							
KURK				⇓Lg		Lg	01 45 57.8	
	comp=E,113nm,1.1s							
KURK	**Kurchatov**	**9.16**	**10**	*ce*P		**Pn**	**01 43 22.0**	**+1.4**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BVA0	**Borovoye Array**	**11.99**	**343**	⇑Pn		**Pn**	**01 44 00.1**	**+0.8**
	comp=Z,8.0nm,0.7s,baz=144,slow=16,SNR=9.6							
BVA0				⇑Sn		**Sn**	**01 46 17.3**	**+4.2**
	comp=Z,8.6nm,0.9s,baz=161,slow=20,SNR=5.9							
BVA0				⇓Lg		Lg	01 47 29.4	
	comp=Z,53nm,1.0s,baz=150,slow=24,SNR=8.3							
BVA0	**Borovoye Array**	**11.99**	**343**	P		**Pn**	**01 44 00.1**	**+0.8**
BVA0				S		**Sn**	**01 46 17.3**	**+4.2**
BVAR	**Borovoye Array**	**11.99**	**343**	Pn		**Pn**	**01 43 58.7**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=152,slow=14,SNR=10							
BVAR				Sn		**Sn**	**01 46 20.2**	**+7.2**
	comp=Z,0.1nm,0.3s,baz=155,slow=21,SNR=6.7							
BVAR				Lg		Lg	01 47 25.4	
	comp=Z,0.2nm,0.3s,baz=149,slow=22,SNR=7.6							
	comp=Z,1.1nm,0.5s							
BRVK	**Borovoye**	**12.04**	**343**	⇑Pn		**Pn**	**01 44 01.9**	**+1.8**
	comp=Z,16nm,1.1s							
BRVK				⇓Sn		**Sn**	**01 46 18.0**	**+3.6**
	comp=Z,6.1nm,0.8s							
BRVK				⇑Lg		Lg	01 47 30.9	
	comp=Z,168nm,1.5s							
BRVK	**Borovoye**	**12.04**	**343**	*ce*P		**Pn**	**01 44 00.0**	**0.0**
BRVK				pmax		pmax		
	comp=Z,6.0nm,1.7s							
ZALV	**Zalesovo Beam**	**13.53**	**22**	Pn		**Pn**	**01 44 20.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=219,slow=14,SNR=11							
ZALV				Sn		**Sn**	**01 46 50.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=294,slow=44,SNR=2.4							
ZALV				Lg		Lg	01 48 13.6	
	baz=225,slow=20							
	comp=Z,2.1nm,0.5s							
ZALV	**Zalesovo Beam**	**13.53**	**22**	*i* P		**Pn**	**01 44 22.3**	**+2.0**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.5s							
AB31	**Akbulak array**	**13.67**	**309**	Pn		**Pn**	**01 44 21.3**	**-1.0**
	comp=Z,2.3nm,0.5s,baz=113,slow=14,SNR=32							
AB31				⇑Sn		**Sn**	**01 46 57.2**	**+3.0**
	comp=Z,1.3nm,0.6s,baz=112,slow=22,SNR=4.2							
AB31				⇓Lg		Lg	01 48 24.5	
	comp=Z,6.2nm,1.1s							
AB31	**Akbulak array**	**13.67**	**309**	P		**Pn**	**01 44 21.3**	**-1.0**
AB31				S		**Sn**	**01 46 57.1**	**+3.0**
AKTO	**Aktyubinsk**	**15.32**	**311**	Pn		**Pn**	**01 44 42.9**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=115,slow=10.0,SNR=13							
	comp=Z,4.0nm,0.6s							
AKTO	**Aktyubinsk**	**15.32**	**311**	⇑Pn		**Pn**	**01 44 43.4**	**-1.3**
	comp=Z,5.3nm,0.8s							
AKTO				⇑Sn		**Sn**	**01 47 36.6**	**+2.2**
	comp=Z,3.1nm,1.1s							
AKTO				⇓Lg		Lg	01 49 15.3	
	comp=Z,7.5nm,1.4s							
SVE	**Sverdlovsk**	**18.16**	**332**	*e*P		**Pn**	**01 45 20.5**	**-0.1**
ARTI	**Arti**	**18.69**	**328**	P		**Pn**	**01 45 27.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=141,slow=9.8,SNR=6.0							
ARTI				Lg		Lg	01 50 59.3	
	comp=Z,0.1nm,0.3s,baz=81,slow=19,SNR=4.0							
	comp=Z,3.3nm,0.6s							
ARTI	**Arti**	**18.69**	**328**	*c* P		**P**	**01 45 26.7**	**0.0**
ARTI				S		**S**	**01 49 00.1**	**+0.7**
ARTI				pmax		pmax		
	comp=Z,11nm,1.2s							
SONM	**Songino Array**	**22.19**	**64**	P		**P**	**01 46 03.9**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=259,slow=11,SNR=2.1							
	comp=Z,0.6nm,0.9s							
OBN	**Obninsk**	**29.10**	**311**	⇓*e*P		**P**	**01 47 10.5**	**+1.4**
OBN				*e*			01 47 12.3	
OBN							01 48 00.0	
OBN				pmax		pmax		
	comp=Z,2.0nm,0.8s							
OBN				MLR		MLR		
	comp=Z,65nm,15.0s							
BRTR	**Keskin Array B**	**32.10**	**281**	P		**P**	**01 47 34.4**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=68,slow=9.9,SNR=4.1							
	comp=Z,0.6nm,0.7s							
FINES	**FINESS Array B**	**35.72**	**321**	P		**P**	**01 48 07.1**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=109,slow=8.9,SNR=11							
	comp=Z,1.4nm,0.5s							
FINES	**FINESS Array B**	**35.72**	**321**	*ce*P		**P**	**01 48 07.5**	**+0.6**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
YAK	**Yakutsk**	**37.37**	**39**	*i* P		**P**	**01 48 20.8**	**-0.2**
YAK				pmax		pmax		
	comp=Z,9.0nm,0.8s							
ARCES	**ARCESS Array B**	**38.07**	**334**	P		**P**	**01 48 27.2**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=96,slow=7.3,SNR=13							
	comp=Z,1.7nm,0.5s							
TIXI	**Tiksi**	**39.41**	**23**	*ce*P		**P**	**01 48 38.1**	**+0.1**
TIXI				pmax		pmax		
	comp=Z,7.0nm,2.5s							
HFS	**Hagfors**	**41.69**	**318**	P		**P**	**01 48 56.9**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=82,slow=11,SNR=2.0							
	comp=Z,2.1nm,0.8s							
NB2	**NORSAR Subarra**	**42.86**	**320**	P		**P**	**01 49 06.5**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=87,slow=8.6							
NOA	**NORSAR Array B**	**42.86**	**320**	P		**P**	**01 49 06.6**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=87,slow=8.0,SNR=3.4							
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**43.46**	**302**	P		**P**	**01 49 12.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=77,slow=9.3,SNR=4.8							
	comp=Z,0.4nm,0.6s							
SEY	**Seymchan**	**47.83**	**37**	*ce*P		**P**	**01 49 46.3**	**+0.4**
SEY				pmax		pmax		
	comp=Z,2.0nm,1.4s							
EKA	**Eskdalemuir Ar**	**51.48**	**314**	P		**P**	**01 50 13.4**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=79,slow=8.7,SNR=4.4							
	comp=Z,1.0nm,0.6s							
BILL	**Bilibino**	**52.13**	**28**	*i* P		**P**	**01 50 19.0**	**+0.5**
BILL				pmax		pmax		
	comp=Z,5.0nm,1.2s							
ESDC	**Sonseca Array**	**58.66**	**297**	P		**P**	**01 51 05.2**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=63,slow=6.9,SNR=8.0							
	comp=Z,0.6nm,0.6s							
ILAR	**Eielson Array**	**68.62**	**18**	P		**P**	**01 52 09.9**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=325,slow=6.3,SNR=6.3							
	comp=Z,0.5nm,0.8s							
ILAR	**Eielson Array**	**68.62**	**18**	P		**P**	**01 52 10.0**	**-1.3**
YKA	**Yellowknife Ar**	**75.78**	**5**	P		**P**	**01 52 53.4**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=349,slow=5.7,SNR=6.5							
YKA				LR		LR	02 29 36.9	
	comp=Z,30nm,18.6s,baz=276,slow=38							
	comp=Z,0.4nm,0.7s							

SJA ***02*** *01:46:22.6±0.7, 38.°55S×72.°62W, h32km±7km, ML3.6, MW3.6*
GUC ***02*** *01:46:27.1±0.6, 38.°63S×72.°48W, h47km±3km, ML3.8*
ISC 02 01:46:24.0±1.4, 38.°57S±0.°02×72.°49W±0.°04, h16km±11km, n24, σ1°18/38, 3C-4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LC01	**Cunco**	**0.58**	**124**	⇓*i*P		**Pn**	**01 46 38.5**	**+0.8**
LC01				*e*S		**Sn**	**01 46 46.8**	**-0.1**
LC01				IAML			01 46 49.5	
	comp=E,11μm,0.1s							
LC02	**Puerto Saavedr**	**0.73**	**252**

CO03					IAML			01 59 09.8
	comp=E,7μm,0.3s							
CO03	**El Pedregal**	**0.77**	**74**	*eP*		Pn		01 59 09.6 +9.1
GO04	**Tololo Observa**	**1.09**	**36**	*eP*		**Pn**		**01 59 04.2 -0.5**
GO04				*i* S		**Sn**		**01 59 18.2 -1.0**
GO04	**Tololo Observa**	**1.09**	**36**	*eP*		**Pn**		**01 59 04.2 -0.5**
GO04				*eS*		**Sn**		**01 59 18.9 -0.3**
CO01	**Juntas del Tor**	**1.65**	**50**	*eP*		**Pn**		**01 59 12.3 +0.2**
CO01				*i* S		**Sn**		**01 59 32.0 -0.5**
CO01					IAML			01 59 32.9
	comp=N,2μm,0.1s							
VA03	**San Esteban**	**1.90**	**154**	*eP*		**Pn**		**01 59 15.6 +0.2**
VA03				*i* S		**Sn**		**01 59 38.2 -0.2**
VA03					IAML			01 59 44.5
	comp=N,853nm,0.2s							
VA03	**San Esteban**	**1.90**	**154**	*eP*		**Pn**		**01 59 15.8 +0.4**
VA03				*eS*		**Sn**		**01 59 39.6 +1.2**
VA03					IAML			01 59 44.1
	comp=Z,614nm,0.2s							
ROCH	**El Roble**	**1.97**	**167**	*eP*		**Pn**		**01 59 16.6 +0.3**
ROCH				*i* S		**Sn**		**01 59 40.4 +0.3**
ROC1	**El Roble**	**1.97**	**167**	*eP*		**Pn**		**01 59 16.6 +0.2**
ROC1				*eS*		**Sn**		**01 59 34.5 -5.7**
RTLS	**Leoncito**	**2.06**	**112**	*eP*		**Pn**		**01 59 18.9 +1.2**
RTLS				*eS*		**Sn**		**01 59 44.4 +1.9**
RTLS					IAML			01 59 45.3
	comp=Z,1μm,0.3s							
DOCA	**Reserva Natura**	**2.12**	**88**	*eP*		**Pn**		**01 59 19.6 +1.0**
DOCA				*eS*		**Sn**		**01 59 45.5 +1.5**
DOCA					IAML			01 59 47.2
	comp=Z,210nm,0.8s							
AUSP	**Uspallata**	**2.18**	**123**	*eP*		**Pn**		**01 59 21.0 +1.7**
AUSP				*eS*		**Sn**		**01 59 48.3 +2.9**
ACCO	**Cerro Coronel**	**2.18**	**78**	*eP*		**Pn**		**01 59 15.8 -3.7**
ACCO				*eS*		**Sn**		**01 59 47.9 +2.3**
PEL	**Peldehue**	**2.21**	**161**	*eP*		**Pn**		**01 59 19.8 +0.3**
PEL				*i* S		**Sn**		**01 59 45.5 -0.3**
PEL					IAML			01 59 57.7
	comp=N,277nm,0.3s							
PEL	**Peldehue**	**2.21**	**161**	*eP*		**Pn**		**01 59 20.0 +0.5**
PEL				*eS*		**Sn**		**01 59 44.5 -1.3**
MT02	**Curacav**	**2.23**	**171**	*eP*		**Pn**		**01 59 19.4 -0.3**
MT02				*i* S		**Sn**		**01 59 45.6 -0.5**
MT10	**Hacienda Santa**	**2.37**	**159**	*eP*		**Pn**		**01 59 22.1 +0.3**
MT10				*i* S		**Sn**		**01 59 49.6 -0.3**
MT05	**Renca**	**2.43**	**164**	*eP*		**Pn**		**01 59 22.7 +0.2**
MT05				*i* S		**Sn**		**01 59 51.0 -0.1**
MT05					IAML			02 00 06.8
	comp=N,486nm,0.5s							
AC05	**El Transito**	**2.47**	**27**	*eP*		**Pn**		**01 59 23.9 +0.7**
AC05				*i* S		**Sn**		**01 59 51.8 -0.4**
MT14	**Cerro Cal¡n**	**2.49**	**160**	*eP*		**Pn**		**01 59 23.9 +0.5**
MT14				*i* S		**Sn**		**01 59 52.4 -0.2**
ZON	**Zonda**	**2.50**	**102**	*eP*		**Pn**		**01 59 25.5 +2.0**
ZON				*eS*		**Sn**		**01 59 54.5 +1.5**
ZON					IAML			01 59 58.9
	comp=Z,315nm,0.5s							
MT03	**Universidad Ad**	**2.59**	**160**	*eP*		**Pn**		**01 59 24.9 +0.3**
MT03				*i* S		**Sn**		**01 59 54.9 -0.1**
VA05	**Santo Domingo**	**2.60**	**181**	*eP*		**Pn**		**01 59 24.5 -0.2**
SJA	**San Juan**	**2.60**	**101**	*eP*		Pn		01 59 39.6 +15
SJA				*eS*		**Sn**		**01 59 58.2 +2.9**
SJA					IAML			02 00 00.4
	comp=Z,245nm,0.2s							
RTLL	**Cerro Villicun**	**2.65**	**97**	*eP*		**Pn**		**01 59 21.0 -4.4**
RTLL				*eP*				01 59 26.5
RTLL				*eS*		**Sn**		**01 59 57.3 +0.9**
MT15	**Las Vizcachas**	**2.69**	**161**	*eP*		**Pn**		**01 59 26.4 +0.3**
MT08	**Bocatoma Ro**	**2.71**	**152**	*eP*		**Pn**		**01 59 28.6 +2.0**
MT08				*i* S		**Sn**		**01 59 57.8 -0.5**
MT08					IAML			02 00 07.2
	comp=N,161nm,0.5s							
MT09	**Talagante**	**2.75**	**170**	*eP*		**Pn**		**01 59 27.5 +0.5**
MT09				*i* S		**Sn**		**01 59 58.8 -0.4**
MT09					IAML			02 00 12.9
	comp=N,297nm,0.2s							
ASAL	**Salagasta**	**2.77**	**124**	*eP*		**Pn**		**01 59 29.5 +2.4**
ASAL				*eS*		**Sn**		**02 00 03.7 +4.2**
MT12	**Pirque**	**2.80**	**163**	*eP*		**Pn**		**01 59 28.0 +0.4**
MT12				*i* S		**Sn**		**02 00 00.4 +0.2**
MT12					IAML			02 00 16.9
	comp=N,416nm,0.5s							
MT01	**Popeta**	**2.81**	**175**	*eP*		**Pn**		**01 59 27.7 0.0**
MT01				*i* S		**Sn**		**01 59 58.3 -2.1**
MT01					IAML			02 00 16.8
	comp=E,198nm,0.3s							
ARCO	**CERRO ARCO**	**2.85**	**129**	*eP*		**Pn**		**01 59 25.5 -2.8**
ARCO				*eS*		Sn		01 59 51.8 -10
ARCO					IAML			02 00 10.7
	comp=Z,121nm,0.6s							
MT13	**San Alfonso**	**2.89**	**159**	*eP*		**Pn**		**01 59 29.8 +1.1**
MT13				*i* S		**Sn**		**02 00 02.0 -0.4**
MT13					IAML			02 00 20.1
	comp=E,269nm,0.4s							
LMEL	**Las Melosas**	**3.01**	**158**	*eP*		**Pn**		**01 59 31.6 +1.1**
LMEL				*i* S		**Sn**		**02 00 05.1 -0.4**
AAGR	**Agrelo**	**3.07**	**132**	*eP*		**Pn**		**01 59 32.8 +1.5**
AAGR					IAML			02 00 16.8
	comp=Z,95nm,0.9s							
AGUA	**GUANDACOL**	**3.07**	**60**	*eP*		**Pn**		**01 59 26.8 -4.5**
AGUA					IAML			02 00 10.4
	comp=Z,80nm,0.6s							
AVFE	**Valle Fertil**	**3.54**	**85**	*eP*		**Pn**		**01 59 37.9 +0.2**
AVFE				*eS*		**Sn**		**02 00 19.2 +0.9**
AVFE					IAML			02 00 20.7
	comp=Z,118nm,0.4s							
GO03	**Copiapo**	**3.63**	**19**	*eP*		**Pn**		**01 59 39.0 +0.1**
GO03				*eS*		**Sn**		**02 00 25.0 +4.4**
VCA	**Vinchina**	**3.71**	**52**	*eP*		**Pn**		**01 59 38.0 -2.1**
VCA				*eS*		**Sn**		**02 00 22.5 -0.1**
VCA					IAML			02 00 51.1
	comp=Z,83nm,0.3s							
ACHE	**Chepes**	**4.19**	**93**	*eP*		**Pn**		**01 59 46.7 +0.1**
ACHE				*eS*		**Sn**		**02 00 33.1 -1.3**
ACLC	**CERRO LA CRUZ**	**4.29**	**69**	*eP*		**Pn**		**01 59 48.7 +0.6**
ACLC				*eS*		**Sn**		**02 00 36.9 -0.1**
ACLC					IAML			02 00 37.7
	comp=Z,46nm,0.4s							
APLL	**PUNTA DE LOS L**	**4.37**	**83**	*eP*		**Pn**		**01 59 49.2 +0.2**
APLL				*eS*		**Sn**		**02 00 38.1 -0.6**
AC02	**Maricunga**	**4.71**	**27**	*eP*		**Pn**		**01 59 54.1 +0.1**
AC02				*eS*		Sn		02 01 02.0 +14
AC02					IAML			02 01 20.1
	comp=Z,39nm,1.0s							
MRA	**San Martin**	**5.15**	**107**	*eP*		Pn		01 59 54.0 -5.7
MRA					IAML			02 01 20.7
	comp=Z,55nm,0.5s							
TCA	**Tanti**	**5.96**	**95**	*eP*		**Pn**		**02 00 10.0 -0.8**
TCA				*eS*		**Sn**		**02 01 14.9 -2.9**
TCA					IAML			02 01 52.1
	comp=Z,18nm,1.1s							
PIL	**Pilar**	**6.58**	**97**	*eP*		Pn		02 00 25.5 +6.3
FSA	**Cafayete**	**6.94**	**46**	*eP*		Pn		02 00 10.7 -14

*IDC **02** 02:18:05.7±3.8, 3°.73S×101°.58E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=171.8km s-min=22.2km az=53.0*

ISC 02 02:18:12.3±3.1, 3°.7S±0°.5×101°.6E±0°.8, h50km, n13, σ0°28/7, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.74**	**119**	P	**P**	**02 25 06.4**	**-0.2**
	0.2nm,0.3s,baz=303,slow=9.0,SNR=4.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**36.94**	**125**	P	**P**	**02 25 17.2**	**+0.3**
	0.2nm,0.4s,baz=297,slow=8.5,SNR=4.1						
	0.2nm,0.4s						
SONM	**Songino Array**	**51.53**	**4**	P	**P**	**02 27 13.3**	**+0.1**
	0.5nm,0.5s,baz=196,slow=9.3,SNR=4.6						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**53.13**	**343**	P	**P**	**02 27 25.2**	**+0.2**
	0.5nm,0.5s,baz=145,slow=7.4,SNR=7.6						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**57.67**	**343**	P	**P**	**02 27 57.3**	**-0.2**
	0.1nm,0.4s,baz=160,slow=8.0,SNR=2.4						
	0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**59.17**	**349**	P	**P**	**02 28 07.9**	**0.0**
	0.8nm,0.5s,baz=167,slow=7.2,SNR=3.7						
	0.8nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.38**	**218**	T	T	03 34 19.9	
	baz=67,slow=74,SNR=64						
H04N1	**CROZET ISLANDS**	**60.39**	**218**	T	T	03 34 20.0	
	baz=67,slow=74,SNR=67						
H04N3	**CROZET ISLANDS**	**60.40**	**218**	T	T	03 34 18.0	
	baz=67,slow=74,SNR=57						
H04S1	**CROZET ISLANDS**	**60.64**	**217**	T	T	03 34 33.1	
	baz=65,slow=76,SNR=7.0						
H04S3	**CROZET ISLANDS**	**60.66**	**217**	T	T	03 34 32.7	
	baz=65,slow=76,SNR=7.5						
H04S2	**CROZET ISLANDS**	**60.66**	**217**	T	T	03 34 34.0	
	baz=65,slow=76,SNR=7.0						
TXAR	**Lajitas Array**	**145.04**	**41**	PKPbc	**PKPdf**	**02 37 44.7**	**-0.3**
	0.4nm,0.5s,baz=260,slow=1.5,SNR=12						

*BJI **02** 02:27:07.1, 20°.87N×122°.28E, h15km, mB4.7/6, mb4.3/26, ML4.1/3, Ms4.2/12, Ms7 3.9/12*
*NIED **02** 02:27:08.6, 21°.15N×122°.31E, h28km, MW4.4, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.74; $M_{\theta\theta}$2.88; $M_{\phi\phi}$-2.14; $M_{r\theta}$0.94; $M_{\theta\phi}$0.20; $M_{\phi r}$3.64; Fault plane solution: $M_0$4.33000×10^{15} NP1: ϕ_s120.00000°, δ39.00000°, λ-11.00000°. NP2: ϕ_s219.00000°, δ83.00000°, λ-128.00000°.*
*NEIC **02** 02:27:08.9±1.8, 21°.10N±0°.06×122°.27E±0°.03, h10km±1km, mb4.9/168 Error ellipse: s-maj=11.0km s-min=3.3km az=161.0*
*JMA **02** 02:27:08.6±0.8, 21°N±4°×12°2E±°, h28km, MV4.4/14, TAIWAN REGION*
*TAP **02** 02:27:09.2, 21°.10N×122°.31E, h49km±1km, ML4.7, D*
*IDC **02** 02:27:12.1±3.1, 20°.85N×122°.33E, h49km±29km, mb4.1/29, mbtmp4.4/31, ML3.7/2, MS3.5/23, Error ellipse: s-maj=16.5km s-min=11.5km az=72.0*

ISC 02 02:27:06.2±1.5, 21°.07N±0°.04×122°.35E±0°.03, h4km±9km, n363, σ1°62/365, mb4.9/124, MS3.5/22, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**1.17**	**322**	*i* P	**Pn**	**02 27 29.1**	**-0.3**
LYUB				*eS*	**Sb**	**02 27 43.3**	**-1.3**
LAY	**Lan-yu**	**1.22**	**322**	*i* P	**Pg**	**02 27 28.9**	**-0.7**
LAY				*i* S	**Sg**	**02 27 44.5**	**-0.9**
TSEB	**Hengchuen, Pin**	**1.58**	**302**	*i* P	**Pg**	**02 27 36.1**	**-0.5**
TSEB				*i* S	**Sb**	**02 27 55.5**	**-1.0**
TWKBT	**Hengchun**	**1.68**	**301**	P	**Pn**	**02 27 36.0**	**-0.4**
TWKBT				*eS*	**Sn**	**02 27 57.0**	**-1.3**
TWK1	**Hengchun**	**1.68**	**301**	P	**Pn**	**02 27 36.1**	**-0.4**
TWK1				*eS*	**Sn**	**02 27 57.4**	**-1.1**
SMST	**Manzhou Townsh**	**1.70**	**304**	P	**Pn**	**02 27 36.4**	**-0.2**
SNW	**Nanwan**	**1.73**	**301**	*eP*	**Pg**	**02 27 40.0**	**+0.5**
HEN	**Hengchun**	**1.77**	**302**	P	**Pn**	**02 27 38.0**	**+0.4**
HEN				*eS*	**Sb**	**02 28 00.8**	**-1.0**
LDUT	**Ludao**	**1.79**	**333**	*eP*	**Pn**	**02 27 36.0**	**-1.9**
LDUT				*eS*	**Sn**	**02 27 57.9**	**-3.3**
SLIU	**Shizi**	**1.84**	**308**	P	**Pn**	**02 27 38.6**	**0.0**
SLIU				*eS*	**Sn**	**02 28 01.3**	**-1.1**
TAWH	**Dawu Township**	**1.86**	**313**	P	**Pn**	**02 27 38.7**	**-0.1**
TAWH				*eS*	**Sn**	**02 28 00.8**	**-2.0**
TAW	**Tawu**	**1.86**	**314**	*eP*	**Pn**	**02 27 38.8**	**-0.2**
TAW				*eS*	**Sn**	**02 28 01.6**	**-1.4**
EAST	**Anshuo**	**1.91**	**313**	P	**Pn**	**02 27 39.5**	**-0.2**
EAST				*eS*	**Sn**	**02 28 01.3**	**-3.0**
ECL	**Taimali**	**2.00**	**320**	*eP*	**Pn**	**02 27 40.6**	**-0.2**
TTN	**Taitung**	**2.01**	**326**	*eP*	**Pn**	**02 27 41.9**	**+0.9**
TTN				*eS*	**Sn**	**02 28 05.4**	**-1.3**
SCZT	**Fangliau**	**2.07**	**309**	*eP*	**Pn**	**02 27 42.4**	**+0.7**
TWGBT	**Beinan**	**2.10**	**326**	*eP*	**Pn**	**02 27 41.8**	**-0.4**
TWGBT				*eS*	**Sn**	**02 28 08.0**	**-0.9**
TWG	**Pinlang**	**2.11**	**326**		**Pn**	**02 27 41.9**	**-0.5**
TWG				Sn	**Sn**	**02 28 07.4**	**-1.6**
TWG	**Pinlang**	**2.11**	**326**	*eP*	**Pn**	**02 27 42.3**	**0.0**
TWG				*eS*	**Sn**	**02 28 08.7**	**-0.3**
EDH	**Donghe**	**2.13**	**333**	P	**Pn**	**02 27 41.1**	**-1.4**
EDH				*eS*	**Sn**	**02 28 06.0**	**-3.4**
LONT	**Longtian**	**2.15**	**328**	*eP*	**Pn**	**02 27 43.1**	**+0.2**
LONT				*eS*	**Sn**	**02 28 08.6**	**-1.5**
MASBT	**Mashibuluo**	**2.21**	**314**	*eP*	**Pn**	**02 27 44.4**	**+0.6**
CHKT	**Chengkung**	**2.22**	**336**	P	**Pn**	**02 27 42.4**	**-1.4**
CHKT				*eS*	**Sn**	**02 28 08.1**	**-3.5**
TSMG	**Majia**	**2.27**	**316**	*eP*	**Pn**	**02 27 43.8**	**-0.7**
ECS	**Chishang**	**2.27**	**333**	*eP*	**Pn**	**02 27 44.5**	**-0.1**
ECS				*eS*	**Sn**	**02 28 13.6**	**+0.5**
CHKH	**Chenggong**	**2.29**	**337**	P	**Pn**	**02 27 43.6**	**-1.2**
CHKH				*eS*	**Sn**	**02 28 10.0**	**-3.5**
SSD	**Sandimen**	**2.31**	**316**	*eP*	**Pn**	**02 27 45.8**	**+0.7**
EHD	**Haiduan**	**2.32**	**333**	*eP*	**Pn**	**02 27 44.6**	**-0.7**
FULB	**Fuli**	**2.33**	**335**	*eP*	**Pn**	**02 27 44.5**	**-1.0**
FULB				S	**Sn**	**02 28 13.4**	**-1.3**
ECBN	**Changbin**	**2.38**	**340**	*eP*	**Pn**	**02 27 44.2**	**-1.9**
ECBN				*eS*	**Sn**	**02 28 12.8**	**-3.0**
ELDTW	**Lidau**	**2.44**	**330**	*eP*	**Pn**	**02 27 46.0**	**-1.1**
EYUL	**Yuli**	**2.46**	**337**	*eP*	**Pn**	**02 27 46.7**	**-0.5**
TWF1	**Yuli**	**2.47**	**337**	*eP*	**Pn**	**02 27 46.1**	**-1.2**
TWF1				*eS*	**Sn**	**02 28 16.4**	**-1.6**
SCST	**Cishan**	**2.50**	**317**	*eP*	**Pb**	**02 27 50.7**	**-0.9**
TWM1	**Shoushan**	**2.50**	**315**	*eP*	**Pb**	**02 27 51.1**	**-0.6**
YULB	**Yu-li**	**2.51**	**337**		**Pn**	**02 27 47.0**	**-0.7**
YULB	**Yu-li**	**2.51**	**337**	P	**Pn**	**02 27 47.1**	**-0.7**
YULB				S	**Sn**	**02 28 16.6**	**-2.3**
STYH	**Taoyuan**	**2.55**	**325**	*eP*	**Pn**	**02 27 48.3**	**-0.1**
STYH				*eS*	**Sn**	**02 28 20.3**	**+0.4**
STYT	**Tauyuan**	**2.55**	**325**	P	**Pn**	**02 27 48.8**	**+0.3**
HGSD	**Ruisui**	**2.56**	**341**	*eP*	**Pn**	**02 27 47.0**	**-1.5**
EHYH	**Wanrong**	**2.58**	**339**	*eP*	**Pn**	**02 27 48.4**	**-0.5**
EHYH				*eS*	**Sn**	**02 28 20.5**	**-0.3**
SGST	**Jiashian**	**2.59**	**321**	*eP*	**Pn**	**02 27 50.2**	**+1.3**
EHY	**Hungye**	**2.60**	**339**	*eP*	**Pn**	**02 27 48.4**	**-0.8**
EHY				*eS*	**Sn**	**02 28 19.8**	**-1.4**
SHHT	**Tainan City**	**2.69**	**317**	*eP*	**Pb**	**02 27 53.4**	**-1.5**
WTP	**Ta-pu**	**2.70**	**324**	*eP*	**Pn**	**02 27 52.4**	**+1.9**
CHN1	**Nanshi**	**2.70**	**322**	*eP*	**Pb**	**02 27 53.0**	**-2.1**
EGFH	**Guangfu**	**2.72**	**342**	*eP*	**Pn**	**02 27 50.8**	**0.0**
EGFH				*eS*	**Sn**	**02 28 22.8**	**-1.4**
TPUB	**Ta-pu**	**2.73**	**325**		**Pn**	**02 27 52.7**	**+1.7**
TPUB	**Ta-pu**	**2.73**	**325**	*eP*	**Pn**	**02 27 53.0**	**+2.0**
TPUB				*eS*	**Sb**	**02 28 26.5**	**-3.1**
YUS	**Yu-Shan**	**2.73**	**332**	*eP*	**Pn**	**02 27 48.9**	**-2.4**
SNST	**Tainan City**	**2.74**	**322**	*eP*	**Pn**	**02 27 53.1**	**+2.1**
WARBT	**Fenglin Townsh**	**2.78**	**341**	P	**Pn**	**02 27 50.8**	**-0.8**
WARBT				*eS*	**Sn**	**02 28 23.3**	**-2.3**
TWK	**Hsinying**	**2.79**	**322**	*eP*	**Pn**	**02 27 53.4**	**+1.7**
CHN4	**Tsaushan**	**2.79**	**325**	*eP*	**Pb**	**02 27 54.2**	**-2.5**
CHN4				*eS*	**Sb**	**02 28 28.8**	**-2.6**
SHUL	**Shoufeng**	**2.80**	**345**	*eP*	**Pn**	**02 27 51.2**	**-0.6**
SHUL				S	**Sn**	**02 28 24.0**	**-2.1**
ALS	**Alishan**	**2.82**	**330**	*eP*	**Pn**	**02 27 53.9**	**+1.5**
ESL	**Shilin**	**2.86**	**343**	*eP*	**Pn**	**02 27 51.4**	**-1.3**
ESL				*eS*	**Sn**	**02 28 24.4**	**-3.1**
WCKO	**Fanlu**	**2.86**	**326**	*eP*	**Pn**	**02 27 54.9**	**+2.3**
TEYL	**Yanliau Villag**	**2.87**	**346**	*eP*	**Pn**	**02 27 53.1**	**+0.4**
VWDT	**VWDT**	**2.90**	**337**	P	**Pn**	**02 27 53.1**	**0.0**
CHN5	**Tsauling**	**2.95**	**329**	P	**Pn**	**02 27 56.5**	**+2.4**
WHYT	**Xinyi Township**	**2.96**	**332**	*eP*	**Pn**	**02 27 55.8**	**+1.8**
WHYT				*eS*	**Sb**	**02 28 32.8**	**-3.3**
ICHU	**Yijhu**	**2.98**	**320**	*eP*	**Pn**	**02 27 55.3**	**+1.0**
ETM	**Tongmen**	**2.99**	**345**	*eP*	**Pn**	**02 27 53.9**	**-0.5**
SSLB	**Suanglung**	**3.00**	**335**		**Pn**	**02 27 55.4**	**+0.8**
SSLB	**Suanglung**	**3.00**	**335**	*eP*	**Pn**	**02 27 55.8**	**+1.3**
CHY	**Chiayi**	**3.00**	**324**	*eP*	**Pn**	**02 27 56.7**	**+2.1**
EOS4	**EOS4**	**3.03**	**359**	*eP*	**Pn**	**02 27 55.4**	**+0.7**
EOS4				*eS*	**Sn**	**02 28 29.9**	**-1.5**
LXIB	**Xiulin Townshi**	**3.06**	**344**	P	**Pn**	**02 27 55.0**	**-0.6**
LXIB				S	**Sn**	**02 28 30.5**	**-2.3**
OWD	**Renai**	**3.07**	**339**	*eP*	**Pn**	**02 27 55.8**	**+0.1**
TWD	**Chiawan**	**3.07**	**347**	*eP*	**Pn**	**02 27 56.2**	**+0.6**
TWD				*eS*	**Sn**	**02 28 30.4**	**-2.4**
WDLH	**Douliu**	**3.10**	**328**	*eP*	**Pn**	**02 27 58.5**	**+2.6**
SMLT	**Sun Moon Lake**	**3.10**	**335**	*eP*	**Pn**	**02 27 56.5**	**+0.3**
SMLT				*eS*	**Sn**	**02 28 34.9**	**+1.1**
WJS	**Zhushan**	**3.12**	**332**	P	**Pn**	**02 27 59.0**	**+2.7**
WUSB	**Renai**	**3.12**	**339**	P	**Pn**	**02 27 57.0**	**+0.6**
WUSB				*eS*	**Sn**	**02 28 32.2**	**-2.0**
WSL	**Shuilin Townsh**	**3.13**	**321**	P	**Pn**	**02 27 57.4**	**+0.9**
WSL				*eS*	**Sn**	**02 28 35.3**	**+0.9**
TYC	**Yuchr**	**3.14**	**334**	P	**Pn**	**02 27 58.4**	**+1.9**
TYC				*eS*	**Sn**	**02 28 36.0**	**+1.6**
NACB	**Ninganchiao**	**3.17**	**347**		**Pn**	**02 27 55.8**	**-1.1**
NACB	**Ninganchiao**	**3.17**	**347**	P	**Pn**	**02 27 55.7**	**-1.1**
NACB				*eS*	**Sn**	**02 28 32.5**	**-2.7**
WTK	**Tuku**	**3.17**	**325**	*eP*	**Pn**	**02 27 58.2**	**+1.3**
WTK				*eS*	**Sn**	**02 28 36.7**	**+1.3**
WNT	**Mingjian**	**3.19**	**331**	*eP*	**Pn**	**02 27 59.5**	**+2.3**
WNT				*eS*	**Sn**	**02 28 37.7**	**+2.0**
EOS3	**EOS3**	**3.20**	**359**	*eP*	**Pn**	**02 27 57.9**	**+0.7**
EOS3				*eS*	**Sn**	**02 28 34.6**	**-1.1**
WHF	**Hehuan Shan**	**3.22**	**342**	*eP*	**Pn**	**02 27 57.6**	**-0.4**
ETLH	**Xiulin Townshi**	**3.22**	**346**	*eP*	**Pn**	**02 27 57.4**	**-0.4**
ETLH				*eS*	**Sn**	**02 28 34.5**	**-2.1**
WCS	**Beigang Elemen**	**3.26**	**336**	P	**Pn**	**02 27 59.6**	**+1.5**
HATJ	**Hateruma jima**	**3.26**	**24**	*eS*	**Sn**	**02 28 36.4**	**-1.0**
EAHA	**Aohua**	**3.29**	**350**	*eP*	**Pn**	**02 27 58.6**	**0.0**
EAHA				*eS*	**Sn**	**02 28 36.9**	**-1.3**
WDGT	**Dungji**	**3.31**	**312**	*eP*	**Pn**	**02 27 59.1**	**+0.3**
FUSS	**Fushou**	**3.32**	**342**	*eP*	**Pn**	**02 27 59.9**	**+0.7**
WWF	**Wufeng**	**3.33**	**333**	*eP*	**Pn**	**02 28 01.6**	**+2.5**
EOS2	**EOS2**	**3.33**	**358**	*eP*	**Pn**	**02 28 00.6**	**+1.5**
TWT	**Tachien**	**3.35**	**341**	*eP*	**Pn**	**02 28 01.7**	**+2.2**
TWT				*eS*	**Sn**	**02 28 37.8**	**-2.1**
TDCB	**Techi**	**3.35**	**341**	*eP*	**Pn**	**02 28 00.7**	**+1.1**
ENA	**Nanau**	**3.39**	**351**	*eP*	**Pn**	**02 27 59.9**	**0.0**
ENA				*eS*	**Sn**	**02 28 38.4**	**-2.2**
EWUT	**Wuta**	**3.40**	**351**	*eP*	**Pn**	**02 27 59.9**	**-0.1**
EWUT				S	**Sn**	**02 28 38.9**	**-2.0**
JYNG	**Yonagunijimaku**	**3.41**	**9**	*eS*	**Sn**	**02 28 41.5**	**+0.4**
WCHH	**Zhanghua**	**3.42**	**331**	*eP*	**Pn**	**02 28 03.0**	**+2.6**
YOJ	**Yonaguni jima**	**3.43**	**10**		**Pn**	**02 28 01.6**	**+1.1**
YOJ	**Yonaguni jima**	**3.43**	**10**	*eP*	**Pn**	**02 28 02.7**	**+2.2**
YOJ				*eS*	**Sn**	**02 28 41.2**	**-0.3**
YOJ	**Yonaguni jima**	**3.43**	**10**	*eP*	**Pn**	**02 28 01.1**	**+0.7**
TCU	**Taichung**	**3.43**	**333**	*eP*	**Pn**	**02 28 02.2**	**+1.7**
VCHM	**Qimei**	**3.44**	**309**	P	**Pn**	**02 28 00.6**	**-0.1**
VCHM				*eS*	**Sn**	**02 28 40.6**	**-1.4**
WHP	**Taichung City**	**3.44**	**338**	*eP*	**Pn**	**02 28 03.6**	**+2.8**
NNSB	**Datong**	**3.46**	**345**	*eP*	**Pn**	**02 28 00.8**	**-0.2**
NNS	**Nan Shan**	**3.47**	**345**	*eP*	**Pn**	**02 28 01.1**	**-0.1**
IRIF	**Iriomote-Funau**	**3.49**	**21**	*eP*	**Pn**	**02 28 02.4**	**+1.1**
IRIF				*eS*	**Sn**	**02 28 41.3**	**-1.8**
JKRS	**Kuro-shima**	**3.50**	**26**	P	**Pn**	**02 28 02.8**	**+1.3**
JKRS				*eS*	**Sn**	**02 28 41.9**	**-1.5**
LATG	**Datong**	**3.53**	**348**	*eP*	**Pn**	**02 28 02.3**	**+0.4**
PHUB	**P'eng-hu**	**3.54**	**314**	*eP*	**Pn**	**02 28 01.8**	**-0.2**
PHUB				*eS*	**Sn**	**02 28 42.9**	**-1.4**
TWC	**Suao**	**3.55**	**353**	*eP*	**Pn**	**02 28 03.1**	**+0.9**
TWC				*eS*	**Sn**	**02 28 43.4**	**-1.2**
TWQ1	**Liyutan**	**3.57**	**336**	*eP*	**Pn**	**02 28 05.4**	**+2.9**
TWQ1				*eS*	**Sn**	**02 28 48.4**	**+3.2**
ENTT	**Nioudou**	**3.62**	**349**	*eP*	**Pn**	**02 28 04.1**	**+0.9**
JIJ	**Ishigaki jima**	**3.67**	**26**	*eP*	**Pn**	**02 28 04.4**	**+0.6**
JIJ				*eS*	**Sn**	**02 28 45.7**	**-1.9**
TWE	**Neicheng**	**3.69**	**350**	*eP*	**Pn**	**02 28 04.6**	**+0.6**
YHNB	**Yeheng**	**3.69**	**346**		**Pn**	**02 28 05.1**	**+0.9**
YHNB	**Yeheng**	**3.69**	**346**	*eP*	**Pn**	**02 28 05.0**	**+0.9**
NSK

comp=N,200nm,11.0s
CN2 LR LR
comp=E,300nm,11.0s
CN2 LR LR
comp=Z,200nm,10.0s
SANI Sanana 23.25 171 P **P 02 32 12.7 -2.2**
21nm,0.8s
TTSI Tana Toraja 24.10 186 P **P 02 32 22.6 -0.5**
27nm,1.1s
MDJ Mudanjiang 24.23 13 P **P 02 32 25.4 +1.2**
USRK Ussuriysk Ar. 24.41 17 P **P 02 32 28.5 +2.7**
5.5nm,0.9s,baz=198,slow=7.7,SNR=7.4
5.5nm,0.9s
NLAI Namlea 24.61 169 P **P 02 32 26.8 -1.0**
BNX BinXian 24.95 8 ⇓P **P 02 32 33.1 +2.5**
BNX pmax pmax
comp=Z,13nm,1.1s
KAPI Kappang 26.05 186 LR LR 02 43 12.5
comp=Z,48nm,19.4s,baz=320,slow=37
GTA Gaotai 26.58 318 *e*P **P 02 32 47.8 +2.1**
GTA sP pwP 02 33 02.9 +11
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA LR LR
comp=N,140nm,10.9s
GTA LR LR
comp=E,160nm,13.1s
GTA LR LR
comp=Z,140nm,12.7s
ASAJ Asahikawa 28.47 32 P **P 02 33 05.0 +2.7**
3.4nm,0.4s,baz=249,slow=12,SNR=5.0
ASAJ LR LR 02 44 29.6
comp=Z,45nm,18.1s,baz=150,slow=36
3.4nm,0.4s
BRDH Bariadhala 28.52 279 LR LR 02 44 52.4
comp=Z,72nm,21.4s,baz=66,slow=37
KLR Kul'dur 29.08 13 P **P 02 33 10.2 +2.5**
2.0nm,0.5s,baz=212,slow=7.6,SNR=8.1
2.0nm,0.5s
PSI Prapat 29.16 235 LR LR 02 45 35.5
comp=Z,126nm,18.1s,baz=58,slow=38
HEH HeiHe 29.39 7 *e*P P 02 33 16.6 +6.1
ULN Ulaanbaatar 29.44 339 P **P 02 33 12.1 +0.9**
SONM Songino Array 29.64 338 P **P 02 33 12.7 -0.2**
SONM Songino Array 29.64 338 P **P 02 33 14.0 +1.1**
1.4nm,0.5s,baz=160,slow=9.5,SNR=11
SONM PcP **PcP 02 36 17.0 -0.5**
0.5nm,0.7s,baz=160,slow=4.6,SNR=2.3
SONM LR LR 02 45 47.9
comp=Z,27nm,19.8s,baz=90,slow=37
1.4nm,0.5s
MK31 Makanchi Array 41.34 318 P **P 02 34 53.4 +0.2**
MKAR Makanchi Array 41.34 318 P **P 02 34 54.2 +1.0**
MKAR Makanchi Array 41.34 318 P **P 02 34 54.8 +1.6**
10nm,0.6s,baz=111,slow=9.8,SNR=122
MKAR PcP **PcP 02 36 50.5 -1.2**
1.5nm,0.9s,baz=104,slow=3.0,SNR=2.7
10nm,0.6s
MAKZ Makanchi 41.54 318 P **P 02 34 55.3 +0.5**
MAKZ IAmb IAmb 02 34 57.5
comp=Z,13nm,0.7s
H11N1 WAKE ISLAND Hy 41.67 84 T T 03 19 47.3
baz=281,slow=75,SNR=13
H11N2 WAKE ISLAND Hy 41.67 84 T T 03 19 41.3
baz=281,slow=75,SNR=24
H11N3 WAKE ISLAND Hy 41.68 84 T T 03 19 42.4
baz=281,slow=75,SNR=22
H11S3 WAKE ISLAND Hy 41.70 86 T T 03 20 04.7
baz=282,slow=74,SNR=44
H11S1 WAKE ISLAND Hy 41.71 86 T T 03 20 02.1
baz=282,slow=74,SNR=19
H11S2 WAKE ISLAND Hy 41.72 86 T T 03 20 05.1
baz=282,slow=74,SNR=22
PETK Petropavlovsk- 41.89 31 LR LR 02 53 47.1
comp=Z,29nm,18.6s,baz=247,slow=38
WB0 Warramunga Arr 42.26 163 P **P 02 34 58.4 -2.6**
WRA Warramunga Arr 42.42 163 P **P 02 34 59.3 -2.9**
comp=Z,7.5nm,0.8s,baz=344,slow=8.8,SNR=25
WRA PcP **PcP 02 36 53.5 -2.0**
comp=Z,1.1nm,1.0s,baz=343,slow=3.6,SNR=2.6
comp=Z,7.5nm,0.8s
WB2 Warramunga Arr 42.42 163 P **P 02 34 59.5 -2.8**
WB2 IAmb IAmb 02 35 00.6
comp=Z,21nm,1.1s
PALK Pallekele 42.50 257 LR LR 02 52 29.1
comp=Z,65nm,18.4s,baz=88,slow=36
ZAA0 Zalesovo Array 43.44 328 P **P 02 35 10.6 +0.5**
ZALV Zalesovo Beam 43.44 328 P **P 02 35 10.7 +0.5**
ZALV Zalesovo Beam 43.44 328 P **P 02 35 10.6 +0.4**
comp=Z,6.7nm,0.5s,baz=115,slow=7.1,SNR=30
comp=Z,6.7nm,0.5s
MA2 Magadan 43.47 21 LR LR 02 53 07.9
comp=Z,28nm,18.7s,baz=146,slow=36
KURK Kurchatov 45.18 322 P **P 02 35 25.0 +0.8**
KURK IAmb IAmb 02 35 33.0
comp=Z,10nm,0.9s
KURBB Kurchatov Arra 45.19 322 P **P 02 35 25.4 +1.2**
comp=Z,8.3nm,0.7s,baz=119,slow=7.5,SNR=53
KURBB PcP **PcP 02 37 03.4 -1.1**
comp=Z,0.8nm,0.6s,baz=116,slow=3.3,SNR=2.4
comp=Z,8.3nm,0.7s
AAK Ala-Archa 45.28 310 LR LR 02 57 34.4
comp=Z,139nm,18.8s,baz=99,slow=40
ASAR Alice Springs 45.87 165 P **P 02 35 27.7 -2.2**
comp=Z,1.6nm,0.7s,baz=344,slow=7.8,SNR=17
ASAR PcP **PcP 02 37 05.7 -1.5**
comp=Z,0.7nm,0.7s,baz=0.0,slow=3.7,SNR=3.1
comp=Z,1.6nm,0.7s
HNR Honiara 47.78 126 LR LR 02 52 29.4
comp=Z,58nm,21.3s,baz=30,slow=32
KK31 Karatay Array 48.24 309 P **P 02 35 50.1 +1.7**
KKAR Karatay Array 48.24 309 P **P 02 35 49.6 +1.3**
KKAR Karatay Array 48.24 309 P **P 02 35 50.1 +1.8**
KKAR PcP **PcP 02 37 14.8 -0.7**
TIXI Tiksi 50.73 3 P **P 02 36 07.5 +0.7**
TIXI Tiksi 50.73 3 LR LR 02 59 19.9
comp=Z,63nm,19.3s,baz=220,slow=38
BVAR Borovoye Array 50.77 322 P **P 02 36 08.9 +1.5**
comp=Z,2.1nm,0.4s,baz=112,slow=8.9,SNR=17
BVAR PcP **PcP 02 37 23.9 -0.6**
comp=Z,3.9nm,0.8s,baz=99,slow=2.9,SNR=5.3
comp=Z,2.1nm,0.4s
BRVK Borovoye 50.84 322 P **P 02 36 08.6 +0.7**
NRIK Noril'sk 52.67 345 P **P 02 36 22.4 +1.0**
comp=Z,1.1nm,0.3s,baz=150,slow=5.5,SNR=3.8
NRIK LR LR 03 02 00.1
comp=Z,36nm,18.5s,baz=126,slow=40
comp=Z,1.1nm,0.3s
BILL Bilibino 54.25 19 P **P 02 36 35.0 +2.0**
BILL IAmb IAmb 02 36 43.4
comp=Z,8.9nm,0.9s
BBOO Buckleboo 55.16 166 P **P 02 36 38.9 -1.1**
STKA Stephens Creek 55.78 160 P **P 02 36 43.7 -0.8**
STKA Stephens Creek 55.78 160 P **P 02 36 43.0 -1.5**
comp=Z,17nm,0.8s,baz=336,slow=6.4,SNR=28
comp=Z,17nm,0.8s
ABKAR Akbulak array 56.40 316 P **P 02 36 49.7 +0.9**
ABKAR Akbulak array 56.40 316 P **P 02 36 49.7 +0.9**
ABKAR IAmb IAmb 02 36 57.5
comp=Z,8.4nm,1.0s
ARTI Arti 58.33 324 P **P 02 37 03.0 +0.7**
DZM Mont Dzumac 60.75 132 LR LR 02 59 35.9
comp=Z,57nm,19.7s,baz=267,slow=32
F15K North Star Dit 64.00 26 P **P 02 37 42.2 +1.6**
F15K IAmb IAmb 02 37 44.9
comp=Z,15nm,1.6s
J14K Nanvaranak Lak 64.20 29 P **P 02 37 44.0 +2.1**
J14K IAmb IAmb 02 37 52.9
comp=Z,6.7nm,1.1s
L14K Kuka Creek 64.53 31 P **P 02 37 46.4 +2.3**
G16K Koyuk River 64.92 27 IAmb IAmb 02 37 57.6
comp=Z,16nm,1.5s
I17K Unalakleet 65.55 28 P **P 02 37 53.1 +2.4**
I17K IAmb IAmb 02 37 55.3
comp=Z,10nm,1.1s
J16K Anvik River 65.58 29 P **P 02 37 52.1 +1.2**
E18K Tukpahlearik C 65.76 24 P **P 02 37 54.4 +2.3**
N15K Kwethluk River 65.78 32 P **P 02 37 53.2 +0.8**
H17K Granite Mounta 65.93 27 P **P 02 37 55.5 +2.3**
H17K IAmb IAmb 02 38 04.5
comp=Z,6.4nm,1.1s
J17K VABM Dome 66.27 29 P **P 02 37 57.7 +2.4**
M16K Timber Creek 66.33 31 P **P 02 37 58.9 +3.0**
M16K IAmb IAmb 02 38 07.3
comp=Z,13nm,1.1s
K17K Iditarod 66.62 30 P **P 02 38 00.5 +2.8**
D19K Kuna River 66.75 23 P **P 02 38 00.6 +2.2**
D19K IAmb IAmb 02 38 01.9
comp=Z,5.3nm,0.8s
O16K Kokwok River B 66.80 33 IAmb IAmb 02 38 10.2
comp=Z,16nm,1.3s
MSVF Nonsavu 66.83 121 LR LR 03 02 32.0
comp=Z,58nm,20.9s,baz=354,slow=32
B20K Meade River 67.12 22 P **P 02 38 03.6 +2.9**
B20K IAmb IAmb 02 38 04.8
comp=Z,14nm,1.4s
N17K Nushagak Hills 67.22 32 P **P 02 38 02.5 +1.0**
N17K IAmb IAmb 02 38 07.4
comp=Z,14nm,1.2s
J18K Innoko River 67.33 29 P **P 02 38 03.1 +0.9**
L18K Granite Mounta 67.38 30 P **P 02 38 05.0 +2.4**
L18K IAmb IAmb 02 38 07.0
comp=Z,9.4nm,0.8s
GNI Garni 67.47 306 LR LR 03 12 56.4
comp=Z,27nm,20.8s,baz=260,slow=41
F20K Avaraart Lake 67.65 25 P **P 02 38 03.8 -0.3**
F20K IAmb IAmb 02 38 08.3
comp=Z,9.6nm,1.4s
J19K Poorman 67.79 28 P **P 02 38 06.6 +1.5**
J19K IAmb IAmb 02 38 09.2
comp=Z,10nm,1.1s
N18K Kilae Creek 67.85 32 P **P 02 38 07.3 +1.7**
N18K IAmb IAmb 02 38 09.8
comp=Z,9.9nm,1.2s
B21K Ikpikpuk River 68.01 22 P **P 02 38 07.8 +1.5**
B21K IAmb IAmb 02 38 17.4
comp=Z,13nm,1.2s
O18K Koktuh Hills 68.25 33 P **P 02 38 09.6 +1.5**
I20K Naaghedeneel 68.25 27 P **P 02 38 09.6 +1.7**
E21K Killik River 68.27 23 P **P 02 38 10.0 +1.9**
E21K IAmb IAmb 02 38 18.7
comp=Z,7.2nm,1.0s
P18K Big Mountain, 68.27 33 P **P 02 38 09.5 +1.3**
KBZ Khabaz 68.28 310 P **P 02 38 09.4 +0.9**
comp=Z,2.4nm,0.8s,baz=101,slow=10,SNR=4.3
comp=Z,2.4nm,0.8s
ACHA Angle Creek He 68.33 34 P **P 02 38 09.3 +0.7**
ACHA IAmb IAmb 02 38 18.9
comp=Z,5.4nm,0.9s
B22K Teshekpuk Lake 68.40 21 P **P 02 38 09.5 +0.8**
B22K IAmb IAmb 02 38 12.6
comp=Z,10.0nm,1.1s
J20K Nowinta River 68.43 28 P **P 02 38 09.8 +0.8**
J20K IAmb IAmb 02 38 13.5
comp=Z,8.9nm,0.8s
M19K Big River Lodg 68.48 30 P **P 02 38 11.5 +2.0**
M19K IAmb IAmb 02 38 13.9
comp=Z,9.8nm,0.8s
K20K Telida 68.52 29 P **P 02 38 11.3 +1.7**
K20K IAmb IAmb 02 38 15.1
comp=Z,7.3nm,0.8s
N19K Bonanza Creek 68.53 32 IAmb IAmb 02 38 14.1
comp=Z,11nm,1.1s
G21K Allakaket 68.55 25 P **P 02 38 11.3 +1.5**
G21K IAmb IAmb 02 38 13.9
comp=Z,10.0nm,1.1s
O19K Port Alsworth 68.66 32 P **P 02 38 13.0 +2.4**
D22K Ayikyak River 68.72 23 P **P 02 38 12.9 +2.1**
D22K IAmb IAmb 02 38 15.2
comp=Z,15nm,1.3s
H21K Melozitna Rive 68.89 26 P **P 02 38 13.6 +1.6**
H21K IAmb IAmb 02 38 16.3
comp=Z,11nm,0.8s
E22K Anaktuvuk Pass 69.09 24 P **P 02 38 15.1 +1.8**
Q19K Cape Douglas, 69.13 34 P **P 02 38 14.0 +0.4**
P19K Oil Pt 69.26 33 P **P 02 38 15.4 +1.0**
C23K Itkillik River 69.39 22 P **P 02 38 17.1 +2.2**
C23K IAmb IAmb 02 38 26.7
comp=Z,9.9nm,1.4s
CAST Castle Rocks 69.41 29 P **P 02 38 17.3 +2.1**
D23K Nanushuk River 69.44 23 P **P 02 38 18.0 +2.7**
D23K IAmb IAmb 02 38 26.5
comp=Z,14nm,1.1s
BPAW Bear Paw Mtn. 69.82 28 P **P 02 38 20.1 +2.3**
BPAW IAmb IAmb 02 38 28.5
comp=Z,12nm,1.0s
SYI Shuyak Island 69.82 34 P **P 02 38 18.8 +1.0**
GURO Guroymak-BITLI 69.82 305 IAmb IAmb 02 38 21.1
comp=Z,16nm,1.9s
KDAK Kodiak Island 69.83 35 P **P 02 38 19.4 +1.5**
TOLK Toolik Lake Re 69.87 23 P **P 02 38 20.5 +2.5**
KTH Kantishna Hill 69.91 28 P **P 02 38 20.3 +1.9**
KTH IAmb IAmb 02 38 21.9
comp=Z,6.6nm,0.8s
G23K Bananza Creek 69.92 25 IAmb IAmb 02 38 22.5
comp=Z,11nm,1.1s
E23K Chandalar 69.92 24 P **P 02 38 19.7 +1.3**
E23K IAmb IAmb 02 38 24.5
comp=Z,7.8nm,0.9s
C24K Franklin Bluff 70.06 22 P **P 02 38 21.6 +2.5**
C24K IAmb IAmb 02 38 29.6
comp=Z,13nm,1.1s
D24K Happy Valley 70.08 22 P **P 02 38 20.8 +1.6**
D24K IAmb IAmb 02 38 30.0
comp=Z,17nm,1.4s
TRF Thorofare Moun 70.20 28 P **P 02 38 22.1 +1.8**
H23K Yukon River 70.22 26 P **P 02 38 22.9 +2.7**
RAYN Ar Rayn 70.31 288 P **P 02 38 21.8 +0.3**
E24K Your Creek 70.34 24 IAmb IAmb 02 38 24.8
comp=Z,20nm,1.4s
I23K Minto, Yukon-K 70.38 27 IAmb IAmb 02 38 26.3
comp=Z,7.4nm,0.8s
F24K Squaw Lake 70.64 24 IAmb IAmb 02 38 26.7
comp=Z,8.7nm,0.8s
H24K Noodor Dome 70.89 26 IAmb IAmb 02 38 35.4
comp=Z,13nm,1.0s
G24K Hadweenzic Riv 70.92 25 IAmb IAmb 02 38 28.6
comp=Z,13nm,1.1s
D25K Kavik River 70.93 22 IAmb IAmb 02 38 28.0
comp=Z,9.5nm,1.1s
WRH Wood River Hil 71.02 27 IAmb IAmb 02 38 28.6
comp=Z,9.5nm,0.7s
MARD Mardin 71.04 303 P **P 02 38 26.5 +0.7**
COLA College 71.06 27 P **P 02 38 27.4 +2.2**
COLA IAmb IAmb 02 38 35.8
comp=Z,7.1nm,0.8s
GHO Glory Hole Cre 71.07 30 IAmb IAmb 02 38 35.7
comp=Z,8.5nm,0.8s
ILAR Eielson Array 71.48 27 P **P 02 38 28.3 +0.5**
ILAR Eielson Array 71.48 27 P **P 02 38 28.8 +0.9**
comp=Z,2.6nm,0.7s,baz=274,slow=5.2,SNR=30
comp=Z,2.6nm,0.7s
F25K Christian Rive 71.48 24 IAmb IAmb 02 38 32.2
comp=Z,10nm,1.0s
FYU Fort Yukon 71.83 25 IAmb IAmb 02 38 40.3
comp=Z,9.2nm,1.0s
BMAR Burnt Mountain 71.91 24 P **P 02 38 32.4 +1.9**
F26K Sheenjek River 72.03 24 IAmb IAmb 02 38 42.3
comp=Z,11nm,1.1s
J25K Salcha River, 72.15 27 IAmb IAmb 02 38 34.1
comp=Z,24nm,1.9s
KLU Klutina 72.53 30 IAmb IAmb 02 38 44.5
comp=Z,11nm,1.0s
RIDG Independent Ri 72.55 28 IAmb IAmb 02 38 44.6
comp=Z,11nm,0.9s
SPITS Spitsbergen Ar 72.74 348 P **P 02 38 36.1 +0.9**
comp=Z,15nm,0.7s,baz=80,slow=9.4,SNR=19
comp=Z,15nm,0.7s
ARCES ARCESS Array B 72.82 339 P **P 02 38 34.9 -0.8**
comp=Z,3.9nm,0.9s,baz=76,slow=5.1,SNR=5.7
comp=Z,3.9nm,0.9s
D27M Malcolm River 72.83 22 IAmb IAmb 02 38 39.8
comp=Z,14nm,1.3s
E27K Coleen River 72.86 23 IAmb IAmb 02 38 40.0
comp=Z,21nm,1.6s
I26K Coal Creek Min 72.92 26 IAmb IAmb 02 38 46.9
comp=Z,10nm,1.0s
J26L Joseph Creek 72.94 27 IAmb IAmb 02 38 39.3
comp=Z,8.3nm,0.9s
KBS Kingsbay 73.28 349 *i* P **P 02 38 34.4 -3.9**
E28M Babbage River 73.49 22 IAmb IAmb 02 38 43.4
comp=Z,15nm,1.4s
GLB Gilahina Butte 73.53 30 IAmb IAmb 02 38 45.0
comp=Z,17nm,1.1s
K27K Chicken 73.68 27 IAmb IAmb 02 38 45.0
comp=Z,16nm,1.1s
VRDI Verde Repeater 73.75 30 IAmb IAmb 02 38 51.8
comp=Z,11nm,1.0s
BERG Berg Lake 73.84 31 IAmb IAmb 02 38 45.4
comp=Z,17nm,1.0s
L27K Beaver Creek, 74.03 28 IAmb IAmb 02 38 47.2
comp=Z,16nm,1.2s
G29M Pine Creek 74.52 24 IAmb IAmb 02 38 49.4
comp=Z,18nm,1.1s
H29M Whitestone 74.59 25 IAmb IAmb 02 38 49.8
comp=Z,12nm,1.1s
FINES FINESS Array B 74.67 330 P **P 02 38 46.9 +0.2**
comp=Z,1.6nm,0.5s,baz=56,slow=7.1,SNR=19
FINES LR LR 03 16 59.0
comp=Z,25nm,18.1s,baz=183,slow=40
comp=Z,1.6nm,0.5s
DAWY Dawson 74.81 27 IAmb IAmb 02 38 51.0
comp=Z,12nm,0.9s
I29M Ogilvie Camp, 74.87 25 IAmb IAmb 02 38 51.3
comp=Z,11nm,1.2s
EPYK Eagle Plains 75.18 24 IAmb IAmb 02 38 52.5
comp=Z,13nm,1.1s
NOR Nord 75.53 354 *i* P **P 02 38 51.1 -0.4**
NOR IAmb IAmb 02 38 53.2
comp=Z,5.5nm,1.1s
K29M Barlow Dome 75.66 27 IAmb IAmb 02 38 56.4
comp=Z,8.8nm,0.9s
I30M Mount Dempster 75.69 25 IAmb IAmb 02 39 02.9
comp=Z,8.8nm,1.0s
INK Inuvik 75.69 22 IAmb IAmb 02 38 56.0
comp=Z,23nm,1.6s
BRTR Keskin Array B 75.89 307 P **P 02 38 54.7 +0.3**
BRTR Keskin Array B 75.89 307 P **P 02 38 54.6 +0.2**
comp=Z,1.1nm,0.6s,baz=100,slow=7.5,SNR=10
comp=Z,1.1nm,0.6s
AKASG Malin Array Be 75.91 319 P **P 02 38 53.8 -0.3**
comp=Z,1.7nm,0.7s,baz=62,slow=6.2,SNR=6.7
comp=Z,1.7nm,0.7s
F31M Tsiigehtchic 75.93 23 IAmb IAmb 02 38 56.4
comp=Z,10nm,0.9s
H31M Peel River 76.28 24 IAmb IAmb 02 38 58.8
comp=Z,10.0nm,0.9s
MMAI Mount Meron Ar 76.37 300 P **P 02 38 57.8 +0.6**
comp=Z,4.8nm,0.8s,baz=82,slow=1.8,SNR=4.2
comp=Z,4.8nm,0.8s
HYT Haines Junctio 76.64 30 IAmb IAmb 02 39 09.1
comp=Z,13nm,1.1s
A36M Sachs Harbour 76.76 17 IAmb IAmb 02 39 01.0
comp=Z,7.5nm,0.9s
P29M Windy Craggy 76.93 31 IAmb IAmb 02 39 10.7
comp=Z,14nm,1.1s
M31M Drury Creek, Y 77.56 28 IAmb IAmb 02 39 06.6
comp=Z,6.6nm,0.8s
SKAG Skagway 78.14 31 IAmb IAmb 02 39 10.4
comp=Z,16nm,1.3s
C36M Paulatuk 78.36 19 IAmb IAmb 02 39 09.8
comp=Z,21nm,1.4s
N32M Quiet Lake 78.54 29 IAmb IAmb 02 39 12.3
comp=Z,15nm,1.0s
HFS Hagfors 80.80 331 P **P 02 39 20.7 -0.3**
comp=Z,1.2nm,0.4s,baz=90,slow=7.2,SNR=9.8
HFS LR LR 03 18 51.9
comp=Z,52nm,20.0s,baz=68,slow=38
comp=Z,1.2nm,0.4s
WTLY Watson Lake, Y 80.89 29 IAmb IAmb 02 39 24.9
comp=Z,11nm,1.1s
DLBC Dease Lake 81.06 30 IAmb IAmb 02 39 26.6
comp=Z,22nm,1.8s
STHS Stebnicka Huta 81.19 320 *e*P **P 02 39 22.8 -0.5**
NB2 NORSAR Subarra 81.47 333 P **P 02 39 24.5 -0.1**
comp=Z,16nm,1.4s,baz=62,slow=5.3
NOA NORSAR Array B 81.47 333 P **P 02 39 23.8 -0.8**
comp=Z,2.1nm,0.8s,baz=62,slow=4.7,SNR=7.7
comp=Z,2.1nm,0.8s
NEEM North Greenlan 81.61 359 *i* P **P 02 39 25.7 +0.3**
NEEM IAmb IAmb 02 39 27.9
comp=Z,14nm,0.8s
DBG Daneborg 81.83 350 *i* P P 02 39 20.5 -5.7
DBG IAmb IAmb 02 39 27.6
comp=Z,4.6nm,0.8s
VYHS Vyhne 83.01 319 *e*P **P 02 39 34.1 +1.2**
JAVC Velka Javorina 83.56 320 *e*P **P 02 39 37.3 +1.5**
VRAC Vranov 84.02 321 *e*P **P 02 39 38.8 +0.8**
KRUC Moravsky 84.24 321 *e*P **P 02 39 40.1 +0.9**
KULLO Kullorsuaq 84.58 360 *i* P **P 02 39 37.0 -3.4**
KULLO IAmb IAmb 02 39 42.7
comp=Z,12nm,1.2s
CLL Collm 85.18 324 *e*P **P 02 39 44.0 +0.2**
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 85.40 23 P **P 02 39 46.1 +1.4**
YKA Yellowknife Ar 85.40 23 P **P 02 39 45.9 +1.1**
comp=Z,3.8nm,0.9s,baz=310,slow=4.8,SNR=57
comp=Z,3.8nm,0.9s
SUMG Summit 85.69 354 P **P 02 39 47.4 +0.9**
SUMG IAmb IAmb 02 39 48.3
comp=Z,12nm,1.0s
SUMG Summit 85.69 354 *i* P **P 02 39 46.0 -0.5**
SUMG IAmb IAmb 02 39 48.6
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 85.83 267 P **P 02 39 47.6 -0.4**
KMBO Kilima Mbogo 85.83 267 P **P 02 39 48.0 -0.1**
comp=Z,1.8nm,0.8s,baz=39,slow=6.5,SNR=4.2
comp=Z,1.8nm,0.8s
GERES GERESS Array B 85.93 321 P **P 02 39 47.4 -0.3**
comp=Z,0.2nm,0.3s,baz=69,slow=8.3,SNR=4.7
comp=Z,0.2nm,0.3s
ICESG Greenland Ices 89.16 354 *i* P **P 02 40 02.5 -0.7**
ICESG IAmb IAmb 02 40 05.2
comp=Z,17nm,1.2s
EKA Eskdalemuir Ar 90.95 332 P **P 02 40 11.0 -0.4**
comp=Z,0.9nm,0.5s,baz=30,slow=2.7,SNR=5.0
comp=Z,0.9nm,0.5s
NVAR Mina Array Bea 97.94 44 P **P 02 40 43.4 -0.7**
comp=Z,0.7nm,0.8s,baz=270,slow=3.0,SNR=4.5
comp=Z,0.7nm,0.8s
LSZ Lusaka 99.15 257 LR LR 03 23 24.9
comp=Z,82nm,19.7s,baz=118,slow=34
TXAR Lajitas Array 113.08 43 PKiKP **PKiKP 02 45 45.2 -0.5**
comp=Z,0.2nm,0.5s,baz=312,slow=1.6,SNR=9.2
ROSC El Rosal 149.49 34 PKPbc **PKPbc 02 46 59.0 +0.7**
comp=Z,3.4nm,0.4s,baz=36,slow=2.4,SNR=3.8

IDC ***02*** *02:31:57.6±2.1,36°.04N×139°.88E,h89km±16km,mb3.7/8, mbtmp4.0/9,Error ellipse: s-maj=32.9km s-min=9.7km az=63.0*
JMA ***02*** *02:31:57.2±0.1,36°.1N±0°.3×140°.0E±0°.4,h68km,MV3.4/40, SW IBARAKI PREF*
JMA Felt I J1 at SW IBARAKI PREF .
ISC 02 02:31:56.4±0.8,36°.10N±0°.04×139°.99E±0°.05,h74km±6km, n31,σ0°86/41,mb4.0/8,10D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.20**	**52**	*i* P	**Pn**	**02 32 07.7**	**+0.3**
JYT				*e*S	**Sn**	**02 32 15.5**	**-0.1**
JAG	**Ashikaga**	**0.54**	**307**	⇓P	**Pn**	**02 32 10.3**	**+0.3**
JAG				⇓*e*S	**Sn**	**02 32 19.8**	**-0.2**
JRY	**Ryogami san**	**0.89**	**265**	⇓*i*P	**Pn**	**02 32 14.4**	**+0.6**
JRY				⇓S	**Sn**	**02 32 27.4**	**+0.7**
JKT	**Katashina**	**0.90**	**318**	⇓*i*P	**Pn**	**02 32 14.2**	**+0.2**
JKT				⇓*e*S	**Sn**	**02 32 27.1**	**+0.1**
JOD2	**Odawara 2**	**1.11**	**222**	⇓*i*P	**Pn**	**02 32 17.1**	**+0.6**
JOD2				⇓S	**Sn**	**02 32 31.7**	**+0.1**
JYN	**Shimob**	**1.32**	**243**	⇓*i*P	**Pn**	**02 32 20.3**	**+1.0**
JYN				⇓S	**Sn**	**02 32 37.3**	**+0.8**
JFY	**Yanaizu**	**1.32**	**350**	P	**Pn**	**02 32 20.0**	**+0.8**
JFY				*e*S	**Sn**	**02 32 37.8**	**+1.4**
JUON	**Uonuma**	**1.34**	**326**	P	**Pn**	**02 32 19.8**	**+0.4**
BSO3	**Boso 3**	**1.36**	**162**	P	**Pn**	**02 32 20.0**	**+0.5**
JOTO	**OTAMA OYAMA**	**1.48**	**10**	P	**Pn**	**02 32 22.0**	**+0.8**
JOTO				*e*S	**Sn**	**02 32 40.8**	**+0.7**
MJAR	**Matsushiro Arr**	**1.51**	**288**	P	**Pn**	**02 32 22.1**	**+0.5**
	109nm,0.4s,baz=96,slow=10,SNR=192						
MJAR				S	**Sn**	**02 32 40.7**	**0.0**
	53nm,0.4s,baz=158,slow=13,SNR=4.5						
MAJO	**Matsushiro**	**1.51**	**288**	P	**Pn**	**02 32 22.3**	**+0.7**
MAT	**Matsushiro**	**1.51**	**288**	*i* P	**Pn**	**02 32 22.5**	**+0.9**
JMM	**Marumori**	**1.88**	**20**	P	**Pn**	**02 32 26.9**	**+0.5**
JGF	**Kuroka**	**2.20**	**258**	P	**Pn**	**02 32 32.5**	**+1.7**
JSD	**Sado**	**2.38**	**325**	P	**Pn**	**02 32 33.7**	**+0.5**
INU	**Inuyama**	**2.54**	**254**	P	**Pn**	**02 32 36.7**	**+1.4**
JHJ	**Hachijo jima 2**	**2.98**	**183**	P	**Pn**	**02 32 41.0**	**-0.3**
	103nm,0.4s,baz=100,slow=23,SNR=7.4						
JHJ				S	**Sn**	**02 33 17.1**	**+1.1**
	90nm,0.4s,baz=69,slow=24,SNR=1.6						
JHJ2	**Mitsune**	**2.98**	**183**	P	**Pn**	**02 32 42.6**	**+1.2**
JTM	**Tenmabayashi**	**4.75**	**10**	P	**Pn**	**02 33 07.2**	**+1.7**
ERM	**Erimo**	**6.40**	**22**	P	**Pn**	**02 33 29.2**	**+1.3**
JEM	**Erimo**	**6.40**	**22**	P	**Pn**	**02 33 29.0**	**+1.1**
SONM	**Songino Array**	**27.38**	**306**	P	**P**	**02 37 33.8**	**-0.9**
	0.7nm,0.6s,baz=108,slow=8.7,SNR=3.8						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**41.71**	**313**	P	**P**	**02 39 37.1**	**-0.6**

1.9nm,0.8s,baz=76,slow=6.3,SNR=4.7
1.9nm,0.8s
MKAR Makanchi Array 43.65 303 P **P 02 39 53.5 -0.1**
1.9nm,0.7s,baz=90,slow=10,SNR=10
1.9nm,0.7s
KURBB Kurchatov Arra 45.68 309 P **P 02 40 08.9 -0.7**
1.8nm,0.4s,baz=82,slow=7.6,SNR=30
1.8nm,0.4s
ILAR Eielson Array 50.89 32 P **P 02 40 50.3 +0.8**
0.5nm,0.9s,baz=276,slow=8.7,SNR=3.5
0.5nm,0.9s
WRA Warramunga Arr 55.99 186 P **P 02 41 26.4 -0.9**
1.6nm,0.5s,baz=2.0,slow=7.5,SNR=25
1.6nm,0.5s
FINES FINESS Array B 69.10 332 P **P 02 42 53.1 -1.1**
4.1nm,1.0s,baz=104,slow=6.1,SNR=3.8
4.1nm,1.0s
NB2 NORSAR Subarra 74.60 337 P **P 02 43 26.9 -0.3**
comp=Z,1.3nm,0.6s,baz=42,slow=5.9
NOA NORSAR Array B 74.60 337 P **P 02 43 26.6 -0.5**
comp=Z,1.3nm,0.8s,baz=40,slow=5.8,SNR=3.2
comp=Z,1.3nm,0.8s

---

*IDC **02** 02:38:50.6±7.2,36°.69N×71°.04E,h200km±50km,mb3.4/6, mbtmp4.1/12,MS4.1/1,Error ellipse: s-maj=64.9km s-min=22.9km az=3.0*
*NNC **02** 02:38:53.8±3.4,37°.14N×71°.06E,h0km,mb4.5,mpv4.1, Error ellipse: s-maj=28.1km s-min=24.3km az=130.0*
ISC 02 02:38:51.4±1.6,36°.8N±0°.1×71°.0E±0°.1,h200km,n27, σ1ᵽ14/31,mb3.6/6,2C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=154	**5.74**	**21**	P	**Pn**	**02 40 17.0**	**+1.4**
UCH	**Uchtor** SNR=25	**6.08**	**26**	P	**Sn**	**02 41 29.6**	**-0.6**
EKS2	**Erkin-Say** SNR=15	**6.25**	**19**	P	**Pn**	**02 40 23.3**	**+1.3**
KK31	**Karatay Array** 2.5nm,0.4s,baz=176,slow=12,SNR=43	**6.32**	**357**	⇓Pn	**Pn**	**02 40 24.2**	**+1.4**
KK31				⇑Sn	**Sn**	**02 41 33.3**	**-1.9**
AAK	**Ala-Archa** 16nm,0.3s,baz=204,slow=6.6,SNR=63	**6.44**	**24**	P	**Pn**	**02 40 25.6**	**+1.1**
AAK				S	**Sn**	**02 41 38.5**	**+0.2**
AAK	**Ala-Archa** SNR=34	**6.44**	**24**	P	**Pn**	**02 40 26.1**	**+1.6**
AAK	**Ala-Archa** 12nm,0.4s	**6.44**	**24**	Pn	**Pn**	**02 40 25.6**	**+1.1**
AAK				Sn	**Sn**	**02 41 38.8**	**+0.5**
KBK	**Karagaybulak** SNR=11	**6.61**	**26**	P	**Pn**	**02 40 28.7**	**+2.0**
ULHL	**Ulahol** SNR=9.4	**6.80**	**35**	P	**Pn**	**02 40 30.4**	**+1.2**
CHMS	**Chumysh** SNR=6.5	**6.85**	**24**	P	**Pn**	**02 40 31.6**	**+1.9**
CHMS	**Chumysh** 5.2nm,0.5s	**6.85**	**24**	⇓Pn	**Pn**	**02 40 30.1**	**+0.4**
CHMS				⇓Sn	**Sn**	**02 41 45.8**	**-1.8**
USP	**Ospenovka** SNR=8.0	**7.01**	**22**	P	**Pn**	**02 40 33.1**	**+1.3**
TKM2	**Tokmak 2** SNR=8.0	**7.08**	**29**	P	**Pn**	**02 40 34.0**	**+1.1**
TKM2	**Tokmak 2** 20nm,0.5s	**7.08**	**29**	⇓Pn	**Pn**	**02 40 33.7**	**+0.9**
TKM2				⇑Sn	**Sn**	**02 41 52.6**	**-0.7**
MKAR	**Makanchi Array** 3.7nm,0.7s,baz=216,slow=15,SNR=23	**13.07**	**37**	P	**Pn**	**02 41 49.0**	**-0.7**
KURBB	**Kurchatov Arra** 1.5nm,0.6s,baz=206,slow=11,SNR=14	**14.86**	**19**	P	**Pn**	**02 42 10.8**	**-0.9**
BVAR	**Borovoye Array** 0.8nm,0.4s,baz=162,slow=9.1,SNR=7.1	**16.25**	**359**	P	**Pn**	**02 42 29.7**	**+1.2**
AKTO	**Aktyubinsk** 2.9nm,0.4s,baz=134,slow=8.7,SNR=6.7	**16.53**	**330**	P	**Pn**	**02 42 32.4**	**+0.4**
ZALV	**Zalesovo Beam** 3.4nm,0.4s,baz=221,slow=11,SNR=16	**19.66**	**25**	P	**P**	**02 43 04.2**	**-0.7**
SONM	**Songino Array** 0.6nm,0.6s,baz=265,slow=10.0,SNR=4.8 0.6nm,0.6s	**28.19**	**56**	P	**P**	**02 44 24.9**	**-0.4**
AKASG	**Malin Array Be** 0.6nm,0.4s,baz=80,slow=7.3,SNR=5.3 0.6nm,0.4s	**32.76**	**308**	P	**P**	**02 45 04.8**	**-0.4**
FINES	**FINESS Array B** 0.7nm,0.4s,baz=110,slow=9.6,SNR=9.1 0.7nm,0.4s	**37.24**	**326**	P	**P**	**02 45 43.5**	**+0.1**
ARCES	**ARCESS Array B** 2.6nm,0.8s,baz=97,slow=6.2,SNR=7.4 2.6nm,0.8s	**40.88**	**337**	P	**P**	**02 46 13.8**	**+0.3**
HFS	**Hagfors** 2.2nm,0.5s,baz=98,slow=11,SNR=13 2.2nm,0.5s	**42.84**	**322**	P	**P**	**02 46 28.7**	**-0.7**
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.5s,baz=94,slow=7.9	**44.15**	**323**	P	**P**	**02 46 39.7**	**-0.2**
NOA	**NORSAR Array B** comp=Z,1.4nm,0.6s,baz=96,slow=7.7,SNR=6.6 comp=Z,1.4nm,0.6s	**44.15**	**323**	P	**P**	**02 46 39.6**	**-0.2**
JHJ	**Hachijo jima 2** comp=Z,173nm,18.7s,baz=93,slow=41	**55.40**	**72**	LR	LR	03 16 32.3	

---

*TAP **02** 02:51:37.4,22°.39N×121°.38E,h18km,ML3.5,C*
ISC 02 02:51:36.9±1.0,22°.38N±0°.02×121°.40E±0°.02,h18km±3km, n106,σ0ᵽ77/152,5D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.30**	**12**	P	**Pb**	**02 51 44.2**	**+0.4**
LDUT				eS	**Sb**	**02 51 48.8**	**+0.5**
LAY	**Lan-yu**	**0.37**	**158**	⇓iP	**Pg**	**02 51 45.5**	**+0.9**
LAY				S	**Sg**	**02 51 51.0**	**+1.2**
LYUB	**Lan-yu**	**0.41**	**156**	⇓iP	**Pg**	**02 51 45.1**	**-0.3**
LYUB				eS	**Sg**	**02 51 50.1**	**-1.0**
TTN	**Taitung**	**0.44**	**328**	P	**Pb**	**02 51 47.1**	**+0.9**
TTN				eS	**Sn**	**02 51 54.4**	**-1.4**
ECL	**Taimali**	**0.47**	**298**	⇓iP	**Pg**	**02 51 46.3**	**-0.1**
ECL				eS	**Sg**	**02 51 52.2**	**-0.5**
TAW	**Tawu**	**0.47**	**268**	P	**Pg**	**02 51 46.5**	**+0.1**
TAW				S	**Sg**	**02 51 52.7**	**0.0**
TAWH	**Dawu Township**	**0.48**	**265**	iP	**Pg**	**02 51 46.8**	**+0.2**
TAWH				S	**Sg**	**02 51 53.1**	**+0.1**
EAST	**Anshuo**	**0.51**	**271**	⇓iP	**Pg**	**02 51 47.2**	**0.0**
EAST				S	**Sg**	**02 51 53.9**	**-0.2**
TWGBT	**Beinan**	**0.53**	**326**	P	**Pg**	**02 51 47.4**	**-0.1**
TWGBT	**Beinan**	**0.53**	**326**	S	**Sb**	**02 51 56.3**	**+1.5**
TWGBT	**Beinan**	**0.53**	**326**	⇓iP	**Pg**	**02 51 47.6**	**+0.1**
TWGBT				S	**Sb**	**02 51 56.4**	**+1.5**
TWG	**Pinlang**	**0.54**	**325**	iP	**Pg**	**02 51 47.6**	**0.0**
TWG				eS	**Sb**	**02 51 55.7**	**+0.7**
SLIU	**Shizi**	**0.58**	**254**	iP	**Pb**	**02 51 48.4**	**-0.1**
SLIU				S	**Sg**	**02 51 55.7**	**-0.6**
LONT	**Longtian**	**0.58**	**335**	eP	**Pb**	**02 51 48.6**	**+0.1**
EDH	**Donghe**	**0.60**	**351**	eP	**Pb**	**02 51 48.6**	**-0.1**
EDH				eS	**Sg**	**02 51 57.8**	**+0.9**
SMST	**Manzhou Townsh**	**0.63**	**236**	P	**Pg**	**02 51 49.5**	**+0.2**
SMST				S	**Sg**	**02 51 58.1**	**+0.3**
TSEB	**Hengchuen, Pin**	**0.67**	**224**	P	**Pg**	**02 51 50.6**	**+0.6**
TSEB				eS	**Sn**	**02 52 00.5**	**-0.8**
TWKBT	**Hengchun**	**0.70**	**231**	P	**Pb**	**02 51 50.6**	**+0.2**
TWKBT				S	**Sb**	**02 51 60.0**	**+0.2**
TWK1	**Hengchun**	**0.70**	**232**	P	**Pb**	**02 51 50.7**	**+0.2**
TWK1				eS	**Sb**	**02 52 00.1**	**+0.2**
HEN	**Hengchun**	**0.72**	**239**	eP	**Pb**	**02 51 50.5**	**-0.3**
HEN				eS	**Sg**	**02 52 00.7**	**+0.1**
CHKT	**Chengkung**	**0.72**	**357**	P	**Pb**	**02 51 50.5**	**-0.3**
CHKT				S	**Sb**	**02 52 00.1**	**-0.2**
SCZT	**Fangliau**	**0.72**	**270**	eP	**Pb**	**02 51 50.7**	**-0.2**
ECS	**Chishang**	**0.73**	**347**	P	**Pn**	**02 51 52.5**	**+0.2**
MASBT	**Mashibuluo**	**0.75**	**288**	iP	**Pb**	**02 51 50.8**	**-0.5**
TSMG	**Majia**	**0.77**	**295**	eP	**Pb**	**02 51 51.0**	**-0.7**
EHD	**Haiduan**	**0.79**	**347**	eP	**Pb**	**02 51 51.7**	**-0.4**
SSD	**Sandimen**	**0.80**	**297**	P	**Pb**	**02 51 51.6**	**-0.6**
CHKH	**Chenggong**	**0.81**	**360**	P	**Pb**	**02 51 52.4**	**0.0**
CHKH				S	**Sb**	**02 52 02.7**	**-0.3**
FULB	**Fuli**	**0.82**	**353**	P	**Pb**	**02 51 52.3**	**-0.3**
FULB				S	**Sb**	**02 52 03.7**	**+0.3**
ELDTW	**Lidau**	**0.88**	**336**	eP	**Pb**	**02 51 53.2**	**-0.5**
ECBN	**Changbin**	**0.94**	**3**	eP	**Pb**	**02 51 54.4**	**-0.2**
ECBN				eS	**Sb**	**02 52 06.1**	**-0.5**
EYUL	**Yuli**	**0.97**	**356**	eP	**Pb**	**02 51 53.9**	**-1.2**
TWF1	**Yuli**	**0.97**	**354**	eP	**Pb**	**02 51 55.0**	**-0.2**
STYH	**Taoyuan**	**0.98**	**324**	eP	**Pb**	**02 51 53.5**	**-1.8**
SCST	**Cishan**	**0.98**	**301**	P	**Pn**	**02 51 55.7**	**+0.1**
TWM1	**Shoushan**	**1.01**	**296**	eP	**Pg**	**02 51 57.6**	**+1.2**
YULB	**Yu-li**	**1.01**	**355**	P	**Pb**	**02 51 55.8**	**-0.1**
YULB	**Yu-li**	**1.01**	**355**	eP	**Pb**	**02 51 54.4**	**-1.5**
SGST	**Jiashian**	**1.03**	**313**	P	**Pb**	**02 51 55.8**	**-0.4**
SGST				eS	**Sn**	**02 52 10.5**	**+0.1**
WSSB	**Gushan**	**1.08**	**284**	eP	**Pg**	**02 51 59.3**	**+1.4**
HGSD	**Ruisui**	**1.11**	**1**	eP	**Pb**	**02 51 57.3**	**-0.3**
EHYH	**Wanrong**	**1.11**	**357**	eP	**Pb**	**02 51 57.5**	**0.0**
EHY	**Hungye**	**1.12**	**356**	eP	**Pn**	**02 51 56.9**	**-0.8**
WTP	**Ta-pu**	**1.13**	**320**	eP	**Pb**	**02 51 58.1**	**+0.3**
CHN1	**Nanshi**	**1.14**	**315**	eP	**Pg**	**02 51 58.8**	**-0.2**
CHN1				eS	**Sg**	**02 52 15.0**	**+1.1**
TPUB	**Ta-pu**	**1.16**	**322**	P	**Pb**	**02 51 58.8**	**+0.4**
TPUB	**Ta-pu**	**1.16**	**322**	S	**Sg**	**02 52 16.5**	**+1.9**
TPUB	**Ta-pu**	**1.16**	**322**	P	**Pb**	**02 51 58.6**	**+0.1**
SHHT	**Tainan City**	**1.16**	**304**	eP	**Pg**	**02 52 00.4**	**+1.0**
SNST	**Tainan City**	**1.18**	**315**	eP	**Pg**	**02 51 59.5**	**-0.3**
SNST				eS	**Sg**	**02 52 17.2**	**+1.9**
YUS	**Yu-Shan**	**1.18**	**340**	eP	**Pn**	**02 51 58.1**	**-0.8**
YUS				iS	**Sb**	**02 52 13.8**	**-0.4**
CHN4	**Tsaushan**	**1.22**	**323**	iP	**Pb**	**02 52 00.1**	**+0.6**
CHN4				eS	**Sg**	**02 52 17.8**	**+1.2**
TWK	**Hsinying**	**1.22**	**317**	P	**Pb**	**02 51 59.9**	**+0.5**
TWK				eS	**Sg**	**02 52 17.1**	**+0.6**
ALS	**Alishan**	**1.25**	**334**	eP	**Pb**	**02 52 00.8**	**+0.6**
EGFH	**Guangfu**	**1.28**	**1**	eP	**Pb**	**02 52 00.7**	**+0.2**
WCKO	**Fanlu**	**1.28**	**325**	eP	**Pg**	**02 52 01.4**	**-0.4**
WCKO				eS	**Sg**	**02 52 19.2**	**+0.7**
WARBT	**Fenglin Townsh**	**1.33**	**359**	eP	**Pn**	**02 51 60.0**	**-0.6**
CHN5	**Tsauling**	**1.38**	**331**	eP	**Pb**	**02 52 02.9**	**+0.6**
CHN5				eS	**Sg**	**02 52 21.6**	**-0.1**
VWDT	**VWDT**	**1.39**	**350**	eP	**Pn**	**02 52 01.8**	**+0.4**
WHYT	**Xinyi Township**	**1.41**	**339**	eP	**Pb**	**02 52 02.7**	**+0.1**
SHUL	**Shoufeng**	**1.41**	**6**	eP	**Pn**	**02 52 02.5**	**+0.8**
SHUL				eS	**Sn**	**02 52 20.2**	**+0.4**
ICHU	**Yijhu**	**1.42**	**314**	eP	**Pn**	**02 52 02.4**	**+0.6**
ICHU				eS	**Sb**	**02 52 21.1**	**+0.4**
ESL	**Shilin**	**1.43**	**1**	eP	**Pn**	**02 52 02.5**	**+0.6**
CHY	**Chiayi**	**1.43**	**321**	eP	**Pb**	**02 52 03.2**	**+0.2**
CHY				iS	**Sg**	**02 52 22.3**	**-0.9**
TSCK	**Chigu Township**	**1.43**	**302**	eP	**Pb**	**02 52 03.0**	**0.0**
TSCK				eS	**Sb**	**02 52 21.0**	**0.0**
SSLB	**Suanglung**	**1.46**	**344**	P	**Pb**	**02 52 03.4**	**-0.2**
SSLB	**Suanglung**	**1.46**	**344**	eP	**Pn**	**02 52 03.0**	**+0.6**
SSLB				eS	**Sb**	**02 52 22.3**	**+0.5**
WDLH	**Douliu**	**1.53**	**329**	eP	**Pb**	**02 52 05.0**	**+0.4**
WDLH				eS	**Sg**	**02 52 25.1**	**-1.1**
SMLT	**Sun Moon Lake**	**1.57**	**343**	eP	**Pb**	**02 52 05.1**	**-0.3**
SMLT				eS	**Sb**	**02 52 25.2**	**+0.3**
WSL	**Shuilin Townsh**	**1.57**	**317**	eP	**Pn**	**02 52 04.3**	**+0.4**
WSL				eS	**Sb**	**02 52 24.7**	**-0.2**
ETM	**Tongmen**	**1.58**	**3**	eP	**Pn**	**02 52 04.2**	**+0.2**
OWD	**Renai**	**1.58**	**353**	eP	**Pg**	**02 52 07.6**	**+0.2**
TYC	**Yuchr**	**1.60**	**342**	eP	**Pb**	**02 52 06.1**	**+0.2**
TYC				eS	**Sb**	**02 52 26.7**	**+1.0**
WTK	**Tuku**	**1.60**	**325**	eP	**Pb**	**02 52 05.5**	**-0.4**
WTK				eS	**Sb**	**02 52 26.1**	**+0.2**
WUSB	**Renai**	**1.63**	**351**	eP	**Pb**	**02 52 06.4**	**0.0**
WNT	**Mingjian**	**1.63**	**336**	P	**Pb**	**02 52 06.8**	**+0.3**
WNT				eS	**Sb**	**02 52 28.1**	**+1.4**
LXIB	**Xiulin Townshi**	**1.64**	**0**	eP	**Pn**	**02 52 05.2**	**+0.3**
WSF	**Szhu**	**1.66**	**319**	eP	**Pn**	**02 52 05.6**	**+0.5**
WSF				eS	**Sb**	**02 52 27.7**	**+0.2**
WCS	**Beigang Elemen**	**1.73**	**345**	eP	**Pb**	**02 52 07.4**	**-0.7**
WHF	**Hehuan Shan**	**1.76**	**356**	eP	**Pb**	**02 52 08.8**	**-0.2**
NACB	**Ninganchiao**	**1.80**	**6**	P	**Pn**	**02 52 07.2**	**+0.2**
NACB	**Ninganchiao**	**1.80**	**6**	eP	**Pn**	**02 52 06.6**	**-0.3**
ETLH	**Xiulin Townshi**	**1.82**	**2**	eP	**Pn**	**02 52 08.3**	**+0.9**
WDGT	**Dungji**	**1.83**	**299**	eP	**Pn**	**02 52 06.0**	**-1.4**
FUSS	**Fushou**	**1.87**	**356**	eP	**Pb**	**02 52 10.6**	**0.0**
TDCB	**Techi**	**1.88**	**353**	eP	**Pb**	**02 52 10.4**	**-0.4**
EOS4	**EOS4**	**1.93**	**26**	eP	**Pn**	**02 52 08.3**	**-0.1**
EOS4				eS	**Sn**	**02 52 30.5**	**-1.6**
WHP	**Taichung City**	**1.94**	**348**	eP	**Pb**	**02 52 11.3**	**-0.4**
WHP				S	**Sb**	**02 52 35.6**	**0.0**
VCHM	**Qimei**	**2.00**	**295**	eP	**Pn**	**02 52 08.8**	**-0.9**
VCHM				eS	**Sn**	**02 52 32.3**	**-1.9**
NNSB	**Datong**	**2.04**	**360**	eP	**Pb**	**02 52 13.2**	**-0.3**
TWQ1	**Liyutan**	**2.04**	**344**	eP	**Pb**	**02 52 12.4**	**-1.1**
TWQ1				eS	**Sb**	**02 52 38.6**	**+0.1**
NNS	**Nan Shan**	**2.05**	**359**	eP	**Pb**	**02 52 13.6**	**-0.1**
ENA	**Nanau**	**2.06**	**9**	eP	**Pn**	**02 52 12.2**	**+1.6**
EOS3	**EOS3**	**2.08**	**24**	eP	**Pn**	**02 52 11.5**	**+0.8**
EWUT	**Wuta**	**2.09**	**10**	eP	**Pb**	**02 52 13.1**	**-1.1**
NSY	**Sanyi**	**2.11**	**344**	eS	**Sb**	**02 52 38.9**	**-1.6**
LATG	**Datong**	**2.15**	**3**	eP	**Pn**	**02 52 13.2**	**+1.3**
EOS2	**EOS2**	**2.17**	**20**	eP	**Pn**	**02 52 13.4**	**+1.5**
ENTT	**Nioudou**	**2.26**	**4**	eP	**Pn**	**02 52 15.1**	**+1.8**
NFF	**Wufeng Townshi**	**2.26**	**353**	eP	**Pb**	**02 52 15.9**	**-1.3**
NFF				eS	**Sb**	**02 52 43.8**	**-1.0**
YHNB	**Yeheng**	**2.28**	**359**	eP	**Pb**	**02 52 17.4**	**-0.1**
LIOB	**Emei**	**2.28**	**351**	eP	**Pb**	**02 52 16.4**	**-1.2**
NSK	**Sanguang**	**2.29**	**359**	eP	**Pb**	**02 52 16.8**	**-0.9**
FUSB	**Fushanzhiwuyua**	**2.38**	**4**	eP	**Pb**	**02 52 17.9**	**-1.3**
NWLT	**Wulai**	**2.39**	**2**	eP	**Pb**	**02 52 18.2**	**-1.2**
TIPB	**Shuangxi**	**2.61**	**9**	eP	**Pn**	**02 52 19.6**	**+1.5**

---

*NNC **02** 02:57:54.7±1.1,41°.83N×79°.26E,h0km,mb3.3,mpv3.1, Error ellipse: s-maj=7.6km s-min=4.3km az=150.0*
*KRNET **02** 02:57:54.7±0.1,41°.78N×79°.16E,h14km,mb2.5*
*SOME **02** 02:57:55.1,41°.83N×79°.15E,h10km*
ISC 02 02:57:55.0±1.8,41°.82N±0°.06×79°.16E±0°.05,h4km±11km, n35,σ1ᵽ18/59,10C-8D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.87**	**320**	⇓iP	**Pb**	**02 58 12.4**	**-0.4**
PRZ				⇓iS	**Sb**	**02 58 25.3**	**+0.4**
TARG	**Taragay, Kyrgy**	**1.01**	**265**	⇑iP	**Pg**	**02 58 14.1**	**-0.3**
TARG				⇑iS	**Sg**	**02 58 28.4**	**+0.8**
UZB	**Uzynbulak** 2.3nm,0.2s	**1.33**	**356**	P	**Pn**	**02 58 19.7**	**-0.9**
UZB				S	**Sg**	**02 58 38.0**	**+0.2**
UZB	**Uzynbulak** 1.6nm,0.1s	**1.33**	**356**	eP	**Pn**	**02 58 19.7**	**-0.9**
UZB				eS	**Sn**	**02 58 37.3**	**-1.5**
SHLS	**Shalkode** 7.5nm,0.2s	**1.36**	**10**	P	**Pg**	**02 58 21.8**	**+0.9**
SHLS				S	**Sg**	**02 58 41.4**	**+2.8**
SHLS	**Shalkode** 5.2nm,0.1s	**1.36**	**10**	eP	**Pg**	**02 58 21.9**	**+0.9**
SHLS				eS	**Sg**	**02 58 41.0**	**+2.5**
SATY	**Saty** 4.5nm,0.1s	**1.36**	**336**	P	**Pb**	**02 58 20.6**	**-0.5**
SATY				S	**Sg**	**02 58 38.9**	**+0.3**
ZHN	**Zhinishke** 4.4nm,0.1s	**1.45**	**339**	P	**Pg**	**02 58 22.6**	**-0.2**
ZHN				S	**Sg**	**02 58 42.4**	**+0.8**
ZHN	**Zhinishke** 3.9nm,0.1s	**1.45**	**339**	eP	**Pg**	**02 58 22.6**	**-0.2**
ZHN				eS	**Sg**	**02 58 42.4**	**+0.8**
KDJ	**Kajisay**	**1.51**	**283**	⇑iP	**Pn**	**02 58 23.1**	**+0.1**
KDJ				⇑iS	**Sg**	**02 58 43.8**	**+0.4**
PDGK	**Podgornoye** 1.8nm,0.4s	**1.53**	**9**	⇑P	**Pn**	**02 58 21.1**	**-2.2**
PDGK				⇑S	**Sg**	**02 58 43.2**	**-1.0**
TNSS	**Tian-Shan** 8.3nm,0.4s	**2.04**	**307**	Pg	**Pb**	**02 58 32.8**	**0.0**
TNSS				Lg	Lg	02 59 00.6	
TNSS	**Tian-Shan** 5.9nm,0.1s	**2.04**	**307**	eP	**Pb**	**02 58 32.8**	**0.0**
TNSS				eS	**Sg**	**02 59 00.1**	**-0.4**
MDOK	**Medeo** 6.3nm,0.6s	**2.06**	**311**	Pn	**Pb**	**02 58 31.6**	**-1.4**
MDOK				Pg	**Pg**	**02 58 33.2**	**-1.2**
MDOK	7.0nm,0.3s			Lg	Lg	02 59 00.9	
MDOK	23nm,0.4s			Sn	**Sg**	**02 59 01.1**	**0.0**
KOTS	**Kotyrbulak** 15nm,0.5s	**2.07**	**314**	Pg	**Pb**	**02 58 33.5**	**+0.3**
KOTS				Lg	Lg	02 59 01.1	
KOTS	**Kotyrbulak** 38nm,0.3s	**2.07**	**314**	eP	**Pb**	**02 58 33.5**	**+0.3**
KOTS				eS	**Sg**	**02 59 01.1**	**-0.4**
KOTS	**Kotyrbulak** 7.1nm,0.1s	**2.07**	**314**	eP	**Pb**	**02 58 33.5**	**+0.3**
KOTS				eS	**Sg**	**02 59 01.1**	**-0.4**
ULHL	**Ulahol** 39nm,0.2s	**2.21**	**282**	⇓iP	**Pb**	**02 58 34.7**	**-1.0**
ULHL				⇓iS	**Sb**	**02 59 04.1**	**+0.6**
BLB	**Baldybastay** 19nm,0.3s	**2.33**	**348**	Pg	**Pb**	**02 58 38.2**	**+0.5**
BLB				Lg	Lg	02 59 09.2	
NRN	**Naryn** 50nm,0.3s	**2.40**	**262**	⇓eP	**Pb**	**02 58 37.8**	**-1.1**
NRN				⇓eS	**Sb**	**02 59 09.0**	**+0.1**
MTBS	**Maitube** 3.5nm,0.3s	**2.41**	**304**	Pg	**Pb**	**02 58 39.7**	**+0.8**
MTBS				Lg	Lg	02 59 11.8	
MTBS	**Maitube** 16nm,0.3s	**2.41**	**304**	eP	**Pb**	**02 58 39.7**	**+0.8**
MTBS				eS	**Sg**	**02 59 11.8**	**-0.4**
BOOM	**Boomskoye usch** 16nm,0.3s	**2.48**	**287**	⇑iP	**Pb**	**02 58 38.6**	**-1.7**
BOOM				⇑iS	**Sb**	**02 59 10.7**	**-0.6**
KNOS	**Konyrlen** 1.5nm,0.2s	**2.54**	**0**	Pg	**Pb**	**02 58 41.6**	**+0.3**
KNOS				Lg	Lg	02 59 15.0	
DJR	**Jarkent** 1.0nm,0.2s	**2.56**	**10**	Pg	**Pb**	**02 58 41.3**	**-0.2**
DJR				Lg	Lg	02 59 14.5	
DJR	**Jarkent** 1.0nm,0.2s	**2.56**	**10**	eP	**Pb**	**02 58 41.3**	**-0.2**
DJR				eS	**Sg**	**02 59 14.5**	**-2.6**
ARXS	**Arharly** 2.3nm,0.3s	**2.58**	**338**	Pg	**Pb**	**02 58 42.3**	**+0.4**
ARXS				Lg	Lg	02 59 16.3	
CHKK	**Chushkaly** 0.9nm,0.2s	**2.58**	**323**	Pg	**Pb**	**02 58 43.1**	**+1.2**
CHKK				Lg	Lg	02 59 17.7	
CHKK	**Chushkaly** 2.6nm,0.2s	**2.58**	**323**	eP	**Pb**	**02 58 43.1**	**+1.2**
CHKK				eS	**Sg**	**02 59 17.7**	**-0.3**
KTBS	**Karatobe** 4.0nm,0.3s	**2.63**	**317**	Pg	**Pb**	**02 58 43.5**	**+0.8**
KTBS				Lg	Lg	02 59 18.4	
KST	**Kastek** 3.1nm,0.3s	**2.66**	**298**	Pg	**Pb**	**02 58 42.9**	**-0.4**
KST				Lg	Lg	02 59 17.6	
KST	**Kastek** 2.6nm,0.2s	**2.66**	**298**	eP	**Pb**	**02 58 42.9**	**-0.4**
KST				eS	**Sb**	**02 59 17.2**	**+0.8**
TKM2	**Tokmak 2**	**2.86**	**294**	⇓iP	**Pb**	**02 58 44.0**	**-2.7**
TKM2				⇓iS	**Sb**	**02 59 19.9**	**-2.2**
DGS	**Degeres** 2.5nm,0.3s	**2.88**	**301**	Pg	**Pb**	**02 58 47.8**	**+0.9**
KRBS	**Karabastau** 0.9nm,0.2s	**3.18**	**307**	Pg	**Pb**	**02 58 52.9**	**+0.9**
ARLS	**Aral**	**3.61**	**272**	⇑eP	**Pn**	**02 58 54.2**	**+2.3**
ARLS				⇑eS	**Sn**	**02 59 37.7**	**+2.7**

---

*SOME **02** 02:58:33.3,42°.33N×83°.30E,h5km*
*NNC **02** 02:58:39.6±1.4,42°.22N×83°.01E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=10.9km s-min=6.2km az=143.0*
ISC 02 02:58:39.4±2.1,42°.20N±0°.09×82°.99E±0°.07,h10km,n28, σ2ᵽ30/43,15C-6D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 57nm,0.2s	**2.77**	**291**	eP	**Pn**	**02 59 22.8**	**-1.3**
SHLS				eS	**Sn**	**02 59 58.6**	**+1.0**
PDGK	**Podgornoye** 29nm,0.9s	**2.81**	**295**	⇑Pn	**Pn**	**02 59 26.4**	**+1.8**
PDGK				⇑Lg	Lg	03 00 05.8	
UZB	**Uzynbulak** 28nm,0.3s	**3.08**	**289**	Pg	**Pb**	**02 59 35.9**	**+1.6**
UZB				Lg	Lg	03 00 17.6	
UZB	**Uzynbulak** 9.3nm,0.2s	**3.08**	**289**	eP	**Pb**	**02 59 33.3**	**-1.0**
UZB				eS	**Sg**	**03 00 16.8**	**-1.5**
DJR	**Jarkent** 13nm,0.2s	**3.16**	**313**	Pg	**Pg**	**02 59 38.6**	**-1.5**
DJR				Lg	Lg	03 00 22.5	
DJR	**Jarkent** 2.6nm,0.2s	**3.16**	**313**	eP	**Pb**	**02 59 33.3**	**-2.5**
DJR				eS	**Sb**	**03 00 16.8**	**+2.3**
ZHN	**Zhinishke** 7.1nm,0.1s	**3.50**	**288**	eP	**Pb**	**02 59 41.0**	**-0.5**
ZHN				eS	**Sg**	**03 00 29.9**	**-1.8**
KNOS	**Konyrlen** 27nm,0.7s	**3.52**	**309**	Pg	**Pg**	**02 59 46.3**	**-0.6**
KNOS				Lg	Lg	03 00 36.0	
BLB	**Baldybastay** 44nm,0.5s	**3.81**	**301**	Pg	**Pb**	**02 59 49.7**	**+2.9**
BLB				Lg	Lg	03 00 41.8	
TDK	**Taldyqorghan** 36nm,0.2s	**4.35**	**312**	eP	**Pb**	**02 59 55.0**	**-1.0**
TDK				eS	**Sb**	**03 00 53.6**	**+5.1**
KOTS	**Kotyrbulak** 5.2nm,0.2s	**4.45**	**285**	eP	**Pb**	**02 59 58.6**	**+0.8**
KOTS				eS	**Sg**	**03 01 00.0**	**-2.4**
MDOK	**Medeo** 6.2nm,0.9s	**4.49**	**284**	⇑Pn	**Pn**	**02 59 49.3**	**+1.8**
MDOK				Pg	**Pb**	**03 00 00.1**	**+1.8**
MDOK	3.9nm,0.5s			Pg	**Pg**	**03 00 02.7**	**-2.7**
MDOK	8.6nm,0.5s			Lg	Lg	03 00 59.3	
MDOK	13nm,0.8s			⇓Lg	Lg	03

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTBS				*e*S	**Sg**	**03 01 15.0**	**-2.6**
	17nm,0.4s						
KST	**Kastek**	**5.25**	**282**	Pg	**Pb**	**03 00 15.3**	**+3.8**
	10.0nm,0.5s						
KST				Lg	Lg	03 01 25.8	
	18nm,0.5s						
ZSN	**Zaisan**	**5.42**	**14**	Pg	**Pb**	**03 00 17.6**	**+3.4**
	12nm,0.4s						
ZSN				Lg	Lg	03 01 29.0	
	37nm,0.6s						
ZSN	**Zaisan**	**5.42**	**14**	*e*P	**Pb**	**03 00 10.0**	**-4.2**
	5.8nm,0.2s						
ZSN				*e*S	**Sb**	**03 01 19.6**	**+0.4**
	41nm,0.5s						
TKM2	**Tokmak 2**	**5.51**	**280**	⇑Pn	**Pn**	**03 00 02.7**	**+1.0**
	2.0nm,0.4s						
TKM2				⇑Lg	Lg	03 01 36.0	
	15nm,0.6s						
KRBS	**Karabastau**	**5.57**	**288**	Pg	**Pg**	**03 00 22.8**	**-3.4**
	3.1nm,0.3s						
KRBS				Lg	Lg	03 01 38.8	
	7.8nm,0.3s						
AAK	**Ala-Archa**	**6.30**	**277**	Pg	Pb	03 00 35.0	+5.7
	4.3nm,0.8s						
AAK				⇑Lg	Lg	03 01 59.8	
	8.6nm,0.8s						
KURBB	**Kurchatov Arra**	**8.97**	**341**	⇑Pn	**Pn**	**03 00 47.5**	**-1.4**
	2.0nm,0.7s						
KURBB				⇑Sn	**Sn**	**03 02 29.5**	**-0.4**
	5.6nm,0.7s						
KURBB				⇑Lg	Lg	03 03 22.6	
	16nm,0.7s						
KURK	**Kurchatov**	**9.04**	**342**	⇑Pn	**Pn**	**03 00 50.0**	**+0.1**
	3.5nm,1.0s						
KURK				⇑Sn	**Sn**	**03 02 33.4**	**+1.8**
	5.7nm,0.8s						
KURK				⇑Lg	Lg	03 03 24.5	
	13nm,0.9s						
KK31	**Karatay Array**	**9.24**	**280**	⇓Pg	Pn	03 01 28.6	+36
	0.4nm,0.3s,baz=82,slow=20,SNR=3.9						
KK31				⇑Lg	Lg	03 03 30.2	
	1.7nm,0.6s,baz=83,slow=28,SNR=3.5						

*IDC **02** 03:04:07.5±1.0, 7°.54N×94°.03E, h0km, mb3.8/11, mbtmp3.9/13, ML3.8/1, MS3.6/3, Error ellipse: s-maj=42.8km s-min=18.0km az=54.0*
*NEIC **02** 03:04:09.6±1.5, 7°.48N±0°.09×94°.3E±0°.1, h10km±1km, mb4.2/10, Error ellipse: s-maj=22.2km s-min=12.9km az=248.0*
*NDI **02** 03:04:16.6±1.4, 7°.38N×94°.31E, h10km, ML4.2, MW4.0, mb4.2(NEIC)*

ISC 02 03:04:11.3±0.6, 7°.56N±0°.04×94°.26E±0°.08, h24km, n43, σ1°81/36, mb4.1/15, MS3.7/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.64**	**212**	*e*P	**Pb**	**03 04 23.9**	**+0.2**
CMBY				*e*S	**Sb**	**03 04 31.8**	**-0.4**
CMBY				IAML		03 04 38.0	
	comp=N,7μm,0.6s						
CMBY				IAML		03 04 40.6	
	comp=E,8μm,0.5s						
LHMI	**Lhok Sumawe**	**3.53**	**131**	Pn	**Pn**	**03 05 02.6**	**-2.0**
PBA	**Port Blair**	**4.34**	**340**	*e*P	**Pb**	**03 05 25.7**	**-1.2**
PBA				*e*S	**Sb**	**03 06 15.0**	**-3.9**
PBA				IAML		03 06 16.8	
	comp=E,1μm,0.1s						
SRIT	**Nakonsritamara**	**5.39**	**79**	Pn	**Pn**	**03 05 30.0**	**-0.2**
DGPR	**DIGLIPUR**	**5.74**	**347**	*e*P	Pb	03 05 44.8	-6.0
DGPR				*e*S	**Sn**	**03 06 47.7**	**+7.5**
DGPR				IAML		03 07 25.0	
	comp=N,1μm,1.9s						
PSI	**Prapat**	**6.62**	**135**	Pn	**Pn**	**03 05 48.0**	**+0.7**
	comp=N,1.8nm,0.3s,baz=269,slow=10,SNR=5.8						
	comp=N,5.2nm,0.3s						
RPSI	**Rantau Prapat**	**6.70**	**136**		**Pn**	**03 05 48.0**	**-0.2**
KULM	**Kulim**	**6.73**	**109**		**Pn**	**03 05 47.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**11.76**	**22**	Pn	**Pn**	**03 06 56.5**	**-1.1**
	comp=N,1.5nm,0.3s,baz=213,slow=15,SNR=7.0						
CHTO	**Chiang Mai**	**12.08**	**22**	Pn	**Pn**	**03 07 04.0**	**+2.0**
CRAI	**Chiangrai**	**13.92**	**25**	Pn	**Pn**	**03 07 29.3**	**+2.1**
SLVN	**Son La**	**16.57**	**33**	P	**P**	**03 08 05.8**	**+1.2**
SLVN				IAmb	IAmb	03 08 08.5	
	comp=Z,7.8nm,0.8s						
H08S3	**Diego Garcia H**	**26.44**	**236**	T	T	03 37 38.6	
	baz=54,slow=75,SNR=104						
H08S2	**Diego Garcia H**	**26.44**	**236**	T	T	03 37 38.6	
	baz=54,slow=75,SNR=46						
H08S1	**Diego Carcia H**	**26.46**	**236**	T	T	03 37 44.0	
	baz=54,slow=75,SNR=4.1						
KAPI	**Kappang**	**28.33**	**115**	LR	LR	03 23 49.5	
	comp=Z,58nm,18.4s,baz=268,slow=41						
KNMB	**Chin-men Tao**	**28.56**	**51**	P	**P**	**03 10 03.8**	**-1.7**
MK31	**Makanchi Array**	**40.42**	**347**	P	**P**	**03 11 47.7**	**+0.1**
MKAR	**Makanchi Array**	**40.42**	**347**	P	**P**	**03 11 47.3**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=164,slow=8.4,SNR=17						
	comp=Z,1.5nm,0.7s						
MAKZ	**Makanchi**	**40.51**	**347**	P	**P**	**03 11 48.5**	**+0.2**
KKAR	**Karatay Array**	**41.10**	**333**	P	**P**	**03 11 54.0**	**+0.7**
SONM	**Songino Array**	**41.45**	**12**	P	**P**	**03 11 56.1**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=195,slow=8.6,SNR=4.1						
	comp=Z,0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**44.88**	**346**	P	**P**	**03 12 24.1**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=167,slow=7.1,SNR=28						
	comp=Z,2.7nm,0.8s						
KURK	**Kurchatov**	**44.95**	**346**	P	**P**	**03 12 24.3**	**+0.1**
KURK				IAmb	IAmb	03 12 27.1	
	comp=Z,4.3nm,0.9s						
WB0	**Warramunga Arr**	**47.93**	**125**	P	**P**	**03 12 47.8**	**-0.4**
WB0				IAmb	IAmb	03 13 10.7	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**47.98**	**125**	P	**P**	**03 12 51.0**	**+2.5**
	comp=Z,0.2nm,0.5s,baz=300,slow=8.0,SNR=6.3						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**49.33**	**341**	P	**P**	**03 12 58.1**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=138,slow=8.9,SNR=4.1						
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**49.62**	**130**	P	**P**	**03 13 01.5**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=300,slow=7.7,SNR=2.7						
	comp=Z,0.4nm,0.7s						
AB31	**Akbulak array**	**50.57**	**331**	P	**P**	**03 13 08.3**	**+0.4**
AB31				IAmb	IAmb	03 13 34.5	
	comp=Z,2.7nm,1.2s						
ABKAR	**Akbulak array**	**50.57**	**331**	P	**P**	**03 13 07.5**	**-0.4**
ABKAR	**Akbulak array**	**50.57**	**331**	P	**P**	**03 13 08.6**	**+0.7**
ABKAR				IAmb	IAmb	03 13 34.5	
	comp=Z,2.7nm,1.2s						
BRTR	**Keskin Array B**	**62.73**	**311**	P	**P**	**03 14 33.9**	**-0.8**
BRTR	**Keskin Array B**	**62.73**	**311**	P	**P**	**03 14 32.8**	**-2.0**
	comp=Z,0.4nm,0.8s,baz=123,slow=6.4,SNR=4.5						
	comp=Z,0.4nm,0.8s						
H04N2	**CROZET ISLANDS**	**65.52**	**211**	T	T	04 25 53.1	
	baz=47						
H04N1	**CROZET ISLANDS**	**65.53**	**211**	T	T	04 25 34.4	
	baz=47						
H04N3	**CROZET ISLANDS**	**65.53**	**211**	T	T	04 25 32.1	
	baz=47						
IDI	**Anoyia**	**68.85**	**305**	LR	LR	03 49 56.3	
	comp=Z,43nm,19.5s,baz=291,slow=40						
BURAR	**Bucovina Array**	**70.36**	**318**	P	**P**	**03 15 23.5**	**+0.1**
FINES	**FINESS Array B**	**73.05**	**332**	P	**P**	**03 15 38.0**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=96,slow=7.7,SNR=4.7						
	comp=Z,2.5nm,0.8s						
ARCES	**ARCESS Array B**	**75.61**	**340**	P	**P**	**03 15 52.9**	**-0.9**
	comp=Z,4.9nm,1.0s,baz=69,slow=3.3,SNR=2.1						
	comp=Z,4.9nm,1.0s						
SHEM	**Shemya Is, Ala**	**77.87**	**38**	LR	LR	03 52 26.9	
	comp=Z,84nm,19.7s,baz=326,slow=37						
GERES	**GERESS Array B**	**78.14**	**318**	P	**P**	**03 16 08.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=108,slow=3.0,SNR=4.9						
	comp=Z,0.5nm,0.7s						
HFS	**Hagfors**	**78.79**	**330**	P	**P**	**03 16 11.9**	**0.0**
	comp=Z,1.0nm,0.5s,baz=114,slow=3.7,SNR=4.2						
	comp=Z,1.0nm,0.5s						

*IDC **02** 03:05:18.0±1.1, 7°.44N×93°.94E, h0km, mb3.8/11, mbtmp3.8/13, ML3.9/2, MS3.5/6, Error ellipse: s-maj=45.8km s-min=17.3km az=53.0*
*NEIC **02** 03:05:20.1±1.4, 7°.51N±0°.09×94°.2E±0°.1, h10km±2km, mb4.2/16, Error ellipse: s-maj=21.2km s-min=13.5km az=244.0*
*NDI **02** 03:05:25.9±0.5, 7°.51N×94°.25E, h10km, ML4.0, MW4.1, mb4.2(NEIC)*

ISC 02 03:05:20.8±0.6, 7°.46N±0°.05×94°.20E±0°.06, h20km, n46, σ1°45/39, mb4.1/19, MS3.4/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.52**	**211**	*e*P	**Pn**	**03 05 34.4**	**+1.3**
CMBY				*e*S	**Sn**	**03 05 41.4**	**-0.1**
CMBY				IAML		03 05 46.1	
	comp=N,11μm,0.5s						
CMBY				IAML		03 05 47.7	
	comp=E,10μm,0.3s						
LHMI	**Lhok Sumawe**	**3.52**	**129**	Pn	**Pn**	**03 06 16.0**	**+1.6**
LHMI				Sn	**Sn**	**03 06 55.8**	**+0.2**
PBA	**Port Blair**	**4.41**	**341**	*e*P	Pb	03 06 32.4	-5.1
PBA				*e*S	**Sn**	**03 07 21.1**	**+3.8**
SRIT	**Nakonsritamara**	**5.47**	**78**	Pn	**Pn**	**03 06 41.9**	**+0.7**
DGPR	**DIGLIPUR**	**5.81**	**348**	*e*P	Pn	03 06 51.9	+6.0
DGPR				*e*S	**Sn**	**03 07 54.0**	**+2.0**
PSI	**Prapat**	**6.61**	**134**	Pn	**Pn**	**03 07 01.2**	**+4.3**
	comp=E,0.8nm,0.3s,baz=280,slow=10,SNR=4.8						
PSI				LR	LR	03 09 50.1	
	comp=E,355nm,20.8s,baz=301,slow=40						
	comp=E,7.9nm,0.6s						
KULM	**Kulim**	**6.77**	**108**	Pn	**Pn**	**03 06 58.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**11.86**	**22**	Pn	**Pn**	**03 08 10.4**	**+1.5**
	comp=E,0.5nm,0.3s,baz=203,slow=14,SNR=0.9						
	comp=E,1.0nm,0.3s						
PALK	**Pallekele**	**13.38**	**270**	LR	LR	03 13 20.8	
	comp=E,122nm,18.4s,baz=98,slow=37						
DAV	**Davao City (W)**	**31.13**	**89**	LR	LR	03 26 01.7	
	comp=E,59nm,18.1s,baz=340,slow=40						
TARG	**Taragay, Kyrgy**	**37.09**	**339**	P	**P**	**03 12 29.6**	**-0.8**
TARG				IAmb	IAmb	03 12 32.5	
	comp=Z,8.6nm,1.5s						
GAR	**Garm**	**38.05**	**329**	P	**P**	**03 12 35.9**	**-2.3**
GAR				IAmb	IAmb	03 12 40.3	
	comp=Z,12nm,1.4s						
AAK	**Ala-Archa**	**39.10**	**337**	P	**P**	**03 12 47.0**	**0.0**
AAK				IAmb	IAmb	03 13 13.9	
	comp=Z,3.9nm,1.2s						
MK31	**Makanchi Array**	**40.50**	**347**	P	**P**	**03 12 57.7**	**-0.6**
MKAR	**Makanchi Array**	**40.50**	**347**	P	**P**	**03 12 57.9**	**-0.4**
MKAR	**Makanchi Array**	**40.50**	**347**	P	**P**	**03 12 58.2**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=167,slow=7.7,SNR=8.8						
	comp=Z,1.3nm,0.6s						
MAKZ	**Makanchi**	**40.58**	**347**	P	**P**	**03 12 58.8**	**-0.2**
MAKZ				IAmb	IAmb	03 13 00.2	
	comp=Z,6.2nm,1.4s						
KK31	**Karatay Array**	**41.15**	**333**	P	**P**	**03 13 03.5**	**-0.3**
KKAR	**Karatay Array**	**41.15**	**333**	P	**P**	**03 13 03.3**	**-0.5**
KKAR	**Karatay Array**	**41.15**	**333**	P	**P**	**03 13 03.9**	**+0.1**
KKAR				IAmb	IAmb	03 13 19.1	
	comp=Z,3.3nm,1.3s						
SONM	**Songino Array**	**41.55**	**12**	P	**P**	**03 13 04.7**	**-2.4**
SONM	**Songino Array**	**41.55**	**12**	P	**P**	**03 13 07.3**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=197,slow=4.5,SNR=2.5						
	comp=Z,0.8nm,0.9s						
JNU	**Nakatsue**	**42.48**	**48**	LR	LR	03 32 10.6	
	comp=Z,35nm,18.6s,baz=13,slow=38						
KSRS	**Korea Array**	**42.74**	**41**	LR	LR	03 32 45.0	
	comp=Z,40nm,18.4s,baz=230,slow=38						
KURBB	**Kurchatov Arra**	**44.95**	**346**	P	**P**	**03 13 34.6**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=173,slow=7.0,SNR=15						
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**45.02**	**346**	P	**P**	**03 13 35.8**	**+0.9**
ZAA0	**Zalesovo Array**	**46.97**	**352**	P	**P**	**03 13 50.5**	**+0.2**
ZAA0				IAmb	IAmb	03 14 06.8	
	comp=Z,3.5nm,0.9s						
WRA	**Warramunga Arr**	**47.98**	**125**	P	**P**	**03 13 59.7**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=300,slow=8.0,SNR=11						
	comp=Z,0.2nm,0.3s						
INU	**Inuyama**	**48.02**	**48**	P	**P**	**03 13 56.0**	**-2.7**
WR0	**Warramunga Arr**	**48.15**	**125**	P	**P**	**03 13 59.9**	**-0.1**
BVAR	**Borovoye Array**	**49.39**	**341**	P	**P**	**03 14 08.9**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=134,slow=6.2,SNR=2.7						
	comp=Z,0.5nm,0.4s						
BRVK	**Borovoye**	**49.45**	**341**	P	**P**	**03 14 09.4**	**0.0**
BRVK				IAmb	IAmb	03 14 12.9	
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**49.61**	**130**	P	**P**	**03 14 13.4**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=301,slow=7.4,SNR=4.3						
	comp=Z,0.2nm,0.5s						
AB31	**Akbulak array**	**50.62**	**332**	P	**P**	**03 14 19.0**	**+0.6**
AB31				IAmb	IAmb	03 14 21.2	
	comp=Z,4.6nm,1.4s						
ABKAR	**Akbulak array**	**50.62**	**332**	P	**P**	**03 14 17.9**	**-0.5**
ABKAR	**Akbulak array**	**50.62**	**332**	P	**P**	**03 14 19.4**	**+1.0**
ABKAR				IAmb	IAmb	03 14 21.2	
	comp=Z,4.7nm,1.4s						
ARTI	**Arti**	**56.33**	**337**	P	**P**	**03 15 01.2**	**+1.1**
	comp=Z,3.1nm,1.0s,baz=135,slow=4.3,SNR=3.9						
	comp=Z,3.1nm,1.0s						
BRTR	**Keskin Array B**	**62.74**	**311**	P	**P**	**03 15 44.5**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=107,slow=7.8,SNR=2.7						
	comp=Z,0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**65.40**	**211**	T	T	04 26 45.3	
	baz=47,slow=74,SNR=12						
H04N1	**CROZET ISLANDS**	**65.41**	**211**	T	T	04 26 48.3	
	baz=47,slow=74,SNR=17						
H04N3	**CROZET ISLANDS**	**65.42**	**211**	T	T	04 26 54.6	
	baz=47,slow=74,SNR=13						
TIXI	**Tiksi**	**67.62**	**11**	LR	LR	03 48 04.6	
	comp=Z,203nm,21.3s,baz=174,slow=38						
MATP	**Matopo**	**70.25**	**245**	LR	LR	03 44 34.8	
	comp=Z,606nm,18.7s,baz=316,slow=34						
FINES	**FINESS Array B**	**73.10**	**332**	P	**P**	**03 16 48.5**	**-1.0**
	comp=Z,2.7nm,0.9s,baz=98,slow=5.8,SNR=2.1						
	comp=Z,2.7nm,0.9s						
GERES	**GERESS Array B**	**78.17**	**318**	P	**P**	**03 17 17.9**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=96,slow=6.8,SNR=1.7						
	comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**78.84**	**330**	P	**P**	**03 17 22.0**	**-0.3**
	comp=Z,3.4nm,0.9s,baz=103,slow=10,SNR=2.4						
	comp=Z,3.4nm,0.9s						

*ISN **02** 03:14:34.3±0.4, 33°.66N×45°.78E, h10km±5km, ML2.9*
*TEH **02** 03:14:34.5, 33°.65N×45°.76E, h10km±999km*

ISC 02 03:14:34.8±1.0, 33°.64N±0°.04×45°.78E±0°.05, h19km, n7, σ0°80/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.49**	**13**	Pg	**Pg**	**03 14 43.5**	**-1.2**
IBDR	**Badra**	**0.54**	**166**	*e*Pg	**Pb**	**03 14 45.2**	**-0.4**
IBDR				*e*Sg	**Sb**	**03 14 53.2**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.88**	**350**	Pg	**Pb**	**03 14 51.9**	**+0.5**
IGHG	**Ghaleghazi**	**0.95**	**43**	Pg	**Pb**	**03 14 53.5**	**+0.6**
IGHG				Sg	**Sn**	**03 15 07.4**	**+0.8**
IDHR	**Dehrash**	**1.17**	**25**	Pg	**Pn**	**03 14 56.6**	**+0.2**
BHD	**Baghdad**	**1.23**	**253**	*e*Pg	**Pb**	**03 14 58.0**	**+0.7**
BHD				*e*Sg	**Sg**	**03 15 15.0**	**+0.5**
BHD				AML	AML	03 15 19.2	
	comp=E,275nm,0.4s						
IKRK	**Kirkuk**	**2.12**	**326**	*e*Pn	**Pb**	**03 15 11.5**	**-1.1**
IKRK				*e*Sn	**Sb**	**03 15 39.0**	**+0.5**

IDC 02 03:32:12.5±3.2, 19°.00S×167°.15E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=127.2km s-min=37.1km az=142.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.32**	**236**	P	P	03 37 50.1	0.0
	1.6nm,0.7s,baz=67,slow=7.7,SNR=3.9						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**30.92**	**263**	P	P	03 38 30.9	-0.3
	1.0nm,0.8s,baz=93,slow=9.3,SNR=6.1						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**31.27**	**256**	P	P	03 38 34.5	+0.2
	0.8nm,0.8s,baz=84,slow=8.9,SNR=7.1						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**90.61**	**18**	P	P	03 45 16.2	-0.1
	0.4nm,0.9s,baz=213,slow=6.5,SNR=3.3						
	0.4nm,0.9s						

*IDC **02** 03:36:39.2±2.1, 17°.80S×69°.47W, h146km±15km, mb3.8/4, mbtmp4.2/7, Error ellipse: s-maj=28.3km s-min=14.9km az=16.0*
*NEIC **02** 03:36:40.6±1.7, 17°.63S±0°.06×69°.61W±0°.09, h163km±5km, mb4.3/15, Error ellipse: s-maj=13.2km s-min=8.2km az=111.0*
*GUC **02** 03:36:42.3±0.9, 17°.70S×69°.62W, h163km±4km, ML4.1*
*VAO **02** 03:36:43.4±1.1, 17°.60S×69°.12W, h163km, mb4.3*

ISC 02 03:36:39.9±0.6, 17°.65S±0°.05×69°.49W±0°.06, h159km±6km, n72, σ1°42/83, mb4.2/6, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.06**	**6**		**Pn**	**03 37 04.2**	**+2.4**
PB18	**Visviri**	**0.06**	**6**	*e*P	**Pn**	**03 37 04.2**	**+2.4**
PB18				*i* S	**Sn**	**03 37 21.5**	**+3.1**
AP01	**Chacalluta**	**1.09**	**228**		**Pn**	**03 37 07.2**	**+1.0**
AP01	**Chacalluta**	**1.09**	**228**	*e*P	**Pn**	**03 37 07.2**	**+1.0**
AP01				*i* S	**Sn**	**03 37 26.9**	**+0.5**
AP01				IAML		03 37 28.2	
	comp=N,5μm,0.4s						
PB12	**IPOC Station P**	**1.25**	**220**		**Pn**	**03 37 08.6**	**+0.8**
PB12	**IPOC Station P**	**1.25**	**220**	*e*P	**Pn**	**03 37 08.6**	**+0.8**
PB12				*i* S	**Sn**	**03 37 29.1**	**-0.1**
PB12				IAML		03 37 29.9	
	comp=E,2μm,0.3s						
PX02	**IPOC Station P**	**1.47**	**207**	*e*P	**Pn**	**03 37 10.2**	**+0.3**
PX02				*i* S	**Sn**	**03 37 32.4**	**-0.8**
LPAZ	**La Paz**	**1.87**	**44**		**Pn**	**03 37 16.7**	**+1.9**
LPAZ	**La Paz**	**1.87**	**44**	P	**Pn**	**03 37 16.2**	**+1.5**
	comp=E,616nm,0.3s,baz=240,slow=5.2,SNR=4435						
LPAZ				S	**Sn**	**03 37 42.3**	**+0.7**
	comp=E,64nm,0.6s,baz=353,slow=14,SNR=1.3						
LPAZ	**La Paz**	**1.87**	**44**	*e*P	**Pn**	**03 37 15.3**	**+0.5**
PB11	**IPOC Station P**	**2.11**	**184**		**Pn**	**03 37 18.1**	**+1.2**
PB11	**IPOC Station P**	**2.11**	**184**	*e*P	**Pn**	**03 37 18.2**	**+1.2**
PB11				*i* S	**Sn**	**03 37 45.9**	**+0.3**
PB11				IAML		03 37 47.5	
	comp=E,779nm,0.2s						
PB08	**IPOC Station P**	**2.50**	**173**		**Pn**	**03 37 23.3**	**+1.5**
PB08	**IPOC Station P**	**2.50**	**173**	*e*P	**Pn**	**03 37 23.6**	**+1.8**
PB08				*i* S	**Sn**	**03 37 55.1**	**+0.8**
HMBC	**Humberstone**	**2.65**	**188**		**Pn**	**03 37 24.1**	**+0.7**
HMBC	**Humberstone**	**2.65**	**188**	*e*P	**Pn**	**03 37 24.1**	**+0.7**
HMBC				*i* S	**Sn**	**03 37 55.4**	**-1.7**
HMBC				IAML		03 37 59.8	
	comp=E,599nm,0.5s						
TA02	**Huaiquique**	**2.68**	**193**		**Pn**	**03 37 24.0**	**+0.4**
TA01	**Diego Aracena**	**2.98**	**193**	Pn	**Pn**	**03 37 27.5**	**+0.2**
TA01	**Diego Aracena**	**2.98**	**193**	*e*P	**Pn**	**03 37 27.4**	**+0.2**
TA01				*i* S	**Sn**	**03 38 00.8**	**-3.3**
TA01				IAML		03 38 07.5	
	comp=E,469nm,0.4s						
PATCX	**Punta Patache**	**3.22**	**191**		**Pn**	**03 37 31.2**	**+0.8**
PB01	**IPOC Station P**	**3.38**	**180**		**Pn**	**03 37 33.3**	**+0.8**
PB09	**IPOC Station P**	**4.13**	**177**		**Pn**	**03 37 43.6**	**+1.3**
PB05	**IPOC Station P**	**5.22**	**187**	Pn	**Pn**	**03 37 56.5**	**0.0**
AF01	**San Pedro de A**	**5.42**	**167**	Pn	**Pn**	**03 38 00.8**	**+1.6**
PB14	**IPOC Station P**	**7.00**	**187**	Pn	**Pn**	**03 38 19.4**	**-0.8**
GO02	**Mina Guanaco**	**7.48**	**181**	Pn	**Pn**	**03 38 26.1**	**-0.6**
SIV	**San Ignacio**	**8.22**	**80**	P	**Pn**	**03 38 34.6**	**-1.8**
	comp=E,5.1nm,0.4s,baz=270,slow=10,SNR=20						
SIV				S	**Sn**	**03 40 02.7**	**-5.4**
	comp=E,6.1nm,0.8s,baz=339,slow=21,SNR=10						
NNA	**Nana**	**9.07**	**307**	Pn	**Pn**	**03 38 48.0**	**+0.4**
NNA	**Nana**	**9.07**	**307**	P	**Pn**	**03 38 48.1**	**+0.5**
	comp=E,15nm,0.3s,baz=140,slow=12,SNR=17						
NNA				S	**Sn**	**03 40 25.1**	**-3.4**
	comp=E,6.2nm,0.3s,baz=232,slow=17,SNR=2.6						
AC02	**Maricunga**	**9.15**	**178**	Pn	**Pn**	**03 38 48.9**	**-0.1**
AC06	**Mina Casimiro**	**9.70**	**185**	Pn	**Pn**	**03 38 55.7**	**-0.1**
VILB	**Vilhena**	**10.10**	**64**	Pn	**Pn**	**03 38 59.6**	**-1.6**
VILB	**Vilhena**	**10.10**	**64**	*e*P	**Pn**	**03 38 59.9**	**-1.3**
PTLB	**Pontes e Lacer**	**10.16**	**79**	Pn	**Pn**	**03 39 01.0**	**-1.0**
PTLB	**Pontes e Lacer**	**10.16**	**79**	*e*P	**Pn**	**03 39 00.4**	**-1.6**
MURT	**Porto Murtinho**	**11.88**	**112**	*e*P	**Pn**	**03 39 23.3**	**-1.1**
BDQN	**Bodoquena, MS**	**12.36**	**105**	*e*P	**Pn**	**03 39 28.1**	**-2.5**
SALV	**Santo Antonio**	**13.32**	**85**	*e*P	**Pn**	**03 39 42.6**	**-0.4**
PDRB	**Porto dos Gac**	**13.72**	**66**	*e*P	**Pn**	**03 39 47.6**	**-0.5**
CFA	**Coronel Fontan**	**13.94**	**176**	P	**Pn**	**03 39 48.0**	**-2.7**
	comp=E,0.4nm,0.3s,baz=350,slow=12,SNR=1.5						
RPRD	**Ribas do Rio P**	**15.19**	**103**	*e*P	**Pn**	**03 40 05.8**	**-0.6**
MT02	**Curacav**	**15.62**	**185**		**Pn**	**03 40 11.2**	**-0.3**
MT02				IAmb	IAmb	03 40 15.5	
	comp=Z,42nm,1.5s						
MT01	**Popeta**	**16.23**	**185**		**Pn**	**03 40 16.8**	**-2.2**
MT01				IAmb	IAmb	03 41 00.4	
	comp=Z,19nm,1.2s						
MACA	**Manacapuru-AM**	**16.79**	**32**	P	**P**	**03 40 25.7**	**+0.4**
MACA				IAmb	IAmb	03 40 28.8	
	comp=Z,11nm,0.6s						
NPGB	**Novo Progresso**	**17.35**	**54**	*e*P	**P**	**03 40 31.5**	**-0.1**
PTGB	**Pitanga**	**17.69**	**116**	*e*P	**P**	**03 40 36.3**

comp=Z,31nm,1.5s
STKA Stephens Creek 35.13 248 P **P 03 48 50.9 -0.4**
comp=Z,1.9nm,0.6s,baz=90,slow=11,SNR=6.4
comp=Z,1.9nm,0.6s
COEN Coen 36.36 278 P **P 03 49 01.9 +0.2**
COEN IAmb IAmb 03 49 05.5
comp=Z,22nm,1.4s
BBOO Buckleboo 39.86 247 P **P 03 49 29.2 -0.7**
BBOO IAmb IAmb 03 49 51.8
comp=Z,37nm,1.4s
AS31 Alice Springs 42.39 260 P **P 03 49 49.7 -0.5**
ASAR Alice Springs 42.39 260 P **P 03 49 49.2 -1.1**
ASAR Alice Springs 42.39 260 P **P 03 49 49.5 -0.7**
comp=Z,3.6nm,0.8s,baz=96,slow=7.9,SNR=30
comp=Z,3.6nm,0.8s
WR8 Warramunga Arr 42.58 266 P **P 03 49 50.1 -1.6**
WR8 IAmb IAmb 03 50 27.2
comp=Z,10nm,1.4s
WB0 Warramunga Arr 42.73 266 P **P 03 49 51.7 -1.2**
WB0 IAmb IAmb 03 49 52.5
comp=Z,4.1nm,0.7s
WRA Warramunga Arr 42.73 266 P **P 03 49 51.9 -1.0**
WRA Warramunga Arr 42.73 266 P **P 03 49 51.8 -1.2**
comp=Z,4.9nm,0.7s,baz=93,slow=8.5,SNR=43
comp=Z,4.9nm,0.7s
FORT Forrest 46.72 249 P **P 03 50 22.6 -0.7**
FORT IAmb IAmb 03 50 31.4
comp=Z,27nm,1.1s
KNRA Kununurra 48.99 269 P **P 03 50 40.1 -0.4**
KNRA IAmb IAmb 03 51 07.9
comp=Z,19nm,1.4s
FAKI Fak Fak 50.77 286 P **P 03 50 52.5 -1.2**
FAKI IAmb IAmb 03 51 29.6
comp=Z,40nm,1.2s
FITZ Fitzroy Crossi 51.16 265 P **P 03 50 56.0 -0.4**
FITZ Fitzroy Crossi 51.16 265 P **P 03 50 56.1 -0.3**
comp=Z,3.7nm,0.9s,baz=87,slow=6.8,SNR=8.7
comp=Z,3.7nm,0.9s
MBWA Marble Bar 55.73 260 P **P 03 51 27.9 -0.9**
MORW Morawa 57.28 250 P **P 03 51 38.8 -0.6**
MORW IAmb IAmb 03 52 18.1
comp=Z,27nm,1.4s
CASY Casey 60.55 206 P **P 03 51 59.7 -1.0**
CASY IAmb IAmb 03 52 11.6
comp=Z,16nm,1.4s
QSPA South Pole Qui 66.53 180 P **P 03 52 41.0 +1.9**
QSPA South Pole Qui 66.53 180 P **P 03 52 41.1 +2.0**
comp=Z,1.3nm,0.7s,baz=64,slow=0.9,SNR=7.1
comp=Z,1.3nm,0.7s
BELA Belgrano 2 76.74 173 P **P 03 53 38.3 +0.1**
PEA0B Petropavlovsk- 78.83 346 P **P 03 53 49.1 -0.6**
PETK Petropavlovsk- 78.83 346 P **P 03 53 49.2 -0.5**

*IDC **02** 03:50:57.2±0.7,54.°05N×169.°59E,h0km,mb3.9/22,*
mbtmp3.9/25,ML3.8/3,MS3.2/14,Error ellipse:
s-maj=19.3km s-min=11.8km az=179.0
*NEIC **02** 03:50:58.8±1.7,54.°0N±0.°1×169.°5E±0.°1,h10km±2km,*
mb4.2/135,Error ellipse: s-maj=19.4km s-min=11.4km
az=182.0
*KRSC **02** 03:51:00.4±2.6,53.°98N×169.°09E,h61km±51km,Ml4.6*
*MOS **02** 03:51:01.0±0.9,53.°98N×169.°27E,h48km,mb4.5/10,Error*
ellipse: s-maj=7.2km s-min=5.3km az=32.9
ISC 02 03:50:59.4±0.5,53.°93N±0.°06×169.°31E±0.°04,h17km,n511,
σ1°28/531,mb4.2/86,MS3.4/14,5C-2D,Komandorsky
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**2.33**	**305**	PN	**Pn**	**03 51 36.3**	**-0.6**
BKI				S	**Sn**	**03 52 03.4**	**-1.7**
BKI	**Bering**	**2.33**	**305**	*e*P	**Pn**	**03 51 36.3**	**-0.6**
BKI				*e*S	**Sn**	**03 52 03.4**	**-1.7**
SHEM	**Shemya Is, Ala**	**3.11**	**111**	Pn	**Pn**	**03 51 46.7**	**-0.9**
	40nm,0.3s,baz=358,slow=3.0,SNR=20						
SHEM				Sn	**Sn**	**03 52 24.8**	**+0.5**
	42nm,0.3s,baz=57,slow=22,SNR=6.3						
	122nm,0.3s						
SMY	**Shemya**	**3.11**	**111**	Pn	**Pn**	**03 51 46.4**	**-1.3**
SMY	**Shemya**	**3.11**	**111**	PN	**Pn**	**03 51 46.4**	**-1.3**
KBTR	**Krutoberegovo**	**4.38**	**304**	PN	**Pn**	**03 52 04.8**	**-0.2**
KBTR	**Krutoberegovo**	**4.38**	**304**	*e*P	**Pn**	**03 52 04.8**	**-0.2**
KBTR				*e*S	**Sn**	**03 52 52.8**	**-2.8**
KBG	**Krutoberegovo**	**4.46**	**304**	PN	**Pn**	**03 52 05.2**	**-0.9**
KBG	**Krutoberegovo**	**4.46**	**304**	*e*P	**Pn**	**03 52 05.2**	**-0.9**
KBG				*e*S	**Sn**	**03 52 51.9**	**-5.6**
MKZ	**Mys Kozlova**	**4.49**	**281**	PN	**Pn**	**03 52 07.2**	**+0.6**
MKZ	**Mys Kozlova**	**4.49**	**281**	*e*P	**Pn**	**03 52 07.3**	**+0.6**
MKZ				*e*S	**Sn**	**03 52 55.5**	**-2.9**
SMKR	**Semkarok**	**5.22**	**304**	PN	**Pn**	**03 52 17.7**	**+1.1**
SMKR	**Semkarok**	**5.22**	**304**	*e*P	**Pn**	**03 52 17.8**	**+1.1**
SMKR				*e*S	**Sn**	**03 53 12.3**	**-4.1**
ZLN	**Zelenaya**	**5.33**	**297**	PN	**Pn**	**03 52 19.9**	**+1.7**
ZLN	**Zelenaya**	**5.33**	**297**	*e*P	**Pn**	**03 52 20.0**	**+1.7**
ZLN				*e*S	**Sn**	**03 53 16.8**	**-2.4**
TUMD	**Tumrok D**	**5.34**	**287**	PN	**Pn**	**03 52 19.0**	**+0.7**
TUMD	**Tumrok D**	**5.34**	**287**	*e*P	**Pn**	**03 52 19.1**	**+0.7**
TUMD				*e*S	**Sn**	**03 53 18.4**	**-1.1**
BZGR	**Bezymyannyi-Gr**	**5.36**	**296**	PN	**Pn**	**03 52 20.6**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**5.36**	**296**	*e*P	**Pn**	**03 52 20.7**	**+1.9**
BZGR				*e*S	**Sn**	**03 53 17.4**	**-2.6**
CIRR	**Tsirk**	**5.39**	**297**	PN	**Pn**	**03 52 21.7**	**+2.6**
CIRR	**Tsirk**	**5.39**	**297**	*e*P	**Pn**	**03 52 21.7**	**+2.6**
CIRR				*e*S	**Sn**	**03 53 18.1**	**-2.8**
LGNR	**Loginova**	**5.41**	**297**	*e*S	**Sn**	**03 53 19.4**	**-2.1**
BZWR	**Bezymyannyi-We**	**5.48**	**295**	*e*S	**Sn**	**03 53 21.8**	**-1.2**
KLY	**Klyuchi**	**5.51**	**299**	PN	**Pn**	**03 52 21.1**	**+0.5**
KLY				S	**Sn**	**03 53 20.8**	**-2.8**
KLY	**Klyuchi**	**5.51**	**299**	*e*P	**Pn**	**03 52 21.1**	**+0.5**
KLY				*e*S	**Sn**	**03 53 20.8**	**-2.8**
KRSR	**Krestovskiy**	**5.53**	**298**	PN	**Pn**	**03 52 22.2**	**+1.3**
KRSR	**Krestovskiy**	**5.53**	**298**	*e*P	**Pn**	**03 52 22.2**	**+1.3**
KRSR				*e*S	**Sn**	**03 53 22.6**	**-1.4**
KIRR	**Kirishev**	**5.56**	**295**	PN	**Pn**	**03 52 22.9**	**+1.5**
KIRR	**Kirishev**	**5.56**	**295**	*e*P	**Pn**	**03 52 22.9**	**+1.5**
KIRR				*e*S	**Sn**	**03 53 23.7**	**-1.1**
KMNR	**Kamenistaya**	**5.56**	**293**	PN	**Pn**	**03 52 22.9**	**+1.6**
KMNR	**Kamenistaya**	**5.56**	**293**	*e*P	**Pn**	**03 52 23.0**	**+1.6**
KMNR				*e*S	**Sn**	**03 53 23.5**	**-1.3**
SPN	**Mys Shipunski**	**5.61**	**265**	PN	**Pn**	**03 52 22.8**	**+0.9**
SPN	**Mys Shipunski**	**5.61**	**265**	*e*P	**Pn**	**03 52 22.8**	**+0.9**
SPN				*e*S	**Sn**	**03 53 23.5**	**-2.4**
KPT	**Kopyto**	**5.62**	**295**	PN	**Pn**	**03 52 24.1**	**+1.9**
KPT				S	**Sn**	**03 53 25.8**	**-0.6**
KPT	**Kopyto**	**5.62**	**295**	*e*P	**Pn**	**03 52 24.1**	**+1.9**
KPT				*e*S	**Sn**	**03 53 25.8**	**-0.6**
KII	**Karymskiy**	**5.82**	**275**	PN	**Pn**	**03 52 26.1**	**+1.1**
KII	**Karymskiy**	**5.82**	**275**	*e*P	**Pn**	**03 52 26.1**	**+1.1**
KII				*e*S	**Sn**	**03 53 28.6**	**-2.7**
KOZ	**Kozyrevsk**	**5.84**	**295**	PN	**Pn**	**03 52 26.6**	**+1.5**
KOZ	**Kozyrevsk**	**5.84**	**295**	*e*P	**Pn**	**03 52 26.6**	**+1.5**
KOZ				*e*S	**Sn**	**03 53 30.9**	**-0.8**
NLC	**Nalytchevo**	**5.99**	**267**	PN	**Pn**	**03 52 27.7**	**+0.5**
NLC	**Nalytchevo**	**5.99**	**267**	*e*P	**Pn**	**03 52 27.7**	**+0.5**
NLC				*e*S	**Sn**	**03 53 30.7**	**-4.6**
SRDR	**Sredinnyy**	**6.00**	**297**	*e*S	**Sn**	**03 53 37.5**	**+1.8**
SDLR	**Sedlovina**	**6.24**	**268**	PN	**Pn**	**03 52 31.8**	**+1.0**
SDLR	**Sedlovina**	**6.24**	**268**	*e*P	**Pn**	**03 52 31.9**	**+1.0**
UGLR	**Uglovaya**	**6.29**	**268**	PN	**Pn**	**03 52 33.0**	**+1.6**
UGLR	**Uglovaya**	**6.29**	**268**	*e*P	**Pn**	**03 52 33.0**	**+1.6**
UGLR				*e*S	**Sn**	**03 53 42.4**	**-0.5**
KRER	**Koryakskii**	**6.32**	**269**	PN	**Pn**	**03 52 33.6**	**+1.7**
KRER	**Koryakskii**	**6.32**	**269**	*e*P	**Pn**	**03 52 33.6**	**+1.7**
AVH	**Avacha**	**6.33**	**268**	PN	**Pn**	**03 52 33.6**	**+1.7**
AVH	**Avacha**	**6.33**	**268**	*e*P	**Pn**	**03 52 33.7**	**+1.7**
AVH				*e*S	**Sn**	**03 53 43.1**	**-0.8**
DALK	**Dalny**	**6.37**	**266**	PN	**Pn**	**03 52 33.9**	**+1.5**
DALK	**Dalny**	**6.37**	**266**	*e*P	**Pn**	**03 52 33.9**	**+1.5**
DALK				*e*S	**Sn**	**03 53 40.6**	**-4.0**
KRX	**Arik**	**6.37**	**269**	PN	**Pn**	**03 52 34.0**	**+1.5**
KRX	**Arik**	**6.37**	**269**	*e*P	**Pn**	**03 52 34.0**	**+1.5**
KRX				*e*S	**Sn**	**03 53 40.1**	**-4.7**
KOK	**Koryaka**	**6.39**	**269**	PN	**Pn**	**03 52 34.3**	**+1.6**
KOK	**Koryaka**	**6.39**	**269**	*e*P	**Pn**	**03 52 34.4**	**+1.6**
KOK				*e*S	**Sn**	**03 53 42.2**	**-3.1**
PET	**Petropavlovsk**	**6.43**	**266**		**Pn**	**03 52 34.3**	**+1.1**
PET	**Petropavlovsk**	**6.43**	**266**	*e*PN	**Pn**	**03 52 35.5**	**+2.3**
PET				pmax	pmax		
	comp=Z,55nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,15.0s						
PET	**Petropavlovsk**	**6.43**	**266**	*e*P	**Pn**	**03 52 35.1**	**+1.9**
PET				*e*S	**Sn**	**03 53 43.9**	**-2.2**
ESO	**Esso**	**6.44**	**292**	PN	**Pn**	**03 52 35.2**	**+1.9**
ESO	**Esso**	**6.44**	**292**	*e*P	**Pn**	**03 52 35.2**	**+1.9**
RUS	**Russkaya**	**6.66**	**261**	PN	**Pn**	**03 52 38.1**	**+1.7**
RUS	**Russkaya**	**6.66**	**261**	*e*P	**Pn**	**03 52 38.2**	**+1.7**
RUS				*e*S	**Sn**	**03 53 49.6**	**-2.3**
GNL	**Ganaly**	**6.74**	**273**	PN	**Pn**	**03 52 39.5**	**+1.9**
GNL	**Ganaly**	**6.74**	**273**	*e*P	**Pn**	**03 52 39.5**	**+1.9**
GNL				*e*S	**Sn**	**03 53 52.5**	**-1.4**
TILK	**Tilichiki**	**6.76**	**347**	PN	**Pn**	**03 52 37.6**	**-0.1**
TILK	**Tilichiki**	**6.76**	**347**	*e*P	**Pn**	**03 52 37.7**	**-0.1**
KRMR	**Karymshinskiy**	**6.78**	**265**	PN	**Pn**	**03 52 39.2**	**+1.2**
KRMR	**Karymshinskiy**	**6.78**	**265**	*e*P	**Pn**	**03 52 39.3**	**+1.2**
KRMR				*e*S	**Sn**	**03 53 53.2**	**-1.6**
GRL	**Gorelyy**	**6.89**	**263**	PN	**Pn**	**03 52 42.4**	**+2.8**
GRL	**Gorelyy**	**6.89**	**263**	*e*P	**Pn**	**03 52 42.4**	**+2.8**
GRL				*e*S	**Sn**	**03 53 56.9**	**-0.7**
PEA0B	**Petropavlovsk-**	**6.98**	**268**		**Pn**	**03 52 41.9**	**+1.1**
PEA0B	**Petropavlovsk-**	**6.98**	**268**	*ce*PN	**Pn**	**03 52 42.5**	**+1.8**
PETK	**Petropavlovsk-**	**6.98**	**268**	Pn	**Pn**	**03 52 41.7**	**+1.0**
PETK	**Petropavlovsk-**	**6.98**	**268**	Pn	**Pn**	**03 52 42.8**	**+2.0**
	comp=Z,13nm,0.3s,baz=89,slow=20,SNR=58						
PETK				Sn	**Sn**	**03 54 00.5**	**+0.9**
	comp=Z,2.9nm,0.3s,baz=225,slow=54,SNR=2.2						
PETK				LR	LR	03 55 24.9	
	comp=Z,60nm,18.2s,baz=107,slow=38						
	comp=Z,18nm,0.5s						
KDTR	**Khodutka, Kamc**	**7.12**	**257**	PN	**Pn**	**03 52 44.0**	**+1.3**
KDTR	**Khodutka, Kamc**	**7.12**	**257**	*e*P	**Pn**	**03 52 44.1**	**+1.3**
KDTR				*e*S	**Sn**	**03 53 59.4**	**-3.8**
PALN	**Palana**	**7.31**	**319**	PN	**Pn**	**03 52 47.1**	**+1.9**
PALN	**Palana**	**7.31**	**319**	*e*P	**Pn**	**03 52 47.2**	**+1.9**
APC	**Apacha**	**7.33**	**267**	*e*S	**Sn**	**03 54 10.6**	**+2.2**
ADK	**Adak**	**8.71**	**98**	Pn	**Pn**	**03 53 04.0**	**-0.5**
ADK	**Adak**	**8.71**	**98**	PN	**Pn**	**03 53 04.0**	**-0.5**
ATKA	**Atka Island**	**10.08**	**93**	Pn	**Pn**	**03 53 23.1**	**-0.1**
P08K	**Saint George I**	**12.34**	**69**	Pn	**Pn**	**03 53 52.3**	**-1.8**
SEY	**Seymchan**	**12.61**	**322**	Pn	**Pn**	**03 53 57.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=140,slow=12,SNR=4.5						
	comp=Z,0.6nm,0.4s						
NIKH	**Nikolski High**	**13.04**	**85**	P	**Pn**	**03 54 01.8**	**-1.9**
	baz=283						
BILL	**Bilibino**	**14.24**	**355**	Pn	**Pn**	**03 54 20.5**	**+0.5**
BILL	**Bilibino**	**14.24**	**355**	*ce*P	**Pn**	**03 54 20.7**	**+0.8**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s						
UNV	**Unalaska Valle**	**14.25**	**81**	P	**Pn**	**03 54 17.5**	**-2.7**
	baz=280						
M11K	**Mekoryuk**	**14.72**	**54**	Pn	**Pn**	**03 54 27.1**	**+0.5**
M11K	**Mekoryuk**	**14.72**	**54**	P	**Pn**	**03 54 25.4**	**-1.1**
	baz=255						
K13K	**Kusilvak Mount**	**15.88**	**49**		**Pn**	**03 54 42.1**	**+0.2**
K13K				IAmb	IAmb	03 54 44.5	
	comp=Z,10nm,0.6s						
K13K	**Kusilvak Mount**	**15.88**	**49**	P	**Pn**	**03 54 41.2**	**-0.7**
	baz=251,SNR=8.1						
M13K	**Dall Lake**	**16.10**	**55**		**P**	**03 54 46.5**	**-1.3**
M13K	**Dall Lake**	**16.10**	**55**	P	**Pn**	**03 54 44.8**	**+0.2**
	baz=258						
TNA	**Tin City**	**16.23**	**35**	P	**P**	**03 54 48.8**	**-0.5**
	baz=235						
TYV	**Tymovskoe**	**16.52**	**270**	*e*P	Pn	03 54 42.3	-7.8
TYV				pmax	pmax		
	comp=Z,100nm,2.5s						
TYV				pmax	pmax		
	comp=Z,6.0nm,0.5s						
L14K	**Kuka Creek**	**16.62**	**52**		**P**	**03 54 53.5**	**-0.2**
L14K				IAmb	IAmb	03 54 55.7	
	comp=Z,14nm,0.7s						
L14K	**Kuka Creek**	**16.62**	**52**	P	**P**	**03 54 52.2**	**-1.5**
	baz=256,SNR=7.8						
ANM	**Nome**	**16.63**	**40**	P	**P**	**03 54 53.0**	**-0.8**
ANM	**Nome**	**16.63**	**40**	P	**P**	**03 54 53.0**	**-0.8**
ANM				pmax	pmax		
	comp=Z,12nm,1.1s						
ANM	**Nome**	**16.63**	**40**	P	**P**	**03 54 53.2**	**-0.6**
	baz=242,SNR=7.7						
J14K	**Nanvaranak Lak**	**16.64**	**47**	P	**P**	**03 54 52.5**	**-1.3**
J14K				IAmb	IAmb	03 54 53.5	
	comp=Z,23nm,1.4s						
J14K	**Nanvaranak Lak**	**16.64**	**47**	P	**P**	**03 54 52.7**	**-1.1**
	baz=250,SNR=5.0						
F14K	**Arctic Creek**	**16.73**	**37**	P	**Pn**	**03 54 52.9**	**+0.2**
	baz=238						
N14K	**Kuskokwak Cree**	**16.84**	**57**	P	**P**	**03 54 54.9**	**-1.1**
	baz=262						
M14K	**Bethel**	**16.84**	**55**	P	**P**	**03 54 56.1**	**+0.1**
M14K	**Bethel**	**16.84**	**55**	P	**P**	**03 54 56.1**	**+0.1**
	baz=259,SNR=11						
O14K	**Tigyukauivet M**	**16.97**	**60**	Pn	**Pn**	**03 54 54.9**	**-0.8**
L15K	**Ungalak Mounta**	**17.26**	**52**	P	**P**	**03 54 59.5**	**-1.2**
	baz=256						
K15K	**Wolf Creek Mou**	**17.39**	**50**	P	**P**	**03 55 03.4**	**+1.2**
K15K	**Wolf Creek Mou**	**17.39**	**50**	P	**P**	**03 55 03.6**	**+1.3**
	baz=254,SNR=14						
M15K	**Kasigluk River**	**17.44**	**55**	P	**P**	**03 55 03.6**	**+0.9**
	baz=260,SNR=6.2						
F15K	**North Star Dit**	**17.45**	**37**	Pn	**Pn**	**03 54 59.9**	**-1.8**
F15K	**North Star Dit**	**17.45**	**37**	P	**P**	**03 55 04.4**	**+1.5**
	baz=240						
SDPT	**Sand Point**	**17.48**	**73**	P	**Pn**	**03 55 00.4**	**-1.7**
	baz=278						
N15K	**Kwethluk River**	**17.66**	**57**	P	**P**	**03 55 06.2**	**+1.0**
N15K	**Kwethluk River**	**17.66**	**57**	P	**P**	**03 55 04.4**	**-0.8**
	baz=263						
O15K	**Ungalikthiuk R**	**17.70**	**60**	P	**P**	**03 55 05.4**	**-0.3**
	baz=266						
H16K	**Elim**	**17.88**	**42**	P	**P**	**03 55 08.1**	**+0.5**
	baz=246,SNR=7.0						
CHNA	**Chernabura Isl**	**18.07**	**74**	P	**Pn**	**03 55 08.9**	**-0.4**
	baz=280						
J16K	**Anvik River**	**18.09**	**47**		**P**	**03 55 10.8**	**+0.9**
J16K	**Anvik River**	**18.09**	**47**	P	**P**	**03 55 10.0**	**+0.2**
	baz=253						
G16K	**Koyuk River**	**18.15**	**40**		**Pn**	**03 55 09.1**	**-1.2**
G16K	**Koyuk River**	**18.15**	**40**	P	**Pn**	**03 55 09.7**	**-0.6**
	baz=244						
L16K	**Owhat River**	**18.20**	**52**	P	**P**	**03 55 11.2**	**+0.1**
L16K	**Owhat River**	**18.20**	**52**	P	**P**	**03 55 11.0**	**-0.2**
	baz=259						
YSS	**Yuzhno-Sakhali**	**18.22**	**258**	*e*P	**Pn**	**03 55 09.8**	**-1.5**
YSS				*e*S	**Sn**	**03 58 27.8**	**-6.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,200nm,12.0s						
I17K	**Unalakleet**	**18.23**	**45**	P	**P**	**03 55 11.4**	**0.0**
I17K	**Unalakleet**	**18.23**	**45**	P	**P**	**03 55 11.6**	**+0.2**
	baz=251,SNR=5.3						
M16K	**Timber Creek**	**18.33**	**55**	P	**P**	**03 55 13.8**	**+1.2**
M16K				IAmb	IAmb	03 55 27.7	
	comp=Z,35nm,1.5s						
M16K	**Timber Creek**	**18.33**	**55**	P	**P**	**03 55 13.1**	**+0.6**
	baz=261						
N16K	**Nishlik Lake**	**18.35**	**56**	P	**P**	**03 55 13.7**	**+0.8**
	baz=263						
CHGN	**Chignik**	**18.52**	**70**	P	**Pn**	**03 55 15.8**	**+1.0**
CHGN	**Chignik**	**18.52**	**70**	P	**Pn**	**03 55 16.3**	**+1.4**
	baz=276						
O16K	**Kokwok River B**	**18.61**	**59**	P	**P**	**03 55 15.0**	**-0.6**
O16K	**Kokwok River B**	**18.61**	**59**	P	**Pn**	**03 55 19.0**	**+3.1**
	baz=266						
C16K	**Lisburne Hills**	**18.67**	**30**	P	**Pn**	**03 55 17.4**	**+0.8**
	baz=232						
J17K	**VABM Dome**	**18.78**	**47**	P	**Pn**	**03 55 18.4**	**+0.4**
J17K				IAmb	IAmb	03 55 30.3	
	comp=Z,15nm,1.1s						
J17K	**VABM Dome**	**18.78**	**47**	P	**Pn**	**03 55 18.4**	**+0.4**
	baz=254,SNR=10						
L17K	**Donlin**	**18.83**	**51**	P	**Pn**	**03 55 18.9**	**+0.3**
	baz=259						
G17K	**Kiwalik Mounta**	**18.84**	**40**	P	**Pn**	**03 55 19.4**	**+0.7**
	baz=246,SNR=8.2						
H17K	**Granite Mounta**	**18.91**	**42**	P	**Pn**	**03 55 19.7**	**0.0**
H17K				IAmb	IAmb	03 55 22.1	
	comp=Z,12nm,1.0s						
H17K	**Granite Mounta**	**18.91**	**42**	P	**Pn**	**03 55 19.6**	**0.0**
	baz=249,SNR=9.9						
K17K	**Iditarod**	**18.95**	**49**	P	**Pn**	**03 55 19.2**	**-0.9**
K17K				IAmb	IAmb	03 55 23.0	
	comp=Z,20nm,1.1s						
K17K	**Iditarod**	**18.95**	**49**	P	**Pn**	**03 55 19.5**	**-0.5**
	baz=257						
D17K	**Noatak River**	**19.03**	**33**	P	**Pn**	**03 55 20.6**	**-0.3**
	baz=237						
M17K	**Holitna River**	**19.11**	**54**	P	**P**	**03 55 21.0**	**-0.2**
M17K				IAmb	IAmb	03 55 22.7	
	comp=Z,12nm,0.7s						
M17K	**Holitna River**	**19.11**	**54**	P	**Pn**	**03 55 21.2**	**-0.8**
	baz=262,SNR=6.3						
E17K	**Hotham Inlet**	**19.12**	**35**	P	**Pn**	**03 55 22.3**	**+0.2**
	baz=240						
O17K	**Koliganek Bris**	**19.13**	**59**	P	**Pn**	**03 55 21.9**	**-0.3**
	baz=267						
N17K	**Nushagak Hills**	**19.14**	**56**	P	**P**	**03 55 20.9**	**-0.5**
N17K	**Nushagak Hills**	**19.14**	**56**	P	**Pn**	**03 55 21.7**	**-0.6**
	baz=265						
Q16K	**King Salmon**	**19.33**	**62**	P	**Pn**	**03 55 24.6**	**0.0**
	baz=270						
C17K	**DeLong Mountai**	**19.43**	**31**	P	**Pn**	**03 55 25.3**	**-0.6**
	baz=235						
P17K	**Kvichak River**	**19.44**	**60**	P	**Pn**	**03 55 24.8**	**-1.1**
	baz=269						
L18K	**Granite Mounta**	**19.59**	**51**	P	**P**	**03 55 26.1**	**-0.2**
L18K				IAmb	IAmb	03 55 39.2	
	comp=Z,11nm,1.0s						
L18K	**Granite Mounta**	**19.59**	**51**	P	**Pn**	**03 55 26.8**	**-1.0**
	baz=260,SNR=7.5						
H18K	**Honhosa River**	**19.61**	**42**	P	**P**	**03 55 25.6**	**-0.9**
H18K				IAmb	IAmb	03 55 32.0	
	comp=Z,11nm,0.9s						
H18K	**Honhosa River**	**19.61**	**42**	P	**P**	**03 55 26.5**	**0.0**
	baz=250,SNR=9.5						
F18K	**Selawik**	**19.67**	**38**	P	**Pn**	**03 55 28.0**	**-0.6**
	baz=245,SNR=6.1						
E18K	**Tukpahlearik C**	**19.71**	**35**	P	**P**	**03 55 26.5**	**-1.1**
E18K	**Tukpahlearik C**	**19.71**	**35**	P	**Pn**	**03 55 28.2**	**-0.9**
	baz=241						
Q17K	**Contact Creek**	**19.75**	**63**	P	**P**	**03 55 28.1**	**-0.1**
	baz=272						
G18K	**Tagagawik**	**19.76**	**40**	P	**P**	**03 55 27.5**	**-0.6**
G18K				IAmb	IAmb	03 55 29.5	
	comp=Z,11nm,0.6s						
G18K	**Tagagawik**	**19.76**	**40**	P	**P**	**03 55 28.2**	**0.0**
	baz=248,SNR=12						
N18K	**Kilae Creek**	**19.79**	**56**	P	**P**	**03 55 27.6**	**-1.0**
N18K	**Kilae Creek**	**19.79**	**56**	P	**Pn**	**03 55 28.8**	**-1.3**
	baz=266						
J18K	**Innoko River**	**19.82**	**48**	P	**P**	**03 55 27.5**	**-1.4**
J18K	**Innoko River**	**19.82**	**48**	P	**Pn**	**03 55 29.3**	**-1.2**
	baz=257,SNR=16						
M18K	**Stony River**	**19.89**	**54**	P	**P**	**03 55 29.8**	**+0.1**
	baz=263						
ASAJ	**Asahikawa**	**19.97**	**251**	P	**P**	**03 55 33.1**	**+2.5**
	comp=Z,3.8nm,0.5s,baz=53,slow=20,SNR=5.2						
	comp=Z,3.8nm,0.5s						
ACHA	**Angle Creek He**	**20.04**	**63**	P	**P**	**03 55 31.1**	**-0.3**
P18K	**Big Mountain,**	**20.07**	**60**	P	**P**	**03 55 30.8**	**-0.8**
P18K				IAmb	IAmb	03 55 32.9	
	comp=Z,15nm,1.1s						
P18K	**Big Mountain,**	**20.07**	**60**	P	**P**	**03 55 31.8**	**+0.2**
	baz=270						
GCSA	**Galena City Sc**	**20.08**	**44**	P	**Pn**	**03 55 32.3**	**-1.2**
	baz=253						
O18K	**Koktuh Hills**	**20.08**	**59**	P	**P**	**03 55 31.5**	**-0.2**
O18K	**Koktuh Hills**	**20.08**	**59**	P	**P**	**03 55 31.9**	**+0.1**
	baz=268						
CHIR	**Chirikof Islan**	**20.14**	**70**	P	Pn	03 55 33.3	-0.9
	baz=279						
C18K	**Utukok River**	**20.14**	**32**	P	**P**	**03 55 31.6**	**-0.7**
C18K				IAmb	IAmb	03 55 37.1	
	comp=Z,14nm,1.1s						
C18K	**Utukok River**	**20.14**	**32**	P	**P**	**03 55 32.7**	**+0.3**
	baz=238						
Q18K	**Katmai Hardscr**	**20.19**	**62**	P	**P**	**03 55 33.2**	**+0.1**
	baz=272,SNR=8.9						
B18K	**Kokolik River**	**20.35**	**29**	P	**P**	**03 55 34.5**	**0.0**
	baz=235						
J19K	**Poorman**	**20.42**	**47**	P	**P**	**03 55 35.1**	**-0.3**
J19K	**Poorman**	**20.42**	**47**	P	**P**	**03 55 35.2**	**-0.1**
	baz=257,SNR=9.1						
L19K	**White Mountain**	**20.44**	**52**	P	**P**	**03 55 35.4**	**-0.2**
L19K	**White Mountain**	**20.44**	**52**	P	**P**	**03 55 35.4**	**-0.2**
	baz=262,SNR=17						
G19K	**Purcell Mounta**	**20.45**	**40**	P	**P**	**03 55 36.0**	**+0.4**
G19K				IAmb	IAmb	03 55 40.2	
	comp=Z,9.3nm,1.1s						
G19K	**Purcell Mounta**	**20.45**	**40**	P	**P**	**03 55 35.6**	**0.0**
	baz=249,SNR=5.3						
F19K	**Shaleruckik Mo**	**20.45**	**38**	P	**P**	**03 55 35.0**	**-0.6**
F19K	**Shaleruckik Mo**	**20.45**	**38**	P	**P**	**03 55 35.9**	**+0.3**
	baz=247						

baz=245
SPCR Spurr Chakacha 21.61 55 P P 03 55 48.0 -0.3
baz=268
D20K Etivluk River 21.63 34 P P 03 55 48.6 +0.2
baz=244
PPLA Purkeypile 21.75 50 P P 03 55 50.7 +0.8
baz=263,SNR=6.2
STLK Strandline Lak 21.80 54 P P 03 55 49.5 -0.8
STLK IAmb IAmb 03 56 06.5
comp=Z,4.5nm,0.6s
CHUM Lake Minchumin 21.83 48 P P 03 55 49.9 -0.6
baz=261
CAST Castle Rocks 21.86 49 P P 03 55 50.0 -0.9
CAST Castle Rocks 21.86 49 P P 03 55 51.6 +0.6
baz=262
G21K Allakaket 21.93 40 P P 03 55 51.4 -0.2
G21K Allakaket 21.93 40 P P 03 55 51.3 -0.4
baz=253
SKT Skwentna 21.97 53 P P 03 55 52.1 -0.1
SKT IAmb IAmb 03 55 59.6
comp=Z,9.1nm,1.1s
SKT Skwentna 21.97 53 P P 03 55 52.0 -0.1
baz=266
H21K Melozitna Rive 21.98 43 P P 03 55 51.9 -0.3
H21K Melozitna Rive 21.98 43 P P 03 55 52.9 +0.7
baz=256,SNR=6.0
B20K Meade River 22.07 30 P P 03 55 52.5 -0.6
B20K IAmb IAmb 03 56 08.5
comp=Z,13nm,1.0s
B20K Meade River 22.07 30 P P 03 55 52.9 -0.2
baz=240
CNPM China Poot 22.10 59 P P 03 55 53.0 -0.5
CNPM IAmb IAmb 03 56 03.5
comp=Z,8.6nm,0.9s
F21K Alatna River 22.16 39 P P 03 55 53.7 -0.4
baz=251
YAK Yakutsk 22.20 307 *i* P P 03 55 54.2 -0.3
YAK pmax pmax
comp=Z,13nm,0.8s
SUA Susitna One 22.32 54 P P 03 55 55.1 -0.9
SUA IAmb IAmb 03 55 56.8
comp=Z,9.4nm,1.1s
SUA Susitna One 22.32 54 P P 03 55 55.3 -0.7
baz=268,SNR=7.7
BRSE Bradley Lake S 22.34 59 P P 03 55 55.5 -0.6
baz=273
KTH Kantishna Hill 22.40 49 P P 03 55 56.2 -0.6
KTH IAmb IAmb 03 55 58.8
comp=Z,10.0nm,1.1s
E21K Killik River 22.41 35 P P 03 55 55.9 -0.9
E21K IAmb IAmb 03 56 18.4
comp=Z,9.5nm,1.4s
E21K Killik River 22.41 35 P P 03 55 56.4 -0.4
baz=248
C21K Knifeblade Rid 22.42 33 P P 03 55 56.9 0.0
baz=245
BPAW Bear Paw Mtn. 22.44 47 P P 03 55 56.7 -0.5
BPAW IAmb IAmb 03 55 58.9
comp=Z,9.8nm,1.4s
BPAW Bear Paw Mtn. 22.44 47 P P 03 55 56.9 -0.2
baz=262
CUT Chulitna 22.59 52 P P 03 55 58.5 -0.2
baz=266
H22K Ishtalitna Cre 22.61 43 P P 03 55 59.4 +0.5
baz=257
TRF Thorofare Moun 22.67 49 P P 03 55 58.6 -1.1
TRF IAmb IAmb 03 56 11.3
comp=Z,7.0nm,0.7s
TRF Thorofare Moun 22.67 49 P P 03 55 59.2 -0.5
baz=264,SNR=6.0
B21K Ikpikpuk River 22.67 32 P P 03 55 58.9 -0.6
B21K IAmb IAmb 03 56 13.7
comp=Z,13nm,1.4s
B21K Ikpikpuk River 22.67 32 P P 03 55 58.9 -0.6
baz=244
F22K John River 22.73 38 P P 03 55 60.0 -0.2
baz=252
RC01 Rabbit Creek A 22.81 55 P P 03 56 00.5 -0.5
baz=270
A21K Barrow 22.90 28 P P 03 56 00.5 -1.4
baz=238
SEW Seward 22.97 58 P P 03 56 01.4 -1.3
baz=273
D22K Ayikyak River 23.01 35 P P 03 56 03.2 +0.1
baz=248
E22K Anaktuvuk Pass 23.05 37 P P 03 56 02.9 -0.6
E22K IAmb IAmb 03 56 04.2
comp=Z,3.9nm,0.7s
E22K Anaktuvuk Pass 23.05 37 P P 03 56 03.2 -0.3
baz=251,SNR=7.3
PMR Palmer 23.10 54 P P 03 56 03.3 -0.7
PMR Palmer 23.10 54 P P 03 56 03.3 -0.7
PMR pmax pmax
comp=Z,2.0nm,0.8s
PMR Palmer 23.10 54 P P 03 56 03.1 -0.9
baz=270
BWN Browne 23.11 47 P P 03 56 04.8 +0.7
A22K Sinclair Lake 23.20 29 P P 03 56 03.6 -1.3
baz=241
I23K Minto, Yukon-K 23.29 45 P P 03 56 05.0 -0.9
I23K IAmb IAmb 03 56 08.9
comp=Z,9.3nm,1.4s
I23K Minto, Yukon-K 23.29 45 P P 03 56 05.0 -0.9
baz=261
MCK McKinley 23.30 49 P P 03 56 05.3 -0.7
baz=265
RND Reindeer 23.31 49 P P 03 56 03.6 -2.6
RND IAmb IAmb 03 56 16.5
comp=Z,6.8nm,0.8s
RND Reindeer 23.31 49 P P 03 56 03.6 -2.6
RND pmax pmax
comp=Z,7.0nm,0.8s
G23K Bananza Creek 23.33 41 P P 03 56 05.1 -1.2
G23K Bananza Creek 23.33 41 P P 03 56 06.0 -0.3
baz=257
H23K Yukon River 23.33 43 P P 03 56 05.5 -0.9
H23K Yukon River 23.33 43 P P 03 56 05.2 -1.1
baz=259
NEA2 Nenana 23.33 46 P P 03 56 04.6 -1.8
NEA2 Nenana 23.33 46 P P 03 56 05.4 -0.9
baz=262
B22K Teshekpuk Lake 23.35 31 P P 03 56 05.2 -1.3
B22K Teshekpuk Lake 23.35 31 P P 03 56 05.2 -1.3
baz=244
COLD Coldfoot 23.38 40 P P 03 56 05.7 -1.1
baz=255
KNK Knik Glacier 23.42 54 P P 03 56 06.0 -1.4
KNK IAmb IAmb 03 56 07.0
comp=Z,5.6nm,0.6s
KNK Knik Glacier 23.42 54 P P 03 56 06.1 -1.2
baz=270
SML Sawmill 23.48 53 P P 03 56 06.4 -1.5
SML Sawmill 23.48 53 P P 03 56 06.7 -1.2
baz=270,SNR=8.4
PWL Port Wells 23.50 56 P P 03 56 05.9 -2.1
PWL Port Wells 23.50 56 P P 03 56 06.8 -1.3
baz=272,SNR=6.3
KLR Kul'dur 23.61 274 *i* P P 03 56 08.9 -0.4
KLR pmax pmax
comp=Z,4.0nm,1.4s
D23K Nanushuk River 23.72 35 P P 03 56 09.1 -1.0
D23K IAmb IAmb 03 56 24.9
comp=Z,12nm,1.4s
D23K Nanushuk River 23.72 35 P P 03 56 09.7 -0.4
baz=251,SNR=6.0
WRH Wood River Hil 23.74 47 P P 03 56 08.6 -1.7
M23K Glacier View 23.77 53 P P 03 56 09.4 -1.3
baz=270,SNR=7.4
E23K Chandalar 23.82 38 P P 03 56 10.0 -1.1
E23K Chandalar 23.82 38 P P 03 56 10.3 -0.8
baz=254
CCB Clear Creek Bu 23.88 46 P P 03 56 10.6 -1.0
CCB IAmb IAmb 03 56 11.8
comp=Z,4.0nm,0.6s
COLA College 23.89 46 P P 03 56 10.4 -1.3
COLA College 23.89 46 *i* P P 03 56 10.9 -0.8
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA College 23.89 46 P P 03 56 10.5 -1.2
baz=263
SCM Sheep Creek Mo 23.96 53 P P 03 56 11.4 -1.1
SCM Sheep Creek Mo 23.96 53 P P 03 56 11.4 -1.1
SCM pmax pmax
comp=Z,12nm,0.7s
SCM Sheep Creek Mo 23.96 53 P P 03 56 11.5 -1.1
baz=270,SNR=8.6

TOLK Toolik Lake Re 24.00 36 P P 03 56 11.8 -1.1
TOLK Toolik Lake Re 24.00 36 P P 03 56 11.7 -1.2
baz=253,SNR=10
P23K Montague Islan 24.01 58 P P 03 56 12.3 -0.6
baz=275
H24K Noodor Dome 24.01 43 P P 03 56 12.4 -0.6
H24K IAmb IAmb 03 56 29.5
comp=Z,5.3nm,1.1s
H24K Noodor Dome 24.01 43 P P 03 56 12.1 -0.9
baz=261
C23K Itkillik River 24.04 33 P P 03 56 11.4 -1.7
C23K IAmb IAmb 03 56 30.9
comp=Z,14nm,1.5s
C23K Itkillik River 24.04 33 P P 03 56 11.8 -1.3
baz=249,SNR=5.8
POKR Poker Plat Res 24.09 45 P P 03 56 12.7 -1.0
POKR IAmb IAmb 03 56 25.9
comp=Z,6.1nm,0.7s
POKR Poker Plat Res 24.09 45 P P 03 56 13.1 -0.6
baz=263
GLI Glacier Island 24.10 56 P P 03 56 12.5 -1.3
GLI IAmb IAmb 03 56 19.4
comp=Z,14nm,1.4s
GLI Glacier Island 24.10 56 P P 03 56 12.4 -1.3
baz=273
HDA Harding Lake 24.23 47 P P 03 56 13.9 -1.0
HDA IAmb IAmb 03 56 47.0
comp=Z,10nm,1.3s
HDA Harding Lake 24.23 47 P P 03 56 15.1 +0.2
baz=265
E24K Your Creek 24.23 38 P P 03 56 13.6 -1.4
E24K IAmb IAmb 03 56 15.8
comp=Z,4.2nm,0.8s
E24K Your Creek 24.23 38 P P 03 56 13.9 -1.1
baz=255
IL31 24.29 46 P P 03 56 13.2 -2.2
IL31 IAmb IAmb 03 56 27.2
comp=Z,4.5nm,0.8s
ILAR Eielson Array 24.29 46 P P 03 56 13.7 -1.8
ILAR Eielson Array 24.29 46 P P 03 56 13.1 -2.4
comp=Z,1.5nm,0.4s,baz=252,slow=7.3,SNR=51
ILAR LR LR 04 04 43.5
comp=Z,54nm,19.6s,baz=111,slow=34
comp=Z,1.5nm,0.4s
ILAR Eielson Array 24.29 46 P P 03 56 13.7 -1.8
IL03 Eielson Array 24.30 46 P P 03 56 14.1 -1.5
G24K Hadweenzic Riv 24.32 41 P P 03 56 14.5 -1.2
G24K IAmb IAmb 03 56 17.0
comp=Z,12nm,1.4s
G24K Hadweenzic Riv 24.32 41 P P 03 56 14.9 -0.8
baz=259
F24K Squaw Lake 24.32 39 P P 03 56 15.3 -0.5
baz=257
D24K Happy Valley 24.41 35 P P 03 56 14.8 -1.7
D24K Happy Valley 24.41 35 P P 03 56 15.7 -0.9
baz=253,SNR=8.2
M24K Tolsona, Glenn 24.50 53 P P 03 56 16.9 -0.6
M24K Tolsona, Glenn 24.50 53 P P 03 56 17.7 +0.2
baz=271,SNR=13
C24K Franklin Bluff 24.63 34 P P 03 56 17.0 -1.5
C24K IAmb IAmb 03 56 18.8
comp=Z,6.5nm,0.8s
C24K Franklin Bluff 24.63 34 P P 03 56 17.7 -0.8
baz=252,SNR=5.6
KLU Klutina 24.64 54 P P 03 56 17.3 -1.5
KLU IAmb IAmb 03 56 19.1
comp=Z,5.1nm,0.8s
KLU Klutina 24.64 54 P P 03 56 18.3 -0.5
baz=272,SNR=5.6
K24K Donnelly Dome 24.70 49 P P 03 56 17.2 -2.1
baz=268
EYAK Cordova Ski Ar 24.78 56 P P 03 56 18.9 -1.0
baz=275
PAX Paxson 24.82 51 P P 03 56 19.1 -1.3
baz=270
TIXI Tiksi 24.85 331 P P 03 56 20.1 -0.3
TIXI IAmb IAmb 03 56 22.1
comp=Z,5.9nm,0.8s
TIXI Tiksi 24.85 331 *ce* P P 03 56 19.8 -0.7
TIXI pmax pmax
comp=Z,7.0nm,1.0s
G25K Bearman Lake 24.87 41 P P 03 56 19.7 -1.0
baz=261
H25L Birch Creek 24.90 43 P P 03 56 19.6 -1.4
baz=262
J25K Salcha River, 24.92 47 P P 03 56 19.4 -1.9
J25K IAmb IAmb 03 56 31.6
comp=Z,3.5nm,0.8s
J25K Salcha River, 24.92 47 P P 03 56 19.5 -1.9
baz=266
PRP Porcupine Dome 24.93 45 P P 03 56 20.3 -1.2
PRP IAmb IAmb 03 56 33.0
comp=Z,6.3nm,0.9s
PRP Porcupine Dome 24.93 45 P P 03 56 20.5 -1.0
baz=264,SNR=7.7
HARP HAARP 24.97 52 P P 03 56 20.4 -1.3
baz=271
RIDG Independent Ri 25.11 49 P P 03 56 21.4 -1.7
RIDG IAmb IAmb 03 56 33.8
comp=Z,5.4nm,0.9s
RIDG Independent Ri 25.11 49 P P 03 56 21.9 -1.1
baz=268
FYU Fort Yukon 25.18 42 P P 03 56 22.9 -0.5
F25K Christian Rive 25.18 40 P P 03 56 22.7 -0.9
F25K IAmb IAmb 03 56 43.3
comp=Z,4.6nm,0.8s
F25K Christian Rive 25.18 40 P P 03 56 24.0 +0.4
baz=260,SNR=8.0
N25K Chitina, Valde 25.27 54 P P 03 56 23.2 -1.3
N25K IAmb IAmb 03 56 43.5
comp=Z,2.9nm,0.8s
N25K Chitina, Valde 25.27 54 P P 03 56 23.1 -1.3
baz=273
D25K Kavik River 25.30 35 P P 03 56 22.9 -1.7
D25K Kavik River 25.30 35 P P 03 56 23.3 -1.3
baz=255,SNR=13
BMRM Bremner River 25.31 55 P P 03 56 24.4 -0.4
baz=275
E25K Arctic Village 25.31 38 P P 03 56 23.9 -0.8
E25K IAmb IAmb 03 56 45.3
comp=Z,10nm,1.4s
E25K Arctic Village 25.31 38 P P 03 56 23.6 -1.1
baz=258
SCRK Sand Creek 25.50 48 P P 03 56 26.2 -0.4
SCRK IAmb IAmb 03 56 36.7
comp=Z,4.0nm,0.8s
SCRK Sand Creek 25.50 48 P P 03 56 25.2 -1.4
baz=269
BMAR Burnt Mountain 25.56 40 P P 03 56 26.5 -0.5
MENT Mentasta 25.62 51 P P 03 56 28.1 +0.4
GLB Gilahina Butte 25.65 54 P P 03 56 26.6 -1.3
J26L Joseph Creek 25.70 47 P P 03 56 26.1 -2.2
J26L Joseph Creek 25.70 47 P P 03 56 26.4 -1.9
baz=268
F26K Sheenjek River 25.77 40 P P 03 56 28.8 -0.1
F26K IAmb IAmb 03 56 49.2
comp=Z,3.4nm,0.9s
F26K Sheenjek River 25.77 40 P P 03 56 28.8 -0.1
baz=261
L26K Log Cabin Wild 25.79 50 P P 03 56 29.1 0.0
baz=271
G26K Porcupine Rive 25.80 41 P P 03 56 28.6 -0.4
baz=263,SNR=5.3
VRDI Verde Repeater 25.84 55 P P 03 56 28.6 -1.2
VRDI IAmb IAmb 03 56 40.0
comp=Z,3.8nm,0.6s
I26K Coal Creek Min 25.91 45 P P 03 56 29.2 -0.9
baz=267
C26K Camden Bay 25.95 34 P P 03 56 30.0 -0.4
baz=256
M26K Nabesna, AK 25.98 52 P P 03 56 30.3 -0.6
baz=273
USA0B Ussuriysk Arra 26.04 263 P P 03 56 32.3 +0.8
USA0B Ussuriysk Arra 26.04 263 P P 03 56 32.3 +0.8
USA0B pmax pmax
comp=Z,9.0nm,0.8s
WAX Waxell Ridge 26.22 56 P P 03 56 32.3 -0.8
SNH Sunshine Point 26.26 57 P P 03 56 32.4 -1.0
C27K Jago River 26.28 35 P P 03 56 32.6 -0.9
C27K IAmb IAmb 03 56 50.2
comp=Z,6.5nm,1.1s
C27K Jago River 26.28 35 P P 03 56 32.8 -0.6
baz=257,SNR=6.4
K27K Chicken 26.34 48 P P 03 56 33.0 -1.1
K27K IAmb IAmb 03 57 11.5
comp=Z,5.0nm,1.1s

K27K Chicken 26.34 48 P P 03 56 33.0 -1.1
baz=270
L27K Beaver Creek, 26.48 50 P P 03 56 34.3 -1.1
L27K IAmb IAmb 03 56 53.5
comp=Z,5.8nm,1.1s
L27K Beaver Creek, 26.48 50 P P 03 56 35.0 -0.4
baz=273
M27K Edge Creek, AK 26.50 52 P P 03 56 35.3 -0.4
M27K IAmb IAmb 03 56 49.9
comp=Z,7.6nm,1.0s
M27K Edge Creek, AK 26.50 52 P P 03 56 36.9 +1.2
baz=274,SNR=5.2
BCAR Beaver Creek A 26.50 50 P P 03 56 34.2 -1.4
G27K Doyon Strip 26.62 42 P P 03 56 36.7 +0.1
G27K Doyon Strip 26.62 42 P P 03 56 36.3 -0.3
baz=265
H27K Steamboat Moun 26.63 43 P P 03 56 36.1 -0.6
baz=266
MESA MESA 26.70 57 P P 03 56 37.1 -0.5
baz=278
YAH Yahtse 26.77 56 P P 03 56 36.9 -1.4
E27K Coleen River 26.79 39 P P 03 56 37.6 -0.6
baz=262
BVCY Beaver Creek 26.97 52 P P 03 56 39.7 -0.1
baz=275
D27M Malcolm River 27.17 37 P P 03 56 41.9 +0.3
baz=261
YUK3 Moose Creek 27.22 53 P P 03 56 41.3 -0.9
baz=276
I28M Miner Creek 27.26 45 P P 03 56 41.4 -1.0
I28M Miner Creek 27.26 45 P P 03 56 41.4 -1.0
baz=270
O28M Mount Upton 27.48 55 P P 03 56 44.2 -0.4
baz=278
DAWY Dawson 27.52 48 P P 03 56 43.9 -0.8
DAWY IAmb IAmb 03 56 58.6
comp=Z,6.7nm,1.1s
DAWY Dawson 27.52 48 P P 03 56 44.0 -0.7
baz=273
PINM Pinnacle 27.55 57 P P 03 56 44.3 -0.8
baz=280
E28M Babbage River 27.60 38 P P 03 56 44.8 -0.5
baz=264
YUK8 Steele Glacier 27.61 54 P P 03 56 45.3 -0.5
baz=278
MJAR Matsushiro Arr 27.64 244 LR LR 04 07 42.9
comp=Z,20nm,21.9s,baz=76,slow=36
BNX BinXian 27.89 270 ||P P 03 56 50.7 +2.6
BNX pmax pmax
comp=Z,5.0nm,0.8s
H29M Whitestone 27.91 43 P P 03 56 47.8 -0.3
H29M Whitestone 27.91 43 P P 03 56 47.6 -0.5
baz=270
YKU2 Yakutat 27.95 58 P P 03 56 47.7 -0.8
D28M Stokes Point 27.96 37 P P 03 56 49.1 +0.6
baz=263
J29N Klondike Camp 28.01 47 P P 03 56 49.5 +0.3
baz=273
PNL Peninsula 28.05 57 P P 03 56 49.7 +0.1
baz=281
G29M Pine Creek 28.06 42 P P 03 56 48.5 -1.0
G29M Pine Creek 28.06 42 P P 03 56 49.2 -0.3
baz=268
M29M Somme Creek 28.07 51 P P 03 56 48.8 -1.0
baz=277
YUK4 Talbot Arm 28.13 54 P P 03 56 49.8 -0.6
baz=278
L29M L29M 28.16 50 P P 03 56 50.3 -0.1
baz=276
E29M Blow River 28.18 39 P P 03 56 49.9 -0.6
baz=266
YUK6 Outpost Mounta 28.33 55 P P 03 56 51.3 -0.9
baz=279
O29M Mount Kennedy 28.34 56 P P 03 56 52.2 0.0
baz=280
K29M Barlow Dome 28.36 48 P P 03 56 51.3 -1.0
K29M IAmb IAmb 03 56 52.5
comp=Z,4.0nm,0.7s
K29M Barlow Dome 28.36 48 P P 03 56 51.7 -0.6
baz=275,SNR=8.6
EPYK Eagle Plains 28.58 43 P P 03 56 53.6 -0.5
EPYK IAmb IAmb 03 57 12.6
comp=Z,5.1nm,0.8s
EPYK Eagle Plains 28.58 43 P P 03 56 53.5 -0.7
baz=271
I30M Mount Dempster 28.76 45 P P 03 56 54.7 -1.1
baz=273
HYT Haines Junctio 28.77 55 P P 03 56 55.3 -0.7
HYT Haines Junctio 28.77 55 P P 03 56 56.1 +0.1
baz=280,SNR=6.8
M30M Minto, Yukon 28.83 51 P P 03 56 54.7 -1.7
baz=278
N30M Aishikik Lake 28.86 53 P P 03 56 55.9 -0.8
baz=279
P29M Windy Craggy 28.89 57 P P 03 56 56.0 -0.9
baz=282
F30M Barrier River 28.94 40 P P 03 56 57.3 0.0
baz=269
P30M Million Dollar 29.17 56 P P 03 56 58.6 -0.8
baz=282
O30N Mendenhall 29.46 54 P P 03 57 00.6 -1.4
baz=281
N31M Braeburn, Yuko 29.47 53 P P 03 57 01.2 -0.9
baz=280
G31M Satah River 29.54 42 P P 03 57 01.4 -1.2
baz=272
H31M Peel River 29.57 44 P P 03 57 01.5 -1.4
baz=274
PLBC Pleasant Camp 29.61 57 P P 03 57 01.9 -1.4
baz=283
F31M Tsiigehtchic 29.73 41 P P 03 57 03.0 -1.2
baz=272
INK Inuvik 29.80 39 P P 03 57 03.6 -1.2
baz=270
M31M Drury Creek, Y 29.99 51 P P 03 57 06.3 -0.4
M31M IAmb IAmb 03 57 07.4
comp=Z,3.6nm,0.7s
M31M Drury Creek, Y 29.99 51 P P 03 57 06.4 -0.3
baz=280
WHY Whitehorse 30.06 54 P P 03 57 05.4 -2.0
baz=282
SKAG Skagway 30.12 57 P P 03 57 07.3 -0.4
baz=284
FARO Faro, Yukon 30.46 51 P P 03 57 09.8 -1.1
baz=281
N32M Quiet Lake 30.81 53 P P 03 57 13.2 -0.7
baz=283
P32M Atlin 30.88 56 P P 03 57 13.7 -0.9
baz=285
S32K Killisnoo 31.05 60 P P 03 57 16.4 +0.4
baz=288
P33M Teslin, Yukon 31.16 55 P P 03 57 17.2 +0.1
P33M IAmb IAmb 03 57 18.1
comp=Z,3.8nm,0.8s
P33M Teslin, Yukon 31.16 55 P P 03 57 17.6 +0.5
baz=284,SNR=7.2
MMPY Sheldon Lake, 31.34 50 P P 03 57 18.3 -0.3
MMPY IAmb IAmb 03 57 19.1
comp=Z,2.4nm,0.6s
MMPY Sheldon Lake, 31.34 50 P P 03 57 19.0 +0.4
baz=282,SNR=5.1
Q32M Nakina River 31.77 57 P P 03 57 22.6 0.0
baz=287
R33M Jennings River 32.28 56 P P 03 57 27.6 +0.5
R33M IAmb IAmb 03 57 28.5
comp=Z,2.7nm,0.7s
R33M Jennings River 32.28 56 P P 03 57 27.4 +0.4
baz=287
A36M Sachs Harbour 32.56 32 P P 03 57 28.6 -0.5
A36M Sachs Harbour 32.56 32 P P 03 57 28.6 -0.5
baz=272
S34M Telegraph Cree 32.66 58 P P 03 57 30.5 +0.3
baz=289
KSRS Korea Array 32.71 257 P P 03 57 34.3 +3.5
comp=Z,1.4nm,0.7s,baz=53,slow=13,SNR=2.1
KSRS LR LR 04 10 59.5
comp=Z,20nm,20.2s,baz=25,slow=36
comp=Z,1.4nm,0.7s
TGTN Hyland Airport 32.97 51 P P 03 57 32.7 -0.2
baz=286
DLBC Dease Lake 33.05 57 P P 03 57 34.4 +0.7
baz=289
WTLY Watson Lake, Y 33.12 54 P P 03 57 33.9 -0.3
baz=287
C36M Paulatuk 33.16 37 P P 03 57 33.2 -1.1
C36M Paulatuk 33.16 37 P P 03 57 33.7 -0.7
baz=277

T35M Bob Quinn 33.43 60 P **P 03 57 38.2 +1.3**
baz=291
H11N2 WAKE ISLAND Hy 34.18 184 T T 04 34 02.0
baz=2.7,slow=76,SNR=2237
H11N3 WAKE ISLAND Hy 34.20 184 T T 04 34 07.6
baz=2.7,slow=76,SNR=1587
H11N1 WAKE ISLAND Hy 34.20 184 T T 04 34 08.0
baz=2.7,slow=76,SNR=1771
TOAD Toad River Com 35.26 55 P **P 03 57 52.6 -0.1**
baz=291
KOTAN Kotaneelee Air 35.37 53 P **P 03 57 54.2 +0.6**
baz=290
H11S1 WAKE ISLAND Hy 35.41 184 T T 04 35 35.5
baz=2.9,slow=76,SNR=951
H11S3 WAKE ISLAND Hy 35.42 184 T T 04 35 36.5
baz=2.9,slow=76,SNR=680
H11S2 WAKE ISLAND Hy 35.42 184 T T 04 35 36.8
baz=2.9,slow=76,SNR=967
BBB Bella Bella 36.57 67 LR LR 04 13 12.3
comp=Z,48nm,18.7s,baz=258,slow=37
NRIK Noril'sk 38.38 326 *i* P **P 03 58 18.3 -0.8**
YKA Yellowknife Ar 38.72 46 P **P 03 58 20.2 -1.8**
comp=Z,0.8nm,0.6s,baz=294,slow=8.6,SNR=12
comp=Z,0.8nm,0.6s
SONM Songino Array 38.99 288 P **P 03 58 25.7 +1.1**
comp=Z,0.6nm,0.5s,baz=65,slow=7.8,SNR=5.8
comp=Z,0.6nm,0.5s
HHC Hu-ho-hao-te 40.11 275 *eP* **P 03 58 34.0 0.0**
HHC pmax pmax
comp=Z,11nm,0.8s
NVAR Mina Array Bea 50.23 77 P **P 03 59 54.3 -0.3**
comp=Z,0.9nm,0.7s,baz=296,slow=6.8,SNR=6.0
comp=Z,0.9nm,0.7s
KURK Kurchatov 51.84 306 *i* P **P 04 00 04.8 -1.4**
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURBB Kurchatov Arra 51.94 306 P **P 04 00 06.2 -0.7**
comp=Z,1.3nm,0.9s,baz=50,slow=7.4,SNR=7.0
comp=Z,1.3nm,0.9s
PDAR Pinedale Array 52.22 67 P **P 04 00 07.1 -2.3**
comp=Z,0.3nm,0.4s,baz=328,slow=3.0,SNR=8.0
comp=Z,0.3nm,0.4s
MKAR Makanchi Array 52.63 300 P **P 04 00 11.6 -0.5**
comp=Z,0.7nm,0.7s,baz=47,slow=7.6,SNR=5.6
comp=Z,0.7nm,0.7s
BVAR Borovoye Array 54.04 313 P **P 04 00 22.4 0.0**
comp=Z,1.7nm,0.4s,baz=55,slow=7.8,SNR=9.2
BVAR LR LR 04 26 15.9
comp=Z,37nm,18.4s,baz=79,slow=39
comp=Z,1.7nm,0.4s
ARCES ARCESS Array B 54.06 345 P **P 04 00 22.1 -0.2**
comp=Z,10nm,1.1s,baz=27,slow=8.4,SNR=3.9
comp=Z,10nm,1.1s
BRVK Borovoye 54.06 313 *ceP* **P 04 00 22.9 +0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
PZH PanZhiHua 55.94 269 P **P 04 00 38.1 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,4.5s
ARTI Arti 56.45 321 LR LR 04 27 24.8
comp=Z,35nm,18.3s,baz=56,slow=39
ARTI Arti 56.45 321 *d iP* **P 04 00 39.0 -0.7**
ARTI 04 01 29.9
ARTI 04 02 41.1
ARTI S **S 04 08 27.4 -2.2**
ARTI SS **SS 04 12 15.4 -0.5**
ARTI pmax pmax
comp=Z,4.0nm,1.1s
AAK Ala-Archa 59.50 301 LR LR 04 26 39.0
comp=Z,35nm,19.9s,baz=28,slow=36
BORG Borgarnes 61.38 5 LR LR 04 26 35.1
comp=Z,29nm,19.7s,baz=350,slow=35
CMAR Chiang Mai Arr 63.75 265 P **P 04 01 32.9 +2.6**
comp=Z,1.5nm,0.3s,baz=26,slow=7.2,SNR=5.1
CMAR LR LR 04 31 21.6
comp=Z,17nm,18.1s,baz=180,slow=38
comp=Z,1.5nm,0.3s
NOA NORSAR Array B 64.06 348 P **P 04 01 30.2 -1.6**
comp=Z,2.0nm,1.1s,baz=1.0,slow=3.3,SNR=1.4
NOA LR LR 04 30 39.8
comp=Z,8.9nm,18.7s,baz=190,slow=37
comp=Z,2.0nm,1.1s
OBN Obninsk 64.57 332 *eP* **P 04 01 33.9 -1.2**
OBN *i* 04 01 57.1
OBN 04 02 08.0
OBN 04 04 00.0
OBN *e*SS SS 04 14 22.0 -0.9
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,39nm,16.0s
HFS Hagfors 64.63 347 P **P 04 01 37.0 +1.6**
comp=Z,1.5nm,0.8s,baz=46,slow=6.2,SNR=4.9
comp=Z,1.5nm,0.8s
HFS Hagfors 64.63 347 P **P 04 01 37.0 +1.6**
TXAR Lajitas Array 65.17 74 P **P 04 01 39.5 -0.1**
comp=Z,2.0nm,0.6s,baz=304,slow=5.2,SNR=46
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 70.50 334 P **P 04 02 12.9 +0.2**
comp=Z,0.7nm,0.6s,baz=28,slow=6.3,SNR=2.3
AKASG LR LR 04 34 27.5
comp=Z,22nm,18.1s,baz=2.0,slow=37
comp=Z,0.7nm,0.6s
TKL Tuckaleechee C 70.86 56 LR LR 04 34 55.9
comp=Z,40nm,18.4s,baz=343,slow=37
GNI Garni 74.89 319 LR LR 04 38 15.7
comp=Z,35nm,18.2s,baz=272,slow=38
GERES GERESS Array B 75.55 344 P **P 04 02 44.8 +2.0**
comp=Z,0.3nm,0.6s,baz=22,slow=8.0,SNR=1.8
comp=Z,0.3nm,0.6s
BRTR Keskin Array B 79.22 327 P **P 04 03 05.4 +1.9**
comp=Z,1.0nm,1.1s,baz=111,slow=5.8,SNR=4.2
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 79.48 213 P **P 04 03 06.3 +1.5**
comp=Z,0.7nm,0.9s,baz=20,slow=5.7,SNR=3.3
comp=Z,0.7nm,0.9s
ASAR Alice Springs 83.10 212 P **P 04 03 24.7 +0.8**
comp=Z,0.2nm,0.4s,baz=27,slow=4.7,SNR=1.7
comp=Z,0.2nm,0.4s
ESDC Sonseca Array 86.59 355 P **P 04 03 42.8 +1.2**
comp=Z,0.2nm,0.7s,baz=359,slow=4.5,SNR=4.1
comp=Z,0.2nm,0.7s
QSPA South Pole Qui 143.68 180 PKP PKPbc 04 10 30.3 +0.8
comp=Z,2.0nm,0.8s,baz=9.9,slow=3.0,SNR=5.2

TEH ***02*** *03:51:54.9, 33°.61N×45°.80E, h10km±366km*
ISN ***02*** *03:51:55.0±0.3, 33°.60N×45°.79E, h14km±6km, ML3.0*
ISC 02 03:51:55.2±0.9, 33°.61N±0°.04×45°.78E±0°.05, h19km, n8, σ0.74/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.51**	**12**	Pg	**Pg**	**03 52 04.7**	**-0.9**
IBDR	**Badra**	**0.52**	**166**	*e*Pg	**Pg**	**03 52 05.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**03 52 12.0**	**-0.6**
IBDR				AML	AML	03 52 16.1	
	comp=E,1μm,0.4s						
IBDR				AML	AML	03 52 16.6	
	comp=N,848nm,0.4s						
KGS1	**Ghasr-e-Shirin**	**0.91**	**350**	Pg	**Pb**	**03 52 13.1**	**+0.9**
IGHG	**Ghaleghazi**	**0.97**	**42**	Pg	**Pb**	**03 52 13.4**	**-0.2**
IGHG				Sg	**Sn**	**03 52 28.1**	**+0.7**
IDHR	**Dehrash**	**1.20**	**25**	Pg	**Pn**	**03 52 17.4**	**+0.3**
BHD	**Baghdad**	**1.22**	**254**	*e*Pg	**Pn**	**03 52 17.5**	**+0.3**
BHD				*e*Sg	**Sn**	**03 52 34.0**	**+0.9**
IKFM	**Kafar-mosalman**	**1.73**	**92**	Pg	**Pb**	**03 52 26.7**	**+0.4**
IKRK	**Kirkuk**	**2.14**	**327**	*e*Pn	**Pb**	**03 52 32.5**	**-0.9**
IKRK				*e*Sn	**Sb**	**03 53 00.0**	**+0.4**

IDC ***02*** *04:05:24.5±1.3, 6°.13S×130°.40E, h0km, mb3.9/5, mbtmp3.9/8, ML4.2/3, MS3.1/1, Error ellipse: s-maj=72.7km s-min=19.2km az=71.0*
NEIC ***02*** *04:05:39.5±2.0, 6°.58S±0°.09×130°.3E±0°.1, h128km±9km, mb4.2/10, Error ellipse: s-maj=16.7km s-min=12.3km az=107.0*
DJA ***02*** *04:05:43.2±1.0, 5°.5S±10°×13°.1E±°, h307km±13km, M4.0/6, mb3.8/1, MLv4.1/6*
ISC 02 04:05:40.5±0.5, 6°.53S±0°.05×130°.46E±0°.06, h150km, n44, σ2.26/45, mb4.0/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**3.51**	**334**	P	**Pn**	**04 06 35.6**	**+1.1**
FAKI	**Fak Fak**	**4.00**	**26**		**Pn**	**04 06 39.5**	**-1.4**
FAKI	**Fak Fak**	**4.00**	**26**	P	**Pn**	**04 06 39.4**	**-1.4**
FAKI	**Fak Fak**	**4.00**	**26**	S	**Sn**	**04 07 24.2**	**-3.5**
FAKI	**Fak Fak**	**4.00**	**26**	P	**Pn**	**04 06 39.4**	**-1.4**
FAKI				S	**Sn**	**04 07 23.9**	**-3.8**
KMPI	**Kaimana, Papua**	**4.30**	**49**	P	**Pn**	**04 06 44.8**	**0.0**
KMPI				S	**Sn**	**04 07 33.5**	**-1.3**
NLAI	**Namlea**	**4.68**	**314**	P	**Pn**	**04 06 52.5**	**+2.8**
SWI	**Sorong**	**5.68**	**8**	P	Pn	04 06 56.2	-6.9
MTN	**Manton Dam**	**6.31**	**174**	Pn	**Pn**	**04 07 09.4**	**-2.0**
KDU	**Kakadu**	**6.43**	**162**	P	**Pn**	**04 07 13.1**	**0.0**
SOEI	**Soe**	**6.92**	**242**		**Pn**	**04 07 15.6**	**-4.1**
SOEI	**Soe**	**6.92**	**242**	P	**Pn**	**04 07 19.2**	**-0.5**
KNRA	**Kununurra**	**9.24**	**190**	Pn	**Pn**	**04 07 48.9**	**-1.6**
FITZ	**Fitzroy Crossi**	**12.43**	**202**	**Pn**	**Pn**	**04 08 28.5**	**-3.9**
	0.8nm,0.3s,baz=22,slow=11,SNR=31						
FITZ				Sn	Sn	04 10 38.0	-12
	1.4nm,0.3s,baz=83,slow=16,SNR=4.4						
	2.0nm,0.3s						
PLAI	**Plampang**	**12.78**	**259**	P	**Pn**	**04 08 35.6**	**-1.4**
WB0	**Warramunga Arr**	**13.70**	**164**	Pn	**Pn**	**04 08 47.2**	**-1.6**
WRA	**Warramunga Arr**	**13.86**	**165**	Pn	**Pn**	**04 08 49.4**	**-1.4**
WRA	**Warramunga Arr**	**13.86**	**165**	Pn	**Pn**	**04 08 49.2**	**-1.5**
	1.3nm,0.3s,baz=342,slow=10.0,SNR=15						
WRA				Sn	Sn	04 11 12.8	-11
	2.8nm,0.3s,baz=348,slow=23,SNR=9.2						
	0.8nm,0.4s						
WB2	**Warramunga Arr**	**13.86**	**165**	Pn	**Pn**	**04 08 49.5**	**-1.3**
WR8	**Warramunga Arr**	**13.91**	**164**	Pn	**Pn**	**04 08 49.7**	**-1.8**
COEN	**Coen**	**14.52**	**122**	P	**P**	**04 09 02.2**	**+0.7**
COEN	**Coen**	**14.52**	**122**	P	**P**	**04 09 02.6**	**+1.1**
QIS	**Mount Isa**	**16.53**	**148**	P	**Pn**	**04 09 26.6**	**+2.8**
ASAR	**Alice Springs**	**17.36**	**169**	P	**Pn**	**04 09 34.9**	**+1.1**
	0.7nm,0.3s,baz=347,slow=10,SNR=33						
ASAR				S	**S**	**04 12 39.0**	**-7.1**
	1.5nm,0.5s,baz=348,slow=26,SNR=7.3						
	2.5nm,0.5s						
AS01	**Alice Springs**	**17.37**	**169**	P	**Pn**	**04 09 35.7**	**+1.8**
UGM	**Wanagama**	**19.83**	**265**	P	**Pn**	**04 10 02.8**	**-0.2**
OOD	**Oodnadatta**	**21.73**	**167**	P	**P**	**04 10 21.8**	**+1.8**
XMIS	**Christmas Isla**	**24.84**	**259**	P	**P**	**04 10 49.5**	**+0.2**
LCRK	**Leigh Creek**	**24.89**	**164**	P	**P**	**04 10 53.6**	**+4.1**
STKA	**Stephens Creek**	**27.28**	**159**	P	**P**	**04 11 12.7**	**+1.7**
STKA				IAmb	IAmb	04 11 34.3	
	comp=Z,44nm,1.4s						
STKA	**Stephens Creek**	**27.28**	**159**	P	**P**	**04 11 13.0**	**+1.9**
	comp=Z,0.9nm,0.4s,baz=327,slow=9.3,SNR=5.7						
	comp=Z,0.9nm,0.4s						
HNR	**Honiara**	**29.34**	**98**	LR	LR	04 23 08.6	
	comp=Z,37nm,18.8s,baz=32,slow=36						
TOO	**Toolangi**	**33.79**	**158**	P	**P**	**04 12 08.8**	**+0.5**
TOO				IAmb	IAmb	04 12 31.0	
	comp=Z,5.1nm,1.5s						
CMAR	**Chiang Mai Arr**	**39.79**	**309**	P	**P**	**04 12 56.0**	**-3.2**
	comp=Z,1.4nm,0.4s,baz=119,slow=8.9,SNR=2.2						
	comp=Z,1.4nm,0.4s						
SONM	**Songino Array**	**58.14**	**341**	P	**P**	**04 15 19.5**	**+0.9**
SONM	**Songino Array**	**58.14**	**341**	P	**P**	**04 15 18.7**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=174,slow=6.1,SNR=2.6						
	comp=Z,0.3nm,0.4s						
MK31	**Makanchi Array**	**68.08**	**327**	P	**P**	**04 16 23.8**	**-0.2**
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**04 16 24.2**	**+0.1**
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**04 16 24.0**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=125,slow=7.4,SNR=19						
	comp=Z,0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**72.35**	**328**	P	**P**	**04 16 49.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=127,slow=5.0,SNR=5.6						
	comp=Z,0.3nm,0.5s						
NRIK	**Noril'sk**	**81.22**	**346**	P	**P**	**04 17 41.7**	**+2.5**
NRIK				IAmb	IAmb	04 17 43.1	
	comp=Z,1.9nm,0.8s						
ABKAR	**Akbulak array**	**82.43**	**321**	P	**P**	**04 17 47.9**	**+1.9**
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**04 17 52.7**	**+1.5**
QSPA				IAmb	IAmb	04 17 53.3	
	comp=Z,1.6nm,1.2s						
K13K	**Kusilvak Mount**	**84.26**	**25**	P	**P**	**04 17 56.8**	**+1.7**
K13K				IAmb	IAmb	04 18 21.3	
	comp=Z,8.9nm,1.4s						

VAO ***02*** *04:09:27.2±1.5, 1°.78N×77°.26W, h85km±8km, mb4.3*
RSNC ***02*** *04:09:27.2±0.0, 2°.N±1°×7°.7W±°, h57km±3km, M3.6, mb4.4, mB5.3, ML3.4, Mw(mB)4.7*
IDC ***02*** *04:09:28.1±2.1, 1°.85N×77°.41W, h101km±20km, mb3.3/7, mbtmp3.8/11, MS3.1/1, Error ellipse: s-maj=21.9km s-min=17.4km az=101.0*
ISC 02 04:09:25.3±0.7, 1°.92N±0°.03×77°.45W±0°.03, h72km±6km, n57, σ1.55/86, mb3.6/6, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAC	**Balboa, Cauca**	**0.23**	**64**	P	**Pn**	**04 09 37.0**	**+0.4**
BBAC				S	**Sn**	**04 09 45.3**	**+0.5**
CRUC	**La Cruz**	**0.61**	**125**	P	**Pn**	**04 09 40.1**	**+0.3**
CRUC				S	**Sn**	**04 09 50.6**	**+0.1**
GCUF	**Volcan Galeras**	**0.70**	**171**	P	**Pn**	**04 09 40.9**	**-0.1**
GCUF				S	**Sn**	**04 09 51.8**	**-0.6**
POPC	**Popayan, Colom**	**0.99**	**52**	P	**Pn**	**04 09 44.2**	**+0.2**
POPC				S	**Sn**	**04 09 57.7**	**-0.2**
CMBC	**Cumbal**	**1.04**	**201**	P	**Pn**	**04 09 46.1**	**+1.1**
CMBC				S	**Sn**	**04 10 00.8**	**+1.3**
TULM	**Tulcn-Chalpat**	**1.25**	**196**	P	**Pn**	**04 09 48.9**	**+1.4**
TULM				S	**Sn**	**04 10 04.9**	**+0.8**
TUMC	**Tumaco**	**1.28**	**266**	P	**Pn**	**04 09 48.3**	**+0.8**
TUMC				S	**Sn**	**04 10 04.9**	**+0.7**
GR1C	**Gorgona, Isla**	**1.29**	**326**	P	**Pn**	**04 09 47.4**	**-0.3**
GR1C				S	**Sn**	**04 10 03.7**	**-0.7**
FLOC	**Florencia**	**1.83**	**101**	P	**Pn**	**04 09 55.6**	**+0.8**
FLOC				S	**Sn**	**04 10 17.2**	**+0.1**
CUSE	**Cuicocha Este**	**1.87**	**211**	P	**Pn**	**04 09 57.9**	**+2.2**
CUSE				S	**Sn**	**04 10 22.4**	**+3.8**
OTAV	**Otavalo**	**1.95**	**211**	P	**Pn**	**04 09 58.4**	**+1.6**
OTAV				S	**Sn**	**04 10 23.3**	**+2.6**
OTAV	**Otavalo**	**1.95**	**211**	*e*P	**Pn**	**04 09 58.6**	**+1.7**
GARC	**Garzon, Huila**	**1.97**	**82**	P	**Pn**	**04 09 57.8**	**+0.9**
GARC				S	**Sn**	**04 10 21.2**	**+0.3**
MALC	**Bahia Malaga**	**2.08**	**3**	P	**Pn**	**04 09 59.5**	**+1.3**
MALC				S	**Sn**	**04 10 24.5**	**+1.4**
PAC1	**Pacto, Paraso**	**2.12**	**219**	P	**Pn**	**04 09 59.3**	**+0.4**
PAC1				S	**Sn**	**04 10 24.5**	**+0.1**
BETC	**Betania**	**2.14**	**69**	P	**Pn**	**04 10 00.5**	**+1.5**
BETC				S	**Sn**	**04 10 25.6**	**+0.8**
YOTC	**Yotoco, Valle**	**2.33**	**28**	P	**Pn**	**04 10 02.7**	**+1.1**
YOTC				S	**Sn**	**04 10 30.3**	**+1.0**
ORTC	**Ortega, Tolima**	**2.96**	**48**	P	**Pn**	**04 10 11.9**	**+1.9**
ORTC				S	**Sn**	**04 10 45.7**	**+1.2**
PIZC	**Pizarro, Choco**	**3.02**	**2**	P	**Pn**	**04 10 11.2**	**+0.3**
PIZC				S	**Sn**	**04 10 46.1**	**0.0**
PRAC	**Prado**	**3.12**	**55**	P	**Pn**	**04 10 13.8**	**+1.5**
PRAC				S	**Sn**	**04 10 49.3**	**+0.9**
PTLC	**Puerto Leguiza**	**3.17**	**123**	P	**Pn**	**04 10 15.3**	**+2.3**
ANIL	**Santa Ana**	**3.27**	**39**	P	**Pn**	**04 10 15.9**	**+1.4**
ANIL				S	**Sn**	**04 10 53.3**	**+0.8**
URMC	**La Uribe, Meta**	**3.34**	**67**	P	**Pn**	**04 10 16.6**	**+1.3**
URMC				S	**Sn**	**04 10 54.2**	**+0.4**
MACC	**Macarena, Meta**	**3.61**	**86**	P	**Pn**	**04 10 19.6**	**+0.7**
MACC				S	**Sn**	**04 11 00.8**	**+0.5**
CBOC	**Ciudad Bolivar**	**4.17**	**20**	P	**Pn**	**04 10 28.2**	**+1.5**
CBOC				S	**Sn**	**04 11 15.2**	**+0.9**
CVER	**Cruz Verde, Cu**	**4.25**	**52**	P	**Pn**	**04 10 29.8**	**+1.8**
ROSC	**El Rosal**	**4.26**	**47**	P	**Pn**	**04 10 30.8**	**+2.7**
	19nm,0.4s,baz=27,slow=4.9,SNR=9.9						
ROSC				S	**Sn**	**04 11 21.5**	**+4.6**
	28nm,0.5s,baz=253,slow=19,SNR=3.9						
ROSC	**El Rosal**	**4.26**	**47**	P	**Pn**	**04 10 30.9**	**+2.7**
VILC	**Villavicencio,**	**4.33**	**60**	P	**Pn**	**04 10 31.7**	**+2.8**
VILC				S	**Sn**	**04 11 20.8**	**+2.5**
NORC	**Norcasia**	**4.44**	**35**	P	**Pn**	**04 10 32.3**	**+2.0**
CHIC	**Chingaza**	**4.58**	**54**	P	**Pn**	**04 10 34.7**	**+2.1**
HELC	**Santa Helena**	**4.65**	**24**	P	**Pn**	**04 10 36.1**	**+2.6**
HELC				S	**Sn**	**04 11 28.2**	**+1.8**
PTBC	**PUERTO BERRIO,**	**5.47**	**33**	P	**Pn**	**04 10 45.5**	**+1.1**
	213nm16nm,0.5s						
PTBC				S	**Sn**	**04 11 44.4**	**-1.6**
	213nm16nm,0.5s						
AZU	**Azuero**	**6.47**	**334**	P	**Pn**	**04 10 59.2**	**+1.1**
	1μm22nm,0.5s						
AZU				S	**Sn**	**04 12 08.9**	**-1.7**
	1μm22nm,0.5s						
BCIP	**Isla Barro Col**	**7.58**	**342**	P	**Pn**	**04 11 14.6**	**+1.4**
BCIP				S	**Sn**	**04 12 36.6**	**-1.0**
ATAH	**Atahualpa**	**9.05**	**186**	P	**Pn**	**04 11 35.4**	**+1.8**
	2.8nm,0.6s,baz=8.1,slow=7.1,SNR=3.8						
TBTG	**Tabatinga, AM**	**9.68**	**129**	*e*P	**Pn**	**04 11 40.0**	**-1.9**
CZSB	**Cruzeiro do Su**	**10.69**	**154**	*e*P	**Pn**	**04 11 54.9**	**-0.9**
JTS	**Las Juntas de**	**11.17**	**318**	P	**Pn**	**04 12 06.3**	**+4.0**
	4.0nm,0.4s,baz=148,slow=15,SNR=5.6						
TEFE	**Tefe**	**13.90**	**113**	*e*P	**Pn**	**04 12 37.9**	**-1.2**
SJG	**San Juan**	**19.54**	**34**	P	**Pn**	**04 13 49.3**	**+0.2**
	6.6nm,0.6s,baz=225,slow=4.3,SNR=5.6						
LPAZ	**La Paz**	**20.30**	**153**	P	**P**	**04 13 55.6**	**-0.6**
	0.8nm,0.7s,baz=340,slow=4.4,SNR=2.5						
	0.8nm,0.7s						
CMIG	**Matias Romero**	**22.83**	**312**	LR	LR	04 22 25.8	
	comp=Z,52nm,20.0s,baz=29,slow=34						
NPGB	**Novo Progresso**	**23.78**	**112**	*e*P	**P**	**04 14 30.0**	**-1.6**
PDRB	**Porto dos Gac**	**24.60**	**124**	*e*P	**P**	**04 14 38.0**	**-1.1**
PTLB	**Pontes e Lacer**	**25.02**	**134**	*e*P	**P**	**04 14 41.0**	**-1.9**
MURT	**Porto Murtinho**	**30.42**	**141**	*e*P	**P**	**04 15 29.4**	**-1.7**
TXAR	**Lajitas Array**	**36.95**	**320**	P	**P**	**04 16 28.9**	**+1.0**
	0.6nm,0.8s,baz=130,slow=6.5,SNR=6.6						
TXAR				PcP	**PcP**	**04 18 48.4**	**+0.5**
	0.5nm,0.7s,baz=146,slow=2.9,SNR=5.6						
	0.6nm,0.8s						
PDAR	**Pinedale Array**	**49.76**	**329**	P	**P**	**04 18 12.0**	**+1.1**
	0.2nm,0.4s,baz=127,slow=5.0,SNR=2.9						
	0.2nm,0.4s						
ULM	**Lac du Bonnet**	**50.63**	**345**	P	**P**	**04 18 15.5**	**-1.5**
	1.7nm,0.6s,baz=165,slow=4.2,SNR=4.1						
	1.7nm,0.6s						
NVAR	**Mina Array Bea**	**52.10**	**319**	P	**P**	**04 18 29.2**	**+0.7**
	0.6nm,0.6s,baz=116,slow=6.0,SNR=6.5						
NVAR				PcP	**PcP**	**04 19 38.9**	**-0.8**
	0.9nm,0.7s,baz=73,slow=3.0,SNR=5.8						
	0.6nm,0.6s						
YKA	**Yellowknife Ar**	**66.46**	**342**	P	**P**	**04 20 06.6**	**-0.3**
	0.5nm,0.7s,baz=144,slow=5.4,SNR=11						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**79.60**	**336**	P	**P**	**04 21 23.8**	**-0.7**
	0.3nm,0.6s,baz=107,slow=7.8,SNR=5.2						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**123.77**	**18**	PKP	**PKPdf**	**04 28 14.6**	**-0.4**
	0.5nm,0.5s,baz=328,slow=2.3,SNR=7.6						
MKAR	**Makanchi Array**	**128.31**	**18**	PKP	**PKPdf**	**04 28 23.3**	**-0.6**
	0.5nm,0.7s,baz=0.4,slow=3.1,SNR=5.3						
ASAR	**Alice Springs**	**142.74**	**232**	PKhKP	PKPpre	04 28 46.5	
	2.4nm,0.5s,baz=122,slow=3.7,SNR=25						
WRA	**Warramunga Arr**	**144.15**	**238**	PKP	**PKPab**	**04 28 51.3**	**-0.3**
	3.5nm,0.6s,baz=116,slow=3.0,SNR=21						

IDC ***02*** *04:40:30.1±1.4, 8°.07S×68°.09E, h0km, mb3.9/12, mbtmp3.9/12, MS3.6/21, Error ellipse: s-maj=45.6km s-min=22.7km az=49.0*
NEIC ***02*** *04:40:31.5±1.6, 8°.47S±0°.08×68°.32E±0°.09, h10km±1km, mb4.6/14, Error ellipse: s-maj=19.8km s-min=6.8km az=132.0*
ISC 02 04:40:30.6±0.6, 8°.3S±0°.1×68°.31E±0°.07, h10km, n56, σ1.19/40, mb4.3/19, MS3.6/20, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**4.18**	**81**	Pn	**Pn**	**04 41 34.5**	**+0.2**
	baz=290,slow=15						
H08S1				Sn	**Sn**	**04 42 22.2**	**-1.0**
H08S3	**Diego Garcia H**	**4.20**	**81**	Pn	**Pn**	**04 41 34.7**	**+0.2**
	baz=290,slow=15						
H08S3				Sn	**Sn**	**04 42 22.3**	**-1.1**
H08S2	**Diego Garcia H**	**4.20**	**81**	Pn	**Pn**	**04 41 34.7**	**+0.2**
	baz=290,slow=15						
H08S2				Sn	**Sn**	**04 42 21.5**	**-2.1**
DGAR	**Diego Garcia**	**4.21**	**78**	Pn	**Pn**	**04 41 35.5**	**+0.7**
RER	**Riviere de l'E**	**17.59**	**222**		**Pn**	**04 44 35.7**	**-0.4**
RER				IAmb	IAmb	04 44 36.2	
	comp=Z,111nm,1.4s						
PALK	**Pallekele**	**19.83**	**39**	LR	LR	04 50 47.6	
	comp=Z,175nm,19.8s,baz=222,slow=31						
KMBO	**Kilima Mbogo**	**31.75**	**281**	P	**P**	**04 46 55.1**	**-0.3**
KMBO	**Kilima Mbogo**	**31.75**	**281**	LR	LR	04 57 06.3	
	comp=Z,53nm,21.5s,baz=135,slow=32						
PSI	**Prapat**	**32.47**	**71**	LR	LR	05 00 43.2	
	comp=Z,164nm,18.1s,baz=253,slow=37						
KULM	**Kulim**	**34.98**	**68**	P	**P**	**04 47 23.5**	**+0.1**
KULM				IAmb	IAmb	04 47 49.6	
	comp=Z,6.7nm,1.1s						
MYKOM	**Kota Tinggi**	**36.84**	**76**	P	**P**	**04 47 40.1**	**+0.7**
MYKOM				IAmb	IAmb	04 48 15.9	
	comp=Z,8.9nm,1.1s						
BRDH	**Bariadhala**	**38.37**	**36**	LR	LR	05 02 50.5	
	comp=Z,151nm,19.7s,baz=80,slow=35						
LSZ	**Lusaka**	**39.82**	**256**	LR	LR	05 03 58.2	
	comp=Z,99nm,18.0s,baz=103,slow=36						
H04N2	**CROZET ISLANDS**	**40.27**	**198**	T	T	05 31 24.1	
	baz=25						
H04N1	**CROZET ISLANDS**	**40.28**	**198**	T	T	05 31 09.6	
	baz=25,slow=74						
CMAR	**Chiang Mai Arr**	**40.28**	**48**	P	**P**	**04 48 09.9**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=238,slow=8.2,SNR=1.3						
CMAR				PcP	**PcP**	**04 50 13.0**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=223,slow=4.0,SNR=1.9						
CMAR				LR	LR	05 02 09.8	
	comp=Z,46nm,20.1s,baz=240,slow=32						
	comp=Z,0.7nm,0.3s						
H04N3	**CROZET ISLANDS**	**40.29**	**198**	T	T	05 31 09.2	
	baz=25,slow=74						
SMRI	**Semarang**	**41.76**	**91**	P	**P**	**04 48 20.1**	**-0.4**
SMRI				IAmb	IAmb	04 48 39.5	
	comp=Z,39nm,1.1s						
LSA	**Lhasa**	**43.74**	**29**	P	**P**	**04 48 36.5**	**-0.3**
LSA				IAmb	IAmb	04 48 39.8	
	comp=Z,7.6nm,0.4s						
LBTB	**Lobatse**	**43.92**	**243**	LR	LR	05 04 09.3	
	comp=Z,157nm,19.7s,baz=104,slow=32						
BOSA	**Boshof**	**45.22**	**238**	LR	LR	05 07 41.4	
	comp=Z,109nm,18.4s,ba

comp=Z,5.1nm,1.1s
ARTI Arti 65.01 354 P P 04 51 09.7 -0.9
comp=Z,2.6nm,0.6s,baz=141,slow=12,SNR=4.8
ARTI LR LR 05 19 13.8
comp=Z,21nm,18.8s,baz=148,slow=36
comp=Z,2.6nm,0.6s
SONM Songino Array 65.27 27 P P 04 51 12.9 +0.2
comp=Z,2.4nm,1.0s,baz=224,slow=6.0,SNR=11
comp=Z,2.4nm,1.0s
JOW Kunigami 67.80 57 LR LR 05 21 58.4
comp=Z,44nm,18.4s,baz=131,slow=37
AKASG Malin Array Be 67.83 334 P P 04 51 28.2 -0.7
comp=Z,0.2nm,0.3s,baz=135,slow=6.1,SNR=1.6
comp=Z,0.2nm,0.3s
KSRS Korea Array 71.87 46 LR LR 05 23 33.7
comp=Z,15nm,19.6s,baz=240,slow=36
SNAA Sanae 76.24 198 LR LR 05 20 40.9
comp=Z,104nm,18.7s,baz=5.0,slow=32
USRK Ussuriysk Ar. 77.56 41 LR LR 05 27 30.8
comp=Z,31nm,19.6s,baz=134,slow=36
NRIK Noril'sk 78.64 7 LR LR 05 26 07.5
comp=Z,43nm,20.4s,baz=188,slow=35
MJAR Matsushiro Arr 79.14 50 LR LR 05 26 11.7
comp=Z,20nm,22.0s,baz=221,slow=35
ARCES ARCESS Array B 83.08 346 LR LR 05 31 11.7
comp=Z,29nm,18.6s,baz=131,slow=37
YKA Yellowknife Ar 125.90 2 PKP PKPdf 04 59 32.3 -0.2
comp=Z,0.4nm,0.9s,baz=2.0,slow=1.6,SNR=4.8
PDAR Pinedale Array 145.66 357 PKPbc PKPdf 05 00 10.0 +0.1
comp=Z,0.8nm,0.9s,baz=337,slow=3.6,SNR=6.0
NVAR Mina Array Bea 149.45 10 PKPbc PKPbc 05 00 21.2 +0.4
comp=Z,0.9nm,0.8s,baz=343,slow=2.6,SNR=6.6
TXAR Lajitas Array 157.79 341 PKPab PKPab 05 01 00.0 -0.7
comp=Z,0.2nm,0.9s,baz=102,slow=4.2,SNR=3.4

---

*ISN **02** 04:49:41.3±0.4, 33°.79N×45°.84E, h9km±17km, ML2.5*
*TEH **02** 04:49:45.8, 33°.79N×45°.90E, h6km±990km*
ISC 02 04:49:43.9±1.2, 33°.69N±0°.05×45°.82E±0°.07, h10km, n7, σ1§31/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.43**	**10**	Pg	**Pg**	**04 49 52.3**	**-0.2**
IBDR	**Badra**	**0.58**	**171**	*e*Pg	**Pg**	**04 49 54.5**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**0.84**	**347**	Pg	**Pn**	**04 50 02.0**	**+0.2**
IGHG	**Ghaleghazi**	**0.90**	**44**	Pg	**Pn**	**04 50 02.6**	**-0.2**
IDHR	**Dehrash**	**1.12**	**25**	Pg	**Pn**	**04 50 06.0**	**+0.2**
IDHR				Sg	**Sn**	**04 50 22.2**	**+0.8**
BHD	**Baghdad**	**1.27**	**251**	*e*Pn	**Pn**	**04 50 07.5**	**-0.2**
BHD				*e*Sn	**Sb**	**04 50 26.9**	**+2.6**
BHD				AML	AML	04 50 28.8	
	comp=E,98nm,0.9s						
IKRK	**Kirkuk**	**2.10**	**325**	*e*Pn	**Pn**	**04 50 17.7**	**-1.5**
IKRK				*e*Sn	**Sn**	**04 50 44.0**	**-1.3**

---

*ISN **02** 04:51:52.7±0.4, 33°.50N×45°.87E, h7km±5km, ML2.7*
*TEH **02** 04:51:53.4, 33°.49N×45°.87E, h10km*
ISC 02 04:51:53.6±1.0, 33°.45N±0°.04×45°.87E±0°.07, h19km, n6, σ0§97/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.34**	**172**	*e*Pg	**Pg**	**04 52 00.5**	**-0.4**
IBDR				*e*Sg	**Sg**	**04 52 06.0**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.66**	**3**	Pg	**Pb**	**04 52 05.6**	**-0.9**
IGHG	**Ghaleghazi**	**1.05**	**33**	Pg	**Pb**	**04 52 13.1**	**-0.2**
BHD	**Baghdad**	**1.26**	**262**	*e*Pg	**Pn**	**04 52 17.0**	**+0.9**
BHD				*e*Sg	**Sg**	**04 52 34.5**	**+0.1**
BHD				AML	AML	04 52 43.5	
	comp=E,173nm,0.6s						
IDHR	**Dehrash**	**1.32**	**19**	Pg	**Pg**	**04 52 18.5**	**-0.6**
IDHR				Sg	**Sg**	**04 52 36.9**	**+0.5**
IKRK	**Kirkuk**	**2.32**	**327**	*e*Pn	**Pn**	**04 52 32.5**	**+1.8**
IKRK				*e*Sn	**Sb**	**04 53 02.0**	**-1.1**

---

*GCG **02** 05:27:07.7±0.4, 14°.61N×92°.40W, h69km±5km, MD3.6*
*MEX **02** 05:27:08.9±0.9, 14°.61N×92°.55W, h64km±15km, MD3.8*
ISC 02 05:27:05.5±2.1, 14°.6N±0°.1×92°.43W±0°.07, h81km±12km, n12, σ2§12/21, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.35**	**27**	*e*P	**Pn**	**05 27 18.9**	**+0.7**
THIG				*i* S	**Sn**	**05 27 27.1**	**-0.5**
SMCA	**Catarina**	**0.43**	**53**	*e*P	**Pn**	**05 27 19.8**	**+1.0**
SMCA				*e*S	**Sn**	**05 27 28.6**	**0.0**
PATR	**El Naranjo**	**0.55**	**20**	*e*P	**Pn**	**05 27 20.4**	**+0.3**
PATR				*i* S	**Sn**	**05 27 30.4**	**-0.5**
PAVE	**Pavencul**	**0.64**	**22**	*e*P	**Pn**	**05 27 21.5**	**+0.6**
PAVE				*i* S	**Sn**	**05 27 32.5**	**+0.2**
STG8	**El Palmar, Qui**	**1.05**	**98**	*e*P	Pn	05 27 24.3	-1.1
STG8				*e*S	**Sn**	**05 27 37.8**	**-2.6**
STG0	**El Palmar, Qui**	**1.07**	**99**	*e*P	Pn	05 27 24.4	-1.2
STG0				*i* S	**Sn**	**05 27 37.5**	**-3.0**
HUEH	**Huehuetenango**	**1.15**	**51**	*e*P	**Pn**	**05 27 27.9**	**+1.3**
HUEH				*e*S	**Sn**	**05 27 43.4**	**+0.9**
PCIG		**1.34**	**325**	*e*P	**Pn**	**05 27 29.6**	**+0.8**
PCIG				*i* S	**Sn**	**05 27 44.2**	**-2.1**
CCIG	**Comitan**	**1.70**	**10**	*e*P	**Pn**	**05 27 35.9**	**+2.2**
CCIG				*i* S	**Sn**	**05 27 53.2**	**-1.7**
CCIG	**Comitan**	**1.70**	**10**	*e*P	**Pn**	**05 27 35.9**	**+2.2**
TGIG		**2.27**	**343**	*i* P	**Pn**	**05 27 39.4**	**-1.7**
TGIG				*i* S	**Sn**	**05 28 04.4**	**-3.9**
CMIG	**Matias Romero**	**3.43**	**317**	*e*P	**Pn**	**05 28 00.6**	**+4.0**
CMIG				*i* S	**Sn**	**05 28 34.3**	**-1.8**

---

*IDC **02** 06:02:58.5±0.7, 4°.89N×126°.71E, h0km, mb4.1/11, mbtmp4.1/11, MS3.4/9, Error ellipse: s-maj=66.0km s-min=14.9km az=69.0*
*NEIC **02** 06:03:04.0±0.9, 4°.91N±0°.07×126°.7E±0°.1, h31km±4km, mb4.5/14, Error ellipse: s-maj=17.5km s-min=8.0km az=69.0*
*DJA **02** 06:03:04.0±0.9, 5°.N±.7°×12°.7E±°, h10km±5km, M4.4/8, mB4.7/1, mb4.5/3, MLv4.3/8, Mw(mB)3.9/1*
ISC 02 06:03:04.1±0.6, 4°.81N±0°.06×126°.7E±0°.1, h35km, n43, σ1§31/40, mb4.3/18, MS3.5/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.62**	**227**	P	**Pn**	**06 03 29.0**	**-1.3**
DAV	**Davao City (W)**	**2.52**	**333**	Pn	**Pn**	**06 03 40.9**	**-1.6**
DAV	**Davao City (W)**	**2.52**	**333**	Pn	**Pn**	**06 03 43.6**	**+1.1**
	21nm,0.3s,baz=229,slow=9.3,SNR=1.1						
DAV				Sn	**Sn**	**06 04 17.5**	**+5.6**
	baz=107,slow=11						
DAV				LR	LR	06 04 35.1	
	comp=Z,213nm,21.6s,baz=324,slow=40						
TNTI	**Ternate**	**4.06**	**171**	Pn	**Pn**	**06 04 05.0**	**+1.2**
SANI	**Sanana**	**6.85**	**186**	P	**Pn**	**06 04 42.6**	**+0.5**
SANI				S	**Sn**	**06 05 58.7**	**-0.2**
TOLI2	**Tolitoli**	**6.97**	**238**	Pn	**Pn**	**06 04 44.4**	**+0.6**
LUWI	**Luwuk**	**7.02**	**214**	Pn	**Pn**	**06 04 47.6**	**+3.1**
APSI	**Ampana**	**7.61**	**222**	P	**Pn**	**06 04 52.3**	**-0.2**
MYLDM	**Lahad Datu**	**8.19**	**273**	Pn	**Pn**	**06 04 59.6**	**-1.0**
KNRA	**Kununurra**	**20.45**	**174**	P	**P**	**06 07 39.5**	**+0.7**
KNRA				IAmb	IAmb	06 07 55.0	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.79**	**183**	P	**P**	**06 08 05.0**	**+1.2**
WB0	**Warramunga Arr**	**25.56**	**163**	P	**P**	**06 08 30.2**	**+0.3**
WB0				IAmb	IAmb	06 08 38.7	
	comp=Z,35nm,1.5s						
WRAB	**Tennant Creek**	**25.71**	**163**	P	**P**	**06 08 32.3**	**+1.0**
WRAB				IAmb	IAmb	06 08 40.7	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**25.71**	**163**	P	**P**	**06 08 31.2**	**-0.2**
WRA	**Warramunga Arr**	**25.71**	**163**	P	**P**	**06 08 31.1**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=342,slow=9.0,SNR=36						
	comp=Z,3.6nm,0.6s						
WB2	**Warramunga Arr**	**25.72**	**163**	P	**P**	**06 08 32.0**	**+0.7**
WB2				IAmb	IAmb	06 08 40.8	
	comp=Z,16nm,1.1s						
WR8	**Warramunga Arr**	**25.77**	**163**	P	**P**	**06 08 32.4**	**+0.5**
WR8				IAmb	IAmb	06 08 40.8	
	comp=Z,19nm,1.4s						
PSA00	**Pilbara Seismi**	**27.07**	**194**	P	**P**	**06 08 43.4**	**-0.2**
PSA00				IAmb	IAmb	06 08 54.2	
	comp=Z,8.7nm,1.0s						
ASAR	**Alice Springs**	**29.16**	**166**	P	**P**	**06 09 03.5**	**+1.3**
ASAR	**Alice Springs**	**29.16**	**166**	P	**P**	**06 09 01.8**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=346,slow=8.1,SNR=13						
ASAR				PcP	**PcP**	**06 12 09.6**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=348,slow=2.4,SNR=2.2						
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.33**	**299**	LR	LR	06 24 37.7	
	comp=Z,29nm,18.1s,baz=145,slow=43						
FORT	**Forrest**	**35.41**	**178**	P	**P**	**06 09 57.1**	**+0.3**
HNR	**Honiara**	**36.01**	**113**	LR	LR	06 24 46.1	
	comp=Z,31nm,18.5s,baz=166,slow=36						
EIDS	**Eidsvold**	**38.21**	**143**	P	**P**	**06 10 20.6**	**-0.2**
EIDS				IAmb	IAmb	06 10 41.0	
	comp=Z,21nm,1.5s						
BBOO	**Buckleboo**	**38.45**	**167**	P	**P**	**06 10 21.8**	**-0.9**
STKA	**Stephens Creek**	**39.14**	**160**	P	**P**	**06 10 29.1**	**+0.7**
STKA	**Stephens Creek**	**39.14**	**160**	P	**P**	**06 10 29.1**	**+0.7**
	comp=Z,3.5nm,0.8s,baz=336,slow=11,SNR=7.1						
	comp=Z,3.5nm,0.8s						
ASAJ	**Asahikawa**	**41.57**	**17**	LR	LR	06 27 48.6	
	comp=Z,23nm,20.0s,baz=294,slow=36						
SONM	**Songino Array**	**46.28**	**341**	P	**P**	**06 11 25.6**	**-0.8**
SONM	**Songino Array**	**46.28**	**341**	P	**P**	**06 11 25.5**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=163,slow=11,SNR=4.1						
	comp=Z,0.6nm,0.6s						
MK31	**Makanchi Array**	**56.67**	**325**	P	**P**	**06 12 43.4**	**-0.7**
MK31				IAmb	IAmb	06 12 58.1	
	comp=Z,3.0nm,1.4s						
MKAR	**Makanchi Array**	**56.67**	**325**	P	**P**	**06 12 43.3**	**-0.7**
MKAR	**Makanchi Array**	**56.67**	**325**	P	**P**	**06 12 43.2**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=122,slow=8.0,SNR=12						
MKAR				PcP	**PcP**	**06 13 40.0**	**0.0**
	comp=Z,0.9nm,0.8s,baz=124,slow=4.1,SNR=3.9						
MKAR				LR	LR	06 36 49.5	
	comp=Z,35nm,18.4s,baz=86,slow=36						
	comp=Z,1.2nm,0.7s						
AAK	**Ala-Archa**	**59.56**	**317**	LR	LR	06 40 53.3	
	comp=Z,37nm,19.7s,baz=118,slow=38						
KURBB	**Kurchatov Arra**	**60.83**	**327**	P	**P**	**06 13 11.8**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=125,slow=6.0,SNR=17						
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**66.41**	**327**	P	**P**	**06 13 48.9**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=124,slow=7.2,SNR=8.7						
	comp=Z,1.9nm,0.7s						
NRIK	**Noril'sk**	**69.39**	**346**	P	**P**	**06 14 07.7**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=141,slow=6.5,SNR=3.8						
	comp=Z,1.3nm,0.3s						
AKTO	**Aktyubinsk**	**72.81**	**321**	P	**P**	**06 14 28.4**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=116,slow=7.2,SNR=2.2						
	comp=Z,1.3nm,0.7s						
ILAR	**Eielson Array**	**84.14**	**25**	P	**P**	**06 15 30.6**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=253,slow=5.8,SNR=5.6						
	comp=Z,0.3nm,0.6s						
MAW	**Mawson**	**84.75**	**200**	LR	LR	06 54 01.6	
	comp=Z,116nm,18.4s,baz=80,slow=36						
ARCES	**ARCESS Array B**	**89.44**	**340**	P	**P**	**06 15 56.5**	**-0.6**
	comp=Z,4.0nm,1.0s,baz=78,slow=5.1,SNR=4.0						
	comp=Z,4.0nm,1.0s						
MLR	**Muntele Rosu**	**94.12**	**316**	LR	LR	07 03 52.2	
	comp=Z,31nm,18.7s,baz=244,slow=39						
NOA	**NORSAR Array B**	**97.82**	**334**	LR	LR	07 05 39.2	
	comp=Z,18nm,19.3s,baz=315,slow=38						

---

*ASRS **02** 06:05:13.0±1.4, 53°.54N×87°.64E, h0km, M3.1, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 02 06:05:16.4±2.8, 53°.51N×87°.54E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=22.7km s-min=13.7km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**286**	I	I	06 17 00.0	
	0.3nm,1.0s,baz=100,slow=329,SNR=9.8						
ZALV	**Zalesovo Beam**	**1.67**	**286**	Pg	Pn	06 05 46.4	-0.5
	0.9nm,0.3s,baz=100,slow=19,SNR=20						
ZALV				Lg	Lg	06 06 10.0	
	3.5nm,0.3s,baz=104,slow=31,SNR=15						
ZALV				I	I	06 16 59.6	
	baz=168,slow=34,SNR=10						
KURBB	**Kurchatov Arra**	**6.26**	**246**	Pn	Pn	06 06 51.3	+1.4
	0.1nm,0.3s,baz=63,slow=14,SNR=7.1						
KURBB				Sn	Sn	06 07 59.2	-2.9
	baz=64,slow=19,SNR=1.7						
KURBB				Lg	Lg	06 08 34.9	
	0.1nm,0.3s,baz=60,slow=30,SNR=11						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**7.52**	**209**	Pn	Pn	06 07 08.2	+1.0
	0.2nm,0.3s,baz=21,slow=11,SNR=6.4						
MKAR				Sn	Sn	06 08 32.8	-0.4
	0.1nm,0.3s,baz=27,slow=29,SNR=5.1						
MKAR				Lg	Lg	06 09 15.1	
	0.1nm,0.3s,baz=25,slow=35,SNR=11						
	0.4nm,0.4s						

NEIC 02 06:05:53.6±1.3, 37°.71N±0°.02×103°.108W±0°.008, h5km±1km, ML1.7/4, Error ellipse: s-maj=3.0km s-min=2.7km az=280.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**1.19**	**241**	Pg	Pg	06 06 15.6	-0.8
T25A				Sg	Sg	06 06 29.5	-2.2
T25A				IAML		06 06 35.2	
	comp=E,26nm,0.3s						
RTBA	**Rita Blanca**	**1.31**	**167**		Pn	06 06 17.8	-0.8
RTBA				Sg	Sg	06 06 34.8	-0.8
KSCO	**Kaye Shedlock'**	**1.35**	**16**		Pn	06 06 18.4	-0.8
SDCO	**Great Sand Dun**	**1.90**	**272**	Pn	Pb	06 06 28.6	-0.3
SDCO					Sb	06 06 53.1	+0.1
Q24A	**Divide**	**2.03**	**308**	Pn	Pb	06 06 31.1	-0.1
ISCO	**Idaho Springs**	**2.86**	**318**	Pn	Pn	06 06 39.8	-0.3

---

*IDC **02** 06:12:15.2±0.9, 44°.37N×149°.22E, h0km, mb3.5/9, mbtmp3.5/11, ML2.9/2, MS2.6/2, Error ellipse: s-maj=27.7km s-min=20.8km az=134.0*
*MOS **02** 06:12:18.5±1.8, 44°.55N×149°.34E, h36km, mb4.2/1, Error ellipse: s-maj=13.9km s-min=9.8km az=49.7*
*SKHL **02** 06:12:19.6±0.2, 44°.40N×149°.40E, h42km±8km, mb4.4/3*
*NIED **02** 06:12:19.3, 44°.58N×149°.33E, h30km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.01; $M_{\theta\theta}$1.03; $M_{\phi\phi}$-0.02; $M_{r\theta}$4.62; $M_{\theta\phi}$-0.87; $M_{\phi r}$0.20; Fault plane solution: $M_0$4.82000×10^{14} NP1: ϕ_s=150.00000°, δ12.00000°, λ-30.00000°. NP2: ϕ_s=269.00000°, δ84.00000°, λ-101.00000°.*
*JMA **02** 06:12:19.3±0.8, 45°.N±4°.×14°.9E±°, h30km, MV4.0/13, SE OFF ETOROFU*
ISC 02 06:12:20.1±0.7, 44°.41N±0°.06×149°.34E±0°.07, h36km, n47, σ1§69/58, mb3.4/9, 4C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.34**	**309**	*c i*PN	**Pn**	**06 12 41.3**	**-0.9**
KUR				*i* S	**Sn**	**06 12 57.2**	**-1.5**
KUR	**Kuril'sk**	**1.34**	**309**	*e*P	**Pn**	**06 12 41.3**	**-0.9**
KUR				AMB	AMB	06 12 42.0	
	170nm,0.4s						
KUR				*i* S	**Sn**	**06 12 57.4**	**-1.3**
KUR				A	A	06 13 00.2	
	2μm,0.4s						
KUR				A	A	06 13 00.2	
	1μm,0.4s						
SHO	**Shikotan**	**1.89**	**254**	*e*PN	**Pn**	**06 12 49.7**	**0.0**
SHO				*i* S	**Sn**	**06 13 12.5**	**+0.2**
SHO				pmax	pmax		
	comp=Z,38nm,0.3s						
SHO				pmax	pmax		
	comp=N,12nm,0.1s						
SHO				pmax	pmax		
	comp=E,25nm,0.3s						
SHO				smax	smax		
	comp=N,181nm,0.3s						
SHO				smax	smax		
	comp=E,295nm,0.5s						
SHO	**Shikotan**	**1.89**	**254**	*e*P	**Pn**	**06 12 49.7**	**0.0**
SHO				AMB	AMB	06 12 50.9	
	comp=E,40nm,0.3s						
SHO				*i* S	**Sn**	**06 13 12.4**	**+0.2**
SHO				A	A	06 13 18.2	
	comp=E,150nm,0.3s						
SHO				A	A	06 13 18.2	
	comp=E,160nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.53**	**263**	*e*PN	**Pn**	**06 13 00.0**	**+1.4**
YUK				*i* S	**Sn**	**06 13 27.4**	**-0.7**
YUK				pmax	pmax		
	comp=Z,152nm,0.4s						
YUK				pmax	pmax		
	comp=N,30nm,0.2s						
YUK				pmax	pmax		
	comp=E,54nm,0.1s						
YUK				pmax	pmax		
	comp=Z,286nm,1.4s						
YUK				smax	smax		
	comp=N,206nm,0.2s						
YUK				smax	smax		
	comp=E,329nm,0.5s						
YUK				smax	smax		
	comp=N,317nm,1.1s						
YUK				smax	smax		
	comp=E,468nm,1.1s						
YUK	**Yuzh-Kuril'sk**	**2.53**	**263**	*e*P	**Pn**	**06 12 59.2**	**+0.6**
YUK				*i* S	**Sn**	**06 13 27.4**	**-0.7**
YUK				A	A	06 13 30.5	
	comp=E,120nm,0.5s						
YUK				A	A	06 13 30.5	
	comp=E,400nm,0.5s						
NEM2	**Nemuro 2**	**2.80**	**249**	*e*P	**Pn**	**06 13 01.7**	**-0.7**
NEM2				*e*S	**Sn**	**06 13 33.8**	**-1.0**
NMR	**Nemuro--Hokkai**	**2.81**	**250**	*e*PN	**Pn**	**06 13 01.6**	**-0.8**
NMR				*e*S	**Sn**	**06 13 33.4**	**-1.6**
NMR	**Nemuro--Hokkai**	**2.81**	**250**	*e*P	**Pn**	**06 13 01.8**	**-0.6**
NMR				*e*S	**Sn**	**06 13 35.5**	**+0.5**
RUSJ	**Misakicho**	**2.96**	**266**	*e*PN	**Pn**	**06 13 06.0**	**+1.6**
RUSJ				*i* S	**Sn**	**06 13 41.4**	**+2.7**
JRA	**Rausu**	**3.07**	**263**	*e*P	**Pn**	**06 13 07.5**	**+1.5**
JRA				*e*S	**Sn**	**06 13 42.4**	**+0.9**
JNK	**Nakash**	**3.44**	**258**	*e*P	**Pn**	**06 13 11.9**	**+0.9**
JNK				*e*S	**Sn**	**06 13 52.1**	**+1.6**
AKK	**Akkeshi**	**3.55**	**248**	*e*P	**Pn**	**06 13 13.2**	**+0.7**
AKK				*e*S	**Sn**	**06 13 52.6**	**-0.6**
JAK	**Akkeshi**	**3.65**	**249**	*e*P	**Pn**	**06 13 13.9**	**-0.1**
JAK				*e*S	**Sn**	**06 13 55.7**	**-0.1**
JTKR	**Abashiri--Toko**	**3.93**	**266**	*e*P	**Pn**	**06 13 19.7**	**+1.8**
JAR	**Ashorobuto**	**4.18**	**257**	*e*P	**Pn**	**06 13 22.5**	**+1.2**
JAR				*e*S	**Sn**	**06 14 11.3**	**+2.4**
JOB	**Onbets**	**4.27**	**251**	*e*P	**Pn**	**06 13 24.0**	**+1.5**
JOB				*e*S	**Sn**	**06 14 10.3**	**-0.7**
JCH	**Churui**	**4.70**	**250**	*e*P	**Pn**	**06 13 29.0**	**+0.5**
JCH				*e*S	**Sn**	**06 14 20.2**	**-1.5**
JKA	**Kamikawa-asahi**	**4.85**	**269**	*e*P	**Pn**	**06 13 28.9**	**-1.6**
ASAJ	**Asahikawa**	**4.85**	**269**	Pn	**Pn**	**06 13 28.9**	**-1.6**
	comp=E,0.4nm,0.3s,baz=78,slow=20,SNR=1.3						
	comp=E,1.8nm,0.5s						
ERM	**Erimo**	**5.11**	**244**	*c i*PN	**Pn**	**06 13 35.1**	**+1.0**
JNBK	**Urakawa-nobuka**	**5.25**	**248**	*e*P	**Pn**	**06 13 36.3**	**+0.3**
JNBK				*e*S	**Sn**	**06 14 32.9**	**-2.4**
JANG	**Nango**	**7.06**	**238**	*e*P	**Pn**	**06 13 58.8**	**-2.0**
JANG				*e*S	**Sn**	**06 15 12.0**	**-7.7**
PEA0B	**Petropavlovsk-**	**10.30**	**29**	⇑*e*PN	**Pn**	**06 14 42.5**	**-2.7**
PETK	**Petropavlovsk-**	**10.30**	**29**	Pn	**Pn**	**06 14 46.0**	**+0.8**
	comp=E,0.5nm,0.3s,baz=204,slow=10,SNR=7.4						
PETK				LR	LR	06 18 35.0	
	comp=E,33nm,21.8s,baz=246,slow=37						
	comp=E,1.0nm,0.5s						
MA2	**Magadan**	**15.22**	**3**	LR	LR	06 22 44.4	
	comp=E,26nm,18.8s,baz=148,slow=41						
SEY	**Seymchan**	**18.64**	**4**	⇑*e*P	**P**	**06 16 30.4**	**-4.0**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.63**	**144**	T	T	06 49 08.9	
	baz=334,slow=76,SNR=80						
H11N1	**WAKE ISLAND Hy**	**28.64**	**144**	T	T	06 49 10.8	
	baz=334,slow=76,SNR=52						
H11N3	**WAKE ISLAND Hy**	**28.64**	**144**	T	T	06 49 09.9	
	baz=334,slow=76,SNR=77						
H11S1	**WAKE ISLAND Hy**	**29.64**	**145**	T	T	06 50 25.6	
	baz=335,slow=76,SNR=70						
H11S3	**WAKE ISLAND Hy**	**29.64**	**145**	T	T	06 50 21.0	
	baz=335,slow=76,SNR=33						
H11S2	**WAKE ISLAND Hy**	**29.65**	**145**	T	T	06 50 18.6	
	baz=335,slow=76,SNR=32						
ILAR	**Eielson Array**	**40.02**	**37**	P	**P**	**06 19 52.8**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=272,slow=7.6,SNR=4.7						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**45.68**	**298**	P	**P**	**06 20 38.2**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=81,slow=8.1,SNR=3.9						
MKAR				PcP	**PcP**	**06 22 14.5**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=66,slow=3.5,SNR=2.3						
	comp=Z,0.5nm,0.7s						
KURK	**Kurchatov**	**46.47**	**304**	P	**P**	**06 20 44.1**	**+0.8**
KURK						06 22 17.8	
KURK	**Kurchatov**	**46.47**	**304**	*e*P	**P**	**06 20 44.1**	**+0.8**
KURBB	**Kurchatov Arra**	**46.56**	**304**	P	**P**	**06 20 44.1**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=67,slow=6.8,SNR=2.3						
KURBB				PcP	**PcP**	**06 22 17.8**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=72,slow=3.0,SNR=1.5						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**54.37**	**35**	P	**P**	**06 21 44.9**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=298,slow=7.6,SNR=4.4						
	comp=Z,0.2nm,0.6s						
WRA	**Warramunga Arr**	**65.49**	**196**	P	**P**	**06 22 59.8**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=8.7,slow=6.4,SNR=3.0						
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**69.20**	**195**	P	**P**	**06 23 23.4**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=12,slow=6.1,SNR=4.2						
	comp=Z,0.3nm,0.8s						
NOA	**NORSAR Array B**	**69.55**	**340**	P	**P**	**06 23 24.4**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=24,slow=2.5,SNR=2.2						
	comp=Z,0.6nm,0.7s						
HFS	**Hagfors**	**69.68**	**338**	P	**P**	**06 23 25.1**	**-0.4**
	comp=Z,4.0nm,1.0s,baz=27,slow=3.5,SNR=1.1						
	comp=Z,4.0nm,1.0s						
TXAR	**Lajitas Array**	**80.97**	**58**	P	**P**	**06 24

KUR06 ⇑S **Sg** **06 36 01.0 +0.2**
KUR17 Kurchatov Arra 1.52 28 ⇑P **Pb** **06 35 40.8 -0.2**
KUR17 ⇓S **Sg** **06 36 01.5 +0.5**
KUR16 Kurchatov Arra 1.52 29 ⇑P **Pb** **06 35 40.8 -0.3**
KUR16 ⇑S **Sg** **06 36 01.5 +0.3**
KURBB Kurchatov Arra 1.53 30 Pg **Pb** **06 35 41.0 -0.2**
0.5nm,0.3s,baz=255,slow=15,SNR=20
KURBB Lg Lg 06 36 04.0
0.4nm,0.3s,baz=255,slow=36,SNR=7.2
KURBB Rg Rg 06 36 14.0
0.8nm,0.5s,baz=253,slow=26,SNR=2.2
KURBB Kurchatov Arra 1.53 30 ⇓P **Pb** **06 35 40.7 -0.5**
5.5nm,0.8s
KURBB ⇑S **Sg** **06 36 02.1 +0.7**
12nm,0.7s
KUR15 Kurchatov Arra 1.54 30 ⇓P **Pb** **06 35 41.0 -0.3**
KUR15 ⇑S **Sg** **06 36 01.3 -0.3**
KUR14 Kurchatov Arra 1.54 31 ⇓P **Pb** **06 35 40.8 -0.6**
KUR14 ⇓S **Sg** **06 36 01.5 -0.3**
KUR05 Kurchatov Arra 1.55 29 ⇑P **Pb** **06 35 40.6 -0.9**
KUR05 ⇓S **Sb** **06 36 01.2 -0.3**
KUR04 Kurchatov Arra 1.57 29 ⇓P **Pb** **06 35 40.6 -1.2**
KUR04 ⇓S **Sb** **06 36 01.3 -0.7**
KURK Kurchatov 1.64 30 ⇑P **Pb** **06 35 42.1 -1.0**
7.1nm,0.9s
KURK ⇓S **Sb** **06 36 04.0 -0.1**
12nm,0.8s
MKAR Makanchi Array 4.16 125 Pn **Pg** **06 36 31.8 -0.1**
0.1nm,0.3s,baz=306,slow=13,SNR=2.2
MKAR Lg Lg 06 37 52.5
0.1nm,0.3s,baz=316,slow=23,SNR=3.2
0.1nm,0.3s
I46RU ZALESOVO INFRA 6.58 42 I I 07 10 40.0
baz=235,slow=327,SNR=4.3
ZALV Zalesovo Beam 6.58 42 Pn **Pn** **06 36 50.7 +1.0**
0.5nm,0.3s,baz=242,slow=16,SNR=1.5

*ASRS **02** 06:35:31.0±1.2,53°.45N×87°.26E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 02 06:35:34.3±2.8, 53°.40N×87°.21E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=25.3km s-min=15.2km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.52**	**292**	I	I	06 46 02.9	
	0.1nm,1.0s,baz=106,slow=327,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.52**	**292**	Pg	Pn	06 36 01.8	-1.0
	1.2nm,0.3s,baz=112,slow=17,SNR=8.6						
ZALV				Lg	Lg	06 36 22.2	
	1.0nm,0.3s,baz=110,slow=28,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.04**	**246**	Pn	Pn	06 37 06.6	+1.8
	0.1nm,0.3s,baz=61,slow=14,SNR=2.2						
KURBB				Lg	Lg	06 38 43.9	
	baz=62,slow=32,SNR=1.7						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**7.33**	**208**	Pn	Pn	06 37 23.6	+1.0
	0.2nm,0.3s,baz=24,slow=14,SNR=4.8						
MKAR				Lg	Lg	06 39 23.5	
	baz=27,slow=32						
	0.3nm,0.3s						

*IDC **02** 06:46:09.2±2.4,50°.51N×160°.01E, h0km, mb3.5/2, mbtmp3.3/3, ML2.1/1, MS2.4/2, Error ellipse: s-maj=67.2km s-min=29.km az=31.0*
*KRSC **02** 06:46:10.9±1.5,50°.59N×160°.03E, h40km±30km, Ml3.7*
ISC 02 06:46:13.8±1.6, 50°.53N±0°.09×160°.01E±0°.09, h35km, n22, σ1§10/33, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.77**	**317**	*eP*	**Pn**	**06 46 40.9**	**-1.0**
KDTR				*eS*	**Sn**	**06 47 02.2**	**-0.8**
RUS	**Russkaya**	**2.12**	**334**	*eP*	**Pn**	**06 46 45.7**	**-1.1**
RUS				*eS*	**Sn**	**06 47 10.9**	**-0.9**
PAU	**Pauzhetka**	**2.23**	**296**	*eP*	**Pn**	**06 46 47.7**	**-0.5**
PAU				*eS*	**Sn**	**06 47 13.5**	**-1.0**
GRL	**Gorelyy**	**2.36**	**330**	*eS*	**Sn**	**06 47 18.5**	**+0.7**
SKR	**Severo-Kuril's**	**2.48**	**275**	*eP*	**Pn**	**06 46 50.9**	**-0.8**
SKR				*eS*	**Sn**	**06 47 19.6**	**-1.2**
SPN	**Mys Shipunski**	**2.57**	**0**	*eS*	**Sn**	**06 47 20.6**	**-2.3**
KRMR	**Karymshinskiy**	**2.58**	**334**	*eP*	**Pn**	**06 46 52.5**	**-0.6**
KRMR				*eS*	**Sn**	**06 47 23.1**	**-0.1**
DALK	**Dalny**	**2.62**	**343**	*eP*	**Pn**	**06 46 52.6**	**-1.0**
DALK				*eS*	**Sn**	**06 47 23.2**	**-0.9**
PET	**Petropavlovsk**	**2.63**	**342**	*eP*	**Pn**	**06 46 52.7**	**-1.0**
PET				*eS*	**Sn**	**06 47 23.2**	**-1.3**
NLC	**Nalytchevo**	**2.67**	**351**	*eS*	**Sn**	**06 47 23.7**	**-1.7**
UGLR	**Uglovaya**	**2.78**	**345**	*eP*	**Pn**	**06 46 55.8**	**-0.1**
SDLR	**Sedlovina**	**2.84**	**346**	*eP*	**Pn**	**06 46 55.7**	**-1.0**
AVH	**Avacha**	**2.85**	**344**	*eP*	**Pn**	**06 46 56.4**	**-0.4**
KOK	**Koryaka**	**2.89**	**343**	*eP*	**Pn**	**06 46 57.2**	**-0.2**
KOK				*eS*	**Sn**	**06 47 30.6**	**-0.4**
PETK	**Petropavlovsk-**	**2.95**	**332**	Pn	**Pn**	**06 46 57.9**	**-0.3**
	1.2nm,0.3s,baz=137,slow=17,SNR=18						
PETK				Sn	**Sn**	**06 47 34.4**	**+2.0**
	3.2nm,0.3s,baz=134,slow=19,SNR=9.2						
PETK				LR	LR	06 47 55.8	
	comp=Z,28nm,21.1s,baz=99,slow=36						
	2.3nm,0.4s						
KRX	**Arik**	**2.95**	**344**	*eP*	**Pn**	**06 46 58.1**	**-0.2**
APC	**Apacha**	**2.98**	**325**	*eP*	**Pn**	**06 46 59.7**	**+1.2**
APC				*eS*	**Sn**	**06 47 35.3**	**+2.2**
GNL	**Ganaly**	**3.41**	**339**	*eP*	**Pn**	**06 47 05.8**	**+1.1**
GNL				*eS*	**Sn**	**06 47 44.7**	**+0.8**
KII	**Karymskiy**	**3.53**	**355**	*eP*	**Pn**	**06 47 06.2**	**+0.1**
KII				*eS*	**Sn**	**06 47 46.0**	**-0.7**
YAK	**Yakutsk**	**20.17**	**316**	LR	LR	07 00 02.9	
	comp=Z,29nm,18.4s,baz=226,slow=41						
MKAR	**Makanchi Array**	**49.26**	**298**	P	**P**	**06 54 59.1**	**+0.4**
	0.2nm,0.4s,baz=59,slow=7.6,SNR=3.0						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**71.71**	**66**	P	**P**	**06 57 33.1**	**+0.9**
	0.3nm,0.5s,baz=319,slow=6.4,SNR=8.3						
	0.3nm,0.5s						

*NEIC **02** 06:57:24.0±0.6, 19°.13N±0°.06×155°.43W±0°.05, h42km±4km, Error ellipse: s-maj=10.6km s-min=4.8km az=143.0*
HVO 02 06:57:24.9±0.9, 19°.11N±0°.06×155°.40W±0°.06, h41km±2km, Md2.8/7, ML2.7/18(NEIC), Error ellipse: s-maj=11.8km s-min=4.3km az=137.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.12**	**3**		Pn	06 57 31.3	-0.5
HPO	**Honuapo**	**0.14**	**261**		Pn	06 57 31.3	-0.6
HLP	**Hilina Pali**	**0.20**	**26**		Pn	06 57 31.7	-0.7
HLP	**Hilina Pali**	**0.20**	**26**	IAML		06 57 40.6	
	comp=E,852nm,0.7s						
HLP				IAML		06 57 45.6	
	comp=N,865nm,0.5s						
KHU	**Kahuku**	**0.24**	**304**		Pn	06 57 31.8	-1.1
KHU	**Kahuku**	**0.24**	**304**	IAML		06 57 37.2	
	comp=N,841nm,0.6s						
KHU				IAML		06 57 37.9	
	comp=E,989nm,0.7s						
PUH	**Pauahi**	**0.32**	**34**		Pn	06 57 32.5	-1.0
HATHI	**Halema'uma'u T**	**0.34**	**24**		Pn	06 57 32.5	-1.3
HATHI	**Halema'uma'u T**	**0.34**	**24**	IAML		06 57 40.9	
	comp=E,524nm,0.8s						
HATHI				IAML		06 57 41.3	
	comp=N,532nm,0.8s						
JOKA	**Jonika Flow**	**0.49**	**50**		Pn	06 57 34.8	-0.9

*NEIC **02** 06:59:00.5±0.8, 19°.21N±0°.04×155°.49W±0°.02, h40km±4km, Error ellipse: s-maj=5.8km s-min=1.4km az=155.0*
HVO 02 06:59:01.1±1.1, 19°.13N±0°.04×155°.39W±0°.04, h39km±3km, Md2.8/28, ML2.7/24(NEIC), Error ellipse: s-maj=7.8km s-min=3.3km az=133.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.10**	**356**		Pn	06 59 07.2	-4.2
HPO	**Honuapo**	**0.16**	**255**		Pn	06 59 07.8	-2.3
HLP	**Hilina Pali**	**0.18**	**26**		Pn	06 59 07.7	-2.2
HLP	**Hilina Pali**	**0.18**	**26**	IAML		06 59 16.7	
	comp=E,886nm,0.6s						
HLP				IAML		06 59 21.0	
	comp=N,845nm,0.7s						
KHU	**Kahuku**	**0.24**	**298**		Pn	06 59 07.7	-1.9
KHU					Sn	06 59 13.0	-3.6
KHU	**Kahuku**	**0.24**	**298**	IAML		06 59 13.2	
	comp=N,1μm,0.6s						
KHU				IAML		06 59 13.5	
	comp=E,1μm,0.7s						
SDHHI	**Sand Hill**	**0.27**	**20**		Pn	06 59 08.4	-1.0
WRMHI	**West Rim**	**0.29**	**17**		Pn	06 59 09.2	-0.3
HATHI	**Halema'uma'u T**	**0.32**	**23**	IAML		06 59 17.3	
	comp=N,448nm,0.8s						
KNHH	**Kane Nui o Ham**	**0.32**	**40**		Pn	06 59 10.1	+0.4
MLH	**Mauna Loa**	**0.36**	**1**		Pn	06 59 09.5	-0.7
MLH	**Mauna Loa**	**0.36**	**1**	IAML		06 59 16.1	
	comp=N,720nm,0.5s						
MLH				IAML		06 59 25.8	
	comp=E,513nm,0.7s						
ALEP	**Alea Permanent**	**0.47**	**330**		Pn	06 59 10.1	-1.6
JOKA	**Jonika Flow**	**0.47**	**50**		Pn	06 59 10.2	-1.2
JOKA	**Jonika Flow**	**0.47**	**50**	IAML		06 59 19.0	
	comp=N,383nm,1.3s						
JOKA				IAML		06 59 23.1	
	comp=E,176nm,0.6s						
HMH	**Humu'ula Sheep**	**0.48**	**349**		Pn	06 59 09.4	-2.3
HMH	**Humu'ula Sheep**	**0.48**	**349**	IAML		06 59 18.1	
	comp=N,525nm,0.5s						
HMH				IAML		06 59 18.2	
	comp=E,2μm,0.6s						
CPH	**Captain Cook**	**0.61**	**306**		Pn	06 59 09.6	-3.9

*ASRS **02** 06:59:21.0±1.7,54°.15N×86°.41E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 02 06:59:22.8±2.6, 54°.12N×86°.61E, h0km, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=20.4km s-min=12.8km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**261**	I	I	07 06 46.4	
	baz=80,slow=323,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.07**	**261**	Pg	Pg	06 59 41.7	-1.7
	1.7nm,0.3s,baz=81,slow=17,SNR=16						
ZALV				Lg	Lg	06 59 58.8	
	4.8nm,0.3s,baz=83,slow=30,SNR=11						
KURBB	**Kurchatov Arra**	**6.06**	**238**	Pn	Pn	07 00 53.7	0.0
	0.2nm,0.3s,baz=54,slow=13,SNR=5.0						
KURBB				Sn	Sn	07 02 04.9	+1.3
	baz=52,slow=21						
KURBB				Lg	Lg	07 02 33.4	
	baz=58,slow=36						
	1.4nm,0.4s						
MKAR	**Makanchi Array**	**7.84**	**202**	Pn	Pn	07 01 19.5	+1.4
	0.9nm,0.3s,baz=25,slow=14,SNR=19						
MKAR				Sn	Sn	07 02 47.9	+0.5
	0.1nm,0.3s,baz=27,slow=26,SNR=5.5						
MKAR				Lg	Lg	07 03 28.1	
	baz=28,slow=31,SNR=3.2						
	0.9nm,0.3s						

*ISN **02** 07:12:46.5±0.4, 33°.61N×45°.81E, h9km±6km, ML2.8*
*TEH **02** 07:12:47.0, 33°.61N×45°.79E, h10km±823km*
ISC 02 07:12:47.2±1.0, 33°.60N±0°.04×45°.79E±0°.05, h19km, n7, σ0§79/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.50**	**167**	*e*Pg	**Pg**	**07 12 56.5**	**-0.9**
IBDR				*e*Sg	**Sg**	**07 13 04.0**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.52**	**11**	Pg	**Pg**	**07 12 57.0**	**-0.8**
KGS1	**Ghasr-e-Shirin**	**0.92**	**349**	Pg	**Pb**	**07 13 04.9**	**+0.4**
IGHG	**Ghaleghazi**	**0.97**	**41**	Pg	**Pb**	**07 13 06.0**	**+0.4**
IGHG				Sg	**Sn**	**07 13 20.2**	**+0.8**
IDHR	**Dehrash**	**1.20**	**24**	Pg	**Pb**	**07 13 10.0**	**+0.5**
BHD	**Baghdad**	**1.23**	**255**	*e*Pg	**Pb**	**07 13 10.5**	**+0.8**
BHD				*e*Sg	**Sg**	**07 13 27.5**	**+0.5**
BHD				AML	AML	07 13 41.2	
	comp=E,207nm,0.4s						
IKRK	**Kirkuk**	**2.16**	**327**	*e*Pn	**Pb**	**07 13 24.5**	**-1.2**
IKRK				*e*Sn	**Sb**	**07 13 52.5**	**+0.4**

*ASRS **02** 07:20:47.0±0.6, 53°.42N×87°.16E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 02 07:20:50.2±3.4, 53°.46N×87°.33E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=32.2km s-min=17.2km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**289**	I	I	07 31 10.0	
	baz=107,slow=325,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.57**	**289**	Pg	Pn	07 21 18.0	-1.4
	0.3nm,0.3s,baz=108,slow=16,SNR=7.9						
ZALV				Lg	Lg	07 21 40.5	
	0.5nm,0.3s,baz=112,slow=27,SNR=4.2						
KURBB	**Kurchatov Arra**	**6.13**	**246**	Pn	Pn	07 22 22.5	+0.6
	baz=62,slow=14,SNR=2.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**7.41**	**208**	Pn	Pn	07 22 41.0	+1.4
	0.1nm,0.3s,baz=21,slow=12,SNR=2.2						
	0.3nm,0.6s						

*IDC **02** 07:21:06.1±1.4, 19°.38N×64°.49W, h0km, mb3.4/8, mbtmp3.5/10, ML3.1/2, MS3.1/5, Error ellipse: s-maj=39.1km s-min=18.6km az=75.0*
*RSPR **02** 07:21:12.6, 19°.58N×64°.98W, h84km±19km, MD3.8/14*
*NEIC **02** 07:21:14.0±1.4, 19°.32N±0°.07×65°.05W±0°.04, h22km±10km, mb3.8/2, ML3.6/40, Md3.8/14(RSPR), Error ellipse: s-maj=10.7km s-min=4.8km az=158.0*
ISC 02 07:21:07.7±2.2, 19°.48N±0°.06×64°.90W±0°.03, h4km±14km, n115, σ1§61/120, mb3.5/8, MS3.2/3, 11C-13D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.60**	**214**		**Pb**	**07 21 38.5**	**+0.5**
HUMP				IAML		07 22 02.2	
	comp=N,547nm,0.2s						
HUMP	**Col San Antoni**	**1.60**	**214**	⇑*eP*	**Pb**	**07 21 38.4**	**+0.5**
HUMP	**Col San Antoni**	**1.60**	**214**	*eS*	**Sg**	**07 21 59.6**	**+0.2**
GCPR	**Guaynabo City**	**1.62**	**224**		**Pb**	**07 21 38.0**	**-0.1**
GCPR					**Sn**	**07 21 58.1**	**-0.2**
GCPR	**Guaynabo City**	**1.62**	**224**	⇓*eP*	**Pb**	**07 21 38.3**	**+0.1**
GCPR	**Guaynabo City**	**1.62**	**224**	*eS*	**Sb**	**07 21 59.2**	**+0.2**
PDPR	**Patillas Dam,**	**1.80**	**216**		**Pb**	**07 21 41.1**	**-0.2**
PDPR	**Patillas Dam,**	**1.80**	**216**	⇑*eP*	**Pb**	**07 21 41.2**	**-0.2**
PDPR	**Patillas Dam,**	**1.80**	**216**	*eS*	**Sb**	**07 22 03.9**	**-0.4**
ECPR	**Experimental S**	**1.80**	**231**	⇑*eP*	**Pb**	**07 21 41.2**	**-0.1**
ECPR	**Experimental S**	**1.80**	**231**	*eS*	**Sb**	**07 22 04.3**	**0.0**
SJG	**San Juan**	**1.80**	**221**		**Pb**	**07 21 41.1**	**-0.3**
SJG				IAML		07 22 11.8	
	comp=N,423nm,0.5s						
SJG				IAML		07 22 12.4	
	comp=N,382nm,0.5s						
SJG	**San Juan**	**1.80**	**221**	Pn	**Pb**	**07 21 41.1**	**-0.3**
	comp=N,20nm,0.3s,baz=57,slow=11,SNR=60						
SJG				Sn	**Sb**	**07 22 04.4**	**+0.1**
	comp=N,35nm,0.3s,baz=47,slow=19,SNR=12						
SJG				LR	LR	07 22 10.1	
	comp=N,176nm,19.1s,baz=304,slow=32						
	comp=N,72nm,0.4s						
SJG	**San Juan**	**1.80**	**221**	⇑*eP*	**Pb**	**07 21 41.1**	**-0.3**
SJG	**San Juan**	**1.80**	**221**	*eS*	**Sg**	**07 22 05.5**	**-0.2**
SJG	**San Juan**	**1.80**	**221**	*eP*	**Pn**	**07 21 40.8**	**+1.1**
EMPR	**Esperanza - Ma**	**1.84**	**237**		**Pb**	**07 21 42.0**	**+0.1**
EMPR				IAML		07 22 12.5	
	comp=E,868nm,0.9s						
EMPR				IAML		07 22 16.0	
	comp=N,881nm,0.8s						
EMPR	**Esperanza - Ma**	**1.84**	**237**	⇑*eP*	**Pb**	**07 21 42.0**	**+0.1**
EMPR	**Esperanza - Ma**	**1.84**	**237**	*eS*	**Sb**	**07 22 05.3**	**0.0**
IGPR	**InterUniversit**	**1.89**	**218**		**Pb**	**07 21 42.4**	**-0.5**
IGPR				IAML		07 22 12.5	
	comp=E,714nm,0.2s						
IGPR				IAML		07 22 12.9	
	comp=N,630nm,0.3s						
IGPR	**InterUniversit**	**1.89**	**218**	⇑*eP*	**Pb**	**07 21 42.5**	**-0.4**
IGPR	**InterUniversit**	**1.89**	**218**	*eS*	**Sb**	**07 22 07.6**	**+0.8**
AOPR	**Arecibo Observ**	**2.09**	**238**		**Pn**	**07 21 44.9**	**+1.3**
AOPR				IAML		07 22 21.0	
	comp=E,862nm,0.3s						
AOPR				IAML		07 22 29.3	
	comp=N,660nm,0.7s						
AOPR	**Arecibo Observ**	**2.09**	**238**	*eP*	**Pn**	**07 21 45.1**	**+1.5**
AOPR	**Arecibo Observ**	**2.09**	**238**	*eS*	**Sn**	**07 22 10.8**	**+0.8**
UUPR	**Utuado, UPR, P**	**2.11**	**235**		**Pn**	**07 21 45.2**	**+1.4**
UUPR	**Utuado, UPR, P**	**2.11**	**235**	⇑*eP*	**Pn**	**07 21 45.3**	**+1.4**
UUPR	**Utuado, UPR, P**	**2.11**	**235**	*eS*	**Sb**	**07 22 12.9**	**-0.3**
CELP	**Cerrillos**	**2.12**	**229**		**Pb**	**07 21 45.7**	**-1.0**
CELP				IAML		07 22 17.8	
	comp=N,309nm,1.1s						
CELP	**Cerrillos**	**2.12**	**229**	⇑*eP*	**Pb**	**07 21 45.8**	**-0.9**
CELP	**Cerrillos**	**2.12**	**229**	*eS*	**Sb**	**07 22 13.0**	**-0.4**
OBIP	**Obispado Ponce**	**2.16**	**229**		**Pn**	**07 21 45.3**	**+0.8**
OBIP				IAML		07 22 20.8	
	comp=E,319nm,0.9s						
OBIP	**Obispado Ponce**	**2.16**	**229**	⇑*eP*	**Pn**	**07 21 45.4**	**+0.9**
OBIP	**Obispado Ponce**	**2.16**	**229**	*eS*	**Sn**	**07 22 11.0**	**-0.8**
SMRT	**St. Maarten**	**2.24**	**129**		**Pb**	**07 21 50.1**	**+1.4**
SMRT				IAML		07 22 37.2	
	comp=N,479nm,0.7s						
AGPR	**Aguadilla, PR**	**2.32**	**245**		**Pn**	**07 21 47.9**	**+1.1**
AGPR				IAML		07 22 42.5	
	comp=N,241nm,0.6s						
AGPR	**Aguadilla, PR**	**2.32**	**245**	⇑*eP*	**Pn**	**07 21 48.1**	**+1.3**
AGPR	**Aguadilla, PR**	**2.32**	**245**	*eS*	**Sn**	**07 22 17.1**	**+1.3**
GBPR	**Guanica, Bosqu**	**2.40**	**232**		**Pb**	**07 21 50.2**	**-1.3**
GBPR					**Sn**	**07 22 18.4**	**+0.7**
GBPR	**Guanica, Bosqu**	**2.40**	**232**	⇓*eP*	**Pb**	**07 21 50.2**	**-1.3**
GBPR	**Guanica, Bosqu**	**2.40**	**232**	*eS*	**Sn**	**07 22 18.4**	**+0.7**
SABA	**Saba**	**2.42**	**139**		**Pb**	**07 21 52.4**	**+0.4**
SABA				IAML		07 22 35.4	
	comp=N,488nm,0.5s						
SABA	**Saba**	**2.42**	**139**	*eS*	**Sb**	**07 22 23.5**	**+1.2**
LSP	**Las Mesas**	**2.44**	**238**		**Pn**	**07 21 50.1**	**+1.6**
LSP					**Sn**	**07 22 20.5**	**+1.6**
LSP	**Las Mesas**	**2.44**	**238**	⇓*eP*	**Pn**	**07 21 50.1**	**+1.6**
LSP	**Las Mesas**	**2.44**	**238**	*eS*	**Sn**	**07 22 20.5**	**+1.6**
PRSN	**Puerto Rico Se**	**2.47**	**240**		**Pn**	**07 21 50.5**	**+1.7**
PRSN				IAML		07 22 28.5	
	comp=E,607nm,0.3s						
PRSN				IAML		07 22 28.9	
	comp=N,609nm,0.3s						
PRSN	**Puerto Rico Se**	**2.47**	**240**	⇓*eP*	**Pn**	**07 21 50.5**	**+1.7**
PRSN	**Puerto Rico Se**	**2.47**	**240**	*eS*	**Sb**	**07 22 21.5**	**-2.0**
MLPR	**Magueyes Islan**	**2.53**	**234**	⇑*eP*	**Pn**	**07 21 51.4**	**+1.8**
MLPR	**Magueyes Islan**	**2.53**	**234**	*eS*	**Sn**	**07 22 20.5**	**-0.3**
CRPR	**Cabo Rojo, PR**	**2.56**	**235**		**Pn**	**07 21 51.9**	**+1.9**
CRPR	**Cabo Rojo, PR**	**2.56**	**235**	⇓*eP*	**Pn**	**07 21 52.0**	**+2.0**
CRPR	**Cabo Rojo, PR**	**2.56**	**235**	*eS*	**Sn**	**07 22 22.2**	**+0.7**
IDE	**Isla Desecheo**	**2.67**	**246**		**Pn**	**07 21 52.9**	**+1.3**
IDE					**Sn**	**07 22 24.5**	**+0.1**
IDE	**Isla Desecheo**	**2.67**	**246**	⇓*eP*	**Pn**	**07 21 52.9**	**+1.3**
IDE	**Isla Desecheo**	**2.67**	**246**	*eS*	**Sn**	**07 22 24.5**	**+0.1**
SEUS	**St. Eustatius**	**2.68**	**137**	Pn	**Pb**	**07 21 54.8**	**-1.6**
SEUS				IAML		07 22 45.3	
	comp=E,339nm,0.7s						
SEUS				IAML		07 23 00.1	
	comp=N,403nm,1.1s						
SKI	**Saint Kitts**	**2.96**	**136**	*eP*	**Pn**	**07 21 55.8**	**+0.3**
SKOC	**St. Kitts, UWI**	**2.99**	**136**	*eP*	**Pn**	**07 21 57.2**	**+1.2**
PCDR	**Punta Cana, DR**	**3.43**	**254**		**Pn**	**07 22 03.7**	**+1.6**
PCDR				IAML		07 23 14.0	
	comp=E,126nm,2.5s						
PCDR				IAML		07 23 45.7	
	comp=N,229nm,1.9s						
PCDR	**Punta Cana, DR**	**3.43**	**254**	⇓*eP*	**Pn**	**07 22 03.9**	**+1.8**
PCDR	**Punta Cana, DR**	**3.43**	**254**	*eS*	**Sn**	**07 22 42.4**	**-0.8**
ANWB	**Willy Bob**	**3.46**	**121**	*eP*	**Pb**	**07 22 11.3**	**+1.8**
ANWB				*eS*	**Sb**	**07 22 48.8**	**-3.2**
HIDR	**Higuey Centro**	**3.72**	**257**	⇓*eP*	**Pn**	**07 22 07.1**	**+1.1**
HIDR	**Higuey Centro**	**3.72**	**257**	*eS*	**Sn**	**07 22 48.8**	**-1.5**
MBFL	**Flemmings, Mon**	**3.73**	**136**	*eP*	**Pn**	**07 22 04.2**	**-1.9**
MBWH		**3.75**	**136**	*eP*	**Pn**	**07 22 04.7**	**-1.7**
MLYT	**Lee's Yard**	**3.76**	**136**	*eP*	**Pn**	**07 22 07.9**	**+1.3**
ANBD	**Bethesda, Anti**	**3.83**	**129**	*eP*	**Pn**	**07 22 09.3**	**+1.7**
ANBD				*eS*	**Sn**	**07 22 52.6**	**-0.5**
SMDR	**Samana, DR**	**4.05**	**268**	⇓*eP*	**Pn**	**07 22 11.1**	**+0.5**
SMDR	**Samana, DR**	**4.05**	**268**	*eS*	**Sn**	**07 22 56.4**	**-2.2**
DR12	**Loma Pena Alta**	**4.29**	**262**		**Pn**	**07 22 15.3**	**+1.3**
GDHS	**Morne Mazeau,**	**4.37**	**136**	Pn	**Pn**	**07 22 18.4**	**+3.4**
ABD	**La Joyeuse, An**	**4.41**	**132**	Pn	**Pn**	**07 22 17.9**	**+2.4**
ABD	**La Joyeuse, An**	**4.41**	**132**	*eS*	**Sn**	**07 23 09.6**	**+2.2**
CBE	**Ff, Capester**	**4.62**	**137**		**Pn**	**07 22 21.4**	**+3.0**
CBE	**Ff, Capester**	**4.62**	**137**	⇓*eP*	Pn	07 22 23.5	+5.1
CBE	**Ff, Capester**	**4.62**	**137**	*eS*	**Sn**	**07 23 15.7**	**+3.2**
TBG	**Guadaloupe-3**	**4.75**	**139**	*eP*	**Pn**	**07 22 21.1**	**+0.8**
DSLB	**Salisbury**	**5.21**	**140**	*eP*	**Pn**	**07 22 26.6**	**+0.1**
BANI	**BANI**	**5.28**	**259**	Pn	**Pn**	**07 22 28.2**	**+0.6**
SC01	**Santiago de lo**	**5.50**	**270**	Pn	**Pn**	**07 22 32.1**	**+1.6**
SC01					**Pn**	**07 22 32.1**	**+1.6**
SC01	**Santiago de lo**	**5.50**	**270**	⇓*eP*	**Pn**	**07 22 32.6**	**+2.0**
SC01	**Santiago de lo**	**5.50**	**270**	*eS*	**Sn**	**07 23 34.4**	**+0.1**
SDDR	**Presa de Saban**	**6.06**	**266**		**Pn**	**07 22 40.8**	**+2.5**
SDDR	**Presa de Saban**	**6.06**	**266**	⇓*eP*	**Pn**	**07 22 40.3**	**+2.1**
SDDR	**Presa de Saban**	**6.06**	**266**	*eS*	**Sn**	**07 23 46.1**	**-2.0**

*NORS **02** 07:30:28.5, 42.°61N×43.°45E, h1km, MPVA4.5*
*ISK **02** 07:30:30.9, 42.°64N×43.°24E, h5km, ML3.4/10*
*TIF **02** 07:30:30.1, 42.°54N×43.°48E, h5km±1km*
*MOS **02** 07:30:30.2, 42.°55N×43.°40E, h6km, MPVA4.5*
*DRS **02** 07:30:31.6, 42.°95N×43.°07E, h5km*
*AFAD **02** 07:30:31.2, 42.°57N×43.°42E, h19km±1km, ML3.0*

ISC 02 07:30:30.7±0.7, 42.°59N±0.°01×43.°44E±0.°01, h7km±4km, n117, σ1§20/210, 10C-7D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GARIG	**Gari**	**0.03**	**56**	P	**Pg**	**07 30 32.4**	**+0.1**
GARIG				S	**Sg**	**07 30 33.8**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.33**	**19**	*i* Pg	**Pg**	**07 30 37.0**	**-0.2**
DIGR				*e*Sg	**Sg**	**07 30 42.0**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.33**	**19**	*i* PG	**Pg**	**07 30 37.0**	**-0.2**
DIGR				*e*S	**Sg**	**07 30 42.0**	**+0.4**
TKB	**Tkibuli**	**0.41**	**234**	P	**Pg**	**07 30 39.6**	**+1.0**
TKB				S	**Sb**	**07 30 46.6**	**0.0**
TKB	**Tkibuli**	**0.41**	**234**	*e*PG	**Pg**	**07 30 39.6**	**+1.0**
TKB				*e*S	**Sb**	**07 30 46.6**	**0.0**
LACR	**Lac**	**0.68**	**69**	*i* Pg	**Pg**	**07 30 42.3**	**-1.4**
LACR				*e*Sg	**Sg**	**07 30 53.3**	**+0.7**
LACR	**Lac**	**0.68**	**69**	⇓*i* PG	**Pg**	**07 30 42.3**	**-1.4**
LACR				*e*S	**Sg**	**07 30 53.3**	**+0.7**
KORR	**Kora**	**0.68**	**43**	*e*Pg	**Pg**	**07 30 43.6**	**-0.2**
KORR				*e*Sg	**Sb**	**07 30 54.0**	**-0.5**
KORR	**Kora**	**0.68**	**43**	*e*PG	**Pg**	**07 30 43.6**	**-0.2**
KORR				*e*S	**Sb**	**07 30 54.0**	**-0.5**
LSNR	**Lesken**	**0.74**	**22**	*i* Pg	**Pb**	**07 30 45.6**	**-0.4**
LSNR				*e*Sg	**Sb**	**07 30 56.8**	**+0.4**
LSNR	**Lesken**	**0.74**	**22**	*i* PG	**Pb**	**07 30 45.6**	**-0.4**
LSNR				*e*S	**Sb**	**07 30 56.8**	**+0.4**
MTEO	**Meteo**	**0.81**	**83**	P	**Pg**	**07 30 46.2**	**-0.3**
MTEO				S	**Sg**	**07 30 55.9**	**-1.1**
MTEO	**Meteo**	**0.81**	**83**	*e*PG	**Pg**	**07 30 46.1**	**-0.3**
MTEO				*e*S	**Sg**	**07 30 55.9**	**-1.1**
ARNR	**Ardon**	**0.86**	**46**	*i* PG	**Pg**	**07 30 47.5**	**+0.3**
ARNR				*e*S	**Sb**	**07 31 00.3**	**+0.7**
NEUR	**Neytrino**	**0.86**	**321**	*i* PG	Pg	07 30 39.3	-8.0
STDR	**Stavd-Durt**	**0.90**	**30**	*e*Pg	**Pb**	**07 30 48.8**	**+0.1**
STDR				*e*Sg	**Sn**	**07 31 03.0**	**-0.1**
STDR	**Stavd-Durt**	**0.90**	**30**	*e*PG	**Pb**	**07 30 48.8**	**+0.1**
STDR				*e*S	**Sn**	**07 31 03.0**	**-0.1**
NCK	**Nalchik**	**0.91**	**7**	*e*Pg	**Pb**	**07 30 49.2**	**+0.3**
NCK				*e*Sg	**Sb**	**07 31 02.2**	**+1.0**
NCK	**Nalchik**	**0.91**	**7**	⇑*e*PG	**Pg**	**07 30 46.6**	**-1.7**
VLKR	**Vladikavkaz**	**1.02**	**63**	*e*Pg	**Pg**	**07 30 50.4**	**+0.1**
VLKR				*e*Sg	**Sb**	**07 31 05.7**	**+1.4**
VLKR	**Vladikavkaz**	**1.02**	**63**	*e*PG	**Pg**	**07 30 50.4**	**+0.1**
VLKR				*e*S	**Sb**	**07 31 05.7**	**+1.4**
BTKR	**Batakoyurt**	**1.13**	**46**	*i* Pg	**Pn**	**07 30 53.7**	**+0.8**
BTKR				*e*Sg	**Sn**	**07 31 09.3**	**+0.6**
BTKR	**Batakoyurt**	**1.13**	**46**	*i* PG	**Pn**	**07 30 53.7**	**+0.8**
BTKR				*e*S	**Sn**	**07 31 09.3**	**+0.6**
CHRG	**Chargali**	**1.13**	**103**	P	**Pg**	**07 30 50.2**	**-2.3**
CHRG				S	**Sg**	**07 31 06.1**	**-1.0**
KMGR	**Komgaron**	**1.15**	**66**	*e*Pg	**Pg**	**07 30 52.7**	**-0.1**
KMGR				*e*Sg	**Sn**	**07 31 10.5**	**+1.3**
KMGR	**Komgaron**	**1.15**	**66**	*e*PG	**Pg**	**07 30 52.7**	**-0.1**
KMGR				*e*S	**Sn**	**07 31 10.5**	**+1.3**
TRLG	**Trialeti**	**1.16**	**155**	P	**Pg**	**07 30 52.1**	**-0.9**
TRLG				S	**Sg**	**07 31 08.0**	**0.0**
TRLG	**Trialeti**	**1.16**	**155**	*e*PG	**Pg**	**07 30 52.1**	**-0.9**
TRLG				*e*S	**Sg**	**07 31 08.0**	**0.0**
KBZ	**Khabaz**	**1.21**	**341**	*i* Pg	**Pg**	**07 30 53.6**	**-0.2**
KBZ				*e*Sg	**Sn**	**07 31 10.0**	**-0.5**
KBZ	**Khabaz**	**1.21**	**341**	*c*PG	**Pg**	**07 30 53.6**	**-0.2**
EPOS	**Posof**	**1.21**	**206**	P	**Pg**	**07 30 53.3**	**-0.5**
EPOS				S	**Sb**	**07 31 10.8**	**+1.0**
EPOS				*i* AML	AML	07 31 12.0	
	comp=N,377nm,0.4s						
EPOS				*i* AML	AML	07 31 13.0	
	comp=E,368nm,0.4s						
KBTC	**Kuba-Taba**	**1.23**	**359**	*e*Pg	**Pn**	**07 30 54.9**	**+0.6**
KBTC				*e*Sg	**Sn**	**07 31 11.8**	**+0.6**
KBTC	**Kuba-Taba**	**1.23**	**359**	*e*PG	**Pn**	**07 30 54.9**	**+0.6**
KBTC				*e*S	**Sn**	**07 31 11.8**	**+0.6**
SHTL	**Shatili**	**1.27**	**86**	P	**Pg**	**07 30 52.8**	**-2.3**
SHTL				S	**Sg**	**07 31 10.6**	**-0.9**
SHTL	**Shatili**	**1.27**	**86**	*e*Pg	**Pg**	**07 30 52.8**	**-2.3**
SHTL				*e*Sg	**Sg**	**07 31 10.6**	**-0.9**
SHTL	**Shatili**	**1.27**	**86**	*e*PG	**Pg**	**07 30 52.7**	**-2.3**
SHTL				*e*S	**Sg**	**07 31 10.5**	**-0.9**
SHA1	**Shidzhatmaz**	**1.28**	**334**	*e*Pg	**Pn**	**07 30 55.8**	**+0.5**
SHA1				*e*Sg	**Sn**	**07 31 13.2**	**+0.4**
SHA1	**Shidzhatmaz**	**1.28**	**334**	⇑*e*PG	**Pb**	**07 30 55.2**	**-0.1**
TBLG	**Delisi**	**1.29**	**131**	P	**Pn**	**07 30 54.9**	**-0.2**
TBLG				S	**Sg**	**07 31 13.0**	**+0.8**
TBLG	**Delisi**	**1.29**	**131**	*e*PG	**Pn**	**07 30 54.9**	**-0.2**
TBLG				*e*S	**Sg**	**07 31 13.0**	**+0.8**
PRTR	**Priterechnaya**	**1.31**	**28**	*e*Pg	**Pg**	**07 30 56.2**	**+0.3**
PRTR				*e*Sg	**Sn**	**07 31 16.3**	**+3.1**
PRTR	**Priterechnaya**	**1.31**	**28**	*e*PG	**Pg**	**07 30 56.2**	**+0.3**
PRTR				*e*S	**Sn**	**07 31 16.3**	**+3.1**
KZRT	**Kazreti**	**1.40**	**149**	P	**Pn**	**07 30 55.3**	**-1.3**
KZRT				S	**Sb**	**07 31 13.9**	**-1.3**
KZRT	**Kazreti**	**1.40**	**149**	*e*Pg	**Pn**	**07 30 55.3**	**-1.3**
KZRT				*e*Sg	**Sb**	**07 31 13.9**	**-1.3**
KZRT	**Kazreti**	**1.40**	**149**	*e*PG	**Pn**	**07 30 55.3**	**-1.3**
KZRT				*e*S	**Sb**	**07 31 13.9**	**-1.3**
KIV0	**Kislovodsk Arr**	**1.47**	**339**	*e*Pg	**Pg**	**07 30 58.9**	**0.0**
KIV0				*e*Sg	**Sg**	**07 31 18.4**	**+0.4**
KIV	**Kislovodsk**	**1.47**	**338**	Pn	**Pn**	**07 30 58.1**	**+0.4**
KIV				Sn	**Sg**	**07 31 17.9**	**-0.1**
KIV	**Kislovodsk**	**1.47**	**338**	*e*PG	**Pg**	**07 30 58.8**	**-0.2**
KIV				*e*S	**Sg**	**07 31 18.2**	**+0.2**
TRKR	**Terskaya**	**1.48**	**39**	*e*Pg	**Pb**	**07 30 58.6**	**+0.2**
TRKR				*e*Sg	**Sg**	**07 31 19.4**	**+1.2**
TRKR	**Terskaya**	**1.48**	**39**	*e*PG	**Pb**	**07 30 58.6**	**+0.2**
TRKR				*e*S	**Sg**	**07 31 19.4**	**+1.2**
BEYR	**Belyy Ugol+**	**1.49**	**343**	*e*Pg	**Pg**	**07 30 59.9**	**+0.6**
BEYR				*e*Sg	**Sg**	**07 31 18.6**	**-0.1**
BEYR	**Belyy Ugol+**	**1.49**	**343**	*e*PG	**Pg**	**07 30 59.2**	**-0.1**
BEYR				*e*S	**Sg**	**07 31 19.6**	**+0.9**
PYA1	**Pyatigorsk**	**1.49**	**350**	*e*Pg	**Pg**	**07 30 59.3**	**0.0**
PYA1				*e*Sg	**Sg**	**07 31 18.4**	**-0.4**
PYA1	**Pyatigorsk**	**1.49**	**350**	*c*ePG	**Pb**	**07 30 58.9**	**+0.1**
DOMR	**Dombai**	**1.51**	**298**	*e*Pg	**Pg**	**07 30 60.0**	**+0.3**
DOMR				*e*Sg	**Sg**	**07 31 20.5**	**+1.3**
DOMR	**Dombai**	**1.51**	**298**	*i* PG	**Pn**	**07 30 57.1**	**-1.2**
AHAN	**Ardahan-Merkez**	**1.55**	**203**	P	**Pn**	**07 30 59.9**	**+1.0**
AHAN				S	**Sg**	**07 31 21.6**	**+1.1**
AHAN				*i* AML	AML	07 31 23.0	
	comp=N,435nm,0.9s						
AHAN				*i* AML	AML	07 31 26.0	
	comp=E,492nm,1.1s						
BATM	**Batumi**	**1.63**	**233**	P	**Pn**	**07 31 00.4**	**+0.6**
BATM				S	**Sg**	**07 31 23.3**	**+0.2**
BATM	**Batumi**	**1.63**	**233**	*e*PN	**Pn**	**07 31 00.4**	**+0.6**
BATM				*e*S	**Sg**	**07 31 23.3**	**+0.2**
BCA	**Borcka**	**1.77**	**230**	Pn	**Pn**	**07 31 02.7**	**+0.9**
BCA				Sn	**Sn**	**07 31 25.8**	**+1.3**
DBOC	**Borcka**	**1.81**	**227**	P	**Pn**	**07 31 03.4**	**+1.0**
DBOC				S	**Sb**	**07 31 28.4**	**+1.2**
DBOC				*i* AML	AML	07 31 31.0	
	comp=E,292nm,0.4s						
DGRG	**David-gareji**	**1.84**	**128**	P	**Pn**	**07 31 04.2**	**+1.5**
DGRG				S	**Sg**	**07 31 31.5**	**+1.8**
DGRG	**David-gareji**	**1.84**	**128**	*e*Pg	**Pn**	**07 31 04.2**	**+1.5**
DGRG				*e*Sg	**Sg**	**07 31 31.5**	**+1.8**
DGRG	**David-gareji**	**1.84**	**128**	*e*PN	**Pn**	**07 31 04.2**	**+1.5**
DGRG				*e*S	**Sg**	**07 31 31.5**	**+1.8**
GROC	**Groznyy**	**1.84**	**70**	*e*Pg	**Pb**	**07 31 04.6**	**0.0**
GROC				*e*Sg	**Sg**	**07 31 32.7**	**+3.0**
GROC	**Groznyy**	**1.84**	**70**	*e*PN	**Pb**	**07 31 04.6**	**0.0**
GROC				*e*S	**Sg**	**07 31 32.7**	**+3.0**
ARXR	**Arkhyz**	**1.86**	**302**	⇓*e*PN	**Pg**	**07 31 06.4**	**0.0**
GOLE	**Ardahan-G¶le**	**1.86**	**200**	P	**Pb**	**07 31 05.4**	**+0.3**
GOLE				S	**Sb**	**07 31 30.0**	**+1.3**
GOLE				*i* AML	AML	07 31 33.0	
	comp=E,132nm,0.6s						
GOLE				*i* AML	AML	07 31 39.0	
	comp=N,99nm,0.5s						
DAGI	**Agillar**	**1.89**	**218**	P	**Pb**	**07 31 05.2**	**-0.5**
DAGI				S	**Sb**	**07 31 30.5**	**+1.1**
DAGI				*i* AML	AML	07 31 33.0	
	comp=N,200nm,0.9s						
DAGI				*i* AML	AML	07 31 33.0	
	comp=E,196nm,0.6s						
EAK	**Akyaka**	**1.91**	**176**	P	**Pn**	**07 31 04.0**	**+0.3**
EAK				S	**Sn**	**07 31 29.8**	**+1.7**
EAK				*i* AML	AML	07 31 40.0	
	comp=N,116nm,0.5s						
EAK				*i* AML	AML	07 31 51.0	
	comp=E,138nm,1.0s						
HOPA	**Hopa-Artvin**	**1.91**	**232**	Pn	**Pn**	**07 31 03.6**	**0.0**
KARS	**Kars**	**1.98**	**188**	Pn	**Pb**	**07 31 07.3**	**+0.2**
DVE	**Vedeno**	**2.01**	**79**	*i* Pg	**Pb**	**07 31 07.2**	**-0.4**
DVE				*e*Sg	**Sg**	**07 31 35.6**	**+0.2**
DVE	**Vedeno**	**2.01**	**79**	*de*PN	**Pn**	**07 31 06.8**	**+1.7**
DVE				*e*S	**Sg**	**07 31 35.5**	**+0.2**
DVE				pmax	pmax		
	comp=Z,136nm,0.4s						
BOZK	**Kars-Merkez-Bo**	**2.03**	**190**	P	**Pb**	**07 31 07.8**	**-0.2**
BOZK				S	**Sb**	**07 31 33.3**	**-0.1**
BOZK				*i* AML	AML	07 31 40.0	
	comp=Z,129nm,0.7s						
BOZK				*i* AML	AML	07 31 41.0	
	comp=Z,104nm,0.7s						
DBAD	**Bademkaya**	**2.04**	**220**	P	**Pb**	**07 31 07.6**	**-0.5**
DBAD				S	**Sb**	**07 31 34.8**	**+1.0**
DBAD				*i* AML	AML	07 31 36.0	
	comp=Z,333nm,0.6s						
DBAD				*i* AML	AML	07 31 37.0	
	comp=Z,382nm,0.6s						
BTLR	**Botlikh**	**2.06**	**87**	*e*Pg	**Pb**	**07 31 07.8**	**-0.5**
BTLR				*e*Sg	**Sg**	**07 31 37.2**	**+0.4**
BTLR	**Botlikh**	**2.06**	**87**	*ce*PN	**Pn**	**07 31 07.6**	**+1.9**
DDEM	**Demirkent**	**2.11**	**217**	P	**Pb**	**07 31 08.6**	**-0.8**
DDEM				S	**Sb**	**07 31 37.3**	**+1.4**
DDEM				*i* AML	AML	07 31 41.0	
	comp=Z,494nm,0.4s						
DDEM				*i* AML	AML	07 31 42.0	
	comp=Z,377nm,0.4s						
DIGO	**Kars**	**2.17**	**181**	P	**Pb**	**07 31 09.9**	**-0.6**
DIGO				S	**Sn**	**07 31 35.4**	**+0.6**
DIGO				*i* AML	AML	07 31 42.0	
	comp=Z,171nm,0.5s						
DIGO				*i* AML	AML	07 31 46.0	
	comp=Z,281nm,0.6s						
SENK	**Senkaya-Erzuru**	**2.18**	**202**	Pn	**Pn**	**07 31 09.6**	**+2.0**
SENK				Sn	**Sb**	**07 31 37.8**	**-0.2**
ALER	**Alexandrovskoy**	**2.21**	**350**	*e*PN	**Pb**	**07 31 10.1**	**-0.8**
ALER				*i* S	**Sb**	**07 31 39.0**	**+0.6**
LGD	**Lagodekhi**	**2.21**	**109**	P	**Pn**	**07 31 09.5**	**+1.6**
LGD				S	**Sb**	**07 31 39.0**	**+0.4**
LGD	**Lagodekhi**	**2.21**	**109**	*e*Pg	**Pn**	**07 31 09.5**	**+1.6**
LGD				*e*Sg	**Sb**	**07 31 39.0**	**+0.4**
LGD	**Lagodekhi**	**2.21**	**109**	*e*PN	**Pn**	**07 31 09.5**	**+1.6**
LGD				*e*S	**Sb**	**07 31 39.0**	**+0.4**
DLMR	**Dylym**	**2.40**	**77**	*e*Pn	**Pb**	**07 31 13.4**	**-0.7**
DLMR				*e*Sn	**Sn**	**07 31 42.4**	**+2.5**
DLMR	**Dylym**	**2.40**	**77**	*e*PN	**Pb**	**07 31 13.4**	**-0.7**
DLMR				*e*S	**Sn**	**07 31 42.4**	**+2.5**
XNZR	**Khunzakh**	**2.41**	**90**	*e*Pn	**Pn**	**07 31 12.4**	**+1.7**
XNZR				*e*Sn	**Sn**	**07 31 41.7**	**+1.1**
HNZR	**Khunzah**	**2.42**	**90**	*e*PN	**Pn**	**07 31 12.4**	**+1.6**
HNZR				*e*S	**Sn**	**07 31 41.7**	**+0.9**
UNCR	**Uncukul**	**2.48**	**86**	*e*PN	**Pb**	**07 31 14.6**	**-1.0**
UNCR				*e*S	**Sn**	**07 31 44.0**	**+2.0**
GOF	**Gofitskoye**	**2.48**	**354**	*ce*PN	**Pn**	**07 31 08.3**	**-3.2**
GOF				*e*S	**Sg**	**07 31 52.4**	**+1.9**
CHOM	**Cayeli-Rize**	**2.50**	**234**	Pn	**Pn**	**07 31 12.6**	**+0.9**
DBC	**Dubki**	**2.53**	**79**	*e*Pn	**Pb**	**07 31 15.6**	**-0.9**
DBC				*e*Sn	**Sn**	**07 31 46.1**	**+2.7**
DBC	**Dubki**	**2.53**	**79**	*d*iPN	**Pb**	**07 31 15.3**	**-1.2**
KRNR	**Karanay**	**2.57**	**84**	*e*PN	**Pb**	**07 31 15.6**	**-1.5**
KRNR				*e*S	**Sn**	**07 31 45.9**	**+1.6**
RPOR	**Krasnaya Polya**	**2.57**	**297**	*e*Pn	**Pb**	**07 31 15.9**	**-1.3**
RPOR				*e*Sn	**Sn**	**07 31 45.2**	**+0.9**
RPOR	**Krasnaya Polya**	**2.57**	**297**	*de*PN	**Pb**	**07 31 15.6**	**-1.6**
VSHL	**Vashlovani**	**2.59**	**121**	P	**Pn**	**07 31 14.6**	**+1.5**
VSHL				S	**Sb**	**07 31 49.1**	**-0.5**
GNBR	**Gunib**	**2.62**	**93**	*e*Pn	**Pn**	**07 31 16.0**	**+2.7**
GNBR				*e*Sn	**Sb**	**07 31 49.6**	**-0.6**
GNBR	**Gunib**	**2.62**	**93**	⇓*e*PN	**Pb**	**07 31 16.4**	**-1.5**
GNI	**Garni**	**2.63**	**158**	Pn	**Pb**	**07 31 17.4**	**-0.8**
GNI	**Garni**	**2.63**	**158**	*c i*PN	**Pb**	**07 31 17.7**	**-0.5**
GNI				pmax	pmax		
	comp=Z,17nm,0.4s						
VSLR	**Vesyoloye**	**2.65**	**290**	*de*PN	**Pb**	**07 31 16.8**	**-1.6**
IZDR	**Rize**	**2.81**	**231**	P	**Pn**	**07 31 16.0**	**-0.1**
IZDR				S	**Sn**	**07 31 51.2**	**+1.0**
IZDR				*i* AML	AML	07 32 02.0	
	comp=Z,32nm,0.7s						
IZDR				*i* AML	AML	07 32 08.0	
	comp=Z,34nm,0.4s						
KOPR	**Koprukoy-ERZUR**	**2.86**	**205**	Pn	**Pn**	**07 31 18.9**	**+2.1**
SOC	**Sochi**	**2.90**	**291**	*e*PN	**Pn**	**07 31 18.2**	**+0.9**
SOC				*e*PPP	PPP	07 31 26.6	
SOC				*e*		07 31 54.7	
SOC						07 32 02.1	
SOC				MLR	MLR		
	comp=Z,24nm,10.0s						
KRIK	**Erzurum-spir**	**2.94**	**221**	P	**Pb**	**07 31 22.6**	**-0.9**
KRIK				S	**Sg**	**07 32 03.5**	**-1.6**
BAYT	**Aydıntepe-Bayb**	**3.31**	**230**	Pn	**Pn**	**07 31 24.5**	**+1.5**
BAYB	**BAYBURT**	**3.34**	**227**	P	**Pn**	**07 31 26.7**	**+3.2**
BAYB				S	**Sb**	**07 32 10.2**	**-1.0**
BAYB				*i* AML	AML	07 32 20.0	
	comp=Z,43nm,0.8s						
BAYB				*i* AML	AML	07 32 24.0	
	comp=Z,33nm,1.5s						
ERBR	**Yeremizino-Bor**	**3.78**	**327**	*e*PN	**Pn**	**07 31 28.8**	**-0.5**
ERBR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ESPY	**Espiye-Giresun**	**3.90**	**246**	Pn	**Pn**	**07 31 32.3**	**+1.3**
ANN	**Anapa**	**4.88**	**299**	*e*PN	**Pn**	**07 31 43.6**	**-0.9**
ANN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MNK	**Minsk**	**15.71**	**325**	*i* P	**Pn**	**07 34 10.0**	**-2.3**
	comp=E,11nm,0.7s						
MNK				*i* P	**Pn**	**07 34 10.0**	**-2.3**
	comp=N,9.0nm,0.7s						
MNK				*i* P	**Pn**	**07 34 10.0**	**-2.3**
	comp=Z,10.0nm,0.8s,baz=133						
MNK				*i* PP	**pP**	**07 34 18.4**	**-0.4**
MNK				*i* PPP	PPP	07 34 26.0	
MNK				*i* S	**Sn**	**07 37 05.1**	**-1.3**
MNK				*i* SS	S	07 37 35.1	+14
MNK				*i* LQ	LQ	07 38 41.4	
MNK				*i* LR	LR	07 39 57.9	
MNK				*i* LRM	MLR	07 40 30.2	
	comp=N,33nm,11.3s						
MNK				*i* LRM	MLR	07 40 33.0	
	comp=E,35nm,10.7s						
MNK				*i* LRM	MLR	07 40 56.6	
	comp=Z,27nm,12.4s						
MNK	**Minsk**	**15.71**	**325**	*i* P	**Pn**	**07 34 09.9**	**-2.3**
MNK				*i* S	**Sn**	**07 37 05.0**	**-1.3**
MNK				pmax	pmax		
	comp=N,9.0nm,0.7s						
MNK				pmax	pmax		
	comp=E,11nm,0.7s						
MNK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MNK				MLR	MLR		
	comp=N,33nm,11.0s						
MNK				MLR	MLR		
	comp=E,35nm,11.0s						
MNK				MLR	MLR		
	comp=Z,27nm,12.0s						
BRVK	**Borovoye**	**20.72**	**50**	⇑*e*P	**P**	**07 35 11.8**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.6s						
AAK	**Ala-Archa**	**22.80**	**79**	⇑*e*P	**P**	**07 35 34.7**	**+0.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KURK	**Kurchatov**	**25.29**	**59**	⇑*i*P	**P**	**07 35 58.8**	**+1.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.3s						

IDC 02 07:36:03.3±6.1, 65.°42S×135.°44E, h0km, mb3.3/2, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=435.4km s-min=41.1km az=75.0, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.52**	**157**	Pn	Pn	07 39 29.4	-0.2
	0.1nm,0.3s,baz=314,slow=16,SNR=9.6						
VNDA				Sn	Sn	07 42 02.5	-8.5
	0.2nm,0.3s,baz=312,slow=14,SNR=8.2						
	0.8nm,0.5s						
H01W2	**Cape Leeuwin H**	**33.11**	**327**	T	T	08 17 44.5	
	baz=162,slow=76,SNR=4.4						
H01W1	**Cape Leeuwin H**	**33.11**	**327**	T	T	08 17 50.4	
	baz=162,slow=76,SNR=4.5						
H01W3	**Cape Leeuwin H**	**33.12**	**327**	T	T	08 17 48.4	
	baz=162,slow=76,SNR=3.8						
ASAR	**Alice Springs**	**41.76**	**358**	P	P	07 43 54.1	0.0
	0.3nm,0.7s,baz=178,slow=9.2,SNR=2.6						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**45.46**	**359**	P	P	07 44 23.7	-0.2
	0.2nm,0.6s,baz=180,slow=7.5,SNR=6.5						
	0.2nm,0.6s						

IDC 02 07:36:57.7±21.0, 4.°83N×94.°69E, h0km, mb3.8/4, mbtmp3.8/5, ML4.6/1, MS3.4/3, Error ellipse: s-maj=448.4km s-min=104.1km az=138.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.17**	**17**	Pn	Pn	07 40 20.5	+0.6
	0.9nm,0.3s,baz=200,slow=12,SNR=4.5						
	1.4nm,0.3s						
H08S2	**Diego Garcia H**	**25.37**	**241**	T	T	08 09 31.2	
	baz=55,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**25.37**	**241**	T	T	08 09 41.9	
	baz=55,slow=75,SNR=14						
H08S1	**Diego Carcia H**	**25.39**	**241**	T	T	08 09 38.3	
	baz=55,slow=75,SNR=11						
MKAR	**Makanchi Array**	**43.16**	**348**	P	P	07 44 58.9	-1.3
	1.0nm,0.7s,baz=166,slow=8.4,SNR=9.3						
	1.0nm,0.7s						
KSRS	**Korea Array**	**44.44**	**39**	LR	LR	08 07 36.1	
	comp=Z,18nm,18.6s,baz=30,slow=41						
KURBB	**Kurchatov Arra**	**47.61**	**346**	P	P	07 45 35.6	+0.3
	0.7nm,0.5s,baz=169,slow=6.8,SNR=7.3						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**49.62**	**352**	P	P	07 45 50.8	0.0
	0.8nm,0.4s,baz=180,slow=8.9,SNR=5.3						
	0.8nm,0.4s						
BVAR	**Borovoye Array**	**52.03**	**342**	P	P	07 46 09.7	+0.8
	0.2nm,0.3s,baz=154,slow=8.0,SNR=1.5						
	0.2nm,0.3s						
EIL	**Elat**	**61.42**	**301**	LR	LR	08 14 08.1	
	comp=Z,32nm,19.9s,baz=248,slow=36						
H04N2	**CROZET ISLANDS**	**63.43**	**212**	T	T	08 58 35.4	
	baz=48,slow=75,SNR=12						
H04N1	**CROZET ISLANDS**	**63.44**	**212**	T	T	08 58 34.3	
	baz=48,slow=75,SNR=6.2						
H04N3	**CROZET ISLANDS**	**63.45**	**212**	T	T	08 58 27.5	
	baz=48,slow=75,SNR=7.8						
KDAK	**Kodiak Island**	**97.80**	**30**	LR	LR	08 42 57.7	
	comp=Z,32nm,18.3s,baz=338,slow=40						

*NEIC **02** 07:41:32.8±0.6, 63.°48N±0.°05×150.°0W±0.°1, h122km±6km, Error ellipse: s-maj=7.2km s-min=6.7km az=175.0*
*IDC **02** 07:41:32.5±1.5, 63.°26N×149.°74W, h88km±17km, mb3.1/3, mbtmp3.4/6, Error ellipse: s-maj=22.7km s-min=11.4km az=117.0*
*AEIC **02** 07:41:33.2±0.7, 63.°48N±0.°05×150.°0W±0.°1, h120km±5km, ML3.1, ML3.1/222(NEIC), Error ellipse: s-maj=7.5km s-min=6.7km az=122.0*

ISC 02 07:41:33.0±0.9, 63.°46N±0.°04×150.°03W±0.°04, h123km±7km, n156, σ0§67/161, mb3.1/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.12**	**264**		**Pn**	**07 41 50.0**	**0.0**
TRF				Sn	**Sn**	**07 42 02.7**	**-0.1**
TRF				IAML		07 42 04.0	
	comp=E,413nm,0.7s						
TRF				IAML		07 42 06.3	
	comp=N,397nm,0.6s						
KTH	**Kantishna Hill**	**0.41**	**283**		**Pn**	**07 41 50.8**	**+0.1**
KTH				Sn	**Sn**	**07 42 03.6**	**-0.6**
KTH				IAML		07 42 04.9	
	comp=N,289nm,0.5s						
KTH				IAML		07 42 05.0	
	comp=E,307nm,1.0s						
RND	**Reindeer**	**0.53**	**96**		**Pn**	**07 41 51.4**	**-0.1**
RND				Sn	**Sn**	**07 42 05.2**	**-0.3**
RND				IAML		07 42 07.0	
	comp=E,300nm,0.6s						
RND				IAML		07 42 07.0	
	comp=N,309nm,0.5s						
BWN	**Browne**	**0.76**	**19**		**Pn**	**07 41 53.2**	**+0.2

STLK Strandline Lak 2.14 204 Pn 07 42 08.4 +1.0
STLK IAML 07 42 38.8
comp=N,136nm,0.4s
STLK IAML 07 42 39.4
comp=E,127nm,0.3s
KNK Knik Glacier 2.18 160 Pn 07 42 08.7 -0.1
M24K Tolsona, Glenn 2.23 126 Pn 07 42 09.9 +0.4
RIDG Independent Ri 2.33 81 Pn **Pn 07 42 10.8 +0.1**
RIDG IAML 07 42 44.0
comp=N,88nm,0.4s
J25K Salcha River, 2.35 59 Pn **Pn 07 42 10.7 -0.3**
J25K IAML 07 42 42.7
comp=E,129nm,0.6s
J25K IAML 07 42 43.6
comp=N,112nm,0.5s
I20K Naaghedeneel 2.37 306 Pn **Pn 07 42 10.7 -0.3**
I20K IAML 07 42 41.3
comp=N,188nm,0.8s
H23K Yukon River 2.38 5 Pn 07 42 11.0 -0.3
RC01 Rabbit Creek A 2.39 177 Pn **Pn 07 42 11.4 +0.1**
H21K Melozitna Rive 2.51 333 Pn 07 42 12.5 -0.4
H21K IAML 07 42 42.0
comp=E,100nm,0.4s
H21K IAML 07 42 43.4
comp=N,85nm,0.8s
J19K Poorman 2.54 285 Pn **Pn 07 42 13.1 -0.3**
J19K IAML 07 42 43.7
comp=E,38nm,1.0s
J19K IAML 07 42 44.1
comp=N,68nm,0.5s
M19K Big River Lodg 2.55 234 Pn 07 42 13.3 -0.1
M19K IAML 07 42 47.8
comp=E,33nm,0.6s
H24K Noodor Dome 2.56 20 Pn **Pn 07 42 13.2 -0.3**
L19K White Mountain 2.56 242 Pn **Pn 07 42 13.4 -0.2**
L19K IAML 07 42 45.5
comp=E,29nm,0.6s
PWL Port Wells 2.73 162 Pn 07 42 15.7 -0.1
SCRK Sand Creek 2.74 76 Pn **Pn 07 42 15.7 -0.3**
SCRK IAML 07 42 51.5
comp=E,86nm,0.8s
SCRK IAML 07 42 53.9
comp=N,65nm,0.5s
KLU Klutina 2.75 134 Pn 07 42 15.6 -0.5
KLU IAML 07 43 01.2
comp=E,101nm,0.2s
KLU IAML 07 43 03.1
comp=N,116nm,0.7s
PRP Porcupine Dome 2.84 41 Pn **Pn 07 42 17.0 -0.2**
PRP IAML 07 42 51.1
comp=N,26nm,0.5s
MENT Mentasta 2.91 98 Pn 07 42 18.2 +0.2
MENT IAML 07 43 02.2
comp=N,98nm,0.5s
GLI Glacier Island 2.94 151 Pn 07 42 17.6 -0.9
SLKM Skilak Lake 2.97 182 Pn 07 42 19.3 +0.4
SLKM IAML 07 43 07.9
comp=N,114nm,0.4s
O22K Cooper Landing 3.00 177 Pn 07 42 19.3 +0.1
J18K Innoko River 3.00 273 Pn **Pn 07 42 19.1 -0.2**
J26L Joseph Creek 3.04 67 Pn **Pn 07 42 19.8 0.0**
J26L IAML 07 42 57.9
comp=E,110nm,0.8s
J26L IAML 07 42 59.8
comp=N,101nm,0.5s
L26K Log Cabin Wild 3.06 95 Pn 07 42 19.8 -0.2
L26K IAML 07 43 04.8
comp=E,106nm,0.4s
L26K IAML 07 43 06.1
comp=N,104nm,0.5s
N25K Chitina, Valde 3.13 124 Pn 07 42 21.0 -0.1
N25K IAML 07 43 00.6
comp=E,68nm,0.4s
FID Port Fidalgo 3.19 147 Pn 07 42 21.1 -0.7
G23K Bananza Creek 3.26 0 Pn **Pn 07 42 22.4 -0.3**
L18K Granite Mounta 3.30 251 Pn 07 42 23.2 0.0
L18K IAML 07 43 01.3
comp=E,17nm,0.8s
L18K IAML 07 43 01.8
comp=N,17nm,1.1s
N19K Bonanza Creek 3.38 220 Pn **Pn 07 42 24.6 +0.3**
N19K IAML 07 43 25.2
comp=E,17nm,0.8s
N19K IAML 07 43 32.7
comp=N,16nm,0.9s
M26K Nabesna, AK 3.39 105 Pn 07 42 24.3 -0.1
M26K IAML 07 43 24.0
comp=N,51nm,0.4s
M26K IAML 07 43 24.1
comp=E,48nm,0.6s
G21K Allakaket 3.40 336 Pn **Pn 07 42 24.2 -0.3**
G21K IAML 07 43 18.4
comp=E,21nm,1.1s
G21K IAML 07 43 19.4
comp=N,28nm,0.7s
G24K Hadweenzic Riv 3.43 17 Pn **Pn 07 42 24.3 -0.5**
H19K Roundabout Mou 3.46 310 Pn 07 42 24.8 -0.5
H19K IAML 07 43 21.3
comp=E,16nm,0.8s
HIN Hinchinbrook I 3.50 150 Pn **Pn 07 42 25.1 -0.7**
I26K Coal Creek Min 3.51 55 Pn 07 42 25.6 -0.4
I26K IAML 07 43 08.3
comp=E,35nm,1.0s
I26K IAML 07 43 13.3
comp=N,30nm,0.9s
GLB Gilahina Butte 3.53 122 Pn **Pn 07 42 26.0 -0.3**
GLB IAML 07 43 08.3
comp=E,46nm,0.5s
GLB IAML 07 43 08.7
comp=N,55nm,0.5s
K27K Chicken 3.58 77 Pn 07 42 26.5 -0.3
K27K IAML 07 43 11.3
comp=E,56nm,0.5s
K27K IAML 07 43 11.9
comp=N,60nm,0.7s
P23K Montague Islan 3.69 159 Pn **Pn 07 42 28.5 +0.1**
FYU Fort Yukon 3.72 31 Pn **Pn 07 42 28.1 -0.6**
FYU IAML 07 43 12.1
comp=N,16nm,0.8s
L27K Beaver Creek, 3.73 93 Pn 07 42 28.1 -0.8
L27K IAML 07 43 10.5
comp=N,18nm,0.5s
L27K IAML 07 43 11.0
comp=E,18nm,0.7s
BRLK Bradley Lake 3.73 187 Pn **Pn 07 42 29.1 +0.2**
BCAR Beaver Creek A 3.75 92 Pn **Pn 07 42 28.2 -0.9**
ILSW Iliamna Southw 3.79 204 Pn 07 42 30.0 +0.1
ILSW IAML 07 43 36.4
comp=N,14nm,0.9s
ILSW IAML 07 43 44.4
comp=E,16nm,0.8s
VRDI Verde Repeater 3.80 123 Pn **Pn 07 42 29.8 -0.1**
VRDI IAML 07 43 15.9
comp=N,35nm,0.7s
VRDI IAML 07 43 31.8
comp=E,20nm,0.6s
K17K Iditarod 3.83 262 Pn **Pn 07 42 30.4 +0.2**
K17K IAML 07 43 15.0
comp=E,21nm,0.8s
K17K IAML 07 43 16.6
comp=N,15nm,0.8s
O19K Port Alsworth 3.86 214 Pn 07 42 31.0 +0.4
O19K IAML 07 43 22.1
comp=E,37nm,0.5s
O19K IAML 07 43 53.2
comp=N,38nm,0.4s
M27K Edge Creek, AK 3.89 103 Pn 07 42 31.5 +0.4
M27K IAML 07 43 36.3
comp=E,24nm,1.0s
M27K IAML 07 43 47.3
comp=N,15nm,1.1s
HOM Homer 3.90 192 Pn **Pn 07 42 32.3 +1.3**
N18K Kilae Creek 3.92 227 Pn **Pn 07 42 31.3 -0.2**
N18K IAML 07 43 36.8
comp=N,14nm,0.7s
CNPM China Poot 3.99 189 Pn 07 42 32.8 +0.4
H18K Honhosa River 4.00 299 Pn 07 42 32.1 -0.4
H18K IAML 07 43 17.3
comp=E,12nm,0.9s
H18K IAML 07 43 17.5
comp=N,10nm,0.9s
M17K Holitna River 4.02 242 Pn 07 42 32.2 -0.5
M17K IAML 07 43 37.3
comp=N,21nm,0.7s
M17K IAML 07 43 54.3
comp=E,23nm,0.9s
F21K Alatna River 4.04 341 Pn 07 42 33.2 +0.2
F21K IAML 07 43 20.7
comp=N,10.0nm,0.4s
G19K Purcell Mounta 4.04 315 Pn 07 42 32.3 -0.7
G19K IAML 07 43 32.1
comp=E,9.5nm,1.0s
J17K VABM Dome 4.07 273 Pn **Pn 07 42 33.0 -0.3**
J17K IAML 07 43 19.4
comp=E,12nm,0.8s
J17K IAML 07 43 44.5
comp=N,9.1nm,0.9s
HMT Hamilton 4.16 136 Pn 07 42 34.4 -0.2
F24K Squaw Lake 4.17 11 Pn **Pn 07 42 34.5 -0.2**
BERG Berg Lake 4.29 133 Pn 07 42 36.1 -0.3
F20K Avaraart Lake 4.32 329 Pn 07 42 37.0 +0.3
F20K IAML 07 43 26.8
comp=E,7.5nm,0.8s
O18K Koktuh Hills 4.38 217 Pn **Pn 07 42 38.4 +0.8**
O18K IAML 07 43 59.2
comp=E,7.6nm,1.1s
O18K IAML 07 44 21.7
comp=N,9.1nm,0.9s
G18K Tagagawik 4.43 307 Pn 07 42 37.9 -0.4
G18K IAML 07 43 27.5
comp=N,12nm,0.8s
G18K IAML 07 43 30.7
comp=E,7.7nm,0.7s
N17K Nushagak Hills 4.48 232 Pn **Pn 07 42 38.7 -0.2**
N17K IAML 07 43 54.3
comp=N,6.9nm,0.9s
F25K Christian Rive 4.53 22 Pn 07 42 39.2 -0.3
WAX Waxell Ridge 4.54 129 Pn 07 42 39.5 -0.2
H17K Granite Mounta 4.56 293 Pn **Pn 07 42 40.1 +0.1**
H17K IAML 07 43 31.6
comp=N,6.4nm,0.7s
H17K IAML 07 43 34.4
comp=E,13nm,1.0s
H27K Steamboat Moun 4.57 49 Pn **Pn 07 42 39.4 -0.7**
BMAR Burnt Mountain 4.58 27 Pn **Pn 07 42 39.8 -0.5**
E24K Your Creek 4.68 7 Pn 07 42 41.3 -0.2
F19K Shaleruckik Mo 4.70 319 Pn **Pn 07 42 41.3 -0.5**
L16K Owhat River 4.71 252 Pn **Pn 07 42 41.8 0.0**
SNH Sunshine Point 4.74 131 Pn **Pn 07 42 42.3 -0.1**
SNH IAML 07 43 39.1
comp=N,28nm,1.0s
J16K Anvik River 4.76 273 Pn **Pn 07 42 42.6 0.0**
DAWY Dawson 4.76 78 Pn 07 42 42.2 -0.5
P18K Big Mountain, 4.79 214 Pn **Pn 07 42 43.5 +0.5**
I28M Miner Creek 4.80 61 Pn **Pn 07 42 43.5 +0.2**
I28M IAML 07 43 42.5
comp=N,11nm,1.1s
I28M IAML 07 43 43.1
comp=E,13nm,0.8s
M16K Timber Creek 4.84 244 Pn **Pn 07 42 43.5 -0.2**
M16K IAML 07 44 12.9
comp=N,6.2nm,0.9s
Q19K Cape Douglas, 4.87 203 Pn 07 42 45.0 +0.8
G27K Doyon Strip 4.88 43 Pn 07 42 43.2 -1.0
F26K Sheenjek River 4.90 27 Pn 07 42 43.8 -0.7
SYI Shuyak Island 5.00 194 Pn **Pn 07 42 46.1 +0.2**
SYI IAML 07 43 42.7
comp=E,22nm,0.4s
SYI IAML 07 43 48.4
comp=N,20nm,0.5s
E19K Redstone River 5.01 326 Pn 07 42 45.9 0.0
E19K IAML 07 43 43.1
comp=E,4.9nm,1.2s
E19K IAML 07 43 43.2
comp=N,8.3nm,0.8s
E25K Arctic Village 5.02 19 Pn **Pn 07 42 46.0 -0.2**
MESA MESA 5.05 127 Pn **Pn 07 42 46.6 -0.1**
J29N Klondike Camp 5.30 74 Pn 07 42 50.6 +0.7
M29M Somme Creek 5.38 96 Pn 07 42 50.7 -0.3
M29M IAML 07 44 22.1
comp=E,7.3nm,0.6s
M29M IAML 07 44 25.2
comp=N,7.7nm,0.7s
L29M L29M 5.38 88 Pn **Pn 07 42 51.0 0.0**
L29M IAML 07 44 27.8
comp=E,18nm,0.5s
L29M IAML 07 44 34.6
comp=N,21nm,0.6s
K15K Wolf Creek Mou 5.39 263 Pn **Pn 07 42 51.1 +0.1**
I29M Ogilvie Camp, 5.43 64 Pn **Pn 07 42 51.1 -0.5**
O16K Kokwok River B 5.47 228 Pn **Pn 07 42 51.4 -0.8**
K29M Barlow Dome 5.59 80 Pn **Pn 07 42 53.0 -0.8**
G16K Koyuk River 5.68 295 Pn **Pn 07 42 54.6 -0.2**
H29M Whitestone 5.69 56 Pn **Pn 07 42 54.5 -0.6**
N15K Kwethluk River 5.80 240 Pn **Pn 07 42 55.9 -0.7**
KDAK Kodiak Island 5.84 194 P **Pn 07 42 55.2 -1.9**
comp=N,1.9nm,0.2s,baz=8.0,slow=16,SNR=66
KDAK S **Sn 07 43 57.6 -5.1**
comp=N,4.0nm,0.4s,baz=9.3,slow=15,SNR=13
ACHA Angle Creek He 5.87 209 Pn **Pn 07 42 57.6 0.0**
E27K Coleen River 5.87 32 Pn **Pn 07 42 56.6 -0.9**
D20K Etivluk River 5.91 336 Pn **Pn 07 42 58.1 0.0**
E18K Tukpahlearik C 5.93 317 Pn 07 42 58.5 +0.2
D19K Kuna River 6.03 330 Pn **Pn 07 42 59.8 +0.2**
D25K Kavik River 6.07 12 Pn 07 43 00.8 +0.7
BCPM Bancas Point 6.07 121 Pn **Pn 07 42 59.4 -0.8**
M30M Minto, Yukon 6.09 92 Pn **Pn 07 43 00.0 -0.5**
G29M Pine Creek 6.12 50 Pn 07 43 01.0 +0.1
J30M Hart River 6.12 73 Pn **Pn 07 43 00.9 -0.1**
I30M Mount Dempster 6.19 67 Pn 07 43 01.4 -0.5
L14K Kuka Creek 6.25 256 Pn **Pn 07 43 03.2 +0.6**
EPYK Eagle Plains 6.36 57 Pn 07 43 03.6 -0.6
C23K Itkillik River 6.41 358 Pn **Pn 07 43 05.4 +0.8**
HYT Haines Junctio 6.44 109 Pn **Pn 07 43 06.0 +0.7**
B21K Ikpikpuk River 6.45 346 Pn 07 43 04.9 -0.3
OHAK Old Harbor 6.47 196 Pn **Pn 07 43 04.9 -0.7**
C27K Jago River 6.68 19 Pn 07 43 09.0 +0.6
F15K North Star Dit 6.68 296 Pn **Pn 07 43 08.6 +0.2**
C18K Utukok River 6.90 324 Pn **Pn 07 43 11.1 -0.3**
M13K Dall Lake 6.99 250 Pn **Pn 07 43 12.6 +0.1**
E29M Blow River 7.00 40 Pn **Pn 07 43 11.8 -0.8**
P29M Windy Craggy 7.01 118 Pn **Pn 07 43 12.9 -0.1**
B22K Teshekpuk Lake 7.04 351 Pn **Pn 07 43 12.2 -0.9**
B20K Meade River 7.15 340 Pn **Pn 07 43 13.6 -1.0**
F30M Barrier River 7.22 49 Pn **Pn 07 43 14.2 -1.5**
G31M Satah River 7.47 55 Pn 07 43 17.1 -1.9
C16K Lisburne Hills 7.90 314 Pn **Pn 07 43 24.7 -0.1**
INK Inuvik 8.30 47 Pn **Pn 07 43 29.8 -0.4**
INK Inuvik 8.30 47 P **Pn 07 43 30.2 -0.1**
comp=N,1.5nm,0.7s,baz=244,slow=15,SNR=8.3
SIT Sitka 9.71 125 Pn **Pn 07 43 48.7 -0.6**
YKA Yellowknife Ar 16.00 77 P **P 07 45 10.7 0.0**
comp=N,0.4nm,0.5s,baz=291,slow=10,SNR=23
PDAR Pinedale Array 31.12 112 P **P 07 47 40.8 +1.0**
comp=N,0.3nm,0.8s,baz=320,slow=7.1,SNR=3.9
comp=N,0.3nm,0.8s
NVAR Mina Array Bea 31.45 128 P **P 07 47 43.8 +1.1**
comp=N,0.1nm,0.3s,baz=324,slow=7.9,SNR=2.3
comp=N,0.1nm,0.3s
TXAR Lajitas Array 45.08 117 P **P 07 49 37.9 +1.3**
comp=N,0.4nm,0.6s,baz=330,slow=6.9,SNR=8.1
comp=N,0.4nm,0.6s

*IDC **02** 07:42:08.0±0.9, 50.°49N×159.°99E, h0km, mb3.6/10, mbtmp3.6/11, ML2.3/1, MS2.6/2, Error ellipse: s-maj=23.4km s-min=19.4km az=180.0*
*KRSC **02** 07:42:09.1±2.0, 50.°56N×160.°13E, h60km±39km, Ml3.9*
ISC 02 07:42:13.0±0.8, 50.°55N±0.°07×160.°06E±0.°06, h35km, n42, σ1§19/50, mb3.6/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.77**	**316**	*eP*	**Pn**	**07 42 39.9**	**-1.2**
KDTR				*eS*	**Sn**	**07 43 01.3**	**-1.2**
RUS	**Russkaya**	**2.12**	**333**	*eP*	**Pn**	**07 42 44.1**	**-1.7**
RUS				*eS*	**Sn**	**07 43 09.4**	**-1.5**
PAU	**Pauzhetka**	**2.25**	**295**	*eP*	**Pn**	**07 42 47.5**	**-0.2**
PAU				*eS*	**Sn**	**07 43 14.4**	**+0.2**
GRL	**Gorelyy**	**2.35**	**329**	*eP*	**Pn**	**07 42 49.2**	**-0.1**
GRL				*eS*	**Sn**	**07 43 17.0**	**0.0**
SKR	**Severo-Kuril's**	**2.52**	**274**	*eP*	**Pn**	**07 42 49.1**	**-2.3**
SKR				*eS*	**Sn**	**07 43 18.5**	**-2.2**
SPN	**Mys Shipunski**	**2.55**	**359**	*eS*	**Sn**	**07 43 19.8**	**-1.8**
KRMR	**Karymshinskiy**	**2.58**	**333**	*eP*	**Pn**	**07 42 52.3**	**+0.1**
KRMR				*eS*	**Sn**	**07 43 22.6**	**+0.3**
DALK	**Dalny**	**2.61**	**342**	*eP*	**Pn**	**07 42 51.7**	**-0.9**
DALK				*eS*	**Sn**	**07 43 21.9**	**-1.2**
PET	**Petropavlovsk**	**2.62**	**341**	*eP*	**Pn**	**07 42 51.8**	**-1.0**
PET				*eS*	**Sn**	**07 43 22.1**	**-1.3**
NLC	**Nalytchevo**	**2.66**	**351**	*eS*	**Sn**	**07 43 22.7**	**-1.5**
INSR	**Institute**	**2.67**	**341**	*eS*	**Sn**	**07 43 24.6**	**0.0**
UGLR	**Uglovaya**	**2.77**	**344**	*eP*	**Pn**	**07 42 55.0**	**0.0**
SDLR	**Sedlovina**	**2.82**	**345**	*eP*	**Pn**	**07 42 54.5**	**-1.2**
SDLR				*eS*	**Sn**	**07 43 26.3**	**-2.2**
AVH	**Avacha**	**2.84**	**344**	*eP*	**Pn**	**07 42 56.0**	**+0.1**
AVH				*eS*	**Sn**	**07 43 29.9**	**+1.1**
KRER	**Koryakskii**	**2.87**	**344**	*eS*	**Sn**	**07 43 30.9**	**+1.1**
KOK	**Koryaka**	**2.88**	**343**	*eP*	**Pn**	**07 42 56.2**	**-0.3**
KOK				*eS*	**Sn**	**07 43 29.4**	**-0.6**
KRX	**Arik**	**2.94**	**343**	*eP*	**Pn**	**07 42 56.3**	**-1.1**
KRX				*eS*	**Sn**	**07 43 31.2**	**-0.3**
PETK	**Petropavlovsk-**	**2.95**	**331**	Pn	**Pn**	**07 42 56.9**	**-0.4**
	1.8nm,0.3s,baz=131,slow=17,SNR=28						
PETK				Sn	**Sn**	**07 43 32.9**	**+1.4**
	4.8nm,0.3s,baz=127,slow=22,SNR=11						
PETK				LR	LR	07 44 18.1	
	comp=Z,102nm,19.4s,baz=87,slow=44						
	7.6nm,0.5s						
APC	**Apacha**	**2.98**	**324**	*eP*	**Pn**	**07 42 57.4**	**-0.3**
APC				*eS*	**Sn**	**07 43 33.3**	**+1.1**
GNL	**Ganaly**	**3.41**	**338**	*eP*	**Pn**	**07 43 03.2**	**-0.5**
GNL				*eS*	**Sn**	**07 43 44.6**	**+1.7**
TUMD	**Tumrok D**	**4.66**	**2**	*eP*	**Pn**	**07 43 20.3**	**-0.5**
TUMD				*eS*	**Sn**	**07 44 11.4**	**-2.3**
KMNR	**Kamenistaya**	**5.21**	**1**	*eP*	Pn	07 43 29.6	+1.1
KIRR	**Kirishev**	**5.41**	**2**	*eP*	**Pn**	**07 43 30.5**	**-0.8**
KPT	**Kopyto**	**5.42**	**1**	*eP*	Pn	07 43 32.5	+1.1
KBTR	**Krutoberegovo**	**5.90**	**15**	*eP*	**Pn**	**07 43 36.8**	**-1.0**
KBTR				*eS*	**Sn**	**07 44 40.9**	**-3.2**
MA2	**Magadan**	**10.48**	**333**	LR	LR	07 49 26.9	
	comp=Z,26nm,18.1s,baz=139,slow=42						
ILAR	**Eielson Array**	**30.67**	**42**	P	**P**	**07 48 23.7**	**-0.1**
	0.8nm,1.1s,baz=269,slow=8.4,SNR=3.0						
	0.8nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**31.23**	**168**	T	T	08 22 55.4	
	baz=353						
H11N3	**WAKE ISLAND Hy**	**31.25**	**167**	T	T	08 23 01.6	
	baz=353						
H11N1	**WAKE ISLAND Hy**	**31.25**	**168**	T	T	08 22 44.8	
	baz=353						
H11S1	**WAKE ISLAND Hy**	**32.41**	**168**	T	T	08 24 13.6	
	baz=349						
H11S3	**WAKE ISLAND Hy**	**32.42**	**168**	T	T	08 24 29.1	
	baz=349						
H11S2	**WAKE ISLAND Hy**	**32.43**	**168**	T	T	08 24 15.1	
	baz=349						
YKA	**Yellowknife Ar**	**45.08**	**41**	P	**P**	**07 50 25.7**	**+0.6**
	0.5nm,0.8s,baz=298,slow=8.3,SNR=5.9						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**49.19**	**304**	P	**P**	**07 50 57.2**	**-0.1**
	0.7nm,0.6s,baz=63,slow=7.8,SNR=6.3						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**49.28**	**298**	P	**P**	**07 50 58.4**	**+0.3**
	0.3nm,0.5s,baz=61,slow=7.3,SNR=4.8						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**07 51 18.4**	**+0.1**
	1.6nm,0.6s,baz=47,slow=7.6,SNR=8.0						
	1.6nm,0.6s						
NVAR	**Mina Array Bea**	**56.66**	**68**	P	**P**	**07 51 53.9**	**+1.0**
	0.3nm,0.7s,baz=321,slow=10.0,SNR=2.6						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**58.81**	**59**	P	**P**	**07 52 08.8**	**+0.9**
	0.3nm,0.8s,baz=311,slow=8.1,SNR=2.8						
	0.3nm,0.8s						
TXAR	**Lajitas Array**	**71.67**	**66**	P	**P**	**07 53 32.1**	**+0.9**
	0.7nm,0.7s,baz=299,slow=4.8,SNR=10.0						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**73.77**	**205**	P	**P**	**07 53 43.0**	**-0.5**
	0.5nm,0.9s,baz=14,slow=5.8,SNR=2.6						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**77.43**	**204**	P	**P**	**07 54 04.7**	**+0.3**
	0.7nm,0.9s,baz=15,slow=5.8,SNR=4.3						
	0.7nm,0.9s						

*NEIC **02** 07:42:41.1±0.7, 19.°81N±0.°02×155.°38W±0.°02, h41km±2km, Error ellipse: s-maj=3.5km s-min=2.3km az=223.0*
HVO 02 07:42:42.8±0.7, 19.°81N±0.°04×155.°36W±0.°03, h33km±7km, ML2.8/35, ML2.8/42(NEIC), Error ellipse: s-maj=6.2km s-min=3.7km az=213.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.17**	**252**		Pn	07 42 48.3	-0.1
POHA					Sb	07 42 52.5	-1.4
POHA	**Pohakuloa**	**0.17**	**252**	IAML		07 42 52.9	
	4μm,0.2s						
POHA				IAML		07 42 53.9	
	2μm,0.1s						
HMH	**Humu'ula Sheep**	**0.24**	**209**		Pn	07 42 49.4	-0.3
HMH					Sb	07 42 54.4	-0.7
HMH				IAML		07 42 54.6	
	comp=E,882nm,0.3s						
HMH				IAML		07 42 54.8	
	comp=N,2μm,0.2s						
MLH	**Mauna Loa**	**0.32**	**185**		Pb	07 42 50.2	-0.8
RSD	**Rainshed**	**0.35**	**167**		Pn	07 42 51.7	-0.1
RSD	**Rainshed**	**0.35**	**167**		Sb	07 42 56.4	-0.9
ALEP	**Alea Permanent**	**0.38**	**225**		Pb	07 42 51.0	-0.9
ALEP					Sb	07 42 56.8	-1.4
HPAH	**Hawaii Prepara**	**0.39**	**305**		Pb	07 42 50.6	-1.2
HPAH					Sb	07 42 55.9	-2.0
HPAH				IAML		07 42 56.9	
	comp=N,738nm,0.1s						
SBLHI	**Steaming Bluff**	**0.39**	**167**		Pb	07 42 50.6	-1.2
SBLHI					Sb	07 42 56.6	-1.5
UWB	**Uwekahuna Bluf**	**0.39**	**169**		Pb	07 42 50.6	-1.3
UWE	**Uwekahuna**	**0.39**	**171**		Pb	07 42 50.9	-1.1
UWE					Sb	07 42 56.9	-1.2
UWE				IAML		07 42 57.4	
	comp=E,685nm,0.5s						
UWE				IAML		07 42 59.8	
	comp=N,656nm,0.3s						
MWH	**Mokuaweoweo**	**0.39**	**215**		Pb	07 42 51.0	-1.3
MWH					Sb	07 42 57.5	-1.3
MWH				IAML		07 42 57.5	
	comp=N,787nm,0.3s						
MWH				IAML		07 42 57.8	
	comp=E,624nm,0.2s						
HATHI	**Halema'uma'u T**	**0.40**	**166**		Pb	07 42 50.7	-1.3
OBL	**Observatory Le**	**0.40**	**170**		Pb	07 42 50.8	-1.2
OBL					Sb	07 42 57.0	-1.2
WRMHI	**West Rim**	**0.41**	**172**		Pb	07 42 50.8	-1.3
WRMHI					Sb	07 42 57.1	-1.4
BYL	**Byron's Ledge**	**0.41**	**167**		Pb	07 42 50.9	-1.3
KKO	**Keanakako'i**	**0.42**	**168**		Pb	07 42 51.0	-1.3
KKO					Sb	07 42 57.2	-1.6
RIM	**Rim**	**0.42**	**169**		Pb	07 42 51.0	-1.3
SDHHI	**Sand Hill**	**0.42**	**172**		Pb	07 42 51.0	-1.4
PUH	**Pauahi**	**0.45**	**163**		Pb	07 42 51.5	-1.3
PUH					Sb	07 42 58.0	-1.7
KNHH	**Kane Nui o Ham**	**0.46**	**157**		Pb	07 42 51.6	-1.3
HUH	**Hualalai**	**0.47**	**255**		Pb	07 42 52.2	-0.9
HUH				IAML		07 42 59.6	
	comp=E,952nm,0.2s						
HUH				IAML		07 42 59.8	
	comp=N,750nm,0.1s						
NPOC	**North of Pu'u**	**0.48**	**150**		Pb	07 42 51.8	-1.3
NPOC					Sb	07 42 58.3	-1.9
STCH	**Steam Cracks**	**0.48**	**152**		Pb	07 42 51.8	-1.3
STCH					Sb	07 42 58.3	-1.9
JCUZ	**Jacuzzi**	**0.49**	**150**		Pb	07 42 51.9	-1.4
JCUZ					Pn	07 42 58.6	+5.1
JOKA	**Jonika Flow**	**0.50**	**138**		Pb	07 42 52.0	-1.4
JOKA				IAML		07 42 58.9	
	comp=E,381nm,0.4s						
JOKA					Sb	07 42 59.0	-1.8
HLP	**Hilina Pali**	**0.51**	**175**		Pb	07 42 52.3	-1.4
HLP				IAML		07 42 59.4	
	comp=N,592nm,0.1s						
HLP				IAML		07 43 03.0	
	comp=E,404nm,1.9s						
HTC	**Hot Caves**	**0.57**	**184**		Pb	07 42 53.1	-1.5
KHU	**Kahuku**	**0.61**	**203**		Pn	07 42 53.5	-1.8
KHU					Sb	07 43 01.5	-2.5
KHU				IAML		07 43 01.6	
	comp=N,322nm,0.3s						
KHU				IAML		07 43 01.9	
	comp=E,481nm,0.2s						
CPH	**Captain Cook**	**0.62**	**239**		Pn	07 42 53.4	-1.8
MHA	**Mahukona**	**0.63**	**306**		Pn	07 42 54.2	-1.3
MHA					Sb	07 43 02.0	-2.3

HPO Honuapo 0.74 194 Pn 07 42 56.1 -0.8

*IDC **02** 07:47:08.0±1.8, 32°.02S×177°.85W, h0km, mb4.0/3, mbtmp4.0/4, ML3.5/1, MS3.6/1, Error ellipse: s-maj=55.0km s-min=31.3km az=132.0*
*WEL **02** 07:47:07.5±0.9, 32°.S±5°.×17°.8W±1°.6, h12km, M4.8/7, mB6.0/1, ML5.0/13, MLv4.8/7, Mw(mB)5.6/1, Error ellipse: s-maj=21.1km s-min=4.0km az=105.9, confirmed*
*NEIC **02** 07:47:17.5±1.2, 32°.5S±0°.1×179°.1W±0°.2, h10km±2km, mb4.3/11, Error ellipse: s-maj=31.3km s-min=9.6km az=118.0*
ISC 02 07:47:10.3±1.2, 31°.99S±0°.08×177°.8W±0°.2, h24km, n45, σ1§60/55, mb4.2/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.72 358		P	Pn	07 47 51.3	-1.2
GLKZ				S	Sn	07 48 22.1	-2.5
MXZ	Matakaoa Point	6.42 209		P	Pn	07 48 41.6	-1.7
MXZ				S	Sn	07 49 55.0	-0.8
WMGZ	Waiomatatini S	6.60 207		P	Pn	07 48 45.0	-0.7
WMGZ				S	Sn	07 50 00.3	+0.1
PKGZ	Pakihiroa	6.77 209		P	Pn	07 48 47.3	-0.9
PKGZ				S	Sn	07 50 04.5	0.0
HAZ	Te Kaha	6.80 211		P	Pn	07 48 48.8	+0.1
HAZ				S	Sn	07 50 08.4	+3.1
PUZ	Puketiti	6.88 207		P	Pn	07 48 48.5	-1.2
PUZ				S	Sn	07 50 07.9	+0.7
RUGZ	Raukumara Rang	7.03 211		P	Pn	07 48 51.1	-0.7
RUGZ				S	Sn	07 50 10.8	-0.2
TWGZ	Tauwhareparae	7.08 208		P	Pn	07 48 49.8	-2.6
TWGZ				S	Sn	07 50 10.8	-1.4
CNGZ	Carnagh Statio	7.26 206		P	Pn	07 48 54.4	-0.4
CNGZ				S	Sn	07 50 16.6	+0.2
TKGZ	Te Karaka	7.36 208		P	Pn	07 48 55.1	-1.0
TKGZ				S	Sn	07 50 18.0	-0.9
MWZ	Matawai	7.40 210		P	Pn	07 48 55.2	-1.6
MWZ				S	Sn	07 50 19.5	-0.5
URZ	Urewera	7.52 212		Pn	Pn	07 48 57.5	-0.9
	0.8nm,0.3s,baz=0.0,slow=14,SNR=8.6						
URZ				Sn	Sn	07 50 21.9	-1.0
	5.7nm,0.3s,baz=13,slow=14,SNR=14						
	6.4nm,0.8s						
URZ	Urewera	7.52 212		P	Pn	07 48 57.8	-0.6
URZ				S	Sn	07 50 22.1	-0.7
RIGZ	Rimuhau	7.62 207		P	Pn	07 48 58.4	-1.5
RIGZ				S	Sn	07 50 23.8	-1.7
WCZ	Waipu Caves	7.63 237		P	Pn	07 49 00.4	+0.5
PRGZ	Paritu Road	7.76 206		S	Sn	07 50 24.2	-4.8
MUGZ	Murupara	7.85 213		P	Pn	07 49 00.8	-2.2
MUGZ				S	Sn	07 50 29.1	-2.1
SNGZ	Shannon Statio	7.86 209		P	Pn	07 49 01.9	-1.1
SNGZ				S	Sn	07 50 29.7	-1.5
OUZ	Omahuta	7.87 244		P	Pn	07 49 08.8	+5.5
MTHZ	Maungataniwha	8.13 211		P	Pn	07 49 09.7	+2.9
MTHZ				S	Sn	07 50 36.0	-1.9
BKZ	Black Stump Fm	8.54 211		Pn	Pn	07 49 07.4	-5.1
BKZ	Black Stump Fm	8.54 211		S	Sn	07 50 43.6	-4.5
DZM	Mont Dzumac	17.15 301		LR	LR	07 57 00.2	
	comp=Z,192nm,18.2s,baz=262,slow=35						
STKA	Stephens Creek	34.32 259		P	P	07 53 56.4	+1.3
	1.4nm,0.7s,baz=104,slow=9.5,SNR=4.5						
	1.4nm,0.7s						
BBOO	Buckleboo	38.73 256		P	P	07 54 31.2	-1.5
BBOO				IAmb	IAmb	07 54 57.4	
	comp=Z,12nm,1.3s						
AS31	Alice Springs	43.22 269		P	P	07 55 09.3	-0.5
ASAR	Alice Springs	43.22 269		P	P	07 55 09.1	-0.7
ASAR	Alice Springs	43.22 269		P	P	07 55 10.7	+0.9
	comp=Z,1.1nm,0.6s,baz=104,slow=7.5,SNR=17						
	comp=Z,1.1nm,0.6s						
WR0	Warramunga Arr	44.17 274		P	P	07 55 18.6	+1.1
WR0				IAmb	IAmb	07 55 43.2	
	comp=Z,6.1nm,1.0s						
WR8	Warramunga Arr	44.21 274		P	P	07 55 17.7	-0.1
WR8				IAmb	IAmb	07 55 37.8	
	comp=Z,3.2nm,0.8s						
WB2	Warramunga Arr	44.34 274		P	P	07 55 19.4	+0.5
WB2				IAmb	IAmb	07 55 24.2	
	comp=Z,11nm,1.2s						
WRA	Warramunga Arr	44.35 274		P	P	07 55 18.1	-0.8
WRA	Warramunga Arr	44.35 274		P	P	07 55 19.6	+0.7
	comp=Z,1.4nm,0.4s,baz=113,slow=7.8,SNR=26						
	comp=Z,1.4nm,0.4s						
WB0	Warramunga Arr	44.38 274		P	P	07 55 19.8	+0.7
WB0				IAmb	IAmb	07 55 33.5	
	comp=Z,4.1nm,0.8s						
FORT	Forrest	45.83 257		P	P	07 55 30.5	0.0
FITZ	Fitzroy Crossi	52.55 271		P	P	07 56 22.8	+0.7
CASY	Casey	53.83 208		P	P	07 56 33.8	+3.1
CASY				IAmb	IAmb	07 56 34.5	
	comp=Z,3.4nm,0.9s						
PSA00	Pilbara Seismi	55.97 264		P	P	07 56 47.0	+0.1
QSPA	South Pole Qui	58.13 180		P	P	07 57 08.1	+6.3
QSPA	South Pole Qui	58.13 180		P	P	07 57 06.8	+5.0
	comp=Z,0.4nm,0.6s,baz=63,slow=2.3,SNR=1.2						
BELA	Belgrano 2	68.19 172		P	P	07 58 15.4	+7.2
BELA				IAmb	IAmb	07 58 32.0	
	comp=Z,1.8nm,1.0s						
KURBB	Kurchatov Arra	122.30 313		PKP	PKiKP	08 06 03.5	+0.5
	comp=Z,0.3nm,0.5s,baz=102,slow=1.3,SNR=2.2						
FINES	FINESS Array B	146.69 339		PKPbc	PKPab	08 06 49.5	-1.0
	comp=Z,4.2nm,0.7s,baz=54,slow=4.4,SNR=9.0						
MMAI	Mount Meron Ar	152.04 281		PKPbc	PKiKP	08 07 06.1	+2.0
	comp=Z,0.8nm,0.4s,baz=90,slow=4.3,SNR=2.0						
BRTR	Keskin Array B	153.48 296		PKPbc	PKiKP	08 07 09.0	+2.1
	comp=Z,0.6nm,0.5s,baz=131,slow=4.0,SNR=2.7						

*IDC **02** 07:50:07.1±2.8, 53°.50N×87°.60E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=22.9km s-min=14.0km az=66.0*
ASRS 02 07:50:02.0±1.6, 53°.61N×87°.68E, h0km, M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.73 282		I	I	08 01 50.0	
	0.5nm,0.9s,baz=100,slow=328,SNR=11						
ZALV	Zalesovo Beam	1.73 282		Pg	Pg	07 50 37.2	+2.0
	1.0nm,0.3s,baz=104,slow=16,SNR=12						
ZALV				Lg	Lg	07 51 01.4	
	0.7nm,0.3s,baz=104,slow=28,SNR=4.0						
KURBB	Kurchatov Arra	6.38 246		Pn	Pn	07 51 42.2	+5.0
	0.1nm,0.3s,baz=61,slow=14,SNR=5.2						
KURBB				Sn	Sn	07 52 53.0	+2.3
	baz=66,slow=25,SNR=2.3						
KURBB				Lg	Lg	07 53 24.8	
	0.1nm,0.3s,baz=64,slow=33,SNR=9.2						
	0.7nm,0.5s						
MKAR	Makanchi Array	7.65 209		Pn	Pn	07 51 59.7	+5.0
	0.2nm,0.3s,baz=26,slow=13,SNR=7.3						
MKAR				Sn	Sn	07 53 23.1	+1.2
	0.1nm,0.3s,baz=27,slow=28,SNR=6.9						
MKAR				Lg	Lg	07 54 05.4	
	0.2nm,0.3s,baz=32,slow=33,SNR=7.3						
	0.3nm,0.4s						

*AFAD **02** 08:00:15.7, 35°.73N×23°.57E, h6km±6km, MW4.0*
*IDC **02** 08:00:15.7±0.5, 35°.66N×23°.54E, h0km, mb4.1/28, mbtmp4.1/37, ML3.8/8, MS3.0/5, Error ellipse: s-maj=12.6km s-min=8.6km az=21.0*
*NEIC **02** 08:00:16.5±2.2, 35°.3N±0°.1×23°.44E±0°.04, h10km±1km, mb4.3/17, Error ellipse: s-maj=17.5km s-min=3.6km az=192.0*
*GII **02** 08:00:17.9±0.0, 35°.617N±0°.003×23°.649E±0°.001, h20km, Md4.0/3, confirmed*
*ISK **02** 08:00:17.8, 35°.65N×23°.61E, h6km, ML4.1/9*
*ATH **02** 08:00:18.2, 35°.67N×23°.57E, h10km±2km, ML4.0/17, Manual Solution by F.Xalaris First location: 2019/04/02 08:01:23, This location: 2019/04/02 08:16:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*
*THE **02** 08:00:18.3, 35°.65N×23°.56E, h2km±1km, ML3.8/5, Error ellipse: s-maj=1.8km s-min=0.4km az=222.0*
*HLW **02** 08:00:23.6, 35°.31N×24°.08E, h10km±26km, Md4.3, Ml4.3*

ISC 02 08:00:18.0±0.9, 35°.62N±0°.03×23°.55E±0°.02, h15km±5km, n259, σ1§65/290, mb4.2/30, MS2.8/3, 11C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	Antikythira Is	0.32 320		P	Pg	08 00 24.2	-0.5
ANKY				S	Sg	08 00 28.8	-0.4
	29μm,0.4s						
ANKY	Antikythira Is	0.32 320		P	Pg	08 00 24.1	-0.5
ANKY				S	Sg	08 00 28.2	-1.0
IMMV	Iera Moni Meta	0.38 115		P	Pg	08 00 25.7	0.0
IMMV				S	Sg	08 00 31.6	+0.6
	105μm,0.4s						
IMMV	Iera Moni Meta	0.38 115		Pg	Pg	08 00 25.4	-0.3
IMMV				Sg	Sg	08 00 30.8	-0.2
IMMV	Iera Moni Meta	0.38 115		P	Pg	08 00 25.8	0.0
IMMV				S	Sg	08 00 31.6	+0.6
CHAN	Chania	0.41 104		P	Pg	08 00 26.5	+0.2
CHAN				S	Sb	08 00 32.8	-0.2
	21μm,0.5s						
CHAN	Chania	0.41 104		P	Pg	08 00 26.4	+0.2
CHAN				S	Sg	08 00 31.7	-0.1
CHNB	Souda	0.44 108		P	Pb	08 00 27.1	-0.3
CHNB				S	Sb	08 00 33.6	-0.1
PRNS	Prines Rethymn	0.81 108		P	Pg	08 00 33.1	-0.7
PRNS				S	Sg	08 00 43.5	-1.0
PRNS	Prines Rethymn	0.81 108		P	Pg	08 00 33.0	-0.8
PRNS				S	Sg	08 00 43.9	-0.6
GVD	Gavdhos	0.89 151		P	Pg	08 00 35.1	-0.2
GVD				S	Sn	08 00 49.3	+0.6
	12μm,0.4s						
GVD	Gavdhos	0.89 151		Pg	Pg	08 00 35.2	-0.1
GVD				Sg	Sb	08 00 48.5	+1.6
GVD	Gavdhos	0.89 151		P	Pg	08 00 35.2	-0.1
GVD				S	Sb	08 00 48.5	+1.6
TMBK	Timbaki Herakl	1.13 119		P	Pb	08 00 39.2	0.0
TMBK	Timbaki Herakl	1.13 119		P	Pn	08 00 39.9	+0.7
IDI	Anoyia	1.14 107		P	Pb	08 00 38.8	-0.6
IDI	Anoyia	1.14 107		Pn	Pb	08 00 39.3	-0.1
IDI				Sn	Sb	08 00 54.9	+0.8
IDI	Anoyia	1.14 107			Pb	08 00 39.3	-0.1
IDI					Sb	08 00 54.9	+0.8
IDI	Anoyia	1.14 107		Pg	Pg	08 00 39.8	-0.2
	290nm,0.3s,baz=266,slow=10,SNR=228						
IDI				Lg	Lg	08 00 53.2	
	503nm,0.3s,baz=275,slow=23,SNR=13						
IDI	Anoyia	1.14 107		P	Pb	08 00 39.5	+0.1
IDI				S	Sn	08 00 55.8	+0.9
VLI	Veliai	1.20 336		P	Pb	08 00 40.2	-0.3
VLI				S	Sn	08 00 56.8	+0.5
	3μm,0.7s						
VLI	Veliai	1.20 336		P	Pb	08 00 40.0	-0.5
MHLO	Agia Marina, M	1.27 32		P	Pb	08 00 41.5	-0.1
MHLO	Agia Marina, M	1.27 32		P	Pb	08 00 41.5	-0.1
IACM	Heraklion	1.28 104		P	Pg	08 00 42.8	+0.2
IACM	Heraklion	1.28 104		P	Pg	08 00 42.6	0.0
THR9	Santorini-Faro	1.64 63		P	Pb	08 00 47.2	-0.6
THR3	Thira Island,	1.69 62		P	Pb	08 00 48.2	-0.6
CMBO	Columbo, Santo	1.72 60		P	Pn	08 00 48.0	+0.6
THR8	Santorini-Mono	1.75 63		P	Pn	08 00 48.5	+0.8
KRND	KRANIDI	1.79 350		P	Pb	08 00 49.6	-0.9
KRND				S	Sb	08 01 12.7	0.0
KRND	KRANIDI	1.79 350		P	Pb	08 00 49.5	-0.9
MET4	Agioi Theodoro	2.00 356		P	Pn	08 00 51.7	+0.5
MET5	Makryloggos,Me	2.00 356		P	Pn	08 00 51.6	+0.3
ITM	Ithomi	2.04 320		P	Pn	08 00 53.2	+1.5
ITM	Ithomi	2.04 320		Pn	Pb	08 00 53.8	-0.9
ITM	Ithomi	2.04 320		Pn	Pb	08 00 54.6	-0.1
ITM					Sg	08 01 24.4	+0.9
ITM	Ithomi	2.04 320		P	Pb	08 00 54.3	-0.3
APE	Apeiranthos	2.15 47		P	Pn	08 00 53.4	+0.1
APE	Apeiranthos	2.15 47		Pn	Pn	08 00 54.0	+0.7
APE				Sn	Sn	08 01 21.1	+1.3
APE	Apeiranthos	2.15 47		P	Pn	08 00 52.8	-0.6
APE				S	Sb	08 01 22.2	-1.0
APE	Apeiranthos	2.15 47		⇑P	Pn	08 00 54.1	+0.7
APE				⇓S	Sn	08 01 18.0	-1.9
APE	Apeiranthos	2.15 47		P	Pn	08 00 51.4	-1.9
APE				S	Sn	08 01 17.8	-2.0
APE	Apeiranthos	2.15 47		P	Pn	08 00 53.5	+0.1
ZKR	Zakros	2.23 102		P	Pn	08 00 56.0	+1.5
ZKR	Zakros	2.23 102		Pn	Pn	08 00 55.9	+1.5
VLY	Voula,Athens	2.24 5		P	Pn	08 00 54.8	+0.3
TNSA	Tinos	2.31 34		P	Pn	08 00 56.0	+0.6
ATHU	Athens Univers	2.35 4		P	Pn	08 00 56.5	+0.4
AMT	Artemida-Makis	2.42 323		P	Pn	08 00 57.5	+0.5
PTL	Penteli	2.44 6		P	Pn	08 00 57.7	+0.4
PTL	Penteli	2.44 6		P	Pn	08 00 57.6	+0.3
LTK	Loutraki	2.44 349		P	Pn	08 00 58.0	+0.6
DION	Dionisos Attik	2.47 7		P	Pn	08 00 57.5	-0.2
DION	Dionisos Attik	2.47 7		P	Pn	08 00 57.5	-0.2
GUR	Goura	2.51 338		P	Pn	08 00 59.8	+1.5
KARY	Karystos	2.51 16		P	Pn	08 00 58.1	-0.1
KARY	Karystos	2.51 16		P	Pn	08 00 58.6	+0.4
VILL	Villia	2.55 356		P	Pn	08 00 59.1	+0.3
VIL2	Platees	2.60 355		P	Pn	08 00 58.9	-0.6
KLV	Kalavryta, Ach	2.67 335		P	Pn	08 01 02.4	+1.9
KARP	Karpathos	2.94 90		Pn	Pn	08 01 05.3	+1.1
KARP	Karpathos	2.94 90		Pn	Pn	08 01 04.8	+0.6
KARP	Karpathos	2.94 90		P	Pn	08 01 05.0	+0.8
ANX	Ano Chora	3.24 337		P	Pn	08 01 10.0	+1.6
YAZI	Mula-Dat§a-	3.33 70		P	Pn	08 01 09.6	+0.1
BODT	Bodrum	3.36 64		Pn	Pn	08 01 11.6	+1.7
DAT	Datca	3.44 70		Pn	Pn	08 01 12.8	+1.7
BDRM	Kayabasi	3.46 64		P	Pn	08 01 11.7	+0.5
DDIM	Aydin, Didim	3.49 57		P	Pn	08 01 14.1	+2.4
ZEYE	Izmir, Urla-Ze	3.52 41		P	Pn	08 01 11.4	-0.7
ZEYE				S	Sn	08 01 55.3	+1.8
DGB	zmir	3.61 47		P	Pn	08 01 15.5	+2.2
URLA	Izmir	3.66 41		P	Pn	08 01 14.4	+0.4
ARG	Arkhangelos	3.76 80		P	Pn	08 01 16.9	+1.5
ARG	Arkhangelos	3.76 80			Pn	08 01 17.4	+2.0
ARG				Sn	Sn	08 02 02.7	+3.3
KARB	zmir-Karabur	3.80 36		P	Pn	08 01 14.4	-1.5
TURN	Turunc	3.96 72		P	Pn	08 01 17.7	-0.5
AYDN	Tasoluk	4.03 58		P	Pn	08 01 20.4	+1.2
MULA	Mugla, Merkez-	4.17 66		P	Pn	08 01 21.0	-0.2
SLUM	Salum	4.34 161		P	Pn	08 01 24.3	+0.8
ESEN	Aydn-Nazilli	4.42 59		P	Pn	08 01 25.9	+1.4
SABU	Mula-Dalaman	4.54 73		P	Pn	08 01 29.7	+3.5
LIT	Litokhoron	4.55 350		Pn	Pn	08 01 29.3	+3.0
LIT	Litokhoron	4.55 350		P	Pn	08 01 26.4	+0.1
KIRA	zmir-Kiraz	4.66 55		P	Pn	08 01 29.7	+1.8
IZZE	Mula-Seydike	4.67 78		P	Pn	08 01 30.2	+2.3
BUHA	Balikesir, Bur	4.78 35		P	Pn	08 01 31.3	+1.9
DNIZ	Denizli-Tavas-	4.84 64		P	Pn	08 01 33.5	+3.1
CAEL	Denizli, Camel	4.89 70		P	Pn	08 01 35.6	+4.6
MANT	Manisa	4.92 53		Pn	Pn	08 01 34.2	+2.6
KSL	Kastellorizon	4.92 82		P	Pn	08 01 33.6	+2.2
AKAS	Kas	4.95 81			Pn	08 01 33.6	+1.8
AKAS				Sn	Sn	08 02 30.1	+1.2
AKAS	Kas	4.95 81		P	Pn	08 01 32.9	+1.1
KNIK	Mula-Seydike	5.02 74		P	Pn	08 01 35.1	+2.3
KEK	Kerkira	5.05 325		Pn	Pn	08 01 35.0	+1.8
GOLH	Golhisar	5.11 70		P	Pn	08 01 37.3	+3.3
ELL	Elmali	5.26 76		Pn	Pn	08 01 39.4	+3.2
FNA	Florina	5.43 342			Pn	08 01 41.1	+2.6
FNA	Florina	5.43 342		P	Pn	08 01 40.0	+1.6
PASA	Karahalli, USA	5.47 58		P	Pn	08 01 42.7	+3.7
DURS	Dursunbey	5.57 43		P	Pn	08 01 40.5	+0.2
ALN	Alexandroupoli	5.62 20		Pn	Pn	08 01 43.5	+2.5
ALN	Alexandroupoli	5.62 20		P	Pn	08 01 36.2	-4.8
RDO	Rodhopi	5.73 15		Pn	Pn	08 01 44.9	+2.4
VAY	Valandovo	5.74 353	*i* Pn		Pn	08 01 45.8	+3.1
OHR	Ohrid	5.89 339	*i* Pn		Pn	08 01 47.0	+2.2
SCTE	Santa Cesarea	6.00 319		Pn	Pn	08 01 46.3	+0.2
DB3	El Dabaa	6.19 136		P	Pn	08 01 49.4	+0.6
DB3				S	Sn	08 02 54.7	-4.7
TIR	Tirane	6.41 334		Pn	Pn	08 01 53.6	+1.8
TIR	Tirane	6.41 334		⇓P	Pn	08 01 49.6	-2.1
TIP	Timpagrande	6.47 305		Pn	Pn	08 01 53.2	+0.4
TIP	Timpagrande	6.47 305		⇑P	Pn	08 01 52.1	-0.6
SWA2		6.56 165		P	Pn	08 01 54.5	+0.7
SWA2				S	Sn	08 03 07.2	-1.3
CEL	Celeste	6.68 295			Pn	08 01 55.0	-0.5
BORA	Eskisehir	6.92 50		Pn	Pn	08 02 02.5	+3.6
MATE	Matera	7.37 315		⇑P	Pn	08 02 03.8	-1.2
DRME	Dracevica, Mon	7.39 334	*e*Pn		Pn	08 02 05.0	-0.2
CUC	Castrocucco	7.52 308			Pn	08 02 08.6	+1.5
RAFF	Raffo Rosso	7.58 285		Pn	Pn	08 02 06.6	-1.3
VAE	Valguarnera	7.59 287		Pn	Pn	08 02 09.8	+1.7
	6.0nm,0.5s,baz=182,slow=13,SNR=2.1						
VAE				Sn	Sn	08 03 32.1	-1.7
	1.3nm,0.3s,baz=80,slow=22,SNR=2.2						
HCY	Herceg Novi	7.87 332	*e*Pn		Pn	08 02 11.7	-0.2
CSS	Mathiatis	8.02 92	Pn		Pn	08 02 13.5	-0.5
CSS	Mathiatis	8.02 92	P		Pn	08 02 12.4	-1.6
CSS	Mathiatis	8.02 92	S		Sn	08 03 41.7	-2.7
SJES	Sjenica	8.12 341	*e*Pn		Pn	08 02 16.2	+0.9
TREB	Trebinje	8.16 332	*e*Pn		Pn	08 02 10.8	-5.0
BRY	Bratogost	8.24 333	*e*Pn		Pn	08 02 14.2	-2.9
UPM	Unac-Piva	8.38 336	*e*Pn		Pn	08 02 19.5	+0.5
ANTO	Ankara	8.46 57			Pn	08 02 25.6	+5.7
STON	Ston	8.54 330	*e*Pn		Pn	08 02 19.1	-2.0
RUDO	Rudo	8.61 339	*e*Pn		Pn	08 02 17.8	-4.3
SGRT	San Giovanni R	8.65 317			Pn	08 02 23.6	+1.0
BBLS	Lazi&#263i	8.83 340	*e*Pn		Pn	08 02 23.4	-1.7
PAOL	Paolisi	8.89 310	Pn		Pn	08 02 25.2	-0.6
BR131	Keskin Array S	8.98 60	Pn		Pn	08 02 31.4	+4.2
BRTR	Keskin Array B	8.98 60	Pn		Pn	08 02 31.6	+4.3
BRTR	Keskin Array B	8.98 60	Pn		Pn	08 02 30.1	+2.8
	1.0nm,0.3s,baz=242,slow=16,SNR=19						
BRTR				Sn	Sn	08 04 10.4	+2.2
	baz=339,slow=16						
	4.7nm,0.6s						
HAPS	Han Pijesak,Bl	9.16 339	*e*Pn		Pn	08 02 27.4	-2.3
HFRF	Wahat Farafira	9.37 153	P		Pn	08 02 32.5	0.0
TEKS	Tekeris	9.43 342	*e*Pn		Pn	08 02 28.6	-4.7
ARR	Arges	9.77 4	⇑P		Pn	08 02 36.2	-1.8
GZR	Gura Zlata	9.78 357	⇑P		Pn	08 02 36.1	-2.0
INTR	Introdacqua	9.87 313	Pn		Pn	08 02 40.8	+1.5
NEHR	Nehoiu	10.02 11	⇑P		Pn	08 02 39.0	-2.2
MLR	Muntele Rosu	10.03 10	Pn		Pn	08 02 46.9	+5.4
MLR	Muntele Rosu	10.03 10	Pn		Pn	08 02 41.0	-0.5
	0.6nm,0.3s,baz=156,slow=18,SNR=3.2						
	1.5nm,0.4s						
MLR	Muntele Rosu	10.03 10	⇑P		Pn	08 02 39.4	-2.1
MMA0B	Mount Meron ar	10.14 101	P		Pn	08 02 40.9	-2.2
MMA0B	Mount Meron ar	10.14 101	S		Sn	08 04 34.2	-2.4
MMAI	Mount Meron Ar	10.14 101	Pn		Pn	08 02 42.2	-0.9
	2.7nm,0.3s,baz=274,slow=16,SNR=3.7						
MMAI				Sn	Sn	08 04 31.8	-4.7
	2.5nm,0.3s,baz=216,slow=31,SNR=2.0						
	1.4nm,0.3s						
KZIT	Kziot	10.22 114	P		Pn	08 02 43.3	-0.8
KZIT	Kziot	10.22 114	S		Sn	08 04 36.6	-1.9
GEM	Giv'at Ha'Em	10.29 100	P		Pn	08 02 44.0	-1.0
GEM	Giv'at Ha'Em	10.29 100	S		Sn	08 04 37.7	-2.4
NATI	Neve Ativ	10.33 100	P		Pn	08 02 45.1	-0.5
NATI	Neve Ativ	10.33 100	S		Sn	08 04 38.7	-2.4
MMLI	Mount Malkishu	10.35 104	P		Pn	08 02 45.1	-0.8
MMLI	Mount Malkishu	10.35 104	S		Sn	08 04 39.7	-1.9
A050A	Klekovaca	10.35 331	*e*Pn		Pn	08 02 42.8	-3.2
DOPR	Dopca	10.43 7	⇑P		Pn	08 02 44.9	-2.0
CAMP	Campotosto	10.48 314	Pn		Pn	08 02 49.3	+1.6
PLOR	Plostina	10.48 12	⇑P		Pn	08 02 45.5	-2.2
HMDT	Nahal Hemdat	10.50 105	P		Pn	08 02 47.1	-0.7
HMDT	Nahal Hemdat	10.50 105	S		Sn	08 04 43.2	-2.0
VRI	Vrincioaia	10.51 12	⇑P		Pn	08 02 45.7	-2.4
YTIR	Yattir	10.54 110	P		Pn	08 02 46.5	-2.2
YTIR	Yattir	10.54 110	S		Sn	08 04 43.9	-2.6
DSI	Dead Sea	10.66 109	P		Pn	08 02 49.2	-0.8
DSI	Dead Sea	10.66 109	S		Sn	08 04 46.3	-2.8
A051A	Mrakovica	10.66 334	*e*Pn		Pn	08 02 48.9	-1.2
MSBI	Mazada	10.75 110	P		Pn	08 02 49.6	-1.8
MSBI	Mazada	10.75 110	S		Sn	08 04 49.5	-1.9
NRCA	Norcia	10.83 315			Pn	08 02 55.0	+2.5
KRMI	Paran Flat	10.88 117	P		Pn	08 02 51.3	-1.8
KRMI	Paran Flat	10.88 117	S		Sn	08 04 52.9	-1.6
GHAJ	Ghor Haditha	10.92 110			Pn	08 02 51.7	-1.9
GHAJ	Ghor Haditha	10.92 110	P		Pn	08 02 53.1	-0.6
GHAJ	Ghor Haditha	10.92 110	S		Sn	08 04 52.9	-2.5
PRNI	Paran	10.95 115	P		Pn	08 02 53.4	-0.8
PRNI	Paran	10.95 115	S		Sn	08 04 54.3	-2.2
FDMO	Fiordimonte	10.97 316	Pn		Pn	08 02 57.4	+3.0
GAZ	Gaziantep	11.12 78	Pn		Pn	08 02 57.4	+1.0
HRFI	Mount Harif	11.15 117	P		Pn	08 02 55.8	-1.0
HRFI	Mount Harif	11.15 117	S		Sn	08 04 58.5	-2.7
MBRI	Mt Berech	11.19 118	P		Pn	08 02 55.8	-1.6
MBRI	Mt Berech	11.19 118	S		Sn	08 05 00.2	-2.1
MORH	Mrgy, Hungar	11.21 342	⇑P		Pn	08 02 55.1	-2.5
HDK1	Dakhla	11.23 152	P		Pn	08 02 58.2	+0.1
EIL	Elat	11.29 119	Pn		Pn	08 02 57.8	-0.9
	0.7nm,0.3s,

FINES FINESS Array B 25.89 3 P P 08 05 49.1 +0.1
FINES FINESS Array B 25.89 3 P P 08 05 48.2 -0.7
comp=Z,1.9nm,0.5s,baz=174,slow=7.7,SNR=4.5
comp=Z,1.9nm,0.5s
FIA1 FINESS Array S 25.89 3 P P 08 05 48.8 -0.1
NC405 NORSAR Array S 26.61 347 P P 08 05 56.4 +0.9
NOA NORSAR Array B 26.63 347 P P 08 05 55.1 -0.7
comp=Z,2.2nm,0.9s,baz=157,slow=9.9,SNR=5.1
NOA LR LR 08 17 42.9
comp=Z,27nm,19.4s,baz=275,slow=39
comp=Z,2.2nm,0.9s
NC303 NORSAR Array S 26.78 347 P P 08 05 58.7 +1.7
NC303 IAmb IAmb 08 06 40.7
comp=Z,15nm,1.2s
EKA Eskdalemuir Ar 26.91 325 P P 08 05 58.0 -0.3
comp=Z,4.1nm,0.5s,baz=124,slow=8.5,SNR=17
comp=Z,4.1nm,0.5s
EKB Eskdalemuir 26.93 325 P P 08 06 00.4 +2.0
AKTO Aktyubinsk 28.91 48 P P 08 06 14.8 -1.4
comp=Z,0.8nm,0.5s,baz=280,slow=8.7,SNR=4.3
comp=Z,0.8nm,0.5s
ABKAR Akbulak array 29.80 51 P P 08 06 25.9 +1.8
TORD Torodi Ar. Bea 29.81 227 P P 08 06 24.9 +0.4
comp=Z,3.2nm,0.7s,baz=31,slow=9.8,SNR=11
comp=Z,3.2nm,0.7s
ARTI Arti 31.37 38 P P 08 06 38.5 +0.7
ARTI IAmb IAmb 08 06 42.8
comp=Z,13nm,1.4s
ARTI Arti 31.37 38 P P 08 06 38.0 +0.2
comp=Z,2.5nm,0.5s,baz=259,slow=5.9,SNR=4.1
comp=Z,2.5nm,0.5s
ARCES ARCESS Array B 33.99 1 P P 08 06 59.7 -0.9
comp=Z,2.9nm,0.8s,baz=185,slow=9.9,SNR=9.6
ARCES LR LR 08 21 22.0
comp=Z,28nm,19.3s,baz=238,slow=37
comp=Z,2.9nm,0.8s
KKAR Karatay Array 36.67 64 P P 08 07 26.1 +2.0
BVAR Borovoye Array 36.99 47 P P 08 07 27.0 +0.4
comp=Z,0.8nm,0.5s,baz=263,slow=6.0,SNR=5.7
comp=Z,0.8nm,0.5s
DBIC Dimbokro 38.86 229 P P 08 07 42.9 +0.2
comp=Z,3.9nm,0.7s,baz=34,slow=11,SNR=6.5
comp=Z,3.9nm,0.7s
AAK Ala-Archa 39.63 64 P P 08 07 48.8 -0.4
comp=Z,1.0nm,0.4s,baz=270,slow=20,SNR=3.5
comp=Z,1.0nm,0.4s
KURBB Kurchatov Arra 41.86 51 P P 08 08 07.0 -0.2
comp=Z,1.3nm,0.4s,baz=278,slow=8.5,SNR=19
comp=Z,1.3nm,0.4s
KURK Kurchatov 41.91 51 P P 08 08 08.7 +1.0
KURK IAmb IAmb 08 08 11.1
comp=Z,4.0nm,1.1s
SPITS Spitsbergen Ar 42.77 358 P P 08 08 14.5 +0.1
comp=Z,3.6nm,0.8s,baz=146,slow=11,SNR=9.8
comp=Z,3.6nm,0.8s
MKAR Makanchi Array 44.62 57 P P 08 08 30.1 +0.4
comp=Z,2.2nm,0.4s,baz=272,slow=7.6,SNR=20
MKAR PcP **PcP** 08 10 12.6 +0.3
comp=Z,1.1nm,0.6s,baz=289,slow=3.7,SNR=3.8
comp=Z,2.2nm,0.4s
ZALV Zalesovo Beam 45.63 46 P P 08 08 38.0 +0.4
ZALV Zalesovo Beam 45.63 46 P P 08 08 37.3 -0.3
comp=Z,2.0nm,0.3s,baz=273,slow=8.9,SNR=11
comp=Z,2.0nm,0.3s
NRIK Noril'sk 48.02 25 P P 08 08 55.3 -0.8
comp=Z,0.8nm,0.5s,baz=284,slow=5.7,SNR=3.7
comp=Z,0.8nm,0.5s
SONM Songino Array 60.21 50 P P 08 10 25.5 +0.1
comp=Z,1.4nm,0.8s,baz=280,slow=7.5,SNR=6.5
comp=Z,1.4nm,0.8s
SCHQ Schefferville 61.98 319 P P 08 10 38.0 +0.8
comp=Z,2.1nm,0.6s,baz=56,slow=8.2,SNR=4.3
comp=Z,2.1nm,0.6s
BOSA Boshof 63.91 178 P P 08 10 50.5 +0.2
comp=Z,1.1nm,0.8s,baz=11,slow=5.2,SNR=0.9
comp=Z,1.1nm,0.8s
CMAR Chiang Mai Arr 67.82 83 P P 08 11 15.6 -0.1
comp=Z,1.8nm,0.4s,baz=309,slow=8.1,SNR=6.7
comp=Z,1.8nm,0.4s
YKA Yellowknife Ar 76.60 341 P P 08 12 07.4 -0.1
comp=Z,0.7nm,0.7s,baz=34,slow=5.3,SNR=13
comp=Z,0.7nm,0.7s
USRK Ussuriysk Ar. 77.44 44 P P 08 12 12.4 -0.2
comp=Z,2.4nm,0.7s,baz=308,slow=4.7,SNR=3.4
comp=Z,2.4nm,0.7s
KSRS Korea Array 79.03 52 P P 08 12 21.6 +0.2
comp=Z,2.3nm,0.8s,baz=306,slow=4.9,SNR=4.6
comp=Z,2.3nm,0.8s
ULM Lac du Bonnet 79.19 325 P P 08 12 22.1 -0.1
comp=Z,1.9nm,0.8s,baz=53,slow=4.8,SNR=3.7
comp=Z,1.9nm,0.8s
ILAR Eielson Array 79.66 356 P P 08 12 24.6 +0.1
comp=Z,0.5nm,0.9s,baz=332,slow=2.7,SNR=4.3
comp=Z,0.5nm,0.9s
MJAR Matsushiro Arr 85.98 47 P P 08 12 57.1 -0.7
comp=Z,2.9nm,1.1s,baz=288,slow=5.8,SNR=5.2
comp=Z,2.9nm,1.1s
PDAR Pinedale Array 91.02 327 P P 08 13 21.6 -0.4
comp=Z,0.4nm,0.8s,baz=76,slow=6.3,SNR=5.1
comp=Z,0.4nm,0.8s
WRA Warramunga Arr 117.94 95 PKP PKPdf 08 19 03.7 -0.7
comp=Z,0.2nm,0.5s,baz=323,slow=1.6,SNR=5.5
ASAR Alice Springs 119.42 99 PKP PKPdf 08 19 06.3 -0.9
comp=Z,0.4nm,0.5s,baz=295,slow=1.3,SNR=4.9
QSPA South Pole Qui 125.48 180 PKP PKPdf 08 19 17.5 0.0
comp=Z,0.9nm,0.9s,baz=217,slow=3.6,SNR=1.2
STKA Stephens Creek 129.09 105 PKP PKPdf 08 19 25.3 -0.1
comp=Z,1.4nm,0.9s,baz=297,slow=8.3,SNR=1.6

---

*IDC **02** 08:00:31.3±2.7, 53°.66N×87°.88E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=23.2km s-min=15.8km az=58.0*

ASRS 02 08:00:30.0±1.2, 53°.54N×87°.92E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**284**	I	I	08 12 50.0	
	0.1nm,0.8s,baz=98,slow=330,SNR=5.2						
ZALV	**Zalesovo Beam**	**1.89**	**284**	Pn	Pb	08 01 04.5	-0.8
	8.4nm,0.3s,baz=96,slow=15,SNR=75						
ZALV				Lg	Lg	08 01 30.2	
	4.6nm,0.3s,baz=98,slow=22,SNR=9.6						
KURBB	**Kurchatov Arra**	**6.48**	**247**	Pn	Pn	08 02 08.7	+2.2
	0.2nm,0.3s,baz=63,slow=14,SNR=11						
KURBB				Sn	Sn	08 03 20.4	-0.8
	baz=62,slow=18,SNR=1.0						
KURBB				Lg	Lg	08 03 57.4	
	baz=53,slow=27,SNR=5.3						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**7.66**	**210**	Pn	Pn	08 02 26.2	+3.5
	0.2nm,0.3s,baz=29,slow=14,SNR=9.8						
MKAR				Sn	Sn	08 03 54.6	+4.4
	0.1nm,0.3s,baz=28,slow=26,SNR=1.9						
MKAR				Lg	Lg	08 04 37.7	
	0.1nm,0.3s,baz=33,slow=32,SNR=2.1						
	0.2nm,0.3s						

---

*ASRS **02** 08:09:13.0±1.6, 54°.02N×86°.56E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 02 08:09:16.7±3.0, 54°.05N×86°.52E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=23.3km s-min=13.8km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**265**	I	I	08 16 40.0	
	baz=84,slow=321,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.01**	**265**	Pg	Pg	08 09 34.9	-1.1
	0.5nm,0.3s,baz=82,slow=18,SNR=4.9						
ZALV				Lg	Lg	08 09 50.3	
	1.4nm,0.3s,baz=84,slow=30,SNR=9.1						
KURBB	**Kurchatov Arra**	**5.98**	**238**	Pn	Pn	08 10 47.2	+0.8
	baz=55,slow=14,SNR=4.3						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.75**	**202**	Pn	Pn	08 11 12.1	+1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=1.8						
MKAR				Lg	Lg	08 13 21.4	
	baz=25,slow=32,SNR=2.9						
	0.1nm,0.4s						

WEL 02 08:09:46.7±1.2, 45°.S±7°.×16°.7E±°, h78km±9km, M3.5/12, ML3.6/6, MLv3.5/12, Error ellipse: s-maj=11.3km s-min=6.4km az=129.6, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.48**	**200**	P	Pn	08 10 00.9	+0.8
DCZ				S	Sn	08 10 12.4	+2.4
MSZ	**Milford Sound**	**0.51**	**49**	P	Pn	08 10 01.9	+1.6
MSZ				S	Sn	08 10 13.4	+3.0
MLZ	**Mavora Lakes**	**0.63**	**125**	P	Pn	08 10 02.4	+0.9
MLZ				S	Sn	08 10 14.7	+2.3
MOSS	**Mossburn Schoo**	**0.89**	**138**	P	Pn	08 10 05.1	+0.8
MOSS				S	Sn	08 10 19.6	+2.2
QTPS	**Queenstown Pol**	**0.90**	**92**	P	Pn	08 10 05.2	+0.8
WHZ	**Wether Hill Ro**	**0.96**	**156**	P	Pn	08 10 05.3	+0.1
WHZ				S	Sn	08 10 19.8	+0.8
RRKS	**Rarakau**	**1.14**	**177**	P	Pn	08 10 07.5	+0.2
RRKS				S	Sn	08 10 23.8	+1.1
WKZ	**Wanaka**	**1.17**	**81**	P	Pn	08 10 08.2	+0.5
PYZ	**Puysegur Point**	**1.26**	**203**	P	Pn	08 10 09.1	+0.3
EAZ	**Earnscleugh**	**1.38**	**100**	P	Pn	08 10 10.4	+0.1
EAZ				S	Sn	08 10 27.9	-0.3
TUZ	**Tuapeka**	**1.84**	**122**	P	Pn	08 10 15.8	-0.5
APZ	**The Paps**	**1.87**	**167**	P	Pn	08 10 15.8	-1.0
SYZ	**Scrubby Hill**	**1.96**	**142**	P	Pn	08 10 17.1	-0.8
LBZ	**Lake Benmore**	**2.09**	**74**	P	Pn	08 10 18.1	-1.6
FOZ	**Fox Glacier**	**2.29**	**51**	P	Pn	08 10 20.6	-1.7
ODZ	**Otahua Downs**	**2.31**	**92**	P	Pn	08 10 21.2	-1.4
HHSZ	**Highcliff Hill**	**2.42**	**112**	P	Pn	08 10 22.4	-1.7
TMZ	**Timaru**	**2.66**	**78**	P	Pn	08 10 25.0	-2.3
GCSZ	**Gaunt Creek Bo**	**2.71**	**52**	P	Pn	08 10 25.7	-2.3
ARCZ	**Arundel**	**2.91**	**70**	P	Pn	08 10 28.2	-2.6
RPZ	**Rata Peaks**	**2.93**	**65**	P	Pn	08 10 28.5	-2.5
WVZ	**Waitaha Valley**	**3.10**	**52**	P	Pn	08 10 30.6	-2.7
WACZ	**Wakanui South**	**3.36**	**73**	P	Pn	08 10 34.1	-2.7
INZ	**Inchbonnie**	**3.72**	**53**	P	Pn	08 10 38.9	-2.8
OXZ	**Oxford**	**3.75**	**65**	P	Pn	08 10 38.5	-3.6
MQZ	**McQueen's Vall**	**4.00**	**73**	P	Pn	08 10 42.7	-2.7
LTZ	**Lake Taylor**	**4.17**	**59**	P	Pn	08 10 44.4	-3.6
OKCZ	**Okains Bay**	**4.27**	**74**	P	Pn	08 10 47.8	-1.4
DSZ	**Denniston Nort**	**4.58**	**46**	P	Pn	08 10 50.5	-3.0
THZ	**Tophouse**	**5.17**	**53**	P	Pn	08 10 57.7	-3.8
MRNZ	**Matariki Terra**	**5.33**	**49**	P	Pn	08 11 01.8	-1.9
QRZ	**Quartz Range**	**5.63**	**44**	P	Pn	08 11 05.3	-2.5
TKNZ	**Takaka Hill**	**5.70**	**48**	P	Pn	08 11 07.3	-1.5

---

*IDC **02** 08:12:46.7±0.9, 1°.64S×120°.68E, h0km, mb3.9/11, mbtmp4.0/12, ML3.8/1, MS2.6/1, Error ellipse: s-maj=35.4km s-min=15.2km az=68.0*
*DJA **02** 08:12:50.0±1.2, 2°.S±3°.×12°.1E±°, h16km±10km, M4.2/7, MLv4.2/7*

ISC 02 08:12:50.1±0.7, 1°.71S±0°.05×120°.57E±0°.06, h23km, n19, σ1°56/23, mb4.1/11, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**1.08**	**317**	P	Pb	08 13 10.8	+0.6
APSI	**Ampana**	**1.34**	**54**	P	Pb	08 13 15.4	+0.9
TTSI	**Tana Toraja**	**1.53**	**209**	P	Pn	08 13 13.4	-2.6
TTSI				S	Sn	08 13 32.8	-2.4
LUWI	**Luwuk**	**2.30**	**73**	P	Pn	08 13 27.5	+0.9
SPSI	**Sidrap Palu**	**2.38**	**200**	P	Pn	08 13 28.2	+0.4
MRSI	**Marisa**	**2.56**	**32**	P	Pb	08 13 32.8	-2.7
MRSI				S	Sb	08 14 05.2	-1.4
KAPI	**Kappang**	**3.39**	**194**	Pn	Pn	08 13 43.1	+1.5
	9.5nm,0.3s,baz=350,slow=7.6,SNR=16						
KAPI				Sn	Sn	08 14 24.4	+3.2
	14nm,0.3s,baz=18,slow=20,SNR=6.0						
KAPI				LR	LR	08 15 14.1	
	comp=Z,97nm,21.6s,baz=348,slow=42						
	32nm,0.4s						
BKSI	**Bulukumba**	**3.62**	**187**	P	Pn	08 13 44.4	-0.4
BKSI				S	Sn	08 14 26.0	-0.9
PSI	**Prapat**	**22.10**	**282**	P	P	08 17 44.9	+0.8
	3.2nm,0.5s,baz=134,slow=12,SNR=3.8						
	3.2nm,0.5s						
WRA	**Warramunga Arr**	**22.58**	**144**	P	P	08 17 48.8	-0.3
	3.0nm,1.0s,baz=317,slow=12,SNR=9.8						
	3.0nm,1.0s						
ASAR	**Alice Springs**	**25.37**	**150**	P	P	08 18 17.1	+1.3
	0.2nm,0.6s,baz=341,slow=14,SNR=6.0						
	0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**29.23**	**314**	P	P	08 18 52.3	+1.8
	2.2nm,0.3s,baz=137,slow=6.8,SNR=17						
	2.2nm,0.3s						
SONM	**Songino Array**	**50.87**	**348**	P	P	08 21 50.3	+1.0
	2.6nm,0.7s,baz=164,slow=8.4,SNR=12						
	2.6nm,0.7s						
MKAR	**Makanchi Array**	**58.83**	**330**	P	P	08 22 47.4	+0.6
	1.4nm,0.8s,baz=125,slow=7.7,SNR=7.3						
	1.4nm,0.8s						
AAK	**Ala-Archa**	**60.55**	**322**	P	P	08 22 58.8	-0.2
	1.2nm,0.6s,baz=150,slow=6.2,SNR=3.6						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**62.89**	**337**	P	P	08 23 13.6	-0.8
	1.0nm,0.6s,baz=161,slow=6.1,SNR=2.1						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**63.25**	**331**	P	P	08 23 16.0	-0.8
	1.0nm,0.6s,baz=128,slow=7.2,SNR=5.2						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**68.71**	**330**	P	P	08 23 51.0	-0.9
	0.5nm,0.5s,baz=108,slow=4.7,SNR=2.1						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**88.24**	**180**	P	P	08 25 38.1	-1.3
	0.9nm,0.9s,baz=320,slow=3.0,SNR=1.4						
	0.9nm,0.9s						

---

*IDC **02** 08:15:02.7±3.0, 53°.58N×87°.86E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=24.4km s-min=17.9km az=58.0*

ASRS 02 08:15:00.0±1.3, 53°.61N×88°.01E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**281**	I	I	08 27 40.0	
	0.3nm,0.9s,baz=96,slow=324,SNR=16						
ZALV	**Zalesovo Beam**	**1.92**	**281**	Pn	Pb	08 15 35.5	-0.4
	0.6nm,0.3s,baz=103,slow=12,SNR=20						
ZALV				Lg	Lg	08 16 01.4	
	0.9nm,0.3s,baz=101,slow=24,SNR=19						
KURBB	**Kurchatov Arra**	**6.56**	**247**	Pn	Pn	08 16 39.8	+2.2
	0.1nm,0.3s,baz=60,slow=14,SNR=5.4						
KURBB				Sn	Sn	08 17 52.0	-1.1
	0.1nm,0.3s,baz=60,slow=27,SNR=2.0						
KURBB				Lg	Lg	08 18 28.2	
	baz=62,slow=32						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**7.75**	**211**	Pn	Pn	08 16 57.0	+3.0
	baz=29,slow=14,SNR=1.0						
MKAR				Lg	Lg	08 19 04.4	
	0.1nm,0.3s,baz=28,slow=28,SNR=2.0						
	0.2nm,0.5s						

---

*ASRS **02** 08:19:01.0±1.8, 53°.76N×91°.05E, h0km, M3.1, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **02** 08:19:06.3±3.5, 53°.66N×90°.95E, h0km, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=30.4km s-min=26.9km az=100.0*
*NNC **02** 08:19:15.0±4.5, 53°.08N×90°.31E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=35.1km s-min=27.7km az=21.0, Suspected Mining explosion.*

ISC 02 08:19:09.8±4.3, 53.7N±0°.2×90°.5E±0°.2, h0km, n8, σ0°55/9, 2C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.40**	**277**	I	I	08 42 00.0	
	0.1nm,1.0s,baz=91,slow=330,SNR=20						
ZALV	**Zalesovo Beam**	**3.40**	**277**	Pn	Pn	08 20 04.3	+0.3
	1.0nm,0.3s,baz=92,slow=13,SNR=12						
	2.3nm,0.5s						
KURK	**Kurchatov**	**7.89**	**253**	⇓Sn	Sn	08 22 34.8	-0.6
	2.3nm,0.6s						
KURK				⇑Lg	Lg	08 23 19.1	
	29nm,1.3s						
KURBB	**Kurchatov Arra**	**7.98**	**252**	Pn	Pn	08 21 06.2	-0.7
	0.2nm,0.3s,baz=64,slow=15,SNR=5.7						
KURBB				Sn	Sn	08 22 38.1	+0.4
	baz=68,slow=26,SNR=9.8						
KURBB				Lg	Lg	08 23 28.4	
	0.1nm,0.3s,baz=68,slow=33,SNR=7.8						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**7.98**	**252**	⇓Pn	Pn	08 21 06.8	0.0
	2.4nm,0.5s						
KURBB				⇓Sn	Sn	08 22 37.8	+0.1
	13nm,0.8s						
KURBB				⇑Lg	Lg	08 23 22.2	
	25nm,0.8s						
MK31	**Makanchi Array**	**8.66**	**221**	Pn	Pn	08 21 16.2	0.0
	0.4nm,0.5s,baz=38,slow=13,SNR=6.2						
MK31				⇓Sn	Sn	08 22 47.2	-7.3
	1.6nm,0.8s,baz=120,slow=8.0,SNR=8.7						
MK31				⇓Lg	Lg	08 23 33.7	
	15nm,1.2s,baz=48,slow=31,SNR=4.6						
MKAR	**Makanchi Array**	**8.66**	**221**	Pn	Pn	08 21 15.9	-0.4
	0.2nm,0.3s,baz=41,slow=14,SNR=7.6						
MKAR				Sn	Sn	08 22 55.3	+0.8
	0.2nm,0.3s,baz=37,slow=22,SNR=4.3						
MKAR				Lg	Lg	08 23 43.2	
	0.1nm,0.3s,baz=34,slow=31,SNR=6.1						
	0.6nm,0.5s						
SONM	**Songino Array**	**11.61**	**114**	Lg	Lg	08 25 04.4	
	baz=304,slow=31						

IDC 02 08:20:14.1±3.9, 53°.70N×88°.18E, h0km, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=38.1km s-min=21.2km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.01**	**279**	I	I	08 33 30.0	
	0.1nm,0.8s,baz=94,slow=325,SNR=1.8						
ZALV	**Zalesovo Beam**	**2.01**	**279**	Pn	Pn	08 20 49.8	+0.6
	1.0nm,0.3s,baz=96,slow=15,SNR=12						
ZALV				Lg	Lg	08 21 16.9	
	1.9nm,0.3s,baz=96,slow=28,SNR=5.4						
	4.4nm,0.5s						
KURBB	**Kurchatov Arra**	**6.69**	**246**	Pn	Pn	08 21 54.7	+1.3
	baz=64,slow=14,SNR=1.2						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.87**	**211**	Pn	Pn	08 22 10.1	+0.3
	0.1nm,0.3s,baz=27,slow=13,SNR=1.8						
	0.4nm,0.6s						

---

*IDC **02** 08:23:52.0±1.9, 37°.59N×29°.27E, h0km, mb3.7/2, mbtmp3.5/4, ML3.4/2, MS2.8/2, Error ellipse: s-maj=48.5km s-min=22.7km az=144.0*
*ISK **02** 08:23:53.5, 37°.48N×29°.40E, h6km, ML3.2/39*
*AFAD **02** 08:23:53.9, 37°.48N×29°.37E, h7km±3km, ML3.0*

ISC 02 08:23:54.0±0.8, 37°.48N±0°.02×29°.38E±0°.02, h9km±5km, n72, σ1°02/98, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.06**	**260**	Pg	Pg	08 23 56.0	-0.1
APMY				Sg	Sg	08 23 57.8	+0.1
INCE	**Denizli-Bozkur**	**0.28**	**35**	P	Pg	08 23 59.3	-0.3
INCE				*i* AML	AML	08 24 04.0	
	comp=E,5μm,0.9s						
INCE				S	Sg	08 24 04.1	+0.8
INCE				*i* AML	AML	08 24 05.0	
	comp=N,4μm,0.2s						
GOLH	**Golhisar**	**0.28**	**149**	P	Pg	08 23 59.4	-0.4
GOLH				*i* AML	AML	08 24 04.0	
	comp=E,4μm,0.2s						
GOLH				S	Sg	08 24 04.3	+0.7
GOLH				*i* AML	AML	08 24 09.0	
	comp=N,3μm,0.3s						
DNIZ	**Denizli-Tavas-**	**0.31**	**298**	P	Pg	08 24 00.1	0.0
DNIZ				S	Sb	08 24 05.2	-1.7
DNIZ				*i* AML	AML	08 24 06.0	
	comp=E,8μm,0.4s						
DNIZ				*i* AML	AML	08 24 08.0	
	comp=N,5μm,0.3s						
DNZT	**Denizli-Tavas-**	**0.35**	**234**	P	Pg	08 24 00.8	-0.1
DNZT				S	Sb	08 24 06.6	-1.4
DNZT				*i* AML	AML	08 24 07.0	
	comp=E,686nm,0.5s						
CAEL	**Denizli, Camel**	**0.36**	**187**	P	Pg	08 24 00.4	-0.8
CAEL				S	Sb	08 24 07.7	-0.8
CAEL				*i* AML	AML	08 24 10.0	
	comp=N,2μm,0.3s						
CAEL				*i* AML	AML	08 24 11.0	
	comp=E,2μm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.37**	**268**	P	Pg	08 24 01.3	-0.1
TAVA				S	Sb	08 24 08.0	-0.8
TAVA				*i* AML	AML	08 24 09.0	
	comp=N,2μm,0.4s						
TAVA				*i* AML	AML	08 24 11.0	
	comp=E,642nm,0.3s						
CAME	**Cameli-Denizli**	**0.54**	**186**	Pg	Pg	08 24 03.7	-0.8
CAME				Sg	Sb	08 24 12.6	-1.1
BRDR	**BURDUR-Merkez**	**0.58**	**68**	P	Pg	08 24 04.8	-0.5
BRDR				*i* AML	AML	08 24 15.0	
	comp=E,2μm,0.3s						
BRDR				S	Sb	08 24 15.0	+0.2
BRDR				*i* AML	AML	08 24 17.0	
	comp=N,2μm,0.3s						
KNIK	**Mula-Seydike**	**0.66**	**166**	P	Pg	08 24 05.7	-1.0
KNIK				S	Sb	08 24 17.6	+0.7
KNIK				*i* AML	AML	08 24 21.0	
	comp=N,283nm,0.5s						
BASM	**Basmaki-Afyon**	**0.69**	**50**	Pg	Pg	08 24 06.8	-0.5
BASM				Sg	Sg	08 24 16.7	+0.4
SABU	**Mula-Dalaman**	**0.73**	**207**	P	Pg	08 24 07.9	-0.2
SABU				S	Sb	08 24 19.5	+0.4
SABU				*i* AML	AML	08 24 22.0	
	comp=E,399nm,0.5s						
SABU				*i* AML	AML	08 24 23.0	
	comp=N,418nm,1.2s						
ELL	**Elmali**	**0.85**	**150**	Pg	Pg	08 24 08.9	-1.4
KHL	**Karahalli**	**0.85**	**8**	Pg	Pg	08 24 10.2	-0.2
PASA	**Karahalli, USA**	**0.87**	**6**	P	Pg	08 24 10.1	-0.7
PASA				S	Sb	08 24 23.5	+0.4
PASA				*i* AML	AML	08 24 29.0	
	comp=N,258nm,0.4s						
PASA				*i* AML	AML	08 24 31.0	
	comp=E,402nm,0.3s						
MULA	**Mugla, Merkez-**	**0.87**	**255**	P	Pg	08 24 10.2	-0.7
MULA				S	Sn	08 24 24.9	-0.5
MULA				*i* AML	AML	08 24 28.0	
	comp=N,525nm,0.8s						
MULA				*i* AML	AML	08 24 30.0	
	comp=E,651nm,0.6s						
ESEN	**Aydn-Nazilli**	**0.88**	**291**	P	Pb	08 24 10.7	-0.7
ESEN				S	Sb	08 24 23.2	0.0
ESEN				*i* AML	AML	08 24 24.0	
	comp=E,617nm,0.5s						
ESEN				*i* AML	AML	08 24 28.0	
	comp=N,720nm,0.8s						
FETY	**Fethiye**	**0.88**	**196**	Pg	Pb	08 24 10.9	-0.5
FETY	**Fethiye**	**0.88**	**196**	P	Pn	08 24 13.1	+0.6
FETY				S	Sn	08 24 29.2	+3.8
DALY	**Dalyan (Mula)**	**0.88**	**221**	Pg	Pg	08 24 10.2	-0.8
KORT	**Korkueli**	**0.91**	**122**	Pg	Pg	08 24 10.9	-0.7
KORT	**Korkueli**	**0.91**	**122**	P	Pg	08 24 11.5	-0.1
KORT				S	Sn	08 24 26.0	-0.4
KORT				*i* AML	AML	08 24 29.0	
	comp=N,683nm,0.5s						
KORT				*i* AML	AML	08 24 30.0	
	comp=E,986nm,0.9s						
YER	**Yerkesik**	**0.94**	**249**	Pg	Pb	08 24 12.1	-0.4
BUCA	**Burdur, Bucak-**	**0.95**	**99**	P	Pg	08 24 11.6	-0.8
BUCA		

comp=N,799nm,0.4s
TURN Turunc 1.15 232 Pn **Pn 08 24 15.9 -0.3**
ANTB Antalya 1.17 119 Pn **Pn 08 24 16.4 -0.1**
KULA Kula-Manisa 1.18 331 Pn **Pb 08 24 16.3 -0.3**
AFYN Afyon-Dinar-K 1.19 48 P **Pg 08 24 15.8 -1.0**
AFYN S **Sn 08 24 35.2 +2.0**
AFYN *i* AML AML 08 24 40.0
comp=N,286nm,0.4s
AFYN *i* AML AML 08 24 49.0
comp=E,300nm,0.9s
MANT Manisa 1.20 327 P **Pb 08 24 16.8 -0.2**
MANT S **Sn 08 24 34.3 +0.7**
MANT *i* AML AML 08 24 36.0
comp=N,184nm,0.4s
MANT *i* AML AML 08 24 36.0
comp=E,226nm,0.2s
AYDN Tasoluk 1.21 279 P **Pb 08 24 16.6 -0.4**
AYDN S **Sn 08 24 34.8 +1.2**
AYDN *i* AML AML 08 24 40.0
comp=E,429nm,0.3s
AYDN *i* AML AML 08 24 43.0
comp=N,384nm,0.4s
BAGO Egridir - ISPA 1.23 65 P **Pg 08 24 15.6 -2.0**
BAGO S **Sn 08 24 35.5 +1.3**
BAGO *i* AML AML 08 24 43.0
comp=E,199nm,0.7s
BAGO *i* AML AML 08 24 48.0
comp=N,151nm,0.8s
BNAZ Uak-Banaz 1.26 18 P **Pg 08 24 17.8 -0.4**
BNAZ S **Sn 08 24 36.3 +1.3**
BNAZ *i* AML AML 08 24 42.0
comp=E,1μm,0.5s
BNAZ *i* AML AML 08 24 44.0
comp=N,1μm,0.5s
AKAS Kas 1.26 172 Pn **Pn 08 24 18.1 +0.2**
USAK Uak-Merkez 1.26 347 P **Pg 08 24 17.5 -0.8**
USAK S **Sn 08 24 35.3 +0.3**
USAK *i* AML AML 08 24 38.0
comp=E,207nm,0.5s
AYDB Zeytinkoy-Aydi 1.27 292 Pn **Pg 08 24 17.6 -0.8**
MLSB Milas 1.29 262 Pn **Pg 08 24 18.6 -0.2**
ODEM Odemis-Izmir 1.30 308 Pn **Pb 08 24 18.4 -0.3**
DEMR Demre-Antalya 1.31 161 Pn **Pb 08 24 18.9 -0.3**
SHUT Suhut-Afyon 1.41 41 Pn **Pn 08 24 20.1 +0.1**
SHAP Saphane-Kutahy 1.54 355 Pn **Pb 08 24 22.3 -0.5**
GEDZ Gediz 1.56 1 Pn **Pb 08 24 22.7 -0.4**
ARG Arkhangelos 1.61 219 Pn **Pb 08 24 23.5 -0.5**
DAT Datca 1.62 243 Pn **Pb 08 24 23.6 -0.6**
SIMA Simav-Kutahya 1.63 349 Pn **Pb 08 24 23.6 -0.7**
SMAA Simav-Kutahya 1.65 349 Pn **Pn 08 24 23.7 +0.5**
BODT Bodrum 1.70 256 Pn **Pb 08 24 24.6 -0.9**
GORD Gordes-Manisa 1.71 327 Pn **Pb 08 24 24.7 -0.9**
YKAV Yalikavak-Bodr 1.71 259 Pn **Pb 08 24 24.8 -0.8**
GCAM G?zelcaml? 1.72 278 Pn **Pb 08 24 24.9 -0.8**
SEYD Seydisehir-KON 1.96 91 Pn **Pn 08 24 28.2 +0.7**
TVSB Tavsanli 1.96 2 Pn **Pn 08 24 28.3 +0.7**
BLCB Balcova 2.06 297 Pn **Pn 08 24 29.7 +1.0**
SOMA Soma-Manisa 2.21 320 Pn **Pn 08 24 31.9 +1.0**
CIFT Cifteler, Eski 2.29 35 Pn **Pn 08 24 32.1 0.0**
KONT Konya--Tatoy 2.41 78 Pn **Pn 08 24 34.5 +0.9**
KIZT Kizilcal 2.42 54 Pn **Pn 08 24 33.1 -0.7**
DKL Dikili 2.51 310 Pn **Pn 08 24 35.1 +0.1**
HDMB Hadim 2.53 101 Pn **Pn 08 24 36.4 +0.9**
SVRH Sivrihisar-ESK 2.58 40 Pn **Pn 08 24 37.1 +1.0**
KARP Karpathos 2.63 223 Pn **Pn 08 24 37.9 +1.2**
SUSR Susurluk-Balik 2.68 338 Pn **Pn 08 24 38.3 +1.0**
BRTR Keskin Array B 4.02 55 Pn **Pn 08 24 56.9 +1.0**
0.8nm,0.3s,baz=242,slow=16,SNR=13
BRTR Sn **Sn 08 25 44.4 +1.2**
0.5nm,0.3s,baz=242,slow=23,SNR=6.7
1.7nm,0.3s
MMAI Mount Meron Ar 6.64 130 Pn **Pn 08 25 32.3 +0.5**
2.1nm,0.3s,baz=311,slow=13,SNR=5.7
MMAI Sn **Sn 08 26 46.1 -1.6**
1.7nm,0.3s,baz=314,slow=24,SNR=2.3
1.3nm,0.3s
GNI Garni 12.28 73 LR LR 08 32 21.9
comp=Z,23nm,18.4s,baz=165,slow=41
DAVOX Davos/Dischmat 17.15 309 LR LR 08 35 48.9
comp=Z,43nm,18.0s,baz=240,slow=42
TORD Torodi Ar. Bea 34.60 233 P **P 08 30 42.6 -0.8**
0.9nm,0.3s,baz=38,slow=9.3,SNR=2.9
0.9nm,0.3s
MKAR Makanchi Array 39.66 59 P **P 08 31 26.0 -0.1**
0.2nm,0.6s,baz=268,slow=8.7,SNR=2.4
0.2nm,0.6s

*OSPL **02** 08:24:33.9±2.1, 19°.78N×71°.23W, h6km±12km, ML2.4*
*SDD **02** 08:24:33.4±2.2, 19°.85N×71°.13W, h23km±11km, MD2.4, ML2.8, MW3.2*
ISC 02 08:24:33.0±1.1, 19°.80N±0°.03×71°.13W±0°.04, h15km±9km, n15, σ0°79/26, 7C-10D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUDR	**Luperon**	**0.19**	**60**	⇓*e*Pg	**Pg**	**08 24 37.5**	**-0.1**
LUDR				⇓*e*Sg	**Sb**	**08 24 41.8**	**+0.1**
LUDR				IAML		08 24 47.8	
	comp=N,7μm,0.3s						
MADR	**Mao Valverde**	**0.23**	**174**	⇑*e*Pg	**Pg**	**08 24 38.6**	**+0.4**
MADR				⇓*e*Sg	**Sb**	**08 24 43.9**	**+1.0**
MADR				IAML		08 24 44.4	
	comp=N,3μm,0.4s						
MCDR	**Montecristi**	**0.51**	**281**	⇓*e*Pg	**Pg**	**08 24 43.4**	**+0.3**
MCDR				IAML		08 24 56.6	
	comp=N,146nm,0.6s						
SC01	**Santiago de lo**	**0.53**	**134**	⇓*e*Pg	**Pg**	**08 24 43.6**	**+0.1**
SC01				⇑*e*Sg	**Sb**	**08 24 53.0**	**+1.5**
SC01				IAML		08 24 59.0	
	comp=N,172nm,0.2s						
SC01	**Santiago de lo**	**0.53**	**134**	*i* P	**Pg**	**08 24 43.6**	**+0.1**
SC01				*e*S	**Sb**	**08 24 53.0**	**+1.5**
SC01				IAML		08 24 55.6	
	comp=Z,124nm,0.3s						
REDR	**Restauracion**	**0.68**	**202**	⇑*e*Pg	**Pg**	**08 24 46.6**	**+0.3**
REDR				⇑*e*Sg	**Sn**	**08 24 57.6**	**-0.8**
REDR				IAML		08 24 58.3	
	comp=N,364nm,0.1s						
SDDR	**Presa de Saban**	**0.83**	**190**	⇓*e*Pg	**Pb**	**08 24 47.8**	**-1.4**
SDDR				⇓*e*Sg	**Sb**	**08 24 59.9**	**-0.2**
SDDR				IAML		08 25 00.5	
	comp=N,288nm,0.4s						
SDDR	**Presa de Saban**	**0.83**	**190**	*i* P	**Pb**	**08 24 47.8**	**-1.4**
SDDR				*e*S	**Sb**	**08 24 59.6**	**-0.5**
SDDR				IAML		08 25 00.5	
	comp=Z,150nm,0.4s						
ABDR	**Alto Bandera**	**1.09**	**154**	⇑*e*Pg	**Pb**	**08 24 52.7**	**-1.1**
ABDR				⇓*e*Sg	**Sb**	**08 25 07.3**	**-0.7**
ABDR				IAML		08 25 08.5	
	comp=N,104nm,0.2s						
NADR	**Nagua**	**1.28**	**110**	⇓*e*Pg	**Pn**	**08 24 56.3**	**0.0**
NADR				IAML		08 25 17.9	
	comp=N,218nm,0.3s						
DR08	**Loma La Naviza**	**1.34**	**128**	⇑*e*Pg	**Pn**	**08 24 57.6**	**+0.4**
DR08				IAML		08 25 18.4	
	comp=N,1μm,0.1s						
JIDR	**Jimani**	**1.47**	**208**	⇓*e*Pg	**Pb**	**08 25 00.1**	**0.0**
JIDR				⇑*e*Sg	**Sg**	**08 25 20.6**	**+0.2**
JIDR				IAML		08 25 20.9	
	comp=N,92nm,0.4s						
PODR	**Polo**	**1.63**	**185**	*i* P	**Pn**	**08 25 02.3**	**+0.9**
PODR				*e*S	**Sb**	**08 25 23.1**	**-0.3**
GRTK	**Grand Turk**	**1.71**	**360**	*i* P	**Pn**	**08 25 02.4**	**+0.1**
GRTK				*e*S	**Sn**	**08 25 24.2**	**+0.4**
GRTK				IAML		08 25 29.9	
	comp=Z,38nm,1.9s						
PCDR	**Punta Cana, DR**	**2.89**	**116**	*i* P	**Pn**	**08 25 19.2**	**+0.6**
PCDR				IAML		08 26 07.9	
	comp=Z,92nm,1.2s						

NDI 02 08:32:23.8±2.9, 20°.07N×72°.28E, h5km, ML3.4, MW3.5, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOM	**Bombay**	**1.27**	**156**	*e*P	Pg	08 32 48.2	0.0
BOM				*e*S	Sg	08 33 03.6	-1.0
BOM				IAML		08 33 07.7	
	comp=N,216nm,0.2s						
BOM				IAML		08 33 07.7	
	comp=E,403nm,0.2s						
LATR	**Latur**	**4.37**	**111**	*e*P	Pn	08 33 30.5	-0.3
LATR				*e*S	Sn	08 34 19.6	-2.5
LATR				IAML		08 34 25.3	
	comp=N,161nm,0.3s						
LATR				IAML		08 34 25.4	
	comp=E,92nm,0.2s						
NRDN	**NARMADA NAGAR**	**5.26**	**59**	*e*P	Pn	08 33 42.9	-0.3
NRDN				*e*S	Sn	08 34 37.1	-7.2
NRDN				IAML		08 34 38.5	
	comp=E,46nm,0.4s						
NRDN				IAML		08 34 40.1	
	comp=N,63nm,0.5s						
NGP	**Nagpur**	**6.43**	**79**	*e*P	Pn	08 33 59.1	-0.2
NGP				*e*S	Sn	08 35 08.1	-5.1
NGP				IAML		08 35 32.8	
	comp=N,91nm,0.6s						
NGP				IAML		08 35 33.3	
	comp=E,90nm,0.3s						

*ASIES **02** 08:34:35.2, 23°.97N×122°.73E, h30km, ML4.0, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}2.67; $M_{\theta\theta}$-1.35; $M_{\phi\phi}$0.94; $M_{r\theta}$2.34; $M_{\theta\phi}$-0.41; $M_{\phi r}$1.21; Fault plane solution: $M_0$3.46881×10^{21} NP1: ϕ_s275.84000°, δ21.03000°, λ118.11000°. NP2: ϕ_s66.06000°, δ71.55000°, λ79.73000°. Principal axes: T Plg62.1080°, Azm320.4280°; N Plg9.7340°, Azm69.3390°; P Plg25.8610°, Azm164.1090°;*
*JMA **02** 08:34:35.9±0.2, 24°N±1°×122°.7E±0°.5, h27km±3km, MV3.4/16, NW OFF ISHIGAKIJIMA IS*
*TAP **02** 08:34:35.2, 23°.97N×122°.73E, h30km, ML4.0, C*
*IDC **02** 08:34:41.1±6.9, 24°.07N×122°.65E, h86km±65km, mb3.3/6, mbtmp3.7/7, ML3.7/1, MS3.0/4, Error ellipse: s-maj=47.4km s-min=23.9km az=66.0*
ISC 02 08:34:35.5±0.9, 23°.91N±0°.02×122°.68E±0°.02, h32km±7km, n151, σ1°21/252, mb3.6/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.40**	**302**	*i* P	**Pb**	**08 34 44.0**	**-0.1**
EOS4				S	**Sb**	**08 34 50.0**	**0.0**
EOS3	**EOS3**	**0.50**	**318**	*e*P	**Pb**	**08 34 45.6**	**-0.4**
EOS3				*e*S	**Sb**	**08 34 53.2**	**+0.1**
JYNG	**Yonagunijimaku**	**0.59**	**24**	*i* P	**Pb**	**08 34 46.3**	**-1.2**
JYNG				S	**Sb**	**08 34 53.5**	**-2.2**
YOJ	**Yonaguni jima**	**0.63**	**29**	P	**Pb**	**08 34 47.0**	**-1.0**
YOJ				S	**Sb**	**08 34 54.8**	**-1.9**
YOJ	**Yonaguni jima**	**0.63**	**29**	P	**Pb**	**08 34 47.0**	**-1.0**
YOJ				*i* S	**Sb**	**08 34 54.7**	**-2.0**
EOS2	**EOS2**	**0.65**	**321**	*e*P	**Pb**	**08 34 48.3**	**-0.1**
EOS2				*e*S	**Sb**	**08 34 57.9**	**+0.6**
EAHA	**Aohua**	**0.96**	**296**	*e*P	**Pn**	**08 34 53.4**	**+0.7**
EAHA				*e*S	**Sb**	**08 35 07.3**	**+1.3**
EWUT	**Wuta**	**0.98**	**303**	*i* P	**Pn**	**08 34 53.0**	**0.0**
EWUT				*i* S	**Sn**	**08 35 07.0**	**+1.2**
HWA	**Hwalien**	**0.99**	**274**	*e*P	**Pn**	**08 34 52.3**	**-0.7**
HWA				S	**Sb**	**08 35 07.8**	**+1.0**
TEYL	**Yanliau Villag**	**0.99**	**268**	*e*P	**Pn**	**08 34 53.8**	**+0.7**
TEYL				*e*S	**Sn**	**08 35 07.1**	**+1.1**
ETL	**Fush Village**	**1.00**	**285**	*e*P	Pn	08 34 51.0	-2.3
ETL				*e*S	**Sb**	**08 35 07.7**	**+0.4**
ENA	**Nanau**	**1.00**	**301**	*e*P	**Pn**	**08 34 53.7**	**+0.4**
ENA				*e*S	**Sn**	**08 35 07.5**	**+1.2**
TWD	**Chiawan**	**1.01**	**280**	*i* P	**Pn**	**08 34 53.6**	**+0.2**
TWD				S	**Sn**	**08 35 06.0**	**-0.4**
ESAO	**Su ao**	**1.01**	**311**	*e*P	**Pn**	**08 34 53.6**	**+0.1**
ESAO				S	**Sn**	**08 35 07.0**	**+0.4**
NACB	**Ninganchiao**	**1.03**	**285**	*e*P	**Pn**	**08 34 53.5**	**-0.1**
TWC	**Suao**	**1.03**	**313**	*i* P	**Pn**	**08 34 53.5**	**-0.1**
TWC				S	**Sn**	**08 35 06.1**	**-1.0**
SHUL	**Shoufeng**	**1.03**	**263**	*e*P	**Pn**	**08 34 54.5**	**+0.8**
SHUL				*e*S	**Sb**	**08 35 08.5**	**+0.4**
HATJ	**Hateruma jima**	**1.04**	**82**	P	**Pb**	**08 34 55.1**	**+0.2**
HATJ				*e*S	**Sb**	**08 35 08.7**	**+0.5**
IRIF	**Iriomote-Funau**	**1.05**	**66**	P	**Pn**	**08 34 54.7**	**+0.8**
IRIF				*e*S	**Sb**	**08 35 09.4**	**+0.9**
TEGC	**Jichi Village**	**1.06**	**259**	*e*P	**Pn**	**08 34 54.6**	**+0.5**
TEGC				S	**Sn**	**08 35 08.7**	**+0.9**
ETM	**Tongmen**	**1.09**	**273**	*i* P	**Pn**	**08 34 54.2**	**-0.3**
ETM				*i* S	**Sn**	**08 35 08.2**	**-0.2**
ETLH	**Xiulin Townshi**	**1.14**	**285**	*e*P	**Pn**	**08 34 55.5**	**+0.3**
NDS	**Dongshan**	**1.14**	**309**	*e*P	**Pn**	**08 34 56.3**	**+1.1**
ESL	**Shilin**	**1.15**	**266**	*e*P	**Pn**	**08 34 55.5**	**+0.2**
EGS		**1.16**	**324**	*i* P	**Pn**	**08 34 55.6**	**+0.2**
EGS				S	**Sn**	**08 35 10.6**	**+0.5**
LXIB	**Xiulin Townshi**	**1.17**	**276**	*e*P	**Pn**	**08 34 55.7**	**0.0**
LXIB				S	**Sn**	**08 35 11.1**	**+0.5**
EGFH	**Guangfu**	**1.17**	**259**	*e*P	**Pn**	**08 34 56.0**	**+0.3**
EGFH				S	**Sn**	**08 35 11.5**	**+1.0**
WARBT	**Fenglin Townsh**	**1.20**	**261**	P	**Pn**	**08 34 56.4**	**+0.3**
WARBT				*e*S	**Sn**	**08 35 11.5**	**+0.2**
ILA	**Ilan**	**1.21**	**315**	P	**Pn**	**08 34 57.1**	**+1.1**
ILA				*e*S	**Sn**	**08 35 12.4**	**+1.1**
HGSD	**Ruisui**	**1.23**	**250**	*e*P	**Pb**	**08 34 58.6**	**+0.5**
LATG	**Datong**	**1.23**	**301**	*e*P	**Pb**	**08 34 58.0**	**-0.2**
LATG				*i* S	**Sb**	**08 35 14.4**	**+0.7**
TWE	**Neicheng**	**1.23**	**311**	*e*P	**Pn**	**08 34 57.1**	**+0.7**
TWE				*i* S	**Sb**	**08 35 14.0**	**+0.3**
ENTT	**Nioudou**	**1.25**	**306**	P	**Pn**	**08 34 57.5**	**+0.8**
ENTT				*e*S	**Sb**	**08 35 14.3**	**-0.1**
JKRS	**Kuro-shima**	**1.26**	**75**	P	**Pb**	**08 34 58.2**	**-0.4**
JKRS				S	**Sb**	**08 35 15.0**	**+0.6**
TWB1	**Santiao Chiao**	**1.26**	**330**	*i* P	**Pn**	**08 34 56.8**	**-0.1**
TWB1				S	**Sn**	**08 35 12.6**	**-0.1**
ECBN	**Changbin**	**1.27**	**243**	P	**Pn**	**08 34 56.8**	**-0.2**
ECBN				S	**Sn**	**08 35 13.0**	**0.0**
EHYH	**Wanrong**	**1.29**	**252**	*e*P	**Pn**	**08 34 57.1**	**-0.2**
EHYH				*i* S	**Sn**	**08 35 14.8**	**+1.3**
NNSB	**Datong**	**1.29**	**294**	*e*P	**Pn**	**08 34 57.9**	**+0.5**
NNSH	**Datong**	**1.29**	**294**	P	**Pn**	**08 34 58.2**	**+0.8**
NNSH				*e*S	**Sn**	**08 35 14.8**	**+1.1**
NNS	**Nan Shan**	**1.31**	**294**	*e*P	**Pn**	**08 34 58.1**	**+0.5**
EHY	**Hungye**	**1.31**	**252**	*e*P	**Pn**	**08 34 58.2**	**+0.7**
EHY				*e*S	**Sn**	**08 35 14.6**	**+0.7**
FUSB	**Fushanzhiwuyua**	**1.31**	**311**	*e*P	**Pb**	**08 35 00.2**	**+0.6**
FUSB				*e*S	**Sb**	**08 35 17.2**	**+1.1**
TIPB	**Shuangxi**	**1.31**	**324**	*e*P	**Pn**	**08 34 57.9**	**+0.3**
TIPB				S	**Sn**	**08 35 14.3**	**+0.2**
WHF	**Hehuan Shan**	**1.32**	**281**	*e*P	**Pn**	**08 34 58.2**	**+0.2**
FUSS	**Fushou**	**1.36**	**285**	*i* P	**Pn**	**08 34 59.0**	**+0.7**
FUSS				*e*S	**Sn**	**08 35 16.3**	**+0.8**
EYUL	**Yuli**	**1.37**	**246**	*i* P	**Pn**	**08 34 58.4**	**0.0**
EYUL				S	**Sb**	**08 35 17.8**	**+0.1**
YULB	**Yu-li**	**1.37**	**248**	*e*P	**Pn**	**08 34 59.4**	**+1.0**
YULB				*e*S	**Sn**	**08 35 16.5**	**+1.1**
OWD	**Renai**	**1.38**	**272**	P	**Pn**	**08 34 58.4**	**-0.2**
OWD				*e*S	**Sn**	**08 35 15.8**	**-0.1**
CHKH	**Chenggong**	**1.38**	**239**	*e*P	**Pn**	**08 34 58.4**	**-0.1**
CHKH				*e*S	**Sn**	**08 35 15.0**	**-0.6**
NWLT	**Wulai**	**1.38**	**309**	*e*P	**Pn**	**08 35 00.1**	**+1.6**
TWF1	**Yuli**	**1.39**	**247**	*e*P	**Pn**	**08 34 59.6**	**+1.1**
TWF1				*e*S	**Sn**	**08 35 17.2**	**+1.4**
SXI1	**Grass Mountain**	**1.39**	**328**	*i* P	**Pn**	**08 34 58.8**	**+0.1**
SXI1				S	**Sn**	**08 35 15.9**	**-0.1**
JIJ	**Ishigaki jima**	**1.41**	**71**	P	**Pn**	**08 34 59.8**	**+0.9**
JIJ				S	**Sb**	**08 35 18.0**	**-0.8**
YHNB	**Yeheng**	**1.41**	**303**	*e*P	**Pn**	**08 34 59.8**	**+0.8**
NWF	**Wu-fen Shan**	**1.42**	**325**	*i* P	**Pn**	**08 34 59.4**	**+0.3**
NWF				S	**Sn**	**08 35 16.2**	**-0.5**
TWT	**Tachien**	**1.42**	**284**	*i* P	**Pn**	**08 35 00.7**	**+1.5**
TWT				*e*S	**Sn**	**08 35 18.9**	**+2.0**
WFSB	**Wu-fen Shan**	**1.42**	**325**	P	**Pn**	**08 34 59.6**	**+0.6**
WFSB				*i* S	**Sn**	**08 35 16.9**	**+0.3**
VWDT	**VWDT**	**1.42**	**264**	P	**Pn**	**08 34 60.0**	**+1.0**
VWDT				S	**Sn**	**08 35 18.4**	**+1.8**
NSK	**Sanguang**	**1.43**	**303**	*e*P	**Pb**	**08 35 01.9**	**+0.3**
NSK				*i* S	**Sb**	**08 35 20.1**	**+0.6**
WUSB	**Renai**	**1.43**	**274**	P	**Pn**	**08 35 00.1**	**+0.8**
WUSB				*e*S	**Sb**	**08 35 19.6**	**-0.1**
TDCB	**Techi**	**1.44**	**284**	*e*P	**Pn**	**08 35 00.4**	**+1.1**
FULB	**Fuli**	**1.46**	**241**	*e*P	**Pn**	**08 35 00.1**	**+0.6**
FULB				*e*S	**Sn**	**08 35 18.4**	**+0.8**
TWA	**Mucha**	**1.46**	**317**	*i* P	**Pn**	**08 35 01.4**	**+1.8**
TWA				*i* S	**Sb**	**08 35 20.6**	**+0.2**
NHDH	**Xindian Distri**	**1.49**	**315**	*e*P	**Pb**	**08 35 02.6**	**+0.1**
TNOU	**National Taiwa**	**1.49**	**326**	*e*P	**Pn**	**08 35 01.2**	**+1.2**
TATO	**Taipei**	**1.52**	**315**	*i* P	**Pn**	**08 35 01.8**	**+1.3**
TATO				*e*S	**Sb**	**08 35 23.2**	**+1.2**
EHD	**Haiduan**	**1.55**	**241**	*e*P	**Pn**	**08 35 02.9**	**+2.0**
TAP	**Taipei**	**1.55**	**317**	*e*P	**Pn**	**08 35 02.3**	**+1.5**
TAP				*e*S	**Sn**	**08 35 21.9**	**+2.0**
ECS	**Chishang**	**1.57**	**239**	*e*P	**Pn**	**08 35 02.8**	**+1.7**
ECS				*e*S	**Sn**	**08 35 22.2**	**+1.9**
EDH	**Donghe**	**1.57**	**234**	P	**Pn**	**08 35 01.5**	**+0.4**
EDH				*i* S	**Sn**	**08 35 19.7**	**-0.6**
SSLB	**Suanglung**	**1.59**	**266**	*e*P	**Pn**	**08 35 03.0**	**+1.7**
SSLB				*e*S	**Sn**	**08 35 22.5**	**+1.7**
YM01	**YM01**	**1.59**	**321**	*e*P	**Pn**	**08 35 02.8**	**+1.3**
NFF	**Wufeng Townshi**	**1.60**	**297**	*e*P	**Pn**	**08 35 03.0**	**+1.5**
DPDB	**Guoxing**	**1.61**	**275**	*i* P	**Pn**	**08 35 02.4**	**+0.7**
DPDB				*e*S	**Sn**	**08 35 23.3**	**+1.9**
YM08	**YM08**	**1.62**	**322**	*e*P	**Pn**	**08 35 02.6**	**+0.9**
ZUZH	**Zhuzihu**	**1.62**	**321**	*e*P	**Pn**	**08 35 02.8**	**+0.9**
KSHI	**Guanxi Townshi**	**1.62**	**302**	*e*P	**Pn**	**08 35 03.9**	**+2.1**
KSHI				S	**Sb**	**08 35 24.7**	**-0.3**
WCS	**Beigang Elemen**	**1.63**	**276**	*e*P	**Pn**	**08 35 03.2**	**+1.3**
WCS				S	**Sn**	**08 35 24.3**	**+2.5**
WHP	**Taichung City**	**1.63**	**283**	*i* P	**Pn**	**08 35 04.2**	**+2.2**
WHP				S	**Sn**	**08 35 24.4**	**+2.5**
JISG	**Ishigakijimahi**	**1.63**	**65**	P	**Pn**	**08 35 02.9**	**+1.0**
JISG				S	**Sn**	**08 35 22.6**	**+0.8**
SMLT	**Sun Moon Lake**	**1.63**	**269**	*e*P	**Pn**	**08 35 02.3**	**+0.2**
YUS	**Yu-Shan**	**1.64**	**256**	*e*P	**Pn**	**08 35 01.0**	**-1.5**
YUS				*e*S	**Sn**	**08 35 20.8**	**-1.9**
TWS1	**Kuangyinshan**	**1.65**	**316**	*i* P	**Pn**	**08 35 02.0**	**-0.3**
TWS1				*e*S	**Sn**	**08 35 24.1**	**+1.7**
LDUT	**Ludao**	**1.66**	**222**	*i* P	**Pn**	**08 35 02.4**	**+0.1**
LDUT				*i* S	**Sn**	**08 35 21.4**	**-1.1**
TYC	**Yuchr**	**1.67**	**270**	*i* P	**Pn**	**08 35 03.8**	**+1.3**
TYC				S	**Sn**	**08 35 24.3**	**+1.5**
NTST	**Danshui**	**1.68**	**318**	*i* P	**Pn**	**08 35 04.0**	**+1.4**
NTST				*e*S	**Sn**	**08 35 23.8**	**+0.7**
TWY	**Chenhua**	**1.68**	**324**	*e*P	**Pn**	**08 35 01.3**	**-1.3**
TWY				*e*S	**Sn**	**08 35 24.6**	**+1.5**
ELDTW	**Lidau**	**1.69**	**245**	*e*P	**Pn**	**08 35 03.8**	**+1.0**
LIOB	**Emei**	**1.69**	**296**	*e*P	**Pn**	**08 35 04.6**	**+1.9**
WHYT	**Xinyi Township**	**1.69**	**263**	*e*P	**Pn**	**08 35 04.7**	**+1.9**
WHYT				*e*S	**Sn**	**08 35 25.7**	**+2.4**
NSTT	**Nanjuang**	**1.69**	**295**	*i* P	**Pn**	**08 35 04.2**	**+1.4**
NSTT				*e*S	**Sb**	**08 35 26.3**	**-0.7**
NCU	**National Centr**	**1.73**	**308**	*e*S	**Sn**	**08 35 26.7**	**+2.6**
LONT	**Longtian**	**1.74**	**235**	*e*S	**Sn**	**08 35 26.0**	**+1.4**
ALS	**Alishan**	**1.77**	**257**	*e*P	**Pb**	**08 35 07.3**	**-0.1**
WJS	**Zhushan**	**1.79**	**268**	P	**Pb**	**08 35 07.2**	**-0.4**
WJS				S	**Sb**	**08 35 30.7**	**+1.0**
HSN	**Hsinchu**	**1.80**	**300**	*e*P	**Pn**	**08 35 06.2**	**+2.0**
HSN				*e*S	**Sn**	**08 35 28.1**	**+2.2**
TWQ1	**Liyutan**	**1.80**	**284**	*e*P	**Pn**	**08 35 06.5**	**+2.3**
TWQ1				*i* S	**Sb**	**08 35 29.5**	**-0.5**
PCYT	**Pengchaiyu**	**1.80**	**342**	*e*P	**Pn**	**08 35 04.3**	**+0.1**
WWF	**Wufeng**	**1.82**	**275**	P	**Pn**	**08 35 04.4**	**-0.2**
WWF				*i* S	**Sb**	**08 35 31.4**	**+0.9**
NSY	**Sanyi**	**1.83**	**286**	*i* P	**Pn**	**08 35 04.8**	**+0.2**
NSY				*e*S	**Sn**	**08 35 29.0**	**+2.3**
WNT	**Mingjian**	**1.83**	**269**	P	**Pn**	**08 35 06.2**	**+1.5**
WNT				S	**Sn**	**08 35 29.6**	**+2.8**
WNT1	**Nantou City**	**1.83**	**270**	*e*P	**Pn**	**08 35 06.9**	**+2.2**
WNT1				S	**Sb**	**08 35 31.4**	**+0.4**
TWG	**Pinlang**	**1.83**	**234**	*i* P	**Pn**	**08 35 05.2**	**+0.4**
TWG				S	**Sn**	**08 35 27.2**	**+0.3**
NMLH	**Miaoli**	**1.84**	**290**	*e*P	**Pn**	**08 35 06.8**	**+2.0**
TCU	**Taichung**	**1.85**	**278**	*i* P	**Pn**	**08 35 07.0**	**+2.0**
TCU				S	**Sb**	**08 35 30.9**	**-0.5**
CHN5	**Tsauling**	**1.86**	**261**	*i* P	**Pn**	**08 35 07.3**	**+2.1**
CHN5				S	**Sb**	**08 35 32.2**	**+0.3**
STYH	**Taoyuan**	**1.90**	**248**	*e*P	**Pn**	**08 35 06.3**	**+0.7**
STYH				S	**Sn**	**08 35 29.9**	**+1.5**
STYT	**Tauyuan**	**1.92**	**248**	*i* P	**Pn**	**08 35 07.2**	**+1.3**
STYT				S	**Sn**	**08 35 30.2**	**+1.3**
WCHH	**Zhanghua**	**1.95**	**275**	*e*P	**Pb**	**08 35 09.2**	**-1.2**
WCHH				S	**Sb**	**08 35 33.3**	**-1.0**
WGK	**Gukeng**	**1.96**	**264**	*e*P	**Pb**	**08 35 10.2**	**-0.3**
WGK				S	**Sb**	**08 35 34.7**	**+0.2**
WCH1	**Changhua City**	**1.96**	**275**	*e*S	**Sn**	**08 35 32.1**	**+2.1**
WCKO	**Fanlu**	**1.96**	**257**	*i* P	**Pb**	**08 35 09.8**	**-0.8**
WCKO				S	**Sb**	**08 35 34.2**	**-0.4**
WDLH	**Douliu**	**1.98**	**264**	*e*P	**Pb**	**08 35 10.5**	**-0.3**
WDLH				*e*S	**Sb**	**08 35 34.6**	**-0.5**
TPUB	**Ta-pu**	**1.98**	**253**	*e*P	**Pb**	**08 35 09.7**	**-1.2**
TPUB				S	**Sb**	**08 35 33.8**	**-1.3**
JTJ	**Tarama**	**1.98**	**68**	P	**Pn**	**08 35 07.8**	**+1.1**
JTJ				S	**Sn**	**08 35 32.0**	**+1.5**
CHN4	**Tsaushan**	**2.00**	**254**	*e*S	**Sb**	**08 35 34.8**	**-0.8**
WTP	**Ta-pu**	**2.01**	**251**	*i* P	**Pb**	**08 35 10.5**	**-0.

σ1°51/6, **mb3.5**/5, **MS3.2**/7, **D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.80**	**276**	Pn	**Pn**	**08 36 18.6**	**+0.7**
	1.2nm,0.3s,baz=90,slow=11,SNR=3.9						
PMG				Sn	Sn	08 37 25.4	-9.2
	0.6nm,0.3s,baz=120,slow=20,SNR=1.3 6.5nm,0.5s						
JAY	**Jayapura**	**15.27**	**299**	LR	LR	08 44 36.5	
	comp=Z,108nm,19.0s,baz=333,slow=39						
WRA	**Warramunga Arr**	**21.29**	**241**	P	**P**	**08 39 23.0**	**-1.7**
	0.8nm,0.4s,baz=63,slow=10,SNR=16						
WRA				LR	LR	08 47 23.4	
	comp=Z,76nm,19.8s,baz=350,slow=36 0.8nm,0.4s						
ASAR	**Alice Springs**	**23.38**	**233**	P	**P**	**08 39 45.7**	**-1.1**
	0.3nm,0.7s,baz=60,slow=11,SNR=6.8						
ASAR				LR	LR	08 47 45.1	
	comp=Z,73nm,18.7s,baz=28,slow=34 0.3nm,0.7s						
STKA	**Stephens Creek**	**24.43**	**206**	P	**P**	**08 39 57.9**	**+1.4**
	1.4nm,1.1s,baz=44,slow=9.9,SNR=3.5						
STKA				LR	LR	08 48 12.7	
	comp=Z,53nm,19.6s,baz=20,slow=33 1.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**28.57**	**251**	P	**P**	**08 40 33.5**	**-0.5**
	1.3nm,0.6s,baz=84,slow=9.2,SNR=1.5						
FITZ				LR	LR	08 50 53.6	
	comp=Z,139nm,18.8s,baz=79,slow=34 1.3nm,0.6s						
URZ	**Urewera**	**34.77**	**147**	LR	LR	08 55 14.6	
	comp=Z,95nm,18.6s,baz=7.5,slow=36						
JOW	**Kunigami**	**44.50**	**326**	LR	LR	08 58 13.1	
	comp=Z,29nm,20.3s,baz=144,slow=32						
PETK	**Petropavlovsk-**	**63.15**	**2**	LR	LR	09 07 28.3	
	comp=Z,20nm,20.9s,baz=183,slow=31						
SONM	**Songino Array**	**71.53**	**328**	P	**P**	**08 45 58.4**	**-0.2**
	0.2nm,0.4s,baz=138,slow=5.2,SNR=1.6 0.2nm,0.4s						

*ASRS **02** 08:40:11.0±0.8, 54°.10N×87°.53E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 02 08:40:12.8±2.9, 54°.14N×87°.71E, h0km, mbtmp2.8/2, **ML2.5**/2, **Error ellipse: s-maj=24.5km s-min=17.5km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**265**	I	I	08 51 06.1	
	baz=83,slow=334,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.71**	**265**	Pn	Pn	08 40 42.6	-1.3
	3.1nm,0.3s,baz=81,slow=15,SNR=35						
ZALV				Lg	Lg	08 41 07.9	
	1.3nm,0.3s,baz=80,slow=25,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.63**	**242**	Pn	Pn	08 41 52.2	+0.8
	0.1nm,0.3s,baz=62,slow=8.5,SNR=5.3						
KURBB				Sn	Sn	08 43 06.7	-0.9
	baz=60,slow=12,SNR=1.3 0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.12**	**207**	Pn	Pn	08 42 13.5	+1.5
	0.1nm,0.3s,baz=26,slow=14,SNR=7.8						
MKAR				Sn	Sn	08 43 43.5	-1.0
	0.1nm,0.3s,baz=22,slow=28,SNR=2.3						
MKAR				Lg	Lg	08 44 29.7	
	0.1nm,0.3s,baz=23,slow=30,SNR=5.8 0.1nm,0.2s						

*DJA **02** 08:43:32.7±1.5, 10°.5S±6°.×10°.7E±°, h18km±16km, M4.1/12, mB5.0/1, mb4.2/3, MLv4.0/12, Mw(mB)4.3/1*

ISC 02 08:43:31.6±1.0, 10°.20S±0°.06×107°.38E±0°.06, h23km, n15, σ2°.07/18, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**1.69**	**261**	P	**Pb**	**08 44 01.0**	**-0.9**
XMIS	**Christmas Isla**	**1.73**	**261**	P	**Pb**	**08 44 01.4**	**-1.2**
CMJI	**Cimerak**	**2.62**	**24**	P	**Pn**	**08 44 13.6**	**+1.1**
CMJI				S	**Sn**	**08 44 46.0**	**+2.4**
BBJI	**Bungbulang**	**2.73**	**6**	P	**Pn**	**08 44 15.5**	**+1.4**
CNJI	**Cibinong**	**2.88**	**355**	P	**Pb**	**08 44 18.2**	**-4.2**
SKJI	**Sukabumi**	**3.28**	**345**	P	**Pn**	**08 44 23.1**	**+1.5**
SKJI				S	**Sn**	**08 45 02.3**	**+2.4**
UGM	**Wanagama**	**3.84**	**54**	P	**Pn**	**08 44 31.4**	**+2.0**
UGM	**Wanagama**	**3.84**	**54**	P	**Pn**	**08 44 30.5**	**+1.1**
CGJI	**Cibinong**	**3.94**	**335**	P	**Pn**	**08 44 31.5**	**+0.9**
CGJI				S	**Sn**	**08 45 17.5**	**+1.4**
PCJI	**Pacitan**	**4.24**	**62**	P	**Pn**	**08 44 36.5**	**+1.7**
GMJI	**Gumukmas**	**6.28**	**73**	P	**Pn**	**08 45 05.2**	**+2.3**
	0.1nm18nm,1.9s						
JAGI	**Jajag, Banyuwa**	**6.90**	**76**	P	**Pn**	**08 45 13.5**	**+2.1**
JAGI	**Jajag, Banyuwa**	**6.90**	**76**	P	**Pn**	**08 45 13.1**	**+1.7**
	1μm35nm,0.5s						
PLAI	**Plampang**	**10.34**	**83**	P	**Pn**	**08 45 59.5**	**+0.9**
GIRL	**Giralia**	**14.01**	**153**	P	**Pn**	**08 46 46.9**	**-1.8**

IDC 02 08:44:25.9±2.8, 7°.71N×124°.92E, h0km, mb3.3/3, **mbtmp3.3**/3, **MS3.3**/3, **Error ellipse: s-maj=249.4km s-min=29.5km az=64.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**18.73**	**122**	LR	LR	08 55 27.2	
	comp=Z,180nm,20.1s,baz=337,slow=35						
LEM	**Lembang**	**22.50**	**231**	LR	LR	08 59 26.1	
	comp=Z,96nm,18.5s,baz=250,slow=40						
WRA	**Warramunga Arr**	**29.00**	**161**	P	P	08 50 27.2	-0.5
	0.3nm,0.5s,baz=340,slow=10,SNR=2.6 0.3nm,0.5s						
ASAR	**Alice Springs**	**32.39**	**165**	P	P	08 50 58.1	+0.5
	0.2nm,0.7s,baz=353,slow=10,SNR=1.4 0.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**36.87**	**8**	LR	LR	09 05 01.7	
	comp=Z,25nm,20.5s,baz=157,slow=34						
MKAR	**Makanchi Array**	**53.29**	**325**	P	P	08 53 46.6	-0.1
	0.2nm,0.5s,baz=116,slow=6.6,SNR=4.1 0.2nm,0.5s						

*SNET **02** 08:50:33.8±1.2, 12°.60N×88°.94W, h24km±7km, ML2.6*

CATAC 02 08:50:30.1±0.4, 12°N±2°×8°9W±°, h7km±2km, M3.2/26, **MLv3.2**/26, **Error ellipse: s-maj=4.9km s-min=2.7km az=29.8, confirmed, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.12**	**344**	P	Pg	08 50 50.3	-1.3
LALI	**Alcalda de L**	**1.12**	**344**	S	Sg	08 51 06.1	0.0
TECO	**Alcaldia de Te**	**1.15**	**11**	*eP*	Pg	08 50 51.0	-1.1
TECO				*eS*	Sg	08 51 03.8	-3.1
TECO	**Alcaldia de Te**	**1.15**	**11**	P	Pg	08 50 51.1	-1.0
TECO	**Alcaldia de Te**	**1.15**	**11**	S	Sb	08 51 07.4	0.0
PANCS	**Alcalda de**	**1.21**	**352**	P	Pg	08 50 52.3	-1.1
PANCS	**Alcalda de**	**1.21**	**352**	S	Sg	08 51 09.2	+0.1
COEG	**Centro de Oper**	**1.21**	**6**	*eP*	Pg	08 50 52.9	-0.5
COEG				*eS*	Sg	08 51 05.9	-3.2
COEG	**Centro de Oper**	**1.21**	**6**	P	Pg	08 50 52.8	-0.6
COEG	**Centro de Oper**	**1.21**	**6**	S	Sg	08 51 09.2	+0.1
RANC	**El Ranchito**	**1.24**	**34**	*eP*	Pg	08 50 52.8	-1.1
RANC	**El Ranchito**	**1.24**	**34**	P	Pg	08 50 53.0	-0.9
RANC	**El Ranchito**	**1.24**	**34**	S	Sg	08 51 09.9	0.0
LOMA	**Loma Larga**	**1.24**	**352**	*eP*	Pg	08 50 53.0	-1.0
LOMA	**Loma Larga**	**1.24**	**352**	P	Pg	08 50 53.5	-0.4
LOMA	**Loma Larga**	**1.24**	**352**	S	Sb	08 51 10.2	-0.1
UESV	**Universidad de**	**1.24**	**10**	P	Pg	08 50 52.7	-1.2
UESV	**Universidad de**	**1.24**	**10**	S	Sb	08 51 10.2	0.0
PACA	**Pacayal**	**1.25**	**32**	*eP*	Pg	08 50 53.2	-0.9
PACA				*eS*	Sg	08 51 08.1	-2.2
PACA	**Pacayal**	**1.25**	**32**	P	Pg	08 50 53.3	-0.8
PACA	**Pacayal**	**1.25**	**32**	S	Sg	08 51 09.9	-0.4
BLLM	**Bellamira**	**1.27**	**36**	*eP*	Pn	08 50 53.6	-0.8
PQSS	**Presa 15 de Se**	**1.29**	**20**	*eP*	Pn	08 50 53.8	-0.7
PQSS				*eS*	Sb	08 51 08.6	-2.8
PQSS	**Presa 15 de Se**	**1.29**	**20**	P	Pn	08 50 53.8	-0.7
PQSS	**Presa 15 de Se**	**1.29**	**20**	S	Sb	08 51 11.3	-0.1
ITCA	**Escuela Especi**	**1.29**	**348**	P	Pn	08 50 54.1	-0.6
ITCA	**Escuela Especi**	**1.29**	**348**	S	Sg	08 51 11.0	-0.6
PAVA	**Las Pavas**	**1.30**	**3**	P	Pn	08 50 54.2	-0.7
PAVA	**Las Pavas**	**1.30**	**3**	S	Sg	08 51 11.8	-0.2
UTEC	**Universidad Te**	**1.30**	**352**	P	Pn	08 50 53.8	-1.0
UTEC	**Universidad Te**	**1.30**	**352**	S	Sb	08 51 11.6	-0.4
SEMO	**Seminario San**	**1.31**	**351**	P	Pn	08 50 54.0	-0.9
SEMO	**Seminario San**	**1.31**	**351**	S	Sb	08 51 12.1	0.0
IGN	**Direccin Gen**	**1.31**	**353**	P	Pn	08 50 54.3	-0.6
IGN	**Direccin Gen**	**1.31**	**353**	S	Sg	08 51 12.3	+0.1
UDBS	**Universidad Do**	**1.31**	**354**	P	Pn	08 50 54.1	-0.8
UDBS	**Universidad Do**	**1.31**	**354**	S	Sb	08 51 12.1	-0.1
JAYA	**Jayaque - finc**	**1.31**	**341**	*eP*	Pn	08 50 53.9	-1.1
JAYA				*eS*	Sg	08 51 11.1	-1.4
JAYA				IAML		08 51 15.2	
	comp=Z,144nm,0.2s						
JAYA	**Jayaque - finc**	**1.31**	**341**	P	Pn	08 50 54.1	-1.0
JAYA	**Jayaque - finc**	**1.31**	**341**	S	Sg	08 51 12.2	-0.2
SCLA	**Alcaldia de Sa**	**1.32**	**12**	*eP*	Pn	08 50 53.9	-1.1
SCLA	**Alcaldia de Sa**	**1.32**	**12**	P	Pn	08 50 54.1	-0.9
SCLA	**Alcaldia de Sa**	**1.32**	**12**	S	Sg	08 51 12.5	+0.1
UEES	**Universidad Ev**	**1.32**	**350**	P	Pn	08 50 54.2	-0.9
UEES	**Universidad Ev**	**1.32**	**350**	S	Sb	08 51 12.1	-0.4
PMON	**Piamonte**	**1.33**	**347**	*eP*	Pn	08 50 55.2	0.0
PMON	**Piamonte**	**1.33**	**347**	P	Pn	08 50 54.4	-0.9
PMON	**Piamonte**	**1.33**	**347**	S	Sb	08 51 12.7	-0.2
CNRM	**Centro Naciona**	**1.34**	**37**	P	Pn	08 50 54.7	-0.5
CNRM	**Centro Naciona**	**1.34**	**37**	S	Sn	08 51 13.3	-0.1
LCND	**La Caada**	**1.41**	**50**	*eP*	Pn	08 50 54.8	-1.4
LCND				IAML		08 51 16.0	
	comp=Z,92nm,0.4s						
LCND	**La Caada**	**1.41**	**50**	P	Pn	08 50 54.9	-1.3
LCND	**La Caada**	**1.41**	**50**	S	Sb	08 51 14.6	-0.4
CNCH	**Conchagua**	**1.43**	**53**	*eP*	Pn	08 50 56.3	-0.3
CNCH	**Conchagua**	**1.43**	**53**	P	Pn	08 50 56.3	-0.4
CNCH	**Conchagua**	**1.43**	**53**	S	Sb	08 51 15.3	-0.5
CEDA	**San Andres**	**1.44**	**345**	P	Pn	08 50 56.0	-0.6
CEDA	**San Andres**	**1.44**	**345**	S	Sb	08 51 15.4	-0.5
CSGN	**Cosiguina Volc**	**1.52**	**68**	P	Pn	08 50 57.2	-0.6
CSGN				S	Sn	08 51 17.2	-0.8
CEVE	**Cerro Verde**	**1.54**	**337**	P	Pn	08 50 57.5	-0.7
CEVE	**Cerro Verde**	**1.54**	**337**	S	Sn	08 51 18.4	-0.3
SBLS	**San Blas**	**1.55**	**337**	*eP*	Pn	08 50 57.9	-0.4
UNIC	**Universidad Ca**	**1.65**	**341**	P	Pn	08 50 59.4	-0.2
UNIC	**Universidad Ca**	**1.65**	**341**	S	Sn	08 51 21.3	+0.1
NUBE	**Las Nubes**	**1.67**	**333**	*eP*	Pn	08 50 59.3	-0.6
NUBE	**Las Nubes**	**1.67**	**333**	P	Pn	08 50 59.4	-0.6
NUBE	**Las Nubes**	**1.67**	**333**	S	Sn	08 51 21.5	-0.2
FAME	**Alcaldia de Sa**	**1.73**	**326**	S	Sn	08 51 23.6	+0.4
LLGN	**La Laguna**	**1.75**	**2**	P	Pn	08 51 00.9	-0.1
LLGN	**La Laguna**	**1.75**	**2**	S	Sn	08 51 23.9	+0.3
LOAL	**Lomas de Alarc**	**1.75**	**335**	S	Sn	08 51 24.2	+0.5
LOAL	**Lomas de Alarc**	**1.75**	**335**	P	Pn	08 51 00.7	-0.3
SLOZ	**Alcaldia de Sa**	**1.78**	**335**	P	Pn	08 51 01.4	0.0
SLOZ	**Alcaldia de Sa**	**1.78**	**335**	S	Sb	08 51 25.7	0.0
CRIN	**San Cristobal**	**1.93**	**81**	P	Pn	08 51 04.0	+0.6
CRIN	**San Cristobal**	**1.93**	**81**	S	Sb	08 51 29.3	-0.7
MTO3	**Montecristo**	**2.01**	**350**	*eP*	Pn	08 51 04.6	-0.1
MTO3	**Montecristo**	**2.01**	**350**	P	Pn	08 51 04.6	-0.2
MTO3	**Montecristo**	**2.01**	**350**	S	Sn	08 51 30.3	0.0

*AEIC **02** 08:51:46.9±1.5, 51°.8N±0°.2×177°.73W±0°.08, h85km±4km, Error ellipse: s-maj=27.8km s-min=5.2km az=170.0*

NEIC 02 08:51:45.4±0.8, 51°.7N±0°.2×177°.70W±0°.08, h92km±1km, ML2.7(AEIC), **Error ellipse: s-maj=24.1km s-min=5.5km az=170.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.23**	**297**		Pn	08 51 58.8	-0.1
TAFP	**Tanaga Falls P**	**0.25**	**315**		Pn	08 51 58.9	0.0
TAFP					Sn	08 52 08.1	-0.8
KIWB	**Kanaga Island**	**0.36**	**70**	Pn	Pn	08 51 59.6	+0.1
KICM	**Kanaga Island**	**0.37**	**58**		Pn	08 51 59.6	+0.2
KICM					Sn	08 52 09.6	-0.3
KIRH	**Kanaga Island**	**0.41**	**65**		Pn	08 52 00.0	+0.3
ADK	**Adak**	**0.65**	**76**	Pn	Pn	08 51 01.7	+0.1
GANE	**Gareloi Northe**	**0.67**	**278**		Sn	08 52 13.8	-0.3
GASW	**Gareloi Southw**	**0.72**	**275**		Sn	08 52 14.4	-0.5
GSSP	**Great Sitkin S**	**1.01**	**68**		Pn	08 52 05.6	+0.3
GSSP					Sn	08 52 20.1	-0.2
GSTR	**Great Sitkin T**	**1.08**	**70**	Pn	Pn	08 52 04.4	-1.8
ATKA	**Atka Island**	**2.22**	**76**		Pn	08 52 18.9	-1.6
LVA	**Lava Point**	**7.46**	**66**	Pn	Pn	08 53 30.4	-1.0
M11K	**Mekoryuk**	**10.78**	**32**	Pn	Pn	08 54 16.4	-0.1
P23K	**Montague Islan**	**18.76**	**52**	P	P	08 55 57.1	+0.3
M24K	**Tolsona, Glenn**	**19.89**	**46**	P	P	08 56 08.9	-0.2
YAH	**Yahtse**	**21.61**	**52**	P	P	08 56 27.2	-0.6
P29M	**Windy Craggy**	**23.56**	**55**	P	P	08 56 46.4	-0.9
L29M	**L29M**	**23.74**	**46**	P	P	08 56 48.5	-0.3

IDC 02 08:58:05.6±3.5, 53°.59N×87°.88E, h0km, mbtmp2.5/2, **ML2.2**/2, **Error ellipse: s-maj=33.9km s-min=19.3km az=54.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**282**	I	I	09 10 40.0	
	0.1nm,0.9s,baz=98,slow=328,SNR=4.8						
ZALV	**Zalesovo Beam**	**1.85**	**282**	Pn	Pn	08 58 38.4	-0.2
	0.5nm,0.3s,baz=104,slow=14,SNR=5.4						
ZALV				Lg	Lg	08 59 04.1	
	0.7nm,0.3s,baz=103,slow=26,SNR=7.0						
ZALV				I	I	09 10 43.0	
	baz=65,slow=37,SNR=7.1						
KURBB	**Kurchatov Arra**	**6.48**	**246**	Pn	Pn	08 59 42.8	+0.7
	baz=60,slow=14,SNR=2.8 0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.69**	**210**	Pn	Pn	08 59 59.9	+1.1
	0.1nm,0.3s,baz=27,slow=12,SNR=2.3 0.2nm,0.7s						

DJA 02 09:08:57.9±0.6, 7°S±5°×12°8E±°, h140km±29km, M4.0/7, **mb3.9**/3, **MLv4.1**/7, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**4.25**	**349**	P	Pn	09 10 00.0	-1.2
SOEI	**Soe**	**4.26**	**237**	P	Pn	09 10 02.3	+0.9
SOEI				S	Sn	09 10 50.4	-0.4
FAKI	**Fak Fak**	**6.25**	**44**	P	Pn	09 10 28.8	+0.9
	0.1nm26nm,1.4s						
EDFI	**Ende, Flores**	**6.28**	**258**	P	Pn	09 10 27.5	-0.8

*RSNC **02** 09:14:17.2±0.8, 3°S±7°×7°7W±°, h0km, M3.2, mb4.3, mB5.6, ML2.9, Mw(mB)5.1*

*IGQ **02** 09:14:21.5±0.5, 3°S±3°×7°7W±°, h52km±32km, MLv3.6/36*

ISC 02 09:14:16.4±1.7, 2°.75S±0°.05×77°.00W±0°.06, h17km±11km, n86, σ1°76/95, 4C-27D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	**San Juan Bosco**	**1.54**	**255**	S	**Sg**	**09 15 07.2**	**+0.8**
BOSC				⇑P	**Pg**	**09 14 46.7**	**+0.5**
PUYO	**Puyo, Santa Ro**	**1.61**	**321**	S	**Sg**	**09 15 09.0**	**+0.5**
PUYO				⇓P	**Pg**	**09 14 48.0**	**+0.6**
APUY	**Puyo**	**1.62**	**322**	⇓P	**Pg**	**09 14 48.1**	**+0.5**
APUY				S	**Sg**	**09 15 09.1**	**+0.5**
AZOG	**Ecuador-Azogue**	**1.84**	**270**	P	**Pg**	**09 14 51.8**	**-0.1**
ARRY	**Arrayan**	**1.90**	**310**	⇓P	**Pb**	**09 14 51.6**	**+0.7**
ARRY				S	**Sb**	**09 15 15.3**	**+0.8**
ATEN	**Tena**	**1.91**	**335**	⇓P	**Pb**	**09 14 51.2**	**+0.4**
ARDO	**Archidona, Ten**	**1.91**	**335**	S	**Sb**	**09 15 14.8**	**+0.3**
ARDO				⇓P	**Pb**	**09 14 51.5**	**+0.6**
BULB	**Ulba Tungurahu**	**1.92**	**313**	⇓P	**Pb**	**09 14 51.8**	**+0.7**
BULB				S	**Sg**	**09 15 16.6**	**-1.6**
POND	**Pondoa**	**1.96**	**312**	⇓P	**Pb**	**09 14 52.3**	**+0.5**
ACUE	**Ecuador-Cuenca**	**1.96**	**265**	P	**Pg**	**09 14 53.6**	**-0.5**
BBIL	**Ulba Tungurahu**	**1.96**	**311**	⇓P	**Pb**	**09 14 52.4**	**+0.5**
IUI6	**Juive**	**1.97**	**312**	⇓P	**Pb**	**09 14 52.1**	**+0.2**
BIL2	**Estacion Bilba**	**1.97**	**310**	P	**Pg**	**09 14 53.4**	**-1.0**
ARIO	**Riobamba**	**2.01**	**303**	P	**Pg**	**09 14 53.8**	**-1.3**
IGUA	**Igualata**	**2.06**	**307**	⇓P	**Pg**	**09 14 55.3**	**-0.7**
TAMH	**Tambohuasha Ch**	**2.14**	**304**	⇓P	**Pb**	**09 14 56.1**	**+1.1**
PIAT	**Ana Tenorio**	**2.15**	**324**	P	**Pb**	**09 14 54.7**	**-0.4**
PIAT	**Ana Tenorio**	**2.15**	**324**	P	**Pb**	**09 14 54.1**	**-0.9**
PIAT				S	**Sn**	**09 15 18.6**	**+0.4**
PIS1	**Pisayambo**	**2.17**	**320**	⇓P	**Pb**	**09 14 55.4**	**-0.2**
PORT	**Chimborazo Vol**	**2.18**	**306**	⇓P	**Pb**	**09 14 56.5**	**+0.8**
JSCH	**Cashca Tororas**	**2.22**	**297**	P	**Pg**	**09 14 57.9**	**-1.2**
CHSH	**Refugio Sur-Vo**	**2.24**	**304**	⇓P	**Pb**	**09 14 57.0**	**+0.2**
COHC	**Cochancay**	**2.27**	**277**	⇓P	**Pb**	**09 14 56.6**	**-0.3**
COHC	**Cochancay**	**2.27**	**277**	P	**Pb**	**09 14 55.7**	**-1.2**
COHC				S	**Sb**	**09 15 24.3**	**-0.4**
AGRD	**Ecuador-Guaran**	**2.32**	**300**	P	**Pg**	**09 14 59.7**	**-1.3**
AZAM	**Ecuador-Zamora**	**2.35**	**236**	P	**Pn**	**09 14 57.0**	**+2.6**
VCES	**Cotopaxi**	**2.38**	**324**	⇓P	**Pb**	**09 14 58.3**	**-0.8**
BRRN	**Barrancas-Volc**	**2.44**	**323**	P	**Pb**	**09 14 59.3**	**-0.8**
TAMB	**Tambo**	**2.45**	**326**	P	**Pb**	**09 14 59.5**	**-0.8**
BMOR	**Cotopaxi Volca**	**2.48**	**324**	⇓P	**Pb**	**09 14 59.9**	**-0.8**
BTAM	**Cotopaxi Volca**	**2.48**	**326**	⇓P	**Pb**	**09 15 00.2**	**-0.7**
SLOR	**San Lorenzo -**	**2.50**	**323**	⇑P	**Pb**	**09 15 00.8**	**-0.3**
BVC2	**Cotopaxi Volca**	**2.51**	**326**	⇓P	**Pb**	**09 15 00.6**	**-0.7**
ANTM	**Antisana-La Mi**	**2.51**	**331**	⇓P	**Pb**	**09 14 59.9**	**-1.4**
BREF	**Cotopaxi Volca**	**2.51**	**325**	⇓P	**Pb**	**09 15 01.0**	**-0.5**
VC1	**Cotopaxi 1**	**2.52**	**326**	⇓P	**Pb**	**09 15 00.8**	**-0.6**
ALJ1	**Ecuador-Loja-U**	**2.52**	**241**	P	**Pn**	**09 14 58.8**	**+2.0**
ANTS	**Antisana-Sarah**	**2.52**	**332**	⇓P	**Pb**	**09 15 00.1**	**-1.4**
BNAS	**Cotopaxi Volca**	**2.54**	**324**	⇓P	**Pb**	**09 15 02.1**	**+0.3**
CAMI	**Rancho Maria**	**2.54**	**324**	⇓P	**Pb**	**09 15 01.6**	**-0.3**
ANTG	**Antisana-Guama**	**2.56**	**331**	⇓P	**Pb**	**09 15 00.7**	**-1.4**
ANTI	**Antisana**	**2.56**	**333**	⇓P	**Pb**	**09 15 00.4**	**+2.8**
SUCR	**Mariscal Sucre**	**2.57**	**324**	P	**Pb**	**09 15 01.8**	**-0.5**
MILO	**Milagro-Astudi**	**2.59**	**280**	P	**Pb**	**09 15 00.8**	**-1.7**
PITA	**Cotopaxi Volc**	**2.60**	**327**	P	**Pb**	**09 15 02.1**	**-0.8**
ILLI	**Illinizas Sur**	**2.65**	**319**	P	**Pb**	**09 15 03.0**	**-0.8**
REVS	**Reventador Sur**	**2.69**	**347**	P	**Pn**	**09 15 02.0**	**+2.9**
LAV4	**Lava4-Reventad**	**2.71**	**347**	P	**Pn**	**09 15 02.3**	**+2.9**
REVN	**San Rafael**	**2.72**	**347**	P	**Pn**	**09 15 02.4**	**+2.8**
GONZ	**Gonzanam**	**2.81**	**238**	P	**Pn**	**09 15 04.1**	**+3.1**
ANGU	**Angureal**	**2.95**	**340**	P	**Pb**	**09 15 07.5**	**-1.4**
CAYA	**Cayambe**	**2.97**	**341**	P	**Pb**	**09 15 07.8**	**-1.3**
GGPT	**Toaza - Volcan**	**2.98**	**327**	P	**Pb**	**09 15 07.1**	**-2.2**
JUA2	**San Juan 2**	**2.98**	**327**	P	**Pb**	**09 15 07.8**	**-1.5**
ZUMB	**Zumba**	**3.00**	**225**	⇑P	**Pn**	**09 15 05.7**	**+2.4**
HPAL	**Hacienda Las P**	**3.00**	**327**	P	**Pb**	**09 15 08.7**	**-0.9**
TERV	**Terraza Guagua**	**3.01**	**328**	P	**Pb**	**09 15 09.6**	**-0.3**
PINO	**Pino**	**3.03**	**328**	P	**Pb**	**09 15 08.8**	**-1.5**
ARNL	**Arenillas**	**3.16**	**255**	⇑P	**Pn**	**09 15 05.5**	**+0.1**
ISPG	**Isla Puna-Puer**	**3.17**	**266**	P	**Pn**	**09 15 07.4**	**+1.8**
LAMO	**ALAMOR**	**3.27**	**247**	P	**Pn**	**09 15 07.7**	**+0.7**
YAHU	**Yahuarcocha**	**3.27**	**341**	P	**Pb**	**09 15 12.3**	**-2.0**
OTAV	**Otavalo**	**3.30**	**334**	P	**Pn**	**09 15 11.6**	**+3.9**
CUIC	**Cuicocha-Domo**	**3.32**	**336**	P	**Pb**	**09 15 12.7**	**-2.4**
CUSE	**Cuicocha Este**	**3.34**	**335**	P	**Pb**	**09 15 13.0**	**-2.4**
COTA	**Cotacachi**	**3.34**	**336**	P	**Pb**	**09 15 14.6**	**-0.9**
URCU	**Urcuqui**	**3.40**	**338**	P	**Pb**	**09 15 13.6**	**-2.9**
TULM	**Tulcn-Chalpat**	**3.53**	**347**	P	**Pn**	**09 15 13.7**	**+2.9**
TULM	**Tulcn-Chalpat**	**3.53**	**347**	P	**Pn**	**09 15 12.1**	**+1.3**
LNGL	**El Angel-Carch**	**3.60**	**344**	P	**Pn**	**09 15 15.6**	**+3.7**
CHL1	**Volcjn Chiles**	**3.64**	**345**	P	**Pb**	**09 15 18.8**	**-1.8**
CHL2	**Volcjn Chiles**	**3.64**	**345**	P	**Pb**	**09 15 18.4**	**-2.2**
ECEN	**Cerro Negro**	**3.67**	**345**	P	**Pn**	**09 15 17.5**	**+4.5**
CHMA	**Chilma**	**3.74**	**343**	P	**Pn**	**09 15 17.2**	**+3.6**
CMBC	**Cumbal**	**3.75**	**347**	P	**Pn**	**09 15 17.9**	**+4.0**
PPLP	**Puerto Lpez**	**3.96**	**287**	P	**Pn**	**09 15 17.2**	**+0.9**
PPLP				S	**Sn**	**09 15 57.9**	**-4.5**
GCUF	**Volcan Galeras**	**3.96**	**355**	P	**Pn**	**09 15 19.2**	**+2.4**
SALI	**Salinas**	**4.02**	**278**	P	**Pn**	**09 15 18.2**	**+1.0**
ISPT	**Isla de la Pla**	**4.33**	**290**	P	**Pn**	**09 15 22.5**	**+1.0**
**F

CRIN	San Cristobal	1.21 91	P	Pn	09 18 46.5	+0.9
CRIN	San Cristobal	1.21 91	S	Sn	09 19 02.6	+1.8
PANCS	Alcalda de	1.24 316	P	Pn	09 18 45.7	-0.3
PANCS	Alcalda de	1.24 316	S	Sn	09 19 02.3	+0.8
LOMA	Loma Larga	1.26 317	P	Pn	09 18 46.3	0.0
LOMA	Loma Larga	1.26 317	S	Sn	09 19 02.7	+0.7
LALI	Alcalda de L	1.26 307	eP	Pn	09 18 39.3	-7.0
LALI	Alcalda de L	1.26 307	S	Sn	09 19 01.1	-0.9
LALI	Alcalda de L	1.26 307	P	Pn	09 18 45.9	-0.3
UDBS	Universidad Do	1.30 320	S	Sn	09 19 05.0	+2.1
IGN	Direccin Gen	1.31 319	S	Sn	09 19 04.0	+0.8
IGN	Direccin Gen	1.31 319	P	Pn	09 18 46.6	-0.4
UTEC	Universidad Te	1.32 318	S	Sn	09 19 03.1	-0.4
UTEC	Universidad Te	1.32 318	P	Pn	09 18 46.9	-0.2
SEMO	Seminario San	1.33 317	P	Pn	09 18 47.1	-0.2
SEMO	Seminario San	1.33 317	S	Sn	09 19 04.1	+0.3
ITCA	Escuela Especi	1.35 315	P	Pn	09 18 48.3	+0.8
ITCA	Escuela Especi	1.35 315	S	Sn	09 19 04.1	-0.2
UEES	Universidad Ev	1.35 317	eP	Pn	09 18 47.4	-0.2
UEES	Universidad Ev	1.35 317	P	Pn	09 18 48.1	+0.5
UEES	Universidad Ev	1.35 317	S	Sn	09 19 05.6	+1.2
PMON	Piamonte	1.40 315	eP	Pn	09 18 48.3	0.0
PMON	Piamonte	1.40 315	P	Pn	09 18 49.2	+0.9
PMON	Piamonte	1.40 315	S	Sn	09 19 05.7	+0.1
QUEN	Al S del Volca	1.41 95	P	Pn	09 18 48.7	+0.4
QUEN			S	Sn	09 19 06.2	+0.5
HERN	Volcan Telica	1.43 94	S	Sn	09 19 07.0	+0.8
HERN	Volcan Telica	1.43 94	P	Pn	09 18 49.3	+0.7
POLN	Al Sur del Vol	1.44 93	S	Sn	09 19 05.5	-1.0
JAYA	Jayaque - finc	1.46 310	eP	Pn	09 18 49.0	-0.1
JAYA			IAML		09 19 08.3	
	comp=Z,188nm,0.2s					
JAYA	Jayaque - finc	1.46 310	P	Pn	09 18 48.7	-0.4
JAYA	Jayaque - finc	1.46 310	S	Sn	09 19 06.9	-0.3
PACN	Al O del Volca	1.48 98	P	Pn	09 18 50.0	+0.8
PACN			S	Sn	09 19 07.5	+0.2
PLRN	Geotermica Pol	1.49 95	P	Pn	09 18 50.1	+0.6
PLRN			S	Sn	09 19 08.1	+0.4
CEDA	San Andres	1.52 315	P	Pn	09 18 50.4	+0.5
CEDA	San Andres	1.52 315	S	Sn	09 19 09.3	+0.8
ROCN	Rota Cerro Neg	1.52 97	P	Pn	09 18 50.1	+0.3
ROCN			S	Sn	09 19 09.2	+0.8
ILCN	San Idelfonso	1.56 95	P	Pn	09 18 50.1	-0.2
ILCN			S	Sn	09 19 10.2	+0.9
CNGA	Al SSO del Vol	1.57 98	P	Pn	09 18 51.0	+0.5
CNGA			S	Sn	09 19 09.8	+0.2
LLGN	La Laguna	1.57 336	S	Sn	09 19 10.3	+0.7
CNGN	Cerro Negro	1.57 98	S	Sn	09 19 09.8	+0.2
CNGN	Cerro Negro	1.57 98	P	Pn	09 18 50.4	-0.1
TGUH	Tegucigalpa,Un	1.66 37	P	Pn	09 18 52.5	+0.7
TGUH			S	Sn	09 19 13.1	+1.3
LEVN	Ruinas Leon Vi	1.66 101	P	Pn	09 18 52.0	+0.2
LEVN			S	Sn	09 19 12.3	+0.4
CEVE	Cerro Verde	1.70 310	P	Pn	09 18 52.9	+0.4
CEVE	Cerro Verde	1.70 310	S	Sn	09 19 14.1	+0.9
AESN	El Sauce Leon	1.71 84	P	Pn	09 18 52.9	+0.4
AESN	El Sauce Leon	1.71 84	S	Sn	09 19 14.2	+1.0
MOMN	Momotombo	1.74 100	P	Pn	09 18 53.6	+0.8
MOMN			S	Sn	09 19 14.8	+1.0
BC84	Volcan Momotom	1.74 101	S	Sn	09 19 15.2	+1.4
COPN	Copaltepe	1.74 108	P	Pn	09 18 53.0	+0.1
BC86	Nagarote	1.75 105	P	Pn	09 18 53.3	+0.4
BC86	Nagarote	1.75 105	S	Sn	09 19 14.4	+0.5
UNIC	Universidad Ca	1.75 316	P	Pn	09 18 53.0	-0.1
UNIC	Universidad Ca	1.75 316	S	Sn	09 19 14.9	+0.7
NUBE	Las Nubes	1.87 309	eP	Pn	09 18 54.6	-0.1
NUBE	Las Nubes	1.87 309	P	Pn	09 18 54.7	0.0
NUBE	Las Nubes	1.87 309	S	Sn	09 19 16.2	-0.9
AMTN	Mateare	1.88 105	P	Pn	09 18 54.9	+0.1
AMTN	Mateare	1.88 105	S	Sn	09 19 18.2	+1.0
LIMN	Finca el Limon	1.91 80	P	Pn	09 18 55.5	+0.3
LOAL	Lomas de Alarc	1.93 311	S	Sn	09 19 19.3	+0.8
SLOZ	Alcaldia de Sa	1.95 312	P	Pn	09 18 56.2	+0.5
SLOZ	Alcaldia de Sa	1.95 312	S	Sn	09 19 20.8	+1.8
APYN	Apoyeque	1.96 104	S	Sn	09 19 19.8	+0.7
BC87	San Francisco	1.96 96	P	Pn	09 18 56.6	+0.7
BC87	San Francisco	1.96 96	S	Sn	09 19 20.6	+1.3
MTO3	Montecristo	1.96 328	P	Pn	09 18 56.3	+0.1
MTO3	Montecristo	1.96 328	S	Sn	09 19 20.2	+0.5
APQ2	Apoyeque	1.99 105	P	Pn	09 18 56.4	+0.1
APQ2			S	Sn	09 19 20.8	+0.9
FAME	Alcaldia de Sa	2.02 304	S	Sn	09 19 23.0	+2.3
ABCN	Banco Central	2.02 107	P	Pn	09 18 58.1	+1.4
ABCN	Banco Central	2.02 107	S	Sn	09 19 21.8	+1.0
ALLN	Telcor Managua	2.05 106	S	Sn	09 19 22.1	+0.7
ALLN	Telcor Managua	2.05 106	P	Pn	09 18 57.1	0.0
USIM	UNAN	2.06 107	S	Sn	09 19 22.0	+0.4
ENAN	Enatrel Managu	2.07 107	S	Sn	09 19 23.4	+1.4
R4DEC	Barrio San Lui	2.07 106	P	Pn	09 18 57.9	+0.5
MGAN	Managua	2.08 106	S	Sn	09 19 21.6	-0.4
MGAN	Managua	2.08 106	P	Pn	09 19 10.0	+13

*ASRS **02** 09:20:10.0±0.7,54°.08N×87°.11E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 02 09:20:10.1±3.6, 54°.31N×87°.48E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=30.8km s-min=20.2km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.60	258	I	I	09 29 50.0	
	baz=80,slow=326,SNR=3.5						
ZALV	Zalesovo Beam	1.60	258	Pg	Pn	09 20 38.7	-0.9
	0.5nm,0.3s,baz=74,slow=18,SNR=2.0						
ZALV				Lg	Lg	09 21 00.8	
	0.9nm,0.3s,baz=73,slow=29,SNR=3.2						
KURBB	Kurchatov Arra	6.59	240	Pn	Pn	09 21 48.5	+0.4
	0.1nm,0.3s,baz=53,slow=13,SNR=4.9						
	0.3nm,0.4s						
MKAR	Makanchi Array	8.21	206	Pn	Pn	09 22 11.7	+1.2
	baz=27,slow=15,SNR=1.2						
MKAR				Lg	Lg	09 24 34.7	
	baz=24,slow=32,SNR=2.5						
	0.1nm,0.3s						

*ASRS **02** 09:30:11.0±1.4,54°.08N×87°.12E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 02 09:30:11.2±3.6, 54°.23N×87°.52E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=30.0km s-min=19.2km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.61	261	I	I	09 40 00.0	
	baz=82,slow=333,SNR=1.1						
ZALV	Zalesovo Beam	1.61	261	Pg	Pn	09 30 39.1	-1.8
	0.7nm,0.3s,baz=77,slow=16,SNR=8.4						
ZALV				Lg	Lg	09 31 03.1	
	0.6nm,0.3s,baz=79,slow=30,SNR=5.5						
KURBB	Kurchatov Arra	6.58	240	Pn	Pn	09 31 49.3	+0.2
	baz=56,slow=13,SNR=2.8						
	0.1nm,0.3s						
MKAR	Makanchi Array	8.15	206	Pn	Pn	09 32 12.5	+1.7
	0.1nm,0.3s,baz=27,slow=14,SNR=1.8						
MKAR				Lg	Lg	09 34 31.5	
	0.1nm,0.3s,baz=23,slow=41,SNR=2.2						
	0.1nm,0.3s						

*ASRS **02** 09:38:27.0±1.2,54°.25N×87°.11E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 02 09:38:29.6±3.1, 54°.29N×87°.22E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=26.4km s-min=17.0km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.45	258	I	I	09 48 10.0	
	0.1nm,1.0s,baz=76,slow=331,SNR=4.9						
ZALV	Zalesovo Beam	1.45	258	Pg	Pn	09 38 55.5	-1.6
	1.5nm,0.3s,baz=71,slow=14,SNR=13						
ZALV				Lg	Lg	09 39 15.2	
	1.0nm,0.3s,baz=75,slow=27,SNR=5.9						
KURBB	Kurchatov Arra	6.45	239	Pn	Pn	09 40 06.8	+1.0
	0.1nm,0.3s,baz=54,slow=14,SNR=7.3						
KURBB				Lg	Lg	09 41 57.0	
	baz=53,slow=32,SNR=4.8						
	1.2nm,0.7s						
MKAR	Makanchi Array	8.13	205	Pn	Pn	09 40 29.9	+1.1
	0.1nm,0.3s,baz=23,slow=13,SNR=3.0						
MKAR				Sn	Sn	09 42 00.5	-0.8
	0.1nm,0.3s,baz=20,slow=30,SNR=3.3						
MKAR				Lg	Lg	09 42 46.0	
	baz=29,slow=33,SNR=5.1						
	0.1nm,0.3s						

*IDC **02** 09:38:29.5±5.3, 36°.46N×71°.06E, h200km±44km, mb3.1/1, mbtmp3.8/7, Error ellipse: s-maj=51.0km s-min=30.8km az=62.0*
*NNC **02** 09:38:30.1±4.6, 37°.02N×70°.37E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=36.6km s-min=26.1km az=170.0*

ISC 02 09:38:30.2±1.5, 36°.6N±0°.1×70°.8E±0°.1, h200km, n12, σ1°85/19, 3C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.50	358	⇑P	Pn	09 40 03.9	+0.1
	3.3nm,0.3s,baz=184,slow=12,SNR=62						
KK31				⇑S	Sn	09 41 13.8	-4.3
	42nm,0.6s,baz=171,slow=13,SNR=19						
AAK	Ala-Archa	6.67	24	P	Pn	09 40 07.1	+0.9
	3.6nm,0.3s,baz=199,slow=3.8,SNR=12						
AAK				S	Sn	09 41 21.7	-0.6
	14nm,0.4s,baz=336,slow=20,SNR=32						
AAK	Ala-Archa	6.67	24	⇑P	Pn	09 40 06.8	+0.6
	3.8nm,0.7s						
AAK				⇓S	Sn	09 41 21.7	-0.6
	23nm,0.5s						
TKM2	Tokmak 2	7.31	29	⇓P	Pn	09 40 15.2	+0.6
	4.4nm,0.5s						
TKM2				⇓S	Sn	09 41 37.9	+0.3
	7.8nm,0.8s						
MKAR	Makanchi Array	13.30	37	P	Pn	09 41 31.8	+0.4
	0.5nm,0.6s,baz=218,slow=11,SNR=4.8						
AB31	Akbulak array	14.91	331	P	P	09 41 53.2	+1.2
	1.2nm,0.5s,baz=142,slow=12,SNR=26						
AB31				⇓S	S	09 44 34.2	-2.6
	0.6nm,0.5s,baz=162,slow=21,SNR=4.7						
KURBB	Kurchatov Arra	15.08	19	P	Pn	09 41 52.1	-1.0
	0.4nm,0.4s,baz=208,slow=11,SNR=5.4						
BVAR	Borovoye Array	16.42	359	P	Pn	09 42 10.5	+1.1
	1.6nm,0.4s,baz=170,slow=11,SNR=13						
BVAR				S	S	09 45 10.0	-0.1
	0.4nm,0.4s,baz=165,slow=23,SNR=3.2						
AKTO	Aktyubinsk	16.61	330	P	Pn	09 42 12.1	+0.4
	5.3nm,0.4s,baz=137,slow=9.0,SNR=16						
AKTO	Aktyubinsk	16.61	330	⇓P	Pn	09 42 15.4	+3.7
	8.5nm,0.9s						
AKTO				⇓S	S	09 45 15.9	+1.9
	3.3nm,1.4s						
ZALV	Zalesovo Beam	19.89	25	P	P	09 42 46.6	+0.5
	3.6nm,0.6s,baz=222,slow=13,SNR=6.9						
WRA	Warramunga Arr	82.18	122	P	P	09 50 26.7	-2.3
	0.3nm,0.5s,baz=317,slow=5.4,SNR=7.1						
	0.3nm,0.5s						

*ISK **02** 10:07:06.9, 38°.71N×43°.30E, h26km, ML2.6/4*
*AFAD **02** 10:07:08.0, 38°.74N×43°.21E, h7km±5km, ML1.9*

ISC 02 10:07:08.0±1.1, 38°.75N±0°.03×43°.24E±0°.03, h16km±10km, n14, σ0°80/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	143	Pg	Pb	10 07 13.3	0.0
TVAN	Van	0.25	149	P	Pb	10 07 13.2	-1.2
TVAN				S	Sb	10 07 17.7	-0.9
TVAN				*i* AML	AML	10 07 18.0	
	comp=N,1μm,0.5s						
VMUR	Van-Muradiye	0.35	47	P	Pb	10 07 15.7	-0.4
VMUR				S	Sb	10 07 22.2	+0.7
VMUR				*i* AML	AML	10 07 23.0	
	comp=N,193nm,0.3s						
ADCV	BITLIS_Adilcev	0.41	279	P	Pg	10 07 16.4	0.0
ADCV				S	Sb	10 07 23.0	0.0
ADCV				*i* AML	AML	10 07 24.0	
	comp=N,173nm,0.2s						
GEVA	Gevas	0.46	198	P	Pb	10 07 16.7	-1.1
GEVA				S	Sb	10 07 24.2	-0.3
GEVA				*i* AML	AML	10 07 30.0	
	comp=N,54nm,0.3s						
MLAZ	Malazgirt-MUS	0.67	306	Pg	Pb	10 07 21.8	+0.4
MLAZ				Sg	Sn	10 07 32.7	-0.6
DORK	Agr/Tutak/Do	0.73	331	P	Pg	10 07 21.9	-0.5
DORK				S	Sg	10 07 31.7	-0.4
DORK				*i* AML	AML	10 07 32.0	
	comp=N,134nm,0.5s						
AGRB	Hanur-Agry	0.85	347	Pg	Pb	10 07 24.3	-0.3
AGRB				Sg	Sg	10 07 36.8	+1.0
BLIS	Bitlis-Merkez	0.94	250	P	Pb	10 07 25.5	-0.6
BLIS				S	Sb	10 07 37.7	-0.7
BLIS				*i* AML	AML	10 07 39.0	
	comp=N,140nm,0.6s						
GURO	Guroymak-BITLI	0.97	259	Pg	Pb	10 07 25.8	-0.7
GURO				Sg	Sg	10 07 39.6	+0.1
PERV	Siirt/Pervari-	0.97	215	P	Pn	10 07 28.7	+1.5
PERV				S	Sn	10 07 42.0	+1.4
PERV				*i* AML	AML	10 07 47.0	
	comp=N,78nm,0.4s						
KOTA	Agri, Merkez-K	1.05	359	P	Pg	10 07 28.2	-0.3
KOTA				S	Sb	10 07 41.7	0.0
KOTA				*i* AML	AML	10 07 44.0	
	comp=N,16nm,0.3s						
SRTM	Siirt_Merkez	1.28	234	P	Pg	10 07 32.9	+0.2
SRTM				S	Sg	10 07 50.9	+1.4
SRTM				*i* AML	AML	10 07 56.0	
	comp=N,35nm,0.7s						
MUSM	Mu-Merkez	1.35	270	P	Pn	10 07 31.4	-1.0
MUSM				S	Sb	10 07 50.4	+0.2
MUSM				*i* AML	AML	10 07 55.0	
	comp=N,6.9nm,0.3s						

*JMA **02** 10:08:07.5±0.1, 37°.2N±0°.3×141°.4E±0°.8, h54km±1km, MD3.6/39, MV3.7/39, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 02 10:08:06.3±1.8, 37°.22N±0°.05×141°.44E±0°.08, h23km±15km, n21, σ0°66/28, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.47	288	*i* P	Pn	10 08 18.0	+0.2
JFK				S	Sn	10 08 25.5	+0.1
ONAJ	Iwakimizuishiy	0.53	257	*i* P	Pn	10 08 18.6	0.0
ONAJ				S	Sn	10 08 25.9	-0.9
ONAJ	Iwakimizuishiy	0.53	257	A	A	10 08 18.6	
	comp=N,4.0nm,0.3s,comp=E,6.0nm,0.4s						
JMST	Minamisoumatoc	0.67	319	*i* P	Pn	10 08 20.4	0.0
JMST				S	Sn	10 08 29.7	-0.4
JFFD	Fukushimafurud	0.72	260	*i* P	Pb	10 08 20.8	+0.6
JFFD				S	Sb	10 08 29.6	0.0
JMM	Marumori	0.82	321	P	Pb	10 08 22.3	+0.3
JMM	Marumori	0.82	321	S	Sb	10 08 32.1	-0.5
JMM	Marumori	0.82	321	⇓*i* P	Pb	10 08 22.4	+0.4
JMM				⇓S	Sn	10 08 33.6	-0.3
JHO	Hitachi	0.93	229	*i* P	Pb	10 08 23.2	-0.6
JHO				S	Sb	10 08 34.7	-1.0
JOTO	OTAMA OYAMA	0.94	291	*i* P	Pn	10 08 24.5	+0.3
JOTO				S	Sn	10 08 36.8	-0.2
JOTO	OTAMA OYAMA	0.94	291	A	A	10 08 24.5	
	comp=N,5.0nm,0.3s,comp=E,8.0nm,0.3s						
JIO	Ouri	1.23	357	*i* P	Pn	10 08 28.2	0.0
JIO				S	Sn	10 08 43.2	-0.8
JFY	Yanaizu	1.40	278	⇓*i* P	Pn	10 08 30.2	-0.3
JYS	Shiratake	1.48	313	*i* P	Pn	10 08 31.8	+0.2
JYS				S	Sn	10 08 50.5	+0.3
JSD	Sado	2.65	289	P	Pn	10 08 47.1	-0.6
MAJO	Matsushiro	2.68	256	P	Pn	10 08 48.9	+0.8
JTM	Tenmabayashi	3.57	355	P	Pn	10 09 00.9	+0.6
JGF	Kuroka	3.67	245	P	Pn	10 09 03.4	+1.6
INU	Inuyama	4.03	244	P	Pn	10 09 07.5	+0.8
ERM	Erimo	4.96	15	P	Pn	10 09 19.0	-0.5
JEM	Erimo	4.96	15	P	Pn	10 09 20.5	+1.0

GCG 02 10:09:24.2±0.4, 14°.50N×90°.73W, h4km±1km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS001	Antigua, Sacat	0.34	123	*e* P	Pg	10 09 25.7	-5.2
PS001				*e*		10 09 25.8	
	baz=206,slow=11						
PS001				*e* S	Sg	10 09 26.9	-8.6
STG0	El Palmar, Qui	0.59	263	*e* P	Pn	10 09 41.0	+1.4
NUBE	Las Nubes	1.10	123	*e* P	Pg	10 09 44.9	-0.5

*IDC **02** 10:37:04.1±0.9, 55°.13S×31°.23W, h0km, mb4.2/5, mbtmp4.2/5, MS3.5/12, Error ellipse: s-maj=53.4km s-min=19.9km az=64.0*
*NEIC **02** 10:37:06.7±1.2, 55°.1S±0°.1×31°.31W±0°.07, h10km±1km, mb4.8/24, Error ellipse: s-maj=19.5km s-min=4.5km az=163.0*

ISC 02 10:37:05.8±0.5, 55°.2S±0°.1×31°.29W±0°.09, h10km, n68, σ0°65/57, mb4.7/13, MS3.4/11, 1C, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	3.15	284	Pn	Pn	10 37 54.7	-0.6
PMSA	Palmer Station	18.77	226	P	P	10 41 24.1	-0.6
PMSA				IAmb	IAmb	10 41 44.0	
	comp=Z,43nm,0.8s						
PMSA	Palmer Station	18.77	226	LR	LR	10 47 10.0	
	comp=Z,60nm,21.5s,baz=125,slow=32						
SNAA	Sanae	20.51	155	P	P	10 41 43.9	+0.2
	comp=Z,8.6nm,0.8s,baz=311,slow=14,SNR=7.7						
	comp=Z,8.6nm,0.8s						
MG05	Puerto Natales	24.55	261	P	P	10 42 24.8	-0.5
TRQA	Tornquist	26.85	297	P	P	10 42 46.3	0.0
PLCA	Paso Flores	29.55	283	LR	LR	10 54 53.2	
	comp=Z,86nm,18.2s,baz=148,slow=36						
SYO	Syowa Base	33.72	142	*e* P	P	10 43 44.5	-2.1
CPUP	Villa Florida	34.52	316	P	P	10 43 53.1	-1.0
	comp=Z,4.0nm,0.9s,baz=150,slow=7.5,SNR=7.1						
CPUP				LR	LR	11 00 01.1	
	comp=Z,42nm,18.1s,baz=181,slow=40						
	comp=Z,4.0nm,0.9s						
MT09	Talagante	34.83	291	P	P	10 43 56.4	-0.4
MT09				IAmb	IAmb	10 43 57.4	
	comp=Z,27nm,1.5s						
MT01	Popeta	34.90	291	P	P	10 43 56.8	-0.5
MT01				IAmb	IAmb	10 44 01.9	
	comp=Z,19nm,1.4s						
QSPA	South Pole Qui	35.08	180	P	P	10 44 00.0	+1.3
QSPA	South Pole Qui	35.08	180	P	P	10 43 58.6	-0.1
	comp=Z,3.1nm,0.8s,baz=213,slow=2.8,SNR=11						
	comp=Z,3.1nm,0.8s						
CFA	Coronel Fontan	35.08	297	LR	LR	10 57 35.7	
	comp=Z,131nm,21.9s,baz=278,slow=35						
MT02	Curacav	35.30	292	P	P	10 44 01.6	+0.8
VA01	Torpederas	35.76	291	P	P	10 44 04.2	-0.4
AC01	Pan de Azucar	40.72	299	P	P	10 44 46.0	-0.4
GO02	Mina Guanaco	41.04	301	P	P	10 44 50.3	+0.8
SUR	Sutherland	42.72	80	P	P	10 45 02.3	-0.7
SUR				IAmb	IAmb	10 45 25.1	
	comp=Z,30nm,1.2s						
SUR	Sutherland	42.72	80	LR	LR	10 58 57.5	
	comp=Z,54nm,19.9s,baz=187,slow=31						
PB01	IPOC Station P	44.48	304	P	P	10 45 17.3	+0.1
PB01				IAmb	IAmb	10 45 29.4	
	comp=Z,14nm,1.3s						
PB08	IPOC Station P	45.10	305	P	P	10 45 22.1	-0.4
SOE	Somerset East	45.17	84	P	P	10 45 22.7	+0.1
TA02	Huaiquique	45.45	304	P	P	10 45 23.6	-1.2
PB11	IPOC Station P	45.66	305	P	P	10 45 28.1	+1.4
PB11				IAmb	IAmb	10 45 49.0	
	comp=Z,13nm,1.1s						
SBA	Scott Base	46.77	185	P	P	10 45 36.0	+1.5
SBA				IAmb	IAmb	10 45 40.7	
	comp=Z,8.0nm,1.4s						
VNDA	Vanda	47.31	184	P	P	10 45 39.4	+0.6
	comp=Z,0.9nm,0.8s,baz=224,slow=3.9,SNR=4.2						
	comp=Z,0.9nm,0.8s						
LPAZ	La Paz	48.00	309	P	P	10 45 45.3	-0.2
LPAZ				IAmb	IAmb	10 45 53.9	
	comp=Z,4.9nm,0.8s						
LPAZ	La Paz	48.00	309	P	P	10 45 45.9	+0.4
	comp=Z,5.4nm,0.6s,baz=138,slow=6.3,SNR=19						
	comp=Z,5.4nm,0.6s						
BOSA	Boshof	48.06	80	P	P	10 45 45.7	+0.3
BOSA				IAmb	IAmb	10 45 55.9	
	comp=Z,8.4nm,1.2s						
BOSA	Boshof	48.06	80	LR	LR	11 01 11.1	
	comp=Z,32nm,21.1s,baz=171,slow=30						
TSUM	Tsumeb	51.36	66	LR	LR	11 03 26.1	
	comp=Z,36nm,20.7s,baz=183,slow=31						
LSZ	Lusaka	60.28	73	LR	LR	11 11 14.8	
	comp=Z,61nm,18.5s,baz=168,slow=34						
BOAV	Boa Vista	62.22	327	P	P	10 47 28.2	+0.7
BOAV				IAmb	IAmb	10 47 28.8	
	comp=Z,9.0nm,1.5s						
MDP	Montagnes des	62.62	336	LR	LR	11 15 44.3	
	comp=Z,19nm,18.0s,baz=122,slow=37						
VOI	Vohitsoka	65.55	94	P	P	10 47 49.5	-0.1
VOI				IAmb	IAmb	10 48 14.5	
	comp=Z,9.9nm,1.2s						
TORD	Torodi Ar. Bea	73.52	34	P	P	10 48 38.7	+0.1
KMBO	Kilima Mbogo	76.95	73	LR	LR	11 19 37.9	
	comp=Z,64nm,20.5s,baz=89,slow=33						
TEIG	Tepich	89.32	308	P	P	10 50 02.8	+0.8
MDT	Midelt	90.58	22	LR	LR	11 23 50.7	
	comp=Z,62nm,20.6s,baz=188,slow=31						
ESDC	Sonseca Array	97.33	21	LR	LR	11 29 56.3	
	comp=Z,56nm,18.9s,baz=180,slow=33						
FINES	FINESS Array B	124.73	29	PKP	PKPdf	10 56 04.1	0.0
	comp=Z,3.5nm,1.0s,baz=197,slow=4.2,SNR=3.7						
YKA	Yellowknife Ar	133.99	320	PKP	PKPdf	10 56 21.2	-0.5
	comp=Z,0.2nm,0.6s,baz=133,slow=2.2,SNR=4.3						
MKAR	Makanchi Array	138.83	73	PKP	PKPdf	10 56 31.9	+0.6
	comp=Z,0.2nm,0.5s,baz=219,slow=4.0,SNR=3.6						
ZALV	Zalesovo Beam	144.09	65	PKP	PKPab	10 56 38.0	0.0
	comp=Z,1.5nm,0.5s,baz=223,slow=3.9,SNR=7.9						
H27K	Steamboat Moun	146.02	317	PKPdf	PKPab	10 56 45.1	+0.2
HIN	Hinchinbrook I	146.34	306	PKPdf	PKPdf	10 56 44.0	-0.1
J26L	Joseph Creek	146.36	314	PKPdf	PKPbc	10 56 45.4	0.0
SCRK	Sand Creek	146.38	313

PAU				*e*S	Sn	10 47 50.0	+2.6
KDTR	**Khodutka, Kamc**	**2.56**	**23**	*e*P	Pn	10 47 33.5	+2.8
KDTR				*e*S	Sn	10 48 04.3	+3.7
RUS	**Russkaya**	**3.24**	**23**	*e*P	Pn	10 47 42.3	+2.4
RUS				*e*S	Sn	10 48 19.5	+2.3
GRL	**Gorelyy**	**3.25**	**18**	*e*P	Pn	10 47 43.8	+3.6
GRL				*e*S	Sn	10 48 22.6	+4.8
APC	**Apacha**	**3.49**	**7**	*e*P	Pn	10 47 45.7	+2.4
KRMR	**Karymshinskiy**	**3.53**	**17**	*e*P	Pn	10 47 46.7	+2.9
PET	**Petropavlovsk**	**3.82**	**20**	*e*P	Pn	10 47 50.8	+3.1
PET				*e*S	Sn	10 48 34.2	+2.8
DALK	**Dalny**	**3.85**	**21**	*e*P	Pn	10 47 51.2	+3.1
DALK				*e*S	Sn	10 48 34.8	+2.8
UGLR	**Uglovaya**	**4.03**	**21**	*e*P	Pn	10 47 54.4	+3.6
AVH	**Avacha**	**4.06**	**20**	*e*P	Pn	10 47 55.0	+3.8
KOK	**Koryaka**	**4.07**	**19**	*e*P	Pn	10 47 55.4	+4.2
SDLR	**Sedlovina**	**4.11**	**21**	*e*P	Pn	10 47 55.0	+3.1
NLC	**Nalytchevo**	**4.13**	**25**	*e*S	Sn	10 48 40.0	+1.1
KRX	**Arik**	**4.13**	**18**	*e*P	Pn	10 47 55.4	+3.2
SPN	**Mys Shipunski**	**4.27**	**30**	*e*P	Pn	10 47 57.4	+3.5
SPN				*e*S	Sn	10 48 46.3	+4.0
GNL	**Ganaly**	**4.33**	**12**	*e*P	Pn	10 47 57.1	+2.1
TUMD	**Tumrok D**	**6.23**	**21**	*e*P	Pn	10 48 25.5	+4.7
KBTR	**Krutoberegovo**	**7.77**	**27**	*e*P	Pn	10 48 43.8	+2.1

*HEL **02** 10:49:54.9±0.1, 60°.03N×25°.06E, h0km, ML2.2, Explosion*
*IDC **02** 10:49:56.0±1.1, 60°.13N×25°.08E, h0km, mbtmp3.1/4, ML2.9/4, Error ellipse: s-maj=11.7km s-min=6.3km az=136.0*
*UPP **02** 10:49:56.4±2.6, 60°.06N×24°.92E, h0km, ML2.0*
ISC 02 10:49:52.7±0.7, **60°.02N**±0°.02×**25°.16E**±0°.03, **h0**km, **n30**, σ1§**49**/51, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEL1	**Helsinki**	**0.21**	**318**	*e*P	**Pg**	**10 49 57.6**	**+0.9**
HEL1				*e*S	**Sg**	**10 50 00.0**	**+0.7**
MEF	**Metsahovi**	**0.43**	**297**	*e*P	**Pg**	**10 50 01.4**	**+0.5**
MEF	**Metsahovi**	**0.43**	**297**	*e*P	**Pg**	**10 50 01.6**	**+0.7**
MEF				*e*S	**Sg**	**10 50 06.5**	**0.0**
NUR	**Nurmijarvi**	**0.55**	**333**	*e*P	**Pg**	**10 50 04.1**	**+0.9**
NUR				*e*S	**Sg**	**10 50 10.9**	**+0.5**
PVF	**Pernaja**	**0.63**	**33**	*e*P	**Pb**	**10 50 06.3**	**-0.2**
PVF				*e*S	**Sb**	**10 50 15.0**	**-0.8**
ARBE	**Arbavere**	**0.72**	**144**	*e*P	**Pb**	**10 50 08.4**	**+0.4**
ARBE				*e*S	**Sb**	**10 50 18.2**	**-0.3**
VJF	**Virojoki**	**1.30**	**66**	*e*P	**Pn**	**10 50 18.5**	**+0.5**
VJF				*e*S	**Sn**	**10 50 36.5**	**+0.4**
MTSE	**Matsula**	**1.48**	**208**	*e*P	**Pn**	**10 50 21.4**	**+0.8**
MTSE				*e*S	**Sg**	**10 50 40.3**	**+0.1**
FIA0	**FINESS Array S**	**1.49**	**17**	*e*P	**Pb**	**10 50 21.9**	**+0.7**
FIA0				*e*S	**Sn**	**10 50 41.4**	**+0.5**
FIA0				MSG		10 50 42.8	
	comp=Z,12nm,0.1s						
FINES	**FINESS Array B**	**1.49**	**17**	Pg	**Pg**	**10 50 21.6**	**+0.3**
	comp=Z,9.2nm,0.3s,baz=202,slow=14,SNR=96						
FINES				Lg	Lg	10 50 39.9	
	comp=Z,11nm,0.3s,baz=203,slow=27,SNR=33						
VSU	**Vasula**	**1.76**	**152**	*e*P	**Pb**	**10 50 26.1**	**+0.2**
VSU				*e*S	**Sg**	**10 50 49.9**	**+0.7**
RAF	**Rauma**	**1.96**	**302**	*e*P	**Pn**	**10 50 28.7**	**+1.6**
RAF	**Rauma**	**1.96**	**302**	*e*P	**Pn**	**10 50 28.7**	**+1.6**
RAF				*e*S	**Sn**	**10 50 53.1**	**+0.8**
RAF				MSG		10 50 57.3	
	comp=Z,14nm,0.2s						
KEF	**Keuruu**	**2.16**	**356**	*e*P	**Pb**	**10 50 33.6**	**+1.1**
KEF	**Keuruu**	**2.16**	**356**	*e*PG	**Pb**	**10 50 33.1**	**+0.6**
KEF				*e*SG	**Sb**	**10 51 01.0**	**+1.2**
KEF				MSG		10 51 03.7	
	comp=Z,25nm,0.2s						
KAF	**Kangasniemi**	**2.17**	**14**	*e*PB	**Pb**	**10 50 33.3**	**+0.5**
KAF				*e*SG	**Sg**	**10 51 01.9**	**-0.4**
KAF				MSG		10 51 06.1	
	comp=Z,12nm,0.2s						
RUF	**Ruokolahti**	**2.33**	**51**	*e*P	**Pb**	**10 50 34.7**	**-0.8**
RUF				*e*S	**Sb**	**10 51 04.5**	**-0.4**
RUF				MSG		10 51 09.7	
	comp=Z,8.8nm,0.1s						
KPF	**Kankaanpaa**	**2.36**	**322**	*e*PB	**Pb**	**10 50 35.5**	**-0.5**
KPF				*e*SB	**Sb**	**10 51 05.4**	**-0.3**
KPF				MSG		10 51 08.8	
	comp=Z,9.4nm,0.1s						
SUF	**Sumiainen**	**2.75**	**10**	*e*PB	**Pb**	**10 50 42.1**	**-0.5**
SUF				*e*SB	**Sb**	**10 51 17.0**	**+0.2**
SUF				MSG		10 51 25.0	
	comp=Z,8.6nm,0.2s						
VAF	**Ylistaro**	**3.26**	**340**	*e*P	**Pn**	**10 50 47.9**	**+3.0**
NRTU	**Norrtaelje**	**3.31**	**267**	P	**Pn**	**10 50 47.8**	**+2.1**
NRTU				S	**Sn**	**10 51 27.0**	**+1.2**
NYNU	**Nynaeshamn**	**3.79**	**257**	P	**Pn**	**10 50 54.0**	**+1.8**
NYNU				S	**Sn**	**10 51 35.5**	**-2.0**
FIBU	**Brunna**	**3.93**	**272**	P	**Pn**	**10 50 55.8**	**+1.6**
FIBU				S	**Sn**	**10 51 41.7**	**+0.8**
IGGU	**Iggoen**	**3.98**	**286**	P	**Pn**	**10 50 56.3**	**+1.5**
BACU	**Backbrunna**	**4.06**	**271**	P	**Pn**	**10 50 57.8**	**+1.9**
JOF	**Joensuu**	**4.14**	**43**	*e*P	**Pn**	**10 51 00.0**	**+3.0**
HFS	**Hagfors**	**5.74**	**276**	Pn	**Pn**	**10 51 20.3**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=90,slow=15,SNR=7.5						
HFS				Sn	**Sn**	**10 52 23.3**	**-2.3**
	comp=Z,1.2nm,0.3s,baz=80,slow=28,SNR=10						
HFS				Lg	Lg	10 52 56.2	
	comp=Z,2.4nm,0.3s,baz=80,slow=28,SNR=8.4						
	comp=Z,0.7nm,0.2s						
NOA	**NORSAR Array B**	**6.96**	**284**	Pn	**Pn**	**10 51 34.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=100,slow=7.6,SNR=9.8						
NOA				Sn	**Sn**	**10 52 52.4**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=98,slow=16,SNR=6.0						
	comp=Z,0.2nm,0.3s						
ARCES	**ARCESS Array B**	**9.55**	**1**	Pn	**Pn**	**10 52 11.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=184,slow=9.9,SNR=30						
ARCES				Sn	**Sn**	**10 53 53.7**	**-5.5**
	comp=Z,0.2nm,0.3s,baz=178,slow=24,SNR=1.4						
ARCES				Lg	Lg	10 54 46.9	
	comp=Z,0.2nm,0.3s,baz=186,slow=27,SNR=1.5						
	comp=Z,0.8nm,0.3s						
AKASG	**Malin Array Be**	**9.62**	**164**	Pn	**Pn**	**10 52 11.3**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=346,slow=12,SNR=3.3						
	comp=Z,0.3nm,0.3s						

*IDC **02** 11:00:29.9±0.8, 8°.77N×126°.74E, h0km, mb3.9/13, mbtmp3.9/14, ML3.8/1, MS3.0/3, Error ellipse: s-maj=29.4km s-min=15.3km az=85.0*
*NEIC **02** 11:00:35.5±1.5, 8°.56N±0°.07×126°.37E±0°.10, h35km±2km, mb4.3/34, Error ellipse: s-maj=16.7km s-min=11.6km az=103.0*
ISC 02 11:00:36.5±0.6, **8°.54N**±0°.08×**126°.4E**±0°.1, **h53**km, **n60**, σ1§**25**/58, **mb4.2**/29, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.66**	**208**	Pn	**Pn**	**11 01 01.6**	**-1.6**
DAV	**Davao City (W)**	**1.66**	**208**	Pn	**Pn**	**11 01 05.9**	**+2.7**
	36nm,0.3s,baz=21,slow=9.4,SNR=3.9						
DAV				Sn	Sn	11 01 33.3	+10
	46nm,0.3s,baz=354,slow=7.6,SNR=8.7						
DAV				LR	LR	11 02 07.9	
	comp=Z,308nm,18.3s,baz=328,slow=48						
	97nm,0.3s						
TNTI	**Ternate**	**7.79**	**173**	Pn	**Pn**	**11 02 25.8**	**-1.5**
MYLDM	**Lahad Datu**	**8.49**	**247**	Pn	**Pn**	**11 02 35.4**	**-1.6**
TOLI2	**Tolitoli**	**9.24**	**217**	Pn	**Pn**	**11 02 46.1**	**-1.1**
LUWI	**Luwuk**	**10.17**	**201**	Pn	**Pn**	**11 02 59.3**	**-0.6**
SSLB	**Suanglung**	**16.02**	**342**	Pn	**Pn**	**11 04 16.1**	**-2.3**
SSLB				IAmb	IAmb	11 04 30.9	
	comp=Z,26nm,1.5s						
YOJ	**Yonaguni jima**	**16.15**	**349**	Pn	**Pn**	**11 04 17.0**	**-3.0**
NACB	**Ninganchiao**	**16.20**	**344**	Pn	**Pn**	**11 04 19.1**	**-1.5**
NACB				IAmb	IAmb	11 04 56.7	
	comp=Z,26nm,1.1s						
JOW	**Kunigami**	**18.28**	**5**	LR	LR	11 09 53.6	
	comp=Z,22nm,20.2s,baz=202,slow=31						
KNRA	**Kununurra**	**24.18**	**174**	P	**P**	**11 05 47.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**26.48**	**182**	P	**P**	**11 06 08.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**26.48**	**182**	P	**P**	**11 06 11.2**	**+2.3**
	comp=Z,1.8nm,0.7s,baz=20,slow=1.5,SNR=7.5						
	comp=Z,1.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.38**	**293**	P	**P**	**11 06 27.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**28.38**	**293**	P	**P**	**11 06 28.9**	**+2.8**
	comp=Z,0.5nm,0.3s,baz=105,slow=9.2,SNR=4.2						
	comp=Z,0.5nm,0.3s						
WB0	**Warramunga Arr**	**29.22**	**164**	P	**P**	**11 06 32.9**	**-0.6**
WB0				IAmb	IAmb	11 07 12.6	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**29.38**	**165**	P	**P**	**11 06 34.9**	**+0.1**
WRA	**Warramunga Arr**	**29.38**	**165**	P	**P**	**11 06 35.8**	**+1.0**
	comp=Z,0.4nm,1.0s,baz=348,slow=8.8,SNR=1.6						
	comp=Z,0.4nm,1.0s						
WR8	**Warramunga Arr**	**29.43**	**164**	P	**P**	**11 06 35.6**	**+0.3**
WR8				IAmb	IAmb	11 07 13.9	
	comp=Z,6.2nm,1.0s						
AS31	**Alice Springs**	**32.85**	**167**	P	**P**	**11 07 04.7**	**-0.7**
ASAR	**Alice Springs**	**32.85**	**167**	P	**P**	**11 07 05.9**	**+0.5**
ASAR	**Alice Springs**	**32.85**	**167**	P	**P**	**11 07 06.1**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=344,slow=8.7,SNR=1.6						
	comp=Z,0.1nm,0.4s						
BBOO	**Buckleboo**	**42.15**	**168**	P	**P**	**11 08 22.9**	**-1.0**
BBOO				IAmb	IAmb	11 08 35.5	
	comp=Z,8.9nm,1.1s						
SONM	**Songino Array**	**42.66**	**340**	P	**P**	**11 08 27.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=146,slow=8.6,SNR=2.0						
	comp=Z,0.3nm,0.6s						
STKA	**Stephens Creek**	**42.75**	**161**	LR	LR	11 31 36.1	
	comp=Z,44nm,18.1s,baz=207,slow=44						
MK31	**Makanchi Array**	**53.45**	**323**	P	**P**	**11 09 50.6**	**-0.7**
MKAR	**Makanchi Array**	**53.45**	**323**	P	**P**	**11 09 51.8**	**+0.5**
MKAR	**Makanchi Array**	**53.45**	**323**	P	**P**	**11 09 52.2**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=123,slow=8.9,SNR=5.6						
	comp=Z,0.5nm,0.5s						
MAKZ	**Makanchi**	**53.65**	**323**	P	**P**	**11 09 52.0**	**-0.8**
MAKZ				IAmb	IAmb	11 10 23.2	
	comp=Z,4.0nm,1.4s						
ZAA0	**Zalesovo Array**	**56.18**	**332**	P	**P**	**11 10 09.9**	**-0.9**
ZALV	**Zalesovo Beam**	**56.18**	**332**	P	**P**	**11 10 11.0**	**+0.2**
ZALV	**Zalesovo Beam**	**56.18**	**332**	P	**P**	**11 10 10.7**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=126,slow=8.1,SNR=2.2						
	comp=Z,0.5nm,0.4s						
KURK	**Kurchatov**	**57.54**	**326**	P	**P**	**11 10 19.1**	**-1.4**
KURK				IAmb	IAmb	11 10 22.3	
	comp=Z,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**57.54**	**326**	P	**P**	**11 10 21.1**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=124,slow=6.9,SNR=24						
	comp=Z,1.6nm,0.5s						
BVAR	**Borovoye Array**	**63.13**	**326**	P	**P**	**11 10 59.8**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=111,slow=8.1,SNR=6.4						
	comp=Z,1.3nm,0.5s						
AB31	**Akbulak array**	**68.24**	**320**	P	**P**	**11 11 31.8**	**+0.1**
ABKAR	**Akbulak array**	**68.24**	**320**	P	**P**	**11 11 32.3**	**+0.6**
D19K	**Kuna River**	**76.80**	**22**	P	**P**	**11 12 23.1**	**+0.8**
D19K				IAmb	IAmb	11 12 50.5	
	comp=Z,2.6nm,1.1s						
O18K	**Koktuh Hills**	**76.85**	**31**	P	**P**	**11 12 24.0**	**+1.3**
O18K				IAmb	IAmb	11 12 24.6	
	comp=Z,4.1nm,0.8s						
H19K	**Roundabout Mou**	**76.97**	**25**	P	**P**	**11 12 24.8**	**+1.6**
H19K				IAmb	IAmb	11 12 25.2	
	comp=Z,2.2nm,0.8s						
D20K	**Etivluk River**	**77.38**	**21**	P	**P**	**11 12 26.8**	**+1.3**
B20K	**Meade River**	**77.40**	**20**	P	**P**	**11 12 26.6**	**+1.0**
B20K				IAmb	IAmb	11 12 27.2	
	comp=Z,2.2nm,0.8s						
KDAK	**Kodiak Island**	**78.05**	**33**	P	**P**	**11 12 30.0**	**+0.6**
B21K	**Ikpikpuk River**	**78.22**	**21**	P	**P**	**11 12 31.4**	**+1.3**
B21K				IAmb	IAmb	11 12 32.1	
	comp=Z,3.0nm,0.6s						
STLK	**Strandline Lak**	**78.63**	**29**	P	**P**	**11 12 33.1**	**+0.4**
STLK				IAmb	IAmb	11 12 49.3	
	comp=Z,2.7nm,1.2s						
B22K	**Teshekpuk Lake**	**78.71**	**20**	P	**P**	**11 12 34.0**	**+1.2**
SUA	**Susitna One**	**79.15**	**29**	P	**P**	**11 12 36.4**	**+0.8**
SUA				IAmb	IAmb	11 12 36.8	
	comp=Z,3.4nm,1.0s						
BPAW	**Bear Paw Mtn.**	**79.16**	**26**	P	**P**	**11 12 36.4**	**+0.9**
BPAW				IAmb	IAmb	11 12 44.2	
	comp=Z,3.9nm,1.4s						
D23K	**Nanushuk River**	**79.55**	**21**	P	**P**	**11 12 39.4**	**+1.9**
D23K				IAmb	IAmb	11 12 39.8	
	comp=Z,2.6nm,0.8s						
C23K	**Itkillik River**	**79.63**	**20**	P	**P**	**11 12 39.1**	**+1.2**
TOLK	**Toolik Lake Re**	**79.93**	**22**	P	**P**	**11 12 41.1**	**+1.5**
D24K	**Happy Valley**	**80.22**	**21**	P	**P**	**11 12 42.7**	**+1.6**
D24K				IAmb	IAmb	11 12 43.1	
	comp=Z,2.5nm,0.7s						
H24K	**Noodor Dome**	**80.53**	**25**	P	**P**	**11 12 44.2**	**+1.4**
H24K				IAmb	IAmb	11 13 08.1	
	comp=Z,7.6nm,1.5s						
ILAR	**Eielson Array**	**80.95**	**26**	P	**P**	**11 12 44.6**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=253,slow=4.7,SNR=10.0						
	comp=Z,0.5nm,0.6s						
D25K	**Kavik River**	**81.10**	**21**	P	**P**	**11 12 47.2**	**+1.4**
RIDG	**Independent Ri**	**81.87**	**27**	P	**P**	**11 12 50.5**	**+0.4**
SCRK	**Sand Creek**	**82.23**	**26**	P	**P**	**11 12 53.2**	**+1.1**
ARCES	**ARCESS Array B**	**85.83**	**340**	P	**P**	**11 13 10.7**	**+0.6**
	comp=Z,3.4nm,1.0s,baz=77,slow=4.9,SNR=3.6						
	comp=Z,3.4nm,1.0s						
FINES	**FINESS Array B**	**87.44**	**332**	P	**P**	**11 13 17.7**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=72,slow=6.2,SNR=3.6						
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**95.29**	**24**	P	**P**	**11 13 54.4**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=303,slow=4.5,SNR=5.7						
	comp=Z,0.5nm,0.8s						

*DNK **02** 11:09:07.8±0.4, 60°.10N×25°.32E, h0km, ML2.4(UPP)*
*BER **02** 11:09:08.4±1.1, 60°.05N×25°.56E, h0km, ML2.4(UPP), Suspected explosion*
*HEL **02** 11:09:09.9±0.0, 60°.03N×25°.08E, h0km, ML2.3, Explosion*
*UPP **02** 11:09:09.8±2.8, 60°.07N×25°.10E, h0km, ML2.4*
*IDC **02** 11:09:11.2±1.0, 60°.11N×25°.03E, h0km, mbtmp3.1/4, ML2.8/4, Error ellipse: s-maj=10.8km s-min=6.1km az=137.0*
ISC 02 11:09:08.3±0.7, **60°.04N**±0°.03×**25°.10E**±0°.02, **h0**km, **n62**, σ1§**39**/89, **Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEL1	**Helsinki**	**0.17**	**321**	*e*P	**Pg**	**11 09 12.8**	**+1.2**
HEL1				*e*S	**Sg**	**11 09 15.2**	**+1.3**
MEF	**Metsahovi**	**0.40**	**297**	*e*P	**Pg**	**11 09 16.6**	**+0.8**
MEF	**Metsahovi**	**0.40**	**297**	*e*P	**Pg**	**11 09 16.7**	**+0.8**
MEF				*e*S	**Sg**	**11 09 21.7**	**+0.7**
NUR	**Nurmijarvi**	**0.52**	**334**	*e*P	**Pg**	**11 09 19.2**	**+1.0**
NUR				*e*S	**Sg**	**11 09 25.9**	**+0.9**
PVF	**Pernaja**	**0.63**	**36**	*e*P	**Pg**	**11 09 21.5**	**+1.1**
PVF				*e*S	**Sg**	**11 09 29.9**	**+1.4**
ARBE	**Arbavere**	**0.75**	**143**	*e*P	**Pg**	**11 09 23.9**	**+1.2**
ARBE	**Arbavere**	**0.75**	**143**	*e*P	**Pg**	**11 09 23.5**	**+0.7**
ARBE				*e*S	**Sg**	**11 09 33.2**	**+0.7**
VJF	**Virojoki**	**1.32**	**67**	*e*P	**Pg**	**11 09 33.7**	**+0.1**
VJF				*e*S	**Sg**	**11 09 51.0**	**+0.4**
FIA0	**FINESS Array S**	**1.49**	**18**	*e*P	**Pg**	**11 09 37.0**	**+0.3**
FIA0				*e*S	**Sg**	**11 09 56.1**	**+0.1**
FIA0				MSG		11 09 58.0	
	comp=Z,21nm,0.1s						
FINES	**FINESS Array B**	**1.49**	**18**	Pg	**Pn**	**11 09 36.9**	**+0.7**
	comp=Z,9.6nm,0.3s,baz=204,slow=17,SNR=179						
FINES				Lg	Lg	11 09 56.2	
	comp=Z,6.3nm,0.3s,baz=202,slow=30,SNR=30						
MTSE	**Matsula**	**1.49**	**207**	*e*P	**Pn**	**11 09 35.9**	**-0.4**
MTSE	**Matsula**	**1.49**	**207**	*e*P	**Pn**	**11 09 36.5**	**+0.3**
MTSE				*e*S	**Sg**	**11 09 55.5**	**-0.5**
VSU	**Vasula**	**1.79**	**151**	*e*P	**Pn**	**11 09 41.4**	**+1.0**
VSU	**Vasula**	**1.79**	**151**	*e*P	**Pn**	**11 09 41.3**	**+0.8**
VSU				*e*S	**Sn**	**11 10 04.3**	**+0.4**
RAF	**Rauma**	**1.92**	**302**	*e*P	**Pn**	**11 09 43.1**	**+0.9**
RAF	**Rauma**	**1.92**	**302**	*e*PN	**Pn**	**11 09 43.7**	**+1.5**
RAF				*e*SG	**Sn**	**11 10 08.7**	**+1.6**
RAF				MSG		11 10 11.9	
	comp=Z,24nm,0.2s						
KEF	**Keuruu**	**2.14**	**357**	*e*P	**Pb**	**11 09 48.2**	**+0.3**
KEF	**Keuruu**	**2.14**	**357**	*e*PG	**Pb**	**11 09 48.4**	**+0.6**
KEF				*e*SB	**Sb**	**11 10 15.1**	**+0.2**
KEF				MSG		11 10 18.8	
	comp=Z,37nm,0.2s						
KAF	**Kangasniemi**	**2.16**	**15**	*e*PG	**Pb**	**11 09 48.5**	**+0.3**
KAF				*e*SG	**Sb**	**11 10 16.7**	**+1.2**
KAF				MSG		11 10 20.3	
	comp=Z,16nm,0.2s						
KPF	**Kankaanpaa**	**2.33**	**322**	*e*PB	**Pb**	**11 09 50.8**	**-0.3**
KPF				*e*SB	**Sb**	**11 10 20.5**	**+0.1**
KPF				MSG		11 10 25.2	
	comp=Z,13nm,0.1s						
RUF	**Ruokolahti**	**2.34**	**52**	*e*P	**Pn**	**11 09 49.4**	**+1.3**
RUF				*e*S	**Sn**	**11 10 18.8**	**+1.4**
RUF				MSG		11 10 25.6	
	comp=Z,16nm,0.2s						
SUF	**Sumiainen**	**2.73**	**10**	*e*PB	**Pb**	**11 09 57.3**	**-0.7**
SUF				*e*SB	**Sb**	**11 10 32.1**	**+0.1**
SUF				MSG		11 10 36.8	
	comp=Z,11nm,0.2s						
VAF	**Ylistaro**	**3.23**	**340**	*e*P	**Pn**	**11 10 02.4**	**+2.3**
NRTU	**Norrtaelje**	**3.29**	**266**	P	**Pn**	**11 10 02.0**	**+1.0**
NRTU				S	**Sn**	**11 10 42.1**	**+1.4**
NRTU	**Norrtaelje**	**3.29**	**266**	P	**Pn**	**11 10 02.0**	**+1.0**
NRTU				S	**Sn**	**11 10 42.1**	**+1.4**
NRTU	**Norrtaelje**	**3.29**	**266**	P	**Pn**	**11 10 02.0**	**+1.0**
NRTU				S	**Sn**	**11 10 42.1**	**+1.4**
GRAU	**Graesoe**	**3.29**	**278**	P	**Pn**	**11 10 02.0**	**+1.0**
GRAU	**Graesoe**	**3.29**	**278**	P	**Pn**	**11 10 02.0**	**+1.0**
GRAU	**Graesoe**	**3.29**	**278**	P	**Pn**	**11 10 02.0**	**+1.0**
FORU	**Forsmark**	**3.47**	**279**	P	**Pn**	**11 10 04.9**	**+1.4**
FORU	**Forsmark**	**3.47**	**279**	P	**Pn**	**11 10 04.9**	**+1.4**
FORU	**Forsmark**	**3.47**	**279**	P	**Pn**	**11 10 04.9**	**+1.4**
FLYU	**Flymyra**	**3.62**	**274**	P	**Pn**	**11 10 06.8**	**+1.3**
FLYU				S	**Sn**	**11 10 49.5**	**+0.7**
FLYU	**Flymyra**	**3.62**	**274**	P	**Pn**	**11 10 06.8**	**+1.3**
FLYU				S	**Sn**	**11 10 49.5**	**+0.7**
FLYU	**Flymyra**	**3.62**	**274**	P	**Pn**	**11 10 06.8**	**+1.3**
FLYU				S	**Sn**	**11 10 49.5**	**+0.7**
NYNU	**Nynaeshamn**	**3.76**	**257**	P	**Pn**	**11 10 08.9**	**+1.4**
NYNU	**Nynaeshamn**	**3.76**	**257**	P	**Pn**	**11 10 08.9**	**+1.4**
NYNU	**Nynaeshamn**	**3.76**	**257**	P	**Pn**	**11 10 08.9**	**+1.4**
FIBU	**Brunna**	**3.90**	**271**	P	**Pn**	**11 10 10.6**	**+1.2**
FIBU	**Brunna**	**3.90**	**271**	P	**Pn**	**11 10 10.6**	**+1.2**
FIBU	**Brunna**	**3.90**	**271**	P	**Pn**	**11 10 10.6**	**+1.2**
IGGU	**Iggoen**	**3.95**	**286**	P	**Pn**	**11 10 11.0**	**+1.0**
IGGU	**Iggoen**	**3.95**	**286**	P	**Pn**	**11 10 11.0**	**+1.0**
IGGU	**Iggoen**	**3.95**	**286**	P	**Pn**	**11 10 11.0**	**+1.0**
OSTU	**Oestervaala**	**3.99**	**276**	P	**Pn**	**11 10 11.6**	**+1.0**
OSTU	**Oestervaala**	**3.99**	**276**	P	**Pn**	**11 10 11.6**	**+1.0**
OSTU	**Oestervaala**	**3.99**	**276**	P	**Pn**	**11 10 11.6**	**+1.0**
BACU	**Backbrunna**	**4.03**	**271**	P	**Pn**	**11 10 12.4**	**+1.3**
BACU	**Backbrunna**	**4.03**	**271**	P	**Pn**	**11 10 12.4**	**+1.3**
BACU	**Backbrunna**	**4.03**	**271**	P	**Pn**	**11 10 12.4**	**+1.3**
JOF	**Joensuu**	**4.15**	**43**	*e*P	**Pn**	**11 10 15.2**	**+2.4**
HFS	**Hagfors**	**5.71**	**276**	Pn	**Pn**	**11 10 35.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=85,slow=14,SNR=16						
HFS				Sn	**Sn**	**11 11 39.4**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=86,slow=25,SNR=7.1						
HFS				Lg	Lg	11 12 10.0	
	comp=Z,1.5nm,0.3s,baz=85,slow=32,SNR=7.5						
	comp=Z,0.8nm,0.4s						
NC602	**NORSAR Array S**	**6.76**	**282**	*e*P	**Pn**	**11 10 48.7**	**+0.1**
NC303	**NORSAR Array S**	**6.86**	**286**	*e*P	**Pn**	**11 10 50.4**	**+0.4**
NB201	**NORSAR Array S**	**6.89**	**284**	*e*P	**Pn**	**11 10 49.7**	**-0.7**
NB201				*e*S	**Sn**	**11 12 06.6**	**-2.8**
NOA	**NORSAR Array B**	**6.92**	**284**	Pn	**Pn**	**11 10 50.6**	**-0.4**
	baz=97,slow=10,SNR=9.5						
NOA				Sn	**Sn**	**11 12 06.7**	**-3.7**
	baz=96,slow=14,SNR=4.0						
NOA				Lg	Lg	11 12 42.9	
	comp=Z,0.1nm,0.3s,baz=98,slow=18,SNR=1.9						
	comp=Z,0.2nm,0.3s						
NAO01	**NORSAR Array S**	**7.08**	**283**	*e*P	**Pn**	**11 10 53.0**	**-0.1**
NAO01				*e*S	**Sn**	**11 12 10.8**	**-3.4**
STRU	**Stroemstad**	**7.15**	**268**	*e*P	**Pn**	**11 10 54.9**	**+0.9**
STRU				*e*S	**Sn**	**11 12 12.7**	**-3.1**
NC204	**NORSAR Array S**	**7.16**	**286**	*e*P	**Pn**	**11

SVKR Smax 11 20 04.4
67μm,0.3s
SVKR Severomuysk 0.15 6⇑iPG Pg 11 20 00.5 +1.4
UKT Uakit 0.48 173⇑iPg Pn 11 20 07.5 -1.0
UKT Pmax 11 20 08.5
1μm,0.2s
UKT eSg **Sb 11 20 15.7 +2.5**
UKT Smax 11 20 16.0
5μm,0.6s
UKT e 11 20 19.3
UKT Uakit 0.48 173 ePG Pn 11 20 07.5 -1.0
YOAB Uoyan, Buryati 1.03 281 ePg Pg 11 20 16.2 +0.8
YOAB Pmax 11 20 16.4
244nm,0.3s
YOAB eSg **Sb 11 20 30.1 +1.2**
YOAB eSb **Sn 11 20 33.5 +3.1**
YOAB max 11 20 34.7
6μm,0.5s
YOAB Uoyan, Buryati 1.03 281 ePG Pg 11 20 16.2 +0.8
KMO Kumora 1.31 268⇓iPg Pb 11 20 21.2 +0.9
KMO Pmax 11 20 21.6
954nm,0.4s
KMO eSg **Sn 11 20 39.2 +1.8**
KMO Smax 11 20 42.3
8μm,1.0s
KMO Kumora 1.31 268 ePN Pb 11 20 21.0 +0.7
NLYR Nelyaty 1.32 66⇓iPg Pn 11 20 19.1 -1.0
57nm,0.5s
NLYR ⇓iPg **Pn 11 20 19.1 -1.0**
76nm,0.5s
NLYR ⇓iPg **Pn 11 20 19.1 -1.0**
483nm,0.5s
NLYR Pmax 11 20 20.0
1μm,0.5s
NLYR eSg **Sb 11 20 35.5 -2.0**
NLYR Smax 11 20 37.3
3μm,0.9s
YLYR Ulyunkhan 1.73 232 ePn Pb 11 20 28.2 +0.7
YLYR ⇓iPg **Pg 11 20 29.1 +0.3**
YLYR Pmax 11 20 29.3
293nm,0.3s
YLYR eSg **Sg 11 20 53.4 +2.1**
YLYR Smax 11 20 56.2
2μm,0.4s
YLYR Ulyunkhan 1.73 232 ePN Pg 11 20 28.5 -0.3
BOD Bodaibo 1.88 8 ePn Pn 11 20 26.8 -0.8
BOD ePg **Pb 11 20 27.7 -2.2**
BOD Pmax 11 20 28.2
252nm,0.3s
BOD eSg **Sn 11 20 50.7 -0.6**
BOD Smax 11 20 52.0
3μm,0.5s
NIZB Nizh Angarsk 2.25 267 ePn Pn 11 20 34.6 +1.8
NIZB ePg **Pb 11 20 38.0 +1.7**
NIZB Pmax 11 20 41.1
280nm,0.6s
NIZB e 11 21 03.5
NIZB eSg **Sg 11 21 08.6 +0.6**
NIZB Smax 11 21 11.5
702nm,0.2s
CRS Chara 2.79 68⇓iPn Pn 11 20 39.9 -0.4
CRS ePg **Pb 11 20 45.5 0.0**
CRS Pmax 11 21 01.8
232nm,1.0s
CRS eSg **Sb 11 21 20.6 +0.8**
CRS Smax 11 21 25.1
570nm,0.7s
SYVR Suvo 3.08 223 ePn Pn 11 20 45.4 +1.2
SYVR ePg **Pg 11 20 54.0 -0.6**
SYVR Pmax 11 21 06.0
82nm,0.4s
SYVR eSg **Sg 11 21 35.1 +0.5**
SYVR Smax 11 21 40.9
609nm,1.0s
VTMR Vitim 3.52 352 ePn Pn 11 20 48.7 -1.5
VTMR ePg **Pb 11 20 57.3 -0.6**
VTMR e 11 21 25.6
VTMR eSg **Sb 11 21 42.0 +1.3**
KHNR Khani 3.71 72 ePn Pn 11 20 52.8 0.0
KHNR ePg **Pb 11 21 01.3 +0.2**
KHNR eSn **Sn 11 21 32.3 -4.2**
KHNR eSg **Sb 11 21 48.4 +2.4**
MXMB Maximikha 3.88 228 ePg Pg 11 21 07.8 -2.1
MXMB e 11 21 15.1
MXMB eSg **Sg 11 21 59.4 -0.7**
CIT Chita 3.95 180 eSg Sg 11 22 02.2 -0.2
CIT Smax 11 22 06.5
719nm,0.4s
TUP Tupik 3.99 110 ePn Pn 11 20 56.6 -0.1
TUP ePg **Pb 11 21 08.3 +2.4**
TUP Pmax 11 21 16.8
78nm,0.5s
TUP e 11 21 39.7
TUP eSg **Sg 11 21 59.9 -3.8**
TUP Smax 11 22 03.7
975nm,0.6s
OGRR Ongureny 4.15 238⇓iPn Pn 11 21 01.0 +2.2
OGRR e 11 21 05.5
OGRR ePg **Pg 11 21 12.5 -2.5**
OGRR e 11 21 16.1
OGRR max 11 21 21.0
108nm,1.0s
OGRR e 11 21 41.6
OGRR eSn **Sn 11 21 47.9 +0.6**
OGRR eSg **Sg 11 22 08.0 -0.6**
OGRR Smax 11 22 13.1
235nm,0.5s
OGRR e 11 22 26.8
GORB Goryachinsk 4.27 228 ePg Pg 11 21 15.4 -2.0
GORB e 11 21 21.6
GORB eSg **Sg 11 22 12.0 -0.7**
KELR Kotokel 4.52 227 ePg Pg 11 21 19.6 -2.6
KELR eSn **Sn 11 21 57.0 +0.5**
KELR eSg **Sg 11 22 19.3 -1.4**
YKLR Yuktali 4.57 79 ePg Pb 11 21 17.9 +2.1
YKLR eSn **Sn 11 21 55.5 -2.2**
YKLR eSg **Sb 11 22 16.1 +5.2**
ZRHB Zarechye 5.06 230 ePg Pg 11 21 29.9 -2.6
ZRHB e 11 21 36.5
ZRHB max 11 21 38.4
130nm,0.4s
ZRHB eSg **Sg 11 22 36.7 -1.3**
ZRHB Smax 11 23 05.0
573nm,0.8s
TRG Tyrgan 5.28 236 ePn Pn 11 21 16.8 +2.3
TRG e 11 21 25.0
TRG ePg **Pg 11 21 33.5 -3.2**
TRG Pmax 11 21 39.4
19nm,0.8s
TRG eSn **Sn 11 22 16.4 +1.1**
TRG eSg **Sg 11 22 42.8 -2.3**
TRG Smax 11 22 58.6
124nm,0.5s
UUDB Ulan-Yde 5.37 223 ePg Pg 11 21 35.2 -3.2
UUDB e 11 21 50.4
UUDB max 11 21 54.9
14nm,0.9s
UUDB eSn **Sn 11 22 18.5 +1.0**
UUDB eSg **Sg 11 22 45.9 -2.0**
UUDB Smax 11 22 51.6
229nm,1.4s
FFNB Fofonovo 5.59 228 ePn Pn 11 21 21.4 +2.7
FFNB ePg **Pg 11 21 38.9 -3.8**
FFNB eSn **Sn 11 22 21.8 -1.2**
FFNB eSg **Sg 11 22 52.5 -2.5**
STDB Stepnoy Dvoret 5.68 231 eSg Sg 11 22 55.9 -1.8
HRMR Khuramsha 5.83 225 ePn Pn 11 21 24.4 +2.4
HRMR ePg **Pg 11 21 43.7 -3.5**
HRMR Pmax 11 21 57.6
40nm,0.5s
HRMR e 11 22 56.8
HRMR eSg **Sg 11 23 00.9 -1.8**
HRMR Smax 11 23 09.5
509nm,0.6s
BGT Bolshoye Golou 6.19 234 ePg Pb 11 21 48.8 +5.5
BGT Pmax 11 21 59.9
10.0nm,0.3s
BGT eSg **Sg 11 23 10.5 -3.6**
BGT Smax 11 23 30.3
92nm,0.7s
KPC Khapcheranga 6.31 187 e Pn 11 21 29.5 +0.9
KPC ePg **Pg 11 21 52.0 -4.3**
KPC Pmax 11 22 13.0
10.0nm,0.6s
KPC eSg **Sg 11 23 15.3 -2.7**
KPC Smax 11 23 20.4
277nm,0.9s
KPC e 11 23 27.2
CLNS Chul'man 6.37 77 ePg Pb 11 21 50.0 +3.6
CLNS e 11 23 01.5
CLNS eSg **Sg 11 23 11.5 -8.4**
LSTR Listvyanka 6.57 235 e Pn 11 21 36.9 +4.8
LSTR e 11 21 50.7
LSTR max 11 22 04.6
11nm,1.3s
LSTR eSg **Sg 11 23 21.7 -4.7**
LSTR Smax 11 23 27.3
126nm,1.7s
IRK Irkutsk 6.60 239 eSg Sg 11 23 22.7 -4.4
IRK Smax 11 23 27.4
218nm,0.5s
IRK Irkutsk 6.60 239 ePG Pb 11 21 55.9 +5.6
IRK e 11 23 23.1
IRK pmax pmax
comp=Z,114nm,0.2s
IRK smax smax
comp=N,215nm,0.5s
HIA Hailar 7.70 148⇑ePN Pn 11 21 50.8 +3.2
HIA pmax pmax
comp=Z,2.0nm,0.3s
ZEA Zeya 8.23 100 ePN Pn 11 21 56.0 +1.2
ZAK Zakamensk 8.31 232 eSg Sg 11 24 16.9 -5.2
ZAK Smax 11 24 49.4
comp=Z,71nm,1.3s
MOY Mondy 8.57 245 e Pn 11 22 06.1 +6.5
MOY max 11 22 15.7
comp=Z,16nm,1.5s
MOY e 11 23 48.9
MOY eSg **Sg 11 24 24.3 -6.1**
MOY Smax 11 24 41.5
comp=Z,110nm,1.3s
MOY e 11 24 54.7
MOY Mondy 8.57 245 ePN Pn 11 22 06.3 +6.7
MOY e 11 22 36.3
MOY eS **Sn 11 23 40.7 +4.4**
MOY e 11 24 25.3
ORL Orlik 8.73 253 ePn Pn 11 22 03.5 +1.7
ORL ePg Pg 11 22 35.9 -6.7
ORL Pmax 11 22 50.2
comp=Z,11nm,1.0s
ORL eSg **Sg 11 24 28.5 -7.1**
ORL Smax 11 24 35.5
comp=Z,90nm,1.5s
ULN Ulaanbaatar 9.04 209deP Pn 11 22 07.5 +1.4
SONM Songino Array 9.25 211 Pn Pn 11 22 15.1 +6.1
comp=Z,0.4nm,0.3s,baz=26,slow=12,SNR=2.1
SONM Lg Lg 11 24 52.1
comp=Z,2.7nm,0.3s,baz=27,slow=28,SNR=14
comp=Z,0.4nm,0.3s
HEH HeiHe 10.11 119 eP Pn 11 22 16.4 -4.2
HEH S **Sn 11 24 08.8 -5.1**
HEH smax smax
comp=N,190nm,0.9s
HEH smax smax
comp=E,140nm,0.7s
KLR Kul'dur 12.94 114 Pn **Pn 11 23 00.5 +1.2**
comp=E,0.3nm,0.3s,baz=311,slow=15,SNR=6.3
KLR Kul'dur 12.94 114⇑iP Pn 11 22 59.5 +0.2
KLR pmax pmax
comp=Z,5.0nm,2.2s
ZALV Zalesovo Beam 16.56 275 Pn **Pn 11 23 47.9 +0.3**
comp=Z,0.1nm,0.3s,baz=71,slow=13,SNR=1.7
ZALV Lg Lg 11 28 37.3
comp=Z,0.1nm,0.3s,baz=70,slow=32,SNR=1.5
comp=Z,0.2nm,0.3s
USA0B Ussuriysk Arra 16.64 127⇑eP Pn 11 23 48.6 0.0
TIXI Tiksi 17.04 17⇑eP Pn 11 23 52.5 -0.9
TIXI pmax pmax
comp=Z,8.0nm,1.5s
PSTR Posyet 17.38 133⇑eP P 11 23 59.2 0.0
NRIK Noril'sk 17.73 329 P **Pn 11 23 58.5 -3.5**
comp=Z,0.4nm,0.3s,baz=125,slow=6.7,SNR=1.3
NRIK S **Sn 11 27 10.9 -8.4**
comp=Z,1.4nm,0.3s,baz=176,slow=6.5,SNR=2.1
NRIK Lg Lg 11 29 07.0
comp=Z,0.2nm,0.3s,baz=48,slow=14,SNR=1.3
comp=Z,1.3nm,0.4s
NRIK Noril'sk 17.73 329⇑eP Pn 11 24 02.7 +0.6
NRIK pmax pmax
comp=Z,11nm,2.3s
SEY Seymchan 20.67 54 P **P 11 24 35.5 +0.5**
comp=Z,1.4nm,0.6s,baz=271,slow=13,SNR=7.2
comp=Z,1.4nm,0.6s
SEY Seymchan 20.67 54⇑eP P 11 24 35.6 +0.5
SEY pmax pmax
comp=Z,7.0nm,2.3s
KURK Kurchatov 21.33 270⇑eP P 11 24 43.8 +1.4
KURK pmax pmax
comp=Z,7.0nm,1.8s
MK31 Makanchi Array 21.38 258⇑eP P 11 24 43.9 +0.9
MKAR Makanchi Array 21.38 258 P **P 11 24 43.7 +0.8**
comp=Z,0.5nm,0.8s,baz=58,slow=9.4,SNR=7.1
MKAR LR LR 11 33 18.3
comp=Z,52nm,18.1s,baz=18,slow=38
comp=Z,0.5nm,0.8s
MKAR Makanchi Array 21.38 258ceP P 11 24 48.4 +5.4
MKAR pmax pmax
comp=Z,2.0nm,0.9s
KURBB Kurchatov Arra 21.43 270 P **P 11 24 44.1 +0.7**
comp=Z,0.5nm,0.3s,baz=65,slow=11,SNR=4.9
comp=Z,0.5nm,0.3s
ERM Erimo 23.70 114⇓eP P 11 25 08.7 +1.5
ERM pmax pmax
comp=Z,14nm,0.9s
BVAR Borovoye Array 24.92 281 P **P 11 25 19.4 +1.0**
comp=Z,0.3nm,0.3s,baz=68,slow=9.2,SNR=2.3
comp=Z,0.3nm,0.3s
BRVK Borovoye 24.97 282⇑eP P 11 25 20.1 +1.3
BRVK pmax pmax
comp=Z,2.0nm,1.0s
AAK Ala-Archa 28.31 259⇑eP P 11 25 51.9 +2.7
AAK pmax pmax
comp=Z,1.0nm,0.9s
FINES FINESS Array B 42.50 315 P **P 11 27 50.5 +0.1**
comp=Z,1.2nm,0.9s,baz=59,slow=8.6,SNR=1.4
comp=Z,1.2nm,0.9s
ILAR Eielson Array 45.01 37 P **P 11 28 10.2 -0.3**
comp=Z,0.3nm,0.8s,baz=311,slow=9.4,SNR=2.6
comp=Z,0.3nm,0.8s
YKA Yellowknife Ar 56.07 25 P P 11 29 32.5 -1.6
comp=Z,0.2nm,0.7s,baz=347,slow=8.2,SNR=2.5
comp=Z,0.2nm,0.7s
ESDC Sonseca Array 71.00 314 P **P 11 31 13.8 +0.7**
comp=Z,0.2nm,0.3s,baz=22,slow=5.5,SNR=1.4
comp=Z,0.2nm,0.3s
WRA Warramunga Arr 77.64 160 P **P 11 31 56.5 +4.8**
comp=Z,0.1nm,0.5s,baz=356,slow=5.9,SNR=1.3
comp=Z,0.1nm,0.5s

IDC 02 11:20:39.0±256.0, 57°.33N×31°.72E, h0km, Error ellipse: s-maj=115.0km s-min=68.5km az=105.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.07**	**99**	I	I	11 39 22.1	
	0.2nm,0.5s,baz=285,slow=324,SNR=2.0						
I37NO	**I37NO**	**13.14**	**339**	I	I	12 44 00.0	
	baz=148,slow=323,SNR=0.7						
I26DE	**FREYUNG INFRAS**	**13.71**	**239**	I	I	12 41 30.0	
	baz=44,slow=335,SNR=1.1						
I48TN	**KESRA INFRASON**	**26.24**	**224**	I	I	14 00 00.0	
	baz=27,slow=326,SNR=1.5						

BJI ***02*** *11:31:52.4, 6°.06S×155°.37E, h66km, mB5.1/16, mb5.0/61, Ms4.9/5, Ms7 4.5/3*

GCMT ***02*** *11:31:55.7±0.3, 6°.45S±0°.02×154°.92E±0°.02, h55km±1km, MW4.9/67, Moment Tensor Solution. s55,c63; s67,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.22±.13; $M_{\theta\theta}$-1.86±.09; $M_{\phi\phi}$-1.36±.09; $M_{r\theta}$-0.56±.08; $M_{\theta\phi}$1.26±.07; M_{rf}0.14±.07; Best double couple: $M_0$3.10900×10^{16} NP1:ϕ_s305.00000°, δ50.00000°, λ85.00000°. Principal axes: T 3.2800, Plg84.0000°, Azm181.0000°; N -0.3410, Plg4.0000°, Azm309.0000°; P -2.9390, Plg5.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***02*** *11:31:56.7±1.6, 6°.27S±0°.07×154°.96E±0°.07, h72km±5km, mb4.9/301 Error ellipse: s-maj=12.1km s-min=8.2km az=218.0*

IDC ***02*** *11:31:57.6±1.4, 6°.30S×154°.92E, h88km±12km, mb4.7/24, mbtmp5.0/28, MS3.7/51, Error ellipse: s-maj=10.1km s-min=9.3km az=114.0*

DJA ***02*** *11:32:10.2±2.1, 7°.5S±5°×15°.5E±°, h190km±18km, M5.3/52, mb5.2/52, mB5.8/16, Mw(mB)5.3/16*

ISC 02 11:31:56.0±0.5, 6°.31S±0°.04×154°.93E±0°.04, h74km±4km, h74km:pP-P, n752, σ0°.95/640, mb5.0/215, 1C-5D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.47**	**307**		**Pn**	**11 32 49.4**	**+1.7**
RABL				Sn	**Sn**	**11 33 30.1**	**+2.4**
I40PG	**Keravat**	**3.53**	**304**	I	I	11 54 40.0	
	76nm,0.3s,baz=122,slow=320,SNR=0.6						
TATA	**Tatamba Isabel**	**5.25**	**113**	P	**Pn**	**11 33 12.1**	**0.0**
SAVO	**Savo Central**	**5.60**	**121**	P	**Pn**	**11 33 18.0**	**+1.2**
HNR	**Honiara**	**5.86**	**122**	Pn	**Pn**	**11 33 20.4**	**+0.1**
HNR				Sn	**Sn**	**11 34 27.6**	**+1.5**
HNR	**Honiara**	**5.86**	**122**	P	**Pn**	**11 33 21.4**	**+1.2**
	463nm,0.9s,baz=258,slow=1.4,SNR=26						
HNR				S	**Sn**	**11 34 28.5**	**+2.5**
	2μm,0.8s,baz=126,slow=22,SNR=15						
HNR				LR	LR	11 35 38.5	
	comp=Z,880nm,21.7s,baz=294,slow=38						
HNR	**Honiara**	**5.86**	**122**	P	**Pn**	**11 33 21.5**	**+1.2**
NGOA	**Tingoa Renbel**	**7.27**	**136**	P	**Pn**	**11 33 40.8**	**+1.2**
PMG	**Port Moresby**	**8.29**	**248**	P	**Pn**	**11 33 54.9**	**+1.3**
	203nm,0.6s,baz=51,slow=8.1,SNR=75						
PMG				S	**Sn**	**11 35 28.5**	**+2.7**
	112nm,0.9s,baz=314,slow=17,SNR=6.6						
MANU	**Manus Island**	**8.65**	**299**	Pn	**Pn**	**11 33 57.6**	**-0.9**
PATS	**Pohnpei**	**13.49**	**15**		**Pn**	**11 35 02.9**	**-1.4**
PATS	**Pohnpei**	**13.49**	**15**	P	**Pn**	**11 35 03.1**	**-1.2**
PATS	**Pohnpei**	**13.49**	**15**	P	**Pn**	**11 35 04.5**	**+0.2**
COEN	**Coen**	**13.84**	**236**		**Pn**	**11 35 10.9**	**+1.9**
COEN	**Coen**	**13.84**	**236**	P	**Pn**	**11 35 10.2**	**+1.2**
	comp=Z,38nm,1.8s						
COEN	**Coen**	**13.84**	**236**	P	**Pn**	**11 35 08.3**	**-0.7**
JAY	**Jayapura**	**14.68**	**284**	P	**Pn**	**11 35 21.1**	**+1.2**
	comp=Z,21nm,1.0s,baz=206,slow=1.9,SNR=2.8						
JAY				LR	LR	11 40 46.5	
	comp=Z,416nm,20.8s,baz=74,slow=36						
MTSU	**Mount Surprise**	**15.67**	**220**	P	**Pn**	**11 35 32.4**	**-0.2**
INH	**Isangel**	**19.17**	**135**	P	**P**	**11 36 14.2**	**+0.4**
DZM	**Mont Dzumac**	**19.22**	**146**		**P**	**11 36 15.3**	**+0.9**
DZM				IAmb	IAmb	11 36 16.8	
	comp=Z,88nm,0.7s						
DZM	**Mont Dzumac**	**19.22**	**146**	eP	**P**	**11 36 13.6**	**-0.8**
	comp=Z,212nm,0.9s						
DZM				eS	**S**	**11 39 41.3**	**-7.2**
	comp=Z,322nm,26.4s						
DZM				eLR	LR	11 40 51.8	
	comp=Z,740nm,26.6s						
DZM	**Mont Dzumac**	**19.22**	**146**	P	**P**	**11 36 15.4**	**+1.0**
	comp=Z,66nm,0.5s,baz=268,slow=9.7,SNR=74						
DZM				LR	LR	11 42 36.6	
	comp=Z,376nm,19.5s,baz=268,slow=33						
DZM	**Mont Dzumac**	**19.22**	**146**	P	**P**	**11 36 15.1**	**+0.7**
EIDS	**Eidsvold**	**19.31**	**191**	P	**P**	**11 36 16.9**	**+1.7**
EIDS	**Eidsvold**	**19.31**	**191**	P	**P**	**11 36 16.2**	**+0.9**
ONTNC	**Ouen Toro**	**19.41**	**146**		**P**	**11 36 17.1**	**+0.8**
YATNC	**Mamie plateau,**	**19.46**	**145**	P	**P**	**11 36 17.8**	**+0.9**
OUENC	**Ouen Island, N**	**19.71**	**146**	P	**P**	**11 36 20.5**	**+0.8**
PINNC	**Pines Island,**	**20.21**	**145**		**P**	**11 36 25.5**	**+0.5**
PINNC				IAmb	IAmb	11 36 27.3	
	comp=Z,63nm,0.9s						
QIS	**Mount Isa**	**20.54**	**225**	P	**P**	**11 36 29.3**	**+0.6**
	comp=Z,24nm,0.6s						
QIS	**Mount Isa**	**20.54**	**225**	P	**P**	**11 36 29.0**	**+0.3**
GUMO	**Guam**	**22.15**	**333**	LR	LR	11 44 41.7	
	comp=Z,79nm,20.9s,baz=160,slow=34						
QLP	**Quilpie**	**22.59**	**206**	P	**P**	**11 36 50.7**	**+0.1**
	comp=Z,84nm,0.7s						
QLP	**Quilpie**	**22.59**	**206**	P	**P**	**11 36 51.0**	**+0.3**
FAKI	**Fak Fak**	**22.86**	**277**	P	**P**	**11 36 53.1**	**-0.4**
FAKI				IAmb	IAmb	11 36 58.4	
	comp=Z,69nm,1.1s						
FAKI	**Fak Fak**	**22.86**	**277**	P	**P**	**11 36 53.2**	**-0.4**
	comp=Z,60nm,0.9s						
KDU	**Kakadu**	**23.03**	**252**	P	**P**	**11 36 54.9**	**-0.3**
	comp=Z,41nm,1.3s						
KDU	**Kakadu**	**23.03**	**252**	P	**P**	**11 36 54.4**	**-0.8**
WR0	**Warramunga Arr**	**24.01**	**234**	P	**P**	**11 37 04.8**	**+0.6**
WB0	**Warramunga Arr**	**24.03**	**234**	P	**P**	**11 37 04.8**	**+0.5**
WR8	**Warramunga Arr**	**24.04**	**234**	P	**P**	**11 37 05.2**	**+0.7**
WRAB	**Tennant Creek**	**24.15**	**234**	P	**P**	**11 37 06.0**	**+0.5**
WB2	**Warramunga Arr**	**24.15**	**234**	P	**P**	**11 37 06.1**	**+0.6**
WRA	**Warramunga Arr**	**24.16**	**234**	P	**P**	**11 37 05.1**	**-0.5**
WRA	**Warramunga Arr**	**24.16**	**234**	P	**P**	**11 37 05.8**	**+0.2**
	comp=Z,40nm,0.6s,baz=57,slow=9.6,SNR=204						
WRA				PcP	**PcP**	**11 40 45.1**	**+0.2**
	comp=Z,3.5nm,0.3s,baz=55,slow=2.4,SNR=14						
WRA				S	**S**	**11 41 18.9**	**+0.2**
	comp=Z,9.3nm,1.2s,baz=58,slow=16,SNR=6.6						
WRA				ScP	**ScP**	**11 44 15.8**	**-1.4**
	comp=Z,1.1nm,1.2s,baz=67,slow=2.7,SNR=2.4						
WRA				LR	LR	11 46 11.6	
	comp=Z,353nm,20.8s,baz=152,slow=35						
	comp=Z,40nm,0.6s						
ARMA	**Armidale**	**24.18**	**187**	P	**P**	**11 37 06.5**	**+0.7**
ARMA				IAmb	IAmb	11 37 07.6	
	comp=Z,36nm,0.8s						
ARMA	**Armidale**	**24.18**	**187**	P	**P**	**11 37 06.3**	**+0.6**
	comp=Z,46nm,1.3s						
ARMA	**Armidale**	**24.18**	**187**	P	**P**	**11 37 06.5**	**+0.7**
MTN	**Manton Dam**	**24.34**	**253**	P	**P**	**11 37 07.7**	**+0.6**
MTN				IAmb	IAmb	11 37 09.2	
	comp=Z,47nm,0.8s						
MTN	**Manton Dam**	**24.34**	**253**	P	**P**	**11 37 07.6**	**+0.4**
	comp=Z,78nm,1.1s						
INKA	**Innaminka**	**25.22**	**211**	P	**P**	**11 37 15.2**	**+0.2**
MSVF	**Nonsavu**	**25.26**	**119**	P	**P**	**11 37 15.2**	**-0.5**
MSVF	**Nonsavu**	**25.26**	**119**	LR	LR	11 46 20.7	
	comp=Z,278nm,21.1s,baz=348,slow=34						
MSVF	**Nonsavu**	**25.26**	**119**	P	**P**	**11 37 16.9**	**+1.2**
CMSA	**Cobar Meteorol**	**26.55**	**198**	P	**P**	**11 37 27.1**	**0.0**
	comp=Z,19nm,1.1s						
CMSA	**Cobar Meteorol**	**26.55**	**198**	P	**P**	**11 37 27.2**	**+0.1**
AS01	**Alice Springs**	**26.55**	**227**	P	**P**	**11 37 27.5**	**+0.3**
AS31	**Alice Springs**	**26.58**	**227**	P	**P**	**11 37 27.8**	**+0.3**
AS31	**Alice Springs**	**26.58**	**227**	P	**P**	**11 37 27.8**	**+0.3**
	comp=Z,8.6nm,0.6s						
ASAR	**Alice Springs**	**26.59**	**227**	P	**P**	**11 37 27.7**	**+0.1**
	comp=Z,14nm,0.7s,baz=58,slow=8.6,SNR=167						
ASAR				PcP	**PcP**	**11 40 50.6**	**+0.3**
	comp=Z,4.5nm,0.6s,baz=55,slow=2.3,SNR=12						
ASAR				S	**S**	**11 41 55.8**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=56,slow=16,SNR=2.1						
ASAR				ScP	**ScP**	**11 44 22.7**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=61,slow=3.2,SNR=1.7						
ASAR				LR	LR	11 47 13.7	
	comp=Z,343nm,21.9s,baz=95,slow=34						
	comp=Z,14nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**27.24**	**25**	T	T	12 05 38.0	
	baz=206,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**27.24**	**25**	T	T	12 05 43.2	
	baz=206,slow=76,SNR=41						
H11S1	**WAKE ISLAND Hy**	**27.25**	**25**	T	T	12 05 39.3	
	baz=206,slow=76,SNR=31						
KNRA	**Kununurra**	**27.29**	**248**	P	**P**	**11 37 33.7**	**-0.2**
KNRA	**Kununurra**	**27.29**	**248**	P	**P**	**11 37 34.0**	**0.0**
	comp=Z,20nm,0.7s						
SYDH	**Sydney Hard Ro**	**27.59**	**188**	P	**P**	**11 37 37.1**	**+0.7**
OOD	**Oodnadatta**	**28.11**	**218**	P	**P**	**11 37 41.2**	**+0.1**
STKA	**Stephens Creek**	**28.33**	**204**	P	**P**	**11 37 42.7**	**-0.3**
STKA				IAmb	IAmb	11 37 44.6	
	comp=Z,28nm,0.8s						
STKA	**Stephens Creek**	**28.33**	**204**	P	**P**	**11 37 42.9**	**-0.2**
	comp=Z,40nm,0.7s						
STKA	**Stephens Creek**	**28.33**	**204**	P	**P**	**11 37 42.9**	**-0.2**
	comp=Z,6.5nm,0.7s,baz=28,slow=13,SNR=16						
STKA				LR	LR	11 48 41.8	
	comp=Z,335nm,21.6s,baz=29,slow=35						
	comp=Z,6.5nm,0.7s						
STKA	**Stephens Creek**	**28.33**	**204**	P	**P**	**11 37 42.8**	**-0.2**
H11N1	**WAKE ISLAND Hy**	**28.41**	**24**	T	T	12 07 15.1	
	baz=205,slow=76,SNR=10						

H11N3 **WAKE ISLAND Hy** 28.42 24 T T 12 07 11.2
baz=205,slow=76,SNR=13
H11N2 **WAKE ISLAND Hy** 28.43 24 T T 12 07 38.9
baz=205,slow=76,SNR=22
LCRK **Leigh Creek** 28.70 211 P **P** 11 37 45.9 -0.4
SANI **Sanana** 29.17 277 P **P** 11 37 50.8 +0.1
SANI **Sanana** 29.17 277 P **P** 11 37 50.5 -0.2
comp=Z,51nm,0.8s
SOEI **Soe** 30.55 262 P **P** 11 38 01.9 -1.2
SOEI IAmb IAmb 11 38 16.6
comp=Z,27nm,0.8s
SOEI **Soe** 30.55 262 P **P** 11 38 03.2 +0.2
comp=Z,42nm,1.1s
HTT **Hallett** 30.81 207 P **P** 11 38 05.0 0.0
FITZ **Fitzroy Crossi** 30.88 245 P **P** 11 38 05.7 0.0
FITZ **Fitzroy Crossi** 30.88 245 LR LR 11 51 26.3
comp=Z,323nm,18.6s,baz=84,slow=38
WRKA **Warakurna** 31.58 231 P **P** 11 38 11.4 -0.5
comp=Z,50nm,0.9s
WRKA **Warakurna** 31.58 231 P **P** 11 38 11.7 -0.2
KMSI **Cibinong** 31.64 281 P **P** 11 38 13.3 +0.8
BBOO **Buckleboo** 31.69 211 P **P** 11 38 12.3 -0.4
BBOO IAmb IAmb 11 38 21.9
comp=Z,16nm,0.5s
BBOO **Buckleboo** 31.69 211 P **P** 11 38 12.5 -0.2
DAV **Davao City (W)** 32.16 294 P **P** 11 38 17.4 +0.3
comp=Z,118nm,0.5s,baz=35,slow=4.3,SNR=1.6
DAV LR LR 11 52 17.6
comp=Z,32nm,18.2s,baz=44,slow=38
TOO **Toolangi** 32.29 194 P **P** 11 38 18.4 +0.5
MMRI **Maumere** 32.49 264 P **P** 11 38 19.6 -0.4
MMRI **Maumere** 32.49 264 P **P** 11 38 20.0 0.0
comp=Z,2µmcomp=Z,174nm,1.1s
LUWI **Luwuk** 32.51 278 P **P** 11 38 20.4 +0.3
LUWI **Luwuk** 32.51 278 P **P** 11 38 21.0 +0.9
comp=Z,7µmcomp=Z,90nm,1.1s
ARPS **Mount Arapiles** 32.60 200 P **P** 11 38 21.0 +0.3
comp=Z,51nm,0.9s
ARPS **Mount Arapiles** 32.60 200 P **P** 11 38 20.9 +0.3
EDFI **Ende, Flores** 33.04 264 P **P** 11 38 24.0 -0.9
comp=Z,785nmcomp=Z,107nm,0.9s
OUZ **Omahuta** 33.52 152 P **P** 11 38 29.6 +1.0
OUZ **Omahuta** 33.52 152 P **P** 11 38 29.9 +1.3
MRSI **Marisa** 33.61 280 P **P** 11 38 29.8 0.0
comp=Z,30nm,0.6s
BSSI **Bau Bau, Buton** 34.24 268 P **P** 11 38 35.5 +0.3
comp=Z,68nm,1.2s
WSI **Waingapu** 34.45 262 P **P** 11 38 37.0 0.0
WCZ **Waipu Caves** 34.45 152 P **P** 11 38 37.7 +0.9
TOLI2 **Tolitoli** 34.88 281 P **P** 11 38 39.9 -0.8
TOLI2 **Tolitoli** 34.88 281 P **P** 11 38 40.1 -0.6
KAPI **Kappang** 35.03 270 LR LR 11 56 21.3
comp=Z,51nm,18.7s,baz=94,slow=42
FORT **Forrest** 35.05 223 P **P** 11 38 41.9 -0.1
FORT **Forrest** 35.05 223 P **P** 11 38 41.7 -0.2
comp=Z,60nm,0.9s
FORT **Forrest** 35.05 223 P **P** 11 38 42.0 +0.1
GLAD **Gladstone** 35.08 189 P **P** 11 38 42.5 +0.5
WBSI **Waikabubak, Su** 35.34 262 P **P** 11 38 44.4 -0.4
comp=Z,104nm,0.8s
PCI **Palu** 35.42 277 P **P** 11 38 46.9 +1.5
comp=Z,62nm,0.8s
JCJ **Chichijima** 35.43 340 LR LR 11 50 23.5
comp=Z,118nm,21.9s,baz=308,slow=31
KUZ **Kuaotunu** 35.76 151 P **P** 11 38 49.2 +1.2
KUZ **Kuaotunu** 35.76 151 P **P** 11 38 48.6 +0.7
TOZ **Tahuroa Road** 36.45 152 P **P** 11 38 55.0 +1.2
TOZ **Tahuroa Road** 36.45 152 P **P** 11 38 55.0 +1.2
MOO **Moorlands** 36.63 190 P **P** 11 38 56.0 +0.7
HIZ **Hauiti** 36.79 153 P **P** 11 38 57.3 +0.6
PLAI **Plampang** 36.91 264 P **P** 11 38 57.5 -0.6
PLAI **Plampang** 36.91 264 P **P** 11 38 56.7 -1.4
comp=Z,1µmcomp=Z,163nm,0.7s
TAU **Tasmania Unive** 37.07 189 P **P** 11 39 00.1 +1.1
TAU **Tasmania Unive** 37.07 189 P **P** 11 38 59.9 +0.9
TAU **Tasmania Unive** 37.07 189 P **P** 11 39 00.5 +1.5
MBWA **Marble Bar** 37.13 243 P **P** 11 38 59.5 -0.4
MBWA IAmb IAmb 11 39 00.2
comp=Z,22nm,0.8s
MBWA **Marble Bar** 37.13 243 P **P** 11 38 59.3 -0.6
comp=Z,30nm,0.7s
MBWA **Marble Bar** 37.13 243 P **P** 11 38 59.6 -0.2
MBWA **Marble Bar** 37.13 243 P **P** 11 38 59.3 -0.6
MBWA PcP **PcP** 11 41 18.9 0.0
PSA00 **Pilbara Seismi** 37.16 242 P **P** 11 38 59.0 -1.1
PSA00 IAmb IAmb 11 39 00.5
comp=Z,13nm,0.9s
PSA00 **PcP** 11 41 19.2 +0.1
PSA00 **Pilbara Seismi** 37.16 242 P **P** 11 38 59.8 -0.3
comp=Z,33nm,1.3s
PSA00 **Pilbara Seismi** 37.16 242 P **P** 11 39 00.0 -0.1
HAZ **Te Kaha** 37.57 150 P **P** 11 39 04.3 +1.0
URZ **Urewera** 37.63 151 LR LR 11 54 00.8
comp=Z,137nm,18.0s,baz=48,slow=35
URZ **Urewera** 37.63 151 P **P** 11 39 04.8 +0.9
URZ **Urewera** 37.63 151 P **P** 11 39 04.6 +0.8
MXZ **Matakaoa Point** 37.69 149 P **P** 11 39 05.6 +1.2
MXZ **Matakaoa Point** 37.69 149 P **P** 11 39 05.4 +1.1
MXZ **Matakaoa Point** 37.69 149 P **P** 11 39 04.9 +0.6
TWSI **Taliwang, Sumb** 37.79 264 P **P** 11 39 03.9 -1.6
comp=Z,31nm,0.7s
QRZ **Quartz Range** 37.80 158 P **P** 11 39 05.9 +0.6
RTZ **Ruatahuna** 37.85 151 P **P** 11 39 06.5 +0.7
RTZ **Ruatahuna** 37.85 151 P **P** 11 39 06.5 +0.7
MWZ **Matawai** 37.89 151 P **P** 11 39 06.9 +0.8
PUZ **Puketiti** 38.05 150 P **P** 11 39 07.5 +0.1
BKZ **Black Stump Fm** 38.06 152 P **P** 11 39 07.3 -0.2
BKZ **Black Stump Fm** 38.06 152 P **P** 11 39 08.5 +0.9
BKZ **Black Stump Fm** 38.06 152 P **P** 11 39 07.8 +0.3
MYLDM **Lahad Datu** 38.12 287 P **P** 11 39 09.4 +1.1
MRNZ **Matariki Terra** 38.39 158 P **P** 11 39 10.5 +0.3
NNZ **Nelson** 38.46 157 P **P** 11 39 12.3 +1.5
KNZ **Kokohu** 38.50 151 P **P** 11 39 11.2 +0.1
TSZ **Takapari Road** 38.55 154 P **P** 11 39 11.7 +0.1
THZ **Tophouse** 38.76 158 P **P** 11 39 13.6 +0.3
THZ **Tophouse** 38.76 158 P **P** 11 39 13.4 +0.1
TCW **Tory Channel** 38.80 156 P **P** 11 39 14.5 +0.8
MRZ **Mangatainoka R** 38.88 155 P **P** 11 39 14.2 -0.1
MRZ **Mangatainoka R** 38.88 155 P **P** 11 39 13.9 -0.4
PXZ **Pawanui** 38.93 153 P **P** 11 39 14.9 +0.2
SNZO **South Karori** 39.06 156 P **P** 11 39 16.8 +1.0
BSWZ **Blackbirch Sta** 39.08 157 P **P** 11 39 15.6 -0.4
INZ **Inchbonnie** 39.10 161 P **P** 11 39 17.2 +1.2
WVZ **Waitaha Valley** 39.18 162 P **P** 11 39 17.8 +1.0
TGY **Tagaytay City** 39.36 301 LR LR 11 53 27.3
comp=Z,66nm,20.2s,baz=228,slow=33
LTZ **Lake Taylor** 39.43 160 P **P** 11 39 18.6 -0.3
JCZ **Jackson Bay** 39.53 164 P **P** 11 39 20.3 +0.5
JCZ **Jackson Bay** 39.53 164 P **P** 11 39 21.3 +1.5
KHZ **Kahutara** 39.56 158 P **P** 11 39 20.5 +0.6
KHZ **Kahutara** 39.56 158 P **P** 11 39 19.6 -0.3
KMBL **Kambalda** 39.72 227 P **P** 11 39 21.4 -0.1
comp=Z,39nm,0.6s
KMBL **Kambalda** 39.72 227 P **P** 11 39 21.7 +0.2
OXZ **Oxford** 39.83 160 P **P** 11 39 21.2 -1.0
OXZ **Oxford** 39.83 160 P **P** 11 39 21.9 -0.3
GVZ **Greta Valley S** 39.86 159 P **P** 11 39 21.8 -0.6
RPZ **Rata Peaks** 39.86 162 P **P** 11 39 22.8 +0.3
RPZ IAmb IAmb 11 39 25.6
comp=Z,25nm,1.0s
RPZ **Rata Peaks** 39.86 162 P **P** 11 39 22.9 +0.4
RPZ **Rata Peaks** 39.86 162 P **P** 11 39 23.4 +0.9
MSZ **Milford Sound** 39.87 166 P **P** 11 39 23.6 +1.2
MEEK **Meekatharra** 40.05 235 P **P** 11 39 24.0 -0.3
comp=Z,59nm,0.7s
MEEK **Meekatharra** 40.05 235 P **P** 11 39 24.2 -0.1
LBZ **Lake Benmore** 40.21 163 P **P** 11 39 25.3 -0.1
WKZ **Wanaka** 40.29 164 P **P** 11 39 25.7 -0.3
MQZ **McQueen's Vall** 40.38 160 P **P** 11 39 27.5 +0.8
TMZ **Timaru** 40.45 162 P **P** 11 39 26.5 -0.9
JAGI **Jajag, Banyuwa** 40.49 264 P **P** 11 39 26.3 -1.8
KKM **Kota Kinabalu** 40.55 287 P **P** 11 39 29.0 +0.4
KKM **Kota Kinabalu** 40.55 287 P **P** 11 39 28.8 +0.2
MLZ **Mavora Lakes** 40.56 166 P **P** 11 39 28.0 -0.2
EAZ **Earnscleugh** 40.74 164 P **P** 11 39 29.4 -0.3
ODZ **Otahua Downs** 40.94 163 P **P** 11 39 32.2 +0.8
ODZ **Otahua Downs** 40.94 163 P **P** 11 39 30.7 -0.6
WHZ **Wether Hill Ro** 41.02 166 P **P** 11 39 31.2 -0.7
TUZ **Tuapeka** 41.50 165 P **P** 11 39 35.8 0.0
JOW **Kunigami** 41.86 323 LR LR 11 54 38.2
comp=Z,67nm,18.7s,baz=184,slow=32
JOW **Kunigami** 41.86 323 P **P** 11 39 39.4 +0.3
APZ **The Paps** 41.91 167 P **P** 11 39 39.3 0.0

KLBR **Kellerberrin** 42.88 229 P **P** 11 39 46.9 -0.5
comp=Z,149nm,0.8s
KLBR **Kellerberrin** 42.88 229 P **P** 11 39 47.0 -0.4
MORW **Morawa** 43.11 234 P **P** 11 39 48.5 -0.8
MORW IAmb IAmb 11 39 49.8
comp=Z,21nm,0.8s
MORW **Morawa** 43.11 234 P **P** 11 39 48.8 -0.5
comp=Z,32nm,0.9s
BLDU **Ballidu** 43.24 231 P **P** 11 39 49.8 -0.5
PCJI **Pacitan** 43.43 265 P **P** 11 39 51.8 -0.3
comp=Z,131nm,1.3s
NWAO **Narrogin (SRO)** 43.90 228 P **P** 11 39 55.5 -0.1
NWAO IAmb IAmb 11 39 56.0
comp=Z,21nm,0.9s
NWAO **Narrogin (SRO)** 43.90 228 LR LR 11 57 55.2
comp=Z,239nm,21.1s,baz=110,slow=36
NWAO **Narrogin (SRO)** 43.90 228 P **P** 11 39 55.6 0.0
NWAO **Narrogin (SRO)** 43.90 228 P **P** 11 39 55.1 -0.5
UGM **Wanagama** 44.08 265 P **P** 11 39 57.2 -0.1
YULB **Yu-li** 44.17 313 P **P** 11 39 58.0 +0.1
YULB IAmb IAmb 11 39 59.6
comp=Z,19nm,0.7s
YULB **Yu-li** 44.17 313 P **P** 11 39 57.4 -0.4
SMRI **Semarang** 44.19 266 P **P** 11 39 57.9 -0.2
MUN **Mundaring** 44.23 230 P **P** 11 39 57.9 -0.3
comp=Z,30nm,0.9s
MUN **Mundaring** 44.23 230 P **P** 11 39 58.3 +0.1
NACB **Ninganchiao** 44.44 314 P **P** 11 39 59.5 -0.4
NACB IAmb IAmb 11 40 04.4
comp=Z,34nm,1.0s
NACB **Ninganchiao** 44.44 314 P **P** 11 39 59.7 -0.2
TPUB **Ta-pu** 44.60 312 P **P** 11 40 01.0 -0.3
TPUB **Ta-pu** 44.60 312 P **P** 11 40 00.8 -0.5
SSLB **Suanglung** 44.66 313 P **P** 11 40 01.2 -0.6
SSLB **Suanglung** 44.66 313 P **P** 11 40 01.6 -0.2
CTZ **Chatham Island** 44.87 151 P **P** 11 40 04.0 +1.0
CTZ **Chatham Island** 44.87 151 P **P** 11 40 04.3 +1.2
YHNB **Yeheng** 44.90 315 P **P** 11 40 04.2 +0.5
YHNB **Yeheng** 44.90 315 P **P** 11 40 03.6 -0.1
KSM **Kuching** 45.22 278 P **P** 11 40 06.4 +0.1
JNU **Nakatsue** 45.38 331 P **P** 11 40 06.9 -0.4
JNU **Nakatsue** 45.38 331 LR LR 11 57 06.4
comp=Z,71nm,19.7s,baz=121,slow=33
JNU **Nakatsue** 45.38 331 P **P** 11 40 07.0 -0.4
MJAR **Matsushiro Arr** 45.42 341 P **P** 11 40 07.8 +0.3
comp=Z,1.3nm,0.5s,baz=164,slow=11,SNR=4.7
MJAR LR LR 11 58 03.8
comp=Z,28nm,21.1s,baz=164,slow=34
comp=Z,1.3nm,0.5s
MAJO **Matsushiro** 45.42 341 P **P** 11 40 07.0 -0.6
MJB9 **Matsu-Tunnel** 45.42 341 P **P** 11 40 07.7 +0.1
CMJI **Cimerak** 46.14 265 P **P** 11 40 12.5 -1.1
comp=Z,122nm,0.8s
BBJI **Bungbulang** 46.94 266 P **P** 11 40 19.2 -0.8
LEM **Lembang** 46.99 267 P **P** 11 40 20.9 +0.4
comp=Z,64nm,0.7s,baz=66,slow=8.1,SNR=13
comp=Z,64nm,0.7s
CNJI **Cibinong** 47.46 266 P **P** 11 40 22.9 -1.0
comp=Z,835nmcomp=Z,91nm,1.0s
CGJI **Cibinong** 48.91 267 P **P** 11 40 33.6 -1.5
comp=Z,1µmcomp=Z,113nm,1.1s
DLV **Lat** 49.62 291 P **P** 11 40 41.2 +0.5
KSRS **Korea Array** 50.31 332 P **P** 11 40 45.2 -0.1
comp=Z,4.6nm,0.6s,baz=147,slow=7.9,SNR=22
KSRS LR LR 12 01 45.7
comp=Z,25nm,18.5s,baz=130,slow=36
comp=Z,4.6nm,0.6s
KSAR **Wonju Array Be** 50.32 332 P **P** 11 40 44.1 -1.3
KS19 **Wonju Array Si** 50.37 332 P **P** 11 40 45.0 -0.8
MDSI **Maura Dua** 50.55 269 P **P** 11 40 45.9 -1.6
comp=Z,27nm,1.2s
INCN **Inchon** 50.94 331 P **P** 11 40 50.1 0.0
QIZ **Qiongzhong** 51.06 301 P **P** 11 40 52.4 +1.1
NJ2 **Nanjing** 51.35 320 *e*P **P** 11 40 55.2 +2.0
NJ2 pmax pmax
comp=Z,21nm,0.5s
JKA **Kamikawa-asahi** 51.41 349 P **P** 11 40 54.8 +1.3
JKA IAmb IAmb 11 40 57.9
comp=Z,13nm,0.7s
ASAJ **Asahikawa** 51.41 349 LR LR 12 01 41.7
comp=Z,72nm,19.9s,baz=172,slow=35
MYKOM **Kota Tinggi** 51.63 277 P **P** 11 40 55.7 +0.1
MNAI **Manna** 51.77 269 P **P** 11 40 56.4 -0.4
WHN **Wuhan** 53.41 316 ⇑P **P** 11 41 10.0 +1.5
WHN pmax pmax
comp=Z,40nm,0.9s
GULI **GuiLin** 53.51 308 P **P** 11 41 11.4 +2.1
YSS **Yuzhno-Sakhali** 54.12 350 P **P** 11 41 14.0 +0.7
YSS IAmb IAmb 11 41 16.5
comp=Z,12nm,0.7s
BKNI **Bangkinang** 54.19 275 P **P** 11 41 14.3 -0.3
USRK **Ussuriysk Ar.** 54.37 340 P **P** 11 41 15.7 +0.4
comp=Z,4.4nm,0.7s,baz=182,slow=9.1,SNR=6.8
USRK LR LR 12 01 05.7
comp=Z,42nm,21.6s,baz=167,slow=32
comp=Z,4.4nm,0.7s
DL2 **Dalian** 54.55 328 P **P** 11 41 16.6 -0.1
DL2 pmax pmax
comp=Z,32nm,0.8s
PPI **Padang Panjang** 54.72 274 P **P** 11 41 17.3 -1.1
TIA **Tai'an** 55.19 323 P **P** 11 41 20.3 -1.0
TIA pP **pP** 11 41 39.6 -0.5
TIA sP **sP** 11 41 46.8 -1.5
TIA ScP **ScP** 11 46 12.6 -1.4
TIA pmax pmax
comp=Z,13nm,0.6s
TIA LR LR
comp=Z,140nm,4.7s
TIA LR LR
comp=Z,110nm,5.7s
TIA LR LR
comp=Z,120nm,4.8s
PPT **Papeete** 55.25 107 LR LR 12 03 17.8
comp=Z,36nm,18.1s,baz=260,slow=34
PPT2 **Papeete2** 55.25 107 *e*LR LR 11 57 26.5
comp=Z,82nm,23.5s
PPT2 *e*LR LR 11 57 28.4
comp=Z,95nm,44.5s
KULM **Kulim** 55.40 281 P **P** 11 41 23.2 0.0
KULM IAmb IAmb 11 41 28.0
comp=Z,11nm,0.8s
KULM **Kulim** 55.40 281 P **P** 11 41 22.9 -0.4
MNSI **Mandailing Nat** 55.70 275 P **P** 11 41 24.5 -0.9
comp=Z,64nm,0.8s
SISI **Saibi** 55.91 273 P **P** 11 41 25.7 -1.3
comp=Z,65nm,0.9s
TBI **Tubuai** 56.01 114 *e*LR LR 11 57 43.1
comp=Z,1µm,29.5s
CN2 **Changchun** 56.55 335 *e*P **P** 11 41 29.0 -1.9
CN2 pmax pmax
comp=Z,10.0nm,0.5s
RPSI **Rantau Prapat** 56.63 277 P **P** 11 41 31.4 -0.7
RPSI **Rantau Prapat** 56.63 277 P **P** 11 41 31.0 -1.1
RPSI IAmb IAmb 11 41 32.0
comp=Z,6.8nm,0.7s
PSI **Prapat** 56.65 278 P **P** 11 41 31.4 -1.0
comp=Z,5.3nm,0.5s,baz=169,slow=13,SNR=7.6
comp=Z,5.3nm,0.5s
LYN **LuoYang** 57.07 318 P **P** 11 41 35.4 +0.6
LYN pmax pmax
comp=Z,21nm,0.7s
SLVN **Son La** 57.09 300 P **P** 11 41 35.9 +0.6
SLVN IAmb IAmb 11 41 37.2
comp=Z,11nm,0.9s
BNX **BinXian** 57.36 337 ⇓P **P** 11 41 36.2 -0.4
BNX pmax pmax
comp=Z,11nm,1.0s
HNS **HongShan** 57.42 322 ⇓P **P** 11 41 36.6 -0.6
HNS pmax pmax
comp=Z,10.0nm,1.3s
GSI **Gunungsitoli** 57.75 276 P **P** 11 41 40.6 +0.6
GSI **Gunungsitoli** 57.75 276 P **P** 11 41 38.1 -1.9
comp=Z,6µmcomp=Z,52nm,0.8s
KLR **Kul'dur** 58.90 342 LR LR 12 05 30.9
comp=Z,28nm,21.8s,baz=166,slow=34
XAN **Xi'an** 59.17 316 ⇓P **P** 11 41 49.4 -0.2
XAN pmax pmax
comp=Z,31nm,0.7s
XAN **Xi'an** 59.17 316 P **P** 11 41 49.1 -0.4
PET **Petropavlovsk** 59.19 3 P **P** 11 41 49.8 +0.6
PET **Petropavlovsk** 59.19 3 P **P** 11 41 51.1 +1.9
PETK **Petropavlovsk-** 59.24 2 P **P** 11 41 50.5 +1.0
PETK **Petropavlovsk-** 59.24 2 P **P** 11 41 50.0 +0.5
comp=Z,33nm,0.7s,baz=157,slow=6.1,SNR=54
PETK LR LR 12 03 26.8

comp=Z,74nm,21.8s,baz=174,slow=32
comp=Z,33nm,0.7s
KMI **Kunming** 59.59 304 P **P** 11 41 53.8 +1.0
KMI pmax pmax
comp=Z,17nm,0.6s
CM31 **Chiang Mai Arr** 60.44 295 P **P** 11 41 59.6 +1.2
CMAR **Chiang Mai Arr** 60.44 295 P **P** 11 41 59.5 +1.0
CMAR **Chiang Mai Arr** 60.44 295 P **P** 11 41 59.6 +1.1
comp=Z,41nm,0.7s,baz=121,slow=5.2,SNR=218
CMAR LR LR 12 06 54.3
comp=Z,21nm,21.1s,baz=115,slow=35
comp=Z,41nm,0.7s
CHTO **Chiang Mai** 60.55 296 P **P** 11 41 59.8 +0.6
CHTO **Chiang Mai** 60.55 296 P **P** 11 41 59.5 +0.3
CHTO **Chiang Mai** 60.55 296 P **P** 11 41 59.9 +0.6
CHTO PcP **PcP** 11 42 44.2 +1.0
PZH **PanZhiHua** 60.97 305 P **P** 11 42 05.6 +3.5
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.3s
SHEM **Shemya Is, Ala** 61.03 13 LR LR 12 04 19.7
comp=Z,206nm,20.7s,baz=318,slow=32
XLT **XiLinHaoTe** 61.04 329 *e*P **P** 11 42 01.8 -0.4
XLT pP pP 11 42 20.0 -1.3
XLT PcS **PcS** 11 46 45.0 -2.5
XLT pmax pmax
comp=Z,39nm,0.7s
XLT pmax pmax
comp=Z,130nm,7.8s
DRV **Dumont d'Urvil** 61.14 187 P **P** 11 42 02.6 +0.3
HEH **HeiHe** 61.17 340 *e*P **P** 11 42 01.9 -0.9
HEH PcP **PcP** 11 42 43.8 -1.1
HEH pmax pmax
comp=Z,10.0nm,0.7s
CD2 **Chengdu** 61.33 310 P **P** 11 42 04.6 +0.3
CD2 pmax pmax
comp=Z,20nm,0.5s
HHC **Hu-ho-hao-te** 61.51 324 *e*P **P** 11 42 08.6 +3.2
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,76nm,5.9s
HIA **Hailar** 63.28 335 P **P** 11 42 16.8 -0.1
LZH **Lanzhou** 63.79 315 *e*P **P** 11 42 21.6 +0.8
LZH pP pP 11 42 36.6 -3.3
LZH pmax pmax
comp=Z,24nm,1.0s
TAOE **Nuku Hiva Isla** 64.33 97 *e*LR LR 12 01 40.9
comp=Z,69nm,22.2s
MA2 **Magadan** 65.76 358 P **P** 11 42 33.0 +0.1
MA2 **Magadan** 65.76 358 LR LR 12 08 45.4
comp=Z,27nm,21.9s,baz=149,slow=34
MA2 **Magadan** 65.76 358 P **P** 11 42 32.9 0.0
CASY **Casey** 67.22 198 P **P** 11 42 41.9 -0.3
GTA **Gaotai** 68.20 317 P **P** 11 42 50.0 +1.0
GTA pmax pmax
comp=Z,15nm,1.2s
ULN **Ulaanbaatar** 68.39 328 P **P** 11 42 50.6 +0.5
ULN IAmb IAmb 11 42 51.5
comp=Z,9.8nm,0.8s
SONM **Songino Array** 68.73 327 P **P** 11 42 52.2 +0.1
SONM IAmb IAmb 11 42 53.8
comp=Z,9.6nm,0.7s
SONM **Songino Array** 68.73 327 P **P** 11 42 52.4 +0.3
comp=Z,8.8nm,0.5s,baz=139,slow=5.3,SNR=56
SONM LR LR 12 14 07.2
comp=Z,32nm,18.7s,baz=95,slow=37
comp=Z,8.8nm,0.5s
SHL **Shillong** 68.90 300 P **P** 11 42 53.0 -0.7
SHL IAmb IAmb 11 42 54.8
comp=Z,17nm,0.7s
RKT **Rikitea** 69.25 112 *e*LR LR 12 03 59.4
comp=Z,768nm,31.2s
YAK **Yakutsk** 70.88 348 P **P** 11 43 05.1 +0.3
YAK **Yakutsk** 70.88 348 LR LR 12 12 12.9
comp=Z,39nm,22.0s,baz=157,slow=34
CCD **Concordia, Ant** 71.07 188 P **P** 11 43 06.5 +0.1
CCD PcP **pP** 11 43 24.3 -1.1
VNDA **Vanda** 71.27 178 P **P** 11 43 07.2 +0.3
VNDA **Vanda** 71.27 178 P **P** 11 43 07.3 +0.3
comp=Z,3.6nm,0.7s,baz=322,slow=6.1,SNR=27
VNDA LR LR 12 09 34.6
comp=Z,44nm,18.1s,baz=326,slow=32
comp=Z,3.6nm,0.7s
VNDA **Vanda** 71.27 178 P **P** 11 43 07.0 0.0
VNDA PcP **pP** 11 43 26.4 -0.1
SBA **Scott Base** 71.77 177 P **P** 11 43 11.8 +1.7
SBA IAmb IAmb 11 43 30.4
comp=Z,33nm,1.6s
SBA **Scott Base** 71.77 177 P **P** 11 43 11.5 +1.4
M11K **Mekoryuk** 73.16 19 P **P** 11 43 20.6 +2.1
baz=221
O14K **Tigyukauivet M** 74.04 22 P **P** 11 43 25.5 +1.8
baz=226
M13K **Dall Lake** 74.13 20 P **P** 11 43 25.9 +1.7
baz=223
GAMB **Gambell** 74.27 15 P **P** 11 43 26.5 +1.5
baz=214
O15K **Ungalikthiuk R** 74.52 22 P **P** 11 43 28.2 +1.7
baz=227
BILL **Bilibino** 74.61 4 P **P** 11 43 27.5 +0.7
K13K **Kusilvak Mount** 74.82 19 IAmb IAmb 11 43 30.6
comp=Z,12nm,0.8s
K13K **Kusilvak Mount** 74.82 19 P **P** 11 43 29.7 +1.5
baz=222,SNR=7.0
M14K **Bethel** 74.85 20 IAmb IAmb 11 43 30.6
comp=Z,18nm,0.8s
M14K **Bethel** 74.85 20 P **P** 11 43 29.6 +1.2
baz=225
L14K **Kuka Creek** 75.03 20 IAmb IAmb 11 43 31.7
comp=Z,12nm,0.8s
L14K **Kuka Creek** 75.03 20 P **P** 11 43 30.6 +1.3
baz=224,SNR=6.2
N15K **Kwethluk River** 75.11 21 P **P** 11 43 31.0 +1.1
baz=226
P16K **Nushagak River** 75.13 23 P **P** 11 43 31.3 +1.3
baz=229
SII **Sitkinak Islan** 75.15 26 P **P** 11 43 31.4 +1.2
baz=233
M15K **Kasigluk River** 75.26 21 P **P** 11 43 31.5 +0.8
baz=226,SNR=5.2
PALK **Pallekele** 75.27 279 P **P** 11 43 31.9 0.0
PALK **Pallekele** 75.27 279 P **P** 11 43 32.3 +0.4
comp=Z,20nm,0.7s,baz=90,slow=5.1,SNR=19
PALK LR LR 12 21 13.3
comp=Z,63nm,18.1s,baz=122,slow=39
comp=Z,20nm,0.7s
Q16K **King Salmon** 75.43 24 P **P** 11 43 32.5 +0.8
baz=230
Q17K **Contact Creek** 75.47 24 P **P** 11 43 32.4 +0.2
baz=231,SNR=12
R18K **Karluk** 75.64 25 P **P** 11 43 33.7 +0.8
baz=232
L15K **Ungalak Mounta** 75.67 20 P **P** 11 43 34.2 +1.2
baz=225
ACHA **Angle Creek He** 75.67 25 IAmb IAmb 11 43 35.4
comp=Z,9.4nm,0.8s
J14K **Nanvaranak Lak** 75.78 18 IAmb IAmb 11 43 36.3
comp=Z,15nm,0.9s
J14K **Nanvaranak Lak** 75.78 18 P **P** 11 43 35.2 +1.6
baz=223,SNR=5.7
N16K **Nishlik Lake** 75.80 22 P **P** 11 43 35.5 +1.7
baz=228
OHAK **Old Harbor** 75.94 26 P **P** 11 43 35.1 +0.5
OHAK IAmb IAmb 11 43 37.1
comp=Z,10.0nm,0.8s
OHAK **Old Harbor** 75.94 26 P **P** 11 43 35.7 +1.1
OHAK **Old Harbor** 75.94 26 P **P** 11 43 35.1 +0.5
baz=234
O17K **Koliganek Bris** 75.96 23 P **P** 11 43 35.4 +0.6
baz=230
Q18K **Katmai Hardscr** 76.08 24 P **P** 11 43 35.6 +0.1
baz=232,SNR=19
K15K **Wolf Creek Mou** 76.09 19 IAmb IAmb 11 43 37.9
comp=Z,13nm,0.7s
K15K **Wolf Creek Mou** 76.09 19 P **P** 11 43 36.8 +1.3
baz=225,SNR=8.2
M16K **Timber Creek** 76.10 21 IAmb IAmb 11 43 39.0
comp=Z,16nm,0.8s
M16K **Timber Creek** 76.10 21 P **P** 11 43 36.6 +1.1
baz=228,SNR=9.7
L16K **Owhat River** 76.38 20 P **P** 11 43 38.1 +1.0
baz=227
N17K **Nushagak Hills** 76.42 22 P **P** 11 43 38.6 +1.3
baz=229
P18K **Big Mountain,** 76.45 24 IAmb IAmb 11 43 54.5

comp=Z,35nm,1.9s
P18K **Big Mountain,** 76.45 24 P P 11 43 38.6 +1.0
baz=231
KDAK **Kodiak Island** 76.58 26 P P 11 43 38.8 +0.5
KDAK IAmb IAmb 11 43 40.4
comp=Z,13nm,0.9s
KDAK **Kodiak Island** 76.58 26 P P 11 43 39.3 +1.1
baz=234
ANM **Nome** 76.59 16 IAmb IAmb 11 43 40.5
comp=Z,9.6nm,0.7s
ANM **Nome** 76.59 16 P P 11 43 39.4 +1.2
baz=221,SNR=9.3
O18K **Koktuh Hills** 76.75 23 P P 11 43 40.0 +0.8
baz=231
Q19K **Cape Douglas,** 76.81 25 P P 11 43 40.0 +0.3
Q19K **Cape Douglas,** 76.81 25 P P 11 43 39.7 +0.1
baz=233,SNR=12
M17K **Holitna River** 76.90 21 IAmb IAmb 11 44 09.4
comp=Z,12nm,0.9s
M17K **Holitna River** 76.90 21 P P 11 43 41.5 +1.5
baz=229
N18K **Kilae Creek** 77.01 22 P P 11 43 41.7 +1.0
N18K IAmb IAmb 11 43 43.3
comp=Z,23nm,1.1s
N18K **Kilae Creek** 77.01 22 P P 11 43 42.0 +1.3
baz=230,SNR=9.7
F14K **Arctic Creek** 77.03 16 P P 11 43 41.6 +1.0
baz=220
L17K **Donlin** 77.08 21 P P 11 43 42.4 +1.4
baz=228
J16K **Anvik River** 77.10 19 P P 11 43 42.5 +1.4
J16K IAmb IAmb 11 43 43.8
comp=Z,40nm,1.6s
J16K **Anvik River** 77.10 19 P P 11 43 42.8 +1.7
baz=226,SNR=6.9
Q20K **Shuyak Island** 77.14 25 P P 11 43 42.0 +0.6
baz=234
SYI **Shuyak Island** 77.15 25 IAmb IAmb 11 44 00.3
comp=Z,26nm,1.4s
G15K **Niukluk** 77.30 17 P P 11 43 42.8 +0.6
baz=222
O19K **Port Alsworth** 77.31 23 P P 11 43 42.7 +0.4
baz=232
P19K **Oil Pt** 77.42 24 P P 11 43 43.2 +0.2
baz=233,SNR=17
K17K **Iditarod** 77.47 20 IAmb IAmb 11 44 11.8
comp=Z,13nm,1.1s
K17K **Iditarod** 77.47 20 P P 11 43 44.4 +1.2
baz=228
I17K **Unalakleet** 77.49 18 P P 11 43 44.7 +1.5
baz=225
M18K **Stony River** 77.55 22 P P 11 43 44.9 +1.3
baz=230
H16K **Elim** 77.56 17 P P 11 43 44.6 +1.0
baz=224
N19K **Bonanza Creek** 77.63 23 P P 11 43 45.1 +0.9
baz=232
ILSW **Iliamna Southw** 77.65 24 P P 11 43 43.8 -0.6
ILSW IAmb IAmb 11 43 47.9
comp=Z,8.6nm,0.8s
F15K **North Star Dit** 77.66 16 P P 11 43 45.2 +1.0
baz=221
J17K **VABM Dome** 77.67 19 IAmb IAmb 11 43 46.9
comp=Z,10nm,0.8s
J17K **VABM Dome** 77.67 19 P P 11 43 45.6 +1.3
baz=227,SNR=11
L18K **Granite Mounta** 77.71 21 IAmb IAmb 11 43 47.8
comp=Z,9.6nm,0.8s
L18K **Granite Mounta** 77.71 21 P P 11 43 45.8 +1.3
baz=229,SNR=9.3
O20K **Slope Mountain** 77.92 24 P P 11 43 46.7 +0.9
baz=234
G16K **Koyuk River** 78.07 17 IAmb IAmb 11 43 48.7
comp=Z,12nm,0.8s
G16K **Koyuk River** 78.07 17 P P 11 43 47.6 +1.2
baz=224
HOM **Homer** 78.07 25 P P 11 43 47.7 +1.2
baz=235,SNR=8.6
WMQ **Urumqi** 78.28 317 *e*P P 11 43 50.1 +1.9
M19K **Big River Lodg** 78.34 22 P P 11 43 49.3 +1.2
baz=232
L19K **White Mountain** 78.34 22 IAmb IAmb 11 43 51.4
comp=Z,20nm,1.1s
L19K **White Mountain** 78.34 22 P P 11 43 49.2 +1.1
baz=231,SNR=15
TTA **Tatalina** 78.41 21 P P 11 43 49.6 +1.2
baz=230
BRLK **Bradley Lake** 78.45 25 P P 11 43 48.2 -0.5
BRLK IAmb IAmb 11 43 51.1
comp=Z,15nm,0.8s
H17K **Granite Mounta** 78.47 18 IAmb IAmb 11 44 08.2
comp=Z,36nm,1.8s
H17K **Granite Mounta** 78.47 18 P P 11 43 50.0 +1.3
baz=226,SNR=8.5
BRSE **Bradley Lake S** 78.50 25 P P 11 43 49.8 +0.8
baz=235,SNR=6.4
J18K **Innoko River** 78.51 20 P P 11 43 49.8 +0.8
baz=229
G17K **Kiwalik Mounta** 78.65 17 P P 11 43 50.9 +1.2
baz=225,SNR=6.9
M20K **Styx River** 78.80 22 IAmb IAmb 11 44 08.8
comp=Z,44nm,1.9s
M20K **Styx River** 78.80 22 P P 11 43 51.5 +0.8
baz=233
L20K **Farewell, AK** 78.89 22 P P 11 43 52.3 +1.3
baz=232,SNR=7.1
CAPN **Captain Cook N** 78.91 24 P P 11 43 52.3 +1.1
baz=235
H18K **Honhosa River** 79.10 18 P P 11 43 53.1 +0.9
baz=227
F17K **Baldwin Pennin** 79.14 16 IAmb IAmb 11 44 22.4
comp=Z,12nm,1.0s
F17K **Baldwin Pennin** 79.14 16 P P 11 43 53.5 +1.2
baz=224
J19K **Poorman** 79.22 20 P P 11 43 53.7 +0.8
baz=230
SEW **Seward** 79.24 25 P P 11 43 53.5 +0.5
baz=236
GCSA **Galena City Sc** 79.30 19 P P 11 43 54.0 +0.8
baz=229
O22K **Cooper Landing** 79.33 24 P P 11 43 53.5 +0.1
O22K **Cooper Landing** 79.33 24 P P 11 43 54.2 +0.8
baz=236,SNR=7.6
K20K **Telida** 79.36 21 P P 11 43 54.5 +0.9
baz=232
C16K **Lisburne Hills** 79.44 14 P P 11 43 54.6 +0.8
baz=220
E17K **Hotham Inlet** 79.45 16 P P 11 43 55.4 +1.4
baz=224
SKT **Skwentna** 79.47 23 P P 11 43 54.3 0.0
baz=234,SNR=6.2
SUA **Susitna One** 79.47 23 P P 11 43 54.3 -0.2
SUA IAmb IAmb 11 43 56.1
comp=Z,15nm,0.8s
SUA **Susitna One** 79.47 23 P P 11 43 54.1 -0.3
baz=235,SNR=16
G18K **Tagagawik** 79.52 18 P P 11 43 55.2 +0.7
baz=227
D17K **Noatak River** 79.56 15 P P 11 43 55.7 +1.1
baz=222,SNR=6.9
RC01 **Rabbit Creek A** 79.67 24 IAmb IAmb 11 43 56.9
comp=Z,14nm,0.6s
RC01 **Rabbit Creek A** 79.67 24 P P 11 43 55.6 +0.3
baz=236,SNR=14
TIXI **Tiksi** 79.67 352 P P 11 43 54.9 -0.2
TIXI **Tiksi** 79.67 352 LR LR 12 17 58.4
comp=Z,24nm,21.1s,baz=204,slow=35
F18K **Selawik** 79.71 17 P P 11 43 56.7 +1.3
baz=226
PPLA **Purkeypile** 79.76 22 P P 11 43 57.0 +1.0
baz=234
J20K **Nowinta River** 79.84 20 P P 11 43 57.5 +1.3
baz=232,SNR=8.7
RDOG **Red Dog Mine** 79.87 15 P P 11 43 57.4 +1.1
RDOG IAmb IAmb 11 43 58.4
comp=Z,15nm,0.6s
RDOG **Red Dog Mine** 79.87 15 P P 11 43 57.7 +1.4
baz=223
H19K **Roundabout Mou** 79.95 19 IAmb IAmb 11 44 25.3
comp=Z,12nm,0.9s
H19K **Roundabout Mou** 79.95 19 P P 11 43 57.6 +0.9
baz=229,SNR=7.6
E18K **Tukpahlearik C** 80.02 16 P P 11 43 58.1 +1.0
baz=225
P23K **Montague Islan** 80.05 26 P P 11 43 58.0 +0.6
baz=238
CAST **Castle Rocks** 80.11 21 P P 11 43 57.9 +0.2
baz=234,SNR=12

PWL **Port Wells** 80.11 25 P P 11 43 58.2 +0.4
baz=237,SNR=22
C17K **DeLong Mountai** 80.12 14 P P 11 43 58.4 +0.8
baz=222
I20K **Naaghedeneel** 80.12 20 IAmb IAmb 11 45 05.0
comp=Z,17nm,0.8s
I20K **Naaghedeneel** 80.12 20 P P 11 43 58.1 +0.4
baz=231
PMR **Palmer** 80.19 24 P P 11 43 58.1 0.0
PMR IAmb IAmb 11 43 59.9
comp=Z,11nm,0.8s
PMR **Palmer** 80.19 24 P P 11 43 58.4 +0.3
baz=237,SNR=14
CUT **Chulitna** 80.20 23 IAmb IAmb 11 44 25.6
comp=Z,14nm,1.0s
CUT **Chulitna** 80.20 23 P P 11 43 58.5 +0.4
baz=235
CHUM **Lake Minchumin** 80.30 21 P P 11 43 59.3 +0.6
baz=233,SNR=9.7
KNK **Knik Glacier** 80.36 24 IAmb IAmb 11 44 17.9
comp=Z,15nm,1.2s
KNK **Knik Glacier** 80.36 24 P P 11 43 59.5 +0.4
baz=237,SNR=5.2
GHO **Glory Hole Cre** 80.37 24 IAmb IAmb 11 44 01.5
comp=Z,13nm,0.8s
F19K **Shaleruckik Mo** 80.42 17 P P 11 43 60.0 +0.8
baz=228
H20K **Anotleneega Mo** 80.43 19 P P 11 43 60.0 +0.6
baz=231,SNR=5.2
SML **Sawmill** 80.63 24 P P 11 44 00.8 +0.2
SML IAmb IAmb 11 44 02.8
comp=Z,21nm,0.8s
SML **Sawmill** 80.63 24 P P 11 44 01.0 +0.5
baz=237,SNR=15
GLI **Glacier Island** 80.64 25 P P 11 44 01.0 +0.5
baz=239,SNR=8.4
C18K **Utukok River** 80.74 15 P P 11 44 01.9 +0.8
baz=224
TRF **Thorofare Moun** 80.79 22 P P 11 44 01.9 +0.4
baz=235
FID **Port Fidalgo** 80.83 25 IAmb IAmb 11 44 03.9
comp=Z,13nm,0.7s
M23K **Glacier View** 80.86 24 P P 11 44 02.3 +0.6
baz=238,SNR=5.3
BPAW **Bear Paw Mtn.** 80.91 21 P P 11 44 02.6 +0.7
baz=234
E19K **Redstone River** 80.99 17 IAmb IAmb 11 44 04.5
comp=Z,11nm,0.8s
E19K **Redstone River** 80.99 17 P P 11 44 03.1 +0.8
baz=228
SCM **Sheep Creek Mo** 81.04 24 IAmb IAmb 11 44 05.6
comp=Z,12nm,0.8s
SCM **Sheep Creek Mo** 81.04 24 P P 11 44 03.3 +0.5
baz=238,SNR=5.3
B18K **Kokolik River** 81.11 14 P P 11 44 03.7 +0.9
baz=224
F20K **Avaraart Lake** 81.17 18 P P 11 44 03.9 +0.8
F20K **Avaraart Lake** 81.17 18 P P 11 44 04.0 +0.8
baz=230
H21K **Melozitna Rive** 81.21 19 P P 11 44 04.3 +0.7
baz=233
KAIM **Kayak Island** 81.31 26 P P 11 44 04.8 +0.6
baz=241
ZSN **Zaisan** 81.38 320 *e*P P 11 44 04.7 -0.2
comp=Z,7.9nm,0.6s
KLU **Klutina** 81.44 25 IAmb IAmb 11 44 08.4
comp=Z,14nm,0.8s
KLU **Klutina** 81.44 25 P P 11 44 05.4 +0.5
baz=240,SNR=14
D19K **Kuna River** 81.45 16 IAmb IAmb 11 44 08.1
comp=Z,8.1nm,0.7s
D19K **Kuna River** 81.45 16 P P 11 44 05.2 +0.4
baz=227
MCK **McKinley** 81.45 22 P P 11 44 04.8 0.0
baz=236,SNR=13
G21K **Allakaket** 81.51 19 P P 11 44 05.6 +0.5
baz=232,SNR=5.5
M24K **Tolsona, Glenn** 81.65 24 P P 11 44 06.2 +0.2
baz=239
BMRM **Bremner River** 81.73 25 P P 11 44 06.5 +0.1
baz=241
E20K **Nigu River** 81.82 16 P P 11 44 07.5 +0.7
baz=229
H22K **Ishtalina Cre** 81.82 20 P P 11 44 07.3 +0.5
baz=234
BERG **Berg Lake** 81.85 26 IAmb IAmb 11 44 12.5
comp=Z,13nm,0.8s
NEA2 **Nenana** 81.87 21 P P 11 44 07.4 +0.4
baz=236,SNR=6.4
A19K **Wainwright** 81.89 14 P P 11 44 07.7 +0.7
baz=224
F21K **Alatna River** 81.95 18 P P 11 44 08.1 +0.7
baz=232
D20K **Etivluk River** 82.00 16 P P 11 44 08.3 +0.6
baz=229
N25K **Chitina, Valde** 82.05 25 P P 11 44 09.0 +0.9
baz=241,SNR=5.7
I23K **Minto, Yukon-K** 82.08 21 P P 11 44 08.6 +0.6
I23K **Minto, Yukon-K** 82.08 21 P P 11 44 09.1 +1.1
baz=236
WRH **Wood River Hil** 82.16 22 P P 11 44 08.1 -0.5
WRH IAmb IAmb 11 44 09.2
comp=Z,19nm,1.6s
HARP **HAARP** 82.21 24 P P 11 44 09.9 +1.0
baz=240
WAX **Waxell Ridge** 82.25 26 IAmb IAmb 11 44 12.1
comp=Z,9.4nm,0.6s
GLB **Gilahina Butte** 82.30 25 IAmb IAmb 11 44 11.8
comp=Z,15nm,0.8s
PAX **Paxson** 82.37 23 P P 11 44 11.0 +1.2
baz=240
H23K **Yukon River** 82.40 20 P P 11 44 10.5 +0.7
baz=236
COLA **College** 82.47 21 P P 11 44 09.8 -0.3
COLA IAmb IAmb 11 44 11.0
comp=Z,9.8nm,0.8s
COLA **College** 82.47 21 P P 11 44 10.4 +0.4
COLA **College** 82.47 21 P P 11 44 10.4 +0.4
baz=237
MESA **MESA** 82.52 27 P P 11 44 11.7 +1.0
baz=243
F22K **John River** 82.53 18 P P 11 44 11.2 +0.8
baz=233
HDA **Harding Lake** 82.55 22 P P 11 44 10.3 -0.3
HDA IAmb IAmb 11 44 13.3
comp=Z,5.9nm,0.5s
HDA **Harding Lake** 82.55 22 P P 11 44 11.5 +0.9
baz=238
E21K **Killik River** 82.57 17 P P 11 44 11.3 +0.7
baz=231
K24K **Donnelly Dome** 82.67 23 P P 11 44 11.8 +0.5
baz=239
B20K **Meade River** 82.72 15 P P 11 44 12.1 +0.8
baz=228
G23K **Bananza Creek** 82.74 19 P P 11 44 12.1 +0.5
baz=235
POKR **Poker Plat Res** 82.75 21 P P 11 44 11.8 +0.3
baz=238
ILAR **Eielson Array** 82.76 22 P P 11 44 11.1 -0.6
ILAR **Eielson Array** 82.76 22 P P 11 44 10.6 -1.1
comp=Z,1.6nm,0.5s,baz=238,slow=5.7,SNR=36
ILAR LR LR 12 15 31.8
comp=Z,147nm,21.1s,baz=237,slow=32
comp=Z,1.6nm,0.5s
C21K **Knifeblade Rid** 82.80 16 P P 11 44 12.4 +0.7
baz=230,SNR=7.1
MK31 **Makanchi Array** 82.85 319 IAmb IAmb 11 44 13.5
comp=Z,18nm,0.7s
MKAR **Makanchi Array** 82.85 319 P P 11 44 12.5 -0.1
comp=Z,24nm,0.7s,baz=100,slow=5.5,SNR=191
MKAR LR LR 12 22 59.0
comp=Z,19nm,18.8s,baz=218,slow=37
comp=Z,24nm,0.7s
H24K **Noodor Dome** 82.98 20 P P 11 44 13.5 +0.6
baz=237
COLD **Coldfoot** 82.98 19 P P 11 44 13.5 +0.7
baz=235
RIDG **Independent Ri** 83.00 23 IAmb IAmb 11 44 14.5
comp=Z,27nm,1.6s
RIDG **Independent Ri** 83.00 23 P P 11 44 13.4 +0.5
baz=240
E22K **Anaktuvuk Pass** 83.02 18 P P 11 44 13.6 +0.6
baz=233,SNR=6.2
MAKZ **Makanchi** 83.06 319 P P 11 44 13.3 -0.4
M26K **Nabesna, AK** 83.09 24 IAmb IAmb 11 44 31.7
comp=Z,39nm,2.0s
M26K **Nabesna, AK** 83.09 24 P P 11 44 14.2 +0.7
baz=242

B21K **Ikpikpuk River** 83.14 16 P P 11 44 14.5 +1.1
baz=230
D22K **Ayikyak River** 83.21 17 P P 11 44 15.1 +1.2
baz=232
J25K **Salcha River,** 83.24 22 IAmb IAmb 11 44 15.6
comp=Z,40nm,1.6s
J25K **Salcha River,** 83.24 22 P P 11 44 14.5 +0.3
baz=240,SNR=18
L26K **Log Cabin Wild** 83.24 24 P P 11 44 14.9 +0.6
baz=242,SNR=7.4
PINM **Pinnacle** 83.25 27 P P 11 44 15.1 +0.7
baz=245,SNR=6.3
SCRK **Sand Creek** 83.45 23 P P 11 44 15.9 +0.5
baz=241,SNR=6.6
PNL **Peninsula** 83.47 28 P P 11 44 16.8 +1.4
PNL **Peninsula** 83.47 28 P P 11 44 16.2 +0.7
baz=246
WUS **Wushi** 83.48 313 IAmb IAmb 11 44 17.5
comp=Z,10nm,0.7s
M27K **Edge Creek, AK** 83.54 25 IAmb IAmb 11 44 19.3
comp=Z,22nm,1.1s
M27K **Edge Creek, AK** 83.54 25 P P 11 44 17.3 +1.4
baz=243,SNR=16
O28M **Mount Upton** 83.57 27 P P 11 44 17.2 +0.9
baz=245,SNR=13
ZALV **Zalesovo Beam** 83.58 326 P P 11 44 14.5 -1.6
ZALV **Zalesovo Beam** 83.58 326 P P 11 44 14.8 -1.3
comp=Z,22nm,0.7s,baz=110,slow=5.5,SNR=69
comp=Z,22nm,0.7s
G24K **Hadweenzic Riv** 83.58 20 IAmb IAmb 11 44 34.0
comp=Z,16nm,1.6s
G24K **Hadweenzic Riv** 83.58 20 P P 11 44 16.4 +0.6
baz=238
PRP **Porcupine Dome** 83.64 21 P P 11 44 16.9 +0.6
baz=240
E23K **Chandalar** 83.64 18 P P 11 44 17.1 +0.9
baz=235
QSPA **South Pole Qui** 83.66 180 P P 11 44 16.7 +0.2
QSPA **South Pole Qui** 83.66 180 P P 11 44 16.7 +0.2
comp=Z,35nm,0.8s,baz=318,slow=0.3,SNR=114
QSPA LR LR 12 16 38.8
comp=Z,79nm,20.7s,baz=298,slow=32
comp=Z,35nm,0.8s
A21K **Barrow** 83.74 14 P P 11 44 16.9 +0.4
baz=228
SHLS **Shalkode** 83.80 315 *e*P P 11 44 16.0 -1.6
D23K **Nanushuk River** 83.85 17 IAmb IAmb 11 44 19.6
comp=Z,12nm,0.8s
D23K **Nanushuk River** 83.85 17 P P 11 44 18.3 +1.1
baz=234,SNR=18
J26L **Joseph Creek** 83.86 22 P P 11 44 18.2 +0.8
baz=241,SNR=8.7
L27K **Beaver Creek,** 83.88 24 IAmb IAmb 11 44 36.0
comp=Z,16nm,1.6s
L27K **Beaver Creek,** 83.88 24 P P 11 44 18.6 +1.1
baz=243
YUK3 **Moose Creek** 83.88 26 P P 11 44 18.5 +0.8
baz=244,SNR=11
F24K **Squaw Lake** 83.89 19 IAmb IAmb 11 44 19.7
comp=Z,13nm,1.2s
F24K **Squaw Lake** 83.89 19 P P 11 44 18.3 +0.8
baz=237,SNR=8.0
BCAR **Beaver Creek A** 83.89 24 P P 11 44 17.9 +0.4
B22K **Teshekpuk Lake** 83.91 15 IAmb IAmb 11 44 18.8
comp=Z,8.9nm,0.7s
B22K **Teshekpuk Lake** 83.91 15 P P 11 44 17.8 +0.4
baz=232,SNR=6.5
H25L **Birch Creek** 83.92 20 P P 11 44 18.4 +0.9
baz=239
A22K **Sinclair Lake** 83.93 15 P P 11 44 18.0 +0.5
baz=230
YUK8 **Steele Glacier** 83.97 26 P P 11 44 19.5 +1.2
baz=245,SNR=13
BVCY **Beaver Creek** 83.99 25 P P 11 44 19.2 +1.1
baz=244
TOLK **Toolik Lake Re** 83.99 18 P P 11 44 18.6 +0.6
TOLK **Toolik Lake Re** 83.99 18 P P 11 44 18.9 +0.9
baz=235,SNR=8.0
E24K **Your Creek** 84.00 18 P P 11 44 19.0 +1.0
baz=236
G25K **Bearman Lake** 84.08 20 P P 11 44 19.8 +1.4
baz=239
O29M **Mount Kennedy** 84.10 27 P P 11 44 20.2 +1.4
baz=246,SNR=6.0
UZB **Uzynbulak** 84.10 314 *e*P P 11 44 19.1 -0.2
K27K **Chicken** 84.22 23 IAmb IAmb 11 44 38.2
comp=Z,21nm,1.6s
K27K **Chicken** 84.22 23 P P 11 44 20.4 +1.3
baz=243
P29M **Windy Craggy** 84.22 28 P P 11 44 20.4 +1.1
baz=247
S31K **Pelican** 84.32 30 P P 11 44 20.6 +0.9
baz=249
C23K **Itkillik River** 84.38 16 IAmb IAmb 11 44 21.9
comp=Z,13nm,1.1s
C23K **Itkillik River** 84.38 16 P P 11 44 20.9 +1.1
baz=234,SNR=9.5
I26K **Coal Creek Min** 84.40 22 P P 11 44 20.7 +0.6
baz=242
SIT **Sitka** 84.45 31 IAmb IAmb 11 44 22.5
comp=Z,18nm,1.0s
SIT **Sitka** 84.45 31 P P 11 44 21.5 +1.1
baz=250
YUK6 **Outpost Mounta** 84.45 27 P P 11 44 21.3 +0.6
baz=246,SNR=6.6
YUK4 **Talbot Arm** 84.49 26 P P 11 44 22.2 +1.4
baz=246,SNR=12
D24K **Happy Valley** 84.50 17 P P 11 44 21.5 +1.0
baz=236
SATY **Saty** 84.52 314 *e*P P 11 44 21.2 -0.1
F25K **Christian Rive** 84.66 19 P P 11 44 22.7 +1.3
baz=239
P30M **Million Dollar** 84.77 28 P P 11 44 23.2 +1.1
baz=248
HYT **Haines Junctio** 84.79 27 IAmb IAmb 11 44 25.6
comp=Z,14nm,0.7s
HYT **Haines Junctio** 84.79 27 P P 11 44 23.4 +1.1
baz=247,SNR=19
C24K **Franklin Bluff** 84.86 17 IAmb IAmb 11 44 24.2
comp=Z,9.7nm,0.8s
C24K **Franklin Bluff** 84.86 17 P P 11 44 23.2 +1.0
baz=236
BMAR **Burnt Mountain** 84.93 20 P P 11 44 23.8 +1.0
E25K **Arctic Village** 84.96 19 P P 11 44 24.1 +1.3
baz=239
G26K **Porcupine Rive** 84.97 20 P P 11 44 23.3 +0.4
G26K IAmb IAmb 11 44 25.8
comp=Z,13nm,1.0s
G26K **Porcupine Rive** 84.97 20 P P 11 44 24.0 +1.2
baz=241
S32K **Killisnoo** 84.98 31 P P 11 44 24.1 +1.1
baz=250
MAW **Mawson** 85.00 203 P P 11 44 23.4 +0.4
MAW **Mawson** 85.00 203 P P 11 44 23.4 +0.4
comp=Z,7.1nm,0.9s
MAW **Mawson** 85.00 203 P P 11 44 23.6 +0.6
comp=Z,21nm,0.6s,baz=97,slow=5.8,SNR=19
comp=Z,21nm,0.6s
M29M **Somme Creek** 85.01 25 IAmb IAmb 11 44 51.5
comp=Z,18nm,1.8s
M29M **Somme Creek** 85.01 25 P P 11 44 24.3 +0.9
baz=246
CRAG **Craig** 85.08 33 P P 11 44 24.4 +0.8
baz=252
I27K **Kandik River** 85.11 22 P P 11 44 24.6 +0.9
baz=243,SNR=5.8
KDJ **Kajisay** 85.19 313 IAmb IAmb 11 44 26.5
comp=Z,15nm,0.8s
F26K **Sheenjek River** 85.21 20 P P 11 44 25.3 +1.2
baz=241,SNR=5.4
N30M **Aishikik Lake** 85.22 27 P P 11 44 25.3 +1.0
baz=248
R32K **Eaglecrest** 85.28 30 P P 11 44 25.6 +0.9
baz=250
U33K **Whale Pass** 85.29 32 IAmb IAmb 11 44 28.1
comp=Z,11nm,0.8s
U33K **Whale Pass** 85.29 32 P P 11 44 25.6 +1.0
baz=251
DAWY **Dawson** 85.30 24 P P 11 44 25.9 +1.2
baz=245
SKAG **Skagway** 85.30 29 P P 11 44 25.2 +0.6
SKAG **Skagway** 85.30 29 P P 11 44 25.7 +1.1
baz=249
D25K **Kavik River** 85.33 18 P P 11 44 25.6 +0.9
baz=238
O30N **Mendenhall** 85.42 27 P P 11 44 26.3 +1.0
baz=248
L29M **L29M** 85.42 25 P P 11 44 26.3 +1.1

baz=246
H27K Steamboat Moun 85.43 21 P P 11 44 26.3 +1.1
baz=243,SNR=9.2
MDOK Medeo 85.51 314 *e*P **P 11 44 26.1 -0.3**
KSH Kashi 85.52 310 P P 11 44 28.4 +2.0
KSH pmax pmax
comp=Z,13nm,0.8s
KSH LR LR
comp=Z,610nm,22.7s
KSH LR LR
comp=Z,350nm,23.4s
TNSS Tian-Shan 85.56 314 *e*P **P 11 44 26.2 -0.6**
G27K Doyon Strip 85.64 21 P **P 11 44 27.6 +1.3**
baz=243
I28M Miner Creek 85.67 22 P **P 11 44 27.1 +0.6**
I28M Miner Creek 85.67 22 P **P 11 44 27.4 +0.9**
baz=245
M30M Minto, Yukon 85.78 26 P **P 11 44 28.0 +1.0**
M30M IAmb IAmb 11 44 46.6
comp=Z,14nm,1.5s
M30M Minto, Yukon 85.78 26 P **P 11 44 27.8 +0.8**
baz=248
WRAK Wrangell Islan 85.79 32 IAmb IAmb 11 44 29.9
comp=Z,8.0nm,0.9s
WRAK Wrangell Islan 85.79 32 P **P 11 44 27.9 +0.7**
baz=252
N31M Braeburn, Yuko 85.82 27 IAmb IAmb 11 44 29.7
comp=Z,16nm,1.1s
N31M Braeburn, Yuko 85.82 27 P **P 11 44 28.3 +1.1**
baz=249,SNR=6.2
V35K Ketchikan 85.86 33 IAmb IAmb 11 44 29.4
comp=Z,12nm,0.8s
V35K Ketchikan 85.86 33 P **P 11 44 28.5 +1.0**
baz=253,SNR=6.4
J29N Klondike Camp 85.92 24 IAmb IAmb 11 44 31.9
comp=Z,12nm,0.6s
J29N Klondike Camp 85.92 24 P **P 11 44 29.0 +1.2**
baz=246,SNR=13
WHY Whitehorse 85.93 28 IAmb IAmb 11 44 31.2
comp=Z,8.4nm,0.9s
WHY Whitehorse 85.93 28 P **P 11 44 29.0 +1.1**
baz=250
K29M Barlow Dome 85.96 24 IAmb IAmb 11 44 31.1
comp=Z,8.0nm,0.8s
K29M Barlow Dome 85.96 24 P **P 11 44 29.4 +1.3**
baz=247,SNR=12
C26K Camden Bay 86.08 17 P **P 11 44 29.9 +1.6**
baz=240,SNR=17
P32M Atlin 86.12 29 P **P 11 44 29.9 +1.1**
baz=251,SNR=5.9
KURK Kurchatov 86.26 322 P **P 11 44 28.4 -1.2**
KURK IAmb IAmb 11 44 29.1
comp=Z,7.2nm,0.5s
E27K Coleen River 86.29 20 IAmb IAmb 11 44 31.7
comp=Z,11nm,1.0s
E27K Coleen River 86.29 20 P **P 11 44 30.6 +1.1**
baz=243,SNR=15
KURBB Kurchatov Arra 86.29 322 P **P 11 44 28.7 -1.0**
comp=Z,5.0nm,0.5s,baz=102,slow=4.7,SNR=32
KURBB LR LR 12 22 38.9
comp=Z,38nm,21.8s,baz=179,slow=35
comp=Z,5.0nm,0.5s
C27K Jago River 86.29 18 IAmb IAmb 11 44 31.4
comp=Z,7.7nm,0.8s
C27K Jago River 86.29 18 P **P 11 44 30.6 +1.2**
baz=241
MAYO Mayo, Yukon 86.54 25 P **P 11 44 31.4 +0.6**
baz=248
Q32M Nakina River 86.62 30 IAmb IAmb 11 44 33.8
comp=Z,20nm,1.6s
Q32M Nakina River 86.62 30 P **P 11 44 32.1 +0.6**
baz=252
M31M Drury Creek, Y 86.69 26 P **P 11 44 32.2 +0.7**
baz=250,SNR=7.0
J30M Hart River 86.72 24 IAmb IAmb 11 44 34.1
comp=Z,10nm,1.0s
J30M Hart River 86.72 24 P **P 11 44 32.9 +1.2**
baz=248,SNR=10
S34M Telegraph Cree 86.87 31 P **P 11 44 34.0 +1.6**
baz=253,SNR=18
I30M Mount Dempster 86.95 23 IAmb IAmb 11 44 34.6
comp=Z,20nm,1.5s
I30M Mount Dempster 86.95 23 P **P 11 44 33.5 +0.7**
baz=248,SNR=10
D27M Malcolm River 86.97 19 P **P 11 44 33.6 +0.8**
baz=244
G29M Pine Creek 86.98 21 IAmb IAmb 11 44 51.9
comp=Z,12nm,1.1s
G29M Pine Creek 86.98 21 P **P 11 44 33.7 +0.9**
baz=246
BBB Bella Bella 87.01 37 LR LR 12 14 22.4
comp=Z,67nm,21.9s,baz=284,slow=29
T35M Bob Quinn 87.06 32 IAmb IAmb 11 44 35.8
comp=Z,12nm,1.1s
T35M Bob Quinn 87.06 32 P **P 11 44 34.6 +1.2**
baz=254,SNR=7.5
FARO Faro, Yukon 87.16 26 P **P 11 44 33.7 -0.1**
FARO IAmb IAmb 11 44 35.4
comp=Z,8.6nm,1.2s
FARO Faro, Yukon 87.16 26 P **P 11 44 34.5 +0.7**
baz=251,SNR=9.9
E28M Babbage River 87.16 20 P **P 11 44 34.7 +1.0**
baz=245
AAK Ala-Archa 87.24 313 P **P 11 44 34.7 -0.1**
AAK Ala-Archa 87.24 313 LR LR 12 27 19.7
comp=Z,20nm,18.2s,baz=80,slow=38
EPYK Eagle Plains 87.25 22 P **P 11 44 35.0 +0.9**
EPYK IAmb IAmb 11 44 36.7
comp=Z,14nm,0.8s
EPYK Eagle Plains 87.25 22 P **P 11 44 35.1 +0.9**
baz=248,SNR=14
SGDS Sogindy 87.30 314 *e*P **P 11 44 34.5 -0.5**
R33M Jennings River 87.39 30 IAmb IAmb 11 44 37.4
comp=Z,19nm,1.6s
R33M Jennings River 87.39 30 P **P 11 44 35.7 +0.6**
baz=253,SNR=6.3
DLBC Dease Lake 87.58 31 IAmb IAmb 11 44 38.3
comp=Z,12nm,1.2s
DLBC Dease Lake 87.58 31 LR LR 12 19 40.3
comp=Z,53nm,18.9s,baz=260,slow=33
DLBC Dease Lake 87.58 31 P **P 11 44 37.0 +1.0**
baz=254,SNR=9.1
E29M Blow River 87.62 20 IAmb IAmb 11 45 08.5
comp=Z,27nm,2.0s
E29M Blow River 87.62 20 P **P 11 44 36.9 +1.0**
baz=246
G30M tAoh Zraii Nji 87.67 22 IAmb IAmb 11 44 54.8
comp=Z,18nm,1.5s
G30M tAoh Zraii Nji 87.67 22 P **P 11 44 36.7 +0.5**
baz=248
D28M Stokes Point 87.73 19 P **P 11 44 37.0 +0.8**
baz=246
GDXM Geysers 87.92 51 P **P 11 44 38.3 +0.3**
GDXM IAmb IAmb 11 45 29.4
comp=Z,27nm,1.7s
H31M Peel River 87.95 23 P **P 11 44 38.0 +0.5**
H31M IAmb IAmb 11 44 40.9
comp=Z,8.4nm,0.6s
H31M Peel River 87.95 23 P **P 11 44 38.5 +1.0**
baz=250,SNR=9.3
BTLS Baital 88.02 316 *e*P **P 11 44 37.7 -0.5**
F30M Barrier River 88.06 21 P **P 11 44 38.9 +1.0**
baz=248
NRIK Noril'sk 88.07 341 IAmb IAmb 11 44 38.4
comp=Z,12nm,1.1s
NRIK Noril'sk 88.07 341 P **P 11 44 36.4 -1.5**
comp=Z,3.6nm,0.4s,baz=107,slow=5.5,SNR=7.4
NRIK LR LR 12 25 10.4
comp=Z,35nm,19.5s,baz=128,slow=36
comp=Z,3.6nm,0.4s
CBB Campbell River 88.21 39 IAmb IAmb 11 44 40.5
comp=Z,6.8nm,0.8s
G31M Satah River 88.36 22 P **P 11 44 40.1 +0.8**
baz=250,SNR=6.3
YBH Yreka Blue Hor 88.48 48 LR LR 12 17 56.6
comp=Z,142nm,20.5s,baz=274,slow=31
F31M Tsiigehtchic 88.73 21 IAmb IAmb 11 44 59.8
comp=Z,23nm,1.8s
F31M Tsiigehtchic 88.73 21 P **P 11 44 41.5 +0.4**
baz=250
INK Inuvik 89.10 21 IAmb IAmb 11 44 44.0
comp=Z,10nm,1.4s
INK Inuvik 89.10 21 LR LR 12 21 29.3
comp=Z,104nm,20.7s,baz=228,slow=33
INK Inuvik 89.10 21 P **P 11 44 43.1 +0.3**
baz=250
AFDM Forest Hills D 89.35 51 IAmb IAmb 11 44 48.1
comp=Z,6.5nm,0.8s

GAR Garm 89.76 309 P **P 11 44 46.5 -0.3**
LIRD Liard River Hi 89.80 30 P **P 11 44 47.2 +0.9**
baz=257
BRZS Berezniki 89.82 320 *e*P **P 11 44 47.2 +0.6**
TOAD Toad River Com 90.12 31 P **P 11 44 48.4 +0.6**
baz=258
IUG Iuzhnay 90.42 312 *e*P **P 11 44 49.2 -0.6**
PNTR Pine Nut 90.42 51 IAmb IAmb 11 44 52.1
comp=Z,6.6nm,0.8s
WAKR Walker 90.47 51 IAmb IAmb 11 47 09.9
comp=Z,8.8nm,1.1s
PAHR Pah Rah Range 90.67 50 IAmb IAmb 11 44 52.9
comp=Z,4.5nm,0.8s
BRLS Borolday 90.68 313 *e*P **P 11 44 51.0 +0.1**
CHM Chimkent 90.76 312 *e*P **P 11 44 51.1 0.0**
KOTAN Kotaneelee Air 90.96 30 P **P 11 44 52.6 +0.9**
baz=259
RYN Ryan 91.20 51 IAmb IAmb 11 44 55.5
comp=Z,8.2nm,1.0s
E07A Sunnyside 91.25 43 IAmb IAmb 11 44 54.6
comp=Z,4.0nm,0.8s
NVAR Mina Array Bea 91.34 52 P **P 11 44 54.8 +0.5**
NVAR Mina Array Bea 91.34 52 P **P 11 44 55.6 +1.3**
comp=Z,8.0nm,0.9s,baz=253,slow=6.6,SNR=42
NVAR LR LR 12 18 26.4
comp=Z,63nm,21.0s,baz=327,slow=30
comp=Z,8.0nm,0.9s
HAWA Hanford 91.44 44 IAmb IAmb 11 44 56.8
comp=Z,4.3nm,0.9s
NV11 Mina Array Sit 91.46 52 P **P 11 44 55.3 +0.6**
WVOR Wild Horse Val 91.58 48 IAmb IAmb 11 44 56.2
comp=Z,3.9nm,0.9s
BVAR Borovoye Array 91.71 323 P **P 11 44 53.8 -1.6**
comp=Z,12nm,0.9s,baz=98,slow=5.1,SNR=35
BVAR LR LR 12 25 43.1
comp=Z,29nm,21.1s,baz=105,slow=35
comp=Z,12nm,0.9s
BRVK Borovoye 91.78 323 P **P 11 44 54.0 -1.7**
BRVK IAmb IAmb 11 44 54.6
comp=Z,4.7nm,0.7s
J08A Circle Bar Ran 91.81 47 IAmb IAmb 11 44 57.4
comp=Z,3.1nm,0.6s
WRGLY Wrigley 91.81 27 P **P 11 44 56.1 +0.5**
baz=260
GRAC Grapevine Rang 91.92 53 P **P 11 44 56.0 -0.8**
GRAC IAmb IAmb 11 44 59.5
comp=Z,10nm,1.2s
GSC Goldstone, Bar 92.18 55 IAmb IAmb 11 45 00.2
comp=Z,4.7nm,0.8s
PFO Pinon Flats O 92.29 57 LR LR 12 21 49.8
comp=Z,76nm,18.2s,baz=235,slow=32
GWY Greenwater Val 92.39 54 IAmb IAmb 11 45 01.0
comp=Z,4.0nm,0.8s
WCT Wildcat Mounta 92.49 53 IAmb IAmb 11 45 02.1
comp=Z,8.5nm,1.0s
C36M Paulatuk 92.69 21 IAmb IAmb 11 45 00.1
comp=Z,4.4nm,0.8s
C36M Paulatuk 92.69 21 P **P 11 44 59.1 -0.3**
baz=259,SNR=8.1
TPNV Topopah Spring 92.80 53 IAmb IAmb 11 45 03.7
comp=Z,5.6nm,0.8s
A36M Sachs Harbour 92.81 18 P **P 11 44 59.8 -0.1**
A36M Sachs Harbour 92.81 18 P **P 11 45 00.0 0.0**
baz=258,SNR=6.6
F10A Beach Ranch, E 92.98 44 P **P 11 45 01.2 -0.4**
F10A IAmb IAmb 11 45 02.2
comp=Z,5.6nm,1.1s
NEW Newport 93.29 42 IAmb IAmb 11 45 03.5
comp=Z,3.3nm,0.8s
NEW Newport 93.29 42 LR LR 12 19 57.1
comp=Z,174nm,21.5s,baz=275,slow=31
R11B Troy Canyon, C 93.46 52 IAmb IAmb 11 45 06.6
comp=Z,4.6nm,1.0s
SHPR Sheep Range 93.63 54 IAmb IAmb 11 45 07.3
comp=Z,3.8nm,1.0s
PRN Pahroc Range 93.80 53 IAmb IAmb 11 45 08.6
comp=Z,6.4nm,1.0s
V12A Nelson 93.81 55 IAmb IAmb 11 45 07.8
comp=Z,3.4nm,0.8s
ELK Elko 93.94 50 LR LR 12 20 50.1
comp=Z,53nm,20.9s,baz=222,slow=31
W13A Hualapai Mount 94.55 55 IAmb IAmb 11 45 12.4
comp=Z,5.2nm,1.0s
PSUT Pine Spring 94.83 52 IAmb IAmb 11 45 16.7
comp=Z,3.8nm,1.0s
YKA Yellowknife Ar 95.76 28 P **P 11 45 14.1 +0.4**
comp=Z,6.2nm,0.9s,baz=267,slow=4.7,SNR=49
YKA LR LR 12 28 02.1
comp=Z,33nm,18.0s,baz=7.0,slow=35
comp=Z,6.2nm,0.9s
BELA Belgrano 2 95.77 178 P **P 11 45 13.5 -0.1**
ELIB Princess Elisa 95.86 194 *d*P **P 11 45 13.9 -0.3**
comp=Z,7.0nm,0.9s
ELIB *d*pP **pP 11 45 30.6 -3.8**
HVU Hansel Valley 95.86 49 IAmb IAmb 11 45 16.4
comp=Z,2.6nm,0.8s
U15A North Rim 95.93 54 IAmb IAmb 11 45 18.6
comp=Z,3.9nm,0.8s
MTPU Mount Pierson 96.11 52 P **P 11 45 15.2 -1.2**
MTPU IAmb IAmb 11 45 18.8
comp=Z,4.3nm,0.9s
LPIG La Paz 96.87 67 LR LR 12 22 12.7
comp=Z,82nm,19.3s,baz=254,slow=31
TMUT Trail Mountain 96.94 51 IAmb IAmb 11 45 22.0
comp=Z,4.1nm,0.9s
PDAR Pinedale Array 98.29 48 P **P 11 45 25.4 -0.5**
comp=Z,1.4nm,0.8s,baz=246,slow=3.1,SNR=11
PDAR LR LR 12 25 54.2
comp=Z,30nm,18.1s,baz=234,slow=33
comp=Z,1.4nm,0.8s
ARTI Arti 98.84 326 LR LR 12 32 12.3
comp=Z,24nm,19.6s,baz=101,slow=37
TXAR Lajitas Array 102.99 61 PKiKP **PKiKP 11 50 06.3 -0.5**
comp=Z,0.3nm,0.7s,baz=263,slow=1.4,SNR=3.4
ARCES ARCESS Array B 108.92 343 PKiKP **PKiKP 11 50 16.1 -0.4**
comp=Z,7.8nm,1.2s,baz=66,slow=2.2,SNR=5.0
AKASG Malin Array Be 116.95 325 PKP **PKPdf 11 50 31.8 -0.5**
comp=Z,1.2nm,0.6s,baz=65,slow=1.8,SNR=5.4
PLCA Paso Flores 117.30 142 PKP **PKPdf 11 50 33.5 -0.1**
comp=Z,0.6nm,0.6s,baz=279,slow=3.8,SNR=3.5
BRTR Keskin Array B 117.88 312 PKP **PKPdf 11 50 33.4 -1.3**
comp=Z,0.7nm,0.6s,baz=84,slow=2.0,SNR=2.8
HFS Hagfors 118.84 339 PKP **PKPdf 11 50 34.4 -1.4**
comp=Z,3.2nm,0.9s,baz=53,slow=2.0,SNR=2.7
NOA NORSAR Array B 119.03 341 PKP **PKPdf 11 50 35.0 -1.1**
comp=Z,0.6nm,0.6s,baz=43,slow=1.9,SNR=3.4
BOSA Boshof 120.40 232 PKP **PKPdf 11 50 39.0 -0.9**
comp=Z,2.7nm,0.6s,baz=99,slow=1.6,SNR=10
CLL Collm 125.18 332 *i* PKPdf **PKPdf 11 50 47.6 -0.6**
comp=Z,5.0nm,0.8s
GERES GERESS Array B 126.44 329 PKP **PKPdf 11 50 50.7 -0.1**
comp=Z,1.2nm,0.4s,baz=48,slow=2.0,SNR=11
EKA Eskdalemuir Ar 128.06 344 PKP **PKPdf 11 50 53.1 -0.5**
comp=Z,1.0nm,0.6s,baz=7.2,slow=2.2,SNR=4.7
ROSC El Rosal 130.97 89 PKP **PKPdf 11 51 00.7 -0.1**
comp=Z,18nm,0.5s,baz=120,slow=15,SNR=6.2
LPAZ La Paz 131.84 118 PKP **PKPdf 11 51 02.6 0.0**
comp=Z,1.4nm,0.5s,baz=303,slow=1.8,SNR=5.7
CPUP Villa Florida 134.93 137 PKP **PKPdf 11 51 06.8 -0.7**
comp=Z,1.8nm,0.8s,baz=204,slow=12,SNR=3.8
ESDC Sonseca Array 141.73 333 PKP **PKPdf 11 51 18.9 -0.7**
comp=Z,0.3nm,0.6s,baz=27,slow=0.9,SNR=1.9
GDSD La Disrade Is 143.39 71 PKPdf PKPbc 11 51 21.5 +1.1
BIM Bigot 143.71 74 PKPdf PKPbc 11 51 22.1 +0.7
BOAV Boa Vista 144.44 95 PKPdf **PKPab 11 51 23.0 -0.4**
MESJ Messejana 145.07 336 PKPbc **PKPbc 11 51 25.1 +0.2**
BDFB Brasilia 148.50 134 PKPbc **PKPdf 11 51 34.3 +2.4**
comp=Z,4.7nm,0.5s,baz=116,slow=2.6,SNR=7.8
TORD Torodi Ar. Bea 152.78 286 PKPdf **PKPdf 11 51 37.6 -0.9**
TORD PKPbc **PKPbc 11 51 44.7 -0.9**
TORD PKPab **PKPab 11 51 56.2 -0.5**
DBIC Dimbokro 159.92 272 PKPdf **PKPdf 11 51 46.3 -1.5**
DBIC PKPab **PKPab 11 52 26.4 -1.1**
DBIC Dimbokro 159.92 272 PKPab **PKPab 11 52 27.1 -0.4**
comp=Z,9.3nm,0.9s,baz=102,slow=3.7,SNR=9.0

TEH ***02*** *12:00:57.4,33°.51N×45°.56E,h9km±18km*
ISN ***02*** *12:00:59.5±0.4,33°.64N×45°.64E,h10km±1km,ML3.2*
ISC 02 12:00:59.8±0.9,33°.59N±0°.03×45°.64E±0°.04,h13km,n14,
σ0:91/18,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.54**	**153**	*e*Pg	**Pb**	**12 01 11.0**	**-0.1**
IBDR				*e*Sg	**Sb**	**12 01 19.0**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.57**	**24**	Pg	**Pg**	**12 01 10.7**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.91**	**358**	Pg	**Pg**	**12 01 16.7**	**-0.7**
IGHG	**Ghaleghazi**	**1.07**	**46**	Pg	**Pb**	**12 01 20.1**	**-0.2**
BHD	**Baghdad**	**1.10**	**253**	*e*Pg	**Pn**	**12 01 21.0**	**+0.2**
BHD				*e*Sg	**Sn**	**12 01 36.5**	**+0.7**
BHD				AML	AML	12 01 55.5	
comp=E,826nm,0.4s							
IDHR	**Dehrash**	**1.27**	**29**	Pg	**Pb**	**12 01 23.6**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.35**	**59**	Pg	**Pg**	**12 01 25.4**	**-0.4**
IKFM	**Kafar-mosalman**	**1.85**	**92**	Pn	**Pb**	**12 01 32.4**	**-1.0**
RAFI	**Al-Rafai**	**1.91**	**168**	*e*Pn	**Pb**	**12 01 34.5**	**+0.1**
RAFI				*e*Sn	**Sg**	**12 02 00.0**	**-1.1**
SNQR	**Sonqor, Kerman**	**2.08**	**52**	Pn	**Pb**	**12 01 36.3**	**-1.2**
IKRK	**Kirkuk**	**2.10**	**330**	*e*Pn	**Pn**	**12 01 36.0**	**+1.4**
IKRK				*e*Sn	**Sb**	**12 02 03.0**	**-0.6**
IKRK				AML	AML	12 02 17.1	
comp=N,180nm,0.4s							
IKRK				AML	AML	12 02 20.3	
comp=E,267nm,0.5s							
IDOB	**Doab**	**2.13**	**84**	Pn	**Pn**	**12 01 36.3**	**+1.0**
BDRS	**Dareh Seyedi**	**2.73**	**82**	Pn	**Pn**	**12 01 44.7**	**+1.1**
HGHA	**Hamedan- Ghaye**	**3.26**	**54**	Pn	**Pn**	**12 01 52.5**	**+1.6**

IDC 02 12:10:25.1±257.0,57°.40N×31°.83E,h0km,Error ellipse: s-maj=116.3km s-min=72.4km az=107.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.02**	**101**	I	I	12 30 30.0	
0.4nm,0.6s,baz=283,slow=319,SNR=1.5							
I37NO	**I37NO**	**13.10**	**339**	I	I	13 24 40.0	
baz=143,slow=330,SNR=1.2							
I26DE	**FREYUNG INFRAS**	**13.80**	**239**	I	I	13 37 10.0	
baz=45,slow=336,SNR=0.7							
I48TN	**KESRA INFRASON**	**26.33**	**225**	I	I	14 50 00.0	
baz=28,slow=325,SNR=0.9							

NEIC ***02*** *12:27:09.0±1.2,61°.01N±0°.02×150°.29W±0°.04,h57km±2km, Error ellipse: s-maj=3.6km s-min=2.9km az=158.0*
AEIC 02 12:27:09.7±1.3,61°.01N±0°.02×150°.33W±0°.05,h49km±4km, ML2.7,ML2.8/192(NEIC),**Error ellipse: s-maj=3.8km s-min=3.3km az=101.0,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.15**	**21**		Pn	12 27 17.9	+0.3
FIS				Sn	Sn	12 27 25.5	+2.4
RC01	**Rabbit Creek A**	**0.30**	**74**		Pn	12 27 18.2	-0.5
RC01					Sn	12 27 25.5	+0.3
RC01				IAML		12 27 26.5	
comp=E,805nm,0.3s							
CAPN	**Captain Cook N**	**0.47**	**240**		Pn	12 27 21.0	+0.5
CAPN				Sn	Sn	12 27 29.6	+1.5
SUA	**Susitna One**	**0.50**	**336**		Pn	12 27 19.6	-1.4
SUA					Sn	12 27 28.1	-0.9
SLKM	**Skilak Lake**	**0.50**	**174**		Pn	12 27 20.2	-0.7
SLKM					Sn	12 27 28.9	0.0
SLKM				IAML		12 27 29.6	
comp=E,834nm,0.3s							
SLKM				IAML		12 27 30.0	
comp=N,756nm,0.2s							
O22K	**Cooper Landing**	**0.60**	**150**		Pn	12 27 21.9	-0.2
M22K	**Willow**	**0.76**	**8**		Pn	12 27 23.4	-0.7
M22K					Sn	12 27 35.2	+0.7
PMR	**Palmer**	**0.82**	**44**		Pn	12 27 24.3	-0.7
PMR				IAML		12 27 36.6	
comp=N,446nm,0.3s							
PMR				IAML		12 27 38.0	
comp=E,309nm,0.5s							
STLK	**Strandline Lak**	**0.88**	**305**		Pn	12 27 25.0	-0.8
SPCR	**Spurr Chakacha**	**0.93**	**283**		Pn	12 27 25.5	-1.1
SPCR					Sn	12 27 38.5	-0.4
PWL	**Port Wells**	**0.98**	**98**		Pn	12 27 27.0	-0.1
KNK	**Knik Glacier**	**0.99**	**65**		Pn	12 27 27.1	-0.1
KNK				IAML		12 27 42.2	
comp=E,388nm,0.2s							
KNK				IAML		12 27 42.3	
comp=N,376nm,0.5s							
SEW	**Seward**	**1.00**	**154**		Pn	12 27 26.8	-0.5
SPBG	**Spurr Blockage**	**1.02**	**285**		Pn	12 27 26.7	-1.0
GHO	**Glory Hole Cre**	**1.02**	**41**		Pn	12 27 27.2	-0.5
GHO					Sn	12 27 41.5	+0.5
RDT	**Redoubt**	**1.11**	**248**		Pn	12 27 27.7	-1.1
SKT	**Skwentna**	**1.14**	**330**		Pn	12 27 28.4	-0.8
SKT				IAML		12 27 44.6	
comp=N,351nm,0.5s							
DFR	**Drift River**	**1.23**	**251**		Pn	12 27 29.4	-1.1
DFR					Sn	12 27 45.9	-0.1
SML	**Sawmill**	**1.25**	**49**		Pn	12 27 30.2	-0.6
SML				IAML		12 27 49.6	
comp=E,205nm,0.9s							
SML				IAML		12 27 51.7	
comp=N,240nm,0.8s							
BRLK	**Bradley Lake**	**1.28**	**193**	Pn	Pn	12 27 30.7	-0.4
BRLK				IAML		12 27 48.6	
comp=E,287nm,0.2s							
RDJH	**Redoubt Jeurge**	**1.28**	**252**		Pn	12 27 30.3	-1.0
RDJH					Sn	12 27 47.0	-0.4
BRSE	**Bradley Lake S**	**1.28**	**189**		Pn	12 27 30.6	-0.6
RED	**Redoubt Volcan**	**1.34**	**245**		Pn	12 27 31.0	-1.0
RDWB	**Redoubt West**	**1.34**	**248**		Pn	12 27 31.1	-1.0
CUT	**Chulitna**	**1.40**	**1**		Pn	12 27 32.4	-0.4
O20K	**Slope Mountain**	**1.47**	**232**		Pn	12 27 33.6	-0.2
M23K	**Glacier View**	**1.48**	**57**		Pn	12 27 33.4	-0.5
HOM	**Homer**	**1.50**	**206**		Pn	12 27 34.2	+0.1
CNPM	**China Poot**	**1.55**	**197**		Pn	12 27 34.4	-0.4
CNPM					Sn	12 27 53.8	0.0
CNPM				IAML		12 27 56.5	
comp=E,194nm,0.4s							
CNPM				IAML		12 27 56.5	
comp=N,166nm,0.3s							
GLI	**Glacier Island**	**1.58**	**93**		Pn	12 27 33.9	-1.4
GLI				IAML		12 28 00.4	
comp=E,171nm,0.8s							
GLI				IAML		12 28 00.4	
comp=N,164nm,0.9s							
M20K	**Styx River**	**1.61**	**304**		Pn	12 27 35.4	-0.3
M20K				IAML		12 27 57.1	
comp=E,106nm,0.8s							
M20K				IAML		12 27 59.2	
comp=N,73nm,0.8s							
SCM	**Sheep Creek Mo**	**1.66**	**59**		Pn	12 27 36.0	-0.4
SCM				IAML		12 28 05.5	
comp=N,122nm,0.5s							
SCM				IAML		12 28 09.8	
comp=E,146nm,0.9s							
ILS	**Iliamna Low So**	**1.72**	**233**		Pn	12 27 36.7	-0.4
ILSW	**Iliamna Southw**	**1.73**	**235**		Pn	12 27 37.1	-0.3
ILSW				IAML		12 27 59.9	
comp=N,66nm,0.7s							
ILSW				IAML		12 28 03.8	
comp=E,80nm,0.7s							
P23K	**Montague Islan**	**1.77**	**124**		Pn	12 27 36.4	-1.3
P23K				IAML		12 28 09.8	
comp=E,107nm,0.4s							
P23K				IAML		12 28 10.1	
comp=N,108nm,0.4s							
FID	**Port Fidalgo**	**1.90**	**96**		Pn	12 27 37.6	-2.0
FID				IAML		12 28 09.0	
comp=N,103nm,0.4s							
FID				IAML		12 28 09.2	
comp=E,90nm,0.3s							
HIN	**Hinchinbrook I**	**1.98**	**106**	Pn	Pn	12 27 39.2	-1.5
HIN				IAML		12 28 12.7	
comp=E,65nm,0.6s							
HIN				IAML		12 28 17.3	
comp=N,69nm,0.5s							
P19K	**Oil Pt**	**1.98**	**228**		Pn	12 27 41.0	+0.3
P19K				IAML		12 28 10.8	
comp=N,132nm,0.5s							
N19K	**Bonanza Creek**	**2.04**	**266**	Pn	Pn	12 27 41.0	-0.5
N19K				IAML		12 28 06.4	
comp=N,67nm,0.7s							
N19K				IAML		12 28 09.9	
comp=E,56nm,0.8s							
PPLA	**Purkeypile**	**2.09**	**336**		Pn	12 27 42.7	+0.3
O19K	**Port Alsworth**	**2.13**	**249**		Pn	12 27 42.0	-0.7
M19K	**Big River Lodg**	**2.15**	**297**		Pn	12 27 42.5	-0.5
M19K				IAML		12 28 13.6	
comp=E,43nm,0.4s							
KLU	**Klutina**	**2.19**	**75**		Pn	12 27 42.8	-0.7
KLU				IAML		12 28 20.4	

comp=N,55nm,0.5s
KLU IAML 12 28 21.2
comp=E,50nm,0.4s
DIV Divide 2.22 85 Pn 12 27 43.1 -0.9
AU22 Augustine Moun 2.23 224 Pn 12 27 44.0 -0.1
L20K Farewell, AK 2.25 313 Pn 12 27 43.5 -0.8
AUCH Augustine Cone 2.27 225 Pn 12 27 45.1 +0.4
M24K Tolsona, Glenn 2.27 59 Pn 12 27 45.1 +0.3
M24K IAML 12 28 20.9
comp=N,80nm,0.6s
EYAK Cordova Ski Ar 2.29 100 Pn 12 27 43.5 -1.4
TRF Thorofare Moun 2.45 0 Pn 12 27 46.9 -0.4
TRF IAML 12 28 22.1
comp=N,48nm,0.6s
TRF IAML 12 28 29.2
comp=E,49nm,0.8s
L19K White Mountain 2.46 301 Pn Pn 12 27 47.0 -0.4
L19K IAML 12 28 17.5
comp=E,50nm,0.4s
L19K IAML 12 28 32.7
comp=N,42nm,0.7s
RND Reindeer 2.51 15 Pn 12 27 47.3 -0.6
RND IAML 12 28 29.9
comp=N,30nm,0.9s
RND IAML 12 28 30.8
comp=E,46nm,0.9s
CAST Castle Rocks 2.56 342 Pn 12 27 48.6 0.0
CAST IAML 12 28 36.7
comp=E,30nm,0.5s
KTH Kantishna Hill 2.57 354 Pn 12 27 48.9 0.0
KTH IAML 12 28 23.8
comp=E,46nm,0.8s
KTH IAML 12 28 39.9
comp=N,42nm,0.9s
SYI Shuyak Island 2.62 204 Pn Pn 12 27 49.2 -0.2
Q19K Cape Douglas, 2.67 220 Pn 12 27 50.1 0.0
O18K Koktuh Hills 2.68 247 Pn Pn 12 27 49.3 -1.0
O18K IAML 12 28 21.4
comp=N,32nm,0.5s
M18K Stony River 2.70 283 Pn 12 27 49.9 -0.7
N18K Kilae Creek 2.74 266 Pn Pn 12 27 50.1 -1.0
N18K IAML 12 28 22.8
comp=E,30nm,0.9s
BMRM Bremner River 2.79 88 Pn 12 27 50.5 -1.3
MCK McKinley 2.81 13 Pn 12 27 52.1 0.0
N25K Chitina, Valde 2.83 75 Pn 12 27 51.5 -0.9
N25K IAML 12 28 35.1
comp=E,23nm,0.5s
N25K IAML 12 28 37.6
comp=N,30nm,0.6s
HARP HAARP 2.83 58 Pn 12 27 52.2 -0.1
RAGM Ragged Mountai 2.85 100 Pn Pn 12 27 50.8 -1.8
P18K Big Mountain, 2.93 239 Pn Pn 12 27 53.1 -0.7
K20K Telida 2.94 325 Pn 12 27 53.2 -0.6
HMT Hamilton 3.06 100 Pn Pn 12 27 53.6 -1.9
HMT IAML 12 28 52.7
comp=N,44nm,0.6s
BPAW Bear Paw Mtn. 3.12 355 Pn 12 27 56.3 0.0
GLB Gilahina Butte 3.18 79 Pn Pn 12 27 56.6 -0.6
GLB IAML 12 28 54.9
comp=N,20nm,1.0s
L18K Granite Mounta 3.27 295 Pn 12 27 58.0 -0.4
BERG Berg Lake 3.32 98 Pn 12 27 56.9 -2.1
BERG IAML 12 28 55.5
comp=N,35nm,0.6s
VRDI Verde Repeater 3.34 83 Pn Pn 12 27 58.6 -1.0
VRDI IAML 12 28 54.8
comp=N,19nm,0.9s
SUCK Suckling Hills 3.37 103 Pn Pn 12 28 00.6 +0.9
SUCK IAML 12 29 05.7
comp=E,16nm,1.2s
SUCK IAML 12 29 11.0
comp=N,20nm,1.1s
N17K Nushagak Hills 3.40 265 Pn Pn 12 27 59.3 -0.8
N17K IAML 12 28 38.3
comp=E,27nm,0.7s
N17K IAML 12 28 38.6
comp=N,28nm,0.5s
KDAK Kodiak Island 3.43 201 Pn 12 27 59.1 -1.4
KDAK IAML 12 29 02.6
comp=N,18nm,0.9s
M17K Holitna River 3.46 280 Pn 12 28 00.4 -0.6
M17K IAML 12 28 41.1
comp=N,33nm,0.6s
WRH Wood River Hil 3.63 16 Pn 12 28 03.3 +0.1
WRH IAML 12 29 02.1
comp=N,12nm,0.8s
WRH IAML 12 29 09.7
comp=E,12nm,1.1s
J20K Nowinta River 3.64 333 Pn 12 28 02.8 -0.6
J20K IAML 12 29 13.1
comp=N,12nm,0.5s
MENT Mentasta 3.67 55 Pn 12 28 03.3 -0.6
MENT IAML 12 29 05.7
comp=E,25nm,0.6s
MENT IAML 12 29 06.1
comp=N,26nm,0.6s
WAX Waxell Ridge 3.71 95 Pn 12 28 02.7 -1.8
WAX IAML 12 29 16.4
comp=N,29nm,0.5s
WAX IAML 12 29 27.3
comp=E,18nm,0.6s
RIDG Independent Ri 3.75 41 Pn 12 28 05.5 +0.6
RIDG IAML 12 29 02.7
comp=N,21nm,0.5s
HDA Harding Lake 3.75 23 Pn 12 28 05.5 +0.6
HDA IAML 12 29 00.4
comp=E,13nm,0.4s
HDA IAML 12 29 07.8
comp=N,23nm,0.9s
M26K Nabesna, AK 3.76 65 Pn 12 28 05.6 +0.5
ACHA Angle Creek He 3.78 224 Pn Pn 12 28 05.4 -0.1
SNH Sunshine Point 3.79 99 Pn Pn 12 28 05.4 0.0
SNH IAML 12 28 48.2
comp=E,11nm,1.1s
SNH IAML 12 30 23.1
comp=N,15nm,1.1s
CCB Clear Creek Bu 3.83 16 Pn 12 28 06.1 +0.1
CCB IAML 12 29 08.2
comp=E,12nm,0.9s
L26K Log Cabin Wild 3.86 55 Pn 12 28 06.6 +0.1
L26K IAML 12 29 11.2
comp=E,14nm,0.5s
L26K IAML 12 29 15.1
comp=N,14nm,0.4s
J18K Innoko River 3.88 312 Pn Pn 12 28 06.1 -0.5
J19K Poorman 3.88 323 Pn Pn 12 28 06.8 +0.2
COLA College 4.04 15 Pn Pn 12 28 09.7 +0.8
OHAK Old Harbor 4.09 203 Pn Pn 12 28 08.0 -1.6
OHAK IAML 12 28 52.3
comp=N,8.2nm,0.6s
IL31 4.09 21 Pn 12 28 09.8 +0.2
ILAR Eielson Array 4.09 21 Pn Pn 12 28 09.6 0.0
O16K Kokwok River B 4.12 253 Pn Pn 12 28 09.4 -0.5
O16K IAML 12 29 10.2
comp=E,8.8nm,0.5s
O16K IAML 12 29 24.2
comp=N,9.8nm,1.0s
K17K Iditarod 4.15 298 Pn 12 28 09.9 -0.4
K17K IAML 12 29 18.9
comp=E,13nm,1.0s
K17K IAML 12 29 21.7
comp=N,15nm,1.1s
I23K Minto, Yukon-K 4.18 6 Pn Pn 12 28 10.3 -0.5
I23K IAML 12 29 26.2
comp=N,7.9nm,1.0s
SCRK Sand Creek 4.19 42 Pn Pn 12 28 10.6 -0.4
SCRK IAML 12 29 15.6
comp=E,9.0nm,0.6s
SCRK IAML 12 29 22.3
comp=N,7.9nm,0.6s
M16K Timber Creek 4.20 274 Pn Pn 12 28 10.4 -0.6
M16K IAML 12 29 22.9
comp=N,11nm,0.9s
MESA MESA 4.21 98 Pn Pn 12 28 10.0 -1.4
MESA IAML 12 29 03.2
comp=E,15nm,1.0s
MESA IAML 12 29 07.8
comp=N,13nm,1.0s
M27K Edge Creek, AK 4.25 68 Pn 12 28 12.0 +0.1
I20K Naaghedeneel 4.25 335 Pn 12 28 09.1 -2.6
YAH Yahtse 4.27 95 Pn Pn 12 28 10.6 -1.6
YAH IAML 12 29 23.1
comp=E,7.4nm,1.0s
YAH IAML 12 29 28.4
comp=N,10nm,1.0s
J25K Salcha River, 4.28 30 Pn Pn 12 28 12.7 +0.5
J25K IAML 12 29 11.8
comp=N,12nm,0.6s
P16K Nushagak River 4.33 246 Pn Pn 12 28 12.5 -0.2
POKR Poker Plat Res 4.33 16 Pn Pn 12 28 12.4 -0.5
POKR IAML 12 29 14.2
comp=N,7.3nm,0.9s
POKR IAML 12 29 22.0
comp=E,7.0nm,1.0s
L16K Owhat River 4.46 283 Pn Pn 12 28 13.8 -0.8
L16K IAML 12 29 04.0
comp=E,8.6nm,0.5s
L27K Beaver Creek, 4.50 59 Pn Pn 12 28 14.8 -0.5
BCAR Beaver Creek A 4.52 59 Pn Pn 12 28 14.7 -0.9
J26L Joseph Creek 4.69 39 Pn 12 28 17.8 -0.1
J26L IAML 12 29 20.7
comp=N,9.2nm,0.7s
J26L IAML 12 29 23.0
comp=E,10nm,0.5s
J17K VABM Dome 4.75 304 Pn Pn 12 28 16.7 -1.9
H21K Melozitna Rive 4.80 348 Pn 12 28 19.8 +0.5
H23K Yukon River 4.85 4 Pn Pn 12 28 20.6 +0.6
K27K Chicken 4.88 48 Pn Pn 12 28 19.5 -0.9
O28M Mount Upton 4.96 88 Pn 12 28 21.2 -0.5
PRP Porcupine Dome 5.02 24 Pn 12 28 23.0 +0.6
PRP IAML 12 29 30.0
comp=E,5.9nm,0.9s
PRP IAML 12 29 44.2
comp=N,6.4nm,0.8s
O15K Ungalikthiuk R 5.09 253 Pn Pn 12 28 23.3 -0.1
O15K IAML 12 29 28.3
comp=E,7.8nm,1.1s
O15K IAML 12 29 59.0
comp=N,5.5nm,0.8s
J16K Anvik River 5.33 300 Pn Pn 12 28 25.9 -0.7
J16K IAML 12 29 57.9
comp=N,3.8nm,1.1s
I26K Coal Creek Min 5.40 34 Pn 12 28 27.5 0.0
K15K Wolf Creek Mou 5.49 288 Pn Pn 12 28 28.6 -0.2
H18K Honhosa River 5.53 322 Pn Pn 12 28 28.7 -0.7
M14K Bethel 5.69 273 Pn Pn 12 28 31.4 0.0
G21K Allakaket 5.71 347 Pn Pn 12 28 33.3 +1.6
O14K Tigyukauivet M 5.74 257 Pn Pn 12 28 32.4 +0.2
M29M Somme Creek 5.82 71 Pn Pn 12 28 34.2 +0.7
O29M Mount Kennedy 5.82 92 Pn Pn 12 28 33.1 -0.4
H17K Granite Mounta 5.88 316 Pn Pn 12 28 35.4 +1.3
DAWY Dawson 5.92 54 Pn Pn 12 28 34.5 -0.1
L14K Kuka Creek 5.99 279 Pn Pn 12 28 35.6 0.0
L29M L29M 6.11 65 Pn Pn 12 28 37.1 -0.2
G18K Tagagawik 6.16 326 Pn Pn 12 28 37.7 -0.3
P29M Windy Craggy 6.41 97 Pn 12 28 41.2 -0.1
N30M Aishikik Lake 6.41 80 Pn Pn 12 28 40.5 -1.0
I28M Miner Creek 6.47 42 Pn Pn 12 28 42.7 +0.4
H27K Steamboat Moun 6.54 33 Pn Pn 12 28 43.0 -0.2
K29M Barlow Dome 6.59 59 Pn Pn 12 28 43.9 -0.1
BMAR Burnt Mountain 6.92 19 Pn Pn 12 28 48.4 +0.1
F25K Christian Rive 6.92 15 Pn Pn 12 28 48.9 +0.5
E19K Redstone River 7.14 338 Pn Pn 12 28 51.5 +0.2
E24K Your Creek 7.14 6 Pn Pn 12 28 51.5 +0.1
F26K Sheenjek River 7.23 19 Pn Pn 12 28 53.0 +0.5
J30M Hart River 7.34 55 Pn Pn 12 28 54.8 +0.6
I30M Mount Dempster 7.60 50 Pn Pn 12 28 57.1 -0.7
TOLK Toolik Lake Re 7.67 2 Pn Pn 12 28 58.4 -0.3
ANM Nome 7.76 304 Pn Pn 12 29 00.0 +0.2
D23K Nanushuk River 8.00 359 Pn Pn 12 29 02.6 -0.4
E27K Coleen River 8.12 24 Pn Pn 12 29 04.8 +0.1
D25K Kavik River 8.51 10 Pn Pn 12 29 10.2 +0.1
E29M Blow River 9.10 30 Pn Pn 12 29 18.1 -0.1
G31M Satah River 9.20 43 Pn Pn 12 29 18.3 -1.2
F31M Tsiigehtchic 9.66 41 Pn Pn 12 29 25.0 -0.8

BJI ***02*** *12:28:25.2, 1.°19N×127.°73E, h119km, mB5.0/18, mb5.0/67*
DJA ***02*** *12:28:31.9±0.2, 2.°N±2.°×12.°7E±.°, h116km±2km, M4.9/66, mb5.2/66, mB5.4/43, MLv5.3/18, Mw(mB)4.8/43, MwMwp5.0/1, Mwp5.3/1*
NEIC ***02*** *12:28:32.1±1.9, 1.°76N±0.°07×127.°37E±0.°07, h118km±4km, mb4.9/83, Error ellipse: s-maj=11.3km s-min=9.3km az=59.0*
IDC ***02*** *12:28:32.1±1.3, 1.°74N×127.°50E, h127km±10km, mb4.4/22, mbtmp4.8/25, MS3.2/8, Error ellipse: s-maj=16.9km s-min=7.7km az=76.0*
GCMT ***02*** *12:28:33.1±0.3, 1.°83N±0.°02×127.°26E±0.°03, h107km±6km, MW4.8/80, Moment Tensor Solution. s13,c14; s80,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.28±.11; $M_{\theta\theta}$1.05±.11; $M_{\phi\phi}$-1.32±.13; $M_{r\theta}$-0.79±.06; $M_{\theta\phi}$0.49±.10; $M_{\phi r}$-1.21±.07; Best double couple: $M_0$1.94500×10^{16} NP1:ϕ_s306.00000°, δ41.00000°, λ8.00000°. NP2: ϕ_s210.00000°, δ85.00000°, λ131.00000°. Principal axes: T 1.9160, Plg37.0000°, Azm155.0000°; N 0.0620, Plg41.0000°, Azm26.0000°; P -1.9730, Plg28.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 12:28:31.7±0.4, 1.°74N±0.°03×127.°37E±0.°04, h121km±3km, h122km:pP-P, n325, σ1.°11/345, mb4.9/99, 4C-3D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.96**	**180**		**Pn**	**12 28 54.0**	**+0.6**
TNTI				Sn	**Sn**	**12 29 10.6**	**+0.7**
TNTI	**Ternate**	**0.96**	**180**	P	**Pn**	**12 28 54.1**	**+0.7**
TNTI	**Ternate**	**0.96**	**180**	P	**Pn**	**12 28 54.0**	**+0.6**
TNTI				S	**Sn**	**12 29 11.4**	**+1.5**
SGSI	**Sangihe**	**2.67**	**317**	P	**Pn**	**12 29 12.5**	**-1.3**
SGSI				S	**Sn**	**12 29 43.5**	**-2.6**
KMSI	**Cibinong**	**3.58**	**251**	P	**Pn**	**12 29 26.4**	**+0.7**
KMSI				S	**Sn**	**12 30 07.9**	**+0.4**
SANI	**Sanana**	**4.01**	**200**	P	**Pn**	**12 29 30.7**	**-0.7**
SANI	**Sanana**	**4.01**	**200**	P	**Pn**	**12 29 30.9**	**-0.5**
SWI	**Sorong**	**4.67**	**124**	P	**Pn**	**12 29 41.0**	**+0.8**
SWI				S	**Sn**	**12 30 34.6**	**+1.1**
NLAI	**Namlea**	**4.95**	**183**	P	**Pn**	**12 29 44.6**	**+0.6**
	3.5nm12μm164nm,0.9s						
MSAI	**Masohi**	**5.28**	**163**	P	**Pn**	**12 29 52.2**	**+3.7**
	1.5nm5μm375nm,0.8s						
LUWI	**Luwuk**	**5.36**	**239**	Pn	**Pn**	**12 29 48.8**	**-0.7**
LUWI				Sn	**Sn**	**12 30 52.1**	**+1.9**
LUWI	**Luwuk**	**5.36**	**239**	P	**Pn**	**12 29 49.4**	**-0.2**
LUWI	**Luwuk**	**5.36**	**239**	S	**Sn**	**12 30 51.7**	**+1.5**
LUWI	**Luwuk**	**5.36**	**239**	P	**Pn**	**12 29 48.9**	**-0.7**
LUWI				S	**Sn**	**12 30 52.2**	**+1.9**
AAI	**Ambon**	**5.45**	**171**	P	**Pn**	**12 29 52.9**	**+2.1**
	0.9nm3μm182nm,0.9s						
MRSI	**Marisa**	**5.57**	**257**	P	**Pn**	**12 29 52.8**	**+0.4**
MRSI				S	**Sn**	**12 30 55.2**	**-0.1**
DAV	**Davao City (W)**	**5.59**	**341**	P	**Pn**	**12 29 53.1**	**+0.4**
	189nm,0.3s,baz=252,slow=14,SNR=4.5						
DAV				S	**Sn**	**12 30 56.9**	**+1.1**
	410nm,0.4s,baz=75,slow=17,SNR=3.8						
DAV				LR	LR	12 32 25.0	
	comp=Z,334nm,21.6s,baz=226,slow=41						
APSI	**Ampana**	**6.30**	**245**	P	**Pn**	**12 30 02.3**	**+0.1**
	9μm614nm,0.9s						
TOLI2	**Tolitoli**	**6.62**	**265**	Pn	**Pn**	**12 30 06.3**	**-0.2**
TOLI2	**Tolitoli**	**6.62**	**265**	P	**Pn**	**12 30 06.1**	**-0.4**
FAKI	**Fak Fak**	**6.72**	**133**		**Pn**	**12 30 09.3**	**+1.4**
FAKI	**Fak Fak**	**6.72**	**133**	P	**Pn**	**12 30 10.2**	**+2.3**
FAKI	**Fak Fak**	**6.72**	**133**	P	**Pn**	**12 30 09.8**	**+1.9**
	0.7nm3μm242nm,1.0s						
FAKI				S	**Sn**	**12 31 26.3**	**+3.2**
	0.7nm3μm242nm,1.0s						
PCI	**Palu**	**7.98**	**251**	P	**Pn**	**12 30 25.3**	**+0.4**
	1.1nm4μm385nm,0.9s						
KMPI	**Kaimana, Papua**	**8.30**	**130**	P	**Pn**	**12 30 31.3**	**+2.1**
	378nm,1.2s						
BBSI	**Bau Bau**	**8.63**	**214**	P	**Pn**	**12 30 35.6**	**+1.9**
TTSI	**Tana Toraja**	**8.92**	**238**	P	**Pn**	**12 30 37.4**	**-0.2**
BAKI	**Biak**	**9.21**	**108**	P	**Pn**	**12 30 42.7**	**+1.2**
	5μm3μm247nm,1.4s						
SPSI	**Sidrap Palu**	**9.47**	**233**	P	**Pn**	**12 30 45.5**	**+0.4**
MYLDM	**Lahad Datu**	**9.49**	**291**		**Pn**	**12 30 46.5**	**+1.1**
MYLDM	**Lahad Datu**	**9.49**	**291**	P	**Pn**	**12 30 46.9**	**+1.5**
BKSI	**Bulukumba**	**10.08**	**226**	P	**Pn**	**12 30 55.1**	**+1.8**
	2μm121nm,0.5s						
KAPI	**Kappang**	**10.14**	**229**	Pn	**Pn**	**12 30 54.6**	**+0.5**
KAPI	**Kappang**	**10.14**	**229**	P	**Pn**	**12 30 55.3**	**+1.1**
	214nm,0.5s,baz=318,slow=4.8,SNR=62						
KAPI				S	**Sn**	**12 32 43.7**	**-2.4**
	81nm,0.5s,baz=141,slow=23,SNR=9.5						
KAPI				LR	LR	12 35 56.0	
	comp=Z,93nm,20.2s,baz=50,slow=43						
KAPI	**Kappang**	**10.14**	**229**	P	**Pn**	**12 30 57.0**	**+2.8**
BSSI	**Bau Bau, Buton**	**10.41**	**221**	P	**Pn**	**12 30 58.4**	**+0.6**
	1μm83nm,0.6s						
SAUI	**Saumlaki**	**10.42**	**158**	Pn	**Pn**	**12 30 55.6**	**-2.3**
BKB	**Balikpapan**	**10.89**	**254**	Pn	**Pn**	**12 31 02.6**	**-1.6**
BKB	**Balikpapan**	**10.89**	**254**	P	**Pn**	**12 31 04.3**	**+0.1**
BKB	**Balikpapan**	**10.89**	**254**	P	**Pn**	**12 31 04.4**	**+0.2**
	4μm114nm,0.8s						
MMRI	**Maumere**	**11.50**	**206**	Pn	**Pn**	**12 31 11.3**	**-1.1**
SOEI	**Soe**	**11.83**	**195**	Pn	**Pn**	**12 31 15.1**	**-1.7**
SOEI	**Soe**	**11.83**	**195**	P	**Pn**	**12 31 17.2**	**+0.4**
SOEI	**Soe**	**11.83**	**195**	P	**Pn**	**12 31 20.6**	**+3.8**
	132nm,0.8s						
EDFI	**Ende, Flores**	**11.86**	**208**	P	**Pn**	**12 31 19.1**	**+2.0**
KKM	**Kota Kinabalu**	**11.92**	**291**		**Pn**	**12 31 16.5**	**-1.5**
KKM	**Kota Kinabalu**	**11.92**	**291**	P	**Pn**	**12 31 19.7**	**+1.7**
SMPI	**Sarmi**	**11.93**	**108**	P	**Pn**	**12 31 20.1**	**+2.1**
GENI	**Genyem**	**13.50**	**109**	P	**Pn**	**12 31 38.8**	**+0.4**
GENI	**Genyem**	**13.50**	**109**	P	**Pn**	**12 31 40.2**	**+1.8**
	357nm,1.1s						
JAY	**Jayapura**	**13.98**	**108**	P	**P**	**12 31 48.0**	**-0.8**
	82nm,0.8s,baz=245,slow=6.0,SNR=20						
JAY	**Jayapura**	**13.98**	**108**	P	**P**	**12 31 48.0**	**-0.8**
	969nm93nm,0.9s						
PLAI	**Plampang**	**14.20**	**222**	P	**Pn**	**12 31 48.2**	**+0.8**
PLAI	**Plampang**	**14.20**	**222**	P	**P**	**12 31 50.9**	**-0.2**
	1μm125nm,1.1s						
DRS	**Darwin Rock St**	**14.51**	**166**	P	**Pn**	**12 31 51.6**	**+0.3**
TWSI	**Taliwang, Sumb**	**14.75**	**225**	P	**P**	**12 31 56.2**	**-1.1**
	126nm,1.0s						
MTN	**Manton Dam**	**14.96**	**166**		**Pn**	**12 31 55.7**	**-1.4**
MTN	**Manton Dam**	**14.96**	**166**	P	**Pn**	**12 31 55.5**	**-1.6**
MTN	**Manton Dam**	**14.96**	**166**	P	**Pn**	**12 31 55.6**	**-1.4**
SBUM	**Sibu**	**15.16**	**273**		**Pn**	**12 31 59.0**	**-0.6**
SBUM	**Sibu**	**15.16**	**273**	P	**Pn**	**12 32 00.1**	**+0.5**
KDU	**Kakadu**	**15.20**	**161**	P	**Pn**	**12 31 57.5**	**-2.5**
KDU	**Kakadu**	**15.20**	**161**	P	**Pn**	**12 31 58.5**	**-1.5**
TABU	**Tabubil**	**15.49**	**117**	P	**P**	**12 32 05.4**	**-0.1**
SRBI	**Singaraja**	**15.56**	**231**	P	**P**	**12 32 07.7**	**+1.4**
	2μm163nm,1.1s						
DNP	**Denpasar**	**15.94**	**229**	P	**P**	**12 32 10.7**	**+0.3**
	390nm,0.8s						
KMMI	**Kalianget**	**15.97**	**237**	P	**P**	**12 32 12.0**	**+1.2**
	5μm427nm,1.1s						
STKI	**Sintang**	**15.98**	**264**	P	**P**	**12 32 10.7**	**-0.2**
	103nm,0.9s						
ABJI	**Asem Bagus**	**16.17**	**234**	P	**P**	**12 32 14.7**	**+1.7**
JAGI	**Jajag, Banyuwa**	**16.63**	**232**	Pn	**Pn**	**12 32 16.6**	**-1.2**
JAGI	**Jajag, Banyuwa**	**16.63**	**232**	P	**P**	**12 32 18.9**	**+0.8**
JAGI	**Jajag, Banyuwa**	**16.63**	**232**	P	**P**	**12 32 20.1**	**+2.0**
	3μm144nm,0.9s						
KSM	**Kuching**	**17.06**	**269**	P	**P**	**12 32 22.5**	**-0.3**
KSM	**Kuching**	**17.06**	**269**	P	**Pn**	**12 32 23.7**	**+0.7**
GMJI	**Gumukmas**	**17.08**	**234**	P	**Pn**	**12 32 25.1**	**+1.9**
	1μm116nm,1.3s						
KNRA	**Kununurra**	**17.36**	**175**		**P**	**12 32 25.8**	**-0.3**
KNRA	**Kununurra**	**17.36**	**175**	P	**P**	**12 32 25.8**	**-0.3**
	comp=Z,90nm,0.8s						
TBJI	**Tambak Boyo**	**17.67**	**241**	P	**Pn**	**12 32 31.2**	**+0.8**
	comp=Z,134nm,0.9s						
NGJI	**Ngawi**	**18.27**	**240**	P	**P**	**12 32 36.3**	**+0.2**
	comp=Z,138nm,0.9s						
PCJI	**Pacitan**	**18.92**	**238**	P	**Pn**	**12 32 45.4**	**+0.2**
	comp=Z,4μmcomp=Z,245nm,0.7s						
SMRI	**Semarang**	**19.02**	**243**	P	**P**	**12 32 44.2**	**-0.1**
SMRI	**Semarang**	**19.02**	**243**	P	**P**	**12 32 45.0**	**+0.7**
SMRI	**Semarang**	**19.02**	**243**	P	**Pn**	**12 32 46.1**	**-0.3**
	comp=Z,146nm,0.8s						
UGM	**Wanagama**	**19.34**	**240**	P	**Pn**	**12 32 49.5**	**-0.7**
UGM	**Wanagama**	**19.34**	**240**	P	**Pn**	**12 32 49.6**	**-0.7**
UGM	**Wanagama**	**19.34**	**240**	P	**Pn**	**12 32 50.5**	**+0.3**
	comp=Z,148nm,0.9s						
YOGI	**Yogyakarta**	**19.50**	**241**	P	**Pn**	**12 32 51.0**	**-1.0**
	comp=Z,3μmcomp=Z,305nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.78**	**185**	P	**P**	**12 32 52.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.78**	**185**	P	**P**	**12 32 51.8**	**-0.8**
	comp=Z,15nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.78**	**185**	P	**P**	**12 32 52.0**	**-0.6**
	comp=Z,60nm,0.7s,baz=20,slow=8.6,SNR=175						
FITZ				S	**S**	**12 36 23.9**	**-5.1**
	comp=Z,10nm,1.0s,baz=253,slow=21,SNR=3.7						
FITZ	**Fitzroy Crossi**	**19.78**	**185**	P	**P**	**12 32 52.2**	**-0.3**
TPI	**Tanjungpandan**	**20.21**	**257**	P	**P**	**12 32 57.4**	**+0.2**
GUMO	**Guam**	**20.94**	**55**	LR	LR	12 40 10.9	
	comp=Z,46nm,19.4s,baz=234,slow=34						
CMJI	**Cimerak**	**21.11**	**243**	P	**P**	**12 33 07.0**	**+0.1**
	comp=Z,115nm,1.5s						
DLV	**Lat**	**21.29**	**299**	P	**P**	**12 33 08.2**	**-0.9**
DLV	**Lat**	**21.29**	**299**	P	**P**	**12 33 10.0**	**+0.9**
LEM	**Lembang**	**21.47**	**246**	P	**P**	**12 33 13.5**	**+2.6**
	comp=Z,157nm,0.9s,baz=58,slow=9.5,SNR=21						
	comp=Z,157nm,0.9s						
PPBI	**Pangkal Pinang**	**21.58**	**260**	P	**P**	**12 33 12.8**	**+0.9**
BBJI	**Bungbulang**	**21.69**	**245**	P	**P**	**12 33 13.8**	**+0.6**
TWG	**Pinlang**	**21.83**	**344**	P	**P**	**12 33 12.3**	**-2.2**
COEN	**Coen**	**22.10**	**135**	P	**P**	**12 33 17.1**	**-0.3**
COEN	**Coen**	**22.10**	**135**	P	**P**	**12 33 18.2**	**+0.8**
CNJI	**Cibinong**	**22.10**	**246**	P	**P**	**12 33 17.4**	**0.0**
	comp=Z,1μmcomp=Z,147nm,1.0s						
YULB	**Yu-li**	**22.32**	**345**	P	**P**	**12 33 17.5**	**-2.0**
TPUB	**Ta-pu**	**22.41**	**344**	P	**P**	**12 33 19.3**	**-1.1**
TPUB	**Ta-pu**	**22.41**	**344**	P	**P**	**12 33 19.6**	**-0.9**
WB0	**Warramunga Arr**	**22.45**	**162**	P	**P**	**12 33 20.3**	**-0.6**
WRAB	**Tennant Creek**	**22.60**	**163**	P	**P**	**12 33 22.0**	**-0.4**
WRA	**Warramunga Arr**	**22.60**	**163**	P	**P**	**12 33 22.1**	**-0.3**
WRA	**Warramunga Arr**	**22.60**	**163**	P	**P**	**12 33 21.6**	**-0.8**
	comp=Z,136nm,0.4s,baz=341,slow=11,SNR=978						
WRA				S	**S**	**12 37 18.0**	**-3.2**
	comp=Z,7.5nm,0.9s,baz=342,slow=16,SNR=7.4						
WRA				ScP	**ScP**	**12 40 36.6**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=334,slow=3.4,SNR=5.0						
WB2	**Warramunga Arr**	**22.61**	**163**	P	**P**	**12 33 22.1**	**-0.3**
WR8	**Warramunga Arr**	**22.66**	**162**	P	**P**	**12 33 22.6**	**-0.4**
WR0	**Warramunga Arr**	**22.68**	**162**	P	**P**	**12 33 22.9**	**-0.3**
SSLB	**Suanglung**	**22.79**	**345**	P	**P**	**12 33 24.2**	**0.0**
SSLB	**Suanglung**	**22.79**	**345**	P	**P**	**12 33 25.1**	**+0.9**
CGJI	**Cibinong**	**23.17**	**249**	P	**P**	**12 33 28.1**	**+0.2**
MYKOM	**Kota Tinggi**	**23.51**	**270**	P	**P**	**12 33 31.2**	**+0.2**
MYKOM	**Kota Tinggi**	**23.51**	**270**	P	**P**	**12 33 32.0**	**+1.0**
YHNB	**Yeheng**	**23.52**	**346**	P	**P**	**12 33 30.8**	**-0.3**
MBWA	**Marble Bar**	**23.95**	**198**	P	**P**	**12 33 35.2**	**+0.3**
MBWA	**Marble Bar**	**23.95**	**198**	P	**P**	**12 33 34.5**	**-0.3**
	comp=Z,28nm,1.2s						
MBWA	**Marble Bar**	**23.95**	**198**	P	**P**	**12 33 35.3**	**+0.4**
MDSI	**Maura Dua**	**23.98**	**255**	P	**P**	**12 33 35.5**	**+0.2**
	comp=Z,53nm,1.0s						
JMZ	**Minamidaito 2**	**24.23**	**8**	P	**P**	**12 33 35.4**	**-2.0**
LWLI	**Liwa**	**24.23**	**254**	P	**P**	**12 33 38.8**	**+1.1**
	comp=Z,181nm,0.8s						
QIZ	**Qiongzhong**	**24.29**	**316**	P	**P**	**12 33 38.9**	**+0.9**
QIZ				S	**S**	**12 37 49.9**	**+1.5**
PSA00	**Pilbara Seismi**	**24.31**	**197**	P	**P**	**12 33 38.1**	**+0.1**
PSA00	**Pilbara Seismi**	**24.31**	**197**	P	**P**	**12 33 38.0**	**-0.1**
	comp=Z,48nm,1.3s						
PSA00	**Pilbara Seismi**	**24.31**	**197**	P	**P**	**12 33 39.2**	**+1.1**
QZH	**Quanzhou**	**24.58**	**341**	*e*P	**P**	**12 33 41.8**	**+1.3**
XMI	**Christmas Isla**	**24.74**	**240**	P	**P**	**12 33 43.5**	**+1.3**
XMIS	**Christmas Isla**	**24.79**	**240**	P	**P**	**12 33 42.8**	**+0.2**
XMIS	**Christmas Isla**	**24.79**	**240**	P	**P**	**12 33 43.5**	**+0.9**
QIS	**Mount Isa**	**25.19**	**152**	P	**P**	**12 33 46.3**	**+0.1**
	comp=Z,61nm,0.5s						
QIS	**Mount Isa**	**25.19**	**152**	P	**P**	**12 33 46.9**	**+0.7**
UBPT	**Khong Chiam**	**25.45**	**303**	P	**P**	**12 33 49.1**	**+0.5**
UBPT	**Khong Chiam**	**25.45**	**303**	P	**P**	**12 33 49.6**	**+1.0**
MTSU	**Mount Surprise**	**25.85**	**141**	P	**P**	**12 33 53.1**	**+0.9**
	comp

WRKA	Warakurna	26.63 178	P	P	12 33 58.7	-0.4
	comp=Z,41nm,0.8s					
WRKA	Warakurna	26.63 178	P	P	12 33 58.9	-0.2
MNSI	Mandailing Nat	27.80 268	P	P	12 34 10.5	+0.8
RPSI	Rantau Prapat	28.44 272	P	P	12 34 15.5	+0.1
RPSI			IAmb	IAmb	12 34 17.5	
	comp=Z,38nm,1.0s					
PSI	Prapat	28.44 273	P	P	12 34 16.5	+0.9
SRIT	Nakonsritamara	28.47 285	P	P	12 34 16.0	+0.4
SRIT			IAmb	IAmb	12 34 17.2	
	comp=Z,21nm,0.8s					
SRIT	Nakonsritamara	28.47 285	P	P	12 34 16.9	+1.3
NAYO	Nakonayok	28.61 297	P	P	12 34 17.8	+0.9
NONG	Nongkai	28.79 306	P	P	12 34 18.8	+0.4
MEEK	Meekatharra	29.45 196	P	P	12 34 23.9	-0.3
	comp=Z,30nm,1.2s					
MEEK	Meekatharra	29.45 196	P	P	12 34 24.4	+0.2
GSI	Gunungsitoli	29.79 270	P	P	12 34 27.0	-0.3
GSI	Gunungsitoli	29.79 270	P	P	12 34 28.0	+0.7
GSI	Gunungsitoli	29.79 270	P	P	12 34 26.9	-0.4
SLVN	Son La	30.04 312	P	P	12 34 30.4	+0.9
SLVN			IAmb	IAmb	12 34 31.8	
	comp=Z,14nm,1.0s					
SLVN	Son La	30.04 312	P	P	12 34 31.0	+1.5
OOD	Oodnadatta	30.43 165	P	P	12 34 32.5	-0.3
SRDT	SRDT	30.59 296	P	P	12 34 35.8	+1.4
WHN	Wuhan	31.20 338	⇓P	P	12 34 41.5	+2.0
WHN			pmax	pmax		
	comp=Z,74nm,0.7s					
NJ2	Nanjing	31.20 346	eP	P	12 34 42.0	+2.4
NJ2			pmax	pmax		
	comp=Z,31nm,0.5s					
JNU	Nakatsue	31.39 6	LR	LR	12 45 49.0	
	comp=Z,37nm,21.3s,baz=193,slow=33					
INKA	Innaminka	32.01 157	P	P	12 34 47.5	+0.8
CRAI	Chiangrai	32.15 307	P	P	12 34 48.6	+0.6
CRAI			IAmb	IAmb	12 34 50.1	
	comp=Z,47nm,1.7s					
FORT	Forrest	32.34 179	P	P	12 34 49.5	0.0
FORT	Forrest	32.34 179	P	P	12 34 48.9	-0.7
	comp=Z,75nm,0.9s					
FORT	Forrest	32.34 179	P	P	12 34 49.6	+0.1
CM31	Chiang Mai Arr	32.45 303	P	P	12 34 52.0	+1.3
CM31			IAmb	IAmb	12 34 52.8	
	comp=Z,12nm,0.8s					
CMAR	Chiang Mai Arr	32.45 303	P	P	12 34 51.5	+0.8
	comp=Z,7.3nm,1.0s,baz=116,slow=6.9,SNR=46					
CMAR			ScP	ScP	12 41 07.8	-0.3
	comp=Z,1.0nm,0.4s,baz=127,slow=3.9,SNR=12					
CMAR			LR	LR	12 49 13.9	
	comp=Z,29nm,18.6s,baz=110,slow=38					
	comp=Z,7.3nm,1.0s					
MORW	Morawa	32.50 199	P	P	12 34 51.2	+0.3
QLP	Quilpie	32.52 151	P	P	12 34 50.5	-0.7
	comp=Z,43nm,1.2s					
QLP	Quilpie	32.52 151	P	P	12 34 52.1	+0.9
CHTO	Chiang Mai	32.62 303	P	P	12 34 52.7	+0.6
CHTO			IAmb	IAmb	12 34 53.9	
	comp=Z,36nm,1.3s					
CHTO	Chiang Mai	32.62 303	P	P	12 34 53.0	+0.8
CHTO	Chiang Mai	32.62 303	P	P	12 34 52.8	+0.6
CHTO			pP	pwP	12 35 19.6	-1.4
ENH	Enshi	33.07 331	P	P	12 34 56.8	+0.9
ENH			IAmb	IAmb	12 34 57.8	
	comp=Z,23nm,0.7s					
ENH	Enshi	33.07 331	P	P	12 34 57.2	+1.3
KMI	Kunming	33.24 316	⇑P	P	12 34 59.9	+2.1
KMI			pmax	pmax		
	comp=Z,17nm,1.2s					
KMBL	Kambalda	33.33 189	P	P	12 34 57.6	-0.6
	comp=Z,35nm,2.9s					
KMBL	Kambalda	33.33 189	P	P	12 34 58.2	0.0
RK1H	Rockhampton Ha	33.62 139	P	P	12 35 01.7	+0.9
LCRK	Leigh Creek	33.63 163	P	P	12 35 01.0	+0.2
BLDU	Ballidu	33.74 197	P	P	12 35 01.4	-0.3
	comp=Z,29nm,1.8s					
KLBR	Kellerberrin	34.38 195	P	P	12 35 06.9	-0.4
	comp=Z,59nm,0.6s					
KLBR	Kellerberrin	34.38 195	P	P	12 35 07.4	+0.1
PZH	PanZhiHua	34.82 317	P	P	12 35 11.6	+0.3
PZH			pmax	pmax		
	comp=Z,20nm,1.2s					
PZH			pmax	pmax		
	comp=Z,140nm,5.2s					
BBOO	Buckleboo	35.33 167	P	P	12 35 15.2	-0.2
BBOO	Buckleboo	35.33 167	P	P	12 35 14.7	-0.7
	comp=Z,115nm,0.8s					
BBOO	Buckleboo	35.33 167	P	P	12 35 15.0	-0.4
EIDS	Eidsvold	35.40 141	P	P	12 35 16.3	+0.2
EIDS			IAmb	IAmb	12 35 16.9	
	comp=Z,22nm,0.9s					
EIDS	Eidsvold	35.40 141	P	P	12 35 15.8	-0.4
	comp=Z,31nm,1.3s					
LYN	LuoYang	35.49 339	P	P	12 35 18.1	+1.4
LYN			pmax	pmax		
	comp=Z,54nm,0.9s					
KSAR	Wonju Array Be	35.53 1	P	P	12 35 17.3	+0.3
KSRS	Korea Array	35.55 1	P	P	12 35 17.6	+0.5
	comp=Z,3.9nm,0.7s,baz=177,slow=9.7,SNR=19					
KSRS			ScP	ScP	12 41 18.1	-0.6
	comp=Z,0.7nm,0.6s,baz=187,slow=3.6,SNR=6.2					
	comp=Z,3.9nm,0.7s					
TIA	Tai'an	35.59 346	P	P	12 35 18.0	+0.4
TIA			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KS19	Wonju Array Si	35.59 1	P	P	12 35 17.6	0.0
KS19			IAmb	IAmb	12 35 42.6	
	comp=Z,57nm,1.8s					
NWAO	Narrogin (SRO)	35.78 195	P	P	12 35 19.6	+0.3
WHYH	Whyalla	35.90 165	P	P	12 35 20.1	-0.1
STKA	Stephens Creek	36.05 159	P	P	12 35 21.9	+0.3
STKA	Stephens Creek	36.05 159	P	P	12 35 21.3	-0.3
	comp=Z,822nm,0.8s					
STKA	Stephens Creek	36.05 159	P	P	12 35 21.9	+0.3
	comp=Z,114nm,0.4s,baz=335,slow=8.7,SNR=315					
STKA	Stephens Creek	36.05 159	P	P	12 35 21.7	+0.1
MJAR	Matsushiro Arr	36.06 15	P	P	12 35 20.5	-1.1
	comp=Z,2.4nm,0.7s,baz=184,slow=9.4,SNR=5.7					
	comp=Z,2.4nm,0.7s					
TNCH	TengChong	36.21 312	⇑P	P	12 35 22.4	-0.8
TNCH			pP	pwP	12 35 54.2	+1.7
TNCH			pmax	pmax		
	comp=Z,150nm,1.9s					
XAN	Xi'an	36.47 334	⇓P	P	12 35 25.7	+0.5
XAN			pmax	pmax		
	comp=Z,81nm,0.8s					
XAN	Xi'an	36.47 334	P	P	12 35 25.7	+0.5
XAN			pP	pwP	12 35 53.9	-0.8
CD2	Chengdu	36.62 325	P	P	12 35 27.1	+0.6
CD2			pmax	pmax		
	comp=Z,20nm,0.6s					
HTT	Hallett	36.64 164	P	P	12 35 26.9	+0.3
HNS	HongShan	37.36 343	⇑P	P	12 35 33.8	+1.3
HNS			pP	pwP	12 36 04.1	+2.0
HNS			pmax	pmax		
	comp=Z,12nm,1.0s					
CMSA	Cobar Meteorol	37.39 154	P	P	12 35 33.3	+0.4
BJT	Baijiatuau	39.44 346	P	P	12 35 49.9	-0.1
BJT			IAmb	IAmb	12 36 23.2	
	comp=Z,12nm,0.8s					
BJT	Baijiatuau	39.44 346	P	P	12 35 50.7	+0.7
BJI	Beijing	39.46 346	P	P	12 35 50.6	+0.5
BJI			pmax	pmax		
	comp=Z,6.0nm,0.7s					
BJI			pmax	pmax		
	comp=Z,20nm,3.5s					
ARMA	Armidale	39.46 146	P	P	12 35 50.7	+0.2
ARMA			IAmb	IAmb	12 35 52.3	
	comp=Z,21nm,0.9s					
LZH	Lanzhou	40.54 330	⇓P	P	12 36 01.2	+1.9
LZH			pP	pwP	12 36 32.7	+3.6
LZH			sP	sP	12 36 44.3	+4.9
LZH			pmax	pmax		
	comp=Z,58nm,1.0s					
ARPS	Mount Arapiles	40.60 162	P	P	12 36 00.2	+0.6
MGBR	Mount Gambier	41.12 164	P	P	12 36 04.7	+0.8
HHC	Hu-ho-hao-te	41.48 342	eP	P	12 36 09.0	+2.1
HHC			pmax	pmax		
	comp=Z,16nm,0.7s					
HHC			pmax	pmax		
	comp=Z,100nm,5.9s					
SHL	Shillong	41.58 308	P	P	12 36 08.9	+0.8
CAN	Canberra	42.05 153	P	P	12 36 12.5	+0.9
CAN	Canberra	42.05 153	P	P	12 36 13.0	+1.4
CAN	Canberra	42.05 153	P	P	12 36 13.0	+1.4
CNB	Canberra Magne	42.21 153	P	P	12 36 14.0	+1.1
USA0B	Ussuriysk Arra	42.48 5	P	P	12 36 13.1	-1.7
USA0B			IAmb	IAmb	12 37 43.6	
	comp=Z,59nm,1.9s					
USRK	Ussuriysk Ar.	42.48 5	P	P	12 36 12.8	-2.0
USRK	Ussuriysk Ar.	42.48 5	P	P	12 36 14.5	-0.3
	comp=Z,6.6nm,0.8s,baz=200,slow=7.9,SNR=7.5					
	comp=Z,6.6nm,0.8s					
TOO	Toolangi	42.56 159	P	P	12 36 15.1	-0.5
MDJ	Mudanjiang	42.74 2	P	P	12 36 17.6	+0.7
MDJ			pmax	pmax		
	comp=Z,12nm,1.0s					
LSA	Lhasa	44.24 313	P	P	12 36 31.9	+2.2
LSA			IAmb	IAmb	12 36 32.8	
	comp=Z,30nm,1.2s					
LSA	Lhasa	44.24 313	P	P	12 36 31.4	+1.6
LSA			pmax	pmax		
	comp=Z,20nm,1.1s					
GTA	Gaotai	45.13 330	P	P	12 36 38.1	+1.8
GTA			pP	pwP	12 37 08.7	+2.2
GTA			pmax	pmax		
	comp=Z,19nm,1.2s					
GOMU	GeErMu	45.64 322	P	P	12 36 41.3	+0.7
GOMU			pmax	pmax		
	comp=Z,14nm,1.1s					
PALK	Pallekele	46.82 278	P	P	12 36 49.2	-0.6
PALK			IAmb	IAmb	12 36 51.3	
	comp=Z,46nm,1.8s					
PALK	Pallekele	46.82 278	LR	LR	12 58 50.6	
	comp=Z,46nm,18.1s,baz=126,slow=39					
TAU	Tasmania Unive	47.94 160	P	P	12 36 57.9	0.0
HEH	HeiHe	48.34 0	eP	P	12 37 00.1	-0.8
HEH			sP	sP	12 37 37.7	-3.8
HEH			pmax	pmax		
	comp=Z,9.0nm,1.1s					
ULN	Ulaanbaatar	49.20 342	P	P	12 37 08.8	+1.0
ULN			IAmb	IAmb	12 37 09.6	
	comp=Z,24nm,1.2s					
ULN	Ulaanbaatar	49.20 342	P	P	12 37 08.4	+0.7
SONM	Songino Array	49.38 341	P	P	12 37 09.7	+0.7
SONM	Songino Array	49.38 341	P	P	12 37 09.8	+0.7
	comp=Z,4.5nm,0.6s,baz=157,slow=8.4,SNR=28					
SONM			ScP	ScP	12 42 12.5	-1.6
	comp=Z,0.6nm,0.6s,baz=153,slow=4.1,SNR=4.2					
SONM			LR	LR	13 00 24.5	
	comp=Z,41nm,19.0s,baz=159,slow=39					
	comp=Z,4.5nm,0.6s					
MSVF	Nonsavu	53.52 114	P	P	12 37 39.0	-1.3
	comp=Z,11nm,0.9s,baz=282,slow=16,SNR=4.4					
	comp=Z,11nm,0.9s					
KAAM	Kaadhehdhoo	54.38 269	P	P	12 37 47.5	+0.9
WMQ	Urumqi	54.72 326	eP	P	12 37 50.3	+1.7
WMQ			pmax	pmax		
	comp=Z,36nm,1.3s					
PETK	Petropavlovsk-	57.03 21	P	P	12 38 04.2	-0.6
	comp=Z,1.0nm,0.6s,baz=198,slow=5.5,SNR=7.9					
	comp=Z,1.0nm,0.6s					
WUS	Wushi	58.47 319	P	P	12 38 16.6	+1.3
WUS			IAmb	IAmb	12 38 18.6	
	comp=Z,11nm,0.8s					
MK31	Makanchi Array	59.55 326	P	P	12 38 23.2	+0.7
MK31			IAmb	IAmb	12 38 24.2	
	comp=Z,12nm,0.7s					
MKAR	Makanchi Array	59.55 326	P	P	12 38 23.5	+1.0
MKAR	Makanchi Array	59.55 326	P	P	12 38 23.4	+0.9
	comp=Z,21nm,0.6s,baz=121,slow=8.5,SNR=197					
MKAR			ScP	ScP	12 42 57.0	-1.5
	comp=Z,0.4nm,0.7s,baz=122,slow=5.4,SNR=2.8					
MKAR			LR	LR	13 05 18.4	
	comp=Z,28nm,18.7s,baz=102,slow=37					
	comp=Z,21nm,0.6s					
TARG	Taragay, Kyrgy	59.66 319	P	P	12 38 22.8	-1.0
TARG			IAmb	IAmb	12 38 29.6	
	comp=Z,8.1nm,0.7s					
MAKZ	Makanchi	59.73 326	P	P	12 38 24.5	+0.7
MAKZ	Makanchi	59.73 326	P	P	12 38 24.3	+0.6
MAKZ			pP	pP	12 38 53.0	+0.7
KSH	Kashi	59.90 316	P	P	12 38 27.3	+2.1
KSH			pmax	pmax		
	comp=Z,11nm,0.8s					
YAK	Yakutsk	60.17 1	P	P	12 38 26.7	+0.3
KDJ	Kajisay	60.26 319	IAmb	IAmb	12 38 31.5	
	comp=Z,15nm,0.8s					
MA2	Magadan	60.48 13	P	P	12 38 29.3	+0.8
	comp=Z,13nm,1.0s					
AAK	Ala-Archa	62.26 318	P	P	12 38 41.9	+0.8
AAK			IAmb	IAmb	12 38 45.4	
	comp=Z,6.9nm,0.8s					
ZALV	Zalesovo Beam	62.64 333	P	P	12 38 42.6	-0.6
	comp=Z,3.0nm,0.5s,baz=130,slow=6.2,SNR=11					
	comp=Z,3.0nm,0.5s					
ARSB	Arslanbob	62.73 316	IAmb	IAmb	12 38 48.0	
	comp=Z,26nm,1.2s					
KBL	Kabul	63.24 308	P	P	12 38 47.2	-0.6
KBL			IAmb	IAmb	12 38 49.3	
	comp=Z,20nm,0.9s					
GAR	Garm	63.74 313	P	P	12 38 51.7	+0.8
KURBB	Kurchatov Arra	63.75 328	P	P	12 38 50.8	+0.2
	comp=Z,20nm,0.5s,baz=127,slow=6.0,SNR=107					
	comp=Z,20nm,0.5s					
KURK	Kurchatov	63.76 328	P	P	12 38 50.7	+0.1
KURK	Kurchatov	63.76 328	P	P	12 38 50.9	+0.3
KURK			pP	pP	12 39 20.6	+1.1
KURK			PcP	PcP	12 39 26.0	+0.4
BTK	Batken	63.76 314	IAmb	IAmb	12 38 53.7	
	comp=Z,9.3nm,0.9s					
SIMJ	Simiganj	64.58 312	P	P	12 38 56.6	+0.2
SIMJ			IAmb	IAmb	12 38 58.0	
	comp=Z,16nm,1.1s					
KK31	Karatay Array	65.12 317	P	P	12 38 59.9	+0.2
KK31			IAmb	IAmb	12 39 01.2	
	comp=Z,17nm,1.1s					
KKAR	Karatay Array	65.12 317	P	P	12 38 59.8	+0.1
DRV	Dumont d'Urvil	68.84 175	P	P	12 39 22.2	-0.4
DRV			PcP	PcP	12 39 46.8	+0.4
DRV			pP	pP	12 39 52.2	-0.5
CASY	Casey	68.93 187	P	P	12 39 23.3	+0.1
CASY	Casey	68.93 187	P	P	12 39 23.1	-0.1
BVAR	Borovoye Array	69.33 327	P	P	12 39 26.0	0.0
	comp=Z,6.3nm,0.6s,baz=131,slow=8.1,SNR=36					
	comp=Z,6.3nm,0.6s					
BRVK	Borovoye	69.40 327	P	P	12 39 26.7	+0.2
BRVK			IAmb	IAmb	12 39 27.5	
	comp=Z,13nm,1.0s					
BRVK	Borovoye	69.40 327	P	P	12 39 26.6	+0.2
BRVK			PcP	PcP	12 39 49.1	0.0
BRVK			pP	pwP	12 39 57.6	-1.1
TIXI	Tiksi	69.82 1	P	P	12 39 27.9	-0.7
BILL	Bilibino	71.31 14	P	P	12 39 37.8	+0.1
UOSS	Minazif	72.21 296	P	P	12 39 44.3	+0.3
UOSS			IAmb	IAmb	12 39 44.7	
	comp=Z,8.5nm,0.8s					
NRIK	Noril'sk	72.50 346	IAmb	IAmb	12 39 45.7	
	comp=Z,8.5nm,0.7s					
NRIK	Noril'sk	72.50 346	P	P	12 39 44.9	0.0
	comp=Z,8.5nm,0.6s,baz=126,slow=6.4,SNR=11					
	comp=Z,8.5nm,0.6s					
AB31	Akbulak array	74.09 321	P	P	12 39 54.6	0.0
ABKAR	Akbulak array	74.09 321	P	P	12 39 54.5	-0.1
ARTI	Arti	77.03 328	P	P	12 40 10.8	-0.4
ARTI			IAmb	IAmb	12 40 11.2	
	comp=Z,7.9nm,0.7s					
ARTI	Arti	77.03 328	P	P	12 40 10.6	-0.6
	comp=Z,4.8nm,0.6s,baz=97,slow=1.6,SNR=6.0					
	comp=Z,4.8nm,0.6s					
L16K	Owhat River	80.53 28	IAmb	IAmb	12 40 36.8	
	comp=Z,9.3nm,0.8s					
VNDA	Vanda	81.38 173	P	P	12 40 34.6	+0.2
VNDA	Vanda	81.38 173	P	P	12 40 33.8	-0.7
	comp=Z,3.5nm,0.6s,baz=316,slow=6.1,SNR=20					
	comp=Z,3.5nm,0.6s					
E18K	Tukpahlearik C	81.56 22	P	P	12 40 37.1	+1.5
RAYN	Ar Rayn	81.85 293	P	P	12 40 38.0	-0.2
RAYN			IAmb	IAmb	12 40 39.1	
	comp=Z,10.0nm,0.9s					
KIRV	Kirov	82.25 329	P	P	12 40 39.6	+0.3
	comp=Z,16nm,0.4s,baz=196,slow=3.6,SNR=3.7					
	comp=Z,16nm,0.4s					
E19K	Redstone River	82.82 22	P	P	12 40 42.4	+0.2
F20K	Avaraart Lake	83.31 23	IAmb	IAmb	12 40 49.5	
	comp=Z,17nm,1.9s					
E21K	Killik River	84.22 21	P	P	12 40 50.0	+0.6
SKT	Skwentna	84.29 28	P	P	12 40 50.2	+0.4
SKT			IAmb	IAmb	12 41 34.1	
	comp=Z,22nm,1.8s					
GEVA	Gevas	84.46 308	IAmb	IAmb	12 40 57.7	
	comp=Z,14nm,0.8s					
SUA	Susitna One	84.60 29	P	P	12 40 51.4	-0.1
B22K	Teshekpuk Lake	84.74 20	IAmb	IAmb	12 41 34.6	
	comp=Z,12nm,1.3s					
SLKM	Skilak Lake	84.75 30	P	P	12 40 52.3	+0.1
SLKM			IAmb	IAmb	12 41 29.2	
	comp=Z,32nm,1.7s					
KBZ	Khabaz	84.81 314	P	P	12 40 52.6	-0.1
	comp=Z,2.6nm,0.8s,baz=346,slow=4.4,SNR=3.6					
	comp=Z,2.6nm,0.8s					
C23K	Itkillik River	85.62 20	P	P	12 40 56.5	+0.2
PWL	Port Wells	85.71 29	P	P	12 40 57.2	+0.3
PWL			IAmb	IAmb	12 43 38.3	
	comp=Z,5.8nm,0.6s					
E23K	Chandalar	85.78 22	P	P	12 40 57.0	-0.2
ILAR	Eielson Array	86.62 25	P	P	12 41 00.2	-1.1
	comp=Z,0.1nm,0.5s,baz=262,slow=4.0,SNR=2.5					
LVZ	Lovozero	89.43 338	P	P	12 41 14.5	-0.1
	comp=Z,51nm,2.1s					
PLTM	Poltava	90.53 319	P	P	12 41 19.6	-0.5
SYO	Syowa Base	90.81 201	⇑eP	P	12 41 21.5	+0.6
QSPA	South Pole Qui	91.66 180	P	P	12 41 25.2	+0.2
	comp=Z,1.8nm,0.6s,baz=265,slow=1.7,SNR=11					
	comp=Z,1.8nm,0.6s					
BRTR	Keskin Array B	91.78 310	P	P	12 41 25.6	-0.7
	comp=Z,0.8nm,0.8s,baz=93,slow=4.5,SNR=3.7					
	comp=Z,0.8nm,0.8s					
BR106	Keskin Array S	91.79 310	P	P	12 41 26.1	-0.3
ARCES	ARCESS Array B	92.53 340	P	P	12 41 27.9	-1.1
	comp=Z,1.1nm,1.1s,baz=89,slow=6.3,SNR=5.4					
	comp=Z,1.1nm,1.1s					
SPITS	Spitsbergen Ar	92.55 349	P	P	12 41 28.6	-0.3
	comp=Z,2.3nm,0.6s,baz=70,slow=4.7,SNR=8.2					
	comp=Z,2.3nm,0.6s					
FARO	Faro, Yukon	92.80 28	P	P	12 41 30.9	+0.5
FARO			IAmb	IAmb	12 44 56.1	
	comp=Z,17nm,1.9s					
AK19	Malin Array Si	93.96 321	P	P	12 41 36.0	+0.1
GHRR		95.67 316	P	P	12 41 43.5	-0.3
RES	Resolute Bay	99.64 10	Pdif	Pdif	12 42 01.6	+0.5
NB201	NORSAR Array S	100.81 334	Pdif	Pdif	12 42 05.5	-1.1
MT02	Curacav	144.16 153	PKPdf	PKPbc	12 47 52.6	+0.4
BOAB	BOACO BROADBAND	144.30 66	PKPdf	PKPdf	12 47 54.0	-0.5
CO03	El Pedregal	146.38 151	PKPbc	PKPbc	12 47 59.4	+0.1
LCO	Las Campanas	147.87 149	PKPab	PKPbc	12 48 04.7	+1.0
AC05	El Transito	148.23 150	PKPbc	PKPbc	12 48 04.2	-0.2
PB09	IPOC Station P	154.33 142	PKPab	PKPab	12 48 32.1	-1.1
PB08	IPOC Station P	155.60 140	PKPdf	PKPdf	12 48 10.2	-2.4
LPAZ	La Paz	158.97 134	PKPab	PKPab	12 48 54.2	+0.3
	comp=Z,2.4nm,0.9s,baz=160,slow=3.4,SNR=6.8					

IDC 02 12:47:08.2±255.0, 57°.10N×31°.76E, h0km, Error ellipse: s-maj=114.8km s-min=62.2km az=99.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.02	95	I	I	13 07 40.0	
	0.2nm,0.6s,baz=277,slow=321,SNR=4.5						
I37NO	I37NO	13.36	339	I	I	14 00 30.0	
	baz=140,slow=323,SNR=0.8						
I26DE	FREYUNG INFRAS	13.62	240	I	I	14 11 30.0	
	baz=44,slow=332,SNR=0.5						
I48TN	KESRA INFRASON	26.09	225	I	I	15 26 30.0	
	baz=27,slow=320,SNR=0.7						

*SEA **02** 13:00:02.4±1.1, 46°.70N±0°.01×121°.07W±0°.01, h4km±7km, ML2.7/12, ML2.8/72(NEIC), Error ellipse: s-maj=1.7km s-min=1.3km az=193.0*

*NEIC **02** 13:00:02.1±1.2, 46°.691N±0°.006×121°.07W±0°.01, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.6km az=23.0*

PNSN 02 13:00:02.4, 46°.70N×121°.07W, h4km, MD2.7, Fault plane solution: NP1:φs=30.00000°, δ25.00000°, λ-40.00000°., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAC	Naches	0.17	79		Pg	13 00 05.8	+0.1
EBG	Ellensburg	0.40	59		Pg	13 00 10.5	+0.4
YA2	Yakima	0.41	115		Pg	13 00 10.2	-0.1
FMW	Mount Fremont	0.47	299		Pg	13 00 11.5	0.0
FMW					Sg	13 00 18.2	+0.5
RCM	Mount Rainier-	0.48	286		Pg	13 00 11.0	-0.5
RCM					Sg	13 00 18.3	+0.5
RCS	Mount Rainier-	0.49	290		Pg	13 00 11.7	-0.1
LON	Longmire	0.51	275		Pg	13 00 11.5	-0.8
LON	Longmire	0.51	275		Sg	13 00 18.6	-0.3
REMR	Mount Rainier-	0.55	283		Pg	13 00 12.6	-0.3
MXC	Moxie City	0.55	103		Pg	13 00 12.6	-0.3
MXC					Sg	13 00 20.2	+0.2
MXC	Moxie City	0.55	103	IAML		13 00 20.5	
	comp=N,1μm,0.4s						
MXC				IAML		13 00 20.8	
	comp=E,566nm,0.2s						
TRW	Toppenish Ridg	0.55	139		Pg	13 00 12.5	-0.4
OBSR	Observation Ro	0.55	291		Pg	13 00 12.8	-0.2
OBSR					Sg	13 00 20.8	+0.6
TBM	Table Mountain	0.57	34		Pg	13 00 13.3	0.0
LTY	Liberty	0.62	26		Pg	13 00 13.8	-0.5
LTY					Sg	13 00 22.4	+0.2
LTY	Liberty	0.62	26	IAML		13 00 22.8	
	comp=N,359nm,0.4s						
LTY				IAML		13 00 22.9	
	comp=E,267nm,0.4s						
AWST	Adams West	0.74	221		Pg	13 00 16.4	-0.2
AWST					Sg	13 00 27.0	+0.8
BRVW	Black Rock Val	0.77	106		Pg	13 00 16.6	-0.6
D05A	Enumclaw	0.80	308		Pg	13 00 17.1	-0.5
KOSW	Kosmos	0.81	253		Pg	13 00 17.1	-0.9
BVW	Beverly	0.82	82		Pg	13 00 17.7	-0.4
BVW					Sg	13 00 29.1	+0.3
B941	Kapowsin	0.84	290		Pg	13 00 17.8	-0.7
E07A	Sunnyside	0.85	99		Pg	13 00 17.4	-1.2
E07A				IAML		13 00 30.5	
	comp=E,256nm,0.8s						
E07A				IAML		13 00 32.6	
	comp=N,303nm,0.6s						
E07A	Sunnyside	0.85	99		Sg	13 00 29.5	-0.1
F05D	White Salmon	0.86	199		Pg	13 00 18.9	0.0
RAW	Raver	0.87	317		Sg	13 00 30.6	+0.4
TDL	Tradedollar La	0.87	246		Pg	13 00 18.1	-0.9
GHW	Garrison Hill	0.89	293		Pg	13 00 18.9	-0.6
CDFW	Cedar Flats	0.90	229		Pg	13 00 18.9	-0.6
CDFW					Sg	13 00 31.5	+0.3
MDW	Midway	0.90	95		Pg	13 00 18.7	-1.0
MDW					Sg	13 00 31.5	+0.1
B201	Coldwater, Mou	0.92	245		Pg	13 00 18.9	-1.1
B201					Sg	13 00 31.3	-0.6
WAH2	Wahluke Slope	1.03	87		Pg	13 00 20.9	-1.2
WAH2				IAML		13 00 50.3	
	comp

E09A				IAML		13 01 06.6	
	comp=N,85nm,0.1s						
E09A				IAML		13 01 07.1	
	comp=E,59nm,0.1s						
B08A	**Colville Reser**	**2.03**	**35**	Pn	Pn	13 00 35.2	-2.2
G08A	**Pilot Rock**	**2.04**	**133**		Pn	13 00 34.9	-2.6
G08A				IAML		13 01 03.7	
	comp=N,91nm,0.4s						
G08A				IAML		13 01 03.8	
	comp=E,88nm,0.8s						
LNOR	**Lincton Mounta**	**2.10**	**112**		Pn	13 00 37.1	-1.2
LNOR				IAML		13 01 07.2	
	comp=N,55nm,0.3s						
LNOR				IAML		13 01 20.6	
	comp=E,45nm,0.8s						
G03D	**McMinnville, O**	**2.14**	**227**		Pn	13 00 38.5	-0.3
G03D				IAML		13 01 12.6	
	comp=N,79nm,0.5s						
G03D				IAML		13 01 14.7	
	comp=E,82nm,0.8s						
H04A	**Detroit Lake**	**2.17**	**202**		Pn	13 00 38.5	-0.7
I05D	**Terrebonne, OR**	**2.37**	**185**		Pn	13 00 41.6	-0.5
I05D				IAML		13 01 19.0	
	comp=E,49nm,0.6s						
H04D	**Lebanon**	**2.48**	**209**		Pn	13 00 43.4	-0.1
H04D				IAML		13 01 20.0	
	comp=N,35nm,0.4s						
H04D				IAML		13 01 26.1	
	comp=E,42nm,0.5s						
I07A	**Izee**	**2.84**	**157**	Pn	Pn	13 00 47.2	-1.4
I07A				IAML		13 01 38.8	
	comp=N,21nm,0.8s						
PINE	**Pine Mountain**	**2.91**	**178**		Pn	13 00 49.0	-0.6
PINE				IAML		13 01 39.7	
	comp=N,26nm,0.9s						
PINE				IAML		13 01 39.9	
	comp=E,31nm,0.7s						
I04A	**Tendick Farm,**	**3.06**	**199**	Pn	Pn	13 00 50.9	-0.7
I04A				IAML		13 02 16.3	
	comp=E,18nm,4.4s						
NEW	**Newport**	**3.10**	**58**	Pn	Pn	13 00 50.3	-1.8
NEW				IAML		13 01 42.0	
	comp=E,22nm,0.6s						
BMO	**Blue Mountains**	**3.22**	**124**	Pn	Pn	13 00 52.1	-1.6
J05D	**Fort Rock, OR**	**3.42**	**182**		Pn	13 00 56.0	-0.6
J05D				IAML		13 02 07.3	
	comp=E,20nm,4.2s						
J05D				IAML		13 02 15.3	
	comp=N,16nm,4.3s						
PLID	**Pearl Lake**	**3.89**	**113**	Pn	Pn	13 01 01.8	-1.3
PLID				IAML		13 02 10.7	
	comp=N,9.3nm,3.8s						

UCR ***02*** *13:01:31.6±1.2, 7°.98N×82°.61W, h15km±3km, MW3.5*
UPA ***02*** *13:01:31.7±0.9, 8°.08N×82°.60W, h10km±3km, MW3.6*
ISC 02 13:01:30.9±1.5, 8°.02N±0°.06×82°.60W±0°.03, h10km±9km, n31, σ0s80/52, 6C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.44**	**20**	*eP*	**Pg**	13 01 38.7	**-0.9**
DVD				*eS*	**Sb**	13 01 48.7	**+1.4**
LPPC	**Paso Canoas**	**0.56**	**335**	⇑*iP*	**Pb**	13 01 43.1	**+0.3**
LPPC				*eS*	**Sb**	13 01 51.3	**+0.4**
PTAR3	**Potrerillos Ar**	**0.68**	**9**	*eP*	**Pb**	13 01 45.2	**+0.3**
BRU2	**Volcan**	**0.78**	**353**	⇑*iP*	**Pg**	13 01 46.3	**+0.4**
BRU2				*eS*	**Sb**	13 01 57.4	**+0.2**
BRU2	**Volcan**	**0.78**	**353**	*eP*	**Pg**	13 01 46.0	**0.0**
BRU2				*eS*	**Sb**	13 01 57.7	**+0.5**
LNBQ3	**Los Naranjos,**	**0.78**	**12**	*eP*	**Pg**	13 01 46.2	**+0.1**
LNBQ3				*eS*	**Sg**	13 01 57.2	**+0.8**
FITO	**Golfito**	**0.81**	**318**	*eP*	**Pg**	13 01 46.3	**-0.3**
FITO				*eS*	**Sg**	13 01 57.2	**-0.1**
PIRO	**Carate, Puerto**	**0.82**	**298**	⇑*iP*	**Pg**	13 01 46.6	**-0.2**
PIRO				*eS*	**Sg**	13 01 58.4	**+0.9**
PIRO	**Carate, Puerto**	**0.82**	**298**	*eP*	**Pg**	13 01 46.7	**-0.1**
PIRO				*eS*	**Sb**	13 01 58.5	**+0.1**
EDAD	**Golfito**	**0.84**	**318**	⇑*eP*	**Pg**	13 01 46.5	**-0.6**
EDAD				*eS*	**Sg**	13 01 58.2	**0.0**
ALCO	**Alturas Coton,**	**0.95**	**346**	⇑*eP*	**Pg**	13 01 48.7	**-0.6**
ALCO				*eS*	**Sg**	13 02 01.6	**-0.1**
CHGR2	**Aguacate**	**1.02**	**26**	*eP*	**Pb**	13 01 50.0	**-0.6**
CHGR2				*eS*	**Sb**	13 02 03.2	**-0.9**
EDP2	**Potrero Grande**	**1.14**	**330**	*eP*	**Pb**	13 01 52.4	**-0.3**
EDP2				*eS*	**Sb**	13 02 07.9	**+0.3**
FIMO	**Fila Mora**	**1.22**	**322**	⇑*eP*	**Pn**	13 01 53.5	**-0.6**
FIMO				*eS*	**Sb**	13 02 10.4	**+0.5**
GMAL	**Guarumal, Vera**	**1.38**	**101**	*eP*	**Pn**	13 01 54.9	**-1.3**
DRK0	**Durika**	**1.39**	**333**	⇓*iP*	**Pn**	13 01 55.8	**-0.7**
DRK0				*eS*	**Sn**	13 02 13.5	**-1.5**
DRK0	**Durika**	**1.39**	**333**	*eP*	**Pn**	13 01 56.0	**-0.5**
DRK0				*eS*	**Sn**	13 02 13.6	**-1.5**
SAJE	**San Jernim**	**1.59**	**326**	*eP*	**Pn**	13 01 58.4	**-0.9**
SAJE				*eS*	**Sn**	13 02 18.2	**-1.8**
PIEC	**Cerro El Cedra**	**2.08**	**320**	⇓*iP*	**Pn**	13 02 06.2	**+0.1**
LCR2	**La Lucha 2**	**2.20**	**321**	⇓*iP*	**Pn**	13 02 07.6	**-0.1**
LCR2				*eS*	**Sn**	13 02 34.1	**-1.1**
ABE2	**San Pablo**	**2.21**	**319**	*eP*	**Pn**	13 02 09.0	**+1.2**
ABE2				*eS*	**Sn**	13 02 36.6	**+1.4**
PICV	**PH. Pirrs**	**2.24**	**316**	*eP*	**Pn**	13 02 07.7	**-0.5**
VTCV	**VTCV, Calle Va**	**2.25**	**330**	*eP*	**Pn**	13 02 09.3	**+1.0**
CVTV	**Tajo**	**2.28**	**330**	*eP*	**Pn**	13 02 09.1	**+0.3**
CVTV				*eS*	**Sn**	13 02 37.5	**+0.4**
CVTQ	**Turrialba Volc**	**2.29**	**330**	*eP*	**Pn**	13 02 08.8	**-0.2**
VTLA	**Turrialba Volc**	**2.29**	**330**	*eP*	**Pn**	13 02 10.0	**+1.0**
VTR0	**Volcan Turrial**	**2.29**	**330**	*eP*	**Pn**	13 02 10.1	**+1.0**
VTR0				*eS*	**Sn**	13 02 38.5	**+0.9**
CVTR	**Volcan Turrial**	**2.29**	**330**	*eP*	**Pn**	13 02 09.7	**+0.6**
AZU	**Azuero**	**2.32**	**95**	*eP*	**Pn**	13 02 10.1	**+1.1**
AZU				*eS*	**Sn**	13 02 38.2	**+0.7**
CVTG	**V. Turrialba,**	**2.41**	**331**	*eP*	**Pn**	13 02 11.3	**+0.9**
ARE1	**Arenal 1**	**3.20**	**319**	*eP*	**Pn**	13 02 22.2	**+0.8**

IDC ***02*** *13:07:16.1±2.4, 22°.84N×124°.84E, h0km, mb3.7/7, mbtmp3.7/7, MS2.9/6, Error ellipse: s-maj=163.9km s-min=20.5km az=64.0*
JMA ***02*** *13:07:17.1±0.2, 24°.N±2°.×12°.6E±°, h124km±4km, MV3.3/23, NEAR MIYAKOJIMA ISLAND*
ISC 02 13:07:14.1±2.8, 23°.58N±0°.07×126°.17E±0°.04, h9km±16km, n42, σ1s99/49, mb3.8/7, MS3.3/3, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.36**	**330**	P	**Pn**	13 07 39.8	**+0.5**
JOGS				S	**Sg**	13 07 57.4	**-0.6**
JMJ2	**Miyako jima3**	**1.39**	**327**	P	**Pn**	13 07 40.0	**+0.4**
JMJ2				S	**Sg**	13 07 57.6	**-1.1**
JMJ	**Miyako jima 2**	**1.46**	**327**	P	**Pn**	13 07 40.3	**-0.4**
JMJ	**Miyako jima 2**	**1.46**	**327**	S	**Sn**	13 07 57.8	**-2.2**
JIRB	**Irabujima**	**1.54**	**324**	P	**Pn**	13 07 41.9	**+0.2**
JIRB				*eS*	**Sn**	13 08 00.2	**-1.6**
JIKM	**Ikemajima**	**1.58**	**328**	*eP*	**Pn**	13 07 42.5	**+0.3**
JIKM				*eS*	**Sn**	13 08 01.3	**-1.5**
JTJ	**Tarama**	**1.70**	**309**	P	**Pn**	13 07 43.9	**-0.1**
JTJ				S	**Sn**	13 08 03.6	**-2.3**
JISG	**Ishigakijimahi**	**1.97**	**301**	P	**Pn**	13 07 47.6	**0.0**
JISG				S	**Sn**	13 08 10.1	**-2.4**
JIJ	**Ishigaki jima**	**2.01**	**293**	P	**Pn**	13 07 48.0	**-0.1**
JIJ				S	**Sn**	13 08 10.6	**-2.9**
JKRS	**Kuro-shima**	**2.08**	**289**	P	**Pn**	13 07 49.2	**+0.1**
JKRS				S	**Sn**	13 08 12.7	**-2.5**
HATJ	**Hateruma jima**	**2.21**	**283**	*eP*	**Pn**	13 07 51.0	**0.0**
HATJ				S	**Sn**	13 08 15.4	**-3.1**
IRIF	**Iriomote-Funau**	**2.35**	**289**	*eP*	**Pn**	13 07 52.7	**-0.2**
IRIF				*eS*	**Sn**	13 08 18.9	**-3.0**
JKE	**Kume jima 2**	**2.79**	**11**	*eP*	**Pn**	13 07 58.2	**-0.8**
JJT3	**Tamagusuku3**	**2.94**	**30**	P	**Pn**	13 08 00.6	**-0.4**
YOJ	**Yonaguni jima**	**3.02**	**288**	P	**Pn**	13 08 02.8	**+0.8**
YOJ	**Yonaguni jima**	**3.02**	**288**	S	**Sn**	13 08 34.3	**-4.0**
YOJ	**Yonaguni jima**	**3.02**	**288**	*eS*	**Sn**	13 08 34.2	**-4.2**
JYNG	**Yonagunijimaku**	**3.07**	**287**	S	**Sn**	13 08 35.5	**-4.1**
JAGN	**Aguni-jima**	**3.15**	**18**	*eP*	**Pn**	13 08 03.2	**-0.6**
JNTH	**Nagotoyohara**	**3.37**	**30**	P	**Pn**	13 08 05.8	**-1.1**
JNTH				*eS*	**Sn**	13 08 44.3	**-2.8**
JOW	**Kunigami**	**3.76**	**30**	LR	LR	13 09 44.6	
	comp=Z,52nm,18.7s,baz=118,slow=29						
JOW	**Kunigami**	**3.76**	**30**	P	**Pn**	13 08 11.6	**-0.7**
JOW	**Kunigami**	**3.76**	**30**	P	**Pn**	13 08 11.5	**-0.7**
JIH	**Iheya**	**3.81**	**25**	P	**Pn**	13 08 12.2	**-0.7**
JIH				*eS*	**Sn**	13 08 54.1	**-3.7**
JYRO	**Yoronjima**	**4.00**	**31**	P	**Pn**	13 08 14.7	**-0.9**
JYRO				*eS*	**Sn**	13 08 59.2	**-3.5**
NACB	**Ninganchiao**	**4.23**	**279**	P	**Pn**	13 08 17.4	**-1.3**
YULB	**Yu-li**	**4.47**	**269**	P	**Pn**	13 08 20.0	**-2.1**
YHNB	**Yeheng**	**4.51**	**285**	P	**Pn**	13 08 23.4	**+0.7**
SSLB	**Suanglung**	**4.78**	**273**	P	**Pn**	13 08 26.0	**-0.4**
TPUB	**Ta-pu**	**5.09**	**268**	P	**Pn**	13 08 29.8	**-0.9**
	34nm,1.4s						
KSRS	**Korea Array**	**13.91**	**6**	LR	LR	13 15 44.1	
	comp=Z,21nm,20.4s,baz=225,slow=34						
MJAR	**Matsushiro Arr**	**16.58**	**36**	LR	LR	13 18 10.2	
	comp=Z,25nm,18.9s,baz=166,slow=36						
GUMO	**Guam**	**20.30**	**116**	LR	LR	13 17 42.4	
	comp=Z,22nm,21.5s,baz=156,slow=30						
SONM	**Songino Array**	**28.88**	**332**	P	**P**	**13 13 17.7**	**+4.5**
	0.5nm,0.8s,baz=132,slow=8.0,SNR=2.5						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**41.98**	**315**	P	**P**	**13 15 06.5**	**+1.0**
	0.7nm,0.6s,baz=98,slow=10,SNR=11						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**43.99**	**169**	P	**P**	**13 15 20.9**	**-1.0**
	1.1nm,0.7s,baz=348,slow=8.8,SNR=3.9						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**45.54**	**319**	P	**P**	**13 15 35.0**	**+1.0**
	1.3nm,0.5s,baz=108,slow=8.1,SNR=8.8						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**47.56**	**170**	P	**P**	**13 15 50.1**	**-0.1**
	0.4nm,0.5s,baz=350,slow=7.7,SNR=4.4						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**51.05**	**320**	P	**P**	**13 16 17.6**	**+1.1**
	0.4nm,0.5s,baz=104,slow=7.9,SNR=2.2						
	0.4nm,0.5s						
AKTO	**Aktyubinsk**	**58.39**	**316**	LR	LR	13 43 29.4	
	comp=Z,54nm,19.4s,baz=77,slow=37						
BRTR	**Keskin Array B**	**77.17**	**308**	P	**P**	**13 19 09.5**	**+0.8**
	1.3nm,0.8s,baz=82,slow=5.7,SNR=4.8						
	1.3nm,0.8s						
NOA	**NORSAR Array B**	**80.84**	**333**	LR	LR	14 00 16.5	
	comp=Z,13nm,18.2s,baz=10.0,slow=39						

IDC ***02*** *13:09:03.5±0.7, 7°.28S×114°.48E, h0km, mb4.0/12, mbtmp4.0/14, ML3.7/2, Error ellipse: s-maj=22.2km s-min=13.9km az=51.0*
DJA ***02*** *13:09:06.0±0.3, 7°.S±2°.×11°.5E±°, h13km±3km, M4.5/20, mB5.0/5, mb4.8/7, MLv4.3/20, Mw(mB)4.4/5*
NEIC ***02*** *13:09:07.0±1.6, 7°.28S±0°.06×114°.52E±0°.07, h24km±5km, mb4.5/14, Error ellipse: s-maj=10.2km s-min=8.5km az=94.0*
ISC 02 13:09:05.9±1.9, 7°.25S±0°.04×114°.55E±0°.03, h17km±12km, n73, σ1s16/84, mb4.1/17, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMMI	**Kalianget**	**0.61**	**289**	P	**Pn**	13 09 19.5	**-0.3**
KMMI				S	**Sn**	13 09 29.1	**-0.1**
ABJI	**Asem Bagus**	**0.62**	**210**	P	**Pb**	13 09 18.9	**+0.6**
ABJI				S	**Sb**	13 09 27.9	**+1.1**
SRBI	**Singaraja**	**1.06**	**141**	P	**Pb**	13 09 26.1	**+0.3**
SRBI				S	**Sb**	13 09 40.9	**+1.5**
JAGI	**Jajag, Banyuwa**	**1.27**	**198**	Pn	**Pn**	13 09 29.4	**+0.5**
JAGI	**Jajag, Banyuwa**	**1.27**	**198**	P	**Pn**	13 09 29.6	**+0.7**
JAGI	**Jajag, Banyuwa**	**1.27**	**198**	S	**Sg**	13 09 48.0	**+0.9**
JAGI	**Jajag, Banyuwa**	**1.27**	**198**	P	**Pn**	13 09 29.4	**+0.5**
JAGI				S	**Sn**	13 09 47.2	**+1.6**
GMJI	**Gumukmas**	**1.49**	**227**	P	**Pn**	13 09 32.7	**+0.8**
GMJI				S	**Sn**	13 09 52.6	**+1.7**
DNP	**Denpasar**	**1.56**	**155**	P	**Pb**	13 09 34.7	**+0.3**
DNP				S	**Sn**	13 09 54.4	**+1.7**
GRJI	**Gresik**	**2.08**	**279**	P	**Pn**	13 09 40.3	**+0.3**
GRJI				S	**Sn**	13 10 07.1	**+1.6**
TBJI	**Tambak Boyo**	**2.71**	**279**	P	**Pn**	13 09 48.8	**+0.1**
TBJI				S	**Sn**	13 10 22.9	**+1.8**
TWSI	**Taliwang, Sumb**	**2.75**	**123**	P	**Pn**	13 09 49.5	**+0.3**
NGJI	**Ngawi**	**3.06**	**268**	P	**Pn**	13 09 55.3	**+1.8**
PCJI	**Pacitan**	**3.47**	**254**	P	**Pn**	13 10 00.9	**+1.8**
PLAI	**Plampang**	**3.56**	**116**	P	**Pn**	13 10 00.7	**+0.3**
PLAI	**Plampang**	**3.56**	**116**	S	**Sn**	13 10 43.6	**+1.5**
PLAI	**Plampang**	**3.56**	**116**	P	**Pn**	13 10 00.3	**-0.1**
UGM	**Wanagama**	**4.04**	**260**	Pn	**Pn**	13 10 07.4	**+0.3**
UGM	**Wanagama**	**4.04**	**260**	P	**Pn**	13 10 08.1	**+1.0**
UGM	**Wanagama**	**4.04**	**260**	P	**Pn**	13 10 07.6	**+0.5**
SMRI	**Semarang**	**4.08**	**273**	Pn	**Pn**	13 10 06.0	**-1.6**
KAPI	**Kappang**	**5.63**	**67**	Pn	**Pn**	13 10 28.4	**-0.5**
KAPI	**Kappang**	**5.63**	**67**	Pn	**Pn**	13 10 29.4	**+0.5**
	10nm,0.3s,baz=261,slow=6.2,SNR=12						
KAPI				Sn	**Sn**	13 11 37.3	**+4.0**
	2.3nm,0.3s,baz=54,slow=18,SNR=1.4						
KAPI				Lg	Lg	13 12 04.5	
	4.6nm,0.3s,baz=165,slow=22,SNR=4.7						
	20nm,0.3s						
KAPI	**Kappang**	**5.63**	**67**	P	**Pn**	13 10 29.2	**+0.3**
BKSI	**Bulukumba**	**5.87**	**71**	P	**Pn**	13 10 32.1	**0.0**
	0.1nm37nm,0.6s						
BSSI	**Bau Bau, Buton**	**6.01**	**80**	P	**Pn**	13 10 33.7	**-0.4**
	0.5nm2μm98nm,0.5s						
SPSI	**Sidrap Palu**	**6.14**	**58**	P	**Pn**	13 10 36.1	**+0.2**
	0.3nm1μm41nm,0.4s						
TTSI	**Tana Toraja**	**6.71**	**52**	P	**Pn**	13 10 44.4	**+0.7**
	0.1nm2μm14nm,0.5s						
STKI	**Sintang**	**7.89**	**337**	P	**Pn**	13 11 01.4	**+1.5**
KSM	**Kuching**	**9.64**	**334**	Pn	**Pn**	13 11 24.3	**+0.3**
SBUM	**Sibu**	**9.91**	**346**	Pn	**Pn**	13 11 28.1	**+0.4**
SBUM	**Sibu**	**9.91**	**346**	P	**Pn**	13 11 29.8	**+2.1**
TOLI2	**Tolitoli**	**10.38**	**37**	Pn	**Pn**	13 11 34.7	**+0.6**
TOLI2	**Tolitoli**	**10.38**	**37**	P	**Pn**	13 11 36.6	**+2.5**
MBWA	**Marble Bar**	**14.71**	**161**	P	**Pn**	13 12 34.0	**+0.7**
FITZ	**Fitzroy Crossi**	**15.27**	**136**	Pn	**Pn**	13 12 40.0	**-0.8**
FITZ	**Fitzroy Crossi**	**15.27**	**136**	Pn	**Pn**	13 12 40.3	**-0.5**
	0.1nm,0.3s,baz=168,slow=13,SNR=1.6						
FITZ				Sn	**Sn**	13 15 26.0	**-3.6**
	0.1nm,0.3s,baz=88,slow=10,SNR=1.8						
	1.2nm,0.8s						
GIRL	**Giralia**	**15.30**	**181**	Pn	**Pn**	13 12 39.9	**-1.4**
KNRA	**Kununurra**	**16.25**	**122**	Pn	**Pn**	13 12 51.7	**-1.8**
SAUI	**Saumlaki**	**16.62**	**94**	P	**P**	13 13 00.0	**-0.7**
MTN	**Manton Dam**	**17.25**	**110**	Pn	**Pn**	13 13 05.1	**-1.1**
MTN				IAmb	IAmb	13 13 17.9	
	comp=Z,11nm,1.0s						
MTN	**Manton Dam**	**17.25**	**110**	P	**P**	13 13 08.4	**+0.8**
FAKI	**Fak Fak**	**18.15**	**77**		**Pn**	13 13 16.8	**-0.6**
FAKI				IAmb	IAmb	13 13 35.6	
	comp=Z,74nm,1.5s						
GSI	**Gunungsitoli**	**18.95**	**296**	P	**P**	13 13 25.9	**-0.4**
WRKA	**Warakurna**	**22.04**	**145**	P	**P**	13 14 00.9	**+1.1**
WRA	**Warramunga Arr**	**22.97**	**125**	P	**P**	13 14 09.1	**-0.7**
WRA	**Warramunga Arr**	**22.97**	**125**	P	**P**	13 14 09.5	**-0.3**
	comp=Z,1.3nm,0.5s,baz=299,slow=12,SNR=28						
	comp=Z,1.3nm,0.5s						
AS31	**Alice Springs**	**24.73**	**133**	P	**P**	13 14 26.5	**-0.2**
AS31				IAmb	IAmb	13 14 29.2	
	comp=Z,2.4nm,0.7s						
ASAR	**Alice Springs**	**24.73**	**133**	P	**P**	13 14 27.5	**+0.8**
	comp=Z,8.2nm,0.7s,baz=308,slow=8.7,SNR=118						
ASAR				PcP	**PcP**	13 18 03.5	**-0.1**
	comp=Z,0.7nm,0.6s,baz=308,slow=1.6,SNR=8.3						
	comp=Z,8.2nm,0.7s						
AS01	**Alice Springs**	**24.77**	**133**	P	**P**	13 14 29.0	**+2.0**
OOD	**Oodnadatta**	**28.61**	**138**	P	**P**	13 15 02.2	**+0.7**
COEN	**Coen**	**28.90**	**106**	P	**P**	13 15 04.0	**-0.2**
COEN				IAmb	IAmb	13 15 04.8	
	comp=Z,11nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.83**	**329**	P	**P**	**13 15 14.1**	**+1.7**
	comp=Z,3.0nm,1.0s,baz=159,slow=7.4,SNR=18						
	comp=Z,3.0nm,1.0s						
MTSU	**Mount Surprise**	**30.94**	**113**	P	**P**	13 15 23.5	**+1.2**
QLP	**Quilpie**	**34.15**	**128**	P	**P**	13 15 51.7	**+1.4**
STKA	**Stephens Creek**	**35.15**	**138**	P	**P**	13 15 59.7	**+0.8**
	comp=Z,1.5nm,0.7s,baz=294,slow=8.1,SNR=3.8						
	comp=Z,1.5nm,0.7s						
KAAM	**Kaadhehdhoo**	**42.15**	**279**	P	**P**	13 16 56.7	**-1.2**
KAAM				IAmb	IAmb	13 17 11.0	
	comp=Z,37nm,1.0s						
JMM	**Marumori**	**51.13**	**27**	P	**P**	13 18 07.5	**-0.4**
SONM	**Songino Array**	**55.32**	**353**	P	**P**	13 18 39.0	**+0.2**
SONM				IAmb	IAmb	13 18 40.6	
	comp=Z,1.3nm,0.8s						
SONM	**Songino Array**	**55.32**	**353**	P	**P**	**13 18 39.9**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=175,slow=8.2,SNR=8.8						
	comp=Z,1.8nm,0.9s						
JKA	**Kamikawa-asahi**	**57.07**	**24**	P	**P**	13 18 50.8	**-0.3**
JKA				IAmb	IAmb	13 19 23.4	
	comp=Z,13nm,1.2s						
MKAR	**Makanchi Array**	**60.97**	**335**	P	**P**	**13 19 18.5**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=140,slow=7.2,SNR=5.1						
	comp=Z,0.3nm,0.5s						
BKZ	**Black Stump Fm**	**63.79**	**130**	P	**P**	13 19 37.1	**-0.3**
KURBB	**Kurchatov Arra**	**65.51**	**336**	P	**P**	13 19 47.7	**-0.5**
	comp=Z,0.4nm,0.8s,baz=144,slow=5.0,SNR=6.0						
	comp=Z,0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**65.91**	**341**	P	**P**	13 19 50.7	**0.0**
ZALV	**Zalesovo Beam**	**65.91**	**341**	P	**P**	13 19 50.9	**+0.2**
	comp=Z,2.1nm,0.6s,baz=138,slow=5.6,SNR=8.4						
	comp=Z,2.1nm,0.6s						
BVAR	**Borovoye Array**	**70.73**	**334**	P	**P**	13 20 20.1	**-0.9**
	comp=Z,0.4nm,0.7s,baz=130,slow=6.9,SNR=2.2						
	comp=Z,0.4nm,0.7s						
ABKAR	**Akbulak array**	**73.63**	**326**	P	**P**	13 20 37.3	**-1.1**
VNDA	**Vanda**	**74.41**	**170**	P	**P**	13 20 42.9	**+0.4**
	comp=Z,0.5nm,0.5s,baz=235,slow=7.9,SNR=1.4						
	comp=Z,0.5nm,0.5s						
TIXI	**Tiksi**	**79.31**	**5**	P	**P**	13 21 09.4	**-0.6**
TIXI				IAmb	IAmb	13 21 10.2	
	comp=Z,6.6nm,0.8s						
QSPA	**South Pole Qui**	**82.73**	**180**	P	**P**	13 21 29.3	**+0.6**
	comp=Z,1.9nm,1.1s,baz=26,slow=4.9,SNR=2.0						
	comp=Z,1.9nm,1.1s						
BRTR	**Keskin Array B**	**87.64**	**310**	P	**P**	13 21 53.0	**-0.8**
	comp=Z,1.6nm,0.9s,baz=104,slow=5.2,SNR=5.9						
	comp=Z,1.6nm,0.9s						
BDFB	**Brasilia**	**151.44**	**217**	PKPbc	**PKPbc**	13 29 01.0	**+0.9**
	comp=Z,1.7nm,0.3s,baz=130,slow=8.7,SNR=3.8						

IDC ***02*** *13:17:37.5±0.5, 51°.22S×72°.04W, h0km, mb4.7/12, mbtmp4.7/16, ML4.2/4, MS3.9/24, Error ellipse: s-maj=24.0km s-min=12.1km az=96.0*
GUC ***02*** *13:17:38.3±0.6, 51°.27S×72°.22W, h7km±11km, ML4.6*
SJA ***02*** *13:17:38.0, 51°.27S×72°.30W, h15km, ML5.0, MW5.0*
NEIC ***02*** *13:17:39.1±1.7, 51°.21S±0°.03×72°.1W±0°.2, h10km±1km, mb4.9/69, Mww4.8/7, Error ellipse: s-maj=19.6km s-min=4.6km az=260.0*
VAO ***02*** *13:17:48.5±2.0, 50°.83S×71°.69W, h54km±13km, mb4.7*
ISC 02 13:17:37.9±1.3, 51°.23S±0°.04×72°.17W±0°.07, h5km±8km, n318, σ0s67/290, mb4.9/38, MS4.0/21, 3C-4D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO09	**Cerro Gustavo**	**0.11**	**249**	⇓*iP*	**Pg**	**13 17 40.3**	**+0.1**
GO09				*i S*	**Sg**	**13 17 41.8**	**+0.1**
GO09				IAML		13 17 42.1	
	comp=N,438μm,0.2s						
MG05	**Puerto Natales**	**0.49**	**205**		**Pg**	**13 17 47.7**	**+0.3**
MG05	**Puerto Natales**	**0.49**	**205**	⇓*iP*	**Pg**	**13 17 47.8**	**+0.3**
MG05				*i S*	**Sg**	**13 17 54.0**	**+0.2**
MG04	**Isla Riesco**	**1.67**	**167**		**Pn**	**13 18 07.5**	**-0.3**
MG04	**Isla Riesco**	**1.67**	**167**	⇑*iP*	**Pn**	**13 18 07.8**	**-0.1**
MG04				*eS*	**Sn**	**13 18 29.0**	**-0.6**
MG04				IAML		13 18 48.7	
	comp=N,8μm,0.8s						
GO10	**Punta Arenas**	**2.05**	**161**		**Pn**	**13 18 12.3**	**-0.8**
GO10	**Punta Arenas**	**2.05**	**161**	⇓*iP*	**Pn**	**13 18 13.1**	**+0.1**
GO10				*eS*	**Sn**	**13 18 39.8**	**+0.8**
GO10				*eS*	**Sn**	**13 18 39.8**	**+0.8**
GO10				IAML		13 18 56.3	
	comp=E,6μm,1.1s						
GO10				IAML		13 18 56.4	
	comp=E,7μm,1.1s						
MG02	**Cerro Sombrero**	**2.39**	**132**		**Pn**	**13 18 18.4**	**+0.7**
MG02	**Cerro Sombrero**	**

LPAZ **La Paz** 35.01 7 eP P 13 24 32.7 +0.8
SNAA **Sanae** 36.11 150 P P 13 24 40.2 -0.1
comp=Z,10nm,0.8s,baz=264,slow=8.8,SNR=8.8
SNAA LR LR 13 36 58.4
comp=Z,163nm,21.9s,baz=195,slow=32
comp=Z,10nm,0.8s
SIV **San Ignacio** 36.26 18 P P 13 24 41.8 -0.3
comp=Z,13nm,0.8s,baz=189,slow=7.6,SNR=55
SIV PcP PcP 13 27 06.9 -0.3
comp=Z,2.1nm,0.8s,baz=178,slow=7.0,SNR=3.4
comp=Z,13nm,0.8s
PTLB **Pontes e Lacer** 37.20 21 eP P 13 24 51.0 +0.9
SALV **Santo Antonio** 37.64 27 eP P 13 24 53.7 -0.1
QSPA **South Pole Qui** 39.02 180 P P 13 25 05.8 +0.7
comp=Z,58nm,0.6s,baz=154,slow=1.5,SNR=357
comp=Z,58nm,0.6s
ARAG **Araguaiana, MT** 39.02 32 eP P 13 25 05.1 -0.3
DIAM **Diamantina, MG** 39.86 45 eP P 13 25 13.2 +0.6
BDFB **Brasilia** 40.44 37 P P 13 25 17.0 -0.4
BDFB IAmb IAmb 13 25 18.3
comp=Z,41nm,1.2s
BDFB **Brasilia** 40.44 37 P P 13 25 17.4 0.0
comp=Z,13nm,0.7s,baz=208,slow=7.1,SNR=20
BDFB LR LR 13 42 39.4
comp=Z,150nm,19.8s,baz=135,slow=37
comp=Z,13nm,0.7s
RIB01 **Linhares ES** 40.50 50 eP P 13 25 18.5 +0.8
SJMB **Sao Joao De Ma** 40.65 49 eP P 13 25 19.2 +0.2
PDRB **Porto dos Gac** 41.47 23 eP P 13 25 25.2 -0.6
CLDB **Colider** 42.41 24 eP P 13 25 34.5 +1.0
JANB **Januaria** 42.46 42 eP P 13 25 33.8 -0.1
SNDB **Serra Nova Dou** 42.68 31 eP P 13 25 35.6 -0.1
GUA01 **Guaratinga, BA** 43.13 49 eP P 13 25 39.6 +0.4
CZSB **Cruzeiro do Su** 43.37 359 eP P 13 25 41.5 +0.3
ELIB **Princess Elisa** 43.95 153 dP P 13 25 45.6 +0.1
comp=Z,9.4nm,0.6s
SDBA **SAO DESIDERIO** 44.60 40 eP P 13 25 51.3 +0.1
NPGB **Novo Progresso** 46.20 23 eP P 13 26 03.2 -0.6
VNDA **Vanda** 47.26 194 P P 13 26 13.1 +1.7
VNDA IAmb IAmb 13 26 14.9
comp=Z,11nm,1.3s
VNDA **Vanda** 47.26 194 P P 13 26 13.3 +1.9
comp=Z,3.5nm,0.9s,baz=118,slow=5.1,SNR=7.5
VNDA PcP PcP 13 27 42.9 +0.5
comp=Z,3.2nm,1.0s,baz=70,slow=3.0,SNR=3.9
comp=Z,3.5nm,0.9s
ITTB **Itaituba** 48.69 22 eP P 13 26 23.1 0.0
COHC **Cochancay** 48.96 351 P P 13 26 25.9 +0.7
SYO **Syowa Base** 50.10 154⇑ isP P 13 26 35.2 +1.9
NBAN **Anadia - AL** 50.81 48 eP P 13 26 39.2 -0.1
OTAV **Otavalo** 51.56 352 P P 13 26 45.7 +0.3
OTAV IAmb IAmb 13 26 49.9
comp=Z,18nm,1.1s
OTAV **Otavalo** 51.56 352 eP P 13 26 47.4 +2.0
NBCA **Caruaru-PE** 52.19 48 eP P 13 26 50.1 +0.3
BOAV **Boa Vista** 54.34 14 P P 13 27 04.0 -1.4
BOAV IAmb IAmb 13 27 05.8
comp=Z,6.3nm,0.8s
BOAV **Boa Vista** 54.34 14 eP P 13 27 04.8 -0.6
RCBR **Riachuelo** 54.36 46 LR LR 13 49 51.4
comp=Z,53nm,19.1s,baz=218,slow=36
RKT **Rikitea** 55.38 276 eLR LR 13 43 18.8
comp=Z,728nm,28.2s
ROSC **El Rosal** 55.88 357 P P 13 27 17.5 +0.5
comp=Z,8.9nm,0.4s,baz=126,slow=10,SNR=5.1
comp=Z,8.9nm,0.4s
MAW **Mawson** 56.79 161 LR LR 13 51 10.6
comp=Z,169nm,18.8s,baz=227,slow=36
RUSC **La Rusia** 56.90 359 P P 13 27 23.2 -1.1
RUSC IAmb IAmb 13 27 28.4
comp=Z,12nm,0.8s
MDP **Montagnes des** 58.56 23 LR LR 13 55 54.5
comp=Z,239nm,18.5s,baz=148,slow=39
PCRV **Puerto La Cruz** 61.50 8 LR LR 13 57 18.1
comp=Z,129nm,18.8s,slow=39
CASY **Casey** 62.80 181 P P 13 28 04.4 +0.6
TBI **Tubuai** 64.30 264 eLR LR 13 47 25.0
comp=Z,776nm,31.0s
CNGN **Cerro Negro** 64.71 344 P P 13 28 16.0 -1.0
SUR **Sutherland** 67.25 114 LR LR 13 54 28.2
comp=Z,138nm,19.6s,baz=210,slow=33
PPT2 **Papeete2** 68.63 268 eLR LR 13 49 19.5
comp=Z,206nm,27.2s
PPT2 eLR LR 13 49 30.5
comp=Z,116nm,24.2s
TAOE **Nuku Hiva Isla** 69.39 282 eLR LR 13 49 48.2
comp=Z,180nm,27.8s
CMIG **Matias Romero** 70.88 337 LR LR 13 53 51.3
comp=Z,30nm,20.9s,baz=170,slow=31
RAR **Rarotonga** 72.28 258 LR LR 13 51 20.6
comp=Z,84nm,20.4s,baz=337,slow=28
BOSA **Boshof** 72.60 114 P P 13 29 06.4 0.0
comp=Z,5.9nm,1.0s,baz=207,slow=9.3,SNR=4.7
BOSA LR LR 13 57 22.9
comp=Z,94nm,19.8s,baz=208,slow=33
comp=Z,5.9nm,1.0s
SOR **Soroa** 74.31 350 IAmb IAmb 13 29 17.4
comp=Z,22nm,1.1s
TSUM **Tsumeb** 75.12 102 LR LR 13 56 57.0
comp=Z,125nm,21.1s,baz=158,slow=31
LBTB **Lobatse** 75.53 112 P P 13 29 23.5 0.0
LBTB **Lobatse** 75.53 112 LR LR 13 58 29.0
comp=Z,86nm,20.6s,baz=218,slow=32
DBIC **Dimbokro** 81.31 68 P P 13 29 55.4 0.0
DBIC IAmb IAmb 13 30 00.1
comp=Z,23nm,1.4s
DBIC **Dimbokro** 81.31 68 P P 13 29 56.0 +0.7
comp=Z,6.1nm,0.8s,baz=206,slow=5.3,SNR=9.7
DBIC LR LR 14 00 04.8
comp=Z,97nm,20.4s,baz=177,slow=31
comp=Z,6.1nm,0.8s
BBTS **Babate** 81.50 54 LR LR 14 00 57.0
comp=Z,45nm,20.3s,baz=24,slow=32
DRIO **Del Rio** 84.13 335 IAmb IAmb 13 30 10.8
comp=Z,10nm,1.3s
LSZ **Lusaka** 84.58 108 P P 13 30 12.9 +0.3
LSZ **Lusaka** 84.58 108 LR LR 14 01 55.9
comp=Z,130nm,21.9s,baz=211,slow=32
TXAR **Lajitas Array** 84.89 333 P P 13 30 13.9 +0.4
comp=Z,1.6nm,0.9s,baz=148,slow=7.4,SNR=9.9
comp=Z,1.6nm,0.9s
SAND **Sanderson** 85.04 334 IAmb IAmb 13 30 15.9
comp=Z,7.5nm,1.3s
BRDY **Brady** 85.50 337 IAmb IAmb 13 30 17.3
comp=Z,11nm,1.1s
TOO **Toolangi** 85.60 209 P P 13 30 17.5 +0.3
TOO **Toolangi** 85.60 209 P P 13 30 16.6 -0.7
comp=Z,6.1nm,0.9s
ALPN **Alpine** 85.86 333 IAmb IAmb 13 30 20.4
comp=Z,15nm,1.4s
MNHN **Monahans** 86.52 334 IAmb IAmb 13 30 23.9
comp=Z,23nm,1.6s
PLPT **Palo Pinto** 86.80 338 IAmb IAmb 13 30 24.6
comp=Z,16nm,1.2s
ARPS **Mount Arapiles** 87.42 207 P P 13 30 26.2 +0.1
comp=Z,19nm,0.9s
MSVF **Nonsavu** 88.13 244 LR LR 14 01 41.3
comp=Z,64nm,21.3s,baz=112,slow=30
WMOK **Wichita Mounta** 88.75 338 P P 13 30 32.0 -0.2
WMOK IAmb IAmb 13 30 33.1
comp=Z,8.3nm,0.9s
HHAR **Hobbs** 89.22 343 IAmb IAmb 13 30 35.3
comp=Z,9.5nm,0.7s
T42A **Van Buren** 89.45 345 IAmb IAmb 13 30 36.2
comp=Z,12nm,1.0s
FVM **French Village** 90.27 346 IAmb IAmb 13 30 40.2
comp=Z,11nm,1.0s
TORD **Torodi Ar. Bea** 90.32 69 P P 13 30 39.6 -0.4
TORD **Torodi Ar. Bea** 90.32 69 LR LR 14 05 08.4
comp=Z,82nm,20.0s,baz=161,slow=32
T35A **Sooner Cattle** 90.34 341 P P 13 30 39.8 +0.2
DZM **Mont Dzumac** 90.76 232 eLR LR 13 59 38.2
comp=Z,71nm,23.3s
STKA **Stephens Creek** 92.06 208 P P 13 30 47.9 -0.1
STKA **Stephens Creek** 92.06 208 P P 13 30 47.7 -0.3
comp=Z,43nm,1.6s
STKA **Stephens Creek** 92.06 208 P P 13 30 48.1 +0.1
comp=Z,5.3nm,0.8s,baz=147,slow=4.9,SNR=10
comp=Z,5.3nm,0.8s
SDCO **Great Sand Dun** 93.30 334 IAmb IAmb 13 30 55.3
comp=Z,6.2nm,1.3s
S22A **4UR Ranch, Cre** 93.67 333 IAmb IAmb 13 30 57.5
comp=Z,6.5nm,1.2s
Q24A **Divide** 94.35 335 IAmb IAmb 13 30 60.0
comp=Z,5.3nm,0.9s
MTPU **Mount Pierson** 95.56 329 IAmb IAmb 13 31 07.3
comp=Z,3.3nm,0.5s

NVAR **Mina Array Bea** 98.00 325 LR LR 14 07 03.3
comp=Z,71nm,20.3s,baz=168,slow=30
PDAR **Pinedale Array** 99.10 333 LR LR 14 11 17.7
comp=Z,18nm,20.1s,baz=141,slow=32
ASAR **Alice Springs** 101.97 204 P Pdif 13 31 32.2 -0.9
comp=Z,1.0nm,0.7s,baz=154,slow=3.7,SNR=12
WRA **Warramunga Arr** 105.40 206 Pdiff Pdif 13 31 49.0 +0.7
comp=Z,0.7nm,0.9s,baz=167,slow=4.2,SNR=7.1
YKA **Yellowknife Ar** 118.25 339 PKP PKPdf 13 36 24.1 -0.7
comp=Z,1.0nm,0.8s,baz=159,slow=2.3,SNR=12
EKA **Eskdalemuir Ar** 120.63 38 PKP PKPdf 13 36 29.6 0.0
comp=Z,1.1nm,0.8s,baz=230,slow=1.8,SNR=3.9
HYT **Haines Junctio** 123.32 328 P PKPdf 13 36 35.0 +0.2
baz=137
M31M **Drury Creek, Y** 123.33 330 P PKPdf 13 36 35.0 +0.3
baz=138
GERES **GERESS Array B** 123.64 52 PKP PKPdf 13 36 36.0 +0.2
comp=Z,1.5nm,0.7s,baz=211,slow=1.6,SNR=10
N30M **Aishikik Lake** 123.64 329 P PKPdf 13 36 35.7 +0.4
baz=137
PINM **Pinnacle** 123.73 326 P PKiKP 13 36 36.4 +0.6
baz=135
YUK4 **Talbot Arm** 124.08 328 P PKPdf 13 36 36.2 -0.1
baz=136
O28M **Mount Upton** 124.19 327 P PKPdf 13 36 37.1 +0.4
baz=135
M30M **Mio, Yukon** 124.37 330 P PKPdf 13 36 36.6 0.0
baz=136
YUK8 **Steele Glacier** 124.41 327 P PKPdf 13 36 37.0 0.0
baz=135
M29M **Somme Creek** 124.81 329 P PKPdf 13 36 37.5 0.0
baz=135
MODS **Modra-Piesok** 125.14 55 ePDIFF Pdif 13 33 19.0 +3.9
L29M **L29M** 125.18 329 P PKPdf 13 36 38.6 +0.4
baz=135
K29M **Barlow Dome** 125.51 330 P PKPdf 13 36 38.9 0.0
baz=135
BVCY **Beaver Creek** 125.58 328 P PKPdf 13 36 39.0 0.0
baz=134
J30M **Hart River** 125.67 331 P PKPdf 13 36 39.4 +0.2
baz=136
M27K **Edge Creek, AK** 125.88 327 P PKPdf 13 36 39.7 0.0
baz=133
H31M **Peel River** 125.98 333 P PKPdf 13 36 39.1 -0.5
baz=137,SNR=5.4
I30M **Mount Dempster** 126.15 332 P PKPdf 13 36 39.7 -0.4
baz=135,SNR=7.5
J29N **Klondike Camp** 126.16 331 P PKPdf 13 36 40.3 +0.3
baz=135
DAWY **Dawson** 126.25 330 P PKPdf 13 36 39.8 -0.4
baz=134
P23K **Montague Islan** 126.28 323 P PKPdf 13 36 40.2 -0.1
baz=131
M26K **Nabesna, AK** 126.30 327 P PKPdf 13 36 40.5 +0.1
baz=132
N25K **Chitina, Valde** 126.32 326 P PKPdf 13 36 41.0 +0.5
baz=132
L27K **Beaver Creek,** 126.35 328 P PKPdf 13 36 40.7 +0.3
baz=133
KLU **Klutina** 126.72 325 P PKPdf 13 36 41.6 +0.4
baz=131
GLI **Glacier Island** 126.74 324 P PKPdf 13 36 40.6 -0.6
baz=131
G31M **Satah River** 126.77 334 P PKPdf 13 36 40.5 -0.6
baz=136
F31M **Tsiigehtchic** 127.01 335 P PKPdf 13 36 41.2 -0.2
baz=136
EPYK **Eagle Plains** 127.06 333 P PKPdf 13 36 41.6 -0.1
baz=135
K27K **Chicken** 127.09 329 P PKiKP 13 36 42.4 +0.2
baz=132
M24K **Tolsona, Glenn** 127.21 325 P PKPdf 13 36 42.8 +0.6
baz=131
G30M **tAoh Zraii Nji** 127.36 334 P PKPdf 13 36 41.9 -0.3
baz=135
I28M **Miner Creek** 127.38 331 PKPdf PKPdf 13 36 42.2 -0.2
I28M **Miner Creek** 127.38 331 P PKPdf 13 36 42.1 -0.3
baz=133
BRSE **Bradley Lake S** 127.40 321 P PKPdf 13 36 42.4 -0.1
baz=129
H29M **Whitestone** 127.44 332 P PKPdf 13 36 42.1 -0.3
baz=134
SCM **Sheep Creek Mo** 127.45 325 P PKPdf 13 36 42.3 -0.3
baz=130
R18K **Karluk** 127.56 318 P PKPdf 13 36 42.5 -0.3
baz=128
M23K **Glacier View** 127.57 325 P PKPdf 13 36 42.6 -0.1
baz=130
INK **Inuvik** 127.58 336 P PKPdf 13 36 42.2 -0.3
baz=136
F30M **Barrier River** 127.68 334 P PKPdf 13 36 42.5 -0.3
baz=135
SCRK **Sand Creek** 127.68 328 P PKPdf 13 36 43.1 0.0
baz=131
HOM **Homer** 127.71 321 P PKPdf 13 36 42.3 -0.7
baz=129
SML **Sawmill** 127.80 324 P PKPdf 13 36 42.5 -0.7
baz=129
G29M **Pine Creek** 127.82 333 P PKPdf 13 36 42.8 -0.3
baz=133
RIDG **Independent Ri** 127.82 327 P PKPdf 13 36 43.6 +0.3
baz=130
RC01 **Rabbit Creek A** 127.87 323 P PKPdf 13 36 43.4 +0.1
baz=129
J26L **Joseph Creek** 127.89 329 P PKPdf 13 36 43.1 -0.3
baz=131
PMR **Palmer** 127.96 324 P PKPdf 13 36 43.2 -0.3
baz=129
I27K **Kandik River** 128.00 330 P PKPdf 13 36 43.7 +0.2
baz=132,SNR=8.2
Q19K **Cape Douglas,** 128.06 319 P PKPdf 13 36 43.2 -0.6
baz=128
K24K **Donnelly Dome** 128.18 327 P PKPdf 13 36 43.8 -0.1
baz=130
I26K **Coal Creek Min** 128.29 330 P PKPdf 13 36 44.2 +0.2
baz=131
P19K **Oil Pt** 128.34 320 P PKPdf 13 36 44.2 -0.1
baz=128
O20K **Slope Mountain** 128.36 321 P PKPdf 13 36 44.1 -0.2
baz=129
H27K **Steamboat Moun** 128.39 331 P PKPdf 13 36 44.4 +0.2
baz=131,SNR=5.0
A36M **Sachs Harbour** 128.43 341 P PKPdf 13 36 43.9 -0.1
baz=140
Q18K **Katmai Hardscr** 128.45 319 P PKPdf 13 36 44.2 -0.5
baz=127
SUA **Susitna One** 128.48 323 P PKPdf 13 36 44.6 0.0
baz=128
J25K **Salcha River,** 128.56 328 P PKPdf 13 36 45.0 +0.3
baz=130
Q17K **Contact Creek** 128.59 318 P PKPdf 13 36 44.8 -0.1
baz=127
E29M **Blow River** 128.79 334 P PKPdf 13 36 45.0 +0.1
baz=133
G27K **Doyon Strip** 128.81 332 P PKPdf 13 36 44.9 -0.1
baz=131
BRTR **Keskin Array B** 128.84 72 PKP PKPdf 13 36 46.5 +0.4
comp=Z,2.4nm,0.7s,baz=216,slow=2.1,SNR=10
SPCR **Spurr Chakacha** 128.88 322 P PKPdf 13 36 45.5 +0.1
baz=127
CUT **Chulitna** 128.89 324 P PKPdf 13 36 45.6 +0.4
baz=128
HDA **Harding Lake** 128.96 327 P PKPdf 13 36 45.5 +0.2
baz=129
P18K **Big Mountain,** 128.99 319 P PKPdf 13 36 45.2 -0.4
baz=127
SKT **Skwentna** 129.10 323 P PKPdf 13 36 45.5 -0.1
baz=127
O19K **Port Alsworth** 129.10 320 P PKPdf 13 36 45.3 -0.3
baz=127
Q16K **King Salmon** 129.16 318 P PKPdf 13 36 45.4 -0.4
baz=126
ILAR **Eielson Array** 129.16 328 PKP PKPdf 13 36 45.8 +0.1
comp=Z,2.9nm,0.7s,baz=136,slow=2.9,SNR=28
PRP **Porcupine Dome** 129.18 329 PKPdf PKPdf 13 36 46.2 +0.3
PRP **Porcupine Dome** 129.18 329 P PKPdf 13 36 45.7 -0.2
baz=129,SNR=5.9
O18K **Koktuh Hills** 129.26 320 P PKPdf 13 36 45.8 -0.2
baz=126
E28M **Babbage River** 129.39 334 P PKPdf 13 36 46.0 -0.1
baz=131
TRF **Thorofare Moun** 129.53 325 P PKPdf 13 36 46.6 -0.1
baz=127
N19K **Bonanza Creek** 129.54 321 P PKPdf 13 36 46.1 -0.5
baz=126
G26K **Porcupine Rive** 129.55 331 P PKPdf 13 36 46.0 -0.3
baz=129
COLA **College** 129.55 328 P PKPdf 13 36 46.5 +0.1
baz=128
M20K **Styx River** 129.64 323 P PKPdf 13 36 46.4 -0.4
baz=126
D28M **Stokes Point** 129.65 335 P PKPdf 13 36 46.7 +0.2
baz=131
E27K **Coleen River** 129.69 333 P PKPdf 13 36 46.9 +0.2
baz=130
H25L **Birch Creek** 129.75 330 P PKiKP 13 36 47.5 +0.1
baz=128
NEA2 **Nenana** 129.79 327 P PKPdf 13 36 46.9 0.0
baz=127
PPLA **Purkeypile** 129.89 324 P PKPdf 13 36 48.0 +0.7
baz=126
F26K **Sheenjek River** 130.12 332 P PKiKP 13 36 48.5 +0.2
baz=128
H24K **Noodor Dome** 130.15 329 P PKiKP 13 36 49.0 +0.6
baz=127
CAST **Castle Rocks** 130.16 325 P PKPdf 13 36 47.5 -0.1
baz=126,SNR=6.5
BPAW **Bear Paw Mtn.** 130.17 326 P PKPdf 13 36 47.5 -0.1
baz=126,SNR=5.6
D27M **Malcolm River** 130.20 334 P PKPdf 13 36 48.4 +0.8
baz=130
L20K **Farewell, AK** 130.28 323 P PKPdf 13 36 48.6 +0.7
baz=125
O16K **Kokwok River B** 130.30 318 P PKPdf 13 36 48.7 +0.7
baz=125
F25K **Christian Rive** 130.51 331 P PKiKP 13 36 49.1 0.0
baz=128
CHUM **Lake Minchumin** 130.52 325 P PKPdf 13 36 48.5 +0.3
baz=125
G24K **Hadweenzic Riv** 130.54 330 P PKPdf 13 36 48.9 +0.6
baz=127
E25K **Arctic Village** 130.81 332 P PKPdf 13 36 49.3 +0.5
baz=127
K20K **Telida** 130.85 324 P PKPdf 13 36 49.6 +0.6
baz=125
F24K **Squaw Lake** 131.16 330 P PKiKP 13 36 50.5 +0.1
baz=126
C27K **Jago River** 131.20 334 P PKiKP 13 36 50.7 +0.3
baz=128
L18K **Granite Mounta** 131.21 322 P PKiKP 13 36 50.8 +0.3
baz=124
TTA **Tatalina** 131.34 323 P PKiKP 13 36 50.9 -0.1
baz=124
J20K **Nowinta River** 131.35 325 P PKiKP 13 36 51.0 +0.2
baz=124
H22K **Ishtalitna Cre** 131.35 327 P PKiKP 13 36 50.9 +0.1
baz=125
G23K **Bananza Creek** 131.37 329 P PKiKP 13 36 51.1 +0.3
baz=125
M16K **Timber Creek** 131.46 320 P PKPdf 13 36 51.0 +0.8
baz=123
N15K **Kwethluk River** 131.46 318 P PKPdf 13 36 50.8 +0.7
baz=123
E24K **Your Creek** 131.67 331 P PKiKP 13 36 51.8 +0.4
baz=125
H21K **Melozitna Rive** 131.70 327 P PKiKP 13 36 51.9 +0.4
baz=124
C26K **Camden Bay** 131.71 334 P PKiKP 13 36 51.9 +0.5
baz=126
COLD **Coldfoot** 131.72 329 P PKiKP 13 36 51.7 +0.2
baz=124
D25K **Kavik River** 131.77 333 P PKiKP 13 36 51.7 +0.1
baz=126
J19K **Poorman** 131.79 324 P PKiKP 13 36 52.1 +0.5
baz=123
L17K **Donlin** 131.79 321 P PKiKP 13 36 51.8 +0.1
baz=123
J18K **Innoko River** 131.91 323 P PKiKP 13 36 52.1 +0.2
baz=123
E23K **Chandalar** 132.01 330 P PKiKP 13 36 52.3 +0.2
baz=124
K17K **Iditarod** 132.11 322 P PKiKP 13 36 52.9 +0.5
baz=122
TOLK **Toolik Lake Re** 132.32 331 P PKiKP 13 36 52.8 +0.1
baz=124
H20K **Anotleneega Mo** 132.33 326 P PKiKP 13 36 53.0 +0.3
baz=122
D24K **Happy Valley** 132.39 332 P PKiKP 13 36 53.3 +0.5
baz=124
G21K **Allakaket** 132.41 328 P PKPdf 13 36 52.6 +0.8
baz=123
F22K **John River** 132.51 329 P PKiKP 13 36 53.5 +0.4
baz=123
C24K **Franklin Bluff** 132.67 333 P PKPdf 13 36 53.1 +0.9
baz=124
E22K **Anaktuvuk Pass** 132.74 330 P PKiKP 13 36 53.8 +0.2
baz=123
J17K **VABM Dome** 132.77 322 P PKiKP 13 36 53.9 +0.2
baz=121
AKASG **Malin Array Be** 132.78 58 PKP PKPdf 13 36 52.4 -0.5
comp=Z,1.4nm,0.6s,baz=258,slow=2.4,SNR=6.5
F21K **Alatna River** 132.79 328 P PKPdf 13 36 53.4 +0.9
baz=122
L15K **Ungalak Mounta** 132.84 319 P PKPdf 13 36 53.5 +0.8
baz=121
D23K **Nanushuk River** 132.84 331 P PKiKP 13 36 53.9 +0.2
baz=123
H19K **Roundabout Mou** 132.91 326 P PKiKP 13 36 53.9 0.0
baz=121
L14K **Kuka Creek** 133.16 319 P PKPdf 13 36 54.0 +0.7
baz=120
K15K **Wolf Creek Mou** 133.17 320 P PKPdf 13 36 54.3 +0.9
baz=120
C23K **Itkillik River** 133.29 332 P PKiKP 13 36 54.4 -0.2
baz=122
H18K **Honhosa River** 133.40 325 P PKiKP 13 36 55.0 +0.1
baz=120
E21K **Killik River** 133.58 330 P PKiKP 13 36 55.1 -0.1
baz=121
I17K **Unalakleet** 133.64 322 P PKiKP 13 36 55.3 -0.2
baz=120
H17K **Granite Mounta** 133.87 324 P PKPdf 13 36 55.2 +0.6
baz=119
G18K **Tagagawik** 133.88 325 P PKiKP 13 36 55.7 -0.2
baz=119
F19K **Shaleruckik Mo** 134.03 327 P PKiKP 13 36 56.0 -0.2
baz=119
E19K **Redstone River** 134.16 328 P PKPdf 13 36 55.9 +0.8
baz=119
C21K **Knifeblade Rid** 134.20 330 P PKPdf 13 36 55.9 +0.8
baz=120
E20K **Nigu River** 134.20 329 P PKiKP 13 36 56.7 +0.2
baz=119
J14K **Nanvaranak Lak** 134.21 320 P PKiKP 13 36 56.5 0.0
baz=119
K13K **Kusilvak Mount** 134.27 319 P PKiKP 13 36 57.0 +0.2
baz=119
B22K **Teshekpuk Lake** 134.37 332 P PKiKP 13 36 56.5 -0.2
baz=120
B21K **Ikpikpuk River** 134.38 331 P PKiKP 13 36 56.6 -0.1
baz=119
G17K **Kiwalik Mounta** 134.41 324 P PKPdf 13 36 56.2 +0.6
baz=118
D20K **Etivluk River** 134.56 329 P PKiKP 13 36 57.1 -0.2
baz=118
F18K **Selawik** 134.58 326 P PKPdf 13 36 56.6 +0.8
baz=118
H16K **Elim** 134.60 323 P PKPdf 13 36 57.0 +1.1
baz=118
D19K **Kuna River** 134.94 329 P PKPdf 13 36 57.6 +1.1
baz=118
G16K **Koyuk River** 134.99 324 P PKPdf 13 36 57.7 +1.1
baz=117
E18K **Tukpahlearik C** 135.29 327 P PKPdf 13 36 57.6 +0.4
baz=117
B20K **Meade River** 135.34 331 P PKPdf 13 36 58.3 +1.1
baz=117
E17K **Hotham Inlet** 135.56 326 P PKPdf 13 36 58.7 +1.0
baz=116
A21K **Barrow** 135.77 333 P PKPdf 13 36 58.2 +0.3
baz=116
C18K **Utukok River** 136.03 328 P PKPdf 13 36 59.0 +0.3
baz=115
D17K **Noatak River** 136.27 326 P PKPdf 13 36 59.3 +0.3
baz=114
C16K **Lisburne Hills** 137.28 327 P PKPdf 13 37 01.1 +0.3
baz=112
GAMB **Gambell** 137.98 319 P PKPdf 13 37 02.9 +0.7
baz=112
CMAR **Chiang Mai Arr** 146.55 165 PKPbc PKPdf 13 37 19.0 +0.1
comp=Z,5.5nm,0.9s,baz=218,slow=3.8,SNR=28
PETK **Petropavlovsk-** 149.85 293 PKPbc PKPbc 13 37 28.1 0.0
comp=Z,8.0nm,0.8s,baz=119,slow=2.9,SNR=10.0
MJAR **Matsushiro Arr** 153.87 248 PKPbc PKPbc 13 37 37.1 -0.7
comp=Z,1.9nm,0.6s,baz=125,slow=2.6,SNR=6.4
PZH **PanZhiHua** 154.88 167 PKPbc PKPdf 13 37 30.0 -1.7

KSH	Kashi	154.95	105	PKPbc	PKPdf	13 37 31.6	+0.2
BVAR	Borovoye Array	157.11	71	PKP	PKPdf	13 37 32.9	-0.8
	comp=Z,1.4nm,0.8s,baz=225,slow=0.9,SNR=7.8						
NJ2	Nanjing	159.18	207	*e*P	PKPdf	13 37 36.5	-0.3
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
KSRS	Korea Array	160.18	234	PKPab	PKPab	13 38 19.2	+1.2
	comp=Z,1.8nm,0.8s,baz=151,slow=6.5,SNR=6.3						
KURBB	Kurchatov Arra	161.57	80	PKP	PKPdf	13 37 38.8	-0.1
	comp=Z,2.6nm,1.0s,baz=246,slow=1.2,SNR=21						
KURBB				PKPab	PKPab	13 38 23.5	-0.4
	comp=Z,0.8nm,0.8s,baz=252,slow=5.9,SNR=7.5						
MKAR	Makanchi Array	162.71	95	PKP	PKPdf	13 37 39.7	-0.5
	comp=Z,0.6nm,0.8s,baz=233,slow=1.0,SNR=7.3						
MKAR				PKPab	PKPab	13 38 28.7	-0.3
	comp=Z,1.0nm,0.8s,baz=242,slow=2.6,SNR=5.7						
ZALV	Zalesovo Beam	165.77	70	PKP	PKPdf	13 37 41.0	-1.7
	comp=Z,0.3nm,0.3s,baz=270,slow=0.4,SNR=3.5						
HHC	Hu-ho-hao-te	169.30	195	*e*P	PKPdf	13 37 42.4	-3.4
SONM	Songino Array	176.47	164	PKP	PKPdf	13 37 48.3	-0.2
	comp=Z,0.2nm,0.3s,baz=180,slow=0.4,SNR=3.9						

IDC 02 13:44:43.5±1.6, 28°.07S×63°.34E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=55.6km s-min=33.3km az=77.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	20.23	204	T	T	14 10 06.8	
	baz=31,slow=73,SNR=22						
H04N1	CROZET ISLANDS	20.24	204	T	T	14 09 59.7	
	baz=31,slow=73,SNR=28						
H04N3	CROZET ISLANDS	20.25	204	T	T	14 09 56.0	
	baz=31,slow=73,SNR=25						
QSPA	South Pole Qui	62.08	180	P	P	13 55 05.8	0.0
	1.2nm,0.9s,baz=141,slow=11,SNR=1.9						
	1.2nm,0.9s						
ASAR	Alice Springs	62.84	104	P	P	13 55 12.0	+0.5
	0.6nm,0.7s,baz=245,slow=6.3,SNR=5.4						
	0.6nm,0.7s						
WRA	Warramunga Arr	64.57	100	P	P	13 55 22.4	-0.5
	0.8nm,0.8s,baz=247,slow=5.8,SNR=5.0						
	0.8nm,0.8s						
MKAR	Makanchi Array	76.46	13	P	P	13 56 34.8	-0.1
	0.4nm,0.8s,baz=192,slow=6.7,SNR=3.5						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	79.49	10	P	P	13 56 51.7	+0.2
	0.2nm,0.3s,baz=190,slow=5.6,SNR=5.0						
	0.2nm,0.3s						

IDC 02 14:05:06.0±317.0, 58°.15N×33°.03E, h0km, Error ellipse: s-maj=129.6km s-min=57.2km az=121.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	2.68	121	I	I	14 22 10.0	
	baz=304,slow=323,SNR=2.8						
I37NO	I37NO	12.65	336	I	I	15 19 50.0	
	baz=142,slow=326,SNR=1.1						
I26DE	FREYUNG INFRAS	14.74	239	I	I	15 33 40.0	
	baz=44,slow=336,SNR=0.7						

IDC 02 14:08:60.0±2.3, 22°.44N×93°.01E, h49km±29km, mb3.1/3, mbtmp3.2/4, ML3.5/1, MS3.3/1, Error ellipse: s-maj=40.6km s-min=17.4km az=31.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	Bariadhala	1.28	281	P	Pn	14 09 20.2	-1.3
	397nm,0.3s,baz=45,slow=20,SNR=7.3						
BRDH				S	Sn	14 09 37.8	+0.1
	249nm,0.3s,baz=53,slow=20,SNR=19						
CMAR	Chiang Mai Arr	6.83	124	P	Pn	14 10 37.8	+0.2
	0.2nm,0.3s,baz=296,slow=13,SNR=7.5						
CMAR				S	Sn	14 11 59.5	+5.3
	0.6nm,0.3s,baz=288,slow=30,SNR=6.7						
	0.4nm,0.3s						
AAK	Ala-Archa	25.38	327	LR	LR	14 25 59.8	
	comp=Z,69nm,19.9s,baz=98,slow=40						
MKAR	Makanchi Array	25.80	343	P	P	14 14 26.0	-0.4
	0.3nm,0.5s,baz=160,slow=10,SNR=5.0						
	0.3nm,0.5s						
WRA	Warramunga Arr	58.34	133	P	P	14 18 49.5	-0.9
	0.2nm,0.6s,baz=312,slow=6.1,SNR=1.8						
	0.2nm,0.6s						
ASAR	Alice Springs	60.68	136	P	P	14 19 07.2	+0.6
	0.2nm,0.6s,baz=316,slow=6.8,SNR=11						
	0.2nm,0.6s						

IDC 02 14:17:46.2±321.0, 57°.50N×31°.82E, h0km, Error ellipse: s-maj=131.9km s-min=68.0km az=102.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.05	103	I	I	14 37 39.6	
	0.2nm,0.5s,baz=285,slow=327,SNR=3.7						
I37NO	I37NO	13.00	339	I	I	15 30 40.0	
	baz=143,slow=326,SNR=0.8						
I26DE	FREYUNG INFRAS	13.85	239	I	I	15 43 30.0	
	baz=44,slow=332,SNR=0.6						

*NNC **02** 14:23:15.4±2.7, 37°.52N×72°.14E, h0km, mb4.8, mpv4.7, Error ellipse: s-maj=21.6km s-min=17.1km az=170.0*
*NEIC **02** 14:23:20.4±1.2, 37°.40N±0°.07×72°.1E±0°.1, h215km±6km, mb4.3/9, Error ellipse: s-maj=12.6km s-min=9.7km az=76.0*
*IDC **02** 14:23:20.7±2.1, 37°.41N×72°.31E, h222km±17km, mb3.3/11, mbtmp4.1/17, Error ellipse: s-maj=15.9km s-min=14.2km az=43.0*

ISC 02 14:23:19.2±0.5, 37°.37N±0°.05×72°.22E±0°.06, h200km, n77, σ1°.98/90, mb3.7/16, 10C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	2.13	351		Pn	14 24 01.9	+2.6
GAR	Garm	2.21	318		Pn	14 24 01.8	+1.8
SIMJ	Simiganj	2.84	298		Pn	14 24 08.3	+1.2
BTK	Batken	2.90	338		Pn	14 24 10.4	+2.8
KSH	Kashi	3.64	53	Pn	Pn	14 24 14.1	-2.5
KSH				Sn	Sn	14 24 53.4	-8.2
KSH				smax	smax		
	comp=N,1μm,0.6s						
KSH				smax	smax		
	comp=E,1μm,0.7s						
NIL	Nilore	3.81	167		Pn	14 24 21.1	+2.5
KBL	Kabul	3.83	223		Pn	14 24 20.0	+0.9
ARSB	Arslanbob	3.99	8		Pn	14 24 22.2	+1.3
AML	Almayashu	4.88	13	P	Pn	14 24 34.0	+1.6
	SNR=361						
JMU	Jammu	5.14	154	*e*P	Pn	14 24 35.2	-0.1
JMU				*e*S	Sn	14 25 31.6	-3.8
JMU				IAML		14 25 34.9	
	comp=E,504nm,0.7s						
JMU				IAML		14 25 36.7	
	comp=N,303nm,0.5s						
UCH	Uchtor	5.16	19	P	Pn	14 24 38.1	+2.2
	SNR=9.2						
EKS2	Erkin-Say	5.42	12	P	Pn	14 24 40.6	+1.7
	SNR=65						
AAK	Ala-Archa	5.54	18		Pn	14 24 42.4	+1.8
AAK	Ala-Archa	5.54	18	P	Pn	14 24 42.2	+1.7
	comp=N,89nm,0.6s,baz=197,slow=8.5,SNR=354						
AAK				S	Sn	14 25 45.6	+0.7
	comp=N,193nm,0.4s,baz=359,slow=17,SNR=22						
AAK	Ala-Archa	5.54	18	P	Pn	14 24 42.5	+2.0
	SNR=59						
AAK	Ala-Archa	5.54	18	⇑P	Pn	14 24 39.6	-0.9
	comp=N,61nm,0.5s						
AAK				⇓S	Sn	14 25 44.1	-0.8
	comp=N,197nm,0.7s						
KBK	Karagaybulak	5.68	21	P	Pn	14 24 44.7	+2.4
	SNR=26						
THN	Thein Dam	5.70	149	*e*P	Pn	14 24 44.7	+2.1
FRU1	Bishkek	5.74	18		Pn	14 24 45.0	+2.0
ULHL	Ulahol	5.77	31	P	Pn	14 24 44.8	+1.3
	SNR=5.6						
BOOM	Boomskoye usch	5.85	28		Pn	14 24 46.3	+1.6
KK31	Karatay Array	5.87	348		Pn	14 24 45.6	+1.0
KK31	Karatay Array	5.87	348	⇓P	Pn	14 24 43.5	-1.2
	comp=N,7.4nm,0.3s,baz=153,slow=9.2,SNR=132						
KK31				⇓S	Sn	14 25 47.5	-4.9
	comp=N,88nm,0.5s						
KKAR	Karatay Array	5.87	348		Pn	14 24 45.6	+1.0
KKAR	Karatay Array	5.87	348		Pn	14 24 45.6	+1.0
CHMS	Chumysh	5.94	18	P	Pn	14 24 47.2	+1.6
	SNR=26						
CHMS	Chumysh	5.94	18	⇓P	Pn	14 24 44.3	-1.3
	comp=N,40nm,0.6s						
CHMS				⇑S	Sn	14 25 52.5	-1.5
	comp=N,178nm,0.8s						
TKM2	Tokmak 2	6.11	24	P	Pn	14 24 49.7	+1.7
	SNR=20						
TKM2	Tokmak 2	6.11	24	⇑P	Pn	14 24 47.3	-0.7
	comp=N,118nm,0.6s						
TKM2				⇓S	Sn	14 25 56.9	-1.4
	comp=N,55nm,0.9s						
USP	Osnenovka	6.14	16	P	Pn	14 24 48.9	+0.8
	SNR=15						
WUS	Wushi	6.63	53		Pn	14 24 55.7	+1.0
MDOK	Medeo	6.86	31	P	Pn	14 24 58.7	+1.1
	comp=N,75nm,0.6s						
MDOK				S	Sn	14 26 13.1	-2.7
	comp=N,27nm,0.6s						
BHK	Bhakra	6.88	149	*e*P	Pn	14 25 04.2	+6.3
PRZ	Przheval'sk	6.97	41		Pn	14 25 00.6	+1.5
KLP	Kalpa	7.66	138	*e*P	Pn	14 25 11.1	+2.8
KLP				*e*S	Sn	14 26 33.1	-2.0
KLP				IAML		14 26 35.2	
	comp=E,143nm,0.5s						
KLP				IAML		14 26 35.3	
	comp=N,80nm,0.8s						
PDGK	Podgornoye	8.13	41	⇑P	Pn	14 25 13.4	-0.8
	comp=N,22nm,0.8s						
PDGK				⇑S	Sn	14 26 45.2	-0.6
	comp=N,51nm,1.2s						
JOSI	Joshimath	9.13	136	*e*P	Pn	14 25 30.2	+2.9
JOSI				*e*S	Sn	14 27 07.0	-2.7
JOSI				IAML		14 27 08.2	
	comp=N,56nm,0.6s						
JOSI				IAML		14 27 09.3	
	comp=E,51nm,0.2s						
OTUK	Ortayu	10.87	0	⇑P	Pn	14 25 49.0	-0.4
	comp=E,6.8nm,1.1s						
OTUK				⇑S	S	14 27 53.0	+2.1
	comp=E,9.1nm,0.8s						
MAKZ	Makanchi	11.88	34		Pn	14 26 02.0	-0.4
MAKZ	Makanchi	11.88	34	⇓P	Pn	14 26 01.6	-0.8
	comp=E,17nm,0.6s						
MK31	Makanchi Array	12.01	35	P	Pn	14 26 03.2	-0.8
	comp=E,16nm,0.9s,baz=200,slow=9.6,SNR=64						
MKAR	Makanchi Array	12.01	35		Pn	14 26 03.4	-0.6
MKAR	Makanchi Array	12.01	35	P	Pn	14 26 03.3	-0.8
	comp=E,7.2nm,0.8s,baz=224,slow=5.1,SNR=49						
WMQ	Urumqi	13.40	56	*e*P	Pn	14 26 22.5	+1.0
WMQ				pmax	pmax		
	comp=Z,49nm,0.9s						
KURBB	Kurchatov Arra	13.99	17	P	Pn	14 26 27.7	-1.1
	comp=Z,8.8nm,0.9s,baz=206,slow=11,SNR=22						
KURBB				S	S	14 29 04.0	-0.4
	comp=Z,0.3nm,0.5s,baz=206,slow=30,SNR=1.8						
KURBB	Kurchatov Arra	13.99	17	⇓P	P	14 26 32.1	+1.5
	comp=Z,12nm,0.8s						
KURK	Kurchatov	14.10	17	Pn	Pn	14 26 28.8	-1.3
KURK	Kurchatov	14.10	17	⇓P	P	14 26 32.6	+0.7
	comp=Z,14nm,0.8s						
AB31	Akbulak array	14.84	327	P	P	14 26 45.4	+5.4
	comp=Z,1.8nm,0.5s,baz=138,slow=12,SNR=61						
AB31				S	Sn	14 29 26.4	+1.3
	comp=Z,5.2nm,0.6s,baz=146,slow=23,SNR=7.7						
ABKAR	Akbulak array	14.84	327		Pn	14 26 37.5	-1.7
ABKAR	Akbulak array	14.84	327		Pn	14 26 37.7	-1.5
BVA0	Borovoye Array	15.70	356	⇓P	Pn	14 26 54.2	+4.5
	comp=Z,2.4nm,0.5s,baz=157,slow=9.6,SNR=27						
BVAR	Borovoye Array	15.70	356	P	P	14 26 49.4	-0.2
	comp=Z,3.7nm,0.5s,baz=160,slow=9.2,SNR=29						
BVAR				S	S	14 29 39.5	-4.2
	comp=Z,6.0nm,0.8s,baz=165,slow=23,SNR=7.9						
BRVK	Borovoye	15.74	356	P	P	14 26 49.4	-0.6
BRVK	Borovoye	15.74	356	⇑P	Pn	14 26 53.4	+3.2
	comp=Z,6.8nm,1.0s						
AKTO	Aktyubinsk	16.55	327	P	P	14 26 59.5	+0.6
	comp=Z,8.6nm,0.4s,baz=132,slow=7.3,SNR=26						
AKTO				S	S	14 29 58.1	-3.6
	comp=Z,4.3nm,0.5s,baz=166,slow=23,SNR=6.1						
AKTO	Aktyubinsk	16.55	327	⇑P	Pn	14 27 05.6	+5.7
	comp=Z,7.9nm,0.8s						
AKTO				⇑S	Sn	14 30 10.4	+4.4
	comp=Z,6.5nm,0.8s						
ZAA0	Zalesovo Array	18.72	24	IAmb	IAmb	14 27 24.0	
	comp=Z,30nm,0.9s						
ZALV	Zalesovo Beam	18.72	24	P	P	14 27 22.7	+0.2
	comp=Z,16nm,0.4s,baz=220,slow=10,SNR=98						
ZALV				S	S	14 30 42.1	-2.6
	comp=Z,4.8nm,1.0s,baz=210,slow=17,SNR=3.9						
GTA	Gaotai	21.69	76	*e*P	P	14 28 03.3	+8.9
GTA				pP	pP	14 28 35.8	+6.3
GTA				sP	sP	14 29 03.0	+7.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PZH	PanZhiHua	27.19	105	P	P	14 28 47.3	+2.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,5.9s						
CMAR	Chiang Mai Arr	30.04	122	P	P	14 29 09.8	+0.2
	comp=Z,0.4nm,0.3s,baz=306,slow=8.2,SNR=4.8						
	comp=Z,0.4nm,0.3s						
FINES	FINESS Array B	37.32	325	P	P	14 30 11.7	-0.1
	comp=Z,2.0nm,1.0s,baz=111,slow=7.7,SNR=6.1						
	comp=Z,2.0nm,1.0s						
ARCES	ARCESS Array B	40.72	337	P	P	14 30 40.0	+0.1
	comp=Z,4.6nm,1.0s,baz=115,slow=8.1,SNR=12						
	comp=Z,4.6nm,1.0s						
GSI	Gunungsitoli	42.83	141	P	P	14 30 57.9	+0.3
HFS	Hagfors	42.99	321	P	P	14 30 58.2	-0.2
	comp=Z,1.7nm,0.5s,baz=90,slow=12,SNR=6.4						
	comp=Z,1.7nm,0.5s						
KLR	Kul'dur	43.84	55	P	P	14 31 04.9	-0.4
	comp=Z,0.9nm,0.5s,baz=275,slow=8.4,SNR=4.5						
	comp=Z,0.9nm,0.5s						
NOA	NORSAR Array B	44.28	322	P	P	14 31 08.1	-0.5
	comp=Z,1.6nm,0.9s,baz=107,slow=6.5,SNR=4.4						
	comp=Z,1.6nm,0.9s						
ESDC	Sonseca Array	57.92	298	P	P	14 32 49.4	-1.0
	comp=Z,0.9nm,0.8s,baz=54,slow=7.7,SNR=6.0						
	comp=Z,0.9nm,0.8s						
D19K	Kuna River	68.02	18	P	P	14 33 55.9	-0.5
D19K				IAmb	IAmb	14 33 57.0	
	comp=Z,3.4nm,0.8s						
A36M	Sachs Harbour	70.24	6	P	P	14 34 09.6	-0.3
A36M				IAmb	IAmb	14 34 10.7	
	comp=Z,3.6nm,0.8s						
ILAR	Eielson Array	73.67	16	P	P	14 34 29.3	-1.1
	comp=Z,0.6nm,0.7s,baz=310,slow=4.4,SNR=7.7						
	comp=Z,0.6nm,0.7s						
SKT	Skwentna	74.87	20	P	P	14 34 36.2	-1.2
SKT				IAmb	IAmb	14 34 37.7	
	comp=Z,4.7nm,1.0s						
YKA	Yellowknife Ar	80.32	3	P	P	14 35 06.9	-0.6
	comp=Z,1.1nm,0.6s,baz=348,slow=5.4,SNR=20						
	comp=Z,1.1nm,0.6s						
WRA	Warramunga Arr	81.63	123	P	P	14 35 13.5	-1.5
	comp=Z,0.5nm,0.7s,baz=324,slow=4.8,SNR=2.7						
	comp=Z,0.5nm,0.7s						
ASAR	Alice Springs	83.96	126	P	P	14 35 24.6	-2.4
	comp=Z,0.3nm,0.8s,baz=309,slow=4.5,SNR=2.1						
	comp=Z,0.3nm,0.8s						
PLCA	Paso Flores	151.04	252	PKPbc	PKPdf	14 42 45.1	+2.9
	comp=Z,0.7nm,0.6s,baz=42,slow=1.4,SNR=4.3						

HEL 02 14:24:23.7±0.1, 63°.96N×28°.19E, h0km, ML1.4, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	Nilsia	0.59	197	PG	Pg	14 24 34.2	-0.8
NIF				SG	Sg	14 24 41.8	-0.8
RMF	Romuvaara	0.81	70	PG	Pg	14 24 38.8	-0.4
RMF				MSG		14 24 48.9	
	comp=Z,2.5nm,0.2s						
RMF				SG	Sg	14 24 49.0	-0.7
OUL	Oulu	1.51	320	PN	Pn	14 24 51.5	-0.4
SUF	Sumiainen	1.54	217	PG	Pn	14 24 51.7	-0.7
SUF				MSG		14 25 10.1	
	comp=Z,0.7nm,0.2s						
OUF	Merijarvi	1.57	287	PN	Pn	14 24 52.0	-0.8
	baz=101						
OUF				MSG		14 25 10.6	
	comp=Z,2.1nm,0.2s						
OUF				SN	Sg	14 25 14.4	+0.3
OBF4	Vikkela, Lumij	1.59	304	PN	Pn	14 24 53.1	0.0
OBF4				MSG		14 25 11.4	
	comp=Z,1.9nm,0.2s						
OBF4				SN	Sg	14 25 15.1	+0.2
KU1	Kurvinen	1.72	19	PG	Pn	14 24 54.4	-0.5
KU1				SN	Sn	14 25 17.1	-0.4
JOF	Joensuu	1.75	125	*e*P	Pn	14 24 54.5	-0.7
JOF	Joensuu	1.75	125	PG	Pn	14 24 55.0	-0.3
JOF				SN	Sn	14 25 17.4	-0.8
KU2	Taivalkoski	1.76	1	PG	Pn	14 24 56.0	+0.5
	baz=177						
OBF0	Syolatti, Pyha	1.81	289	PG	Pb	14 24 56.9	-0.8
OBF0				MSG		14 25 17.6	
	comp=Z,1.7nm,0.2s						
MSF	Maaselka	2.00	10	PG	Pn	14 24 59.4	+0.7
MSF				SG	Sb	14 25 26.4	+0.2
KAF	Kangasniemi	2.04	206	PG	Pn	14 25 00.3	+1.1
	baz=29						
KAF				MSG		14 25 24.3	
	comp=Z,2.0nm,0.2s						
KAF				SG	Sb	14 25 27.3	-0.1
RANF	Ranua	2.15	345	PG	Pn	14 25 01.6	+0.8
	baz=164						
RANF				SG	Sb	14 25 29.6	-1.1
KU6	Riekki	2.20	18	MSG		14 25 29.0	
	comp=Z,0.7nm,0.2s						
KU6				SG	Sb	14 25 31.1	-1.0
KEF	Keuruu	2.35	222	*e*P	Pg	14 25 12.3	+3.7
OLKF	Oulanka, Finla	2.43	12	PG	Pb	14 25 07.3	-1.0
OLKF				MSG		14 25 35.5	
	comp=Z,0.8nm,0.2s						
OLKF				SG	Sb	14 25 38.0	-0.7
RUF	Ruokolahti	2.56	172	PG	Pb	14 25 08.8	-1.7
	baz=356						
RUF				MSG		14 25 39.4	
	comp=Z,0.8nm,0.2s						
VAF	Ylistaro	2.64	252	*e*P	Pg	14 25 26.5	+12
VAF	Ylistaro	2.64	252	MSG		14 25 41.4	
	comp=Z,2.6nm,0.2s						
MEF	Metsahovi	4.15	207	*e*P	Pn	14 25 27.1	-1.1
RAF	Rauma	4.19	228	*e*P	Pb	14 25 36.0	-2.1
LVZ	Lovozero	4.76	31	SB	Sb	14 26 41.9	-3.9
NC204	NORSAR Array S	8.46	259	*e*P	Pn	14 26 24.4	-3.0
NAO01	NORSAR Array S	8.61	257	*e*P	Pn	14 26 23.1	-6.3

*IDC **02** 14:25:45.4±1.0, 12°.22N×143°.92E, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=29.4km s-min=17.5km az=115.0*
*NEIC **02** 14:25:47.9±0.9, 12°.20N±0°.08×144°.03E±0°.08, h10km±1km, mb4.9/21, Error ellipse: s-maj=16.3km s-min=7.9km az=225.0*

ISC 02 14:25:49.2±0.5, 12°.16N±0°.07×144°.00E±0°.10, h26km, n35, σ0°.80/36, mb4.6/18, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.66	31	Pn	Pn	14 26 16.3	-0.2
GUMO	Guam	1.66	31	Pn	Pn	14 26 16.7	+0.1
	93nm,0.3s,baz=175,slow=4.9,SNR=33						
GUMO				Sn	Sn	14 26 37.5	+0.5
	48nm,0.3s,baz=192,slow=21,SNR=6.0						
GUMO				LR	LR	14 26 55.8	
	comp=Z,121nm,19.9s,baz=204,slow=43						
PATS	Pohnpei	15.08	109	Pn	Pn	14 29 18.7	-1.9
DAV	Davao City (W)	18.84	256		P	14 30 07.1	-0.3
JKA	Kamikawa-asahi	31.86	358	P	P	14 32 11.4	-0.7
JKA				IAmb	IAmb	14 32 31.4	
	comp=Z,22nm,1.3s						
WRA	Warramunga Arr	33.29	197	P	P	14 32 25.0	+0.2
	comp=Z,0.8nm,0.9s,baz=15,slow=8.8,SNR=4.1						
	comp=Z,0.8nm,0.9s						
ASAR	Alice Springs	36.95	196	P	P	14 32 57.0	+0.6
	comp=Z,0.5nm,0.7s,baz=17,slow=9.9,SNR=7.2						
	comp=Z,0.5nm,0.7s						
PINNC	Pines Island,	41.50	146	P	P	14 33 34.4	0.0
ARMA	Armidale	42.97	170	P	P	14 33 46.4	+0.1
CMAR	Chiang Mai Arr	43.81	284	P	P	14 33 52.1	-1.3
	comp=Z,0.4nm,0.2s,baz=82,slow=10,SNR=4.4						
	comp=Z,0.4nm,0.2s						
MSVF	Nonsavu	44.87	131	P	P	14 34 02.2	+0.4
BBOO	Buckleboo	45.36	189	P	P	14 34 06.1	+0.8
MKAR	Makanchi Array	61.93	317	P	P	14 36 07.0	+0.3
MKAR	Makanchi Array	61.93	317	P	P	14 36 06.7	0.0
	comp=Z,0.4nm,0.5s,baz=92,slow=9.2,SNR=6.1						
	comp=Z,0.4nm,0.5s						
MAKZ	Makanchi	62.14	317	P	P	14 36 08.9	+0.7
MAKZ				IAmb	IAmb	14 38 18.8	
	comp=Z,9.3nm,1.9s						
ZALV	Zalesovo Beam	62.29	325	P	P	14 36 08.6	-0.3
	comp=Z,0.5nm,0.5s,baz=93,slow=7.7,SNR=2.1						
	comp=Z,0.5nm,0.5s						
KURK	Kurchatov	65.13	320	P	P	14 36 27.6	-0.1
KURBB	Kurchatov Arra	65.17	320	P	P	14 36 27.9	0.0
	comp=Z,1.4nm,0.7s,baz=104,slow=7.0,SNR=9.5						
	comp=Z,1.4nm,0.7s						
F17K	Baldwin Pennin	65.26	21	P	P	14 36 28.8	+0.5
B20K	Meade River	68.25	18	P	P	14 36 48.6	+1.3
B20K				IAmb	IAmb	14 38 16.7	
	comp=Z,18nm,1.8s						
KNK	Knik Glacier	68.71	28	P	P	14 36 51.0	+0.6
KNK				IAmb	IAmb	14 37 28.8	
	comp=Z,20nm,1.7s						
B22K	Teshekpuk Lake	69.55	19	P	P	14 36 56.4	+1.0
B22K				IAmb	IAmb	14 38 19.6	
	comp=Z,11nm,1.6s						
ILAR	Eielson Array	70.22	25	P	P	14 36 58.9	-0.7
	comp=Z,0.3nm,0.5s,baz=251,slow=6.0,SNR=4.4						
	comp=Z,0.3nm,0.5s						
BVAR	Borovoye Array	70.52	322	P	P	14 37 01.9	+0.2
	comp=Z,2.4nm,0.5s,baz=105,slow=8.1,SNR=16						
	comp=Z,2.4nm,0.5s						
BRVK	Borovoye	70.58	322	P	P	14 37 02.6	+0.6
D24K	Happy Valley	70.66	20	P	P	14 37 03.4	+1.1
BMAR	Burnt Mountain	71.74	23	P	P	14 37 09.9	+1.0
C27K	Jago River	72.53	20	P	P	14 37 14.6	+1.0
C27K				IAmb	IAmb	14 38 35.7	
	comp=Z,15nm,1.8s						
H29M	Whitestone	73.97	24	P	P	14 37 22.9	+0.9
H29M				IAmb	IAmb	14 39 32.1	
	comp=Z,22nm,1.9s						
ABKAR	Akbulak array	77

RTZ	**Ruatahuna**	**20.63 197**	P	**P**	**14 34 17.7 +0.6**	
BKZ	**Black Stump Fm**	**21.27 197**	P	**P**	**14 34 24.3 +0.5**	
PPTF	**Pamatai, Papee**	**24.69 91**	P	**P**	**14 34 56.1 +0.7**	
INZ	**Inchbonnie**	**26.12 202**	P	**P**	**14 35 08.0 +0.1**	
PMG	**Port Moresby**	**37.33 279**	P	**P**	**14 36 43.9 -1.8**	
	comp=Z,16nm,0.9s,baz=110,slow=8.2,SNR=4.4					
	comp=Z,16nm,0.9s					
STKA	**Stephens Creek**	**40.55 243**	P	**P**	**14 37 11.1 -1.1**	
	comp=Z,0.8nm,0.5s,baz=80,slow=9.0,SNR=5.8					
	comp=Z,0.8nm,0.5s					
BBOO	**Buckleboo**	**45.31 242**	P	**P**	**14 37 49.6 -0.8**	
BBOO			IAmb	IAmb	14 38 16.4	
	comp=Z,17nm,1.4s					
WB0	**Warramunga Arr**	**47.11 260**	P	**P**	**14 38 03.3 -1.2**	
WRAB	**Tennant Creek**	**47.13 260**	P	**P**	**14 38 02.7 -1.9**	
WRAB			IAmb	IAmb	14 38 43.7	
	comp=Z,16nm,1.4s					
WRA	**Warramunga Arr**	**47.13 260**	P	**P**	**14 38 03.6 -1.1**	
	comp=Z,2.5nm,0.4s,baz=98,slow=6.3,SNR=87					
WRA			PcP	**PcP**	**14 39 32.8 +0.2**	
	comp=Z,0.3nm,0.6s,baz=89,slow=4.0,SNR=1.6					
	comp=Z,2.5nm,0.4s					
AS31	**Alice Springs**	**47.14 255**	P	**P**	**14 38 04.3 -0.5**	
ASAR	**Alice Springs**	**47.15 255**	P	**P**	**14 38 04.2 -0.6**	
ASAR	**Alice Springs**	**47.15 255**	P	**P**	**14 38 04.0 -0.8**	
	comp=Z,11nm,0.7s,baz=89,slow=8.4,SNR=138					
ASAR			PcP	**PcP**	**14 39 32.3 -0.3**	
	comp=Z,0.4nm,0.6s,baz=106,slow=4.1,SNR=2.6					
	comp=Z,11nm,0.7s					
MTN	**Manton Dam**	**51.50 268**	P	**P**	**14 38 37.2 -0.5**	
MTN			IAmb	IAmb	14 38 37.4	
	comp=Z,10nm,0.9s					
FORT	**Forrest**	**52.04 245**	P	**P**	**14 38 41.4 -0.1**	
KNRA	**Kununurra**	**53.10 264**	P	**P**	**14 38 48.9 -0.6**	
KNRA			IAmb	IAmb	14 38 50.1	
	comp=Z,9.2nm,0.7s					
FITZ	**Fitzroy Crossi**	**55.55 261**	P	**P**	**14 39 06.5 -0.6**	
FITZ	**Fitzroy Crossi**	**55.55 261**	P	**P**	**14 39 06.5 -0.6**	
	comp=Z,1.3nm,0.5s,baz=104,slow=6.0,SNR=2.7					
	comp=Z,1.3nm,0.5s					
SBA	**Scott Base**	**59.55 184**	P	**P**	**14 39 34.1 +0.2**	
PSA00	**Pilbara Seismi**	**60.29 256**	P	**P**	**14 39 38.8 -1.1**	
PSA00			IAmb	IAmb	14 39 42.4	
	comp=Z,7.7nm,0.9s					
MJAR	**Matsushiro Arr**	**70.41 322**	P	**P**	**14 40 43.2 -1.1**	
	comp=Z,1.3nm,0.6s,baz=149,slow=5.4,SNR=4.2					
	comp=Z,1.3nm,0.6s					
QSPA	**South Pole Qui**	**71.09 180**	P	**P**	**14 40 49.1 +1.0**	
QSPA			IAmb	IAmb	14 41 05.6	
	comp=Z,11nm,1.5s					
QSPA	**South Pole Qui**	**71.09 180**	P	**P**	**14 40 49.7 +1.6**	
	comp=Z,4.1nm,0.9s,baz=32,slow=1.0,SNR=7.8					
	comp=Z,4.1nm,0.9s					
PEA0B	**Petropavlovsk-**	**75.43 344**	P	**P**	**14 41 13.7 +0.3**	
PETK	**Petropavlovsk-**	**75.43 344**	P	**P**	**14 41 13.8 +0.4**	
KSRS	**Korea Array**	**77.32 317**	P	**P**	**14 41 25.2 +0.9**	
	comp=Z,1.5nm,0.8s,baz=147,slow=7.2,SNR=6.6					
	comp=Z,1.5nm,0.8s					
NVAR	**Mina Array Bea**	**78.33 42**	P	**P**	**14 41 30.2 +0.1**	
NVAR	**Mina Array Bea**	**78.33 42**	P	**P**	**14 41 31.1 +0.9**	
	comp=Z,2.8nm,0.8s,baz=223,slow=10.0,SNR=14					
	comp=Z,2.8nm,0.8s					
KDAK	**Kodiak Island**	**78.82 12**	P	**P**	**14 41 31.9 -0.2**	
J05D	**Fort Rock, OR**	**79.48 37**	P	**P**	**14 41 37.0 +0.7**	
J05D			IAmb	IAmb	14 41 38.0	
	comp=Z,5.6nm,0.9s					
P18K	**Big Mountain,**	**79.84 10**	P	**P**	**14 41 37.0 -0.6**	
P18K			IAmb	IAmb	14 41 38.1	
	comp=Z,14nm,1.4s					
O18K	**Koktuh Hills**	**80.28 10**	P	**P**	**14 41 40.0 +0.1**	
O18K			IAmb	IAmb	14 41 40.4	
	comp=Z,5.3nm,0.9s					
ILSW	**Iliamna Southw**	**80.76 11**	P	**P**	**14 41 42.1 -0.5**	
ILSW			IAmb	IAmb	14 41 42.7	
	comp=Z,6.5nm,1.0s					
I07A	**Izee**	**80.96 37**	P	**P**	**14 41 44.1 +0.1**	
K15K	**Wolf Creek Mou**	**81.75 7**	P	**P**	**14 41 48.5 +0.9**	
K15K			IAmb	IAmb	14 41 49.0	
	comp=Z,6.7nm,0.9s					
L18K	**Granite Mounta**	**82.29 9**	P	**P**	**14 41 50.9 +0.5**	
L18K			IAmb	IAmb	14 42 04.6	
	comp=Z,7.4nm,1.4s					
SUA	**Susitna One**	**82.58 12**	P	**P**	**14 41 51.6 -0.4**	
J17K	**VABM Dome**	**83.11 7**	P	**P**	**14 41 54.9 +0.4**	
J17K			IAmb	IAmb	14 41 55.6	
	comp=Z,7.3nm,1.4s					
GHO	**Glory Hole Cre**	**83.23 12**	P	**P**	**14 41 55.0 -0.3**	
GHO			IAmb	IAmb	14 41 55.8	
	comp=Z,7.1nm,1.0s					
PLID	**Pearl Lake**	**83.58 38**	P	**P**	**14 41 57.9 +0.2**	
VRDI	**Verde Repeater**	**83.97 15**	P	**P**	**14 41 59.5 +0.3**	
VRDI			IAmb	IAmb	14 42 04.6	
	comp=Z,5.6nm,1.3s					
TXAR	**Lajitas Array**	**84.28 57**	P	**P**	**14 42 02.9 +1.5**	
	comp=Z,2.6nm,0.9s,baz=212,slow=6.8,SNR=15					
	comp=Z,2.6nm,0.9s					
TRF	**Thorofare Moun**	**84.50 11**	P	**P**	**14 42 01.1 -0.7**	
TRF			IAmb	IAmb	14 42 02.5	
	comp=Z,3.2nm,0.9s					
CCB	**Clear Creek Bu**	**86.05 12**	P	**P**	**14 42 08.3 -0.9**	
PDAR	**Pinedale Array**	**86.27 42**	P	**P**	**14 42 11.2 0.0**	
	comp=Z,0.3nm,0.6s,baz=199,slow=4.1,SNR=4.1					
	comp=Z,0.3nm,0.6s					
ILAR	**Eielson Array**	**86.33 12**	P	**P**	**14 42 10.2 -0.4**	
	comp=Z,0.3nm,0.7s,baz=220,slow=5.9,SNR=5.0					
	comp=Z,0.3nm,0.7s					
F24K	**Squaw Lake**	**88.62 10**	P	**P**	**14 42 21.7 +0.2**	
F24K			IAmb	IAmb	14 42 39.6	
	comp=Z,4.5nm,1.5s					
CMAR	**Chiang Mai Arr**	**91.81 289**	P	**P**	**14 42 37.8 +0.4**	
	comp=Z,0.4nm,0.5s,baz=56,slow=2.5,SNR=4.5					
	comp=Z,0.4nm,0.5s					
YKA	**Yellowknife Ar**	**94.17 24**	P	**P**	**14 42 47.6 +0.4**	
	comp=Z,0.6nm,0.9s,baz=243,slow=5.0,SNR=6.4					
	comp=Z,0.6nm,0.9s					
BRTR	**Keskin Array B**	**147.46 316**	PKPbc	**PKPdf**	**14 49 09.3 -0.1**	
	comp=Z,0.6nm,0.8s,baz=144,slow=4.4,SNR=4.1					
MMAI	**Mount Meron Ar**	**149.01 303**	PKPbc	**PKiKP**	**14 49 17.2 -0.3**	
	comp=Z,0.7nm,0.5s,baz=95,slow=8.8,SNR=2.1					
GERES	**GERESS Array B**	**149.28 348**	PKPbc	**PKPbc**	**14 49 16.1 -0.5**	
	comp=Z,1.0nm,0.7s,baz=5.7,slow=1.3,SNR=7.0					

IDC 02 14:44:40.0±255.0, 57°.26N×31°.69E, h0km, Error ellipse: s-maj=114.7km s-min=63.0km az=102.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.07**	**98**	I	I	15 03 41.2	
	0.3nm,0.6s,baz=279,slow=325,SNR=12						
I37NO	**I37NO**	**13.20**	**339**	I	I	15 55 30.0	
	baz=148,slow=328,SNR=1.0						
I26DE	**FREYUNG INFRAS**	**13.67**	**240**	I	I	16 07 50.0	
	baz=42,slow=331,SNR=0.4						
I48TN	**KESRA INFRASON**	**26.18**	**225**	I	I	17 28 20.0	
	baz=29,slow=325,SNR=1.5						

ISK 02 15:02:31.1, 37°.16N×28°.14E, h0km, ML1.8/6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**100**	Pg	Pg	15 02 34.2	+0.9
YER				Sg	Sg	15 02 36.9	+2.1
MLSB	**Milas**	**0.32**	**296**	Pg	Pg	15 02 38.0	+0.7
MLSB				Sg	Sg	15 02 43.1	+1.6
TURN	**Turunc**	**0.39**	**167**	Pg	Pg	15 02 39.3	+0.8
TURN				Sg	Sg	15 02 45.2	+1.7
DALY	**Dalyan (Mula)**	**0.53**	**129**	Pg	Pg	15 02 41.9	+0.6
DALY				Sg	Sb	15 02 49.9	-1.6
BODT	**Bodrum**	**0.67**	**262**	Pg	Pg	15 02 44.5	+0.6
AYDB	**Zeytinkoy-Aydi**	**0.81**	**346**	Pg	Pg	15 02 47.3	+0.6

AFAD 02 15:02:57.4, 37°.48N×29°.41E, h7km±2km, ML1.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.27**	**29**	P	Pg	15 03 02.7	0.0
INCE				S	Sg	15 03 06.9	+0.6
INCE				*i* AML	AML	15 03 07.0	
	comp=E,26nm,0.3s						
INCE				*i* AML	AML	15 03 08.0	
	comp=N,27nm,0.2s						
GOLH	**Golhisar**	**0.27**	**154**	P	Pg	15 03 02.8	+0.1
GOLH				S	Sg	15 03 07.6	+1.3
GOLH				*i* AML	AML	15 03 08.0	
	comp=N,28nm,0.2s						
GOLH				*i* AML	AML	15 03 11.0	
	comp=E,26nm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.33**	**297**	P	Pg	15 03 04.7	+0.8
DNIZ				S	Sg	15 03 09.6	+1.3
DNIZ				*i* AML	AML	15 03 11.0	
	comp=N,40nm,0.5s						
DNIZ				*i* AML	AML	15 03 11.0	
	comp=E,35nm,0.1s						
DNZT	**Denizli-Tavas-**	**0.37**	**238**	P	Pg	15 03 05.1	+0.5
DNZT				S	Sg	15 03 09.5	0.0
TAVA	**DENIZLI_Tavas**	**0.40**	**269**	P	Pg	15 03 05.8	+0.6
TAVA				S	Sg	15 03 11.5	+1.0

*ISN **02** 15:13:00.1±0.4, 33°.69N×45°.69E, h16km±4km, ML2.7*
*TEH **02** 15:13:00.3, 33°.70N×45°.70E, h14km±40km*
ISC 02 15:12:59.8±0.9, 33°.69N±0°.03×45°.69E±0°.05, h13km, n9, σ0$55/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.46**	**24**	Pg	**Pg**	**15 13 09.3**	**+0.4**
GLG1				Sg	**Sb**	**15 13 16.3**	**-0.2**
IBDR	**Badra**	**0.62**	**161**	*e*Pg	**Pg**	**15 13 12.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**15 13 20.5**	**+0.5**
IBDR				AML	AML	15 13 21.7	
	comp=E,400nm,0.4s						
IBDR				AML	AML	15 13 26.0	
	comp=N,406nm,0.4s						
IGHG	**Ghaleghazi**	**0.97**	**49**	Pg	**Pb**	**15 13 18.8**	**+0.2**
IDHR	**Dehrash**	**1.16**	**30**	Pg	**Pg**	**15 13 22.6**	**+0.4**
BHD	**Baghdad**	**1.17**	**249**	*e*Pg	**Pn**	**15 13 22.0**	**+0.1**
BHD				*e*Sg	**Sb**	**15 13 37.5**	**+0.6**
KCHF	**Cheshme Sefid,**	**1.27**	**62**	Pg	**Pg**	**15 13 24.0**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.98**	**54**	Pn	**Pb**	**15 13 35.2**	**-0.7**
RAFI	**Al-Rafai**	**2.00**	**169**	*e*Pn	**Pb**	**15 13 35.2**	**-0.8**
IKRK	**Kirkuk**	**2.03**	**327**	*e*Pn	**Pb**	**15 13 35.7**	**-0.9**
IKRK				*e*Sn	**Sb**	**15 14 02.0**	**+0.2**

NEIC 02 15:15:20.8±1.5, 37°.28N±0°.01×104°.76W±0°.02, h5km±1km, ML1.7/10, Error ellipse: s-maj=2.9km s-min=2.4km az=72.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.31**	**117**	Pg	Pb	15 15 30.1	+1.1
T25A				Sg	Sb	15 15 35.4	+0.8
T25A				IAML		15 15 36.0	
	comp=N,62nm,0.2s						
SDCO	**Great Sand Dun**	**0.75**	**308**	Pg	Pg	15 15 35.5	+0.3
SDCO				Sg	Sg	15 15 45.2	+0.2
Q24A	**Divide**	**1.71**	**350**		Pn	15 15 50.7	-0.9
KSCO	**Kaye Shedlock'**	**2.41**	**44**	Pn	Pb	15 16 03.7	-1.1
KSCO					Sg	15 16 39.9	+1.5
PV02	**Paradox Valley**	**3.29**	**288**	Pn	Pn	15 16 12.6	-0.6

*IDC **02** 15:17:15.1±2.8, 51°.94N×178°.51E, h97km±21km, mb3.3/8, mbtmp3.7/11, Error ellipse: s-maj=29.5km s-min=20.6km az=179.0*
*NEIC **02** 15:17:15.6±0.5, 51°.7N±0°.1×178°.3E±0°.1, h115km±18km, mb3.9/11, Error ellipse: s-maj=19.5km s-min=10.2km az=206.0*
ISC 02 15:17:16.7±0.9, 52°.0N±0°.2×178°.34E±0°.05, h113km, n29, σ1$32/29, mb3.5/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.71**	**288**	P	**Pn**	**15 17 59.0**	**0.0**
	55nm,0.3s,baz=107,slow=19,SNR=6.6						
SHEM				S	**Sn**	**15 18 31.7**	**+0.3**
	43nm,0.3s,baz=249,slow=18,SNR=4.2						
SMY	**Shemya**	**2.71**	**288**	Pn	**Pn**	**15 17 59.1**	**+0.2**
KIWB	**Kanaga Island**	**2.80**	**90**	Pn	**Pn**	**15 17 59.4**	**-0.7**
ADK	**Adak**	**3.08**	**89**	Pn	**Pn**	**15 18 02.9**	**-0.9**
PETK	**Petropavlovsk-**	**12.62**	**283**	Pn	**Pn**	**15 20 11.3**	**-0.6**
PETK	**Petropavlovsk-**	**12.62**	**283**	P	**Pn**	**15 20 13.6**	**+1.6**
	3.2nm,0.8s,baz=103,slow=18,SNR=8.1						
PETK				S	**Sn**	**15 22 25.6**	**-5.0**
	3.0nm,1.0s,baz=39,slow=27,SNR=1.4						
L16K	**Owhat River**	**15.50**	**42**	P	**P**	**15 20 51.4**	**+0.7**
L16K				IAmb	IAmb	15 21 27.0	
	comp=Z,13nm,1.4s						
Q19K	**Cape Douglas,**	**17.27**	**55**	P	**P**	**15 21 11.7**	**+1.4**
Q19K				IAmb	IAmb	15 21 12.2	
	comp=Z,8.7nm,1.1s						
P19K	**Oil Pt**	**17.63**	**53**	P	**P**	**15 21 15.5**	**+1.3**
P19K				IAmb	IAmb	15 21 18.7	
	comp=Z,6.5nm,0.9s						
KDAK	**Kodiak Island**	**17.63**	**59**	P	**P**	**15 21 12.1**	**-2.1**
	comp=Z,1.6nm,0.3s,baz=189,slow=10,SNR=26						
BRLK	**Bradley Lake**	**18.82**	**53**	P	**P**	**15 21 27.5**	**+0.3**
BRLK				IAmb	IAmb	15 21 38.4	
	comp=Z,11nm,1.2s						
SUA	**Susitna One**	**19.27**	**48**	P	**P**	**15 21 32.8**	**+0.5**
PWL	**Port Wells**	**20.27**	**51**	P	**P**	**15 21 43.3**	**+0.3**
PWL				IAmb	IAmb	15 21 43.9	
	comp=Z,7.9nm,1.2s						
P23K	**Montague Islan**	**20.59**	**54**	P	**P**	**15 21 47.2**	**+0.9**
GLI	**Glacier Island**	**20.87**	**51**	P	**P**	**15 21 49.3**	**-0.1**
GLI				IAmb	IAmb	15 22 13.6	
	comp=Z,4.8nm,1.0s						
SCM	**Sheep Creek Mo**	**20.95**	**48**	P	**P**	**15 21 50.6**	**+0.4**
SCM				IAmb	IAmb	15 21 57.4	
	comp=Z,7.2nm,1.1s						
FID	**Port Fidalgo**	**21.15**	**52**	P	**P**	**15 21 52.5**	**+0.2**
G24K	**Hadweenzic Riv**	**22.44**	**36**	P	**P**	**15 22 05.7**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**33.38**	**200**	T	T	15 59 09.6	
	baz=11,slow=76,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**33.39**	**200**	T	T	15 59 13.0	
	baz=11,slow=76						
H11N1	**WAKE ISLAND Hy**	**33.40**	**200**	T	T	15 59 09.6	
	baz=11,slow=76,SNR=5.0						
SONM	**Songino Array**	**44.79**	**295**	P	**P**	**15 25 20.2**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=81,slow=8.9,SNR=2.0						
	comp=Z,0.3nm,0.3s						
PDAR	**Pinedale Array**	**47.82**	**71**	P	**P**	**15 25 42.4**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=316,slow=8.4,SNR=3.0						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**57.43**	**312**	P	**P**	**15 26 54.1**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=43,slow=6.7,SNR=8.1						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**58.27**	**307**	P	**P**	**15 26 58.9**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=42,slow=8.2,SNR=6.0						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**59.28**	**318**	P	**P**	**15 27 07.2**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=55,slow=7.2,SNR=8.2						
BVAR				PcP	**PcP**	**15 27 53.7**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=53,slow=3.6,SNR=4.1						
	comp=Z,0.8nm,0.4s						
AKASG	**Malin Array Be**	**74.43**	**340**	P	**P**	**15 28 41.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=22,slow=6.6,SNR=1.8						
	comp=Z,0.2nm,0.3s						
WRA	**Warramunga Arr**	**81.23**	**221**	P	**P**	**15 29 20.1**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=33,slow=6.2,SNR=5.6						
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**84.74**	**220**	P	**P**	**15 29 38.5**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=17,slow=5.4,SNR=5.0						
	comp=Z,0.2nm,0.7s						

*JMA **02** 15:39:05.2±0.2, 38°.N±1°.×13°.4E±°, h419km±2km, MV3.7/29, SEA OF JAPAN*
*IDC **02** 15:39:06.3±0.8, 37°.70N×134°.21E, h408km±9km, mb3.2/19, mbtmp4.0/25, Error ellipse: s-maj=10.3km s-min=9.6km az=79.0*
ISC 02 15:39:05.8±0.5, 37°.79N±0°.06×134°.34E±0°.05, h400km, n43, σ1$28/53, mb3.6/19, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOI	**OKI**	**1.73**	**211**	P	**Pn**	**15 40 01.0**	**+0.7**
JOI				S	**S**	**15 40 45.0**	**+0.8**
JKG	**Kaga**	**2.19**	**133**	P	**Pn**	**15 40 04.4**	**+1.3**
JSZ	**Suzu**	**2.42**	**97**	P	**Pn**	**15 40 06.4**	**+1.9**
JWT	**Wachi**	**2.64**	**161**	P	**Pn**	**15 40 07.3**	**+1.0**
JWT				S	**S**	**15 40 55.4**	**+0.2**
JYTA	**Yamagatataniai**	**2.91**	**138**	*i* P	**Pn**	**15 40 09.1**	**+0.7**
JYTA				S	**S**	**15 40 59.1**	**+0.1**
JHS	**Saijyo**	**2.95**	**200**	*i* P	**Pn**	**15 40 09.1**	**+0.3**
MJAR	**Matsushiro Arr**	**3.33**	**111**	P	**Pn**	**15 40 13.3**	**+1.4**
	59nm,0.8s,baz=291,slow=10,SNR=100						
JIE	**Ise**	**3.89**	**150**	P	**Pn**	**15 40 17.7**	**+0.8**
JRY	**Ryogami san**	**4.06**	**114**	P	**Pn**	**15 40 20.0**	**+1.5**
JOD2	**Odawara 2**	**4.58**	**122**	*e*P	**Pn**	**15 40 24.0**	**+0.4**
JOD2				*e*S	**S**	**15 41 26.9**	**+0.1**
TTO1	**TONANKAI O.B.S**	**4.61**	**154**	*e*P	**Pn**	**15 40 24.5**	**+0.9**
JTO	**Tosashimizu**	**5.07**	**195**	*e*P	**Pn**	**15 40 28.8**	**+0.1**
KSRS	**Korea Array**	**5.11**	**268**	P	**Pn**	**15 40 30.2**	**+1.3**
	29nm,0.8s,baz=90,slow=11,SNR=101						
KSRS				S	**S**	**15 41 36.8**	**+0.4**
	3.8nm,1.1s,baz=89,slow=23,SNR=4.8						
JTU	**Tsushima**	**5.16**	**232**	*e*P	**Pn**	**15 40 29.0**	**-0.5**
JNU	**Nakatsue**	**5.44**	**212**	P	**Pn**	**15 40 32.2**	**-0.4**
	7.5nm,0.5s,baz=54,slow=3.7,SNR=15						
JMK	**Ichinoseki**	**5.53**	**76**	*e*P	**Pn**	**15 40 34.3**	**+1.0**
BSO1	**Boso 1**	**6.21**	**118**	P	**Pn**	**15 40 39.6**	**-0.6**
BSO1				*e*S	**S**	**15 41 56.9**	**-0.2**
JOT	**Ohata**	**6.30**	**53**	P	**Pn**	**15 40 43.2**	**+1.6**
USRK	**Ussuriysk Ar.**	**6.65**	**345**	P	**P**	**15 40 47.4**	**+1.4**
	7.1nm,0.5s,baz=153,slow=9.8,SNR=16						
JHR	**Hokuryu**	**8.17**	**41**	P	**P**	**15 41 04.8**	**+1.8**
JCH	**Churui**	**8.42**	**52**	P	**P**	**15 41 06.7**	**+1.0**
ASAJ	**Asahikawa**	**8.88**	**42**	P	**Pn**	**15 41 11.3**	**+0.5**
	27nm,0.5s,baz=235,slow=12,SNR=107						
ASAJ				S	**S**	**15 42 49.5**	**-4.0**
	24nm,1.0s,baz=315,slow=31,SNR=7.9						
JTKR	**Abashiri--Toko**	**9.52**	**47**	S	**S**	**15 43 02.0**	**-4.7**
KLR	**Kul'dur**	**11.59**	**352**	P	**P**	**15 41 41.6**	**+0.8**
	0.8nm,0.4s,baz=189,slow=11,SNR=5.2						
SONM	**Songino Array**	**22.72**	**305**	P	**P**	**15 43 35.6**	**+0.7**
	2.1nm,0.6s,baz=107,slow=9.2,SNR=12						
	2.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**36.39**	**248**	P	**P**	**15 45 33.8**	**-0.5**
	0.9nm,0.4s,baz=47,slow=7.2,SNR=9.2						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**37.23**	**312**	P	**P**	**15 45 39.6**	**-1.2**
	1.0nm,0.3s,baz=102,slow=7.8,SNR=5.0						
ZALV				ScP	**S**	**15 50 57.3**	**-0.2**
	0.8nm,0.6s,baz=116,slow=3.4,SNR=4.2						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**38.91**	**300**	P	**P**	**15 45 54.2**	**-0.6**
	1.4nm,0.6s,baz=85,slow=11,SNR=20						
MKAR				ScP	**ScP**	**15 51 04.0**	**-1.4**
	0.3nm,0.7s,baz=64,slow=6.6,SNR=4.1						
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**41.07**	**307**	P	**P**	**15 46 10.8**	**-1.3**
	2.0nm,0.6s,baz=86,slow=8.1,SNR=19						
	2.0nm,0.6s						
BVAR	**Borovoye Array**	**45.86**	**311**	P	**P**	**15 46 48.8**	**-1.1**
	1.1nm,0.3s,baz=82,slow=7.7,SNR=16						
	1.1nm,0.3s						
KDAK	**Kodiak Island**	**50.30**	**42**	P	**P**	**15 47 24.3**	**+1.1**
	2.1nm,0.8s,baz=218,slow=1.4,SNR=22						
	2.1nm,0.8s						
ILAR	**Eielson Array**	**51.88**	**32**	P	**P**	**15 47 35.5**	**+0.9**
	0.9nm,0.7s,baz=274,slow=7.6,SNR=15						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**57.42**	**180**	P	**P**	**15 48 13.2**	**-1.3**
	1.0nm,0.4s,baz=356,slow=7.6,SNR=26						
WRA				PcP	**PcP**	**15 49 03.2**	**+0.1**
	0.1nm,0.3s,baz=357,slow=4.5,SNR=1.4						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**61.13**	**180**	P	**P**	**15 48 38.2**	**-1.3**
	0.9nm,0.7s,baz=359,slow=7.6,SNR=33						
	0.9nm,0.7s						
ARCES	**ARCESS Array B**	**61.24**	**338**	P	**P**	**15 48 39.6**	**0.0**
	5.3nm,1.0s,baz=64,slow=10,SNR=4.1						
	5.3nm,1.0s						
FINES	**FINESS Array B**	**65.43**	**330**	P	**P**	**15 49 06.6**	**-0.3**
	1.5nm,0.8s,baz=88,slow=6.3,SNR=5.8						
	1.5nm,0.8s						
STKA	**Stephens Creek**	**69.64**	**173**	P	**P**	**15 49 33.4**	**+0.2**
	0.9nm,0.7s,baz=339,slow=14,SNR=1.6						
	0.9nm,0.7s						
AKASG	**Malin Array Be**	**70.15**	**319**	P	**P**	**15 49 36.0**	**-0.2**
	0.3nm,0.3s,baz=42,slow=7.2,SNR=6.6						
	0.3nm,0.3s						
HFS	**Hagfors**	**70.97**	**333**	P	**P**	**15 49 40.9**	**0.0**
	1.4nm,0.7s,baz=44,slow=8.9,SNR=1.7						
	1.4nm,0.7s						
NOA	**NORSAR Array B**	**71.20**	**334**	P	**P**	**15 49 42.1**	**-0.2**
	0.5nm,0.6s,baz=56,slow=7.4,SNR=1.9						
	0.5nm,0.6s						
NVAR	**Mina Array Bea**	**78.93**	**50**	P	**P**	**15 50 27.6**	**+1.0**
	0.7nm,0.6s,baz=306,slow=5.1,SNR=4.6						
	0.7nm,0.6s						
PDAR	**Pinedale Array**	**81.02**	**42**	P	**P**	**15 50 38.5**	**+1.0**
	0.5nm,0.7s,baz=342,slow=0.5,SNR=4.9						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**93.97**	**48**	P	**P**	**15 51 40.9**	**+1.2**
	0.4nm,0.6s,baz=225,slow=0.4,SNR=3.7						
	0.4nm,0.6s						

**TXNET 02 15:44:47.8, 31°.5N±0°.9×103°.6W

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.45**	**14**	*e*Pg	**Pg**	**16 21 39.4**	**-0.9**
GLG1				Sg	**Sb**	**16 21 47.3**	**+0.4**
IBDR	**Badra**	**0.58**	**167**	*e*Pg	**Pg**	**16 21 42.0**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.85**	**349**	Pg	**Pn**	**16 21 47.8**	**-0.1**
IGHG	**Ghaleghazi**	**0.93**	**45**	Pg	**Pg**	**16 21 48.7**	**-0.3**
IDHR	**Dehrash**	**1.14**	**26**	Pg	**Pg**	**16 21 52.9**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.21**	**60**	Pg	**Pg**	**16 21 54.2**	**-0.1**
BHD	**Baghdad**	**1.23**	**251**	*e*Pg	**Pb**	**16 21 54.0**	**+0.4**
BHD				*e*Sg	**Sg**	**16 22 11.0**	**0.0**
IKFM	**Kafar-mosalman**	**1.73**	**94**	Pg	**Pb**	**16 22 02.5**	**+0.4**
RAFI	**Al-Rafai**	**1.96**	**172**	*e*Pn	**Pb**	**16 22 05.5**	**-0.6**
RAFI				*e*Sn	**Sb**	**16 22 31.0**	**+0.8**
IKRK	**Kirkuk**	**2.09**	**326**	*e*Pn	**Pb**	**16 22 08.0**	**-0.3**
IKRK				*e*Sn	**Sb**	**16 22 35.0**	**+1.1**

TAP ***02*** *16:31:09.0, 21°.09N×122°.49E, h39km±4km, ML2.9, D*
ISC 02 16:31:10.5±4.3, 21°.1N±0°.2×122°.5E±0°.2, h35km, n27, σ0s85/45, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**1.22**	**316**	*i* P	**Pn**	**16 31 30.6**	**-0.5**
LYUB				*e*S	**Sn**	**16 31 46.3**	**-0.1**
LAY	**Lan-yu**	**1.27**	**316**	*i* P	**Pn**	**16 31 30.1**	**-1.6**
LAY				S	**Sn**	**16 31 47.0**	**-0.6**
TWKBT	**Hengchun**	**1.77**	**298**	*i* P	**Pn**	**16 31 37.5**	**-1.1**
TWKBT				*e*S	**Sn**	**16 32 00.3**	**+0.5**
TWK1	**Hengchun**	**1.77**	**298**	*i* P	**Pn**	**16 31 38.4**	**-0.3**
TWK1				*e*S	**Sn**	**16 32 01.1**	**+1.1**
LDUT	**Ludao**	**1.82**	**329**	*i* P	**Pn**	**16 31 37.6**	**-1.7**
LDUT				S	**Sn**	**16 32 01.2**	**+0.1**
HEN	**Hengchun**	**1.86**	**299**	*i* P	**Pn**	**16 31 39.5**	**-0.4**
TAWH	**Dawu Township**	**1.93**	**309**	*i* P	**Pn**	**16 31 40.0**	**-0.8**
TAWH				*e*S	**Sn**	**16 32 03.9**	**+0.1**
EAST	**Anshuo**	**1.98**	**310**	*i* P	**Pn**	**16 31 41.0**	**-0.6**
EAST				*e*S	**Sn**	**16 32 05.6**	**+0.3**
ECL	**Taimali**	**2.05**	**316**	*i* P	**Pn**	**16 31 42.3**	**-0.2**
ECL				*e*S	**Sn**	**16 32 06.1**	**-0.9**
TWGBT	**Beinan**	**2.14**	**322**	P	**Pn**	**16 31 44.5**	**+0.7**
TWGBT	**Beinan**	**2.14**	**322**	*i* P	**Pn**	**16 31 44.0**	**+0.3**
TWGBT				*e*S	**Sn**	**16 32 10.5**	**+1.3**
SCZT	**Fangliau**	**2.14**	**306**	*i* P	**Pn**	**16 31 43.7**	**-0.1**
SCZT				*e*S	**Sn**	**16 32 09.7**	**+0.6**
TWG	**Pinlang**	**2.15**	**322**	*i* P	**Pn**	**16 31 44.1**	**+0.3**
TWG				S	**Sn**	**16 32 09.6**	**+0.3**
EDH	**Donghe**	**2.15**	**329**	*i* P	**Pn**	**16 31 43.2**	**-0.6**
EDH				*e*S	**Sn**	**16 32 08.2**	**-1.2**
LONT	**Longtian**	**2.19**	**325**	*i* P	**Pn**	**16 31 44.2**	**-0.1**
LONT				*e*S	**Sn**	**16 32 10.3**	**+0.1**
MASBT	**Mashibuluo**	**2.28**	**311**	*i* P	**Pn**	**16 31 45.9**	**+0.2**
MASBT				*e*S	**Sn**	**16 32 12.2**	**-0.4**
CHKH	**Chenggong**	**2.30**	**334**	*e*P	**Pn**	**16 31 46.0**	**+0.1**
CHKH				*i* S	**Sn**	**16 32 11.9**	**-1.1**
TSMG	**Majia**	**2.33**	**313**	*i* P	**Pn**	**16 31 46.4**	**0.0**
TSMG				*e*S	**Sn**	**16 32 13.4**	**-0.5**
FULB	**Fuli**	**2.35**	**332**	*i* P	**Pn**	**16 31 46.3**	**-0.4**
FULB				S	**Sn**	**16 32 14.6**	**+0.2**
SSD	**Sandimen**	**2.37**	**314**	*i* P	**Pn**	**16 31 47.9**	**+1.0**
SSD				*e*S	**Sn**	**16 32 14.5**	**-0.3**
ELDTW	**Lidau**	**2.48**	**327**	*i* P	**Pn**	**16 31 48.3**	**-0.1**
TWF1	**Yuli**	**2.49**	**334**	*i* P	**Pn**	**16 31 48.0**	**-0.5**
TWF1				*e*S	**Sn**	**16 32 17.6**	**-0.1**
YULB	**Yu-li**	**2.52**	**334**	P	**Pn**	**16 31 49.2**	**+0.2**
SCST	**Cishan**	**2.56**	**314**	*e*P	**Pn**	**16 31 49.9**	**+0.4**
TPUB	**Ta-pu**	**2.78**	**322**	P	**Pn**	**16 31 54.7**	**+2.2**
SSLB	**Suanglung**	**3.02**	**332**	P	**Pn**	**16 31 58.4**	**+2.6**
YHNB	**Yeheng**	**3.68**	**344**	P	Pn	16 32 08.4	+3.4

IDC ***02*** *16:31:04.7±1.5, 0°.87N×124°.32E, h0km, mb3.4/4, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=118.0km s-min=20.9km az=66.0*
ISC 02 16:31:21.2±1.3, 0°.6N±0°.2×124°.3E±0°.1, h150km, n11, σ2s33/9, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**2.30**	**223**	P	**Pn**	**16 32 01.5**	**+1.6**
LUWI	**Luwuk**	**2.30**	**223**	P	**Pn**	**16 32 01.5**	**+1.6**
SANI	**Sanana**	**3.14**	**148**	P	**Pn**	**16 32 13.3**	**+2.9**
MYLDM	**Lahad Datu**	**7.37**	**308**	P	Pn	16 33 21.3	+15
MTN	**Manton Dam**	**15.00**	**154**	P	Pn	16 34 35.9	-10
KDU	**Kakadu**	**15.51**	**149**	P	**Pn**	**16 34 47.9**	**-4.1**
FITZ	**Fitzroy Crossi**	**18.67**	**176**	P	**P**	**16 35 26.8**	**-1.1**
	0.2nm,0.3s,baz=0.0,slow=9.1,SNR=6.7 1.9nm,0.8s						
WRA	**Warramunga Arr**	**22.68**	**155**	P	**P**	**16 36 10.6**	**+0.4**
	1.2nm,0.4s,baz=336,slow=10,SNR=18 1.2nm,0.4s						
ASAR	**Alice Springs**	**25.89**	**160**	P	**P**	**16 36 40.1**	**+0.8**
	0.2nm,0.7s,baz=343,slow=14,SNR=11 0.2nm,0.7s						
MKAR	**Makanchi Array**	**58.79**	**327**	P	**P**	**16 41 04.0**	**+0.3**
	0.2nm,0.3s,baz=120,slow=8.6,SNR=3.6 0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**63.09**	**329**	P	**P**	**16 41 32.2**	**-0.4**
	0.2nm,0.6s,baz=127,slow=7.7,SNR=2.2 0.2nm,0.6s						

IDC ***02*** *16:31:36.4±0.8, 1°.50S×120°.14E, h0km, mb3.9/10, mbtmp4.0/11, ML3.7/1, MS3.2/14, Error ellipse: s-maj=31.5km s-min=12.2km az=70.0*
NEIC ***02*** *16:31:38.6±1.1, 1°.33S±0°.05×120°.16E±0°.06, h10km±1km, mb4.4/13, Error ellipse: s-maj=10.0km s-min=8.4km az=261.0*
DJA ***02*** *16:31:38.9±0.2, 1°.S±2°×120°.0E±°, h10km, M4.6/18, mB4.9/1, mb4.7/6, MLv4.5/18, Mw(mB)4.2/1*
ISC 02 16:31:38.1±0.5, 1°.40S±0°.04×120°.19E±0°.05, h10km, n62, σ1s14/55, mb4.2/18, MS3.1/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.61**	**325**	P	**Pb**	**16 31 49.6**	**-1.2**
PCI				S	**Sn**	**16 32 00.4**	**-2.2**
APSI	**Ampana**	**1.54**	**72**	P	**Pg**	**16 32 07.9**	**+0.2**
TTSI	**Tana Toraja**	**1.67**	**193**	P	**Pn**	**16 32 05.4**	**-2.0**
TTSI				S	**Sn**	**16 32 28.6**	**-0.3**
MRSI	**Marisa**	**2.56**	**43**	P	**Pb**	**16 32 22.4**	**-1.8**
TOLI2	**Tolitoli**	**2.57**	**13**		**Pn**	**16 32 19.6**	**-0.2**
TOLI2	**Tolitoli**	**2.57**	**13**	P	**Pb**	**16 32 22.3**	**-2.0**
SPSI	**Sidrap Palu**	**2.58**	**189**	P	**Pn**	**16 32 19.7**	**-0.2**
SPSI				S	**Sn**	**16 32 51.2**	**-0.1**
LUWI	**Luwuk**	**2.61**	**82**	Pn	**Pn**	**16 32 21.3**	**+1.0**
SMKI	**Samarinda**	**3.13**	**288**	P	**Pn**	**16 32 28.7**	**+1.2**
BKB	**Balikpapan**	**3.29**	**272**	Pn	**Pn**	**16 32 29.9**	**+0.1**
BKB	**Balikpapan**	**3.29**	**272**	P	**Pn**	**16 32 30.3**	**+0.6**
BKB	**Balikpapan**	**3.29**	**272**	P	**Pn**	**16 32 29.6**	**-0.1**
BKB				S	**Sn**	**16 33 10.4**	**+1.4**
KAPI	**Kappang**	**3.61**	**187**	Pn	**Pn**	**16 32 35.5**	**+1.3**
KAPI	**Kappang**	**3.61**	**187**	Pn	**Pn**	**16 32 34.3**	**+0.1**
	7.0nm,0.3s,baz=328,slow=5.0,SNR=11						
KAPI				Sn	**Sn**	**16 33 15.5**	**-1.4**
	5.7nm,0.3s,baz=30,slow=20,SNR=6.0						
KAPI				Lg	Lg	16 33 28.6	
	5.3nm,0.3s,baz=0.0,slow=20,SNR=3.9 27nm,0.4s						
BKSI	**Bulukumba**	**3.89**	**181**	P	**Pn**	**16 32 38.5**	**+0.5**
BBSI	**Bau Bau**	**4.70**	**150**	P	**Pn**	**16 32 47.9**	**-1.3**
BSSI	**Bau Bau, Buton**	**4.72**	**176**	P	**Pn**	**16 32 50.8**	**+1.4**
NLAI	**Namlea**	**7.14**	**105**	P	**Pn**	**16 33 23.7**	**+1.0**
	0.2nm847nm41nm,0.6s						
PLAI	**Plampang**	**7.76**	**198**	P	**Pn**	**16 33 30.9**	**-0.2**
KKM	**Kota Kinabalu**	**8.39**	**332**	P	Pn	16 33 46.1	+6.1
STKI	**Sintang**	**8.83**	**279**	P	**Pn**	**16 33 45.6**	**-0.3**
SBUM	**Sibu**	**8.84**	**296**		**Pn**	**16 33 45.7**	**-0.3**
SOEI	**Soe**	**9.24**	**154**	Pn	**Pn**	**16 33 52.7**	**+1.1**
DAV	**Davao City (W)**	**9.99**	**33**	LR	LR	16 38 06.0	
	comp=Z,137nm,21.4s,baz=167,slow=39						
KSM	**Kuching**	**10.28**	**286**	Pn	**Pn**	**16 34 05.3**	**-0.5**
FAKI	**Fak Fak**	**12.15**	**97**	Pn	**Pn**	**16 34 32.7**	**+1.3**
TGY	**Tagaytay City**	**15.42**	**3**	LR	LR	16 41 27.3	
	comp=Z,27nm,20.0s,baz=106,slow=38						
MTN	**Manton Dam**	**15.71**	**137**	P	**P**	**16 35 24.0**	**+0.3**
PSA00	**Pilbara Seismi**	**20.05**	**181**	P	**P**	**16 36 12.1**	**+0.6**
RPSI	**Rantau Prapat**	**21.64**	**281**	P	**P**	**16 36 26.5**	**-2.4**
PSI	**Prapat**	**21.66**	**281**	P	**P**	**16 36 26.5**	**-2.8**
	2.7nm,0.6s,baz=78,slow=6.9,SNR=4.1						
PSI				LR	LR	16 46 20.7	
	comp=Z,131nm,18.1s,baz=114,slow=41 2.7nm,0.6s						
GSI	**Gunungsitoli**	**22.77**	**277**	P	**P**	**16 36 40.1**	**-0.8**
GSI				IAmb	IAmb	16 36 47.9	
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**23.05**	**144**	P	**P**	**16 36 42.9**	**-0.9**
	comp=Z,3.2nm,0.9s,baz=322,slow=11,SNR=16 comp=Z,3.2nm,0.9s						
WB2	**Warramunga Arr**	**23.05**	**144**	P	**P**	**16 36 43.1**	**-0.8**
WB2				IAmb	IAmb	16 37 01.8	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**25.82**	**150**	P	**P**	**16 37 09.2**	**-0.6**
ASAR	**Alice Springs**	**25.82**	**150**	P	**P**	**16 37 09.6**	**-0.2**
ASAR	**Alice Springs**	**25.82**	**150**	P	**P**	**16 37 09.4**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=328,slow=8.3,SNR=23						
ASAR				LR	LR	16 48 06.6	
	comp=Z,49nm,19.6s,baz=329,slow=38 comp=Z,1.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**28.74**	**314**	P	**P**	**16 37 37.0**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=121,slow=8.5,SNR=5.1						
CMAR				LR	LR	16 51 51.1	
	comp=Z,22nm,18.1s,baz=190,slow=42 comp=Z,0.2nm,0.3s						
JOW	**Kunigami**	**29.14**	**15**	LR	LR	16 48 27.2	
	comp=Z,32nm,22.0s,baz=106,slow=35						
FORT	**Forrest**	**30.15**	**166**	P	**P**	**16 37 47.5**	**-0.9**
BBOO	**Buckleboo**	**34.62**	**156**	P	**P**	**16 38 26.7**	**-0.9**
BBOO				IAmb	IAmb	16 38 45.6	
	comp=Z,9.7nm,1.3s						
JNU	**Nakatsue**	**35.79**	**15**	LR	LR	16 51 26.4	
	comp=Z,27nm,21.2s,baz=277,slow=33						
STKA	**Stephens Creek**	**36.43**	**148**	P	**P**	**16 38 42.9**	**-0.2**
STKA	**Stephens Creek**	**36.43**	**148**	P	**P**	**16 38 41.4**	**-1.7**
	comp=Z,3.2nm,0.6s,baz=319,slow=9.6,SNR=10 comp=Z,3.2nm,0.6s						
KSRS	**Korea Array**	**39.32**	**10**	LR	LR	16 54 19.5	
	comp=Z,22nm,21.9s,baz=235,slow=35						
PALK	**Pallekele**	**40.33**	**283**	LR	LR	16 59 26.0	
	comp=Z,40nm,18.1s,baz=176,slow=41						
MJAR	**Matsushiro Arr**	**41.31**	**22**	LR	LR	16 54 15.9	
	comp=Z,26nm,21.5s,baz=192,slow=33						
GTA	**Gaotai**	**44.71**	**337**	*e*P	**P**	**16 39 54.4**	**+2.7**
GTA				pP	sP	16 39 57.2	+0.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**50.49**	**348**	P	**P**	**16 40 37.7**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=174,slow=9.0,SNR=5.1 comp=Z,0.6nm,0.5s						
KLR	**Kul'dur**	**51.41**	**10**	LR	LR	17 01 32.0	
	comp=Z,18nm,21.0s,baz=202,slow=35						
MK31	**Makanchi Array**	**58.38**	**330**	P	**P**	**16 41 33.3**	**-0.4**
MK31				IAmb	IAmb	16 41 35.0	
	comp=Z,2.4nm,1.1s						
MKAR	**Makanchi Array**	**58.38**	**330**	P	**P**	**16 41 34.3**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=129,slow=8.6,SNR=12 comp=Z,1.4nm,0.7s						
MAKZ	**Makanchi**	**58.54**	**330**	P	**P**	**16 41 34.6**	**-0.2**
MAKZ				IAmb	IAmb	16 41 45.5	
	comp=Z,3.3nm,1.3s						
GAR	**Garm**	**60.87**	**317**	P	**P**	**16 41 51.5**	**+0.3**
GAR				IAmb	IAmb	16 42 05.2	
	comp=Z,10.0nm,1.4s						
ZALV	**Zalesovo Beam**	**62.47**	**337**	P	**P**	**16 42 00.8**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=151,slow=3.4,SNR=4.7 comp=Z,1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**62.80**	**332**	P	**P**	**16 42 04.2**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=138,slow=6.4,SNR=14 comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**62.82**	**332**	P	**P**	**16 42 04.2**	**+0.2**
KURK				IAmb	IAmb	16 42 05.2	
	comp=Z,5.8nm,1.1s						
YAK	**Yakutsk**	**63.68**	**5**	P	**P**	**16 42 08.9**	**-0.5**
YAK	**Yakutsk**	**63.68**	**5**	LR	LR	17 11 38.6	
	comp=Z,18nm,18.0s,baz=157,slow=38						
BVAR	**Borovoye Array**	**68.26**	**330**	P	**P**	**16 42 39.7**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=126,slow=9.3,SNR=5.5 comp=Z,1.5nm,0.8s						
ARCES	**ARCESS Array B**	**92.95**	**339**	LR	LR	17 30 33.5	
	comp=Z,23nm,19.0s,baz=252,slow=38						
VRAC	**Vranov**	**99.91**	**320**	LR	LR	17 35 52.5	
	comp=Z,15nm,20.3s,baz=280,slow=39						

IDC ***02*** *16:41:01.7±0.9, 33°.91N×137°.32E, h335km±9km, mb2.9/10, mbtmp3.6/15, Error ellipse: s-maj=16.7km s-min=13.1km az=102.0*
JMA ***02*** *16:41:01.9±0.3, 34°.N±1°.×13°.7E±°, h350km±2km, MV2.9/32, ENSYUNADA*
ISC 02 16:41:02.4±0.8, 33°.97N±0°.08×137°.30E±0°.07, h340km±6km, n34, σ1s15/43, mb3.1/11, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO3	**TONANKAI O.B.S**	**0.13**	**143**	*e*P	**Pn**	**16 41 46.2**	**+1.3**
TTO4	**TONANKAI O.B.S**	**0.20**	**79**	*e*P	**Pn**	**16 41 46.0**	**+1.3**
TTO2	**TONANKAI O.B.S**	**0.33**	**224**	P	**Pn**	**16 41 46.0**	**+1.1**
TTO1	**TONANKAI O.B.S**	**0.55**	**231**	*e*P	**Pn**	**16 41 46.2**	**+0.9**
JIE	**Ise**	**0.65**	**311**	P	**Pn**	**16 41 46.5**	**+0.7**
JIE				*e*S	**S**	**16 42 20.6**	**-0.1**
JTNC	**Tanabenakahech**	**1.42**	**264**	P	**Pn**	**16 41 49.2**	**+0.2**
JWY	**Kouya**	**1.44**	**280**	P	**Pn**	**16 41 49.7**	**+0.4**
JYTA	**Yamagatataniai**	**1.69**	**344**	*e*P	**Pn**	**16 41 51.2**	**+0.6**
JYTA				*e*S	**S**	**16 42 29.5**	**+0.3**
JOD2	**Odawara 2**	**1.96**	**48**	P	**Pn**	**16 41 53.0**	**+0.6**
JOD2				*e*S	**S**	**16 42 32.6**	**0.0**
JWT	**Wachi**	**2.04**	**310**	P	**Pn**	**16 41 53.4**	**+0.4**
JWT				*e*S	**S**	**16 42 33.1**	**-0.5**
JAI	**Aioi**	**2.38**	**267**	P	**Pn**	**16 41 55.6**	**0.0**
JAI				*e*S	**S**	**16 42 37.2**	**-1.2**
JRY	**Ryogami san**	**2.43**	**32**	P	**Pn**	**16 41 56.7**	**+0.7**
JRY				*e*S	**S**	**16 42 39.0**	**-0.1**
JKG	**Kaga**	**2.44**	**341**	*e*P	**Pn**	**16 41 56.4**	**+0.4**
MAT	**Matsushiro**	**2.67**	**16**	*e*P	**Pn**	**16 41 58.2**	**+0.2**
MAT				*e*S	**S**	**16 42 42.0**	**-0.7**
MJAR	**Matsushiro Arr**	**2.67**	**16**	P	**Pn**	**16 41 57.9**	**-0.1**
	3.4nm,0.4s,baz=182,slow=8.8,SNR=13						
MJAR				S	**S**	**16 42 41.9**	**-0.9**
	5.6nm,0.9s,baz=184,slow=15,SNR=5.8						
JMN	**Monobe**	**2.86**	**266**	P	**Pn**	**16 41 59.9**	**+0.2**
JAG	**Ashikaga**	**3.02**	**35**	P	**Pn**	**16 42 00.2**	**-0.8**
JAG				*e*S	**S**	**16 42 44.2**	**-4.1**
JHS	**Saijyo**	**3.61**	**288**	*e*P	**Pn**	**16 42 07.2**	**+0.4**
JTO	**Tosashimizu**	**3.92**	**255**	*e*P	**Pn**	**16 42 09.7**	**-0.3**
KSRS	**Korea Array**	**8.38**	**297**	P	**Pn**	**16 43 01.6**	**+0.8**
	4.7nm,0.7s,baz=112,slow=12,SNR=20						
JOW	**Kunigami**	**10.55**	**230**	P	**Pn**	**16 43 27.0**	**+0.1**
	12nm,0.9s,baz=60,slow=11,SNR=2.0						
ASAJ	**Asahikawa**	**10.93**	**21**	P	**Pn**	**16 43 31.5**	**+0.2**
	2.7nm,0.8s,baz=280,slow=12,SNR=1.6						
USRK	**Ussuriysk Ar.**	**11.02**	**340**	P	**P**	**16 43 33.1**	**-0.2**
	0.8nm,0.5s,baz=114,slow=17,SNR=3.3						
PETK	**Petropavlovsk-**	**24.03**	**31**	P	**P**	**16 45 48.4**	**+1.0**
	2.3nm,0.8s,baz=227,slow=6.6,SNR=1.9 2.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**37.48**	**255**	P	**P**	**16 47 43.9**	**-0.7**
	0.4nm,0.3s,baz=50,slow=7.7,SNR=4.6 0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**41.60**	**315**	P	**P**	**16 48 22.3**	**+4.4**
	0.4nm,0.5s,baz=112,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**42.99**	**304**	P	**P**	**16 48 29.2**	**+0.2**
	0.5nm,0.4s,baz=85,slow=9.4,SNR=12 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**45.32**	**310**	P	**P**	**16 48 47.0**	**-0.3**
	0.3nm,0.5s,baz=90,slow=6.4,SNR=5.1 0.3nm,0.5s						
BVAR	**Borovoye Array**	**50.20**	**314**	P	**P**	**16 49 24.2**	**-0.2**
	0.2nm,0.3s,baz=28,slow=3.4,SNR=2.3 0.2nm,0.3s						
WRA	**Warramunga Arr**	**53.68**	**183**	P	**P**	**16 49 49.3**	**-0.9**
	0.3nm,0.3s,baz=358,slow=7.7,SNR=6.3 0.3nm,0.3s						
ILAR	**Eielson Array**	**53.86**	**31**	P	**P**	**16 49 51.1**	**+0.2**
	0.2nm,0.5s,baz=219,slow=7.0,SNR=4.6 0.2nm,0.5s						
ASAR	**Alice Springs**	**57.41**	**184**	P	**P**	**16 50 15.8**	**-0.5**
	0.3nm,0.6s,baz=359,slow=5.3,SNR=16 0.3nm,0.6s						
FINES	**FINESS Array B**	**69.93**	**332**	P	**P**	**16 51 36.8**	**-0.2**
	0.6nm,0.6s,baz=74,slow=6.9,SNR=3.3 0.6nm,0.6s						
NVAR	**Mina Array Bea**	**79.51**	**51**	P	**P**	**16 52 32.1**	**-0.2**
	0.4nm,0.6s,baz=346,slow=6.6,SNR=2.4 0.4nm,0.6s						

SDD ***02*** *16:41:15.9±2.1, 18°.38N×74°.56W, h15km±21km, MD3.4, ML2.8, MW3.2*
SSNC ***02*** *16:41:25.5±0.9, 19°.88N×73°.67W, h12km±5km, MD3.1, ML2.5, MW2.5*
ISC 02 16:41:22.1±1.5, 19°.84N±0°.09×73°.74W±0°.04, h7km±13km, n21, σ1s34/31, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.57**	**306**	*e*P	**Pn**	**16 41 36.4**	**-0.3**
MASC				*e*S	**Sb**	**16 41 43.8**	**+1.0**
MASC				IAML		16 41 45.2	
	comp=E,409nm,0.1s						
MASC				IAML		16 41 45.4	
	comp=N,607nm,0.1s						
QMBU	**Quimbuelo**	**1.07**	**289**	*e*P	**Pn**	**16 41 44.0**	**+0.4**
QMBU				*e*S	**Sg**	**16 41 56.5**	**0.0**
QMBU				IAML		16 41 59.4	
	comp=N,178nm,0.1s						
QMBU				IAML		16 41 59.6	
	comp=E,273nm,0.1s						
GTBY	**Guantanamo Bay**	**1.29**	**274**	*e*P	**Pb**	**16 41 47.7**	**+0.9**
GTBY				*e*S	**Sb**	**16 42 04.0**	**+0.3**
GTBY				IAML		16 42 06.8	
	comp=E,50nm,0.1s						
GTBY				IAML		16 42 07.1	
	comp=E,64nm,0.1s						
GTBY	**Guantanamo Bay**	**1.29**	**274**	*e*Pg	**Pn**	**16 41 43.9**	**-2.8**
GTBY				*e*Sg	**Sb**	**16 42 04.6**	**+0.9**
GTBY				IAML		16 42 07.0	
	comp=N,59nm,0.1s						
NMDO	**Nuevo Mundo**	**1.37**	**302**	*e*P	**Pb**	**16 41 48.2**	**+0.1**
NMDO				*e*S	**Sb**	**16 42 05.5**	**-0.3**
NMDO				IAML		16 42 08.1	
	comp=N,98nm,0.1s						
NMDO				IAML		16 42 08.2	
	comp=E,56nm,0.1s						
MOAC	**Moa**	**1.40**	**306**	*e*P	**Pb**	**16 41 48.9**	**+0.2**
MOAC				*e*S	**Sn**	**16 42 05.4**	**-1.6**
MOAC				IAML		16 42 07.9	
	comp=E,136nm,0.3s						
MOAC				IAML		16 42 08.3	
	comp=N,57nm,0.1s						
RCC	**Rio Carpintero**	**1.85**	**275**	*e*P	**Pn**	**16 41 55.4**	**+1.1**
RCC				*e*S	**Sn**	**16 42 17.8**	**-0.1**
RCC				IAML		16 42 20.1	
	comp=E,17nm,0.1s						
RCC				IAML		16 42 20.4	
	comp=N,18nm,0.1s						
MCDR	**Montecristi**	**1.96**	**88**	*e*Pg	Pg	16 42 09.1	+9.3
PINC	**Pinares de May**	**2.03**	**289**	*e*P	**Pn**	**16 41 57.8**	**+1.0**
PINC				*e*S	**Sn**	**16 42 22.0**	**-0.4**
PINC				IAML		16 42 25.3	
	comp=N,60nm,0.1s						
PINC				IAML		16 42 25.3	
	comp=E,42nm,0.1s						
MARVS	**Santiago de Cu**	**2.04**	**275**	*e*P	**Pn**	**16 41 58.5**	**+1.5**
MARVS				*e*S	**Sn**	**16 42 22.7**	**0.0**
MARVS				IAML		16 42 24.5	
	comp=N,30nm,0.2s						
MARVS				IAML		16 42 25.0	
	comp=E,30nm,0.3s						
JIDR	**Jimani**	**2.24**	**127**	*e*Pg	**Pn**	**16 41 58.9**	**-0.7**
JIDR				IAML		16 42 38.1	
	comp=N,29nm,0.6s						
REDR	**Restauracion**	**2.31**	**107**	*e*Pg	**Pb**	**16 42 04.7**	**+0.5**
SDDR	**Presa de Saban**	**2.47**	**110**	*e*Pg	**Pg**	**16 42 09.1**	**-0.4**
SDDR				IAML		16 42 56.1	
	comp=N,20nm,1.7s						
CHIV	**Chivirico**	**2.52**	**273**	*e*P	**Pn**	**16 42 05.3**	**+1.8**
CHIV				*e*S	**Sn**	**16 42 34.1**	**-0.4**
CHIV				IAML		16 42 36.2	
	comp=E,10nm,0.2s						
CHIV				IAML		16 42 36.5	
	comp=N,8.4nm,0.2s						
NEDR	**Neiba UASD**	**2.58**	**121**	*e*Pg	**Pn**	**16 42 05.9**	**+1.6**
NEDR				*e*Sg	**Sg**	**16 42 43.1**	**-1.9**
NEDR				IAML		16 43 07.3	
	comp=N,40nm,1.1s						
GRTK	**Grand Turk**	**2.95**	**55**	*e*Pg	Pg	16 42 33.6	+15
LMGC	**Las Mercedes**	**3.08**	**275**	*e*P	**Pn**	**16 42 12.4**	**+1.2**
LMGC				*e*S	**Sn**	**16 42 47.0**	**-1.4**
LMGC				IAML		16 42 48.1	
	comp=N,16nm,0.1s						
LMGC				IAML		16 42 48.2	
	comp=E,11nm,0.1s						
PILO	**Pilon**	**3.45**	**272**	*e*P	**Pn**	**16 42 17.2**	**+0.8**
PILO				*e*S	**Sn**	**16 42 54.3**	**-3.3**
PILO				IAML		16 42

PETK	Petropavlovsk-	11.51	284	P	Pn	17 23 55.1	+2.8
	3.5nm,1.0s,baz=90,slow=17,SNR=8.4						
PETK				S	Sn	17 25 57.7	-1.7
	1.2nm,0.5s,baz=89,slow=29,SNR=1.3						
PETK				LR	LR	17 28 34.8	
	comp=Z,30nm,20.1s,baz=85,slow=38						
KDAK	Kodiak Island	18.72	59	P	P	17 25 24.4	-1.1
	3.5nm,0.8s,baz=229,slow=9.1,SNR=8.4						
ILAR	Eielson Array	22.83	41	P	P	17 26 09.8	-0.1
	0.4nm,0.6s,baz=248,slow=9.9,SNR=5.4						
	0.4nm,0.6s						
MJAR	Matsushiro Arr	30.97	256	P	P	17 27 21.9	-2.0
	1.0nm,0.8s,baz=47,slow=4.9,SNR=1.4						
	1.0nm,0.8s						
H11N2	WAKE ISLAND Hy	32.87	197	T	T	18 02 54.5	
	baz=11,slow=76,SNR=65						
H11N3	WAKE ISLAND Hy	32.88	197	T	T	18 02 57.6	
	baz=11,slow=76,SNR=72						
H11N1	WAKE ISLAND Hy	32.89	197	T	T	18 02 56.1	
	baz=11,slow=76,SNR=68						
H11S1	WAKE ISLAND Hy	34.10	197	T	T	18 04 27.2	
	baz=10,slow=76,SNR=47						
H11S3	WAKE ISLAND Hy	34.11	197	T	T	18 04 28.4	
	baz=10,slow=76,SNR=32						
H11S2	WAKE ISLAND Hy	34.12	197	T	T	18 04 28.4	
	baz=10,slow=76,SNR=17						
YKA	Yellowknife Ar	37.08	46	P	P	17 28 16.6	+0.1
	0.3nm,0.6s,baz=285,slow=8.7,SNR=5.7						
	0.3nm,0.6s						
SONM	Songino Array	43.78	294	P	P	17 29 09.3	-2.9
	0.3nm,0.4s,baz=22,slow=3.8,SNR=2.1						
	0.3nm,0.4s						
SPITS	Spitsbergen Ar	49.71	355	P	P	17 29 57.0	-1.0
	10.0nm,1.0s,baz=51,slow=6.6,SNR=22						
	10.0nm,1.0s						
KURBB	Kurchatov Arra	56.65	311	P	P	17 30 48.3	-1.0
	1.0nm,0.8s,baz=45,slow=6.5,SNR=7.0						
	1.0nm,0.8s						
ARCES	ARCESS Array B	57.12	348	P	P	17 30 51.6	-0.9
	1.5nm,0.7s,baz=27,slow=8.2,SNR=5.0						
	1.5nm,0.7s						
MKAR	Makanchi Array	57.41	306	P	P	17 30 54.1	-0.7
	0.3nm,0.4s,baz=51,slow=6.3,SNR=9.8						
	0.3nm,0.4s						
TXAR	Lajitas Array	61.49	78	P	P	17 31 22.8	-0.5
	0.2nm,0.5s,baz=311,slow=10,SNR=2.3						
	0.2nm,0.5s						
FINES	FINESS Array B	64.66	345	P	P	17 31 42.9	-0.8
	0.8nm,0.6s,baz=34,slow=7.1,SNR=4.2						
	0.8nm,0.6s						
HFS	Hagfors	67.56	351	P	P	17 32 00.7	-1.6
	1.0nm,0.6s,baz=338,slow=3.4,SNR=4.6						
	1.0nm,0.6s						
CMAR	Chiang Mai Arr	68.02	272	P	P	17 32 02.4	-3.5
	0.3nm,0.5s,baz=98,slow=7.6,SNR=1.7						
	0.3nm,0.5s						
AKASG	Malin Array Be	74.16	339	P	P	17 32 41.9	-0.6
	0.8nm,0.4s,baz=24,slow=6.1,SNR=6.6						
	0.8nm,0.4s						

*IDC **02** 17:36:18.7±1.8, 7°.41N×94°.15E, h0km, mb3.6/6, mbtmp3.5/8, ML3.5/2, MS3.1/3, Error ellipse: s-maj=75.9km s-min=19.6km az=58.0*

ISC 02 17:36:22.2±1.4, 7°.5N±0°.2×94°.1E±0°.3, h20km, n13, σ1§41/8, mb3.6/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.64	134	Pn	Pn	17 38 00.1	+1.2
	0.7nm,0.3s,baz=299,slow=18,SNR=1.8						
	2.5nm,0.4s						
CMAR	Chiang Mai Arr	11.91	23	Pn	Pn	17 39 11.3	+0.3
	0.1nm,0.3s,baz=203,slow=13,SNR=2.0						
CMAR				LR	LR	17 43 31.2	
	comp=Z,36nm,18.5s,baz=255,slow=36						
	0.2nm,0.4s						
PALK	Pallekele	13.31	270	LR	LR	17 44 18.7	
	comp=Z,102nm,18.6s,baz=153,slow=36						
H08S3	Diego Garcia H	26.26	236	T	T	18 08 44.3	
	baz=54,slow=76,SNR=9.3						
H08S2	Diego Garcia H	26.27	236	T	T	18 08 48.6	
	baz=54,slow=76,SNR=7.6						
H08S1	Diego Carcia H	26.28	236	T	T	18 08 50.4	
	baz=54,slow=76,SNR=5.4						
MKAR	Makanchi Array	40.50	347	P	P	17 43 59.2	-0.5
	0.7nm,0.8s,baz=166,slow=6.8,SNR=6.8						
	0.7nm,0.8s						
KURBB	Kurchatov Arra	44.96	346	P	P	17 44 34.9	-0.9
	0.9nm,0.8s,baz=165,slow=7.1,SNR=8.8						
	0.9nm,0.8s						
ZALV	Zalesovo Beam	46.98	352	P	P	17 44 51.7	0.0
	0.3nm,0.3s,baz=157,slow=7.8,SNR=2.6						
	0.3nm,0.3s						
WRA	Warramunga Arr	48.03	125	P	P	17 44 58.0	-2.4
	0.3nm,0.6s,baz=300,slow=7.9,SNR=2.0						
	0.3nm,0.6s						
ASAR	Alice Springs	49.66	130	P	P	17 45 12.5	-0.4
	0.4nm,0.8s,baz=308,slow=7.6,SNR=5.5						
	0.4nm,0.8s						
FINES	FINESS Array B	73.08	332	P	P	17 47 51.9	+1.1
	0.6nm,0.7s,baz=101,slow=7.2,SNR=1.0						
	0.6nm,0.7s						
JMIC	Jan Mayen	87.10	341	LR	LR	18 32 26.4	
	comp=Z,19nm,18.8s,baz=50,slow=39						

*SNET **02** 17:38:39.8±1.0, 12°.89N×88°.79W, h39km±105km, ML3.1*

CATAC 02 17:38:39.4±0.6, 13°N±4°×8°9W±°, h32km±5km, M3.1/11, MLv3.1/11, Error ellipse: s-maj=8.4km s-min=3.4km az=22.3, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	Alcaldia de Te	0.67	1	P	Pb	17 38 52.3	-0.4
TECO	Alcaldia de Te	0.67	1	S	Sn	17 39 03.1	+0.9
LCY	Lacayo	0.74	41	eP	Pb	17 38 53.9	0.0
LCY				eS	Sn	17 39 05.0	+1.0
RANC	El Ranchito	0.75	41	eP	Pb	17 38 54.1	-0.1
RANC				eS	Sn	17 39 05.5	+1.2
COEG	Centro de Oper	0.76	354	eP	Pn	17 38 54.0	+0.1
COEG				eS	Sn	17 39 04.4	+0.1
PACA	Pacayal	0.76	37	eP	Pb	17 38 54.2	-0.1
PACA				eS	Sn	17 39 05.0	+0.6
PACA				IAML		17 39 06.9	
	comp=Z,2μm,0.2s						
PACA	Pacayal	0.76	37	P	Pb	17 38 54.4	+0.1
UESV	Universidad de	0.77	1	S	Sn	17 39 05.2	+0.6
UESV	Universidad de	0.77	1	P	Pb	17 38 54.5	+0.1
SCLA	Alcaldia de Sa	0.83	5	eP	Pn	17 38 55.0	0.0
SCLA				eS	Sb	17 39 07.0	+0.6
SCLA	Alcaldia de Sa	0.83	5	P	Pb	17 38 55.9	+0.4
PAVA	Las Pavas	0.85	351	eP	Pb	17 38 55.9	0.0
PAVA				eS	Sb	17 39 07.3	+0.2
PAVA	Las Pavas	0.85	351	P	Pb	17 38 56.0	+0.1
PAVA	Las Pavas	0.85	351	S	Sb	17 39 08.4	+1.4
LOMA	Loma Larga	0.86	335	eP	Pn	17 38 54.9	-0.5
LOMA				eS	Sn	17 39 07.0	+0.1
CNRM	Centro Naciona	0.86	45	P	Pb	17 38 59.7	+3.8
PMON	Piamonte	0.98	329	S	Sb	17 39 10.7	0.0
PMON	Piamonte	0.98	329	P	Pn	17 38 57.5	+0.4
LCND	La Caada	0.99	63	eP	Pn	17 38 56.4	-0.6
LCND				IAML		17 39 12.2	
	comp=Z,307nm,0.4s						
LCND	La Caada	0.99	63	P	Pn	17 38 56.8	-0.2
JAYA	Jayaque - finc	1.01	321	eP	Pn	17 38 56.8	-0.7
JAYA				eS	Sn	17 39 11.0	+0.2
JAYA				IAML		17 39 14.9	
	comp=Z,262nm,0.2s						
JAYA	Jayaque - finc	1.01	321	S	Sb	17 39 11.2	-0.3
JAYA	Jayaque - finc	1.01	321	P	Pn	17 38 56.7	-0.8
CNCH	Conchagua	1.02	66	eP	Pn	17 38 57.3	-0.3
CNCH	Conchagua	1.02	66	S	Sb	17 39 11.9	+0.1
CNCH	Conchagua	1.02	66	P	Pn	17 38 57.4	-0.3
CSGN	Cosiguina Volc	1.21	85	P	Pn	17 39 00.5	+0.3
CSGN				S	Sn	17 39 16.1	+0.5
SBLS	San Blas	1.26	320	eP	Pb	17 39 02.0	-0.7
SBLS				eS	Sb	17 39 17.9	-0.8
SNJE	San Jose	1.27	322	eP	Pb	17 39 02.1	-0.8
LLGN	La Laguna	1.30	354	S	Sn	17 39 18.4	+0.6
LLGN	La Laguna	1.30	354	P	Pn	17 39 01.1	-0.4
NUBE	Las Nubes	1.41	317	eP	Pn	17 39 02.9	-0.1
NUBE				eS	Sn	17 39 20.6	+0.1
NUBE	Las Nubes	1.41	317	P	Pn	17 39 03.6	+0.6
FAME	Alcaldia de Sa	1.53	310	S	Sn	17 39 23.4	-0.1
CRIN	San Cristobal	1.71	95	P	Pn	17 39 07.1	0.0
CRIN	San Cristobal	1.71	95	S	Sn	17 39 29.2	+1.3
TGUH	Tegucigalpa,Un	1.90	51	S	Sn	17 39 32.4	-0.2
ABCN	Banco Central	2.54	107	S	Sb	17 39 59.0	+3.9
ALLN	Telcor Managua	2.56	106	S	Sb	17 39 59.0	+3.2
UNAN	Cigeo UNAN	2.58	107	S	Sb	17 39 58.9	+2.6
ENAN	Enatrel Managu	2.59	106	S	Sb	17 39 59.0	+2.5
R4DEC	Barrio San Lui	2.59	106	S	Sb	17 40 00.5	+3.9
MGAN	Managua	2.59	106	S	Sb	17 40 00.3	+3.7
AERN	Aeropuerto Man	2.67	105	S	Sb	17 39 59.4	+0.7
MAS3	AI N del Volca	2.69	108	S	Sb	17 39 57.5	-2.1
MASN	Masaya	2.73	108	S	Sn	17 39 55.9	+2.9
SBEN	San Benito	2.73	101	S	Sb	17 40 04.9	+4.2
NANN	Nandasmo	2.77	109	S	Sn	17 39 55.7	+1.7
BOAB	BOACO BROADBAN	3.08	97	S	Sb	17 40 10.3	-0.4

*CATAC **02** 17:49:50.9±1.1, 12°N±6°×8°9W±°, h4km±7km, M3.7/37, MLv3.7/37, Error ellipse: s-maj=13.3km s-min=4.4km az=18.4, confirmed*

*SNET **02** 17:49:52.2±1.0, 12°.40N×89°.08W, h15km±7km, ML3.3*

*IDC **02** 17:49:53.1±2.2, 13°.16N×88°.53W, h0km, mb3.9/4, mbtmp3.8/6, ML3.3/2, Error ellipse: s-maj=63.5km s-min=29.0km az=41.0*

ISC 02 17:49:50.9±1.7, 12°.38N±0°.05×89°.11W±0°.04, h5km±9km, n107, σ0§89/118, mb3.9/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.12	350	P	Pg	17 50 12.8	+0.4
LALI	Alcalda de L	1.12	350	S	Sg	17 50 28.3	+1.4
TECO	Alcaldia de Te	1.19	16	P	Pg	17 50 13.6	-0.2
TECO	Alcaldia de Te	1.19	16	S	Sb	17 50 30.6	+0.7
PANCS	Alcalda de	1.22	357	P	Pg	17 50 14.2	-0.2
PANCS	Alcalda de	1.22	357	S	Sg	17 50 31.1	+0.8
LFRS	El Faro	1.23	2	eP	Pg	17 50 14.2	-0.4
LFRS				eS	Sb	17 50 31.9	+0.8
COEG	Centro de Oper	1.25	10	P	Pg	17 50 14.6	-0.3
COEG	Centro de Oper	1.25	10	S	Sb	17 50 32.5	+1.0
LOMA	Loma Larga	1.25	357	eP	Pg	17 50 14.1	-1.0
LOMA				eS	Sg	17 50 32.3	+1.0
LOMA	Loma Larga	1.25	357	P	Pg	17 50 14.6	-0.4
TECA	Tecapa	1.25	28	eP	Pg	17 50 14.7	-0.4
UESV	Universidad de	1.28	14	P	Pg	17 50 15.0	-0.7
UESV	Universidad de	1.28	14	S	Sb	17 50 33.3	+0.7
ITCA	Escuela Especi	1.29	353	P	Pg	17 50 15.1	-0.6
ITCA	Escuela Especi	1.29	353	S	Sg	17 50 32.9	+0.4
JAYA	Jayaque - finc	1.30	346	eP	Pg	17 50 14.6	-1.4
JAYA				eS	Sg	17 50 33.5	+0.6
JAYA				IAML		17 50 38.9	
	comp=Z,509nm,0.5s						
JAYA	Jayaque - finc	1.30	346	P	Pg	17 50 15.5	-0.4
LCY	Lacayo	1.31	38	eP	Pg	17 50 15.5	-0.5
UTEC	Universidad Te	1.31	356	P	Pg	17 50 15.6	-0.6
UTEC	Universidad Te	1.31	356	S	Sg	17 50 33.5	+0.3
SEMO	Seminario San	1.32	355	S	Sg	17 50 34.2	+0.9
SEMO	Seminario San	1.32	355	P	Pn	17 50 15.6	-0.5
RANC	El Ranchito	1.32	38	eP	Pg	17 50 15.6	-0.6
RANC	El Ranchito	1.32	38	P	Pg	17 50 15.7	-0.6
RANC	El Ranchito	1.32	38	S	Sb	17 50 34.2	+0.6
VSM	San Miguel	1.32	38	eP	Pg	17 50 15.9	-0.5
IGN	Direccin Gen	1.32	358	P	Pn	17 50 15.7	-0.5
IGN	Direccin Gen	1.32	358	S	Sg	17 50 34.2	+0.7
UDBS	Universidad Do	1.32	358	P	Pn	17 50 15.8	-0.4
UDBS	Universidad Do	1.32	358	S	Sg	17 50 34.0	+0.4
PACA	Pacayal	1.32	35	eP	Pg	17 50 16.0	-0.3
PACA				eS	Sg	17 50 32.7	-0.9
PACA	Pacayal	1.32	35	P	Pg	17 50 16.1	-0.3
PACA	Pacayal	1.32	35	S	Sb	17 50 34.5	+0.7
UEES	Universidad Ev	1.33	355	P	Pn	17 50 15.7	-0.7
UEES	Universidad Ev	1.33	355	S	Sg	17 50 34.7	+0.9
PAVA	Las Pavas	1.33	7	eP	Pn	17 50 15.9	-0.5
PAVA				eS	Sg	17 50 33.8	-0.1
PAVA	Las Pavas	1.33	7	P	Pn	17 50 15.7	-0.7
PAVA	Las Pavas	1.33	7	S	Sb	17 50 34.9	+0.8
PMON	Piamonte	1.33	352	eP	Pn	17 50 15.9	-0.5
PMON				eS	Sg	17 50 33.7	-0.2
PMON	Piamonte	1.33	352	P	Pn	17 50 16.0	-0.4
PMON	Piamonte	1.33	352	S	Sg	17 50 34.8	+0.9
PQSS	Presa 15 de Se	1.34	24	S	Sg	17 50 34.8	+0.5
PQSS	Presa 15 de Se	1.34	24	P	Pn	17 50 16.0	-0.5
BOQS	Boqueron	1.35	353	eP	Pn	17 50 16.4	-0.4
BLLM	Bellamira	1.35	39	eP	Pn	17 50 15.5	-1.2
LFU	La Fuente	1.36	360	eP	Pn	17 50 15.6	-1.1
PIC2	El Picacho	1.36	354	eP	Pn	17 50 16.6	-0.3
SCLA	Alcaldia de Sa	1.36	16	eP	Pn	17 50 16.2	-0.5
SCLA	Alcaldia de Sa	1.36	16	P	Pn	17 50 16.3	-0.4
SCLA	Alcaldia de Sa	1.36	16	S	Sg	17 50 35.1	+0.3
CNRM	Centro Naciona	1.42	40	P	Pn	17 50 16.9	-0.6
CNRM	Centro Naciona	1.42	40	S	Sn	17 50 37.7	+1.1
CEDA	San Andres	1.44	349	P	Pn	17 50 17.5	-0.2
CEDA	San Andres	1.44	349	S	Sb	17 50 37.3	+0.4
LCND	La Caada	1.51	52	eP	Pn	17 50 18.0	-0.7
LCND	La Caada	1.51	52	P	Pn	17 50 18.0	-0.7
LCND	La Caada	1.51	52	S	Sn	17 50 39.2	+0.5
CEVE	Cerro Verde	1.52	341	P	Pn	17 50 18.7	-0.4
CEVE	Cerro Verde	1.52	341	S	Sn	17 50 39.5	+0.1
SBLS	San Blas	1.53	341	eP	Pn	17 50 19.1	-0.2
CNCH	Conchagua	1.53	54	eP	Pn	17 50 18.7	-0.4
CNCH	Conchagua	1.53	54	P	Pn	17 50 18.8	-0.4
CNCH	Conchagua	1.53	54	S	Sn	17 50 39.7	+0.2
SNJE	San Jose	1.55	342	eP	Pn	17 50 19.6	+0.1
CSGN	Cosiguina Volc	1.63	69	P	Pn	17 50 20.1	-0.3
CSGN				S	Sn	17 50 42.0	+0.1
CAHU	Cacacuatique	1.64	32	eP	Pn	17 50 20.7	0.0
NUBE	Las Nubes	1.64	337	eP	Pn	17 50 20.3	-0.4
NUBE	Las Nubes	1.64	337	P	Pn	17 50 20.1	-0.6
NUBE	Las Nubes	1.64	337	S	Sn	17 50 42.7	+0.3
UNIC	Universidad Ca	1.64	345	S	Sn	17 50 42.9	+0.7
UNIC	Universidad Ca	1.64	345	P	Pn	17 50 20.5	-0.1
FAME	Alcaldia de Sa	1.69	329	P	Pn	17 50 21.2	-0.1
FAME	Alcaldia de Sa	1.69	329	S	Sn	17 50 44.2	+0.8
LOAL	Lomas de Alarc	1.73	338	P	Pn	17 50 21.7	-0.1
LOAL	Lomas de Alarc	1.73	338	S	Sn	17 50 45.7	+1.3
SLOZ	Alcaldia de Sa	1.76	338	P	Pn	17 50 22.2	0.0
SLOZ	Alcaldia de Sa	1.76	338	S	Sn	17 50 45.5	+0.4
LLGN	La Laguna	1.77	5	P	Pn	17 50 23.1	+0.7
LLGN	La Laguna	1.77	5	S	Sn	17 50 46.4	+0.9
MTO3	Montecristo	2.02	353	eP	Pn	17 50 26.4	+0.5
MTO3	Montecristo	2.02	353	P	Pn	17 50 26.4	+0.5
MTO3	Montecristo	2.02	353	S	Sn	17 50 53.0	+1.3
CRIN	San Cristobal	2.04	81	P	Pn	17 50 26.5	+0.4
CRIN	San Cristobal	2.04	81	S	Sn	17 50 53.4	+1.4
QUEN	AI S del Volca	2.22	84	P	Pn	17 50 28.5	0.0
QUEN				S	Sn	17 50 57.5	+1.1
HERN	Volcan Telica	2.24	84	P	Pn	17 50 28.8	0.0
HERN	Volcan Telica	2.24	84	S	Sn	17 50 58.0	+1.1
POLN	AI Sur del Vol	2.26	83	P	Pn	17 50 29.2	+0.1
POLN				S	Sn	17 50 58.3	+0.8
PACN	AI O del Volca	2.27	87	P	Pn	17 50 29.3	+0.1
TGUH	Tegucigalpa,Un	2.44	47	P	Pn	17 50 32.1	+0.4
TGUH				S	Sn	17 51 03.3	+1.2
COPN	Copaltepe	2.47	94	P	Pn	17 50 31.8	-0.2
MOMN	Momotombo	2.51	89	P	Pn	17 50 32.8	+0.2
MOMN				S	Sn	17 51 03.8	+0.1
SAPS	Ciudad Sandino	2.66	94	P	Pn	17 50 35.3	+0.8
SAPS	Ciudad Sandino	2.66	94	S	Sn	17 51 07.5	+0.4
LIMN	Finca el Limon	2.76	76	P	Pn	17 50 35.4	-0.7
RCVN	Varilla2	3.09	67	P	Pn	17 50 40.6	+0.1
RCVN	Varilla2	3.09	67	S	Sn	17 51 18.9	+0.9
RCPN	Sur Rio San Ju	3.15	69	S	Sn	17 51 20.8	+1.2
RCPN	Sur Rio San Ju	3.15	69	P	Pn	17 50 42.3	+0.8
JTS	Las Juntas de	4.58	117	Pn	Pn	17 51 04.0	+3.0
	comp=Z,2.1nm,0.3s,baz=308,slow=19,SNR=2.8						
JTS				Sn	Sn	17 51 52.5	-2.2
	comp=Z,1.7nm,0.3s,baz=0.0,slow=20,SNR=2.1						
	comp=Z,4.0nm,0.3s						
CMIG	Matias Romero	7.28	311	Pn	Pn	17 51 40.4	+2.3
	comp=Z,0.3nm,0.3s,baz=127,slow=5.1,SNR=1.8						
	comp=Z,0.8nm,0.3s						
TXAR	Lajitas Array	21.63	323	P	P	17 54 44.0	+1.7
	comp=Z,2.5nm,0.6s,baz=150,slow=11,SNR=23						
	comp=Z,2.5nm,0.6s						
ULM	Lac du Bonnet	38.16	353	P	P	17 57 07.9	-3.4
	comp=Z,1.7nm,0.5s,baz=162,slow=9.6,SNR=4.2						
	comp=Z,1.7nm,0.5s						
SCHQ	Schefferville	45.82	18	P	P	17 58 09.7	-4.2
	comp=Z,2.8nm,0.7s,baz=218,slow=14,SNR=1.9						
	comp=Z,2.8nm,0.7s						
YKA	Yellowknife Ar	53.26	346	P	P	17 59 08.4	-2.0
	comp=Z,0.5nm,0.9s,baz=146,slow=8.0,SNR=5.2						
	comp=Z,0.5nm,0.9s						
CMAR	Chiang Mai Arr	148.34	345	PKPbc	PKPdf	18 09 39.0	+2.9
	comp=Z,0.2nm,0.4s,baz=347,slow=4.6,SNR=4.4						

*IDC **02** 17:52:04.0±1.2, 5°.41S×68°.44E, h0km, mb3.8/12, mbtmp3.8/13, ML3.9/1, MS3.4/7, Error ellipse: s-maj=36.1km s-min=20.4km az=41.0*

ISC 02 17:52:06.3±1.4, 5°.4S±0°.2×68°.5E±0°.2, h13km, n18, σ0§52/13, mb3.9/12, MS3.3/6, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	17.49	44	P	P	17 56 11.2	-0.1
	0.4nm,0.3s,baz=216,slow=14,SNR=3.0						
PALK				LR	LR	18 01 30.3	
	comp=Z,110nm,18.9s,baz=214,slow=32						
	1.6nm,0.4s						
CMAR	Chiang Mai Arr	38.23	51	P	P	17 59 26.4	0.0
	0.8nm,0.8s,baz=236,slow=8.9,SNR=7.1						
CMAR				LR	LR	18 15 20.1	
	comp=Z,29nm,18.0s,baz=205,slow=36						
	0.8nm,0.8s						
LEM	Lembang	38.93	94	LR	LR	18 11 41.4	
	comp=Z,72nm,20.4s,baz=182,slow=30						
BOSA	Boshof	47.00	235	LR	LR	18 17 17.9	
	comp=Z,35nm,20.9s,baz=343,slow=32						
MMAI	Mount Meron Ar	49.41	323	LR	LR	18 20 13.3	
	comp=Z,31nm,18.3s,baz=182,slow=34						
MKAR	Makanchi Array	53.34	12	P	P	18 01 25.4	0.0
	0.4nm,0.7s,baz=185,slow=6.9,SNR=4.0						
	0.4nm,0.7s						
KBZ	Khabaz	54.04	337	P	P	18 01 29.8	-0.7
	3.9nm,1.0s,baz=158,slow=11,SNR=4.8						
	3.9nm,1.0s						
BRTR	Keskin Array B	55.17	328	P	P	18 01 38.4	-0.5
	1.4nm,1.0s,baz=145,slow=15,SNR=5.3						
	1.4nm,1.0s						
KURBB	Kurchatov Arra	56.42	8	P	P	18 01 46.8	-0.7
	0.3nm,0.8s,baz=205,slow=7.0,SNR=4.2						
	0.3nm,0.8s						
BVAR	Borovoye Array	58.18	1	P	P	18 02 00.7	+0.8
	0.3nm,0.6s,baz=163,slow=5.4,SNR=3.1						
	0.3nm,0.6s						
ZALV	Zalesovo Beam	60.66	11	P	P	18 02 17.0	0.0
	0.3nm,0.3s,baz=199,slow=8.8,SNR=5.1						
	0.3nm,0.3s						
SONM	Songino Array	62.56	28	P	P	18 02 30.9	+0.7
	0.5nm,0.7s,baz=242,slow=3.7,SNR=4.6						
	0.5nm,0.7s						
ASAR	Alice Springs	65.37	113	P	P	18 02 49.1	0.0
	0.7nm,0.7s,baz=277,slow=5.6,SNR=9.3						
	0.7nm,0.7s						
WRA	Warramunga Arr	65.50	109	P	P	18 02 49.6	-0.4
	1.6nm,0.9s,baz=280,slow=6.4,SNR=9.4						
	1.6nm,0.9s						
KSRS	Korea Array	69.71	47	LR	LR	18 35 06.5	
	comp=Z,17nm,18.1s,baz=250,slow=37						
KLR	Kul'dur	77.08	37	LR	LR	18 38 15.4	
	comp=Z,34nm,21.5s,baz=146,slow=36						
HFS	Hagfors	78.05	335	P	P	18 04 04.7	+0.1
	3.1nm,0.8s,baz=186,slow=4.5,SNR=4.5						
	3.1nm,0.8s						
ESDC	Sonseca Array	80.05	312	P	P	18 04 16.5	+0.4
	1.2nm,0.9s,baz=99,slow=5.1,SNR=5.4						
	1.2nm,0.9s						

DJA 02 18:07:01.6±0.7, 6°S±5°×13°0E±°, h256km±18km, M3.8/11, mb3.6/4, MLv4.0/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	2.39	339	P	Pn	18 07 49.2	+0.9
MSAI				S	S	18 08 17.4	-7.8
NLAI	Namlea	3.56	311	P	Pn	18 08 01.1	+0.4
FAKI	Fak Fak	3.61	43	P	Pn	18 08 00.6	-0.6
KMPI	Kaimana, Papua	4.34	64	P	Pn	18 08 10.9	+1.2
SWI	Sorong	4.92	17	P	Pn	18 08 16.3	-0.3
SANI	Sanana	5.18	313	P	Pn	18 08 19.9	+0.1
	0.0nm9.7nm,2.0s						

*SKHL **02** 18:26:32.9±0.5, 44°.40N×149°.40E, h44km±6km, mb4.5/3*

*MOS **02** 18:26:32.9±1.2, 44°.50N×149°.24E, h50km, mb4.1/1, Error ellipse: s-maj=11.2km s-min=10.5km az=112.4*

*NIED **02** 18:26:33.0, 44°.50N×149°.21E, h30km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.07; $M_{\theta\theta}$=0.42; $M_{\phi\phi}$=-0.35; $M_{r\theta}$=0.80; $M_{\theta\phi}$=-0.66; $M_{\phi r}$=0.23; Fault plane solution: M_0=1.13000×10^{15} NP1: ϕ_s=

RUSJ	**Misakicho**	**2.92 266**	*e*PN	**Pn**	**18 27 18.6**	**+1.7**
RUSJ			*i* S	**Sn**	**18 27 52.4**	**+1.8**
JRA	**Rausu**	**3.03 263**	*e*P	**Pn**	**18 27 19.5**	**+1.0**
JNK	**Nakash**	**3.39 258**	*e*P	**Pn**	**18 27 23.7**	**+0.3**
AKK	**Akkeshi**	**3.50 249**	*e*P	**Pn**	**18 27 26.0**	**+1.1**
AKK			*e*S	**Sn**	**18 28 05.2**	**+0.2**
JAK	**Akkeshi**	**3.61 249**	*e*P	**Pn**	**18 27 25.9**	**-0.4**
JAK			*e*S	**Sn**	**18 28 04.2**	**-3.4**
JTKR	**Abashiri--Toko**	**3.89 266**	*e*P	**Pn**	**18 27 31.7**	**+1.4**
JAR	**Ashorobuto**	**4.14 257**	*e*P	**Pn**	**18 27 35.4**	**+1.7**
JAR			*e*S	**Sn**	**18 28 21.8**	**+1.0**
JOB	**Onbets**	**4.22 251**	*e*P	**Pn**	**18 27 35.0**	**+0.1**
JOB			*e*S	**Sn**	**18 28 20.9**	**-2.0**
JCH	**Churui**	**4.66 250**	*e*P	**Pn**	**18 27 41.4**	**+0.6**
JCH			*e*S	**Sn**	**18 28 32.4**	**-1.2**
JKK2	**Kamakawa 2**	**4.74 266**	*e*P	**Pn**	**18 27 43.7**	**+1.8**
JKA	**Kamikawa-asahi**	**4.81 269**	*e*P	**Pn**	**18 27 45.9**	**+2.9**
ASAJ	**Asahikawa**	**4.81 269**	P	**Pn**	**18 27 45.9**	**+2.9**
	comp=N,0.8nm,0.3s,baz=103,slow=8.0,SNR=9.6					
	comp=N,3.5nm,0.6s					
JAB	**Ashibetsu**	**5.17 263**	*e*P	**Pn**	**18 27 52.0**	**+4.1**
JNBK	**Urakawa-nobuka**	**5.21 248**	*e*P	**Pn**	**18 27 48.4**	**0.0**
YSS	**Yuzhno-Sakhali**	**5.25 302**	*e*PN	**Pn**	**18 27 50.1**	**+1.1**
YSS			*e*S	**Sn**	**18 28 47.9**	**-0.3**
YSS			pmax	pmax		
	comp=Z,10.0nm,0.6s					
YSS			smax	smax		
	comp=N,10.0nm,0.7s					
YSS			smax	smax		
	comp=E,10.0nm,0.8s					
YSS			MLR	MLR		
	comp=Z,200nm,15.0s					
YSS	**Yuzhno-Sakhali**	**5.25 302**	*e*P	**Pn**	**18 27 50.1**	**+1.1**
YSS			*e*S	**Sn**	**18 28 47.9**	**-0.3**
JRBN	**Rebuntou**	**5.93 283**	*e*P	Pn	18 28 03.5	+5.2
JANG	**Nango**	**7.01 238**	*e*S	Sn	18 29 22.9	-8.7
JTH	**Tanohata**	**7.08 234**	*e*S	Sn	18 29 22.4	-11
TYV	**Tymovskoe**	**7.88 328**	*e*PN	**Pn**	**18 28 27.5**	**+2.5**
TYV			pmax	pmax		
	comp=Z,5.0nm,0.9s					
TYV	**Tymovskoe**	**7.88 328**	*e*P	**Pn**	**18 28 27.5**	**+2.5**
PETK	**Petropavlovsk-**	**10.34 29**	P	**Pn**	**18 28 59.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=210,slow=12,SNR=7.3					
PETK			LR	LR	18 32 48.3	
	comp=Z,71nm,19.2s,baz=144,slow=36					
	comp=Z,1.9nm,0.6s					
MA2	**Magadan**	**15.24 3**	LR	LR	18 35 43.8	
	comp=Z,36nm,21.1s,baz=31,slow=36					
SEY	**Seymchan**	**18.67 4**	P	**P**	**18 30 46.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=191,slow=8.0,SNR=8.4					
	comp=Z,2.2nm,0.7s					
SEY	**Seymchan**	**18.67 4**	*e*P	**P**	**18 30 45.7**	**-2.0**
SEY			pmax	pmax		
	comp=Z,4.0nm,1.2s					
YAK	**Yakutsk**	**21.07 334**	P		18 31 17.7	
	comp=Z,11nm,0.8s,baz=336,slow=6.9,SNR=7.8					
H11N2	**WAKE ISLAND Hy 28.63 144**		T	T	19 03 21.5	
	baz=334,slow=75,SNR=47					
H11N1	**WAKE ISLAND Hy 28.64 144**		T	T	19 03 21.8	
	baz=334,slow=75,SNR=35					
H11N3	**WAKE ISLAND Hy 28.65 143**		T	T	19 03 22.1	
	baz=334,slow=75,SNR=39					
H11S1	**WAKE ISLAND Hy 29.64 145**		T	T	19 04 39.0	
	baz=335,slow=76,SNR=45					
H11S3	**WAKE ISLAND Hy 29.65 145**		T	T	19 04 42.4	
	baz=335,slow=76,SNR=26					
SONM	**Songino Array**	**29.65 292**	P	**P**	**18 32 34.7**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=100,slow=7.5,SNR=1.8					
	comp=Z,0.2nm,0.5s					
H11S2	**WAKE ISLAND Hy 29.66 145**		T	T	19 04 43.3	
	baz=335,slow=76,SNR=29					
NRIK	**Noril'sk**	**39.45 331**	LR	LR	18 50 53.5	
	comp=Z,19nm,18.6s,baz=146,slow=37					
ILAR	**Eielson Array**	**40.06 37**	P	**P**	**18 34 05.3**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=272,slow=8.2,SNR=7.2					
	comp=Z,1.0nm,0.9s					
ZALV	**Zalesovo Beam**	**41.85 307**	P	**P**	**18 34 17.2**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=100,slow=16,SNR=2.4					
	comp=Z,0.4nm,0.4s					
MKAR	**Makanchi Array**	**45.65 298**	P	**P**	**18 34 49.8**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=82,slow=9.4,SNR=6.6					
MKAR			PcP	**PcP**	**18 36 27.2**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=90,slow=3.3,SNR=1.8					
	comp=Z,0.4nm,0.5s					
KURK	**Kurchatov**	**46.45 304**	P	**P**	**18 34 56.6**	**+0.5**
KURK	**Kurchatov**	**46.45 304**	*e*P	**P**	**18 34 56.6**	**+0.5**
KURBB	**Kurchatov Arra**	**46.54 304**	P	**P**	**18 34 56.6**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=67,slow=8.1,SNR=1.6					
	comp=Z,0.4nm,0.3s					
BVAR	**Borovoye Array**	**50.29 310**	P	**P**	**18 35 25.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=57,slow=5.3,SNR=2.2					
	comp=Z,0.3nm,0.5s					
YKA	**Yellowknife Ar**	**54.41 35**	P	**P**	**18 35 56.4**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=298,slow=7.0,SNR=7.0					
	comp=Z,0.7nm,0.8s					
WRA	**Warramunga Arr**	**65.46 195**	P	**P**	**18 37 12.0**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=14,slow=6.9,SNR=4.3					
	comp=Z,0.8nm,0.8s					
WRA	**Warramunga Arr**	**65.46 195**	P	**P**	**18 37 12.0**	**-0.3**
NVAR	**Mina Array Bea**	**65.94 59**	P	**P**	**18 37 15.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=322,slow=8.8,SNR=2.2					
	comp=Z,0.4nm,0.6s					
PDAR	**Pinedale Array**	**68.32 51**	P	**P**	**18 37 31.0**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=276,slow=6.0,SNR=1.8					
	comp=Z,0.2nm,0.6s					
ASAR	**Alice Springs**	**69.17 195**	P	**P**	**18 37 36.8**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=14,slow=6.1,SNR=11					
	comp=Z,0.8nm,0.7s					
NOA	**NORSAR Array B**	**69.56 340**	P	**P**	**18 37 36.8**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=29,slow=6.1,SNR=2.3					
NOA			LR	LR	19 13 36.4	
	comp=Z,13nm,18.6s,baz=275,slow=41					
	comp=Z,1.1nm,0.9s					
AKASG	**Malin Array Be**	**71.97 325**	P	**P**	**18 37 51.9**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=36,slow=6.4,SNR=3.4					
	comp=Z,0.6nm,0.5s					
GERES	**GERESS Array B**	**79.34 332**	P	P	18 38 40.2	+5.2
	comp=Z,0.4nm,0.6s,baz=52,slow=6.4,SNR=3.0					
TXAR	**Lajitas Array**	**81.01 58**	P	**P**	**18 38 44.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=305,slow=4.0,SNR=5.9					
	comp=Z,0.5nm,0.6s					
VNDA	**Vanda**	**121.88 177**	PKP	**PKPdf**	**18 45 22.1**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=38,slow=11,SNR=6.3					

MOS ***02*** *18:30:11.0±1.3, 44°.42N×149°.44E, h20km, mb4.4/1, Error ellipse: s-maj=13.6km s-min=12.2km az=152.9*
NIED ***02*** *18:30:14.6, 44°.49N×149°.22E, h30km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}=0.18; $M_{\theta\theta}$1.29; $M_{\phi\phi}$-1.10; $M_{r\theta}$5.50; $M_{\theta\phi}$-4.21; $M_{\phi r}$1.59; Fault plane solution: $M_0$7.18000×10¹⁴ NP1: ϕ_s169.00000°, δ38.00000°, λ-2.00000°. NP2:ϕ_d260.00000°, δ89.00000°, λ-128.00000°.*
SKHL ***02*** *18:30:14.8±0.1, 44°.40N×149°.40E, h46km±4km, mb4.5/3*
JMA ***02*** *18:30:14.6±0.8, 44°.N±3°.×14°.9E±°, h30km, MV4.1/16, SE OFF ETOROFU*
IDC ***02*** *18:30:17.4±3.6, 44°.53N×149°.21E, h55km±34km, mb3.2/6, mbtmp3.5/9, ML3.2/3, Error ellipse: s-maj=33.0km s-min=19.8km az=130.0*

ISC 02 18:30:15.0±0.9, 44°.35N±0°.07×149°.31E±0°.08, h36km, n45, σ1ˢ48/51, mb3.5/7, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.36**	**311**	*d* iPN	**Pn**	**18 30 35.2**	**-2.2**
KUR				*i* S	**Sn**	**18 30 51.0**	**-3.1**
KUR				pmax	pmax		
	comp=N,133nm,0.4s						
KUR				pmax	pmax		
	comp=Z,457nm,0.4s						
KUR				pmax	pmax		
	comp=E,53nm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR				smax	smax		
	comp=E,745nm,0.4s						
KUR	**Kuril'sk**	**1.36**	**311**	*i* P	**Pn**	**18 30 35.8**	**-1.6**
KUR				AMB	AMB	18 30 36.2	
	comp=E,530nm,0.4s						
KUR				*i* S	**Sn**	**18 30 51.6**	**-2.5**
KUR				A	A	18 30 52.1	
	comp=E,1μm,0.3s						
KUR				A	A	18 30 52.1	
	comp=E,700nm,0.3s						
SHO	**Shikotan**	**1.85**	**256**	*e*PN	**Pn**	**18 30 43.7**	**-0.4**
SHO				*i* S	**Sn**	**18 31 06.2**	**-0.1**
SHO				pmax	pmax		
	comp=Z,37nm,0.3s						
SHO				pmax	pmax		
	comp=N,15nm,0.2s						
SHO				pmax	pmax		
	comp=E,22nm,0.1s						
SHO				smax	smax		
	comp=N,395nm,0.3s						
SHO				smax	smax		
	comp=E,223nm,0.2s						
SHO	**Shikotan**	**1.85**	**256**	*e*P	**Pn**	**18 30 43.7**	**-0.4**
SHO				AMB	AMB	18 30 44.2	
	comp=E,20nm,0.2s						
SHO				*i* S	**Sn**	**18 31 05.3**	**-1.0**
SHO				A	A	18 31 07.4	
	comp=E,300nm,0.2s						
SHO				A	A	18 31 07.4	
	comp=E,180nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.50**	**264**	*e*PN	**Pn**	**18 30 53.6**	**+0.5**
YUK				*i* S	**Sn**	**18 31 23.1**	**+0.8**
YUK				pmax	pmax		
	comp=N,140nm,0.2s						
YUK				pmax	pmax		
	comp=Z,37nm,0.2s						
YUK				pmax	pmax		
	comp=E,32nm,0.1s						
YUK				pmax	pmax		
	comp=Z,344nm,1.2s						
YUK				smax	smax		
	comp=N,238nm,0.2s						
YUK				smax	smax		
	comp=E,464nm,0.4s						
YUK				smax	smax		
	comp=E,435nm,1.0s						
YUK				smax	smax		
	comp=N,353nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**2.50**	**264**	*e*P	**Pn**	**18 30 53.6**	**+0.5**
YUK				AMB	AMB	18 30 55.0	
	comp=N,80nm,0.3s						
YUK				*i* S	**Sn**	**18 31 21.3**	**-1.0**
YUK				A	A	18 31 23.2	
	comp=N,170nm,0.3s						
YUK				A	A	18 31 23.2	
	comp=N,300nm,0.3s						
NEM2	**Nemuro 2**	**2.76**	**250**	*e*P	**Pn**	**18 30 55.6**	**-1.0**
NEM2				*e*S	**Sn**	**18 31 26.6**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.77**	**251**	*e*PN	**Pn**	**18 30 56.2**	**-0.6**
NMR	**Nemuro--Hokkai**	**2.77**	**251**	*e*P	**Pn**	**18 30 56.7**	**-0.1**
NMR				*i* S	**Sn**	**18 31 27.8**	**-1.2**
RUSJ	**Misakicho**	**2.93**	**267**	*e*PN	**Pn**	**18 31 00.2**	**+1.2**
RUSJ				*i* S	**Sn**	**18 31 34.9**	**+2.0**
JRA	**Rausu**	**3.04**	**264**	*e*P	**Pn**	**18 31 01.1**	**+0.5**
JRA				*e*S	**Sn**	**18 31 36.5**	**+0.8**
JNK	**Nakash**	**3.40**	**259**	*e*P	**Pn**	**18 31 05.0**	**-0.4**
AKK	**Akkeshi**	**3.51**	**249**	*e*P	**Pn**	**18 31 08.0**	**+1.1**
AKK				*e*S	**Sn**	**18 31 46.1**	**-1.0**
JAK	**Akkeshi**	**3.61**	**250**	*e*P	**Pn**	**18 31 07.6**	**-0.7**
JAK				*e*S	**Sn**	**18 31 47.6**	**-2.1**
JTKR	**Abashiri--Toko**	**3.91**	**266**	*e*P	**Pn**	**18 31 13.3**	**+0.9**
JAR	**Ashorobuto**	**4.15**	**257**	*e*P	**Pn**	**18 31 16.6**	**+0.9**
JAR				*e*S	**Sn**	**18 32 02.4**	**-0.5**
JOB	**Onbets**	**4.23**	**252**	*e*P	**Pn**	**18 31 17.6**	**+0.7**
JOB				*e*S	**Sn**	**18 32 02.5**	**-2.5**
JCH	**Churui**	**4.66**	**250**	*e*P	**Pn**	**18 31 23.1**	**+0.3**
JCH				*e*S	**Sn**	**18 32 13.2**	**-2.4**
JKK2	**Kamakawa 2**	**4.75**	**267**	*e*P	**Pn**	**18 31 26.1**	**+2.1**
JKA	**Kamikawa-asahi**	**4.83**	**270**	*e*P	**Pn**	**18 31 27.6**	**+2.5**
ASAJ	**Asahikawa**	**4.83**	**270**	P	**Pn**	**18 31 27.6**	**+2.5**
	comp=N,0.9nm,0.3s,baz=102,slow=22,SNR=8.1						
	comp=N,1.5nm,0.3s						
JNBK	**Urakawa-nobuka**	**5.21**	**249**	*e*P	**Pn**	**18 31 29.9**	**-0.4**
YSS	**Yuzhno-Sakhali**	**5.29**	**302**	*e*PN	**Pn**	**18 31 32.8**	**+1.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
YSS	**Yuzhno-Sakhali**	**5.29**	**302**	*e*P	**Pn**	**18 31 32.8**	**+1.5**
JANG	**Nango**	**7.01**	**238**	*e*S	Sn	18 33 06.2	-7.2
JTH	**Tanohata**	**7.07**	**234**	*e*S	Sn	18 33 06.3	-8.8
SKR	**Severo-Kuril's**	**7.83**	**34**	*e*P	**Pn**	**18 32 06.5**	**+0.3**
PAU	**Pauzhetka**	**8.72**	**33**	*e*P	Pn	18 32 20.4	+2.0
PETK	**Petropavlovsk-**	**10.36**	**29**	P	**Pn**	**18 32 40.9**	**0.0**
	comp=Z,0.4nm,0.3s,baz=189,slow=11,SNR=8.5						
	comp=Z,2.1nm,0.7s						
SEY	**Seymchan**	**18.70**	**4**	P	**Pn**	**18 34 27.5**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=205,slow=11,SNR=4.1						
	comp=Z,1.2nm,0.7s						
YAK	**Yakutsk**	**21.11**	**334**	P	**P**	**18 34 58.9**	**+2.9**
	comp=Z,7.7nm,0.7s,baz=88,slow=0.6,SNR=3.9						
H11N2	**WAKE ISLAND Hy 28.59 144**			T	T	19 07 00.3	
	baz=334,slow=76,SNR=65						
H11N1	**WAKE ISLAND Hy 28.61 144**			T	T	19 07 04.2	
	baz=334,slow=76,SNR=62						
H11N3	**WAKE ISLAND Hy 28.61 144**			T	T	19 07 02.9	
	baz=334,slow=76,SNR=67						
H11S1	**WAKE ISLAND Hy 29.60 145**			T	T	19 08 16.1	
	baz=335,slow=76,SNR=80						
H11S3	**WAKE ISLAND Hy 29.61 145**			T	T	19 08 13.4	
	baz=335,slow=76,SNR=54						
H11S2	**WAKE ISLAND Hy 29.62 145**			T	T	19 08 16.8	
	baz=335,slow=76,SNR=47						
ILAR	**Eielson Array**	**40.08**	**37**	P	**P**	**18 37 46.5**	**0.0**
	comp=Z,0.5nm,0.8s,baz=272,slow=8.4,SNR=4.6						
	comp=Z,0.5nm,0.8s						
MKAR	**Makanchi Array**	**45.69**	**298**	P	**P**	**18 38 31.3**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=79,slow=7.5,SNR=1.8						
	comp=Z,0.2nm,0.6s						
KURK	**Kurchatov**	**46.49**	**304**	P	**P**	**18 38 37.9**	**-0.4**
KURK	**Kurchatov**	**46.49**	**304**	*e*P	**P**	**18 38 37.9**	**-0.4**
KURBB	**Kurchatov Arra**	**46.57**	**304**	P	**P**	**18 38 37.9**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=70,slow=8.3,SNR=0.9						
	comp=Z,0.3nm,0.4s						
YKA	**Yellowknife Ar**	**54.43**	**35**	P	**P**	**18 39 38.4**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=298,slow=7.3,SNR=3.7						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**65.43**	**196**	P	**P**	**18 40 55.3**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=9.3,slow=6.3,SNR=3.3						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**69.14**	**195**	P	**P**	**18 41 18.2**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=23,slow=5.0,SNR=4.8						
	comp=Z,0.6nm,0.8s						

IDC ***02*** *18:33:40.7±4.5, 15°.25S×167°.55E, h138km±36km, mb3.6/8, mbtmp4.0/9, Error ellipse: s-maj=31.3km s-min=23.4km az=46.0*
NOU ***02*** *18:33:40.6, 15°.20S×167°.69E, h118km, MLv4.7/18, Vanuatu Islands*

ISC 02 18:33:39.7±0.9, 15°.21S±0°.08×167°.7E±0°.1, h129km, n23, σ1ˢ26/24, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.93**	**196**	P	**Pn**	**18 34 02.1**	**+0.3**
VLAKA	**Lakatoro**	**0.93**	**196**	P	**Sn**	**18 34 19.4**	**+0.8**
DVP	**Devils Point**	**2.55**	**169**	P	**Pn**	**18 34 20.4**	**0.0**
LUES	**Luesalemba Tem**	**4.84**	**339**	P	**Pn**	**18 34 50.7**	**+0.1**
KOUNC	**Koumac, New Ca**	**6.22**	**211**	P	**Pn**	**18 35 09.2**	**+0.1**
YATNC	**Mamie plateau,**	**6.85**	**186**	P	**Pn**	**18 35 17.0**	**-0.7**
DZM	**Mont Dzumac**	**6.92**	**190**	P	**Pn**	**18 35 20.0**	**+1.3**
	14nm,0.6s,baz=44,slow=7.2,SNR=44						
DZM				S	**Sn**	**18 36 35.7**	**-0.5**
	34nm,0.6s,baz=351,slow=22,SNR=6.1						
DZM	**Mont Dzumac**	**6.92**	**190**	P	**Pn**	**18 35 19.4**	**+0.7**
ONTNC	**Ouen Toro**	**7.16**	**189**	P	**Pn**	**18 35 23.5**	**+1.8**
OUENC	**Ouen Island, N**	**7.21**	**186**	P	**Pn**	**18 35 24.3**	**+1.8**
PINNC	**Pines Island,**	**7.37**	**182**	P	**Pn**	**18 35 27.0**	**+2.4**
NGOA	**Tingoa Renbel**	**8.26**	**295**	P	**Pn**	**18 35 36.3**	**-0.3**
SAVO	**Savo Central**	**9.77**	**307**	P	**Pn**	**18 35 58.8**	**+1.8**
TATA	**Tatamba Isabel**	**10.27**	**310**	P	**Pn**	**18 36 06.0**	**+2.3**
STKA	**Stephens Creek**	**28.99**	**231**	P	**P**	**18 39 27.1**	**-0.2**
	0.7nm,0.3s,baz=64,slow=11,SNR=5.0						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**32.10**	**257**	P	**P**	**18 39 52.8**	**-2.1**
	0.5nm,0.6s,baz=83,slow=7.9,SNR=10						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**32.88**	**250**	P	**P**	**18 40 00.1**	**-1.6**
	1.9nm,0.4s,baz=78,slow=9.0,SNR=54						
ASAR				PcP	**PcP**	**18 42 43.8**	**+0.4**
	0.2nm,0.6s,baz=97,slow=2.4,SNR=2.4						
	1.9nm,0.4s						
VNDA	**Vanda**	**62.39**	**181**	P	**P**	**18 43 48.2**	**-0.1**
	0.7nm,0.5s,baz=357,slow=5.3,SNR=5.0						
	0.7nm,0.5s						
QSPA	**South Pole Qui**	**74.82**	**180**	P	**P**	**18 45 05.3**	**-0.4**
	4.2nm,0.9s,baz=218,slow=2.0,SNR=16						
	4.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**75.51**	**294**	P	**P**	**18 45 11.1**	**+0.7**
	0.3nm,0.3s,baz=112,slow=7.3,SNR=1.6						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**86.86**	**18**	P	**P**	**18 46 08.5**	**-0.8**
	0.3nm,0.8s,baz=229,slow=5.4,SNR=2.3						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**97.83**	**316**	P	Pdif	18 47 00.7	+0.2
	0.4nm,0.7s,baz=98,slow=6.7,SNR=5.1						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**120.82**	**345**	PKP	**PKPdf**	**18 52 15.3**	**-0.7**
	0.8nm,0.4s,baz=41,slow=1.7,SNR=10.0						

IDC 02 18:57:37.5±2.1, 3°.17N×126°.84E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=134.9km s-min=25.2km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.17**	**183**	P	P	19 02 25.6	+1.1
	1.5nm,1.0s,baz=14,slow=10,SNR=1.5						
	1.5nm,1.0s						
WRA	**Warramunga Arr**	**24.12**	**163**	P	P	19 02 55.0	-0.2
	0.5nm,0.5s,baz=339,slow=9.9,SNR=8.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**27.55**	**166**	P	P	19 03 25.7	-0.6
	0.3nm,0.8s,baz=353,slow=9.1,SNR=2.4						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**58.08**	**325**	P	P	19 07 32.7	0.0
	0.2nm,0.5s,baz=132,slow=8.1,SNR=5.1						
	0.2nm,0.5s						

NEIC ***02*** *19:29:03.1±0.5, 19°.18N±0°.04×155°.46W±0°.03, h45km±4km, Error ellipse: s-maj=7.1km s-min=3.7km az=153.0*

HVO 02 19:29:04.0±0.5, 19°.13N±0°.05×155°.43W±0°.03, h44km±3km, Md2.4/7, ML2.7/30(NEIC), Error ellipse: s-maj=7.5km s-min=4.7km az=179.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.11**	**15**		Pn	19 29 10.7	-0.5
HPO	**Honuapo**	**0.12**	**252**		Pn	19 29 09.9	-1.2
HLP	**Hilina Pali**	**0.20**	**34**	Pn	Pn	19 29 10.7	-1.1
KHU	**Kahuku**	**0.21**	**304**		Sn	19 29 16.5	-1.1
KHU	**Kahuku**	**0.21**	**304**		Pn	19 29 10.6	-1.5
KHU				IAML		19 29 16.6	
	comp=N,608nm,1.0s						
KHU				IAML		19 29 16.9	
	comp=E,1μm,0.7s						
SDHHI	**Sand Hill**	**0.29**	**26**		Pn	19 29 11.7	-0.9
KKO	**Keanakako'i**	**0.31**	**30**		Pn	19 29 11.8	-1.0
PUH	**Pauahi**	**0.32**	**39**		Pn	19 29 11.8	-1.0
PUH	**Pauahi**	**0.32**	**39**	IAML		19 29 24.4	
	comp=N,432nm,1.1s						
OBL	**Observatory Le**	**0.32**	**25**		Pn	19 29 11.7	-1.2
UWE	**Uwekahuna**	**0.32**	**24**	Pn	Pn	19 29 10.8	-2.1
UWE				IAML		19 29 26.5	
	comp=E,727nm,1.0s						
BYL	**Byron's Ledge**	**0.32**	**29**	Pn	Pn	19 29 11.2	-1.7
BYL				IAML		19 29 18.5	
	comp=E,442nm,1.2s						
HATHI	**Halema'uma'u T**	**0.33**	**28**		Pn	19 29 11.8	-1.3
HATHI	**Halema'uma'u T**	**0.33**	**28**	IAML		19 29 23.4	
	comp=E,509nm,0.8s						
HATHI				IAML		19 29 24.3	
	comp=N,459nm,1.1s						
KNHH	**Kane Nui o Ham**	**0.35**	**44**		Pn	19 29 12.3	-0.9
RSD	**Rainshed**	**0.36**	**23**	Pn	Pn	19 29 11.9	-1.5
MLH	**Mauna Loa**	**0.37**	**6**	Pn	Pn	19 29 12.3	-1.2
MLH				IAML		19 29 18.8	
	comp=N,538nm,0.9s						
MLH				IAML		19 29 18.8	
	comp=E,428nm,0.8s						
STCH	**Steam Cracks**	**0.38**	**48**		Pn	19 29 12.4	-1.2
MWH	**Mokuaweoweo**	**0.39**	**336**	Pn	Pn	19 29 12.4	-1.7
MWH				IAML		19 29 20.4	
	comp=N,536nm,1.1s						
MWH				IAML		19 29 26.0	
	comp=E,536nm,0.6s						
NPOC	**North of Pu'u**	**0.40**	**49**		Pn	19 29 12.6	-1.1
HMH	**Humu'ula Sheep**	**0.47**	**354**		Pn	19 29 13.1	-1.8
HMH				IAML		19 29 21.7	
	comp=N,432nm,1.1s						
JOKA	**Jonika Flow**	**0.50**	**53**		Pn	19 29 13.6	-1.3
JOKA	**Jonika Flow**	**0.50**	**53**	IAML		19 29 22.6	
	comp=N,472nm,1.8s						
JOKA				IAML		19 29 23.4	
	comp=E,228nm,1.6s						

NEIC ***02*** *19:30:11.4±1.4, 6°.40S±0°.07×148°.98E±0°.07, h50km±2km, mb4.7/76, Error ellipse: s-maj=10.3km s-min=8.7km az=138.0*
IDC ***02*** *19:30:14.2±1.8, 6°.40S×148°.74E, h68km±15km, mb4.0/15, mbtmp4.4/18, MS3.7/28, Error ellipse: s-maj=20.3km s-min=9.4km az=107.0*

ISC 02 19:30:11.5±0.3, 6°.47S±0°.05×148°.96E±0°.05, h53km, n171, σ1ˢ60/167, mb4.6/57, MS3.7/27, New Britain region

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

AS31 S 19 39 07.5 -1.1
ASAR Alice Springs 22.40 219 P **P 19 35 06.3 +0.5**
ASAR **PcP 19 38 59.4 +0.2**
ASAR S **S 19 39 05.9 -2.7**
ASAR Alice Springs 22.40 219 P **P 19 35 06.7 +0.9**
comp=Z,16nm,0.8s,baz=57,slow=9.5,SNR=163
ASAR PcP **PcP 19 39 00.5 +1.2**
comp=Z,1.9nm,0.7s,baz=56,slow=3.0,SNR=4.2
ASAR S **S 19 39 08.0 -0.7**
comp=Z,9.3nm,0.8s,baz=33,slow=23,SNR=16
ASAR LR LR 19 44 22.2
comp=Z,256nm,18.8s,baz=32,slow=38
comp=Z,16nm,0.8s
DZM Mont Dzumac 22.93 134 P **P 19 35 11.1 -0.2**
DZM IAmb IAmb 19 35 24.2
comp=Z,23nm,0.9s
DZM Mont Dzumac 22.93 134 *e*P **P 19 35 11.2 -0.2**
comp=Z,56nm,1.1s
DZM *e*S **S 19 39 09.8 -7.9**
comp=Z,116nm,24.6s
DZM *e*LR LR 19 40 47.8
comp=Z,541nm,22.2s
DZM Mont Dzumac 22.93 134 LR LR 19 43 32.4
comp=Z,431nm,18.3s,baz=288,slow=34
ARMA Armidale 23.95 174 P **P 19 35 21.1 0.0**
ARMA IAmb IAmb 19 35 27.5
comp=Z,36nm,1.5s
SOEI Soe 24.66 261 P **P 19 35 28.0 +0.3**
OOD Oodnadatta 24.66 209 P **P 19 35 28.9 +1.4**
comp=Z,44nm,0.9s
CMSA Cobar Meteorol 25.13 187 P **P 19 35 36.7 +5.1**
comp=Z,17nm,1.3s
FITZ Fitzroy Crossi 25.51 241 P **P 19 35 35.9 +0.7**
FITZ Fitzroy Crossi 25.51 241 LR LR 19 46 26.1
comp=Z,192nm,20.3s,baz=59,slow=38
LCRK Leigh Creek 25.90 202 P **P 19 35 39.6 +1.0**
comp=Z,45nm,0.7s
STKA Stephens Creek 26.20 194 P **P 19 35 41.7 +0.4**
STKA Stephens Creek 26.20 194 P **P 19 35 42.9 +1.6**
comp=Z,3.6nm,0.5s,baz=348,slow=9.4,SNR=12
STKA LR LR 19 46 45.0
comp=Z,273nm,18.4s,baz=16,slow=38
comp=Z,3.6nm,0.5s
MMRI Maumere 26.57 264 P **P 19 35 43.7 -1.2**
WRKA Warakurna 27.06 225 P **P 19 35 50.0 +0.8**
comp=Z,30nm,0.9s
HTT Hallett 28.40 198 P **P 19 36 05.8 +4.7**
comp=Z,12nm,1.0s
BBOO Buckleboo 28.83 203 P **P 19 36 04.5 -0.3**
BBOO IAmb IAmb 19 36 37.3
comp=Z,14nm,1.2s
KAPI Kappang 29.09 271 LR LR 19 51 00.2
comp=Z,131nm,19.1s,baz=74,slow=43
FORT Forrest 31.13 216 P **P 19 36 24.9 -0.4**
FORT IAmb IAmb 19 36 53.3
comp=Z,23nm,0.9s
FORT Forrest 31.13 216 P **P 19 36 26.4 +1.1**
comp=Z,31nm,0.7s
MBWA Marble Bar 31.83 240 P **P 19 36 31.9 +0.3**
MBWA IAmb IAmb 19 36 33.4
comp=Z,9.3nm,0.7s
PSA00 Pilbara Seismi 31.89 239 P **P 19 36 31.5 -0.6**
PSA00 Pilbara Seismi 31.89 239 P **P 19 36 31.8 -0.4**
PSA00 IAmb IAmb 19 37 08.3
comp=Z,21nm,1.4s
JCJ Chichijima 34.01 349 LR LR 19 50 06.4
comp=Z,66nm,18.0s,baz=162,slow=35
JAGI Jajag, Banyuwa 34.56 264 P **P 19 36 53.5 -1.9**
MEEK Meekatharra 35.16 232 P **P 19 37 01.9 +1.3**
comp=Z,35nm,1.8s
GIRL Giralia 37.12 241 P **P 19 37 16.8 -0.5**
UGM Wanagama 38.15 265 P **P 19 37 25.2 -1.0**
MORW Morawa 38.34 230 P **P 19 37 26.9 -0.6**
MORW IAmb IAmb 19 38 06.7
comp=Z,22nm,1.3s
JOW Kunigami 38.70 330 LR LR 19 50 29.8
comp=Z,183nm,20.5s,baz=154,slow=32
NWAO Narrogin (SRO) 39.52 224 P **P 19 37 35.9 -1.5**
NWAO Narrogin (SRO) 39.52 224 LR LR 19 55 26.9
comp=Z,281nm,19.0s,baz=240,slow=38
SSLB Suanglung 40.64 319 P **P 19 37 45.7 -1.1**
SSLB IAmb IAmb 19 38 16.7
comp=Z,31nm,1.5s
URZ Urewera 40.65 145 LR LR 19 53 30.5
comp=Z,121nm,18.8s,baz=44,slow=34
RTZ Ruatahuna 40.82 146 P **P 19 37 48.2 +0.1**
THZ Tophouse 41.09 152 P **P 19 37 49.7 -0.5**
LTZ Lake Taylor 41.62 154 P **P 19 37 53.9 -0.6**
LTZ IAmb IAmb 19 38 05.3
comp=Z,9.9nm,1.0s
RPZ Rata Peaks 41.87 156 P **P 19 37 56.7 +0.2**
RPZ IAmb IAmb 19 38 32.4
comp=Z,31nm,1.1s
RPZ Rata Peaks 41.87 156 LR LR 19 54 02.9
comp=Z,171nm,21.8s,baz=299,slow=34
PLWZ Palliser 42.06 150 P **P 19 37 58.5 +0.3**
GVZ Greta Valley S 42.10 153 P **P 19 37 58.0 -0.4**
JNU Nakatsue 42.96 338 P **P 19 38 04.5 -1.0**
JNU IAmb IAmb 19 38 10.7
comp=Z,31nm,1.3s
JNU Nakatsue 42.96 338 LR LR 19 55 52.7
comp=Z,47nm,18.3s,baz=108,slow=36
MJAR Matsushiro Arr 43.96 348 P **P 19 38 12.2 -1.3**
comp=Z,4.0nm,0.8s,baz=166,slow=8.2,SNR=5.4
MJAR LR LR 19 55 18.2
comp=Z,81nm,18.1s,baz=178,slow=34
comp=Z,4.0nm,0.8s
KSRS Korea Array 47.91 337 P **P 19 38 42.6 -1.9**
comp=Z,1.8nm,0.7s,baz=154,slow=8.3,SNR=7.1
comp=Z,1.8nm,0.7s
ASAJ Asahikawa 50.68 354 LR LR 19 58 57.7
comp=Z,64nm,21.9s,baz=175,slow=34
RAR Rarotonga 51.66 112 LR LR 19 56 46.7
comp=Z,43nm,20.2s,baz=202,slow=31
GSI Gunungsitoli 51.87 277 P **P 19 39 14.8 -0.3**
GSI IAmb IAmb 19 39 15.6
comp=Z,7.0nm,0.7s
USRK Ussuriysk Ar. 52.71 345 LR LR 19 59 12.7
comp=Z,54nm,21.9s,baz=144,slow=33
CMAR Chiang Mai Arr 55.19 298 P **P 19 39 42.2 +2.9**
comp=Z,0.8nm,0.3s,baz=109,slow=6.5,SNR=6.2
KLR Kul'dur 57.47 347 P **P 19 39 56.8 +1.8**
comp=Z,1.9nm,0.7s,baz=163,slow=5.4,SNR=5.6
comp=Z,1.9nm,0.7s
PEA0B Petropavlovsk- 59.81 6 P **P 19 40 10.2 -1.1**
PETK Petropavlovsk- 59.81 6 P **P 19 40 11.0 -0.2**
PETK Petropavlovsk- 59.81 6 P **P 19 40 13.4 +2.2**
comp=Z,5.2nm,0.5s,baz=165,slow=6.2,SNR=13
PETK LR LR 20 00 35.9
comp=Z,51nm,20.9s,baz=204,slow=30
comp=Z,5.2nm,0.5s
CASY Casey 65.33 196 P **P 19 40 49.0 +1.1**
CASY IAmb IAmb 19 40 55.4
comp=Z,12nm,1.4s
SONM Songino Array 65.77 330 P **P 19 40 50.2 -1.0**
SONM Songino Array 65.77 330 P **P 19 40 51.2 0.0**
comp=Z,0.7nm,0.7s,baz=131,slow=9.5,SNR=4.5
SONM LR LR 20 08 28.6
comp=Z,74nm,20.8s,baz=132,slow=35
comp=Z,0.7nm,0.7s
MA2 Magadan 65.85 1 LR LR 20 11 30.3
comp=Z,41nm,18.3s,baz=137,slow=38
LVA Lava Point 71.18 26 P **P 19 41 23.3 -1.4**
VNDA Vanda 71.34 177 P **P 19 41 26.9 +1.6**
VNDA IAmb IAmb 19 41 28.1
comp=Z,6.7nm,0.7s
VNDA Vanda 71.34 177 P **P 19 41 27.1 +1.9**
comp=Z,6.2nm,0.6s,baz=331,slow=6.9,SNR=33
comp=Z,6.2nm,0.6s
P08K Saint George I 71.44 23 P **P 19 41 26.2 +0.1**
SBA Scott Base 71.95 176 P **P 19 41 31.6 +2.7**
SBA IAmb IAmb 19 41 56.5
comp=Z,8.9nm,1.2s
O14K Tigyukauivet M 76.49 24 P **P 19 41 56.0 +0.5**
M14K Bethel 77.17 22 P **P 19 41 59.7 +0.4**
M14K IAmb IAmb 19 42 26.3
comp=Z,19nm,1.3s
L14K Kuka Creek 77.28 22 P **P 19 42 00.6 +0.6**
K15K Wolf Creek Mou 78.31 21 P **P 19 42 05.2 -0.5**
K15K IAmb IAmb 19 42 09.6
comp=Z,20nm,1.5s
ACHA Angle Creek He 78.39 27 P **P 19 42 05.3 -1.0**
ACHA IAmb IAmb 19 42 18.6
comp=Z,12nm,1.3s
L16K Owhat River 78.71 22 P **P 19 42 07.8 -0.1**
L16K IAmb IAmb 19 42 50.3
comp=Z,12nm,1.4s
TIXI Tiksi 79.08 354 P **P 19 42 11.7 +2.0**
comp=Z,2.4nm,0.3s,baz=156,slow=2.2,SNR=3.7
TIXI LR LR 20 19 21.2
comp=Z,25nm,19.1s,baz=206,slow=37
comp=Z,2.4nm,0.3s
MK31 Makanchi Array 79.10 320 P **P 19 42 09.5 -0.9**
MKAR Makanchi Array 79.10 320 P **P 19 42 08.9 -1.5**
MKAR Makanchi Array 79.10 320 P **P 19 42 10.4 0.0**
comp=Z,0.6nm,0.6s,baz=100,slow=7.7,SNR=9.6
comp=Z,0.6nm,0.6s
KDAK Kodiak Island 79.40 28 LR LR 20 10 04.6
comp=Z,36nm,20.1s,baz=98,slow=30
K17K Iditarod 79.75 22 P **P 19 42 13.1 -0.5**
K17K IAmb IAmb 19 42 48.3
comp=Z,17nm,1.5s
ZAA0 Zalesovo Array 80.45 327 P **P 19 42 16.4 -1.1**
ZALV Zalesovo Beam 80.45 327 P **P 19 42 16.7 -0.9**
ZALV Zalesovo Beam 80.45 327 P **P 19 42 17.0 -0.5**
comp=Z,0.9nm,0.5s,baz=120,slow=6.6,SNR=5.0
ZALV LR LR 20 16 34.6
comp=Z,74nm,21.7s,baz=110,slow=35
comp=Z,0.9nm,0.5s
L19K White Mountain 80.76 23 P **P 19 42 18.4 -0.7**
J18K Innoko River 80.78 22 P **P 19 42 19.0 -0.1**
M20K Styx River 81.28 24 P **P 19 42 22.3 +0.3**
M20K IAmb IAmb 19 42 37.7
comp=Z,6.4nm,1.2s
J20K Nowinta River 82.12 22 P **P 19 42 25.6 -0.6**
CAST Castle Rocks 82.50 23 P **P 19 42 27.2 -1.0**
KURK Kurchatov 82.75 323 P **P 19 42 29.1 -0.7**
KURBB Kurchatov Arra 82.78 323 P **P 19 42 30.9 +1.0**
comp=Z,0.4nm,0.5s,baz=121,slow=3.8,SNR=9.6
KURBB LR LR 20 19 11.2
comp=Z,53nm,20.3s,baz=169,slow=36
comp=Z,0.4nm,0.5s
E19K Redstone River 82.94 18 P **P 19 42 30.1 -0.3**
TRF Thorofare Moun 83.21 23 P **P 19 42 31.3 -0.8**
D19K Kuna River 83.29 17 P **P 19 42 32.1 -0.2**
D19K IAmb IAmb 19 42 57.7
comp=Z,7.0nm,1.4s
QSPA South Pole Qui 83.50 180 P **P 19 42 34.1 +0.6**
QSPA IAmb IAmb 19 42 53.2
comp=Z,16nm,1.2s
QSPA South Pole Qui 83.50 180 P **P 19 42 34.7 +1.1**
comp=Z,8.3nm,0.7s,baz=317,slow=0.7,SNR=42
comp=Z,8.3nm,0.7s
RND Reindeer 83.76 24 P **P 19 42 34.1 -0.7**
RND IAmb IAmb 19 42 45.2
comp=Z,8.1nm,1.3s
B21K Ikpikpuk River 84.97 17 P **P 19 42 40.6 0.0**
IL31 85.15 23 P **P 19 42 40.2 -1.4**
IL31 IAmb IAmb 19 43 18.7
comp=Z,7.1nm,1.4s
ILAR Eielson Array 85.15 23 P **P 19 42 40.8 -0.9**
ILAR Eielson Array 85.15 23 P **P 19 42 41.2 -0.5**
comp=Z,1.3nm,0.7s,baz=248,slow=5.8,SNR=20
comp=Z,1.3nm,0.7s
J25K Salcha River, 85.67 23 P **P 19 42 43.5 -0.9**
J25K IAmb IAmb 19 42 45.8
comp=Z,3.3nm,0.8s
D23K Nanushuk River 85.81 18 P **P 19 42 45.4 +0.5**
D23K IAmb IAmb 19 42 51.2
comp=Z,3.2nm,0.8s
F24K Squaw Lake 86.03 20 P **P 19 42 46.0 0.0**
F24K IAmb IAmb 19 42 47.8
comp=Z,6.0nm,1.4s
BCAR Beaver Creek A 86.53 25 P **P 19 42 47.9 -0.8**
HYT Haines Junctio 87.69 28 P **P 19 42 54.4 +0.1**
HYT IAmb IAmb 19 43 02.5
comp=Z,6.3nm,1.2s
M29M Somme Creek 87.75 26 P **P 19 42 54.4 -0.2**
L29M L29M 88.11 26 P **P 19 42 56.0 -0.3**
L29M IAmb IAmb 19 42 59.1
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 88.30 324 P **P 19 42 56.4 -0.9**
comp=Z,0.5nm,0.6s,baz=109,slow=7.5,SNR=4.7
BVAR LR LR 20 23 25.1
comp=Z,28nm,19.7s,baz=81,slow=36
comp=Z,0.5nm,0.6s
C27K Jago River 88.32 19 P **P 19 42 57.2 +0.1**
C27K IAmb IAmb 19 42 59.6
comp=Z,2.7nm,0.8s
K29M Barlow Dome 88.59 25 P **P 19 42 58.9 +0.3**
K29M IAmb IAmb 19 43 30.5
comp=Z,4.2nm,1.1s
WHY Whitehorse 88.88 29 P **P 19 42 59.6 -0.4**
WHY IAmb IAmb 19 43 13.1
comp=Z,4.3nm,1.1s
G31M Satah River 90.76 23 P **P 19 43 08.6 +0.1**
G31M IAmb IAmb 19 43 43.3
comp=Z,3.9nm,1.1s
YBH Yreka Blue Hor 93.01 49 LR LR 20 19 35.9
comp=Z,52nm,19.4s,baz=275,slow=32
NVAR Mina Array Bea 96.12 52 LR LR 20 20 21.1
comp=Z,43nm,19.9s,baz=333,slow=31
CCAC Calif City Air 96.15 55 P **P 19 43 33.1 -1.0**
NEW Newport 97.39 42 LR LR 20 23 39.6
comp=Z,26nm,18.1s,baz=210,slow=33
YKA Yellowknife Ar 98.68 28 P **P 19 43 43.3 -1.5**
comp=Z,0.1nm,0.5s,baz=265,slow=5.5,SNR=2.5
YKA PKKPbc **PKKPbc 20 00 13.5 -2.4**
comp=Z,0.2nm,0.5s,baz=88,slow=2.1,SNR=3.7
NOA NORSAR Array B 117.11 338 PKP **PKPdf 19 48 48.6 -1.9**
comp=Z,0.9nm,0.8s,baz=44,slow=1.8,SNR=3.3
PLCA Paso Flores 120.65 146 PKP **PKiKP 19 48 59.0 +0.9**
comp=Z,1.0nm,0.5s,baz=323,slow=18,SNR=3.1
RONA Rosalia, Austr 122.51 324 *e*PKP **PKPdf 19 49 00.7 -0.6**
comp=Z,0.2nm,0.2s
CONA Conrad Observa 122.65 324 *e*PKP **PKPdf 19 49 00.9 -0.7**
comp=Z,0.2nm,0.2s
GERES GERESS Array B 123.39 326 PKP **PKPdf 19 49 03.1 +0.1**
comp=Z,2.0nm,0.6s,baz=69,slow=1.3,SNR=17
SADO Sadowa 123.45 39 PKP **PKPdf 19 49 02.7 -0.4**
comp=Z,3.6nm,0.8s,baz=336,slow=10.0,SNR=1.7
MOA Molln 123.61 325 *e*PKP **PKPdf 19 49 02.8 -0.5**
comp=Z,0.2nm,0.2s
SOKA Soboth 123.77 323 *e*PKP **PKPdf 19 49 03.3 -0.5**
comp=Z,0.2nm,0.2s
OBKA Obir 124.14 323 *e*PKP **PKPdf 19 49 03.8 -0.7**
comp=Z,0.6nm,0.4s
KBA Koelnbreinsper 124.55 325 *i* PKP **PKPdf 19 49 05.1 -0.3**
comp=Z,0.7nm,0.4s
LESA Schwarzleotal 124.74 325 *e*PKP **PKPdf 19 49 05.3 -0.4**
comp=Z,2.1nm,0.5s
ABTA Abfaltersbach 125.20 325 *e*PKP **PKPdf 19 49 06.2 -0.3**
comp=Z,1.2nm,0.5s
WTTA Wattenberg 125.42 325 *e*PKP **PKPdf 19 49 07.4 +0.4**
comp=Z,2.3nm,0.5s
MOTA Mossalm 125.67 326 *i* PKP **PKPdf 19 49 07.5 0.0**
comp=Z,0.5nm,0.3s
FETA Feichten 126.06 326 *i* PKP **PKPdf 19 49 08.7 +0.4**
comp=Z,1.9nm,0.6s
DAVA Damuels 126.38 326 *e*PKP **PKPdf 19 49 08.4 -0.5**
comp=Z,2.1nm,0.5s
EKA Eskdalemuir Ar 126.42 341 PKP **PKPdf 19 49 08.8 +0.4**
comp=Z,0.9nm,0.5s,baz=27,slow=2.0,SNR=4.6
KEST Kesra 132.91 314 PKP **PKPdf 19 49 22.1 +0.6**
comp=Z,1.2nm,0.7s,baz=54,slow=6.8,SNR=1.9
LPAZ La Paz 136.89 122 PKP **PKPdf 19 49 31.9 +1.7**
comp=Z,2.1nm,0.7s,baz=185,slow=3.6,SNR=6.7
ROSC El Rosal 136.91 90 PKP **PKiKP 19 49 31.9 +0.1**
comp=Z,7.2nm,0.4s,baz=47,slow=15,SNR=1.6
CPUP Villa Florida 138.61 143 PKP **PKiKP 19 49 34.6 +0.2**
comp=Z,0.8nm,0.4s,baz=36,slow=4.0,SNR=2.8
BAUV El Baul 143.26 84 PKPdf PKPab 19 49 37.2 +0.4
PTLB Pontes e Lacer 144.66 128 **PKPab 19 49 43.0 +1.0**
VILB Vilhena 145.19 124 **PKPbc 19 49 43.6 -0.4**
TORD Torodi Ar. Bea 147.09 284 **PKPdf 19 49 44.9 -2.7**
TORD PKPbc **PKPbc 19 49 47.8 -1.9**
TORD Torodi Ar. Bea 147.09 284 PKPbc **PKPbc 19 49 49.8 +0.1**
comp=Z,55nm,0.4s,baz=39,slow=3.7,SNR=1.5
GDSD La Dsirade Is 149.03 69 PKPbc **PKPbc 19 49 55.0 +0.2**
BOAV Boa Vista 150.34 97 **PKPdf 19 49 53.9 +1.0**
BOAV PKPab **PKPbc 19 49 58.8 +0.7**
BDFB Brasilia 152.34 143 PKP **PKPdf 19 49 56.8 +0.8**
comp=Z,1.4nm,0.5s,baz=162,slow=8.2,SNR=3.7
BDFB PKPbc **PKPbc 19 50 03.6 +0.9**
comp=Z,3.8nm,0.5s,baz=225,slow=2.9,SNR=5.8
DBIC Dimbokro 153.99 272 PKPbc **PKPbc 19 50 06.7 +0.3**
comp=Z,2.7nm,0.5s,baz=61,slow=1.9,SNR=4.7

*NEIC **02** 19:32:41.7±0.7, 19°.19N±0°.08×155°.44W±0°.08, h25km±20km, Error ellipse: s-maj=15.3km s-min=4.1km az=140.0*

HVO 02 19:32:43.0±0.7, 19°.2N±0°.2×155°.4W±0°.3, h20km±10km, Md2.5/4, ML2.1/18(NEIC), Error ellipse: s-maj=53.5km s-min=6.0km az=125.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.15**	**235**	Pg	Pb	19 32 46.7	-1.4
HLP	**Hilina Pali**	**0.16**	**42**	Pg	Pb	19 32 47.0	-1.2
HLP				IAML		19 32 50.7	
	comp=N,288nm,0.8s						
HLP				IAML		19 32 53.2	
	comp=E,429nm,1.1s						
KHU	**Kahuku**	**0.20**	**290**	Pg	Pb	19 32 47.1	-1.5
KHU				IAML		19 32 53.0	
	comp=E,330nm,2.2s						
UWE	**Uwekahuna**	**0.27**	**27**	Pg	Pb	19 32 48.7	-0.6
HATHI	**Halema'uma'u T**	**0.29**	**32**	Pg	Pb	19 32 48.0	-1.6
HATHI				IAML		19 32 54.9	
	comp=N,303nm,1.0s						
SBLHI	**Steaming Bluff**	**0.29**	**30**		Pb	19 32 48.7	-0.8
MLH	**Mauna Loa**	**0.32**	**6**		Pb	19 32 49.3	-0.8
MLH				IAML		19 32 57.2	
	comp=E,170nm,3.0s						
STCH	**Steam Cracks**	**0.35**	**54**	Pg	Pb	19 32 48.7	-1.8
STCH				IAML		19 32 55.8	
	comp=E,204nm,3.3s						
HMH	**Humu'ula Sheep**	**0.43**	**352**		Pb	19 32 51.0	-0.9
HMH	**Humu'ula Sheep**	**0.43**	**352**	IAML		19 33 01.4	
	comp=N,193nm,1.8s						
HMH				IAML		19 33 04.2	
	comp=E,204nm,0.6s						

*NEIC **02** 19:35:46.3±1.8, 43°.97N±0°.05×105°.40W±0°.10, h0km±1km, ML2.9/32, Error ellipse: s-maj=11.9km s-min=8.3km az=104.0*
*IDC **02** 19:35:47.1±1.9, 44°.00N×105°.47W, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=56.4km s-min=9.8km az=148.0*

ISC 02 19:35:47.5±1.3, 43°.98N±0°.06×105°.32W±0°.08, h0km, n25, σ0°.91/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.59**	**214**		**Pn**	**19 36 17.0**	**-0.1**
K22A				IAML		19 36 43.7	
	153nm,0.3s						
LAO	**LASA Array**	**2.78**	**347**	Pn	**Pn**	**19 36 34.5**	**+1.1**
LAO				IAML		19 37 19.6	
	81nm,4.1s						
LAO				IAML		19 37 35.9	
	67nm,4.0s						
RLMT	**Red Lodge**	**3.04**	**293**	Pn	**Pn**	**19 36 37.6**	**+0.5**
PD31	**Pinedale Array**	**3.32**	**250**		**Pn**	**19 36 41.3**	**+0.4**
PDAR	**Pinedale Array**	**3.32**	**250**		**Pn**	**19 36 40.9**	**0.0**
PDAR	**Pinedale Array**	**3.32**	**250**	Pn	**Pn**	**19 36 42.2**	**+1.3**
	0.8nm,0.3s,baz=63,slow=17,SNR=8.3						
PDAR				Pg	**Pb**	**19 36 48.4**	**+0.9**
	5.7nm,0.3s,baz=58,slow=17,SNR=27						
PDAR				Lg	Lg	19 37 28.7	
	6.7nm,0.3s,baz=65,slow=36,SNR=7.3						
	1.1nm,0.3s						
YNE	**Yellowstone No**	**3.51**	**289**	Pn	**Pn**	**19 36 42.7**	**-0.9**
YMP	**Mirror Lake Pl**	**3.55**	**284**	Pn	**Pn**	**19 36 44.6**	**+0.4**
YMP				IAML		19 38 12.0	
	comp=E,22nm,4.3s						
YMP				IAML		19 38 52.5	
	comp=N,24nm,4.5s						
GCMT	**Greycliff**	**3.58**	**302**	Pn	**Pn**	**19 36 45.5**	**+1.0**
H17A	**Grant Village**	**3.80**	**278**	Pn	**Pn**	**19 36 46.2**	**-1.4**
H17A				IAML		19 38 47.3	
	comp=E,14nm,4.2s						
LOHW	**Long Hollow**	**3.84**	**266**	Pn	**Pn**	**19 36 46.7**	**-1.4**
LOHW				IAML		19 38 18.6	
	comp=E,17nm,5.0s						
LOHW				IAML		19 38 52.5	
	comp=E,19nm,4.7s						
OGNE	**Ogallala**	**3.89**	**140**	Pn	**Pn**	**19 36 49.2**	**+0.6**
MOOW	**Moose Ponds**	**3.93**	**269**	Pn	**Pn**	**19 36 49.2**	**-0.2**
FXWY	**Fox Creek**	**4.14**	**267**	Pn	**Pn**	**19 36 51.4**	**-0.9**
FXWY				IAML		19 38 33.9	
	comp=E,11nm,3.5s						
FXWY				IAML		19 38 34.8	
	comp=E,11nm,4.7s						
ISCO	**Idaho Springs**	**4.18**	**183**	Pn	**Pn**	**19 36 53.4**	**+0.5**
ISCO				IAML		19 38 29.6	
	comp=E,10.0nm,4.7s						
ISCO				IAML		19 39 10.3	
	comp=E,12nm,4.8s						
YHL	**Hebgen Lake**	**4.29**	**284**		**Pn**	**19 36 53.6**	**-0.7**
YHL				IAML		19 38 28.1	
	comp=N,24nm,3.6s						
YHL				IAML		19 38 28.6	
	comp=E,17nm,3.6s						
O20A	**White River Ci**	**4.41**	**211**	Pn	**Pn**	**19 36 55.0**	**-0.9**
BOZ	**Bozeman (W)**	**4.77**	**292**	Pn	**Pn**	**19 37 00.4**	**-0.5**
BOZ				IAML		19 38 26.7	
	comp=E,14nm,5.0s						
BOZ				IAML		19 39 31.8	
	comp=E,11nm,4.6s						
EGMT	**Eagleton**	**5.09**	**324**	Pn	**Pn**	**19 37 04.9**	**-0.3**
HWUT	**Hardware Ranch**	**5.17**	**245**	Pn	**Pn**	**19 37 06.7**	**+0.4**
LRM	**Limekiln Ridge**	**5.39**	**292**	Pn	**Pn**	**19 37 08.8**	**-0.6**
P18A	**Preston Nutter**	**5.70**	**222**	Pn	**Pn**	**19 37 12.3**	**-1.4**
LYMT	**Lyon Mountain**	**5.74**	**304**	Pn	**Pn**	**19 37 14.5**	**+0.3**
I10CA	**LAC DU BONNET**	**8.88**	**42**	I	I	20 30 00.0	
	comp=E,0.1nm,1.5s,baz=224,slow=326,SNR=5.8						
ULM	**Lac du Bonnet**	**8.98**	**42**	Pn	**Pn**	**19 37 56.8**	**-1.6**
	comp=E,0.4nm,0.3s,baz=231,slow=13,SNR=2.6						
ULM				Lg		19 40 27.4	
	comp=E,0.2nm,0.3s,baz=143,slow=18,SNR=1.9						
	comp=E,1.0nm,0.4s						

*IDC **02** 19:36:06.2±1.1, 6°.31S×149°.16E, h0km, mb3.6/6, mbtmp3.8/8, ML4.4/1, Error ellipse: s-maj=43.5km s-min=20.5km az=109.0*

ISC 02 19:36:13.8±1.1, 6°.4S±0°.1×149°.0E±0°.3, h53km, n9, σ0°.57/12, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.55**	**212**	Pn	**Pn**	**19 37 06.3**	**-0.1**
	137nm,1.0s,baz=57,slow=9.6,SNR=22						
PMG				Sn	**Sn**	**19 37 47.7**	**+0.5**
	19nm,0.3s,baz=305,slow=18,SNR=15						
WRA	**Warramunga Arr**	**19.65**	**225**	P	**P**	**19 40 37.5**	**-0.8**
	1.1nm,0.3s,baz=52,slow=11,SNR=21						
WRA				PcP	**PcP**	**19 44 56.9**	**+0.6**
	0.6nm,0.7s,baz=51,slow=2.0,SNR=2.8						
	3.8nm,0.4s						
ASAR	**Alice Springs**	**22.54**	**219**	P	**P**	**19 41 08.7**	**-0.8**
	2.3nm,0.8s,baz=58,slow=9.5,SNR=12						
ASAR				PcP	**PcP**	**19 45 02.3**	**+0.5**
	0.6nm,0.9s,baz=48,slow=2.7,SNR=2.8						
	2.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**55.22**	**298**	P	**P**	**19 45 42.5**	**+0.7**
	0.2nm,0.3s,baz=110,slow=8.2,SNR=1.4						
	0.2nm,0.3s						
SONM	**Songino Array**	**65.72**	**330**	P	**P**	**19 46 52.7**	**-0.4**
	0.2nm,0.4s,baz=141,slow=5.5,SNR=2.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**79.08**	**320**	P	**P**	**19 48 12.4**	**-0.2**
	0.3nm,0.8s,baz=93,slow=9.1,SNR=2.6						
	0.3nm,0.8s						
QSPA	**South Pole Qui**	**83.60**	**180**	P	**P**	**19 48 36.4**	**+0.1**
	1.2nm,0.6s,baz=295,slow=2.0,SNR=6.8						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**85.02**	**23**	P	**P**	**19 48 43.3**	**0.0**
	0.6nm,1.0s,baz=258,slow=4.8,SNR=4.3						
	0.6nm,1.0s						
GERES	**GERESS Array B**	**123.35**	**326**	PKP	**PKPdf**	**19 55 05.0**	**-0.1**
	0.1nm,0.3s,baz=164,slow=1.7,SNR=4.2						

TXNET 02 19:38:51.2, 31°.2N±0°.5×103°.2W±0°.6, h1km, ML2.2/7, 4D, Error ellipse: s-maj=0.9km s-min=0.7km az=68.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB04	**Verhalen**	**0.02**	**285**	⇓P	Pg	19 38 52.0	+0.3
TPB04				S	Sg	19 38 52.6	+0.4
TPB16	**Coyonosa**	**0.06**	**187**	⇓P	Pg	19 38 52.9	+0.5
TPB16				S	Sg	19 38 54.0	+0.9
TPB16	**Coyonosa**	**0.06**	**187**	⇓P	Pg	19 38 52.9	+0.5

TPB16				S	Sg	19 38 54.0	+0.9
TPB03	**Saragosa**	**0.25**	**247**	P	Pg	19 38 56.9	+0.9
TPB03				S	Sg	19 39 00.5	+1.2
TPB05	**Hovey Rd**	**0.27**	**195**	P	Pb	19 38 57.7	-1.2
TPB05				S	Sg	19 39 01.9	+2.1
PCOS	**Crockett Middl**	**0.32**	**315**	S	Sb	19 39 03.7	-1.9
PCOS	**Crockett Middl**	**0.32**	**315**	S	Sb	19 39 03.6	-2.0
TPB08	**Permian Basin**	**0.41**	**135**	S	Sb	19 39 06.5	-1.6
MNHN	**Monahans**	**0.44**	**69**	P	Pg	19 39 00.7	+1.0
MNHN				S	Sb	19 39 07.9	-1.2
TPB10	**Southeast of T**	**0.45**	**283**	P	Pb	19 39 01.4	-0.6
TPB10				S	Sb	19 39 08.1	-1.2
TPB06	**Permian Basin**	**0.47**	**3**	P	Pb	19 39 01.3	-1.0
TPB06				S	Sb	19 39 08.4	-1.3
TPB01	**Permian Basin**	**0.52**	**243**	⇓P	Pg	19 39 01.2	+0.1
TPB01				S	Sg	19 39 08.7	+0.8
TPB07	**Mentone**	**0.54**	**318**	S	Sb	19 39 10.4	-1.4
PECS	**Pecos**	**0.57**	**290**	P	Pg	19 39 02.2	+0.1
PECS				S	Sg	19 39 10.3	+0.9
ALPN	**Alpine**	**0.87**	**203**	S	Sg	19 39 19.6	+0.3
ODSA	**Odessa**	**1.11**	**32**	P	Pg	19 39 12.6	+0.2
ODSA				S	Sb	19 39 28.3	0.0
HTMS	**Hat Mesa**	**1.33**	**346**	S	Sn	19 39 35.9	+0.4
VHRN	**Van Horn**	**1.55**	**256**	P	Pn	19 39 19.6	-0.5
VHRN				S	Sn	19 39 40.5	-0.4
SAND	**Sanderson**	**1.56**	**141**	P	Pg	19 39 21.4	+0.3
SAND				S	Sg	19 39 43.4	+2.1
OZNA	**Ozona**	**1.83**	**98**	P	Pb	19 39 25.5	-0.1
OZNA				S	Sg	19 39 50.6	+0.4
TX31	**Lajitas Ar. Si**	**1.88**	**191**	P	Pn	19 39 25.5	+0.9
TX31				S	Sg	19 39 51.4	-0.2
MNTX	**Cornudas Mount**	**1.90**	**286**	P	Pn	19 39 25.1	+0.3
MNTX				S	Sg	19 39 52.3	0.0
SGCY	**Sterling City**	**1.95**	**67**	P	Pn	19 39 26.5	+0.9
SGCY				S	Sg	19 39 53.5	-0.4

*IDC **02** 19:53:41.0±1.4, 3°.08N×126°.53E, h0^{km}, mb3.7/6, mbtmp3.7/6, MS3.0/1, Error ellipse: s-maj=104.2km s-min=17.7km az=68.0*
*DJA **02** 19:53:44.4±0.4, 3°.N±3°×12°.7E±°, h10^{km}, M3.8/7, mb4.2/1, MLv3.6/7*

ISC 02 19:53:46.8±1.4, 3°.4N±0°.1×126°.9E±0°.2, h50^{km}, n9, σ1§55/10, mb3.7/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.38**	**284**	P	**Pn**	**19 54 08.5**	**-1.2**
SGSI				S	**Sn**	**19 54 28.6**	**+1.8**
TNTI	**Ternate**	**2.62**	**169**	P	**Pn**	**19 54 27.0**	**+0.3**
TNTI				S	**Sn**	**19 54 58.9**	**+1.7**
FITZ	**Fitzroy Crossi**	**21.35**	**183**	P	**P**	**19 58 28.6**	**-1.4**
	2.1nm,0.8s,baz=354,slow=8.9,SNR=9.3						
	2.1nm,0.8s						
WRA	**Warramunga Arr**	**24.29**	**163**	P	**P**	**19 58 58.3**	**-1.4**
	1.0nm,0.5s,baz=338,slow=10,SNR=16						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**27.72**	**166**	P	**P**	**19 59 29.6**	**-1.1**
	0.3nm,0.7s,baz=352,slow=7.1,SNR=5.4						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.18**	**301**	LR	LR	20 13 07.8	
	comp=Z,24nm,18.2s,baz=125,slow=38						
STKA	**Stephens Creek**	**37.73**	**159**	P	**P**	**20 00 57.3**	**-0.7**
	3.0nm,0.9s,baz=334,slow=7.7,SNR=8.0						
	3.0nm,0.9s						
MKAR	**Makanchi Array**	**57.94**	**325**	P	**P**	**20 03 35.6**	**+1.5**
	0.5nm,0.6s,baz=123,slow=7.6,SNR=8.3						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**62.12**	**327**	P	**P**	**20 04 03.7**	**+1.0**
	0.8nm,0.7s,baz=124,slow=6.4,SNR=10						
	0.8nm,0.7s						

IDC 02 19:58:16.0±36.0, 18°.08S×176°.81W, h0^{km}, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=687.1km s-min=170.2km az=86.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.88**	**242**	P	P	20 05 51.7	-0.1
	1.8nm,0.9s,baz=46,slow=0.1,SNR=3.1						
	1.8nm,0.9s						
WRA	**Warramunga Arr**	**46.09**	**259**	P	P	20 06 42.0	-0.3
	0.4nm,0.3s,baz=95,slow=8.3,SNR=6.8						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**46.21**	**254**	P	P	20 06 43.2	0.0
	1.7nm,0.7s,baz=90,slow=7.9,SNR=27						
	1.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**54.50**	**260**	P	P	20 07 45.8	-0.2
	1.0nm,0.5s,baz=286,slow=7.4,SNR=1.7						
	1.0nm,0.5s						

*SOF **02** 20:04:12.9, 41°.57N±0°.01×24°.03E, h20^{km}±2^{km}, MD2.7/10*
*SKO **02** 20:04:14.7, 41°.61N×24°.02E, h0^{km}, ML2.7*
*BEO **02** 20:04:14.2±0.4, 41°.54N×24°.02E, h16^{km}±2^{km}, ML2.8/15*
*THE **02** 20:04:15.1, 41°.52N×24°.01E, h12^{km}, ML2.5/9, Error ellipse: s-maj=1.4km s-min=0.6km az=188.0*
*ATH **02** 20:04:15.9, 41°.46N×24°.05E, h17^{km}±6^{km}, ML2.6/13, Manual Solution by A.Plessa First location: 2019/04/02 20:05:23, This location: 2019/04/02 21:58:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 3 km*

ISC 02 20:04:13.8±0.9, 41°.58N±0°.01×24°.04E±0°.02, h13^{km}±7^{km}, n99, σ1§21/148, 29C-12D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomishta**	**0.22**	**261**	⇓*i*Pg	**Pg**	**20 04 18.6**	**+0.1**
MMB				Sg	**Sg**	**20 04 21.3**	**-0.5**
MMB	**Musomishta**	**0.22**	**261**	⇓*i*Pg	**Pg**	**20 04 18.7**	**+0.1**
MMB				*i* Sg	**Sg**	**20 04 22.3**	**+0.5**
RZN	**Rozhen**	**0.54**	**78**	Pg	**Pb**	**20 04 24.6**	**-0.7**
RZN				*e*Sg	**Sb**	**20 04 31.6**	**-1.4**
SRS	**Serrai**	**0.57**	**216**	P	**Pg**	**20 04 25.2**	**+0.2**
SRS				S	**Sg**	**20 04 32.9**	**+0.4**
	990nm,0.2s						
SRS	**Serrai**	**0.57**	**216**	*i* Pg	**Pg**	**20 04 25.3**	**+0.4**
SRS				*i* Sg	**Sg**	**20 04 32.8**	**+0.2**
SRS	**Serrai**	**0.57**	**216**	*e*Pg	**Pg**	**20 04 24.9**	**-0.1**
SRS				*e*Sg	**Sg**	**20 04 32.1**	**-0.4**
SRS	**Serrai**	**0.57**	**216**	P	**Pg**	**20 04 25.2**	**+0.2**
SRS				S	**Sg**	**20 04 32.7**	**+0.2**
KAVA	**Kavala**	**0.69**	**148**	P	**Pb**	**20 04 27.4**	**-0.2**
KAVA				S	**Sb**	**20 04 37.4**	**+0.4**
	398nm,0.1s						
KAVA	**Kavala**	**0.69**	**148**	P	**Pb**	**20 04 27.4**	**-0.2**
KAVA				S	**Sg**	**20 04 35.6**	**-0.5**
KVLA	**Kavala**	**0.69**	**158**	P	**Pb**	**20 04 27.9**	**+0.1**
KVLA				S	**Sg**	**20 04 35.5**	**-0.9**
KKB	**Krupnik**	**0.73**	**291**	*i* Pg	**Pg**	**20 04 27.6**	**-0.3**
KKB				Sg	**Sg**	**20 04 37.1**	**-0.5**
KKB	**Krupnik**	**0.73**	**291**	*i* Pg	**Pg**	**20 04 27.7**	**-0.3**
KKB				*i* Sg	**Sg**	**20 04 37.1**	**-0.5**
KOKK	**Kokkinochori,**	**0.76**	**182**	P	**Pg**	**20 04 28.9**	**+0.3**
KOKK				S	**Sg**	**20 04 38.9**	**+0.3**
KOKK	**Kokkinochori,**	**0.76**	**182**	P	**Pg**	**20 04 28.9**	**+0.3**
KOKK				S	**Sg**	**20 04 38.4**	**-0.1**
PLD	**Plovdiv**	**0.78**	**43**	⇑*i*Pg	**Pb**	**20 04 28.5**	**-0.7**
PLD				Sg	**Sb**	**20 04 39.6**	**-0.1**
PLD	**Plovdiv**	**0.78**	**43**	*e*Pg	**Pg**	**20 04 28.2**	**-0.6**
PLD				*e*Sg	**Sb**	**20 04 39.2**	**-0.5**
NGRA	**Nigrita**	**0.79**	**211**	P	**Pg**	**20 04 29.2**	**+0.2**
SOH	**Sokhos**	**0.92**	**214**	P	**Pg**	**20 04 31.3**	**-0.2**
SOH				S	**Sg**	**20 04 43.2**	**-0.3**
	590nm,0.3s						
PGB	**Panagyurishte**	**0.94**	**6**	Pg	**Pb**	**20 04 31.7**	**-0.3**
PGB				Sg	**Sb**	**20 04 44.7**	**+0.3**
KNT	**Kendrikon**	**0.95**	**244**	P	**Pg**	**20 04 32.3**	**+0.1**
KNT				S	**Sg**	**20 04 45.1**	**+0.4**
	430nm,0.2s						
KNT	**Kendrikon**	**0.95**	**244**	*i* Pg	**Pg**	**20 04 32.3**	**+0.1**
KNT				*i* Sg	**Sg**	**20 04 44.9**	**+0.2**
KNT	**Kendrikon**	**0.95**	**244**	P	**Pg**	**20 04 32.5**	**+0.3**
KDZ	**Kurdzhali**	**0.98**	**87**	Pg	**Pb**	**20 04 32.8**	**+0.2**
KDZ				Sg	**Sb**	**20 04 45.7**	**+0.2**
PLNA	**Plana**	**1.00**	**333**	⇑*i*Pg	**Pb**	**20 04 33.8**	**+0.6**
PLNA				Sg	**Sb**	**20 04 47.2**	**+0.8**
THAS	**Thassos island**	**1.10**	**152**	P	**Pg**	**20 04 34.7**	**-0.3**
THAS				S	**Sb**	**20 04 49.6**	**+0.6**
THAS	**Thassos island**	**1.10**	**152**	P	**Pg**	**20 04 34.0**	**-1.0**
THAS				S	**Sg**	**20 04 46.6**	**-2.7**
VAY	**Valandovo**	**1.13**	**257**	*i* Pg	**Pn**	**20 04 36.4**	**+1.0**
VAY				*i* Sg	**Sg**	**20 04 51.3**	**+1.0**
VAY				*e*Lg	Lg	20 04 52.1	
	comp=N,163nm,0.7s						
VAY				*e*Lg	Lg	20 04 52.9	
	comp=E,76nm,0.3s						
VAY	**Valandovo**	**1.13**	**257**	*e*Pg	**Pg**	**20 04 35.6**	**0.0**
VTS	**Vitosha**	**1.20**	**330**	⇑*i*Pg	**Pn**	**20 04 37.2**	**+0.7**
VTS				Sg	**Sb**	**20 04 52.5**	**+0.5**
VTS	**Vitosha**	**1.20**	**330**	*e*Pg	**Pb**	**20 04 36.8**	**+0.3**
VTS				*e*Sg	**Sb**	**20 04 52.4**	**+0.5**
RDO	**Rodhopi**	**1.21**	**111**	P	**Pn**	**20 04 36.9**	**+0.5**
RDO				S	**Sn**	**20 04 53.2**	**+0.5**
	comp=E,142nm,0.2s						
RDO	**Rodhopi**	**1.21**	**111**	P	**Pn**	**20 04 37.0**	**+0.5**
RDO				S	**Sb**	**20 04 52.6**	**+0.5**
HORT	**Hortiatis**	**1.21**	**216**	P	**Pg**	**20 04 36.7**	**-0.4**
HORT				S	**Sg**	**20 04 53.0**	**+0.1**
	comp=E,248nm,0.3s						
HORT	**Hortiatis**	**1.21**	**216**	P	**Pg**	**20 04 36.7**	**-0.4**
DIM	**Dimitrovgrad**	**1.24**	**67**	Pg	**Pn**	**20 04 38.2**	**+1.3**
DIM				Sg	**Sn**	**20 04 54.5**	**+1.0**
OUR	**Ouranopolis**	**1.25**	**182**	P	**Pn**	**20 04 37.2**	**+0.3**
OUR				S	**Sg**	**20 04 53.6**	**-0.3**
	comp=E,1μm,0.3s						
OUR	**Ouranopolis**	**1.25**	**182**	P	**Pn**	**20 04 37.2**	**+0.3**
THE	**Thessaloniki**	**1.25**	**221**	*i* Pg	**Pn**	**20 04 37.2**	**+0.3**
THE				*i* Sg	**Sb**	**20 04 54.1**	**+0.9**
THE	**Thessaloniki**	**1.25**	**221**	P	**Pn**	**20 04 37.2**	**+0.3**
THE				S	**Sb**	**20 04 53.0**	**-0.2**
GRG	**Griva**	**1.38**	**244**	*i* Pg	**Pn**	**20 04 39.5**	**+0.6**
GRG				*i* Sg	**Sg**	**20 04 59.1**	**+0.8**
GRG	**Griva**	**1.38**	**244**	P	**Pn**	**20 04 40.2**	**+1.3**
BOSS	**Bosilegrad**	**1.48**	**309**	*e*Pg	**Pn**	**20 04 41.1**	**+0.9**
BOSS				*e*Sg	**Sg**	**20 05 01.8**	**+0.4**
SMTH	**Samothraki Isl**	**1.58**	**134**	P	**Pn**	**20 04 41.8**	**+0.2**
TRAN	**Tran**	**1.62**	**321**	*e*S	**Sg**	**20 05 06.5**	**+0.5**
ALN	**Alexandroupoli**	**1.66**	**114**	P	**Pb**	**20 04 43.7**	**-0.6**
ALN				S	**Sb**	**20 05 05.6**	**+0.5**
	comp=E,48nm,0.6s						
PAIG	**Paliouri**	**1.67**	**189**	P	**Pn**	**20 04 43.0**	**+0.1**
PVL	**Pavlikeni**	**1.76**	**28**	*e*P	**Pg**	**20 04 47.9**	**+0.4**
PVL				S	**Sg**	**20 05 11.5**	**+1.2**
MPEP	**Malo Peshtene**	**1.79**	**353**	S	**Sg**	**20 05 12.0**	**+0.7**
LIT	**Litokhoron**	**1.89**	**219**	*i* Pn	**Pn**	**20 04 46.7**	**+0.9**
LIT	**Litokhoron**	**1.89**	**219**	P	**Pn**	**20 04 46.4**	**+0.6**
LIA	**Limnos Island**	**1.89**	**152**	P	**Pn**	**20 04 45.8**	**-0.1**
ZAPS	**Zavoj**	**1.99**	**329**	*e*Pg	**Pg**	**20 04 51.2**	**-0.7**
ZAPS				*e*Sg	**Sg**	**20 05 19.0**	**+1.3**
BARS	**Barje**	**2.06**	**308**	*i* Pn	**Pn**	**20 04 49.2**	**+1.0**
BARS	**Barje**	**2.06**	**308**	*e*Pn	**Pn**	**20 04 48.9**	**+0.7**
KZN	**Kozani**	**2.14**	**234**	P	**Pn**	**20 04 50.8**	**+1.5**
FNA	**Florina**	**2.16**	**249**	*i* Pn	**Pn**	**20 04 51.4**	**+1.7**
FNA	**Florina**	**2.16**	**249**	*e*Sn	**Sn**	**20 05 14.3**	**-2.0**
BLKB	**Belogradchik**	**2.28**	**334**	⇓S	**Sg**	**20 05 26.5**	**-0.5**
BLKB	**Belogradchik**	**2.28**	**334**	*e*Sg	**Sg**	**20 05 26.3**	**-0.6**
ZIMR		**2.30**	**25**	⇓S	**Sg**	**20 05 29.7**	**+2.1**
XOR	**Xorichti**	**2.30**	**197**	P	**Pn**	**20 04 51.8**	**+0.2**
TYRN	**Tyrnavos**	**2.32**	**217**	P	**Pn**	**20 04 52.6**	**+0.9**
NEO	**Neokhori**	**2.35**	**196**	P	**Pn**	**20 04 52.4**	**+0.1**
THL	**Klokotos Trika**	**2.54**	**218**	P	**Pn**	**20 04 55.5**	**+0.8**
NEST	**Nestorio**	**2.54**	**244**	P	**Pn**	**20 04 56.1**	**+1.2**
ZAGS	**Zajecar**	**2.60**	**330**	*e*Sg	**Sg**	**20 05 37.2**	**-0.1**
BOVS	**Bovan**	**2.68**	**321**	*e*Pn	**Pn**	**20 04 57.2**	**+0.5**
BOVS				*e*Sn	**Sn**	**20 05 29.2**	**+0.2**
RAZG	**Razgrad**	**2.70**	**42**	⇑S	**Sg**	**20 05 41.0**	**+0.6**
SELS	**Selova**	**2.71**	**308**	*e*Pn	**Pn**	**20 04 57.6**	**+0.4**
SELS				*e*Sn	**Sn**	**20 05 29.7**	**-0.2**
PUNG	**Punghina**	**2.82**	**344**	⇑S	**Sg**	**20 05 45.0**	**+0.7**
BORS2	**Bor- Borsko je**	**2.92**	**330**	*e*Sn	**Sn**	**20 05 34.3**	**-0.6**
MAKR	**Makrakomi, Fth**	**2.95**	**210**	P	**Pn**	**20 05 01.7**	**+1.2**
SGRR	**Singureni**	**3.00**	**28**	⇑S	**Sg**	**20 05 50.6**	**+0.5**
GOCS	**Kraljevo Serbi**	**3.06**	**311**	*e*Sn	**Sn**	**20 05 38.8**	**+0.2**
SRE	**Strehaia**	**3.14**	**349**	⇑S	**Sg**	**20 05 56.4**	**+1.7**
CIOR	**Ciorogarla**	**3.17**	**25**	⇑S	**Sg**	**20 05 57.6**	**+2.0**
RMGR	**Halanga-Turnu**	**3.23**	**343**	⇓S	**Sg**	**20 05 58.5**	**+0.8**
GRUS	**Gruza**	**3.36**	**314**	*e*Pn	**Pn**	**20 05 05.9**	**-0.2**
GRUS				*e*Sn	**Sn**	**20 05 46.0**	**+0.1**
SULR		**3.50**	**27**	⇑S	**Sg**	**20 08 06.6**	**+2.6**
HERR	**Herculane**	**3.51**	**341**	⇑P	**Pn**	**20 05 03.7**	**-4.3**
HERR				⇑S	**Sg**	**20 06 05.4**	**-0.9**
ICOR	**Ion Corvin**	**3.75**	**46**	⇑S	**Sg**	**20 06 14.9**	**+0.6**
TRUS	**Trudelj**	**3.75**	**316**	*e*Pn	**Pn**	**20 05 11.2**	**-0.3**
LOT	**Lotru**	**3.87**	**357**	⇑P	**Pn**	**20 05 13.9**	**+0.7**
LOT				⇓S	**Sg**	**20 06 18.8**	**+0.7**
GZR	**Gura Zlata**	**3.92**	**347**	⇑P	Pn	20 05 06.8	-7.0
GZR				⇑S	**Sg**	**20 06 17.4**	**-2.3**
VOIR		**3.92**	**10**	⇑P	**Pn**	**20 05 13.5**	**-0.4**
VOIR				⇓S	**Sg**	**20 06 19.4**	**-0.4**
ISR	**Istrita**	**3.98**	**26**	⇑S	**Sg**	**20 06 24.2**	**+2.6**
BBLS	**Lazi&#263i**	**4.11**	**305**	*e*Sn	**Sn**	**20 06 04.0**	**-0.3**
MLR	**Muntele Rosu**	**4.15**	**19**	⇑P	**Pn**	**20 05 14.5**	**-2.5**
MLR				⇑S	**Sg**	**20 06 28.0**	**+1.0**
NEHR	**Nehoiu**	**4.18**	**22**	⇓S	**Sg**	**20 06 31.4**	**+3.4**
SURR	**Surduc**	**4.40**	**342**	⇓S	**Sg**	**20 06 32.2**	**-2.8**
BZS	**Buzias**	**4.40**	**337**	⇑P	**Pn**	**20 05 16.4**	**-3.9**
BZS				⇑S	**Sg**	**20 06 32.9**	**-2.2**
BISRR	**Bisoca**	**4.42**	**25**	⇑S	**Sg**	**20 06 35.5**	**0.0**
COVR	**Voineasa-Covas**	**4.54**	**19**	⇓P	**Pn**	**20 05 24.1**	**+1.7**
COVR				⇓S	**Sg**	**20 06 39.5**	**-0.2**
TPGR	**Topolog**	**4.58**	**43**	⇓S	**Sg**	**20 06 39.8**	**-1.0**
SPBR	**Spulber**	**4.61**	**24**	⇑S	**Sg**	**20 06 40.1**	**-1.6**
PLOR	**Plostina**	**4.67**	**23**	⇑P	**Pn**	**20 05 27.3**	**+3.2**
PLOR				⇑S	**Sg**	**20 06 44.6**	**+0.9**
VRI	**Vrincioaia**	**4.71**	**24**	⇑P	Pb	20 05 30.6	-5.6
VRI				⇑S	**Sg**	**20 06 47.9**	**+3.0**
SIRR	**Siria**	**4.99**	**341**	⇑S	**Sg**	**20 06 51.9**	**-2.1**
MARR	**Marisel-Cluj**	**5.14**	**353**	⇑S	**Sg**	**20 06 53.6**	**-5.1**

*ISN **02** 20:16:41.0±0.4, 33°.69N×45°.81E, h12^{km}±2^{km}, ML2.8*
*TEH **02** 20:16:41.3, 33°.71N×45°.82E, h10^{km}±242^{km}*

ISC 02 20:16:42.1±0.9, 33°.72N±0°.04×45°.78E±0°.05, h19^{km}, n9, σ1§38/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.41**	**16**	Pg	**Pg**	**20 16 49.5**	**-1.2**
IBDR	**Badra**	**0.62**	**168**	*e*Pg	**Pb**	**20 16 52.7**	**-1.5**
IBDR				*e*Sg	**Sb**	**20 17 01.0**	**-1.5**
IBDR				AML	AML	20 17 13.1	
	comp=E,498nm,0.4s						
IBDR				AML	AML	20 17 13.6	
	comp=N,408nm,0.5s						
IGHG	**Ghaleghazi**	**0.90**	**47**	Pg	**Pb**	**20 16 58.7**	**-0.5**
IDHR	**Dehrash**	**1.10**	**27**	Pg	**Pb**	**20 17 02.6**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.19**	**62**	Pg	**Pn**	**20 17 03.5**	**-0.4**
BHD	**Baghdad**	**1.25**	**249**	*e*Pg	**Pn**	**20 17 05.0**	**+0.5**
BHD				*e*Sg	**Sg**	**20 17 23.0**	**+0.4**
IKFM	**Kafar-mosalman**	**1.74**	**96**	Pg	**Pn**	**20 17 12.9**	**+1.7**
RAFI	**Al-Rafai**	**2.01**	**172**	*e*Pn	**Pn**	**20 17 16.2**	**+1.2**
RAFI				*e*Sn	**Sn**	**20 17 42.0**	**+2.4**
IKRK	**Kirkuk**	**2.06**	**325**	*e*Pn	**Pb**	**20 17 17.7**	**-1.1**
IKRK				*e*Sn	**Sb**	**20 17 45.0**	**+1.0**

KRSC 02 20:18:13.2±2.0, 50°.51N×160°.01E, h44^{km}±37^{km}, MI3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.78**	**318**	*e*P	Pn	20 18 43.8	+2.4
KDTR				*e*S	Sn	20 19 05.4	+2.5
RUS	**Russkaya**	**2.14**	**335**	*e*P	Pn	20 18 49.0	+2.6
RUS				*e*S	Sn	20 19 14.2	+2.5
PAU	**Pauzhetka**	**2.24**	**297**	*e*S	Sn	20 19 17.2	+3.1
GRL	**Gorelyy**	**2.38**	**330**	*e*P	Pn	20 18 52.9	+3.1
GRL				*e*S	Sn	20 19 22.4	+4.6
SKR	**Severo-Kuril's**	**2.49**	**276**	*e*P	Pn	20 18 53.0	+1.9
SKR				*e*S	Sn	20 19 21.2	+1.0
SPN	**Mys Shipunski**	**2.59**	**0**	*e*S	Sn	20 19 25.3	+2.5
KRMR	**Karymshinskiy**	**2.60**	**334**	*e*P	Pn	20 18 55.7	+3.0
KRMR				*e*S	Sn	20 19 27.1	+4.0
DALK	**Dalny**	**2.65**	**343**	*e*P	Pn	20 18 56.3	+3.0
DALK				*e*S	Sn	20 19 26.5	+2.5
PET	**Petropavlovsk**	**2.66**	**342**	*e*S	Sn	20 19 27.2	+2.9
NLC	**Nalytchevo**	**2.70**	**351**	*e*S	Sn	20 19 27.5	+2.1
UGLR	**Uglovaya**	**2.80**	**345**	*e*S	Sn	20 19 31.9	+3.7
SDLR	**Sedlovina**	**2.86**	**346**	*e*P	Pn	20 19 00.2	+3.9
AVH	**Avacha**	**2.87**	**345**	*e*P	Pn	20 19 00.2	+3.8
KOK	**Koryaka**	**2.92**	**344**	*e*P	Pn	20 19 00.8	+3.6
KOK				*e*S	Sn	20 19 35.2	+4.3
KRX	**Arik**	**2.98**	**344**	*e*P	Pn	20 19 01.3	+3.3
KRX				*e*S	Sn	20 19 37.1	+4.6
APC	**Apacha**	**3.00**	**325**	*e*P	Pn	20 19 02.2	+4.0
APC				*e*S	Sn	20 19 39.3	+6.4
GNL	**Ganaly**	**3.44**	**339**	*e*P	Pn	20 19 08.5	+4.2
GNL				*e*S	Sn	20 19 49.7	+5.9
TUMD	**Tumrok D**	**4.71**	**3**	*e*P	Pn	20 19 25.2	+3.5
TUMD				*e*S	Sn	20 20 16.9	+2.0
KMNR	**Kamenistaya**	**5.26**	**1**	*e*P	Pn	20 19 35.1	+5.8

*HEL **02** 20:25:26.1±0.2, 67°.64N×33°.86E, h0^{km}, ML1.4, Suspected explosion*

KOLA 02 20:25:25.9, 67°.62N×33°.88E, h0^{km}, ML1.5, Error ellipse: s-maj=3.8km s-min=2.1km az=130.0, Khibiny, mines Rasvumchorr, Central, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.19**	**254**	P	Pg	20 25 29.2	-0.3
APA0	**Apatity Array**	**0.34**	**268**	P	Pg	20 25 31.8	-0.6
APA0				S	Sg	20 25 36.4	-0.4
LVZ	**Lovozero**	**0.40**	**46**	S	Sg	20 25 38.5	-0.3
LVZ	**Lovozero**	**0.40**	**46**	PG	Pg	20 25 33.4	-0.2
KVDA	**Kovda**	**1.01**	**203**	S	Sg	20 25 56.9	-1.5
VRF	**Varrio**	**1.64**	**276**	PG	Pn	20 25 55.4	-0.5
	baz=89						
VRF				MSG		20 26 14.8	
	comp=Z,2.8nm,0.2s						
VRF				SG	Sn	20 26 16.1	-1.5
TERR	**Teriberka**	**1.65**	**15**	S	Sn	20 26 16.3	-1.6
OLKF	**Oulanka, Finla**	**2.19**	**236**	PG	Pb	20 26 05.6	-0.8
OLKF				MSG		20 26 31.1	
	comp=Z,1.2nm,0.2s						
OLKF				SG	Sb	20 26 33.8	-0.3
PRVG	**Vayda Guba**	**2.22**	**345**	P	Pb	20 26 06.2	-0.6
PRVG				S	Sb	20 26 34.0	-0.9
KU6	**Riekki**	**2.25**	**226**	MSG		20 26 33.0	
	comp=Z,1.2nm,0.2s						
KU6				SB	Sb	20 26 34.7	-1.0
RAJF	**Raja-Jooseppi**	**2.26**	**295**	PB	Pn	20 26 04.9	+0.5
RAJF				SB	Sn	20 26 33.9	+0.9
MSF	**Maaselka**	**2.58**	**230**	PG	Pb	20 26 12.4	-0.5
MSF				SB	Sb	20 26 44.6	-0.4
VADS	**Vadso**	**3.00**	**329**	P	Pn	20 26 13.6	-1.0
VADS				S	Sn	20 26 49.4	-1.7
RANF	**Ranua**	**3.24**	**243**	SB	Sb	20 27 03.4	-0.6
KEV	**Kevo**	**3.30**	**314**	PN	Pn	20 26 18.8	+0.1
KEV				SN	Sn	20 26 58.4	-0.1
ARA0	**ARCESS Array S**	**3.62**	**306**	PN	Pn	20 26 22.6	-0.5
ARCES	**ARCESS Array B**	**3.62**	**306**	P	Pn	20 26 22.4	-0.8
ARCES				S	Sn	20 27 04.5	-2.1
PAJU	**Pajala**	**4.21**	**267**	SN	Sn	20 27 21.1	0.0

*BJI **02** 20:29:08.1, 41°.90N×142°.64E, h77^{km}, mB4.8/7, mb4.6/34*
*MOS **02** 20:29:08.8±1.1, 42°.00N×142°.52E, h70^{km}, mb4.9/27, Error ellipse: s-maj=6.3km s-min=5.1km az=103.1*
*NEIC **02** 20:29:09.4±1.3, 41°.97N±0°.04×142°.57E±0°.09, h67^{km}±7^{km}, mb4.6/70, Mwr4.5/12, Error ellipse: s-maj=9.9km s-min=5.5km az=109.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.78; $M_{\theta\theta}$-1.36; $M_{\phi\phi}$-3.42; $M_{r\theta}$1.46; $M_{\theta\phi}$-3.08

JAR Ashorobuto 1.62 33 A A 20 29 36.4
comp=N,5.0nm,2.0s,comp=E,4.0nm,3.5s
JYM2 Yakumo 2 1.64 277 ⇓ *i P* **Pn 20 29 35.9 -0.4**
JYM2 Yakumo 2 1.64 277 A A 20 29 35.9
comp=N,4.0nm,1.0s,comp=E,4.0nm,0.9s
JSR Shiriuchi 1.66 256 A A 20 29 37.0
comp=N,12nm,0.8s,comp=E,8.0nm,0.8s
JANG Nango 1.75 207 A A 20 29 38.8
comp=N,2.0nm,2.3s,comp=E,4.0nm,1.8s
JSI2 Shiura 2 1.84 242 A A 20 29 39.7
comp=N,9.0nm,1.4s,comp=E,9.0nm,0.8s
JKEN Kujiedanarisaw 1.85 201 A A 20 29 40.2
comp=N,4.0nm,0.2s,comp=E,6.0nm,3.3s
JAK Akkeshi 1.90 56 A A 20 29 40.5
comp=N,4.0nm,2.1s,comp=E,3.0nm,3.2s
JHR Hokuryu 1.90 341 A A 20 29 40.1
comp=N,13nm,1.4s,comp=E,22nm,1.4s
JKK2 Kamakawa 2 1.94 4 A A 20 29 40.7
comp=N,6.0nm,2.3s,comp=E,4.0nm,4.5s
AKK Akkeshi 2.00 57 *e*P **Pn 20 29 41.0 -0.1**
JHHS Hirosakihyakuz 2.10 233 A A 20 29 43.5
comp=N,9.0nm,2.0s,comp=E,9.0nm,2.4s
ASAJ Asahikawa 2.17 1 P **Pn 20 29 44.0 +0.4**
comp=E,120nm,0.3s,baz=211,slow=10,SNR=348
ASAJ S **Sn 20 30 10.1 +0.7**
comp=E,743nm,0.7s,baz=78,slow=25,SNR=22
JKA Kamikawa-asahi 2.17 1 Pn **Pn 20 29 43.8 +0.2**
JKA Sn **Sn 20 30 09.1 -0.4**
JKA Kamikawa-asahi 2.17 1 *e*P **Pn 20 29 44.0 +0.5**
JTKR Abashiri--Toko 2.26 25 A A 20 29 45.3
comp=N,2.0nm,2.6s,comp=E,2.0nm,1.7s
JIW Iwasaki 2.35 236 A A 20 29 46.9
comp=N,3.0nm,1.7s,comp=E,3.0nm,4.3s
JSS Shosan 2.51 348 A A 20 29 48.7
comp=N,5.0nm,0.8s,comp=E,6.0nm,1.7s
NMR Nemuro--Hokkai 2.74 57 *e*PN **Pn 20 29 50.8 -0.3**
NMR *i* S **Sn 20 30 21.8 -1.2**
NMR Nemuro--Hokkai 2.74 57 *e*P **Pn 20 29 50.9 -0.2**
NMR *i* S **Sn 20 30 22.2 -0.8**
RUSJ Misakicho 2.92 41 *e*PN **Pn 20 29 55.4 +1.7**
RUSJ *i* S **Sn 20 30 31.0 +3.4**
YUK Yuzh-Kuril'sk 3.20 48 *e*PN **Pn 20 29 58.4 +1.0**
YUK *e*S **Sn 20 30 35.4 +1.1**
YUK pmax pmax
comp=Z,285nm,0.3s
YUK pmax pmax
comp=N,55nm,0.2s
YUK pmax pmax
comp=E,136nm,0.2s
YUK smax smax
comp=E,619nm,0.6s
YUK smax smax
comp=N,362nm,0.3s
YUK Yuzh-Kuril'sk 3.20 48 *e*P **Pn 20 29 58.4 +1.0**
YUK AMB AMB 20 29 58.6
comp=N,150nm,0.5s
YUK *e*S **Sn 20 30 34.3 0.0**
YUK A A 20 30 35.3
comp=N,420nm,0.3s
YUK A A 20 30 35.3
comp=N,310nm,0.3s
SHO Shikotan 3.68 57 *e*PN **Pn 20 30 04.3 +0.3**
SHO *e*S **Sn 20 30 44.2 -1.9**
SHO pmax pmax
comp=Z,90nm,0.3s
SHO pmax pmax
comp=N,53nm,0.2s
SHO pmax pmax
comp=E,55nm,0.2s
SHO smax smax
comp=N,124nm,0.2s
SHO smax smax
comp=E,282nm,0.2s
SHO Shikotan 3.68 57 *e*P **Pn 20 30 04.3 +0.3**
SHO AMB AMB 20 30 05.3
comp=E,50nm,0.2s
SHO *e*S **Sn 20 30 45.0 -1.1**
SHO A A 20 30 49.2
comp=E,250nm,0.3s
SHO A A 20 30 49.2
comp=E,180nm,0.3s
JMM Marumori 4.29 199 **Pn 20 30 13.2 +0.8**
YSS Yuzhno-Sakhali 5.01 2 **Pn 20 30 21.4 -0.8**
YSS Yuzhno-Sakhali 5.01 2 *ce*PN **Pn 20 30 24.1 +1.9**
YSS *e*S **Sn 20 31 19.4 +0.6**
YSS pmax pmax
comp=Z,100nm,3.0s
YSS pmax pmax
comp=Z,40nm,0.6s
YSS smax smax
comp=N,40nm,0.8s
YSS smax smax
comp=E,30nm,0.6s
YSS MLR MLR
comp=Z,300nm,12.0s
YSS MLR MLR
comp=N,300nm,16.0s
YSS MLR MLR
comp=E,200nm,14.0s
YSS Yuzhno-Sakhali 5.01 2 *e*P **Pn 20 30 23.0 +0.8**
KUR Kuril'sk 5.07 48 *e*PN **Pn 20 30 25.0 +2.1**
KUR *e*S **Sn 20 31 22.1 +2.1**
KUR pmax pmax
comp=Z,94nm,0.8s
KUR smax smax
comp=N,80nm,0.3s
KUR smax smax
comp=E,52nm,0.4s
KUR Kuril'sk 5.07 48 *e*P **Pn 20 30 24.2 +1.3**
KUR AMB AMB 20 30 29.2
comp=E,130nm,0.7s
KUR *e*S **Sn 20 31 20.1 +0.1**
KUR A A 20 31 32.3
comp=E,110nm,0.4s
KUR A A 20 31 32.3
comp=E,120nm,0.4s
JSD Sado 5.11 222 Pn **Pn 20 30 24.3 +0.8**
TEY Ternei 5.33 308 ⇑ *e*PN **Pn 20 30 25.3 -1.2**
TEY pmax pmax
comp=E,30nm,0.8s
TEY pmax pmax
comp=N,20nm,0.7s
TEY pmax pmax
comp=Z,40nm,0.6s
TEY Ternei 5.33 308 *e*P **Pn 20 30 25.3 -1.2**
MJB9 Matsu-Tunnel 6.36 214 **Pn 20 30 42.9 +2.2**
MAJO Matsushiro 6.36 214 **Pn 20 30 42.5 +1.7**
MAJO Matsushiro 6.36 214 *de*PN **Pn 20 30 44.5 +3.8**
MJAR Matsushiro Arr 6.36 213 P **Pn 20 30 41.5 +0.7**
comp=Z,2.8nm,0.5s,baz=37,slow=12,SNR=16
JGF Kuroka 7.52 214 Pn **Pn 20 30 58.7 +2.0**
INU Inuyama 7.88 215 Pn **Pn 20 31 04.6 +3.1**
VLA Vladivostok 7.97 282 ⇑ *e*PN **Pn 20 31 06.8 +4.1**
USA0B Ussuriysk Arra 8.06 290 Pn **Pn 20 31 03.3 -0.7**
USA0B Ussuriysk Arra 8.06 290 *ce*PN **Pn 20 31 05.2 +1.3**
USRK Ussuriysk Ar. 8.06 290 Pn **Pn 20 31 03.7 -0.2**
USRK Ussuriysk Ar. 8.06 290 P **Pn 20 31 02.1 -1.8**
comp=Z,6.7nm,0.6s,baz=89,slow=14,SNR=23
USRK LR LR 20 34 12.6
comp=Z,205nm,19.7s,baz=161,slow=38
USRK Ussuriysk Ar. 8.06 290 PN **Pn 20 31 03.7 -0.2**
MSHR Mys Shultsa 8.48 278 *ce*PN **Pn 20 31 11.1 +1.4**
MSHR pmax pmax
comp=Z,44nm,1.3s
PSTR Posyet 8.75 279 *de*PN **Pn 20 31 15.4 +2.2**
PSTR Posyet 8.75 279 *e*P **Pn 20 31 15.4 +2.2**
TYV Tymovskoe 8.93 0 *e*PN **Pn 20 31 17.6 +2.0**
TYV *e*S **Sn 20 32 58.6 +4.1**
TYV pmax pmax
comp=Z,10.0nm,1.1s
TYV pmax pmax
comp=Z,900nm,2.6s
TYV smax smax
comp=N,100nm,3.5s
TYV smax smax
comp=E,100nm,3.5s
TYV smax smax
comp=N,1.0nm,1.6s
TYV smax smax
comp=E,5.0nm,1.6s
TYV Tymovskoe 8.93 0 *e*P **Pn 20 31 17.2 +1.6**
MDJ Mudanjiang 9.83 290 Pn **Pn 20 31 28.2 +0.1**
KLR Kul'dur 10.51 318 P **Pn 20 31 36.0 -1.2**
comp=E,7.8nm,1.0s,baz=123,slow=15,SNR=20
KLR LR LR 20 35 44.7
comp=E,254nm,22.0s,baz=170,slow=38

KLR Kul'dur 10.51 318 *de*PN **Pn 20 31 39.2 +2.0**
KLR pmax pmax
comp=Z,19nm,1.7s
KLR Kul'dur 10.51 318 *e*P **Pn 20 31 39.2 +2.0**
JMN Monobe 10.69 223 Pn **Pn 20 31 41.3 +1.4**
NKL Nikolayevsk 11.29 354 *e*P **Pn 20 31 50.9 +3.1**
BNX BinXian 11.59 294 ⇑⇑ **Pn 20 31 52.6 +0.6**
BNX pmax pmax
comp=Z,10.0nm,0.9s
KSRS Korea Array 12.13 253 P **Pn 20 32 00.0 +0.5**
comp=Z,3.0nm,0.8s,baz=64,slow=14,SNR=15
KSRS S **Sn 20 34 18.5 +5.6**
comp=Z,6.9nm,0.8s,baz=65,slow=24,SNR=6.7
KS19 Wonju Array Si 12.15 253 **Pn 20 32 01.1 +1.3**
KSAR Wonju Array Be 12.16 253 Pn **Pn 20 32 00.8 +0.9**
KSAR Wonju Array Be 12.16 253 PN **Pn 20 32 00.8 +0.9**
KSAR Wonju Array Be 12.16 253 *e*P **Pn 20 32 00.8 +0.9**
CN2 Changchun 12.70 284 *e*P **Pn 20 32 08.7 +1.6**
CN2 *e*S **Sn 20 34 30.6 +4.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,6.0s
JNU Nakatsue 12.78 230 Pn **Pn 20 32 08.0 -0.4**
JNU Nakatsue 12.78 230 P **Pn 20 32 08.1 -0.2**
comp=Z,8.8nm,1.0s,baz=70,slow=21,SNR=2.0
JNU LR LR 20 36 29.0
comp=Z,151nm,19.8s,baz=46,slow=34
TJN Taejon 13.03 250 Pn **Pn 20 32 11.9 +0.2**
TJN Taejon 13.03 250 PN **Pn 20 32 11.9 +0.2**
HEH HeiHe 13.38 314 *e*P **Pn 20 32 16.8 +0.5**
PEA0B Petropavlovsk- 15.11 37 Pn **Pn 20 32 36.5 -2.4**
PEA0B IAmb IAmb 20 33 00.0
comp=Z,40nm,1.4s
PEA0B Petropavlovsk- 15.11 37 P **Pn 20 32 36.5 -2.4**
PEA0B pmax pmax
comp=Z,40nm,1.4s
PETK Petropavlovsk- 15.11 37 Pn **Pn 20 32 37.5 -1.4**
PETK Petropavlovsk- 15.11 37 P **Pn 20 32 39.4 +0.5**
comp=Z,2.8nm,0.9s,baz=193,slow=7.1,SNR=4.1
PETK LR LR 20 39 36.2
comp=Z,56nm,19.2s,baz=216,slow=42
ZEA Zeya 15.61 324 *e*P **Pn 20 32 45.3 0.0**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA MLR MLR
comp=E,100nm,14.0s
ZEA MLR MLR
comp=N,100nm,15.0s
ZEA MLR MLR
comp=Z,100nm,19.0s
ZEA Zeya 15.61 324 *e*P **Pn 20 32 45.3 0.0**
DL2 Dalian 16.23 266 P **Pn 20 32 54.0 +0.8**
DL2 S **S 20 35 57.6 -4.0**
DL2 pmax pmax
comp=Z,24nm,1.2s
DL2 pmax pmax
comp=Z,260nm,5.3s
HIA Hailar 17.53 302 P **Pn 20 33 06.6 -2.7**
HIA Hailar 17.53 302 P **Pn 20 33 06.6 -2.7**
HIA pmax pmax
comp=Z,6.0nm,0.8s
MA2 Magadan 18.38 13 P **P 20 33 15.7 -3.1**
MA2 Magadan 18.38 13 P **P 20 33 17.7 -1.0**
comp=Z,1.6nm,0.3s,baz=192,slow=19,SNR=1.8
JOW Kunigami 19.09 222 **P 20 33 24.9 -1.9**
JOW IAmb IAmb 20 34 05.3
comp=Z,47nm,1.4s
JOW Kunigami 19.09 222 P **P 20 33 26.1 -0.7**
comp=Z,3.8nm,0.5s,baz=61,slow=19,SNR=1.5
JOW LR LR 20 41 01.2
comp=Z,110nm,21.6s,baz=218,slow=37
BJT Baijiatuau 20.00 273 P **P 20 33 33.7 -2.8**
BJT Baijiatuau 20.00 273 P **P 20 33 33.7 -2.8**
BJT pmax pmax
comp=Z,13nm,1.0s
TIA Tai'an 20.52 262 P **P 20 33 41.2 -1.1**
TIA pmax pmax
comp=Z,21nm,0.9s
YAK Yakutsk 21.55 343 P **P 20 33 49.5 -3.5**
YAK IAmb IAmb 20 34 12.3
comp=Z,64nm,1.4s
YAK Yakutsk 21.55 343 P **P 20 33 51.5 -1.5**
comp=Z,7.7nm,0.6s,baz=328,slow=6.0,SNR=4.9
comp=Z,7.7nm,0.6s
YAK Yakutsk 21.55 343 *e*P **P 20 33 51.8 -1.2**
YAK *e*S **S 20 37 46.4 -1.5**
YAK *e**SS Sn 20 37 54.6 -5.3
YAK *e*SS **SnSn 20 38 21.2 +5.0**
YAK pmax pmax
comp=Z,6.0nm,0.8s
YAK pmax pmax
comp=Z,90nm,1.8s
YAK pmax pmax
comp=N,86nm,1.6s
YAK pmax pmax
comp=E,19nm,1.3s
YAK smax smax
comp=E,34nm,1.6s
YAK smax smax
comp=N,17nm,1.3s
YAK Yakutsk 21.55 343 *e*P **P 20 33 51.8 -1.2**
SEY Seymchan 21.81 12 P **P 20 33 54.3 -1.5**
comp=N,1.6nm,0.4s,baz=184,slow=13,SNR=7.7
comp=N,1.6nm,0.4s
SEY Seymchan 21.81 12 ⇓ *e*P **P 20 33 53.8 -2.0**
SEY pmax pmax
comp=Z,2.0nm,0.4s
SEY Seymchan 21.81 12 *e*P **P 20 33 53.8 -2.0**
ULN Ulaanbaatar 25.68 296 P **P 20 34 32.7 -0.6**
ULN Ulaanbaatar 25.68 296 *de*P **P 20 34 33.8 +0.5**
ULN pmax pmax
comp=Z,8.0nm,1.3s
ULN Ulaanbaatar 25.68 296 *e*P **P 20 34 33.8 +0.5**
SONM Songino Array 26.12 295 P **P 20 34 36.3 -0.9**
SONM Songino Array 26.12 295 P **P 20 34 37.3 +0.1**
comp=Z,6.3nm,0.9s,baz=93,slow=8.4,SNR=22
comp=Z,6.3nm,0.9s
ZAK Zakamensk 28.21 301 *e*P **P 20 34 54.7 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
GUMO Guam 28.32 175 LR LR 20 44 55.5
comp=Z,44nm,21.0s,baz=354,slow=33
ENH Enshi 28.98 257 P **P 20 35 02.1 -0.6**
MOY Mondy 29.70 303 *e*P **P 20 35 09.2 +0.1**
MOY pmax pmax
comp=Z,14nm,1.9s
MOY Mondy 29.70 303 *e*P **P 20 35 09.2 +0.1**
H11N2 WAKE ISLAND Hy 30.25 130 T T 21 06 58.6
baz=323,slow=76
H11N1 WAKE ISLAND Hy 30.26 130 T T 21 07 03.4
baz=323,slow=76
H11N3 WAKE ISLAND Hy 30.27 130 T T 21 06 58.4
baz=323,slow=76
TIXI Tiksi 30.55 352 LR LR 20 47 34.7
comp=Z,68nm,21.4s,baz=202,slow=36
H11S1 WAKE ISLAND Hy 31.11 131 T T 21 07 53.5
baz=325
H11S3 WAKE ISLAND Hy 31.11 131 T T 21 08 02.6
baz=325
H11S2 WAKE ISLAND Hy 31.13 131 T T 21 07 59.2
baz=325
GTA Gaotai 32.28 280 *e*P **P 20 35 32.7 +0.8**
GTA pmax pmax
comp=Z,2.0nm,0.8s
GOMU GeErMu 37.13 277 P **P 20 36 14.8 +0.8**
GOMU pmax pmax
comp=Z,8.0nm,1.0s
C16K Lisburne Hills 37.94 29 P **P 20 36 16.1 -3.9**
SLVN Son La 38.37 250 P **P 20 36 25.3 +1.0**
SLVN IAmb IAmb 20 36 28.7
comp=Z,4.0nm,0.9s
N15K Kwethluk River 38.93 42 P **P 20 36 26.9 -1.5**
N15K IAmb IAmb 20 37 04.5
comp=Z,9.7nm,0.8s
F17K Baldwin Pennin 39.05 32 P **P 20 36 27.5 -1.8**
F17K IAmb IAmb 20 37 06.6
comp=Z,9.9nm,1.4s
NRIK Noril'sk 39.25 333 P **P 20 36 29.9 -1.0**
comp=Z,2.5nm,0.5s,baz=162,slow=5.3,SNR=2.4
NRIK LR LR 20 54 00.8
comp=Z,102nm,19.9s,baz=110,slow=38

comp=Z,2.5nm,0.5s
NRIK Noril'sk 39.25 333 P **P 20 36 30.0 -1.0**
ZAA0 Zalesovo Array 39.43 308 P **P 20 36 31.9 -0.8**
ZAA0 IAmb IAmb 20 36 34.0
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 39.43 308 P **P 20 36 32.2 -0.4**
ZALV Zalesovo Beam 39.43 308 P **P 20 36 32.9 +0.2**
comp=Z,11nm,0.8s,baz=86,slow=7.6,SNR=39
ZALV LR LR 20 54 20.8
comp=Z,58nm,19.3s,baz=81,slow=38
comp=Z,11nm,0.8s
M17K Holitna River 40.25 40 P **P 20 36 38.7 -0.8**
M17K IAmb IAmb 20 36 58.2
comp=Z,15nm,1.4s
D19K Kuna River 40.60 29 P **P 20 36 41.3 -0.9**
L18K Granite Mounta 40.62 39 P **P 20 36 41.7 -0.8**
L18K IAmb IAmb 20 37 00.4
comp=Z,9.7nm,1.4s
E19K Redstone River 40.77 31 P **P 20 36 43.3 -0.4**
H19K Roundabout Mou 40.88 34 P **P 20 36 43.7 -0.8**
D20K Etivluk River 41.17 29 P **P 20 36 46.4 -0.6**
D20K IAmb IAmb 20 36 59.6
comp=Z,7.1nm,1.3s
B20K Meade River 41.20 27 P **P 20 36 46.6 -0.5**
B20K IAmb IAmb 20 37 10.8
comp=Z,11nm,1.4s
CRAI Chiangrai 41.59 252 P **P 20 36 51.3 +0.4**
CRAI IAmb IAmb 20 36 54.6
comp=Z,6.7nm,0.8s
J20K Nowinta River 41.80 36 P **P 20 36 51.3 -0.8**
B21K Ikpikpuk River 42.01 28 P **P 20 36 52.7 -1.0**
Q19K Cape Douglas, 42.25 44 P **P 20 36 54.6 -1.3**
Q19K IAmb IAmb 20 37 17.0
comp=Z,20nm,1.4s
MK31 Makanchi Array 42.44 298 P **P 20 36 57.2 -0.4**
MK31 IAmb IAmb 20 36 58.9
comp=Z,10nm,1.0s
MK31 Makanchi Array 42.44 298 P **P 20 36 57.2 -0.4**
MK31 pmax pmax
comp=Z,10.0nm,1.0s
MKAR Makanchi Array 42.44 298 P **P 20 36 57.0 -0.6**
MKAR Makanchi Array 42.44 298 P **P 20 36 57.8 +0.2**
comp=Z,8.4nm,0.8s,baz=81,slow=9.1,SNR=69
MKAR LR LR 20 55 34.4
comp=Z,63nm,18.5s,baz=144,slow=37
comp=Z,8.4nm,0.8s
MKAR Makanchi Array 42.44 298 *i* P **P 20 36 57.7 +0.1**
MKAR pmax pmax
comp=Z,9.0nm,0.9s
MAKZ Makanchi 42.64 298 P **P 20 36 59.0 -0.2**
MAKZ IAmb IAmb 20 37 01.2
comp=Z,16nm,1.1s
MAKZ Makanchi 42.64 298 P **P 20 36 59.0 -0.2**
MAKZ pmax pmax
comp=Z,16nm,1.1s
LSA Lhasa 42.85 271 P **P 20 37 03.4 +1.7**
LSA pmax pmax
comp=Z,6.0nm,1.1s
E22K Anaktuvuk Pass 42.88 30 P **P 20 37 01.1 +0.1**
KDAK Kodiak Island 42.94 45 LR LR 20 55 33.9
comp=Z,41nm,20.8s,baz=90,slow=37
CHTO Chiang Mai 43.53 252 P **P 20 37 05.7 -0.9**
CHTO IAmb IAmb 20 37 13.6
comp=Z,6.6nm,0.7s
CHTO Chiang Mai 43.53 252 P **P 20 37 05.7 -0.9**
CHTO pmax pmax
comp=Z,7.0nm,0.7s
KURK Kurchatov 43.75 304 P **P 20 37 07.4 -0.6**
KURK Kurchatov 43.75 304 *c i P* **P 20 37 08.1 +0.1**
KURK pmax pmax
comp=Z,25nm,1.3s
KURK Kurchatov 43.75 304 *e*P **P 20 37 08.2 +0.2**
CM31 Chiang Mai Arr 43.76 251 P **P 20 37 07.1 -1.4**
CM31 IAmb IAmb 20 37 17.3
comp=Z,8.2nm,1.4s
CMAR Chiang Mai Arr 43.76 251 P **P 20 37 08.4 -0.1**
CMAR Chiang Mai Arr 43.76 251 P **P 20 37 09.1 +0.5**
comp=Z,1.0nm,0.7s,baz=47,slow=6.9,SNR=8.1
CMAR LR LR 20 56 21.8
comp=Z,48nm,19.5s,baz=60,slow=37
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 43.76 251 *i* P **P 20 37 10.1 +1.6**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
KURBB Kurchatov Arra 43.83 304 P **P 20 37 08.9 +0.3**
comp=Z,12nm,0.8s,baz=78,slow=8.7,SNR=58
KURBB LR LR 20 55 03.5
comp=Z,48nm,20.8s,baz=174,slow=36
comp=Z,12nm,0.8s
D24K Happy Valley 44.02 29 P **P 20 37 09.4 -0.5**
D24K IAmb IAmb 20 37 35.5
comp=Z,9.7nm,1.4s
F24K Squaw Lake 44.36 31 P **P 20 37 12.2 -0.6**
D25K Kavik River 44.89 28 P **P 20 37 15.7 -1.3**
ILAR Eielson Array 44.92 35 P **P 20 37 18.1 +0.8**
comp=Z,1.1nm,1.0s,baz=262,slow=5.2,SNR=7.9
comp=Z,1.1nm,1.0s
SCRK Sand Creek 46.27 36 P **P 20 37 26.4 -1.6**
SCRK IAmb IAmb 20 37 55.8
comp=Z,7.8nm,1.4s
WUS Wushi 46.41 291 P **P 20 37 28.6 -0.9**
K27K Chicken 47.09 36 P **P 20 37 34.1 -0.1**
K27K IAmb IAmb 20 37 57.9
comp=Z,8.4nm,1.3s
BVAR Borovoye Array 48.04 309 P **P 20 37 42.4 +0.6**
comp=Z,5.1nm,0.4s,baz=76,slow=9.1,SNR=62
BVAR LR LR 20 58 09.8
comp=Z,56nm,18.5s,baz=71,slow=36
comp=Z,5.1nm,0.4s
BRVK Borovoye 48.09 309 P **P 20 37 42.2 0.0**
BRVK IAmb IAmb 20 37 44.0
comp=Z,8.5nm,1.1s
BRVK Borovoye 48.09 309 *ce*P **P 20 37 42.7 +0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 48.09 309 *e*P **P 20 37 42.7 +0.5**
BOOM Boomskoye usch 48.16 294 P **P 20 37 43.1 0.0**
BOOM Boomskoye usch 48.16 294 P **P 20 37 43.1 0.0**
BOOM pmax pmax
comp=Z,16nm,0.8s
TKM2 Tokmak 2 48.22 295 P **P 20 37 44.6 +1.0**
SNR=20
KBK Karagaybulak 48.77 295 P **P 20 37 48.7 +1.0**
SNR=13
USP Ospenovka 48.83 296 P **P 20 37 48.8 +0.7**
SNR=5.2
AAK Ala-Archa 49.08 295 P **P 20 37 49.4 -0.7**
AAK IAmb IAmb 20 37 51.1
comp=Z,3.6nm,0.6s
AAK Ala-Archa 49.08 295 LR LR 20 58 55.1
comp=Z,50nm,21.0s,baz=66,slow=36
AAK Ala-Archa 49.08 295 ⇑ *e*P **P 20 37 50.1 0.0**
AAK pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 49.08 295 *e*P **P 20 37 50.1 0.0**
I30M Mount Dempster 49.25 33 P **P 20 37 51.4 +0.3**
I30M IAmb IAmb 20 38 14.6
comp=Z,5.9nm,1.0s
KSH Kashi 49.36 291 P P 20 37 56.8 +4.5
KSH pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 49.55 295 P **P 20 37 53.9 +0.2**
SNR=7.3
AML Almayashu 49.83 295 P **P 20 37 57.2 +1.2**
SNR=5.8
ARSB Arslanbob 50.65 294 P **P 20 38 02.0 0.0**
ARSB Arslanbob 50.65 294 P **P 20 38 02.0 0.0**
ARSB pmax pmax
comp=Z,24nm,1.0s
KK31 Karatay Array 51.56 297 P **P 20 38 08.1 -0.6**
KK31 IAmb IAmb 20 38 09.7
comp=Z,8.2nm,1.0s
KK31 Karatay Array 51.56 297 P **P 20 38 08.1 -0.6**
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 51.56 297 P **P 20 38 08.3 -0.3**
KKAR Karatay Array 51.56 297 P **P 20 38 08.5 -0.1**
KKAR IAmb IAmb 20 38 09.7
comp=Z,8.6nm,1.0s
KKAR Karatay Array 51.56 297 P **P 20 38 08.5 -0.1**
KKAR pmax pmax
comp=Z,9.0nm,1.0s
SVE Sverdlovsk 52.13 316 *e*P **P 20 38 13.7 +1.0**
SVE pmax pmax
comp=Z,16nm,1.0s
SVE Sverdlovsk 52.13 316 *e*P **P 20 38 13.7 +1.0**

ARTI Arti 53.45 316 P **P 20 38 21.9 -0.5**
ARTI Arti 53.45 316 P **P 20 38 22.4 0.0**
comp=Z,8.2nm,0.8s,baz=62,slow=2.0,SNR=14
ARTI LR LR 21 03 20.2
comp=Z,99nm,19.5s,baz=12,slow=38
comp=Z,8.2nm,0.8s
ARTI Arti 53.45 316*c i*P **P 20 38 22.7 +0.3**
ARTI *PP **pP 20 38 41.5 +1.8**
ARTI 20 39 27.4
ARTI 20 40 22.1
ARTI S **S 20 45 52.0 +2.4**
ARTI SS **SKiKP 20 49 32.1 +0.8**
ARTI pmax pmax
comp=Z,16nm,1.1s
GAR Garm 53.52 293 P **P 20 38 22.6 -0.7**
HNR Honiara 53.55 159 LR LR 20 59 48.4
comp=Z,31nm,20.6s,baz=348,slow=34
NIL Nilore 54.05 285 P **P 20 38 26.4 -0.7**
NIL Nilore 54.05 285 P **P 20 38 26.4 -0.7**
NIL pmax pmax
comp=Z,10.0nm,0.8s
SIMJ Simiganj 54.58 293 P **P 20 38 30.6 -0.4**
ABKAR Akbulak array 55.54 308 P **P 20 38 37.3 -0.3**
ABKAR Akbulak array 55.54 308 P **P 20 38 37.1 -0.6**
ABKAR IAmb IAmb 20 38 39.3
comp=Z,11nm,1.4s
SPITS Spitsbergen Ar 55.89 348 P **P 20 38 39.8 +0.1**
comp=Z,7.0nm,0.9s,baz=69,slow=8.0,SNR=1.6
SPITS LR LR 21 04 00.9
comp=Z,39nm,20.5s,baz=3.0,slow=37
comp=Z,7.0nm,0.9s
AKTO Aktyubinsk 56.13 310 LR LR 21 04 24.5
comp=Z,70nm,18.6s,baz=140,slow=38
KBL Kabul 56.60 289 P **P 20 38 44.6 -1.1**
KBL IAmb IAmb 20 38 46.1
comp=Z,7.8nm,0.9s
KBL Kabul 56.60 289 P **P 20 38 44.6 -1.1**
KBL pmax pmax
comp=Z,8.0nm,1.0s
KIRV Kirov 56.92 321 LR LR 21 05 27.4
comp=Z,59nm,19.8s,baz=51,slow=38
KIRV Kirov 56.92 321*de*P **P 20 38 47.9 +0.6**
RES Resolute Bay 57.64 15 P **P 20 38 51.6 -0.4**
RES IAmb IAmb 20 39 08.3
comp=Z,4.5nm,1.1s
RES Resolute Bay 57.64 15 P **P 20 38 51.7 -0.4**
RES pmax pmax
comp=Z,4.0nm,1.1s
YKA Yellowknife Ar 59.15 32 P **P 20 39 03.4 +0.6**
comp=Z,0.4nm,0.8s,baz=307,slow=6.6,SNR=6.9
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 59.15 32 *i* P **P 20 39 05.3 +2.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 59.74 339 P **P 20 39 05.5 -1.2**
comp=Z,1.1nm,0.6s,baz=45,slow=7.2,SNR=7.6
ARCES LR LR 21 07 06.0
comp=Z,42nm,19.0s,baz=86,slow=38
comp=Z,1.1nm,0.6s
KLMR Klimovskoe 60.12 327 *eP* **P 20 39 08.7 -0.8**
KLMR pmax pmax
comp=Z,20nm,1.8s
WRA Warramunga Arr 62.04 189 P **P 20 39 23.4 +0.5**
comp=Z,0.9nm,0.6s,baz=5.8,slow=6.9,SNR=9.8
comp=Z,0.9nm,0.6s
PALK Pallekele 64.36 256 LR LR 21 11 28.7
comp=Z,71nm,18.1s,baz=191,slow=40
FINES FINESS Array B 64.91 332 P **P 20 39 41.5 +0.2**
comp=Z,3.9nm,0.5s,baz=52,slow=7.0,SNR=29
FINES LR LR 21 09 09.3
comp=Z,94nm,18.9s,baz=45,slow=37
comp=Z,3.9nm,0.5s
ASAR Alice Springs 65.77 189 P **P 20 39 49.0 +1.6**
comp=Z,0.5nm,0.6s,baz=2.1,slow=6.6,SNR=5.3
comp=Z,0.5nm,0.6s
KIV Kislovodsk 68.40 310 P **P 20 40 03.3 -0.8**
KIV Kislovodsk 68.40 310 ⇓P **P 20 40 05.9 +1.8**
KIV Kislovodsk 68.40 310 *eP* **P 20 40 05.2 +1.2**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV Kislovodsk 68.40 310 *eP* **P 20 40 05.3 +1.2**
KBZ Khabaz 68.42 310 P **P 20 40 05.2 +1.1**
comp=Z,6.6nm,1.0s,baz=12,slow=2.4,SNR=7.8
comp=Z,6.6nm,1.0s
KBZ Khabaz 68.42 310⇑*eP* **P 20 40 04.2 +0.2**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 68.42 310 *eP* **P 20 40 04.2 +0.2**
HFS Hagfors 69.99 335 P **P 20 40 13.8 +0.3**
comp=Z,3.1nm,0.4s,baz=40,slow=7.7,SNR=43
HFS LR LR 21 13 37.3
comp=Z,44nm,19.2s,baz=52,slow=38
comp=Z,3.1nm,0.4s
NB2 NORSAR Subarra 70.01 337 P **P 20 40 13.4 -0.3**
comp=Z,1.4nm,0.6s,baz=35,slow=6.5
NOA NORSAR Array B 70.01 337 P **P 20 40 13.7 0.0**
comp=Z,3.0nm,0.8s,baz=36,slow=6.1,SNR=11
NOA LR LR 21 14 09.2
comp=Z,24nm,21.1s,baz=270,slow=39
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 70.98 322 P **P 20 40 19.8 +0.1**
comp=Z,1.9nm,0.4s,baz=47,slow=6.0,SNR=23
AKASG LR LR 21 13 56.9
comp=Z,70nm,20.0s,baz=17,slow=38
comp=Z,1.9nm,0.4s
AKBB Malin Array Si 70.98 322 P **P 20 40 18.9 -0.8**
AKBB IAmb IAmb 20 40 20.7
comp=Z,6.1nm,0.8s
AKBB Malin Array Si 70.98 322*ce*P **P 20 40 19.6 -0.1**
KIEV Kiev 70.99 322 P **P 20 40 19.0 -0.7**
KIEV IAmb IAmb 20 40 20.7
comp=Z,5.4nm,0.8s
KIEV Kiev 70.99 322 ⇑P **P 20 40 19.8 +0.1**
KIEV Kiev 70.99 322 P **P 20 40 19.0 -0.7**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
SORM Soroca 73.18 320 ⇓P **P 20 40 33.1 +0.3**
MARD Mardin 73.71 306 P **P 20 40 36.1 -0.3**
VLDR Vladesti 74.93 319 ⇑P **P 20 40 44.4 +1.3**
BUR08 Bucovina Ar. S 75.01 322 P **P 20 40 43.5 -0.2**
BURAR Bucovina Array 75.02 322 ⇓P **P 20 40 44.8 +1.1**
GHRR 75.10 319 ⇓P **P 20 40 44.7 +0.6**
KOLS Kolonicke sedl 75.38 324 *eP* **P 20 40 47.2 +1.5**
KOLS pmax pmax
comp=Z,3.0nm,0.6s
KOLS Kolonicke sedl 75.38 324 *eP* **P 20 40 47.2 +1.5**
ONER Baraj Valea Uz 75.39 320 ⇓P **P 20 40 46.7 +0.9**
STHS Stebnicka Huta 75.46 325 *eP* **P 20 40 47.2 +1.0**
STHS Stebnicka Huta 75.46 325 *eP* **P 20 40 47.2 +1.0**
OJC Ojcow 75.47 326 *eP* **P 20 40 47.3 +1.1**
OJC Ojcow 75.47 326 P **P 20 40 45.5 -0.6**
OJC IAmb IAmb 20 40 48.1
comp=Z,8.5nm,0.9s
OJC Ojcow 75.47 326 P **P 20 40 45.5 -0.6**
OJC pmax pmax
comp=Z,9.0nm,0.9s
VRI Vrincioaia 75.57 320 ⇑P **P 20 40 48.6 +1.8**
BNN Bunyan 75.61 309 P **P 20 40 47.3 -0.1**
PLOR Plostina 75.62 320 ⇑P **P 20 40 48.8 +1.7**
PFO Pinyon Flats O 75.62 58 LR LR 21 19 23.8
comp=Z,7.8nm,18.3s,baz=176,slow=40
OZUR 75.86 320 ⇓P **P 20 40 49.9 +1.4**
MLR Muntele Rosu 76.22 320 LR LR 21 16 23.5
comp=Z,77nm,19.0s,baz=10,slow=37
BRTR Keskin Array B 76.28 311 P **P 20 40 51.5 +0.4**
comp=Z,1.8nm,0.8s,baz=56,slow=4.6,SNR=7.8
comp=Z,1.8nm,0.8s
BRTR Keskin Array B 76.28 311 *i* P **P 20 40 52.2 +1.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 76.50 325 *eP* **P 20 40 53.3 +1.2**
KECS pmax pmax
comp=Z,13nm,0.9s
KECS Kecovo 76.50 325 *eP* **P 20 40 53.2 +1.2**
ANTO Ankara 76.65 312 ⇓P **P 20 40 54.1 +1.0**
MARR Marisel-Cluj 76.68 322 ⇓P **P 20 40 54.5 +1.2**
VOIR 76.69 320 ⇓P **P 20 40 55.0 +1.7**
MORC Moravsky Berou 76.74 327 *eP* **P 20 40 54.1 +0.7**
PSZ Piszkesteto 77.18 324 ⇓P **P 20 40 57.2 +1.2**
VYHS Vyhne 77.19 325 *eP* **P 20 40 57.7 +1.7**
VYHS Vyhne 77.19 325 *eP* **P 20 40 57.7 +1.7**
CLL Collm 77.28 330 *i* P **P 20 40 56.8 +0.4**
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 77.28 330 *i* P **P 20 40 56.8 +0.4**
comp=Z,6.0nm,1.1s

JAVC Velka Javorina 77.40 326 *eP* **P 20 40 59.4 +2.2**
VRAC Vranov 77.49 327 *eP* **P 20 40 59.0 +1.4**
KRUC Moravsky 77.76 327 *eP* **P 20 41 00.0 +0.9**
SMOL Smolenice 77.77 326 *eP* **P 20 41 00.9 +1.7**
SMOL pmax pmax
comp=Z,4.0nm,0.9s
GZR Gura Zlata 77.80 321 ⇓P **P 20 41 01.0 +1.6**
SURR Surduc 77.83 322 ⇑P **P 20 41 00.6 +1.1**
MODS Modra-Piesok 77.94 326 *eP* **P 20 41 01.3 +1.2**
MODS pmax pmax
comp=Z,64nm,2.1s
MODS Modra-Piesok 77.94 326 *eP* **P 20 41 01.3 +1.2**
BZS Buzias 78.17 322 ⇓P **P 20 41 01.5 +0.1**
CKRC Cesky Krumlov 78.79 328 *eP* **P 20 41 04.1 -0.7**
CKRC Cesky Krumlov 78.79 328 *eP* **P 20 41 04.1 -0.7**
EKA Eskdalemuir Ar 78.80 341 P **P 20 41 05.3 +0.6**
comp=Z,0.6nm,0.5s,baz=38,slow=5.5,SNR=2.3
comp=Z,0.6nm,0.5s
KHC Kasperske Hory 78.83 329 *eP* **P 20 41 05.8 +0.8**
KHC Kasperske Hory 78.83 329⇑*eP* **P 20 41 05.2 +0.2**
KHC pmax pmax
comp=Z,19nm,2.5s
CONA Conrad Observa 78.88 327 *i* P **P 20 41 06.6 +1.2**
comp=Z,0.5nm,0.3s
RONA Rosalia, Austr 78.88 326 *i* P **P 20 41 06.5 +1.1**
comp=Z,1.5nm,0.5s
GERES GERESS Array B 79.01 328 P **P 20 41 06.4 +0.3**
comp=Z,0.5nm,0.4s,baz=35,slow=7.3,SNR=5.9
comp=Z,0.5nm,0.4s
MORH Mrgy, Hungar 79.04 324 ⇑P **P 20 41 06.5 +0.3**
MMAI Mount Meron Ar 79.85 305 P **P 20 41 12.0 +1.0**
comp=Z,0.7nm,0.4s,baz=3.8,slow=4.3,SNR=7.1
MMAI LR LR 21 20 10.3
comp=Z,30nm,20.7s,baz=252,slow=38
comp=Z,0.7nm,0.4s
OBKA Obir 80.55 327 *eP* **P 20 41 15.5 +1.0**
comp=Z,0.5nm,0.4s
LESA Schwarzleotal 80.56 328 *eP* **P 20 41 15.6 +1.1**
comp=Z,0.6nm,0.3s
KBA Koelnbreinsper 80.58 328 *eP* **P 20 41 15.5 +0.7**
comp=Z,0.6nm,0.4s
WATA Walderalm 81.07 329 *i* P **P 20 41 17.8 +0.5**
comp=Z,0.8nm,0.2s
WTTA Wattenberg 81.10 329 *eP* **P 20 41 17.6 0.0**
comp=Z,1.4nm,0.5s
MOTA Moosalm 81.24 329 *eP* **P 20 41 18.6 +0.4**
comp=Z,4.2nm,0.7s
SQTA Sankt Quirin 81.30 329 *eP* **P 20 41 19.4 +0.9**
comp=Z,0.7nm,0.4s
FETA Feichten 81.65 329 *eP* **P 20 41 21.2 +0.8**
comp=Z,0.8nm,0.6s
PDG Podgorica 81.70 321 P **P 20 41 20.3 -0.2**
PDG IAmb IAmb 20 41 22.1
comp=Z,9.6nm,0.9s
PDG Podgorica 81.70 321 ⇓P **P 20 41 21.5 +1.0**
DAVA Damuels 81.75 330 *i* P **P 20 41 21.7 +0.7**
comp=Z,2.0nm,0.5s
FUORN Ofenpass-Fuorn 82.16 329 P **P 20 41 21.5 -1.7**
FUORN IAmb IAmb 20 41 25.3
comp=Z,6.4nm,0.9s
DAVOX Davos/Dischmat 82.18 329 LR LR 21 21 16.0
comp=Z,53nm,18.4s,baz=92,slow=38
NRCA Norcia 84.12 325 P **P 20 41 32.4 -0.8**
ITM Ithomi 84.43 316 P **P 20 41 33.6 -1.1**
TIP Timpagrande 85.43 321 P **P 20 41 38.6 -1.2**
TXAR Lajitas Array 86.45 53 P **P 20 41 46.7 +1.7**
comp=Z,0.2nm,0.6s,baz=254,slow=2.3,SNR=3.4
comp=Z,0.2nm,0.6s

IDC ***02*** *20:33:48.9±1.0, 24°.29S×179°.99E, h502km±10km, mb4.0/20, mbtmp4.8/22, Error ellipse: s-maj=10.9km s-min=9.1km az=115.0*
NEIC ***02*** *20:33:48.5±1.7, 24°.3S±0°.1×179°.8W±0°.1, h505km±6km, mb4.7/112, Error ellipse: s-maj=19.3km s-min=15.9km az=98.0*
NOU ***02*** *20:33:48.9, 24°.30S×179°.75W, h519km, mb4.8/73, South of Fiji Islands*
ISC 02 20:33:48.9±0.5, 24°.36S±0°.05×179°.85W±0°.05, h512km±5km, n641, σ1s01/656, mb4.7/88, 49C-25D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.16**	**161**	P	**P**	**20 35 19.9**	**+2.1**
RIZ				S	**S**	**20 36 27.3**	**-3.2**
GLKZ	**Green Lake**	**5.18**	**161**	P	**P**	**20 35 19.7**	**+1.7**
GLKZ				S	**S**	**20 36 29.4**	**-1.4**
LKBA	**Tubou, Lakemba**	**6.18**	**9**	P	**P**	**20 35 26.9**	**-0.6**
MSVF	**Nonsavu**	**6.88**	**343**	P	**P**	**20 35 33.6**	**-1.0**
	47nm,0.4s,baz=192,slow=9.3,SNR=82						
MSVF	**Nonsavu**	**6.88**	**343**	P	**P**	**20 35 33.8**	**-0.7**
TAVE	**Taveuni**	**7.62**	**360**	P	**P**	**20 35 42.1**	**+0.3**
DGTI	**Dogotuki**	**8.03**	**357**	P	**P**	**20 35 45.9**	**-0.2**
NIUE	**Niue**	**10.62**	**62**	P	P	20 36 17.8	+4.8
NIUE	**Niue**	**10.62**	**62**	P	**P**	**20 36 11.7**	**-1.3**
NIUE	**Niue**	**10.62**	**62**	S	**S**	**20 38 10.8**	**-0.7**
NIUE	**Niue**	**10.62**	**62**	P	P	20 36 18.3	+5.3
NIUE				S	**S**	**20 38 11.1**	**-0.4**
PINNC	**Pines Island,**	**11.79**	**276**		**P**	**20 36 26.9**	**+1.8**
OUENC	**Ouen Island, N**	**12.37**	**276**	P	**P**	**20 36 32.5**	**+1.1**
ONTNC	**Ouen Toro**	**12.74**	**276**		**P**	**20 36 36.1**	**+0.8**
DZM	**Mont Dzumac**	**12.80**	**278**	P	**P**	**20 36 36.8**	**+0.8**
	51nm,0.7s,baz=97,slow=18,SNR=46						
DZM	**Mont Dzumac**	**12.80**	**278**	P	**P**	**20 36 37.7**	**+1.6**
DVP	**Devils Point**	**12.97**	**298**	P	**P**	**20 36 38.1**	**+0.4**
HAZ	**Te Kaha**	**13.50**	**188**	P	**P**	**20 36 44.0**	**+1.0**
HAZ				S	**S**	**20 39 08.0**	**+1.4**
URZ	**Urewera**	**14.09**	**190**	P	**P**	**20 36 50.1**	**+1.0**
	9.2nm,0.3s,baz=3.5,slow=2.6,SNR=20						
URZ				S	**S**	**20 39 17.5**	**-0.4**
	58nm,0.8s,baz=306,slow=24,SNR=18						
URZ	**Urewera**	**14.09**	**190**	P	**P**	**20 36 50.2**	**+1.0**
URZ	**Urewera**	**14.09**	**190**	P	**P**	**20 36 50.8**	**+1.6**
URZ				S	**S**	**20 39 19.0**	**+1.1**
MWZ	**Matawai**	**14.11**	**188**	P	**P**	**20 36 50.0**	**+0.6**
MWZ				S	**S**	**20 39 16.8**	**-1.5**
MTHZ	**Maungataniwha**	**14.71**	**190**	P	**P**	**20 36 57.9**	**+2.1**
MTHZ				S	**S**	**20 39 28.5**	**-1.4**
BKZ	**Black Stump Fm**	**15.08**	**191**	P	**P**	**20 37 01.7**	**+2.1**
BKZ	**Black Stump Fm**	**15.08**	**191**	P	**P**	**20 37 00.5**	**+0.9**
BKZ				S	**S**	**20 39 32.6**	**-4.3**
TMVZ	**Te Maari**	**15.18**	**193**	P	**P**	**20 37 02.8**	**+2.1**
TMVZ				S	**S**	**20 39 39.2**	**+0.3**
TWVZ	**Taurewa**	**15.20**	**194**	P	**P**	**20 37 02.9**	**+1.9**
OTVZ	**Oturere**	**15.24**	**193**	P	**P**	**20 37 03.0**	**+1.6**
OTVZ				S	**S**	**20 39 36.9**	**-3.1**
NGZ	**Ngauruhoe**	**15.26**	**194**	P	**P**	**20 37 03.9**	**+2.3**
SNVZ	**South Ngauruho**	**15.26**	**193**	P	**P**	**20 37 02.6**	**+0.9**
SNVZ				S	**S**	**20 39 39.7**	**-0.9**
KWHZ	**Kaweka Forest**	**15.34**	**191**	P	**P**	**20 37 04.3**	**+1.9**
KWHZ				S	**S**	**20 39 38.2**	**-3.7**
MOVZ	**Moawhango**	**15.45**	**193**	P	**P**	**20 37 04.6**	**+1.0**
MOVZ				S	**S**	**20 39 41.9**	**-2.1**
KRHZ	**Kereru**	**15.56**	**191**	P	**P**	**20 37 04.1**	**-0.6**
KRHZ				S	**S**	**20 39 41.5**	**-4.4**
KAHZ	**Kahuranaki**	**15.63**	**189**	P	**P**	**20 37 06.1**	**+0.8**
KAHZ				S	**S**	**20 39 41.5**	**-5.8**
BFZ	**Birch Farm**	**16.60**	**190**	P	**P**	**20 37 14.2**	**-1.0**
BFZ	**Birch Farm**	**16.60**	**190**	P	**P**	**20 37 13.5**	**-1.7**
BFZ				S	**S**	**20 40 01.4**	**-3.1**
MRZ	**Mangatainoka R**	**16.70**	**192**	P	**P**	**20 37 13.8**	**-2.4**
MRZ				S	**S**	**20 39 58.1**	**-8.0**
SNZO	**South Karori**	**17.50**	**194**	P	**P**	**20 37 29.9**	**0.0**
QRZ	**Quartz Range**	**17.61**	**199**	P	**P**	**20 37 25.4**	**+0.5**
QRZ	**Quartz Range**	**17.61**	**199**	P	**P**	**20 37 24.6**	**-0.4**
QRZ				S	**S**	**20 40 23.1**	**+1.9**
KHZ	**Kahutara**	**18.82**	**195**	P	**P**	**20 37 34.9**	**-1.0**
LTZ	**Lake Taylor**	**19.49**	**198**	P	**P**	**20 37 40.5**	**-1.6**
OXZ	**Oxford**	**20.06**	**197**	P	**P**	**20 37 45.8**	**-1.4**
RPZ	**Rata Peaks**	**20.70**	**199**	P	**P**	**20 37 52.4**	**-0.7**
	12nm,0.5s,baz=72,slow=6.4,SNR=12						
	12nm,0.5s						
RPZ	**Rata Peaks**	**20.70**	**199**	P	**P**	**20 37 52.8**	**-0.2**
JCZ	**Jackson Bay**	**21.75**	**203**	P	**P**	**20 38 02.4**	**-0.2**
NGOA	**Tingoa Renbel**	**22.92**	**300**	P	**P**	**20 38 14.1**	**+0.7**
TATA	**Tatamba Isabel**	**25.11**	**306**	P	**P**	**20 38 31.3**	**-1.5**
ARMA	**Armidale**	**25.99**	**250**	P	**P**	**20 38 42.3**	**+1.7**
EIDS	**Eidsvold**	**26.37**	**262**	P	**P**	**20 38 44.4**	**+0.5**
EIDS				IAmb	IAmb	20 38 45.0	
	comp=Z,18nm,0.7s						
EIDS	**Eidsvold**	**26.37**	**262**	P	**P**	**20 38 44.7**	**+0.8**

MGCD Mangrove Creek 26.86 244 P **P 20 38 50.2 +2.1**
CNB Canberra Magne 28.74 241 P **P 20 39 06.4 +1.8**
CAN Canberra 29.03 241 P **P 20 39 06.7 -0.4**
CAN IAmb IAmb 20 39 09.5
comp=Z,35nm,1.4s
CAN Canberra 29.03 241 P **P 20 39 08.4 +1.3**
CMSA Cobar Meteorol 31.17 249 P **P 20 39 26.1 +0.4**
TV1H Townsville Har 31.33 273 P **P 20 39 27.6 +0.5**
GLAD Gladstone 31.50 230 P **P 20 39 29.2 +0.9**
TOO Toolangi 32.31 238 P **P 20 39 35.5 +0.2**
QLP Quilpie 32.43 258 P **P 20 39 37.1 +0.6**
TAU Tasmania Unive 32.72 227 P **P 20 39 39.7 +1.0**
STKA Stephens Creek 34.68 249 P **P 20 39 55.9 +0.5**
STKA Stephens Creek 34.68 249 P **P 20 39 55.5 +0.2**
comp=Z,15nm,0.5s,baz=93,slow=11,SNR=102
STKA PcP **PcP 20 42 16.3 +1.2**
comp=Z,4.7nm,0.6s,baz=82,slow=1.6,SNR=4.8
STKA S **S 20 44 47.6 -1.0**
comp=Z,1.9nm,0.7s,baz=261,slow=17,SNR=3.4
comp=Z,15nm,0.5s
STKA Stephens Creek 34.68 249 P **P 20 39 55.9 +0.5**
ARPS Mount Arapiles 35.00 240 P **P 20 39 58.4 +0.4**
INKA Innaminka 35.45 256 P **P 20 40 03.5 +1.6**
COEN Coen 36.32 280 P **P 20 40 09.8 +0.5**
HTT Hallett 37.01 246 P **P 20 40 14.9 +0.1**
LCRK Leigh Creek 37.55 251 P **P 20 40 19.4 +0.2**
QIS Mount Isa 37.56 268 P **P 20 40 19.6 +0.1**
BBOO Buckleboo 39.39 247 P **P 20 40 33.7 -0.4**
BBOO Buckleboo 39.39 247 P **P 20 40 33.6 -0.5**
OOD Oodnadatta 39.92 255 P **P 20 40 39.2 +0.8**
AS01 Alice Springs 42.05 261 P **P 20 40 55.4 -0.1**
AS31 Alice Springs 42.09 261 P **P 20 40 55.6 -0.2**
ASAR Alice Springs 42.09 261 P **P 20 40 55.7 -0.2**
ASAR Alice Springs 42.09 261 P **P 20 40 55.9 0.0**
comp=Z,13nm,0.5s,baz=93,slow=6.6,SNR=174
ASAR ScP **ScP 20 45 42.9 +2.4**
comp=Z,1.2nm,0.7s,baz=104,slow=3.6,SNR=4.9
ASAR S **S 20 46 36.5 -1.7**
comp=Z,1.3nm,0.8s,baz=96,slow=15,SNR=6.2
comp=Z,13nm,0.5s
WR0 Warramunga Arr 42.32 267 P **P 20 40 57.1 -0.6**
WR0 IAmb IAmb 20 40 57.8
comp=Z,37nm,1.2s
WB2 Warramunga Arr 42.50 267 P **P 20 40 58.5 -0.6**
WRAB Tennant Creek 42.50 267 P **P 20 40 58.3 -0.8**
WB0 Warramunga Arr 42.51 267 P **P 20 40 58.5 -0.7**
WRA Warramunga Arr 42.51 267 P **P 20 40 58.4 -0.8**
comp=Z,40nm,0.5s,baz=98,slow=8.3,SNR=210
WRA PcP **PcP 20 42 40.9 +0.6**
comp=Z,2.0nm,0.3s,baz=100,slow=3.1,SNR=5.9
WRA ScP **ScP 20 45 45.8 +3.6**
comp=Z,3.6nm,0.9s,baz=102,slow=4.0,SNR=8.9
WRA S **S 20 46 41.0 -3.2**
comp=Z,4.7nm,1.0s,baz=103,slow=14,SNR=7.1
comp=Z,40nm,0.5s
FORT Forrest 46.28 250 P **P 20 41 27.4 -0.7**
FORT PcP **PcP 20 42 53.3 +0.1**
FORT Forrest 46.28 250 P **P 20 41 27.4 -0.7**
KDU Kakadu 46.46 276 P **P 20 41 28.8 -0.9**
WRKA Warakurna 46.87 258 P **P 20 41 32.5 -0.3**
MTN Manton Dam 47.62 275 P **P 20 41 37.4 -1.1**
MTN IAmb IAmb 20 41 38.2
comp=Z,16nm,0.7s
DRS Darwin Rock St 47.99 275 P **P 20 41 40.6 -0.6**
KNRA Kununurra 48.82 270 P **P 20 41 47.4 0.0**
FAKI Fak Fak 50.84 287 P **P 20 42 01.6 -0.8**
FITZ Fitzroy Crossi 50.93 266 P **P 20 42 03.0 +0.1**
FITZ Fitzroy Crossi 50.93 266 P **P 20 42 02.9 +0.1**
SBA Scott Base 53.92 183 P **P 20 42 25.5 +2.0**
VNDA Vanda 53.93 185 P **P 20 42 25.6 +2.0**
VNDA PcP **PcP 20 43 22.3 +1.4**
VNDA Vanda 53.93 185 P **P 20 42 25.5 +2.0**
comp=Z,1.7nm,0.6s,baz=359,slow=5.4,SNR=12
VNDA PcP **PcP 20 43 22.2 +1.4**
comp=Z,2.1nm,0.6s,baz=341,slow=5.2,SNR=8.3
comp=Z,1.7nm,0.6s
SOEI Soe 55.02 275 P **P 20 42 33.3 +1.0**
SOEI IAmb IAmb 20 42 49.3
comp=Z,39nm,0.8s
SOEI Soe 55.02 275 P **P 20 42 33.6 +1.3**
MEEK Meekatharra 55.11 254 P **P 20 42 32.0 -0.7**
NWAO Narrogin (SRO) 55.17 246 P **P 20 42 32.6 -0.4**
PSA00 Pilbara Seismi 55.21 260 P **P 20 42 32.7 -0.8**
PSA00 IAmb IAmb 20 42 33.2
comp=Z,12nm,0.5s
PSA00 PcP **PcP 20 43 27.0 +0.1**
PSA00 Pilbara Seismi 55.21 260 P **P 20 42 33.0 -0.4**
MBWA Marble Bar 55.42 260 P **P 20 42 34.2 -0.7**
MBWA IAmb IAmb 20 42 35.3
comp=Z,45nm,1.1s
MBWA Marble Bar 55.42 260 P **P 20 42 34.4 -0.5**
BLDU Ballidu 55.98 248 P **P 20 42 38.2 -0.5**
MUN Mundaring 56.17 247 P **P 20 42 40.0 0.0**
SANI Sanana 56.75 284 P **P 20 42 43.5 -0.7**
MORW Morawa 56.84 250 P **P 20 42 44.4 -0.3**
MORW IAmb IAmb 20 42 45.1
comp=Z,22nm,0.6s
MORW PcP **PcP 20 43 28.9 -4.2**
MORW Morawa 56.84 250 P **P 20 42 44.3 -0.3**
WSI Waingapu 58.66 273 P **P 20 42 58.5 +1.3**
WBSI Waikabubak, Su 59.50 273 P **P 20 43 03.5 +0.6**
comp=Z,47nm,1.1s
CASY Casey 59.76 206 P **P 20 43 03.8 +0.1**
GIRL Giralia 59.94 257 P **P 20 43 06.5 +0.8**
PLAI Plampang 61.28 273 P **P 20 43 14.3 -0.3**
PLAI Plampang 61.28 273 P **P 20 43 14.5 -0.1**
comp=Z,1μmcomp=Z,76nm,0.9s
TOLI2 Tolitoli 62.82 285 P **P 20 43 23.6 -1.1**
TOLI2 IAmb IAmb 20 43 26.1
comp=Z,18nm,0.7s
TOLI2 Tolitoli 62.82 285 P **P 20 43 23.6 -1.1**
JAGI Jajag, Banyuwa 64.72 272 P **P 20 43 36.1 -0.7**
GMJI Gumukmas 65.44 272 P **P 20 43 41.1 -0.2**
comp=Z,39nm,1.0s
QSPA South Pole Qui 65.72 180 P **P 20 43 44.3 +1.9**
comp=Z,11nm,0.6s,baz=9.3,slow=1.9,SNR=65
comp=Z,11nm,0.6s
GRJI Gresik 66.85 273 P **P 20 43 50.7 +0.6**
PCJI Pacitan 67.54 271 P **P 20 43 54.6 +0.2**
UGM Wanagama 68.24 271 P **P 20 43 58.5 -0.2**
KKM Kota Kinabalu 69.17 287 P **P 20 44 04.4 +0.1**
KKM Kota Kinabalu 69.17 287 P **P 20 44 04.3 -0.1**
SBUM Sibu 71.03 282 P **P 20 44 15.4 +0.1**
BBJI Bungbulang 71.04 270 P **P 20 44 14.8 -0.7**
JOW Kunigami 71.40 312 P **P 20 44 17.3 +0.1**
JOW IAmb IAmb 20 44 18.5
comp=Z,31nm,0.9s
JOW Kunigami 71.40 312 P **P 20 44 17.7 +0.6**
comp=Z,15nm,0.4s,baz=125,slow=15,SNR=12
comp=Z,15nm,0.4s
JOW Kunigami 71.40 312 P **P 20 44 17.8 +0.6**
XMIS Christmas Isla 71.70 267 P **P 20 44 19.4 +0.1**
JGF Kuroka 72.08 324 P **P 20 44 21.2 +0.2**
KSM Kuching 72.32 280 P **P 20 44 22.4 -0.4**
MJAR Matsushiro Arr 72.35 326 P **P 20 44 22.1 -0.5**
comp=Z,8.6nm,0.8s,baz=157,slow=5.7,SNR=19
comp=Z,8.6nm,0.8s
MAJO Matsushiro 72.36 326 P **P 20 44 22.4 -0.2**
MJB9 Matsu-Tunnel 72.36 326 P **P 20 44 22.7 +0.1**
JMN Monobe 72.62 321 P **P 20 44 25.0 +0.8**
CGJI Cibinong 73.16 270 P **P 20 44 26.5 -1.2**
comp=Z,920nmcomp=Z,98nm,0.7s
SSLB Suanglung 74.73 305 P **P 20 44 35.2 -1.2**
LWLI Liwa 75.28 271 P **P 20 44 39.1 -0.8**
BELA Belgrano 2 75.96 173 P **P 20 44 42.8 +0.4**
MNAI Manna 76.55 271 P **P 20 44 47.5 +0.7**
MAW Mawson 77.36 200 P **P 20 44 51.7 +1.5**
comp=Z,12nm,0.6s,baz=130,slow=5.9,SNR=10
comp=Z,12nm,0.6s
YSS Yuzhno-Sakhali 78.61 335 P **P 20 44 57.8 +0.7**
YSS IAmb IAmb 20 44 59.3
comp=Z,27nm,1.0s
KSRS Korea Array 78.69 320 P **P 20 44 58.8 +1.1**
comp=Z,5.0nm,0.7s,baz=134,slow=5.7,SNR=18
comp=Z,5.0nm,0.7s
KSAR Wonju Array Be 78.70 320 P **P 20 44 57.9 +0.1**
PETK Petropavlovsk- 79.58 346 P **P 20 45 02.2 +0.1**
comp=Z,10nm,0.6s,baz=107,slow=7.8,SNR=33
comp=Z,10nm,0.6s
NJ2 Nanjing 81.06 311 *eP* **P 20 45 12.0 +1.6**
NJ2 pmax pmax
comp=Z,29nm,0.5s
USRK Ussuriysk Ar. 81.22 327 P **P 20 45 11.9 +1.0**
comp=Z,7.4nm,0.6s,baz=153,slow=4.5,SNR=19

comp=Z,7.4nm,0.6s
SYO Syowa Base 82.59 193⇑ eP P 20 45 17.9 +0.3
ELIB Princess Elisa 82.62 187 dP P 20 45 18.1 +0.2
KULM Kulim 82.65 279 P P 20 45 19.0 +0.1
MDJ Mudanjiang 82.72 326 P P 20 45 19.1 +0.6
MDJ IAmb IAmb 20 45 20.4
comp=Z,13nm,0.8s
MDJ Mudanjiang 82.72 326 P P 20 45 19.5 +1.0
MDJ pmax pmax
comp=Z,20nm,0.9s
RPSI Rantau Prapat 83.12 276 P P 20 45 20.2 -1.1
RPSI IAmb IAmb 20 45 21.4
comp=Z,15nm,0.9s
CMB Columbia Colle 83.44 43 P P 20 45 23.3 +0.9
GSI Gunungsitoli 83.76 274 P P 20 45 24.8 +0.2
GSI Gunungsitoli 83.76 274 P P 20 45 25.0 +0.5
GSI Gunungsitoli 83.76 274 P P 20 45 25.1 +0.5
comp=Z,45nm,0.6s
TROLL Troll, Antarti 83.87 181 ⇓P P 20 45 23.6 -0.5
comp=Z,357nm,0.3s
SNAA Sanae 84.20 179 P P 20 45 25.4 -0.3
comp=Z,4.5nm,1.0s,baz=195,slow=12,SNR=12
comp=Z,4.5nm,1.0s
OHAK Old Harbor 84.29 14 P P 20 45 26.3 +0.3
baz=204
CN2 Changchun 84.34 324 eP P 20 45 27.3 +0.7
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,5.0s
R18K Karluk 84.35 13 P P 20 45 26.3 0.0
baz=203
BEKR Beckworth 84.58 42 P P 20 45 28.9 +0.7
BNX BinXian 84.61 326 ⇓P P 20 45 27.8 -0.1
BNX pmax pmax
comp=Z,14nm,1.2s
TIA Tai'an 84.65 314 P P 20 45 29.3 +1.0
TIA pmax pmax
comp=Z,31nm,0.8s
Q17K Contact Creek 84.71 12 P P 20 45 27.9 -0.3
baz=202,SNR=9.3
Q16K King Salmon 84.94 12 P P 20 45 29.1 0.0
baz=201,SNR=5.7
KDAK Kodiak Island 84.96 14 P P 20 45 29.1 -0.2
baz=205
NVAR Mina Array Bea 84.99 44 P P 20 45 31.0 +0.8
comp=Z,1.3nm,0.8s,baz=222,slow=7.8,SNR=6.2
comp=Z,1.3nm,0.8s
Q18K Katmai Hardscr 85.24 13 P P 20 45 30.5 -0.3
baz=202,SNR=11
N14K Kuskokwak Cree 85.29 9 P P 20 45 31.4 +0.5
baz=196
P17K Kvichak River 85.47 12 P P 20 45 32.1 +0.4
baz=201
M13K Dall Lake 85.54 8 P P 20 45 32.5 +0.5
baz=195
O16K Kokwok River B 85.55 11 P P 20 45 32.2 +0.2
baz=200
J04A Umpqua Nationa 85.66 38 P P 20 45 34.1 +0.8
J04A IAmb IAmb 20 45 35.5
comp=Z,9.4nm,0.8s
Q20K Shuyak Island 85.75 14 P P 20 45 33.5 +0.4
baz=205
N15K Kwethluk River 85.77 10 P P 20 45 33.7 +0.6
N15K Kwethluk River 85.77 10 P P 20 45 33.8 +0.6
baz=198
Q19K Cape Douglas, 85.78 13 P P 20 45 32.8 -0.5
Q19K Cape Douglas, 85.78 13 P P 20 45 33.2 -0.1
baz=204,SNR=5.2
P18K Big Mountain, 85.89 12 P P 20 45 32.6 -1.2
P18K IAmb IAmb 20 45 34.0
comp=Z,11nm,0.8s
P18K Big Mountain, 85.89 12 P P 20 45 33.2 -0.6
baz=202,SNR=6.2
O17K Koliganek Bris 85.89 11 P P 20 45 33.8 +0.1
baz=201
M15K Kasigluk River 86.18 9 P P 20 45 35.2 +0.1
baz=197
J05D Fort Rock, OR 86.19 39 P P 20 45 35.9 +0.1
N16K Nishlik Lake 86.27 10 P P 20 45 35.9 +0.3
baz=199
O18K Koktuh Hills 86.32 12 P P 20 45 35.1 -0.7
O18K Koktuh Hills 86.32 12 P P 20 45 35.7 -0.1
baz=202,SNR=12
L14K Kuka Creek 86.52 8 P P 20 45 37.0 +0.3
baz=196
P19K Oil Pt 86.53 13 P P 20 45 36.8 0.0
baz=204,SNR=11
PINE Pine Mountain 86.67 38 IAmb IAmb 20 45 40.5
comp=Z,16nm,1.3s
O19K Port Alsworth 86.81 12 P P 20 45 37.3 -0.7
O19K Port Alsworth 86.81 12 P P 20 45 37.6 -0.4
baz=203,SNR=5.3
ENH Enshi 86.82 305 P P 20 45 38.7 -0.2
ENH IAmb IAmb 20 45 40.7
comp=Z,18nm,0.9s
CNPM China Poot 86.84 14 P P 20 45 37.8 -0.5
CNPM IAmb IAmb 20 45 39.3
comp=Z,13nm,0.7s
K13K Kusilvak Mount 86.86 7 P P 20 45 38.2 -0.1
baz=194
LYN LuoYang 86.89 310 P P 20 45 41.5 +2.4
LYN pmax pmax
comp=Z,25nm,0.5s
HNS HongShan 86.92 314 ⇑P P 20 45 40.7 +1.6
HNS pmax pmax
comp=Z,10.0nm,0.6s
N18K Kilae Creek 86.96 12 P P 20 45 38.5 -0.3
baz=202
L15K Ungalak Mounta 87.01 9 P P 20 45 38.9 0.0
baz=197
O20K Slope Mountain 87.05 13 P P 20 45 39.1 -0.2
baz=205
BRLK Bradley Lake 87.14 14 IAmb IAmb 20 45 40.5
comp=Z,13nm,1.0s
BRSE Bradley Lake S 87.15 14 P P 20 45 39.6 -0.1
baz=206
L16K Owhat River 87.33 10 P P 20 45 40.7 +0.2
baz=198
N19K Bonanza Creek 87.34 12 P P 20 45 40.2 -0.5
baz=203
M17K Holitna River 87.36 11 P P 20 45 41.3 +0.7
baz=200
LCMT Little Creek M 87.48 47 IAmb IAmb 20 45 44.5
comp=Z,10nm,1.1s
K15K Wolf Creek Mou 87.59 8 P P 20 45 42.2 +0.5
baz=197
I07A Izee 87.67 39 IAmb IAmb 20 45 44.9
comp=Z,14nm,1.2s
HEH HeiHe 87.71 329 eP P 20 45 42.9 +0.3
HEH pmax pmax
comp=Z,8.0nm,0.8s
M18K Stony River 87.72 11 P P 20 45 42.9 +0.5
baz=202
G06A Carlson Farm, 87.74 37 P P 20 45 43.5 +0.6
SEW Seward 87.77 15 P P 20 45 42.5 0.0
baz=207
J08A Circle Bar Ran 87.82 40 IAmb IAmb 20 45 45.6
comp=Z,13nm,1.3s
SRDT SRDT 87.89 287 P P 20 45 44.5 +0.3
L17K Donlin 87.91 10 P P 20 45 43.3 +0.1
baz=200
SLKM Skilak Lake 87.95 14 P P 20 45 43.2 -0.3
GNW Green Mountain 88.03 35 P P 20 45 44.4 +0.2
GNW IAmb IAmb 20 45 46.2
comp=Z,6.4nm,0.8s
O22K Cooper Landing 88.04 14 P P 20 45 43.9 +0.1
baz=207
SPCR Spurr Chakacha 88.15 13 P P 20 45 44.6 +0.1
baz=205
L18K Granite Mounta 88.26 11 P P 20 45 45.2 +0.3
baz=201
M19K Big River Lodg 88.37 12 P P 20 45 45.3 -0.1
baz=203
PGC Sidney 88.42 34 IAmb IAmb 20 45 47.8
comp=Z,13nm,0.8s
K17K Iditarod 88.46 10 P P 20 45 46.1 +0.3
baz=200
STLK Strandline Lak 88.50 13 P P 20 45 44.3 -1.8
STLK IAmb IAmb 20 45 45.8
comp=Z,8.8nm,0.8s
L19K White Mountain 88.54 11 P P 20 45 46.3 0.0
L19K White Mountain 88.54 11 P P 20 45 46.5 +0.3
baz=203
RC01 Rabbit Creek A 88.58 14 IAmb IAmb 20 45 47.2
comp=Z,14nm,0.9s
RC01 Rabbit Creek A 88.58 14 P P 20 45 46.1 -0.2
baz=207
M20K Styx River 88.59 12 P P 20 45 46.5 0.0
baz=204
TIY Taiyuan 88.60 313 eP P 20 45 48.8 +1.6
TIY pmax pmax
comp=Z,26nm,0.5s
J16K Anvik River 88.67 9 P P 20 45 46.8 +0.1
baz=197
PWL Port Wells 88.69 15 P P 20 45 46.7 -0.2
baz=208
SUA Susitna One 88.69 14 P P 20 45 46.5 -0.6
SUA Susitna One 88.69 14 P P 20 45 46.7 -0.4
baz=206,SNR=18
G08A Pilot Rock 88.71 38 IAmb IAmb 20 45 50.0
comp=Z,9.6nm,1.2s
KAIM Kayak Island 88.86 17 P P 20 45 47.0 -0.7
baz=212
CRAG Craig 88.93 25 P P 20 45 47.8 -0.3
baz=222
J17K VABM Dome 88.99 9 P P 20 45 48.4 +0.2
baz=199
L20K Farewell, AK 88.99 12 P P 20 45 48.1 -0.2
baz=204
SKT Skwentna 89.00 13 P P 20 45 47.7 -0.6
baz=206
GLI Glacier Island 89.01 15 P P 20 45 47.8 -0.6
baz=210
EYAK Cordova Ski Ar 89.05 16 P P 20 45 48.5 0.0
baz=211
M22K Willow 89.09 14 P P 20 45 47.9 -0.8
M22K Willow 89.09 14 P P 20 45 48.4 -0.3
baz=207,SNR=5.4
KNK Knik Glacier 89.15 15 IAmb IAmb 20 45 49.9
comp=Z,8.7nm,0.8s
KNK Knik Glacier 89.15 15 P P 20 45 48.8 -0.3
baz=208
PMR Palmer 89.16 14 P P 20 45 48.9 -0.1
baz=208
I17K Unalakleet 89.23 8 P P 20 45 50.0 +0.7
baz=197
CRAI Chiangrai 89.37 292 IAmb IAmb 20 45 53.4
comp=Z,6.8nm,1.0s
V35K Ketchikan 89.40 25 P P 20 45 51.0 +0.7
baz=223
U33K Whale Pass 89.41 24 P P 20 45 51.0 +0.7
baz=222
J18K Innoko River 89.42 10 P P 20 45 50.2 0.0
J18K IAmb IAmb 20 45 51.2
comp=Z,9.4nm,0.8s
J18K Innoko River 89.42 10 P P 20 45 50.7 +0.5
baz=201
MFID Camas Ranch 89.42 41 IAmb IAmb 20 45 52.6
comp=Z,6.1nm,0.9s
KMI Kunming 89.60 298 P P 20 45 53.8 +1.5
KMI pmax pmax
comp=Z,13nm,0.8s
M23K Glacier View 89.66 15 P P 20 45 51.6 +0.2
baz=209
BMRM Bremner River 89.70 16 P P 20 45 52.3 +0.6
baz=212
XLT XiLinHaoTe 89.72 319 eP P 20 45 52.6 +0.4
XLT pmax pmax
comp=Z,12nm,0.7s
S31K Pelican 89.72 22 P P 20 45 52.2 +0.5
baz=219
WAX Waxell Ridge 89.73 17 IAmb IAmb 20 45 53.9
comp=Z,13nm,0.9s
SEY Seymchan 89.75 348 P P 20 45 52.0 +0.3
comp=Z,8.7nm,0.7s,baz=144,slow=5.9,SNR=42
comp=Z,8.7nm,0.7s
MESA MESA 89.75 18 P P 20 45 52.5 +0.4
baz=214
H16K Elim 89.76 7 P P 20 45 52.2 +0.4
baz=196
K20K Telida 89.77 11 P P 20 45 52.3 +0.4
baz=203
SCM Sheep Creek Mo 89.78 15 P P 20 45 52.1 +0.1
baz=209
CMAR Chiang Mai Arr 89.81 290 P P 20 45 53.1 0.0
CMAR Chiang Mai Arr 89.81 290 P P 20 45 55.1 +2.0
comp=Z,6.2nm,0.9s,baz=138,slow=3.2,SNR=43
comp=Z,6.2nm,0.9s
S32K Killisnoo 89.91 23 P P 20 45 52.9 +0.3
baz=220
TMUT Trail Mountain 90.06 46 IAmb IAmb 20 45 56.5
comp=Z,6.7nm,0.7s
PNL Peninsula 90.07 19 P P 20 45 53.8 +0.4
baz=216
J19K Poorman 90.09 10 P P 20 45 53.5 +0.2
baz=202
PINM Pinnacle 90.17 19 P P 20 45 54.0 +0.1
baz=216
CAST Castle Rocks 90.19 12 IAmb IAmb 20 45 53.3
comp=Z,8.5nm,0.9s
CAST Castle Rocks 90.19 12 P P 20 45 52.7 -1.1
baz=205
VRDI Verde Repeater 90.22 17 IAmb IAmb 20 45 55.4
comp=Z,8.3nm,1.1s
N25K Chitina, Valde 90.25 16 P P 20 45 54.2 -0.1
baz=212
H17K Granite Mounta 90.34 8 P P 20 45 54.3 -0.2
baz=198
HVU Hansel Valley 90.38 44 P P 20 45 55.4 0.0
G16K Koyuk River 90.48 7 P P 20 45 55.4 +0.3
baz=196
J20K Nowinta River 90.51 11 P P 20 45 55.7 +0.5
baz=203
F15K North Star Dit 90.54 6 P P 20 45 55.3 -0.1
baz=194
R32K Eaglecrest 90.55 22 P P 20 45 55.8 +0.3
baz=220
P29M Windy Craggy 90.55 20 P P 20 45 56.1 +0.5
baz=218
TXAR Lajitas Array 90.56 58 P P 20 45 58.1 +1.6
comp=Z,1.9nm,0.8s,baz=210,slow=6.4,SNR=14
comp=Z,1.9nm,0.8s
CHUM Lake Minchumin 90.57 12 P P 20 45 55.1 -0.4
baz=205
TRF Thorofare Moun 90.57 13 IAmb IAmb 20 45 55.7
comp=Z,8.2nm,0.8s
TRF Thorofare Moun 90.57 13 P P 20 45 54.9 -0.9
baz=207
O28M Mount Upton 90.74 18 P P 20 45 56.8 0.0
baz=216
H18K Honhosa River 90.76 9 P P 20 45 57.1 +0.6
baz=199
G17K Kiwalik Mounta 90.79 8 P P 20 45 56.4 -0.2
baz=197
O29M Mount Kennedy 90.83 19 P P 20 45 57.0 0.0
baz=217
RND Reindeer 90.83 13 P P 20 45 56.5 -0.4
RND IAmb IAmb 20 45 57.3
comp=Z,8.6nm,0.7s
HHC Hu-ho-hao-te 90.84 315 eP P 20 45 59.4 +1.9
HHC pmax pmax
comp=Z,10.0nm,0.8s
BSUT Blindstream Ca 91.00 45 P P 20 45 58.9 +0.2
BSUT IAmb IAmb 20 46 00.5
comp=Z,6.5nm,0.7s
PZH PanZhiHua 91.02 299 P P 20 45 59.3 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,6.1s
MCK McKinley 91.10 13 P P 20 45 58.3 +0.2
baz=208
P30M Million Dollar 91.18 20 P P 20 45 59.1 +0.6
baz=218
PAX Paxson 91.21 15 P P 20 45 58.6 0.0
baz=211
YUK8 Steele Glacier 91.28 18 P P 20 45 59.7 +0.5
baz=216
M26K Nabesna, AK 91.33 16 P P 20 45 59.8 +0.6
baz=213
H19K Roundabout Mou 91.39 10 P P 20 45 59.8 +0.6
baz=201
YUK6 Outpost Mounta 91.41 19 P P 20 46 00.2 +0.4
baz=217
G18K Tagagawik 91.42 9 P P 20 46 00.0 +0.6
baz=199
S34M Telegraph Cree 91.48 24 P P 20 46 00.2 +0.3
baz=223
YUK3 Moose Creek 91.48 18 P P 20 46 00.1 0.0
baz=215,SNR=11
HYT Haines Junctio 91.57 19 P P 20 46 00.6 +0.2
baz=218
M27K Edge Creek, AK 91.58 17 P P 20 45 59.9 -0.6
M27K IAmb IAmb 20 46 01.8
comp=Z,14nm,1.2s
M27K Edge Creek, AK 91.58 17 P P 20 46 00.6 +0.1
baz=214,SNR=6.2
H20K Anotleneega Mo 91.60 10 P P 20 46 00.6 +0.3
baz=203
F17K Baldwin Pennin 91.62 7 IAmb IAmb 20 46 01.8
comp=Z,9.8nm,0.8s
F17K Baldwin Pennin 91.62 7 P P 20 46 00.7 +0.4
baz=197
YUK4 Talbot Arm 91.64 19 P P 20 46 01.2 +0.4
baz=217
P32M Atlin 91.82 22 P P 20 46 01.9 +0.4
baz=221
Q32M Nakina River 91.84 23 P P 20 46 01.8 0.0
baz=222
K24K Donnelly Dome 91.85 14 P P 20 46 01.6 +0.1
baz=211
G19K Purcell Mounta 91.88 9 P P 20 46 02.1 +0.5
baz=201
BVCY Beaver Creek 91.90 17 P P 20 46 02.0 +0.3
baz=215
O30N Mendenhall 91.96 20 P P 20 46 02.2 +0.1
baz=219
RIDG Independent Ri 92.01 15 P P 20 46 02.3 0.0
baz=212
H21K Melozitna Rive 92.10 11 P P 20 46 02.5 -0.1
baz=204
HDA Harding Lake 92.12 14 IAmb IAmb 20 46 03.3
comp=Z,5.1nm,0.5s
HDA Harding Lake 92.12 14 P P 20 46 02.4 -0.3
baz=210
CCB Clear Creek Bu 92.15 13 P P 20 46 01.7 -1.0
CCB IAmb IAmb 20 46 02.3
comp=Z,3.7nm,0.6s
E17K Hotham Inlet 92.17 7 P P 20 46 03.1 +0.3
baz=196
L27K Beaver Creek, 92.18 16 P P 20 46 03.1 +0.1
baz=214
N30M Aishikik Lake 92.19 19 P P 20 46 03.2 +0.1
baz=218
WHY Whitehorse 92.25 20 P P 20 46 03.6 +0.1
baz=220
DLBC Dease Lake 92.26 24 P P 20 46 03.7 +0.1
baz=224
SCRK Sand Creek 92.42 15 P P 20 46 04.4 +0.2
baz=212
F19K Shaleruckik Mo 92.43 9 IAmb IAmb 20 46 04.8
comp=Z,8.4nm,1.4s
F19K Shaleruckik Mo 92.43 9 P P 20 46 03.8 -0.2
baz=200
ILAR Eielson Array 92.45 13 P P 20 46 03.2 -1.0
comp=Z,1.4nm,0.6s,baz=224,slow=5.3,SNR=21
comp=Z,1.4nm,0.6s
H22K Ishtalitna Cre 92.57 11 P P 20 46 04.3 -0.4
baz=206
M29M Somme Creek 92.58 18 P P 20 46 05.3 +0.3
baz=217
P33M Teslin, Yukon 92.58 21 P P 20 46 05.7 +0.7
baz=222
R33M Jennings River 92.61 23 P P 20 46 05.7 +0.4
baz=223
D17K Noatak River 92.63 6 P P 20 46 05.2 +0.2
baz=195
E18K Tukpahlearik C 92.63 7 IAmb IAmb 20 46 06.0
comp=Z,5.6nm,0.8s
E18K Tukpahlearik C 92.63 7 P P 20 46 05.3 +0.3
baz=197
J25K Salcha River, 92.64 14 P P 20 46 04.8 -0.4
baz=211
BILL Bilibino 92.70 355 P P 20 46 05.4 +0.2
BILL IAmb IAmb 20 46 06.4
comp=Z,6.5nm,0.9s
G21K Allakaket 92.77 10 P P 20 46 05.8 +0.2
baz=204
H23K Yukon River 92.84 12 P P 20 46 06.1 +0.1
baz=207
K27K Chicken 92.92 16 P P 20 46 06.9 +0.5
baz=214
F20K Avaraart Lake 92.92 9 P P 20 46 06.1 -0.1
baz=202
PDAR Pinedale Array 92.93 44 P P 20 46 07.5 +0.2
comp=Z,1.0nm,0.8s,baz=209,slow=3.7,SNR=9.4
comp=Z,1.0nm,0.8s
J26L Joseph Creek 92.96 15 IAmb IAmb 20 46 07.9
comp=Z,5.6nm,0.8s
J26L Joseph Creek 92.96 15 P P 20 46 07.0 +0.3
baz=213,SNR=9.2
C16K Lisburne Hills 92.98 5 P P 20 46 06.8 +0.2
baz=193
E19K Redstone River 93.09 9 IAmb IAmb 20 46 08.1
comp=Z,4.8nm,1.0s
E19K Redstone River 93.09 9 P P 20 46 07.4 +0.3
baz=200
M30M Minto, Yukon 93.16 18 P P 20 46 07.7 +0.1
M30M IAmb IAmb 20 46 08.8
comp=Z,3.3nm,0.5s
M30M Minto, Yukon 93.16 18 P P 20 46 08.0 +0.4
baz=218
L29M L29M 93.20 18 IAmb IAmb 20 46 09.2
comp=Z,4.8nm,0.7s
L29M L29M 93.20 18 P P 20 46 08.4 +0.6
baz=217,SNR=5.1
C17K DeLong Mountai 93.38 6 P P 20 46 08.2 -0.2
baz=195
G22K Bettles 93.47 11 P P 20 46 09.0 +0.2
baz=206
DAWY Dawson 93.63 17 IAmb IAmb 20 46 10.7
comp=Z,4.3nm,0.9s
DAWY Dawson 93.63 17 P P 20 46 09.9 +0.2
baz=216,SNR=5.0
I26K Coal Creek Min 93.73 15 P P 20 46 10.2 +0.2
baz=213
C18K Utukok River 93.74 7 P P 20 46 10.0 -0.1
baz=197
LZH Lanzhou 93.76 308 eP P 20 46 12.5 +1.4
LZH pP pwP 20 48 07.7 -1.2
LZH pmax pmax
comp=Z,13nm,1.0s
F22K John River 93.89 10 P P 20 46 10.9 +0.2
baz=205
FARO Faro, Yukon 93.92 20 P P 20 46 11.3 +0.3
baz=222
K29M Barlow Dome 93.95 17 IAmb IAmb 20 46 13.0
comp=Z,5.8nm,1.1s
K29M Barlow Dome 93.95 17 P P 20 46 11.8 +0.5
baz=218
D19K Kuna River 93.95 8 P P 20 46 11.6 +0.5
baz=200
COLD Coldfoot 93.98 11 P P 20 46 12.0 +0.9
baz=207
E20K Nigu River 93.98 9 P P 20 46 11.6 +0.4
baz=202
G24K Hadweenzic Riv 94.01 12 P P 20 46 11.5 +0.2
baz=209
MAYO Mayo, Yukon 94.21 18 P P 20 46 12.5 +0.2
baz=219
J29N Klondike Camp 94.25 17 P P 20 46 12.8 +0.2
baz=217
I27K Kandik River 94.34 15 P P 20 46 12.7 -0.2
baz=214
D20K Etivluk River 94.35 8 P P 20 46 12.8 0.0
baz=201
B18K Kokolik River 94.37 6 P P 20 46 13.4 +0.5
baz=196
E22K Anaktuvuk Pass 94.52 10 P P 20 46 13.7 0.0
baz=205
I28M Miner Creek 94.61 16 P P 20 46 13.4 -0.8
I28M Miner Creek 94.61 16 P P 20 46 14.2 0.0
baz=216
F24K Squaw Lake 94.65 12 P P 20 46 14.5 +0.2
baz=209
E23K Chandalar 94.82 11 P P 20 46 15.3 +0.2
baz=207
J30M Hart River 94.85 17 P P 20 46 15.0 -0.3
baz=219
MMPY Sheldon Lake, 94.87 20 P P 20 46 15.4 0.0
baz=223
H27K Steamboat Moun 94.88 15 P P 20 46 15.9 +0.6
baz=214
I29M Ogilvie Camp, 94.95 16 P P 20 46 15.6 -0.1
baz=217
G26K Porcupine Rive 94.98 13 P P 20 46 16.0 +0.3
baz=212
C21K Knifeblade Rid 95.01 9 P P 20 46 16.7 +0.9
baz=203
E24K Your Creek 95.03 11 P P 20 46 16.8 +0.8
baz=208
D22K Ayikyak River 95.06 10 P P 20 46 16.8 +0.7

baz=205
TGTN Hyland Airport 95.08 22 P P 20 46 16.9 +0.6
baz=226
F25K Christian Rive 95.15 12 P P 20 46 16.7 +0.2
baz=211
A19K Wainwright 95.25 6 P P 20 46 17.2 +0.4
baz=197
G27K Doyon Strip 95.33 14 P P 20 46 17.6 +0.3
baz=214
I30M Mount Dempster 95.34 17 P P 20 46 17.7 +0.2
baz=219
D23K Nanushuk River 95.45 10 P P 20 46 18.3 +0.5
baz=206
B21K Ikpikpuk River 95.47 9 P P 20 46 18.3 +0.4
baz=203
B20K Meade River 95.50 8 P P 20 46 18.4 +0.5
baz=201
F26K Sheenjek River 95.54 13 P P 20 46 18.8 +0.5
baz=212
H29M Whitestone 95.62 16 IAmb IAmb 20 46 19.6
comp=Z,4.3nm,0.8s
H29M Whitestone 95.62 16 P P 20 46 19.1 +0.5
baz=217
D24K Happy Valley 95.93 11 P P 20 46 20.4 +0.5
baz=208
EPYK Eagle Plains 96.15 16 P P 20 46 21.4 +0.3
baz=219
C23K Itkillik River 96.25 10 P P 20 46 21.7 +0.4
baz=207
G29M Pine Creek 96.26 15 P P 20 46 21.7 +0.2
baz=218
B22K Teshekpuk Lake 96.29 9 P P 20 46 21.8 +0.3
baz=204
C24K Franklin Bluff 96.45 10 P P 20 46 22.5 +0.2
baz=208
E27K Coleen River 96.48 13 P P 20 46 22.5 0.0
baz=215
G30M tAoh Zraii Nji 96.75 16 IAmb IAmb 20 46 24.2
comp=Z,3.4nm,0.7s
G30M tAoh Zraii Nji 96.75 16 P P 20 46 23.8 0.0
baz=219
G31M Satah River 97.20 16 P P 20 46 25.4 -0.2
baz=221
C27K Jago River 97.26 12 P Pdif 20 46 26.0 +0.1
baz=213
E28M Babbage River 97.27 14 P P 20 46 26.3 +0.3
baz=216
C26K Camden Bay 97.28 12 P P 20 46 26.5 +0.6
baz=212
F30M Barrier River 97.35 16 P Pdif 20 46 26.2 -0.1
baz=220
E29M Blow River 97.46 14 P Pdif 20 46 26.7 -0.1
baz=218
D27M Malcolm River 97.48 13 P P 20 46 27.5 +0.5
baz=215
SONM Songino Array 97.54 319 P Pdif 20 46 28.0 +0.1
comp=Z,0.8nm,1.0s,baz=144,slow=3.9,SNR=3.7
comp=Z,0.8nm,1.0s
D28M Stokes Point 98.02 14 P Pdif 20 46 29.4 +0.2
baz=217
INK Inuvik 98.44 16 P Pdif 20 46 30.9 -0.2
baz=222
ZALV Zalesovo Beam 112.39 320 PKiKP PKiKP 20 51 24.9 -1.2
comp=Z,2.4nm,0.4s,baz=101,slow=1.2,SNR=15
MKAR Makanchi Array 112.56 313 PKiKP PKiKP 20 51 25.8 -0.9
comp=Z,1.5nm,0.4s,baz=222,slow=1.6,SNR=41
KURK Kurchatov 115.63 316 PKPdf 20 51 31.3 -1.0
KURBB Kurchatov Arra 115.67 316 PKP PKPdf 20 51 31.6 -0.9
comp=Z,3.3nm,0.5s,baz=100,slow=1.8,SNR=35
SJG San Juan 118.39 82 PKP PKPdf 20 51 38.1 -0.6
comp=Z,17nm,0.2s,baz=304,slow=18,SNR=6.0
GAR Garm 119.88 302 PKPdf PKPdf 20 51 40.3 -0.9
KBL Kabul 120.17 297 PKPdf 20 51 41.9 -0.1
KKAR Karatay Array 120.25 307 PKPdf PKPdf 20 51 40.8 -0.7
BVAR Borovoye Array 120.87 319 PKP PKPdf 20 51 42.0 -0.5
comp=Z,7.4nm,0.4s,baz=115,slow=1.8,SNR=75
BRVK Borovoye 120.94 319 PKPdf 20 51 42.2 -0.3
BOSA Boshof 122.05 206 PKP PKPdf 20 51 45.8 +0.1
comp=Z,2.5nm,0.8s,baz=164,slow=4.1,SNR=5.5
SPITS Spitsbergen Ar 125.59 356 PKP PKPdf 20 51 49.9 -0.9
comp=Z,12nm,0.8s,baz=60,slow=4.9,SNR=23
ARTI Arti 127.44 323 PKPdf PKPdf 20 51 54.5 -0.4
ABKAR Akbulak array 127.63 314 PKPdf 20 51 54.7 -0.7
LSZ Lusaka 132.02 218 PKPdf 20 52 04.3 -0.7
ARA0 ARCESS Array S 132.37 348 eP PKPdf 20 52 03.6 -0.3
ARCES ARCESS Array B 132.37 348 PKhKP PKPpre 20 51 54.9
comp=Z,2.3nm,0.8s,baz=35,slow=4.4,SNR=9.5
ARCES PKP PKPdf 20 52 02.8 -1.1
comp=Z,3.9nm,0.5s,baz=45,slow=1.6,SNR=19
ARCES SKPbc SKPbc 20 54 44.2 +1.5
comp=Z,2.4nm,0.8s,baz=24,slow=4.2,SNR=5.4
KMBO Kilima Mbogo 135.99 240 PKP PKPdf 20 52 13.1 +0.5
comp=Z,0.8nm,0.5s,baz=53,slow=10,SNR=4.2
RAYN Ar Rayn 138.68 278 PKPdf 20 52 16.7 -0.4
FINES FINESS Array B 138.93 341 PKhKP PKPpre 20 52 06.0
comp=Z,2.9nm,0.6s,baz=49,slow=5.0,SNR=24
FINES PKP PKPdf 20 52 16.1 -0.2
comp=Z,5.0nm,0.3s,baz=84,slow=2.7,SNR=8.2
FINES SKPbc SKPbc 20 55 04.2 +1.3
comp=Z,6.3nm,0.7s,baz=35,slow=3.7,SNR=10
AKN Aaknes 141.91 355 eP PKPdf 20 52 17.9 -3.7
NB2 NORSAR Subarra 142.56 351 PKP PKPdf 20 52 19.1 -3.8
comp=Z,2.5nm,0.7s,baz=6.5,slow=3.1
NB2 NORSAR Subarra 142.56 351 PKPab PKPdf 20 52 19.1 -3.8
baz=6.5,slow=3.1
NOA NORSAR Array B 142.56 351 PKhKP PKPpre 20 52 19.4
comp=Z,4.9nm,0.8s,baz=17,slow=4.7,SNR=14
NC602 NORSAR Array S 142.80 351 eP PKPdf 20 52 20.1 -3.2
HFS Hagfors 143.02 349 PKhKP PKPpre 20 52 20.4
comp=Z,32nm,0.4s,baz=64,slow=3.4,SNR=326
SKAR Skarslia 143.26 353 eP PKPab 20 52 22.0 0.0
ASK Askoy 143.73 356 eP PKPab 20 52 23.3 -0.3
BER Bergen 143.82 356 eP PKPab 20 52 24.0 0.0
KONO Kongsberg 144.12 352 PKPbc 20 52 24.2 -0.7
KONO Kongsberg 144.12 352 eP PKPbc 20 52 24.9 0.0
ODD1 Odda 144.19 354 eP PKPbc 20 52 24.8 -0.4
LRW Lerwick 144.24 1 eP PKPbc 20 52 24.7 -0.5
PABE Paberze 144.29 337 PKPbc 20 52 24.6 -1.0
STRU Stroemstad 144.49 350 i P PKPbc 20 52 25.5 -0.6
BLS5 Blasjo 144.68 354 eP PKPdf 20 52 26.9 +0.3
TJOU Tjoern 145.37 349 i P PKPdf 20 52 27.7 0.0
AK03 Malin Array Si 145.42 327 PKP PKPdf 20 52 27.8 -0.2
AKASG Malin Array Be 145.43 327 PKPdf 20 52 27.0 -1.1
AKASG Malin Array Be 145.43 327 PKPbc PKPdf 20 52 28.6 +0.5
comp=Z,12nm,0.4s,baz=47,slow=4.0,SNR=100
AKASG SKPbc SKPbc 20 55 20.7 +1.4
comp=Z,0.2nm,0.3s,baz=46,slow=1.5,SNR=4.9
AKBB Malin Array Si 145.43 327 PKP PKPdf 20 52 28.2 +0.1
AK23 Malin Array Si 145.44 327 PKP PKPdf 20 52 27.9 -0.2
AK01 Malin Array Si 145.44 327 PKP PKPdf 20 52 27.9 -0.2
KIEV Kiev 145.44 327 PKPdf 20 52 27.8 -0.3
KIEV Kiev 145.44 327 ⇓P PKPdf 20 52 28.7 +0.6
KIEV Kiev 145.44 327 PKP PKPdf 20 52 27.8 -0.3
AK04 Malin Array Si 145.45 327 PKP PKPdf 20 52 27.9 -0.2
AK09 Malin Array Si 145.45 327 PKP PKPdf 20 52 27.9 -0.2
AK08 Malin Array Si 145.46 327 PKP PKPdf 20 52 27.9 -0.2
AK02 Malin Array Si 145.47 327 PKP PKPdf 20 52 27.9 -0.2
AK22 Malin Array Si 145.47 327 PKP PKPdf 20 52 27.9 -0.2
AK11 Malin Array Si 145.47 327 PKP PKPdf 20 52 27.9 -0.2
AK21 Malin Array Si 145.47 327 PKP PKPdf 20 52 27.9 -0.2
AK10 Malin Array Si 145.48 327 PKP PKPdf 20 52 27.9 -0.2
AK15 Malin Array Si 145.48 327 PKP PKPdf 20 52 27.9 -0.2
AK05 Malin Array Si 145.49 327 PKP PKPdf 20 52 28.0 -0.2
AK18 Malin Array Si 145.50 327 PKP PKPdf 20 52 28.0 -0.2
AK12 Malin Array Si 145.50 327 PKP PKPdf 20 52 28.0 -0.2
AK16 Malin Array Si 145.51 327 PKP PKPdf 20 52 28.0 -0.2
AK20 Malin Array Si 145.51 327 PKP PKPdf 20 52 28.0 -0.2
AK06 Malin Array Si 145.51 327 PKP PKPdf 20 52 28.0 -0.2
AK17 Malin Array Si 145.52 327 PKP PKPdf 20 52 28.0 -0.2
AK19 Malin Array Si 145.52 327 PKP PKPdf 20 52 28.0 -0.2
AK14 Malin Array Si 145.53 327 PKP PKPdf 20 52 28.0 -0.2
AK07 Malin Array Si 145.53 327 PKP PKPdf 20 52 28.0 -0.2
BORU Boraas 145.54 348 i P PKPdf 20 52 28.2 +0.1
AK13 Malin Array Si 145.57 327 PKP PKPdf 20 52 28.1 -0.2
SNART Snartemo 145.68 353 eP PKPbc 20 52 30.1 +0.4
SUW Suwalki 145.74 336 ePKPbc PKPdf 20 52 29.9 +1.4
ONAU Onsala 145.92 349 i P PKPdf 20 52 29.2 +0.5
MI28 Mi28,Pidlybu 146.04 328 PKP PKPdf 20 52 29.8 +0.7
BLEU Blekinge 146.10 344 i P PKPdf 20 52 29.8 +0.8
FABU Falkenberg 146.14 348 i P PKPdf 20 52 29.8 +0.7
DEL Delary 146.40 346 i P PKPdf 20 52 30.9 +1.4
RNPP9 Sopachiv 146.54 330 PKP PKPdf 20 52 30.7 +0.8
RNPP5 Staryi Chortor 146.67 330 PKP PKPdf 20 52 31.0 +0.9
MCD Coleburn Disti 146.72 3 eP PKPbc 20 52 32.2 -0.5
KPL Plockton 146.79 6 eP PKPdf 20 52 32.0 +1.9

BJUU Bjuv 146.95 347 i P PKPbc 20 52 32.5 -0.8
FKH Fakeheh 147.03 296 eP PKPbc 20 52 35.3 +0.9
BEIL Beino 147.17 296 eP PKPbc 20 52 35.5 +0.8
LUNU Lund 147.27 346 i P PKPbc 20 52 33.2 -0.9
BSD Bornholm Skovb 147.40 344 i P PKPbc 20 52 33.8 -0.7
HWQ Hawqa 147.40 296 eP PKPbc 20 52 35.4 0.0
DRUM Mains of Drumt 147.43 3 eP PKPbc 20 52 34.1 -0.4
SORM Soroca 147.45 324 ⇓P PKPbc 20 52 34.8 0.0
ILGA Ilgaz 147.47 309 PKPdf PKPdf 20 52 29.7 -2.4
ILGA PKPbc 20 52 35.7 +0.2
ZAHL Zahle 147.51 295 eP PKPbc 20 52 36.5 +0.8
PURM Purcari 147.52 320 ⇓P PKPbc 20 52 35.5 +0.4
RCY Rachaya 147.60 295 eP PKPbc 20 52 37.1 +1.1
SHBL Chebaa 147.69 294 eP PKPbc 20 52 37.2 +1.0
BHL Bhannes 147.69 295 eP PKPbc 20 52 36.8 +0.6
QRWL Qaraoun 147.72 295 eP PKPbc 20 52 37.1 +0.9
DQRL Deir Qamar 147.79 295 eP PKPbc 20 52 37.4 +1.0
LAWE Loch Awe, Argy 147.88 6 eP PKPbc 20 52 35.1 -0.6
MILM Milestii Mici 147.91 322 ⇓P PKPbc 20 52 35.8 -0.3
KIRS Kirsehir-Merke 147.94 305 ⇓P PKPbc 20 52 36.9 +0.3
BRTR Keskin Array B 147.96 307 PKPdf PKPdf 20 52 31.5 -1.4
BRTR PKPbc PKPbc 20 52 36.0 -0.7
BRTR PKPab PKPab 20 52 41.4 +0.2
BRTR Keskin Array B 147.96 307 PKPbc PKPbc 20 52 36.5 -0.2
comp=Z,11nm,0.7s,baz=144,slow=4.9,SNR=54
MMAI Mount Meron Ar 148.01 294 PKPbc PKPbc 20 52 38.0 +1.0
comp=Z,24nm,0.4s,baz=80,slow=6.0,SNR=140
BEL Belsk 148.35 335 ePKPbc PKPbc 20 52 37.5 +0.5
GKP Gorka Klasztor 148.38 340 ePKPbc PKPbc 20 52 37.4 +0.3
PGBU Glenifferbraes 148.40 5 eP PKPbc 20 52 36.5 -0.5
ANTO Ankara 148.53 307 PKPbc 20 52 36.7 -1.3
ANTO Ankara 148.53 307 ⇑P PKPbc 20 52 38.8 +0.8
TLCR 148.86 319 ⇑P PKPbc 20 52 39.0 +0.5
VLDR Vladesti 148.93 321 ⇓P PKPbc 20 52 39.4 +0.7
EKA Eskdalemuir Ar 148.97 4 PKPbc PKPbc 20 52 37.9 -0.6
comp=Z,2.2nm,0.4s,baz=349,slow=1.7,SNR=3.4
JURR Jurilovca 149.05 318 ⇑P PKPbc 20 52 39.5 +0.5
PRAR RASCA 149.06 324 ⇓P PKPbc 20 52 39.5 +0.5
SCTR Scanteiesti 149.08 320 ⇑P PKPbc 20 52 40.0 +1.0
NEWG New Galloway 149.11 5 eP PKPbc 20 52 38.8 0.0
GHRR 149.20 321 ⇑P PKiKP 20 52 40.6 +0.4
NEGRR Negrea 149.22 320 ⇑P PKPbc 20 52 40.1 +0.7
TPGR Topolog 149.27 319 ⇑P PKPbc 20 52 40.3 +0.7
TESR Tescani 149.35 323 ⇓P PKPbc 20 52 39.8 +0.1
BUR08 Bucovina Ar. S 149.41 326 PKPbc 20 52 40.4 +0.4
BURAR Bucovina Array 149.43 326 PKPdf PKPdf 20 52 33.6 -1.3
BURAR PKPbc 20 52 39.2 -0.8
BURAR Bucovina Array 149.43 326 ⇑P PKPbc 20 52 40.8 +0.8
PANC Panciu 149.45 321 ⇓P PKPbc 20 52 40.3 +0.3
EDMD Edmundbyers 149.53 2 eP PKPbc 20 52 38.9 -1.0
ODBI Odobesti 149.57 321 ⇑P PKPbc 20 52 41.3 +1.1
ONER Baraj Valea Uz 149.60 323 ⇓P PKPbc 20 52 41.0 +0.7
HARR Harsova 149.66 319 ⇑P PKPbc 20 52 41.2 +0.7
VRI Vrincioaia 149.69 322 ⇑P PKPbc 20 52 39.9 -0.7
MANR Mangalia 149.71 317 ⇓P PKPbc 20 52 39.6 -1.0
PLOR Plostina 149.75 322 ⇑P PKPbc 20 52 40.8 0.0
BISRR Bisoca 149.89 321 ⇑P PKPbc 20 52 42.0 +0.9
IOMK Kirk Michael 149.93 6 eP PKPbc 20 52 40.6 -0.2
KOLS Kolonicke sedl 149.94 330 ePKP PKPbc 20 52 42.0 +1.0
GDLE Glaisdale, N Y 149.97 1 eP PKPbc 20 52 40.9 0.0
COVR Voineasa-Covas 150.00 322 ⇑P PKPbc 20 52 41.2 -0.1
OJC Ojcow 150.01 334 ePKPbc PKPbc 20 52 41.4 +0.2
STHS Stebnicka Huta 150.03 332 ePKP PKPbc 20 52 41.3 0.0
STHS 20 52 54.7
WIM Isle of Man 150.04 6 eP PKPbc 20 52 41.1 0.0
ICOR Ion Corvin 150.04 318 ⇑P PKPbc 20 52 42.4 +1.0
OZUR 150.08 323 ⇑P PKPbc 20 52 42.0 +0.5
NEHR Nehoiu 150.20 321 ⇑P PKPbc 20 52 42.1 +0.3
BORA Eskisehir 150.21 309 PKPbc 20 52 41.3 -0.8
ARCR ARCALIA 150.22 326 ⇓P PKPbc 20 52 42.4 +0.7
BMR Baia Mare 150.25 327 ⇑P PKPbc 20 52 41.6 -0.1
MLR Muntele Rosu 150.36 322 ⇑P PKPbc 20 52 42.3 0.0
DOPR Dopca 150.38 323 ⇑P PKPbc 20 52 43.0 +0.9
HPK Haverah Park 150.41 2 eP PKPbc 20 52 41.5 -0.5
NIE Niedzica 150.43 333 ePKPbc PKiKP 20 52 43.2 +0.5
CICN Ciocanesti 150.47 319 ⇑P PKPbc 20 52 42.9 +0.5
KSP Ksiaz 150.76 339 ePKPbc PKPbc 20 52 43.5 +0.6
WME Myndd Eilian 150.81 5 eP PKPbc 20 52 42.5 -0.4
CBBR Cluj-Babes-Bol 150.84 326 ⇑P PKPbc 20 52 43.6 +0.4
CJR Cluj-Napoca 150.85 326 ⇑P PKPbc 20 52 43.3 0.0
MESR Meseseni 150.88 327 ⇑P PKPbc 20 52 43.0 -0.3
VOIR 150.89 322 ⇑P PKPbc 20 52 43.5 +0.1
WLF1 Llynfaes 150.91 6 eP PKPbc 20 52 42.7 -0.4
OKC Ostrava-Krasne 150.95 336⇑ ePKP PKPbc 20 52 43.8 +0.5
LANS Liptovska Anna 150.98 333 ePKP PKiKP 20 52 44.9 +1.0
STEB Steborice 151.01 336⇑ ePKP PKPbc 20 52 43.8 +0.3
OSTC Ostas 151.04 339⇑ ePKP PKPbc 20 52 44.1 +0.6
CHVC Chvalec 151.06 339⇑ ePKP PKPbc 20 52 43.9 +0.3
MARR Marisel-Cluj 151.12 326 ⇓P PKPbc 20 52 44.1 +0.2
RAZG Razgrad 151.13 318 ⇓P PKPbc 20 52 44.1 +0.2
ARR Arges 151.17 323 ⇑P PKiKP 20 52 45.4 +1.0
DPC Dobruska-Polom 151.18 338⇑ ePKP PKPbc 20 52 44.5 +0.6
DPC ePKPAB PKPab 20 52 54.6 +0.5
MORC Moravsky Berou 151.23 336 ePKP PKPbc 20 52 44.1 +0.1
MORC Moravsky Berou 151.23 336 ⇓P PKPbc 20 52 44.5 +0.5
KRLC Kraliky 151.25 337⇑ ePKP PKPbc 20 52 44.5 +0.4
KRLC ePKPAB PKPab 20 52 54.8 +0.4
CLL Collm 151.34 343 PKPbc 20 52 43.5 -0.6
CLL Collm 151.34 343 ⇓ iPKPbc PKPbc 20 52 44.4 +0.3
comp=Z,41nm,0.7s
CLL ⇑ iPKPab PKPab 20 52 54.5 -0.1
comp=Z,10.0nm,0.6s
CLL ePKPab pPKPab 20 54 47.0 -2.2
FOEL Foel Wylfa 151.40 4 eP PKPbc 20 52 43.4 -0.9
MAUC Maruska 151.46 335⇑ ePKP PKiKP 20 52 45.5 +0.7
BRG Berggiesshubel 151.47 342 ⇓ iPKP PKPbc 20 52 44.9 +0.5
BRG Amp 20 52 45.3
comp=Z,29nm,0.5s
BRG Berggiesshubel 151.47 342 P PKPab 20 52 51.6 -3.6
BRG Amp 20 52 51.9
comp=Z,8.6nm,1.1s
BRG Berggiesshubel 151.47 342 P PKPab 20 52 55.4 +0.2
BRG Amp 20 52 56.3
comp=Z,12nm,1.1s
HUMR Humele 151.48 321 ⇑P PKPbc 20 52 44.7 0.0
COPA Copaceanca 151.58 320 ⇑P PKPbc 20 52 45.0 +0.1
PVCC Panska Ves 151.59 340⇑ ePKP PKPbc 20 52 45.3 +0.6
LOT Lotru 151.59 324 ⇑P PKPbc 20 52 44.8 -0.3
PSZ Piszkesteto 151.75 331 ⇑P PKPbc 20 52 45.4 +0.1
VYHS Vyhne 151.76 333 ePKP PKPbc 20 52 45.5 +0.3
VYHS e 20 52 57.2
DEV Deva 151.76 325 ⇓P PKPbc 20 52 46.0 +0.7
HLM1 Long Mynd 151.79 4 eP PKPbc 20 52 44.0 -1.1
HSKC Hora Svate Kat 151.85 342⇑ ePKP PKPbc 20 52 45.7 +0.3
JAVC Velka Javorina 151.93 335 ePKP PKiKP 20 52 46.8 +0.9
JAVC e 20 52 58.5
VRAC Vranov 151.96 337 ePKP PKPbc 20 52 45.6 0.0
VRAC e 20 52 58.0
VRAC Vranov 151.96 337 ⇑P PKPbc 20 52 46.3 +0.6
PRU Pruhonice 152.07 340⇑ ePKP PKPbc 20 52 45.9 +0.1
SIRR Siria 152.13 327 ⇑P PKPbc 20 52 46.7 +0.5
GZR Gura Zlata 152.16 325 ⇓P PKPbc 20 52 46.0 -0.3
KRUC Moravsky 152.24 337 ePKP PKPbc 20 52 46.0 -0.2
KRUC e 20 52 59.0
SURR Surduc 152.25 326 ⇓P PKPbc 20 52 46.3 -0.1
MCH1 Michaelchurch 152.30 4 eP PKPbc 20 52 45.8 -0.5
MONM Monmouth 152.47 4 eP PKPbc 20 52 45.9 -0.7
MODS Modra-Piesok 152.48 335 ePKP PKiKP 20 52 47.8 +0.8
MODS e 20 53 00.7
BZS Buzias 152.61 326 ⇓P PKPbc 20 52 47.2 +0.1
HERR Herculane 152.69 324 ⇓P PKPbc 20 52 47.3 -0.1
KHC Kasperske Hory 153.12 340⇑ ePKP PKPbc 20 52 48.2 0.0
KHC ePKPAB PKPab 20 53 02.8 +0.5
CKRC Cesky Krumlov 153.16 339⇑ ePKP PKPbc 20 52 48.5 +0.2
GERES GERESS Array B 153.34 340 PKPdf PKPdf 20 52 38.1 -2.6
GERES PKPbc 20 52 47.9 -0.8
GERES PKPab PKPab 20 53 02.9 -0.4
GERES GERESS Array B 153.34 340 PKP PKPdf 20 52 40.1 -0.6
comp=Z,0.6nm,0.8s,baz=45,slow=0.9,SNR=4.9
GERES PKPbc PKPbc 20 52 48.6 -0.1
comp=Z,3.0nm,0.7s,baz=21,slow=2.5,SNR=18
GERES PKPab PKPab 20 53 03.4 +0.1
comp=Z,1.3nm,0.6s,baz=39,slow=5.1,SNR=6.1
CONA Conrad Observa 153.38 336 ePKP PKPbc 20 52 48.8 -0.1
comp=Z,2.6nm,0.6s
CONA ePKP PKPab 20 53 04.3 +0.8
comp=Z,7.6nm,0.6s
RONA Rosalia, Austr 153.41 335 ePKP PKPbc 20 52 48.7 -0.2
comp=Z,3.8nm,0.6s
RONA ePKP PKPab 20 53 04.2 +0.6
comp=Z,6.2nm,0.7s,SNR=5.2

MORH Mrgy, Hungar 153.60 330 ⇑P PKPbc 20 52 49.3 +0.1
MOA Molln 154.02 338 ePKP PKPdf 20 52 41.2 -0.4
comp=Z,1.1nm,0.6s
MOA ePKP PKPab 20 53 06.7 +0.6
comp=Z,4.5nm,1.1s
BIOA Bad Ischl, Aus 154.37 339 ePKP PKiKP 20 52 50.8 -0.1
comp=Z,3.7nm,0.9s
BIOA ePKP PKPab 20 53 08.3 +0.6
comp=Z,6.6nm,0.9s
SOKA Soboth 154.74 336 ePKP PKPab 20 53 09.4 0.0
comp=Z,3.2nm,0.5s
LESA Schwarzleotal 154.91 340 ePKP PKPdf 20 52 42.3 -0.6
comp=Z,1.2nm,0.4s
LESA ePKP PKPab 20 53 10.6 +0.5
comp=Z,3.9nm,0.6s
KBA Koelnbreinsper 155.00 338 ePKP PKPab 20 53 10.6 0.0
comp=Z,3.8nm,0.5s
OBKA Obir 155.06 336 ePKP PKPab 20 53 10.4 -0.3
comp=Z,5.0nm,0.7s
BFO Black Forest 155.22 347 PKPab PKPab 20 53 10.3 -1.0
MYKA Terra Mystica 155.28 337 ePKP PKPab 20 53 11.1 -0.6
comp=Z,5.8nm,0.7s
WATA Walderalm 155.33 341 ePKP PKPdf 20 52 42.3 -1.3
comp=Z,2.4nm,0.5s
WATA ePKP PKPab 20 53 12.1 +0.1
comp=Z,3.0nm,0.5s
WTTA Wattenberg 155.38 341 ePKP PKPdf 20 52 43.0 -0.7
comp=Z,2.3nm,0.4s
WTTA ePKP PKPab 20 53 12.6 +0.4
comp=Z,5.6nm,0.6s,SNR=4.1
RETA Reutte 155.42 343 ePKP PKPab 20 53 12.5 +0.2
comp=Z,6.2nm,0.6s
MOTA Moosalm 155.46 342 ePKP PKPab 20 53 12.9 +0.4
comp=Z,13nm,1.2s
SQTA Sankt Quirin 155.54 342 i PKP PKPdf 20 52 43.1 -0.7
comp=Z,2.2nm,0.6s
SQTA ePKP PKPab 20 53 12.7 -0.1
comp=Z,5.9nm,0.9s
ABTA Abfaltersbach 155.56 339 ePKP PKPdf 20 52 43.1 -0.8
comp=Z,2.4nm,0.6s
ABTA ePKP PKPab 20 53 12.3 -0.7
comp=Z,5.4nm,1.0s,SNR=4.5
FETA Feichten 155.86 342 ePKP PKPdf 20 52 43.8 -0.5
comp=Z,1.6nm,0.7s
FETA ePKP PKPab 20 53 14.5 +0.2
comp=Z,7.1nm,1.3s
SCTE Santa Cesarea 158.03 320 PKPdf PKPdf 20 52 46.0 -1.1
SCTE PKPab PKPab 20 53 22.0 -1.7
TIP Timpagrande 159.61 320 ⇑P PKPab 20 53 31.2 +0.4
CEL Celeste 160.73 320 PKPdf PKPdf 20 52 47.8 -2.4
CEL PKPab PKPab 20 53 34.2 -1.5
ESDC Sonseca Array 164.34 12 PKPdf PKPdf 20 52 51.2 -2.5
ESDC PKPab PKPab 20 53 50.7 -0.7
TORD Torodi Ar. Bea 168.75 188 PKPdf 20 52 54.9 -2.7
TORD PKPab PKPab 20 54 10.2 -1.1

MEX 02 20:48:51.3±0.8, 17°.06N×94°.57W, h130km±8km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.31	277	eP	Pn	20 49 08.9	-0.7
CMIG				eS	Sn	20 49 22.1	-1.2
UXUV	UXUV	0.48	57	eP	Pn	20 49 09.5	-0.8
UXUV				eS	Sn	20 49 22.4	-2.2
NEUV	Arroyo Zacate	1.35	299	eP	Pn	20 49 16.7	-1.0
NEUV				eS	Sn	20 49 36.0	-1.9
TGIG		1.41	101	eP	Pn	20 49 17.6	-0.9
TGIG				eS	Sn	20 49 35.5	-3.6
PCIG		1.86	136	eP	Pn	20 49 23.3	-0.4
PCIG				eS	Sn	20 49 48.0	-0.4
HUIG	Huatulco	1.96	229	eP	Pn	20 49 22.4	-2.4
HUIG				eS	Sn	20 49 49.3	-1.2
VHO	Vista Hermosa	2.07	271	eP	Pn	20 49 26.3	-0.1
VHO				eS	Sn	20 49 52.8	-0.4
TOIG	Toxpalan	2.60	294	eP	Pn	20 49 31.9	-1.0
TOIG				eS	Sn	20 50 03.5	-1.4
YOIG	Yosondua	2.86	266	eP	Pn	20 49 36.0	-0.4
YOIG				eS	Sn	20 50 09.6	-1.5
TXIG	Tlaxiaco	3.07	274	eP	Pn	20 49 38.8	-0.3
TXIG				eS	Sn	20 50 12.8	-3.1
HLIG	Huajuapan de L	3.19	284	eS	Sn	20 50 14.7	-3.9
PNIG	Pinotepa	3.48	260	eP	Pn	20 49 42.0	-2.2
PNIG				eS	Sn	20 50 17.9	-7.2
FTIG	Fresnillo de T	3.51	285	eP	Pn	20 49 44.9	+0.2
FTIG				eS	Sn	20 50 23.1	-2.9

*IDC **02** 20:48:55.9±0.6, 13°.56N×89°.77W, h0km, mb4.0/16, mbtmp4.0/17, ML4.3/1, MS3.5/13, Error ellipse: s-maj=31.1km s-min=13.3km az=61.0*
*CATAC **02** 20:49:00.8±0.5, 13°N±2°×9°0W±°, h25km±3km, M5.0/34, MLv5.0/34, Error ellipse: s-maj=4.5km s-min=2.4km az=27.5, confirmed*
*SNET **02** 20:49:01.6±1.4, 13°.29N×90°.31W, h20km, ML5.0*
*GCG **02** 20:49:02.0±1.7, 13°.36N×90°.33W, h44km±60km, MD4.5*
*NEIC **02** 20:49:03.3±2.0, 13°.34N±0°.07×90°.23W±0°.07, h50km±11km, mb4.4/60, Error ellipse: s-maj=11.3km s-min=7.9km az=220.0*

ISC 02 20:49:02.2±0.9, 13°.28N±0°.05×90°.33W±0°.04, h53km±8km, n295, σ1§12/297, mb4.3/35, MS3.5/12, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	San Jos, E	0.32	329⇑	eP	Pn	20 49 17.4	+5.5
FAME	Alcaldia de Sa	0.64	29	S	Sn	20 49 23.6	-1.3
NUBE	Las Nubes	0.81	41	eP	Pn	20 49 16.8	-1.0
NUBE	Las Nubes	0.81	41	i S	Sn	20 49 28.1	-1.0
NUBE	Las Nubes	0.81	41	S	Sn	20 49 29.3	+0.2
NUBE	Las Nubes	0.81	41	S	Sn	20 49 28.5	-0.6
CEVE	Cerro Verde	0.87	52	eP	Pn	20 49 18.2	-0.5
CEVE	Cerro Verde	0.87	52	P	Pn	20 49 18.3	-0.3
CEVE	Cerro Verde	0.87	52	S	Sn	20 49 30.8	+0.2
LOAL	Lomas de Alarc	0.89	37	eP	Pn	20 49 18.0	-0.6
LOAL	Lomas de Alarc	0.89	37	P	Pn	20 49 18.2	-0.4
LOAL	Lomas de Alarc	0.89	37	P	Pn	20 49 18.3	-0.4
LOAL	Lomas de Alarc	0.89	37	S	Sn	20 49 30.4	-0.3
SLOZ	Alcaldia de Sa	0.91	36	P	Pn	20 49 18.7	-0.2
SLOZ	Alcaldia de Sa	0.91	36	S	Sn	20 49 30.1	-1.0
JAYA	Jayaque - finc	0.93	67	eP	Pn	20 49 18.5	-0.8
JAYA	Jayaque - finc	0.93	67	i P	Pn	20 49 18.6	-0.8
JAYA				i S	Sn	20 49 30.8	-1.1
JAYA	Jayaque - finc	0.93	67	P	Pn	20 49 18.8	-0.5
JAYA	Jayaque - finc	0.93	67	S	Sn	20 49 31.9	0.0
LALI	Alcalda de L	1.00	78	eP	Pn	20 49 19.4	-0.6
LALI	Alcalda de L	1.00	78	i P	Pn	20 49 19.5	-0.6
LALI				i S	Sn	20 49 31.7	-1.6
LALI	Alcalda de L	1.00	78	P	Pn	20 49 20.3	+0.3
LALI	Alcalda de L	1.00	78	P	Pn	20 49 19.5	-0.6
LALI	Alcalda de L	1.00	78	S	Sn	20 49 32.1	-1.2
UNIC	Universidad Ca	1.03	47	P	Pn	20 49 20.2	-0.3
CEDA	San Andres	1.04	60	eP	Pn	20 49 20.2	-0.5
CEDA	San Andres	1.04	60	P	Pn	20 49 20.4	-0.3
CEDA	San Andres	1.04	60	S	Sn	20 49 35.5	+1.2
CEDA	San Andres	1.04	60	P	Pn	20 49 20.3	-0.4
CEDA	San Andres	1.04	60	S	Sn	20 49 34.1	-0.3
PMON	Piamonte	1.07	66	eP	Pn	20 49 20.8	-0.4
PMON	Piamonte	1.07	66	P	Pn	20 49 20.8	-0.4
PMON	Piamonte	1.07	66	S	Sn	20 49 35.4	+0.2
PMON	Piamonte	1.07	66	S	Sn	20 49 34.7	-0.5
ITCA	Escuela Especi	1.09	69	eP	Pn	20 49 20.9	-0.4
ITCA	Escuela Especi	1.09	69	S	Sn	20 49 36.1	+0.6
ITCA	Escuela Especi	1.09	69	P	Pn	20 49 21.0	-0.4
BOQS	Boqueron	1.11	66	eP	Pn	20 49 21.4	-0.4
UEES	Universidad Ev	1.14	68	P	Pn	20 49 22.0	-0.1
UEES	Universidad Ev	1.14	68	S	Sn	20 49 38.3	+1.5
SEMO	Seminario San	1.15	69	P	Pn	20 49 22.2	0.0
SEMO	Seminario San	1.15	69	S	Sn	20 49 39

UDBS Universidad Do 1.22 69 S Sn 20 49 38.9 +0.3
AEIL Aeropuerto Ilo 1.25 71 eP Pn 20 49 24.3 +0.8
LFRS El Faro 1.28 75 eP Pn 20 49 23.0 -0.9
GCG4 OSOP 1.31 351 i S Sn 20 49 41.7 +0.8
PAVA Las Pavas 1.42 72 eP Pn 20 49 26.2 +0.4
PAVA Las Pavas 1.42 72 P Pn 20 49 26.5 +0.7
PAVA Las Pavas 1.42 72 S Sn 20 49 46.1 +2.5
COEG Centro de Oper 1.45 76 eP Pn 20 49 26.0 -0.2
COEG Centro de Oper 1.45 76 P Pn 20 49 27.5 +1.3
COEG Centro de Oper 1.45 76 S Sn 20 49 45.1 +1.0
COEG Centro de Oper 1.45 76 P Pn 20 49 26.4 +0.2
MTO3 Montecristo 1.46 40 Pn 20 49 26.6 +0.2
MTO3 Sn Sn 20 49 44.0 -0.5
MTO3 Montecristo 1.46 40 i P Pn 20 49 26.7 +0.2
MTO3 Montecristo 1.46 40 P Pn 20 49 26.9 +0.5
MTO3 Montecristo 1.46 40 S Sn 20 49 46.3 +1.8
MTO3 Montecristo 1.46 40 P Pn 20 49 26.5 +0.2
STG0 El Palmar, Qui 1.50 319 eP Pn 20 49 30.9 +3.9
STG8 El Palmar, Qui 1.53 320 eP Pn 20 49 31.2 +3.8
TECO Alcaldia de Te 1.53 80 P Pn 20 49 27.1 -0.1
TECO Alcaldia de Te 1.53 80 S Sn 20 49 46.4 +0.4
TECO Alcaldia de Te 1.53 80 P Pn 20 49 26.7 -0.5
TECO Alcaldia de Te 1.53 80 S Sn 20 49 46.2 +0.2
UESV Universidad de 1.54 77 P Pn 20 49 27.9 +0.5
UESV Universidad de 1.54 77 S Sn 20 49 47.7 +1.4
UESV Universidad de 1.54 77 P Pn 20 49 27.7 +0.4
LLGN La Laguna 1.60 57 P Pn 20 49 29.1 +0.8
LLGN La Laguna 1.60 57 S Sn 20 49 50.8 +2.8
LLGN La Laguna 1.60 57 P Pn 20 49 28.6 +0.2
SCLA Alcaldia de Sa 1.61 75 P Pn 20 49 28.9 +0.6
SCLA Alcaldia de Sa 1.61 75 S Sn 20 49 49.7 +1.6
SCLA Alcaldia de Sa 1.61 75 P Pn 20 49 29.1 +0.7
SCLA Alcaldia de Sa 1.61 75 S Sn 20 49 49.2 +1.1
PQSS Presa 15 de Se 1.75 79 eP Pn 20 49 30.6 +0.4
PQSS Presa 15 de Se 1.75 79 P Pn 20 49 30.7 +0.4
RTAL Retalhuleu 1.81 313 Pn 20 49 29.7 -1.4
RTAL Retalhuleu 1.81 313 eP Pn 20 49 29.9 -1.2
RTAL Retalhuleu 1.81 313 P Pn 20 49 29.9 -1.2
RTAL Retalhuleu 1.81 313 S Sn 20 49 54.6 +1.6
SOKI Kika Raxquin 1.85 326 eP Pn 20 49 31.7 -0.3
PACA Pacayal 1.96 84 P Pn 20 49 34.2 +1.0
PACA Pacayal 1.96 84 S Sn 20 49 56.9 +0.2
PACA Pacayal 1.96 84 P Pn 20 49 34.7 +1.5
LCY Lacayo 1.98 86 eP Pn 20 49 33.8 +0.3
RANC El Ranchito 1.99 85 S Sn 20 49 58.9 +1.4
RANC El Ranchito 1.99 85 P Pn 20 49 34.3 +0.6
RANC El Ranchito 1.99 85 P Pn 20 49 34.5 +0.8
BLLM Bellamira 2.04 85 eP Pn 20 49 34.6 +0.3
CNRM Centro Naciona 2.11 85 P Pn 20 49 36.0 +0.8
SMCA Catarina 2.31 313 eP Pn 20 49 37.6 -0.2
HUEH Huehuetenango 2.32 331 Pn 20 49 38.1 -0.1
LCND La Caada 2.37 89 P Pn 20 49 39.3 +0.5
LCND La Caada 2.37 89 S Sn 20 06.2 -0.5
LCND La Caada 2.37 89 P Pn 20 49 39.2 +0.4
CNCH Conchagua 2.43 90 eP Pn 20 49 39.7 +0.1
CNCH Conchagua 2.43 90 P Pn 20 49 40.1 +0.5
CNCH Conchagua 2.43 90 S Sn 20 50 09.1 +0.9
CNCH Conchagua 2.43 90 P Pn 20 49 39.9 +0.3
THIG 2.48 311 eP Pn 20 49 39.6 -0.5
THIG eS Sn 20 50 06.9 -2.4
CSGN Cosiguina Volc 2.72 96 P Pn 20 49 43.6 +0.1
CSGN S Sn 20 50 16.2 +0.9
CSGN Cosiguina Volc 2.72 96 P Pn 20 49 43.4 -0.1
TGUH Tegucigalpa,Un 3.07 75 Pn 20 49 47.1 -1.3
TGUH Tegucigalpa,Un 3.07 75 P Pn 20 49 48.2 -0.2
CRIN San Cristobal 3.25 100 Pn Pn 20 49 50.8 0.0
CRIN San Cristobal 3.25 100 S Sn 20 50 30.2 +1.9
CRIN San Cristobal 3.25 100 P Pn 20 49 51.9 +1.1
CRIN San Cristobal 3.25 100 S Sn 20 50 27.4 -0.9
CCIG Comitan 3.46 330 Pn 20 49 54.6 +0.8
QUEN Al S del Volca 3.46 101 P Pn 20 49 54.4 +0.7
HERN Volcan Telica 3.48 101 Pn 20 49 52.9 -1.0
HERN Volcan Telica 3.48 101 P Pn 20 49 53.9 0.0
HERN Volcan Telica 3.48 101 S Sn 20 50 34.1 +0.2
HERN Volcan Telica 3.48 101 P Pn 20 49 53.9 0.0
POLN Al Sur del Vol 3.48 100 S Sn 20 50 34.8 +0.7
POLN Al Sur del Vol 3.48 100 P Pn 20 49 54.2 +0.2
POLN S Sn 20 50 34.8 +0.7
PLRN Geotermica Pol 3.54 101 S Sn 20 50 36.4 +1.0
PLRN Geotermica Pol 3.54 101 P Pn 20 49 54.6 -0.2
ROCN Rota Cerro Neg 3.58 102 P Pn 20 49 53.0 -2.2
ILCN San Idelfonso 3.61 101 P Pn 20 49 55.0 -0.7
ILCN S Sn 20 50 36.7 -0.3
ILCN San Idelfonso 3.61 101 P Pn 20 49 54.6 -1.0
ILCN S Sn 20 50 36.1 -0.9
CNGA Al SSO del Vol 3.62 102 P Pn 20 49 55.5 -0.4
CNGA S Sn 20 50 37.5 0.0
CNGA Al SSO del Vol 3.62 102 P Pn 20 49 55.9 0.0
CNGN Cerro Negro 3.62 102 Pn 20 49 55.1 -0.9
CNGN Cerro Negro 3.62 102 S Sn 20 50 37.4 -0.2
CNGN Cerro Negro 3.62 102 P Pn 20 49 55.7 -0.3
PETF Flores 3.64 7 Pn Pn 20 49 56.6 +0.5
LEVN Ruinas Leon Vi 3.73 103 P Pn 20 49 57.9 +0.6
LEVN S Sn 20 50 38.9 -1.0
MOMN Momotombo 3.80 103 P Pn 20 49 58.7 +0.4
MOMN S Sn 20 50 41.5 -0.2
MOMN Momotombo 3.80 103 P Pn 20 49 58.3 +0.1
COPN Copaltepe 3.81 106 P Pn 20 49 58.7 +0.2
COPN Copaltepe 3.81 106 P Pn 20 49 58.8 +0.4
BC86 Nagarote 3.81 105 P Pn 20 49 58.1 -0.3
LIMN Finca el Limon 3.87 93 P Pn 20 49 59.5 +0.2
LIMN Finca el Limon 3.87 93 P Pn 20 49 59.4 +0.1
SAPS Ciudad Sandino 3.99 106 P Pn 20 50 01.7 +0.8
RCVN Varillal2 4.04 85 P Pn 20 50 02.2 +0.5
RCVN Varillal2 4.04 85 S Sn 20 50 48.7 +1.0
RCVN Varillal2 4.04 85 P Pn 20 50 01.9 +0.2
APQN BB Volcan Apoy 4.07 105 P Pn 20 50 00.5 -1.5
ABCN Banco Central 4.09 106 P Pn 20 50 02.9 +0.7
TISN Laguna Tiscapa 4.12 106 P Pn 20 50 02.8 +0.1
USIM UNAN 4.12 106 Pn Pn 20 50 03.0 +0.2
RCPN Sur Rio San Ju 4.13 86 P Pn 20 50 03.4 +0.5
RCPN Sur Rio San Ju 4.13 86 S Sn 20 50 51.9 +1.8
UNAN Cigeo UNAN 4.13 106 P Pn 20 50 03.8 +1.0
MAS3 Al N del Volca 4.24 107 P Pn 20 50 04.1 -0.3
SABN Sabanita 4.28 107 P Pn 20 50 03.4 -1.5
SABN Sabanita 4.28 107 P Pn 20 50 04.6 -0.3
MATN Matagalpa 4.30 94 P Pn 20 50 04.7 -0.6
MATN Matagalpa 4.30 94 S Sn 20 50 53.8 -0.5
MATN Matagalpa 4.30 94 P Pn 20 50 04.2 -1.1
MATN Matagalpa 4.30 94 S Sn 20 50 52.4 -1.9
NANN Nandasmo 4.32 108 S Sn 20 50 54.6 0.0
NANN Nandasmo 4.32 108 P Pn 20 50 04.6 -0.9
NANN Nandasmo 4.32 108 P Pn 20 50 07.5 +2.0
NANN Nandasmo 4.32 108 S Sn 20 53.0 -1.6
BOAB BOACO BROADBAN 4.62 100 Pn Pn 20 50 09.0 -0.6
BOAB BOACO BROADBAN 4.62 100 P Pn 20 50 09.2 -0.3
BOAB BOACO BROADBAN 4.62 100 S Sn 20 51 02.3 +0.3
BOAB BOACO BROADBAN 4.62 100 S Sn 20 51 02.2 +0.3
BOAB BOACO BROADBAN 4.62 100 P Pn 20 50 09.3 -0.3
CONN Concepcion 4.90 110 P Pn 20 50 11.3 -2.1
CONN Concepcion 4.90 110 P Pn 20 50 10.8 -2.7
LCRUZ La Cruz 5.09 115 eP Pn 20 50 17.1 +1.1
ACON Acoyapa 5.20 104 Pn 20 50 16.6 -0.9
ACON Acoyapa 5.20 104 P Pn 20 50 16.8 -0.7
ACON Acoyapa 5.20 104 S Sn 20 51 15.2 -1.0
ELI1 Hacienda Flor 5.36 119 eP Pn 20 50 21.7 +2.0
COLC Colonia 5.65 117 eP Pn 20 50 25.5 +1.8
NICO Nicoya 5.71 123 eP Pn 20 50 25.5 +1.0
CMARA Lajas Hojancha 5.80 124 eP Pn 20 50 27.5 +1.7
CMIG Matias Romero 5.80 311 Pn Pn 20 50 27.3 +1.5
7.1nm,0.3s,baz=123,slow=9.9,SNR=19
CMIG Sn Sn 20 51 31.1 +0.1
5.8nm,0.3s,baz=261,slow=23,SNR=3.9
61nm,0.8s
ESPN Las Esperanzas 5.98 100 Pn 20 50 28.4 +0.1
JTS Las Juntas de 6.05 119 Pn Pn 20 50 29.9 +0.7
JTS Las Juntas de 6.05 119 Pn Pn 20 50 30.9 +1.7
11nm,0.3s,baz=306,slow=20,SNR=18
JTS Sn Sn 20 51 33.1 -3.9
baz=152,slow=24
JTS Las Juntas de 6.05 119 eP Pn 20 50 30.6 +1.5
ARE1 Arenal 1 6.17 116 eP Pn 20 50 32.8 +2.0
SOCE Pocosol 6.29 117 Pn 20 50 31.4 -1.2
VPS8 V Poas 6.71 117 eP Pn 20 50 42.2 +3.7
ABE2 San Pablo 7.10 119 eP Pn 20 50 46.5 +2.6
LCR2 La Lucha 2 7.13 119 Pn 20 50 45.3 +1.1
LCR2 La Lucha 2 7.13 119 eP Pn 20 50 46.0 +1.8
VICA Volcano Irazu 7.15 117 eP Pn 20 50 46.1 +1.5
TEIG Tepich 7.18 16 Pn 20 50 45.6 +1.0
DRK0 Durika 8.01 119 eP Pn 20 50 58.5 +2.3

BRU2 Volcan 8.72 120 Pn Pn 20 51 06.0 0.0
BRU2 Volcan 8.72 120 eP Pn 20 51 08.0 +2.0
TLIG Tlapa 9.01 299 Pn Pn 20 51 12.2 +2.3
SOR Soroa 11.74 35 Pn 20 51 47.6 +0.5
MOIG Morelia 12.20 303 Pn Pn 20 51 54.6 +1.1
ROSC El Rosal 17.89 117 LR LR 21 00 01.0
comp=Z,69nm,21.8s,baz=244,slow=38
HNDO Hondo 18.17 334 P P 20 53 10.0 -0.6
RUSC La Rusia 18.51 112 P P 20 53 12.6 -2.3
FLOC Florencia 18.61 127 P P 20 53 14.1 -1.3
FLOC IAmb IAmb 20 53 23.5
comp=Z,35nm,1.3s
NATX Nacogdoches 18.82 348 P P 20 53 16.6 -0.9
NATX IAmb IAmb 20 53 30.7
comp=Z,22nm,0.8s
VBMS Vicksburg 18.85 360 P P 20 53 17.0 -0.9
250A Grady 18.98 11 P P 20 53 18.9 -0.5
250A IAmb IAmb 20 53 35.6
comp=Z,26nm,1.0s
COHC Cochancay 19.12 144 P P 20 53 20.5 -0.5
BRDY Brady 19.61 337 P P 20 53 25.8 -0.5
WHTX Lake Whitney, 19.74 342 P P 20 53 27.5 -0.1
WHTX IAmb IAmb 20 53 44.7
comp=Z,20nm,1.0s
HPIG 19.77 316 P Pn 20 53 29.6 -0.5
SAND Sanderson 19.86 329 P P 20 53 29.4 +0.3
LRAL Lakeview Retre 19.90 8 P P 20 53 29.7 +0.3
LRAL IAmb IAmb 20 53 37.9
comp=Z,30nm,1.2s
Z47A Carrollton 19.93 6 P P 20 53 29.7 0.0
Z47A IAmb IAmb 20 53 35.6
comp=Z,24nm,0.8s
FW14 Alvarado 20.04 343 P P 20 53 30.8 -0.1
TXAR Lajitas Array 20.20 324 Pn 20 53 34.0 -1.1
TXAR Lajitas Array 20.20 324 P Pn 20 53 35.4 +0.2
comp=Z,2.4nm,0.7s,baz=151,slow=12,SNR=15
TXAR PcP PcP 20 57 47.5 +1.8
comp=Z,0.4nm,0.4s,baz=173,slow=4.6,SNR=5.6
comp=Z,2.4nm,0.7s
TX31 Lajitas Ar. Si 20.21 324 P Pn 20 53 34.1 -1.1
Z38A Mt. Pleasant 20.34 349 P P 20 53 34.3 +0.2
154A Montrose 20.34 18 P P 20 53 34.6 +0.4
154A IAmb IAmb 20 53 45.7
comp=Z,26nm,0.9s
PLPT Palo Pinto 20.77 341 P 20 53 38.6 -0.2
PLPT IAmb IAmb 20 53 42.7
comp=Z,15nm,0.8s
Y49A Blount Mountai 20.79 9 P 20 53 39.9 +0.8
Y49A IAmb IAmb 20 53 47.5
comp=Z,29nm,1.0s
ALPN Alpine 20.99 326 P 20 53 42.5 +1.1
X40A Basin Creek Fa 21.23 354 P P 20 53 43.0 -0.8
Y52A Lilburn 21.27 15 P P 20 53 43.3 -0.9
Y52A IAmb IAmb 20 54 00.0
comp=Z,32nm,1.3s
X48A Hartselle 21.29 7 P 20 53 43.7 -0.6
X48A IAmb IAmb 20 53 49.7
comp=Z,18nm,1.0s
MNHN Monahans 21.30 330 P P 20 53 44.8 +0.2
MNHN IAmb IAmb 20 54 08.7
comp=Z,10nm,0.8s
MIAR Mount Ida 21.37 353 P P 20 53 45.5 +0.2
FPAL Fort Paine 21.59 11 P P 20 53 47.5 -0.2
SN05 Snyder 5 21.76 335 P P 20 53 50.0 +0.5
SN05 IAmb IAmb 20 54 11.6
comp=Z,16nm,0.9s
NHSC New Hope 21.80 23 P P 20 53 50.2 +0.4
APMT Aspermont 21.86 338 P P 20 53 50.3 -0.3
APMT IAmb IAmb 20 54 28.2
comp=Z,11nm,0.9s
WHAR Wooly Hollow 21.98 356 P P 20 53 52.6 +0.8
WHAR IAmb IAmb 20 54 11.8
comp=Z,24nm,1.2s
VHRN Van Horn 22.05 325 P P 20 53 53.9 +1.1
BAUV El Baul 22.29 99 P P 20 53 54.2 -1.0
BAUV IAmb IAmb 20 54 36.9
comp=Z,26nm,1.3s
W35A Tecumseh 22.56 346 P P 20 53 56.6 -1.4
LCAR Lake Charles 22.70 358 P P 20 53 59.3 -0.2
LCAR IAmb IAmb 20 54 20.4
comp=Z,27nm,1.1s
TKL Tuckaleechee C 23.05 14 P P 20 54 02.4 -0.7
comp=Z,4.0nm,0.6s,baz=172,slow=12,SNR=6.6
TKL LR LR 21 03 24.0
comp=Z,195nm,21.6s,baz=198,slow=38
U49A Red Boiling Sp 23.49 9 P P 20 54 06.2 -1.2
ATAH Atahualpa 23.50 149 P P 20 54 08.9 +1.0
comp=Z,7.7nm,0.7s,baz=15,slow=8.4,SNR=6.1
ATAH LR LR 21 02 17.0
comp=Z,100nm,19.6s,baz=330,slow=34
comp=Z,7.7nm,0.7s
SMWD Samnorwood 23.50 339 P P 20 54 07.4 -0.1
SMWD IAmb IAmb 20 54 31.0
comp=Z,12nm,0.7s
T47A Sharon Grove 23.78 6 P P 20 54 09.2 -0.8
OK051 E0350 and S346 23.85 347 P P 20 54 09.9 -0.8
OK051 IAmb IAmb 20 54 32.5
comp=Z,18nm,0.9s
CGM3 Cape Girardeau 23.92 1 P P 20 54 11.0 -0.3
CGM3 IAmb IAmb 20 54 27.2
comp=Z,12nm,1.0s
T35A Sooner Cattle 24.18 348 P P 20 54 12.9 -0.8
S44A Carbondale 24.33 2 P P 20 54 15.8 +0.8
WCI Wyandotte Cave 25.10 8 P P 20 54 21.2 -0.8
SBM South Baldy 25.67 326 P P 20 54 28.0 +0.3
ANMO Albuquerque 26.04 329 LR LR 21 07 11.0
comp=Z,60nm,18.0s,baz=332,slow=42
PFO Pinyon Flats O 31.21 315 LR LR 21 08 27.5
comp=Z,88nm,19.9s,baz=170,slow=37
V12A Nelson 31.41 320 P P 20 55 19.3 +0.8
V12A IAmb IAmb 20 55 22.9
comp=Z,7.2nm,1.0s
SADO Sadowa 32.80 15 LR LR 21 09 04.6
comp=Z,168nm,20.6s,baz=244,slow=37
PDAR Pinedale Array 33.76 334 P P 20 55 40.2 +1.1
comp=Z,0.4nm,0.7s,baz=172,slow=5.5,SNR=2.8
PDAR PcP PcP 20 58 18.2 +0.6
comp=Z,0.8nm,0.8s,baz=114,slow=6.6,SNR=6.5
comp=Z,0.4nm,0.7s
MZP Montezuma Peak 34.23 320 P P 20 55 44.2 +0.8
NV11 Mina Array Sit 35.16 320 P P 20 55 52.9 +1.7
NVAR Mina Array Bea 35.25 320 P P 20 55 54.5 +2.5
NVAR Mina Array Bea 35.25 320 P P 20 55 55.0 +3.0
comp=Z,9.3nm,0.7s,baz=137,slow=8.3,SNR=48
NVAR PcP PcP 20 58 24.5 +2.5
comp=Z,1.2nm,0.7s,baz=143,slow=3.7,SNR=5.1
NVAR LR LR 21 10 34.9
comp=Z,69nm,18.2s,baz=148,slow=37
comp=Z,9.3nm,0.7s
LHV Little Huntoon 35.27 320 P P 20 55 54.7 +2.8
WAKR Walker 36.01 320 P P 20 56 00.8 +2.2
WAKR IAmb IAmb 20 56 02.8
comp=Z,3.6nm,0.8s
CMB Columbia Colle 36.34 318 P P 20 56 03.1 +1.8
CMB IAmb IAmb 20 56 04.7
comp=Z,3.8nm,0.9s
LPAZ La Paz 36.67 143 P P 20 56 05.5 +0.7
comp=Z,1.8nm,0.7s,baz=330,slow=8.0,SNR=4.1
LPAZ LR LR 21 10 50.5
comp=Z,52nm,19.0s,baz=18,slow=36
comp=Z,1.8nm,0.7s
ULM Lac du Bonnet 37.14 354 P P 20 56 05.9 -1.9
comp=Z,3.7nm,0.6s,baz=168,slow=8.6,SNR=7.5
comp=Z,3.7nm,0.6s
BEKR Beckworth 37.39 321 P P 20 56 11.6 +1.3
PB16 IPOC Station P 37.53 146 P P 20 56 11.8 -0.3
PB16 IAmb IAmb 20 56 14.9
comp=Z,3.6nm,0.8s
WVOR Wild Horse Val 38.00 325 P P 20 56 15.6 +0.3
WVOR IAmb IAmb 20 56 18.3
comp=Z,4.7nm,1.1s
J08A Circle Bar Ran 38.53 326 P P 20 56 21.3 +1.6
J08A IAmb IAmb 20 56 47.2
comp=Z,7.3nm,1.1s
YBH Yreka Blue Hor 39.93 321 P P 20 56 31.3 -0.2
comp=Z,1.5nm,0.5s,baz=74,slow=5.9,SNR=5.3
YBH LR LR 21 14 19.1
comp=Z,62nm,21.9s,baz=154,slow=38
comp=Z,1.5nm,0.5s
L04D Klamath Falls 39.98 322 P P 20 56 32.9 +1.0
PINE Pine Mountain 40.16 325 P P 20 56 34.5 +1.0
PINE IAmb IAmb 20 56 36.1
comp=Z,7.8nm,1.0s
SIV San Ignacio 41.02 134 LR LR 21 13 13.5
comp=Z,70nm,18.4s,baz=275,slow=36

NEW Newport 41.36 333 LR LR 21 16 28.5
comp=Z,67nm,18.6s,baz=134,slow=40
H04A Detroit Lake 41.42 325 P P 20 56 45.3 +1.7
H04A IAmb IAmb 20 56 46.8
comp=Z,6.8nm,1.0s
SCHQ Schefferville 45.35 19 P P 20 57 13.1 -1.9
comp=Z,3.3nm,0.6s,baz=218,slow=7.8,SNR=12
comp=Z,3.3nm,0.6s
H03N2 Juan Fernandez 47.72 167 T T 21 48 38.9
baz=344
H03N1 Juan Fernandez 47.72 167 T T 21 48 45.2
baz=344,slow=74
H03N3 Juan Fernandez 47.73 167 T T 21 48 35.7
baz=344,slow=74
MT08 Bocatoma Ro 50.34 158 P P 20 57 55.8 +1.6
CPUP Villa Florida 50.80 141 P P 20 57 56.1 -1.4
comp=Z,1.7nm,0.7s,baz=332,slow=9.0,SNR=4.7
comp=Z,1.7nm,0.7s
YKA Yellowknife Ar 52.10 346 P P 20 58 06.8 +0.1
comp=Z,0.8nm,0.8s,baz=152,slow=7.9,SNR=11
YKA LR LR 21 22 37.4
comp=Z,70nm,19.7s,baz=286,slow=39
comp=Z,0.8nm,0.8s
FRB Frobisher Bay 52.66 12 LR LR 21 21 06.7
comp=Z,121nm,18.8s,baz=209,slow=37
PLCA Paso Flores 56.78 162 P P 20 58 42.2 +1.1
comp=Z,2.2nm,0.9s,baz=331,slow=10.0,SNR=4.2
comp=Z,2.2nm,0.9s
RES Resolute Bay 61.45 359 P P 20 59 11.1 -1.7
comp=Z,0.5nm,0.3s,baz=226,slow=5.3,SNR=4.6
comp=Z,0.5nm,0.3s
INK Inuvik 61.59 343 P P 20 59 13.9 +0.1
comp=Z,0.7nm,0.7s,baz=176,slow=5.4,SNR=3.0
comp=Z,0.7nm,0.7s
ILAR Eielson Array 64.14 337 P P 20 59 31.0 +0.1
comp=Z,0.4nm,0.9s,baz=123,slow=5.9,SNR=2.5
comp=Z,0.4nm,0.9s
EKA Eskdalemuir Ar 77.59 36 P P 21 00 50.6 -2.1
comp=Z,0.8nm,0.6s,baz=274,slow=4.8,SNR=2.1
comp=Z,0.8nm,0.6s
ESDC Sonseca Array 78.88 52 P P 21 00 58.8 -1.4
comp=Z,1.3nm,0.9s,baz=284,slow=5.3,SNR=5.1
comp=Z,1.3nm,0.9s
KURBB Kurchatov Arra 115.62 8 PKP PKPdf 21 07 39.0 +0.5
comp=Z,0.1nm,0.4s,baz=344,slow=2.3,SNR=6.2
SONM Songino Array 117.36 347 PKP PKiKP 21 07 43.3 +1.1
comp=Z,0.2nm,0.5s,baz=97,slow=1.3,SNR=2.5
BOSA Boshof 118.58 115 PKP PKPdf 21 07 44.9 -0.2
comp=Z,3.8nm,1.1s,baz=223,slow=5.8,SNR=4.8
MKAR Makanchi Array 119.83 6 PKP PKPdf 21 07 46.7 -0.1
comp=Z,0.1nm,0.4s,baz=325,slow=3.1,SNR=4.4
WRA Warramunga Arr 136.79 255 PKP PKiKP 21 08 22.2 +0.7
comp=Z,0.3nm,0.4s,baz=88,slow=2.6,SNR=5.8
ASAR Alice Springs 136.95 250 PKP PKiKP 21 08 22.1 +0.3
comp=Z,0.6nm,0.8s,baz=158,slow=2.6,SNR=5.6
CMAR Chiang Mai Arr 147.16 344 PKPbc PKPbc 21 08 40.3 -0.1
comp=Z,2.7nm,0.7s,baz=339,slow=3.6,SNR=18

---

*ISK **02** 20:58:29.6, 36°.45N×28°.71E, h2km, ML2.3/18*
*AFAD **02** 20:58:30.0, 36°.43N×28°.73E, h7km±2km, ML2.7*
*ATH **02** 20:58:30.7, 36°.00N×28°.64E, h16km±4km, ML2.2/3,*
Manual Solution by F.Xalaris First location: 2019/04/02
21:00:09, This location: 2020/10/03 08:12:00 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 10 km;
Longitude uncertainty: 1 km

ISC 02 20:58:29.8±1.2, 36°.42N±0°.03×28°.67E±0°.02, h2km±11km, n30, σ1§31/45, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.40	57	Pg	Pg	Pg	20 58 36.7	-0.7
FETY				Sg	Sg	Sg	20 58 43.4	+0.8
FETY	Fethiye	0.40	57	P	Pg	Pg	20 58 37.3	-0.1
DALY	Dalyan (Mula)	0.40	358	Pg	Pg	Pg	20 58 37.4	0.0
DALY				Sg	Sg	Sg	20 58 43.8	+1.2
IZZE	Mula-Seydike	0.45	88	P	Pg	Pg	20 58 37.7	-0.7
IZZE				S	Sb	Sb	20 58 45.3	-2.3
IZZE				i AML	AML	AML	20 58 48.0	
comp=E,723nm,0.3s								
SABU	Mula-Dalaman	0.47	31	P	Pg	Pg	20 58 39.1	+0.3
SABU				S	Sg	Sg	20 58 44.9	-0.1
ARG	Arkhangelos	0.48	245	Pg	Pb	Pb	20 58 40.8	-0.2
ARG				Sg	Sb	Sb	20 58 48.9	+0.4
ARG	Arkhangelos	0.48	245	P	Pb	Pb	20 58 40.3	-0.7
ARG				S	Sg	Sg	20 58 46.7	+1.3
TURN	Turunc	0.49	316	Pg	Pb	Pb	20 58 40.4	-0.8
TURN				Sg	Sb	Sb	20 58 48.0	-0.8
TURN	Turunc	0.49	316	P	Pb	Pb	20 58 40.6	-0.6
TURN				S	Sb	Sb	20 58 47.8	-1.0
CAME	Cameli-Denizli	0.73	44	Pg	Pg	Pg	20 58 43.9	+0.1
CAME				Sg	Sb	Sb	20 58 54.3	-1.5
AKAS	Kas	0.78	104	Pg	Pb	Pb	20 58 45.1	-1.0
AKAS				Sg	Sb	Sb	20 58 56.6	-0.5
AKAS	Kas	0.78	104	P	Pg	Pg	20 58 44.0	-0.7
AKAS				S	Sb	Sb	20 58 55.2	-2.0
AKAS				i AML	AML	AML	20 59 02.0	
comp=N,367nm,1.1s								
AKAS				i AML	AML	AML	20 59 02.0	
comp=E,236nm,0.5s								
YER	Yerkesik	0.78	337	Pg	Pb	Pb	20 58 45.5	-0.6
KSL	Kastellorizon	0.79	110	P	Pb	Pb	20 58 45.8	-0.4
KSL				S	Sb	Sb	20 58 56.4	-0.8
KNIK	Mula-Seydike	0.84	59	P	Pg	Pg	20 58 45.8	-0.2
KNIK				S	Sg	Sg	20 58 56.6	-0.3
DATC	Datca-Mugla	0.88	293	Pg	Pb	Pb	20 58 47.8	0.0
DAT	Datca	0.93	290	Pg	Pn	Pn	20 58 48.9	-1.1
ELL	Elmali	1.05	71	Pg	Pb	Pb	20 58 50.1	-0.6
ELL	Elmali	1.05	71	P	Pn	Pn	20 58 54.1	+2.5
ELL				S	Sn	Sn	20 59 10.8	+3.9
MLSB	Milas	1.13	321	Pn	Pn	Pn	20 58 52.2	-0.4
APMY	Acipayam-Deniz	1.17	26	Pn	Pg	Pg	20 58 52.1	0.0
BODT	Bodrum	1.27	301	Pn	Pg	Pg	20 58 55.0	+0.9
AKUM	Antalya-Kumluc	1.35	94	P	Pg	Pg	20 58 56.2	+0.5
AKUM				S	Sg	Sg	20 59 16.6	+3.3
KORT	Korkueli	1.47	66	Pn	Pg	Pg	20 58 57.7	-0.3
KARP	Karpathos	1.50	235	Pn	Pg	Pg	20 58 59.1	+0.5
NAZL	Nazilli-Aydin	1.57	349	Pn	Pb	Pb	20 58 59.5	-0.1
AYDB	Zeytinkoy-Aydi	1.65	338	Pn	Pb	Pb	20 59 00.1	-0.8
ODEM	Odemis-Izmir	1.91	346	Pn	Pb	Pb	20 59 03.9	-1.5
IDI	Anoyia	3.27	251	P	Pn	Pn	20 59 19.5	-2.6
AKMS	Akamas	3.29	114	P	Pn	Pn	20 59 21.0	-1.4

---

*IDC **02** 21:12:32.2±2.5, 5°.20S×146°.21E, h122km±25km, mb3.2/4,*
mbtmp3.6/7, Error ellipse: s-maj=29.3km s-min=19.7km
az=66.0

ISC 02 21:12:30.7±1.2, 5°.1S±0°.1×146°.3E±0°.2, h100km, n7, σ1§69/8, mb3.5/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.38	168	P	Pn	Pn	21 13 36.8	+1.7
12nm,0.3s,baz=313,slow=6.0,SNR=9.3								
PMG				S	Sn	Sn	21 14 24.8	-0.3
16nm,0.3s,baz=166,slow=18,SNR=13								
JAY	Jayapura	6.09	295	P	Pn	Pn	21 14 00.1	+1.8
5.8nm,0.5s,baz=146,slow=7.3,SNR=6.7								
WRA	Warramunga Arr	18.77	217	P	P	P	21 16 40.5	-1.7
0.2nm,0.3s,baz=39,slow=12,SNR=7.5								
ASAR	Alice Springs	21.97	212	P	P	P	21 17 17.1	+0.4
0.2nm,0.4s,baz=31,slow=10,SNR=2.1								
0.2nm,0.4s								
FITZ	Fitzroy Crossi	23.93	236	P	P	P	21 17 33.6	-2.1
1.4nm,0.4s,baz=44,slow=9.5,SNR=2.9								
1.4nm,0.4s								
MKAR	Makanchi Array	76.32	321	P	P	P	21 24 08.2	-0.7
0.2nm,0.4s,baz=96,slow=6.1,SNR=4.9								
0.2nm,0.4s								
ILAR	Eielson Array	84.94	23	P	P	P	21 24 54.0	-0.4
0.9nm,0.7s,baz=246,slow=5.3,SNR=8.9								
0.9nm,0.7s								

IDC 02 21:21:07.4±5.4, 19°.00S×177°.45W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=312.2km s-min=74.7km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.34	260	P	P	P	21 29 28.2	+0.6
0.5nm,0.3s,baz=96,slow=8.0,SNR=30								
0.5nm,0.3s								
ASAR	Alice Springs	45.38	255	P	P	P	21 29 27.1	-0.9

0.6nm,0.5s,baz=93,slow=7.8,SNR=8.3
0.6nm,0.5s

HFS	**Hagfors**	**138.14**	**352**	PKP	PKPdf	21 40 31.8 -2.2
	0.6nm,0.4s,baz=76,slow=6.7,SNR=5.2					
AKASG	**Malin Array Be**	**141.94**	**332**	PKP	PKiKP	21 40 43.0 -1.1
	0.6nm,0.4s,baz=41,slow=3.6,SNR=5.2					

AEIC ***02*** *21:35:27.8±1.1, 52.°17N±0.°07×178.°07E±0.°07, h13km±2km, Error ellipse: s-maj=10.9km s-min=6.4km az=188.0*
IDC ***02*** *21:35:28.5±0.3, 52.°11N×178.°13E, h0km, mb5.6/40, mbtmp5.6/45, ML4.9/5, MS6.3/89, Error ellipse: s-maj=10.3km s-min=8.0km az=172.0*
BJI ***02*** *21:35:29.4, 52.°25N×178.°00E, h20km, mB6.2/64, mb6.3/73, Ms6.8/99, Ms7 6.7/97*
ISC-PP ***02*** *21:35:30, 52.°17N×178.°07E, h14km, Mwppsm6.3, Moment Tensor Solution. s61 Moment tensor: Scale 10^18Nm; M_{rr}0.08±.11; $M_{\theta\theta}$-0.39±.18; $M_{\phi\phi}$0.32±.13; $M_{r\theta}$-0.18±.12; $M_{\theta\phi}$-0.11±.11; $M_{\phi r}$-0.57±.11; Fault plane solution: $M_0$3.05000×10^18 NP1:ϕ_s14.90000°, δ80.20000°, λ349.60000°. NP2:ϕ_s106.70000°, δ79.70000°, λ-170.00000°.*
NEIC ***02*** *21:35:30.0±1.1, 52.°17N±0.°07×178.°07E±0.°07, h8km±2km, mb6.2/386, ML6.0/6, Ms_20 6.3/1041, Mwb6.3/96, Mww6.4/101, ML6.0(AEIC) Error ellipse: s-maj=10.7km s-min=6.5km az=188.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; M_{rr}0.13; $M_{\theta\theta}$-1.32; $M_{\phi\phi}$1.19; $M_{r\theta}$-0.57; $M_{\theta\phi}$-3.36; $M_{\phi r}$0.22; Fault plane solution: $M_0$3.64000×10^18 NP1:ϕ_s280.05000°, δ87.83000°, λ170.38000°. NP2:ϕ_s10.41000°, δ80.39000°, λ2.20000°. Principal axes: T 3.5979, Plg8.0000°, Azm235.0000°; N 0.0834, Plg80.0000°, Azm87.0000°; P -3.6813, Plg5.0000°, Azm326.0000°;*
NEIC ***02*** *21:35:30.1, 52.°16N×178.°07E, h6km*
KRSC ***02*** *21:35:30.0±3.3, 52.°29N×177.°97E, h20km±44km, Ml6.1*
NEIC ***02*** *21:35:31.5, 52.°15N×178.°07E, h14km*
MOS ***02*** *21:35:31.7±1.2, 52.°11N×178.°07E, h21km, mb6.4/143, MS6.4/120, Error ellipse: s-maj=5.5km s-min=3.6km az=108.8*
NEIC ***02*** *21:35:31.5, 52.°15N×178.°00E, h14km, Moment Tensor Solution. Duration: 8s1 Moment tensor: Scale 10^18Nm; M_{rr}-0.49; $M_{\theta\theta}$-1.29; $M_{\phi\phi}$1.78; $M_{r\theta}$0.95; $M_{\theta\phi}$-4.51; $M_{\phi r}$0.48; Fault plane solution: $M_0$4.90000×10^18 NP1: ϕ_s188.59000°, δ79.08000°, λ-8.64000°. NP2:ϕ_s280.23000°, δ81.52000°, λ-168.96000°. Principal axes: T 5.0182, Plg2.0000°, Azm54.0000°; N -0.2411, Plg76.0000°, Azm317.0000°; P -4.7772, Plg14.0000°, Azm145.0000°;*
IPGP ***02*** *21:35:32.0, 52.°21N×178.°02E, h9km, Mw6.5, Fault plane solution: NP1:ϕ_s100.00000°, δ79.00000°, λ-176.00000°. NP2:ϕ_s9.00000°, δ86.00000°, λ-11.00000°.*
GCMT ***02*** *21:35:37.0±0.0, 52.°17N×177.°97E, h12km, MW6.4/175, Moment Tensor Solution. s172,c409; s175,c770; Duration: 3s8 Moment tensor: Scale 10^18Nm; M_{rr}-0.49±.01; $M_{\theta\theta}$-1.13±.02; $M_{\phi\phi}$1.62±.02; $M_{r\theta}$-0.76±.04; $M_{\theta\phi}$-4.48±.01; $M_{\phi r}$-1.24±.04; Best double couple: $M_0$4.92300×10^18 NP1:ϕ_s100.00000°, δ74.00000°, λ-172.00000°. NP2:ϕ_s7.00000°, δ82.00000°, λ-17.00000°. Principal axes: T 4.9880, Plg6.0000°, Azm54.0000°; N -0.1310, Plg72.0000°, Azm163.0000°; P -4.8590, Plg17.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 02 21:35:31.1±0.3, 52.°06N±0.°02×178.°00E±0.°02, h12km±1km, h12km:pP-P,n2782,σ2s07/2871, mb6.2/464, MS6.4/678, 224C-159D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.97**	**97**		**Pn**	**21 36 02.8**	**-1.5**
GANO	**Gareloi North**	**1.99**	**96**		**Pn**	**21 36 02.9**	**-1.8**
GALAA	**Gareloi Lava P**	**2.02**	**97**		**Pn**	**21 36 03.5**	**-1.5**
GAEA	**Gareloi East**	**2.04**	**97**		**Pn**	**21 36 04.7**	**-0.5**
TASE	**Tanaga Southea**	**2.46**	**94**		**Pn**	**21 36 09.2**	**-1.9**
SHEM	**Shemya Is, Ala**	**2.48**	**287**	Pn	**Pn**	**21 36 11.0**	**-0.3**
	353nm,0.3s,baz=23,slow=1.6,SNR=56						
SHEM				Sn	**Sb**	**21 36 46.7**	**+0.6**
SHEM				LR	LR	21 37 01.2	
	comp=Z,355μm,18.9s,baz=98,slow=36 7μm,0.6s						
SMY	**Shemya**	**2.48**	**287**	Pn	**Pn**	**21 36 11.0**	**-0.3**
SMY					**Sb**	**21 36 45.0**	**-1.1**
SMY				IAML		21 36 52.4	
	comp=N,143μm,1.9s						
SMY	**Shemya**	**2.48**	**287**	P	**Pn**	**21 36 12.5**	**+1.2**
SMY	**Shemya**	**2.48**	**287**	P	**Pn**	**21 36 11.0**	**-0.3**
SMY						21 36 45.0	
SMY	**Shemya**	**2.48**	**287**	⇑P	**Pn**	**21 36 10.6**	**-0.8**
TAFP	**Tanaga Falls P**	**2.49**	**92**		**Pn**	**21 36 09.5**	**-2.0**
KICM	**Kanaga Island**	**2.98**	**91**		**Pn**	**21 36 16.5**	**-1.6**
KIWB	**Kanaga Island**	**3.01**	**92**		**Pn**	**21 36 16.8**	**-1.8**
KINC	**Kanaga Island**	**3.02**	**91**		**Pn**	**21 36 16.9**	**-1.7**
ADK	**Adak**	**3.29**	**91**	Pn	**Pn**	**21 36 20.3**	**-2.2**
ADK				IAML		21 37 33.3	
	comp=N,29μm,1.5s						
ADK	**Adak**	**3.29**	**91**	P	**Pn**	**21 36 20.8**	**-1.7**
ADK				S	**Sb**	**21 37 07.9**	**-1.6**
ADAG	**Mount Adagdak**	**3.34**	**89**		**Pn**	**21 36 21.3**	**-1.8**
GSCK	**Great Sitkin C**	**3.61**	**88**		**Pn**	**21 36 24.7**	**-2.1**
GSTR	**Great Sitkin T**	**3.67**	**87**		**Pn**	**21 36 25.1**	**-2.6**
ATKA	**Atka Island**	**4.81**	**85**	Pn	**Pn**	**21 36 40.6**	**-2.7**
ATKA				IAML		21 37 50.5	
	comp=E,12μm,1.4s						
ATKA				IAML		21 38 20.4	
	comp=N,12μm,2.0s						
ATKA	**Atka Island**	**4.81**	**85**	⇑P	**Pn**	**21 36 41.4**	**-2.0**
BKI	**Bering**	**7.81**	**299**	P	**Pn**	**21 37 24.6**	**+0.2**
BKI				S	**Sn**	**21 38 54.3**	**+1.6**
BKI	**Bering**	**7.81**	**299**	*e*P	**Pn**	**21 37 24.7**	**+0.2**
BKI				*e*S	**Sn**	**21 38 54.4**	**+1.6**
NIKH	**Nikolski High**	**8.07**	**78**		**Pn**	**21 37 28.6**	**+0.5**
NIKH	**Nikolski High**	**8.07**	**78**	P	**Pn**	**21 37 29.9**	**+1.8**
NIKH	**Nikolski High**	**8.07**	**78**	P	**Pn**	**21 37 26.0**	**-2.1**
	baz=269,SNR=14						
OKWE	**Okmok W'ng Wal**	**8.47**	**75**		**Pn**	**21 37 32.6**	**-0.9**
OKWR	**Okmok West Rim**	**8.49**	**75**		**Pn**	**21 37 33.2**	**-0.6**
SPIA	**Saint Paul Isl**	**8.53**	**48**		**Pn**	**21 37 34.1**	**-0.1**
SPIA					**Sn**	**21 39 08.7**	**-1.6**
SPIA	**Saint Paul Isl**	**8.53**	**48**	P	**Pn**	**21 37 34.3**	**0.0**
SPIA	**Saint Paul Isl**	**8.53**	**48**	P	**Pn**	**21 37 31.6**	**-2.7**
	baz=238,SNR=14						
P08K	**Saint George I**	**8.58**	**53**	Pn	**Pn**	**21 37 33.4**	**-1.6**
P08K	**Saint George I**	**8.58**	**53**	P	**Pn**	**21 37 32.5**	**-2.5**
	baz=244,SNR=5.8						
OKTU	**Okmok Mt. Tuli**	**8.58**	**76**		**Pn**	**21 37 35.1**	**0.0**
UNV	**Unalaska Valle**	**9.53**	**73**		**Pn**	**21 37 46.5**	**-1.4**
UNV	**Unalaska Valle**	**9.53**	**73**	P	**Pn**	**21 37 45.9**	**-2.1**
	baz=266,SNR=12						
KBTR	**Krutoberegovo**	**9.83**	**301**	P	**Pn**	**21 37 50.8**	**-1.2**
KBTR	**Krutoberegovo**	**9.83**	**301**	*e*P	**Pn**	**21 37 50.9**	**-1.2**
LVA	**Lava Point**	**9.83**	**71**		**Pn**	**21 37 50.9**	**-1.3**
TILK	**Tilichiki**	**10.67**	**327**	P	**Pn**	**21 38 02.7**	**-0.8**
TILK	**Tilichiki**	**10.67**	**327**	*e*P	**Pn**	**21 38 02.8**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**10.89**	**298**	P	**Pn**	**21 38 08.9**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**10.89**	**298**	*e*P	**Pn**	**21 38 08.9**	**+2.1**
TUMD	**Tumrok D**	**10.91**	**294**	P	**Pn**	**21 38 08.7**	**+1.7**
TUMD	**Tumrok D**	**10.91**	**294**	*e*P	**Pn**	**21 38 08.7**	**+1.7**
KLY	**Klyuchi**	**11.01**	**300**	P	**Pn**	**21 38 07.7**	**-0.6**
KLY	**Klyuchi**	**11.01**	**300**	*e*P	**Pn**	**21 38 07.7**	**-0.6**
OSSR	**Ossora**	**11.08**	**316**	P	**Pn**	**21 38 07.9**	**-1.2**
OSSR	**Ossora**	**11.08**	**316**	*e*P	**Pn**	**21 38 08.0**	**-1.2**
KIRR	**Kirishev**	**11.09**	**298**	P	**Pn**	**21 38 11.8**	**+2.3**
KIRR	**Kirishev**	**11.09**	**298**	*e*P	**Pn**	**21 38 11.8**	**+2.3**
ISLZ	**Isanotski Laza**	**11.24**	**69**		**Pn**	**21 38 11.1**	**-0.4**
FALS	**False Pass**	**11.42**	**68**	P	**Pn**	**21 38 16.2**	**+2.3**
FALS	**False Pass**	**11.42**	**68**	P	**Pn**	**21 38 12.3**	**-1.6**
	baz=264						
SDLR	**Sedlovina**	**11.67**	**284**	P	**Pn**	**21 38 19.3**	**+1.9**
SDLR	**Sedlovina**	**11.67**	**284**	*e*P	**Pn**	**21 38 19.3**	**+1.9**
UGLR	**Uglovaya**	**11.71**	**283**	P	**Pn**	**21 38 21.4**	**+3.5**
UGLR	**Uglovaya**	**11.71**	**283**	*e*P	**Pn**	**21 38 21.4**	**+3.5**
AVH	**Avacha**	**11.76**	**283**	P	**Pn**	**21 38 21.9**	**+3.3**
AVH	**Avacha**	**11.76**	**283**	*e*P	**Pn**	**21 38 21.9**	**+3.3**
PET	**Petropavlovsk**	**11.82**	**282**		**Pn**	**21 38 19.5**	**+0.2**
PET	**Petropavlovsk**	**11.82**	**282**	P	**Pn**	**21 38 22.1**	**+2.7**
PET	**Petropavlovsk**	**11.82**	**282**	*de*P	**Pn**	**21 38 21.6**	**+2.3**
PET				*e*S	**Sn**	**21 40 30.8**	**-0.2**
PET				pmax	pmax		
	comp=Z,6μm,4.6s						
PET				pmax	pmax		
	comp=Z,4μm,8.6s						
PET				pmax	pmax		
	comp=Z,438nm,1.8s						
PET				smax	smax		
	comp=E,1μm,1.0s						
PET				smax	smax		
	comp=N,945nm,0.8s						
PET				smax	smax		
	comp=E,62μm,21.7s						
PET				smax	smax		
	comp=N,246μm,22.7s						
PET				MLR	MLR		
	comp=Z,134μm,13.0s						
PET				MLR	MLR		
	comp=Z,147μm,13.0s						
PET	**Petropavlovsk**	**11.82**	**282**	⇓P	**Pn**	**21 38 22.0**	**+2.7**
M11K	**Mekoryuk**	**12.09**	**40**	Pn	**Pn**	**21 38 20.9**	**-2.1**
M11K	**Mekoryuk**	**12.09**	**40**	P	**Pn**	**21 38 20.4**	**-2.5**
	baz=234,SNR=60						
GRL	**Gorelyy**	**12.21**	**280**	P	**Pn**	**21 38 27.1**	**+2.3**
GRL	**Gorelyy**	**12.21**	**280**	*e*P	**Pn**	**21 38 27.1**	**+2.3**
PEA0B	**Petropavlovsk-**	**12.39**	**283**		**Pn**	**21 38 28.1**	**+0.9**
PEA0B	**Petropavlovsk-**	**12.39**	**283**	*d i*P	**Pn**	**21 38 29.0**	**+1.8**
PETK	**Petropavlovsk-**	**12.39**	**283**	Pn	**Pn**	**21 38 27.3**	**+0.1**
PETK	**Petropavlovsk-**	**12.39**	**283**	Pn	**Pn**	**21 38 28.9**	**+1.8**
	comp=Z,5.6nm,0.3s,baz=89,slow=14,SNR=44						
PETK				Sn	**Sn**	**21 40 44.3**	**-0.7**
	comp=Z,4.2nm,0.3s,baz=86,slow=25,SNR=4.2						
PETK				LR	LR	21 42 58.1	
	comp=Z,134μm,20.9s,baz=99,slow=36						
PETK				ScP	**ScP**	**21 47 41.5**	**+1.4**
	comp=Z,13nm,1.0s,baz=123,slow=5.5,SNR=4.0 comp=Z,172nm,0.8s						
GAMB	**Gambell**	**12.94**	**21**	P	**Pn**	**21 38 31.8**	**-2.7**
	baz=210,SNR=26						
GAMB	**Gambell**	**12.94**	**21**	⇑P	**Pn**	**21 38 34.8**	**+0.3**
SDPT	**Sand Point**	**13.16**	**67**	Pn	**Pn**	**21 38 36.8**	**-0.8**
SDPT	**Sand Point**	**13.16**	**67**	P	**Pn**	**21 38 38.7**	**+1.1**
SDPT	**Sand Point**	**13.16**	**67**	P	**Pn**	**21 38 36.2**	**-1.4**
	baz=265,SNR=16						
M13K	**Dall Lake**	**13.28**	**44**	Pn	**Pn**	**21 38 39.5**	**+0.2**
M13K	**Dall Lake**	**13.28**	**44**	P	**Pn**	**21 38 37.8**	**-1.5**
	baz=239,SNR=62						
CHNA	**Chernabura Isl**	**13.63**	**69**	P	**Pn**	**21 38 46.2**	**+2.2**
CHNA	**Chernabura Isl**	**13.63**	**69**	P	**Pn**	**21 38 42.9**	**-1.1**
	baz=268						
CNBA	**Chernabura Isl**	**13.63**	**69**		**Pn**	**21 38 43.5**	**-0.5**
K13K	**Kusilvak Mount**	**13.63**	**37**	Pn	**Pn**	**21 38 43.6**	**-0.4**
K13K	**Kusilvak Mount**	**13.63**	**37**	P	**Pn**	**21 38 42.4**	**-1.7**
	baz=231,SNR=42						
O14K	**Tigyukauivet M**	**13.70**	**50**		**Pn**	**21 38 45.2**	**+0.2**
O14K	**Tigyukauivet M**	**13.70**	**50**	P	**Pn**	**21 38 42.8**	**-2.2**
	baz=248,SNR=23						
SKR	**Severo-Kuril's**	**13.73**	**273**	⇑*i*P	**Pn**	**21 38 48.1**	**+2.6**
SKR				*e*S	**Sn**	**21 41 15.2**	**-2.6**
SKR				pmax	pmax		
	comp=Z,861nm,1.0s						
SKR				pmax	pmax		
	comp=Z,15μm,5.9s						
SKR				MLR	MLR		
	comp=Z,126μm,16.0s						
N14K	**Kuskokwak Cree**	**13.78**	**47**	P	**Pn**	**21 38 44.6**	**-1.5**
	baz=244,SNR=47						
S14K	**Fog Glacier**	**13.79**	**63**	P	**Pn**	**21 38 44.8**	**-1.6**
	baz=262,SNR=17						
M14K	**Bethel**	**14.05**	**44**		**Pn**	**21 38 48.7**	**-1.0**
M14K	**Bethel**	**14.05**	**44**	P	**Pn**	**21 38 47.7**	**-2.0**
	baz=241,SNR=62						
L14K	**Kuka Creek**	**14.05**	**41**	P	**Pn**	**21 38 47.5**	**-2.3**
	baz=237						
O15K	**Ungalikthiuk R**	**14.37**	**52**	P	**Pn**	**21 38 52.7**	**-1.4**
	baz=250,SNR=104						
CHGN	**Chignik**	**14.42**	**64**		**Pn**	**21 38 52.8**	**-2.0**
CHGN	**Chignik**	**14.42**	**64**	P	**Pn**	**21 38 53.5**	**-1.4**
	baz=263,SNR=17						
J14K	**Nanvaranak Lak**	**14.55**	**35**		**Pn**	**21 38 54.3**	**-2.2**
J14K	**Nanvaranak Lak**	**14.55**	**35**	P	**Pn**	**21 38 54.6**	**-2.0**
	baz=231,SNR=105						
M15K	**Kasigluk River**	**14.57**	**45**	P	**Pn**	**21 38 55.5**	**-1.4**
	baz=243,SNR=178						
N15K	**Kwethluk River**	**14.61**	**48**	P	**Pn**	**21 38 55.4**	**-2.1**
	baz=246,SNR=48						
L15K	**Ungalak Mounta**	**14.72**	**41**	P	**Pn**	**21 38 56.1**	**-2.8**
	baz=238,SNR=152						
K15K	**Wolf Creek Mou**	**15.03**	**39**	P	**Pn**	**21 39 00.6**	**-2.5**
	baz=236,SNR=30						
R16K	**Pilot Point**	**15.08**	**59**	P	**Pn**	**21 39 01.7**	**-2.0**
	baz=259,SNR=10						
ANM	**Nome**	**15.21**	**28**		**Pn**	**21 39 03.5**	**-1.9**
ANM	**Nome**	**15.21**	**28**	P	**Pn**	**21 39 03.5**	**-1.9**
ANM				pmax	pmax		
	comp=Z,35nm,1.4s						
ANM	**Nome**	**15.21**	**28**	P	**Pn**	**21 39 03.0**	**-2.5**
	baz=222,SNR=26						
P16K	**Nushagak River**	**15.22**	**53**	P	**Pn**	**21 39 03.2**	**-2.4**
	baz=253,SNR=49						
TNA	**Tin City**	**15.32**	**23**	P	**Pn**	**21 39 04.3**	**-2.5**
	baz=215						
N16K	**Nishlik Lake**	**15.34**	**48**	P	**Pn**	**21 39 04.8**	**-2.5**
	baz=247						
O16K	**Kokwok River B**	**15.34**	**51**	P	**Pn**	**21 39 05.6**	**-1.6**
	baz=251,SNR=92						
M16K	**Timber Creek**	**15.48**	**46**	P	**Pn**	**21 39 07.3**	**-1.7**
	baz=245,SNR=87						
L16K	**Owhat River**	**15.56**	**43**	P	**Pn**	**21 39 08.4**	**-1.7**
	baz=242,SNR=43						
F14K	**Arctic Creek**	**15.64**	**25**	P	**Pn**	**21 39 09.5**	**-1.6**
	baz=218						
Q16K	**King Salmon**	**15.79**	**55**	P	**Pn**	**21 39 12.0**	**-1.1**
	baz=256,SNR=69						
O17K	**Koliganek Bris**	**15.88**	**51**	P	**Pn**	**21 39 12.1**	**-2.1**
	baz=252,SNR=114						
CHIR	**Chirikof Islan**	**15.94**	**66**		**Pn**	**21 39 14.1**	**-0.9**
CHIR	**Chirikof Islan**	**15.94**	**66**	P	**P**	**21 39 17.2**	**-1.4**
CHIR	**Chirikof Islan**	**15.94**	**66**	P	**Pn**	**21 39 13.7**	**-1.3**
	baz=268						
J16K	**Anvik River**	**15.95**	**37**		**Pn**	**21 39 13.5**	**-1.5**
J16K	**Anvik River**	**15.95**	**37**	P	**Pn**	**21 39 13.6**	**-1.5**
	baz=235,SNR=93						
P17K	**Kvichak River**	**16.03**	**54**	P	**Pn**	**21 39 15.0**	**-1.1**
	baz=255,SNR=113						
N17K	**Nushagak Hills**	**16.09**	**49**		**Pn**	**21 39 15.9**	**-1.0**
N17K	**Nushagak Hills**	**16.09**	**49**	P	**Pn**	**21 39 15.1**	**-1.7**
	baz=249,SNR=156						
Q17K	**Contact Creek**	**16.10**	**57**	P	**Pn**	**21 39 16.4**	**-0.8**
	baz=259,SNR=262						
H16K	**Elim**	**16.22**	**31**	P	**Pn**	**21 39 16.7**	**-1.8**
	baz=228,SNR=64						
L17K	**Donlin**	**16.26**	**42**	P	**Pn**	**21 39 17.4**	**-1.6**
	baz=242,SNR=228						
I17K	**Unalakleet**	**16.27**	**35**	P	**Pn**	**21 39 17.0**	**-2.1**
	baz=233						
F15K	**North Star Dit**	**16.27**	**26**	P	**Pn**	**21 39 17.4**	**-1.8**
	baz=221						
M17K	**Holitna River**	**16.30**	**45**	P	**Pn**	**21 39 18.3**	**-1.3**
	baz=246,SNR=59						
ACHA	**Angle Creek He**	**16.38**	**57**	Pn	**Pn**	**21 39 18.9**	**-1.8**
K17K	**Iditarod**	**16.53**	**41**	P	**Pn**	**21 39 20.1**	**-2.4**
	baz=241						
J17K	**VABM Dome**	**16.58**	**38**	P	**Pn**	**21 39 20.8**	**-2.4**
	baz=238,SNR=135						
Q18K	**Katmai Hardscr**	**16.62**	**56**	P	**Pn**	**21 39 22.9**	**-1.0**
	baz=258,SNR=634						
P18K	**Big Mountain,**	**16.68**	**53**		**Pn**	**21 39 22.7**	**-1.8**
P18K	**Big Mountain,**	**16.68**	**53**	P	**Pn**	**21 39 22.8**	**-1.7**
	baz=256						
G16K	**Koyuk River**	**16.70**	**29**	P	**Pn**	**21 39 22.8**	**-1.9**
	baz=226						
R18K	**Karluk**	**16.74**	**60**	P	**Pn**	**21 39 23.1**	**-2.0**
	baz=263,SNR=35						
N18K	**Kilae Creek**	**16.74**	**49**	P	**Pn**	**21 39 23.5**	**-1.8**
	baz=251,SNR=180						
SII	**Sitkinak Islan**	**16.78**	**63**		**Pn**	**21 39 23.8**	**-2.0**
SII				IAmb	IAmb	21 39 33.1	
	comp=Z,3μm,1.6s						
SII	**Sitkinak Islan**	**16.78**	**63**	P	**Pn**	**21 39 26.5**	**+0.7**
SII	**Sitkinak Islan**	**16.78**	**63**	P	**Pn**	**21 39 24.3**	**-1.5**
	baz=266,SNR=26						
O18K	**Koktuh Hills**	**16.81**	**52**	P	**Pn**	**21 39 25.3**	**-0.9**
O18K	**Koktuh Hills**	**16.81**	**52**	P	**Pn**	**21 39 24.8**	**-1.4**
	baz=254,SNR=334						
MA2	**Magadan**	**16.95**	**307**	P	**Pn**	**21 39 27.5**	**-0.4**
MA2	**Magadan**	**16.95**	**307**	Pn	**Pn**	**21 39 28.6**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=108,slow=11,SNR=29						
MA2				Sn	**Sn**	**21 42 39.6**	**+3.6**
	comp=Z,0.6nm,0.3s,baz=120,slow=15,SNR=1.4						
MA2				LR	LR	21 45 43.8	
	comp=Z,151μm,18.2s,baz=110,slow=36 comp=Z,7.1nm,0.4s						
MA2	**Magadan**	**16.95**	**307**	P	**P**	**21 39 30.0**	**+0.2**
MA2	**Magadan**	**16.95**	**307**	*d i*P	**P**	**21 39 29.0**	**-0.8**
MA2				pmax	pmax		
	comp=Z,568nm,2.5s						
MA2				MLR	MLR		
	comp=Z,139μm,13.0s						
MA2	**Magadan**	**16.95**	**307**	⇓P	**Pn**	**21 39 26.4**	**-1.5**
L18K	**Granite Mounta**	**16.97**	**43**	P	**Pn**	**21 39 26.8**	**-1.3**
	baz=245,SNR=344						
BILL	**Bilibino**	**17.01**	**345**		**Pn**	**21 39 27.0**	**-1.6**
BILL	**Bilibino**	**17.01**	**345**	*ce*P	**Pn**	**21 39 27.8**	**-0.8**
BILL				pmax	pmax		
	comp=Z,207nm,1.7s						
BILL				MLR	MLR		
	comp=Z,138μm,16.0s						
M18K	**Stony River**	**17.05**	**46**	P	**Pn**	**21 39 27.4**	**-1.8**
	baz=248,SNR=136						
H17K	**Granite Mounta**	**17.18**	**33**	P	**Pn**	**21 39 28.7**	**-2.0**
	baz=232,SNR=49						
G17K	**Kiwalik Mounta**	**17.30**	**31**	P	**Pn**	**21 39 31.1**	**-1.1**
	baz=229,SNR=102						
OHAK	**Old Harbor**	**17.33**	**61**		**Pn**	**21 39 30.7**	**-1.8**
OHAK	**Old Harbor**	**17.33**	**61**	P	**Pn**	**21 39 31.9**	**-0.7**
OHAK	**Old Harbor**	**17.33**	**61**	P	**Pn**	**21 39 30.8**	**-1.8**
	baz=265,SNR=46						
O19K	**Port Alsworth**	**17.34**	**51**	P	**Pn**	**21 39 31.4**	**-1.2**
	baz=254						
Q19K	**Cape Douglas,**	**17.38**	**56**	P	**Pn**	**21 39 31.7**	**-1.5**
	baz=259,SNR=166						
SEY	**Seymchan**	**17.41**	**319**	P	**Pn**	**21 39 34.1**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=116,slow=13,SNR=36						
SEY				S	**Sn**	**21 42 50.9**	**+3.8**
	comp=Z,71nm,1.2s,baz=77,slow=18,SNR=1.4						
SEY				LR	LR	21 46 10.1	
	comp=Z,162μm,18.0s,baz=116,slow=37 comp=Z,29nm,0.7s						
SEY	**Seymchan**	**17.41**	**319**	⇑*e*P	**Pn**	**21 39 33.7**	**+0.1**
SEY				pmax	pmax		
	comp=Z,905nm,1.7s						
SEY				MLR	MLR		
	comp=Z,148μm,18.0s						
N19K	**Bonanza Creek**	**17.44**	**49**	P	**Pn**	**21 39 31.7**	**-2.3**
	baz=252,SNR=190						
J18K	**Innoko River**	**17.53**	**40**	P	**Pn**	**21 39 34.7**	**-0.4**
J18K	**Innoko River**	**17.53**	**40**	P	**Pn**	**21 39 33.2**	**-1.9**
	baz=241,SNR=95						
J18K				S	**Sn**	**21 42 51.7**	**+1.8**
	baz=241						
TTA	**Tatalina**	**17.56**	**42**	P	**Pn**	**21 39 33.5**	**-2.1**
	baz=244						
TTA				S	**Sn**	**21 42 54.2**	**+3.3**
	baz=244						
P19K	**Oil Pt**	**17.73**	**53**	P	**Pn**	**21 39 35.5**	**-2.2**
	baz=258,SNR=732						
P19K				S	**S**	**21 43 01.2**	**-0.9**
	baz=258						
L19K	**White Mountain**	**17.74**	**45**	P	**Pn**	**21 39 36.2**	**-1.5**
	baz=248,SNR=52						
L19K				S	**S**	**21 42 59.8**	**-2.5**
	baz=248						
F17K	**Baldwin Pennin**	**17.76**	**28**	P	**Pn**	**21 39 35.8**	**-2.0**
	baz=226						
F17K				S	**S**	**21 42 59.1**	**-3.3**
	baz=226						
KDAK	**Kodiak Island**	**17.76**	**60**	P	**Pn**	**21 39 35.9**	**-2.1**
KDAK	**Kodiak Island**	**17.76**	**60**	P	**Pn**	**21 39 36.2**	**-1.8**
	comp=Z,5.4nm,0.3s,baz=129,slow=6.9,SNR=71						
KDAK				LR	LR	21 46 18.7	
	comp=Z,58μm,20.4s,baz=98,slow=37 comp=Z,233nm,0.9s						
KDAK	**Kodiak Island**	**17.76**	**60**	*de*P	**Pn**	**21 39 36.5**	**-1.4**
KDAK				pmax	pmax		
	comp=Z,2μm,1.5s						
KDAK				MLR	MLR		
	comp=Z,229μm,17.0s						
KDAK	**Kodiak Island**	**17.76**	**60**	P	**Pn**	**21 39 35.6**	**-2.3**
	baz=264						
KDAK				S	**S**	**21 43 02.4**	**-0.2**
	baz=264						
KDAK	**Kodiak Island**	**17.76**	**60**	⇑P	**Pn**	**21 39 35.4**	**-2.5**
H18K	**Honhosa River**	**17.83**	**34**	P	**Pn**	**21 39 36.6**	**-2.2**
	baz=234						
H18K				S	**S**	**21 43 03.4**	**-0.6**
	baz=234						
M19K	**Big River Lodg**	**17.84**	**46**	P	**Pn**	**21 39 37.1**	**-1.8**
	baz=249,SNR=51						
M19K				S	**S**	**21 43 06.4**	**+2.1**
	baz=249						
ILSW	**Iliamna Southw**	**17.85**	**52**	P	**Pn**	**21 39 37.4**	**-1.8**
Q20K	**Shuyak Island**	**17.96**	**57**	P	**Pn**	**21

	baz=218,SNR=35						
C17K				S	**S**	**21 43 25.3**	**+2.2**
	baz=218						
G19K	**Purcell Mounta**	**18.85**	**32**	P	**P**	**21 39 49.5**	**-1.1**
	baz=234						
G19K				S	**S**	**21 43 23.5**	**-1.1**
	baz=234						
J20K	**Nowinta River**	**18.87**	**39**	P	**P**	**21 39 50.1**	**-0.8**
	baz=243,SNR=122						
J20K				S	**Sn**	**21 43 23.1**	**+0.8**
	baz=243						
BRLK	**Bradley Lake**	**18.92**	**54**	P	**P**	**21 39 49.1**	**-2.5**
BRLK				IAmb	IAmb	21 39 59.5	
	comp=Z,2μm,1.1s						
BRSE	**Bradley Lake S**	**18.99**	**54**	P	**P**	**21 39 51.5**	**-0.8**
	baz=260,SNR=249						
BRSE				S	**S**	**21 43 26.7**	**-0.8**
	baz=260						
CAPN	**Captain Cook N**	**19.00**	**51**	P	**P**	**21 39 51.3**	**-1.0**
	baz=257,SNR=95						
CAPN				S	**S**	**21 43 30.1**	**+2.5**
	baz=257						
I20K	**Naaghedeneel**	**19.03**	**37**	P	**P**	**21 39 51.6**	**-1.1**
	baz=241,SNR=38						
I20K				S	**S**	**21 43 29.6**	**+1.3**
	baz=241						
F19K	**Shaleruckik Mo**	**19.05**	**30**	P	**P**	**21 39 51.9**	**-1.0**
	baz=231						
F19K				S	**S**	**21 43 31.8**	**+3.1**
	baz=231						
SKT	**Skwentna**	**19.14**	**47**	P	**P**	**21 39 53.6**	**-0.3**
	baz=253,SNR=202						
SKT				S	**S**	**21 43 35.6**	**+5.0**
	baz=253						
PPLA	**Purkeypile**	**19.15**	**44**	P	**P**	**21 39 52.8**	**-1.4**
	baz=249,SNR=92						
PPLA				S	**S**	**21 43 34.4**	**+3.3**
	baz=249						
H20K	**Anotleneega Mo**	**19.24**	**35**	P	**P**	**21 39 54.2**	**-0.8**
	baz=239,SNR=208						
H20K				S	**S**	**21 43 35.8**	**+3.4**
	baz=239						
SUA	**Susitna One**	**19.36**	**49**	P	**P**	**21 39 55.2**	**-1.2**
	baz=255,SNR=319						
SUA				S	**S**	**21 43 38.0**	**+2.9**
	baz=255						
C18K	**Utukok River**	**19.38**	**23**	P	**P**	**21 39 55.1**	**-1.4**
C18K	**Utukok River**	**19.38**	**23**	P	**P**	**21 39 54.8**	**-1.7**
	baz=221,SNR=58						
C18K				S	**S**	**21 43 37.3**	**+2.0**
	baz=221						
CAST	**Castle Rocks**	**19.39**	**43**	P	**P**	**21 39 55.8**	**-0.9**
	baz=248,SNR=81						
CAST				S	**S**	**21 43 37.6**	**+2.0**
	baz=248						
CHUM	**Lake Minchumin**	**19.47**	**41**	P	**P**	**21 39 56.7**	**-0.8**
	baz=247,SNR=434						
CHUM				S	**S**	**21 43 37.1**	**0.0**
	baz=247						
FIS	**Fire Island**	**19.53**	**50**	P	**P**	**21 39 58.1**	**0.0**
FIS				IAmb	IAmb	21 40 10.0	
	comp=Z,2μm,1.0s						
E19K	**Redstone River**	**19.61**	**29**	P	**P**	**21 39 57.5**	**-1.5**
	baz=230						
E19K				S	**Sn**	**21 43 40.6**	**+0.3**
	baz=230						
O22K	**Cooper Landing**	**19.62**	**52**	P	**P**	**21 39 58.3**	**-0.9**
	baz=259,SNR=42						
O22K				S	**Sn**	**21 43 43.0**	**+2.5**
	baz=259						
SEW	**Seward**	**19.69**	**53**	P	**P**	**21 39 58.5**	**-1.4**
	baz=260,SNR=47						
SEW				S	**Sn**	**21 43 42.4**	**+0.3**
	baz=260						
M22K	**Willow**	**19.72**	**48**	P	**P**	**21 39 58.6**	**-1.6**
	baz=255,SNR=92						
M22K				S	**Sn**	**21 43 48.7**	**+5.8**
	baz=255						
RC01	**Rabbit Creek A**	**19.74**	**50**	P	**P**	**21 39 59.2**	**-1.3**
RC01				IAmb	IAmb	21 40 12.6	
	comp=Z,1μm,1.0s						
RC01	**Rabbit Creek A**	**19.74**	**50**	P	**P**	**21 39 59.8**	**-0.7**
	baz=257,SNR=332						
RC01				S	**Sn**	**21 43 46.2**	**+2.8**
	baz=257						
B18K	**Kokolik River**	**19.79**	**21**	P	**P**	**21 39 59.8**	**-1.1**
	baz=219						
B18K				S	**Sn**	**21 43 44.4**	**+0.1**
	baz=219						
F20K	**Avaraart Lake**	**19.82**	**31**	P	**P**	**21 40 00.5**	**-0.8**
F20K	**Avaraart Lake**	**19.82**	**31**	P	**P**	**21 40 00.5**	**-0.8**
	baz=234						
F20K				S	**Sn**	**21 43 47.5**	**+2.3**
	baz=234						
CUT	**Chulitna**	**19.84**	**46**	P	**P**	**21 40 00.4**	**-1.1**
	baz=253,SNR=332						
CUT				S	**Sn**	**21 43 47.2**	**+1.6**
	baz=253						
D19K	**Kuna River**	**20.05**	**26**	P	**P**	**21 40 03.4**	**-0.4**
D19K				IAmb	IAmb	21 40 15.8	
	comp=Z,1μm,1.4s						
D19K	**Kuna River**	**20.05**	**26**	P	**P**	**21 40 02.3**	**-1.6**
	baz=227						
D19K				S	Sn	21 43 50.0	-0.9
	baz=227						
H21K	**Melozitna River**	**20.07**	**36**	P	**P**	**21 40 03.0**	**-1.0**
H21K				IAmb	IAmb	21 40 17.6	
	comp=Z,1μm,1.4s						
H21K	**Melozitna Rive**	**20.07**	**36**	P	**P**	**21 40 02.9**	**-1.2**
	baz=241,SNR=471						
H21K				S	Sn	21 43 50.9	-0.3
	baz=241						
BPAW	**Bear Paw Mtn.**	**20.10**	**41**	P	**P**	**21 40 03.6**	**-0.8**
	baz=248,SNR=262						
BPAW				S	Sn	21 43 53.3	+1.3
	baz=248						
PMR	**Palmer**	**20.14**	**49**	P	Pn	21 40 07.0	+0.4
PMR	**Palmer**	**20.14**	**49**	P	**P**	**21 40 03.5**	**-1.3**
	baz=257						
PMR				S	**S**	**21 43 50.6**	**+0.1**
	baz=257						
TRF	**Thorofare Moun**	**20.16**	**43**	P	**P**	**21 40 04.4**	**-0.8**
TRF	**Thorofare Moun**	**20.16**	**43**	P	**P**	**21 40 04.1**	**-1.0**
	baz=250,SNR=155						
TRF				S	Sn	21 43 55.3	+1.8
	baz=250						
G21K	**Allakaket**	**20.25**	**34**	P	**P**	**21 40 05.3**	**-0.7**
G21K				IAmb	IAmb	21 40 17.9	
	comp=Z,2μm,1.9s						
G21K				IAMs_20	IAMs_20	21 48 19.6	
	comp=Z,126μm,18.0s						
G21K	**Allakaket**	**20.25**	**34**	P	**P**	**21 40 04.5**	**-1.5**
	baz=238						
G21K				S	Sn	21 43 56.3	+0.6
	baz=238						
PWL	**Port Wells**	**20.37**	**51**	IAMs_20	IAMs_20	21 48 27.6	
	comp=Z,145μm,18.0s						
PWL	**Port Wells**	**20.37**	**51**	P	**P**	**21 40 06.5**	**-0.8**
	baz=260,SNR=290						
PWL				S	Sn	21 43 59.1	+0.6
	baz=260						
KNK	**Knik Glacier**	**20.42**	**50**	IAMs_20	IAMs_20	21 49 08.9	
	comp=Z,106μm,18.0s						
KNK	**Knik Glacier**	**20.42**	**50**	P	**P**	**21 40 06.5**	**-1.3**
	baz=258,SNR=177						
KNK				S	Sn	21 43 58.9	-0.8
	baz=258						
E20K	**Nigu River**	**20.43**	**28**	P	**P**	**21 40 06.6**	**-1.4**
	baz=230						
E20K				S	**S**	**21 43 57.5**	**+1.1**
	baz=230						
SML	**Sawmill**	**20.56**	**49**	P	**P**	**21 40 07.1**	**-2.4**
SML				IAmb	IAmb	21 40 21.3	
	comp=Z,1μm,1.0s						
SML	**Sawmill**	**20.56**	**49**	P	**P**	**21 40 07.6**	**-1.9**
	baz=257,SNR=109						
SML				S	Sn	21 44 01.1	-2.1
	baz=257						
A19K	**Wainwright**	**20.60**	**20**	P	**P**	**21 40 08.1**	**-1.7**
	baz=219						
A19K				S	Sn	21 44 03.9	0.0
	baz=219						
D20K	**Etivluk River**	**20.61**	**26**	P	**P**	**21 40 08.3**	**-1.6**
	baz=229						
D20K				S	Sn	21 44 04.7	+0.5
	baz=229						
F21K	**Alatna River**	**20.64**	**32**	P	**P**	**21 40 08.1**	**-2.1**
	baz=237						
F21K				S	Sn	21 44 05.1	+0.1
	baz=237						
P23K	**Montague Islan**	**20.69**	**54**	IAMs_20	IAMs_20	21 49 30.0	
	comp=Z,110μm,21.0s						
P23K	**Montague Islan**	**20.69**	**54**	P	**P**	**21 40 09.4**	**-1.4**
	baz=263,SNR=103						
P23K				S	Sn	21 44 08.0	+1.8
	baz=263						
H22K	**Ishtalitna Cre**	**20.70**	**36**	P	**P**	**21 40 09.1**	**-1.7**
	baz=243,SNR=274						
H22K				S	Sn	21 44 06.5	+0.1
	baz=243						
BWN	**Browne**	**20.75**	**42**	P	**P**	**21 40 10.5**	**-0.9**
BWN				IAMs_20	IAMs_20	21 48 45.3	
	comp=Z,93μm,18.0s						
RND	**Reindeer**	**20.75**	**44**	P	**P**	**21 40 09.8**	**-1.7**
RND				IAmb	IAmb	21 40 24.9	
	comp=Z,1μm,1.6s						
RND				IAMs_20	IAMs_20	21 48 09.6	
	comp=Z,129μm,21.0s						
RND	**Reindeer**	**20.75**	**44**	P	**P**	**21 40 09.8**	**-1.7**
RND				pmax	pmax		
	comp=Z,1μm,1.6s						
RND				MLR	MLR		
	comp=Z,129μm,21.0s						
MCK	**McKinley**	**20.82**	**43**	P	**P**	**21 40 10.7**	**-1.5**
	baz=252,SNR=189						
MCK				S	Sn	21 44 07.2	-2.2
	baz=252						
M23K	**Glacier View**	**20.84**	**49**	P	**P**	**21 40 10.7**	**-1.7**
	baz=258,SNR=136						
M23K				S	**S**	**21 44 06.8**	**+2.4**
	baz=258						
KUR	**Kuril'sk**	**20.94**	**263**	*e*P	**P**	**21 40 13.7**	**+0.1**
KUR				*e*		21 40 32.5	
KUR				*i* S	**S**	**21 44 07.8**	**+1.2**
KUR				*e*SS	**SnSn**	**21 44 31.2**	**+4.2**
KUR				*e*SSS	SSS	21 44 43.5	
KUR				pmax	pmax		
	comp=Z,7μm,1.3s						
KUR				pmax	pmax		
	comp=E,3μm,1.8s						
KUR				pmax	pmax		
	comp=Z,19μm,6.3s						
KUR				MLR	MLR		
	comp=Z,53μm,15.0s						
KUR				MLR	MLR		
	comp=E,74μm,14.0s						
KUR				MLR	MLR		
	comp=N,75μm,16.0s						
GLI	**Glacier Island**	**20.97**	**51**	IAMs_20	IAMs_20	21 48 55.3	
	comp=Z,115μm,19.0s						
GLI	**Glacier Island**	**20.97**	**51**	P	**P**	**21 40 12.5**	**-1.3**
	baz=261,SNR=148						
GLI				S	Sn	21 44 12.3	-0.6
	baz=261						
SCM	**Sheep Creek Mo**	**21.03**	**49**	P	**P**	**21 40 12.2**	**-2.3**
SCM				IAmb	IAmb	21 40 25.4	
	comp=Z,2μm,1.1s						
SCM	**Sheep Creek Mo**	**21.03**	**49**	P	**P**	**21 40 12.2**	**-2.3**
SCM				pmax	pmax		
	comp=Z,2μm,1.1s						
SCM				MLR	MLR		
	comp=Z,66μm,20.0s						
SCM	**Sheep Creek Mo**	**21.03**	**49**	P	**P**	**21 40 13.0**	**-1.6**
	baz=258,SNR=201						
SCM				S	Sn	21 44 12.9	-1.6
	baz=258						
NEA2	**Nenana**	**21.06**	**41**	P	**P**	**21 40 13.0**	**-1.7**
	baz=249,SNR=225						
NEA2				S	Sn	21 44 13.7	-1.3
	baz=249						
G22K	**Bettles**	**21.15**	**34**	P	**P**	**21 40 13.8**	**-1.8**
	baz=240						
G22K				S	Sn	21 44 16.6	-0.4
	baz=240						
I23K	**Minto, Yukon-K**	**21.15**	**39**	IAMs_20	IAMs_20	21 48 36.7	
	comp=Z,130μm,19.0s						
I23K	**Minto, Yukon-K**	**21.15**	**39**	P	**P**	**21 40 13.5**	**-2.1**
	baz=247,SNR=45						
I23K				S	Sn	21 44 15.3	-1.7
	baz=247						
HIN	**Hinchinbrook I**	**21.19**	**53**	P	**P**	**21 40 14.5**	**-1.7**
HIN				IAMs_20	IAMs_20	21 49 12.3	
	comp=Z,102μm,20.0s						
E21K	**Killik River**	**21.19**	**29**	P	**P**	**21 40 14.1**	**-2.1**
	baz=233						
E21K				S	**S**	**21 44 14.4**	**+3.0**
	baz=233						
F22K	**John River**	**21.22**	**32**	P	**P**	**21 40 14.9**	**-1.6**
	baz=238						
F22K				S	Sn	21 44 17.4	-1.5
	baz=238						
FID	**Port Fidalgo**	**21.25**	**52**	IAMs_20	IAMs_20	21 49 03.2	
	comp=Z,138μm,19.0s						
H23K	**Yukon River**	**21.35**	**37**	IAMs_20	IAMs_20	21 49 11.0	
	comp=Z,104μm,19.0s						
H23K	**Yukon River**	**21.35**	**37**	P	**P**	**21 40 16.4**	**-1.5**
	baz=246						
H23K				S	Sn	21 44 21.5	-0.5
	baz=246						
B20K	**Meade River**	**21.36**	**23**	IAMs_20	IAMs_20	21 48 43.0	
	comp=Z,128μm,20.0s						
B20K	**Meade River**	**21.36**	**23**	P	**P**	**21 40 16.3**	**-1.5**
	baz=225						
B20K				S	Sn	21 44 18.7	-3.2
	baz=225						
C21K	**Knifeblade Rid**	**21.40**	**27**	P	**P**	**21 40 16.7**	**-1.7**
	baz=231						
C21K				S	**S**	**21 44 18.6**	**+3.2**
	baz=231						
WRH	**Wood River Hil**	**21.41**	**41**	P	**P**	**21 40 16.7**	**-1.8**
WRH				IAmb	IAmb	21 40 34.9	
	comp=Z,1μm,1.4s						
G23K	**Bananza Creek**	**21.56**	**35**	IAMs_20	IAMs_20	21 49 18.7	
	comp=Z,151μm,18.0s						
G23K	**Bananza Creek**	**21.56**	**35**	P	**P**	**21 40 18.7**	**-1.5**
	baz=243						
G23K				S	Sn	21 44 23.8	-3.4
	baz=243						
EYAK	**Cordova Ski Ar**	**21.58**	**53**	P	**P**	**21 40 19.6**	**-0.7**
EYAK	**Cordova Ski Ar**	**21.58**	**53**	P	**P**	**21 40 18.8**	**-1.5**
	baz=263,SNR=132						
EYAK				S	**S**	**21 44 21.5**	**+2.6**
	baz=263						
M24K	**Tolsona, Glenn**	**21.62**	**48**	P	**P**	**21 40 19.2**	**-1.7**
	baz=259,SNR=156						
M24K				S	Sn	21 44 28.6	0.0
	baz=259						
KLU	**Klutina**	**21.63**	**50**	IAMs_20	IAMs_20	21 49 08.9	
	comp=Z,119μm,19.0s						
KLU	**Klutina**	**21.63**	**50**	P	**P**	**21 40 18.9**	**-2.1**
	baz=261,SNR=90						
KLU				S	Sn	21 44 24.7	-4.2
	baz=261						
COLA	**College**	**21.64**	**41**	P	**P**	**21 40 18.9**	**-2.0**
COLA				IAmb	IAmb	21 40 36.4	
	comp=Z,1μm,1.2s						
COLA	**College**	**21.64**	**41**	IAMs_20	IAMs_20	21 49 12.2	
	comp=Z,99μm,19.0s						
COLA	**College**	**21.64**	**41**	P	**P**	**21 40 21.0**	**0.0**
COLA	**College**	**21.64**	**41**	*ce*P	**P**	**21 40 20.9**	**0.0**
COLA				pmax	pmax		
	comp=Z,1μm,1.2s						
COLA				MLR	MLR		
	comp=Z,115μm,15.0s						
COLA	**College**	**21.64**	**41**	P	**P**	**21 40 18.9**	**-2.0**
	baz=250						
COLA				S	**S**	**21 44 22.7**	**+2.5**
	baz=250						
COLA	**College**	**21.64**	**41**	⇓P	**P**	**21 40 20.3**	**-0.7**
COLA	**College**	**21.64**	**41**	P	**P**	**21 40 21.3**	**+0.3**
COLA				S	**S**	**21 44 23.6**	**+3.5**
E22K	**Anaktuvuk Pass**	**21.68**	**31**	P	**P**	**21 40 19.4**	**-2.0**
E22K				IAmb	IAmb	21 40 38.9	
	comp=Z,753nm,1.2s						
E22K	**Anaktuvuk Pass**	**21.68**	**31**	P	**P**	**21 40 19.3**	**-2.0**
	baz=237,SNR=159						
E22K				S	**S**	**21 44 23.6**	**+2.7**
	baz=237						
COLD	**Coldfoot**	**21.74**	**34**	P	**P**	**21 40 20.0**	**-2.0**
	baz=242,SNR=60						
COLD				S	Sn	21 44 27.7	-3.7
	baz=242						
B21K	**Ikpikpuk River**	**21.75**	**26**	P	**P**	**21 40 19.7**	**-2.3**
B21K				IAmb	IAmb	21 40 32.2	
	comp=Z,1μm,1.3s						
B21K				IAMs_20	IAMs_20	21 49 26.5	
	comp=Z,111μm,20.0s						
B21K	**Ikpikpuk River**	**21.75**	**26**	P	**P**	**21 40 20.5**	**-1.5**
	baz=230						
B21K				S	**S**	**21 44 25.7**	**+3.5**
	baz=230						
D22K	**Ayikyak River**	**21.84**	**29**	P	**P**	**21 40 22.0**	**-1.0**
	baz=234,SNR=62						
D22K				S	**S**	**21 44 27.3**	**+3.3**
	baz=234						
HDA	**Harding Lake**	**21.86**	**42**	P	**P**	**21 40 21.6**	**-1.8**
	baz=252,SNR=38						
HDA				S	**S**	**21 44 25.0**	**+0.5**
	baz=252						
POKR	**Poker Plat Res**	**21.89**	**40**	P	**P**	**21 40 22.4**	**-1.3**
POKR				IAmb	IAmb	21 40 38.7	
	comp=Z,799nm,1.1s						
POKR				IAMs_20	IAMs_20	21 49 10.5	
	comp=Z,106μm,20.0s						
POKR	**Poker Plat Res**	**21.89**	**40**	P	**P**	**21 40 22.0**	**-1.7**
	baz=250,SNR=42						
POKR				S	**S**	**21 44 29.4**	**+4.2**
	baz=250						
TYV	**Tymovskoe**	**21.93**	**281**	*e*P	**P**	**21 40 26.0**	**+1.9**
TYV				*e*S	**S**	**21 44 25.8**	**-0.1**
TYV				pmax	pmax		
	comp=Z,4μm,2.2s						
TYV				pmax	pmax		
	comp=Z,967nm,1.0s						
TYV				smax	smax		
	comp=N,10μm,5.6s						
TYV				smax	smax		
	comp=E,4μm,5.6s						
TYV				smax	smax		
	comp=N,119nm,1.9s						
TYV				smax	smax		
	comp=E,109nm,1.9s						
TYV				MLR	MLR		
	comp=Z,109μm,15.0s						
TYV				MLR	MLR		
	comp=N,97μm,16.0s						
TYV				MLR	MLR		
	comp=E,141μm,15.0s						
H24K	**Noodor Dome**	**21.98**	**38**	IAMs_20	IAMs_20	21 49 39.0	
	comp=Z,152μm,19.0s						
H24K	**Noodor Dome**	**21.98**	**38**	P	**P**	**21 40 23.2**	**-1.5**
	baz=248,SNR=79						
H24K				S	Sn	21 44 32.3	-4.9
	baz=248						
ILAR	**Eielson Array**	**22.00**	**41**	P	**P**	**21 40 22.7**	**-2.2**
ILAR	**Eielson Array**	**22.00**	**41**	P	**P**	**21 40 23.9**	**-1.0**
	comp=Z,37nm,0.8s,baz=254,slow=10,SNR=87						
ILAR				S	S	21 44 15.7	-11
	comp=Z,14nm,1.1s,baz=251,slow=9.9,SNR=2.3						
ILAR				LR	LR	21 49 07.0	
	comp=Z,74μm,19.6s,baz=246,slow=37						
ILAR				P3KPbc		22 14 04.2	
	comp=Z,0.4nm,0.9s,baz=64,slow=2.1,SNR=3.3						
ILAR				P3KP		22 15 00.8	
	comp=Z,0.7nm,1.0s,baz=45,slow=1.9,SNR=4.2						
	comp=Z,37nm,0.8s						
PAX	**Paxson**	**22.12**	**46**	P	**P**	**21 40 24.5**	**-1.8**
	baz=258,SNR=623						
PAX				S	**S**	**21 44 33.9**	**+4.2**
	baz=258						
HARP	**HAARP**	**22.14**	**48**	P	**P**	**21 40 25.1**	**-1.3**
	baz=259,SNR=202						
HARP				S	Sn	21 44 37.5	-3.6
	baz=259						
KAIM	**Kayak Island**	**22.18**	**54**	P	**P**	**21 40 25.2**	**-1.6**
	baz=266,SNR=57						
KAIM				S	**S**	**21 44 35.3**	**+4.7**
	baz=266						
K24K	**Donnelly Dome**	**22.18**	**44**	IAMs_20	IAMs_20	21 49 17.2	
	comp=Z,141μm,19.0s						
K24K	**Donnelly Dome**	**22.18**	**44**	P	**P**	**21 40 25.1**	**-1.7**
	baz=255,SNR=84						
K24K				S	**S**	**21 44 33.2**	**+2.4**
	baz=255						
BMRM	**Bremner River**	**22.18**	**52**	P	**P**	**21 40 25.2**	**-1.8**
	baz=263,SNR=276						
BMRM				S	**S**	**21 44 34.7**	**+3.8**
	baz=263						
N25K	**Chitina, Valde**	**22.27**	**50**	IAMs_20	IAMs_20	21 49 29.7	
	comp=Z,87μm,19.0s						
N25K	**Chitina, Valde**	**22.27**	**50**	P	**P**	**21 40 25.8**	**-2.1**
	baz=262,SNR=112						
N25K				S	**S**	**21 44 35.6**	**+3.0**
	baz=262						
SHO	**Shikotan**	**22.28**	**261**	P	**P**	**21 40 27.1**	**-0.9**
SHO	**Shikotan**	**22.28**	**261**	*e*P	**P**	**21 40 27.1**	**-0.9**
E23K	**Chandalar**	**22.34**	**32**	IAMs_20	IAMs_20	21 49 38.3	
	comp=Z,95μm,19.0s						
E23K	**Chandalar**	**22.34**	**32**	P	**P**	**21 40 26.3**	**-2.3**
	baz=240,SNR=98						
E23K				S	**S**	**21 44 36.7**	**+3.0**
	baz=240						
A21K	**Barrow**	**22.42**	**21**	P	**P**	**21 40 27.1**	**-2.2**
	baz=224,SNR=110						
A21K				S	**S**	**21 44 37.5**	**+2.6**
	baz=224						
G24K	**Hadweenzic Riv**	**22.47**	**36**	P	**P**	**21 40 28.5**	**-1.4**
	baz=246,SNR=82						
G24K				S	**S**	**21 44 42.2**	**+6.1**
	baz=246						
D23K	**Nanushuk River**	**22.48**	**29**	P	**P**	**21 40 28.5**	**-1.5**
D23K				IAmb	IAmb	21 40 43.2	
	comp=Z,980nm,1.1s						
D23K	**Nanushuk River**	**22.48**	**29**	P	**P**	**21 40 27.7**	**-2.3**
	baz=237,SNR=209						
D23K				S	**S**	**21 44 38.9**	**+2.7**
	baz=237						
SUCK	**Suckling Hills**	**22.51**	**54**	IAMs_20	IAMs_20	21 50 25.3	
	comp=Z,90μm,19.0s						
B22K	**Teshekpuk Lake**	**22.52**	**25**	IAMs_20	IAMs_20	21 49 52.1	
	comp=Z,116μm,20.0s						
B22K	**Teshekpuk Lake**	**22.52**	**25**	P	**P**	**21 40 27.7**	**-2.6**
	baz=230,SNR=357						
B22K				S	**S**	**21 44 40.0**	**+3.1**
	baz=230						
NKL	**Nikolayevsk**	**22.53**	**288**	*e*P	**P**	**21 40 32.9**	**+2.4**
NKL				pmax	pmax		
	comp=E,518nm,1.0s						
NKL				pmax	pmax		
	comp=N,735nm,1.2s						
NKL				pmax	pmax		
	comp=Z,2μm,1.2s						
NKL				MLR	MLR		
	comp=N,222μm,16.0s						
NKL				MLR	MLR		
	comp=E,138μm,14.0s						
NKL				MLR	MLR		
	comp=Z,219μm,14.0s						
RIDG	**Independent Ri**	**22.57**	**44**	IAMs_20	IAMs_20	21 49 28.7	
	comp=Z,166μm,19.0s						
RIDG	**Independent Ri**	**22.57**	**44**	P	**P**	**21 40 28.2**	**-2.8**
	baz=256,SNR=62						
RIDG				S	**S**	**21 44 40.0**	**+2.0**
	baz=256						
J25K	**Salcha River,**	**22.57**	**42**	P	**P**	**21 40 29.5**	**-1.6**
	baz=254,SNR=44						
J25K				S	**S**	**21 44 39.3**	**+1.2**
	baz=254						
A22K	**Sinclair Lake**	**22.58**	**23**	P	**P**	**21 40 27.6**	**-3.3**
	baz=227						
A22K				S	**S**	**21 44 39.8**	**+2.0**
	baz=227						
GLB	**Gilahina Butte**	**22.62**	**51**	IAMs_20	IAMs_20	21 50 28.2	
	comp=Z,92μm,19.0s						
TOLK	**Toolik Lake Re**	**22.65**	**31**	P	**P**	**21 40 30.3**	**-1.5**
TOLK				IAmb	IAmb	21 40 43.1	
	comp=Z,896nm,1.1s						
TOLK				IAMs_20	IAMs_20	21 50 22.4	
	comp=Z,82μm,18.0s						
TOLK	**Toolik Lake Re**	**22.65**	**31**	P	**P**	**21 40 29.8**	**-2.0**
	baz=239,SNR=382						
TOLK				S	**S**	**21 44 43.3**	**+4.0**
	baz=239						
TOLK				S	Sn	21 44 46.0	-7.2
	baz=239						
F24K	**Squaw Lake**	**22.67**	**34**	IAMs_20	IAMs_20	21 49 37.0	
	comp=Z,145μm,20.0s						
F24K	**Squaw Lake**	**22.67**	**34**	P	**P**	**21 40 29.3**	**-2.8**
	baz=244						
F24K				S	**S**	**21 44 44.9**	**+5.2**
	baz=244						
E24K	**Your Creek**	**22.72**	**32**	P	**P**	**21 40 29.8**	**-2.8**
	baz=242,SNR=52						

E24K				S	S	21 44 42.1	+1.4
	baz=242							
BGLC	**Bering Glacier**	**22.76**	**54**	P	**P**	**21 40 30.4**	**-2.5**
	baz=267,SNR=15							
BGLC				S	**S**	**21 44 48.2**	**+6.9**
	baz=267							
VRDI	**Verde Repeater**	**22.77**	**51**	IAMs_20	IAMs_20	21 49 52.1		
	comp=Z,104μm,20.0s							
PRP	**Porcupine Dome**	**22.79**	**40**	P	**P**	**21 40 31.3**	**-2.1**
PRP				IAMs_20	IAMs_20	21 49 48.5		
	comp=Z,106μm,20.0s							
PRP	**Porcupine Dome**	**22.79**	**40**	P	**P**	**21 40 31.0**	**-2.4**
	baz=252,SNR=85							
PRP				S	**S**	**21 44 42.8**	**+0.9**
	baz=252							
YUK	**Yuzh-Kuril'sk**	**22.79**	**262**	*e*P	**P**	**21 40 34.2**	**+0.9**
YUK				*i* S	**S**	**21 44 46.3**	**+4.3**
YUK				pmax	pmax		
	comp=Z,999nm,0.8s						
YUK				pmax	pmax		
	comp=N,283nm,0.5s						
YUK				pmax	pmax		
	comp=E,614nm,0.8s						
YUK				pmax	pmax		
	comp=Z,8μm,1.5s						
YUK				smax	smax		
	comp=N,2μm,4.9s						
YUK				smax	smax		
	comp=E,2μm,3.2s						
YUK				smax	smax		
	comp=N,6μm,10.0s						
YUK				smax	smax		
	comp=E,68μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**22.79**	**262**	*e*P	**P**	**21 40 34.5**	**+1.2**
UGL	**Uglegorsk**	**22.87**	**277**	*e*P	**P**	**21 40 34.9**	**+0.7**
UGL				*e*		21 41 18.6	
UGL				*e*S	**S**	**21 44 40.8**	**-2.6**
UGL				pmax	pmax		
	comp=Z,15μm,6.3s						
UGL				smax	smax		
	comp=N,34μm,13.0s						
UGL				smax	smax		
	comp=E,59μm,13.0s						
UGL				MLR	MLR		
	comp=E,76μm,14.0s						
UGL				MLR	MLR		
	comp=N,48μm,12.0s						
UGL				MLR	MLR		
	comp=Z,64μm,13.0s						
H25L	**Birch Creek**	**22.92**	**38**	P	**P**	**21 40 32.4**	**-2.2**
	baz=249,SNR=63						
H25L				S	**S**	**21 44 49.6**	**+5.6**
	baz=249						
SNH	**Sunshine Point**	**22.99**	**54**	IAMs_20	IAMs_20	21 50 59.7	
	comp=Z,137μm,18.0s						
C23K	**Itkillik River**	**22.99**	**28**	P	**P**	**21 40 32.0**	**-3.3**
	baz=235,SNR=97						
C23K				S	**S**	**21 44 48.2**	**+3.0**
	baz=235						
SCRK	**Sand Creek**	**23.00**	**44**	IAMs_20	IAMs_20	21 49 41.9	
	comp=Z,123μm,20.0s						
SCRK	**Sand Creek**	**23.00**	**44**	P	**P**	**21 40 32.9**	**-2.7**
	baz=257,SNR=150						
SCRK				S	**S**	**21 44 47.1**	**+1.4**
	baz=257						
G25K	**Bearman Lake**	**23.00**	**37**	P	**P**	**21 40 32.4**	**-3.0**
	baz=248,SNR=66						
G25K				S	**S**	**21 44 51.8**	**+6.4**
	baz=248						
L26K	**Log Cabin Wild**	**23.08**	**47**	IAMs_20	IAMs_20	21 50 03.0	
	comp=Z,88μm,18.0s						
L26K	**Log Cabin Wild**	**23.08**	**47**	P	**P**	**21 40 34.2**	**-2.1**
	baz=260,SNR=266						
L26K				S	**S**	**21 44 50.8**	**+3.8**
	baz=260						
M26K	**Nabesna, AK**	**23.14**	**48**	IAMs_20	IAMs_20	21 50 00.5	
	comp=Z,119μm,19.0s						
M26K	**Nabesna, AK**	**23.14**	**48**	P	**P**	**21 40 35.5**	**-1.4**
	baz=262,SNR=141						
M26K				S	**S**	**21 44 52.1**	**+4.1**
	baz=262						
D24K	**Happy Valley**	**23.15**	**30**	P	**P**	**21 40 34.6**	**-2.3**
D24K	**Happy Valley**	**23.15**	**30**	P	**P**	**21 40 35.4**	**-1.5**
	baz=239						
D24K				S	**S**	**21 44 51.3**	**+3.3**
	baz=239						
FYU	**Fort Yukon**	**23.25**	**37**	P	**P**	**21 40 36.7**	**-1.3**
FYU				IAMs_20	IAMs_20	21 49 01.6	
	comp=Z,96μm,22.0s						
YSS	**Yuzhno-Sakhali**	**23.29**	**271**	P	**P**	**21 40 38.5**	**0.0**
YSS				IAmb	IAmb	21 40 49.8	
	comp=Z,1μm,1.1s						
YSS	**Yuzhno-Sakhali**	**23.29**	**271**	P	**P**	**21 40 41.0**	**+2.5**
YSS	**Yuzhno-Sakhali**	**23.29**	**271**	*αe*P	**P**	**21 40 39.4**	**+0.9**
YSS				*e*S	**S**	**21 44 55.1**	**+4.5**
YSS				pmax	pmax		
	comp=Z,10μm,6.0s						
YSS				pmax	pmax		
	comp=N,4μm,6.7s						
YSS				pmax	pmax		
	comp=E,7μm,8.2s						
YSS				pmax	pmax		
	comp=Z,950nm,1.1s						
YSS				MLR	MLR		
	comp=N,61μm,15.0s						
YSS				MLR	MLR		
	comp=E,48μm,15.0s						
YSS				MLR	MLR		
	comp=Z,68μm,15.0s						
YSS	**Yuzhno-Sakhali**	**23.29**	**271**	⇓P	**P**	**21 40 38.5**	**0.0**
J26L	**Joseph Creek**	**23.30**	**43**	P	**P**	**21 40 36.8**	**-1.8**
	baz=256,SNR=142						
J26L				S	**S**	**21 44 53.0**	**+2.3**
	baz=256						
MESA	**MESA**	**23.43**	**54**	IAMs_20	IAMs_20	21 51 13.4	
	comp=Z,124μm,18.0s						
MESA	**MESA**	**23.43**	**54**	P	**P**	**21 40 37.8**	**-2.3**
	baz=268,SNR=138						
MESA				S	**S**	**21 44 57.2**	**+4.2**
	baz=268						
C24K	**Franklin Bluff**	**23.48**	**29**	P	**P**	**21 40 38.5**	**-1.8**
C24K	**Franklin Bluff**	**23.48**	**29**	P	**P**	**21 40 38.4**	**-1.8**
	baz=238						
C24K				S	**S**	**21 44 55.4**	**+2.1**
	baz=238						
F25K	**Christian Rive**	**23.49**	**35**	IAMs_20	IAMs_20	21 50 29.6	
	comp=Z,122μm,18.0s						
F25K	**Christian Rive**	**23.49**	**35**	P	**P**	**21 40 37.9**	**-2.5**
	baz=247,SNR=89						
F25K				S	**S**	**21 44 58.2**	**+4.6**
	baz=247						
YAH	**Yahtse**	**23.54**	**54**	IAMs_20	IAMs_20	21 51 19.2	
	comp=Z,136μm,19.0s						
M27K	**Edge Creek, AK**	**23.65**	**49**	IAMs_20	IAMs_20	21 50 17.2	
	comp=Z,148μm,19.0s						
M27K	**Edge Creek, AK**	**23.65**	**49**	P	**P**	**21 40 40.2**	**-2.0**
	baz=263,SNR=275						
M27K				S	**S**	**21 45 01.4**	**+5.0**
	baz=263						
I26K	**Coal Creek Min**	**23.67**	**41**	P	**P**	**21 40 40.3**	**-1.9**
	baz=255						
I26K				S	**S**	**21 44 58.9**	**+2.4**
	baz=255						
E25K	**Arctic Village**	**23.73**	**34**	IAMs_20	IAMs_20	21 50 29.8	
	comp=Z,134μm,20.0s						
E25K	**Arctic Village**	**23.73**	**34**	P	**P**	**21 40 40.9**	**-1.8**
	baz=246,SNR=174						
E25K				S	**S**	**21 45 02.0**	**+4.6**
	baz=246						
L27K	**Beaver Creek,**	**23.77**	**47**	P	**P**	**21 40 41.7**	**-1.5**
	baz=261						
L27K				S	**S**	**21 45 02.6**	**+4.4**
	baz=261						
BCAR	**Beaver Creek A**	**23.79**	**47**	P	**P**	**21 40 42.1**	**-1.3**
BMAR	**Burnt Mountain**	**23.80**	**36**	P	**P**	**21 40 42.2**	**-1.3**
K27K	**Chicken**	**23.83**	**44**	IAMs_20	IAMs_20	21 50 19.2	
	comp=Z,121μm,20.0s						
K27K	**Chicken**	**23.83**	**44**	P	**P**	**21 40 42.4**	**-1.3**
	baz=259						
K27K				S	**S**	**21 45 03.8**	**+4.8**
	baz=259						
G26K	**Porcupine Rive**	**23.92**	**37**	IAMs_20	IAMs_20	21 50 50.1	
	comp=Z,109μm,18.0s						
G26K	**Porcupine Rive**	**23.92**	**37**	P	**P**	**21 40 43.2**	**-1.4**
	baz=250						
G26K				S	**S**	**21 45 07.2**	**+6.8**
	baz=250						
D25K	**Kavik River**	**23.99**	**31**	P	**P**	**21 40 43.5**	**-1.8**
D25K				IAmb	IAmb	21 40 56.1	
	comp=Z,2μm,1.7s						
D25K	**Kavik River**	**23.99**	**31**	P	**P**	**21 40 43.5**	**-1.8**
	baz=242						
D25K				S	**S**	**21 45 05.8**	**+4.1**
	baz=242						
F26K	**Sheenjek River**	**24.05**	**35**	IAMs_20	IAMs_20	21 50 10.6	
	comp=Z,100μm,20.0s						
F26K	**Sheenjek River**	**24.05**	**35**	P	**P**	**21 40 44.5**	**-1.4**
	baz=248						
F26K				S	**S**	**21 45 11.1**	**+8.4**
	baz=248						
MIDW	**Midway**	**24.07**	**170**	P	**P**	**21 40 46.3**	**+0.2**
MIDW				IAmb	IAmb	21 40 54.2	
	comp=Z,876nm,1.5s						
MIDW	**Midway**	**24.07**	**170**	P	**P**	**21 40 49.1**	**+2.9**
BVCY	**Beaver Creek**	**24.12**	**49**	P	**P**	**21 40 44.9**	**-1.6**
	baz=264,SNR=272						
BVCY				S	**S**	**21 45 08.5**	**+4.7**
	baz=264						
YUK3	**Moose Creek**	**24.25**	**50**	P	**P**	**21 40 45.9**	**-2.1**
	baz=266,SNR=349						
YUK3				S	**S**	**21 45 11.1**	**+4.8**
	baz=266						
PINM	**Pinnacle**	**24.28**	**54**	P	**P**	**21 40 46.8**	**-1.3**
	baz=270,SNR=174						
PINM				S	**S**	**21 45 13.4**	**+7.0**
	baz=270						
O28M	**Mount Upton**	**24.32**	**53**	IAMs_20	IAMs_20	21 51 14.1	
	comp=Z,90μm,20.0s						
O28M	**Mount Upton**	**24.32**	**53**	P	**P**	**21 40 47.1**	**-1.5**
	baz=268,SNR=689						
O28M				S	**S**	**21 45 11.7**	**+4.2**
	baz=268						
JMP	**Maruseppu**	**24.33**	**264**	P	**P**	**21 40 47.4**	**-1.2**
I27K	**Kandik River**	**24.37**	**41**	P	**P**	**21 40 47.3**	**-1.5**
	baz=256,SNR=39						
I27K				S	**S**	**21 45 11.3**	**+3.6**
	baz=256						
YUK8	**Steele Glacier**	**24.55**	**51**	P	**P**	**21 40 48.8**	**-2.0**
	baz=267,SNR=495						
YUK8				S	**S**	**21 45 18.5**	**+7.3**
	baz=267						
H27K	**Steamboat Moun**	**24.57**	**39**	P	**P**	**21 40 48.9**	**-1.6**
	baz=255,SNR=39						
H27K				S	**S**	**21 45 14.4**	**+3.5**
	baz=255						
JWK2	**Keihoku**	**24.57**	**268**	P	**P**	**21 40 51.3**	**+0.6**
YKU2	**Yakutat**	**24.57**	**56**	P	**P**	**21 40 51.0**	**+0.4**
BCPM	**Bancas Point**	**24.59**	**55**	P	**P**	**21 40 49.1**	**-1.6**
BCPM				IAMs_20	IAMs_20	21 51 11.0	
	comp=Z,108μm,20.0s						
G27K	**Doyon Strip**	**24.68**	**38**	IAMs_20	IAMs_20	21 50 49.1	
	comp=Z,111μm,19.0s						
G27K	**Doyon Strip**	**24.68**	**38**	P	**P**	**21 40 49.7**	**-1.9**
	baz=253						
G27K				S	**S**	**21 45 18.8**	**+6.1**
	baz=253						
PNL	**Peninsula**	**24.71**	**55**	P	**P**	**21 40 51.2**	**-0.7**
PNL	**Peninsula**	**24.71**	**55**	P	**P**	**21 40 50.1**	**-1.8**
	baz=271,SNR=86						
PNL				S	S	21 45 25.3	+12
	baz=271						
C26K	**Camden Bay**	**24.72**	**30**	P	**P**	**21 40 49.9**	**-1.9**
	baz=243,SNR=176						
C26K				S	**S**	**21 45 17.8**	**+4.5**
	baz=243						
JKA	**Kamikawa-asahi**	**24.74**	**265**	P	**P**	**21 40 51.9**	**-0.4**
JKA				IAMs_20	IAMs_20	21 49 23.3	
	comp=Z,82μm,20.0s						
ASAJ	**Asahikawa**	**24.75**	**265**	P	**P**	**21 40 52.3**	**0.0**
	comp=Z,391nm,0.9s,baz=32,slow=5.6,SNR=58						
ASAJ				S	**S**	**21 45 07.8**	**-6.3**
	comp=Z,31nm,0.8s,baz=58,slow=16,SNR=5.4						
ASAJ				LR	LR	21 49 45.4	
	comp=Z,66μm,21.4s,baz=79,slow=34						
	comp=Z,391nm,0.9s						
ASAJ	**Asahikawa**	**24.75**	**265**	P	**P**	**21 40 51.9**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,1μm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,82μm,20.0s						
ASAJ	**Asahikawa**	**24.75**	**265**	P	**P**	**21 40 51.8**	**-0.5**
C27K	**Jago River**	**24.97**	**31**	P	**P**	**21 40 52.4**	**-1.7**
	baz=245,SNR=92						
C27K				S	**S**	**21 45 22.7**	**+5.4**
	baz=245						
DAWY	**Dawson**	**25.00**	**45**	P	**P**	**21 40 53.1**	**-1.4**
DAWY				IAmb	IAmb	21 41 07.8	
	comp=Z,762nm,0.9s						
DAWY				IAMs_20	IAMs_20	21 51 04.6	
	comp=Z,131μm,20.0s						
DAWY	**Dawson**	**25.00**	**45**	P	**P**	**21 40 52.7**	**-1.8**
	baz=262,SNR=167						
DAWY				S	**S**	**21 45 23.1**	**+5.2**
	baz=262						
I28M	**Miner Creek**	**25.02**	**41**	P	**P**	**21 40 52.9**	**-1.8**
	baz=258,SNR=103						
I28M				S	**S**	**21 45 23.9**	**+5.6**
	baz=258						
YUK4	**Talbot Arm**	**25.09**	**51**	P	**P**	**21 40 54.3**	**-1.2**
	baz=268,SNR=413						
YUK4				S	**S**	**21 45 25.9**	**+6.1**
	baz=268						
O29M	**Mount Kennedy**	**25.11**	**54**	IAMs_20	IAMs_20	21 52 08.1	
	comp=Z,84μm,19.0s						
O29M	**Mount Kennedy**	**25.11**	**54**	P	**P**	**21 40 54.2**	**-1.4**
	baz=270,SNR=179						
O29M				S	**S**	**21 45 27.0**	**+7.0**
	baz=270						
E27K	**Coleen River**	**25.13**	**35**	IAMs_20	IAMs_20	21 51 32.0	
	comp=Z,117μm,18.0s						
E27K	**Coleen River**	**25.13**	**35**	P	**P**	**21 40 54.0**	**-1.6**
	baz=250						
E27K				S	**S**	**21 45 27.5**	**+7.6**
	baz=250						
YUK6	**Outpost Mounta**	**25.22**	**52**	P	**P**	**21 40 55.1**	**-1.7**
	baz=269,SNR=192						
YUK6				S	**S**	**21 45 28.6**	**+6.7**
	baz=269						
M29M	**Somme Creek**	**25.24**	**49**	IAMs_20	IAMs_20	21 51 25.2	
	comp=Z,131μm,20.0s						
M29M	**Somme Creek**	**25.24**	**49**	P	**P**	**21 40 54.9**	**-1.8**
	baz=266,SNR=175						
M29M				S	**S**	**21 45 27.4**	**+5.5**
	baz=266						
L29M	**L29M**	**25.45**	**47**	IAMs_20	IAMs_20	21 51 12.7	
	comp=Z,85μm,20.0s						
L29M	**L29M**	**25.45**	**47**	P	**P**	**21 40 56.9**	**-1.6**
	baz=265,SNR=185						
L29M				S	**S**	**21 45 31.9**	**+6.8**
	baz=265						
JEM	**Erimo**	**25.55**	**261**	P	**P**	**21 41 00.2**	**+0.6**
JEM	**Erimo**	**25.55**	**261**	P	**P**	**21 40 59.8**	**+0.2**
P29M	**Windy Craggy**	**25.55**	**55**	P	**P**	**21 40 58.3**	**-1.2**
	baz=273,SNR=71						
P29M				S	**S**	**21 45 34.3**	**+7.6**
	baz=273						
ERM	**Erimo**	**25.55**	**261**	P	**P**	**21 40 59.7**	**+0.1**
ERM				IAmb	IAmb	21 41 12.2	
	comp=Z,923nm,1.2s						
ERM				IAMs_20	IAMs_20	21 50 38.9	
	comp=Z,97μm,20.0s						
ERM	**Erimo**	**25.55**	**261**	P	**P**	**21 41 00.1**	**+0.5**
ERM	**Erimo**	**25.55**	**261**	*αe*P	**P**	**21 41 01.0**	**+1.4**
ERM				pmax	pmax		
	comp=Z,305nm,0.8s						
ERM				MLR	MLR		
	comp=Z,92μm,20.0s						
ERM	**Erimo**	**25.55**	**261**	⇓P	**P**	**21 41 00.4**	**+0.8**
ERM	**Erimo**	**25.55**	**261**	P	**P**	**21 41 02.1**	**+2.5**
ERM				S	**S**	**21 45 27.2**	**+0.2**
J29N	**Klondike Camp**	**25.56**	**44**	IAMs_20	IAMs_20	21 51 10.5	
	comp=Z,122μm,21.0s						
J29N	**Klondike Camp**	**25.56**	**44**	P	**P**	**21 40 57.8**	**-1.8**
	baz=262,SNR=64						
J29N				S	**S**	**21 45 32.9**	**+6.0**
	baz=262						
HYT	**Haines Junctio**	**25.64**	**53**	P	**P**	**21 40 59.5**	**-0.9**
HYT				IAMs_20	IAMs_20	21 52 04.8	
	comp=Z,110μm,20.0s						
HYT	**Haines Junctio**	**25.64**	**53**	P	**P**	**21 40 59.0**	**-1.4**
	baz=270,SNR=173						
HYT				S	**S**	**21 45 37.1**	**+8.8**
	baz=270						
I29M	**Ogilvie Camp,**	**25.67**	**42**	P	**P**	**21 40 58.7**	**-1.8**
	baz=260,SNR=110						
I29M				S	**S**	**21 45 33.1**	**+4.7**
	baz=260						
GRNR	**Gornyy**	**25.71**	**284**	*d i* P	**P**	**21 40 59.9**	**-1.1**
GRNR				*e*S	**S**	**21 45 29.4**	**0.0**
GRNR				pmax	pmax		
	comp=E,8.0nm,1.0s						
GRNR				pmax	pmax		
	comp=N,4.0nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,20nm,1.1s						
GRNR				smax	smax		
	comp=N,10.0nm,1.2s						
D27M	**Malcolm River**	**25.71**	**33**	P	**P**	**21 40 59.7**	**-1.2**
D27M				IAMs_20	IAMs_20	21 51 56.3	
	comp=Z,132μm,20.0s						
D27M	**Malcolm River**	**25.71**	**33**	P	**P**	**21 40 59.6**	**-1.3**
	baz=249						
D27M				S	**S**	**21 45 36.8**	**+7.6**
	baz=249						
K29M	**Barlow Dome**	**25.79**	**46**	IAMs_20	IAMs_20	21 51 47.7	
	comp=Z,131μm,18.0s						
K29M	**Barlow Dome**	**25.79**	**46**	P	**P**	**21 41 00.3**	**-1.4**
	baz=264,SNR=183						
K29M				S	**S**	**21 45 37.6**	**+7.0**
	baz=264						
H29M	**Whitestone**	**25.81**	**40**	IAMs_20	IAMs_20	21 51 59.0	
	comp=Z,98μm,19.0s						
H29M	**Whitestone**	**25.81**	**40**	P	**P**	**21 41 00.7**	**-1.0**
	baz=258,SNR=38						
H29M				S	**S**	**21 45 35.0**	**+4.4**
	baz=258						
N30M	**Aishikik Lake**	**25.85**	**51**	IAMs_20	IAMs_20	21 51 56.2	
	comp=Z,80μm,20.0s						
N30M	**Aishikik Lake**	**25.85**	**51**	P	**P**	**21 41 00.9**	**-1.3**
	baz=269,SNR=284						
N30M				S	**S**	**21 45 38.9**	**+7.5**
	baz=269						
P30M	**Million Dollar**	**25.93**	**54**	P	**P**	**21 41 01.9**	**-1.0**
	baz=272						
P30M				S	**S**	**21 45 39.7**	**+7.0**
	baz=272						
E28M	**Babbage River**	**25.99**	**34**	IAMs_20	IAMs_20	21 51 59.7	
	comp=Z,108μm,19.0s						
E28M	**Babbage River**	**25.99**	**34**	P	**P**	**21 41 02.4**	**-0.9**
	baz=252,SNR=79						
E28M				S	**S**	**21 45 41.3**	**+7.9**
	baz=252						
M30M	**Minto, Yukon**	**26.02**	**49**	P	**P**	**21 41 02.9**	**-0.9**
	baz=267						
M30M				S	**S**	**21 45 39.8**	**+5.7**
	baz=267						
G29M	**Pine Creek**	**26.09**	**39**	IAMs_20	IAMs_20	21 52 01.4	
	comp=Z,101μm,19.0s						
G29M	**Pine Creek**	**26.09**	**39**	P	**P**	**21 41 03.3**	**-1.0**
	baz=257						
G29M				S	**S**	**21 45 42.3**	**+7.2**
	baz=257						
JEW	**Eniwo**	**26.13**	**264**	P	**P**	**21 41 03.0**	**-1.9**
PLBC	**Pleasant Camp**	**26.26**	**56**	S	**S**	**21 45 44.7**	**+6.9**
	baz=274						
O30N	**Mendenhall**	**26.34**	**53**	IAMs_20	IAMs_20	21 52 25.2	
	comp=Z,80μm,21.0s						
O30N	**Mendenhall**	**26.34**	**53**	P	**P**	**21 41 05.5**	**-1.2**
	baz=272,SNR=74						
O30N				S	**S**	**21 45 48.0**	**+8.9**
	baz=272						
J30M	**Hart River**	**26.39**	**44**	IAMs_20	IAMs_20	21 51 37.5	
	comp=Z,137μm,21.0s						
J30M	**Hart River**	**26.39**	**44**	P	**P**	**21 41 05.7**	**-1.5**
	baz=264,SNR=97						
J30M				S	**S**	**21 45 46.4**	**+6.3**
	baz=264						
I30M	**Mount Dempster**	**26.45**	**43**	IAMs_20	IAMs_20	21 51 37.0	
	comp=Z,77μm,22.0s						
I30M	**Mount Dempster**	**26.45**	**43**	P	**P**	**21 41 05.5**	**-2.2**
	baz=262,SNR=60						
I30M				S	**S**	**21 45 46.2**	**+5.2**
	baz=262						
N31M	**Braeburn, Yuko**	**26.48**	**51**	IAMs_20	IAMs_20	21 52 24.8	
	comp=Z,104μm,19.0s						
N31M	**Braeburn, Yuko**	**26.48**	**51**	P	**P**	**21 41 06.6**	**-1.3**
	baz=270,SNR=122						
N31M				S	**S**	**21 45 51.3**	**+10**
	baz=270						
S31K	**Pelican**	**26.48**	**59**	IAMs_20	IAMs_20	21 53 09.1	
	comp=Z,111μm,18.0s						
S31K	**Pelican**	**26.48**	**59**	P	**P**	**21 41 06.0**	**-1.7**
	baz=277,SNR=15						
S31K				S	**S**	**21 45 48.8**	**+7.6**
	baz=277						
D28M	**Stokes Point**	**26.49**	**33**	P	**P**	**21 41 06.3**	**-1.5**
	baz=252,SNR=68						
D28M				S	**S**	**21 45 49.2**	**+7.9**
	baz=252						
EPYK	**Eagle Plains**	**26.49**	**40**	IAMs_20	IAMs_20	21 52 31.0	
	comp=Z,82μm,18.0s						
EPYK	**Eagle Plains**	**26.49**	**40**	P	**P**	**21 41 05.9**	**-2.1**
	baz=260,SNR=158						
EPYK				S	**S**	**21 45 49.2**	**+7.8**
	baz=260						
MAYO	**Mayo, Yukon**	**26.49**	**46**	IAMs_20	IAMs_20	21 52 35.1	
	comp=Z,96μm,19.0s						
MAYO	**Mayo, Yukon**	**26.49**	**46**	S	**S**	**21 45 46.6**	**+5.2**
	baz=266						
E29M	**Blow River**	**26.50**	**35**	IAMs_20	IAMs_20	21 52 32.2	
	comp=Z,71μm,20.0s						
E29M	**Blow River**	**26.50**	**35**	P	**P**	**21 41 06.6**	**-1.4**
	baz=254,SNR=54						
E29M				S	**S**	**21 45 51.3**	**+10**
	baz=254						
SKAG	**Skagway**	**26.79**	**56**	IAMs_20	IAMs_20	21 52 50.2	
	comp=Z,68μm,18.0s						
SKAG	**Skagway**	**26.79**	**56**	P	**P**	**21 41 11.6**	**+1.0**
SKAG	**Skagway**	**26.79**	**56**	P	**P**	**21 41 09.0**	**-1.6**
	baz=275,SNR=43						
SKAG				S	**S**	**21 45 53.5**	**+7.4**
	baz=275						
SKAG	**Skagway**	**26.79**	**56**	⇑P	**P**	**21 41 10.8**	**+0.1**
G30M	**tAoh Zraii Nji**	**26.80**	**39**	IAMs_20	IAMs_20	21 52 32.1	
	comp=Z,114μm,19.0s						
G30M	**tAoh Zraii Nji**	**26.80**	**39**	P	**P**	**21 41 08.6**	**-2.1**
	baz=259,SNR=40						
G30M				S	**S**	**21 45 54.0**	**+7.7**
	baz=259						
WHY	**Whitehorse**	**26.93**	**53**	P	**P**	**21 41 10.8**	**-1.2**
WHY				IAmb	IAmb	21 41 42.0	
	comp=Z,841nm,1.3s						
WHY				IAMs_20	IAMs_20	21 52 52.0	
	comp=Z,130μm,21.0s						
WHY	**Whitehorse**	**26.93**	**53**	P	**P**	**21 41 09.9**	**-2.2**
	baz=273,SNR=66						
WHY				S	**S**	**21 45 56.1**	**+7.4**
	baz=273						
SIT	**Sitka**	**27.09**	**61**	P	**P**	**21 41 11.7**	**-1.6**
SIT				IAMs_20	IAMs_20	21 53 19.4	
	comp=Z,96μm,18.0s						
SIT	**Sitka**	**27.09**	**61**	P	**P**	**21 41 15.3**	**+2.0**
SIT	**Sitka**	**27.09**	**61**	P	**P**	**21 41 11.7**	**-1.6**
SIT				pmax	pmax		
	comp=Z,219nm,1.1s						
SIT				MLR	MLR		
	comp=Z,96μm,18.0s						
SIT	**Sitka**	**27.09**	**61**	P	**P**	**21 41 11.4**	**-2.0**
	baz=280,SNR=21						
SIT				S	**S**	**21 45 57.7**	**+6.8**
	baz=280						
F30M	**Barrier River**	**27.09**	**37**	IAMs_20	IAMs_20	21 53 33.8	
	comp=Z,70μm,18.0s						
F30M	**Barrier River**	**27.09**	**37**	P	**P**	**21 41 11.6**	**-1.7**
	baz=258						
F30M				S	**S**	**21 45 57.9**	**+7.1**
	baz=258						
JSH	**Shimam**	**27.11**	**265**	P	**P**	**21 41 14.1**	**+0.5**
M31M	**Drury Creek, Y**	**27.13**	**49**	IAMs_20	IAMs_20	21 52 34.1	
	comp=Z,105μm,19.0s						
M31M	**Drury Creek, Y**	**27.13**	**49**	P	**P**	**21 41 11.9**	**-1.9**
	baz=270,SNR=104						
M31M				S	**S**	**21 45 59.1**	**+7.5**
	baz=270						
JOT	**Ohata**	**27.21**	**262**	P	**P**	**21 41 15.5**	**+0.9**
R32K	**Eaglecrest**	**27.34**	**58**	IAMs_20	IAMs_20	21 51 30.8	
	comp=Z,74μm,20.0s						
R32K	**Eaglecrest**	**27.34**	**58**	P	**P**	**21 41 13.6**	**-2

comp=Z,58μm,18.0s
H31M Peel River 27.36 42 P **P 21 41 14.0 -1.8**
baz=263,SNR=70
H31M S **S 21 46 00.4 +5.2**
baz=263
JIS Juneau Island 27.41 58 P **P 21 41 16.7 +0.5**
S32K Killisnoo 27.42 60 IAMs_20 IAMs_20 21 51 27.2
comp=Z,94μm,20.0s
S32K Killisnoo 27.42 60 P **P 21 41 14.6 -1.8**
baz=279,SNR=57
S32K S **S 21 46 02.0 +5.8**
baz=279
YAK Yakutsk 27.46 310 P **P 21 41 14.4 -2.2**
YAK Yakutsk 27.46 310 IAMs_20 IAMs_20 21 52 13.8
comp=Z,105μm,18.0s
YAK Yakutsk 27.46 310 P **P 21 41 15.9 -0.7**
comp=Z,1μm,0.9s,baz=120,slow=1.1,SNR=44
YAK S **S 21 45 49.3 -7.4**
comp=Z,20nm,0.8s,baz=64,slow=22,SNR=0.9
YAK LR LR 21 52 04.0
comp=Z,80μm,18.1s,baz=97,slow=36
YAK Yakutsk 27.46 310 *e*P **P 21 41 14.3 -2.4**
YAK *e**PP **pP 21 41 18.4 -1.5**
YAK *e* 21 41 59.3
YAK *e*S **S 21 45 56.6 -0.1**
YAK *e*SSS SSS 21 47 15.7
YAK *e* 21 52 08.7
YAK pmax pmax
comp=Z,86nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,58nm,1.2s
YAK pmax pmax
comp=Z,1μm,1.8s
YAK pmax pmax
comp=N,686nm,1.8s
YAK pmax pmax
comp=E,2μm,2.3s
YAK smax smax
comp=E,3μm,3.5s
YAK smax smax
comp=N,785nm,1.5s
YAK MLR MLR
comp=Z,125μm,18.0s
YAK MLR MLR
comp=N,65μm,14.0s
YAK MLR MLR
comp=E,91μm,17.0s
YAK Yakutsk 27.46 310 ⇓P **P 21 41 13.8 -2.8**
G31M Satah River 27.55 39 IAMs_20 IAMs_20 21 52 54.8
comp=Z,108μm,18.0s
G31M Satah River 27.55 39 P **P 21 41 15.9 -1.5**
baz=261,SNR=172
G31M S **S 21 46 02.0 +4.1**
baz=261
JTM Tenmabayashi 27.55 261 P **P 21 41 16.8 -0.8**
JTM IAmb IAmb 21 41 53.7
comp=Z,941nm,1.4s
JTM IAMs_20 IAMs_20 21 51 50.6
comp=Z,78μm,21.0s
JTM Tenmabayashi 27.55 261 P **P 21 41 20.3 +2.7**
JTM Tenmabayashi 27.55 261 P **P 21 41 19.0 +1.4**
P32M Atlin 27.60 55 IAMs_20 IAMs_20 21 53 24.6
comp=Z,97μm,18.0s
P32M Atlin 27.60 55 P **P 21 41 16.7 -1.3**
baz=276,SNR=257
P32M S **S 21 46 05.4 +6.4**
baz=276
FARO Faro, Yukon 27.62 49 IAMs_20 IAMs_20 21 52 50.0
comp=Z,94μm,19.0s
FARO Faro, Yukon 27.62 49 P **P 21 41 16.6 -1.6**
baz=271,SNR=43
FARO S **S 21 46 06.2 +6.9**
baz=271
N32M Quiet Lake 27.79 52 IAMs_20 IAMs_20 21 53 33.9
comp=Z,91μm,20.0s
N32M Quiet Lake 27.79 52 P **P 21 41 17.8 -1.9**
baz=273
N32M S **S 21 46 07.7 +5.7**
baz=273
F31M Tsiigehtchic 27.83 38 P **P 21 41 18.1 -1.8**
F31M IAmb IAmb 21 41 43.9
comp=Z,308nm,1.1s
F31M IAMs_20 IAMs_20 21 53 13.4
comp=Z,98μm,18.0s
F31M Tsiigehtchic 27.83 38 P **P 21 41 18.1 -1.8**
baz=261,SNR=74
F31M S **S 21 46 06.6 +4.2**
baz=261
TEY Ternei 27.98 272⇑*e*P **P 21 41 20.3 -1.1**
TEY pmax pmax
comp=E,10.0nm,1.1s
TEY pmax pmax
comp=Z,10.0nm,1.1s
TEY MLR MLR
comp=E,20μm,14.0s
TEY MLR MLR
comp=N,18μm,13.0s
TEY MLR MLR
comp=Z,28μm,14.0s
P33M Teslin, Yukon 27.99 54 IAMs_20 IAMs_20 21 52 55.8
comp=Z,91μm,22.0s
P33M Teslin, Yukon 27.99 54 P **P 21 41 19.9 -1.6**
baz=275,SNR=195
P33M S **S 21 46 12.2 +7.0**
baz=275
INK Inuvik 28.06 36 LR LR 21 54 29.0
comp=Z,53μm,19.1s,baz=248,slow=41
INK Inuvik 28.06 36 P **P 21 41 20.9 -1.0**
baz=259,SNR=43
INK S **S 21 46 09.3 +3.2**
baz=259
INK Inuvik 28.06 36 ⇓P **P 21 41 20.9 -1.0**
JOM Ohasama 28.21 258 P **P 21 41 23.1 -0.5**
Q32M Nakina River 28.41 56 IAMs_20 IAMs_20 21 52 31.2
comp=Z,70μm,21.0s
Q32M Nakina River 28.41 56 P **P 21 41 24.3 -1.1**
baz=278,SNR=174
Q32M S **S 21 46 16.0 +3.9**
baz=278
U33K Whale Pass 28.47 62 P **P 21 41 24.3 -1.4**
baz=283,SNR=22
U33K S **S 21 46 20.0 +7.4**
baz=283
MMPY Sheldon Lake, 28.58 48 IAMs_20 IAMs_20 21 53 19.4
comp=Z,115μm,19.0s
MMPY Sheldon Lake, 28.58 48 P **P 21 41 25.4 -1.3**
baz=272,SNR=104
MMPY S **S 21 46 20.1 +5.6**
baz=272
CRAG Craig 28.61 64 P **P 21 41 28.0 +1.0**
CRAG Craig 28.61 64 P **P 21 41 25.8 -1.1**
baz=284,SNR=11
CRAG S **S 21 46 20.7 +5.8**
baz=284
CRAG Craig 28.61 64 ⇓P **P 21 41 27.7 +0.7**
WRAK Wrangell Islan 28.82 61 P **P 21 41 27.3 -1.5**
WRAK Wrangell Islan 28.82 61 IAMs_20 IAMs_20 21 54 20.2
comp=Z,85μm,19.0s
WRAK Wrangell Islan 28.82 61 P **P 21 41 27.3 -1.5**
baz=283,SNR=21
WRAK S **S 21 46 24.5 +6.3**
baz=283
R33M Jennings River 29.01 55 IAMs_20 IAMs_20 21 54 25.0
comp=Z,97μm,18.0s
R33M Jennings River 29.01 55 P **P 21 41 29.0 -1.6**
baz=278,SNR=203
R33M S **S 21 46 29.4 +8.0**
baz=278
TIXI Tiksi 29.06 330 P **P 21 41 28.9 -1.9**
TIXI Tiksi 29.06 330 IAMs_20 IAMs_20 21 52 39.8
comp=Z,86μm,22.0s
TIXI Tiksi 29.06 330 LR LR 21 53 01.8
comp=Z,79μm,21.5s,baz=139,slow=36
TIXI Tiksi 29.06 330⇓*e*P **P 21 41 28.5 -2.3**
TIXI pmax pmax
comp=Z,206nm,1.3s
TIXI MLR MLR
comp=Z,76μm,20.0s
TIXI Tiksi 29.06 330 ⇑P **P 21 41 29.1 -1.7**
KLR Kul'dur 29.08 283 P **P 21 41 30.1 -1.1**
comp=Z,225nm,0.9s,baz=61,slow=9.2,SNR=62
KLR LR LR 21 53 29.3
comp=Z,89μm,18.9s,baz=75,slow=37
comp=Z,225nm,0.9s
KLR Kul'dur 29.08 283*d i*P **P 21 41 28.8 -2.4**
KLR pmax pmax
comp=Z,490nm,0.9s
KLR MLR MLR
comp=Z,85μm,19.0s
S34M Telegraph Cree 29.17 58 IAMs_20 IAMs_20 21 52 25.3
comp=Z,75μm,21.0s
S34M Telegraph Cree 29.17 58 P **P 21 41 29.8 -2.1**
baz=281,SNR=66
S34M S S 21 46 32.9 +9.2
baz=281
V35K Ketchikan 29.48 63 P **P 21 41 32.9 -1.7**
baz=285,SNR=28
V35K S **S 21 46 35.8 +7.2**
baz=285
JMM Marumori 29.54 256 P **P 21 41 35.9 +0.5**
JMM IAmb IAmb 21 41 45.8
comp=Z,584nm,1.4s
JMM Marumori 29.54 256 P **P 21 41 37.1 +1.7**
JMM Marumori 29.54 256 P **P 21 41 36.9 +1.6**
JMM Marumori 29.54 256 ⇑P **P 21 41 36.3 +0.9**
DIB Dawson Inlet, 29.60 68 P **P 21 41 34.1 -1.6**
DIB IAMs_20 IAMs_20 21 51 55.1
comp=Z,61μm,20.0s
H02S1 DAWSON INLET T 29.60 68 P **P 21 41 37.6 +1.9**
SNR=17
DLBC Dease Lake 29.65 57 IAMs_20 IAMs_20 21 52 54.9
comp=Z,102μm,21.0s
DLBC Dease Lake 29.65 57 LR LR 21 53 27.7
comp=Z,102μm,21.5s,baz=286,slow=36
DLBC Dease Lake 29.65 57 P **P 21 41 34.4 -1.9**
baz=281,SNR=73
DLBC S **S 21 46 35.7 +4.4**
baz=281
DLBC Dease Lake 29.65 57 ⇑P **P 21 41 36.1 -0.1**
T35M Bob Quinn 29.83 60 IAMs_20 IAMs_20 21 52 59.7
comp=Z,67μm,21.0s
T35M Bob Quinn 29.83 60 P **P 21 41 36.0 -1.8**
baz=283,SNR=69
T35M S S 21 46 44.7 +11
baz=283
MOBC Moresby Island 29.91 68 P **P 21 41 37.8 -0.8**
MOBC IAMs_20 IAMs_20 21 52 03.3
comp=Z,65μm,20.0s
WTLY Watson Lake, Y 29.99 53 IAMs_20 IAMs_20 21 53 54.9
comp=Z,87μm,21.0s
WTLY Watson Lake, Y 29.99 53 P **P 21 41 37.6 -1.7**
baz=279,SNR=12
WTLY S S 21 46 46.7 +10
baz=279
TGTN Hyland Airport 30.06 50 P **P 21 41 38.1 -1.8**
baz=277,SNR=66
TGTN S **S 21 46 46.6 +8.9**
baz=277
ZEA Zeya 30.13 294 *e*P **P 21 41 38.6 -1.9**
ZEA *e*S S 21 46 29.7 -9.2
ZEA pmax pmax
comp=E,1μm,4.2s
ZEA pmax pmax
comp=Z,2μm,4.4s
ZEA pmax pmax
comp=N,120nm,0.8s
ZEA pmax pmax
comp=Z,230nm,1.0s
ZEA smax smax
comp=E,3μm,9.7s
ZEA smax smax
comp=N,6μm,13.2s
ZEA MLR MLR
comp=N,31μm,14.0s
ZEA MLR MLR
comp=E,19μm,14.0s
ZEA MLR MLR
comp=Z,40μm,15.0s
U35K Hyder 30.20 62 IAMs_20 IAMs_20 21 55 19.8
comp=Z,62μm,18.0s
U35K Hyder 30.20 62 P **P 21 41 39.4 -1.7**
baz=285
U35K S **S 21 46 48.8 +8.9**
baz=285
HG4B Hotspring 30.64 69 P **P 21 41 43.4 -1.6**
GRNB Grenville Isla 30.83 66 P **P 21 41 45.4 -1.3**
JSD Sado 30.95 259 P **P 21 41 47.7 -0.2**
JSD IAmb IAmb 21 41 56.7
comp=Z,226nm,1.0s
JSD Sado 30.95 259 P **P 21 41 49.7 +1.8**
JSD Sado 30.95 259 P **P 21 41 48.3 +0.4**
JYT Yasato 30.98 254 P **P 21 41 50.0 +1.9**
USA0B Ussuriysk Arra 31.25 274 P **P 21 41 49.0 -1.4**
USA0B IAmb IAmb 21 41 59.1
comp=Z,306nm,1.1s
USA0B Ussuriysk Arra 31.25 274*de*P **P 21 41 48.4 -2.0**
USRK Ussuriysk Ar. 31.25 274 P **P 21 41 48.9 -1.5**
USRK Ussuriysk Ar. 31.25 274 P **P 21 41 50.0 -0.4**
comp=Z,130nm,0.8s,baz=72,slow=8.6,SNR=50
USRK PcP **PcP 21 44 43.5 -1.1**
comp=Z,25nm,0.9s,baz=356,slow=1.1,SNR=4.6
USRK LR LR 21 53 07.2
comp=Z,46μm,21.7s,baz=66,slow=34
comp=Z,130nm,0.8s
HEH HeiHe 31.26 287 *e*P **P 21 41 48.1 -2.4**
HEH pP **pP 21 41 53.9 -0.1**
HEH S **S 21 46 52.4 -4.2**
HEH pmax pmax
comp=Z,2μm,4.3s
HEH LR LR
comp=Z,46μm,14.6s
HEH LR LR
comp=Z,101μm,15.0s
HEH LR LR
comp=Z,78μm,15.7s
LIRD Liard River Hi 31.46 54 S **S 21 47 07.7 +8.1**
baz=282
A36M Sachs Harbour 31.47 30 P **P 21 41 51.1 -0.9**
A36M IAmb IAmb 21 42 13.1
comp=Z,308nm,0.9s
A36M IAMs_20 IAMs_20 21 55 43.4
comp=Z,65μm,22.0s
A36M Sachs Harbour 31.47 30 P **P 21 41 50.3 -1.8**
baz=262,SNR=28
A36M S **S 21 47 05.4 +6.0**
baz=262
C36M Paulatuk 31.60 35 IAMs_20 IAMs_20 21 56 17.8
comp=Z,46μm,18.0s
C36M Paulatuk 31.60 35 P **P 21 41 51.4 -1.7**
baz=267,SNR=55
C36M S **S 21 47 07.2 +5.8**
baz=267
VLA Vladivostok 31.88 272*de*P **P 21 41 57.4 +1.4**
VLA pmax pmax
comp=Z,74nm,0.8s
VLA MLR MLR
comp=Z,22μm,21.0s
JRY Ryogami san 31.90 255 P **P 21 41 55.9 -0.4**
MJAR Matsushiro Arr 31.96 257 P **P 21 41 56.5 -0.3**
comp=Z,56nm,0.9s,baz=44,slow=7.1,SNR=37
MJAR S **S 21 47 01.2 -6.6**
comp=Z,0.8nm,0.3s,baz=97,slow=24,SNR=4.1
MJAR ScP **ScP 21 48 30.7 +1.0**
comp=Z,6.7nm,1.1s,baz=333,slow=1.4,SNR=5.0
MJAR LR LR 21 52 50.0
comp=Z,57μm,21.9s,baz=36,slow=32
comp=Z,56nm,0.9s
MJB9 Matsu-Tunnel 31.96 257 P **P 21 41 55.6 -1.2**
MJB9 IAmb IAmb 21 42 08.0
comp=Z,502nm,1.1s
MAJO Matsushiro 31.96 257 P **P 21 41 56.3 -0.5**
MAJO IAmb IAmb 21 42 07.0
comp=Z,511nm,1.1s
MAJO Matsushiro 31.96 257 IAMs_20 IAMs_20 21 52 37.7
comp=Z,59μm,22.0s
MAJO Matsushiro 31.96 257 P **P 21 41 58.9 +2.1**
MAJO Matsushiro 31.96 257*d i*P **P 21 41 56.3 -0.5**
MAJO pmax pmax
comp=Z,126nm,1.1s
MAJO Matsushiro 31.96 257 ⇓P **P 21 41 56.4 -0.4**
MAJO Matsushiro 31.96 257 P **P 21 41 57.3 +0.5**
MAJO S **S 21 47 09.5 +1.7**
MAT Matsushiro 31.96 257 P **P 21 41 56.1 -0.7**
TOAD Toad River Com 32.02 55 P **P 21 41 55.1 -2.0**
baz=283,SNR=36
TOAD S **S 21 47 15.3 +6.9**
baz=283
WRGLY Wrigley 32.09 47 IAMs_20 IAMs_20 21 55 22.0
comp=Z,78μm,21.0s
WRGLY Wrigley 32.09 47 P **P 21 41 55.5 -2.0**
baz=278
WRGLY S **S 21 47 17.0 +7.9**
baz=278
JOD2 Odawara 2 32.30 254 P **P 21 42 00.8 +1.1**
KOTAN Kotaneelee Air 32.33 52 P **P 21 41 57.5 -2.2**
baz=282,SNR=64
KOTAN S **S 21 47 21.3 +8.2**
baz=282
BBB Bella Bella 32.45 68 P **P 21 41 59.3 -1.5**
BBB IAMs_20 IAMs_20 21 52 25.3
comp=Z,53μm,22.0s
BBB Bella Bella 32.45 68 LR LR 21 53 38.9
comp=Z,35μm,20.0s,baz=293,slow=34
BBB Bella Bella 32.45 68 ⇓P **P 21 42 01.7 +0.9**
MDJ Mudanjiang 32.51 276 P **P 21 41 59.4 -2.1**
MDJ Mudanjiang 32.51 276 P **P 21 41 59.3 -2.1**
MDJ sP sP 21 42 07.5 +1.2
MDJ S **S 21 47 17.7 +1.6**
MDJ pmax pmax
comp=Z,1μm,7.1s
MDJ LR LR
comp=Z,88μm,18.6s
MDJ LR LR
comp=Z,54μm,18.5s
MDJ LR LR
comp=Z,52μm,18.6s
MSHR Mys Shultsa 32.62 272*de*P **P 21 42 01.7 -0.8**
MSHR pmax pmax
comp=Z,491nm,1.7s
JGN Niukaw 32.71 257 P **P 21 42 02.3 -1.2**
PSTR Posyet 32.80 272*c i*P **P 21 42 03.6 -0.4**
HOLB Holberg 33.03 71 P **P 21 42 04.1 -2.0**
HOLB IAmb IAmb 21 42 15.6
comp=Z,425nm,2.0s
JGF Kuroka 33.10 256 P **P 21 42 06.7 -0.1**
JGF Kuroka 33.10 256 P **P 21 42 07.9 +1.1**
JGF Kuroka 33.10 256 P **P 21 42 07.6 +0.8**
JGF Kuroka 33.10 256 ⇓P **P 21 42 07.7 +0.9**
JSG Sagara 33.24 254 P **P 21 42 07.8 -0.2**
JSG IAmb IAmb 21 42 43.8
comp=Z,504nm,1.1s
JSG IAMs_20 IAMs_20 21 53 11.7
comp=Z,57μm,20.0s
JSG Sagara 33.24 254 P **P 21 42 10.9 +2.9**
BNX BinXian 33.28 280 ⇓P **P 21 42 05.7 -2.5**
BNX S **S 21 47 22.4 -5.7**
BNX pmax pmax
comp=Z,50nm,0.9s
BNX pmax pmax
comp=Z,2μm,3.8s
BNX LR LR
comp=Z,103μm,18.0s
BNX LR LR
comp=Z,80μm,17.5s
BNX LR LR
comp=Z,86μm,16.8s
JHJ2 Mitsune 33.38 251 IAMs_20 IAMs_20 21 52 43.6
comp=Z,54μm,21.0s
JHJ2 Mitsune 33.38 251 P **P 21 42 12.4 +3.2**
JHJ Hachijo jima 2 33.40 251 P **P 21 42 10.2 +0.9**
comp=Z,526nm,0.9s,baz=63,slow=2.3,SNR=7.6
JHJ LR LR 21 53 51.5
comp=Z,28μm,21.7s,baz=56,slow=33
comp=Z,526nm,0.9s
H11N2 WAKE ISLAND Hy 33.41 199 P **P 21 42 09.3 0.0**
SNR=7.0
H11N2 T T 22 17 16.9
baz=11,slow=76,SNR=2260
H11N3 WAKE ISLAND Hy 33.42 199 P **P 21 42 11.7 +2.3**
SNR=11
H11N3 T T 22 17 20.1
baz=11,slow=76,SNR=2759
H11N1 WAKE ISLAND Hy 33.43 199 P **P 21 42 10.6 +1.1**
SNR=8.3
H11N1 T T 22 17 17.6
baz=11,slow=76,SNR=2160
INU Inuyama 33.48 256 P **P 21 42 09.6 -0.4**
INU IAmb IAmb 21 42 19.7
comp=Z,257nm,1.2s
INU Inuyama 33.48 256 P **P 21 42 12.2 +2.1**
INU Inuyama 33.48 256 ⇑P **P 21 42 12.2 +2.1**
JWT Wachi 34.49 258 P **P 21 42 19.1 +0.3**
H11S1 WAKE ISLAND Hy 34.64 199 P **P 21 42 22.3 +2.2**
baz=13,slow=5.3,SNR=6.3
H11S1 T T 22 18 55.5
baz=10,slow=76,SNR=1505
H11S2 WAKE ISLAND Hy 34.66 199 P **P 21 42 22.4 +2.3**
baz=13,slow=5.3,SNR=5.5
H11S2 T T 22 18 56.3
baz=10,slow=76,SNR=1100
H11S3 WAKE ISLAND Hy 34.66 199 P **P 21 42 22.4 +2.3**
baz=13,slow=5.3,SNR=7.3
H11S3 T T 22 18 53.5
baz=10,slow=76,SNR=1352
CBB Campbell River 34.90 70 P **P 21 42 20.8 -1.4**
OZB Mount Ozzard 35.30 72 ⇓P **P 21 42 26.7 +1.0**
CN2 Changchun 35.47 278 *e*P **P 21 42 25.0 -2.2**
CN2 *e*S **S 21 48 02.6 +0.6**
CN2 pmax pmax
comp=Z,1μm,6.0s
CN2 LR LR
comp=Z,69μm,17.0s
CN2 LR LR
comp=Z,55μm,17.0s
CN2 LR LR
comp=Z,82μm,17.0s
JAD Aida 35.47 259 P **P 21 42 26.4 -0.9**
KIP Kipapa 35.78 140 P **P 21 42 29.7 -0.4**
KIP IAmb IAmb 21 42 41.5
comp=Z,406nm,0.8s
KIP Kipapa 35.78 140 P **P 21 42 33.0 +2.9**
KIP Kipapa 35.78 140⇓*e*P **P 21 42 32.9 +2.9**
KIP pmax pmax
comp=Z,224nm,1.7s
HON Honolulu 35.88 140 P **P 21 42 31.4 +0.6**
HON Honolulu 35.88 140 P **P 21 42 31.4 +0.6**
HON pmax pmax
comp=Z,3μm,1.9s
HON MLR MLR
comp=Z,36μm,21.0s
SHB Sechelt 35.96 70 ⇑P **P 21 42 31.1 -0.3**
BOD Bodaibo 35.96 305 *e*P **P 21 42 29.3 -2.0**
BOD pmax pmax
comp=Z,1μm,1.9s
JHS Saijyo 36.07 260 P **P 21 42 31.5 -0.9**
HIA Hailar 36.18 289 P **P 21 42 31.2 -2.1**
HIA Hailar 36.18 289 IAMs_20 IAMs_20 21 58 50.5
comp=Z,60μm,18.0s
HIA Hailar 36.18 289 P **P 21 42 31.2 -2.1**
HIA pmax pmax
comp=Z,206nm,1.1s
HIA MLR MLR
comp=Z,60μm,18.0s
YKA Yellowknife Ar 36.21 47 P **P 21 42 31.7 -1.6**
YKA Yellowknife Ar 36.21 47 P **P 21 42 32.5 -0.8**
comp=Z,132nm,0.8s,baz=284,slow=8.7,SNR=183
YKA S **S 21 48 13.2 +0.4**
comp=Z,5.0nm,1.1s,baz=291,slow=10,SNR=2.8
YKA ScP **ScP 21 48 43.7 -0.6**
comp=Z,8.1nm,1.1s,baz=290,slow=4.0,SNR=4.5
YKA LR LR 21 59 09.9
comp=Z,87μm,19.4s,baz=285,slow=39
YKA P3KPbc 22 13 08.5
comp=Z,1.4nm,1.1s,baz=102,slow=5.0,SNR=8.5
YKA P3KP 22 14 30.7
comp=Z,0.5nm,1.0s,baz=170,slow=2.7,SNR=3.6
comp=Z,132nm,0.8s
C03A Quillayute Air 36.32 73 P **P 21 42 32.9 -1.5**
C03A IAMs_20 IAMs_20 21 55 01.0
comp=Z,41μm,19.0s
HHU Hamhung 36.38 271 P **P 21 42 34.7 -0.4**
HHU S **S 21 48 14.7 -1.3**
HHU AmB
comp=Z,1μm,1.3s
HHU AMS AMS
comp=Z,28μm,15.5s
JMN Monobe 36.47 257 P **P 21 42 36.0 +0.1**
JMN IAmb IAmb 21 42 49.2
comp=Z,510nm,1.2s
JMN Monobe 36.47 257 P **P 21 42 37.8 +1.9**
JCJ Chichijima 36.61 241 P **P 21 42 36.6 -0.5**
JCJ IAMs_20 IAMs_20 21 54 12.4
comp=Z,55μm,22.0s
JCJ Chichijima 36.61 241 P **P 21 42 36.7 -0.4**
comp=Z,190nm,0.6s,baz=348,slow=9.3,SNR=8.1
JCJ LR LR 21 55 08.0
comp=Z,35μm,21.6s,baz=16,slow=32
comp=Z,190nm,0.6s

JCJ	Chichijima	36.61	241	P	P	21 42 40.4	+3.3
JOHN	Johnston Islan	36.61	160	P	P	21 42 37.2	+0.1
JOHN	Johnston Islan	36.61	160	P	P	21 42 41.8	+4.7
PGC	Sidney	36.64	71	P	P	21 42 35.4	-1.8
LLLB	Lillooet	36.65	68	IAMs_20	IAMs_20	21 54 57.6	
	comp=Z,49μm,22.0s						
KHLH	Kahului Airpor	36.90	138	IAMs_20	IAMs_20	21 53 44.2	
	comp=Z,49μm,22.0s						
NLWA	Neilton Lookou	37.00	74	P	P	21 42 38.5	-1.8
NLWA	Neilton Lookou	37.00	74	⇑P	P	21 42 40.1	-0.2
GNW	Green Mountain	37.53	73	IAMs_20	IAMs_20	21 54 53.1	
	comp=Z,40μm,21.0s						
KSRS	Korea Array	37.66	267	P	P	21 42 46.3	+0.4
	comp=Z,67nm,0.9s,baz=53,slow=6.8,SNR=45						
KSRS				PcP	PcP	21 45 05.5	+2.5
	comp=Z,14nm,0.8s,baz=63,slow=3.1,SNR=7.2						
	comp=Z,67nm,0.9s						
KS19	Wonju Array Si	37.66	267	P	P	21 42 45.8	-0.2
KS19				IAmb	IAmb	21 42 59.1	
	comp=Z,407nm,1.4s						
KSAR	Wonju Array Be	37.69	267	P	P	21 42 45.5	-0.7
KSAR	Wonju Array Be	37.69	267	P	P	21 42 45.5	-0.7
SNY	Shenyang	37.71	276	⇑P	P	21 42 45.5	-0.8
SNY				S	S	21 48 29.5	-6.6
SNY				pmax	pmax		
	comp=Z,110nm,1.6s						
SNY				pmax	pmax		
	comp=Z,2μm,7.0s						
SNY				LR	LR		
	comp=Z,47μm,16.6s						
SNY				LR	LR		
	comp=Z,34μm,17.1s						
SNY				LR	LR		
	comp=Z,39μm,17.5s						
PYAG	Pyongyang	38.00	271	P	P	21 42 48.9	+0.1
PYAG				S	S	21 48 38.9	-1.7
PYAG				AmB			
	comp=Z,3μm,2.3s						
PYAG				AMS	AMS		
	comp=Z,21μm,14.0s						
SUJ	Sinuiju	38.15	273	P	P	21 42 50.0	0.0
SUJ				S	S	21 48 41.2	-1.7
SUJ				AmB			
	comp=Z,4μm,1.9s						
SUJ				AMS	AMS		
	comp=Z,24μm,14.2s						
POHA	Pohakuloa	38.29	137	P	P	21 42 51.1	-0.6
POHA				IAmb	IAmb	21 43 02.9	
	comp=Z,278nm,0.7s						
POHA	Pohakuloa	38.29	137	P	P	21 42 54.1	+2.4
POHA	Pohakuloa	38.29	137	⇓P	P	21 42 54.1	+2.4
INCN	Inchon	38.44	268	P	P	21 42 52.2	-0.3
INCN				IAmb	IAmb	21 43 01.7	
	comp=Z,636nm,1.0s						
INCN	Inchon	38.44	268	IAMs_20	IAMs_20	21 59 56.7	
	comp=Z,45μm,18.0s						
INCN	Inchon	38.44	268	P	P	21 42 51.6	-0.9
INCN				P	P	21 42 51.6	-0.9
INCN				S	S	21 48 47.7	+0.4
INCN				S	S	21 48 47.7	+0.4
INCN	Inchon	38.44	268	P	P	21 42 53.1	+0.6
INCN	Inchon	38.44	268	P	P	21 42 52.2	-0.3
INCN				pmax	pmax		
	comp=Z,636nm,1.0s						
INCN				MLR	MLR		
	comp=Z,45μm,18.0s						
INCN	Inchon	38.44	268	⇑P	P	21 42 54.0	+1.5
CIT	Chita	38.46	296	*e*P	P	21 42 51.2	-1.4
CIT				*e*		21 44 22.4	
CIT				*e*S	S	21 48 49.4	+2.0
CIT				pmax	pmax		
	comp=Z,2μm,2.0s						
JTU	Tsushima	38.66	263	P	P	21 42 56.4	+2.1
JTU	Tsushima	38.66	263	⇓P	P	21 43 00.3	+6.0
TJN	Taejon	38.69	267	P	P	21 42 54.1	-0.5
TJN	Taejon	38.69	267	P	P	21 42 55.5	+0.9
TJN	Taejon	38.69	267	*ce*P	P	21 42 54.8	+0.2
JNU	Nakatsue	38.70	260	P	P	21 42 54.6	-0.2
JNU				IAmb	IAmb	21 43 08.4	
	comp=Z,850nm,1.2s						
JNU				IAMs_20	IAMs_20	21 57 39.1	
	comp=Z,57μm,20.0s						
JNU	Nakatsue	38.70	260	P	P	21 42 55.8	+1.0
	comp=Z,322nm,0.9s,baz=39,slow=4.8,SNR=18						
JNU				LR	LR	21 57 50.2	
	comp=Z,52μm,21.1s,baz=60,slow=35						
	comp=Z,322nm,0.9s						
JNU	Nakatsue	38.70	260	P	P	21 42 54.5	-0.3
COR	Corvallis	38.78	77	P	P	21 42 55.1	-0.1
COR				IAmb	IAmb	21 43 06.7	
	comp=Z,642nm,1.6s						
COR	Corvallis	38.78	77	IAMs_20	IAMs_20	21 55 07.4	
	comp=Z,48μm,22.0s						
COR	Corvallis	38.78	77	P	P	21 42 55.2	-0.1
COR				pmax	pmax		
	comp=Z,642nm,1.6s						
COR				MLR	MLR		
	comp=Z,48μm,22.0s						
COR	Corvallis	38.78	77	⇓P	P	21 42 58.4	+3.1
BUCK	Buck Mountain	39.19	77	IAMs_20	IAMs_20	21 56 21.1	
	comp=Z,40μm,20.0s						
J01E	Myrtle Point	39.19	79	IAMs_20	IAMs_20	21 55 27.2	
	comp=Z,48μm,22.0s						
I03D	Drain, OR	39.24	78	IAMs_20	IAMs_20	21 55 30.6	
	comp=Z,42μm,22.0s						
KBO	Bosley Butte	39.54	81	IAMs_20	IAMs_20	21 56 43.7	
	comp=Z,39μm,19.0s						
RES	Resolute Bay	39.95	24	P	P	21 43 02.7	-1.9
RES	Resolute Bay	39.95	24	LR	LR	22 01 01.1	
	comp=Z,15μm,21.4s,baz=282,slow=38						
RES	Resolute Bay	39.95	24	P	P	21 43 02.7	-1.9
RES				pmax	pmax		
	comp=Z,64nm,1.0s						
RES				MLR	MLR		
	comp=Z,15μm,21.0s						
RES	Resolute Bay	39.95	24	⇓P	P	21 43 03.5	-1.1
L02F	Cave Junction	39.99	80	IAMs_20	IAMs_20	21 57 08.7	
	comp=Z,44μm,20.0s						
HAWA	Hanford	40.07	72	P	P	21 43 03.9	-2.1
HAWA	Hanford	40.07	72	⇑P	P	21 43 05.6	-0.4
JSU	Suzuyama	40.09	258	P	P	21 43 08.7	+2.3
EUNU	Eureka	40.16	16	P	P	21 43 05.0	-1.5
EUNU				IAMs_20	IAMs_20	22 01 57.0	
	comp=Z,36μm,21.0s						
EUNU	Eureka	40.16	16	⇑P	P	21 43 09.1	+2.6
KRPM	Rodgers	40.28	82	P	P	21 43 06.9	-1.0
NEW	Newport	40.50	69	IAMs_20	IAMs_20	21 56 52.4	
	comp=Z,39μm,22.0s						
NEW	Newport	40.50	69	LR	LR	21 57 25.1	
	comp=Z,26μm,21.0s,baz=298,slow=33						
NEW	Newport	40.50	69	⇑P	P	21 43 08.2	-1.5
KHMM	Horse Mountain	40.62	82	P	P	21 43 09.5	-1.4
KHMM				IAMs_20	IAMs_20	21 56 55.4	
	comp=Z,35μm,20.0s						
DL2	Dalian	40.64	274	P	P	21 43 10.2	-0.6
DL2				S	S	21 49 18.8	-1.4
DL2				pmax	pmax		
	comp=Z,410nm,1.1s						
DL2				pmax	pmax		
	comp=Z,2μm,8.0s						
DL2				LR	LR		
	comp=Z,34μm,18.0s						
DL2				LR	LR		
	comp=Z,46μm,16.7s						
DL2				LR	LR		
	comp=Z,45μm,24.5s						
L04D	Klamath Falls	40.71	80	IAMs_20	IAMs_20	21 57 33.5	
	comp=Z,35μm,20.0s						
YBH	Yreka Blue Hor	40.74	80	P	P	21 43 11.0	-0.8
YBH				IAMs_20	IAMs_20	21 56 14.5	
	comp=Z,41μm,22.0s						
YBH	Yreka Blue Hor	40.74	80	LR	LR	21 57 45.8	
	comp=Z,31μm,19.4s,baz=303,slow=33						
YBH	Yreka Blue Hor	40.74	80	P	P	21 43 11.0	-0.8
YBH				pmax	pmax		
	comp=Z,220nm,1.1s						
YBH				MLR	MLR		
	comp=Z,41μm,22.0s						
K04D	Chiloquin, OR	40.81	79	IAMs_20	IAMs_20	21 56 52.1	
	comp=Z,40μm,21.0s						
E09A	Wood Farm, Sta	40.82	72	IAMs_20	IAMs_20	21 56 44.0	
	comp=Z,44μm,22.0s						
XLT	XiLinHaoTe	41.09	284	*e*P	P	21 43 13.6	-1.0
XLT				pP	pP	21 43 17.7	-0.5
XLT				sP	sP	21 43 21.7	+2.1
XLT				S	S	21 49 25.3	-1.8
XLT				SS	SS	21 52 20.5	-8.7
XLT				ScS	ScS	21 53 15.8	-3.1
XLT				pmax	pmax		
	comp=Z,240nm,1.3s						
XLT				pmax	pmax		
	comp=Z,2μm,4.7s						
XLT				LR	LR		
	comp=Z,12μm,19.1s						
XLT				LR	LR		
	comp=Z,108μm,19.4s						
XLT				LR	LR		
	comp=Z,41μm,21.0s						
HATC	Hat Creek Radi	42.04	81	IAMs_20	IAMs_20	21 58 06.9	
	comp=Z,32μm,20.0s						
BMO	Blue Mountains	42.22	73	P	P	21 43 21.6	-2.2
BMO	Blue Mountains	42.22	73	P	P	21 43 21.6	-2.2
BMO				pmax	pmax		
	comp=Z,149nm,1.3s						
BMO				MLR	MLR		
	comp=Z,32μm,22.0s						
BMO	Blue Mountains	42.22	73	⇓P	P	21 43 22.4	-1.5
GDXM	Geysers	42.44	84	IAMs_20	IAMs_20	21 59 36.7	
	comp=Z,45μm,18.0s						
WVOR	Wild Horse Val	42.80	77	P	P	21 43 26.3	-2.3
WVOR				IAMs_20	IAMs_20	21 58 32.7	
	comp=Z,38μm,21.0s						
WVOR	Wild Horse Val	42.80	77	P	P	21 43 26.3	-2.3
WVOR				pmax	pmax		
	comp=Z,171nm,1.2s						
WVOR				MLR	MLR		
	comp=Z,38μm,21.0s						
WVOR	Wild Horse Val	42.80	77	⇑P	P	21 43 27.9	-0.7
NRIK	Noril'sk	42.80	329	P	P	21 43 26.9	-1.3
NRIK				IAmb	IAmb	21 43 34.0	
	comp=Z,356nm,1.1s						
NRIK	Noril'sk	42.80	329	P	P	21 43 28.2	+0.1
	comp=Z,174nm,1.0s,baz=74,slow=6.9,SNR=36						
NRIK				S	S	21 49 51.4	-0.2
	comp=Z,5.5nm,0.8s,baz=95,slow=14,SNR=1.0						
NRIK				LR	LR	22 04 46.6	
	comp=Z,37μm,18.2s,baz=68,slow=41						
	comp=Z,174nm,1.0s						
NRIK	Noril'sk	42.80	329	*ce*P	P	21 43 26.4	-1.7
NRIK				pmax	pmax		
	comp=Z,347nm,1.0s						
NRIK				MLR	MLR		
	comp=Z,51μm,16.0s						
MCCM	Marconi Confer	42.80	85	⇑P	P	21 43 32.0	+3.5
JAM	Amami Oshima	42.82	256	P	P	21 43 27.9	-0.9
PLID	Pearl Lake	42.85	72	P	P	21 43 27.6	-1.6
PLID				IAMs_20	IAMs_20	21 57 58.8	
	comp=Z,57μm,22.0s						
MSO	Missoula	43.09	69	⇑P	P	21 43 29.4	-1.6
BEKR	Beckworth	43.29	81	P	P	21 43 30.9	-1.8
BJI	Beijing	43.29	279	P	P	21 43 31.7	-0.8
BJI				pP	pP	21 43 34.4	-1.6
BJI				S	S	21 50 00.8	+1.4
BJI				pmax	pmax		
	comp=Z,2μm,4.2s						
BJI				LR	LR		
	comp=Z,23μm,16.0s						
BJI				LR	LR		
	comp=Z,14μm,15.5s						
BJT	Baijiatuau	43.31	279	P	P	21 43 31.8	-0.8
BJT				IAmb	IAmb	21 43 43.4	
	comp=Z,340nm,1.0s						
BJT	Baijiatuau	43.31	279	P	P	21 43 31.8	-0.8
BJT				pmax	pmax		
	comp=Z,340nm,1.0s						
BJT				MLR	MLR		
	comp=Z,25μm,18.0s						
IRK	Irkutsk	43.39	301	*e*P	P	21 43 31.0	-2.1
IRK				*e*		21 45 18.1	
IRK				*e*S	S	21 50 03.1	+2.5
IRK				pmax	pmax		
	comp=Z,661nm,2.1s						
JMZ	Minamidaito 2	43.79	252	P	P	21 43 36.4	-0.2
JMZ	Minamidaito 2	43.79	252	P	P	21 43 39.1	+2.5
JMZ	Minamidaito 2	43.79	252	P	P	21 43 37.7	+1.1
JMZ	Minamidaito 2	43.79	252	⇑P	P	21 43 44.7	+8.1
PAHR	Pah Rah Range	43.98	81	IAMs_20	IAMs_20	21 59 30.0	
	comp=Z,31μm,21.0s						
ULN	Ulaanbaatar	44.17	294	P	P	21 43 38.5	-1.2
ULN				IAmb	IAmb	21 43 45.4	
	comp=Z,296nm,0.9s						
ULN	Ulaanbaatar	44.17	294	P	P	21 43 38.2	-1.5
ULN				P	P	21 43 38.2	-1.5
ULN				S	S	21 50 11.4	-1.1
ULN				S	S	21 50 11.4	-1.1
ULN	Ulaanbaatar	44.17	294	*de*P	P	21 43 38.2	-1.5
ULN				pmax	pmax		
	comp=Z,267nm,1.7s						
ULN				MLR	MLR		
	comp=Z,95μm,18.0s						
ULN	Ulaanbaatar	44.17	294	⇓P	P	21 43 38.4	-1.3
SONM	Songino Array	44.55	294	P	P	21 43 41.4	-1.3
SONM				IAmb	IAmb	21 43 48.6	
	comp=Z,258nm,1.0s						
SONM	Songino Array	44.55	294	P	P	21 43 41.7	-1.0
	comp=Z,60nm,0.6s,baz=63,slow=8.0,SNR=88						
SONM				PcP	PcP	21 45 25.6	0.0
	comp=Z,31nm,0.7s,baz=61,slow=2.5,SNR=4.2						
SONM				LR	LR	22 03 38.6	
	comp=Z,106μm,18.1s,baz=62,slow=38						
	comp=Z,60nm,0.6s						
SAO	San Andreas Ge	44.56	85	IAMs_20	IAMs_20	22 00 34.8	
	comp=Z,31μm,19.0s						
SAO	San Andreas Ge	44.56	85	⇑P	P	21 43 43.4	+0.6
HLID	Hailey	44.66	73	⇑P	P	21 43 41.5	-2.2
WAKR	Walker	44.69	82	IAMs_20	IAMs_20	21 59 46.0	
	comp=Z,29μm,19.0s						
JOW	Kunigami	44.78	255	P	P	21 43 44.2	-0.4
JOW				IAmb	IAmb	21 43 54.0	
	comp=Z,571nm,1.0s						
JOW	Kunigami	44.78	255	P	P	21 43 45.0	+0.4
	comp=Z,251nm,0.9s,baz=41,slow=8.4,SNR=20						
JOW				LR	LR	22 04 03.5	
	comp=Z,17μm,18.1s,baz=52,slow=38						
	comp=Z,251nm,0.9s						
JOW	Kunigami	44.78	255	P	P	21 43 44.5	-0.1
JOW	Kunigami	44.78	255	P	P	21 43 44.8	+0.3
JOW	Kunigami	44.78	255	⇓P	P	21 43 45.0	+0.4
EGMT	Eagleton	44.81	65	P	P	21 43 42.7	-2.0
EGMT				IAMs_20	IAMs_20	22 04 46.3	
	comp=Z,38μm,18.0s						
EGMT	Eagleton	44.81	65	⇑P	P	21 43 44.0	-0.7
ZAK	Zakamensk	44.89	299	*e*P	P	21 43 44.1	-1.2
ZAK				*e*		21 45 22.4	
ZAK				pmax	pmax		
	comp=Z,202nm,1.8s						
BBGB	Big Mountain B	44.93	85	IAMs_20	IAMs_20	22 00 46.6	
	comp=Z,29μm,19.0s						
TULEG	Thule	44.94	18	P	P	21 43 44.2	-1.1
TULEG				IAmb	IAmb	21 43 55.0	
	comp=Z,528nm,1.8s						
TULEG	Thule	44.94	18	*i*P	P	21 43 46.2	+0.9
BOZ	Bozeman (W)	45.11	69	P	P	21 43 44.6	-2.6
BOZ				IAmb	IAmb	21 43 53.0	
	comp=Z,277nm,1.4s						
BOZ	Bozeman (W)	45.11	69	P	P	21 43 44.6	-2.6
BOZ				pmax	pmax		
	comp=Z,277nm,1.4s						
BOZ				MLR	MLR		
	comp=Z,24μm,19.0s						
BOZ	Bozeman (W)	45.11	69	⇓P	P	21 43 44.8	-2.4
TIA	Tai'an	45.11	274	P	P	21 43 45.8	-1.3
TIA				S	S	21 50 23.7	-2.4
TIA				pmax	pmax		
	comp=Z,2μm,3.6s						
TIA				LR	LR		
	comp=Z,40μm,17.3s						
TIA				LR	LR		
	comp=Z,26μm,15.5s						
TIA				LR	LR		
	comp=Z,48μm,16.0s						
FFC	Flin Flon	45.35	53	P	P	21 43 47.0	-1.8
FFC	Flin Flon	45.35	53	P	P	21 43 47.0	-1.8
FFC	Flin Flon	45.35	53	⇓P	P	21 43 47.5	-1.3
MOY	Mondy	45.42	302	*e*P	P	21 43 48.2	-1.3
MOY				*e*		21 45 38.6	
MOY				pmax	pmax		
	comp=Z,493nm,2.5s						
NVAR	Mina Array Bea	45.43	81	P	P	21 43 48.0	-1.9
NVAR	Mina Array Bea	45.43	81	P	P	21 43 48.5	-1.3
	comp=Z,26nm,0.9s,baz=293,slow=6.7,SNR=57						
NVAR				LR	LR	22 00 29.8	
	comp=Z,28μm,22.0s,baz=299,slow=33						
	comp=Z,26nm,0.9s						
HHC	Hu-ho-hao-te	45.59	283	⇑*i*P	P	21 43 51.2	+0.2
HHC				PP	PP	21 45 33.6	-3.9
HHC				S	S	21 50 31.6	-1.5
HHC				SS	ScS	21 53 44.1	-3.0
HHC				pmax	pmax		
	comp=Z,150nm,1.6s						
HHC				pmax	pmax		
	comp=Z,3μm,5.0s						
HHC				LR	LR		
	comp=Z,52μm,15.8s						
HHC				LR	LR		
	comp=Z,64μm,14.7s						
HHC				LR	LR		
	comp=Z,55μm,17.7s						
YHL	Hebgen Lake	45.80	70	P	P	21 43 50.2	-2.7
YHL				IAmb	IAmb	21 43 59.3	
	comp=Z,214nm,1.1s						
ILON	Igloolik, Nuna	45.82	29	P	P	21 43 50.7	-1.5
ILON				IAmb	IAmb	21 44 05.4	
	comp=Z,588nm,1.6s						
HNS	HongShan	45.83	277	⇓P	P	21 43 52.7	-0.1
HNS				pP	sP	21 44 00.8	+3.1
HNS				S	S	21 50 38.1	+1.7
HNS				SS	ScS	21 53 48.3	-0.1
HNS				pmax	pmax		
	comp=Z,260nm,1.1s						
HNS				LR	LR		
	comp=Z,26μm,16.7s						
HNS				LR	LR		
	comp=Z,60μm,16.9s						
HNS				LR	LR		
	comp=Z,47μm,18.6s						
Q09A	Carvers	45.86	80	IAMs_20	IAMs_20	22 00 02.9	
	comp=Z,33μm,20.0s						
SSE	Sheshan	46.04	266	P	P	21 43 53.2	-1.3
SSE				S	S	21 50 38.0	-1.4
SSE				pmax	pmax		
	comp=Z,73nm,1.0s						
SSE				pmax	pmax		
	comp=Z,1μm,5.1s						
SSE				LR	LR		
	comp=Z,6μm,16.5s						
SSE				LR	LR		
	comp=Z,4μm,16.5s						
YNM	Yellowstone No	46.15	69	P	P	21 43 53.6	-1.9
YNM				IAMs_20	IAMs_20	22 06 11.9	
	comp=Z,27μm,18.0s						
YNR	Norris Junctio	46.17	69	IAMs_20	IAMs_20	22 06 22.4	
	comp=Z,27μm,18.0s						
YFT	Old Faithful	46.23	70	IAMs_20	IAMs_20	22 06 39.1	
	comp=Z,40μm,19.0s						
DSP	Deep Springs	46.30	82	IAMs_20	IAMs_20	22 00 44.8	
	comp=Z,27μm,19.0s						
NOR	Nord	46.35	3	*i*P	P	21 43 55.2	-1.1
NOR				IAmb	IAmb	21 44 06.0	
	comp=Z,666nm,1.9s						
NOR	Nord	46.35	3	⇑P	P	21 43 55.5	-0.8
YNE	Yellowstone No	46.38	69	IAMs_20	IAMs_20	22 06 14.1	
	comp=Z,26μm,19.0s						
YMP	Mirror Lake Pl	46.45	69	IAMs_20	IAMs_20	22 06 36.0	
	comp=Z,28μm,18.0s						
GUMO	Guam	46.65	227	P	P	21 43 58.5	-0.9
GUMO				IAmb	IAmb	21 44 04.9	
	comp=Z,533nm,1.4s						
GUMO	Guam	46.65	227	IAMs_20	IAMs_20	22 01 30.7	
	comp=Z,37μm,19.0s						
GUMO	Guam	46.65	227	LR	LR	22 01 42.0	
	comp=Z,33μm,20.3s,baz=48,slow=34						
GUMO	Guam	46.65	227	P	P	21 43 58.5	-0.9
GUMO				pmax	pmax		
	comp=Z,533nm,1.4s						
GUMO				MLR	MLR		
	comp=Z,37μm,19.0s						
BTO	Baotou	46.66	284	*e*P	P	21 43 59.2	-0.3
BTO				pP	pP	21 44 03.5	+0.5
BTO				sP	sP	21 44 07.0	+2.6
BTO				PP	PP	21 45 44.9	-4.0
BTO				S	S	21 50 49.6	+1.1
BTO				SS	SS	21 54 06.8	-7.5
BTO				pmax	pmax		
	comp=Z,150nm,0.9s						
BTO				pmax	pmax		
	comp=Z,5μm,7.5s						
BTO				LR	LR		
	comp=Z,344μm,18.7s						
BTO				LR	LR		
	comp=Z,206μm,17.7s						
BTO				LR	LR		
	comp=Z,87μm,19.8s						
HVU	Hansel Valley	46.69	74	P	P	21 43 57.5	-2.2
HVU	Hansel Valley	46.69	74	P	P	21 43 57.5	-2.2
HVU				pmax	pmax		
	comp=Z,114nm,1.1s						
HVU				MLR	MLR		
	comp=Z,17μm,19.0s						
RLMT	Red Lodge	46.74	68	P	P	21 43 58.3	-1.8
RLMT				IAmb	IAmb	21 44 07.0	
	comp=Z,296nm,1.3s						
RLMT	Red Lodge	46.74	68	⇓P	P	21 43 58.4	-1.8
NJ2	Nanjing	46.82	269	⇑P	P	21 43 59.9	-0.7
NJ2				sP	sP	21 44 07.5	+2.0
NJ2				S	S	21 50 51.9	+1.3
NJ2				pmax	pmax		
	comp=Z,390nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,5μm,5.3s						
NJ2				LR	LR		
	comp=Z,65μm,16.6s						
NJ2				LR	LR		
	comp=Z,102μm,18.0s						
NJ2				LR	LR		
	comp=Z,87μm,17.1s						
FCC	Fort Churchill	46.92	45	P	P	21 43 59.0	-1.9
FCC	Fort Churchill	46.92	45	P	P	21 43 59.1	-1.9
FCC				pmax	pmax		
	comp=Z,1μm,1.4s						
FCC				MLR	MLR		
	comp=Z,65μm,20.0s						
FCC	Fort Churchill	46.92	45	⇑P	P	21 43 59.6	-1.4
TIY	Taiyuan	47.02	279	*e*P	P	21 44 02.8	+0.6
TIY				S	S	21 50 56.6	+3.0
TIY				pmax	pmax		
	comp=Z,200nm,1.1s						
TIY				pmax	pmax		
	comp=Z,2μm,4.7s						
TIY				LR	LR		
	comp=Z,16μm,17.6s						
TIY				LR	LR		
	comp=Z,39μm,17.3s						
TIY				LR	LR		
	comp=Z,30μm,18.6s						
AHID	Auburn Hatcher	47.08	72	P	P	21 44 00.8	-2.0
AHID				IAMs_20	IAMs_20	22 00 35.7	
	comp=Z,34μm,21.0s						
AHID	Auburn Hatcher	47.08	72	⇑P	P	21 44 02.6	-0.2
ISA	Isabella, Lake	47.10	84	IAMs_20	IAMs_20	22 02 33.1	
	comp=Z,28μm,18.0s						
NEEM	North Greenlan	47.23	13	*i*P	P	21 44 01.9	-1.7
NEEM				IAmb	IAmb	21 44 10.0	
	comp=Z,851nm,1.0s						
SPR3	Spring Creek 3	47.48	78	IAMs_20	IAMs_20	22 01 20.8	
	comp=Z,33μm,21.0s						
S11A	Rachel	47.49	80	IAMs_20	IAMs_20	22 01 44.0	
	comp=Z,27μm,20.0s						
HWUT	Hardware Ranch	47.51	73	P	P	21 44 04.4	-1.8
HWUT				IAMs_20	IAMs_20	22 06 50.3	
	comp=Z,25μm,18.0s						
HWUT	Hardware Ranch	47.51	73	⇑P	P	21 44 06.0	-0.1
LAO	LASA Array	47.55	65	P	P	21 44 04.8	-1.4
LAO				IAmb	IAmb	21 44 12.6	
	comp=Z,210nm,1.2s						
LAO				IAMs_20	IAMs_20	22 06 30.7	
	comp=Z,42μm,18.0s						
LAO	LASA Array	47.55	65	⇑P	P	21 44 09.7	+3.5
TPNV	Topopah Spring	47.63	81	IAMs_20	IAMs_20	22 01 31.7	
	comp=Z,30μm,21.0s						
TPNV	Topopah Spring	47.63	81	⇓P	P	21 44 05.9	-1.2
DGMT	Dagmar	47.63	62	P	P	21 44 05.0	-1.8
DGMT	Dagmar	47.63	62	IAMs_20	IAMs_20	22 03 23.7	
	comp=Z,49μm,20.0s						
DGMT	Dagmar	47.63	62	⇓P	P	21 44 06.7	-0.1
DUG	Dugway, Tooele	47.65	76	IAMs_20	IAMs_20	22 01 16.9	

comp=Z,31μm,22.0s
DUG Dugway, Tooele 47.65 76 ⇑P **P 21 44 05.3 -1.9**
CCAC Calif City Air 47.72 84 IAMs_20 IAMs_20 22 02 53.4
comp=Z,30μm,18.0s
PATS Pohnpei 47.91 207 P **P 21 44 08.7 -0.5**
PATS IAmb IAmb 21 44 19.8
comp=Z,370nm,1.1s
PATS IAMs_20 IAMs_20 22 03 47.8
comp=Z,24μm,19.0s
PATS Pohnpei 47.91 207 P **P 21 44 12.0 +2.8**
BW06 Boulder Array 47.98 71 IAMs_20 IAMs_20 22 07 33.0
comp=Z,27μm,18.0s
BW06 Boulder Array 47.98 71 ⇓P **P 21 44 07.5 -2.4**
PD31 Pinedale Array 47.98 71 P **P 21 44 07.1 -2.7**
PD31 IAmb IAmb 21 44 15.6
comp=Z,184nm,1.2s
PDAR Pinedale Array 47.98 71 P **P 21 44 07.0 -2.9**
comp=Z,17nm,0.8s,baz=320,slow=3.4,SNR=86
PDAR LR LR 22 01 40.3
comp=Z,16μm,21.6s,baz=295,slow=33
comp=Z,17nm,0.8s
PRN Pahroc Range 48.06 80 IAMs_20 IAMs_20 22 01 42.2
comp=Z,37μm,21.0s
PRN Pahroc Range 48.06 80 ⇑P **P 21 44 09.0 -1.4**
PSUT Pine Spring 48.07 78 IAMs_20 IAMs_20 22 01 47.2
comp=Z,32μm,20.0s
KULLO Kullorsuaq 48.41 17 *i* P **P 21 44 11.2 -1.2**
KULLO IAmb IAmb 21 44 22.9
comp=Z,1μm,1.7s
KULLO Kullorsuaq 48.41 17 ⇓P **P 21 44 12.0 -0.5**
CLRN Clyde River 48.83 24 ⇓P **P 21 44 14.6 -1.0**
TCRU Three Creeks R 48.87 77 IAMs_20 IAMs_20 22 01 00.3
comp=Z,38μm,22.0s
KBS Kingsbay 49.01 356 P **P 21 44 15.7 -1.3**
KBS IAmb IAmb 21 44 27.3
comp=Z,481nm,1.3s
KBS IAMs_20 IAMs_20 22 06 51.3
comp=Z,22μm,18.0s
KBS Kingsbay 49.01 356 *de*P **P 21 44 17.3 +0.3**
KBS pmax pmax
comp=Z,109nm,0.8s
KBS MLR MLR
comp=Z,21μm,18.0s
KBS Kingsbay 49.01 356 *i* P **P 21 44 16.3 -0.6**
KBS Kingsbay 49.01 356 ⇑P **P 21 44 17.8 +0.8**
LYN LuoYang 49.07 276 ⇑P **P 21 44 17.9 -0.1**
LYN S **S 21 51 25.1 +2.6**
LYN sS sS 21 51 29.5 +1.1
LYN pmax pmax
comp=Z,300nm,1.1s
LYN pmax pmax
comp=Z,4μm,4.1s
LYN LR LR
comp=Z,49μm,14.4s
LYN LR LR
comp=Z,78μm,15.8s
LYN LR LR
comp=Z,66μm,17.2s
MVU Marysvale 49.08 77 P **P 21 44 16.9 -1.4**
MVU IAmb IAmb 21 44 24.5
comp=Z,312nm,1.0s
MTPU Mount Pierson 49.39 77 IAMs_20 IAMs_20 22 03 02.2
comp=Z,30μm,20.0s
Q16A Castle Valley 49.44 76 IAMs_20 IAMs_20 22 02 25.3
comp=Z,28μm,22.0s
SPA0 Spitsbergen Ar 49.54 355 *e*P **P 21 44 20.2 -0.9**
SPA0 IVmB_BB 21 44 26.3
comp=Z,4μm,1.2s
SPA0 *e*S **S 21 51 30.4 +2.2**
SPA0 IVMs_BB IVMs_BB 22 08 47.7
comp=Z,9μm,15.8s
SPITS Spitsbergen Ar 49.54 355 P **P 21 44 20.3 -0.8**
comp=Z,44nm,0.6s,baz=62,slow=5.7,SNR=51
SPITS LR LR 22 03 56.9
comp=Z,19μm,21.7s,baz=343,slow=34
comp=Z,44nm,0.6s
SPITS Spitsbergen Ar 49.54 355 P **P 21 44 20.1 -1.0**
SPITS pmax pmax
comp=Z,605nm,1.0s
SPB2 Spitsbergen Ar 49.54 355 P **P 21 44 20.2 -0.9**
PKCU Pink Cliffs 49.70 78 IAMs_20 IAMs_20 22 03 00.5
comp=Z,28μm,20.0s
PFO Pinyon Flats O 49.70 85 LR LR 22 03 57.0
comp=Z,18μm,18.1s,baz=294,slow=34
PFO Pinyon Flats O 49.70 85 *c i* P **P 21 44 22.8 -0.2**
PFO pmax pmax
comp=Z,49nm,1.1s
YOJ Yonaguni jima 49.70 258 P **P 21 44 22.4 -0.6**
YOJ IAmb IAmb 21 44 29.8
comp=Z,453nm,1.1s
YOJ IAMs_20 IAMs_20 22 02 58.4
comp=Z,37μm,21.0s
YOJ Yonaguni jima 49.70 258 P **P 21 44 25.0 +2.1**
YOJ Yonaguni jima 49.70 258 P **P 21 44 22.4 -0.6**
YOJ pmax pmax
comp=Z,453nm,1.1s
YOJ MLR MLR
comp=Z,37μm,21.0s
UPNV Upernavik 49.97 18 *i* P **P 21 44 22.6 -1.7**
UPNV IAmb IAmb 21 44 35.5
comp=Z,503nm,1.2s
TATO Taipei 50.24 260 IAMs_20 IAMs_20 22 09 29.6
comp=Z,37μm,18.0s
W13A Hualapai Mount 50.28 82 P **P 21 44 25.9 -1.7**
TKX Tecate 50.32 86 P **P 21 44 26.4 -1.2**
TKX IAmb IAmb 21 44 37.8
comp=Z,232nm,1.3s
U15A North Rim 50.38 79 IAMs_20 IAMs_20 22 02 29.4
comp=Z,26μm,21.0s
O20A White River Ci 50.40 73 IAMs_20 IAMs_20 22 02 32.6
comp=Z,26μm,22.0s
MDND Maddock 50.47 60 P **P 21 44 27.2 -1.4**
MDND IAmb IAmb 21 44 35.3
comp=Z,441nm,1.1s
MDND IAMs_20 IAMs_20 22 04 57.9
comp=Z,36μm,21.0s
YHNB Yeheng 50.54 260 P **P 21 44 29.8 +0.4**
YHNB IAMs_20 IAMs_20 22 03 33.6
comp=Z,39μm,21.0s
YHNB Yeheng 50.54 260 P **P 21 44 31.0 +1.6**
HOPEN Hopen 50.54 352 *e*P **P 21 44 28.3 -0.3**
HOPEN IVmB_BB 21 44 32.3
comp=Z,6μm,3.3s
HOPEN *e*S **S 21 51 43.6 +1.6**
HOPEN IVMs_BB IVMs_BB 22 10 13.1
comp=Z,11μm,17.4s
WHN Wuhan 50.64 271 ⇑P **P 21 44 29.5 -0.5**
WHN sP **sP 21 44 37.0 +2.1**
WHN S **S 21 51 42.8 -1.7**
WHN SS **SS 21 55 15.8 -2.6**
WHN LR LR
comp=Z,19μm,11.8s
WHN LR LR
comp=Z,87μm,15.1s
WHN LR LR
comp=Z,76μm,17.1s
HSPB Hornsund (broa 50.73 355 *e*P **P 21 44 32.3 +2.2**
HSPB *e*S **S 21 51 47.0 +2.3**
HSPB *e*L L 22 04 15.9
comp=Z,19μm,22.1s
NACB Ninganchiao 50.77 259 P **P 21 44 30.8 -0.2**
NACB IAmb IAmb 21 44 41.7
comp=Z,392nm,1.1s
NACB IAMs_20 IAMs_20 22 04 49.8
comp=Z,37μm,22.0s
NACB Ninganchiao 50.77 259 P **P 21 44 32.5 +1.4**
ULM Lac du Bonnet 50.96 56 P **P 21 44 30.3 -1.8**
ULM Lac du Bonnet 50.96 56 P **P 21 44 29.9 -2.2**
comp=Z,41nm,0.9s,baz=307,slow=8.3,SNR=29
ULM LR LR 22 07 37.6
comp=Z,49μm,18.9s,baz=316,slow=38
comp=Z,41nm,0.9s
ULM Lac du Bonnet 50.96 56 *de*P **P 21 44 31.5 -0.6**
ULM Lac du Bonnet 50.96 56 ⇑P **P 21 44 30.5 -1.6**
GLA Glamis 51.09 84 IAMs_20 IAMs_20 22 04 57.6
comp=Z,25μm,18.0s
PV07 Paradox Valley 51.25 75 P **P 21 44 32.4 -2.4**
SSLB Suanglung 51.45 259 P **P 21 44 36.0 -0.2**
SSLB IAmb IAmb 21 44 47.4
comp=Z,401nm,1.0s
SSLB IAMs_20 IAMs_20 22 05 19.7
comp=Z,41μm,22.0s
SSLB Suanglung 51.45 259 P **P 21 44 37.6 +1.4**
NUUG Nuugaatsiaq 51.51 18 *i* P **P 21 44 31.5 -4.4**
NUUG IAmb IAmb 21 44 46.4
comp=Z,413nm,1.3s

NUUG Nuugaatsiaq 51.51 18 ⇑P **P 21 44 39.8 +3.8**
WUAZ Wupatki 51.54 79 P **P 21 44 35.1 -1.8**
WUAZ IAMs_20 IAMs_20 22 03 05.2
comp=Z,29μm,21.0s
WUAZ Wupatki 51.54 79 ⇓P **P 21 44 36.7 -0.2**
YULB Yu-li 51.54 259 P **P 21 44 36.5 -0.4**
YULB IAMs_20 IAMs_20 22 04 42.1
comp=Z,34μm,22.0s
YULB Yu-li 51.54 259 P **P 21 44 38.5 +1.7**
XAN Xi'an 51.58 278 ⇑P **P 21 44 36.2 -0.9**
XAN pP sP 21 44 43.5 +1.4
XAN S **S 21 52 01.4 +3.8**
XAN pmax pmax
comp=Z,320nm,1.6s
XAN pmax pmax
comp=Z,3μm,6.0s
XAN LR LR
comp=Z,78μm,17.2s
XAN LR LR
comp=Z,61μm,17.0s
XAN LR LR
comp=Z,81μm,15.1s
TPUB Ta-pu 52.01 259 P **P 21 44 39.4 -1.0**
TPUB IAMs_20 IAMs_20 22 04 32.6
comp=Z,36μm,21.0s
TPUB Ta-pu 52.01 259 P **P 21 44 40.7 +0.3**
QZH Quanzhou 52.04 262 P **P 21 44 40.6 +0.1**
QZH S **S 21 52 04.6 +0.7**
QZH pmax pmax
comp=Z,770nm,1.4s
QZH LR LR
comp=Z,17μm,16.1s
QZH LR LR
comp=Z,26μm,16.1s
QZH LR LR
comp=Z,27μm,16.4s
TWGBT Beinan 52.10 258 P **P 21 44 41.9 +0.9**
ZAA0 Zalesovo Array 52.10 312 P **P 21 44 38.5 -2.1**
ZALV Zalesovo Beam 52.10 312 P **P 21 44 38.4 -2.2**
ZALV Zalesovo Beam 52.10 312 P **P 21 44 38.6 -2.0**
comp=Z,27nm,0.8s,baz=51,slow=6.6,SNR=49
ZALV PcP **PcP 21 45 52.8 +0.4**
comp=Z,61nm,0.9s,baz=60,slow=2.6,SNR=5.1
ZALV LR LR 22 08 29.2
comp=Z,35μm,18.1s,baz=53,slow=38
ZALV PKPPKP **P'P'df 22 15 16.2 -5.0**
comp=Z,0.5nm,0.6s,baz=186,slow=2.9,SNR=3.8
comp=Z,27nm,0.8s
TWG Pinlang 52.10 258 P **P 21 44 40.2 -0.8**
TWG IAmb IAmb 21 45 20.5
comp=Z,402nm,1.4s
TWG IAMs_20 IAMs_20 22 04 35.0
comp=Z,32μm,22.0s
MVCO Mesa Verde 52.15 76 IAMs_20 IAMs_20 22 04 03.4
comp=Z,25μm,21.0s
MVCO Mesa Verde 52.15 76 ⇑P **P 21 44 41.2 -0.3**
ISCO Idaho Springs 52.16 71 P **P 21 44 40.8 -0.9**
ISCO IAMs_20 IAMs_20 22 03 54.1
comp=Z,34μm,21.0s
ISCO Idaho Springs 52.16 71 P **P 21 44 40.8 -0.9**
ISCO pmax pmax
comp=Z,85nm,1.2s
ISCO MLR MLR
comp=Z,34μm,21.0s
ISCO Idaho Springs 52.16 71 ⇑P **P 21 44 46.3 +4.6**
AGMN Agassiz Nation 52.17 58 IAMs_20 IAMs_20 22 09 59.6
comp=Z,30μm,18.0s
AGMN Agassiz Nation 52.17 58 ⇑P **P 21 44 40.6 -0.6**
UMMG Uummannaq 52.41 19 *i* P **P 21 44 41.8 -0.9**
UMMG IAmb IAmb 21 44 51.8
comp=Z,670nm,1.7s
KNMB Chin-men Tao 52.51 262 P **P 21 44 42.9 -1.1**
KNMB IAmb IAmb 21 44 52.3
comp=Z,601nm,1.4s
BJO1 Bjornoya 52.94 353 *e*P **P 21 44 47.7 +1.1**
BJO1 IVmB_BB 21 44 52.0
comp=Z,7μm,3.0s
BJO1 *e*PP **PP 21 46 49.9 +4.3**
BJO1 *e*S **S 21 52 18.7 +3.6**
BJO1 IVMs_BB IVMs_BB 22 11 41.7
comp=Z,9μm,15.5s
SUSD Miller 52.95 63 IAMs_20 IAMs_20 22 06 14.7
comp=Z,40μm,21.0s
Q24A Divide 52.98 72 IAMs_20 IAMs_20 22 04 10.8
comp=Z,23μm,21.0s
X18A Snowflake 53.06 79 IAMs_20 IAMs_20 22 06 54.6
comp=Z,29μm,18.0s
SUMG Summit 53.10 13 P **P 21 44 46.6 -1.6**
SUMG IAmb IAmb 21 44 59.6
comp=Z,679nm,1.3s
SUMG IAMs_20 IAMs_20 22 11 13.8
comp=Z,21μm,19.0s
SUMG Summit 53.10 13 P **P 21 44 46.2 -2.0**
SUMG Summit 53.10 13 P **P 21 44 46.7 -1.6**
SUMG pmax pmax
comp=Z,679nm,1.3s
SUMG MLR MLR
comp=Z,21μm,19.0s
SUMG Summit 53.10 13 *i* P **P 21 44 47.1 -1.1**
SUMG IAmb IAmb 21 45 00.0
comp=Z,1μm,1.5s
SUMG Summit 53.10 13 ⇓P **P 21 44 47.5 -0.7**
CNSH ChangSha 53.18 270 P **P 21 44 49.1 +0.2**
CNSH S **S 21 52 22.4 +3.0**
CNSH pmax pmax
comp=Z,93nm,1.9s
CNSH pmax pmax
comp=Z,1μm,3.1s
CNSH LR LR
comp=Z,19μm,16.0s
CNSH LR LR
comp=Z,31μm,18.6s
CNSH LR LR
comp=Z,31μm,17.9s
LZH Lanzhou 53.28 284 P **P 21 44 49.4 -0.5**
LZH pP pP 21 44 54.3 +0.8
LZH sP sP 21 44 57.2 +2.4
LZH S **S 21 52 23.2 +2.1**
LZH sS sS 21 52 34.7 +7.6
LZH pmax pmax
comp=Z,430nm,1.2s
LZH pmax pmax
comp=Z,2μm,4.0s
LZH LR LR
comp=Z,129μm,18.2s
LZH LR LR
comp=Z,118μm,18.9s
LZH LR LR
comp=Z,76μm,18.7s
DBG Daneborg 53.32 6 *i* P **P 21 44 47.5 -1.9**
DBG IAmb IAmb 21 44 57.9
comp=Z,198nm,1.2s
DBG Daneborg 53.32 6 ⇓P **P 21 44 47.8 -1.6**
GTA Gaotai 53.46 289 P **P 21 44 49.9 -1.2**
GTA pP pP 21 44 54.9 +0.2
GTA PP **PP 21 46 54.2 +2.9**
GTA S **S 21 52 22.9 -0.5**
GTA pmax pmax
comp=Z,56nm,1.2s
GTA LR LR
comp=Z,93μm,17.8s
GTA LR LR
comp=Z,83μm,16.7s
GTA LR LR
comp=Z,72μm,16.7s
FRB Frobisher Bay 53.47 31 LR LR 22 10 13.8
comp=Z,69μm,19.4s,baz=317,slow=39
FRB Frobisher Bay 53.47 31 ⇓P **P 21 44 49.7 -0.9**
OGNE Ogallala 53.49 68 P **P 21 44 49.3 -1.9**
OGNE IAmb IAmb 21 44 58.1
comp=Z,567nm,1.6s
OGNE IAMs_20 IAMs_20 22 10 13.1
comp=Z,24μm,19.0s
F33A 5 Mile Ranch, 53.50 60 IAMs_20 IAMs_20 22 06 49.0
comp=Z,43μm,20.0s
SDCO Great Sand Dun 53.58 73 P **P 21 44 50.0 -2.2**
SDCO Great Sand Dun 53.58 73 ⇓P **P 21 44 50.5 -1.7**
K30B Basset 53.73 65 IAMs_20 IAMs_20 22 11 38.3
comp=Z,25μm,19.0s
ILULI Ilulissat 53.81 20 P **P 21 44 51.5 -1.5**
ILULI Ilulissat 53.81 20 P **P 21 44 51.5 -1.5**
ILULI pmax pmax
comp=Z,1μm,1.8s
ILULI MLR MLR
comp=Z,20μm,20.0s
ILULI Ilulissat 53.81 20 *i* P **P 21 44 52.0 -1.0**

ILULI IAmb IAmb 21 45 01.8
comp=Z,487nm,1.4s
ILULI Ilulissat 53.81 20 ⇓P **P 21 44 57.2 +4.2**
ENH Enshi 53.83 274 P **P 21 44 51.7 -2.0**
ENH IAmb IAmb 21 45 01.2
comp=Z,327nm,1.1s
ENH IAMs_20 IAMs_20 22 09 29.8
comp=Z,36μm,19.0s
XMAS Kiritimati 53.91 149 IAMs_20 IAMs_20 22 02 41.4
comp=Z,27μm,21.0s
TUC Tucson 54.07 82 P **P 21 44 54.5 -1.1**
TUC IAmb IAmb 21 45 05.8
comp=Z,190nm,1.1s
TUC Tucson 54.07 82 P **P 21 44 54.5 -1.1**
TUC pmax pmax
comp=Z,190nm,1.2s
TUC MLR MLR
comp=Z,15μm,18.0s
TUC Tucson 54.07 82 ⇓P **P 21 44 54.3 -1.3**
EYMN Ely 54.64 56 ⇑P **P 21 44 58.4 -1.1**
ECSD EROS Data Cent 54.70 62 P **P 21 44 57.9 -2.0**
ECSD EROS Data Cent 54.70 62 IAMs_20 IAMs_20 22 05 56.8
comp=Z,45μm,22.0s
ECSD EROS Data Cent 54.70 62 ⇑P **P 21 44 58.5 -1.5**
ANMO Albuquerque 54.89 77 P **P 21 44 59.6 -2.0**
ANMO Albuquerque 54.89 77 IAMs_20 IAMs_20 22 05 53.7
comp=Z,24μm,21.0s
ANMO Albuquerque 54.89 77 IAMs_20 IAMs_20 22 05 53.2
comp=Z,23μm,21.0s
ANMO Albuquerque 54.89 77 IAMs_20 IAMs_20 22 05 53.2
comp=Z,23μm,21.0s
ANMO Albuquerque 54.89 77 LR LR 22 06 05.1
comp=Z,23μm,21.3s,baz=109,slow=34
ANMO Albuquerque 54.89 77 *ce*P **P 21 45 01.4 -0.2**
ANMO pmax pmax
comp=Z,51nm,2.5s
ANMO Albuquerque 54.89 77 ⇑P **P 21 45 01.6 0.0**
Y22D IRIS PASSCAL I 55.20 78 IAMs_20 IAMs_20 22 06 41.2
comp=Z,31μm,20.0s
BGNE Belgrade 55.38 65 IAMs_20 IAMs_20 22 12 08.1
comp=Z,27μm,19.0s
SFJD Kangerlussuaq 55.74 21 P **P 21 45 05.9 -1.1**
SFJD Kangerlussuaq 55.74 21 LR LR 22 10 16.9
comp=Z,18μm,20.8s,baz=329,slow=38
SFJD Kangerlussuaq 55.74 21 P **P 21 45 05.9 -1.1**
SFJD pmax pmax
comp=Z,1μm,1.9s
SFJD MLR MLR
comp=Z,19μm,21.0s
SFJD Kangerlussuaq 55.74 21 *i* P **P 21 45 06.4 -0.6**
SFJD IAmb IAmb 21 45 17.0
comp=Z,1μm,1.9s
SFJD Kangerlussuaq 55.74 21 ⇓P **P 21 45 08.3 +1.3**
SFJD Kangerlussuaq 55.74 21 P **P 21 45 08.2 +1.2**
SFJD S **S 21 52 54.3 +1.3**
L34A Svendsen Farm, 56.00 64 IAMs_20 IAMs_20 22 07 46.3
comp=Z,30μm,21.0s
VADS Vadso 56.02 348 *e*P **P 21 45 09.7 +0.7**
VADS IVmB_BB 21 45 13.9
comp=Z,4μm,3.4s
VADS *e*S **S 21 52 54.4 -2.3**
VADS IVMs_BB IVMs_BB 22 09 46.2
comp=Z,9μm,21.0s
ICESG Greenland Ices 56.03 15 *i* P **P 21 45 07.2 -2.3**
ICESG IAmb IAmb 21 45 20.3
comp=Z,873nm,1.5s
ICESG Greenland Ices 56.03 15 ⇓P **P 21 45 08.1 -1.5**
RTBA Rita Blanca 56.09 73 P **P 21 45 08.0 -2.1**
RTBA IAmb IAmb 21 45 19.4
comp=Z,189nm,1.1s
HAMF Hammerfest 56.22 350 *e*P **P 21 45 07.1 -3.2**
HAMF IVmB_BB 21 45 13.2
comp=Z,4μm,3.1s
HAMF *e*S **S 21 53 00.3 +1.1**
HAMF IVMs_BB IVMs_BB 22 12 18.5
comp=Z,11μm,17.1s
CBKS Cedar Bluff 56.22 69 P **P 21 45 09.3 -1.7**
CBKS IAmb IAmb 21 45 17.6
comp=Z,398nm,1.1s
CBKS IAMs_20 IAMs_20 22 11 59.5
comp=Z,26μm,19.0s
CBKS Cedar Bluff 56.22 69 P **P 21 45 09.3 -1.7**
CBKS pmax pmax
comp=Z,398nm,1.1s
CBKS MLR MLR
comp=Z,26μm,19.0s
CBKS Cedar Bluff 56.22 69 ⇑P **P 21 45 10.7 -0.3**
HSIG 56.27 85 P **P 21 45 09.4 -2.0**
HSIG IAmb IAmb 21 45 17.9
comp=Z,181nm,1.1s
HSIG 56.27 85 ⇑P **P 21 45 10.2 -1.2**
ZSN Zaisan 56.30 305 *e*P **P 21 45 10.3 -1.1**
ZSN *e*S **S 21 52 59.5 -1.5**
ZSN pmax pmax
comp=Z,308nm,1.2s
ZSN Zaisan 56.30 305 *e*P **P 21 45 10.3 -1.1**
comp=Z,308nm,1.2s
ZSN *e*S **S 21 52 59.5 -1.5**
SZP Santa 56.50 255 P **P 21 45 14.2 +1.1**
GZH Guangzhou 56.63 265 P **P 21 45 09.4 -4.5**
GZH S **S 21 52 59.8 -6.0**
GZH pmax pmax
comp=Z,160nm,1.0s
GZH LR LR
comp=Z,39μm,16.1s
GZH LR LR
comp=Z,31μm,16.3s
GZH LR LR
comp=Z,42μm,17.3s
KEV Kevo 56.67 348 P **P 21 45 12.6 -1.0**
KEV IAMs_20 IAMs_20 22 13 51.6
comp=Z,29μm,18.0s
KEV Kevo 56.67 348 P **P 21 45 12.6 -1.0**
KEV pmax pmax
comp=Z,156nm,1.2s
KEV MLR MLR
comp=Z,29μm,18.0s
KEV Kevo 56.67 348 ⇑P **P 21 45 14.4 +0.8**
KEV Kevo 56.67 348 P **P 21 45 14.9 +1.3**
KEV S **S 21 53 07.7 +2.5**
HKPS Hong Kong Po S 56.74 264 P **P 21 45 14.3 -0.5**
HKPS IAmb IAmb 21 45 23.4
comp=Z,375nm,1.6s
HKPS Hong Kong Po S 56.74 264 IAMs_20 IAMs_20 22 11 49.5
comp=Z,35μm,18.0s
HKPS Hong Kong Po S 56.74 264 P **P 21 45 16.8 +2.0**
GULI GuiLin 56.84 269 P **P 21 45 15.6 +0.1**
GULI sP **sP 21 45 23.9 +3.4**
GULI PP **PP 21 47 23.4 +1.7**
GULI pmax pmax
comp=Z,120nm,1.8s
GULI LR LR
comp=Z,9μm,14.1s
GULI LR LR
comp=Z,10μm,15.7s
GULI LR LR
comp=Z,18μm,14.4s
CD2 Chengdu 56.89 279 P **P 21 45 14.4 -1.4**
CD2 sP sP 21 45 22.3 +1.5
CD2 S **S 21 53 06.8 -2.5**
CD2 ScS **ScS 21 55 02.4 -2.6**
CD2 SS **SS 21 56 56.7 -0.5**
CD2 pmax pmax
comp=Z,80nm,1.1s
CD2 LR LR
comp=Z,36μm,20.4s
CD2 LR LR
comp=Z,25μm,23.4s
SCO Scoresbysund 56.92 8 P **P 21 45 14.6 -0.8**
SCO IAmb IAmb 21 45 27.3
comp=Z,464nm,1.4s
SCO IAMs_20 IAMs_20 22 12 34.8
comp=Z,27μm,19.0s
SCO Scoresbysund 56.92 8 P **P 21 45 14.6 -0.8**
SCO pmax pmax
comp=Z,464nm,1.4s
SCO MLR MLR
comp=Z,27μm,19.0s
SCO Scoresbysund 56.92 8 *i* P **P 21 45 13.3 -2.1**
SCO IAmb IAmb 21 45 27.0
comp=Z,454nm,1.4s
SCO Scoresbysund 56.92 8 ⇑P **P 21 45 14.9 -0.4**
EPT El Paso 57.05 79 P **P 21 45 15.0 -2.1**
EPT IAmb IAmb 21 45 24.1
comp=Z,247nm,1.1s

EPT IAMs_20 IAMs_20 22 09 15.2
comp=Z,19µm,18.0s
ARA0 ARCESS Array S 57.06 349 *e*P **P 21 45 17.0 +0.6**
ARA0 IVmB_BB 21 45 21.4
comp=Z,4µm,3.1s
ARA0 *e*S **S 21 53 08.8 -1.7**
ARA0 *i* 21 59 39.0
ARA0 IVMs_BB IVMs_BB 22 12 07.5
comp=Z,12µm,19.0s
ARCES ARCESS Array B 57.06 349 P **P 21 45 15.2 -1.3**
comp=Z,50nm,0.9s,baz=22,slow=5.5,SNR=62
ARCES LR LR 22 12 28.7
comp=Z,28µm,18.1s,baz=14,slow=39
ARCES PKPPKP **P'P'df 22 15 08.1 -7.3**
comp=Z,7.2nm,1.0s,baz=262,slow=2.5,SNR=3.8
comp=Z,50nm,0.9s
COWI Conover 57.08 56 P **P 21 45 15.0 -1.9**
COWI IAMs_20 IAMs_20 22 11 04.3
comp=Z,36µm,20.0s
COWI Conover 57.08 56 ⇓P **P 21 45 16.3 -0.6**
R32A Long Quarter, 57.08 68 IAMs_20 IAMs_20 22 12 34.1
comp=Z,21µm,19.0s
G40A Rib Lake 57.09 57 IAMs_20 IAMs_20 22 11 08.8
comp=Z,35µm,19.0s
KURK Kurchatov 57.09 312 P **P 21 45 15.5 -1.4**
KURK Kurchatov 57.09 312 P **P 21 45 15.7 -1.3**
KURK P **P 21 45 15.7 -1.3**
KURK S **S 21 53 09.6 -1.7**
KURK S **S 21 53 09.6 -1.7**
KURK Kurchatov 57.09 312*de*P **P 21 45 15.5 -1.4**
KURK pmax pmax
comp=Z,375nm,0.8s
KURK MLR MLR
comp=Z,52µm,17.0s
KURK Kurchatov 57.09 312 ⇑P **P 21 45 15.2 -1.7**
JNW Jan Mayen West 57.13 2 *e*P **P 21 45 20.2 +3.3**
JNW *e*S S 21 53 21.8 +10
N35A Tabor 57.15 64 IAMs_20 IAMs_20 22 09 55.9
comp=Z,27µm,20.0s
JMIC Jan Mayen 57.17 3 LR LR 22 11 11.3
comp=Z,13µm,18.8s,baz=346,slow=38
JMIC Jan Mayen 57.17 3 *e*P **P 21 45 17.7 +0.6**
JMIC IVmB_BB 21 45 27.8
comp=Z,5µm,2.8s
JMIC *e* 21 48 52.1
JMIC *e*S **S 21 53 17.8 +6.0**
JMIC IVMs_BB IVMs_BB 22 10 41.8
comp=Z,6µm,15.5s
JNE Jan Mayen East 57.17 2 *e*P **P 21 45 17.6 +0.4**
JNE IVmB_BB 21 45 31.4
comp=Z,6µm,3.5s
JNE *e*S **S 21 53 18.1 +6.2**
JNE IVMs_BB IVMs_BB 22 11 03.5
comp=Z,6µm,7.3s
KURBB Kurchatov Arra 57.20 312 P **P 21 45 16.2 -1.4**
comp=Z,170nm,0.8s,baz=44,slow=6.4,SNR=270
KURBB S **S 21 53 14.5 +1.8**
comp=Z,3.5nm,0.9s,baz=48,slow=12,SNR=4.8
KURBB LR LR 22 11 41.0
comp=Z,59µm,18.2s,baz=53,slow=38
KURBB PKPPKP 22 14 58.5
comp=Z,4.5nm,1.2s,baz=254,slow=2.9,SNR=6.6
comp=Z,170nm,0.8s
JMI Jan Mayen 57.22 3 IVmB_BB 21 45 22.4
comp=Z,6µm,2.8s
JMI *e*S **S 21 53 14.9 +2.4**
LVZ Lovozero 57.27 344 P **P 21 45 17.1 -0.8**
LVZ IAmb IAmb 21 45 27.3
comp=Z,386nm,1.0s
LVZ IAMs_20 IAMs_20 22 13 31.7
comp=Z,31µm,19.0s
LVZ Lovozero 57.27 344*d i*P **P 21 45 17.0 -1.0**
LVZ pmax pmax
comp=Z,158nm,1.0s
LVZ MLR MLR
comp=Z,30µm,19.0s
LVZ Lovozero 57.27 344 ⇑P **P 21 45 17.2 -0.8**
WMQ Urumqi 57.29 301 ⇑P **P 21 45 19.7 +1.2**
WMQ PP **PP 21 47 28.4 +3.1**
WMQ S **S 21 53 10.9 -3.4**
WMQ pmax pmax
comp=Z,69nm,1.1s
WMQ pmax pmax
comp=Z,2µm,3.8s
WMQ LR LR
comp=Z,70µm,23.1s
WMQ LR LR
comp=Z,79µm,19.1s
WMQ LR LR
comp=Z,62µm,20.5s
JETT Jettan, Norway 57.59 351 *e*P **P 21 45 20.3 +0.1**
JETT IVmB_BB 21 45 23.9
comp=Z,5µm,2.8s
JETT *e*S **S 21 53 18.6 +1.0**
JETT IVMs_BB IVMs_BB 22 18 22.3
comp=Z,8µm,12.9s
TRO Tromso 57.66 351 *e*P **P 21 45 21.8 +1.2**
TRO IVmB_BB 21 45 25.7
comp=Z,4µm,3.5s
TRO *e*S **S 21 53 19.5 +1.2**
APA Apatity 57.77 345 ⇓*i*P **P 21 45 20.1 -1.3**
APA *i* 21 46 19.0
APA *i* PPP PPP 21 48 52.0
APA *i* S **S 21 53 15.0 -4.8**
APA *i* PS **PnS 21 53 28.0 -2.5**
SCIA State Center 57.78 62 P **P 21 45 20.5 -1.4**
SCIA IAmb IAmb 21 45 27.8
comp=Z,471nm,1.2s
AMTX Amarillo 57.78 73 ⇑P **P 21 45 22.1 0.0**
MNTX Cornudas Mount 57.78 79 ⇓P **P 21 45 20.6 -1.5**
KSU1 Kansas State U 57.81 66 IAMs_20 IAMs_20 22 13 41.4
comp=Z,30µm,18.0s
KSU1 Kansas State U 57.81 66 ⇑P **P 21 45 21.1 -1.1**
KTK1 Kautokeino 57.82 350 *e*P **P 21 45 20.9 -0.9**
KTK1 IVmB_BB 21 45 25.1
comp=Z,4µm,3.1s
KTK1 *e*S **S 21 53 22.1 +1.7**
KTK1 IVMs_BB IVMs_BB 22 12 07.2
comp=Z,11µm,20.0s
F42A Maple Grove Fa 57.82 56 IAMs_20 IAMs_20 22 10 23.0
comp=Z,38µm,20.0s
NUUK Nuuk 57.83 23 *i*P **P 21 45 21.8 -0.1**
NUUK IAmb IAmb 21 45 31.2
comp=Z,1µm,1.8s
MK31 Makanchi Array 58.04 306 P **P 21 45 21.3 -2.4**
MK31 IAmb IAmb 21 45 28.5
comp=Z,285nm,1.1s
MK31 Makanchi Array 58.04 306 P **P 21 45 21.3 -2.4**
MK31 pmax pmax
comp=Z,285nm,1.1s
MKAR Makanchi Array 58.04 306 P **P 21 45 21.7 -2.0**
MKAR Makanchi Array 58.04 306 P **P 21 45 21.6 -2.1**
comp=Z,103nm,0.8s,baz=50,slow=6.8,SNR=152
MKAR LR LR 22 10 49.4
comp=Z,27µm,18.8s,baz=28,slow=36
MKAR PKPPKP P'P'df 22 14 54.3 -18
comp=Z,2.1nm,1.0s,baz=222,slow=1.6,SNR=5.9
comp=Z,103nm,0.8s
MKAR Makanchi Array 58.04 306 P **P 21 45 21.7 -2.0**
NOKA Waynoka 58.18 70 IAMs_20 IAMs_20 22 13 44.4
comp=Z,21µm,19.0s
MAKZ Makanchi 58.18 306 P **P 21 45 22.5 -2.2**
MAKZ IAmb IAmb 21 45 29.5
comp=Z,320nm,0.9s
MAKZ IAMs_20 IAMs_20 22 09 07.4
comp=Z,37µm,20.0s
MAKZ Makanchi 58.18 306 P **P 21 45 22.5 -2.2**
MAKZ pmax pmax
comp=Z,320nm,0.9s
MAKZ MLR MLR
comp=Z,37µm,20.0s
MAKZ Makanchi 58.18 306 ⇓P **P 21 45 22.2 -2.5**
GYA Guiyang 58.28 273 P **P 21 45 23.5 -2.3**
GYA pP sP 21 45 32.7 +1.9
GYA PP **PP 21 47 30.4 -4.2**
GYA S **S 21 53 23.8 -4.0**
GYA LR LR
comp=Z,23µm,17.0s
GYA LR LR
comp=Z,32µm,18.1s
GYA LR LR
comp=Z,23µm,19.8s
ELIS Ellis County 58.29 71 IAMs_20 IAMs_20 22 10 49.4
comp=Z,26µm,18.0s
OK038 West end E0370 58.40 70 IAMs_20 IAMs_20 22 07 56.1
comp=Z,25µm,22.0s
OK032 Salt Plains WL 58.48 69 IAMs_20 IAMs_20 22 14 51.3
comp=Z,27µm,18.0s
N38A Joes South For 58.53 63 IAMs_20 IAMs_20 22 08 16.2
comp=Z,32µm,22.0s
GOMU GeErMu 58.55 290 P **P 21 45 26.6 -1.2**
GOMU pP pP 21 45 30.1 -1.3
GOMU PP **PP 21 47 42.6 +5.6**
GOMU S **S 21 53 30.9 -0.6**
GOMU pmax pmax
comp=Z,40nm,0.9s
GOMU LR LR
comp=Z,198µm,16.7s
GOMU LR LR
comp=Z,181µm,16.7s
GOMU LR LR
comp=Z,89µm,16.3s
KAN09 Caldwell North 58.59 69 P **P 21 45 26.1 -1.5**
KAN09 IAmb IAmb 21 45 33.4
comp=Z,284nm,1.1s
JFWS Jewell Farm 58.68 59 P **P 21 45 26.5 -1.7**
JFWS IAmb IAmb 21 45 34.0
comp=Z,225nm,1.1s
JFWS Jewell Farm 58.68 59 P **P 21 45 26.5 -1.7**
JFWS pmax pmax
comp=Z,225nm,1.2s
JFWS MLR MLR
comp=Z,63µm,21.0s
JFWS Jewell Farm 58.68 59 ⇑P **P 21 45 27.2 -0.9**
I42A Draeger Farm, 58.71 58 IAMs_20 IAMs_20 22 12 59.6
comp=Z,32µm,18.0s
CROK Carrier 58.82 69 IAMs_20 IAMs_20 22 13 34.3
comp=Z,22µm,19.0s
H43A Windswept, Lux 58.90 56 IAMs_20 IAMs_20 22 12 29.6
comp=Z,28µm,18.0s
TGY Tagaytay City 58.92 252 LR LR 22 08 28.0
comp=Z,15µm,21.2s,baz=24,slow=34
BVAR Borovoye Array 59.06 318 P **P 21 45 29.5 -1.2**
comp=Z,149nm,0.7s,baz=50,slow=6.9,SNR=129
BVAR LR LR 22 12 24.4
comp=Z,83µm,21.3s,baz=49,slow=38
BVAR PKPPKP P'P'df 22 14 53.0 -18
comp=Z,0.4nm,0.6s,baz=151,slow=3.4,SNR=3.6
comp=Z,149nm,0.7s
BRVK Borovoye 59.08 318 P **P 21 45 29.5 -1.4**
BRVK Borovoye 59.08 318 P **P 21 45 30.4 -0.4**
BRVK P **P 21 45 30.4 -0.4**
BRVK S **S 21 53 38.3 +1.0**
BRVK S **S 21 53 38.3 +1.0**
BRVK Borovoye 59.08 318*de*P **P 21 45 29.6 -1.2**
BRVK pmax pmax
comp=Z,447nm,1.7s
BRVK MLR MLR
comp=Z,87µm,22.0s
BRVK Borovoye 59.08 318 ⇑P **P 21 45 29.8 -1.1**
P38A Dawn 59.17 64 IAMs_20 IAMs_20 22 09 35.4
comp=Z,23µm,21.0s
ISOG Isortoq, Green 59.34 17 *i* P **P 21 45 29.7 -2.7**
ISOG IAmb IAmb 21 45 40.4
comp=Z,756nm,1.5s
ISOG Isortoq, Green 59.34 17 ⇓P **P 21 45 31.0 -1.4**
T35A Sooner Cattle 59.38 68 IAMs_20 IAMs_20 22 13 52.0
comp=Z,21µm,18.0s
OK048 Pawnee Station 59.48 69 IAMs_20 IAMs_20 22 14 09.7
comp=Z,26µm,18.0s
OK051 E0350 and S346 59.48 69 IAMs_20 IAMs_20 22 14 08.7
comp=Z,23µm,18.0s
ANGG Ammassalik, Gr 59.52 16 P **P 21 45 31.6 -1.9**
ANGG IAmb IAmb 21 45 43.7
comp=Z,370nm,1.2s
ANGG IAMs_20 IAMs_20 22 13 42.4
comp=Z,18µm,20.0s
ANGG Ammassalik, Gr 59.52 16 *i* P **P 21 45 30.7 -2.9**
ANGG IAmb IAmb 21 45 43.4
comp=Z,404nm,1.2s
ANGG Ammassalik, Gr 59.52 16 ⇓P **P 21 45 31.9 -1.7**
LOF Lofoten 59.57 353 *e*P **P 21 45 35.7 +1.7**
LOF IVmB_BB 21 45 36.9
comp=Z,4µm,3.3s
LOF *e*S **S 21 53 41.0 -2.1**
WMOK Wichita Mounta 59.59 71 P **P 21 45 33.5 -1.1**
WMOK Wichita Mounta 59.59 71 IAMs_20 IAMs_20 22 11 41.8
comp=Z,24µm,18.0s
WMOK Wichita Mounta 59.59 71 P **P 21 45 33.5 -1.1**
WMOK pmax pmax
comp=Z,88nm,1.1s
WMOK MLR MLR
comp=Z,24µm,18.0s
WMOK Wichita Mounta 59.59 71 ⇑P **P 21 45 34.3 -0.3**
OK029 Liberty Lake 59.62 70 IAMs_20 IAMs_20 22 14 09.4
comp=Z,21µm,19.0s
STEI Steigen 59.64 353 *e*P **P 21 45 35.6 +1.2**
STEI IVmB_BB 21 45 53.6
comp=Z,4µm,4.8s
STEI *e*S **S 21 53 44.1 +0.2**
STEI *e* 22 00 25.8
STEI IVMs_BB IVMs_BB 22 20 42.1
comp=Z,7µm,7.6s
QUOK Quay 59.79 69 IAMs_20 IAMs_20 22 14 28.9
comp=Z,23µm,19.0s
MANU Manus Island 59.80 216 P **P 21 45 36.5 +0.3**
MANU IAmb IAmb 21 45 46.3
comp=Z,296nm,1.1s
MANU IAMs_20 IAMs_20 22 08 05.7
comp=Z,21µm,20.0s
MANU Manus Island 59.80 216 ⇑P **P 21 45 37.4 +1.2**
K43A Burlington 59.84 58 IAMs_20 IAMs_20 22 10 21.5
comp=Z,36µm,22.0s
OK052 Battle Ridge R 59.86 69 IAMs_20 IAMs_20 22 14 23.7
comp=Z,25µm,18.0s
SVE Sverdlovsk 59.93 326*de*P **P 21 45 36.7 +0.1**
SVE *e*S **S 21 53 54.7 +6.6**
SVE pmax pmax
comp=Z,452nm,1.1s
SVE MLR MLR
comp=Z,49µm,17.0s
I45A Fountain 59.99 56 IAMs_20 IAMs_20 22 11 28.4
comp=Z,29µm,20.0s
FNO Franklin 60.03 70 IAMs_20 IAMs_20 22 08 58.3
comp=Z,20µm,22.0s
P40A Paris 60.06 63 IAMs_20 IAMs_20 22 13 11.8
comp=Z,24µm,20.0s
DEOK Depew 60.14 69 IAMs_20 IAMs_20 22 14 31.2
comp=Z,25µm,18.0s
FAUS Fauske 60.17 352 *e*P **P 21 45 37.6 -0.4**
FAUS IVmB_BB 21 45 47.3
comp=Z,6µm,1.1s
FAUS *e*S **S 21 53 49.6 -1.3**
RABL Rabaul 60.19 210 P **P 21 45 38.7 -0.2**
X34A Smith Ranch, M 60.24 71 IAMs_20 IAMs_20 22 08 57.0
comp=Z,33µm,22.0s
BRZS Berezniki 60.30 314 *e*P **P 21 45 38.1 -1.2**
BRZS *e*S **S 21 53 51.6 -1.5**
BRZS pmax pmax
comp=Z,152nm,1.2s
BRZS Berezniki 60.30 314 *e*P **P 21 45 38.1 -1.2**
comp=Z,152nm,1.2s
BRZS *e*S **S 21 53 51.6 -1.5**
W35A Tecumseh 60.41 70 IAMs_20 IAMs_20 22 16 11.3
comp=Z,19µm,19.0s
L44A Lake County Fo 60.43 58 P **P 21 45 38.8 -1.4**
TUL3 Leonard 60.50 69 IAMs_20 IAMs_20 22 15 48.6
comp=Z,21µm,19.0s
TXAR Lajitas Array 60.50 79 P **P 21 45 38.8 -2.3**
TXAR Lajitas Array 60.50 79 P **P 21 45 37.7 -3.4**
comp=Z,11nm,0.6s,baz=299,slow=4.7,SNR=62
TXAR PKPPKP 22 15 02.1
comp=Z,0.4nm,0.6s,baz=197,slow=3.9,SNR=4.9
comp=Z,11nm,0.6s
TXAR Lajitas Array 60.50 79 P **P 21 45 38.8 -2.3**
S39A Bolivar 60.65 65 IAMs_20 IAMs_20 22 13 13.2
comp=Z,22µm,20.0s
SCHQ Schefferville 60.68 37 P **P 21 45 40.5 -1.3**
SCHQ Schefferville 60.68 37 P **P 21 45 41.4 -0.4**
comp=Z,186nm,1.1s,baz=338,slow=6.6,SNR=39
SCHQ LR LR 22 13 58.0
comp=Z,38µm,19.1s,baz=318,slow=38
SCHQ PKPPKP **P'P'df 22 15 01.4 -7.4**
comp=Z,5.4nm,1.0s,baz=236,slow=3.6,SNR=3.6
comp=Z,186nm,1.1s
SCHQ Schefferville 60.68 37 ⇓P **P 21 45 40.5 -1.3**
SLBS Sierra La Lagu 60.75 88 P **P 21 45 41.5 -1.3**
SLBS IAmb IAmb 21 45 49.9
comp=Z,434nm,1.3s
SLBS Sierra La Lagu 60.75 88 ⇑P **P 21 45 43.3 +0.5**
R40A Maddies Statio 60.81 64 IAMs_20 IAMs_20 22 14 02.7
comp=Z,27µm,18.0s
HDIL Hopedale 60.84 61 P **P 21 45 41.5 -1.5**
HDIL IAmb IAmb 21 45 49.2
comp=Z,409nm,1.2s
HDIL Hopedale 60.84 61 ⇓P **P 21 45 42.1 -1.0**
U38A Gravette 60.93 67 IAMs_20 IAMs_20 22 15 47.0
comp=Z,21µm,18.0s
VAGH Vaagaholmen 60.97 353 *e*P **P 21 45 44.8 +1.3**
VAGH IVmB_BB 21 45 49.9
comp=Z,3µm,3.3s
VAGH *e*S **S 21 54 01.0 -0.1**
VAGH IVMs_BB IVMs_BB 22 09 48.6
comp=Z,6µm,22.2s
HPIG 61.01 83 P **P 21 45 42.6 -2.0**
HPIG IAmb IAmb 21 45 54.6
comp=Z,177nm,1.2s
ARTI Arti 61.05 326 P **P 21 45 43.4 -0.9**
ARTI Arti 61.05 326 LR LR 22 15 16.5
comp=Z,75µm,18.4s,baz=44,slow=39
ARTI Arti 61.05 326*d i*P **P 21 45 43.3 -0.9**
ARTI 21 46 26.5
ARTI 21 48 00.1
ARTI S **S 21 54 00.9 -1.5**
ARTI 21 55 35.6
ARTI SS **SS 21 57 57.4 -3.7**
ARTI pmax pmax
comp=Z,280nm,1.2s
ARTI pmax pmax
comp=Z,652nm,5.4s
ARTI MLR MLR
comp=Z,70µm,18.0s
ARTI Arti 61.05 326 ⇑P **P 21 45 43.4 -0.9**
KONS Konsvik 61.21 353 *e*P **P 21 45 45.1 0.0**
KONS IVmB_BB 21 45 53.9
comp=Z,3µm,1.8s
PZH PanZhiHua 61.27 277 P **P 21 45 44.9 -1.5**
PZH pP **sP 21 45 53.4 +2.0**
PZH S **S 21 54 05.4 -1.0**
PZH pmax pmax
comp=Z,470nm,1.1s
PZH pmax pmax
comp=Z,2µm,9.6s
PZH LR LR
comp=Z,19µm,15.5s
PZH LR LR
comp=Z,20µm,16.3s
PZH LR LR
comp=Z,26µm,16.7s
J47A Sunmer 61.28 56 IAMs_20 IAMs_20 22 13 40.5
comp=Z,27µm,18.0s
HHAR Hobbs 61.29 67 IAMs_20 IAMs_20 22 16 35.6
comp=Z,18µm,18.0s
VLDQ Val d'Or 61.32 48 P **P 21 45 43.2 -3.0**
VLDQ IAmb IAmb 21 45 50.0
comp=Z,264nm,1.2s
STOK Stokkvaagen 61.38 353 *e*P **P 21 45 47.6 +1.3**
STOK IVmB_BB 21 46 02.7
comp=Z,5µm,2.5s
STOK *e*S **S 21 54 06.8 +0.4**
STOK IVMs_BB IVMs_BB 22 10 26.6
comp=Z,6µm,16.8s
L46A Eue Claire 61.39 58 IAMs_20 IAMs_20 22 11 40.7
comp=Z,31µm,21.0s
MOR8 Moi Rana 61.43 352 *e*P **P 21 45 44.9 -1.9**
MOR8 IVmB_BB 21 45 48.6
comp=Z,4µm,3.8s
MOR8 *e*S **S 21 54 04.8 -2.3**
MOR8 IVMs_BB IVMs_BB 22 10 47.2
comp=Z,6µm,23.7s
Z35A Perchaven, San 61.48 72 IAMs_20 IAMs_20 22 12 42.8
comp=Z,25µm,19.0s
CCM Cathedral Cave 61.55 64 IAMs_20 IAMs_20 22 10 09.1
comp=Z,26µm,22.0s
FW06 Azle 61.55 72 IAMs_20 IAMs_20 22 11 06.9
comp=Z,25µm,20.0s
LEIR Leirfjorden 61.59 353 *e*P **P 21 45 47.6 -0.2**
LEIR IVmB_BB 21 45 52.9
comp=Z,3µm,3.0s
LEIR *e*S **S 21 54 14.0 +5.0**
LEIR IVMs_BB IVMs_BB 22 21 57.0
comp=Z,7µm,19.2s
FW07 Weatherford 61.61 72 IAMs_20 IAMs_20 22 10 38.5
comp=Z,23µm,19.0s
MGMO Mountain Grove 61.62 65 IAMs_20 IAMs_20 22 13 41.1
comp=Z,28µm,21.0s
KMI Kunming 61.67 275 P **P 21 45 48.4 -0.8**
KMI sP sP 21 46 01.4 +7.2
KMI PP **PP 21 48 05.3 +0.6**
KMI S **S 21 54 10.8 -0.8**
KMI ScS **SKKSac 21 55 38.5 -2.4**
KMI pmax pmax
comp=Z,85nm,1.0s
KMI pmax pmax
comp=Z,1µm,3.5s
KMI LR LR
comp=Z,26µm,15.6s
KMI LR LR
comp=Z,34µm,16.5s
KMI LR LR
comp=Z,27µm,16.8s
SLM Saint Louis 61.69 63 IAMs_20 IAMs_20 22 10 14.8
comp=Z,30µm,22.0s
QIZ Qiongzhong 61.82 265 P **P 21 45 50.1 +0.1**
QIZ IAmb IAmb 21 45 59.1
comp=Z,364nm,1.3s
QIZ Qiongzhong 61.82 265 IAMs_20 IAMs_20 22 15 13.6
comp=Z,19µm,18.0s
QIZ Qiongzhong 61.82 265 P **P 21 45 52.3 +2.3**
QIZ PcP **PcP 21 46 28.6 -2.3**
QIZ PP **PP 21 48 07.8 +1.9**
QIZ S **S 21 54 14.3 +1.2**
QIZ SS **SS 21 58 19.1 +4.3**
QIZ pmax pmax
comp=Z,110nm,1.8s
QIZ pmax pmax
comp=Z,1µm,3.6s
QIZ LR LR
comp=Z,12µm,15.8s
QIZ LR LR
comp=Z,25µm,16.6s
QIZ LR LR
comp=Z,26µm,16.7s
NRS Narsarsuaq 61.93 22 P **P 21 45 48.8 -1.3**
NRS IAMs_20 IAMs_20 22 14 56.4
comp=Z,28µm,20.0s
NRS Narsarsuaq 61.93 22 P **P 21 45 48.8 -1.3**
NRS pmax pmax
comp=Z,849nm,1.8s
NRS MLR MLR
comp=Z,28µm,20.0s
NRS Narsarsuaq 61.93 22 *i* P **P 21 45 48.6 -1.5**
NRS IAmb IAmb 21 45 58.6
comp=Z,1µm,2.1s
NRS Narsarsuaq 61.93 22 ⇓P **P 21 45 50.6 +0.5**
DAV Davao City (W) 61.97 243 P **P 21 45 51.3 +0.3**
DAV Davao City (W) 61.97 243 LR LR 22 13 24.2
comp=Z,9µm,18.4s,baz=48,slow=37
DAV Davao City (W) 61.97 243 P **P 21 45 52.0 +1.0**
DAV S **S 21 54 19.4 +4.3**
DAV Davao City (W) 61.97 243 P **P 21 45 52.6 +1.6**
DAV Davao City (W) 61.97 243 P **P 21 45 50.0 -1.0**
DAV Davao City (W) 61.97 243 S **S 21 54 22.0 +6.9**
JCT Junction City 62.01 76 P **P 21 45 49.8 -1.4**
JCT IAmb IAmb 21 46 00.3
comp=Z,167nm,1.1s
JCT IAMs_20 IAMs_20 22 10 11.2
comp=Z,23µm,22.0s
JCT Junction City 62.01 76 P **P 21 45 49.8 -1.4**
JCT pmax pmax
comp=Z,167nm,1.1s
JCT MLR MLR
comp=Z,23µm,22.0s
JCT Junction City 62.01 76 ⇑P **P 21 45 50.6 -0.6**
SHLS Shalkode 62.03 305 *e*P **P 21 45 48.7 -2.5**
SHLS pmax pmax
comp=Z,192nm,1.0s
SHLS Shalkode 62.03 305 *e*P **P 21 45 48.8 -2.5**
comp=Z,192nm,1.0s
FVM French Village 62.05 63 P **P 21 45 50.0 -1.3**
FVM IAmb IAmb 21 46 03.0
comp=Z,196nm,1.6s
FVM IAMs_20 IAMs_20 22 15 42.5
comp=Z,24µm,18.0s
FVM French Village 62.05 63 P **P 21 45 50.0 -1.3**
FVM pmax pmax
comp=Z,196nm,1.6s

FVM MLR MLR
comp=Z,24µm,18.0s
KIRV Kirov 62.07 332 LR LR 22 14 44.9
comp=Z,28µm,21.4s,baz=36,slow=38
KIRV Kirov 62.07 332*d iP* **P 21 45 50.5 -0.5**
ARXS Arharly 62.08 307 *eP* **P 21 45 50.0 -1.5**
Q44A Meyer Farm, Va 62.17 62 IAMs_20 IAMs_20 22 11 33.4
comp=Z,36µm,22.0s
FW14 Alvarado 62.18 72 IAMs_20 IAMs_20 22 11 02.4
comp=Z,16µm,19.0s
TATA Tatamba Isabel 62.20 200 P **P 21 45 54.0 +1.6**
UZB Uzynbulak 62.26 305 *eP* **P 21 45 51.6 -1.2**
UZB *eS* **S 21 54 16.6 -1.8**
UZB pmax pmax
comp=Z,164nm,1.3s
UZB Uzynbulak 62.26 305 *eP* **P 21 45 51.7 -1.2**
comp=Z,164nm,1.3s
UZB *eS* **S 21 54 16.6 -1.8**
WHTX Lake Whitney, 62.31 73 IAMs_20 IAMs_20 22 11 21.1
comp=Z,16µm,20.0s
T42A Van Buren 62.36 65 IAMs_20 IAMs_20 22 14 52.8
comp=Z,24µm,19.0s
JOF Joensuu 62.40 344 *eP* **P 21 45 52.7 -0.5**
ZHN Zhinishke 62.54 306 *eP* **P 21 45 53.6 -1.0**
ZHN pmax pmax
comp=Z,191nm,1.7s
ZHN Zhinishke 62.54 306 *eP* **P 21 45 53.6 -1.0**
comp=Z,191nm,1.7s
AAM Ann Arbor 62.55 56 P **P 21 45 53.1 -1.4**
AAM IAmb IAmb 21 46 01.1
comp=Z,148nm,1.1s
AAM IAMs_20 IAMs_20 22 14 12.1
comp=Z,31µm,20.0s
AAM Ann Arbor 62.55 56 P **P 21 45 53.1 -1.4**
AAM pmax pmax
comp=Z,148nm,1.2s
AAM MLR MLR
comp=Z,31µm,20.0s
BORG Borgarnes 62.57 9 P **P 21 45 53.7 -0.6**
BORG IAmb IAmb 21 46 06.4
comp=Z,210nm,1.3s
BORG Borgarnes 62.57 9 IAMs_20 IAMs_20 22 12 03.2
comp=Z,23µm,22.0s
BORG Borgarnes 62.57 9 P **P 21 45 53.7 -0.6**
BORG pmax pmax
comp=Z,210nm,1.3s
BORG MLR MLR
comp=Z,23µm,22.0s
BORG Borgarnes 62.57 9 ⇓P **P 21 45 55.8 +1.4**
FCAR Ozark Folk Cen 62.60 66 IAMs_20 IAMs_20 22 15 10.2
comp=Z,20µm,20.0s
SATY Saty 62.63 306 *eP* **P 21 45 54.4 -0.9**
SATY pmax pmax
comp=Z,126nm,1.1s
SATY Saty 62.63 306 *eP* **P 21 45 54.5 -0.9**
comp=Z,126nm,1.1s
KLMR Klimovskoe 62.64 339 *eP* **P 21 45 51.5 -3.3**
KLMR S **S 21 54 15.8 -6.5**
KLMR 21 55 42.5
KLMR pmax pmax
comp=Z,760nm,1.3s
MIAR Mount Ida 62.74 68 P **P 21 45 54.4 -1.6**
MIAR IAMs_20 IAMs_20 22 15 47.0
comp=Z,18µm,18.0s
MIAR Mount Ida 62.74 68 P **P 21 45 54.4 -1.6**
JAY Jayapura 62.84 223 LR LR 22 10 35.9
comp=Z,27µm,20.0s,baz=11,slow=34
JAY Jayapura 62.84 223 P **P 21 45 57.0 +0.2**
comp=Z,2µmcomp=Z,193nm,1.2s
S44A Carbondale 62.90 63 IAMs_20 IAMs_20 22 11 03.1
comp=Z,28µm,21.0s
SIUC Southern Illin 62.91 63 IAMs_20 IAMs_20 22 11 03.1
comp=Z,29µm,21.0s
PBMO Poplar Bluff 62.91 64 IAMs_20 IAMs_20 22 15 26.3
comp=Z,25µm,18.0s
SAVO Savo Central 62.94 200 P **P 21 45 58.6 +1.2**
WHAR Wooly Hollow 62.94 67 IAMs_20 IAMs_20 22 15 24.2
comp=Z,22µm,19.0s
CGM3 Cape Girardeau 62.97 63 IAMs_20 IAMs_20 22 15 51.7
comp=Z,25µm,18.0s
SADO Sadowa 62.98 51 P **P 21 45 55.9 -1.5**
SADO Sadowa 62.98 51 LR LR 22 14 27.1
comp=Z,42µm,19.7s,baz=338,slow=37
SADO Sadowa 62.98 51 ⇓P **P 21 45 56.5 -1.0**
LCAR Lake Charles 63.02 65 IAMs_20 IAMs_20 22 15 17.2
comp=Z,24µm,19.0s
PRZ Przheval'sk 63.05 305 P **P 21 45 57.4 -0.8**
PRZ Przheval'sk 63.05 305 P **P 21 45 57.4 -0.8**
PRZ pmax pmax
comp=Z,367nm,1.2s
GENI Genyem 63.14 223 P **P 21 46 00.9 +2.2**
GENI Genyem 63.14 223 P **P 21 46 00.2 +1.5**
comp=Z,8µmcomp=Z,355nm,1.2s
GENI Genyem 63.14 223 ⇑P **P 21 46 00.5 +1.8**
HNR Honiara 63.18 200 IAMs_20 IAMs_20 22 17 58.8
comp=Z,18µm,19.0s
HNR Honiara 63.18 200 LR LR 22 09 16.2
comp=Z,11µm,19.3s,baz=17,slow=32
HNR Honiara 63.18 200 P **P 21 46 03.3 +4.3**
HNR Honiara 63.18 200 ⇓P P 21 46 04.7 +5.7
X40A Basin Creek Fa 63.21 68 IAMs_20 IAMs_20 22 17 48.3
comp=Z,22µm,18.0s
SMPI Sarmi 63.23 225 P **P 21 46 00.5 +1.2**
comp=Z,7µmcomp=Z,5µmcomp=Z,279nm,1.3s
MDOK Medeo 63.23 306 *eP* **P 21 45 58.1 -1.2**
MDOK *eS* **S 21 54 29.1 -1.6**
MDOK MLR MLR
comp=Z,17µm,15.0s
MDOK Medeo 63.23 306 *eP* **P 21 45 58.2 -1.2**
MDOK *eS* **S 21 54 29.2 -1.6**
MDOK LR LR 22 15 05.6
comp=Z,17µm,15.2s
NSS Namsos 63.24 353 *eP* **P 21 45 57.7 -1.1**
NSS IVmB_BB 21 46 02.4
comp=Z,3µm,6.0s
NSS *eS* **S 21 54 34.4 +4.6**
NSS IVMs_BB IVMs_BB 22 21 59.7
comp=Z,9µm,16.3s
O48B Farmland 63.26 58 IAMs_20 IAMs_20 22 14 25.0
comp=Z,28µm,20.0s
AAA Alma-Ata 63.26 307 *eP* **P 21 45 58.5 -0.9**
AAA pmax pmax
comp=Z,110nm,0.7s
AAA MLR MLR
comp=Z,26µm,15.0s
AAA Alma-Ata 63.26 307 *eP* **P 21 45 58.6 -0.9**
comp=Z,110nm,0.7s
AAA LR LR 22 15 11.2
comp=Z,26µm,14.7s
UALR University of 63.28 67 IAMs_20 IAMs_20 22 16 06.2
comp=Z,19µm,18.0s
BTLS Baital 63.31 310 *eP* **P 21 45 58.6 -1.0**
BTLS *eS* **S 21 54 29.8 -1.4**
BTLS pmax pmax
comp=Z,165nm,1.1s
BTLS Baital 63.31 310 *eP* **P 21 45 58.6 -1.0**
comp=Z,165nm,1.1s
BTLS *eS* **S 21 54 29.9 -1.4**
LUES Luesalemba Tem 63.33 193 P **P 21 46 02.2 +2.3**
PARMO Parma 63.37 64 IAMs_20 IAMs_20 22 15 57.4
comp=Z,20µm,18.0s
TNSS Tian-Shan 63.38 306 *eP* **P 21 45 59.2 -1.4**
TNSS Tian-Shan 63.38 306 *eP* **P 21 45 59.2 -1.4**
WUS Wushi 63.57 304 P **P 21 46 00.1 -1.5**
WUS Wushi 63.57 304 IAMs_20 IAMs_20 22 16 55.9
comp=Z,29µm,19.0s
PVMO Portageville 63.58 64 IAMs_20 IAMs_20 22 16 04.0
comp=Z,22µm,18.0s
VAF Ylistaro 63.61 348 *eP* **P 21 46 00.8 -0.4**
WLAR White Oak Lake 63.62 69 IAMs_20 IAMs_20 22 16 34.4
comp=Z,15µm,18.0s
HBAR Harrisburg 63.67 65 IAMs_20 IAMs_20 22 16 34.4
comp=Z,28µm,18.0s
PEBM Pemiscott Bayo 63.71 64 IAMs_20 IAMs_20 22 13 57.4
comp=Z,21µm,19.0s
T45A Paducah 63.73 63 IAMs_20 IAMs_20 22 11 36.8
comp=Z,24µm,21.0s
GNAR Gosnell 63.73 65 IAMs_20 IAMs_20 22 15 13.0
comp=Z,18µm,20.0s
HICK Hickman 63.75 64 IAMs_20 IAMs_20 22 16 16.5
comp=Z,23µm,19.0s
SLVN Son La 63.75 271 P **P 21 46 02.2 -0.7**
SLVN IAmb IAmb 21 46 12.1
comp=Z,248nm,1.0s
SLVN IAMs_20 IAMs_20 22 14 58.9
comp=Z,19µm,19.0s

SLVN Son La 63.75 271 P **P 21 46 02.8 -0.1**
H06S1 SOCORRO T 63.82 93 P **P 21 46 04.5 +1.2**
SNR=6.0
DELO Deloro Mine 63.90 51 P **P 21 46 01.9 -1.5**
DELO IAmb IAmb 21 46 28.2
comp=Z,131nm,1.2s
TARG Taragay, Kyrgy 63.91 305 P **P 21 46 02.7 -1.4**
TARG IAmb IAmb 21 46 13.2
comp=Z,180nm,1.1s
TARG Taragay, Kyrgy 63.91 305 P **P 21 46 02.7 -1.4**
TARG pmax pmax
comp=Z,180nm,1.1s
GLAT Glass 63.91 64 IAMs_20 IAMs_20 22 16 22.8
comp=Z,29µm,18.0s
LNXT Lenox 63.92 64 IAMs_20 IAMs_20 22 16 24.1
comp=Z,24µm,18.0s
KDJ Kajisay 63.93 306 P **P 21 46 02.7 -1.3**
KDJ Kajisay 63.93 306 P **P 21 46 02.7 -1.3**
KDJ pmax pmax
comp=Z,363nm,1.0s
GAC Glen Almond 64.02 48 ⇑P **P 21 46 08.5 +4.3**
TRQ Mont Tremblant 64.05 47 P **P 21 46 02.2 -2.3**
TRQ IAmb IAmb 21 46 09.1
comp=Z,264nm,1.2s
UTMT University of 64.10 64 IAMs_20 IAMs_20 22 13 46.5
comp=Z,21µm,20.0s
NATX Nacogdoches 64.12 71 IAMs_20 IAMs_20 22 11 27.8
comp=Z,28µm,22.0s
WCI Wyandotte Cave 64.13 61 P **P 21 46 03.5 -1.6**
WCI IAmb IAmb 21 46 10.6
comp=Z,155nm,1.1s
WCI Wyandotte Cave 64.13 61 P **P 21 46 03.5 -1.6**
WCI pmax pmax
comp=Z,155nm,1.1s
WCI MLR MLR
comp=Z,55µm,22.0s
WCI Wyandotte Cave 64.13 61 ⇓P **P 21 46 04.8 -0.3**
TKM2 Tokmak 2 64.13 307 P **P 21 46 03.9 -1.4**
SNR=63
KEF Keuruu 64.14 346 *eP* **P 21 46 03.0 -1.8**
HALT Halls 64.15 64 IAMs_20 IAMs_20 22 16 30.0
comp=Z,24µm,18.0s
LDAQ Lac Daran 64.19 44 P **P 21 46 04.0 -1.5**
LDAQ IAmb IAmb 21 46 14.2
comp=Z,205nm,1.2s
SGDS Sogindy 64.21 308 *eP* **P 21 46 04.6 -1.0**
SGDS pmax pmax
comp=Z,210nm,1.0s
SGDS Sogindy 64.21 308 *eP* **P 21 46 04.7 -1.0**
comp=Z,210nm,1.0s
N51A Ashland 64.21 56 IAMs_20 IAMs_20 22 12 05.2
comp=Z,31µm,22.0s
CCAR Cane Creek 64.22 67 IAMs_20 IAMs_20 22 16 26.3
comp=Z,16µm,19.0s
BOOM Boomskoye usch 64.28 307 P **P 21 46 05.1 -1.2**
BOOM IAMs_20 IAMs_20 22 14 40.6
comp=Z,27µm,19.0s
BOOM Boomskoye usch 64.28 307 P **P 21 46 05.1 -1.2**
BOOM pmax pmax
comp=Z,395nm,1.0s
BOOM MLR MLR
comp=Z,27µm,19.0s
HDBT Hernando Brdge 64.30 65 IAMs_20 IAMs_20 22 15 55.0
comp=Z,20µm,20.0s
ULHL Ulahol 64.31 306 P **P 21 46 05.7 -0.9**
SNR=29
TNCH TengChong 64.33 278 ⇓P **P 21 46 06.2 -0.6**
TNCH pP sP 21 46 11.8 0.0
TNCH sP pP 21 46 14.0 +3.5
TNCH S **S 21 54 45.1 +0.3**
TNCH pmax pmax
comp=Z,200nm,1.8s
TNCH pmax pmax
comp=Z,2µm,2.7s
TNCH LR LR
comp=Z,14µm,21.2s
TNCH LR LR
comp=Z,23µm,20.3s
TNCH LR LR
comp=Z,38µm,22.1s
735A Kenedy 64.38 75 IAMs_20 IAMs_20 22 11 46.8
comp=Z,21µm,21.0s
MET Memphis--Engin 64.39 65 IAMs_20 IAMs_20 22 17 05.5
comp=Z,26µm,18.0s
ACSO Alum Creek Sta 64.41 57 P **P 21 46 05.1 -1.8**
ACSO IAmb IAmb 21 46 13.1
comp=Z,213nm,1.2s
ACSO IAMs_20 IAMs_20 22 15 31.4
comp=Z,30µm,19.0s
USP Ospenovka 64.41 308 P **P 21 46 06.1 -0.9**
SNR=129
CHMS Chumysh 64.48 308 P **P 21 46 07.0 -0.5**
SNR=38
ERPA Erie 64.53 54 P **P 21 46 06.1 -1.5**
ERPA IAmb IAmb 21 46 17.2
comp=Z,290nm,1.0s
ERPA Erie 64.53 54 ⇓P **P 21 46 07.2 -0.5**
T47A Sharon Grove 64.59 62 IAMs_20 IAMs_20 22 12 47.6
comp=Z,31µm,21.0s
TBLU Trondheim 64.63 354 *eP* **P 21 46 07.9 0.0**
TBLU IVmB_BB 21 46 12.2
comp=Z,4µm,1.6s
TBLU *eS* **S 21 54 45.7 -1.4**
ICQ Pointe Anglais 64.64 41 P **P 21 46 07.4 -0.8**
KBK Karagaybulak 64.64 307 P **P 21 46 07.2 -1.4**
SNR=68
FIA1 FINESS Array S 64.65 346 P **P 21 46 06.7 -1.4**
FINES FINESS Array B 64.65 346 P **P 21 46 06.8 -1.4**
comp=Z,106nm,0.9s,baz=41,slow=5.3,SNR=164
FINES PKPPKP **P'P'df 22 14 56.0 -6.9**
comp=Z,7.6nm,0.8s,baz=108,slow=3.1,SNR=10
FINES LR LR 22 17 43.9
comp=Z,20µm,18.6s,baz=30,slow=39
comp=Z,106nm,0.9s
FRU1 Bishkek 64.69 308 P **P 21 46 07.8 -1.0**
FRU1 Bishkek 64.69 308 P **P 21 46 07.8 -1.0**
FRU1 pmax pmax
comp=Z,627nm,0.9s
FRU1 MLR MLR
comp=Z,40µm,19.0s
HKT Hockley 64.75 73 IAMs_20 IAMs_20 22 10 58.3
comp=Z,26µm,22.0s
HKT Hockley 64.75 73*c iP* **P 21 46 09.5 +0.3**
HKT pmax pmax
comp=Z,273nm,1.5s
HKT Hockley 64.75 73 ⇓P **P 21 46 09.9 +0.8**
SGSI Sangihe 64.81 241 P **P 21 46 11.2 +1.4**
WVT Waverly 64.82 63 P **P 21 46 08.0 -1.7**
WVT IAmb IAmb 21 46 15.2
comp=Z,126nm,1.1s
WVT Waverly 64.82 63 IAMs_20 IAMs_20 22 14 08.8
comp=Z,24µm,21.0s
WVT Waverly 64.82 63 P **P 21 46 08.0 -1.7**
WVT pmax pmax
comp=Z,126nm,1.2s
WVT MLR MLR
comp=Z,24µm,21.0s
WVT Waverly 64.82 63 ⇑P **P 21 46 14.1 +4.4**
AAK Ala-Archa 64.88 308 P **P 21 46 09.0 -1.1**
AAK Ala-Archa 64.88 308 LR LR 22 15 43.7
comp=Z,31µm,20.0s,baz=32,slow=37
AAK Ala-Archa 64.88 308 P **P 21 46 09.8 -0.3**
AAK S **S 21 54 50.5 -0.7**
AAK Ala-Archa 64.88 308 P **P 21 46 09.2 -1.0**
SNR=79
AAK Ala-Archa 64.88 308*d iP* **P 21 46 09.1 -1.0**
AAK pmax pmax
comp=Z,377nm,1.7s
AAK MLR MLR
comp=Z,27µm,17.0s
AAK Ala-Archa 64.88 308 *i* P **P 21 46 09.2 -1.0**
SNR=157
AAK Ala-Archa 64.88 308 P **P 21 46 09.2 -1.0**
AAK S **S 21 54 52.2 +1.0**
LMQ La Malbaie 64.90 44 P **P 21 46 09.4 -0.6**
LMQ IAmb IAmb 21 46 15.3
comp=Z,360nm,1.3s
WAMI Wamena 64.92 224 P **P 21 46 13.3 +2.9**
comp=Z,7µmcomp=Z,256nm,0.9s
MNTQ Montreal, Queb 65.02 47 P **P 21 46 08.8 -2.0**
MNTQ IAmb IAmb 21 46 15.1
comp=Z,134nm,1.1s
O52A Adamsville 65.08 56 IAMs_20 IAMs_20 22 16 01.4
comp=Z,26µm,19.0s
MMNY Mt. Morris Dam 65.10 52 P **P 21 46 10.7 -0.6**
TABU Tabubil 65.12 221 P **P 21 46 13.4 +1.6**

HBVL Hebbronville 65.17 77 P **P 21 46 11.6 -0.5**
HBVL IAmb IAmb 21 46 20.9
comp=Z,361nm,1.2s
UCH Uchtor 65.18 307 P **P 21 46 16.5 +4.1**
SNR=23
EKS2 Erkin-Say 65.21 308 P **P 21 46 11.5 -0.8**
SNR=98
NGOA Tingoa Renbel 65.22 199 P **P 21 46 15.5 +3.2**
LONY Lake Ozonia 65.25 49 ⇓P **P 21 46 10.8 -1.5**
KVTX Kingville 65.28 76 IAMs_20 IAMs_20 22 12 43.0
comp=Z,21µm,19.0s
O53A New Philadelph 65.30 56 P **P 21 46 11.9 -0.9**
O53A IAmb IAmb 21 46 21.6
comp=Z,141nm,1.1s
143A Socs Landing, 65.32 68 IAMs_20 IAMs_20 22 17 25.3
comp=Z,18µm,18.0s
LSA Lhasa 65.33 287 P **P 21 46 13.1 -0.6**
LSA IAmb IAmb 21 46 20.5
comp=Z,268nm,1.0s
LSA IAMs_20 IAMs_20 22 13 09.3
comp=Z,21µm,21.0s
LSA Lhasa 65.33 287 P **P 21 46 13.5 -0.2**
LSA S **S 21 55 00.9 +3.2**
LSA LR LR
comp=Z,11µm,20.1s
LSA LR LR
comp=Z,30µm,17.2s
LSA Lhasa 65.33 287 P **P 21 46 13.4 -0.3**
LSA P **P 21 46 13.4 -0.3**
LSA Lhasa 65.33 287 P **P 21 46 13.1 -0.6**
LSA pmax pmax
comp=Z,268nm,1.0s
LSA MLR MLR
comp=Z,21µm,21.0s
LSA Lhasa 65.33 287 P **P 21 46 13.3 -0.3**
SSFO Shawnee State 65.43 58 IAMs_20 IAMs_20 22 15 42.5
comp=Z,31µm,20.0s
MOL Molde 65.47 355 *eP* **P 21 46 13.0 -0.4**
MOL IVmB_BB 21 46 22.5
comp=Z,4µm,1.8s
MOL *eS* **S 21 55 02.5 +5.1**
MOL IVMs_BB IVMs_BB 22 28 24.8
comp=Z,5µm,14.4s
PUL Pulkovo 65.51 343*d iP* **P 21 46 14.9 +1.2**
PUL pmax pmax
comp=Z,498nm,1.3s
PUL MLR MLR
comp=Z,30µm,17.0s
Y45A Yeager Farm, C 65.53 66 IAMs_20 IAMs_20 22 16 11.6
comp=Z,21µm,20.0s
PLAL Pickwick Lake 65.53 64 IAMs_20 IAMs_20 22 17 30.5
comp=Z,22µm,18.0s
AML Almayashu 65.65 308 P **P 21 46 15.3 -0.2**
SNR=70
V48A Smith Brothers 65.66 63 IAMs_20 IAMs_20 22 12 37.0
comp=Z,31µm,22.0s
CLTN Cedars of Leba 65.67 62 IAMs_20 IAMs_20 22 12 28.2
comp=Z,20µm,22.0s
RAF Rauma 65.67 348 *eP* **P 21 46 14.6 -0.2**
SWI Sorong 65.71 233 P **P 21 46 16.0 +0.4**
Q52A Bidwell 65.72 57 IAMs_20 IAMs_20 22 14 22.1
comp=Z,25µm,20.0s
441A DeRidder 65.72 71 IAMs_20 IAMs_20 22 14 45.1
comp=Z,18µm,19.0s
AKN Aaknes 65.89 355 *eP* **P 21 46 16.0 -0.1**
AKN IVmB_BB 21 46 28.9
comp=Z,5µm,1.6s
AKN *eS* **S 21 55 02.2 -0.4**
AKN IVMs_BB IVMs_BB 22 27 38.5
comp=Z,7µm,16.0s
DOMB Dombas 65.91 354 *eP* **P 21 46 15.8 -0.5**
DOMB IVmB_BB 21 46 25.9
comp=Z,4µm,1.9s
DOMB *eS* **S 21 55 03.9 +1.0**
DOMB IVMs_BB IVMs_BB 22 22 11.2
comp=Z,6µm,16.7s
AKTO Aktyubinsk 65.95 323 LR LR 22 17 42.4
comp=Z,87µm,18.8s,baz=36,slow=38
ZAIG Zacatecas 65.97 83 P **P 21 46 15.4 -2.2**
ZAIG IAmb IAmb 21 46 25.1
comp=Z,236nm,1.1s
MEF Metsahovi 66.08 346 *eP* **P 21 46 16.2 -1.2**
ABKAR Akbulak array 66.17 321 P **P 21 46 17.1 -1.0**
ABKAR Akbulak array 66.17 321 P **P 21 46 17.0 -1.2**
ABKAR IAmb IAmb 21 46 24.4
comp=Z,232nm,1.0s
ABKAR Akbulak array 66.17 321 ⇓P **P 21 46 17.2 -0.9**
FUTU Fugatoga 66.17 176 P **P 21 46 18.8 +0.3**
FUTU IAmb IAmb 21 46 31.1
comp=Z,304nm,1.2s
FUTU Fugatoga 66.17 176 P **P 21 46 20.6 +2.2**
VBMS Vicksburg 66.18 68 IAMs_20 IAMs_20 22 18 08.1
comp=Z,17µm,18.0s
AFI Afiamalu 66.29 169 P **P 21 46 18.7 -0.6**
AFI Afiamalu 66.29 169 P **P 21 46 20.4 +1.1**
AFI Afiamalu 66.29 169 P **P 21 46 18.7 -0.6**
AFI pmax pmax
comp=Z,100nm,1.2s
AFI MLR MLR
comp=Z,10µm,21.0s
TNTI Ternate 66.29 238 P **P 21 46 19.7 +0.4**
TNTI Ternate 66.29 238 P **P 21 46 21.5 +2.2**
TNTI Ternate 66.29 238 P **P 21 46 20.8 +1.5**
comp=Z,4µmcomp=Z,232nm,1.2s
TNTI Ternate 66.29 238 ⇑P **P 21 46 20.0 +0.7**
VT1 Waterbury 66.31 48 P **P 21 46 17.8 -1.4**
VT1 IAmb IAmb 21 46 24.2
comp=Z,139nm,1.2s
BINY Binghamton 66.43 51 P **P 21 46 18.8 -1.2**
BINY Binghamton 66.43 51 ⇑P **P 21 46 19.9 -0.1**
KK31 Karatay Array 66.44 310 P **P 21 46 18.3 -1.7**
KK31 Karatay Array 66.44 310 P **P 21 46 18.3 -1.7**
KK31 pmax pmax
comp=Z,301nm,0.9s
KKAR Karatay Array 66.44 310 P **P 21 46 18.5 -1.5**
KKAR Karatay Array 66.44 310 P **P 21 46 18.5 -1.5**
KKAR Karatay Array 66.44 310 ⇓P **P 21 46 18.6 -1.5**
MCWV Mont Chateau 66.44 55 ⇑P **P 21 46 24.6 +4.5**
KSH Kashi 66.48 304 P **P 21 46 23.1 +2.6**
KSH pP sP 21 46 27.9 +2.4
KSH S **S 21 55 13.9 +3.1**
KSH sS sS 21 55 22.1 +5.7
KSH ScS **SKSac 21 56 16.4 -0.5**
KSH SS **SS 21 59 32.8 +6.0**
KSH pmax pmax
comp=Z,580nm,1.1s
KSH pmax pmax
comp=Z,2µm,11.2s
KSH LR LR
comp=Z,56µm,21.3s
KSH LR LR
comp=Z,58µm,22.0s
KSH LR LR
comp=Z,46µm,22.7s
X48A Hartselle 66.49 64 IAMs_20 IAMs_20 22 17 59.0
comp=Z,21µm,18.0s
FOO Floro 66.55 356 *eP* **P 21 46 24.4 +4.1**
FOO IVmB_BB 21 46 29.6
comp=Z,3µm,2.0s
FOO *eS* **S 21 55 12.1 +1.5**
NC204 NORSAR Array S 66.56 353 P **P 21 46 19.4 -1.1**
ARBE Arbavere 66.58 345 *eP* **P 21 46 19.9 -0.6**
ARSB Arslanbob 66.61 308 P **P 21 46 20.7 -0.6**
ARSB Arslanbob 66.61 308 P **P 21 46 20.7 -0.6**
ARSB pmax pmax
comp=Z,512nm,1.0s
ARSB MLR MLR
comp=Z,32µm,19.0s
NONG Nongkai 66.68 270 P **P 21 46 21.6 -0.2**
SSPA Standing Stone 66.69 53 P **P 21 46 20.1 -1.5**
SSPA IAmb IAmb 21 46 30.9
comp=Z,200nm,0.9s
SSPA Standing Stone 66.69 53 ⇑P **P 21 46 21.1 -0.5**
146A Union 66.70 67 IAMs_20 IAMs_20 22 17 46.9
comp=Z,25µm,19.0s
PMG Port Moresby 66.71 213 P **P 21 46 22.1 +0.2**
PMG IAmb IAmb 21 46 33.4
comp=Z,296nm,1.4s
PMG Port Moresby 66.71 213 IAMs_20 IAMs_20 22 13 45.8
comp=Z,25µm,19.0s
PMG Port Moresby 66.71 213 LR LR 22 14 25.6
comp=Z,21µm,18.6s,baz=27,slow=35
PMG Port Moresby 66.71 213 P **P 21 46 22.1 +0.2**
PMG pmax pmax
comp=Z,296nm,1.5s

PMG MLR MLR
comp=Z,25µm,19.0s
NB201 NORSAR Array S 66.74 353 P **P** **21 46 20.4 -1.3**
CRAI Chiangrai 66.76 273 P **P** **21 46 21.3 -1.1**
CRAI IAmb IAmb 21 46 30.7
comp=Z,267nm,1.1s
NB2 NORSAR Subarra 66.76 353 P **P** **21 46 20.5 -1.3**
comp=Z,426nm,1.0s,baz=7.8,slow=6.5
NB2 P'P' 22 14 44.8
comp=Z,30nm,1.4s,baz=182,slow=3.8
NB2 NORSAR Subarra 66.76 353 P **P** **21 46 20.5 -1.3**
baz=7.8,slow=6.5
NOA NORSAR Array B 66.76 353 P **P** **21 46 20.8 -1.0**
comp=Z,52nm,0.9s,baz=8.1,slow=6.4,SNR=69
NOA PKPPKP P'P'df 22 14 49.2 -10
comp=Z,7.6nm,1.1s,baz=176,slow=3.7,SNR=4.1
comp=Z,52nm,0.9s
BRLS Borolday 66.81 311 *e*P **P** **21 46 23.0 +0.6**
BRLS *e*S **S** **21 55 16.0 +1.6**
BRLS Borolday 66.81 311 *e*P **P** **21 46 23.1 +0.6**
BRLS *e*S **S** **21 55 16.1 +1.6**
TZTN Tazewell 66.84 60 ⇑P **P** **21 46 27.4 +4.7**
Z47A Carrollton 66.85 65 IAMs_20 IAMs_20 22 17 21.5
comp=Z,19µm,21.0s
BATG Bathurst New B 66.91 42 P **P** **21 46 21.6 -1.3**
BATG IAmb IAmb 21 46 29.3
comp=Z,330nm,1.2s
HYA Hoyanger 66.94 356 *e*P **P** **21 46 22.5 -0.3**
HYA IVmB_BB 21 46 27.6
comp=Z,7µm,3.0s
HYA *e*S **S** **21 55 11.0 -4.2**
HYA IVMs_BB IVMs_BB 22 24 55.7
comp=Z,6µm,18.8s
KMPI Kaimana, Papua 66.97 229 P **P** **21 46 24.2 +0.5**
FAKI Fak Fak 67.02 231 P **P** **21 46 24.0 0.0**
FAKI IAMs_20 IAMs_20 22 11 46.6
comp=Z,17µm,20.0s
FAKI Fak Fak 67.02 231 P **P** **21 46 25.0 +1.0**
FAKI Fak Fak 67.02 231 P **P** **21 46 25.2 +1.2**
comp=Z,6µmcomp=Z,7µmcomp=Z,271nm,1.3s
FAKI Fak Fak 67.02 231 ⇑P **P** **21 46 24.6 +0.6**
NC602 NORSAR Array S 67.03 353 *e*P **P** **21 46 22.7 -0.8**
NC602 IVmB_BB 21 46 26.9
comp=Z,4µm,3.3s
S54A Dingess, Beckl 67.08 58 IAMs_20 IAMs_20 22 15 24.3
comp=Z,28µm,20.0s
SUE Sulen 67.10 356 *e*P **P** **21 46 26.2 +2.3**
SUE *e*S **S** **21 55 19.1 +1.8**
PKME Peaks-Kenny Pk 67.13 45 P **P** **21 46 23.3 -1.1**
PKME IAmb IAmb 21 46 29.8
comp=Z,252nm,1.3s
PKME Peaks-Kenny Pk 67.13 45 ⇓P **P** **21 46 24.5 +0.2**
FPAL Fort Paine 67.22 63 IAMs_20 IAMs_20 22 15 31.2
comp=Z,16µm,20.0s
IMP Imphal 67.25 281 *e*P **P** **21 46 25.8 +0.3**
Y49A Blount Mountai 67.28 64 IAMs_20 IAMs_20 22 18 42.0
comp=Z,22µm,19.0s
SKAR Skarslia 67.31 355 *e*P **P** **21 46 26.4 +1.1**
SKAR IVmB_BB 21 46 35.4
comp=Z,4µm,1.9s
SKAR *e*S **S** **21 55 22.2 +2.3**
SKAR IVMs_BB IVMs_BB 22 25 39.5
comp=Z,6µm,20.3s
R55A Marlinton 67.34 57 IAMs_20 IAMs_20 22 14 52.9
comp=Z,31µm,22.0s
UBPT Khong Chiam 67.36 266 P **P** **21 46 25.3 -0.9**
VSU Vasula 67.38 344 *ce*P **P** **21 46 23.6 -2.0**
VSU pmax pmax
comp=Z,348nm,1.7s
VSU MLR MLR
comp=Z,28µm,22.0s
VSU Vasula 67.38 344 *e*P **P** **21 46 25.9 +0.2**
VSU Vasula 67.38 344 ⇑P **P** **21 46 23.6 -2.0**
TKL Tuckaleechee C 67.38 61 P **P** **21 46 24.9 -1.2**
TKL IAmb IAmb 21 46 32.3
comp=Z,326nm,1.4s
TKL Tuckaleechee C 67.38 61 LR LR 22 18 33.7
comp=Z,20µm,18.1s,baz=330,slow=38
TKL Tuckaleechee C 67.38 61 P **P** **21 46 24.9 -1.2**
TKL pmax pmax
comp=Z,326nm,1.4s
TKL Tuckaleechee C 67.38 61 ⇓P **P** **21 46 25.7 -0.5**
346A Big Creek Wild 67.40 68 IAMs_20 IAMs_20 22 18 27.3
comp=Z,17µm,19.0s
IUG Iuzhnay 67.40 310 *e*P **P** **21 46 25.7 -0.6**
IUG *e*S **S** **21 55 20.5 -1.2**
IUG pmax pmax
comp=Z,150nm,0.9s
IUG Iuzhnay 67.40 310 *e*P **P** **21 46 25.8 -0.6**
comp=Z,150nm,0.9s
IUG *e*S **S** **21 55 20.6 -1.2**
HFS Hagfors 67.45 352 P **P** **21 46 24.8 -1.4**
comp=Z,45nm,0.7s,baz=35,slow=5.4,SNR=66
HFS LR LR 22 13 32.3
comp=Z,8µm,21.9s,baz=6.0,slow=34
comp=Z,45nm,0.7s
MYLDM Lahad Datu 67.50 248 P **P** **21 46 27.7 +0.6**
MYLDM Lahad Datu 67.50 248 P **P** **21 46 28.6 +1.5**
MYLDM Lahad Datu 67.50 248 ⇑P **P** **21 46 29.3 +2.2**
LRAL Lakeview Retre 67.57 65 P **P** **21 46 25.9 -1.4**
LRAL Lakeview Retre 67.57 65 ⇓P **P** **21 46 25.2 -2.1**
MTSE Matsula 67.61 346 *e*P **P** **21 46 26.2 -0.9**
ASK Askoy 67.66 356 *e*P **P** **21 46 31.1 +3.6**
ASK IVmB_BB 21 46 34.7
comp=Z,5µm,3.1s
ASK *e*S **S** **21 55 28.5 +4.5**
ASK IVMs_BB IVMs_BB 22 25 33.3
comp=Z,9µm,15.2s
MOS Moscow 67.68 337 *e*P **P** **21 46 27.8 +0.2**
MOS *e* 21 46 55.5
MOS *e* 21 48 59.2
MOS *e*PPP PPP 21 50 33.9
MOS *e*S **S** **21 55 26.9 +2.5**
MOS *e*SS **SS** **21 59 48.5 +4.4**
MOS pmax pmax
comp=Z,796nm,1.3s
MOS pmax pmax
comp=N,334nm,1.0s
MOS pmax pmax
comp=Z,3µm,2.5s
MOS pmax pmax
comp=N,2µm,2.9s
MOS smax smax
comp=N,3µm,6.3s
MOS smax smax
comp=E,4µm,3.9s
MOS MLR MLR
comp=N,42µm,17.0s
MOS MLR MLR
comp=Z,45µm,17.0s
BER Bergen 67.75 356 *e*P **P** **21 46 25.3 -2.7**
BER IVmB_BB 21 46 35.1
comp=Z,4µm,3.0s
BER *e*S **S** **21 55 27.1 +2.0**
BER IVMs_BB IVMs_BB 22 25 32.3
comp=Z,8µm,13.1s
OSL Oslo 67.89 353 *e*P **P** **21 46 29.0 +0.2**
OSL IVmB_BB 21 46 39.0
comp=Z,5µm,1.8s
OSL *e*S **S** **21 55 23.4 -3.3**
OSL IVMs_BB IVMs_BB 22 26 09.6
comp=Z,5µm,16.2s
KSCT Kent School, K 67.99 50 IAMs_20 IAMs_20 22 16 55.7
comp=Z,17µm,20.0s
BLA Blacksburg 67.99 58 ⇓P **P** **21 46 29.8 -0.2**
DLV Lat 68.08 261 P **P** **21 46 31.4 +0.4**
DLV IAmb IAmb 21 46 42.3
comp=Z,319nm,1.6s
DLV Lat 68.08 261 P **P** **21 46 32.0 +1.0**
DGTI Dogotuki 68.09 178 P **P** **21 46 32.6 +2.0**
KKM Kota Kinabalu 68.12 251 P **P** **21 46 30.5 -0.7**
KKM IAmb IAmb 21 46 39.5
comp=Z,239nm,1.4s
KKM IAMs_20 IAMs_20 22 16 12.1
comp=Z,18µm,20.0s
KKM Kota Kinabalu 68.12 251 P **P** **21 46 32.3 +1.2**
SDMD Soldier's Deli 68.14 54 IAMs_20 IAMs_20 22 17 15.0
comp=Z,25µm,21.0s
ODD1 Odda 68.17 355 *e*P **P** **21 46 31.9 +1.2**
ODD1 IVmB_BB 21 46 47.5
comp=Z,4µm,2.0s
KMSI Cibinong 68.25 241 P **P** **21 46 34.6 +2.8**
KONO Kongsberg 68.25 354 P **P** **21 46 29.8 -1.4**
KONO Kongsberg 68.25 354 ⇓*e*P **P** **21 46 31.2 0.0**
KONO pmax pmax
comp=Z,319nm,1.7s
KONO Kongsberg 68.25 354 *e*P **P** **21 46 30.3 -0.9**
KONO IVmB_BB 21 46 42.9
comp=Z,4µm,2.0s
KONO *e*S **S** **21 55 34.0 +2.9**
KONO IVMs_BB IVMs_BB 22 25 05.1
comp=Z,6µm,14.4s
KONO Kongsberg 68.25 354 ⇑P **P** **21 46 30.6 -0.6**
HRV Adam Dziewonsk 68.28 48 P **P** **21 46 29.9 -1.7**
HRV IAmb IAmb 21 46 36.8
comp=Z,123nm,1.0s
HRV Adam Dziewonsk 68.28 48 ⇓P **P** **21 46 30.6 -1.0**
HRV Adam Dziewonsk 68.28 48 ⇓P **P** **21 46 31.4 -0.2**
GGN Saint George 68.31 44 P **P** **21 46 30.4 -1.3**
GGN IAmb IAmb 21 46 37.0
comp=Z,301nm,1.0s
BG3 Lake Jocassee 68.33 61 P **P** **21 46 31.1 -1.1**
WUPA West Chester U 68.35 53 IAMs_20 IAMs_20 22 17 10.5
comp=Z,16µm,19.0s
RCRC Randolf Colleg 68.42 57 P **P** **21 46 31.5 -1.1**
VLAKA Lakatoro 68.50 191 P **P** **21 46 34.6 +1.5**
TAVE Taveuni 68.50 178 P **P** **21 46 35.2 +2.1**
OBN Obninsk 68.50 337 P **P** **21 46 31.8 -0.9**
OBN Obninsk 68.50 337 LR LR 22 20 13.1
comp=Z,35µm,18.3s,baz=22,slow=39
OBN Obninsk 68.50 337 ⇑P **P** **21 46 33.2 +0.4**
OBN Obninsk 68.50 337 *d*P **P** **21 46 30.8 -2.0**
OBN *i* *SP **sP** **21 46 41.1 +3.3**
OBN *i* 21 46 46.5
OBN *i* 21 46 53.9
OBN *i* 21 49 02.0
OBN *i* PPP PPP 21 50 50.1
OBN *i* S **S** **21 55 36.4 +2.3**
OBN *i* PS **PnS** **21 56 00.8 +3.4**
OBN *e*SS **SS** **21 59 58.7 +1.9**
OBN pmax pmax
comp=Z,651nm,1.7s
OBN MLR MLR
comp=Z,42µm,17.0s
OBN Obninsk 68.50 337 P **P** **21 46 33.2 +0.4**
comp=Z,8µmcomp=Z,687nm,1.6s
OBN Obninsk 68.50 337 ⇑P **P** **21 46 32.2 -0.6**
DRLN Deer Lake 68.58 35 P **P** **21 46 32.4 -1.0**
DRLN Deer Lake 68.58 35 ⇑P **P** **21 46 33.0 -0.4**
GTK Tadong 68.60 287 *e*P **P** **21 46 37.2 +3.1**
BTK Batken 68.64 308 P **P** **21 46 32.7 -1.4**
BTK Batken 68.64 308 P **P** **21 46 32.7 -1.4**
BTK MLR MLR
comp=Z,31µm,19.0s
BLS5 Blasjo 68.66 355 *e*P **P** **21 46 35.0 +1.1**
BLS5 IVmB_BB 21 46 40.8
comp=Z,3µm,3.2s
BLS5 *e*S **S** **21 55 35.4 -0.7**
BLS5 IVMs_BB IVMs_BB 22 24 36.8
comp=Z,6µm,18.3s
U56A King 68.67 58 IAMs_20 IAMs_20 22 15 45.2
comp=Z,27µm,21.0s
CHTO Chiang Mai 68.70 273 P **P** **21 46 33.1 -1.5**
CHTO IAmb IAmb 21 46 42.4
comp=Z,222nm,1.1s
CHTO Chiang Mai 68.70 273 P **P** **21 46 33.3 -1.3**
CHTO P **P** **21 46 33.3 -1.3**
CHTO S **S** **21 55 37.3 -0.3**
CHTO S **S** **21 55 37.3 -0.3**
CHTO Chiang Mai 68.70 273 P **P** **21 46 33.4 -1.3**
CHTO Chiang Mai 68.70 273 P **P** **21 46 33.2 -1.5**
CHTO pmax pmax
comp=Z,222nm,1.2s
CHTO MLR MLR
comp=Z,30µm,18.0s
CHTO Chiang Mai 68.70 273 ⇓P **P** **21 46 33.3 -1.3**
CHTO Chiang Mai 68.70 273 P **P** **21 46 33.4 -1.3**
CHTO S **S** **21 55 37.9 +0.2**
STRU Stroemstad 68.75 353 *i* P **P** **21 46 33.2 -1.1**
STRU IAmb IAmb 21 46 40.6
comp=Z,75nm,1.0s
250A Grady 68.77 65 IAMs_20 IAMs_20 22 19 16.4
comp=Z,19µm,18.0s
CBN Corbin Frederi 68.80 55 P **P** **21 46 34.1 -0.8**
CBN IAmb IAmb 21 46 40.6
comp=Z,175nm,1.1s
JRQG Juriquilla Cam 68.82 83 P **P** **21 46 34.4 -1.2**
SLIT Slitere, Latvi 68.88 346 *e*P **P** **21 46 35.6 +0.5**
SLIT Slitere, Latvi 68.88 346 ⇓P **P** **21 46 34.1 -1.0**
KMY Karmoy 68.93 356 *e*P **P** **21 46 36.6 +1.2**
KMY IVmB_BB 21 46 42.5
comp=Z,5µm,3.1s
KMY *e*S **S** **21 55 43.0 +3.9**
KMY *e*SS **SS** **22 00 03.6 +0.3**
KMY IVMs_BB IVMs_BB 22 24 55.0
comp=Z,5µm,15.7s
BRAL Brewton 68.93 66 IAMs_20 IAMs_20 22 20 25.9
comp=Z,20µm,18.0s
CMAR Chiang Mai Arr 68.97 273 P **P** **21 46 35.0 -1.3**
CMAR Chiang Mai Arr 68.97 273 P **P** **21 46 35.0 -1.3**
comp=Z,47nm,0.9s,baz=27,slow=6.6,SNR=61
CMAR PKPPKP 22 14 47.7
comp=Z,1.1nm,0.3s,baz=241,slow=4.2,SNR=9.9
CMAR LR LR 22 20 40.0
comp=Z,21µm,18.0s,baz=35,slow=39
comp=Z,47nm,0.9s
CMAR Chiang Mai Arr 68.97 273 *i* P **P** **21 46 35.0 -1.3**
CMAR pmax pmax
comp=Z,48nm,0.9s
CM31 Chiang Mai Arr 68.97 273 P **P** **21 46 35.1 -1.2**
CM31 IAmb IAmb 21 46 44.4
comp=Z,135nm,1.0s
CM31 Chiang Mai Arr 68.97 273 P **P** **21 46 35.5 -0.8**
SNR=82
CM31 P **P** **21 46 35.5 -0.8**
SNR=82
CM31 S **S** **21 55 41.9 +1.1**
CM31 S **S** **21 55 41.9 +1.1**
MSAI Masohi 69.01 234 P **P** **21 46 36.7 +0.2**
comp=Z,6µmcomp=Z,6µmcomp=Z,285nm,0.8s
JPG JALPAIGURI 69.11 287 *e*P **P** **21 46 38.7 +1.6**
JPG IAmb IAmb 21 46 46.7
comp=Z,924nm,0.2s
152A Waverly Hall 69.11 64 IAMs_20 IAMs_20 22 19 23.3
comp=Z,21µm,19.0s
MOIG Morelia 69.13 85 P **P** **21 46 36.5 -1.1**
MOIG IAMs_20 IAMs_20 22 22 34.6
comp=Z,13µm,18.0s
EVN Everest 69.17 289 ⇑P **P** **21 46 39.0 +0.8**
GOGA Godfrey 69.24 62 ⇑P **P** **21 46 37.4 -0.4**
SANI Sanana 69.40 237 P **P** **21 46 36.0 -2.9**
SANI Sanana 69.40 237 P **P** **21 46 37.6 -1.3**
SANI Sanana 69.40 237 P **P** **21 46 37.6 -1.3**
comp=Z,5µmcomp=Z,4µmcomp=Z,167nm,1.2s
SANI Sanana 69.40 237 ⇑P **P** **21 46 37.1 -1.8**
MRSI Marisa 69.44 242 P **P** **21 46 37.6 -1.6**
comp=Z,6µmcomp=Z,5µmcomp=Z,429nm,1.3s
MSVF Nonsavu 69.49 180 P **P** **21 46 40.3 +0.9**
MSVF IAmb IAmb 21 47 08.8
comp=Z,166nm,1.4s
MSVF Nonsavu 69.49 180 LR LR 22 12 21.5
comp=Z,9µm,20.7s,baz=353,slow=32
MSVF Nonsavu 69.49 180 P **P** **21 46 41.6 +2.2**
MSVF Nonsavu 69.49 180 *c i*P **P** **21 46 41.4 +2.0**
MSVF pmax pmax
comp=Z,207nm,2.1s
MSVF MLR MLR
comp=Z,10µm,19.0s
MSVF Nonsavu 69.49 180 ⇓P **P** **21 46 42.2 +2.8**
TOLI2 Tolitoli 69.55 244 P **P** **21 46 38.2 -1.7**
TOLI2 IAmb IAmb 21 46 51.1
comp=Z,370nm,1.3s
TOLI2 Tolitoli 69.55 244 P **P** **21 46 39.1 -0.8**
AGT Agartala 69.59 283 *e*P **P** **21 46 42.5 +2.4**
AAI Ambon 69.67 234 P **P** **21 46 40.6 0.0**
HOMB Homborsund 69.70 354 *e*P **P** **21 46 43.1 +2.9**
HOMB *e*S **S** **21 55 50.3 +2.1**
HOMB IVmB_BB 22 21 47.0
comp=Z,6µm,18.6s
HOMB Homborsund 69.70 354 *i* P **P** **21 46 40.5 +0.4**
GAR Garm 69.70 308 P **P** **21 46 39.4 -1.3**
SNART Snartemo 69.70 355 *e*P **P** **21 46 39.8 -0.5**
SNART IVmB_BB 21 46 45.8
comp=Z,7µm,2.9s
SNART *e*S **S** **21 55 48.2 -0.1**
SNART IVMs_BB IVMs_BB 22 26 10.2
comp=Z,11µm,15.3s
SNART Snartemo 69.70 355 *i* P **P** **21 46 39.4 -0.8**
NLAI Namlea 69.84 236 P **P** **21 46 41.3 -0.3**
comp=Z,6µmcomp=Z,3µmcomp=Z,141nm,1.3s
352A Blakely 69.89 65 IAMs_20 IAMs_20 22 20 22.6
comp=Z,21µm,18.0s
BORU Boraas 70.00 352 *i* P **P** **21 46 40.8 -1.3**
LKBA Tubou, Lakemba 70.05 177 P **P** **21 46 44.4 +1.7**
HAL Halifax 70.06 42 P **P** **21 46 41.3 -1.3**
HAL IAmb IAmb 21 46 48.0
comp=Z,330nm,1.4s
HAL Halifax 70.06 42 P **P** **21 46 41.3 -1.3**
HAL pmax pmax
comp=Z,331nm,1.4s
HAL MLR MLR
comp=Z,65µm,18.0s
451A Vernon 70.08 66 IAMs_20 IAMs_20 22 20 18.3
comp=Z,16µm,18.0s
LPSR Galich'ya Gora 70.19 335 *e*P **P** **21 46 41.9 -1.4**
LPSR *e*S **S** **21 55 51.4 -2.8**
LPSR pmax pmax
comp=Z,410nm,1.0s
LPSR smax smax
comp=N,2µm,10.3s
LPSR MLR MLR
comp=Z,33µm,17.0s
ISAL Salakas 70.23 343 *e*P **P** **21 46 43.0 -0.5**
LUWI Luwuk 70.25 241 P **P** **21 46 42.3 -1.9**
LUWI IAMs_20 IAMs_20 22 12 44.0
comp=Z,22µm,22.0s
LUWI Luwuk 70.25 241 P **P** **21 46 41.6 -2.5**
LUWI Luwuk 70.25 241 P **P** **21 46 43.7 -0.5**
LUWI Luwuk 70.25 241 P **P** **21 46 41.8 -2.4**
LUWI Luwuk 70.25 241 ⇑P **P** **21 46 43.6 -0.5**
GBN Guysborough 70.27 40 P **P** **21 46 43.0 -0.9**
ONAU Onsala 70.31 352 *i* P **P** **21 46 42.5 -1.4**
IDID Didziasalis 70.37 343 *e*P **P** **21 46 41.8 -2.5**
TAOE Nuku Hiva Isla 70.48 136 P **P** **21 46 45.4 -0.2**
TAOE IAmb IAmb 21 47 30.5
comp=Z,523nm,2.0s
TAOE IAMs_20 IAMs_20 22 10 20.9
comp=Z,22µm,22.0s
TAOE Nuku Hiva Isla 70.48 136 *e*P **P** **21 46 46.0 +0.4**
comp=Z,301nm,1.5s
TAOE *e*S **S** **21 55 56.9 -1.6**
comp=Z,6µm,26.7s
TAOE *e*SS **SS** **22 00 22.7 -7.3**
comp=Z,3µm,27.2s
TAOE *e*LQ LQ 22 04 33.5
comp=Z,8µm,26.2s
TAOE *e*LR LR 22 08 06.7
comp=Z,57µm,29.5s
PBUR Paburge 70.48 346 *e*P **P** **21 46 44.7 -0.3**
SIMJ Simiganj 70.61 308 P **P** **21 46 44.8 -1.5**
FABU Falkenberg 70.63 352 *i* P **P** **21 46 44.1 -1.8**
UNM Universidad Na 70.63 83 IAMs_20 IAMs_20 22 17 36.2
comp=Z,16µm,19.0s
NAYO Nakonayok 70.66 269 P **P** **21 46 46.8 +0.1**
PABE Paberze 70.66 345 P **P** **21 46 45.0 -1.1**
PABE Paberze 70.66 345 *e*P **P** **21 46 45.6 -0.5**
TIGA Tifton 70.67 64 IAMs_20 IAMs_20 22 17 28.5
comp=Z,25µm,21.0s
VRH Novokhopyorsk 70.69 333 *e*P **P** **21 46 45.2 -1.1**
VRH *e*S S 21 55 48.8 -11
VRH pmax pmax
comp=Z,2µm,2.8s
VRH pmax pmax
comp=Z,543nm,1.8s
VRH smax smax
comp=N,1µm,7.3s
VRH MLR MLR
comp=Z,22µm,17.0s
NACGM Naroch 70.75 343 ⇑*i*P **P** **21 46 45.7 -1.0**
comp=Z,195nm,1.3s,baz=18
GOET G??ttrup 70.88 354 *i* P **P** **21 46 48.0 +0.6**
GOET IAmb IAmb 21 46 59.6
comp=Z,374nm,0.8s
KPL Plockton 70.92 2 *e*P **P** **21 46 48.6 +0.9**
MNK Minsk 70.93 342 *i* P **P** **21 46 48.9 +1.2**
comp=E,117nm,0.9s
MNK *i* P **P** **21 46 48.9 +1.2**
comp=N,25nm,0.9s
MNK *i* P **P** **21 46 48.9 +1.2**
comp=Z,267nm,0.9s,baz=19
MNK *i* PP **PP** **21 49 27.5 +3.3**
MNK *i* PPP PPP 21 51 10.3
MNK *i* PS 21 56 43.2
MNK *i* SS SS 22 00 38.1 +4.0
MNK *i* SSS SSS 22 03 57.0
MNK *i* LQ LQ 22 14 37.4
MNK *i* LR LR 22 18 26.3
MNK *i* LRM MLR 22 22 16.2
comp=N,23µm,16.6s
MNK *i* LRM MLR 22 22 16.2
comp=Z,26µm,17.8s
MNK *i* LRM MLR 22 22 22.9
comp=E,18µm,16.7s
MNK Minsk 70.93 342 *i* P **P** **21 46 48.9 +1.2**
MNK *i* 21 47 09.3
MNK *i* 21 49 27.5
MNK *i* PPP PPP 21 51 10.3
MNK *i* S **S** **21 56 04.7 +1.9**
MNK *i* PS **PnS** **21 56 43.1 +13**
MNK *i* SS **SS** **22 00 38.1 +3.9**
MNK pmax pmax
comp=N,25nm,0.9s
MNK pmax pmax
comp=Z,267nm,0.9s
MNK pmax pmax
comp=E,117nm,0.9s
MNK MLR MLR
comp=N,23µm,17.0s
MNK MLR MLR
comp=Z,26µm,18.0s
MNK MLR MLR
comp=E,18µm,17.0s
VORR Voronezh 70.96 334 *e*P **P** **21 46 48.8 +0.8**
VORR *e*S **S** **21 56 04.0 +0.8**
VORR pmax pmax
comp=Z,700nm,1.7s
VORR pmax pmax
comp=Z,511nm,1.6s
VORR smax smax
comp=N,200nm,4.6s
VORR MLR MLR
comp=Z,30µm,15.0s
BLEU Blekinge 71.00 350 *i* P **P** **21 46 46.3 -1.9**
DEL Delary 71.05 351 *i* P **P** **21 46 47.0 -1.4**
SRNI Srinagar 71.19 301 *e*P **P** **21 46 53.0 +3.3**
NHSC New Hope 71.25 60 ⇓P P 21 46 55.6 +5.5
KLP Kalpa 71.33 297 *e*P **P** **21 46 49.8 -1.2**
KLP IAmb IAmb 21 46 56.2
comp=Z,227nm,0.9s
JOSI Joshimath 71.35 296 *e*P **P** **21 46 53.0 +1.9**
JOSI IAmb IAmb 21 47 04.0
comp=Z,183nm,0.8s
VLK Valmikinagar 71.37 291 *e*P **P** **21 46 50.9 +0.1**
VLK IAmb IAmb 21 46 56.4
comp=Z,420nm,0.9s
VSR Storozhevoye 71.38 334 *e*P **P** **21 46 49.0 -1.6**
VSR *e*S **S** **21 56 08.6 +0.5**
VSR pmax pmax
comp=Z,430nm,1.2s
VSR smax smax
comp=N,1µm,9.4s
VSR MLR MLR
comp=Z,57µm,17.0s
MUD Monsted U'grnd 71.46 353 *i* P **P** **21 46 50.5 -0.4**
MUD IAmb IAmb 21 46 57.5
comp=Z,350nm,1.1s
BJUU Bjuv 71.52 351 *i* P **P** **21 46 50.0 -1.3**
VORD Divnogorie 71.57 334 *e*P **P** **21 46 50.9 -0.8**
VORD *e*S **S** **21 56 14.3 +4.0**
VORD pmax pmax
comp=Z,260nm,0.9s
VORD smax smax
comp=E,610nm,5.2s
VORD MLR MLR
comp=Z,28µm,16.0s
PCI Palu 71.74 243 P **P** **21 46 51.7 -1.5**
comp=Z,5µmcomp=Z,361nm,1.3s
PTH Pithoragarh 71.75 295 *e*P **P** **21 46 52.8 -0.6**
LGTI Lohaghat 71.81 295 *e*P **P** **21 46 53.0 -0.5**
LGTI IAmb IAmb 21 46 59.4
comp=Z,294nm,1.0s
SAUI Saumlaki 71.89 229 P **P** **21 46 54.2 +0.2**
SAUI Saumlaki 71.89 229 P **P** **21 46 56.1 +2.1**
SAUI Saumlaki 71.89 229 P P 21 46 59.8 +5.8

LUNU	**Lund**	**71.92 351**	*i* P	**P**	**21 46 52.4**	**-1.3**	
COP	**Copenhagen**	**71.96 351**	*i* P	**P**	**21 46 54.4**	**+0.5**	
COP			IAmb	IAmb	21 47 00.0		
comp=Z,786nm,1.0s							
SRDT	**SRDT**	**71.99 270**	P	**P**	**21 46 54.9**	**+0.2**	
LAWE	**Loch Awe, Argy**	**72.01 2**	*e*P	**P**	**21 46 55.0**	**+0.7**	
LAWE			IAmb	IAmb	21 47 00.3		
comp=Z,655nm,2.0s							
THN	**Thein Dam**	**72.01 300**	*e*P	**P**	**21 46 55.0**	**+0.3**	
THN			IAmb	IAmb	21 47 00.1		
comp=Z,212nm,0.9s							
SUW	**Suwalki**	**72.23 345**	*e*P	**P**	**21 46 54.2**	**-1.4**	
SUW			*e*S	**S**	**21 56 18.7**	**+0.9**	
SUW			*e*L	L	22 14 33.9		
comp=Z,25μm,29.2s							
SUW	**Suwalki**	**72.23 345**	P	**P**	**21 46 54.0**	**-1.6**	
SUW	**Suwalki**	**72.23 345**	P	**P**	**21 46 54.0**	**-1.6**	
SUW			pmax	pmax			
comp=Z,631nm,1.1s							
SUW			MLR	MLR			
comp=Z,30μm,19.0s							
SUW	**Suwalki**	**72.23 345**	*e*P	**P**	**21 46 54.7**	**-0.9**	
JMU	**Jammu**	**72.23 300**	*e*P	**P**	**21 46 57.1**	**+1.1**	
BSD	**Bornholm Skovb**	**72.27 350**	*e*P	**P**	**21 46 56.6**	**+0.7**	
BSD	**Bornholm Skovb**	**72.27 350**	*i* P	**P**	**21 46 56.1**	**+0.3**	
BSD			IAmb	IAmb	21 47 01.1		
comp=Z,97nm,0.9s							
LLD	**Lille Linde**	**72.33 352**	*i* P	**P**	**21 46 57.2**	**+1.0**	
LLD			IAmb	IAmb	21 47 02.3		
comp=Z,570nm,1.1s							
COEN	**Coen**	**72.33 216**	P	**P**	**21 46 56.5**	**-0.1**	
COEN			IAMs_20	IAMs_20	22 15 03.9		
comp=Z,20μm,20.0s							
COEN	**Coen**	**72.33 216**	P	**P**	**21 46 56.9**	**+0.3**	
COEN	**Coen**	**72.33 216**	⇑P	**P**	**21 46 57.5**	**+0.9**	
TLIG	**Tlapa**	**72.35 84**	P	**P**	**21 46 56.2**	**-0.8**	
TLIG			IAmb	IAmb	21 47 08.2		
comp=Z,631nm,1.7s							
NIL	**Nilore**	**72.38 302**	P	**P**	**21 46 56.0**	**-0.9**	
NIL	**Nilore**	**72.38 302**	P	**P**	**21 46 56.3**	**-0.6**	
NIL			P	**P**	**21 46 56.3**	**-0.6**	
NIL	**Nilore**	**72.38 302**	P	**P**	**21 46 56.0**	**-0.9**	
NIL			pmax	pmax			
comp=Z,545nm,1.0s							
NIL			MLR	MLR			
comp=Z,44μm,21.0s							
SSRD	**Sdr. Stenderup**	**72.39 353**	*i* P	**P**	**21 46 58.8**	**+2.3**	
SSRD			IAmb	IAmb	21 47 03.1		
comp=Z,760nm,1.2s							
BHK	**Bhakra**	**72.42 299**	*e*P	**P**	**21 46 54.6**	**-2.6**	
BHK			*e*P	**pP**	**21 46 55.6**	**-5.3**	
TKRD	**Thakurdwara**	**72.82 295**	*e*P	**P**	**21 46 59.4**	**-0.2**	
SMKI	**Samarinda**	**72.83 246**	P	**P**	**21 47 01.3**	**+1.6**	
comp=Z,4μmcomp=Z,214nm,1.4s							
656A	**Willston**	**72.83 64**	IAMs_20	IAMs_20	22 20 04.9		
comp=Z,22μm,18.0s							
EKA	**Eskdalemuir Ar**	**72.97 1**	P	**P**	**21 46 58.8**	**-1.2**	
comp=Z,19nm,0.8s,baz=358,slow=4.1,SNR=23							
comp=Z,19nm,0.8s							
ESK	**Eskdalemuir**	**72.99 1**	P	**P**	**21 46 59.2**	**-0.9**	
ESK			IAmb	IAmb	21 47 12.1		
comp=Z,139nm,1.1s							
ESK	**Eskdalemuir**	**72.99 1**	IAMs_20	IAMs_20	22 17 12.7		
comp=Z,13μm,21.0s							
ESK	**Eskdalemuir**	**72.99 1**	*e*P	**P**	**21 47 00.0**	**-0.1**	
ESK			IAMs_20	IAMs_20	22 29 51.1		
comp=Z,16μm,16.4s							
ESK	**Eskdalemuir**	**72.99 1**	P	**P**	**21 46 59.2**	**-0.9**	
ESK			pmax	pmax			
comp=Z,139nm,1.1s							
ESK			MLR	MLR			
comp=Z,14μm,21.0s							
RGN	**Rugen**	**73.00 351**	P	**P**	**21 47 00.2**	**+0.1**	
RGN			IAMs_20	IAMs_20	22 23 57.2		
comp=Z,18μm,18.0s							
RGN	**Rugen**	**73.00 351**	⇑P	**P**	**21 47 02.5**	**+2.3**	
PMOR	**Pomariorio Ree**	**73.04 145**	*e*P	**P**	**21 47 00.8**	**0.0**	
comp=Z,287nm,1.4s							
PMOR			*e*S	**SKiKP**	**21 56 30.6**	**-2.5**	
comp=Z,8μm,23.9s							
PMOR	**Pomariorio Ree**	**73.04 145**	*e*LR	LR	22 09 19.8		
comp=Z,37μm,23.3s							
IDGL	**Inch Island, C**	**73.14 3**	P	**P**	**21 47 02.1**	**+1.1**	
KOUNC	**Koumac, New Ca**	**73.29 193**	P	**P**	**21 47 04.5**	**+2.4**	
KOUNC	**Koumac, New Ca**	**73.29 193**	⇑P	P	21 47 12.3	+10	
SBUM	**Sibu**	**73.35 252**	P	**P**	**21 47 02.6**	**-0.3**	
SBUM	**Sibu**	**73.35 252**	P	**P**	**21 47 03.6**	**+0.8**	
VAH	**Vaihoa**	**73.35 145**	*e*P	**P**	**21 47 01.9**	**-0.7**	
comp=Z,139nm,1.1s							
VAH			*e*S	**S**	**21 56 32.1**	**+0.9**	
comp=Z,8μm,24.6s							
VAH	**Vaihoa**	**73.35 145**	*e*LR	LR	22 09 28.0		
comp=Z,36μm,22.9s							
VAR	**Varanasi**	**73.39 290**	*e*P	**P**	**21 47 03.7**	**+0.7**	
GAL1	**Galloway**	**73.42 2**	*e*P	**P**	**21 47 03.0**	**+0.4**	
GAL1			IAmb	IAmb	21 47 11.4		
comp=Z,1μm,2.5s							
GAL1			IAMs_20	IAMs_20	22 24 41.1		
comp=Z,13μm,18.4s							
LKN	**LUCKNOW**	**73.50 292**	*e*P	**P**	**21 47 04.1**	**+0.5**	
MERT	**Meerut**	**73.58 296**	*e*P	**P**	**21 47 03.0**	**-1.0**	
BKB	**Balikpapan**	**73.67 246**	P	**P**	**21 47 04.0**	**-0.7**	
BKB	**Balikpapan**	**73.67 246**	P	**P**	**21 47 05.6**	**+0.9**	
BKB	**Balikpapan**	**73.67 246**	P	**P**	**21 47 04.7**	**0.0**	
comp=Z,6μmcomp=Z,379nm,1.3s							
KNTI	**KHUNTI**	**73.77 287**	*e*P	**P**	**21 47 05.2**	**-0.1**	
KNTI			IAmb	IAmb	21 47 10.9		
comp=Z,299nm,0.9s							
KBU	**Kabul Universi**	**73.81 306**	P	**P**	**21 47 02.1**	**-3.5**	
GKP	**Gorka Klasztor**	**73.81 348**	*e*P	**P**	**21 47 06.1**	**+1.1**	
GKP			*e*L	L	22 27 11.2		
comp=Z,23μm,19.0s							
GKP	**Gorka Klasztor**	**73.81 348**	*e*P	**P**	**21 47 05.7**	**+0.7**	
KBL	**Kabul**	**73.83 306**	P	**P**	**21 47 03.9**	**-1.8**	
KBL	**Kabul**	**73.83 306**	P	**P**	**21 47 03.9**	**-1.8**	
SNR=302							
KBL			P	**P**	**21 47 03.9**	**-1.8**	
SNR=302							
KBL			S	**SKiKP**	**21 56 34.0**	**-0.4**	
KBL			S	**SKiKP**	**21 56 34.0**	**-0.4**	
KBL	**Kabul**	**73.83 306**	P	**P**	**21 47 03.9**	**-1.8**	
KBL			pmax	pmax			
comp=Z,567nm,0.9s							
GNR	**GANAUR**	**73.85 297**	*e*P	**P**	**21 47 07.2**	**+1.6**	
UGON	**Onchagaon**	**73.99 295**	*e*P	**P**	**21 47 06.8**	**+0.3**	
ALBI	**Allahabad**	**74.09 291**	*e*P	**P**	**21 47 05.0**	**-2.0**	
NDI	**New Delhi**	**74.09 296**	*e*P	**P**	**21 47 09.4**	**+2.3**	
NDI			IAmb	IAmb	21 47 11.9		
comp=Z,272nm,1.1s							
BBSI	**Bau Bau**	**74.09 238**	P	**P**	**21 47 07.9**	**+0.8**	
comp=Z,5μmcomp=Z,6μmcomp=Z,346nm,1.5s							
JMIU	**JAMIA UNIVERSI**	**74.14 296**	*e*P	**P**	**21 47 09.3**	**+2.0**	
NPLP	**NPLP New Delhi**	**74.15 296**	*e*P	**P**	**21 47 07.9**	**+0.5**	
NPLP			IAmb	IAmb	21 47 13.1		
comp=Z,170nm,1.0s							
NPLP			IAmb	IAmb	21 47 13.1		
comp=Z,171nm,1.0s							
LDR	**Lodi Road**	**74.17 296**	*e*P	**P**	**21 47 07.2**	**-0.2**	
LDR			IAmb	IAmb	21 47 18.7		
comp=Z,167nm,0.7s							
AK23	**Malin Array Si**	**74.22 340**	P	**P**	**21 47 06.6**	**-0.8**	
ILTH	**Belurgan, Co L**	**74.22 3**	P	**P**	**21 47 11.4**	**+4.0**	
AK21	**Malin Array Si**	**74.22 340**	P	**P**	**21 47 06.7**	**-0.7**	
AK22	**Malin Array Si**	**74.23 340**	P	**P**	**21 47 06.7**	**-0.8**	
AK03	**Malin Array Si**	**74.23 340**	P	**P**	**21 47 06.7**	**-0.8**	
BHGR	**Bahadurgarh**	**74.24 296**	*e*P	**P**	**21 47 07.3**	**-0.6**	
RNPP9	**Sopachiv**	**74.25 342**	P	**P**	**21 47 06.8**	**-0.8**	
AK04	**Malin Array Si**	**74.25 340**	P	**P**	**21 47 06.8**	**-0.8**	
AKASG	**Malin Array Be**	**74.25 340**	P	**P**	**21 47 06.5**	**-1.1**	
AKASG	**Malin Array Be**	**74.25 340**	P	**P**	**21 47 06.3**	**-1.3**	
comp=Z,157nm,0.7s,baz=25,slow=5.9,SNR=118							
AKASG			PP	**PP**	**21 49 52.6**	**0.0**	
comp=Z,44nm,1.1s,baz=20,slow=8.5,SNR=6.1							
AKASG			PKPPKP	P'P'df	22 14 32.8	-13	
comp=Z,0.4nm,0.5s,baz=234,slow=1.2,SNR=4.3							
AKASG			LR	LR	22 22 36.2		
comp=Z,28μm,21.9s,baz=23,slow=38							
comp=Z,157nm,0.7s							
AKASG	**Malin Array Be**	**74.25 340**	P	**P**	**21 47 06.5**	**-1.1**	
AKASG			pmax	pmax			
comp=Z,625nm,1.0s							
AKBB	**Malin Array Si**	**74.25 340**	*d i* P	**P**	**21 47 06.3**	**-1.3**	
AKBB	**Malin Array Si**	**74.25 340**	P	**P**	**21 47 06.9**	**-0.7**	
AK20	**Malin Array Si**	**74.26 340**	P	**P**	**21 47 06.9**	**-0.8**	
KIEV	**Kiev**	**74.27 340**	P	**P**	**21 47 06.5**	**-1.2**	
KIEV	**Kiev**	**74.27 340**	⇓P	**P**	**21 47 07.3**	**-0.3**	
KIEV	**Kiev**	**74.27 340**	P	**P**	**21 47 06.5**	**-1.2**	
KIEV			pmax	pmax			
comp=Z,519nm,0.9s							
KIEV			MLR	MLR			
comp=Z,31μm,22.0s							
KIEV	**Kiev**	**74.27 340**	*i* P	**P**	**21 47 06.4**	**-1.3**	
SNR=43							
KIEV	**Kiev**	**74.27 340**	P	**P**	**21 47 06.9**	**-0.8**	
comp=Z,26μmcomp=Z,3μm,1.3s							
KIEV	**Kiev**	**74.27 340**	⇓P	**P**	**21 47 06.4**	**-1.2**	
AK01	**Malin Array Si**	**74.27 340**	P	**P**	**21 47 06.9**	**-0.8**	
AK18	**Malin Array Si**	**74.27 340**	P	**P**	**21 47 06.9**	**-0.8**	
AK19	**Malin Array Si**	**74.28 340**	P	**P**	**21 47 07.0**	**-0.8**	
AK15	**Malin Array Si**	**74.28 340**	P	**P**	**21 47 07.0**	**-0.8**	
R9F13	**Warsaw-Wawer**	**74.28 345**	*e*P	**P**	**21 47 06.9**	**-0.9**	
comp=Z,9.2nm,0.7s							
R9F13			*e*PP	**PP**	**21 49 50.4**	**-2.4**	
R9F13			*e*S	**S**	**21 56 44.6**	**+3.5**	
R9F13			*e*		21 57 54.1		
AK11	**Malin Array Si**	**74.29 340**	P	**P**	**21 47 07.1**	**-0.7**	
AYAN	**Aya Nagar**	**74.30 296**	*e*P	**P**	**21 47 08.4**	**+0.2**	
AK02	**Malin Array Si**	**74.30 340**	P	**P**	**21 47 07.1**	**-0.8**	
AK17	**Malin Array Si**	**74.31 340**	P	**P**	**21 47 07.2**	**-0.7**	
AK16	**Malin Array Si**	**74.31 340**	P	**P**	**21 47 07.2**	**-0.8**	
AK08	**Malin Array Si**	**74.31 340**	P	**P**	**21 47 07.2**	**-0.8**	
SPSI	**Sidrap Palu**	**74.32 242**	P	**P**	**21 47 09.1**	**+0.7**	
comp=Z,5μmcomp=Z,3μmcomp=Z,125nm,1.3s							
AK09	**Malin Array Si**	**74.32 340**	P	**P**	**21 47 07.8**	**-0.2**	
AK12	**Malin Array Si**	**74.32 340**	P	**P**	**21 47 07.7**	**-0.3**	
RNPP8	**Varash**	**74.33 342**	P	**P**	**21 47 07.2**	**-0.8**	
RNPP2	**Kostyukhnivka**	**74.33 342**	P	**P**	**21 47 07.3**	**-0.8**	
AK05	**Malin Array Si**	**74.34 340**	P	**P**	**21 47 07.5**	**-0.6**	
AK10	**Malin Array Si**	**74.35 340**	P	**P**	**21 47 07.6**	**-0.6**	
AK14	**Malin Array Si**	**74.35 340**	P	**P**	**21 47 07.6**	**-0.6**	
MI28	**MI28,Pidlybu**	**74.36 341**	P	**P**	**21 47 07.9**	**-0.3**	
AK06	**Malin Array Si**	**74.37 340**	P	**P**	**21 47 07.9**	**-0.4**	
AK13	**Malin Array Si**	**74.37 340**	P	**P**	**21 47 08.0**	**-0.3**	
AK07	**Malin Array Si**	**74.40 340**	P	**P**	**21 47 08.1**	**-0.4**	
DWPF	**Disney Wildern**	**74.42 64**	IAMs_20	IAMs_20	22 22 01.9		
comp=Z,21μm,19.0s							
RNPP5	**Staryi Chortor**	**74.42 342**	P	**P**	**21 47 08.2**	**-0.4**	
SONA	**Sohna**	**74.50 296**	*e*P	**P**	**21 47 09.9**	**+0.5**	
DZM	**Mont Dzumac**	**74.50 191**	P	**P**	**21 47 09.7**	**+0.3**	
DZM			IAmb	IAmb	21 47 25.1		
comp=Z,665nm,2.0s							
DZM			IAMs_20	IAMs_20	22 13 48.4		
comp=Z,18μm,21.0s							
DZM	**Mont Dzumac**	**74.50 191**	*e*P	**P**	**21 47 10.4**	**+1.0**	
comp=Z,360nm,1.5s							
DZM	**Mont Dzumac**	**74.50 191**	*e*PP	**PP**	**21 49 52.6**	**-3.7**	
comp=Z,519nm,24.4s							
DZM			*e*S	**S**	**21 56 41.5**	**-2.7**	
comp=Z,11μm,26.9s							
DZM			*e*SS	**SS**	**22 01 26.1**	**-5.4**	
comp=Z,7μm,24.9s							
DZM			*e*LQ	LQ	22 06 33.1		
comp=Z,28μm,27.4s							
DZM			*e*LR	LR	22 09 59.3		
comp=Z,37μm,26.3s							
DZM	**Mont Dzumac**	**74.50 191**	LR	LR	22 14 09.9		
comp=Z,15μm,20.8s,baz=14,slow=31							
DZM	**Mont Dzumac**	**74.50 191**	P	**P**	**21 47 11.7**	**+2.3**	
BEL	**Belsk**	**74.71 346**	*e*P	**P**	**21 47 11.6**	**+1.4**	
BEL			*e*L	L	22 24 32.2		
comp=Z,31μm,18.4s							
IGLA	**Glengowla, Co**	**74.71 5**	P	**P**	**21 47 11.0**	**+0.8**	
ONTNC	**Ouen Toro**	**74.73 191**	P	**P**	**21 47 10.9**	**+0.3**	
ONTNC			IAmb	IAmb	21 47 20.2		
comp=Z,462nm,1.7s							
ONTNC			IAMs_20	IAMs_20	22 14 35.6		
comp=Z,13μm,19.0s							
ONTNC	**Ouen Toro**	**74.73 191**	P	**P**	**21 47 12.9**	**+2.3**	
OUENC	**Ouen Island, N**	**74.80 191**	P	**P**	**21 47 13.5**	**+2.6**	
BNDA	**BANDA**	**74.80 292**	*e*P	**P**	**21 47 12.2**	**+1.0**	
PPT	**Papeete**	**74.86 148**	P	**P**	**21 47 11.4**	**0.0**	
comp=Z,10nm,0.4s,baz=63,slow=21,SNR=1.2							
PPT			LR	LR	22 12 58.7		
comp=Z,15μm,21.9s,baz=320,slow=30							
comp=Z,10nm,0.4s							
PPT2	**Papeete2**	**74.88 148**	*e*P	**P**	**21 47 11.9**	**+0.3**	
comp=Z,157nm,1.5s							
PPT2	**Papeete2**	**74.88 148**	*e*PP	**PP**	**21 49 56.4**	**-3.1**	
comp=Z,706nm,27.0s							
PPT2			*e*S	**S**	**21 56 48.6**	**+0.1**	
comp=Z,7μm,27.5s							
PPT2			*e*SS	**SS**	**22 01 35.4**	**-1.9**	
comp=Z,8μm,24.2s							
PPT2			*e*LQ	LQ	22 06 32.0		
comp=Z,19μm,35.8s							
PPT2			*e*LR	LR	22 10 01.4		
comp=Z,49μm,31.0s							
PPT2			*e*LR	LR	22 10 09.4		
comp=Z,77μm,29.5s							
PPTF	**Pamatai, Papee**	**74.89 148**	IAMs_20	IAMs_20	22 11 52.4		
comp=Z,21μm,22.0s							
KUDL	**Kundal**	**74.91 296**	*e*P	**P**	**21 47 10.8**	**-1.0**	
LBWR	**Ladybower, Pea**	**74.91 360**	*e*P	**P**	**21 47 11.5**	**0.0**	
LBWR			IAMs_20	IAMs_20	22 31 22.9		
comp=Z,15μm,16.4s							
PINNC	**Pines Island,**	**74.92 190**	P	**P**	**21 47 11.8**	**+0.1**	
PINNC			IAmb	IAmb	21 47 25.4		
comp=Z,292nm,1.3s							
PINNC	**Pines Island,**	**74.92 190**	P	**P**	**21 47 13.9**	**+2.2**	
TIAR	**Tiarei**	**74.93 148**	*e*P	**P**	**21 47 12.8**	**+1.0**	
comp=Z,14nm,0.9s							
SRGN	**SRI GANGA NAGA**	**74.95 299**	*e*P	P	21 47 07.2	-4.8	
PAE	**Paea**	**74.95 148**	*e*P	**P**	**21 47 11.9**	**0.0**	
comp=Z,47nm,1.2s							
PAE			*e*S	**S**	**21 56 52.0**	**+2.9**	
comp=Z,1μm,24.1s							
PAE			*e*SS	**SS**	**22 01 42.5**	**+4.4**	
comp=Z,1μm,23.3s							
PAE			*e*LR	LR	22 10 13.5		
comp=Z,8μm,24.1s							
RUE	**Ruedersdorf**	**74.99 350**	*e*P	**P**	**21 47 12.5**	**+0.6**	
DSB	**Dublin**	**75.00 3**	P	**P**	**21 47 11.7**	**-0.2**	
DSB			IAmb	IAmb	21 47 22.4		
comp=Z,272nm,1.5s							
DSB			IAMs_20	IAMs_20	22 22 21.9		
comp=Z,13μm,21.0s							
DSB	**Dublin**	**75.00 3**	P	**P**	**21 47 09.6**	**-2.3**	
DSB	**Dublin**	**75.00 3**	P	**P**	**21 47 11.6**	**-0.3**	
DSB	**Dublin**	**75.00 3**	⇑P	**P**	**21 47 12.6**	**+0.7**	
TVO	**Taravao**	**75.17 148**	*e*P	**P**	**21 47 13.0**	**-0.3**	
comp=Z,88nm,1.4s							
TVO			*e*S	**S**	**21 56 53.2**	**+1.5**	
comp=Z,1μm,24.5s							
TVO			*e*SS	**SS**	**22 01 41.5**	**-0.1**	
comp=Z,994nm,22.0s							
TVO			*e*LR	LR	22 10 20.4		
comp=Z,8μm,24.3s							
KAPI	**Kappang**	**75.20 241**	P	**P**	**21 47 13.8**	**+0.3**	
KAPI			IAmb	IAmb	21 47 34.1		
comp=Z,282nm,1.2s							
KAPI	**Kappang**	**75.20 241**	IAMs_20	IAMs_20	22 16 49.2		
comp=Z,16μm,21.0s							
KAPI	**Kappang**	**75.20 241**	LR	LR	22 16 17.7		
comp=Z,16μm,21.7s,baz=42,slow=32							
KAPI	**Kappang**	**75.20 241**	P	**P**	**21 47 14.5**	**+0.9**	
KAPI			P	**P**	**21 47 14.5**	**+0.9**	
KAPI			S	**S**	**21 56 52.0**	**-0.2**	
KAPI			S	**S**	**21 56 52.0**	**-0.2**	
KAPI	**Kappang**	**75.20 241**	P	**P**	**21 47 15.0**	**+1.4**	
KAPI	**Kappang**	**75.20 241**	*c i* P	**P**	**21 47 14.5**	**+0.9**	
KAPI			pmax	pmax			
comp=Z,269nm,1.4s							
KAPI	**Kappang**	**75.20 241**	P	**P**	**21 47 14.4**	**+0.8**	
KAPI			S	**S**	**21 56 55.6**	**+3.3**	
BKSI	**Bulukumba**	**75.26 241**	P	**P**	**21 47 14.2**	**+0.3**	
comp=Z,3μmcomp=Z,273nm,1.6s							
KSM	**Kuching**	**75.26 253**	P	**P**	**21 47 14.0**	**0.0**	
KSM	**Kuching**	**75.26 253**	P	**P**	**21 47 14.8**	**+0.8**	
FLTG	**Flechtingen**	**75.39 352**	⇑P	**P**	**21 47 13.2**	**-0.9**	
FOEL	**Foel Wylfa**	**75.42 1**	*e*P	**P**	**21 47 15.0**	**+0.7**	
FOEL			IAMs_20	IAMs_20	22 30 19.1		
comp=Z,10μm,18.0s							
KDU	**Kakadu**	**75.50 226**	P	**P**	**21 47 15.4**	**+0.3**	
RAR	**Rarotonga**	**75.50 159**	IAMs_20	IAMs_20	22 14 09.2		
comp=Z,22μm,21.0s							
RAR	**Rarotonga**	**75.50 159**	LR	LR	22 14 00.2		
comp=Z,20μm,20.8s,baz=330,slow=31							
RAR	**Rarotonga**	**75.50 159**	P	**P**	**21 47 17.6**	**+2.6**	
WACR	**West Acre**	**75.56 358**	*e*P	**P**	**21 47 16.4**	**+1.2**	
WACR			IAMs_20	IAMs_20	22 27 52.4		
comp=Z,11μm,17.8s							
CWF	**Charnwood Fore**	**75.57 360**	*e*P	**P**	**21 47 16.1**	**+0.9**	
CWF			IAmb	IAmb	21 47 27.4		
comp=Z,461nm,1.5s							
CWF			IAMs_20	IAMs_20	22 31 30.2		
comp=Z,14μm,18.1s							
JHSG	**JHARSUGUGA**	**75.66 287**	*e*P	**P**	**21 47 17.3**	**+1.1**	
IBBN	**Ibbenburen**	**75.68 354**	⇑P	**P**	**21 47 16.1**	**+0.2**	
BSSI	**Bau Bau, Buton**	**75.75 240**	P	**P**	**21 47 18.0**	**+1.3**	
comp=Z,5μmcomp=Z,4μmcomp=Z,320nm,1.8s							
GOF	**Gofitskoye**	**75.78 329**	*c e*P	**P**	**21 47 16.3**	**-0.2**	
HLM1	**Long Mynd**	**75.79 1**	*e*P	**P**	**21 47 16.9**	**+0.4**	
HLM1			IAMs_20	IAMs_20	22 31 49.8		
comp=Z,12μm,16.6s							
MTSU	**Mount Surprise**	**75.81 213**	P	**P**	**21 47 18.9**	**+2.0**	
IWEX	**Carrickbyrne,**	**75.86 3**	P	**P**	**21 47 17.4**	**+0.5**	
DRS	**Darwin Rock St**	**75.98 228**	P	**P**	**21 47 18.3**	**+0.4**	
ERBR	**Yeremizino-Bor**	**75.98 331**	*e*P	**P**	**21 47 17.5**	**-0.2**	
ERBR			*e**PP	**sP**	**21 47 24.4**	**+1.6**	
ERBR			*e*		21 47 30.7		
ERBR			*e*		21 50 09.4		
ERBR			*e*S	**S**	**21 57 03.1**	**+2.9**	
ERBR			*e*		21 57 28.0		
ERBR			pmax	pmax			
comp=Z,554nm,1.2s							
ERBR			pmax	pmax			
comp=N,130nm,1.1s							
ERBR			pmax	pmax			
comp=E,54nm,0.9s							
ERBR			MLR	MLR			
comp=N,69μm,17.0s							
ERBR			MLR	MLR			
comp=Z,41μm,16.0s							
ERBR			MLR	MLR			
comp=E,18μm,14.0s							
TV1H	**Townsville Har**	**76.06 210**	P	**P**	**21 47 20.5**	**+2.3**	
LVV	**L'vov**	**76.11 343**	P	**P**	**21 47 18.8**	**+0.4**	
MAK	**Makhachkala**	**76.12 325**	*e*P	**P**	**21 47 15.1**	**-3.4**	
MAK			*e*PPP	PPP	21 51 55.8		
MAK			*e*S	**S**	**21 56 57.1**	**-4.7**	
MAK			*e*SS	**SS**	**22 01 53.5**	**-0.3**	
MAK			pmax	pmax			
comp=Z,3μm,2.7s							
MAK			pmax	pmax			
comp=Z,471nm,1.2s							
MAK			smax	smax			
comp=N,6μm,7.7s							
MAK			smax	smax			
comp=E,4μm,5.7s							
MAK			MLR	MLR			
comp=E,89μm,16.0s							
MAK			MLR	MLR			
comp=Z,76μm,20.0s							
MAK			MLR	MLR			
comp=N,79μm,19.0s							
SRIT	**Nakonsritamara**	**76.14 266**	P	**P**	**21 47 18.7**	**-0.3**	
SRIT			IAmb	IAmb	21 47 27.0		
comp=Z,167nm,1.2s							
SRIT	**Nakonsritamara**	**76.14 266**	P	**P**	**21 47 19.0**	**0.0**	
CLL	**Collm**	**76.23 350**	P	**P**	**21 47 18.0**	**-1.0**	
CLL			IAmb	IAmb	21 47 30.2		
comp=Z,472nm,1.8s							
CLL			IAMs_20	IAMs_20	22 25 09.7		
comp=Z,12μm,18.0s							
CLL	**Collm**	**76.23 350**	*e*P	**P**	**21 47 17.0**	**-2.0**	
CLL			*i*		21 47 23.6		
CLL			*e*S	**S**	**21 57 04.0**	**+1.2**	
CLL			pmax	pmax			
comp=Z,293nm,1.6s							
CLL	**Collm**	**76.23 350**	P	**P**	**21 47 18.8**	**-0.2**	
comp=Z,2μmcomp=Z,132nm,1.1s							
CLL	**Collm**	**76.23 350**	*e*P	**P**	**21 47 17.0**	**-2.0**	
CLL			*i* pP	**pP**	**21 47 19.7**	**-2.8**	
CLL			*i* Pmax		21 47 23.6		
comp=Z,293nm,1.6s							
CLL			*ex*	x	21 48 42.0		
CLL			*e*PPP	PPP	21 51 48.0		
CLL			*e*PPPP		21 53 00.0		
CLL			*e*S	**S**	**21 57 04.0**	**+1.2**	
CLL			*e*PS	**PnS**	**21 57 42.0**	**+2.7**	
CLL			*ex*	x	21 58 42.0		
CLL			*e*SS	**SS**	**22 02 00.0**	**+5.1**	
CLL			*ex*	x	22 02 42.0		
CLL			*e*SSS	SSS	22 05 24.0		
CLL			AMS	AMS	22 31 00.0		
CLL			R2		23 34 00.0		
CLL			R2		23 48 00.0		
CLL			R2		00 17 00.0		
comp=Z,900nm,18.6s							
MTN	**Manton Dam**	**76.23 227**	P	**P**	**21 47 19.5**	**+0.1**	
MTN			IAMs_20	IAMs_20	22 19 42.1		
comp=Z,12μm,20.0s							
MTN	**Manton Dam**	**76.23 227**	P	**P**	**21 47 19.7**	**+0.3**	
HORU	**Horodok**	**76.24 341**	P	**P**	**21 47 18.9**	**-0.2**	
HORU	**Horodok**	**76.24 341**	P	**P**	**21 47 18.9**	**-0.2**	
KSP	**Ksiaz**	**76.31 348**	*e*P	**P**	**21 47 20.0**

BAL3X	Bal3x, Balta	76.78 339	P	P	21 47 22.0	-0.2
DPC	Dobruska-Polom	76.79 348	eP	P	21 47 21.8	-0.5
DPC			eS	S	21 57 09.0	-0.1
DPC			AMS	AMS	22 28 30.0	
comp=Z,22µm,16.5s						
DPC	Dobruska-Polom	76.79 348	eP	P	21 47 21.8	-0.5
DPC			eS	S	21 57 09.0	-0.1
DPC			MLR	MLR		
comp=Z,22µm,16.5s						
DPC	Dobruska-Polom	76.79 348	P	P	21 47 22.7	+0.4
comp=Z,3µmcomp=Z,195nm,1.1s						
SWN1	Swindon	76.80 360	eP	P	21 47 22.2	0.0
SWN1			IAmb	IAmb	21 47 29.4	
comp=Z,1µm,1.7s						
PVCC	Panska Ves	76.83 349	eP	P	21 47 22.0	-0.4
PVCC			AMS	AMS	22 24 40.0	
comp=Z,21µm,19.4s						
PVCC	Panska Ves	76.83 349	eP	P	21 47 22.0	-0.4
PVCC			MLR	MLR		
comp=Z,21µm,19.4s						
SOEI	Soe	76.84 235	P	P	21 47 22.5	-0.5
SOEI			IAmb	IAmb	21 47 38.8	
comp=Z,486nm,1.3s						
SOEI			IAMs_20	IAMs_20	22 16 13.0	
comp=Z,19µm,22.0s						
SOEI	Soe	76.84 235	P	P	21 47 21.8	-1.2
SOEI	Soe	76.84 235	P	P	21 47 23.1	+0.1
SOEI	Soe	76.84 235	P	P	21 47 23.2	+0.2
comp=Z,5µmcomp=Z,5µmcomp=Z,332nm,1.3s						
KMPD	K-Podol'skiy	76.86 341	P	P	21 47 22.3	-0.3
KMPD			P	P	21 47 22.3	-0.3
RICC	Richard	76.87 350	eP	P	21 47 22.2	-0.4
RICC			AMS	AMS	22 24 40.0	
comp=Z,15µm,20.0s						
SORM	Soroca	76.87 340	⇑P	P	21 47 22.8	+0.1
SORM	Soroca	76.87 340	⇑P	P	21 47 22.8	+0.1
SORM	Soroca	76.87 340	P	P	21 47 22.1	-0.6
comp=Z,8µmcomp=Z,746nm,1.3s						
KVAR	Kislovodsk Arr	76.87 329	LR	LR	22 24 27.6	
comp=Z,21µm,20.4s,baz=262,slow=38						
KIV	Kislovodsk	76.87 329	eP	P	21 47 25.2	+2.3
KIV	Kislovodsk	76.87 329	P	P	21 47 22.0	-0.9
KIV			IAmb	IAmb	21 47 29.6	
comp=Z,226nm,0.9s						
KIV	Kislovodsk	76.87 329	P	P	21 47 23.0	+0.1
KIV			P	P	21 47 23.0	+0.1
KIV	Kislovodsk	76.87 329	⇑P	P	21 47 23.6	+0.7
KIV	Kislovodsk	76.87 329	eP	P	21 47 21.9	-1.0
KIV			e		21 50 13.3	
KIV			ePPP	PPP	21 51 59.2	
KIV			eS	S	21 57 08.4	-1.9
KIV			eSSS	SSS	22 05 27.3	
KIV			pmax	pmax		
comp=Z,256nm,4.0s						
KIV			pmax	pmax		
comp=Z,215nm,1.1s						
KIV	Kislovodsk	76.87 329	i P	P	21 47 22.6	-0.3
SNR=44						
KIV	Kislovodsk	76.87 329	P	P	21 47 23.5	+0.6
comp=Z,5µmcomp=Z,293nm,1.0s						
KIV	Kislovodsk	76.87 329	P	P	21 47 22.0	-0.9
KIV			S	S	21 57 14.7	+4.4
LABN	Labinsk	76.88 330	eP	P	21 47 24.5	+1.7
LABN			e*PP	sP	21 47 30.5	+2.6
LABN			e		21 47 31.3	
LABN			eS	S	21 57 13.5	+3.4
LABN			e		21 57 29.7	
LABN			eSS	SS	22 02 01.0	-4.1
LABN			pmax	pmax		
comp=E,70nm,1.3s						
LABN			pmax	pmax		
comp=N,35nm,1.3s						
LABN			pmax	pmax		
comp=Z,259nm,1.1s						
LABN			MLR	MLR		
comp=Z,32µm,21.0s						
LABN			MLR	MLR		
comp=E,22µm,16.0s						
LABN			MLR	MLR		
comp=N,21µm,14.0s						
HSKC	Hora Svate Kat	76.88 350	eP	P	21 47 22.0	-0.7
HSKC			eS	S	21 57 08.5	-1.5
HSKC			AMS	AMS	22 29 50.0	
comp=N,22µm,16.4s						
MMRI	Maumere	76.93 237	P	P	21 47 22.2	-1.2
MMRI			IAmb	IAmb	21 47 30.0	
comp=Z,386nm,1.3s						
MMRI			IAMs_20	IAMs_20	22 15 46.1	
comp=Z,16µm,22.0s						
MMRI	Maumere	76.93 237	P	P	21 47 23.6	+0.2
MMRI	Maumere	76.93 237	P	P	21 47 23.5	+0.2
comp=Z,5µmcomp=Z,4µmcomp=Z,270nm,1.5s						
STHS	Stebnicka Huta	76.98 345	eP	P	21 47 22.6	-0.7
STHS			pmax	pmax		
comp=Z,366nm,1.2s						
STHS	Stebnicka Huta	76.98 345	eP	P	21 47 22.6	-0.7
KRLC	Kraliky	77.00 348	eP	P	21 47 23.2	-0.3
KRLC			AMS	AMS	22 30 00.0	
comp=Z,23µm,16.9s						
KRLC	Kraliky	77.00 348	eP	P	21 47 23.2	-0.3
KRLC			MLR	MLR		
comp=Z,23µm,16.9s						
STEB	Steborice	77.00 347	eP	P	21 47 22.9	-0.5
STEB			ex	x	21 47 28.2	
KBZ	Khabaz	77.01 328	P	P	21 47 23.8	+0.3
comp=Z,86nm,0.9s,baz=28,slow=3.7,SNR=26						
KBZ			PKPPKP	P'P'df	22 14 31.1	-9.4
comp=Z,1.2nm,0.4s,baz=175,slow=12,SNR=5.7						
KBZ			LR	LR	22 26 43.6	
comp=Z,31µm,18.5s,baz=20,slow=40						
comp=Z,86nm,0.9s						
KBZ	Khabaz	77.01 328	ceP	P	21 47 22.7	-0.8
KBZ			pmax	pmax		
comp=Z,140nm,0.9s						
KBZ			MLR	MLR		
comp=Z,27µm,21.0s						
OKC	Ostrava-Krasne	77.05 347	eP	P	21 47 23.3	-0.3
OKC			eS	S	21 57 15.3	+3.6
OKC			AMS	AMS	22 24 40.0	
comp=Z,24µm,18.9s						
OKC	Ostrava-Krasne	77.05 347	eP	P	21 47 23.3	-0.3
OKC			eS	S	21 57 15.3	+3.6
OKC			MLR	MLR		
comp=Z,24µm,18.9s						
SHA1	Shidzhatmaz	77.08 328	deP	P	21 47 23.1	-1.1
STNU	Starunia	77.09 342	P	P	21 47 24.5	+0.5
NIE	Niedzica	77.13 345	eP	P	21 47 24.3	+0.1
NIE			eS	S	21 57 17.0	+4.2
NIE			eL	L	22 24 59.3	
comp=Z,14µm,18.9s						
NIE	Niedzica	77.13 345	P	P	21 47 24.7	+0.5
comp=Z,1µmcomp=Z,102nm,1.0s						
MORC	Moravsky Berou	77.19 347	P	P	21 47 23.1	-1.4
MORC			IAmb	IAmb	21 47 30.8	
comp=Z,192nm,1.2s						
MORC			IAMs_20	IAMs_20	22 24 32.3	
comp=Z,17µm,20.0s						
MORC	Moravsky Berou	77.19 347	eP	P	21 47 23.9	-0.6
MORC			ePP	PP	21 50 19.4	+1.9
MORC			eS	S	21 57 06.7	-6.7
MORC	Moravsky Berou	77.19 347	⇑P	P	21 47 26.4	+1.9
MORC	Moravsky Berou	77.19 347	⇑P	P	21 47 26.4	+1.9
CHRU	Chernivtsi	77.22 341	P	P	21 47 24.2	-0.4
comp=Z,4µmcomp=Z,595nm,1.0s						
CCIG	Comitan	77.26 80	P	P	21 47 24.5	-1.0
CCIG			IAmb	IAmb	21 47 34.2	
comp=Z,201nm,1.5s						
HRA	Herat	77.27 310	P	P	21 47 24.2	-1.2
HRA			IAmb	IAmb	21 47 32.0	
comp=Z,283nm,1.1s						
KOLS	Kolonicke sedl	77.28 344	eP	P	21 47 24.8	-0.2
KOLS			pmax	pmax		
comp=Z,414nm,0.9s						
KOLS	Kolonicke sedl	77.28 344	eP	P	21 47 24.8	-0.2
PRA	Prague	77.29 349	eP	P	21 47 26.4	+1.4
PRA			AMS	AMS	22 25 00.0	
comp=Z,23µm,18.9s						
PRA	Prague	77.29 349	eP	P	21 47 26.4	+1.4
PRA			MLR	MLR		
comp=Z,23µm,18.9s						
EDFI	Ende, Flores	77.31 237	P	P	21 47 23.7	-1.9
comp=Z,4µmcomp=Z,249nm,1.9s						
BEBN	Eben Emael	77.31 355	dP	P	21 47 25.7	+0.6
comp=Z,162nm,1.1s						
NKC	Novy Kostel	77.35 351	eP	P	21 47 25.7	+0.3
NKC			eS	S	21 57 12.3	-2.8
NKC			AMS	AMS	22 29 00.0	
comp=Z,14µm,16.7s						
NKC	Novy Kostel	77.35 351	eP	P	21 47 25.7	+0.3
NKC			eS	S	21 57 12.3	-2.8
NKC			MLR	MLR		
comp=Z,14µm,16.7s						
PRU	Pruhonice	77.36 349	eP	P	21 47 24.7	-0.7
PRU			eS	S	21 57 10.1	-5.1
PRU			AMS	AMS	22 24 50.0	
comp=Z,19µm,19.0s						
PRU	Pruhonice	77.36 349	eP	P	21 47 24.7	-0.7
PRU			eS	S	21 57 10.1	-5.1
PRU			MLR	MLR		
comp=Z,19µm,19.0s						
UCC	Uccle	77.38 356	P	P	21 47 25.2	-0.3
UCC			IAmb	IAmb	21 47 37.0	
comp=Z,289nm,1.5s						
UCC	Uccle	77.38 356	dP	P	21 47 26.0	+0.5
comp=Z,59nm,1.6s						
UCC	Uccle	77.38 356	P	P	21 47 25.2	-0.3
UCC			pmax	pmax		
comp=Z,289nm,1.5s						
GOPC	GO Pecny, Ondr	77.41 349	eS	S	21 57 13.9	-1.8
GOPC			AMS	AMS	22 30 30.0	
comp=Z,18µm,16.4s						
MEM	Membach	77.48 355	dP	P	21 47 25.9	-0.2
comp=Z,269nm,1.1s						
BTNL	Ternell	77.50 355	dP	P	21 47 26.0	-0.2
comp=Z,176nm,1.2s						
LANS	Liptovska Anna	77.52 346	eP	P	21 47 26.4	0.0
LANS			pmax	pmax		
comp=Z,287nm,1.1s						
LANS	Liptovska Anna	77.52 346	eP	P	21 47 26.4	0.0
BSTI	Sart Tilman	77.53 355	dP	P	21 47 25.9	-0.5
comp=Z,30nm,1.1s						
MAUC	Maruska	77.55 347	eP	P	21 47 26.4	-0.2
UZHM	Uzhgorod	77.57 344	P	P	21 47 27.5	+0.9
SOR	Soroa	77.65 69	P	P	21 47 26.0	-1.4
SOR	Soroa	77.65 69	eP	P	21 47 31.6	+4.2
SOR	Soroa	77.65 69	P	P	21 47 26.0	-1.4
SOR			pmax	pmax		
comp=Z,128nm,1.2s						
NE56	Odesa	77.67 337	P	P	21 47 26.7	-0.5
ANN	Anapa	77.71 332	eP	P	21 47 28.2	+0.8
ANN			e*PP	sP	21 47 33.3	+0.8
ANN			e		21 47 42.2	
ANN			e		21 50 21.3	
ANN			eS	S	21 57 19.1	+0.1
ANN			eSS	SS	22 02 19.3	+1.8
ANN			pmax	pmax		
comp=Z,120nm,0.9s						
ANN			pmax	pmax		
comp=E,17nm,0.7s						
BCLA	Clavier	77.71 355	dP	P	21 47 26.4	-0.9
comp=Z,104nm,1.1s						
BCLA			dPP	PP	21 50 19.4	-2.3
BRIU	Brid	77.72 343	P	P	21 47 28.1	+0.7
BHOU	Houvegnez	77.74 355	dP	P	21 47 29.5	+1.9
comp=Z,67nm,1.3s						
BGES	Gesves	77.75 355	dP	P	21 47 27.9	+0.2
comp=Z,99nm,1.1s						
VRAC	Vranov	77.78 348	LR	LR	22 27 04.7	
comp=Z,20µm,18.1s,baz=20,slow=40						
VRAC	Vranov	77.78 348	eP	P	21 47 27.0	-0.8
VRAC			ePP	PP	21 50 26.1	+3.7
VRAC			eS	S	21 57 14.7	-5.0
VRAC	Vranov	77.78 348	⇑P	P	21 47 28.4	+0.6
VRAC	Vranov	77.78 348	⇑P	P	21 47 28.4	+0.6
RAGD	RAYAGADA	77.78 285	eP	P	21 47 29.9	+1.6
RAGD			IAmb	IAmb	21 47 34.3	
comp=Z,404nm,1.2s						
KIS	Kishinev	77.84 339	eP	P	21 47 27.0	-1.2
comp=Z,700nm,1.4s						
KIS	Kishinev	77.84 339	ePP	PP	21 50 26.0	+3.0
KIS			i S	S	21 57 25.0	+4.5
KIS			eL	L	22 13 50.0	
KIS			LRM	MLR	22 26 43.0	
comp=Z,5µm,16.0s						
KIS	Kishinev	77.84 339	⇑P	P	21 47 28.1	-0.1
KIS	Kishinev	77.84 339	eP	P	21 47 27.0	-1.2
KIS			e		21 50 26.0	
KIS			i S	S	21 57 25.0	+4.5
KIS			pmax	pmax		
comp=Z,700nm,1.4s						
KIS			MLR	MLR		
comp=N,8µm,16.0s						
KIS			MLR	MLR		
comp=Z,5µm,16.0s						
KIS	Kishinev	77.84 339	P	P	21 47 28.8	+0.6
comp=Z,4µmcomp=Z,364nm,0.9s						
BMRD	Maredsous	77.85 356	dP	P	21 47 26.6	-1.5
comp=Z,145nm,1.2s						
KORU	Korolevo	77.88 343	P	P	21 47 29.0	+0.7
BERU	Beregovo	77.89 343	P	P	21 47 29.0	+0.6
MILM	Milestii Mici	77.92 339	⇑i P	P	21 47 27.0	-1.6
comp=Z,2µm,2.1s						
MILM	Milestii Mici	77.92 339	ePP	PP	21 50 20.0	-3.6
MILM			eS	S	21 57 25.0	+3.7
MILM			eL	L	22 11 45.0	
MILM			LQM		22 20 02.0	
comp=Z,20µm,21.3s						
MILM			LRM	MLR	22 26 37.0	
comp=Z,40µm,16.5s						
MILM	Milestii Mici	77.92 339	⇑P	P	21 47 30.1	+1.5
MILM	Milestii Mici	77.92 339	c i P	P	21 47 27.0	-1.6
MILM			e		21 50 20.0	
MILM			i S	S	21 57 25.0	+3.7
MILM			pmax	pmax		
comp=N,800nm,2.1s						
MILM			pmax	pmax		
comp=Z,2µm,2.1s						
MILM			MLR	MLR		
comp=Z,40µm,16.5s						
TREC	Trest	77.93 348	AMS	AMS	22 29 20.0	
comp=Z,20µm,15.7s						
IASR	Iasi	77.94 340	⇓P	P	21 47 28.8	+0.1
ZVC	Zvikov	77.94 349	eP	P	21 47 28.3	-0.4
ZVC			AMS	AMS	22 25 30.0	
comp=Z,20µm,18.9s						
TRSU	Trosnyk	77.97 343	P	P	21 47 29.8	+1.0
TRSU	Trosnyk	77.97 343	P	P	21 47 29.8	+1.0
RCHB	Rochefort	77.98 355	dP	P	21 47 26.8	-2.0
comp=Z,105nm,1.1s						
BUR08	Bucovina Ar. S	77.98 342	P	P	21 47 28.3	-0.8
GRFO	Grafenberg	78.00 351	P	P	21 47 28.1	-0.9
GRFO			IAmb	IAmb	21 47 35.6	
comp=Z,300nm,1.1s						
GRFO	Grafenberg	78.00 351	P	P	21 47 28.1	-0.9
GRFO			pmax	pmax		
comp=Z,300nm,1.1s						
GRFO			MLR	MLR		
comp=Z,10µm,18.0s						
BURAR	Bucovina Array	78.01 342	P	P	21 47 28.6	-0.6
BURAR	Bucovina Array	78.01 342	⇑P	P	21 47 29.8	+0.6
BURAR	Bucovina Array	78.01 342	⇑P	P	21 47 29.8	+0.6
KECS	Kecovo	78.01 345	eP	P	21 47 30.9	+1.8
KECS			pmax	pmax		
comp=Z,258nm,0.9s						
KECS	Kecovo	78.01 345	eP	P	21 47 30.9	+1.8
KECS			ePP	PP	21 50 27.6	+3.2
KRUC	Moravsky	78.04 348	eP	P	21 47 28.6	-0.6
KRUC			ePP	PP	21 50 27.0	+2.4
KRUC			eS	S	21 57 18.0	-4.6
PRAR	RASCA	78.05 341	⇑P	P	21 47 29.4	+0.1
PURM	Purcari	78.05 338	⇑P	P	21 47 29.5	+0.3
PURM	Purcari	78.05 338	P	P	21 47 30.0	+0.7
comp=Z,5µmcomp=Z,356nm,1.5s						
DOU	Dourbes	78.07 356	dP	P	21 47 27.4	-2.0
comp=Z,91nm,1.2s						
JAVC	Velka Javorina	78.07 347	eP	P	21 47 30.1	+0.6
JAVC			eS	S	21 57 22.1	-0.9
KULM	Kulim	78.07 263	P	P	21 47 29.7	-0.2
KULM			IAMs_20	IAMs_20	22 19 22.8	
comp=Z,16µm,22.0s						
KULM	Kulim	78.07 263	P	P	21 47 30.5	+0.6
SOC	Sochi	78.14 330	eP	P	21 47 28.2	-1.7
SOC			e		21 50 23.8	
SOC			ePPP	PPP	21 52 15.7	
SOC			eS	S	21 57 22.1	-1.7
SOC			eSS	SS	22 02 24.3	+0.1
SOC			eSSS	SSS	22 05 45.4	
SOC			pmax	pmax		
comp=Z,204nm,1.0s						
SOC			MLR	MLR		
comp=Z,25µm,19.0s						
VSLR	Vesyoloye	78.16 330	ceP	P	21 47 29.8	-0.2
VSLR			pmax	pmax		
comp=Z,174nm,1.1s						
VYHS	Vyhne	78.26 346	eP	P	21 47 29.9	-0.6
VYHS			pmax	pmax		
comp=Z,307nm,1.2s						
VYHS	Vyhne	78.26 346	eP	P	21 47 29.9	-0.6
BMR	Baia Mare	78.28 343	⇓P	P	21 47 31.2	+0.7
BMR	Baia Mare	78.28 343	⇓P	P	21 47 31.2	+0.7
KHC	Kasperske Hory	78.32 350	eP	P	21 47 30.9	+0.1
KHC			epP	sP	21 47 35.5	-0.4
KHC			ex	x	21 48 16.0	
KHC			eS	S	21 57 24.4	-1.2
KHC			AMS	AMS	22 30 20.0	
comp=Z,19µm,15.8s						
KHC	Kasperske Hory	78.32 350	eP	P	21 47 30.9	+0.1
KHC			e		21 47 35.5	
KHC			eS	S	21 57 24.4	-1.2
KHC			MLR	MLR		
comp=Z,19µm,15.8s						
KHC	Kasperske Hory	78.32 350	P	P	21 47 31.4	+0.6
comp=Z,2µmcomp=Z,176nm,1.1s						
WLF	Walferdange	78.42 355	P	P	21 47 30.7	-0.6
WLF			IAmb	IAmb	21 47 38.1	
comp=Z,242nm,1.1s						
WLF	Walferdange	78.42 355	P	P	21 47 31.5	+0.2
WLF	Walferdange	78.42 355	dP	P	21 47 31.5	+0.2
comp=Z,115nm,1.2s						
WLF	Walferdange	78.42 355	P	P	21 47 30.7	-0.6
WLF			pmax	pmax		
comp=Z,242nm,1.1s						
WLF			MLR	MLR		
comp=Z,23µm,19.0s						
WLF	Walferdange	78.42 355	⇑P	P	21 47 32.1	+0.9
WLF			⇓P	sP	21 47 36.1	-0.3
SMOL	Smolenice	78.44 347	eP	P	21 47 31.9	+0.4
SMOL			pmax	pmax		
comp=Z,150nm,1.1s						
CEI	Carei	78.45 343	⇑P	P	21 47 33.5	+2.0
CEI	Carei	78.45 343	⇑P	P	21 47 33.5	+2.0
SIM	Simferopol'	78.48 335	c i P	P	21 47 30.8	-0.9
SIM			e		21 47 41.0	
SIM			e		21 50 29.0	
SIM			eS	S	21 57 22.0	-5.4
SIM			pmax	pmax		
comp=Z,278nm,1.3s						
SIM			MLR	MLR		
comp=Z,43µm,16.8s						
CKRC	Cesky Krumlov	78.54 349	eP	P	21 47 31.4	-0.6
CKRC			eS	S	21 57 30.1	+2.1
CKRC			AMS	AMS	22 30 50.0	
comp=Z,22µm,16.0s						
CKRC	Cesky Krumlov	78.54 349	eP	P	21 47 31.4	-0.6
CKRC			eS	S	21 57 30.1	+2.1
CKRC			MLR	MLR		
comp=Z,22µm,16.0s						
GERES	GERESS Array B	78.58 349	P	P	21 47 30.8	-1.6
GERES	GERESS Array B	78.58 349	P	P	21 47 31.5	-0.9
comp=Z,19nm,1.0s,baz=8.1,slow=2.8,SNR=46						
GERES			PP	PP	21 50 30.9	+1.6
comp=Z,13nm,1.1s,baz=26,slow=6.0,SNR=3.6						
GERES			PKPPKP	P'P'df	22 14 24.1	-14
comp=Z,1.1nm,0.9s,baz=238,slow=2.5,SNR=5.5						
GERES			LR	LR	22 27 35.5	
comp=Z,14µm,18.0s,baz=22,slow=40						
comp=Z,19nm,1.0s						
MODS	Modra-Piesok	78.60 347	eP	P	21 47 32.7	+0.3
MODS			pmax	pmax		
comp=Z,730nm,1.2s						
MODS	Modra-Piesok	78.60 347	eP	P	21 47 32.7	+0.3
PSZ	Piszkesteto	78.66 345	P	P	21 47 31.7	-1.1
PSZ			IAmb	IAmb	21 47 39.9	
comp=Z,438nm,1.2s						
PSZ	Piszkesteto	78.66 345	⇑P	P	21 47 33.2	+0.4
PSZ	Piszkesteto	78.66 345	P	P	21 47 31.7	-1.1
PSZ			pmax	pmax		
comp=Z,438nm,1.2s						
PSZ			MLR	MLR		
comp=Z,25µm,20.0s						
PSZ	Piszkesteto	78.66 345	eP	P	21 47 32.9	+0.2
ARCR	ARCALIA	78.68 342	⇑P	P	21 47 33.7	+0.9
NRDN	NARMADA NAGAR	78.76 292	eP	P	21 47 37.9	+4.3
NRDN			IAmb	IAmb	21 47 42.6	
comp=Z,216nm,0.8s						
TESR	Tescani	78.77 340	⇑P	P	21 47 35.2	+1.9
TESR	Tescani	78.77 340	P	P	21 47 34.0	+0.7
comp=Z,5µmcomp=Z,354nm,1.3s						
BIR	Birlad	78.80 340	⇑P	P	21 47 34.4	+1.0
BIR	Birlad	78.80 340	⇑P	P	21 47 34.4	+1.0
WSI	Waingapu	78.81 238	P	P	21 47 33.0	-0.8
MYKOM	Kota Tinggi	78.87 259	P	P	21 47 32.7	-1.6
RTAL	Retalhuleu	78.88 81	IAMs_20	IAMs_20	22 24 38.6	
comp=Z,13µm,20.0s						
MESR	Meseseni	78.88 343	⇑P	P	21 47 34.3	+0.4
RK1H	Rockhampton Ha	78.89 206	P	P	21 47 35.5	+1.5
NGP	Nagpur	78.90 290	eP	P	21 47 35.4	+0.9
NGP			IAmb	IAmb	21 47 39.4	
comp=Z,254nm,0.9s						
JASL	Jaisalmer	78.92 300	eP	P	21 47 34.3	-0.1
ONER	Baraj Valea Uz	79.00 340	⇑P	P	21 47 34.8	+0.2
SRO	Srobarova	79.00 346	eP	P	21 47 35.3	+0.8
SRO			pmax	pmax		
comp=Z,243nm,1.0s						
SRO	Srobarova	79.00 346	eP	P	21 47 35.3	+0.8
GHRR		79.04 340	⇓P	P	21 47 35.6	+0.8
GHRR		79.04 340	P	P	21 47 35.5	+0.8
STU	Stuttgart	79.09 352	P	P	21 47 34.3	-0.7
STU			IAmb	IAmb	21 47 41.2	
comp=Z,182nm,0.9s						
STU	Stuttgart	79.09 352	P	P	21 47 34.3	-0.7
STU			pmax	pmax		
comp=Z,182nm,0.9s						
STU			MLR	MLR		
comp=Z,10µm,18.0s						
STU	Stuttgart	79.09 352	eP	P	21 47 36.7	+1.6
VARL	Varlezi	79.10 339	⇑P	P	21 47 35.8	+0.7
VLDR	Vladesti	79.10 339	⇓P	P	21 47 35.5	+0.4
BASI	Baing, Sumba	79.13 238	P	P	21 47 37.8	+2.2
JSA	Saint Aubin	79.13 0	eP	P	21 47 35.6	+0.4
JSA			IAmb	IAmb	21 47 42.7	
comp=Z,432nm,1.6s						
JSA			IAMs_20	IAMs_20	22 29 26.1	
comp=Z,10µm,20.3s						
CBBR	Cluj-Babes-Bol	79.14 342	⇓P	P	21 47 35.7	+0.4
BORR	Bors	79.15 344	⇑P	P	21 47 36.9	+1.6
CJR	Cluj-Napoca	79.18 342	⇓P	P	21 47 37.0	+1.4
CJR	Cluj-Napoca	79.18 342	⇓P	P	21 47 37.0	+1.4
TGMR	Targu Mures	79.19 342	⇑P	P	21 47 37.0	+1.4
CONA	Conrad Observa	79.23 348	eP	P	21 47 35.1	-0.8
comp=Z,183nm,0.9s,SNR=87						
COSR	Cosmesti PH	79.26 340	⇓P	P	21 47 37.1	+1.2
WBSI	Waikabubak, Su	79.27 239	P	P	21 47 35.4	-1.0
comp=Z,4µmcomp=Z,4µmcomp=Z,220nm,1.5s						
DRGR		79.27 343	eP	P	21 47 38.2	+2.1
DRGR		79.27 343	⇓P	P	21 47 36.4	+0.3
DRGR		79.27 343	⇓P	P	21 47 36.4	+0.3
PANC	Panciu	79.28 340	⇑P	P	21 47 37.2	+1.1
SCTR	Scanteiesti	79.28 339	⇓P	P	21 47 36.6	+0.5
MARR	Marisel-Cluj	79.31 343	⇑P	P	21 47 37.1	+0.7
TATR	Tatarca	79.34 339	⇑P	P	21 47 37.2	+0.8
OZUR		79.35 341	⇑P	P	21 47 36.9	+0.4
VRI	Vrincioaia	79.37 340	eP	P	21 47 38.6	+2.0
VRI	Vrincioaia	79.37 340	⇑P	P	21 47 37.2	+0.6
VRI	Vrincioaia	79.37 340	⇑P	P	21 47 37.2	+0.6
VRI	Vrincioaia	79.37 340	P	P	21 47 37.3	+0.6
comp=Z,4µmcomp=Z,180nm,0.9s						
RONA	Rosalia, Austr	79.39 348	eP	P	21 47 36.3	-0.5
comp=Z,284nm,1.7s,SNR=62						
RONA			eS	S	21 57 30.6	-6.5
comp=Z,5.7nm,1.4s						
ODBI	Odobesti	79.40 340	⇑P	P	21 47 38.4	+1.6
ODBI	Odobesti	79.40 340	P	P	21 47 37.4	+0.7
comp=Z,3µmcomp=Z,351nm,0.9s						
PLOR	Plostina	79.40 340	⇓P	P	21 47 38.8	+2.0
PLOR	Plostina	79.40 340	⇓P	P	21 47 38.8	+2.0
PLOR5	Plostina Array	79.41 340	P	P	21 47 37.5	+0.6
comp=Z,4µmcomp=Z,229nm,1.4s						
TUDR		79.43 339	⇑P	P	21 47 38.0	+1.1
NEGRR	Negrea	79.44 339	⇑P	P	21 47 38.2	+1.2
PLAI	Plampang	79.45 241	P	P	21 47 36.2	-1.1

IZVR	Izvoarele	79.46 339	⇓P	P		21 47 37.5 +0.5
BCA	Borcka	79.47 328	eP	P		21 47 40.4 +3.1
SCHL	Schela	79.48 339	⇑P	P		21 47 38.1 +0.9
COVR	Voineasa-Covas	79.50 340	⇑P	P		21 47 37.7 +0.4
MOA	Molln	79.50 349	eP	P		21 47 36.6 -0.8
	comp=Z,90nm,1.3s,SNR=30					
MOA			eS	S		21 57 31.5 -6.8
	comp=Z,4.0nm,1.1s					
MOA			eP'P'			22 14 26.0
	comp=Z,5.1nm,1.3s					
SCHLR	Schela	79.51 339	⇑P	P		21 47 38.1 +0.8
DOPR	Dopca	79.55 341	⇑P	P		21 47 39.1 +1.5
TLCR		79.56 338	⇑P	P		21 47 37.7 +0.1
TLCR		79.56 338	⇑P	P		21 47 37.7 +0.1
GNI	Garni	79.58 325	eP	P		21 47 41.0 +3.0
GNI	Garni	79.58 325	P	P		21 47 37.3 -0.8
GNI			IAmb	IAmb		21 48 06.6
	comp=Z,286nm,1.1s					
GNI	Garni	79.58 325	P	P		21 47 39.1 +1.1
GNI			P	P		21 47 39.1 +1.1
GNI	Garni	79.58 325	d iP	P		21 47 38.3 +0.3
GNI			pmax	pmax		
	comp=Z,711nm,2.4s					
GNI			MLR	MLR		
	comp=Z,56µm,19.0s					
GNI	Garni	79.58 325	P	P		21 47 38.6 +0.6
	comp=Z,6µmcomp=Z,248nm,1.3s					
MDB	Medias	79.58 342	⇑P	P		21 47 38.3 +0.5
MDB	Medias	79.58 342	⇑P	P		21 47 38.3 +0.5
BFO	Black Forest	79.60 353	P	P		21 47 36.7 -1.2
BFO			IAmb	IAmb		21 47 44.0
	comp=Z,209nm,1.2s					
BFO	Black Forest	79.60 353	P	P		21 47 36.7 -1.2
BFO			pmax	pmax		
	comp=Z,209nm,1.2s					
BFO			MLR	MLR		
	comp=Z,9µm,20.0s					
BBSR	BB Station	79.66 50	P	P		21 47 37.2 -1.2
BISRR	Bisoca	79.68 340	⇑P	P		21 47 39.5 +1.1
BISRR	Bisoca	79.68 340	P	P		21 47 39.0 +0.6
	comp=Z,13µmcomp=Z,1µm,0.9s					
QIS	Mount Isa	79.70 216	P	P		21 47 38.7 +0.2
KARS	Kars	79.72 327	eP	P		21 47 41.8 +3.0
KARS	Kars	79.72 327	P	P		21 47 41.5 +2.7
KARS			pmax	pmax		
	comp=Z,187nm,2.2s					
BIOA	Bad Ischl, Aus	79.73 349	eP	P		21 47 37.5 -1.1
	comp=Z,135nm,1.1s,SNR=71					
BIOA			eP'P'			22 14 25.4
	comp=Z,2.7nm,0.7s					
MPLH	Magyarpolny	79.74 347	P	P		21 47 39.2 +0.6
	comp=Z,13µmcomp=Z,1µm,1.1s					
GRER		79.78 340	⇓P	P		21 47 40.3 +1.4
ECH	Echery	79.80 354	P	P		21 47 37.2 -1.7
ECH	Echery	79.80 354	P	P		21 47 37.2 -1.7
ECH			pmax	pmax		
	comp=Z,126nm,1.0s					
ECH			MLR	MLR		
	comp=Z,10µm,22.0s					
KNRA	Kununurra	79.80 228	P	P		21 47 38.9 -0.3
KNRA			IAms_20	IAms_20		22 21 14.5
	comp=Z,12µm,20.0s					
NEHR	Nehoiu	79.88 340	⇑P	P		21 47 40.2 +0.7
MLR	Muntele Rosu	79.89 340	eP	P		21 47 40.5 +0.9
MLR	Muntele Rosu	79.89 340	LR	LR		22 27 39.7
	comp=Z,22µm,18.7s,baz=22,slow=39					
MLR	Muntele Rosu	79.89 340	⇑P	P		21 47 40.9 +1.3
MLR	Muntele Rosu	79.89 340	⇑P	P		21 47 40.9 +1.3
MLR	Muntele Rosu	79.89 340	P	P		21 47 40.1 +0.5
	comp=Z,4µmcomp=Z,438nm,1.0s					
TASB	TASBURUN-IGDIR	79.90 326	eP	P		21 47 42.6 +2.9
JURR	Jurilovca	79.94 338	⇓P	P		21 47 39.7 0.0
TPGR	Topolog	79.96 339	⇓P	P		21 47 40.0 +0.1
SIRR	Siria	79.96 344	⇑P	P		21 47 39.9 0.0
SENK	Senkaya-Erzuru	80.03 327	eP	P		21 47 41.1 +0.6
CHOM	Cayeli-Rize	80.07 329	eP	P		21 47 42.3 +1.8
KMMI	Kalianget	80.07 245	P	P		21 47 41.5 +0.8
	comp=Z,5µmcomp=Z,323nm,1.7s					
LESA	Schwarzleotal	80.10 350	eP	P		21 47 39.4 -1.2
	comp=Z,224nm,1.2s,SNR=41					
LESA			eP'P'			22 14 23.0
	comp=Z,0.3nm,0.4s					
DEV	Deva	80.11 343	⇑P	P		21 47 42.3 +1.7
DEV	Deva	80.11 343	⇑P	P		21 47 42.3 +1.7
ISR	Istrita	80.12 340	⇑P	P		21 47 40.1 -0.7
ISR	Istrita	80.12 340	⇑P	P		21 47 40.1 -0.7
ISR	Istrita	80.12 340	P	P		21 47 41.4 +0.6
	comp=Z,383nm,1.4s					
VOIR		80.13 341	⇑P	P		21 47 41.2 +0.3
VOIR		80.13 341	⇑P	P		21 47 41.2 +0.3
VOIR		80.13 341	P	P		21 47 41.4 +0.6
	comp=Z,5µmcomp=Z,429nm,1.0s					
TPI	Tanjungpandan	80.22 253	P	P		21 47 42.6 +1.0
CLF	Chambon-Foret	80.23 357	P	P		21 47 40.6 -0.6
HARR	Harsova	80.23 339	⇓P	P		21 47 41.4 +0.2
HARR	Harsova	80.23 339	⇓P	P		21 47 41.4 +0.2
RETA	Reutte	80.23 351	eP	P		21 47 41.3 0.0
	comp=Z,198nm,1.3s,SNR=47					
RETA			eS	S		21 57 42.4 -3.7
	comp=Z,3.6nm,0.8s					
RETA			eP'P'			22 14 28.2
	comp=Z,4.7nm,1.6s					
SRBI	Singaraja	80.23 243	P	P		21 47 41.9 +0.3
	comp=Z,5µmcomp=Z,2µmcomp=Z,127nm,1.5s					
ARR	Arges	80.28 341	⇑P	P		21 47 42.9 +1.3
WATA	Walderalm	80.30 351	eP	P		21 47 41.1 -0.8
	comp=Z,270nm,0.8s,SNR=90					
WATA			eP'P'			22 14 30.3
	comp=Z,7.6nm,1.3s					
TBI	Tubuai	80.31 150	eP	P		21 47 41.8 +0.1
	comp=Z,2µm,24.0s					
TBI	Tubuai	80.31 150	ePP	PP		21 50 40.1 -4.8
	comp=Z,2µm,30.8s					
TBI			eS	S		21 57 47.1 +0.2
	comp=Z,22µm,28.8s					
TBI			eSS	SS		22 03 01.7 +2.7
	comp=Z,22µm,28.5s					
TBI			eLQ	LQ		22 08 46.6
	comp=Z,59µm,32.2s					
TBI			eLR	LR		22 12 32.1
	comp=Z,54µm,31.2s					
TBI			eLR	LR		22 12 36.1
	comp=Z,289µm,32.5s					
MTUR	Matau	80.33 341	⇑P	P		21 47 43.2 +1.3
MTUR	Matau	80.33 341	⇑P	P		21 47 43.2 +1.3
MOTA	Moosalm	80.34 351	eP	P		21 47 41.4 -0.6
	comp=Z,398nm,1.1s					
TIRR	Tirgusor	80.34 338	eP	P		21 47 43.5 +1.6
TIRR	Tirgusor	80.34 338	P	P		21 47 40.9 -0.9
TIRR			IAmb	IAmb		21 47 48.3
	comp=Z,242nm,0.9s					
TIRR	Tirgusor	80.34 338	⇑P	P		21 47 42.3 +0.4
TIRR	Tirgusor	80.34 338	⇑P	P		21 47 42.3 +0.4
TIRR	Tirgusor	80.34 338	P	P		21 47 42.6 +0.7
	comp=Z,3µmcomp=Z,303nm,1.3s					
KBA	Koelnbreinsper	80.37 349	eP	P		21 47 42.0 -0.2
	comp=Z,636nm,0.8s,SNR=278					
KBA			eP'P'			22 14 22.7
	comp=Z,4.4nm,1.3s					
LOT	Lotru	80.37 342	eP	P		21 47 43.3 +1.1
LOT	Lotru	80.37 342	⇑P	P		21 47 43.7 +1.5
WTTA	Wattenberg	80.37 351	eP	P		21 47 41.5 -0.7
	comp=Z,275nm,0.8s,SNR=86					
WTTA			eP'P'			22 14 27.1
	comp=Z,12nm,1.3s					
SURR	Surduc	80.38 343	⇑P	P		21 47 42.0 -0.1
LHMI	Lhok Sumawe	80.39 266	P	P		21 47 42.0 -0.5
LHMI	Lhok Sumawe	80.39 266	P	P		21 47 43.4 +0.8
LHMI	Lhok Sumawe	80.39 266	P	P		21 47 42.6 0.0
MTO3	Montecristo	80.40 79	P	P		21 47 41.8 -1.0
AKL	Akola	80.42 291	eP	P		21 47 42.2 -0.5
AKL			eP	P		21 47 42.3 -0.5
AKL			IAmb	IAmb		21 47 48.3
	comp=Z,189nm,0.9s					
AKL			IAmb	IAmb		21 47 48.3
	comp=Z,257nm,1.1s					
AMRR	Amara	80.44 339	⇓P	P		21 47 42.8 +0.4
AMRR	Amara	80.44 339	⇓P	P		21 47 42.8 +0.4
SQTA	Sankt Quirin	80.45 351	eP	P		21 47 42.0 -0.6
	comp=Z,218nm,1.2s,SNR=86					
SQTA			eS	S		21 57 42.7 -5.8
	comp=Z,5.0nm,1.6s					
SQTA			eP'P'			22 14 30.2
	comp=Z,6.2nm,1.4s					
KTUT	Trabzon	80.48 329	eP	P		21 47 43.1 +0.4
MORH	Mrgy, Hungar	80.51 346	⇑P	P		21 47 44.4 +1.6
MORH	Mrgy, Hungar	80.51 346	P	P		21 47 43.4 +0.7
	comp=Z,2µmcomp=Z,103nm,1.2s					
DAVA	Damuels	80.51 352	eP	P		21 47 41.9 -1.1
	comp=Z,120nm,1.1s,SNR=37					
DAVA			eS	S		21 57 45.2 -4.0
	comp=Z,9.4nm,1.8s					
DAVA			eP'P'			22 14 31.4
	comp=Z,9.7nm,1.3s					
BEHE	Becsehely	80.53 347	IAms_20	IAms_20		22 26 57.7
	comp=Z,14µm,21.0s					
ABJI	Asem Bagus	80.53 244	P	P		21 47 46.3 +3.1
	comp=Z,3µmcomp=Z,85nm,1.6s					
CVDA	Cernavoda	80.55 339	⇑P	P		21 47 44.1 +1.2
TIM	Timisoara	80.55 344	⇑P	P		21 47 43.5 +0.6
TIM	Timisoara	80.55 344	⇑P	P		21 47 43.6 +0.6
SOKA	Soboth	80.56 348	eP	P		21 47 42.5 -0.7
	comp=Z,443nm,1.1s,SNR=124					
SOKA			eS	S		21 57 42.7 -6.9
	comp=Z,4.8nm,1.6s					
SOKA			eP'P'			22 14 21.9
	comp=Z,7.1nm,1.4s					
BZS	Buzias	80.60 343	eP	P		21 47 42.5 -0.8
BZS	Buzias	80.60 343	⇑P	P		21 47 43.8 +0.6
BZS	Buzias	80.60 343	⇑P	P		21 47 43.8 +0.6
SULR		80.61 340	⇑P	P		21 47 43.8 +0.5
MFTR	Murfatlar	80.61 338	⇓P	P		21 47 43.6 +0.4
GZR	Gura Zlata	80.61 343	⇑P	P		21 47 44.2 +0.8
GZR	Gura Zlata	80.61 343	⇑P	P		21 47 44.2 +0.8
EIDS	Eidsvold	80.63 205	P	P		21 47 43.9 +0.5
EIDS			IAms_20	IAms_20		22 20 04.8
	comp=Z,20µm,20.0s					
EIDS	Eidsvold	80.63 205	P	P		21 47 45.1 +1.7
KOGS	Kog	80.63 347	eP	P		21 47 42.1 -1.3
KOGS			eS	S		21 57 52.2 +2.1
KOGS			e			22 08 57.4
EFOR	EFORIE	80.65 338	⇑P	P		21 47 44.4 +0.9
LEHL	Lehliu	80.68 340	⇓P	P		21 47 43.7 0.0
AGRB	Hanur-Agry	80.69 326	eP	P		21 47 46.5 +2.4
FETA	Feichten	80.70 351	eP	P		21 47 43.1 -0.9
	comp=Z,206nm,0.9s,SNR=91					
FETA			eP'P'			22 14 25.3
	comp=Z,4.6nm,1.5s					
STFAR	Stefanesti-Arg	80.70 341	⇑P	P		21 47 45.5 +1.7
KOPR	Koprukoy-ERZUR	80.70 327	eP	P		21 47 46.9 +2.7
TSI	Tuntungan	80.75 264	P	P		21 47 45.4 +0.9
	comp=Z,149nm,0.7s					
MYKA	Terra Mystica	80.78 349	eP	P		21 47 43.3 -1.0
	comp=Z,240nm,1.3s,SNR=34					
ABTA	Abfaltersbach	80.79 350	eP	P		21 47 43.3 -1.0
	comp=Z,236nm,1.0s,SNR=99					
ABTA			eS	S		21 57 46.7 -5.3
	comp=Z,6.4nm,1.6s					
ABTA			P'P'			22 14 20.4
	comp=Z,4.5nm,1.2s					
OBKA	Obir	80.79 349	⇓iP	P		21 47 43.3 -1.1
OBKA	Obir	80.79 349	eP	P		21 47 43.2 -1.1
	comp=Z,338nm,0.9s,SNR=89					
OBKA			eP'P'			22 14 26.7
	comp=Z,6.9nm,1.6s					
ICOR	Ion Corvin	80.80 339	⇓P	P		21 47 44.8 +0.4
ESPY	Espiye-Giresun	80.87 330	eP	P		21 47 45.7 +0.9
CICN	Ciocanesti	80.90 339	⇑P	P		21 47 45.4 +0.6
MANR	Mangalia	80.91 338	⇑P	P		21 47 44.7 -0.2
BANR	Banloc	80.91 344	⇑P	P		21 47 46.0 +1.1
PRED	Cave del Predi	80.97 349	IAms_20	IAms_20		22 28 51.2
	comp=Z,16µm,19.0s					
WB0	Warramunga Arr	80.99 221	P	P		21 47 45.3 -0.2
WB0			IAmb	IAmb		21 47 55.3
	comp=Z,659nm,1.7s					
HUMR	Humele	81.01 341	⇓P	P		21 47 44.7 -0.8
TBJI	Tambak Boyo	81.08 247	P	P		21 47 46.5 +0.4
	comp=Z,4µmcomp=Z,3µmcomp=Z,100nm,1.4s					
PSI	Prapat	81.08 263	LR	LR		22 21 20.1
	comp=Z,8µm,22.0s,baz=19,slow=34					
PSI	Prapat	81.08 263	P	P		21 47 45.3 -1.1
PSI	Prapat	81.08 263	P	P		21 47 44.8 -1.6
PSI			pmax	pmax		
	comp=Z,344nm,1.5s					
SGRR	Singureni	81.10 340	⇑P	P		21 47 45.7 -0.3
KOPT	Kop Dagi	81.13 328	P	P		21 47 46.2 -0.3
KOPT			IAmb	IAmb		21 47 53.9
	comp=Z,250nm,1.2s					
JAGI	Jajag, Banyuwa	81.14 244	P	P		21 47 45.9 -0.6
JAGI	Jajag, Banyuwa	81.14 244	P	P		21 47 44.6 -1.8
JAGI	Jajag, Banyuwa	81.14 244	P	P		21 47 46.4 0.0
FUORN	Ofenpass-Fuorn	81.14 351	P	P		21 47 45.1 -1.4
FUORN			IAmb	IAmb		21 47 53.1
	comp=Z,147nm,0.8s					
WRAB	Tennant Creek	81.16 221	IAms_20	IAms_20		22 20 22.6
	comp=Z,21µm,21.0s					
WRAB	Tennant Creek	81.16 221	c iP	P		21 47 46.6 +0.2
WRAB			pmax	pmax		
	comp=Z,288nm,1.1s					
RPSI	Rantau Prapat	81.16 263	P	P		21 47 44.8 -1.9
RPSI			IAmb	IAmb		21 47 53.7
	comp=Z,344nm,1.5s					
HERR	Herculane	81.17 343	⇑P	P		21 47 46.6 +0.3
WRA	Warramunga Arr	81.17 221	P	P		21 47 45.4 -1.1
WRA	Warramunga Arr	81.17 221	P	P		21 47 46.0 -0.5
	comp=Z,58nm,0.8s,baz=34,slow=6.2,SNR=88					
WRA			PP	PP		21 50 52.5 +0.4
	comp=Z,14nm,1.1s,baz=26,slow=8.8,SNR=6.1					
WRA			PKKPbc	PKKPbc		22 06 24.2 +2.9
	comp=Z,1.7nm,0.8s,baz=228,slow=1.9,SNR=7.4					
WRA			LR	LR		22 20 34.3
	comp=Z,20µm,21.3s,baz=20,slow=33					
	comp=Z,58nm,0.8s					
WRA	Warramunga Arr	81.17 221	i P	P		21 47 46.0 -0.5
WRA			pmax	pmax		
	comp=Z,62nm,0.8s					
ROBS	Robic	81.17 349	i P	P		21 47 45.1 -1.2
ROBS			eS	S		21 57 57.6 +1.8
PSN	Preselentsi	81.18 338	eP	P		21 47 49.8 +3.4
BSI	Banda Aceh	81.20 268	P	P		21 47 47.3 +0.4
DIKM	Dikmen	81.23 333	eP	P		21 47 47.6 +0.9
DIKM	Dikmen	81.23 333	⇑P	P		21 47 46.9 +0.2
DIKM	Dikmen	81.23 333	P	P		21 47 47.4 +0.7
	comp=Z,5µmcomp=Z,372nm,1.2s					
SRE	Strehaia	81.23 342	⇑P	P		21 47 47.0 +0.4
SRE	Strehaia	81.23 342	⇑P	P		21 47 47.0 +0.4
MLAZ	Malazgirt-MUS	81.23 326	eP	P		21 47 49.9 +2.9
LJU	Ljubljana	81.25 348	eP	P		21 47 46.0 -0.8
LJU			eS	S		21 57 58.2 +1.6
BZK	Bozkurt	81.29 334	⇓P	P		21 47 49.5 +2.6
BZK	Bozkurt	81.29 334	P	P		21 47 47.7 +0.7
	comp=Z,149nm,1.3s					
RMGR	Halanga-Turnu	81.33 342	⇑P	P		21 47 47.3 +0.1
COPA	Copaceanca	81.34 341	⇑P	P		21 47 47.8 +0.6
FRGS	Fruska Gora	81.35 345	⇓iP	P		21 47 46.6 -0.7
DJES	Djerdap	81.36 343	⇓P	P		21 47 48.4 +1.0
TUE	Stuetta	81.36 352	P	P		21 47 47.9 +0.3
GMJI	Gumukmas	81.37 245	P	P		21 47 45.6 -2.1
SABO	M.te Sabotino	81.42 349	IAms_20	IAms_20		22 28 41.9
	comp=Z,11µm,19.0s					
MLSI	Meulaboh, Aceh	81.48 266	P	P		21 47 49.4 +1.0
	comp=Z,148nm,1.0s					
KVT	Kavak	81.53 332	eP	P		21 47 48.9 +0.6
CEY	Cerknica	81.56 348	eP	P		21 47 47.1 -1.3
CTI	Castel Tesino	81.57 350	P	P		21 47 47.3 -1.3
CTI			IAmb	IAmb		21 47 54.2
	comp=Z,175nm,1.0s					
CTI			IAms_20	IAms_20		22 27 20.0
	comp=Z,14µm,21.0s					
CTI	Castel Tesino	81.57 350	P	P		21 47 47.3 -1.3
CTI			pmax	pmax		
	comp=Z,175nm,1.0s					
CTI			MLR	MLR		
	comp=Z,14µm,21.0s					
VRTB	Varto-Mus	81.59 327	eP	P		21 47 51.8 +3.0
KARO	Karliova-Bingo	81.59 328	eP	P		21 47 49.4 +0.5
RAZG	Razgrad	81.61 339	⇑P	P		21 47 48.6 -0.1
VLAD	Vladila	81.64 341	⇓P	P		21 47 48.8 +0.1
PUNG	Punghina	81.66 342	⇑P	P		21 47 50.6 +1.7
BOJS	Bojanci	81.69 348	eP	P		21 47 47.5 -1.5
BKNI	Bangkinang	81.73 260	P	P		21 47 48.9 -0.8
BKNI			IAmb	IAmb		21 47 57.0
	comp=Z,555nm,1.5s					
BKNI			IAms_20	IAms_20		22 30 35.2
	comp=Z,12µm,18.0s					
BKNI	Bangkinang	81.73 260	P	P		21 47 46.1 -3.6
BKNI	Bangkinang	81.73 260	P	P		21 47 51.4 +1.7
BKNI	Bangkinang	81.73 260	P	P		21 47 52.9 +3.2
	comp=Z,4µmcomp=Z,3µmcomp=Z,258nm,1.0s					
NGJI	Ngawi	81.74 247	P	P		21 47 52.1 +2.4
	comp=Z,6µmcomp=Z,142nm,1.7s					
ZIMR		81.77 340	⇑P	P		21 47 49.3 -0.2
ZIMR		81.77 340	⇑P	P		21 47 49.3 -0.2
RSDY	Resadiye-TOKAT	81.77 331	eP	P		21 47 51.8 +2.2
SKDS	Skadanscina	81.80 349	eP	P		21 47 48.3 -1.4
BAIL	Bailesti	81.83 342	⇑P	P		21 47 50.1 +0.4
A051A	Mrakovica	81.94 347	⇓iP	P		21 47 49.4 -1.1
GURO	Guroymak-BITLI	81.94 327	IAms_20	IAms_20		22 27 41.4
	comp=Z,20µm,20.0s					
TEKS	Tekeris	81.99 345	⇓iP	P		21 47 49.6 -1.1
BNGB	Bingl	82.00 328	eP	P		21 47 53.0 +2.1
PRIJ	Prijedor	82.00 347	⇓iP	P		21 47 56.1 +5.4
SZH	Strazhitsa	82.02 340	eP	P		21 47 51.8 +1.0
PMBI	Palembang	82.06 255	P	P		21 47 50.6 -0.8
PMBI			IAmb	IAmb		21 47 59.0
	comp=Z,318nm,1.3s					
SMRI	Semarang	82.06 248	P	P		21 47 50.4 -1.0
SMRI			IAmb	IAmb		21 48 02.1
	comp=Z,336nm,1.7s					
SMRI	Semarang	82.06 248	P	P		21 47 53.3 +1.9
SMRI	Semarang	82.06 248	P	P		21 47 51.0 -0.4
TOKT	Tokat	82.08 331	eP	P		21 47 52.9 +1.6
AUWSH	Wavell State H	82.09 202	P	P		21 47 53.2 +2.1
HYB	Hyderabad	82.11 288	eP	P		21 47 50.9 -0.8
HYB			epP	pP		21 47 53.7 -1.8
HYB			IVmB_BB			21 47 55.0
	comp=Z,4µm,2.7s					
HYB			ePcP	sP		21 47 56.2 -0.6
HYB			ePP	PP		21 51 00.3 +0.9
HYB			eS	S		21 58 07.0 +0.7
HYB			IVMs_BB	IVMs_BB		22 27 18.5
	comp=Z,12µm,15.8s					
VALD	Valchedram	82.12 342	eP	P		21 47 52.6 +1.2
BLY	Banja Luka	82.16 346	⇓iP	P		21 47 50.5 -1.0
TEOL	Teolo	82.25 350	P	P		21 47 51.0 -1.0
MNSI	Mandailing Nat	82.25 261	P	P		21 47 51.3 -1.1
	comp=Z,50nm,0.8s					
RMQ	Roma	82.30 206	P	P		21 47 54.3 +2.0
BHV	Bhavnagar	82.36 296	eP	P		21 47 53.1 +0.2
MPEP	Malo Peshtene	82.39 341	eP	P		21 47 54.4 +1.6
TW1H	Toowoomba 1 Ha	82.48 203	P	P		21 47 54.3 +1.0
LATR	Latur	82.49 290	eP	P		21 47 54.1 +0.5
BOVS	Bovan	82.50 343	⇑P	P		21 47 53.7 +0.4
PTK	Pertek	82.51 329	eP	P		21 47 54.2 +0.5
A050A	Klekovaca	82.52 347	eP	P		21 47 52.2 -1.3
CUKT	Cukurca	82.56 325	eP	P		21 47 56.0 +2.0
PCJI	Pacitan	82.58 247	P	P		21 47 54.9 +0.9
	comp=Z,73nm,1.4s					
SVAN	Silvan-Diyarba	82.58 327	eP	P		21 47 56.7 +2.8
BBLS	Lazi&#263i	82.68 345	⇓iP	P		21 47 53.9 -0.5
UGM	Wanagama	82.72 247	P	P		21 47 53.9 -1.0
UGM	Wanagama	82.72 247	P	P		21 47 54.3 -0.5
UGM	Wanagama	82.72 247	P	P		21 47 55.2 +0.4
	comp=Z,4µmcomp=Z,297nm,1.8s					
PPI	Padang Panjang	82.74 260	P	P		21 47 54.3 -0.7
CORM	Corum	82.77 333	eP	P		21 47 57.8 +2.8
YOGI	Yogyakarta	82.77 248	P	P		21 47 55.4 +0.3
	comp=Z,4µmcomp=Z,178nm,1.8s					
SSB	Saint Sauveur	82.88 355	P	P		21 47 54.8 -0.5
SSB			IAmb	IAmb		21 48 07.4
	comp=Z,121nm,1.1s					
SSB	Saint Sauveur	82.88 355	IAms_20	IAms_20		22 29 19.4
	comp=Z,10µm,20.0s					
SSB	Saint Sauveur	82.88 355	P	P		21 47 54.8 -0.5
SSB			pmax	pmax		
	comp=Z,121nm,1.1s					
SSB			MLR	MLR		
	comp=Z,10µm,20.0s					
RUDO	Rudo	82.92 345	eP	P		21 47 53.9 -1.7
PRMA	PARMA	82.97 351	IAms_20	IAms_20		22 28 13.1
	comp=Z,10µm,19.0s					
BNI	Bardonecchia	82.98 354	P	P		21 47 55.0 -1.0
BNI			IAms_20	IAms_20		22 31 23.2
	comp=Z,16µm,19.0s					
BNI	Bardonecchia	82.98 354	P	P		21 47 55.0 -1.0
BNI			pmax	pmax		
	comp=Z,412nm,1.2s					
BNI			MLR	MLR		
	comp=Z,16µm,19.0s					
SNSI	Sinabang, Aceh	82.98 265	P	P		21 47 54.2 -2.0
	comp=Z,294nm,1.5s					
GSI	Gunungsitoli	83.08 263	P	P		21 47 55.1 -1.7
GSI	Gunungsitoli	83.08 263	P	P		21 47 55.7 -1.0
GSI	Gunungsitoli	83.08 263	P	P		21 47 56.0 -0.7
	comp=Z,6µmcomp=Z,3µmcomp=Z,241nm,1.7s					
HLGC	Holguin	83.09 65	eP	P		21 47 58.2 +1.4
PGB	Panagyurishte	83.11 341	eP	P		21 47 58.2 +1.6
PILO	Pilon	83.12 67	eP	P		21 47 54.9 -2.1
SJES	Sjenica	83.17 344	⇓iP	P		21 47 56.4 -0.6
VTS	Vitosha	83.20 342	eP	P		21 47 57.5 +0.3
EDRB	Edirne	83.20 339	P	P		21 47 56.4 -0.6
EDRB	Edirne	83.20 339	eP	P		21 47 58.9 +1.9
PLE	Pljevlja	83.20 344	⇑iP	P		21 47 57.2 +0.1
LMGC	Las Mercedes	83.22 66	eP	P		21 47 57.5 +0.1
PLNA	Plana	83.30 341	eP	P		21 47 59.8 +2.1
HERN	Volcan Telica	83.32 78	IAms_20	IAms_20		22 28 40.0
	comp=Z,8µm,20.0s					
PLD	Plovdiv	83.34 340	eP	P		21 47 59.2 +1.5
FITZ	Fitzroy Crossi	83.35 229	P	P		21 47 57.1 -0.8
FITZ			IAmb	IAmb		21 48 05.9
	comp=Z,162nm,1.6s					
FITZ	Fitzroy Crossi	83.35 229	LR	LR		22 23 11.0
	comp=Z,10µm,20.8s,baz=40,slow=34					
FITZ	Fitzroy Crossi	83.35 229	P	P		21 47 57.9 0.0
YUVA	Yuva-Kibriscik	83.38 335	eP	P		21 47 58.4 +0.3
SAUV	Serdivan-Sakar	83.40 336	eP	P		21 47 59.8 +1.8
DARE	Darende-Malaty	83.40 330	eP	P		21 47 59.5 +1.3
UPM	Unac-Piva	83.41 345	eP	P		21 47 57.5 -0.8
UPM	Unac-Piva	83.41 345	⇑iP	P		21 47 57.3 -1.0
MDUB	Mudurnu	83.43 335	eP	P		21 47 59.4 +1.1
MAZI	Mazidag	83.46 327	eP	P		21 48 00.8 +2.2
BR131	Keskin Array S	83.47 333	eP	P		21 47 58.4 -0.3
BR131	Keskin Array S	83.47 333	P	P		21 47 57.5 -1.1
BR131			IAmb

KOME **Kolasin** 83.65 344⇑ *i*P P 21 47 58.8 -0.6
MDSI **Maura Dua** 83.66 254 P P 21 47 57.8 -1.9
comp=Z,4μmcomp=Z,72nm,1.4s
QLP **Quilpie** 83.71 210 P P 21 48 00.6 +1.0
KDZ **Kurdzhali** 83.72 340 *e*P P 21 48 01.8 +2.1
KDZ **Kurdzhali** 83.72 340 *e*P P 21 48 01.8 +2.1
PBSI **Pulau Batu** 83.72 262 P P 21 47 59.1 -0.9
comp=Z,5μmcomp=Z,3μmcomp=Z,135nm,1.2s
BLSI **Bandar Lampung** 83.73 253 P P 21 47 57.9 -2.2
comp=Z,6μmcomp=Z,159nm,1.3s
KAMT **Kaman** 83.78 333 *e*P P 21 48 01.9 +1.7
RZN **Rozhen** 83.78 340 *e*P P 21 48 02.6 +2.4
YLV **Yalova** 83.80 336 *e*P P 21 48 00.4 +0.2
CMJI **Cimerak** 83.80 249 P P 21 47 57.9 -2.5
comp=Z,79nm,1.2s
NKME **Niksic** 83.82 345⇑ *i*P P 21 47 59.2 -1.1
ADVT **Abdulvahap** 83.83 336 *e*P P 21 48 01.9 +1.6
SARI **SarD1z-Kayseri** 83.88 331 *e*P P 21 48 00.9 +0.1
AFSR **Afar-Bala (An** 83.89 333 *e*P P 21 48 01.9 +1.2
MOAC **Moa** 83.89 64 *e*P P 21 48 02.9 +2.0
MARVS **Santiago de Cu** 83.89 65 *e*P P 21 48 02.2 +1.3
UKOP **Uzunkopru-Edir** 83.91 339 *e*P P 21 48 04.0 +3.4
STON **Ston** 83.92 346⇓ *i*P P 21 47 58.1 -2.5
ARMT **Armutlu** 83.92 337 *e*P P 21 48 02.8 +2.0
KIRS **Kirsehir-Merke** 83.94 333 ⇑P P 21 48 00.8 -0.2
KSI **Kapahiang** 83.94 256 P P 21 47 59.9 -1.3
comp=Z,3μmcomp=Z,3μmcomp=Z,90nm,1.0s
NMDO **Nuevo Mundo** 83.96 64 P P 21 48 00.6 -0.6
NMDO IAmb IAmb 21 48 09.7
comp=Z,114nm,1.3s
NMDO IAMs_20 IAMs_20 22 30 26.6
comp=Z,26μm,18.0s
NMDO **Nuevo Mundo** 83.96 64 *e*P P 21 47 58.2 -3.0
KKB **Krupnik** 83.97 341 *e*P P 21 48 02.5 +1.5
TREB **Trebinje** 83.97 345⇓ *i*P P 21 47 59.6 -1.3
BBJI **Bungbulang** 84.01 250 P P 21 47 59.8 -1.7
RCC **Rio Carpintero** 84.01 65 *e*P P 21 48 01.5 +0.1
URFA **Urfa** 84.01 328 *e*P P 21 48 02.1 +0.9
CEME **Cevo** 84.04 345⇑ *i*P P 21 48 00.4 -1.0
PDG **Podgorica** 84.10 344 *e*P P 21 48 01.8 +0.2
PDG **Podgorica** 84.10 344 P P 21 48 00.5 -1.1
PDG **Podgorica** 84.10 344⇓ *i*P P 21 48 00.1 -1.5
PDG **Podgorica** 84.10 344 ⇑P P 21 48 01.7 +0.1
PDG **Podgorica** 84.10 344⇑ *i*P P 21 48 00.9 -0.7
OSSC **Osservatorio P** 84.11 350 IAMs_20 IAMs_20 22 31 12.2
comp=Z,19μm,20.0s
RDO **Rodhopi** 84.14 339 P P 21 48 01.3 -0.5
RDO **Rodhopi** 84.14 339 *e*P P 21 48 03.4 +1.6
RDO **Rodhopi** 84.14 339 P P 21 48 00.7 -1.1
BOAB **BOACO BROADBAN** 84.15 77 P P 21 48 01.4 -0.8
BOAB IAmb IAmb 21 48 09.5
comp=Z,404nm,1.6s
BOAB IAMs_20 IAMs_20 22 29 50.9
comp=Z,19μm,20.0s
BOAB **BOACO BROADBAN** 84.15 77 P P 21 48 01.1 -1.1
LWLI **Liwa** 84.16 254 P P 21 47 59.4 -3.0
comp=Z,4μmcomp=Z,2μmcomp=Z,191nm,0.9s
CNJI **Cibinong** 84.19 250 P P 21 47 59.1 -3.2
MRMT **Marmara Adasi** 84.19 338 *e*P P 21 48 03.8 +1.6
HCY **Herceg Novi** 84.21 345 *e*P P 21 47 59.4 -2.8
HCY **Herceg Novi** 84.21 345⇑ *i*P P 21 48 00.6 -1.6
SERE **Sereflikochisa** 84.21 333 *e*P P 21 48 04.1 +1.7
ALN **Alexandroupoli** 84.26 339 P P 21 48 03.0 +0.6
ALN **Alexandroupoli** 84.26 339 *e*P P 21 48 04.1 +1.7
ALN **Alexandroupoli** 84.26 339 P P 21 48 01.6 -0.8
ALN **Alexandroupoli** 84.26 339 P P 21 48 01.6 -0.8
ALN pmax pmax
comp=Z,281nm,1.0s
ALN MLR MLR
comp=Z,25μm,18.0s
SKJI **Sukabumi** 84.28 251 P P 21 48 00.3 -2.5
comp=Z,3μmcomp=Z,3μmcomp=Z,189nm,1.5s
KULU **Kulu** 84.28 333 *e*P P 21 48 03.0 +0.3
BUM **Brajici-Budva** 84.29 345⇑ *i*P P 21 48 01.5 -1.2
SVRH **Sivrihisar-ESK** 84.30 335 *e*P P 21 48 03.3 +0.5
BAND **Balkesir-Ban** 84.31 337 ⇑P P 21 48 03.0 +0.3
GUMA **Gualdo di Mace** 84.33 349 IAMs_20 IAMs_20 22 31 55.1
comp=Z,14μm,21.0s
KCTX **Karacabey (Bur** 84.33 337 *e*P P 21 48 04.1 +1.2
QMBU **Quimbuelo** 84.34 64 *e*P P 21 48 03.5 +0.3
DRME **Dracevica, Mon** 84.35 344⇓ *i*P P 21 48 01.2 -1.7
DRME **Dracevica, Mon** 84.35 344⇑ *i*P P 21 48 02.5 -0.4
EDC **Edincik** 84.37 338 *e*P P 21 48 04.8 +1.8
ERIK **Erikli-Kesan** 84.38 339 *e*P P 21 48 04.7 +1.7
MTDJ **Mount Denham** 84.38 68 P P 21 48 01.9 -1.6
MTDJ IAmb IAmb 21 48 09.5
comp=Z,306nm,1.2s
MTDJ IAMs_20 IAMs_20 22 30 22.1
comp=Z,15μm,19.0s
MTDJ **Mount Denham** 84.38 68 *e*P P 21 48 05.5 +2.0
GTBY **Guantanamo Bay** 84.39 65 *e*P P 21 48 02.2 -1.2
ENEZ **Enez** 84.39 339 P P 21 48 04.0 +0.9
ENEZ **Enez** 84.39 339 *e*P P 21 48 04.4 +1.3
CAVK **Edirne/Enez-Ca** 84.43 339 ⇑P P 21 48 03.2 -0.1
CGJI **Cibinong** 84.47 252 P P 21 48 01.3 -2.5
comp=Z,1μmcomp=Z,80nm,1.1s
KAVA **Kavala** 84.50 340 P P 21 48 05.2 +1.6
CIFT **Cifteler, Eski** 84.51 335 *e*P P 21 48 05.2 +1.4
ULC **Ulcinj** 84.56 344⇑ *i*P P 21 48 02.7 -1.3
KMRS **Kahramanmaras** 84.56 330 *e*P P 21 48 04.5 +0.4
SRS **Serrai** 84.57 341 P P 21 48 03.9 -0.2
SRS **Serrai** 84.57 341 *e*P P 21 48 05.6 +1.5
VAY **Valandovo** 84.58 342 *i*P P 21 48 03.4 -0.6
LPK **Lapseki** 84.60 338 *e*P P 21 48 05.6 +1.4
KNT **Kendrikon** 84.67 341 P P 21 48 04.2 -0.3
AS01 **Alice Springs** 84.67 220 P P 21 48 04.9 +0.3
MASC **Masc** 84.68 64 *e*P P 21 48 01.5 -3.3
AS31 **Alice Springs** 84.69 220 P P 21 48 04.6 0.0
ASAR **Alice Springs** 84.69 220 P P 21 48 04.3 -0.4
ASAR **Alice Springs** 84.69 220 P P 21 48 03.5 -1.2
comp=Z,19nm,0.8s,baz=26,slow=4.6,SNR=80
ASAR PP PP 21 51 22.9 +1.9
comp=Z,14nm,1.0s,baz=37,slow=7.5,SNR=5.2
ASAR PKKPbc PKKPbc 22 06 16.6 +3.4
comp=Z,1.0nm,1.0s,baz=195,slow=2.9,SNR=4.5
ASAR PKPPKP 22 14 14.9
comp=Z,1.0nm,0.9s,baz=177,slow=2.8,SNR=4.1
ASAR LR LR 22 25 44.8
comp=Z,10μm,19.0s,baz=20,slow=36
comp=Z,19nm,0.8s
ASAR **Alice Springs** 84.69 220 P P 21 48 04.3 -0.4
KAD **Karad** 84.73 291 *e*P P 21 48 05.5 +0.3
CHBY **Cihanbeyli** 84.74 333 *e*P P 21 48 05.3 +0.2
GAZ **Gaziantep** 84.77 330 *e*P P 21 48 05.3 +0.1
GAZ **Gaziantep** 84.77 330 IAMs_20 IAMs_20 22 30 45.0
comp=Z,14μm,21.0s
KOKK **Kokkinochori,** 84.78 340 P P 21 48 06.8 +1.7
ACON **Acoyapa** 84.82 77 P P 21 48 04.4 -1.2
TVSB **Tavsanli** 84.83 336 *e*P P 21 48 05.1 -0.4
CAMP **Campotosto** 84.84 349 IAMs_20 IAMs_20 22 32 01.6
comp=Z,13μm,18.0s
CESX **Cesi** 84.86 349 IAMs_20 IAMs_20 22 31 54.3
comp=Z,15μm,20.0s
CASP **Castiglione de** 84.87 351 IAMs_20 IAMs_20 22 31 45.4
comp=Z,13μm,18.0s
SOH **Sokhos** 84.90 341 P P 21 48 07.5 +1.7
KOZT **Kozan** 84.91 331 *e*P P 21 48 05.5 -0.3
STH **Stony Hill** 84.91 67 *e*P P 21 48 05.9 -0.2
SULT **Sultanhani-AKS** 84.92 333 *e*P P 21 48 05.9 -0.1
GRG **Griva** 84.96 342 P P 21 48 07.4 +1.3
GRG **Griva** 84.96 342 *e*P P 21 48 07.9 +1.8
CMRD **Camardi-Nigde** 84.99 331 *e*P P 21 48 06.3 -0.1
AQU **L'Aquila** 85.02 349 P P 21 48 06.5 +0.2
TIR **Tirane** 85.05 344 *e*P P 21 48 06.8 +0.4
OHR **Ohrid** 85.11 343 *i*P P 21 48 06.9 +0.1
ESPN **Las Esperanzas** 85.17 76 P P 21 48 05.6 -1.7
ESPN IAmb IAmb 21 48 14.9
comp=Z,325nm,1.3s
EZN **Ezine** 85.22 338 P P 21 48 09.7 +2.4
OUR **Ouranopolis** 85.25 340 P P 21 48 06.3 -1.1
OUR **Ouranopolis** 85.25 340 *e*P P 21 48 08.2 +0.8
YESY **Yesilyurt** 85.25 332 *e*P P 21 48 06.8 -0.8
YAYO **Edremit-Balk** 85.26 338 *e*P P 21 48 08.5 +1.0
NGCH **Negor - Chabah** 85.26 306 P P 21 48 08.0 +0.3
SNR=6.8
INTR **Introdacqua** 85.30 348 IAMs_20 IAMs_20 22 32 10.7
comp=Z,14μm,20.0s
SGRT **San Giovanni R** 85.30 347 IAMs_20 IAMs_20 22 31 31.9
comp=Z,16μm,20.0s
ARMA **Armidale** 85.32 203 P P 21 48 08.1 +0.4
ARMA IAmb IAmb 21 48 18.6
comp=Z,163nm,1.2s
ARMA IAMs_20 IAMs_20 22 21 52.1
comp=Z,11μm,21.0s
ARMA **Armidale** 85.32 203 P P 21 48 09.9 +2.1
FNA **Florina** 85.33 342 P P 21 48 07.8 -0.1
FNA **Florina** 85.33 342 *e*P P 21 48 08.9 +1.0
KARA **Karaisali** 85.35 331 *e*P P 21 48 07.9 -0.1
CEYT **Ceyhan** 85.37 331 *e*P P 21 48 08.4 +0.3
RKT **Rikitea** 85.39 137 *e*P P 21 48 07.9 -0.2
comp=Z,2μm,29.0s
RKT **Rikitea** 85.39 137 *e*PP PP 21 51 26.0 -0.7
comp=Z,2μm,26.5s
RKT *e*S S 21 58 39.0 +0.2
comp=Z,18μm,28.5s
RKT *e*SS SS 22 04 15.8 +1.4
comp=Z,22μm,25.2s
RKT *e*LQ LQ 22 11 04.7
comp=Z,15μm,29.0s
RKT *e*LR LR 22 15 00.5
comp=Z,150μm,31.8s
SHUT **Suhut-Afyon** 85.40 335 *e*P P 21 48 10.2 +1.8
LIA **Limnos Island** 85.41 339 P P 21 48 09.7 +1.5
LIA **Limnos Island** 85.41 339 *e*P P 21 48 10.3 +2.1
H07S1 **FLORES T-PHASE** 85.45 22 P P 21 48 08.5 0.0
SNR=13
KONT **Konya--Tatoy** 85.48 333 *e*P P 21 48 09.7 +1.0
CEST **Esterri de Car** 85.68 358 P P 21 48 09.6 -0.1
CEST IAmb IAmb 21 48 22.6
comp=Z,157nm,1.2s
CEST IAMs_20 IAMs_20 22 32 10.5
comp=Z,11μm,19.0s
KZN **Kozani** 85.71 342 P P 21 48 12.6 +2.7
NEST **Nestorio** 85.74 343 P P 21 48 12.2 +2.2
LIT **Litokhoron** 85.77 341 P P 21 48 11.4 +1.3
LIT **Litokhoron** 85.77 341 *e*P P 21 48 12.6 +2.5
EJON **La Jonquera** 85.78 356 P P 21 48 09.9 -0.1
TAHT **Tahtakopru-Hat** 85.82 330 *e*P P 21 48 12.8 +2.4
MERS **Mersin** 85.87 331 *e*P P 21 48 11.6 +0.9
INKA **Innaminka** 85.91 213 P P 21 48 11.1 +0.5
KULA **Kula-Manisa** 85.92 336 *e*P P 21 48 12.2 +1.3
KRMN **Karaman** 85.95 332 *e*P P 21 48 10.5 -0.6
PRVC **Isla de Provid** 85.99 74 P P 21 48 10.3 -1.1
PRVC IAmb IAmb 21 48 18.0
comp=Z,430nm,1.5s
ISP **Isparta** 86.09 335 *e*P P 21 48 12.6 +0.8
ISP **Isparta** 86.09 335 P P 21 48 11.0 -0.8
ISP IAmb IAmb 21 48 17.4
comp=Z,211nm,1.0s
ISP **Isparta** 86.09 335⇓ *e*P P 21 48 12.8 +1.0
ISP pmax pmax
comp=Z,511nm,2.5s
ISP **Isparta** 86.09 335 *e*P P 21 48 13.3 +1.5
SEYD **Seydisehir-KON** 86.13 334 *e*P P 21 48 11.4 -0.6
PAOL **Paolisi** 86.17 348 IAMs_20 IAMs_20 22 32 48.0
comp=Z,17μm,20.0s
MATE **Matera** 86.25 346 *e*P P 21 48 13.5 +1.2
MATE **Matera** 86.25 346 ⇑P P 21 48 12.6 +0.3
MATE **Matera** 86.25 346 *e*P P 21 48 13.0 +0.7
JTS **Las Juntas de** 86.27 78 LR LR 22 28 49.2
comp=Z,3μm,19.0s,baz=305,slow=37
ECAL **Calabor** 86.29 4 P P 21 48 12.9 +0.2
ODEM **Odemis-Izmir** 86.29 337 *e*P P 21 48 12.6 -0.1
XOR **Xorichti** 86.34 341 P P 21 48 13.6 +0.7
XOR **Xorichti** 86.34 341 *e*P P 21 48 15.1 +2.2
KIZK **Mersin** 86.34 332 *e*P P 21 48 12.1 -0.8
HDMB **Hadim** 86.37 333 *e*P P 21 48 11.9 -1.4
BLCB **Balcova** 86.43 338 *e*P P 21 48 13.2 -0.1
KEBE **Keben-Mersin** 86.50 332 *e*P P 21 48 13.2 -0.6
AYDB **Zeytinkoy-Aydi** 86.64 337 *e*P P 21 48 13.5 -1.1
KEK **Kerkira** 86.65 343 P P 21 48 17.3 +2.9
KEK **Kerkira** 86.65 343 *e*P P 21 48 16.5 +2.1
KEK **Kerkira** 86.65 343 IAMs_20 IAMs_20 22 31 52.8
comp=Z,18μm,20.0s
IGT **Igoumenitsa** 86.73 343 P P 21 48 17.0 +2.2
BERE **Bereket-Mersin** 86.73 332 *e*P P 21 48 15.0 -0.1
APMY **Acipayam-Deniz** 86.74 336 *e*P P 21 48 16.3 +1.3
AKKU **Akkuyu-Mersin** 86.81 332 *e*P P 21 48 16.1 +0.9
SALM **Salem** 86.85 285 *e*P P 21 48 16.5 +0.8
SALM IAmb IAmb 21 48 21.0
comp=Z,162nm,0.9s
KORT **Korkueli** 86.91 335 *e*P P 21 48 16.5 +0.6
TEKE **Tekeli-Mersin** 86.95 332 *e*P P 21 48 13.9 -2.0
OUZ **Omahuta** 87.00 184 IAMs_20 IAMs_20 22 27 30.3
comp=Z,10μm,19.0s
HDC **Heredia** 87.00 78 *e*P P 21 48 22.1 +5.4
CUC **Castrocucco** 87.02 346 IAMs_20 IAMs_20 22 33 19.4
comp=Z,17μm,18.0s
EVR **Evrytania** 87.05 342 P P 21 48 19.8 +3.3
GAZI **Gazipasa** 87.10 333 *e*P P 21 48 15.4 -1.3
SHME **Shamm** 87.11 310 P P 21 48 15.6 -1.3
SNR=24
SHME P P 21 48 15.6 -1.3
SNR=24
SHME **Shamm** 87.11 310 *i*P P 21 48 14.9 -1.9
SNR=41
SDDR **Presa de Saban** 87.27 62 P P 21 48 16.1 -1.6
SDDR **Presa de Saban** 87.27 62 *e*P P 21 48 16.1 -1.6
ELL **Elmali** 87.27 335 *e*P P 21 48 18.8 +1.2
YER **Yerkesik** 87.32 336 *e*P P 21 48 17.3 -0.5
ANX **Ano Chora** 87.34 341 P P 21 48 20.4 +2.5
TSLK **Tsoukalades, L** 87.36 342 P P 21 48 18.3 +0.5
LKD2 **Lefkada island** 87.39 342 P P 21 48 19.5 +1.4
LKD2 **Lefkada island** 87.39 342 *e*P P 21 48 22.0 +3.9
KALE **Kalithea** 87.49 341 P P 21 48 21.3 +2.7
EFP **Efpalio** 87.50 341 P P 21 48 19.5 +1.0
BEIL **Beino** 87.51 329 *e*P P 21 48 17.9 -0.8
XMI **Christmas Isla** 87.55 250 P P 21 48 19.6 +0.6
EVGI **Lefkada island** 87.56 342 P P 21 48 18.9 +0.1
FETY **Fethiye** 87.59 335 *e*P P 21 48 20.0 +1.0
XMIS **Christmas Isla** 87.59 250 P P 21 48 18.4 -0.8
XMIS **Christmas Isla** 87.59 250 P P 21 48 19.5 +0.3
LFK **Lefkose** 87.64 332 *e*P P 21 48 19.1 -0.2
TURN **Turunc** 87.67 336 *e*P P 21 48 20.1 +0.7
MDH **Madha** 87.67 310 P P 21 48 20.0 +0.4
SNR=19
MDH P P 21 48 20.0 +0.4
SNR=19
MDH **Madha** 87.67 310 *i*P P 21 48 19.0 -0.6
SNR=17
MASF **Masafi** 87.68 310 P P 21 48 18.7 -0.9
SNR=16
MASF P P 21 48 18.7 -0.9
SNR=16
TIP **Timpagrande** 87.68 346 ⇑P P 21 48 19.2 -0.3
MSFE **Esma-Masafi** 87.69 310 *i*P P 21 48 18.8 -0.9
SNR=24
FKH **Fakeheh** 87.72 329 *e*P P 21 48 19.3 -0.5
FSK **Fiskardo** 87.73 342 P P 21 48 18.3 -1.3
OOD **Oodnadatta** 87.73 217 P P 21 48 20.0 +0.5
MTE **Manteigas** 87.79 4 P P 21 48 19.5 -0.5
MTE IAMs_20 IAMs_20 22 27 25.1
comp=Z,13μm,20.0s
MTE **Manteigas** 87.79 4 *e*P P 21 48 21.8 +1.8
KLV **Kalavryta, Ach** 87.83 341 P P 21 48 19.7 -0.5
AXS **Araxos** 87.83 342 P P 21 48 21.1 +1.0
HWQ **Hawqa** 87.83 329 *e*P P 21 48 20.2 -0.2
MNGI **Mangalore** 87.83 288 *e*P P 21 48 20.1 -0.3
MNGI IAmb IAmb 21 48 25.5
comp=Z,189nm,1.2s
AKAS **Kas** 87.83 335 *e*P P 21 48 20.7 +0.3
GUR **Goura** 87.89 341 P P 21 48 19.9 -0.7
KSL **Kastellorizon** 87.92 335 P P 21 48 20.8 +0.2
CMSA **Cobar Meteorol** 87.93 207 P P 21 48 21.7 +1.3
COI **Coimbra** 87.94 5 IAMs_20 IAMs_20 22 25 55.1
comp=Z,12μm,20.0s
LEF **Lefka** 87.97 332 *e*P P 21 48 19.5 -1.4
CSS **Mathiatis** 87.99 332 *e*P P 21 48 20.3 -0.7
CSS **Mathiatis** 87.99 332 P P 21 48 20.2 -0.8
CSS IAmb IAmb 21 48 27.7
comp=Z,150nm,1.0s
CSS IAMs_20 IAMs_20 22 34 53.3
comp=Z,11μm,19.0s
VLS **Valsamata** 88.00 342 P P 21 48 24.4 +3.4
MALK **Mahakanadarawa** 88.00 281 P P 21 48 21.3 0.0
UCM **Universidad Co** 88.00 1 P P 21 48 19.2 -1.8
UOSS **Minazif** 88.02 309 P P 21 48 18.9 -2.4
UOSS IAmb IAmb 21 48 25.5
comp=Z,126nm,0.8s
UOSS **Minazif** 88.02 309 IAMs_20 IAMs_20 22 31 16.2
comp=Z,17μm,20.0s
UOSS **Minazif** 88.02 309 P P 21 48 20.7 -0.5
UOSS P P 21 48 20.7 -0.5
UOSS **Minazif** 88.02 309 *i*P P 21 48 18.8 -2.4
SNR=25
UOSS **Minazif** 88.02 309 P P 21 48 18.8 -2.5
MGCD **Mangrove Creek** 88.12 202 P P 21 48 23.2 +2.0
HATD **Hatta, Dubai** 88.15 309 P P 21 48 21.7 -0.2
SNR=36
HATD P P 21 48 21.7 -0.2
SNR=36
HATD **Hatta, Dubai** 88.15 309 *i*P P 21 48 20.0 -1.9
SNR=42
KBD **Kabd** 88.15 318 P P 21 48 22.5 +0.7
WRKA **Warakurna** 88.21 224 P P 21 48 22.0 +0.1
ARG **Arkhangelos** 88.23 336 *e*P P 21 48 22.1 0.0
NAZ **Nazwa, Dubai** 88.24 310 P P 21 48 22.2 -0.1
SNR=17
NAZ P P 21 48 22.2 -0.1
SNR=17
NAZ **Nazwa, Dubai** 88.24 310 *i*P P 21 48 20.7 -1.6
SNR=30
MAHO **Mahon** 88.26 355 IAMs_20 IAMs_20 22 33 37.8
comp=Z,11μm,20.0s
BHL **Bhannes** 88.27 329 *e*P P 21 48 21.0 -1.5
WSAR **Wadi Sarin** 88.27 307 LR LR 22 28 59.8
comp=Z,111nm,21.8s,baz=72,slow=36
WSAR **Wadi Sarin** 88.27 307 P P 21 48 21.6 -0.9
SNR=53
VSL **Villasalto** 88.28 351 IAMs_20 IAMs_20 22 35 05.6
comp=Z,13μm,19.0s
BIDO **Bidbid** 88.29 307 P P 21 48 23.3 +0.8
SNR=19
BIDO P P 21 48 23.3 +0.8
SNR=19
ASHO **Ashiyiah** 88.31 309 P P 21 48 22.2 -0.5
SNR=32
ASHO P P 21 48 22.2 -0.5
SNR=32
ASHO **Ashiyiah** 88.31 309 *i*P P 21 48 21.0 -1.7
SNR=45
KOD **Kodaikanal** 88.41 285 *e*P P 21 48 24.7 +1.2
KOD IAmb IAmb 21 48 28.7
comp=Z,171nm,1.1s
KOD IAmb IAmb 21 48 28.8
comp=Z,108nm,0.7s
ETOS **Mallorca** 88.45 356 P P 21 48 22.9 -0.2
FAQ **Al Faqa, Dubai** 88.48 310 P P 21 48 23.0 -0.4
SNR=12
FAQ P P 21 48 23.0 -0.4
SNR=12
FAQ **Al Faqa, Dubai** 88.48 310 *i*P P 21 48 22.3 -1.1
SNR=12
SOHO **SOHO** 88.54 309 P P 21 48 22.8 -0.9
SOHO P P 21 48 22.8 -0.9
SOHO **SOHO** 88.54 309 *i*P P 21 48 21.5 -2.2
SNR=21
RCY **Rachaya** 88.59 329 *e*P P 21 48 22.5 -1.5
ESBB **Sonseca Array** 88.62 2 P P 21 48 22.9 -1.0
ESDC **Sonseca Array** 88.63 2 P P 21 48 23.1 -0.9
ESDC IAmb IAmb 21 48 40.3
comp=Z,116nm,1.4s
ESDC **Sonseca Array** 88.63 2 P P 21 48 23.4 -0.6
comp=Z,4.4nm,0.9s,baz=355,slow=3.6,SNR=17
ESDC PKKPbc PKKPbc 22 06 05.5 +2.8
comp=Z,0.8nm,0.8s,baz=198,slow=0.9,SNR=4.3
ESDC PKPPKP P'P'df 22 14 11.1 -8.4
comp=Z,0.6nm,0.6s,baz=158,slow=1.6,SNR=4.6
comp=Z,4.4nm,0.9s
WBK **Wadi Bani Khal** 88.63 306 P P 21 48 23.4 -0.9
SNR=32
WBK P P 21 48 23.4 -0.9
SNR=32
HOQ **Hoqain** 88.63 308 P P 21 48 24.0 -0.2
SNR=15
HOQ P P 21 48 24.0 -0.2
SNR=15
RIV **Riverview** 88.70 202 P P 21 48 25.7 +1.8
ASUD **Al Ashush, Dub** 88.70 310 P P 21 48 24.4 0.0
SNR=8.4
ASUD P P 21 48 24.4 0.0
SNR=8.4
ASUD **Al Ashush, Dub** 88.70 310 *i*P P 21 48 24.0 -0.5
SNR=8.9
ITM **Ithomi** 88.70 341 P P 21 48 25.4 +1.1
CEL **Celeste** 88.71 346 IAMs_20 IAMs_20 22 34 33.1
comp=Z,12μm,20.0s
SMDO **Samad** 88.71 307 P P 21 48 24.9 +0.2
SNR=39
SMDO P P 21 48 24.9 +0.2
SNR=39
ECHE **Chera** 88.72 359 P P 21 48 23.9 -0.5
SYDH **Sydney Hard Ro** 88.73 202 P P 21 48 25.7 +1.6
PAB **San Pablo** 88.75 2 IAMs_20 IAMs_20 22 28 55.5
comp=Z,12μm,20.0s
PAB **San Pablo** 88.75 2 ⇑P P 21 48 24.9 +0.3
SHBL **Chebaa** 88.75 329 *e*P P 21 48 23.4 -1.4
PALK **Pallekele** 88.79 280 P P 21 48 23.5 -1.5
PALK IAmb IAmb 21 48 30.9
comp=Z,100nm,1.0s
PALK **Pallekele** 88.79 280 IAMs_20 IAMs_20 22 31 11.8
comp=Z,10μm,19.0s
PALK **Pallekele** 88.79 280 LR LR 22 31 52.9
comp=Z,7μm,20.4s,baz=34,slow=38
PALK **Pallekele** 88.79 280 P P 21 48 26.0 +1.0
PALK P P 21 48 26.0 +1.0
PALK **Pallekele** 88.79 280 *de*P P 21 48 24.7 -0.3
PALK pmax pmax
comp=Z,38nm,0.8s
PALK MLR MLR
comp=Z,11μm,20.0s
PALK **Pallekele** 88.79 280 P P 21 48 24.8 -0.2
PALK S S 21 59 10.9 -1.4
JLN **Jalan Bani Buh** 88.80 305 P P 21 48 26.1 +1.2
SNR=27
JLN P P 21 48 26.1 +1.2
SNR=27
MBWA **Marble Bar** 88.81 233 P P 21 48 23.8 -1.0
MBWA IAmb IAmb 21 48 31.4
comp=Z,349nm,1.7s
MBWA **Marble Bar** 88.81 233 P P 21 48 24.6 -0.1
MBWA **Marble Bar** 88.81 233 P P 21 48 23.9 -0.9
AJN **Ajban** 88.92 310 P P 21 48 25.3 -0.2
SNR=5.7
AJN P P 21 48 25.3 -0.2
SNR=5.7
AJN **Ajban** 88.92 310 *i*P P 21 48 24.3 -1.2
SNR=7.0
ALNE **Al Ain** 88.99 309 P P 21 48 25.1 -0.8
SNR=31
ALNE P P 21 48 25.1 -0.8
SNR=31
ALNE **Al Ain** 88.99 309 *i*P P 21 48 24.0 -1.8
SNR=37
PSA00 **Pilbara Seismi** 89.10 232 P P 21 48 25.4 -0.8
PSA00 IAmb IAmb 21 48 32.9
comp=Z,430nm,1.9s
PSA00 **Pilbara Seismi** 89.10 232 P P 21 48 24.8 -1.4
PSA00 IAmb IAmb 21 48 32.9
comp=Z,258nm,1.8s
PSA00 **Pilbara Seismi** 89.10 232 P P 21 48 25.3 -0.8
KARP **Karpathos** 89.11 337 P P 21 48 23.8 -2.5
KARP **Karpathos** 89.11 337 P P 21 48 23.9 -2.3
KARP IAmb IAmb 21 48 30.9
comp=Z,196nm,0.8s
KARP IAMs_20 IAMs_20 22 35 44.3
comp=Z,14μm,21.0s
KARP **Karpathos** 89.11 337 *e*P P 21 48 24.0 -2.3
PMAFR **Mafra** 89.14 6 P P 21 48 24.4 -1.9
MMAI **Mount Meron Ar** 89.17 329 P P 21 48 25.6 -1.0
comp=Z,25nm,1.0s,baz=3.5,slow=2.8,SNR=28
MMAI LR LR 22 32 53.1
comp=Z,19μm,21.2s,baz=24,slow=39
comp=Z,25nm,1.0s
ARQ **Araqi** 89.22 308 P P 21 48 26.9 -0.1
SNR=39
ARQ P P 21 48 26.9 -0.1
SNR=39
EIBI **Ibiza** 89.24 357 P P 21 48 28.4 +1.6
LCRK **Leigh Creek** 89.25 214 P P 21 48 27.6 +1.0
JMDO **Jabal Madar** 89.27 307 P P 21 48 27.3 +0.1
SNR=43
JMDO P P 21 48 27.3 +0.1
SNR=43
PESTR **Estremoz** 89.32 4 P P 21 48 26.0 -1.2
PESTR **Estremoz** 89.32 4 P P 21 48 26.1 -1.0
LIS **Lisbon** 89.38 6 *e*P P 21 48 27.0 -0.4
LIS IAMs_20 IAMs_20 22 41 03.0
comp=Z,16μm,18.2s
LIS **Lisbon** 89.38 6 *e*P P 21 48 27.0 -0.4
BSY **Bisya** 89.39 308 P P 21 48 28.2 +0.4
SNR=37

BSY P **P** **21 48 28.2 +0.4**
SNR=37
HAZ Te Kaha 89.44 180 P **P** **21 48 28.7 +1.4**
TOZ Tahuroa Road 89.44 182 P **P** **21 48 28.5 +1.2**
TOZ Tahuroa Road 89.44 182 P **P** **21 48 28.9 +1.6**
EBAD Badajoz 89.45 4 P **P** **21 48 26.3 -1.5**
STKA Stephens Creek 89.46 210 P **P** **21 48 28.2 +0.6**
STKA Stephens Creek 89.46 210 P **P** **21 48 27.2 -0.3**
comp=Z,26nm,0.8s,baz=350,slow=6.1,SNR=33
STKA LR LR 22 24 06.9
comp=Z,14µm,22.0s,baz=15,slow=33
comp=Z,26nm,0.8s
STKA Stephens Creek 89.46 210 P **P** **21 48 28.5 +0.9**
STKA Stephens Creek 89.46 210 P **P** **21 48 28.2 +0.6**
ASF Jabal al Asfar 89.47 328 LR LR 22 34 30.6
comp=Z,25µm,19.3s,baz=65,slow=40
JRN Qarnain Island 89.59 312 P **P** **21 48 27.3 -1.2**
JRN P **P** **21 48 27.3 -1.2**
EVO Evora 89.63 5 P **P** **21 48 26.7 -1.9**
SHMA Al-Shehemyia 89.65 314 P **P** **21 48 28.6 -0.2**
VAE Valguarnera 89.69 347 LR LR 22 30 59.6
comp=Z,10µm,21.1s,baz=2.0,slow=37
MMLI Mount Malkishu 89.70 329 *e*P **P** **21 48 30.0 +0.9**
SAKB Bahrain 89.73 314 P **P** **21 48 29.6 +0.3**
ZKR Zakros 89.75 337 P **P** **21 48 28.9 -0.3**
IDI Anoyia 89.89 338 P **P** **21 48 28.4 -1.6**
IDI Anoyia 89.89 338 LR LR 22 32 06.9
comp=Z,8µm,21.3s,baz=15,slow=38
IMMV Iera Moni Meta 89.93 339 P **P** **21 48 29.4 -0.7**
RAFF Raffo Rosso 89.95 347 P **P** **21 48 28.6 -1.5**
URZ Urewera 89.95 181 LR LR 22 22 48.1
comp=Z,7µm,21.5s,baz=104,slow=32
URZ Urewera 89.95 181 P **P** **21 48 30.4 +0.7**
MWZ Matawai 90.02 180 P **P** **21 48 29.7 -0.4**
MZWR Madinat Zayed 90.12 311 P **P** **21 48 32.5 +1.4**
MZWR P **P** **21 48 32.5 +1.4**
PRSN Puerto Rico Se 90.13 60 IAMs_20 IAMs_20 22 26 30.1
comp=Z,12µm,22.0s
UJAP Al Uja 90.13 329 *e*P **P** **21 48 31.1 +0.1**
AOPR Arecibo Observ 90.23 59 IAMs_20 IAMs_20 22 26 29.8
comp=Z,17µm,22.0s
EMPR Esperanza - Ma 90.24 59 IAMs_20 IAMs_20 22 32 35.1
comp=Z,11µm,18.0s
RTZ Ruatahuna 90.30 181 IAMs_20 IAMs_20 22 24 00.1
comp=Z,13µm,21.0s
MESJ Messejana 90.31 5 *e*P **P** **21 48 31.6 -0.2**
MESJ *e*SKSac **SKSac** **21 59 01.7 -1.1**
MESJ IAMs_20 IAMs_20 22 36 17.4
comp=Z,14µm,17.6s
MESJ Messejana 90.31 5 *e*P **P** **21 48 31.6 -0.2**
MESJ *e* 21 59 01.7
CRPR Cabo Rojo, PR 90.32 60 IAMs_20 IAMs_20 22 26 32.2
comp=Z,16µm,22.0s
UMZA Um Al Zommool 90.41 309 P **P** **21 48 32.2 -0.3**
UMZA P **P** **21 48 32.2 -0.3**
GHWR Ruwais 90.42 312 P **P** **21 48 33.7 +1.2**
GHWR P **P** **21 48 33.7 +1.2**
SNGZ Shannon Statio 90.47 181 P **P** **21 48 33.0 +0.9**
MHTO MHTO 90.50 306 P **P** **21 48 32.7 -0.2**
SNR=23
MHTO P **P** **21 48 32.7 -0.2**
SNR=23
TRNA Turayna 90.51 313 P **P** **21 48 33.9 +1.0**
CNB Canberra Magne 90.55 203 P **P** **21 48 34.1 +1.4**
CELP Cerrillos 90.55 59 IAMs_20 IAMs_20 22 30 08.2
comp=Z,9µm,20.0s
OBIP Obispado Ponce 90.56 59 IAMs_20 IAMs_20 22 33 03.5
comp=Z,10µm,19.0s
GCPR Guaynabo City 90.62 59 IAMs_20 IAMs_20 22 27 25.0
comp=Z,14µm,22.0s
CAN Canberra 90.64 203 P **P** **21 48 33.2 +0.1**
CAN IAmb IAmb 21 48 41.1
comp=Z,185nm,1.6s
CAN IAMs_20 IAMs_20 22 32 55.3
comp=Z,10µm,20.0s
CAN Canberra 90.64 203 P **P** **21 48 34.7 +1.6**
CAN Canberra 90.64 203 P **P** **21 48 33.2 +0.1**
CAN pmax pmax
comp=Z,185nm,1.6s
CAN MLR MLR
comp=Z,10µm,20.0s
SMRA Abu-Samra 90.67 314 P **P** **21 48 33.5 -0.2**
SNR=5.6
GHAJ Ghor Haditha 90.70 329 P **P** **21 48 32.9 -0.8**
GHAJ IAMs_20 IAMs_20 22 35 03.2
comp=Z,18µm,20.0s
CART Cartagena 90.72 359 IAMs_20 IAMs_20 22 29 07.9
comp=Z,11µm,22.0s
CART Cartagena 90.72 359 P **P** **21 48 31.3 -2.4**
SJG San Juan 90.74 59 IAMs_20 IAMs_20 22 28 24.4
comp=Z,19µm,21.0s
SJG San Juan 90.74 59 LR LR 22 28 58.2
comp=Z,16µm,21.9s,baz=330,slow=35
PVAQ Vaqueiros 90.77 5 P **P** **21 48 33.2 -0.7**
MORF Marmelete 90.82 5 *e*P **P** **21 48 33.9 -0.4**
MORF *e*SKSac **SKSac** **21 59 04.7 -1.2**
MORF IAMs_20 IAMs_20 22 39 08.4
comp=Z,14µm,16.8s
MORF Marmelete 90.82 5 *e*P **P** **21 48 33.8 -0.4**
MORF *e* 21 59 04.7
TMVZ Te Maari 90.82 182 P **P** **21 48 34.4 +0.5**
BKZ Black Stump Fm 90.86 181 P **P** **21 48 33.1 -0.9**
BKZ IAmb IAmb 21 48 39.2
comp=Z,227nm,1.6s
BKZ IAMs_20 IAMs_20 22 24 30.8
comp=Z,11µm,21.0s
BKZ Black Stump Fm 90.86 181 P **P** **21 48 33.1 -0.9**
BKZ Black Stump Fm 90.86 181 P **P** **21 48 33.4 -0.6**
OTVZ Oturere 90.87 182 P **P** **21 48 34.6 +0.4**
HUMP Col San Antoni 90.88 59 IAMs_20 IAMs_20 22 34 24.9
comp=Z,16µm,18.0s
IGPR InterUniversit 90.89 59 IAMs_20 IAMs_20 22 28 24.2
comp=Z,14µm,21.0s
PDPR Patillas Dam, 90.89 59 IAMs_20 IAMs_20 22 28 13.2
comp=Z,15µm,21.0s
SNVZ South Ngauruho 90.89 182 P **P** **21 48 34.8 +0.6**
MZR Muzera 90.96 311 P **P** **21 48 35.6 +0.5**
SNR=9.3
MZR P **P** **21 48 35.6 +0.5**
SNR=9.3
MZR Muzera 90.96 311 *i* P **P** **21 48 35.2 +0.1**
SNR=21
KHEZ Kahui Hut 91.04 183 P **P** **21 48 36.8 +2.0**
KRHZ Kereru 91.34 181 P **P** **21 48 35.6 -0.6**
EMAL Malaga-Limoner 91.53 2 P **P** **21 48 38.9 +1.5**
PAYG Puerto Ayora 91.59 89 P **P** **21 48 37.2 -0.9**
PAYG IAmb IAmb 21 48 50.2
comp=Z,90nm,1.2s
PAYG IAMs_20 IAMs_20 22 24 30.4
comp=Z,8µm,19.0s
DQM DQM 91.60 306 P **P** **21 48 36.9 -1.1**
DQM P **P** **21 48 36.9 -1.1**
PNHZ Pukenui 91.61 181 P **P** **21 48 37.1 -0.3**
HTT Hallett 91.75 212 P **P** **21 48 36.6 +0.3**
SFS San Fernando 91.77 3 IAMs_20 IAMs_20 22 36 57.5
comp=Z,16µm,18.0s
WHYH Whyalla 91.83 213 P **P** **21 48 39.9 +1.3**
KEST Kesra 92.02 351 P **P** **21 48 39.0 -0.9**
KEST Kesra 92.02 351 P **P** **21 48 39.5 -0.3**
comp=Z,40nm,1.1s,baz=24,slow=3.7,SNR=14
comp=Z,40nm,1.1s
KEST Kesra 92.02 351 P **P** **21 48 41.6 +1.8**
SNR=21
KEST P **P** **21 48 41.6 +1.8**
SNR=21
BBOO Buckleboo 92.15 214 P **P** **21 48 40.6 +0.5**
BBOO IAmb IAmb 21 48 47.6
comp=Z,186nm,1.4s
BBOO IAMs_20 IAMs_20 22 27 43.2
comp=Z,18µm,22.0s
BBOO Buckleboo 92.15 214 P **P** **21 48 40.9 +0.8**
EIL Elat 92.41 328 LR LR 22 36 34.3
comp=Z,21µm,18.7s,baz=50,slow=40
QRZ Quartz Range 92.63 184 IAMs_20 IAMs_20 22 35 32.8
comp=Z,9µm,18.0s
GIRL Giralia 92.81 236 P **P** **21 48 43.4 +0.1**
GIRL Giralia 92.81 236 P **P** **21 48 45.8 +2.5**
SNZO South Karori 93.04 182 IAMs_20 IAMs_20 22 32 47.4
comp=Z,11µm,19.0s
FORT Forrest 93.36 221 P **P** **21 48 46.3 +0.6**
FORT IAmb IAmb 21 48 55.9
comp=Z,98nm,0.8s
FORT IAMs_20 IAMs_20 22 27 21.2
comp=Z,11µm,22.0s
FORT Forrest 93.36 221 P **P** **21 48 46.3 +0.6**

ANWB Willy Bob 93.38 56 IAMs_20 IAMs_20 22 34 09.7
comp=Z,16µm,20.0s
DSZ Denniston Nort 93.58 185 IAMs_20 IAMs_20 22 26 03.9
comp=Z,10µm,21.0s
TOO Toolangi 93.66 205 P **P** **21 48 46.3 -0.7**
TOO Toolangi 93.66 205 P **P** **21 48 46.3 -0.7**
TOO pmax pmax
comp=Z,11nm,1.1s
TOO MLR MLR
comp=Z,5µm,20.0s
MEEK Meekatharra 93.98 231 P **P** **21 48 48.8 +0.1**
RAYN Ar Rayn 94.05 317 P **P** **21 48 47.5 -1.9**
RAYN IAmb IAmb 21 48 54.7
comp=Z,98nm,0.9s
RAYN Ar Rayn 94.05 317 P **P** **21 48 49.5 +0.1**
RAYN Ar Rayn 94.05 317 P **P** **21 48 47.5 -1.9**
RAYN pmax pmax
comp=Z,98nm,1.0s
RAYN MLR MLR
comp=Z,32µm,22.0s
RAYN Ar Rayn 94.05 317 *i* P **P** **21 48 48.1 -1.3**
SNR=104
COCO West Island 94.15 256 P **P** **21 48 48.9 -0.8**
COCO West Island 94.15 256 P **P** **21 48 50.6 +0.9**
COCO West Island 94.15 256 P **P** **21 48 48.9 -0.8**
COCO pmax pmax
comp=Z,326nm,1.4s
COCO MLR MLR
comp=Z,4µm,19.0s
DOK Doka 94.40 308 P **P** **21 48 50.3 -0.6**
DOK P **P** **21 48 50.3 -0.6**
ABD La Joyeuse, An 94.54 56 IAMs_20 IAMs_20 22 33 06.3
comp=Z,12µm,20.0s
GDHS Morne Mazeau, 94.56 56 IAMs_20 IAMs_20 22 31 21.0
comp=Z,17µm,21.0s
INZ Inchbonnie 94.58 185 IAMs_20 IAMs_20 22 31 04.3
comp=Z,11µm,19.0s
IFR Ifrane 94.74 3 P **P** **21 48 49.5 -3.1**
DMTO DMTO 94.76 307 P **P** **21 48 53.1 +0.4**
CBE Ff, Capester 94.81 56 IAMs_20 IAMs_20 22 35 19.0
comp=Z,15µm,18.0s
GDSD La Dsirade Is 94.89 56 IAMs_20 IAMs_20 22 31 37.6
comp=Z,16µm,20.0s
MAGL Barre de l'ile 95.08 56 IAMs_20 IAMs_20 22 31 35.1
comp=Z,14µm,20.0s
WHFO Wadi Hawf 95.17 308 P **P** **21 48 53.2 -1.3**
SNR=5.6
WHFO P **P** **21 48 53.2 -1.3**
SNR=5.6
MDT Midelt 95.46 2 LR LR 22 29 52.5
comp=Z,5µm,21.9s,baz=20,slow=34
FOZ Fox Glacier 95.47 186 IAMs_20 IAMs_20 22 25 36.1
comp=Z,11µm,22.0s
CTZ Chatham Island 95.53 176 IAMs_20 IAMs_20 22 21 54.3
comp=Z,8µm,20.0s
RPZ Rata Peaks 95.58 185 IAMs_20 IAMs_20 22 37 37.9
comp=Z,15µm,20.0s
RPZ Rata Peaks 95.58 185 LR LR 22 30 27.2
comp=Z,8µm,18.1s,baz=10.0,slow=34
SDV Santo Domingo 95.83 68 P **P** **21 48 56.0 -1.8**
SDV IAmb IAmb 21 49 05.8
comp=Z,100nm,1.8s
SDV IAMs_20 IAMs_20 22 32 30.0
comp=Z,12µm,21.0s
SDV Santo Domingo 95.83 68 LR LR 22 33 14.4
comp=Z,13µm,21.5s,baz=342,slow=36
SDV Santo Domingo 95.83 68 *e*P **P** **21 49 01.9 +4.0**
SDV Santo Domingo 95.83 68 S **S** **22 00 12.9 -3.0**
ABTO Aybut 95.88 308 P **P** **21 48 57.7 -0.1**
SNR=9.7
ABTO P **P** **21 48 57.7 -0.1**
SNR=9.7
JCZ Jackson Bay 96.08 187 P **P** **21 48 59.3 +1.3**
ILAM Ilet Lapin Mar 96.28 56 IAMs_20 IAMs_20 22 32 12.8
comp=Z,18µm,22.0s
LBZ Lake Benmore 96.30 186 IAMs_20 IAMs_20 22 26 54.0
comp=Z,12µm,22.0s
WKZ Wanaka 96.82 186 IAMs_20 IAMs_20 22 39 45.6
comp=Z,13µm,19.0s
ODZ Otahua Downs 96.93 185 IAMs_20 IAMs_20 22 39 04.6
comp=Z,9µm,19.0s
ROSC El Rosal 96.95 73 LR LR 22 36 59.2
comp=Z,2µm,18.2s,baz=356,slow=38
TIO Tiouine 97.24 5 P **P** **21 49 00.9 -3.0**
MORW Morawa 97.25 231 P **P** **21 49 02.9 -0.6**
MORW IAmb IAmb 21 49 11.5
comp=Z,109nm,1.6s
MORW IAMs_20 IAMs_20 22 32 17.0
comp=Z,10µm,21.0s
MORW Morawa 97.25 231 P Pdif 21 49 04.6 +1.0
BAUV El Baul 97.25 66 P **P** **21 49 01.7 -2.3**
BAUV IAmb IAmb 21 49 09.8
comp=Z,114nm,1.5s
MLZ Mavora Lakes 97.42 187 IAMs_20 IAMs_20 22 29 21.6
comp=Z,11µm,21.0s
WHZ Wether Hill Ro 97.95 187 IAMs_20 IAMs_20 22 29 47.7
comp=Z,11µm,20.0s
PCRV Puerto La Cruz 98.12 62 LR LR 22 32 46.5
comp=Z,13µm,21.2s,slow=35
OTAV Otavalo 98.13 79 S **S** **22 00 36.5 +0.4**
BLDU Ballidu 98.22 230 P **P** **21 49 06.1 -1.8**
TAU Tasmania Unive 98.25 202 IAMs_20 IAMs_20 22 38 50.6
comp=Z,10µm,20.0s
KLBR Kellerberrin 98.55 229 P Pdif 21 49 10.4 +1.1
KAAM Kaadhehdhoo 98.81 282 IAMs_20 IAMs_20 22 35 32.1
comp=Z,14µm,21.0s
MACI Morro de la Ar 99.03 13 IAMs_20 IAMs_20 22 36 40.9
comp=Z,9µm,19.0s
NWAO Narrogin (SRO) 99.90 228 LR LR 22 31 47.7
comp=Z,9µm,21.0s,baz=32,slow=34
NWAO Narrogin (SRO) 99.90 228 P **Pdif** **21 49 17.3 +2.0**
NWAO Narrogin (SRO) 99.90 228 P **Pdif** **21 49 17.1 +1.8**
TAM Tamanrasset 105.18 353 IAMs_20 IAMs_20 22 45 31.8
comp=Z,10µm,20.0s
DGAR Diego Garcia 105.36 278 IAMs_20 IAMs_20 22 46 33.6
comp=Z,10µm,18.0s
BOAV Boa Vista 106.83 63 IAMs_20 IAMs_20 22 40 43.6
comp=Z,9µm,20.0s
SACV Santiago Islan 110.66 22 IAMs_20 IAMs_20 22 40 13.1
comp=Z,10µm,19.0s
MACA Manacapuru-AM 111.32 66 IAMs_20 IAMs_20 22 40 33.9
comp=Z,12µm,22.0s
MBO M'Bour 112.57 16 IAMs_20 IAMs_20 22 48 49.3
comp=Z,10µm,19.0s
LODK Lodwar 116.31 317 **PKPdf** **21 54 13.9 -0.9**
LODK IAMs_20 IAMs_20 22 50 08.4
comp=Z,11µm,19.0s
LODK Lodwar 116.31 317 P **PKiKP** **21 54 15.1 +0.3**
LPAZ La Paz 117.34 81 PKP **PKPdf** **21 54 16.9 -0.4**
comp=Z,2.6nm,0.8s,baz=342,slow=5.1,SNR=4.5
LPAZ PKKPbc **PKKPbc** **22 04 40.5 +1.9**
comp=Z,3.8nm,1.0s,baz=207,slow=5.7,SNR=6.2
PB18 Visviri 117.51 83 IAMs_20 IAMs_20 22 53 58.5
comp=Z,7µm,20.0s
PB16 IPOC Station P 118.06 84 **PKPdf** **21 54 17.0 -1.6**
PB11 IPOC Station P 119.04 85 IAMs_20 IAMs_20 22 54 54.4
comp=Z,5µm,19.0s
KMBO Kilima Mbogo 119.56 313 PKP **PKPdf** **21 54 20.5 -0.8**
comp=Z,19nm,1.0s,baz=14,slow=4.6,SNR=8.5
KMBO PP **PP** **21 55 44.7 +1.9**
comp=Z,8.2nm,1.0s,baz=33,slow=7.7,SNR=4.8
KMBO PKKPbc **PKKPbc** **22 04 32.0 +1.9**
comp=Z,0.4nm,0.3s,baz=276,slow=4.8,SNR=3.2
KMBO Kilima Mbogo 119.56 313 P **PKiKP** **21 54 22.6 +1.2**
KMBO Kilima Mbogo 119.56 313 P **PKPdf** **21 54 20.7 -0.6**
PB08 IPOC Station P 119.64 85 IAMs_20 IAMs_20 22 53 09.1
comp=Z,6µm,22.0s
KIBK Kibwezi 120.28 312 IAMs_20 IAMs_20 22 48 43.6
comp=Z,11µm,22.0s
SIV San Ignacio 121.37 75 PKP **PKPdf** **21 54 24.1 -0.2**
comp=Z,8.7nm,0.9s,baz=326,slow=1.3,SNR=13
SIV PP **PP** **21 55 55.9 +0.4**
comp=Z,20nm,1.1s,baz=337,slow=7.6,SNR=9.4
SIV PKKPbc **PKKPbc** **22 04 24.3 +1.2**
comp=Z,5.2nm,0.8s,baz=158,slow=2.9,SNR=8.7
DBIC Dimbokro 121.45 3 PKP **PKPdf** **21 54 23.2 -1.4**
comp=Z,7.0nm,0.5s,baz=351,slow=2.6,SNR=17
DBIC PP **PP** **21 55 56.3 +1.4**
comp=Z,4.7nm,0.9s,baz=346,slow=6.3,SNR=3.7
DBIC PKKPbc **PKKPbc** **22 04 23.6 +0.7**
comp=Z,3.2nm,0.7s,baz=184,slow=6.1,SNR=3.1
DBIC Dimbokro 121.45 3 PKP **PKPdf** **21 54 23.3 -1.2**
MBAR Mbarara 121.84 320 **PKPdf** **21 54 24.3 -1.2**
MBAR Mbarara 121.84 320 P **PKPdf** **21 54 25.6 0.0**
PTLB Pontes e Lacer 122.10 73 **PKPdf** **21 54 24.9 -0.7**
PTLB Pontes e Lacer 122.10 73 *e*P **PKiKP** **21 54 30.1 +4.3**

PTLB Pontes e Lacer 122.10 73 PKP **PKPdf** **21 54 25.3 -0.3**
ACRG Accra 122.50 358 IAMs_20 IAMs_20 22 56 01.7
comp=Z,10µm,20.0s
GO02 Mina Guanaco 123.09 89 IAMs_20 IAMs_20 22 58 19.9
comp=Z,6µm,19.0s
AC01 Pan de Azucar 123.18 91 IAMs_20 IAMs_20 22 39 08.4
comp=Z,6µm,19.0s
VA04 Juan Fernndez 123.45 103 IAMs_20 IAMs_20 22 39 39.2
comp=Z,8µm,19.0s
NBCL Cascavel-CE 123.63 45 PKP **PKiKP** **21 54 31.6 +2.6**
LAJE UHE Lajeado 123.75 59 PKP **PKiKP** **21 54 31.9 +2.7**
SNDB Serra Nova Dou 123.79 63 *e*P **PKiKP** **21 54 32.5 +3.3**
SNDB Serra Nova Dou 123.79 63 PKP **PKPdf** **21 54 29.1 +0.1**
AC06 Mina Casimiro 124.20 92 IAMs_20 IAMs_20 22 39 37.6
comp=Z,6µm,20.0s
NBPB Pedra_Branca-C 124.23 47 *e*P **PKiKP** **21 54 33.6 +3.4**
NBPB Pedra_Branca-C 124.23 47 PKP **PKPdf** **21 54 29.4 -0.5**
AC04 Llanos de Chal 124.37 93 IAMs_20 IAMs_20 22 41 55.0
comp=Z,9µm,18.0s
GO03 Copiapo 124.45 92 IAMs_20 IAMs_20 22 39 44.0
comp=Z,6µm,20.0s
SALV Santo Antonio 124.47 70 *e*P **PKiKP** **21 54 34.1 +3.6**
SALV Santo Antonio 124.47 70 PKP **PKiKP** **21 54 31.0 +0.5**
AC02 Maricunga 124.59 90 IAMs_20 IAMs_20 22 40 23.6
comp=Z,7µm,20.0s
LCO Las Campanas 125.17 93 IAMs_20 IAMs_20 22 41 27.3
comp=Z,6µm,18.0s
AC05 El Transito 125.31 93 IAMs_20 IAMs_20 22 41 23.9
comp=Z,7µm,18.0s
NBPA Parau_RN 125.51 45 PKP **PKPdf** **21 54 32.5 +0.1**
CO06 Fray Jorge 125.76 95 IAMs_20 IAMs_20 22 42 37.1
comp=Z,9µm,18.0s
RCBR Riachuelo 126.10 43 PKP **PKPdf** **21 54 32.9 -0.6**
SSV2 Sao Salvador 126.19 61 PKP **PKiKP** **21 54 36.7 +2.7**
NBMA Muriti-CE 126.21 47 PKP **PKiKP** **21 54 35.0 +0.8**
CAN3 Cana Brava 126.36 61 PKP **PKPdf** **21 54 34.1 +0.2**
CAN3 PKP **pPKPdf** **21 54 36.7 -1.1**
CO03 El Pedregal 126.46 95 IAMs_20 IAMs_20 22 43 18.5
comp=Z,9µm,18.0s
ARAG Araguaiana, MT 126.54 66 PKP **PKiKP** **21 54 34.6 0.0**
NBPV Pedro Velho 126.89 43 PKP **PKiKP** **21 54 35.5 0.0**
VA01 Torpederas 127.38 98 IAMs_20 IAMs_20 22 49 50.2
comp=Z,8µm,19.0s
BDQN Bodoquena, MS 127.40 75 *e*P **PKiKP** **21 54 39.6 +3.3**
SDBA SAO DESIDERIO 127.58 57 PKP **PKPdf** **21 54 36.3 0.0**
VA05 Santo Domingo 127.83 98 IAMs_20 IAMs_20 22 42 30.1
comp=Z,6µm,20.0s
AQDB Aquidauana 128.04 74 *e*P **PKiKP** **21 54 40.7 +3.1**
AQDB Aquidauana 128.04 74 PKP **PKPdf** **21 54 36.9 0.0**
PEL Peldehue 128.05 97 IAMs_20 IAMs_20 22 43 25.0
comp=Z,9µm,18.0s
MT05 Renca 128.19 97 IAMs_20 IAMs_20 22 49 36.4
comp=Z,8µm,18.0s
ZON Zonda 128.19 94 **PKPdf** **21 54 35.1 -1.9**
ZON IAMs_20 IAMs_20 22 43 37.1
comp=Z,7µm,20.0s
MT01 Popeta 128.19 98 IAMs_20 IAMs_20 22 46 58.6
comp=Z,6µm,18.0s
NBCA Caruaru-PE 128.20 45 PKP **PKPdf** **21 54 37.5 0.0**
MT09 Talagante 128.29 98 IAMs_20 IAMs_20 22 47 11.3
comp=Z,7µm,18.0s
MT16 CCHEN 128.34 97 **PKPdf** **21 54 37.0 -0.2**
MT16 IAMs_20 IAMs_20 22 43 50.6
comp=Z,8µm,18.0s
C2SB Chapadao do Su 128.39 70 PKP **PKiKP** **21 54 38.1 -0.2**
MT03 Universidad Ad 128.40 97 IAMs_20 IAMs_20 22 50 39.9
comp=Z,8µm,19.0s
CFA Coronel Fontan 128.50 94 PKP **PKPdf** **21 54 36.9 -0.6**
comp=Z,10nm,0.9s,baz=303,slow=2.2,SNR=12
CFA SKPbc SKiKP 21 57 54.9 -19
comp=Z,10nm,1.0s,baz=310,slow=3.7,SNR=6.0
CASY Casey 128.58 209 **PKPdf** **21 54 36.7 +0.2**
CASY Casey 128.58 209 IAMs_20 IAMs_20 22 45 10.1
comp=Z,9µm,22.0s
BDFB Brasilia 128.60 62 PKP **PKPdf** **21 54 38.1 -0.1**
comp=Z,7.4nm,0.8s,baz=333,slow=2.9,SNR=8.2
BDFB Brasilia 128.60 62 PKP **PKPdf** **21 54 38.5 +0.3**
BO01 Tunca 128.65 98 IAMs_20 IAMs_20 22 48 01.8
comp=Z,7µm,18.0s
MT08 Bocatoma Ro 128.66 97 **PKPdf** **21 54 38.3 +0.3**
BO04 La Punta 128.67 98 IAMs_20 IAMs_20 22 47 23.2
comp=Z,7µm,18.0s
MT13 San Alfonso 128.70 97 IAMs_20 IAMs_20 22 45 01.1
comp=Z,8µm,18.0s
LMEL Las Melosas 128.82 97 IAMs_20 IAMs_20 22 47 14.2
comp=Z,8µm,19.0s
BI05 Punta Hualpn 128.94 102 IAMs_20 IAMs_20 22 43 05.6
comp=Z,8µm,19.0s
BO02 Sierra Bellavi 129.11 99 IAMs_20 IAMs_20 22 48 23.8
comp=Z,8µm,18.0s
ML02 Panimavida 129.36 100 IAMs_20 IAMs_20 22 51 01.7
comp=Z,6µm,19.0s
NBAN Anadia - AL 129.37 46 PKP **PKPdf** **21 54 39.1 -0.6**
VNDA Vanda 129.70 185 **PKiKP** **21 54 38.8 -0.3**
VNDA Vanda 129.70 185 PKP **PKPdf** **21 54 38.0 -0.3**
comp=Z,5.7nm,1.2s,baz=342,slow=6.3,SNR=6.4
VNDA SKPbc SKPbc 21 58 02.0 +1.9
comp=Z,3.6nm,0.9s,baz=355,slow=6.3,SNR=5.1
SBA Scott Base 129.83 183 **PKiKP** **21 54 39.6 +0.2**
SBA Scott Base 129.83 183 IAMs_20 IAMs_20 22 50 01.8
comp=Z,7µm,22.0s
NBLA Lagarto - SE 129.85 48 PKP **PKPdf** **21 54 40.8 +0.3**
BI02 San Fabin de 130.04 101 IAMs_20 IAMs_20 22 51 13.8
comp=Z,8µm,18.0s
JANB Januaria 130.11 58 PKP **PKPdf** **21 54 39.6 -1.4**
ITU3 Corumbazu 130.22 65 PKP **PKPdf** **21 54 41.5 +0.4**
BAT3 Ipameri 130.29 63 PKP **PKPdf** **21 54 41.2 -0.2**
BAT2 UHE Batalha 130.30 63 PKP **PKPdf** **21 54 41.2 -0.2**
AMBA Amambai (Brazi 130.34 75 *e*P **PKiKP** **21 54 46.2 +4.1**
IPMB Ipameri, GO 130.39 64 *e*P **PKiKP** **21 54 46.2 +3.8**
IPMB Ipameri, GO 130.39 64 PKP **PKPdf** **21 54 42.0 +0.4**
ITRB Iturama 130.56 68 PKP **PKPdf** **21 54 40.9 -0.9**
SJPY San Joaquin 131.23 78 *e*P **PKiKP** **21 54 47.0 +3.2**
CPUP Villa Florida 131.47 80 PKP **PKPdf** **21 54 40.9 -2.4**
comp=Z,4.8nm,1.0s,baz=336,slow=6.2,SNR=5.9
CPUP SKPbc **SKPbc** **21 58 08.1 0.0**
comp=Z,28nm,1.2s,baz=314,slow=3.1,SNR=7.1
CPUP Villa Florida 131.47 80 *e*P **PKiKP** **21 54 47.3 +3.1**
CPUP Villa Florida 131.47 80 PKP **PKPdf** **21 54 43.6 +0.3**
ANA01 Lindo Horizont 131.49 54 PKP **PKPdf** **21 54 43.7 0.0**
LL05 Los Muermos 131.75 107 IAMs_20 IAMs_20 22 41 33.2
comp=Z,10µm,20.0s
PMNB Patos De Minas 131.82 63 *e*P **PKiKP** **21 54 48.1 +2.8**
PMNB Patos De Minas 131.82 63 PKP **PKiKP** **21 54 46.2 +0.9**
LR05 Currie 131.89 105 IAMs_20 IAMs_20 22 43 14.9
comp=Z,8µm,19.0s
VOI Vohitsoka 132.03 290 P **PKiKP** **21 54 45.2 -0.5**
LL04 Puerto Octay 132.07 106 **PKiKP** **21 54 44.6 -0.4**
LL03 Petrohue 132.22 106 IAMs_20 IAMs_20 22 42 19.6
comp=Z,8µm,20.0s
NBIT Itapeh - BA 132.48 53 PKP **PKiKP** **21 54 48.4 +1.8**
BB19B Bebedouro 132.68 67 PKP **PKiKP** **21 54 46.5 -0.4**
CMC01 Camacan, BA 132.81 53 PKP **PKiKP** **21 54 48.4 +1.1**
LL01 San Ignacio de 132.97 107 **PKPdf** **21 54 44.4 -1.2**
LL01 IAMs_20 IAMs_20 22 43 38.6
comp=Z,8µm,20.0s
PLCA Paso Flores 133.07 104 PKP **PKPdf** **21 54 42.5 -3.4**
comp=Z,2.2nm,0.6s,baz=300,slow=3.2,SNR=3.2
PLCA SKPbc **SKPbc** **21 58 13.6 +0.2**
comp=Z,8.7nm,1.0s,baz=314,slow=3.1,SNR=4.9
PLCA Paso Flores 133.07 104 *e*P **PKiKP** **21 54 50.6 +3.4**
PLCA Paso Flores 133.07 104 PKP **PKiKP** **21 54 47.8 +0.7**
CAR01 Carai MG 133.32 56 PKP **PKiKP** **21 54 50.0 +1.7**
PTGB Pitanga 133.44 74 PKP **PKiKP** **21 54 49.2 +0.8**
GUA01 Guaratinga, BA 133.70 54 PKP **PKPdf** **21 54 46.9 -0.8**
FRTB Fartura 133.86 70 PKP **PKiKP** **21 54 49.8 +0.3**
AY01 Puyuhuapi 134.05 110 IAMs_20 IAMs_20 22 43 19.3
comp=Z,8µm,20.0s
SJMB Sao Joao De Ma 134.78 58 PKP **PKiKP** **21 54 51.7 +0.6**
VABB Valinhos 135.08 67 PKP **PKPdf** **21 54 49.2 -1.1**
ITAB Concordia 135.28 76 PKP **PKiKP** **21 54 53.5 +1.6**
RIB01 Linhares ES 135.70 57 PKP **PKPdf** **21 54 51.7 +0.3**
AY03 Cochrane 135.70 113 IAMs_20 IAMs_20 22 47 30.9
comp=Z,5µm,19.0s
PET01 Itanhaem-SP 135.91 69 PKP **PKiKP** **21 54 54.0 +0.7**
LSZ Lusaka 136.14 316 P **PKiKP** **21 54 54.3 +0.2**
VAS01 Vassouras-RJ 136.49 63 PKP **PKiKP** **21 54 55.2 +0.6**
SIM2 UHE Simplicio 136.54 62 PKP **PKPdf** **21 54 53.4 +0.4**
TRQA Tornquist 136.62 96 IAMs_20 IAMs_20 22 57 24.2
comp=Z,7µm,18.0s
TRQA Tornquist 136.62 96 PKP **PKPdf** **21 54 52.9 +0.3**
MAN01 Angra dos Reis 136.67 64 PKP **PKiKP** **21 54 57.6 +2.6**
CPSB Cacapava Do Su 136.77 81 *e*P **PKiKP** **21 54 57.4 +2.5**
CPSB Cacapava Do Su 136.77 81 PKP **PKPdf** **21 54 53.6 +0.5**

DUB01	**Friburgo-RJ**	136.91	62	PKP	PKPdf	21 54 53.9	+0.2
CNLB	**Canela**	137.56	77	*e*P	PKiKP	21 54 59.5	+2.9
PLTB	**Pedras Altas**	137.62	82	*e*P	PKiKP	21 54 58.5	+1.8
PLTB	**Pedras Altas**	137.62	82	PKP	PKPdf	21 54 53.4	-1.3
MG05	**Puerto Natales**	138.06	119	IAMs_20	IAMs_20	22 58 49.6	
	comp=Z,8μm,19.0s						
KSANE	**Kasane**	139.67	318	*i* P	PKPdf	21 54 56.5	-2.4
BLWY	**Bulawayo**	140.22	312	*i* P	PKPdf	21 54 57.3	-2.6
MUSN	**Musina, Limpop**	141.47	308	*i* P	PKPdf	21 54 59.4	-2.6
QSPA	**South Pole Qui**	141.81	180	PKPdf	PKiKP	21 55 03.4	-0.7
QSPA	**South Pole Qui**	141.81	180	IAMs_20	IAMs_20	22 59 45.1	
	comp=Z,8μm,22.0s						
QSPA	**South Pole Qui**	141.81	180	PKhKP	PKPpre	21 54 57.0	
	comp=Z,14nm,0.7s,baz=37,slow=1.3,SNR=19						
XAUDM	**Khaudum**	141.85	323	*i* P	PKPdf	21 55 01.6	-1.2
PHDHD	**Phuduhudu**	142.07	317	*i* P	PKPdf	21 55 01.4	-1.7
GMARE	**Gumare**	142.31	321	*i* P	PKPdf	21 55 00.8	-2.8
QNGWA	**Qangwa**	142.82	322	*i* P	PKPdf	21 55 01.7	-2.8
KHWEE	**KHWEE**	143.22	314	*i* P	PKPdf	21 55 05.0	-0.2
TSUM	**Tsumeb**	143.79	328		PKPbc	21 55 05.0	+1.1
SHEL	**Horse Pasture**	143.86	6	IAMs_20	IAMs_20	23 10 43.7	
	comp=Z,6μm,21.0s						
LPHEP	**Lephephe**	144.27	313	*i* P	PKPbc	21 55 06.1	+0.9
GRTLG	**Ghanzi**	144.47	321	*i* P	PKPbc	21 55 05.9	0.0
POGA	**Pongola**	144.72	301		PKPab	21 55 05.4	-0.9
KGCAE	**Kacgae**	145.41	318	*i* P	PKPbc	21 55 08.9	0.0
SMAI	**San Martin Ant**	145.76	143	PKPdf	PKPbc	21 55 08.6	+0.1
MAW	**Mawson**	145.80	218		PKPdf	21 55 07.6	-0.5
MAW	**Mawson**	145.80	218	PKPbc	PKPdf	21 55 07.9	-0.1
	comp=Z,58nm,1.0s,baz=102,slow=7.7,SNR=16						
LBTB	**Lobatse**	145.81	312	*i* P	PKPdf	21 55 07.8	-1.9
EFI	**East Falkland**	146.12	112		PKPdf	21 55 08.4	-0.7
SKOMA	**Sekoma**	146.14	314	*i* P	PKPdf	21 55 10.4	+0.3
KOOLE	**Kule**	146.34	321	*i* P	PKPbc	21 55 11.3	-0.6
PMSA	**Palmer Station**	146.59	137	PKPbc	PKPab	21 55 11.9	-0.2
PMSA	**Palmer Station**	146.59	137	IAMs_20	IAMs_20	23 12 25.8	
	comp=Z,6μm,21.0s						
MAKGR	**Makgori**	146.87	312	*i* P	PKPbc	21 55 12.5	-0.7
LKGWB	**Lokgwabe**	146.94	319	*i* P	PKPdf	21 55 11.9	+0.4
WIN	**Windhoek**	147.08	326		PKPdf	21 55 11.5	-0.4
PHPEN	**Phepeng**	147.44	315	*i* P	PKPbc	21 55 13.9	-0.9
BOSA	**Boshof**	149.02	309		PKPbc	21 55 18.1	-0.9
BOSA	**Boshof**	149.02	309	PKPbc	PKPbc	21 55 18.0	-1.0
	comp=Z,39nm,0.8s,baz=37,slow=2.6,SNR=58						
BOSA	**Boshof**	149.02	309	*i* P	PKPdf	21 55 14.2	-0.7
BOSA	**Boshof**	149.02	309	PKP	PKPbc	21 55 18.6	-0.3
ESPZ	**Base Esperanza**	149.53	133	PKPdf	PKPdf	21 55 13.4	-0.9
ESPZ				IAMs_20	IAMs_20	23 15 43.9	
	comp=Z,7μm,20.0s						
BELA	**Belgrano 2**	151.50	166		PKPdf	21 55 16.0	-1.2
BELA				IAMs_20	IAMs_20	22 55 53.0	
	comp=Z,6μm,21.0s						
SYO	**Syowa Base**	154.18	213	⇓*i* PKPdf	PKPdf	21 55 23.6	+2.4
SYO	**Syowa Base**	154.18	213	⇓*i* PKPbc	PKiKP	21 55 32.6	+3.2
SYO	**Syowa Base**	154.18	213	⇓*i* PKPab	PKPab	21 55 43.9	+0.6
SUR	**Sutherland**	154.26	311	P	PKPdf	21 55 24.2	+1.4
ELIB	**Princess Elisa**	157.13	200	*d*PKPdf	PKPdf	21 55 25.3	0.0
TROLL	**Troll, Antarti**	159.88	184	⇑PKPab	PKPab	21 56 07.5	-0.5
	comp=Z,2μm,0.8s						
SNAA	**Sanae**	160.31	179	PKP	PKPdf	21 55 27.9	-1.1
	comp=Z,7.1nm,1.0s,baz=325,slow=3.5,SNR=3.5						
SNAA				PKPab	PKPab	21 56 10.0	+0.2
	comp=Z,31nm,1.0s,baz=158,slow=8.3,SNR=5.9						
VNA3	**Neumayer Olymp**	160.44	173	⇑PKPab	PKPab	21 56 13.1	+2.8
	comp=Z,18nm,0.7s						
VNA2	**Neumayer--Watz**	160.91	175	⇑PKPab	PKPab	21 56 16.4	+4.0
	comp=Z,45nm,0.7s,baz=52,slow=8.7						
VNA1	**Neumayer--Stat**	161.12	174	⇑PKPab	PKPab	21 56 16.4	+3.2
	comp=Z,101nm,1.0s						

*BJI **02** 21:39:39.0, 51°.80N×178°.10E, h10km, mB5.4/1, mb5.1/13*
*IDC **02** 21:39:40.2±0.8, 52°.06N×177°.96E, h0km, mb4.6/25, mbtmp4.6/28, ML4.7/2, Error ellipse: s-maj=22.2km s-min=12.8km az=169.0*
*MOS **02** 21:39:40.9±0.8, 51°.96N×178°.07E, h22km, mb5.4/20, Error ellipse: s-maj=12.0km s-min=9.0km az=133.3*
*NEIC **02** 21:39:41.1±1.4, 51°.90N±0°.06×178°.10E±0°.07, h10km±1km, mb5.2/52, ML4.6/6, Error ellipse: s-maj=11.3km s-min=3.8km az=143.0*

ISC 02 21:39:41.3±0.5, 51°.91N±0°.10×178°.10E±0°.04, h10km, n150, σ1§33/153, mb5.1/61, 10C-4D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.59**	**290**	Pn	**Pn**	**21 40 23.5**	**+0.3**
	330nm,0.3s,baz=145,slow=3.3,SNR=4.1						
SHEM				Sn	**Sn**	**21 40 55.0**	**+0.4**
	734nm,0.3s,baz=288,slow=20,SNR=7.2						
	958nm,0.4s						
SMY	**Shemya**	**2.59**	**290**	Pn	**Pn**	**21 40 23.2**	**0.0**
SMY				Sn	**Sn**	**21 40 53.9**	**-0.8**
SMY				IAML		21 41 00.6	
	comp=N,6μm,1.0s						
KIWB	**Kanaga Island**	**2.95**	**89**	Pn	**Pn**	**21 40 27.1**	**-1.0**
ADK	**Adak**	**3.23**	**88**	Pn	**Pn**	**21 40 31.0**	**-1.1**
ADK				IAML		21 41 25.2	
	comp=N,995nm,1.3s						
ADK	**Adak**	**3.23**	**88**	P	**Pn**	**21 40 31.0**	**-1.1**
ATKA	**Atka Island**	**4.77**	**83**	Pn	**Pn**	**21 40 52.2**	**-0.9**
ATKA				IAML		21 41 57.8	
	comp=N,547nm,1.4s						
ATKA				IAML		21 41 58.1	
	comp=E,439nm,1.2s						
LVA	**Lava Point**	**9.82**	**70**	Pn	**Pn**	**21 42 02.8**	**+0.3**
PEA0B	**Petropavlovsk-**	**12.48**	**284**	Pn	**Pn**	**21 42 38.3**	**-0.6**
PEA0B	**Petropavlovsk-**	**12.48**	**284**	⇑*e*P	**Pn**	**21 42 40.7**	**+1.8**
PETK	**Petropavlovsk-**	**12.48**	**284**	Pn	**Pn**	**21 42 40.0**	**+1.1**
PETK	**Petropavlovsk-**	**12.48**	**284**	Pn	**Pn**	**21 42 38.7**	**-0.1**
	comp=E,20nm,0.8s,baz=84,slow=15,SNR=2.2						
PETK	**Petropavlovsk-**	**12.48**	**284**	P	**Pn**	**21 42 40.0**	**+1.1**
SKR	**Severo-Kuril's**	**13.80**	**274**	⇑*e*P	**Pn**	**21 42 58.3**	**+1.5**
K15K	**Wolf Creek Mou**	**15.12**	**39**		**P**	**21 43 20.1**	**+0.2**
K15K				IAmb	IAmb	21 43 28.7	
	comp=Z,158nm,1.1s						
O16K	**Kokwok River B**	**15.39**	**51**		**P**	**21 43 23.3**	**+0.4**
O16K				IAmb	IAmb	21 43 24.4	
	comp=Z,206nm,1.4s						
L16K	**Owhat River**	**15.64**	**42**		**P**	**21 43 24.5**	**-1.2**
L16K				IAmb	IAmb	21 43 31.1	
	comp=Z,184nm,1.4s						
N17K	**Nushagak Hills**	**16.14**	**48**		**P**	**21 43 31.4**	**+0.1**
ACHA	**Angle Creek He**	**16.41**	**57**		**P**	**21 43 34.0**	**-0.4**
P18K	**Big Mountain,**	**16.73**	**53**		**P**	**21 43 38.9**	**+1.1**
P18K				IAmb	IAmb	21 43 42.5	
	comp=Z,214nm,1.3s						
N18K	**Kilae Creek**	**16.80**	**48**		**P**	**21 43 39.6**	**+1.1**
Q19K	**Cape Douglas,**	**17.41**	**55**		**P**	**21 43 46.3**	**+0.9**
SEY	**Seymchan**	**17.57**	**319**	⇑*e*P	**Pn**	**21 43 43.8**	**-2.1**
SEY				pmax	pmax		
	comp=Z,46nm,1.0s						
KDAK	**Kodiak Island**	**17.79**	**59**		**Pn**	**21 43 48.2**	**-0.5**
KDAK	**Kodiak Island**	**17.79**	**59**	P	**Pn**	**21 43 48.0**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=12,slow=14,SNR=2.9						
	comp=Z,28nm,0.8s						
KDAK	**Kodiak Island**	**17.79**	**59**	⇑*e*P	**P**	**21 43 49.2**	**-0.2**
KDAK				pmax	pmax		
	comp=Z,64nm,1.0s						
L19K	**White Mountain**	**17.81**	**44**	P	**P**	**21 43 52.2**	**+2.4**
C16K	**Lisburne Hills**	**18.26**	**20**	P	**P**	**21 43 55.0**	**+0.3**
CNPM	**China Poot**	**18.74**	**54**	P	**Pn**	**21 44 00.5**	**+0.1**
CNPM				IAmb	IAmb	21 44 04.2	
	comp=Z,165nm,1.1s						
STLK	**Strandline Lak**	**18.93**	**48**	P	**Pn**	**21 44 03.0**	**+0.4**
STLK				IAmb	IAmb	21 44 10.3	
	comp=Z,220nm,1.3s						
ILAR	**Eielson Array**	**22.08**	**41**	P	**P**	**21 44 35.3**	**-0.8**
	comp=Z,11nm,0.9s,baz=257,slow=11,SNR=2.4						
	comp=Z,11nm,0.9s						
JKA	**Kamikawa-asahi**	**24.79**	**266**	P	**P**	**21 45 02.6**	**-0.5**
JKA				IAmb	IAmb	21 45 08.6	
	comp=Z,52nm,1.0s						
ASAJ	**Asahikawa**	**24.80**	**266**	P	**P**	**21 45 02.7**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,52nm,1.0s						
O29M	**Mount Kennedy**	**25.16**	**53**	P	**P**	**21 45 07.6**	**+1.1**
ERM	**Erimo**	**25.59**	**261**	P	**P**	**21 45 09.3**	**-1.1**
ERM				IAmb	IAmb	21 45 15.5	
	comp=Z,38nm,0.9s						
ERM	**Erimo**	**25.59**	**261**	P	**P**	**21 45 09.3**	**-1.1**
ERM				pmax	pmax		
	comp=Z,38nm,0.9s						
KLR	**Kul'dur**	**29.18**	**283**	P	**P**	**21 45 42.2**	**-0.3**
	comp=Z,14nm,1.0s,baz=84,slow=7.1,SNR=2.1						
	comp=Z,14nm,1.0s						
USRK	**Ussuriysk Ar.**	**31.32**	**274**	P	**P**	**21 45 59.8**	**-1.7**
USRK	**Ussuriysk Ar.**	**31.32**	**274**	P	**P**	**21 46 00.9**	**-0.6**
	comp=Z,10.0nm,0.8s,baz=48,slow=6.7,SNR=2.0						
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**31.32**	**274**	P	**P**	**21 45 59.8**	**-1.7**
MJAR	**Matsushiro Arr**	**31.99**	**257**	P	**P**	**21 46 07.6**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=50,slow=6.9,SNR=1.9						
	comp=Z,3.2nm,0.7s						
PSTR	**Posyet**	**32.87**	**273**	⇑*e*P	**P**	**21 46 14.4**	**-0.7**
JGF	**Kuroka**	**33.13**	**257**	P	**P**	**21 46 18.1**	**+0.6**
JGF				IAmb	IAmb	21 46 25.1	
	comp=Z,23nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**33.29**	**199**	T	T	22 21 32.9	
	baz=9.6						
H11N3	**WAKE ISLAND Hy**	**33.30**	**199**	T	T	22 21 30.6	
	baz=9.6						
H11N1	**WAKE ISLAND Hy**	**33.31**	**199**	T	T	22 21 27.5	
	baz=9.6						
BNX	**BinXian**	**33.37**	**280**	⇓P	**P**	**21 46 20.0**	**+0.6**
BNX				pmax	pmax		
	comp=Z,32nm,0.8s						
YKA	**Yellowknife Ar**	**36.27**	**46**	P	**P**	**21 46 45.0**	**+0.7**
	comp=Z,6.6nm,0.8s,baz=282,slow=8.7,SNR=4.0						
	comp=Z,6.6nm,0.8s						
KSRS	**Korea Array**	**37.71**	**268**	P	**P**	**21 46 57.4**	**+0.6**
	comp=Z,8.0nm,0.8s,baz=52,slow=7.6,SNR=3.4						
	comp=Z,8.0nm,0.8s						
KSAR	**Wonju Array Be**	**37.74**	**268**	P	**P**	**21 46 56.2**	**-0.9**
KSAR	**Wonju Array Be**	**37.74**	**268**	P	**P**	**21 46 56.2**	**-0.9**
JNU	**Nakatsue**	**38.74**	**260**	P	**P**	**21 47 05.0**	**-0.6**
NRIK	**Noril'sk**	**42.96**	**329**	⇑*e*P	**P**	**21 47 40.3**	**+0.4**
NRIK				pmax	pmax		
	comp=Z,36nm,1.1s						
BJI	**Beijing**	**43.38**	**280**	P	**P**	**21 47 42.0**	**-1.6**
BJI				PcS	**PcS**	**21 53 24.7**	**+0.2**
BJI				ScS	ScS	21 57 44.8	+1.4
BJI				pmax	pmax		
	comp=Z,49nm,1.1s						
BJI				pmax	pmax		
	comp=Z,650nm,10.0s						
SONM	**Songino Array**	**44.67**	**295**	P	**P**	**21 47 53.8**	**-0.3**
SONM	**Songino Array**	**44.67**	**295**	P	**P**	**21 47 54.2**	**0.0**
	comp=Z,5.8nm,0.6s,baz=64,slow=7.2,SNR=6.0						
	comp=Z,5.8nm,0.6s						
NVAR	**Mina Array Bea**	**45.39**	**81**	P	**P**	**21 48 02.6**	**+2.5**
	comp=Z,4.7nm,0.8s,baz=300,slow=5.2,SNR=3.8						
	comp=Z,4.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**45.68**	**283**	*e*P	**P**	**21 48 02.4**	**+0.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HNS	**HongShan**	**45.91**	**278**	⇓P	**P**	**21 48 06.3**	**+2.4**
HNS				pmax	pmax		
	comp=Z,38nm,1.3s						
BTO	**Baotou**	**46.76**	**284**	*e*P	**P**	**21 48 10.6**	**-0.1**
BTO				pP	**sP**	**21 48 15.2**	**+0.2**
BTO				sP	**pP**	**21 48 17.0**	**+3.2**
BTO				S	**S**	**21 55 01.2**	**+0.7**
BTO				SS	**ScS**	**21 58 14.5**	**+9.1**
BTO				pmax	pmax		
	comp=Z,38nm,0.8s						
NJ2	**Nanjing**	**46.87**	**269**	*e*P	**P**	**21 48 11.5**	**0.0**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
PDAR	**Pinedale Array**	**47.98**	**71**	P	**P**	**21 48 21.0**	**+0.7**
PDAR	**Pinedale Array**	**47.98**	**71**	P	**P**	**21 48 21.6**	**+1.3**
	comp=Z,2.4nm,0.7s,baz=313,slow=7.9,SNR=2.1						
	comp=Z,2.4nm,0.7s						
PSUT	**Pine Spring**	**48.04**	**78**	P	**P**	**21 48 20.1**	**-0.7**
SPITS	**Spitsbergen Ar**	**49.70**	**355**	P	**P**	**21 48 32.3**	**-0.4**
	comp=Z,8.6nm,0.6s,baz=61,slow=6.8,SNR=6.9						
	comp=Z,8.6nm,0.6s						
SPITS	**Spitsbergen Ar**	**49.70**	**355**	P	**P**	**21 48 32.1**	**-0.7**
SPITS				pmax	pmax		
	comp=Z,100nm,1.5s						
SPB2	**Spitsbergen Ar**	**49.70**	**355**	P	**P**	**21 48 32.3**	**-0.5**
SSLB	**Suanglung**	**51.48**	**260**	P	**P**	**21 48 45.8**	**-1.1**
SSLB				IAmb	IAmb	21 49 05.6	
	comp=Z,35nm,1.3s						
TPUB	**Ta-pu**	**52.04**	**259**	P	**P**	**21 48 50.9**	**-0.2**
ZALV	**Zalesovo Beam**	**52.25**	**312**	P	**P**	**21 48 51.4**	**-0.8**
ZALV	**Zalesovo Beam**	**52.25**	**312**	P	**P**	**21 48 50.4**	**-1.8**
	comp=Z,4.8nm,0.8s,baz=39,slow=7.7,SNR=1.6						
	comp=Z,4.8nm,0.8s						
ZALV	**Zalesovo Beam**	**52.25**	**312**	P	**P**	**21 48 51.4**	**-0.8**
SUMG	**Summit**	**53.23**	**13**	P	**P**	**21 49 00.4**	**+0.7**
SUMG				IAmb	IAmb	21 49 03.7	
	comp=Z,26nm,1.1s						
SUMG	**Summit**	**53.23**	**13**	P	**P**	**21 49 00.4**	**+0.7**
SUMG				pmax	pmax		
	comp=Z,26nm,1.1s						
LZH	**Lanzhou**	**53.38**	**284**	*e*P	**P**	**21 48 58.0**	**-3.0**
LZH				pP	pP	21 49 04.2	0.0
LZH				pmax	pmax		
	comp=Z,34nm,1.1s						
GTA	**Gaotai**	**53.57**	**289**	*e*P	**P**	**21 49 02.1**	**-0.3**
GTA				pmax	pmax		
	comp=Z,11nm,0.9s						
ARCES	**ARCESS Array B**	**57.22**	**349**	P	**P**	**21 49 26.6**	**-1.4**
	comp=Z,3.2nm,0.7s,baz=28,slow=5.5,SNR=1.5						
	comp=Z,3.2nm,0.7s						
KURK	**Kurchatov**	**57.24**	**312**	P	**P**	**21 49 28.1**	**-0.3**
KURK	**Kurchatov**	**57.24**	**312**	P	**P**	**21 49 28.2**	**-0.3**
KURK				pmax	pmax		
	comp=Z,39nm,0.9s						
KURBB	**Kurchatov Arra**	**57.35**	**312**	P	**P**	**21 49 28.3**	**-0.9**
	comp=Z,19nm,0.8s,baz=43,slow=6.6,SNR=7.6						
	comp=Z,19nm,0.8s						
WMQ	**Urumqi**	**57.42**	**301**	*e*P	**P**	**21 49 32.1**	**+2.2**
APA	**Apatity**	**57.94**	**345**	⇓*i* P	**P**	**21 49 36.5**	**+3.4**
APA				pmax	pmax		
	comp=Z,13nm,1.1s						
APA				MLR	MLR		
	comp=Z,22μm,15.0s						
MK31	**Makanchi Array**	**58.18**	**306**	P	**P**	**21 49 33.6**	**-1.6**
MK31				IAmb	IAmb	21 49 35.3	
	comp=Z,34nm,1.4s						
MK31	**Makanchi Array**	**58.18**	**306**	P	**P**	**21 49 33.6**	**-1.6**
MK31				pmax	pmax		
	comp=Z,34nm,1.4s						
MKAR	**Makanchi Array**	**58.18**	**306**	P	**P**	**21 49 34.3**	**-0.9**
MKAR	**Makanchi Array**	**58.18**	**306**	P	**P**	**21 49 33.3**	**-1.8**
	comp=Z,6.5nm,0.6s,baz=51,slow=6.7,SNR=4.7						
	comp=Z,6.5nm,0.6s						
MKAR	**Makanchi Array**	**58.18**	**306**	*i* P	**P**	**21 49 34.4**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAKZ	**Makanchi**	**58.32**	**307**	P	**P**	**21 49 35.3**	**-0.9**
MAKZ				IAmb	IAmb	21 49 41.2	
	comp=Z,33nm,1.2s						
MAKZ	**Makanchi**	**58.32**	**307**	P	**P**	**21 49 35.3**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,33nm,1.3s						
BVAR	**Borovoye Array**	**59.22**	**318**	P	**P**	**21 49 41.5**	**-0.8**
	comp=Z,15nm,0.6s,baz=54,slow=6.2,SNR=5.9						
	comp=Z,15nm,0.6s						
BRVK	**Borovoye**	**59.24**	**318**	P	**P**	**21 49 41.7**	**-0.7**
BRVK				IAmb	IAmb	21 49 50.1	
	comp=Z,36nm,1.1s						
BRVK	**Borovoye**	**59.24**	**318**	P	**P**	**21 49 41.7**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,36nm,1.2s						
TX31	**Lajitas Ar. Si**	**60.47**	**79**	P	**P**	**21 49 51.1**	**-0.2**
TX31				IAmb	IAmb	21 50 02.7	
	comp=Z,20nm,1.5s						
TXAR	**Lajitas Array**	**60.47**	**79**	P	**P**	**21 49 51.4**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=312,slow=4.8,SNR=6.6						
	comp=Z,2.1nm,0.7s						
ARTI	**Arti**	**61.21**	**327**	P	**P**	**21 49 55.6**	**-0.2**
ARTI	**Arti**	**61.21**	**327**	P	**P**	**21 49 55.6**	**-0.2**
ARTI				pmax	pmax		
	comp=Z,71nm,1.3s						
PZH	**PanZhiHua**	**61.35**	**277**	P	**P**	**21 49 57.6**	**+0.2**
PZH				pmax	pmax		
	comp=Z,20nm,2.0s						
WUS	**Wushi**	**63.71**	**304**	P	**P**	**21 50 12.5**	**-0.5**
KDJ	**Kajisay**	**64.06**	**306**	P	**P**	**21 50 15.1**	**-0.2**
KDJ	**Kajisay**	**64.06**	**306**	P	**P**	**21 50 15.1**	**-0.2**
KDJ				pmax	pmax		
	comp=Z,34nm,1.2s						
BOOM	**Boomskoye usch**	**64.42**	**307**	P	**P**	**21 50 17.4**	**-0.3**
BOOM	**Boomskoye usch**	**64.42**	**307**	P	**P**	**21 50 17.4**	**-0.3**
BOOM				pmax	pmax		
	comp=Z,72nm,1.4s						
FINES	**FINESS Array B**	**64.82**	**346**	P	**P**	**21 50 19.2**	**-0.4**
FINES	**FINESS Array B**	**64.82**	**346**	P	**P**	**21 50 18.1**	**-1.5**
	comp=Z,14nm,0.9s,baz=57,slow=5.1,SNR=3.8						
	comp=Z,14nm,0.9s						
FINES	**FINESS Array B**	**64.82**	**346**	*i* P	**P**	**21 50 22.2**	**+2.5**
FINES				pmax	pmax		
	comp=Z,12nm,0.9s						
AAK	**Ala-Archa**	**65.02**	**308**	P	**P**	**21 50 21.1**	**-0.5**
AAK	**Ala-Archa**	**65.02**	**308**	⇑*e*P	**P**	**21 50 20.6**	**-1.0**
AAK				pmax	pmax		
	comp=Z,12nm,0.8s						
LSA	**Lhasa**	**65.44**	**287**	P	**P**	**21 50 24.1**	**-0.7**
LSA				IAmb	IAmb	21 50 42.2	
	comp=Z,28nm,1.5s						
LSA	**Lhasa**	**65.44**	**287**	P	**P**	**21 50 24.1**	**-0.7**
LSA				pmax	pmax		
	comp=Z,27nm,1.5s						
ABKAR	**Akbulak array**	**66.33**	**321**	P	**P**	**21 50 29.1**	**-0.6**
ABKAR	**Akbulak array**	**66.33**	**321**	P	**P**	**21 50 29.0**	**-0.6**
ABKAR				IAmb	IAmb	21 50 38.5	
	comp=Z,25nm,1.1s						
KKAR	**Karatay Array**	**66.59**	**310**	P	**P**	**21 50 30.9**	**-0.6**
KKAR	**Karatay Array**	**66.59**	**310**	P	**P**	**21 50 30.9**	**-0.6**
CRAI	**Chiangrai**	**66.83**	**274**	P	**P**	**21 50 31.3**	**-2.0**
NB2	**NORSAR Subarra**	**66.92**	**353**	P	**P**	**21 50 33.4**	**+0.1**
	comp=Z,16nm,0.9s,baz=8.8,slow=6.5						
NB2	**NORSAR Subarra**	**66.92**	**353**	P	**P**	**21 50 33.4**	**+0.1**
	baz=8.8,slow=6.5						
NOA	**NORSAR Array B**	**66.92**	**353**	P	**P**	**21 50 32.5**	**-0.7**
	comp=Z,5.0nm,0.7s,baz=9.7,slow=6.3,SNR=4.1						
	comp=Z,5.0nm,0.7s						
HFS	**Hagfors**	**67.61**	**352**	P	**P**	**21 50 36.7**	**-0.9**
	comp=Z,3.1nm,0.6s,baz=44,slow=6.4,SNR=1.7						
	comp=Z,3.1nm,0.6s						
OBN	**Obninsk**	**68.67**	**337**	⇑*e*P	**P**	**21 50 44.6**	**+0.3**
OBN						21 51 08.0	
OBN				pmax	pmax		
	comp=Z,27nm,1.0s						
OBN				MLR	MLR		
	comp=Z,37μm,16.0s						
BTK	**Batken**	**68.78**	**308**	P	**P**	**21 50 45.5**	**+0.1**
BTK	**Batken**	**68.78**	**308**	P	**P**	**21 50 45.5**	**+0.1**
BTK				pmax	pmax		
	comp=Z,46nm,1.2s						
CMAR	**Chiang Mai Arr**	**69.04**	**273**	P	**P**	**21 50 46.6**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=30,slow=6.5,SNR=4.7						
	comp=Z,3.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**69.04**	**273**	*i* P	**P**	**21 50 47.5**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TOLI2	**Tolitoli**	**69.54**	**244**	P	**P**	**21 50 49.3**	**-1.0**
TOLI2				IAmb	IAmb	21 50 54.9	
	comp=Z,15nm,1.1s						
GAR	**Garm**	**69.84**	**308**	P	**P**	**21 50 52.1**	**0.0**
NIL	**Nilore**	**72.51**	**302**	P	**P**	**21 51 08.7**	**+0.5**
NIL				IAmb	IAmb	21 51 13.0	
	comp=Z,29nm,1.1s						
NIL	**Nilore**	**72.51**	**302**	P	**P**	**21 51 08.7**	**+0.5**
NIL				pmax	pmax		
	comp=Z,29nm,1.1s						
EKA	**Eskdalemuir Ar**	**73.12**	**1**	P	**P**	**21 51 10.7**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=354,slow=6.4,SNR=1.8						
	comp=Z,3.2nm,0.8s						
KBL	**Kabul**	**73.97**	**306**	P	**P**	**21 51 16.1**	**-1.0**
KBL				IAmb	IAmb	21 51 23.4	
	comp=Z,21nm,0.9s						
AKASG	**Malin Array Be**	**74.42**	**340**	P	**P**	**21 51 18.5**	**-0.6**
AKASG				IAmb	IAmb	21 51 19.5	
	comp=Z,28nm,0.8s						
AKASG	**Malin Array Be**	**74.42**	**340**	P	**P**	**21 51 18.7**	**-0.4**
	comp=Z,14nm,0.6s,baz=23,slow=6.4,SNR=12						
	comp=Z,14nm,0.6s						
AKBB	**Malin Array Si**	**74.42**	**340**	P	**P**	**21 51 18.1**	**-1.0**
AKBB				IAmb	IAmb	21 51 19.4	
	comp=Z,32nm,0.8s						
KIEV	**Kiev**	**74.43**	**340**	P	**P**	**21 51 18.2**	**-0.9**
KIEV				IAmb	IAmb	21 51 19.4	
	comp=Z,27nm,0.8s						
DSB	**Dublin**	**75.15**	**3**	P	**P**	**21 51 22.3**	**-1.0**
DSB				IAmb	IAmb	21 51 29.4	
	comp=

ISC 02 21:45:45.4±1.0, 51°.8N±0°.2×178°.06E±0°.06, h10km, n41, σ1§46/41, mb4.5/19, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	2.60	292	Pn	Pn	21 46 27.5	0.0
KIWB	Kanaga Island	2.97	87	Pn	Pn	21 46 33.7	+1.1
GSTR	Great Sitkin T	3.65	83	Pn	Pn	21 46 42.2	+0.3
ATKA	Atka Island	4.80	82	Pn	Pn	21 46 57.3	-0.4
O15K	Ungalikthiuk R	14.49	51	Pn	Pn	21 49 08.4	-1.9
Q19K	Cape Douglas,	17.49	55		P	21 49 49.1	-1.2
SCM	Sheep Creek Mo	21.17	48	P	P	21 50 29.9	-0.7
SCM				IAmb	IAmb	21 50 43.4	
	comp=Z,32nm,1.4s						
G23K	Bananza Creek	21.75	35	P	P	21 50 33.8	-2.9
KLU	Klutina	21.76	50	P	P	21 50 35.5	-1.4
H24K	Noodor Dome	22.16	38	P	P	21 50 38.7	-2.4
ILAR	Eielson Array	22.17	41	P	P	21 50 44.0	+2.8
	comp=Z,1.4nm,0.9s,baz=242,slow=11,SNR=2.8						
	comp=Z,1.4nm,0.9s						
RAGM	Ragged Mountai	22.21	53	P	P	21 50 40.6	-1.1
RAGM				IAmb	IAmb	21 50 53.4	
	comp=Z,29nm,1.0s						
E25K	Arctic Village	23.92	33	P	P	21 50 58.3	-0.8
F26K	Sheenjek River	24.24	35	P	P	21 51 00.2	-1.9
YKA	Yellowknife Ar	36.35	46	P	P	21 52 52.2	+3.1
	comp=Z,0.6nm,0.6s,baz=283,slow=8.7,SNR=4.3						
	comp=Z,0.6nm,0.6s						
SONM	Songino Array	44.70	295	P	P	21 53 58.2	-0.2
SONM	Songino Array	44.70	295	P	P	21 54 00.5	+2.1
	comp=Z,1.3nm,0.7s,baz=71,slow=6.9,SNR=2.5						
	comp=Z,1.3nm,0.7s						
SPITS	Spitsbergen Ar	49.80	355	P	P	21 54 40.7	+3.1
	comp=Z,8.1nm,0.9s,baz=37,slow=6.3,SNR=4.6						
	comp=Z,8.1nm,0.9s						
KURK	Kurchatov	57.29	312	P	P	21 55 32.2	-0.7
KURK				IAmb	IAmb	21 55 38.1	
	comp=Z,4.8nm,0.8s						
KURBB	Kurchatov Arra	57.40	312	P	P	21 55 35.3	+1.7
	comp=Z,2.8nm,0.8s,baz=42,slow=6.8,SNR=7.9						
	comp=Z,2.8nm,0.8s						
MKAR	Makanchi Array	58.22	306	P	P	21 55 39.3	-0.2
BVAR	Borovoye Array	59.28	318	P	P	21 55 48.8	+2.0
	comp=Z,1.9nm,0.5s,baz=31,slow=8.1,SNR=4.3						
	comp=Z,1.9nm,0.5s						
BOOM	Boomskoye usch	64.46	307	P	P	21 56 21.6	-0.4
BOOM				IAmb	IAmb	21 56 30.2	
	comp=Z,11nm,1.4s						
FIA1	FINESS Array S	64.91	346	P	P	21 56 23.6	-0.8
FINES	FINESS Array B	64.91	346	P	P	21 56 23.5	-0.9
AAK	Ala-Archa	65.07	308	P	P	21 56 25.5	-0.4
AAK				IAmb	IAmb	21 56 32.4	
	comp=Z,3.7nm,1.1s						
AB31	Akbulak array	66.39	321	P	P	21 56 33.9	-0.2
AB31				IAmb	IAmb	21 56 47.8	
	comp=Z,6.3nm,1.1s						
ABKAR	Akbulak array	66.39	321	P	P	21 56 32.5	-1.7
ABKAR	Akbulak array	66.39	321	P	P	21 56 32.8	-1.4
ABKAR				IAmb	IAmb	21 56 47.7	
	comp=Z,6.4nm,1.1s						
KKAR	Karatay Array	66.63	310	P	P	21 56 35.8	0.0
NB201	NORSAR Array S	67.00	353	P	P	21 56 37.4	-0.5
NOA	NORSAR Array B	67.01	353	P	P	21 56 39.2	+1.3
	comp=Z,0.6nm,0.7s,baz=10.0,slow=6.5,SNR=1.4						
	comp=Z,0.6nm,0.7s						
BTK	Batken	68.82	308	P	P	21 56 49.5	-0.3
GAR	Garm	69.89	308	P	P	21 56 56.2	-0.2
AKASG	Malin Array Be	74.51	340	P	P	21 57 24.8	+1.1
	comp=Z,2.7nm,0.6s,baz=24,slow=6.3,SNR=5.2						
	comp=Z,2.7nm,0.6s						
BUR08	Bucovina Ar. S	78.24	342	P	P	21 57 44.5	-0.5
BUR08				IAmb	IAmb	21 57 48.5	
	comp=Z,12nm,1.1s						
BURAR	Bucovina Array	78.26	342	P	P	21 57 44.1	-1.1
MLR	Muntele Rosu	80.15	340	P	P	21 57 54.6	-1.0
WR8	Warramunga Arr	80.95	221	P	P	21 57 59.2	-0.7
WR8				IAmb	IAmb	21 58 07.3	
	comp=Z,9.1nm,1.2s						
FUORN	Ofenpass-Fuorn	81.39	352	P	P	21 58 01.4	-1.0
FUORN				IAmb	IAmb	21 58 09.5	
	comp=Z,4.8nm,1.1s						
NRCA	Norcia	84.84	349	P	P	21 58 19.1	-1.0
NRCA				IAmb	IAmb	21 58 29.2	
	comp=Z,4.1nm,1.0s						

*IDC **02** 21:46:22.7±0.8, 52°.01N×178°.19E, h0km, mb4.2/21, mbtmp4.3/23, ML4.3/2, Error ellipse: s-maj=22.0km s-min=13.4km az=168.0*
*NEIC **02** 21:46:24.5±1.6, 51°.90N±0°.06×178°.03E±0°.08, h10km±2km, mb4.7/36, ML4.0/6, Error ellipse: s-maj=11.5km s-min=6.4km az=147.0*

ISC 02 21:46:24.5±0.6, 51°.9N±0°.1×178°.07E±0°.04, h10km, n80, σ1§02/81, mb4.6/39, 1C, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	2.57	290	Pn	Pn	21 47 05.8	-0.3
	86nm,0.3s,baz=107,slow=22,SNR=5.9						
SHEM				Sn	Sn	21 47 38.3	+1.0
	85nm,0.3s,baz=276,slow=23,SNR=2.4						
	281nm,0.3s						
SMY	Shemya	2.57	290	Pn	Pn	21 47 04.8	-1.3
SMY				Sn	Sn	21 47 37.6	+0.3
SMY				IAML		21 47 44.2	
	comp=E,773nm,1.3s						
SMY				IAML		21 47 45.0	
	comp=N,885nm,0.9s						
KIWB	Kanaga Island	2.96	89	Pn	Pn	21 47 11.5	-0.1
ADK	Adak	3.25	89	Pn	Pn	21 47 16.1	+0.6
ADK				IAML		21 48 07.7	
	comp=N,278nm,0.8s						
GSTR	Great Sitkin T	3.63	85	Pn	Pn	21 47 21.9	+1.1
ATKA	Atka Island	4.78	84	Pn	Pn	21 47 35.8	-0.8
ATKA				IAML		21 48 38.4	
	comp=E,116nm,1.4s						
K15K	Wolf Creek Mou	15.12	39	Pn	Pn	21 50 00.1	+2.3
K15K				IAmb	IAmb	21 50 08.0	
	comp=Z,26nm,1.2s						
P16K	Nushagak River	15.27	53		P	21 50 03.8	-1.0
ACHA	Angle Creek He	16.42	57		Pn	21 50 16.6	+1.7
P18K	Big Mountain,	16.73	53		P	21 50 20.7	-0.3
O18K	Koktuh Hills	16.87	51		Pn	21 50 21.7	+1.2
Q19K	Cape Douglas,	17.42	55		Pn	21 50 27.2	-0.2
Q19K				IAmb	IAmb	21 50 33.0	
	comp=Z,50nm,1.1s						
KDAK	Kodiak Island	17.80	59	P	Pn	21 50 30.6	-1.4
	comp=Z,0.6nm,0.3s,baz=124,slow=8.7,SNR=4.8						
	comp=Z,4.5nm,0.5s						
ILSW	Iliamna Southw	17.91	52	P	P	21 50 35.5	+1.3
STLK	Strandline Lak	18.93	48	P	Pn	21 50 47.7	+1.7
SKT	Skwentna	19.21	47	P	Pn	21 50 50.1	+0.8
SKT				IAmb	IAmb	21 50 59.8	
	comp=Z,29nm,0.9s						
SLKM	Skilak Lake	19.44	51	P	P	21 50 51.7	+0.8
SLKM				IAmb	IAmb	21 50 56.3	
	comp=Z,38nm,0.9s						
O22K	Cooper Landing	19.68	52	P	P	21 50 53.4	0.0
PWL	Port Wells	20.42	51	P	P	21 51 01.5	-0.1
PWL				IAmb	IAmb	21 51 05.9	
	comp=Z,41nm,0.9s						
GLI	Glacier Island	21.02	51	P	P	21 51 07.8	-0.2
GLI				IAmb	IAmb	21 51 09.5	
	comp=Z,20nm,0.7s						
FID	Port Fidalgo	21.30	52	P	P	21 51 10.2	-0.9
FID				IAmb	IAmb	21 51 19.4	
	comp=Z,35nm,0.9s						
KLU	Klutina	21.69	50	P	P	21 51 15.6	+0.4
KLU				IAmb	IAmb	21 51 26.3	
	comp=Z,28nm,1.0s						
ILAR	Eielson Array	22.08	41	P	P	21 51 18.4	-0.9
	comp=Z,3.0nm,0.9s,baz=266,slow=9.0,SNR=4.9						
	comp=Z,3.0nm,0.9s						
GLB	Gilahina Butte	22.68	50	P	P	21 51 25.8	-0.1
GLB				IAmb	IAmb	21 51 38.1	
	comp=Z,27nm,1.4s						
MESA	MESA	23.48	54	P	P	21 51 34.0	-0.2
MESA				IAmb	IAmb	21 51 41.5	
	comp=Z,27nm,0.8s						
D25K	Kavik River	24.09	30	P	P	21 51 40.5	+0.7
ASAJ	Asahikawa	24.78	266	P	P	21 51 47.2	+1.0
	comp=Z,18nm,1.0s,baz=30,slow=5.1,SNR=5.4						
	comp=Z,18nm,1.0s						
HYT	Haines Junctio	25.69	52	P	P	21 51 54.9	+0.3
MDJ	Mudanjiang	32.56	277	P	P	21 52 56.7	+1.1
MDJ				pmax	pmax		
	comp=Z,15nm,2.1s						
CN2	Changchun	35.53	278	eP	P	21 53 21.8	+0.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YKA	Yellowknife Ar	36.27	46	P	P	21 53 27.7	+0.2
	comp=Z,3.6nm,0.8s,baz=283,slow=8.8,SNR=7.4						
	comp=Z,3.6nm,0.8s						
KSRS	Korea Array	37.69	268	P	P	21 53 41.5	+1.6
	comp=Z,3.9nm,1.1s,baz=51,slow=8.2,SNR=4.9						
	comp=Z,3.9nm,1.1s						
SONM	Songino Array	44.65	294	P	P	21 54 36.8	-0.4
SONM	Songino Array	44.65	294	P	P	21 54 35.8	-1.3
	comp=Z,0.9nm,0.6s,baz=70,slow=7.1,SNR=5.1						
	comp=Z,0.9nm,0.6s						
BOZ	Bozeman (W)	45.12	69		P	21 54 40.3	-0.6
NVAR	Mina Array Bea	45.41	81	P	P	21 54 41.2	-2.2
	comp=Z,1.0nm,0.6s,baz=317,slow=6.9,SNR=2.7						
	comp=Z,1.0nm,0.6s						
HNS	HongShan	45.90	278	⇑P	P	21 54 41.3	-5.6
HNS				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2	Nanjing	46.86	269	eP	P	21 54 54.2	-0.4
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
PDAR	Pinedale Array	47.99	71	P	P	21 55 01.6	-2.0
PDAR	Pinedale Array	47.99	71	P	P	21 55 00.7	-2.9
	comp=Z,0.6nm,0.6s,baz=305,slow=5.2,SNR=3.8						
	comp=Z,0.6nm,0.6s						
SPITS	Spitsbergen Ar	49.69	355	P	P	21 55 16.4	+0.6
	comp=Z,3.4nm,0.6s,baz=30,slow=6.7,SNR=8.8						
	comp=Z,3.4nm,0.6s						
LZH	Lanzhou	53.36	284	eP	P	21 55 45.0	+0.9
LZH				pP	sP	21 55 54.0	+5.6
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA	Gaotai	53.55	289	eP	P	21 55 44.9	-0.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARCES	ARCESS Array B	57.21	349	P	P	21 56 10.5	-0.6
	comp=Z,3.9nm,1.1s,baz=36,slow=4.9,SNR=5.1						
	comp=Z,3.9nm,1.1s						
KURK	Kurchatov	57.22	312	P	P	21 56 10.9	-0.6
KURBB	Kurchatov Arra	57.33	312	P	P	21 56 11.8	-0.5
	comp=Z,7.9nm,0.9s,baz=44,slow=6.4,SNR=9.2						
	comp=Z,7.9nm,0.9s						
WMQ	Urumqi	57.40	301	eP	P	21 56 15.4	+2.4
WMQ				LR	LR		
	comp=N,49μm,13.9s						
WMQ				LR	LR		
	comp=E,60μm,19.5s						
WMQ				LR	LR		
	comp=Z,56μm,19.5s						
MK31	Makanchi Array	58.16	306	P	P	21 56 16.7	-1.5
MK31				IAmb	IAmb	21 56 17.3	
	comp=Z,9.2nm,1.5s						
MKAR	Makanchi Array	58.16	306	P	P	21 56 16.5	-1.7
MKAR	Makanchi Array	58.16	306	P	P	21 56 17.1	-1.1
	comp=Z,2.0nm,0.9s,baz=54,slow=6.2,SNR=7.1						
	comp=Z,2.0nm,0.9s						
BVAR	Borovoye Array	59.20	318	P	P	21 56 24.3	-1.0
	comp=Z,3.2nm,0.5s,baz=54,slow=7.5,SNR=7.9						
	comp=Z,3.2nm,0.5s						
BRVK	Borovoye	59.22	318	P	P	21 56 26.0	+0.5
BRVK				IAmb	IAmb	21 56 27.3	
	comp=Z,6.3nm,0.8s						
TXAR	Lajitas Array	60.48	79	P	P	21 56 33.6	-1.0
	comp=Z,0.9nm,0.6s,baz=305,slow=4.6,SNR=5.7						
	comp=Z,0.9nm,0.6s						
PZH	PanZhiHua	61.34	277	P	P	21 56 40.9	+0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
FIA1	FINESS Array S	64.80	346	P	P	21 57 03.1	+0.3
FINES	FINESS Array B	64.80	346	P	P	21 57 02.4	-0.3
FINES	FINESS Array B	64.80	346	P	P	21 57 01.4	-1.4
	comp=Z,9.8nm,1.0s,baz=21,slow=6.9,SNR=6.9						
	comp=Z,9.8nm,1.0s						
AAK	Ala-Archa	65.00	308	P	P	21 57 05.0	+0.4
AAK				IAmb	IAmb	21 57 15.8	
	comp=Z,5.9nm,1.1s						
ABKAR	Akbulak array	66.31	321	P	P	21 57 11.6	-1.1
ABKAR	Akbulak array	66.31	321	P	P	21 57 12.3	-0.4
ABKAR				IAmb	IAmb	21 57 15.9	
	comp=Z,10nm,1.3s						
KKAR	Karatay Array	66.56	310	P	P	21 57 14.1	-0.4
NB2	NORSAR Subarra	66.90	353	P	P	21 57 15.7	-0.7
	comp=Z,4.4nm,0.8s,baz=10,slow=6.5						
NOA	NORSAR Array B	66.90	353	P	P	21 57 15.2	-1.1
	comp=Z,3.9nm,0.8s,baz=11,slow=6.4,SNR=10						
	comp=Z,3.9nm,0.8s						
HFS	Hagfors	67.59	352	P	P	21 57 20.0	-0.8
	comp=Z,4.5nm,0.8s,baz=29,slow=3.4,SNR=8.0						
	comp=Z,4.5nm,0.8s						
BTK	Batken	68.76	308	P	P	21 57 28.6	+0.1
CMAR	Chiang Mai Arr	69.02	273	P	P	21 57 29.6	-0.7
CMAR	Chiang Mai Arr	69.02	273	P	P	21 57 31.0	+0.7
	comp=Z,0.9nm,0.4s,baz=24,slow=7.7,SNR=7.4						
	comp=Z,0.9nm,0.4s						
GAR	Garm	69.82	308	P	P	21 57 35.8	+0.6
AKASG	Malin Array Be	74.40	340	P	P	21 58 03.1	+0.9
AKASG	Malin Array Be	74.40	340	P	P	21 58 01.8	-0.4
	comp=Z,5.5nm,0.6s,baz=23,slow=6.4,SNR=12						
	comp=Z,5.5nm,0.6s						
AKBB	Malin Array Si	74.40	340	P	P	21 58 02.4	+0.2
KIEV	Kiev	74.41	340	P	P	21 58 02.1	-0.2
BUR08	Bucovina Ar. S	78.13	342	P	P	21 58 23.4	-0.1
BUR08				IAmb	IAmb	21 58 26.2	
	comp=Z,7.4nm,0.8s						
BURAR	Bucovina Array	78.16	342	P	P	21 58 23.8	0.0
MLR	Muntele Rosu	80.04	340	P	P	21 58 35.3	+1.2
MLR				IAmb	IAmb	21 59 02.9	
	comp=Z,15nm,1.5s						
WRA	Warramunga Arr	81.09	221	P	P	21 58 39.6	-0.1
	comp=Z,2.1nm,1.0s,baz=27,slow=5.7,SNR=4.8						
	comp=Z,2.1nm,1.0s						
BRTR	Keskin Array B	83.61	333	P	P	21 58 52.6	-0.5
	comp=Z,1.0nm,0.8s,baz=58,slow=3.1,SNR=3.7						
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	84.61	220	P	P	21 58 59.4	+1.5
	comp=Z,1.0nm,0.8s,baz=38,slow=7.3,SNR=4.7						
	comp=Z,1.0nm,0.8s						
NRCA	Norcia	84.73	349	P	P	21 58 59.1	+0.5
BOSA	Boshof	149.14	308	PKPbc	PKPbc	22 06 12.3	-0.6
	comp=Z,2.1nm,0.6s,baz=0.0,slow=5.1,SNR=5.8						

*IDC **02** 21:50:59.9±3.0, 51°.67N×177°.96E, h0km, mb3.7/10, mbtmp3.7/11, ML3.6/1, Error ellipse: s-maj=79.0km s-min=21.8km az=176.0*
*NEIC **02** 21:51:01.5±0.7, 51°.7N±0°.2×178°.1E±0°.1, h10km±2km, mb4.0/13, Error ellipse: s-maj=28.3km s-min=9.8km az=192.0*

ISC 02 21:51:01.6±1.5, 51°.7N±0°.2×178°.05E±0°.06, h10km, n30, σ0§61/32, mb4.0/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	2.63	294	Pn	Pn	21 51 44.7	+0.6
	12nm,0.3s,baz=274,slow=22,SNR=1.4						
SHEM				Sn	Sb	21 52 21.1	-0.1
	67nm,0.3s,baz=294,slow=18,SNR=12						
	46nm,0.4s						
SMY	Shemya	2.63	294	Pn	Pn	21 51 44.2	+0.1
SMY				Sn	Sn	21 52 16.2	+0.2
KIWB	Kanaga Island	2.98	85	Pn	Pn	21 51 49.3	+0.3
N15K	Kwethluk River	14.82	47	Pn	Pn	21 54 31.0	-0.1
P18K	Big Mountain,	16.86	52		P	21 54 58.6	-1.0
P18K				IAmb	IAmb	21 55 07.2	
	comp=Z,18nm,1.1s						
O18K	Koktuh Hills	17.00	51		P	21 55 00.3	-0.9
N19K	Bonanza Creek	17.64	48		Pn	21 55 06.9	-0.4
P19K	Oil Pt	17.91	52		Pn	21 55 09.9	-0.8
P19K				IAmb	IAmb	21 55 18.0	
	comp=Z,9.2nm,0.7s						
CNPM	China Poot	18.88	54	P	P	21 55 21.4	-0.5
BRLK	Bradley Lake	19.10	53	P	P	21 55 24.1	-0.1
BRLK				IAmb	IAmb	21 55 50.1	
	comp=Z,6.8nm,1.1s						
PWL	Port Wells	20.56	50	P	P	21 55 40.2	+0.1
SML	Sawmill	20.77	48	P	P	21 55 42.3	-0.2
SML				IAmb	IAmb	21 55 49.2	
	comp=Z,12nm,1.0s						
GLI	Glacier Island	21.16	51	P	P	21 55 47.7	+1.0
GLI				IAmb	IAmb	21 55 54.8	
	comp=Z,5.8nm,0.7s						
SCM	Sheep Creek Mo	21.24	48	P	P	21 55 46.9	-0.6
SCM				IAmb	IAmb	21 56 01.3	
	comp=Z,6.9nm,0.9s						
M24K	Tolsona, Glenn	21.83	48	P	P	21 55 55.2	+1.4
M24K				IAmb	IAmb	21 56 08.8	
	comp=Z,4.4nm,1.1s						
ILAR	Eielson Array	22.24	41	P	P	21 55 58.9	+0.7
	comp=Z,0.4nm,0.7s,baz=263,slow=10,SNR=4.1						
	comp=Z,0.4nm,0.7s						
YKA	Yellowknife Ar	36.42	46	P	P	21 58 06.5	+0.6
	comp=Z,0.5nm,0.6s,baz=284,slow=9.1,SNR=1.3						
	comp=Z,0.5nm,0.6s						
SONM	Songino Array	44.73	295	P	P	21 59 15.5	+0.7
	comp=Z,0.5nm,0.6s,baz=69,slow=8.0,SNR=2.2						
	comp=Z,0.5nm,0.6s						
PDAR	Pinedale Array	48.07	71	P	P	21 59 41.7	+0.4
	comp=Z,0.2nm,0.6s,baz=304,slow=8.7,SNR=1.5						
	comp=Z,0.2nm,0.6s						
SPITS	Spitsbergen Ar	49.88	355	P	P	21 59 54.5	0.0
	comp=Z,2.2nm,0.7s,baz=25,slow=11,SNR=1.1						
	comp=Z,2.2nm,0.7s						
KURK	Kurchatov	57.34	312	P	P	22 00 49.1	-0.4
KURBB	Kurchatov Arra	57.45	312	P	P	22 00 49.5	-0.7
	comp=Z,0.9nm,0.6s,baz=41,slow=6.7,SNR=8.4						
	comp=Z,0.9nm,0.6s						
MKAR	Makanchi Array	58.27	307	P	P	22 00 55.5	-0.6
MKAR	Makanchi Array	58.27	307	P	P	22 00 55.2	-0.9
	comp=Z,0.3nm,0.6s,baz=47,slow=5.2,SNR=5.8						
	comp=Z,0.3nm,0.6s						
BVAR	Borovoye Array	59.34	318	P	P	22 01 03.0	-0.4
	comp=Z,1.1nm,0.5s,baz=43,slow=6.5,SNR=4.7						
	comp=Z,1.1nm,0.5s						
ARTI	Arti	61.35	327	P	P	22 01 17.1	0.0
FINES	FINESS Array B	64.99	346	P	P	22 01 41.4	+0.2
	comp=Z,3.1nm,1.0s,baz=28,slow=6.5,SNR=3.6						
	comp=Z,3.1nm,1.0s						
ABKAR	Akbulak array	66.46	321	P	P	22 01 50.5	-0.3
KKAR	Karatay Array	66.69	310	P	P	22 01 52.1	-0.3
AKASG	Malin Array Be	74.59	340	P	P	22 02 40.0	-0.3
	comp=Z,0.9nm,0.4s,baz=23,slow=6.2,SNR=5.9						
	comp=Z,0.9nm,0.4s						

*IDC **02** 22:02:56.1±4.6, 50°.68N×178°.07E, h0km, mb3.5/6, mbtmp3.6/7, ML4.1/1, Error ellipse: s-maj=110.6km s-min=27.3km az=174.0*
*NEIC **02** 22:03:03.9±1.8, 51°.90N±0°.08×178°.01E±0°.09, h10km±2km, mb3.7/14, Error ellipse: s-maj=15.0km s-min=6.3km az=146.0*

ISC 02 22:03:03.5±1.8, 51°.8N±0°.3×178°.03E±0°.06, h10km, n29, σ1§18/30, mb3.7/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	2.60	293	Pn	Pn	22 03 47.2	+1.6
	21nm,0.3s,baz=188,slow=3.7,SNR=5.5						
SHEM				Sn	Sb	22 04 21.2	-0.9
	35nm,0.3s,baz=295,slow=20,SNR=7.6						
	54nm,0.3s						
SMY	Shemya	2.60	293	Pn	Pn	22 03 44.9	-0.7
ADK	Adak	3.28	86	Pn	Pn	22 03 55.3	+0.4
GSTR	Great Sitkin T	3.68	82	Pn	Pn	22 04 00.7	+0.3
ACHA	Angle Creek He	16.52	57		P	22 06 57.9	+0.1
ACHA				IAmb	IAmb	22 07 21.8	
	comp=Z,11nm,1.4s						
K17K	Iditarod	16.75	40	P	P	22 07 00.5	+0.4
P18K	Big Mountain,	16.85	53		P	22 07 00.9	-0.4
P18K				IAmb	IAmb	22 07 01.9	
	comp=Z,10nm,1.4s						
O18K	Koktuh Hills	16.98	51		Pn	22 07 01.2	+0.3
O18K				IAmb	IAmb	22 07 17.4	
	comp=Z,4.9nm,0.8s						
P19K	Oil Pt	17.90	53		P	22 07 13.1	+0.2
SUA	Susitna One	19.55	48	P	Pn	22 07 33.0	+0.7
SUA				IAmb	IAmb	22 07 40.5	
	comp=Z,3.9nm,0.9s						
C18K	Utukok River	19.65	23	P	Pn	22 07 33.5	+0.1
SCM	Sheep Creek Mo	21.22	48	P	P	22 07 47.3	-1.8
ILAR	Eielson Array	22.21	41	P	P	22 08 03.8	+4.0
	comp=Z,0.5nm,0.9s,baz=257,slow=10,SNR=5.1						
	comp=Z,0.5nm,0.9s						
D23K	Nanushuk River	22.73	29	P	P	22 08 05.5	+0.3
D23K				IAmb	IAmb	22 08 27.4	
	comp=Z,3.6nm,1.2s						
TOLK	Toolik Lake Re	22.90	30	P	P	22 08 04.8	-2.2
J26L	Joseph Creek	23.51	42	P	P	22 08 11.7	-1.6
BCAR	Beaver Creek A	23.98	46	P	P	22 08 16.9	-0.9
I28M	Miner Creek	25.23	41	P	P	22 08 28.7	-0.5
I28M				IAmb	IAmb	22 08 39.9	
	comp=Z,0.7nm,0.8s						
YKA	Yellowknife Ar	36.40	46	P	P	22 10 07.1	-0.4
	comp=Z,0.3nm,0.6s,baz=284,slow=8.7,SNR=4.9						
	comp=Z,0.3nm,0.6s						
KURK	Kurchatov	57.31	312	P	P	22 12 51.0	-0.1
KURBB	Kurchatov Arra	57.41	312	P	P	22 12 51.4	-0.4
	comp=Z,0.4nm,0.4s,baz=44,slow=6.8,SNR=4.0						
	comp=Z,0.4nm,0.4s						
MK31	Makanchi Array	58.23	306	P	P	22 12 57.1	-0.5
MK31				IAmb	IAmb	22 13 01.9	
	comp=Z,0.8nm,1.1s						
MKAR	Makanchi Array	58.23	306	P	P	22 12 57.2	-0.4
MKAR	Makanchi Array	58.23	306	P	P	22 12 56.9	-0.8
	comp=Z,0.2nm,0.4s,baz=48,slow=6.9,SNR=4.2						
	comp=Z,0.2nm,0.4s						
BVAR	Borovoye Array	59.30	318	P	P	22 13 05.2	+0.2
	comp=Z,0.8nm,0.4s,baz=52,slow=7.4,SNR=8.2						
	comp=Z,0.8nm,0.4s						
BRVK	Borovoye	59.32	318	P	P	22 13 05.6	+0.6
BRVK				IAmb	IAmb	22 13 22.1	
	comp=Z,0.9nm,0.9s						
FINES	FINESS Array B	64.95	346	P	P	22 13 44.2	+1.5
ABKAR	Akbulak array	66.41	321	P	P	22 13 52.8	+0.4

PAJU	**Pajala**	**0.98**	**98**	P	Pg	22 05 46.1	-0.5
PAJU				S	Sg	22 05 59.2	-0.1
LANU	**Lannavaara**	**1.01**	**30**	P	Pg	22 05 46.5	-0.6
KOVU	**Salmi**	**1.06**	**350**	P	Pg	22 05 47.9	-0.2
KALU	**Kalix**	**1.72**	**139**	P	Pn	22 05 59.3	+0.3
SJUU	**Sjulsmark**	**1.73**	**166**	P	Pn	22 05 59.0	0.0

*IDC **02** 22:19:12.0±2.8, 51°.42N×178°.00E, h0km, mb3.6/8, mbtmp3.6/9, ML3.9/1, Error ellipse: s-maj=75.7km s-min=19.9km az=1.0*
*NEIC **02** 22:19:14.9±1.5, 51°.6N±0°.2×178°.04E±0°.06, h10km±2km, mb4.1/10, ML3.7/6, Error ellipse: s-maj=31.2km s-min=4.6km az=188.0*
ISC 02 22:19:14.5±1.5, 51°.6N±0°.3×178°.00E±0°.06, h10km, n28, σ0§65/29, mb3.8/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.65**	**296**	Pn	**Pn**	**22 19 59.0**	**+1.9**
	18nm,0.3s,baz=82,slow=5.8,SNR=5.0						
SHEM				Sn	**Sb**	**22 20 32.9**	**-1.5**
	21nm,0.3s,baz=300,slow=20,SNR=7.3						
	129nm,0.9s						
SMY	**Shemya**	**2.65**	**296**	Pn	**Pn**	**22 19 57.3**	**+0.1**
SMY				IAML		22 20 49.8	
	comp=N,357nm,1.3s						
KIWB	**Kanaga Island**	**3.03**	**84**	Pn	**Pn**	**22 20 02.6**	**+0.2**
ADK	**Adak**	**3.32**	**83**	Pn	**Pn**	**22 20 06.5**	**+0.1**
ADK				IAML		22 21 03.7	
	comp=N,114nm,1.4s						
ATKA	**Atka Island**	**4.87**	**80**	Pn	**Pn**	**22 20 27.9**	**+0.2**
ATKA				IAML		22 21 42.4	
	comp=E,46nm,1.3s						
ATKA				IAML		22 21 43.9	
	comp=N,65nm,1.4s						
M16K	**Timber Creek**	**15.79**	**44**	Pn	**Pn**	**22 22 57.3**	**+0.7**
M16K				IAmb	IAmb	22 23 16.3	
	comp=Z,12nm,1.2s						
N17K	**Nushagak Hills**	**16.38**	**47**		**P**	**22 23 06.6**	**-0.5**
M17K	**Holitna River**	**16.62**	**44**	Pn	**Pn**	**22 23 07.0**	**-0.3**
M17K				IAmb	IAmb	22 23 31.9	
	comp=Z,32nm,1.4s						
O18K	**Koktuh Hills**	**17.09**	**51**		**Pn**	**22 23 14.0**	**+0.7**
O18K				IAmb	IAmb	22 23 20.3	
	comp=Z,29nm,1.5s						
PWL	**Port Wells**	**20.65**	**50**	P	**P**	**22 23 53.2**	**-0.7**
SML	**Sawmill**	**20.86**	**48**	P	**P**	**22 23 56.6**	**+0.4**
SML				IAmb	IAmb	22 24 05.6	
	comp=Z,6.0nm,0.9s						
ILAR	**Eielson Array**	**22.34**	**40**	P	**P**	**22 24 11.9**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=252,slow=10.0,SNR=4.5						
	comp=Z,0.3nm,0.7s						
R33M	**Jennings River**	**29.27**	**54**	P	**P**	**22 25 16.8**	**+0.3**
YKA	**Yellowknife Ar**	**36.51**	**46**	P	**P**	**22 26 19.8**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=246,slow=9.0,SNR=4.7						
	comp=Z,0.3nm,0.6s						
SONM	**Songino Array**	**44.74**	**295**	P	**P**	**22 27 26.9**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=64,slow=9.3,SNR=2.9						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**48.13**	**71**	P	**P**	**22 27 55.1**	**+0.4**
PDAR	**Pinedale Array**	**48.13**	**71**	P	**P**	**22 27 54.9**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=260,slow=4.4,SNR=3.8						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**57.49**	**312**	P	**P**	**22 29 03.7**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=43,slow=6.6,SNR=8.2						
	comp=Z,0.9nm,0.6s						
MK31	**Makanchi Array**	**58.30**	**307**	P	**P**	**22 29 08.8**	**-0.3**
MK31				IAmb	IAmb	22 29 11.0	
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**58.30**	**307**	P	**P**	**22 29 08.7**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=48,slow=5.6,SNR=5.9						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**59.39**	**318**	P	**P**	**22 29 16.3**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=55,slow=7.1,SNR=7.1						
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**59.41**	**318**	P	**P**	**22 29 17.7**	**+0.9**
BRVK				IAmb	IAmb	22 29 18.8	
	comp=Z,1.4nm,0.7s						
FINES	**FINESS Array B**	**65.08**	**346**	P	**P**	**22 29 54.1**	**-0.5**
ABKAR	**Akbulak array**	**66.51**	**321**	P	**P**	**22 30 04.1**	**+0.1**
KKAR	**Karatay Array**	**66.72**	**310**		**P**	**22 30 05.8**	**+0.2**
AKASG	**Malin Array Be**	**74.67**	**340**	P	**P**	**22 30 54.1**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=23,slow=6.3,SNR=6.2						
	comp=Z,1.3nm,0.5s						
BUR08	**Bucovina Ar. S**	**78.40**	**342**	P	**P**	**22 31 15.4**	**+0.3**
BURAR	**Bucovina Array**	**78.43**	**342**	P	**P**	**22 31 15.2**	**0.0**

*SJA **02** 22:42:56.1±0.6, 24°.15S×66°.93W, h202km±8km, ML3.5, MW3.4*
*GUC **02** 22:42:58.3±0.7, 24°.09S×67°.26W, h226km±16km, ML3.6*
ISC 02 22:42:58.6±1.2, 24°.11S±0°.04×67°.06W±0°.05, h181km, n26, σ1§58/39, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.54**	**113**	*eP*	**Pn**	**22 43 30.3**	**-0.9**
SLA	**San Lorenzo**	**1.54**	**113**	*eP*	Pn	22 43 25.1	-6.1
AF01	**San Pedro de A**	**1.55**	**318**	*eP*	Pn	22 43 26.1	-5.4
AF01				*eS*	Sn	22 44 08.0	+11
AZAP	**Zapla**	**1.82**	**94**	*eP*	**Pn**	**22 43 32.7**	**-1.5**
FSA	**Cafayete**	**2.22**	**154**	*eP*	**Pn**	**22 43 37.2**	**-1.1**
GO02	**Mina Guanaco**	**2.53**	**245**	*i* P	**Pn**	**22 43 42.9**	**+0.9**
GO02				*i* S	**Sn**	**22 44 17.5**	**+1.8**
GO02				IAML		22 44 19.6	
	comp=E,296nm,0.2s						
PB06	**IPOC Station P**	**2.70**	**301**	⇑*i* P	**Pn**	**22 43 44.8**	**+0.9**
PB06				*i* S	**Sn**	**22 44 19.8**	**+0.7**
PB06				IAML		22 44 21.9	
	comp=E,228nm,0.4s						
PB06	**IPOC Station P**	**2.70**	**301**	*eP*	**Pn**	**22 43 44.6**	**+0.8**
PB06				*eS*	**Sn**	**22 44 20.2**	**+1.1**
PB06				IAML		22 44 22.5	
	comp=Z,148nm,0.3s						
ALOL	**LOMAS DE OLMED**	**2.83**	**85**	*eS*	**Sn**	**22 44 26.0**	**+4.4**
PB09	**IPOC Station P**	**3.06**	**318**	⇓*i* P	**Pn**	**22 43 49.4**	**+1.1**
PB09				*i* S	**Sn**	**22 44 27.2**	**+0.3**
PB09				IAML		22 44 29.2	
	comp=N,58nm,0.5s						
PB09	**IPOC Station P**	**3.06**	**318**	*eP*	**Pn**	**22 43 49.5**	**+1.3**
PB09				*eS*	**Sn**	**22 44 28.0**	**+1.1**
PB09				IAML		22 44 33.2	
	comp=Z,57nm,0.2s						
PB14	**IPOC Station P**	**3.09**	**260**	*eP*	**Pn**	**22 43 49.4**	**+0.7**
PB14				*eS*	**Sn**	**22 44 29.4**	**+1.6**
PB05	**IPOC Station P**	**3.15**	**293**	⇑*i* P	**Pn**	**22 43 49.7**	**+0.5**
PB05				*i* S	**Sn**	**22 44 27.8**	**-0.9**
PB05	**IPOC Station P**	**3.15**	**293**	*eP*	**Pn**	**22 43 49.8**	**+0.5**
PB05				*eS*	**Sn**	**22 44 29.1**	**+0.4**
PB05				IAML		22 44 31.9	
	comp=Z,43nm,0.4s						
PB03	**IPOC Station P**	**3.22**	**309**	*i* P	**Pn**	**22 43 50.4**	**+0.2**
PB03				*i* S	**Sn**	**22 44 29.5**	**-0.9**
PB03	**IPOC Station P**	**3.22**	**309**	*eP*	**Pn**	**22 43 50.8**	**+0.6**
PB03				*eS*	**Sn**	**22 44 30.2**	**-0.2**
PB03				IAML		22 44 31.5	
	comp=Z,105nm,0.2s						
AC02	**Maricunga**	**3.29**	**214**	*eP*	**Pn**	**22 43 52.9**	**+1.6**
AC02				*eS*	**Sn**	**22 44 35.6**	**+3.0**
PB01	**IPOC Station P**	**3.79**	**323**	*i* P	**Pn**	**22 43 56.9**	**-0.3**
PB01				*i* S	**Sn**	**22 44 41.5**	**-1.6**
PB01	**IPOC Station P**	**3.79**	**323**	*eP*	**Pn**	**22 43 57.2**	**0.0**
PB01				*eS*	Sn	22 44 31.3	-12
PB01				IAML		22 44 45.9	
	comp=Z,48nm,0.2s						
AC01	**Pan de Azucar**	**3.79**	**237**	*eP*	**Pn**	**22 43 56.3**	**-0.8**
AC01				*eS*	**Sn**	**22 44 41.7**	**-1.2**
AC01	**Pan de Azucar**	**3.79**	**237**	*eP*	Pn	22 43 51.0	-6.1
AC01				*eS*	**Sn**	**22 44 42.1**	**-0.8**
AC01				IAML		22 44 43.4	
	comp=Z,40nm,0.2s						
PATCX	**Punta Patache**	**4.35**	**318**	*eP*	**Pn**	**22 44 04.3**	**-0.1**
GO03	**Copiapo**	**4.49**	**219**	*eP*	**Pn**	**22 44 05.2**	**-0.8**
GO03				*eS*	**Sn**	**22 44 55.1**	**-3.9**
HMBC	**Humberstone**	**4.63**	**325**	*eP*	**Pn**	**22 44 06.5**	**-1.4**
HMBC				*eS*	**Sn**	**22 44 59.2**	**-3.2**
VCA	**Vinchina**	**4.72**	**192**	*eP*	**Pn**	**22 44 10.0**	**+0.9**
VCA				IAML		22 45 53.4	
	comp=Z,32nm,0.3s						
ACLC	**CERRO LA CRUZ**	**5.29**	**179**	*eP*	**Pn**	**22 44 14.7**	**-1.8**

*NEIC **02** 22:47:53.3±1.4, 51°.8N±0°.2×178°.04E±0°.06, h10km±2km, mb3.9/11, ML3.7/6, Error ellipse: s-maj=32.5km s-min=3.0km az=190.0*
*IDC **02** 22:47:58.8±4.2, 53°.09N×177°.67E, h0km, mb3.7/7, mbtmp3.7/8, ML3.6/1, Error ellipse: s-maj=109.8km s-min=22.5km az=164.0*
ISC 02 22:47:53.6±1.7, 51°.8N±0°.3×178°.08E±0°.06, h10km, n26, σ1§05/27, mb3.8/12, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.62**	**292**	Pn	**Pn**	**22 48 36.5**	**+0.6**
	16nm,0.3s,baz=165,slow=2.5,SNR=5.0						
SHEM				Sn	**Sn**	**22 49 09.6**	**+2.0**
	23nm,0.3s,baz=260,slow=20,SNR=8.4						
	57nm,0.8s						
SMY	**Shemya**	**2.62**	**292**	Pn	**Pn**	**22 48 35.4**	**-0.4**
SMY				IAML		22 49 14.3	
	comp=E,270nm,0.9s						
SMY				IAML		22 49 17.1	
	comp=N,280nm,0.9s						
KIWB	**Kanaga Island**	**2.96**	**87**	Pn	**Pn**	**22 48 41.0**	**+0.3**
ADK	**Adak**	**3.25**	**86**	Pn	**Pn**	**22 48 44.6**	**0.0**
ADK				IAML		22 49 41.5	
	comp=N,124nm,1.6s						
ATKA	**Atka Island**	**4.79**	**82**	Pn	**Pn**	**22 49 06.3**	**+0.6**
ATKA				IAML		22 51 38.9	
	comp=N,118nm,4.7s						
ACHA	**Angle Creek He**	**16.48**	**57**	Pn	**Pn**	**22 51 45.6**	**+0.9**
ACHA				IAmb	IAmb	22 52 05.7	
	comp=Z,10nm,1.4s						
P18K	**Big Mountain,**	**16.80**	**53**		**Pn**	**22 51 49.6**	**+0.8**
P18K				IAmb	IAmb	22 52 04.7	
	comp=Z,9.4nm,1.1s						
O18K	**Koktuh Hills**	**16.94**	**51**		**P**	**22 51 52.3**	**-0.1**
N19K	**Bonanza Creek**	**17.57**	**48**	Pn	**Pn**	**22 51 58.1**	**-0.3**
SYI	**Shuyak Island**	**18.07**	**56**		**Pn**	**22 52 04.2**	**-0.2**
ILAR	**Eielson Array**	**22.16**	**41**	P	**P**	**22 52 46.3**	**-3.0**
	comp=Z,0.5nm,0.9s,baz=257,slow=7.9,SNR=2.0						
	comp=Z,0.5nm,0.9s						
D25K	**Kavik River**	**24.19**	**30**	P	**P**	**22 53 09.3**	**-0.6**
D25K				IAmb	IAmb	22 53 32.7	
	comp=Z,2.6nm,1.1s						
DAWY	**Dawson**	**25.15**	**44**	P	**P**	**22 53 18.2**	**-0.4**
DAWY				IAmb	IAmb	22 53 22.4	
	comp=Z,5.2nm,1.0s						
HYT	**Haines Junctio**	**25.76**	**52**	P	**P**	**22 53 24.1**	**-0.1**
HYT				IAmb	IAmb	22 53 42.8	
	comp=Z,4.0nm,0.9s						
D27M	**Malcolm River**	**25.91**	**32**	P	**P**	**22 53 25.6**	**+0.2**
D27M				IAmb	IAmb	22 53 33.8	
	comp=Z,2.3nm,1.2s						
YKA	**Yellowknife Ar**	**36.35**	**46**	P	**P**	**22 54 58.0**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=284,slow=8.8,SNR=7.4						
	comp=Z,0.5nm,0.6s						
SONM	**Songino Array**	**44.71**	**295**	P	**P**	**22 56 07.1**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=57,slow=8.8,SNR=4.3						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**57.41**	**312**	P	**P**	**22 57 40.7**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=43,slow=6.5,SNR=12						
	comp=Z,1.5nm,0.6s						
MK31	**Makanchi Array**	**58.23**	**306**	P	**P**	**22 57 46.1**	**-1.7**
MK31				IAmb	IAmb	22 58 01.9	
	comp=Z,1.3nm,1.2s						
MKAR	**Makanchi Array**	**58.23**	**306**	P	**P**	**22 57 46.8**	**-1.0**
MKAR	**Makanchi Array**	**58.23**	**306**	P	**P**	**22 57 47.5**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=53,slow=5.6,SNR=6.7						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**59.29**	**318**	P	**P**	**22 57 54.2**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=51,slow=7.1,SNR=12						
	comp=Z,1.4nm,0.5s						
BRVK	**Borovoye**	**59.31**	**318**	P	**P**	**22 57 53.4**	**-1.8**
ABKAR	**Akbulak array**	**66.40**	**321**	P	**P**	**22 58 42.3**	**-0.2**
KKAR	**Karatay Array**	**66.64**	**310**	P	**P**	**22 58 44.2**	**+0.1**
AKASG	**Malin Array Be**	**74.52**	**340**	P	**P**	**22 59 31.8**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=26,slow=6.6,SNR=4.1						
	comp=Z,0.9nm,0.5s						

*NEIC **02** 23:01:23.7±1.8, 6°.10S±0°.06×148°.93E±0°.07, h51km±4km, mb5.0/75, Error ellipse: s-maj=11.7km s-min=7.2km az=59.0*
*IDC **02** 23:01:23.4±0.6, 6°.00S×148°.88E, h57km±4km, mb4.2/17, mbtmp4.5/17, MS4.3/1, Error ellipse: s-maj=17.6km s-min=7.7km az=102.0*
*DJA **02** 23:01:23.3±2.0, 6°.5S±10°.×14°.9E±°, h52km±15km, M5.2/18, mb5.0/18, mB5.8/5, Mw(mB)5.3/5*
ISC 02 23:01:23.5±0.4, 6°.13S±0°.04×148°.96E±0°.06, h54km±3km, h54km: pP-P, n348, σ1§16/355, mb4.9/69, MS5.0/3, 4C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**209**	P	**Pn**	**23 02 21.0**	**+2.7**
	1μm,0.5s,baz=37,slow=5.4,SNR=323						
PMG				S	**Sn**	**23 03 04.3**	**+3.6**
	2μm,0.7s,baz=330,slow=24,SNR=14						
RABL	**Rabaul**	**3.73**	**59**		**Pn**	**23 02 20.0**	**+1.4**
MANU	**Manus Island**	**4.36**	**339**		**Pn**	**23 02 28.6**	**+1.3**
JAY	**Jayapura**	**8.98**	**293**	P	Pn	23 03 35.1	+4.5
	10nm,0.4s,baz=111,slow=16,SNR=12						
COEN	**Coen**	**9.63**	**216**	Pn	**Pn**	**23 03 39.9**	**+0.4**
COEN	**Coen**	**9.63**	**216**	P	**Pn**	**23 03 40.0**	**+0.4**
	comp=Z,35nm,1.7s						
MTSU	**Mount Surprise**	**12.76**	**200**	P	**Pn**	**23 04 24.9**	**+2.6**
	comp=Z,31nm,0.6s						
QIS	**Mount Isa**	**16.97**	**211**	P	**Pn**	**23 05 17.3**	**0.0**
	comp=Z,49nm,1.0s						
KDU	**Kakadu**	**17.51**	**247**	P	**P**	**23 05 24.3**	**-0.2**
	comp=Z,41nm,0.9s						
SAUI	**Saumlaki**	**17.62**	**263**		**Pn**	**23 05 24.1**	**-1.2**
MTN	**Manton Dam**	**18.79**	**248**	P	**P**	**23 05 38.0**	**-0.6**
MTN				IAmb	IAmb	23 05 43.1	
	comp=Z,156nm,1.9s						
MTN	**Manton Dam**	**18.79**	**248**	P	**Pn**	**23 05 39.0**	**-0.6**
	comp=Z,46nm,0.8s						
EIDS	**Eidsvold**	**19.23**	**174**	P	**P**	**23 05 44.5**	**+1.2**
EIDS	**Eidsvold**	**19.23**	**174**	P	**P**	**23 05 44.9**	**+1.5**
	comp=Z,53nm,1.4s						
WB0	**Warramunga Arr**	**19.60**	**225**	P	**P**	**23 05 48.2**	**+0.8**
WB0				IAmb	IAmb	23 05 50.6	
	comp=Z,49nm,0.6s						
WR0	**Warramunga Arr**	**19.62**	**224**	P	**P**	**23 05 48.5**	**+0.8**
WRAB	**Tennant Creek**	**19.74**	**225**	P	**P**	**23 05 49.4**	**+0.5**
WRAB				IAmb	IAmb	23 05 52.1	
	comp=Z,59nm,0.8s						
WB2	**Warramunga Arr**	**19.75**	**225**	P	**P**	**23 05 50.0**	**+1.0**
WRA	**Warramunga Arr**	**19.75**	**225**	P	**P**	**23 05 48.3**	**-0.8**
WRA	**Warramunga Arr**	**19.75**	**225**	P	**P**	**23 05 49.6**	**+0.5**
	comp=Z,49nm,0.4s,baz=51,slow=11,SNR=135						
WRA				S	**S**	**23 09 21.8**	**-7.3**
	comp=Z,9.3nm,0.9s,baz=42,slow=22,SNR=8.6						
WRA				PcP	**PcP**	**23 10 06.4**	**+0.4**
	comp=Z,4.0nm,0.5s,baz=43,slow=1.9,SNR=6.8						
GUMO	**Guam**	**20.01**	**348**	LR	LR	23 13 45.9	
	comp=Z,733nm,18.5s,baz=298,slow=37						
QLP	**Quilpie**	**20.83**	**192**	P	**P**	**23 06 02.9**	**+2.2**
	comp=Z,195nm,1.4s						
KNRA	**Kununurra**	**21.96**	**243**	P	**P**	**23 06 12.1**	**-0.8**
KNRA				IAmb	IAmb	23 06 29.3	
	comp=Z,51nm,0.8s						
KNRA	**Kununurra**	**21.96**	**243**	P	**P**	**23 06 11.7**	**-1.2**
	comp=Z,71nm,0.9s						
AS31	**Alice Springs**	**22.66**	**218**	P	**P**	**23 06 20.2**	**-0.3**
AS31	**Alice Springs**	**22.66**	**218**	P	**P**	**23 06 20.9**	**+0.4**
	comp=Z,24nm,0.6s						
ASAR	**Alice Springs**	**22.66**	**218**	P	**P**	**23 06 20.4**	**0.0**
ASAR	**Alice Springs**	**22.66**	**218**	P	**P**	**23 06 21.7**	**+1.3**
	comp=Z,18nm,0.5s,baz=54,slow=9.2,SNR=165						
ASAR				PcP	**PcP**	**23 10 12.2**	**+0.6**
	comp=Z,4.8nm,0.7s,baz=49,slow=2.6,SNR=6.8						
ASAR				S	**S**	**23 10 25.2**	**+0.3**
	comp=Z,21nm,0.9s,baz=29,slow=23,SNR=21						
	comp=Z,18nm,0.5s						
DZM	**Mont Dzumac**	**23.16**	**135**	P	**P**	**23 06 24.6**	**-1.0**
DZM	**Mont Dzumac**	**23.16**	**135**	P	**P**	**23 06 26.0**	**+0.4**
	comp=Z,6.9nm,0.5s,baz=322,slow=11,SNR=14						
	comp=Z,6.9nm,0.5s						
SOEI	**Soe**	**24.71**	**260**	P	**P**	**23 06 40.4**	**+0.4**
SOEI				IAmb	IAmb	23 07 10.5	
	comp=Z,58nm,0.9s						
SOEI	**Soe**	**24.71**	**260**	P	**P**	**23 06 41.4**	**+1.4**
	comp=Z,78nm,1.0s						
CMSA	**Cobar Meteorol**	**25.46**	**186**	P	**P**	**23 06 48.6**	**+2.1**
	comp=Z,21nm,0.8s						

FITZ	**Fitzroy Crossi**	**25.67**	**240**	P	**P**	**23 06 47.8**	**-0.7**
FITZ				IAmb	IAmb	23 07 04.1	
	comp=Z,40nm,0.8s						
STKA	**Stephens Creek**	**26.52**	**194**	P	**P**	**23 06 58.6**	**+2.5**
STKA	**Stephens Creek**	**26.52**	**194**	P	**P**	**23 06 58.8**	**+2.7**
	comp=Z,53nm,1.3s						
STKA	**Stephens Creek**	**26.52**	**194**	P	**P**	**23 06 58.0**	**+1.9**
	comp=Z,8.5nm,0.9s,baz=8.6,slow=10,SNR=11						
	comp=Z,8.5nm,0.9s						
MMRI	**Maumere**	**26.61**	**263**	P	**P**	**23 06 54.6**	**-2.5**
MMRI	**Maumere**	**26.61**	**263**	P	**P**	**23 06 56.5**	**-0.6**
EDFI	**Ende, Flores**	**27.16**	**263**	P	**P**	**23 06 58.5**	**-3.7**
	comp=Z,55nm,0.8s						
WRKA	**Warakurna**	**27.30**	**224**	P	**P**	**23 07 02.6**	**-0.7**
	comp=Z,43nm,0.7s						
WSI	**Waingapu**	**28.60**	**261**	P	**P**	**23 07 12.5**	**-2.4**
CNB	**Canberra Magne**	**29.04**	**179**	P	P	23 07 25.2	+6.6
KAPI	**Kappang**	**29.09**	**271**	P	**P**	**23 07 18.8**	**-0.5**
KAPI				IAmb	IAmb	23 07 49.1	
	comp=Z,26nm,1.1s						
BBOO	**Buckleboo**	**29.14**	**203**	P	**P**	**23 07 19.5**	**+0.1**
BBOO				IAmb	IAmb	23 07 53.5	
	comp=Z,66nm,1.7s						
WBSI	**Waikabubak, Su**	**29.49**	**261**	P	**P**	**23 07 21.5**	**-1.3**
	comp=Z,43nm,0.7s						
MSVF	**Nonsavu**	**30.65**	**115**	P	**P**	**23 07 29.9**	**-3.2**
MSVF				IAmb	IAmb	23 07 31.3	
	comp=Z,27nm,0.8s						
MSVF	**Nonsavu**	**30.65**	**115**	P	**P**	**23 07 30.6**	**-2.6**
FORT	**Forrest**	**31.40**	**216**	P	**P**	**23 07 39.9**	**+0.4**
MBWA	**Marble Bar**	**32.00**	**239**	P	**P**	**23 07 44.0**	**-0.9**
MBWA				IAmb	IAmb	23 07 58.9	
	comp=Z,16nm,0.8s						
MBWA	**Marble Bar**	**32.00**	**239**	P	**P**	**23 07 42.3**	**-2.6**
MBWA	**Marble Bar**	**32.00**	**239**	P	**P**	**23 07 44.8**	**-0.1**
MBWA				pP	**pP**	**23 07 57.7**	**-0.2**
PSA00	**Pilbara Seismi**	**32.07**	**239**	P	**P**	**23 07 44.6**	**-0.9**
PSA00	**Pilbara Seismi**	**32.07**	**239**	P	**P**	**23 07 44.6**	**-0.9**
	comp=Z,30nm,1.2s						
GIRL	**Giralia**	**37.28**	**240**	P	**P**	**23 08 31.8**	**+1.3**
MORW	**Morawa**	**38.55**	**230**	P	**P**	**23 08 40.8**	**-0.4**
MORW				IAmb	IAmb	23 08 58.6	
	comp=Z,41nm,1.4s						
NWAO	**Narrogin (SRO)**	**39.76**	**224**	P	**P**	**23 08 51.2**	**+0.1**
NACB	**Ninganchiao**	**40.24**	**319**	P	**P**	**23 08 56.2**	**+1.0**
RTZ	**Ruatahuna**	**41.10**	**146**	P	**P**	**23 09 02.4**	**+0.2**
JNU	**Nakatsue**	**42.65**	**337**	P	**P**	**23 09 14.6**	**-0.2**
JNU				IAmb	IAmb	23 09 29.4	
	comp=Z,39nm,1.0s						
JGF	**Kuroka**	**42.92**	**346**	P	**P**	**23 09 15.2**	**-1.8**
JGF				IAmb	IAmb	23 09 34.2	
	comp=Z,16nm,0.9s						
MJAR	**Matsushiro Arr**	**43.63**	**347**	P	**P**	**23 09 22.2**	**-0.5**
	comp=Z,9.4nm,1.0s,baz=164,slow=8.1,SNR=12						
MJAR				pP	**pP**	**23 09 36.4**	**-0.5**
	comp=Z,10nm,0.8s,baz=159,slow=7.1,SNR=9.8						
	comp=Z,9.4nm,1.0s						
MAJO	**Matsushiro**	**43.63**	**347**	P	**P**	**23 09 22.6**	**-0.1**
MAJO				pP	**pP**	**23 09 35.5**	**-1.4**
JTM	**Tenmabayashi**	**47.25**	**352**	P	**P**	**23 09 50.5**	**-0.8**
NJ2	**Nanjing**	**47.59**	**325**	*eP*	**P**	**23 09 56.3**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
KSRS	**Korea Array**	**47.60**	**337**	P	**P**	**23 09 53.6**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=153,slow=9.0,SNR=11						
KSRS				pP	**pP**	**23 10 07.9**	**-0.5**
	comp=Z,7.5nm,0.9s,baz=155,slow=8.6,SNR=8.0						
	comp=Z,3.5nm,0.7s						
DL2	**Dalian**	**51.48**	**333**	P	**P**	**23 10 24.0**	**+0.5**
DL2				pmax	pmax		
	comp=Z,13nm,0.8s						
TIA	**Tai'an**	**51.63**	**327**	P	**P**	**23 10 21.2**	**-3.5**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
USA0B	**Ussuriysk Arra**	**52.39**	**345**	P	**P**	**23 10 30.3**	**+0.1**
USRK	**Ussuriysk Ar.**	**52.39**	**345**	P	**P**	**23 10 29.2**	**-1.0**
USRK	**Ussuriysk Ar.**	**52.39**	**345**	P	**P**	**23 10 29.8**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=193,slow=5.9,SNR=5.9						
	comp=Z,2.5nm,0.6s						
LYN	**LuoYang**	**53.14**	**322**	P	P	23 10 41.4	+5.5
LYN				pmax	pmax		
	comp=Z,16nm,0.7s						
HNS	**HongShan**	**53.82**	**326**	⇑P	**P**	**23 10 40.9**	**+0.1**
HNS				pP	**pP**	**23 10 54.2**	**-1.2**
HNS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**55.03**	**297**	P	**P**	**23 10 48.6**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=113,slow=7.8,SNR=1.8						
CMAR				pP	**pP**	**23 11 02.5

O14K	Tigyukauivet M	76.18	24	P	P	23 13 07.1	+1.4
	baz=231						
K13K	Kusilvak Mount	76.65	21	P	P	23 13 09.4	+1.1
	baz=228						
CHIR	Chirikof Islan	76.65	29	P	P	23 13 09.9	+1.5
	baz=237						
O15K	Ungalikthiuk R	76.72	24	P	P	23 13 08.7	0.0
	baz=233						
M14K	Bethel	76.86	22	P	P	23 13 10.8	+1.4
	baz=230						
L14K	Kuka Creek	76.97	22	P	P	23 13 11.6	+1.6
	baz=230						
J14K	Nanvaranak Lak	77.58	20	P	P	23 13 14.0	+0.5
J14K				IAmb	IAmb	23 13 46.5	
	comp=Z,25nm,1.4s						
J14K	Nanvaranak Lak	77.58	20	P	P	23 13 14.9	+1.5
	baz=229						
O16K	Kokwok River B	77.68	25	P	P	23 13 13.3	-0.8
O16K				IAmb	IAmb	23 14 45.1	
	comp=Z,27nm,1.6s						
O16K	Kokwok River B	77.68	25	P	P	23 13 14.8	+0.7
	baz=234						
Q17K	Contact Creek	77.87	26	P	P	23 13 15.2	-0.1
	baz=237						
N16K	Nishlik Lake	77.93	24	P	P	23 13 16.4	+0.9
	baz=234						
K15K	Wolf Creek Mou	78.00	21	P	P	23 13 17.1	+1.3
	baz=231						
M16K	Timber Creek	78.18	23	P	P	23 13 18.1	+1.3
	baz=233						
O17K	Koliganek Bris	78.20	25	P	P	23 13 18.0	+1.0
	baz=235						
ANM	Nome	78.21	18	P	P	23 13 17.8	+0.9
	baz=227						
L16K	Owhat River	78.40	22	P	P	23 13 18.2	+0.2
L16K				IAmb	IAmb	23 14 31.9	
	comp=Z,23nm,1.6s						
L16K	Owhat River	78.40	22	P	P	23 13 18.6	+0.6
	baz=233						
Q18K	Katmai Hardscr	78.46	26	P	P	23 13 18.6	0.0
	baz=237						
OHAK	Old Harbor	78.49	28	P	P	23 13 20.1	+1.5
	baz=239						
N17K	Nushagak Hills	78.59	24	P	P	23 13 20.7	+1.6
	baz=235						
MK31	Makanchi Array	78.84	320	P	P	23 13 20.2	-0.7
MKAR	Makanchi Array	78.84	320	P	P	23 13 20.5	-0.4
MKAR	Makanchi Array	78.84	320	P	P	23 13 18.6	-2.3
	comp=Z,0.6nm,0.4s,baz=97,slow=8.0,SNR=18						
	comp=Z,0.6nm,0.4s						
J16K	Anvik River	78.96	21	P	P	23 13 21.4	+0.4
J16K				IAmb	IAmb	23 14 50.8	
	comp=Z,38nm,1.9s						
J16K	Anvik River	78.96	21	P	P	23 13 22.2	+1.2
	baz=231						
M17K	Holitna River	79.00	23	P	P	23 13 22.1	+0.7
M17K				IAmb	IAmb	23 13 51.4	
	comp=Z,47nm,1.9s						
M17K	Holitna River	79.00	23	P	P	23 13 22.4	+1.0
	baz=235						
O18K	Koktuh Hills	79.03	25	P	P	23 13 22.3	+0.7
	baz=237						
L17K	Donlin	79.10	22	P	P	23 13 22.3	+0.5
	baz=234						
Q19K	Cape Douglas,	79.22	26	P	P	23 13 22.9	+0.3
	baz=238						
F15K	North Star Dit	79.22	18	P	P	23 13 23.2	+0.8
	baz=227						
H16K	Elim	79.26	19	P	P	23 13 23.4	+0.6
	baz=230						
I17K	Unalakleet	79.30	20	P	P	23 13 23.6	+0.6
	baz=231						
J17K	VABM Dome	79.57	21	P	P	23 13 24.9	+0.5
J17K				IAmb	IAmb	23 13 36.1	
	comp=Z,38nm,1.8s						
J17K	VABM Dome	79.57	21	P	P	23 13 25.6	+1.1
	baz=233						
G16K	Koyuk River	79.72	19	P	P	23 13 26.2	+1.0
	baz=229						
L18K	Granite Mounta	79.76	23	P	P	23 13 26.5	+1.0
	baz=235						
P19K	Oil Pt	79.77	26	P	P	23 13 25.7	+0.1
	baz=239						
N19K	Bonanza Creek	79.86	25	P	P	23 13 26.2	0.0
	baz=237						
ZAA0	Zalesovo Array	80.17	327	P	P	23 13 26.4	-1.4
ZALV	Zalesovo Beam	80.17	327	P	P	23 13 25.9	-2.0
ZALV	Zalesovo Beam	80.17	327	P	P	23 13 24.8	-3.1
	comp=Z,2.7nm,0.4s,baz=114,slow=6.4,SNR=13						
	comp=Z,2.7nm,0.4s						
H17K	Granite Mounta	80.23	20	P	P	23 13 28.9	+0.9
	baz=232						
G17K	Kiwalik Mounta	80.34	19	P	P	23 13 29.2	+0.7
	baz=231						
TTA	Tatalina	80.42	22	P	P	23 13 29.7	+0.5
	baz=236						
L19K	White Mountain	80.45	23	P	P	23 13 29.0	-0.3
L19K				IAmb	IAmb	23 13 31.2	
	comp=Z,21nm,1.5s						
L19K	White Mountain	80.45	23	P	P	23 13 29.8	+0.6
	baz=237						
J18K	Innoko River	80.47	22	P	P	23 13 28.8	-0.5
J18K	Innoko River	80.47	22	P	P	23 13 29.8	+0.5
	baz=235						
M19K	Big River Lodg	80.49	24	P	P	23 13 30.3	+0.9
	baz=237						
F17K	Baldwin Pennin	80.75	18	P	P	23 13 31.3	+0.6
	baz=230						
C16K	Lisburne Hills	80.79	16	P	P	23 13 31.3	+0.4
	baz=226						
BRSE	Bradley Lake S	80.91	26	P	P	23 13 31.7	-0.1
	baz=241						
M20K	Styx River	80.98	24	P	P	23 13 32.2	+0.1
M20K				IAmb	IAmb	23 13 46.0	
	comp=Z,23nm,1.7s						
E17K	Hotham Inlet	80.98	17	P	P	23 13 32.7	+0.7
	baz=230						
L20K	Farewell, AK	81.00	23	P	P	23 13 32.7	+0.5
	baz=238						
SPCR	Spurr Chakacha	81.01	25	P	P	23 13 32.4	+0.1
	baz=240						
D17K	Noatak River	81.02	17	P	P	23 13 33.3	+1.2
	baz=228						
J19K	Poorman	81.17	22	P	P	23 13 33.0	-0.1
J19K	Poorman	81.17	22	P	P	23 13 33.3	+0.3
	baz=236						
G18K	Tagagawik	81.23	19	P	P	23 13 33.6	+0.3
	baz=233,SNR=5.2						
F18K	Selawik	81.34	18	P	P	23 13 34.1	+0.3
	baz=232						
K20K	Telida	81.40	22	P	P	23 13 35.2	+0.9
	baz=238						
E18K	Tukpahlearik C	81.57	18	P	P	23 13 35.8	+0.8
	baz=231						
SEW	Seward	81.66	26	P	P	23 13 36.2	+0.6
	baz=242						
SKT	Skwentna	81.68	24	P	P	23 13 36.4	+0.6
	baz=240						
O22K	Cooper Landing	81.71	26	P	P	23 13 36.0	+0.1
	baz=242						
SUA	Susitna One	81.75	25	P	P	23 13 35.6	-0.6
	baz=241						
H19K	Roundabout Mou	81.75	20	P	P	23 13 36.7	+0.7
	baz=235						
J20K	Nowinta River	81.81	22	P	P	23 13 37.2	+0.8
	baz=237,SNR=5.3						
PPLA	Purkeypile	81.88	23	P	P	23 13 37.5	+0.5
	baz=239						
G19K	Purcell Mounta	81.89	19	P	P	23 13 37.8	+1.0
	baz=234						
RC01	Rabbit Creek A	82.00	25	P	P	23 13 37.1	-0.3
	baz=242						
M22K	Willow	82.15	25	P	P	23 13 38.1	-0.1
	baz=241						
C18K	Utukok River	82.18	16	P	P	23 13 38.9	+0.6
	baz=230						
CAST	Castle Rocks	82.19	23	P	P	23 13 37.4	-1.1
CAST				IAmb	IAmb	23 13 39.2	
	comp=Z,8.5nm,1.0s						
CAST	Castle Rocks	82.19	23	P	P	23 13 38.0	-0.4
	baz=239,SNR=8.3						
H20K	Anotleneega Mo	82.27	20	P	P	23 13 39.5	+0.7
	baz=236						
CHUM	Lake Minchumin	82.34	22	P	P	23 13 39.3	+0.1
	baz=239,SNR=9.2						
B18K	Kokolik River	82.48	16	P	P	23 13 40.5	+0.7
	baz=229						
PWL	Port Wells	82.50	26	P	P	23 13 40.2	+0.1
	baz=243						
KURBB	Kurchatov Arra	82.51	323	P	P	23 13 37.5	-2.8
	comp=Z,0.5nm,0.4s,baz=100,slow=6.4,SNR=8.6						
	comp=Z,0.5nm,0.4s						
E19K	Redstone River	82.62	18	P	P	23 13 41.2	+0.6
	baz=234						
KNK	Knik Glacier	82.69	25	P	P	23 13 41.2	+0.1
	baz=243						
KTH	Kantishna Hill	82.71	23	P	P	23 13 39.9	-1.3
KTH				IAmb	IAmb	23 13 40.6	
	comp=Z,6.6nm,0.7s						
F20K	Avaraart Lake	82.86	19	P	P	23 13 42.7	+0.9
	baz=236						
TRF	Thorofare Moun	82.91	23	P	P	23 13 41.2	-1.1
	baz=241,SNR=5.8						
SML	Sawmill	82.93	25	P	P	23 13 42.2	-0.2
	baz=243						
BPAW	Bear Paw Mtn.	82.96	23	P	P	23 13 41.5	-0.9
	baz=240						
D19K	Kuna River	82.97	17	P	P	23 13 42.4	0.0
	baz=233						
GLI	Glacier Island	83.05	26	P	P	23 13 42.6	-0.3
	baz=244						
H21K	Melozitna Rive	83.09	21	P	P	23 13 43.5	+0.4
	baz=238						
M23K	Glacier View	83.18	25	P	P	23 13 43.6	0.0
	baz=244						
A19K	Wainwright	83.22	15	P	P	23 13 43.8	+0.3
	baz=230						
G21K	Allakaket	83.30	20	P	P	23 13 44.5	+0.3
	baz=238						
SCM	Sheep Creek Mo	83.37	25	P	P	23 13 44.9	+0.2
	baz=244						
E20K	Nigu River	83.41	18	P	P	23 13 45.0	+0.3
	baz=235						
D20K	Etivluk River	83.55	17	P	P	23 13 45.7	+0.3
	baz=234						
MCK	McKinley	83.57	23	P	P	23 13 44.4	-1.2
MCK				IAmb	IAmb	23 13 45.2	
	comp=Z,11nm,0.6s						
MCK	McKinley	83.57	23	P	P	23 13 44.8	-0.7
	baz=242,SNR=9.7						
KLU	Klutina	83.82	26	P	P	23 13 46.9	-0.1
	baz=245						
QSPA	South Pole Qui	83.83	180	P	P	23 13 47.2	+0.2
QSPA	South Pole Qui	83.83	180	P	P	23 13 46.9	-0.2
	comp=Z,13nm,0.8s,baz=2.8,slow=1.8,SNR=65						
QSPA				pP	pP	23 14 01.7	-0.2
	comp=Z,20nm,0.9s,baz=359,slow=2.7,SNR=13						
	comp=Z,13nm,0.8s						
NEA2	Nenana	83.93	23	P	P	23 13 46.8	-0.5
	baz=242						
M24K	Tolsona, Glenn	83.98	25	P	P	23 13 48.0	+0.2
M24K				IAmb	IAmb	23 13 48.6	
	comp=Z,11nm,0.6s						
M24K	Tolsona, Glenn	83.98	25	P	P	23 13 48.1	+0.4
	baz=245						
I23K	Minto, Yukon-K	84.08	22	P	P	23 13 47.9	-0.1
	baz=242						
B20K	Meade River	84.15	16	P	P	23 13 48.6	+0.3
	baz=234						
BMRM	Bremner River	84.19	27	P	P	23 13 49.7	+0.9
	baz=246						
G22K	Bettles	84.19	20	P	P	23 13 49.0	+0.3
	baz=240						
E21K	Killik River	84.19	18	P	P	23 13 49.2	+0.5
	baz=237						
F22K	John River	84.27	19	P	P	23 13 49.6	+0.5
	baz=239						
H23K	Yukon River	84.34	21	P	P	23 13 49.1	-0.3
H23K				IAmb	IAmb	23 16 36.6	
	comp=Z,28nm,2.0s						
H23K	Yukon River	84.34	21	P	P	23 13 49.6	+0.1
	baz=241						
C21K	Knifeblade Rid	84.34	17	P	P	23 13 49.7	+0.3
	baz=236						
N25K	Chitina, Valde	84.45	26	P	P	23 13 50.4	+0.2
	baz=246						
COLA	College	84.52	23	P	P	23 13 49.5	-0.8
	baz=243						
HARP	HAARP	84.53	25	P	P	23 13 50.9	+0.4
	baz=246						
G23K	Bananza Creek	84.60	20	P	P	23 13 51.3	+0.6
	baz=241						
PAX	Paxson	84.64	25	P	P	23 13 50.8	-0.3
	baz=245						
B21K	Ikpikpuk River	84.65	17	P	P	23 13 51.6	+0.7
	baz=236						
HDA	Harding Lake	84.66	23	P	P	23 13 50.3	-0.8
	baz=244,SNR=5.2						
E22K	Anaktuvuk Pass	84.71	19	P	P	23 13 51.7	+0.4
	baz=239						
GLB	Gilahina Butte	84.73	26	P	P	23 13 50.1	-1.4
COLD	Coldfoot	84.79	20	P	P	23 13 51.9	+0.3
	baz=241						
POKR	Poker Plat Res	84.79	22	P	P	23 13 50.8	-0.9
	baz=243						
D22K	Ayikyak River	84.83	18	P	P	23 13 52.6	+0.8
	baz=238						
ILAR	Eielson Array	84.84	23	P	P	23 13 49.9	-2.1
ILAR	Eielson Array	84.84	23	P	P	23 13 50.5	-1.5
	comp=Z,5.3nm,0.6s,baz=250,slow=5.0,SNR=84						
	comp=Z,5.3nm,0.6s						
K24K	Donnelly Dome	84.86	24	P	P	23 13 51.7	-0.4
	baz=245						
H24K	Noodor Dome	84.95	22	P	P	23 13 50.8	-1.7
H24K				IAmb	IAmb	23 17 04.4	
	comp=Z,12nm,1.7s						
H24K	Noodor Dome	84.95	22	P	P	23 13 52.6	+0.1
	baz=243						
RIDG	Independent Ri	85.21	24	P	P	23 13 53.2	-0.7
RIDG	Independent Ri	85.21	24	P	P	23 13 53.7	-0.2
	baz=246						
A22K	Sinclair Lake	85.33	16	P	P	23 13 53.8	-0.4
	baz=236						
J25K	Salcha River,	85.36	23	IAmb	IAmb	23 13 55.0	
	comp=Z,11nm,0.8s						
J25K	Salcha River,	85.36	23	P	P	23 13 54.3	-0.4
	baz=245,SNR=16						
E23K	Chandalar	85.39	19	P	P	23 13 55.4	+0.6
	baz=241						
B22K	Teshekpuk Lake	85.39	17	P	P	23 13 54.8	+0.3
	baz=237						
M26K	Nabesna, AK	85.46	26	P	P	23 13 55.5	+0.3
	baz=248						
G24K	Hadweenzic Riv	85.49	21	P	P	23 13 55.6	+0.5
	baz=243						
D23K	Nanushuk River	85.50	18	IAmb	IAmb	23 13 56.8	
	comp=Z,10nm,0.7s						
D23K	Nanushuk River	85.50	18	P	P	23 13 56.0	+0.8
	baz=240,SNR=12						
L26K	Log Cabin Wild	85.55	25	P	P	23 13 55.8	+0.2
	baz=247						
SCRK	Sand Creek	85.66	24	P	P	23 13 56.2	0.0
	baz=247						
TOLK	Toolik Lake Re	85.69	19	P	P	23 13 57.0	+0.8
	baz=241						
F24K	Squaw Lake	85.72	20	IAmb	IAmb	23 13 57.6	
	comp=Z,5.2nm,0.7s						
F24K	Squaw Lake	85.72	20	P	P	23 13 57.2	+0.9
	baz=243						
E24K	Your Creek	85.77	20	P	P	23 13 57.0	+0.4
	baz=242						
M27K	Edge Creek, AK	85.92	26	P	P	23 13 58.2	+0.6
	baz=249						
C23K	Itkillik River	85.95	18	IAmb	IAmb	23 14 14.6	
	comp=Z,6.5nm,0.8s						
C23K	Itkillik River	85.95	18	P	P	23 13 58.4	+1.0
	baz=240						
G25K	Bearman Lake	86.01	21	P	P	23 13 59.4	+1.7
	baz=245						
J26L	Joseph Creek	86.03	24	IAmb	IAmb	23 14 00.5	
	comp=Z,3.5nm,0.6s						
J26L	Joseph Creek	86.03	24	P	P	23 13 58.5	+0.5
	baz=247,SNR=7.1						
O28M	Mount Upton	86.12	28	P	P	23 13 59.2	+0.4
	baz=250						
D24K	Happy Valley	86.17	19	P	P	23 13 59.2	+0.7
	baz=242						
L27K	Beaver Creek,	86.20	25	P	P	23 13 59.3	+0.4
	baz=249						
BCAR	Beaver Creek A	86.22	25	P	P	23 13 58.8	-0.1
YUK3	Moose Creek	86.34	27	P	P	23 14 00.4	+0.6
	baz=250						
BVCY	Beaver Creek	86.39	26	P	P	23 14 00.4	+0.6
	baz=250						
K27K	Chicken	86.45	24	P	P	23 14 00.9	+0.9
	baz=248						
C24K	Franklin Bluff	86.48	18	P	P	23 14 00.7	+0.8
	baz=242,SNR=7.7						
YUK8	Steele Glacier	86.49	27	P	P	23 14 01.0	+0.4
	baz=251						
I26K	Coal Creek Min	86.51	23	P	P	23 14 00.1	-0.2
	baz=247						
F25K	Christian Rive	86.52	20	P	P	23 14 00.9	+0.6
	baz=245						
E25K	Arctic Village	86.77	20	P	P	23 14 02.5	+1.0
	baz=245						
G26K	Porcupine Rive	86.92	21	P	P	23 14 03.1	+0.9
	baz=247						
YUK4	Talbot Arm	87.02	27	P	P	23 14 04.3	+1.2
	baz=252						
D25K	Kavik River	87.03	19	P	P	23 14 03.1	+0.3
	baz=244,SNR=11						
F26K	Sheenjek River	87.09	21	P	P	23 14 03.7	+0.6
	baz=246						
I27K	Kandik River	87.22	23	P	P	23 14 04.5	+0.8
	baz=249,SNR=8.9						
HYT	Haines Junctio	87.39	28	P	P	23 14 04.2	-0.6
HYT				IAmb	IAmb	23 14 06.0	
	comp=Z,9.3nm,0.8s						
HYT	Haines Junctio	87.39	28	P	P	23 14 05.4	+0.7
	baz=253						
P30M	Million Dollar	87.44	29	P	P	23 14 05.5	+0.5
	baz=253						
M29M	Somme Creek	87.45	26	P	P	23 14 05.8	+0.8
	baz=252						
H27K	Steamboat Moun	87.48	22	P	P	23 14 05.8	+0.8
	baz=249,SNR=6.3						
DAWY	Dawson	87.58	25	P	P	23 14 05.9	+0.4
DAWY	Dawson	87.58	25	P	P	23 14 06.5	+1.0
	baz=251						
G27K	Doyon Strip	87.64	22	P	P	23 14 06.6	+0.9
	baz=249						
C26K	Camden Bay	87.74	18	P	P	23 14 07.5	+1.4
	baz=246,SNR=7.2						
N30M	Aishikik Lake	87.77	28	P	P	23 14 07.2	+0.7
	baz=253						
L29M	L29M	87.80	26	IAmb	IAmb	23 14 08.2	
	comp=Z,8.5nm,0.8s						
L29M	L29M	87.80	26	P	P	23 14 07.7	+1.1
	baz=252						
I28M	Miner Creek	87.82	23	P	P	23 14 07.0	+0.3
	baz=250,SNR=5.0						
C27K	Jago River	88.01	19	P	P	23 14 08.0	+0.6
	baz=247,SNR=8.7						
BVAR	Borovoye Array	88.03	324	P	P	23 14 06.0	-1.8
	comp=Z,1.6nm,0.7s,baz=109,slow=6.9,SNR=9.7						
	comp=Z,1.6nm,0.7s						
O30N	Mendenhall	88.04	28	P	P	23 14 08.4	+0.6
	baz=254						
SKAG	Skagway	88.05	30	P	P	23 14 08.7	+0.9
	baz=255						
E27K	Coleen River	88.17	20	P	P	23 14 08.7	+0.5
	baz=249,SNR=5.9						
J29N	Klondike Camp	88.19	24	P	P	23 14 09.6	+1.2
	baz=252						
M30M	Minto, Yukon	88.23	26	P	P	23 14 09.5	+0.9
	baz=253						
K29M	Barlow Dome	88.29	25	IAmb	IAmb	23 14 25.3	
	comp=Z,12nm,1.1s						
K29M	Barlow Dome	88.29	25	P	P	23 14 09.9	+0.9
	baz=253						
N31M	Braeburn, Yuko	88.38	28	P	P	23 14 10.2	+0.8
	baz=254						
WHY	Whitehorse	88.58	29	P	P	23 14 10.7	+0.3
	baz=255						
D27M	Malcolm River	88.76	20	P	P	23 14 12.2	+1.2
	baz=249						
P32M	Atlin	88.88	30	P	P	23 14 12.3	+0.6
	baz=256						
J30M	Hart River	89.00	25	IAmb	IAmb	23 14 13.4	
	comp=Z,3.5nm,0.6s						
J30M	Hart River	89.00	25	P	P	23 14 13.3	+1.0
	baz=254						
E28M	Babbage River	89.03	20	P	P	23 14 12.7	+0.4
	baz=251						
G29M	Pine Creek	89.03	22	P	P	23 14 12.6	+0.3
	baz=252						
I30M	Mount Dempster	89.17	24	P	P	23 14 13.0	-0.1
	baz=254						
M31M	Drury Creek, Y	89.20	27	P	P	23 14 13.4	+0.2
	baz=255						
EPYK	Eagle Plains	89.36	23	P	P	23 14 14.0	+0.1
	baz=253						
E29M	Blow River	89.53	21	P	P	23 14 14.9	+0.3
	baz=252						
D28M	Stokes Point	89.54	20	P	P	23 14 15.2	+0.6
	baz=251						
N32M	Quiet Lake	89.56	28	P	P	23 14 15.4	+0.5
	baz=257						
FARO	Faro, Yukon	89.69	27	P	P	23 14 15.6	+0.1
	baz=256						
G30M	tAoh Zraii Nji	89.72	22	P	P	23 14 15.3	-0.2
	baz=254						
F30M	Barrier River	90.06	22	P	P	23 14 17.1	+0.1
	baz=254						
H31M	Peel River	90.14	24	P	P	23 14 17.6	+0.1
	baz=255						
R33M	Jennings River	90.20	30	P	P	23 14 18.1	+0.1
	baz=258						
G31M	Satah River	90.45	23	P	P	23 14 18.8	0.0
	baz=256						
F31M	Tsiigehtchic	90.78	22	P	P	23 14 20.0	-0.4
	baz=256						
INK	Inuvik	91.07	21	P	P	23 14 21.6	-0.1
	baz=256						
SYO	Syowa Base	91.13	200⇑	iPcP	PcP	23 14 25.0	+2.0
SYO	Syowa Base	91.13	200⇑	epP	pP	23 14 38.4	+1.6
SYO	Syowa Base	91.13	200⇑	esP	sP	23 14 43.4	+0.9
WTLY	Watson Lake, Y	91.42	30	P	P	23 14 24.3	+0.7
	baz=260						
KOTAN	Kotaneelee Air	93.77	30	P	P	23 14 35.6	+1.2
	baz=264						
A36M	Sachs Harbour	94.48	18	P	P	23 14 37.3	-0.1
	baz=264						
ELIB	Princess Elisa	94.57	195	dP	P	23 14 38.0	0.0
	comp=Z,4.3nm,0.8s						
YKA	Yellowknife Ar	98.38	28	P	P	23 14 54.8	-0.4
	comp=Z,0.3nm,0.8s,baz=268,slow=5.2,SNR=4.4						
YKA				pP	pP	23 15 11.3	+0.4
	comp=Z,0.9nm,1.0s,baz=278,slow=5.0,SNR=3.9						
	comp=Z,0.3nm,0.8s						
PLCA	Paso Flores	120.93	146	PKPdf	PKPdf	23 20 08.9	-1.5
PLCA	Paso Flores	120.93	146	PKP	PKPdf	23 20 09.6	-0.7
	comp=Z,3.5nm,0.6s,baz=233,slow=3.2,SNR=15						
GERES	GERESS Array B	123.11	326	PKP	PKPdf	23 20 13.0	-1.3
	comp=Z,0.5nm,0.7s,baz=31,slow=6.5,SNR=3.5						
BO02	Sierra Bellavi	124.68	140	PKPdf	PKPdf	23 20 17.3	-0.4
MT01	Popeta	124.96	139	PKPdf	PKPdf	23 20 17.4	-0.7
MT09	Talagante	125.19	139	PKPdf	PKPdf	23 20 17.9	-0.9
MT02	Curacav	125.41	139	PKPdf	PKPdf	23 20 18.3	-0.8
CO06	Fray Jorge	126.63	136	PKPdf	PKPdf	23 20 20.5	-1.0
CO03	El Pedregal	127.19	136	PKPdf	PKPdf	23 20 22.0	-0.7
PB08	IPOC Station P	134.33	126	PKPdf	PKPdf	23 20 36.2	-0.6
LPAZ	La Paz	137.07	122	PKP	PKPdf	23 20 42.0	-0.3
	comp=Z,2.2nm,0.7s,baz=282,slow=4.8,SNR=5.5						
CPUP	Villa Florida	138.87	143	PKPdf	PKPdf	23 20 44.9	+0.3
CPUP	Villa Florida	138.87	143	PKP	PKPdf	23 20 43.5	-1.1
	comp=Z,4.2nm,0.8s,baz=279,slow=0.9,SNR=8.6						
ITAB	Concordia	141.05	149	PKPdf	PKPdf	23 20 48.3	-0.2
PTLB	Pontes e Lacer	144.87	128	PKPdf	PKPbc	23 20 53.9	-0.8
AVE	Averroes	145.18	324		PKPbc	23 20 52.9	-2.3
VILB	Vilhena	145.38	123		PKPdf	23 20 55.6	-0.9
TORD	Torodi Ar. Bea	147.01	285		PKPdf	23 20 59.1	-0.1
TORD	Torodi Ar. Bea	147.01	285	PKPbc	PKPdf	23 20 58.9	-0.3
	comp=Z,64nm,0.3s,baz=45,slow=4.0,SNR=1.7						
VAO	Valinhos	147.12	152	PKPbc	PKPdf	23 21 00.9	+1.6
MACA	Manacapuru-AM	148.99	107	PKPbc	PKPbc	23 21 05.8	-0.9
BOAV	Boa Vista	150.37	96	PKPdf	PKPdf	23 21 02.0	-2.8
BOAV				PKPbc	PKPbc	23 21 09.0	-1.0
BDFB	Brasilia	152.60	142		PKPdf	23 21 07.9	-0.3
BDFB				PKPbc	PKPbc	23 21 14.7	-0.4
BDFB	Brasilia	152.60	142	PKP	PKPdf	23 21 08.4	+0.3
	comp=Z,2.

MCJ	**Malvern**	**0.40**	**133**	⇑*iP*	**Pb**	**23 05 44.2**	**-0.7**
MTDJ	**Mount Denham**	**0.43**	**86**	*eP*	**Pb**	**23 05 45.5**	**+0.1**
MTDJ				*eS*	**Sb**	**23 05 51.9**	**0.0**
MTDJ				IAML		23 05 52.8	
	comp=Z,497nm,0.2s						
MTDJ				IAML		23 05 52.9	
	1μm,0.2s						
STH	**Stony Hill**	**1.13**	**96**	*eP*	**Pn**	**23 05 56.6**	**+0.9**
STH				*eS*	**Sb**	**23 06 11.2**	**-0.1**
STH				IAML		23 06 13.5	
	comp=N,34μm,0.1s						
STH				IAML		23 06 13.7	
	comp=E,18μm,0.1s						
STH	**Stony Hill**	**1.13**	**96**	⇓*iP*	**Pb**	**23 05 57.2**	**+0.2**
PILO	**Pilon**	**1.79**	**18**	*eP*	**Pn**	**23 06 05.4**	**+0.6**
PILO				*eS*	**Sn**	**23 06 24.9**	**-1.6**
PILO				IAML		23 06 27.9	
	comp=N,21nm,0.1s						
PILO				IAML		23 06 28.1	
	comp=E,17nm,0.2s						
LMGC	**Las Mercedes**	**2.08**	**27**	*eP*	**Pn**	**23 06 09.6**	**+0.9**
LMGC				*eS*	**Sn**	**23 06 32.6**	**-0.9**
LMGC				IAML		23 06 34.6	
	comp=N,47nm,0.1s						
LMGC				IAML		23 06 35.0	
	comp=E,55nm,0.1s						
CHIV	**Chivirico**	**2.31**	**40**	*eP*	**Pn**	**23 06 12.4**	**+0.5**
MARVS	**Santiago de Cu**	**2.67**	**47**	*eP*	**Pn**	**23 06 17.8**	**+1.0**
MARVS				*eS*	**Sn**	**23 06 47.4**	**-0.7**
MARVS				IAML		23 06 49.8	
	comp=N,16nm,0.2s						
MARVS				IAML		23 06 49.8	
	comp=E,14nm,0.2s						
RCC	**Rio Carpintero**	**2.81**	**50**	*eP*	**Pn**	**23 06 20.4**	**+1.6**
RCC				*eS*	**Sn**	**23 06 50.7**	**-1.0**
PINC	**Pinares de May**	**3.08**	**42**	*eP*	**Pn**	**23 06 24.2**	**+1.7**
PINC				*eS*	**Sn**	**23 06 58.1**	**-0.2**
PINC				IAML		23 07 01.7	
	comp=N,14nm,0.1s						
PINC				IAML		23 07 01.8	
	comp=E,15nm,0.1s						
GTBY	**Guantanamo Bay**	**3.22**	**57**	*eP*	**Pn**	**23 06 26.7**	**+2.2**
GTBY				*eS*	**Sn**	**23 06 59.2**	**-2.6**
QMBU	**Quimbuelo**	**3.60**	**56**	*eP*	**Pn**	**23 06 30.5**	**+0.8**
QMBU				*eS*	**Sn**	**23 07 09.9**	**-1.4**
QMBU				IAML		23 07 12.6	
	comp=N,2.9nm,0.1s						
QMBU				IAML		23 07 12.7	
	comp=N,4.8nm,0.1s						

PRU ***02*** *23:11:44.7, 45.°96N×11.°92E, h10km*
ROM 02 23:11:41.9±0.1, 45.°918N±0.°005×11.°862E±0.°005,
h7km, ML2.2/82, 12C-4D, Error ellipse: s-maj=0.5km
s-min=0.4km az=169.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGRP	**Cima Grappa**	**0.06**	**229**	*e*Pg	Pg	23 11 44.1	+0.4
CGRP				*e*Sg	Sg	23 11 45.9	+0.8
CGRP	**Cima Grappa**	**0.06**	**229**	⇑P	Pg	23 11 44.1	+0.3
CGRP				S	Sg	23 11 45.6	+0.5
CGRP				AML	AML		
	comp=E,2645μm,0.3s						
CGRP				AML	AML		
	comp=N,1490μm,0.3s						
CGRP				AML	AML		
	comp=E,2655μm,0.3s						
CGRP				AML	AML		
	comp=N,1515μm,0.2s						
CGRP				AML	AML		
	comp=N,1513μm,0.2s						
CGRP				AML	AML		
	comp=E,2017μm,0.3s						
CGRP				AML	AML		
	comp=E,2045μm,0.3s						
CGRP				AML	AML		
	comp=N,1486μm,0.3s						
ASOL	**Asolo**	**0.12**	**167**	⇓P	Pg	23 11 44.9	+0.4
ASOL				S	Sg	23 11 47.4	+1.1
CRND	**Cornuda**	**0.17**	**119**	⇓P	Pg	23 11 44.8	-0.5
CRND				S	Sg	23 11 47.0	-0.7
CRND				AML	AML		
	comp=N,4010μm,0.1s						
CRND				AML	AML		
	comp=E,3395μm,0.1s						
CRND				AML	AML		
	comp=N,4015μm,0.1s						
CRND				AML	AML		
	comp=E,3400μm,0.1s						
CRND				AML	AML		
	comp=N,4014μm,0.1s						
CRND				AML	AML		
	comp=E,3398μm,0.1s						
VARN	**Col Varnada, M**	**0.18**	**66**	⇑*e*Pg	Pg	23 11 45.5	-0.1
VARN				*e*Sg	Sg	23 11 48.1	-0.1
VARN	**Col Varnada, M**	**0.18**	**66**	⇑P	Pg	23 11 45.5	-0.1
VARN				S	Sg	23 11 48.2	0.0
VARN				AML	AML		
	comp=N,2020μm,0.1s						
VARN				AML	AML		
	comp=E,1525μm,0.1s						
VARN				AML	AML		
	comp=N,1815μm,0.1s						
VARN				AML	AML		
	comp=E,1405μm,0.1s						
VARN				AML	AML		
	comp=E,1524μm,0.1s						
VARN				AML	AML		
	comp=N,1817μm,0.1s						
VARN				AML	AML		
	comp=E,1405μm,0.1s						
VARN				AML	AML		
	comp=N,2022μm,0.1s						
MTLO	**Montello**	**0.19**	**122**	⇓*e*Pg	Pg	23 11 46.2	+0.4
MTLO				*e*Sg	Sg	23 11 49.5	+1.1
CTI	**Castel Tesino**	**0.20**	**311**	P	Pg	23 11 46.3	+0.4
CTI				S	Sg	23 11 49.8	+1.2
CTI				AML	AML		
	comp=N,1965μm,0.3s						
CTI				AML	AML		
	comp=E,1830μm,0.3s						
CTI				AML	AML		
	comp=E,1703μm,0.2s						
CTI				AML	AML		
	comp=N,1573μm,0.1s						
ED06	**Collalto TV**	**0.25**	**104**	⇑*e*Pg	Pg	23 11 47.1	+0.3
ED06				*e*Sg	Sg	23 11 51.2	+1.0
A302A	**Resana (TV)**	**0.29**	**165**	P	Pb	23 11 49.4	0.0
A302A				S	Sb	23 11 53.6	-0.8
FAU	**Forcella Aurin**	**0.32**	**15**	⇓*e*Pg	Pg	23 11 48.1	-0.2
FAU				*e*Sg	Sg	23 11 52.9	+0.3
SANR	**Sandrigo**	**0.33**	**213**	P	Pg	23 11 49.0	+0.8
SANR				S	Sb	23 11 54.5	-1.0
FRE8	**Fregona**	**0.36**	**74**	P	Pg	23 11 48.9	+0.1
FRE8				S	Sb	23 11 55.0	-1.3
PANI	**Panarotta**	**0.39**	**290**	⇑*e*Pg	Pg	23 11 50.4	+0.8
PANI				*e*Sg	Sg	23 11 55.8	+1.1
PANI	**Panarotta**	**0.39**	**290**	⇑P	Pg	23 11 50.3	+0.7
PANI				S	Sg	23 11 55.9	+1.1
PANI				AML	AML		
	comp=E,264μm,1.0s						
PANI				AML	AML		
	comp=N,503μm,1.1s						
PANI				AML	AML		
	comp=N,503μm,0.9s						
PANI				AML	AML		
	comp=E,259μm,0.3s						
PANI				AML	AML		
	comp=N,500μm,0.4s						
CAE	**Caneva**	**0.41**	**77**	⇑*e*Pg	Pg	23 11 49.6	-0.3
CAE				*e*Sg	Sg	23 11 56.0	+0.7
CAE	**Caneva**	**0.41**	**77**	P	Pg	23 11 49.6	-0.2
CAE				S	Sb	23 11 56.9	-1.0
ZIAN	**Ziano**	**0.41**	**330**	*e*Pg	Pg	23 11 50.0	0.0
ZIAN				*e*Sg	Sg	23 11 56.5	+1.1
ZIAN	**Ziano**	**0.41**	**330**	P	Pg	23 11 50.5	+0.6
ZIAN				S	Sg	23 11 56.6	+1.2
APGO	**Alpago**	**0.42**	**56**	⇑*e*Pg	Pg	23 11 49.5	-0.5
APGO				*e*Sg	Sg	23 11 55.7	+0.1
POLC	**Polcenigo**	**0.46**	**76**	P	Pg	23 11 50.8	+0.1
POLC				S	Sb	23 11 58.9	-0.4
DOSS	**Dosso del Somm**	**0.47**	**266**	⇑*e*Pg	Pg	23 11 51.5	+0.5
DOSS				*e*Sg	Sg	23 11 58.3	+1.0
DOSS	**Dosso del Somm**	**0.47**	**266**	⇑P	Pg	23 11 51.5	+0.5
DOSS				S	Sb	23 11 59.1	-0.7
DOSS				AML	AML		
	comp=E,349μm,0.3s						
DOSS				AML	AML		
	comp=N,296μm,0.4s						
DOSS				AML	AML		
	comp=E,331μm,0.4s						
DOSS				AML	AML		
	comp=N,365μm,0.3s						
DOSS				AML	AML		
	comp=E,331μm,0.4s						
DOSS				AML	AML		
	comp=N,246μm,0.4s						
DOSS				AML	AML		
	comp=E,308μm,0.4s						
DOSS				AML	AML		
	comp=N,296μm,0.4s						
CSO	**Casso**	**0.48**	**42**	*e*Pg	Pg	23 11 51.0	-0.2
CSO				*e*Sg	Sg	23 11 57.9	+0.5
ZOVE	**Zovencedo**	**0.53**	**210**	P	Pg	23 11 52.6	+0.5
ZOVE				S	Sb	23 12 00.5	-0.9
MARN	**Marana (Italy)**	**0.54**	**239**	*e*Pg	Pg	23 11 52.7	+0.5
MARN	**Marana (Italy)**	**0.54**	**239**	⇑P	Pg	23 11 52.6	+0.4
MARN				S	Sb	23 12 00.5	-1.0
CIMO	**Cimolais**	**0.56**	**45**	*e*Pg	Pg	23 11 52.5	-0.3
CIMO	**Cimolais**	**0.56**	**45**	P	Pg	23 11 52.5	-0.2
CIMO				S	Sb	23 12 01.6	-0.7
MLNI	**Malnisio**	**0.57**	**66**	*e*Pg	Pg	23 11 52.5	-0.4
TEOL	**Teolo**	**0.57**	**194**	*e*Pg	Pg	23 11 53.1	+0.2
TEOL				*e*Sg	Sb	23 12 02.2	-0.4
TEOL	**Teolo**	**0.57**	**194**	P	Pg	23 11 53.2	+0.3
TEOL				S	Sg	23 12 01.4	+1.0
TEOL				AML	AML		
	comp=E,1360μm,0.9s						
TEOL				AML	AML		
	comp=N,456μm,0.6s						
VENL	**Venezia Lido**	**0.62**	**144**	P	Pg	23 11 54.2	+0.5
VENL				S	Sb	23 12 04.9	+1.1
KOSI	**Kohlern**	**0.64**	**329**	P	Pb	23 11 54.9	-0.6
KOSI				S	Sb	23 12 03.9	-0.8
KOSI				AML	AML		
	comp=N,77μm,0.8s						
KOSI				AML	AML		
	comp=E,129μm,0.4s						
KOSI				AML	AML		
	comp=E,129μm,0.4s						
KOSI				AML	AML		
	comp=N,73μm,0.1s						
LUSI	**Trento, Gardas**	**0.64**	**274**	P	Pg	23 11 54.5	+0.2
LUSI				S	Sg	23 12 03.6	+1.0
LUSI				AML	AML		
	comp=N,430μm,1.2s						
LUSI				AML	AML		
	comp=E,236μm,1.5s						
LUSI				AML	AML		
	comp=N,430μm,0.8s						
LUSI				AML	AML		
	comp=N,371μm,0.1s						
LUSI				AML	AML		
	comp=E,214μm,0.1s						
GAGG	**Gaggia**	**0.65**	**285**	*e*Pg	Pb	23 11 55.1	-0.5
GAGG	**Gaggia**	**0.65**	**285**	P	Pg	23 11 55.0	+0.6
GAGG				S	Sg	23 12 03.8	+0.8
GAGG				AML	AML		
	comp=N,341μm,1.2s						
GAGG				AML	AML		
	comp=E,358μm,1.2s						
GAGG				AML	AML		
	comp=N,236μm,0.3s						
GAGG				AML	AML		
	comp=E,232μm,0.5s						
GAGG				AML	AML		
	comp=E,358μm,0.8s						
GAGG				AML	AML		
	comp=E,232μm,1.5s						
GAGG				AML	AML		
	comp=N,341μm,0.8s						
GAGG				AML	AML		
	comp=N,300μm,0.2s						
GAGG				AML	AML		
	comp=E,321μm,0.2s						
GAGG				AML	AML		
	comp=E,211μm,0.4s						
GAGG				AML	AML		
	comp=N,217μm,0.2s						
VARA	**Varagna**	**0.68**	**263**	*e*Pg	Pb	23 11 55.6	-0.5
VARA	**Varagna**	**0.68**	**263**	P	Pg	23 11 55.5	+0.5
VARA				S	Sg	23 12 04.7	+0.8
VARA				AML	AML		
	comp=N,380μm,0.5s						
VARA				AML	AML		
	comp=N,380μm,0.5s						
VARA				AML	AML		
	comp=N,258μm,1.4s						
VARA				AML	AML		
	comp=E,291μm,1.3s						
VARA				AML	AML		
	comp=E,436μm,1.5s						
VARA				AML	AML		
	comp=E,436μm,0.5s						
VARA				AML	AML		
	comp=N,258μm,0.6s						
VARA				AML	AML		
	comp=E,291μm,0.7s						
VARA				AML	AML		
	comp=E,253μm,0.1s						
VARA				AML	AML		
	comp=N,353μm,0.1s						
VARA				AML	AML		
	comp=E,378μm,0.1s						
VARA				AML	AML		
	comp=N,240μm,0.1s						
BOSI	**Bolzano**	**0.69**	**327**	P	Pb	23 11 56.1	-0.1
BOSI				AML	AML		
	comp=E,159μm,0.8s						
BOSI				AML	AML		
	comp=N,200μm,0.5s						
BOSI				AML	AML		
	comp=N,199μm,0.5s						
BOSI				AML	AML		
	comp=E,148μm,0.4s						
APPI	**Appiano**	**0.71**	**322**	P	Pb	23 11 56.2	-0.5
APPI				S	Sb	23 12 05.9	-0.8
APPI				AML	AML		
	comp=E,89μm,0.2s						
APPI				AML	AML		
	comp=N,132μm,0.1s						
APPI				AML	AML		
	comp=E,76μm,0.2s						
APPI				AML	AML		
	comp=N,132μm,0.1s						
OZOL	**Ozolo**	**0.74**	**311**	*e*Pg	Pb	23 11 56.9	-0.3
OZOL	**Ozolo**	**0.74**	**311**	P	Pb	23 11 56.8	-0.4
OZOL				S	Sb	23 12 07.0	-0.7
OZOL				AML	AML		
	comp=N,247μm,0.2s						
OZOL				AML	AML		
	comp=E,310μm,1.2s						
OZOL				AML	AML		
	comp=N,210μm,0.3s						
OZOL				AML	AML		
	comp=N,238μm,0.3s						
OZOL				AML	AML		
	comp=E,338μm,1.2s						
OZOL				AML	AML		
	comp=E,283μm,0.1s						
BALD	**Monte Baldo**	**0.77**	**253**	*e*Pg	Pg	23 11 57.0	+0.4
OPPE	**Oppeano**	**0.78**	**219**	P	Pb	23 11 57.3	-0.3
OPPE				S	Sb	23 12 09.3	+0.9
OPPE				AML	AML		
	comp=N,312μm,0.2s						
OPPE				AML	AML		
	comp=E,218μm,0.3s						
BRES	**Bressanone**	**0.79**	**354**	P	Pb	23 11 57.6	-0.4
DST2	**Trieste**	**0.81**	**66**	P	Pg	23 11 57.0	-0.4
DST2				S	Sb	23 12 09.9	+0.6
CSMI	**Casera Mimoias**	**0.81**	**42**	*e*Pg	Pg	23 11 57.8	+0.3
MPRI	**Monte Prat**	**0.85**	**67**	*e*Pg	Pg	23 11 57.5	-0.7
MPRI	**Monte Prat**	**0.85**	**67**	P	Pg	23 11 57.7	-0.5
MPRI				AML	AML		
	comp=E,62μm,1.6s						
MPRI				AML	AML		
	comp=E,62μm,0.4s						
MPRI				AML	AML		
	comp=N,92μm,0.4s						
MPRI				AML	AML		
	comp=N,93μm,0.4s						
MPRI				AML	AML		
	comp=E,51μm,0.5s						
MPRI				AML	AML		
	comp=E,50μm,0.1s						
RONC	**Roncone**	**0.87**	**275**	*e*Pg	Pg	23 11 58.7	+0.2
RONC	**Roncone**	**0.87**	**275**	P	Pg	23 11 58.6	+0.1
RONC				S	Sg	23 12 10.4	+0.6
RONC				AML	AML		
	comp=N,307μm,0.2s						
RONC				AML	AML		
	comp=E,216μm,0.5s						
RONC				AML	AML		
	comp=N,307μm,0.2s						
RONC				AML	AML		
	comp=E,200μm,0.2s						
RONC				AML	AML		
	comp=N,283μm,0.5s						
MAGA	**Magasa**	**0.87**	**261**	P	Pg	23 11 58.8	+0.1
MAGA				S	Sb	23 12 11.6	+0.2
MAGA				AML	AML		
	comp=N,158μm,0.3s						
MAGA				AML	AML		
	comp=N,158μm,1.7s						
MAGA				AML	AML		
	comp=E,241μm,0.4s						
MAGA				AML	AML		
	comp=N,151μm,0.2s						
MAGA				AML	AML		
	comp=E,241μm,0.4s						
CLUD	**Cludinico**	**0.89**	**52**	*e*Pg	Pg	23 11 59.2	+0.3
CLUD	**Cludinico**	**0.89**	**52**	P	Pb	23 11 59.6	0.0
CLUD				S	Sb	23 12 12.6	+0.9
CLUD				AML	AML		
	comp=E,44μm,1.2s						
CLUD				AML	AML		
	comp=N,42μm,0.4s						
CLUD				AML	AML		
	comp=N,42μm,1.6s						
CLUD				AML	AML		
	comp=N,78μm,1.1s						
CLUD				AML	AML		
	comp=N,42μm,0.5s						
CLUD				AML	AML		
	comp=E,36μm,0.3s						
CLUD				AML	AML		
	comp=E,46μm,0.6s						
ABTA	**Abfaltersbach**	**0.94**	**28**	*e*Pn	Pg	23 12 00.3	+0.3
	comp=E,0.4nm,0.1s,SNR=13						
ABTA				*e*Sg	Sb	23 12 13.6	+0.3
	comp=E,5.6nm,0.2s						
MABI	**Malga Bissina**	**0.95**	**279**	P	Pb	23 12 00.6	-0.2
MABI				S	Sg	23 12 12.3	-0.1
MABI				AML	AML		
	comp=E,53μm,0.7s						
MABI				AML	AML		
	comp=N,62μm,0.8s						
MABI				AML	AML		
	comp=E,51μm,0.1s						
MABI				AML	AML		
	comp=N,61μm,0.2s						
CARE	**Lago del Cares**	**0.96**	**302**	P	Pb	23 12 00.7	-0.2
CARE				S	Sg	23 12 12.6	-0.1
CARE				AML	AML		
	comp=E,53μm,0.9s						
CARE				AML	AML		
	comp=N,58μm,1.3s						
CARE				AML	AML		
	comp=E,53μm,1.1s						
CARE				AML	AML		
	comp=N,58μm,0.7s						
CARE				AML	AML		
	comp=N,124μm,4.9s						
CARE				AML	AML		
	comp=E,228μm,1.1s						
CARE				AML	AML		
	comp=E,47μm,0.1s						
CARE				AML	AML		
	comp=N,53μm,0.1s						
GEPF	**Gemona**	**0.96**	**68**	P	Pg	23 12 00.2	0.0
GEPF				AML	AML		
	comp=N,80μm,0.5s						
GEPF				AML	AML		
	comp=E,92μm,0.4s						
GEPF				AML	AML		
	comp=N,80μm,0.5s						
GEPF				AML	AML		
	comp=E,92μm,0.4s						
ZOU	**Zoufplan**	**1.00**	**50**	P	Pb	23 12 01.7	+0.1
ZOU				AML	AML		
	comp=E,97μm,0.6s						
ZOU				AML	AML		
	comp=N,67μm,0.8s						
ZOU				AML	AML		
	comp=E,97μm,1.4s						
ZOU				AML	AML		
	comp=E,97μm,0.6s						
ZOU				AML	AML		
	comp=N,66μm,0.6s						
ZOU				AML	AML		
	comp=N,75μm,0.6s						
ZOU				AML	AML		
	comp=E,99μm,0.6s						
VINO	**Villanova**	**1.04**	**71**	P	Pb	23 12 02.2	-0.1
VINO				AML	AML		
	comp=E,142μm,0.3s						
VINO				AML	AML		
	comp=N,160μm,0.4s						
VINO				AML	AML		
	comp=N,128μm,0.4s						
VINO				AML	AML		
	comp=E,142μm,0.3s						
ROSI	**Rosskopf**	**1.06**	**343**	P	Pb	23 12 02.5	-0.1
ROSI				S	Sb	23 12 17.3	+0.6
ROSI				AML	AML		
	comp=N,55μm,1.6s						
ROSI				AML	AML		
	comp=E,49μm,0.3s						
ROSI				AML	AML		
	comp=N,55μm,0.4s						
ROSI				AML	AML		
	comp=E,49μm,0.3s						
ROSI				AML	AML		
	comp=N,51μm,0.3s						
PTCC	**Patocco-Chiusa**	**1.15**	**64**	P	Pn	23 12 04.3	0.0
PTCC				AML	AML		
	comp=E,70μm,0.3s						
PTCC				AML	AML		
	comp=N,59μm,0.3s						
PTCC				AML	AML		
	comp=E,70μm,0.3s						
PTCC				AML	AML		
	comp=N,59μm,0.3s						
MOSI	**Grossmontoni**	**1.15**	**308**	P	Pn	23 12 04.3	-0.2
MOSI				S	Sb	23 12 19.1	-0.2
MOSI				AML	AML		
	comp=E,150μm,1.0s						
MOSI				AML	AML		
	comp=N,308μm,0.4s						
MOSI				AML	AML		
	comp=E,150μm,1.0s						
MOSI				AML	AML		
	comp=E,144μm,0.2s						
MOSI				AML	AML		
	comp=N,307μm,0.4s						
BRMO	**Bormio**	**1.18**	**299**	P	Pb	23 12 04.7	+0.1
BRMO				S	Sg	23 12 19.7	+0.1
BRMO				AML	AML		
	comp=E,75μm,0.8s						
BRMO				AML	AML		
	comp=N,60μm,0.4s						
BRMO				AML	AML		
	comp=E,75μm,1.2s						
BRMO				AML	AML		
	comp=E,59μm,0.2s						
BRMO				AML	AML		
	comp=N,52μm,0.1s						
SABO	**M.te Sabotino**	**1.21**	**86**	P	Pn	23 12 05.9	+0.7
SABO				S	Sn	23 12 22.3	+0.4
SABO				AML	AML		
	comp=E,576μm,0.8s						
SABO				AML	AML		
	comp=N,854μm,0.3s						
SABO				AML	AML		
	comp=E,131μm,0.3s						
SABO				AML	AML		

comp=N,235μm,0.3s
SABO AML AML
comp=E,131μm,0.3s
SABO AML AML
comp=N,235μm,0.3s
SABO AML AML
comp=E,556μm,0.3s
SABO AML AML
comp=N,854μm,0.3s
ZONE Zone 1.23 263 ⇑P Pn 23 12 05.6 +0.1
ZONE S Sb 23 12 21.6 +0.1
ZONE AML AML
comp=E,76μm,0.3s
ZONE AML AML
comp=N,170μm,0.2s
ZONE AML AML
comp=E,76μm,0.3s
ZONE AML AML
comp=N,170μm,0.2s
ACOM Acomizza, Ital 1.31 61 P Pg 23 12 07.7 +0.7
ACOM AML AML
comp=E,146μm,0.3s
ACOM AML AML
comp=N,132μm,1.4s
ACOM AML AML
comp=E,136μm,0.4s
ACOM AML AML
comp=N,132μm,1.4s
ACOM AML AML
comp=E,146μm,1.7s
ACOM AML AML
comp=E,136μm,1.6s
ACOM AML AML
comp=N,132μm,0.6s
ACOM AML AML
comp=N,132μm,0.6s
ACOM AML AML
comp=N,108μm,0.3s
ACOM AML AML
comp=N,120μm,0.3s
ACOM AML AML
comp=E,146μm,0.3s
ACOM AML AML
comp=E,136μm,0.5s
TRI Trieste 1.35 98 P Pn 23 12 07.0 0.0
TRI S Sn 23 12 25.7 +0.5
TRI AML AML
comp=E,105μm,0.6s
TRI AML AML
comp=N,88μm,0.3s
TRI AML AML
comp=E,105μm,1.4s
TRI AML AML
comp=N,88μm,0.3s
TRI AML AML
comp=E,79μm,0.3s
FETA Feichten 1.35 325 *e*Pg Pg 23 12 07.9 0.0
comp=E,0.8nm,0.1s,SNR=8.3
FETA *e*Sg Sb 23 12 25.0 -0.2
comp=E,1.0nm,0.1s
WTTA Wattenberg 1.36 353 *e*Pg Pg 23 12 08.3 +0.4
comp=E,2.2nm,0.2s,SNR=9.5
WTTA *e*Sg Sn 23 12 27.4 +1.7
comp=E,4.2nm,0.2s
WTTA Wattenberg 1.36 353 P Pg 23 12 08.3 +0.5
SQTA Sankt Quirin 1.38 341 *e*Pg Pg 23 12 08.4 +0.1
comp=E,4.0nm,0.2s,SNR=18
SQTA *e*Sg Sg 23 12 26.2 0.0
comp=E,11nm,0.2s,SNR=4.7
MYKA Terra Mystica 1.43 59 *e*Pg Pg 23 12 09.4 +0.2
comp=E,5.8nm,0.2s,SNR=9.5
MYKA *e*Sg Sg 23 12 29.3 +1.7
comp=E,6.3nm,0.2s
WATA Walderalm 1.43 352 *e*Pg Pg 23 12 09.6 +0.3
comp=E,1.3nm,0.2s,SNR=5.0
WATA Sg Sg 23 12 29.1 +1.2
comp=E,5.5nm,0.2s
MDI Monti di Nese 1.51 265 P Pg 23 12 10.8 0.0
MOTA Moosalm 1.52 340 *e*Pg Pg 23 12 10.9 -0.1
comp=E,0.6nm,0.2s
MOTA *e*Sg Sg 23 12 31.1 +0.4
comp=E,3.0nm,0.2s
KBA Koelnbreinsper 1.55 41 *e*Pg Pg 23 12 12.0 +0.4
comp=E,10nm,0.3s,SNR=39
KBA *e*Sg Sg 23 12 33.0 +1.4
comp=E,12nm,0.6s
LESA Schwarzleotal 1.61 20 *e*Pg Pg 23 12 12.8 +0.1
comp=E,1.0nm,0.2s,SNR=11
LESA Sg Sg 23 12 34.1 +0.5
comp=E,8.0nm,0.3s,SNR=7.1
DAVA Damuels 1.94 316 *e*Pg Pg 23 12 18.9 0.0
comp=E,1.0nm,0.2s
DAVA Sg Sg 23 12 45.2 +1.2
comp=E,5.8nm,0.3s
OBKA Obir 1.96 71 *e*Pn Pn 23 12 15.7 +0.1
comp=E,0.4nm,0.3s
BIOA Bad Ischl, Aus 2.15 34 Sg Sg 23 12 52.6 +1.6
comp=E,6.4nm,0.5s
SOKA Soboth 2.33 70 *e*Pn Pn 23 12 20.3 -0.3
comp=E,0.2nm,0.2s
SOKA Sn Sn 23 12 48.1 -1.3
comp=E,0.7nm,0.3s
MOA Molln 2.54 40 *e*Pn Pn 23 12 24.1 +0.6
comp=E,0.2nm,0.1s
MOA Sn Sn 23 12 56.4 +1.7
comp=E,2.2nm,0.4s,SNR=4.9
CKRC Cesky Krumlov 3.35 29 *e*SN Sn 23 13 15.6 +1.1
CKRC *e*SG Sg 23 13 28.1 -1.2
KHC Kasperske Hory 3.42 19 *e*SN Sn 23 13 17.4 +1.0
KHC *e*SG Sg 23 13 31.1 -0.5

*IDC **02** 23:13:35.0±2.0,51°.86N×178°.17E,h0km,mb3.9/10, mbtmp3.9/12,ML3.8/2,Error ellipse: s-maj=59.5km s-min=17.1km az=5.0*
*NEIC **02** 23:13:38.6±2.2,52°.2N±0°.2×178°.20E±0°.08,h10km±2km, mb4.2/45,ML3.8/6,Error ellipse: s-maj=27.7km s-min=7.6km az=186.0*
ISC 02 23:13:38.1±0.9,52°.1N±0°.2×178°.20E±0°.04,h10km,n71, σ1§05/71,mb4.1/25,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.58**	**285**	Pn	**Pn**	**23 14 20.2**	**+0.3**
	31nm,0.3s,baz=148,slow=2.2,SNR=12						
SHEM				Sn	**Sn**	**23 14 52.8**	**+1.5**
	49nm,0.3s,baz=282,slow=20,SNR=10						
	66nm,0.3s						
SMY	**Shemya**	**2.58**	**285**	Pn	**Pn**	**23 14 20.1**	**+0.2**
SMY				Sn	**Sn**	**23 14 49.9**	**-1.4**
SMY				IAML		23 14 59.2	
	comp=E,506nm,1.2s						
SMY				IAML		23 15 01.9	
	comp=N,378nm,1.0s						
KIWB	**Kanaga Island**	**2.89**	**94**	Pn	**Pn**	**23 14 24.3**	**+0.1**
ADK	**Adak**	**3.17**	**92**	Pn	**Pn**	**23 14 28.1**	**+0.1**
ADK				Sn	**Sn**	**23 15 07.1**	**+1.2**
ADK				IAML		23 15 27.6	
	comp=N,182nm,1.1s						
ATKA	**Atka Island**	**4.68**	**86**	Pn	**Pn**	**23 14 48.5**	**-0.2**
ATKA				IAML		23 16 07.6	
	comp=E,131nm,4.2s						
N15K	**Kwethluk River**	**14.48**	**48**		**P**	**23 17 06.6**	**-3.0**
P16K	**Nushagak River**	**15.08**	**53**	P	**P**	**23 17 16.3**	**+0.1**
M16K	**Timber Creek**	**15.34**	**46**	P	**P**	**23 17 17.8**	**-1.4**
M16K				IAmb	IAmb	23 17 42.6	
	comp=Z,24nm,1.4s						
M17K	**Holitna River**	**16.17**	**45**	P	**P**	**23 17 28.9**	**+0.5**
P18K	**Big Mountain,**	**16.54**	**53**	P	**Pn**	**23 17 31.4**	**+1.4**
P18K				IAmb	IAmb	23 17 37.8	
	comp=Z,30nm,1.4s						
N18K	**Kilae Creek**	**16.60**	**49**	P	**P**	**23 17 33.2**	**0.0**
O18K	**Koktuh Hills**	**16.68**	**52**	P	**Pn**	**23 17 32.0**	**+0.4**
O18K				IAmb	IAmb	23 17 41.8	
	comp=Z,17nm,0.9s						
N19K	**Bonanza Creek**	**17.30**	**49**	Pn	**Pn**	**23 17 37.8**	**-1.8**
J18K	**Innoko River**	**17.40**	**40**	Pn	**Pn**	**23 17 39.9**	**-0.8**
P19K	**Oil Pt**	**17.59**	**53**	Pn	**Pn**	**23 17 42.3**	**-0.8**
KDAK	**Kodiak Island**	**17.62**	**60**	P	**Pn**	**23 17 43.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=120,slow=8.5,SNR=4.3						
	comp=Z,3.2nm,0.9s						
CNPM	**China Poot**	**18.57**	**54**	P	**P**	**23 17 54.7**	**-0.2**
CNPM				IAmb	IAmb	23 18 00.8	
	comp=Z,14nm,0.9s						
STLK	**Strandline Lak**	**18.73**	**48**	P	**Pn**	**23 17 58.3**	**+1.2**
J20K	**Nowinta River**	**18.74**	**39**	P	**Pn**	**23 17 58.4**	**+1.2**
PPLA	**Purkeypile**	**19.02**	**44**	P	**Pn**	**23 18 01.8**	**+1.1**
PPLA				IAmb	IAmb	23 18 21.8	
	comp=Z,29nm,1.4s						
SUA	**Susitna One**	**19.22**	**49**	P	**Pn**	**23 18 04.2**	**+1.0**
SLKM	**Skilak Lake**	**19.25**	**52**	P	**Pn**	**23 18 03.8**	**+0.4**
SLKM				IAmb	IAmb	23 18 10.7	
	comp=Z,14nm,0.8s						
O22K	**Cooper Landing**	**19.49**	**52**	P	**Pn**	**23 18 06.1**	**0.0**
KTH	**Kantishna Hill**	**19.79**	**43**	P	**Pn**	**23 18 09.9**	**+0.1**
KTH				IAmb	IAmb	23 18 43.2	
	comp=Z,23nm,1.5s						
PWL	**Port Wells**	**20.23**	**51**	P	**P**	**23 18 12.4**	**-0.6**
PWL				IAmb	IAmb	23 18 24.9	
	comp=Z,11nm,0.8s						
KNK	**Knik Glacier**	**20.28**	**50**	P	**P**	**23 18 13.7**	**+0.1**
KNK				IAmb	IAmb	23 18 22.7	
	comp=Z,10.0nm,1.0s						
SML	**Sawmill**	**20.43**	**49**	P	**P**	**23 18 15.6**	**+0.4**
SML				IAmb	IAmb	23 18 25.3	
	comp=Z,8.9nm,0.8s						
F21K	**Alatna River**	**20.52**	**32**	P	**P**	**23 18 16.8**	**+0.6**
GLI	**Glacier Island**	**20.83**	**52**	P	**P**	**23 18 19.8**	**+0.2**
GLI				IAmb	IAmb	23 18 23.9	
	comp=Z,13nm,0.9s						
NEA2	**Nenana**	**20.93**	**41**	P	**P**	**23 18 21.4**	**+0.9**
FID	**Port Fidalgo**	**21.11**	**52**	P	**P**	**23 18 23.4**	**+0.8**
FID				IAmb	IAmb	23 18 27.8	
	comp=Z,14nm,0.9s						
G23K	**Bananza Creek**	**21.44**	**35**	P	**P**	**23 18 25.9**	**-0.2**
G23K				IAmb	IAmb	23 18 35.5	
	comp=Z,10nm,1.1s						
CCB	**Clear Creek Bu**	**21.46**	**41**	P	**P**	**23 18 28.3**	**+2.1**
CCB				IAmb	IAmb	23 18 46.9	
	comp=Z,8.9nm,1.0s						
M24K	**Tolsona, Glenn**	**21.49**	**48**	P	**P**	**23 18 29.1**	**+2.5**
KLU	**Klutina**	**21.49**	**50**	P	**P**	**23 18 28.5**	**+1.8**
KLU				IAmb	IAmb	23 18 36.0	
	comp=Z,6.0nm,0.8s						
PAX	**Paxson**	**21.99**	**46**	P	**P**	**23 18 31.3**	**-0.7**
PAX				IAmb	IAmb	23 18 40.1	
	comp=Z,4.2nm,0.7s						
BMRM	**Bremner River**	**22.05**	**52**	P	**P**	**23 18 34.2**	**+1.6**
BMRM				IAmb	IAmb	23 18 45.3	
	comp=Z,14nm,1.0s						
HMT	**Hamilton**	**22.15**	**53**	P	**P**	**23 18 34.7**	**+0.9**
TOLK	**Toolik Lake Re**	**22.53**	**31**	P	**P**	**23 18 37.1**	**-0.7**
DOT	**Dot Lake**	**22.76**	**45**	P	**P**	**23 18 39.5**	**-0.7**
L26K	**Log Cabin Wild**	**22.95**	**47**	P	**P**	**23 18 40.9**	**-1.3**
L26K				IAmb	IAmb	23 18 56.4	
	comp=Z,5.0nm,0.9s						
J26L	**Joseph Creek**	**23.17**	**43**	P	**P**	**23 18 44.7**	**+0.2**
L27K	**Beaver Creek,**	**23.64**	**47**	P	**P**	**23 18 49.5**	**+0.3**
L27K				IAmb	IAmb	23 19 03.1	
	comp=Z,4.2nm,0.9s						
BCAR	**Beaver Creek A**	**23.66**	**47**	P	**P**	**23 18 49.8**	**+0.4**
O28M	**Mount Upton**	**24.19**	**53**	P	**P**	**23 18 54.0**	**-0.7**
DAWY	**Dawson**	**24.87**	**45**	P	**P**	**23 18 59.0**	**-1.5**
DAWY				IAmb	IAmb	23 19 14.0	
	comp=Z,5.5nm,0.9s						
HYT	**Haines Junctio**	**25.50**	**53**	P	**P**	**23 19 06.3**	**-0.2**
D27M	**Malcolm River**	**25.59**	**33**	P	**P**	**23 19 08.2**	**+1.2**
D27M				IAmb	IAmb	23 19 18.3	
	comp=Z,4.4nm,0.9s						
G31M	**Satah River**	**27.42**	**39**	P	**P**	**23 19 23.0**	**-0.4**
G31M				IAmb	IAmb	23 19 53.1	
	comp=Z,9.1nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**33.52**	**200**	T	T	23 55 23.0	
	baz=11,slow=76,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**33.52**	**200**	T	T	23 55 23.7	
	baz=11,slow=76,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**33.53**	**200**	T	T	23 55 19.5	
	baz=11,slow=76,SNR=7.4						
YKA	**Yellowknife Ar**	**36.07**	**47**	P	**P**	**23 20 40.6**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=284,slow=8.9,SNR=12						
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**44.64**	**294**	P	**P**	**23 21 50.7**	**0.0**
SONM	**Songino Array**	**44.64**	**294**	P	**P**	**23 21 50.2**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=75,slow=6.7,SNR=3.9						
	comp=Z,0.3nm,0.4s						
NVAR	**Mina Array Bea**	**45.30**	**81**	P	**P**	**23 21 54.7**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=312,slow=4.5,SNR=2.0						
	comp=Z,0.7nm,0.7s						
HHC	**Hu-ho-hao-te**	**45.70**	**283**	*e*P	**P**	**23 21 59.4**	**+0.3**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PDAR	**Pinedale Array**	**47.85**	**71**	P	**P**	**23 22 16.3**	**+0.3**
SPITS	**Spitsbergen Ar**	**49.49**	**355**	P	**P**	**23 22 27.8**	**-0.1**
	comp=Z,5.8nm,0.8s,baz=26,slow=5.9,SNR=7.1						
	comp=Z,5.8nm,0.8s						
PV03	**Paradox Valley**	**51.12**	**75**	P	**P**	**23 22 40.0**	**-1.1**
KURBB	**Kurchatov Arra**	**57.25**	**312**	P	**P**	**23 23 24.9**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=41,slow=6.8,SNR=11						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**58.10**	**306**	P	**P**	**23 23 30.4**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=46,slow=6.5,SNR=6.3						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**59.10**	**318**	P	**P**	**23 23 38.1**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=55,slow=5.2,SNR=10						
	comp=Z,1.1nm,0.5s						
BRVK	**Borovoye**	**59.12**	**318**	P	**P**	**23 23 38.9**	**+0.5**
BRVK				IAmb	IAmb	23 23 43.8	
	comp=Z,3.8nm,1.3s						
TXAR	**Lajitas Array**	**60.37**	**79**	P	**P**	**23 23 46.1**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=302,slow=5.7,SNR=2.9						
	comp=Z,0.3nm,0.7s						
PZH	**PanZhiHua**	**61.39**	**277**	P	**P**	**23 23 55.1**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
FINES	**FINESS Array B**	**64.62**	**346**	P	**P**	**23 24 14.4**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=16,slow=10,SNR=2.4						
	comp=Z,2.2nm,0.9s						
KKAR	**Karatay Array**	**66.49**	**310**	P	**P**	**23 24 26.6**	**-1.1**
KSH	**Kashi**	**66.55**	**305**	P	**P**	**23 24 30.9**	**+2.7**
KSH				pmax	pmax		
	comp=Z,3.0nm,2.4s						
AKASG	**Malin Array Be**	**74.24**	**340**	P	**P**	**23 25 14.8**	**0.0**
	comp=Z,1.0nm,0.4s,baz=26,slow=6.4,SNR=6.1						
	comp=Z,1.0nm,0.4s						
BURAR	**Bucovina Array**	**77.99**	**342**	P	**P**	**23 25 35.8**	**-0.6**

*IDC **02** 23:28:50.4±0.6,52°.02N×178°.09E,h0km,mb4.2/28, mbtmp4.2/32,ML3.6/4,Error ellipse: s-maj=18.4km s-min=11.1km az=171.0*
*NEIC **02** 23:28:51.3±1.0,51°.9N±0°.1×178°.05E±0°.10,h10km±2km, mb4.6/127,ML4.2/6,Error ellipse: s-maj=23.8km s-min=9.8km az=187.0*
ISC 02 23:28:51.4±0.5,51°.92N±0°.10×178°.07E±0°.04,h10km,n441, σ1§23/405,mb4.5/90,6C-11D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.57**	**290**	Pn	**Pn**	**23 29 34.3**	**+1.3**
	36nm,0.3s,baz=83,slow=14,SNR=11						
SHEM				Sn	**Sn**	**23 30 06.0**	**+1.7**
	74nm,0.3s,baz=320,slow=23,SNR=16						
	67nm,0.3s						
SMY	**Shemya**	**2.57**	**290**	Pn	**Pn**	**23 29 32.7**	**-0.3**
SMY				IAML		23 30 10.7	
	comp=E,1μm,1.1s						
SMY				IAML		23 30 11.4	
	comp=N,1μm,1.0s						
KIWB	**Kanaga Island**	**2.96**	**89**	Pn	**Pn**	**23 29 39.5**	**+1.0**
ADK	**Adak**	**3.25**	**89**	Pn	**Pn**	**23 29 42.7**	**+0.3**
ADK				IAML		23 30 46.0	
	comp=N,405nm,0.9s						
ATKA	**Atka Island**	**4.78**	**84**	Pn	**Pn**	**23 30 02.6**	**-0.9**
ATKA				IAML		23 31 33.1	
	comp=N,187nm,1.6s						
SPIA	**Saint Paul Isl**	**8.59**	**48**	Pn	**Pn**	**23 30 57.9**	**+2.2**
LVA	**Lava Pnt**	**9.84**	**71**	Pn	**Pn**	**23 31 12.0**	**-0.8**
PETK	**Petropavlovsk-**	**12.46**	**284**	Pn	**Pn**	**23 31 48.4**	**-0.3**
	comp=N,0.2nm,0.3s,baz=97,slow=12,SNR=2.1						
	comp=N,4.6nm,0.9s						
O14K	**Tigyukauivet M**	**13.76**	**50**	P	**Pn**	**23 32 04.2**	**-2.1**
	baz=247						
S14K	**Fog Glacier**	**13.81**	**63**	P	**Pn**	**23 32 06.6**	**-0.6**
	baz=261						
N14K	**Kuskokwak Cree**	**13.85**	**47**	Pn	**Pn**	**23 32 07.6**	**+0.1**
N14K	**Kuskokwak Cree**	**13.85**	**47**	P	**Pn**	**23 32 08.8**	**+1.3**
	baz=243						
M14K	**Bethel**	**14.12**	**43**	P	**Pn**	**23 32 12.6**	**+1.4**
	baz=240						
L14K	**Kuka Creek**	**14.13**	**41**	P	**Pn**	**23 32 11.9**	**+0.6**
	baz=237						
O15K	**Ungalikthiuk R**	**14.42**	**51**	P	**Pn**	**23 32 16.3**	**+0.9**
	baz=249						
J14K	**Nanvaranak Lak**	**14.63**	**35**	P	**Pn**	**23 32 17.8**	**-0.5**
	baz=230						
M15K	**Kasigluk River**	**14.64**	**45**	P	**Pn**	**23 32 19.2**	**+0.9**
	baz=242						
N15K	**Kwethluk River**	**14.67**	**47**	Pn	**Pn**	**23 32 17.9**	**-0.9**
N15K	**Kwethluk River**	**14.67**	**47**	P	**Pn**	**23 32 19.6**	**+0.7**
	baz=245						
L15K	**Ungalak Mounta**	**14.79**	**41**	P	**Pn**	**23 32 19.6**	**-0.8**
	baz=238						
K15K	**Wolf Creek Mou**	**15.11**	**39**	Pn	**Pn**	**23 32 23.9**	**-0.8**
K15K				IAmb	IAmb	23 32 35.8	
	comp=Z,35nm,1.1s						
K15K	**Wolf Creek Mou**	**15.11**	**39**	P	**Pn**	**23 32 25.2**	**+0.5**
	baz=236						
P16K	**Nushagak River**	**15.27**	**53**	P	**Pn**	**23 32 27.1**	**+0.4**
	baz=252						
O16K	**Kokwok River B**	**15.39**	**51**		**P**	**23 32 32.9**	**-0.2**
O16K				IAmb	IAmb	23 32 38.5	
	comp=Z,40nm,1.2s						
O16K	**Kokwok River B**	**15.39**	**51**	P	**Pn**	**23 32 29.5**	**+1.0**
	baz=250,SNR=5.4						
N16K	**Nishlik Lake**	**15.40**	**47**	P	**Pn**	**23 32 29.2**	**+0.7**
	baz=246						
M16K	**Timber Creek**	**15.54**	**45**	Pn	**Pn**	**23 32 32.4**	**+2.0**
M16K	**Timber Creek**	**15.54**	**45**	P	**Pn**	**23 32 31.4**	**+1.0**
	baz=244						
L16K	**Owhat River**	**15.64**	**42**		**P**	**23 32 34.9**	**-0.9**
L16K	**Owhat River**	**15.64**	**42**	P	**Pn**	**23 32 31.6**	**0.0**
	baz=241						
Q16K	**King Salmon**	**15.84**	**55**	P	**Pn**	**23 32 33.2**	**-1.0**
	baz=256						
O17K	**Koliganek Bris**	**15.93**	**51**	P	**Pn**	**23 32 36.1**	**+0.7**
	baz=251,SNR=8.5						
CHIR	**Chirikof Islan**	**15.96**	**65**	P	**Pn**	**23 32 36.5**	**+0.7**
	baz=267						
J16K	**Anvik River**	**16.03**	**37**	P	**Pn**	**23 32 36.8**	**+0.1**
	baz=235						
P17K	**Kvichak River**	**16.08**	**53**	P	**Pn**	**23 32 38.7**	**+1.5**
	baz=254,SNR=13						
Q17K	**Contact Creek**	**16.14**	**57**	P	**Pn**	**23 32 39.7**	**+1.5**
	baz=258,SNR=19						
N17K	**Nushagak Hills**	**16.14**	**48**		**P**	**23 32 41.0**	**-0.5**
N17K	**Nushagak Hills**	**16.14**	**48**	P	**Pn**	**23 32 38.6**	**+0.4**
	baz=249						
H16K	**Elim**	**16.32**	**31**	P	**Pn**	**23 32 39.8**	**-0.5**
	baz=228						
L17K	**Donlin**	**16.33**	**42**	P	**Pn**	**23 32 39.4**	**-1.1**
	baz=242						
I17K	**Unalakleet**	**16.36**	**35**	P	**Pn**	**23 32 40.3**	**-0.5**
	baz=233						
M17K	**Holitna River**	**16.37**	**45**		**P**	**23 32 43.6**	**-0.3**
M17K	**Holitna River**	**16.37**	**45**	P	**Pn**	**23 32 41.2**	**+0.2**
	baz=246						
ACHA	**Angle Creek He**	**16.41**	**57**		**P**	**23 32 44.6**	**+0.1**
K17K	**Iditarod**	**16.61**	**40**	P	**P**	**23 32 45.4**	**-1.2**
	baz=240						
J17K	**VABM Dome**	**16.66**	**38**		**P**	**23 32 46.7**	**-0.4**
J17K	**VABM Dome**	**16.66**	**38**	P	**P**	**23 32 46.3**	**-0.8**
	baz=237						
Q18K	**Katmai Hardscr**	**16.67**	**56**	P	**P**	**23 32 46.6**	**-0.7**
	baz=258,SNR=16						
P18K	**Big Mountain,**	**16.73**	**53**	P	**P**	**23 32 47.2**	**-0.8**
P18K				IAmb	IAmb	23 32 54.1	
	comp=Z,78nm,1.5s						
P18K	**Big Mountain,**	**16.73**	**53**	P	**Pn**	**23 32 46.5**	**+0.8**
	baz=255,SNR=12						
N18K	**Kilae Creek**	**16.80**	**48**	P	**P**	**23 32 48.0**	**-0.7**
N18K	**Kilae Creek**	**16.80**	**48**	P	**P**	**23 32 48.0**	**-0.7**
	baz=250						
G16K	**Koyuk River**	**16.80**	**29**	P	**P**	**23 32 48.1**	**-0.5**
	baz=226						
O18K	**Koktuh Hills**	**16.86**	**51**	P	**Pn**	**23 32 48.1**	**+0.8**
O18K				IAmb	IAmb	23 32 58.8	
	comp=Z,51nm,0.9s						
O18K	**Koktuh Hills**	**16.86**	**51**	P	**P**	**23 32 48.5**	**-0.9**
	baz=254,SNR=12						
L18K	**Granite Mounta**	**17.04**	**43**		**P**	**23 32 51.0**	**-0.4**
L18K	**Granite Mounta**	**17.04**	**43**	P	**Pn**	**23 32 49.7**	**+0.1**
	baz=244						
M18K	**Stony River**	**17.12**	**46**	P	**Pn**	**23 32 50.1**	**-0.4**
	baz=248						
H17K	**Granite Mounta**	**17.27**	**33**	P	**Pn**	**23 32 52.6**	**+0.2**
	baz=231						
OHAK	**Old Harbor**	**17.36**	**61**		**Pn**	**23 32 53.4**	**-0.1**
OHAK	**Old Harbor**	**17.36**	**61**	P	**P**	**23 32 55.3**	**+0.5**
	baz=264						
O19K	**Port Alsworth**	**17.39**	**51**	P	**P**	**23 32 55.8**	**+0.7**
	baz=254,SNR=16						
G17K	**Kiwalik Mounta**	**17.40**	**30**	P	**P**	**23 32 55.0**	**-0.3**
	baz=229						
Q19K	**Cape Douglas,**	**17.42**	**55**	P	**P**	**23 32 56.1**	**+0.5**
Q19K				IAmb	IAmb	23 32 59.7	
	comp=Z,29nm,0.7s						
Q19K	**Cape Douglas,**	**17.42**	**55**	P	**Pn**	**23 32 54.8**	**+0.5**
	baz=258,SNR=8.9						
N19K	**Bonanza Creek**	**17.49**	**49**	P	**Pn**	**23 32 55.6**	**+0.3**
N19K				IAmb	IAmb	23 33 03.5	
	comp=Z,40nm,1.4s						
N19K	**Bonanza Creek**	**17.49**	**49**	P	**P**	**23 32 55.8**	**-0.7**
	baz=252,SNR=6.9						
SEY	**Seymchan**	**17.55**	**319**	P	**Pn**	**23 32 55.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=128,slow=13,SNR=6.2						
	comp=Z,1.1nm,0.2s						
J18K	**Innoko River**	**17.61**	**39**	P	**P**	**23 32 57.8**	**+0.2**
J18K	**Innoko River**	**17.61**	**39**	P	**P**	**23 32 57.3**	**-0.3**
	baz=241						
TTA	**Tatalina**	**17.64**	**41**	P	**Pn**	**23 32 56.8**	**-0.2**
	baz=243						
P19K	**Oil Pt**	**17.78**	**53**	P	**P**	**23 32 59.4**	**-0.1**
P19K				IAmb	IAmb	23 33 07.9	
	comp=Z,79nm,1.1s						
P19K	**Oil Pt**	**17.78**	**53**	P	**P**	**23 33 01.1**	**+1.5**
	baz=257,SNR=20						
KDAK	**Kodiak Island**	**17.79**	**59**		**Pn**	**23 32 58.3**	**-0.6**
KDAK	**Kodiak Island**	**17.79**	**59**	P	**Pn**	**23 32 59.0**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=110,slow=6.2,SNR=13						
	comp=Z,12nm,0.7s						
KDAK	**Kodiak Island**	**17.79**	**59**	P	**Pn**	**23 32 58.3**	**-0.6**
	baz=263						
L19K	**White Mountain**	**17.81**	**44**	P	**Pn**	**23 32 58.7**	**-0.5**
	baz=247						
F17K	**Baldwin Pennin**	**17.86**	**28**	P	**P**	**23 33 01.3**	**+1.0**
	baz=225						
M19K	**Big River Lodg**	**17.91**	**45**	P	**P**	**23 33 00.6**	**-0.4**
	baz=248						
H18K	**Honhosa River**	**17.93**	**33**	P	**P**	**23 33 01.1**	**0.0**
	baz=234						
Q20K	**Shuyak Island**	**18.00**	**57**	P	**Pn**	**23 33 01.3**	**-0.2**
	baz=261						
E17K	**Hotham Inlet**	**18.16**	**26**	P	**P**	**23 33 04.4**	**+0.7**
	baz=223						
O20K	**Slope Mountain**	**18.18**	**52**	P	**P**	**23 33 05.3**	**+1.3**
	baz=256,SNR=18						
GCSA	**Galena City Sc**	**18.21**	**36**	P	**P**	**23 33 05.4**	**+1.2**
	baz=237						
C16K	**Lisburne Hills**	**18.25**	**20**	P	**P**	**23 33 05.7**	**+1.0**
	baz=214						
G18K	**Tagagawik**	**18.28**	**31**	P	**P**	**23 33 06.1**	**+1.0**
	baz=231						
J19K	**Poorman**	**18.29**	**38**	P	**P**	**23 33 07.4**	**+2.2**
J19K	**Poorman**	**18.29**	**38**	P	**P**	**23 33 06.0**	**+0.9**
	baz=241						
D17K	**Noatak River**	**18.30**	**23**	P	**P**	**23 33 05.9**	**+0.7**
	baz=220						
L20K	**Farewell, AK**	**18.34**	**44**	P	**P**	**23 33 07.1**	**+1.3**
	baz=248						
F18K	**Selawik**	**18.43**	**29**	P	**Pn**	**23 33 08.2**	**+1.5**
	baz=228						
M20K	**Styx River**	**18.46**	**46**	P	**Pn**	**23 33 08.3**	**+1.1**
	baz=250,SNR=20						
HOM	**Homer**	**18.57**	**54**	P	**Pn**	**23 33 09.3**	**+0.9**
	baz=259			

baz=233
J20K Nowinta River 18.95 39 P **P 23 33 12.2 -0.1**
J20K Nowinta River 18.95 39 P **Pn 23 33 14.1 +1.2**
baz=243,SNR=8.9
BRLK Bradley Lake 18.97 53 P **P 23 33 11.9 -0.7**
BRLK IAmb IAmb 23 33 17.0
comp=Z,39nm,0.9s
BRSE Bradley Lake S 19.04 54 P **Pn 23 33 15.6 +1.6**
baz=259,SNR=7.8
CAPN Captain Cook N 19.05 50 P **Pn 23 33 16.0 +1.8**
baz=256
SKT Skwentna 19.21 47 P **Pn 23 33 17.7 +1.5**
baz=252,SNR=22
PPLA Purkeypile 19.22 44 P **Pn 23 33 18.2 +1.8**
baz=249
H20K Anotleneega Mo 19.33 35 P **Pn 23 33 18.6 +1.1**
baz=238,SNR=10
SUA Susitna One 19.42 48 P **Pn 23 33 19.1 +0.3**
baz=255,SNR=22
CAST Castle Rocks 19.46 42 P **Pn 23 33 20.0 +0.9**
baz=248,SNR=8.5
C18K Utukok River 19.49 23 P **Pn 23 33 20.3 +0.8**
baz=221,SNR=5.4
CHUM Lake Minchumin 19.55 41 P **Pn 23 33 21.1 +0.9**
baz=246,SNR=14
O22K Cooper Landing 19.68 52 P **Pn 23 33 22.3 +0.6**
baz=258,SNR=10
E19K Redstone River 19.72 29 P **Pn 23 33 22.7 +0.5**
baz=230
SEW Seward 19.74 53 P **Pn 23 33 23.1 +0.6**
baz=260
RC01 Rabbit Creek A 19.80 50 P **P 23 33 21.5 -0.1**
RC01 IAmb IAmb 23 33 31.4
comp=Z,28nm,0.8s
RC01 Rabbit Creek A 19.80 50 P **Pn 23 33 23.6 +0.4**
baz=257,SNR=15
CUT Chulitna 19.90 46 P **Pn 23 33 26.2 +1.8**
baz=253
B18K Kokolik River 19.90 21 P **Pn 23 33 25.1 +0.8**
baz=219
F20K Avaraart Lake 19.92 31 P **Pn 23 33 25.5 +0.9**
baz=233
H21K Melozitna Rive 20.16 36 P Pn 23 33 28.0 +0.6
baz=241,SNR=13
D19K Kuna River 20.16 26 P Pn 23 33 28.3 +0.8
baz=226
BPAW Bear Paw Mtn. 20.17 41 P Pn 23 33 28.1 +0.5
baz=247
PMR Palmer 20.20 49 P Pn 23 33 28.3 +0.5
baz=256
TRF Thorofare Moun 20.23 43 P **P 23 33 26.5 0.0**
TRF IAmb IAmb 23 33 34.8
comp=Z,29nm,1.0s
TRF Thorofare Moun 20.23 43 P Pn 23 33 28.6 +0.2
baz=250,SNR=14
GHO Glory Hole Cre 20.34 48 P **P 23 33 27.3 -0.3**
GHO IAmb IAmb 23 33 38.9
comp=Z,16nm,0.7s
G21K Allakaket 20.35 33 P Pn 23 33 29.8 +0.2
baz=238
PWL Port Wells 20.42 51 P **P 23 33 26.6 -1.8**
PWL IAmb IAmb 23 33 33.5
comp=Z,55nm,1.1s
PWL Port Wells 20.42 51 P Pn 23 33 30.1 -0.4
baz=259,SNR=16
KNK Knik Glacier 20.47 49 P Pn 23 33 31.1 -0.1
baz=258,SNR=12
E20K Nigu River 20.54 27 P Pn 23 33 31.5 -0.3
baz=230
SML Sawmill 20.62 48 P Pn 23 33 32.8 -0.1
baz=257,SNR=17
D20K Etivluk River 20.72 26 P Pn 23 33 33.4 -0.6
baz=228
F21K Alatna River 20.74 32 P Pn 23 33 33.7 -0.5
baz=236,SNR=7.8
P23K Montague Islan 20.74 54 P Pn 23 33 33.9 -0.3
baz=262
H22K Ishtalitna Cre 20.79 36 P Pn 23 33 34.3 -0.5
baz=242
RND Reindeer 20.82 44 P **P 23 33 31.6 -1.2**
MCK McKinley 20.89 43 P **P 23 33 32.9 -0.7**
MCK McKinley 20.89 43 P Pn 23 33 35.0 -1.0
baz=251
M23K Glacier View 20.90 48 P **P 23 33 34.6 +1.0**
baz=257,SNR=16
GLI Glacier Island 21.02 51 P **P 23 33 35.0 +0.1**
GLI Glacier Island 21.02 51 P **P 23 33 36.1 +1.2**
baz=260,SNR=29
SCM Sheep Creek Mo 21.09 48 P **P 23 33 36.9 +1.2**
baz=258,SNR=12
NEA2 Nenana 21.13 40 P **P 23 33 37.9 +1.8**
baz=249,SNR=8.8
I23K Minto, Yukon-K 21.23 39 P **P 23 33 38.9 +1.9**
baz=247
G22K Bettles 21.24 33 P **P 23 33 38.8 +1.7**
baz=240
E21K Killik River 21.30 28 P **P 23 33 39.2 +1.4**
baz=233
F22K John River 21.32 32 P **P 23 33 39.5 +1.4**
baz=238
H23K Yukon River 21.43 37 P **P 23 33 41.1 +1.8**
baz=245
B20K Meade River 21.46 23 P **P 23 33 39.2 -0.3**
B20K Meade River 21.46 23 P **P 23 33 41.5 +2.0**
baz=225,SNR=5.7
C21K Knifeblade Rid 21.51 26 P **P 23 33 41.4 +1.3**
baz=230
EYAK Cordova Ski Ar 21.63 52 P **P 23 33 40.9 -0.4**
EYAK IAmb IAmb 23 33 46.7
comp=Z,41nm,0.9s
EYAK Cordova Ski Ar 21.63 52 P **P 23 33 43.2 +1.8**
baz=263,SNR=10
G23K Bananza Creek 21.65 35 P **P 23 33 44.0 +2.4**
baz=242,SNR=7.6
M24K Tolsona, Glenn 21.68 48 P **P 23 33 42.1 +0.1**
M24K Tolsona, Glenn 21.68 48 P **P 23 33 44.4 +2.3**
baz=258,SNR=14
KLU Klutina 21.68 50 P **P 23 33 41.3 -0.8**
KLU IAmb IAmb 23 33 53.9
comp=Z,28nm,0.9s
KLU Klutina 21.68 50 P **P 23 33 44.4 +2.3**
baz=260,SNR=18
DIV Divide 21.70 51 P **P 23 33 41.5 -0.7**
DIV IAmb IAmb 23 33 47.3
comp=Z,44nm,1.0s
COLA College 21.72 40 P **P 23 33 44.4 +2.0**
baz=250
E22K Anaktuvuk Pass 21.78 30 P **P 23 33 45.7 +2.7**
baz=237,SNR=9.2
COLD Coldfoot 21.84 33 P **P 23 33 45.0 +1.4**
baz=241
B21K Ikpikpuk River 21.85 26 P **P 23 33 45.3 +1.6**
baz=230,SNR=5.1
HDA Harding Lake 21.94 42 P **P 23 33 46.1 +1.4**
baz=252
D22K Ayikyak River 21.94 28 P **P 23 33 46.1 +1.4**
baz=234
POKR Poker Plat Res 21.97 40 P **P 23 33 46.3 +1.2**
baz=250
H24K Noodor Dome 22.07 38 P **P 23 33 48.0 +1.8**
baz=247,SNR=5.5
IL31 22.08 41 P **P 23 33 44.6 -1.6**
ILAR Eielson Array 22.08 41 P **P 23 33 46.6 +0.4**
comp=Z,2.8nm,0.9s,baz=241,slow=8.5,SNR=18
comp=Z,2.8nm,0.9s
PAX Paxson 22.18 46 P **P 23 33 47.0 -0.5**
PAX IAmb IAmb 23 33 55.1
comp=Z,16nm,1.0s
PAX Paxson 22.18 46 P **P 23 33 48.7 +1.2**
baz=257,SNR=17
HARP HAARP 22.21 48 P **P 23 33 49.2 +1.5**
baz=259,SNR=8.0
KAIM Kayak Island 22.22 54 P **P 23 33 49.2 +1.4**
baz=266
BMRM Bremner River 22.24 51 P **P 23 33 47.0 -1.0**
BMRM IAmb IAmb 23 33 52.2
comp=Z,32nm,0.8s
BMRM Bremner River 22.24 51 P **P 23 33 49.8 +1.8**
baz=263,SNR=15
K24K Donnelly Dome 22.25 44 P **P 23 33 49.6 +1.4**
baz=255,SNR=5.8
N25K Chitina, Valde 22.33 50 P **P 23 33 50.5 +1.4**
baz=261,SNR=20
E23K Chandalar 22.44 32 P **P 23 33 51.9 +1.7**
baz=240,SNR=18
G24K Hadweenzic Riv 22.56 36 P **P 23 33 53.3 +2.0**
baz=246,SNR=12
D23K Nanushuk River 22.58 29 P **P 23 33 53.0 +1.4**
baz=237,SNR=13
B22K Teshekpuk Lake 22.63 25 P **P 23 33 53.4 +1.3**
baz=230
RIDG Independent Ri 22.64 44 P **P 23 33 53.9 +1.6**
baz=256
J25K Salcha River, 22.65 42 P **P 23 33 53.3 +0.9**
baz=253
GLB Gilahina Butte 22.68 50 P **P 23 33 52.2 -0.5**
GLB IAmb IAmb 23 33 57.3
comp=Z,22nm,0.9s
A22K Sinclair Lake 22.69 23 P **P 23 33 54.0 +1.3**
baz=227,SNR=5.3
TOLK Toolik Lake Re 22.75 30 P **P 23 33 54.8 +1.4**
baz=239,SNR=9.0
F24K Squaw Lake 22.76 34 P **P 23 33 54.9 +1.4**
baz=244,SNR=15
BGLC Bering Glacier 22.81 54 P **P 23 33 55.4 +1.4**
baz=266
E24K Your Creek 22.82 32 P **P 23 33 55.4 +1.3**
baz=242
VRDI Verde Repeater 22.82 51 P **P 23 33 53.2 -1.2**
VRDI IAmb IAmb 23 34 00.8
comp=Z,11nm,0.9s
PRP Porcupine Dome 22.86 40 P **P 23 33 55.7 +1.0**
baz=251
DOT Dot Lake 22.96 45 P **P 23 33 55.3 -0.3**
H25L Birch Creek 23.01 38 P **P 23 33 57.0 +1.0**
baz=249,SNR=5.6
SCRK Sand Creek 23.07 44 P **P 23 33 57.1 +0.3**
baz=256,SNR=14
G25K Bearman Lake 23.09 36 P **P 23 33 57.4 +0.6**
baz=248
C23K Itkillik River 23.09 27 P **P 23 33 57.8 +1.0**
baz=235,SNR=7.3
L26K Log Cabin Wild 23.14 46 P **P 23 33 58.6 +1.1**
baz=259,SNR=7.9
M26K Nabesna, AK 23.20 48 P **P 23 33 59.0 +0.8**
baz=261
D24K Happy Valley 23.25 30 P **P 23 33 59.1 +0.6**
baz=239
J26L Joseph Creek 23.37 43 P **P 23 33 59.5 -0.4**
J26L IAmb IAmb 23 34 04.0
comp=Z,13nm,0.9s
J26L Joseph Creek 23.37 43 P **P 23 34 00.4 +0.5**
baz=256,SNR=16
MESA MESA 23.48 54 P **P 23 34 00.3 -0.8**
MESA MESA 23.48 54 P **P 23 34 01.7 +0.6**
baz=267,SNR=13
F25K Christian Rive 23.58 35 P **P 23 34 03.1 +1.2**
baz=246,SNR=17
C24K Franklin Bluff 23.58 29 P **P 23 34 02.8 +1.1**
baz=238
M27K Edge Creek, AK 23.71 48 P **P 23 34 04.1 +0.8**
baz=262,SNR=15
I26K Coal Creek Min 23.75 41 P **P 23 34 04.5 +1.1**
baz=254
E25K Arctic Village 23.82 33 P **P 23 34 05.3 +1.1**
baz=245,SNR=11
L27K Beaver Creek, 23.83 47 P **P 23 34 05.9 +1.5**
baz=261,SNR=38
BCAR Beaver Creek A 23.85 47 P **P 23 34 05.5 +0.9**
K27K Chicken 23.90 44 P **P 23 34 06.0 +1.1**
baz=258
G26K Porcupine Rive 24.01 37 P **P 23 34 07.0 +1.1**
baz=250,SNR=12
D25K Kavik River 24.09 30 IAmb IAmb 23 34 10.9
comp=Z,8.9nm,0.7s
D25K Kavik River 24.09 30 P **P 23 34 08.0 +1.2**
baz=242,SNR=14
F26K Sheenjek River 24.14 35 P **P 23 34 06.9 -0.4**
F26K IAmb IAmb 23 34 12.7
comp=Z,12nm,0.8s
F26K Sheenjek River 24.14 35 P **P 23 34 08.8 +1.5**
baz=248,SNR=19
BVCY Beaver Creek 24.18 48 P **P 23 34 09.1 +1.5**
baz=263,SNR=9.7
YUK3 Moose Creek 24.31 50 P **P 23 34 10.2 +1.2**
baz=265,SNR=34
PCA Pinnacle 24.32 54 P **P 23 34 09.5 +0.6**
PINM Pinnacle 24.32 54 P **P 23 34 10.2 +1.2**
baz=269,SNR=11
O28M Mount Upton 24.37 52 P **P 23 34 08.7 -1.0**
O28M Mount Upton 24.37 52 P **P 23 34 11.7 +2.0**
baz=268,SNR=36
I27K Kandik River 24.45 40 P **P 23 34 11.1 +1.0**
baz=256
YUK8 Steele Glacier 24.61 51 P **P 23 34 13.2 +1.4**
baz=267,SNR=23
H27K Steamboat Moun 24.65 39 P **P 23 34 12.3 +0.5**
baz=254
PNL Peninsula 24.75 55 P **P 23 34 14.1 +1.3**
baz=271
G27K Doyon Strip 24.76 38 P **P 23 34 14.2 +1.3**
baz=253,SNR=7.3
C26K Camden Bay 24.82 30 P **P 23 34 15.0 +1.7**
baz=243,SNR=19
C27K Jago River 25.07 31 IAmb IAmb 23 34 21.2
comp=Z,6.4nm,0.8s
C27K Jago River 25.07 31 P **P 23 34 16.9 +1.4**
baz=245,SNR=12
DAWY Dawson 25.07 45 P **P 23 34 17.3 +1.6**
baz=261,SNR=30
I28M Miner Creek 25.09 41 IAmb IAmb 23 34 18.1
comp=Z,6.9nm,0.7s
I28M Miner Creek 25.09 41 P **P 23 34 17.1 +1.1**
baz=258,SNR=11
YUK4 Talbot Arm 25.15 51 P **P 23 34 19.0 +2.4**
baz=268,SNR=42
O29M Mount Kennedy 25.16 54 P **P 23 34 15.9 -0.7**
O29M IAmb IAmb 23 34 22.9
comp=Z,14nm,0.9s
O29M Mount Kennedy 25.16 54 P **P 23 34 18.4 +1.8**
baz=270,SNR=7.1
E27K Coleen River 25.22 35 P **P 23 34 18.7 +1.7**
baz=250,SNR=11
YUK6 Outpost Mounta 25.27 52 P **P 23 34 19.1 +1.3**
baz=269,SNR=7.9
M29M Somme Creek 25.30 48 IAmb IAmb 23 34 29.3
comp=Z,8.6nm,0.9s
M29M Somme Creek 25.30 48 P **P 23 34 19.2 +1.4**
baz=266,SNR=7.8
L29M L29M 25.51 47 IAmb IAmb 23 34 22.8
comp=Z,12nm,0.9s
L29M L29M 25.51 47 P **P 23 34 21.2 +1.5**
baz=264,SNR=10
P29M Windy Craggy 25.60 55 IAmb IAmb 23 34 25.5
comp=Z,14nm,0.8s
P29M Windy Craggy 25.60 55 P **P 23 34 22.5 +2.0**
baz=272
J29N Klondike Camp 25.63 44 P **P 23 34 22.4 +1.6**
baz=262
HYT Haines Junctio 25.69 52 P **P 23 34 21.3 -0.2**
HYT Haines Junctio 25.69 52 P **P 23 34 23.7 +2.2**
baz=270,SNR=17
I29M Ogilvie Camp, 25.74 42 IAmb IAmb 23 34 26.1
comp=Z,23nm,1.4s
I29M Ogilvie Camp, 25.74 42 P **P 23 34 23.3 +1.5**
baz=260
D27M Malcolm River 25.81 32 P **P 23 34 24.3 +1.9**
baz=249,SNR=17
K29M Barlow Dome 25.86 45 P **P 23 34 24.9 +1.9**
baz=264,SNR=8.9
H29M Whitestone 25.89 40 P **P 23 34 24.7 +1.7**
baz=258
N30M Aishikik Lake 25.90 51 P **P 23 34 25.4 +2.2**
baz=269,SNR=12
P30M Million Dollar 25.97 54 P **P 23 34 26.6 +2.7**
baz=272
E28M Babbage River 26.08 34 P **P 23 34 26.7 +1.9**
baz=252
M30M Mito, Yukon 26.08 48 P **P 23 34 27.0 +2.1**
baz=267
G29M Pine Creek 26.17 38 P **P 23 34 25.2 -0.5**
G29M IAmb IAmb 23 34 32.5
comp=Z,11nm,1.1s
G29M Pine Creek 26.17 38 P **P 23 34 27.7 +2.1**
baz=257
O30N Mendenhall 26.39 52 P **P 23 34 29.6 +1.9**
baz=271
J30M Hart River 26.46 44 IAmb IAmb 23 34 35.9
comp=Z,8.2nm,0.9s
J30M Hart River 26.46 44 P **P 23 34 29.8 +1.4**
baz=263,SNR=11
S31K Pelican 26.51 59 P **P 23 34 29.6 +1.0**
baz=277
I30M Mount Dempster 26.52 42 P **P 23 34 29.0 +0.1**
I30M Mount Dempster 26.52 42 P **P 23 34 30.5 +1.6**
baz=262
N31M Braeburn, Yuko 26.53 51 P **P 23 34 31.3 +2.4**
baz=270,SNR=8.0
EPYK Eagle Plains 26.57 40 P **P 23 34 31.0 +1.7**
baz=259
D28M Stokes Point 26.58 33 P **P 23 34 31.4 +2.2**
baz=251
E29M Blow River 26.59 35 P **P 23 34 31.3 +1.9**
baz=254
SKAG Skagway 26.83 55 P **P 23 34 33.0 +1.4**
baz=274
G30M tAoh Zraii Nji 26.88 39 P **P 23 34 34.0 +1.9**
baz=259
WHY Whitehorse 26.98 53 P **P 23 34 34.9 +1.8**
baz=272
SIT Sitka 27.12 61 P **P 23 34 34.1 -0.1**
baz=279
F30M Barrier River 27.18 37 P **P 23 34 36.4 +1.8**
baz=258
M31M Drury Creek, Y 27.19 49 P **P 23 34 36.1 +1.3**
baz=270,SNR=8.2
R32K Eaglecrest 27.37 58 P **P 23 34 38.1 +1.6**
baz=277
H31M Peel River 27.44 41 P **P 23 34 38.7 +1.7**
baz=263
S32K Killisnoo 27.46 60 P **P 23 34 38.4 +1.2**
baz=279
G31M Satah River 27.63 39 IAmb IAmb 23 34 41.7
comp=Z,5.2nm,0.6s
G31M Satah River 27.63 39 P **P 23 34 40.0 +1.3**
baz=261,SNR=5.8
P32M Atlin 27.64 55 P **P 23 34 39.1 +0.2**
P32M IAmb IAmb 23 34 42.1
comp=Z,12nm,1.2s
P32M Atlin 27.64 55 P **P 23 34 40.3 +1.4**
baz=275,SNR=5.8
FARO Faro, Yukon 27.68 49 P **P 23 34 40.7 +1.5**
FARO Faro, Yukon 27.68 49 P **P 23 34 40.7 +1.5**
baz=271
N32M Quiet Lake 27.84 51 P **P 23 34 42.2 +1.6**
baz=273
F31M Tsiigehtchic 27.91 38 P **P 23 34 43.1 +1.9**
baz=260
P33M Teslin, Yukon 28.03 53 P **P 23 34 44.3 +1.8**
baz=275,SNR=10
INK Inuvik 28.15 36 P **P 23 34 43.5 +0.2**
comp=Z,1.6nm,0.6s,baz=247,slow=8.4,SNR=9.1
comp=Z,1.6nm,0.6s
INK Inuvik 28.15 36 P **P 23 34 44.3 +1.0**
baz=259
Q32M Nakina River 28.45 56 P **P 23 34 47.9 +1.5**
baz=278,SNR=6.9
U33K Whale Pass 28.49 62 P **P 23 34 45.3 -1.2**
baz=282
MMPY Sheldon Lake, 28.64 48 P **P 23 34 49.6 +1.8**
baz=272,SNR=7.4
WRAK Wrangell Islan 28.85 61 P **P 23 34 50.9 +1.2**
baz=282
R33M Jennings River 29.05 55 P **P 23 34 52.2 +0.6**
R33M IAmb IAmb 23 34 55.2
comp=Z,13nm,1.3s
R33M Jennings River 29.05 55 P **P 23 34 53.0 +1.4**
baz=278,SNR=6.4
S34M Telegraph Cree 29.21 58 P **P 23 34 54.6 +1.8**
baz=280
DLBC Dease Lake 29.69 57 P **P 23 34 59.4 +2.2**
baz=280
T35M Bob Quinn 29.86 60 P **P 23 34 59.8 +1.1**
baz=282
WTLY Watson Lake, Y 30.04 53 P **P 23 35 00.2 0.0**
WTLY IAmb IAmb 23 35 05.8
comp=Z,5.9nm,0.8s
WTLY Watson Lake, Y 30.04 53 P **P 23 35 02.2 +1.9**
baz=278,SNR=5.4
TGTN Hyland Airport 30.12 50 P **P 23 35 02.4 +1.5**
baz=276,SNR=9.0
A36M Sachs Harbour 31.57 30 P **P 23 35 15.2 +1.7**
baz=261
C36M Paulatuk 31.68 35 IAmb IAmb 23 35 18.0
comp=Z,6.7nm,0.9s
C36M Paulatuk 31.68 35 P **P 23 35 15.8 +1.3**
baz=267
MJAR Matsushiro Arr 31.97 257 P **P 23 35 18.9 +1.4**
comp=Z,1.0nm,0.5s,baz=40,slow=7.5,SNR=1.9
comp=Z,1.0nm,0.5s
TOAD Toad River Com 32.06 55 P **P 23 35 20.1 +2.1**
baz=283
WRGLY Wrigley 32.15 47 P **P 23 35 20.8 +2.1**
baz=277
KOTAN Kotaneelee Air 32.38 52 P **P 23 35 23.0 +2.2**
baz=282,SNR=6.9
H11N2 WAKE ISLAND Hy 33.30 199 T T 00 10 39.9
baz=11,slow=76,SNR=52
H11N3 WAKE ISLAND Hy 33.31 199 T T 00 10 39.3
baz=11,slow=76,SNR=48
H11N1 WAKE ISLAND Hy 33.31 199 T T 00 10 41.3
baz=11,slow=76,SNR=41
BNX BinXian 33.35 280 ↓P **P 23 35 25.4 -4.0**
BNX pmax pmax
comp=Z,4.0nm,2.1s
H11S1 WAKE ISLAND Hy 34.52 199 T T 00 12 21.6
baz=19,slow=75,SNR=20
H11S3 WAKE ISLAND Hy 34.54 199 T T 00 12 18.2
baz=19,slow=75,SNR=12
H11S2 WAKE ISLAND Hy 34.54 199 T T 00 12 23.5
baz=19,slow=75,SNR=12
YKA Yellowknife Ar 36.27 46 P **P 23 35 55.8 +1.4**
comp=Z,5.3nm,0.8s,baz=283,slow=9.0,SNR=4.0
comp=Z,5.3nm,0.8s
KSRS Korea Array 37.70 268 P **P 23 36 09.2 +2.4**
comp=Z,0.9nm,0.3s,baz=54,slow=7.7,SNR=4.6
comp=Z,0.9nm,0.3s
RES Resolute Bay 40.05 24 P **P 23 36 25.6 -0.6**
NEW Newport 40.51 69 P **P 23 36 30.3 0.0**
J05D Fort Rock, OR 40.73 77 P **P 23 36 31.6 -0.8**
BMO Blue Mountains 42.21 73 P **P 23 36 43.8 -0.6**
NRIK Noril'sk 42.94 329 P **P 23 36 48.2 -1.7**
comp=Z,1.0nm,0.4s,baz=108,slow=9.6,SNR=1.9
comp=Z,1.0nm,0.4s
BEKR Beckworth 43.26 81 P **P 23 36 52.4 -0.6**
PAHR Pah Rah Range 43.96 80 IAmb IAmb 23 37 01.0
comp=Z,6.5nm,1.0s
PNTR Pine Nut 44.20 81 P **P 23 37 00.2 -0.5**
PNTR IAmb IAmb 23 37 03.5
comp=Z,13nm,0.8s
SONM Songino Array 44.65 294 P **P 23 37 02.6 -1.5**
comp=Z,1.2nm,0.6s,baz=61,slow=8.1,SNR=7.0
comp=Z,1.2nm,0.6s
HLID Hailey 44.66 73 P **P 23 37 03.6 -0.7**
NVAR Mina Array Bea 45.41 81 P **P 23 37 09.7 -0.6**
NVAR Mina Array Bea 45.41 81 P **P 23 37 11.1 +0.8**
comp=Z,4.6nm,0.8s,baz=287,slow=7.4,SNR=12
comp=Z,4.6nm,0.8s
HHC Hu-ho-hao-te 45.66 283 eP **P 23 37 10.9 -1.3**
HHC pmax pmax
comp=Z,9.0nm,0.6s
YHL Hebgen Lake 45.80 69 P **P 23 37 12.7 -0.8**
YHL IAmb IAmb 23 37 14.6
comp=Z,7.1nm,1.0s
YFT Old Faithful 46.24 70 P **P 23 37 15.6 -1.2**
YFT IAmb IAmb 23 37 19.3
comp=Z,4.2nm,0.7s
NJ2 Nanjing 46.86 269 eP **P 23 37 20.1 -1.4**
NJ2 pmax pmax
comp=Z,22nm,0.6s
FCC Fort Churchill 46.98 45 P **P 23 37 22.1 0.0**
R11B Troy Canyon, C 47.12 79 IAmb IAmb 23 37 25.4
comp=Z,4.5nm,1.2s
TPNV Topopah Spring 47.60 81 P **P 23 37 27.4 -0.1**
DUG Dugway, Tooele 47.64 76 P **P 23 37 27.7 0.0**
DUG IAmb IAmb 23 37 31.0
comp=Z,3.7nm,0.9s
PD31 Pinedale Array 47.99 71 P **P 23 37 29.8 -0.7**
PD31 IAmb IAmb 23 37 31.5
comp=Z,3.4nm,0.8s
PDAR Pinedale Array 47.99 71 P **P 23 37 29.8 -0.7**
comp=Z,3.1nm,0.8s,baz=301,slow=3.9,SNR=29
comp=Z,3.1nm,0.8s
GSC Goldstone, Bar 48.34 83 P **P 23 37 33.1 0.0**
TMUT Trail Mountain 49.16 75 P **P 23 37 39.7 0.0**
TMUT IAmb IAmb 23 37 42.2
comp=Z,5.5nm,1.0s
RDMU Red Mountain 49.34 73 IAmb IAmb 23 37 43.8
comp=Z,7.5nm,1.0s
KNB Kanab 49.65 79 P **P 23 37 43.0 -0.3**
KNB IAmb IAmb 23 37 45.0
comp=Z,3.0nm,0.6s
SPITS Spitsbergen Ar 49.68 355 P **P 23 37 41.6 -1.2**
comp=Z,12nm,1.1s,baz=52,slow=6.7,SNR=9.2

comp=Z,12nm,1.1s
W13A Hualapai Mount 50.26 81 P P 23 37 46.9 -1.0
W13A IAmb IAmb 23 37 49.8
comp=Z,3.7nm,0.8s
U15A North Rim 50.36 79 P P 23 37 48.6 -0.2
U15A IAmb IAmb 23 37 50.5
comp=Z,3.4nm,0.7s
ULM Lac du Bonnet 51.00 56 P P 23 37 53.3 +0.3
ULM IAmb IAmb 23 37 57.0
comp=Z,4.3nm,0.9s
ULM Lac du Bonnet 51.00 56 P P 23 37 51.9 -1.2
comp=Z,2.7nm,0.5s,baz=315,slow=11,SNR=6.8
comp=Z,2.7nm,0.5s
PV23 Carpenter Ridg 51.02 75 P P 23 37 53.1 -0.7
PV23 IAmb IAmb 23 37 56.9
comp=Z,17nm,1.4s
PV13 Radium Mtn., P 51.32 75 IAmb IAmb 23 37 57.1
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 52.23 312 P P 23 38 02.7 +0.6
comp=Z,0.5nm,0.5s,baz=39,slow=9.3,SNR=2.1
ZALV PcP **PcP 23 39 15.3 +1.8**
comp=Z,1.2nm,0.7s,baz=68,slow=3.3,SNR=5.3
comp=Z,0.5nm,0.5s
GTA Gaotai 53.55 289 *eP* **P 23 38 13.9 +1.6**
GTA pmax pmax
comp=Z,5.0nm,1.0s
N35A Tabor 57.17 64 P P 23 38 38.0 -0.2
ARCES ARCESS Array B 57.20 349 P P 23 38 38.2 +0.2
comp=Z,2.7nm,0.7s,baz=15,slow=6.3,SNR=7.6
comp=Z,2.7nm,0.7s
KURK Kurchatov 57.22 312 P P 23 38 37.7 -0.7
KURK IAmb IAmb 23 38 42.1
comp=Z,5.9nm,0.9s
KURBB Kurchatov Arra 57.33 312 P P 23 38 39.0 -0.2
comp=Z,3.3nm,0.8s,baz=43,slow=6.7,SNR=23
KURBB PcP **PcP 23 39 34.1 +1.0**
comp=Z,0.9nm,0.7s,baz=37,slow=2.9,SNR=4.4
comp=Z,3.3nm,0.8s
MK31 Makanchi Array 58.16 306 P P 23 38 44.1 -1.0
MKAR Makanchi Array 58.16 306 P P 23 38 44.5 -0.6
MKAR Makanchi Array 58.16 306 P P 23 38 45.0 -0.1
comp=Z,0.9nm,0.6s,baz=52,slow=4.8,SNR=9.1
comp=Z,0.9nm,0.6s
MAKZ Makanchi 58.30 307 P P 23 38 45.9 -0.2
MAKZ IAmb IAmb 23 39 09.9
comp=Z,3.1nm,0.6s
VHRN Van Horn 58.65 79 P P 23 38 47.6 -1.3
VHRN IAmb IAmb 23 38 50.7
comp=Z,3.3nm,0.8s
I42A Draeger Farm, 58.74 58 P P 23 38 47.6 -1.6
POST Post 59.15 75 P P 23 38 52.0 -0.2
POST IAmb IAmb 23 38 53.7
comp=Z,6.0nm,0.7s
BVAR Borovoye Array 59.20 318 P P 23 38 52.0 -0.2
comp=Z,2.9nm,0.6s,baz=53,slow=7.1,SNR=16
comp=Z,2.9nm,0.6s
BRVK Borovoye 59.22 318 P P 23 38 52.1 -0.3
BRVK IAmb IAmb 23 38 58.4
comp=Z,2.5nm,0.8s
P40A Paris 60.09 63 P P 23 38 58.1 -0.4
W35A Tecumseh 60.41 70 P P 23 39 00.2 -0.6
TX31 Lajitas Ar. Si 60.48 79 P P 23 39 00.9 -0.6
TX31 IAmb IAmb 23 39 03.0
comp=Z,3.8nm,0.7s
TXAR Lajitas Array 60.48 79 P P 23 39 00.6 -0.9
TXAR Lajitas Array 60.48 79 P P 23 39 02.1 +0.6
comp=Z,2.2nm,0.5s,baz=306,slow=4.7,SNR=26
comp=Z,2.2nm,0.5s
ABTX Abilene, Hawle 60.57 74 P P 23 39 02.5 +0.5
SCHQ Schefferville 60.76 37 P P 23 39 01.2 -1.8
SCHQ Schefferville 60.76 37 P P 23 39 02.1 -0.8
comp=Z,6.3nm,0.9s,baz=305,slow=7.4,SNR=6.6
comp=Z,6.3nm,0.9s
PZH PanZhiHua 61.34 277 P P 23 39 08.2 +0.8
PZH pmax pmax
comp=Z,10.0nm,0.6s
VLDQ Val d'Or 61.38 48 P P 23 39 05.8 -1.4
VLDQ IAmb IAmb 23 39 06.2
comp=Z,4.8nm,0.8s
MIAR Mount Ida 62.75 68 P P 23 39 16.4 -0.2
LDAQ Lac Daran 64.26 44 P P 23 39 26.6 +0.1
LDAQ IAmb IAmb 23 39 55.8
comp=Z,8.9nm,1.3s
BOOM Boomskoye usch 64.40 307 P P 23 39 27.4 -0.2
BOOM IAmb IAmb 23 39 35.5
comp=Z,3.5nm,1.0s
FIA1 FINESS Array S 64.80 346 P P 23 39 29.2 -0.5
FINES FINESS Array B 64.80 346 P P 23 39 29.8 +0.1
FINES FINESS Array B 64.80 346 P P 23 39 29.9 +0.3
comp=Z,6.1nm,0.8s,baz=32,slow=8.4,SNR=19
comp=Z,6.1nm,0.8s
SSFO Shawnee State 65.47 58 P P 23 39 34.1 -0.3
SSFO IAmb IAmb 23 40 08.3
comp=Z,4.9nm,0.8s
L56A Greenwood 65.77 52 P P 23 39 35.2 -1.1
D62A Allapoint, All 65.88 44 P P 23 39 37.0 0.0
E62A Clayton Lake 66.04 44 P P 23 39 37.6 -0.4
ABKAR Akbulak array 66.31 321 P P 23 39 38.1 -1.5
ABKAR IAmb IAmb 23 39 45.9
comp=Z,4.6nm,1.4s
KKAR Karatay Array 66.56 310 P P 23 39 41.0 -0.5
KSH Kashi 66.60 304 P P 23 39 44.9 +3.1
KSH pmax pmax
comp=Z,4.0nm,1.1s
SSPA Standing Stone 66.74 53 P P 23 39 42.5 0.0
NB2 NORSAR Subarra 66.90 353 P P 23 39 43.5 +0.2
comp=Z,7.2nm,0.9s,baz=8.4,slow=6.2
NOA NORSAR Array B 66.90 353 P P 23 39 43.3 0.0
comp=Z,2.9nm,0.8s,baz=8.9,slow=6.3,SNR=8.6
comp=Z,2.9nm,0.8s
H62A Milan 66.91 47 P P 23 39 42.5 -1.1
F64A Sherman 67.14 44 P P 23 39 44.8 -0.2
HFS Hagfors 67.59 352 P P 23 39 46.8 -0.8
comp=Z,3.5nm,0.8s,baz=32,slow=5.9,SNR=6.0
comp=Z,3.5nm,0.8s
G65A Princeton 68.00 44 P P 23 39 50.1 -0.3
CMAR Chiang Mai Arr 69.03 273 P P 23 39 57.6 +0.4
comp=Z,1.9nm,0.3s,baz=39,slow=6.5,SNR=4.8
comp=Z,1.9nm,0.3s
PABE Paberze 70.81 345 P P 23 40 07.5 -0.1
AKASG Malin Array Be 74.40 340 P P 23 40 29.5 +0.4
comp=Z,7.0nm,0.6s,baz=24,slow=6.2,SNR=19
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 74.40 340 P P 23 40 29.7 +0.6
KIEV Kiev 74.41 340 P P 23 40 29.0 -0.1
KIEV Kiev 74.41 340 ⇓P P 23 40 30.0 +0.8
KOLS Kolonicke sedl 77.43 344 *eP* **P 23 40 48.0 +1.6**
LANS Liptovska Anna 77.67 346 *eP* **P 23 40 50.1 +2.3**
MILM Milestii Mici 78.07 339 ⇓P P 23 40 50.6 +0.6
BUR08 Bucovina Ar. S 78.13 342 P P 23 40 50.1 -0.4
BURAR Bucovina Array 78.15 342 P P 23 40 50.9 +0.2
BURAR Bucovina Array 78.15 342 ⇓P P 23 40 52.0 +1.4
VYHS Vyhne 78.40 346 *eP* **P 23 40 53.5 +1.6**
GERES GERESS Array B 78.73 350 P P 23 40 54.7 +0.9
comp=Z,0.7nm,0.9s,baz=34,slow=5.6,SNR=2.2
comp=Z,0.7nm,0.9s
ARCR ARCALIA 78.83 342 ⇑P P 23 40 56.9 +2.6
GHRR 79.19 340 ⇓P P 23 40 58.2 +2.0
VLDR Vladesti 79.25 339 ⇑P P 23 40 57.8 +1.3
CONA Conrad Observa 79.37 348 *i* pP pP 23 41 00.1 -0.4
comp=Z,0.6nm,0.4s
DRGR 79.42 343 ⇓P P 23 40 59.0 +1.4
VRI Vrincioaia 79.52 340 ⇑P P 23 41 03.6 +5.6
RONA Rosalia, Austr 79.54 348 *ep*P pP 23 41 00.5 -0.8
comp=Z,0.2nm,0.1s
COVR Voineasa-Covas 79.65 340 ⇓P P 23 40 08.4 +2.1
MLR Muntele Rosu 80.04 340 P P 23 41 00.7 -0.3
MLR IAmb IAmb 23 41 03.5
comp=Z,3.7nm,0.7s
MLR Muntele Rosu 80.04 340 ⇑P P 23 41 03.4 +2.4
SIRR Siria 80.11 344 ⇓P P 23 41 03.7 +2.5
VOIR 80.27 341 ⇑P P 23 41 04.5 +2.3
MOTA Moosalm 80.48 351 *e*PcP **PcP 23 41 08.4 -2.0**
comp=Z,1.4nm,0.5s
KBA Koelnbreinsper 80.51 349 *i* pP **P 23 41 04.8 +1.2**
comp=Z,2.3nm,0.5s
SURR Surduc 80.53 343 ⇓P P 23 41 04.9 +1.5
SOKA Soboth 80.71 348 *ep*P pP 23 41 05.9 -1.8
comp=Z,1.3nm,0.5s
BZS Buzias 80.75 343 ⇑P P 23 41 04.7 +0.1
GZR Gura Zlata 80.75 343 ⇓P P 23 41 06.3 +1.5
FETA Feichten 80.84 351 *ep*P **P 23 41 06.2 +0.9**
comp=Z,0.4nm,0.5s
ABTA Abfaltersbach 80.93 350 *ep*P **P 23 41 06.5 +0.7**
comp=Z,0.7nm,0.5s
OBKA Obir 80.93 349 *ep*P **P 23 41 06.5 +0.7**
comp=Z,1.9nm,0.4s
WRA Warramunga Arr 81.09 221 P P 23 41 07.1 +0.5
comp=Z,1.2nm,0.9s,baz=31,slow=5.8,SNR=5.9
comp=Z,1.2nm,0.9s
PRED Cave del Predi 81.11 349 P P 23 41 07.4 +0.7
FUORN Ofenpass-Fuorn 81.28 352 P P 23 41 06.4 -1.4
HERR Herculane 81.32 343 ⇓P P 23 41 08.6 +0.9
FITZ Fitzroy Crossi 83.30 229 P P 23 41 18.6 +0.4
comp=Z,2.9nm,0.9s,baz=24,slow=10.0,SNR=3.0
comp=Z,2.9nm,0.9s
BRTR Keskin Array B 83.61 333 P P 23 41 19.5 -0.5
BRTR Keskin Array B 83.61 333 P P 23 41 20.2 +0.2
comp=Z,0.9nm,0.6s,baz=42,slow=3.2,SNR=5.0
comp=Z,0.9nm,0.6s
ASAR Alice Springs 84.61 220 P P 23 41 26.1 +1.2
comp=Z,0.5nm,0.6s,baz=32,slow=5.3,SNR=4.9
comp=Z,0.5nm,0.6s
QSPA South Pole Qui 141.67 180 PKP PKPdf 23 48 19.8 -1.8
comp=Z,1.3nm,1.0s,baz=219,slow=2.4,SNR=6.1
BOSA Boshof 149.14 308 PKPbc PKiKP 23 48 40.3 -0.8
comp=Z,5.6nm,1.1s,baz=71,slow=1.9,SNR=9.7

---

*JSN **02** 23:30:00.6±0.4, 18°.14N×78°.06W, h10km±54km, MD3.8*
*SSNC **02** 23:30:02.2±1.3, 18°.32N×78°.01W, h7km±8km, MD3.5, ML3.3, MW3.0*
ISC 02 23:29:59.2±2.3, 18°.28N±0°.06×78°.0W±0°.1, h15km±13km, n18, σ1°53/31, 1C-3D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**0.44**	**97**	*eP*		**Pn**	**23 30 10.0**	**-1.0**
MTDJ				*eS*		**Sb**	**23 30 16.5**	**+1.4**
MTDJ				IAML			23 30 17.3	
	15μm,0.3s							
MTDJ				IAML			23 30 17.8	
	comp=Z,3μm,0.3s							
MTDJ	**Mount Denham**	**0.44**	**97**	⇓*iP*		**Pn**	**23 30 10.0**	**-1.0**
MCJ	**Malvern**	**0.46**	**141**	⇓*iP*		**Pb**	**23 30 08.6**	**-0.4**
STH	**Stony Hill**	**1.14**	**100**	*eP*		**Pg**	**23 30 21.1**	**-0.2**
STH				*eS*		**Sn**	**23 30 36.7**	**+0.7**
STH				IAML			23 30 38.6	
	comp=E,134μm,0.2s							
STH				IAML			23 30 38.7	
	comp=N,112μm,0.1s							
STH	**Stony Hill**	**1.14**	**100**	⇑*iP*		**Pg**	**23 30 21.2**	**-0.1**
HOJ	**Hope**	**1.21**	**103**	⇓*iP*		**Pg**	**23 30 22.6**	**0.0**
PILO	**Pilon**	**1.71**	**19**	*eP*		**Pb**	**23 30 29.8**	**-0.5**
PILO				*eS*		**Sn**	**23 30 48.7**	**-1.4**
PILO				*eSg*		**Sb**	**23 30 50.9**	**-0.8**
PILO				IAML			23 30 52.3	
	comp=N,103nm,0.1s							
PILO				IAML			23 30 52.8	
	comp=E,104nm,0.1s							
LMGC	**Las Mercedes**	**2.00**	**28**	*eP*		**Pb**	**23 30 34.0**	**-1.3**
LMGC				*eS*		**Sn**	**23 30 55.9**	**-1.3**
LMGC				IAML			23 30 59.2	
	comp=E,225nm,0.1s							
LMGC				IAML			23 30 59.3	
	comp=N,184nm,0.1s							
CHIV	**Chivirico**	**2.25**	**41**	*eP*		**Pn**	**23 30 37.1**	**+1.2**
CHIV				*eS*		**Sn**	**23 31 02.7**	**-0.6**
CHIV				IAML			23 31 04.9	
	comp=N,22nm,0.2s							
CHIV				IAML			23 31 05.1	
	comp=E,29nm,0.1s							
MARVS	**Santiago de Cu**	**2.62**	**49**	*eP*		**Pn**	**23 30 41.9**	**+1.0**
MARVS				*eS*		**Sn**	**23 31 10.5**	**-1.8**
MARVS				IAML			23 31 14.1	
	comp=N,38nm,0.1s							
MARVS				IAML			23 31 14.2	
	comp=E,44nm,0.2s							
RCC	**Rio Carpintero**	**2.76**	**52**	*eP*		**Pn**	**23 30 44.4**	**+1.6**
RCC				*eS*		**Sn**	**23 31 15.1**	**-0.8**
RCC				IAML			23 31 17.9	
	comp=Z,15nm,0.1s							
RCC				IAML			23 31 18.0	
	comp=N,15nm,0.1s							
PINC	**Pinares de May**	**3.02**	**43**	*eP*		**Pn**	**23 30 48.2**	**+1.8**
PINC				*eS*		**Sn**	**23 31 22.5**	**+0.2**
PINC				IAML			23 31 26.0	
	comp=N,75nm,0.1s							
PINC				IAML			23 31 26.2	
	comp=E,101nm,0.1s							
HLGC	**Holguin**	**3.17**	**35**	*eP*		**Pn**	**23 30 50.6**	**+2.1**
GTBY	**Guantanamo Bay**	**3.18**	**59**	*eP*		**Pn**	**23 30 50.1**	**+1.5**
GTBY				*eS*		**Sn**	**23 31 26.2**	**0.0**
GTBY				IAML			23 31 29.5	
	comp=E,29nm,0.1s							
GTBY				IAML			23 31 29.6	
	comp=E,7.1nm,0.1s							
QMBU	**Quimbuelo**	**3.56**	**57**	*eP*		**Pn**	**23 30 54.9**	**+1.1**
QMBU				*eS*		**Sn**	**23 31 35.0**	**-0.6**
QMBU				IAML			23 31 38.9	
	comp=E,46nm,0.2s							
QMBU				IAML			23 31 39.2	
	comp=N,32nm,0.2s							
NMDO	**Nuevo Mundo**	**3.63**	**51**	*eP*		**Pn**	**23 30 57.0**	**+2.2**
MOAC	**Moa**	**3.71**	**50**	*eP*		**Pn**	**23 30 58.1**	**+2.2**
MOAC				*eS*		**Sn**	**23 31 41.0**	**+1.6**
MASC	**Masc**	**4.02**	**61**	*eP*		**Pn**	**23 31 02.7**	**+2.5**
MASC				*eS*		**Sn**	**23 31 43.4**	**-3.6**

---

*IDC **02** 23:31:23.0±5.1, 31°.21N×110°.79E, h0km, mb3.7/5, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=113.5km s-min=48.7km az=106.0*
ISC 02 23:31:28.1±4.9, 31°.2N±0°.3×110°.7E±0°.8, h35km, n6, σ0°50/6, mb3.5/5, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.54**	**223**		Pn	**Pn**	**23 35 17.4**	**-0.1**
	0.2nm,0.3s,baz=43,slow=9.0,SNR=2.1							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**26.84**	**314**		P	**P**	**23 37 05.7**	**+0.4**
	0.3nm,0.4s,baz=107,slow=8.6,SNR=6.6							
	0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**29.39**	**328**		P	**P**	**23 37 27.4**	**-0.5**
	0.5nm,0.5s,baz=114,slow=7.0,SNR=2.6							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**30.77**	**318**		P	**P**	**23 37 40.0**	**-0.1**
	0.2nm,0.4s,baz=118,slow=9.7,SNR=4.6							
	0.2nm,0.4s							
ARCES	**ARCESS Array B**	**59.51**	**336**		P	**P**	**23 41 28.0**	**+0.5**
	3.1nm,1.0s,baz=77,slow=8.4,SNR=5.5							
	3.1nm,1.0s							
HFS	**Hagfors**	**66.82**	**327**		P	**P**	**23 42 15.8**	**-0.3**
	1.3nm,0.9s,baz=77,slow=9.0,SNR=1.3							
	1.3nm,0.9s							

---

*SKO **02** 23:47:31.9, 41°.40N×19°.09E, h35km*
*TIR **02** 23:47:34.4, 41°.55N×19°.33E, h6km±2km, Md2.8/4, Ml2.3/5*
*PDG **02** 23:47:34.5±0.2, 41°.54N×19°.42E, h10km, ML2.0/12, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*RHSSO **02** 23:47:37.0±0.8, 41°.59N×19°.37E, h6km±2km, ML2.3/7*
*BEO **02** 23:47:37.9±0.5, 41°.59N×19°.66E, h9km±3km, ML2.0/4*
ISC 02 23:47:35.0±1.1, 41°.55N±0°.02×19°.38E±0°.03, h9km±9km, n41, σ0°79/76, 7C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.42**	**347**	*i* Pg		**Pg**	**23 47 43.5**	**+0.3**
ULC	**Ulcinj**	**0.42**	**347**	⇑*i*Pg		**Pg**	**23 47 43.2**	**0.0**
ULC				*i* Sg		**Sg**	**23 47 49.5**	**+0.7**
TIR	**Tirane**	**0.42**	**119**	Pg		**Pg**	**23 47 43.0**	**-0.3**
TIR				AML	AML		23 47 50.1	
	1.5nm,0.5s							
TIR				S		**Sb**	**23 47 50.2**	**-0.9**
TIR	**Tirane**	**0.42**	**119**	*e*Pg		**Pg**	**23 47 42.9**	**-0.3**
TIR				*e*Sg		**Sg**	**23 47 49.5**	**+0.7**
PUK	**Puka**	**0.62**	**38**	Pg		**Pg**	**23 47 47.0**	**-0.1**
PUK				Sg		**Sb**	**23 47 57.2**	**+0.2**
PUK				AML	AML		23 48 04.1	
	0.3nm,0.6s							
PUK				AMd			23 48 38.6	
DRME	**Dracevica, Mon**	**0.65**	**347**	*e*Pg		**Pg**	**23 47 47.5**	**0.0**
DRME				*e*Sg		**Sb**	**23 47 57.3**	**-0.4**
DRME	**Dracevica, Mon**	**0.65**	**347**	⇑*i*Pg		**Pb**	**23 47 47.8**	**-0.7**
DRME				*i* Sg		**Sb**	**23 47 56.8**	**-0.9**
PHP	**Peshkopia**	**0.81**	**80**	Pg		**Pg**	**23 47 50.0**	**-0.6**
PHP				S		**Sb**	**23 48 03.0**	**+0.6**
PHP				AMd			23 48 32.0	
BUM	**Brajici-Budva**	**0.83**	**334**	⇓*i*Pg		**Pb**	**23 47 51.7**	**+0.1**
BUM				*i* Sg		**Sb**	**23 48 02.9**	**0.0**
PDG	**Podgorica**	**0.88**	**354**	⇑*i*Pg		**Pg**	**23 47 51.8**	**-0.1**
PDG				*e*Sg		**Sb**	**23 48 04.5**	**+0.2**
PDG	**Podgorica**	**0.88**	**354**	*e*Pg		**Pn**	**23 47 53.5**	**-0.1**
PDG				*e*Sg		**Sn**	**23 48 06.1**	**-0.4**
PDG	**Podgorica**	**0.88**	**354**	⇑*i*Pg		**Pb**	**23 47 52.3**	**-0.1**
PDG				*i* Sg		**Sb**	**23 48 03.8**	**-0.5**
BCI	**Bajram Curri**	**0.96**	**32**	Pg		**Pg**	**23 47 52.6**	**-0.9**
BCI				Sg		**Sn**	**23 48 08.5**	**-0.1**
BCI				AML	AML		23 48 14.3	
	0.2nm,0.6s							
BCI				AMd			23 48 46.9	
CEME	**Cevo**	**1.05**	**341**	⇓*i*Pg		**Pn**	**23 47 55.3**	**-0.7**
CEME				*i* Sg		**Sn**	**23 48 10.1**	**-0.7**
HCY	**Herceg Novi**	**1.11**	**324**	*e*Pg		**Pn**	**23 47 56.2**	**-0.5**
HCY				*e*Sg		**Sn**	**23 48 11.3**	**-0.8**
HCY	**Herceg Novi**	**1.11**	**324**	⇓*i*Pg		**Pn**	**23 47 56.9**	**+0.2**
HCY				*i* Sg		**Sn**	**23 48 12.4**	**+0.3**
PVY	**Plav**	**1.13**	**22**	⇓*i*Pg		**Pn**	**23 47 56.9**	**-0.2**
PVY				*i* Sg		**Sb**	**23 48 11.8**	**+0.2**
OHR	**Ohrid**	**1.16**	**112**	*i* Pg		**Pb**	**23 47 56.4**	**-0.8**
OHR				*i* Sg		**Sn**	**23 48 15.4**	**+1.9**
NKME	**Niksic**	**1.25**	**346**	⇑*i*Pg		**Pg**	**23 48 00.6**	**+1.6**
NKME				*i* Sg		**Sn**	**23 48 16.9**	**+1.1**
KOME	**Kolasin**	**1.30**	**5**	*e*Pg		**Pg**	**23 48 00.1**	**+0.1**
KOME				*i* Sg		**Sn**	**23 48 17.8**	**+0.8**
BEY	**Berane**	**1.37**	**16**	*i* Pg		**Pg**	**23 48 01.0**	**-0.3**
IVA	**Berane**	**1.37**	**16**	⇓*i*Pg		**Pg**	**23 48 01.1**	**-0.2**
IVA				*i* Sg		**Sg**	**23 48 20.3**	**+1.2**
TREB	**Trebinje**	**1.39**	**327**	*e*Pg		**Pg**	**23 48 01.1**	**-0.6**
TREB				*e*Sg		**Sg**	**23 48 19.9**	**+0.2**
KBN	**Korca**	**1.42**	**131**	P		**Pg**	**23 48 02.1**	**-0.1**
KBN				Sg		**Sg**	**23 48 22.8**	**+2.3**
KBN				AML	AML		23 48 30.8	
	0.2nm,0.6s							
KBN				AMd			23 48 51.3	
SCTE	**Santa Cesarea**	**1.63**	**205**	Pg		**Pg**	**23 48 05.5**	**-0.8**
SCTE				Sg		**Sg**	**23 48 28.1**	**+0.6**
SCTE				AML	AML		23 48 29.9	
	0.3nm,0.3s							
LSK	**Leskovik**	**1.68**	**146**	Pn		**Pg**	**23 48 06.6**	**-0.6**
UPM	**Unac-Piva**	**1.69**	**348**	*e*Pn		**Pg**	**23 48 06.8**	**-0.5**
UPM				*e*Sn		**Sb**	**23 48 27.6**	**-0.1**
UPM	**Unac-Piva**	**1.69**	**348**	⇑*i*Pn		**Pb**	**23 48 06.0**	**-0.3**
UPM				*i* Sn		**Sg**	**23 48 28.8**	**-0.4**
FNA	**Florina**	**1.69**	**116**	*i* Pg		**Pb**	**23 48 06.0**	**-0.3**
FNA				*i* Sg		**Sg**	**23 48 28.7**	**-0.8**
SRN	**Sarande**	**1.74**	**164**	Pn		**Pg**	**23 48 08.1**	**-0.2**
SJES	**Sjenica**	**1.76**	**14**	*e*Pn		**Pb**	**23 48 07.6**	**0.0**
SJES				*e*Sn		**Sb**	**23 48 30.3**	**+0.5**
SJES	**Sjenica**	**1.76**	**14**	*e*Pn		**Pb**	**23 48 07.8**	**+0.2**
SJES				*e*Sg		**Sg**	**23 48 31.8**	**+0.1**
PLE	**Pljevlja**	**1.77**	**0**	⇑*i*Pn		**Pb**	**23 48 07.8**	**0.0**
PLE				*i* Sn		**Sb**	**23 48 30.9**	**+0.7**
STON	**Ston**	**1.81**	**317**	*e*Pn		**Pb**	**23 48 07.6**	**-0.7**
STON				*e*Sn		**Sb**	**23 48 31.3**	**+0.2**
RUDO	**Rudo**	**2.06**	**360**	*e*Pn		**Pb**	**23 48 11.9**	**-0.7**
RUDO				*e*Sn		**Sb**	**23 48 37.1**	**-1.3**
KALIN	**Kalinovik**	**2.06**	**341**	*e*Pn		**Pb**	**23 48 12.2**	**-0.5**
KALIN				*e*Sn		**Sb**	**23 48 37.1**	**-1.4**
SELS	**Selova**	**2.11**	**37**	*e*Pn		**Pb**	**23 48 11.8**	**-1.6**
SELS				*e*Sg		**Sb**	**23 48 38.9**	**-0.8**
BARS	**Barje**	**2.21**	**54**	*e*Pn		**Pn**	**23 48 11.6**	**-0.2**
BBLS	**Lazi&#263i**	**2.31**	**1**	*e*Pn		**Pb**	**23 48 14.8**	**-2.1**
BBLS				*e*Sn		**Sn**	**23 48 42.8**	**+0.9**
BOSS	**Bosilegrad**	**2.50**	**67**	*e*Pn		**Pn**	**23 48 16.3**	**+0.5**
A050A	**Klekovaca**	**3.59**	**325**	*e*Pn		**Pn**	**23 48 32.8**	**+1.9**
A050A				*e*Sn		**Sn**	**23 49 14.5**	**+1.0**

---

*IDC **02** 23:49:33.3±17.0, 50°.83N×179°.21E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=355.9km s-min=63.1km az=121.0*
*NEIC **02** 23:49:43.3±1.0, 51°.52N±0°.07×177°.85E±0°.07, h10km±2km, mb3.9/4, Error ellipse: s-maj=13.7km s-min=5.7km az=156.0*
ISC 02 23:49:41.9±1.3, 51°.3N±0°.2×177°.82E±0°.06, h10km, n12, σ0°97/14, mb3.9/7, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.70**	**303**		Pn	**Pn**	**23 50 25.1**	**-0.3**
SMY					Sn	**Sn**	**23 50 59.2**	**+1.1**
KIWB	**Kanaga Island**	**3.18**	**78**		Pn	**Pn**	**23 50 32.9**	**+0.8**
ADK	**Adak**	**3.47**	**78**		Pn	**Pn**	**23 50 36.5**	**+0.5**
ADK					Sn	**Sn**	**23 51 16.5**	**-0.6**
K15K	**Wolf Creek Mou**	**15.69**	**38**		P	**P**	**23 53 26.4**	**-0.5**
GLI	**Glacier Island**	**21.53**	**50**		P	**P**	**23 54 30.4**	**-0.4**
GLI					IAmb	IAmb	23 54 31.3	
	comp=Z,4.1nm,0.6s							
M29M	**Somme Creek**	**25.82**	**48**		P	**P**	**23 55 11.3**	**-1.8**
HYT	**Haines Junctio**	**26.19**	**51**		P	**P**	**23 55 17.8**	**+1.3**
HYT					IAmb	IAmb	23 55 20.6	
	comp=Z,2.1nm,0.8s							
MJAR	**Matsushiro Arr**	**31.69**	**258**		P	**P**	**23 56 05.1**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=44,slow=8.3,SNR=1.5							
	comp=Z,0.7nm,0.3s							
SONM	**Songino Array**	**44.77**	**295**		P	**P**	**23 57 56.7**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=59,slow=8.6,SNR=2.2							
	comp=Z,0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**57.62**	**312**		P	**P**	**23 59 30.9**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=45,slow=6.2,SNR=5.7							
	comp=Z,0.5nm,0.7s							
MKAR	**Makanchi Array**	**58.39**	**307**		P	**P**	**23 59 36.7**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=59,slow=8.0,SNR=2.4							
	comp=Z,0.2nm,0.6s							
BVAR	**Borovoye Array**	**59.55**	**318**		P	**P**	**23 59 45.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=60,slow=5.7,SNR=4.4							
	comp=Z,0.6nm,0.6s							

---

*KRSC **03** 00:09:16.9±1.8, 50°.49N×160°.17E, h60km±34km, Ml4.0*
*IDC **03** 00:09:16.8±3.2, 50°.38N×159°.99E, h0km, mb3.8/5, mbtmp3.8/6, ML2.4/1, Error ellipse: s-maj=72.6km s-min=34.8km az=172.0*
ISC 03 00:09:21.2±1.5, 50°.50N±0°.09×160°.09E±0°.08, h35km, n23, σ1°25/35, mb3.9/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.82**	**317**	*e*P		**Pn**	**00 09 48.6**	**-1.4**
KDTR				*e*S		**Sn**	**00 10 10.6**	**-1.2**
RUS	**Russkaya**	**2.17**	**334**	*e*P		**Pn**	**00 09 53.4**	**-1.4**
RUS				*e*S		**Sn**	**00 10 19.3**	**-1.1**
PAU	**Pauzhetka**	**2.29**	**296**	*e*P		**Pn**	**00 09 55.5**	**-0.9**
PAU				*e*S		**Sn**	**00 10 22.6**	**-0.7**
GRL	**Gorelyy**	**2.41**	**329**	*e*P		**Pn**	**00 09 57.5**	**-0.7**
GRL				*e*S		**Sn**	**

0.4nm,0.5s,baz=57,slow=7.2,SNR=5.9
0.4nm,0.5s
BVAR Borovoye Array 52.03 310 P P 00 18 27.5 +0.7
1.1nm,0.6s,baz=64,slow=7.8,SNR=5.3
1.1nm,0.6s
ARCES ARCESS Array B 55.76 342 P P 00 18 56.4 +2.6
3.8nm,0.9s,baz=38,slow=6.0,SNR=2.4
3.8nm,0.9s

---

*NNC **03** 00:09:56.3±2.3, 37.°76N×72.°07E, h206km±28km, mb3.2, mpv4.2, Error ellipse: s-maj=23.9km s-min=13.1km az=22.0*
*IDC **03** 00:09:56.4±3.9, 37.°69N×72.°16E, h21km±26km, mb3.3/10, mbtmp4.0/16, Error ellipse: s-maj=36.4km s-min=17.3km az=178.0*
ISC 03 00:09:55.3±1.2, 37.°7N±0.°1×72.°08E±0.°09, h200km, n36, σ0.°98/43, mb3.7/10, 8C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.63**	**15**	P	**Pn**	**00 11 05.4**	**+0.2**
AML	SNR=30						
UCH	**Uchtor**	**4.92**	**22**	P	**Sn**	**00 12 06.8**	**-0.4**
UCH	SNR=28						
EKS2	**Erkin-Say**	**5.15**	**14**	P	**Pn**	**00 11 13.1**	**+1.4**
EKS2	SNR=23						
AAK	**Ala-Archa**	**5.30**	**20**	P	**Pn**	**00 11 14.2**	**+0.7**
AAK	9.8nm,0.3s,baz=180,slow=6.4,SNR=57						
				S	**Sn**	**00 12 16.0**	**+0.6**
AAK	16nm,0.5s,baz=202,slow=15,SNR=9.2						
AAK	**Ala-Archa**	**5.30**	**20**	P	**Pn**	**00 11 14.3**	**+0.7**
AAK	SNR=31						
AAK	**Ala-Archa**	**5.30**	**20**	⇑P	**Pn**	**00 11 14.0**	**+0.5**
AAK	8.4nm,0.5s						
				⇑S	**Sn**	**00 12 16.3**	**+0.9**
AAK	36nm,0.6s						
KBK	**Karagaybulak**	**5.44**	**23**	P	**Pn**	**00 11 16.2**	**+0.7**
KBK	SNR=5.8						
KK31	**Karatay Array**	**5.56**	**348**	⇑P	**Pn**	**00 11 17.3**	**+0.6**
KK31	11nm,0.3s,baz=165,slow=12,SNR=145						
				S	**Sn**	**00 12 20.3**	**-1.0**
KK31	42nm,0.5s,baz=164,slow=20,SNR=18						
ULHL	**Ulahol**	**5.58**	**34**	P	**Pn**	**00 11 16.6**	**-0.6**
ULHL	SNR=14						
CHMS	**Chumysh**	**5.70**	**20**	P	**Pn**	**00 11 19.0**	**+0.4**
CHMS	SNR=7.9						
CHMS	**Chumysh**	**5.70**	**20**	⇑P	**Pn**	**00 11 18.8**	**+0.2**
CHMS	6.2nm,0.6s						
				⇓S	**Sn**	**00 12 23.9**	**-0.7**
CHMS	34nm,0.6s						
TKM2	**Tokmak 2**	**5.89**	**26**	P	**Pn**	**00 11 21.3**	**+0.1**
TKM2	SNR=23						
TKM2	**Tokmak 2**	**5.89**	**26**	⇑P	**Pn**	**00 11 21.1**	**-0.2**
TKM2	20nm,0.7s						
MDOK	**Medeo**	**6.67**	**33**	⇓P	**Pn**	**00 11 30.9**	**-0.4**
MDOK	31nm,0.6s						
KNDC	**Almaty**	**6.68**	**32**	⇑P	**Pn**	**00 11 31.6**	**+0.3**
KNDC	60nm,0.7s						
PDGK	**Podgornoye**	**7.99**	**43**	⇑P	**Pn**	**00 11 46.8**	**-1.5**
PDGK	6.2nm,0.8s						
MK31	**Makanchi Array**	**11.84**	**36**	P	**Pn**	**00 12 36.5**	**-1.4**
MK31	1.3nm,0.5s,baz=221,slow=12,SNR=37						
MKAR	**Makanchi Array**	**11.84**	**36**	P	**Pn**	**00 12 37.5**	**-0.5**
MKAR	0.8nm,0.5s,baz=207,slow=9.8,SNR=15						
KURBB	**Kurchatov Arra**	**13.74**	**18**	P	**Pn**	**00 13 02.1**	**+0.3**
KURBB	4.8nm,0.6s,baz=200,slow=11,SNR=34						
KURK	**Kurchatov**	**13.85**	**18**	⇑P	**P**	**00 13 05.6**	**+0.4**
KURK	7.7nm,0.8s						
AB31	**Akbulak array**	**14.53**	**327**	⇓P	**Pn**	**00 13 11.1**	**-0.4**
AB31	11nm,0.8s,baz=144,slow=12,SNR=92						
				S	**S**	**00 15 49.1**	**-3.8**
AB31	1.7nm,0.4s,baz=137,slow=24,SNR=6.2						
BVA0	**Borovoye Array**	**15.40**	**356**	P	**Pn**	**00 13 23.1**	**+1.0**
BVA0	1.4nm,0.6s,baz=161,slow=11,SNR=15						
BVAR	**Borovoye Array**	**15.40**	**356**	P	**Pn**	**00 13 23.1**	**+1.0**
BVAR	1.5nm,0.4s,baz=156,slow=10,SNR=17						
				S	**S**	**00 16 13.6**	**+0.7**
BVAR	1.2nm,0.7s,baz=162,slow=24,SNR=5.3						
AKTO	**Aktyubinsk**	**16.24**	**326**	P	**P**	**00 13 33.2**	**+1.5**
AKTO	15nm,0.5s,baz=124,slow=11,SNR=62						
				S	**S**	**00 16 30.2**	**-1.3**
AKTO	2.9nm,0.7s,baz=348,slow=20,SNR=3.9						
AKTO	**Aktyubinsk**	**16.24**	**326**	⇓P	**P**	**00 13 32.1**	**+0.5**
AKTO	8.9nm,0.6s						
ZALV	**Zalesovo Beam**	**18.50**	**24**	P	**P**	**00 13 56.4**	**+0.2**
ZALV	16nm,0.6s,baz=220,slow=10,SNR=96						
SONM	**Songino Array**	**26.97**	**57**	P	**P**	**00 15 18.2**	**-0.1**
SONM	1.2nm,0.5s,baz=267,slow=9.3,SNR=11						
	1.2nm,0.5s						
BRTR	**Keskin Array B**	**29.92**	**286**	P	**P**	**00 15 45.4**	**+0.7**
BRTR	0.3nm,0.4s,baz=91,slow=7.1,SNR=5.0						
	0.3nm,0.4s						
NRIK	**Noril'sk**	**32.82**	**10**	P	**P**	**00 16 10.7**	**+1.3**
NRIK	1.2nm,0.5s,baz=206,slow=9.0,SNR=4.8						
	1.2nm,0.5s						
FINES	**FINESS Array B**	**37.01**	**325**	P	**P**	**00 16 45.4**	**+0.1**
FINES	1.2nm,0.8s,baz=136,slow=7.9,SNR=1.6						
	1.2nm,0.8s						
ARCES	**ARCESS Array B**	**40.40**	**337**	P	**P**	**00 17 13.9**	**+0.6**
ARCES	3.0nm,1.0s,baz=118,slow=8.5,SNR=1.7						
	3.0nm,1.0s						
HFS	**Hagfors**	**42.69**	**321**	P	**P**	**00 17 32.1**	**+0.1**
HFS	3.2nm,1.0s,baz=116,slow=10,SNR=8.3						
	3.2nm,1.0s						
NOA	**NORSAR Array B**	**43.98**	**322**	P	**P**	**00 17 42.0**	**-0.4**
NOA	0.3nm,0.5s,baz=93,slow=7.8,SNR=1.8						
	0.3nm,0.5s						
INK	**Inuvik**	**72.61**	**10**	P	**P**	**00 20 59.4**	**-0.8**
INK	0.9nm,0.5s,baz=335,slow=4.8,SNR=4.3						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**73.42**	**16**	P	**P**	**00 21 04.2**	**-0.9**
ILAR	0.6nm,0.9s,baz=318,slow=4.1,SNR=4.3						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**80.04**	**3**	P	**P**	**00 21 41.4**	**-0.6**
YKA	0.6nm,0.6s,baz=348,slow=5.6,SNR=11						
	0.6nm,0.6s						

TRN 03 00:23:16.4, 11.°98N×61.°70W, h97km, MD3.9, Near South coast of Grenada., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRFF	**Grenada Fort F**	**0.08**	**330**	*e*P	Pn	00 23 30.7	+0.8
GRFF				*e*S	Sn	00 23 41.5	+1.4
GRGR	**Grenville**	**0.16**	**16**	*e*P	Pn	00 23 31.2	+1.0
GRGR				*e*S	Sn	00 23 41.8	+1.5
GRW	**Mount Saint Ca**	**0.18**	**12**	*e*P	Pn	00 23 31.2	+0.9
GRW				*e*S	Sn	00 23 42.9	+2.3
GRSS	**Sisters**	**0.33**	**15**	*e*P	Pn	00 23 31.4	+0.6
GRSS				*e*S	Sn	00 23 42.9	+1.4
GCMP	**Grenada, Carri**	**0.57**	**28**	*e*P	Pn	00 23 33.4	+1.0
GCMP				*e*S	Sn	00 23 45.5	+1.1
TPR	**Prospect**	**1.20**	**131**	*e*P	Pn	00 23 39.4	+0.5
TPR				*e*S	Sn	00 23 58.4	+2.5
SVOC	**Richmond Hill,**	**1.25**	**22**	*e*P	Pn	00 23 40.4	+0.8
SVOC				*e*S	Sn	00 23 58.5	+1.6
SVT	**Saint Vincent**	**1.26**	**21**	*e*P	Pn	00 23 40.4	+0.8
SVT				*e*S	Sn	00 23 57.9	+0.8
SVB	**Belmont**	**1.35**	**19**	*e*P	Pn	00 23 41.7	+1.0
SVB				*e*S	Sn	00 24 01.0	+1.8
TRN	**Trinidad (W)**	**1.36**	**168**	*e*P	Pn	00 23 41.2	+0.5
TRN				*e*S	Sn	00 23 59.7	+0.6
TBH	**Brigand Hill**	**1.61**	**157**	*e*P	Pn	00 23 45.6	+1.7
SLB	**Belfond**	**1.94**	**19**	*e*P	Pn	00 23 50.4	+2.2
SLAC	**Saint Lucia, A**	**2.06**	**22**	*e*P	Pn	00 23 50.8	+1.1
SLAC				*e*S	Sn	00 24 15.3	+0.3
SLBI	**Saint Lucia, B**	**2.15**	**19**	*e*P	Pn	00 23 51.8	+1.0
SLBI				*e*S	Sn	00 24 18.6	+1.5
SLW	**Petit Monier**	**2.16**	**20**	*e*P	Pn	00 23 53.7	+2.7
SLW				*e*S	Sn	00 24 20.0	+2.6
BIM	**Bigot**	**2.59**	**14**	*e*P	Pn	00 23 57.8	+1.1
BIM				*e*S	Sn	00 24 27.6	0.0
ILAM	**Ilet Lapin Mar**	**2.89**	**16**	*e*S	Sn	00 24 36.8	+2.1
DSLB	**Salisbury**	**3.45**	**4**	*e*P	Pn	00 24 09.4	+1.3
ANBD	**Bethesda, Anti**	**5.04**	**359**	*e*P	Pn	00 24 32.1	+2.6
ANWB	**Willy Bob**	**5.66**	**359**	*e*P	Pn	00 24 39.2	+1.2

---

*ISN **03** 00:29:42.9±0.4, 33.°27N×47.°93E, h4km±6km, ML2.7*
*TEH **03** 00:29:43.8, 33.°30N×47.°93E, h10km±93km*
ISC 03 00:29:43.6±1.3, 33.°29N±0.°06×47.°96E±0.°07, h10km, n11, σ1.°36/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.25**	**338**	Pg	**Pg**	**00 29 47.5**	**-1.2**
IKFM				Sg	**Sg**	**00 29 52.5**	**+0.4**
IDOB	**Doab**	**0.53**	**21**	Pg	**Pg**	**00 29 53.7**	**-0.2**
BDRS	**Dareh Seyedi**	**1.01**	**49**	Pg	**Pg**	**00 30 03.3**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.24**	**322**	Pg	**Pb**	**00 30 05.1**	**-2.1**
IGHG	**Ghaleghazi**	**1.55**	**312**	Pg	**Pn**	**00 30 11.1**	**-0.4**
IBDR	**Badra**	**1.71**	**264**	*e*Pn	**Pb**	**00 30 15.0**	**-0.1**
IBDR				*e*Sn	**Sg**	**00 30 38.2**	**-0.4**
IBDR				AML	AML	00 30 47.9	
	comp=N,87nm,0.6s						
IBDR				AML	AML	00 30 54.3	
	comp=E,105nm,0.7s						
GLG1	**Gilan-e-Gharb**	**1.89**	**296**	Pn	**Pn**	**00 30 16.5**	**+0.5**
IDHR	**Dehrash**	**1.92**	**318**	Pn	**Pn**	**00 30 17.4**	**+0.9**
RAFI	**Al-Rafai**	**2.21**	**225**	*e*Pn	**Pb**	**00 30 22.0**	**-1.6**
RAFI				*e*Sn	**Sb**	**00 30 50.0**	**-1.0**
BHD	**Baghdad**	**3.00**	**271**	*e*Pn	**Pn**	**00 30 32.5**	**+1.4**
BHD				*e*Sn	**Sn**	**00 31 09.0**	**+1.9**
IKRK	**Kirkuk**	**3.66**	**306**	*e*Pn	**Pn**	**00 30 42.0**	**+1.8**
IKRK				*e*Sn	**Sn**	**00 31 25.5**	**+2.1**

---

*OSPL **03** 00:33:40.6±1.2, 18.°36N×69.°09W, h138km±12km, ML2.7*
*SDD **03** 00:33:41.4±2.0, 18.°51N×69.°03W, h115km±28km, MD2.9, ML2.8, MW2.8*
ISC 03 00:33:40.7±2.4, 18.°5N±0.°1×69.°14W±0.°05, h114km±21km, n14, σ1.°07/20, 10C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDR	**Miches**	**0.50**	**10**	*e*Pg	**Pn**	**00 33 57.5**	**-0.4**
MIDR				IAML		00 34 12.6	
	comp=N,144nm,0.2s						
PCDR	**Punta Cana, DR**	**0.72**	**88**	⇑*e*Pg	**Pn**	**00 33 59.4**	**-0.1**
PCDR				IAML		00 34 41.6	
	comp=N,193nm,1.1s						
PCDR	**Punta Cana, DR**	**0.72**	**88**	*i* P	**Pn**	**00 33 59.8**	**+0.3**
PCDR				*e*S	**Sn**	**00 34 15.7**	**+2.0**
PCDR				IAML		00 34 18.8	
	comp=Z,90nm,1.1s						
SMDR	**Samana, DR**	**0.80**	**357**	⇑*e*Pg	**Pn**	**00 33 59.2**	**-1.0**
SMDR				*e*Sg	**Sn**	**00 34 14.3**	**-0.7**
SMDR				IAML		00 34 16.2	
	comp=N,83nm,0.8s						
DR08	**Loma La Naviza**	**0.96**	**299**	⇑*e*Pg	**Pn**	**00 34 01.6**	**-0.2**
DR08				⇑*e*Sg	**Sn**	**00 34 17.4**	**-0.4**
DR08				IAML		00 34 19.1	
	comp=N,1μm,0.2s						
NADR	**Nagua**	**1.10**	**322**	⇑*e*Sg	**Sn**	**00 34 20.6**	**+0.5**
NADR				IAML		00 34 30.8	
	comp=N,156nm,1.3s						
BANI	**BANI**	**1.16**	**265**	⇑*e*Pg	**Pn**	**00 34 03.9**	**-0.1**
ABDR	**Alto Bandera**	**1.45**	**283**	⇑*e*Pg	**Pn**	**00 34 07.8**	**+0.3**
ABDR				⇓*e*Sg	**Sn**	**00 34 28.6**	**+0.9**
ABDR				IAML		00 34 30.9	
	comp=N,29nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.99**	**104**	*i* P	**Pn**	**00 34 13.2**	**-0.5**
CRPR				IAML		00 34 48.6	
	comp=Z,47nm,1.5s						
PODR	**Polo**	**2.06**	**261**	⇑*e*Pg	**Pn**	**00 34 16.8**	**+2.0**
SDDR	**Presa de Saban**	**2.10**	**284**	⇑*e*Pg	**Pn**	**00 34 16.1**	**+1.0**
SDDR				IAML		00 34 49.0	
	comp=N,22nm,1.8s						
SDDR	**Presa de Saban**	**2.10**	**284**	*i* P	**Pn**	**00 34 15.5**	**+0.4**
SDDR				IAML		00 34 41.6	
	comp=Z,9.0nm,2.0s						
SDDR				*e*S	**Sn**	**00 34 41.9**	**+0.5**
LOVI	**El Cajuil, Ovi**	**2.23**	**252**	*i* P	**Pn**	**00 34 16.0**	**-0.7**
LOVI				*e*S	**Sn**	**00 34 42.5**	**-1.9**
LOVI				IAML		00 34 45.0	
	comp=Z,69nm,1.6s						
LOBH	**Bahia de las A**	**2.46**	**256**	*e*S	**Sn**	**00 34 48.2**	**-1.4**
LOBH				IAML		00 34 54.6	
	comp=Z,44nm,1.3s						

---

*GII **03** 00:38:03.8±0.0, 33.°576N±0.°002×35.°901E±0.°001, h0km, confirmed*
*GRAL **03** 00:38:05.5±0.3, 33.°51N×35.°95E, h2km±5km, MD2.8*
*JSO **03** 00:38:05, 33.°52N×35.°91E, h1km, ML2.2/11*
ISC 03 00:38:04.7±0.9, 33.°51N±0.°03×36.°00E±0.°04, h0km, n40, σ0.°66/43, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.14**	**263**	*e*P	**Pg**	**00 38 07.3**	**-0.1**
RCY				*e*S	**Sg**	**00 38 08.8**	**-0.4**
QRWL	**Qaraoun**	**0.27**	**277**	*e*P	**Pg**	**00 38 09.7**	**-0.2**
SHBL	**Chebaa**	**0.27**	**232**	*e*P	**Pg**	**00 38 09.9**	**0.0**
SHBL				*e*S	**Sg**	**00 38 13.1**	**-0.3**
ZAHL	**Zahle**	**0.36**	**344**	*e*P	**Pg**	**00 38 11.9**	**+0.3**
DQRL	**Deir Qamar**	**0.41**	**298**	*e*P	**Pg**	**00 38 12.1**	**-0.4**
GEM	**Giv'at Ha'Em**	**0.41**	**223**	P	**Pg**	**00 38 12.7**	**0.0**
GEM	**Giv'at Ha'Em**	**0.41**	**223**	S	**Sg**	**00 38 19.9**	**+1.9**
GEM	**Giv'at Ha'Em**	**0.41**	**223**	P	**Pg**	**00 38 12.7**	**0.0**
BHL	**Bhannes**	**0.48**	**324**	*e*P	**Pg**	**00 38 13.7**	**-0.3**
BHL				*e*S	**Sg**	**00 38 20.0**	**-0.3**
MMC1	**Mount Meron ar**	**0.69**	**226**	P	**Pg**	**00 38 17.9**	**-0.1**
MMB1	**Mount Meron ar**	**0.70**	**225**	P	**Pg**	**00 38 18.0**	**-0.1**
MMA0B	**Mount Meron ar**	**0.71**	**225**	P	**Pg**	**00 38 18.0**	**-0.2**
MMA0B	**Mount Meron ar**	**0.71**	**225**	S	**Sb**	**00 38 29.7**	**-0.5**
HWQ	**Hawqa**	**0.76**	**357**	*e*P	**Pg**	**00 38 19.2**	**-0.1**
FKH	**Fakeheh**	**0.81**	**25**	*e*P	**Pg**	**00 38 20.3**	**+0.1**
BLGI	**Bet Lehem HaGe**	**1.03**	**221**	P	**Pg**	**00 38 24.6**	**+0.1**
BLGI	**Bet Lehem HaGe**	**1.03**	**221**	S	**Sb**	**00 38 39.9**	**+0.4**
BEIL	**Beino**	**1.04**	**8**	*e*P	**Pg**	**00 38 24.3**	**-0.3**
MMLI	**Mount Malkishu**	**1.18**	**205**	P	**Pg**	**00 38 26.7**	**-0.6**
MMLI	**Mount Malkishu**	**1.18**	**205**	S	**Sn**	**00 38 44.9**	**-0.3**
QRNJ	**Al-Qirein**	**1.23**	**197**	P	**Pg**	**00 38 27.8**	**-0.5**
OFRI	**`Ofer**	**1.23**	**224**	P	**Pg**	**00 38 27.4**	**-0.9**
OFRI	**`Ofer**	**1.23**	**224**	S	**Sb**	**00 38 46.0**	**+0.6**
HMDT	**Nahal Hemdat**	**1.32**	**198**	P	**Pg**	**00 38 29.5**	**-0.5**
HMDT	**Nahal Hemdat**	**1.32**	**198**	S	**Sn**	**00 38 49.7**	**+1.0**
HSUJ	**Al Zarqa**	**1.42**	**173**	P	**Pn**	**00 38 31.7**	**-0.1**
SLTI	**Sal'it**	**1.50**	**213**	P	**Pn**	**00 38 32.2**	**-0.8**
SLTI	**Sal'it**	**1.50**	**213**	S	**Sn**	**00 38 54.1**	**+0.8**
ASF	**Jabal al Asfar**	**1.54**	**150**	P	**Pb**	**00 38 33.8**	**-0.3**
SALP	**Salfit**	**1.59**	**206**	P	**Pn**	**00 38 33.8**	**-0.4**
UJAP	**Al Uja**	**1.62**	**196**	P	**Pn**	**00 38 34.5**	**0.0**
UJAP	**Al Uja**	**1.62**	**196**	S	**Sg**	**00 38 57.2**	**+0.4**
AMAZ	**Amatzia**	**2.18**	**205**	P	**Pn**	**00 38 42.3**	**+0.1**
AMAZ	**Amatzia**	**2.18**	**205**	S	**Sb**	**00 39 11.6**	**-0.9**
GHAJ	**Ghor Haditha**	**2.23**	**190**	P	**Pn**	**00 38 43.3**	**+0.4**
GHAJ	**Ghor Haditha**	**2.23**	**190**	S	**Sb**	**00 39 12.9**	**-1.3**
YTIR	**Yattir**	**2.27**	**199**	P	**Pn**	**00 38 43.8**	**+0.2**
YTIR	**Yattir**	**2.27**	**199**	S	**Sb**	**00 39 14.3**	**-1.0**
KZIT	**Kziot**	**2.93**	**208**	P	**Pn**	**00 38 53.0**	**+0.3**
KZIT	**Kziot**	**2.93**	**208**	S	**Sn**	**00 39 30.6**	**+2.0**

---

*IDC **03** 00:44:04.7±1.3, 42.°76N×142.°31E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=34.3km s-min=30.1km az=96.0*
*JMA **03** 00:44:11.4±0.1, 42.°8N±0.°3×142.°0E±0.°3, h37km, MD4.0/40, MV3.8/40, ISHIKARI DEPRESSION*
JMA Felt II J1 at ISHIKARI DEPRESSION .
ISC 03 00:44:11.1±0.9, 42.°73N±0.°03×141.°95E±0.°03, h37km±1km, n31, σ1.°45/33, mb3.7/7, 6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIAM	**Iburiatsuma**	**0.11**	**189**	*i* P	Pn	00 44 17.7	-6.4
JIAM				S	Sn	00 44 22.4	-14
JIAM	**Iburiatsuma**	**0.11**	**189**	A	A	00 44 17.7	
	comp=N,155nm,0.3s,comp=E,186nm,0.3s						
JBT2	**Biratori 2**	**0.31**	**81**	*i* P	**Pn**	**00 44 18.8**	**-0.5**
JBT2				S	**Sn**	**00 44 24.6**	**-1.7**
JBT2	**Biratori 2**	**0.31**	**81**	A	A	00 44 18.8	
	comp=N,27nm,0.6s,comp=E,14nm,0.4s						
JEW	**Eniwo**	**0.38**	**287**	*i* P	**Pn**	**00 44 20.8**	**+1.0**
JEW				S	**Sn**	**00 44 27.2**	**+0.6**
JEW	**Eniwo**	**0.38**	**287**	A	A	00 44 20.8	
	comp=N,27nm,1.0s,comp=E,37nm,0.9s						
JSHD	**Hidakashinhida**	**0.50**	**130**	*i* P	**Pn**	**00 44 22.4**	**+0.6**
JSHD				S	**Sn**	**00 44 31.3**	**+2.1**
JFR	**Furan**	**0.64**	**48**	⇓*i*P	**Pn**	**00 44 23.3**	**-0.6**
JFR				⇓*e*S	**Sn**	**00 44 32.6**	**-0.1**
JISS	**Ishikarishitsu**	**0.67**	**325**	*i* P	**Pn**	**00 44 24.7**	**+0.6**
JISS				S	**Sn**	**00 44 34.8**	**+1.5**
JISS	**Ishikarishitsu**	**0.67**	**325**	A	A	00 44 24.7	
	comp=N,17nm,0.3s,comp=E,25nm,0.6s						
JNB	**Noboribetsu**	**0.72**	**249**	*i* P	**Pn**	**00 44 25.0**	**+0.3**
JNB				S	**Sn**	**00 44 35.0**	**+0.5**
JNBK	**Urakawa-nobuka**	**0.75**	**127**	*i* P	**Pn**	**00 44 25.5**	**+0.4**
JNBK				S	**Sn**	**00 44 37.0**	**+1.8**
JNBK	**Urakawa-nobuka**	**0.75**	**127**	A	A	00 44 25.5	
	comp=N,8.0nm,0.8s,comp=E,6.0nm,0.5s						
JAB	**Ashibetsu**	**0.80**	**15**	⇓*i*P	**Pn**	**00 44 27.0**	**+1.2**
JAB				⇓S	**Sn**	**00 44 38.5**	**+2.0**
JAB	**Ashibetsu**	**0.80**	**15**	A	A	00 44 27.0	
	comp=N,8.0nm,1.0s,comp=E,7.0nm,0.4s						
JHR	**Hokuryu**	**1.02**	**351**	*i* P	**Pn**	**00 44 29.8**	**+0.9**
JHR				S	**Sn**	**00 44 44.8**	**+2.8**
JHR	**Hokuryu**	**1.02**	**351**	A	A	00 44 29.8	
	comp=N,7.0nm,1.1s,comp=E,4.0nm,0.9s						
JCH	**Churui**	**1.05**	**96**	*i* P	**Pn**	**00 44 29.2**	**0.0**
JCH				S	**Sn**	**00 44 42.9**	**+0.2**
JKB	**Kayabe**	**1.08**	**219**	⇓*i*P	**Pn**	**00 44 30.4**	**+0.7**
JKB				⇓S	**Sn**	**00 44 45.0**	**+1.6**
JEM	**Erimo**	**1.15**	**128**	P	**Pn**	**00 44 32.2**	**+1.6**
JEM				*e*S	**Sn**	**00 44 47.3**	**+2.3**
JKK2	**Kamakawa 2**	**1.28**	**27**	*i* P	**Pn**	**00 44 33.4**	**+1.0**
JKK2				S	**Sn**	**00 44 50.3**	**+1.9**
H11S1	**WAKE ISLAND Hy**	**31.98**	**131**	T	T	01 24 24.0	
	baz=324,slow=74,SNR=29						
H11S3	**WAKE ISLAND Hy**	**31.98**	**131**	T	T	01 24 24.9	
	baz=324,slow=74						
H11S2	**WAKE ISLAND Hy**	**32.00**	**131**	T	T	01 24 26.3	
	baz=324						
MKAR	**Makanchi Array**	**41.67**	**297**	P	**P**	**00 51 56.2**	**+0.3**
	comp=E,0.2nm,0.5s,baz=68,slow=9.5,SNR=2.8						
	comp=E,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**43.01**	**303**	P	**P**	**00 52 06.5**	**-0.1**
	comp=E,0.8nm,0.6s,baz=74,slow=8.8,SNR=5.9						
	comp=E,0.8nm,0.6s						
ILAR	**Eielson Array**	**44.54**	**35**	P	**P**	**00 52 15.3**	**-3.4**
	comp=E,0.3nm,0.8s,baz=277,slow=9.1,SNR=2.3						
	comp=E,0.3nm,0.8s						
BVAR	**Borovoye Array**	**47.19**	**309**	P	**P**	**00 52 41.4**	**+1.5**
	comp=E,0.2nm,0.4s,baz=79,slow=8.1,SNR=2.3						
	comp=E,0.2nm,0.4s						
RES	**Resolute Bay**	**56.99**	**15**	P	**P**	**00 53 51.7**	**-0.7**
	comp=E,0.8nm,0.7s,baz=308,slow=5.1,SNR=3.6						
	comp=E,0.8nm,0.7s						
WRA	**Warramunga Arr**	**62.75**	**188**	P	**P**	**00 54 32.1**	**-0.4**
	comp=E,0.5nm,0.5s,baz=6.8,slow=6.9,SNR=4.5						
	comp=E,0.5nm,0.5s						
FINES	**FINESS Array B**	**63.99**	**331**	P	**P**	**00 54 39.6**	**-0.7**
	comp=E,2.3nm,1.0s,baz=70,slow=6.3,SNR=3.5						
	comp=E,2.3nm,1.0s						

IDC 03 00:44:28.0±43.0, 14.°73S×173.°39W, h0km, mb4.4/3, mbtmp4.4/3, Error ellipse: s-maj=824.3km s-min=182.1km az=77.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.38**	**239**	P	P	00 52 40.2	-0.3
	2.8nm,0.8s,baz=54,slow=8.7,SNR=3.4						
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**50.01**	**256**	P	P	00 53 24.8	+0.2
	1.9nm,0.6s,baz=91,slow=7.0,SNR=15						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**50.33**	**251**	P	P	00 53 26.8	-0.3
	7.1nm,0.5s,baz=86,slow=8.3,SNR=65						
	7.1nm,0.5s						

---

*NEIC **03** 01:01:32.4±1.8, 50.°4N±0.°2×177.°62E±0.°09, h10km±2km, mb3.9/9, Error ellipse: s-maj=31.4km s-min=8.4km az=190.0*
*IDC **03** 01:01:38.1±3.0, 51.°25N×177.°87E, h0km, mb3.3/4, mbtmp3.4/5, ML3.8/1, Error ellipse: s-maj=91.6km s-min=23.5km az=12.0*
ISC 03 01:01:37.5±2.7, 51.°0N±0.°4×177.°87E±0.°09, h10km, n20, σ1.°20/17, mb3.5/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.94**	**309**	Pn	**Pn**	**01 02 25.2**	**+1.1**
	14nm,0.3s,baz=135,slow=8.6,SNR=4.7						
SHEM				Sn	**Sn**	**01 02 59.5**	**+0.1**
	29nm,0.3s,baz=285,slow=20,SNR=10						
	95nm,0.9s						
SMY	**Shemya**	**2.94**	**309**	Pn	**Pn**	**01 02 21.9**	**-2.3**

M17K	Holitna River	16.31	45	P	P	01 07 36.8 +0.4
K17K	Iditarod	16.54	40	Pn	Pn	01 07 36.2 -0.2
K17K				IAmb	IAmb	01 07 49.4
	comp=Z,34nm,1.4s					
N18K	Kilae Creek	16.73	48	Pn	Pn	01 07 38.9 0.0
O18K	Koktuh Hills	16.80	52		P	01 07 41.5 -0.4
O18K				IAmb	IAmb	01 07 49.6
	comp=Z,20nm,1.1s					
O19K	Port Alsworth	17.32	51		P	01 07 48.2 +0.6
O19K				IAmb	IAmb	01 07 57.7
	comp=Z,15nm,0.7s					
N19K	Bonanza Creek	17.43	49		P	01 07 48.8 -0.1
P19K	Oil Pt	17.72	53		P	01 07 53.0 +1.0
ILSW	Iliamna Southw	17.84	52		P	01 07 53.5 0.0
ILSW				IAmb	IAmb	01 08 01.1
	comp=Z,36nm,1.4s					
J19K	Poorman	18.23	39	P	P	01 07 58.5 +0.9
STLK	Strandline Lak	18.86	48	P	Pn	01 08 05.3 +0.2
J20K	Nowinta River	18.88	39	P	P	01 08 05.6 +0.8
BRLK	Bradley Lake	18.90	54	P	P	01 08 04.5 -0.6
BRLK				IAmb	IAmb	01 08 18.9
	comp=Z,20nm,1.2s					
SKT	Skwentna	19.14	47	P	Pn	01 08 09.2 +0.8
SKT				IAmb	IAmb	01 08 19.5
	comp=Z,15nm,1.0s					
SUA	Susitna One	19.35	48	P	P	01 08 10.8 +0.8
SLKM	Skilak Lake	19.38	51	P	P	01 08 10.1 -0.1
SLKM				IAmb	IAmb	01 08 15.6
	comp=Z,26nm,1.2s					
CAST	Castle Rocks	19.40	42	P	P	01 08 10.6 +0.2
KTH	Kantishna Hill	19.93	42	P	P	01 08 15.2 -1.1
KTH				IAmb	IAmb	01 08 34.0
	comp=Z,12nm,1.2s					
TRF	Thorofare Moun	20.16	43	P	P	01 08 19.9 +1.0
TRF				IAmb	IAmb	01 08 33.3
	comp=Z,22nm,1.3s					
PWL	Port Wells	20.36	51	P	P	01 08 20.2 -0.7
KNK	Knik Glacier	20.41	49	P	P	01 08 22.1 +0.6
KNK				IAmb	IAmb	01 08 30.1
	comp=Z,18nm,1.2s					
F21K	Alatna River	20.68	32	P	P	01 08 24.7 +0.4
GLI	Glacier Island	20.96	51	P	P	01 08 27.5 +0.1
FID	Port Fidalgo	21.23	52	P	P	01 08 29.7 -0.7
WRH	Wood River Hil	21.42	41	P	P	01 08 30.8 -1.5
DIV	Divide	21.63	51	P	P	01 08 35.6 +0.9
DIV				IAmb	IAmb	01 08 56.9
	comp=Z,12nm,1.2s					
E22K	Anaktuvuk Pass	21.71	30	P	P	01 08 35.6 +0.1
B21K	Ikpikpuk River	21.79	26		P	01 08 34.2 -2.0
ILAR	Eielson Array	22.01	41	P	P	01 08 38.7 0.0
	comp=Z,1.4nm,1.1s,baz=257,slow=11,SNR=6.8					
	comp=Z,1.4nm,1.1s					
RAGM	Ragged Mountai	22.07	53	P	P	01 08 41.3 +1.9
PAX	Paxson	22.12	46	P	P	01 08 41.8 +1.9
PAX				IAmb	IAmb	01 08 53.7
	comp=Z,9.2nm,1.1s					
BMRM	Bremner River	22.17	51	P	P	01 08 41.1 +0.6
BMRM				IAmb	IAmb	01 08 50.6
	comp=Z,17nm,1.0s					
BERG	Berg Lake	22.55	53	P	P	01 08 45.8 +1.3
BERG				IAmb	IAmb	01 08 58.6
	comp=Z,18nm,1.1s					
GLB	Gilahina Butte	22.61	50	P	P	01 08 44.5 -0.7
GLB				IAmb	IAmb	01 08 50.9
	comp=Z,20nm,1.4s					
VRDI	Verde Repeater	22.76	51	P	P	01 08 48.1 +1.2
VRDI				IAmb	IAmb	01 08 54.7
	comp=Z,7.2nm,1.0s					
WAX	Waxell Ridge	22.98	53	P	P	01 08 50.4 +1.3
BCAR	Beaver Creek A	23.79	47	P	P	01 08 56.5 -0.6
G26K	Porcupine Rive	23.94	37	P	P	01 08 58.6 +0.2
G26K				IAmb	IAmb	01 09 08.0
	comp=Z,6.0nm,1.1s					
O28M	Mount Upton	24.31	52	P	P	01 09 02.9 +0.6
DAWY	Dawson	25.00	45	P	P	01 09 07.9 -0.3
DAWY				IAmb	IAmb	01 09 18.2
	comp=Z,4.8nm,0.9s					
HYT	Haines Junctio	25.63	52	P	P	01 09 14.2 +0.2
HYT				IAmb	IAmb	01 09 26.5
	comp=Z,7.1nm,1.0s					
N30M	Aishikik Lake	25.83	51	P	P	01 09 16.1 +0.3
N30M				IAmb	IAmb	01 09 26.0
	comp=Z,4.6nm,1.0s					
H11N2	WAKE ISLAND Hy	33.36	200	T	T	01 45 32.3
	baz=11,slow=76,SNR=18					
H11N3	WAKE ISLAND Hy	33.37	199	T	T	01 45 32.9
	baz=11,slow=76,SNR=21					
H11N1	WAKE ISLAND Hy	33.38	200	T	T	01 45 33.5
	baz=11,slow=76,SNR=22					
CN2	Changchun	35.57	278	P	P	01 10 41.5 -0.3
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
YKA	Yellowknife Ar	36.20	46	P	P	01 10 47.6 +0.6
	comp=Z,0.6nm,0.8s,baz=283,slow=8.8,SNR=7.7					
	comp=Z,0.6nm,0.8s					
ULN	Ulaanbaatar	44.29	294	P	P	01 11 52.2 -2.1
ULN				IAmb	IAmb	01 11 53.2
	comp=Z,1.5nm,0.5s					
SONM	Songino Array	44.67	294	P	P	01 11 56.4 -1.0
SONM				IAmb	IAmb	01 12 02.0
	comp=Z,4.0nm,1.5s					
SONM	Songino Array	44.67	294	P	P	01 11 57.1 -0.2
	comp=Z,0.6nm,0.7s,baz=71,slow=9.9,SNR=4.4					
	comp=Z,0.6nm,0.7s					
NVAR	Mina Array Bea	45.35	81	P	P	01 12 04.0 +0.9
	comp=Z,0.2nm,0.6s,baz=308,slow=8.3,SNR=2.0					
	comp=Z,0.2nm,0.6s					
HHC	Hu-ho-hao-te	45.70	283	eP	P	01 12 04.7 -0.9
HHC				pmax	pmax	
	comp=Z,16nm,0.5s					
HHC				pmax	pmax	
	comp=Z,77nm,3.7s					
FCC	Fort Churchill	46.92	45	P	P	01 12 15.5 +0.8
PDAR	Pinedale Array	47.93	71	P	P	01 12 21.9 -1.3
PDAR	Pinedale Array	47.93	71	P	P	01 12 23.0 -0.2
	comp=Z,0.5nm,0.9s,baz=311,slow=8.5,SNR=2.7					
	comp=Z,0.5nm,0.9s					
SPITS	Spitsbergen Ar	49.64	355	P	P	01 12 34.1 -1.5
	comp=Z,11nm,1.1s,baz=72,slow=8.2,SNR=4.3					
ZALV	Zalesovo Beam	52.23	312	P	P	01 12 55.0 -0.4
GTA	Gaotai	53.58	289	eP	P	01 13 09.2 +3.5
GTA				pmax	pmax	
	comp=Z,3.0nm,1.5s					
ARCES	ARCESS Array B	57.16	349	P	P	01 13 29.9 -1.0
	comp=Z,8.1nm,1.2s,baz=24,slow=7.1,SNR=2.1					
	comp=Z,8.1nm,1.2s					
KURK	Kurchatov	57.22	312	P	P	01 13 31.1 -0.4
KURBB	Kurchatov Arra	57.33	312	P	P	01 13 31.2 -1.1
	comp=Z,1.3nm,0.7s,baz=42,slow=6.8,SNR=13					
	comp=Z,1.3nm,0.7s					
WMQ	Urumqi	57.41	301	eP	P	01 13 35.2 +2.1
WMQ				pmax	pmax	
	comp=Z,25nm,0.7s					
MK31	Makanchi Array	58.16	306	P	P	01 13 37.1 -1.2
MK31				IAmb	IAmb	01 13 45.8
	comp=Z,2.6nm,1.3s					
MKAR	Makanchi Array	58.16	306	P	P	01 13 37.0 -1.3
	comp=Z,0.5nm,0.6s,baz=48,slow=6.5,SNR=5.4					
	comp=Z,0.5nm,0.6s					
BVAR	Borovoye Array	59.19	318	P	P	01 13 44.5 -0.9
	comp=Z,1.6nm,0.7s,baz=46,slow=6.6,SNR=9.3					
	comp=Z,1.6nm,0.7s					
BRVK	Borovoye	59.21	318	P	P	01 13 44.4 -1.1
BRVK				IAmb	IAmb	01 13 49.0
	comp=Z,2.6nm,1.1s					
PZH	PanZhiHua	61.38	277	P	P	01 14 00.4 -0.4
PZH				pmax	pmax	
	comp=Z,10.0nm,0.6s					
PZH				pmax	pmax	
	comp=Z,120nm,5.5s					
FINES	FINESS Array B	64.76	346	P	P	01 14 22.6 +0.1
FINES	FINESS Array B	64.76	346	P	P	01 14 20.7 -1.8
	comp=Z,2.3nm,0.9s,baz=23,slow=10,SNR=3.7					
	comp=Z,2.3nm,0.9s					
ABKAR	Akbulak array	66.30	321	P	P	01 14 33.8 +1.0
KKAR	Karatay Array	66.57	310	P	P	01 14 34.1 -0.5
HFS	Hagfors	67.55	352	P	P	01 14 40.2 -0.3
	comp=Z,0.7nm,0.6s,baz=64,slow=10,SNR=1.2					
	comp=Z,0.7nm,0.6s					
CMAR	Chiang Mai Arr	69.07	273	P	P	01 14 50.2 -0.4
	comp=Z,1.4nm,0.4s,baz=76,slow=8.3,SNR=4.5					
	comp=Z,1.4nm,0.4s					
AKASG	Malin Array Be	74.37	340	P	P	01 15 21.1 -0.9
	comp=Z,1.2nm,0.5s,baz=24,slow=6.4,SNR=7.3					
	comp=Z,1.2nm,0.5s					
AKBB	Malin Array Si	74.37	340	P	P	01 15 22.6 +0.6
KIEV	Kiev	74.38	340	P	P	01 15 23.1 +1.0
BUR08	Bucovina Ar. S	78.10	342	P	P	01 15 43.8 +0.3
BUR08				IAmb	IAmb	01 15 46.6
	comp=Z,2.4nm,1.2s					
BURAR	Bucovina Array	78.12	342	P	P	01 15 43.3 -0.3

SOF 03 01:04:52.9, 44.26N±0.01×26.58E±0.01, h4km±1km, MD2.9/8
BUC 03 01:04:53.9±0.1, 44.15N×26.58E, h6km±1km, ml2.6/39, Error ellipse: s-maj=1.3km s-min=0.9km az=6.0
ISC 03 01:04:53.6±1.1, 44.20N±0.02×26.59E±0.01, h4km±9km, n55, σ0.76/101, 40C-38D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICN	Ciocanesti	0.31	90	⇑P	Pb	01 05 00.7	-0.9
CICN				⇑S	Sb	01 05 06.0	-1.1
LEHL	Lehliu	0.32	30	⇑P	Pb	01 05 00.7	-1.1
LEHL				⇑S	Sb	01 05 06.6	-0.8
INCR	INCERC-Sediu C	0.40	308	⇓P	Pg	01 05 01.3	+0.1
INCR				⇓S	Sb	01 05 07.4	-2.1
BUC1	Bucharest	0.43	291	⇑P	Pg	01 05 01.9	0.0
BUC1				⇓S	Sg	01 05 08.4	+0.8
SGRR	Singureni	0.45	273	⇓P	Pg	01 05 02.2	0.0
SGRR				⇓S	Sg	01 05 08.6	+0.7
SULR		0.54	333	⇓P	Pb	01 05 04.4	-1.1
SULR				⇑S	Sb	01 05 12.9	-0.8
CIOR	Ciorogarla	0.57	296	⇓P	Pg	01 05 04.5	-0.2
CIOR				⇑S	Sb	01 05 12.9	-1.7
RAZG	Razgrad	0.63	186	⇓P	Pg	01 05 06.0	+0.3
RAZG				⇑S	Sg	01 05 13.9	0.0
AMRR	Amara	0.67	52	⇑P	Pb	01 05 07.3	-0.6
AMRR				⇑S	Sb	01 05 17.5	0.0
PLAR	PLOIESTI	0.82	331	⇓P	Pb	01 05 10.3	-0.1
PLAR				⇓S	Sn	01 05 22.7	-1.8
ICOR	Ion Corvin	0.87	95	⇓P	Pb	01 05 11.1	-0.2
ICOR				⇓S	Sb	01 05 23.3	+0.1
ISR	Istrita	0.92	358	⇑P	Pb	01 05 11.8	-0.3
ISR				⇑S	Sn	01 05 26.4	-0.6
COPA	Copaceanca	0.99	267	⇓P	Pg	01 05 12.3	-0.3
COPA				⇑S	Sb	01 05 26.2	-0.4
SZH	Strazhitsa	1.03	206	*i* Pg	Pg	01 05 12.8	-0.6
SZH				Sg	Sg	01 05 27.0	+0.2
ZIMR		1.04	239	⇑P	Pg	01 05 13.1	-0.3
ZIMR				⇓S	Sb	01 05 27.8	-0.2
CVDA	Cernavoda	1.05	82	⇓P	Pg	01 05 13.8	+0.2
CVDA				⇑S	Sb	01 05 28.2	0.0
NEF	NEVSHA	1.06	152	*e*P	Pb	01 05 14.4	0.0
NEF				*e*Sg	Sb	01 05 28.7	+0.2
HARR	Harsova	1.08	62	⇑P	Pg	01 05 14.2	0.0
PRD	Provadia	1.19	150	P	Pb	01 05 16.6	-0.1
PRD				Sg	Sn	01 05 33.6	0.0
HUMR	Humele	1.20	287	⇑P	Pg	01 05 16.2	-0.4
HUMR				⇓S	Sn	01 05 33.3	-0.6
GRER		1.21	13	⇓P	Pn	01 05 18.3	+1.0
ROIA	ROIAK	1.24	152	*e*P	Pn	01 05 17.7	0.0
ROIA				*e*Sg	Sn	01 05 35.4	+0.6
PSN	Preselentsi	1.25	116	*i* P	Pg	01 05 17.4	-0.1
PSN				Sg	Sn	01 05 34.7	-0.2
NEHR	Nehoiu	1.25	350	⇓P	Pn	01 05 18.1	+0.3
NEHR				⇓S	Sn	01 05 37.2	+2.2
MFTR	Murfatlar	1.32	90	⇑P	Pn	01 05 18.2	-0.5
MFTR				⇑S	Sn	01 05 36.5	-0.1
AVR	AVREN	1.33	144	*e*P	Pn	01 05 18.7	-0.2
AVR				*e*S	Sn	01 05 37.1	+0.1
TIRR	Tirgusor	1.33	78	⇑P	Pn	01 05 18.3	-0.6
BISRR	Bisoca	1.35	3	⇑P	Pg	01 05 20.2	+0.7
BISRR				⇓S	Sn	01 05 40.1	+2.4
MLR	Muntele Rosu	1.37	341	⇓P	Pg	01 05 19.9	0.0
MLR				⇑S	Sn	01 05 39.7	+1.4
TPGR	Topolog	1.46	63	⇑P	Pb	01 05 21.0	-0.4
EFOR	EFORIE	1.47	94	⇓P	Pb	01 05 21.1	-0.4
EFOR				⇑S	Sg	01 05 40.8	-0.1
MANR	Mangalia	1.49	104	⇑P	Pn	01 05 21.3	+0.3
MANR				⇑S	Sg	01 05 41.4	0.0
PVL	Pavlikeni	1.49	224	*i* P	Pn	01 05 21.0	-0.1
PVL				S	Sb	01 05 40.8	-0.2
MTUR	Matau	1.50	314	⇑P	Pb	01 05 21.4	-0.6
SCHLR	Schela	1.55	34	⇓P	Pb	01 05 22.3	-0.4
SCHLR				⇑S	Sg	01 05 43.5	+0.2
SPBR	Spulber	1.56	4	⇓P	Pg	01 05 23.5	+0.1
SPBR				⇓S	Sg	01 05 46.2	+2.6
IZVR	Izvoarele	1.58	31	⇓P	Pb	01 05 23.2	-0.2
IZVR				⇓S	Sg	01 05 44.5	0.0
VLAD	Vladila	1.59	264	⇑P	Pb	01 05 22.8	-0.7
VLAD				⇓S	Sg	01 05 44.3	-0.3
TUDR		1.59	28	⇑P	Pb	01 05 22.8	-0.7
TUDR				⇓S	Sg	01 05 45.5	+0.8
NEGRR	Negrea	1.62	34	⇑P	Pb	01 05 24.0	0.0
NEGRR				⇑S	Sg	01 05 45.5	-0.1
PLOR	Plostina	1.65	1	⇑P	Pg	01 05 24.9	-0.3
PLOR				⇓S	Sg	01 05 47.7	+1.0
VOIR		1.66	319	⇑P	Pg	01 05 24.6	-0.7
VOIR				⇓S	Sg	01 05 47.2	+0.4
COVR	Voineasa-Covas	1.67	351	⇓P	Pb	01 05 24.6	-0.3
COVR				⇑S	Sg	01 05 47.7	+0.5
VRI	Vrincioaia	1.67	3	⇑P	Pb	01 05 24.8	-0.1
JMB	Yambol	1.71	182	P	Pb	01 05 25.6	+0.1
JMB				S	Sg	01 05 48.2	-0.2
GIUM	Giurgiulesti	1.73	41	⇓S	Sg	01 05 48.8	-0.2
TATR	Tatarca	1.74	36	⇓S	Sb	01 05 48.6	+0.4
SCTR	Scanteiesti	1.78	33	⇑P	Pb	01 05 26.0	-0.7
SCTR				⇓S	Sg	01 05 49.9	-0.9
TLCR		1.87	57	⇑P	Pb	01 05 27.5	-0.8
TLCR				⇓S	Sb	01 05 52.0	+0.2
VLDR	Vladesti	1.96	32	⇑P	Pb	01 05 28.6	-1.1
VLDR				⇑S	Sb	01 05 54.7	+0.2
OZUR		1.98	344	⇓P	Pb	01 05 29.4	-0.8
OZUR				⇓S	Sb	01 05 54.7	-0.6
MPEP	Malo Peshtene	2.23	249	P	Pn	01 05 32.2	+0.9
MPEP				S	Sg	01 06 04.0	-1.2
VALD	Valchedram	2.34	259	P	Pb	01 05 36.3	+0.1
PLNA	Plana	2.88	234	P	Pb	01 05 45.8	+0.2
PLNA				S	Sb	01 06 22.4	+1.2
VTS	Vitosha	2.91	238	*i* P	Pb	01 05 46.3	+0.2
VTS				S	Sb	01 06 23.4	+1.3

TXNET 03 01:24:45.0, 31.0N±0.8×103.5W±0.7, h5km±1km, ML2.0/9, 1C, Error ellipse: s-maj=1.3km s-min=0.9km az=32.8, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	Saragosa	0.06	4	P	Pg	01 24 46.9	+0.3
TPB03				S	Sg	01 24 48.0	+0.5
TPB05	Hovey Rd	0.20	121	P	Pg	01 24 50.1	+1.3
TPB05				S	Sg	01 24 53.1	+1.6
TPB01	Permian Basin	0.24	251	⇑P	Pg	01 24 50.6	+1.0
TPB01				S	Sg	01 24 54.2	+1.4
TPB16	Coyonosa	0.25	66	P	Pb	01 24 51.6	-0.6
TPB16				S	Sb	01 24 55.7	-1.2
TPB16	Coyonosa	0.25	66	P	Pb	01 24 51.5	-0.6
TPB16				S	Sb	01 24 55.6	-1.2
TPB04	Verhalen	0.27	53	P	Pb	01 24 51.9	-0.6
TPB04				S	Sb	01 24 56.7	-0.7
TPB10	Southeast of T	0.33	322	P	Pb	01 24 52.8	-0.7
TPB10				S	Sb	01 24 58.3	-0.8
PCOS	Crockett Middl	0.39	1	S	Sb	01 24 59.6	-1.2
TPB12	Southwest of T	0.42	297	P	Pb	01 24 54.3	-0.7
TPB12				S	Sb	01 25 00.5	-1.3
PECS	Pecos	0.46	319	P	Pb	01 24 55.0	-0.7
PECS				S	Sb	01 25 01.8	-1.1
TPB08	Permian Basin	0.54	104	P	Pg	01 24 56.0	+0.5
TPB08				S	Sb	01 25 04.8	-0.4
TPB07	Mentone	0.57	347	S	Sb	01 25 06.2	+0.1
ALPN	Alpine	0.65	189	P	Pg	01 24 58.0	+0.4
ALPN				S	Sg	01 25 06.9	+0.8
TPB06	Permian Basin	0.67	22	S	Sb	01 25 08.3	-0.8
MNHN	Monahans	0.72	64	P	Pg	01 24 59.0	+0.1
MNHN				S	Sg	01 25 08.9	+0.6
VHRN	Van Horn	1.28	260	P	Pb	01 25 09.7	0.0
VHRN				S	Sn	01 25 27.3	-0.2
TMB02	Rankin	1.28	82	S	Sb	01 25 26.5	-0.1
NM01	Eunice	1.33	4	S	Sn	01 25 30.1	+1.4
ODSA	Odessa	1.37	37	P	Pn	01 25 10.4	-0.6
ODSA				S	Sn	01 25 29.7	0.0
HTMS	Hat Mesa	1.45	356	P	Pg	01 25 13.8	+1.0
HTMS				S	Sg	01 25 34.3	+2.7
SAND	Sanderson	1.61	131	P	Pb	01 25 15.5	+0.3
SAND				S	Sg	01 25 37.7	+1.0
TX31	Lajitas Ar. Si	1.69	184	P	Pb	01 25 16.6	0.0
TX31				S	Sg	01 25 39.5	+0.3
MNTX	Cornudas Mount	1.73	293	P	Pb	01 25 17.4	0.0
MNTX				S	Sg	01 25 40.6	0.0
OZNA	Ozona	2.06	92	P	Pb	01 25 22.4	-0.6
OZNA				S	Sg	01 25 50.5	-0.6

TEH 03 01:28:42.3, 33.29N×47.87E, h10km±79km
ISN 03 01:28:43.7±0.4, 33.24N×47.86E, h24km±3km, ML2.9
ISC 03 01:28:43.0±1.5, 33.28N±0.08×47.86E±0.06, h10km, n9, σ0.99/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	0.24	358	Pg	Pg	01 28 47.2	-0.8
IKFM				Sg	Sg	01 28 51.5	+0.1
IDOB	Doab	0.57	28	Pg	Pg	01 28 53.5	-0.7
BDRS	Dareh Seyedi	1.09	52	Pg	Pg	01 29 03.0	-0.9
IGHG	Ghaleghazi	1.50	315	Pg	Pg	01 29 10.8	-1.0
IBDR	Badra	1.62	264	*e*Pg	Pb	01 29 13.0	-0.1
IBDR				*e*Sg	Sg	01 29 34.0	-1.3
IBDR				AML	AML	01 29 47.6	
	comp=N,154nm,0.5s						
IBDR				AML	AML	01 29 53.2	
	comp=E,174nm,0.2s						
GLG1	Gilan-e-Gharb	1.82	298	Pn	Pb	01 29 16.0	-0.5
IDHR	Dehrash	1.87	320	Pn	Pb	01 29 16.9	-0.5
BHD	Baghdad	2.91	271	*e*Pn	Pn	01 29 30.5	+1.1
BHD				*e*Sn	Sn	01 30 05.0	+0.5
IKRK	Kirkuk	3.60	307	*e*Pn	Pn	01 29 40.5	+1.7
IKRK				*e*Sn	Sn	01 30 22.0	+0.6

SOME 03 01:34:00.1, 41.75N×80.15E, h15km
KRNET 03 01:34:00.3±0.1, 41.88N×80.23E, mb2.9
NNC 03 01:34:01.3±1.1, 41.84N×80.17E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=7.4km s-min=6.0km az=152.0
ISC 03 01:34:02.2±2.5, 41.88N±0.07×80.05E±0.07, h8km±13km, n32, σ1.29/55, 13C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	1.35	342	P	Pn	01 34 26.5	-1.1
	40nm,0.1s						
SHLS				S	Sg	01 34 45.7	-0.1
	63nm,0.3s						
SHLS	Shalkode	1.35	342	*e*P	Pn	01 34 26.5	-1.1
	40nm,0.1s						
SHLS				*e*S	Sg	01 34 45.7	-0.1
	63nm,0.3s						
PRZ	Przheval'sk	1.37	297	⇑*i*P	Pg	01 34 28.5	0.0
PRZ				⇑*i*S	Sg	01 34 48.6	+2.4
UZB	Uzynbulak	1.48	330	P	Pg	01 34 29.9	-0.7
	55nm,0.2s						
UZB				S	Sg	01 34 51.5	+1.7
	33nm,0.3s						
UZB	Uzynbulak	1.48	330	*e*P	Pg	01 34 29.9	-0.7
	55nm,0.2s						
UZB				*e*S	Sg	01 34 51.5	+1.7
	33nm,0.3s						
PDGK	Podgornoye	1.51	344	⇓Pn	Pb	01 34 30.1	-0.5
	8.9nm,0.3s						
PDGK				⇑Sn	Sg	01 34 52.5	+1.7
	25nm,0.3s						
TARG	Taragay, Kyrgy	1.68	266	⇓*i*P	Pg	01 34 34.1	-0.4
TARG				⇓*i*S	Sg	01 34 59.2	+2.8
SATY	Saty	1.70	315	P	Pg	01 34 33.9	-0.8
	28nm,0.5s						
SATY				S	Sg	01 34 58.4	+1.7
	41nm,0.2s						
ZHN	Zhinishke	1.76	318	P	Pg	01 34 35.3	-0.6
	59nm,0.2s						
ZHN				S	Sg	01 35 00.9	+2.1
	103nm,0.2s						
ZHN	Zhinishke	1.76	318	*e*P	Pg	01 34 35.3	-0.6
	59nm,0.2s						
ZHN				*e*S	Sg	01 35 00.8	+2.1
	103nm,0.2s						
ANVS	Anan'yevo	1.98	298	⇑*e*P	Pb	01 34 38.9	+0.2
ANVS				⇑*i*S	Sg	01 35 07.0	+1.0
KDJ	Kajisay	2.15	278	⇑*i*P	Pb	01 34 41.0	-0.6
KDJ				⇑*i*S	Sg	01 35 10.8	-0.6
DJR	Jarkent	2.46	356	Pg	Pb	01 34 46.9	+0.1
	4.0nm,0.2s						
DJR				Lg	Lg	01 35 20.7	
	49nm,0.4s						
DJR	Jarkent	2.46	356	*e*P	Pb	01 34 46.9	+0.1
	4.0nm,0.2s						
DJR				*e*S	Sg	01 35 20.7	-0.7
	49nm,0.4s						
BLB	Baldybastay	2.50	333	Pg	Pb	01 34 48.0	+0.5
	24nm,0.2s						
BLB				Lg	Lg	01 35 22.6	
	121nm,0.3s						
KOTS	Kotyrbulak	2.56	303	Pg	Pb	01 34 49.0	+0.5
	8.3nm,0.3s						
KOTS				Lg	Lg	01 35 24.3	
	22nm,0.3s						
KOTS	Kotyrbulak	2.56	303	*e*P	Pb	01 34 49.0	+0.5
	8.3nm,0.3s						
KOTS				*e*S	Sg	01 35 24.3	-0.2
	22nm,0.3s						
KNOS	Konyrlen	2.56	346	Pg	Pb	01 34 49.0	+0.5
	8.1nm,0.3s						
KNOS				Lg	Lg	01 35 24.4	
	47nm,0.3s						
MDOK	Medeo	2.56	301	⇓Pn	Pb	01 34 47.3	-1.2
	3.6nm,0.4s						
MDOK				Pg	Pg	01 34 48.8	-2.6
	6.3nm,0.4s						
MDOK				Lg	Lg	01 35 24.1	
	19nm,0.5s						
MDOK				⇑Lg	Lg	01 35 26.7	
	14nm,0.6s						
TNSS	Tian-Shan	2.57	298	Pg	Pb	01 34 49.3	+0.5
	7.9nm,0.3s						
TNSS				Lg	Lg	01 35 24.9	

1.4nm,0.5s,baz=189,slow=29,SNR=5.1

*MOS **03** 01:39:14.7±1.4, 47°.57N×154°.42E, h45km, mb4.2/5, Error ellipse: s-maj=14.2km s-min=8.3km az=66.2*
*SKHL **03** 01:39:15.3±0.2, 47°.50N×154°.50E, h55km±5km, mb4.6/7*
*IDC **03** 01:39:16.1±3.2, 47°.61N×154°.39E, h41km±28km, mb3.5/15, mbtmp3.8/17, ML3.2/2, MS3.0/1, Error ellipse: s-maj=26.6km s-min=16.2km az=157.0*
*NEIC **03** 01:39:17.7±1.4, 47°.7N±0°.2×154°.3E±0°.2, h45km±10km, mb4.2/25, Error ellipse: s-maj=24.7km s-min=15.3km az=144.0*

ISC 03 01:39:14.5±0.7, **47°.44N**±0°.08×**154°.54E**±0°.08, **h31**km, **n84**, σ1$**43**/84, **mb4.1**/29, **5C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.41**	**17**	⇑*e*PN	**Pn**	**01 40 07.8**	**+2.4**
SKR	**Severo-Kuril's**	**3.41**	**17**	*e*P	**Pn**	**01 40 05.5**	**+0.1**
SKR				AMB	AMB	01 40 10.2	
	110nm,0.4s						
SKR				*e*S	**Sn**	**01 40 43.3**	**-1.5**
SKR				A	A	01 40 44.0	
	90nm,0.3s						
SKR				A	A	01 40 44.0	
	40nm,0.3s						
PAU	**Pauzhetka**	**4.30**	**19**	*e*P	**Pn**	**01 40 18.6**	**+1.0**
PAU				AMB	AMB	01 40 23.8	
	30nm,0.3s						
PAU				*e*S	**Sn**	**01 41 05.9**	**-0.7**
PAU				A	A	01 41 07.6	
	50nm,0.2s						
PAU				A	A	01 41 07.6	
	50nm,0.2s						
KUR	**Kuril'sk**	**5.12**	**247**	*de*PN	**Pn**	**01 40 29.0**	**+0.1**
KUR	**Kuril'sk**	**5.12**	**247**	*e*P	**Pn**	**01 40 30.6**	**+1.7**
KUR				*e*S	**Sn**	**01 41 26.4**	**-0.5**
KUR				A	A	01 41 28.1	
	60nm,0.5s						
KUR				A	A	01 41 28.1	
	40nm,0.5s						
PEA0B	**Petropavlovsk-**	**6.03**	**18**	Pn	**Pn**	**01 40 41.1**	**-0.2**
PEA0B	**Petropavlovsk-**	**6.03**	**18**	PN	**Pn**	**01 40 41.2**	**-0.2**
PETK	**Petropavlovsk-**	**6.03**	**18**	Pn	**Pn**	**01 40 40.7**	**-0.7**
PETK	**Petropavlovsk-**	**6.03**	**18**	P	**Pn**	**01 40 41.1**	**-0.3**
	2.6nm,0.3s,baz=181,slow=13,SNR=18						
	6.4nm,0.5s						
PET	**Petropavlovsk**	**6.18**	**24**	*e*P	**Pn**	**01 40 46.7**	**+3.2**
PET				AMB	AMB	01 40 50.2	
	20nm,0.8s						
PET				*e*S	**Sn**	**01 41 51.2**	**-1.9**
SHO	**Shikotan**	**6.47**	**239**	*e*P	**Pn**	**01 40 48.8**	**+1.3**
SHO				AMB	AMB	01 40 50.6	
	20nm,0.7s						
SHO				*e*S	**Sn**	**01 41 58.2**	**-2.1**
SHO				A	A	01 41 59.9	
	30nm,0.5s						
SHO				A	A	01 41 59.9	
	30nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.96**	**244**	⇑*e*PN	**Pn**	**01 40 56.5**	**+2.3**
YUK	**Yuzh-Kuril'sk**	**6.96**	**244**	*e*P	**Pn**	**01 40 56.5**	**+2.3**
YUK				AMB	AMB	01 40 58.5	
	120nm,0.6s						
NMR	**Nemuro--Hokkai**	**7.41**	**240**	*e*P	**Pn**	**01 41 00.5**	**0.0**
NMR				*e*S	**Sn**	**01 42 21.5**	**-1.9**
YSS	**Yuzhno-Sakhali**	**8.04**	**271**	*e*PN	**Pn**	**01 41 13.5**	**+4.5**
YSS				*e*S	**Sn**	**01 42 43.0**	**+4.2**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS	**Yuzhno-Sakhali**	**8.04**	**271**	*e*P	**Pn**	**01 41 10.9**	**+1.9**
YSS				AMB	AMB	01 41 12.0	
	comp=Z,10.0nm,0.2s						
AKK	**Akkeshi**	**8.14**	**241**	*e*S	**Sn**	**01 42 39.0**	**-2.4**
JKA	**Kamikawa-asahi**	**8.98**	**253**	*e*P	**Pn**	**01 41 23.4**	**+1.5**
ASAJ	**Asahikawa**	**8.98**	**253**	P	**Pn**	**01 41 23.4**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=80,slow=14,SNR=6.2						
	comp=Z,10nm,0.9s						
ERM	**Erimo**	**9.74**	**240**	⇑*e*PN	**Pn**	**01 41 34.6**	**+2.2**
MA2	**Magadan**	**12.36**	**351**	Pn	**Pn**	**01 42 08.0**	**-0.1**
MA2	**Magadan**	**12.36**	**351**	PN	**Pn**	**01 42 08.0**	**-0.1**
MA2	**Magadan**	**12.36**	**351**	*e*P	**Pn**	**01 42 08.0**	**-0.1**
USA0B	**Ussuriysk Arra**	**16.04**	**267**	⇑*e*P	**Pn**	**01 42 58.9**	**+1.3**
BNX	**BinXian**	**18.69**	**275**	⇑P	**P**	**01 43 27.5**	**-2.5**
BNX				pmax	pmax		
	comp=Z,6.0nm,2.0s						
YAK	**Yakutsk**	**20.29**	**325**	LR	LR	01 50 41.4	
	comp=Z,44nm,20.2s,baz=350,slow=34						
KSRS	**Korea Array**	**21.93**	**253**	P	**P**	**01 44 05.7**	**+0.5**
	comp=Z,4.0nm,0.7s,baz=61,slow=9.9,SNR=16						
	comp=Z,4.0nm,0.7s						
KSRS	**Korea Array**	**21.93**	**253**	*e*P	**P**	**01 44 06.7**	**+1.5**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSRS	**Korea Array**	**21.93**	**253**	*e*P	**P**	**01 44 06.6**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**29.42**	**156**	T	T	02 16 34.1	
	baz=343,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**29.43**	**156**	T	T	02 16 29.0	
	baz=343,slow=76,SNR=42						
H11N3	**WAKE ISLAND Hy**	**29.43**	**156**	T	T	02 16 31.6	
	baz=343,slow=76,SNR=17						
F17K	**Baldwin Pennin**	**29.78**	**34**	P	**P**	**01 45 19.3**	**+1.4**
H11S1	**WAKE ISLAND Hy**	**30.53**	**157**	T	T	02 17 44.2	
	baz=344,slow=75,SNR=160						
H11S3	**WAKE ISLAND Hy**	**30.54**	**157**	T	T	02 17 42.8	
	baz=344,slow=75,SNR=223						
C18K	**Utukok River**	**30.54**	**30**	P	**P**	**01 45 24.5**	**-0.2**
C18K				IAmb	IAmb	01 45 28.6	
	comp=Z,7.0nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**30.55**	**157**	T	T	02 17 44.9	
	baz=344,slow=75,SNR=141						
D20K	**Etivluk River**	**32.15**	**31**	P	**P**	**01 45 39.5**	**+0.7**
D20K				IAmb	IAmb	01 45 42.2	
	comp=Z,3.0nm,0.9s						
B20K	**Meade River**	**32.35**	**29**	P	**P**	**01 45 40.8**	**+0.3**
B20K				IAmb	IAmb	01 45 58.5	
	comp=Z,8.2nm,1.5s						
H21K	**Melozitna Rive**	**32.97**	**37**	P	**P**	**01 45 47.1**	**+1.0**
H21K				IAmb	IAmb	01 46 06.8	
	comp=Z,5.1nm,1.5s						
B21K	**Ikpikpuk River**	**33.08**	**30**	P	**P**	**01 45 47.7**	**+0.8**
B21K				IAmb	IAmb	01 45 49.6	
	comp=Z,5.7nm,1.0s						
B22K	**Teshekpuk Lake**	**33.67**	**29**	P	**P**	**01 45 52.8**	**+0.8**
E22K	**Anaktuvuk Pass**	**33.74**	**33**	P	**P**	**01 45 53.1**	**+0.3**
E22K				IAmb	IAmb	01 45 57.7	
	comp=Z,6.3nm,1.2s						
C23K	**Itkillik River**	**34.49**	**30**	P	**P**	**01 46 00.6**	**+1.4**
E24K	**Your Creek**	**34.97**	**33**	P	**P**	**01 46 03.9**	**+0.5**
ILAR	**Eielson Array**	**35.40**	**39**	P	**P**	**01 46 06.3**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=263,slow=7.5,SNR=3.0						
	comp=Z,0.6nm,0.9s						
D25K	**Kavik River**	**35.88**	**31**	P	**P**	**01 46 11.6**	**+0.5**
E27K	**Coleen River**	**37.55**	**33**	P	**P**	**01 46 25.9**	**+0.5**
E27K				IAmb	IAmb	01 46 30.9	
	comp=Z,3.6nm,1.2s						
BCAR	**Beaver Creek A**	**37.74**	**42**	P	**P**	**01 46 28.1**	**+1.0**
D27M	**Malcolm River**	**37.79**	**32**	P	**P**	**01 46 28.3**	**+0.8**
I28M	**Miner Creek**	**38.31**	**38**	P	**P**	**01 46 32.6**	**+0.7**
I28M				IAmb	IAmb	01 46 50.2	
	comp=Z,6.3nm,1.5s						
H29M	**Whitestone**	**38.89**	**37**	P	**P**	**01 46 37.2**	**+0.5**
H29M				IAmb	IAmb	01 46 44.5	
	comp=Z,6.6nm,1.4s						
I30M	**Mount Dempster**	**39.82**	**38**	P	**P**	**01 46 44.2**	**-0.4**
INK	**Inuvik**	**40.54**	**33**	P	**P**	**01 46 51.7**	**+1.4**
INK	**Inuvik**	**40.54**	**33**	P	**P**	**01 46 51.7**	**+1.4**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	**47.49**	**297**	P	**P**	**01 47 44.9**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=70,slow=8.1,SNR=9.8						
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**47.79**	**304**	P	**P**	**01 47 46.9**	**-1.7**
KURK				IAmb	IAmb	01 47 47.7	
	comp=Z,2.8nm,0.9s						
KURK	**Kurchatov**	**47.79**	**304**	P	**P**	**01 47 47.5**	**-1.1**
KURK	**Kurchatov**	**47.79**	**304**	*e*P	**P**	**01 47 47.5**	**-1.1**
KURBB	**Kurchatov Arra**	**47.89**	**304**	P	**P**	**01 47 47.5**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=68,slow=8.4,SNR=7.7						
	comp=Z,0.7nm,0.4s						
EUNU	**Eureka**	**48.26**	**12**	P	**P**	**01 47 51.9**	**0.0**
EUNU				IAmb	IAmb	01 47 55.0	
	comp=Z,1.6nm,0.8s						
YKA	**Yellowknife Ar**	**49.79**	**37**	P	**P**	**01 48 03.3**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=299,slow=8.1,SNR=3.7						
	comp=Z,0.4nm,0.9s						
PLID	**Pearl Lake**	**58.48**	**56**	P	**P**	**01 49 09.3**	**+1.7**
PLID				IAmb	IAmb	01 49 10.9	
	comp=Z,1.7nm,0.7s						
ABKAR	**Akbulak array**	**58.73**	**310**	P	**P**	**01 49 08.2**	**-0.8**
ABKAR				IAmb	IAmb	01 49 10.3	
	comp=Z,1.6nm,0.9s						
FCC	**Fort Churchill**	**60.15**	**34**	P	**P**	**01 49 19.0**	**+0.4**
FCC	**Fort Churchill**	**60.15**	**34**	P	**P**	**01 49 19.0**	**+0.4**
FCC				pmax	pmax		
	comp=Z,5.0nm,1.3s						
NVAR	**Mina Array Bea**	**61.25**	**63**	P	**P**	**01 49 25.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=318,slow=8.3,SNR=2.4						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**63.55**	**55**	P	**P**	**01 49 43.0**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=332,slow=6.8,SNR=2.7						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**63.83**	**335**	P	**P**	**01 49 41.2**	**-2.0**
FINES	**FINESS Array B**	**63.83**	**335**	P	**P**	**01 49 41.6**	**-1.7**
	comp=Z,0.8nm,0.4s,baz=40,slow=7.4,SNR=12						
	comp=Z,0.8nm,0.4s						
NOA	**NORSAR Array B**	**67.88**	**342**	P	**P**	**01 50 09.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=28,slow=6.6,SNR=1.9						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**68.15**	**340**	P	**P**	**01 50 10.1**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=56,slow=5.4,SNR=9.2						
	comp=Z,0.8nm,0.4s						
WRA	**Warramunga Arr**	**69.49**	**200**	P	**P**	**01 50 20.4**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=13,slow=6.4,SNR=1.8						
	comp=Z,0.5nm,0.8s						
BURAR	**Bucovina Array**	**75.54**	**327**	P	**P**	**01 50 55.3**	**-0.5**
CLL	**Collm**	**76.23**	**336**	*i* P	**P**	**01 50 58.5**	**-1.0**
CLL	**Collm**	**76.23**	**336**	*i* P	**P**	**01 50 58.5**	**-1.0**
TX31	**Lajitas Ar. Si**	**76.31**	**62**	P	**P**	**01 51 01.1**	**+0.7**
TXAR	**Lajitas Array**	**76.31**	**62**	P	**P**	**01 51 01.0**	**+0.6**
TXAR	**Lajitas Array**	**76.31**	**62**	P	**P**	**01 51 01.8**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=301,slow=4.9,SNR=6.8						
	comp=Z,0.3nm,0.6s						
GERES	**GERESS Array B**	**78.25**	**335**	P	**P**	**01 51 10.6**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=31,slow=6.2,SNR=6.2						
	comp=Z,0.7nm,0.6s						
GERES	**GERESS Array B**	**78.25**	**335**	*e*P	**P**	**01 51 09.9**	**-1.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.55**	**318**	P	**P**	**01 51 10.4**	**-2.5**
BRTR	**Keskin Array B**	**78.55**	**318**	P	**P**	**01 51 12.9**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=119,slow=1.8,SNR=6.4						
	comp=Z,1.4nm,0.9s						
MMAI	**Mount Meron Ar**	**83.08**	**312**	P	**P**	**01 51 37.8**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=5.7,slow=2.9,SNR=4.1						
	comp=Z,1.0nm,0.6s						

*IDC **03** 01:42:40.9±1.6, 39°.26S×177°.94E, h0km, mb4.4/3, mbtmp4.4/4, ML4.0/1, MS3.8/5, Error ellipse: s-maj=35.7km s-min=25.3km az=74.0*
*NEIC **03** 01:42:41.1±1.6, 39°.25S±0°.03×178°.05E±0°.05, h10km±1km, mb4.2/8, Error ellipse: s-maj=6.4km s-min=4.4km az=101.0*
*WEL **03** 01:42:43.0, 39°.20S×178°.10E, h19km, ML4.6, Mw4.5, Moment Tensor Solution. s7 Moment tensor: Scale 10^{15} Nm; M_{rr}-3.51; $M_{\theta\theta}$-2.60; $M_{\phi\phi}$6.12; $M_{r\theta}$-0.91; $M_{\theta\phi}$6.31; $M_{\phi r}$0.63; Fault plane solution: $M_0$7.89000×10^{15} NP1: ϕ_s165.00000°, δ76.00000°, λ-164.00000°. NP2: ϕ_s71.00000°, δ75.00000°, λ-15.00000°. Principal axes: T 9.4291, Plg1.0000°, Azm298.0000°; N -6.3433, Plg69.0000°, Azm206.0000°; P -3.0858, Plg21.0000°, Azm28.0000°; Stations used: MWZ BKZ HAZ OTVZ WHVZ HIZ VRZ STRIKE-SLIP FAULTING*
*NOU **03** 01:42:43.7, 39°.27S×177°.93E, h14km, MLv4.7/19, Off E. Coast of N. Island, N.Z.*
*WEL **03** 01:42:43.1±0.6, 39°.S±3°.×17°.8E±°, h13km±3km, M4.6/25, ML4.9/25, MLv4.6/25, Error ellipse: s-maj=4.9km s-min=2.8km az=121.4, confirmed*

ISC 03 01:42:42.7±1.2, **39°.25S**±0°.03×**178°.08E**±0°.04, **h17**km±7km, **n114**, σ1$**19**/136, **mb4.2**/7, **MS3.5/4, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.17**	**306**	P	**Pb**	**01 42 47.9**	**+0.5**
MHGZ				S	**Sb**	**01 42 50.9**	**+0.3**
PRGZ	**Paritu Road**	**0.36**	**335**	P	**Pg**	**01 42 50.2**	**0.0**
PRGZ				S	**Sg**	**01 42 55.3**	**-0.1**
KNZ	**Kokohu**	**0.39**	**306**	P	**Pg**	**01 42 50.6**	**-0.1**
KNZ				S	**Sb**	**01 42 57.3**	**+0.4**
RIGZ	**Rimuhau**	**0.60**	**335**	P	**Pb**	**01 42 54.9**	**+0.1**
RIGZ				S	**Sb**	**01 43 04.8**	**+1.8**
WHHZ	**Waihua**	**0.68**	**285**	P	**Pb**	**01 42 56.9**	**+0.7**
WHHZ				S	**Sn**	**01 43 07.9**	**0.0**
SNGZ	**Shannon Statio**	**0.75**	**309**	P	**Pg**	**01 42 57.3**	**+0.1**
SNGZ				S	**Sb**	**01 43 08.0**	**+0.8**
CNGZ	**Carnagh Statio**	**0.78**	**7**	P	**Pn**	**01 42 59.2**	**+0.4**
TKGZ	**Te Karaka**	**0.83**	**347**	P	**Pb**	**01 42 59.2**	**+0.5**
TKGZ				S	**Sn**	**01 43 11.5**	**0.0**
ARHZ	**Aropaoanui**	**0.84**	**269**	P	**Pn**	**01 43 00.1**	**+0.3**
ARHZ				S	**Sn**	**01 43 13.1**	**+1.3**
RAHZ	**Arahi**	**0.85**	**293**	P	**Pb**	**01 42 59.3**	**+0.3**
RAHZ				S	**Sn**	**01 43 11.5**	**-0.4**
CKHZ	**Cape Kidnapper**	**0.88**	**242**	P	**Pn**	**01 43 01.4**	**+1.1**
RAGZ	**Rawiri**	**0.92**	**325**	P	**Pg**	**01 42 60.0**	**-0.5**
RAGZ				S	**Sb**	**01 43 13.3**	**+1.1**
NMHZ	**Naumai**	**1.00**	**279**	P	**Pg**	**01 43 02.2**	**+0.1**
NMHZ				S	**Sn**	**01 43 16.6**	**+0.7**
MWZ	**Matawai**	**1.01**	**335**	P	**Pb**	**01 43 01.4**	**-0.4**
MWZ				S	**Sb**	**01 43 14.5**	**-0.4**
MTHZ	**Maungataniwha**	**1.05**	**292**	P	**Pb**	**01 43 02.1**	**-0.2**
MTHZ				S	**Sg**	**01 43 16.1**	**-0.5**
RTZ	**Ruatahuna**	**1.07**	**306**	Pg	**Pb**	**01 43 02.2**	**-0.6**
RTZ					**Sb**	**01 43 15.4**	**-1.1**
RTZ	**Ruatahuna**	**1.07**	**306**	P	**Pb**	**01 43 02.3**	**-0.5**
RTZ				S	**Sb**	**01 43 16.3**	**-0.3**
KAHZ	**Kahuranaki**	**1.08**	**240**	P	**Pn**	**01 43 04.3**	**+1.2**
TWGZ	**Tauwhareparae**	**1.08**	**356**	P	**Pb**	**01 43 03.1**	**+0.1**
TWGZ				S	**Sg**	**01 43 17.6**	**-0.1**
MCHZ	**McNeill Hill**	**1.09**	**260**	P	**Pn**	**01 43 04.2**	**+0.9**
MCHZ				S	**Sn**	**01 43 19.9**	**+1.9**
PUZ	**Puketiti**	**1.19**	**7**	P	**Pn**	**01 43 04.2**	**-0.4**
PUZ				S	**Sb**	**01 43 20.3**	**+0.4**
PXZ	**Pawanui**	**1.22**	**230**	P	**Pb**	**01 43 05.7**	**+0.4**
PXZ				S	**Sg**	**01 43 23.4**	**+1.2**
BKZ	**Black Stump Fm**	**1.24**	**274**		**Pn**	**01 43 05.1**	**-0.2**
BKZ					**Sb**	**01 43 20.6**	**-0.8**
BKZ	**Black Stump Fm**	**1.24**	**274**	P	**Pn**	**01 43 05.1**	**-0.2**
BKZ	**Black Stump Fm**	**1.24**	**274**	S	**Sb**	**01 43 20.3**	**-1.1**
BKZ	**Black Stump Fm**	**1.24**	**274**	P	**Pn**	**01 43 05.3**	**0.0**
BKZ				S	**Sg**	**01 43 22.9**	**+0.2**
URZ	**Urewera**	**1.25**	**322**	Pn	**Pn**	**01 43 04.7**	**-0.7**
	280nm,0.3s,baz=272,slow=3.5,SNR=978						
URZ				Sn	**Sb**	**01 43 21.7**	**0.0**
	496nm,0.3s,baz=156,slow=11,SNR=6.6						
URZ	**Urewera**	**1.25**	**322**	P	**Pn**	**01 43 04.7**	**-0.7**
URZ	**Urewera**	**1.25**	**322**	S	**Sn**	**01 43 22.4**	**+0.6**
URZ	**Urewera**	**1.25**	**322**	P	**Pn**	**01 43 04.7**	**-0.7**
MUGZ	**Murupara**	**1.28**	**307**	P	**Pn**	**01 43 06.0**	**+0.1**
MUGZ				S	**Sb**	**01 43 22.2**	**-0.4**
KWHZ	**Kaweka Forest**	**1.30**	**262**	P	**Pn**	**01 43 06.6**	**+0.5**
RUGZ	**Raukumara Rang**	**1.32**	**346**	P	**Pn**	**01 43 05.7**	**-0.9**
MRHZ	**Matea Rd**	**1.36**	**287**	P	**Pn**	**01 43 07.3**	**+0.3**
MRHZ				S	**Sb**	**01 43 25.0**	**0.0**
KRHZ	**Kereru**	**1.38**	**253**	P	**Pn**	**01 43 07.7**	**+0.4**
PKGZ	**Pakihiroa**	**1.39**	**360**	P	**Pn**	**01 43 06.9**	**-0.4**
PKGZ				S	**Sn**	**01 43 24.6**	**-0.6**
WMGZ	**Waiomatatini S**	**1.46**	**10**	P	**Pn**	**01 43 08.2**	**-0.1**
WPHZ	**Waipukurau**	**1.50**	**237**	P	**Pn**	**01 43 09.6**	**+0.7**
PRHZ	**Porangahau**	**1.51**	**227**	P	**Pn**	**01 43 09.4**	**+0.5**
HAZ	**Te Kaha**	**1.51**	**351**	P	**Pn**	**01 43 08.7**	**-0.3**
PRRZ	**Plateau Road**	**1.52**	**299**	P	**Pn**	**01 43 09.6**	**+0.5**
ALRZ	**Allen Road**	**1.52**	**296**	P	**Pn**	**01 43 09.1**	**-0.1**
RRRZ	**Republican Roa**	**1.53**	**306**	P	**Pn**	**01 43 09.1**	**-0.1**
PNHZ	**Pukenui**	**1.60**	**245**	P	**Pn**	**01 43 10.5**	**+0.2**
TARZ	**Mount Tarawera**	**1.60**	**309**	P	**Pn**	**01 43 10.2**	**-0.1**
WPRZ	**Whakapapatarin**	**1.67**	**295**	P	**Pn**	**01 43 11.5**	**+0.3**
MXZ	**Matakaoa Point**	**1.70**	**6**		**Pn**	**01 43 10.7**	**-0.9**
MXZ					**Sn**	**01 43 31.6**	**-1.2**
MXZ	**Matakaoa Point**	**1.70**	**6**	P	**Pn**	**01 43 11.5**	**-0.1**
FWVZ	**Far West T-bar**	**1.96**	**269**	P	**Pn**	**01 43 16.0**	**+0.6**
BFZ	**Birch Farm**	**2.01**	**224**	Pn	**Pn**	**01 43 15.6**	**-0.3**
BFZ	**Birch Farm**	**2.01**	**224**	P	**Pn**	**01 43 16.2**	**+0.4**
BFZ	**Birch Farm**	**2.01**	**224**	S	**Sn**	**01 43 41.2**	**+0.6**
MRZ	**Mangatainoka R**	**2.38**	**233**	Pn	**Pn**	**01 43 20.3**	**-0.7**
TOZ	**Tahuroa Road**	**2.53**	**306**	Pn	**Pn**	**01 43 21.2**	**-1.8**
HIZ	**Hauiti**	**2.62**	**285**	Pn	**Pn**	**01 43 23.3**	**-1.0**
HIZ	**Hauiti**	**2.62**	**285**	P	**Pn**	**01 43 24.3**	**0.0**
MSWZ	**Moikau Station**	**3.06**	**224**	Pn	**Pn**	**01 43 29.1**	**-1.2**
KHEZ	**Kahui Hut**	**3.16**	**268**	P	**Pn**	**01 43 33.0**	**+1.3**
PLWZ	**Palliser**	**3.16**	**222**	Pn	**Pn**	**01 43 30.9**	**-0.9**
BHW	**Baring Head**	**3.27**	**228**	Pn	**Pn**	**01 43 31.5**	**-1.6**
SNZO	**South Karori**	**3.30**	**230**	Pn	**Pn**	**01 43 32.4**	**-1.2**
SNZO	**South Karori**	**3.30**	**230**	P	**Pn**	**01 43 33.1**	**-0.5**
SNZO	**South Karori**	**3.30**	**230**	S	**Sn**	**01 44 11.4**	**-1.0**
TCW	**Tory Channel**	**3.51**	**235**	Pn	**Pn**	**01 43 34.9**	**-1.6**
TUWZ	**Tuamarina**	**3.84**	**234**	Pn	**Pn**	**01 43 39.4**	**-1.6**
CMWZ	**Cape Campbell**	**3.86**	**229**	Pn	**Pn**	**01 43 40.9**	**-0.4**
BSWZ	**Blackbirch Sta**	**4.04**	**231**	Pn	**Pn**	**01 43 42.4**	**-1.4**
NNZ	**Nelson**	**4.10**	**240**	Pn	**Pn**	**01 43 43.5**	**-1.1**
TKNZ	**Takaka Hill**	**4.31**	**244**	Pn	**Pn**	**01 43 46.0**	**-1.5**
QRZ	**Quartz Range**	**4.54**	**248**	Pn	**Pn**	**01 43 48.9**	**-1.8**
QRZ	**Quartz Range**	**4.54**	**248**	P	**Pn**	**01 43 48.9**	**-1.8**
MRNZ	**Matariki Terra**	**4.60**	**241**	Pn	**Pn**	**01 43 50.3**	**-1.2**
KHZ	**Kahutara**	**4.67**	**226**	Pn	**Pn**	**01 43 52.7**	**+0.2**
KHZ	**Kahutara**	**4.67**	**226**	P	**Pn**	**01 43 52.4**	**-0.1**
THZ	**Tophouse**	**4.67**	**236**	Pn	**Pn**	**01 43 50.3**	**-2.2**
GVZ	**Greta Valley S**	**5.32**	**224**	Pn	**Pn**	**01 44 01.8**	**+0.4**
OUZ	**Omahuta**	**5.39**	**317**	P	**Pn**	**01 44 04.3**	**+2.0**
DSZ	**Denniston Nort**	**5.39**	**241**	Pn	**Pn**	**01 44 01.4**	**-1.1**
LTZ	**Lake Taylor**	**5.63**	**229**	Pn	**Pn**	**01 44 04.0**	**-1.7**
AMCZ	**Amberley**	**5.67**	**225**	Pn	**Pn**	**01 44 04.8**	**-1.3**
CTZ	**Chatham Island**	**5.99**	**140**	Pn	**Pn**	**01 44 11.8**	**+1.3**
CTZ	**Chatham Island**	**5.99**	**140**	P	**Pn**	**01 44 14.3**	**+3.8**
MQZ	**McQueen's Vall**	**6.03**	**221**	Pn	**Pn**	**01 44 09.7**	**-1.5**
OXZ	**Oxford**	**6.11**	**226**	Pn	**Pn**	**01 44 10.5**	**-1.6**
RPZ	**Rata Peaks**	**6.91**	**228**	Pn	**Pn**	**01 44 21.4**	**-1.8**
RPZ	**Rata Peaks**	**6.91**	**228**	Pn	**Pn**	**01 44 20.6**	**-2.5**
	2.6nm,0.3s,baz=323,slow=0.9,SNR=18						
RPZ				Sn	**Sn**	**01 45 34.2**	**-7.2**
	26nm,0.3s,baz=25,slow=20,SNR=35						
	14nm,0.5s						
RPZ	**Rata Peaks**	**6.91**	**228**	P	**Pn**	**01 44 22.2**	**-1.0**
FOZ	**Fox Glacier**	**7.54**	**233**	Pn	**Pn**	**01 44 30.0**	**-1.8**
LBZ	**Lake Benmore**	**7.81**	**226**	Pn	**Pn**	**01 44 33.5**	**-2.1**
ODZ	**Otahua Downs**	**8.00**	**221**	Pn	**Pn**	**01 44 36.7**	**-1.4**
ODZ	**Otahua Downs**	**8.00**	**221**	P	**Pn**	**01 44 37.5**	**-0.6**
JCZ	**Jackson Bay**	**8.46**	**232**	P	**Pn**	**01 44 42.9**	**-1.6**
SYZ	**Scrubby Hill**	**9.79**	**219**	P	**Pn**	**01 45 03.9**	**+1.2**
DCZ	**Deep Cove**	**10.19**	**229**	Pn	**Pn**	**01 45 07.2**	**-0.9**
DZM	**Mont Dzumac**	**19.81**	**326**	LR	LR	01 54 26.3	
	comp=Z,253nm,18.6s,baz=85,slow=36						
MSVF	**Nonsavu**	**21.44**	**360**	LR	LR	01 54 14.1	
	comp=Z,218nm,20.3s,baz=152,slow=32						
RAR	**Rarotonga**	**26.14**	**53**	LR	LR	01 56 29.6	
	comp=Z,123nm,21.1s,baz=237,slow=32						
STKA	**Stephens Creek**	**30.43**	**273**	P	**P**	**01 48 54.4**	**+0.1**
	2.5nm,0.8s,baz=100,slow=6.6,SNR=3.5						
	2.5nm,0.8s						
PPT	**Papeete**	**35.43**	**62**	LR	LR	02 02 18.8	
	comp=Z,83nm,19.9s,baz=245,slow=33						
COEN	**Coen**	**39.72**	**300**	P	**P**	**01 50 14.7**	**+0.3**
AS31	**Alice Springs**	**40.35**	**279**	P	**P**	**01 50 19.2**	**-0.4**
AS31				IAmb	IAmb	01 50 20.9

mbtmp5.2/45, ML4.3/5, MS4.9/72, Error ellipse: s-maj=10.9km s-min=9.7km az=109.0

MOS ***03*** *01:52:55.8± 1.0, 22°.91N× 121°.05E, h17km, mb5.7/89, MS5.2/31, Error ellipse: s-maj=5.6km s-min=3.4km az=109.6*

TAP ***03*** *01:52:55.4, 22°.94N× 120°.87E, h5km, ML6.0, C*

NIED ***03*** *01:52:55.3, 22°.79N× 121°.38E, h12km, MW5.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}=2.38; $M_{\theta\theta}$=1.78; $M_{\phi\phi}$=0.60; $M_{r\theta}$=0.82; $M_{\theta\phi}$=0.05; $M_{\phi r}$=-0.25; Fault plane solution: M_0=2.24000×10^{17} NP1:ϕ_s=84.00000°, δ=35.00000°, λ=-98.00000°. NP2:ϕ_s=274.00000°, δ=56.00000°, λ=-84.00000°.*

JMA ***03*** *01:52:55.3± 0.2, 22°.8N± 0°.6× 12°.1E± °, h12km± 4km, MD5.5/13, MV5.6/13, TAIWAN REGION*

ASIES ***03*** *01:52:55.4, 22°.94N× 120°.87E, h5km, ML6.0, Mw5.4, Moment Tensor Solution. Moment tensor: Scale 10^{24}Nm; M_{rr}=0.98; $M_{\theta\theta}$=0.66; $M_{\phi\phi}$=0.32; $M_{r\theta}$=-0.31; $M_{\theta\phi}$=-0.79; $M_{\phi r}$=1.31; Fault plane solution: M_0=1.78077×10^{24} NP1: ϕ_s=282.65000°, δ=29.13000°, λ=-140.11000°. NP2: ϕ_s=156.51000°, δ=71.81000°, λ=-66.85000°. Principal axes: T Plg23.3860°, Azm228.8850°; N Plg21.9320°, Azm328.9130°; P Plg56.9740°, Azm97.1850°;*

NEIC ***03*** *01:52:56.6± 1.6, 22°.97N± 0°.04× 120°.96E± 0°.07, h10km± 1km, mb5.5/467, Ms_20 5.2/259, Mwr5.4/26, Mww5.4/47 Error ellipse: s-maj=10.5km s-min=6.2km az=287.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=1.44; $M_{\theta\theta}$=0.88; $M_{\phi\phi}$=0.55; $M_{r\theta}$=-0.22; $M_{\theta\phi}$=-0.84; $M_{\phi r}$=1.08; Fault plane solution: M_0=1.87000×10^{17} NP1: ϕ_s=290.07000°, δ=33.42000°, λ=-125.21000°. NP2: ϕ_s=150.29000°, δ=63.26000°, λ=-69.17000°. Principal axes: T 1.8219, Plg16.0000°, Azm225.0000°; N 0.0924, Plg19.0000°, Azm321.0000°; P -1.9142, Plg65.0000°, Azm97.0000°;*

NEIC ***03*** *01:52:56.7, 22°.98N× 120°.94E, h12km*

NEIC ***03*** *01:52:56.7, 23°.18N× 121°.00E, h12km, Moment Tensor Solution. Duration: 28 Moment tensor: Scale 10^{17}Nm; M_{rr}=1.51; $M_{\theta\theta}$=1.00; $M_{\phi\phi}$=0.51; $M_{r\theta}$=0.52; $M_{\theta\phi}$=-0.96; $M_{\phi r}$=-0.46; Fault plane solution: M_0=1.77000×10^{17} NP1: ϕ_s=126.03000°, δ=33.50000°, λ=-92.90000°. NP2: ϕ_s=309.51000°, δ=56.55000°, λ=-88.08000°. Principal axes: T 1.8860, Plg12.0000°, Azm38.0000°; N -0.2359, Plg2.0000°, Azm128.0000°; P -1.6500, Plg78.0000°, Azm226.0000°;*

NEIC ***03*** *01:52:56.7, 22°.98N× 120°.94E, h10km*

GCMT ***03*** *01:52:56.6± 0.1, 23°.03N± 0°.01× 120°.80E± 0°.01, h12km, MW5.5/147, Moment Tensor Solution. s105, c171; s147, c287; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}=1.74±.02; $M_{\theta\theta}$=1.16±.02; $M_{\phi\phi}$=0.58±.02; $M_{r\theta}$=0.28±.05; $M_{\theta\phi}$=-1.07±.01; $M_{\phi r}$=0.59±.05; Best double couple: M_0=1.98300×10^{17} NP1:ϕ_s=288.00000°, δ=46.00000°, λ=-118.00000°. NP2:ϕ_s=147.00000°, δ=50.00000°, λ=-63.00000°. Principal axes: T 1.9850, Plg2.0000°, Azm218.0000°; N -0.0010, Plg20.0000°, Azm309.0000°; P -1.9810, Plg70.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***03*** *01:52:57.1, 22°.31N× 121°.18E, h10km, mb5.7, mB_BB6.0, Ms5.6, Hypocentre not reviewed by the ISC*

ISC 03 01:52:56.8±0.4,**22°.95N**±0°.01×**120°.93E**±0°.01,**h11**km±2km, **h12**km:**pP-P, n1714,** σ1**s54**/1715,**mb5.5**/431,**MS5.2**/236, **151C-132D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**0.18**	**132**	Pg	**Pg**	**01 53 01.1**	**+0.3**
TWG				Sg	**Sg**	**01 53 04.2**	**+0.6**
TWG	**Pinlang**	**0.18**	**132**	⇓*iP*	**Pg**	**01 53 01.2**	**+0.3**
TWG				S	**Sg**	**01 53 05.0**	**+1.4**
TWGBT	**Beinan**	**0.19**	**132**	S	**Sg**	**01 53 00.5**	**-3.3**
TWGBT	**Beinan**	**0.19**	**132**	⇓*iP*	**Pg**	**01 53 01.2**	**+0.2**
TWGBT				*e*S	**Sg**	**01 53 04.7**	**+0.9**
LONT	**Longtian**	**0.19**	**102**	⇑P	**Pb**	**01 53 01.4**	**-0.9**
LONT				S	**Sg**	**01 53 05.2**	**+1.4**
ELDTW	**Lidau**	**0.26**	**19**	⇑*iP*	**Pg**	**01 53 01.4**	**-0.8**
ELDTW				*e*S	**Sg**	**01 53 05.7**	**-0.1**
STYH	**Taoyuan**	**0.26**	**328**	⇑*e*P	**Pg**	**01 52 59.5**	**-2.7**
STYH				*e*S	**Sg**	**01 53 02.8**	**-3.1**
STYT	**Tauyuan**	**0.27**	**324**	*e*P	**Pg**	**01 52 59.5**	**-2.8**
STYT				*e*S	**Sg**	**01 53 02.7**	**-3.3**
TTN	**Taitung**	**0.28**	**133**	*e*P	**Pb**	**01 53 03.8**	**0.0**
TTN				*e*S	**Sb**	**01 53 09.3**	**+0.8**
ECS	**Chishang**	**0.31**	**61**	⇑P	**Pb**	**01 53 03.5**	**-0.8**
ECS				*e*S	**Sb**	**01 53 08.5**	**-0.8**
EHD	**Haiduan**	**0.33**	**52**	⇑*iP*	**Pg**	**01 53 02.9**	**-0.6**
EHD				*e*S	**Sg**	**01 53 07.8**	**-0.1**
SSD	**Sandimen**	**0.34**	**234**	⇑*iP*	**Pg**	**01 53 01.3**	**-2.2**
SSD				*e*S	**Sg**	**01 53 05.0**	**-3.0**
SGST	**Jiashian**	**0.34**	**293**	⇓P	**Pg**	**01 53 01.0**	**-2.7**
SGST				*e*S	**Sg**	**01 53 05.5**	**-2.8**
ECL	**Taimali**	**0.35**	**176**	⇑*iP*	**Pg**	**01 53 03.1**	**-0.7**
ECL				S	**Sg**	**01 53 08.1**	**-0.3**
EDH	**Donghe**	**0.35**	**86**	⇑P	**Pb**	**01 53 04.8**	**-0.2**
EDH				*e*S	**Sb**	**01 53 11.0**	**+0.5**
TSMG	**Majia**	**0.35**	**227**	⇑*e*P	**Pg**	**01 53 01.1**	**-2.7**
TSMG				*e*S	**Sg**	**01 53 05.5**	**-3.0**
SCST	**Cishan**	**0.40**	**262**	⇑P	**Pg**	**01 53 03.2**	**-1.5**
SCST				*e*S	**Sg**	**01 53 08.8**	**-1.4**
WTP	**Ta-pu**	**0.41**	**316**	⇓*iP*	**Pg**	**01 53 03.8**	**-1.2**
WTP				S	**Sg**	**01 53 09.3**	**-1.2**
FULB	**Fuli**	**0.42**	**53**	⇑*iP*	**Pb**	**01 53 05.7**	**-0.5**
FULB				S	**Sb**	**01 53 12.9**	**+0.3**
MASBT	**Mashibuluo**	**0.43**	**219**	⇑*iP*	**Pg**	**01 53 03.3**	**-1.9**
MASBT				*e*S	**Sg**	**01 53 08.9**	**-2.0**
CHKT	**Chengkung**	**0.43**	**69**	⇑*iP*	**Pb**	**01 53 06.5**	**+0.1**
CHKT				S	**Sb**	**01 53 14.1**	**+1.2**
CHN1	**Nanshi**	**0.44**	**303**	⇓*iP*	**Pg**	**01 53 04.5**	**-0.9**
CHN1				S	**Sg**	**01 53 10.9**	**-0.3**
TPUB	**Ta-pu**	**0.45**	**322**	Pg	**Pg**	**01 53 04.7**	**-0.9**
TPUB				Sg	**Sg**	**01 53 10.4**	**-1.2**
TPUB	**Ta-pu**	**0.45**	**322**	P	**Pg**	**01 53 04.9**	**-0.7**
TPUB	**Ta-pu**	**0.45**	**322**	S	**Sg**	**01 53 11.3**	**-0.2**
TPUB	**Ta-pu**	**0.45**	**322**	⇓*iP*	**Pg**	**01 53 04.7**	**-0.9**
TPUB				*e*S	**Sg**	**01 53 10.7**	**-0.8**
SGLT	**Jiouru**	**0.46**	**241**	⇑P	**Pg**	**01 53 04.7**	**-1.0**
SGLT				*e*S	**Sg**	**01 53 10.9**	**-0.9**
TSPT	**Pingtung City**	**0.48**	**236**	P	**Pg**	**01 53 05.2**	**-1.0**
TSPT				*e*S	**Sg**	**01 53 11.4**	**-1.1**
SNST	**Tainan City**	**0.48**	**305**	⇓*iP*	**Pg**	**01 53 05.5**	**-0.7**
SNST				*e*S	**Sg**	**01 53 12.9**	**+0.3**
TWM1	**Shoushan**	**0.48**	**255**	⇑*iP*	**Pg**	**01 53 05.3**	**-0.9**
CHKH	**Chenggong**	**0.50**	**60**	⇑P	**Pb**	**01 53 07.0**	**-0.5**
CHKH				*e*S	**Sb**	**01 53 16.5**	**+1.8**
CHN4	**Tsaushan**	**0.51**	**323**	⇓P	**Pg**	**01 53 06.0**	**-0.7**
CHN4				*e*S	**Sg**	**01 53 12.7**	**-0.8**
TWK	**Hsinying**	**0.51**	**309**	⇓P	**Pg**	**01 53 06.0**	**-0.8**
TWK				*e*S	**Sg**	**01 53 13.8**	**+0.1**
TWF1	**Yuli**	**0.53**	**40**	⇑*iP*	**Pg**	**01 53 06.8**	**-0.4**
TWF1				*e*S	**Sg**	**01 53 14.4**	**+0.2**
CHN3	**Shinhua**	**0.53**	**284**	⇑*e*P	**Pg**	**01 53 07.6**	**+0.4**
SHHT	**Tainan City**	**0.54**	**278**	⇑*e*P	**Pg**	**01 53 07.8**	**+0.5**
EYUL	**Yuli**	**0.54**	**42**	⇑*iP*	**Pg**	**01 53 07.0**	**-0.3**
YULB	**Yu-li**	**0.56**	**38**	Pg	**Pg**	**01 53 07.0**	**-0.8**
YULB				Sg	**Sg**	**01 53 14.1**	**-1.1**
YULB	**Yu-li**	**0.56**	**38**	P	**Pg**	**01 53 07.2**	**-0.5**
YULB	**Yu-li**	**0.56**	**38**	S	**Sg**	**01 53 15.4**	**+0.2**
YULB	**Yu-li**	**0.56**	**38**	⇑*iP*	**Pg**	**01 53 07.0**	**-0.8**
EAST	**Anshuo**	**0.56**	**187**	⇑*iP*	**Pg**	**01 53 06.9**	**-0.9**
EAST				*e*S	**Sg**	**01 53 14.8**	**-0.4**
SSPT	**Xinbi**	**0.57**	**216**	⇑*iP*	**Pg**	**01 53 07.8**	**0.0**
SSPT				*e*S	**Sg**	**01 53 14.9**	**-0.4**
LDUT	**Ludao**	**0.57**	**118**	⇓*iP*	**Pb**	**01 53 08.5**	**-0.3**
LDUT				*e*S	**Sb**	**01 53 18.0**	**+1.2**
WCKO	**Fanlu**	**0.57**	**329**	⇑*iP*	**Pg**	**01 53 07.5**	**-0.5**
WCKO				*i*S	**Sg**	**01 53 16.0**	**+0.4**
ALS	**Alishan**	**0.57**	**349**	⇑*iP*	**Pg**	**01 53 07.0**	**-1.0**
ALS				*e*S	**Sg**	**01 53 14.8**	**-0.9**
SNJT	**Kaohsiung City**	**0.58**	**251**	*e*P	**Pg**	**01 53 08.5**	**+0.5**
TAW	**Tawu**	**0.59**	**183**	P	**Pg**	**01 53 07.3**	**-0.9**
TAW				*e*S	**Sg**	**01 53 15.5**	**-0.4**
TAWH	**Dawu Township**	**0.60**	**183**	⇑*iP*	**Pg**	**01 53 07.7**	**-0.8**
TAWH				*e*S	**Sg**	**01 53 17.1**	**+0.6**
ECBN	**Changbin**	**0.61**	**53**	⇑*iP*	**Pb**	**01 53 09.5**	**+0.1**
ECBN				S	**Sn**	**01 53 19.9**	**-1.2**
SSHA	**Shanhua**	**0.62**	**288**	⇑*e*P	**Pb**	**01 53 09.6**	**0.0**
SCZT	**Fangliau**	**0.64**	**206**	⇑*iP*	**Pg**	**01 53 07.5**	**-1.6**
SCZT				*e*S	**Sg**	**01 53 16.0**	**-1.5**
TAI1	**Yung-k'ang**	**0.65**	**278**	⇑*e*P	**Pb**	**01 53 10.1**	**0.0**
EHY	**Hungye**	**0.67**	**33**	⇑*e*P	**Pg**	**01 53 08.9**	**-0.9**
EHYH	**Wanrong**	**0.67**	**35**	⇑*e*P	**Pg**	**01 53 09.0**	**-0.7**
TAI	**Tainan**	**0.67**	**274**	*e*P	**Pg**	**01 53 10.1**	**+0.3**
TAI				*e*S	**Sg**	**01 53 18.2**	**-0.5**
KAU	**Kaohsiung**	**0.68**	**237**	*e*P	**Pg**	**01 53 10.5**	**+0.5**
WSSB	**Gushan**	**0.68**	**244**	⇑*e*P	**Pb**	**01 53 11.0**	**+0.3**
CHN5	**Tsauling**	**0.69**	**341**	⇑*iP*	**Pg**	**01 53 09.3**	**-0.8**
CHN5				S	**Sb**	**01 53 20.4**	**0.0**
SCLT	**Jiali**	**0.71**	**289**	*e*P	**Pg**	**01 53 10.8**	**+0.2**
HGSD	**Ruisui**	**0.71**	**40**	⇑*iP*	**Pb**	**01 53 10.9**	**-0.3**
HGSD				*e*S	**Sn**	**01 53 23.2**	**-0.4**
CHN2	**Minshiung**	**0.72**	**325**	*e*P	**Pg**	**01 53 10.6**	**0.0**
CHN2				*e*S	**Sb**	**01 53 21.7**	**+0.7**
CHY	**Chiayi**	**0.72**	**320**	*e*P	**Pg**	**01 53 10.2**	**-0.5**
CHY				*e*S	**Sb**	**01 53 21.6**	**+0.5**
ICHU	**Yijhu**	**0.72**	**305**	*e*P	**Pg**	**01 53 10.8**	**0.0**
ICHU				*e*S	**Sb**	**01 53 21.9**	**+0.7**
SLIU	**Shizi**	**0.73**	**189**	⇑*e*P	**Pg**	**01 53 09.8**	**-1.2**
WHYT	**Xinyi Township**	**0.75**	**355**	⇑*e*P	**Pg**	**01 53 10.4**	**-0.9**
CHN8	**Yiju**	**0.77**	**301**	*e*P	**Pg**	**01 53 11.5**	**-0.1**
CHN8				*e*S	**Sb**	**01 53 22.7**	**+0.2**
TSCK	**Chigu Township**	**0.80**	**285**	⇑*e*P	**Pg**	**01 53 11.5**	**-0.7**
WGK	**Gukeng**	**0.81**	**336**	⇑*iP*	**Pg**	**01 53 12.5**	**+0.1**
WGK				S	**Sb**	**01 53 24.4**	**+0.7**
WDLH	**Douliu**	**0.82**	**334**	⇑*iP*	**Pg**	**01 53 12.8**	**+0.1**
WDLH				*e*S	**Sn**	**01 53 25.5**	**-0.8**
VWDT	**VWDT**	**0.83**	**14**	⇑*iP*	**Pg**	**01 53 11.5**	**-1.3**
VWDT				*e*S	**Sb**	**01 53 24.4**	**+0.1**
SSLB	**Suanglung**	**0.84**	**2**	Pg	**Pg**	**01 53 11.3**	**-1.7**
SSLB				Sg	**Sg**	**01 53 22.6**	**-1.4**
SSLB	**Suanglung**	**0.84**	**2**	P	**Pg**	**01 53 12.1**	**-0.9**
SSLB	**Suanglung**	**0.84**	**2**	S	**Sb**	**01 53 25.0**	**+0.3**
SSLB	**Suanglung**	**0.84**	**2**	⇑*iP*	**Pg**	**01 53 11.6**	**-1.4**
SSLB				*i*S	**Sb**	**01 53 25.0**	**+0.3**
WDL	**Douliou City**	**0.84**	**335**	⇑*e*P	**Pg**	**01 53 13.2**	**+0.2**
WDL				*e*S	**Sn**	**01 53 26.1**	**-0.8**
WSL	**Shuilin Townsh**	**0.86**	**312**	⇓*e*P	**Pg**	**01 53 13.3**	**-0.1**
WSL				*e*S	**Sb**	**01 53 26.0**	**+0.8**
WARBT	**Fenglin Townsh**	**0.88**	**29**	⇑*iP*	**Pg**	**01 53 12.6**	**-1.2**
WARBT				S	**Sn**	**01 53 27.6**	**-0.2**
WTK	**Tuku**	**0.89**	**326**	*e*P	**Pg**	**01 53 13.5**	**-0.4**
WTK				S	**Sb**	**01 53 26.2**	**+0.2**
WJS	**Zhushan**	**0.89**	**348**	⇑*iP*	**Pg**	**01 53 13.9**	**0.0**
WJS				S	**Sb**	**01 53 26.6**	**+0.4**
SMST	**Manzhou Townsh**	**0.92**	**185**	*e*P	**Pg**	**01 53 13.9**	**-0.7**
SMLT	**Sun Moon Lake**	**0.93**	**359**	⇑*e*P	**Pg**	**01 53 12.8**	**-2.0**
SMLT				*i*S	**Sn**	**01 53 28.6**	**-0.7**
WSF	**Szhu**	**0.94**	**317**	*e*P	**Pg**	**01 53 14.2**	**-0.8**
WSF				*i*S	**Sb**	**01 53 27.9**	**+0.3**
TEGC	**Jichi Village**	**0.95**	**37**	⇑*iP*	**Pg**	**01 53 14.8**	**-0.2**
TEGC				S	**Sn**	**01 53 30.6**	**+1.2**
HEN	**Hengchun**	**0.95**	**191**	⇑*iP*	**Pg**	**01 53 14.7**	**-0.4**
WNT	**Mingjian**	**0.95**	**347**	⇑*iP*	**Pg**	**01 53 15.1**	**-0.1**
WNT				*i*S	**Sn**	**01 53 29.2**	**-0.5**
TYC	**Yuchr**	**0.96**	**356**	⇑*iP*	**Pg**	**01 53 14.4**	**-0.8**
ESL	**Shilin**	**0.98**	**28**	⇑*e*P	**Pg**	**01 53 14.4**	**-1.4**
ESL				S	**Sn**	**01 53 30.7**	**+0.4**
WNT1	**Nantou City**	**0.98**	**347**	⇑P	**Pg**	**01 53 15.7**	**0.0**
WNT1				S	**Sn**	**01 53 29.9**	**-0.5**
SNW	**Nanwan**	**0.99**	**189**	*e*P	**Pn**	**01 53 16.8**	**+0.2**
TWK1	**Hengchun**	**1.00**	**186**	⇑P	**Pg**	**01 53 15.7**	**-0.4**
TWKBT	**Hengchun**	**1.01**	**186**	⇑*iP*	**Pg**	**01 53 15.7**	**-0.5**
OWD	**Renai**	**1.03**	**13**	⇑*e*P	**Pg**	**01 53 14.6**	**-2.0**
OWD				*e*S	**Sn**	**01 53 33.1**	**+1.5**
TSEB	**Hengchuen, Pin**	**1.04**	**181**	⇑P	**Pb**	**01 53 16.6**	**-0.1**
WUSB	**Renai**	**1.06**	**10**	⇑*iP*	**Pg**	**01 53 15.2**	**-1.9**
WUSB				*e*S	**Sn**	**01 53 31.9**	**-0.4**
WPL	**Puli Township**	**1.06**	**2**	*e*P	**Pb**	**01 53 16.0**	**-1.1**
WPL				*e*S	**Sn**	**01 53 32.2**	**-0.1**
LAY	**Lan-yu**	**1.07**	**147**	*e*P	**Pb**	**01 53 15.6**	**-1.7**
RLNB	**Erlin**	**1.07**	**331**	P	**Pb**	**01 53 16.9**	**-0.5**
RLNB				S	**Sb**	**01 53 31.1**	**-0.3**
DPDB	**Guoxing**	**1.08**	**0**	⇑*iP*	**Pb**	**01 53 16.6**	**-0.9**
DPDB				S	**Sn**	**01 53 32.8**	**-0.1**
WTCT	**Ta-ch'eng**	**1.09**	**327**	*e*P	**Pb**	**01 53 16.4**	**-1.2**
WTCT				S	**Sb**	**01 53 31.6**	**-0.2**
WCS	**Beigang Elemen**	**1.11**	**359**	⇑P	**Pb**	**01 53 17.1**	**-0.8**
WCS				*e*S	**Sn**	**01 53 33.7**	**+0.3**
TEYL	**Yanliau Villag**	**1.11**	**34**	⇑P	**Pg**	**01 53 17.8**	**-0.3**
TEYL				*e*S	**Sn**	**01 53 36.9**	**+3.5**
WWF	**Wufeng**	**1.11**	**349**	⇑*e*P	**Pb**	**01 53 17.9**	**-0.1**
WWF				S	**Sn**	**01 53 34.7**	**+0.6**
LYUB	**Lan-yu**	**1.12**	**147**	⇓*e*P	**Pb**	**01 53 15.1**	**-3.0**
LYUB				*e*S	**Sn**	**01 53 34.2**	**+0.6**
ETM	**Tongmen**	**1.14**	**27**	*e*P	**Pb**	**01 53 17.5**	**-1.0**
ETM				*e*S	**Sn**	**01 53 34.5**	**+0.3**
WCH1	**Changhua City**	**1.17**	**343**	*e*P	**Pb**	**01 53 18.4**	**-0.6**
WCH1				S	**Sn**	**01 53 35.5**	**+0.5**
WCHH	**Zhanghua**	**1.18**	**343**	⇑*e*P	**Pb**	**01 53 18.7**	**-0.4**
WCHH				*e*S	**Sg**	**01 53 35.0**	**+0.2**
HWA	**Hwalien**	**1.20**	**31**	⇑*e*P	**Pn**	**01 53 18.7**	**-0.8**
HWA				*e*S	**Sn**	**01 53 38.9**	**+3.2**
WDGT	**Dungji**	**1.21**	**285**	⇑*iP*	**Pn**	**01 53 17.9**	**-1.6**
WDGT				*i*S	**Sb**	**01 53 34.1**	**-1.0**
TCU	**Taichung**	**1.22**	**349**	⇑*e*P	**Pn**	**01 53 19.7**	**0.0**
TCU				*e*S	**Sn**	**01 53 36.9**	**+0.7**
WHF	**Hehuan Shan**	**1.23**	**15**	⇑*iP*	**Pb**	**01 53 18.6**	**-1.7**
TWD	**Chiawan**	**1.29**	**28**	*e*P	**Pn**	**01 53 19.6**	**-1.0**
TWD				S	**Sg**	**01 53 39.5**	**+1.3**
TDCB	**Techi**	**1.32**	**9**	⇑*iP*	**Pn**	**01 53 20.1**	**-1.2**
TDCB				*e*S	**Sg**	**01 53 41.5**	**+2.2**
TWT	**Tachien**	**1.32**	**10**	⇑*e*P	**Pn**	**01 53 19.8**	**-1.5**
TWT				*e*S	**Sg**	**01 53 40.5**	**+1.0**
WHP	**Taichung City**	**1.33**	**1**	⇑P	**Pn**	**01 53 21.1**	**-0.2**
WHP				*e*S	**Sg**	**01 53 41.0**	**+1.4**
FUSS	**Fushou**	**1.33**	**13**	⇑*e*P	**Pn**	**01 53 20.0**	**-1.4**
FUSS				*e*S	**Sg**	**01 53 40.9**	**+1.3**
ETLH	**Xiulin Townshi**	**1.35**	**22**	⇑*iP*	**Pn**	**01 53 21.0**	**-0.7**
ETLH				S	**Sg**	**01 53 41.0**	**+0.5**
ETL	**Fush Village**	**1.37**	**28**	*e*P	**Pn**	**01 53 21.8**	**+0.1**
ETL				S	**Sg**	**01 53 41.5**	**+0.7**
PHUB	**P'eng-hu**	**1.37**	**295**	⇑*iP*	**Pn**	**01 53 20.1**	**-1.6**
PHUB				*e*S	**Sn**	**01 53 38.2**	**-1.6**
NACB	**Ninganchiao**	**1.37**	**27**		**Pn**	**01 53 21.0**	**-0.8**
NACB					**Sb**	**01 53 39.5**	**-0.4**
NACB	**Ninganchiao**	**1.37**	**27**	P	**Pn**	**01 53 21.8**	**0.0**
NACB	**Ninganchiao**	**1.37**	**27**	S	**Sg**	**01 53 42.4**	**+1.5**
NACB	**Ninganchiao**	**1.37**	**27**	⇑*e*P	**Pn**	**01 53 20.4**	**-1.4**
NACB				*i*S	**Sg**	**01 53 40.4**	**-0.5**
VCHM	**Qimei**	**1.40**	**281**	⇑*iP*	**Pn**	**01 53 20.6**	**-1.6**
VCHM				*e*S	**Sn**	**01 53 38.4**	**-2.3**
TWQ1	**Liyutan**	**1.40**	**354**	⇑*iP*	**Pb**	**01 53 22.9**	**-0.1**
TWQ1				*e*S	**Sg**	**01 53 42.7**	**+0.7**
PNG	**Penghu**	**1.40**	**296**	*e*P	**Pn**	**01 53 20.9**	**-1.4**
PNG				*e*S	**Sn**	**01 53 38.7**	**-2.0**
NNSB	**Datong**	**1.54**	**16**	⇑*iP*	**Pn**	**01 53 24.0**	**-0.2**
NNSB				S	**Sg**	**01 53 46.1**	**-0.1**
NNSH	**Datong**	**1.54**	**16**	*e*P	**Pn**	**01 53 24.1**	**-0.1**
NNSH				*e*S	**Sg**	**01 53 45.5**	**-0.7**
NNS	**Nan Shan**	**1.54**	**15**	⇑P	**Pn**	**01 53 24.0**	**-0.3**
EHP	**Heping Village**	**1.55**	**29**	*e*P	**Pb**	**01 53 25.4**	**-0.1**
EHP				*e*S	**Sb**	**01 53 45.5**	**+0.4**
EAHA	**Aohua**	**1.57**	**28**	⇑*e*P	**Pn**	**01 53 24.0**	**-0.5**
EAHA				S	**Sg**	**01 53 47.3**	**0.0**
NMLH	**Miaoli**	**1.59**	**356**	*e*P	**Pb**	**01 53 25.7**	**-0.4**
ENA	**Nanau**	**1.65**	**27**	*e*P	**Pb**	**01 53 26.4**	**-0.8**
ENA				*e*S	**Sg**	**01 53 48.9**	**-1.1**
LATG	**Datong**	**1.68**	**19**	⇑*iP*	**Pn**	**01 53 26.4**	**+0.3**
LATG				*i*S	**Sg**	**01 53 49.6**	**-1.2**
NSTT	**Nanjuang**	**1.68**	**2**	P	**Pb**	**01 53 27.1**	**-0.6**
EWUT	**Wuta**	**1.69**	**27**	⇑*e*P	**Pn**	**01 53 26.6**	**+0.5**
EWUT				*e*S	**Sg**	**01 53 50.2**	**-0.9**
NFF	**Wufeng Townshi**	**1.69**	**6**	P	**Pb**	**01 53 27.4**	**-0.5**
NFF				*e*S	**Sg**	**01 53 50.6**	**-0.5**
LIOB	**Emei**	**1.69**	**3**	⇓P	**Pb**	**01 53 27.1**	**-0.9**
LIOB				*e*S	**Sg**	**01 53 50.6**	**-0.7**
NJN	**Zhunan**	**1.73**	**358**	*e*P	**Pn**	**01 53 27.5**	**+0.8**
NJN				*e*S	**Sg**	**01 53 51.6**	**-0.9**
EOS4	**EOS4**	**1.73**	**47**	*e*P	**Pn**	**01 53 26.3**	**-0.2**
EOS4				*e*S	**Sb**	**01 53 50.5**	**+0.5**
YHNB	**Yeheng**	**1.77**	**13**		**Pn**	**01 53 27.0**	**-0.3**
YHNB	**Yeheng**	**1.77**	**13**	P	**Pb**	**01 53 29.6**	**+0.4**
YHNB	**Yeheng**	**1.77**	**13**	S	**Sg**	**01 53 53.5**	**-0.1**
NSK	**Sanguang**	**1.77**	**13**	⇑*e*P	**Pn**	**01 53 28.0**	**+0.7**
NSK				*e*S	**Sg**	**01 53 52.9**	**-0.7**
ENTT	**Nioudou**	**1.79**	**19**	*e*P	**Pn**	**01 53 28.2**	**+0.7**
NJD	**Zhudong**	**1.79**	**5**	*e*P	**Pg**	**01 53 30.4**	**-0.7**
HSN1	**Hsinchu**	**1.83**	**3**	*e*P	**Pn**	**01 53 29.1**	**+1.0**
ESAO	**Su ao**	**1.83**	**27**	⇑*e*P	**Pb**	**01 53 29.6**	**-0.7**
ESAO				*e*S	**Sb**	**01 53 53.6**	**+0.5**
NDS	**Dongshan**	**1.83**	**23**	⇑*e*P	**Pb**	**01 53 29.5**	**-0.7**
KSHI	**Guanxi Townshi**	**1.84**	**7**	*e*P	**Pb**	**01 53 29.5**	**-0.9**
SBCB	**Hsinchu**	**1.84**	**2**	⇓*e*P	**Pn**	**01 53 29.0**	**+0.8**
EOS3	**EOS3**	**1.85**	**43**	*e*P	**Pn**	**01 53 28.5**	**+0.3**
HSN	**Hsinchu**	**1.85**	**1**	*e*P	**Pb**	**01 53 30.0**	**-0.5**
TWC	**Suao**	**1.86**	**27**	*e*P	**Pn**	**01 53 29.4**	**+0.9**
TWC				*e*S	**Sb**	**01 53 54.9**	**+0.9**
EOS2	**EOS2**	**1.89**	**39**	*e*P	**Pn**	**01 53 29.4**	**+0.5**
TWE	**Neicheng**	**1.89**	**21**	*e*P	**Pb**	**01 53 30.2**	**-1.1**
NWLT	**Wulai**	**1.90**	**16**	⇑*e*P	**Pb**	**01 53 30.4**	**-1.0**
NWLT				*e*S	**Sg**	**01 53 56.5**	**-1.4**
FUSB	**Fushanzhiwuyua**	**1.91**	**18**	⇑*e*P	**Pb**	**01 53 31.4**	**-0.2**
FUSB				S	**Sb**	**01 53 55.9**	**+0.5**
ILA	**Ilan**	**1.96**	**22**	⇓*e*P	**Pb**	**01 53 32.8**	**+0.3**
NCUH	**Zhongli**	**2.03**	**7**	*e*P	**Pn**	**01 53 32.0**	**+1.2**
NCU	**National Centr**	**2.03**	**7**	*e*P	**Pb**	**01 53 32.5**	**-1.1**
NHW	**Xinwu Township**	**2.06**	**3**	*e*P	**Pn**	**01 53 32.5**	**+1.2**
TATO	**Taipei**	**2.08**	**14**	Pn	**Pn**	**01 53 32.2**	**+0.6**
TATO	**Taipei**	**2.08**	**14**	P	**Pb**	**01 53 35.1**	**+0.5**
TATO				P	**Pg**	**01 53 36.2**	**-0.5**
TATO				S	**Sg**	**01 54 03.1**	**-0.7**
TATO	**Taipei**	**2.08**	**14**	P	**Pb**	**01 53 33.8**	**-0.8**
TATO	**Taipei**	**2.08**	**14**	S	**Sb**	**01 54 01.0**	**+0.5**
TATO	**Taipei**	**2.08**	**14**	*e*P	**Pb**	**01 53 33.7**	**-0.8**
BACT	**New

NJ2				LR	LR		
	comp=E,55μm,6.1s						
NJ2				LR	LR		
	comp=E,42μm,5.1s						
WHN	**Wuhan**	**9.58**	**324**	⇓P	**Pn**	**01 55 14.0**	**-0.6**
WHN				sP		01 55 18.9	
WHN				S	**Sn**	**01 57 00.5**	**-1.7**
WHN				pmax	pmax		
	comp=E,240nm,1.2s						
WHN				LR	LR		
	comp=E,89μm,4.9s						
WHN				LR	LR		
	comp=E,101μm,10.0s						
WHN				LR	LR		
	comp=E,76μm,8.3s						
JMZ	**Minamidaito 2**	**9.81**	**71**	Pn	**Pn**	**01 55 16.6**	**-1.2**
JMZ	**Minamidaito 2**	**9.81**	**71**	P	**Pn**	**01 55 17.8**	**0.0**
JMZ	**Minamidaito 2**	**9.81**	**71**	*e*P	**Pn**	**01 55 16.8**	**-1.0**
GULI	**GuiLin**	**9.92**	**286**	P	**Pn**	**01 55 20.1**	**+0.8**
GULI				pmax	pmax		
	comp=E,83nm,1.2s						
GULI				LR	LR		
	comp=E,16μm,7.4s						
GULI				LR	LR		
	comp=E,21μm,8.8s						
GULI				LR	LR		
	comp=E,24μm,6.6s						
QIZ	**Qiongzhong**	**11.06**	**251**	Pn	**Pn**	**01 55 34.0**	**-1.0**
QIZ	**Qiongzhong**	**11.06**	**251**	P	**Pn**	**01 55 35.0**	**+0.1**
QIZ				PP	**PnPn**	**01 55 42.2**	**-0.5**
QIZ				S	**Sn**	**01 57 39.5**	**+0.8**
QIZ				pmax	pmax		
	comp=E,95nm,1.0s						
QIZ				pmax	pmax		
	comp=E,740nm,3.9s						
QIZ				LR	LR		
	comp=E,38μm,15.6s						
QIZ				LR	LR		
	comp=E,43μm,14.1s						
QIZ				LR	LR		
	comp=E,54μm,14.1s						
ENH	**Enshi**	**12.56**	**308**	Pn	**Pn**	**01 55 55.2**	**-0.2**
JNU	**Nakatsue**	**13.41**	**39**	Pn	**Pn**	**01 56 07.4**	**+0.4**
JNU	**Nakatsue**	**13.41**	**39**	Pn	**Pn**	**01 56 07.8**	**+0.8**
	comp=E,0.5nm,0.3s,baz=215,slow=7.9,SNR=11						
JNU				LR	LR	02 02 12.8	
	comp=E,8μm,20.2s,baz=220,slow=42						
	comp=E,39nm,1.1s						
JNU	**Nakatsue**	**13.41**	**39**	P	**Pn**	**01 56 07.3**	**+0.3**
GYA	**Guiyang**	**13.43**	**288**	⇓P	**Pn**	**01 56 09.4**	**+2.0**
GYA				S	**Sn**	**01 58 38.5**	**+1.8**
GYA				pmax	pmax		
	comp=E,140nm,1.2s						
GYA				LR	LR		
	comp=E,20μm,7.2s						
GYA				LR	LR		
	comp=E,16μm,7.7s						
GYA				LR	LR		
	comp=E,15μm,9.5s						
TIA	**Tai'an**	**13.62**	**347**	P	**Pn**	**01 56 09.7**	**-0.2**
TIA				PP	**PnPn**	**01 56 14.8**	**-3.2**
TIA				S	**Sn**	**01 58 34.8**	**-6.5**
TIA				SS	**SnSn**	**01 58 53.2**	**-0.8**
TIA				pmax	pmax		
	comp=E,60nm,1.1s						
TIA				LR	LR		
	comp=E,22μm,12.2s						
TIA				LR	LR		
	comp=E,54μm,13.9s						
TIA				LR	LR		
	comp=E,30μm,14.9s						
JTU	**Tsushima**	**13.71**	**31**	P	**Pn**	**01 56 11.9**	**+0.8**
LYN	**LuoYang**	**13.73**	**329**	P	**Pn**	**01 56 10.6**	**-0.7**
LYN				sP	P	01 56 15.8	-4.2
LYN				PP	**PnPn**	**01 56 21.0**	**+1.6**
LYN				S	**Sn**	**01 58 48.7**	**+4.9**
LYN				pmax	pmax		
	comp=E,38nm,1.0s						
LYN				pmax	pmax		
	comp=E,2μm,4.2s						
LYN				LR	LR		
	comp=E,24μm,8.1s						
LYN				LR	LR		
	comp=E,38μm,8.5s						
LYN				LR	LR		
	comp=E,32μm,9.0s						
TJN	**Taejon**	**14.50**	**21**		**P**	**01 56 28.1**	**-0.4**
TJN	**Taejon**	**14.50**	**21**	*d i*P	**Pn**	**01 56 23.8**	**+1.9**
XAN	**Xi'an**	**15.27**	**319**	⇑P	**Pn**	**01 56 32.3**	**0.0**
XAN				pP	pP	01 56 39.3	-1.7
XAN				sP	sP	01 56 44.7	+2.0
XAN				S	**S**	**01 59 30.1**	**-8.0**
XAN				pmax	pmax		
	comp=E,120nm,1.9s						
XAN				pmax	pmax		
	comp=E,2μm,5.6s						
XAN				LR	LR		
	comp=E,32μm,6.5s						
XAN				LR	LR		
	comp=E,27μm,7.6s						
XAN				LR	LR		
	comp=E,16μm,5.8s						
INCN	**Inchon**	**15.30**	**17**	Pn	**Pn**	**01 56 34.0**	**+1.4**
INCN	**Inchon**	**15.30**	**17**	P	**P**	**01 56 36.0**	**-1.5**
INCN	**Inchon**	**15.30**	**17**	P	**Pn**	**01 56 34.1**	**+1.4**
INCN				pmax	pmax		
	comp=Z,226nm,1.5s						
HNS	**HongShan**	**15.37**	**341**	⇓P	**Pn**	**01 56 35.4**	**+1.9**
HNS				SS	**SnSn**	**01 59 35.6**	**-1.2**
HNS				pmax	pmax		
	comp=Z,400nm,1.2s						
HNS				pmax	pmax		
	comp=Z,4μm,4.9s						
HNS				LR	LR		
	comp=Z,18μm,13.3s						
HNS				LR	LR		
	comp=Z,20μm,13.9s						
HNS				LR	LR		
	comp=Z,19μm,15.7s						
KSAR	**Wonju Array Be**	**15.64**	**21**	Pn	**Pn**	**01 56 37.1**	**0.0**
KSAR	**Wonju Array Be**	**15.64**	**21**	P	**Pn**	**01 56 37.1**	**0.0**
JMN	**Monobe**	**15.65**	**44**	Pn	**Pn**	**01 56 37.3**	**0.0**
KSRS	**Korea Array**	**15.66**	**21**	Pn	**Pn**	**01 56 38.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=200,slow=12,SNR=51						
KSRS				LR	LR	02 03 16.1	
	comp=Z,7μm,20.7s,baz=210,slow=40						
	comp=Z,68nm,1.0s						
KS19	**Wonju Array Si**	**15.69**	**21**	Pn	**Pn**	**01 56 38.1**	**+0.3**
SLVN	**Son La**	**15.85**	**267**	Pn	**Pn**	**01 56 39.6**	**-0.4**
DL2	**Dalian**	**15.92**	**2**	⇓*i*P	**P**	**01 56 43.4**	**-0.9**
DL2				pP	**sP**	**01 56 50.1**	**+0.4**
DL2				S	**S**	**01 59 45.7**	**-5.6**
DL2				pmax	pmax		
	comp=Z,300nm,1.3s						
DL2				pmax	pmax		
	comp=Z,3μm,4.3s						
DL2				LR	LR		
	comp=Z,14μm,14.2s						
DL2				LR	LR		
	comp=Z,28μm,12.3s						
DL2				LR	LR		
	comp=Z,22μm,10.0s						
DLV	**Lat**	**16.13**	**229**	P	**P**	**01 56 45.5**	**-1.5**
DAV	**Davao City (W)**	**16.41**	**163**	P	Pn	01 56 39.0	-8.1
TIY	**Taiyuan**	**16.43**	**336**	*e*P	**P**	**01 56 50.7**	**+0.6**
TIY				PP	**PnPn**	**01 57 03.7**	**+7.2**
TIY				SS	**SnSn**	**02 00 10.2**	**+7.2**
TIY				pmax	pmax		
	comp=Z,170nm,1.0s						
TIY				pmax	pmax		
	comp=Z,2μm,6.3s						
TIY				LR	LR		
	comp=Z,23μm,12.9s						
TIY				LR	LR		
	comp=Z,17μm,12.3s						
TIY				LR	LR		
	comp=Z,24μm,12.9s						
UBPT	**Khong Chiam**	**16.47**	**245**	Pn	**Pn**	**01 56 48.5**	**+0.6**
KMI	**Kunming**	**16.75**	**281**	P	**Pn**	**01 56 50.8**	**-0.9**
KMI				S	**Sn**	**01 59 59.9**	**+2.0**
KMI				pmax	pmax		
	comp=Z,110nm,1.5s						
KMI				pmax	pmax		
	comp=Z,610nm,6.0s						
KMI				LR	LR		
	comp=Z,11μm,8.7s						
KMI				LR	LR		
	comp=Z,8μm,8.1s						
KMI				LR	LR		
	comp=Z,9μm,12.8s						
CD2	**Chengdu**	**17.23**	**301**	P	**P**	**01 56 59.3**	**+0.3**
CD2				S	**S**	**02 00 15.3**	**-3.0**
CD2				SS	**SnSn**	**02 00 29.9**	**+7.4**
CD2				pmax	pmax		
	comp=Z,110nm,1.1s						
CD2				pmax	pmax		
	comp=Z,1μm,4.9s						
CD2				LR	LR		
	comp=Z,33μm,5.4s						
CD2				LR	LR		
	comp=Z,31μm,9.1s						
KKM	**Kota Kinabalu**	**17.41**	**196**		**P**	**01 57 01.1**	**0.0**
KKM				IAmb	IAmb	01 57 07.0	
	comp=Z,692nm,1.8s						
BJT	**Baijiatuau**	**17.49**	**348**		**P**	**01 57 01.4**	**-0.3**
BJT	**Baijiatuau**	**17.49**	**348**	P	**P**	**01 57 01.5**	**-0.3**
BJT				pmax	pmax		
	comp=Z,79nm,0.9s						
BJI	**Beijing**	**17.51**	**348**	P	**P**	**01 57 02.5**	**+0.6**
BJI				sP	**sP**	**01 57 08.0**	**+0.5**
BJI				S	**S**	**02 00 21.0**	**-2.8**
BJI				pmax	pmax		
	comp=Z,47nm,0.8s						
BJI				pmax	pmax		
	comp=Z,2μm,4.5s						
BJI				LR	LR		
	comp=Z,6μm,13.4s						
BJI				LR	LR		
	comp=Z,5μm,12.2s						
BJI				LR	LR		
	comp=Z,7μm,12.3s						
PZH	**PanZhiHua**	**17.78**	**285**	P	**Pn**	**01 57 03.6**	**-0.8**
PZH				S	**Sn**	**02 00 18.7**	**-4.0**
PZH				pmax	pmax		
	comp=Z,90nm,1.6s						
PZH				pmax	pmax		
	comp=Z,1μm,9.0s						
PZH				LR	LR		
	comp=Z,9μm,10.5s						
PZH				LR	LR		
	comp=Z,11μm,9.0s						
PZH				LR	LR		
	comp=Z,13μm,9.4s						
MYLDM	**Lahad Datu**	**17.82**	**188**		**P**	**01 57 07.4**	**+1.9**
MYLDM				IAmb	IAmb	01 57 12.5	
	comp=Z,603nm,2.0s						
INU	**Inuyama**	**18.68**	**45**	P	**Pn**	**01 57 16.1**	**+0.8**
INU				IAmb	IAmb	01 57 25.0	
	comp=Z,295nm,1.0s						
INU	**Inuyama**	**18.68**	**45**	P	**Pn**	**01 57 16.8**	**+1.5**
SNY	**Shenyang**	**18.96**	**6**	⇓P	**Pn**	**01 57 19.0**	**+0.5**
SNY				pmax	pmax		
	comp=Z,50nm,1.9s						
SNY				pmax	pmax		
	comp=Z,3μm,7.6s						
SNY				LR	LR		
	comp=Z,7μm,10.9s						
SNY				LR	LR		
	comp=Z,12μm,11.4s						
SNY				LR	LR		
	comp=Z,12μm,9.0s						
JGF	**Kuroka**	**19.06**	**45**	P	**P**	**01 57 19.1**	**+0.1**
JGF	**Kuroka**	**19.06**	**45**	P	**Pn**	**01 57 20.5**	**+0.6**
CRAI	**Chiangrai**	**19.30**	**266**	P	**Pn**	**01 57 22.6**	**-0.3**
CRAI				IAmb	IAmb	01 57 31.2	
	comp=Z,323nm,1.4s						
JHJ	**Hachijo jima 2**	**19.46**	**55**	P	**Pn**	**01 57 24.7**	**0.0**
	comp=Z,4.6nm,0.3s,baz=247,slow=2.0,SNR=5.9						
JHJ				LR	LR	02 05 17.7	
	comp=Z,3μm,18.9s,baz=248,slow=38						
	comp=Z,168nm,0.8s						
JHJ2	**Mitsune**	**19.48**	**55**	P	**P**	**01 57 23.5**	**-0.2**
HHC	**Hu-ho-hao-te**	**19.52**	**338**	⇓*i*P	**Pn**	**01 57 26.6**	**+1.2**
HHC				pP	sP	01 57 30.1	+0.4
HHC				PP	**PnPn**	**01 57 45.6**	**+6.8**
HHC				S	**Sn**	**02 01 00.1**	**-4.3**
HHC				sS	S	02 01 06.9	+2.3
HHC				SS	**SnSn**	**02 01 28.3**	**+9.5**
HHC				pmax	pmax		
	comp=Z,110nm,1.3s						
HHC				pmax	pmax		
	comp=Z,2μm,5.2s						
HHC				LR	LR		
	comp=Z,11μm,14.1s						
HHC				LR	LR		
	comp=Z,9μm,11.5s						
HHC				LR	LR		
	comp=Z,14μm,14.1s						
JCJ	**Chichijima**	**19.70**	**74**	P	**P**	**01 57 25.6**	**-0.5**
JCJ	**Chichijima**	**19.70**	**74**	P	**P**	**01 57 26.0**	**-0.1**
	comp=Z,7.4nm,0.3s,baz=64,slow=4.9,SNR=7.9						
JCJ				LR	LR	02 03 32.9	
	comp=Z,2μm,19.2s,baz=252,slow=32						
	comp=Z,96nm,0.6s						
LZH	**Lanzhou**	**19.77**	**315**	⇓P	**Pn**	**01 57 29.2**	**+0.7**
LZH				sP	sP	01 57 35.5	+3.0
LZH				pmax	pmax		
	comp=Z,170nm,1.2s						
LZH				pmax	pmax		
	comp=Z,3μm,4.3s						
LZH				LR	LR		
	comp=Z,11μm,9.6s						
LZH				LR	LR		
	comp=Z,12μm,9.1s						
LZH				LR	LR		
	comp=Z,16μm,11.0s						
BTO	**Baotou**	**19.87**	**335**	*e*P	**Pn**	**01 57 30.8**	**+1.2**
BTO				sP	**sP**	**01 57 39.4**	**+5.9**
BTO				SS	**SnSn**	**02 01 35.8**	**+8.4**
BTO				pmax	pmax		
	comp=Z,130nm,1.0s						
BTO				pmax	pmax		
	comp=Z,2μm,3.6s						
BTO				LR	LR		
	comp=Z,39μm,11.9s						
BTO				LR	LR		
	comp=Z,23μm,9.0s						
BTO				LR	LR		
	comp=Z,49μm,12.2s						
MAJO	**Matsushiro**	**20.17**	**44**	P	**P**	**01 57 30.6**	**-0.6**
MAJO				IAmb	IAmb	01 57 37.5	
	comp=Z,292nm,1.1s						
MAJO	**Matsushiro**	**20.17**	**44**	*de*P	Pn	01 57 32.5	-0.7
MAJO				pmax	pmax		
	comp=Z,243nm,1.2s						
MJB9	**Matsu-Tunnel**	**20.17**	**44**	P	**P**	**01 57 31.2**	**-0.1**
MJB9				IAmb	IAmb	01 57 38.5	
	comp=Z,312nm,1.1s						
MJAR	**Matsushiro Arr**	**20.18**	**44**	P	Pn	01 57 32.2	-1.0
	comp=Z,256nm,1.0s,baz=228,slow=7.6,SNR=95						
MJAR				LR	LR	02 05 57.8	
	comp=Z,5μm,20.7s,baz=224,slow=39						
	comp=Z,256nm,1.0s						
TNCH	**TengChong**	**20.57**	**280**	⇓P	Pn	01 57 38.2	+0.1
TNCH				pP	pP	01 57 40.1	+0.4
TNCH				sP	sP	01 57 44.2	+2.8
TNCH				PP	**PnPn**	**01 57 58.7**	**+5.3**
TNCH				S	Sn	02 01 28.9	-1.4
TNCH				pmax	pmax		
	comp=Z,450nm,1.2s						
TNCH				pmax	pmax		
	comp=Z,3μm,3.8s						
TNCH				LR	LR		
	comp=Z,10μm,8.5s						
TNCH				LR	LR		
	comp=Z,6μm,6.8s						
TNCH				LR	LR		
	comp=Z,10μm,13.0s						
CHTO	**Chiang Mai**	**20.94**	**263**	P	**P**	**01 57 40.1**	**+0.5**
CHTO				IAmb	IAmb	01 57 49.4	
	comp=Z,342nm,1.4s						
CHTO				IAMs_20	IAMs_20	02 07 06.9	
	comp=Z,9μm,19.0s						
CHTO	**Chiang Mai**	**20.94**	**263**	P	Pn	01 57 42.0	-0.3
CHTO	**Chiang Mai**	**20.94**	**263**	P	**P**	**01 57 41.0**	**+1.3**
CHTO	**Chiang Mai**	**20.94**	**263**	P	**P**	**01 57 40.2**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,342nm,1.4s						
CHTO				MLR	MLR		
	comp=Z,9μm,19.0s						
CM31	**Chiang Mai Arr**	**21.04**	**262**	P	**P**	**01 57 43.2**	**+2.4**
	SNR=56						
CM31				P	**P**	**01 57 43.2**	**+2.4**
	SNR=56						
CMAR	**Chiang Mai Arr**	**21.04**	**262**	P	**P**	**01 57 42.4**	**+1.7**
CMAR	**Chiang Mai Arr**	**21.04**	**262**	P	**P**	**01 57 42.9**	**+2.1**
	comp=Z,61nm,1.2s,baz=68,slow=8.6,SNR=120						
CMAR				PcP	**PcP**	**02 01 49.5**	**+1.9**
	comp=Z,6.7nm,0.7s,baz=71,slow=1.1,SNR=12						
CMAR				LR	LR	02 07 20.7	
	comp=Z,7μm,19.5s,baz=75,slow=41						
	comp=Z,61nm,1.2s						
CN2	**Changchun**	**21.13**	**9**	P	**P**	**01 57 41.6**	**0.0**
CN2				S	**S**	**02 01 32.1**	**-4.4**
CN2				pmax	pmax		
	comp=Z,30nm,0.7s						
CN2				pmax	pmax		
	comp=Z,2μm,5.0s						
CN2				LR	LR		
	comp=Z,9μm,9.0s						
CN2				LR	LR		
	comp=Z,6μm,9.0s						
CN2				LR	LR		
	comp=Z,9μm,10.0s						
XLT	**XiLinHaoTe**	**21.28**	**350**	*e*P	**P**	**01 57 44.0**	**+0.8**
XLT				S	**S**	**02 01 36.3**	**-3.2**
XLT				SS	**SnSn**	**02 02 11.0**	**+9.0**
XLT				pmax	pmax		
	comp=Z,230nm,1.2s						
XLT				pmax	pmax		
	comp=Z,1μm,4.3s						
XLT				LR	LR		
	comp=Z,13μm,14.3s						
XLT				LR	LR		
	comp=Z,9μm,13.5s						
PSTR	**Posyet**	**21.30**	**20**	*de*P	**P**	**01 57 43.2**	**-0.2**
MSHR	**Mys Shultsa**	**21.36**	**21**	*de*P	**P**	**01 57 43.6**	**-0.3**
MSHR				pmax	pmax		
	comp=Z,88nm,1.0s						
TOLI2	**Tolitoli**	**21.70**	**180**	P	**P**	**01 57 47.8**	**-0.1**
TOLI2				IAmb	IAmb	01 57 54.6	
	comp=Z,184nm,1.0s						
SBUM	**Sibu**	**22.05**	**204**	P	**P**	**01 57 51.8**	**+0.1**
SBUM	**Sibu**	**22.05**	**204**	P	**P**	**01 57 52.0**	**+0.4**
VLA	**Vladivostok**	**22.08**	**22**	*ce*P	**P**	**01 57 52.0**	**+0.3**
VLA				pmax	pmax		
	comp=Z,32nm,1.1s						
MRSI	**Marisa**	**22.36**	**177**	P	**P**	**01 57 55.8**	**+0.9**
	comp=Z,6μmcomp=Z,6μmcomp=Z,367nm,1.1s						
KMSI	**Cibinong**	**22.43**	**172**	P	**P**	**01 57 56.8**	**+1.1**
	comp=Z,6μmcomp=Z,672nm,1.4s						
JMM	**Marumori**	**22.62**	**44**	P	**P**	**01 57 54.5**	**-3.0**
JMM				IAmb	IAmb	01 58 02.7	
	comp=Z,253nm,1.0s						
JMM	**Marumori**	**22.62**	**44**	P	**P**	**01 57 56.8**	**-0.8**
MDJ	**Mudanjiang**	**22.76**	**16**	IAMs_20	IAMs_20	02 07 18.6	
	comp=Z,7μm,19.0s						
MDJ	**Mudanjiang**	**22.76**	**16**	P	**P**	**01 57 58.4**	**-0.5**
MDJ				S	**S**	**02 01 57.3**	**-10**
MDJ				pmax	pmax		
	comp=Z,24nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,2μm,5.1s						
MDJ				LR	LR		
	comp=Z,13μm,17.3s						
MDJ				LR	LR		
	comp=Z,20μm,18.8s						
MDJ				LR	LR		
	comp=Z,12μm,15.4s						
TNTI	**Ternate**	**22.91**	**163**	P	**P**	**01 58 00.2**	**-0.5**
TNTI				IAmb	IAmb	01 58 06.5	
	comp=Z,241nm,1.3s						
TNTI	**Ternate**	**22.91**	**163**	P	**P**	**01 58 01.5**	**+0.7**
	comp=Z,2μmcomp=Z,138nm,1.8s						
USRK	**Ussuriysk Ar.**	**23.07**	**21**	P	**P**	**01 58 01.1**	**-1.2**
USRK	**Ussuriysk Ar.**	**23.07**	**21**	P	**P**	**01 58 02.9**	**+0.7**
	comp=Z,48nm,1.0s,baz=203,slow=8.5,SNR=32						
USRK				LR	LR	02 08 38.2	
	comp=Z,3μm,19.6s,baz=194,slow=41						
	comp=Z,48nm,1.0s						
USA0B	**Ussuriysk Arra**	**23.07**	**21**	P	**P**	**01 58 00.9**	**-1.3**
USA0B	**Ussuriysk Arra**	**23.07**	**21**	*de*P	**P**	**01 58 01.1**	**-1.1**
BNX	**BinXian**	**23.34**	**12**	⇑P	**P**	**01 58 03.9**	**-1.1**
BNX				pP	**pP**	**01 58 08.4**	**-0.5**
BNX				S	**S**	**02 02 13.5**	**-4.0**
BNX				pmax	pmax		
	comp=Z,17nm,0.9s						
BNX				pmax	pmax		
	comp=Z,2μm,6.4s						
BNX				LR	LR		
	comp=Z,5μm,13.5s						
BNX				LR	LR		
	comp=Z,7μm,10.9s						
BNX				LR	LR		
	comp=Z,9μm,10.9s						
SMKI	**Samarinda**	**23.53**	**189**	P	**P**	**01 58 08.9**	**+1.8**
KSM	**Kuching**	**23.70**	**207**	IAmb	IAmb	01 58 13.8	
	comp=Z,106nm,1.0s						
APSI	**Ampana**	**23.72**	**178**	P	**P**	**01 58 10.1**	**+1.2**
	comp=Z,7μmcomp=Z,450nm,1.1s						
PCI	**Palu**	**23.73**	**183**	P	**P**	**01 58 09.7**	**+0.7**
	comp=Z,9μmcomp=Z,8μmcomp=Z,216nm,1.0s						
LUWI	**Luwuk**	**23.91**	**175**	P	**P**	**01 58 08.9**	**-1.8**
LUWI	**Luwuk**	**23.91**	**175**	P	**P**	**01 58 09.6**	**-1.1**
GTA	**Gaotai**	**24.31**	**317**	P	**P**	**01 58 15.9**	**+1.4**
GTA				sP	sP	01 58 24.3	+4.0
GTA				PcP	**PcP**	**02 01 55.4**	**+1.2**
GTA				S	**S**	**02 02 38.7**	**+5.2**
GTA				pmax	pmax		
	comp=Z,150nm,1.5s						
GTA				pmax	pmax		
	comp=Z,2μm,5.4s						
GTA				LR	LR		
	comp=Z,6μm,10.2s						
GTA				LR	LR		
	comp=Z,4μm,11.3s						
GTA				LR	LR		
	comp=Z,6μm,12.0s						
BKB	**Balikpapan**	**24.38**	**190**	P	**P**	**01 58 16.3**	**+1.2**
	comp=Z,8μmcomp=Z,541nm,2.1s						
STKI	**Sintang**	**24.53**	**203**	P	**P**	**01 58 18.0**	**+1.5**
	comp=Z,180nm,0.9s						
GUMO	**Guam**	**24.54**	**108**	LR	LR	02 06 58.3	
	comp=Z,3μm,19.4s,baz=292,slow=34						
JTM	**Tenmabayashi**	**24.58**	**39**	IAmb	IAmb	01 58 22.3	
	comp=Z,163nm,1.2s						
SRIT	**Nakonsritamara**	**24.94**	**239**	IAmb	IAmb	01 58 30.1	
	comp=Z,185nm,1.5s						
SANI	**Sanana**	**25.33**	**168**	P	**P**	**01 58 24.1**	**+0.4**
SANI	**Sanana**	**25.33**	**168**	P	**P**	**01 58 21.2**	**-2.5**
	comp=Z,5μmcomp=Z,203nm,0.9s						
TEY	**Ternei**	**25.49**	**26**	*de*P	**P**	**01 58 22.1**	**-2.8**
TEY				pmax	pmax		
	comp=Z,200nm,5.5s						
TEY				pmax	pmax		
	comp=N,100nm,5.6s						
TEY				pmax	pmax		
	comp=E,100nm,5.1s						
TEY				MLR	MLR		
	comp=E,100nm,7.0s						
TEY				MLR	MLR		
	comp=N,200nm,16.0s						
TEY				MLR	MLR		
	comp=Z,300nm,15.0s						
SWI	**Sorong**	**25.72**	**156**	P	**P**	**01 58 27.7**	**+0.5**
	comp=Z,71nm,0.9s						
TTSI	**Tana Toraja**	**25.86**	**183**	P	**P**	**01 58 29.7**	**+1.3**
	comp=Z,2μmcomp=Z,118nm,0.9s						
GOMU	**GeErMu**	**26.17**	**306**	P	**P**	**01 58 32.2**	**+0.5**
GOMU				sP	pP	01 58 36.2	+0.5
GOMU				PcP	**PcP**	**02 02 00.0**	**+1.3**
GOMU				S	**S**	**02 03 03.6**	**-0.2**
GOMU				pmax	pmax		
	comp=Z,100nm,1.4s						
GOMU				pmax	pmax		
	comp=Z,2μm,5.3s						
GOMU				LR	LR		
	comp=Z,15μm,9.8s						
GOMU				LR	LR		
	comp=Z,17μm,10.7s						
GOMU				LR	LR		
	comp=Z,25μm,10.8s						
HIA	**Hailar**	**26.29**	**358**	IAmb	IAmb	01 58 34.5	
	comp=Z,146nm,1.2s						
HIA	**Hailar**	**26.29**	**358**	*d i*P	**P**	**01 58 30.9**	**-1.2**
HIA				pmax	pmax		
	comp=Z,120nm,1.2s						
KULM	**Kulim**	**26.29**	**231**	P	**P**	**01 58 32.0**	**-0.4**

KULM IAmb IAmb 01 58 39.4
comp=Z,125nm,1.3s
KULM IAMs_20 IAMs_20 02 08 43.9
comp=Z,6μm,20.0s
ERM Erimo 26.57 39 P **P 01 58 33.3 -1.4**
ERM Erimo 26.57 39 *ce*P **P 01 58 35.7 +0.9**
ERM pmax pmax
comp=Z,31nm,0.7s
NLAI Namlea 26.71 166 P **P 01 58 36.0 -0.2**
SPSI Sidrap Palu 26.77 183 P **P 01 58 37.5 +0.8**
comp=Z,102nm,1.4s
MYKOM Kota Tinggi 26.77 221 IAmb IAmb 01 58 45.8
comp=Z,241nm,1.7s
BRDH Bariadhala 26.98 275 P **P 01 58 39.2 +0.6**
comp=Z,79nm,0.3s,baz=70,slow=13,SNR=8.8
BRDH LR LR 02 10 07.5
comp=Z,2μm,20.4s,baz=112,slow=38
comp=Z,79nm,0.3s
TPRI Tanjung Pinang 27.08 218 P **P 01 58 43.8 +4.2**
ULN Ulaanbaatar 27.23 339 P **P 01 58 40.2 -0.6**
ULN IAmb IAmb 01 58 48.5
comp=Z,319nm,1.9s
ULN Ulaanbaatar 27.23 339 P **P 01 58 41.3 +0.5**
ULN Ulaanbaatar 27.23 339 *d iP* **P 01 58 41.0 +0.2**
ULN pmax pmax
comp=Z,45nm,1.3s
MSAI Masohi 27.27 162 P **P 01 58 41.2 -0.1**
comp=Z,3μmcomp=Z,77nm,1.3s
AAI Ambon 27.41 164 P **P 01 58 43.2 +0.7**
comp=Z,2μmcomp=Z,73nm,1.2s
SONM Songino Array 27.42 338 P **P 01 58 41.8 -0.7**
SONM IAmb IAmb 01 58 50.2
comp=Z,266nm,1.9s
SONM Songino Array 27.42 338 P **P 01 58 42.7 +0.2**
comp=Z,43nm,1.2s,baz=159,slow=9.7,SNR=97
SONM ScP **ScP 02 05 41.2 -0.5**
comp=Z,3.2nm,1.0s,baz=177,slow=3.6,SNR=4.3
SONM LR LR 02 10 54.1
comp=Z,7μm,19.6s,baz=149,slow=39
comp=Z,43nm,1.2s
LSA Lhasa 27.47 291 IAmb IAmb 01 59 11.7
comp=Z,125nm,1.2s
LSA Lhasa 27.47 291 P **P 01 58 45.4 +1.8**
LSA pmax pmax
comp=Z,49nm,1.1s
LSA LR LR
comp=Z,3μm,14.0s
LSA LR LR
comp=Z,4μm,9.0s
LSA Lhasa 27.47 291 P **P 01 58 45.4 +1.8**
KLR Kul'dur 27.59 15 LR LR 02 10 20.6
comp=Z,6μm,19.0s,baz=202,slow=38
KLR Kul'dur 27.59 15 *ce*P **P 01 58 44.7 +0.8**
KLR pmax pmax
comp=Z,2.0nm,0.6s
ASAJ Asahikawa 27.64 35 LR LR 02 10 15.3
comp=Z,8μm,20.3s,baz=236,slow=38
JKA Kamikawa-asahi 27.64 35 IAmb IAmb 01 58 54.3
comp=Z,66nm,0.9s
HEH HeiHe 27.73 9 *e*P **P 01 58 44.8 -0.2**
HEH PcP **PcP 02 01 59.2 -2.4**
HEH S **S 02 03 26.5 -0.7**
HEH sS **sS 02 03 34.5 +0.5**
HEH pmax pmax
comp=Z,2μm,6.4s
HEH LR LR
comp=Z,8μm,13.2s
HEH LR LR
comp=Z,9μm,12.3s
HEH LR LR
comp=Z,11μm,12.2s
KAPI Kappang 27.81 183 P **P 01 58 45.6 -0.5**
KAPI IAmb IAmb 01 59 25.4
comp=Z,204nm,1.5s
KAPI Kappang 27.81 183 LR LR 02 12 02.2
comp=Z,2μm,19.4s,baz=20,slow=41
KAPI Kappang 27.81 183 P **P 01 58 46.3 +0.3**
KAPI P **P 01 58 46.3 +0.3**
KAPI S **S 02 03 28.4 -0.6**
KAPI S **S 02 03 28.4 -0.6**
KAPI Kappang 27.81 183 *d iP* **P 01 58 45.5 -0.5**
KAPI pmax pmax
comp=Z,30nm,1.0s
FAKI Fak Fak 27.98 155 P **P 01 58 48.1 +0.4**
FAKI IAmb IAmb 01 58 54.0
comp=Z,86nm,1.0s
FAKI Fak Fak 27.98 155 P **P 01 58 48.2 +0.6**
comp=Z,92nm,0.8s
BKSI Bulukumba 28.11 182 P **P 01 58 49.1 +0.4**
BBSI Bau Bau 28.30 177 P **P 01 58 50.6 +0.1**
comp=Z,2μmcomp=Z,123nm,1.1s
TPI Tanjungpandan 28.64 209 P **P 01 58 54.8 +1.3**
comp=Z,952nmcomp=Z,49nm,1.0s
TSI Tuntungan 29.02 232 P **P 01 58 59.1 +2.2**
comp=Z,232nm,1.6s
LHMI Lhok Sumawe 29.09 236 P **P 01 58 58.5 +1.0**
LHMI Lhok Sumawe 29.09 236 P **P 01 59 00.3 +2.8**
comp=Z,2μmcomp=Z,86nm,1.1s
PSI Prapat 29.25 230 P **P 01 59 00.6 +1.5**
comp=Z,25nm,0.8s,baz=1.6,slow=6.4,SNR=31
PSI PcP **PcP 02 02 06.7 +0.5**
comp=Z,18nm,1.0s,baz=269,slow=4.0,SNR=5.4
PSI LR LR 02 10 50.1
comp=Z,4μm,19.3s,baz=44,slow=37
comp=Z,25nm,0.8s
RPSI Rantau Prapat 29.32 230 P **P 01 58 59.1 -0.5**
RPSI IAmb IAmb 01 59 08.6
comp=Z,94nm,1.2s
RPSI **PcP 02 02 05.6 -0.6**
YUK Yuzh-Kuril'sk 29.38 38 P **P 01 59 00.2 +0.4**
YUK S **S 02 03 55.4 +2.1**
YUK pmax pmax
comp=E,209nm,1.3s
YUK pmax pmax
comp=Z,557nm,1.3s
YUK MLR MLR
comp=Z,5μm,22.0s
YUK MLR MLR
comp=N,5μm,16.0s
YUK MLR MLR
comp=E,5μm,22.0s
CIT Chita 29.58 351 *e*P **P 01 59 01.0 -0.6**
CIT *e* 01 59 10.2
CIT *e* 02 00 14.4
CIT *e* 02 02 07.8
CIT *e* 02 04 02.4
CIT *e* 02 05 52.2
CIT pmax pmax
comp=Z,232nm,2.4s
BKNI Bangkinang 29.65 223 P **P 01 59 02.3 -0.3**
BKNI IAmb IAmb 01 59 10.6
comp=Z,137nm,1.1s
YSS Yuzhno-Sakhali 29.70 31 P **P 01 59 02.2 -0.5**
YSS IAmb IAmb 01 59 10.8
comp=Z,106nm,1.0s
YSS Yuzhno-Sakhali 29.70 31 *oe*P **P 01 59 03.8 +1.1**
YSS *e* 02 00 09.4
YSS *e* 02 02 07.2
YSS *e*S **S 02 03 59.1 +0.7**
YSS *e* 02 05 49.3
YSS pmax pmax
comp=Z,100nm,1.3s
YSS pmax pmax
comp=Z,1μm,5.0s
YSS pmax pmax
comp=N,400nm,5.2s
YSS pmax pmax
comp=E,300nm,5.4s
YSS smax smax
comp=N,900nm,10.4s
YSS smax smax
comp=E,1μm,13.9s
YSS MLR MLR
comp=Z,4μm,15.0s
YSS MLR MLR
comp=N,4μm,13.0s
YSS MLR MLR
comp=E,3μm,16.0s
MLSI Meulaboh, Aceh 30.11 236 P **P 01 59 08.1 +1.5**
comp=E,99nm,1.5s
MNSI Mandailing Nat 30.25 226 P **P 01 59 08.5 +0.7**
comp=E,2μmcomp=E,2μmcomp=E,119nm,1.2s
GRNR Gornyy 30.29 20 *d iP* **P 01 59 07.6 -0.2**
GRNR pmax pmax
comp=Z,7.0nm,1.2s
GRNR MLR MLR
comp=E,5μm,20.0s
GRNR MLR MLR
comp=N,4μm,15.0s
GRNR MLR MLR
comp=Z,3μm,12.0s
PPI Padang Panjang 30.66 223 P **P 01 59 12.6 +1.2**
comp=Z,2μmcomp=Z,99nm,1.8s
ZAK Zakamensk 30.66 338 *e*P **P 01 59 10.4 -0.9**
ZAK pmax pmax
comp=Z,16nm,1.4s
GRJI Gresik 30.81 197 P **P 01 59 15.1 +2.4**
comp=Z,2μmcomp=Z,140nm,1.1s
UGL Uglegorsk 30.98 27 *e*P **P 01 59 15.3 +1.4**
UGL *e* 02 00 22.0
UGL *e*S **S 02 04 20.0 +1.8**
UGL pmax pmax
comp=Z,600nm,4.6s
UGL pmax pmax
comp=Z,100nm,1.2s
UGL smax smax
comp=E,1μm,12.0s
UGL smax smax
comp=N,1μm,14.0s
ZEA Zeya 31.12 7 *e*P **P 01 59 14.5 -0.6**
ZEA *e* 02 00 26.8
ZEA *e*S **S 02 04 14.1 -6.3**
ZEA pmax pmax
comp=N,300nm,3.6s
ZEA pmax pmax
comp=Z,400nm,4.1s
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=N,30nm,1.3s
ZEA pmax pmax
comp=Z,70nm,1.3s
ZEA MLR MLR
comp=N,5μm,11.0s
ZEA MLR MLR
comp=Z,4μm,10.0s
GSI Gunungsitoli 31.25 230 P **P 01 59 16.1 -0.6**
GSI IAmb IAmb 01 59 42.5
comp=Z,173nm,1.7s
GSI IAMs_20 IAMs_20 02 12 03.5
comp=Z,4μm,20.0s
GSI Gunungsitoli 31.25 230 P **P 01 59 17.2 +0.5**
comp=Z,63nm,1.7s
MMRI Maumere 31.41 178 P **P 01 59 16.3 -1.7**
MMRI Maumere 31.41 178 P **P 01 59 17.8 -0.2**
EDFI Ende, Flores 31.51 179 P **P 01 59 17.7 -1.3**
NGJI Ngawi 31.52 198 P **P 01 59 22.4 +3.5**
comp=Z,67nm,2.0s
SMRI Semarang 31.53 200 P **P 01 59 18.6 -0.5**
SMRI IAmb IAmb 01 59 41.5
comp=Z,52nm,1.0s
PLAI Plampang 31.73 186 P **P 01 59 21.7 +0.9**
PLAI Plampang 31.73 186 P **P 01 59 23.2 +2.4**
comp=Z,2μmcomp=Z,72nm,1.6s
TWSI Taliwang, Sumb 31.74 188 P **P 01 59 25.0 +4.1**
PBSI Pulau Batu 31.75 227 P **P 01 59 20.9 -0.1**
comp=Z,69nm,1.4s
MDSI Maura Dua 31.80 213 P **P 01 59 22.0 +0.6**
comp=Z,1μmcomp=Z,103nm,0.9s
GMJI Gumukmas 31.88 194 P **P 01 59 25.5 +3.4**
JAGI Jajag, Banyuwa 31.92 193 P **P 01 59 24.7 +2.2**
KSI Kapahiang 31.92 216 P **P 01 59 26.7 +4.1**
IRK Irkutsk 31.93 341 *e*P **P 01 59 21.1 -1.1**
IRK *e* 02 09 45.7
IRK pmax pmax
comp=Z,148nm,1.8s
SISI Saibi 32.16 224 P **P 01 59 24.7 0.0**
comp=Z,2μmcomp=Z,80nm,1.0s
SBJI Serang 32.31 208 P **P 01 59 28.2 +2.3**
LWLI Liwa 32.31 213 P **P 01 59 30.3 +4.2**
UGM Wanagama 32.31 200 P **P 01 59 27.6 +1.6**
comp=Z,3μmcomp=Z,107nm,1.4s
LEM Lembang 32.33 205 P **P 01 59 29.5 +3.2**
comp=Z,4μmcomp=Z,144nm,1.0s
MOY Mondy 32.54 337 *e*P **P 01 59 27.3 -0.5**
MOY pmax pmax
comp=Z,99nm,2.9s
TYV Tymovskoe 32.59 26 *e*P **P 01 59 29.2 +1.1**
TYV *e*S **S 02 04 43.2 -0.2**
TYV pmax pmax
comp=Z,600nm,3.6s
TYV pmax pmax
comp=Z,36nm,1.3s
TYV smax smax
comp=N,300nm,6.5s
TYV smax smax
comp=E,800nm,6.5s
TYV MLR MLR
comp=E,4μm,17.0s
TYV MLR MLR
comp=Z,4μm,17.0s
SOEI Soe 32.66 174 P **P 01 59 26.5 -2.6**
SOEI Soe 32.66 174 P **P 01 59 26.6 -2.6**
comp=Z,2μmcomp=Z,145nm,1.1s
CGJI Cibinong 32.94 209 P **P 01 59 35.5 +4.1**
comp=Z,53nm,1.3s
CNJI Cibinong 32.96 206 P **P 01 59 30.7 -0.9**
WMQ Urumqi 34.35 315 P **P 01 59 44.9 +1.3**
WMQ pP sP 01 59 49.0 -0.4
WMQ PcP **PcP 02 02 22.3 +2.8**
WMQ S **S 02 05 15.3 +4.2**
WMQ pmax pmax
comp=Z,58nm,1.3s
WMQ pmax pmax
comp=Z,470nm,3.9s
WMQ LR LR
comp=Z,3μm,15.9s
WMQ LR LR
comp=Z,5μm,14.1s
WMQ LR LR
comp=Z,2μm,15.5s
BOD Bodaibo 35.20 354 *e*P **P 01 59 49.2 -1.4**
BOD pmax pmax
comp=Z,34nm,1.8s
MTN Manton Dam 36.95 163 P **P 02 00 03.6 -2.4**
MTN Manton Dam 36.95 163 P **P 02 00 03.9 -2.1**
comp=Z,26nm,0.5s
MTN Manton Dam 36.95 163 P **P 02 00 04.4 -1.6**
KDU Kakadu 37.17 161 P **P 02 00 05.7 -2.2**
comp=Z,35nm,1.4s
ZSN Zaisan 37.77 319 *e*P **P 02 00 13.5 +0.7**
ZSN *e*S **S 02 06 05.3 +2.0**
ZSN pmax pmax
comp=Z,65nm,1.4s
ZSN Zaisan 37.77 319 *e*P **P 02 00 13.6 +0.7**
comp=Z,65nm,1.4s
ZSN *e*S **S 02 06 05.3 +2.0**
SKR Severo-Kuril's 38.89 36 *e*P **P 02 00 25.4 +3.3**
SKR *e* 02 02 14.0
SKR pmax pmax
comp=Z,570nm,2.9s
SKR MLR MLR
comp=Z,4μm,19.0s
MK31 Makanchi Array 39.07 317 P **P 02 00 23.7 0.0**
MK31 IAmb IAmb 02 00 30.4
comp=Z,151nm,1.2s
MK31 Makanchi Array 39.07 317 *d iP* **P 02 00 24.6 +0.9**
MK31 pmax pmax
comp=Z,42nm,0.8s
MKAR Makanchi Array 39.07 317 P **P 02 00 24.0 +0.3**
MKAR Makanchi Array 39.07 317 P **P 02 00 24.6 +0.8**
comp=Z,38nm,0.8s,baz=110,slow=10,SNR=224
MKAR PcP **PcP 02 02 34.3 +0.7**
comp=Z,21nm,0.9s,baz=103,slow=4.2,SNR=6.9
MKAR ScP **S 02 06 23.5 +0.5**
comp=Z,5.7nm,1.1s,baz=107,slow=4.2,SNR=5.6
MKAR LR LR 02 19 26.1
comp=Z,1μm,20.3s,baz=108,slow=41
comp=Z,38nm,0.8s
KNRA Kununurra 39.14 168 P **P 02 00 22.9 -1.7**
KNRA Kununurra 39.14 168 P **P 02 00 22.8 -1.7**
comp=Z,75nm,1.1s
MAKZ Makanchi 39.27 317 P **P 02 00 25.4 0.0**
MAKZ IAmb IAmb 02 00 32.1
comp=Z,241nm,1.4s
MAKZ Makanchi 39.27 317 P **P 02 00 25.8 +0.4**
PATS Pohnpei 39.37 108 P **P 02 00 25.3 -1.2**
PATS Pohnpei 39.37 108 P **P 02 00 26.8 +0.3**
comp=Z,0.0nmcomp=Z,214nm,2.2s
YAK Yakutsk 39.52 6 P **P 02 00 26.2 -1.0**
YAK Yakutsk 39.52 6 IAMs_20 IAMs_20 02 15 58.0
comp=Z,3μm,19.0s
YAK Yakutsk 39.52 6 LR LR 02 17 33.7
comp=Z,2μm,19.5s,baz=186,slow=37
YAK Yakutsk 39.52 6 *e*P **P 02 00 26.8 -0.4**
YAK *e**PP **pP 02 00 30.9 -0.3**
YAK *e* 02 02 41.6
YAK *e*S **S 02 06 20.7 -8.5**
YAK *e**SS **ScP 02 06 26.9 +3.6**
YAK *e*SSS SSS 02 09 21.6
YAK *e* 02 10 38.9
YAK pmax pmax
comp=Z,37nm,1.0s
YAK pmax pmax
comp=N,23nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,346nm,4.9s
YAK pmax pmax
comp=N,110nm,2.5s
YAK pmax pmax
comp=E,158nm,4.3s
YAK smax smax
comp=N,152nm,1.8s
YAK smax smax
comp=E,63nm,2.0s
YAK MLR MLR
comp=Z,1μm,14.0s
YAK MLR MLR
comp=N,666nm,12.0s
YAK MLR MLR
comp=E,919nm,16.0s
SHLS Shalkode 39.67 311 *e*P **P 02 00 27.2 -1.7**
SHLS pmax pmax
comp=Z,71nm,1.3s
SHLS Shalkode 39.67 311 *e*P **P 02 00 27.2 -1.7**
comp=Z,71nm,1.3s
PDGK Podgornoye 39.70 311 P **P 02 00 29.9 +0.7**
UZB Uzynbulak 39.98 310 *e*P **P 02 00 32.2 +0.7**
UZB Uzynbulak 39.98 310 *e*P **P 02 00 32.2 +0.7**
HYB Hyderabad 40.05 270 *e*P **P 02 00 33.1 +0.9**
HYB IVmB_BB 02 00 37.7
comp=Z,487nm,2.6s
HYB IVMs_BB IVMs_BB 02 22 22.2
comp=Z,716nm,8.4s
SATY Saty 40.39 310 *e*P **P 02 00 35.6 +0.8**
SATY Saty 40.39 310 *e*P **P 02 00 35.7 +0.8**
ZHN Zhinishke 40.40 310 *e*P **P 02 00 35.7 +0.8**
ZHN Zhinishke 40.40 310 *e*P **P 02 00 35.8 +0.8**
TDK Taldyqorghan 40.96 313 *e*P **P 02 00 40.4 +1.0**
TDK pmax pmax
comp=Z,90nm,1.1s
TDK Taldyqorghan 40.96 313 *e*P **P 02 00 40.5 +1.0**
comp=Z,90nm,1.1s
PEA0B Petropavlovsk- 41.02 33 P **P 02 00 37.7 -2.1**
PEA0B IAmb IAmb 02 01 12.6
comp=Z,94nm,1.3s
PEA0B Petropavlovsk- 41.02 33 *i*P *e*P **P 02 00 37.5 -2.3**
PETK Petropavlovsk- 41.02 33 P **P 02 00 38.2 -1.7**
PETK Petropavlovsk- 41.02 33 P **P 02 00 40.3 +0.5**
comp=Z,21nm,0.9s,baz=208,slow=5.0,SNR=11
PETK LR LR 02 18 54.5
comp=Z,3μm,19.7s,baz=225,slow=38
comp=Z,21nm,0.9s
PETK Petropavlovsk- 41.02 33 P **P 02 00 38.2 -1.7**
FITZ Fitzroy Crossi 41.05 173 P **P 02 00 37.8 -2.6**
FITZ Fitzroy Crossi 41.05 173 P **P 02 00 38.4 -1.9**
comp=Z,12nm,1.2s
FITZ Fitzroy Crossi 41.05 173 P **P 02 00 38.4 -1.9**
ZAA0 Zalesovo Array 41.16 328 P **P 02 00 40.0 -0.9**
ZAA0 IAmb IAmb 02 00 42.4
comp=Z,97nm,0.9s
ZALV Zalesovo Beam 41.16 328 P **P 02 00 40.0 -0.9**
ZALV Zalesovo Beam 41.16 328 P **P 02 00 40.9 0.0**
comp=Z,70nm,0.8s,baz=111,slow=8.1,SNR=204
ZALV PcP **PcP 02 02 40.5 +0.4**
comp=Z,12nm,1.0s,baz=112,slow=4.8,SNR=2.5
ZALV LR LR 02 18 19.3
comp=Z,769nm,20.6s,baz=124,slow=37
comp=Z,70nm,0.8s
MDOK Medeo 41.37 310 *e*P **P 02 00 44.0 +1.0**
MDOK *e*S **S 02 06 59.6 +1.9**
MDOK Medeo 41.37 310 *e*P **P 02 00 44.0 +1.0**
MDOK *e*S **S 02 06 59.6 +1.9**
KSH Kashi 41.38 304 P **P 02 00 47.2 +4.0**
KSH PcS **PcS 02 06 35.2 +2.6**
KSH S **S 02 07 05.1 +7.2**
KSH pmax pmax
comp=Z,40nm,1.9s
KSH pmax pmax
comp=Z,650nm,6.3s
KSH LR LR
comp=Z,2μm,15.1s
KSH LR LR
comp=Z,3μm,14.4s
KSH LR LR
comp=Z,4μm,15.1s
TNSS Tian-Shan 41.41 310 *e*P **P 02 00 44.1 +0.4**
TNSS Tian-Shan 41.41 310 *e*P **P 02 00 44.1 +0.4**
PET Petropavlovsk 41.47 34 P **P 02 00 42.4 -1.0**
PET IAMs_20 IAMs_20 02 17 44.6
comp=Z,3μm,20.0s
PET Petropavlovsk 41.47 34 *e*P **P 02 00 43.0 -0.4**
PET *e* 02 02 22.3
PET *e*S **S 02 06 57.4 -1.1**
PET pmax pmax
comp=Z,1μm,5.8s
PET pmax pmax
comp=Z,2μm,5.4s
PET pmax pmax
comp=Z,178nm,1.3s
PET MLR MLR
comp=Z,2μm,15.0s
PET MLR MLR
comp=Z,2μm,15.0s
AAA Alma-Ata 41.48 310 *e*P **P 02 00 44.8 +1.0**
AAA pmax pmax
comp=Z,73nm,1.2s
AAA Alma-Ata 41.48 310 *e*P **P 02 00 44.8 +1.0**
comp=Z,73nm,1.2s
CHKK Chushkaly 41.60 311 *e*P **P 02 00 45.5 +0.8**
CHKK Chushkaly 41.60 311 *e*P **P 02 00 45.5 +0.8**
PALK Pallekele 41.67 254 P **P 02 00 45.5 -0.2**
PALK Pallekele 41.67 254 P **P 02 00 46.2 +0.5**
comp=Z,34nm,1.1s,baz=64,slow=9.1,SNR=14
PALK LR LR 02 19 52.8
comp=Z,3μm,19.2s,baz=64,slow=39
comp=Z,34nm,1.1s
PALK Pallekele 41.67 254 P **P 02 00 47.9 +2.3**
PALK P **P 02 00 47.9 +2.3**
PALK S **S 02 07 05.4 +2.9**
PALK S **S 02 07 05.4 +2.9**
PALK Pallekele 41.67 254 *ce*P **P 02 00 47.6 +1.9**
PALK pmax pmax
comp=Z,68nm,1.3s
ULHL Ulahol 41.73 308 P **P 02 00 47.6 +1.6**
SNR=38
MA2 Magadan 42.22 22 P **P 02 00 49.3 -0.2**
MA2 Magadan 42.22 22 LR LR 02 18 19.0
comp=Z,3μm,20.7s,baz=214,slow=36
MA2 Magadan 42.22 22 *ce*P **P 02 00 50.8 +1.3**
MA2 pmax pmax
comp=Z,41nm,1.0s
TKM2 Tokmak 2 42.35 309 P **P 02 00 52.6 +1.5**
SNR=67
TKM2 Tokmak 2 42.35 309 *i* P **P 02 00 52.4 +1.3**
TKM2 pmax pmax
comp=Z,84nm,1.1s
COEN Coen 42.66 147 P **P 02 00 52.2 -1.4**
COEN IAmb IAmb 02 01 04.1
comp=Z,81nm,1.1s
COEN Coen 42.66 147 P **P 02 00 53.0 -0.6**
comp=Z,54nm,1.0s
COEN Coen 42.66 147 P **P 02 00 52.6 -1.0**
KBK Karagaybulak 42.75 309 P **P 02 00 56.3 +1.9**
SNR=22
H11N1 WAKE ISLAND Hy 42.81 85 T T 02 46 16.2
baz=282,slow=74,SNR=103
H11N2 WAKE ISLAND Hy 42.81 85 T T 02 46 13.6
baz=282,slow=74,SNR=127
H11N3 WAKE ISLAND Hy 42.83 85 T T 02 46 17.0
baz=282,slow=74,SNR=111
KURK Kurchatov 42.89 321 P **P 02 00 54.6 -0.5**
KURK Kurchatov 42.89 321 P **P 02 00 56.0 +0.9**
KURK S **S 02 07 23.6 +4.0**
KURK Kurchatov 42.89 321 *d iP* **P 02 00 55.7 +0.6**

KURK pmax pmax
comp=Z,162nm,1.5s
H11S3 WAKE ISLAND Hy 42.90 87 T T 02 46 27.8
baz=284,slow=75,SNR=138
KURBB Kurchatov Arra 42.91 321 P **P** **02 00 55.9 +0.6**
comp=Z,67nm,1.1s,baz=121,slow=7.3,SNR=207
KURBB ScP **ScP** **02 06 37.8 +0.8**
comp=Z,1.1nm,0.9s,baz=109,slow=3.7,SNR=4.0
KURBB LR LR 02 19 14.9
comp=Z,1μm,19.7s,baz=155,slow=37
comp=Z,67nm,1.1s
H11S1 WAKE ISLAND Hy 42.91 87 T T 02 46 21.8
baz=284,slow=75,SNR=103
H11S2 WAKE ISLAND Hy 42.92 87 T T 02 46 17.5
baz=284,slow=75,SNR=78
CHMS Chumysh 42.97 309 P **P** **02 00 57.8 +1.8**
SNR=20
UCH Uchtor 42.98 308 P **P** **02 00 59.3 +2.8**
SNR=14
NIL Nilore 42.98 295 P **P** **02 00 56.4 +0.2**
NIL IAmb IAmb 02 00 58.3
comp=Z,73nm,0.8s
NIL Nilore 42.98 295 P **P** **02 00 56.4 +0.2**
NIL pmax pmax
comp=Z,73nm,0.9s
AAK Ala-Archa 43.08 308 P **P** **02 00 57.1 +0.2**
AAK Ala-Archa 43.08 308 LR LR 02 22 50.6
comp=Z,1μm,18.7s,baz=97,slow=42
AAK Ala-Archa 43.08 308 P **P** **02 00 58.9 +1.9**
AAK Ala-Archa 43.08 308 P **P** **02 00 58.4 +1.4**
SNR=23
AAK Ala-Archa 43.08 308*d iP* **P** **02 00 58.3 +1.4**
AAK pmax pmax
comp=Z,29nm,1.1s
AAK Ala-Archa 43.08 308 *i* P **P** **02 00 58.4 +1.4**
SNR=26
SGDS Sogindy 43.16 310 *e*P **P** **02 00 58.3 +0.8**
SGDS Sogindy 43.16 310 *e*P **P** **02 00 58.3 +0.8**
USP Oepenovka 43.21 309 P **P** **02 00 59.2 +1.3**
SNR=23
AML Almayashu 43.56 308 P **P** **02 01 03.0 +1.9**
SNR=67
EKS2 Erkin-Say 43.60 308 P **P** **02 01 03.3 +2.2**
SNR=8.0
MBWA Marble Bar 43.85 182 P **P** **02 01 01.3 -1.8**
MBWA IAmb IAmb 02 01 03.5
comp=Z,121nm,1.7s
MBWA Marble Bar 43.85 182 P **P** **02 01 02.6 -0.5**
comp=Z,39nm,1.0s
MBWA Marble Bar 43.85 182 P **P** **02 01 02.6 -0.5**
MBWA Marble Bar 43.85 182 P **P** **02 01 02.4 -0.7**
BTLS Baital 43.94 312 *e*P **P** **02 01 04.4 +0.8**
BTLS *e*S **S** **02 07 37.0 +1.9**
BTLS Baital 43.94 312 *e*P **P** **02 01 04.4 +0.8**
BTLS *e*S **S** **02 07 37.1 +1.9**
ARSB Arslanbob 43.94 306 IAmb IAmb 02 01 10.2
comp=Z,108nm,1.6s
PSAD1 Pilbara Seismi 44.15 181 P **P** **02 01 04.5 -1.0**
comp=Z,67nm,1.1s
PSAC1 Pilbara Seismi 44.22 181 P **P** **02 01 05.1 -1.0**
comp=Z,72nm,1.1s
PSA00 Pilbara Seismi 44.26 181 P **P** **02 01 05.0 -1.4**
PSA00 Pilbara Seismi 44.26 181 P **P** **02 01 05.5 -0.9**
WB9 Warramunga Arr 44.46 162 P **P** **02 01 07.2 -0.9**
comp=Z,30nm,1.6s
WRAB Tennant Creek 44.59 162 P **P** **02 01 07.1 -2.0**
WRAB IAmb IAmb 02 01 13.1
comp=Z,84nm,1.5s
WRAB Tennant Creek 44.59 162*d iP* **P** **02 01 07.2 -1.8**
WRAB pmax pmax
comp=Z,18nm,1.1s
WRA Warramunga Arr 44.59 162 P **P** **02 01 07.5 -1.6**
comp=Z,16nm,0.6s,baz=344,slow=8.8,SNR=46
WRA PcP **PP** **02 02 53.6 +0.2**
comp=Z,6.0nm,0.9s,baz=342,slow=4.2,SNR=4.9
WRA ScP **ScP** **02 06 43.7 -0.5**
comp=Z,2.4nm,1.0s,baz=353,slow=4.3,SNR=4.8
comp=Z,16nm,0.6s
WR0 Warramunga Arr 44.67 162 P **P** **02 01 09.4 -0.3**
SEY Seymchan 45.22 20 P **P** **02 01 13.2 -0.4**
comp=Z,4.8nm,0.8s,baz=234,slow=5.5,SNR=13
SEY PcP **PcP** **02 02 53.3 -0.2**
comp=Z,30nm,1.0s,baz=220,slow=4.7,SNR=10
SEY ScP **ScP** **02 06 45.8 -0.3**
comp=Z,1.8nm,0.8s,baz=275,slow=5.7,SNR=3.6
SEY LR LR 02 20 20.4
comp=Z,2μm,19.9s,baz=210,slow=36
comp=Z,4.8nm,0.8s
SEY Seymchan 45.22 20⇓ *e*P **P** **02 01 12.6 -1.0**
SEY pmax pmax
comp=Z,19nm,1.7s
BTK Batken 45.39 304 IAmb IAmb 02 01 20.7
comp=Z,128nm,1.5s
BTK Batken 45.39 304 P **P** **02 01 16.5 +1.0**
DZA Taraz 45.41 308 *e*P **P** **02 01 16.3 +0.8**
DZA pmax pmax
comp=Z,40nm,1.4s
DZA Taraz 45.41 308 *e*P **P** **02 01 16.4 +0.9**
comp=Z,40nm,1.4s
GAR Garm 45.67 303 P **P** **02 01 17.2 -0.6**
GIRL Giralia 45.78 189 P **P** **02 01 20.5 +2.1**
comp=Z,267nm,1.0s
GIRL Giralia 45.78 189 P **P** **02 01 18.3 -0.1**
OTUK Ortayu 45.90 316 P **P** **02 01 20.5 +1.2**
KK31 Karatay Array 46.04 308 IAmb IAmb 02 01 23.0
comp=Z,59nm,1.1s
KK31 Karatay Array 46.04 308 *i* P **P** **02 01 21.9 +1.4**
KKAR Karatay Array 46.04 308 P **P** **02 01 20.2 -0.3**
KKAR Karatay Array 46.04 308 P **P** **02 01 20.2 -0.3**
BRZS Berezniki 46.19 318 *e*P **P** **02 01 22.1 +0.6**
BRZS pmax pmax
comp=Z,32nm,1.2s
BRZS Berezniki 46.19 318 *e*P **P** **02 01 22.2 +0.6**
comp=Z,32nm,1.2s
IUG Iuzhnay 46.25 307 *e*P **P** **02 01 23.1 +0.9**
IUG pmax pmax
comp=Z,83nm,1.3s
IUG Iuzhnay 46.25 307 *e*P **P** **02 01 23.1 +0.9**
comp=Z,83nm,1.3s
KBL Kabul 46.49 296 P **P** **02 01 25.2 +0.8**
KBL Kabul 46.49 296 P **P** **02 01 25.9 +1.6**
SNR=76
KBL P **P** **02 01 25.9 +1.6**
SNR=76
KBL S **S** **02 08 16.2 +3.5**
KBL S **S** **02 08 16.2 +3.5**
KBL Kabul 46.49 296 P **P** **02 01 25.2 +0.8**
KBL pmax pmax
comp=Z,123nm,1.2s
BRLS Borolday 46.52 308 *e*P **P** **02 01 25.5 +1.3**
BRLS *e*S **S** **02 08 15.3 +2.8**
BRLS pmax pmax
comp=Z,33nm,1.5s
BRLS Borolday 46.52 308 *e*P **P** **02 01 25.5 +1.3**
comp=Z,33nm,1.5s
BRLS *e*S **S** **02 08 15.4 +2.8**
SIMJ Simiganj 46.66 302 P **P** **02 01 25.1 -0.4**
SIMJ IAmb IAmb 02 01 31.1
comp=Z,58nm,1.2s
MTSU Mount Surprise 46.79 149 P **P** **02 01 26.9 +0.3**
comp=Z,39nm,0.6s
QIS Mount Isa 46.92 156 P **P** **02 01 26.8 -0.8**
comp=Z,54nm,1.1s
QIS Mount Isa 46.92 156 P **P** **02 01 26.7 -0.8**
AS15 Alice Springs 47.99 164 P **P** **02 01 35.1 -0.7**
comp=Z,18nm,0.6s
AS31 Alice Springs 48.02 164 P **P** **02 01 34.0 -2.1**
ASAR Alice Springs 48.02 164 P **P** **02 01 34.1 -1.9**
ASAR Alice Springs 48.02 164 P **P** **02 01 35.0 -1.0**
comp=Z,5.7nm,0.4s,baz=346,slow=7.3,SNR=58
ASAR PcP **PcP** **02 03 03.6 -0.4**
comp=Z,6.1nm,1.0s,baz=330,slow=3.9,SNR=4.8
ASAR ScP **ScP** **02 06 58.1 -0.3**
comp=Z,3.8nm,0.9s,baz=347,slow=3.7,SNR=7.6
ASAR LR LR 02 22 59.5
comp=Z,423nm,20.2s,baz=348,slow=38
comp=Z,5.7nm,0.4s
AS01 Alice Springs 48.03 164 P **P** **02 01 35.8 -0.3**
WRKA Warakurna 48.23 171 P **P** **02 01 36.5 -1.1**
comp=Z,92nm,1.1s
WRKA Warakurna 48.23 171 P **P** **02 01 36.2 -1.4**
BVA0 Borovoye Array 48.48 321 P **P** **02 01 39.6 +0.3**
BVAR Borovoye Array 48.48 321 P **P** **02 01 40.1 +0.8**
comp=Z,36nm,0.8s,baz=111,slow=124,SNR=124
BVAR PcP **PcP** **02 03 05.9 +0.6**
comp=Z,20nm,1.0s,baz=128,slow=4.3,SNR=5.6

BVAR LR LR 02 25 36.7
comp=Z,921nm,19.0s,baz=101,slow=40
comp=Z,36nm,0.8s
BRVK Borovoye 48.55 321 P **P** **02 01 40.3 +0.4**
BRVK Borovoye 48.55 321 P **P** **02 01 41.3 +1.4**
BRVK S **S** **02 08 44.9 +3.7**
BRVK Borovoye 48.55 321*d iP* **P** **02 01 40.7 +0.8**
BRVK pmax pmax
comp=Z,96nm,1.0s
TIXI Tiksi 48.94 3 P **P** **02 01 40.2 -2.3**
TIXI Tiksi 48.94 3 P **P** **02 01 41.7 -0.8**
comp=Z,12nm,0.8s,baz=194,slow=6.2,SNR=24
TIXI LR LR 02 23 02.5
comp=Z,3μm,19.9s,baz=203,slow=37
comp=Z,12nm,0.8s
TIXI Tiksi 48.94 3*de*P **P** **02 01 40.9 -1.6**
TIXI pmax pmax
comp=Z,19nm,1.1s
TIXI MLR MLR
comp=Z,3μm,15.0s
TV1H Townsville Har 48.97 147 P **P** **02 01 44.0 +0.6**
MEEK Meekatharra 49.34 183 P **P** **02 01 44.9 -1.3**
comp=Z,55nm,1.0s
MEEK Meekatharra 49.34 183 P **P** **02 01 45.1 -1.1**
SHEM Shemya Is, Ala 49.93 40 LR LR 02 22 24.3
comp=Z,1μm,22.0s,baz=289,slow=36
HNR Honiara 49.95 126 LR LR 02 22 10.3
comp=Z,585nm,19.7s,baz=358,slow=35
NRIK Noril'sk 50.53 345 P **P** **02 01 53.1 -1.5**
NRIK Noril'sk 50.53 345 P **P** **02 01 54.5 -0.2**
comp=Z,78nm,1.0s,baz=124,slow=7.5,SNR=86
NRIK LR LR 02 23 32.4
comp=Z,2μm,19.5s,baz=150,slow=36
comp=Z,78nm,1.0s
NRIK Noril'sk 50.53 345*de*P **P** **02 01 54.2 -0.5**
NRIK pmax pmax
comp=Z,99nm,1.0s
KAAM Kaadhehdhoo 51.62 251 IAMs_20 IAMs_20 02 23 10.0
comp=Z,2μm,20.0s
MORW Morawa 51.93 185 P **P** **02 02 06.6 +1.0**
comp=Z,42nm,0.9s
MORW Morawa 51.93 185 P **P** **02 02 05.9 +0.3**
OOD Oodnadatta 52.42 163 P **P** **02 02 08.5 -0.8**
BILL Bilibino 52.92 20 P **P** **02 02 11.5 -1.1**
BILL IAMs_20 IAMs_20 02 26 14.2
comp=Z,2μm,19.0s
BILL Bilibino 52.92 20*ce*P **P** **02 02 12.2 -0.4**
BILL pmax pmax
comp=Z,39nm,1.0s
BILL MLR MLR
comp=Z,3μm,23.0s
BLDU Ballidu 53.41 185 P **P** **02 02 16.1 -0.4**
comp=Z,35nm,1.0s
BLDU Ballidu 53.41 185 P **P** **02 02 16.3 -0.2**
FORT Forrest 53.85 172 P **P** **02 02 19.5 -0.2**
comp=Z,185nm,1.1s
FORT Forrest 53.85 172 P **P** **02 02 19.6 -0.2**
KMBL Kambalda 54.01 179 P **P** **02 02 20.5 -0.5**
comp=Z,47nm,1.3s
KMBL Kambalda 54.01 179 P **P** **02 02 20.5 -0.5**
AB31 Akbulak array 54.14 315 *i* P **P** **02 02 22.8 +1.0**
ABKAR Akbulak array 54.14 315 P **P** **02 02 21.8 0.0**
QLP Quilpie 54.16 154 P **P** **02 02 21.6 -0.5**
comp=Z,87nm,1.5s
NGCH Negor - Chabah 54.21 285 P **P** **02 02 24.5 +1.8**
TARA Tarawa 54.80 105 IAMs_20 IAMs_20 02 18 23.1
comp=Z,2μm,20.0s
MUN Mundaring 54.80 185 P **P** **02 02 27.8 +1.1**
comp=Z,0.0nmcomp=Z,30nm,1.7s
SVE Sverdlovsk 54.90 324*ce*P **P** **02 02 28.2 +1.0**
SVE *e*S **S** **02 10 12.1 +3.7**
SVE pmax pmax
comp=Z,222nm,1.1s
SVE MLR MLR
comp=Z,2μm,13.0s
AKTO Aktyubinsk 55.49 316 LR LR 02 25 58.9
comp=Z,1μm,18.5s,baz=73,slow=36
AKTO Aktyubinsk 55.49 316 P **P** **02 02 31.9 +0.3**
LCRK Leigh Creek 55.62 162 P **P** **02 02 32.1 -0.5**
NWAO Narrogin (SRO) 55.67 184 P **P** **02 02 33.1 +0.2**
NWAO Narrogin (SRO) 55.67 184 P **P** **02 02 33.1 +0.2**
comp=Z,114nm,1.6s
NWAO Narrogin (SRO) 55.67 184 P **P** **02 02 34.5 +1.5**
NWAO P **P** **02 02 34.5 +1.5**
NWAO Narrogin (SRO) 55.67 184 P **P** **02 02 33.1 +0.2**
NWAO Narrogin (SRO) 55.67 184 P **P** **02 02 33.1 +0.2**
NWAO pmax pmax
comp=Z,255nm,1.9s
ARTI Arti 56.04 323 P **P** **02 02 34.2 -1.2**
ARTI IAMs_20 IAMs_20 02 25 52.6
comp=Z,2μm,21.0s
ARTI Arti 56.04 323 LR LR 02 28 00.8
comp=Z,1μm,19.2s,baz=96,slow=38
ARTI Arti 56.04 323*d iP* **P** **02 02 35.7 +0.3**
ARTI 02 03 29.6
ARTI 02 04 39.4
ARTI S **S** **02 10 27.5 +3.8**
ARTI 02 12 22.0
ARTI SS **SS** **02 14 14.0 +4.5**
ARTI pmax pmax
comp=Z,116nm,1.0s
EIDS Eidsvold 56.23 147 P **P** **02 02 37.2 +0.1**
comp=Z,20nm,1.6s
JLN Jalan Bani Buh 56.43 282 P **P** **02 02 40.3 +1.6**
SNR=13
JLN P **P** **02 02 40.3 +1.6**
SNR=13
JLN S **S** **02 10 32.8 +2.9**
JLN S **S** **02 10 32.8 +2.9**
WBK Wadi Bani Khal 56.72 283 P **P** **02 02 42.8 +1.9**
SNR=19
WBK P **P** **02 02 42.8 +1.9**
SNR=19
WBK S **S** **02 10 37.9 +4.1**
WBK S **S** **02 10 37.9 +4.1**
WSAR Wadi Sarin 56.89 284 LR LR 02 30 29.3
comp=Z,5.4nm,19.0s,baz=93,slow=40
WSAR Wadi Sarin 56.89 284 P **P** **02 02 43.2 +1.2**
SNR=16
WSAR S **S** **02 10 39.4 +3.6**
BIDO Bidbid 57.27 284 P **P** **02 02 46.3 +1.6**
SNR=12
BBOO Buckleboo 57.30 165 IAmb IAmb 02 02 49.1
comp=Z,41nm,0.8s
BBOO Buckleboo 57.30 165 P **P** **02 02 44.2 -0.4**
comp=Z,55nm,1.0s
BBOO Buckleboo 57.30 165 P **P** **02 02 43.9 -0.6**
SMDO Samad 57.45 283 P **P** **02 02 47.1 +1.0**
SNR=13
SMDO P **P** **02 02 47.1 +1.0**
SNR=13
JMDO Jabal Madar 57.56 283 P **P** **02 02 47.8 +1.0**
SNR=15
JMDO P **P** **02 02 47.8 +1.0**
SNR=15
HOQ Hoqain 57.99 284 P **P** **02 02 50.8 +1.0**
SNR=13
HOQ P **P** **02 02 50.8 +1.0**
SNR=13
STKA Stephens Creek 57.99 159 P **P** **02 02 48.1 -1.4**
STKA Stephens Creek 57.99 159 P **P** **02 02 48.8 -0.6**
comp=Z,231nm,1.1s
STKA Stephens Creek 57.99 159 P **P** **02 02 49.5 0.0**
comp=Z,27nm,0.6s,baz=339,slow=6.9,SNR=27
STKA LR LR 02 30 53.4
comp=Z,397nm,18.0s,baz=336,slow=39
comp=Z,27nm,0.6s
STKA Stephens Creek 57.99 159 P **P** **02 02 48.8 -0.6**
STKA Stephens Creek 57.99 159*d iP* **P** **02 02 48.6 -0.8**
MHTO MHTO 58.02 281 P **P** **02 02 51.2 +1.2**
SNR=11
MHTO S **S** **02 10 53.8 +3.1**
BSY Bisya 58.28 283 P **P** **02 02 54.0 +2.1**
SNR=12
BSY P **P** **02 02 54.0 +2.1**
SNR=12
BSY S **S** **02 10 57.8 +3.5**
BSY S **S** **02 10 57.8 +3.5**
SHME Shamm 58.49 287 P **P** **02 02 54.9 +1.7**
SHME P **P** **02 02 54.9 +1.7**
MDH Madha 58.51 286 P **P** **02 02 55.1 +1.7**
MDH S **S** **02 10 59.4 +2.3**
SOHO SOHO 58.56 285 P **P** **02 02 54.5 +0.8**
SOHO P **P** **02 02 54.5 +0.8**
SOHO SOHO 58.56 285 *i* P **P** **02 02 54.1 +0.4**
SNR=12

MASF Masafi 58.62 287 P **P** **02 02 56.5 +2.3**
MASF P **P** **02 02 56.5 +2.3**
MASF S **S** **02 11 02.8 +4.1**
MASF S **S** **02 11 02.8 +4.1**
HTT Hallett 58.63 162 P **P** **02 02 53.6 -0.3**
HTT Hallett 58.63 162 P **P** **02 02 53.7 -0.3**
UOSS Minazif 58.67 286 P **P** **02 02 54.2 -0.3**
UOSS Minazif 58.67 286 P **P** **02 02 55.2 +0.6**
UOSS P **P** **02 02 55.2 +0.6**
UOSS S **S** **02 11 01.0 +1.7**
UOSS S **S** **02 11 01.0 +1.7**
UOSS Minazif 58.67 286 P **P** **02 02 54.7 +0.1**
DQM DQM 58.68 280 P **P** **02 02 55.2 +0.6**
DQM P **P** **02 02 55.2 +0.6**
ARQ Araqi 58.75 284 P **P** **02 02 56.7 +1.5**
SNR=20
ARQ P **P** **02 02 56.7 +1.5**
SNR=20
ARQ S **S** **02 11 03.7 +3.3**
ARQ S **S** **02 11 03.7 +3.3**
HATD Hatta, Dubai 58.76 286 P **P** **02 02 56.7 +1.5**
SNR=6.9
HATD P **P** **02 02 56.7 +1.5**
SNR=6.9
HATD S **S** **02 11 04.2 +3.7**
HATD S **S** **02 11 04.2 +3.7**
HATD Hatta, Dubai 58.76 286 *i* P **P** **02 02 56.3 +1.1**
SNR=7.6
ASHO Ashiyiah 58.86 286 P **P** **02 02 57.4 +1.5**
SNR=9.3
ASHO P **P** **02 02 57.4 +1.5**
SNR=9.3
ASHO Ashiyiah 58.86 286 *i* P **P** **02 02 57.1 +1.3**
SNR=12
CMSA Cobar Meteorol 59.14 155 P **P** **02 02 57.5 0.0**
comp=Z,73nm,1.5s
CMSA Cobar Meteorol 59.14 155 P **P** **02 02 57.8 +0.3**
NAZ Nazwa, Dubai 59.14 286 P **P** **02 02 60.0 +2.2**
SNR=6.0
NAZ P **P** **02 02 60.0 +2.2**
SNR=6.0
NAZ Nazwa, Dubai 59.14 286 *i* P **P** **02 02 58.6 +0.8**
SNR=6.2
FAQ Al Faqa, Dubai 59.26 286 P **P** **02 03 00.0 +1.4**
FAQ P **P** **02 03 00.0 +1.4**
FAQ Al Faqa, Dubai 59.26 286 *i* P **P** **02 02 59.5 +0.9**
SNR=5.9
ALNE Al Ain 59.27 285 P **P** **02 03 00.2 +1.5**
SNR=20
ALNE P **P** **02 03 00.2 +1.5**
SNR=20
ALNE S **S** **02 11 10.7 +3.6**
ALNE S **S** **02 11 10.7 +3.6**
ALNE Al Ain 59.27 285 *i* P **P** **02 02 59.6 +0.9**
SNR=7.8
ASUD Al Ashush, Dub 59.52 286 P **P** **02 03 02.1 +1.7**
SNR=6.9
ASUD P **P** **02 03 02.1 +1.7**
SNR=6.9
ASUD Al Ashush, Dub 59.52 286 *i* P **P** **02 03 01.6 +1.2**
SNR=6.8
SPIA Saint Paul Isl 59.57 36 P **P** **02 02 58.9 -1.3**
baz=266
GAMB Gambell 59.68 28 P **P** **02 02 59.7 -1.1**
baz=260
P08K Saint George I 59.91 37 P **P** **02 03 01.2 -1.3**
baz=266
NIKH Nikolski High 60.17 41 P **P** **02 03 03.4 -1.1**
baz=269
ARMA Armidale 60.70 150 P **P** **02 03 07.7 -0.6**
ARMA IAmb IAmb 02 03 12.4
comp=Z,37nm,0.8s
ARMA Armidale 60.70 150 P **P** **02 03 08.3 -0.1**
comp=Z,57nm,1.4s
ARMA Armidale 60.70 150 P **P** **02 03 08.9 +0.5**
KIRV Kirov 61.10 325 LR LR 02 31 50.3
comp=Z,1μm,19.5s,baz=95,slow=38
KIRV Kirov 61.10 325*d iP* **P** **02 03 10.8 +0.2**
MZR Muzera 61.55 285 P **P** **02 03 15.3 +1.0**
MZR P **P** **02 03 15.3 +1.0**
MZR Muzera 61.55 285 P **P** **02 03 14.7 +0.4**
TNA Tin City 61.55 27 P **P** **02 03 12.7 -0.9**
baz=263
UNV Unalaska Valle 61.58 40 P **P** **02 03 12.9 -1.0**
baz=270
DMTO DMTO 61.65 278 P **P** **02 03 16.1 +1.1**
DMTO P **P** **02 03 16.1 +1.1**
M11K Mekoryuk 61.88 33 P **P** **02 03 14.9 -0.9**
baz=267
DOK Doka 62.13 280 P **P** **02 03 18.8 +0.6**
SNR=9.1
DOK P **P** **02 03 18.8 +0.6**
SNR=9.1
F14K Arctic Creek 62.20 27 P **P** **02 03 17.3 -0.7**
baz=264,SNR=7.0
RBK Rabkut 62.38 278 P **P** **02 03 20.3 +0.3**
SNR=20
RBK P **P** **02 03 20.3 +0.3**
SNR=20
RBK P **pP** **02 03 20.7 -3.7**
RBK P **pP** **02 03 20.7 -3.7**
ANM Nome 62.53 28 P **P** **02 03 20.2 +0.1**
ANM IAmb IAmb 02 03 27.2
comp=Z,34nm,1.1s
ANM Nome 62.53 28 P **P** **02 03 20.2 +0.1**
ANM pmax pmax
comp=Z,34nm,1.1s
ANM MLR MLR
comp=Z,1μm,20.0s
ANM Nome 62.53 28 P **P** **02 03 19.8 -0.4**
baz=266
ARPS Mount Arapiles 62.59 161 P **P** **02 03 20.3 -0.5**
comp=Z,120nm,0.8s
ARPS Mount Arapiles 62.59 161 P **P** **02 03 20.2 -0.6**
WHFO Wadi Hawf 62.66 279 P **P** **02 03 22.3 +0.4**
SNR=14
WHFO P **P** **02 03 22.3 +0.4**
SNR=14
K13K Kusilvak Mount 62.70 31 P **P** **02 03 20.9 -0.4**
baz=268
MAK Makhachkala 62.85 308 *e*P **P** **02 03 19.9 -2.8**
MAK *e* 02 05 38.2
MAK *e*S **S** **02 11 49.9 -2.1**
MAK *e*SS **SS** **02 15 53.1 -3.7**
MAK pmax pmax
comp=Z,245nm,1.5s
SLWR Sila 62.87 286 P **P** **02 03 24.6 +1.5**
SLWR P **P** **02 03 24.6 +1.5**
C16K Lisburne Hills 62.88 24 IAMs_20 IAMs_20 02 30 34.4
comp=Z,1μm,21.0s
C16K Lisburne Hills 62.88 24 P **P** **02 03 21.9 -0.5**
baz=264,SNR=13
F15K North Star Dit 62.92 27 IAmb IAmb 02 03 31.1
comp=Z,35nm,1.1s
F15K IAMs_20 IAMs_20 02 31 17.5
comp=Z,1μm,21.0s
F15K North Star Dit 62.92 27 P **P** **02 03 22.7 0.0**
baz=266,SNR=11
DZM Mont Dzumac 62.98 132 *e*P **P** **02 03 22.8 -1.1**
comp=Z,142nm,1.3s
DZM *e*S **S** **02 11 53.2 -1.1**
comp=Z,305nm,26.9s
DZM *e*LQ LQ 02 19 28.5
comp=Z,1μm,26.0s
DZM *e*LR LR 02 22 09.9
comp=Z,2μm,22.8s
DZM Mont Dzumac 62.98 132 P **P** **02 03 24.5 +0.6**
SHMA Al-Shehemyia 63.08 288 P **P** **02 03 25.6 +1.1**
TRNA Turayna 63.13 287 P **P** **02 03 25.8 +0.9**
J14K Nanvaranak Lak 63.24 30 IAMs_20 IAMs_20 02 29 35.3
comp=Z,2μm,22.0s
J14K Nanvaranak Lak 63.24 30 P **P** **02 03 24.6 -0.2**
baz=268
ABTO Aybut 63.26 279 P **P** **02 03 26.2 +0.4**
SNR=15
ABTO P **P** **02 03 26.2 +0.4**
SNR=15
M13K Dall Lake 63.30 33 P **P** **02 03 24.5 -0.8**
baz=270
FALS False Pass 63.37 39 P **P** **02 03 26.1 +0.2**
baz=272
SMRA Abu-Samra 63.47 287 P **P** **02 03 28.0 +1.0**
SNR=6.4
L14K Kuka Creek 63.63 32 P **P** **02 03 27.4 0.0**
baz=270,SNR=12
D17K Noatak River 63.67 24 P **P** **02 03 27.8 +0.1**

	baz=266,SNR=61							
C17K	**DeLong Mountai**	**63.69**	**24**	P	**P**	**02 03 27.7**	**-0.1**
	baz=266						
RDOG	**Red Dog Mine**	**63.77**	**24**	IAMs_20	IAMs_20	02 30 07.9	
	comp=Z,2μm,19.0s						
RDOG	**Red Dog Mine**	**63.77**	**24**	P	**P**	**02 03 27.6**	**-0.7**
	baz=266						
CAN	**Canberra**	**63.77**	**155**	P	**P**	**02 03 27.6**	**-1.2**
CAN	**Canberra**	**63.77**	**155**	P	**P**	**02 03 29.2**	**+0.5**
	comp=Z,30nm,1.6s						
CAN	**Canberra**	**63.77**	**155**	P	**P**	**02 03 29.2**	**+0.5**
CAN	**Canberra**	**63.77**	**155**	P	**P**	**02 03 27.6**	**-1.2**
CAN				pmax	pmax		
	comp=Z,184nm,2.0s						
G16K	**Koyuk River**	**63.85**	**27**	IAmb	IAmb	02 04 10.2	
	comp=Z,36nm,1.1s						
G16K				IAMs_20	IAMs_20	02 35 56.3	
	comp=Z,1μm,19.0s						
G16K	**Koyuk River**	**63.85**	**27**	P	**P**	**02 03 28.9**	**0.0**
	baz=268,SNR=10						
H16K	**Elim**	**63.88**	**28**	P	**P**	**02 03 29.2**	**+0.1**
	baz=269,SNR=14						
CNB	**Canberra Magne**	**63.91**	**154**	P	**P**	**02 03 30.0**	**+0.3**
	comp=Z,36nm,1.0s						
CNB	**Canberra Magne**	**63.91**	**154**	P	**P**	**02 03 29.8**	**+0.1**
M14K	**Bethel**	**63.98**	**32**	P	**P**	**02 03 29.5**	**-0.4**
M14K				IAmb	IAmb	02 03 40.2	
	comp=Z,32nm,0.8s						
M14K	**Bethel**	**63.98**	**32**	P	**P**	**02 03 29.7**	**-0.2**
	baz=271						
E17K	**Hotham Inlet**	**64.13**	**25**	P	**P**	**02 03 30.9**	**+0.2**
	baz=268						
N14K	**Kuskokwak Cree**	**64.14**	**33**	P	**P**	**02 03 30.2**	**-0.6**
	baz=271						
K15K	**Wolf Creek Mou**	**64.17**	**30**	P	**P**	**02 03 30.7**	**-0.4**
	baz=270						
L15K	**Ungalak Mounta**	**64.20**	**31**	P	**P**	**02 03 31.1**	**-0.2**
	baz=271						
B18K	**Kokolik River**	**64.25**	**23**	P	**P**	**02 03 31.3**	**-0.2**
	baz=267,SNR=16						
F17K	**Baldwin Pennin**	**64.34**	**26**	IAmb	IAmb	02 03 40.5	
	comp=Z,65nm,1.4s						
F17K				IAMs_20	IAMs_20	02 31 01.0	
	comp=Z,1μm,20.0s						
F17K	**Baldwin Pennin**	**64.34**	**26**	P	**P**	**02 03 31.9**	**-0.1**
	baz=269						
O14K	**Tigyukauivet M**	**64.37**	**34**	P	**P**	**02 03 32.1**	**-0.3**
	baz=272						
C18K	**Utukok River**	**64.43**	**23**	IAmb	IAmb	02 03 34.8	
	comp=Z,23nm,0.9s						
C18K				IAMs_20	IAMs_20	02 31 46.5	
	comp=Z,2μm,20.0s						
C18K	**Utukok River**	**64.43**	**23**	P	**P**	**02 03 32.1**	**-0.7**
	baz=268						
TOO	**Toolangi**	**64.48**	**159**	P	**P**	**02 03 32.6**	**-0.8**
TOO				IAmb	IAmb	02 03 39.3	
	comp=Z,30nm,0.9s						
TOO	**Toolangi**	**64.48**	**159**	P	**P**	**02 03 33.8**	**+0.4**
	comp=Z,37nm,1.1s						
TOO	**Toolangi**	**64.48**	**159**	P	**P**	**02 03 32.6**	**-0.8**
TOO				pmax	pmax		
	comp=Z,30nm,1.0s						
I17K	**Unalakleet**	**64.55**	**29**	IAMs_20	IAMs_20	02 30 05.7	
	comp=Z,2μm,22.0s						
I17K	**Unalakleet**	**64.55**	**29**	P	**P**	**02 03 33.3**	**-0.1**
	baz=270						
A19K	**Wainwright**	**64.55**	**22**	P	**P**	**02 03 33.7**	**+0.3**
	baz=267						
G17K	**Kiwalik Mounta**	**64.57**	**27**	P	**P**	**02 03 33.9**	**+0.3**
	baz=270,SNR=38						
J16K	**Anvik River**	**64.59**	**29**	IAmb	IAmb	02 04 09.7	
	comp=Z,69nm,1.4s						
J16K				IAMs_20	IAMs_20	02 32 19.9	
	comp=Z,2μm,20.0s						
J16K	**Anvik River**	**64.59**	**29**	P	**P**	**02 03 34.3**	**+0.5**
	baz=271						
M15K	**Kasigluk River**	**64.61**	**32**	P	**P**	**02 03 34.0**	**0.0**
	baz=272						
E18K	**Tukpahlearik C**	**64.61**	**25**	IAmb	IAmb	02 03 36.5	
	comp=Z,26nm,0.9s						
E18K				IAMs_20	IAMs_20	02 30 55.4	
	comp=Z,2μm,21.0s						
E18K	**Tukpahlearik C**	**64.61**	**25**	P	**P**	**02 03 33.5**	**-0.4**
	baz=269,SNR=21						
H17K	**Granite Mounta**	**64.88**	**28**	IAmb	IAmb	02 03 45.3	
	comp=Z,31nm,0.9s						
H17K				IAMs_20	IAMs_20	02 36 45.4	
	comp=Z,1μm,18.0s						
H17K	**Granite Mounta**	**64.88**	**28**	P	**P**	**02 03 35.7**	**0.0**
	baz=271,SNR=16						
N15K	**Kwethluk River**	**64.93**	**33**	IAmb	IAmb	02 03 46.5	
	comp=Z,38nm,0.9s						
N15K	**Kwethluk River**	**64.93**	**33**	P	**P**	**02 03 36.3**	**+0.2**
	baz=273						
F18K	**Selawik**	**64.98**	**26**	P	**P**	**02 03 36.5**	**+0.2**
	baz=270,SNR=34						
SDPT	**Sand Point**	**65.02**	**38**	P	**P**	**02 03 36.6**	**-0.1**
	baz=275						
O15K	**Ungalikthiuk R**	**65.11**	**34**	P	**P**	**02 03 36.8**	**-0.5**
	baz=273						
L16K	**Owhat River**	**65.16**	**31**	IAmb	IAmb	02 03 45.4	
	comp=Z,32nm,1.1s						
L16K	**Owhat River**	**65.16**	**31**	P	**P**	**02 03 37.2**	**-0.3**
	baz=272,SNR=8.4						
J17K	**VABM Dome**	**65.28**	**29**	IAmb	IAmb	02 03 45.5	
	comp=Z,66nm,1.1s						
J17K				IAMs_20	IAMs_20	02 30 39.0	
	comp=Z,2μm,22.0s						
J17K	**VABM Dome**	**65.28**	**29**	P	**P**	**02 03 38.1**	**-0.2**
	baz=272,SNR=23						
GNI	**Garni**	**65.31**	**305**	P	**P**	**02 03 41.6**	**+2.5**
GNI	**Garni**	**65.31**	**305**	*d iP*	**P**	**02 03 40.6**	**+1.5**
GNI				pmax	pmax		
	comp=Z,88nm,1.3s						
GNI	**Garni**	**65.31**	**305**	P	**P**	**02 03 40.8**	**+1.6**
G18K	**Tagagawik**	**65.39**	**26**	P	**P**	**02 03 38.2**	**-0.8**
G18K				IAmb	IAmb	02 03 41.8	
	comp=Z,34nm,1.2s						
G18K				IAMs_20	IAMs_20	02 31 14.9	
	comp=Z,1μm,19.0s						
G18K	**Tagagawik**	**65.39**	**26**	P	**P**	**02 03 38.8**	**-0.2**
	baz=271						
M16K	**Timber Creek**	**65.44**	**32**	IAmb	IAmb	02 03 47.9	
	comp=Z,69nm,1.2s						
M16K	**Timber Creek**	**65.44**	**32**	P	**P**	**02 03 39.6**	**+0.2**
	baz=273,SNR=11						
S14K	**Fog Glacier**	**65.47**	**37**	P	**P**	**02 03 38.9**	**-0.9**
	baz=275						
H18K	**Honhosa River**	**65.53**	**27**	IAmb	IAmb	02 03 49.2	
	comp=Z,34nm,1.3s						
H18K				IAMs_20	IAMs_20	02 37 15.7	
	comp=Z,1μm,18.0s						
H18K	**Honhosa River**	**65.53**	**27**	P	**P**	**02 03 39.7**	**-0.2**
	baz=272,SNR=6.2						
D19K	**Kuna River**	**65.56**	**24**	IAMs_20	IAMs_20	02 32 33.3	
	comp=Z,1μm,22.0s						
D19K	**Kuna River**	**65.56**	**24**	P	**P**	**02 03 39.8**	**-0.3**
	baz=271						
N16K	**Nishlik Lake**	**65.57**	**32**	P	**P**	**02 03 40.6**	**+0.4**
	baz=274,SNR=8.9						
CHNA	**Chernabura Isl**	**65.58**	**39**	P	**P**	**02 03 40.4**	**+0.1**
	baz=276						
K17K	**Iditarod**	**65.66**	**30**	IAmb	IAmb	02 03 48.1	
	comp=Z,57nm,1.1s						
K17K				IAMs_20	IAMs_20	02 33 04.2	
	comp=Z,1μm,20.0s						
K17K	**Iditarod**	**65.66**	**30**	P	**P**	**02 03 41.2**	**+0.5**
	baz=273,SNR=18						
L17K	**Donlin**	**65.69**	**31**	P	**P**	**02 03 41.8**	**+0.8**
	baz=273,SNR=14						
GOF	**Gofitskoye**	**65.76**	**311**	*c eP*	**P**	**02 03 42.8**	**+1.1**
VRH	**Novokhopyorsk**	**65.80**	**317**	*e P*	**P**	**02 03 41.6**	**-0.2**
VRH				*e S*	**S**	**02 12 31.8**	**+3.6**
VRH				pmax	pmax		
	comp=Z,133nm,1.4s						
VRH				pmax	pmax		
	comp=Z,413nm,1.9s						
B20K	**Meade River**	**65.88**	**22**	IAmb	IAmb	02 03 45.0	
	comp=Z,37nm,0.8s						
B20K	**Meade River**	**65.88**	**22**	P	**P**	**02 03 42.2**	**+0.1**
	baz=271,SNR=38						
E19K	**Redstone River**	**65.92**	**25**	IAmb	IAmb	02 03 56.4	
	comp=Z,42nm,1.2s						
E19K				IAMs_20	IAMs_20	02 31 32.7	
	comp=Z,1μm,22.0s						
E19K	**Redstone River**	**65.92**	**25**	P	**P**	**02 03 42.3**	**-0.1**
	baz=272,SNR=30						
O16K	**Kokwok River B**	**65.97**	**33**	P	**P**	**02 03 41.7**	**-1.1**
O16K				IAmb	IAmb	02 03 51.4	
	comp=Z,52nm,1.4s						
O16K	**Kokwok River B**	**65.97**	**33**	P	**P**	**02 03 42.2**	**-0.6**
	baz=275						
G19K	**Purcell Mounta**	**66.02**	**26**	IAmb	IAmb	02 03 52.8	
	comp=Z,34nm,1.2s						
G19K				IAMs_20	IAMs_20	02 36 08.6	
	comp=Z,1μm,18.0s						
G19K	**Purcell Mounta**	**66.02**	**26**	P	**P**	**02 03 43.2**	**+0.1**
	baz=273,SNR=12						
A21K	**Barrow**	**66.05**	**20**	P	**P**	**02 03 42.4**	**-0.6**
	baz=271,SNR=15						
P16K	**Nushagak River**	**66.07**	**34**	P	**P**	**02 03 42.7**	**-0.7**
	baz=275						
KBZ	**Khabaz**	**66.07**	**309**	P	**P**	**02 03 44.8**	**+1.1**
	comp=Z,45nm,1.0s,baz=92,slow=4.1,SNR=49						
KBZ				LR	LR	02 36 22.7	
	comp=Z,698nm,18.8s,baz=58,slow=39						
	comp=Z,45nm,1.0s						
KBZ	**Khabaz**	**66.07**	**309**	*d iP*	**P**	**02 03 44.5**	**+0.8**
KBZ				pmax	pmax		
	comp=Z,64nm,1.0s						
KLMR	**Klimovskoe**	**66.08**	**328**	*e P*	P	02 03 35.3	-8.2
KLMR				*e*		02 04 15.0	
KLMR				pmax	pmax		
	comp=Z,226nm,1.2s						
KLMR				MLR	MLR		
	comp=Z,3μm,16.0s						
CHGN	**Chignik**	**66.09**	**37**	P	**P**	**02 03 42.9**	**-0.7**
	baz=276						
D20K	**Etivluk River**	**66.11**	**23**	P	**P**	**02 03 43.2**	**-0.4**
	baz=272,SNR=35						
M17K	**Holitna River**	**66.15**	**31**	IAmb	IAmb	02 03 52.5	
	comp=Z,49nm,1.1s						
M17K	**Holitna River**	**66.15**	**31**	P	**P**	**02 03 44.0**	**+0.1**
	baz=274,SNR=10						
GCSA	**Galena City Sc**	**66.18**	**28**	P	**P**	**02 03 43.9**	**-0.2**
	baz=273						
KIV	**Kislovodsk**	**66.18**	**309**	P	**P**	**02 03 44.1**	**-0.4**
KIV	**Kislovodsk**	**66.18**	**309**	P	**P**	**02 03 46.6**	**+2.0**
KIV				P	**P**	**02 03 46.6**	**+2.0**
KIV	**Kislovodsk**	**66.18**	**309**	⇑P	**P**	**02 03 46.5**	**+2.0**
KIV	**Kislovodsk**	**66.18**	**309**	*e P*	**P**	**02 03 44.2**	**-0.4**
KIV				*e S*	**S**	**02 12 33.9**	**+0.5**
KIV				*e SS*	**SS**	**02 16 45.7**	**-3.3**
KIV				pmax	pmax		
	comp=Z,121nm,1.1s						
KIV				pmax	pmax		
	comp=Z,171nm,4.2s						
KIV	**Kislovodsk**	**66.18**	**309**	*i P*	**P**	**02 03 45.9**	**+1.3**
	SNR=21						
SHA1	**Shidzhatmaz**	**66.24**	**309**	*de P*	**P**	**02 03 45.9**	**+0.8**
E20K	**Nigu River**	**66.28**	**24**	P	**P**	**02 03 44.7**	**0.0**
	baz=272						
H19K	**Roundabout Mou**	**66.32**	**27**	P	**P**	**02 03 44.6**	**-0.3**
	baz=273,SNR=37						
J18K	**Innoko River**	**66.33**	**29**	IAMs_20	IAMs_20	02 31 23.0	
	comp=Z,2μm,22.0s						
J18K	**Innoko River**	**66.33**	**29**	P	**P**	**02 03 45.0**	**-0.1**
	baz=274						
N17K	**Nushagak Hills**	**66.34**	**32**	IAmb	IAmb	02 03 54.3	
	comp=Z,56nm,1.3s						
N17K				IAMs_20	IAMs_20	02 33 15.3	
	comp=Z,1μm,20.0s						
N17K	**Nushagak Hills**	**66.34**	**32**	P	**P**	**02 03 44.6**	**-0.6**
	baz=275						
R16K	**Pilot Point**	**66.42**	**36**	P	**P**	**02 03 44.2**	**-1.5**
	baz=276						
L18K	**Granite Mounta**	**66.44**	**30**	IAmb	IAmb	02 04 17.8	
	comp=Z,60nm,1.2s						
L18K				IAMs_20	IAMs_20	02 31 44.9	
	comp=Z,1μm,20.0s						
L18K	**Granite Mounta**	**66.44**	**30**	P	**P**	**02 03 45.2**	**-0.6**
	baz=275,SNR=19						
O17K	**Koliganek Bris**	**66.46**	**33**	P	**P**	**02 03 45.1**	**-0.8**
	baz=275						
F20K	**Avaraart Lake**	**66.52**	**25**	IAMs_20	IAMs_20	02 31 44.7	
	comp=Z,1μm,20.0s						
F20K	**Avaraart Lake**	**66.52**	**25**	P	**P**	**02 03 46.1**	**0.0**
	baz=273,SNR=17						
A22K	**Sinclair Lake**	**66.59**	**21**	P	**P**	**02 03 46.7**	**+0.1**
	baz=272,SNR=6.7						
TTA	**Tatalina**	**66.69**	**30**	P	**P**	**02 03 47.2**	**-0.3**
	baz=275						
C21K	**Knifeblade Rid**	**66.75**	**23**	P	**P**	**02 03 47.5**	**-0.2**
	baz=273,SNR=44						
J19K	**Poorman**	**66.78**	**28**	IAmb	IAmb	02 03 58.1	
	comp=Z,42nm,1.1s						
J19K	**Poorman**	**66.78**	**28**	P	**P**	**02 03 47.9**	**0.0**
	baz=275,SNR=25						
B21K	**Ikpikpuk River**	**66.78**	**22**	P	**P**	**02 03 48.0**	**+0.2**
	baz=273,SNR=89						
Q16K	**King Salmon**	**66.79**	**34**	P	**P**	**02 03 47.6**	**-0.5**
	baz=276						
P17K	**Kvichak River**	**66.85**	**34**	P	**P**	**02 03 48.3**	**-0.1**
	baz=276						
M18K	**Stony River**	**66.92**	**31**	P	**P**	**02 03 48.4**	**-0.5**
	baz=276						
N18K	**Kilae Creek**	**66.97**	**32**	IAmb	IAmb	02 03 58.2	
	comp=Z,43nm,1.4s						
N18K	**Kilae Creek**	**66.97**	**32**	P	**P**	**02 03 49.1**	**-0.1**
	baz=276						
H20K	**Anotleneega Mo**	**66.97**	**27**	P	**P**	**02 03 49.5**	**+0.3**
	baz=275,SNR=15						
E21K	**Killik River**	**67.09**	**24**	IAmb	IAmb	02 03 52.5	
	comp=Z,48nm,0.9s						
E21K				IAMs_20	IAMs_20	02 32 30.8	
	comp=Z,2μm,22.0s						
E21K	**Killik River**	**67.09**	**24**	P	**P**	**02 03 49.7**	**-0.2**
	baz=274,SNR=16						
B22K	**Teshekpuk Lake**	**67.14**	**21**	P	**P**	**02 03 49.8**	**-0.4**
B22K	**Teshekpuk Lake**	**67.14**	**21**	P	**P**	**02 03 49.7**	**-0.4**
	baz=274,SNR=35						
I20K	**Naaghedeneel**	**67.20**	**28**	P	**P**	**02 03 50.6**	**+0.1**
	baz=276						
Q17K	**Contact Creek**	**67.24**	**35**	P	**P**	**02 03 49.5**	**-1.6**
	baz=277						
VORR	**Voronezh**	**67.29**	**318**	*e P*	**P**	**02 03 48.7**	**-2.7**
VORR				pmax	pmax		
	comp=Z,50nm,1.2s						
L19K	**White Mountain**	**67.30**	**30**	IAmb	IAmb	02 04 00.2	
	comp=Z,49nm,1.1s						
L19K				IAMs_20	IAMs_20	02 32 09.6	
	comp=Z,1μm,20.0s						
L19K	**White Mountain**	**67.30**	**30**	P	**P**	**02 03 51.4**	**0.0**
	baz=276,SNR=25						
LPSR	**Galich'ya Gora**	**67.33**	**319**	*e P*	**P**	**02 03 51.0**	**-0.6**
LPSR				*e S*	**S**	**02 12 50.4**	**+3.7**
LPSR				pmax	pmax		
	comp=Z,124nm,1.4s						
LPSR				pmax	pmax		
	comp=Z,645nm,3.5s						
VORD	**Divnogorie**	**67.35**	**317**	*e P*	**P**	**02 03 48.6**	**-3.1**
VORD				pmax	pmax		
	comp=Z,20nm,1.2s						
F21K	**Alatna River**	**67.38**	**25**	IAMs_20	IAMs_20	02 32 24.4	
	comp=Z,1μm,21.0s						
F21K	**Alatna River**	**67.38**	**25**	P	**P**	**02 03 51.6**	**-0.1**
	baz=275,SNR=20						
VSR	**Storozhevoye**	**67.39**	**318**	*e P*	**P**	**02 03 48.4**	**-3.6**
VSR				pmax	pmax		
	comp=Z,30nm,1.1s						
O18K	**Koktuh Hills**	**67.40**	**33**	IAmb	IAmb	02 04 00.8	
	comp=Z,64nm,1.2s						
O18K	**Koktuh Hills**	**67.40**	**33**	P	**P**	**02 03 51.8**	**-0.2**
	baz=277,SNR=11						
J20K	**Nowinta River**	**67.41**	**28**	P	**P**	**02 03 52.5**	**+0.6**
	baz=276,SNR=14						
ERBR	**Yeremizino-Bor**	**67.43**	**312**	*e P*	**P**	**02 03 51.6**	**-0.8**
ERBR				*e S*	**S**	**02 12 52.4**	**+4.2**
ERBR				pmax	pmax		
	comp=Z,152nm,1.0s						
G21K	**Allakaket**	**67.44**	**26**	IAMs_20	IAMs_20	02 32 44.0	
	comp=Z,1μm,22.0s						
G21K	**Allakaket**	**67.44**	**26**	P	**P**	**02 03 51.9**	**-0.2**
	baz=276,SNR=24						
P18K	**Big Mountain,**	**67.44**	**33**	IAmb	IAmb	02 04 00.4	
	comp=Z,30nm,1.1s						
P18K	**Big Mountain,**	**67.44**	**33**	P	**P**	**02 03 51.4**	**-0.9**
	baz=277						
LABN	**Labinsk**	**67.45**	**310**	*e P*	**P**	**02 03 51.4**	**-1.2**
LABN				*e S*	**S**	**02 12 54.7**	**+6.1**
LABN				pmax	pmax		
	comp=Z,29nm,0.8s						
LABN				MLR	MLR		
	comp=Z,1μm,14.0s						
D22K	**Ayikyak River**	**67.52**	**23**	P	**P**	**02 03 52.6**	**0.0**
	baz=275,SNR=28						
K20K	**Telida**	**67.53**	**29**	IAmb	IAmb	02 04 21.9	
	comp=Z,26nm,1.0s						
K20K	**Telida**	**67.53**	**29**	P	**P**	**02 03 53.0**	**+0.3**
	baz=276						
M19K	**Big River Lodg**	**67.55**	**31**	IAmb	IAmb	02 04 13.5	
	comp=Z,65nm,1.4s						
M19K				IAMs_20	IAMs_20	02 32 29.1	
	comp=Z,1μm,21.0s						
M19K	**Big River Lodg**	**67.55**	**31**	P	**P**	**02 03 52.9**	**+0.1**
	baz=277,SNR=7.4						
LVZ	**Lovozero**	**67.57**	**336**	P	**P**	**02 03 51.7**	**-1.3**
LVZ	**Lovozero**	**67.57**	**336**	*de P*	**P**	**02 03 53.1**	**+0.1**
LVZ				pmax	pmax		
	comp=Z,138nm,1.7s						
MOS	**Moscow**	**67.63**	**323**	*e P*	**P**	**02 03 51.7**	**-1.8**
MOS				*e*		02 04 03.2	
MOS				*e*		02 06 20.5	
MOS				*e S*	**S**	**02 12 46.9**	**-3.4**
MOS				pmax	pmax		
	comp=Z,167nm,1.6s						
MOS				pmax	pmax		
	comp=Z,600nm,2.3s						
MOS				MLR	MLR		
	comp=Z,800nm,16.0s						
N19K	**Bonanza Creek**	**67.64**	**32**	P	**P**	**02 03 53.5**	**-0.1**
	baz=277						
Q18K	**Katmai Hardscr**	**67.65**	**34**	P	**P**	**02 03 52.6**	**-1.1**
	baz=278						
GURO	**Guroymak-BITLI**	**67.68**	**304**	P	**P**	**02 03 54.6**	**+0.3**
GURO				IAmb	IAmb	02 03 57.4	
	comp=Z,58nm,1.2s						
CHIR	**Chirikof Islan**	**67.71**	**37**	P	**P**	**02 03 53.1**	**-0.9**
	baz=278						
L20K	**Farewell, AK**	**67.72**	**30**	P	**P**	**02 03 54.2**	**+0.3**
	baz=277						
O19K	**Port Alsworth**	**67.80**	**33**	IAmb	IAmb	02 04 03.0	
	comp=Z,76nm,1.4s						
O19K	**Port Alsworth**	**67.80**	**33**	P	**P**	**02 03 54.6**	**+0.2**
	baz=278,SNR=12						
H21K	**Melozitna River**	**67.81**	**27**	IAmb	IAmb	02 04 06.4	
	comp=Z,82nm,1.4s						
H21K				IAMs_20	IAMs_20	02 37 24.0	
	comp=Z,1μm,18.0s						
H21K	**Melozitna Rive**	**67.81**	**27**	P	**P**	**02 03 54.0**	**-0.5**
	baz=277,SNR=40						
F22K	**John River**	**67.85**	**25**	P	**P**	**02 03 55.1**	**+0.4**
	baz=276,SNR=46						
E22K	**Anaktuvuk Pass**	**67.92**	**24**	P	**P**	**02 03 54.8**	**-0.4**
	baz=276,SNR=50						
APA	**Apatity**	**68.08**	**336**	*i iP*	**P**	**02 03 54.2**	**-1.9**
APA				*i*		02 04 20.0	
APA				*i*		02 06 22.3	
APA				*i S*	**S**	**02 12 50.0**	**-5.3**
APA				*i*		02 13 57.0	
APA				pmax	pmax		
	comp=Z,57nm,1.2s						
APA				MLR	MLR		
	comp=Z,2μm,13.0s						
R18K	**Karluk**	**68.09**	**35**	P	**P**	**02 03 55.9**	**-0.4**
	baz=278						
M20K	**Styx River**	**68.14**	**31**	IAmb	IAmb	02 04 14.7	
	comp=Z,32nm,1.1s						
M20K				IAMs_20	IAMs_20	02 33 08.9	
	comp=Z,1μm,21.0s						
M20K	**Styx River**	**68.14**	**31**	P	**P**	**02 03 56.7**	**-0.1**
	baz=278,SNR=13						
C23K	**Itkillik River**	**68.15**	**22**	IAmb	IAmb	02 03 58.8	
	comp=Z,44nm,1.1s						
C23K	**Itkillik River**	**68.15**	**22**	P	**P**	**02 03 56.8**	**+0.3**
	baz=277,SNR=29						
VSLR	**Vesyoloye**	**68.17**	**309**	⇑*e P*	**P**	**02 03 57.7**	**+0.6**
VSLR				pmax	pmax		
	comp=Z,101nm,1.0s						
G22K	**Bettles**	**68.18**	**25**	P	**P**	**02 03 55.7**	**-1.0**
	baz=277						
D23K	**Nanushuk River**	**68.23**	**23**	P	**P**	**02 03 56.7**	**-0.3**
	baz=277						
CHUM	**Lake Minchumin**	**68.24**	**28**	P	**P**	**02 03 56.4**	**-0.8**
	baz=278,SNR=8.9						
Q19K	**Cape Douglas,**	**68.31**	**34**	IAmb	IAmb	02 04 32.5	
	comp=Z,53nm,1.2s						
Q19K	**Cape Douglas,**	**68.31**	**34**	P	**P**	**02 03 56.8**	**-0.9**
	baz=279						
OBN	**Obninsk**	**68.32**	**322**	P	**P**	**02 03 57.6**	**-0.2**
OBN	**Obninsk**	**68.32**	**322**	LR	LR	02 36 53.4	
	comp=Z,882nm,18.1s,baz=62,slow=39						
OBN	**Obninsk**	**68.32**	**322**	⇑P	**P**	**02 03 58.0**	**+0.2**
OBN	**Obninsk**	**68.32**	**322**	*de P*	**P**	**02 03 57.8**	**0.0**
OBN				*e*		02 04 26.6	
OBN				*i*		02 06 26.5	
OBN				*i S*	**S**	**02 12 55.8**	**-2.7**
OBN				pmax	pmax		
	comp=Z,253nm,2.5s						
OBN				MLR	MLR		
	comp=Z,802nm,15.0s						
SOC	**Sochi**	**68.37**	**309**	*e P*	**P**	**02 03 56.8**	**-1.5**
SOC				*e*		02 06 27.6	
SOC				*e PPP*	PPP	02 08 08.2	
SOC				*e S*	**S**	**02 12 58.0**	**-1.5**
SOC				*e SS*	**SS**	**02 17 26.9**	**+4.3**
SOC				pmax	pmax		
	comp=Z,59nm,1.1s						
SOC				MLR	MLR		
	comp=Z,601nm,15.0s						
H22K	**Ishtalitna Cre**	**68.37**	**26**	P	**P**	**02 03 58.3**	**+0.3**
	baz=278,SNR=21						
SII	**Sitkinak Islan**	**68.39**	**36**	P	**P**	**02 03 57.1**	**-1.2**
	baz=279						
CAST	**Castle Rocks**	**68.41**	**29**	IAMs_20	IAMs_20	02 32 47.8	
	comp=Z,1μm,21.0s						
CAST	**Castle Rocks**	**68.41**	**29**	P	**P**	**02 03 57.8**	**-0.5**
	baz=278,SNR=17						
P19K	**Oil Pt**	**68.42**	**33**	IAmb	IAmb	02 04 05.9	
	comp=Z,48nm,1.0s						
P19K	**Oil Pt**	**68.42**	**33**	P	**P**	**02 03 57.8**	**-0.6**
	baz=279,SNR=14						
PPLA	**Purkeypile**	**68.44**	**29**	IAmb	IAmb	02 04 32.4	
	comp=Z,46nm,1.1s						
PPLA				IAMs_20	IAMs_20	02 35 02.6	
	comp=Z,1μm,21.0s						
PPLA	**Purkeypile**	**68.44**	**29**	P	**P**	**02 03 57.7**	**-0.9**
	baz=278						
RAYN	**Ar Rayn**	**68.48**	**287**	P	**P**	**02 03 59.0**	**-0.5**
RAYN	**Ar Rayn**	**68.48**	**287**	P	**P**	**02 04 00.6**	**+1.1**
RAYN	**Ar Rayn**	**68.48**	**287**	P	**P**	**02 04 00.4**	**+0.9**
RAYN	**Ar Rayn**	**68.48**	**287**	*i P*	**P**	**02 04 00.0**	**+0.6**
	SNR=15						
COLD	**Coldfoot**	**68.65**	**25**	P	**P**	**02 03 59.5**	**-0.1**
	baz=278,SNR=5.9						
O20K	**Slope Mountain**	**68.65**	**32**	P	**P**	**02 03 58.8**	**-1.1**
	baz=279						
TOLK	**

comp=Z,29nm,1.1s
SKT IAMs_20 IAMs_20 02 33 31.3
comp=Z,1µm,21.0s
SKT Skwentna 68.88 30 P P 02 04 00.7 -0.5
baz=279
KTH Kantishna Hill 68.91 29 IAMs_20 IAMs_20 02 35 20.9
comp=Z,1µm,19.0s
MSVF Nonsavu 68.93 121 P P 02 04 02.0 -0.2
MSVF Nonsavu 68.93 121 LR LR 02 30 50.9
comp=Z,508nm,21.5s,baz=347,slow=33
MSVF Nonsavu 68.93 121⇑ *e*P **P 02 04 02.3 +0.1**
MSVF pmax pmax
comp=Z,82nm,1.2s
Q20K Shuyak Island 69.01 34 P P 02 04 00.7 -1.3
baz=280
SYI Shuyak Island 69.01 34 IAmb IAmb 02 04 08.0
comp=Z,36nm,0.9s
KDAK Kodiak Island 69.05 35 P **P 02 04 00.8 -1.5**
KDAK IAmb IAmb 02 04 08.6
comp=Z,65nm,1.1s
KDAK Kodiak Island 69.05 35 P **P 02 04 02.2 -0.1**
comp=Z,16nm,0.8s,baz=302,slow=1.8,SNR=17
comp=Z,16nm,0.8s
KDAK Kodiak Island 69.05 35 *de*P **P 02 04 01.5 -0.8**
KDAK pmax pmax
comp=Z,37nm,1.1s
KDAK Kodiak Island 69.05 35 P **P 02 04 01.3 -1.0**
baz=280
H23K Yukon River 69.12 26 IAmb IAmb 02 04 09.3
comp=Z,47nm,0.9s
H23K IAMs_20 IAMs_20 02 38 04.6
comp=Z,1µm,18.0s
H23K Yukon River 69.12 26 P **P 02 04 03.2 +0.5**
baz=279
E24K Your Creek 69.16 24 P **P 02 04 03.2 +0.3**
baz=280,SNR=58
VADS Vadso 69.17 339 *e*P **P 02 04 04.0 +1.1**
TRF Thorofare Moun 69.20 29 IAMs_20 IAMs_20 02 32 49.8
comp=Z,1µm,22.0s
TRF Thorofare Moun 69.20 29 P **P 02 04 03.1 -0.3**
baz=280,SNR=9.2
HOPEN Hopen 69.24 346 *e*P **P 02 04 04.5 +1.3**
CAPN Captain Cook N 69.26 32 P **P 02 04 02.7 -0.8**
baz=280
I23K Minto, Yukon-K 69.31 27 IAmb IAmb 02 04 29.0
comp=Z,45nm,1.4s
I23K IAMs_20 IAMs_20 02 36 02.6
comp=Z,1µm,19.0s
I23K Minto, Yukon-K 69.31 27 P **P 02 04 03.9 +0.1**
baz=280,SNR=6.1
SUA Susitna One 69.33 31 IAmb IAmb 02 04 06.8
comp=Z,50nm,1.0s
SUA Susitna One 69.33 31 P **P 02 04 03.4 -0.8**
baz=280,SNR=27
CUT Chulitna 69.39 30 IAmb IAmb 02 04 26.9
comp=Z,60nm,1.0s
CUT IAMs_20 IAMs_20 02 35 10.9
comp=Z,1µm,18.0s
CUT Chulitna 69.39 30 P **P 02 04 03.3 -1.0**
baz=280
F24K Squaw Lake 69.48 24 IAmb IAmb 02 04 13.6
comp=Z,34nm,0.9s
F24K IAMs_20 IAMs_20 02 34 10.0
comp=Z,1µm,20.0s
F24K Squaw Lake 69.48 24 P **P 02 04 05.3 +0.4**
baz=280,SNR=36
MSEY Mahe Island 69.49 255 P **P 02 04 06.8 +1.1**
MSEY IAmb IAmb 02 04 11.5
comp=Z,62nm,1.2s
MSEY Mahe Island 69.49 255 P **P 02 04 06.9 +1.1**
MSEY pmax pmax
comp=Z,62nm,1.3s
NEA2 Nenana 69.53 27 P **P 02 04 04.2 -1.0**
NEA2 IAmb IAmb 02 04 11.5
comp=Z,52nm,1.0s
NEA2 Nenana 69.53 27 P **P 02 04 04.6 -0.6**
baz=280,SNR=27
BRLK Bradley Lake 69.57 33 IAmb IAmb 02 04 12.7
comp=Z,38nm,1.0s
BRLK IAMs_20 IAMs_20 02 36 07.4
comp=Z,1µm,21.0s
M22K Willow 69.58 31 P **P 02 04 04.2 -1.3**
baz=280,SNR=13
FIS Fire Island 69.64 31 IAMs_20 IAMs_20 02 31 47.5
comp=Z,1µm,18.0s
BRSE Bradley Lake S 69.64 33 P **P 02 04 04.6 -1.4**
baz=281,SNR=5.8
JOF Joensuu 69.67 331 *e*P **P 02 04 06.6 +0.6**
D25K Kavik River 69.70 22 IAmb IAmb 02 04 08.8
comp=Z,44nm,0.9s
D25K Kavik River 69.70 22 P **P 02 04 05.6 -0.6**
baz=281,SNR=83
ANN Anapa 69.72 311 *e*P **P 02 04 06.9 +0.2**
ANN *e*S **S 02 13 14.1 -1.4**
ANN pmax pmax
comp=Z,182nm,1.1s
ANN MLR MLR
comp=Z,539nm,11.0s
MCK McKinley 69.75 28 IAmb IAmb 02 04 36.8
comp=Z,36nm,1.2s
MCK IAMs_20 IAMs_20 02 35 47.1
comp=Z,1µm,20.0s
MCK McKinley 69.75 28 P **P 02 04 05.9 -0.7**
baz=281,SNR=13
G24K Hadweenzic Riv 69.79 25 IAmb IAmb 02 04 13.6
comp=Z,29nm,0.9s
G24K Hadweenzic Riv 69.79 25 P **P 02 04 06.6 -0.2**
baz=281,SNR=23
H24K Noodor Dome 69.80 26 IAmb IAmb 02 04 23.6
comp=Z,47nm,1.2s
H24K IAMs_20 IAMs_20 02 38 46.4
comp=Z,1µm,20.0s
H24K Noodor Dome 69.80 26 P **P 02 04 07.0 +0.1**
baz=281,SNR=20
RND Reindeer 69.85 29 IAmb IAmb 02 04 12.8
comp=Z,53nm,0.9s
RND IAMs_20 IAMs_20 02 33 21.7
comp=Z,1µm,22.0s
RC01 Rabbit Creek A 69.88 31 P **P 02 04 06.3 -1.1**
baz=281
TAU Tasmania Unive 69.90 160 P **P 02 04 07.3 -0.3**
TAU Tasmania Unive 69.90 160 P **P 02 04 07.3 -0.3**
TAU pmax pmax
comp=Z,111nm,1.1s
COLA College 69.99 27 IAMs_20 IAMs_20 02 36 14.5
comp=Z,1µm,19.0s
COLA College 69.99 27 P **P 02 04 09.3 +1.3**
COLA College 69.99 27⇑ *i*P **P 02 04 07.9 -0.1**
COLA pmax pmax
comp=Z,23nm,1.0s
COLA College 69.99 27 P **P 02 04 06.9 -1.0**
baz=281
O22K Cooper Landing 70.00 32 IAMs_20 IAMs_20 02 36 39.1
comp=Z,1µm,20.0s
O22K Cooper Landing 70.00 32 P **P 02 04 07.3 -0.8**
baz=281
KEV Kevo 70.03 338 P **P 02 04 06.9 -1.2**
KEV Kevo 70.03 338 P **P 02 04 06.9 -1.2**
KEV pmax pmax
comp=Z,190nm,1.6s
CCB Clear Creek Bu 70.06 27 IAMs_20 IAMs_20 02 37 59.3
comp=Z,1µm,18.0s
PMR Palmer 70.07 31 P **P 02 04 07.8 -0.7**
baz=281,SNR=6.8
C26K Camden Bay 70.08 21 P **P 02 04 09.0 +0.5**
baz=282,SNR=34
POKR Poker Plat Res 70.12 27 IAMs_20 IAMs_20 02 40 14.9
comp=Z,1µm,18.0s
POKR Poker Plat Res 70.12 27 P **P 02 04 09.0 +0.2**
baz=282,SNR=10
GHO Glory Hole Cre 70.13 30 IAmb IAmb 02 04 42.4
comp=Z,93nm,1.8s
SEW Seward 70.21 32 IAmb IAmb 02 04 27.6
comp=Z,69nm,1.3s
SEW IAMs_20 IAMs_20 02 36 41.6
comp=Z,1µm,19.0s
SEW Seward 70.21 32 P **P 02 04 08.3 -1.1**
baz=282
E25K Arctic Village 70.23 23 IAmb IAmb 02 04 18.8
comp=Z,45nm,1.1s
E25K Arctic Village 70.23 23 P **P 02 04 09.7 +0.2**
baz=282,SNR=31
F25K Christian Rive 70.31 24 IAmb IAmb 02 04 19.5
comp=Z,28nm,0.8s
F25K IAMs_20 IAMs_20 02 36 53.0
comp=Z,1µm,18.0s
F25K Christian Rive 70.31 24 P **P 02 04 10.8 +0.8**
baz=282,SNR=38
G25K Bearman Lake 70.31 25 P **P 02 04 10.1 +0.1**
baz=282,SNR=12
SML Sawmill 70.40 30 IAMs_20 IAMs_20 02 35 45.5
comp=Z,1µm,20.0s
SML Sawmill 70.40 30 P **P 02 04 09.5 -1.2**
baz=282
ILAR Eielson Array 70.42 27 P **P 02 04 09.8 -0.8**
ILAR Eielson Array 70.42 27 P **P 02 04 10.1 -0.5**
comp=Z,2.5nm,0.7s,baz=292,slow=7.9,SNR=27
ILAR PP **PP 02 06 49.9 +3.7**
comp=Z,2.6nm,1.1s,baz=282,slow=8.4,SNR=4.3
ILAR LR LR 02 38 57.1
comp=Z,617nm,18.4s,baz=288,slow=39
comp=Z,2.5nm,0.7s
ILAR Eielson Array 70.42 27 P **P 02 04 09.9 -0.8**
KNK Knik Glacier 70.42 31 P **P 02 04 09.6 -1.1**
baz=282,SNR=8.5
HDA Harding Lake 70.47 27 IAMs_20 IAMs_20 02 38 21.2
comp=Z,1µm,20.0s
HDA Harding Lake 70.47 27 P **P 02 04 11.6 +0.6**
baz=282,SNR=19
H25L Birch Creek 70.53 25 P **P 02 04 11.6 +0.3**
baz=283
C27K Jago River 70.55 22 IAmb IAmb 02 04 14.5
comp=Z,47nm,1.1s
C27K Jago River 70.55 22 P **P 02 04 11.3 -0.1**
baz=283,SNR=42
ARA0 ARCESS Array S 70.59 338 *e*P **P 02 04 12.4 +0.7**
ARCES ARCESS Array B 70.59 338 P **P 02 04 12.1 +0.4**
comp=Z,28nm,0.9s,baz=76,slow=5.6,SNR=22
ARCES LR LR 02 38 11.9
comp=Z,2µm,18.7s,baz=57,slow=38
comp=Z,28nm,0.9s
PWL Port Wells 70.60 31 IAmb IAmb 02 04 14.4
comp=Z,27nm,0.9s
PWL IAMs_20 IAMs_20 02 32 28.8
comp=Z,1µm,21.0s
PWL Port Wells 70.60 31 P **P 02 04 10.8 -1.0**
baz=282,SNR=8.9
SPA0 Spitsbergen Ar 70.64 348 *e*P **P 02 04 13.0 +1.2**
SPITS Spitsbergen Ar 70.64 348 P **P 02 04 12.7 +0.9**
comp=Z,72nm,1.0s,baz=100,slow=6.9,SNR=27
SPITS LR LR 02 39 31.3
comp=Z,3µm,18.1s,baz=32,slow=40
comp=Z,72nm,1.0s
SPITS Spitsbergen Ar 70.64 348 P **P 02 04 11.5 -0.3**
SPITS pmax pmax
comp=Z,191nm,1.2s
M23K Glacier View 70.68 30 P **P 02 04 11.5 -0.8**
baz=282,SNR=8.1
FYU Fort Yukon 70.70 25 IAmb IAmb 02 04 20.6
comp=Z,39nm,1.0s
BMAR Burnt Mountain 70.75 24 P **P 02 04 12.3 -0.4**
PUL Pulkovo 70.76 328 *ce*P **P 02 04 13.9 +1.1**
PUL pmax pmax
comp=Z,170nm,1.0s
PRP Porcupine Dome 70.82 26 P **P 02 04 12.7 -0.6**
baz=283
F26K Sheenjek River 70.85 24 IAmb IAmb 02 04 22.3
comp=Z,42nm,0.9s
F26K IAMs_20 IAMs_20 02 34 44.1
comp=Z,2µm,22.0s
F26K Sheenjek River 70.85 24 P **P 02 04 12.9 -0.4**
baz=284,SNR=78
SCM Sheep Creek Mo 70.86 30 IAmb IAmb 02 04 30.0
comp=Z,42nm,0.9s
SCM IAMs_20 IAMs_20 02 35 48.6
comp=Z,1µm,20.0s
SCM Sheep Creek Mo 70.86 30 P **P 02 04 13.1 -0.4**
baz=283,SNR=17
HAMF Hammerfest 70.93 340 *e*P **P 02 04 14.9 +1.3**
J25K Salcha River, 71.09 27 IAMs_20 IAMs_20 02 35 04.6
comp=Z,963nm,19.0s
J25K Salcha River, 71.09 27 P **P 02 04 14.9 +0.1**
baz=284,SNR=10
K24K Donnelly Dome 71.11 28 P **P 02 04 13.7 -1.2**
baz=284,SNR=18
G26K Porcupine Rive 71.16 24 P **P 02 04 15.1 0.0**
baz=284,SNR=23
GLI Glacier Island 71.18 31 IAmb IAmb 02 04 49.5
comp=Z,34nm,1.0s
GLI Glacier Island 71.18 31 P **P 02 04 13.8 -1.6**
baz=283,SNR=13
KBS Kingsbay 71.19 349 P **P 02 04 15.6 +0.4**
KBS Kingsbay 71.19 349 *ce*P **P 02 04 15.8 +0.7**
KBS pmax pmax
comp=Z,39nm,1.0s
HSPB Hornsund (broa 71.20 347 *e*P **P 02 04 15.7 +0.5**
P23K Montague Islan 71.24 32 P **P 02 04 14.4 -1.3**
baz=283
M24K Tolsona, Glenn 71.33 30 IAmb IAmb 02 04 33.4
comp=Z,54nm,0.8s
M24K Tolsona, Glenn 71.33 30 P **P 02 04 16.0 -0.3**
baz=284
PAX Paxson 71.44 29 IAMs_20 IAMs_20 02 34 44.9
comp=Z,1µm,22.0s
PAX Paxson 71.44 29 P **P 02 04 16.2 -0.8**
baz=284,SNR=14
TOKA Tokat 71.45 307 IAmb IAmb 02 04 19.9
comp=Z,59nm,1.3s
FID Port Fidalgo 71.51 31 IAmb IAmb 02 04 33.7
comp=Z,41nm,1.1s
FID IAMs_20 IAMs_20 02 36 39.5
comp=Z,951nm,19.0s
KTK1 Kautokeino 71.51 338 *e*P **P 02 04 18.1 +0.9**
RIDG Independent Ri 71.52 28 IAmb IAmb 02 04 25.4
comp=Z,34nm,1.0s
RIDG IAMs_20 IAMs_20 02 29 34.1
comp=Z,1µm,20.0s
RIDG Independent Ri 71.52 28 P **P 02 04 16.7 -0.7**
baz=284,SNR=19
HIN Hinchinbrook I 71.58 32 IAMs_20 IAMs_20 02 41 26.8
comp=Z,982nm,20.0s
D27M Malcolm River 71.59 22 IAmb IAmb 02 04 24.3
comp=Z,55nm,1.2s
D27M Malcolm River 71.59 22 P **P 02 04 17.7 -0.1**
baz=286,SNR=42
KLU Klutina 71.59 30 IAMs_20 IAMs_20 02 36 34.0
comp=Z,1µm,19.0s
KLU Klutina 71.59 30 P **P 02 04 16.6 -1.3**
baz=284,SNR=9.9
E27K Coleen River 71.66 23 IAmb IAmb 02 04 20.3
comp=Z,57nm,1.4s
E27K IAMs_20 IAMs_20 02 37 40.4
comp=Z,1µm,18.0s
E27K Coleen River 71.66 23 P **P 02 04 17.5 -0.7**
baz=286,SNR=29
GAZ Gaziantep 71.71 303 IAmb IAmb 02 04 21.9
comp=Z,79nm,1.2s
HARP HAARP 71.72 29 P **P 02 04 18.2 -0.4**
baz=284
DIV Divide 71.75 31 P **P 02 04 18.1 -0.8**
DIV IAmb IAmb 02 04 53.4
comp=Z,40nm,1.2s
DIV IAMs_20 IAMs_20 02 36 37.2
comp=Z,1µm,20.0s
I26K Coal Creek Min 71.83 26 IAmb IAmb 02 04 25.3
comp=Z,38nm,1.0s
I26K Coal Creek Min 71.83 26 P **P 02 04 18.3 -0.9**
baz=285
SCRK Sand Creek 71.83 28 IAmb IAmb 02 04 27.4
comp=Z,133nm,2.0s
SCRK IAMs_20 IAMs_20 02 40 30.2
comp=Z,869nm,18.0s
SCRK Sand Creek 71.83 28 P **P 02 04 18.2 -1.2**
baz=285,SNR=13
J26L Joseph Creek 71.87 27 IAMs_20 IAMs_20 02 39 59.3
comp=Z,1µm,20.0s
J26L Joseph Creek 71.87 27 P **P 02 04 18.6 -1.0**
baz=285,SNR=26
DOT Dot Lake 71.88 28 IAMs_20 IAMs_20 02 37 02.5
comp=Z,1µm,19.0s
EYAK Cordova Ski Ar 71.91 31 IAMs_20 IAMs_20 02 36 24.3
comp=Z,1µm,20.0s
EYAK Cordova Ski Ar 71.91 31 P **P 02 04 18.6 -1.1**
baz=285
SIM Simferopol' 71.98 312 *e*P **P 02 04 20.1 -0.4**
SIM *e*S **S 02 13 38.6 -3.2**
SIM pmax pmax
comp=Z,93nm,0.9s
SIM smax smax
comp=N,302nm,20.3s
SIM MLR MLR
comp=Z,383nm,19.1s
DIKM Dikmen 72.01 308⇓ P **P 02 04 21.5 +0.8**
G27K Doyon Strip 72.01 24 IAMs_20 IAMs_20 02 35 14.9
comp=Z,1µm,22.0s
G27K Doyon Strip 72.01 24 P **P 02 04 19.6 -0.7**
baz=286,SNR=22
N25K Chitina, Valde 72.18 30 IAMs_20 IAMs_20 02 36 24.4
comp=Z,1µm,20.0s
N25K Chitina, Valde 72.18 30 P **P 02 04 21.1 -0.3**
baz=285,SNR=6.0
H27K Steamboat Moun 72.22 25 P **P 02 04 22.4 +0.8**
baz=286,SNR=34
E28M Babbage River 72.27 22 IAmb IAmb 02 04 23.8
comp=Z,50nm,1.2s
E28M Babbage River 72.27 22 P **P 02 04 21.6 -0.2**
baz=287,SNR=35
JETT Jettan, Norway 72.31 339 *e*P **P 02 04 22.9 +0.9**
D28M Stokes Point 72.32 22 P **P 02 04 21.7 -0.3**
baz=288,SNR=15
BMRM Bremner River 72.34 31 IAmb IAmb 02 04 43.1
comp=Z,42nm,1.2s
BMRM IAMs_20 IAMs_20 02 35 24.8
comp=Z,1µm,20.0s
BMRM Bremner River 72.34 31 P **P 02 04 22.0 -0.4**
baz=285
L26K Log Cabin Wild 72.36 28 P **P 02 04 21.5 -0.9**
baz=286,SNR=15
I27K Kandik River 72.37 26 P **P 02 04 22.2 -0.3**
baz=286,SNR=32
FINES FINESS Array B 72.39 330 P **P 02 04 21.8 -0.8**
FINES FINESS Array B 72.39 330 P **P 02 04 22.9 +0.3**
comp=Z,58nm,0.8s,baz=73,slow=6.4,SNR=100
FINES LR LR 02 38 40.7
comp=Z,2µm,19.3s,baz=70,slow=38
comp=Z,58nm,0.8s
RAGM Ragged Mountai 72.46 31 P **P 02 04 22.7 -0.5**
RAGM IAmb IAmb 02 04 29.1
comp=Z,69nm,1.3s
RAGM IAMs_20 IAMs_20 02 42 12.0
comp=Z,1µm,19.0s
K27K Chicken 72.63 27 IAMs_20 IAMs_20 02 36 12.2
comp=Z,1µm,20.0s
K27K Chicken 72.63 27 P **P 02 04 24.0 0.0**
baz=287
HMT Hamilton 72.67 31 IAMs_20 IAMs_20 02 33 31.6
comp=Z,1µm,18.0s
M26K Nabesna, AK 72.69 29 P **P 02 04 23.6 -0.9**
M26K IAmb IAmb 02 04 30.3
comp=Z,31nm,1.0s
M26K IAMs_20 IAMs_20 02 41 31.9
comp=Z,1µm,20.0s
M26K Nabesna, AK 72.69 29 P **P 02 04 24.1 -0.3**
baz=286,SNR=27
KAIM Kayak Island 72.71 32 P **P 02 04 24.1 -0.5**
baz=286
VRDI Verde Repeater 72.81 30 IAMs_20 IAMs_20 02 37 18.1
comp=Z,1µm,20.0s
VSU Vasula 72.88 327 *d i*P **P 02 04 24.8 -0.7**
VSU pmax pmax
comp=Z,212nm,1.2s
VSU Vasula 72.88 327 *e*P **P 02 04 25.5 0.0**
E29M Blow River 72.91 22 P **P 02 04 25.2 -0.4**
baz=289,SNR=26
ARBE Arbavere 72.98 328 *e*P **P 02 04 27.1 +0.9**
L27K Beaver Creek, 73.01 28 IAmb IAmb 02 04 35.8
comp=Z,33nm,0.9s
L27K Beaver Creek, 73.01 28 P **P 02 04 26.3 -0.1**
baz=287,SNR=34
BCAR Beaver Creek A 73.03 28 P **P 02 04 25.9 -0.6**
I28M Miner Creek 73.08 26 IAmb IAmb 02 04 37.8
comp=Z,43nm,1.2s
I28M Miner Creek 73.08 26 P **P 02 04 27.1 +0.3**
baz=288,SNR=24
M27K Edge Creek, AK 73.20 29 IAMs_20 IAMs_20 02 38 08.4
comp=Z,1µm,20.0s
M27K Edge Creek, AK 73.20 29 P **P 02 04 27.4 -0.2**
baz=287
BGLC Bering Glacier 73.20 31 P **P 02 04 26.9 -0.5**
baz=287
BEIL Beino 73.23 301 *e*P **P 02 04 28.8 +0.6**
WAX Waxell Ridge 73.31 31 IAMs_20 IAMs_20 02 35 57.5
comp=Z,1µm,21.0s
ASF Jabal al Asfar 73.34 298 LR LR 02 41 55.1
comp=Z,492nm,20.9s,baz=108,slow=40
G29M Pine Creek 73.35 24 IAmb IAmb 02 04 34.4
comp=Z,53nm,1.1s
G29M Pine Creek 73.35 24 P **P 02 04 28.1 -0.1**
baz=289,SNR=29
MNK Minsk 73.36 323 *i*P **P 02 04 29.4 +0.9**
MNK *i* 02 04 43.8
MNK *i* 02 07 13.0
MNK *i* PPP PPP 02 08 57.0
MNK *i* S **SKiKP 02 13 59.6 -0.1**
MNK *i* SS **SS 02 18 42.9 +4.2**
MNK pmax pmax
comp=N,48nm,1.1s
MNK pmax pmax
comp=Z,67nm,0.9s
MNK pmax pmax
comp=E,16nm,1.0s
MNK MLR MLR
comp=E,1µm,20.0s
MNK MLR MLR
comp=N,437nm,13.0s
MNK MLR MLR
comp=Z,934nm,18.0s
H29M Whitestone 73.45 25 P **P 02 04 28.7 -0.1**
baz=289,SNR=18
VAF Ylistaro 73.46 332 *e*P **P 02 04 29.7 +0.9**
HWQ Hawqa 73.49 301 *e*P **P 02 04 30.7 +0.9**
MEF Metsahovi 73.53 329 *e*P **P 02 04 29.9 +0.6**
NOR Nord 73.54 354 *i*P **P 02 04 28.1 -1.0**
NOR IAmb IAmb 02 04 30.0
comp=Z,48nm,1.0s
AKASG Malin Array Be 73.63 319 P **P 02 04 29.3 -0.9**
AKASG IAmb IAmb 02 04 31.7
comp=Z,92nm,1.4s
AKASG Malin Array Be 73.63 319 P **P 02 04 29.9 -0.3**
comp=Z,22nm,0.9s,baz=64,slow=5.6,SNR=82
AKASG LR LR 02 38 42.0
comp=Z,829nm,18.8s,baz=57,slow=37
comp=Z,22nm,0.9s
AKASG Malin Array Be 73.63 319 *i*P **P 02 04 29.8 -0.3**
AKASG pmax pmax
comp=Z,27nm,0.9s
AKBB Malin Array Si 73.63 319 IAmb IAmb 02 04 31.4
comp=Z,86nm,1.3s
AKBB Malin Array Si 73.63 319 *d i*P **P 02 04 29.7 -0.5**
BVCY Beaver Creek 73.64 29 P **P 02 04 28.7 -1.3**
baz=288
KIEV Kiev 73.65 319 P **P 02 04 29.1 -1.1**
KIEV IAmb IAmb 02 04 31.3
comp=Z,77nm,1.3s
KIEV Kiev 73.65 319 ⇑P **P 02 04 30.3 +0.1**
KIEV Kiev 73.65 319 P **P 02 04 29.1 -1.1**
KIEV pmax pmax
comp=Z,77nm,1.3s
KIEV Kiev 73.65 319 *i*P **P 02 04 29.9 -0.3**
SNR=20
KIRS Kirsehir-Merke 73.67 306 ⇓P **P 02 04 31.3 +0.5**
BR131 Keskin Array S 73.72 307 IAmb IAmb 02 04 33.1
comp=Z,52nm,1.1s
BR131 Keskin Array S 73.72 307 P **P 02 04 32.1 +1.0**
SNR=14
BR131 Keskin Array S 73.72 307 *d i*P **P 02 04 31.2 +0.1**
BRTR Keskin Array B 73.72 307 P **P 02 04 30.6 -0.4**
BRTR Keskin Array B 73.72 307 P **P 02 04 31.9 +0.8**
comp=Z,19nm,1.0s,baz=112,slow=5.6,SNR=55
BRTR LR LR 02 39 41.4
comp=Z,394nm,21.2s,baz=62,slow=38
comp=Z,19nm,1.0s
BRTR Keskin Array B 73.72 307 *i*P **P 02 04 31.8 +0.7**
BRTR pmax pmax
comp=Z,19nm,1.0s
DAWY Dawson 73.74 27 P **P 02 04 29.9 -0.7**
DAWY IAmb IAmb 02 04 37.0
comp=Z,34nm,1.0s
DAWY Dawson 73.74 27 P **P 02 04 30.2 -0.4**
baz=289,SNR=31
I29M Ogilvie Camp, 73.76 25 IAmb IAmb 02 05 12.6
comp=Z,31nm,0.9s
I29M Ogilvie Camp, 73.76 25 P **P 02 04 30.4 -0.2**
baz=289,SNR=20
IDID Didziasalis 73.76 324 *e*P **P 02 04 29.4 -1.4**
RCY Rachaya 73.81 300 *e*P **P 02 04 32.5 +0.8**
MESA MESA 73.82 31 P **P 02 04 29.3 -2.1**
baz=288
BHL Bhannes 73.83 300 *e*P **P 02 04 28.0 -3.8**
YAH Yahtse 73.86 31 IAMs_20 IAMs_20 02 38 23.0
comp=Z,1µm,22.0s
SHBL Chebaa 73.92 300 *e*P **P 02 04 33.2 +0.8**
F30M Barrier River 73.92 23 P **P 02 04 31.2 -0.4**

baz=291,SNR=36
G30M tAoh Zraii Nji 73.99 24 IAmb IAmb 02 04 40.6
comp=Z,73nm,1.1s
G30M tAoh Zraii Nji 73.99 24 P **P** **02 04 31.4 -0.6**
baz=291
YUK3 Moose Creek 74.02 29 P **P** **02 04 32.0 -0.5**
baz=289,SNR=7.0
EPYK Eagle Plains 74.02 24 IAmb IAmb 02 04 37.6
comp=Z,36nm,1.0s
EPYK Eagle Plains 74.02 24 P **P** **02 04 31.3 -0.9**
baz=291,SNR=18
ISAL Salakas 74.02 324 *e*P **P** **02 04 32.3 0.0**
J29N Klondike Camp 74.10 26 IAmb IAmb 02 04 42.2
comp=Z,29nm,0.7s
J29N IAMs_20 IAMs_20 02 40 39.1
comp=Z,1µm,19.0s
J29N Klondike Camp 74.10 26 P **P** **02 04 32.5 -0.2**
baz=290,SNR=11
MTSE Matsula 74.27 327 *e*P **P** **02 04 35.3 +1.6**
MMAI Mount Meron Ar 74.30 300 P **P** **02 04 35.9 +1.4**
comp=Z,9.1nm,1.0s,baz=78,slow=6.1,SNR=14
MMAI LR LR 02 42 33.7
comp=Z,406nm,20.7s,baz=80,slow=40
comp=Z,9.1nm,1.0s
ANTO Ankara 74.30 307 P **P** **02 04 34.2 -0.2**
ANTO IAmb IAmb 02 04 36.4
comp=Z,63nm,1.1s
ANTO Ankara 74.30 307 P **P** **02 04 35.6 +1.2**
ANTO P **P** **02 04 35.6 +1.2**
ANTO Ankara 74.30 307 ⇑P **P** **02 04 35.6 +1.2**
ANTO Ankara 74.30 307 P **P** **02 04 34.2 -0.2**
ANTO pmax pmax
comp=Z,63nm,1.1s
PURM Purcari 74.41 314 ⇑P **P** **02 04 35.4 +0.6**
INK Inuvik 74.46 22 P **P** **02 04 34.0 -0.6**
INK IAmb IAmb 02 04 36.5
comp=Z,79nm,1.4s
INK Inuvik 74.46 22 P **P** **02 04 34.8 +0.2**
comp=Z,28nm,1.1s,baz=297,slow=6.6,SNR=32
INK LR LR 02 39 52.7
comp=Z,611nm,20.1s,baz=292,slow=38
comp=Z,28nm,1.1s
INK Inuvik 74.46 22 P **P** **02 04 34.0 -0.6**
INK pmax pmax
comp=Z,79nm,1.4s
INK Inuvik 74.46 22 P **P** **02 04 33.6 -1.1**
baz=293,SNR=37
O28M Mount Upton 74.46 30 P **P** **02 04 34.2 -1.0**
baz=289
YUK8 Steele Glacier 74.49 30 P **P** **02 04 34.5 -0.8**
baz=289
RAF Rauma 74.51 330 *e*P **P** **02 04 36.1 +1.1**
I30M Mount Dempster 74.56 25 IAmb IAmb 02 04 44.1
comp=Z,40nm,1.0s
I30M Mount Dempster 74.56 25 P **P** **02 04 35.0 -0.5**
baz=291,SNR=43
K29M Barlow Dome 74.59 27 P **P** **02 04 35.4 -0.3**
baz=290,SNR=21
L29M L29M 74.59 28 IAMs_20 IAMs_20 02 40 49.2
comp=Z,1µm,20.0s
L29M L29M 74.59 28 P **P** **02 04 36.0 +0.4**
baz=290,SNR=29
STEI Steigen 74.65 338 *e*P **P** **02 04 36.4 +0.7**
PCA Pinnacle 74.65 31 IAMs_20 IAMs_20 02 37 02.0
comp=Z,1µm,19.0s
PINM Pinnacle 74.66 31 P **P** **02 04 36.3 +0.2**
baz=289
M29M Somme Creek 74.68 28 IAMs_20 IAMs_20 02 38 50.5
comp=Z,1µm,20.0s
M29M Somme Creek 74.68 28 P **P** **02 04 36.6 +0.4**
baz=290,SNR=33
ATD Arta Tunnel 74.72 276 LR LR 02 39 22.8
comp=Z,9.7nm,18.7s,baz=80,slow=37
F31M Tsiigehtchic 74.72 23 P **P** **02 04 35.4 -0.8**
F31M Tsiigehtchic 74.72 23 P **P** **02 04 35.3 -0.8**
baz=293,SNR=37
G31M Satah River 74.73 23 P **P** **02 04 35.0 -1.2**
baz=293,SNR=13
J30M Hart River 74.82 26 IAMs_20 IAMs_20 02 37 12.1
comp=Z,920nm,20.0s
J30M Hart River 74.82 26 P **P** **02 04 35.9 -1.1**
baz=291,SNR=9.6
FAUS Fauske 74.85 337 *e*P **P** **02 04 37.5 +0.6**
SORM Soroca 74.92 316 ⇑P **P** **02 04 38.0 +0.3**
SORM Soroca 74.92 316 P **P** **02 04 38.0 +0.3**
KIS Kishinev 74.97 315 ⇓*i*P **P** **02 04 38.0 0.0**
comp=Z,140nm,5.2s
KIS *e*L L 02 36 43.0
KIS LRM MLR 02 42 36.0
comp=Z,400nm,18.0s
KIS Kishinev 74.97 315 *d i*P **P** **02 04 38.0 0.0**
KIS pmax pmax
comp=Z,140nm,5.2s
KIS MLR MLR
comp=Z,400nm,18.0s
YUK4 Talbot Arm 74.98 29 P **P** **02 04 36.6 -1.5**
baz=290,SNR=5.6
MILM Milestii Mici 74.99 315 *e*P **P** **02 04 37.0 -1.1**
comp=Z,400nm,5.3s
MILM *e*S **S** **02 14 15.0 -0.8**
MILM *e*ScS SKSac 02 14 30.0 -17
MILM Milestii Mici 74.99 315 ⇓P **P** **02 04 37.0 -1.1**
MILM Milestii Mici 74.99 315 *e*P **P** **02 04 37.0 -1.1**
MILM *e*S **S** **02 14 15.0 -0.8**
MILM *e*PS **PnS** **02 14 40.0 -11**
MILM pmax pmax
comp=Z,400nm,5.3s
MILM MLR MLR
comp=Z,900nm,19.0s
BCPM Bancas Point 75.00 31 IAmb IAmb 02 04 48.2
comp=Z,98nm,1.6s
BCPM IAMs_20 IAMs_20 02 37 10.0
comp=Z,1µm,19.0s
VSVD Vaisvydziai 75.08 325 *e*P **P** **02 04 39.9 +1.5**
H31M Peel River 75.13 24 IAMs_20 IAMs_20 02 36 34.4
comp=Z,1µm,22.0s
H31M Peel River 75.13 24 P **P** **02 04 37.9 -0.7**
baz=293,SNR=13
PNL Peninsula 75.20 31 P **P** **02 04 38.5 -0.7**
baz=290
PABE Paberze 75.21 324 IAMs_20 IAMs_20 02 41 08.4
comp=Z,1µm,21.0s
PABE Paberze 75.21 324 *e*P **P** **02 04 40.4 +1.2**
YUK6 Outpost Mounta 75.25 30 P **P** **02 04 39.8 +0.1**
baz=291,SNR=8.8
CSS Mathiatis 75.35 302 IAmb IAmb 02 04 45.3
comp=Z,49nm,1.0s
M30M Minto, Yukon 75.36 28 IAmb IAmb 02 04 46.8
comp=Z,40nm,1.1s
M30M IAMs_20 IAMs_20 02 39 00.4
comp=Z,1µm,20.0s
M30M Minto, Yukon 75.36 28 P **P** **02 04 40.1 0.0**
baz=292,SNR=47
A36M Sachs Harbour 75.37 17 IAmb IAmb 02 04 45.0
comp=Z,61nm,0.9s
A36M IAMs_20 IAMs_20 02 40 20.4
comp=Z,1µm,21.0s
A36M Sachs Harbour 75.37 17 P **P** **02 04 39.0 -0.8**
baz=299,SNR=71
O29M Mount Kennedy 75.37 30 P **P** **02 04 39.9 -0.4**
O29M Mount Kennedy 75.37 30 P **P** **02 04 39.5 -0.8**
baz=291
SLIT Slitere, Latvi 75.39 327 *e*P **P** **02 04 41.2 +1.1**
TLCR 75.52 313 ⇓P **P** **02 04 42.5 +1.2**
TLCR 75.52 313 P **P** **02 04 42.4 +1.2**
JURR Jurilovca 75.61 313 ⇓P **P** **02 04 43.2 +1.5**
N30M Aishikik Lake 75.64 29 IAMs_20 IAMs_20 02 41 07.9
comp=Z,932nm,20.0s
N30M Aishikik Lake 75.64 29 P **P** **02 04 41.9 +0.2**
baz=292,SNR=24
MOR8 Moi Rana 75.64 336 *e*P **P** **02 04 40.9 -0.6**
HYT Haines Junctio 75.68 30 P **P** **02 04 42.5 +0.5**
baz=291,SNR=16
EIL Elat 75.69 296 LR LR 02 41 03.7
comp=Z,730nm,21.4s,baz=81,slow=38
VLDR Vladesti 75.80 314 ⇑P **P** **02 04 44.0 +1.2**
VAGH Vaagaholmen 75.84 337 *e*P **P** **02 04 42.8 +0.2**
TPGR Topolog 75.89 313 ⇑P **P** **02 04 44.4 +1.0**
TATR Tatarca 75.90 314 ⇓P **P** **02 04 45.2 +1.8**
SCTR Scanteiesti 75.92 314 ⇓P **P** **02 04 45.3 +1.9**
VARL Varlezi 75.94 314 ⇓P **P** **02 04 45.3 +1.7**
P29M Windy Craggy 76.01 31 P **P** **02 04 44.0 +0.2**
baz=291,SNR=9.0
BORA Eskisehir 76.01 308 IAmb IAmb 02 04 45.8
comp=Z,52nm,1.2s
TIRR Tirgusor 76.02 313 P **P** **02 04 44.0 -0.1**
TIRR IAmb IAmb 02 04 46.0
comp=Z,69nm,1.2s
TIRR Tirgusor 76.02 313 ⇓P **P** **02 04 45.5 +1.4**
TIRR Tirgusor 76.02 313 P **P** **02 04 44.0 -0.1**
TIRR pmax pmax
comp=Z,69nm,1.2s
TIRR MLR MLR
comp=Z,800nm,20.0s
SCHL Schela 76.08 314 ⇓P **P** **02 04 46.1 +1.7**
SCHLR Schela 76.09 314 ⇓P **P** **02 04 46.2 +1.7**
MFTR Murfatlar 76.10 312 ⇓P **P** **02 04 46.2 +1.7**
IZVR Izvoarele 76.11 314 ⇑P **P** **02 04 46.1 +1.5**
PBUR Paburge 76.12 325 *e*P **P** **02 04 45.9 +1.5**
SUW Suwalki 76.14 323 *e*P **P** **02 04 44.8 +0.3**
SUW Suwalki 76.14 323 IAMs_20 IAMs_20 02 41 11.0
comp=Z,1µm,20.0s
SUW Suwalki 76.14 323 *e*P **P** **02 04 45.2 +0.7**
TUDR 76.16 314 ⇓P **P** **02 04 46.8 +2.0**
LEIR Leirfjorden 76.16 336 *e*P **P** **02 04 44.8 +0.4**
GHRR 76.18 314 ⇓P **P** **02 04 46.5 +1.5**
P30M Million Dollar 76.19 30 P **P** **02 04 43.9 -0.9**
baz=292
N31M Braeburn, Yuko 76.21 29 IAMs_20 IAMs_20 02 37 23.0
comp=Z,1µm,20.0s
N31M Braeburn, Yuko 76.21 29 P **P** **02 04 44.7 -0.2**
baz=293,SNR=14
HARR Harsova 76.27 313 ⇑P **P** **02 04 46.7 +1.1**
HARR Harsova 76.27 313 P **P** **02 04 46.6 +1.1**
O30N Mendenhall 76.34 29 IAMs_20 IAMs_20 02 38 11.6
comp=Z,1µm,20.0s
O30N Mendenhall 76.34 29 P **P** **02 04 45.7 0.0**
baz=292,SNR=16
PANC Panciu 76.41 314 ⇑P **P** **02 04 48.0 +1.7**
ODBI Odobesti 76.51 314 ⇑P **P** **02 04 49.0 +2.1**
TESR Tescani 76.53 315 ⇑P **P** **02 04 48.0 +1.0**
M31M Drury Creek, Y 76.53 28 IAMs_20 IAMs_20 02 41 57.5
comp=Z,1µm,18.0s
M31M Drury Creek, Y 76.53 28 P **P** **02 04 46.2 -0.5**
baz=294,SNR=17
ICOR Ion Corvin 76.54 312 ⇓P **P** **02 04 49.1 +2.0**
ISP Isparta 76.61 306 *e*P **P** **02 04 47.7 -0.1**
GRER 76.69 314 ⇑P **P** **02 04 50.4 +2.5**
VRI Vrincioaia 76.69 314 ⇑P **P** **02 04 49.5 +1.6**
VRI Vrincioaia 76.69 314 P **P** **02 04 49.5 +1.6**
AMRR Amara 76.70 313 ⇓P **P** **02 04 50.1 +2.2**
AMRR Amara 76.70 313 P **P** **02 04 50.1 +2.2**
PLOR Plostina 76.75 314 ⇑P **P** **02 04 49.5 +1.2**
PLOR Plostina 76.75 314 P **P** **02 04 49.5 +1.2**
ONER Baraj Valea Uz 76.76 315 ⇑P **P** **02 04 49.7 +1.4**
BISRR Bisoca 76.81 314 ⇑P **P** **02 04 50.7 +2.0**
WHY Whitehorse 76.94 29 P **P** **02 04 49.3 +0.1**
baz=294,SNR=16
FARO Faro, Yukon 76.97 28 P **P** **02 04 49.1 -0.1**
baz=294,SNR=24
C36M Paulatuk 77.05 19 P **P** **02 04 48.9 -0.5**
baz=301,SNR=64
COVR Voineasa-Covas 77.05 314 ⇓P **P** **02 04 51.3 +1.3**
ISR Istrita 77.06 314 ⇓P **P** **02 04 52.6 +2.5**
ISR Istrita 77.06 314 P **P** **02 04 52.6 +2.5**
BURAR Bucovina Array 77.09 316 P **P** **02 04 50.1 -0.1**
BURAR Bucovina Array 77.09 316 ⇑P **P** **02 04 51.1 +0.8**
BURAR Bucovina Array 77.09 316 P **P** **02 04 51.0 +0.8**
NEHR Nehoiu 77.12 314 ⇑P **P** **02 04 52.0 +1.6**
SKAG Skagway 77.21 31 P **P** **02 04 51.1 +0.6**
baz=293,SNR=10.0
OZUR 77.24 315 ⇑P **P** **02 04 52.5 +1.5**
NSS Namsos 77.29 335 *e*P **P** **02 04 51.1 +0.2**
MLR Muntele Rosu 77.34 314 IAmb IAmb 02 04 53.8
comp=Z,59nm,1.1s
MLR IAMs_20 IAMs_20 02 44 25.4
comp=Z,1µm,19.0s
MLR Muntele Rosu 77.34 314 LR LR 02 44 35.5
comp=Z,956nm,18.1s,baz=52,slow=40
MLR Muntele Rosu 77.34 314 ⇑P **P** **02 04 52.9 +1.2**
MLR Muntele Rosu 77.34 314 P **P** **02 04 52.9 +1.2**
S31K Pelican 77.36 32 P **P** **02 04 50.3 -1.1**
baz=293
SULR 77.40 313 ⇓P **P** **02 04 54.2 +2.3**
N32M Quiet Lake 77.54 29 IAmb IAmb 02 04 59.1
comp=Z,39nm,1.1s
N32M IAMs_20 IAMs_20 02 44 26.1
comp=Z,933nm,19.0s
N32M Quiet Lake 77.54 29 P **P** **02 04 51.6 -0.8**
baz=295
DOPR Dopca 77.54 315 ⇓P **P** **02 04 54.1 +1.4**
BAND Balkesir-Ban 77.57 309 ⇓P **P** **02 04 54.3 +1.4**
RAZG Razgrad 77.61 312 ⇑P **P** **02 04 54.1 +1.0**
MMPY Sheldon Lake, 77.68 27 P **P** **02 04 53.0 -0.3**
baz=296,SNR=8.8
BESE Bessie Mountai 77.79 31 P **P** **02 04 53.5 -0.4**
BESE IAmb IAmb 02 05 08.0
comp=Z,111nm,2.0s
BESE IAMs_20 IAMs_20 02 44 20.8
comp=Z,964nm,18.0s
AKAS Kas 77.82 304 IAmb IAmb 02 05 07.6
comp=Z,34nm,1.0s
ARCR ARCALIA 77.82 316 ⇓P **P** **02 04 55.7 +1.4**
P32M Atlin 77.91 30 IAMs_20 IAMs_20 02 40 33.9
comp=Z,1µm,20.0s
P32M Atlin 77.91 30 P **P** **02 04 54.7 +0.2**
baz=295,SNR=10
VOIR 77.95 314 ⇓P **P** **02 04 56.2 +1.1**
VOIR 77.95 314 P **P** **02 04 56.1 +1.1**
MTUR Matau 78.01 314 ⇓P **P** **02 04 56.3 +0.9**
MTUR Matau 78.01 314 P **P** **02 04 56.3 +0.9**
P33M Teslin, Yukon 78.05 29 IAMs_20 IAMs_20 02 38 44.8
comp=Z,1µm,21.0s
P33M Teslin, Yukon 78.05 29 P **P** **02 04 55.6 +0.3**
baz=295,SNR=21
R32K Eaglecrest 78.07 32 IAMs_20 IAMs_20 02 39 10.4
comp=Z,985nm,19.0s
R32K Eaglecrest 78.07 32 P **P** **02 04 56.3 +0.9**
baz=294,SNR=8.0
BMR Baia Mare 78.16 317 ⇓P **P** **02 04 58.1 +2.0**
BMR Baia Mare 78.16 317 P **P** **02 04 58.1 +2.0**
SIT Sitka 78.17 33 P **P** **02 04 56.2 +0.3**
baz=294
ARR Arges 78.25 314 ⇑P **P** **02 04 58.0 +1.3**
BEL Belsk 78.27 321 *e*P **P** **02 04 57.3 +0.7**
HUMR Humele 78.31 313 ⇑P **P** **02 04 57.7 +0.7**
S32K Killisnoo 78.38 32 P **P** **02 04 56.6 -0.4**
baz=294
CJR Cluj-Napoca 78.44 316 ⇑P **P** **02 04 59.5 +1.7**
CJR Cluj-Napoca 78.44 316 P **P** **02 04 59.4 +1.7**
CBBR Cluj-Babes-Bol 78.45 316 ⇓P **P** **02 04 59.7 +2.0**
KOLS Kolonicke sedl 78.47 318 *e*P **P** **02 04 58.5 +0.7**
KOLS pmax pmax
comp=Z,19nm,0.9s
KOLS Kolonicke sedl 78.47 318 *e*P **P** **02 04 58.5 +0.7**
HFS Hagfors 78.53 331 P **P** **02 04 58.2 +0.3**
comp=Z,48nm,0.9s,baz=73,slow=5.1,SNR=47
HFS LR LR 02 42 51.4
comp=Z,4µm,18.3s,baz=60,slow=38
comp=Z,48nm,0.9s
PVL Pavlikeni 78.67 312 *e*P **P** **02 05 00.6 +1.6**
MESR Meseseni 78.70 316 ⇓P **P** **02 05 01.2 +2.2**
MARR Marisel-Cluj 78.76 316 ⇑P **P** **02 05 00.9 +1.3**
LOT Lotru 78.78 315 ⇓P **P** **02 05 00.4 +0.7**
Q32M Nakina River 78.85 30 P **P** **02 04 59.7 -0.3**
baz=296,SNR=6.5
VLAD Vladila 78.89 313 ⇑P **P** **02 05 01.1 +0.9**
STHS Stebnicka Huta 78.91 319 *e*P **P** **02 05 00.5 +0.3**
STHS pmax pmax
comp=Z,33nm,1.3s
STHS Stebnicka Huta 78.91 319 *e*P **P** **02 05 00.5 +0.3**
ARG Arkhangelos 78.95 305 IAmb IAmb 02 05 02.3
comp=Z,96nm,1.3s
NC405 NORSAR Array S 78.95 332 P **P** **02 04 59.6 -0.6**
DRGR 78.98 316 ⇑P **P** **02 05 02.1 +1.3**
DRGR 78.98 316 P **P** **02 05 02.0 +1.3**
RDO Rodhopi 79.12 310 P **P** **02 04 58.9 -2.6**
RDO Rodhopi 79.12 310 IAmb IAmb 02 05 03.1
comp=Z,41nm,1.1s
DEV Deva 79.19 315 ⇑P **P** **02 05 03.3 +1.4**
DEV Deva 79.19 315 P **P** **02 05 03.2 +1.4**
NB2 NORSAR Subarra 79.20 332 P **P** **02 05 00.9 -0.7**
comp=Z,139nm,1.2s,baz=60,slow=5.6
NB2 NORSAR Subarra 79.20 332 P **P** **02 05 00.9 -0.7**
baz=60,slow=5.6
NOA NORSAR Array B 79.20 332 P **P** **02 05 01.3 -0.3**
comp=Z,42nm,1.0s,baz=61,slow=5.5,SNR=62
NOA LR LR 02 43 14.6
comp=Z,2µm,19.2s,baz=60,slow=38
comp=Z,42nm,1.0s
NC602 NORSAR Array S 79.20 332 IAmb IAmb 02 05 02.6
comp=Z,97nm,1.3s
NC602 NORSAR Array S 79.20 332 *e*P **P** **02 05 01.7 +0.1**
R33M Jennings River 79.25 30 IAMs_20 IAMs_20 02 41 35.5
comp=Z,1µm,20.0s
R33M Jennings River 79.25 30 P **P** **02 05 01.9 -0.2**
baz=297,SNR=17
NC204 NORSAR Array S 79.28 333 IAmb IAmb 02 05 03.5
comp=Z,80nm,1.1s
PLD Plovdiv 79.32 311 *e*P **P** **02 05 03.2 +0.6**
NBO00 NORSAR Array S 79.39 332 P **P** **02 05 01.6 -1.0**
NBO00 IAmb IAmb 02 05 04.0
comp=Z,60nm,1.1s
TGTN Hyland Airport 79.44 27 P **P** **02 05 02.8 -0.1**
baz=299,SNR=11
NAO01 NORSAR Array S 79.44 332 IAmb IAmb 02 05 03.9
comp=Z,56nm,1.1s
GZR Gura Zlata 79.45 315 ⇑P **P** **02 05 04.6 +1.2**
GZR Gura Zlata 79.45 315 P **P** **02 05 04.5 +1.2**
BORR Bors 79.46 317 ⇑P **P** **02 05 03.9 +0.7**
OJC Ojcow 79.47 320 *e*P **P** **02 05 03.9 +0.7**
NIE Niedzica 79.48 319 *e*P **P** **02 05 04.7 +1.3**
QRZ Quartz Range 79.51 143 P **P** **02 05 04.5 +1.1**
MPEP Malo Peshtene 79.57 313 *e*P **P** **02 05 04.7 +0.8**
PGB Panagyurishte 79.58 312 *e*P **P** **02 05 03.5 -0.5**
BAIL Bailesti 79.59 313 ⇓P **P** **02 05 06.3 +2.3**
DOMB Dombas 79.62 334 *e*P **P** **02 05 04.1 +0.2**
VALD Valchedram 79.65 313 *e*P **P** **02 05 05.5 +1.2**
U33K Whale Pass 79.68 33 IAMs_20 IAMs_20 02 41 05.9
comp=Z,1µm,19.0s
U33K Whale Pass 79.68 33 P **P** **02 05 04.1 -0.1**
baz=296
GKP Gorka Klasztor 79.69 324 *e*P **P** **02 05 06.1 +1.8**
NEEM North Greenlan 79.72 358 *i*P **P** **02 05 04.5 0.0**
NEEM IAmb IAmb 02 05 06.4
comp=Z,207nm,1.1s
KECS Kecovo 79.73 318 *e*P **P** **02 05 06.5 +1.8**
KECS pmax pmax
comp=Z,62nm,1.5s
KECS Kecovo 79.73 318 *e*P **P** **02 05 06.5 +1.8**
SURR Surduc 79.75 315 ⇓P **P** **02 05 06.4 +1.6**
DBG Daneborg 79.77 350 *i*P **P** **02 05 02.5 -1.9**
DBG IAmb IAmb 02 05 05.6
comp=Z,122nm,1.3s
JCZ Jackson Bay 79.80 147 P **P** **02 05 06.0 +1.0**
SIRR Siria 79.85 316 ⇑P **P** **02 05 06.7 +1.3**
S34M Telegraph Cree 79.85 31 IAMs_20 IAMs_20 02 38 45.4
comp=Z,1µm,22.0s
S34M Telegraph Cree 79.85 31 P **P** **02 05 05.0 -0.1**
baz=297,SNR=13
HERR Herculane 79.88 314 ⇑P **P** **02 05 06.5 +0.9**
RES Resolute Bay 79.92 9 IAmb IAmb 02 05 06.3
comp=Z,105nm,1.1s
RES Resolute Bay 79.92 9 P **P** **02 05 04.7 -0.5**
comp=Z,60nm,1.1s,baz=326,slow=5.4,SNR=94
RES LR LR 02 43 33.0
comp=Z,567nm,19.5s,baz=330,slow=38
comp=Z,60nm,1.1s
KARP Karpathos 79.92 304 P **P** **02 05 04.4 -1.6**
KARP Karpathos 79.92 304 *e*P **P** **02 05 06.8 +0.7**
WRAK Wrangell Islan 79.93 33 P **P** **02 05 05.2 -0.3**
baz=296
OSL Oslo 79.94 331 *e*P **P** **02 05 06.6 +1.0**
CRAG Craig 79.96 34 P **P** **02 05 05.5 -0.2**
baz=296
JMIC Jan Mayen 79.96 345 LR LR 02 43 37.8
comp=Z,962nm,19.0s,baz=28,slow=38
MOL Molde 79.97 334 *e*P **P** **02 05 06.8 +1.1**
DCZ Deep Cove 80.02 149 IAmb IAmb 02 05 06.7
comp=Z,78nm,1.5s
DEL Delary 80.07 327 *i*P **P** **02 05 05.7 -0.6**
BORU Boraas 80.08 329 *i*P **P** **02 05 05.2 -1.2**
LANS Liptovska Anna 80.09 319 *e*P **P** **02 05 08.5 +1.8**
LANS pmax pmax
comp=Z,45nm,1.8s
LANS Liptovska Anna 80.09 319 *e*P **P** **02 05 08.5 +1.8**
LANS *e*PP **PP** **02 08 11.5 +3.2**
BZS Buzias 80.13 315 ⇑P **P** **02 05 07.4 +0.4**
BZS Buzias 80.13 315 P **P** **02 05 07.3 +0.4**
DLBC Dease Lake 80.13 30 P **P** **02 05 06.4 -0.4**
DLBC IAmb IAmb 02 05 09.1
comp=Z,72nm,1.6s
DLBC Dease Lake 80.13 30 P **P** **02 05 07.0 +0.3**
comp=Z,15nm,1.1s,baz=313,slow=3.4,SNR=18
DLBC LR LR 02 40 23.9
comp=Z,1µm,22.0s,baz=316,slow=36
comp=Z,15nm,1.1s
DLBC Dease Lake 80.13 30 P **P** **02 05 06.3 -0.5**
baz=298,SNR=19
BSD Bornholm Skovb 80.14 326 *e*P **P** **02 05 08.1 +1.4**
BSD Bornholm Skovb 80.14 326 *i*P **P** **02 05 06.8 +0.1**
BSD IAmb IAmb 02 05 07.9
comp=Z,147nm,1.3s
VTS Vitosha 80.19 312 *e*P **P** **02 05 08.6 +1.1**
PSZ Piszkesteto 80.32 318 P **P** **02 05 07.1 -0.9**
PSZ IAmb IAmb 02 05 10.1
comp=Z,65nm,1.2s
PSZ IAMs_20 IAMs_20 02 42 23.0
comp=Z,912nm,22.0s
PSZ Piszkesteto 80.32 318 ⇑P **P** **02 05 09.1 +1.1**
PSZ Piszkesteto 80.32 318 P **P** **02 05 07.1 -0.9**
PSZ pmax pmax
comp=Z,65nm,1.2s
PSZ MLR MLR
comp=Z,900nm,22.0s
PSZ Piszkesteto 80.32 318 *e*P **P** **02 05 08.8 +0.8**
KOKK Kokkinochori, 80.33 310 P **P** **02 05 07.4 -0.7**
AKN Aaknes 80.39 334 *e*P **P** **02 05 08.9 +0.9**
FABU Falkenberg 80.39 328 *i*P **P** **02 05 07.6 -0.4**
TJOU Tjoern 80.44 329 *i*P **P** **02 05 07.3 -1.0**
WRGLY Wrigley 80.50 24 IAmb IAmb 02 05 09.9
comp=Z,44nm,1.0s
WRGLY Wrigley 80.50 24 P **P** **02 05 08.2 -0.3**
baz=303
URZ Urewera 80.51 138 LR LR 02 39 32.5
comp=Z,228nm,19.1s,baz=32,slow=35
TULEG Thule 80.56 2 IAmb IAmb 02 05 09.5
comp=Z,74nm,1.2s
KONO Kongsberg 80.58 331 *e*P **P** **02 05 09.7 +0.7**
ONAU Onsala 80.60 329 *i*P **P** **02 05 08.3 -0.8**
SKAR Skarslia 80.62 333 *e*P **P** **02 05 10.6 +1.3**
LUNU Lund 80.66 327 *i*P **P** **02 05 09.0 -0.5**
BJUU Bjuv 80.67 327 *i*P **P** **02 05 09.1 -0.5**
RPZ Rata Peaks 80.70 146 IAmb IAmb 02 05 16.6
comp=Z,73nm,1.2s
RPZ Rata Peaks 80.70 146 P **P** **02 05 08.9 -0.9**
T35M Bob Quinn 80.70 32 P **P** **02 05 09.2 -0.7**
baz=298,SNR=7.1
BKZ Black Stump Fm 80.71 139 P **P** **02 05 11.1 +1.1**
LBZ Lake Benmore 80.73 147 IAmb IAmb 02 05 12.4
comp=Z,56nm,1.1s
VYHS Vyhne 80.73 319 *e*P **P** **02 05 11.2 +1.1**
VYHS pmax pmax
comp=Z,116nm,1.1s
VYHS Vyhne 80.73 319 *e*P **P** **02 05 11.2 +1.1**
V35K Ketchikan 80.79 34 P **P** **02 05 09.5 -0.7**
baz=297
BOVS Bovan 80.83 313 ⇑P **P** **02 05 11.5 +0.8**
KNT Kendrikon 80.97 311 P **P** **02 05 10.5 -1.0**
MORC Moravsky Berou 80.98 320 IAmb IAmb 02 05 13.7
comp=Z,62nm,1.2s
MORC Moravsky Berou 80.98 320 *e*P **P** **02 05 11.9 +0.5**
MORC Moravsky Berou 80.98 320 ⇑P **P** **02 05 12.7 +1.3**
MORC Moravsky Berou 80.98 320 P **P** **02 05 12.7 +1.3**
MAUC Maruska 80.98 320 *e*P **P** **02 05 12.8 +1.3**
VAY Valandovo 81.14 311 *i*P **P** **02 05 12.4 0.0**
COP Copenhagen 81.15 327 *i*P **P** **02 05 11.7 -0.4**
COP IAmb IAmb 02 05 13.8
comp=Z,182nm,0.9s
KSP Ksiaz 81.25 322 *e*P **P** **02 05 13.7 +0.9**
JAVC Velka Javorina 81.29 319 *e*P **P** **02 05 14.9 +1.8**
KRLC Kraliky 81.30 321 *e*P **P** **02 05 14.8 +1.7**
KRLC Kraliky 81.30 321 *e*P **P** **02 05 14.8 +1.7**
SRO Srobarova 81.33 318 *e*P **P** **02 05 14.5 +1.2**
SRO pmax pmax
comp=Z,26nm,0.8s
SRO Srobarova 81.33 318 *e*P **P** **02 05 14.5 +1.2**
GRG Griva 81.39 311 P **P** **02 05 13.0 -0.8**
OSTC Ostas 81.42 321 *e*P **P** **02 05 15.0 +1.3**
OSTC AMS AMS 02 45 50.0
comp=Z,2µm,14.4s
OSTC Ostas 81.42 321 *e*P **P** **02 05 15.0 +1.3**
OSTC MLR MLR
comp=Z,2µm,14.4s

LIRD Liard River Hi 81.43 28 P **P 02 05 13.0 -0.6**
baz=301

DPC Dobruska-Polom 81.44 321 *eP* **P 02 05 15.1 +1.2**
DPC AMS AMS 02 46 10.0
comp=Z,2μm,15.6s

DPC Dobruska-Polom 81.44 321 *eP* **P 02 05 15.1 +1.2**
DPC MLR MLR
comp=Z,2μm,15.6s

FRGS Fruska Gora 81.48 315 ⇓*iP* **P 02 05 14.4 +0.2**

FOO Floro 81.48 334 *eP* **P 02 05 14.5 +0.7**

CHVC Chvalec 81.50 321 *eP* **P 02 05 15.2 +1.0**

CHVC Chvalec 81.50 321 *eP* **P 02 05 15.2 +1.0**

BFZ Birch Farm 81.54 141 P **P 02 05 13.5 -0.9**

BFZ Birch Farm 81.54 141 P **P 02 05 14.5 +0.2**

UPC Upice 81.56 321 *eP* **P 02 05 16.1 +1.7**
UPC AMS AMS 02 46 00.0
comp=Z,2μm,17.0s

UPC Upice 81.56 321 *eP* **P 02 05 16.1 +1.7**
UPC MLR MLR
comp=Z,2μm,17.0s

SMOL Smolenice 81.58 319 *eP* **P 02 05 16.4 +1.8**
SMOL pmax pmax
comp=Z,36nm,1.3s

LIT Litokhoron 81.66 310 P **P 02 05 15.2 -0.1**

MODS Modra-Piesok 81.73 319 *eP* **P 02 05 16.6 +1.2**
MODS pmax pmax
comp=Z,117nm,1.4s

MODS Modra-Piesok 81.73 319 *eP* **P 02 05 16.6 +1.2**

VRAC Vranov 81.74 320 *eP* **P 02 05 16.1 +0.7**

VRAC Vranov 81.74 320 ⇑P **P 02 05 17.0 +1.5**

VRAC Vranov 81.74 320 P **P 02 05 16.9 +1.5**

MORH Mrgy, Hungar 81.79 317 ⇑P **P 02 05 16.7 +0.9**

SUE Sulen 81.90 334 *eP* **P 02 05 17.1 +1.2**

RUE Ruedersdorf 81.92 324 *eP* **P 02 05 17.6 +1.4**

RUE Ruedersdorf 81.92 324 *eP* 02 05 17.6
comp=Z,87nm,1.1s,baz=61,slow=5.0

KOTAN Kotaneelee Air 81.93 27 P **P 02 05 15.7 -0.5**
baz=302

KRUC Moravsky 81.96 320 *eP* **P 02 05 17.4 +0.8**

GOET G??ttrup 82.05 329 *i P* **P 02 05 16.9 0.0**
GOET IAmb IAmb 02 05 19.2
comp=Z,96nm,0.7s

BLS5 Blasjo 82.07 332 *eP* **P 02 05 17.9 +0.9**

KZN Kozani 82.09 310 P **P 02 05 19.1 +1.5**

TOAD Toad River Com 82.10 29 P **P 02 05 16.7 -0.5**
baz=302,SNR=9.1

SJES Sjenica 82.14 314 ⇓*iP* **P 02 05 18.6 +0.8**

FNA Florina 82.18 311 P **P 02 05 16.9 -1.1**

BBLS Lazi&#263i 82.27 314 ⇓*iP* **P 02 05 18.8 +0.4**

SNART Snartemo 82.31 331 *i P* **P 02 05 17.9 -0.3**

IVA Berane 82.35 313 ⇓*iP* **P 02 05 19.7 +0.8**

MUD Monsted U'grnd 82.37 329 *i P* **P 02 05 18.0 -0.5**
MUD IAmb IAmb 02 05 20.1
comp=Z,98nm,1.1s

RUDO Rudo 82.39 314 *eP* **P 02 05 18.6 -0.4**

OHR Ohrid 82.45 311 *i P* **P 02 05 19.1 -0.3**

PLE Pljevlja 82.50 314 ⇓*iP* **P 02 05 20.6 +0.9**

GOPC GO Pecny, Ondr 82.52 321 *eP* **P 02 05 20.8 +1.2**
GOPC AMS AMS 02 46 40.0
comp=Z,1μm,15.8s

GOPC GO Pecny, Ondr 82.52 321 *eP* **P 02 05 20.8 +1.2**
GOPC MLR MLR
comp=Z,1μm,15.8s

NEST Nestorio 82.55 311 P **P 02 05 18.3 -1.7**

BRG Berggiesshubel 82.57 322 *i P* **P 02 05 20.4 +0.6**
BRG Amp 02 05 27.4
comp=Z,50nm,1.3s

BRG Berggiesshubel 82.57 322 S **SKSac 02 15 40.0 -0.9**

BRG Berggiesshubel 82.57 322 *eP* 02 05 20.3
comp=Z,97nm,1.5s,baz=61,slow=5.0

KOME Kolasin 82.61 313 ⇓*iP* **P 02 05 20.9 +0.6**

RONA Rosalia, Austr 82.61 319 *epP* **P 02 05 20.7 +0.6**
comp=Z,5.2nm,0.8s,SNR=12

PRU Pruhonice 82.63 321 *eP* **P 02 05 21.4 +1.3**
PRU AMS AMS 02 47 50.0
comp=Z,2μm,21.4s

PRU Pruhonice 82.63 321 *eP* **P 02 05 21.4 +1.3**
PRU MLR MLR
comp=Z,2μm,21.4s

ANX Ano Chora 82.66 309 P **P 02 05 19.2 -1.4**

KULLO Kullorsuaq 82.70 360 *i P* **P 02 05 18.8 -1.2**
KULLO IAmb IAmb 02 05 21.5
comp=Z,165nm,1.3s

CONA Conrad Observa 82.78 319 *epP* **P 02 05 21.7 +0.7**
comp=Z,8.3nm,0.9s,SNR=24

CLL Collm 82.89 323 ⇓*iP* **P 02 05 21.4 0.0**
CLL *eS* **S 02 15 38.0 -1.9**
CLL pmax pmax
comp=Z,74nm,1.1s

CLL Collm 82.89 323 *eP* 02 05 21.7
comp=Z,65nm,1.1s,baz=61,slow=5.0

PDG Podgorica 82.96 313 IAms_20 IAms_20 02 47 52.2
comp=Z,702nm,18.0s

PDG Podgorica 82.96 313 ⇓*iP* **P 02 05 21.7 -0.2**

PDG Podgorica 82.96 313 ⇓P **P 02 05 23.0 +1.1**

PDG Podgorica 82.96 313 ⇓*iP* **P 02 05 22.1 +0.2**

HSKC Hora Svate Kat 82.98 322 *eP* **P 02 05 23.2 +1.3**
HSKC AMS AMS 02 47 10.0
comp=Z,2μm,12.5s

OPO Ambohidratompo 82.98 247 LR LR 02 38 22.7
comp=Z,315nm,21.5s,baz=203,slow=33

TIR Tirane 82.99 312 IAms_20 IAms_20 02 46 02.3
comp=Z,942nm,21.0s

TIR Tirane 82.99 312 ⇓P **P 02 05 23.5 +1.3**

TIR Tirane 82.99 312 P **P 02 05 23.4 +1.3**

NKME Niksic 83.02 313 ⇓*iP* **P 02 05 22.5 +0.1**

BSEG Bad Segeberg 83.06 326 *eP* 02 05 23.0
comp=Z,60nm,1.2s,baz=61,slow=5.0

ZVC Zvikov 83.08 321 *eP* **P 02 05 23.6 +1.1**
ZVC AMS AMS 02 47 00.0
comp=Z,2μm,19.5s

DRME Dracevica, Mon 83.11 313 ⇓*iP* **P 02 05 22.7 0.0**

DRME Dracevica, Mon 83.11 313 ⇓*iP* **P 02 05 23.2 +0.5**

CEME Cevo 83.14 313 ⇓*iP* **P 02 05 22.8 -0.2**

ABPO Ambohimpanom 83.15 246 P **P 02 05 23.7 +0.2**
ABPO IAmb IAmb 02 05 26.0
comp=Z,55nm,1.2s

ABPO Ambohimpanom 83.15 246 P **P 02 05 23.7 +0.2**
ABPO pmax pmax
comp=Z,55nm,1.2s

KOGS Kog 83.19 318 *i P* **P 02 05 22.9 -0.1**

RLS Riolos of Patr 83.20 308 P **P 02 05 22.5 -0.8**

ITM Ithomi 83.22 307 P **P 02 05 22.3 -1.1**

SCO Scoresbysund 83.22 348 IAmb IAmb 02 05 24.8
comp=Z,191nm,1.7s

SCO Scoresbysund 83.22 348 *i P* **P 02 05 23.1 +0.4**
SCO IAmb IAmb 02 05 24.6
comp=Z,211nm,1.7s

BUM Brajici-Budva 83.26 313 ⇓*iP* **P 02 05 23.6 0.0**

CKRC Cesky Krumlov 83.30 320 *eP* **P 02 05 24.8 +1.2**
CKRC *eS* **S 02 15 48.9 +4.7**
CKRC AMS AMS 02 47 10.0
comp=Z,1μm,14.6s

CKRC Cesky Krumlov 83.30 320 *eP* **P 02 05 24.8 +1.2**
CKRC *e* 02 15 48.9
CKRC MLR MLR
comp=Z,1μm,14.6s

BLY Banja Luka 83.34 316 ⇓*iP* **P 02 05 24.3 +0.4**

FLTG Flechtingen 83.37 324 *eP* 02 05 23.9
comp=Z,66nm,1.2s,baz=61,slow=5.0

A051A Mrakovica 83.41 316 ⇓*iP* **P 02 05 23.9 -0.4**

IGT Igoumenitsa 83.41 310 P **P 02 05 22.3 -2.1**

TREB Trebinje 83.45 314 *eP* **P 02 05 24.1 -0.4**

HCY Herceg Novi 83.47 313 *eP* **P 02 05 24.1 -0.5**

KHC Kasperske Hory 83.58 321 *eP* **P 02 05 26.0 +0.9**
KHC *eS* **S 02 15 46.4 -0.7**
KHC AMS AMS 02 47 30.0
comp=Z,1μm,14.1s

KHC Kasperske Hory 83.58 321 *d iP* **P 02 05 25.5 +0.4**
KHC pmax pmax
comp=Z,79nm,1.2s

TANN Tannenbergstha 83.62 322 *eP* 02 05 25.9
comp=Z,61nm,1.4s,baz=61,slow=5.0

NEUB Neuenburg 83.62 323 *eP* 02 05 25.7
comp=Z,118nm,1.2s,baz=61,slow=5.0

GERES GERESS Array B 83.64 321 P **P 02 05 25.9 +0.4**

GERES GERESS Array B 83.64 321 P **P 02 05 26.5 +1.0**
comp=Z,22nm,0.9s,baz=59,slow=3.6,SNR=95
GERES LR LR 02 42 25.6
comp=Z,603nm,18.2s,baz=60,slow=36
comp=Z,22nm,0.9s

GEC2 GERESS Array S 83.64 321 *eP* 02 05 26.1
comp=Z,65nm,1.1s,baz=61,slow=5.0

FSK Fiskardo 83.69 309 P **P 02 05 24.8 -1.0**

SUMG Summit 83.70 354 IAmb IAmb 02 05 27.3
comp=Z,164nm,1.4s

SUMG Summit 83.70 354 *i P* **P 02 05 24.8 -0.9**
SUMG IAmb IAmb 02 05 27.0
comp=Z,130nm,1.3s

NKC Novy Kostel 83.71 322 *eP* **P 02 05 27.1 +1.4**

NKC Novy Kostel 83.71 322 *eP* **P 02 05 27.1 +1.4**

KEK Kerkira 83.71 310 P **P 02 05 25.6 -0.3**

KEK Kerkira 83.71 310 IAmb IAmb 02 05 28.0
comp=Z,35nm,1.1s

PLN Plauen 83.76 323 *eP* 02 05 26.5
comp=Z,22nm,1.3s,baz=61,slow=5.0

ASSE Asse, Remlinge 83.77 324 *eP* 02 05 26.7
comp=Z,110nm,1.6s,baz=61,slow=5.0

MOA Molln 83.77 320 *epP* **P 02 05 26.8 +0.7**
comp=Z,22nm,1.0s,SNR=25

VLS Valsamata 83.78 309 P **P 02 05 24.3 -2.0**

STON Ston 83.81 314 ⇓*iP* **P 02 05 25.5 -0.8**

SOKA Soboth 83.84 318 *eP* **P 02 05 26.3 -0.2**
comp=Z,36nm,1.1s,SNR=32

A050A Klekovaca 83.88 316 ⇓*iP* **P 02 05 27.1 +0.4**

NRDL Niedersach Rie 83.89 325 *eP* 02 05 28.0
comp=Z,108nm,1.3s,baz=61,slow=5.0

MOX Moxa 83.98 323 *eP* 02 05 27.6
baz=61,slow=5.0
MOX *eL* 02 47 46.8
comp=Z,2μm,18.2s

WET Wettzell 83.98 321 *eP* 02 05 27.8
comp=Z,80nm,1.5s,baz=61,slow=5.0

MANZ Manzenberg 84.02 322 *eP* 02 05 28.0
comp=Z,12nm,1.2s,baz=61,slow=5.0

ROTZ Rotzenmuhle 84.07 322 *eP* 02 05 28.2
comp=Z,17nm,1.1s,baz=61,slow=5.0

CLZ Clausthal 84.08 324 *eP* 02 05 28.8
comp=Z,105nm,1.1s,baz=61,slow=5.0

BBB Bella Bella 84.12 35 LR LR 02 45 46.0
comp=Z,363nm,18.2s,baz=324,slow=38

YKA Yellowknife Ar 84.20 23 P **P 02 05 27.6 -0.2**
comp=Z,30nm,1.1s,baz=314,slow=4.9,SNR=158
YKA PKKPbc **PKKPbc 02 23 39.1 -3.4**
comp=Z,0.6nm,0.6s,baz=135,slow=2.7,SNR=8.9
YKA PKPPKP **P'P'df 02 31 51.7 +0.1**
comp=Z,0.4nm,0.9s,baz=136,slow=2.5,SNR=5.2
YKA LR LR 02 45 37.1
comp=Z,797nm,20.2s,baz=310,slow=38
comp=Z,30nm,1.1s

OBKA Obir 84.21 318 ⇓*iP* **P 02 05 28.3 -0.1**

OBKA Obir 84.21 318 *eP* **P 02 05 28.7 +0.2**
comp=Z,29nm,1.0s,SNR=10

BIOA Bad Ischl, Aus 84.22 320 *i pP* **P 02 05 29.0 +0.6**
comp=Z,3.7nm,0.5s,SNR=22

BOJS Bojanci 84.23 317 ⇓*iP* **P 02 05 29.0 +0.6**

LJU Ljubljana 84.44 318 *i P* **P 02 05 29.9 +0.4**

GTTG Gottingen 84.44 324 *eP* 02 05 30.4
comp=Z,69nm,1.0s,baz=61,slow=5.0

LODK Lodwar 84.60 271 P **P 02 05 33.0 +2.1**
SNR=5.4

KMBO Kilima Mbogo 84.61 267 IAms_20 IAms_20 02 44 13.0
comp=Z,717nm,18.0s

KMBO Kilima Mbogo 84.61 267 P **P 02 05 32.1 +1.0**
comp=Z,11nm,0.9s,baz=50,slow=5.4,SNR=29
KMBO LR LR 02 44 25.3
comp=Z,553nm,19.1s,baz=80,slow=36
comp=Z,11nm,0.9s

KMBO Kilima Mbogo 84.61 267 *i P* **P 02 05 32.9 +1.7**
SNR=11

CEY Cerknica 84.64 318 ⇓*iP* **P 02 05 30.4 -0.1**

GRF Grafenberg Arr 84.67 322 *eP* 02 05 31.3
comp=Z,146nm,1.5s,baz=61,slow=5.0
GRF *eL* 02 49 08.2
comp=Z,2μm,18.7s

GRFO Grafenberg 84.67 322 P **P 02 05 29.7 -0.8**

GRFO Grafenberg 84.67 322 P **P 02 05 29.7 -0.8**
GRFO pmax pmax
comp=Z,260nm,1.8s

KBA Koelnbreinsper 84.68 319 *i P* **P 02 05 31.0 +0.1**
comp=Z,35nm,1.2s,SNR=20

RJOB Jochberg 84.70 320 *eP* 02 05 31.4
comp=Z,39nm,1.1s,baz=61,slow=5.0

MYKA Terra Mystica 84.71 319 *i P* **P 02 05 31.0 +0.1**
comp=Z,20nm,1.1s

UBBA Unterbreizbach 84.79 323 *eP* 02 05 31.7
comp=Z,178nm,1.7s,baz=61,slow=5.0

VOI Vohitsoka 84.82 244 P **P 02 05 31.3 -0.6**

VOI Vohitsoka 84.82 244 P **P 02 05 33.0 +1.2**
SNR=6.9

CADS Cadrg 84.84 318 *i P* **P 02 05 31.1 -0.4**

PRED Cave del Predi 84.85 318 IAmb IAmb 02 05 32.8
comp=Z,34nm,1.3s

LESA Schwarzleotal 84.92 320 *eP* **P 02 05 32.1 +0.1**
comp=Z,58nm,1.2s,SNR=34

SKDS Skadanscina 84.99 318 ⇓*iP* **P 02 05 32.0 -0.3**

IBBN Ibbenburen 85.22 325 *eP* 02 05 33.9
comp=Z,313nm,1.8s,baz=61,slow=5.0

ABTA Abfaltersbach 85.34 319 *eP* **P 02 05 33.5 -0.6**
comp=Z,32nm,1.1s,SNR=20

FUR Furstenfeldbru 85.39 321 *eP* 02 05 35.5
comp=Z,150nm,1.2s,baz=61,slow=5.0

KASTN Kahler Asten 85.45 324 *eP* 02 05 34.8
comp=Z,123nm,1.9s,baz=61,slow=5.0

MATE Matera 85.45 312 ⇑P **P 02 05 35.0 +0.4**

MATE Matera 85.45 312 *eP* **P 02 05 34.8 +0.2**

WATA Walderalm 85.62 320 *eP* **P 02 05 35.5 0.0**
comp=Z,32nm,1.3s,SNR=6.3

WTTA Wattenberg 85.62 320 *ePcP* **P 02 05 35.7 +0.1**
comp=Z,40nm,1.0s,SNR=9.7

NUUG Nuugaatsiaq 85.68 358 *i P* **P 02 05 34.2 -0.9**
NUUG IAmb IAmb 02 05 36.2
comp=Z,64nm,1.3s

SQTA Sankt Quirin 85.89 320 *eP* **P 02 05 36.7 -0.2**
comp=Z,34nm,1.1s,SNR=20

MOTA Moosalm 85.89 320 *i P* **P 02 05 36.9 -0.1**
comp=Z,24nm,1.1s

BUG Bochum--Univer 85.94 325 *eP* 02 05 37.4
comp=Z,105nm,1.3s,baz=61,slow=5.0

TNS Taunus Mts 85.95 323 *eP* 02 05 37.5
comp=Z,84nm,1.6s,baz=61,slow=5.0

RETA Reute 86.02 320 *i PcP* **P 02 05 37.7 +0.2**
comp=Z,13nm,1.1s

FOMA Nahampoana Res 86.07 241 IAmb IAmb 02 05 40.1
comp=Z,78nm,1.4s

TIP Timpagrande 86.07 311 ⇑P **P 02 05 38.8 +1.0**

CTI Castel Tesino 86.20 319 IAmb IAmb 02 05 39.5
comp=Z,38nm,1.3s

FETA Feichten 86.27 320 *ePcP* **P 02 05 38.7 -0.1**
comp=Z,28nm,1.1s,SNR=14

STU Stuttgart 86.28 322 *eP* 02 05 39.1
comp=Z,84nm,1.3s,baz=61,slow=5.0

UBR Ueberruh 86.31 321 *eP* 02 05 38.6
comp=Z,49nm,1.2s,baz=61,slow=5.0

CUC Castrocucco 86.36 312 IAms_20 IAms_20 02 48 32.2
comp=Z,720nm,19.0s

DAVA Damuels 86.64 320 *eP* **P 02 05 40.4 -0.3**
comp=Z,22nm,1.3s,SNR=5.5

CBB Campbell River 86.72 36 IAmb IAmb 02 05 42.3
comp=Z,34nm,1.4s

PAOL Paolisi 86.73 313 IAmb IAmb 02 05 41.2
comp=Z,41nm,1.6s

FUORN Ofenpass-Fuorn 86.75 320 IAmb IAmb 02 05 43.3
comp=Z,54nm,1.3s

DAVOX Davos/Dischmat 86.90 320 LR LR 02 48 16.4
comp=Z,2μm,18.1s,baz=54,slow=38

BFO Black Forest 87.00 322 P **P 02 05 41.8 -0.4**
BFO IAmb IAmb 02 05 43.8
comp=Z,57nm,1.8s

BFO Black Forest 87.00 322 P **P 02 05 41.8 -0.4**
BFO pmax pmax
comp=Z,57nm,1.8s

BFO Black Forest 87.00 322 *eP* 02 05 42.3
comp=Z,52nm,1.7s,baz=61,slow=5.0

BTNL Ternell 87.01 325 *dP* **P 02 05 42.5 +0.3**
comp=Z,13nm,1.4s

MEM Membach 87.06 325 *dP* **P 02 05 43.1 +0.7**
comp=Z,16nm,1.4s

CEL Celeste 87.09 310 IAms_20 IAms_20 02 52 10.7
comp=Z,674nm,19.0s

BEBN Eben Emael 87.13 325 *dP* **P 02 05 43.1 +0.4**

ICESG Greenland Ices 87.15 353 *i P* **P 02 05 41.9 -1.0**
ICESG IAmb IAmb 02 05 43.2
comp=Z,133nm,1.5s

BHOU Houvegnez 87.20 324 *dP* **P 02 05 43.9 +0.8**
comp=Z,14nm,1.3s
BHOU *dPP* **PP 02 09 05.1 -1.2**

OZB Mount Ozzard 87.22 37 IAmb IAmb 02 05 44.9
comp=Z,40nm,1.2s

CESX Cesi 87.29 315 IAmb IAmb 02 05 45.2
comp=Z,84nm,1.9s

BSTI Sart Tilman 87.31 325 *dP* **P 02 05 43.8 +0.2**
comp=Z,5.0nm,1.2s

TUE Stuetta 87.37 320 IAmb IAmb 02 05 46.1
comp=Z,78nm,1.6s

WLF Walferdange 87.50 324 *dP* **P 02 05 45.0 +0.5**
comp=Z,26nm,1.5s

WLF Walferdange 87.50 324 *eP* 02 05 45.3
comp=Z,112nm,1.4s,baz=61,slow=5.0

BCLA Clavier 87.54 325 *dP* **P 02 05 45.0 +0.4**
comp=Z,11nm,1.4s

BGES Gesves 87.67 325 *dP* **P 02 05 45.9 +0.5**
comp=Z,8.3nm,1.5s

OSSC Osservatorio P 87.70 317 P **P 02 05 44.5 -1.1**
OSSC IAmb IAmb 02 06 11.8
comp=Z,44nm,1.3s

ECH Echery 87.72 322 IAms_20 IAms_20 02 47 40.5
comp=Z,951nm,20.0s

RCHB Rochefort 87.72 325 *dP* **P 02 05 45.7 +0.1**
comp=Z,15nm,1.4s

UCC Uccle 87.82 325 IAmb IAmb 02 05 47.5
comp=Z,67nm,1.7s

BORG Borgarnes 87.85 345 LR LR 02 48 13.4
comp=Z,679nm,20.6s,baz=28,slow=38

BMRD Maredsous 87.89 325 *dP* **P 02 05 46.6 +0.3**
comp=Z,15nm,1.3s

CLRS Cowichan Lake 88.05 37 IAmb IAmb 02 05 49.1
comp=Z,65nm,1.6s

DOU Dourbes 88.10 325 *dP* **P 02 05 46.9 -0.4**

EDMD Edmundbyers 88.48 331 *eP* **P 02 05 50.1 +1.0**
EDMD IAmb IAmb 02 05 51.0
comp=Z,19nm,0.8s

PGC Sidney 88.52 37 IAmb IAmb 02 05 51.3
comp=Z,32nm,1.2s

EKA Eskdalemuir Ar 88.69 332 P **P 02 05 50.2 +0.2**
comp=Z,6.3nm,0.7s,baz=59,slow=3.3,SNR=14
comp=Z,6.3nm,0.7s

ESK Eskdalemuir 88.72 332 *eP* **P 02 05 50.9 +0.7**
ESK IAmb IAmb 02 05 53.3
comp=Z,8.5nm,0.8s

RAR Rarotonga 88.84 114 LR LR 02 41 22.5
comp=Z,191nm,20.3s,baz=274,slow=33

HPK Haverah Park 88.88 330 *eP* **P 02 05 52.1 +1.2**
HPK IAmb IAmb 02 05 53.6
comp=Z,12nm,0.8s

LBWR Ladybower, Pea 89.27 330 *eP* **P 02 05 53.1 +0.2**
LBWR IAmb IAmb 02 05 55.0
comp=Z,16nm,0.8s

CASY Casey 89.30 184 P **P 02 05 52.4 0.0**

GNW Green Mountain 89.48 37 IAmb IAmb 02 05 56.3
comp=Z,55nm,1.2s

SFJD Kangerlussuaq 90.11 357 P **P 02 05 54.7 -1.7**

SFJD Kangerlussuaq 90.11 357 P **P 02 05 54.7 -1.7**
SFJD pmax pmax
comp=Z,166nm,1.8s

SFJD Kangerlussuaq 90.11 357 *i P* **P 02 05 56.7 +0.3**
SFJD IAmb IAmb 02 05 57.0
comp=Z,164nm,1.8s

LON Longmire 90.51 38 IAmb IAmb 02 06 00.5
comp=Z,23nm,1.1s

LLW Llanuwychllyn 90.53 330 *eP* **P 02 05 57.9 -0.8**
LLW IAmb IAmb 02 05 59.8
comp=Z,8.1nm,1.1s

WLF1 Llynfaes 90.57 331 *eP* **P 02 05 59.4 +0.6**
WLF1 IAmb IAmb 02 06 02.1
comp=Z,27nm,0.8s

MCH1 Michaelchurch 90.77 329 *eP* **P 02 06 01.3 +1.4**
MCH1 IAmb IAmb 02 06 03.0
comp=Z,16nm,0.9s

SSB Saint Sauveur 90.84 321 IAmb IAmb 02 06 04.1
comp=Z,48nm,1.8s

LTY Liberty 90.85 37 IAmb IAmb 02 06 01.9
comp=Z,44nm,1.2s

COR Corvallis 90.87 40 P **P 02 06 00.6 +0.1**

COR Corvallis 90.87 40 P **P 02 06 00.6 +0.1**
COR pmax pmax
comp=Z,116nm,1.3s

VSL Villasalto 90.94 314 IAmb IAmb 02 06 05.9
comp=Z,44nm,1.2s

I03D Drain, OR 91.34 41 IAmb IAmb 02 06 04.7
comp=Z,40nm,1.1s

HOOD Mount Hood Mea 91.42 39 P **P 02 06 03.0 -0.3**

K02D Willamette Mer 91.70 42 IAmb IAmb 02 06 05.5
comp=Z,58nm,1.7s

D08A Wollman Farm, 91.93 36 IAmb IAmb 02 06 07.2
comp=Z,27nm,1.1s

HAWA Hanford 91.99 37 P **P 02 06 04.5 -1.2**
HAWA IAmb IAmb 02 06 07.7
comp=Z,45nm,1.3s

F07A Phinny Hill Vi 92.07 38 IAmb IAmb 02 06 12.5
comp=Z,29nm,1.0s

NEW Newport 92.15 35 IAmb IAmb 02 06 08.1
comp=Z,32nm,1.1s

NEW Newport 92.15 35 LR LR 02 48 33.4
comp=Z,414nm,20.6s,baz=322,slow=36

I05D Terrebonne, OR 92.17 39 IAmb IAmb 02 06 08.4
comp=Z,24nm,1.2s

BBOR Butler Butte 92.20 41 IAmb IAmb 02 06 08.5
comp=Z,24nm,1.2s

E08A Dider Farm, El 92.20 37 IAmb IAmb 02 06 08.5
comp=Z,24nm,1.1s

YPT Yellepit 92.52 37 IAmb IAmb 02 06 10.1
comp=Z,26nm,1.0s

E09A Wood Farm, Sta 92.69 36 IAmb IAmb 02 06 10.8
comp=Z,37nm,1.2s

YBH Yreka Blue Hor 92.83 42 IAmb IAmb 02 06 11.5
comp=Z,27nm,1.3s

YBH Yreka Blue Hor 92.83 42 LR LR 02 44 10.5
comp=Z,311nm,21.8s,baz=330,slow=33

J05D Fort Rock, OR 92.84 40 P **P 02 06 09.3 -0.6**
J05D IAmb IAmb 02 06 11.8
comp=Z,38nm,1.2s

KEST Kesra 92.89 311 IAmb IAmb 02 06 12.3
comp=Z,28nm,1.2s

KEST Kesra 92.89 311 P **P 02 06 10.4 +0.3**
comp=Z,8.9nm,1.0s,baz=45,slow=1.4,SNR=7.7
KEST LR LR 02 55 43.2
comp=Z,544nm,18.1s,baz=35,slow=40
comp=Z,8.9nm,1.0s

KEST Kesra 92.89 311 P **P 02 06 11.4 +1.3**
SNR=5.8
KEST P **P 02 06 11.4 +1.3**
SNR=5.8

LNOR Lincton Mounta 93.00 37 IAmb IAmb 02 06 19.9
comp=Z,13nm,0.9s

FRB Frobisher Bay 93.28 4 LR LR 02 52 16.2
comp=Z,989nm,20.1s,baz=344,slow=38

I07A Izee 93.39 39 IAmb IAmb 02 06 14.4
comp=Z,24nm,1.4s

FCC Fort Churchill 93.59 17 IAmb IAmb 02 06 13.2
comp=Z,34nm,1.1s

O02D Mt. Diablo Mer 93.65 44 IAmb IAmb 02 06 15.3
comp=Z,16nm,1.1s

HATC Hat Creek Radi 94.12 42 IAmb IAmb 02 06 17.0
comp=Z,23nm,1.0s

FFC Flin Flon 94.36 23 P **P 02 06 15.3 -1.1**
FFC IAmb IAmb 02 06 17.0
comp=Z,28nm,1.1s

FFC Flin Flon 94.36 23 P **P 02 06 15.3 -1.1**
FFC pmax pmax
comp=Z,28nm,1.1s

J08A Circle Bar Ran 94.42 39 IAmb IAmb 02 06 18.9
comp=Z,26nm,1.2s

MSO Missoula 94.73 34 IAmb IAmb 02 06 20.1
comp=Z,21nm,1.2s

WVOR Wild Horse Val 94.88 40 IAmb IAmb 02 06 20.9
comp=Z,29nm,1.5s

EGMT Eagleton 96.02 31 IAmb IAmb 02 06 24.6
comp=Z,19nm,1.4s

PAHR Pah Rah Range 96.06 42 IAmb IAmb 02 06 25.8
comp=Z,16nm,1.2s

PPT Papeete 96.23 106 LR LR 02 44 45.2
comp=Z,326nm,19.4s,baz=270,slow=32

PPT2 Papeete2 96.24 106 *eS* **S 02 17 40.6 -5.2**
comp=Z,182nm,25.0s

PPT2 Papeete2 96.24 106 *eLQ* LQ 02 33 24.8
PPT2 *eLR* LR 02 37 23.4
comp=Z,563nm,23.2s
PPT2 *eLR* LR 02 37 30.1
comp=Z,652nm,27.2s
comp=Z,954nm,26.2s

PNTR Pine Nut 96.29 43 IAmb IAmb 02 06 27.1
comp=Z,20nm,1.2s

DLMT Dillon 96.40 35 IAmb IAmb 02 06 27.6
comp=Z,30nm,1.2s

CMB Columbia Colle 96.41 44 P **P 02 06 24.8 -1.4**
CMB IAmb IAmb 02 06 27.0
comp=Z,15nm,1.1s

CMB	**Columbia Colle**	**96.41**	**44**	P	**P**	**02 06 24.8**	**-1.4**
CMB				pmax	pmax		
	comp=Z,15nm,1.1s						
WAKR	**Walker**	**96.74**	**43**	IAmb	IAmb	02 06 42.0	
	comp=Z,21nm,1.7s						
RYN	**Ryan**	**97.24**	**43**	IAmb	IAmb	02 06 31.4	
	comp=Z,17nm,1.4s						
LHV	**Little Huntoon**	**97.48**	**43**	IAmb	IAmb	02 06 32.8	
	comp=Z,23nm,1.3s						
YHL	**Hebgen Lake**	**97.48**	**34**	IAmb	IAmb	02 06 32.9	
	comp=Z,17nm,1.4s						
NVAR	**Mina Array Bea**	**97.50**	**43**	P	**P**	**02 06 29.2**	**-2.1**
NVAR	**Mina Array Bea**	**97.50**	**43**	P	Pdif	02 06 31.6	+0.3
	comp=Z,3.6nm,1.1s,baz=273,slow=3.0,SNR=15						
NVAR				LR	LR	02 43 02.7	
	comp=Z,243nm,21.6s,baz=325,slow=31						
	comp=Z,3.6nm,1.1s						
YHB	**Horse Butte**	**97.55**	**35**	IAmb	IAmb	02 06 33.1	
	comp=Z,15nm,1.4s						
NV11	**Mina Array Sit**	**97.59**	**43**	IAmb	IAmb	02 06 40.4	
	comp=Z,24nm,1.9s						
YMR	**Madison River**	**97.72**	**35**	IAmb	IAmb	02 10 17.8	
	comp=Z,30nm,2.0s						
ELK	**Elko**	**97.93**	**40**	LR	LR	02 46 03.7	
	comp=Z,373nm,21.4s,baz=334,slow=33						
YMP	**Mirror Lake Pl**	**98.09**	**34**	IAmb	IAmb	02 06 36.1	
	comp=Z,17nm,1.5s						
DGMT	**Dagmar**	**98.25**	**28**	IAmb	IAmb	02 06 35.4	
	comp=Z,27nm,1.4s						
LSZ	**Lusaka**	**98.28**	**257**	P	**P**	**02 06 34.1**	**-0.9**
LSZ				IAmb	IAmb	02 06 35.9	
	comp=Z,12nm,1.1s						
LSZ	**Lusaka**	**98.28**	**257**	LR	LR	02 49 28.2	
	comp=Z,993nm,19.6s,baz=98,slow=34						
LSZ	**Lusaka**	**98.28**	**257**	P	**P**	**02 06 35.1**	**+0.1**
LSZ				P	**P**	**02 06 35.1**	**+0.1**
LSZ	**Lusaka**	**98.28**	**257**	P	**P**	**02 06 34.1**	**-0.9**
LSZ				pmax	pmax		
	comp=Z,12nm,1.1s						
RLMT	**Red Lodge**	**98.28**	**33**	IAmb	IAmb	02 06 48.9	
	comp=Z,23nm,1.9s						
DSP	**Deep Springs**	**98.34**	**44**	IAmb	IAmb	02 06 36.5	
	comp=Z,21nm,1.6s						
FXWY	**Fox Creek**	**98.39**	**35**	IAms_20	IAms_20	02 53 34.1	
	comp=Z,920nm,20.0s						
TBI	**Tubuai**	**98.46**	**112**	*e*S	**S**	**02 17 59.5**	**-4.8**
	comp=Z,1μm,30.8s						
TBI	**Tubuai**	**98.46**	**112**	*e*LQ	LQ	02 34 22.8	
	comp=Z,3μm,25.8s						
TBI				*e*LR	LR	02 38 33.9	
	comp=Z,1μm,25.5s						
CART	**Cartagena**	**98.73**	**317**	IAms_20	IAms_20	02 59 29.3	
	comp=Z,992nm,22.0s						
ESDC	**Sonseca Array**	**99.23**	**320**	PP	**PP**	**02 10 36.1**	**-4.8**
	comp=Z,1.8nm,0.9s,baz=44,slow=6.3,SNR=5.2						
ESDC				LR	LR	02 54 53.1	
	comp=Z,574nm,18.7s,baz=28,slow=37						
HWUT	**Hardware Ranch**	**99.47**	**37**	P	**Pdif**	**02 06 39.1**	**-0.9**
HWUT				IAmb	IAmb	02 10 21.3	
	comp=Z,22nm,1.9s						
PAB	**San Pablo**	**99.54**	**320**	IAms_20	IAms_20	02 53 38.5	
	comp=Z,643nm,19.0s						
PDAR	**Pinedale Array**	**99.77**	**35**	P	**Pdif**	**02 06 40.6**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=320,slow=4.4,SNR=5.4						
PDAR				PP	**PP**	**02 10 45.5**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=299,slow=8.6,SNR=3.6						
PDAR				LR	LR	02 54 08.3	
	comp=Z,185nm,19.8s,baz=342,slow=37						
	comp=Z,0.5nm,0.9s						
MAW	**Mawson**	**99.86**	**199**	LR	LR	02 47 36.4	
	comp=Z,184nm,20.5s,baz=42,slow=33						
ULM	**Lac du Bonnet**	**100.17**	**23⇓**	*e*P	**Pdif**	**02 06 40.9**	**-1.8**
TAOE	**Nuku Hiva Isla**	**101.57**	**95**	*e*LR	LR	02 39 55.8	
	comp=Z,665nm,29.2s						
ISCO	**Idaho Springs**	**103.97**	**35**	IAms_20	IAms_20	02 56 26.6	
	comp=Z,910nm,22.0s						
AVE	**Averroes**	**105.49**	**317**	IAms_20	IAms_20	03 03 31.3	
	comp=Z,717nm,20.0s						
SYO	**Syowa Base**	**108.15**	**202⇑**	*e*pPdiff	pPdif	02 07 21.7	-0.3
SYO	**Syowa Base**	**108.15**	**202⇓**	*e*pPKiKP	**PKiKP**	**02 11 28.0**	**+4.0**
RKT	**Rikitea**	**110.98**	**107**	*e*LR	LR	02 44 23.5	
	comp=Z,3μm,24.8s						
OK029	**Liberty Lake**	**111.21**	**33**	IAms_20	IAms_20	02 42 29.1	
	comp=Z,542nm,21.0s						
TXAR	**Lajitas Array**	**112.60**	**42**	PKiKP	**PKiKP**	**02 11 33.3**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=252,slow=1.2,SNR=7.6						
QSPA	**South Pole Qui**	**112.74**	**180**	PKiKP	**PKiKP**	**02 11 32.3**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=0.6,slow=0.7,SNR=7.4						
ELIB	**Princess Elisa**	**113.97**	**200**	*d*PKiKP	**PKiKP**	**02 11 35.5**	**+0.3**
M65A	**Busby, Falmout**	**114.93**	**10**	P	**PKiKP**	**02 11 37.7**	**-0.2**
	baz=348						
NVL	**N'lazarevskaya**	**117.75**	**201**	*e*PKIKP	**PKiKP**	**02 11 46.1**	**+3.8**
NVL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
DBIC	**Dimbokro**	**119.38**	**292**	PKP	**PKPdf**	**02 11 47.0**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=153,slow=1.0,SNR=5.3						
SNAA	**Sanae**	**121.99**	**198**	PKP	**PKPdf**	**02 11 50.0**	**-0.5**
	comp=Z,5.3nm,1.1s,baz=122,slow=9.5,SNR=2.3						
BELA	**Belgrano 2**	**123.80**	**186**	PKPdf	**PKPdf**	**02 11 51.7**	**-2.1**
GTBY	**Guantanamo Bay**	**134.60**	**21**	IAms_20	IAms_20	03 05 22.8	
	comp=Z,416nm,20.0s						
SJG	**San Juan**	**138.61**	**10**	IAms_20	IAms_20	03 13 20.4	
	comp=Z,537nm,22.0s						
SMRT	**St. Maarten**	**139.07**	**6**	IAms_20	IAms_20	03 15 35.3	
	comp=Z,447nm,20.0s						
SDV	**Santo Domingo**	**146.40**	**21**	PKPdf	**PKPdf**	**02 12 37.1**	**-0.6**
SDV	**Santo Domingo**	**146.40**	**21**	PKPbc	**PKPdf**	**02 12 37.8**	**+0.1**
	comp=Z,70nm,0.9s,baz=357,slow=1.8,SNR=68						
SDV	**Santo Domingo**	**146.40**	**21**	*e*P	**PKPdf**	**02 12 37.5**	**-0.2**
PCRV	**Puerto La Cruz**	**146.63**	**10**	PKPbc	**PKPdf**	**02 12 38.0**	**+0.2**
	comp=Z,21nm,0.7s,baz=219,slow=3.7,SNR=6.4						
ROSC	**El Rosal**	**148.62**	**30**	PKPbc	**PKPdf**	**02 12 42.1**	**+0.5**
	comp=Z,14nm,0.5s,baz=104,slow=4.2,SNR=8.8						
OTAV	**Otavalo**	**150.23**	**42**	IAms_20	IAms_20	03 22 47.8	
	comp=Z,327nm,20.0s						
OTAV	**Otavalo**	**150.23**	**42**	*e*P	**PKPdf**	**02 12 44.5**	**+0.2**
MDP	**Montagnes des**	**151.42**	**347**	PKP	**PKPdf**	**02 12 45.2**	**-0.4**
	comp=Z,16nm,0.9s,baz=20,slow=1.5,SNR=2.5						
RCBR	**Riachuelo**	**151.91**	**304**	*e*P	**PKPdf**	**02 12 47.0**	**+0.7**
NBPB	**Pedra_Branca-C**	**154.44**	**310**	*e*P	**PKPdf**	**02 12 50.8**	**+0.8**
BOAV	**Boa Vista**	**154.77**	**3**		**PKPdf**	**02 12 49.1**	**-1.3**
BOAV					**sPKPdf**	**02 12 57.4**	**+0.9**
BOAV					**PKPab**	**02 13 12.0**	**-1.7**
BOAV	**Boa Vista**	**154.77**	**3**	*e*P	**PKPdf**	**02 12 51.4**	**+1.0**
TMAB	**Tom-Au,PA,Br**	**156.94**	**331**	*e*P	**PKPdf**	**02 12 54.1**	**+0.9**
LL02	**Futaleuf**	**157.20**	**155**	PKPdf	**PKPdf**	**02 12 52.1**	**-0.6**
LL02				PKPab	**PKPab**	**02 13 22.7**	**-0.7**
TBTG	**Tabatinga, AM**	**158.61**	**31**	PKPdf	**PKPdf**	**02 12 53.1**	**-2.2**
TBTG				PKPab	**PKPab**	**02 13 27.5**	**-2.7**
PLCA	**Paso Flores**	**159.80**	**154**	PKP	**PKPdf**	**02 12 55.3**	**-0.7**
	comp=Z,3.6nm,1.1s,baz=95,slow=1.4,SNR=3.4						
PLCA				PKPab	**PKPab**	**02 13 33.7**	**-1.1**
	comp=Z,7.1nm,1.1s,baz=292,slow=5.8,SNR=3.3						
PLCA	**Paso Flores**	**159.80**	**154**	*e*P	**PKPdf**	**02 12 56.1**	**0.0**
CZSB	**Cruzeiro do Su**	**159.99**	**43**	*e*P	**PKPdf**	**02 12 56.9**	**0.0**
CMC01	**Camacan, BA**	**160.06**	**289**	*e*P	**PKPdf**	**02 12 57.7**	**+0.8**
MACA	**Manacapuru-AM**	**160.27**	**5**	PKPdf	**PKPdf**	**02 12 55.2**	**-2.1**
MACA				PKPab	**PKPab**	**02 13 35.1**	**-2.3**
GUA01	**Guaratinga, BA**	**160.80**	**286**	*e*P	**PKPdf**	**02 12 58.5**	**+0.8**
PRPB	**Parauapebas**	**161.08**	**330**	*e*P	**PKPdf**	**02 12 58.7**	**+0.6**
ITTB	**Itaituba**	**161.25**	**350**	*e*P	**PKPdf**	**02 12 57.6**	**-0.7**
RIB01	**Linhares ES**	**162.20**	**278**	*e*P	**PKPdf**	**02 12 59.0**	**-0.1**
SJMB	**Sao Joao De Ma**	**162.75**	**281**	*e*P	**PKPdf**	**02 13 00.3**	**+0.6**
SDBA	**SAO DESIDERIO**	**162.92**	**305**	*e*P	**PKPdf**	**02 12 58.3**	**-1.7**
JANB	**Januaria**	**164.00**	**297**	*e*P	**PKPdf**	**02 13 00.6**	**-0.4**
DIAM	**Diamantina, MG**	**164.86**	**285**	*e*P	**PKPdf**	**02 13 02.4**	**+0.6**
SNDB	**Serra Nova Dou**	**166.81**	**325**	*e*P	**PKPdf**	**02 13 03.2**	**-0.1**
BDFB	**Brasilia**	**167.28**	**303**	PKP	**PKPdf**	**02 13 03.6**	**-0.2**
	comp=Z,7.7nm,1.1s,baz=40,slow=4.5,SNR=11						
BDFB				PKPab	**PKPab**	**02 14 08.9**	**+0.5**
	comp=Z,10nm,1.0s,baz=39,slow=13,SNR=8.1						
CLDB	**Colider**	**167.59**	**345**	*e*P	**PKPdf**	**02 13 04.5**	**+0.6**
CFA	**Coronel Fontan**	**168.14**	**139**	PKP	**PKPdf**	**02 13 03.6**	**-0.2**
	comp=Z,4.5nm,1.2s,baz=216,slow=4.1,SNR=8.1						
PDRB	**Porto dos Gac**	**168.51**	**348**	*e*P	**PKPdf**	**02 13 04.4**	**-0.1**
IPMB	**Ipameri, GO**	**168.69**	**294**	*e*P	**PKPdf**	**02 13 04.3**	**-0.3**
LPAZ	**La Paz**	**169.20**	**54**	PKP	**PKPdf**	**02 13 05.7**	**0.0**
	comp=Z,17nm,1.2s,baz=29,slow=2.7,SNR=20						
LPAZ				PKPab	**PKPab**	**02 14 14.9**	**-2.6**
	comp=Z,9.9nm,1.1s,baz=21,slow=5.4,SNR=4.0						
LPAZ				PP	**PP**	**02 18 05.3**	**-1.5**
	comp=Z,6.0nm,1.1s,baz=252,slow=3.2,SNR=4.5						
VILB	**Vilhena**	**170.00**	**6**	*e*P	**PKPdf**	**02 13 06.1**	**+0.6**
BB19B	**Bebedouro**	**170.04**	**279**	*e*P	**PKPdf**	**02 13 05.7**	**+0.4**
CPSB	**Cacapava Do Su**	**171.02**	**213**	*e*P	**PKPdf**	**02 13 06.0**	**+0.4**
SALV	**Santo Antonio**	**172.30**	**335**	*e*P	**PKPdf**	**02 13 05.9**	**-0.6**
PTLB	**Pontes e Lacer**	**172.54**	**0**	PKPdf	**PKPdf**	**02 13 05.8**	**-0.8**
PTLB				PKPab	**PKPab**	**02 14 29.9**	**-1.4**
PTLB	**Pontes e Lacer**	**172.54**	**0**	*e*P	**PKPdf**	**02 13 06.4**	**-0.2**
LDASE	**Londrina, Braz**	**172.66**	**265**	*e*P	**PKPdf**	**02 13 06.5**	**-0.1**
SIV	**San Ignacio**	**172.83**	**16**	PKP	**PKPdf**	**02 13 06.7**	**-0.1**
	comp=Z,9.0nm,1.2s,baz=82,slow=0.9,SNR=18						
SIV				PKPab	**PKPab**	**02 14 31.2**	**-1.5**
	comp=Z,5.8nm,0.9s,baz=348,slow=4.0,SNR=8.3						
SIV				PP	**PP**	**02 18 21.5**	**-1.3**
	comp=Z,3.4nm,1.0s,baz=341,slow=4.2,SNR=6.8						
RPRD	**Ribas do Rio P**	**174.43**	**295**	*e*P	**PKPdf**	**02 13 07.7**	**+0.4**
CPUP	**Villa Florida**	**176.27**	**205**	PKPdf	**PKPdf**	**02 13 06.4**	**-1.2**
CPUP				PKPab	**PKPab**	**02 14 47.2**	**-0.5**
CPUP	**Villa Florida**	**176.27**	**205**	PKP	**PKPdf**	**02 13 07.2**	**-0.4**
	comp=Z,6.5nm,1.2s,baz=6.6,slow=2.3,SNR=6.4						
CPUP				PKPab	**PKPab**	**02 14 46.2**	**-1.5**
	comp=Z,5.1nm,0.9s,baz=62,slow=5.2,SNR=4.5						
SJPY	**San Joaquin**	**176.60**	**232**	*e*P	**PKPdf**	**02 13 08.0**	**+0.3**
BDQN	**Bodoquena, MS**	**176.71**	**319**	*e*P	**PKPdf**	**02 13 06.9**	**-0.9**

TAP 03 01:53:28.5, 22°.99N×120°.82E, h12km, ML4.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.19**	**342**	*i* P	Pg	01 53 33.2	+0.5
STYT				*i* S	Sg	01 53 36.2	+0.7
STYH	**Taoyuan**	**0.19**	**348**	*i* P	Pg	01 53 33.2	+0.6
STYH				*i* S	Sg	01 53 36.3	+0.8
SGST	**Jiashian**	**0.24**	**294**	*e*P	Pb	01 53 34.9	+0.1
SGST				*e*S	Sg	01 53 39.0	+2.2
ELDTW	**Lidau**	**0.27**	**42**	P	Pb	01 53 35.1	-0.4
ELDTW				*e*S	Sb	01 53 39.4	-0.8
TWG	**Pinlang**	**0.29**	**125**	P	Pg	01 53 34.9	+0.6
TWG				*e*S	Sg	01 53 38.7	+0.4
SSD	**Sandimen**	**0.29**	**216**	*i* P	Pg	01 53 34.8	+0.3
SSD				*e*S	Sg	01 53 38.1	-0.4
TWGBT	**Beinan**	**0.29**	**125**	*i* P	Pg	01 53 34.9	+0.4
TWGBT				*e*S	Sg	01 53 38.3	-0.2
LONT	**Longtian**	**0.30**	**105**	*i* P	Pb	01 53 35.3	-0.5
LONT				S	Sg	01 53 39.2	+0.6
SCST	**Cishan**	**0.32**	**252**	*e*P	Pb	01 53 36.8	+0.7
TSMG	**Majia**	**0.32**	**210**	*e*P	Pg	01 53 34.6	-0.4
TPUB	**Ta-pu**	**0.36**	**331**	*e*P	Pb	01 53 37.9	+1.0
TPUB				*e*S	Sb	01 53 43.5	+1.0
TTN	**Taitung**	**0.38**	**127**	*e*P	Pb	01 53 37.9	+0.6
TTN				*e*S	Sb	01 53 42.9	-0.2
ECS	**Chishang**	**0.39**	**73**	*e*P	Pb	01 53 37.5	+0.2
EHD	**Haiduan**	**0.39**	**65**	P	Pg	01 53 36.8	+0.5
EHD				*e*S	Sg	01 53 41.7	+0.2
ECL	**Taimali**	**0.41**	**162**	*e*P	Pg	01 53 36.8	+0.2
ECL				*e*S	Sg	01 53 42.0	+0.1
MASBT	**Mashibuluo**	**0.41**	**205**	*e*P	Pg	01 53 36.8	+0.2
FULB	**Fuli**	**0.49**	**64**	*e*P	Pb	01 53 40.1	+1.0
FULB				*e*S	Sb	01 53 47.5	+1.3
TWF1	**Yuli**	**0.57**	**50**	*e*P	Pb	01 53 40.8	+0.2
YULB	**Yu-li**	**0.60**	**47**	*e*P	Pb	01 53 41.5	+0.5

ANF 03 02:18:13.9±0.3, 60°.29N×140°.72W, h15km±3km, Error ellipse: s-maj=2.7km s-min=2.1km az=153.0, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINM	**Pinnacle**	**0.30**	**130**	P	Pg	02 18 20.7	+0.4
	baz=310,SNR=26						
PINM				S	Sb	02 18 25.8	-0.2
	baz=310						
O28M	**Mount Upton**	**0.55**	**28**	P	Pg	02 18 24.8	-0.1
	baz=213,SNR=105						
O28M				S	Sb	02 18 33.2	0.0
	baz=213						
MESA	**MESA**	**0.62**	**260**	P	Pb	02 18 26.6	-0.1
	baz=76,SNR=8.7						
MESA				S	Sb	02 18 35.5	+0.2
	baz=76						
PNL	**Peninsula**	**0.91**	**133**	P	Pb	02 18 29.9	-1.5
	baz=314,SNR=11						
O29M	**Mount Kennedy**	**1.07**	**88**	S	Sn	02 18 48.9	-0.2
	baz=272						
YUK6	**Outpost Mounta**	**1.33**	**60**	Pb	Pb	02 18 38.9	+0.1
	baz=243,SNR=9.4						
YUK6				Sb	Sg	02 18 56.9	-0.1
	baz=243						
YUK4	**Talbot Arm**	**1.47**	**43**	Pb	Pg	02 18 43.0	+0.9
	baz=225,SNR=17						
YUK4				Sb	Sg	02 19 04.8	+3.6
	baz=225						
YUK3	**Moose Creek**	**1.50**	**5**	Pb	Pb	02 18 41.5	0.0
	baz=186,SNR=6.5						
YUK3				Sb	Sg	02 19 01.8	-0.3
	baz=186						
P29M	**Windy Craggy**	**1.64**	**113**	P	Pn	02 18 42.0	-0.2
	baz=296						

ANF 03 02:19:12.5±0.5, 60°.28N×140°.76W, h18km±3km, Error ellipse: s-maj=3.5km s-min=3.0km az=43.0, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINM	**Pinnacle**	**0.31**	**126**	P	Pg	02 19 19.3	+0.1
	baz=311,SNR=36						
PINM				S	Sb	02 19 25.0	+0.6
	baz=311						
O28M	**Mount Upton**	**0.57**	**29**	P	Pg	02 19 23.4	-0.5
	baz=209,SNR=149						
O28M				S	Sg	02 19 31.7	+0.1
	baz=209						
MESA	**MESA**	**0.60**	**261**	P	Pg	02 19 24.3	-0.2
	baz=78,SNR=6.4						
MESA				S	Sb	02 19 34.0	+1.1
	baz=78						
PNL	**Peninsula**	**0.92**	**131**	P	Pb	02 19 28.5	-1.4
	baz=314,SNR=19						
O29M	**Mount Kennedy**	**1.09**	**88**	S	Sg	02 19 47.8	0.0
	baz=271						
YUK8	**Steele Glacier**	**1.12**	**25**	P	Pb	02 19 32.9	-0.6
	baz=206,SNR=12						
YUK8				S	Sb	02 19 47.9	+0.1
	baz=206						
YUK6	**Outpost Mounta**	**1.36**	**60**	Pb	Pb	02 19 38.0	+0.5
	baz=242,SNR=13						
YUK6				Sb	Sg	02 19 56.7	+0.3
	baz=242						
YUK4	**Talbot Arm**	**1.49**	**43**	Pb	Pg	02 19 42.1	+0.9
	baz=224,SNR=14						
YUK4				Sb	Sg	02 20 03.7	+3.1
	baz=224						
YUK3	**Moose Creek**	**1.51**	**5**	Pb	Pb	02 19 40.4	+0.3
	baz=185,SNR=9.8						
YUK3				Sb	Sg	02 20 00.8	-0.4
	baz=185						
P29M	**Windy Craggy**	**1.65**	**112**	P	Pn	02 19 40.8	+0.1
	baz=295,SNR=10						
P29M				Sb	Sb	02 20 03.0	0.0
	baz=295						
HYT	**Haines Junctio**	**1.70**	**70**	Sb	Sb	02 20 05.7	+1.4
	baz=253						

NNC 03 02:24:36.4±3.6, 37°.72N×71°.88E, h163km±76km, mb2.8, mpv3.6, 4C-1D, Error ellipse: s-maj=41.6km s-min=21.9km az=16.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.30**	**21**	⇑P	Pn	02 25 53.9	-0.2
	3.0nm,0.5s						
AAK				⇑S	Sn	02 26 55.4	+0.4
	13nm,0.7s						
KK31	**Karatay Array**	**5.48**	**349**	⇑P	Pn	02 25 56.5	+0.2
	1.6nm,0.2s,baz=173,slow=12,SNR=65						
KK31				⇓S	Sn	02 26 59.3	+0.4
	20nm,0.5s,baz=183,slow=19,SNR=21						
AB31	**Akbulak array**	**14.40**	**327**	⇑P	Pn	02 27 52.6	0.0
	1.2nm,0.5s,baz=146,slow=12,SNR=59						

*NEIC **03** 02:29:10.5±1.1, 24°.50S±0°.05×179°.9W±0°.2, h469km±11km, mb4.0/15, Error ellipse: s-maj=30.7km s-min=5.7km az=80.0*

*IDC **03** 02:29:12.3±2.2, 24°.26S×179°.84W, h504km±24km, mb3.4/6, mbtmp4.3/9, Error ellipse: s-maj=22.0km s-min=18.9km az=134.0*

ISC 03 02:29:11.8±0.7, 24°.30S±0°.08×179°.8W±0°.1, h505km, n34, σ1°.09/35, mb4.0/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.84**	**342**	P	**P**	**02 30 56.1**	**-0.8**
MSVF	**Nonsavu**	**6.84**	**342**	P	**P**	**02 30 56.4**	**-0.4**
	3.2nm,0.5s,baz=235,slow=18,SNR=6.5						
PINNC	**Pines Island,**	**11.85**	**276**	P	**P**	**02 31 51.7**	**+2.9**
DZM	**Mont Dzumac**	**12.86**	**277**	P	**P**	**02 32 01.5**	**+1.8**
DZM	**Mont Dzumac**	**12.86**	**277**	P	**P**	**02 31 59.6**	**-0.1**
	12nm,0.7s,baz=89,slow=16,SNR=14						
URZ	**Urewera**	**14.16**	**190**	P	**P**	**02 32 12.5**	**-0.5**
	4.9nm,0.5s,baz=118,slow=4.2,SNR=6.2						
URZ				S	**S**	**02 34 42.6**	**+0.3**
	2.8nm,0.4s,baz=141,slow=12,SNR=1.1						
MRZ	**Mangatainoka R**	**16.77**	**192**	P	**P**	**02 32 37.2**	**-2.9**
QRZ	**Quartz Range**	**17.69**	**200**	P	**P**	**02 32 47.3**	**-1.6**
STKA	**Stephens Creek**	**34.76**	**249**	P	**P**	**02 35 19.6**	**+0.1**
STKA	**Stephens Creek**	**34.76**	**249**	P	**P**	**02 35 19.8**	**+0.3**
	2.7nm,0.5s,baz=95,slow=12,SNR=8.7						
	2.7nm,0.5s						
COEN	**Coen**	**36.38**	**280**	P	**P**	**02 35 32.5**	**-0.6**
COEN				IAmb	IAmb	02 35 33.9	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**42.17**	**261**	P	**P**	**02 36 19.6**	**-0.3**
ASAR	**Alice Springs**	**42.17**	**261**	P	**P**	**02 36 19.6**	**-0.3**
ASAR	**Alice Springs**	**42.17**	**261**	P	**P**	**02 36 20.2**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=97,slow=7.2,SNR=26						
	comp=Z,2.4nm,0.5s						
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**02 36 22.6**	**-0.5**
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**02 36 23.1**	**-0.1**
	comp=Z,6.3nm,0.4s,baz=98,slow=8.2,SNR=49						
	comp=Z,6.3nm,0.4s						
FORT	**Forrest**	**46.36**	**250**	P	**P**	**02 36 51.4**	**-0.8**
MTN	**Manton Dam**	**47.69**	**275**	P	**P**	**02 37 01.9**	**-0.4**
MTN				IAmb	IAmb	02 37 02.2	
	comp=Z,16nm,1.1s						
KNRA	**Kununurra**	**48.89**	**270**	P	**P**	**02 37 11.5**	**+0.2**
KNRA				IAmb	IAmb	02 37 12.5	
	comp=Z,17nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.00**	**266**	P	**P**	**02 37 27.4**	**+0.6**
VNDA	**Vanda**	**54.00**	**185**	P	**P**	**02 37 48.2**	**+0.7**
VNDA				IAmb	IAmb	02 37 49.1	
	comp=Z,0.9nm,0.3s						
PSA00	**Pilbara Seismi**	**55.29**	**260**	P	**P**	**02 37 57.1**	**-0.3**
PSA00				IAmb	IAmb	02 38 02.3	
	comp=Z,12nm,1.1s						
MBWA	**Marble Bar**	**55.50**	**260**	P	**P**	**02 37 58.6**	**-0.3**
MBWA				IAmb	IAmb	02 37 59.9	
	comp=Z,5.8nm,0.8s						
MORW	**Morawa**	**56.93**	**250**	P	**P**	**02 38 08.3**	**-0.4**
MORW				IAmb	IAmb	02 38 21.0	
	comp=Z,8.5nm,1.0s						
QSPA	**South Pole Qui**	**65.78**	**180**	P	**P**	**02 39 06.8**	**+0.5**
QSPA				IAmb	IAmb	02 39 09.6	
	comp=Z,3.0nm,0.9s						
QSPA	**South Pole Qui**	**65.78**	**180**	P	**P**	**02 39 07.2**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=351,slow=1.4,SNR=13						
	comp=Z,1.7nm,0.6s						
MAW	**Mawson**	**77.44**	**200**	P	**P**	**02 40 14.4**	**+0.2**
MAW				IAmb	IAmb	02 40 47.4	
	comp=Z,1.6nm,1.1s						
TXAR	**Lajitas Array**	**90.47**	**58**	P	**P**	**02 41 21.4**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=208,slow=6.6,SNR=10.0						
	comp=Z,0.8nm,0.8s						
ILAR	**Eielson Array**	**92.38**	**13**	P	**P**	**02 41 27.1**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=201,slow=5.3,SNR=2.5						
	comp=Z,0.5nm,0.9s						
ARCES	**ARCESS Array B**	**132.32**	**348**	PKP	**PKPdf**	**02 47 27.1**	**-0.3**
	comp=Z,3.4nm,1.0s,baz=330,slow=1.3,SNR=3.7						
FINES	**FINESS Array B**	**138.89**	**341**	PKPdf	**PKiKP**	**02 47 41.4**	**-0.7**
HFS	**Hagfors**	**142.98**	**349**	PKP	**PKPdf**	**02 47 44.8**	**-2.4**
	comp=Z,1.5nm,0.4s,baz=64,slow=3.4,SNR=17						
PABE	**Paberze**	**144.26**	**337**		**PK

SNGZ	Shannon Statio	0.68	308	P	Pb	02 50 10.4	+0.3
SNGZ				S	Sn	02 50 21.1	-0.8
CNGZ	Carnagh Statio	0.73	11	P	Pn	02 50 12.4	+0.1
TKGZ	Te Karaka	0.78	350	P	Pb	02 50 12.3	+0.6
TKGZ				S	Sn	02 50 24.3	+0.1
RAHZ	Arahi	0.79	291	P	Pb	02 50 12.3	+0.4
RAHZ				S	Sn	02 50 24.4	-0.1
ARHZ	Aropaoanui	0.80	265	P	Pn	02 50 13.1	-0.1
ARHZ				S	Sn	02 50 26.3	+1.4
RAGZ	Rawiri	0.85	326	P	Pb	02 50 13.1	0.0
RAGZ				S	Sn	02 50 26.0	-0.3
CKHZ	Cape Kidnapper	0.86	238	P	Pn	02 50 14.1	0.0
CKHZ				S	Sn	02 50 28.0	+1.6
URZ	Urewera	1.18	323	P	Pn	02 50 18.1	-0.4
BKZ	Black Stump Fm	1.19	271	P	Pn	02 50 18.2	-0.5
BKZ	Black Stump Fm	1.19	271	S	Sn	02 50 34.5	-0.1
MXZ	Matakaoa Point	1.65	8	P	Pn	02 50 24.6	-0.4
MXZ	Matakaoa Point	1.65	8	P	Pn	02 50 24.3	-0.7
MXZ				S	Sn	02 50 45.8	-0.1
TSZ	Takapari Road	1.81	241	P	Pn	02 50 26.8	-0.4
TSZ				S	Sn	02 50 49.8	0.0
BFZ	Birch Farm	2.01	222	P	Pn	02 50 29.6	-0.3
BFZ	Birch Farm	2.01	222	S	Sn	02 50 54.5	-0.3
BFZ	Birch Farm	2.01	222	S	Sn	02 50 54.2	-0.6
MRZ	Mangatainoka R	2.38	232	P	Pn	02 50 33.7	-1.3
MRZ				S	Sn	02 51 03.0	-0.8
QRZ	Quartz Range	4.52	247	P	Pn	02 51 02.5	-1.9
OUZ	Omahuta	5.32	317	P	Pn	02 51 11.7	-3.7
	39nm,2.8s						

*IDC **03** 02:50:44.4±1.0, 7°.49N×94°.13E, h0km, mb3.8/12, mbtmp3.8/14, ML3.3/1, MS3.4/5, Error ellipse: s-maj=40.8km s-min=16.4km az=54.0*

ISC 03 02:50:47.9±0.9, 7°.6N±0°.1×94°.2E±0°.2, h20km, n23, σ0s59/15, mb3.8/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.69	135	Pn	Pn	02 52 25.6	+0.4
	0.6nm,0.3s,baz=306,slow=13,SNR=6.3						
PSI				Sn	Sn	02 53 40.9	-0.1
	0.8nm,0.3s,baz=188,slow=21,SNR=1.4						
PSI				LR	LR	02 55 10.5	
	comp=Z,280nm,19.6s,baz=296,slow=40 2.1nm,0.3s						
CMAR	Chiang Mai Arr	11.74	23	Pn	Pn	02 53 34.0	-0.5
	1.4nm,0.3s,baz=205,slow=13,SNR=5.9						
CMAR				LR	LR	02 58 07.5	
	comp=Z,153nm,18.5s,baz=230,slow=37						
PALK	Pallekele	13.39	270	LR	LR	02 58 34.9	
	comp=Z,160nm,20.0s,baz=58,slow=35						
LEM	Lembang	19.60	137	LR	LR	03 04 15.4	
	comp=Z,149nm,18.6s,baz=12,slow=41						
H08S3	Diego Garcia H	26.41	236	T	T	03 23 02.5	
	baz=55,slow=76						
H08S2	Diego Garcia H	26.41	236	T	T	03 23 13.0	
	baz=55,slow=76						
H08S1	Diego Carcia H	26.43	236	T	T	03 23 03.5	
	baz=55,slow=76						
KAPI	Kappang	28.40	115	LR	LR	03 09 35.9	
	comp=Z,91nm,18.9s,baz=296,slow=40						
MKAR	Makanchi Array	40.38	347	P	P	02 58 24.7	+0.3
	1.3nm,0.7s,baz=160,slow=7.8,SNR=9.0 1.3nm,0.7s						
SONM	Songino Array	41.42	12	P	P	02 58 33.5	+0.3
	0.2nm,0.4s,baz=202,slow=7.4,SNR=5.4 0.2nm,0.4s						
KURBB	Kurchatov Arra	44.83	346	P	P	02 59 00.9	+0.4
	1.8nm,0.8s,baz=171,slow=7.0,SNR=13 1.8nm,0.8s						
ZALV	Zalesovo Beam	46.84	352	P	P	02 59 17.1	+0.7
	1.6nm,0.6s,baz=185,slow=7.8,SNR=7.3 1.6nm,0.6s						
WRA	Warramunga Arr	48.05	125	P	P	02 59 25.8	-0.4
	0.6nm,0.7s,baz=307,slow=9.3,SNR=5.0 0.6nm,0.7s						
BVAR	Borovoye Array	49.27	341	P	P	02 59 35.6	+0.4
	0.8nm,0.7s,baz=109,slow=8.6,SNR=4.6 0.8nm,0.7s						
ASAR	Alice Springs	49.69	130	P	P	02 59 38.5	-0.4
	0.7nm,0.8s,baz=302,slow=7.6,SNR=4.6 0.7nm,0.8s						
BRTR	Keskin Array B	62.66	311	P	P	03 01 10.3	-1.2
	0.7nm,0.8s,baz=127,slow=6.0,SNR=5.2 0.7nm,0.8s						
H04N2	CROZET ISLANDS	65.52	211	T	T	04 12 03.4	
	baz=49,slow=74						
H04N1	CROZET ISLANDS	65.53	211	T	T	04 12 05.0	
	baz=49,slow=74						
H04N3	CROZET ISLANDS	65.53	211	T	T	04 12 05.0	
	baz=49,slow=74						
FINES	FINESS Array B	72.99	332	P	P	03 02 16.0	+0.1
	1.6nm,0.7s,baz=102,slow=4.5,SNR=6.2 1.6nm,0.7s						
GERES	GERESS Array B	78.08	318	P	P	03 02 46.3	+0.8
	0.6nm,0.7s,baz=76,slow=5.6,SNR=4.5 0.6nm,0.7s						
HFS	Hagfors	78.73	330	P	P	03 02 49.2	+0.4
	2.3nm,0.8s,baz=94,slow=4.9,SNR=6.3 2.3nm,0.8s						
NOA	NORSAR Array B	80.01	331	P	P	03 02 55.2	-0.5
	0.6nm,0.7s,baz=95,slow=4.6,SNR=3.7 0.6nm,0.7s						

*IDC **03** 02:51:16.6±0.8, 52°.21N×178°.02E, h0km, mb3.9/19, mbtmp3.9/21, ML3.9/2, Error ellipse: s-maj=23.9km s-min=13.5km az=176.0*

*NEIC **03** 02:51:16.4±1.8, 52°.0N±0°.2×177°.96E±0°.06, h10km±2km, mb4.1/60, ML3.9/6, ML3.9(AEIC), Error ellipse: s-maj=26.6km s-min=4.6km az=190.0*

*AEIC **03** 02:51:16.1±1.7, 51°.9N±0°.1×177°.99E±0°.10, h10km±5km, Error ellipse: s-maj=18.3km s-min=7.2km az=197.0*

ISC 03 02:51:17.2±0.7, 52°.1N±0°.1×178°.00E±0°.04, h10km, n112, σ1s22/108, mb4.1/36, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GANO	Gareloi North	1.99	96		Pb	02 51 52.1	-1.5
GANE	Gareloi Northe	2.01	96		Pb	02 51 52.5	-1.3
TASE	Tanaga Southea	2.46	94		Pn	02 51 58.0	+0.6
SHEM	Shemya Is, Ala	2.48	287	Pn	Pn	02 51 58.2	+0.6
	23nm,0.3s,baz=158,slow=1.1,SNR=8.3						
SHEM				Sn	Sb	02 52 31.0	-1.3
	72nm,0.3s,baz=268,slow=20,SNR=14 83nm,0.4s						
SMY	Shemya	2.48	287	Pn	Pn	02 51 57.0	-0.5
SMY				IAML		02 52 34.5	
	comp=E,524nm,0.6s						
SMY				IAML		02 52 35.3	
	comp=N,481nm,1.1s						
TAFP	Tanaga Falls P	2.49	92		Pn	02 51 58.4	+0.7
KIWB	Kanaga Island	3.01	92	Pn	Pn	02 52 03.5	-1.4
ADK	Adak	3.29	91	Pn	Pn	02 52 07.3	-1.4
ADK				IAML		02 52 59.1	
	comp=N,193nm,0.7s						
ADAG	Mount Adagdak	3.33	90		Pn	02 52 11.0	+1.6
GSCK	Great Sitkin C	3.60	89		Pn	02 52 13.4	+0.3
ATKA	Atka Island	4.81	85	Pn	Pn	02 52 27.1	-2.4
ATKA				Sn	Sn	02 53 27.2	+1.9
ATKA				IAML		02 54 23.8	
	comp=N,120nm,3.5s						
O15K	Ungalikthiuk R	14.35	52	Pn	Pn	02 54 40.9	+0.7
N15K	Kwethluk River	14.60	48	P	Pn	02 54 46.6	+3.0
O16K	Kokwok River B	15.33	51	P	P	02 54 58.8	+0.7
O16K				IAmb	IAmb	02 55 05.5	
	comp=Z,16nm,1.1s						
L16K	Owhat River	15.55	43	P	Pn	02 54 58.6	+2.3
L16K				IAmb	IAmb	02 55 40.5	
	comp=Z,19nm,1.4s						
Q16K	King Salmon	15.78	55	P	P	02 55 05.1	+2.0
P17K	Kvichak River	16.02	54	P	P	02 55 08.6	+2.8
N17K	Nushagak Hills	16.07	49	P	Pn	02 55 05.0	+2.0
N17K				IAmb	IAmb	02 55 14.6	
	comp=Z,13nm,1.1s						
CNTC	Contact Creek	16.09	57	P	P	02 55 09.7	+3.0
ANCK	Angle Creek	16.28	57	P	P	02 55 11.6	+2.9
KAHC	Katmai Hardscr	16.61	56	P	P	02 55 15.5	+3.0
OHAK	Old Harbor	17.32	61		Pn	02 55 18.0	-0.8
OHAK				IAmb	IAmb	02 55 56.6	
	comp=Z,15nm,1.2s						
N19K	Bonanza Creek	17.42	49	Pn	Pn	02 55 19.8	-0.4
P19K	Oil Pt	17.72	53	Pn	Pn	02 55 22.7	-1.1
L19K	White Mountain	17.73	45	P	Pn	02 55 23.7	-0.2
KDAK	Kodiak Island	17.75	60		Pn	02 55 24.6	+0.4
KDAK	Kodiak Island	17.75	60	P	Pn	02 55 24.7	+0.6
	comp=Z,0.4nm,0.3s,baz=137,slow=3.6,SNR=6.9 comp=Z,5.6nm,0.8s						
ILSW	Iliamna Southw	17.84	52	P	Pn	02 55 25.4	0.0
G18K	Tagagawik	18.17	31	P	Pn	02 55 28.3	-1.0
K20K	Telida	18.53	42	P	P	02 55 33.1	-0.4
CNPM	China Poot	18.69	54	P	Pn	02 55 35.9	+0.2
CNPM				IAmb	IAmb	02 55 40.3	
	comp=Z,18nm,1.2s						
BRLK	Bradley Lake	18.91	54	P	P	02 55 37.9	+0.1
BRLK				IAmb	IAmb	02 55 42.4	
	comp=Z,16nm,1.0s						
SKT	Skwentna	19.13	47	P	P	02 55 40.6	+0.5
SKT				IAmb	IAmb	02 55 50.1	
	comp=Z,6.3nm,0.6s						
PPLA	Purkeypile	19.14	44	P	P	02 55 40.7	+0.4
PPLA				IAmb	IAmb	02 55 54.8	
	comp=Z,23nm,1.2s						
SUA	Susitna One	19.35	49	P	P	02 55 42.0	-0.6
SUA				IAmb	IAmb	02 55 57.9	
	comp=Z,11nm,1.1s						
SLKM	Skilak Lake	19.38	52	P	P	02 55 43.5	+0.6
RC01	Rabbit Creek A	19.73	50	P	P	02 55 45.6	-1.1
RC01				IAmb	IAmb	02 55 51.0	
	comp=Z,11nm,0.9s						
TRF	Thorofare Moun	20.14	43	P	P	02 55 52.0	+0.6
TRF				IAmb	IAmb	02 56 11.3	
	comp=Z,12nm,1.2s						
GHO	Glory Hole Cre	20.27	49	P	P	02 55 53.1	+0.5
GHO				IAmb	IAmb	02 56 20.8	
	comp=Z,9.4nm,1.0s						
PWL	Port Wells	20.36	51	P	P	02 55 53.6	+0.1
KNK	Knik Glacier	20.40	50	P	P	02 55 54.1	+0.1
KNK				IAmb	IAmb	02 56 01.8	
	comp=Z,7.5nm,0.8s						
SML	Sawmill	20.55	49	P	P	02 55 56.0	+0.4
SML				IAmb	IAmb	02 56 02.0	
	comp=Z,13nm,1.0s						
F21K	Alatna River	20.63	32	P	P	02 55 57.2	+0.8
P23K	Montague Islan	20.68	54	P	P	02 55 56.5	-0.5
GLI	Glacier Island	20.96	51	P	P	02 56 01.1	+1.1
SCM	Sheep Creek Mo	21.02	49	P	P	02 56 01.6	+0.8
SCM				IAmb	IAmb	02 56 07.8	
	comp=Z,12nm,0.9s						
HIN	Hinchinbrook I	21.18	53	P	P	02 56 03.1	+0.8
FID	Port Fidalgo	21.24	52	P	P	02 56 03.4	+0.4
KLU	Klutina	21.62	50	P	P	02 56 06.5	-0.7
KLU				IAmb	IAmb	02 56 16.8	
	comp=Z,12nm,1.0s						
DIV	Divide	21.63	51	P	P	02 56 08.0	+0.7
DIV				IAmb	IAmb	02 56 14.3	
	comp=Z,11nm,0.9s						
B21K	Ikpikpuk River	21.73	26	P	P	02 56 08.9	+0.7
ILAR	Eielson Array	21.99	41	P	P	02 56 12.3	+1.3
	comp=Z,1.2nm,0.9s,baz=245,slow=8.8,SNR=6.7 comp=Z,1.2nm,0.9s						
GLB	Gilahina Butte	22.61	51	P	P	02 56 17.9	+0.1
GLB				IAmb	IAmb	02 56 22.2	
	comp=Z,9.3nm,1.0s						
TOLK	Toolik Lake Re	22.64	31	P	P	02 56 19.3	+1.3
TOLK				IAmb	IAmb	02 56 27.5	
	comp=Z,11nm,1.4s						
SCRK	Sand Creek	22.98	44	P	P	02 56 21.5	-0.3
E25K	Arctic Village	23.71	34	P	P	02 56 29.6	+0.7
BCAR	Beaver Creek A	23.78	47	P	P	02 56 30.2	+0.6
BMAR	Burnt Mountain	23.79	36	P	P	02 56 29.5	-0.2
D25K	Kavik River	23.98	31	P	P	02 56 32.0	+0.6
PCA	Pinnacle	24.26	54	P	P	02 56 33.8	-0.4
C27K	Jago River	24.95	31	P	P	02 56 40.1	-0.2
C27K				IAmb	IAmb	02 56 47.0	
	comp=Z,4.6nm,1.1s						
I28M	Miner Creek	25.00	41	P	P	02 56 39.7	-1.2
I28M				IAmb	IAmb	02 56 43.0	
	comp=Z,2.6nm,0.8s						
O29M	Mount Kennedy	25.10	54	P	P	02 56 41.3	-0.6
O29M				IAmb	IAmb	02 56 47.5	
	comp=Z,4.0nm,0.8s						
P29M	Windy Craggy	25.54	55	P	P	02 56 46.6	+0.9
D27M	Malcolm River	25.70	33	P	P	02 56 45.5	-1.6
D27M				IAmb	IAmb	02 56 54.0	
	comp=Z,9.3nm,1.2s						
K29M	Barlow Dome	25.78	46	P	P	02 56 47.2	-0.8
K29M				IAmb	IAmb	02 56 52.3	
	comp=Z,5.1nm,1.3s						
H29M	Whitestone	25.79	40	P	P	02 56 46.6	-1.3
H29M				IAmb	IAmb	02 57 26.2	
	comp=Z,4.0nm,1.2s						
N30M	Aishikik Lake	25.83	51	P	P	02 56 48.2	-0.3
E28M	Babbage River	25.97	34	P	P	02 56 49.9	+0.3
G29M	Pine Creek	26.08	39	P	P	02 56 51.0	+0.5
G29M				IAmb	IAmb	02 56 58.9	
	comp=Z,8.6nm,1.1s						
I30M	Mount Dempster	26.43	43	P	P	02 56 54.3	+0.4
E29M	Blow River	26.49	35	P	P	02 56 52.5	-1.7
E29M				IAmb	IAmb	02 57 15.8	
	comp=Z,4.6nm,1.4s						
MMPY	Sheldon Lake,	28.57	48	P	P	02 57 13.8	+0.9
MMPY				IAmb	IAmb	02 57 22.6	
	comp=Z,3.9nm,1.1s						
A36M	Sachs Harbour	31.45	30	P	P	02 57 37.6	-0.6
H11N2	WAKE ISLAND Hy	33.43	199	T	T	03 33 04.8	
	baz=11,slow=76,SNR=52						
H11N3	WAKE ISLAND Hy	33.44	199	T	T	03 33 05.6	
	baz=11,slow=76,SNR=52						
H11N1	WAKE ISLAND Hy	33.45	199	T	T	03 33 06.2	
	baz=11,slow=76,SNR=51						
H11S1	WAKE ISLAND Hy	34.66	199	T	T	03 34 41.2	
	baz=12,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	34.67	199	T	T	03 34 41.3	
	baz=12,slow=76,SNR=11						
H11S2	WAKE ISLAND Hy	34.67	199	T	T	03 34 40.2	
	baz=12,slow=76,SNR=6.4						
YKA	Yellowknife Ar	36.19	47	P	P	02 58 21.1	+1.6
	comp=Z,1.1nm,0.6s,baz=284,slow=8.7,SNR=15 comp=Z,1.1nm,0.6s						
SONM	Songino Array	44.55	294	P	P	02 59 28.9	-0.1
	comp=Z,0.3nm,0.4s,baz=48,slow=6.7,SNR=1.9 comp=Z,0.3nm,0.4s						
NVAR	Mina Array Bea	45.42	81	P	P	02 59 37.1	+0.8
	comp=Z,0.7nm,0.7s,baz=290,slow=8.0,SNR=5.8 comp=Z,0.7nm,0.7s						
PDAR	Pinedale Array	47.98	71	P	P	02 59 52.9	-3.2
PDAR	Pinedale Array	47.98	71	P	P	02 59 55.8	-0.3
	comp=Z,0.6nm,0.7s,baz=297,slow=4.6,SNR=7.0 comp=Z,0.6nm,0.7s						
SPITS	Spitsbergen Ar	49.52	355	P	P	03 00 07.5	+0.2
	comp=Z,3.7nm,0.8s,baz=19,slow=9.2,SNR=5.6 comp=Z,3.7nm,0.8s						
ULM	Lac du Bonnet	50.95	56	P	P	03 00 17.4	-1.1
	comp=Z,1.2nm,0.5s,baz=345,slow=12,SNR=3.2 comp=Z,1.2nm,0.5s						
PV13	Radium Mtn., P	51.32	75	P	P	03 00 18.8	-3.0
PV13				IAmb	IAmb	03 00 22.6	
	comp=Z,3.2nm,1.0s						
KURBB	Kurchatov Arra	57.19	312	P	P	03 01 03.9	0.0
	comp=Z,1.8nm,0.9s,baz=44,slow=6.4,SNR=6.7 comp=Z,1.8nm,0.9s						
WMQ	Urumqi	57.28	301	eP	P	03 01 03.7	-1.1
WMQ				pmax	pmax		
	comp=Z,29nm,0.7s						
MK31	Makanchi Array	58.03	306	P	P	03 01 09.3	-0.7
MKAR	Makanchi Array	58.03	306	P	P	03 01 09.0	-0.9
MKAR	Makanchi Array	58.03	306	P	P	03 01 10.7	+0.8
	comp=Z,0.3nm,0.4s,baz=39,slow=5.6,SNR=4.5 comp=Z,0.3nm,0.4s						
BVAR	Borovoye Array	59.05	318	P	P	03 01 17.6	+0.6
	comp=Z,1.9nm,0.6s,baz=55,slow=6.0,SNR=8.5 comp=Z,1.9nm,0.6s						
TX31	Lajitas Ar. Si	60.49	79	P	P	03 01 26.8	-0.6
TX31				IAmb	IAmb	03 01 47.9	
	comp=Z,2.4nm,1.2s						
TXAR	Lajitas Array	60.50	79	P	P	03 01 26.4	-1.0
TXAR	Lajitas Array	60.50	79	P	P	03 01 27.4	0.0
	comp=Z,0.5nm,0.5s,baz=311,slow=5.4,SNR=13 comp=Z,0.5nm,0.5s						
FINES	FINESS Array B	64.64	346	P	P	03 01 53.1	-1.2
	comp=Z,3.7nm,1.1s,baz=56,slow=6.1,SNR=2.5 comp=Z,3.7nm,1.1s						
ABKAR	Akbulak array	66.16	321	P	P	03 02 04.6	+0.1
KKAR	Karatay Array	66.43	310	P	P	03 02 04.6	-1.7
NC204	NORSAR Array S	66.54	353	P	P	03 02 06.8	0.0
SSPA	Standing Stone	66.68	53	P	P	03 02 07.8	-0.1
NB2	NORSAR Subarra	66.74	353	P	P	03 02 08.5	+0.5
	comp=Z,2.5nm,0.8s,baz=7.5,slow=6.5						
NOA	NORSAR Array B	66.74	353	P	P	03 02 07.8	-0.3
	comp=Z,1.0nm,0.7s,baz=9.3,slow=6.4,SNR=5.3 comp=Z,1.0nm,0.7s						
HFS	Hagfors	67.43	352	P	P	03 02 12.9	+0.5
	comp=Z,0.8nm,0.6s,baz=47,slow=2.6,SNR=1.3 comp=Z,0.8nm,0.6s						
CMAR	Chiang Mai Arr	68.97	273	P	P	03 02 23.5	+0.8
	comp=Z,1.0nm,0.3s,baz=30,slow=5.1,SNR=4.3 comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	74.24	340	P	P	03 02 53.7	-0.2
	comp=Z,1.1nm,0.4s,baz=24,slow=6.0,SNR=5.7 comp=Z,1.1nm,0.4s						
BUR08	Bucovina Ar. S	77.97	342	P	P	03 03 15.8	+0.4
BURAR	Bucovina Array	77.99	342	P	P	03 03 16.6	+1.1
GERES	GERESS Array B	78.57	349	P	P	03 03 19.6	+0.9
	comp=Z,0.4nm,0.7s,baz=34,slow=5.6,SNR=2.1 comp=Z,0.4nm,0.7s						
WRA	Warramunga Arr	81.18	221	P	P	03 03 35.4	+2.5
	comp=Z,0.8nm,0.7s,baz=34,slow=6.1,SNR=4.5 comp=Z,0.8nm,0.7s						
ASAR	Alice Springs	84.70	220	P	P	03 03 53.2	+2.1
	comp=Z,0.5nm,0.6s,baz=21,slow=5.7,SNR=5.3 comp=Z,0.5nm,0.6s						

*IDC **03** 02:52:10.1±2.2, 51°.20N×178°.23E, h0km, mb3.9/10, mbtmp3.9/11, Error ellipse: s-maj=60.7km s-min=18.9km az=2.0*

ISC 03 02:52:12.0±1.8, 51°.3N±0°.3×178°.2E±0°.1, h10km, n11, σ0s99/12, mb4.0/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	2.93	302	Pn	Pn	02 52 59.2	+0.6
	120nm,0.5s,baz=269,slow=24,SNR=1.2						
SHEM				Sn	Sn	02 53 33.2	-0.6
	70nm,0.3s,baz=287,slow=17,SNR=8.2						
ILAR	Eielson Array	22.52	40	P	P	02 57 12.5	+1.1
	0.7nm,0.7s,baz=253,slow=10.0,SNR=4.5 0.7nm,0.7s						
YKA	Yellowknife Ar	36.66	46	P	P	02 59 19.5	+1.3
	0.7nm,0.6s,baz=285,slow=8.7,SNR=6.0 0.7nm,0.6s						
SONM	Songino Array	45.01	295	P	P	03 00 28.2	+0.8
	0.9nm,0.6s,baz=64,slow=8.8,SNR=5.8 0.9nm,0.6s						
NVAR	Mina Array Bea	45.42	81	P	P	03 00 30.4	-0.6
	0.1nm,0.3s,baz=310,slow=7.4,SNR=1.3 0.1nm,0.3s						
PDAR	Pinedale Array	48.12	70	P	P	03 00 50.8	-1.3
	0.2nm,0.6s,baz=314,slow=9.0,SNR=2.1 0.2nm,0.6s						
SPITS	Spitsbergen Ar	50.34	355	P	P	03 01 06.7	-1.6
	10nm,1.1s,baz=41,slow=7.7,SNR=5.3 10nm,1.1s						
KURBB	Kurchatov Arra	57.83	312	P	P	03 02 03.2	0.0
	2.5nm,0.6s,baz=42,slow=6.7,SNR=18 2.5nm,0.6s						
MKAR	Makanchi Array	58.62	307	P	P	03 02 08.8	-0.1
	1.0nm,0.6s,baz=48,slow=6.3,SNR=8.7 1.0nm,0.6s						
BVAR	Borovoye Array	59.74	318	P	P	03 02 16.5	0.0
	2.6nm,0.5s,baz=47,slow=6.8,SNR=10 2.6nm,0.5s						
AKASG	Malin Array Be	75.04	340	P	P	03 03 53.2	-0.1
	2.3nm,0.5s,baz=24,slow=6.3,SNR=6.6 2.3nm,0.5s						

*TAP **03** 02:53:12.3, 22°.95N×120°.83E, h5km, ML3.5, C*

ISC 03 02:53:12.9±0.9, 22°.95N±0°.01×120°.83E±0°.01, h8km±7km, n115, σ0s64/172, 22C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	Tauyuan	0.22	342	⇓iP	Pg	02 53 16.9	-0.6
STYT				i S	Sg	02 53 20.1	-0.4
STYH	Taoyuan	0.23	347	P	Pg	02 53 17.1	-0.4
STYH				i S	Sg	02 53 20.1	-0.5
TWG	Pinlang	0.26	120	eP	Pg	02 53 18.7	+0.6
TWG				i S	Sg	02 53 22.2	+0.7
TWGBT	Beinan	0.26	120	P	Pg	02 53 18.6	+0.4
TWGBT	Beinan	0.26	120	S	Sg	02 53 21.9	+0.2
TWGBT	Beinan	0.26	120	P	Pg	02 53 18.6	+0.4
TWGBT				i S	Sg	02 53 22.2	+0.4
SGST	Jiashian	0.27	300	⇓iP	Pg	02 53 18.4	+0.1
SGST				i S	Sg	02 53 22.5	+0.7
SSD	Sandimen	0.28	222	P	Pg	02 53 18.6	+0.2
SSD				S	Sg	02 53 22.1	0.0
LONT	Longtian	0.28	99	⇑iP	Pg	02 53 18.9	+0.5
LONT				S	Sg	02 53 22.6	+0.4
ELDTW	Lidau	0.29	36	⇑iP	Pg	02 53 18.8	0.0
ELDTW				i S	Sg	02 53 23.5	+0.7
TSMG	Majia	0.30	215	⇑P	Pg	02 53 18.5	-0.4
TSMG				eS	Sg	02 53 22.1	-0.7
SCST	Cishan	0.32	258	⇑eP	Pb	02 53 20.4	-0.5
SCST				eS	Sb	02 53 25.7	-0.5
TTN	Taitung	0.35	124	eP	Pg	02 53 20.4	+0.5
TTN				S	Sb	02 53 26.7	-0.4
WTP	Ta-pu	0.36	326	⇓iP	Pb	02 53 21.2	-0.4
WTP				S	Sb	02 53 26.8	-0.6
CHN1	Nanshi	0.36	310	eP	Pb	02 53 21.5	-0.2
CHN1				eS	Sb	02 53 27.5	-0.1
ECL	Taimali	0.37	162	i P	Pg	02 53 20.5	+0.3
ECL				i S	Sg	02 53 25.1	0.0
MASBT	Mashibuluo	0.38	209	⇑iP	Pg	02 53 20.6	+0.1
MASBT				eS	Sg	02 53 24.9	-0.7
ECS	Chishang	0.39	68	i P	Pg	02 53 20.9	+0.4
ECS				eS	Sg	02 53 26.2	+0.6
SGLT	Jiouru	0.39	235	eP	Pb	02 53 21.5	-0.5
TPUB	Ta-pu	0.40	332	P	Pb	02 53 21.8	-0.5
TPUB	Ta-pu	0.40	332	⇓iP	Pb	02 53 22.0	-0.3
TPUB				S	Sb	02 53 27.7	-0.8
EHD	Haiduan	0.40	60	⇑iP	Pg	02 53 20.4	-0.3
EHD				eS	Sg	02 53 25.3	-0.6
TWM1	Shoushan	0.40	252	⇑eP	Pb	02 53 22.3	0.0
SNST	Tainan City	0.41	311	eP	Pb	02 53 22.7	+0.2
TSPT	Pingtung City	0.41	229	eP	Pb	02 53 21.9	-0.6
EDH	Donghe	0.43	87	⇑iP	Pb	02 53 22.3	-0.6
EDH				S	Sb	02 53 28.8	-0.8
TWK	Hsinying	0.45

WSL	**Shuilin Townsh**	**0.80**	**316**	*e*P		**Pn**	**02 53 30.4**	**-0.1**
WTK	**Tuku**	**0.84**	**331**	*e*P		**Pn**	**02 53 31.3**	**+0.2**
SSLB	**Suanglung**	**0.84**	**8**	P		**Pg**	**02 53 28.8**	**-0.3**
SSLB	**Suanglung**	**0.84**	**8**	⇑*i*P		**Pg**	**02 53 28.9**	**-0.3**
SSLB				*e*S		**Sb**	**02 53 41.5**	**+0.1**
VWDT	**VWDT**	**0.85**	**19**	⇑*i*P		**Pg**	**02 53 28.6**	**-0.7**
VWDT				*e*S		**Sb**	**02 53 41.1**	**-0.4**
WJS	**Zhushan**	**0.87**	**354**	*e*P		**Pb**	**02 53 30.5**	**+0.1**
WARBT	**Fenglin Townsh**	**0.92**	**34**	⇑*i*P		**Pg**	**02 53 29.8**	**-0.9**
WARBT				*e*S		**Sg**	**02 53 42.5**	**-0.1**
SMLT	**Sun Moon Lake**	**0.93**	**4**	*e*P		**Pg**	**02 53 30.1**	**-0.8**
SMLT				S		**Sn**	**02 53 46.0**	**-0.1**
WNT	**Mingjian**	**0.93**	**352**	*e*P		**Pn**	**02 53 32.0**	**-0.4**
HEN	**Hengchun**	**0.94**	**185**	*e*P		**Pn**	**02 53 32.4**	**-0.1**
TYC	**Yuchr**	**0.95**	**1**	P		**Pb**	**02 53 31.8**	**+0.1**
TYC				*e*S		**Sn**	**02 53 47.5**	**+1.2**
TWK1	**Hengchun**	**1.00**	**181**	*e*P		**Pn**	**02 53 32.9**	**-0.4**
TWK1				*e*S		**Sn**	**02 53 47.7**	**+0.1**
TWKBT	**Hengchun**	**1.00**	**181**	*e*P		**Pn**	**02 53 32.9**	**-0.5**
TWKBT				*e*S		**Sn**	**02 53 47.8**	**+0.1**
ESL	**Shilin**	**1.02**	**33**	*e*P		**Pg**	**02 53 31.9**	**-0.7**
OWD	**Renai**	**1.05**	**17**	*e*P		**Pg**	**02 53 32.2**	**-0.9**
WPL	**Puli Township**	**1.06**	**6**	*e*P		**Pb**	**02 53 33.8**	**+0.1**
SHUL	**Shoufeng**	**1.07**	**39**	*e*P		**Pg**	**02 53 33.3**	**-0.3**
WUSB	**Renai**	**1.07**	**14**	⇑*e*P		**Pg**	**02 53 32.5**	**-1.0**
WUSB				*e*S		**Sn**	**02 53 49.8**	**+0.2**
DPDB	**Guoxing**	**1.08**	**5**	*e*P		**Pn**	**02 53 34.3**	**-0.2**
WCS	**Beigang Elemen**	**1.10**	**4**	*e*P		**Pb**	**02 53 34.3**	**-0.1**
WDGT	**Dungji**	**1.12**	**286**	*e*P		**Pn**	**02 53 35.3**	**+0.3**
WDGT				*e*S		**Sn**	**02 53 51.0**	**+0.4**
TCU	**Taichung**	**1.20**	**353**	*e*P		**Pn**	**02 53 36.3**	**+0.2**
WHF	**Hehuan Shan**	**1.25**	**18**	*e*P		**Pg**	**02 53 36.6**	**-0.5**
WHF				*e*S		**Sn**	**02 53 56.6**	**+2.1**
PHUB	**P'eng-hu**	**1.29**	**296**	*e*P		**Pn**	**02 53 36.2**	**-1.1**
PHUB				*e*S		**Sb**	**02 53 54.0**	**-0.2**
VCHM	**Qimei**	**1.32**	**282**	*e*P		**Pn**	**02 53 36.9**	**-0.7**
VCHM				*e*S		**Sn**	**02 53 55.6**	**+0.1**
TWD	**Chiawan**	**1.32**	**32**	*e*P		**Pn**	**02 53 37.8**	**0.0**
WHP	**Taichung City**	**1.33**	**4**	*e*P		**Pg**	**02 53 38.8**	**+0.4**
TDCB	**Techi**	**1.33**	**13**	*e*P		**Pg**	**02 53 38.6**	**+0.1**
TWT	**Tachien**	**1.33**	**14**	*e*P		**Pg**	**02 53 38.6**	**0.0**
FUSS	**Fushou**	**1.35**	**16**	*e*P		**Pn**	**02 53 37.6**	**-0.7**
ETLH	**Xiulin Townshi**	**1.39**	**25**	*e*P		**Pn**	**02 53 38.6**	**-0.1**
ETLH				*e*S		**Sg**	**02 53 59.7**	**+2.1**
TWQ1	**Liyutan**	**1.39**	**358**	*e*P		**Pg**	**02 53 40.4**	**+0.7**
ETL	**Fush Village**	**1.41**	**31**	*e*P		**Pn**	**02 53 39.0**	**+0.1**
NACB	**Ninganchiao**	**1.41**	**30**	P		**Pn**	**02 53 38.5**	**-0.4**
NACB	**Ninganchiao**	**1.41**	**30**	S		**Sg**	**02 53 58.0**	**-0.2**
NACB	**Ninganchiao**	**1.41**	**30**	P		**Pn**	**02 53 38.7**	**-0.2**
NACB				*e*S		**Sn**	**02 53 57.6**	**0.0**
NSY	**Sanyi**	**1.46**	**357**	*e*P		**Pn**	**02 53 39.4**	**-0.3**
NNSB	**Datong**	**1.56**	**19**	*e*P		**Pg**	**02 53 42.4**	**-0.4**
NNSB				*e*S		**Sg**	**02 54 04.3**	**+1.2**
NNSH	**Datong**	**1.56**	**19**	*e*P		**Pg**	**02 53 42.5**	**-0.4**
NNS	**Nan Shan**	**1.56**	**18**	*e*P		**Pn**	**02 53 41.6**	**+0.4**
NNS				*e*S		**Sg**	**02 54 05.7**	**+2.4**
ENA	**Nanau**	**1.69**	**29**	*e*P		**Pb**	**02 53 43.8**	**-0.5**
NFF	**Wufeng Townshi**	**1.69**	**9**	*e*P		**Pg**	**02 53 45.0**	**-0.5**
NFF				*e*S		**Sg**	**02 54 10.0**	**+2.5**
LIOB	**Emei**	**1.70**	**6**	*e*P		**Pn**	**02 53 43.2**	**+0.3**
LATG	**Datong**	**1.70**	**22**	*e*P		**Pb**	**02 53 44.1**	**-0.5**
LATG				*e*S		**Sg**	**02 54 08.4**	**+0.7**
EWUT	**Wuta**	**1.72**	**30**	*e*P		**Pn**	**02 53 43.8**	**+0.6**
YHNB	**Yeheng**	**1.78**	**16**	P		**Pb**	**02 53 46.0**	**0.0**
YHNB	**Yeheng**	**1.78**	**16**	*e*P		**Pg**	**02 53 46.7**	**-0.5**
YHNB				*e*S		**Sg**	**02 54 10.4**	**+0.1**
NSK	**Sanguang**	**1.78**	**16**	*e*P		**Pg**	**02 53 46.6**	**-0.6**
NSK				*e*S		**Sg**	**02 54 11.3**	**+1.0**
ENTT	**Nioudou**	**1.81**	**22**	*e*P		**Pb**	**02 53 46.5**	**+0.1**
ENTT				*e*S		**Sg**	**02 54 11.2**	**0.0**
KSHI	**Guanxi Townshi**	**1.84**	**10**	*e*P		**Pb**	**02 53 46.9**	**-0.1**
TWC	**Suao**	**1.90**	**29**	*e*P		**Pb**	**02 53 47.8**	**0.0**
TWC				*e*S		**Sb**	**02 54 11.4**	**-0.2**
NWLT	**Wulai**	**1.92**	**19**	*e*P		**Pb**	**02 53 48.0**	**-0.3**
FUSB	**Fushanzhiwuyua**	**1.93**	**21**	*e*P		**Pb**	**02 53 47.7**	**-0.7**
TATO	**Taipei**	**2.10**	**16**	P		**Pn**	**02 53 48.3**	**-0.2**
TATO	**Taipei**	**2.10**	**16**	*e*P		**Pb**	**02 53 51.9**	**+0.5**
TIPB	**Shuangxi**	**2.21**	**24**	*e*P		**Pn**	**02 53 50.5**	**+0.5**
YM01	**YM01**	**2.29**	**17**	*e*P		**Pg**	**02 53 56.0**	**-0.8**
ZUZH	**Zhuzihu**	**2.30**	**16**	*e*P		**Pn**	**02 53 52.8**	**+1.6**
SXI1	**Grass Mountain**	**2.34**	**24**	*e*P		**Pb**	**02 53 54.5**	**-0.9**
MATB	**Ma-tsu**	**3.29**	**346**	*e*P		**Pn**	**02 54 04.8**	**+0.1**

*MOS **03** 03:39:40.9±1.2, 46°.74N×153°.00E, h54km, mb4.2/4, Error ellipse: s-maj=12.2km s-min=8.1km az=63.9*
*SKHL **03** 03:39:42.4±0.8, 46°.70N×153°.20E, h71km±8km, mb4.8/4*
*IDC **03** 03:39:48.5±2.4, 47°.05N×152°.65E, h112km±21km, mb3.3/11, mbtmp3.8/17, Error ellipse: s-maj=22.5km s-min=13.7km az=135.0*
*NEIC **03** 03:39:56.4±0.8, 46°.3N±0°.2×152°.0E±0°.2, h112km±11km, mb4.4/15, Error ellipse: s-maj=26.7km s-min=13.6km az=144.0*
ISC 03 03:39:42.2±0.8,**46°.80N**±0°.08×**153°.02E**±0°.08,**h50**km,**n63,** σ2Ŝ**04/58,mb3.7**/14,**6C-1D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.92**	**248**	⇑*e*PN	**Pn**	**03 40 39.7**	**-0.1**
KUR	**Kuril'sk**	**3.92**	**248**	*e*P	**Pn**	**03 40 41.5**	**+1.7**
KUR				AMB	AMB	03 40 42.0	
	100nm,0.4s						
KUR				*i* S	**Sn**	**03 41 25.2**	**+0.7**
KUR				A	A	03 41 27.7	
	870nm,2.0s						
KUR				A	A	03 41 27.7	
	710nm,2.0s						
KUR				A	A	03 41 29.8	
	210nm,0.5s						
KUR				A	A	03 41 29.8	
	230nm,0.5s						
SKR	**Severo-Kuril's**	**4.39**	**27**	*e*PN	**Pn**	**03 40 48.6**	**+2.4**
SKR				pmax	pmax		
	comp=Z,53nm,0.4s						
SKR	**Severo-Kuril's**	**4.39**	**27**	*e*P	**Pn**	**03 40 48.1**	**+1.9**
SKR				AMB	AMB	03 40 51.3	
	comp=Z,60nm,0.4s						
SKR				*e*S	**Sn**	**03 41 35.8**	**-0.2**
SKR				A	A	03 41 38.1	
	comp=Z,2μm,3.0s						
SKR				A	A	03 41 38.1	
	comp=Z,820nm,3.0s						
SHO	**Shikotan**	**5.26**	**238**	*e*PN	**Pn**	**03 40 57.6**	**-0.6**
SHO				*e*S	**Sn**	**03 41 56.5**	**-1.0**
SHO				smax	smax		
	comp=N,144nm,0.4s						
SHO				smax	smax		
	comp=E,33nm,0.2s						
SHO	**Shikotan**	**5.26**	**238**	*e*P	**Pn**	**03 40 57.6**	**-0.6**
SHO				AMB	AMB	03 41 01.9	
	comp=E,40nm,0.5s						
SHO				*e*S	**Sn**	**03 41 56.5**	**-1.0**
SHO				A	A	03 41 58.2	
	comp=E,40nm,0.2s						
SHO				A	A	03 41 58.2	
	comp=E,70nm,0.2s						
PAU	**Pauzhetka**	**5.29**	**27**	*e*P	**Pn**	**03 41 00.8**	**+2.3**
PAU				*e*S	**Sn**	**03 41 58.0**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**5.75**	**244**	⇑*e*PN	**Pn**	**03 41 02.0**	**-2.9**
YUK	**Yuzh-Kuril'sk**	**5.75**	**244**	*e*P	**Pn**	**03 41 07.2**	**+2.3**
YUK				AMB	AMB	03 41 08.1	
	comp=E,140nm,0.3s						
NMR	**Nemuro--Hokkai**	**6.20**	**239**	*e*P	**Pn**	**03 41 11.4**	**+0.3**
NMR				*e*S	**Sn**	**03 42 17.5**	**-3.1**
AKK	**Akkeshi**	**6.93**	**240**	*e*P	**Pn**	**03 41 23.2**	**+2.1**
AKK				*e*S	**Sn**	**03 42 37.4**	**-1.2**
PEA0B	**Petropavlovsk-**	**6.99**	**24**	⇑*e*PN	**Pn**	**03 41 22.9**	**+1.0**
PETK	**Petropavlovsk-**	**6.99**	**24**	P	**Pn**	**03 41 25.8**	**+3.8**
	comp=E,2.9nm,0.4s,baz=199,slow=16,SNR=5.0						
YSS	**Yuzhno-Sakhali**	**7.04**	**275**	*e*PN	**Pn**	**03 41 23.3**	**+0.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS	**Yuzhno-Sakhali**	**7.04**	**275**	*e*P	**Pn**	**03 41 25.6**	**+3.0**
JKA	**Kamikawa-asahi**	**7.81**	**254**		**Pn**	**03 41 35.2**	**+2.1**
JKA	**Kamikawa-asahi**	**7.81**	**254**	*e*P	**Pn**	**03 41 36.3**	**+3.2**
ASAJ	**Asahikawa**	**7.81**	**254**	P	**Pn**	**03 41 36.3**	**+3.2**
	comp=Z,17nm,0.7s,baz=75,slow=13,SNR=13						
ASAJ				S	**Sn**	**03 43 04.0**	**+4.0**
	comp=Z,2.9nm,0.7s,baz=328,slow=6.7,SNR=0.7						
TYV	**Tymovskoe**	**7.96**	**305**	*e*PN	**Pn**	**03 41 36.1**	**+1.0**
TYV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TYV				pmax	pmax		
	comp=Z,100nm,2.2s						
TYV	**Tymovskoe**	**7.96**	**305**	*e*P	**Pn**	**03 41 37.7**	**+2.6**
ERM	**Erimo**	**8.53**	**239**	Pn	**Pn**	**03 41 45.4**	**+2.4**
ERM	**Erimo**	**8.53**	**239**	PN	**Pn**	**03 41 45.4**	**+2.4**
MA2	**Magadan**	**12.87**	**355**	P	**Pn**	**03 42 42.7**	**+0.6**
	comp=Z,11nm,0.5s,baz=165,slow=13,SNR=8.0						
KLR	**Kul'dur**	**14.44**	**287**	P	**Pn**	**03 43 03.0**	**-0.5**
	comp=Z,0.4nm,0.2s,baz=104,slow=12,SNR=7.3						
KLR	**Kul'dur**	**14.44**	**287**	⇑*e*P	**P**	**03 43 08.3**	**-0.8**
KLR				pmax	pmax		
	comp=Z,11nm,3.2s						
KLR	**Kul'dur**	**14.44**	**287**	*e*P	**Pn**	**03 43 04.0**	**+0.5**
USA0B	**Ussuriysk Arra**	**14.97**	**268**	⇓*e*P	**Pn**	**03 43 09.1**	**-1.4**
USRK	**Ussuriysk Ar.**	**14.97**	**268**	P	**Pn**	**03 43 11.1**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=72,slow=11,SNR=2.5						
SEY	**Seymchan**	**16.17**	**359**	P	**P**	**03 43 27.4**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=198,slow=16,SNR=5.8						
JGF	**Kuroka**	**16.22**	**232**	Pn	**Pn**	**03 43 27.2**	**+0.6**
JGF				IAmb	IAmb	03 43 49.1	
	comp=Z,43nm,1.4s						
YAK	**Yakutsk**	**20.24**	**327**	⇑*e*P	Pn	03 44 15.1	-0.1
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YAK	**Yakutsk**	**20.24**	**327**	*e*P	Pn	03 44 16.3	+1.1
KSRS	**Korea Array**	**20.75**	**252**	P	Pn	03 44 20.2	-1.3
	comp=Z,1.0nm,0.6s,baz=53,slow=9.7,SNR=5.1						
	comp=Z,1.0nm,0.6s						
BILL	**Bilibino**	**22.35**	**13**	⇑*e*P	**P**	**03 44 35.8**	**+0.2**
BILL				pmax	pmax		
	comp=Z,8.0nm,2.2s						
BILL	**Bilibino**	**22.35**	**13**	*e*P	**P**	**03 44 35.8**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**29.29**	**153**	T	T	04 16 56.4	
	baz=340,slow=76,SNR=603						
H11N1	**WAKE ISLAND Hy**	**29.31**	**153**	T	T	04 17 14.4	
	baz=340,slow=76,SNR=540						
H11N3	**WAKE ISLAND Hy**	**29.31**	**152**	T	T	04 17 19.9	
	baz=340,slow=76,SNR=368						
H11S1	**WAKE ISLAND Hy**	**30.38**	**154**	T	T	04 18 52.1	
	baz=341,slow=76,SNR=687						
H11S3	**WAKE ISLAND Hy**	**30.39**	**154**	T	T	04 18 41.4	
	baz=341,slow=76,SNR=502						
H11S2	**WAKE ISLAND Hy**	**30.40**	**154**	T	T	04 18 39.7	
	baz=341,slow=76,SNR=391						
SONM	**Songino Array**	**31.26**	**289**	P	**P**	**03 45 58.9**	**+1.8**
SONM	**Songino Array**	**31.26**	**289**	P	**P**	**03 45 54.0**	**-3.1**
	comp=Z,0.3nm,0.4s,baz=44,slow=8.5,SNR=1.8						
	comp=Z,0.3nm,0.4s						
SONM	**Songino Array**	**31.26**	**289**	P	**P**	**03 45 58.9**	**+1.8**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.5s						
ILAR	**Eielson Array**	**36.55**	**39**	P	**P**	**03 46 42.6**	**0.0**
	comp=Z,0.5nm,0.9s,baz=265,slow=4.9,SNR=4.4						
	comp=Z,0.5nm,0.9s						
FINES	**FINESS Array B**	**63.97**	**335**	P	**P**	**03 50 06.7**	**-2.9**
	comp=Z,1.5nm,0.7s,baz=42,slow=5.9,SNR=7.3						
	comp=Z,1.5nm,0.7s						
FINES	**FINESS Array B**	**63.97**	**335**	*e*P	**P**	**03 50 09.2**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**64.77**	**54**	P	**P**	**03 50 15.8**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=349,slow=1.5,SNR=3.4						
	comp=Z,0.2nm,0.6s						
NB2	**NORSAR Subarra**	**68.16**	**341**	P	**P**	**03 50 34.1**	**-2.6**
	comp=Z,0.4nm,0.4s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.16**	**341**	P	**P**	**03 50 34.2**	**-2.4**
	comp=Z,0.2nm,0.4s,baz=29,slow=6.6,SNR=7.2						
	comp=Z,0.2nm,0.4s						
WB0	**Warramunga Arr**	**68.36**	**199**	P	**P**	**03 50 41.0**	**+2.7**
WB0				IAmb	IAmb	03 51 18.7	
	comp=Z,6.7nm,1.1s						
HFS	**Hagfors**	**68.39**	**339**	P	**P**	**03 50 35.4**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=48,slow=4.7,SNR=13						
	comp=Z,0.9nm,0.3s						
WR8	**Warramunga Arr**	**68.52**	**199**	P	**P**	**03 50 42.2**	**+3.0**
WR8				IAmb	IAmb	03 51 12.4	
	comp=Z,8.9nm,1.2s						
WB2	**Warramunga Arr**	**68.54**	**199**	P	**P**	**03 50 42.2**	**+2.8**
WRA	**Warramunga Arr**	**68.54**	**199**	P	**P**	**03 50 38.8**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=14,slow=6.4,SNR=2.0						
	comp=Z,0.3nm,0.7s						
KIV	**Kislovodsk**	**70.72**	**314**	P	P	03 50 57.8	+4.9
KIV				IAmb	IAmb	03 51 18.1	
	comp=Z,6.8nm,0.6s						
AKASG	**Malin Array Be**	**71.47**	**326**	P	**P**	**03 50 54.0**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=37,slow=6.0,SNR=5.2						
	comp=Z,0.4nm,0.3s						
AKASG	**Malin Array Be**	**71.47**	**326**	P	**P**	**03 50 54.0**	**-3.1**
ASAR	**Alice Springs**	**72.24**	**198**	P	**P**	**03 51 02.3**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=16,slow=5.5,SNR=4.6						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**77.52**	**60**	P	**P**	**03 51 32.9**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=304,slow=4.1,SNR=7.7						
	comp=Z,0.4nm,0.6s						
H03N2	**Juan Fernandez**	**138.81**	**90**	T	T	06 33 56.2	
	baz=303,slow=74						
H03N1	**Juan Fernandez**	**138.83**	**90**	T	T	06 33 59.1	
	baz=303						
H03N3	**Juan Fernandez**	**138.83**	**90**	T	T	06 33 57.3	
	baz=303,slow=74						

*KRSC **03** 03:41:10.9±2.3, 52°.25N×160°.93E, h49km±25km, Ml3.7*
ISC 03 03:41:07.7±1.5,**52°.0N**±0°.1×**161°.19E**±0°.06,**h50**km,**n32,** σ2Ŝ**62/28,mb4.0/4,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.29**	**327**	*e*P	**Pn**	**03 41 30.0**	**+0.7**
SPN				*e*S	**Sn**	**03 41 43.1**	**-2.3**
NLC	**Nalytchevo**	**1.61**	**316**	*e*P	**Pn**	**03 41 35.0**	**+1.4**
RUS	**Russkaya**	**1.70**	**285**	*e*P	**Pn**	**03 41 36.5**	**+1.7**
RUS				*e*S	**Sn**	**03 41 54.0**	**-1.3**
DALK	**Dalny**	**1.80**	**305**	*e*P	**Pn**	**03 41 37.6**	**+1.4**
DALK				*e*S	**Sn**	**03 41 56.1**	**-1.7**
PET	**Petropavlovsk**	**1.84**	**304**	*e*PN	**Pn**	**03 41 38.9**	**+2.1**
PET	**Petropavlovsk**	**1.84**	**304**	*e*P	**Pn**	**03 41 39.0**	**+2.2**
PET	**Petropavlovsk**	**1.84**	**304**	pmax	pmax		
	comp=Z,76nm,0.5s						
UGLR	**Uglovaya**	**1.87**	**310**	*e*P	**Pn**	**03 41 40.0**	**+2.7**
SDLR	**Sedlovína**	**1.88**	**313**	*e*P	**Pn**	**03 41 39.4**	**+1.9**
KDTR	**Khodutka, Kamc**	**1.94**	**265**	*e*S	**Sn**	**03 42 01.1**	**-0.2**
AVH	**Avacha**	**1.94**	**311**	*e*P	**Pn**	**03 41 40.7**	**+2.4**
KRMR	**Karymshinskiy**	**2.04**	**295**	*e*P	**Pn**	**03 41 41.4**	**+1.9**
KRMR				*e*S	**Sn**	**03 42 02.7**	**-1.1**
KRX	**Arik**	**2.04**	**312**	*e*P	**Pn**	**03 41 42.0**	**+2.2**
PEA0B	**Petropavlovsk-**	**2.39**	**298**		**Pn**	**03 41 46.7**	**+2.3**
PETK	**Petropavlovsk-**	**2.39**	**298**		**Pn**	**03 41 46.7**	**+2.4**
GNL	**Ganaly**	**2.58**	**312**	*e*P	**Pn**	**03 41 50.7**	**+3.6**
APC	**Apacha**	**2.62**	**292**	*e*P	**Pn**	**03 41 52.1**	**+4.5**
APC				*e*S	**Sn**	**03 42 21.6**	**+3.5**
TUMD	**Tumrok D**	**3.22**	**352**	*e*P	**Pn**	**03 41 59.2**	**+3.5**
TUMD				*e*S	**Sn**	**03 42 32.4**	**-0.5**
KMNR	**Kamenistaya**	**3.78**	**352**	*e*P	Pn	03 42 08.6	+5.1
BKI	**Bering**	**4.27**	**40**	*e*S	**Sn**	**03 43 01.9**	**+3.3**
UNV	**Unalaska Valle**	**19.47**	**72**	P	**P**	**03 45 30.0**	**0.0**
M16K	**Timber Creek**	**23.40**	**52**	IAmb	IAmb	03 46 25.3	
	comp=Z,19nm,1.4s						
M16K	**Timber Creek**	**23.40**	**52**	P	**P**	**03 46 09.8**	**-2.0**
G18K	**Tagagawik**	**24.38**	**40**	P	**P**	**03 46 16.6**	**-4.1**
J19K	**Poorman**	**25.27**	**45**	P	**P**	**03 46 24.5**	**-4.3**
KDAK	**Kodiak Island**	**26.76**	**59**	P	P	03 46 36.4	-5.9
STLK	**Strandline Lak**	**26.86**	**51**	IAmb	IAmb	03 46 44.8	
	comp=Z,3.4nm,1.2s						
STLK	**Strandline Lak**	**26.86**	**51**	P	P	03 46 38.2	-5.1
KTH	**Kantishna Hill**	**27.31**	**46**	IAmb	IAmb	03 46 57.5	
	comp=Z,8.5nm,1.4s						
KTH	**Kantishna Hill**	**27.31**	**46**	P	P	03 46 42.2	-5.1
F24K	**Squaw Lake**	**28.89**	**38**	IAmb	IAmb	03 47 29.5	
	comp=Z,3.4nm,1.2s						
F24K	**Squaw Lake**	**28.89**	**38**	P	P	03 46 54.7	-6.6

*SOME **03** 03:46:00.0, 42°.12N×80°.62E, h20km*
*NNC **03** 03:46:01.9±1.0, 42°.22N×80°.47E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=6.7km s-min=5.1km az=150.0*
*KRNET **03** 03:46:01.5±0.1, 42°.54N×80°.73E, mb3.4*
ISC 03 03:46:03.0±2.4,**42°.27N**±0°.06×**80°.38E**±0°.07,**h6**km±14km, **n40,** σ1Ŝ**97/60,12C-14D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.11**	**323**	P	**Pb**	**03 46 21.6**	**-3.2**
	30nm,0.2s						
SHLS				S	**Sb**	**03 46 37.2**	**-2.4**
	133nm,0.3s						
SHLS	**Shalkode**	**1.11**	**323**	*e*P	**Pb**	**03 46 21.6**	**-3.2**
	30nm,0.2s						
SHLS				*e*S	**Sb**	**03 46 37.2**	**-2.4**
	133nm,0.3s						
PDGK	**Podgornoye**	**1.24**	**328**	⇑P	**Pn**	**03 46 26.3**	**-0.8**
	9.3nm,0.4s						
PDGK				⇓S	**Sb**	**03 46 43.5**	**+0.2**
	19nm,0.3s						
UZB	**Uzynbulak**	**1.33**	**312**	P	**Pb**	**03 46 28.4**	**-0.1**
	16nm,0.4s						
UZB				S	**Sg**	**03 46 49.0**	**+3.2**
	28nm,0.2s						
UZB	**Uzynbulak**	**1.33**	**312**	*e*P	**Pb**	**03 46 28.4**	**-0.1**
	16nm,0.4s						
UZB				*e*S	**Sg**	**03 46 49.0**	**+3.2**
	28nm,0.2s						
PRZ	**Przheval'sk**	**1.48**	**279**	⇓*e*P	**Pg**	**03 46 33.3**	**+1.8**
PRZ				⇓*e*S	**Sg**	**03 46 56.6**	**+5.9**
SATY	**Saty**	**1.65**	**299**	P	**Pb**	**03 46 34.1**	**+0.2**
	33nm,0.3s						
SATY				S	**Sg**	**03 46 58.8**	**+2.6**
	66nm,0.2s						
ZHN	**Zhinishke**	**1.69**	**303**	P	**Pb**	**03 46 34.6**	**0.0**
	48nm,0.3s						
ZHN				S	**Sg**	**03 46 59.6**	**+2.3**
	92nm,0.2s						
ZHN	**Zhinishke**	**1.69**	**303**	*e*P	**Pb**	**03 46 34.6**	**0.0**
	48nm,0.3s						
ZHN				*e*S	**Sg**	**03 46 59.6**	**+2.3**
	92nm,0.2s						
ANVS	**Anan'yevo**	**2.07**	**285**	⇓*e*P	**Pb**	**03 46 41.8**	**+0.7**
ANVS				⇓*e*S	**Sg**	**03 47 11.1**	**+1.6**
DJR	**Jarkent**	**2.10**	**348**	Pg	**Pb**	**03 46 40.8**	**-0.9**
	10nm,0.3s						
DJR				Lg	Lg	03 47 10.1	
	65nm,0.2s						
DJR	**Jarkent**	**2.10**	**348**	*e*P	**Pb**	**03 46 40.8**	**-0.9**
	10nm,0.3s						
DJR				*e*S	**Sg**	**03 47 10.1**	**-0.5**
	65nm,0.2s						
KNOS	**Konyrlen**	**2.26**	**338**	Pg	**Pb**	**03 46 44.3**	**-0.1**
	24nm,0.4s						
KNOS				Lg	Lg	03 47 16.2	
	94nm,0.4s						
BLB	**Baldybastay**	**2.29**	**323**	Pg	**Pb**	**03 46 44.9**	**0.0**
	160nm,0.3s						
BLB				Lg	Lg	03 47 17.3	
	114nm,0.5s						
KDJ	**Kajisay**	**2.38**	**268**	⇑*e*P	**Pb**	**03 46 47.0**	**+0.6**
KDJ				⇑*e*S	**Sg**	**03 47 20.3**	**+0.8**
KOTS	**Kotyrbulak**	**2.59**	**293**	Pg	**Pb**	**03 46 50.1**	**+0.2**
	23nm,0.2s						
KOTS				Lg	Lg	03 47 26.3	
	50nm,0.4s						
KOTS	**Kotyrbulak**	**2.59**	**293**	*e*P	**Pb**	**03 46 50.1**	**+0.2**
	23nm,0.2s						
KOTS				*e*S	**Sg**	**03 47 26.3**	**0.0**
	50nm,0.4s						
MDOK	**Medeo**	**2.61**	**291**	⇓Pg	**Pb**	**03 46 50.4**	**0.0**
	20nm,0.5s						
MDOK				Pg	**Pg**	**03 46 50.8**	**-2.2**
	28nm,0.5s						
MDOK				⇑Lg	Lg	03 47 27.0	
	18nm,0.6s						
MDOK				Lg	Lg	03 47 27.6	
	17nm,0.4s						
TNSS	**Tian-Shan**	**2.65**	**288**	Pg	**Pb**	**03 46 51.6**	**+0.6**
	21nm,0.4s						
TNSS				Lg	Lg	03 47 28.9	
	22nm,0.4

n127,σ1°25/145,mb4.2/35,7C-8D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	**Noboribetsu**	**0.28**	**276**	P	**Pn**	**03 55 44.8**	**0.0**
JNB				*e*S	**Sn**	03 55 56.6	-0.6
JEW	**Eniwo**	**0.40**	**4**	P	**Pn**	**03 55 45.4**	**+0.1**
JEW				S	**Sn**	03 55 57.6	-0.7
JIAM	**Iburiatsuma**	**0.42**	**64**	P	**Pn**	**03 55 45.8**	**+0.4**
JIAM				*e*S	**Sn**	03 55 58.5	+0.2
JKB	**Kayabe**	**0.62**	**208**	P	**Pn**	**03 55 47.4**	**+0.7**
JKB				*e*S	**Sn**	03 56 00.9	+0.4
JBT2	**Biratori 2**	**0.78**	**64**	P	**Pn**	**03 55 48.0**	**+0.1**
JBT2				*e*S	**Sn**	03 56 02.5	-0.3
JISS	**Ishikarishitsu**	**0.84**	**0**	P	**Pn**	**03 55 48.7**	**+0.2**
JISS				*e*S	**Sn**	03 56 03.3	-0.5
JYM2	**Yakumo 2**	**0.84**	**248**	P	**Pn**	**03 55 49.1**	**+0.7**
JYM2				*e*S	**Sn**	**03 56 03.9**	**+0.1**
JNBK	**Urakawa-nobuka**	**1.00**	**99**	P	**Pn**	**03 55 50.6**	**+0.6**
JSH	**Shimam**	**1.03**	**282**	*i* P	**Pn**	**03 55 50.6**	**+0.3**
JOT	**Ohata**	**1.09**	**195**	*i* P	**Pn**	**03 55 52.0**	**+1.1**
JOT				*e*S	**Sn**	**03 56 09.8**	**+1.7**
JHST	**Hiyamasetana**	**1.14**	**270**	*i* P	**Pn**	**03 55 51.9**	**+0.5**
JHR	**Hokuryu**	**1.32**	**10**	P	**Pn**	**03 55 54.0**	**+0.6**
ERM	**Erimo**	**1.36**	**108**	Pn	**Pn**	**03 55 55.1**	**+1.3**
ERM				Sn	**Sn**	**03 56 15.0**	**+1.7**
ERM	**Erimo**	**1.36**	**108**	*d i* PN	**Pn**	**03 55 55.0**	**+1.2**
JOMM	**Oshimamatsumae**	**1.39**	**229**	P	**Pn**	**03 55 55.6**	**+1.4**
JCH	**Churui**	**1.45**	**82**	*i* P	**Pn**	**03 55 55.4**	**+0.6**
JCH				*e*S	**Sn**	**03 56 15.8**	**+0.7**
JOSM	**Okushiri--Mats**	**1.48**	**257**	*i* P	**Pn**	**03 55 55.9**	**+0.7**
JTM	**Tenmabayashi**	**1.67**	**189**		**Pn**	**03 55 58.9**	**+1.3**
JKK2	**Kamakawa 2**	**1.73**	**34**	*e*P	**Pn**	**03 55 58.4**	**+0.1**
JKK2				*e*S	**Sn**	**03 56 20.3**	**-0.9**
ASAJ	**Asahikawa**	**1.89**	**27**	P	**Pn**	**03 56 00.4**	**+0.3**
	33nm,0.3s,baz=218,slow=15,SNR=142						
ASAJ				S	**Sn**	**03 56 23.1**	**-1.3**
	65nm,0.4s,baz=174,slow=14,SNR=7.7						
JKA	**Kamikawa-asahi**	**1.89**	**27**	Pn	**Pn**	**03 56 00.5**	**+0.3**
JKA	**Kamikawa-asahi**	**1.89**	**27**	*e*P	**Pn**	**03 56 00.4**	**+0.3**
AKK	**Akkeshi**	**2.59**	**76**	*e*P	**Pn**	**03 56 09.2**	**+0.2**
AKK				*e*S	**Sn**	**03 56 38.8**	**-1.6**
RUSJ	**Misakicho**	**3.26**	**58**	*e*PN	**Pn**	**03 56 21.4**	**+3.7**
RUSJ				*e*S	**Sn**	**03 57 00.1**	**+4.1**
NMR	**Nemuro--Hokkai**	**3.30**	**72⇑**	*i*PN	**Pn**	**03 56 17.5**	**-0.8**
NMR				*i* S	**Sn**	**03 56 54.0**	**-3.1**
NMR	**Nemuro--Hokkai**	**3.30**	**72**	*i* P	**Pn**	**03 56 18.0**	**-0.3**
NMR				AMB	AMB	03 56 20.0	
	30nm,0.3s						
NMR				*i* S	**Sn**	**03 56 54.7**	**-2.4**
NMR				A	A	03 56 55.9	
	130nm,0.2s						
NMR				A	A	03 56 55.9	
	160nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.62**	**62**	*e*PN	**Pn**	**03 56 24.4**	**+1.9**
YUK				*e*S	**Sn**	**03 57 05.4**	**+0.8**
YUK				pmax	pmax		
	comp=Z,145nm,0.2s						
YUK				pmax	pmax		
	comp=N,69nm,0.1s						
YUK				pmax	pmax		
	comp=E,60nm,0.2s						
YUK				smax	smax		
	comp=E,777nm,0.7s						
YUK				smax	smax		
	comp=N,398nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.62**	**62**	*e*P	**Pn**	**03 56 23.7**	**+1.2**
YUK				AMB	AMB	03 56 25.8	
	comp=N,220nm,0.7s						
YUK				*e*S	**Sn**	**03 57 04.9**	**+0.3**
YUK				A	A	03 57 06.9	
	comp=N,580nm,0.6s						
YUK				A	A	03 57 06.9	
	comp=N,1μm,0.6s						
SHO	**Shikotan**	**4.21**	**68**	*d i* PN	**Pn**	**03 56 30.4**	**0.0**
SHO				*e*S	**Sn**	**03 57 15.6**	**-3.2**
SHO				pmax	pmax		
	comp=E,25nm,0.4s						
SHO				pmax	pmax		
	comp=Z,52nm,0.4s						
SHO				pmax	pmax		
	comp=N,10.0nm,0.2s						
SHO				smax	smax		
	comp=N,199nm,0.4s						
SHO				smax	smax		
	comp=E,394nm,0.6s						
SHO	**Shikotan**	**4.21**	**68**	*i* P	**Pn**	**03 56 30.4**	**0.0**
SHO				AMB	AMB	03 56 33.3	
	comp=E,70nm,0.4s						
SHO				*e*S	**Sn**	**03 57 16.3**	**-2.5**
SHO				A	A	03 57 16.5	
	comp=E,430nm,0.6s						
SHO				A	A	03 57 16.5	
	comp=E,460nm,0.6s						
TEY	**Ternei**	**4.35**	**308⇑**	*e*PN	**Pn**	**03 56 32.7**	**+0.4**
TEY				pmax	pmax		
	comp=E,40nm,0.7s						
TEY				pmax	pmax		
	comp=N,20nm,0.8s						
TEY				pmax	pmax		
	comp=Z,50nm,0.7s						
JMM	**Marumori**	**4.59**	**186**		**Pn**	**03 56 35.7**	**+0.1**
YSS	**Yuzhno-Sakhali**	**4.61**	**11**		**Pn**	**03 56 37.0**	**+1.2**
YSS	**Yuzhno-Sakhali**	**4.61**	**11**	*e*PN	**Pn**	**03 56 37.8**	**+2.0**
YSS				*e*S	**Sn**	**03 57 28.6**	**+0.2**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS				smax	smax		
	comp=N,20nm,0.4s						
YSS				smax	smax		
	comp=E,30nm,0.5s						
YSS	**Yuzhno-Sakhali**	**4.61**	**11**	*e*P	**Pn**	**03 56 36.7**	**+0.9**
YSS				AMB	AMB	03 56 37.3	
	comp=E,40nm,0.8s						
JSD	**Sado**	**5.02**	**210**	Pn	**Pn**	**03 56 44.0**	**+2.6**
KUR	**Kuril'sk**	**5.44**	**57**	*e*PN	**Pn**	**03 56 47.2**	**+0.3**
KUR				*e*S	**Sn**	**03 57 51.1**	**+2.8**
KUR	**Kuril'sk**	**5.44**	**57**	*e*P	**Pn**	**03 56 47.5**	**+0.6**
KUR				AMB	AMB	03 56 50.3	
	comp=E,50nm,0.3s						
KUR				*e*S	**Sn**	**03 57 46.4**	**-1.9**
KUR				A	A	03 57 49.2	
	comp=E,160nm,0.6s						
KUR				A	A	03 57 49.2	
	comp=E,100nm,0.6s						
MAJO	**Matsushiro**	**6.39**	**204⇑**	*e*PN	**Pn**	**03 57 01.8**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,18nm,1.8s						
MJAR	**Matsushiro Arr**	**6.39**	**204**	P	**Pn**	**03 57 02.1**	**+2.2**
	comp=Z,1.8nm,0.4s,baz=320,slow=18,SNR=6.9						
USA0B	**Ussuriysk Arra**	**7.10**	**288**		**Pn**	**03 57 08.8**	**-0.6**
USA0B	**Ussuriysk Arra**	**7.10**	**288**	*de*PN	**Pn**	**03 57 10.3**	**+0.9**
USRK	**Ussuriysk Ar.**	**7.10**	**288**		**Pn**	**03 57 10.3**	**+1.0**
USRK	**Ussuriysk Ar.**	**7.10**	**288**	P	**Pn**	**03 57 10.6**	**+1.2**
	comp=Z,2.8nm,0.5s,baz=98,slow=14,SNR=8.4						
JGF	**Kuroka**	**7.52**	**206**	Pn	**Pn**	**03 57 17.6**	**+2.4**
JHJ	**Hachijo jima 2**	**9.39**	**188**	P	**Pn**	**03 57 37.8**	**-2.7**
	comp=Z,132nm,0.7s,baz=78,slow=22,SNR=1.8						
JHJ				S	**Sn**	**03 59 17.7**	**-6.6**
	comp=Z,201nm,0.9s,baz=226,slow=23,SNR=2.3						
KLR	**Kul'dur**	**9.57**	**319**	P	**Pn**	**03 57 43.8**	**+1.0**
	comp=Z,14nm,0.8s,baz=129,slow=14,SNR=42						
KLR	**Kul'dur**	**9.57**	**319**	*de*PN	**Pn**	**03 57 43.2**	**+0.5**
KLR				pmax	pmax		
	comp=Z,25nm,1.3s						
KLR	**Kul'dur**	**9.57**	**319**	*e*P	**Pn**	**03 57 43.5**	**+0.8**
BNX	**BinXian**	**10.61**	**293**	⇑P	**Pn**	**03 57 57.6**	**+0.8**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HEH	**HeiHe**	**12.42**	**314**	*e*P	**Pn**	**03 58 20.7**	**-0.1**
ZEA	**Zeya**	**14.71**	**325**	*e*P	**Pn**	**03 58 49.7**	**-0.6**
ZEA	**Zeya**	**14.71**	**325**	*e*P	**Pn**	**03 58 50.0**	**-0.3**
PEA0B	**Petropavlovsk-**	**15.25**	**40⇑**	*e*P	**Pn**	**03 58 57.4**	**+0.3**
TIA	**Tai'an**	**19.76**	**260**	P	**P**	**03 59 48.1**	**-0.8**
TIA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
YAK	**Yakutsk**	**20.83**	**344**	*de*P	**P**	**03 59 57.6**	**-2.5**
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
SEY	**Seymchan**	**21.52**	**14**	P	**P**	**04 00 05.8**	**-1.6**
	comp=Z,1.8nm,0.3s,baz=190,slow=9.0,SNR=7.3						
	comp=Z,1.8nm,0.3s						
HHC	**Hu-ho-hao-te**	**22.32**	**276**	*e*P	**P**	**04 00 16.3**	**+0.1**
HHC				pmax	pmax		
	comp=Z,20nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,4.3s						
ULN	**Ulaanbaatar**	**24.70**	**295⇓**	*e*P	**P**	**04 00 37.6**	**-0.7**
ULN				pmax	pmax		
	comp=Z,10.0nm,2.2s						
ULN	**Ulaanbaatar**	**24.70**	**295**	*e*P	**P**	**04 00 37.6**	**-0.7**
SONM	**Songino Array**	**25.14**	**294**	P	**P**	**04 00 43.0**	**+0.7**
SONM	**Songino Array**	**25.14**	**294**	P	**P**	**04 00 42.8**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=81,slow=7.7,SNR=17						
	comp=Z,3.4nm,0.8s						
SONM	**Songino Array**	**25.14**	**294**	P	**P**	**04 00 43.0**	**+0.7**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**31.23**	**129**	T	T	04 34 09.5	
	baz=325						
H11N1	**WAKE ISLAND Hy**	**31.24**	**129**	T	T	04 34 09.3	
	baz=325,slow=74						
H11N3	**WAKE ISLAND Hy**	**31.24**	**129**	T	T	04 34 10.3	
	baz=325,slow=74						
H11S1	**WAKE ISLAND Hy**	**32.08**	**130**	T	T	04 35 11.4	
	baz=322,slow=74						
H11S3	**WAKE ISLAND Hy**	**32.09**	**130**	T	T	04 35 10.8	
	baz=322,slow=74						
H11S2	**WAKE ISLAND Hy**	**32.10**	**130**	T	T	04 35 12.9	
	baz=322						
PZH	**PanZhiHua**	**36.00**	**257**	P	**P**	**04 02 18.5**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,7.6s						
M14K	**Bethel**	**38.22**	**42**	P	**P**	**04 02 37.8**	**+1.6**
ZAA0	**Zalesovo Array**	**38.45**	**307**	P	**P**	**04 02 38.6**	**+0.4**
ZAA0				IAmb	IAmb	04 02 40.8	
	comp=Z,11nm,1.4s						
ZALV	**Zalesovo Beam**	**38.45**	**307**	P	**P**	**04 02 39.5**	**+1.3**
	comp=Z,4.0nm,0.4s,baz=93,slow=9.4,SNR=7.8						
	comp=Z,4.0nm,0.4s						
WMQ	**Urumqi**	**38.65**	**291**	*e*P	**P**	**04 02 41.3**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,43nm,0.7s						
MK31	**Makanchi Array**	**41.45**	**297**	P	**P**	**04 03 03.7**	**+0.5**
MK31	**Makanchi Array**	**41.45**	**297**	*de*P	**P**	**04 03 03.2**	**0.0**
MKAR	**Makanchi Array**	**41.45**	**297**	P	**P**	**04 03 03.2**	**0.0**
MKAR	**Makanchi Array**	**41.45**	**297**	P	**P**	**04 03 03.4**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=82,slow=9.9,SNR=16						
	comp=Z,1.5nm,0.6s						
MAKZ	**Makanchi**	**41.66**	**297**	P	**P**	**04 03 04.0**	**-0.9**
MAKZ				IAmb	IAmb	04 03 07.2	
	comp=Z,5.0nm,1.1s						
MAKZ	**Makanchi**	**41.66**	**297**	P	**P**	**04 03 04.0**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KURK	**Kurchatov**	**42.77**	**304**	P	**P**	**04 03 13.8**	**0.0**
KURK				IAmb	IAmb	04 03 16.9	
	comp=Z,12nm,1.1s						
KURK	**Kurchatov**	**42.77**	**304**	*d i* P	**P**	**04 03 13.6**	**-0.1**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURK	**Kurchatov**	**42.77**	**304**	*e*P	**P**	**04 03 13.6**	**-0.1**
KURBB	**Kurchatov Arra**	**42.84**	**304**	P	**P**	**04 03 14.5**	**+0.1**
	comp=Z,6.1nm,0.6s,baz=76,slow=8.9,SNR=31						
	comp=Z,6.1nm,0.6s						
E22K	**Anaktuvuk Pass**	**42.88**	**30**	P	**P**	**04 03 14.4**	**-0.2**
D25K	**Kavik River**	**44.86**	**29**	P	**P**	**04 03 30.2**	**-0.1**
ILAR	**Eielson Array**	**45.00**	**35**	P	**P**	**04 03 32.6**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=280,slow=7.8,SNR=5.4						
	comp=Z,0.5nm,0.6s						
FYU	**Fort Yukon**	**45.49**	**33**	P	**P**	**04 03 34.7**	**-0.5**
SCRK	**Sand Creek**	**46.36**	**36**	P	**P**	**04 03 41.9**	**-0.4**
BVAR	**Borovoye Array**	**47.06**	**309**	P	**P**	**04 03 48.2**	**+0.5**
	comp=Z,3.8nm,0.5s,baz=73,slow=8.0,SNR=21						
	comp=Z,3.8nm,0.5s						
BRVK	**Borovoye**	**47.12**	**309**	P	**P**	**04 03 48.2**	**+0.1**
BRVK				IAmb	IAmb	04 03 51.0	
	comp=Z,2.9nm,0.8s						
BRVK	**Borovoye**	**47.12**	**309⇑**	*e*P	**P**	**04 03 48.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,26nm,5.5s						
BRVK	**Borovoye**	**47.12**	**309**	*e*P	**P**	**04 03 48.3**	**+0.1**
BOOM	**Boomskoye usch**	**47.18**	**293**	P	**P**	**04 03 49.8**	**+0.8**
BOOM				IAmb	IAmb	04 03 50.7	
	comp=Z,4.5nm,0.6s						
BOOM	**Boomskoye usch**	**47.18**	**293**	P	**P**	**04 03 49.8**	**+0.8**
BOOM				pmax	pmax		
	comp=Z,5.0nm,0.6s						
I30M	**Mount Dempster**	**49.31**	**33**	P	**P**	**04 04 05.3**	**+0.3**
I30M				IAmb	IAmb	04 04 07.3	
	comp=Z,2.9nm,0.8s						
INK	**Inuvik**	**49.62**	**29**	P	**P**	**04 04 07.1**	**0.0**
INK	**Inuvik**	**49.62**	**29**	P	**P**	**04 04 07.1**	**0.0**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARSB	**Arslanbob**	**49.67**	**293**	P	**P**	**04 04 08.3**	**+0.2**
ARSB	**Arslanbob**	**49.67**	**293**	P	**P**	**04 04 08.3**	**+0.2**
ARSB				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KK31	**Karatay Array**	**50.57**	**296**	P	**P**	**04 04 14.1**	**-0.6**
KK31				IAmb	IAmb	04 04 15.5	
	comp=Z,2.1nm,0.7s						
KK31	**Karatay Array**	**50.57**	**296**	P	**P**	**04 04 14.1**	**-0.6**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**50.57**	**296**	P	**P**	**04 04 14.8**	**+0.1**
KKAR				IAmb	IAmb	04 04 15.5	
	comp=Z,2.2nm,0.7s						
KKAR	**Karatay Array**	**50.57**	**296**	P	**P**	**04 04 14.8**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**54.56**	**307**	P	**P**	**04 04 44.4**	**+0.5**
ABKAR				IAmb	IAmb	04 04 45.1	
	comp=Z,3.2nm,0.5s						
EUNU	**Eureka**	**54.85**	**9**	P	**P**	**04 04 45.7**	**0.0**
EUNU				IAmb	IAmb	04 04 46.4	
	comp=Z,5.1nm,0.7s						
SPB2	**Spitsbergen Ar**	**55.23**	**348**	P	**P**	**04 04 48.9**	**+0.5**
SPITS	**Spitsbergen Ar**	**55.23**	**348**	P	**P**	**04 04 48.3**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=62,slow=7.0,SNR=15						
	comp=Z,3.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**55.23**	**348**	P	**P**	**04 04 48.7**	**+0.3**
SPITS				pmax	pmax		
	comp=Z,51nm,1.4s						
MTN	**Manton Dam**	**55.81**	**192**	P	**P**	**04 04 51.7**	**-1.5**
RES	**Resolute Bay**	**57.38**	**15**	P	**P**	**04 05 03.5**	**-0.1**
RES				IAmb	IAmb	04 05 04.2	
	comp=Z,5.0nm,0.7s						
RES	**Resolute Bay**	**57.38**	**15**	P	**P**	**04 05 03.5**	**-0.1**
RES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARCES	**ARCESS Array B**	**58.96**	**338**	P	**P**	**04 05 14.2**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=45,slow=7.0,SNR=8.4						
	comp=Z,1.7nm,0.7s						
YKA	**Yellowknife Ar**	**59.17**	**32**	P	**P**	**04 05 16.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=309,slow=6.2,SNR=6.1						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**59.17**	**32**	*ce*P	**P**	**04 05 17.0**	**+0.7**
WRA	**Warramunga Arr**	**62.41**	**188**	P	**P**	**04 05 39.4**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=6.2,slow=7.2,SNR=13						
	comp=Z,0.5nm,0.4s						
FINES	**FINESS Array B**	**64.06**	**331**	P	**P**	**04 05 49.0**	**-0.1**
	comp=Z,3.6nm,0.4s,baz=51,slow=7.8,SNR=38						
	comp=Z,3.6nm,0.4s						
ASAR	**Alice Springs**	**66.14**	**188**	P	**P**	**04 06 03.4**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=8.5,slow=8.0,SNR=6.5						
	comp=Z,0.8nm,0.8s						
HFS	**Hagfors**	**69.18**	**335**	P	**P**	**04 06 21.9**	**+0.3**
	comp=Z,2.9nm,0.4s,baz=39,slow=5.7,SNR=21						
	comp=Z,2.9nm,0.4s						
NB2	**NORSAR Subarra**	**69.22**	**337**	P	**P**	**04 06 21.9**	**0.0**
	comp=Z,2.0nm,0.8s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**69.22**	**337**	P	**P**	**04 06 21.8**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=37,slow=6.2,SNR=10						
	comp=Z,2.2nm,0.7s						
AKASG	**Malin Array Be**	**70.06**	**321**	P	**P**	**04 06 27.2**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=45,slow=6.1,SNR=13						
	comp=Z,1.6nm,0.5s						
NVAR	**Mina Array Bea**	**71.80**	**54**	P	**P**	**04 06 40.0**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=291,slow=4.5,SNR=5.0						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**73.91**	**46**	P	**P**	**04 06 51.6**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=331,slow=0.9,SNR=6.0						
	comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B**	**75.31**	**311**	P	**P**	**04 06 57.9**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=82,slow=3.8,SNR=1.6						
	comp=Z,0.3nm,0.5s						
CLL	**Collm**	**76.43**	**330**	*e*P	**P**	**04 07 05.0**	**+0.5**
CLL	**Collm**	**76.43**	**330**	*e*P	**P**	**04 07 05.0**	**+0.5**

TXNET 03 04:49:40.2,31°.3N±0°.8×103°.5W±0°.9,h6km±1km,ML1.9/8,
1C,Error ellipse: s-maj=1.6km s-min=0.9km az=49.9,
final,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.15**	**11**	P	Pg	04 49 43.3	0.0
PCOS				S	Sg	04 49 46.3	+0.8
TPB03	**Saragosa**	**0.17**	**171**	P	Pg	04 49 44.4	+0.7
TPB03				S	Sg	04 49 47.3	+1.2
TPB10	**Southeast of T**	**0.18**	**279**	⇑P	Pg	04 49 44.7	+0.9
TPB10				S	Sg	04 49 47.5	+1.2
TPB04	**Verhalen**	**0.25**	**106**	P	Pg	04 49 46.3	+1.3
TPB04				S	Sg	04 49 50.2	+1.9
TPB16	**Coyonosa**	**0.28**	**118**	P	Pb	04 49 47.5	-0.2
TPB16				Sg	Sb	04 49 51.8	-1.0
PECS	**Pecos**	**0.30**	**292**	P	Pg	04 49 46.5	+0.5
PECS				S	Sg	04 49 50.5	+0.5
TPB07	**Mentone**	**0.34**	**342**	P	Pb	04 49 48.1	-0.6
TPB07				S	Sb	04 49 52.9	-1.5
TPB12	**Southwest of T**	**0.36**	**263**	P	Pg	04 49 47.5	+0.4
TPB12				S	Sg	04 49 52.4	+0.6
TPB01	**Permian Basin**	**0.37**	**213**	P	Pg	04 49 47.8	+0.4
TPB01				S	Sg	04 49 53.5	+1.2
TPB05	**Hovey Rd**	**0.39**	**151**	P	Pg	04 49 48.4	+0.8
TPB05				S	Sb	04 49 54.5	-1.3
TPB06	**Permian Basin**	**0.48**	**36**	P	Pb	04 49 50.6	-0.5
TPB06				S	Sg	04 49 56.8	+1.1
TPB08	**Permian Basin**	**0.66**	**123**	P	Pb	04 49 54.5	+0.4
TPB08				S	Sb	04 50 03.0	-0.6
MNHN	**Monahans**	**0.68**	**83**	P	Pn	04 49 55.6	-0.8
MNHN				S	Sg	04 50 03.0	+1.0
MNHN				S	Sn	04 50 06.8	-0.5
TPB11	**China Draw**	**0.80**	**328**	S	Sg	04 50 06.6	+0.8
ALPN	**Alpine**	**0.88**	**185**	P	Pg	04 49 56.5	-0.7
ALPN				S	Sb	04 50 09.8	-0.3
CLNB	**Carlsbad**	**1.04**	**344**	P	Pb	04 50 01.0	+0.2
GDL2	**Guadalupe Moun**	**1.17**	**324**	P	Pn	04 50 03.5	+0.2
ODSA	**Odessa**	**1.21**	**44**	P	Pg	04 50 03.3	-0.1
ODSA				S	Sb	04 50 19.3	-0.1
HTMS	**Hat Mesa**	**1.22**	**356**	S	Sn	04 50 24.6	+3.9
VHRN	**Van Horn**	**1.32**	**250**	P	Pn	04 50 04.7	-0.6
VHRN				S	Sg	04 50 22.5	-0.2
MNTX	**Cornudas Mount**	**1.63**	**286**	P	Pb	04 50 10.7	0.0
MNTX				S	Sb	04 50 32.0	+0.4
SAND	**Sanderson**	**1.79**	**136**	P	Pb	04 50 12.8	-0.5
SAND				S	Sg	04 50 37.2	-0.4
TX31	**Lajitas Ar. Si**	**1.92**	**183**	P	Pb	04 50 14.7	-1.0
TX31				S	Sb	04 50 40.1	+0.1
OZNA	**Ozona**	**2.10**	**99**	P	Pb	04 50 17.9	-0.9
OZNA				S	Sb	04 50 44.9	-0.2
SGCY	**Sterling City**	**2.17**	**72**	S	Sb	04 50 46.9	-0.1

ISN 03 04:53:58.8±0.3,33°.61N×45°.60E,h10km±1km,ML2.5
TEH 03 04:53:58.8,33°.62N×45°.58E,h10km±340km
ISC 03 04:53:58.8±1.4,33°.60N±0°.04×45°.58E±0°.06,h6km±13km,
n7,σ0°72/12,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.57**	**149**	*e*Pg	**Pg**	**04 54 10.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**04 54 18.2**	**+0.8**
GLG1	**Gilan-e-Gharb**	**0.58**	**29**	Pg	**Pg**	**04 54 10.0**	**0.0**
GLG1				Sg	**Sg**	**04 54 17.7**	**+0.1**
BHD	**Baghdad**	**1.05**	**252**	*e*Pg	**Pb**	**04 54 19.5**	**+0.1**
BHD				*e*Sg	**Sn**	**04 54 34.5**	**-0.6**
IGHG	**Ghaleghazi**	**1.10**	**49**	Pg	**Pb**	**04 54 19.7**	**-0.7**
IDHR	**Dehrash**	**1.28**	**31**	Pg	**Pg**	**04 54 23.4**	**0.0**
IDHR				Sg	**Sn**	**04 54 42.5**	**+1.3**
KCHF	**Cheshme Sefid,**	**1.39**	**61**	Pg	**Pg**	**04 54 25.2**	**-0.3**
RAFI	**Al-Rafai**	**1.93**	**166**	*e*Pn	**Pb**	**04 54 33.5**	**-0.9**
RAFI				*e*Sn	**Sb**	**04 54 59.0**	**+0.3**

TXNET 03 05:06:24.7,31°.3N±0°.8×103°.6W±0°.6,h6km±1km,ML1.4/6,
Error ellipse: s-maj=1.3km s-min=0.7km az=28.8,final,
Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.16**	**15**	P	Pg	05 06 28.2	+0.2
PCOS				S	Sg	05 06 31.1	+0.9
TPB10	**Southeast of T**	**0.17**	**280**	P	Pg	05 06 28.9	+0.8
TPB10				S	Sg	05 06 32.0	+1.5
TPB03	**Saragosa**	**0.17**	**167**	S	Sg	05 06 31.7	+1.1
TPB04	**Verhalen**	**0.26**	**105**	P	Pg	05 06 30.6	+0.8
TPB04				S	Sg	05 06 34.8	+1.6
PECS	**Pecos**	**0.29**	**294**	P	Pg	05 06 30.9	+0.5
PECS				S	Sg	05 06 35.7	+1.5
TPB16	**Coyonosa**	**0.29**	**116**	P	Pg	05 06 31.3	+0.8
TPB16				S

NWF	Wu-fen Shan	0.46	307	P	Pn	05 15 40.1	+0.1
NWF				S	Sn	05 15 51.4	-0.6
WFSB	Wu-fen Shan	0.46	307	P	Pn	05 15 40.1	+0.2
WFSB				S	Sn	05 15 51.4	-0.5
TWE	Neicheng	0.48	261	P	Pn	05 15 40.2	+0.3
EWUT	Wuta	0.51	227	P	Pn	05 15 40.7	+0.5
EWUT				S	Sn	05 15 52.4	+0.1
TNOU	National Taiwa	0.52	314	P	Pn	05 15 41.3	+1.0
TNOU				S	Sn	05 15 52.8	+0.3
EOS3	EOS3	0.52	167	eP	Pn	05 15 41.1	+1.0
EOS3				eS	Sn	05 15 53.6	+1.4
ENA	Nanau	0.54	228	P	Pn	05 15 40.7	+0.2
ENA				eS	Sn	05 15 52.9	+0.1
FUSB	Fushanzhiwuyua	0.54	267	P	Pn	05 15 40.6	+0.1
FUSB				S	Sn	05 15 51.9	-1.1
TWA	Mucha	0.58	289	P	Pn	05 15 41.6	+0.8
TWA				S	Sn	05 15 53.1	-0.2
ENTT	Nioudou	0.58	255	i P	Pn	05 15 41.3	+0.5
ENTT				S	Sn	05 15 54.3	+0.9
EAHA	Aohua	0.61	221	P	Pn	05 15 41.2	+0.1
NWLT	Wulai	0.62	269	P	Pn	05 15 41.0	-0.1
NWLT				eS	Sn	05 15 54.0	0.0
LATG	Datong	0.65	247	P	Pn	05 15 42.0	+0.6
LATG				S	Sn	05 15 55.5	+0.9
YM01	YM01	0.66	302	i P	Pn	05 15 41.4	0.0
YM01				S	Sn	05 15 53.5	-1.1
YM08	YM08	0.67	306	P	Pn	05 15 40.7	-0.7
YM08				S	Sn	05 15 53.2	-1.4
EOS4	EOS4	0.68	170	eP	Pn	05 15 41.6	+0.5
EOS4				S	Sn	05 15 54.2	+0.1
ZUZH	Zhuzihu	0.69	302	i P	Pn	05 15 41.7	0.0
ZUZH				i S	Sn	05 15 54.0	-1.0
TWY	Chenhua	0.72	312	eP	Pn	05 15 41.1	-0.8
TWY				eS	Sn	05 15 54.3	-1.0
YHNB	Yeheng	0.75	261	P	Pn	05 15 42.6	+0.3
YHNB				S	Sn	05 15 55.4	-0.6
NSK	Sanguang	0.76	261	i P	Pn	05 15 42.7	+0.3
NSK				S	Sn	05 15 55.8	-0.4
TWS1	Kuangyinshan	0.76	294	eP	Pn	05 15 42.0	-0.2
JYNG	Yonagunijimaku	0.77	116	eP	Pn	05 15 42.7	+0.3
JYNG				eS	Sn	05 15 55.9	-0.3
ETL	Fush Village	0.81	219	P	Pn	05 15 42.6	-0.2
ETL				S	Sn	05 15 56.2	-0.8
NNSB	Datong	0.81	244	P	Pn	05 15 43.5	+0.6
NNSB				S	Sn	05 15 57.4	+0.1
NACB	Ninganchiao	0.82	221	P	Pn	05 15 42.5	-0.3
NACB				S	Sn	05 15 56.4	-0.6
NNS	Nan Shan	0.82	245	P	Pn	05 15 43.5	+0.6
NNS				eS	Sn	05 15 57.4	+0.1
YOJ	Yonaguni jima	0.82	114	P	Pn	05 15 43.1	+0.3
YOJ				eS	Sn	05 15 56.7	-0.4
ETLH	Xiulin Townshi	0.87	228	P	Pn	05 15 43.5	+0.1
ETLH				eS	Sn	05 15 57.3	-0.8
TWD	Chiawan	0.89	217	P	Pn	05 15 43.5	0.0
TWD				eS	Sn	05 15 57.5	-0.8
KSHI	Guanxi Townshi	0.92	269	P	Pn	05 15 44.4	+0.6
KSHI				eS	Sn	05 15 59.3	+0.6
NCUH	Zhongli	0.93	281	eP	Pn	05 15 44.0	+0.1
NCUH				eS	Sn	05 15 59.4	+0.5
NFF	Wufeng Townshi	0.98	261	P	Pn	05 15 44.8	+0.2
NFF				S	Sn	05 15 59.8	-0.3
FUSS	Fushou	1.01	238	P	Pn	05 15 45.8	+0.7
FUSS				eS	Sn	05 16 01.4	+0.4
ETM	Tongmen	1.04	218	eP	Pn	05 15 44.3	-0.8
ETM				eS	Sn	05 15 59.8	-1.2
WHF	Hehuan Shan	1.06	233	eP	Pn	05 15 46.2	+0.5
WHF				S	Sn	05 16 02.4	+0.2
TWT	Tachien	1.06	240	P	Pn	05 15 46.7	+1.1
TWT				i S	Sn	05 16 02.5	+0.6
TEYL	Yanliau Villag	1.07	210	eP	Pn	05 15 45.5	+0.1
TEYL				eS	Sn	05 16 01.4	-0.1
LIOB	Emei	1.07	262	P	Pn	05 15 45.7	+0.3
LIOB				S	Sn	05 16 01.7	-0.1
TDCB	Techi	1.08	240	P	Pn	05 15 46.6	+0.9
TDCB				S	Sn	05 16 02.2	+0.2
NSTT	Nanjuang	1.09	262	P	Pn	05 15 45.9	+0.2
NSTT				i S	Sn	05 16 01.7	-0.3
HSN	Hsinchu	1.10	271	eS	Sn	05 16 01.5	-0.8
SHUL	Shoufeng	1.15	210	P	Pn	05 15 46.3	0.0
SHUL				eS	Sn	05 16 03.5	+0.3
ESL	Shilin	1.19	215	P	Pn	05 15 46.0	-0.8
ESL				eS	Sn	05 16 02.4	-1.7
WHP	Taichung City	1.24	246	P	Pn	05 15 48.4	+0.9
WHP				i S	Sn	05 16 05.5	+0.4
OWD	Renai	1.24	228	i P	Pn	05 15 48.1	+0.5
OWD				i S	Sn	05 16 04.9	+0.4
WUSB	Renai	1.26	231	P	Pn	05 15 48.4	+0.7
WUSB				S	Sn	05 16 06.4	+0.8
NMLH	Miaoli	1.29	259	eP	Pn	05 15 48.2	+0.2
NMLH				eS	Sn	05 16 06.3	+0.2
WARBT	Fenglin Townsh	1.29	214	P	Pn	05 15 47.0	-1.1
WARBT				eS	Sn	05 16 04.4	-1.8
EGFH	Guangfu	1.32	212	eP	Pn	05 15 48.1	-0.1
EGFH				eS	Sn	05 16 05.0	-1.6
NSY	Sanyi	1.35	254	eP	Pn	05 15 47.2	-1.4
NSY				eS	Sn	05 16 05.9	-1.4
TWQ1	Liyutan	1.36	251	eP	Pn	05 15 48.9	+0.2
TWQ1				eS	Sn	05 16 07.3	-0.2
WCS	Beigang Elemen	1.37	238	P	Pn	05 15 49.6	+0.8
WCS				eS	Sn	05 16 08.5	+0.7
VWDT	VWDT	1.41	223	P	Pn	05 15 49.9	+0.6
VWDT				eS	Sn	05 16 09.3	+0.8
HGSD	Ruisui	1.47	208	P	Pn	05 15 49.9	-0.2
HGSD				S	Sn	05 16 09.8	-0.1
IRIF	Iriomote-Funau	1.48	108	eP	Pn	05 15 50.2	+0.1
IRIF				S	Sn	05 16 10.0	0.0
SMLT	Sun Moon Lake	1.48	233	P	Pn	05 15 50.6	+0.3
SMLT				eS	Sn	05 16 11.4	+1.1
TYC	Yuchr	1.50	234	eP	Pn	05 15 51.7	+1.3
TYC				eS	Sn	05 16 11.7	+1.2
EHY	Hungye	1.50	212	eP	Pn	05 15 50.2	-0.3
EHY				eS	Sn	05 16 08.4	-2.3
SSLB	Suanglung	1.50	229	P	Pn	05 15 51.9	+1.4
SSLB				eS	Sn	05 16 12.0	+1.3
YULB	Yu-li	1.61	210	eP	Pn	05 15 50.8	-1.0
ECBN	Changbin	1.62	205	P	Pn	05 15 51.8	-0.1
ECBN				eS	Sn	05 16 12.2	-0.8
WHYT	Xinyi Township	1.63	228	P	Pn	05 15 53.5	+1.4
WHYT				S	Sn	05 16 15.0	+1.4
EYUL	Yuli	1.64	209	eP	Pn	05 15 53.0	+0.8
WCHH	Zhanghua	1.64	245	eS	Sn	05 16 14.0	+0.4
TWF1	Yuli	1.65	210	eP	Pn	05 15 51.5	-0.8
TWF1				eS	Sn	05 16 12.2	-1.5
YUS	Yu-Shan	1.72	221	eP	Pn	05 15 52.2	-1.5
YUS				eS	Sn	05 16 13.9	-2.1
JKRS	Kuro-shima	1.75	108	eP	Pn	05 15 54.2	+0.7
JKRS				eS	Sn	05 16 16.0	0.0
FULB	Fuli	1.78	207	P	Pn	05 15 54.1	+0.1
FULB				S	Sn	05 16 16.6	-0.3
ALS	Alishan	1.79	225	P	Pn	05 15 55.8	+1.4
ALS				S	Sn	05 16 19.4	+1.9
CHN5	Tsauling	1.82	229	P	Pn	05 15 56.0	+1.5
CHN5				S	Sn	05 16 19.1	+1.4
JIJ	Ishigaki jima	1.83	103	P	Pn	05 15 54.8	+0.3
ELDTW	Lidau	1.92	214	eP	Pn	05 15 56.7	+0.9
ELDTW				eS	Sn	05 16 19.1	-1.0
JISG	Ishigakijimahi	1.94	96	eP	Pn	05 15 56.6	+0.7
JISG				eS	Sn	05 16 20.5	+0.1
WCKO	Fanlu	1.98	227	eP	Pn	05 15 56.5	+0.4
WCKO				eS	Sn	05 16 22.7	+1.5
EDH	Donghe	1.98	204	P	Pn	05 15 56.5	0.0
EDH				i S	Sn	05 16 19.8	-1.5
WTP	Ta-pu	2.11	223	eP	Pn	05 15 58.8	+0.7
LDUT	Ludao	2.21	197	eP	Pn	05 15 58.4	-1.0
LDUT				eS	Sn	05 16 24.0	-2.5

*UCR **03** 05:28:40.3±1.5, 9°.34N×83°.26W, h6km±2km, MW3.8*
*CATAC **03** 05:28:40.1±0.2, 9°N±2°×8°3W±°, h4km±1km, M4.0/14, MLv4.0/14, Error ellipse: s-maj=4.4km s-min=2.8km az=49.9, confirmed*
ISC 03 05:28:39.9±0.8, 9°30N±0'.02×83°25W±0'.02, h16km±4km, n125, σ1§07/160, 30C-11D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK0	Durika	0.04	181	∥iP	Pg	05 28 42.9	-0.2
DRK0				eS	Sg	05 28 44.8	-0.4
DRK0	Durika	0.04	181	P	Pg	05 28 42.9	-0.2
DRK0				S	Sg	05 28 45.0	-0.2
BURE	Buenos Aires	0.16	215	∥eP	Pg	05 28 44.3	+0.2
BURE				eS	Sg	05 28 47.3	+0.3
SAJE	San Jernim	0.26	279	⇑eP	Pb	05 28 45.1	-1.2
SAJE				eS	Sg	05 28 49.0	-0.8
EDP2	Potrero Grande	0.29	167	eP	Pb	05 28 47.0	+0.2
EDP2				eS	Sb	05 28 52.1	+0.7
OCHAL	Ojochal	0.45	243	P	Pb	05 28 49.5	+0.1
OCHAL	Ojochal	0.45	243	S	Sb	05 28 56.6	+0.8
BRIBI	Bribri	0.53	53	⇑eP	Pn	05 28 52.0	-0.4
BRIBI				eS	Sn	05 29 02.0	+1.3
VITO	San Vito	0.55	151	eP	Pn	05 28 52.1	-1.1
VITO				eS	Sn	05 29 02.5	+0.4
EDAD	Golfito	0.65	173	eP	Pb	05 28 53.2	+0.3
FITO	Golfito	0.68	172	eP	Pb	05 28 53.4	0.0
NELY	Ciudad Neily	0.71	156	eP	Pn	05 28 55.3	0.0
NELY				eS	Sn	05 29 06.9	+1.0
TURIB	Turrialba	0.74	324	eP	Pg	05 28 53.5	-0.9
TURIB				eS	Sg	05 29 03.6	-0.7
BRU2	Volcan	0.74	133	P	Pb	05 28 54.6	+0.1
BRU2	Volcan	0.74	133	S	Sb	05 29 05.3	+0.7
JIME	Puerto Jimenez	0.77	186	eP	Pn	05 28 55.2	-0.8
VINA	Juan Vinas	0.77	320	⇑eP	Pb	05 28 54.4	-0.6
VINA				eS	Sg	05 29 04.2	-1.0
VERB	Verbena	0.78	325	⇑eP	Pg	05 28 54.5	-0.6
RVSTA	Santa Teresita	0.78	329	eP	Pb	05 28 54.7	-0.4
RVSTA				eS	Sb	05 29 06.0	+0.6
REPA	Paraso	0.81	310	⇑eP	Pg	05 28 54.7	-1.0
REPA				eS	Sg	05 29 05.0	-1.3
CDITO	Canoas	0.81	153	P	Pn	05 28 56.4	-0.3
CDITO	Canoas	0.81	153	S	Sn	05 29 08.9	+0.5
VTCV	VTCV, Calle Va	0.83	325	⇑iP	Pb	05 28 55.4	-0.6
VTCV				eS	Sb	05 29 06.9	-0.1
PCAYA	Pacayas	0.83	318	eP	Pg	05 28 55.2	-0.9
PCAYA				eS	Sb	05 29 06.7	-0.3
IRES	Siquirres	0.83	342	⇑iP	Pb	05 28 55.9	-0.1
IRES				eS	Sb	05 29 07.5	+0.6
RAZU	San Marcos de	0.84	295	⇑eP	Pg	05 28 55.0	-1.4
CVTV	Tajo	0.86	324	⇑eP	Pb	05 28 56.0	-0.5
CVTV				eS	Sb	05 29 07.8	-0.1
RAFA	San Farael, Vo	0.86	319	⇑iP	Pg	05 28 55.9	-0.8
RAFA				eS	Sb	05 29 08.1	+0.1
LLNJ	Naranjito	0.86	281	⇑iP	Pb	05 28 56.4	-0.1
LLNJ				eS	Sn	05 29 09.3	-0.3
LPPC	Paso Canoas	0.86	152	eP	Pn	05 28 57.6	+0.2
CVTQ	Turrialba Volc	0.87	324	⇑eP	Pg	05 28 56.2	-0.7
CVTQ				eS	Sb	05 29 08.3	+0.1
LCR2	La Lucha 2	0.87	300	⇑iP	Pg	05 28 55.2	-1.6
LCR2				eS	Sg	05 29 06.7	-1.6
LCR2	La Lucha 2	0.87	300	P	Pg	05 28 55.4	-1.4
RVLA	Villa Bonita	0.87	337	eP	Pb	05 28 56.6	0.0
RVLA				eS	Sb	05 29 07.9	-0.1
VTLA	Turrialba Volc	0.87	323	⇑eP	Pb	05 28 56.4	-0.5
VTLA				eS	Sg	05 29 07.7	-0.8
TAGO	Cartago	0.87	310	eP	Pg	05 28 56.0	-0.9
TAGO				eS	Sg	05 29 07.7	-0.8
VTR0	Volcan Turrial	0.87	324	⇑eP	Pb	05 28 56.5	-0.5
VTR0				eS	Sb	05 29 08.8	+0.3
CVTR	Volcan Turrial	0.87	325	⇑eP	Pg	05 28 56.3	-0.7
CVTR				eS	Sg	05 29 08.0	-0.6
ABE2	San Pablo	0.89	297	eP	Pg	05 28 56.0	-1.3
PIRO	Carate, Puerto	0.90	186	eP	Pn	05 28 57.2	-0.6
PIRO	Carate, Puerto	0.90	186	P	Pn	05 28 58.0	+0.1
PIRO	Carate, Puerto	0.90	186	S	Sn	05 29 12.4	+1.9
VICA	Volcano Irazu	0.90	319	⇑iP	Pg	05 28 56.5	-0.9
VICA				eS	Sb	05 29 09.3	0.0
SVQ2	Quepos	0.92	278	eP	Pb	05 28 57.1	-0.3
PISJ	San Jernim	0.93	291	eP	Pg	05 28 56.7	-1.2
TRIO	Tres Rios	0.95	309	∥iP	Pg	05 28 57.0	-1.3
TRIO				eS	Sg	05 29 09.7	-1.3
CVTG	V. Turrialba,	0.99	328	⇑iP	Pg	05 28 58.3	-0.8
CVTG				eS	Sg	05 29 11.3	-0.7
PICV	PH. Pirrs	0.99	289	eP	Pb	05 28 58.3	-0.4
CVIMO	Finca Echandi	0.99	316	⇑eP	Pb	05 28 58.4	-0.4
AMPA	Desamparados	1.00	306	eP	Pg	05 28 57.8	-1.5
AMPA				eS	Sg	05 29 10.8	-1.7
CORON	Coronado	1.00	312	⇑iP	Pb	05 28 58.7	-0.3
CORON				eS	Sb	05 29 12.6	+0.7
SJS3	Mercedes San J	1.02	308	eP	Pg	05 28 58.6	-1.0
SJS3				eS	Sg	05 29 12.0	-1.0
SJS	Escuela Geolog	1.02	308	eP	Pg	05 28 58.4	-1.2
SJS				eS	Sg	05 29 11.9	-1.2
LUJA	Lujan	1.02	307	eP	Pb	05 28 59.5	+0.1
ACOS	Acosta	1.03	298	eP	Pg	05 28 58.5	-1.4
CENT	San Jose	1.03	307	∥eP	Pb	05 28 59.1	-0.4
MEXI	Barrio Mexico	1.04	307	eP	Pg	05 28 59.7	-1.1
PILE	Guapiles	1.05	329	⇑iP	Pn	05 29 00.4	+0.4
PILE				eS	Sn	05 29 15.2	+0.9
DOMI	Santo Domingo	1.07	309	eP	Pg	05 28 59.6	-1.1
HDC	Heredia	1.10	309	⇑eP	Pg	05 28 59.9	-1.4
HDC	Heredia	1.10	309	S	Sb	05 29 15.6	+0.7
HEME	Heredia, Merce	1.12	308	⇑eP	Pg	05 29 00.2	-1.3
SANTA	Santa Ana	1.12	304	eP	Pg	05 28 59.6	-1.9
BELE	Belen	1.15	306	eP	Pg	05 29 00.3	-1.7
CARI	Cariari	1.16	335	∥eP	Pg	05 29 01.2	-1.1
UELA	Alajuela	1.19	307	eP	Pn	05 29 02.7	+0.7
TCS1	Tacares	1.27	305	⇑eP	Pg	05 29 03.6	-0.9
TCS1				eS	Sn	05 29 20.4	+0.5
TCS1	Tacares	1.27	305	P	Pb	05 29 03.3	-0.3
GREC	Grecia	1.30	306	eP	Pg	05 29 04.2	-0.8
TRB2	Turrubares	1.33	297	eP	Pn	05 29 03.6	-0.3
SARCI	Sarchi	1.34	306	eP	Pb	05 29 04.5	-0.1
NARAN	Naranjo de Ala	1.37	305	∥eP	Pg	05 29 05.3	-1.0
SARA	Sarapiqu	1.37	326	eP	Pn	05 29 06.6	+0.2
OROT	Orotina	1.40	296	∥iP	Pn	05 29 05.0	+0.3
OROT				eS	Sb	05 29 23.1	-0.2
ARTO	Ro Cuarto	1.41	317	∥eP	Pb	05 29 05.5	-0.3
ZARE	Zarcero	1.43	308	eP	Pn	05 29 05.5	+0.2
RAMO	San Ramon	1.44	303	⇑eP	Pg	05 29 06.7	-0.9
SRA1	San Ramn	1.45	303	⇑iP	Pn	05 29 05.7	+0.2
ITAL	Pital	1.52	318	eP	Pb	05 29 07.5	-0.3
ARZA	Esparza	1.56	296	∥eP	Pn	05 29 07.4	+0.4
SOCE	Pocosol	1.73	309	eP	Pb	05 29 10.8	-0.5
SOCE	Pocosol	1.73	309	P	Pb	05 29 11.0	-0.3
SOCE	Pocosol	1.73	309	S	Sg	05 29 34.1	-1.5
PAQE	Paquera	1.74	287	eP	Pb	05 29 10.5	-1.0
TUNA	La Fortuna	1.80	310	eP	Pb	05 29 11.9	-0.6
COVE	Coope Vega, Sa	1.81	321	S	Sb	05 29 36.0	+0.9
COVE	Coope Vega, Sa	1.81	321	P	Pb	05 29 11.8	-0.9
FORC	Fortuna	1.82	310	eP	Pb	05 29 12.1	-0.7
VACR	Volcan Arenal	1.83	310	⇑iP	Pb	05 29 11.9	-1.1
ARE1	Arenal 1	1.85	308	⇑eP	Pb	05 29 12.6	-0.8
VARE2	V. Arenal	1.85	308	⇑iP	Pb	05 29 12.6	-0.8
CEDE	Laguna Cedeo	1.86	309	∥eP	Pb	05 29 13.2	-0.3
MTEVE	Monteverde	1.86	303	eP	Pb	05 29 13.0	-0.6
JCR1	Jicaral	1.92	287	eP	Pb	05 29 14.0	-0.5
JTS	Las Juntas de	1.95	300	eP	Pn	05 29 13.2	+0.9
QUEB	Quebradon, Cot	2.09	309	eP	Pb	05 29 16.3	-1.1
NYURE	Nandayure	2.10	289	eP	Pn	05 29 15.2	+0.9
CNAS	Canas	2.14	302	eP	Pb	05 29 17.2	-1.0
TENO	El Achiote	2.20	309	eP	Pb	05 29 18.6	-0.8
VERA	Finca Concepci	2.22	314	eP	Pn	05 29 17.4	+1.4
LCHIL	Los Chiles	2.25	320	∥eP	Pb	05 29 19.0	-1.2
CMARA	Lajas Hojancha	2.26	289	eP	Pn	05 29 18.0	+1.3
CMARA	Lajas Hojancha	2.26	289	P	Pn	05 29 18.0	+1.3
CMARA	Lajas Hojancha	2.26	289	S	Sn	05 29 46.6	+2.3
INDI	Punta indio, G	2.30	284	S	Sn	05 29 47.0	+2.0
INDI	Punta indio, G	2.30	284	P	Pb	05 29 19.2	-1.7
CUI	Cuipilapa	2.32	306	eP	Pb	05 29 20.7	-0.7
PLVR	Palo Verde	2.32	297	eP	Pn	05 29 18.9	+1.3
UPAL	Upala	2.35	312	eP	Pn	05 29 19.6	+1.8
COLC	Colonia	2.36	305	⇑eP	Pb	05 29 20.9	-1.1
HORNC	Hornillas	2.36	306	eP	Pn	05 29 19.9	+1.8
GPS2	Hotel Rincn d	2.53	305	eP	Pn	05 29 20.7	+0.4
GPS3	Bodega del ICE	2.54	305	eP	Pb	05 29 25.4	+0.3
ALIBA	Liberia Airpor	2.60	300	eP	Pb	05 29 24.3	-1.9
BLUN	Bluefields	2.73	349	P	Pn	05 29 23.6	+0.5
BLUN				S	Sn	05 29 57.7	+1.8
ESPN	Las Esperanzas	3.06	340	P	Pn	05 29 28.8	+1.3
ESPN	Las Esperanzas	3.06	340	S	Sn	05 30 06.0	+2.2
ACON	Acoyapa	3.26	325	eP	Pn	05 29 24.3	-6.0
ACON	Acoyapa	3.26	325	P	Pn	05 29 32.0	+1.7
ACON	Acoyapa	3.26	325	S	Sn	05 30 12.0	+3.3
AZU	Azuero	3.30	117	eP	Pb	05 29 34.7	-3.3
BCIP	Isla Barro Col	3.37	92	eP	Pn	05 29 33.0	+1.2
BOAB	BOACO BROADBAN	3.93	323	P	Pn	05 29 41.5	+1.9
BOAB	BOACO BROADBAN	3.93	323	S	Sn	05 30 28.9	+3.6
LIMN	Finca el Limon	4.83	321	P	Pn	05 29 53.0	+1.0

*NERS **03** 05:48:15.7, 66°.07N×175°.98W, h0km*
*IDC **03** 05:48:17.0±1.1, 66°.46N×175°.39W, h0km, mb3.8/8, mbtmp3.8/12, ML3.7/4, MS2.9/3, Error ellipse: s-maj=50.7km s-min=14.2km az=15.0*
*ANF **03** 05:48:19.9±0.8, 66°.39N×175°.57W, h29km±13km, ML4.7/9, Error ellipse: s-maj=10.9km s-min=2.5km az=89.0*
ISC 03 05:48:17.2±0.6, 66°.40N±0'.06×175°.64W±0'.04, h10km, n205, σ1§22/245, mb3.8/8, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVDR	Provideniya	2.22	152	eP	Pn	05 48 50.5	-3.5
PVDR				Pmax		05 48 51.2	
	290nm,0.4s						
PVDR				ePg	Pb	05 48 52.8	-4.5
PVDR				Pgmax		05 48 55.7	
	770nm,0.4s						
PVDR				eSg	Sn	05 49 19.9	-1.5
PVDR				Sgmax		05 49 29.1	
	10μm,0.7s						
GAMB	Gambell	3.12	146	P	Pn	05 49 03.0	-3.2
	baz=330,SNR=33						
TNA	Tin City	3.27	101	P	Pn	05 49 07.0	-1.4
	baz=288,SNR=20						
ANDR	Anadyr'	3.31	243	eP	Pn	05 49 06.2	-2.6
ANDR				Pmax		05 49 07.9	
	10.0nm,0.5s						
ANDR				ePg	Pb	05 49 12.1	-3.7
ANDR				Pgmax		05 49 18.9	
	230nm,0.6s						
ANDR				eSg	Sb	05 49 53.7	-2.3
ANDR				Sgmax		05 50 02.4	
	2μm,1.0s						
F14K	Arctic Creek	3.92	99	P	Pn	05 49 16.2	-1.2
	baz=288						
C16K	Lisburne Hills	4.41	60	P	Pn	05 49 23.1	-0.9
	baz=249,SNR=8.2						
C16K				S	Sn	05 50 16.3	+1.1
	baz=249						
F15K	North Star Dit	4.53	94	P	Pn	05 49 24.8	-1.0
	baz=284,SNR=17						
ANM	Nome	4.66	109	P	Pn	05 49 26.5	-0.9
	baz=298,SNR=16						
D17K	Noatak River	5.09	69	P	Pn	05 49 32.5	-0.8
	baz=261,SNR=12						
D17K				S	Sn	05 50 32.4	+0.4
	baz=261						
RDOG	Red Dog Mine	5.22	66	P	Pn	05 49 34.9	-0.2
	baz=257						
RDOG				S	Sn	05 50 36.0	+0.8
	baz=257						
C17K	DeLong Mountai	5.23	61	P	Pn	05 49 35.5	+0.1
	baz=252						
C17K				S	Sn	05 50 37.1	+1.4
	baz=252						
E17K	Hotham Inlet	5.52	77	P	Pn	05 49 38.3	-1.0
	baz=269						
G16K	Koyuk River	5.54	94	P	Pn	05 49 38.2	-1.3
	baz=286,SNR=33						
H16K	Elim	5.84	101	P	Pn	05 49 42.8	-0.9
	baz=294,SNR=8.0						
C18K	Utukok River	5.98	61	P	Pn	05 49 45.5	-0.1
	baz=254,SNR=8.3						
C18K				S	Sn	05 50 54.9	+0.8
	baz=254						
E18K	Tukpahlearik C	6.00	73	P	Pn	05 49 45.9	0.0
	baz=267,SNR=12						
E18K				S	Sn	05 50 53.5	-1.1
	baz=267						
B18K	Kokolik River	6.01	54	P	Pn	05 49 46.2	+0.3
	baz=247						
B18K				S	Sn	05 50 56.3	+1.6
	baz=247						
G17K	Kiwalik Mounta	6.19	91	P	Pn	05 49 47.3	-1.3
	baz=285						
J14K	Nanvaranak Lak	6.36	120	P	Pn	05 49 49.3	-1.4
	baz=310						
F18K	Selawik	6.40	81	P	Pn	05 49 51.7	+0.4
	baz=275,SNR=16						
K13K	Kusilvak Mount	6.56	128	P	Pn	05 49 51.6	-1.9
	baz=318						
A19K	Wainwright	6.61	48	P	Pn	05 49 54.8	+0.6
	baz=242						
A19K				S	Sn	05 51 09.9	+0.6
	baz=242						
H17K	Granite Mounta	6.66	95	P	Pn	05 49 54.8	-0.1
	baz=290,SNR=12						
I17K	Unalakleet	6.78	105	P	Pn	05 49 56.7	+0.1
	baz=298						
G18K	Tagagawik	6.91	86	P	Pn	05 49 57.6	-0.6
	baz=282,SNR=31						
D19K	Kuna River	7.05	65

L16K	Owhat River	8.49	116	P	Pn	05 50 19.3	-0.7
	baz=311,SNR=6.0						
B21K	Ikpikpuk River	8.50	58	P	Pn	05 50 20.0	-0.1
	baz=258						
B21K				S	Sn	05 51 54.9	-1.0
	baz=258						
H20K	Anotleneega Mo	8.52	87	P	Pn	05 50 19.9	-0.5
	baz=286,SNR=6.5						
J18K	Innoko River	8.54	101	P	Pn	05 50 20.8	+0.1
	baz=298,SNR=9.5						
E21K	Killik River	8.57	66	P	Pn	05 50 21.2	+0.1
	baz=266						
L17K	Donlin	8.66	111	P	Pn	05 50 22.3	0.0
	baz=307						
J19K	Poorman	8.74	97	P	Pn	05 50 23.7	+0.3
	baz=295						
F21K	Alatna River	8.77	74	P	Pn	05 50 23.3	-0.5
	baz=275						
M15K	Kasigluk River	8.77	124	P	Pn	05 50 22.6	-1.2
	baz=317						
M15K				S	Sn	05 52 01.2	-1.4
	baz=317						
A22K	Sinclair Lake	8.79	49	P	Pn	05 50 24.5	+0.5
	baz=248						
A22K				S	Sn	05 52 01.4	-1.6
	baz=248						
G21K	Allakaket	8.85	79	P	Pn	05 50 24.5	-0.4
	baz=279						
G21K				S	Sn	05 52 02.6	-1.9
	baz=279						
I20K	Naaghedeneel	8.89	91	P	Pn	05 50 25.3	-0.2
	baz=290						
D22K	Ayikyak River	9.07	64	P	Pn	05 50 27.9	0.0
	baz=265						
D22K				S	Sn	05 52 07.1	-2.9
	baz=265						
B22K	Teshekpuk Lake	9.07	54	P	Pn	05 50 28.0	+0.1
	baz=255						
B22K				S	Sn	05 52 08.2	-1.7
	baz=255						
TTA	Tatalina	9.09	103	P	Pn	05 50 28.8	+0.5
	baz=301						
M16K	Timber Creek	9.14	118	P	Pn	05 50 28.8	-0.1
	baz=313						
M16K				S	Sn	05 52 12.3	+0.7
	baz=313						
L18K	Granite Mounta	9.22	108	P	Pn	05 50 30.3	+0.4
	baz=305						
F22K	John River	9.25	72	P	Pn	05 50 31.1	+0.7
	baz=274						
J20K	Nowinta River	9.26	94	P	Pn	05 50 31.2	+0.7
	baz=294,SNR=22						
H21K	Melozitna Rive	9.31	84	P	Pn	05 50 30.8	-0.4
	baz=285						
E22K	Anaktuvuk Pass	9.36	68	P	Pn	05 50 31.9	-0.1
	baz=270						
E22K				S	Sn	05 52 14.5	-2.6
	baz=270						
N15K	Kwethluk River	9.36	125	P	Pn	05 50 30.8	-1.1
	baz=318						
N15K				S	Sn	05 52 15.5	-1.6
	baz=318						
M17K	Holitna River	9.44	114	P	Pn	05 50 33.0	0.0
	baz=310						
N16K	Nishlik Lake	9.59	120	P	Pn	05 50 34.5	-0.6
	baz=316						
K20K	Telida	9.64	98	P	Pn	05 50 35.7	-0.2
	baz=298						
D23K	Nanushuk River	9.80	64	P	Pn	05 50 38.0	+0.1
	baz=266						
D23K				S	Sn	05 52 25.1	-2.8
	baz=266						
H22K	Ishtalitna Cre	9.82	82	P	Pn	05 50 37.8	-0.4
	baz=284						
C23K	Itkillik River	9.91	58	P	Pn	05 50 39.4	-0.1
	baz=262,SNR=9.7						
C23K				S	Sn	05 52 27.9	-2.6
	baz=262						
L19K	White Mountain	9.94	105	P	Pn	05 50 40.3	+0.4
	baz=304						
M18K	Stony River	9.98	110	P	Pn	05 50 40.7	+0.3
	baz=308,SNR=6.5						
COLD	Coldfoot	10.04	74	P	Pn	05 50 41.4	+0.3
	baz=277						
N17K	Nushagak Hills	10.11	117	P	Pn	05 50 42.0	-0.1
	baz=314						
CHUM	Lake Minchumin	10.11	94	P	Pn	05 50 42.6	+0.4
	baz=295,SNR=16						
L20K	Farewell, AK	10.16	103	P	Pn	05 50 43.3	+0.4
	baz=302,SNR=11						
E23K	Chandalar	10.19	69	P	Pn	05 50 43.1	-0.2
	baz=273						
E23K				S	Sn	05 52 33.3	-4.2
	baz=273						
TOLK	Toolik Lake Re	10.19	65	P	Pn	05 50 43.3	0.0
	baz=270						
TOLK				S	Sn	05 52 34.3	-3.2
	baz=270						
O15K	Ungalikthiuk R	10.21	128	P	Pn	05 50 43.2	-0.4
	baz=322						
M19K	Big River Lodg	10.28	106	P	Pn	05 50 44.9	+0.4
	baz=305						
CAST	Castle Rocks	10.41	96	P	Pn	05 50 47.1	+0.8
	baz=297,SNR=7.5						
O16K	Kokwok River B	10.46	122	P	Pn	05 50 46.1	-0.9
	baz=318						
D24K	Happy Valley	10.48	63	P	Pn	05 50 46.4	-0.7
	baz=267						
D24K				S	Sn	05 52 41.6	-2.8
	baz=267						
N18K	Kilae Creek	10.48	114	P	Pn	05 50 47.8	+0.6
	baz=312,SNR=8.0						
BPAW	Bear Paw Mtn.	10.56	91	P	Pn	05 50 48.5	+0.1
	baz=294,SNR=7.6						
C24K	Franklin Bluff	10.56	60	P	Pn	05 50 48.0	-0.2
	baz=264						
C24K				S	Sn	05 52 41.6	-4.8
	baz=264						
H23K	Yukon River	10.57	81	P	Pn	05 50 49.0	+0.6
	baz=285						
E24K	Your Creek	10.61	69	P	Pn	05 50 49.0	0.0
	baz=274,SNR=7.3						
E24K				S	Sn	05 52 45.3	-2.5
	baz=274						
PPLA	Purkeypile	10.62	98	P	Pn	05 50 49.3	+0.1
	baz=300						
O17K	Koliganek Bris	10.68	120	P	Pn	05 50 49.7	-0.2
	baz=316						
M20K	Styx River	10.78	104	P	Pn	05 50 52.6	+1.1
	baz=305,SNR=17						
I23K	Minto, Yukon-K	10.84	84	P	Pn	05 50 53.1	+1.0
	baz=288						
F24K	Squaw Lake	10.89	71	P	Pn	05 50 52.7	-0.2
	baz=277						
F24K				S	Sn	05 52 52.6	-2.0
	baz=277						
N19K	Bonanza Creek	10.91	111	P	Pn	05 50 53.7	+0.4
	baz=310						
P16K	Nushagak River	10.92	124	P	Pn	05 50 53.0	-0.3
	baz=320						
TRF	Thorofare Moun	11.12	94	P	Pn	05 50 56.2	+0.1
	baz=297,SNR=8.6						
NEA2	Nenana	11.14	87	P	Pn	05 50 56.1	-0.2
	baz=291						
G24K	Hadweenzic Riv	11.18	76	P	Pn	05 50 58.1	+1.3
	baz=281						
H24K	Noodor Dome	11.22	80	P	Pn	05 50 57.7	+0.2
	baz=286						
O18K	Koktuh Hills	11.29	116	P	Pn	05 50 58.2	-0.1
	baz=314						
P17K	Kvichak River	11.33	120	P	Pn	05 50 58.6	-0.2
	baz=318						
D25K	Kavik River	11.35	62	P	Pn	05 50 58.1	-1.1
	baz=269						
SKT	Skwentna	11.36	102	P	Pn	05 51 00.8	+1.6
	baz=303						
O19K	Port Alsworth	11.38	113	P	Pn	05 50 59.9	+0.3
	baz=312						
MCK	McKinley	11.54	91	P	Pn	05 51 01.9	+0.2
	baz=295,SNR=5.3						
SPCR	Spurr Chakacha	11.54	106	P	Pn	05 51 02.3	+0.4
	baz=307,SNR=5.1						
P18K	Big Mountain,	11.61	118	P	Pn	05 51 02.1	-0.6
	baz=316						
POKR	Poker Plat Res	11.62	83	P	Pn	05 51 02.6	-0.2
	baz=289						
Q16K	King Salmon	11.64	123	P	Pn	05 51 02.8	-0.3
	baz=320						
E25K	Arctic Village	11.70	68	P	Pn	05 51 03.1	-0.8
	baz=276,SNR=5.8						
F25K	Christian Rive	11.73	70	P	Pn	05 51 04.6	+0.2
	baz=278						
C26K	Camden Bay	11.88	59	P	Pn	05 51 05.9	-0.5
	baz=268,SNR=7.2						
ILAR	Eielson Array	11.95	84	Pn	Pn	05 51 05.7	-1.7
	0.9nm,0.3s,baz=286,slow=13,SNR=41						
ILAR				Sn	Sn	05 53 16.3	-4.3
	baz=65,slow=21						
SUA	Susitna One	11.96	103	P	Pn	05 51 08.4	+0.9
	baz=305						
HDA	Harding Lake	12.06	86	P	Pn	05 51 08.8	0.0
	baz=292						
O20K	Slope Mountain	12.09	111	P	Pn	05 51 09.5	+0.1
	baz=311						
P19K	Oil Pt	12.15	113	P	Pn	05 51 10.7	+0.5
	baz=313						
Q17K	Contact Creek	12.22	122	P	Pn	05 51 10.3	-0.8
	baz=320,SNR=7.1						
Q18K	Katmai Hardscr	12.23	120	P	Pn	05 51 11.0	-0.3
	baz=318						
F26K	Sheenjek River	12.29	70	P	Pn	05 51 11.7	-0.2
	baz=279						
C27K	Jago River	12.30	60	P	Pn	05 51 11.3	-0.7
	baz=270,SNR=11						
PMR	Palmer	12.52	100	P	Pn	05 51 16.3	+1.1
	baz=304						
RC01	Rabbit Creek A	12.57	103	P	Pn	05 51 17.6	+1.8
	baz=306						
J25K	Salcha River,	12.62	84	P	Pn	05 51 16.1	-0.4
	baz=292						
SML	Sawmill	12.72	98	P	Pn	05 51 18.0	+0.1
	baz=303						
K24K	Donnelly Dome	12.78	88	P	Pn	05 51 19.0	+0.3
	baz=295						
OMS	Omsukchan	12.86	266	*e*Sg		05 54 58.9	
OMS				Sgmax		05 54 58.9	
	30nm,1.6s						
KNK	Knik Glacier	12.89	100	P	Pn	05 51 21.3	+1.2
	baz=304						
M23K	Glacier View	12.97	98	P	Pn	05 51 21.9	+0.6
	baz=303						
BRSE	Bradley Lake S	13.03	109	P	Pn	05 51 23.4	+1.3
	baz=311						
SCM	Sheep Creek Mo	13.11	97	P	Pn	05 51 24.6	+1.4
	baz=303						
I26K	Coal Creek Min	13.26	80	P	Pn	05 51 25.6	+0.4
	baz=289						
PWL	Port Wells	13.26	102	P	Pn	05 51 26.0	+0.8
	baz=306						
D27M	Malcolm River	13.28	62	P	Pn	05 51 23.7	-1.8
	baz=274						
J26L	Joseph Creek	13.38	83	P	Pn	05 51 27.1	+0.2
	baz=292						
M24K	Tolsona, Glenn	13.42	95	P	Pn	05 51 29.3	+1.8
	baz=302						
H27K	Steamboat Moun	13.61	75	P	Pn	05 51 30.4	+0.4
	baz=286						
KDAK	Kodiak Island	13.74	118	Pn	Pn	05 51 30.4	-1.3
	0.3nm,0.3s,baz=219,slow=4.9,SNR=8.5						
KDAK				LR	LR	05 57 25.0	
	comp=Z,94nm,18.2s,baz=175,slow=40						
	2.5nm,0.7s						
GLI	Glacier Island	13.74	100	P	Pn	05 51 32.0	+0.3
	baz=306						
KLU	Klutina	13.86	97	P	Pn	05 51 32.9	-0.4
	baz=304						
E28M	Babbage River	13.86	64	P	Pn	05 51 32.9	-0.5
	baz=278						
SEY	Seymchan	14.02	271	Pn	Pn	05 51 37.5	+2.0
	0.3nm,0.3s,baz=64,slow=16,SNR=4.0						
SEY				Lg	Lg	05 55 39.6	
	0.2nm,0.3s,baz=234,slow=6.0,SNR=5.0						
	0.7nm,0.3s						
SEY	Seymchan	14.02	271	*e*P	Pn	05 51 35.7	+0.2
SEY				*e*Sg		05 55 38.4	
D28M	Stokes Point	14.06	61	P	Pn	05 51 34.0	-2.0
	baz=276						
L26K	Log Cabin Wild	14.11	89	P	Pn	05 51 33.9	-2.8
	baz=298						
K27K	Chicken	14.17	84	P	Pn	05 51 37.6	0.0
	baz=295						
I28M	Miner Creek	14.48	77	P	Pn	05 51 41.8	-0.1
	baz=290						
E29M	Blow River	14.49	65	P	Pn	05 51 42.0	+0.1
	baz=280						
M26K	Nabesna, AK	14.55	91	P	Pn	05 51 42.8	-0.1
	baz=300						
SHEM	Shemya Is, Ala	14.63	205	LR	LR	05 57 09.4	
	comp=Z,26nm,18.6s,baz=306,slow=36						
BMRM	Bremner River	14.68	97	P	Pn	05 51 45.2	+0.6
	baz=305						
L27K	Beaver Creek,	14.70	87	P	Pn	05 51 45.0	+0.1
	baz=298						
G29M	Pine Creek	14.77	71	P	Pn	05 51 46.0	+0.1
	baz=285						
H29M	Whitestone	14.84	74	P	Pn	05 51 46.9	+0.1
	baz=288						
M27K	Edge Creek, AK	15.02	90	P	Pn	05 51 49.2	-0.1
	baz=300						
I29M	Ogilvie Camp,	15.15	77	P	Pn	05 51 51.8	+1.0
	baz=291						
DAWY	Dawson	15.23	82	P	Pn	05 51 52.6	+0.6
	baz=295						
BVCY	Beaver Creek	15.40	89	P	Pn	05 51 54.2	-0.1
	baz=300						
EPYK	Eagle Plains	15.43	72	P	Pn	05 51 53.8	-0.7
	baz=288						
F30M	Barrier River	15.43	67	P	Pn	05 51 54.7	+0.1
	baz=284						
G30M	tAoh Zraii Nji	15.44	70	P	Pn	05 51 53.8	-0.9
	baz=286						
SUUS	Susuman	15.79	274	*e*P	Pn	05 52 02.0	+2.7
SUUS				*e*Sg		05 56 34.0	
SUUS				Sgmax		05 56 48.5	
	20nm,1.5s						
I30M	Mount Dempster	15.96	76	P	Pn	05 52 02.5	+1.0
	baz=292,SNR=5.6						
K29M	Barlow Dome	16.07	81	P	Pn	05 52 03.3	+0.3
	baz=296						
INK	Inuvik	16.10	64	Pn	Pn	05 52 02.7	-0.4
	0.1nm,0.3s,baz=306,slow=18,SNR=3.6						
	0.9nm,0.5s						
L29M	L29M	16.16	84	P	Pn	05 52 04.6	+0.5
	baz=298						
G31M	Satah River	16.19	69	P	Pn	05 52 04.8	+0.5
	baz=287						
J30M	Hart River	16.23	78	P	Pn	05 52 05.7	+0.7
	baz=294,SNR=9.6						
M29M	Somme Creek	16.35	86	P	Pn	05 52 07.3	+0.6
	baz=300						
YUK8	Steele Glacier	16.44	91	P	Pn	05 52 07.6	-0.3
	baz=304						
H31M	Peel River	16.53	73	P	Pn	05 52 09.2	+0.4
	baz=291						
MA2	Magadan	16.54	262	LR	LR	05 57 53.6	
	comp=Z,46nm,19.8s,baz=312,slow=35						
YUK4	Talbot Arm	16.86	90	P	Pn	05 52 13.5	+0.4
	baz=303						
PINM	Pinnacle	16.93	95	P	Pn	05 52 13.9	-0.1
	baz=307						
M30M	Minto, Yukon	16.96	85	P	Pn	05 52 15.5	+1.3
	baz=300						
YUK6	Outpost Mounta	17.20	91	P	Pn	05 52 18.4	+1.0
	baz=304						
N30M	Aishikik Lake	17.43	88	P	Pn	05 52 20.9	+0.9
	baz=303						
N31M	Braeburn, Yuko	17.94	87	P	P	05 52 27.4	+0.5
	baz=303						
M31M	Drury Creek, Y	18.11	84	P	P	05 52 29.4	+0.6
	baz=301						
O30N	Mendenhall	18.21	89	P	P	05 52 31.2	+1.2
	baz=305						
P29M	Windy Craggy	18.23	94	P	Pn	05 52 30.2	+0.3
	baz=308						
A36M	Sachs Harbour	18.23	50	P	Pn	05 52 30.5	+0.7
	baz=277						
P30M	Million Dollar	18.24	92	P	Pn	05 52 30.6	+0.4
	baz=306						
WHY	Whitehorse	18.76	88	P	Pn	05 52 36.9	+0.3
	baz=305						
PLBC	Pleasant Camp	18.89	93	P	Pn	05 52 38.1	+0.2
	baz=308						
C36M	Paulatuk	19.16	58	P	Pn	05 52 41.3	+0.2
	baz=286,SNR=5.7						
N32M	Quiet Lake	19.21	86	P	Pn	05 52 42.3	+0.5
	baz=304						
SKAG	Skagway	19.30	92	P	Pn	05 52 43.4	+0.5
	baz=308						
TIXI	Tiksi	19.87	310	P	Pn	05 52 50.2	+0.7
	0.3nm,0.3s,baz=104,slow=7.4,SNR=5.7						
	8.7nm,0.8s						
Q32M	Nakina River	20.85	90	P	P	05 52 59.8	+0.9
	baz=309,SNR=5.1						
R33M	Jennings River	21.10	88	P	P	05 53 02.1	+0.6
	baz=306						
T35M	Bob Quinn	22.96	92	P	P	05 53 22.4	+1.1
	baz=313						
YKA	Yellowknife Ar	25.68	70	P	P	05 53 47.0	+0.3
	0.4nm,0.7s,baz=305,slow=8.6,SNR=6.2						
	0.4nm,0.7s						
PDAR	Pinedale Array	42.31	90	P	P	05 56 11.3	+0.4
	0.6nm,0.8s,baz=2.9,slow=3.0,SNR=4.4						
	0.6nm,0.8s						
NVAR	Mina Array Bea	42.50	102	P	P	05 56 12.8	+0.3
	1.6nm,0.8s,baz=314,slow=7.1,SNR=12						
	1.6nm,0.8s						
SONM	Songino Array	42.86	284	P	P	05 56 17.5	+2.3
	1.5nm,0.7s,baz=40,slow=8.5,SNR=8.5						
	1.5nm,0.7s						
ZALV	Zalesovo Beam	45.66	305	P	P	05 56 39.0	+1.6
	1.4nm,0.5s,baz=50,slow=9.9,SNR=6.6						
	1.4nm,0.5s						
KURBB	Kurchatov Arra	50.53	307	P	P	05 57 16.6	+1.6
	0.6nm,0.7s,baz=33,slow=7.9,SNR=6.1						
	0.6nm,0.7s						
TXAR	Lajitas Array	56.29	94	P	P	05 57 57.8	+0.1
	0.7nm,0.7s,baz=298,slow=4.7,SNR=10.0						
	0.7nm,0.7s						
TKL	Tuckaleechee C	58.63	72	P	P	05 58 14.3	+0.3
	2.2nm,0.5s,baz=326,slow=10,SNR=6.6						
	2.2nm,0.5s						

NEIC ***03*** *05:49:31.7±1.4, 17°.8S±0°.2×178°.5W±0°.1, h579km±7km, mb4.4/24, Error ellipse: s-maj=26.6km s-min=13.6km az=142.0*

IDC ***03*** *05:49:33.0±1.7, 17°.85S×178°.63W, h588km±19km, mb3.4/7, mbtmp4.3/9, Error ellipse: s-maj=31.5km s-min=14.8km az=145.0*

ISC 03 05:49:31.8±0.6, 17°.8S±0°.2×178°.5W±0°.1, h579km, n41, σ0.81/43, mb4.4/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.26	271	P	P	05 50 52.3	+1.4
MSVF	Nonsavu	3.26	271	P	P	05 50 52.1	+1.1
	96nm,0.8s,baz=117,slow=3.3,SNR=61						
AFI	Afiamalu	7.58	60	P	P	05 51 24.7	-2.0
NIUE	Niue	8.26	100	P	P	05 51 32.3	-0.7
PINNC	Pines Island,	13.99	248	P	P	05 52 30.1	-0.8
DZM	Mont Dzumac	14.74	251	P	P	05 52 36.7	-1.6
DZM	Mont Dzumac	14.74	251	P	P	05 52 39.0	+0.7
	13nm,0.7s,baz=75,slow=16,SNR=18						
EIDS	Eidsvold	29.18	250	P	P	05 54 47.5	-0.2
EIDS				IAmb	IAmb	05 54 48.5	
	comp=Z,21nm,1.2s						
ARMA	Armidale	29.87	240	P	P	05 54 54.2	+0.4
ARMA				IAmb	IAmb	05 54 55.3	
	comp=Z,14nm,1.0s						
CAN	Canberra	33.65	232	P	P	05 55 26.1	+0.4
CAN				IAmb	IAmb	05 55 29.6	
	comp=Z,12nm,1.2s						
COEN	Coen	36.99	270	P	P	05 55 54.2	+0.7
TOO	Toolangi	37.12	231	P	P	05 55 55.0	+0.6
TOO				IAmb	IAmb	05 55 56.5	
	comp=Z,13nm,1.4s						
STKA	Stephens Creek	38.56	241	P	P	05 56 06.7	+0.5
STKA	Stephens Creek	38.56	241	P	P	05 56 06.6	+0.5
	comp=Z,7.5nm,0.5s,baz=94,slow=10,SNR=24						
	comp=Z,7.5nm,0.5s						
BBOO	Buckleboo	43.34	241	P	P	05 56 43.9	0.0
BBOO				IAmb	IAmb	05 56 44.5	
	comp=Z,20nm,0.9s						
WR8	Warramunga Arr	44.38	259	P	P	05 56 51.4	-0.8
WR8				IAmb	IAmb	05 56 52.2	
	comp=Z,16nm,1.2s						
WB0	Warramunga Arr	44.49	260	P	P	05 56 52.2	-0.8
WB0				IAmb	IAmb	05 56 53.0	
	comp=Z,6.6nm,0.6s						
WB2	Warramunga Arr	44.52	259	P	P	05 56 52.3	-0.9
WB2				IAmb	IAmb	05 56 53.2	
	comp=Z,8.3nm,0.7s						
WRAB	Tennant Creek	44.52	259	P	P	05 56 52.3	-0.9
WRAB				IAmb	IAmb	05 57 10.8	
	comp=Z,7.6nm,1.0s						
WRA	Warramunga Arr	44.53	259	P	P	05 56 52.4	-1.0
WRA	Warramunga Arr	44.53	259	P	P	05 56 52.3	-1.0
	comp=Z,4.7nm,0.5s,baz=95,slow=7.1,SNR=66						
WRA				PcP	PcP	05 58 23.7	-0.1
	comp=Z,0.3nm,0.4s,baz=92,slow=2.7,SNR=1.4						
	comp=Z,4.7nm,0.5s						
AS31	Alice Springs	44.70	254	P	P	05 56 54.4	-0.1
ASAR	Alice Springs	44.70	254	P	P	05 56 54.5	-0.1
ASAR	Alice Springs	44.70	254	P	P	05 56 54.4	-0.2
	comp=Z,49nm,0.6s,baz=88,slow=8.4,SNR=618						
ASAR				PcP	PcP	05 58 23.8	-0.6
	comp=Z,1.2nm,0.6s,baz=110,slow=3.6,SNR=2.0						
MTN	Manton Dam	48.68	268	P	P	05 57 23.9	-0.8
MTN				IAmb	IAmb	05 57 24.7	
	comp=Z,23nm,1.1s						
FORT	Forrest	49.93	245	P	P	05 57 32.9	-0.7
KNRA	Kununurra	50.38	264	P	P	05 57 36.9	-0.2
KNRA				IAmb	IAmb	05 57 37.3	
	comp=Z,11nm,0.7s						
FITZ	Fitzroy Crossi	52.92	261	P	P	05 57 55.3	0.0
PSA00	Pilbara Seismi	57.81	255	P	P	05 58 28.6	-0.6
MBWA	Marble Bar	57.98	256	P	P	05 58 29.3	-1.0
MBWA				IAmb	IAmb	05 58 34.9	
	comp=Z,29nm,1.5s						
MORW	Morawa	60.40	246	P	P	05 58 45.6	-0.7
GIRL	Giralia	62.80	253	P	P	05 59 02.9	+0.8
UGM	Wanagama	69.53	268	P	P	05 59 43.5	-0.4
QSPA	South Pole Qui	72.21	180	P	P	05 59 58.9	+0.1
QSPA	South Pole Qui	72.21	180	P	P	05 59 58.6	-0.1
	comp=Z,2.8nm,0.9s,baz=309,slow=1.4,SNR=8.5						
	comp=Z,2.8nm,0.9s						
P18K	Big Mountain,	79.28	12	P	P	06 00 37.6	-0.1
NVAR	Mina Array Bea	79.46	44	P	P	06 00 40.0	+0.7
	comp=Z,1.0nm,0.7s,baz=225,slow=8.3,SNR=10						
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	85.85	13	P	P	06 01 09.9	-0.5
	comp=Z,0.5nm,0.4s,baz=225,slow=5.1,SNR=9.0						
	comp=Z,0.5nm,0.4s						
TXAR	Lajitas Array	86.06	58	P	P	06 01 14.2	+1.8
	comp=Z,1.5nm,0.8s,baz=215,slow=6.5,SNR=15						
	comp=Z,1.5nm,0.8s						
PDAR	Pinedale Array	87.39	43	P	P	06 01 19.1	+0.6
	comp=Z,0.8nm,0.6s,baz=218,slow=3.4,SNR=11						
	comp=Z,0.8nm,0.6s						
BRTR	Keskin Array B	144.65	315	PKP	PKPab	06 08 04.8	0.0
	comp=Z,1.1nm,0.9s,baz=46,slow=3.5,SNR=4.5						

CATAC ***03*** *05:57:36.1±0.9, 12°.N±3°.×8°.8W±°., h1km±5km, M3.9/41, MLv3.9/41, Error ellipse: s-maj=7.9km s-min=1.6km az=28.4, confirmed*

IDC ***03*** *05:57:37.6±1.0, 12°.61N×87°.82W, h0km, mb3.9/10, mbtmp3.8/12, ML3.3/2, Error ellipse: s-maj=35.1km s-min=19.6km az=61.0*

SNET ***03*** *05:57:40.9±1.4, 12°.18N×88°.36W, h15km±6km, ML3.7*

ISC 03 05:57:36.2±1.5, 12°.07N±0°.05×88°.27W±0°.03, h2km±9km, n122, σ1.9/144, mb3.9/10, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	1.14	38	P	Pn	05 57 59.8	+0.4
CSGN				S	Sn	05 58 17.0	+1.3
CNCH	Conchagua	1.28	20	*i* P	Pn	05 58 02.0	+0.8
CNCH				IAML		05 58 29.4	
	comp=Z,3μm,0.3s						
CNCH	Conchagua	1.28	20	P	Pn	05 58 02.2	+0.9
CNCH	Conchagua	1.28	20	S	Sn	05 58 22.3	+3.2
LCND	La Caada	1.29	17	*e*P	Pn	05 58 01.9	+0.5
LCND				IAML		05 58 30.7	
	comp=Z,1μm,0.3s						
LCND	La Caada	1.29	17	P	Pn	05 58 02.2	+0.8
LCY	Lacayo	1.35	359	*e*P	Pn	05 58 03.2

RANC El Ranchito 1.36 359 P **Pn** **05 58 03.6 +1.2**
RANC El Ranchito 1.36 359 S **Sn** **05 58 24.0 +2.8**
BLLM Bellamira 1.37 1 *eP* **Pn** **05 58 03.6 +1.1**
BLLM IAML 05 58 31.9
comp=Z,779nm,0.5s
PACA Pacayal 1.40 358 *eP* **Pn** **05 58 04.2 +1.3**
PACA *eS* **Sn** **05 58 22.6 +0.5**
PACA Pacayal 1.40 358 P **Pn** **05 58 04.2 +1.3**
PACA Pacayal 1.40 358 S **Sn** **05 58 24.7 +2.6**
CNRM Centro Naciona 1.41 4 *i P* **Pn** **05 58 03.7 +0.8**
CNRM Centro Naciona 1.41 4 P **Pn** **05 58 04.0 +1.1**
CNRM Centro Naciona 1.41 4 S **Sn** **05 58 25.6 +3.5**
TECA Tecapa 1.44 351 *eP* **Pn** **05 58 04.3 +0.7**
TECA *eP* **Pn** **05 58 04.3 +0.7**
QUEN Al S del Volca 1.48 69 P **Pn** **05 58 04.4 +0.3**
HERN Volcan Telica 1.51 69 P **Pn** **05 58 04.1 -0.3**
HERN Volcan Telica 1.51 69 S **Sn** **05 58 25.7 +0.9**
POLN Al Sur del Vol 1.54 68 P **Pn** **05 58 04.7 -0.1**
POLN S **Sg** **05 58 27.4 +1.6**
TECO Alcaldia de Te 1.54 341 P **Pb** **05 58 06.6 +1.0**
TECO Alcaldia de Te 1.54 341 S **Sn** **05 58 28.4 +2.8**
PLRN Geotermica Pol 1.56 71 P **Pn** **05 58 04.9 -0.2**
PLRN S **Sg** **05 58 27.0 +0.7**
ROCN Rota Cerro Neg 1.56 73 P **Pn** **05 58 05.3 +0.2**
ROCN S **Sg** **05 58 27.4 +0.9**
PQSS Presa 15 de Se 1.57 350 *eP* **Pg** **05 58 06.5 +0.1**
PQSS Presa 15 de Se 1.57 350 P **Pg** **05 58 06.5 +0.1**
PQSS Presa 15 de Se 1.57 350 S **Sn** **05 58 29.5 +3.3**
CNGA Al SSO del Vol 1.59 74 P **Pn** **05 58 05.8 +0.3**
CNGA S **Sb** **05 58 28.2 +1.0**
CNGN Cerro Negro 1.60 74 P **Pn** **05 58 05.8 +0.6**
CNGN Cerro Negro 1.60 74 S **Sn** **05 58 27.5 +0.6**
ILCN San Idelfonso 1.62 72 P **Pn** **05 58 05.0 -0.9**
ILCN S **Sb** **05 58 28.6 +0.7**
FAGO Alcalda de S 1.63 6 *eP* **Pg** **05 58 09.1 +1.6**
FAGO *eS* **Sg** **05 58 27.3 -1.3**
UESV Universidad de 1.64 342 P **Pg** **05 58 08.4 +0.7**
UESV Universidad de 1.64 342 S **Sg** **05 58 31.3 +2.3**
COPN Copaltepe 1.65 86 P **Pn** **05 58 06.7 +0.4**
LEVN Ruinas Leon Vi 1.65 78 P **Pn** **05 58 06.7 +0.4**
LEVN S **Sn** **05 58 29.6 +1.4**
COEG Centro de Oper 1.66 339 P **Pg** **05 58 07.9 -0.1**
COEG Centro de Oper 1.66 339 S **Sg** **05 58 32.8 +3.3**
BC86 Nagarote 1.68 83 S **Sn** **05 58 29.2 +0.2**
SCLA Alcaldia de Sa 1.69 345 *eP* **Pg** **05 58 07.9 -0.7**
SCLA *eS* **Sg** **05 58 30.0 -0.4**
SCLA Alcaldia de Sa 1.69 345 P **Pg** **05 58 08.6 0.0**
SCLA Alcaldia de Sa 1.69 345 S **Sg** **05 58 33.2 +2.7**
CAHU Cacacuatique 1.70 2 *eP* **Pg** **05 58 08.4 -0.3**
LFRS El Faro 1.73 334 *i P* **Pb** **05 58 08.2 -0.6**
MOMN Momotombo 1.73 78 P **Pn** **05 58 07.6 +0.2**
MOMN S **Sn** **05 58 31.2 +1.1**
LALI Alcalda de L 1.75 324 S **Sg** **05 58 34.0 +1.7**
LALI Alcalda de L 1.75 324 P **Pg** **05 58 10.0 +0.3**
PAVA Las Pavas 1.76 339 *eP* **Pb** **05 58 09.1 -0.3**
PAVA Las Pavas 1.76 339 P **Pg** **05 58 09.4 -0.7**
PAVA Las Pavas 1.76 339 S **Sg** **05 58 35.6 +2.7**
LOMA Loma Larga 1.80 331 *eP* **Pb** **05 58 09.3 -0.7**
LOMA *eS* **Sb** **05 58 31.4 -1.7**
LOMA Loma Larga 1.80 331 P **Pb** **05 58 09.5 -0.5**
AMTN Mateare 1.81 84 S **Sn** **05 58 33.4 +1.3**
UDBS Universidad Do 1.85 332 P **Pg** **05 58 11.2 -0.6**
UDBS Universidad Do 1.85 332 S **Sg** **05 58 36.2 +0.4**
IGN Direccin Gen 1.86 332 S **Sg** **05 58 37.5 +1.5**
UTEC Universidad Te 1.86 331 P **Pg** **05 58 11.3 -0.6**
UTEC Universidad Te 1.86 331 S **Sg** **05 58 36.1 0.0**
UEES Universidad Ev 1.89 330 S **Sg** **05 58 38.3 +1.2**
UEES Universidad Ev 1.89 330 P **Pb** **05 58 11.3 -0.2**
APQ2 Apoyeque 1.91 86 P **Pn** **05 58 10.4 +0.5**
APQ2 S **Sn** **05 58 35.0 +0.5**
ABCN Banco Central 1.92 88 S **Sn** **05 58 35.6 +0.7**
PMON Piamonte 1.93 328 P **Pb** **05 58 11.4 -0.8**
PMON Piamonte 1.93 328 S **Sg** **05 58 39.2 +1.0**
CRUN El Crucero 1.93 92 P **Pn** **05 58 09.4 -0.9**
JAYA Jayaque - finc 1.95 324 *eP* **Pn** **05 58 11.1 +0.5**
JAYA Jayaque - finc 1.95 324 P **Pn** **05 58 11.2 +0.5**
JAYA Jayaque - finc 1.95 324 S **Sg** **05 58 38.4 -0.6**
ALLN Telcor Managua 1.96 87 S **Sn** **05 58 36.7 +1.0**
UNAN Cigeo UNAN 1.96 88 P **Pn** **05 58 11.6 +1.1**
UNAN S **Sn** **05 58 37.1 +1.3**
TISN Laguna Tiscapa 1.96 88 P **Pn** **05 58 10.9 +0.4**
R4DEC Barrio San Lui 1.98 87 P **Pn** **05 58 11.5 +0.6**
R4DEC Barrio San Lui 1.98 87 S **Sn** **05 58 36.7 +0.3**
CEDA San Andres 2.04 328 P **Pb** **05 58 15.8 -0.6**
CEDA San Andres 2.04 328 S **Sg** **05 58 41.4 -0.5**
MAS3 Al N del Volca 2.05 91 P **Pn** **05 58 12.1 +0.3**
MAS3 S **Sn** **05 58 38.5 +0.4**
SABN Sabanita 2.07 93 P **Pn** **05 58 12.0 -0.1**
LIMN Finca el Limon 2.11 62 P **Pn** **05 58 13.3 +0.5**
LLGN La Laguna 2.19 343 P **Pb** **05 58 15.1 -1.5**
CEVE Cerro Verde 2.19 323 *eP* **Pb** **05 58 15.4 -1.4**
CEVE Cerro Verde 2.19 323 P **Pb** **05 58 16.0 -0.8**
CEVE Cerro Verde 2.19 323 S **Sg** **05 58 45.6 -1.1**
SBLS San Blas 2.20 323 *eP* **Pn** **05 58 15.2 +1.2**
TGUH Tegucigalpa,Un 2.21 26 P **Pb** **05 58 15.6 -1.4**
TGUH S **Sg** **05 58 46.2 -1.1**
SNJE San Jose 2.21 324 *eP* **Pn** **05 58 15.3 +1.1**
UNIC Universidad Ca 2.27 327 S **Sg** **05 58 47.6 -1.8**
NUBE Las Nubes 2.34 321 *eP* **Pn** **05 58 17.0 +1.1**
NUBE Las Nubes 2.34 321 P **Pn** **05 58 17.2 +1.2**
NUBE Las Nubes 2.34 321 S **Sb** **05 58 48.7 -0.2**
LOAL Lomas de Alarc 2.42 323 S **Sb** **05 58 50.7 -0.2**
SLOZ Alcaldia de Sa 2.44 323 P **Pn** **05 58 18.9 +1.6**
SLOZ Alcaldia de Sa 2.44 323 S **Sb** **05 58 50.8 -0.8**
MATN Matagalpa 2.45 69 P **Pn** **05 58 18.0 +0.6**
MATN Matagalpa 2.45 69 S **Sb** **05 58 50.9 -0.9**
RCVN Varillal2 2.53 53 P **Pn** **05 58 19.9 +1.3**
RCVN Varillal2 2.53 53 S **Sb** **05 58 53.3 -0.8**
MTO3 Montecristo 2.55 336 *eP* **Pn** **05 58 20.5 +1.6**
MTO3 Montecristo 2.55 336 P **Pb** **05 58 20.8 -2.1**
MTO3 Montecristo 2.55 336 S **Sb** **05 58 53.9 -1.0**
RCPN Sur Rio San Ju 2.58 55 P **Pn** **05 58 20.4 +1.3**
BOAB BOACO BROADBAN 2.58 81 S **Sn** **05 58 53.0 +1.9**
BOAB BOACO BROADBAN 2.58 81 P **Pn** **05 58 19.8 +0.8**
JAPN Al SSO del Vol 2.60 102 P **Pn** **05 58 19.2 -0.1**
ACON Acoyapa 3.03 92 S **Sn** **05 59 03.5 +1.2**
ACON Acoyapa 3.03 92 P **Pn** **05 58 24.9 -0.5**
JTS Las Juntas de 3.71 118 Pn **Pn** **05 58 36.0 +1.4**
comp=Z,1.4nm,0.3s,baz=310,slow=17,SNR=12
JTS Sn **Sn** **05 59 17.1 -1.9**
comp=Z,3.1nm,0.3s,baz=303,slow=21,SNR=3.5
comp=Z,3.8nm,0.4s
CMIG Matias Romero 8.12 309 Pn **Pn** **05 59 38.0 +2.8**
comp=Z,0.6nm,0.3s,baz=132,slow=7.6,SNR=4.5
CMIG Sn **Sn** **06 01 06.9 -0.7**
comp=Z,0.2nm,0.3s,baz=267,slow=7.5,SNR=1.8
comp=Z,1.1nm,0.3s
TXAR Lajitas Array 22.37 322 P **P** **06 02 37.0 +0.9**
comp=Z,1.8nm,0.7s,baz=144,slow=11,SNR=26
comp=Z,1.8nm,0.7s
TKL Tuckaleechee C 23.84 9 P **P** **06 02 46.4 -4.5**
comp=Z,6.1nm,0.9s,baz=197,slow=11,SNR=4.1
comp=Z,6.1nm,0.9s
SADO Sadowa 33.52 12 P P 06 04 12.9 -4.3
comp=Z,6.0nm,1.0s,baz=216,slow=8.3,SNR=4.1
comp=Z,6.0nm,1.0s
PDAR Pinedale Array 35.74 333 P **P** **06 04 36.4 -0.4**
comp=Z,0.5nm,0.9s,baz=126,slow=12,SNR=3.7
PDAR PcP **PcP** **06 07 05.7 +0.7**
comp=Z,0.5nm,0.7s,baz=131,slow=5.8,SNR=5.0
comp=Z,0.5nm,0.9s
NVAR Mina Array Bea 37.47 320 P **P** **06 04 51.8 +0.2**
comp=Z,0.2nm,0.6s,baz=121,slow=4.2,SNR=1.8
NVAR PcP **PcP** **06 07 10.6 +0.4**
comp=Z,0.4nm,0.7s,baz=175,slow=3.7,SNR=4.3
comp=Z,0.2nm,0.6s
ULM Lac du Bonnet 38.58 352 P **P** **06 04 58.0 -2.6**
comp=Z,5.2nm,0.5s,baz=173,slow=8.1,SNR=12
comp=Z,5.2nm,0.5s
SCHQ Schefferville 45.88 17 P **P** **06 05 57.5 -2.5**
comp=Z,4.9nm,0.9s,baz=207,slow=6.4,SNR=5.1
comp=Z,4.9nm,0.9s
YKA Yellowknife Ar 53.77 345 P **P** **06 06 58.5 -1.5**
comp=Z,0.8nm,0.7s,baz=140,slow=8.0,SNR=17
YKA PcP **PcP** **06 08 05.7 -0.1**
comp=Z,0.6nm,0.9s,baz=152,slow=4.5,SNR=5.4
comp=Z,0.8nm,0.7s
PLCA Paso Flores 55.03 164 P **P** **06 07 14.1 +4.6**
comp=Z,1.2nm,0.8s,baz=343,slow=11,SNR=2.8
comp=Z,1.2nm,0.8s
ILAR Eielson Array 66.05 336 P **P** **06 08 23.8 -0.5**
comp=Z,0.4nm,0.9s,baz=112,slow=7.2,SNR=3.5
comp=Z,0.4nm,0.9s
CMAR Chiang Mai Arr 148.85 347 PKPbc **PKPdf** **06 17 25.4 +2.7**
comp=Z,1.5nm,0.3s,baz=352,slow=3.5,SNR=5.0

---

*UCR **03** 06:01:35.6±1.2, 12°.22N×88°.50W, h30km, MW4.1*
*CATAC **03** 06:01:36.7±0.4, 12°.N±2°×8°.8W±°, h14km±3km, M3.5/32, MLv3.5/32, Error ellipse: s-maj=5.2km s-min=1.9km az=25.3, confirmed*
*SNET **03** 06:01:37.8±1.6, 12°.13N×88°.36W, h15km±13km, ML3.8*
ISC 03 06:01:35.5±1.4,**12°.10N**±0°.05×**88°.31W**±0°.03,**h11**km±10km,
n94,σ1**9**02/110,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.14**	**40**	P	**Pn**	**06 01 58.2**	**+0.7**
CSGN				S	**Sn**	**06 02 13.6**	**+0.4**
CNCH	**Conchagua**	**1.26**	**22**	*eP*	**Pg**	**06 01 59.5**	**-0.3**
CNCH				IAML		06 02 22.3	
comp=Z,1μm,0.4s							
CNCH	**Conchagua**	**1.26**	**22**	P	**Pg**	**06 01 59.7**	**0.0**
CNCH	**Conchagua**	**1.26**	**22**	S	**Sn**	**06 02 17.1**	**+0.8**
LCND	**La Caada**	**1.27**	**19**	*eP*	**Pg**	**06 01 59.6**	**-0.4**
LCND				*eP*	**Pg**	**06 02 00.1**	**+0.1**
LCND	**La Caada**	**1.27**	**19**	P	**Pg**	**06 02 00.1**	**+0.1**
LCY	**Lacayo**	**1.32**	**1**	*eP*	**Pb**	**06 02 00.4**	**0.0**
VSM	**San Miguel**	**1.32**	**1**	*eP*	**Pg**	**06 02 01.2**	**+0.3**
RANC	**El Ranchito**	**1.33**	**1**	*eP*	**Pg**	**06 02 00.9**	**-0.2**
RANC	**El Ranchito**	**1.33**	**1**	P	**Pg**	**06 02 01.2**	**+0.1**
RANC	**El Ranchito**	**1.33**	**1**	S	**Sg**	**06 02 19.7**	**+1.3**
BLLM	**Bellamira**	**1.34**	**3**	*eP*	**Pg**	**06 02 01.0**	**-0.3**
PACA	**Pacayal**	**1.36**	**359**	*eP*	**Pg**	**06 02 01.8**	**0.0**
PACA				IAML		06 02 23.4	
comp=Z,3μm,0.3s							
PACA	**Pacayal**	**1.36**	**359**	P	**Pg**	**06 02 02.0**	**+0.2**
PACA	**Pacayal**	**1.36**	**359**	S	**Sg**	**06 02 20.3**	**+0.8**
CRIN	**San Cristobal**	**1.37**	**64**	*eP*	**Pb**	**06 02 01.1**	**-0.1**
CRIN	**San Cristobal**	**1.37**	**64**	P	**Pb**	**06 02 00.9**	**-0.3**
CRIN	**San Cristobal**	**1.37**	**64**	S	**Sg**	**06 02 19.2**	**-0.4**
CNRM	**Centro Naciona**	**1.38**	**6**	S	**Sg**	**06 02 21.1**	**+1.2**
TECA	**Tecapa**	**1.40**	**352**	*eP*	**Pb**	**06 02 01.8**	**0.0**
TECA				*eP*	**Pg**	**06 02 02.1**	**-0.4**
TECA				IAML		06 02 32.2	
comp=Z,911nm,0.3s							
TECO	**Alcaldia de Te**	**1.50**	**342**	P	**Pg**	**06 02 04.7**	**+0.3**
TECO	**Alcaldia de Te**	**1.50**	**342**	S	**Sg**	**06 02 25.6**	**+1.6**
QUEN	**Al S del Volca**	**1.51**	**71**	P	**Pn**	**06 02 02.0**	**-0.5**
QUEN				S	**Sn**	**06 02 21.2**	**-1.0**
HERN	**Volcan Telica**	**1.53**	**70**	P	**Pn**	**06 02 03.0**	**+0.1**
HERN	**Volcan Telica**	**1.53**	**70**	S	**Sn**	**06 02 22.9**	**0.0**
PQSS	**Presa 15 de Se**	**1.54**	**351**	*eP*	**Pb**	**06 02 04.2**	**+0.2**
PQSS				*eS*	**Sg**	**06 02 25.5**	**+0.4**
PQSS	**Presa 15 de Se**	**1.54**	**351**	P	**Pg**	**06 02 04.5**	**-0.5**
POLN	**Al Sur del Vol**	**1.56**	**69**	P	**Pn**	**06 02 03.3**	**0.0**
POLN				S	**Sn**	**06 02 23.7**	**+0.2**
PLRN	**Geotermica Pol**	**1.58**	**72**	P	**Pn**	**06 02 02.7**	**-0.8**
PLRN				S	**Sn**	**06 02 23.8**	**-0.2**
ROCN	**Rota Cerro Neg**	**1.59**	**74**	P	**Pn**	**06 02 03.7**	**+0.1**
ROCN				S	**Sn**	**06 02 24.2**	**0.0**
UESV	**Universidad de**	**1.60**	**343**	P	**Pg**	**06 02 06.4**	**+0.1**
UESV	**Universidad de**	**1.60**	**343**	S	**Sg**	**06 02 27.7**	**+0.6**
COEG	**Centro de Oper**	**1.61**	**340**	P	**Pb**	**06 02 05.5**	**+0.1**
COEG	**Centro de Oper**	**1.61**	**340**	S	**Sg**	**06 02 28.5**	**+1.0**
CNGN	**Cerro Negro**	**1.62**	**76**	S	**Sn**	**06 02 25.1**	**0.0**
CNGN	**Cerro Negro**	**1.62**	**76**	P	**Pb**	**06 02 04.5**	**-1.0**
ILCN	**San Idelfonso**	**1.64**	**73**	S	**Sn**	**06 02 24.4**	**-1.1**
SCLA	**Alcaldia de Sa**	**1.65**	**346**	*eP*	**Pb**	**06 02 05.7**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.65**	**346**	P	**Pb**	**06 02 06.2**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.65**	**346**	S	**Sg**	**06 02 28.9**	**+0.3**
COPN	**Copaltepe**	**1.68**	**87**	*eP*	**Pn**	**06 02 04.0**	**-0.9**
COPN				*eS*	**Sg**	**06 02 29.5**	**-0.1**
COPN	**Copaltepe**	**1.68**	**87**	P	**Pn**	**06 02 04.6**	**-0.3**
LALI	**Alcalda de L**	**1.70**	**325**	S	**Sg**	**06 02 30.6**	**+0.4**
PAVA	**Las Pavas**	**1.72**	**339**	P	**Pb**	**06 02 07.2**	**-0.1**
PAVA	**Las Pavas**	**1.72**	**339**	S	**Sg**	**06 02 31.6**	**+0.7**
LOMA	**Loma Larga**	**1.75**	**331**	P	**Pg**	**06 02 08.5**	**-0.7**
LOMA	**Loma Larga**	**1.75**	**331**	S	**Sg**	**06 02 31.8**	**-0.1**
MOMN	**Momotombo**	**1.76**	**80**	P	**Pn**	**06 02 05.4**	**-0.6**
MOMN				S	**Sn**	**06 02 27.9**	**-0.5**
UDBS	**Universidad Do**	**1.81**	**333**	S	**Sg**	**06 02 33.2**	**-0.5**
UEES	**Universidad Ev**	**1.85**	**331**	P	**Pb**	**06 02 09.8**	**+0.5**
UEES	**Universidad Ev**	**1.85**	**331**	S	**Sg**	**06 02 34.7**	**-0.3**
PMON	**Piamonte**	**1.88**	**329**	P	**Pb**	**06 02 09.4**	**-0.6**
PMON	**Piamonte**	**1.88**	**329**	S	**Sg**	**06 02 35.3**	**-0.8**
JAYA	**Jayaque - finc**	**1.91**	**324**	*eP*	**Pb**	**06 02 09.2**	**-1.2**
JAYA				*eS*	**Sn**	**06 02 31.8**	**-0.5**
JAYA	**Jayaque - finc**	**1.91**	**324**	P	**Pb**	**06 02 09.3**	**-1.2**
JAYA	**Jayaque - finc**	**1.91**	**324**	S	**Sg**	**06 02 35.5**	**-1.3**
APQ2	**Apoyeque**	**1.94**	**87**	P	**Pn**	**06 02 08.3**	**-0.1**
APQ2				S	**Sn**	**06 02 32.7**	**-0.2**
UNAN	**Cigeo UNAN**	**1.99**	**89**	P	**Pn**	**06 02 08.7**	**-0.5**
UNAN				S	**Sn**	**06 02 33.3**	**-0.9**
TISN	**Laguna Tiscapa**	**2.00**	**88**	P	**Pn**	**06 02 08.8**	**-0.4**
CEDA	**San Andres**	**2.00**	**328**	S	**Sb**	**06 02 37.8**	**+0.9**
R4DEC	**Barrio San Lui**	**2.02**	**88**	P	**Pn**	**06 02 09.2**	**-0.2**
R4DEC	**Barrio San Lui**	**2.02**	**88**	S	**Sn**	**06 02 33.6**	**-1.1**
MAS3	**Al N del Volca**	**2.09**	**92**	P	**Pn**	**06 02 09.8**	**-0.7**
MAS3				S	**Sn**	**06 02 35.5**	**-1.0**
LIMN	**Finca el Limon**	**2.13**	**63**	P	**Pn**	**06 02 10.8**	**-0.3**
CEVE	**Cerro Verde**	**2.15**	**323**	P	**Pb**	**06 02 13.4**	**-1.2**
LLGN	**La Laguna**	**2.15**	**343**	P	**Pb**	**06 02 13.1**	**-1.4**
SBLS	**San Blas**	**2.15**	**324**	*eP*	**Pb**	**06 02 13.0**	**-1.7**
TGUH	**Tegucigalpa,Un**	**2.20**	**27**	P	**Pb**	**06 02 13.6**	**-1.7**
TGUH				S	**Sn**	**06 02 40.9**	**+1.6**
UNIC	**Universidad Ca**	**2.23**	**327**	S	**Sb**	**06 02 43.0**	**-0.6**
NUBE	**Las Nubes**	**2.30**	**322**	*eP*	**Pn**	**06 02 14.8**	**+1.3**
NUBE				*eS*	**Sn**	**06 02 41.4**	**-0.5**
NUBE	**Las Nubes**	**2.30**	**322**	P	**Pb**	**06 02 15.4**	**-1.6**
SLOZ	**Alcaldia de Sa**	**2.40**	**323**	P	**Pb**	**06 02 16.9**	**-1.8**
SLOZ	**Alcaldia de Sa**	**2.40**	**323**	S	**Sb**	**06 02 48.0**	**-0.4**
MATN	**Matagalpa**	**2.47**	**70**	P	**Pn**	**06 02 16.3**	**+0.5**
MTO3	**Montecristo**	**2.51**	**336**	P	**Pb**	**06 02 19.2**	**-1.5**
MTO3	**Montecristo**	**2.51**	**336**	S	**Sb**	**06 02 50.5**	**-1.3**
RCVN	**Varillal2**	**2.54**	**54**	P	**Pn**	**06 02 17.4**	**+0.6**
RCVN	**Varillal2**	**2.54**	**54**	S	**Sn**	**06 02 49.2**	**+1.3**
RCPN	**Sur Rio San Ju**	**2.59**	**56**	P	**Pn**	**06 02 17.8**	**+0.3**
BOAB	**BOACO BROADBAN**	**2.61**	**82**	P	**Pn**	**06 02 17.8**	**+0.2**
ACON	**Acoyapa**	**3.07**	**92**	P	**Pn**	**06 02 23.2**	**-0.7**
PLVR	**Palo Verde**	**3.38**	**121**	*eP*	**Pn**	**06 02 29.4**	**+1.0**
CUI	**Cuipilapa**	**3.40**	**115**	*eP*	**Pn**	**06 02 29.3**	**+0.8**
QUEB	**Quebradon, Cot**	**3.65**	**113**	*eP*	**Pn**	**06 02 33.9**	**+1.8**
JTS	**Las Juntas de**	**3.75**	**118**	*eP*	**Pn**	**06 02 34.5**	**+1.2**
TRB2	**Turrubares**	**4.37**	**119**	*eP*	**Pn**	**06 02 44.4**	**+2.5**
PICV	**PH. Pirrs**	**4.73**	**121**	*eP*	**Pn**	**06 02 49.1**	**+2.3**
PISJ	**San Jernim**	**4.79**	**120**	*eP*	**Pn**	**06 02 49.3**	**+1.6**
ABE2	**San Pablo**	**4.81**	**119**	*eP*	**Pn**	**06 02 50.5**	**+2.4**
LCR2	**La Lucha 2**	**4.83**	**119**	*eP*	**Pn**	**06 02 50.7**	**+2.3**
LLNJ	**Naranjito**	**4.89**	**122**	*eP*	**Pn**	**06 02 50.9**	**+1.9**
VERB	**Verbena**	**5.01**	**115**	*eP*	**Pn**	**06 02 54.6**	**+3.8**
SAJE	**San Jermim**	**5.45**	**120**	*eP*	**Pn**	**06 02 58.4**	**+1.5**
PIRO	**Carate, Puerto**	**6.12**	**126**	*eP*	**Pn**	**06 03 07.3**	**+1.5**

---

*NEIC **03** 06:46:10.3±1.1, 23°.2S±0°.1×178°.10W±0°.07, h311km±8km, mb4.3/25, Error ellipse: s-maj=20.6km s-min=7.2km az=159.0*
*IDC **03** 06:46:10.4±2.8, 23°.12S×178°.15W, h312km±25km, mb3.4/6, mbtmp4.1/9, Error ellipse: s-maj=24.6km s-min=18.4km az=120.0*
ISC 03 06:46:08.7±0.6,**23°.30S**±0°.09×**178°.11W**±0°.09,**h300**km,
n48,σ1**9**00/49,**mb4.2**/17,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.60**	**326**		**Pn**	**06 47 45.5**	**+0.1**
MSVF	**Nonsavu**	**6.60**	**326**	P	**Pn**	**06 47 45.3**	**-0.1**
5.1nm,0.6s,baz=148,slow=13,SNR=6.1							
NIUE	**Niue**	**8.71**	**63**		**Pn**	**06 48 11.5**	**+0.5**
DZM	**Mont Dzumac**	**14.31**	**272**		**Pn**	**06 49 19.6**	**+0.5**
DZM	**Mont Dzumac**	**14.31**	**272**	P	**Pn**	**06 49 19.4**	**+0.3**
7.3nm,1.0s,baz=87,slow=19,SNR=5.0							
URZ	**Urewera**	**15.46**	**194**	P	**Pn**	**06 49 31.9**	**-0.5**
3.3nm,0.3s,baz=334,slow=3.1,SNR=14							
URZ				S	**S**	**06 52 16.6**	**-1.7**
6.9nm,0.4s,baz=215,slow=21,SNR=12							
BKZ	**Black Stump Fm**	**16.47**	**195**	P	**P**	**06 49 40.5**	**-1.3**
BKZ				IAmb	IAmb	06 49 55.5	
comp=Z,18nm,1.3s							
QRZ	**Quartz Range**	**19.17**	**202**	P	**P**	**06 50 12.3**	**+1.6**
EIDS	**Eidsvold**	**28.12**	**259**	P	**P**	**06 51 34.3**	**+0.6**
PMG	**Port Moresby**	**35.96**	**287**	P	**P**	**06 52 42.8**	**+1.1**
STKA	**Stephens Creek**	**36.55**	**247**	P	**P**	**06 52 48.4**	**+1.9**
BBOO	**Buckleboo**	**41.27**	**246**	P	**P**	**06 53 25.9**	**+0.6**
BBOO				IAmb	IAmb	06 53 52.2	
comp=Z,27nm,1.4s							
AS31	**Alice Springs**	**43.84**	**260**	P	**P**	**06 53 44.4**	**-1.7**
ASAR	**Alice Springs**	**43.84**	**260**	P	**P**	**06 53 44.8**	**-1.3**
ASAR	**Alice Springs**	**43.84**	**260**	P	**P**	**06 53 47.0**	**+0.9**
comp=Z,3.4nm,0.8s,baz=93,slow=7.8,SNR=29							
comp=Z,3.4nm,0.8s							
WR8	**Warramunga Arr**	**44.03**	**265**	P	**P**	**06 53 47.4**	**-0.2**
WR8				IAmb	IAmb	06 54 23.7	
comp=Z,19nm,1.4s							
WB0	**Warramunga Arr**	**44.17**	**265**	P	**P**	**06 53 48.7**	**0.0**
WRAB	**Tennant Creek**	**44.17**	**265**	P	**P**	**06 53 48.7**	**0.0**
WRA	**Warramunga Arr**	**44.18**	**265**	P	**P**	**06 53 48.6**	**-0.2**
WRA	**Warramunga Arr**	**44.18**	**265**	P	**P**	**06 53 49.0**	**+0.3**
comp=Z,5.0nm,0.7s,baz=89,slow=5.8,SNR=38							
comp=Z,5.0nm,0.7s							
MTN	**Manton Dam**	**49.15**	**273**	P	**P**	**06 54 26.4**	**-0.6**
MTN				IAmb	IAmb	06 54 41.9	
comp=Z,31nm,1.3s							
KNRA	**Kununurra**	**50.43**	**269**	P	**P**	**06 54 37.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.61**	**265**	P	**P**	**06 54 53.1**	**+0.4**
GIRL	**Giralia**	**61.74**	**256**	P	**P**	**06 55 53.0**	**-3.1**
QSPA	**South Pole Qui**	**66.78**	**180**	P	**P**	**06 56 30.0**	**+1.8**
QSPA	**South Pole Qui**	**66.78**	**180**	P	**P**	**06 56 30.4**	**+2.3**
comp=Z,2.6nm,0.9s,baz=77,slow=1.1,SNR=8.1							
comp=Z,2.6nm,0.9s							
NVAR	**Mina Array Bea**	**83.12**	**43**	P	**P**	**06 58 02.0**	**+0.5**
comp=Z,0.5nm,0.7s,baz=231,slow=6.0,SNR=3.8							
comp=Z,0.5nm,0.7s							
N25K	**Chitina, Valde**	**88.80**	**15**	P	**P**	**06 58 28.8**	**+0.4**
N25K				IAmb	IAmb	06 58 29.7	
comp=Z,3.8nm,0.7s							
CAST	**Castle Rocks**	**88.83**	**11**	P	**P**	**06 58 27.3**	**-1.1**
CAST				IAmb	IAmb	06 58 28.0	
comp=Z,3.6nm,0.8s							
GLB	**Gilahina Butte**	**88.85**	**16**	P	**P**	**06 58 28.9**	**+0.3**
GLB				IAmb	IAmb	06 58 29.7	
comp=Z,3.8nm,0.7s							
KTH	**Kantishna Hill**	**89.17**	**12**	P	**P**	**06 58 29.4**	**-0.7**
KTH				IAmb	IAmb	06 58 29.9	
comp=Z,5.6nm,1.0s							
TRF	**Thorofare Moun**	**89.19**	**12**	P	**P**	**06 58 29.9**	**-0.4**
RND	**Reindeer**	**89.44**	**13**	P	**P**	**06 58 31.5**	**+0.2**
RND				IAmb	IAmb	06 58 32.5	
comp=Z,4.1nm,0.8s							
M27K	**Edge Creek, AK**	**90.12**	**16**	P	**P**	**06 58 34.9**	**+0.3**
M27K				IAmb	IAmb	06 58 38.9	
comp=Z,6.0nm,1.3s							
WRH	**Wood River Hil**	**90.55**	**13**	P	**P**	**06 58 36.5**	**+0.1**
WRH				IAmb	IAmb	06 58 58.8	
comp=Z,4.2nm,1.3s							
HDA	**Harding Lake**	**90.72**	**13**	P	**P**	**06 58 36.6**	**-0.6**
BCAR	**Beaver Creek A**	**90.73**	**16**	P	**P**	**06 58 37.0**	**-0.4**
CCB	**Clear Creek Bu**	**90.76**	**13**	P	**P**	**06 58 36.7**	**-0.6**
CCB				IAmb	IAmb	06 58 37.4	
comp=Z,3.8nm,1.2s							
ILAR	**Eielson Array**	**91.05**	**13**	P	**P**	**06 58 38.2**	**-0.5**
comp=Z,0.3nm,0.4s,baz=226,slow=5.2,SNR=7.0							
comp=Z,0.3nm,0.4s							
PDAR	**Pinedale Array**	**91.06**	**43**	P	**P**	**06 58 40.0**	**+0.4**
comp=Z,0.3nm,0.6s,baz=354,slow=24,SNR=2.9							
comp=Z,0.3nm,0.6s							
BVAR	**Borovoye Array**	**121.13**	**319**	PKP	**PKPdf**	**07 04 24.9**	**-0.7**
comp=Z,0.6nm,0.4s,baz=106,slow=2.1,SNR=4.7							
SPITS	**Spitsbergen Ar**	**124.64**	**356**	PKP	**PKPdf**	**07 04 31.5**	**-0.1**
comp=Z,7.9nm,0.9s,baz=61,slow=3.6,SNR=2.8					

ML2.4/2, Error ellipse: s-maj=23.2km s-min=16.6km az=62.0
*NNC **03** 07:05:13.2±4.2, 54°.18N×86°.45E, h8km±18km, mb3.2, mpv2.9, Error ellipse: s-maj=28.9km s-min=22.9km az=3.0, Suspected Mining explosion.*

ISC 03 07:05:06.3±4.6, 54°.4N±0°.2×86°.9E±0°.2, h0km, n7, σ1§87/8, 5C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**250**	I	I	07 14 05.0	
	baz=74,slow=323,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.29**	**250**	Pg	**Pn**	**07 05 30.1**	**-1.4**
	1.2nm,0.3s,baz=71,slow=18,SNR=19						
ZALV				Lg	Lg	07 05 51.0	
	1.8nm,0.3s,baz=70,slow=28,SNR=9.9						
KURK	**Kurchatov**	**6.24**	**237**	⇑Lg	Lg	07 08 20.4	
	6.3nm,1.0s						
KURBB	**Kurchatov Arra**	**6.34**	**237**	Pn	**Pn**	**07 06 41.6**	**+0.6**
	0.1nm,0.3s,baz=55,slow=14,SNR=12						
KURBB				Sn	**Sn**	**07 07 56.6**	**+2.6**
	baz=54,slow=28,SNR=1.1						
KURBB				Lg	Lg	07 08 28.8	
	baz=56,slow=33,SNR=5.3						
	1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**6.34**	**237**	⇑Pn	**Pn**	**07 06 42.5**	**+1.5**
	2.4nm,0.7s						
KURBB				⇑Sn	**Sn**	**07 07 52.3**	**-1.7**
	2.9nm,1.0s						
KURBB				⇑Lg	Lg	07 08 24.8	
	14nm,1.2s						
MK31	**Makanchi Array**	**8.16**	**203**	⇓Pn	Pn	07 07 07.7	+1.8
	0.1nm,0.4s,baz=28,slow=14,SNR=6.4						
MK31				⇑Sn	**Sn**	**07 08 38.1**	**-0.6**
	0.4nm,0.7s,baz=28,slow=31,SNR=5.5						
MK31				⇓Lg	Lg	07 09 22.9	
	2.9nm,0.9s,baz=29,slow=30,SNR=4.3						
MKAR	**Makanchi Array**	**8.16**	**203**	Pn	**Pn**	**07 07 06.5**	**+0.6**
	0.1nm,0.3s,baz=24,slow=14,SNR=4.3						
MKAR				Sn	**Sn**	**07 08 37.2**	**-1.5**
	baz=13,slow=32,SNR=1.4						
MKAR				Lg	Lg	07 09 21.7	
	baz=23,slow=33,SNR=7.0						
	0.1nm,0.3s						

TXNET 03 07:05:54.2, 31°.4N±0°.7×103°.5W±0°.6, h3km, ML1.6/6, 1D, Error ellipse: s-maj=1.1km s-min=0.8km az=23.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.01**	**74**	⇓P	Pg	07 05 55.1	+0.2
PCOS				S	Sg	07 05 55.8	+0.4
TPB07	**Mentone**	**0.21**	**324**	P	Pg	07 05 59.1	+0.7
TPB07				S	Sg	07 06 02.5	+1.3
TPB10	**Southeast of T**	**0.23**	**239**	P	Pg	07 05 60.0	+1.2
TPB10				S	Sg	07 06 03.6	+1.8
PECS	**Pecos**	**0.30**	**263**	P	Pg	07 06 00.8	+0.8
PECS				S	Sg	07 06 05.5	+1.6
TPB04	**Verhalen**	**0.31**	**135**	S	Sg	07 06 05.8	+1.7
TPB03	**Saragosa**	**0.32**	**179**	S	Sb	07 06 07.7	-0.6
TPB06	**Permian Basin**	**0.35**	**47**	P	Pb	07 06 02.4	-0.8
TPB06				S	Sb	07 06 08.4	-0.8
TPB16	**Coyonosa**	**0.36**	**141**	S	Sb	07 06 09.1	-0.4
TPB12	**Southwest of T**	**0.42**	**243**	P	Pg	07 06 03.0	+0.7
TPB12				S	Sb	07 06 09.8	-1.4
TPB01	**Permian Basin**	**0.51**	**206**	P	Pg	07 06 04.9	+0.8
TPB01				S	Sb	07 06 12.7	-1.1
TPB05	**Hovey Rd**	**0.51**	**161**	S	Sb	07 06 13.4	-0.5
MNHN	**Monahans**	**0.65**	**96**	P	Pg	07 06 07.3	+0.5
MNHN				S	Sb	07 06 17.0	-0.9
TPB11	**China Draw**	**0.69**	**320**	S	Sg	07 06 17.0	+0.7
TPB08	**Permian Basin**	**0.73**	**134**	S	Sb	07 06 20.2	0.0
ALPN	**Alpine**	**1.03**	**186**	P	Pb	07 06 14.6	-0.3
VHRN	**Van Horn**	**1.40**	**244**	P	Pn	07 06 20.6	-0.2
VHRN				S	Sn	07 06 40.6	+0.7
MNTX	**Cornudas Mount**	**1.61**	**281**	P	Pg	07 06 25.3	+0.1
MNTX				S	Sg	07 06 46.3	+0.1
SAND	**Sanderson**	**1.88**	**140**	P	Pb	07 06 29.7	+0.4
SAND				S	Sg	07 06 55.2	+0.5
TX31	**Lajitas Ar. Si**	**2.07**	**184**	P	Pb	07 06 31.8	-0.7
TX31				S	Sb	07 06 59.5	+0.9
OZNA	**Ozona**	**2.11**	**103**	P	Pb	07 06 31.9	-1.3
OZNA				S	Sb	07 07 00.7	+0.9

*IGQ **03** 07:16:13.7±0.2, 2°.5±2°.7×7°.9W±°, h56km±4km, MLv3.7/42*

ISC 03 07:16:13.5±1.4, 2°.31S±0°.04×79°.30W±0°.04, h71km±7km, n98, σ1§18/104, 22C-23D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COHC	**Cochancay**	**0.16**	**163**	S	**Sn**	**07 16 32.5**	**+0.7**
COHC				⇑P	**Pn**	**07 16 23.3**	**-0.8**
COHC	**Cochancay**	**0.16**	**163**	P	**Pn**	**07 16 23.3**	**-0.8**
COHC				S	**Sn**	**07 16 32.4**	**+0.5**
MILO	**Milagro-Astudi**	**0.26**	**278**	S	**Sn**	**07 16 35.2**	**+2.5**
MILO				⇑P	**Pn**	**07 16 24.8**	**+0.2**
GYE3	**Ecuador-Guayaq**	**0.62**	**285**	S	**Sn**	**07 16 35.8**	**-2.2**
GYE3				⇓P	**Pn**	**07 16 27.2**	**-0.4**
AZOG	**Ecuador-Azogue**	**0.63**	**134**	S	**Sn**	**07 16 39.6**	**+0.8**
AZOG				⇑P	**Pn**	**07 16 28.0**	**-0.1**
JSCH	**Cashca Tororas**	**0.68**	**29**	⇓P	**Pn**	**07 16 27.6**	**-1.1**
ACUE	**Ecuador-Cuenca**	**0.68**	**150**	⇑P	**Pn**	**07 16 28.0**	**-0.8**
AGUAY	**Guayaquil**	**0.70**	**292**	S	**Sn**	**07 16 40.0**	**+0.4**
AGUAY				⇓P	**Pn**	**07 16 28.0**	**-0.5**
AGRD	**Ecuador-Guaran**	**0.80**	**22**	⇓P	**Pn**	**07 16 28.9**	**-1.1**
ARIO	**Riobamba**	**0.89**	**43**	P	**Pn**	**07 16 30.5**	**-0.6**
CHSH	**Refugio Sur-Vo**	**0.92**	**28**	⇓P	**Pn**	**07 16 31.0**	**-0.8**
TAMH	**Tambohuasha Ch**	**0.93**	**34**	⇓P	**Pn**	**07 16 31.2**	**-0.5**
PORT	**Chimborazo Vol**	**1.00**	**32**	⇓P	**Pn**	**07 16 32.4**	**-0.3**
IGUA	**Igualata**	**1.05**	**39**	⇓P	**Pn**	**07 16 32.7**	**-0.6**
ISPG	**Isla Puna-Puer**	**1.08**	**233**	⇓P	**Pn**	**07 16 34.7**	**+1.5**
BOSC	**San Juan Bosco**	**1.16**	**136**	⇓P	**Pn**	**07 16 34.5**	**+0.2**
ARRY	**Arrayan**	**1.17**	**47**	⇓P	**Pn**	**07 16 33.5**	**-1.0**
BIL2	**Estacion Bilba**	**1.17**	**43**	P	**Pn**	**07 16 34.5**	**-0.1**
BBIL	**Ulba Tungurahu**	**1.18**	**43**	P	**Pn**	**07 16 34.7**	**0.0**
JUI6	**Juive**	**1.21**	**43**	⇓P	**Pn**	**07 16 34.7**	**-0.4**
POND	**Pondoa**	**1.23**	**44**	⇑P	**Pn**	**07 16 34.9**	**-0.5**
AAM2	**Ambato 2 (Merc**	**1.25**	**34**	P	**Pn**	**07 16 35.3**	**-0.3**
BULB	**Ulba Tungurahu**	**1.25**	**46**	⇓P	**Pn**	**07 16 35.0**	**-0.6**
AQUE	**Quevedo**	**1.27**	**351**	⇓P	**Pn**	**07 16 34.6**	**-1.0**
ARNL	**Arenillas**	**1.45**	**212**	⇓P	**Pn**	**07 16 36.6**	**-1.2**
PUYO	**Puyo, Santa Ro**	**1.52**	**57**	P	**Pn**	**07 16 38.0**	**-0.8**
PIS1	**Pisayambo**	**1.55**	**36**	⇓P	**Pn**	**07 16 39.2**	**-0.5**
APUY	**Puyo**	**1.56**	**57**	P	**Pn**	**07 16 39.6**	**+0.2**
PPLP	**Puerto Lpez**	**1.66**	**297**	P	**Pn**	**07 16 39.7**	**-1.0**
PPLP	**Puerto Lpez**	**1.66**	**297**	P	**Pn**	**07 16 40.0**	**-0.7**
PPLP				S	**Sn**	**07 17 00.8**	**-0.5**
ALJ1	**Ecuador-Loja-U**	**1.67**	**176**	P	**Pn**	**07 16 40.3**	**-0.8**
PIAT	**Ana Tenorio**	**1.67**	**38**	P	**Pn**	**07 16 40.4**	**-0.8**
ILLI	**Illinizas Sur**	**1.69**	**20**	P	**Pn**	**07 16 41.5**	**-0.1**
SALI	**Salinas**	**1.69**	**274**	⇓P	**Pn**	**07 16 41.9**	**+0.8**
SRAM	**San Ramn-Vol**	**1.72**	**25**	⇑P	**Pn**	**07 16 42.0**	**+0.1**
BRRN	**Barrancas-Volc**	**1.73**	**29**	P	**Pn**	**07 16 41.5**	**-0.6**
PAST	**Pastocalle**	**1.74**	**22**	P	**Pn**	**07 16 43.1**	**+1.0**
VCES	**Cotopaxi**	**1.76**	**31**	P	**Pn**	**07 16 41.8**	**-0.7**
SLOR	**San Lorenzo -**	**1.77**	**27**	P	**Pn**	**07 16 42.4**	**-0.2**
BMOR	**Cotopaxi Volca**	**1.78**	**28**	⇓P	**Pn**	**07 16 42.8**	**0.0**
CAMI	**Rancho Maria**	**1.81**	**26**	⇑P	**Pn**	**07 16 43.5**	**+0.3**
BNAS	**Cotopaxi Volca**	**1.83**	**27**	⇑P	**Pn**	**07 16 44.3**	**+0.9**
LAMO	**ALAMOR**	**1.83**	**203**	P	**Pn**	**07 16 42.1**	**-1.1**
BREF	**Cotopaxi Volca**	**1.85**	**28**	⇑P	**Pn**	**07 16 44.0**	**+0.2**
SUCR	**Mariscal Sucre**	**1.85**	**26**	⇑P	**Pn**	**07 16 43.7**	**0.0**
TAMB	**Tambo**	**1.86**	**30**	⇑P	**Pn**	**07 16 43.7**	**-0.2**
BTAM	**Cotopaxi Volca**	**1.86**	**29**	⇑P	**Pn**	**07 16 44.0**	**+0.1**
BVC2	**Cotopaxi Volca**	**1.87**	**28**	⇑P	**Pn**	**07 16 44.1**	**+0.1**
VC1	**Cotopaxi 1**	**1.89**	**28**	⇓P	**Pn**	**07 16 44.2**	**0.0**
GONZ	**Gonzanam**	**1.91**	**183**	⇑P	**Pn**	**07 16 43.8**	**-0.6**
PITA	**Cotopaxi Volc**	**1.95**	**26**	⇑P	**Pn**	**07 16 44.9**	**-0.1**
AMNT	**Manta-Manabi**	**1.98**	**314**	P	**Pn**	**07 16 46.6**	**+1.7**
ARDO	**Archidona, Ten**	**1.99**	**49**	⇑P	**Pn**	**07 16 44.0**	**-1.2**
TOMA	**Boca Toma-Volc**	**2.00**	**26**	P	**Pn**	**07 16 48.9**	**+3.3**
ASDO	**Santo Domingo**	**2.04**	**5**	P	**Pn**	**07 16 44.5**	**-1.4**
ISPT	**Isla de la Pla**	**2.06**	**301**	P	**Pn**	**07 16 46.4**	**+0.4**
ANTG	**Antisana-Guama**	**2.08**	**30**	⇓P	**Pn**	**07 16 46.1**	**-0.8**
ANTS	**Antisana-Sarah**	**2.13**	**32**	P	**Pn**	**07 16 47.2**	**-0.4**
ANTI	**Antisana**	**2.17**	**32**	⇑P	**Pn**	**07 16 47.7**	**-0.5**
HPAL	**Hacienda Las P**	**2.18**	**17**	P	**Pn**	**07 16 48.0**	**0.0**
GGPT	**Toaza - Volcan**	**2.19**	**18**	⇓P	**Pn**	**07 16 47.8**	**-0.3**
JUA2	**San Juan 2**	**2.20**	**18**	⇑P	**Pn**	**07 16 48.2**	**-0.2**
JAMA	**Jama**	**2.23**	**336**	P	**Pn**	**07 16 46.0**	**-2.4**
GGPC	**Guagua Pichinc**	**2.23**	**18**	P	**Pn**	**07 16 49.3**	**+0.4**
TERV	**Terraza Guagua**	**2.24**	**18**	⇓P	**Pn**	**07 16 48.6**	**-0.3**
PINO	**Pino**	**2.25**	**18**	⇑P	**Pn**	**07 16 48.8**	**-0.4**
YANA	**Yana**	**2.30**	**19**	⇑P	**Pn**	**07 16 49.3**	**-0.4**
PULU	**Pululahua**	**2.45**	**19**	P	**Pn**	**07 16 51.5**	**-0.3**
ZUMB	**Zumba**	**2.54**	**176**	⇓P	**Pn**	**07 16 52.5**	**-0.1**
PAC1	**Pacto, Paraso**	**2.61**	**11**	P	**Pn**	**07 16 52.6**	**-1.1**
PAC1	**Pacto, Paraso**	**2.61**	**11**	P	**Pn**	**07 16 52.8**	**-0.9**
PAC1				S	**Sn**	**07 17 24.4**	**-0.1**
AV18	**Acelerografo,**	**2.62**	**356**	P	**Pn**	**07 16 51.7**	**-1.9**
CAYR	**Refugio Cayamb**	**2.65**	**29**	P	**Pn**	**07 16 54.0**	**-0.6**
ANGU	**Angureal**	**2.68**	**29**	P	**Pn**	**07 16 54.7**	**-0.3**
CUSW	**Cuicocha Oeste**	**2.75**	**20**	P	**Pn**	**07 16 57.0**	**+1.2**
CUSE	**Cuicocha Este**	**2.75**	**19**	P	**Pn**	**07 16 55.4**	**-0.4**
CUSE	**Cuicocha Este**	**2.75**	**19**	P	**Pn**	**07 16 55.8**	**-0.1**
CUSE				S	**Sn**	**07 17 34.2**	**+5.9**
REVS	**Reventador Sur**	**2.76**	**37**	P	**Pn**	**07 16 55.4**	**-0.4**
CUIC	**Cuicocha-Domo**	**2.77**	**20**	P	**Pn**	**07 16 55.3**	**-0.6**
LAV4	**Lava4-Reventad**	**2.77**	**37**	P	**Pn**	**07 16 55.2**	**-0.7**
REVN	**San Rafael**	**2.79**	**37**	P	**Pn**	**07 16 55.6**	**-0.5**
IMBA	**Imbabura, San**	**2.80**	**23**	P	**Pn**	**07 16 56.8**	**+0.3**
COTA	**Cotacachi**	**2.80**	**20**	P	**Pn**	**07 16 57.0**	**+0.4**
URCU	**Urcuqui**	**2.93**	**21**	P	**Pn**	**07 16 57.9**	**-0.3**
YAHU	**Yahuarcocha**	**2.94**	**25**	P	**Pn**	**07 16 58.3**	**0.0**
AV21	**Acelerografo,**	**2.96**	**355**	P	**Pn**	**07 16 56.4**	**-1.9**
BONI	**La Bonita**	**3.27**	**33**	P	**Pn**	**07 17 02.4**	**-0.3**
AES2	**Ecuador-Puerto**	**3.30**	**354**	P	**Pn**	**07 17 01.8**	**-1.1**
RVRD	**Rio Verde**	**3.36**	**359**	⇑P	**Pn**	**07 17 02.4**	**-1.3**
CHL1	**Volc¡n Chiles**	**3.37**	**24**	⇑P	**Pn**	**07 17 03.8**	**-0.5**
ECEN	**Cerro Negro**	**3.39**	**23**	P	**Pn**	**07 17 06.2**	**+1.6**
CHL2	**Volc¡n Chiles**	**3.39**	**24**	P	**Pn**	**07 17 07.2**	**+2.6**
CHMA	**Chilma**	**3.39**	**21**	P	**Pn**	**07 17 04.5**	**+0.1**
FLOC	**Florencia**	**5.32**	**43**	P	**Pn**	**07 17 27.9**	**-2.6**
	296nm7.0nm,0.9s						
GARC	**Garzon, Huila**	**5.87**	**40**	P	**Pn**	**07 17 35.0**	**-3.3**
YOTC	**Yotoco, Valle**	**6.92**	**25**	P	Pn	07 17 47.0	-5.5
	3.5nm,1.5s						
CZSB	**Cruzeiro do Su**	**8.49**	**130**	P	Pn	07 18 09.4	-4.5
	28nm,0.4s						
CRIN	**San Cristobal**	**16.78**	**333**	P	Pn	07 19 54.6	-10

*NOU **03** 07:34:04.3, 41°.76S×174°.31E, h19km, MLv3.7/12, Cook Strait, New Zealand*
*WEL **03** 07:34:04.1±0.5, 42°.5±2°.×17°.4E±°, h12km±3km, M3.0/8, ML3.3/8, MLv3.0/8, Error ellipse: s-maj=2.9km s-min=2.8km az=53.0, confirmed*

ISC 03 07:34:04.3±0.8, 41°.70S±0°.02×174°.18E±0°.03, h17km±5km, n28, σ0§91/42, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**149**	P	**Pg**	**07 34 07.4**	**-0.1**
CMWZ				S	**Sg**	**07 34 10.3**	**+0.6**
SEDS	**Seddon Fire St**	**0.08**	**292**	P	**Pg**	**07 34 07.3**	**-0.4**
SEDS				S	**Sg**	**07 34 09.8**	**-0.1**
WDFS	**Ward Fire Stat**	**0.13**	**193**	P	**Pb**	**07 34 08.2**	**-0.1**
WDFS				S	**Sb**	**07 34 11.5**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.23**	**267**	P	**Pg**	**07 34 09.1**	**-0.4**
BSWZ				S	**Sg**	**07 34 13.1**	**0.0**
MGCS	**Blenheim Marlb**	**0.26**	**318**	P	**Pg**	**07 34 08.5**	**-1.6**
MGCS				S	**Sg**	**07 34 13.1**	**-0.9**
KEKS	**Kekerengu Vall**	**0.29**	**210**	P	**Pg**	**07 34 10.7**	**+0.1**
TUWZ	**Tuamarina**	**0.32**	**327**	P	**Pg**	**07 34 11.6**	**+0.4**
TUWZ				S	**Sg**	**07 34 16.9**	**+1.1**
BWRS	**Waikakaho Road**	**0.33**	**322**	P	**Pg**	**07 34 11.0**	**-0.3**
BWRS				S	**Sg**	**07 34 16.2**	**+0.1**
TCW	**Tory Channel**	**0.50**	**9**	P	**Pg**	**07 34 13.8**	**-0.5**
TCW				S	**Sg**	**07 34 21.3**	**+0.3**
HAVS	**Havelock**	**0.52**	**325**	P	**Pg**	**07 34 14.0**	**-0.7**
SNZO	**South Karori**	**0.56**	**46**	P	**Pg**	**07 34 14.8**	**-0.6**
SNZO	**South Karori**	**0.56**	**46**	S	**Sn**	**07 34 24.9**	**-1.4**
BHW	**Baring Head**	**0.60**	**61**	P	**Pb**	**07 34 16.3**	**-0.1**
BHW				S	**Sn**	**07 34 27.4**	**+0.1**
WEL	**Wellington**	**0.61**	**47**	P	**Pb**	**07 34 16.4**	**-0.1**
WEL				S	**Sn**	**07 34 26.6**	**-1.1**
WVFS	**Wairau Valley**	**0.62**	**277**	P	**Pg**	**07 34 15.3**	**-1.4**
WVFS				S	**Sg**	**07 34 24.4**	**-0.6**
NNZ	**Nelson**	**0.77**	**309**	P	**Pb**	**07 34 18.6**	**-0.7**
KHZ	**Kahutara**	**0.86**	**213**	P	**Pg**	**07 34 21.2**	**+0.2**
KHZ	**Kahutara**	**0.86**	**213**	P	**Pg**	**07 34 21.2**	**+0.2**
KHZ				S	**Sn**	**07 34 34.2**	**+0.4**
DUWZ	**D'Urville Isla**	**0.92**	**348**	P	**Pb**	**07 34 21.2**	**-0.7**
DUWZ				S	**Sb**	**07 34 34.7**	**+0.9**
PAWZ	**Paruwai Farm**	**0.99**	**72**	P	**Pg**	**07 34 22.9**	**-0.6**
PAWZ				S	**Sn**	**07 34 38.2**	**+1.0**
QRZ	**Quartz Range**	**1.52**	**305**	P	**Pn**	**07 34 31.7**	**+0.9**
QRZ	**Quartz Range**	**1.52**	**305**	S	**Sb**	**07 34 52.3**	**+1.2**
BFZ	**Birch Farm**	**1.86**	**58**	P	**Pn**	**07 34 34.1**	**-1.4**
KHEZ	**Kahui Hut**	**2.41**	**357**	P	**Pn**	**07 34 45.2**	**+2.1**
RPZ	**Rata Peaks**	**3.06**	**228**	P	**Pn**	**07 34 52.1**	**+0.2**
HIZ	**Hauiti**	**3.23**	**10**	P	**Pn**	**07 34 56.0**	**+1.7**
ODZ	**Otahua Downs**	**4.22**	**216**	P	**Pn**	**07 35 06.0**	**-1.8**
JCZ	**Jackson Bay**	**4.62**	**237**	P	**Pn**	**07 35 13.8**	**+0.4**

*RSNC **03** 07:42:01.9±0.4, 7°.N±2°.×7°.2W±°, h0km±3km, M1.9, ML1.8*
*FUNV **03** 07:42:03.0, 7°.06N×71°.83W, h9km, MW2.8*

ISC 03 07:42:01.3±1.4, 7°.11N±0°.04×71°.86W±0°.04, h7km±11km, n11, σ1§24/21, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAMC	**Tame, Arauca**	**0.67**	**174**	P	**Pg**	**07 42 14.6**	**+0.4**
TAMC				S	**Sb**	**07 42 24.5**	**-0.4**
PAMC	**Pamplona, Colo**	**0.86**	**286**	P	**Pg**	**07 42 16.7**	**-1.2**
PAMC				S	**Sg**	**07 42 27.4**	**-1.7**
CAPV	**Capacho**	**0.88**	**329**	*e*P	**Pb**	**07 42 20.1**	**+1.2**
CAPV				*e*S	**Sn**	**07 42 33.3**	**-0.1**
BARC	**Barichara**	**1.41**	**249**	P	**Pn**	**07 42 26.3**	**-1.3**
BARC				S	**Sg**	**07 42 48.0**	**+1.4**
SOCV	**Socops**	**1.54**	**40**	*e*P	**Pn**	**07 42 30.1**	**+0.9**
SOCV				*e*S	**Sb**	**07 42 50.4**	**+0.5**
RUSC	**La Rusia**	**1.71**	**225**	P	**Pn**	**07 42 32.6**	**+0.6**
RUSC				S	**Sn**	**07 42 54.3**	**-0.1**
OCAC	**Ocana**	**1.83**	**308**	P	**Pn**	**07 42 34.6**	**+1.3**
OCAC				S	**Sb**	**07 42 58.6**	**+0.2**
BRJC	**Barrancabermej**	**1.87**	**266**	P	**Pb**	**07 42 35.8**	**0.0**
SDV	**Santo Domingo**	**2.15**	**34**	P	**Pn**	**07 42 39.0**	**+1.3**
SDV				S	**Sb**	**07 43 07.3**	**-0.3**
PTBC	**PUERTO BERRIO,**	**2.64**	**258**	P	**Pn**	**07 42 44.6**	**+0.3**
PTBC				S	**Sn**	**07 43 17.3**	**+0.7**
BAUV	**El Baul**	**4.20**	**64**	*e*P	**Pn**	**07 43 05.8**	**0.0**
BAUV				*e*S	**Sn**	**07 43 51.9**	**-3.3**

VIE 03 07:52:45.2±0.2, 46°.84N×14°.53E, h0km, mb1.0/3, ml1.5/4, Error ellipse: s-maj=1.9km s-min=1.7km az=25.0 1 km W of Klein Sankt Paul Suspected Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.33**	**177**	*e*Pg	Pg	07 52 51.8	+0.3
	1.2nm,0.2s						
OBKA				*e*Sg	Sg	07 52 56.8	+1.1
	17nm,0.3s						
SOKA	**Soboth**	**0.38**	**114**	*e*Sg	Sg	07 52 57.8	+0.4
	5.2nm,0.3s						
MYKA	**Terra Mystica**	**0.64**	**252**	Sg	Sg	07 53 05.9	+0.1
	1.3nm,0.2s						
KBA	**Koelnbreinsper**	**0.84**	**287**	Sg	Sg	07 53 12.8	+0.5
	2.5nm,0.2s						

ROM 03 07:53:13.6±0.0, 46°.343N±0°.002×13°.279E±0°.006, h10km, ML0.7/6, 2C-1D, Error ellipse: s-maj=0.7km s-min=0.5km az=210.0, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCC	**Patocco-Chiusa**	**0.08**	**40**	P	Pg	07 53 16.4	+0.3
PTCC				S	Sg	07 53 18.4	+0.5
PTCC				AML	AML		
	comp=E,86μm,0.3s						
PTCC				AML	AML		
	comp=N,92μm,0.5s						
VINO	**Villanova**	**0.09**	**179**	⇑*e*Pg	Pg	07 53 16.4	+0.4
VINO				*e*Sg	Sg	07 53 18.5	+0.6
VINO	**Villanova**	**0.09**	**179**	P	Pg	07 53 16.4	+0.4
VINO				S	Sg	07 53 18.6	+0.7
VINO				AML	AML		
	comp=E,54μm,1.1s						
VINO				AML	AML		
	comp=N,35μm,0.3s						
VINO				AML	AML		
	comp=E,54μm,0.9s						
BAD	**Bernadia**	**0.11**	**193**	⇑*e*Pg	Pg	07 53 16.9	+0.6
BAD				*e*Sg	Sg	07 53 19.2	+0.8
BOO	**Bordano**	**0.13**	**259**	⇓*e*Pg	Pg	07 53 16.9	+0.3
BOO				*e*Sg	Sg	07 53 19.2	+0.5
BUA	**Buia**	**0.17**	**221**	*e*Pg	Pg	07 53 17.6	+0.5
BUA				*e*Sg	Sg	07 53 20.4	+0.7
LSR	**Lussari**	**0.22**	**52**	*e*Pg	Pg	07 53 18.4	+0.2
LSR				*e*Sg	Sg	07 53 22.1	+0.7
COLI	**Coloredo**	**0.22**	**162**	*e*Pg	Pg	07 53 18.4	+0.3
COLI				*e*Sg	Sg	07 53 22.8	+1.5
PRED	**Cave del Predi**	**0.22**	**63**	*e*Pg	Pg	07 53 18.5	+0.3
PRED				*e*Sg	Sg	07 53 22.0	+0.6
PLRO	**Paularo**	**0.23**	**336**	*e*Pg	Pg	07 53 18.5	+0.2
PLRO				*e*Sg	Sg	07 53 21.7	+0.1
MPRI	**Monte Prat**	**0.23**	**243**	*e*Pg	Pg	07 53 18.7	+0.5
MPRI				*e*Sg	Sg	07 53 22.4	+0.9
ZOU	**Zoufplan**	**0.30**	**315**	P	Pg	07 53 20.2	+0.5
ZOU				S	Sb	07 53 25.1	-1.1
ZOU				AML	AML		
	comp=E,24μm,1.6s						
ZOU				AML	AML		
	comp=N,23μm,1.6s						
ZOU				AML	AML		
	comp=N,23μm,0.4s						
ZOU				AML	AML		
	comp=E,24μm,0.4s						

*NNC **03** 08:04:27.5±2.9, 54°.80N×86°.72E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=86.3km s-min=17.4km az=147.0, Suspected Mining explosion.*
*IDC **03** 08:04:30.0±2.9, 54°.35N×86°.84E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=23.6km s-min=16.8km az=53.0*

ASRS 03 08:04:27.0±1.1, 54°.31N×86°.89E, h0km, M2.7, 2C-4D, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**254**	I	I	08 13 20.0	
	baz=74,slow=324,SNR=1.4						
ZAA0	**Zalesovo Array**	**1.27**	**254**	⇓P	Pn	08 04 53.2	+1.2
	0.2nm,0.2s						
ZAA0				⇓S	Sn	08 05 12.6	+2.9
	1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**1.27**	**254**	Pg	Pn	08 04 52.9	+0.9
	1.4nm,0.3s,baz=72,slow=17,SNR=17						
ZALV				Lg	Lg	08 05 09.5	
	2.0nm,0.3s,baz=66,slow=30,SNR=11						
KURBB	**Kurchatov Arra**	**6.30**	**238**	Pn	Pn	08 06 05.5	+4.4
	0.1nm,0.3s,baz=53,slow=13,SNR=6.6						
KURBB				Sn	Sn	08 07 16.2	+2.5
	baz=24,slow=36						
KURBB				Lg	Lg	08 07 53.1	
	baz=55,slow=29,SNR=5.0						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**6.30**	**238**	⇓Pn	Pn	08 06 05.7	+4.6
	0.8nm,0.4s						
KURBB				⇓Sn	Sn	08 07 21.7	+7.9
	1.9nm,0.7s						
KURBB				⇑Lg	Lg	08 07 51.2	
	3.3nm,0.7s						
MK31	**Makanchi Array**	**8.07**	**203**	⇑Pn	Pn	08 06 31.9	+6.4
	0.1nm,0.4s,baz=28,slow=13,SNR=5.7					

MKAR Makanchi Array 8.95 222 Pn Pn 08 16 13.7 +0.7
0.1nm,0.3s,baz=39,slow=12,SNR=5.5
MKAR Lg Lg 08 18 46.7
0.1nm,0.3s,baz=33,slow=24,SNR=3.4
0.3nm,0.5s

---

*ASRS **03** 08:15:18.0±0.9,53.°72N×88.°23E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 03 08:15:20.0±3.6,53.°78N×88.°10E,h0km,mbtmp2.9/2, ML2.5/2,Error ellipse: s-maj=34.7km s-min=20.5km az=49.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.95**	**276**	I	I	08 28 40.0	
	0.1nm,0.7s,baz=94,slow=330,SNR=4.1						
ZALV	**Zalesovo Beam**	**1.95**	**276**	Pn	Pn	08 15 54.9	+0.6
	1.3nm,0.3s,baz=96,slow=15,SNR=9.5						
ZALV				Lg	Lg	08 16 22.2	
	2.1nm,0.3s,baz=93,slow=26,SNR=7.8						
ZALV				I	I	08 28 38.1	
	baz=91,slow=5.8,SNR=6.0						
KURBB	**Kurchatov Arra**	**6.67**	**246**	Pn	Pn	08 16 58.7	-0.5
	0.1nm,0.3s,baz=61,slow=14,SNR=4.3						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**7.91**	**210**	Pn	Pn	08 17 18.1	+1.9
	0.1nm,0.3s,baz=32,slow=12,SNR=2.3						
	0.3nm,0.4s						

---

*ASRS **03** 08:24:25.0±1.1,54.°12N×86.°46E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 03 08:24:27.3±2.6,54.°15N×86.°54E,h0km,mbtmp3.1/2, ML3.0/2,Error ellipse: s-maj=22.2km s-min=13.8km az=52.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**260**	I	I	08 31 50.0	
	baz=81,slow=322,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.03**	**260**	Pg	Pg	08 24 45.5	-1.6
	2.2nm,0.3s,baz=78,slow=17,SNR=23						
ZALV				Lg	Lg	08 25 02.4	
	1.2nm,0.3s,baz=76,slow=28,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.04**	**238**	Pn	Pn	08 25 58.7	+1.0
	0.1nm,0.3s,baz=54,slow=13,SNR=8.1						
KURBB				Lg	Lg	08 27 37.9	
	baz=49,slow=31,SNR=1.6						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**7.84**	**202**	Pn	Pn	08 26 23.6	+1.1
	0.5nm,0.3s,baz=25,slow=14,SNR=19						
	0.5nm,0.3s						

---

*ASRS **03** 08:28:30.0±1.1,53.°66N×88.°10E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 03 08:28:33.0±2.8,53.°57N×87.°92E,h0km,mbtmp2.8/2, ML2.6/2,Error ellipse: s-maj=24.4km s-min=17.1km az=52.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**283**	I	I	08 41 23.9	
	baz=96,slow=330,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.88**	**283**	Pn	Pn	08 29 06.5	+0.1
	1.6nm,0.3s,baz=103,slow=15,SNR=9.4						
ZALV				Lg	Lg	08 29 32.9	
	5.3nm,0.3s,baz=97,slow=25,SNR=13						
KURBB	**Kurchatov Arra**	**6.50**	**247**	Pn	Pn	08 30 11.0	+1.2
	0.1nm,0.3s,baz=62,slow=14,SNR=4.7						
KURBB				Sn	Sn	08 31 22.3	-2.2
	baz=41,slow=16,SNR=1.6						
KURBB				Lg	Lg	08 31 58.8	
	baz=64,slow=30,SNR=4.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.69**	**210**	Pn	Pn	08 30 27.2	+1.0
	0.2nm,0.3s,baz=29,slow=13,SNR=7.9						
MKAR				Lg	Lg	08 32 36.5	
	0.1nm,0.3s,baz=29,slow=30,SNR=2.1						
	0.2nm,0.3s						

---

*DJA **03** 08:32:33.7±0.4,7.°5±2.°×11.°5E±.°,h13km±4km,M4.5/24, mb4.6/10,mB5.1/4,MLv4.5/24,Mw(mB)4.5/4*
*NEIC **03** 08:32:36.9±1.8,7.°27S±0.°07×114.°56E±0.°07,h35km±2km, mb4.4/10,Error ellipse: s-maj=13.9km s-min=10.2km az=137.0*
*IDC **03** 08:32:38.5±4.1,7.°14S×114.°75E,h51km±37km,mb3.9/15, mbtmp4.2/18,ML4.2/3,MS3.0/5,Error ellipse: s-maj=35.4km s-min=12.2km az=62.0*

ISC 03 08:32:36.5±0.5,7.°26S±0.°05×114.°58E±0.°04,h35km,n73, σ1°08/75,mb4.2/22,MS3.0/4,Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABJI	**Asem Bagus**	**0.64**	**213**	P	**Pn**	**08 32 46.8**	**-2.2**
ABJI				S	**Sn**	**08 32 56.5**	**-1.4**
KMMI	**Kalianget**	**0.65**	**289**	P	**Pn**	**08 32 47.6**	**-1.6**
SRBI	**Singaraja**	**1.03**	**143**	P	**Pn**	**08 32 53.9**	**-0.6**
JAGI	**Jajag, Banyuwa**	**1.28**	**200**	Pn	**Pn**	**08 32 57.5**	**-0.4**
JAGI	**Jajag, Banyuwa**	**1.28**	**200**	P	**Pn**	**08 32 57.0**	**-0.8**
JAGI	**Jajag, Banyuwa**	**1.28**	**200**	P	**Pn**	**08 32 57.1**	**-0.8**
JAGI				S	**Sn**	**08 33 15.4**	**+1.6**
GMJI	**Gumukmas**	**1.51**	**228**	P	**Pn**	**08 33 00.6**	**-0.5**
GMJI				S	**Sn**	**08 33 21.6**	**+2.0**
DNP	**Denpasar**	**1.54**	**156**	P	**Pn**	**08 33 02.3**	**+0.8**
GRJI	**Gresik**	**2.12**	**279**	P	**Pn**	**08 33 08.6**	**-0.8**
BWJI	**Bawean**	**2.37**	**306**	P	**Pn**	**08 33 12.3**	**-0.6**
TWSI	**Taliwang, Sumb**	**2.71**	**123**	P	**Pn**	**08 33 17.1**	**-0.5**
TBJI	**Tambak Boyo**	**2.75**	**279**	P	**Pn**	**08 33 17.6**	**-0.5**
NGJI	**Ngawi**	**3.10**	**268**	P	Pn	08 33 35.6	+13
PCJI	**Pacitan**	**3.50**	**254**	P	**Pn**	**08 33 27.1**	**-1.3**
PLAI	**Plampang**	**3.52**	**116**	P	**Pn**	**08 33 28.5**	**-0.3**
PLAI	**Plampang**	**3.52**	**116**	P	**Pn**	**08 33 28.3**	**-0.5**
UGM	**Wanagama**	**4.08**	**261**	Pn	**Pn**	**08 33 35.5**	**-0.9**
UGM	**Wanagama**	**4.08**	**261**	P	**Pn**	**08 33 36.3**	**-0.1**
UGM	**Wanagama**	**4.08**	**261**	P	**Pn**	**08 33 35.6**	**-0.9**
SMRI	**Semarang**	**4.12**	**273**	Pn	**Pn**	**08 33 35.6**	**-1.3**
SMRI	**Semarang**	**4.12**	**273**	P	**Pn**	**08 33 36.6**	**-0.3**
SMRI	**Semarang**	**4.12**	**273**	P	**Pn**	**08 33 36.1**	**-0.8**
WBSI	**Waikabubak, Su**	**5.31**	**117**	P	**Pn**	**08 33 51.8**	**-1.6**
	0.3nm58nm,0.7s						
KAPI	**Kappang**	**5.60**	**67**	Pn	**Pn**	**08 33 56.9**	**-0.5**
KAPI	**Kappang**	**5.60**	**67**	P	**Pn**	**08 33 56.8**	**-0.6**
	16nm,0.3s,baz=244,slow=5.7,SNR=17						
KAPI				Lg	Lg	08 35 26.7	
	1.6nm,0.3s,baz=282,slow=20,SNR=1.1						
KAPI				LR	LR	08 36 09.9	
	comp=Z,47nm,18.4s,baz=246,slow=39						
	29nm,0.3s						
KAPI	**Kappang**	**5.60**	**67**	P	**Pn**	**08 33 56.8**	**-0.6**
BKSI	**Bulukumba**	**5.83**	**71**	P	**Pn**	**08 33 59.3**	**-1.2**
	0.2nm26nm,0.4s						
BSSI	**Bau Bau, Buton**	**5.97**	**80**	P	**Pn**	**08 34 01.4**	**-1.1**
	2μm173nm,0.5s						
SPSI	**Sidrap Palu**	**6.11**	**58**	P	**Pn**	**08 34 03.8**	**-0.6**
	0.4nm2μm60nm,0.4s						
TTSI	**Tana Toraja**	**6.69**	**52**	P	**Pn**	**08 34 13.0**	**+0.7**
	0.2nm20nm,0.7s						
EDFI	**Ende, Flores**	**7.19**	**102**	P	**Pn**	**08 34 19.0**	**-0.3**
	0.1nm17nm,0.7s						
MMRI	**Maumere**	**7.70**	**101**	P	**Pn**	**08 34 25.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**15.23**	**136**	Pn	**Pn**	**08 36 06.8**	**-2.3**
FITZ	**Fitzroy Crossi**	**15.23**	**136**	P	**Pn**	**08 36 08.2**	**-1.0**
	0.2nm,0.3s,baz=190,slow=2.4,SNR=3.8						
FITZ				S	**Sn**	**08 38 52.8**	**-4.0**
	1.9nm,0.6s,baz=175,slow=16,SNR=1.8						
	5.0nm,1.1s						
KNRA	**Kununurra**	**16.21**	**122**	Pn	**Pn**	**08 36 20.6**	**-1.2**
PSI	**Prapat**	**18.55**	**302**	P	**Pn**	**08 36 51.8**	**+0.8**
	1.5nm,0.3s,baz=160,slow=14,SNR=4.5						
	3.7nm,0.4s						
MEEK	**Meekatharra**	**19.65**	**169**	P	**Pn**	**08 37 03.8**	**-0.2**
WRKA	**Warakurna**	**22.01**	**145**	P	**P**	**08 37 28.8**	**+0.9**
WB0	**Warramunga Arr**	**22.89**	**125**	P	**P**	**08 37 36.9**	**-0.5**
WB0				IAmb	IAmb	08 38 06.0	
	comp=Z,7.0nm,0.8s						
WRA	**Warramunga Arr**	**22.93**	**125**	P	**P**	**08 37 37.1**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=299,slow=12,SNR=34						
	comp=Z,2.4nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**22.94**	**125**	P	**P**	**08 37 37.9**	**+0.1**
WRAB				IAmb	IAmb	08 37 45.2	
	comp=Z,6.1nm,0.7s						
WR8	**Warramunga Arr**	**23.07**	**125**	P	**P**	**08 37 39.2**	**0.0**
WR8				IAmb	IAmb	08 38 18.8	
	comp=Z,16nm,1.4s						
BLDU	**Ballidu**	**23.32**	**175**	P	**P**	**08 37 42.7**	**+1.2**
AS31	**Alice Springs**	**24.70**	**133**	P	**P**	**08 37 55.9**	**+1.3**
AS31				IAmb	IAmb	08 37 56.9	
	comp=Z,3.9nm,0.6s						
ASAR	**Alice Springs**	**24.70**	**133**	P	**P**	**08 37 56.1**	**+1.5**
ASAR	**Alice Springs**	**24.70**	**133**	P	**P**	**08 37 55.1**	**+0.5**
	comp=Z,12nm,0.6s,baz=307,slow=8.6,SNR=177						
ASAR				PcP	**PcP**	**08 41 31.4**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=314,slow=1.7,SNR=8.7						
	comp=Z,12nm,0.6s						
AS01	**Alice Springs**	**24.73**	**133**	P	**P**	**08 37 55.9**	**+1.0**
FORT	**Forrest**	**26.59**	**153**	P	**P**	**08 38 12.8**	**+1.3**
FORT				IAmb	IAmb	08 38 13.2	
	comp=Z,24nm,0.8s						
FORT	**Forrest**	**26.59**	**153**	P	**P**	**08 38 12.6**	**+1.1**
QIS	**Mount Isa**	**27.59**	**121**	P	**P**	**08 38 21.8**	**+1.1**
OOD	**Oodnadatta**	**28.58**	**138**	P	**P**	**08 38 29.8**	**+0.4**
COEN	**Coen**	**28.86**	**106**	P	**P**	**08 38 31.6**	**-0.4**
COEN				IAmb	IAmb	08 39 13.8	
	comp=Z,18nm,1.2s						
CMAR	**Chiang Mai Arr**	**29.85**	**329**	P	**P**	**08 38 42.3**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=161,slow=7.5,SNR=16						
CMAR				LR	LR	08 50 19.5	
	comp=Z,24nm,21.9s,baz=135,slow=36						
	comp=Z,1.1nm,0.3s						
BBOO	**Buckleboo**	**32.31**	**145**	P	**P**	**08 39 02.1**	**-0.3**
STKA	**Stephens Creek**	**35.12**	**138**	P	**P**	**08 39 27.4**	**+0.6**
STKA	**Stephens Creek**	**35.12**	**138**	P	**P**	**08 39 27.2**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=313,slow=11,SNR=9.0						
	comp=Z,1.6nm,0.5s						
PZH	**PanZhiHua**	**35.80**	**340**	P	**P**	**08 39 34.1**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,6.1s						
JNU	**Nakatsue**	**43.04**	**20**	LR	LR	08 58 33.5	
	comp=Z,21nm,21.4s,baz=348,slow=36						
KSRS	**Korea Array**	**46.20**	**15**	P	**P**	**08 40 57.1**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=203,slow=5.7,SNR=1.8						
KSRS				LR	LR	09 02 50.6	
	comp=Z,15nm,18.1s,baz=180,slow=39						
	comp=Z,0.8nm,0.8s						
SONM	**Songino Array**	**55.33**	**353**	P	**P**	**08 42 06.3**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=183,slow=9.7,SNR=7.7						
	comp=Z,1.8nm,0.7s						
KLR	**Kul'dur**	**58.23**	**13**	LR	LR	09 10 53.3	
	comp=Z,30nm,18.8s,baz=254,slow=40						
MKAR	**Makanchi Array**	**60.99**	**335**	P	**P**	**08 42 46.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=154,slow=6.8,SNR=6.9						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**65.53**	**336**	P	**P**	**08 43 16.9**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=160,slow=5.6,SNR=3.0						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**65.93**	**341**	P	**P**	**08 43 18.6**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=142,slow=3.9,SNR=8.8						
	comp=Z,2.1nm,0.5s						
BVAR	**Borovoye Array**	**70.75**	**334**	P	**P**	**08 43 48.0**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=142,slow=7.3,SNR=2.4						
	comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**74.40**	**170**	P	**P**	**08 44 11.2**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=302,slow=3.9,SNR=4.5						
	comp=Z,1.4nm,0.9s						
QSPA	**South Pole Qui**	**82.73**	**180**	P	**P**	**08 44 57.5**	**+0.9**
	comp=Z,3.4nm,1.1s,baz=270,slow=1.0,SNR=5.4						
	comp=Z,3.4nm,1.1s						
BRTR	**Keskin Array B**	**87.68**	**310**	P	**P**	**08 45 21.2**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=123,slow=4.6,SNR=8.4						
	comp=Z,2.1nm,0.8s						
SNAA	**Sanae**	**91.46**	**196**	P	**P**	**08 45 40.5**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=46,slow=7.2,SNR=1.7						
	comp=Z,1.2nm,0.6s						
FINES	**FINESS Array B**	**95.61**	**331**	P	**P**	**08 45 56.8**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=97,slow=4.5,SNR=1.3						
	comp=Z,1.1nm,0.8s						
HFS	**Hagfors**	**101.68**	**330**	P	**Pdif**	**08 46 25.7**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=81,slow=5.1,SNR=2.4						
CPUP	**Villa Florida**	**145.70**	**193**	PKPbc	**PKPdf**	**08 52 11.6**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=292,slow=3.7,SNR=3.9						
BDFB	**Brasilia**	**151.45**	**217**	PKPbc	**PKiKP**	**08 52 28.2**	**-0.2**
	comp=Z,3.4nm,0.5s,baz=142,slow=4.0,SNR=7.0						

TXNET 03 08:32:41.9,31.°6N±0.°8×104.°4W±0.°9,h6km±3km,ML1.8/7, Error ellipse: s-maj=1.5km s-min=1.2km az=121.4,final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.43**	**39**	P	Pg	08 32 50.3	0.0
TPB11				S	Sg	08 32 56.3	+0.5
PECS	**Pecos**	**0.47**	**119**	P	Pg	08 32 50.9	-0.2
PECS				S	Sg	08 32 57.2	-0.1
TPB12	**Southwest of T**	**0.51**	**139**	P	Pg	08 32 52.4	+0.6
TPB12				S	Sg	08 32 59.2	+0.6
GDL2	**Guadalupe Moun**	**0.60**	**359**	P	Pg	08 32 53.2	-0.2
CLNB	**Carlsbad**	**0.77**	**31**	P	Pg	08 32 57.2	+0.4
CLNB				S	Sb	08 33 08.0	-0.6
TPB01	**Permian Basin**	**0.82**	**143**	P	Pg	08 32 56.8	-0.8
TPB01				S	Sg	08 33 08.2	-0.1
TPB03	**Saragosa**	**0.88**	**126**	S	Sg	08 33 10.3	0.0
MNTX	**Cornudas Mount**	**0.89**	**276**	P	Pg	08 32 58.9	0.0
MNTX				S	Sg	08 33 10.7	+0.3
VHRN	**Van Horn**	**0.98**	**214**	P	Pb	08 33 01.2	-0.2
VHRN				S	Sb	08 33 14.7	+0.2
TPB05	**Hovey Rd**	**1.11**	**128**	S	Sg	08 33 17.4	-0.2
ALPN	**Alpine**	**1.37**	**153**	P	Pn	08 33 06.5	-1.1
ALPN				S	Sb	08 33 25.0	-0.7
MNHN	**Monahans**	**1.38**	**101**	P	Pn	08 33 07.1	-0.7
MNHN				S	Sg	08 33 26.6	+0.2
TPB08	**Permian Basin**	**1.43**	**119**	S	Sg	08 33 30.7	+3.0
ODSA	**Odessa**	**1.62**	**71**	P	Pn	08 33 11.5	+0.5
ODSA				S	Sn	08 33 31.2	-1.0
TX31	**Lajitas Ar. Si**	**2.34**	**165**	Pg	Pg	08 33 25.9	-0.8

---

*ASRS **03** 08:51:22.0±1.4,53.°74N×91.°02E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 03 08:51:20.7±3.9,53.°86N×91.°26E,h0km,mbtmp3.2/2, ML3.0/2,Error ellipse: s-maj=36.9km s-min=25.5km az=26.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.81**	**274**	I	I	09 14 40.0	
	baz=90,slow=330,SNR=3.6						
ZALV	**Zalesovo Beam**	**3.81**	**274**	Pg	Pb	08 52 28.8	+0.1
	1.3nm,0.3s,baz=90,slow=15,SNR=11						
ZALV				Lg	Lg	08 53 20.7	
	0.4nm,0.3s,baz=87,slow=32,SNR=2.1						
KURBB	**Kurchatov Arra**	**8.46**	**253**	Pn	Pn	08 53 24.2	-0.1
	0.1nm,0.3s,baz=65,slow=15,SNR=4.8						
KURBB				Sn	Sn	08 54 59.4	-1.0
	0.1nm,0.3s,baz=67,slow=24,SNR=5.9						
KURBB				Lg	Lg	08 55 47.0	
	baz=61,slow=33						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**9.10**	**223**	Pn	Pn	08 53 33.7	+0.5
	0.2nm,0.3s,baz=41,slow=15,SNR=6.5						
MKAR				Lg	Lg	08 56 10.1	
	baz=41,slow=29,SNR=2.2						
	0.8nm,0.6s						

---

*IDC **03** 08:53:05.3±1.6,2.°58S×138.°98E,h0km,mb3.2/2, mbtmp3.3/3,ML3.5/1,Error ellipse: s-maj=31.9km s-min=16.2km az=171.0*
*DJA **03** 08:53:13.3±0.7,3.°5±8.°×13.°9E±.°,h60km±14km,M4.0/6, mb4.5/1,MLv3.8/6*

ISC 03 08:53:12.4±1.0,2.°59S±0.°07×139.°18E±0.°05,h50km,n9, σ2°53/12,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.76**	**322**	P	**Pn**	**08 53 28.0**	**+1.1**
SMPI				S	**Sn**	**08 53 40.9**	**+3.4**
GENI	**Genyem**	**0.99**	**90**	P	**Pn**	**08 53 31.4**	**+1.4**
GENI				S	**Sn**	**08 53 45.3**	**+2.4**
WAMI	**Wamena**	**1.36**	**200**	P	**Pn**	**08 53 38.8**	**+3.7**
JAY	**Jayapura**	**1.53**	**87**	Pn	**Pn**	**08 53 38.6**	**+1.3**
	3.7nm,0.3s,baz=228,slow=10,SNR=15						
JAY				Lg	Lg	08 53 58.9	
	7.0nm,0.3s,baz=135,slow=16,SNR=5.7						
JAY	**Jayapura**	**1.53**	**87**	P	**Pn**	**08 53 38.8**	**+1.5**
JAY				S	**Sn**	**08 53 56.8**	**+0.7**
FAKI	**Fak Fak**	**6.93**	**267**	P	**Pn**	**08 54 52.2**	**+0.8**
WRA	**Warramunga Arr**	**17.88**	**195**	P	**Pn**	**08 57 13.9**	**-3.7**
	0.2nm,0.3s,baz=18,slow=12,SNR=9.2						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**21.56**	**193**	P	**P**	**08 57 56.0**	**-1.9**
	0.5nm,0.7s,baz=16,slow=10,SNR=5.3						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**69.98**	**322**	P	**P**	**09 04 17.8**	**-1.0**
	0.1nm,0.4s,baz=114,slow=7.1,SNR=2.0						
	0.1nm,0.4s						

---

*ASRS **03** 09:00:07.0±1.0,53.°59N×87.°94E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 03 09:00:08.8±3.9,53.°59N×87.°88E,h0km,mbtmp2.6/2, ML2.4/2,Error ellipse: s-maj=38.8km s-min=19.4km az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**282**	I	I	09 12 36.8	
	0.1nm,0.7s,baz=99,slow=328,SNR=17						
ZALV	**Zalesovo Beam**	**1.85**	**282**	Pg	Pn	09 00 42.4	+0.7
	0.6nm,0.3s,baz=100,slow=15,SNR=8.3						
ZALV				Lg	Lg	09 01 07.1	
	0.6nm,0.3s,baz=103,slow=25,SNR=2.6						
KURBB	**Kurchatov Arra**	**6.48**	**246**	Pn	Pn	09 01 46.0	+0.7
	0.1nm,0.3s,baz=65,slow=14,SNR=4.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.69**	**210**	Pn	Pn	09 02 03.1	+1.0
	0.1nm,0.3s,baz=30,slow=14,SNR=1.9						
	0.1nm,0.4s						

---

*ISN **03** 09:12:38.5±0.3,33.°75N×45.°89E,h10km±1km,ML2.7*
*TEH **03** 09:12:42.9,33.°74N×45.°90E,h10km±135km*

ISC 03 09:12:40.2±1.3,33.°70N±0.°04×45.°78E±0.°04,h15km±13km, n11,σ1°71/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.43**	**15**	Pg	**Pn**	**09 12 49.0**	**-3.0**
IBDR	**Badra**	**0.60**	**168**	*e*Pg	**Pg**	**09 12 51.0**	**-1.0**
IBDR				*e*Sg	**Sb**	**09 13 00.0**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**0.82**	**349**	Pg	**Pn**	**09 12 58.8**	**+1.5**
KGS1				Sg	**Sn**	**09 13 10.5**	**+1.3**
IGHG	**Ghaleghazi**	**0.91**	**46**	Pg	**Pn**	**09 12 59.2**	**+0.5**
IDHR	**Dehrash**	**1.12**	**27**	Pg	**Pn**	**09 13 03.2**	**+1.6**
KCHF	**Cheshme Sefid,**	**1.20**	**61**	Pg	**Pn**	**09 13 04.4**	**+1.8**
BHD	**Baghdad**	**1.24**	**250**	*e*Pg	**Pg**	**09 13 04.3**	**+0.1**
BHD				*e*Sg	**Sg**	**09 13 23.0**	**+2.6**
IKFM	**Kafar-mosalman**	**1.73**	**95**	Pg	**Pg**	**09 13 14.2**	**+0.6**
SNQR	**Sonqor, Kerman**	**1.92**	**52**	Pn	**Pg**	**09 13 16.9**	**-0.2**
RAFI	**Al-Rafai**	**1.99**	**172**	*e*Pn	**Pb**	**09 13 14.5**	**-1.6**
RAFI				*e*Sn	**Sb**	**09 13 41.0**	**+0.3**
IKRK	**Kirkuk**	**2.07**	**325**	*e*Pn	**Pb**	**09 13 15.4**	**-2.1**
IKRK				*e*Sn	**Sb**	**09 13 42.7**	**-0.4**
IKRK				AML	AML	09 13 50.0	
	comp=N,74nm,0.4s						
IKRK				AML	AML	09 13 50.4	
	comp=E,63nm,0.4s						

---

*CATAC **03** 09:24:49.5±0.8,12.°N±5.°×8.°9W±.°,h6km±7km,M3.8/14, MLv3.8/14,Error ellipse: s-maj=11.3km s-min=7.6km az=31.7,confirmed*
*IDC **03** 09:24:50.8±1.8,13.°09N×88.°90W,h0km,mb3.8/5, mbtmp3.8/7,ML2.9/2,MS3.3/3,Error ellipse: s-maj=60.7km s-min=20.6km az=39.0*
*NEIC **03** 09:24:53.1±1.4,12.°61N±0.°10×89.°33W±0.°08,h27km±10km, mb4.4/50,Error ellipse: s-maj=16.5km s-min=5.9km az=215.0*
*SNET **03** 09:24:53.9±1.4,12.°58N×89.°47W,h35km,ML3.7*

ISC 03 09:24:50.1±0.7,12.°48N±0.°05×89.°42W±0.°05,h10km,n111, σ1°14/108,mb4.4/28,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.00**	**5**	*e*P	**Pb**	**09 25 10.8**	**+1.2**
LALI	**Alcalda de L**	**1.00**	**5**	P	**Pb**	**09 25 10.4**	**+0.8**
JAYA	**Jayaque - finc**	**1.17**	**358**	*e*P	**Pg**	**09 25 12.6**	**+0.1**
JAYA				*e*S	**Sg**	**09 25 25.6**	**-2.1**
JAYA	**Jayaque - finc**	**1.17**	**358**	P	**Pg**	**09 25 12.7**	**+0.1**
LOMA	**Loma Larga**	**1.18**	**12**	P	**Pg**	**09 25 10.2**	**-2.6**
LFRS	**El Faro**	**1.19**	**17**	*e*P	**Pg**	**09 25 13.3**	**+0.4**
LFRS				*e*S	**Sn**	**09 25 28.7**	**-0.5**
TECO	**Alcaldia de Te**	**1.22**	**30**	P	**Pg**	**09 25 12.9**	**-0.6**
TECO	**Alcaldia de Te**	**1.22**	**30**	S	**Sn**	**09 25 32.1**	**+2.3**
PMON	**Piamonte**	**1.23**	**5**	P	**Pn**	**09 25 14.6**	**+1.2**
UEES	**Universidad Ev**	**1.24**	**8**	P	**Pg**	**09 25 14.5**	**+0.6**
COEG	**Centro de Oper**	**1.25**	**25**	*e*P	**Pg**	**09 25 13.9**	**-0.1**
COEG	**Centro de Oper**	**1.25**	**25**	P	**Pg**	**09 25 14.2**	**+0.1**
BOQS	**Boqueron**	**1.25**	**6**	*e*P	**Pg**	**09 25 14.4**	**+0.2**
PAVA	**Las Pavas**	**1.31**	**21**	P	**Pb**	**09 25 15.3**	**+0.4**
PAVA	**Las Pavas**	**1.31**	**21**	S	**Sn**	**09 25 36.0**	**+3.9**

BRDY				IAmb	IAmb	09 29 30.7	
	comp=Z,8.8nm,0.8s						
WHTX	**Lake Whitney,**	**20.78**	**340**	P	**P**	**09 29 30.5**	**-0.8**
Z41A	**Richland Creek**	**20.91**	**352**	P	**P**	**09 29 32.0**	**-0.8**
Z41A				IAmb	IAmb	09 29 38.2	
	comp=Z,23nm,1.0s						
HPIG		**20.96**	**316**	P	**P**	**09 29 33.3**	**-0.3**
FW14	**Alvarado**	**21.07**	**341**	P	**P**	**09 29 34.1**	**-0.4**
FW13	**Cleburne**	**21.10**	**341**	P	**P**	**09 29 34.3**	**-0.6**
Y45A	**Yeager Farm, C**	**21.29**	**360**	P	**P**	**09 29 36.2**	**-0.6**
Y45A				IAmb	IAmb	09 29 51.2	
	comp=Z,19nm,1.0s						
TXAR	**Lajitas Array**	**21.37**	**324**	P	**P**	**09 29 37.1**	**-0.8**
TXAR	**Lajitas Array**	**21.37**	**324**	P	**P**	**09 29 39.6**	**+1.6**
	comp=Z,3.5nm,0.8s,baz=147,slow=11,SNR=41						
	comp=Z,3.5nm,0.8s						
WLAR	**White Oak Lake**	**21.38**	**352**	P	**P**	**09 29 37.6**	**-0.2**
WLAR				IAmb	IAmb	09 29 41.7	
	comp=Z,13nm,0.7s						
PLPT	**Palo Pinto**	**21.82**	**339**	P	**P**	**09 29 41.7**	**-0.9**
PLPT				IAmb	IAmb	09 29 42.5	
	comp=Z,15nm,1.1s						
ABTX	**Abilene, Hawle**	**22.13**	**337**	P	**P**	**09 29 44.7**	**-1.3**
ABTX				IAmb	IAmb	09 29 54.3	
	comp=Z,11nm,1.1s						
MIAR	**Mount Ida**	**22.29**	**351**	P	**P**	**09 29 47.5**	**-0.1**
MIAR				IAmb	IAmb	09 29 50.0	
	comp=Z,8.8nm,0.9s						
UALR	**University of**	**22.35**	**354**	P	**P**	**09 29 47.8**	**-0.5**
UALR				IAmb	IAmb	09 29 51.0	
	comp=Z,22nm,1.3s						
WHAR	**Wooly Hollow**	**22.86**	**354**	P	**P**	**09 29 52.7**	**-0.9**
WHAR				IAmb	IAmb	09 29 55.1	
	comp=Z,13nm,1.1s						
W50A	**Signal Mountai**	**22.92**	**9**	P	**P**	**09 29 53.5**	**-0.8**
APMT	**Aspermont**	**22.94**	**336**	P	**P**	**09 29 52.9**	**-1.7**
APMT				IAmb	IAmb	09 29 55.4	
	comp=Z,10nm,1.1s						
VHRN	**Van Horn**	**23.21**	**324**	P	**P**	**09 29 57.6**	**+0.1**
CPCT	**Cooper Cave**	**23.29**	**10**	P	**P**	**09 29 56.6**	**-1.5**
DKNS	**Dickens**	**23.56**	**335**	P	**P**	**09 30 00.1**	**-0.7**
DKNS				IAmb	IAmb	09 30 01.4	
	comp=Z,9.4nm,0.8s						
TKL	**Tuckaleechee C**	**23.63**	**12**	P	**P**	**09 30 00.9**	**-0.6**
TKL				IAmb	IAmb	09 30 28.5	
	comp=Z,13nm,1.4s						
TKL	**Tuckaleechee C**	**23.63**	**12**	LR	LR	09 38 42.9	
	comp=Z,119nm,18.7s,baz=189,slow=36						
CLTN	**Cedars of Leba**	**23.67**	**6**	P	**P**	**09 30 01.4**	**-0.5**
V53A	**Saluda**	**23.84**	**13**	P	**P**	**09 30 03.8**	**+0.2**
V53A				IAmb	IAmb	09 30 04.8	
	comp=Z,11nm,1.1s						
HHAR	**Hobbs**	**24.05**	**351**	P	**P**	**09 30 04.8**	**-0.7**
PARMO	**Parma**	**24.08**	**359**	P	**P**	**09 30 05.0**	**-0.8**
PBMO	**Poplar Bluff**	**24.21**	**358**	P	**P**	**09 30 05.9**	**-1.1**
V55A	**Taylorsville**	**24.42**	**16**	P	**P**	**09 30 08.0**	**-0.9**
V55A				IAmb	IAmb	09 30 08.9	
	comp=Z,28nm,1.5s						
QUOK	**Quay**	**24.49**	**346**	P	**P**	**09 30 07.0**	**-2.5**
T47A	**Sharon Grove**	**24.49**	**4**	P	**P**	**09 30 08.5**	**-1.0**
T47A				IAmb	IAmb	09 30 09.3	
	comp=Z,14nm,1.0s						
TZTN	**Tazewell**	**24.53**	**11**	P	**P**	**09 30 09.1**	**-0.9**
TZTN				IAmb	IAmb	09 30 36.4	
	comp=Z,14nm,1.2s						
SMWD	**Samnorwood**	**24.57**	**338**	P	**P**	**09 30 09.5**	**-0.9**
SMWD				IAmb	IAmb	09 30 11.0	
	comp=Z,22nm,1.2s						
MGMO	**Mountain Grove**	**24.70**	**355**	IAmb	IAmb	09 30 12.7	
	comp=Z,7.4nm,0.7s						
CGM3	**Cape Girardeau**	**24.71**	**360**	IAmb	IAmb	09 30 13.8	
	comp=Z,9.6nm,0.8s						
S44A	**Carbondale**	**25.11**	**0**	P	**P**	**09 30 14.6**	**-0.5**
SIUC	**Southern Illin**	**25.13**	**0**	P	**P**	**09 30 14.7**	**-0.5**
SIUC				IAmb	IAmb	09 30 18.4	
	comp=Z,7.8nm,0.7s						
S51A	**Beattyville**	**25.59**	**11**	P	**P**	**09 30 18.4**	**-1.1**
S51A				IAmb	IAmb	09 30 44.7	
	comp=Z,6.9nm,1.1s						
R40A	**Maddies Statio**	**25.83**	**355**	P	**P**	**09 30 19.4**	**-2.2**
Q44A	**Meyer Farm, Va**	**26.32**	**1**	P	**P**	**09 30 25.4**	**-0.7**
Q44A				IAmb	IAmb	09 30 30.0	
	comp=Z,11nm,0.9s						
P38A	**Dawn**	**27.28**	**353**	P	**P**	**09 30 34.3**	**-0.4**
P38A				IAmb	IAmb	09 30 35.7	
	comp=Z,10nm,1.3s						
PV12	**Saucer Basin,**	**30.99**	**330**	P	**P**	**09 31 06.1**	**-1.9**
PV12				IAmb	IAmb	09 31 08.8	
	comp=Z,2.9nm,0.7s						
PV23	**Carpenter Ridg**	**31.19**	**329**	IAmb	IAmb	09 31 11.4	
	comp=Z,4.6nm,0.8s						
SADO	**Sadowa**	**33.36**	**13**	LR	LR	09 44 57.1	
	comp=Z,47nm,19.7s,baz=242,slow=37						
PDAR	**Pinedale Array**	**34.86**	**334**	P	**P**	**09 31 40.6**	**-1.3**
	comp=Z,0.1nm,0.6s,baz=155,slow=5.3,SNR=1.7						
	comp=Z,0.1nm,0.6s						
NVAR	**Mina Array Bea**	**36.43**	**320**	P	**P**	**09 31 56.9**	**+1.5**
	comp=Z,1.4nm,0.9s,baz=138,slow=7.5,SNR=7.7						
	comp=Z,1.4nm,0.9s						
DGMT	**Dagmar**	**37.93**	**344**	P	**P**	**09 32 07.1**	**-0.6**
SCHQ	**Schefferville**	**45.82**	**18**	P	P	09 33 08.8	-3.3
	comp=Z,4.5nm,0.9s,baz=215,slow=7.2,SNR=6.1						
	comp=Z,4.5nm,0.9s						
YKA	**Yellowknife Ar**	**53.09**	**346**	P	**P**	**09 34 05.8**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=148,slow=7.6,SNR=15						
	comp=Z,0.4nm,0.3s						
WRA	**Warramunga Arr**	**137.43**	**254**	PKP	**PKPdf**	**09 44 17.7**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=91,slow=2.4,SNR=1.4						
CMAR	**Chiang Mai Arr**	**148.17**	**345**	PKPbc	**PKPdf**	**09 44 37.0**	**+3.0**
	comp=Z,1.4nm,0.3s,baz=1.0,slow=2.5,SNR=5.0						

IDC 03 09:27:17.2±9.7, 6°.55S×154°.33E, h60km±83km, mb3.2/3, mbtmp3.6/4, ML2.2/1, Error ellipse: s-maj=110.9km s-min=38.5km az=128.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.65**	**248**	P	Pn	09 29 06.0	0.0
	2.2nm,0.3s,baz=67,slow=13,SNR=3.0						
PMG				S	Sn	09 30 32.4	+1.2
	6.3nm,0.4s,baz=293,slow=22,SNR=3.0						
	5.6nm,0.3s						
WRA	**Warramunga Arr**	**23.54**	**234**	P	P	09 32 21.9	-0.4
	0.7nm,0.6s,baz=59,slow=9.3,SNR=7.4						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**25.98**	**227**	P	P	09 32 44.8	+0.3
	0.6nm,0.8s,baz=51,slow=10,SNR=4.6						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**83.20**	**22**	P	P	09 39 36.7	+0.1
	0.5nm,1.0s,baz=247,slow=5.9,SNR=2.2						
	0.5nm,1.0s						

*NEIC **03** 09:28:10.8±1.8, 19°.20N±0°.02×156°.316W±0°.003, h5km±2km, Error ellipse: s-maj=3.6km s-min=3.1km az=0.0*

HVO 03 09:28:09.4±1.2, 19°.14N±0°.03×156°.41W±0°.04, h2km±10km, ML2.5/15, ML2.7/27(NEIC), Error ellipse: s-maj=5.7km s-min=3.5km az=66.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPH	**Captain Cook**	**0.58**	**53**		Pg	09 28 20.2	-0.2
KKH	**Kailua Kona**	**0.63**	**35**		Pg	09 28 20.9	-0.6
KHU	**Kahuku**	**0.76**	**82**		Pg	09 28 22.9	-1.0
KHU					Sg	09 28 33.0	-0.7
KHU				IAML		09 28 33.2	
	comp=N,309nm,0.2s						
KHU				IAML		09 28 36.7	
	comp=E,291nm,1.0s						
HUH	**Hualalai**	**0.77**	**45**		Pg	09 28 22.9	-1.3
HUH				IAML		09 28 47.9	
	comp=N,314nm,2.2s						
ALEP	**Alea Permanent**	**0.82**	**61**		Pg	09 28 24.1	-1.1
ALEP					Sg	09 28 35.2	-0.7
MWH	**Mokuaweoweo**	**0.84**	**66**		Pg	09 28 24.2	-1.3
MWH				IAML		09 28 52.5	
	comp=N,247nm,0.6s						
MWH				IAML		09 28 53.7	
	comp=E,315nm,1.7s						
MLOA	**Mauna Loa Obse**	**0.88**	**63**		Pg	09 28 24.6	-1.6
MLOA	**Mauna Loa Obse**	**0.88**	**63**		Sg	09 28 36.0	-1.7
MLOA	**Mauna Loa Obse**	**0.88**	**63**	IAML		09 28 34.3	
	comp=E,32nm,1.3s						
HTC	**Hot Caves**	**0.96**	**84**		Pg	09 28 25.6	-2.2
HTC					Sg	09 28 38.5	-1.7
MLH	**Mauna Loa**	**1.03**	**70**		Pg	09 28 26.5	-2.6
MLH	**Mauna Loa**	**1.03**	**70**	IAML		09 28 57.9	
	comp=E,199nm,3.0s						
POHA	**Pohakuloa**	**1.03**	**53**		Pg	09 28 26.6	-2.5
POHA	**Pohakuloa**	**1.03**	**53**		Sg	09 28 38.6	-3.9
POHA	**Pohakuloa**	**1.03**	**53**	IAML		09 28 44.7	
	comp=E,124nm,2.3s						
POHA				IAML		09 28 50.4	
	comp=E,174nm,3.1s						
UWE	**Uwekahuna**	**1.09**	**75**		Pg	09 28 28.0	-2.3
UWE					Sg	09 28 41.0	-3.4
OBL	**Observatory Le**	**1.10**	**75**		Sg	09 28 41.3	-3.4
UWB	**Uwekahuna Bluf**	**1.10**	**75**		Pg	09 28 27.3	-3.2
UWB					Sg	09 28 40.7	-4.2
HPAH	**Hawaii Prepara**	**1.11**	**37**	Pg	Pg	09 28 27.5	-3.2
HPAH					Sg	09 28 38.9	-6.3
SBLHI	**Steaming Bluff**	**1.11**	**75**		Pg	09 28 27.6	-3.1
SBLHI					Sg	09 28 41.1	-4.1
KNHH	**Kane Nui o Ham**	**1.19**	**78**		Pg	09 28 29.4	-2.9
STCH	**Steam Cracks**	**1.24**	**78**		Pg	09 28 30.2	-2.8
STCH					Sg	09 28 44.1	-5.1
STCH	**Steam Cracks**	**1.24**	**78**	IAML		09 29 02.7	
	comp=E,143nm,3.6s						
STCH				IAML		09 29 09.3	
	comp=N,122nm,3.5s						
HLK	**Haleakala**	**1.62**	**5**		Sn	09 28 52.0	-8.8
WMR	**Waimanalo Ridg**	**2.48**	**331**		Pn	09 28 46.6	-4.3
WMR					Sn	09 29 12.7	-9.0
DHH	**Diamond Head**	**2.49**	**328**	Pn	Pn	09 28 45.8	-5.1
HON	**Honolulu**	**2.64**	**326**		Sn	09 29 17.1	-8.6
HON	**Honolulu**	**2.64**	**326**		Pn	09 28 47.6	-5.4
KIP	**Kipapa**	**2.73**	**327**		Sn	09 29 19.1	-8.8
KIP	**Kipapa**	**2.73**	**327**		Pn	09 28 49.3	-5.0
KEKH	**Kekaha**	**4.20**	**313**		Pn	09 29 08.3	-6.2

*AEIC **03** 09:30:21.2±2.6, 51°.7N±0°.2×178°.15E±0°.06, h4km±8km, Error ellipse: s-maj=31.9km s-min=5.2km az=183.0*
*IDC **03** 09:30:22.4±0.9, 52°.12N×178°.10E, h0km, mb3.6/11, mbtmp3.6/12, ML3.8/1, MS2.8/3, Error ellipse: s-maj=30.2km s-min=16.5km az=177.0*
*NEIC **03** 09:30:23.1±2.0, 51°.7N±0°.1×178°.09E±0°.05, h10km±2km, mb3.9/34, ML3.9/6, ML3.5(AEIC), Error ellipse: s-maj=24.2km s-min=5.2km az=179.0*

ISC 03 09:30:23.6±0.9, 51°.9N±0°.1×178°.09E±0°.04, h10km, n70, σ1°.20/66, mb3.8/19, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GANO	**Gareloi North**	**1.93**	**91**		**Pn**	**09 30 56.2**	**-0.2**
GANO					**Sb**	**09 31 23.4**	**+0.4**
GANE	**Gareloi Northe**	**1.95**	**91**		**Pn**	**09 30 56.4**	**-0.3**
GANE					**Sb**	**09 31 23.2**	**-0.2**
TASE	**Tanaga Southea**	**2.40**	**90**		**Pn**	**09 31 04.2**	**+1.2**
TASE					**Sb**	**09 31 36.0**	**-0.7**
TAFP	**Tanaga Falls P**	**2.44**	**88**		**Pn**	**09 31 04.8**	**+1.4**
SHEM	**Shemya Is, Ala**	**2.59**	**291**	Pn	**Pn**	**09 31 05.8**	**+0.3**
	17nm,0.3s,baz=95,slow=4.7,SNR=13						
SHEM				Sn	**Sn**	**09 31 36.8**	**-0.2**
	98nm,0.3s,baz=277,slow=20,SNR=20						
SHEM				LR	LR	09 31 49.5	
	comp=Z,193nm,18.3s,baz=339,slow=34						
	61nm,0.4s						
SMY	**Shemya**	**2.59**	**291**	Pn	**Pn**	**09 31 06.8**	**+1.3**
SMY				IAML		09 31 41.7	
	comp=N,306nm,0.5s						
SMY				IAML		09 31 43.1	
	comp=E,687nm,1.0s						
SMY	**Shemya**	**2.59**	**291**		**Sb**	**09 31 40.8**	**-1.2**
KIKV	**Kanaga Island**	**2.94**	**88**		**Pn**	**09 31 10.7**	**+0.4**
KIWB	**Kanaga Island**	**2.95**	**89**	Pn	**Pn**	**09 31 10.5**	**0.0**
ADK	**Adak**	**3.24**	**88**	Pn	**Pn**	**09 31 14.6**	**+0.1**
ADK				IAML		09 33 17.3	
	comp=E,162nm,4.5s						
GSCK	**Great Sitkin C**	**3.56**	**86**		**Pn**	**09 31 18.5**	**-0.4**
ATKA	**Atka Island**	**4.78**	**83**	Pn	**Pn**	**09 31 35.7**	**+0.2**
ATKA				IAML		09 34 40.2	
	comp=N,145nm,3.9s						
UNV	**Unalaska Valle**	**9.53**	**72**	Pn	**Pn**	**09 32 40.2**	**-0.4**
PETK	**Petropavlovsk-**	**12.48**	**284**	LR	LR	09 38 10.0	
	comp=N,20nm,19.4s,baz=93,slow=38						
O14K	**Tigyukauivet M**	**13.78**	**50**	Pn	**Pn**	**09 33 41.6**	**+2.9**
O15K	**Ungalikthiuk R**	**14.43**	**51**	Pn	**Pn**	**09 33 48.8**	**+1.1**
N15K	**Kwethluk River**	**14.69**	**47**	Pn	**Pn**	**09 33 52.8**	**+1.5**
L16K	**Owhat River**	**15.66**	**42**	Pn	**Pn**	**09 34 06.0**	**+2.0**
L16K				IAmb	IAmb	09 34 26.1	
	comp=Z,21nm,1.5s						
N17K	**Nushagak Hills**	**16.16**	**48**	Pn	**Pn**	**09 34 12.2**	**+1.7**
ACHA	**Angle Creek He**	**16.43**	**57**	P	**Pn**	**09 34 15.5**	**+1.5**
P18K	**Big Mountain,**	**16.74**	**53**	P	**P**	**09 34 20.6**	**+0.3**
N18K	**Kilae Creek**	**16.82**	**48**	P	**P**	**09 34 21.4**	**+0.4**
N18K				IAmb	IAmb	09 34 28.7	
	comp=Z,4.9nm,0.8s						
Q19K	**Cape Douglas,**	**17.43**	**55**	P	**P**	**09 34 27.8**	**-0.1**
Q19K				IAmb	IAmb	09 34 43.5	
	comp=Z,11nm,0.9s						
N19K	**Bonanza Creek**	**17.51**	**49**	P	**P**	**09 34 29.6**	**+0.8**
M19K	**Big River Lodg**	**17.93**	**45**	P	**P**	**09 34 34.6**	**+1.3**
CNPM	**China Poot**	**18.76**	**54**	P	**P**	**09 34 41.8**	**-0.7**
J20K	**Nowinta River**	**18.97**	**39**	P	**Pn**	**09 34 46.0**	**+0.6**
BRLK	**Bradley Lake**	**18.98**	**53**	P	**P**	**09 34 44.8**	**-0.1**
BRLK				IAmb	IAmb	09 34 58.6	
	comp=Z,16nm,1.2s						
SLKM	**Skilak Lake**	**19.46**	**51**	P	**P**	**09 34 50.4**	**+0.3**
SLKM				IAmb	IAmb	09 34 53.1	
	comp=Z,7.1nm,0.8s						
KTH	**Kantishna Hill**	**20.02**	**42**	P	**P**	**09 34 57.5**	**+1.2**
KTH				IAmb	IAmb	09 35 19.4	
	comp=Z,6.5nm,1.1s						
H21K	**Melozitna River**	**20.18**	**36**	P	**P**	**09 34 58.6**	**+0.6**
H21K				IAmb	IAmb	09 35 02.6	
	comp=Z,8.5nm,1.4s						
D19K	**Kuna River**	**20.19**	**26**	P	**P**	**09 34 57.5**	**-0.5**
D19K				IAmb	IAmb	09 35 02.7	
	comp=Z,11nm,1.4s						
TRF	**Thorofare Moun**	**20.25**	**43**	P	**P**	**09 35 00.2**	**+1.4**
PWL	**Port Wells**	**20.44**	**51**	P	**P**	**09 35 00.1**	**-0.6**
SML	**Sawmill**	**20.64**	**48**	P	**P**	**09 35 04.0**	**+1.0**
SML				IAmb	IAmb	09 35 08.0	
	comp=Z,7.0nm,0.9s						
F21K	**Alatna River**	**20.77**	**32**	P	**P**	**09 35 04.6**	**+0.3**
F21K				IAmb	IAmb	09 35 08.4	
	comp=Z,4.9nm,0.8s						
SCM	**Sheep Creek Mo**	**21.11**	**48**	P	**P**	**09 35 07.8**	**-0.3**
G23K	**Bananza Creek**	**21.68**	**35**	P	**P**	**09 35 13.6**	**-0.5**
G23K				IAmb	IAmb	09 35 16.9	
	comp=Z,3.9nm,0.8s						
M24K	**Tolsona, Glenn**	**21.70**	**48**	P	**P**	**09 35 14.7**	**+0.2**
E22K	**Anaktuvuk Pass**	**21.80**	**30**	P	**P**	**09 35 15.6**	**+0.1**
E22K				IAmb	IAmb	09 35 18.0	
	comp=Z,3.2nm,0.8s						
ILAR	**Eielson Array**	**22.10**	**41**	P	**P**	**09 35 17.7**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=257,slow=9.7,SNR=11						
	comp=Z,1.4nm,0.9s						
PAX	**Paxson**	**22.20**	**46**	P	**P**	**09 35 20.1**	**+0.3**
PAX				IAmb	IAmb	09 35 21.5	
	comp=Z,4.5nm,1.0s						
F24K	**Squaw Lake**	**22.79**	**34**	P	**P**	**09 35 25.7**	**-0.3**
F24K				IAmb	IAmb	09 35 27.6	
	comp=Z,4.8nm,1.0s						
J26L	**Joseph Creek**	**23.39**	**43**	P	**P**	**09 35 29.3**	**-3.0**
J26L				IAmb	IAmb	09 35 32.3	
	comp=Z,5.3nm,1.1s						
F25K	**Christian River**	**23.60**	**35**	P	**P**	**09 35 34.0**	**-0.2**
F25K				IAmb	IAmb	09 35 43.6	
	comp=Z,4.0nm,1.2s						
E25K	**Arctic Village**	**23.84**	**33**	P	**P**	**09 35 36.0**	**-0.6**
L27K	**Beaver Creek,**	**23.85**	**46**	P	**P**	**09 35 36.0**	**-0.7**
BMAR	**Burnt Mountain**	**23.91**	**35**	P	**P**	**09 35 32.5**	**-4.7**
F26K	**Sheenjek River**	**24.17**	**35**	P	**P**	**09 35 39.6**	**-0.1**
F26K				IAmb	IAmb	09 35 40.2	
	comp=Z,1.8nm,0.8s						
C27K	**Jago River**	**25.09**	**31**	P	**P**	**09 35 47.9**	**-0.1**
C27K				IAmb	IAmb	09 35 49.0	
	comp=Z,4.4nm,1.4s						
E28M	**Babbage River**	**26.10**	**34**	P	**P**	**09 35 56.9**	**-0.3**
E29M	**Blow River**	**26.62**	**35**	P	**P**	**09 36 01.0**	**-0.7**
KLR	**Kul'dur**	**29.18**	**283**	LR	LR	09 49 19.6	
	comp=Z,30nm,18.7s,baz=330,slow=39						
A36M	**Sachs Harbour**	**31.60**	**30**	P	**P**	**09 36 46.3**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**33.26**	**199**	T	T	10 12 09.0	
	baz=11,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy**	**33.27**	**199**	T	T	10 12 10.0	
	baz=11,slow=76,SNR=34						
H11N1	**WAKE ISLAND Hy**	**33.28**	**199**	T	T	10 12 10.6	
	baz=11,slow=76,SNR=37						
H11S1	**WAKE ISLAND Hy**	**34.49**	**199**	T	T	10 13 41.3	
	baz=10,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**34.51**	**199**	T	T	10 13 57.8	
	baz=10,slow=76,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**34.51**	**199**	T	T	10 13 47.2	
	baz=10,slow=76,SNR=6.3						
YKA	**Yellowknife Ar**	**36.29**	**46**	P	**P**	**09 37 26.9**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=286,slow=8.2,SNR=7.6						
	comp=Z,0.7nm,0.8s						
NVAR	**Mina Array Bea**	**45.40**	**81**	P	**P**	**09 38 42.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=113,slow=3.9,SNR=4.1						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**47.99**	**71**	P	**P**	**09 39 01.0**	**-1.7**
	comp=Z,0.5nm,1.0s,baz=312,slow=9.2,SNR=2.2						
	comp=Z,0.5nm,1.0s						
KURBB	**Kurchatov Arra**	**57.36**	**312**	P	**P**	**09 40 09.5**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=42,slow=6.7,SNR=4.2						
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**58.19**	**306**	P	**P**	**09 40 16.1**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=44,slow=5.9,SNR=4.2						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**59.23**	**318**	P	**P**	**09 40 24.1**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=52,slow=9.3,SNR=2.5						
	comp=Z,0.5nm,0.4s						
TXAR	**Lajitas Array**	**60.48**	**79**	P	**P**	**09 40 32.7**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=299,slow=4.5,SNR=4.2						
	comp=Z,0.2nm,0.6s						
AKASG	**Malin Array Be**	**74.44**	**340**	P	**P**	**09 42 00.6**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=22,slow=6.0,SNR=4.3						
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**81.07**	**221**	P	**P**	**09 42 40.9**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=26,slow=5.0,SNR=2.2						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**84.59**	**220**	P	**P**	**09 42 58.7**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=12,slow=5.6,SNR=4.4						
	comp=Z,0.5nm,0.8s						

*SKO **03** 09:34:53.6, 39°.91N×19°.42E, h73km*
*TIR **03** 09:35:00.9, 40°.11N×19°.83E, h13km±1km, Md3.5/3, Ml3.1/6*
*PDG **03** 09:35:00.8±0.6, 40°.10N×19°.82E, h5km±1km, ML3.2/9, Error ellipse: s-maj=0.9km s-min=2.4km az=0.0*
*THE **03** 09:35:01.8, 40°.19N×19°.85E, h0km±3km, ML2.9/7, Error ellipse: s-maj=4.5km s-min=1.1km az=309.0*

ISC 03 09:35:01.5±0.9, 40°.13N±0°.02×19°.81E±0°.02, h16km±8km, n36, σ1°.35/69, 9C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.29**	**150**	↑*e*Pg	**Pg**	**09 35 06.4**	**-1.3**
SRN				Sg	**Sb**	**09 35 12.4**	**-0.5**
SRN				AML	AML	09 35 14.3	
	5.6nm,0.4s						
SRN				AMd		09 36 50.5	
VLO	**Vlora**	**0.41**	**325**	↓*e*Pg	**Pg**	**09 35 08.6**	**-1.3**
VLO				Sg	**Sg**	**09 35 16.0**	**+0.4**
VLO				AML	AML	09 35 21.3	
	30nm,0.4s						
VLO				AMd		09 35 45.5	
KEK	**Kerkira**	**0.42**	**181**	P	**Pb**	**09 35 10.5**	**0.0**
KEK				S	**Sn**	**09 35 18.6**	**-1.7**
	2μm,0.4s						
LSK	**Leskovik**	**0.61**	**88**	↑*i*Pg	**Pg**	**09 35 11.5**	**-1.9**
LSK				Sg	**Sb**	**09 35 22.0**	**-0.1**
LSK				AML	AML	09 35 26.7	
	5.4nm,0.5s						
LSK				AMd		09 37 07.3	
IGT	**Igoumenitsa**	**0.72**	**146**	P	**Pg**	**09 35 14.5**	**-1.1**
IGT				S	**Sn**	**09 35 26.5**	**-1.3**
	492nm,0.7s						
IGT	**Igoumenitsa**	**0.72**	**146**	↓*e*Pn	**Pg**	**09 35 14.6**	**-1.0**
IGT				Sn	**Sn**	**09 35 26.3**	**-1.5**
KBN	**Korca**	**0.89**	**56**	↓*e*Pg	**Pg**	**09 35 17.9**	**-1.0**
KBN				Sg	**Sn**	**09 35 31.2**	**-0.9**
KBN				AML	AML	09 35 38.3	
	2.5nm,0.5s						
JAN	**Janina**	**0.93**	**120**	P	**Pn**	**09 35 19.2**	**-0.7**
JAN				S	**Sn**	**09 35 33.3**	**+0.3**
	625nm,0.4s						
NEST	**Nestorio**	**0.99**	**73**	P	**Pg**	**09 35 19.3**	**-1.4**
NEST				S	**Sn**	**09 35 33.9**	**-0.6**
	308nm,0.6s						
NEST	**Nestorio**	**0.99**	**73**	↑*e*Pn	**Pg**	**09 35 19.5**	**-1.1**
NEST				Sn	**Sn**	**09 35 34.4**	**-0.1**
PENT	**Pentalofos**	**1.02**	**86**	P	**Pg**	**09 35 20.5**	**-0.8**
PENT				S	**Sn**	**09 35 34.2**	**-1.1**
SCTE	**Santa Cesarea**	**1.03**	**267**	↑*e*Pn	**Pn**	**09 35 21.9**	**+0.6**
SCTE				Sn	**Sn**	**09 35 37.0**	**+1.7**
OHR	**Ohrid**	**1.23**	**37**	*i* Pg	**Pb**	**09 35 24.5**	**0.0**
OHR				*i* Sg	**Sg**	**09 35 44.5**	**

MKAR Sn Sn 09 43 27.9 +1.1
0.1nm,0.3s,baz=21,slow=21,SNR=1.9
0.2nm,0.2s

---

*SNET **03** 09:44:47.3±1.5, 13°.89N×91°.05W, h22km±6km, ML3.8*
*GCG **03** 09:44:47.7±2.2, 13°.88N×91°.12W, h58km±13km, MD4.1*
*IDC **03** 09:44:49.0±2.7, 13°.82N×91°.16W, h67km±21km, mb3.2/3, mbtmp3.5/6, MS2.5/2, Error ellipse: s-maj=29.6km s-min=17.7km az=26.0*
*CATAC **03** 09:44:49.6±0.5, 14°N×94°.5W±°, h36km±5km, M4.0/18, MLv4.0/18, Error ellipse: s-maj=8.8km s-min=3.4km az=28.8, confirmed*

ISC 03 09:44:46.9±1.2,**13°.77N**±0°.06×**91°.14W**±0°.04,**h43**km±13km, **n75**,σ1s**27**/84,**mb3.5**/3,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.65**	**108**	*eP*	**Pn**	**09 44 57.8**	**-2.0**
ESSJ				*i* S	**Sn**	**09 45 07.1**	**-1.9**
ESSG	**Sabana Grande**	**0.68**	**26**	*eP*	**Pn**	**09 44 59.9**	**-0.3**
STG0	**El Palmar, Qui**	**0.68**	**343**	*eP*	Pn	09 45 04.8	+4.4
STG0				*eS*	Sn	09 45 18.5	+8.5
STG8	**El Palmar, Qui**	**0.71**	**343**	*eP*	Pn	09 45 05.5	+4.7
STG8				*i* S	Sn	09 45 18.6	+7.9
RTAL	**Retalhuleu**	**0.92**	**324**	*eP*	**Pn**	**09 45 03.9**	**+0.4**
RTAL				*eS*	**Sn**	**09 45 14.9**	**-0.8**
RTAL				IAML		09 45 20.6	
	comp=Z,2μm,0.2s						
RTAL	**Retalhuleu**	**0.92**	**324**	P	**Pn**	**09 45 03.7**	**+0.2**
RTAL	**Retalhuleu**	**0.92**	**324**	S	**Sn**	**09 45 16.2**	**+0.5**
GCG4	**OSOP**	**1.00**	**36**	*eP*	**Pn**	**09 45 05.3**	**+0.5**
SOKI	**Kika Raxquin**	**1.07**	**346**	*eP*	**Pn**	**09 45 06.2**	**+0.3**
SOKI				*eS*	**Sn**	**09 45 20.6**	**+0.7**
NUBE	**Las Nubes**	**1.32**	**84**	*eP*	**Pn**	**09 45 09.4**	**+0.3**
NUBE				*eS*	**Sn**	**09 45 25.3**	**-0.4**
NUBE	**Las Nubes**	**1.32**	**84**	*eP*	**Pn**	**09 45 09.4**	**+0.3**
NUBE	**Las Nubes**	**1.32**	**84**	P	**Pn**	**09 45 09.7**	**+0.5**
LOAL	**Lomas de Alarc**	**1.34**	**80**	S	**Sn**	**09 45 24.3**	**-1.6**
LOAL	**Lomas de Alarc**	**1.34**	**80**	P	**Pn**	**09 45 10.0**	**+0.8**
SLOZ	**Alcaldia de Sa**	**1.34**	**79**	*eP*	**Pn**	**09 45 09.7**	**+0.4**
SLOZ				*eS*	**Sn**	**09 45 26.9**	**+1.0**
SLOZ	**Alcaldia de Sa**	**1.34**	**79**	P	**Pn**	**09 45 09.9**	**+0.7**
SLOZ	**Alcaldia de Sa**	**1.34**	**79**	S	**Sn**	**09 45 27.2**	**+1.3**
CEVE	**Cerro Verde**	**1.47**	**88**	*eP*	**Pn**	**09 45 12.0**	**+0.8**
CEVE	**Cerro Verde**	**1.47**	**88**	P	**Pn**	**09 45 12.1**	**+0.9**
CEVE	**Cerro Verde**	**1.47**	**88**	S	**Sn**	**09 45 29.7**	**+0.3**
SBLS	**San Blas**	**1.47**	**87**	*eP*	**Pn**	**09 45 11.8**	**+0.5**
SBLS				*eP*		09 45 11.9	
SBLS				*eS*	**Sn**	**09 45 30.2**	**+0.8**
SNJE	**San Jose**	**1.49**	**86**	*eP*	**Pn**	**09 45 12.2**	**+0.7**
SNJE				*eP*		09 45 12.3	
UNIC	**Universidad Ca**	**1.56**	**82**	*eP*	**Pn**	**09 45 12.9**	**+0.6**
UNIC	**Universidad Ca**	**1.56**	**82**	P	**Pn**	**09 45 12.6**	**+0.4**
UNIC	**Universidad Ca**	**1.56**	**82**	S	**Sn**	**09 45 30.8**	**-0.5**
THIG		**1.57**	**316**	*eP*	**Pn**	**09 45 12.9**	**+0.5**
THIG				*eS*	**Sn**	**09 45 31.6**	**+0.1**
HUEH	**Huehuetenango**	**1.58**	**347**	*eP*	**Pn**	**09 45 13.8**	**+1.1**
HUEH				*eS*	**Sn**	**09 45 34.3**	**+2.3**
HUEH	**Huehuetenango**	**1.58**	**347**	*i* P	**Pn**	**09 45 13.7**	**+1.0**
HUEH				*eS*	**Sn**	**09 45 34.2**	**+2.2**
HUEH	**Huehuetenango**	**1.58**	**347**	P	**Pn**	**09 45 13.8**	**+1.1**
HUEH	**Huehuetenango**	**1.58**	**347**	S	**Sn**	**09 45 30.1**	**-2.0**
JAYA	**Jayaque - finc**	**1.65**	**94**	*eP*	**Pn**	**09 45 13.8**	**+0.3**
JAYA				IAML		09 45 35.2	
	comp=Z,2μm,0.3s						
JAYA	**Jayaque - finc**	**1.65**	**94**	*eP*	**Pn**	**09 45 13.9**	**+0.3**
JAYA	**Jayaque - finc**	**1.65**	**94**	P	**Pn**	**09 45 15.1**	**+1.5**
JAYA	**Jayaque - finc**	**1.65**	**94**	S	**Sn**	**09 45 34.8**	**+1.3**
PMON	**Piamonte**	**1.77**	**92**	P	**Pn**	**09 45 16.2**	**+1.0**
PMON	**Piamonte**	**1.77**	**92**	S	**Sn**	**09 45 38.4**	**+1.7**
BOQS	**Boqueron**	**1.81**	**91**	*eP*	**Pn**	**09 45 15.9**	**+0.1**
AVCB	**Coban**	**1.83**	**23**	*i* P	**Pn**	**09 45 17.0**	**+0.9**
MTO3	**Montecristo**	**1.83**	**70**	*eP*	**Pn**	**09 45 15.9**	**-0.3**
MTO3	**Montecristo**	**1.83**	**70**	*eP*	**Pn**	**09 45 15.9**	**-0.3**
MTO3	**Montecristo**	**1.83**	**70**	P	**Pn**	**09 45 16.0**	**-0.2**
MTO3	**Montecristo**	**1.83**	**70**	S	**Sn**	**09 45 37.0**	**-1.3**
UEES	**Universidad Ev**	**1.84**	**91**	P	**Pn**	**09 45 16.6**	**+0.3**
UEES	**Universidad Ev**	**1.84**	**91**	S	**Sn**	**09 45 41.0**	**+2.6**
LOMA	**Loma Larga**	**1.92**	**94**	*eP*	**Pn**	**09 45 18.1**	**+0.9**
LOMA	**Loma Larga**	**1.92**	**94**	P	**Pn**	**09 45 18.2**	**+1.0**
LOMA	**Loma Larga**	**1.92**	**94**	S	**Sn**	**09 45 42.2**	**+2.0**
LFRS	**El Faro**	**2.02**	**94**	*eP*	**Pn**	**09 45 20.2**	**+1.5**
PAVA	**Las Pavas**	**2.14**	**91**	*eP*	**Pn**	**09 45 20.8**	**+0.5**
PAVA	**Las Pavas**	**2.14**	**91**	P	**Pn**	**09 45 20.4**	**+0.1**
PAVA	**Las Pavas**	**2.14**	**91**	S	**Sn**	**09 45 45.2**	**-0.5**
TECO	**Alcaldia de Te**	**2.30**	**96**	P	**Pn**	**09 45 23.2**	**+0.8**
TECO	**Alcaldia de Te**	**2.30**	**96**	S	**Sn**	**09 45 50.2**	**+0.6**
SCLA	**Alcaldia de Sa**	**2.34**	**91**	P	**Pn**	**09 45 23.9**	**+0.9**
SCLA	**Alcaldia de Sa**	**2.34**	**91**	S	**Sn**	**09 45 54.0**	**+3.4**
CCIG	**Comitan**	**2.68**	**339**	*i* P	**Pn**	**09 45 29.4**	**+1.6**
PACA	**Pacayal**	**2.75**	**96**	P	**Pn**	**09 45 30.3**	**+1.6**
PACA	**Pacayal**	**2.75**	**96**	S	**Sn**	**09 46 02.9**	**+2.1**
RANC	**El Ranchito**	**2.79**	**97**	P	**Pn**	**09 45 31.0**	**+1.7**
RANC	**El Ranchito**	**2.79**	**97**	S	**Sn**	**09 46 01.5**	**-0.2**
IZABA	**Izabal, Puerto**	**3.15**	**51**	P	**Pn**	**09 45 31.6**	**-2.3**
LCND	**La Caada**	**3.19**	**98**	P	**Pn**	**09 45 35.7**	**+1.0**
LCND	**La Caada**	**3.19**	**98**	S	**Sn**	**09 46 12.1**	**+0.6**
CNCH	**Conchagua**	**3.25**	**98**	*eP*	**Pn**	**09 45 36.4**	**+0.9**
CNCH	**Conchagua**	**3.25**	**98**	P	**Pn**	**09 45 36.5**	**+0.9**
CNCH	**Conchagua**	**3.25**	**98**	S	**Sn**	**09 46 15.5**	**+2.4**
PETF	**Flores**	**3.36**	**21**	*eP*	**Pn**	**09 45 37.4**	**+0.5**
CMIG	**Matias Romero**	**4.89**	**313**	P	**Pn**	**09 45 59.9**	**+1.9**
	comp=Z,8.8nm,0.2s,baz=156,slow=10,SNR=21						
CMIG				S	**Sn**	**09 46 53.8**	**+0.3**
	comp=Z,26nm,0.4s,baz=234,slow=21,SNR=6.8						
CMIG				LR	LR	09 47 11.9	
	comp=Z,40nm,20.6s,baz=82,slow=30						
JTS	**Las Juntas de**	**6.97**	**119**	P	**Pn**	**09 46 29.3**	**+2.8**
	comp=Z,2.7nm,0.3s,baz=310,slow=19,SNR=5.9						
JTS				LR	LR	09 49 21.2	
	comp=Z,49nm,18.6s,baz=282,slow=39						
TEIG	**Tepich**	**6.98**	**23**	P	**Pn**	**09 46 26.9**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=208,slow=24,SNR=21						
TEIG				S	**Sn**	**09 47 46.8**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=50,slow=24,SNR=1.8						
TXAR	**Lajitas Array**	**19.36**	**325**	P	**P**	**09 49 10.0**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=148,slow=12,SNR=14						
PDAR	**Pinedale Array**	**32.98**	**335**	P	**P**	**09 51 17.6**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=152,slow=6.5,SNR=1.9						
	comp=Z,0.1nm,0.5s						
NVAR	**Mina Array Bea**	**34.38**	**321**	P	**P**	**09 51 30.9**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=136,slow=8.4,SNR=12						
	comp=Z,1.4nm,0.7s						
ILAR	**Eielson Array**	**63.38**	**337**	P	**P**	**09 55 09.5**	**-2.2**
	comp=Z,0.3nm,0.7s,baz=123,slow=6.6,SNR=4.4						
	comp=Z,0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**146.47**	**342**	PKPbc	**PKPdf**	**10 04 21.7**	**-1.3**
	comp=Z,1.6nm,0.4s,baz=41,slow=4.2,SNR=9.3						

IDC 03 09:58:13.1±12.0,**7°.96N×93°.55E,h0**km,**mb3.3**/4, **mbtmp3.3**/4,**Error ellipse: s-maj=633.8km s-min=31.5km az=57.0,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.09**	**234**	T	T	10 30 20.3	
	baz=55,slow=74						
H08S2	**Diego Garcia H**	**26.09**	**234**	T	T	10 30 20.4	
	baz=55						
H08S1	**Diego Carcia H**	**26.11**	**234**	T	T	10 30 23.9	
	baz=55						
MKAR	**Makanchi Array**	**39.88**	**348**	P	P	10 05 48.8	+0.1
	0.2nm,0.5s,baz=152,slow=6.5,SNR=1.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**44.33**	**346**	P	P	10 06 24.4	-0.5
	0.2nm,0.6s,baz=170,slow=8.1,SNR=4.4						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**46.40**	**353**	P	P	10 06 41.4	+0.1
	0.3nm,0.3s,baz=171,slow=10,SNR=1.6						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**48.78**	**125**	P	P	10 07 00.2	-0.1
	0.2nm,0.7s,baz=308,slow=8.5,SNR=1.6						
	0.2nm,0.7s						
H04N2	**CROZET ISLANDS**	**65.50**	**211**	T	T	11 20 00.7	
	baz=48						
H04N1	**CROZET ISLANDS**	**65.51**	**211**	T	T	11 19 27.9	
	baz=48						
H04N3	**CROZET ISLANDS**	**65.52**	**211**	T	T	11 19 28.2	
	baz=48						

IDC 03 10:11:28.8±9.3,**7°.18N×92°.78E,h0**km,**mb3.3**/5, **mbtmp3.3**/5,**Error ellipse: s-maj=465.6km s-min=24.6km az=59.0,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**25.02**	**234**	T	T	10 43 56.5	
	baz=54,slow=76,SNR=8.6						
H08S2	**Diego Garcia H**	**25.02**	**234**	T	T	10 44 00.9	
	baz=54,slow=76,SNR=8.4						
H08S1	**Diego Carcia H**	**25.04**	**234**	T	T	10 43 56.6	
	baz=54,slow=76,SNR=4.7						
MKAR	**Makanchi Array**	**40.49**	**349**	P	P	10 19 09.4	0.0
	0.3nm,0.6s,baz=170,slow=7.3,SNR=3.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**44.91**	**347**	P	P	10 19 45.1	0.0
	0.2nm,0.5s,baz=166,slow=7.8,SNR=5.2						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**47.08**	**354**	P	P	10 20 01.9	-0.3
	0.3nm,0.5s,baz=160,slow=8.9,SNR=3.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**48.97**	**124**	P	P	10 20 17.3	-0.1
	0.4nm,1.0s,baz=302,slow=7.5,SNR=1.5						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**50.52**	**129**	P	P	10 20 29.2	-0.1
	0.2nm,0.5s,baz=302,slow=7.3,SNR=1.9						
	0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**64.44**	**210**	T	T	11 32 51.7	
	baz=42,slow=75,SNR=10						
H04N1	**CROZET ISLANDS**	**64.45**	**210**	T	T	11 33 01.3	
	baz=42,slow=75,SNR=11						
H04N3	**CROZET ISLANDS**	**64.46**	**210**	T	T	11 32 53.5	
	baz=42,slow=75,SNR=8.7						

---

*NEIC **03** 10:21:51.3±1.2, 19°.78N±0°.03×155°.56W±0°.03, h26km±8km, Error ellipse: s-maj=4.5km s-min=4.0km az=206.0*

HVO 03 10:21:52.8±1.6,**19°.780N**±0°.007×**155°.557W**±0°.010, **h15**km±2km,**ML2.5**/26,**ML2.5**/41(NEIC),**Error ellipse: s-maj=1.4km s-min=1.0km az=106.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.03**	**134**		Pg	10 21 55.5	-0.4
POHA					Sg	10 21 58.0	0.0
HMH	**Humu'ula Sheep**	**0.19**	**158**		Pg	10 21 57.4	-0.2
HMH					Sg	10 22 01.0	+0.2
HMH				IAML		10 22 01.3	
	comp=E,837nm,0.4s						
HMH				IAML		10 22 02.4	
	comp=N,676nm,0.2s						
MLOA	**Mauna Loa Obse**	**0.24**	**184**		Pg	10 21 58.7	+0.2
MLOA	**Mauna Loa Obse**	**0.24**	**184**		Sb	10 22 03.1	-0.3
MLOA	**Mauna Loa Obse**	**0.24**	**184**	IAML		10 22 01.6	
	comp=N,34nm,1.3s						
ALEP	**Alea Permanent**	**0.25**	**199**		Pg	10 21 58.5	0.0
ALEP					Sg	10 22 02.9	+0.4
HUH	**Hualalai**	**0.28**	**250**		Pg	10 21 58.9	0.0
HPAH	**Hawaii Prepara**	**0.28**	**332**		Pg	10 21 58.4	-0.5
HPAH					Sg	10 22 02.6	-0.5
MWH	**Mokuaweoweo**	**0.29**	**187**		Pg	10 21 58.9	-0.4
MWH					Sg	10 22 03.9	0.0
MWH				IAML		10 22 09.8	
	comp=N,771nm,0.4s						
MLH	**Mauna Loa**	**0.33**	**150**		Pg	10 21 59.3	-0.4
MLH					Sg	10 22 04.2	-0.3
MLH				IAML		10 22 04.5	
	comp=E,766nm,0.2s						
RSD	**Rainshed**	**0.41**	**140**		Sg	10 22 06.3	-0.5
RSD	**Rainshed**	**0.41**	**140**		Pg	10 22 00.5	-0.7
UWE	**Uwekahuna**	**0.43**	**145**		Pg	10 22 00.8	-0.9
UWE				IAML		10 22 13.9	
	comp=E,552nm,0.5s						
UWE				IAML		10 22 16.2	
	comp=N,563nm,1.5s						
UWB	**Uwekahuna Bluf**	**0.44**	**143**		Pg	10 22 00.6	-1.1
UWB					Sg	10 22 06.7	-1.1
OBL	**Observatory Le**	**0.44**	**144**		Pg	10 22 00.7	-1.1
OBL					Sg	10 22 06.8	-1.0
WRMHI	**West Rim**	**0.44**	**147**		Pg	10 22 00.7	-1.0
SBLHI	**Steaming Bluff**	**0.44**	**142**		Pg	10 22 00.6	-1.1
SBLHI					Sg	10 22 06.7	-1.2
CPH	**Captain Cook**	**0.45**	**230**		Pg	10 22 00.9	-0.9
CPH					Sg	10 22 06.5	-1.4
HATHI	**Halema'uma'u T**	**0.45**	**142**		Pg	10 22 00.9	-1.0
HATHI					Sg	10 22 06.6	-1.5
HATHI				IAML		10 22 13.9	
	comp=N,273nm,1.0s						
HATHI				IAML		10 22 16.3	
	comp=E,287nm,0.9s						
BYL	**Byron's Ledge**	**0.46**	**143**		Pg	10 22 00.9	-1.1
SDHHI	**Sand Hill**	**0.46**	**147**		Sb	10 22 09.2	-0.2
PUH	**Pauahi**	**0.52**	**141**		Pg	10 22 01.4	-1.7
MHA	**Mahukona**	**0.52**	**321**	Pg	Pg	10 22 02.0	-1.2
MHA					Sg	10 22 09.1	-1.0
KHU	**Kahuku**	**0.53**	**186**		Pg	10 22 01.9	-1.6
KHU				IAML		10 22 05.5	
	comp=E,270nm,3.8s						
KHU				IAML		10 22 07.1	
	comp=N,274nm,4.5s						
KHU				Sg	Sg	10 22 08.8	-1.9
HLP	**Hilina Pali**	**0.54**	**154**		Pg	10 22 02.2	-1.3
HLP					Sg	10 22 10.4	-0.2
HLP				IAML		10 22 15.4	
	comp=E,439nm,2.7s						
KNHH	**Kane Nui o Ham**	**0.54**	**137**		Pg	10 22 02.0	-1.5
HTC	**Hot Caves**	**0.56**	**164**		Pg	10 22 02.4	-1.5
STCH	**Steam Cracks**	**0.56**	**134**		Pg	10 22 02.4	-1.7
STCH				IAML		10 22 12.4	
	comp=N,346nm,0.1s						
NPOC	**North of Pu'u**	**0.57**	**132**		Pg	10 22 02.4	-1.7
NPOC					Sg	10 22 11.1	-0.6
JCUZ	**Jacuzzi**	**0.58**	**132**		Pg	10 22 02.6	-1.7
JCUZ					Sg	10 22 11.3	-0.8

---

*NEIC **03** 10:45:29.6±1.2, 61°.22N±0°.04×151°.42W±0°.01, h77km±5km, Error ellipse: s-maj=5.5km s-min=0.5km az=173.0*

AEIC 03 10:45:30.6±1.4,**61°.22N**±0°.04×**151°.47W**±0°.09,**h57**km±7km, **ML2.4**,**ML2.5**/148(NEIC),**Error ellipse: s-maj=6.1km s-min=5.4km az=67.0,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.33**	**328**		Pn	10 45 41.4	+0.6
STLK				Sn	Sn	10 45 50.1	+2.0
STLK				IAML		10 45 50.5	
	comp=E,461nm,0.2s						
SUA	**Susitna One**	**0.43**	**55**		Pn	10 45 41.9	+0.1
SUA				Sn	Sn	10 45 51.9	+2.1
SUA				IAML		10 45 52.1	
	comp=E,178nm,0.5s						
SUA				IAML		10 45 53.6	
	comp=N,172nm,0.5s						
FIS	**Fire Island**	**0.61**	**97**		Pn	10 45 44.2	+0.6
FIS				IAML		10 45 58.6	
	comp=E,267nm,0.7s						
FIS				IAML		10 45 59.5	
	comp=N,245nm,0.6s						
SKT	**Skwentna**	**0.76**	**358**		Pn	10 45 45.5	0.0
SKT				Sn	Sn	10 45 56.8	+0.4
SKT				IAML		10 45 58.7	
	comp=N,161nm,0.4s						
SKT				IAML		10 45 58.8	
	comp=E,216nm,0.2s						
M22K	**Willow**	**0.84**	**50**		Pn	10 45 46.8	+0.3
RC01	**Rabbit Creek A**	**0.85**	**98**		Pn	10 45 46.1	-0.5
RC01				IAML		10 46 01.9	
	comp=E,176nm,0.2s						
RC01				IAML		10 46 02.6	
	comp=N,140nm,0.1s						
SLKM	**Skilak Lake**	**0.94**	**139**		Pn	10 45 47.1	-0.7
SLKM				IAML		10 46 02.1	
	comp=E,113nm,0.4s						
SLKM				IAML		10 46 02.6	
	comp=N,140nm,0.3s						
M20K	**Styx River**	**1.03**	**311**	Pn	Pn	10 45 48.9	-0.2
O22K	**Cooper Landing**	**1.13**	**130**		Pn	10 45 50.5	+0.2
PMR	**Palmer**	**1.19**	**71**	Pn	Pn	10 45 50.4	-0.6
PMR				IAML		10 46 07.6	
	comp=E,81nm,0.2s						
PMR				IAML		10 46 08.1	
	comp=N,143nm,0.4s						
CUT	**Chulitna**	**1.32**	**25**		Pn	10 45 52.3	-0.5
GHO	**Glory Hole Cre**	**1.34**	**65**		Pn	10 45 52.7	-0.5
GHO				IAML		10 46 12.4	
	comp=N,80nm,0.5s						
GHO				IAML		10 46 15.5	
	comp=E,73nm,0.4s						
KNK	**Knik Glacier**	**1.47**	**81**		Pn	10 45 53.9	-0.9
KNK				IAML		10 46 20.0	
	comp=N,84nm,0.8s						
BRLK	**Bradley Lake**	**1.49**	**169**	Pn	Pn	10 45 54.7	-0.4
BRLK				IAML		10 46 16.4	
	comp=N,88nm,0.4s						
BRLK				IAML		10 46 17.6	
	comp=E,72nm,0.4s						
ILSW	**Iliamna Southw**	**1.49**	**214**		Pn	10 45 54.7	-0.5
ILSW				IAML		10 46 18.2	
	comp=N,41nm,0.4s						
SEW	**Seward**	**1.50**	**138**		Pn	10 45 54.8	-0.3
SEW				IAML		10 46 19.3	
	comp=E,88nm,0.4s						
SEW				IAML		10 46 19.8	
	comp=N,94nm,0.5s						
N19K	**Bonanza Creek**	**1.52**	**256**		Pn	10 45 55.0	-0.6
N19K				IAML		10 46 15.6	
	comp=N,57nm,0.7s						
M19K	**Big River Lodg**	**1.56**	**297**	Pn	Pn	10 45 55.6	-0.4
PWL	**Port Wells**	**1.57**	**102**		Pn	10 45 54.9	-1.3
PWL				IAML		10 46 19.4	
	comp=N,77nm,0.4s						
HOM	**Homer**	**1.57**	**183**	Pn	Pn	10 45 56.8	+0.6
SML	**Sawmill**	**1.62**	**67**	Pn	Pn	10 45 55.9	-1.0
SML				IAML		10 46 22.2	
	comp=N,37nm,0.6s						
SML				IAML		10 46 23.3	
	comp=E,49nm,0.6s						
CNPM	**China Poot**	**1.71**	**176**	Pn	Pn	10 45 57.5	-0.5
CNPM				IAML		10 46 23.3	
	comp=E,68nm,0.5s						
PPLA	**Purkeypile**	**1.71**	**349**		Pn	10 45 57.6	-0.7
PPLA				IAML		10 46 22.2	
	comp=N,30nm,0.6s						
O19K	**Port Alsworth**	**1.74**	**235**		Pn	10 45 58.1	-0.4
P19K	**Oil Pt**	**1.80**	**210**		Pn	10 45 59.3	0.0
L19K	**White Mountain**	**1.88**	**302**		Pn	10 46 00.2	-0.2
L19K				IAML		10 46 23.9	
	comp=N,37nm,0.6s						
SCM	**Sheep Creek Mo**	**2.08**	**71**		Pn	10 46 02.0	-1.1
GLI	**Glacier Island**	**2.16**	**97**	Pn	Pn	10 46 01.7	-2.4
GLI				IAML		10 46 37.3	
	comp=N,44nm,0.7s						
GLI				IAML		10 46 37.8	
	comp=E,42nm,0.8s						
N18K	**Kilae Creek**	**2.22**	**258**		Pn	10 46 04.1	-0.9
CAST	**Castle Rocks**	**2.22**	**353**	Pn	Pn	10 46 04.5	-0.5
O18K	**Koktuh Hills**	**2.30**	**235**	Pn	Pn	10 46 05.2	-0.9
TRF	**Thorofare Moun**	**2.30**	**13**	Pn	Pn	10 46 05.9	-0.4
TRF				IAML		10 46 37.7	
	comp=E,43nm,0.4s						
TRF				IAML		10 46 38.5	
	comp=N,43nm,0.4s						
KTH	**Kantishna Hill**	**2.35**	**6**		Pn	10 46 06.8	-0.1
KTH				IAML		10 46 36.7	
	comp=N,36nm,0.8s						
KTH				IAML		10 46 42.3	
	comp=E,31nm,0.6s						
K20K	**Telida**	**2.46**	**332**		Pn	10 46 07.8	-0.5
FID	**Port Fidalgo**	**2.48**	**99**	Pn	Pn	10 46 05.3	-3.2
FID				IAML		10 46 35.3	
	comp=E,31nm,0.4s						
FID				IAML		10 46 37.0	
	comp=N,38nm,0.4s						
RND	**Reindeer**	**2.51**	**28**	Pn	Pn	10 46 09.6	+0.6
RND				IAML		10 46 45.4	
	comp=E,14nm,0.7s						
RND				IAML		10 46 45.6	
	comp=N,16nm,0.5s						
Q19K	**Cape Douglas,**	**2.54**	**206**		Pn	10 46 09.2	-0.3
L18K	**Granite Mounta**	**2.68**	**294**	Pn	Pn	10 46 10.9	-0.4
L18K				IAML		10 46 42.3	
	comp=E,12nm,1.1s						
M24K	**Tolsona, Glenn**	**2.68**	**68**		Pn	10 46 10.9	-0.4
M24K				IAML		10 46 52.6	
	comp=N,29nm,0.8s						
KLU	**Klutina**	**2.69**	**82**	Pn	Pn	10 46 09.7	-1.8
KLU				IAML		10 46 41.8	
	comp=N,18nm,0.9s						
KLU				IAML		10 46 56.0	
	comp=E,15nm,0.6s						
TTA	**Tatalina**	**2.74**	**311**	Pn	Pn	10 46 11.4	-0.7
DIV	**Divide**	**2.76**	**89**		Pn	10 46 10.4	-2.1
DIV				IAML		10 46 57.0	
	comp=E,16nm,0.5s						
MCK	**McKinley**	**2.78**	**24**	Pn	Pn	10 46 13.2	+0.5
MCK				IAML		10 46 48.2	
	comp=E,16nm,0.5s						
MCK				IAML		10 47 04.0	
	comp=N,12nm,0.8s						
EYAK	**Cordova Ski Ar**	**2.88**	**101**	Pn	Pn	10 46 11.3	-2.6
EYAK				IAML		10 46 45.9	
	comp=N,15nm,0.5s						
EYAK				IAML		10 46 46.1	
	comp=E,11nm,0.5s						
N17K	**Nushagak Hills**	**2.88**	**258**	Pn	Pn	10 46 13.1	-0.9
N17K				IAML		10 46 47.5	
	comp=E,11nm,0.9s						
M17K	**Holitna River**	**2.88**	**276**	Pn	Pn	10 46 13.4	-0.6
M17K				IAML		10 46 47.4	
	comp=N,16nm,0.7s						
M17K				IAML		10 47 01.1	
	comp=E,16nm,0.9s						
BPAW	**Bear Paw Mtn.**	**2.90

comp=N,4.4nm,0.8s
H21K Melozitna Rive 4.49 353 Pn 10 46 35.7 -0.4
H21K IAML 10 49 36.8
comp=E,5.5nm,0.6s
J16K Anvik River 4.74 300 Pn Pn 10 46 39.4 -0.1
J16K IAML 10 47 28.1
comp=N,5.5nm,1.2s
J16K IAML 10 49 27.4
comp=E,3.8nm,1.2s
K15K Wolf Creek Mou 4.90 287 Pn Pn 10 46 41.3 -0.3
K15K IAML 10 47 32.6
comp=N,2.4nm,1.0s
H24K Noodor Dome 4.90 18 Pn 10 46 41.9 +0.2
H18K Honhosa River 5.03 325 Pn Pn 10 46 43.0 -0.3
M14K Bethel 5.13 269 Pn Pn 10 46 44.3 -0.4
M14K IAML 10 48 57.6
comp=N,4.0nm,0.9s
COLD Coldfoot 6.06 5 Pn Pn 10 46 57.8 +0.4
F21K Alatna River 6.09 353 Pn Pn 10 46 57.6 -0.3
H27K Steamboat Moun 6.68 37 Pn Pn 10 47 05.1 -1.0
BMAR Burnt Mountain 6.91 23 Pn Pn 10 47 09.1 -0.1
E23K Chandalar 6.91 6 Pn Pn 10 47 10.1 +0.8
E25K Arctic Village 7.37 17 Pn Pn 10 47 14.7 -0.7

DJA 03 11:07:08.5±0.4,7°S±2°×11°5E±°,h12km±4km,M4.0/13, mB4.8/1,mb4.4/2,MLv3.8/13,Mw(mB)4.1/1,Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMMI	**Kalianget**	**0.64**	**284**	P	Pb	11 07 22.3	+0.7
KMMI				S	Sn	11 07 32.3	-1.2
ABJI	**Asem Bagus**	**0.68**	**211**	P	Pg	11 07 21.5	-0.2
SRBI	**Singaraja**	**1.07**	**145**	P	Pb	11 07 28.4	-0.5
SRBI				S	Sn	11 07 43.6	-0.4
JAGI	**Jajag, Banyuwa**	**1.32**	**199**	P	Pn	11 07 32.1	-0.8
JAGI				S	Sb	11 07 49.7	-0.6
GMJI	**Gumukmas**	**1.55**	**227**	P	Pn	11 07 35.4	-0.5
GMJI				S	Sn	11 07 55.8	-0.2
DNP	**Denpasar**	**1.58**	**157**	P	Pn	11 07 36.8	+0.4
GRJI	**Gresik**	**2.12**	**278**	P	Pn	11 07 43.2	-0.5
PLAI	**Plampang**	**3.54**	**117**	P	Pn	11 08 03.2	-0.2
BSSI	**Bau Bau, Buton**	**5.96**	**80**	P	Pn	11 08 36.3	-0.3
	39nm,1.2s						
SPSI	**Sidrap Palu**	**6.08**	**58**	P	Pn	11 08 38.3	0.0

*NEIC **03** 11:15:51.6±2.1,51°.7N±0°.1×177°.86E±0°.08,h10km±2km, mb4.2/68,Error ellipse: s-maj=18.5km s-min=4.2km az=203.0*
*IDC **03** 11:15:53.6±5.2,51°.72N×177°.95E,h33km±38km,mb3.8/18, mbtmp4.0/22,ML3.0/4,MS3.3/7,Error ellipse: s-maj=32.0km s-min=13.8km az=0.0*

ISC 03 11:15:50.2±0.8,51°.6N±0°.1×177°.85E±0°.05,h10km,n108, σ1°61/101,mb4.3/45,MS3.5/5,1D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.57**	**298**		**Pn**	**11 16 32.4**	**+0.6**
	14nm,0.3s,baz=121,slow=3.9,SNR=9.4						
SHEM				Sn	**Sb**	**11 17 06.7**	**-1.2**
	24nm,0.3s,baz=261,slow=19,SNR=13						
SHEM				LR	LR	11 17 09.0	
	comp=Z,66nm,18.1s,baz=172,slow=29						
	102nm,0.8s						
SMY	**Shemya**	**2.57**	**298**		**Pn**	**11 16 32.6**	**+0.8**
KIWB	**Kanaga Island**	**3.12**	**83**		**Pn**	**11 16 39.5**	**+0.1**
ADK	**Adak**	**3.41**	**83**	Pn	**Pn**	**11 16 44.7**	**+1.4**
PETK	**Petropavlovsk-**	**12.41**	**285**	Pn	**Pn**	**11 18 47.9**	**+1.2**
	baz=105,slow=16,SNR=2.7						
	5.4nm,1.0s						
N15K	**Kwethluk River**	**15.00**	**47**	Pn	**Pn**	**11 19 22.3**	**+0.4**
O16K	**Kokwok River B**	**15.71**	**50**	Pn	**Pn**	**11 19 31.4**	**+0.1**
O16K				IAmb	IAmb	11 19 42.3	
	comp=Z,13nm,1.1s						
P18K	**Big Mountain,**	**17.04**	**52**	P	**P**	**11 19 50.6**	**+0.6**
P18K				IAmb	IAmb	11 19 59.6	
	comp=Z,36nm,1.3s						
N18K	**Kilae Creek**	**17.12**	**48**	P	**P**	**11 19 50.9**	**0.0**
MA2	**Magadan**	**17.16**	**308**	LR	LR	11 25 32.9	
	comp=Z,88nm,19.1s,baz=116,slow=34						
O18K	**Koktuh Hills**	**17.18**	**51**	P	**P**	**11 19 53.7**	**+2.1**
O18K				IAmb	IAmb	11 20 02.6	
	comp=Z,26nm,1.1s						
SEY	**Seymchan**	**17.70**	**320**	P	**P**	**11 19 57.8**	**+0.5**
	baz=91,slow=9.7,SNR=4.1						
	comp=Z,1.5nm,0.6s						
O19K	**Port Alsworth**	**17.70**	**50**	P	**P**	**11 19 59.5**	**+2.2**
O19K				IAmb	IAmb	11 20 04.7	
	comp=Z,23nm,0.9s						
Q19K	**Cape Douglas,**	**17.72**	**54**	P	**Pn**	**11 19 57.7**	**+1.0**
Q19K				IAmb	IAmb	11 20 14.5	
	comp=Z,37nm,1.4s						
N19K	**Bonanza Creek**	**17.81**	**48**	P	**Pn**	**11 19 58.9**	**+0.9**
N19K				IAmb	IAmb	11 20 16.8	
	comp=Z,19nm,1.2s						
KDAK	**Kodiak Island**	**18.08**	**58**	P	**Pn**	**11 20 01.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=25,slow=4.2,SNR=3.5						
	comp=Z,9.0nm,1.0s						
P19K	**Oil Pt**	**18.09**	**52**	P	**Pn**	**11 20 01.1**	**-0.2**
ILSW	**Iliamna Southw**	**18.21**	**51**	P	**Pn**	**11 20 03.2**	**+0.4**
ILSW				IAmb	IAmb	11 20 13.1	
	comp=Z,34nm,1.3s						
C16K	**Lisburne Hills**	**18.61**	**20**	P	**Pn**	**11 20 08.8**	**+1.4**
CNPM	**China Poot**	**19.05**	**53**	P	**P**	**11 20 13.0**	**+0.7**
CNPM				IAmb	IAmb	11 20 15.2	
	comp=Z,15nm,1.0s						
STLK	**Strandline Lak**	**19.25**	**47**	P	**Pn**	**11 20 16.3**	**+0.9**
BRLK	**Bradley Lake**	**19.27**	**53**	P	**P**	**11 20 15.0**	**+0.3**
BRLK				IAmb	IAmb	11 20 20.7	
	comp=Z,14nm,1.0s						
SLKM	**Skilak Lake**	**19.75**	**51**	P	**P**	**11 20 20.8**	**+0.9**
D19K	**Kuna River**	**20.51**	**25**	P	**P**	**11 20 29.2**	**+1.1**
GHO	**Glory Hole Cre**	**20.66**	**48**	P	**P**	**11 20 31.6**	**+1.9**
GHO				IAmb	IAmb	11 20 45.8	
	comp=Z,18nm,1.4s						
KNK	**Knik Glacier**	**20.79**	**49**	P	**P**	**11 20 32.5**	**+1.4**
SML	**Sawmill**	**20.94**	**48**	P	**P**	**11 20 33.6**	**+0.8**
SML				IAmb	IAmb	11 20 48.6	
	comp=Z,13nm,1.1s						
D20K	**Etivluk River**	**21.07**	**26**			11 20 36.4	
F21K	**Alatna River**	**21.09**	**31**		**P**	**11 20 37.1**	**+2.7**
GLI	**Glacier Island**	**21.33**	**51**	P	**P**	**11 20 38.8**	**+1.8**
GLI				IAmb	IAmb	11 20 49.3	
	comp=Z,13nm,0.9s						
NEA2	**Nenana**	**21.47**	**40**	P	**P**	**11 20 38.3**	**-0.2**
NEA2				IAmb	IAmb	11 20 50.1	
	comp=Z,17nm,1.4s						
FID	**Port Fidalgo**	**21.61**	**51**	P	**P**	**11 20 39.1**	**-0.9**
B20K	**Meade River**	**21.82**	**23**	P	**P**	**11 20 43.3**	**+1.2**
EYAK	**Cordova Ski Ar**	**21.93**	**52**	P	**P**	**11 20 46.4**	**+3.0**
G23K	**Bananza Creek**	**22.00**	**34**	P	**P**	**11 20 45.7**	**+1.6**
KLU	**Klutina**	**22.00**	**49**	P	**P**	**11 20 46.9**	**+2.7**
KLU				IAmb	IAmb	11 20 59.3	
	comp=Z,15nm,1.1s						
M24K	**Tolsona, Glenn**	**22.00**	**48**		**P**	**11 20 47.7**	**+3.5**
DIV	**Divide**	**22.01**	**50**	P	**P**	**11 20 45.9**	**+1.6**
DIV				IAmb	IAmb	11 20 47.8	
	comp=Z,11nm,1.0s						
E22K	**Anaktuvuk Pass**	**22.12**	**30**	P	**P**	**11 20 46.8**	**+1.3**
B21K	**Ikpikpuk River**	**22.20**	**25**	P	**P**	**11 20 47.9**	**+1.7**
B21K				IAmb	IAmb	11 20 57.1	
	comp=Z,10nm,1.3s						
ILAR	**Eielson Array**	**22.41**	**40**	P	**P**	**11 20 48.0**	**-0.6**
	comp=Z,1.6nm,1.0s,baz=254,slow=9.7,SNR=8.9						
	comp=Z,1.6nm,1.0s						
RAGM	**Ragged Mountai**	**22.44**	**52**	P	**P**	**11 20 52.4**	**+3.4**
PAX	**Paxson**	**22.51**	**45**	P	**P**	**11 20 51.5**	**+1.8**
PAX				IAmb	IAmb	11 21 05.3	
	comp=Z,18nm,1.5s						
BMRM	**Bremner River**	**22.55**	**51**	P	**P**	**11 20 52.6**	**+2.5**
N25K	**Chitina, Valde**	**22.64**	**49**		**P**	**11 20 54.2**	**+3.1**
N25K				IAmb	IAmb	11 20 55.0	
	comp=Z,18nm,1.4s						
E23K	**Chandalar**	**22.79**	**31**	P	**P**	**11 20 52.7**	**+0.1**
G24K	**Hadweenzic Riv**	**22.90**	**36**	P	**P**	**11 20 54.0**	**+0.3**
GLB	**Gilahina Butte**	**22.99**	**50**		**P**	**11 20 55.0**	**+0.2**
GLB				IAmb	IAmb	11 21 03.7	
	comp=Z,15nm,1.2s						
TOLK	**Toolik Lake Re**	**23.10**	**30**		**P**	**11 20 56.3**	**+0.5**
TOLK				IAmb	IAmb	11 21 14.9	
	comp=Z,9.4nm,1.4s						
F24K	**Squaw Lake**	**23.11**	**33**	P	**P**	**11 20 55.8**	**-0.1**
F24K				IAmb	IAmb	11 20 56.8	
	comp=Z,9.5nm,1.3s						
VRDI	**Verde Repeater**	**23.14**	**50**	P	**P**	**11 21 03.2**	**+6.8**
C23K	**Itkillik River**	**23.44**	**27**	P	**P**	**11 20 57.4**	**-1.7**
L26K	**Log Cabin Wild**	**23.47**	**46**	P	**P**	**11 21 01.9**	**+2.4**
D24K	**Happy Valley**	**23.60**	**29**	P	**P**	**11 21 00.1**	**-0.6**
J26L	**Joseph Creek**	**23.70**	**42**		**P**	**11 21 00.2**	**-1.6**
J26L				IAmb	IAmb	11 21 14.7	
	comp=Z,6.7nm,1.1s						
MESA	**MESA**	**23.78**	**53**	P	**P**	**11 21 07.0**	**+4.3**
YAH	**Yahtse**	**23.89**	**53**	P	**P**	**11 21 05.4**	**+1.5**
F25K	**Christian Rive**	**23.92**	**34**	P	**P**	**11 21 03.9**	**0.0**
M27K	**Edge Creek, AK**	**24.03**	**48**	P	**P**	**11 21 07.6**	**+2.5**
L27K	**Beaver Creek,**	**24.16**	**46**	P	**P**	**11 21 07.0**	**+0.8**
L27K				IAmb	IAmb	11 21 16.4	
	comp=Z,13nm,1.3s						
E25K	**Arctic Village**	**24.16**	**33**	P	**P**	**11 21 06.4**	**+0.3**
BCAR	**Beaver Creek A**	**24.18**	**46**	P	**P**	**11 21 07.2**	**+0.9**
K27K	**Chicken**	**24.23**	**44**	P	**P**	**11 21 06.6**	**-0.1**
K27K				IAmb	IAmb	11 21 17.7	
	comp=Z,8.1nm,1.2s						
G26K	**Porcupine Rive**	**24.35**	**36**	P	**P**	**11 21 10.9**	**+3.1**
G26K				IAmb	IAmb	11 21 15.4	
	comp=Z,13nm,1.3s						
D25K	**Kavik River**	**24.44**	**30**	P	**P**	**11 21 07.7**	**-1.0**
F26K	**Sheenjek River**	**24.49**	**35**	P	**P**	**11 21 08.5**	**-0.6**
O28M	**Mount Upton**	**24.68**	**52**	P	**P**	**11 21 12.4**	**+1.2**
DAWY	**Dawson**	**25.39**	**44**	P	**P**	**11 21 18.5**	**+1.2**
DAWY				IAmb	IAmb	11 21 21.5	
	comp=Z,7.3nm,0.9s						
I28M	**Miner Creek**	**25.43**	**41**	P	**P**	**11 21 18.2**	**+0.5**
I28M				IAmb	IAmb	11 21 33.1	
	comp=Z,6.9nm,1.4s						
M29M	**Somme Creek**	**25.62**	**48**	P	**P**	**11 21 20.2**	**+0.7**
M29M				IAmb	IAmb	11 21 48.0	
	comp=Z,6.4nm,1.4s						
I29M	**Ogilvie Camp,**	**26.08**	**41**	P	**P**	**11 21 23.7**	**+0.2**
J30M	**Hart River**	**26.79**	**43**	P	**P**	**11 21 30.6**	**+0.6**
J30M				IAmb	IAmb	11 21 49.1	
	comp=Z,5.3nm,1.2s						
YAK	**Yakutsk**	**27.69**	**311**	LR	LR	11 31 51.2	
	comp=Z,59nm,19.2s,baz=104,slow=35						
P33M	**Teslin, Yukon**	**28.34**	**53**	P	**P**	**11 21 44.1**	**+0.2**
P33M				IAmb	IAmb	11 21 54.4	
	comp=Z,6.4nm,1.2s						
A36M	**Sachs Harbour**	**31.92**	**30**	P	**P**	**11 22 15.3**	**0.0**
A36M				IAmb	IAmb	11 22 18.1	
	comp=Z,3.8nm,1.1s						
C36M	**Paulatuk**	**32.03**	**35**	P	**P**	**11 22 17.9**	**+1.7**
C36M				IAmb	IAmb	11 22 21.6	
	comp=Z,3.3nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**32.95**	**199**	T	T	11 57 41.2	
	baz=11,slow=76,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**32.96**	**199**	T	T	11 57 42.1	
	baz=11,slow=76,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**32.96**	**199**	T	T	11 57 41.0	
	baz=11,slow=76,SNR=8.5						
BNX	**BinXian**	**33.27**	**280**	⇓P	**P**	**11 22 27.0**	**-0.4**
BNX				pmax	pmax		
	comp=Z,4.0nm,1.3s						
YKA	**Yellowknife Ar**	**36.59**	**46**	P	**P**	**11 22 54.9**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=283,slow=8.6,SNR=7.5						
	comp=Z,1.5nm,0.8s						
SONM	**Songino Array**	**44.66**	**295**	P	**P**	**11 24 02.1**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=54,slow=7.3,SNR=2.3						
	comp=Z,0.7nm,0.5s						
NVAR	**Mina Array Bea**	**45.59**	**81**	P	**P**	**11 24 09.0**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=306,slow=7.6,SNR=4.9						
	comp=Z,0.8nm,0.9s						
HHC	**Hu-ho-hao-te**	**45.60**	**284**	*e*P	**P**	**11 24 08.2**	**-2.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,33nm,3.6s						
PDAR	**Pinedale Array**	**48.23**	**70**	P	**P**	**11 24 30.4**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=302,slow=3.3,SNR=4.2						
	comp=Z,0.3nm,0.7s						
SPITS	**Spitsbergen Ar**	**49.99**	**355**	P	**P**	**11 24 43.1**	**-0.8**
	comp=Z,9.3nm,1.0s,baz=15,slow=6.0,SNR=2.0						
	comp=Z,9.3nm,1.0s						
ZALV	**Zalesovo Beam**	**52.34**	**312**	PcP	**PcP**	**11 26 12.3**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=64,slow=3.4,SNR=2.0						
GTA	**Gaotai**	**53.53**	**290**	*e*P	**P**	**11 25 13.9**	**+3.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KURK	**Kurchatov**	**57.33**	**312**	P	**P**	**11 25 38.4**	**+0.5**
KURBB	**Kurchatov Arra**	**57.44**	**312**	P	**P**	**11 25 39.0**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=42,slow=6.7,SNR=15						
	comp=Z,2.9nm,0.9s						
WMQ	**Urumqi**	**57.45**	**301**	*e*P	**P**	**11 25 39.1**	**+0.2**
WMQ				pP	sP	11 25 44.5	+1.6
WMQ				pmax	pmax		
	comp=Z,36nm,0.9s						
ARCES	**ARCESS Array B**	**57.49**	**349**	LR	LR	11 49 57.5	
	comp=Z,29nm,21.9s,baz=318,slow=36						
MKAR	**Makanchi Array**	**58.23**	**306**	P	**P**	**11 25 44.3**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=70,slow=6.3,SNR=6.3						
	comp=Z,0.7nm,0.7s						
BVAR	**Borovoye Array**	**59.34**	**318**	P	**P**	**11 25 51.7**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=52,slow=7.2,SNR=10						
BVAR				LR	LR	11 52 50.9	
	comp=Z,41nm,18.4s,baz=51,slow=37						
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**59.36**	**318**	P	**P**	**11 25 53.0**	**+0.9**
BRVK				IAmb	IAmb	11 25 55.1	
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**60.68**	**79**	P	**P**	**11 26 01.1**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=309,slow=4.6,SNR=4.1						
	comp=Z,0.2nm,0.7s						
SCHQ	**Schefferville**	**61.11**	**37**	P	**P**	**11 26 02.9**	**-1.1**
	comp=Z,4.8nm,1.0s,baz=35,slow=6.6,SNR=4.0						
	comp=Z,4.8nm,1.0s						
ARTI	**Arti**	**61.38**	**327**	P	**P**	**11 26 05.4**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=128,slow=6.5,SNR=4.3						
	comp=Z,2.8nm,0.7s						
KMI	**Kunming**	**61.62**	**275**	P	**P**	**11 26 10.0**	**+1.9**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KIRV	**Kirov**	**62.44**	**332**	LR	LR	11 55 20.3	
	comp=Z,48nm,18.1s,baz=14,slow=38						
FINES	**FINESS Array B**	**65.08**	**345**	P	**P**	**11 26 27.9**	**-2.3**
	comp=Z,3.1nm,0.9s,baz=38,slow=7.2,SNR=4.2						
FINES				LR	LR	11 57 30.4	
	comp=Z,29nm,19.8s,baz=216,slow=38						
	comp=Z,3.1nm,0.9s						
AKTO	**Aktyubinsk**	**66.27**	**323**	P	**P**	**11 26 36.2**	**-1.9**
	comp=Z,1.7nm,0.5s,baz=47,slow=7.7,SNR=5.7						
	comp=Z,1.7nm,0.5s						
NOA	**NORSAR Array B**	**67.20**	**353**	P	**P**	**11 26 43.7**	**-0.2**
	comp=Z,2.1nm,1.0s,baz=7.9,slow=6.4,SNR=4.3						
	comp=Z,2.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**68.91**	**273**	P	**P**	**11 26 56.1**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=40,slow=6.9,SNR=5.6						
	comp=Z,0.7nm,0.3s						
AKASG	**Malin Array Be**	**74.66**	**340**	P	**P**	**11 27 29.7**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=23,slow=6.0,SNR=12						
	comp=Z,3.5nm,0.6s						
MLR	**Muntele Rosu**	**80.30**	**340**	P	**P**	**11 28 00.4**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=25,slow=15,SNR=3.1						
	comp=Z,2.2nm,0.8s						
MAW	**Mawson**	**145.38**	**218**	PKPbc	**PKPdf**	**11 35 26.3**	**-0.4**
	comp=Z,5.0nm,0.8s,baz=52,slow=23,SNR=1.6						
BOSA	**Boshof**	**149.23**	**308**	PKPbc	**PKPbc**	**11 35 38.3**	**-0.5**
	comp=Z,5.4nm,1.2s,baz=246,slow=18,SNR=1.8						

TAP 03 11:16:28.6,22°.97N×120°.85E,h5km,ML2.0,3C-4D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.21**	**336**	*i*P	Pg	11 16 33.1	+0.4
STYT				*i*S	Sg	11 16 36.2	+0.8
STYH	**Taoyuan**	**0.21**	**341**	*i*P	Pg	11 16 33.1	+0.4
STYH				*i*S	Sg	11 16 36.4	+1.0
TWG	**Pinlang**	**0.26**	**126**	⇓*i*P	Pb	11 16 34.8	-1.0
TWG				S	Sg	11 16 38.4	+1.4
TWGBT	**Beinan**	**0.26**	**126**	⇓*i*P	Pg	11 16 34.7	+0.9
TWGBT				*i*S	Sg	11 16 38.2	+1.0
ELDTW	**Lidau**	**0.27**	**36**	⇑P	Pg	11 16 34.7	+0.8
ELDTW				*e*S	Sg	11 16 39.1	+1.8
LONT	**Longtian**	**0.27**	**104**	*e*P	Pg	11 16 34.7	+0.9
LONT				*e*S	Sg	11 16 38.6	+1.2
SGST	**Jiashian**	**0.27**	**294**	P	Pg	11 16 34.9	+1.0
SGST				S	Sb	11 16 39.5	-1.5
SSD	**Sandimen**	**0.30**	**222**	⇑P	Pg	11 16 35.3	+0.8
SSD				S	Sg	11 16 39.0	+0.6
TSMG	**Majia**	**0.33**	**215**	*e*P	Pg	11 16 35.2	+0.2
TSMG				*e*S	Sg	11 16 39.1	-0.1
SCST	**Cishan**	**0.34**	**255**	*e*P	Pb	11 16 37.2	0.0
SCST				S	Sb	11 16 42.8	-0.2
WTP	**Ta-pu**	**0.35**	**322**	*e*P	Pb	11 16 37.3	-0.1
WTP				*e*S	Sb	11 16 43.0	-0.3
TTN	**Taitung**	**0.35**	**128**	*e*P	Pb	11 16 36.6	-0.8
TTN				*e*S	Sg	11 16 41.4	+1.4
ECS	**Chishang**	**0.36**	**70**	*e*P	Pb	11 16 36.7	-0.9
ECS				*e*S	Sg	11 16 41.7	+1.3
CHN1	**Nanshi**	**0.36**	**306**	*e*P	Pb	11 16 37.6	0.0
CHN1				*e*S	Sb	11 16 44.5	+0.9
EHD	**Haiduan**	**0.37**	**62**	⇓*e*P	Pg	11 16 36.2	+0.4
EHD				*e*S	Sg	11 16 41.0	+0.3
TPUB	**Ta-pu**	**0.38**	**328**	*e*P	Pb	11 16 38.2	+0.2
TPUB				S	Sb	11 16 44.2	-0.1
ECL	**Taimali**	**0.39**	**165**	*e*P	Pg	11 16 36.9	+0.8
ECL				S	Sg	11 16 42.1	+1.0
SNST	**Tainan City**	**0.41**	**307**	*e*P	Pb	11 16 39.0	+0.6
MASBT	**Mashibuluo**	**0.41**	**209**	⇑*i*P	Pg	11 16 37.3	+0.7
MASBT				*e*S	Sg	11 16 42.3	+0.4
EDH	**Donghe**	**0.42**	**90**	*e*P	Pb	11 16 37.9	-0.7
EDH				*e*S	Sb	11 16 44.6	-0.7
TWK	**Hsinying**	**0.44**	**311**	*e*P	Pb	11 16 39.6	+0.6
TWK				*e*S	Sb	11 16 46.6	+0.6
CHN4	**Tsaushan**	**0.44**	**328**	*e*P	Pb	11 16 39.5	+0.5
SHHT	**Tainan City**	**0.46**	**276**	*e*P	Pb	11 16 39.3	0.0
FULB	**Fuli**	**0.47**	**61**	⇓*e*P	Pb	11 16 39.1	-0.3
FULB				S	Sb	11 16 46.3	-0.4
WCKO	**Fanlu**	**0.52**	**334**	*e*P	Pb	11 16 40.0	-0.2
WCKO				*e*S	Sb	11 16 49.3	+1.3
ALS	**Alishan**	**0.54**	**356**	P	Pb	11 16 40.5	-0.3
ALS				*e*S	Sb	11 16 49.0	0.0
CHKH	**Chenggong**	**0.55**	**67**	*e*P	Pb	11 16 40.2	-0.6
TWF1	**Yuli**	**0.56**	**47**	*e*P	Pg	11 16 40.1	+0.7
EYUL	**Yuli**	**0.57**	**49**	*e*P	Pb	11 16 40.5	-0.6
EAST	**Anshuo**	**0.59**	**180**	P	Pb	11 16 40.9	-0.6
EAST				S	Sg	11 16 48.6	+1.1
YULB	**Yu-li**	**0.59**	**45**	*e*P	Pg	11 16 40.6	+0.6
YULB				*e*S	Sb	11 16 49.0	-1.1
TAWH	**Dawu Township**	**0.63**	**177**	P	Pg	11 16 41.3	+0.6
TAWH				S	Sg	11 16 49.9	+0.9
SCZT	**Fangliau**	**0.63**	**200**	*e*P	Pg	11 16 41.5	+0.6
SCZT				*e*S	Sg	11 16 49.8	+0.7
CHN5	**Tsauling**	**0.64**	**346**	*e*P	Pb	11 16 42.9	+0.5
LDUT	**Ludao**	**0.65**	**117**	*e*P	Pb	11 16 41.9	-0.5
LDUT				*e*S	Sb	11 16 51.9	+0.1
EHY	**Hungye**	**0.69**	**39**	*e*P	Pg	11 16 42.1	+0.3
EHY				*e*S	Sb	11 16 52.5	-0.4
WHYT	**Xinyi Township**	**0.72**	**0**	*e*P	Pb	11 16 43.8	+0.1
WHYT				*e*S	Sb	11 16 55.0	+1.0
HGSD	**Ruisui**	**0.74**	**46**	*e*P	Pb	11 16 44.3	+0.3
HGSD				S	Sb	11 16 55.3	+0.8
SSLB	**Suanglung**	**0.82**	**7**	*e*P	Pb	11 16 45.0	-0.4
VWDT	**VWDT**	**0.82**	**19**	*e*P	Pb	11 16 45.1	-0.3
WARBT	**Fenglin Townsh**	**0.89**	**34**	*e*P	Pb	11 16 46.3	-0.3
WARBT				*e*S	Sb	11 16 59.0	+0.1
SMLT	**Sun Moon Lake**	**0.91**	**3**	*e*P	Pb	11 16 47.1	+0.2
TYC	**Yuchr**	**0.93**	**0**	*e*S	Sn	11 17 02.9	+0.8
OWD	**Renai**	**1.02**	**17**	*e*P	Pn	11 16 49.5	-0.3
OWD				*e*S	Sn	11 17 04.4	-0.3
YHNB	**Yeheng**	**1.76**	**16**	*e*P	Pg	11 17 02.3	0.0
YHNB				*e*S	Sg	11 17 24.8	-0.3

*IDC **03** 11:20:23.1±0.3,14°.05N×144°.60E,h190km±2km,mb3.7/19, mbtmp4.2/20,Error ellipse: s-maj=15.7km s-min=9.2km az=77.0*
*NEIC **03** 11:20:24.1±1.4,13°.98N±0°.08×144°.7E±0°.1,h193km±5km, mb4.4/57,Error ellipse: s-maj=16.1km s-min=10.2km az=109.0*

ISC 03 11:20:24.1±0.4,14°.00N±0°.06×144°.61E±0°.09,h200km,n86, σ0°78/85,mb4.3/47,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.47**	**148**	Pn	**Pn**	**11 20 50.2**	**-0.9**
GUMO				Sn	**Sn**	**11 21 10.4**	**-1.7**
GUMO	**Guam**	**0.47**	**148**	P	**Pn**	**11 20 50.3**	**-0.8**
	561nm,0.3s,baz=84,slow=1.7,SNR=186						
GUMO				S	**Sn**	**11 21 10.2**	**-1.8**
	1μm,0.3s,baz=78,slow=23,SNR=31						
PATS	**Pohnpei**	**15.23**	**116**	P	**P**	**11 23 50.2**	**+0.5**
JOW	**Kunigami**	**19.91**	**312**	P	**P**	**11 24 41.5**	**+1.0**
JOW	**Kunigami**	**19.91**	**312**	P	**P**	**11 24 40.1**	**-0.4**
	7.7nm,0.4s,baz=128,slow=21,SNR=2.5						
FAKI	**Fak Fak**	**20.80**	**217**	P	**P**	**11 24 51.5**	**+1.3**
**

KULM	**Kulim**	**44.13 263**	P	**P**	**11 28 13.7**	**+0.6**
KULM			IAmb	IAmb	11 28 14.5	
comp=Z,12nm,1.2s						
ARMA	**Armidale**	**44.67 171**	P	**P**	**11 28 18.2**	**+1.0**
ARMA			IAmb	IAmb	11 28 28.0	
comp=Z,17nm,1.3s						
STKA	**Stephens Creek**	**45.70 184**	P	**P**	**11 28 24.9**	**-0.3**
STKA	**Stephens Creek**	**45.70 184**	P	**P**	**11 28 24.6**	**-0.6**
comp=Z,2.7nm,0.5s,baz=355,slow=9.2,SNR=9.7						
comp=Z,2.7nm,0.5s						
MA2	**Magadan**	**45.73 4**	P	**P**	**11 28 24.1**	**-0.9**
comp=Z,1.3nm,0.3s,baz=15,slow=22,SNR=1.9						
comp=Z,1.3nm,0.3s						
ULN	**Ulaanbaatar**	**45.91 325**	P	**P**	**11 28 28.2**	**+1.3**
SONM	**Songino Array**	**46.26 325**	P	**P**	**11 28 28.4**	**-1.2**
comp=Z,0.9nm,0.6s,baz=149,slow=8.8,SNR=5.4						
comp=Z,0.9nm,0.6s						
BBOO	**Buckleboo**	**47.25 190**		**P**	**11 28 37.1**	**-0.2**
BBOO			IAmb	IAmb	11 28 56.5	
comp=Z,29nm,1.5s						
FORT	**Forrest**	**47.28 199**	P	**P**	**11 28 37.4**	**-0.1**
SEY	**Seymchan**	**49.18 5**	P	**P**	**11 28 51.1**	**-0.4**
comp=Z,1.0nm,0.4s,baz=188,slow=6.3,SNR=5.9						
comp=Z,1.0nm,0.4s						
CAN	**Canberra**	**49.22 175**	P	**P**	**11 28 52.7**	**+0.4**
CAN			IAmb	IAmb	11 28 59.4	
comp=Z,17nm,1.3s						
MORW	**Morawa**	**50.94 213**	P	**P**	**11 29 04.5**	**-0.8**
MORW			IAmb	IAmb	11 29 04.7	
comp=Z,14nm,1.2s						
TOO	**Toolangi**	**51.30 179**	P	**P**	**11 29 09.3**	**+1.5**
MK31	**Makanchi Array**	**61.03 316**	P	**P**	**11 30 17.7**	**+1.1**
MKAR	**Makanchi Array**	**61.03 316**	P	**P**	**11 30 17.6**	**+0.9**
MKAR	**Makanchi Array**	**61.03 316**	P	**P**	**11 30 17.3**	**+0.7**
comp=Z,2.0nm,0.5s,baz=91,slow=8.6,SNR=22						
comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**61.15 324**	P	**P**	**11 30 17.5**	**+0.3**
comp=Z,0.5nm,0.4s,baz=102,slow=5.2,SNR=2.7						
comp=Z,0.5nm,0.4s						
MAKZ	**Makanchi**	**61.24 316**	P	**P**	**11 30 19.3**	**+1.2**
MAKZ			IAmb	IAmb	11 30 19.5	
comp=Z,3.7nm,0.5s						
KURK	**Kurchatov**	**64.11 320**	P	**P**	**11 30 37.3**	**+0.4**
KURK			IAmb	IAmb	11 30 37.4	
comp=Z,3.7nm,0.7s						
KURBB	**Kurchatov Arra**	**64.16 320**	P	**P**	**11 30 37.4**	**+0.2**
comp=Z,4.8nm,0.6s,baz=102,slow=7.0,SNR=34						
comp=Z,4.8nm,0.6s						
PPLA	**Purkeypile**	**65.54 27**	P	**P**	**11 30 46.4**	**+0.3**
PPLA			IAmb	IAmb	11 30 50.9	
comp=Z,9.8nm,1.4s						
SKT	**Skwentna**	**65.56 28**	P	**P**	**11 30 45.7**	**-0.3**
CAST	**Castle Rocks**	**65.75 26**	P	**P**	**11 30 46.9**	**-0.3**
CAST			IAmb	IAmb	11 31 02.3	
comp=Z,7.1nm,1.5s						
D20K	**Etivluk River**	**65.95 20**	P	**P**	**11 30 48.3**	**-0.2**
D20K			IAmb	IAmb	11 31 10.5	
comp=Z,5.8nm,1.4s						
ILAR	**Eielson Array**	**68.31 25**	P	**P**	**11 31 01.4**	**-2.0**
comp=Z,0.4nm,0.5s,baz=251,slow=5.8,SNR=7.8						
comp=Z,0.4nm,0.5s						
KKAR	**Karatay Array**	**69.00 311**	P	**P**	**11 31 08.5**	**+0.5**
BVAR	**Borovoye Array**	**69.45 322**	P	**P**	**11 31 09.7**	**-0.9**
comp=Z,3.9nm,0.5s,baz=111,slow=7.0,SNR=18						
comp=Z,3.9nm,0.5s						
BRVK	**Borovoye**	**69.52 322**	P	**P**	**11 31 11.9**	**+0.9**
BRVK			IAmb	IAmb	11 31 12.2	
comp=Z,2.1nm,0.5s						
D25K	**Kavik River**	**69.63 21**	P	**P**	**11 31 11.9**	**+0.5**
HYT	**Haines Junctio**	**71.98 30**	P	**P**	**11 31 26.6**	**+0.7**
ABKAR	**Akbulak array**	**76.08 318**	P	**P**	**11 31 49.7**	**0.0**
A36M	**Sachs Harbour**	**76.84 19**	P	**P**	**11 31 53.7**	**+0.2**
EUNU	**Eureka**	**82.50 8**	P	**P**	**11 32 24.8**	**+0.9**
YKA	**Yellowknife Ar**	**82.62 27**	P	**P**	**11 32 25.0**	**+0.3**
comp=Z,0.2nm,0.5s,baz=287,slow=5.3,SNR=2.8						
comp=Z,0.2nm,0.5s						
RES	**Resolute Bay**	**84.22 13**	P	**P**	**11 32 33.3**	**+0.7**
BMO	**Blue Mountains**	**85.88 45**	P	**P**	**11 32 41.3**	**-0.4**
BMO			IAmb	IAmb	11 32 43.1	
comp=Z,2.7nm,0.8s						
PLID	**Pearl Lake**	**86.71 44**	P	**P**	**11 32 45.4**	**-0.5**
PLID			IAmb	IAmb	11 32 45.7	
comp=Z,6.2nm,1.5s						
NVAR	**Mina Array Bea**	**86.86 51**	P	**P**	**11 32 47.0**	**+0.3**
comp=Z,1.5nm,0.7s,baz=258,slow=6.3,SNR=12						
comp=Z,1.5nm,0.7s						
MFID	**Camas Ranch**	**87.30 46**	IAmb	IAmb	11 32 49.7	
comp=Z,5.0nm,1.0s						
WCT	**Wildcat Mounta**	**88.59 53**	IAmb	IAmb	11 32 55.8	
comp=Z,6.6nm,1.5s						
TPNV	**Topopah Spring**	**88.84 52**	P	**P**	**11 32 56.9**	**+0.9**
TPNV			IAmb	IAmb	11 32 57.3	
comp=Z,3.0nm,0.7s						
PDAR	**Pinedale Array**	**91.86 45**	P	**P**	**11 33 09.4**	**-0.7**
comp=Z,0.2nm,0.6s,baz=286,slow=3.2,SNR=2.5						
comp=Z,0.2nm,0.6s						
ULM	**Lac du Bonnet**	**97.05 34**	P	**P**	**11 33 32.5**	**-0.8**
comp=Z,0.8nm,0.4s,baz=215,slow=16,SNR=2.1						
comp=Z,0.8nm,0.4s						
SNAA	**Sanae**	**119.13 191**	PKP	**PKPdf**	**11 38 48.4**	**-0.3**
comp=Z,2.7nm,1.2s,baz=220,slow=7.2,SNR=8.4						
PLCA	**Paso Flores**	**139.40 138**	PKP	**PKPdf**	**11 39 27.7**	**-0.2**
comp=Z,1.7nm,1.0s,baz=301,slow=4.5,SNR=3.4						
LPAZ	**La Paz**	**148.33 98**	PKPbc	**PKiKP**	**11 39 49.3**	**-0.7**
comp=Z,1.8nm,0.7s,baz=292,slow=4.8,SNR=6.3						

BER 03 11:34:28.8±0.4, 66°.44N×14°.83E, h0km, ML0.9,
Explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOR8	**Moi Rana**	**0.32**	**210**	*e*P	Pg	11 34 31.9	-3.0
MOR8				*e*S	Sg	11 34 33.9	-5.0
VAGH	**Vaagaholmen**	**0.69**	**296**	*e*P	Pg	11 34 41.3	-0.6
VAGH				*e*S	Sg	11 34 50.0	-0.9
VAGH				IAML		11 34 51.6	
comp=Z,7.6nm,0.3s							
KONS	**Konsvik**	**0.69**	**275**	*e*P	Pg	11 34 41.1	-0.9
KONS				*e*S	Sg	11 34 50.5	-0.4
KONS				IAML		11 34 54.4	
comp=Z,5.5nm,0.3s							
STOK	**Stokkvaagen**	**0.74**	**262**	*e*P	Pg	11 34 42.1	-0.8
STOK				*e*S	Sg	11 34 51.9	-0.6
STOK				IAML		11 34 53.6	
comp=Z,6.7nm,0.5s							

DNK 03 11:35:10.8±1.0, 56°.53N×15°.20E, h0km, ML1.5,
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLEU	**Blekinge**	**0.41**	**123**	*i* P	Pg	11 35 18.3	-0.4
BLEU				*i* S	Sg	11 35 24.0	0.0
DEL	**Delary**	**0.74**	**266**	*i* P	Pg	11 35 24.0	-0.9
DEL				*i* S	Sg	11 35 33.8	-0.7
BJUU	**Bjuv**	**1.30**	**250**	*i* P	Pg	11 35 34.1	-1.5
BJUU				*i* S	Sg	11 35 52.0	-0.3
LUNU	**Lund**	**1.33**	**228**	*i* P	Pg	11 35 35.1	-1.2
LUNU				*i* S	Sg	11 35 53.1	-0.5
BSD	**Bornholm Skovb**	**1.43**	**187**	*i* P	Pn	11 35 36.6	-1.3
BSD				*i* S	Sg	11 35 56.2	-0.5
BSD				IAML		11 35 57.5	
comp=Z,2.4nm,0.3s							
FABU	**Falkenberg**	**1.44**	**290**	*i* P	Pn	11 35 37.5	-0.7
FABU				*i* S	Sg	11 35 55.7	-1.4
BORU	**Boraas**	**1.73**	**311**	*i* P	Pn	11 35 41.0	-1.0
BORU				*i* S	Sn	11 36 04.7	-0.1
ONAU	**Onsala**	**2.00**	**297**	*i* P	Pn	11 35 45.1	-0.6
ONAU				*i* S	Sn	11 36 12.1	+0.7
TJOU	**Tjoern**	**2.46**	**309**	*i* S	Sn	11 36 23.1	+0.5

NAO ***03*** *11:36:39.6, 35°.66N×22°.52E, h10km, mb4.0*
IDC ***03*** *11:36:59.4±1.0, 38°.07N×21°.92E, h0km, mb3.8/14, mbtmp3.8/18, ML3.6/3, MS3.2/1, Error ellipse: s-maj=19.5km s-min=16.3km az=19.0*
BEO ***03*** *11:36:59.8±0.7, 37°.82N×21°.82E, h0km, ML3.4/6*
THE ***03*** *11:37:00.8, 37°.96N×21°.88E, h10km±1km, ML3.6/6, Error ellipse: s-maj=1.8km s-min=0.8km az=12.0*
PDG ***03*** *11:37:00.9±0.7, 37°.95N×21°.95E, h10km±1km, ML3.8/9, Error ellipse: s-maj=1.0km s-min=1.4km az=0.0*
ATH ***03*** *11:37:00.1, 37°.98N×21°.87E, h12km, ML3.6/44, Manual*

Solution by G.Panopoulou First location: 2019/04/03 11:37:52, This location: 2021/03/30 16:37:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km

ISC 03 11:37:00.3±0.8, 37°.97N±0°.01×21°.88E±0°.01, h11km±5km,
n147, σ1§10/223, mb3.8/14, 2C-3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV1	**Kalavrita**	**0.19**	**70**	P	**Pg**	**11 37 04.6**	**+0.1**
KLV1				S	**Sg**	**11 37 07.6**	**+0.3**
KLV	**Kalavryta, Ach**	**0.23**	**70**	P	**Pg**	**11 37 04.8**	**-0.3**
KLV				S	**Sg**	**11 37 08.6**	**+0.2**
15μm,0.2s							
KLV	**Kalavryta, Ach**	**0.23**	**70**	P	**Pg**	**11 37 05.2**	**+0.1**
KLV				S	**Sg**	**11 37 08.5**	**+0.2**
PATG	**Patra B**	**0.30**	**336**	P	**Pb**	**11 37 07.1**	**-0.6**
PATC	**Patra C**	**0.32**	**343**	P	**Pg**	**11 37 07.0**	**+0.3**
PATC				S	**Sg**	**11 37 11.2**	**+0.2**
UPR	**University Cam**	**0.33**	**347**	P	**Pg**	**11 37 07.0**	**+0.2**
UPR				S	**Sb**	**11 37 13.5**	**0.0**
UPR	**University Cam**	**0.33**	**347**	P	**Pg**	**11 37 07.1**	**+0.2**
UPR				S	**Sg**	**11 37 11.3**	**0.0**
RLS	**Riolos of Patr**	**0.34**	**286**	P	**Pg**	**11 37 06.8**	**-0.3**
RLS				S	**Sg**	**11 37 12.6**	**+1.0**
15μm,0.4s							
RLS	**Riolos of Patr**	**0.34**	**286**	P	**Pg**	**11 37 06.9**	**-0.2**
RLS				S	**Sg**	**11 37 11.9**	**+0.3**
ALIK	**Aliki, Aigiali**	**0.35**	**32**	P	**Pg**	**11 37 07.1**	**-0.1**
ALIK				S	**Sb**	**11 37 13.7**	**-0.3**
GUR	**Goura**	**0.37**	**95**	P	**Pg**	**11 37 07.4**	**-0.3**
GUR				S	**Sb**	**11 37 13.9**	**-0.8**
20μm,0.4s							
GUR	**Goura**	**0.37**	**95**	P	**Pg**	**11 37 07.5**	**-0.1**
GUR				S	**Sg**	**11 37 12.9**	**+0.3**
YRMI	**Loutra Irminis**	**0.44**	**288**	P	**Pg**	**11 37 08.3**	**-0.6**
YRMI				S	**Sg**	**11 37 15.4**	**+0.6**
AMT	**Artemida-Makis**	**0.45**	**197**	P	**Pg**	**11 37 09.2**	**-0.1**
AMT				S	**Sg**	**11 37 15.9**	**+0.7**
AXS	**Araxos**	**0.46**	**300**	P	**Pg**	**11 37 08.7**	**-0.7**
EFP	**Efpalio**	**0.46**	**3**	P	**Pg**	**11 37 09.2**	**-0.1**
EFP				S	**Sg**	**11 37 16.2**	**+0.7**
10μm,0.3s							
EFP	**Efpalio**	**0.46**	**3**	P	**Pg**	**11 37 09.3**	**-0.1**
EFP				S	**Sg**	**11 37 14.8**	**-0.7**
SERG	**Sergoula**	**0.47**	**17**	P	**Pg**	**11 37 09.3**	**-0.2**
SERG				S	**Sg**	**11 37 15.2**	**-0.6**
KALE	**Kalithea**	**0.47**	**26**	P	**Pg**	**11 37 09.3**	**-0.3**
KALE				S	**Sb**	**11 37 17.4**	**-0.3**
24μm,0.2s							
KALE	**Kalithea**	**0.47**	**26**	P	**Pg**	**11 37 09.5**	**-0.1**
KALE				S	**Sg**	**11 37 16.0**	**+0.2**
LCHA	**Lechaina**	**0.49**	**267**	P	**Pg**	**11 37 08.9**	**-1.0**
ZAKO	**Zacharo**	**0.51**	**201**	P	**Pb**	**11 37 10.7**	**-0.6**
ZAKO				S	**Sb**	**11 37 17.7**	**-1.1**
MSL1	**Messolongi**	**0.54**	**319**	P	**Pb**	**11 37 11.3**	**-0.5**
MSL1				S	**Sg**	**11 37 18.2**	**+0.1**
CLEM	**Kyllini,Ilia,G**	**0.59**	**263**	P	**Pg**	**11 37 11.4**	**-0.5**
ANX	**Ano Chora**	**0.63**	**3**	P	**Pg**	**11 37 12.1**	**-0.4**
ANX				S	**Sg**	**11 37 21.3**	**+0.5**
ANX	**Ano Chora**	**0.63**	**3**	P	**Pg**	**11 37 12.1**	**-0.4**
ANX				S	**Sg**	**11 37 20.8**	**0.0**
KIAA	**Kiato**	**0.69**	**86**	P	**Pb**	**11 37 13.8**	**-0.6**
KIAA				S	**Sb**	**11 37 23.2**	**-0.7**
DLFA	**Delphi**	**0.70**	**43**	P	**Pg**	**11 37 13.3**	**-0.7**
PVO	**Paravola**	**0.71**	**337**	P	**Pg**	**11 37 13.8**	**-0.2**
PVO				S	**Sg**	**11 37 23.2**	**-0.1**
VLX	**Vlachokerasia**	**0.71**	**146**	P	**Pg**	**11 37 14.1**	**-0.1**
VLX				S	**Sb**	**11 37 24.6**	**-0.1**
ITM	**Ithomi**	**0.79**	**177**	P	**Pg**	**11 37 15.0**	**-0.5**
ITM				S	**Sn**	**11 37 28.1**	**-1.1**
2μm,0.4s							
ITM	**Ithomi**	**0.79**	**177**	P	**Pg**	**11 37 15.3**	**-0.2**
AST1	**Astakos**	**0.85**	**313**	P	**Pb**	**11 37 16.9**	**-0.2**
KYPS	**Kipseli, Zakin**	**0.85**	**260**	P	**Pg**	**11 37 15.6**	**-1.1**
KYPS				S	**Sg**	**11 37 26.8**	**-1.0**
LTK	**Loutraki**	**0.86**	**86**	P	**Pg**	**11 37 16.2**	**-0.8**
LTK				S	**Sg**	**11 37 27.5**	**-0.7**
LTHK	**Lithakia**	**0.86**	**253**	P	**Pb**	**11 37 17.1**	**-0.3**
LTHK	**Lithakia**	**0.86**	**253**	P	**Pg**	**11 37 16.3**	**-0.7**
LTHK				S	**Sb**	**11 37 28.6**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.88**	**277**	P	**Pg**	**11 37 17.3**	**0.0**
RTZL				S	**Sn**	**11 37 30.7**	**-0.8**
ORTH	**Orthonies,Zaky**	**0.94**	**263**	P	**Pg**	**11 37 18.4**	**-0.1**
EVR	**Evrytania**	**0.95**	**357**	P	**Pb**	**11 37 19.1**	**+0.2**
EVR				S	**Sn**	**11 37 33.7**	**+0.3**
EVR	**Evrytania**	**0.95**	**357**	P	**Pb**	**11 37 19.1**	**+0.2**
EVR				S	**Sb**	**11 37 41.2**	**-0.3**
AXAR	**Agios Charalam**	**1.01**	**37**	P	**Pg**	**11 37 18.9**	**-0.8**
AXAR	**Agios Charalam**	**1.01**	**37**	P	**Pg**	**11 37 18.4**	**-1.3**
AXAR				S	**Sb**	**11 37 33.4**	**+0.3**
SMHA	**Samh**	**1.01**	**287**	P	**Pg**	**11 37 18.6**	**-1.2**
SMHA				S	**Sb**	**11 37 33.1**	**-0.1**
PSDA	**Pessada-Kefalo**	**1.03**	**279**	P	**Pg**	**11 37 19.3**	**-0.9**
PSDA				S	**Sg**	**11 37 32.8**	**-0.9**
VLS	**Valsamata**	**1.04**	**282**	P	**Pg**	**11 37 19.4**	**-0.9**
VLS				S	**Sn**	**11 37 35.8**	**+0.3**
VLS	**Valsamata**	**1.04**	**282**	P	**Pg**	**11 37 19.3**	**-1.1**
VLS				S	**Sg**	**11 37 33.1**	**-0.8**
PYL1	**Pylos**	**1.06**	**188**	P	**Pg**	**11 37 19.9**	**-0.8**
MAKR	**Makrakomi, Fth**	**1.06**	**11**	P	**Pg**	**11 37 20.2**	**-0.6**
MAKR				S	**Sn**	**11 37 36.3**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.06**	**11**	P	**Pg**	**11 37 20.2**	**-0.6**
MAKR				S	**Sg**	**11 37 34.4**	**-0.2**
LKR	**Lokris**	**1.11**	**52**	P	**Pb**	**11 37 20.5**	**-1.2**
LKR				S	**Sg**	**11 37 35.8**	**-0.5**
ARG2	**Argostoli**	**1.12**	**281**	P	**Pb**	**11 37 20.4**	**-1.3**
ARG2				S	**Sb**	**11 37 35.5**	**-0.7**
VIL2	**Platees**	**1.12**	**77**	P	**Pn**	**11 37 22.3**	**+0.2**
VIL2				S	**Sn**	**11 37 37.0**	**-0.5**
FSK	**Fiskardo**	**1.15**	**296**	P	**Pb**	**11 37 21.5**	**-0.7**
FSK				S	**Sb**	**11 37 36.3**	**-0.8**
MTHA	**Methoni**	**1.15**	**187**	P	**Pn**	**11 37 22.6**	**+0.2**
MTHA				S	**Sn**	**11 37 37.7**	**-0.4**
EVGI	**Lefkada island**	**1.16**	**305**	P	**Pb**	**11 37 21.6**	**-0.8**
KRND	**KRANIDI**	**1.16**	**120**	P	**Pb**	**11 37 22.1**	**-0.3**
KRND				S	**Sn**	**11 37 38.5**	**0.0**
KRND	**KRANIDI**	**1.16**	**120**	P	**Pb**	**11 37 22.2**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.19**	**309**	P	**Pb**	**11 37 22.0**	**-1.0**
DMLN	**Damoulianata-K**	**1.22**	**283**	P	**Pn**	**11 37 22.6**	**-0.8**
MET5	**Makryloggos,Me**	**1.22**	**106**	P	**Pn**	**11 37 22.9**	**-0.5**
MET5				S	**Sn**	**11 37 39.6**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.25**	**305**	P	**Pn**	**11 37 22.7**	**-1.1**
MET4	**Agioi Theodoro**	**1.25**	**105**	P	**Pn**	**11 37 23.6**	**-0.2**
MET4				S	**Sb**	**11 37 39.9**	**-0.2**
LKD2	**Lefkada island**	**1.26**	**311**	P	**Pn**	**11 37 23.4**	**-0.6**
AIDA	**Aidipsos**	**1.28**	**46**	P	**Pn**	**11 37 24.0**	**-0.1**
TSLK	**Tsoukalades, L**	**1.29**	**312**	P	**Pb**	**11 37 24.4**	**-0.2**
ATH	**Athens Observa**	**1.45**	**89**	P	**Pn**	**11 37 26.5**	**0.0**
ATH				S	**Sn**	**11 37 44.8**	**-0.8**
NOAC	**Athens-Thissio**	**1.45**	**89**	P	**Pn**	**11 37 26.3**	**-0.3**
TETR	**Tetrakomo, Epi**	**1.46**	**341**	P	**Pn**	**11 37 26.4**	**-0.2**
ATHP	**Athens-Neo Psi**	**1.50**	**88**	P	**Pn**	**11 37 26.7**	**-0.5**
VLI	**Veliai**	**1.50**	**146**	P	**Pg**	**11 37 28.7**	**-0.5**
VLI	**Veliai**	**1.50**	**146**	P	**Pb**	**11 37 27.8**	**-0.5**
ATHU	**Athens Univers**	**1.50**	**89**	P	**Pn**	**11 37 27.4**	**+0.1**
ATHU				S	**Sn**	**11 37 46.9**	**0.0**
VLY	**Voula,Athens**	**1.52**	**94**	P	**Pn**	**11 37 27.5**	**+0.1**
VLY				S	**Sn**	**11 37 46.5**	**-0.7**
PTL	**Penteli**	**1.57**	**86**	P	**Pn**	**11 37 28.4**	**+0.1**
PTL				S	**Sn**	**11 37 48.7**	**+0.1**
MNVA	**Monemvasia**	**1.58**	**144**	P	**Pn**	**11 37 28.6**	**+0.4**
THL	**Klokotos Trika**	**1.60**	**4**	P	**Pn**	**11 37 27.9**	**-0.7**
THL				S	**Sn**	**11 37 48.4**	**-0.8**
DION	**Dionisos Attik**	**1.62**	**85**	P	**Pn**	**11 37 29.4**	**+0.4**
DION				S	**Sn**	**11 37 49.1**	**-0.8**
NEO	**Neokhori**	**1.70**	**38**	P	**Pn**	**11 37 29.7**	**-0.3**
NEO				S	**Sn**	**11 37 50.8**	**-1.1**
XOR	**Xorichti**	**1.73**	**36**	P	**Pn**	**11 37 30.5**	**+0.1**
KYMI	**Kymi, Euboea I**	**1.87**	**68**	P	**Pn**	**11 37 32.4**	**+0.1**
KYMI				S	**Sn**	**11 37 55.9**	**0.0**
IGT	**Igoumenitsa**	**1.98**	**323**	*e*Pn	**Pb**	**11 37 37.1**	**+0.7**
KARY	**Karystos**	**2.02**	**87**	P	**Pn**	**11 37 34.3**	**-0.1**
KARY				S	**Sn**	**11 37 59.7**	**0.0**
LIT	**Litokhoron**	**2.18**	**12**	P	**Pn**	**11 37 36.9**	**+0.3**
KZN	**Kozani**	**2.34**	**358**	P	**Pn**	**11 37 39.0**	**+0.2**
ANKY	**Antikythira Is**	**2.38**	**151**	P	**Pn**	**11 37 40.4**	**+1.0**
HORT	**Hortiatis**	**2.79**	**19**	P	**Pn**	**11 37 44.8**	**-0.3**
FNA	**Florina**	**2.84**	**352**	*e*Pn	**Pb**	**11 37 48.6**	**-2.5**
FNA				*e*Sn	**Sb**	**11 38 26.1**	**+0.2**
FNA	**Florina**	**2.84**	**352**	P	**Pn**	**11 37 45.9**	**+0.2**
OUR	**Ouranopolis**	**2.87**	**34**	P	**Pn**	**11 37 46.0**	**0.0**
EFSA	**Agios Efstrati**	**2.89**	**56**	P	**Pn**	**11 37 46.1**	**-0.3**
APE	**Apeiranthos**	**3.04**	**106**	P	**Pn**	**11 37 48.6**	**+0.2**
LIA	**Limnos Island**	**3.22**	**52**	P	**Pn**	**11 37 50.3**	**-0.5**
OHR	**Ohrid**	**3.25**	**345**	*i* Pn	**Pb**	**11 37 55.6**	**-2.5**
OHR	**Ohrid**	**3.25**	**345**	*e*Pn	**Pb**	**11 37 55.4**	**-2.7**
KNT	**Kendrikon**	**3.29**	**14**	P	**Pn**	**11 37 51.9**	**+0.1**
KOKK	**Kokkinochori,**	**3.29**	**29**	P	**Pn**	**11 37 52.0**	**+0.2**
VAY	**Valandovo**	**3.39**	**9**	*i* Pn	**Pb**	**11 37 56.8**	**-3.7**
VAY	**Valandovo**	**3.39**	**9**	*e*Pn	**Pn**	**11 37 55.5**	**+2.3**
VAY				*e*Sn	**Sb**	**11 38 37.9**	**-3.8**
SRS	**Serrai**	**3.41**	**22**	*e*Pn	**Pn**	**11 37 54.4**	**+0.9**
SRS				*e*Sn	**Sb**	**11 38 38.9**	**-3.5**
SRS	**Serrai**	**3.41**	**22**	P	**Pn**	**11 37 53.5**	**0.0**
THAS	**Thassos island**	**3.44**	**39**	P	**Pn**	**11 37 53.1**	**-0.7**
GVD	**Gavdhos**	**3.59**	**150**	P	**Pn**	**11 37 56.3**	**+0.3**
IDI	**Anoyia**	**3.61**	**137**	Pn	**Pn**	**11 37 58.8**	**+2.6**
11nm,0.3s,baz=258,slow=11,SNR=19							
IDI				Sn	**Sn**	**11 38 41.9**	**+3.1**
6.6nm,0.3s,baz=38,slow=22,SNR=5.6							
IDI	**Anoyia**	**3.61**	**137**	P	**Pn**	**11 37 56.5**	**+0.3**
KAVA	**Kavala**	**3.65**	**33**	P	**Pn**	**11 37 56.4**	**-0.3**
TIP	**Timpagrande**	**4.19**	**288**	P	**Pn**	**11 38 03.6**	**-0.7**
ULC	**Ulcinj**	**4.48**	**334**	*e*Pn	**Pn**	**11 38 10.1**	**+2.0**
ULC				*e*Sn	**Sn**	**11 39 00.3**	**+0.1**
BOSS	**Bosilegrad**	**4.55**	**6**	*e*Pn	**Pn**	**11 38 09.9**	**+0.8**
DRME	**Dracevica, Mon**	**4.70**	**335**	⇓ *i* Pn	**Pn**	**11 38 12.5**	**+1.4**
DRME				*i* Sn	**Sn**	**11 39 06.9**	**+1.3**
VTS	**Vitosha**	**4.76**	**12**	*e*Pn	**Pn**	**11 38 15.2**	**+3.0**
VTS				*e*Sn	**Sn**	**11 39 10.1**	**+2.7**
BARS	**Barje**	**4.84**	**359**	*e*Pn	**Pn**	**11 38 16.1**	**+2.9**
BARS				*e*Sn	**Sn**	**11 39 13.5**	**+4.2**
PDG	**Podgorica**	**4.89**	**337**	⇑ *i* Pn	**Pn**	**11 38 11.3**	**-2.5**
BUM	**Brajici-Budva**	**4.90**	**333**	*e*Pn	**Pn**	**11 38 15.8**	**+1.8**
BUM				*e*Sn	**Sn**	**11 39 11.7**	**+1.0**
CEME	**Cevo**	**5.11**	**335**	⇓ *i* Pn	**Pn**	**11 38 18.2**	**+1.4**
CEME				*i* Sn	**Sn**	**11 39 16.4**	**+0.6**
IVA	**Berane**	**5.13**	**343**	*e*Pn	**Pn**	**11 38 19.5**	**+2.3**
IVA				*i* Sn	**Sn**	**11 39 17.0**	**+0.6**
HCY	**Herceg Novi**	**5.17**	**331**	⇑ *i* Pn	**Pn**	**11 38 19.6**	**+1.9**
HCY				*e*Sn	**Sn**	**11 39 16.5**	**-0.8**
KOME	**Kolasin**	**5.20**	**340**	*e*Pn	**Pn**	**11 38 20.4**	**+2.2**
KOME				*e*Sn	**Sn**	**11 39 19.0**	**+0.8**
SELS	**Selova**	**5.28**	**354**	*e*Pn	**Pn**	**11 38 21.6**	**+2.4**
SELS				*e*Sn	**Sn**	**11 39 22.4**	**+2.4**
NKME	**Niksic**	**5.29**	**336**	⇓ *i* Pn	**Pn**	**11 38 18.9**	**-0.5**
NKME				*i* Sn	**Sn**	**11 39 20.1**	**-0.2**
ZAPS	**Zavoj**	**5.33**	**6**	*e*Pn	**Pn**	**11 38 23.3**	**+3.4**
SJES	**Sjenica**	**5.48**	**345**	*e*Pn	**Pn**	**11 38 24.8**	**+2.7**
SJES				*e*Sn	**Sn**	**11 39 27.2**	**+2.0**
GOCS	**Kraljevo Serbi**	**5.64**	**353**	*e*Pn	**Pn**	**11 38 25.2**	**+1.0**
GOCS				*e*Sn	**Sn**	**11 39 29.8**	**+0.7**
PLE	**Pljevlja**	**5.68**	**341**	*e*Pn	**Pn**	**11 38 26.9**	**+2.1**
PLE				*i* Sn	**Sn**	**11 39 29.6**	**-0.5**
ZAGS	**Zajecar**	**5.85**	**3**	*e*Pn	**Pn**	**11 38 27.2**	**+0.3**
BBLS	**Lazi&#263i**	**6.18**	**343**	*e*Pn	**Pn**	**11 38 33.3**	**+1.7**
BBLS				*e*Sn	**Sn**	**11 39 43.0**	**+0.6**
DIVS	**

comp=N,5μm,0.3s
FON Fontana 0.34 46 Pg 12 06 29.6 +0.1
FON Sg 12 06 34.6 +0.7
SSK Sunset Peak 0.34 5 Pg 12 06 29.9 +0.2
RSBC Riverside Bore 0.35 72 Pg 12 06 29.8 0.0
RSBC Sg 12 06 34.8 +0.5
RSBC Riverside Bore 0.35 72 Pg 12 06 29.8 +0.1
RSBC Sg 12 06 35.0 +0.6
GVRC Garvey Reservo 0.37 299 Pg 12 06 30.9 +0.6
GVRC Sb 12 06 37.9 -0.3
BFSC Mount Baldy Ra 0.38 9 Pg 12 06 30.2 -0.1
BFSC Sg 12 06 35.7 +0.4
SS2 San Sevaine 0.39 29 Pg 12 06 30.5 0.0
CLTC Calectric 0.41 56 Pg 12 06 31.1 +0.2
CLTC Sg 12 06 36.6 +0.3
CACC Caltech Cellar 0.42 310 Pg 12 06 31.5 +0.3
CACC Sg 12 06 38.0 +1.2
CRPC Caltech Rob'n 0.43 309 Sg 12 06 38.2 +1.3
GSA Caltech--GSA 0.43 309 Pg 12 06 31.4 +0.1
GSA Sg 12 06 38.0 +1.1
CBCC Caltech Broad 0.43 310 Sg 12 06 38.1 +1.2
WTT2 Watts, South G 0.45 281 Pb 12 06 32.7 -0.7
MWC Mount Wilson 0.45 323 Pg 12 06 31.4 -0.3
MWC Sg 12 06 38.4 +0.7
PEC Perris 0.47 87 Pg 12 06 32.0 -0.1
PEC Sg 12 06 38.7 +0.5
PASC Pasadena Art C 0.49 309 Pg Pg 12 06 31.7 -0.7
PASC Pasadena Art C 0.49 309 Sg 12 06 38.8 +0.1
HLNC Highland 0.49 59 Pg 12 06 32.5 +0.1
HLNC Sg 12 06 39.6 +0.6
FMP Fort Macarthur 0.50 252 Pg 12 06 32.5 -0.0
MURC Murrieta 0.52 121 Pg 12 06 32.9 -0.1
MURC Sg 12 06 40.1 +0.4
CHFC Chilao Flat St 0.53 332 Pg 12 06 32.7 -0.4
CHFC Sg 12 06 40.0 0.0
CSP Cedar Springs 0.53 35 Pg 12 06 33.0 -0.2
CSP Sg 12 06 40.7 +0.6
GR2C Griffith Obs. 0.54 298 Pg 12 06 33.1 -0.2
GR2C Sg 12 06 40.9 +0.5
CFT Crafton Hills 0.54 72 Pg 12 06 33.5 +0.1
CFT Sg 12 06 41.3 +0.9
BHPC Baldwin Hills 0.54 283 Pb 12 06 34.4 -0.6
SVD Seven Oaks Dam 0.57 65 Pg 12 06 34.0 -0.1
SVD Sg 12 06 42.7 +1.2
RPV Rancho Palos V 0.58 258 Pg 12 06 33.5 -0.6
HOLC Holcomb Ridge 0.60 351 Pg 12 06 34.1 -0.4
HOLC Sg 12 06 41.6 -0.7
JNH Juniper Hills 0.61 342 Pg 12 06 34.3 -0.5
JNH Sg 12 06 42.3 -0.4
HMTC Hemet 0.62 104 Pg 12 06 34.4 -0.5
HMTC Sg 12 06 43.0 -0.1
BBSC Beaumont Base 0.62 85 Pg 12 06 35.1 +0.1
BBSC Sb 12 06 44.4 -1.2
BACC Bachelor Mtn. 0.63 114 Pg 12 06 34.5 -0.5
BACC Sg 12 06 43.4 +0.2
DECC Green Verdugo 0.64 308 Pg 12 06 34.9 -0.3
DECC Sg 12 06 43.5 0.0
DGR Domenigoni Val 0.64 110 Pg 12 06 34.8 -0.5
DGR Sg 12 06 43.3 -0.2
DJJ Donna J Jenkin 0.65 292 Pg 12 06 34.9 -0.6
DJJ Sg 12 06 43.3 -0.7
POB Polly Butte 0.69 105 Pg 12 06 35.7 -0.6
POB Sg 12 06 45.3 0.0
LRRC Littlerock Res 0.70 339 Pg 12 06 36.0 -0.5
LRRC Sg 12 06 45.5 -0.2
ADO Adelanto Recei 0.72 20 Pg 12 06 36.7 -0.2
ADO Sg 12 06 47.3 +0.9
CIAC Catalina I. Ai 0.74 231 Pg 12 06 36.6 -0.5
CIAC Sg 12 06 46.6 -0.1
CJV Casa Juvan 0.75 333 Pg 12 06 36.6 -0.7
CJV Sg 12 06 46.9 -0.2
VTV Victorville 0.77 25 Pg 12 06 37.1 -0.6
VTV Sg 12 06 47.5 -0.3
BBRC Big Bear Solar 0.78 59 Pg 12 06 37.7 -0.3
GORC Green Oak Ranc 0.82 149 Pg 12 06 37.8 -0.9
GORC Sg 12 06 48.7 -0.8
SBB Saddle Back Bu 0.82 354 Pg 12 06 38.2 -0.6
SBB Sg 12 06 49.3 -0.3
BLCC Black Canyon 0.87 296 Pg 12 06 39.2 -0.5
BLCC Sg 12 06 51.7 +0.7
OAT Oat Mountain 0.88 303 Pg 12 06 39.6 -0.2
PLM Palomar 0.89 125 Pg 12 06 39.0 -1.0
PLM Sg 12 06 51.4 -0.1
LEOC Leona Valley 0.90 328 Pg 12 06 39.3 -1.0
ALPC Antelope 0.95 330 Pg 12 06 40.4 -0.8
ALPC Sb 12 06 55.1 +0.3
DEVC Devers 0.96 86 Sg 12 06 54.1 +0.3
HYS Haystack Butte 1.00 7 Pg 12 06 41.6 -0.7
HYS Sg 12 06 55.2 -0.1
EDW2 Edwards Air Fo 1.04 348 Pg 12 06 42.0 -0.9
EDW2 Sg 12 06 55.6 -0.7
DPP Dos Picos Cty 1.09 143 Pg 12 06 42.2 -1.6
DPP Sg 12 06 55.9 -2.0
PFO Pinyon Flats O 1.09 103 Pg Pg 12 06 43.0 -0.9
PFO IAML 12 06 58.1
comp=N,1μm,0.7s
PFO IAML 12 07 00.1
comp=N,579nm,0.5s
XPFO Pinon Flat 1.09 103 Pg 12 06 43.0 -0.9
XPFO Sg 12 06 56.7 -1.3
TPO Tropico Hills 1.09 338 Pg 12 06 43.0 -1.0
TPO Sn 12 07 00.3 -0.3
EW2 E Wide Canyon 1.10 86 Pg 12 06 43.4 -0.6
EW2 Sg 12 06 58.3 0.0
CPE Camp Elliot 1.10 152 Pg 12 06 42.5 -1.7
CPE Sg 12 06 57.0 -1.5
OSI Osito Audit: C 1.11 312 Pg 12 06 43.5 -0.8
OSI Sg 12 06 58.7 -0.1
MATG Mataguay Scout 1.12 126 Pg 12 06 42.9 -1.6
MATG Sg 12 06 57.3 -1.7
BLAC Blackrock camp 1.13 79 Pg 12 06 44.0 -0.7
BLAC Sg 12 06 59.5 +0.1
PMD Palm Desert 1.15 101 Pg 12 06 43.8 -1.2
RRX Edison Barstow 1.17 31 Pg 12 06 44.7 -0.8
GTM Goat Mountain 1.22 69 Pg 12 06 45.2 -1.1
EML El Monte Cty P 1.22 143 Pg 12 06 44.4 -2.0
JUEM Julian Eagle M 1.23 129 Pg 12 06 45.2 -1.3
BORC Borrego Spring 1.25 118 Pg 12 06 46.3 -0.6
CCAC Calif City Air 1.30 350 Pn 12 06 47.0 -1.0
CCAC Sg 12 07 04.9 -0.1
SDRC San Diego Road 1.30 150 Pn 12 06 45.9 -2.0
TJX Tijuana 1.47 157 Pn 12 06 48.7 -1.4
TKX Tecate 1.60 144 Pn 12 06 51.0 -1.0
GSC Goldstone, Bar 1.62 28 Pn 12 06 51.8 -0.6
GSC IAML 12 07 16.9
comp=N,735nm,1.0s
GSC IAML 12 07 23.3
comp=E,723nm,0.7s
SNCC San Nicolas Is 1.62 248 Pn 12 06 50.8 -1.4
SNCC IAML 12 07 24.3
comp=N,317nm,0.6s
SNCC IAML 12 07 30.1
comp=E,292nm,0.6s
BCW Bitter Crk WRg 1.76 308 Pn 12 06 53.7 -0.6
CBX Cerro Bola 1.79 150 Pn Pn 12 06 53.4 -1.2
ISA Isabella, Lake 1.90 341 Pn Pn 12 06 55.6 -0.5
YUH Yuha Desert 1.94 128 Pn 12 06 56.8 +0.2
YUH IAML 12 07 24.8
comp=E,245nm,0.7s
YUH IAML 12 07 25.4
comp=N,424nm,0.8s
CCX Cicese 2.18 156 Pn 12 06 59.1 -0.9
CCX IAML 12 07 36.7
comp=N,242nm,0.4s
ESJX Sierra Juarez 2.38 141 Pn 12 07 03.3 +0.4
ESJX IAML 12 07 37.1
comp=N,259nm,0.4s
ESJX IAML 12 07 38.9
comp=E,243nm,0.5s
GWY Greenwater Val 2.47 20 Pn Pn 12 07 03.9 -0.2
GWY IAML 12 07 47.1
comp=E,264nm,1.1s
GWY IAML 12 07 50.9
comp=N,233nm,0.7s
BLYC Blythe 2.67 92 Pn Pn 12 07 06.0 -0.6
BLYC IAML 12 07 48.9
comp=N,230nm,0.7s
VTX Valle De La Tr 2.96 146 Pn 12 07 11.1 +0.3
VTX IAML 12 07 59.1
comp=N,91nm,0.8s
VTX IAML 12 08 04.7

comp=E,118nm,0.6s
V12A Nelson 3.01 51 Pn Pn 12 07 11.2 -0.2
V12A IAML 12 08 05.5
comp=N,83nm,0.8s
WCT Wildcat Mounta 3.06 17 Pn 12 07 11.2 -0.9
WCT IAML 12 08 04.8
comp=E,79nm,0.6s
GRAC Grapevine Rang 3.14 5 Pn 12 07 14.2 +1.0
GRAC IAML 12 08 09.7
comp=N,184nm,0.9s
GRAC IAML 12 08 14.5
comp=E,153nm,1.0s
TPNV Topopah Spring 3.30 21 Pn Pn 12 07 16.1 +0.6
TPNV IAML 12 08 11.5
comp=E,128nm,0.8s
TPNV IAML 12 08 11.9
comp=E,109nm,0.6s
SHPR Sheep Range 3.37 38 Pn Pn 12 07 16.8 +0.4
W13A Hualapai Mount 3.40 68 Pn 12 07 16.7 -0.3
PMPB Monarch Peak 3.44 314 Pn 12 07 16.6 -0.8
PMPB IAML 12 08 23.4
comp=N,97nm,0.9s
PMPB IAML 12 08 36.4
comp=E,73nm,1.1s
DSP Deep Springs 3.50 357 Pn 12 07 19.1 +1.0
BBGB Big Mountain B 3.83 316 Pn 12 07 24.0 +1.2
BBGB IAML 12 08 49.7
comp=N,109nm,1.0s
MZP Montezuma Peak 3.84 4 Pn 12 07 24.0 +1.1
Y14A Wickenburg 3.93 88 Pn 12 07 23.8 -0.3
Y14A IAML 12 08 26.6
comp=N,96nm,0.7s
Y14A IAML 12 08 38.3
comp=E,51nm,0.8s
PRN Pahroc Range 4.15 31 Pn 12 07 28.2 +1.0
LCMT Little Creek M 4.82 48 Pn 12 07 37.3 +0.9
KNB Kanab 5.09 50 Pn 12 07 41.1 +1.0
U15A North Rim 5.13 59 Pn 12 07 41.4 +0.6
X16A Lo Mia Camp, P 5.24 82 Pn 12 07 42.5 +0.3
CTAM Taylor 5.42 321 Sb 12 09 02.4 -1.0
PSUT Pine Spring 5.61 33 Pn Pn 12 07 49.1 +1.8
PKCU Pink Cliffs 5.67 49 Pn Pn 12 07 49.8 +1.5
GBGM Boggs Mountain 6.35 322 LR 12 09 09.6
X18A Snowflake 6.48 82 Pn 12 08 00.2 +1.0
ELK Elko 7.15 15 LR 12 10 09.9
DUN6 Lazy B Ranch 7.36 98 LR 12 10 23.8

SOME ***03*** *12:21:09.7, 40°.48N×82°.72E, h15km*
NNC ***03*** *12:21:11.2±2.6, 40°.89N×82°.96E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=19.6km s-min=16.0km az=6.0
ISC 03 12:21:14.3±3.4, 41°.0N±0°.1×82°.8E±0°.1, h10km, n17, σ2°76/23, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 5.0nm,0.2s	**3.30**	**313**	Pg	**Pb**	**12 22 09.8**	**-3.2**
SHLS	41nm,0.4s			Lg	Lg	12 22 53.0	
SHLS	**Shalkode** 5.0nm,0.2s	**3.30**	**313**	*e*P	**Pb**	**12 22 09.8**	**-3.2**
SHLS	41nm,0.4s			*e*S	**Sb**	**12 22 53.0**	**-0.3**
PDGK	**Podgornoye** 5.1nm,0.6s	**3.40**	**315**	⇓Pg	**Pb**	**12 22 14.7**	**-0.1**
PDGK	19nm,0.8s			⇑Lg	Lg	12 23 02.7	
UZB	**Uzynbulak** 2.6nm,0.1s	**3.55**	**309**	Pg	**Pb**	**12 22 18.5**	**+1.2**
UZB	7.9nm,0.3s			Lg	Lg	12 23 07.9	
UZB	**Uzynbulak** 2.6nm,0.1s	**3.55**	**309**	*e*P	**Pb**	**12 22 18.5**	**+1.2**
UZB	7.9nm,0.3s			*e*S	**Sg**	**12 23 07.8**	**-0.4**
SATY	**Saty** 3.2nm,0.3s	**3.87**	**304**	Pg	**Pg**	**12 22 26.0**	**-2.5**
SATY	8.3nm,0.3s			Lg	Lg	12 23 20.6	
ZHN	**Zhinishke** 5.3nm,0.2s	**3.91**	**306**	*e*P	**Pg**	**12 22 27.5**	**-1.7**
ZHN	10nm,0.2s			*e*S	**Sg**	**12 23 23.1**	**+3.1**
DJR	**Jarkent** 1.7nm,0.2s	**4.02**	**328**	Pg	**Pg**	**12 22 30.1**	**-1.3**
DJR	4.5nm,0.4s			Lg	Lg	12 23 27.7	
DJR	**Jarkent** 1.7nm,0.2s	**4.02**	**328**	*e*P	**Pg**	**12 22 30.1**	**-1.3**
DJR	4.5nm,0.4s			*e*S	**Sg**	**12 23 27.8**	**+4.3**
MDOK	**Medeo** 2.1nm,0.3s	**4.80**	**299**	Pg	**Pb**	**12 22 42.0**	**+3.4**
MDOK	2.6nm,0.4s			Lg	Lg	12 23 48.8	
TNSS	**Tian-Shan** 0.7nm,0.1s	**4.81**	**297**	Pg	**Pb**	**12 22 42.3**	**+3.3**
TNSS	1.9nm,0.6s			Lg	Lg	12 23 49.1	
TNSS	**Tian-Shan** 0.7nm,0.1s	**4.81**	**297**	*e*P	**Pb**	**12 22 42.3**	**+3.3**
TNSS	1.9nm,0.6s			*e*S	**Sg**	**12 23 49.1**	**+0.2**
KST	**Kastek** 0.7nm,0.1s	**5.49**	**294**	Pg	**Pb**	**12 22 53.3**	**+3.1**
KST	2.1nm,0.1s			Lg	Lg	12 24 08.3	
KST	**Kastek** 0.7nm,0.1s	**5.49**	**294**	*e*P	**Pb**	**12 22 53.3**	**+3.1**
KST	2.1nm,0.1s			*e*S	**Sg**	**12 24 08.3**	**-2.1**
DGS	**Degeres** 2.1nm,0.4s	**5.69**	**296**	Pg	**Pb**	**12 22 57.4**	**+3.7**
DGS	4.1nm,0.6s			Lg	Lg	12 24 15.2	
MK31	**Makanchi Array** 0.5nm,0.5s,baz=167,slow=13,SNR=4.0	**5.84**	**357**	⇑Pg	**Pb**	**12 22 57.3**	**+1.1**
MK31	1.8nm,0.5s,baz=170,slow=29,SNR=4.8			⇑Lg	Lg	12 24 17.9	
KRBS	**Karabastau** 0.7nm,0.4s	**5.93**	**300**	Pg	**Pg**	**12 23 03.7**	**-4.2**
KRBS	0.6nm,0.2s			Lg	Lg	12 24 25.9	

TRN 03 13:02:15.6, 17°.42N×62°.46W, h105km, MD3.5, East of St. Kitts., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**0.28**	**252**	*e*P	Pn	13 02 32.1	+1.4
SKI	**Saint Kitts**	**0.28**	**252**	*e*P	Pn	13 02 32.1	+1.4
SKI				*e*S	Sn	13 02 42.1	0.0
ANWB	**Willy Bob**	**0.69**	**69**	*e*P	Pn	13 02 35.3	+1.9
ANWB				*e*S	Sn	13 02 49.0	+2.2
MBFL	**Flemmings, Mon**	**0.71**	**161**	*e*P	Pn	13 02 34.9	+1.3
MBFL				*e*S	Sn	13 02 49.5	+2.3
MBWH		**0.72**	**159**	*e*P	Pn	13 02 35.0	+1.2
MBWH				*e*S	Sn	13 02 48.1	+0.7
MLYT	**Lee's Yard**	**0.74**	**160**	*e*S	Sn	13 02 51.0	+3.3
ANBD	**Bethesda, Anti**	**0.76**	**119**	*e*P	Pn	13 02 35.4	+1.3
ANBD				*e*S	Sn	13 02 49.3	+1.4
TBG	**Guadaloupe-3**	**1.74**	**153**	*e*P	Pn	13 02 45.5	+0.3
TBG				*e*S	Sn	13 03 10.0	+2.4
DSLB	**Salisbury**	**2.21**	**153**	*e*P	Pn	13 02 52.2	+1.1
DSLB				*e*S	Sn	13 03 20.0	+1.7
BIM	**Bigot**	**3.18**	**155**	*e*P	Pn	13 03 04.5	+0.5
AOPR	**Arecibo Observ**	**4.19**	**283**	*e*P	Pn	13 03 18.8	+1.2
AOPR	**Arecibo Observ**	**4.19**	**283**	*e*P	Pn	13 03 20.0	+2.5

CNRM ***03*** *13:13:26.0, 35°.83N×8°.31W, h10km*
IGIL ***03*** *13:13:29.9, 35°.83N×8°.76W, h26km, ML1.8*
SFS ***03*** *13:13:30.8, 35°.83N×8°.64W, h45km, ML2.8/6, ML2.8/6, MLv2.9/6*
MDD ***03*** *13:13:30.1±1.1, 35°.98N×8°.62W, h10km±21km, mb_Lg2.5/8,*
Error ellipse: s-maj=26.4km s-min=5.9km az=32.0
ISC 03 13:13:24.5±1.5, 35°.80N±0°.04×8°.65W±0°.07, h12km±11km, n32, σ1°60/52, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.34**	**354**	S	**Sg**	**13 14 08.2**	**+0.6**
MORF	**Marmelete**	**1.50**	**360**	*e*P	**Pg**	**13 13 53.1**	**-0.2**
MORF				*e*S	**Sb**	**13 14 10.6**	**-0.8**
MORF				IAML		13 14 14.2	
comp=N,12nm,0.1s							
EXAYA	**Ayamonte**	**1.74**	**35**	Pn	**Pb**	**13 13 56.0**	**-0.3**
EXAYA				Pn	**Pb**	**13 13 56.0**	**-0.3**
PVAQ	**Vaqueiros**	**1.77**	**25**	S	**Sb**	**13 14 18.4**	**-0.6**
PVAQ				P	**Pg**	**13 13 58.6**	**+0.2**
PVAQ	**Vaqueiros**	**1.77**	**25**	P	**Pn**	**13 13 55.9**	**+1.1**
PVAQ	**Vaqueiros**	**1.77**	**25**	S	**Sn**	**13 14 15.7**	**-1.6**
PCVE	**Castro Verde**	**1.89**	**15**	P	**Pb**	**13 13 59.2**	**+0.3**
PCVE				S	**Sn**	**13 14 20.2**	**-0.2**
EGRO	**El Granado**	**1.97**	**28**	P	**Pb**	**13 14 00.7**	**+0.5**
EGRO				S	**Sn**	**13 14 22.3**	**0.0**
EGRO	**El Granado**	**1.97**	**28**	Pn	**Pb**	**13 14 00.7**	**+0.5**
EGRO				Pn	**Pg**	**13 14 00.8**	**-1.4**
EGRO				Sn	**Sb**	**13 14 22.4**	**-2.3**
EGRO				*i* Vmb_Lg		13 14 26.4	
MESJ	**Messejana**	**2.06**	**9**	*e*P	**Pb**	**13 14 01.4**	**-0.5**
MESJ				*e*S	**Sn**	**13 14 24.3**	**-0.3**
MESJ				IAML		13 14 26.4	
comp=N,4.8nm,0.3s							
ESPR	**Espera**	**2.50**	**64**	P	**Pb**	**13 14 08.8**	**-0.4**
ESPR				S	**Sn**	**13 14 35.6**	**+0.3**
ESPR	**Espera**	**2.50**	**64**	Pn	**Pb**	**13 14 08.3**	**-0.9**
ESPR				Pn	**Pb**	**13 14 08.8**	**-0.4**
ESPR				Sn	**Sn**	**13 14 35.9**	**+0.7**
ESPR				*i* Vmb_Lg		13 14 42.0	
EMIN	**Mina Concepcio**	**2.52**	**38**	S	**Sn**	**13 14 35.9**	**-0.1**
EMIN	**Mina Concepcio**	**2.52**	**38**	Pn	**Pn**	**13 14 06.7**	**+1.4**
EMIN				Pn	**Pb**	**13 14 07.0**	**-2.7**
EMIN				Sn	**Sn**	**13 14 36.2**	**+0.2**
EMIN				*i* Vmb_Lg		13 14 37.7	
ECEU	**Ceuta**	**2.66**	**87**	P	**Pn**	**13 14 10.2**	**+3.1**
PBAR	**Barrancos**	**2.70**	**28**	P	**Pb**	**13 14 10.5**	**-2.2**
PBAR				S	**Sn**	**13 14 40.9**	**+0.6**
ZHG	**ZHG**	**2.87**	**144**	P	**Pn**	**13 14 12.4**	**+2.2**
ZHG	**ZHG**	**2.87**	**144**	S	**Sn**	**13 14 45.3**	**+0.6**
PESTR	**Estremoz**	**3.18**	**15**	S	**Sn**	**13 14 50.4**	**-1.6**
EBAD	**Badajoz**	**3.23**	**23**	P	**Pn**	**13 14 17.8**	**+2.9**
EBAD				S	**Sn**	**13 14 52.5**	**-0.7**
EBAD	**Badajoz**	**3.23**	**23**	Pn	**Pn**	**13 14 17.3**	**+2.3**
EBAD				Sn	**Sn**	**13 14 52.7**	**-0.5**
EBAD				*i* Vmb_Lg		13 14 54.6	
ECAB	**El Cabril**	**3.44**	**48**	P	**Pn**	**13 14 21.1**	**+3.2**
ECAB				S	**Sn**	**13 14 57.7**	**-1.0**
ECAB	**El Cabril**	**3.44**	**48**	Pn	**Pn**	**13 14 21.2**	**+3.2**
ECAB				Sn	**Sn**	**13 14 57.1**	**-1.5**
ECAB				*i* Vmb_Lg		13 15 06.9	
IFR	**Ifrane**	**3.69**	**127**	S	**Sn**	**13 15 04.2**	**-0.8**
EADA	**Adamuz**	**4.03**	**53**	S	**Sn**	**13 15 12.1**	**-0.9**
EADA	**Adamuz**	**4.03**	**53**	Pn	**Pn**	**13 14 29.0**	**+3.0**
EADA				Sn	**Sn**	**13 15 12.7**	**-0.4**
EADA				*i* Vmb_Lg		13 15 15.9	
EQTA	**Presa de Quent**	**4.42**	**70**	S	**Sn**	**13 15 20.5**	**-2.5**
EQUE	**Quentar**	**4.42**	**70**	Sn	**Sn**	**13 15 24.0**	**+1.0**
EQUE				*i* Vmb_Lg		13 15 25.4	
MDT	**Midelt**	**4.48**	**131**	P	**Pn**	**13 14 33.7**	**+1.5**
MDT	**Midelt**	**4.48**	**131**	S	**Sn**	**13 15 22.3**	**-2.1**
OUK	**Oukaimeden**	**4.63**	**172**	P	**Pn**	**13 14 35.1**	**+0.6**
PAB	**San Pablo**	**5.06**	**41**	Pn	**Pn**	**13 14 42.7**	**+2.5**
PAB				Sn	**Sn**	**13 15 36.0**	**-2.6**
PAB				*i* Vmb_Lg		13 15 37.9	

ISN ***03*** *13:17:10.5±0.5, 33°.67N×45°.52E, h10km±2km, ML2.8*
TEH ***03*** *13:17:11.1, 33°.67N×45°.51E, h10km±999km*
ISC 03 13:17:10.6±1.3, 33°.65N±0°.03×45°.49E±0°.05, h6km±12km, n7, σ1°04/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.58**	**37**	Pg	**Pg**	**13 17 22.2**	**+0.4**
GLG1				Sg	**Sg**	**13 17 29.4**	**+0.2**
IBDR	**Badra**	**0.65**	**146**	*e*Pg	**Pg**	**13 17 23.5**	**+0.3**
IBDR				*e*Sg	**Sg**	**13 17 32.5**	**+0.8**
BHD	**Baghdad**	**1.00**	**248**	*e*Pg	**Pg**	**13 17 30.5**	**+0.6**
BHD				*e*Sg	**Sb**	**13 17 44.4**	**+0.5**
BHD				AML	AML	13 17 46.4	
comp=E,278nm,0.5s							
IGHG	**Ghaleghazi**	**1.12**	**53**	Pg	**Pn**	**13 17 32.3**	**-0.7**
IDHR	**Dehrash**	**1.28**	**35**	Pg	**Pg**	**13 17 35.5**	**+0.3**
IDHR				Sg	**Sn**	**13 17 54.9**	**+2.1**
IKRK	**Kirkuk**	**1.98**	**332**	*e*Pn	**Pb**	**13 17 46.0**	**-1.1**
IKRK				*e*Sn	**Sb**	**13 18 12.0**	**-0.1**
RAFI	**Al-Rafai**	**2.00**	**165**	*e*Pn	**Pb**	**13 17 46.0**	**-1.3**
RAFI				*e*Sn	**Sb**	**13 18 12.5**	**+0.1**

NEIC ***03*** *13:21:43.8±1.9, 2°.18S±0°.09×77°.16W±0°.08, h140km±10km, mb4.3/17, Error ellipse: s-maj=12.8km s-min=11.7km az=191.0*
IGQ ***03*** *13:21:43.9±0.6, 2°S±4°×7°7W±°, h105km±11km, MLv3.8/18*
IDC ***03*** *13:21:43.3±9.1, 2°.37S×77°.44W, h174km±87km, mb3.3/3, mbtmp3.9/6, Error ellipse: s-maj=108.3km s-min=19.3km az=66.0*
RSNC ***03*** *13:22:08.3±0.0, 2°S±11°×7°9W±1°1, h0km±23km, M2.7, ML2.6*
ISC 03 13:21:42.7±0.6, 2°25S±0°.05×77°.23W±0°.05, h150km, n111, σ1°29/120, mb4.2/5, 9C-43D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**1.09**	**313**	⇓P	**Pn**	**13 22 08.4**	**0.0**
PUYO				S	**Sn**	**13 22 28.1**	**+0.1**
SANGA	**Volcan Sangay**	**1.16**	**280**	⇑P	**Pn**	**13 22 09.3**	**-0.1**
SANGA				S	**Sn**	**13 22 29.2**	**-0.4**
ARDO	**Archidona, Ten**	**1.37**	**335**	S	**Sn**	**13 22 31.2**	**-1.4**
ARDO				⇓P	**Pn**	**13 22 10.6**	**-0.4**
BULB	**Ulba Tungurahu**	**1.43**	**304**	S	**Sn**	**13 22 33.4**	**-0.8**
BULB				⇓P	**Pn**	**13 22 11.7**	**-0.2**
ARRY	**Arrayan**	**1.43**	**301**	⇓P	**Pn**	**13 22 11.7**	**-0.2**
POND	**Pondoa**	**1.47**	**304**	⇓P	**Pn**	**13 22 12.3**	**0.0**
JUI6	**Juive**	**1.48**	**303**	⇑P	**Pn**	**13 22 12.4**	**0.0**
BBIL	**Ulba Tungurahu**	**1.48**	**302**	P	**Pn**	**13 22 13.3**	**+0.9**
BOSC	**San Juan Bosco**	**1.55**	**235**	S	**Sn**	**13 22 35.3**	**-0.8**
BOSC				⇑P	**Pn**	**13 22 12.3**	**-0.6**
IGUA	**Igualata**	**1.59**	**298**	⇓P	**Pn**	**13 22 14.4**	**+0.6**
PIAT	**Ana Tenorio**	**1.61**	**320**	S	**Sn**	**13 22 37.7**	**0.0**
PIAT				⇓P	**Pn**	**13 22 13.7**	**-0.2**
PIAT	**Ana Tenorio**	**1.61**	**320**	P	**Pn**	**13 22 13.4**	**-0.5**
PIAT				S	**Sn**	**13 22 36.4**	**-1.3**
PIS1	**Pisayambo**	**1.65**	**316**	S	**Sn**	**13 22 38.7**	**0.0**
PIS1				⇓P	**Pn**	**13 22 14.7**	**+0.3**
TAMH	**Tambohuasha Ch**	**1.70**	**294**	S	**Sn**	**13 22 41.5**	**+2.0**
TAMH				⇑P	**Pn**	**13 22 15.6**	**+0.8**
PORT	**Chimborazo Vol**	**1.73**	**297**	⇑P	**Pn**	**13 22 15.9**	**+0.6**
CHSH	**Refugio Sur-Vo**	**1.80**	**295**	S	**Sn**	**13 22 42.1**	**+0.4**
CHSH				P	**Pn**	**13 22 16.5**	**+0.4**
JSCH	**Cashca Tororas**	**1.82**	**287**	⇑P	**Pn**	**13 22 16.7**	**+0.5**
ACUE	**Ecuador-Cuenca**	**1.85**	**249**	P	**Pn**	**13 22 16.5**	**+0.1**
VCES	**Cotopaxi**	**1.85**	**321**	⇓P	**Pn**	**13 22 17.3**	**+0.7**
BRRN	**Barrancas-Volc**	**1.91**	**319**	⇓P	**Pn**	**13 22 18.2**	**+0.9**
TAMB	**Tambo**	**1.92**	**324**	P	**Pn**	**13 22 18.3**	**+0.9**
BMOR	**Cotopaxi Volca**	**1.94**	**321**	⇓P	**Pn**	**13 22 18.8**	**+1.0**
BTAM	**Cotopaxi Volca**	**1.95**	**323**	⇓P	**Pn**	**13 22 19.0**	**+1.2**
ANTM	**Antisana-La Mi**	**1.97**	**330**	⇓P	**Pn**	**13 22 18.4**	**+0.5**
SLOR	**San Lorenzo -**	**1.97**	**320**		**Pn**	**13 22 18.6**	**+0.7**
SLOR	**San Lorenzo -**	**1.97**	**320**	⇓P	**Pn**	**13 22 18.8**	**+0.9**
BVC2	**Cotopaxi Volca**	**1.97**	**323**	⇓P	**Pn**	**13 22 19.5**	**+1.5**
ANTS	**Antisana-Sarah**	**1.98**	**332**	⇓P	**Pn**	**13 22 18.5**	**+0.4**
VC1	**Cotopaxi 1**	**1.98**	**324**	⇓P	**Pn**	**13 22 19.5**	**+1.4**
BREF	**Cotopaxi Volca**	**1.98**	**322**	⇓P	**Pn**	**13 22 19.0**	**+0.8**
BNAS	**Cotopaxi Volca**	**2.00**	**321**	⇓P	**Pn**	**13 22 20.5**	**+2.1**
ANTG	**Antisana-Guama**	**2.01**	**329**	⇓P	**Pn**	**13 22 19.2**	**+0.7**
ANTI	**Antisana**	**2.01**	**332**	⇓P	**Pn**	**13 22 19.0**	**+0.4**
CAMI	**Rancho Maria**	**2.01**	**321**	P	**Pn**	**13 22 19.7**	**+1.3**
COHC	**Cochancay**	**2.03**	**264**	Pn	**Pn**	**13 22 17.4**	**-0.8**
COHC	**Cochancay**	**2.03**	**264**	⇑P	**Pn**	**13 22 17.8**	**-0.4**
COHC	**Cochancay**	**2.03**	**264**	P	**Pn**	**13 22 17.3**	**-0.8**
COHC				S	**Sn**	**13 22 44.9**	**-0.5**
SUCR	**Mariscal Sucre**	**2.03**	**322**	⇓P	**Pn**	**13 22 19.9**	**+1.2**
PITA	**Cotopaxi Volc**	**2.06**	**324**	P	**Pn**	**13 22 19.9**	**+0.9**
TOMA	**Boca Toma-Volc**	**2.11**	**325**	P	**Pn**	**13 22 21.1**	**+1.5**
ILLI	**Illinizas Sur**	**2.13**	**315**	⇓P	**Pn**	**13 22 20.6**	**+0.7**
REVS	**Reventador Sur**	**2.16**	**350**	⇓P	**Pn**	**13 22 19.8**	**-0.2**
LAV4	**Lava4-

CAYR	Refugio Cayamb	2.38 341	⇑P		Pn	13 22 24.0 +1.1
ANGU	Angureal	2.41 341	⇓P		Pn	13 22 24.3 +1.0
CAYA	Cayambe	2.42 342	⇓P		Pn	13 22 24.7 +1.3
GGPT	Toaza - Volcan	2.44 325	⇓P		Pn	13 22 24.1 +0.6
JUA2	San Juan 2	2.44 326	⇓P		Pn	13 22 24.3 +0.7
HPAL	Hacienda Las P	2.46 325	P		Pn	13 22 24.8 +1.0
GGPC	Guagua Pichinc	2.47 326	⇓P		Pn	13 22 24.5 +0.6
TERV	Terraza Guagua	2.47 326	⇓P		Pn	13 22 24.7 +0.6
PINO	Pino	2.49 326	⇓P		Pn	13 22 25.1 +0.8
YANA	Yana	2.50 328	P		Pn	13 22 25.0 +0.7
IMBA	Imbabura, San	2.69 339	P		Pn	13 22 28.2 +1.6
BONI	La Bonita	2.70 354	⇓P		Pn	13 22 26.6 0.0
YAHU	Yahuarcocha	2.73 342	⇓P		Pn	13 22 28.2 +1.1
OTAV	Otavalo	2.75 334	Pn		Pn	13 22 27.5 +0.1
CUSW	Cuicocha Oeste	2.75 336	P		Pn	13 22 29.2 +1.8
CUIC	Cuicocha-Domo	2.77 336	P		Pn	13 22 28.0 +0.4
CUSE	Cuicocha Este	2.79 335	P		Pn	13 22 28.6 +0.8
COTA	Cotacachi	2.79 337	P		Pn	13 22 28.9 +0.9
URCU	Urcuqui	2.86 339	⇓P		Pn	13 22 29.7 +1.0
GONZ	Gonzanam	2.93 227	P		Pn	13 22 29.2 -0.3
PAC1	Pacto, Paraso	2.94 328	⇓P		Pn	13 22 30.1 +0.6
TULM	Tulcn-Chalpat	3.00 349	⇓P		Pn	13 22 31.7 +1.2
ISPG	Isla Puna-Puer	3.02 256	⇓P		Pn	13 22 29.6 -0.8
LNGL	El Angel-Carch	3.06 345	⇓P		Pn	13 22 32.8 +1.4
CHL1	Volc¡n Chiles	3.10 347	⇓P		Pn	13 22 33.1 +1.2
CHL2	Volc¡n Chiles	3.10 347	⇓P		Pn	13 22 33.6 +1.7
ARNL	Arenillas	3.11 245	⇑P		Pn	13 22 28.9 -2.6
ECEN	Cerro Negro	3.14 346	⇓P		Pn	13 22 33.5 +1.2
FLF1	Flavio Alfaro-	3.21 306	P		Pn	13 22 32.5 -0.3
LITE1	Lita	3.23 339	P		Pn	13 22 32.9 -0.1
PTLC	Puerto Leguiza	3.42 45	P		Pn	13 22 31.6 -3.8
PPLP	Puerto Lpez	3.61 281	P		Pn	13 22 35.9 -2.0
PPLP			S		Sn	13 23 15.7 -5.0
SALI	Salinas	3.76 271	P		Pn	13 22 38.9 -0.9
ISPT	Isla de la Pla	3.96 284	P		Pn	13 22 41.8 -0.7
FLOC	Florencia	4.12 23			Pn	13 22 44.0 -0.6
CZSB	Cruzeiro do Su	7.07 141	Pn		Pn	13 23 23.9 +0.2
TBTG	Tabatinga, AM	7.56 105	Pn		Pn	13 23 29.0 -1.2
ROSC	El Rosal	7.62 22	P		Pn	13 23 35.0 +3.6
	6.2nm,0.4s,baz=198,slow=20,SNR=1.8					
RUSC	La Rusia	9.09 27			Pn	13 23 51.6 +0.6
SDV	Santo Domingo	12.87 31	Pn		Pn	13 24 39.8 -0.6
SDV	Santo Domingo	12.87 31	P		Pn	13 24 42.6 +2.2
	4.1nm,0.7s,baz=213,slow=15,SNR=3.5					
BAUV	El Baul	14.40 39	Pn		Pn	13 24 59.9 +0.1
MACA	Manacapuru-AM	16.55 94	P		P	13 25 25.8 -0.4
LPAZ	La Paz	16.58 148	P		Pn	13 25 28.4 +1.2
LPAZ	La Paz	16.58 148	P		P	13 25 26.4 -0.8
	1.6nm,0.6s,baz=325,slow=14,SNR=6.5					
PB12	IPOC Station P	17.62 158	P		Pn	13 25 39.8 +0.7
PB12			IAmb	IAmb		13 25 41.3
	comp=Z,10nm,0.7s					
PB16	IPOC Station P	17.69 155	P		Pn	13 25 42.2 +1.7
PB16			IAmb	IAmb		13 25 44.0
	comp=Z,9.0nm,0.8s					
PB11	IPOC Station P	18.92 157	P		P	13 25 53.9 +1.7
PB11			IAmb	IAmb		13 26 03.1
	comp=Z,9.2nm,0.7s					
GO01	Chusmiza	19.02 156	P		Pn	13 25 56.4 +0.5
GO01			IAmb	IAmb		13 26 00.3
	comp=Z,9.3nm,0.7s					
TA02	Huaiquique	19.21 159	P		P	13 25 56.9 +1.7
TA01	Diego Aracena	19.46 160	P		Pn	13 26 00.5 -0.2
TA01			IAmb	IAmb		13 26 02.1
	comp=Z,21nm,0.9s					
PB01	IPOC Station P	20.15 159	P		Pn	13 26 08.4 -0.5
PB01			IAmb	IAmb		13 26 13.3
	comp=Z,11nm,1.0s					
PB09	IPOC Station P	20.93 159	P		P	13 26 16.7 +2.9
PB09			IAmb	IAmb		13 26 21.0
	comp=Z,8.6nm,0.9s					
SIV	San Ignacio	20.97 132	P		P	13 26 13.9 -0.3
	comp=Z,1.2nm,0.3s,baz=329,slow=9.7,SNR=9.6					
	comp=Z,1.2nm,0.3s					
GO02	Mina Guanaco	23.95 163	P		P	13 26 44.7 +1.2
AC01	Pan de Azucar	24.61 166	P		P	13 26 51.1 +2.0
AC01			IAmb	IAmb		13 26 52.7
	comp=Z,7.4nm,0.9s					
MT13	San Alfonso	32.00 169	P		P	13 27 56.1 +1.2
PLCA	Paso Flores	38.78 172	P		P	13 28 54.8 +2.0
PLCA			IAmb	IAmb		13 28 56.2
	comp=Z,7.2nm,1.0s					
SDCO	Great Sand Dun	47.63 329	P		P	13 30 05.5 +1.5
PDAR	Pinedale Array	53.45 331	P		P	13 30 45.6 -2.0
	comp=Z,0.3nm,0.9s,baz=127,slow=5.0,SNR=1.9					
	comp=Z,0.3nm,0.9s					
ULM	Lac du Bonnet	54.69 345	P		P	13 30 54.9 -1.3
	comp=Z,2.2nm,0.4s,baz=159,slow=6.8,SNR=5.9					
	comp=Z,2.2nm,0.4s					
NVAR	Mina Array Bea	55.42 321	pP		pP	13 31 39.5 +2.6
	comp=Z,0.5nm,0.8s,baz=109,slow=5.7,SNR=4.1					
TORD	Torodi Ar. Bea	79.74 76	P		P	13 33 34.1 -0.5
QSPA	South Pole Qui	87.82 180	P		P	13 34 16.9 +2.1
ASAR	Alice Springs	140.23 228	PKhKP		PKPpre	13 40 48.4
	comp=Z,0.4nm,0.8s,baz=124,slow=3.9,SNR=6.8					
WRA	Warramunga Arr	141.97 233	PKP		PKPdf	13 40 54.0 -3.8
	comp=Z,0.5nm,0.6s,baz=126,slow=2.6,SNR=6.7					

*IDC **03** 13:32:09.2±5.1, 19°.70N×147°.49E, h53km±44km, mb3.5/11, mbtmp3.8/11, ML4.4/1, MS2.8/2, Error ellipse: s-maj=41.9km s-min=18.0km az=80.0*

ISC 03 13:32:07.4±1.2, 19°.77N±0°.09×147°.6E±0°.2, h35km, n18, σ0=92/14, mb3.8/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	6.66	203	P	Pn	13 33 44.6	+1.8
	7.6nm,0.3s,baz=320,slow=2.2,SNR=6.9						
GUMO				S	Sn	13 34 56.5	-1.0
	20nm,0.4s,baz=341,slow=23,SNR=1.6						
GUMO				LR	LR	13 36 06.3	
	comp=Z,62nm,18.2s,baz=3.5,slow=36						
H11S3	WAKE ISLAND Hy 18.12	91		T	T	13 54 29.1	
	baz=280,slow=75,SNR=4.2						
H11S1	WAKE ISLAND Hy 18.13	91		T	T	13 54 31.2	
	baz=280,slow=75,SNR=8.4						
H11S2	WAKE ISLAND Hy 18.14	91		T	T	13 54 31.0	
	baz=280,slow=75,SNR=3.6						
H11N1	WAKE ISLAND Hy 18.20	87		T	T	13 54 39.3	
	baz=276						
H11N2	WAKE ISLAND Hy 18.20	87		T	T	13 54 41.6	
	baz=276						
H11N3	WAKE ISLAND Hy 18.22	87		T	T	13 54 41.4	
	baz=276						
KSRS	Korea Array	24.57	320	P	P	13 37 24.3	+0.3
	1.7nm,0.8s,baz=123,slow=9.1,SNR=7.0						
KSRS				LR	LR	13 47 24.8	
	comp=Z,26nm,18.4s,baz=85,slow=37						
	1.7nm,0.8s						
WRA	Warramunga Arr	41.54	199	P	P	13 39 51.1	-0.5
	0.6nm,0.7s,baz=20,slow=8.1,SNR=8.1						
WRA				PcP	PcP	13 41 49.0	+0.2
	0.5nm,1.0s,baz=18,slow=4.0,SNR=1.5						
	0.6nm,0.7s						
SONM	Songino Array	43.44	320	P	P	13 40 08.3	+1.2
	0.8nm,0.6s,baz=143,slow=7.3,SNR=3.9						
	0.8nm,0.6s						
ASAR	Alice Springs	45.18	198	P	P	13 40 20.1	-0.9
	0.3nm,0.8s,baz=24,slow=6.7,SNR=6.1						
	0.3nm,0.8s						
CMAR	Chiang Mai Arr	45.83	277	P	P	13 40 25.5	-0.8
	0.4nm,0.3s,baz=81,slow=8.1,SNR=1.6						
	0.4nm,0.3s						
ZALV	Zalesovo Beam	58.25	322	P	P	13 41 57.4	-0.9
	0.8nm,0.6s,baz=89,slow=6.3,SNR=3.7						
	0.8nm,0.6s						
MKAR	Makanchi Array	59.00	313	P	P	13 42 04.0	+0.4
	0.8nm,0.8s,baz=92,slow=8.2,SNR=7.9						
	0.8nm,0.8s						
KURBB	Kurchatov Arra	61.71	318	P	P	13 42 22.0	-0.1
	1.2nm,0.7s,baz=91,slow=7.8,SNR=11						
	1.2nm,0.7s						
BVAR	Borovoye Array	66.78	320	P	P	13 42 55.0	-0.2
	1.1nm,0.6s,baz=87,slow=6.2,SNR=6.9						
	1.1nm,0.6s						
YKA	Yellowknife Ar	76.22	28	P	P	13 43 52.1	+0.1
	0.3nm,0.6s,baz=291,slow=5.6,SNR=4.1						
	0.3nm,0.6s						
FINES	FINESS Array B	86.64	336	P	P	13 44 46.4	-0.7
	2.5nm,1.0s,baz=56,slow=3.4,SNR=6.4						
	2.5nm,1.0s						

*IDC **03** 13:55:52.8±0.5, 11°.08N×85°.57W, h210km±7km, mb3.4/9, mbtmp4.0/11, Error ellipse: s-maj=27.9km s-min=13.2km az=32.0*

*UCR **03** 13:55:53.5±1.4, 11°.31N×85°.59W, h201km±3km, MW4.2*

*NEIC **03** 13:55:55.0±1.3, 11°.32N±0°.06×85°.55W±0°.08, h191km±9km, mb4.6/13, Error ellipse: s-maj=13.4km s-min=3.6km az=54.0*

*CATAC **03** 13:55:54.4±0.4, 11°N±2°×8°6W±°, h197km±3km, M4.2/27, MLv4.2/27, Error ellipse: s-maj=7.5km s-min=3.2km az=53.4, confirmed*

*SNET **03** 13:55:56.3±0.9, 11°.72N×85°.85W, h244km±36km, ML4.3*

ISC 03 13:55:53.8±0.6, 11°.26N±0°.04×85°.58W±0°.04, h206km±4km, n190, σ0=99/229, mb4.4/15, 41C-3D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARN	Rivas	0.09	144	P	Pn	13 56 20.7	-0.1
CARN				S	S	13 56 42.3	+0.4
LCRUZ	La Cruz	0.19	196	⇑iP	Pn	13 56 21.4	+0.5
LCRUZ				eS	S	13 56 41.7	-0.4
JAPN	Al SSO del Vol	0.28	339	P	Pn	13 56 21.2	+0.2
CONN	Concepcion	0.30	351	P	Pn	13 56 20.6	-0.5
PEJA	Penjamo Buenos	0.45	145	⇑iP	Pn	13 56 21.5	0.0
VORI	VORI	0.50	153	⇑eP	Pn	13 56 21.9	-0.1
VRLE	La Escondida,	0.52	156	⇑iP	Pn	13 56 21.6	-0.3
GPS3	Bodega del ICE	0.55	158	⇑eP	Pn	13 56 23.7	+1.8
GPS3				eS	S	13 56 43.1	-0.7
GPS2	Hotel Rincn d	0.56	156	⇑iP	Pn	13 56 21.5	-0.5
ELI1	Hacienda Flor	0.62	178	⇑iP	Pn	13 56 22.0	-0.2
ERIA	Liberia	0.64	168	⇑iP	Pn	13 56 22.1	-0.2
ALIBA	Liberia Airpor	0.67	177	⇑iP	Pn	13 56 22.1	-0.3
ALIBA				eS	S	13 56 44.5	-0.1
HORNC	Hornillas	0.67	144	⇑eP	Pn	13 56 22.4	-0.2
COLC	Colonia	0.70	148	⇑iP	Pn	13 56 22.4	-0.2
COLC				eS	S	13 56 45.2	+0.3
CUI	Cuipilapa	0.73	146	⇑iP	Pn	13 56 22.8	+0.1
CUI				eS	S	13 56 45.1	0.0
BAGA	Bagaces	0.80	157	⇑iP	Pn	13 56 23.8	+0.8
BAGA				eS	S	13 56 46.2	+0.5
ACON	Acoyapa	0.80	29	Pn	Pn	13 56 22.2	-0.9
ACON	Acoyapa	0.80	29	⇑iP	Pn	13 56 22.6	-0.4
ACON				eS	S	13 56 44.0	-1.8
ACON	Acoyapa	0.80	29	P	Pn	13 56 22.7	-0.4
ACON	Acoyapa	0.80	29	S	S	13 56 44.9	-0.9
VERA	Finca Concepci	0.81	120	⇑eP	Pn	13 56 23.1	+0.1
VERA				eS	S	13 56 45.2	-0.4
TENO	El Achiote	0.81	133	eP	Pn	13 56 23.5	+0.3
LCHIL	Los Chiles	0.88	105	⇑iP	Pn	13 56 23.2	-0.3
MASN	Masaya	0.91	322	P	Pn	13 56 24.8	+1.0
QUEB	Quebradon, Cot	0.93	133	⇑iP	Pn	13 56 23.8	0.0
PLVR	Palo Verde	0.94	166	⇑eP	Pn	13 56 23.9	-0.2
PLVR				eS	S	13 56 47.0	-0.5
CNAS	Canas	0.96	150	⇑iP	Pn	13 56 24.0	0.0
CNAS				eS	S	13 56 46.2	-1.0
MAS3	Al N del Volca	0.96	322	P	Pn	13 56 24.5	+0.5
MAS3				S	S	13 56 48.6	+1.3
SACU	Santa Cruz	0.99	180	⇑iP	Pn	13 56 25.2	+1.0
CRUN	El Crucero	1.01	315	P	Pn	13 56 21.2	-3.2
ENAN	Enatrel Managu	1.08	322	P	Pn	13 56 25.1	+0.3
ENAN	Enatrel Managu	1.08	322	S	S	13 56 50.0	+1.3
UNAN	Cigeo UNAN	1.08	321	P	Pn	13 56 24.9	+0.1
UNAN				S	S	13 56 49.9	+1.2
USIM	UNAN	1.09	321	Pn	Pn	13 56 24.5	-0.3
R4DEC	Barrio San Lui	1.10	323	P	Pn	13 56 24.8	-0.1
R4DEC	Barrio San Lui	1.10	323	S	S	13 56 49.5	+0.5
TISN	Laguna Tiscapa	1.10	322	P	Pn	13 56 24.9	-0.1
SBEN	San Benito	1.14	336	P	Pn	13 56 25.1	0.0
JTS	Las Juntas de	1.15	148	P	Pn	13 56 25.0	-0.3
	575nm,0.3s,baz=108,slow=20,SNR=691						
JTS				S	S	13 56 47.5	-2.1
	1µm,0.3s,baz=317,slow=23,SNR=42						
JTS	Las Juntas de	1.15	148	⇑iP	Pn	13 56 25.1	-0.2
JUNT	Juntas	1.15	148	⇑iP	Pn	13 56 25.1	-0.2
JUNT				eS	S	13 56 47.5	-2.1
CEDE	Laguna Cedeo	1.16	132	⇑iP	Pn	13 56 25.9	+0.5
VARE2	V. Arenal	1.16	133	⇑iP	Pn	13 56 25.9	+0.4
ARE1	Arenal 1	1.16	133	⇑iP	Pn	13 56 26.0	+0.5
ARE1				eS	S	13 56 49.4	-0.3
BOAB	BOACO BROADBAN	.18	356		Pn	13 56 24.9	-0.6
BOAB	BOACO BROADBAN	.18	356	P	Pn	13 56 25.3	-0.2
BOAB	BOACO BROADBAN	.18	356	S	S	13 56 49.0	-1.1
APQ2	Apoyeque	1.18	322	P	Pn	13 56 24.8	-0.7
APQ2				S	S	13 56 50.7	+0.7
VACR	Volcan Arenal	1.18	132	⇑iP	Pn	13 56 26.0	+0.4
FORC	Fortuna	1.19	132	⇑iP	Pn	13 56 26.2	+0.5
FORC				eS	S	13 56 49.9	-0.2
MTEVE	Monteverde	1.19	142	⇑iP	Pn	13 56 25.9	+0.1
SAPS	Ciudad Sandino	1.21	318	S	S	13 56 50.6	+0.2
SAPS	Ciudad Sandino	1.21	318	P	Pn	13 56 25.8	+0.1
CMARA	Lajas Hojancha	1.25	173	⇑iP	Pn	13 56 26.0	-0.1
CMARA	Lajas Hojancha	1.25	173	P	Pn	13 56 26.0	-0.1
CMARA	Lajas Hojancha	1.25	173	S	S	13 56 49.8	-1.2
COVE	Coope Vega, Sa	1.27	115	P	Pn	13 56 26.2	-0.1
COVE	Coope Vega, Sa	1.27	115	S	S	13 56 50.2	-0.9
AMTN	Mateare	1.28	319	S	S	13 56 52.5	+1.3
AMTN	Mateare	1.28	319	P	Pn	13 56 26.3	0.0
SOCE	Pocosol	1.29	133	Pn	Pn	13 56 26.1	-0.3
SOCE	Pocosol	1.29	133	⇑iP	Pn	13 56 26.6	+0.2
SOCE				eS	S	13 56 51.1	-0.3
SOCE	Pocosol	1.29	133	P	Pn	13 56 26.6	+0.2
NYURE	Nandayure	1.30	166	⇑iP	Pn	13 56 26.4	-0.1
NYURE				eS	S	13 56 50.5	-1.1
COPN	Copaltepe	1.35	313	⇑eP	Pn	13 56 26.3	-0.5
COPN	Copaltepe	1.35	313	P	Pn	13 56 26.4	-0.4
INDI	Punta indio, G	1.39	177	P	Pn	13 56 27.1	-0.1
INDI	Punta indio, G	1.39	177	S	S	13 56 52.0	-0.9
ENAS	Puntarenas	1.47	150	eP	Pn	13 56 28.6	+0.7
MOMN	Momotombo	1.48	320	P	Pn	13 56 27.7	-0.2
MOMN				S	S	13 56 54.5	+0.3
JCR1	Jicaral	1.48	162	⇑iP	Pn	13 56 29.0	+1.0
ITAL	Pital	1.52	122	eP	Pn	13 56 28.2	-0.1
LEVN	Ruinas Leon Vi	1.52	318	P	Pn	13 56 28.4	+0.2
LEVN				S	S	13 56 54.7	0.0
VPL3	V. Platanar	1.54	126	⇑eP	Pn	13 56 28.8	+0.2
VPL3				eS	S	13 56 56.0	+0.8
ARZA	Esparza	1.55	145	⇑eP	Pn	13 56 28.9	+0.3
ARZA				eS	S	13 56 54.3	-0.9
ESPN	Las Esperanzas	1.56	53	Pn	Pn	13 56 28.0	-0.5
ESPN	Las Esperanzas	1.56	53	⇓iP	Pn	13 56 28.5	0.0
ESPN				eS	S	13 56 54.0	-1.2
PAQE	Paquera	1.57	156	eP	Pn	13 56 28.9	+0.2
ZARE	Zarcero	1.59	132	eP	Pn	13 56 30.2	+1.1
SRA1	San Ramn	1.59	137	eP	Pn	13 56 29.4	+0.4
RAMO	San Ramon	1.60	137	eP	Pn	13 56 25.8	-3.4
ARTO	Ro Cuarto	1.62	124	⇑iP	Pn	13 56 30.2	+1.0
ARTO				eS	S	13 56 56.3	-0.1
CNGA	Al SSO del Vol	1.65	318	P	Pn	13 56 29.2	-0.2
CNGA				S	S	13 56 57.3	+0.5
CNGN	Cerro Negro	1.65	318	Pn	Pn	13 56 28.1	-1.3
CNGN	Cerro Negro	1.65	318	P	Pn	13 56 29.2	-0.3
CNGN	Cerro Negro	1.65	318	S	S	13 56 56.6	-0.3
SARCI	Sarchi	1.68	134	eP	Pn	13 56 30.9	+1.0
VPS8	V Poas	1.70	129	eP	Pn	13 56 30.8	+0.5
VPS5	V. Poas	1.70	129	eP	Pn	13 56 28.8	-1.5
ILCN	San Idelfonso	1.71	320	P	Pn	13 56 29.6	-0.4
ILCN				S	S	13 56 59.1	+1.3
TRB2	Turrubares	1.74	140	eP	Pn	13 56 30.6	+0.3
TCS1	Tacares	1.75	134	P	Pn	13 56 31.4	+0.9
PLRN	Geotermica Pol	1.75	319	P	Pn	13 56 30.1	-0.4
PLRN				S	S	13 56 58.9	+0.3
HERN	Volcan Telica	1.81	318	Pn	Pn	13 56 30.2	-0.9
HERN	Volcan Telica	1.81	318	P	Pn	13 56 31.0	-0.1
HERN	Volcan Telica	1.81	318	S	S	13 57 01.0	+1.4
QUEN	Al S del Volca	1.81	317	P	Pn	13 56 31.1	0.0
QUEN				S	S	13 56 58.8	-0.8
POLN	Al Sur del Vol	1.83	319	P	Pn	13 56 30.2	-1.0
POLN				S	S	13 56 59.3	-0.5
VBV1	V. Barva	1.85	128	eP	Pn	13 56 32.2	+0.5
BELE	Belen	1.87	133	eP	Pn	13 56 32.0	+0.3
HEME	Heredia, Merce	1.90	132	eP	Pn	13 56 32.5	+0.6
SANTA	Santa Ana	1.90	134	⇓iP	Pn	13 56 32.5	+0.5
HDC	Heredia	1.91	131	Pn	Pn	13 56 31.7	-0.3
HDC	Heredia	1.91	131	eP	Pn	13 56 32.2	+0.2
HDC				eS	S	13 57 00.7	-0.7
LIMN	Finca el Limon	1.95	337	P	Pn	13 56 32.4	0.0
ACOS	Acosta	2.02	136	eP	Pn	13 56 33.5	+0.3
ACOS				eS	S	13 57 02.5	-0.8
CRIN	San Cristobal	2.03	315	Pn	Pn	13 56 32.0	-1.2
CRIN	San Cristobal	2.03	315	⇑iP	Pn	13 56 32.7	-0.5
CRIN				eS	S	13 57 03.8	+0.4
CRIN	San Cristobal	2.03	315	P	Pn	13 56 32.9	-0.3
CRIN	San Cristobal	2.03	315	S	S	13 57 04.2	+0.8
PILE	Guapiles	2.04	120	eP	Pn	13 56 35.0	+1.7
CVTG	V. Turrialba,	2.09	122	eP	Pn	13 56 33.8	0.0
PICV	PH. Pirrs	2.12	140	eP	Pn	13 56 35.1	+0.9
VICA	Volcano Irazu	2.13	127	eP	Pn	13 56 34.7	+0.1
ABE2	San Pablo	2.16	136	eP	Pn	13 56 35.2	+0.5
PISJ	San Jernim	2.16	138	eP	Pn	13 56 35.6	+1.0
LCR2	La Lucha 2	2.16	134	Pn	Pn	13 56 34.9	+0.1
LCR2	La Lucha 2	2.16	134	⇑eP	Pn	13 56 35.2	+0.4
LCR2	La Lucha 2	2.16	134	P	Pn	13 56 35.4	+0.6
LCR2	La Lucha 2	2.16	134	S	S	13 57 05.2	-0.9
CVTR	Volcan Turrial	2.17	124	⇑eP	Pn	13 56 35.5	+0.4
VTR0	Volcan Turrial	2.17	125	eP	Pn	13 56 35.8	+0.7
CVTV	Tajo	2.19	125	⇑eP	Pn	13 56 35.6	+0.4
REPA	Paraso	2.21	130	eP	Pn	13 56 36.5	+1.3
VTCV	VTCV, Calle Va	2.22	125	⇑eP	Pn	13 56 35.4	+0.1
PIEC	Cerro El Cedra	2.28	136	eP	Pn	13 56 36.8	+0.8
LLNJ	Naranjito	2.30	141	eP	Pn	13 56 37.4	+1.5
RCPN	Sur Rio San Ju	2.30	347	P	Pn	13 56 36.5	+0.3
RCVN	Varillal2	2.38	345	P	Pn	13 56 37.4	+0.4
RCVN	Varillal2	2.38	345	S	S	13 57 11.2	+0.9
CSGN	Cosiguina Volc	2.58	312	⇓iP	Pn	13 56 38.9	-0.2
CSGN	Cosiguina Volc	2.58	312	P	Pn	13 56 39.1	0.0
CSGN				S	S	13 57 12.4	-1.5
SAJE	San Jernim	2.79	133	eP	Pn	13 56 42.1	+0.5
OCHAL	Ojochal	2.87	138	S	S	13 57 20.2	+0.4
CNCH	Conchagua	2.98	312	eP	Pn	13 56 43.8	+0.1
CNCH				eS	S	13 57 22.2	+0.1
DRK0	Durika	3.04	131	eP	Pn	13 56 45.3	+0.8
LCND	La Caada	3.04	312	eP	Pn	13 56 43.8	-0.5
LCND				IAML		13 57 29.6	
	comp=Z,819nm,0.3s						
FIMO	Fila Mora	3.15	136	eP	Pn	13 56 47.3	+1.6
TGUH	Tegucigalpa,Un	3.23	329	Pn	Pn	13 56 47.7	+1.1
BLLM	Bellamira	3.38	310	eP	Pn	13 56 48.9	+0.5
LCY	Lacayo	3.41	309	eP	Pn	13 56 49.2	+0.4
RANC	El Ranchito	3.42	309	eP	Pn	13 56 49.4	+0.5
PACA	Pacayal	3.46	310	eP	Pn	13 56 49.8	+0.4
PACA				eS	S	13 57 30.8	-1.7
ALCO	Alturas Coton,	3.55	130	eP	Pn	13 56 51.4	+0.8
ALCO				eS	S	13 57 32.4	-2.1
CAHU	Cacacuatique	3.58	314	eP	Pn	13 56 51.1	+0.1
PIRO	Carate, Puerto	3.60	142	eP	Pn	13 56 51.6	+0.6
TECA	Tecapa	3.62	308	eP	Pn	13 56 52.0	+0.7
TECA				eP		13 56 52.3	
TECA				eS	S	13 57 35.1	-0.8
BRU2	Volcan	3.76	131	Pn	Pn	13 56 54.0	+1.0
BRU2	Volcan	3.76	131	eP	Pn	13 56 54.3	+1.3
SCLA	Alcaldia de Sa	3.92	309	eP	Pn	13 56 55.3	+0.4
COEG	Centro de Oper	3.99	306	eS	S	13 57 42.1	-1.8
COEG				IAML		13 57 53.4	
	comp=Z,343nm,0.2s						
LFRS	El Faro	4.13	305	eS	S	13 57 45.6	-1.7
BOQS	Boqueron	4.37	305	eS	S	13 57 51.7	-1.1
JAYA	Jayaque - finc	4.46	303	eP	Pn	13 57 00.9	-0.9
PRVC	Isla de Provid	4.62	63	Pn	Pn	13 57 03.4	-0.3
CEVE	Cerro Verde	4.70	303	eS	S	13 57 58.9	-1.5
NUBE	Las Nubes	4.87	303	eP	Pn	13 57 06.8	-0.1
CMIG	Matias Romero	10.72	304	P	Pn	13 58 22.6	+0.2
	comp=Z,2.8nm,0.4s,baz=115,slow=8.7,SNR=10.0						
RUSC	La Rusia	13.46	112	P	P	13 59 01.2	+1.3
NMDO	Nuevo Mundo	13.75	46	P	P	13 59 03.8	+1.3
FLOC	Florencia	13.77	134	P	P	13 59 04.9	+2.1
SDV	Santo Domingo	14.90	98	P	Pn	13 59 13.7	-1.3
	comp=Z,3.6nm,0.

BBOO	Buckleboo	2.68	291	S	Sn	14 18	24.7	+0.4
BBOO	Buckleboo	2.68	291	P	Pn	14 17	53.4	+1.2
KELC	Kelly Hill Cav	2.76	218	P	Pn	14 17	54.8	+1.5
AUCAS	Cummins Area S	2.78	260	P	Pb	14 17	56.9	-1.9
STKA	Stephens Creek	2.91	49	P	Pn	14 17	55.5	+0.1
STKA	Stephens Creek	2.91	49	S	Sn	14 18	30.4	+0.4
STKA	Stephens Creek	2.91	49	P	Pn	14 17	56.1	+0.8
LCRK	Leigh Creek	3.44	348	P	Pn	14 18	03.3	+0.8
LCRK	Leigh Creek	3.44	348	S	Sn	14 18	43.4	+0.5
LCRK	Leigh Creek	3.44	348	P	Pn	14 18	03.3	+0.8
ARPS	Mount Arapiles	3.73	143	P	Pn	14 18	06.2	-0.5
ARPS	Mount Arapiles	3.73	143	P	Pn	14 18	07.0	+0.3
ARPS	Mount Arapiles	3.73	143	S	Sn	14 18	49.9	-0.4
MULG	Mulgathing	5.50	309	P	Pn	14 18	31.0	+0.1
	comp=Z,0.0nmcomp=Z,13nm,1.7s							
MULG				S	Sn	14 19	31.7	-2.2
CMSA	Cobar Meteorol	6.07	70	P	Pn	14 18	38.0	-0.8
	comp=Z,0.1nmcomp=Z,5.5nm,1.3s							
CMSA	Cobar Meteorol	6.07	70	P	Pn	14 18	38.2	-0.5
INKA	Innaminka	6.24	14	P	Pn	14 18	41.4	+0.3
INKA	Innaminka	6.24	14	P	Pn	14 18	42.4	+1.3
OOD	Oodnadatta	6.66	334	P	Pn	14 18	46.8	0.0
	comp=Z,0.1nmcomp=Z,13nm,1.6s							
OOD	Oodnadatta	6.66	334	P	Pn	14 18	48.0	+1.2
FORT	Forrest	9.76	285	P	Pn	14 19	29.6	+0.2
	comp=Z,0.1nmcomp=Z,38nm,1.2s							
AS09	Alice Springs	11.03	335	P	Pn	14 19	46.5	-0.3
	comp=Z,3.4nm,1.4s							
AS31	Alice Springs	11.07	335	P	Pn	14 19	47.9	+0.5
	comp=Z,1.2nm,2.4s							
WRKA	Warakurna	12.80	310	P	Pn	14 20	10.9	-0.1
	comp=Z,7.0nm,0.5s							

JMA 03 14:17:43.0±0.4,28°N±2°×12°7E±°,h182km,MV2.2/11,NW OFF OKINAWAJIMA IS,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	Iheya	1.29	140	P	Pn	14 18 13.7	+0.5
JOKE	Okinoerabujima	1.52	116	P	Pn	14 18 15.5	+0.2
JOKE				eS	Sn	14 18 40.4	+0.2
JYRO	Yoronjima	1.61	128	eP	Pn	14 18 16.4	+0.2
JOW	Kunigami	1.63	137	P	Pn	14 18 16.5	+0.1
JTK	Tokunoshima	1.71	98	eP	Pn	14 18 17.2	0.0
JKE	Kume jima 2	1.72	188	eP	Pn	14 18 17.2	0.0
JNTH	Nagotoyohara	1.75	150	eP	Pn	14 18 17.9	+0.4
JAMN	Amaminishikomi	1.90	83	P	Pn	14 18 19.2	+0.2
JAMN				eS	Sn	14 18 47.5	+0.4

*TAP **03** 14:20:52.4,22°98N×120°87E,h4km,ML2.4,C*
ISC 03 14:20:53.0±0.9,22°98N±0°01×120°87E±0°02,h8km±7km, n81,σ0°55/134,7C-9D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	Taoyuan	0.21	335	iP	Pg	14 20 56.7	-0.7
STYH				iS	Sg	14 20 60.0	-0.3
STYT	Tauyuan	0.21	330	iP	Pg	14 20 56.8	-0.6
STYT				iS	Sg	14 21 00.2	-0.1
TWG	Pinlang	0.24	130 ⇓	iP	Pg	14 20 58.3	+0.3
TWG				S	Sg	14 21 01.9	+0.7
ELDTW	Lidau	0.25	32 ⇑	iP	Pg	14 20 58.1	0.0
ELDTW				S	Sg	14 21 01.9	+0.4
LONT	Longtian	0.25	107 ⇓	P	Pg	14 20 58.3	+0.3
LONT				S	Sg	14 21 01.8	+0.4
TWGBT	Beinan	0.25	130	P	Pg	14 20 58.2	+0.2
TWGBT	Beinan	0.25	130	S	Sg	14 21 01.9	+0.5
TWGBT	Beinan	0.25	130 ⇓	iP	Pg	14 20 58.3	+0.2
TWGBT				S	Sg	14 21 01.7	+0.3
SGST	Jiashian	0.29	291 ⇓	P	Pg	14 20 58.8	+0.1
SGST				S	Sg	14 21 03.7	+1.1
TTN	Taitung	0.34	131	eP	Pb	14 21 00.8	-0.5
TTN				eS	Sb	14 21 06.3	-0.5
ECS	Chishang	0.34	70 ⇑	P	Pg	14 21 00.2	+0.4
ECS				eS	Sg	14 21 05.2	+0.9
TSMG	Majia	0.34	218	eP	Pg	14 20 59.4	-0.4
TSMG				eS	Sg	14 21 03.3	-1.0
EHD	Haiduan	0.35	61	iP	Pg	14 20 59.5	-0.5
EHD				S	Sg	14 21 04.1	-0.5
WTP	Ta-pu	0.36	318 ⇓	P	Pb	14 21 01.2	-0.5
WTP				S	Sb	14 21 07.0	-0.4
SCST	Cishan	0.36	255	P	Pb	14 21 01.3	-0.3
SCST				S	Sb	14 21 07.1	-0.4
CHN1	Nanshi	0.38	303 ⇓	P	Pb	14 21 01.9	-0.1
CHN1				S	Sb	14 21 09.2	+1.1
ECL	Taimali	0.39	169	P	Pg	14 21 00.6	0.0
ECL				S	Sg	14 21 05.7	-0.1
TPUB	Ta-pu	0.39	325	P	Pb	14 21 01.7	-0.5
TPUB	Ta-pu	0.39	325	S	Sb	14 21 07.7	-0.7
TPUB	Ta-pu	0.39	325 ⇓	iP	Pb	14 21 01.8	-0.4
TPUB				S	Sb	14 21 07.6	-0.8
EDH	Donghe	0.40	91	eP	Pb	14 21 01.8	-0.5
EDH				eS	Sb	14 21 07.7	-0.8
SNST	Tainan City	0.42	305	eP	Pb	14 21 02.8	+0.1
SNST				eS	Sb	14 21 10.1	+0.9
MASBT	Mashibuluo	0.43	211 ⇑	iP	Pg	14 21 01.2	-0.2
TWM1	Shoushan	0.44	250	P	Pb	14 21 03.5	+0.4
FULB	Fuli	0.45	60 ⇑	P	Pg	14 21 02.4	+0.6
FULB				eS	Sb	14 21 09.4	-0.6
CHN4	Tsaushan	0.45	325 ⇓	P	Pb	14 21 03.1	-0.1
CHN4				eS	Sb	14 21 10.2	+0.1
TWK	Hsinying	0.46	309	eP	Pb	14 21 03.5	+0.2
TWK				eS	Sb	14 21 10.7	+0.4
CHKT	Chengkung	0.47	75	eP	Pb	14 21 03.1	-0.4
CHKT				eS	Sb	14 21 10.7	0.0
SHHT	Tainan City	0.48	275	eP	Pn	14 21 05.8	-0.4
WCKO	Fanlu	0.52	332	eP	Pb	14 21 04.7	+0.3
WCKO				eS	Sb	14 21 12.9	+0.8
CHKH	Chenggong	0.53	66	eP	Pb	14 21 04.4	-0.1
CHKH				eS	Sb	14 21 12.0	-0.3
ALS	Alishan	0.53	353 ⇑	P	Pg	14 21 03.9	+0.4
ALS				eS	Sb	14 21 12.3	-0.4
TWF1	Yuli	0.54	46 ⇑	P	Pg	14 21 03.4	-0.1
TWF1				eS	Sg	14 21 10.3	-0.3
EYUL	Yuli	0.55	48	eP	Pg	14 21 03.6	-0.1
EYUL				eS	Sg	14 21 10.5	-0.5
YULB	Yu-li	0.57	43	P	Pg	14 21 03.6	-0.4
YULB	Yu-li	0.57	43 ⇑	P	Pg	14 21 03.7	-0.4
YULB				eS	Sg	14 21 11.5	0.0
EAST	Anshuo	0.59	182	eP	Pg	14 21 04.6	+0.1
EAST				eS	Sg	14 21 12.4	+0.1
LDUT	Ludao	0.63	119	eP	Pg	14 21 05.4	+0.2
LDUT				eS	Sb	14 21 15.3	+0.1
TAWH	Dawu Township	0.64	179	eP	Pg	14 21 05.2	-0.1
TAWH				eS	Sg	14 21 13.4	-0.2
CHN5	Tsauling	0.64	344	eP	Pb	14 21 06.5	0.0
CHN5				eS	Sb	14 21 16.5	+0.9
SCZT	Fangliau	0.65	201 ⇓	P	Pg	14 21 05.4	-0.1
SCZT				eS	Sg	14 21 13.9	-0.1
CHY	Chiayi	0.66	322	eP	Pb	14 21 07.3	+0.5
CHY				eS	Sn	14 21 17.7	-1.5
EHY	Hungye	0.67	38	eP	Pg	14 21 05.6	-0.4
EHY				eS	Sg	14 21 14.4	-0.3
WHYT	Xinyi Township	0.71	359	eP	Pg	14 21 07.1	+0.2
WHYT				eS	Sb	14 21 17.6	-0.1
HGSD	Ruisui	0.72	45	eP	Pb	14 21 07.5	-0.3
HGSD				eS	Sb	14 21 18.2	+0.3
TSCK	Chigu Township	0.74	283	eP	Pb	14 21 08.9	+0.7
TSCK				eS	Sn	14 21 22.0	+0.8
WGK	Gukeng	0.76	338	eP	Pn	14 21 10.0	0.0
WGK				eS	Sn	14 21 21.1	-0.6
SLIU	Shizi	0.76	185	eP	Pg	14 21 07.6	-0.1
WDLH	Douliu	0.77	337	eP	Pn	14 21 09.6	-0.6
WSL	Shuilin Townsh	0.80	313	eP	Pn	14 21 10.0	-0.6
SSLB	Suanglung	0.81	5	P	Pg	14 21 08.3	-0.4
SSLB	Suanglung	0.81	5	eP	Pg	14 21 08.2	-0.4
VWDT	VWDT	0.81	18	eP	Pg	14 21 07.9	-0.8
WTK	Tuku	0.83	328	eS	Sn	14 21 23.3	-0.2
WJS	Zhushan	0.85	351	eP	Pn	14 21 10.9	-0.4
EGFH	Guangfu	0.86	36	eP	Pg	14 21 09.1	-0.4
WARBT	Fenglin Townsh	0.88	33	eP	Pg	14 21 09.1	-0.8
SMLT	Sun Moon Lake	0.90	2	eP	Pb	14 21 10.8	-0.1
SMLT				eS	Sn	14 21 25.4	+0.1
WNT	Mingjian	0.91	349	eP	Pn	14 21 12.4	+0.2
WNT				eS	Sn	14 21 24.9	-0.6
TYC	Yuchr	0.92	359	eP	Pn	14 21 12.2	0.0
TYC				eS	Sn	14 21 25.9	+0.2
ESL	Shilin	0.98	32	eP	Pg	14 21 11.6	-0.3
OWD	Renai	1.01	16	eP	Pg	14 21 12.1	-0.4
SHUL	Shoufeng	1.02	38	eP	Pg	14 21 12.8	0.0
WUSB	Renai	1.03	13	eP	Pg	14 21 11.6	-1.3
WUSB				eS	Sn	14 21 29.0	+0.4
WCS	Beigang Elemen	1.07	2	eP	Pn	14 21 14.3	0.0
WCS				eS	Sn	14 21 30.3	+0.8
LXIB	Xiulin Townshi	1.15	25	eP	Pg	14 21 14.5	-0.7
LXIB				eS	Sn	14 21 31.9	+0.4
WHF	Hehuan Shan	1.22	17	eP	Pg	14 21 15.9	-0.5
WHP	Taichung City	1.29	3	eP	Pg	14 21 18.3	+0.4
WHP				eS	Sn	14 21 37.9	+2.9
TWT	Tachien	1.30	12	eP	Pg	14 21 18.1	+0.1
TWT				eS	Sn	14 21 36.5	+1.3
FUSS	Fushou	1.31	15	eP	Pn	14 21 17.4	-0.4
ETLH	Xiulin Townshi	1.34	24	eP	Pn	14 21 17.9	-0.2
ETLH				eS	Sn	14 21 36.2	0.0
NACB	Ninganchiao	1.36	29	P	Pn	14 21 18.5	+0.2
NACB	Ninganchiao	1.36	29	eP	Pn	14 21 18.3	0.0
NACB				eS	Sg	14 21 36.8	-0.1
NNSB	Datong	1.52	18	eP	Pb	14 21 21.5	0.0
NNSB				eS	Sg	14 21 42.1	+0.3
NFF	Wufeng Townshi	1.66	8	eP	Pb	14 21 24.3	+0.4
NFF				eS	Sg	14 21 46.7	+0.2
LATG	Datong	1.66	21	eP	Pb	14 21 23.8	-0.1
LATG				eS	Sg	14 21 47.3	+0.8
YHNB	Yeheng	1.75	15	P	Pb	14 21 25.5	+0.1
YHNB	Yeheng	1.75	15	eP	Pb	14 21 25.5	+0.1
YHNB				eS	Sg	14 21 49.4	+0.2
ENTT	Nioudou	1.77	21	eP	Pb	14 21 26.1	+0.3
TWE	Neicheng	1.88	23	eP	Pb	14 21 28.1	+0.5
FUSB	Fushanzhiwuyua	1.89	20	eP	Pb	14 21 27.9	+0.1

*SJA **03** 14:33:58.6±0.7,20°84S×69°99W,h73km±3km,ML3.9, MW3.8*
*NEIC **03** 14:33:59.2±1.2,20°86S±0°03×70°03W±0°05,h75km±3km, mb4.1/4,Error ellipse: s-maj=6.9km s-min=4.5km az=67.0*
*GUC **03** 14:34:00.3±0.8,20°85S×69°98W,h72km±3km,ML3.8*
ISC 03 14:33:58.8±1.0,20°86S±0°03×70°05W±0°05,h77km±6km, n51,σ0°70/79,4C-7D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATCX	Punta Patache	0.11	291		Pn	14 34 10.6	+0.6
PATCX					Sn	14 34 17.7	-0.6
PATCX	Punta Patache	0.11	291 ⇑	iP	Pn	14 34 10.7	+0.6
PATCX				iS	Sn	14 34 18.2	-0.1
PATCX	Punta Patache	0.11	291	eP	Pn	14 34 09.9	-0.1
PATCX				eS	Sn	14 34 17.2	-1.1
PATCX				IAML		14 34 20.2	
	comp=Z,7μm,0.7s						
TA01	Diego Aracena	0.32	336	Pn	Pn	14 34 11.4	+0.5
TA01					Sn	14 34 19.7	0.0
TA01	Diego Aracena	0.32	336 ⇑	iP	Pn	14 34 11.5	+0.6
TA01				iS	Sn	14 34 20.0	+0.3
TA01				IAML		14 34 20.7	
	comp=N,10μm,0.4s						
TA01	Diego Aracena	0.32	336	eP	Pn	14 34 11.2	+0.3
TA01				eS	Sn	14 34 20.3	+0.6
TA01				IAML		14 34 22.9	
	comp=Z,5μm,0.5s						
PB01	IPOC Station P	0.55	109	Pn	Pn	14 34 12.9	+0.1
PB01				Sn	Sn	14 34 22.1	-1.1
PB01	IPOC Station P	0.55	109 ⇓	iP	Pn	14 34 13.3	+0.4
PB01				iS	Sn	14 34 22.8	-0.4
PB01	IPOC Station P	0.55	109	eP	Pn	14 34 13.3	+0.4
PB01				eS	Sn	14 34 23.2	-0.1
TA02	Huaiquique	0.59	352	Pn	Pn	14 34 13.8	+0.7
TA02				Sn	Sn	14 34 23.9	+0.2
TA02	Huaiquique	0.59	352	eP	Pn	14 34 13.9	+0.7
TA02				iS	Sn	14 34 24.3	+0.6
TA02	Huaiquique	0.59	352	eP	Pn	14 34 13.9	+0.7
TA02				eS	Sn	14 34 24.3	+0.6
HMBC	Humberstone	0.60	14	Pn	Pn	14 34 13.4	0.0
HMBC				Sn	Sn	14 34 23.1	-0.9
HMBC	Humberstone	0.60	14 ⇓	iP	Pn	14 34 13.6	+0.2
HMBC				iS	Sn	14 34 23.9	-0.2
HMBC	Humberstone	0.60	14	eP	Pn	14 34 12.8	-0.6
HMBC				eS	Sn	14 34 23.6	-0.4
HMBC				IAML		14 34 25.8	
	comp=Z,7μm,0.6s						
PX03	IPOC Station P	0.60	41 ⇓	iP	Pn	14 34 12.6	-0.7
PX03				iS	Sn	14 34 23.1	-0.9
PB08	IPOC Station P	1.10	50	Pn	Pn	14 34 19.5	+0.2
PB08				Sn	Sn	14 34 34.0	-0.5
PB08	IPOC Station P	1.10	50 ⇓	iP	Pn	14 34 19.7	+0.4
PB08				iS	Sn	14 34 34.3	-0.2
PB08				IAML		14 34 35.1	
	comp=N,6μm,0.2s						
PB08	IPOC Station P	1.10	50	eP	Pn	14 34 19.6	+0.2
PB08				eS	Sn	14 34 34.6	+0.1
PB08				IAML		14 34 35.2	
	comp=Z,2μm,0.2s						
PB11	IPOC Station P	1.15	19	Pn	Pn	14 34 19.9	+0.2
PB11				Sn	Sn	14 34 34.6	-0.8
PB11	IPOC Station P	1.15	19 ⇓	iP	Pn	14 34 20.0	+0.2
PB11				iS	Sn	14 34 35.2	-0.2
PB11				IAML		14 34 36.5	
	comp=N,5μm,0.2s						
PB11	IPOC Station P	1.15	19	eP	Pn	14 34 19.7	-0.1
PB11				eS	Sn	14 34 35.7	+0.3
PB11				IAML		14 34 37.3	
	comp=Z,2μm,0.2s						
PB09	IPOC Station P	1.20	141	Pn	Pn	14 34 21.1	+0.8
PB09				Sn	Sn	14 34 36.8	+0.4
PB09	IPOC Station P	1.20	141 ⇑	iP	Pn	14 34 21.1	+0.8
PB09				iS	Sn	14 34 37.3	+0.9
PB09				IAML		14 34 38.9	
	comp=E,2μm,0.2s						
PB09	IPOC Station P	1.20	141	eP	Pn	14 34 21.1	+0.8
PB09				eS	Sn	14 34 37.5	+1.1
PB09				IAML		14 34 38.7	
	comp=Z,1μm,0.3s						
PB03	IPOC Station P	1.22	167 ⇑	iP	Pn	14 34 21.2	+0.6
PB03				iS	Sn	14 34 36.9	+0.1
PB03				IAML		14 34 38.1	
	comp=E,2μm,0.2s						
PB03	IPOC Station P	1.22	167	eP	Pn	14 34 21.1	+0.6
PB03				eS	Sn	14 34 37.4	+0.6
PB03				IAML		14 34 42.3	
	comp=Z,2μm,0.2s						
GO01	Chusmiza	1.43	34	Pn	Pn	14 34 23.8	+0.2
GO01	Chusmiza	1.43	34 ⇓	iP	Pn	14 34 24.1	+0.5
GO01				iS	Sn	14 34 42.7	+0.5
GO01	Chusmiza	1.43	34	eP	Pn	14 34 23.9	+0.2
GO01				eS	Sn	14 34 42.9	+0.7
PB06	IPOC Station P	1.89	167	IAML		14 34 54.3	
	comp=N,611nm,0.4s						
PB06	IPOC Station P	1.89	167	eP	Pn	14 34 29.5	+0.1
PB06				eS	Sn	14 34 54.6	+2.1
PB06				IAML		14 34 55.5	
	comp=Z,567nm,0.3s						
PB05	IPOC Station P	1.99	184	Pn	Pn	14 34 30.5	-0.1
PB05	IPOC Station P	1.99	184	IAML		14 34 49.8	
	comp=N,665nm,0.4s						
PB05	IPOC Station P	1.99	184	eP	Pn	14 34 30.6	0.0
PB05				IAML		14 35 01.4	
	comp=Z,330nm,0.3s						
PB12	IPOC Station P	2.25	353	Pn	Pn	14 34 34.3	+0.2
PB12	IPOC Station P	2.25	353 ⇓	iP	Pn	14 34 34.6	+0.5
PB12				IAML		14 35 01.8	
	comp=E,1μm,0.3s						
PB12	IPOC Station P	2.25	353	eP	Pn	14 34 34.0	-0.1
PB12				eS	Sn	14 34 47.2	-14
PB12				IAML		14 35 01.7	
	comp=Z,823nm,0.5s						
AP01	Chacalluta	2.49	354	Pn	Pn	14 34 38.0	+0.7
AP01	Chacalluta	2.49	354	eP	Pn	14 34 38.9	+1.6
AP01				IAML		14 35 15.2	
	comp=Z,522nm,0.9s						
AF01	San Pedro de A	2.71	141	eP	Pn	14 34 54.3	+14
AF01				eS	Sn	14 35 01.2	-11
AF01				IAML		14 35 53.9	
	comp=Z,660nm,0.4s						
PB14	IPOC Station P	3.76	185	Pn	Pn	14 34 54.6	-0.2
GO02	Mina Guanaco	4.30	174	Pn	Pn	14 35 01.4	-0.8
GO02	Mina Guanaco	4.30	174	eP	Pn	14 35 01.8	-0.4
GO02				eS	Sn	14 35 51.2	-0.1
AC01	Pan de Azucar	5.29	185	Pn	Pn	14 35 13.0	-2.4
AC02	Maricunga	6.01	172	Pn	Pn	14 35 24.6	-1.0
LCO	Las Campanas	8.14	184	Pn	Pn	14 35 52.7	-1.8
TRQA	Tornquist	18.51	160	P	P	14 38 09.6	+0.6
MACA	Manacapuru-AM	19.81	29	P	P	14 38 23.3	-0.1
MAL2	Monte Alegre,	24.29	42	P	P	14 39 08.9	-0.4
MAL2				IAmb	IAmb	14 39 27.9	
	comp=Z,11nm,0.9s						
BOAV	Boa Vista	24.92	23	P	P	14 39 14.9	-0.1
BOAV				IAmb	IAmb	14 39 43.3	
	comp=Z,8.2nm,1.2s						

*WEL **03** 14:38:58.8±0.4,43°S±3°×17°1E±°,h5km,M2.7/9,ML3.0/9, MLv2.7/9,Error ellipse: s-maj=4.1km s-min=3.2km az=160.0,confirmed*
*NOU **03** 14:38:59.3,43°08S×171°13E,h8km,MLv3.5/8,South Island, New Zealand*
ISC 03 14:38:59.2±1.0,43°05S±0°03×171°16E±0°03,h10km±10km, n33,σ0°48/39,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	Waitaha Valley	0.31	266	P	Pg	14 39 05.7	+0.3
WVZ				S	Sg	14 39 09.8	+0.2
APPS	Arthurs Pass P	0.32	71	P	Pg	14 39 05.5	-0.1
APPS				S	Sg	14 39 09.6	-0.2
INZ	Inchbonnie	0.39	33	P	Pg	14 39 06.5	-0.4
INZ				S	Sg	14 39 11.2	-0.8
CSHS	Castle Hill	0.45	113	P	Pg	14 39 08.1	+0.2
CSHS				S	Sg	14 39 14.6	+0.7
MHCZ	Mount Hutt	0.56	148	P	Pg	14 39 10.2	+0.1
MHCZ				S	Sg	14 39 17.8	+0.2
GCSZ	Gaunt Creek Bo	0.66	246	P	Pg	14 39 11.9	-0.1
RPZ	Rata Peaks	0.67	187	P	Pg	14 39 12.0	0.0
RPZ	Rata Peaks	0.67	187	P	Pg	14 39 12.1	0.0
OXZ	Oxford	0.70	113	P	Pg	14 39 12.8	+0.1
LTZ	Lake Taylor	0.86	72	P	Pg	14 39 15.8	0.0
ARCZ	Arundel	0.89	179	P	Pg	14 39 16.3	-0.1
RACZ	Rakaia	0.98	134	P	Pn	14 39 18.6	-0.5
WACZ	Wakanui South	1.02	151	P	Pg	14 39 19.0	+0.2
WACZ				S	Sn	14 39 33.6	-0.3
MCNS	Mount Cook Ann	1.03	228	P	Pg	14 39 19.1	+0.1
SJFS	Springs Juncti	1.04	47	P	Pb	14 39 19.0	-0.3
FOZ	Fox Glacier	1.09	244	P	Pb	14 39 19.9	-0.2
AMCZ	Amberley	1.10	97	P	Pn	14 39 21.0	+0.4
MQZ	McQueen's Vall	1.27	121	P	Pn	14 39 22.6	-0.4
TMZ	Timaru	1.33	185	P	Pn	14 39 23.7	-0.2
GVZ	Greta Valley S	1.38	87	P	Pn	14 39 24.2	-0.3
DSZ	Denniston Nort	1.39	20	P	Pn	14 39 24.4	-0.4
LBZ	Lake Benmore	1.51	208	P	Pn	14 39 26.5	+0.2
AKCZ	Akaroa Harbour	1.52	123	P	Pn	14 39 26.2	-0.2
OKCZ	Okains Bay	1.54	116	P	Pn	14 39 27.1	+0.3
THZ	Tophouse	1.83	46	P	Pn	14 39 31.0	+0.3
KHZ	Kahutara	1.87	71	P	Pn	14 39 31.4	+0.2
KHZ	Kahutara	1.87	71	P	Pn	14 39 31.1	-0.1
JCZ	Jackson Bay	2.00	239	P	Pn	14 39 33.2	0.0
ODZ	Otahua Downs	2.02	190	P	Pn	14 39 33.1	-0.3
QRZ	Quartz Range	2.45	25	P	Pn	14 39 39.4	+0.2
SNZO	South Karori	3.16	58	P	Pn	14 39 50.8	+1.8
KHEZ	Kahui Hut	4.33	31	P	Pn	14 40 06.4	+1.2
HIZ	Hauiti	5.33	33	P	Pn	14 40 19.2	+0.3

*NEIC **03** 14:45:24.9±2.3,51°6N±0°3×177°76E±0°08,h11km±11km, mb4.0/15,ML4.0/6,Error ellipse: s-maj=42.3km s-min=3.2km az=188.0*
*IDC **03** 14:45:24.1±2.1,51°99N×178°01E,h0km,mb3.6/9, mbtmp3.7/10,ML4.0/1,MS3.1/4,Error ellipse: s-maj=62.3km s-min=13.4km az=6.0*
ISC 03 14:45:24.9±1.2,51°7N±0°2×177°85E±0°05,h10km,n38, σ1°21/36,mb3.9/12,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	2.52	295	Pn	Pn	14 46 07.7	+1.8
	30nm,0.3s,baz=120,slow=7.0,SNR=14						
SHEM				Pg	Pb	14 46 10.2	0.0
	30nm,0.3s,baz=125,slow=6.8,SNR=4.4						
SHEM				Sn	Sb	14 46 39.3	-2.0
	73nm,0.3s,baz=40,slow=19,SNR=18						
SHEM				Lg	Lg	14 46 44.0	
	27nm,0.3s,baz=215,slow=16,SNR=5.3						
	74nm,0.3s						
SMY	Shemya	2.52	295	Pn	Pn	14 46 04.7	-1.3
SMY				IAML		14 46 45.5	
	comp=E,842nm,1.0s						
KIWB	Kanaga Island	3.11	85	Pn	Pn	14 46 14.2	+0.2
ADK	Adak	3.40	85	Pn	Pn	14 46 16.8	-1.2
ADK				IAML		14 47 07.0	
	comp=E,232nm,4.2s						
ADK				IAML		14 47 15.0	
	comp=E,236nm,4.8s						
ATKA	Atka Island	4.94	81	Pn	Pn	14 46 38.1	-1.1
ATKA				IAML		14 49 21.5	
	comp=N,214nm,4.7s						
PETK	Petropavlovsk-	12.38	284	LR	LR	14 52 40.9	
	comp=N,49nm,21.5s,baz=75,slow=35						
N17K	Nushagak Hills	16.39	48	Pn	Pn	14 49 16.7	+2.0
ACHA	Angle Creek He	16.64	57		Pn	14 49 20.5	+2.4
ACHA				IAmb	IAmb	14 49 23.4	
	comp=Z,13nm,1.3s						
P18K	Big Mountain,	16.96	53		Pn	14 49 24.1	+1.9
P18K				IAmb	IAmb	14 49 38.2	
	comp=

comp=Z,1.2nm,0.6s
FINES FINESS Array B 64.97 345 P **P** **14 56 03.4 -0.8**
comp=Z,2.0nm,0.9s,baz=21,slow=5.0,SNR=2.7
comp=Z,2.0nm,0.9s
ABKAR Akbulak array 66.38 321 P **P** **14 56 14.4 +0.8**
AKASG Malin Array Be 74.55 340 P **P** **14 57 02.8 -0.6**
comp=Z,0.9nm,0.5s,baz=24,slow=6.3,SNR=2.7
comp=Z,0.9nm,0.5s

---

*BEO **03** 14:48:38.2±0.3, 42°.97N×23°.35E, h5km±1km, ML2.8/9*
*SOF **03** 14:48:38.4, 42°.95N±0°.01×23°.33E±0°.01, h16km±2km, MD2.8/7*
ISC 03 14:48:38.4±1.0, 42°.96N±0°.02×23°.32E±0°.02, h10km±9km, n49, σ0.990/81, 15C-12D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOF	**Sofia**	**0.29**	**172**	⇑*i*Pg	**Pb**	**14 48 44.8**	**-0.9**
SOF				Sg	**Sb**	**14 48 49.5**	**-1.1**
VTS	**Vitosha**	**0.35**	**190**	Pg	**Pg**	**14 48 45.7**	**+0.3**
VTS				Sg	**Sg**	**14 48 50.5**	**+0.4**
VTS	**Vitosha**	**0.35**	**190**	*e*Pg	**Pg**	**14 48 45.7**	**+0.3**
VTS				*e*Sg	**Sg**	**14 48 50.4**	**+0.4**
PLNA	**Plana**	**0.49**	**171**	⇑*i*Pg	**Pg**	**14 48 48.2**	**+0.1**
PLNA				Sg	**Sg**	**14 48 55.0**	**+0.4**
MPEP	**Malo Peshtene**	**0.50**	**38**	Pg	**Pb**	**14 48 48.8**	**-0.5**
MPEP				Sg	**Sb**	**14 48 56.0**	**-0.7**
ZAPS	**Zavoj**	**0.59**	**302**	*e*Pg	**Pg**	**14 48 49.6**	**-0.3**
ZAPS				*e*Sg	**Sg**	**14 48 57.7**	**0.0**
VALD	**Valchedram**	**0.73**	**7**	P	**Pb**	**14 48 53.3**	**+0.1**
BOSS	**Bosilegrad**	**0.77**	**233**	*e*Pg	**Pg**	**14 48 53.4**	**+0.1**
BOSS				*e*Sg	**Sg**	**14 49 03.6**	**+0.2**
PGB	**Panagyurishte**	**0.77**	**125**	Pg	**Pb**	**14 48 53.4**	**-0.6**
PGB				Sg	**Sb**	**14 49 04.1**	**-0.4**
BLKB	**Belogradchik**	**0.81**	**325**	⇑S	**Sg**	**14 49 04.7**	**+0.1**
BLKB	**Belogradchik**	**0.81**	**325**	*e*Pg	**Pg**	**14 48 53.8**	**-0.3**
BLKB				*e*Sg	**Sg**	**14 49 04.7**	**+0.1**
BAIL	**Bailesti**	**1.06**	**1**	⇑P	**Pn**	**14 48 59.2**	**-0.1**
BAIL				⇑S	**Sn**	**14 49 15.4**	**+1.3**
BARS	**Barje**	**1.11**	**263**	*e*Pg	**Pb**	**14 48 59.3**	**-0.5**
BARS				*e*Sg	**Sg**	**14 49 14.6**	**+0.3**
KKB	**Krupnik**	**1.13**	**187**	Pg	**Pb**	**14 48 59.5**	**-0.5**
KKB				Sg	**Sg**	**14 49 14.6**	**-0.2**
ZAGS	**Zajecar**	**1.16**	**317**	*e*Pg	**Pb**	**14 48 59.4**	**-1.2**
ZAGS				*e*Sg	**Sb**	**14 49 15.3**	**-0.3**
PLD	**Plovdiv**	**1.33**	**127**	*e*Pg	**Pb**	**14 49 03.0**	**-0.5**
PLD				*e*Sg	**Sb**	**14 49 19.7**	**-0.9**
PUNG	**Punghina**	**1.34**	**348**	⇑P	**Pg**	**14 49 04.4**	**+0.1**
PUNG				⇓S	**Sg**	**14 49 23.6**	**+1.9**
BOVS	**Bovan**	**1.35**	**300**	⇑P	**Pn**	**14 49 03.6**	**+0.2**
BOVS				⇓S	**Sb**	**14 49 21.4**	**+0.2**
BOVS	**Bovan**	**1.35**	**300**	*e*Pg	**Pn**	**14 49 03.6**	**+0.2**
BOVS				*e*Sg	**Sg**	**14 49 22.8**	**+0.8**
MMB	**Musomishta**	**1.45**	**167**	P	**Pb**	**14 49 05.5**	**0.0**
MMB				Sg	**Sg**	**14 49 25.6**	**+0.5**
BORS2	**Bor- Borsko je**	**1.47**	**320**	*e*Pg	**Pn**	**14 49 04.6**	**-0.4**
BORS2				*e*Sg	**Sn**	**14 49 23.4**	**-0.9**
SELS	**Selova**	**1.63**	**280**	*e*Pg	**Pb**	**14 49 08.3**	**-0.3**
SELS				*e*Sg	**Sb**	**14 49 29.9**	**+0.7**
RZN	**Rozhen**	**1.65**	**140**	P	**Pb**	**14 49 08.4**	**-0.6**
RZN				S	**Sg**	**14 49 30.5**	**-0.9**
SRE	**Strehaia**	**1.70**	**357**	⇓P	**Pb**	**14 49 09.7**	**-0.1**
VAY	**Valandovo**	**1.73**	**199**	*i* Pn	**Pn**	**14 49 09.3**	**+0.7**
VAY	**Valandovo**	**1.73**	**199**	*e*Pn	**Pb**	**14 49 09.4**	**-0.9**
VAY				*e*Sn	**Sb**	**14 49 32.1**	**0.0**
SRS	**Serrai**	**1.85**	**174**	*e*Pn	**Pn**	**14 49 09.0**	**-1.3**
SRS				*e*Sn	**Sb**	**14 49 35.7**	**+0.1**
KUBS	**Kucevo**	**1.88**	**321**	*e*Pn	**Pn**	**14 49 10.7**	**+0.2**
KUBS				*e*Sn	**Sb**	**14 49 35.6**	**-0.7**
GOCS	**Kraljevo Serbi**	**1.88**	**289**	*e*Pn	**Pn**	**14 49 11.3**	**+0.6**
GOCS				*e*Sn	**Sn**	**14 49 35.1**	**+0.5**
HUMR	**Humele**	**1.98**	**37**	⇑P	**Pb**	**14 49 14.0**	**-0.4**
HERR	**Herculane**	**2.02**	**342**	⇓P	**Pn**	**14 49 12.3**	**-0.3**
GZR	**Gura Zlata**	**2.46**	**351**	⇑P	**Pn**	**14 49 18.4**	**-0.3**
GZR	**Gura Zlata**	**2.46**	**351**	*e*Pn	**Pn**	**14 49 18.5**	**-0.1**
GZR				*e*Sn	**Sn**	**14 49 49.3**	**+0.5**
GZR				*e*Sg	**Sg**	**14 49 57.0**	**-0.5**
TRUS	**Trudelj**	**2.46**	**302**	*e*Pn	**Pn**	**14 49 19.5**	**+0.9**
ARR	**Arges**	**2.58**	**21**	⇓P	**Pn**	**14 49 20.7**	**+0.4**
ARR				⇓S	**Sb**	**14 49 55.0**	**-1.7**
VRSS	**Vrsac**	**2.59**	**327**	*e*Pn	**Pn**	**14 49 20.5**	**+0.1**
VRSS				*e*Sn	**Sn**	**14 49 52.0**	**0.0**
DIVS	**Divibare**	**2.67**	**296**	*e*Pn	**Pn**	**14 49 21.9**	**+0.3**
VOIR		**2.77**	**26**	⇓P	**Pn**	**14 49 24.0**	**+1.1**
SURR	**Surduc**	**2.92**	**343**	⇑P	**Pn**	**14 49 25.6**	**+0.8**
BZS	**Buzias**	**2.92**	**336**	⇓P	**Pn**	**14 49 25.2**	**+0.3**
BZS				⇓S	**Sn**	**14 50 02.3**	**+2.3**
BZS	**Buzias**	**2.92**	**336**	*e*Pn	**Pn**	**14 49 24.6**	**-0.3**
BZS				*e*Sg	**Sg**	**14 50 09.7**	**-2.5**
MLR	**Muntele Rosu**	**3.15**	**36**	⇓P	**Pn**	**14 49 29.9**	**+1.7**
MLR				⇑S	**Sb**	**14 50 10.3**	**-2.9**
TEKS	**Tekeris**	**3.17**	**301**	*e*Pn	**Pn**	**14 49 28.2**	**-0.1**
ISR	**Istrita**	**3.17**	**46**	⇑P	**Pn**	**14 49 30.4**	**+2.0**
DOPR	**Dopca**	**3.35**	**26**	⇓P	**Pn**	**14 49 31.9**	**+1.0**
SIRR	**Siria**	**3.51**	**341**	⇓P	**Pn**	**14 49 33.5**	**+0.5**
MARR	**Marisel-Cluj**	**3.72**	**358**	⇑P	**Pn**	**14 49 36.8**	**+0.9**
VRI	**Vrincioaia**	**3.79**	**39**	⇑P	**Pn**	**14 49 39.0**	**+2.1**
BURAR	**Bucovina Array**	**4.84**	**15**	⇑P	**Pn**	**14 49 52.7**	**+1.3**

IDC 03 14:50:55.3±2.0, 8°.43S×127°.90E, h0km, mb3.5/1, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=67.5km s-min=25.0km az=80.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.86**	**193**	Pn	Pn	14 53 19.8	+1.4
	0.2nm,0.3s,baz=6.3,slow=9.2,SNR=9.5						
FITZ				Sn	Sn	14 55 10.6	+0.7
	0.1nm,0.3s,baz=18,slow=19,SNR=1.5						
	1.3nm,0.9s						
WRA	**Warramunga Arr**	**13.03**	**152**	Pn	Pn	14 54 01.8	-0.1
	0.2nm,0.3s,baz=328,slow=14,SNR=13						
WRA				Sn	Sn	14 56 26.3	-1.5
	0.1nm,0.3s,baz=330,slow=23,SNR=4.7						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**16.20**	**160**	Pn	Pn	14 54 44.5	-0.1
	0.1nm,0.3s,baz=333,slow=12,SNR=9.4						
	0.4nm,0.7s						
SONM	**Songino Array**	**59.17**	**343**	P	P	15 00 57.9	-0.2
	0.4nm,0.6s,baz=147,slow=8.1,SNR=2.1						
	0.4nm,0.6s						

---

*GUC **03** 15:14:18.9±0.6, 29°.75S×70°.90W, h82km±2km, ML3.8*
*SJA **03** 15:14:18.1±0.8, 29°.71S×70°.93W, h70km±2km, ML3.5, MW3.6*
ISC 03 15:14:19.8±1.2, 29°.72S±0°.02×70°.99W±0°.04, h64km±9km, n40, σ1.317/69, 2C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.48**	**159**	⇑*i*P	**Pn**	**15 14 32.0**	**-0.2**
GO04				*i* S	**Sn**	**15 14 42.1**	**+0.9**
GO04				IAML		15 14 44.1	
	comp=N,11μm,0.4s						
GO04	**Tololo Observa**	**0.48**	**159**	*e*P	**Pn**	**15 14 32.1**	**0.0**
GO04				*e*S	**Sn**	**15 14 41.6**	**+0.4**
LCO	**Las Campanas**	**0.76**	**20**	*i* P	**Pn**	**15 14 34.6**	**-0.6**
LCO				*i* S	**Sn**	**15 14 47.4**	**+0.9**
LCO	**Las Campanas**	**0.76**	**20**	*e*P	**Pn**	**15 14 34.3**	**-0.9**
LCO				*e*S	**Sn**	**15 14 47.7**	**+1.2**
LCO				IAML		15 14 48.9	
	comp=Z,4μm,0.2s						
CO01	**Juntas del Tor**	**0.82**	**108**	⇓*i*P	**Pn**	**15 14 35.0**	**-1.0**
CO01				*i* S	**Sn**	**15 14 47.2**	**-0.8**
CO01				IAML		15 14 48.0	
	comp=N,5μm,0.1s						
CO01	**Juntas del Tor**	**0.82**	**108**	*e*P	**Pn**	**15 14 35.1**	**-0.8**
CO01				*e*S	**Sn**	**15 14 47.5**	**-0.5**
CO01				IAML		15 14 47.9	
	comp=Z,1μm,0.2s						
AC05	**El Transito**	**1.09**	**36**	⇑*i*P	**Pn**	**15 14 38.9**	**-0.4**
AC05				*i* S	**Sn**	**15 14 54.1**	**+0.4**
AC05				IAML		15 14 54.7	
	comp=N,3μm,0.2s						
AC05	**El Transito**	**1.09**	**36**	*e*P	**Pn**	**15 14 38.1**	**-1.1**
AC05				*e*S	**Sn**	**15 14 54.1**	**+0.4**
AC05				IAML		15 14 54.8	
	comp=Z,1μm,0.2s						
CO06	**Fray Jorge**	**1.10**	**210**	*i* P	**Pn**	**15 14 39.2**	**-0.1**
CO06				*i* S	**Sn**	**15 14 54.5**	**+0.7**
CO03	**El Pedregal**	**1.14**	**167**	⇓*i*P	**Pn**	**15 14 39.3**	**-0.7**
CO03				*i* S	**Sn**	**15 14 54.9**	**-0.1**
CO03				IAML		15 14 55.4	
	comp=E,5μm,0.2s						
CO03	**El Pedregal**	**1.14**	**167**	*e*P	**Pn**	**15 14 39.2**	**-0.7**
CO03				*e*S	**Sn**	**15 14 54.1**	**-0.8**
CO03				IAML		15 14 55.4	
	comp=Z,1μm,0.2s						
AROD	**Rodeo**	**1.39**	**109**	*e*P	**Pn**	**15 14 43.4**	**-0.1**
AROD				*e*S	**Sn**	**15 15 02.0**	**+0.8**
AC04	**Llanos de Chal**	**1.52**	**357**	⇓*i*P	**Pn**	**15 14 44.9**	**0.0**
AC04				*i* S	**Sn**	**15 15 04.9**	**+1.3**
AC04				IAML		15 15 10.4	
	comp=N,1μm,0.3s						
AC04	**Llanos de Chal**	**1.52**	**357**	*e*P	**Pn**	**15 14 44.8**	**0.0**
AC04				*e*S	**Sn**	**15 15 06.7**	**+3.0**
AC04				IAML		15 15 10.6	
	comp=Z,664nm,0.6s						
ACDV	**Cuesta del Vie**	**1.69**	**106**	*e*P	**Pn**	**15 14 47.1**	**-0.2**
ACDV				*e*S	**Sn**	**15 15 07.5**	**-0.5**
ACDV				IAML		15 15 09.6	
	comp=Z,246nm,0.2s						
ACCO	**Cerro Coronel**	**1.88**	**118**	*e*P	**Pn**	**15 14 51.6**	**+1.6**
ACCO				*e*S	**Sn**	**15 15 15.7**	**+2.8**
DOCA	**Reserva Natura**	**2.05**	**127**	*e*P	**Pn**	**15 14 53.0**	**+0.7**
DOCA				*e*S	**Sn**	**15 15 18.1**	**+0.9**
DOCA				IAML		15 15 23.1	
	comp=Z,170nm,0.3s						
AGUA	**GUANDACOL**	**2.19**	**84**	*e*P	**Pn**	**15 14 54.8**	**+0.8**
AGUA				*e*S	**Sn**	**15 15 21.2**	**+1.0**
AGUA				IAML		15 15 28.6	
	comp=Z,427nm,0.4s						
GO03	**Copiapo**	**2.23**	**18**	*i* P	**Pn**	**15 14 54.0**	**-0.4**
GO03				*i* S	**Sn**	**15 15 20.6**	**-0.3**
GO03				IAML		15 15 27.9	
	comp=N,490nm,0.4s						
GO03	**Copiapo**	**2.23**	**18**	*e*P	**Pn**	**15 14 54.3**	**-0.1**
GO03				*e*S	**Sn**	**15 15 22.8**	**+1.9**
RTLS	**Leoncito**	**2.53**	**145**	*e*P	**Pn**	**15 14 59.5**	**+0.7**
RTLS				*e*S	**Sn**	**15 15 29.2**	**+0.5**
ZON	**Zonda**	**2.70**	**133**	*e*S	**Sn**	**15 15 34.3**	**+1.9**
ZON				IAML		15 15 43.0	
	comp=Z,83nm,0.4s						
RTLL	**Cerro Villicun**	**2.70**	**127**	*e*P	**Pn**	**15 15 00.6**	**-0.3**
RTLL				*e*S	**Sn**	**15 15 32.4**	**0.0**
SJA	**San Juan**	**2.76**	**131**	*e*P	**Pn**	**15 15 05.1**	**+3.4**
SJA				IAML		15 15 49.1	
	comp=Z,167nm,0.4s						
CFA	**Coronel Fontan**	**3.03**	**129**	*e*P	**Pn**	**15 15 05.0**	**-0.4**
CFA				*e*S	**Sn**	**15 15 40.4**	**0.0**
VA03	**San Esteban**	**3.05**	**173**	*e*P	**Pn**	**15 15 05.5**	**-0.3**
VA03				*e*S	**Sn**	**15 15 42.4**	**+1.2**
VA03				IAML		15 15 50.5	
	comp=Z,295nm,0.3s						
AVFE	**Valle Fertil**	**3.20**	**108**	*e*P	**Pn**	**15 15 06.9**	**-0.9**
AVFE				*e*S	**Sn**	**15 15 43.7**	**-1.1**
AVFE				IAML		15 15 50.5	
	comp=Z,172nm,0.2s						
ROCH	**El Roble**	**3.24**	**180**	IAML		15 15 56.1	
	comp=N,189nm,0.5s						
ROC1	**El Roble**	**3.24**	**180**	*e*S	**Sn**	**15 15 43.7**	**-2.3**
AC02	**Maricunga**	**3.31**	**30**	*e*P	**Pn**	**15 15 09.7**	**0.0**
AC02				*e*S	**Sn**	**15 15 48.2**	**+0.1**
AC02				IAML		15 16 05.6	
	comp=Z,102nm,1.1s						
VA01	**Torpederas**	**3.34**	**189**	*e*P	Pn	15 14 54.3	-15
VA01				*e*S	**Sn**	**15 15 48.6**	**+0.7**
VA01				IAML		15 16 01.8	
	comp=Z,75nm,0.6s						
ASAL	**Salagasta**	**3.41**	**148**	*e*P	**Pn**	**15 15 11.1**	**+0.5**
ASAL				*e*S	**Sn**	**15 15 50.2**	**+0.4**
ASAL				IAML		15 15 59.2	
	comp=Z,89nm,0.6s						
PEL	**Peldehue**	**3.42**	**176**	IAML		15 15 56.1	
	comp=E,190nm,0.2s						
PEL	**Peldehue**	**3.42**	**176**	*e*P	**Pn**	**15 15 10.2**	**-0.5**
PEL				*e*S	**Sn**	**15 15 50.9**	**+0.8**
MT02	**Curacav**	**3.53**	**182**	*e*P	**Pn**	**15 15 10.5**	**-1.6**
MT02				*e*S	**Sn**	**15 15 51.6**	**-1.0**
MT02				IAML		15 16 04.2	
	comp=Z,125nm,0.4s						
ACLC	**CERRO LA CRUZ**	**3.53**	**86**	*e*P	**Pn**	**15 15 11.5**	**-0.9**
ACLC				*e*S	**Sn**	**15 15 50.6**	**-2.5**
ACLC				IAML		15 16 01.0	
	comp=Z,92nm,0.4s						
ARCO	**CERRO ARCO**	**3.57**	**151**	*e*P	**Pn**	**15 15 13.7**	**+0.8**
ARCO				*e*S	**Sn**	**15 15 55.5**	**+1.5**
ARCO				IAML		15 16 00.5	
	comp=Z,122nm,0.6s						
AC01	**Pan de Azucar**	**3.58**	**6**	*e*P	**Pn**	**15 15 10.4**	**-2.5**
AC01				IAML		15 16 12.2	
	comp=Z,71nm,0.5s						
AAGR	**Agrelo**	**3.83**	**152**	*e*P	**Pn**	**15 15 17.3**	**+1.0**
AAGR				IAML		15 16 10.7	
	comp=Z,92nm,0.7s						
ACHE	**Chepes**	**4.00**	**112**	*e*P	**Pn**	**15 15 17.6**	**-1.2**

---

*IDC **03** 15:18:47.2±2.8, 8°.08S×110°.30E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=161.2km s-min=28.3km az=51.0*
*DJA **03** 15:19:05.1±0.5, 8°.S±7°.×11°.1E±°, h123km±6km, M3.4/11, mb3.6/1, MLv3.2/11*
ISC 03 15:19:04.8±0.9, 8°.1S±0°.1×110°.74E±0°.07, h150km, n13, σ1.937/16, mb3.3/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.28**	**312**	P	**Pn**	**15 19 24.8**	**-0.6**
UGM				S	**Sn**	**15 19 38.3**	**-2.7**
PCJI	**Pacitan**	**0.45**	**101**	P	**Pn**	**15 19 25.3**	**-0.6**
PCJI				S	**Sn**	**15 19 39.8**	**-2.1**
YOGI	**Yogyakarta**	**0.52**	**303**	P	**Pn**	**15 19 25.7**	**-0.6**
SMRI	**Semarang**	**1.09**	**344**	P	**Pn**	**15 19 30.4**	**0.0**
SMRI				S	**Sn**	**15 19 50.8**	**+0.8**
CMJI	**Cimerak**	**2.29**	**278**	P	**Pn**	**15 19 42.1**	**-1.3**
GMJI	**Gumukmas**	**2.69**	**94**	P	**Pn**	**15 19 47.7**	**-0.5**
JAGI	**Jajag, Banyuwa**	**3.40**	**96**	P	**Pn**	**15 19 56.5**	**-0.8**
CNJI	**Cibinong**	**3.66**	**282**	P	**Pn**	**15 20 00.5**	**-0.2**
CGJI	**Cibinong**	**5.22**	**286**	P	**Pn**	**15 20 21.7**	**+0.6**
WRA	**Warramunga Arr**	**25.70**	**120**	P	**P**	**15 24 22.4**	**+1.1**
	0.4nm,0.7s,baz=295,slow=9.9,SNR=6.7						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**27.06**	**128**	P	**P**	**15 24 34.6**	**+1.2**
	0.5nm,0.7s,baz=299,slow=8.8,SNR=10						
	0.5nm,0.7s						
STKA	**Stephens Creek**	**37.18**	**134**	P	**P**	**15 26 03.6**	**+2.1**
	1.3nm,0.4s,baz=311,slow=9.5,SNR=8.5						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**60.24**	**338**	P	**P**	**15 28 56.0**	**-1.2**
	0.2nm,0.5s,baz=146,slow=7.0,SNR=2.0						
	0.2nm,0.5s						

---

*MRB **03** 15:29:51.5±0.6, 42°.35N×1°.31E, h1km±3km, ML4.1/55, Error ellipse: s-maj=1.2km s-min=1.0km az=261.0*
*MED_RC **03** 15:29:51.0±0.7, 42°.43N×1°.35E, h10km, MW4.1/14, Moment Tensor Solution.Mantle waves: s14,c16; Duration: 1s0 Moment tensor: Scale 1015Nm; M_{rr}-0.21±.16; $M_{\theta\theta}$0.59±.16; $M_{\phi\phi}$-0.38±.13; $M_{r\theta}$-0.43±.42; $M_{\theta\phi}$-1.35±.12; $M_{\phi r}$-1.13±.44; Best double couple: $M_0$1.84000×1015 NP1:ϕ_s86.00000°, δ58.00000°, λ-164.00000°. NP2:ϕ_s348.00000°, δ77.00000°, λ-33.00000°. Principal axes: T 1.6100, Plg12.0000°, Azm40.0000°; N 0.4700, Plg55.0000°, Azm148.0000°; P -2.0700, Plg32.0000°, Azm302.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*PRU **03** 15:29:51.5, 42°.54N×0°.93E, h1km, M3.7*
*NEIC **03** 15:29:51.1±1.8, 42°.33N±0°.04×1°.24E±0°.10, h10km±2km, mb_Lg3.7/20, Error ellipse: s-maj=12.5km s-min=6.0km az=274.0*
*IDC **03** 15:29:51.2±1.1, 42°.54N×1°.04E, h0km, mb3.5/8, mbtmp3.7/14, ML3.5/5, MS3.3/13, Error ellipse: s-maj=32.8km s-min=15.3km az=147.0*
*STR **03** 15:29:52.6±0.3, 42°.N±2°.×1°.3E±1°.0, h2km, MLv4.4/31, Error ellipse: s-maj=0.0km s-min=0.0km az=2.9, preliminary*
*SFS **03** 15:29:52.4, 42°.31N×1°.32E, h4km, mb4.5/8, ML4.8/12, ML4.7/12, MLv4.6/12*
*MDD **03** 15:29:52.5±0.1, 42°.30N×1°.28E, h7km, mb_Lg4.4/86, Error ellipse: s-maj=1.0km s-min=0.8km az=158.0*
*LDG **03** 15:29:53.3±0.1, 42°.35N×1°.29E, h2km, Ml4.4/54, Error ellipse: s-maj=1.6km s-min=1.2km az=150.0*
ISC 03 15:29:50.9±0.7, 42°.37N±0°.01×1°.30E±0°.01, h12km±4km, n377, σ2.502/663, mb3.8/7, MS3.5/5, 3C-18D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSOR	**Sort**	**0.12**	**274**	P	**Pg**	**15 29 54.4**	**+0.1**
CSOR				S	**Sg**	**15 29 56.7**	**+0.1**
	73μm,0.3s						
CORG	**Organya**	**0.14**	**174**	P	**Pg**	**15 29 53.8**	**-0.5**
CORG				S	**Sg**	**15 29 55.9**	**-0.9**
	71μm,0.3s						
ARBS	**La Rabassa**	**0.20**	**66**	P	**Pg**	**15 29 55.3**	**-0.2**
ARBS				S	**Sg**	**15 29 58.0**	**-0.6**
	44μm,0.3s						
CEST	**Esterri de Car**	**0.23**	**352**	Pg	**Pb**	**15 29 56.7**	**-0.5**
CEST				Sg	**Sg**	**15 30 00.3**	**+0.9**
CEST	**Esterri de Car**	**0.23**	**352**	P	**Pb**	**15 29 56.7**	**-0.5**
CEST				S	**Sg**	**15 30 00.4**	**+0.9**
	11μm,0.2s						
PAND	**Andorre**	**0.24**	**50**	P	**Pb**	**15 29 57.0**	**-0.4**
PAND				S	**Sg**	**15 30 00.6**	**+0.9**
	17μm,0.4s						
PAND	**Andorre**	**0.24**	**50**	Pg	**Pg**	**15 29 56.4**	**+0.3**
PAND				Sg	**Sg**	**15 29 60.0**	**+0.3**
CTRM	**Tremp**	**0.36**	**236**	P	**Pb**	**15 29 59.1**	**-0.3**
CTRM				S	**Sb**	**15 30 04.6**	**-0.4**
	58μm,0.2s						
CTRE	**Tremp**	**0.39**	**264**	P	**Pg**	**15 29 59.3**	**+0.5**
CTRE				S	**Sb**	**15 30 05.8**	**-0.1**
	20μm,0.6s						
SALF	**Salau**	**0.40**	**348**	P	**Pb**	**15 30 00.1**	**+0.1**
SALF				S	**Sb**	**15 30 06.0**	**-0.1**
	8μm,0.4s						
SALF	**Salau**	**0.40**	**348**	Pg	**Pb**	**15 29 59.7**	**-0.3**
SALF				Sg	**Sg**	**15 30 05.2**	**+0.8**
EMIR	**Miracle**	**0.48**	**159**	⇓Pg	**Pg**	**15 30 00.4**	**0.0**
EMIR				Sg	**Sg**	**15 30 07.6**	**+0.8**
EMIR				*i* Vmb_Lg		15 30 12.1	
EMIR	**Miracle**	**0.48**	**159**	P	**Pg**	**15 30 00.4**	**0.0**
EMIR				S	**Sg**	**15 30 07.7**	**+0.8**
	10μm,0.4s						
CARA	**Val d'Aran**	**0.49**	**314**	P	**Pb**	**15 30 01.4**	**-0.2**
CARA				S	**Sb**	**15 30 08.8**	**0.0**
	13μm,0.5s						
VIER	**Vielha - Casau**	**0.51**	**312**	P	**Pb**	**15 30 01.8**	**-0.1**
VIER				S	**Sb**	**15 30 09.4**	**+0.1**
	11μm,0.4s						
CLLI	**Llivia**	**0.51**	**77**	P	**Pg**	**15 30 00.9**	**-0.1**
CLLI				S	**Sg**	**15 30 07.9**	**0.0**
	2μm,0.3s						
VALC	**Valcebollere**	**0.55**	**88**	P	**Pg**	**15 30 01.7**	**0.0**
VALC				S	**Sg**	**15 30 09.4**	**+0.2**
	8μm,0.3s						
VALC	**Valcebollere**	**0.55**	**88**	P	**Pg**	**15 30 01.8**	**0.0**
VALC				Pg	**Pb**	**15 30 02.6**	**0.0**
VALC				Sg	**Sb**	**15 30 10.4**	**-0.2**
MLS	**Moulis**	**0.61**	**346**	P	**Pb**	**15 30 03.9**	**+0.3**
MLS				S	**Sb**	**15 30 12.6**	**+0.5**
	4μm,0.6s						
MLS	**Moulis**	**0.61**	**346**	Pg	**Pb**	**15 30 03.4**	**-0.1**
MLS				Sg	**Sb**	**15 30 12.0**	**-0.1**
CAVN	**Les Avellanes**	**0.63**	**220**	P	**Pg**	**15 30 03.5**	**+0.3**
CAVN				S	**Sb**	**15 30 12.9**	**+0.2**
	14μm,0.2s						
MELF	**Melles**	**0.64**	**322**	Pg	**Pb**	**15 30 04.2**	**+0.1**
MELF				Sg	**Sb**	**15 30 13.0**	**-0.2**
CBRU	**Bruguera**	**0.66**	**97**	P	**Pg**	**15 30 03.0**	**-0.2**
CBRU				S	**Sb**	**15 30 13.2**	**-0.4**
	4μm,0.5s						
CORI	**Orista**	**0.68**	**125**	P	**Pg**	**15 30 04.1**	**-0.1**
CORI				S	**Sb**	**15 30 13.7**	**-0.5**
	3μm,0.3s						
CARF	**Carcanieres**	**0.69**	**59**	P	**Pb**	**15 30 05.0**	**0.0**
CARF				S	**Sb**	**15 30 14.4**	**-0.1**
	3μm,0.4s						
CARF	**Carcanieres**	**0.69**	**59**	Pg	**Pg**	**15 30 04.6**	**+0.2**
CARF				Sg	**Sb**	**15 30 14.3**	**-0.2**
DUNF	**Dun**	**0.76**	**30**	Pg	**Pn**	**15 30 06.9**	**-0.5**
DUNF				Sg	**Sb**	**15 30 16.8**	**+0.5**
FNEB	**Nbias**	**0.80**	**48**	P	**Pb**	**15 30 07.4**	**+0.5**
FNEB				S	**Sb**	**15 30 18.4**	**+0.7**
	1μm,0.3s						
FNEB	**Nbias**	**0.80**	**48**	Pg	**Pb**	**15 30 07.0**	**+0.2**
FNEB				Sg	**Sn**	**15 30 19.1**	**-0.9**
RESF	**Ens**	**0.83**	**302**	P	**Pb**	**15 30 07.4**	**-0.1**
RESF				S	**Sb**	**15 30 18.9**	**+0.3**
	5μm,0.4s						
ECHI	**Chisagues Biel**	**0.87**	**290**	⇓Pg	**Pg**	**15 30 07.8**	**+0.1**
ECHI				Sg	**Sb**	**15 30 19.7**	**0.0**
ECHI				*i* Vmb_Lg		15 30 27.7	
ECHI	**Chisagues Biel**	**0.87**	**290**	P	**Pg**	**15

BLAN	**Blanes**	**1.31 121**	P	**Pb**	**15 30 15.7 +0.3**
BLAN			S	**Sg**	**15 30 33.4 +0.4**
3µm,0.3s					
CPAL	**Palau Saverder**	**1.38 92**	P	**Pb**	**15 30 16.9 +0.2**
CPAL			S	**Sg**	**15 30 36.0 +0.5**
1µm,0.4s					
CANF	**Canfranc**	**1.40 287**	Pn	**Pg**	**15 30 18.0 +0.1**
CANF			Sn	**Sg**	**15 30 37.8 +1.8**
CRAS	**Crastes**	**1.42 343**	Pn	**Pg**	**15 30 18.9 +0.7**
CRAS			Sn	**Sg**	**15 30 38.6 +2.1**
REYF	**Montagne du Re**	**1.43 300**	Pn	**Pg**	**15 30 18.7 +0.3**
REYF			Sn	**Sg**	**15 30 38.8 +1.8**
VAN2	**Vandellos 2**	**1.46 194**	P	**Pb**	**15 30 17.6 -0.3**
VAN2			S	**Sg**	**15 30 37.5 -0.2**
5µm,0.4s					
ESAC	**San Caprasio**	**1.47 245**	Pn	**Pb**	**15 30 18.5 +0.3**
ESAC			Pg	**Pg**	**15 30 20.0 +0.9**
ESAC			Sg	**Sg**	**15 30 38.4 +0.3**
ESAC	**San Caprasio**	**1.47 245**	P	**Pg**	**15 30 18.8 -0.3**
ESAC			S	**Sg**	**15 30 38.4 +0.3**
ETSF	**Etsaut**	**1.47 292**	*e*Pg	**Pg**	**15 30 18.8 -0.4**
ETSF	**Etsaut**	**1.47 292**	*e*P	**Pg**	**15 30 20.7 +1.5**
ETSF			*e*Sg	**Sg**	**15 30 38.9 +0.6**
2µm,0.3s					
CLAF	**Gruissan**	**1.53 59**	P	**Pb**	**15 30 19.5 +0.4**
CLAF			S	**Sg**	**15 30 40.7 +0.6**
687nm,0.2s					
CLAF	**Gruissan**	**1.53 59**	Pn	**Pb**	**15 30 19.6 +0.5**
CLAF			Sn	**Sg**	**15 30 41.2 +1.1**
ERTA	**Horta de San J**	**1.58 207**	Pn	**Pb**	**15 30 19.7 -0.4**
ERTA			Pg	**Pg**	**15 30 21.0 -0.3**
ERTA			Sg	**Sg**	**15 30 41.1 -0.7**
ERTA			*i* Vmb_Lg		15 30 45.4
ERTA	**Horta de San J**	**1.58 207**	P	**Pb**	**15 30 20.0 -0.1**
ERTA			S	**Sg**	**15 30 41.1 -0.7**
4µm,0.5s					
ATE	**Arette**	**1.64 297**	P	**Pg**	**15 30 22.2 -0.2**
ATE			S	**Sg**	**15 30 44.0 +0.3**
2µm,0.4s					
ATE	**Arette**	**1.64 297**	Pn	**Pb**	**15 30 21.6 +0.5**
ATE			Sn	**Sg**	**15 30 44.2 +0.5**
EBR	**Ebro Roquetas**	**1.66 202**	P	**Pb**	**15 30 22.0 +0.6**
EBR			S	**Sg**	**15 30 44.2 -0.1**
7µm,0.3s					
CBUD	**Illa de Buda**	**1.70 192**	P	**Pb**	**15 30 21.6 -0.4**
CBUD			S	**Sb**	**15 30 43.1 -0.2**
10µm,0.3s					
URDF	**Urds**	**1.75 308**	P	**Pb**	**15 30 23.6 +0.6**
URDF			S	**Sg**	**15 30 47.6 +0.3**
2µm,0.5s					
URDF	**Urds**	**1.75 308**	Pn	**Pb**	**15 30 22.9 -0.1**
CMAS	**Mas de Barbera**	**1.80 205**	P	**Pn**	**15 30 22.5 +0.7**
CMAS			S	**Sb**	**15 30 46.7 +0.5**
2µm,0.3s					
IRAF	**Chalets d'Irat**	**1.85 292**	Pn	**Pb**	**15 30 24.3 -0.4**
IRAF			Sn	**Sg**	**15 30 49.1 -1.2**
ORDF	**Ordiarp**	**1.85 298**	Pn	**Pb**	**15 30 24.4 -0.2**
ORDF			Sn	**Sb**	**15 30 48.5 +0.7**
CFAR	**Far de la Bany**	**1.87 195**	P	**Pb**	**15 30 24.9 0.0**
CFAR			S	**Sb**	**15 30 49.0 +0.8**
8µm,0.5s					
ALCN	**Alcanar**	**1.92 199**	P	**Pn**	**15 30 23.9 +0.6**
ALCN			S	**Sb**	**15 30 50.1 +0.5**
2µm,0.3s					
EORO	**Oroz-Betelu**	**2.00 286**	Pn	**Pb**	**15 30 26.2 -1.0**
EORO			Pg	**Pg**	**15 30 29.9 +0.7**
EORO			Sn	**Sb**	**15 30 51.8 -0.2**
EORO			Sg	**Sg**	**15 30 56.7 +1.7**
EORO			*i* Vmb_Lg		15 31 01.0
MONQ	**Montcuq**	**2.00 358**	Pn	**Pb**	**15 30 26.4 -0.8**
MONQ			Sn	**Sb**	**15 30 51.8 -0.3**
SJPF	**Ste Jean**	**2.00 293**	*e*Pg	**Pb**	**15 30 28.3 +1.0**
SJPF			*e*Sg	**Sg**	**15 30 55.6 +0.3**
3µm,0.5s					
OSSF	**Osses**	**2.08 296**	P	**Pb**	**15 30 28.7 +0.1**
OSSF			S	**Sb**	**15 30 54.2 -0.3**
704nm,0.5s					
OSSF	**Osses**	**2.08 296**	Pn	**Pb**	**15 30 28.1 -0.6**
OSSF			Sn	**Sb**	**15 30 55.0 +0.5**
EARA	**Aranguren**	**2.16 282**	Pn	**Pn**	**15 30 28.3 +1.5**
EARA			Pg	**Pg**	**15 30 32.1 -0.3**
EARA			Sg	**Sg**	**15 31 02.4 +1.9**
EARA			*i* Vmb_Lg		15 31 11.4
EARA	**Aranguren**	**2.16 282**	Pn	**Pb**	**15 30 29.6 -0.4**
EARA	**Aranguren**	**2.16 282**	Sn	**Sb**	**15 30 56.7 -0.1**
EALK	**Alkurruntz**	**2.23 293**	Pb	**Pb**	**15 30 31.3 0.0**
EALK			Pg	**Pg**	**15 30 33.7 -0.1**
EALK			Sg	**Sg**	**15 31 03.1 +0.4**
EALK			*i* Vmb_Lg		15 31 08.9
EALK	**Alkurruntz**	**2.23 293**	Sn	**Sb**	**15 30 58.5 -0.4**
EALK	**Alkurruntz**	**2.23 293**	Pn	**Pb**	**15 30 30.4 -0.9**
ALCX	**Castello**	**2.24 201**	P	**Pn**	**15 30 28.9 +1.0**
ALCX			S	**Sb**	**15 30 57.4 -1.7**
1µm,0.5s					
EMOS	**Mosqueruela**	**2.40 214**	Pn	**Pn**	**15 30 31.5 +1.3**
EMOS			Pg	**Pb**	**15 30 34.3 +0.1**
EMOS			Sg	**Sb**	**15 31 04.9 +1.0**
EMOS			*i* Vmb_Lg		15 31 16.0
EMOS	**Mosqueruela**	**2.40 214**	P	**Pn**	**15 30 32.1 +1.9**
EMOS			S	**Sb**	**15 31 02.0 -1.9**
833nm,0.5s					
ECOL	**Islas Columbre**	**2.51 191**	Pn	**Pn**	**15 30 32.0 +0.5**
ECOL			Pg	**Pg**	**15 30 37.9 -1.1**
ECOL			Sn	**Sn**	**15 31 02.9 +1.0**
ECOL			Sg	**Sg**	**15 31 10.0 -1.5**
ECOL	**Islas Columbre**	**2.51 191**	P	**Pn**	**15 30 33.1 +1.6**
ECOL			S	**Sn**	**15 31 02.9 +1.0**
1µm,0.6s					
LASF	**Ste Croix**	**2.53 47**	*e*Pn	**Pn**	**15 30 33.6 +1.7**
LASF	**Ste Croix**	**2.53 47**	*e*Pg	**Pg**	**15 30 39.2 -0.3**
LASF			*e*Sn	**Sn**	**15 31 03.2 +0.5**
LASF			*e*Sg	**Sg**	**15 31 12.7 +0.4**
703nm,0.3s					
LEUC	**Leucamp**	**2.56 20**	Pn	**Pn**	**15 30 33.8 +1.6**
LEUC			Sn	**Sb**	**15 31 06.3 -1.9**
LFF	**La Frestale**	**2.60 351**	*e*Pn	**Pn**	**15 30 34.2 +1.4**
LFF	**La Frestale**	**2.60 351**	*e*Pg	**Pg**	**15 30 41.2 +0.4**
LFF			*e*Sg	**Sg**	**15 31 14.7 +0.1**
2µm,0.5s					
CAF	**Calviac**	**2.62 12**	*e*Pn	**Pn**	**15 30 34.1 +1.0**
CAF	**Calviac**	**2.62 12**	*e*P	**Pb**	**15 30 35.7 -2.1**
CAF			*e*Sn	**Sn**	**15 31 05.2 +0.4**
CAF			*e*Sg	**Sg**	**15 31 15.1 +0.1**
953nm,0.4s					
E0901	**Celadas (Terue**	**2.62 225**	Pn	**Pn**	**15 30 33.4 +0.2**
E0901			Sn	**Sn**	**15 31 06.4 +1.4**
E0901			Sg	**Sg**	**15 31 13.3 -1.9**
E0901			*i* Vmb_Lg		15 31 24.4
LRVF	**chteau la Riv**	**2.83 336**	Pn	**Pn**	**15 30 38.4 +2.5**
LRVF			Sn	**Sn**	**15 31 12.0 +2.1**
ETOS	**Mallorca**	**2.84 156**	Pn	**Pn**	**15 30 36.4 +0.3**
ETOS			Pg	**Pb**	**15 30 42.1 +0.6**
ETOS			Sn	**Sn**	**15 31 09.6 -0.5**
ETOS			*i* Vmb_Lg		15 31 22.9
ETOS	**Mallorca**	**2.84 156**	P	**Pn**	**15 30 36.3 +0.3**
RJF	**Les Rejaudoux**	**2.94 3**	*e*Pn	**Pn**	**15 30 39.8 +2.3**
RJF	**Les Rejaudoux**	**2.94 3**	*e*Pg	**Pg**	**15 30 45.6 -1.7**
RJF			*e*Sn	**Sn**	**15 31 12.5 -0.2**
75nm,0.3s					
RJF			*e*Sg	**Sg**	**15 31 24.3 -1.1**
358nm,0.3s					
ETOR	**Torete**	**2.95 240**	Pn	**Pn**	**15 30 39.6 +1.9**
ETOR			Pg	**Pg**	**15 30 46.0 -1.5**
ETOR			Sn	**Sn**	**15 31 14.8 +1.7**
ETOR			Sg	**Sg**	**15 31 24.7 -1.0**
ETOR			*i* Vmb_Lg		15 31 33.2
FRNF	**Fournols**	**3.15 16**	Pn	**Pn**	**15 30 42.8 +2.3**
FRNF			Sn	**Sn**	**15 31 20.1 +2.1**
LBL	**Lubilhac**	**3.19 26**	Pn	**Pn**	**15 30 42.8 +1.8**
LBL			Sn	**Sn**	**15 31 21.1 +2.1**
SAUF	**chteau de Sau**	**3.20 59**	Pn	**Pn**	**15 30 43.0 +2.0**
SAUF			Sn	**Sn**	**15 31 21.3 +2.3**
ECHE	**Chera**	**3.26 212**	Pn	**Pn**	**15 30 43.1 +1.3**
ATANC	**Embalse El Ata**	**3.32 248**	Pn	**Pn**	**15 30 43.9 +1.2**
ATANC			Pg	**Pb**	**15 30 50.4 +0.7**
ATANC			Sn	**Sn**	**15 31 21.9 -0.2**
ATANC			Sg	**Sg**	**15 31 34.5 -3.0**
MAHO	**Mahon**	**3.33 137**	Pn	**Pn**	**15 30 41.9 -0.9**
MAHO	**Mahon**	**3.33 137**	Pn	**Pn**	**15 30 43.1 +0.3**
MAHO			Sn	**Sn**	**15 31 20.0 -2.3**
EIBI	**Ibiza**	**3.34 179**	Pn	**Pn**	**15 30 43.0 +0.2**
EIBI			Sn	**Sn**	**15 31 21.1 -1.3**
EIBI	**Ibiza**	**3.34 179**	Pn	**Pn**	**15 30 43.1 +0.2**
EIBI			Pg	**Pb**	**15 30 49.8 -0.1**
EIBI			Sn	**Sn**	**15 31 21.1 -1.3**
EIBI			*i* Vmb_Lg		15 31 40.4
EIBI	**Ibiza**	**3.34 179**	S	**Sn**	**15 31 23.1 +0.7**
124nm,0.2s					
RUSF	**Rustrel**	**3.44 61**	Pn	**Pn**	**15 30 46.7 +2.3**
RUSF			Sn	**Sn**	**15 31 27.1 +2.0**
VERF	**Verneugheol**	**3.49 14**	Pn	**Pn**	**15 30 46.6 +1.6**
VERF			Sn	**Sn**	**15 31 27.6 +1.4**
VIVF	**Saint-Julien-l**	**3.49 43**	*e*Pn	**Pn**	**15 30 47.0 +1.9**
VIVF	**Saint-Julien-l**	**3.49 43**	*e*Pg	**Pg**	**15 30 56.7 -1.1**
VIVF			*e*Sn	**Sn**	**15 31 26.4 +0.1**
VIVF			*e*Sg	**Sg**	**15 31 42.7 -0.4**
598nm,0.3s					
SMRF	**Simiane la Rot**	**3.52 61**	*e*Pn	**Pn**	**15 30 47.8 +2.4**
SMRF	**Simiane la Rot**	**3.52 61**	*e*Pg	**Pg**	**15 30 58.3 0.0**
SMRF			*e*Sg	**Sg**	**15 31 43.3 -0.6**
146nm,0.4s					
BSTF	**la Bastide-des**	**3.52 63**	Pn	**Pn**	**15 30 47.3 +1.9**
BSTF			Sn	**Sn**	**15 31 28.6 +1.5**
ARTF	**Artigues**	**3.52 68**	Pn	**Pn**	**15 30 47.7 +2.2**
ARTF			Sn	**Sn**	**15 31 29.0 +1.9**
ELAN	**Lanestosa**	**3.59 286**	Pn	**Pn**	**15 30 50.2 +3.8**
ELAN			Pg	**Pb**	**15 30 56.1 +1.8**
ELAN			Sn	**Sn**	**15 31 30.8 +2.1**
ELAN			Sg	**Sg**	**15 31 44.8 -1.3**
ELAN			*i* Vmb_Lg		15 31 51.1
EVIV	**Cofrentes, Val**	**3.60 211**	Pn	**Pn**	**15 30 47.9 +1.4**
EVIV			Pg	**Pb**	**15 30 55.4 +0.9**
EVIV			Sn	**Sn**	**15 31 29.1 +0.2**
EVIV			Sg	**Sg**	**15 31 47.7 +1.2**
EVIV			*i* Vmb_Lg		15 31 59.2
MLYF	**Mely**	**3.65 62**	Pn	**Pn**	**15 30 49.9 +2.7**
MLYF			Sn	**Sn**	**15 31 32.3 +2.2**
SSB	**Saint Sauveur**	**3.74 38**	Pn	**Pn**	**15 30 49.0 +0.6**
SSB	**Saint Sauveur**	**3.74 38**	Pn	**Pn**	**15 30 50.5 +2.1**
BLAF	**les Blancs**	**3.82 64**	Pn	**Pn**	**15 30 51.7 +2.2**
BLAF			Sn	**Sn**	**15 31 36.3 +1.9**
EBEN2	**Beniarda presa**	**3.86 198**	⇑Pn	**Pn**	**15 30 50.9 +0.9**
EBEN2			Sn	**Sn**	**15 31 33.7 -1.5**
EBEN2			Sg	**Sg**	**15 31 50.2 -4.6**
EBEN2			*i* Vmb_Lg		15 32 10.0
LMR	**La Mourre**	**3.95 74**	*e*Pn	**Pn**	**15 30 53.0 +1.7**
LMR			*e*Sn	**Sn**	**15 31 37.6 0.0**
LMR			*e*Sg	**Sg**	**15 31 57.6 -0.2**
88nm,0.4s					
CHIF	**Chize**	**3.96 343**	Pn	**Pn**	**15 30 54.2 +2.8**
CHIF			Sn	**Sn**	**15 31 40.0 +2.2**
PLDF	**La Plantade**	**3.97 24**	Pn	**Pn**	**15 30 53.2 +1.5**
PLDF			Sn	**Sn**	**15 31 39.5 +1.3**
TCF	**Toulx Ste Croi**	**3.98 9**	*e*Pn	**Pn**	**15 30 53.5 +1.8**
TCF			*e*Sn	**Sn**	**15 31 38.8 +0.6**
TCF			*e*Sg	**Sg**	**15 31 56.9 -1.6**
305nm,0.3s					
TRIGF	**Trigance**	**3.99 68**	Pn	**Pn**	**15 30 54.2 +2.3**
TRIGF			Sn	**Sn**	**15 31 40.7 +2.0**
UCM	**Universidad Co**	**3.99 240**	Pn	**Pn**	**15 30 52.6 +0.7**
UCM			Sn	**Sn**	**15 31 39.4 +0.8**
OGDI	**Digne**	**4.05 63**	Pn	**Pn**	**15 30 54.4 +1.6**
OGDI	**Digne**	**4.05 63**	S	**Sn**	**15 31 41.2 +1.1**
OGDI	**Digne**	**4.05 63**	P	**Pn**	**15 30 54.1 +1.3**
ORIF	**Oris-en-Rattie**	**4.19 51**	*e*Pn	**Pn**	**15 30 56.8 +2.1**
ORIF			*e*Sn	**Sn**	**15 31 43.4 -0.2**
ORIF			*e*Sg	**Sg**	**15 32 04.3 -1.2**
112nm,0.6s					
SALSA	**La sagne**	**4.23 67**	Pn	**Pn**	**15 30 57.5 +2.3**
SALSA			Sn	**Sn**	**15 31 46.1 +1.6**
BGF	**Bois d'Agland**	**4.33 14**	*e*Pn	**Pn**	**15 30 59.1 +2.5**
BGF	**Bois d'Agland**	**4.33 14**	*e*Pg	**Pg**	**15 31 12.8 -1.1**
BGF			*e*Sn	**Sn**	**15 31 45.9 -1.1**
BGF			*e*Sg	**Sg**	**15 32 08.7 -1.4**
871nm,0.4s					
CALF	**Calern**	**4.35 70**	Pn	**Pn**	**15 30 58.7 +1.8**
CALF			Sn	**Sn**	**15 31 49.5 +2.0**
OGAG	**Argentiere**	**4.35 60**	Pn	**Pn**	**15 31 01.5 +4.5**
OGAG			Sn	**Sn**	**15 31 52.9 +5.3**
MFF	**Saint Martin d**	**4.36 347**	*e*Pn	**Pn**	**15 31 00.1 +3.2**
MFF	**Saint Martin d**	**4.36 347**	*e*Pg	**Pg**	**15 31 12.8 -1.6**
MFF			*e*Sn	**Sn**	**15 31 46.4 -1.2**
MFF			*e*Sg	**Sg**	**15 32 08.4 -2.4**
139nm,0.3s					
EILF	**Villa Eilenroc**	**4.44 73**	P	**Pn**	**15 30 58.3 +0.3**
GUD	**Guadarrama**	**4.44 249**	Pn	**Pn**	**15 30 59.5 +1.3**
GUD			Pg	**Pb**	**15 31 11.3 +2.4**
GUD			Sn	**Sn**	**15 31 48.6 -1.3**
GUD			Sg	**Sg**	**15 32 08.8 -4.7**
CREF	**Crivoux**	**4.45 59**	Pn	**Pn**	**15 31 00.7 +2.4**
CREF			Sn	**Sn**	**15 31 51.7 +1.7**
JAUF	**Jausiers**	**4.48 61**	Pn	**Pn**	**15 31 01.5 +2.8**
JAUF			Sn	**Sn**	**15 31 52.6 +1.9**
OGSM	**Saint Maurice**	**4.54 43**	Pn	**Pn**	**15 31 01.4 +2.0**
OGSM			Sn	**Sn**	**15 31 53.5 +1.4**
SURF	**Saint Ours**	**4.54 60**	Pn	**Pn**	**15 31 02.0 +2.4**
SURF			Sn	**Sn**	**15 31 53.7 +1.4**
SURF	**Saint Ours**	**4.54 60**	P	**Pn**	**15 31 00.9 +1.3**
MVIF	**Mont Vial**	**4.55 68**	Pn	**Pn**	**15 31 02.0 +2.3**
MVIF			Sn	**Sn**	**15 31 54.4 +1.8**
MVIF	**Mont Vial**	**4.55 68**	P	**Pn**	**15 31 02.6 +2.9**
ISO	**Isola**	**4.58 65**	Pn	**Pn**	**15 31 02.5 +2.5**
ISO			Sn	**Sn**	**15 31 54.8 +1.7**
ISO	**Isola**	**4.58 65**	P	**Pn**	**15 31 03.1 +3.2**
MBDF	**Montbardon**	**4.62 57**	*e*Pn	**Pn**	**15 31 02.5 +1.8**
MBDF			*e*Sn	**Sn**	**15 31 53.0 -1.4**
110nm,0.7s					
SMF	**Signal de Mont**	**4.65 22**	*e*Pn	**Pn**	**15 31 01.7 +0.8**
SMF	**Signal de Mont**	**4.65 22**	*e*Pg	**Pg**	**15 31 18.6 -1.3**
SMF			*e*Sn	**Sn**	**15 31 54.1 -0.7**
SMF			*e*Sg	**Sg**	**15 32 17.4 -2.7**
151nm,0.4s					
SPIF	**crte de Spivo**	**4.66 67**	Pn	**Pn**	**15 31 03.4 +2.2**
SPIF			Sn	**Sn**	**15 31 56.9 +1.7**
AVF	**Avril sur Loir**	**4.66 18**	*e*Pn	**Pn**	**15 31 01.8 +0.7**
AVF	**Avril sur Loir**	**4.66 18**	*e*Pg	**Pg**	**15 31 18.3 -1.9**
AVF			*e*Sn	**Sn**	**15 31 55.4 +0.4**
AVF			*e*Sg	**Sg**	**15 32 17.7 -2.8**
236nm,0.5s					
ESCA	**l'Escarene**	**4.68 70**	P	**Pn**	**15 31 04.9 +3.5**
RRL	**Rocca Remolon**	**4.73 55**	Pn	**Pn**	**15 31 04.9 +2.6**
RRL	**Rocca Remolon**	**4.73 55**	Sn	**Sn**	**15 31 57.8 +0.6**
BNI	**Bardonecchia**	**4.74 54**	Pn	**Pn**	**15 31 04.3 +2.1**
BNI	**Bardonecchia**	**4.74 54**	Pn	**Pn**	**15 31 04.1 +1.9**
BNI			Sn	**Sn**	**15 31 57.3 +0.2**
BNI			Sg	**Sg**	**15 32 23.4 +0.5**
SBF	**Sospel**	**4.74 70**	*e*Pn	**Pn**	**15 31 04.4 +2.2**
SBF			*e*Sn	**Sn**	**15 31 56.7 -0.3**
SBF			*e*Sg	**Sg**	**15 32 20.9 -2.0**
105nm,0.4s					
TURF	**col de Turini**	**4.74 68**	P	**Pn**	**15 31 05.1 +2.8**
PZZ	**Stroppo**	**4.75 61**	Pn	**Pn**	**15 31 05.1 +2.7**
PZZ	**Stroppo**	**4.75 61**	Sn	**Sn**	**15 31 58.2 +0.8**
STV	**Sant Anna di V**	**4.78 65**	P	**Pn**	**15 31 05.5 +2.7**
OG35	**Corcelles**	**4.79 38**	Pn	**Pn**	**15 31 05.1 +2.1**
OG35			Sn	**Sn**	**15 31 59.5 +1.2**
ESBB	**Sonseca Array**	**4.80 238**	Pn	**Pn**	**15 31 02.8 -0.3**
ESBB			IAmb_Lg		15 32 29.7
comp=Z,148nm,0.9s					
ESBB	**Sonseca Array**	**4.80 238**	Pn	**Pn**	**15 31 03.6 +0.5**
ESBB			Pg	**Pb**	**15 31 16.8 +1.8**
ESBB			Sn	**Sn**	**15 31 55.6 -3.0**
ESBB			Sg	**Sg**	**15 32 20.7 -4.4**
ESDC	**Sonseca Array**	**4.80 238**	Pn	**Pn**	**15 31 02.3 -0.8**
ESDC	**Sonseca Array**	**4.80 238**	Pn	**Pn**	**15 31 03.4 +0.3**
ESDC			Pg	**Pb**	**15 31 16.7 +1.7**
ESDC			Sn	**Sn**	**15 31 55.8 -2.8**
ESDC			Sg	**Sg**	**15 32 20.3 -4.8**
ESDC			*i* Vmb_Lg		15 32 29.1
ESDC	**Sonseca Array**	**4.80 238**	Pn	**Pn**	**15 31 03.5 +0.4**
comp=Z,7.9nm,0.3s,baz=56,slow=14,SNR=159					
ESDC			Sn	**Sn**	**15 31 55.7 -3.0**
comp=Z,23nm,0.3s,baz=53,slow=24,SNR=6.1					
ESDC			Lg	Lg	15 32 23.1
comp=Z,16nm,0.3s,baz=54,slow=29,SNR=7.7					
ESDC			LR	LR	15 33 08.5
comp=Z,205nm,20.2s,baz=112,slow=42					
comp=Z,37nm,0.5s					
OGMY	**Moye**	**4.82 42**	Pn	**Pn**	**15 31 05.7 +2.3**
ENR	**Entracque**	**4.84 65**	Pn	**Pn**	**15 31 05.9 +2.3**
ENR	**Entracque**	**4.84 65**	Sn	**Sn**	**15 32 01.7 +2.1**
ENR	**Entracque**	**4.84 65**	P	**Pn**	**15 31 06.3 +2.7**
SAOF	**Saorge**	**4.85 68**	Pn	**Pn**	**15 31 05.9 +2.2**
SAOF			Sn	**Sn**	**15 32 01.2 +1.3**
SAOF	**Saorge**	**4.85 68**	P	**Pn**	**15 31 06.7 +2.9**
EARI	**Arriondas**	**4.88 283**	Pn	**Pn**	**15 31 06.3 +2.2**
EARI			Pg	**Pb**	**15 31 19.5 +3.2**
EARI			Sn	**Sn**	**15 32 00.2 -0.3**
EARI			*i* Vmb_Lg		15 32 38.7
EMUR	**La Murta**	**4.92 204**	Pn	**Pn**	**15 31 04.7 0.0**
EMUR	**La Murta**	**4.92 204**	Pn	**Pn**	**15 31 05.7 +1.0**
EMUR			Pg	**Pb**	**15 31 18.1 +1.1**
EMUR			*i* Vmb_Lg		15 32 44.8
PIAF	**les Granges de**	**4.94 67**	Pn	**Pn**	**15 31 07.3 +2.4**
PIAF			Sn	**Sn**	**15 32 03.3 +1.3**
SSF	**Saint Saulge**	**4.95 18**	*e*Pn	**Pn**	**15 31 06.8 +1.7**
SSF	**Saint Saulge**	**4.95 18**	*e*Pg	**Pg**	**15 31 23.8 -1.9**
SSF			*e*Sg	**Sg**	**15 32 26.7 -3.1**
comp=Z,163nm,0.5s					
BHB	**Bricherasio**	**4.99 58**	Pn	**Pn**	**15 31 08.6 +3.0**
BHB	**Bricherasio**	**4.99 58**	Sn	**Sn**	**15 32 04.4 +1.2**
HYF	**Humbligny**	**4.99 11**	*e*Pn	**Pn**	**15 31 07.2 +1.5**
HYF			*e*Sn	**Sn**	**15 32 03.2 -0.1**
HYF			*e*Sg	**Sg**	**15 32 29.7 -1.5**
LPG	**La Plagne**	**5.03 50**	*e*Pn	**Pn**	**15 31 09.2 +2.8**
LPG			*e*Sg	**Sg**	**15 32 31.0 -1.4**
comp=Z,70nm,0.6s					
LPL	**La Plagne**	**5.03 49**	*e*Sg	**Sg**	**15 32 30.1 -2.3**
comp=Z,36nm,0.5s					
EZAR	**Zarzadilla de**	**5.04 208**	Pn	**Pn**	**15 31 07.5 +1.2**
EZAR			Sn	**Sn**	**15 32 05.2 +0.7**
EZAR			*i* Vmb_Lg		15 32 59.1
RSL	**Roselend**	**5.08 47**	Pn	**Pn**	**15 31 09.4 +2.5**
CART	**Cartagena**	**5.09 201**	Pn	**Pn**	**15 31 07.8 +0.8**
CART	**Cartagena**	**5.09 201**	Pn	**Pn**	**15 31 08.0 +1.0**
PAB	**San Pablo**	**5.12 238**	Pn	**Pn**	**15 31 07.3 -0.2**
PAB			IAmb_Lg		15 32 40.4
comp=Z,104nm,0.8s					
PAB	**San Pablo**	**5.12 238**	⇑Pn	**Pn**	**15 31 08.0 +0.5**
PAB			Pg	**Pb**	**15 31 21.2 +0.7**
PAB			Sn	**Sn**	**15 32 04.5 -2.1**
PAB			Sg	**Sg**	**15 32 31.1 -4.2**
PAB			*i* Vmb_Lg		15 32 43.2
GBOS	**Grotte di Boss**	**5.13 66**	Pn	**Pn**	**15 31 10.1 +2.6**
GBOS	**Grotte di Boss**	**5.13 66**	Sn	**Sn**	**15 32 08.1 +1.4**
RSP	**Reno Superiore**	**5.14 55**	Sn	**Sn**	**15 32 07.7 +0.7**
RSP	**Reno Superiore**	**5.14 55**	Pn	**Pn**	**15 31 10.1 +2.4**
PLYF	**Puligny Montra**	**5.21 27**	Pn	**Pn**	**15 31 10.5 +2.0**
LOR	**Lormes**	**5.23 20**	*e*Pn	**Pn**	**15 31 10.9 +2.0**
baz=201					
LOR	**Lormes**	**5.23 20**	*e*Pg	**Pg**	**15 31 28.5 -2.5**
LOR			*e*Sn	**Sn**	**15 32 09.2 +0.1**
LOR			*e*Sg	**Sg**	**15 32 34.6 -4.1**
comp=Z,125nm,0.4s					
LOR	**Lormes**	**5.23 20**	Pn	**Pn**	**15 31 11.0 +2.1**
PSIM	**Granatula de C**	**5.23 229**	Pn	**Pn**	**15 31 09.1 +0.2**
PSIM			Sn	**Sn**	**15 32 06.5 -2.7**
PSIM			Sg	**Sg**	**15 32 33.6 -5.1**
TSDF	**Thoir-sur-Di**	**5.42 354**	Pn	**Pn**	**15 31 14.0 +2.6**
TSDF			Sn	**Sn**	**15 32 14.5 +0.9**
CABF	**La Chapelle**	**5.45 37**	*e*Pn	**Pn**	**15 31 13.0 +1.0**
CABF	**La Chapelle**	**5.45 37**	*e*Pg	**Pg**	**15 31 34.0 -1.3**
CABF			*e*Sn	**Sn**	**15 32 14.4 -0.3**
CABF			*e*Sg	**Sg**	**15 32 43.6 -2.3**
comp=Z,118nm,0.5s					
REMY	**Saint-Rhmy-en**	**5.46 49**	Pn	**Pn**	**15 31 14.7 +2.3**
RIVEL	**MONT RIVEL**	**5.50 35**	Pn	**Pn**	**15 31 14.7 +2.1**
EQES	**Quesada**	**5.66 218**	Pn	**Pn**	**15 31 15.5 +0.6**
EQES			Sg	**Sg**	**15 32 48.5 -4.0**
EQES			*i* Vmb_Lg		15 33 04.7
AIGLE	**Aigle**	**5.68 44**	Pn	**Pn**	**15 31 17.8 +2.7**
CLF	**Chambon-Foret**	**5.70 7**	Pn	**Pn**	**15 31 17.3 +1.9**
PGF	**Pioggiola**	**5.70 86**	*e*Pn	**Pn**	**15 31 15.6 +0.1**
PGF			*e*Sn	**Sn**	**15 32 16.4 -4.4**
comp=Z,103nm,0.4s					
PCP	**Piancastagn**	**5.71 65**	Pn	**Pn**	**15 31 18.4 +3.0**
PCP			Sn	**Sn**	**15 32 23.0 +2.1**
DIX	**Grande Dixence**	**5.75 48**	Sn	**Sn**	**15 32 22.2 -0.1**
DIX	**Grande Dixence**	**5.75 48**	Pn	**Pn**	**15 31 18.7 +2.4**
SENIN	**Lac Senin/Sane**	**5.87 45**	Pn	**Pn**	**15 31 20.6 +2.7**
SENIN	**Lac Senin/Sane**	**5.87 45**	Pn	**Pn**	**15 31 20.3 +2.4**
SENIN			Sn	**Sn**	**15 32 26.0 +0.8**
SENIN			Sg	**Sg**	**15 32 56.1 -3.2**
BRANT	**Les Verrieres**	**5.87 37

EGOR	**Sierra Gorda,**	**6.70**	**220**	Pn	**Pn**	**15 31 30.1**	**+0.9**
EGOR				Pg	**Pb**	**15 31 50.6**	**+3.2**
EGOR				Sg	**Sg**	**15 33 25.9**	**0.0**
EGOR				*i* Vmb_Lg		15 33 46.8	
HINF	**Hinteralfeld**	**6.72**	**34**	*e*Pn	**Pn**	**15 31 30.1**	**+0.7**
HINF	**Hinteralfeld**	**6.72**	**34**	*e*P	Pn	15 31 36.5	+7.1
HINF	**Hinteralfeld**	**6.72**	**34**	*e*Pg	**Pg**	**15 31 58.5**	**-1.0**
HINF				*e*Sn	**Sn**	**15 32 42.9**	**-2.9**
HINF				*e*Sg	**Sg**	**15 33 22.7**	**-3.7**
	comp=Z,40nm,0.7s						
VSL	**Villasalto**	**6.76**	**112**	Pn	**Pn**	**15 31 29.1**	**-0.8**
ROSF	**Rostrenen**	**6.78**	**333**	*e*Pn	**Pn**	**15 31 32.2**	**+2.0**
ROSF				*e*Sn	**Sn**	**15 32 45.7**	**-1.6**
ROSF				*e*Sg	**Sg**	**15 33 24.7**	**-3.8**
	comp=Z,57nm,0.3s						
SAVF	**Savonnieres en**	**6.80**	**22**	*e*Pn	**Pn**	**15 31 32.7**	**+2.2**
SAVF	**Savonnieres en**	**6.80**	**22**	*e*Pn	**Pn**	**15 31 33.3**	**+2.8**
	baz=199						
SAVF	**Savonnieres en**	**6.80**	**22**	*e*Pg	**Pg**	**15 31 59.7**	**-1.4**
SAVF				*e*Sg	**Sg**	**15 33 25.7**	**-3.4**
	comp=Z,32nm,0.5s						
SAVF				*e*Sg	**Sg**	**15 33 26.4**	**-2.7**
	comp=Z,26nm,0.4s						
VLC	**Villacollemand**	**6.87**	**72**	Pn	**Pn**	**15 31 32.4**	**+0.9**
PAGF	**Fort de Pagny**	**6.93**	**25**	*e*Pn	**Pn**	**15 31 33.9**	**+1.7**
PAGF	**Fort de Pagny**	**6.93**	**25**	*e*Pg	**Pg**	**15 32 01.0**	**-2.5**
PAGF				*e*Sg	**Sg**	**15 33 28.2**	**-4.9**
	comp=Z,28nm,0.4s						
MTE	**Manteigas**	**6.93**	**256**	Pn	**Pn**	**15 31 31.6**	**-0.8**
EAGO	**Agolada(Pontev**	**6.94**	**277**	Pn	**Pn**	**15 31 33.6**	**+1.2**
EAGO				Pg	Pb	15 31 56.6	+5.2
EAGO				Sn	**Sn**	**15 32 48.9**	**-2.4**
EAGO				Sg	**Sg**	**15 33 28.1**	**-5.6**
EAGO				*i* Vmb_Lg		15 33 38.7	
ELOB	**Lobios**	**6.98**	**269**	Pn	**Pn**	**15 31 33.8**	**+0.8**
ELOB				Sn	**Sn**	**15 32 47.0**	**-5.2**
ELOB				Sg	**Sg**	**15 33 27.6**	**-7.2**
ELOB				*i* Vmb_Lg		15 33 47.6	
TUE	**Stuetta**	**7.07**	**52**	Pn	**Pn**	**15 31 37.1**	**+2.7**
TUE	**Stuetta**	**7.07**	**52**	Pn	**Pn**	**15 31 38.0**	**+3.6**
TUE				Sn	**Sn**	**15 32 57.4**	**+2.7**
TUE				Sg	**Sg**	**15 33 42.9**	**+5.0**
CASP	**Castiglione de**	**7.08**	**83**	Pn	**Pn**	**15 31 34.7**	**+0.4**
ECH	**Echery**	**7.16**	**33**	Pn	**Pn**	**15 31 35.8**	**+0.4**
ECH				IAmb_Lg		15 33 48.8	
	comp=Z,64nm,0.9s						
LOCF	**Locquirec - 29**	**7.21**	**333**	Pn	**Pn**	**15 31 38.2**	**+2.1**
MANO	**Manonville**	**7.23**	**25**	Pn	**Pn**	**15 31 38.4**	**+2.1**
MANO				Sn	**Sn**	**15 32 58.0**	**-0.2**
JSA	**Saint Aubin**	**7.24**	**342**	Pn	**Pn**	**15 31 38.7**	**+2.2**
JSA				Sn	**Sn**	**15 32 54.5**	**-4.0**
JSA				Sg	**Sg**	**15 33 39.6**	**-3.6**
EBAD	**Badajoz**	**7.28**	**243**	Pn	**Pn**	**15 31 37.0**	**-0.1**
EBAD				Pg	**Pb**	**15 32 00.3**	**+3.1**
EBAD				Sn	**Sn**	**15 32 51.5**	**-8.2**
EBAD				Sg	**Sg**	**15 33 41.9**	**-2.6**
EBAD				*i* Vmb_Lg		15 33 49.8	
ZCCA	**Zocca**	**7.33**	**71**	Pn	**Pn**	**15 31 40.8**	**+3.0**
CDF	**Champ du Feu**	**7.36**	**33**	*e*Pn	**Pn**	**15 31 38.7**	**+0.4**
CDF	**Champ du Feu**	**7.36**	**33**	*e*Pg	**Pg**	**15 32 09.6**	**-2.2**
CDF				*e*Sg	**Sg**	**15 33 43.3**	**-3.8**
	comp=Z,58nm,0.7s						
OSSC	**Osservatorio P**	**7.39**	**78**	Pn	**Pn**	**15 31 39.2**	**+0.6**
SLE	**Schleitheim**	**7.42**	**41**	Pn	**Pn**	**15 31 39.7**	**+0.7**
SLE				Pg	Pb	15 32 05.8	+6.3
SLE				Sn	**Sn**	**15 33 03.6**	**+0.6**
SLE				Sg	**Sg**	**15 33 46.0**	**-2.9**
SLE	**Schleitheim**	**7.42**	**41**	P	**Pn**	**15 31 39.7**	**+0.7**
SLE				Pn	**Pn**	**15 31 41.1**	**+2.2**
DAVOX	**Davos/Dischmat**	**7.55**	**51**	Pn	**Pn**	**15 31 44.4**	**+3.5**
	comp=Z,1.2nm,0.3s,baz=237,slow=12,SNR=11						
DAVOX				Sn	**Sn**	**15 33 09.0**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=326,slow=23,SNR=1.5						
DAVOX				Lg	Lg	15 33 53.5	
	comp=Z,0.6nm,0.3s,baz=246,slow=20,SNR=3.2						
DAVOX				LR	LR	15 34 58.8	
	comp=Z,235nm,18.2s,baz=258,slow=40						
	comp=Z,2.9nm,0.3s						
EMAZ	**Mazaricos**	**7.60**	**278**	Pn	**Pn**	**15 31 42.3**	**+0.9**
EMAZ				Sn	**Sn**	**15 33 03.2**	**-4.2**
EMAZ				*i* Vmb_Lg		15 33 49.2	
PESTR	**Estremoz**	**7.61**	**246**	Pn	**Pn**	**15 31 41.1**	**-0.5**
PESTR				IAmb_Lg		15 34 03.9	
	comp=Z,99nm,0.9s						
COI	**Coimbra**	**7.62**	**257**	IAmb_Lg		15 33 53.8	
	comp=Z,87nm,0.8s						
LIENZ	**Kamor/St.Gall**	**7.63**	**47**	Pn	**Pn**	**15 31 45.1**	**+3.2**
LIENZ				Sn	**Sn**	**15 33 11.1**	**+2.7**
LIENZ				Sg	**Sg**	**15 33 55.0**	**-0.6**
EMIN	**Mina Concepcio**	**7.64**	**236**	Pn	**Pn**	**15 31 42.2**	**+0.1**
EMIN				Sn	**Sn**	**15 33 03.7**	**-4.9**
EMIN				Sg	**Sg**	**15 33 52.6**	**-3.6**
EMIN				*i* Vmb_Lg		15 34 01.8	
FUORN	**Ofenpass-Fuorn**	**7.69**	**53**	Pn	**Pn**	**15 31 46.4**	**+3.5**
FUORN	**Ofenpass-Fuorn**	**7.69**	**53**	Pn	**Pn**	**15 31 46.9**	**+4.0**
FUORN				Sn	**Sn**	**15 33 13.7**	**+3.7**
BFO	**Black Forest**	**7.75**	**37**	Pn	**Pn**	**15 31 43.5**	**0.0**
ESPR	**Espera**	**7.79**	**228**	Pn	**Pn**	**15 31 45.5**	**+1.5**
ESPR				Sn	**Sn**	**15 33 08.5**	**-3.5**
ESPR				*i* Vmb_Lg		15 34 24.2	
DAVA	**Damuels**	**7.83**	**48**	*e*Pn	**Pn**	**15 31 47.9**	**+3.1**
	comp=Z,3.1nm,0.3s,SNR=4.6						
DAVA				*e*Sn	**Sn**	**15 33 16.7**	**+3.3**
	comp=Z,7.2nm,0.3s						
DAVA				*e*Sg	**Sg**	**15 34 06.1**	**+3.9**
	comp=Z,29nm,0.8s						
GUT	**Gutenstein**	**7.93**	**41**	Pn	**Pn**	**15 31 48.4**	**+2.3**
BAIF	**Baives**	**7.95**	**14**	*e*Pn	**Pn**	**15 31 48.4**	**+2.2**
BAIF				*e*Sn	**Sn**	**15 33 12.7**	**-3.4**
BAIF				*e*Sg	**Sg**	**15 34 02.3**	**-3.7**
	comp=Z,7.8nm,0.3s						
WLF	**Walferdange**	**8.04**	**23**	Pn	**Pn**	**15 31 48.1**	**+0.6**
WLF	**Walferdange**	**8.04**	**23**	*d*P	**Pn**	**15 31 49.8**	**+2.3**
WLF				*d*S	**Sn**	**15 33 18.0**	**-0.3**
DOU	**Dourbes**	**8.06**	**15**	Pn	**Pn**	**15 31 50.3**	**+2.6**
DOU				Sn	**Sn**	**15 33 18.8**	**+0.1**
DOU	**Dourbes**	**8.06**	**15**	*d*P	**Pn**	**15 31 50.0**	**+2.3**
DOU				*d*S	**Sn**	**15 33 19.4**	**+0.7**
EVO	**Evora**	**8.07**	**245**	Pn	**Pn**	**15 31 47.7**	**-0.1**
TEOL	**Teolo**	**8.07**	**65**	Pn	**Pn**	**15 31 50.6**	**+2.8**
GIVF	**Givet**	**8.11**	**16**	*e*Pn	**Pn**	**15 31 50.5**	**+2.1**
GIVF				*e*Sn	**Sn**	**15 33 16.8**	**-3.2**
GIVF				*e*Sg	**Sg**	**15 34 07.2**	**-3.9**
	comp=Z,12nm,0.3s						
FETA	**Feichten**	**8.17**	**52**	*e*Pn	**Pn**	**15 31 53.2**	**+3.8**
	comp=Z,7.3nm,0.5s,SNR=13						
FETA				*e*Sn	**Sn**	**15 33 26.8**	**+5.1**
	comp=Z,7.9nm,0.7s						
RCHB	**Rochefort**	**8.25**	**18**	*d*P	**Pn**	**15 31 53.1**	**+2.8**
RCHB				*d*S	**Sn**	**15 33 26.0**	**+2.6**
EGRO	**El Granado**	**8.29**	**237**	Pn	**Pn**	**15 31 50.1**	**-0.8**
EGRO				Sn	**Sn**	**15 33 18.7**	**-5.8**
EGRO				*i* Vmb_Lg		15 34 28.6	
BMRD	**Maredsous**	**8.29**	**16**	*d*P	**Pn**	**15 31 53.4**	**+2.5**
BMRD				*d*S	**Sn**	**15 33 24.6**	**+0.2**
	comp=E,46nm,0.0s						
CTI	**Castel Tesino**	**8.30**	**60**	Pn	**Pn**	**15 31 53.9**	**+2.8**
BGES	**Gesves**	**8.44**	**17**	*d*P	**Pn**	**15 31 55.3**	**+2.4**
BGES				*d*S	**Sn**	**15 33 30.3**	**+2.4**
RETA	**Reutte**	**8.44**	**49**	*e*Pn	**Pn**	**15 31 56.2**	**+3.2**
	comp=E,6.1nm,0.4s						
RETA				*e*Sn	**Sn**	**15 33 29.3**	**+1.0**
	comp=E,8.2nm,0.4s						
STU	**Stuttgart**	**8.46**	**38**	IAmb_Lg		15 34 36.2	
	comp=Z,51nm,1.0s						
BCLA	**Clavier**	**8.52**	**18**	*d*P	**Pn**	**15 31 56.7**	**+2.7**
BCLA				*d*S	**Sn**	**15 33 31.3**	**+1.4**
PVAQ	**Vaqueiros**	**8.52**	**237**	Pn	**Pn**	**15 31 53.2**	**-0.8**
PVAQ				IAmb_Lg		15 34 27.6	
	comp=Z,51nm,0.9s						
SQTA	**Sankt Quirin**	**8.55**	**52**	*i* Pn	**Pn**	**15 31 58.5**	**+3.8**
	comp=Z,7.4nm,0.5s						
MOTA	**Moosalm**	**8.56**	**51**	*i* Pn	**Pn**	**15 31 57.8**	**+3.1**
	comp=Z,6.6nm,0.4s						
MOTA				*e*Sn	**Sn**	**15 33 32.8**	**+1.6**
	comp=Z,4.1nm,0.3s						
MESJ	**Messejana**	**8.58**	**241**	Pn	**Pn**	**15 31 53.2**	**-1.7**
MESJ				IAmb_Lg		15 34 31.6	
	comp=Z,71nm,0.9s						
BHOU	**Houvegnez**	**8.62**	**21**	*d*P	**Pn**	**15 31 58.3**	**+2.8**
UCC	**Uccle**	**8.69**	**13**	IAmb_Lg		15 34 36.6	
	comp=Z,58nm,1.1s						
WTTA	**Wattenberg**	**8.83**	**53**	*i* Pn	**Pn**	**15 32 02.3**	**+3.9**
	comp=Z,3.0nm,0.3s,SNR=4.3						
WATA	**Walderalm**	**8.83**	**52**	*e*Pn	Pn	15 32 04.4	+6.0
	comp=Z,2.8nm,0.3s						
DYA	**Yadsworthy**	**8.84**	**338**	Pn	**Pn**	**15 31 59.5**	**+1.1**
DYA				Sn	**Sn**	**15 33 32.1**	**-5.7**
DYA	**Yadsworthy**	**8.84**	**338**	Pn	**Pn**	**15 32 00.7**	**+2.3**
MEM	**Membach**	**8.86**	**20**	*d*P	**Pn**	**15 32 01.5**	**+2.8**
MEM				*d*S	**Sn**	**15 33 40.6**	**+2.2**
BTNL	**Ternell**	**8.87**	**20**	*d*P	**Pn**	**15 32 01.6**	**+2.8**
CCA1	**Carnmenellis**	**9.03**	**332**	Pn	**Pn**	**15 32 03.3**	**+2.4**
CCA1				Sn	**Sn**	**15 33 37.4**	**-5.1**
CCA1	**Carnmenellis**	**9.03**	**332**	Pn	**Pn**	**15 32 03.5**	**+2.5**
KEST	**Kesra**	**9.11**	**134**	Sn	**Sn**	**15 33 46.7**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=228,slow=23,SNR=1.7						
KEST				LR	LR	15 34 56.0	
	comp=Z,113nm,18.6s,baz=226,slow=32						
ABTA	**Abfaltersbach**	**9.12**	**58**	*e*Pn	**Pn**	**15 32 06.4**	**+4.1**
	comp=Z,6.0nm,0.7s						
ABTA				*e*Sn	**Sn**	**15 33 51.4**	**+6.4**
	comp=Z,5.1nm,0.6s						
MORF	**Marmelete**	**9.17**	**240**	Pn	**Pn**	**15 32 01.9**	**-1.1**
MORF				IAmb_Lg		15 34 58.8	
	comp=Z,71nm,1.1s						
PFVI	**Vila Bisbo**	**9.38**	**240**	Pn	**Pn**	**15 32 05.2**	**-0.7**
LESA	**Schwarzleotal**	**9.52**	**54**	*e*Pn	**Pn**	**15 32 11.8**	**+3.9**
	comp=Z,1.9nm,0.3s						
LESA				*e*Sn	**Sn**	**15 33 58.3**	**+3.5**
	comp=Z,2.1nm,0.3s						
SABO	**M.te Sabotino**	**9.55**	**64**	Pn	**Pn**	**15 32 11.2**	**+3.1**
PRED	**Cave del Predi**	**9.68**	**61**	Pn	**Pn**	**15 32 11.5**	**+1.5**
KBA	**Koelnbreinsper**	**9.78**	**57**	*e*Pn	Pn	15 32 17.6	+6.1
	comp=Z,0.5nm,0.2s						
MOA	**Molln**	**10.68**	**55**	*e*Pn	**Pn**	**15 32 26.9**	**+3.3**
	comp=Z,1.9nm,0.3s						
MOA				*e*Sn	**Sn**	**15 34 23.5**	**+0.5**
	comp=Z,2.0nm,0.4s						
GEC2	**GERESS Array S**	**10.83**	**49**	Pn	**Pn**	**15 32 27.1**	**+1.4**
GERES	**GERESS Array B**	**10.83**	**49**	Pn	**Pn**	**15 32 26.9**	**+1.1**
GERES	**GERESS Array B**	**10.83**	**49**	Pn	**Pn**	**15 32 26.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=238,slow=12,SNR=31						
GERES				Sn	**Sn**	**15 34 23.3**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=239,slow=23,SNR=4.8						
GERES				Lg	Lg	15 35 34.4	
	baz=250,slow=26						
GERES				LR	LR	15 37 19.1	
	comp=Z,90nm,21.2s,baz=258,slow=41						
	comp=Z,3.1nm,0.4s						
KHC	**Kasperske Hory**	**10.92**	**48**	*e*PN	**Pn**	**15 32 27.8**	**+0.9**
KHC				*e*SN	**Sn**	**15 34 26.6**	**-2.3**
VAE	**Valguarnera**	**11.19**	**112**	LR	LR	15 36 47.2	
	comp=Z,164nm,18.4s,baz=339,slow=36						
ZVC	**Zvikov**	**11.42**	**47**	*e*PN	**Pn**	**15 32 35.7**	**+1.9**
DSB	**Dublin**	**12.04**	**337**	Pn	**Pn**	**15 32 43.2**	**+1.1**
VRAC	**Vranov**	**12.71**	**52**	LR	LR	15 37 47.3	
	comp=Z,126nm,19.3s,baz=218,slow=37						
MODS	**Modra-Piesok**	**12.73**	**56**	*e*PN	**Pn**	**15 32 53.0**	**+1.3**
ESK	**Eskdalemuir**	**13.29**	**349**	Pn	**Pn**	**15 32 58.8**	**-0.5**
EKA	**Eskdalemuir Ar**	**13.30**	**349**	Pn	**Pn**	**15 32 58.0**	**-1.4**
	comp=Z,1.6nm,0.3s,baz=163,slow=14,SNR=18						
EKA				Sn	**Sn**	**15 35 22.4**	**-4.6**
	baz=164,slow=25						
EKB	**Eskdalemuir**	**13.31**	**349**	Pn	**Pn**	**15 32 59.1**	**-0.4**
VYHS	**Vyhne**	**13.74**	**58**	*e*PN	**Pn**	**15 33 05.7**	**+0.2**
HFS	**Hagfors**	**19.35**	**19**	P	**Pn**	**15 34 17.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=201,slow=12,SNR=4.6						
HFS				LR	LR	15 43 07.6	
	comp=Z,67nm,18.8s,baz=222,slow=41						
	comp=Z,2.3nm,0.9s						
NOA	**NORSAR Array B**	**19.64**	**14**	P	**P**	**15 34 19.1**	**-0.1**
	baz=202,slow=8.3,SNR=3.6						
NOA				LR	LR	15 42 05.0	
	comp=Z,44nm,19.0s,baz=205,slow=38						
	comp=Z,2.1nm,1.2s						
AKASG	**Malin Array Be**	**20.84**	**57**	P	Pn	15 34 35.3	+0.6
	comp=Z,0.2nm,0.3s,baz=252,slow=11,SNR=2.7						
AKASG				LR	LR	15 42 55.7	
	comp=Z,73nm,18.4s,baz=248,slow=38						
	comp=Z,0.2nm,0.3s						
FINES	**FINESS Array B**	**24.20**	**29**	P	**P**	**15 35 08.2**	**+1.3**
	comp=Z,3.0nm,0.9s,baz=229,slow=15,SNR=4.1						
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**24.46**	**85**	P	**P**	**15 35 12.3**	**+2.6**
	comp=Z,0.8nm,0.7s,baz=291,slow=7.4,SNR=4.8						
	comp=Z,0.8nm,0.7s						
KBZ	**Khabaz**	**30.20**	**73**	LR	LR	15 50 54.8	
	comp=Z,37nm,19.7s,baz=358,slow=42						
BVAR	**Borovoye Array**	**45.99**	**52**	P	**P**	**15 38 16.2**	**+2.5**
	comp=Z,1.0nm,0.7s,baz=292,slow=8.7,SNR=7.0						
BVAR				LR	LR	15 59 13.7	
	comp=Z,59nm,18.1s,baz=158,slow=38						
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**51.55**	**52**	P	**P**	**15 38 59.1**	**+2.7**
	comp=Z,1.1nm,0.8s,baz=293,slow=8.6,SNR=6.0						
	comp=Z,1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**53.77**	**47**	P	**P**	**15 39 15.9**	**+3.0**
	comp=Z,0.5nm,0.4s,baz=297,slow=9.5,SNR=2.5						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**55.42**	**56**	P	**P**	**15 39 28.1**	**+3.1**
	comp=Z,0.5nm,0.7s,baz=309,slow=7.1,SNR=6.4						
	comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**63.62**	**332**	P	**P**	**15 40 21.5**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=50,slow=6.8,SNR=2.2						
	comp=Z,0.1nm,0.5s						
KLR	**Kul'dur**	**78.94**	**31**	LR	LR	16 22 38.7	
	comp=Z,32nm,18.2s,baz=254,slow=40						
KSRS	**Korea Array**	**86.86**	**40**	LR	LR	16 25 17.3	
	comp=Z,20nm,21.2s,baz=325,slow=38						

IDC 03 15:30:54.9±1.7, 2°.34N×99°.25E, h127km±14km, mb3.4/4, mbtmp3.8/4, Error ellipse: s-maj=107.5km s-min=23.9km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.57**	**325**	P	Pn	15 31 13.7	-0.5
	6.9nm,0.3s,baz=61,slow=19,SNR=5.7						
PSI				S	Sn	15 31 29.6	+0.8
	4.6nm,0.4s,baz=350,slow=18,SNR=10.0						
WRA	**Warramunga Arr**	**40.93**	**124**	P	P	15 38 25.5	+0.2
	0.2nm,0.3s,baz=299,slow=8.1,SNR=7.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**46.68**	**344**	P	P	15 39 11.3	+0.4
	0.4nm,0.6s,baz=145,slow=9.7,SNR=5.0						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**52.80**	**349**	P	P	15 39 56.9	-0.1
	0.5nm,0.3s,baz=165,slow=4.5,SNR=2.5						
	0.5nm,0.3s						
PETK	**Petropavlovsk-**	**69.66**	**33**	P	P	15 41 50.3	-0.4
	3.0nm,0.7s,baz=235,slow=6.7,SNR=5.2						
	3.0nm,0.7s						

IDC 03 16:07:50.3±2.1, 6°.64S×129°.33E, h0km, mb3.5/1, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=81.6km s-min=28.9km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.94**	**197**	Pn	Pn	16 10 43.5	+1.5
	0.1nm,0.3s,baz=27,slow=12,SNR=2.1						
FITZ				Sn	Sn	16 12 41.9	-14
	0.4nm,0.3s,baz=90,slow=20,SNR=6.9						
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**14.09**	**160**	Pn	Pn	16 11 11.3	0.0
	0.2nm,0.3s,baz=338,slow=13,SNR=16						
WRA				Sn	Sn	16 13 32.5	-16
	0.5nm,0.3s,baz=336,slow=23,SNR=8.0						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.49**	**166**	P	Pn	16 11 54.5	-1.3
	0.2nm,0.3s,baz=346,slow=11,SNR=27						
ASAR				S	Sn	16 14 56.0	-15
	0.2nm,0.4s,baz=350,slow=26,SNR=5.3						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**67.57**	**327**	P	P	16 18 48.7	0.0
	0.2nm,0.3s,baz=113,slow=7.6,SNR=4.4						
	0.2nm,0.3s						

*NEIC **03** 16:08:54.3±0.9, 19°.16S±0°.03×69°.26W±0°.07, h126km±6km, mb4.0/4, Error ellipse: s-maj=10.2km s-min=4.5km az=76.0*
*GUC **03** 16:08:54.6±0.8, 19°.11S×69°.14W, h124km±4km, ML3.6*
*IDC **03** 16:08:55.7±2.2, 19°.07S×68°.71W, h138km±23km, mb3.4/3, mbtmp3.9/5, MS3.1/1, Error ellipse: s-maj=49.4km s-min=20.8km az=87.0*
ISC 03 16:08:53.6±0.7, 19°.12S±0°.04×69°.16W±0°.06, h126km±6km, n44, o0°88/58, mb3.7/3, 5C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.55**	**183**		**Pn**	**16 09 13.4**	**+0.3**
GO01				Sn	**Sn**	**16 09 27.9**	**+0.1**
GO01	**Chusmiza**	**0.55**	**183**	⇑*i*P	**Pn**	**16 09 13.5**	**+0.4**
GO01				*i* S	**Sn**	**16 09 28.2**	**+0.4**
GO01				IAML		16 09 29.2	
	comp=N,2μm,0.2s						
PB11	**IPOC Station P**	**0.79**	**216**	Pn	**Pn**	**16 09 14.7**	**+0.2**
PB11				Sn	**Sn**	**16 09 29.9**	**-0.3**
PB11	**IPOC Station P**	**0.79**	**216**	⇑*i*P	**Pn**	**16 09 14.9**	**+0.4**
PB11				*i* S	**Sn**	**16 09 30.6**	**+0.3**
PB11				IAML		16 09 31.2	
	comp=E,2μm,0.3s						
PB08	**IPOC Station P**	**1.02**	**180**	Pn	**Pn**	**16 09 17.5**	**+0.8**
PB08				Sn	**Sn**	**16 09 34.9**	**+0.5**
PB08	**IPOC Station P**	**1.02**	**180**	⇑*i*P	**Pn**	**16 09 17.6**	**+0.8**
PB08				*i* S	**Sn**	**16 09 35.2**	**+0.9**
PB08				IAML		16 09 37.0	
	comp=E,1μm,0.1s						
PB12	**IPOC Station P**	**1.21**	**294**	Pn	**Pn**	**16 09 18.5**	**+0.1**
PB12				Sn	**Sn**	**16 09 36.4**	**-0.7**
PB12	**IPOC Station P**	**1.21**	**294**	⇓*i*P	**Pn**	**16 09 18.5**	**+0.1**
PB12				*i* S	**Sn**	**16 09 37.1**	**-0.1**
PB12				IAML		16 09 38.3	
	comp=E,2μm,0.3s						
AP01	**Chacalluta**	**1.34**	**303**	Pn	**Pn**	**16 09 19.7**	**0.0**
AP01				Sn	**Sn**	**16 09 39.4**	**-0.1**
AP01	**Chacalluta**	**1.34**	**303**	⇓*i*P	**Pn**	**16 09 20.1**	**+0.5**
AP01				*i* S	**Sn**	**16 09 40.1**	**+0.7**
AP01				IAML		16 09 41.7	
	comp=E,3μm,0.2s						
HMBC	**Humberstone**	**1.34**	**210**	Pn	**Pn**	**16 09 19.6**	**-0.2**
HMBC				Sn	**Sn**	**16 09 39.2**	**-0.5**
HMBC	**Humberstone**	**1.34**	**210**	⇑*i*P	**Pn**	**16 09 19.9**	**+0.1**
HMBC				*i* S	**Sn**	**16 09 40.0**	**+0.3**
HMBC				IAML		16 09 44.2	
	comp=N,818nm,0.4s						
TA02	**Hualuique**	**1.47**	**218**	Pn	**Pn**	**16 09 20.9**	**-0.1**
PB18	**Visviri**	**1.55**	**349**	Pn	**Pn**	**16 09 23.8**	**+1.2**
PB18	**Visviri**	**1.55**	**349**	⇓*i*P	**Pn**	**16 09 24.4**	**+1.8**
TA01	**Diego Aracena**	**1.73**	**213**	Pn	**Pn**	**16 09 23.9**	**-0.2**
TA01	**Diego Aracena**	**1.73**	**213**	⇓*i*P	**Pn**	**16 09 24.3**	**+0.2**
TA01				*i* S	**Sn**	**16 09 47.1**	**-0.3**
TA01				IAML		16 09 48.2	
	comp=E,512nm,0.3s						
PATCX	**Punta Patache**	**1.93**	**209**	Pn	**Pn**	**16 09 27.0**	**+0.3**
PATCX	**Punta Patache**	**1.93**	**209**	⇓*i*P	**Pn**	**16 09 26.1**	**-0.6**
PATCX				*i* S	**Sn**	**16 09 51.8**	**-0.2**
PB01	**IPOC Station P**	**1.94**	**189**	Pn	**Pn**	**16 09 26.8**	**0.0**
PB01	**IPOC Station P**	**1.94**	**189**	⇑*i*P	**Pn**	**16 09 27.3**	**+0.5**
PB01				*i* S	**Sn**	**16 09 52.1**	**+0.1**
PB01				IAML		16 09 53.1	
	comp=N,948nm,0.3s						
PB09	**IPOC Station P**	**2.67**	**182**	Pn	**Pn**	**16 09 37.0**	**+1.0**
PB09	**IPOC Station P**	**2.67**	**182**	*e*P	**Pn**	**16 09 37.0**	**+1.0**
PB09				IAML		16 10 14.3	
	comp=E,200nm,0.3s						
LPAZ	**La Paz**	**2.98**	**19**	Pn	**Pn**	**16 09 41.4**	**+0.9**
LPAZ	**La Paz**	**2.98**	**19**	P	**Pn**	**16 09 41.6**	**+1.2**
	comp=E,36nm,0.5s,baz=204,slow=6.2,SNR=152						
LPAZ				S	**Sn**	**16 10 16.1**	**-0.4**
	comp=E,9.8nm,0.7s,baz=236,slow=3.6,SNR=3.9						
PB05	**IPOC Station P**	**3.84**	**194**	Pn	**Pn**	**16 09 50.6**	**-0.7**
PB14	**IPOC Station P**	**5.60**	**192**	Pn	**Pn**	**16 10 13.6**	**-1.4**
GO02	**Mina Guanaco**	**6.03**	**184**	Pn	**Pn**	**16 10 19.9

SVQ2	Quepos	0.74	111	eP		Pb	16 35 50.1	-0.6
ARE1	Arenal 1	0.77	11	⇓iP		Pb	16 35 51.4	+0.2
VARE2	V. Arenal	0.77	11	⇓iP		Pb	16 35 51.3	+0.1
HEME	Heredia, Merce	0.78	68	⇑iP		Pb	16 35 51.1	-0.3
HEME				eS		Sb	16 36 02.3	+0.7
VPS8	V Poas	0.78	52	⇓iP		Pb	16 35 51.4	-0.1
FORC	Fortuna	0.78	14	⇓iP		Pb	16 35 51.4	-0.1
VACR	Volcan Arenal	0.79	14	⇓eP		Pb	16 35 51.4	-0.1
LLNJ	Naranjito	0.79	107	eP		Pb	16 35 51.0	-0.5
CEDE	Laguna Cedeo	0.80	12	eP		Pb	16 35 51.8	+0.1
PLVR	Palo Verde	0.80	324	⇓eP		Pb	16 35 51.2	-0.6
PLVR				eS		Sn	16 36 03.0	-0.6
HDC	Heredia	0.80	68	⇓iP		Pb	16 35 51.4	-0.4
HDC				eS		Sn	16 36 03.0	-0.6
ABE2	San Pablo	0.80	90	eP		Pb	16 35 50.9	-0.9
ABE2				eS		Sb	16 36 02.6	+0.2
MEXI	Barrio Mexico	0.81	73	eP		Pb	16 35 51.0	-0.9
CENT	San Jose	0.81	74	eP		Pb	16 35 51.2	-0.7
LUJA	Lujan	0.81	74	⇓iP		Pb	16 35 52.2	+0.2
LUJA				eS		Sn	16 36 03.9	-0.1
AMPA	Desamparados	0.82	76	eP		Pb	16 35 51.0	-1.0
AMPA				eS		Sb	16 36 02.6	-0.1
RAZU	San Marcos de	0.83	93	⇓eP		Pb	16 35 51.5	-0.8
SJS	Escuela Geolog	0.84	74	⇓eP		Pb	16 35 51.7	-0.7
SJS				eS		Sb	16 36 03.7	+0.5
SJS3	Mercedes San J	0.84	74	⇓iP		Pb	16 35 51.8	-0.6
SJS3				eS		Sn	16 36 04.1	-0.5
VPL3	V. Platanar	0.84	41	⇓iP		Pb	16 35 52.4	-0.1
LCR2	La Lucha 2	0.85	87	⇓iP		Pb	16 35 51.5	-1.2
LCR2				eS		Sb	16 36 03.2	-0.6
TRIO	Tres Rios	0.89	77	eP		Pb	16 35 52.1	-1.1
CORON	Coronado	0.89	72	⇓iP		Pb	16 35 53.0	-0.4
CORON				eS		Sn	16 36 06.2	+0.2
PIEC	Cerro El Cedra	0.90	95	⇓eP		Pb	16 35 52.4	-1.1
ARTO	Ro Cuarto	0.90	45	eP		Pb	16 35 53.3	-0.2
BAGA	Bagaces	0.91	335	⇓eP		Pn	16 35 54.2	+0.5
BAGA				eS		Sn	16 36 08.6	+2.6
QUEB	Quebradon, Cot	0.92	358	⇓eP		Pb	16 35 53.4	-0.3
TAGO	Cartago	0.94	80	eP		Pb	16 35 53.6	-0.6
ITAL	Pital	0.95	38	⇓iP		Pb	16 35 53.9	-0.3
CVIMO	Finca Echandi	0.97	71	⇓eP		Pb	16 35 54.1	-0.5
CUI	Cuipilapa	0.99	343	⇓eP		Pn	16 35 54.4	-0.5
REPA	Paraso	0.99	83	eP		Pn	16 35 54.2	-0.8
TENO	El Achiote	1.00	354	⇓eP		Pn	16 35 54.1	-1.0
COLC	Colonia	1.01	341	eP		Pn	16 35 54.7	-0.5
VICA	Volcano Irazu	1.05	74	⇓eP		Pn	16 35 55.2	-0.8
HORNC	Hornillas	1.05	343	eP		Pn	16 35 55.3	-0.5
PCAYA	Pacayas	1.06	78	⇑eP		Pn	16 35 55.7	-0.4
PCAYA				eS		Sn	16 36 10.8	+0.6
RAFA	San Farael, Vo	1.07	76	eP		Pn	16 35 55.8	-0.5
ALIBA	Liberia Airpor	1.11	323	⇑eP		Pn	16 35 56.8	-0.2
ALIBA				eS		Sn	16 36 13.2	+2.1
VINA	Juan Vinas	1.12	80	⇑eP		Pn	16 35 56.7	-0.1
VTR0	Volcan Turrial	1.14	74	eP		Pn	16 35 57.1	-0.1
CVTR	Volcan Turrial	1.14	74	⇓eP		Pn	16 35 56.9	-0.4
CVTV	Tajo	1.14	75	⇓eP		Pn	16 35 57.1	-0.1
VERA	Finca Concepci	1.14	360	⇓iP		Pn	16 35 57.0	+0.1
GPS2	Hotel Rincn d	1.15	336	eP		Pb	16 35 57.6	-0.1
GPS3	Bodega del ICE	1.16	335	eP		Pb	16 35 58.5	+0.7
CVTG	V. Turrialba,	1.17	68	⇓iP		Pn	16 35 57.4	+0.1
PILE	Guapiles	1.18	64	⇓iP		Pb	16 35 58.9	+0.7
VERB	Verbena	1.18	78	⇓eP		Pn	16 35 57.5	-0.1
VRLE	La Escondida,	1.19	336	eP		Pn	16 35 57.6	0.0
VORI	VORI	1.21	337	eP		Pn	16 35 58.2	+0.2
PEJA	Penjamo Buenos	1.26	340	eP		Pn	16 35 58.8	+0.2
LCHIL	Los Chiles	1.33	6	eP		Pn	16 36 00.5	-0.3
SAJE	San Jernim	1.39	105	⇓eP		Pn	16 35 59.7	-0.8
IRES	Siquirres	1.40	74	eP		Pb	16 36 02.1	+0.3
LCRUZ	La Cruz	1.56	331	eP		Pn	16 36 05.1	+0.5
FIMO	Fila Mora	1.65	115	eP		Pn	16 36 03.7	-0.4
DRK0	Durika	1.66	105	eP		Pn	16 36 03.7	-0.5
PIRO	Carate, Puerto	1.99	130	eP		Pn	16 36 09.7	+1.1
BRIBI	Bribri	2.02	92	eP		Pn	16 36 09.9	+0.8
BRU2	Volcan	2.33	113	eP		Pn	16 36 15.3	+1.9
ESPN	Las Esperanzas	2.54	13	⇑eP		Pn	16 36 17.3	+1.1

*NEIC **03** 17:01:49.3±2.8, 35°.27S±0°.05×109°.2W±0°.2, h10km±1km, mb4.6/29, Error ellipse: s-maj=31.4km s-min=7.8km az=266.0*

*IDC **03** 17:01:50.8±0.7, 34°.90S×109°.51W, h0km, mb4.2/8, mbtmp4.2/8, MS3.8/20, Error ellipse: s-maj=33.6km s-min=20.7km az=84.0*

ISC 03 17:01:51.7±0.6, 34°.9S±0°.1×108°.9W±0°.2, h10km, n68, σ1§41/46, mb4.6/24, MS4.0/20, 3C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	30.65	112	LR	LR	17 16 19.0	
	comp=Z,77nm,18.8s,baz=192,slow=28						
NNA	Nana	36.92	60	LR	LR	17 20 12.3	
	comp=Z,124nm,20.7s,baz=250,slow=30						
PB09	IPOC Station P	37.00	80	P	P	17 09 01.3	-0.5
PB01	IPOC Station P	37.17	79	P	P	17 09 03.1	-0.1
PB01				IAmb	IAmb	17 09 18.7	
	comp=Z,14nm,1.3s						
HMBC	Humberstone	37.24	77	P	P	17 09 03.7	-0.1
HMBC				IAmb	IAmb	17 09 15.0	
	comp=Z,10nm,0.7s						
PB11	IPOC Station P	37.70	77	P	P	17 09 06.3	-1.4
PB11				IAmb	IAmb	17 09 21.8	
	comp=Z,18nm,1.3s						
PB12	IPOC Station P	37.77	75	P	P	17 09 09.2	+1.0
ATAH	Atahualpa	39.34	53	LR	LR	17 22 18.0	
	comp=Z,93nm,18.4s,baz=223,slow=31						
PPT	Papeete	40.07	285	LR	LR	17 21 16.3	
	comp=Z,187nm,19.7s,baz=88,slow=30						
LPAZ	La Paz	40.81	74	P	P	17 09 34.1	-0.2
LPAZ	La Paz	40.81	74	P	P	17 09 38.6	+4.4
	comp=Z,3.1nm,0.8s,baz=208,slow=3.2,SNR=11						
LPAZ				LR	LR	17 21 36.9	
	comp=Z,74nm,20.0s,baz=236,slow=29						
	comp=Z,3.1nm,0.8s						
COHC	Cochancay	42.41	47	P	P	17 09 47.5	+0.9
CPUP	Villa Florida	44.76	94	LR	LR	17 26 03.4	
	comp=Z,154nm,18.1s,baz=226,slow=32						
RAR	Rarotonga	46.49	273	LR	LR	17 25 18.8	
	comp=Z,58nm,20.1s,baz=112,slow=31						
AQDB	Aquidauana	48.70	87	P	P	17 10 35.8	-0.6
AQDB				IAmb	IAmb	17 10 39.0	
	comp=Z,5.3nm,1.0s						
VILB	Vilhena	49.00	76	P	P	17 10 37.4	-1.4
BELA	Belgrano 2	52.86	165	P	P	17 11 04.6	-2.5
BELA				IAmb	IAmb	17 11 10.9	
	comp=Z,7.1nm,1.0s						
CMIG	Matias Romero	53.38	17	LR	LR	17 28 24.3	
	comp=Z,157nm,20.5s,baz=176,slow=30						
QSPA	South Pole Qui	55.31	180	P	P	17 11 18.2	-7.1
QSPA				IAmb	IAmb	17 11 28.5	
	comp=Z,7.6nm,1.1s						
QSPA	South Pole Qui	55.31	180	P	P	17 11 25.5	+0.3
	comp=Z,3.8nm,0.9s,baz=67,slow=2.9,SNR=6.9						
	comp=Z,3.8nm,0.9s						
BDFB	Brasilia	57.43	87	LR	LR	17 34 29.8	
	comp=Z,198nm,18.4s,baz=283,slow=34						
LPIG	La Paz	58.69	358	LR	LR	17 31 01.3	
	comp=Z,166nm,21.4s,baz=206,slow=30						
VNA3	Neumayer Olymp	60.24	158	⇑P	P	17 12 01.7	+2.0
	comp=Z,12nm,0.8s						
VNA2	Neumayer--Watz	61.05	158	⇑P	P	17 12 06.7	+1.5
	comp=Z,12nm,0.8s,baz=248,slow=6.5						
SNAA	Sanae	62.07	160	P	P	17 12 14.0	+1.9
	comp=Z,6.0nm,0.9s,baz=236,slow=7.3,SNR=5.6						
	comp=Z,6.0nm,0.9s						
TROLL	Troll, Antarti	63.38	161	⇑P	P	17 12 23.5	+2.5
	comp=Z,423nm,1.0s						
TXAR	Lajitas Array	64.07	5	P	P	17 12 27.3	+1.4
	comp=Z,0.8nm,0.7s,baz=195,slow=5.2,SNR=5.6						
TXAR				LR	LR	17 35 32.0	
	comp=Z,53nm,19.8s,baz=176,slow=32						
	comp=Z,0.8nm,0.7s						
SAND	Sanderson	64.81	6	P	P	17 12 31.7	+1.0
JCT	Junction City	65.58	9	P	P	17 12 36.5	+0.9
MDP	Montagnes des	66.11	65	LR	LR	17 37 55.2	
	comp=Z,126nm,20.4s,baz=294,slow=32						
PFO	Pinyon Flats O	68.52	353	LR	LR	17 35 48.7	
	comp=Z,86nm,19.6s,baz=232,slow=30						
ANMO	Albuquerque	69.51	2	LR	LR	17 38 02.5	
	comp=Z,67nm,19.1s,baz=328,slow=31						
WCT	Wildcat Mounta	71.69	353	P	P	17 13 13.1	-0.5
MVCO	Mesa Verde	71.74	0	P	P	17 13 13.0	-1.2
MVCO				IAmb	IAmb	17 13 31.8	
	comp=Z,8.5nm,1.2s						
DSP	Deep Springs	72.39	352	P	P	17 13 16.7	-1.0
DSP				IAmb	IAmb	17 13 21.1	
	comp=Z,7.2nm,1.1s						
MZP	Montezuma Peak	72.66	353	P	P	17 13 20.0	+0.3
LHV	Little Huntoon	73.32	352	P	P	17 13 21.6	-1.6
LHV				IAmb	IAmb	17 13 45.1	
	comp=Z,8.1nm,1.2s						
W52A	Murphy	73.42	21	P	P	17 13 23.6	-0.4
NV11	Mina Array Sit	73.46	352	P	P	17 13 25.5	+1.2
NV11				IAmb	IAmb	17 13 27.5	
	comp=Z,5.3nm,1.0s						
NVAR	Mina Array Bea	73.48	352	P	P	17 13 25.8	+1.3
NVAR	Mina Array Bea	73.48	352	P	P	17 13 26.2	+1.7
	comp=Z,2.0nm,0.7s,baz=171,slow=5.8,SNR=12						
	comp=Z,2.0nm,0.7s						
SRU	San Rafael Swe	73.65	359	P	P	17 13 24.1	-1.3
TMUT	Trail Mountain	73.85	358	P	P	17 13 23.9	-2.8
TMUT				IAmb	IAmb	17 13 29.0	
	comp=Z,7.0nm,1.3s						
TKL	Tuckaleechee C	73.99	21	LR	LR	17 41 08.3	
	comp=Z,90nm,19.4s,baz=171,slow=32						
AFDM	Forest Hills D	74.32	350	P	P	17 13 27.8	-1.4
AFDM				IAmb	IAmb	17 13 31.7	
	comp=Z,9.4nm,1.4s						
BSUT	Blindstream Ca	75.08	359	P	P	17 13 34.9	+0.9
BSUT				IAmb	IAmb	17 13 36.4	
	comp=Z,7.0nm,1.0s						
PDAR	Pinedale Array	77.29	359	P	P	17 13 46.9	+0.5
PDAR	Pinedale Array	77.29	359	P	P	17 13 46.7	+0.4
	comp=Z,2.6nm,0.9s,baz=188,slow=4.0,SNR=18						
PDAR				LR	LR	17 43 43.9	
	comp=Z,70nm,18.0s,baz=179,slow=32						
	comp=Z,2.6nm,0.9s						
YBH	Yreka Blue Hor	77.30	349	LR	LR	17 40 27.0	
	comp=Z,94nm,19.2s,baz=188,slow=30						
R58B	Mineral	77.98	25	P	P	17 13 49.2	-0.8
HLID	Hailey	78.25	356	IAmb	IAmb	17 13 54.3	
	comp=Z,5.5nm,1.1s						
I07A	Izee	79.19	352	P	P	17 13 57.9	+1.2
I07A				IAmb	IAmb	17 14 13.5	
	comp=Z,7.6nm,1.2s						
NEW	Newport	83.11	354	LR	LR	17 45 15.9	
	comp=Z,51nm,18.2s,baz=48,slow=31						
ULM	Lac du Bonnet	85.55	8	P	P	17 14 29.0	-0.6
	comp=Z,1.7nm,0.6s,baz=203,slow=3.1,SNR=2.1						
ULM				LR	LR	17 50 54.7	
	comp=Z,14nm,19.3s,baz=280,slow=34						
	comp=Z,1.7nm,0.6s						
H11S2	WAKE ISLAND Hy	95.96	288	T	T	19 01 38.8	
	baz=126,SNR=4.6						
H11S1	WAKE ISLAND Hy	95.97	288	T	T	19 01 41.2	
	baz=126						
H11S3	WAKE ISLAND Hy	95.97	288	T	T	19 01 39.7	
	baz=126						
YKA	Yellowknife Ar	97.16	357	P	P	17 15 23.1	-0.5
	comp=Z,0.2nm,0.8s,baz=174,slow=5.4,SNR=4.0						
YKA				LR	LR	17 53 28.1	
	comp=Z,60nm,20.7s,baz=12,slow=32						
	comp=Z,0.2nm,0.8s						
H01W1	Cape Leeuwin H	99.77	215	T	T	19 07 03.1	
	baz=143						
H01W2	Cape Leeuwin H	99.78	215	T	T	19 07 10.1	
	baz=143						
H01W3	Cape Leeuwin H	99.79	215	T	T	19 07 04.6	
	baz=143						
NRIK	Norilsk	144.31	350	PKP		PKPab	17 21 25.2	+0.2
	comp=Z,0.7nm,0.3s,baz=98,slow=2.0,SNR=7.5						
AKASG	Malin Array Be	145.34	49	PKPbc	PKiKP	17 21 34.1	-0.3
	comp=Z,0.3nm,0.4s,baz=274,slow=2.6,SNR=1.8						
BRTR	Keskin Array B	149.94	70	PKPbc	PKiKP	17 21 43.8	+0.5
	comp=Z,1.3nm,1.0s,baz=225,slow=3.9,SNR=4.4						
CMAR	Chiang Mai Arr	150.38	244	PKPbc	PKPbc	17 21 44.4	+0.5
	comp=Z,2.4nm,1.0s,baz=139,slow=2.4,SNR=13						
SONM	Songino Array	150.81	307	PKPbc	PKPbc	17 21 42.6	-1.6
	comp=Z,0.8nm,0.5s,baz=101,slow=1.5,SNR=3.0						
SONM				PKPab	sPKPbc	17 21 48.6	+1.2
	comp=Z,0.8nm,0.6s,baz=90,slow=4.3,SNR=4.8						
ZALV	Zalesovo Beam	158.66	337	PKPab	PKPab	17 22 23.2	-1.1
	comp=Z,0.6nm,0.6s,baz=17,slow=1.5,SNR=2.3						
KURBB	Kurchatov Arra	163.38	343	PKPab	PKPab	17 22 45.2	+0.2
	comp=Z,0.5nm,0.7s,baz=23,slow=3.1,SNR=3.2						

IDC 03 17:23:16.7±3.0, 3°.86S×135°.19E, h0km, mb3.4/1, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=107.0km s-min=31.2km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.01	183	Pn	P	17 27 05.5	-1.5
	0.3nm,0.3s,baz=3.6,slow=12,SNR=9.9						
	1.1nm,0.6s						
FITZ	Fitzroy Crossi	16.96	213	Pn	Pn	17 27 14.1	-1.5
	0.1nm,0.3s,baz=35,slow=11,SNR=9.9						
FITZ				Sn	Sn	17 30 10.2	-15
	0.1nm,0.3s,baz=108,slow=20,SNR=1.5						
	1.2nm,0.8s						
ASAR	Alice Springs	19.73	183	P	P	17 27 48.0	-0.2
	0.2nm,0.3s,baz=7.9,slow=12,SNR=22						
	1.8nm,0.7s						
MKAR	Makanchi Array	68.59	324	P	P	17 34 21.7	+0.1
	0.2nm,0.5s,baz=107,slow=8.0,SNR=2.4						
	0.2nm,0.5s						

*VAO **03** 17:31:15.6±0.8, 10°.42N×62°.57W, h10km, mb3.9*
*TRN **03** 17:31:16.8, 11°.02N×62°.26W, h66km, MD3.8, North of the Paria peninsula.*
*FUNV **03** 17:31:17.6, 10°.98N×62°.33W, h24km, MW4.2*
*IDC **03** 17:31:18.8±1.7, 11°.25N×62°.58W, h110km±14km, mb3.5/8, mbtmp3.8/10, Error ellipse: s-maj=39.5km s-min=14.4km az=143.0*

ISC 03 17:31:14.9±0.7, 10°.91N±0°.04×62°.35W±0°.05, h96km±8km, n44, σ1§54/69, mb3.7/8, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	Mucurapo Girls	0.84	106	eP	Pn	17 31 34.4	+1.1
PSMG				eS	Sn	17 31 46.1	-1.0
PSKH	Kent House, Po	0.84	106	eP	Pn	17 31 34.7	+1.3
PSKH				eS	Sn	17 31 46.4	-0.9
PSQC	Port of Spain	0.85	106	eP	Pn	17 31 34.5	+1.0
TRN	Trinidad (W)	0.96	106	eP	Pn	17 31 35.8	+1.1
TRN				eS	Sn	17 31 49.1	-0.4
GRFF	Grenada Fort F	1.28	28	eP	Pn	17 31 38.5	+0.1
GRFF				eS	Sn	17 31 54.5	-1.6
TBH	Brigand Hill	1.33	108	eP	Pn	17 31 40.2	+1.3
TBH				eS	Sn	17 31 57.9	+0.8
GRGR	Grenville	1.39	29	eP	Pn	17 31 39.9	+0.2
GRGR				eS	Sn	17 31 57.5	-1.0
GRW	Mount Saint Ca	1.41	28	eP	Pn	17 31 40.5	+0.4
GRW				eS	Sn	17 31 56.9	-2.1
GRSS	Sisters	1.56	27	eP	Pn	17 31 41.8	+0.1
GRSS				eS	Sn	17 32 01.2	-0.8
TPR	Prospect	1.57	80	eP	Pn	17 31 42.9	+1.0
TPR				eS	Sn	17 32 01.4	-0.9
GCMP	Grenada, Carri	1.81	30	eP	Pn	17 31 44.8	-0.1
GCMP				eS	Sn	17 32 06.2	-1.5
PCRV	Puerto La Cruz	2.37	252	P	Pn	17 31 54.9	+2.7
	157nm,0.3s,baz=49,slow=4.7,SNR=36						
PCRV				S	Sn	17 32 23.3	+2.6
	80nm,0.5s,baz=108,slow=20,SNR=5.7						
PCRV	Puerto La Cruz	2.37	252	eP	Pn	17 31 55.1	+2.9
PCRV				eS	Sn	17 32 21.4	+0.7
SVOC	Richmond Hill,	2.49	26	eP	Pn	17 31 53.5	-0.3
SVOC				eS	Sn	17 32 22.9	-0.7
SVT	Saint Vincent	2.49	26	eP	Pn	17 31 53.9	0.0
SVT				eS	Sn	17 32 22.1	-1.6
SVB	Belmont	2.58	24	eP	Pn	17 31 55.8	+0.7
SVB				eS	Sn	17 32 24.1	-1.7
SVV	Soufriere Volc	2.64	25	eP	Pn	17 31 57.9	+2.1
SLAC	Saint Lucia, A	3.29	25	eP	Pn	17 32 06.2	+1.6
SLAC				eS	Sn	17 32 42.0	-0.9
SLBI	Saint Lucia, B	3.37	23	eP	Pn	17 32 06.9	+1.2
SLBI				eS	Sn	17 32 45.2	+0.4
H05S1	Guadeloupe/Mar	3.79	23	P	Pn	17 32 12.6	+1.3
H05S1				S	Sn	17 32 55.8	+0.9
	SNR=8.1						
BIM	Bigot	3.80	19	eP	Pn	17 32 12.9	+1.5
BIM				eS	Sn	17 32 54.6	-0.5
FUNV	FUNVISIS	4.41	265	eP	Pn	17 32 22.6	+2.9
FUNV				eS	Sn	17 33 10.1	+0.1
BENV	Beln	5.25	260	eP	Pn	17 32 34.2	+3.1
BENV				eS	Sn	17 33 29.6	-0.9
CACV	CAICARA DEL OR	5.31	232	eP	Pn	17 32 28.7	-3.2
CACV				eS	Sn	17 33 22.0	-10
H05N1	Guadeloupe/Mar	5.52	13	P	Pn	17 32 35.1	+0.3
	SNR=4.5						
BAUV	El Baul	5.94	251	eP	Pn	17 32 42.1	+1.6
BAUV				eS	Sn	17 33 45.9	-1.2
MAPV	Macapo	6.11	260	eP	Pn	17 32 44.8	+2.1
TEPV	Terepaima	6.80	263	eP	Pn	17 32 54.5	+2.3
SDV	Santo Domingo	8.41	257	P	Pn	17 33 16.2	+2.0
	2.3nm,0.3s,baz=84,slow=19,SNR=1.4						
SDV				S	Sn	17 34 45.9	-1.7
	9.2nm,0.4s,baz=43,slow=17,SNR=13						
SDV	Santo Domingo	8.41	257	eP	Pn	17 33 14.4	+0.2
SDV				eS	Sn	17 34 45.4	-2.2
BOAV	Boa Vista	8.65	168	eP	Pn	17 33 15.6	-1.8
SOCV	Socops	8.79	253	eP	Pn	17 33 20.3	+1.1
MACA	Manacapuru-AM	14.08	173	eP	Pn	17 34 28.4	-1.7
MACA				eS	Sn	17 37 02.5	-2.6
ITTB	Itaituba	16.54	156	eP	P	17 35 02.7	+0.5
TXAR	Lajitas Array	42.63	302	P	P	17 39 02.9	+0.8
	0.4nm,0.6s,baz=92,slow=7.7,SNR=3.5						
	0.4nm,0.6s						
PDAR	Pinedale Array	51.79	317	P	P	17 40 12.4	-0.8
	0.6nm,0.6s,baz=115,slow=7.6,SNR=7.7						
	0.6nm,0.6s						
YKA	Yellowknife Ar	63.53	336	P	P	17 41 32.9	-2.0
	0.1nm,0.4s,baz=119,slow=6.9,SNR=2.8						
	0.1nm,0.4s						
NB2	NORSAR Subarra	72.57	29	P	P	17 42 33.6	+2.1
	comp=Z,0.5nm,0.6s,baz=262,slow=6.5						
NOA	NORSAR Array B	72.57	29	P	P	17 42 33.8	+2.3
	comp=Z,0.8nm,0.7s,baz=262,slow=5.8,SNR=4.4						
	comp=Z,0.8nm,0.7s						
HFS	Hagfors	73.66	30	P	P	17 42 39.2	+1.3
	comp=Z,1.3nm,0.7s,baz=176,slow=4.3,SNR=5.6						
	comp=Z,1.3nm,0.7s						
ILAR	Eielson Array	77.88	334	P	P	17 43 01.8	0.0
	comp=Z,0.2nm,0.6s,baz=96,slow=7.2,SNR=1.9						
	comp=Z,0.2nm,0.6s						
ARCES	ARCESS Array B	79.11	21	P	P	17 43 09.4	+0.8
	comp=Z,3.7nm,1.1s,baz=280,slow=5.3,SNR=1.0						
	comp=Z,3.7nm,1.1s						
FINES	FINESS Array B	79.75	29	P	P	17 43 13.4	+1.2
	comp=Z,1.7nm,0.4s,baz=278,slow=5.1,SNR=26						
	comp=Z,1.7nm,0.4s						
CMAR	Chiang Mai Arr	145.47	32	PKPbc	PKPdf	17 50 43.2	+0.5
	comp=Z,0.5nm,0.6s,baz=326,slow=3.7,SNR=5.6						

IDC 03 17:39:10.1±521.0, 8°.88S×116°.51E, h0km, Error ellipse: s-maj=352.2km s-min=129.4km az=111.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	PALAU INFRASON	24.27	48	I	I	20 07 42.1	
	0.1nm,0.8s,baz=231,slow=312,SNR=21						
I04AU	SHANNON INFRAS	25.60	180	I	I	20 18 30.0	
	0.1nm,9.2s,baz=360,slow=324,SNR=25						
I05AU	HOBART INFRASO	43.23	146	I	I	21 58 31.5	
	0.1nm,11.8s,baz=302,slow=314,SNR=0.8						

IDC 03 17:44:38.8±1.6, 13°.51N×119°.84E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=29.2km s-min=14.6km az=139.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	1.21	61	Pg	Pn	17 45 03.0	-0.1
	121nm,0.3s,baz=223,slow=3.2,SNR=9.1						
TGY				Lg	Lg	17 45 17.8	
	182nm,0.3s,baz=270,slow=20,SNR=16						
WRA	Warramunga Arr	36.18	156	P	P	17 51 42.8	-0.6
	0.6nm,0.6s,baz=334,slow=9.2,SNR=5.5						
	0.6nm,0.6s						
ASAR	Alice Springs	39.43	159	P	P	17 52 11.0	+0.2
	0.6nm,0.7s,baz=340,slow=8.5,SNR=12						
	0.6nm,0.7s						
MKAR	Makanchi Array	45.69	324	P	P	17 53 01.3	-0.3
	0.2nm,0.8s,baz=119,slow=8.4,SNR=1.8						
	0.2nm,0.8s						

RSNC 03 17:52:11.0±0.0, 7°N±1°×7°3W±°, h148km±2km, M3.2, mB4.9, mb4.0, ML3.0, Mw(mB)4.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.22	191	P	Pn	17 52 31.0	-0.4
BARC				S	Sn	17 52 46.0	-0.9
BRJC	Barrancabermej	0.62	285	P	Pn	17 52 32.7	-0.1
BRJC				S	Sn	17 52 49.7	+0.4
PAMC	Pamplona, Colo	0.68	40	P	Pn	17 52 33.8	0.0
PAMC				S	Sn	17 52 50.9	-0.2

n59,σ0°51/89,1C-6D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.20**	**341**	*i* P	**Pg**	**17 53 28.9**	**-0.5**
STYH				*i* S	**Sg**	**17 53 32.0**	**-0.2**
STYT	**Tauyuan**	**0.20**	**336**	⇓*i* P	**Pg**	**17 53 28.9**	**-0.5**
STYT				*i* S	**Sg**	**17 53 31.9**	**-0.3**
ELDTW	**Lidau**	**0.26**	**37**	⇑*i* P	**Pg**	**17 53 30.7**	**+0.1**
ELDTW				*i* S	**Sg**	**17 53 34.9**	**+0.8**
SGST	**Jiashian**	**0.26**	**293**	⇓*i* P	**Pg**	**17 53 30.7**	**+0.1**
SGST				*i* S	**Sb**	**17 53 36.3**	**-0.7**
TWG	**Pinlang**	**0.26**	**127**	⇓*i* P	**Pg**	**17 53 30.9**	**+0.4**
TWG				*i* S	**Sg**	**17 53 34.9**	**+0.8**
TWGBT	**Beinan**	**0.27**	**127**	P	**Pg**	**17 53 30.5**	**-0.2**
TWGBT	**Beinan**	**0.27**	**127**	S	**Sg**	**17 53 34.5**	**+0.2**
TWGBT	**Beinan**	**0.27**	**127**	⇓*i* P	**Pg**	**17 53 30.9**	**+0.2**
TWGBT				*i* S	**Sg**	**17 53 35.2**	**+0.8**
LONT	**Longtian**	**0.27**	**105**	⇓*i* P	**Pg**	**17 53 31.1**	**+0.3**
LONT				S	**Sg**	**17 53 35.0**	**+0.6**
TSMG	**Majia**	**0.33**	**214**	P	**Pg**	**17 53 31.2**	**-0.6**
TSMG				S	**Sg**	**17 53 35.2**	**-1.0**
SCST	**Cishan**	**0.34**	**254**	P	**Pb**	**17 53 33.1**	**-0.5**
SCST				S	**Sb**	**17 53 38.3**	**-0.8**
WTP	**Ta-pu**	**0.34**	**321**	⇓*i* P	**Pb**	**17 53 33.3**	**-0.3**
WTP				*i* S	**Sb**	**17 53 38.5**	**-0.8**
CHN1	**Nanshi**	**0.36**	**305**	*i* P	**Pb**	**17 53 33.9**	**0.0**
CHN1				S	**Sb**	**17 53 40.1**	**+0.4**
TTN	**Taitung**	**0.36**	**129**	*i* P	**Pb**	**17 53 33.2**	**-0.7**
TTN				*i* S	**Sb**	**17 53 39.4**	**-0.3**
ECS	**Chishang**	**0.36**	**71**	P	**Pb**	**17 53 33.3**	**-0.7**
ECS				S	**Sb**	**17 53 38.7**	**-1.2**
EHD	**Haiduan**	**0.37**	**63**	P	**Pg**	**17 53 32.2**	**-0.4**
EHD				S	**Sg**	**17 53 37.1**	**-0.5**
TPUB	**Ta-pu**	**0.38**	**328**	P	**Pb**	**17 53 33.8**	**-0.4**
TPUB	**Ta-pu**	**0.38**	**328**	P	**Pb**	**17 53 34.0**	**-0.2**
TPUB				S	**Sb**	**17 53 40.2**	**-0.1**
ECL	**Taimali**	**0.39**	**165**	P	**Pg**	**17 53 33.1**	**+0.1**
ECL				S	**Sg**	**17 53 37.9**	**-0.3**
SNST	**Tainan City**	**0.40**	**307**	*e*P	**Pb**	**17 53 34.4**	**-0.3**
MASBT	**Mashibuluo**	**0.41**	**208**	P	**Pg**	**17 53 33.2**	**-0.2**
MASBT				*e*S	**Sg**	**17 53 38.8**	**-0.1**
TWM1	**Shoushan**	**0.42**	**248**	P	**Pb**	**17 53 35.6**	**+0.6**
EDH	**Donghe**	**0.42**	**91**	*e*P	**Pg**	**17 53 34.0**	**+0.5**
EDH				*e*S	**Sb**	**17 53 40.8**	**-0.7**
TWK	**Hsinying**	**0.43**	**311**	*i* P	**Pb**	**17 53 35.6**	**+0.3**
TWK				*i* S	**Sb**	**17 53 43.2**	**+1.2**
CHN4	**Tsaushan**	**0.44**	**328**	P	**Pb**	**17 53 34.8**	**-0.4**
CHN4				S	**Sb**	**17 53 42.9**	**+0.9**
SHHT	**Tainan City**	**0.46**	**275**	*e*P	**Pb**	**17 53 36.2**	**+0.5**
FULB	**Fuli**	**0.47**	**62**	*i* P	**Pb**	**17 53 35.3**	**-0.5**
FULB				*e*S	**Sb**	**17 53 42.3**	**-0.6**
CHKT	**Chengkung**	**0.49**	**76**	P	**Pb**	**17 53 35.8**	**-0.4**
CHKT				*e*S	**Sb**	**17 53 43.9**	**+0.3**
WCKO	**Fanlu**	**0.51**	**334**	*e*P	**Pb**	**17 53 36.2**	**-0.3**
WCKO				*i* S	**Sb**	**17 53 45.1**	**+1.1**
ALS	**Alishan**	**0.53**	**356**	P	**Pg**	**17 53 36.3**	**+0.7**
ALS				*i* S	**Sb**	**17 53 44.8**	**-0.1**
CHKH	**Chenggong**	**0.55**	**67**	*e*P	**Pb**	**17 53 37.6**	**+0.4**
CHKH				*e*S	**Sb**	**17 53 45.7**	**+0.5**
TWF1	**Yuli**	**0.56**	**48**	P	**Pg**	**17 53 36.1**	**-0.1**
TWF1				S	**Sg**	**17 53 43.6**	**+0.2**
EYUL	**Yuli**	**0.57**	**50**	*i* P	**Pg**	**17 53 36.4**	**+0.1**
EYUL				*e*S	**Sg**	**17 53 44.1**	**+0.3**
YULB	**Yu-li**	**0.58**	**45**	P	**Pg**	**17 53 36.3**	**-0.3**
YULB	**Yu-li**	**0.58**	**45**	*e*P	**Pg**	**17 53 36.4**	**-0.2**
EAST	**Anshuo**	**0.59**	**180**	*e*P	**Pg**	**17 53 37.0**	**+0.1**
EAST				*e*S	**Sg**	**17 53 44.8**	**+0.2**
TAW	**Tawu**	**0.62**	**176**	*e*P	**Pg**	**17 53 37.7**	**+0.4**
TAW				S	**Sg**	**17 53 45.6**	**+0.2**
CHN5	**Tsauling**	**0.63**	**346**	*e*P	**Pb**	**17 53 38.8**	**+0.1**
TAWH	**Dawu Township**	**0.64**	**176**	*e*P	**Pg**	**17 53 36.9**	**-0.7**
SCZT	**Fangliau**	**0.64**	**199**	*e*P	**Pg**	**17 53 37.6**	**0.0**
LDUT	**Ludao**	**0.65**	**118**	P	**Pg**	**17 53 38.2**	**+0.3**
EHY	**Hungye**	**0.68**	**40**	*e*P	**Pg**	**17 53 38.4**	**-0.1**
EHY				*e*S	**Sb**	**17 53 48.3**	**-0.8**
WHYT	**Xinyi Township**	**0.71**	**1**	*e*P	**Pb**	**17 53 39.8**	**-0.2**
HGSD	**Ruisui**	**0.74**	**46**	*i* P	**Pb**	**17 53 40.4**	**0.0**
SLIU	**Shizi**	**0.76**	**183**	*e*P	**Pg**	**17 53 40.0**	**0.0**
WSL	**Shuilin Townsh**	**0.78**	**314**	P	**Pn**	**17 53 42.4**	**-0.3**
SSLB	**Suanglung**	**0.81**	**7**	P	**Pg**	**17 53 40.8**	**-0.1**
SSLB	**Suanglung**	**0.81**	**7**	*e*P	**Pg**	**17 53 40.4**	**-0.6**
VWDT	**VWDT**	**0.82**	**19**	*e*P	**Pg**	**17 53 40.6**	**-0.5**
WTK	**Tuku**	**0.82**	**329**	*e*P	**Pb**	**17 53 42.2**	**+0.4**
WARBT	**Fenglin Townsh**	**0.89**	**34**	*e*P	**Pg**	**17 53 41.3**	**-1.1**
SMLT	**Sun Moon Lake**	**0.90**	**3**	*e*P	**Pb**	**17 53 43.0**	**-0.3**
TYC	**Yuchr**	**0.92**	**1**	*e*P	**Pg**	**17 53 43.2**	**+0.2**
WUSB	**Renai**	**1.04**	**14**	*e*P	**Pg**	**17 53 44.9**	**-0.4**
WUS	**Beigang Elemen**	**1.07**	**3**	*e*P	**Pn**	**17 53 47.3**	**+0.9**
LXIB	**Xiulin Townshi**	**1.16**	**27**	*e*P	**Pg**	**17 53 47.4**	**-0.3**
WHF	**Hehuan Shan**	**1.22**	**18**	*e*P	**Pg**	**17 53 48.4**	**-0.5**
WHP	**Taichung City**	**1.29**	**4**	*e*P	**Pg**	**17 53 50.3**	**+0.1**
NACB	**Ninganchiao**	**1.37**	**30**	P	**Pb**	**17 53 51.2**	**0.0**

*NOU **03** 18:01:16.7,21˚.95S×179˚.17W,h600km,mb4.8/98,Fiji Islands Region*
*NEIC **03** 18:01:17.0±1.7,21˚.8S±0˚.1×179˚.2W±0˚.1,h596km±6km, mb4.7/158,Error ellipse: s-maj=16.7km s-min=13.6km az=165.0*
*IDC **03** 18:01:17.4±0.8,21˚.93S×179˚.28W,h601km±7km,mb4.2/25, mbtmp5.1/27,Error ellipse: s-maj=11.5km s-min=8.2km az=163.0*

ISC 03 18:01:14.5±0.3,22˚.03S±0˚.05×179˚.15W±0˚.04,h576km, n390,σ1°53/367,mb4.7/114,30C-9D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.02**	**328**	P	**P**	**18 02 49.1**	**+2.8**
MSVF	**Nonsavu**	**5.02**	**328**	P	**P**	**18 02 49.2**	**+3.0**
	158nm,0.5s,baz=149,slow=5.9,SNR=297						
MSVF				S	**S**	**18 04 04.9**	**+3.9**
	237nm,1.0s,baz=86,slow=19,SNR=24						
MSVF	**Nonsavu**	**5.02**	**328**	P	**P**	**18 02 49.0**	**+2.8**
MSVF	**Nonsavu**	**5.02**	**328**	S	**S**	**18 04 05.8**	**+4.8**
RIZ	**Raoul Island**	**7.27**	**172**	P	**P**	**18 03 07.7**	**+1.8**
GLKZ	**Green Lake**	**7.29**	**172**	P	**P**	**18 03 08.0**	**+1.9**
GLKZ				S	**S**	**18 04 39.6**	**+2.1**
FUTU	**Fugatoga**	**7.74**	**7**	P	**P**	**18 03 10.3**	**-0.3**
NIUE	**Niue**	**9.13**	**73**	P	**P**	**18 03 25.3**	**+1.2**
NIUE	**Niue**	**9.13**	**73**	S	**S**	**18 05 15.0**	**+4.5**
AFI	**Afiamalu**	**10.69**	**42**	P	**P**	**18 03 37.7**	**-2.3**
MARNC	**Mare, Loyalty**	**11.93**	**270**	P	**P**	**18 03 54.3**	**+1.9**
MARNC	**Mare, Loyalty**	**11.93**	**270**	S	**S**	**18 06 04.7**	**+2.4**
PINNC	**Pines Island,**	**12.42**	**265**	P	**P**	**18 03 59.0**	**+1.6**
PINNC	**Pines Island,**	**12.42**	**265**	P	**P**	**18 03 59.4**	**+2.0**
OUENC	**Ouen Island, N**	**12.98**	**266**	P	**P**	**18 04 04.7**	**+1.5**
ONTNC	**Ouen Toro**	**13.34**	**266**	P	**P**	**18 04 07.3**	**+0.4**
ONTNC	**Ouen Toro**	**13.34**	**266**	P	**P**	**18 04 08.7**	**+1.8**
DZM	**Mont Dzumac**	**13.36**	**267**	P	**P**	**18 04 06.9**	**-0.3**
DZM	**Mont Dzumac**	**13.36**	**267**	*e*P	**P**	**18 04 06.7**	**-0.5**
	96nm,1.1s						
DZM				*e*S	**S**	**18 06 21.6**	**-7.6**
	427nm,25.1s						
DZM	**Mont Dzumac**	**13.36**	**267**	P	**P**	**18 04 08.1**	**+0.8**
	34nm,0.5s,baz=88,slow=17,SNR=36						
DZM				S	**S**	**18 06 33.2**	**+3.9**
	13nm,0.9s,baz=112,slow=19,SNR=3.2						
DZM	**Mont Dzumac**	**13.36**	**267**	P	**P**	**18 04 08.2**	**+1.0**
VLAKA	**Lakatoro**	**13.99**	**293**	P	**P**	**18 04 15.0**	**+1.4**
OUZ	**Omahuta**	**14.60**	**204**	P	**P**	**18 04 22.7**	**+3.4**
OUZ	**Omahuta**	**14.60**	**204**	P	**P**	**18 04 22.6**	**+3.4**
WCZ	**Waipu Caves**	**14.98**	**201**	P	**P**	**18 04 26.6**	**+3.7**
KUZ	**Kuaotunu**	**15.33**	**196**	P	**P**	**18 04 29.4**	**+3.0**
KUZ	**Kuaotunu**	**15.33**	**196**	P	**P**	**18 04 29.3**	**+3.0**
KOUNC	**Koumac, New Ca**	**15.51**	**272**	P	**P**	**18 04 30.0**	**+1.6**
MKAZ	**Moumakai**	**15.81**	**197**	P	**P**	**18 04 34.1**	**+3.1**
WMGZ	**Waiomatatini S**	**15.88**	**187**	P	**P**	**18 04 32.8**	**+1.2**
HAZ	**Te Kaha**	**15.90**	**189**	P	**P**	**18 04 32.3**	**+0.5**
HAZ				S	**S**	**18 07 06.9**	**-5.8**
PKGZ	**Pakihiroa**	**15.96**	**188**	P	**P**	**18 04 35.1**	**+2.7**
PKGZ				S	**S**	**18 07 10.8**	**-3.1**
RUGZ	**Raukumara Rang**	**16.12**	**189**	P	**P**	**18 04 34.4**	**+0.4**
RUGZ				S	**S**	**18 07 11.5**	**-5.1**
TWGZ	**Tauwhareparae**	**16.28**	**188**	P	**P**	**18 04 37.3**	**+1.8**
TWGZ				S	**S**	**18 07 16.0**	**-3.1**
TOZ	**Tahuroa Road**	**16.32**	**195**	P	**P**	**18 04 38.6**	**+3.0**
TOZ				IAmb	IAmb	18 04 54.4	
	comp=Z,32nm,0.6s						
URZ	**Urewera**	**16.50**	**190**	P	**P**	**18 04 37.3**	**+0.1**
	comp=Z,9.9nm,0.3s,baz=39,slow=4.0,SNR=11						
URZ				S	**S**	**18 07 17.3**	**-5.1**
	comp=Z,23nm,0.6s,baz=30,slow=20,SNR=10						
URZ	**Urewera**	**16.50**	**190**	P	**P**	**18 04 37.7**	**+0.4**
ETVZ	**East Tongariro**	**17.61**	**193**	P	**P**	**18 04 48.4**	**+0.8**
ETVZ				S	**S**	**18 07 36.9**	**-3.9**
NGZ	**Ngauruhoe**	**17.67**	**194**	P	**P**	**18 04 49.6**	**+1.5**
SNVZ	**South Ngauruho**	**17.68**	**193**	P	**P**	**18 04 49.1**	**+0.9**
SNVZ				S	**S**	**18 07 40.7**	**-1.3**
MCHZ	**McNeill Hill**	**17.72**	**191**	P	**P**	**18 04 50.2**	**+1.8**
MCHZ				S	**S**	**18 07 41.3**	**-1.1**
TUVZ	**Tukino**	**17.75**	**193**	P	**P**	**18 04 49.4**	**+0.5**
VRZ	**Vera Road**	**17.82**	**196**	P	**P**	**18 04 52.8**	**+3.5**
KAHZ	**Kahuranaki**	**18.03**	**190**	P	**P**	**18 04 51.8**	**+0.5**
RAR	**Rarotonga**	**18.04**	**91**	P	**P**	**18 04 52.4**	**+0.8**
RAR	**Rarotonga**	**18.04**	**91**	P	**P**	**18 04 51.2**	**-0.3**
	comp=Z,57nm,0.9s,baz=270,slow=6.1,SNR=7.8						
PNHZ	**Pukenui**	**18.26**	**191**	P	**P**	**18 04 53.5**	**+0.1**
PXZ	**Pawanui**	**18.27**	**190**	P	**P**	**18 04 53.9**	**+0.5**
TSZ	**Takapari Road**	**18.45**	**192**	P	**P**	**18 04 54.8**	**-0.3**
PRHZ	**Porangahau**	**18.53**	**190**	P	**P**	**18 04 56.6**	**+0.8**
BFZ	**Birch Farm**	**19.00**	**191**	P	**P**	**18 05 01.4**	**+1.3**
BFZ	**Birch Farm**	**19.00**	**191**	P	**P**	**18 04 59.7**	**-0.3**
SNZO	**South Karori**	**19.91**	**194**	P	**P**	**18 05 10.4**	**+2.1**
QRZ	**Quartz Range**	**20.02**	**199**	P	**P**	**18 05 10.5**	**+1.2**
KHZ	**Kahutara**	**21.23**	**195**	P	**P**	**18 05 20.4**	**+0.2**
LTZ	**Lake Taylor**	**21.90**	**197**	P	**P**	**18 05 25.8**	**-0.5**
LTZ				IAmb	IAmb	18 05 29.4	
	comp=Z,19nm,0.9s						
NGOA	**Tingoa Renbel**	**22.43**	**294**	P	**P**	**18 05 31.6**	**+0.3**
OXZ	**Oxford**	**22.47**	**197**	P	**P**	**18 05 30.8**	**-0.4**
OXZ				IAmb	IAmb	18 05 49.5	
	comp=Z,40nm,1.2s						
RPZ	**Rata Peaks**	**23.11**	**198**	P	**P**	**18 05 35.9**	**-1.0**
	comp=Z,2.6nm,0.4s,baz=25,slow=17,SNR=2.1						
RPZ	**Rata Peaks**	**23.11**	**198**	P	**P**	**18 05 37.8**	**+0.9**
ALEG	**Aligegeo Malai**	**23.45**	**301**	P	**P**	**18 05 40.2**	**-0.1**
HNR	**Honiara**	**23.66**	**299**		**P**	**18 05 40.2**	**-2.0**
HNR	**Honiara**	**23.66**	**299**	P	**P**	**18 05 42.2**	**0.0**
SAVO	**Savo Central**	**23.93**	**299**	P	**P**	**18 05 45.7**	**+1.1**
JCZ	**Jackson Bay**	**24.15**	**202**	P	**P**	**18 05 47.4**	**+1.2**
TATA	**Tatamba Isabel**	**24.37**	**301**	P	**P**	**18 05 47.8**	**-0.7**
WHZ	**Wether Hill Ro**	**26.03**	**201**	P	**P**	**18 06 05.3**	**+2.6**
WHZ				IAmb	IAmb	18 06 21.4	
	comp=Z,36nm,1.0s						
EIDS	**Eidsvold**	**27.43**	**257**	P	**P**	**18 06 16.5**	**+1.2**
EIDS				IAmb	IAmb	18 06 17.2	
	comp=Z,12nm,0.8s						
EIDS	**Eidsvold**	**27.43**	**257**	P	**P**	**18 06 16.5**	**+1.2**
ARMA	**Armidale**	**27.45**	**246**	P	**P**	**18 06 17.9**	**+2.4**
ARMA	**Armidale**	**27.45**	**246**	P	**P**	**18 06 18.0**	**+2.4**
RK1H	**Rockhampton Ha**	**28.01**	**261**	P	**P**	**18 06 21.8**	**+1.4**
PAE	**Paea**	**28.13**	**86**	*e*P	**P**	**18 06 22.2**	**+0.8**
	comp=Z,20nm,1.1s						
PPT2	**Papeete2**	**28.15**	**86**	*es*S	**sS**	**18 13 18.5**	**-1.4**
	comp=Z,218nm,26.5s						
PPT2				*es*S	**SS**	**18 13 26.1**	**-6.8**
	comp=Z,152nm,33.0s						
PPT	**Papeete**	**28.15**	**86**	P	**P**	**18 06 22.7**	**+1.0**
	comp=Z,54nm,0.5s,baz=262,slow=5.2,SNR=7.0						
	comp=Z,54nm,0.5s						
TIAR	**Tiarei**	**28.37**	**86**	*e*P	**P**	**18 06 25.0**	**+1.4**
	comp=Z,9.2nm,0.9s						
TVO	**Taravao**	**28.40**	**87**	*e*P	**P**	**18 06 24.9**	**+1.0**
	comp=Z,31nm,0.7s						
PMOR	**Pomariorio Ree**	**30.41**	**82**	*e*P	**P**	**18 06 42.2**	**+1.0**
	comp=Z,170nm,1.1s						
CNB	**Canberra Magne**	**30.49**	**237**	P	**P**	**18 06 43.9**	**+2.1**
VAH	**Vaihoa**	**30.58**	**83**	*e*P	**P**	**18 06 43.2**	**+0.5**
	comp=Z,122nm,0.9s						
CAN	**Canberra**	**30.78**	**237**	P	**P**	**18 06 46.2**	**+2.0**
TV1H	**Townsville Har**	**31.95**	**269**	P	**P**	**18 06 54.9**	**+0.6**
XMAS	**Kiritimati**	**31.97**	**44**	P	**P**	**18 06 54.8**	**+0.3**
CMSA	**Cobar Meteorol**	**32.67**	**246**	P	**P**	**18 07 01.1**	**+0.9**
RABL	**Rabaul**	**32.98**	**298**	P	**P**	**18 07 02.0**	**-1.1**
QLP	**Quilpie**	**33.60**	**255**	P	**P**	**18 07 09.5**	**+1.3**
TOO	**Toolangi**	**34.14**	**235**	P	**P**	**18 07 14.1**	**+1.5**
MTSU	**Mount Surprise**	**34.48**	**270**	P	**P**	**18 07 16.6**	**+1.0**
TAU	**Tasmania Unive**	**34.79**	**225**	P	**P**	**18 07 19.4**	**+1.6**
STKA	**Stephens Creek**	**36.17**	**246**	P	**P**	**18 07 30.5**	**+1.1**
STKA	**Stephens Creek**	**36.17**	**246**	P	**P**	**18 07 30.9**	**+1.5**
	comp=Z,9.6nm,0.8s,baz=81,slow=11,SNR=16						
	comp=Z,9.6nm,0.8s						
STKA	**Stephens Creek**	**36.17**	**246**	P	**P**	**18 07 31.0**	**+1.5**
PATS	**Pohnpei**	**36.21**	**320**	P	**P**	**18 07 30.6**	**+0.7**
COEN	**Coen**	**36.64**	**276**	P	**P**	**18 07 33.3**	**-0.2**
COEN	**Coen**	**36.64**	**276**	P	**P**	**18 07 34.4**	**+0.9**
INKA	**Innaminka**	**36.71**	**253**	P	**P**	**18 07 35.7**	**+1.8**
MANU	**Manus Island**	**38.13**	**297**	P	**P**	**18 07 45.5**	**-0.1**
MANU				IAmb	IAmb	18 07 46.4	
	comp=Z,27nm,0.8s						
QIS	**Mount Isa**	**38.38**	**264**	P	**P**	**18 07 47.8**	**+0.2**
HTT	**Hallett**	**38.58**	**244**	P	**P**	**18 07 50.3**	**+1.2**
LCRK	**Leigh Creek**	**38.97**	**248**	P	**P**	**18 07 53.1**	**+0.9**
TAOE	**Nuku Hiva Isla**	**39.68**	**77**	P	**P**	**18 07 59.1**	**+0.8**
TAOE	**Nuku Hiva Isla**	**39.68**	**77**	*e*P	**P**	**18 07 58.7**	**+0.5**
	comp=Z,199nm,0.9s						
BBOO	**Buckleboo**	**40.92**	**245**	P	**P**	**18 08 08.3**	**+0.5**
OOD	**Oodnadatta**	**41.19**	**253**	P	**P**	**18 08 11.1**	**+1.2**
AS01	**Alice Springs**	**43.10**	**258**	P	**P**	**18 08 25.4**	**+0.3**
AS31	**Alice Springs**	**43.14**	**258**		**P**	**18 08 25.8**	**+0.4**
ASAR	**Alice Springs**	**43.14**	**258**		**P**	**18 08 25.8**	**+0.4**
ASAR	**Alice Springs**	**43.14**	**258**	P	**P**	**18 08 26.0**	**+0.6**
	comp=Z,18nm,0.8s,baz=98,slow=7.8,SNR=294						
ASAR				PcP	**PcP**	**18 10 01.6**	**-0.2**
	comp=Z,4.6nm,0.6s,baz=92,slow=4.3,SNR=8.8						
ASAR				ScP	**ScP**	**18 12 57.5**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=96,slow=3.7,SNR=4.9						
ASAR				S	**S**	**18 14 07.9**	**-3.1**
	comp=Z,12nm,1.0s,baz=97,slow=14,SNR=27						
ASAR				ScS	**ScS**	**18 17 21.0**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=97,slow=7.7,SNR=9.7						
	comp=Z,18nm,0.8s						
WR0	**Warramunga Arr**	**43.16**	**264**	IAmb	IAmb	18 08 26.3	
	comp=Z,14nm,1.0s						
WB2	**Warramunga Arr**	**43.34**	**264**	IAmb	IAmb	18 08 27.8	
	comp=Z,28nm,0.8s						
WRAB	**Tennant Creek**	**43.34**	**264**	P	**P**	**18 08 25.9**	**-1.1**
WRAB				IAmb	IAmb	18 08 27.7	
	comp=Z,23nm,0.8s						
WRA	**Warramunga Arr**	**43.35**	**264**	P	**P**	**18 08 25.9**	**-1.1**
WRA	**Warramunga Arr**	**43.35**	**264**	P	**P**	**18 08 27.0**	**0.0**
	comp=Z,20nm,0.6s,baz=100,slow=8.2,SNR=388						
WRA				PcP	**PcP**	**18 10 02.4**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=105,slow=4.1,SNR=4.5						
WRA				ScP	**ScP**	**18 12 58.9**	**-0.7**
	comp=Z,5.7nm,0.8s,baz=102,slow=3.8,SNR=12						
WRA				S	**S**	**18 14 09.4**	**-4.6**
	comp=Z,3.5nm,0.8s,baz=101,slow=14,SNR=11						
	comp=Z,20nm,0.6s						
JAY	**Jayapura**	**43.54**	**291**	P	**P**	**18 08 28.6**	**0.0**
	comp=Z,77nm,0.6s,baz=149,slow=2.6,SNR=34						
	comp=Z,77nm,0.6s						
KDU	**Kakadu**	**46.94**	**273**	P	**P**	**18 08 54.3**	**-0.1**
FORT	**Forrest**	**47.72**	**248**	P	**P**	**18 09 00.2**	**+0.1**
WRKA	**Warakurna**	**48.03**	**256**	P	**P**	**18 09 02.9**	**+0.3**
MTN	**Manton Dam**	**48.13**	**272**	P	**P**	**18 09 03.0**	**-0.3**
DRS	**Darwin Rock St**	**48.47**	**273**	P	**P**	**18 09 05.7**	**-0.2**
KNRA	**Kununurra**	**49.51**	**268**	P	**P**	**18 09 13.8**	**+0.3**
KNRA				IAmb	IAmb	18 09 14.6	
	comp=Z,36nm,0.8s						
GUMO	**Guam**	**49.98**	**312**	P	**P**	**18 09 17.2**	**+0.3**
	comp=Z,78nm,0.5s,baz=149,slow=5.9,SNR=8.3						
	comp=Z,78nm,0.5s						
FAKI	**Fak Fak**	**50.83**	**285**	P	**P**	**18 09 22.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**51.78**	**264**	P	**P**	**18 09 30.4**	**+0.5**
	comp=Z,7.1nm,0.3s,baz=98,slow=9.2,SNR=74						
FITZ				S	**S**	**18 16 08.6**	**-1.3**
	comp=Z,3.4nm,0.8s,baz=90,slow=20,SNR=3.1						
	comp=Z,7.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**51.78**	**264**	P	**P**	**18 09 30.2**	**+0.2**
BNDI	**Bandanaira**	**52.26**	**282**	P	**P**	**18 09 34.9**	**+1.4**
SOEI	**Soe**	**55.49**	**273**	P	**P**	**18 09 56.6**	**+0.2**
PSA00	**Pilbara Seismi**	**56.29**	**258**	P	**P**	**18 10 01.8**	**+0.1**
MEEK	**Meekatharra**	**56.42**	**252**	P	**P**	**18 10 02.3**	**-0.2**
MBWA	**Marble Bar**	**56.49**	**259**	P	**P**	**18 10 02.8**	**-0.2**
TNTI	**Ternate**	**56.83**	**286**	P	**P**	**18 10 05.4**	**0.0**
TNTI				IAmb	IAmb	18 10 06.4	
	comp=Z,56nm,1.0s						
TNTI	**Ternate**	**56.83**	**286**	P	**P**	**18 10 05.4**	**0.0**
SANI	**Sanana**	**56.84**	**283**	P	**P**	**18 10 05.0**	**-0.5**
BLDU	**Ballidu**	**57.46**	**247**	P	**P**	**18 10 09.5**	**0.0**
MUN	**Mundaring**	**57.71**	**245**	P	**P**	**18 10 11.9**	**+0.7**
MMRI	**Maumere**	**57.76**	**274**	P	**P**	**18 10 11.6**	**-0.2**
MORW	**Morawa**	**58.27**	**249**	P	**P**	**18 10 15.3**	**+0.3**
GIRL	**Giralia**	**61.12**	**256**	P	**P**	**18 10 35.3**	**+1.3**
KAPI	**Kappang**	**61.37**	**276**	P	**P**	**18 10 35.9**	**+0.1**
	comp=Z,4.0nm,0.4s,baz=117,slow=4.5,SNR=4.5						
	comp=Z,4.0nm,0.4s						
KAPI	**Kappang**	**61.37**	**276**	P	**P**	**18 10 36.0**	**+0.2**
JCJ	**Chichijima**	**61.52**	**321**	P	**P**	**18 10 35.5**	**-0.8**
	comp=Z,68nm,0.5s,baz=217,slow=20,SNR=4.5						
	comp=Z,68nm,0.5s						
PLAI	**Plampang**	**61.83**	**272**	P	**P**	**18 10 38.5**	**-0.2**
TOLI2	**Tolitoli**	**62.89**	**283**	P	**P**	**18 10 45.3**	**-0.3**
TOLI2				IAmb	IAmb	18 10 47.6	
	comp=Z,25nm,0.6s						
TOLI2	**Tolitoli**	**62.89**	**283**	P	**P**	**18 10 44.9**	**-0.7**
JAGI	**Jajag, Banyuwa**	**65.31**	**271**	P	**P**	**18 10 59.6**	**-1.3**
JAGI				IAmb	IAmb	18 11 00.8	
	comp=Z,46nm,0.9s						
JAGI	**Jajag, Banyuwa**	**65.31**	**271**	P	**P**	**18 10 59.9**	**-1.1**
MYLDM	**Lahad Datu**	**66.71**	**286**	IAmb	IAmb	18 11 43.3	
	comp=Z,14nm,0.9s						
JHJ2	**Mitsune**	**67.38**	**323**	P	**P**	**18 11 13.6**	**+0.4**
JHJ	**Hachijo jima 2**	**67.40**	**323**	P	**P**	**18 11 13.5**	**+0.1**
	comp=Z,143nm,0.7s,baz=107,slow=19,SNR=6.8						
	comp=Z,143nm,0.7s						
QSPA	**South Pole Qui**	**68.05**	**180**	P	**P**	**18 11 18.9**	**+1.9**
QSPA	**South Pole Qui**	**68.05**	**180**	P	**P**	**18 11 19.0**	**+1.9**
	comp=Z,5.4nm,0.8s,baz=18,slow=3.9,SNR=25						
	comp=Z,5.4nm,0.8s						
UGM	**Wanagama**	**68.87**	**270**	P	**P**	**18 11 22.8**	**0.0**
KKM	**Kota Kinabalu**	**69.13**	**286**	IAmb	IAmb	18 11 25.1	
	comp=Z,26nm,0.6s						
KKM	**Kota Kinabalu**	**69.13**	**286**	P	**P**	**18 11 24.8**	**+0.4**
JOW	**Kunigami**	**70.34**	**311**	P	**P**	**18 11 31.8**	**+0.5**
	comp=Z,17nm,0.5s,baz=127,slow=10,SNR=22						
	comp=Z,17nm,0.5s						
JOW	**Kunigami**	**70.34**	**311**	P	**P**	**18 11 31.7**	**+0.5**
JMM	**Marumori**	**70.48**	**327**	IAmb	IAmb	18 11 32.8	
	comp=Z,38nm,1.1s						
JMM	**Marumori**	**70.48**	**327**	P	**P**	**18 11 32.1**	**+0.4

PNL Peninsula 87.67 19 P **P 18 13 02.0 0.0**
CAST Castle Rocks 87.78 12 IAmb IAmb 18 13 01.7
comp=Z,15nm,0.7s
VRDI Verde Repeater 87.81 16 IAmb IAmb 18 13 03.8
comp=Z,14nm,1.3s
N25K Chitina, Valde 87.84 16 IAmb IAmb 18 13 03.7
comp=Z,11nm,0.7s
GLB Gilahina Butte 87.90 16 IAmb IAmb 18 13 03.8
comp=Z,8.6nm,0.7s
J20K Nowinta River 88.11 11 IAmb IAmb 18 13 04.5
comp=Z,6.3nm,0.8s
KTH Kantishna Hill 88.13 12 IAmb IAmb 18 13 04.0
comp=Z,13nm,0.9s
XAN Xi'an 88.21 308 ⇓P **P 18 13 06.2 +1.0**
XAN pmax pmax
comp=Z,44nm,0.9s
O28M Mount Upton 88.33 18 IAmb IAmb 18 13 06.9
comp=Z,9.6nm,0.9s
RND Reindeer 88.42 13 P **P 18 13 04.9 -0.6**
O29M Mount Kennedy 88.42 19 IAmb IAmb 18 13 09.3
comp=Z,9.1nm,1.3s
MCK McKinley 88.69 13 P **P 18 13 05.9 -0.8**
MCK IAmb IAmb 18 13 07.4
comp=Z,12nm,1.1s
TX31 Lajitas Ar. Si 88.78 58 IAmb IAmb 18 13 10.4
comp=Z,8.6nm,1.1s
TXAR Lajitas Array 88.78 58 P **P 18 13 09.0 +1.1**
TXAR Lajitas Array 88.78 58 P **P 18 13 09.3 +1.3**
comp=Z,4.6nm,0.9s,baz=242,slow=4.8,SNR=24
comp=Z,4.6nm,0.9s
BSUT Blindstream Ca 88.91 45 IAmb IAmb 18 13 10.6
comp=Z,7.8nm,1.0s
M26K Nabesna, AK 88.92 16 IAmb IAmb 18 13 09.0
comp=Z,7.3nm,1.2s
PLCA Paso Flores 89.00 134 P **P 18 13 10.3 +1.4**
comp=Z,2.5nm,0.7s,baz=243,slow=7.1,SNR=9.2
comp=Z,2.5nm,0.7s
CRAI Chiangrai 89.08 292 IAmb IAmb 18 13 11.7
comp=Z,9.8nm,0.9s
M27K Edge Creek, AK 89.17 16 IAmb IAmb 18 13 11.7
comp=Z,8.9nm,1.0s
ANMO Albuquerque 89.19 52 P **P 18 13 10.1 +0.2**
ANMO IAmb IAmb 18 13 11.7
comp=Z,6.7nm,1.1s
G19K Purcell Mounta 89.48 9 IAmb IAmb 18 13 11.0
comp=Z,6.9nm,0.9s
WRH Wood River Hil 89.52 13 P **P 18 13 09.4 -1.1**
WRH IAmb IAmb 18 13 10.6
comp=Z,9.3nm,0.8s
CMAR Chiang Mai Arr 89.62 290 P **P 18 13 12.5 +0.5**
CMAR Chiang Mai Arr 89.62 290 P **P 18 13 13.4 +1.4**
comp=Z,16nm,0.8s,baz=116,slow=4.5,SNR=104
CMAR PP **PP 18 16 55.5 +0.7**
comp=Z,0.8nm,0.8s,baz=112,slow=7.2,SNR=4.1
comp=Z,16nm,0.8s
H21K Melozitna Rive 89.70 11 IAmb IAmb 18 13 11.9
comp=Z,5.8nm,0.9s
HDA Harding Lake 89.71 13 IAmb IAmb 18 13 11.4
comp=Z,4.8nm,0.6s
CCB Clear Creek Bu 89.73 13 IAmb IAmb 18 13 11.2
comp=Z,9.7nm,1.1s
CHTO Chiang Mai 89.76 290 P **P 18 13 13.6 +1.0**
CHTO Chiang Mai 89.76 290 P **P 18 13 13.6 +1.0**
F19K Shaleruckik Mo 90.03 8 IAmb IAmb 18 13 13.2
comp=Z,4.9nm,0.8s
ILAR Eielson Array 90.04 13 P **P 18 13 11.9 -0.9**
comp=Z,1.9nm,0.8s,baz=212,slow=3.9,SNR=16
comp=Z,1.9nm,0.8s
E18K Tukpahlearik C 90.25 7 IAmb IAmb 18 13 14.6
comp=Z,9.4nm,0.9s
BILL Bilibino 90.44 355 P **P 18 13 13.8 -0.8**
BILL IAmb IAmb 18 13 15.5
comp=Z,10nm,0.9s
PZH PanZhiHua 90.48 298 P **P 18 13 16.6 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,150nm,6.8s
J26L Joseph Creek 90.55 15 IAmb IAmb 18 13 16.5
comp=Z,9.5nm,1.1s
E19K Redstone River 90.70 8 IAmb IAmb 18 13 16.6
comp=Z,9.4nm,0.8s
L29M L29M 90.79 17 IAmb IAmb 18 13 17.9
comp=Z,7.1nm,1.1s
PDAR Pinedale Array 90.80 44 P **P 18 13 17.4 +0.2**
comp=Z,2.2nm,1.0s,baz=245,slow=4.6,SNR=9.7
PDAR PP **PP 18 17 04.9 +1.0**
comp=Z,0.4nm,0.7s,baz=255,slow=12,SNR=1.9
comp=Z,2.2nm,1.0s
DRIO Del Rio 91.22 59 IAmb IAmb 18 13 20.7
comp=Z,11nm,0.8s
C18K Utukok River 91.36 6 IAmb IAmb 18 13 19.5
comp=Z,8.0nm,1.3s
D19K Kuna River 91.56 8 IAmb IAmb 18 13 20.9
comp=Z,9.3nm,1.1s
D20K Etivluk River 91.96 8 IAmb IAmb 18 13 22.5
comp=Z,5.2nm,0.9s
E22K Anaktuvuk Pass 92.12 10 IAmb IAmb 18 13 23.2
comp=Z,13nm,1.4s
YAK Yakutsk 93.13 338 P **P 18 13 25.7 -1.3**
SONM Songino Array 96.20 319 P **P 18 13 40.8 -0.7**
comp=Z,2.1nm,1.1s,baz=111,slow=3.2,SNR=3.8
SONM PP **PP 18 17 45.0 -0.1**
comp=Z,0.7nm,0.4s,baz=132,slow=8.0,SNR=3.9
comp=Z,2.1nm,1.1s
ZALV Zalesovo Beam 111.00 321 PKiKP **PKiKP 18 18 41.1 -1.5**
comp=Z,1.1nm,0.5s,baz=135,slow=0.7,SNR=7.4
MKAR Makanchi Array 111.46 313 Pdiff **Pdif 18 14 48.3 -1.0**
comp=Z,0.3nm,0.6s,baz=106,slow=5.4,SNR=4.1
MKAR PKiKP **PKiKP 18 18 42.4 -1.3**
comp=Z,0.6nm,0.4s,baz=101,slow=0.7,SNR=20
MKAR PP **PP 18 19 35.1 -1.4**
comp=Z,1.1nm,0.8s,baz=96,slow=8.8,SNR=6.3
MKAR SKP **SKPdf 18 21 21.9 -3.1**
comp=Z,0.8nm,0.9s,baz=116,slow=3.4,SNR=2.9
MKAR PKKPbc **PKKPbc 18 29 40.9 -0.2**
comp=Z,0.4nm,0.6s,baz=281,slow=4.4,SNR=6.3
MKAR PKKPab **PKKPab 18 29 52.4 +1.5**
comp=Z,0.7nm,0.8s,baz=287,slow=5.5,SNR=7.0
KURBB Kurchatov Arra 114.43 317 PKP PKPdf 18 18 47.9 -1.4
comp=Z,1.3nm,0.5s,baz=82,slow=1.3,SNR=9.3
KURBB PP **PP 18 19 56.1 -0.9**
comp=Z,1.3nm,0.2s,baz=95,slow=6.2,SNR=4.5
KURBB SKP **SKPdf 18 21 27.3 -3.3**
comp=Z,1.3nm,0.8s,baz=96,slow=2.0,SNR=6.8
KKAR Karatay Array 119.35 308 PKPdf **PKPdf 18 18 57.0 -2.0**
BVAR Borovoye Array 119.55 319 PKP **PKPdf 18 18 58.1 -1.0**
comp=Z,5.6nm,0.4s,baz=105,slow=1.9,SNR=92
BVAR PP **PP 18 20 35.1 +3.1**
comp=Z,2.2nm,0.8s,baz=77,slow=6.4,SNR=6.3
BRVK Borovoye 119.61 319 PKPdf **PKPdf 18 18 57.7 -1.4**
KBL Kabul 119.67 298 PKPdf **PKPdf 18 18 59.0 -1.2**
SPITS Spitsbergen Ar 123.31 356 PKP **PKPdf 18 19 05.1 -0.6**
comp=Z,11nm,0.8s,baz=50,slow=4.5,SNR=10.0
ARTI Arti 125.94 325 **PKPdf 18 19 10.3 -0.9**
ARTI Arti 125.94 325 PKP **PKPdf 18 19 10.9 -0.3**
comp=Z,4.5nm,0.4s,baz=205,slow=1.9,SNR=13
AKTO Aktyubinsk 127.47 317 PKP **PKPdf 18 19 14.3 0.0**
comp=Z,2.6nm,0.7s,baz=76,slow=4.6,SNR=7.7
KIRV Kirov 129.74 329 PKP **PKPdf 18 19 17.8 -0.5**
comp=Z,8.3nm,0.5s,baz=161,slow=2.4,SNR=4.6
KIRV SKPbc SKPbc 18 21 46.1 -1.3
comp=Z,29nm,0.8s,baz=70,slow=1.8,SNR=14
ARCES ARCESS Array B 130.22 349 PKP **PKPdf 18 19 18.5 -0.6**
comp=Z,2.8nm,0.5s,baz=39,slow=1.8,SNR=17
ARCES SKPbc **SKPbc 18 21 47.7 -1.3**
comp=Z,6.9nm,1.0s,baz=31,slow=5.5,SNR=6.2
FINES FINESS Array B 136.92 343 PKP **PKPdf 18 19 31.0 -0.8**
comp=Z,2.2nm,0.4s,baz=71,slow=1.4,SNR=4.4
FINES SKPbc **SKPbc 18 22 09.2 -1.8**
comp=Z,1.8nm,0.7s,baz=29,slow=3.2,SNR=4.4
NC303 NORSAR Array S 140.15 352 PKPpre 18 19 30.7
NB2 NORSAR Subarra140.35 352 PKP PKPpre 18 19 30.7
comp=Z,1.1nm,0.5s,baz=16,slow=3.2
NOA NORSAR Array B 140.35 352 PKhKP PKPpre 18 19 30.9
comp=Z,1.9nm,0.7s,baz=17,slow=3.1,SNR=14
NOA PKP **PKPdf 18 19 38.5 +0.4**
comp=Z,0.8nm,0.5s,baz=14,slow=3.8,SNR=4.2
NOA SKPbc **SKPbc 18 22 18.5 -2.1**
comp=Z,1.5nm,0.9s,baz=15,slow=2.7,SNR=3.6
HFS Hagfors 140.86 350 PKhKP PKPpre 18 19 32.3
comp=Z,5.9nm,0.3s,baz=29,slow=3.6,SNR=102
LODK Lodwar 141.75 246 PKPdf **PKPdf 18 19 38.2 -3.9**
MBAR Mbarara 143.18 236 PKPbc 18 19 43.7 +0.6
TJOU Tjoern 143.19 350 *i* P PKPab 18 19 40.4 -0.8
HOMB Homborsund 143.38 353 *i* P PKPab 18 19 41.0 -0.8
BORU Boraas 143.39 349 *i* P PKPab 18 19 40.9 -1.0

SNART Snartemo 143.44 354 *i* P PKPab 18 19 41.3 -0.8
ONAU Onsala 143.76 350 *i* P PKPbc 18 19 41.9 -1.4
AKASG Malin Array Be 143.80 329 PKPbc 18 19 42.2 -1.5
AKASG Malin Array Be 143.80 329 PKP PKPbc 18 19 42.4 -1.3
comp=Z,18nm,0.4s,baz=42,slow=4.1,SNR=246
AKASG SKPbc **SKPbc 18 22 27.2 -2.1**
comp=Z,4.1nm,0.8s,baz=44,slow=3.1,SNR=11
KIEV Kiev 143.81 329 PKPbc 18 19 42.1 -1.6
SUW Suwalki 143.86 338 *e*PKPbc PKPbc 18 19 43.0 -0.7
FABU Falkenberg 144.00 349 *i* P PKPbc 18 19 42.8 -1.2
BLEU Blekinge 144.02 346 *i* P PKPbc 18 19 43.1 -1.1
DEL Delary 144.28 348 *i* P PKPbc 18 19 44.0 -0.9
BJUU Bjuv 144.82 348 *i* P **PKPdf 18 19 45.8 -0.2**
MUD Monsted U'grnd 145.07 352 *i* P **PKPbc 18 19 47.0 -0.3**
LUNU Lund 145.15 348 *i* P **PKPdf 18 19 46.9 +0.3**
GAZ Gaziantep 145.21 304 PKPdf **PKPdf 18 19 47.7 +0.2**
COP Copenhagen 145.30 348 *i* P **PKPdf 18 19 46.0 -0.8**
BSD Bornholm Skovb 145.32 346 *i* P **PKPdf 18 19 46.0 -0.9**
BSD *i* P **PKPbc 18 19 47.3 -0.9**
SORM Soroca 145.91 327 ⇓P **PKPbc 18 19 49.2 -0.8**
MILM Milestii Mici 146.44 324 ⇓P **PKPbc 18 19 50.8 -0.7**
BEL Belsk 146.48 337 *e*PKPbc **PKPbc 18 19 51.5 0.0**
ASF Jabal al Asfar 146.49 295 PKPbc **PKPbc 18 19 52.6 +0.3**
comp=Z,14nm,0.9s,baz=74,slow=1.6,SNR=17
EKA Eskdalemuir Ar 146.61 4 PKPbc **PKPbc 18 19 51.1 -0.6**
comp=Z,6.4nm,0.8s,baz=348,slow=3.1,SNR=15
BR131 Keskin Array S 147.03 310 **PKPbc 18 19 52.6 -1.0**
BRTR Keskin Array B 147.03 310 **PKPbc 18 19 52.3 -1.3**
BRTR Keskin Array B 147.03 310 PKPbc **PKPbc 18 19 52.9 -0.7**
comp=Z,10.0nm,0.7s,baz=131,slow=3.8,SNR=51
BRTR SKPbc **SKPbc 18 22 33.1 -4.1**
comp=Z,1.4nm,0.9s,baz=90,slow=2.9,SNR=3.5
TLCR 147.48 322 ⇑P **PKPbc 18 19 54.2 -0.1**
VLDR Vladesti 147.50 323 ⇑P **PKPbc 18 19 54.7 +0.3**
ANTO Ankara 147.57 311 **PKPdf 18 19 52.4 +1.1**
ANTO Ankara 147.57 311 ⇓P **PKPbc 18 19 54.9 0.0**
MMAI Mount Meron Ar 147.60 297 PKPbc **PKPbc 18 19 55.4 +0.3**
comp=Z,13nm,0.5s,baz=69,slow=4.8,SNR=36
MMAI PKPab **PKPab 18 20 00.1 +0.6**
comp=Z,13nm,0.7s,baz=60,slow=3.8,SNR=14
BURAR Bucovina Array 147.83 328 **PKPbc 18 19 53.9 -1.5**
BURAR Bucovina Array 147.83 328 ⇑P **PKPbc 18 19 55.4 +0.1**
TESR Tescani 147.85 326 ⇑P **PKPbc 18 19 54.9 -0.3**
TPGR Topolog 147.90 322 ⇓P **PKPbc 18 19 55.3 -0.2**
PANC Panciu 147.99 324 ⇑P **PKPbc 18 19 55.6 0.0**
ONER Baraj Valea Uz 148.10 326 ⇓P **PKPbc 18 19 56.2 +0.3**
TIRR Tirgusor 148.14 321 ⇑P **PKPbc 18 19 55.7 -0.3**
KOLS Kolonicke sedl 148.20 333 *e*PKP **PKPbc 18 19 56.6 +0.5**
VRI Vrincioaia 148.22 325 ⇑P **PKPbc 18 19 56.3 +0.1**
STHS Stebnicka Huta 148.25 334 *e*PKP **PKPbc 18 19 55.6 -0.6**
STHS *e* 18 20 01.7
PLOR Plostina 148.27 325 ⇑P **PKPbc 18 19 55.7 -0.7**
HARR Harsova 148.28 322 ⇑P **PKPbc 18 19 55.6 -0.8**
MANR Mangalia 148.40 320 ⇑P **PKPbc 18 19 56.3 -0.4**
EIL Elat 148.47 291 PKPbc **PKPbc 18 19 57.6 +0.2**
comp=Z,11nm,0.7s,baz=102,slow=3.1,SNR=8.5
EIL PKPab **PKPab 18 20 03.9 +0.9**
comp=Z,17nm,0.8s,baz=46,slow=5.6,SNR=7.9
COVR Voineasa-Covas 148.51 325 ⇓P **PKPbc 18 19 56.8 -0.3**
OZUR 148.57 326 ⇑P **PKPbc 18 19 56.9 -0.2**
DOPR Dopca 148.86 326 ⇑P **PKPbc 18 19 58.2 +0.4**
MLR Muntele Rosu 148.88 325 PKPdf **PKPdf 18 19 52.7 -0.6**
MLR Muntele Rosu 148.88 325 PKPbc **PKPbc 18 19 57.5 -0.6**
comp=Z,7.4nm,0.7s,baz=34,slow=3.6,SNR=9.5
MLR PKPab **PKPab 18 20 04.0 -0.4**
comp=Z,5.3nm,0.5s,baz=45,slow=2.9,SNR=7.4
MLR Muntele Rosu 148.88 325 ⇑P **PKPbc 18 19 57.3 -0.7**
OKC Ostrava-Krasne 149.07 338⇑ *e*PKP **PKPbc 18 19 58.3 +0.1**
OSTC Ostas 149.08 341⇑ *e*PKP **PKPbc 18 19 58.7 +0.5**
STEB Steborice 149.12 339⇑ *e*PKP **PKPbc 18 19 58.4 +0.1**
UPC Upice 149.19 341⇑ *e*PKP **PKPbc 18 19 58.7 +0.3**
DPC Dobruska-Polom 149.23 340⇑ *e*PKP **PKiKP 18 19 59.1 -0.3**
VOIR 149.39 325 ⇑P **PKPbc 18 19 58.9 -0.4**
MARR Marisel-Cluj 149.50 329 ⇓P **PKPbc 18 19 59.3 -0.2**
PVCC Panska Ves 149.59 343⇑ *e*PKP **PKiKP 18 19 59.8 -0.3**
ARR Arges 149.66 326 ⇑P **PKiKP 18 20 00.9 +0.4**
RICC Richard 149.70 343⇑ *e*PKP **PKiKP 18 20 00.1 -0.2**
HSKC Hora Svate Kat 149.82 344⇑ *e*PKP **PKPbc 18 20 00.0 0.0**
PRA Prague 150.04 342⇑ *e*PKP **PKiKP 18 20 00.8 -0.2**
VRAC Vranov 150.05 339 PKPbc **PKPbc 18 20 00.2 -0.3**
comp=Z,6.8nm,0.7s,baz=352,slow=2.2,SNR=7.6
VRAC PKPab **PKPab 18 20 08.6 -0.4**
comp=Z,8.6nm,0.7s,baz=33,slow=4.6,SNR=9.4
VRAC Vranov 150.05 339 *e*PKP **PKPbc 18 20 00.1 -0.4**
JAVC Velka Javorina 150.06 337 *e*PKP **PKiKP 18 20 01.4 +0.2**
GOPC GO Pecny, Ondr 150.07 342⇑ *e*PKP **PKPbc 18 20 00.7 +0.1**
PRU Pruhonice 150.08 342⇑ *e*PKP **PKPbc 18 20 00.5 -0.1**
KRUC Moravsky 150.33 339 *e*PKP **PKPbc 18 20 00.8 -0.4**
MODS Modra-Piesok 150.61 337 *e*PKP **PKiKP 18 20 02.2 -0.1**
MODS *e* 18 20 12.3
ZVC Zvikov 150.67 342⇑ *e*PKP **PKPbc 18 20 02.0 0.0**
ZVC *e*PKPAB **PKPab 18 20 12.0 +0.5**
KHC Kasperske Hory 151.12 343⇑ *e*PKP **PKPbc 18 20 02.9 -0.1**
KHC *e*PKPAB **PKPab 18 20 13.8 +0.3**
GERES GERESS Array B 151.35 342 **PKPbc 18 20 02.6 -1.0**
GERES GERESS Array B 151.35 342 PKPbc **PKPbc 18 20 03.4 -0.3**
comp=Z,9.9nm,1.0s,baz=31,slow=2.3,SNR=31
GERES PKPab **PKPab 18 20 14.1 -0.5**
comp=Z,2.1nm,0.6s,baz=25,slow=5.3,SNR=8.8
GERES SKP **SKPdf 18 22 28.8 -7.5**
comp=Z,0.2nm,0.4s,baz=22,slow=4.9,SNR=4.1
CONA Conrad Observa 151.49 339 *e*PKP **PKPbc 18 20 03.9 -0.1**
comp=Z,8.4nm,0.7s
CONA *e*PKP **PKPab 18 20 15.8 +0.6**
comp=Z,7.7nm,0.7s
RONA Rosalia, Austr 151.53 338 *i* PKP **PKPbc 18 20 03.9 -0.1**
comp=Z,12nm,0.5s,SNR=10
RONA *e*PKP **PKPab 18 20 15.9 +0.6**
comp=Z,12nm,1.1s
MORH Mrgy, Hungar 151.86 333 ⇑P **PKPbc 18 20 04.2 -0.6**
SOKA Soboth 152.85 338 *e*PKP **PKPbc 18 20 05.9 -1.1**
comp=Z,2.9nm,0.9s
SOKA *e*PKP **PKPab 18 20 20.8 -0.1**
comp=Z,9.5nm,1.2s
LESA Schwarzleotal 152.93 342 *e*PKP **PKPbc 18 20 06.6 -0.6**
comp=Z,1.9nm,0.5s
KBA Koelnbreinsper 153.04 341 *i* PKP **PKPab 18 20 22.6 +0.8**
comp=Z,7.8nm,0.7s,SNR=4.1
BFO Black Forest 153.08 349 **PKPab 18 20 20.4 -1.4**
OBKA Obir 153.16 339 *e*PKP **PKPbc 18 20 06.5 -1.2**
comp=Z,9.1nm,1.7s
OBKA *i* PKP **PKPab 18 20 22.1 -0.2**
comp=Z,6.6nm,0.8s,SNR=4.2
WATA Walderalm 153.31 344 *e*PKP **PKPbc 18 20 07.2 -0.8**
comp=Z,2.4nm,0.4s
WATA *e*PKP **PKPab 18 20 23.0 +0.1**
comp=Z,12nm,1.1s
MYKA Terra Mystica 153.35 340 *e*PKP **PKPbc 18 20 06.8 -1.2**
comp=Z,1.7nm,0.4s
MYKA *i* PKP **PKPab 18 20 22.4 -0.7**
comp=Z,5.4nm,0.5s,SNR=4.3
WTTA Wattenberg 153.36 343 *e*PKP **PKPbc 18 20 07.0 -1.2**
comp=Z,12nm,1.3s
WTTA *e*PKP **PKPab 18 20 23.1 -0.1**
comp=Z,16nm,0.9s
RETA Reutte 153.37 345 *e*PKP **PKPab 18 20 24.2 +1.1**
comp=Z,6.7nm,1.0s
MOTA Moosalm 153.42 344 *e*PKP **PKPab 18 20 23.5 +0.1**
comp=Z,13nm,1.3s
SQTA Sankt Quirin 153.51 344 *e*PKP **PKPab 18 20 23.9 +0.2**
comp=Z,9.5nm,1.5s
ABTA Abfaltersbach 153.59 342 *e*PKP **PKPbc 18 20 07.3 -1.3**
comp=Z,10nm,1.5s
ABTA *i* PKP **PKPab 18 20 23.4 -0.7**
comp=Z,7.6nm,0.6s,SNR=4.4
DAVA Damuels 153.77 346 *e*PKP **PKPab 18 20 24.8 -0.1**
comp=Z,9.5nm,0.9s
DAVOX Davos/Dischmat 154.24 346 PKPbc **PKiKP 18 20 09.9 -0.1**
comp=Z,2.6nm,0.5s,baz=315,slow=5.7,SNR=7.4
DAVOX PKPab **PKPab 18 20 27.1 +0.1**
comp=Z,7.0nm,0.7s,baz=342,slow=6.4,SNR=8.9
IDI Anoyia 155.19 307 PKPab **PKPab 18 20 30.5 -0.9**
comp=Z,4.3nm,0.5s,baz=32,slow=13,SNR=5.9
ESDC Sonseca Array 161.94 12 **PKPab 18 20 59.0 -1.5**
ESDC Sonseca Array 161.94 12 PKPab **PKPab 18 21 00.2 -0.3**
comp=Z,1.4nm,0.9s,baz=342,slow=5.3,SNR=5.2
DBIC Dimbokro 163.77 159 PKPab **PKPab 18 21 10.0 +1.0**
comp=Z,3.7nm,1.0s,baz=214,slow=3.6,SNR=2.3
KEST Kesra 164.46 333 PKPab **PKPab 18 21 11.7 -0.1**
comp=Z,7.2nm,0.8s,baz=22,slow=3.3,SNR=4.3

*IDC **03** 18:11:12.4±1.3,23°.15N×143°.99E, h0km, mb3.8/8, mbtmp3.8/11, ML3.5/3, MS2.9/2, Error ellipse:*
s-maj=36.9km s-min=27.5km az=78.0
ISC 03 18:11:14.2±1.0,23°.2N±0°.1×144°.0E±0°.2, h10km, n16, σ1§26/13, mb3.9/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.17**	**338**	Pn	**Pn**	**18 12 18.6**	**+0.7**
	8.3nm,0.3s,baz=131,slow=20,SNR=1.9						
JCJ				Sn	**Sn**	**18 13 04.2**	**-2.5**
	11nm,0.3s,baz=180,slow=20,SNR=1.9						
	61nm,0.6s						
GUMO	**Guam**	**9.63**	**175**	LR	LR	18 16 38.5	
	comp=Z,22nm,20.9s,baz=100,slow=34						
MJAR	**Matsushiro Arr**	**14.16**	**341**	Pn	**Pn**	**18 14 35.5**	**+0.6**
	baz=149,slow=11,SNR=1.9						
	0.6nm,0.4s						
KSRS	**Korea Array**	**19.77**	**319**	Pn	**Pn**	**18 15 47.6**	**+1.7**
	0.2nm,0.3s,baz=148,slow=8.7,SNR=4.4						
	1.3nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**21.61**	**95**	T	T	18 38 21.1	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**21.61**	**95**	T	T	18 38 24.9	
	baz=283						
H11N3	**WAKE ISLAND Hy**	**21.63**	**95**	T	T	18 38 24.2	
	baz=283						
WRA	**Warramunga Arr**	**43.94**	**193**	P	**P**	**18 19 20.4**	**-1.1**
	0.2nm,0.5s,baz=14,slow=8.1,SNR=1.5						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**53.47**	**321**	P	**P**	**18 20 34.0**	**-0.5**
	0.7nm,0.5s,baz=108,slow=4.7,SNR=3.5						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**54.20**	**312**	P	**P**	**18 20 40.9**	**+0.8**
	1.0nm,0.7s,baz=92,slow=7.9,SNR=6.1						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**56.91**	**316**	P	**P**	**18 20 59.1**	**-0.3**
	0.5nm,0.2s,baz=94,slow=7.7,SNR=1.9						
	0.5nm,0.2s						
ILAR	**Eielson Array**	**60.34**	**27**	P	**P**	**18 21 22.2**	**-0.9**
	0.5nm,0.8s,baz=261,slow=6.2,SNR=2.9						
ILAR				LR	LR	18 44 33.3	
	comp=Z,29nm,21.0s,baz=196,slow=33						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**61.98**	**319**	P	**P**	**18 21 34.5**	**+0.1**
	1.5nm,0.7s,baz=89,slow=7.6,SNR=6.1						
	1.5nm,0.7s						
YKA	**Yellowknife Ar**	**74.76**	**28**	P	**P**	**18 22 55.5**	**+1.3**
	0.3nm,0.7s,baz=291,slow=5.8,SNR=5.2						
	0.3nm,0.7s						
KBZ	**Khabaz**	**81.83**	**314**	P	**P**	**18 23 34.5**	**+0.9**
	1.9nm,0.9s,baz=73,slow=4.3,SNR=3.7						
	1.9nm,0.9s						
DBIC	**Dimbokro**	**137.43**	**311**	PKP	**PKPdf**	**18 30 38.2**	**-0.9**
	1.1nm,0.5s,baz=90,slow=5.1,SNR=3.1						

IDC 03 18:11:38.6±4.4,17°.94S×178°.38W, h527km±24km, mb3.1/3, mbtmp4.0/4, Error ellipse: s-maj=132.0km s-min=62.0km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.41**	**273**	P	P	18 12 54.5	-0.1
	33nm,0.7s,baz=119,slow=12,SNR=22						
STKA	**Stephens Creek**	**38.64**	**241**	P	P	18 18 17.8	+1.0
	1.4nm,0.5s,baz=63,slow=9.0,SNR=1.9						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**44.66**	**260**	P	P	18 19 03.6	-1.0
	0.6nm,0.7s,baz=97,slow=8.2,SNR=8.0						
WRA				PcP	PcP	18 20 35.6	-0.4
	0.4nm,0.6s,baz=98,slow=3.2,SNR=2.0						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**44.81**	**254**	P	P	18 19 05.8	0.0
	6.0nm,0.6s,baz=94,slow=7.6,SNR=136						
ASAR				PcP	PcP	18 20 36.1	-0.4
	0.3nm,0.4s,baz=96,slow=3.5,SNR=5.7						
	6.0nm,0.6s						

*SJA **03** 18:12:37.9±0.8,32°.89S×70°.37W, h107km±4km, ML3.7, MW3.8*
*NEIC **03** 18:12:38.5±1.0,32°.84S±0°.05×70°.37W±0°.06, h106km±6km, ML4.1/52, Error ellipse: s-maj=7.6km s-min=7.0km az=199.0*
*IDC **03** 18:12:39.3±4.9,33°.02S×70°.19W, h99km±37km, mb3.2/2, mbtmp3.6/4, Error ellipse: s-maj=46.4km s-min=40.0km az=22.0*
*GUC **03** 18:12:39.6±0.6,32°.89S×70°.39W, h97km±2km, ML4.1*
ISC 03 18:12:39.5±0.7,32°.89S±0°.03×70°.37W±0°.03, h101km±5km, n95, σ0§72/115, 7C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.20**	**308**	Pn	**Pn**	**18 12 53.5**	**-0.4**
VA03				Sn	**Sn**	**18 13 04.4**	**-0.3**
VA03	**San Esteban**	**0.20**	**308**	*e*S	**Sn**	**18 13 04.6**	**-0.1**
PEL	**Peldehue**	**0.37**	**226**	Pn	**Pn**	**18 12 54.2**	**-0.5**
PEL				Sn	**Sn**	**18 13 05.5**	**-0.5**
PEL				IAML		18 13 06.5	
	comp=N,9μm,0.2s						
PEL	**Peldehue**	**0.37**	**226**	*i* P	**Pn**	**18 12 54.4**	**-0.2**
PEL				*i* S	**Sn**	**18 13 05.8**	**-0.1**
PEL				IAML		18 13 06.2	
	comp=E,30μm,0.3s						
MT10	**Hacienda Santa**	**0.41**	**200**	*i* P	**Pn**	**18 12 55.0**	**0.0**
MT10				*e*S	**Sn**	**18 13 06.8**	**+0.2**
MT10				IAML		18 13 09.0	
	comp=N,23μm,0.2s						
FCH	**Farellones**	**0.45**	**172**	*e*P	**Pn**	**18 12 55.2**	**-0.2**
FCH				*e*S	**Sn**	**18 13 07.6**	**+0.3**
FCH				IAML		18 13 08.2	
	comp=N,11μm,0.3s						
MT14	**Cerro Calıın**	**0.53**	**195**	*i* P	**Pn**	**18 12 55.7**	**0.0**
MT14				*e*S	**Sn**	**18 13 07.9**	**+0.1**
ROCH	**El Roble**	**0.55**	**261**	⇑*i* P	**Pn**	**18 12 55.9**	**-0.1**
ROCH				*e*S	**Sn**	**18 13 08.5**	**+0.1**
ROCH				IAML		18 13 09.2	
	comp=E,8μm,0.4s						
MT04	**Ro Olivares**	**0.55**	**159**	*i* P	**Pn**	**18 12 55.8**	**-0.3**
MT04				*e*S	**Sn**	**18 13 08.6**	**+0.2**
MT04	**Ro Olivares**	**0.55**	**159**	⇑*i* P	**Pn**	**18 12 56.3**	**+0.2**
MT04				⇓*i* S	**Sn**	**18 13 09.1**	**+0.6**
MT04				IAML		18 13 14.6	
	comp=Z,2μm,0.2s						
MT16	**CCHEN**	**0.56**	**193**	Pn	**Pn**	**18 12 55.7**	**-0.2**
MT16				Sn	**Sn**	**18 13 08.1**	**-0.1**
MT16				IAML		18 13 09.4	
	comp=E,3μm,0.2s						
MT16	**CCHEN**	**0.56**	**193**	*i* P	**Pn**	**18 12 55.8**	**-0.1**
MT16				*e*S	**Sn**	**18 13 08.1**	**-0.1**
MT05	**Renca**	**0.59**	**211**	Sn	**Sn**	**18 13 09.1**	**+0.5**
MT05	**Renca**	**0.59**	**211**	*i* P	**Pn**	**18 12 56.2**	**+0.1**
MT05	**Renca**	**0.59**	**211**	⇑*i* P	**Pn**	**18 12 55.9**	**-0.3**
MT05				IAML		18 13 09.6	
	comp=Z,9μm,0.3s						
MT05				*i* S	**Sn**	**18 13 09.7**	**+1.1**
MT03	**Universidad Ad**	**0.62**	**191**	Pn	**Pn**	**18 12 56.3**	**-0.1**
MT03				Sn	**Sn**	**18 13 09.5**	**+0.4**
MT03	**Universidad Ad**	**0.62**	**191**	*e*P	**Pn**	**18 12 56.3**	**-0.1**
MT03				IAML		18 13 10.7	
	comp=E,22μm,0.2s						
MT08	**Bocatoma Ro**	**0.63**	**152**	Pn	**Pn

comp=N,14μm,0.2s
MT13 San Alfonso 0.86 175 ⇓iP Pn 18 12 58.2 -0.4
MT13 ⇓iS **Sn 18 13 13.3 +0.3**
MT13 IAML 18 13 15.4
comp=Z,3μm,0.2s
LMEL Las Melosas 0.97 172 Pn **Pn 18 12 60.0 +0.1**
LMEL IAML 18 13 19.3
comp=E,3μm,0.4s
LMEL IAML 18 13 19.5
comp=N,4μm,0.2s
LMEL Las Melosas 0.97 172⇑eP Pn 18 13 00.1 +0.2
LMEL eS **Sn 18 13 15.8 +0.7**
LMEL IAML 18 13 19.5
comp=N,4μm,0.1s
MT09 Talagante 1.03 210 Pn **Pn 18 13 00.3 -0.2**
MT09 IAML 18 13 17.5
comp=N,4μm,0.4s
MT09 IAML 18 13 18.8
comp=E,5μm,0.3s
MT09 Talagante 1.03 210 eP **Pn 18 13 00.3 -0.2**
MT09 eS **Sn 18 13 16.3 0.0**
MT09 IAML 18 13 17.8
comp=N,4μm,0.2s
VA01 Torpederas 1.08 262 Pn **Pn 18 13 00.6 -0.2**
VA01 IAML 18 13 20.0
comp=N,3μm,0.2s
VA01 IAML 18 13 23.0
comp=E,4μm,0.1s
VA01 Torpederas 1.08 262⇑eP Pn 18 13 00.7 -0.1
VA01 iS **Sn 18 13 16.6 -0.4**
VA01 Torpederas 1.08 262⇓iP Pn 18 13 00.9 +0.1
VA01 iS **Sn 18 13 17.0 +0.1**
VA01 IAML 18 13 18.4
comp=Z,1μm,0.3s
BO04 La Punta 1.12 190 Pn **Pn 18 13 01.3 0.0**
BO04 IAML 18 13 19.0
comp=N,2μm,0.5s
BO04 IAML 18 13 19.8
comp=E,3μm,0.2s
BO04 La Punta 1.12 190 eP **Pn 18 13 01.6 +0.2**
BO04 IAML 18 13 19.9
comp=E,3μm,0.2s
ARCO CERRO ARCO 1.21 88⇓iP Pn 18 13 02.1 -0.4
ARCO IAML 18 13 23.7
comp=Z,729nm,0.9s
MT01 Popeta 1.22 217 Pn **Pn 18 13 02.0 -0.4**
MT01 IAML 18 13 20.3
comp=N,2μm,0.2s
MT01 IAML 18 13 20.8
comp=E,2μm,0.3s
MT01 Popeta 1.22 217 eP **Pn 18 13 02.2 -0.3**
MT01 eS **Sn 18 13 19.5 -0.4**
MT01 IAML 18 13 20.3
comp=N,3μm,0.2s
VA05 Santo Domingo 1.30 233 Pn **Pn 18 13 03.4 +0.1**
VA05 IAML 18 13 28.8
comp=N,3μm,0.4s
VA05 Santo Domingo 1.30 233 eP **Pn 18 13 03.4 +0.1**
VA05 eS **Sn 18 13 21.6 +0.3**
VA05 IAML 18 13 25.7
comp=E,4μm,0.2s
AAGR Agrelo 1.31 99⇓iP Pn 18 13 03.3 -0.3
AAGR iS **Sn 18 13 22.4 +0.6**
AAGR IAML 18 13 25.0
comp=Z,922nm,1.2s
ASAL Salagasta 1.33 78 iP **Pn 18 13 03.3 -0.5**
ASAL iS **Sn 18 13 22.9 +0.8**
ASAL IAML 18 13 25.6
comp=Z,728nm,1.0s
RTLS Leoncito 1.41 40⇓iP Pn 18 13 05.6 +0.6
RTLS iS **Sn 18 13 25.5 +1.2**
RTLS IAML 18 13 26.9
comp=Z,694nm,0.5s
BO01 Tunca 1.62 201 Pn **Pn 18 13 06.8 -0.4**
BO01 Tunca 1.62 201 eP **Pn 18 13 06.9 -0.3**
BO01 eS **Sn 18 13 28.5 +0.2**
BO02 Sierra Bellavi 1.93 190 Pn **Pn 18 13 11.3 0.0**
BO02 IAML 18 13 39.3
comp=N,1μm,0.3s
BO02 Sierra Bellavi 1.93 190 iP **Pn 18 13 11.6 +0.3**
BO02 iS **Sn 18 13 35.6 +0.1**
BO02 IAML 18 13 43.5
comp=Z,650nm,0.2s
ZON Zonda 1.96 47 Pn **Pn 18 13 11.5 -0.1**
SJA San Juan 2.04 49 IAML 18 13 24.7
comp=Z,172nm,0.6s
CO03 El Pedregal 2.06 352 Pn **Pn 18 13 13.4 +0.5**
CO03 IAML 18 13 42.3
comp=N,2μm,0.2s
CO03 El Pedregal 2.06 352⇑iP Pn 18 13 13.6 +0.7
CO03 eS **Sn 18 13 39.1 +0.6**
CO03 IAML 18 13 41.9
comp=E,2μm,0.2s
CO03 El Pedregal 2.06 352⇓iP Pn 18 13 13.7 +0.8
CO03 IAML 18 13 42.3
comp=Z,1μm,0.1s
CFA Coronel Fontan 2.21 55 P **Pn 18 13 14.7 -0.2**
comp=Z,12nm,0.3s,baz=232,slow=14,SNR=122
CFA S **Sn 18 13 41.3 -0.7**
comp=Z,36nm,0.3s,baz=319,slow=19,SNR=31
CFA Coronel Fontan 2.21 55 iP **Pn 18 13 14.6 -0.3**
CFA IAML 18 13 43.2
comp=Z,227nm,1.0s
CO06 Fray Jorge 2.45 334 Pn **Pn 18 13 18.1 +0.1**
CO06 IAML 18 13 55.3
comp=N,568nm,0.5s
CO06 IAML 18 13 55.9
comp=E,646nm,0.4s
CO06 Fray Jorge 2.45 334 eP **Pn 18 13 18.3 +0.3**
CO06 IAML 18 13 57.5
comp=E,660nm,0.3s
GO04 Tololo Observa 2.73 352 Pn **Pn 18 13 21.7 -0.2**
AROD Rodeo 2.81 16 iP **Pn 18 13 23.4 +0.3**
ACDV Cuesta del Vie 2.91 22 iP **Pn 18 13 24.2 0.0**
ACDV iS **Sn 18 13 58.6 0.0**
ACDV IAML 18 13 59.1
comp=Z,97nm,0.5s
CO01 Juntas del Tor 2.91 5 Pn **Pn 18 13 25.1 +0.8**
ML02 Panimavida 3.00 197 Pn **Pn 18 13 24.5 -0.7**
ML02 IAML 18 14 24.8
comp=E,410nm,0.6s
ML02 IAML 18 14 28.6
comp=N,448nm,0.6s
AVFE Valle Fertil 3.33 49 IAML 18 14 07.9
comp=Z,90nm,0.7s
ACHE Chepes 3.59 62 iP **Pn 18 13 32.7 -0.5**
ACHE iS **Sn 18 14 14.0 -0.8**
AGUA GUANDACOL 3.75 26 iP **Pn 18 13 35.5 +0.1**
AGUA IAML 18 14 25.9
comp=Z,101nm,0.2s
BI02 San Fabin de 3.84 191 Pn **Pn 18 13 36.0 -0.6**
BI02 San Fabin de 3.84 191 IAML 18 14 30.8
comp=Z,41nm,1.4s
AC05 El Transito 4.04 1⇓iP Pn 18 13 39.3 0.0
AC05 IAML 18 14 34.1
comp=Z,94nm,0.5s
BI05 Punta Hualpn 4.50 210 Pn **Pn 18 13 43.3 -2.0**
ACLC CERRO LA CRUZ 4.52 41 IAML 18 14 57.9
comp=Z,29nm,1.0s
VCA Vinchina 4.54 25 IAML 18 15 20.1
comp=Z,118nm,0.7s
AC04 Llanos de Chal 4.70 352 Pn **Pn 18 13 47.5 -0.7**
AC04 IAML 18 14 58.2
comp=N,125nm,0.5s
AC04 IAML 18 15 00.4
comp=E,144nm,0.7s
TCA Tanti 5.14 74 IAML 18 15 04.9
comp=Z,31nm,1.2s
GO03 Copiapo 5.28 1 Pn **Pn 18 13 54.7 -1.3**
GO03 IAML 18 15 15.8
comp=N,72nm,0.6s
GO03 IAML 18 15 38.1
comp=E,75nm,0.7s
AC06 Mina Casimiro 5.51 0 Pn **Pn 18 13 57.5 -1.7**
AC01 Pan de Azucar 6.72 358 Pn **Pn 18 14 12.1 -3.4**
H03N1 Juan Fernandez 7.18 263 T T 18 21 13.3
baz=86,slow=73,SNR=136
H03N3 Juan Fernandez 7.20 263 T T 18 21 20.5
baz=86,slow=73,SNR=175
H03N2 Juan Fernandez 7.20 263 T T 18 21 15.4
baz=86,slow=73,SNR=104
H03S1 Juan Fernandez 7.21 260 T T 18 20 49.5
baz=84,slow=75,SNR=4.9
H03S3 Juan Fernandez 7.21 260 T T 18 20 51.8
baz=84,slow=75,SNR=5.7
H03S2 Juan Fernandez 7.22 260 T T 18 20 51.4
baz=84,slow=75,SNR=8.1
GO02 Mina Guanaco 7.72 5 Pn **Pn 18 14 26.0 -3.5**
TRQA Tornquist 8.57 129 Pn **Pn 18 14 39.5 -1.2**
LPAZ La Paz 16.65 8 P **P 18 16 29.2 +1.1**
comp=E,1.1nm,0.5s,baz=176,slow=3.8,SNR=4.6
TXAR Lajitas Array 69.47 329 P **P 18 23 38.4 +1.4**
comp=E,0.4nm,0.5s,baz=164,slow=5.1,SNR=3.9
comp=E,0.4nm,0.5s
PDAR Pinedale Array 83.42 332 P **P 18 24 56.1 +0.5**
comp=E,0.2nm,0.5s,baz=138,slow=6.7,SNR=2.2
comp=E,0.2nm,0.5s
ASAR Alice Springs 119.18 206 PKP **PKiKP 18 31 16.8 -0.5**
comp=E,0.4nm,1.0s,baz=125,slow=1.9,SNR=1.4
WRA Warramunga Arr 122.40 208 PKP **PKiKP 18 31 23.1 -0.5**
comp=E,0.2nm,0.6s,baz=143,slow=1.8,SNR=6.2
H11S2 WAKE ISLAND Hyl27.18 269 T T 20 51 07.2
baz=118,slow=75,SNR=7.6
H11S1 WAKE ISLAND Hyl27.20 269 T T 20 51 09.0
baz=118,slow=75,SNR=11
H11S3 WAKE ISLAND Hyl27.20 269 T T 20 51 08.4
baz=118,slow=75,SNR=9.0
BVAR Borovoye Array 145.52 42 PKPbc **PKPab 18 32 06.3 +0.4**
comp=E,1.4nm,0.6s,baz=303,slow=2.9,SNR=11
KURBB Kurchatov Arra 151.10 43 PKPbc **PKiKP 18 32 21.1 +0.3**
comp=E,0.7nm,0.4s,baz=300,slow=3.5,SNR=1.3
ZALV Zalesovo Beam 152.54 33 PKPbc **PKiKP 18 32 23.3 -0.3**
comp=E,1.7nm,0.3s,baz=309,slow=3.0,SNR=9.2
MKAR Makanchi Array 154.98 48 PKPbc **PKPbc 18 32 27.3 -1.7**
comp=E,0.2nm,0.6s,baz=288,slow=1.4,SNR=2.0
MKAR PKPab **PKPab 18 32 43.6 -1.3**
comp=E,0.1nm,0.5s,baz=292,slow=0.8,SNR=1.7

IDC 03 18:35:38.1±2.1, 8°.15S×127°.75E, h0km, mb3.1/1, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=71.3km s-min=27.5km az=77.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.10**	**192**	Pn	Pn	18 38 05.7	+1.2
FITZ	0.1nm,0.3s,baz=16,slow=12,SNR=1.4			Sn	Sn	18 39 58.0	-0.7
	0.2nm,0.3s,baz=346,slow=8.3,SNR=1.5						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**13.35**	**152**	Pn	Pn	18 38 49.3	+0.2
WRA	0.3nm,0.3s,baz=329,slow=11,SNR=14			Sn	Sn	18 41 13.1	-5.2
	0.2nm,0.3s,baz=326,slow=23,SNR=10						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**16.52**	**160**	Pn	Pn	18 39 30.9	-0.5
ASAR	0.1nm,0.3s,baz=339,slow=11,SNR=24			Sn	Sn	18 42 32.5	-3.1
	0.1nm,0.3s,baz=349,slow=32,SNR=5.0						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**67.99**	**328**	P	P	18 46 39.1	-0.1
	0.1nm,0.5s,baz=134,slow=8.3,SNR=1.3						
	0.1nm,0.5s						

MRB 03 18:39:09.1±0.4, 42°.35N×1°.32E, ML-0.7/3, Error ellipse: s-maj=5.2km s-min=1.3km az=92.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORG	**Organya**	**0.12**	**181**	P	Pg	18 39 11.5	+0.2
CORG				S	Sg	18 39 13.3	+0.6
	2.3nm,0.1s						
ARBS	**La Rabassa**	**0.20**	**59**	P	Pg	18 39 12.8	0.0
ARBS				S	Sg	18 39 15.6	+0.2
	1.2nm,0.4s						
CEST	**Esterri de Car**	**0.26**	**349**	P	Pg	18 39 14.5	+0.4
CEST				S	Sg	18 39 18.1	+0.6
	1.0nm,0.2s						

STR 03 18:39:18.2±0.4, 43°.N±4°×°±°, h5km, MLv1.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=26.4, preliminary, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAF	**Chalets d'Irat**	**0.09**	**231**	Pg	Pg	18 39 20.2	-0.1
IRAF				Sg	Sg	18 39 22.0	+0.4
ORDF	**Ordiarp**	**0.12**	**2**	Pg	Pg	18 39 20.8	+0.1
ORDF				Sg	Sg	18 39 22.8	+0.4
ATE	**Arette**	**0.18**	**92**	Pg	Pg	18 39 21.6	-0.1
ATE				Sg	Sg	18 39 24.2	+0.1
OSSF	**Osses**	**0.29**	**305**	Pg	Pg	18 39 23.8	0.0
OSSF				Sg	Sg	18 39 27.5	-0.1
REYF	**Montagne du Re**	**0.40**	**93**	Pg	Pg	18 39 25.7	-0.3
REYF				Sg	Sg	18 39 31.4	+0.1
EALK	**Alkurruntz**	**0.43**	**287**	Pg	Pg	18 39 26.5	-0.1
EALK				Sg	Sg	18 39 32.4	+0.1
CANF	**Canfranc**	**0.45**	**136**	Pg	Pg	18 39 26.6	-0.3
CANF				Sg	Sg	18 39 32.8	0.0
TERF	**Tercis-les-Bai**	**0.60**	**348**	Pg	Pg	18 39 29.5	-0.3
ECHI	**Chisagues Biel**	**0.94**	**117**	Pg	Pg	18 39 35.8	-0.3
ECHI				Sg	Sg	18 39 48.8	+0.5

*NNC **03** 18:47:53.1±0.5, 42°.91N×78°.64E, h2km±2km, mb3.0, mpv3.0, Error ellipse: s-maj=5.0km s-min=1.9km az=177.0*
*KRNET **03** 18:47:53.6±0.1, 42°.90N×78°.59E, h21km, mb2.8*
*SOME **03** 18:47:54.2, 42°.92N×78°.53E, h15km*
ISC 03 18:47:53.9±1.0, 42°.89N±0°.02×78°.56E±0°.02, h7km±8km, n45, σ1°.12/82, 10C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.21**	**327**	P	**Pg**	**18 47 58.4**	**+0.3**
SATY	28nm,0.1s			S	**Sg**	**18 48 01.8**	**+0.8**
	551nm,0.1s						
SATY	**Saty**	**0.21**	**327**	eP	**Pg**	**18 47 58.4**	**+0.3**
SATY				eS	**Sg**	**18 48 01.8**	**+0.8**
ZHN	**Zhinishke**	**0.30**	**342**	P	**Pg**	**18 47 59.9**	**0.0**
ZHN	33nm,0.1s			S	**Sg**	**18 48 04.2**	**+0.4**
	391nm,0.2s						
ZHN	**Zhinishke**	**0.30**	**342**	eP	**Pg**	**18 47 59.9**	**0.0**
ZHN				eS	**Sg**	**18 48 04.3**	**+0.4**
ZHN	**Zhinishke**	**0.30**	**342**	eP	**Pg**	**18 47 59.9**	**0.0**
ZHN	33nm,0.1s			eS	**Sg**	**18 48 04.2**	**+0.4**
	391nm,0.2s						
PRZ	**Przheval'sk**	**0.42**	**197**	⇓iP	**Pg**	**18 48 02.5**	**+0.4**
PRZ				⇓iS	**Sg**	**18 48 08.6**	**+1.0**
UZB	**Uzynbulak**	**0.43**	**52**	P	**Pg**	**18 48 01.3**	**-0.9**
UZB	20nm,0.1s			S	**Sg**	**18 48 06.7**	**-1.1**
	186nm,0.1s						
UZB	**Uzynbulak**	**0.43**	**52**	eP	**Pg**	**18 48 01.3**	**-0.9**
UZB	20nm,0.1s			eS	**Sg**	**18 48 06.7**	**-1.1**
	186nm,0.1s						
ANVS	**Anan'yevo**	**0.67**	**262**	⇑iP	**Pb**	**18 48 07.6**	**-0.4**
ANVS				⇑iS	**Sb**	**18 48 16.6**	**-0.9**
KURS	**Kuram**	**0.67**	**335**	P	**Pg**	**18 48 06.5**	**-0.3**
KURS	7.2nm,0.1s			S	**Sg**	**18 48 15.5**	**0.0**
	8.3nm,0.2s						
KURS	**Kuram**	**0.67**	**335**	eP	**Pg**	**18 48 06.5**	**-0.3**
KURS				eS	**Sg**	**18 48 15.5**	**0.0**
SHLS	**Shalkode**	**0.71**	**67**	P	**Pn**	**18 48 12.0**	**+1.5**
SHLS	2.2nm,0.1s			S	**Sn**	**18 48 25.1**	**+3.3**
	9.8nm,0.1s						
SHLS	**Shalkode**	**0.71**	**67**	eP	**Pn**	**18 48 12.1**	**+1.5**
SHLS				eS	**Sn**	**18 48 25.2**	**+3.3**
SHLS	**Shalkode**	**0.71**	**67**	eP	**Pn**	**18 48 12.1**	**+1.5**
SHLS	2.2nm,0.1s			eS	**Sn**	**18 48 25.1**	**+3.3**
	9.8nm,0.1s						
PDGK	**Podgornoye**	**0.81**	**57**	⇑P	**Pg**	**18 48 07.5**	**-2.0**
PDGK	1.0nm,0.4s			⇑S	**Sg**	**18 48 17.7**	**-2.4**
	13nm,0.7s						
MDOK	**Medeo**	**1.15**	**285**	P	**Pg**	**18 48 15.3**	**-0.6**
MDOK	0.3nm,0.2s			Pg	**Pg**	**18 48 15.4**	**-0.6**
	0.7nm,0.2s						
MDOK				Lg	Lg	18 48 30.6	
	3.9nm,0.2s						
MDOK				S	**Sn**	**18 48 32.5**	**0.0**
	3.3nm,0.5s						
MDOK	**Medeo**	**1.15**	**285**	eP	**Pg**	**18 48 15.4**	**-0.5**
MDOK				eS	**Sg**	**18 48 30.7**	**0.0**
TNSS	**Tian-Shan**	**1.20**	**278**	P	**Pg**	**18 48 16.6**	**-0.3**
TNSS	0.9nm,0.1s			S	**Sb**	**18 48 32.9**	**-0.1**
	2.2nm,0.2s						
TNSS	**Tian-Shan**	**1.20**	**278**	eP	**Pg**	**18 48 16.6**	**-0.3**
TNSS				eS	**Sb**	**18 48 32.9**	**-0.1**
TNSS	**Tian-Shan**	**1.20**	**278**	eP	**Pg**	**18 48 16.6**	**-0.3**
TNSS	0.9nm,0.1s			eS	**Sb**	**18 48 32.9**	**-0.1**
	2.2nm,0.2s						
KDJ	**Kajisay**	**1.27**	**234**	⇓iP	**Pn**	**18 48 17.5**	**-0.7**
KDJ				⇓iS	**Sb**	**18 48 34.2**	**-0.7**
TARG	**Taragay, Kyrgy**	**1.28**	**206**	⇑iP	**Pn**	**18 48 17.5**	**-1.1**
TARG				⇑iS	**Sb**	**18 48 34.8**	**-0.7**
ARXS	**Arharly**	**1.43**	**338**	P	**Pn**	**18 48 20.0**	**-0.4**
ARXS	5.5nm,0.1s			S	**Sn**	**18 48 38.7**	**-0.8**
	15nm,0.2s						
CHKK	**Chushkaly**	**1.50**	**311**	P	**Pb**	**18 48 21.5**	**-0.6**
CHKK	4.4nm,0.2s			S	**Sb**	**18 48 41.2**	**-0.2**
	24nm,0.2s						
CHKK	**Chushkaly**	**1.50**	**311**	eP	**Pb**	**18 48 21.5**	**-0.6**
CHKK				eS	**Sb**	**18 48 41.2**	**-0.2**
CHKK	**Chushkaly**	**1.50**	**311**	eP	**Pb**	**18 48 21.5**	**-0.6**
CHKK	4.4nm,0.2s			eS	**Sb**	**18 48 41.2**	**-0.2**
	24nm,0.2s						
MTBS	**Maitube**	**1.58**	**280**	P	**Pg**	**18 48 24.2**	**-0.1**
MTBS	1.9nm,0.2s			S	**Sg**	**18 48 45.8**	**+1.0**
	5.5nm,0.2s						
MTBS	**Maitube**	**1.58**	**280**	eP	**Pg**	**18 48 24.2**	**-0.1**
MTBS	1.9nm,0.2s			eS	**Sg**	**18 48 45.8**	**+1.0**
	5.5nm,0.2s						
KTBS	**Karatobe**	**1.60**	**302**	P	**Pb**	**18 48 23.4**	**-0.4**
KTBS	8.6nm,0.1s			S	**Sb**	**18 48 44.5**	**+0.1**
	16nm,0.3s						
KTBS	**Karatobe**	**1.60**	**302**	eP	**Pb**	**18 48 23.4**	**-0.4**
KTBS				eS	**Sb**	**18 48 44.4**	**+0.1**
DJR	**Jarkent**	**1.70**	**31**	P	**Pn**	**18 48 24.0**	**-0.1**
DJR	3.6nm,0.2s			S	**Sn**	**18 48 45.5**	**-0.6**
	18nm,0.2s						
DJR	**Jarkent**	**1.70**	**31**	eP	**Pn**	**18 48 24.0**	**-0.1**
DJR	3.6nm,0.2s			eS	**Sn**	**18 48 45.5**	**-0.6**
	18nm,0.2s						
ULHL	**Ulahol**	**1.83**	**250**	⇑iP	**Pb**	**18 48 26.7**	**-1.1**
ULHL				⇑iS	**Sb**	**18 48 51.2**	**+0.2**
KST	**Kastek**	**1.92**	**276**	Pg	**Pb**	**18 48 29.6**	**+0.4**
KST	1.3nm,0.1s			Lg	Lg	18 48 55.1	
	4.0nm,0.2s						
KST	**Kastek**	**1.92**	**276**	eP	**Pb**	**18 48 29.6**	**+0.4**
KST	1.3nm,0.1s			eS	**Sg**	**18 48 55.1**	**-0.3**
	4.0nm,0.2s						
BOOM	**Boomskoye usch**	**1.97**	**259**	⇓iP	**Pn**	**18 48 28.5**	**+0.6**
BOOM				⇓iS	**Sb**	**18 48 54.5**	**-0.6**
DGS	**Degeres**	**2.08**	**281**	Pg	**Pb**	**18 48 31.8**	**-0.2**
DGS	2.9nm,0.3s			Lg	Lg	18 48 58.8	
	13nm,0.5s						
TKM2	**Tokmak 2**	**2.18**	**272**	⇓Pn	**Pn**	**18 48 30.1**	**-0.6**
TKM2	5.2nm,0.4s			⇑Sn	**Sb**	**18 49 01.5**	**+0.4**
	10nm,0.6s						
TKM2	**Tokmak 2**	**2.18**	**272**	⇓iP	**Pn**	**18 48 31.6**	**+0.8**
TKM2				⇓iS	**Sb**	**18 48 59.5**	**-1.6**
KRBS	**Karabastau**	**2.26**	**292**	Pg	**Pb**	**18 48 35.0**	**0.0**
KRBS	0.5nm,0.1s			Lg	Lg	18 49 04.3	
	9.9nm,0.2s						
SGDS	**Sogindy**	**2.93**	**282**	Pg	**Pb**	**18 48 47.2**	**+0.7**
SGDS	0.7nm,0.2s			Lg	Lg	18 49 25.2	
	3.3nm,0.4s						
AAK	**Ala-Archa**	**3.01**	**267**	⇑Lg	Lg	18 49 30.5	
	3.3nm,0.9s						
MRKS	**Merke**	**3.93**	**270**	Pg	**Pb**	**18 49 04.9**	**+1.4**
MRKS	0.2nm,0.1s			Lg	Lg	18 49 55.7	
	0.8nm,0.2s						
MRKS	**Merke**	**3.93**	**270**	eP	**Pb**	**18 49 04.9**	**+1.4**
MRKS	0.2nm,0.1s			eS	**Sg**	**18 49 55.7**	**-4.4**
	0.8nm,0.2s						
MK31	**Makanchi Array**	**4.72**	**33**	⇓Lg	Lg	18 50 19.9	
	0.3nm,0.6s,baz=212,slow=29,SNR=4.5						

SSNC 03 18:49:39.5±4.8, 19°.10N×83°.46W, h34km±597km, ML3.5, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBCY	**The Bluff, Cay**	**3.55**	**79**	eP	Pn	18 50 31.0	-1.2
CBCY				eS	Sn	18 51 07.2	-5.8
CBCY				IAML		18 51 15.0	
	comp=N,79nm,0.4s						
CBCY				IAML		18 51 15.2	
	comp=E,50nm,0.4s						
SOR	**Soroa**	**3.70**	**6**	eP	Pn	18 50 33.3	-1.0
CAIB	**Caibarien**	**5.03**	**47**	eP	Pn	18 50 54.3	+1.7
CAIB				eS	Sn	18 51 43.9	-5.6
PILO	**Pilon**	**5.76**	**81**	eP	Pn	18 51 01.0	-1.7
PILO				iS	Sn	18 52 07.0	-0.8
STH	**Stony Hill**	**6.39**	**98**	eP	Pn	18 51 09.6	-1.7
CHIV	**Chivirico**	**6.70**	**81**	eP	Pn	18 51 15.7	+0.2

*NEIC **03** 18:50:10.8±2.5, 45°.10N±0°.06×106°.6W±0°.1, h0km±1km, ML2.8/40, Error ellipse: s-maj=15.0km s-min=9.6km az=261.0*
*IDC **03** 18:50:11.1±1.3, 45°.14N×106°.99W, h0km, mbtmp3.2/3, ML2.0/2, Error ellipse: s-maj=49.4km s-min=9.8km az=136.0*
ISC 03 18:50:09.3±1.1, 44°.88N±0°.06×106°.80W±0°.06, h0km, n26, σ1°.16/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLMT	**Red Lodge**	**1.77**	**279**		**Pg**	**18 50 44.1**	**+1.0**
LAO	**LASA Array**	**1.85**	**12**		**Pn**	**18 50 41.1**	**-1.3**
LAO				IAML		18 51 08.3	
	113nm,1.1s						
LAO				IAML		18 51 15.9	
	152nm,0.8s						
K22A	**Casper**	**2.24**	**175**		**Pg**	**18 50 51.7**	**-0.6**
K22A				IAML		18 51 29.1	
	35nm,0.5s						
K22A				IAML		18 51 30.4	
	62nm,0.5s						
YNE	**Yellowstone No**	**2.28**	**274**	Pn	**Pb**	**18 50 51.5**	**0.0**
YNE				IAML		18 51 25.1	
	comp=E,56nm,0.6s						
YNE				IAML		18 51 27.2	
	comp=N,74nm,0.6s						
YMP	**Mirror Lake Pl**	**2.39**	**268**	Pn	**Pb**	**18 50 53.0**	**-0.4**
H17A	**Grant Village**	**2.74**	**261**		**Pb**	**18 50 59.0**	**-0.3**
H17A				IAML		18 51 49.6	
	comp=N,22nm,2.5s						
YNR	**Norris Junctio**	**2.77**	**268**	Pn	**Pg**	**18 51 00.9**	**-1.4**
YNR				IAML		18 51 45.9	
	comp=E,21nm,0.5s						
YHH	**Holmes Hill**	**2.88**	**270**		**Pb**	**18 51 01.3**	**-0.5**
BW06	**Boulder Array**	**2.91**	**224**	Pn	**Pg**	**18 51 04.2**	**-0.9**
BW06				IAML		18 51 50.9	
	comp=E,21nm,2.0s						
BW06				IAML		18 51 58.0	
	comp=E,22nm,3.5s						
PD31	**Pinedale Array**	**2.91**	**224**		**Pg**	**18 51 03.6**	**-1.5**
PDAR	**Pinedale Array**	**2.91**	**224**		**Pg**	**18 51 03.8**	**-1.3**
PDAR	**Pinedale Array**	**2.91**	**224**	Pn	**Pg**	**18 51 04.1**	**-0.9**
	comp=E,1.9nm,0.3s,baz=42,slow=18,SNR=41						
PDAR				Lg		18 51 43.3	
	comp=E,0.8nm,0.3s,baz=42,slow=28,SNR=4.3						
YFT	**Old Faithful**	**2.91**	**263**	Pn	**Pg**	**18 51 03.2**	**-1.9**
YFT				IAML		18 52 59.0	
	comp=N,22nm,2.8s						

YMR Madison River 2.97 267 Pg 18 51 04.9 -1.4
YMR IAML 18 51 58.4
comp=E,40nm,1.1s
YMR IAML 18 52 15.4
comp=N,39nm,1.7s
LOHW Long Hollow 3.01 246 Pn **Pg 18 51 05.7 -1.3**
LOHW IAML 18 52 16.9
comp=N,18nm,2.7s
LOHW IAML 18 52 32.1
comp=N,17nm,4.0s
MOOW Moose Ponds 3.05 250 Pn **Pb 18 51 04.9 +0.3**
YHL Hebgen Lake 3.12 271 Pb 18 51 06.7 +1.0
YHL IAML 18 52 00.0
comp=N,32nm,1.9s
YHL IAML 18 52 03.4
comp=E,23nm,1.3s
YHB Horse Butte 3.13 269 Pn **Pb 18 51 05.9 0.0**
YHB IAML 18 52 03.0
comp=E,19nm,1.0s
YHB IAML 18 52 11.7
comp=N,21nm,1.0s
FXWY Fox Creek 3.28 249 Pg 18 51 10.9 -1.3
BOZ Bozeman (W) 3.48 284 Pn **Pb 18 51 12.8 +0.8**
BOZ IAML 18 52 11.7
comp=N,18nm,2.8s
EGMT Eagleton 3.75 328 Pn 18 51 07.6 -0.8
AHID Auburn Hatcher 3.76 237 Pn **Pg 18 51 19.9 -1.5**
DGMT Dagmar 4.01 26 Pn **Pn 18 51 12.6 +0.6**
ELK Elko 7.46 239 Pn **Pn 18 52 01.6 +2.0**
baz=57,slow=17,SNR=3.0
ELK Lg Lg 18 54 08.4
baz=72,slow=20,SNR=1.3
comp=N,0.4nm,0.3s
I10CA LAC DU BONNET 9.02 50 I I 19 43 20.0
comp=N,0.1nm,1.0s,baz=237,slow=240,SNR=1.2
ULM Lac du Bonnet 9.13 50 Pn **Pn 18 52 21.3 -0.8**
comp=N,0.3nm,0.3s,baz=233,slow=14,SNR=1.8
ULM Lg Lg 18 54 48.5
comp=N,0.1nm,0.3s,baz=191,slow=16,SNR=2.1
comp=N,0.7nm,0.3s

---

*IDC **03** 18:52:55.7±1.3, 34.°08N×24.°85E, h0km, mb4.0/10, mbtmp3.8/16, ML3.4/6, MS2.8/1, Error ellipse: s-maj=23.4km s-min=15.2km az=64.0*
*ISK **03** 18:53:01.9, 34.°38N×25.°13E, h18km, ML3.1/19*
*ATH **03** 18:53:01.7, 34.°32N×25.°13E, h12km±5km, ML3.3/13, Manual Solution by A.Andreou First location: 2019/04/03 18:54:09, This location: 2020/08/10 11:29:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 2 km*
*HLW **03** 18:53:08.9, 33.°87N×25.°44E, h23km±22km, Md4.2, Ml3.8*
*GII **03** 18:53:14.3±0.0, 36.°223N±0.°003×27.°688E±0.°001, h3km, Mws2.8, confirmed*
ISC 03 18:53:00.8±0.6, 34.°26N±0.°04×25.°16E±0.°04, h22km±4km, n98, σ2.9s25/97, mb3.9/10, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMBK	**Timbaki Herakl**	**0.88**	**338**	P	**Pb**	**18 53 17.3**	**0.0**
TMBK				S	**Sb**	**18 53 28.1**	**-0.4**
IACM	**Heraklion**	**1.05**	**356**	P	**Pn**	**18 53 20.7**	**+0.5**
IDI	**Anoyia**	**1.05**	**348**	Pg	**Pb**	**18 53 19.9**	**-0.5**
IDI				Sg	**Sb**	**18 53 33.9**	**+0.2**
IDI	**Anoyia**	**1.05**	**348**	Pg	**Pb**	**18 53 19.7**	**-0.6**
	61nm,0.3s,baz=164,slow=19,SNR=339						
IDI				Lg	Lg	18 53 34.8	
	62nm,0.3s,baz=252,slow=20,SNR=8.6						
IDI	**Anoyia**	**1.05**	**348**	P	**Pb**	**18 53 19.9**	**-0.5**
IDI				S	**Sb**	**18 53 34.2**	**+0.5**
GVD	**Gavdhos**	**1.06**	**303**	Pg	**Pn**	**18 53 20.7**	**+0.4**
GVD				Sg	**Sn**	**18 53 35.3**	**+0.9**
GVD	**Gavdhos**	**1.06**	**303**	P	**Pn**	**18 53 21.1**	**+0.7**
ZKR	**Zakros**	**1.22**	**45**	Pn	**Pb**	**18 53 23.8**	**+0.6**
ZKR				Sn	**Sn**	**18 53 39.3**	**+0.9**
ZKR	**Zakros**	**1.22**	**45**	P	**Pb**	**18 53 24.1**	**+1.0**
PRNS	**Prines Rethymn**	**1.23**	**334**	P	**Pn**	**18 53 23.0**	**+0.3**
IMMV	**Iera Moni Meta**	**1.54**	**321**	Pn	**Pb**	**18 53 27.9**	**-0.8**
IMMV				Sn	**Sn**	**18 53 46.4**	**0.0**
IMMV	**Iera Moni Meta**	**1.54**	**321**	P	**Pb**	**18 53 28.1**	**-0.6**
CHAN	**Chania**	**1.56**	**324**	P	**Pb**	**18 53 28.6**	**-0.3**
KARP	**Karpathos**	**2.09**	**51**	Pn	**Pn**	**18 53 36.5**	**+2.0**
KARP	**Karpathos**	**2.09**	**51**	P	**Pn**	**18 53 36.7**	**+2.2**
SAP3	**Santorini-Thir**	**2.18**	**4**	P	**Pn**	**18 53 37.5**	**+1.8**
ANKY	**Antikythira Is**	**2.21**	**317**	P	**Pn**	**18 53 37.8**	**+1.6**
MHLO	**Agia Marina, M**	**2.50**	**346**	P	**Pn**	**18 53 41.5**	**+1.2**
SLUM	**Salum**	**2.76**	**179**	P	**Pn**	**18 53 46.5**	**+2.8**
SLUM				S	**Sn**	**18 54 15.5**	**-0.8**
APE	**Apeiranthos**	**2.82**	**6**	Pn	**Pn**	**18 53 45.7**	**+1.0**
APE	**Apeiranthos**	**2.82**	**6**	P	**Pn**	**18 53 45.6**	**+1.0**
VLI	**Veliai**	**3.05**	**324**	P	**Pn**	**18 53 48.6**	**+0.8**
ARG	**Arkhangelos**	**3.12**	**50**	Pn	**Pn**	**18 53 50.9**	**+2.3**
ARG	**Arkhangelos**	**3.12**	**50**	P	**Pn**	**18 53 51.3**	**+2.7**
DAT	**Datca**	**3.16**	**38**	Pn	**Pn**	**18 53 51.2**	**+1.9**
DATC	**Datca-Mugla**	**3.22**	**39**	Pn	**Pn**	**18 53 51.9**	**+1.8**
BODT	**Bodrum**	**3.30**	**31**	Pn	**Pn**	**18 53 52.7**	**+1.5**
KRND	**KRANIDI**	**3.52**	**333**	P	**Pn**	**18 53 56.1**	**+1.9**
TURN	**Turunc**	**3.55**	**44**	Pn	**Pn**	**18 53 57.1**	**+2.5**
MET5	**Makryloggos,Me**	**3.66**	**337**	P	**Pn**	**18 53 57.1**	**+0.9**
MLSB	**Milas**	**3.70**	**34**	Pn	**Pn**	**18 53 58.7**	**+2.0**
VLY	**Voula,Athens**	**3.75**	**343**	P	**Pn**	**18 53 58.4**	**+1.0**
DALY	**Dalyan (Mula)**	**3.83**	**47**	Pn	**Pn**	**18 54 01.1**	**+2.8**
YER	**Yerkesik**	**3.83**	**41**	Pn	**Pn**	**18 54 00.9**	**+2.4**
ATHU	**Athens Univers**	**3.87**	**344**	P	**Pn**	**18 54 00.4**	**+1.5**
ITM	**Ithomi**	**3.93**	**319**	P	**Pn**	**18 54 01.6**	**+1.8**
DION	**Dionisos Attik**	**3.94**	**346**	P	**Pn**	**18 54 00.7**	**+0.8**
FETY	**Fethiye**	**3.98**	**52**	Pn	**Pn**	**18 54 03.4**	**+2.8**
KSL	**Kastellorizon**	**4.08**	**61**	P	**Pn**	**18 54 03.8**	**+1.9**
AKAS	**Kas**	**4.14**	**60**	Pn	**Pn**	**18 54 05.9**	**+3.1**
LTK	**Loutraki**	**4.16**	**335**	P	**Pn**	**18 54 03.9**	**+1.0**
VIL2	**Platees**	**4.23**	**339**	P	**Pn**	**18 54 03.7**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**4.29**	**30**	Pn	**Pn**	**18 54 07.0**	**+2.1**
DB3	**El Dabaa**	**4.30**	**137**	P	**Pn**	**18 54 06.8**	**+1.9**
DB3				S	**Sn**	**18 54 51.8**	**-2.5**
CAME	**Cameli-Denizli**	**4.31**	**50**	Pn	**Pn**	**18 54 07.5**	**+2.3**
GUR	**Goura**	**4.32**	**329**	P	**Pn**	**18 54 07.1**	**+1.8**
NAZL	**Nazilli-Aydin**	**4.48**	**34**	Pn	**Pn**	**18 54 09.8**	**+2.3**
ELL	**Elmali**	**4.60**	**56**	Pn	**Pn**	**18 54 12.3**	**+3.1**
APMY	**Acipayam-Deniz**	**4.65**	**45**	Pn	**Pn**	**18 54 12.5**	**+2.8**
AXAR	**Agios Charalam**	**4.93**	**337**	P	**Pn**	**18 54 15.2**	**+1.6**
SWA2		**5.01**	**177**	P	**Pn**	**18 54 16.8**	**+2.1**
SWA2				S	**Sn**	**18 55 12.1**	**+0.3**
KORT	**Korkueli**	**5.03**	**56**	Pn	**Pn**	**18 54 18.5**	**+3.4**
ANX	**Ano Chora**	**5.05**	**330**	P	**Pn**	**18 54 16.5**	**+1.1**
HFRF	**Wahat Farafira**	**7.59**	**158**	P	**Pn**	**18 54 52.0**	**+2.0**
TAMRE	**El Minia**	**8.21**	**141**	P	**Pn**	**18 55 00.9**	**+2.4**
KZIT	**Kziot**	**8.48**	**111**	P	Pn	18 55 07.1	+4.8
KZIT	**Kziot**	**8.48**	**111**	S	**Sn**	**18 56 36.7**	**-0.7**
MMAI	**Mount Meron Ar**	**8.63**	**95**	Pn	**Pn**	**18 55 05.0**	**+0.5**
	0.7nm,0.3s,baz=276,slow=13,SNR=1.5						
MMAI				Sn	**Sn**	**18 56 39.0**	**-2.1**
	2.4nm,0.3s,baz=271,slow=30,SNR=5.0						
	0.5nm,0.3s						
AMAZ	**Amatzia**	**8.64**	**106**	P	**Pn**	**18 55 07.1**	**+2.5**
AMAZ	**Amatzia**	**8.64**	**106**	S	**Sn**	**18 56 33.7**	**-7.7**
BRTR	**Keskin Array B**	**8.70**	**49**	Pn	**Pn**	**18 55 08.2**	**+2.8**
	0.1nm,0.3s,baz=228,slow=12,SNR=5.8						
	0.4nm,0.6s						
MMLI	**Mount Malkishu**	**8.77**	**99**	P	**Pn**	**18 55 04.1**	**-2.3**
MMLI	**Mount Malkishu**	**8.77**	**99**	S	Sn	18 56 29.4	-15
YTIR	**Yattir**	**8.86**	**106**	P	**Pn**	**18 55 09.6**	**+1.9**
YTIR	**Yattir**	**8.86**	**106**	S	**Sn**	**18 56 39.9**	**-7.0**
HMDT	**Nahal Hemdat**	**8.91**	**100**	P	**Pn**	**18 55 06.6**	**-1.6**
HMDT	**Nahal Hemdat**	**8.91**	**100**	S	Sn	18 56 33.9	-14
KSHT	**Keshet**	**8.97**	**95**	P	Pn	18 55 03.8	-5.3
KSHT	**Keshet**	**8.97**	**95**	S	Sn	18 56 29.4	-20
DSI	**Dead Sea**	**9.00**	**105**	P	**Pn**	**18 55 10.8**	**+1.4**
DSI	**Dead Sea**	**9.00**	**105**	S	Sn	18 56 40.9	-9.2
MSBI	**Mazada**	**9.07**	**106**	P	**Pn**	**18 55 11.7**	**+1.3**
MSBI	**Mazada**	**9.07**	**106**	S	**Sn**	**18 56 44.2**	**-7.7**
KRMI	**Paran Flat**	**9.09**	**114**	P	Pn	18 55 17.6	+6.8
KRMI	**Paran Flat**	**9.09**	**114**	S	**Sn**	**18 56 54.4**	**+1.9**
PRNI	**Paran**	**9.20**	**112**	P	Pn	18 55 18.1	+5.9
PRNI	**Paran**	**9.20**	**112**	S	**Sn**	**18 56 54.2**	**-0.8**
GHAJ	**Ghor Haditha**	**9.24**	**106**	P	**Pn**	**18 55 14.8**	**+2.1**
GHAJ	**Ghor Haditha**	**9.24**	**106**	S	Sn	18 56 47.4	-8.6
HDK1	**Dakhla**	**9.43**	**156**	P	**Pn**	**18 55 17.4**	**+1.9**
EIL	**Elat**	**9.49**	**116**	Pn	**Pn**	**18 55 16.0**	**-0.1**
	0.5nm,0.3s,baz=323,slow=5.1,SNR=12						
EIL				Sn	**Sn**	**18 56 56.3**	**-5.9**
	1.3nm,0.3s,baz=305,slow=16,SNR=7.7						
	1.6nm,0.4s						
EIL	**Elat**	**9.49**	**116**	P	Pn	18 55 24.6	+8.4
EIL	**Elat**	**9.49**	**116**	S	**Sn**	**18 57 05.9**	**+3.8**
ASF	**Jabal al Asfar**	**10.05**	**99**	Pn	Pn	18 55 31.5	+7.6
	0.4nm,0.3s,baz=248,slow=19,SNR=2.8						
VRAC	**Vranov**	**16.32**	**340**	LR	LR	19 03 49.5	
	comp=Z,29nm,18.0s,baz=144,slow=40						
KBZ	**Khabaz**	**16.69**	**50**	P	**P**	**18 56 55.8**	**+0.4**
	0.1nm,0.3s,baz=217,slow=10,SNR=4.3						
	1.5nm,0.7s						
AKASG	**Malin Array Be**	**16.70**	**9**	Pn	**Pn**	**18 56 54.1**	**+0.8**
	1.3nm,0.3s,baz=202,slow=10,SNR=9.2						
	0.4nm,0.3s						
GERES	**GERESS Array B**	**16.88**	**333**	Pn	**P**	**18 56 57.3**	**-0.4**
	baz=142,slow=12,SNR=9.4						
	0.9nm,0.5s						
ESDC	**Sonseca Array**	**23.83**	**292**	P	**P**	**18 58 09.3**	**-3.1**
	0.5nm,0.7s,baz=104,slow=9.4,SNR=4.1						
	0.5nm,0.7s						
HFS	**Hagfors**	**26.95**	**347**	P	**P**	**18 58 38.9**	**-1.5**
	1.6nm,0.7s,baz=158,slow=16,SNR=1.7						
	1.6nm,0.7s						
FINES	**FINESS Array B**	**27.21**	**1**	P	**P**	**18 58 41.0**	**-1.7**
	1.7nm,0.8s,baz=187,slow=9.5,SNR=4.3						
	1.7nm,0.8s						
ARCES	**ARCESS Array B**	**35.33**	**0**	P	**P**	**18 59 52.5**	**-1.5**
	1.6nm,0.8s,baz=182,slow=9.0,SNR=4.5						
	1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**41.69**	**50**	P	**P**	**19 00 48.9**	**+1.2**
	0.8nm,0.2s,baz=274,slow=8.4,SNR=4.5						
	0.8nm,0.2s						
SPITS	**Spitsbergen Ar**	**44.19**	**357**	P	**P**	**19 01 07.1**	**-0.5**
	12nm,1.0s,baz=165,slow=6.0,SNR=5.3						
	12nm,1.0s						
MKAR	**Makanchi Array**	**44.27**	**56**	P	**P**	**19 01 09.6**	**+0.8**
	0.6nm,0.5s,baz=268,slow=8.2,SNR=4.7						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**45.63**	**46**	P	**P**	**19 01 20.0**	**+0.6**
	2.1nm,0.4s,baz=272,slow=8.6,SNR=4.6						
	2.1nm,0.4s						
SONM	**Songino Array**	**60.06**	**50**	P	**P**	**19 03 07.7**	**+1.5**
	0.4nm,0.5s,baz=302,slow=7.2,SNR=2.8						
	0.4nm,0.5s						
USRK	**Ussuriysk Ar.**	**77.48**	**45**	P	**P**	**19 04 54.8**	**+0.3**
	0.5nm,0.4s,baz=311,slow=3.1,SNR=1.4						
	0.5nm,0.4s						

---

*ASRS **03** 18:58:23.4±0.2, 54.°N±1.°×88.°2E±0.°9, h0km, MLh3.1/18, Error ellipse: s-maj=2.5km s-min=1.7km az=35.2, confirmed*
*NNC **03** 18:58:25.1±2.4, 53.°70N×88.°22E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=21.9km s-min=11.8km az=49.0, Suspected Mining explosion.*
ISC 03 18:58:23.4±0.8, 53.°83N±0.°02×88.°24E±0.°02, h0km, n27, σ0.s77/52, 3C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIYZ	**Kiyzas, Kuzbas**	**0.40**	**226**	Pg	**Pg**	**18 58 31.1**	**+0.1**
KIYZ				Sg	**Sg**	**18 58 37.0**	**+0.9**
LUZB	**Luzhba, Kemero**	**0.43**	**114**	Pg	**Pb**	**18 58 33.2**	**-0.6**
LUZB				Sg	**Sb**	**18 58 39.9**	**-0.9**
KALT3	**Kaltan 3**	**0.57**	**236**	Pg	**Pg**	**18 58 34.6**	**+0.2**
KALT3				S	**Sg**	**18 58 41.8**	**0.0**
ERU	**Erunakovo, Kuz**	**0.59**	**302**	Pg	**Pg**	**18 58 35.3**	**+0.6**
ERU				Sg	**Sg**	**18 58 42.6**	**+0.3**
KALT1	**Kaltan 1**	**0.64**	**230**	Pg	**Pg**	**18 58 35.6**	**-0.1**
KALT1				Sg	**Sg**	**18 58 44.6**	**+0.7**
KALT2	**Kaltan 2**	**0.70**	**232**	Pg	**Pg**	**18 58 36.6**	**-0.2**
KALT2				Sg	**Sg**	**18 58 46.0**	**+0.2**
KOTO	**Kotino, Kuzbas**	**0.85**	**295**	Pg	**Pg**	**18 58 39.9**	**+0.1**
KOTO				Sg	**Sg**	**18 58 51.4**	**+0.6**
VCHU	**Verkh-Chumysh,**	**1.07**	**277**	Pg	**Pb**	**18 58 44.3**	**-0.5**
VCHU				Sg	**Sb**	**18 58 59.1**	**-0.2**
TASR	**Tashtagol**	**1.10**	**191**	Pg	**Pb**	**18 58 45.1**	**-0.2**
TASR				Sg	**Sb**	**18 59 00.1**	**0.0**
POMOR	**Pomortsevo, Ku**	**1.16**	**300**	Pg	**Pg**	**18 58 45.4**	**-0.3**
POMOR				Sg	**Sg**	**18 59 01.2**	**+0.5**
BJR3	**Bachatsky-3 (S**	**1.29**	**289**	Pg	**Pg**	**18 58 47.3**	**-0.8**
BJR3				Sg	**Sb**	**18 59 05.9**	**+0.2**
BJR2	**Bachatsky-2, K**	**1.32**	**291**	Pg	**Pg**	**18 58 48.4**	**-0.4**
BJR2				Sg	**Sn**	**18 59 07.4**	**0.0**
ELT	**Eltsovka**	**1.32**	**245**	Pg	**Pg**	**18 58 47.5**	**-1.3**
ELT				Sg	**Sb**	**18 59 06.7**	**+0.1**
BJR1	**Bachatsky 1, K**	**1.36**	**288**	Pg	**Pg**	**18 58 48.9**	**-0.6**
BJR1				Sg	**Sb**	**18 59 07.8**	**+0.2**
VEH	**Verkhnyaya Baz**	**1.37**	**114**	Pg	**Pn**	**18 58 49.6**	**-0.3**
VEH				Sg	**Sn**	**18 59 08.7**	**-0.1**
SALR	**Pechorkino, Sa**	**1.60**	**292**	Pg	**Pn**	**18 58 52.7**	**-0.2**
SALR				Sg	**Sg**	**18 59 14.8**	**-0.1**
BRCR	**Berchikul'**	**1.81**	**1**	Pg	**Pb**	**18 58 56.7**	**-0.7**
BRCR				Sg	**Sg**	**18 59 22.2**	**+0.7**
KEM	**Kemerovo**	**1.96**	**321**	Pg	**Pb**	**18 58 59.6**	**-0.4**
KEM				Sg	**Sg**	**18 59 26.5**	**+0.1**
ZAA0	**Zalesovo Array**	**2.03**	**275**	⇓Pn	**Pn**	**18 58 59.8**	**+1.0**
	1.6nm,0.3s						
ZAA0				⇑Sn	**Sg**	**18 59 27.8**	**-0.7**
	7.8nm,0.7s						
DJO	**Djoy, Khakassi**	**2.08**	**119**	Pg	**Pb**	**18 59 02.0**	**+0.1**
DJO				Sg	**Sg**	**18 59 30.7**	**+0.7**
YALR	**Yailyu, Altay**	**2.10**	**191**	Pg	**Pb**	**18 59 01.5**	**-0.9**
YALR				Sg	**Sg**	**18 59 30.6**	**-0.3**
ARTR	**Artybash**	**2.12**	**196**	Pg	**Pb**	**18 59 01.8**	**-0.9**
ARTR				Sg	**Sg**	**18 59 31.1**	**-0.4**
CERR	**Cheremushki**	**2.14**	**116**	Pg	**Pg**	**18 59 03.4**	**-1.0**
CERR				Sg	**Sg**	**18 59 34.6**	**+2.4**
TEL	**Teeli**	**3.06**	**156**	Pg	**Pg**	**18 59 22.4**	**+0.3**
TEL				Sg	**Sg**	**19 00 02.1**	**+0.3**
KURK	**Kurchatov**	**6.68**	**246**	⇑Pn	**Pn**	**19 00 04.2**	**+1.5**
	1.7nm,0.6s						
KURK				⇓Lg	Lg	19 01 53.0	
	3.9nm,0.6s						
KURBB	**Kurchatov Arra**	**6.78**	**246**	⇓Pn	**Pn**	**19 00 05.4**	**+1.4**
	2.4nm,0.3s						
KURBB				⇓Lg	Lg	19 01 55.7	
	11nm,0.7s						
MK31	**Makanchi Array**	**8.01**	**211**	⇓Pn	**Pn**	**19 00 22.8**	**+1.8**
	0.5nm,0.5s,baz=30,slow=13,SNR=15						
MK31				⇓Sn	**Sn**	**19 01 50.7**	**-1.5**
	0.8nm,0.6s,baz=30,slow=25,SNR=2.7						
MK31				⇑Lg	Lg	19 02 36.9	
	2.2nm,0.7s						

---

*NEIC **03** 19:02:34.2±0.7, 36.°874N±0.°009×97.°77W±0.°01, h6km±2km, mb_Lg2.3/10, ML2.6/42, ML2.6/20, Error ellipse: s-maj=1.6km s-min=0.8km az=139.0*
NEIC 03 19:02:34.2±0.6, 36.°87N±0.°01×97.°78W±0.°01, h7km±1km, Error ellipse: s-maj=1.6km s-min=1.4km az=152.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.07**	**255**	Pg	Pg	19 02 36.3	+0.4
KAN14	**Manchester OK**	**0.17**	**301**		Sg	19 02 41.0	+0.9
KAN17	**Caldwell West**	**0.18**	**4**		Pg	19 02 38.4	+0.6
KAN17					Sg	19 02 41.0	+0.8
KAN17				IAML		19 02 41.2	
	comp=N,1μm,0.3s						
KAN17				IAML		19 02 41.3	
	comp=E,2μm,0.3s						
KAN05	**Bluff City Nor**	**0.25**	**343**		Pg	19 02 39.8	+0.6
KAN05					Sg	19 02 43.4	+0.8
KAN13	**South Haven SW**	**0.28**	**59**		Pg	19 02 40.2	+0.5
KAN13					Sg	19 02 44.2	+0.7
KAN13				IAML		19 02 44.4	
	comp=N,893nm,0.3s						
KAN01	**Argonia South**	**0.28**	**3**		Pg	19 02 40.4	+0.5
KAN01					Sg	19 02 44.3	+0.7
OK032	**Salt Plains WL**	**0.35**	**260**		Pg	19 02 41.4	+0.4
OK032					Sg	19 02 46.4	+0.7
OK032				IAML		19 02 47.3	
	comp=N,601nm,0.2s						
OK032				IAML		19 02 51.8	
	comp=N,707nm,0.2s						
KAN08	**Anthony NE Sta**	**0.39**	**337**		Pg	19 02 42.3	+0.5
KAN08					Sg	19 02 47.9	+1.0
CROK	**Carrier**	**0.40**	**204**		Pg	19 02 42.3	+0.4
CROK					Sg	19 02 47.9	+0.7
OK048	**Pawnee Station**	**0.81**	**124**		Pg	19 02 49.7	0.0
OK048					Sg	19 03 00.4	+0.2
OK048				IAML		19 03 00.6	
	comp=N,190nm,0.2s						
OK051	**E0350 and S346**	**0.84**	**115**		Pg	19 02 50.6	+0.3
OK051					Sg	19 03 01.5	+0.2
OK051				IAML		19 03 02.4	
	comp=N,363nm,0.2s						
OK038	**West end E0370**	**0.87**	**244**		Pg	19 02 50.8	0.0
OK038					Sg	19 03 02.4	+0.4
NOKA	**Waynoka**	**0.95**	**256**		Pg	19 02 52.4	-0.1
NOKA				IAML		19 03 14.6	
	comp=E,169nm,0.2s						
NOKA				IAML		19 03 17.2	
	comp=N,184nm,0.3s						
T35A	**Sooner Cattle**	**1.02**	**87**		Pg	19 02 53.5	-0.2
T35A					Sg	19 03 06.9	0.0
T35A				IAML		19 03 12.6	
	comp=N,126nm,0.1s						
T35A				IAML		19 03 13.2	
	comp=N,115nm,0.2s						
OK029	**Liberty Lake**	**1.10**	**166**		Pg	19 02 55.1	-0.2
OK029					Sg	19 03 09.7	+0.1
OK029				IAML		19 03 14.0	
	comp=N,95nm,0.3s						
QUOK	**Quay**	**1.11**	**129**		Pg	19 02 55.3	-0.2
QUOK					Sg	19 03 10.0	+0.1
OK052	**Battle Ridge R**	**1.18**	**138**		Pg	19 02 56.4	-0.3
OK052					Sg	19 03 11.8	-0.2
OK052				IAML		19 03 12.8	
	comp=N,230nm,0.1s						
DEOK	**Depew**	**1.46**	**134**		Pn	19 03 01.1	+0.1
OKCSW	**OKLAHOMA CITY**	**1.49**	**169**		Pn	19 03 01.4	0.0
FNO	**Franklin**	**1.64**	**169**		Pn	19 03 03.5	0.0
FNO				IAmb_Lg		19 03 29.2	
	comp=Z,22nm,0.7s						
W35A	**Tecumseh**	**1.86**	**157**		Pn	19 03 06.9	+0.3
W35A				IAmb_Lg		19 03 36.5	
	comp=Z,14nm,0.8s						
WMOK	**Wichita Mounta**	**2.28**	**201**		Pn	19 03 12.9	+0.6
CBKS	**Cedar Bluff**	**2.48**	**322**	IAmb_Lg		19 03 53.5	
	comp=Z,16nm,0.8s						
F33A	**5 Mile Ranch,**	**9.03**	**7**	IAmb_Lg		19 07 43.7	
	comp=Z,2.2nm,0.8s						

---

*IDC **03** 19:07:02.7±1.5, 36.°26N×140.°83E, h0km, mb3.3/4, mbtmp3.4/6, ML2.9/2, Error ellipse: s-maj=33.1km s-min=27.0km az=82.0*
*JMA **03** 19:07:14.1±0.1, 36.°0N±0.°2×140.°1E±0.°3, h61km, MV2.8/40, SOUTHERN IBARAKI PREF*
ISC 03 19:07:13.5±1.0, 35.°99N±0.°04×140.°10E±0.°05, h68km±7km, n19, σ0.s89/29, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.26**	**18**	*i* P	**Pn**	**19 07 24.0**	**-0.2**
JYT				*e*S	**Sn**	**19 07 31.2**	**-0.7**
JIHU	**Itakohorinouch**	**0.35**	**93**	*i* P	**Pn**	**19 07 25.4**	**+0.6**
JIHU				*e*S	**Sn**	**19 07 32.9**	**-0.1**
TOK	**Tokyo**	**0.40**	**223**	*e*P	**Pn**	**19 07 25.4**	**+0.2**
JAG	**Ashikaga**	**0.68**	**310**	*i* P	**Pn**	**19 07 28.1**	**+0.1**
JAG				S	**Sn**	**19 07 38.4**	**-0.3**
JRY	**Ryogami san**	**0.97**	**272**	P	**Pn**	**19 07 31.9**	**+0.4**
JRY				S	**Sn**	**19 07 45.4**	**+0.5**
JKT	**Katashina**	**1.04**	**319**	*i* P	**Pn**	**19 07 32.4**	**-0.1**
JKT				*e*S	**Sn**	**19 07 46.8**	**+0.2**
JOD2	**Odawara 2**	**1.09**	**229**	*i* P	**Pn**	**19 07 33.3**	**+0.2**
JOD2				*e*S	**Sn**	**19 07 47.3**	**-0.4**
BSO3	**Boso 3**	**1.23**	**164**	P	**Pn**	**19 07 35.6**	**+1.1**
BSO3				*e*S	**Sn**	**19 07 52.6**	**+2.3**
JYN	**Shimob**	**1.35**	**249**	*e*S	**Sn**	**19 07 54.7**	**+0.9**
JIM2	**Oshima 3**	**1.38**	**203**	P	**Pn**	**19 07 36.4**	**-0.4**
JIM2				*e*S	**Sn**	**19 07 53.4**	**-0.8**
JFY	**Yanaizu**	**1.45**	**348**	*e*P	**Pn**	**19 07 38.2**	**+0.4**
JUON	**Uonuma**	**1.48**	**326**	*e*P	**Pn**	**19 07 38.8**	**+0.6**
JUON				*e*S	**Sn**	**19 07 56.5**	**-0.2**
JFK	**Kawauchi**	**1.52**	**24**	P	**Pn**	**19 07 38.9**	**+0.2**
MJAR	**Matsushiro Arr**	**1.62**	**291**	Pn	**Pn**	**19 07 39.8**	**-0.3**
	3.1nm,0.3s,baz=93,slow=8.9,SNR=139						
MJAR				Sn	**Sn**	**19 08 03.0**	**+2.9**
	0.7nm,0.3s,baz=105,slow=23,SNR=6.5						
	22nm,0.7s						
JHJ	**Hachijo jima 2**	**2.87**	**185**	Pn	**Pn**	**19 07 56.2**	**-0.7**
	4.7nm,0.3s,baz=18,slow=20,SNR=1.7						
JHJ				Sn	**Sn**	**19 08 30.4**	**+0.1**
	6.6nm,0.3s,baz=34,slow=11,SNR=1.2						
	77nm,0.8s						
MKAR	**Makanchi Array**	**43.78**	**303**	P	**P**	**19 15 12.1**	**-0.3**
	0.2nm,0.7s,baz=87,slow=7.4,SNR=2.2						
	0.2nm,0.7s						
KURBB	**Kurchatov Ar

KRUC	Moravsky	48.78	347	*e*P	P	19 49 35.0	-0.9
VRAC	Vranov	48.97	347	*e*P	P	19 49 37.5	+0.2
SENIN	Lac Senin/Sane	49.06	338	P	P	19 49 38.6	+0.2
GEC2	GERESS Array S	49.23	345	P	P	19 49 39.9	+0.5
GERES	GERESS Array B	49.23	345	P	P	19 49 39.0	-0.5
	comp=Z,1.1nm,0.7s,baz=155,slow=7.6,SNR=9.3 comp=Z,1.1nm,0.7s						
ESDC	Sonseca Array	49.42	324	P	P	19 49 40.6	-0.4
	comp=Z,0.8nm,0.9s,baz=123,slow=8.2,SNR=2.8						
ESDC				LR	LR	20 12 13.6	
	comp=Z,80nm,19.0s,baz=130,slow=38 comp=Z,0.8nm,0.9s						
KHC	Kasperske Hory	49.52	345	*e*P	P	19 49 41.8	+0.2
ZVC	Zvikov	49.65	346	*e*P	P	19 49 42.5	-0.1
DPC	Dobruska-Polom	50.01	348	*e*P	P	19 49 46.0	+0.7
SUW	Suwalki	52.47	354	P	P	19 50 03.9	+0.3
ABKAR	Akbulak array	53.31	23	P	P	19 50 10.0	0.0
KK31	Karatay Array	54.04	35	P	P	19 50 15.9	+0.5
KK31				IAmb	IAmb	19 50 18.0	
	comp=Z,4.3nm,1.0s						
KKAR	Karatay Array	54.04	35	P	P	19 50 15.9	+0.5
KKAR				IAmb	IAmb	19 50 18.0	
	comp=Z,4.5nm,1.0s						
AAK	Ala-Archa	56.12	38	P	P	19 50 30.8	+0.1
BOOM	Boomskoye usch	56.92	38	P	P	19 50 37.1	+0.6
BOOM				IAmb	IAmb	19 50 38.6	
	comp=Z,4.9nm,1.3s						
FINES	FINESS Array B	59.64	357	P	P	19 50 55.4	+0.6
FINES	FINESS Array B	59.64	357	P	P	19 50 54.0	-0.8
	comp=Z,0.9nm,0.6s,baz=180,slow=5.6,SNR=7.3 comp=Z,0.9nm,0.6s						
EKA	Eskdalemuir Ar	60.20	338	P	P	19 50 58.7	-0.1
	comp=Z,2.2nm,0.9s,baz=119,slow=5.7,SNR=2.6 comp=Z,2.2nm,0.9s						
BVAR	Borovoye Array	60.50	26	P	P	19 50 59.9	-1.0
	comp=Z,1.0nm,0.8s,baz=212,slow=5.1,SNR=5.9 comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	61.04	349	P	P	19 51 04.2	-0.3
	comp=Z,1.7nm,0.9s,baz=158,slow=6.6,SNR=5.4						
NOA				LR	LR	20 18 51.9	
	comp=Z,10.0nm,21.3s,baz=260,slow=38 comp=Z,1.7nm,0.9s						
MAKZ	Makanchi	62.84	37	P	P	19 51 16.7	-0.2
MAKZ				IAmb	IAmb	19 51 18.0	
	comp=Z,2.9nm,0.8s						
KURBB	Kurchatov Arra	62.92	32	P	P	19 51 17.4	+0.1
	comp=Z,2.5nm,0.9s,baz=240,slow=6.7,SNR=11 comp=Z,2.5nm,0.9s						
SHL	Shillong	62.94	62	P	P	19 51 17.2	-0.9
SHL				IAmb	IAmb	19 51 46.6	
	comp=Z,7.0nm,1.4s						
KURK	Kurchatov	63.02	32	P	P	19 51 17.6	-0.3
MK31	Makanchi Array	63.03	37	P	P	19 51 18.3	+0.2
MK31				IAmb	IAmb	19 51 19.1	
	comp=Z,2.7nm,0.7s						
MKAR	Makanchi Array	63.03	37	P	P	19 51 17.9	-0.3
MKAR	Makanchi Array	63.03	37	P	P	19 51 17.7	-0.4
	comp=Z,2.5nm,0.6s,baz=238,slow=6.4,SNR=39 comp=Z,2.5nm,0.6s						
WMQ	Urumqi	65.14	42	*e*P	P	19 51 32.2	+0.1
WMQ				pP	sP	19 51 38.0	+1.2
WMQ				PcS		19 56 09.3	
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
RCBR	Riachuelo	67.41	263	LR	LR	20 18 35.7	
	comp=Z,24nm,18.6s,baz=99,slow=34						
ARCES	ARCESS Array B	67.74	358	P	P	19 51 47.9	-0.3
	comp=Z,1.7nm,0.5s,baz=170,slow=6.9,SNR=15 comp=Z,1.7nm,0.5s						
ZALV	Zalesovo Beam	67.96	31	P	P	19 51 49.0	-0.9
ZALV	Zalesovo Beam	67.96	31	P	P	19 51 49.3	-0.6
	comp=Z,1.7nm,0.7s,baz=256,slow=5.8,SNR=8.1 comp=Z,1.7nm,0.7s						
CM31	Chiang Mai Arr	68.36	71	P	P	19 51 52.0	-1.1
CM31				IAmb	IAmb	19 51 54.6	
	comp=Z,4.7nm,1.0s						
CMAR	Chiang Mai Arr	68.36	71	P	P	19 51 52.5	-0.5
CMAR	Chiang Mai Arr	68.36	71	P	P	19 51 53.1	+0.1
	comp=Z,1.8nm,0.8s,baz=266,slow=7.1,SNR=16 comp=Z,1.8nm,0.8s						
CRAI	Chiangrai	69.88	69	P	P	19 52 01.6	-0.9
CRAI				IAmb	IAmb	19 52 04.2	
	comp=Z,5.8nm,1.1s						
PZH	PanZhiHua	71.84	63	P	P	19 52 14.5	+0.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,130nm,5.1s						
GTA	Gaotai	72.44	49	*e*P	P	19 52 18.7	+0.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	Songino Array	78.78	42	P	P	19 52 53.3	-0.7
SONM	Songino Array	78.78	42	P	P	19 52 54.5	+0.6
	comp=Z,1.5nm,0.8s,baz=251,slow=4.4,SNR=5.5 comp=Z,1.5nm,0.8s						
HHC	Hu-ho-hao-te	81.56	49	*e*P	P	19 53 09.7	+0.6
HHC				pmax	pmax		
	comp=Z,19nm,0.5s						
HHC				pmax	pmax		
	comp=Z,120nm,4.5s						
QSPA	South Pole Qui	91.80	180	P	P	19 53 59.4	+0.6
	comp=Z,1.2nm,0.7s,baz=252,slow=3.2,SNR=7.3 comp=Z,1.2nm,0.7s						
DAV	Davao City (W)	94.15	83	LR	LR	20 36 52.2	
	comp=Z,26nm,18.6s,baz=318,slow=36						
TXAR	Lajitas Array	126.90	309	PKP	PKiKP	19 59 56.6	+0.3
	comp=Z,0.3nm,0.8s,baz=28,slow=1.4,SNR=1.9						
NVAR	Mina Array Bea	131.08	328	PKP	PKPdf	20 00 04.3	+0.6
	comp=Z,0.2nm,0.4s,baz=15,slow=3.4,SNR=2.1						

IDC 03 19:59:33.9±20.0, 4°.46N×93°.45E, h0km, mb3.5/2, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=406.4km s-min=115.9km az=144.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.91	21	Pn	Pn	20 03 06.2	0.0
	0.2nm,0.3s,baz=208,slow=13,SNR=4.1 0.4nm,0.3s						
MKAR	Makanchi Array	43.26	349	P	P	20 07 36.9	-0.3
	0.3nm,0.5s,baz=178,slow=8.1,SNR=6.2 0.3nm,0.5s						
ZALV	Zalesovo Beam	49.83	353	P	P	20 08 28.7	+0.1
	0.6nm,0.5s,baz=152,slow=6.5,SNR=3.0 0.6nm,0.5s						

*IDC **03** 20:00:39.4±0.9, 17°.69S×168°.14E, h33km±6km, mb4.2/11, mbtmp4.5/13, ML4.7/2, MS3.7/23, Error ellipse: s-maj=21.5km s-min=19.2km az=91.0*
*NOU **03** 20:00:39.2, 17°.73S×168°.12E, h31km, MLv4.7/14, Vanuatu Islands*
*NEIC **03** 20:00:40.3±2.0, 17°.73S±0°.09×168°.1E±0°.1, h35km±2km, mb4.8/21, Error ellipse: s-maj=19.5km s-min=15.0km az=87.0*

ISC 03 20:00:39.9±0.5, 17°.74S±0°.05×168°.08E±0°.07, h35km±2km, h36km:pP-P, n86, σ0s95/79, mb4.6/21, MS3.8/20, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	0.10	80	P	Pb	20 00 45.2	-0.7
DVP	Devils Point	0.10	80	S	Sb	20 00 49.9	-0.2
VLAKA	Lakatoro	1.75	339	P	Pn	20 01 08.5	+0.8
INH	Isangel	2.12	148	P	Pn	20 01 13.6	+0.7
MARNC	Mare, Loyalty	3.72	181	P	Pn	20 01 33.0	-1.9
KOUNC	Koumac, New Ca	4.55	232	P	Pn	20 01 46.5	+0.2
DZM	Mont Dzumac	4.57	199		Pn	20 01 46.6	-0.2
DZM	Mont Dzumac	4.57	199	*e*Pn	Pn	20 01 46.5	-0.2
	111nm,0.8s						
DZM				*e*Sn	Sn	20 02 37.2	-1.5
	212nm,1.1s						
DZM				*e*LR	LR	20 02 45.4	
	2μm,25.1s						
DZM	Mont Dzumac	4.57	199	Pn	Pn	20 01 46.7	0.0
	15nm,0.3s,baz=70,slow=12,SNR=122						
DZM				Sn	Sn	20 02 37.5	-1.2
	28nm,0.3s,baz=150,slow=22,SNR=9.1						
DZM				LR	LR	20 03 13.7	
	comp=Z,458nm,21.3s,baz=1.0,slow=33 53nm,0.5s						
ONTNC	Ouen Toro	4.79	198		Pn	20 01 49.9	+0.3
ONTNC	Ouen Toro	4.79	198	P	Pn	20 01 49.9	+0.3
OUENC	Ouen Island, N	4.79	194	P	Pn	20 01 49.9	+0.2
PINNC	Pines Island,	4.88	187		Pn	20 01 51.2	+0.4
MSVF	Nonsavu	9.50	91	Pn	Pn	20 03 00.6	+6.2
	1.1nm,0.3s,baz=276,slow=10,SNR=6.0						
MSVF				LR	LR	20 05 57.1	
	comp=Z,732nm,19.7s,baz=284,slow=34						
HNR	Honiara	11.43	315		Pn	20 03 19.2	-1.6
HNR	Honiara	11.43	315	Pn	Pn	20 03 21.9	+1.1
	11nm,0.3s,baz=138,slow=2.2,SNR=4.0						
HNR				Sn	Sn	20 05 23.9	-3.4
	3.3nm,0.3s,baz=198,slow=20,SNR=1.6						
HNR				LR	LR	20 06 59.1	
	comp=Z,134nm,20.1s,baz=195,slow=33 17nm,0.3s						
ARMA	Armidale	19.59	227		Pn	20 05 06.8	+0.1
URZ	Urewera	21.91	161	P	P	20 05 31.1	+1.0
	12nm,1.0s,baz=153,slow=3.2,SNR=4.3						
URZ				LR	LR	20 13 00.3	
	comp=Z,195nm,20.7s,baz=72,slow=34 12nm,1.0s						
BKZ	Black Stump Fm	22.57	163	P	P	20 05 37.4	+0.2
BKZ				IAmb	IAmb	20 05 45.1	
	comp=Z,16nm,0.7s						
BFZ	Birch Farm	23.92	165	P	P	20 05 50.9	+0.3
BFZ				IAmb	IAmb	20 05 51.7	
	comp=Z,24nm,0.8s						
TCW	Tory Channel	23.99	168	P	P	20 05 52.1	+0.9
THZ	Tophouse	24.29	171	P	P	20 05 55.1	+1.0
THZ				IAmb	IAmb	20 05 58.0	
	comp=Z,20nm,0.7s						
MSWZ	Moikau Station	24.38	167	P	P	20 05 55.5	+0.6
PLWZ	Palliser	24.53	167	P	P	20 05 55.0	-1.2
INZ	Inchbonnie	25.07	174	P	P	20 06 01.5	+0.5
INZ				IAmb	IAmb	20 06 05.0	
	comp=Z,34nm,1.0s						
RPZ	Rata Peaks	26.01	175	LR	LR	20 16 07.4	
	comp=Z,161nm,19.9s,baz=12,slow=36						
STKA	Stephens Creek	27.76	235	P	P	20 06 26.1	+0.6
STKA	Stephens Creek	27.76	235	P	P	20 06 26.4	+0.9
	comp=Z,9.4nm,1.0s,baz=56,slow=8.7,SNR=12						
STKA				LR	LR	20 17 21.4	
	comp=Z,193nm,18.3s,baz=43,slow=36 comp=Z,9.4nm,1.0s						
RAR	Rarotonga	30.47	102	LR	LR	20 18 34.1	
	comp=Z,45nm,19.1s,baz=244,slow=35						
WRA	Warramunga Arr	31.98	261	P	P	20 07 02.0	-1.1
WRA	Warramunga Arr	31.98	261	P	P	20 07 02.6	-0.4
	comp=Z,5.6nm,0.8s,baz=78,slow=6.1,SNR=33						
WRA				pP	pP	20 07 12.0	-0.3
	comp=Z,0.9nm,0.5s,baz=79,slow=5.9,SNR=3.2						
WRA				PcP	PcP	20 09 52.3	-0.4
	comp=Z,0.8nm,0.9s,baz=88,slow=3.1,SNR=3.2						
WRA				LR	LR	20 19 01.3	
	comp=Z,200nm,20.9s,baz=184,slow=34 comp=Z,5.6nm,0.8s						
AS31	Alice Springs	32.45	254	P	P	20 07 06.8	-0.4
ASAR	Alice Springs	32.46	254	P	P	20 07 06.3	-0.9
ASAR	Alice Springs	32.46	254	P	P	20 07 06.9	-0.3
	comp=Z,9.3nm,0.6s,baz=79,slow=8.7,SNR=96						
ASAR				pP	pP	20 07 15.9	-0.6
	comp=Z,4.0nm,0.5s,baz=80,slow=8.5,SNR=5.9						
ASAR				LR	LR	20 19 43.9	
	comp=Z,305nm,19.5s,baz=94,slow=35 comp=Z,9.3nm,0.6s						
KNRA	Kununurra	37.67	267	P	P	20 07 51.8	-0.3
KNRA				IAmb	IAmb	20 07 52.6	
	comp=Z,18nm,0.8s						
GUMO	Guam	38.65	322	LR	LR	20 24 39.6	
	comp=Z,26nm,20.2s,baz=140,slow=37						
PPT2	Papeete2	40.28	96	*e*LR	LR	20 19 24.0	
	comp=Z,187nm,27.0s						
PPT2				*e*LR	LR	20 19 27.6	
	comp=Z,227nm,26.2s						
PPT	Papeete	40.28	96	LR	LR	20 23 26.3	
	comp=Z,60nm,18.6s,baz=246,slow=34						
FITZ	Fitzroy Crossi	40.32	263	P	P	20 08 14.6	+0.3
PSA00	Pilbara Seismi	45.45	257	P	P	20 08 55.4	-0.5
MBWA	Marble Bar	45.59	258	P	P	20 08 57.7	+0.7
MBWA				pP	pP	20 09 08.7	+1.8
MBWA				sP	sP	20 09 13.3	+2.5
NWAO	Narrogin (SRO)	47.94	241	P	P	20 09 14.8	-0.4
NWAO				pP	pP	20 09 26.4	+1.2
DRV	Dumont d'Urvil	52.21	194	P	P	20 09 47.3	+0.3
KSM	Kuching	59.98	282	P	P	20 10 44.0	+0.6
SBA	Scott Base	60.14	180	P	P	20 10 45.2	+1.7
SBA				pP	sP	20 10 57.0	-0.8
CCD	Concordia, Ant	62.12	192	P	P	20 10 57.9	+0.4
CCD				pP	sP	20 11 10.6	-1.2
MNAI	Manna	65.00	273	P	P	20 11 17.2	+0.2
PETK	Petropavlovsk-	71.13	353	LR	LR	20 38 49.7	
	comp=Z,46nm,19.0s,baz=104,slow=32						
QSPA	South Pole Qui	72.30	180	P	P	20 12 02.1	+0.3
QSPA				IAmb	IAmb	20 12 03.7	
	comp=Z,12nm,0.9s						
QSPA	South Pole Qui	72.30	180	P	P	20 12 02.0	+0.3
	comp=Z,12nm,0.9s,baz=2.6,slow=3.2,SNR=19 comp=Z,12nm,0.9s						
CMAR	Chiang Mai Arr	76.89	294	P	P	20 12 29.0	-0.1
CMAR	Chiang Mai Arr	76.89	294	P	P	20 12 30.2	+1.1
	comp=Z,0.6nm,0.3s,baz=125,slow=3.6,SNR=7.8						
CMAR				pP	pP	20 12 38.8	-0.6
	comp=Z,1.0nm,0.6s,baz=112,slow=2.4,SNR=2.8 comp=Z,0.6nm,0.3s						
MAW	Mawson	79.40	202	LR	LR	20 43 02.3	
	comp=Z,112nm,20.6s,baz=196,slow=32						
ILSW	Iliamna Southw	83.58	18	P	P	20 13 04.8	+0.4
BELA	Belgrano 2	83.67	175	P	P	20 13 03.5	-1.0
BELA				IAmb	IAmb	20 13 07.8	
	comp=Z,7.1nm,0.9s						
ULN	Ulaanbaatar	85.02	324		P	20 13 12.4	+0.5
ULN				IAmb	IAmb	20 13 13.5	
	comp=Z,8.7nm,1.1s						
YAK	Yakutsk	85.12	343	LR	LR	20 44 54.1	
	comp=Z,45nm,20.0s,baz=142,slow=31						
GTA	Gaotai	85.31	314	*e*P	P	20 13 14.8	+1.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
SONM	Songino Array	85.37	323	P	P	20 13 13.4	-0.3
	comp=Z,2.5nm,1.0s,baz=141,slow=4.5,SNR=10						
SONM				pP	pP	20 13 24.5	0.0
	comp=Z,1.0nm,0.7s,baz=164,slow=5.3,SNR=3.6 comp=Z,2.5nm,1.0s						
SYO	Syowa Base	86.05	196	*e*P	P	20 13 17.3	+0.7
O02D	Mt. Diablo Mer	86.24	46	P	P	20 13 18.6	+0.5
O02D				IAmb	IAmb	20 13 21.0	
	comp=Z,5.4nm,0.9s						
CMB	Columbia Colle	86.99	49	P	P	20 13 20.3	-1.4
YBH	Yreka Blue Hor	87.00	44	LR	LR	20 43 13.3	
	comp=Z,60nm,21.8s,baz=258,slow=29						
BEKR	Beckworth	87.78	47	P	P	20 13 24.9	-0.8
PFO	Pinyon Flats O	88.12	54	LR	LR	20 43 41.8	
	comp=Z,61nm,21.5s,baz=224,slow=29						
NVAR	Mina Array Bea	88.64	49	P	P	20 13 29.8	-0.2
	comp=Z,0.6nm,0.7s,baz=221,slow=8.1,SNR=5.2						
NVAR				pP	pP	20 13 40.0	-0.9
	comp=Z,0.6nm,0.7s,baz=258,slow=6.2,SNR=2.8 comp=Z,0.6nm,0.7s						
BBB	Bella Bella	88.83	34	LR	LR	20 43 50.2	
	comp=Z,38nm,21.2s,baz=196,slow=29						
ILAR	Eielson Array	89.14	18	P	P	20 13 29.1	-2.2
	comp=Z,0.7nm,0.7s,baz=226,slow=4.7,SNR=6.9						
ILAR				LR	LR	20 46 11.0	
	comp=Z,48nm,21.1s,baz=240,slow=31 comp=Z,0.7nm,0.7s						
LPIG	La Paz	89.77	65	LR	LR	20 46 10.1	
	comp=Z,97nm,19.0s,baz=224,slow=30						
SNAA	Sanae	90.60	183	P	P	20 13 37.9	-0.5
	comp=Z,2.8nm,1.0s,baz=164,slow=7.4,SNR=2.2						
SNAA				LR	LR	20 51 25.3	
	comp=Z,78nm,20.1s,baz=93,slow=34 comp=Z,2.8nm,1.0s						
PRN	Pahroc Range	90.62	51	IAmb	IAmb	20 13 41.7	
	comp=Z,2.6nm,0.8s						
G08A	Pilot Rock	91.00	42	IAmb	IAmb	20 16 31.2	
	comp=Z,12nm,1.6s						
ELK	Elko	91.72	48	LR	LR	20 46 38.5	
	comp=Z,42nm,20.3s,baz=268,slow=30						
ANMO	Albuquerque	96.36	55	LR	LR	20 49 05.0	
	comp=Z,27nm,19.2s,baz=82,slow=30						
TXAR	Lajitas Array	97.02	62	LR	LR	20 51 19.8	
	comp=Z,24nm,18.2s,baz=244,slow=31						
MKAR	Makanchi Array	99.91	316	P	Pdif	20 14 21.2	+0.1
	comp=Z,0.2nm,0.5s,baz=106,slow=4.7,SNR=2.8 comp=Z,0.2nm,0.5s						
CONA	Conrad Observa	142.30	329	PKP	PKPdf	20 20 08.1	-0.7
	comp=Z,1.0nm,0.6s						
SOKA	Soboth	143.57	328	*e*PKP	PKPdf	20 20 11.6	+0.5
	comp=Z,1.5nm,0.6s						
KBA	Koelnbreinsper	144.11	330	*e*PKP	PKPdf	20 20 12.7	+0.5
	comp=Z,0.6nm,0.4s						
LESA	Schwarzleotal	144.17	331	*e*PKP	PKPbc	20 20 11.0	+0.7
	comp=Z,2.7nm,0.6s						
ABTA	Abfaltersbach	144.75	330	*e*PKP	PKPab	20 20 11.6	-0.5
	comp=Z,5.9nm,0.8s						
WTTA	Wattenberg	144.76	332	*e*PKP	PKPbc	20 20 12.6	+0.2
	comp=Z,2.4nm,0.5s						
MOTA	Moosalm	144.94	332	*e*PKP	PKPab	20 20 12.7	-0.2
	comp=Z,6.5nm,0.7s						
SQTA	Sankt Quirin	144.99	332	*e*PKP	PKPbc	20 20 13.3	+0.3
	comp=Z,5.9nm,0.5s						
FETA	Feichten	145.35	332	*e*PKP	PKPdf	20 20 14.4	0.0
	comp=Z,7.8nm,0.8s						
DAVA	Damuels	145.52	333	*e*PKP	PKPab	20 20 15.1	+0.2
	comp=Z,3.6nm,0.5s						

*IDC **03** 20:14:50.9±0.6, 12°.80S×45°.34E, h0km, mb4.2/17, mbtmp4.2/19, ML5.4/2, MS3.5/8, Error ellipse: s-maj=20.3km s-min=16.2km az=86.0*
*NEIC **03** 20:14:53.1±1.3, 12°.83S±0°.08×45°.4E±0°.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=19.9km s-min=10.5km az=242.0*

ISC 03 20:14:51.8±0.4, 12°.90S±0°.05×45°.33E±0°.07, h10km, n71, σ2s19/74, mb4.3/23, MS3.4/6, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	5.92	163	Pn	Pn	20 16 20.6	+0.9
	12nm,0.3s,baz=333,slow=12,SNR=737						
OPO				Sn	Sn	20 17 22.1	-5.6
	4.3nm,0.3s,baz=243,slow=22,SNR=7.2						
OPO				LR	LR	20 18 31.5	
	comp=Z,305nm,21.5s,baz=177,slow=37						
OPO	Ambohidratompo	5.92	163	P	Pn	20 16 20.8	+1.1
OPO				S	Sn	20 17 23.4	-4.3
FIRM	Firavahana	5.96	166	P	Pn	20 16 21.6	+1.3
FIRM				S	Sn	20 17 24.6	-4.2
ATG	Ambohiby	6.00	172	P	Pn	20 16 21.8	+0.9
ATG				S	Sn	20 17 27.0	-2.8
ABPO	Ambohimpanom	6.35	164	Pn	Pn	20 16 26.2	+0.5
MDSM	Mandiavato	6.37	165	P	Pn	20 16 27.0	+1.1
MDSM				S	Sn	20 17 33.8	-5.0
DGRM	Ambatolahisoa	6.41	171	P	Pn	20 16 27.5	+1.0
DGRM				S	Sn	20 17 35.9	-3.9
AVY	Angavokely	6.43	159	P	Pn	20 16 27.1	+0.4
ABM	Ambohimiarambe	7.12	164	P	Pn	20 16 37.0	+0.8
VOI	Vohitsoka	9.07	171	Pn	Pn	20 17 03.5	+0.5
FOMA	Nahampoana Res	12.12	173	Pn	Pn	20 17 43.8	-0.8
KIBK	Kibwezi	12.73	325	Pn	Pn	20 17 51.3	-1.8
MSEY	Mahe Island	12.93	52		Pn	20 17 51.0	-4.7
KMBO	Kilima Mbogo	14.17	325	Pn	Pn	20 18 11.1	-1.9
KMBO	Kilima Mbogo	14.17	325	Pn	Pn	20 18 10.2	-2.7
	1.0nm,0.3s,baz=148,slow=12,SNR=5.0						
KMBO				Sn	Sn	20 20 45.0	-5.6
	0.5nm,0.3s,baz=9.6,slow=19,SNR=4.0						
KMBO				LR	LR	20 23 11.8	
	comp=Z,132nm,18.7s,baz=92,slow=36						
LSZ	Lusaka	16.80	260	Pn	Pn	20 18 47.5	0.0
LSZ				IAmb	IAmb	20 18 54.7	
	comp=Z,29nm,0.8s						
LSZ	Lusaka	16.80	260	Pn	Pn	20 18 47.7	+0.3
	comp=Z,1.9nm,0.3s,baz=82,slow=8.5,SNR=35						
LSZ				Sn	Sn	20 21 47.0	-7.2
	comp=Z,0.3nm,0.3s,baz=106,slow=15,SNR=2.0 comp=Z,14nm,0.6s						
MOPA	Mopani	16.92	229	*i* P	Pn	20 18 50.2	+1.4
MUSN	Musina, Limpop	17.44	236	*i* P	P	20 18 58.0	+1.4
BLWY	Bulawayo	17.57	244	*i* P	P	20 19 00.5	+2.3
MBAR	Mbarara	18.93	309	P	P	20 19 12.5	-0.8
LODK	Lodwar	19.00	328		P	20 19 13.5	-0.3
MREMI	Moremi	19.55	238	*i* P	Pn	20 19 22.9	+1.8
LPHEP	Lephephe	21.21	238	*i* P	P	20 19 40.3	+2.4
LBTB	Lobatse	22.18	234	P	P	20 19 50.4	+2.0
LBTB				IAmb	IAmb	20 19 54.2	
	comp=Z,17nm,1.0s						
LBTB	Lobatse	22.18	234	LR	LR	20 28 38.5	
	comp=Z,142nm,18.1s,baz=60,slow=37						
LBTB	Lobatse	22.18	234	*i* P	P	20 19 50.7	+2.3
MAKGR	Makgori	23.20	233	*i* P	P	20 20 00.9	+1.8
QNGWA	Qangwa	24.10	251	*i* P	P	20 20 10.6	+2.6
BOSA	Boshof	24.37	227	P	P	20 20 11.8	+1.4
BOSA				IAmb	IAmb	20 20 14.8	
	comp=Z,8.6nm,0.6s						
BOSA	Boshof	24.37	227	P	P	20 20 11.6	+1.2
	comp=Z,8.0nm,0.5s,baz=58,slow=9.3,SNR=34						
BOSA				LR	LR	20 30 06.0	
	comp=Z,90nm,18.0s,baz=38,slow=37 comp=Z,8.0nm,0.5s						
PHPEN	Phepeng	24.59	236	*i* P	P	20 20 13.9	+1.6
SUR	Sutherland	29.68	225	LR	LR	20 32 44.2	
	comp=Z,40nm,18.6s,baz=34,slow=36						
TORD	Torodi Ar. Bea	50.41	299	P	P	20 23 52.2	+2.4
BRTR	Keskin Array B	53.47	349	P	P	20 24 13.6	+1.2
	comp=Z,0.5nm,0.5s,baz=168,slow=8.9,SNR=4.2 comp=Z,0.5nm,0.5s						
DBIC	Dimbokro	53.52	288	LR	LR	20 46 12.1	
	comp=Z,64nm,18.5s,baz=168,slow=35						
GAR	Garm	56.65	23	P	P	20 24 35.8	+0.4
KKAR	Karatay Array	60.31	21	P	P	20 25 01.1	+0.4
KKAR	Karatay Array	60.31	21	P	P	20 25 00.6	-0.1
KKAR				IAmb	IAmb	20 25 03.1	
	comp=Z,3.5nm,1.0s						
CMAR	Chiang Mai Arr	61.36	61	P	P	20 25 10.1	+1.7
	comp=Z,0.4nm,0.4s,baz=243,slow=8.0,SNR=7.9						
CMAR				LR	LR	20 50 33.6	
	comp=Z,27nm,18.4s,baz=165,slow=35 comp=Z,0.4nm,0.4s						
CHTO	Chiang Mai	61.52	60	P	P	20 25 08.7	-0.7
CHTO				IAmb	IAmb	20 25 12.1	
	comp=Z,2.3nm,0.9s						
ABKA

WRA	Warramunga Arr	84.77 109			P		20 27 27.7 +0.7
WRA	Warramunga Arr	84.77 109		P	P		20 27 27.3 +0.3
	comp=Z,5.6nm,0.9s,baz=263,slow=3.9,SNR=22						
	comp=Z,5.6nm,0.9s						
WB0	Warramunga Arr	84.86 109			P		20 27 27.9 +0.4
CPUP	Villa Florida	95.39 242		LR	LR		21 04 42.3
	comp=Z,32nm,20.1s,baz=174,slow=31						
YKA	Yellowknife Ar	128.44 348		PKP	PKPdf		20 33 59.2 +0.7
	comp=Z,0.7nm,0.9s,baz=27,slow=2.4,SNR=7.5						
PDAR	Pinedale Array	143.15 329		PKP	PKPdf		20 34 26.2 -0.5
	comp=Z,1.8nm,0.9s,baz=33,slow=0.7,SNR=11						
TXAR	Lajitas Array	146.92 305		PKPbc	PKPbc		20 34 35.9 +0.6
	comp=Z,1.2nm,0.8s,baz=113,slow=3.3,SNR=5.3						
NVAR	Mina Array Bea	150.70 333		PKPbc	PKPbc		20 34 43.6 -1.3
	comp=Z,1.8nm,0.9s,baz=93,slow=0.6,SNR=7.2						

*NEIC **03** 20:30:58.2±1.0, 5°.08S±0°.02×152°.8E±0°.1, h39km±9km, mb4.7/34, Error ellipse: s-maj=17.0km s-min=3.4km az=88.0*
*IDC **03** 20:30:59.7±4.7, 5°.03S×152°.25E, h59km±44km, mb3.8/13, mbtmp4.1/14, ML2.3/1, MS3.2/9, Error ellipse: s-maj=27.3km s-min=23.3km az=143.0*

ISC 03 20:30:59.6±0.7, 5°.04S±0°.08×152°.4E±0°.1, h55km, n58, σ1§15/44, mb4.5/31, MS3.3/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	0.88	344	Pn	Pn	20 31 16.5	+0.6
MANU	Manus Island	5.84	300		Pn	20 32 25.6	+1.9
PMG	Port Moresby	6.77	230	Pn	Pn	20 32 37.7	+1.3
PMG	Port Moresby	6.77	230	P	Pn	20 32 36.5	+0.1
	3.4nm,0.3s,baz=48,slow=11,SNR=8.3						
PMG				S	Sn	20 33 48.9	-3.3
	24nm,0.7s,baz=57,slow=7.5,SNR=3.7						
	20nm,0.7s						
HNR	Honiara	8.66	121	LR	LR	20 36 38.1	
	comp=Z,138nm,18.0s,baz=256,slow=38						
PATS	Pohnpei	13.19	27	Pn	Pn	20 33 58.0	-6.3
GUMO	Guam	19.96	338	LR	LR	20 42 38.2	
	comp=Z,23nm,19.5s,baz=118,slow=35						
DZM	Mont Dzumac	21.71	143	P	P	20 35 47.8	+1.5
	2.3nm,0.5s,baz=42,slow=9.3,SNR=1.6						
DZM				LR	LR	20 42 37.2	
	comp=Z,90nm,20.3s,baz=332,slow=32						
	2.3nm,0.5s						
MTN	Manton Dam	22.38	248	P	P	20 35 55.3	+1.8
WB0	Warramunga Arr	22.84	229	P	P	20 35 57.7	-0.7
WR8	Warramunga Arr	22.88	228	P	P	20 35 57.7	-1.1
WRA	Warramunga Arr	22.99	228	P	P	20 35 58.4	-1.5
WRA	Warramunga Arr	22.99	228	P	P	20 35 58.2	-1.7
	1.0nm,0.4s,baz=52,slow=9.7,SNR=12						
	1.0nm,0.4s						
KNRA	Kununurra	25.51	244	P	P	20 36 23.5	+0.3
KNRA				IAmb	IAmb	20 37 03.8	
	comp=Z,23nm,1.2s						
AS31	Alice Springs	25.70	222	P	P	20 36 25.4	+0.4
ASAR	Alice Springs	25.71	222	P	P	20 36 26.1	+1.1
ASAR	Alice Springs	25.71	222	P	P	20 36 23.8	-1.1
	comp=Z,2.2nm,0.7s,baz=57,slow=8.8,SNR=32						
ASAR				LR	LR	20 46 02.2	
	comp=Z,101nm,19.0s,baz=47,slow=35						
	comp=Z,2.2nm,0.7s						
STKA	Stephens Creek	28.55	199	LR	LR	20 47 36.1	
	comp=Z,77nm,19.6s,baz=13,slow=35						
FITZ	Fitzroy Crossi	29.20	241	P	P	20 36 55.4	-0.8
FITZ	Fitzroy Crossi	29.20	241	P	P	20 36 55.0	-1.2
	comp=Z,4.1nm,0.6s,baz=50,slow=7.7,SNR=16						
	comp=Z,4.1nm,0.6s						
JOW	Kunigami	39.36	325	LR	LR	20 52 34.8	
	comp=Z,21nm,22.0s,baz=342,slow=33						
MORW	Morawa	41.89	231	P	P	20 38 47.6	+2.8
MORW				IAmb	IAmb	20 39 29.8	
	comp=Z,22nm,1.4s						
KSRS	Korea Array	48.04	334	LR	LR	20 58 16.9	
	comp=Z,9.6nm,20.8s,baz=200,slow=34						
CMAR	Chiang Mai Arr	57.62	295	P	P	20 40 43.1	-1.4
	comp=Z,1.8nm,0.8s,baz=108,slow=6.4,SNR=10						
	comp=Z,1.8nm,0.8s						
PETK	Petropavlovsk-	58.10	4	P	P	20 40 46.5	-0.8
	comp=Z,1.4nm,0.6s,baz=190,slow=7.0,SNR=9.0						
	comp=Z,1.4nm,0.6s						
SHEM	Shemya Is, Ala	60.42	15	LR	LR	21 03 13.3	
	comp=Z,48nm,20.8s,baz=131,slow=32						
SONM	Songino Array	66.32	328	P	P	20 41 42.3	-0.3
	comp=Z,0.5nm,0.6s,baz=126,slow=7.3,SNR=3.5						
	comp=Z,0.5nm,0.6s						
C16K	Lisburne Hills	78.84	15	P	P	20 42 55.8	-0.5
C16K				IAmb	IAmb	20 42 57.4	
	comp=Z,8.5nm,0.8s						
G18K	Tagagawik	79.10	18	P	P	20 42 57.8	-0.1
G18K				IAmb	IAmb	20 42 58.8	
	comp=Z,5.6nm,0.8s						
K20K	Telida	79.10	22	P	P	20 42 58.1	+0.2
K20K				IAmb	IAmb	20 42 59.2	
	comp=Z,7.5nm,0.8s						
SUA	Susitna One	79.34	24	P	P	20 42 58.7	-0.7
PWL	Port Wells	80.03	25		P	20 43 02.9	-0.1
C18K	Utukok River	80.19	16	P	P	20 43 03.5	-0.3
C18K				IAmb	IAmb	20 43 04.7	
	comp=Z,15nm,1.4s						
MKAR	Makanchi Array	80.25	319	P	P	20 43 04.2	-0.4
	comp=Z,0.4nm,0.4s,baz=94,slow=7.9,SNR=13						
	comp=Z,0.4nm,0.4s						
ZALV	Zalesovo Beam	81.13	326	P	P	20 43 08.5	-0.6
	comp=Z,1.1nm,0.4s,baz=93,slow=5.1,SNR=6.1						
	comp=Z,1.1nm,0.4s						
KDJ	Kajisay	82.49	313	P	P	20 43 17.7	+0.9
ILAR	Eielson Array	82.53	22	P	P	20 43 15.1	-1.1
	comp=Z,2.8nm,0.5s,baz=253,slow=4.6,SNR=1.2						
	comp=Z,2.8nm,0.5s						
D22K	Ayikyak River	82.75	17	P	P	20 43 17.4	+0.2
D22K				IAmb	IAmb	20 43 18.9	
	comp=Z,6.4nm,0.8s						
BOOM	Boomskoye usch	83.47	314	P	P	20 43 22.7	+0.9
TOLK	Toolik Lake Re	83.57	18	IAmb	IAmb	20 43 22.7	
	comp=Z,4.7nm,0.8s						
KURBB	Kurchatov Arra	83.75	322	P	P	20 43 21.3	-1.4
	comp=Z,0.2nm,0.4s,baz=106,slow=4.9,SNR=2.7						
	comp=Z,0.2nm,0.4s						
C23K	Itkillik River	83.90	17	P	P	20 43 23.6	+0.5
AAK	Ala-Archa	84.55	314	P	P	20 43 28.5	+1.2
AAK				IAmb	IAmb	20 43 29.3	
	comp=Z,3.9nm,0.9s						
E25K	Arctic Village	84.59	19	IAmb	IAmb	20 43 28.9	
	comp=Z,5.9nm,1.5s						
L29M	L29M	85.35	25	IAmb	IAmb	20 43 32.0	
	comp=Z,3.6nm,0.8s						
K29M	Barlow Dome	85.86	25	IAmb	IAmb	20 43 34.6	
	comp=Z,4.4nm,0.8s						
E27K	Coleen River	85.96	20	IAmb	IAmb	20 43 35.0	
	comp=Z,5.0nm,0.8s						
J30M	Hart River	86.60	24	IAmb	IAmb	20 43 38.2	
	comp=Z,3.7nm,0.9s						
G29M	Pine Creek	86.74	22	P	P	20 43 37.5	0.0
G29M				IAmb	IAmb	20 43 38.5	
	comp=Z,5.1nm,0.9s						
I30M	Mount Dempster	86.79	24	IAmb	IAmb	20 43 38.6	
	comp=Z,4.0nm,1.0s						
E28M	Babbage River	86.83	20	P	P	20 43 38.3	+0.5
H31M	Peel River	87.78	23	P	P	20 43 42.2	-0.2
H31M				IAmb	IAmb	20 43 46.3	
	comp=Z,8.0nm,1.3s						
F30M	Barrier River	87.79	21	P	P	20 43 42.4	-0.1
G31M	Satah River	88.14	22	P	P	20 43 44.0	-0.1
G31M				IAmb	IAmb	20 43 44.3	
	comp=Z,5.3nm,1.1s						
BVAR	Borovoye Array	89.20	323	P	P	20 43 48.4	-1.0
	comp=Z,0.6nm,0.5s,baz=112,slow=6.0,SNR=9.2						
	comp=Z,0.6nm,0.5s						
YKA	Yellowknife Ar	95.82	28	P	P	20 44 19.1	-0.7
	comp=Z,0.4nm,0.8s,baz=256,slow=4.8,SNR=4.9						
	comp=Z,0.4nm,0.8s						
LPIG	La Paz	98.68	66	LR	LR	21 23 55.0	
	comp=Z,33nm,18.5s,baz=41,slow=32						
GERES	GERESS Array B	124.05	328	PKP	PKPdf		20 49 51.5 -0.6
	comp=Z,0.5nm,0.6s,baz=315,slow=0.8,SNR=3.9						

*NEIC **03** 20:33:57.2±1.1, 3°.3N±0°.1×129°.2E±0°.1, h177km±11km, mb4.4/10, Error ellipse: s-maj=23.8km s-min=16.2km az=217.0*
*IDC **03** 20:33:57.0±7.3, 2°.73N×129°.12E, h158km±71km, mb3.4/6, mbtmp3.8/6, MS3.6/1, Error ellipse: s-maj=37.1km s-min=16.1km az=70.0*

*DJA **03** 20:34:08.6±0.6, 3°.1N±5°.×12°.8E±°, h207km±5km, M4.3/13, mB4.6/1, mb4.1/6, MLv4.5/13, Mw(mB)3.8/1*

ISC 03 20:34:03.7±1.2, 2°.67N±0°.10×128°.7E±0°.1, h200km, n34, σ1§87/29, mb3.8/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.32	216	Pn	Pn	20 34 47.9	+2.2
TNTI	Ternate	2.32	216	P	Pn	20 34 49.9	+4.2
SGSI	Sangihe	3.34	288	P	Pn	20 35 00.2	+2.8
SGSI				S	Sn	20 35 40.3	+0.9
SWI	Sorong	4.34	144	P	Pn	20 35 15.8	+6.0
KMSI	Cibinong	5.17	246	P	Pn	20 35 22.2	+1.8
KMSI				S	Sn	20 36 20.3	-0.5
SANI	Sanana	5.42	210	P	Pn	20 35 24.2	+0.6
NLAI	Namlea	6.09	195	P	Pn	20 35 35.2	+3.0
	0.1nm19nm,0.9s						
FAKI	Fak Fak	6.58	148	Pn	Pn	20 35 35.1	-3.5
LUWI	Luwuk	6.99	238	Pn	Pn	20 35 45.8	+1.9
LUWI	Luwuk	6.99	238	P	Pn	20 35 45.5	+1.6
	0.5nm30nm,0.6s						
MRSI	Marisa	7.11	252	P	Pn	20 35 47.2	+1.7
	0.1nm14nm,0.6s						
APSI	Ampana	7.91	243	P	Pn	20 35 57.0	+1.1
TOLI2	Tolitoli	8.08	259	Pn	Pn	20 35 58.6	+0.5
MYLDM	Lahad Datu	10.49	284	Pn	Pn	20 36 28.1	-1.3
KKM	Kota Kinabalu	12.90	285	Pn	Pn	20 36 57.8	-2.4
SBUM	Sibu	16.48	270	P	P	20 37 41.9	-1.2
SBUM				IAmb	IAmb	20 37 47.1	
	comp=Z,11nm,0.8s						
KNRA	Kununurra	18.23	180	P	P	20 38 02.5	+0.4
KNRA				IAmb	IAmb	20 38 41.6	
	comp=Z,36nm,1.5s						
WB0	Warramunga Arr	22.99	166	P	P	20 38 50.7	-0.4
WB0				IAmb	IAmb	20 39 03.8	
	comp=Z,16nm,1.4s						
WRA	Warramunga Arr	23.14	166	P	P	20 38 51.9	-0.6
WRA	Warramunga Arr	23.14	166	P	P	20 38 48.4	-4.2
	comp=Z,1.1nm,0.7s,baz=341,slow=10,SNR=7.1						
	comp=Z,1.1nm,0.7s						
WR8	Warramunga Arr	23.19	166	P	P	20 38 52.0	-1.0
WR8				IAmb	IAmb	20 39 09.3	
	comp=Z,13nm,1.3s						
AS31	Alice Springs	26.66	169	P	P	20 39 24.4	+0.1
ASAR	Alice Springs	26.66	169	P	P	20 39 23.5	-0.8
ASAR	Alice Springs	26.66	169	P	P	20 39 21.9	-2.4
	comp=Z,1.3nm,0.7s,baz=349,slow=7.6,SNR=11						
ASAR				PcP	PcP	20 42 40.4	-2.5
	comp=Z,0.5nm,0.6s,baz=341,slow=3.0,SNR=5.8						
	comp=Z,1.3nm,0.7s						
GSI	Gunungsitoli	31.15	268	P	P	20 40 02.7	-1.4
GSI				IAmb	IAmb	20 40 40.4	
	comp=Z,4.6nm,0.8s						
CMAR	Chiang Mai Arr	33.11	300	P	P	20 40 21.6	+0.3
	comp=Z,1.4nm,0.6s,baz=116,slow=7.0,SNR=11						
	comp=Z,1.4nm,0.6s						
FORT	Forrest	33.27	181	P	P	20 40 22.2	-0.1
MJAR	Matsushiro Arr	34.83	13	P	P	20 40 31.1	-4.6
	comp=Z,1.6nm,0.7s,baz=180,slow=8.8,SNR=6.0						
	comp=Z,1.6nm,0.7s						
PZH	PanZhiHua	35.08	315	P	P	20 40 41.4	+3.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,4.5s						
BBOO	Buckleboo	35.97	169	P	P	20 40 45.2	-0.3
BBOO				IAmb	IAmb	20 41 26.2	
	comp=Z,35nm,1.5s						
STKA	Stephens Creek	36.47	161	P	P	20 40 49.7	-0.1
NWAO	Narrogin (SRO)	37.03	196	LR	LR	20 59 50.8	
	comp=Z,76nm,18.1s,baz=348,slow=42						
MKAR	Makanchi Array	59.55	325	P	P	20 43 45.6	-0.7
	comp=Z,0.4nm,0.5s,baz=121,slow=5.6,SNR=5.6						
MKAR				PcP	pP	20 44 29.4	-2.2
	comp=Z,0.2nm,0.5s,baz=120,slow=5.2,SNR=2.3						
	comp=Z,0.4nm,0.5s						
KURBB	Kurchatov Arra	63.70	327	P	P	20 44 12.6	-1.2
	comp=Z,0.4nm,0.4s,baz=117,slow=5.7,SNR=2.4						
	comp=Z,0.4nm,0.4s						

*IDC **03** 20:48:34.1±1.7, 21°.02S×178°.16W, h476km±16km, mb3.6/13, mbtmp4.4/16, Error ellipse: s-maj=18.7km s-min=14.2km az=106.0*
*NEIC **03** 20:48:35.5±1.5, 21°.0S±0°.2×178°.11W±0°.10, h493km±8km, mb4.4/35, Error ellipse: s-maj=27.3km s-min=6.3km az=154.0*

ISC 03 20:48:35.5±0.5, 21°.04S±0°.09×178°.18W±0°.09, h495km, n85, σ1§11/86, mb4.3/32, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.85	312	P	P	20 50 00.1	-1.0
	220nm,0.5s,baz=132,slow=7.8,SNR=222						
FUTU	Fugatoga	6.70	0	P	P	20 50 12.8	-5.8
NIUE	Niue	8.00	77	P	P	20 50 30.8	-1.1
PINNC	Pines Island,	13.45	261	P	P	20 51 30.9	+1.4
DZM	Mont Dzumac	14.35	263	P	P	20 51 36.7	-2.5
DZM	Mont Dzumac	14.35	263	P	P	20 51 38.7	-0.4
	16nm,0.8s,baz=76,slow=14,SNR=9.5						
WIAZ	Waiheke Island	16.74	199	P	P	20 52 04.6	+0.7
MBAZ	Motutapu North	16.79	200	P	P	20 52 05.5	+1.1
HAZ	Te Kaha	17.02	191	P	P	20 52 06.3	-0.4
MKAZ	Moumakai	17.02	198	P	P	20 52 08.1	+1.3
PKGZ	Pakihiroa	17.08	190	P	P	20 52 08.2	+0.9
AWAZ	Awhitu Peninsu	17.14	200	P	P	20 52 09.4	+1.4
RUGZ	Raukumara Rang	17.24	191	P	P	20 52 09.0	0.0
TWGZ	Tauwhareparae	17.40	190	P	P	20 52 12.2	+1.7
URZ	Urewera	17.64	192	P	P	20 52 10.7	-1.9
	5.0nm,0.3s,baz=29,slow=3.0,SNR=11						
URZ				S	S	20 55 07.4	-2.6
	11nm,0.9s,baz=115,slow=17,SNR=1.2						
URZ	Urewera	17.64	192	P	P	20 52 10.9	-1.7
ETVZ	East Tongariro	18.78	195	P	P	20 52 22.3	-1.0
SNVZ	South Ngauruho	18.85	195	P	P	20 52 23.0	-0.9
COVZ	Chateau Observ	18.89	195	P	P	20 52 19.2	-5.0
EIDS	Eidsvold	28.55	255	P	P	20 53 50.8	+0.1
EIDS				IAmb	IAmb	20 54 10.9	
	comp=Z,26nm,1.2s						
ARMA	Armidale	28.68	245	P	P	20 53 53.2	+1.3
ARMA				IAmb	IAmb	20 54 29.0	
	comp=Z,16nm,1.4s						
TOO	Toolangi	35.45	234	P	P	20 54 50.3	+0.8
TOO				IAmb	IAmb	20 54 52.2	
	comp=Z,14nm,1.4s						
STKA	Stephens Creek	37.41	245	P	P	20 55 06.3	+0.6
STKA	Stephens Creek	37.41	245	P	P	20 55 06.0	+0.2
	comp=Z,2.0nm,0.4s,baz=89,slow=11,SNR=6.9						
STKA				PcP	PcP	20 57 12.8	+1.0
	comp=Z,1.5nm,0.4s,baz=111,slow=8.6,SNR=4.6						
	comp=Z,2.0nm,0.4s						
BBOO	Buckleboo	42.16	244	P	P	20 55 43.3	-0.7
WR0	Warramunga Arr	44.17	263	P	P	20 55 58.7	-1.3
WR8	Warramunga Arr	44.21	263	P	P	20 55 58.7	-1.6
AS31	Alice Springs	44.23	257	P	P	20 55 60.0	-0.5
ASAR	Alice Springs	44.24	257	P	P	20 55 60.0	-0.5
	comp=Z,7.5nm,0.8s,baz=95,slow=8.2,SNR=72						
ASAR				PcP	PcP	20 57 35.2	+0.7
	comp=Z,3.0nm,0.6s,baz=96,slow=3.5,SNR=20						
ASAR				ScP	ScP	21 00 41.5	+2.4
	comp=Z,0.3nm,0.6s,baz=99,slow=3.9,SNR=4.2						
	comp=Z,7.5nm,0.8s						
WB0	Warramunga Arr	44.35	263	P	P	20 56 00.4	-0.9
WB0				IAmb	IAmb	20 56 01.0	
	comp=Z,6.4nm,0.7s						
WB2	Warramunga Arr	44.35	263	P	P	20 56 00.5	-0.9
WRA	Warramunga Arr	44.37	263	P	P	20 56 00.6	-0.9
	comp=Z,2.4nm,0.3s,baz=97,slow=7.3,SNR=134						
WRA				PcP	PcP	20 57 35.2	+0.2
	comp=Z,0.6nm,0.3s,baz=94,slow=3.2,SNR=4.6						
	comp=Z,2.4nm,0.3s						
FITZ	Fitzroy Crossi	52.79	263	P	P	20 57 02.5	-1.8
MBWA	Marble Bar	57.58	258	P	P	20 57 36.5	-1.3
MBWA				IAmb	IAmb	20 57 37.8	
	comp=Z,26nm,1.4s						
QSPA	South Pole Qui	69.03	180	P	P	20 58 51.2	+0.4
QSPA	South Pole Qui	69.03	180	P	P	20 58 51.6	+0.8
	comp=Z,5.5nm,0.7s,baz=351,slow=3.0,SNR=14						
	comp=Z,5.5nm,0.7s						
MJAR	Matsushiro Arr	70.55	324	P	P	20 58 59.5	-0.6
	comp=Z,1.6nm,0.6s,baz=154,slow=5.6,SNR=7.5						
	comp=Z,1.6nm,0.6s						
PETK	Petropavlovsk-	76.75	345	P	P	20 59 34.8	-0.3
	comp=Z,5.8nm,0.8s,baz=116,slow=6.8,SNR=5.5						
	comp=Z,5.8nm,0.8s						

KSRS	Korea Array	77.18	319	P	P		20 59 38.5 +0.7
	comp=Z,1.0nm,0.7s,baz=124,slow=7.0,SNR=2.7						
	comp=Z,1.0nm,0.7s						
SII	Sitkinak Islan	79.91	13	P	P		20 59 52.9 +0.9
N14K	Kuskokwak Cree	81.79	8	P	P		21 00 02.2 +0.5
O16K	Kokwok River B	82.01	10	P	P		21 00 02.6 -0.2
N15K	Kwethluk River	82.25	9	P	P		21 00 04.5 +0.4
N15K				IAmb	IAmb		21 00 07.2
	comp=Z,9.5nm,1.1s						
P18K	Big Mountain,	82.33	12	P	P		21 00 04.3 -0.2
P18K				IAmb	IAmb		21 00 06.5
	comp=Z,7.0nm,0.8s						
O18K	Koktuh Hills	82.76	11	P	P		21 00 06.6 -0.1
O18K				IAmb	IAmb		21 00 07.7
	comp=Z,11nm,0.8s						
ILSW	Iliamna Southw	83.28	12	P	P		21 00 08.6 -0.8
ILSW				IAmb	IAmb		21 00 10.5
	comp=Z,16nm,1.0s						
RPSI	Rantau Prapat	84.34	275	P	P		21 00 15.3 -0.2
RPSI				IAmb	IAmb		21 00 17.1
	comp=Z,8.9nm,1.0s						
GSI	Gunungsitoli	85.09	273	P	P		21 00 20.1 +0.8
CAST	Castle Rocks	86.64	11	P	P		21 00 24.9 -0.6
CAST				IAmb	IAmb		21 00 25.5
	comp=Z,3.6nm,0.6s						
TRF	Thorofare Moun	87.01	12	P	P		21 00 27.0 -0.4
TRF				IAmb	IAmb		21 00 28.4
	comp=Z,5.6nm,0.6s						
RND	Reindeer	87.26	13	P	P		21 00 28.6 +0.1
SNAA	Sanae	87.47	179	P	P		21 00 30.1 +0.5
	comp=Z,1.7nm,0.9s,baz=201,slow=8.6,SNR=1.1						
	comp=Z,1.7nm,0.9s						
TXAR	Lajitas Array	87.49	57	P	P		21 00 30.9 +0.5
	comp=Z,0.6nm,0.7s,baz=259,slow=3.0,SNR=5.4						
	comp=Z,0.6nm,0.7s						
WRH	Wood River Hil	88.36	13	IAmb	IAmb		21 00 34.3
	comp=Z,6.7nm,0.6s						
RIDG	Independent Ri	88.42	14	P	P		21 00 34.0 +0.1
RIDG				IAmb	IAmb		21 00 34.7
	comp=Z,6.1nm,1.3s						
ILAR	Eielson Array	88.88	13	P	P		21 00 35.9 -0.1
	comp=Z,1.5nm,0.3s,baz=215,slow=5.3,SNR=32						
	comp=Z,1.5nm,0.3s						
J26L	Joseph Creek	89.37	14	P	P		21 00 39.4 +1.0
J26L				IAmb	IAmb		21 00 40.2
	comp=Z,4.6nm,0.8s						
PDAR	Pinedale Array	89.47	43	P	P		21 00 38.8 -0.7
	comp=Z,0.4nm,0.6s,baz=268,slow=7.6,SNR=1.5						
	comp=Z,0.4nm,0.6s						
M30M	Minto, Yukon	89.53	18	IAmb	IAmb		21 00 40.7
	comp=Z,4.5nm,0.8s						
L29M	L29M	89.58	17	P	P		21 00 40.9 +1.6
L29M				IAmb	IAmb		21 00 41.9
	comp=Z,7.5nm,1.1s						
E19K	Redstone River	89.60	8	IAmb	IAmb		21 00 40.6
	comp=Z,5.7nm,0.8s						
CMAR	Chiang Mai Arr	90.14	290	P	P		21 00 44.5 +1.6
	comp=Z,2.8nm,0.7s,baz=125,slow=2.8,SNR=25						
	comp=Z,2.8nm,0.7s						
COLD	Coldfoot	90.44	11	IAmb	IAmb		21 00 45.6
	comp=Z,3.8nm,1.0s						
SONM	Songino Array	96.05	319	P	P		21 01 09.5 +0.1
	comp=Z,0.4nm,0.8s,baz=110,slow=3.4,SNR=2.2						
	comp=Z,0.4nm,0.8s						
MKAR	Makanchi Array	111.45	313	PKiKP	PKiKP		21 06 12.7 -0.3
	comp=Z,0.3nm,0.4s,baz=90,slow=2.9,SNR=9.1						
KURBB	Kurchatov Arra	114.33	317	PKiKP	PKiKP		21 06 18.3 0.0
	comp=Z,0.4nm,0.3s,baz=17,slow=1.0,SNR=4.8						
BVAR	Borovoye Array	119.39	320	PKP	PKPdf		21 06 27.8 -0.2
	comp=Z,2.1nm,0.3s,baz=118,slow=2.3,SNR=23						
SPITS	Spitsbergen Ar	122.39	356	PKP	PKPdf		21 06 33.2 +0.1
	comp=Z,2.5nm,0.8s,baz=69,slow=8.2,SNR=5.0						
ARCES	ARCESS Array B	129.42	349	PKP	PKPdf		21 06 47.0 +0.3
	comp=Z,1.0nm,0.4s,baz=14,slow=2.5,SNR=14						
FINES	FINESS Array B	136.24	343	PKhKP	PKPpre		21 06 48.1
	comp=Z,1.8nm,0.9s,baz=3.8,slow=5.7,SNR=3.8						
FINES				PKP	PKPdf		21 06 59.1 -0.6
	comp=Z,0.9nm,0.5s,baz=88,slow=3.3,SNR=6.7						
NOA	NORSAR Array B	139.50	353	PKP	PKPdf		21 07 06.1 +0.3
	comp=Z,0.3nm,0.5s,baz=14,slow=3.8,SNR=2.1						
HFS	Hagfors	140.05	351	PKhKP	PKPpre		21 06 59.3
	comp=Z,1.6nm,0.3s,baz=47,slow=3.0,SNR=24						
AKASG	Malin Array Be	143.40	331	PKhKP	PKPpre		21 07 10.8
	comp=Z,10nm,0.5s,baz=44,slow=4.3,SNR=75						
EKA	Eskdalemuir Ar	145.56	5	PKPbc	PKPbc		21 07 17.5 -0.4
	comp=Z,2.5nm,0.6s,baz=12,slow=2.8,SNR=9.3						
BRTR	Keskin Array B	147.08	312	PKPbc	PKPbc		21 07 22.1 -0.7
	comp=Z,2.2nm,0.7s,baz=144,slow=4.3,SNR=13						
MMAI	Mount Meron Ar	147.93	299	PKPbc	PKPbc		21 07 25.1 0.0
	comp=Z,4.6nm,0.5s,baz=64,slow=4.0,SNR=22						
CSS	Mathiatis	149.06	303		PKPbc		21 07 27.7 -0.2
GERES	GERESS Array B	150.67	344	PKPbc	PKPbc		21 07 31.4 +0.2
	comp=Z,1.4nm,0.5s,baz=31,slow=3.6,SNR=8.5						
GERES				PKP

K22A IAML 20 58 27.7
comp=N,47nm,0.8s
YMP Mirror Lake Pl 2.31 267 Pn **Pg 20 57 51.0 +0.1**
H17A Grant Village 2.66 260 Pn **Pg 20 57 57.4 -0.1**
YNR Norris Junctio 2.69 267 Pn **Pb 20 57 54.9 -0.7**
YNR IAML 20 58 34.9
comp=N,26nm,0.9s
YNR IAML 20 58 35.7
comp=E,22nm,0.5s
YHH Holmes Hill 2.80 269 Pn **Pb 20 57 57.3 -0.3**
YFT Old Faithful 2.83 262 Pn **Pb 20 57 56.1 -2.0**
BW06 Boulder Array 2.87 223 Pn **Pg 20 58 01.1 -0.4**
BW06 IAML 20 59 03.6
comp=E,19nm,1.5s
PD31 Pinedale Array 2.87 223 Pn **Pb 20 57 57.8 -1.0**
PDAR Pinedale Array 2.87 223 **Pg 20 58 00.5 -1.0**
PDAR Pinedale Array 2.87 223 Pn **Pg 20 58 01.3 -0.2**
comp=E,1.6nm,0.3s,baz=53,slow=18,SNR=55
PDAR Lg Lg 20 58 41.0
comp=E,1.7nm,0.3s,baz=50,slow=30,SNR=18
comp=E,1.8nm,0.4s
YMR Madison River 2.89 267 Pn **Pn 20 57 55.4 +1.4**
YMR IAML 20 58 55.5
comp=N,47nm,0.9s
YMR IAML 20 59 11.4
comp=E,52nm,0.9s
MOOW Moose Ponds 2.98 248 Pn **Pn 20 57 57.2 +1.9**
YHL Hebgen Lake 3.04 270 Pn **Pb 20 57 59.0 -2.6**
YHL IAML 20 58 53.6
comp=E,27nm,1.8s
YHL IAML 20 58 56.6
comp=N,30nm,0.8s
BOZ Bozeman (W) 3.40 283 Pn **Pb 20 58 06.1 -1.6**
BOZ IAML 20 59 26.9
comp=N,19nm,3.8s
EGMT Eagleton 3.68 329 Pn **Pn 20 58 07.2 +2.4**
AHID Auburn Hatcher 3.71 236 Pn **Pn 20 58 06.2 +1.0**
AHID IAML 20 58 46.3
comp=N,16nm,4.1s
AHID IAML 20 59 02.0
comp=N,12nm,3.8s
DGMT Dagmar 4.02 27 Pn **Pn 20 58 10.3 +1.0**
E28A Huff 4.66 67 Pn **Pn 20 58 17.4 -0.8**
HWUT Hardware Ranch 4.74 227 Pn **Pn 20 58 20.2 +0.9**
HWUT IAML 20 59 59.1
comp=N,15nm,4.2s
HWUT IAML 21 00 08.0
comp=N,11nm,3.3s
TCUT Toone Canyon 5.02 223 Pn **Pn 20 58 25.3 +2.0**
PV16 Nyswonger Mesa 6.76 193 Pn **Pn 20 58 48.8 +1.6**
PV11 David Mesa, Pa 6.77 193 Pn **Pn 20 58 50.3 +3.1**
I10CA LAC DU BONNET 9.06 50 I I 21 51 10.0
baz=238,slow=320,SNR=2.9
ULM Lac du Bonnet 9.17 50 Pn **Pn 20 59 20.4 +0.4**
comp=N,0.3nm,0.3s,baz=243,slow=14,SNR=2.1
ULM Lg Lg 21 01 49.4
comp=N,0.1nm,0.3s,baz=172,slow=9.6,SNR=3.3
comp=N,1.1nm,0.4s

NOU 03 21:16:19.8, 15°50S×167°62E, h113km, MLv4.6/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	0.63	198	P	Pn	21 16 38.7	+0.8
VLAKA	Lakatoro	0.63	198	S	Sn	21 16 54.2	+2.7
DVP	Devils Point	2.28	166	P	Pn	21 16 55.7	-0.8
KOUNC	Koumac, New Ca	5.94	212	P	Pn	21 17 45.3	-0.1
DZM	Mont Dzumac	6.63	189	P	Pn	21 17 54.3	-0.5
ONTNC	Ouen Toro	6.86	189	P	Pn	21 17 58.5	+0.7
OUENC	Ouen Island, N	6.92	186	P	Pn	21 17 59.0	+0.3

TXNET 03 21:20:56.1, 31°7N±0°6×104°3W±0°9, h6km±2km, ML2.1/7, Error ellipse: s-maj=1.4km s-min=0.9km az=73.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.35	34	P	Pg	21 21 03.0	+0.1
TPB11				S	Sg	21 21 07.6	+0.1
PECS	Pecos	0.43	129	P	Pg	21 21 04.6	+0.1
PECS				S	Sg	21 21 10.4	+0.2
PECS	Pecos	0.43	129	P	Pg	21 21 04.6	+0.1
TPB12	Southwest of T	0.50	149	P	Pg	21 21 06.0	+0.2
TPB12				S	Sg	21 21 12.9	+0.5
TPB07	Mentone	0.51	97	P	Pg	21 21 05.9	-0.1
TPB07				S	Sg	21 21 12.8	+0.2
GDL2	Guadalupe Moun	0.56	351	P	Pg	21 21 07.1	+0.2
TPB10	Southeast of T	0.56	130	S	Sg	21 21 14.9	+0.5
PCOS	Crockett Middl	0.68	110	S	Sg	21 21 18.7	+0.5
CLNB	Carlsbad	0.70	28	P	Pg	21 21 09.2	-0.3
CLNB				S	Sg	21 21 19.0	+0.4
TPB01	Permian Basin	0.81	149	P	Pg	21 21 11.4	-0.3
TPB01				S	Sg	21 21 21.4	-0.9
MNTX	Cornudas Mount	0.96	273	P	Pb	21 21 14.8	-0.2
MNTX				S	Sg	21 21 27.1	+0.3
HTMS	Hat Mesa	0.98	33	S	Sg	21 21 27.9	+0.3
VHRN	Van Horn	1.06	216	P	Pg	21 21 16.0	-0.4
VHRN				S	Sb	21 21 30.9	0.0
VHRN	Van Horn	1.06	216	P	Pg	21 21 16.1	-0.2
TPB05	Hovey Rd	1.08	132	S	Sg	21 21 30.7	-0.2
MNHN	Monahans	1.32	103	P	Pn	21 21 19.9	-1.2
MNHN				S	Sb	21 21 36.5	-1.9
MNHN	Monahans	1.32	103	P	Pn	21 21 20.3	-0.7
CPRX	Cap Rock	1.42	14	P	Pn	21 21 22.5	-0.1
ODSA	Odessa	1.53	72	P	Pn	21 21 23.7	-0.3
ODSA				S	Sn	21 21 43.7	-0.6
TX31	Lajitas Ar. Si	2.36	167	Pg	Pb	21 21 38.3	-0.8
TX31	Lajitas Ar. Si	2.36	167	P	Pb	21 21 38.4	-0.6
SAND	Sanderson	2.50	132	Pg	Pb	21 21 40.4	-0.9
SAND	Sanderson	2.50	132	P	Pb	21 21 40.4	-0.9

NEIC 03 21:27:24.8±1.8, 16°39S±0°07×71°83W±0°08, h113km±13km, mb4.6/14, Error ellipse: s-maj=11.4km s-min=9.6km az=114.0
IDC 03 21:27:26.2±2.1, 16°36S×71°69W, h117km±19km, mb3.6/4, mbtmp4.1/8, Error ellipse: s-maj=24.2km s-min=18.0km az=27.0
GUC 03 21:27:27.3±0.8, 16°54S×71°81W, h125km±5km, ML4.3
VAO 03 21:27:43.8±2.3, 16°08S×70°70W, h288km±31km, mb4.3
ISC 03 21:27:23.3±0.6, 16°38S±0°05×71°81W±0°06, h100km, n71, σ1°94/75, mb4.3/11, 3D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	2.42	145	Pn	Pn	21 28 04.4	+3.0
AP01				Sn	Sn	21 28 32.6	+1.8
AP01	Chacalluta	2.42	145	eP	Pn	21 28 04.5	+3.0
AP01				eS	Sn	21 28 32.5	+1.8
PB18	Visviri	2.53	119	Pn	Pn	21 28 07.3	+3.9
PB18	Visviri	2.53	119	||iP	Pn	21 28 07.7	+4.3
PB12	IPOC Station P	2.63	148		Pn	21 28 06.8	+2.5
PB12				Sn	Sn	21 28 33.5	-2.3
PB12	IPOC Station P	2.63	148	eP	Pn	21 28 06.8	+2.5
PB12				IAML		21 28 40.8	
comp=E,927nm,0.2s							
PB16	IPOC Station P	2.93	132		Pn	21 28 11.8	+3.0
PX02	IPOC Station P	2.99	149	eP	Pn	21 28 10.5	+1.4
LPAZ	La Paz	3.53	89	Pn	Pn	21 28 19.4	+2.6
LPAZ	La Paz	3.53	89	P	Pn	21 28 19.7	+2.9
comp=E,83nm,0.5s,baz=273,slow=7.9,SNR=316							
LPAZ				S	Sn	21 28 59.2	+1.2
comp=E,26nm,0.5s,baz=188,slow=24,SNR=8.5							
PB11	IPOC Station P	3.94	149		Pn	21 28 23.4	+1.5
PB11	IPOC Station P	3.94	149	eP	Pn	21 28 23.2	+1.4
PB11				eS	Sn	21 29 05.3	-1.9
GO01	Chusmiza	4.11	143	Pn	Pn	21 28 27.0	+2.6
GO01	Chusmiza	4.11	143	||iP	Pn	21 28 27.1	+2.6
GO01				eS	Sn	21 29 12.3	+0.6
TA02	Huaiquique	4.18	158		Pn	21 28 27.0	+2.0
TA02	Huaiquique	4.18	158	eP	Pn	21 28 26.8	+1.7
TA02				eS	Sn	21 29 11.8	-1.1
HMBC	Humberstone	4.29	155	Pn	Pn	21 28 27.8	+1.3
HMBC	Humberstone	4.29	155	||iP	Pn	21 28 27.6	+1.1
HMBC				eS	Sn	21 29 13.4	-2.2
TA01	Diego Aracena	4.44	160	Pn	Pn	21 28 29.6	+1.1
TA01	Diego Aracena	4.44	160	eP	Pn	21 28 29.9	+1.4
PB08	IPOC Station P	4.51	146		Pn	21 28 31.5	+1.7
PB08	IPOC Station P	4.51	146	iP	Pn	21 28 31.9	+2.1
PB08				IAML		21 29 22.8	
PATCX	Punta Patache	4.69	161		Pn	21 28 32.7	+0.7
PB01	IPOC Station P	5.13	155		Pn	21 28 38.5	+0.5
PB09	IPOC Station P	5.91	156		Pn	21 28 50.1	+1.5
NNA	Nana	6.55	311	Pn	Pn	21 28 58.5	+1.3
NNA	Nana	6.55	311	P	Pn	21 28 59.9	+2.7
comp=E,51nm,0.3s,baz=135,slow=13,SNR=17							
NNA				S	Sn	21 30 11.8	+1.2
comp=E,11nm,0.3s,baz=217,slow=19,SNR=1.7							
PB05	IPOC Station P	6.62	167		Pn	21 28 58.5	+0.4
PB14	IPOC Station P	8.31	171	Pn	Pn	21 29 22.7	+1.3
GO02	Mina Guanaco	8.98	167	Pn	Pn	21 29 32.0	+1.5
AC01	Pan de Azucar	9.79	174	Pn	Pn	21 29 41.9	+0.8
SIV	San Ignacio	10.32	89	P	Pn	21 29 45.3	-3.2
comp=E,1.5nm,0.6s,baz=270,slow=11,SNR=3.2							
SIV				S	Sn	21 31 33.7	-8.7
comp=E,2.1nm,0.7s,baz=212,slow=6.5,SNR=4.6							
CO03	El Pedregal	14.43	176		Pn	21 30 43.7	+0.8
SALV	Santo Antonio	15.49	90	eP	Pn	21 30 55.0	-1.3
CFA	Coronel Fontan	15.50	169	P	Pn	21 30 58.2	+1.7
comp=E,1.2nm,0.3s,baz=348,slow=13,SNR=4.5							
CPUP	Villa Florida	16.71	129		Pn	21 31 11.8	+0.3
CPUP	Villa Florida	16.71	129	P	Pn	21 31 11.7	+0.2
comp=E,2.2nm,0.7s,baz=302,slow=9.7,SNR=5.6							
MACA	Manacapuru-AM	17.09	41	P	Pn	21 31 14.5	-1.6
MACA	Manacapuru-AM	17.09	41	eP	Pn	21 31 13.7	-2.5
AMBA	Amambai (Brazi	17.12	115	eP	Pn	21 31 15.9	-0.6
OTAV	Otavalo	17.76	338	eP	Pn	21 31 34.0	+9.2
H03N1	Juan Fernandez	18.16	199	T	T	21 50 07.6	
baz=21,slow=73							
H03N2	Juan Fernandez	18.16	199	T	T	21 50 07.6	
baz=21,slow=73							
H03N3	Juan Fernandez	18.18	199	T	T	21 50 07.0	
baz=21,slow=73							
ITQB	Itaqui	19.21	136	P	P	21 31 39.1	-0.5
ITQB				IAmb	IAmb	21 31 43.2	
comp=Z,30nm,1.0s							
ITQB	Itaqui	19.21	136	eP	Pn	21 31 42.2	+0.7
ITTB	Itaituba	19.79	55	eP	P	21 31 42.7	-3.2
PTGB	Pitanga	20.24	117	eP	P	21 31 50.0	-0.8
SNDB	Serra Nova Dou	20.36	80	eP	P	21 31 48.0	-4.1
LDASE	Londrina, Braz	20.66	113	eP	P	21 31 53.9	-1.4
TBOT	Tacuaremb	20.99	139	eP	P	21 31 59.3	+0.6
ITAB	Concordia	21.19	124		P	21 32 01.0	+0.1
ITAB				IAmb	IAmb	21 32 03.4	
comp=Z,21nm,0.9s							
ITAB	Concordia	21.19	124	eP	P	21 32 00.6	-0.3
BOAV	Boa Vista	21.73	32	P	P	21 32 05.5	-1.2
CPSB	Cacapava Do Su	21.84	133	eP	P	21 32 08.6	+0.8
RUSC	La Rusia	22.16	357	P	P	21 32 10.3	-1.5
RUSC				IAmb	IAmb	21 32 16.3	
comp=Z,18nm,0.6s							
MAL2	Monte Alegre,	22.47	52	P	P	21 32 13.4	-1.1
MAL2				IAmb	IAmb	21 32 31.4	
comp=Z,17nm,0.9s							
PLTB	Pedras Altas	22.55	136	P	P	21 32 15.7	+0.5
PLTB				IAmb	IAmb	21 32 18.4	
comp=Z,7.7nm,0.7s							
IPMB	Ipameri, GO	22.60	97	eP	P	21 32 11.5	-4.4
TRQA	Tornquist	23.27	160	P	P	21 32 22.3	+0.1
PLCA	Paso Flores	24.29	178	P	P	21 32 33.4	+1.9
comp=Z,1.9nm,0.9s,baz=342,slow=11,SNR=3.5							
comp=Z,1.9nm,0.9s							
SDV	Santo Domingo	25.13	3	eP	P	21 32 40.0	+0.6
SMRC	Santa Marta, M	27.47	355	P	P	21 32 58.8	-1.5
SMRC				IAmb	IAmb	21 33 15.8	
comp=Z,40nm,1.2s							
CELP	Cerrillos	34.62	9	P	P	21 34 00.6	-2.5
HUMP	Col San Antoni	34.80	10	P	P	21 34 03.0	-1.6
HUMP				IAmb	IAmb	21 34 34.2	
comp=Z,23nm,1.2s							
T57A	Hurt	53.55	353	P	P	21 36 33.9	0.0
T57A				IAmb	IAmb	21 36 35.6	
comp=Z,11nm,1.0s							
Q56A	Snyder Ridge,	55.56	353	P	P	21 36 49.1	+0.7
ULM	Lac du Bonnet	69.65	344	P	P	21 38 24.6	+2.8
comp=Z,1.7nm,0.5s,baz=150,slow=8.1,SNR=4.2							
comp=Z,1.7nm,0.5s							
ESDC	Sonseca Array	84.19	46	P	P	21 39 43.5	-0.2
comp=Z,0.9nm,0.7s,baz=258,slow=5.6,SNR=5.6							
comp=Z,0.9nm,0.7s							
YKA	Yellowknife Ar	85.48	342	P	P	21 39 50.1	+0.5
comp=Z,0.4nm,0.6s,baz=136,slow=5.3,SNR=7.8							
comp=Z,0.4nm,0.6s							
SONM	Songino Array	148.60	2	PKPbc	PKPdf	21 46 57.9	+2.8
comp=Z,0.3nm,0.4s,baz=216,slow=1.2,SNR=2.6							

GCG 03 21:47:09.5±2.1, 15°33N×90°18W, h6km±18km, MD4.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVCB	Coban	0.26	303	iP	Pg	21 47 14.8	+0.2
AVCB				iS	Sb	21 47 19.9	-1.6
ESSG	Sabana Grande	1.13	214	eP	Pg	21 47 30.1	-1.1
MTO3	Montecristo	1.22	139	eP	Pg	21 47 30.0	-2.9
SOKI	Kika Raxquin	1.28	247	eP	Pg	21 47 33.7	-0.5
SOKI				eS	Sn	21 47 52.0	-0.1
STG8	El Palmar, Qui	1.43	232	eP	Pb	21 47 36.8	+0.1
STG0	El Palmar, Qui	1.44	232	eP	Pb	21 47 36.9	+0.1
NUBE	Las Nubes	1.47	165	eP	Pn	21 47 35.2	-1.5
PETF	Flores	1.61	11	eP	Pn	21 47 38.5	0.0
PETF				eS	Sn	21 47 59.2	-0.3
JAYA	Jayaque - finc	1.81	157	eP	Pn	21 47 40.7	-0.6
CCIG	Comitan	2.11	297	eP	Pn	21 47 46.6	+1.1
CCIG				eS	Sg	21 48 19.6	+2.2

IDC 03 21:50:12.9±4.7, 30°67N×141°66E, h0km, mb3.4/3, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=189.0km s-min=27.0km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.52	335	Pn	Pn	21 51 49.5	-0.6
0.3nm,0.3s,baz=155,slow=11,SNR=16							
1.3nm,0.3s							
MKAR	Makanchi Array	47.90	307	P	P	21 58 52.9	+0.1
0.2nm,0.7s,baz=89,slow=11,SNR=2.3							
0.2nm,0.7s							
WRA	Warramunga Arr	50.81	189	P	P	21 59 14.2	-1.0
0.2nm,0.3s,baz=7.1,slow=7.4,SNR=8.4							
0.2nm,0.3s							
ASAR	Alice Springs	54.54	189	P	P	21 59 43.8	+1.1
0.2nm,0.3s,baz=1.7,slow=7.1,SNR=1.9							
0.2nm,0.3s							

IDC 03 22:10:06.2±2.6, 25°94S×105°79W, h0km, mb3.7/5, mbtmp3.7/5, MS3.5/2, Error ellipse: s-maj=120.2km s-min=70.9km az=82.0
ISC 03 22:10:03.3±2.8, 26°7S±0°5×105°4W±0°7, h10km, n22, σ0°93/8, mb3.8/5, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	Juan Fernandez	23.84	113	T	T	22 41 57.5	
baz=281,slow=75							
H03N3	Juan Fernandez	23.85	113	T	T	22 41 59.5	
baz=281,slow=75							
H03N1	Juan Fernandez	23.86	113	T	T	22 42 09.3	
baz=281,slow=75							
PPT	Papeete	41.74	273	LR	LR	22 30 07.7	
comp=Z,53nm,19.9s,baz=2.5,slow=29							
SIV	San Ignacio	42.45	85	LR	LR	22 33 12.1	
comp=Z,72nm,19.1s,baz=268,slow=32							
TXAR	Lajitas Array	55.73	2	P	P	22 19 39.9	-0.3
0.4nm,0.8s,baz=193,slow=5.8,SNR=3.5							
0.4nm,0.8s							
NVAR	Mina Array Bea	65.89	349	P	P	22 20 49.3	-0.2
1.6nm,0.8s,baz=168,slow=8.0,SNR=7.0							
1.6nm,0.8s							
PDAR	Pinedale Array	69.21	357	P	P	22 21 10.1	-0.3
0.3nm,0.8s,baz=222,slow=4.8,SNR=2.6							
0.3nm,0.8s							
ULM	Lac du Bonnet	77.06	6	P	P	22 21 57.9	+1.7
1.7nm,0.7s,baz=195,slow=6.9,SNR=3.4							
1.7nm,0.7s							
YKA	Yellowknife Ar	89.17	356	P	P	22 22 58.0	-0.5
0.5nm,0.8s,baz=164,slow=4.2,SNR=6.7							
0.5nm,0.8s							
H11S2	WAKE ISLAND Hy	96.29	287	T	T	00 08 21.7	
baz=118,slow=75							
H11S1	WAKE ISLAND Hy	96.31	287	T	T	00 08 22.7	
baz=118,slow=75							
H11S3	WAKE ISLAND Hy	96.31	287	T	T	00 08 23.0	
baz=118,slow=75							
H11N3	WAKE ISLAND Hy	96.65	289	T	T	00 08 53.3	
baz=118,slow=75							
H11N1	WAKE ISLAND Hy	96.67	289	T	T	00 08 52.3	
baz=118,slow=75							
H11N2	WAKE ISLAND Hy	96.67	289	T	T	00 08 54.6	
baz=118,slow=75							
H01W1	Cape Leeuwin H	108.22	213	T	T	00 24 28.6	
baz=138,slow=75							
H01W2	Cape Leeuwin H	108.22	213	T	T	00 24 31.9	
baz=138,slow=75							
H01W3	Cape Leeuwin H	108.24	213	T	T	00 24 29.1	
baz=138,slow=75							
SONM	Songino Array	147.40	319	PKPbc	PKiKP	22 29 50.1	+0.5
0.6nm,0.7s,baz=82,slow=2.0,SNR=4.3							
KBZ	Khabaz	149.26	48	PKPbc	PKPab	22 29 56.1	-0.5
1.1nm,0.9s,baz=298,slow=18,SNR=3.7							
KURBB	Kurchatov Arra	155.91	354	PKPab	PKPab	22 30 23.6	-0.7
0.2nm,0.4s,baz=35,slow=3.4,SNR=5.2							

TEH 03 22:10:25.3, 32°85N×46°56E, h18km±23km
ISN 03 22:10:26.1±0.5, 32°91N×46°56E, h10km±2km, ML3.0
ISC 03 22:10:26.9±1.1, 32°90N±0°05×46°59E±0°04, h13km, n18, σ0°77/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.59	291	ePg	Pg	22 10 37.0	-1.4
IBDR				eSg	Sg	22 10 45.5	-0.8
IKFM	Kafar-mosalman	1.23	59	Pg	Pn	22 10 49.6	-0.2
RAFI	Al-Rafai	1.24	199	ePg	Pn	22 10 50.0	+0.2
RAFI				eSg	Sg	22 11 07.5	+0.7
GLG1	Gilan-e-Gharb	1.34	335	Pg	Pn	22 10 51.3	-0.1
KCHF	Cheshme Sefid,	1.43	15	Pg	Pn	22 10 52.7	0.0
IGHG	Ghaleghazi	1.43	359	Pg	Pn	22 10 53.2	+0.5
IDOB	Doab	1.60	56	Pg	Pn	22 10 55.7	+0.6
IDHR	Dehrash	1.81	355	Pn	Pn	22 10 58.1	+0.2
KGS1	Ghasr-e-Shirin	1.81	333	Pn	Pn	22 10 57.6	-0.2
BHD	Baghdad	1.89	282	ePn	Pn	22 10 59.8	+1.0
BHD				eSn	Sb	22 11 24.5	-0.2
SNQR	Sonqor, Kerman	2.14	24	Pn	Pn	22 11 03.2	+0.6
BDRS	Dareh Seyedi	2.19	61	Pn	Pn	22 11 03.3	0.0
HAGD	Aghdareh	2.86	47	Pn	Pn	22 11 12.9	+0.4
IKRK	Kirkuk	3.12	324	ePn	Pn	22 11 17.0	+1.3
IKRK				eSn	Sn	22 11 54.5	+1.7
HGHA	Hamedan- Ghaye	3.20	35	Pn	Pn	22 11 17.8	+0.7
IPIR	Pirpir	3.63	92	Pn	Pn	22 11 22.9	-0.2
QABG	Abgarm-Qazvin	3.74	41	Pn	Pn	22 11 25.3	+0.7
IKLH	Kolahrood	4.21	83	Pn	Pn	22 11 31.3	+0.3

IDC 03 22:36:24.4±3.6, 14°60N×121°21E, h105km±14km, mb3.5/3, mbtmp3.9/3, MS2.7/1, Error ellipse: s-maj=84.9km s-min=24.4km az=42.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.56	209	P	Pn	22 36 42.0	+0.7
2μm,0.3s,baz=132,slow=2.8,SNR=20							
TGY				S	Sn	22 36 55.5	+1.7
2μm,0.3s,baz=343,slow=19,SNR=5.1							
CMAR	Chiang Mai Arr	21.69	283	P	P	22 41 06.9	-0.1
0.8nm,0.3s,baz=97,slow=8.4,SNR=10							
0.8nm,0.3s							
GUMO	Guam	22.96	90	LR	LR	22 50 52.0	
comp=Z,17nm,18.5s,baz=76,slow=38							
WRA	Warramunga Arr	36.67	159	P	P	22 43 20.6	-0.6
1.6nm,0.6s,baz=340,slow=9.3,SNR=16							
1.6nm,0.6s							
ASAR	Alice Springs	40.00	162	P	P	22 43 49.5	+0.4
1.2nm,0.6s,baz=336,slow=7.7,SNR=12							
1.2nm,0.6s							

SGS 03 23:01:33.6, 26°83N×34°83E, h31km, Ml1.5
HLW 03 23:01:34.7, 26°71N×34°68E, h22km±25km, Md2.5, Ml2.5
ISC 03 23:01:26.8±0.9, 26°81N±0°03×34°84E±0°03, h12km, n33, σ1°22/37, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWLHS	Almuwaylih	1.11	33	P	Pn	23 01 50.9	+2.8
HHRG	Al Ghardaqah	1.21	290	P	Pg	23 01 51.4	+1.4
HHRG				S	Sn	23 02 04.4	-1.4
DESA	DESA	1.37	59	S	Sg	23 02 10.8	0.0
DESA				P	Pg	23 01 54.9	+1.8
WJHS		1.39	93	P	Pg	23 01 54.4	+1.0
WJHS		1.39	93	S	Sn	23 02 09.7	-0.6
AYUS	`Aynunah	1.42	15	S	Sg	23 02 12.2	-0.4
AYUS	`Aynunah	1.42	15	P	Pg	23 01 55.7	+1.6
RSHS		1.48	358	P	Pg	23 01 56.2	+0.9
RSHS		1.48	358	S	Sg	23 02 12.8	-1.8
NADB	Abo Dabab	1.50	192	P	Pg	23 01 56.5	+1.0
NADB				S	Sb	23 02 13.9	+0.5
TAYS	Tayyib Ism	1.73	1	P	Pg	23 01 59.7	-0.4
EWJHS	Al Wajh	1.75	111	P	Pg	23 01 59.6	-0.8
EWJHS	Al Wajh	1.75	111	S	Sn	23 02 18.6	-0.6
URD06	Shuwaq	1.82	69	S	Sb	23 02 23.1	0.0
URD06	Shuwaq	1.82	69	P	Pg	23 02 02.5	+0.7
BIDS	Bi'r al Bayda'	1.89	88	P	Pg	23 02 02.4	-0.6
BIDS	Bi'r al Bayda'	1.89	88	S	Sb	23 02 23.8	-1.0
URD05	Al Faraah	1.94	77	S	Sb	23 02 25.3	-0.9
URD05	Al Faraah	1.94	77	P	Pg	23 02 03.3	-0.6
JLOS		2.00	17	P	Pg	23 02 04.5	-0.7
TBKS	Tabuk	2.06	47	P	Pg	23 02 06.5	+0.3
URD04	Abu Rakah	2.17	82	S	Sb	23 02 31.4	-1.7
URD04				P	Pg	23 02 06.9	-1.5
URD12	Shuwaq	2.19	64	P	Pg	23 02 07.6	-1.1
HAQS	Haql	2.23	2	P	Pg	23 02 07.5	-2.0
GRB	Gharib	2.33	309	P	Pg	23 02 09.3	-2.2
URD03	Al Ula	2.34	93	P	Pb	23 02 09.7	+0.8
URD10	Hayder	2.42	55	P	Pb	23 02 10.9	+0.6
HAGS	Hagol	2.42	177	P	Pb	23 02 09.3	-1.0
HQLS		2.49	4	P	Pb	23 02 11.5	+0.1
OLAS	OLAS	2.56	102	P	Pb	23 02 12.5	-0.2
URD11	Tayma	2.58	64	P	Pb	23 02 13.8	+0.7
URD14	Abu Rakah	2.66	76	P	Pb	23 02 14.2	-0.2
URD02	Al Ula	2.71	93	P	Pg	23 02 16.9	-1.8

TAP 03 23:08:13.6, 22°98N×120°86E, h5km, ML2.1, C
ISC 03 23:08:14.1±0.9, 22°98N±0°02×120°86E±0°02, h9km±8km, n64, σ0°59/91, 1C-1D, Taiwan

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

MASBT	Mashibuluo	0.42	209	P	Pg	23 08 22.2	-0.1
MASBT				eS	Sg	23 08 27.6	-0.3
CHN4	Tsaushan	0.44	327	P	Pb	23 08 24.0	0.0
CHN4				eS	Sb	23 08 31.5	+0.8
TWK	Hsinying	0.44	310	eP	Pb	23 08 24.4	+0.4
FULB	Fuli	0.46	62	eP	Pg	23 08 23.5	+0.5
FULB				eS	Sb	23 08 31.1	-0.2
CHKT	Chengkung	0.48	76	eP	Pb	23 08 24.2	-0.6
CHKT				S	Sb	23 08 32.1	+0.1
WCKO	Fanlu	0.51	333	eP	Pb	23 08 25.7	+0.5
WCKO				eS	Sb	23 08 33.6	+0.9
ALS	Alishan	0.53	355	P	Pg	23 08 24.9	+0.6
ALS				S	Sb	23 08 33.6	0.0
CHKH	Chenggong	0.54	67	eP	Pb	23 08 25.4	-0.3
TWF1	Yuli	0.55	48	P	Pg	23 08 24.7	0.0
TWF1				eS	Sg	23 08 32.0	0.0
EYUL	Yuli	0.56	50	P	Pg	23 08 24.7	-0.2
YULB	Yu-li	0.58	45	P	Pg	23 08 24.6	-0.6
YULB	Yu-li	0.58	45	P	Pg	23 08 24.7	-0.5
YULB				eS	Sg	23 08 33.3	+0.5
CHN5	Tsauling	0.63	345	eP	Pb	23 08 27.3	-0.1
CHN5				eS	Sb	23 08 37.9	+1.5
TAWH	Dawu Township	0.64	177	P	Pg	23 08 26.0	-0.5
TAWH				eS	Sg	23 08 34.5	-0.3
LDUT	Ludao	0.65	118	eP	Pg	23 08 26.1	-0.4
SCZT	Fangliau	0.65	200	P	Pg	23 08 26.4	-0.1
CHY	Chiayi	0.65	322	eP	Pn	23 08 28.5	-1.0
EHY	Hungye	0.68	39	P	Pg	23 08 26.7	-0.4
EHY				S	Sb	23 08 36.7	-0.8
WHYT	Xinyi Township	0.71	360	P	Pg	23 08 28.0	+0.3
HGSD	Ruisui	0.73	46	eP	Pb	23 08 28.6	-0.3
HGSD				eS	Sb	23 08 39.9	+0.9
SLIU	Shizi	0.77	184	eP	Pg	23 08 28.9	+0.1
SLIU				eS	Sg	23 08 38.7	-0.1
SSLB	Suanglung	0.81	6	P	Pg	23 08 29.6	0.0
SSLB	Suanglung	0.81	6	eP	Pg	23 08 29.0	-0.6
VWDT	VWDT	0.81	19	eP	Pg	23 08 28.8	-0.9
WARBT	Fenglin Townsh	0.88	34	eP	Pg	23 08 29.7	-1.3
SMLT	Sun Moon Lake	0.90	3	eP	Pg	23 08 30.5	-0.9
TYC	Yuchr	0.92	0	eP	Pn	23 08 33.1	0.0
OWD	Renai	1.01	17	eP	Pg	23 08 32.1	-1.4
WUSB	Renai	1.03	13	eP	Pg	23 08 34.0	+0.1
TWKBT	Hengchun	1.04	182	eP	Pn	23 08 36.5	+1.7
WCS	Beigang Elemen	1.07	3	eP	Pn	23 08 35.7	+0.5
LXIB	Xiulin Townshi	1.15	26	eP	Pg	23 08 35.5	-0.8
WHF	Hehuan Shan	1.22	18	eP	Pn	23 08 37.8	+0.1
WHP	Taichung City	1.29	4	eP	Pg	23 08 40.1	+1.2
FUSS	Fushou	1.31	16	eP	Pg	23 08 39.2	0.0
ETLH	Xiulin Townshi	1.35	25	eP	Pn	23 08 39.1	-0.1
NACB	Ninganchiao	1.37	30	P	Pg	23 08 40.3	0.0
NACB	Ninganchiao	1.37	30	eP	Pb	23 08 39.7	-0.1
NNSB	Datong	1.52	18	eP	Pb	23 08 42.4	-0.1
LATG	Datong	1.66	22	eP	Pb	23 08 45.0	+0.1
YHNB	Yeheng	1.75	16	P	Pb	23 08 45.9	-0.5
YHNB	Yeheng	1.75	16	eP	Pg	23 08 47.2	-0.4
NSK	Sanguang	1.75	15	eP	Pb	23 08 46.9	+0.5

*JMA **03** 23:09:34.8±0.1, 23°.52N±0°.6×122°.1E±0°.5, h38km, MV3.1/15, TAIWAN REGION*
*ASIES **03** 23:09:35.5, 23°.52N×122°.04E, h40km, ML3.7, Mw3.2, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}5.63; M_{tt}0.70; M_{pp}-6.48; M_{rt}-2.49; M_{tp}2.49; M_{rp}-1.18; Fault plane solution: $M_0$7.13236×10^{20} NP1: ϕ_s318.68000°, δ49.01000°, λ54.06000°. NP2: ϕ_s186.54000°, δ52.33000°, λ124.04000°. Principal axes: T Plg63.6300°, Azm159.5490°; N Plg26.2980°, Azm344.1120°; P Plg1.8150°, Azm253.2140°;*
*TAP **03** 23:09:35.5, 23°.52N×122°.04E, h40km, ML3.7, C*
ISC 03 23:09:33.4±1.2, 23°.49N±0°.02×122°.10E±0°.02, h21km±4km, n154, σ0°88/267, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	Jichi Village	0.56	293	eP	Pn	23 09 45.7	-0.4
TEGC				i S	Sn	23 09 53.7	-1.0
SHUL	Shoufeng	0.57	301	i P	Pn	23 09 46.0	-0.4
SHUL				i S	Sn	23 09 54.0	-1.1
TEYL	Yanliau Villag	0.59	309	eP	Pn	23 09 46.4	-0.2
TEYL				S	Sn	23 09 54.9	-0.7
ECBN	Changbin	0.62	254	P	Pn	23 09 46.8	-0.1
ECBN				S	Sn	23 09 55.2	-1.0
HGSD	Ruisui	0.62	270	⇓iP	Pn	23 09 46.4	-0.6
HGSD				i S	Sn	23 09 54.5	-1.8
EGFH	Guangfu	0.64	286	eP	Pn	23 09 46.9	-0.4
EOS4	EOS4	0.66	18	i P	Pn	23 09 47.6	+0.4
EOS4				S	Sn	23 09 56.4	-0.3
HWA	Hwalien	0.66	317	P	Pn	23 09 47.1	-0.4
ESL	Shilin	0.69	298	eP	Pn	23 09 47.0	-0.9
ESL				S	Sb	23 09 56.2	+0.3
EHYH	Wanrong	0.69	270	P	Pn	23 09 48.0	0.0
EHYH				S	Sn	23 09 57.3	-0.7
WARBT	Fenglin Townsh	0.69	289	i P	Pn	23 09 47.3	-0.6
WARBT				S	Sb	23 09 56.2	+0.3
CHKH	Chenggong	0.71	245	i P	Pn	23 09 47.7	-0.5
CHKH				S	Sb	23 09 56.4	-0.1
EHY	Hungye	0.71	271	i P	Pn	23 09 48.1	-0.2
EHY				S	Sn	23 09 57.3	-1.3
ETM	Tongmen	0.73	311	eP	Pn	23 09 47.7	-0.7
ETM				S	Sb	23 09 56.9	-0.1
EYUL	Yuli	0.73	259	i P	Pn	23 09 48.4	0.0
EYUL				S	Sn	23 09 58.5	-0.5
YULB	Yu-li	0.74	263	P	Pn	23 09 48.3	-0.4
YULB	Yu-li	0.74	263	S	Sn	23 09 57.9	-1.4
YULB	Yu-li	0.74	263	P	Pn	23 09 48.3	-0.4
YULB				S	Sn	23 09 57.8	-1.4
TWD	Chiawan	0.74	322	i P	Pn	23 09 48.0	-0.7
TWD				S	Sb	23 09 57.4	-0.1
TWF1	Yuli	0.75	260	i P	Pn	23 09 48.5	-0.2
TWF1				eS	Sn	23 09 59.0	-0.5
CHKT	Chengkung	0.78	240	P	Pn	23 09 48.6	-0.5
CHKT				S	Sb	23 09 58.2	-0.2
FULB	Fuli	0.79	249	P	Pn	23 09 48.9	-0.5
FULB				S	Sb	23 09 59.1	+0.2
ETL	Fush Village	0.80	327	P	Pn	23 09 48.8	-0.6
ETL				S	Sb	23 09 58.7	-0.2
EOS3	EOS3	0.82	14	i P	Pn	23 09 50.4	+0.9
EOS3				S	Sn	23 10 01.2	+0.3
LXIB	Xiulin Townshi	0.82	310	⇓iP	Pn	23 09 49.2	-0.7
LXIB				S	Sb	23 09 59.5	-0.3
NACB	Ninganchiao	0.82	326	P	Pn	23 09 49.1	-0.7
NACB	Ninganchiao	0.82	326	S	Sb	23 09 59.3	-0.3
NACB	Ninganchiao	0.82	326	i P	Pn	23 09 49.1	-0.7
NACB				S	Sb	23 09 59.0	-0.6
EHD	Haiduan	0.89	248	P	Pn	23 09 50.1	-0.6
EHD				eS	Sb	23 10 00.7	-0.8
EDH	Donghe	0.90	235	P	Pn	23 09 50.5	-0.3
EDH				S	Sb	23 10 01.5	-0.2
EAHA	Aohua	0.90	339	P	Pn	23 09 50.6	-0.2
EAHA				i S	Sn	23 10 02.0	-1.1
ECS	Chishang	0.90	244	P	Pn	23 09 51.0	+0.2
ECS				eS	Sn	23 10 03.1	-0.1
ETLH	Xiulin Townshi	0.91	322	i P	Pn	23 09 50.6	-0.5
ETLH				i S	Sb	23 10 01.9	-0.3
VWDT	VWDT	0.92	287	P	Pn	23 09 51.2	+0.2
VWDT				eS	Sn	23 10 03.0	-0.5
EOS2	EOS2	0.93	8	eP	Pn	23 09 52.3	+1.2
EOS2				eS	Sn	23 10 04.5	+0.8
OWD	Renai	0.96	299	i P	Pn	23 09 51.7	-0.1
OWD				S	Sb	23 10 03.2	-0.7
ENA	Nanau	0.99	341	P	Pn	23 09 52.1	0.0
ENA				eS	Sn	23 10 04.5	-0.9
EWUT	Wuta	0.99	343	eP	Pn	23 09 52.2	+0.1
EWUT				i S	Sn	23 10 04.8	-0.7
LDUT	Ludao	1.00	216	P	Pn	23 09 52.2	0.0
LDUT				eS	Sb	23 10 03.4	-1.3
WHF	Hehuan Shan	1.00	311	i P	Pn	23 09 52.2	-0.4
WHF				S	Sb	23 10 04.9	-0.4
WUSB	Renai	1.03	299	P	Pn	23 09 52.8	+0.1
WUSB				S	Sb	23 10 05.2	-0.5
ELDTW	Lidau	1.04	253	P	Pn	23 09 52.6	-0.2
ELDTW				S	Sb	23 10 04.8	-1.1
YUS	Yu-Shan	1.05	270	eP	Pb	23 09 51.0	-2.2
LONT	Longtian	1.06	237	i P	Pn	23 09 53.2	+0.1
LONT				i S	Sn	23 10 06.8	-0.4
FUSS	Fushou	1.09	314	⇓iP	Pn	23 09 53.7	+0.1
FUSS				i S	Sb	23 10 06.6	-0.9
SSLB	Suanglung	1.09	286	P	Pn	23 09 53.5	0.0
SSLB	Suanglung	1.09	286	eP	Pn	23 09 53.6	+0.2
ESAO	Su ao	1.10	348	P	Pb	23 09 54.3	+0.5
ESAO				S	Sn	23 10 07.8	-0.4
TWT	Tachien	1.14	312	eP	Pb	23 09 54.8	+0.3
TWT				i S	Sb	23 10 08.3	-0.6
TWC	Suao	1.14	348	P	Pb	23 09 54.8	+0.4
TWC				i S	Sn	23 10 08.4	-0.6
NNSB	Datong	1.14	325	i P	Pb	23 09 54.5	0.0
NNSB				S	Sb	23 10 08.3	-0.6
TTN	Taitung	1.14	230	eP	Pn	23 09 54.0	-0.2
TTN				eS	Sn	23 10 08.9	-0.3
TDCB	Techi	1.15	312	P	Pb	23 09 54.8	+0.1
TDCB				S	Sb	23 10 08.2	-0.9
TWGBT	Beinan	1.15	235	P	Pb	23 09 54.4	-0.2
TWGBT	Beinan	1.15	235	P	Pb	23 09 54.3	-0.4
TWGBT				S	Sb	23 10 08.1	-1.0
NNS	Nan Shan	1.15	325	P	Pb	23 09 54.7	-0.1
NNS				S	Sb	23 10 08.4	-0.9
TWG	Pinlang	1.16	235	eP	Pb	23 09 54.3	-0.4
TWG				eS	Sb	23 10 08.3	-1.0
WHYT	Xinyi Township	1.16	280	eP	Pb	23 09 55.4	+0.6
LATG	Datong	1.16	333	i P	Pb	23 09 54.8	-0.1
LATG				eS	Sb	23 10 09.0	-0.6
SMLT	Sun Moon Lake	1.17	290	eP	Pn	23 09 54.0	-0.6
ALS	Alishan	1.19	271	eP	Pb	23 09 56.0	+0.6
NDS	Dongshan	1.19	343	P	Pb	23 09 55.5	+0.2
NDS				S	Sn	23 10 10.1	-0.3
TYC	Yuchr	1.21	290	eP	Pb	23 09 55.7	+0.1
WCS	Beigang Elemen	1.22	298	eP	Pb	23 09 56.1	+0.2
JYNG	Yonagunijimaku	1.23	39	eS	Sn	23 10 11.6	+0.3
ENTT	Nioudou	1.24	337	P	Pb	23 09 56.1	-0.1
ENTT				eS	Sn	23 10 11.3	-0.4
STYH	Taoyuan	1.26	256	i P	Pn	23 09 55.4	-0.3
STYH				eS	Sb	23 10 10.4	-1.7
YOJ	Yonaguni jima	1.28	41	P	Pb	23 09 57.4	+0.6
YOJ				eS	Sb	23 10 13.5	+0.8
YOJ	Yonaguni jima	1.28	41	eP	Pb	23 09 57.0	+0.3
YOJ				S	Sb	23 10 12.7	-0.1
TWE	Neicheng	1.29	342	eP	Pb	23 09 56.6	-0.3
WJS	Zhushan	1.30	285	eP	Pb	23 09 58.2	+1.1
CHN5	Tsauling	1.31	275	P	Pb	23 09 58.1	+0.8
CHN5				eS	Sb	23 10 15.6	+1.9
ILA	Ilan	1.31	346	eS	Sb	23 10 13.9	+0.2
WHP	Taichung City	1.31	307	eP	Pb	23 09 57.7	+0.3
WHP				eS	Sb	23 10 13.9	0.0
FUSB	Fushanzhiwuyua	1.35	340	P	Pb	23 09 57.8	-0.2
FUSB				S	Sb	23 10 14.1	-0.7
YHNB	Yeheng	1.35	331	P	Pb	23 09 57.6	-0.5
YHNB	Yeheng	1.35	331	P	Pb	23 09 57.5	-0.5
YHNB				eS	Sn	23 10 13.4	-1.0
WNT	Mingjian	1.35	287	eP	Pb	23 09 59.1	+1.1
NSK	Sanguang	1.36	330	P	Pb	23 09 57.8	-0.4
NSK				S	Sn	23 10 13.8	-0.9
TPUB	Ta-pu	1.36	262	P	Pb	23 09 58.8	+0.5
TPUB	Ta-pu	1.36	262	P	Pb	23 09 58.7	+0.5
TPUB				S	Sb	23 10 15.9	+0.7
WCKO	Fanlu	1.37	268	i P	Pb	23 09 59.6	+1.2
WCKO				eS	Sb	23 10 17.0	+1.5
ECL	Taimali	1.38	230	P	Pn	23 09 57.2	-0.2
ECL				eS	Sn	23 10 13.2	-1.9
WTP	Ta-pu	1.39	260	P	Pb	23 09 59.1	+0.5
WTP				eS	Sb	23 10 17.2	+1.3
CHN4	Tsaushan	1.39	265	eP	Pb	23 09 59.5	+0.8
CHN4				eS	Sb	23 10 17.6	+1.6
NWLT	Wulai	1.39	337	P	Pb	23 09 58.3	-0.4
NWLT				eS	Sn	23 10 14.9	-0.5
WGK	Gukeng	1.42	278	eP	Pb	23 10 00.3	+1.0
WGK				eS	Sb	23 10 18.8	+1.9
WDLH	Douliu	1.45	278	P	Pb	23 10 00.2	+0.6
WDLH				eS	Sb	23 10 20.4	+2.8
NFF	Wufeng Townshi	1.45	322	i P	Pb	23 09 60.0	+0.3
NFF				S	Sb	23 10 16.7	-1.0
SGST	Jiashian	1.45	254	i P	Pb	23 09 59.5	-0.2
SGST				eS	Sb	23 10 18.6	+0.8
TCU	Taichung	1.46	297	eP	Pb	23 10 01.0	+1.1
CHN1	Nanshi	1.48	258	eP	Pb	23 10 00.8	+0.7
CHN1				eS	Sb	23 10 20.4	+2.0
TWQ1	Liyutan	1.48	305	i P	Pb	23 10 01.0	+0.7
TWQ1				eS	Sb	23 10 19.3	+0.6
CHN2	Minshiung	1.49	272	eP	Pb	23 10 01.3	+0.9
CHN2				eS	Sb	23 10 21.2	+2.3
TIPB	Shuangxi	1.50	350	eP	Pb	23 10 00.6	+0.1
TIPB				eS	Sb	23 10 18.4	-0.7
SNST	Tainan City	1.50	260	P	Pb	23 10 01.1	+0.6
SNST				S	Sb	23 10 19.5	+0.5
TWK	Hsinying	1.50	262	P	Pb	23 10 00.9	+0.4
TWK				eS	Sb	23 10 19.6	+0.5
NSTT	Nanjuang	1.51	319	P	Pb	23 10 01.2	+0.4
NSTT				eS	Sb	23 10 18.6	-1.0
TWB1	Santiao Chiao	1.51	356	eP	Pb	23 10 00.1	-0.7
TWB1				eS	Sb	23 10 18.5	-1.0
LIOB	Emei	1.52	319	eP	Pb	23 10 01.5	+0.7
WCHH	Zhanghua	1.53	293	eP	Pb	23 10 01.9	+0.9
WCHH				S	Sb	23 10 21.8	+1.9
LAY	Lan-yu	1.53	199	eP	Pn	23 09 59.2	-0.3
NSY	Sanyi	1.53	307	eP	Pn	23 09 59.6	+0.1
NSY				eS	Sb	23 10 18.9	-1.2
KSHI	Guanxi Townshi	1.53	327	eP	Pb	23 10 01.7	+0.6
KSHI				eS	Sb	23 10 21.2	+1.1
WCH1	Changhua City	1.53	292	eP	Pb	23 10 02.4	+1.2
WCH1				eS	Sb	23 10 23.2	+3.0
CHY	Chiayi	1.54	271	eP	Pb	23 10 02.2	+1.0
CHY				eS	Sb	23 10 21.5	+1.3
TSMG	Majia	1.55	240	eP	Pb	23 10 01.8	+0.4
TWA	Mucha	1.56	343	eP	Pb	23 10 02.7	+1.1
TWA				eS	Sb	23 10 20.8	0.0
LYUB	Lan-yu	1.56	198	eP	Pn	23 09 59.5	-0.4
LYUB				eS	Sn	23 10 16.5	-2.9
TATO	Taipei	1.58	339	P	Pb	23 10 01.7	-0.2
WTK	Tuku	1.58	277	eP	Pb	23 10 02.5	+0.5
WDJ	Dajia District	1.58	303	eP	Pb	23 10 02.4	+0.4
WDJ				eS	Sb	23 10 22.6	+1.1
NMLH	Miaoli	1.58	311	P	Pb	23 10 02.2	+0.1
NMLH				eS	Sb	23 10 22.9	+1.3
EAST	Anshuo	1.59	227	eP	Pn	23 10 00.2	-0.2
SCST	Cishan	1.59	248	eP	Pb	23 10 03.2	+1.1
SCST				eS	Sb	23 10 24.0	+2.1
NWF	Wu-fen Shan	1.60	350	eP	Pb	23 10 01.9	-0.4
NWF				eS	Sb	23 10 21.9	-0.2
WFSB	Wu-fen Shan	1.60	350	eP	Pb	23 10 02.5	+0.2
WFSB				eS	Sb	23 10 21.6	-0.4
TAWH	Dawu Township	1.60	224	eP	Pn	23 10 00.1	-0.4
MASBT	Mashibuluo	1.61	237	P	Pb	23 10 01.6	-0.8
MASBT				eS	Sn	23 10 20.5	-0.2
SXI1	Grass Mountain	1.61	353	P	Pb	23 10 01.9	-0.6
SXI1				eS	Sn	23 10 20.8	0.0
HATJ	Hateruma jima	1.66	70	P	Pb	23 10 02.5	-0.8
HATJ				eS	Sn	23 10 22.3	+0.3
ICHU	Yijhu	1.68	266	eP	Pb	23 10 04.0	+0.4
ICHU				eS	Sb	23 10 24.2	0.0
SHHT	Tainan City	1.68	254	eP	Pb	23 10 05.5	+2.0
SHHT				eS	Sb	23 10 27.6	+3.4
NCUH	Zhongli	1.69	331	eP	Pb	23 10 03.6	-0.3
NCUH				eS	Sb	23 10 23.8	-0.8
IRIF	Iriomote-Funau	1.71	60	P	Pb	23 10 03.5	-0.7
IRIF				eS	Sb	23 10 24.8	-0.5
WSL	Shuilin Townsh	1.72	271	i P	Pb	23 10 04.2	-0.1
WSL				S	Sb	23 10 24.9	-0.5
YM01	YM01	1.72	344	P	Pb	23 10 03.4	-0.9
YM01				eS	Sn	23 10 23.7	+0.2
TWS1	Kuangyinshan	1.72	339	eP	Pn	23 10 02.6	+0.6
TWS1				eS	Sb	23 10 24.0	-1.5
ZUZH	Zhuzihu	1.74	343	eP	Pb	23 10 03.5	-1.1
ZUZH				eS	Sn	23 10 24.0	+0.1
CHN8	Yiju	1.74	266	eP	Pb	23 10 04.5	-0.1
CHN8				i S	Sb	23 10 26.2	+0.2
SLIU	Shizi	1.75	224	eP	Pn	23 10 02.9	+0.5
YM08	YM08	1.75	345	P	Pb	23 10 03.6	-1.3
YM08				eS	Sn	23 10 24.4	+0.2
SCZT	Fangliau	1.76	231	eP	Pb	23 10 04.7	-0.3
SCZT				eS	Sb	23 10 26.7	0.0
ANP	Anpu	1.77	343	eP	Pb	23 10 04.2	-1.0
TSCK	Chigu Township	1.88	260	P	Pb	23 10 06.2	-0.9
TSCK				eS	Sb	23 10 29.2	-0.9
WSSB	Gushan	1.89	244	eP	Pb	23 10 09.1	+1.9
JKRS	Kuro-shima	1.90	67	P	Pb	23 10 06.0	-1.4
JKRS				eS	Sn	23 10 28.3	+0.5
TWKBT	Hengchun	1.95	218	eP	Pn	23 10 05.9	+0.6
TWKBT				eS	Sn	23 10 29.2	+0.2
TWK1	Hengchun	1.95	218	eP	Pn	23 10 06.1	+0.9
JIJ	Ishigaki jima	2.06	65	P	Pn	23 10 07.6	+0.8
JIJ				S	Sn	23 10 31.9	+0.1
WDGT	Dungji	2.25	265	eP	Pn	23 10 10.9	+1.5
JISG	Ishigakijimahi	2.30	61	P	Pn	23 10 10.8	+0.7
JISG				S	Sn	23 10 37.0	-0.7
PHUB	P'eng-hu	2.32	271	eP	Pn	23 10 11.5	+1.1
PHUB				i S	Sn	23 10 38.2	0.0
VCHM	Qimei	2.47	264	P	Pn	23 10 13.8	+1.4
VCHM				eS	Sn	23 10 42.0	+0.1
JTJ	Tarama	2.64	64	eS	Sn	23 10 46.7	+0.5
VWUC	VWUC	2.84	302	eP	Pn	23 10 18.1	+0.6
VWUC				i S	Sn	23 10 49.6	-1.5
JIRB	Irabujima	3.11	64	P	Pn	23 10 22.3	+1.1
JIRB				eS	Sn	23 10 57.8	+0.1
PTMZ	Houxiangcun	3.12	300	eP	Pn	23 10 22.1	+0.7
PTMZ				S	Sn	23 10 56.2	-1.9
MATB	Ma-tsu	3.29	324	eP	Pn	23 10 24.0	+0.3
KNMB	Chin-men Tao	3.53	287	eP	Pn	23 10 27.9	+0.9
KNMB				S	Sn	23 11 06.6	-1.4
MHZQ	Yeshan	3.81	314	eP	Pn	23 10 30.7	-0.1
XPSS	Dashiqiu	3.83	334	eP	Pn	23 10 30.0	-1.1
ZPLA	Ao Xicun	4.01	277	eP	Pn	23 10 34.6	+1.1
AXDP	Jialang	4.02	291	eP	Pn	23 10 34.6	+0.9

*IDC **03** 23:26:02.9±4.0, 38°.34N×142°.64E, h0km, mb3.9/3, mbtmp3.9/6, ML3.3/3, Error ellipse: s-maj=70.1km s-min=31.0km az=104.0*
*JMA **03** 23:26:15.4±0.1, 38°.3N±0°.3×141°.6E±0°.5, h53km, MV3.6/39, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
ISC 03 23:26:13.1±1.5, 38°.25N±0°.05×141°.84E±0°.10, h54km±9km, n25, σ1°.00/29, mb3.8/3, 20D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.30	283	⇓iP	Pn	23 26 23.7	+1.1
JIKH				⇓S	Sn	23 26 29.5	+0.1
JIO	Ouri	0.44	299	⇓P	Pn	23 26 24.5	+0.6
JIO				⇓S	Sn	23 26 30.8	-0.9
JKMT	Kesennumamotoy	0.63	333	⇓iP	Pn	23 26 26.8	+0.6
JKMT				⇓S	Sn	23 26 34.7	-1.0
OFUJ	Ofunato	0.84	351	⇓P	Pn	23 26 29.7	+0.8
OFUJ				⇓eS	Sn	23 26 39.9	-0.5
JMK	Ichinoseki	0.86	326	⇓P	Pn	23 26 29.5	+0.4
JMK				⇓eS	Sn	23 26 39.4	-1.3
JMM	Marumori	0.91	246	⇓P	Pn	23 26 30.2	+0.5
JMM				⇓eS	Sn	23 26 41.1	-0.8
JOU	Okura	0.93	278	⇓P	Pn	23 26 30.1	0.0
JOU				⇓S	Sn	23 26 40.9	-1.7
JFK	Kawauchi	1.16	221	P	Pn	23 26 34.6	+1.5
JFK				eS	Sn	23 26 49.1	+1.1
JOM	Ohasama	1.30	341	⇓P	Pn	23 26 35.5	+0.5
JYK	Kaneyama	1.34	301	⇓P	Pn	23 26 35.4	-0.1
JOTO	OTAMA OYAMA	1.37	241	eP	Pn	23 26 37.1	+1.1
JYS	Shirataka	1.40	270	⇓P	Pn	23 26 36.6	+0.4
JYS				⇓eS	Sn	23 26 52.8	-0.9
JRG	Rokugo	1.48	321	⇓P	Pn	23 26 37.9	+0.4
JRG				⇓eS	Sn	23 26 55.4	-0.4
MJAR	Matsushiro Arr	3.35	241	Pn	Pn	23 27 05.1	+2.1
	0.4nm,0.3s,baz=40,slow=12,SNR=9.8						
MJAR				Sn	Sn	23 27 51.8	+10
	0.2nm,0.3s,baz=316,slow=31,SNR=1.7 2.1nm,0.3s						
JHJ	Hachijo jima 2	5.38	199	Pn	Pn	23 27 28.8	-2.0
	12nm,0.3s,baz=78,slow=18,SNR=1.5						
JHJ				Sn	Sn	23 28 23.2	-8.2
	6.0nm,0.3s,baz=86,slow=13,SNR=1.8 113nm,0.8s						
USRK	Ussuriysk Ar.	9.51	312	Pn	Pn	23 28 27.1	-0.1
	0.4nm,0.3s,baz=122,slow=13,SNR=1.6 0.7nm,0.4s						
H11N2	WAKE ISLAND Hy	28.50	123	T	T	00 02 19.8	
	baz=316,slow=76,SNR=44						
H11N1	WAKE ISLAND Hy	28.51	123	T	T	00 02 20.8	
	baz=316,slow=76,SNR=38						
H11N3	WAKE ISLAND Hy	28.52	123	T	T	00 02 21.2	
	baz=316,slow=76,SNR=55						
H11S1	WAKE ISLAND Hy	29.26	125	T	T	00 03 16.7	
	baz=318,slow=76,SNR=35						
H11S3	WAKE ISLAND Hy	29.26	125	T	T	00 03 20.0	
	baz=318,slow=76,SNR=53						
H11S2	WAKE ISLAND Hy	29.27	125	T	T	00 03 22.3	
	baz=318,slow=76,SNR=33						
ZALV	Zalesovo Be

MNTX	**Cornudas Mount**	**1.66 291**	P	Pb	00 09 14.2	-0.2
MNTX			S	Sn	00 09 35.0	+0.2
SAND	**Sanderson**	**1.69 132**	P	Pg	00 09 15.4	-0.3
SAND			S	Sg	00 09 38.8	+1.1
SAND	**Sanderson**	**1.69 132**	P	Pg	00 09 15.4	-0.3
TX31	**Lajitas Ar. Si**	**1.77 183**	P	Pb	00 09 16.4	+0.1
TX31			S	Sg	00 09 40.7	+0.7
TX31	**Lajitas Ar. Si**	**1.77 183**	P	Pb	00 09 16.6	+0.4
OZNA	**Ozona**	**2.10 94**	P	Pb	00 09 21.9	-0.1
OZNA			S	Sb	00 09 49.5	+1.0
SGCY	**Sterling City**	**2.23 68**	S	Sb	00 09 51.6	-0.6
SN05	**Snyder 5**	**2.88 52**	S	Sb	00 10 08.8	-2.1

NEIC ***04*** *00:27:53.6±2.4, 15°.40N±0°.05×94°.75W±0°.03, h32km±5km, mb4.7/111, Md4.9/137(MEX), Error ellipse: s-maj=7.2km s-min=4.5km az=187.0*
GCG ***04*** *00:27:53.6±2.1, 15°.39N×94°.80W, h33km±47km, MD4.8*
MEX ***04*** *00:27:54.8±1.1, 15°.35N×94°.76W, h16km±9km, MD4.9*
CATAC ***04*** *00:27:55.2±0.3, 15°N±8°×9°5W±°, h92km±25km, M5.0/12, mb5.0/7, mB5.5/7, MLv5.0/12, Mw(mB)5.0/7, Error ellipse: s-maj=18.0km s-min=3.2km az=24.8, confirmed*
IDC ***04*** *00:27:56.3±1.9, 15°.56N×94°.47W, h53km±14km, mb4.2/27, mbtmp4.5/29, ML4.1/1, MS3.7/51, Error ellipse: s-maj=20.1km s-min=9.4km az=50.0*
ISC 04 00:27:53.9±0.7, 15°.35N±0°.04×94°.74W±0°.03, h41km±6km, n658, σ1§92/708, mb4.8/111, MS3.8/49, 1C-13D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.39 288**					**Pn**	**00 28 15.9**	**-0.8**
HUIG							**Sn**	**00 28 31.4**	**-2.4**
HUIG	**Huatulco**	**1.39 288**		*eP*			**Pn**	**00 28 15.9**	**-0.8**
HUIG				*eS*			**Sn**	**00 28 31.4**	**-2.4**
HUIG	**Huatulco**	**1.39 288**		*eP*			**Pn**	**00 28 15.9**	**-0.8**
HUIG				*eS*			**Sn**	**00 28 30.8**	**-3.0**
PCIG		**1.51 76**					**Pn**	**00 28 17.7**	**-0.7**
PCIG							**Sn**	**00 28 35.1**	**-1.8**
PCIG		**1.51 76**		*eP*			**Pn**	**00 28 17.7**	**-0.7**
PCIG				*eS*			**Sn**	**00 28 35.1**	**-1.8**
PANG	**Puerto Angel**	**1.70 281**					**Pn**	**00 28 20.3**	**-0.8**
PANG							**Sn**	**00 28 38.3**	**-3.4**
PANG	**Puerto Angel**	**1.70 281**		*eP*			**Pn**	**00 28 20.3**	**-0.8**
PANG				*eS*			**Sn**	**00 28 38.3**	**-3.4**
CMIG	**Matias Romero**	**1.74 355**					**Pn**	**00 28 21.1**	**-0.5**
CMIG							**Sn**	**00 28 41.0**	**-1.6**
CMIG	**Matias Romero**	**1.74 355**		P			**Pn**	**00 28 21.4**	**-0.2**
CMIG	696nm,0.6s,baz=175,slow=9.7,SNR=1258						**Sn**	**00 28 41.0**	**-1.6**
CMIG	2μm,0.5s,baz=220,slow=21,SNR=5.5					LR	LR	00 29 13.4	
CMIG	comp=Z,2μm,21.1s,baz=214,slow=49 **Matias Romero**	**1.74 355**		*eP*			**Pn**	**00 28 21.1**	**-0.5**
CMIG				*eS*			**Sn**	**00 28 41.0**	**-1.6**
UXUV	**UXUV**	**2.04 16**		*eP*			**Pn**	**00 28 26.0**	**+0.2**
UXUV				*eS*			**Sn**	**00 28 48.2**	**-1.8**
TGIG		**2.11 47**					**Pn**	**00 28 26.9**	**+0.2**
TGIG							**Sn**	**00 28 51.2**	**-0.6**
TGIG		**2.11 47**		*eP*			**Pn**	**00 28 26.9**	**+0.2**
TGIG				*eS*			**Sn**	**00 28 51.2**	**-0.6**
TGIG		**2.11 47**		*eP*			**Pn**	**00 28 27.1**	**+0.3**
TGIG				*i* S			**Sn**	**00 28 52.5**	**+0.7**
TGBT	**Tuxtla Gutierr**	**2.13 48**					**Pn**	**00 28 27.5**	**+0.5**
TGBT							**Sn**	**00 28 53.8**	**+1.6**
TGBT	**Tuxtla Gutierr**	**2.13 48**		*eP*			**Pn**	**00 28 27.5**	**+0.5**
TGBT				*eS*			**Sn**	**00 28 53.8**	**+1.6**
PEIG	**Puerto Escondi**	**2.41 286**					**Pn**	**00 28 30.3**	**-0.5**
PEIG							**Sn**	**00 28 55.4**	**-3.8**
PEIG	**Puerto Escondi**	**2.41 286**		*eP*			**Pn**	**00 28 30.3**	**-0.5**
PEIG				*eS*			**Sn**	**00 28 55.4**	**-3.8**
PATR	**El Naranjo**	**2.43 95**		*eP*			**Pn**	**00 28 30.7**	**-0.6**
PATR				*eS*			**Sn**	**00 28 58.6**	**-1.3**
THIG		**2.43 100**					**Pn**	**00 28 30.5**	**-0.6**
THIG							**Sn**	**00 28 56.9**	**-2.7**
THIG		**2.43 100**		*eP*			**Pn**	**00 28 30.5**	**-0.6**
THIG				*eS*			**Sn**	**00 28 56.9**	**-2.7**
THIG		**2.43 100**		*eP*			**Pn**	**00 28 29.9**	**-1.1**
PAVE	**Pavencul**	**2.48 93**		*eP*			**Pn**	**00 28 32.0**	**0.0**
PAVE				*eS*			**Sn**	**00 28 59.9**	**-1.3**
OXLC	**Oaxaca**	**2.55 312**		*eP*			**Pn**	**00 28 35.0**	**+2.1**
OXLC				*eS*			**Sn**	**00 29 03.5**	**+0.8**
OXBJ	**Oaxaca**	**2.56 312**					**Pn**	**00 28 32.5**	**-0.6**
OXBJ							**Sn**	**00 29 03.1**	**0.0**
OXBJ	**Oaxaca**	**2.56 312**		*eP*			**Pn**	**00 28 32.5**	**-0.6**
OXBJ				*eS*			**Sn**	**00 29 03.1**	**0.0**
NEUV	**Arroyo Zacate**	**2.56 337**		*eP*			**Pn**	**00 28 32.7**	**-0.3**
NEUV				*eS*			**Sn**	**00 29 01.2**	**-1.7**
OXIG	**Oaxaca**	**2.57 312**					**Pn**	**00 28 35.0**	**+1.8**
OXIG							**Sn**	**00 29 03.1**	**-0.3**
VHO	**Vista Hermosa**	**2.57 312**		*eP*			**Pn**	**00 28 35.0**	**+1.8**
VHO				*eS*			**Sn**	**00 29 03.1**	**-0.3**
CCIG	**Comitan**	**2.67 69**		Pn			**Pn**	**00 28 34.6**	**+0.1**
CCIG				Sn			**Sn**	**00 29 04.7**	**-1.2**
CCIG	**Comitan**	**2.67 69**		*eP*			**Pn**	**00 28 35.3**	**+0.7**
CCIG				*eS*			**Sn**	**00 29 06.5**	**+0.7**
CCIG	**Comitan**	**2.67 69**		*i* P			**Pn**	**00 28 35.5**	**+0.9**
CCIG	**Comitan**	**2.67 69**		S			**Sn**	**00 29 10.8**	**+5.0**
CCIG	**Comitan**	**2.67 69**		P			**Pn**	**00 28 37.0**	**+2.4**
TUIG	**Tuzandepetl**	**2.69 6**		*eP*			**Pn**	**00 28 34.8**	**+0.1**
TUIG				*eS*			**Sn**	**00 29 04.8**	**-1.2**
RTAL	**Retalhuleu**	**3.05 105**					**Pn**	**00 28 40.3**	**+0.6**
RTAL	**Retalhuleu**	**3.05 105**		*eP*			**Pn**	**00 28 40.3**	**+0.6**
RTAL				*eS*			**Sn**	**00 29 09.6**	**-5.4**
RTAL	**Retalhuleu**	**3.05 105**		P			**Pn**	**00 28 40.9**	**+1.2**
RTAL	**Retalhuleu**	**3.05 105**		S			**Sn**	**00 29 17.8**	**+2.7**
YOIG	**Yosondua**	**3.09 299**					**Pn**	**00 28 41.6**	**+1.2**
YOIG							**Sn**	**00 29 13.1**	**-3.1**
YOIG	**Yosondua**	**3.09 299**		*eP*			**Pn**	**00 28 41.6**	**+1.2**
YOIG				*eS*			**Sn**	**00 29 13.1**	**-3.1**
HUEH	**Huehuetenango**	**3.12 90**		Pn			**Pn**	**00 28 41.0**	**+0.1**
HUEH				Sn			**Sn**	**00 29 18.3**	**+1.3**
HUEH	**Huehuetenango**	**3.12 90**		*eP*			**Pn**	**00 28 42.3**	**+1.5**
HUEH				*eS*			**Sn**	**00 29 18.4**	**+1.3**
HUEH	**Huehuetenango**	**3.12 90**		*eP*			**Pn**	**00 28 43.3**	**+2.5**
HUEH				*eS*			**Sn**	**00 29 19.8**	**+2.7**
HUEH	**Huehuetenango**	**3.12 90**		S			**Sn**	**00 29 21.1**	**+4.1**
HUEH	**Huehuetenango**	**3.12 90**		P			**Pn**	**00 28 43.7**	**+2.9**
VHSA	**Villahermosa**	**3.14 33**		*eP*			**Pn**	**00 28 41.6**	**+0.8**
VHSA				*eS*			**Sn**	**00 29 25.2**	**+8.1**
PMUV	**Sontecomapan**	**3.20 353**		*eP*			**Pn**	**00 28 40.4**	**-1.4**
PMUV				*eS*			**Sn**	**00 29 15.8**	**-2.9**
SOKI	**Kika Raxquin**	**3.26 99**		*eP*			**Pn**	**00 28 45.3**	**+2.4**
STG8	**El Palmar, Qui**	**3.40 105**		*eP*			**Pn**	**00 28 40.5**	**-4.1**
STG8				*eS*			Sn	00 29 14.7	-9.1
STG0	**El Palmar, Qui**	**3.41 105**		*eP*			**Pn**	**00 28 40.9**	**-3.9**
STG0				*eS*			Sn	00 29 14.6	-9.4
PNIG	**Pinotepa**	**3.42 288**					**Pn**	**00 28 45.2**	**+0.4**
PNIG	**Pinotepa**	**3.42 288**		*eP*			**Pn**	**00 28 45.2**	**+0.4**
PNIG				*eS*			**Sn**	**00 29 19.2**	**-5.0**
TXIG	**Tlaxiaco**	**3.47 304**					**Pn**	**00 28 47.6**	**+1.9**
TXIG							**Sn**	**00 29 21.4**	**-4.3**
TXIG	**Tlaxiaco**	**3.47 304**		*eP*			**Pn**	**00 28 47.6**	**+1.9**
TXIG				*eS*			**Sn**	**00 29 21.4**	**-4.3**
TOIG	**Toxpalan**	**3.53 321**					**Sn**	**00 29 23.7**	**-3.1**
TOIG	**Toxpalan**	**3.53 321**		*eP*			**Pn**	**00 28 49.1**	**+2.8**
TOIG				*eS*			**Sn**	**00 29 23.7**	**-3.1**
HLIG	**Huajuapan de L**	**3.84 310**					**Pn**	**00 28 53.4**	**+2.7**
HLIG							**Sn**	**00 29 33.8**	**-0.8**
HLIG	**Huajuapan de L**	**3.84 310**		*eP*			**Pn**	**00 28 53.4**	**+2.7**
HLIG				*eS*			**Sn**	**00 29 33.8**	**-0.8**
ESSG	**Sabana Grande**	**3.90 104**		*i* P			**Pn**	**00 28 51.9**	**+0.5**
TPIG	**Tehuac#an**	**3.96 321**					**Pn**	**00 28 54.4**	**+2.2**
TPIG	**Tehuac#an**	**3.96 321**		*eP*			**Pn**	**00 28 54.4**	**+2.2**
TPIG				*eS*			**Sn**	**00 29 30.7**	**-6.8**
FTIG	**Fresnillo de T**	**4.13 309**					**Pn**	**00 28 57.3**	**+2.7**
FTIG							**Sn**	**00 29 40.2**	**-1.5**
FTIG	**Fresnillo de T**	**4.13 309**		*eP*			**Pn**	**00 28 57.3**	**+2.7**
FTIG				*eS*			**Sn**	**00 29 40.2**	**-1.5**
MGIG	**Malinaltepec**	**4.18 297**					**Pn**	**00 28 57.6**	**+2.2**
MGIG							**Sn**	**00 29 39.9**	**-3.2**
MGIG	**Malinaltepec**	**4.18 297**		*eP*			**Pn**	**00 28 57.6**	**+2.2**
MGIG				*eS*			**Sn**	**00 29 39.9**	**-3.2**
TLIG	**Tlapa**	**4.28 301**		Pn			**Pn**	**00 28 57.8**	**+1.1**
TLIG	**Tlapa**	**4.28 301**		*eP*			**Pn**	**00 28 59.1**	**+2.4**
TLIG				*eS*			**Sn**	**00 29 42.3**	**-3.2**
TLIG	**Tlapa**	**4.28 301**		P			**Pn**	**00 28 59.7**	**+3.0**
TLIG	**Tlapa**	**4.28 301**		S			**Sn**	**00 29 47.9**	**+2.4**
HMTT	**Tlapaneco**	**4.40 304**					**Sn**	**00 29 46.1**	**-2.3**
HMTT	**Tlapaneco**	**4.40 304**		*eS*			**Sn**	**00 29 46.1**	**-2.3**
POHV	**Veracruz**	**4.43 327**					**Pn**	**00 28 59.7**	**+0.6**
POHV	**Veracruz**	**4.43 327**		*eP*			**Pn**	**00 28 59.7**	**+0.6**
POHV				*eS*			**Sn**	**00 29 44.0**	**-5.6**
CRIG	**Cruz Grande**	**4.44 289**					**Pn**	**00 28 59.6**	**+0.8**
CRIG	**Cruz Grande**	**4.44 289**		*eP*			**Pn**	**00 28 59.6**	**+0.8**
CRIG				*eS*			**Sn**	**00 29 43.5**	**-5.8**
JAUV	**Jalcomulco**	**4.46 334**		*eP*			**Pn**	**00 28 58.4**	**-0.7**
JAUV				*eS*			**Sn**	**00 29 42.5**	**-7.2**
LVIG	**Laguna Verde**	**4.64 340**		*eP*			**Pn**	**00 29 00.7**	**-0.7**
LVIG				*eS*			**Sn**	**00 29 47.3**	**-6.7**
FAME	**Alcaldia de Sa**	**4.81 107**		S			**Sn**	**00 30 00.6**	**+2.2**
PETF	**Flores**	**4.94 71**		Pn			**Pn**	**00 29 05.2**	**-0.3**
PETF	**Flores**	**4.94 71**		*eP*			**Pn**	**00 29 05.6**	**0.0**
PETF				*eS*			**Sn**	**00 29 57.0**	**-4.4**
PETF	**Flores**	**4.94 71**		*eP*			**Pn**	**00 29 05.7**	**+0.1**
SCIG	**Sabancuy**	**4.95 43**		*eP*			**Pn**	**00 29 05.4**	**-0.3**
SCIG				*eS*			**Sn**	**00 30 00.2**	**-1.5**
SCIG	**Sabancuy**	**4.95 43**		*eP*			**Pn**	**00 29 05.4**	**-0.3**
SLOZ	**Alcaldia de Sa**	**4.97 105**		S			**Sn**	**00 30 07.2**	**+4.8**
LOAL	**Lomas de Alarc**	**4.98 105**		S			**Sn**	**00 30 04.6**	**+1.9**
LOAL	**Lomas de Alarc**	**4.98 105**		P			**Pn**	**00 29 06.9**	**+0.6**
DAIG	**Los Arroyos**	**5.00 290**					**Pn**	**00 29 06.1**	**-0.4**
DAIG	**Los Arroyos**	**5.00 290**		*eP*			**Pn**	**00 29 06.1**	**-0.4**
DAIG				*eS*			**Sn**	**00 29 55.8**	**-7.3**
NUBE	**Las Nubes**	**5.01 106**		P			**Pn**	**00 29 08.1**	**+1.4**
NUBE	**Las Nubes**	**5.01 106**		S			**Sn**	**00 30 05.7**	**+2.2**
PBCV	**Popocatepetl**	**5.14 315**		*eP*			**Pn**	**00 29 10.2**	**+1.6**
PBCV				*eS*			**Sn**	**00 30 09.0**	**+2.1**
CEVE	**Cerro Verde**	**5.18 106**		P			**Pn**	**00 29 09.9**	**+0.8**
CEVE	**Cerro Verde**	**5.18 106**		S			**Sn**	**00 30 08.5**	**+0.8**
PBXN	**Popocatepetl**	**5.22 315**		*eP*			**Pn**	**00 29 13.9**	**+3.9**
PBXN				*eP*				00 29 13.9	
PBXN				*eS*			**Sn**	**00 30 03.8**	**-5.4**
PBXN				*eS*				00 30 09.5	
PBPN	**Popocatepetl**	**5.23 315**		*eP*			**Pn**	**00 29 13.8**	**+3.8**
PBPN				*eP*				00 29 14.1	
PBPN				*eS*			**Sn**	**00 30 01.5**	**-7.8**
PBPN				*eS*				00 30 06.7	
PPM	**Popocatepetl**	**5.24 315**		*eP*			**Pn**	**00 29 13.9**	**+3.7**
PPM				*eS*			**Sn**	**00 30 17.8**	**+8.1**
MTO3	**Montecristo**	**5.29 100**		P			**Pn**	**00 29 12.5**	**+1.9**
MEIG	**Mezcala**	**5.33 299**					**Pn**	**00 29 13.0**	**+1.9**
MEIG	**Mezcala**	**5.33 299**		*eP*			**Pn**	**00 29 13.0**	**+1.9**
MEIG				*eS*			**Sn**	**00 30 05.0**	**-6.4**
JAYA	**Jayaque - finc**	**5.39 108**		P			**Pn**	**00 29 13.7**	**+1.7**
JAYA	**Jayaque - finc**	**5.39 108**		S			**Sn**	**00 30 14.6**	**+1.7**
YAIG	**Yautepec**	**5.42 311**					**Sn**	**00 30 10.2**	**-3.3**
YAIG	**Yautepec**	**5.42 311**		*eP*			**Sn**	**00 29 15.6**	**+3.3**
YAIG				*eS*			**Sn**	**00 30 10.2**	**-3.3**
PLIG	**Platanillo**	**5.47 304**		*eP*			**Pn**	**00 29 16.3**	**+3.3**
PLIG				*eS*			**Sn**	**00 30 07.2**	**-7.6**
PMON	**Piamonte**	**5.50 106**		S			**Sn**	**00 30 16.7**	**+1.2**
PMON	**Piamonte**	**5.50 106**		P			**Pn**	**00 29 13.8**	**+0.4**
CXUV	**Coxquihui**	**5.51 331**		*eP*			**Pn**	**00 29 13.6**	**+0.1**
CXUV				*eS*			**Sn**	**00 30 12.7**	**-3.1**
CAIG	**El Cayaco**	**5.57 288**					**Pn**	**00 29 14.2**	**-0.1**
CAIG	**El Cayaco**	**5.57 288**		*eP*			**Pn**	**00 29 14.2**	**-0.1**
CAIG				*eS*			Sn	00 30 07.4	-10
MPVM	**San Francisco**	**5.60 314**		*eP*			**Pn**	**00 29 18.9**	**+4.0**
MPVM				*eS*			**Sn**	**00 30 19.3**	**+1.2**
THVM	**De Xico**	**5.65 315**		*eS*			**Sn**	**00 30 18.7**	**-0.7**
LOMA	**Loma Larga**	**5.65 107**		S			**Sn**	**00 30 19.8**	**+0.5**
TLVM	**San Miguel Top**	**5.71 313**		*eP*			Pn	00 29 22.2	+5.8
TLVM				*eS*			**Sn**	**00 30 19.3**	**-1.5**
MZVM		**5.75 312**					**Sn**	**00 30 22.0**	**+0.7**
MZVM		**5.75 312**		*eP*			Pn	00 29 22.2	+5.5
MZVM				*eS*			**Sn**	**00 30 22.0**	**+0.7**
MAVM	**Malinalco, Edo**	**5.79 309**		*eP*			Pn	00 29 03.3	-14
MAVM				*eS*			Sn	00 30 05.2	-18
UNM	**Universidad Na**	**5.80 314**		*eS*			**Sn**	**00 30 25.0**	**+1.9**
PAVA	**Las Pavas**	**5.85 105**		P			**Pn**	**00 29 18.6**	**+0.4**
AOVM	**Tlapan**	**5.86 312**					**Pn**	**00 29 20.9**	**+2.2**
AOVM							**Sn**	**00 30 25.3**	**+0.4**
AOVM	**Tlapan**	**5.86 312**		*eP*			**Pn**	**00 29 20.9**	**+2.2**
AOVM				*eS*			**Sn**	**00 30 25.3**	**+0.4**
COEG	**Centro de Oper**	**5.93 106**		P			**Pn**	**00 29 22.6**	**+3.4**
COEG	**Centro de Oper**	**5.93 106**		S			**Sn**	**00 30 27.4**	**+1.3**
SCLA	**Alcaldia de Sa**	**6.05 105**		P			**Pn**	**00 29 22.3**	**+1.5**
TECO	**Alcaldia de Te**	**6.05 107**		S			**Sn**	**00 30 30.4**	**+1.6**
ARIG	**Puente Sto Nin**	**6.11 299**					**Sn**	**00 30 25.7**	**-4.7**
ARIG	**Puente Sto Nin**	**6.11 299**		*eP*			**Pn**	**00 29 24.8**	**+3.1**
ARIG				*eS*			**Sn**	**00 30 25.7**	**-4.7**
DEIG	**Demacu**	**6.40 321**		*eP*			**Pn**	**00 29 29.1**	**+3.1**
DEIG				*eS*			**Sn**	**00 30 39.8**	**+1.9**
DHIG	**Demacu**	**6.40 321**					**Sn**	**00 30 39.8**	**+1.9**
ZIIG	**Zihuatanejo**	**6.83 290**					**Pn**	**00 29 34.0**	**+2.4**
ZIIG	**Zihuatanejo**	**6.83 290**		*eP*			**Pn**	**00 29 34.0**	**+2.4**
ZIIG				*eS*			**Sn**	**00 30 39.3**	**-8.8**
CTUV	**Llano Grande**	**6.99 331**		*eP*			Pn	00 29 26.8	-6.9
CTUV				*eS*			**Sn**	**00 30 49.2**	**-2.8**
MYIG	**Merida**	**7.33 40**		*eP*			**Pn**	**00 29 39.8**	**+1.4**
MYIG				*eS*			**Sn**	**00 30 58.7**	**-1.6**
TGUH	**Tegucigalpa,Un**	**7.34 99**		Pn			**Pn**	**00 29 39.3**	**+0.6**
TGUH	**Tegucigalpa,Un**	**7.34 99**		P			Pn	00 29 47.0	+8.3
MOIG	**Morelia**	**7.51 306**		1μm68nm,0.8s			**Pn**	**00 29 44.0**	**+2.9**
MOIG	**Morelia**	**7.51 306**		*eP*			**Pn**	**00 29 39.8**	**-1.4**
MOIG				*eS*			**Sn**	**00 31 04.9**	**-0.2**
MOIG	**Morelia**	**7.51 306**		S			**Sn**	**00 31 07.6**	**+2.5**
MOIG	**Morelia**	**7.51 306**		P			**Pn**	**00 29 43.2**	**+2.1**
TEIG	**Tepich**	**7.84 51**		Pn			**Pn**	**00 29 43.1**	**-2.3**
TEIG	**Tepich**	**7.84 51**		P			**Pn**	**00 29 43.9**	**-1.5**
TEIG	0.1nm,0.3s,baz=232,slow=20,SNR=52			S			**Sn**	**00 31 07.5**	**-5.4**
TEIG	0.1nm,0.5s,baz=233,slow=20,SNR=5.9 **Tepich**	**7.84 51**		*eP*			**Pn**	**00 29 43.4**	**-2.0**
CRIN	**San Cristobal**	**7.91 108**		Pn			**Pn**	**00 29 49.6**	**+3.1**
CRIN	**San Cristobal**	**7.91 108**		P			Pn	00 29 52.5	+6.0
RPIG	**Rio Verde**	**8.18 323**		141nm,0.7s			**Pn**	**00 29 52.4**	**+2.2**
RPIG	**Rio Verde**	**8.18 323**		*eP*			**Pn**	**00 29 52.4**	**+2.2**
CNGN	**Cerro Negro**	**8.30 109**		P			**Pn**	**00 29 54.1**	**+2.2**
BOAB	**BOACO BROADBAN**	**9.27 107**		577nm,0.8s			**Pn**	**00 30 06.7**	**+1.6**
EZ5V		**9.40 297**		*eP*			**Pn**	**00 30 11.5**	**+4.3**
EZ5V				*eS*			**Sn**	**00 31 52.3**	**+0.5**
MNGA	**Volcan de Coli**	**9.41 297**		*eP*			**Pn**	**00 30 11.3**	**+4.0**
MNGA				*eS*			**Sn**	**00 31 56.2**	**+4.2**
INCO	**Volcan de Coli**	**9.43 297**		*eP*			**Pn**	**00 30 11.6**	**+4.0**
INCO				*eS*			**Sn**	**00 32 00.3**	**+7.9**
SOMAC	**Volcano de Col**	**9.45 297**		*eP*			**Pn**	**00 30 12.1**	**+4.3**
SOMAC				*eS*			**Sn**	**00 31 53.4**	**+0.4**
CDAR	**Ciudad de Arme**	**9.56 293**		*eP*			**Pn**	**00 30 12.5**	**+3.5**
CEGR	**Campo Tres**	**9.59 296**		*eP*			**Pn**	**00 30 12.5**	**+2.9**
CEGR				*eS*			**Sn**	**00 31 56.5**	**+0.3**
ACON	**Acoyapa**	**9.88 109**		Pn			**Pn**	**00 30 14.7**	**+1.2**
ZAIG	**Zacatecas**	**10.45 316**		Pn			**Pn**	**00 30 18.7**	**-2.8**
LNIG	**Linares**	**10.49 336**		*eP*			**Pn**	**00 30 22.7**	**+1.0**
CJM	**Chamela**	**10.67 294**		*eP*			**Pn**	**00 30 24.3**	**+0.1**
CJM				*eS*			**Sn**	**00 32 15.8**	**-6.5**
JTS	**Las Juntas de**	**10.78 117**		P			**Pn**	**00 30 26.7**	**+0.9**
LCR2	4.9nm,0.3s,baz=309,slow=14,SNR=1.0 **La Lucha 2**	**11.87 117**		Pn			**Pn**	**00 30 43.4**	**+2.6**
SOR	**Soroa**	**13.33 54**		Pn			**Pn**	**00 30 56.3**	**-4.3**
HNDO	**Hondo**	**14.72 344**					**Pn**	**00 31 19.3**	**-0.2**
DRIO	**Del Rio**	**15.02 340**		Pn			**Pn**	**00 31 21.9**	**-1.5**
JCT	**Junction City**	**15.76 344**		Pn			**Pn**	**00 31 32.2**	**-0.9**
TX31	**Lajitas Ar. Si**	**16.17 331**		P			**Pn**	**00 31 39.1**	**+0.8**
TXAR	**Lajitas Array**	**16.17 331**		P			**Pn**	**00 31 39.4**	**+1.0**
TXAR	**Lajitas Array**	**16.17 331**		P			**P**	**00 31 39.9**	**-1.2**
TXAR	0.2nm,0.3s,baz=156,slow=14,SNR=17					LR	LR	00 37 38.7	
346A	comp=Z,54nm,20.6s,baz=140,slow=36 2.7nm,0.8s **Big Creek Wild**	**16.68 16**		Pn			**Pn**	**00 31 43.8**	**-0.8**
LPIG	**La Paz**	**17.04 303**		LR			LR	00 38 09.9	
VBMS	comp=Z,176nm,20.6s,baz=152,slow=36 **Vicksburg**	**17.23 12**		Pn			**Pn**	**00 31 50.2**	**-1.2**
VBMS						IAmb	IAmb	00 31 53.5	
MNHN	comp=Z,42nm,1.1s **Monahans**	**17.53 337**		P			**Pn**	**00 31 55.5**	**+0.2**
PLPT	**Palo Pinto**	**17.69 350**		P			**Pn**	**00 31 57.3**	**+0.1**
DWPF	**Disney Wildern**	**17.70 42**					**Pn**	**00 31 56.1**	**-1.2**
DWPF						IAmb	IAmb	00 32 32.9	
ABTX	comp=Z,42nm,0.8s **Abilene, Hawle**	**17.77 346**		P			**Pn**	**00 31 58.0**	**-0.1**
ABTX						IAmb	IAmb	00 32 11.9	
Z35A	comp=Z,39nm,1.1s **Perchaven, San**	**18.05 353**					**P**	**00 32 02.1**	**+0.5**
Z35A						IAmb	IAmb	00 32 10.5	
CHIV	comp=Z,28nm,0.6s **Chivirico**	**18.05 73**					**Pn**	**00 31 58.9**	**-2.9**
CHIV						IAmb	IAmb	00 32 00.4	
WLAR	comp=Z,25nm,0.8s **White Oak Lake**	**18.32 4**		P			**P**	**00 32 03.7**	**-1.0**
WLAR						IAmb	IAmb	00 32 15.6	
352A	comp=Z,47nm,1.1s **Blakely**	**18.39 27**		P			**P**	**00 32 04.8**	**-0.6**
352A						IAmb	IAmb	00 32 09.6	
CLNB	comp=Z,56nm,1.1s **Carlsbad**	**18.79 335**		P			**Pn**	**00 32 11.0**	**+0.3**
HTMS	**Hat Mesa**	**18.87 336**		P			**P**	**00 32 11.3**	**+0.4**
LRAL	**Lakeview Retre**	**18.96 20**		P			**P**	**00 32 10.4**	**-1.2**
LRAL						IAmb	IAmb	00 32 12.6	
MIAR	comp=Z,18nm,0.6s **Mount Ida**	**19.15 3**		P			**P**	**00 32 12.4**	**-1.3**
GTBY	**Guantanamo Bay**	**19.25 73**		P			**P**	**00 32 12.7**	**-2.3**
GTBY						IAmb	IAmb	00 32 25.7	
UALR	comp=Z,43nm,0.9s **University of**	**19.47 6**		P			**P**	**00 32 16.3**	**-0.9**
UALR						IAmb	IAmb	00 32 17.7	
WMOK	comp=Z,22nm,0.8s **Wichita Mounta**	**19.65 350**		P			**P**	**00 32 18.5**	**-0.7**
W35A	**Tecumseh**	**19.82 355**		P			**P**	**00 32 19.5**	**-1.5**
W35A						IAmb	IAmb	00 32 27.5	
MSTX	comp=Z,49nm,0.9s **Muleshoe**	**19.91 340**		P			**P**	**00 32 22.1**	**-0.1**
MSTX						IAmb	IAmb	00 32 36.1	
DBBC	comp=Z,21nm,0.8s **Dabeiba**	**19.96 112**		P			**Pn**	**00 32 24.4**	**-0.4**
WHAR	**Wooly Hollow**	**19.98 6**		P			**P**	**00 32 21.0**	**-1.8**
UREC	**San Jos de Ur**	**20.26

comp=Z,195nm,20.8s,baz=150,slow=40
comp=Z,2.9nm,0.8s
NVAR Mina Array Bea 30.98 322 P P 00 34 09.2 +1.6
NVAR Mina Array Bea 30.98 322 P P 00 34 10.1 +2.5
comp=Z,3.4nm,0.8s,baz=124,slow=7.7,SNR=18
NVAR PcP **PcP 00 37 04.5 +1.3**
comp=Z,0.9nm,0.7s,baz=111,slow=4.1,SNR=4.2
NVAR LR LR 00 48 07.6
comp=Z,294nm,20.7s,baz=152,slow=39
comp=Z,3.4nm,0.8s
SNOW Snow King Moun 31.18 337 P P 00 34 10.3 +0.9
TBTG Tabatinga, AM 31.33 126 *e*P **P 00 34 10.6 0.0**
RLMT Red Lodge 32.12 340 P P 00 34 18.5 +1.0
RLMT IAmb IAmb 00 34 19.9
comp=Z,20nm,1.1s
SADO Sadowa 32.16 21 LR LR 00 49 38.4
comp=Z,137nm,19.4s,baz=271,slow=41
YNE Yellowstone No 32.26 340 P P 00 34 20.4 +1.5
YNE IAmb IAmb 00 34 24.0
comp=Z,12nm,1.1s
HLID Hailey 32.75 333 P P 00 34 24.0 +0.9
HLID IAmb IAmb 00 34 28.2
comp=Z,7.1nm,0.8s
BOZ Bozeman (W) 33.34 338 P P 00 34 28.5 +0.4
ULM Lac du Bonnet 34.82 359 P P 00 34 39.1 -1.6
ULM IAmb IAmb 00 34 40.8
comp=Z,20nm,1.0s
ULM Lac du Bonnet 34.82 359 P P 00 34 39.1 -1.6
comp=Z,16nm,0.9s,baz=184,slow=9.4,SNR=19
ULM LR LR 00 51 39.9
comp=Z,65nm,20.1s,baz=176,slow=41
comp=Z,16nm,0.9s
EGMT Eagleton 34.87 342 P P 00 34 41.3 0.0
TEFE Tefe 35.20 120 *e*P **P 00 34 43.9 -0.5**
YBH Yreka Blue Hor 35.69 323 P P 00 34 48.4 0.0
comp=Z,1.2nm,0.7s,baz=96,slow=6.8,SNR=5.1
YBH LR LR 00 51 14.2
comp=Z,240nm,18.1s,baz=149,slow=39
comp=Z,1.2nm,0.7s
F10A Beach Ranch, E 35.89 333 P P 00 34 51.2 +1.1
BOAV Boa Vista 36.10 108 P P 00 34 50.8 -1.3
BOAV IAmb IAmb 00 35 07.0
comp=Z,10nm,1.2s
BOAV Boa Vista 36.10 108 *e*P **P 00 34 51.9 -0.2**
NEW Newport 37.65 335 P P 00 35 05.1 +0.1
NEW Newport 37.65 335 P P 00 35 04.8 -0.1
comp=Z,4.0nm,0.6s,baz=138,slow=9.9,SNR=8.6
NEW LR LR 00 53 24.2
comp=Z,86nm,19.8s,baz=128,slow=41
comp=Z,4.0nm,0.6s
MACA Manacapuru-AM 38.40 116 *e*P **P 00 35 11.6 -0.1**
FFC Flin Flon 39.70 353 P P 00 35 22.1 +0.2
FFC IAmb IAmb 00 35 23.2
comp=Z,14nm,0.7s
LPAZ La Paz 40.97 139 P P 00 35 34.1 +0.4
LPAZ La Paz 40.97 139 P P 00 35 34.0 +0.4
comp=Z,1.6nm,0.7s,baz=336,slow=8.1,SNR=6.3
LPAZ LR LR 00 51 05.8
comp=Z,96nm,20.9s,baz=294,slow=34
comp=Z,1.6nm,0.7s
LPAZ La Paz 40.97 139 *e*P **P 00 35 34.3 +0.6**
MDP Montagnes des 42.58 99 LR LR 00 54 17.8
comp=Z,104nm,21.1s,baz=303,slow=37
ITTB Itaituba 43.31 114 *e*P **P 00 35 50.7 -1.4**
FCC Fort Churchill 43.34 0 P P 00 35 51.0 -0.8
FCC IAmb IAmb 00 35 52.3
comp=Z,21nm,0.9s
VILB Vilhena 44.26 128 P P 00 35 59.6 -0.1
VILB IAmb IAmb 00 36 00.9
comp=Z,12nm,1.0s
VILB Vilhena 44.26 128 *e*P **P 00 36 00.1 +0.3**
NPGB Novo Progresso 44.92 117 *e*P **P 00 36 03.3 -1.8**
SCHQ Schefferville 44.94 23 P P 00 36 02.4 -2.3
SCHQ IAmb IAmb 00 36 03.4
comp=Z,12nm,1.0s
SCHQ Schefferville 44.94 23 P P 00 36 02.5 -2.2
comp=Z,8.9nm,0.8s,baz=222,slow=7.0,SNR=8.3
SCHQ LR LR 00 57 27.0
comp=Z,279nm,18.6s,baz=238,slow=40
comp=Z,8.9nm,0.8s
BBB Bella Bella 45.31 332 LR LR 00 58 25.6
comp=Z,149nm,18.0s,baz=144,slow=40
VBST Vila Bela da S 45.38 129 *e*P **P 00 36 08.7 0.0**
SIV San Ignacio 45.55 132 LR LR 00 54 31.4
comp=Z,107nm,19.1s,baz=289,slow=35
PDRB Porto dos Gac 46.20 123 *e*P **P 00 36 16.6 +1.5**
CLDB Colider 46.54 122 *e*P **P 00 36 18.8 +1.0**
PTLB Pontes e Lacer 46.62 129 P P 00 36 17.8 -0.5
PTLB IAmb IAmb 00 36 18.6
comp=Z,5.6nm,1.0s
PTLB Pontes e Lacer 46.62 129 *e*P **P 00 36 17.2 -1.2**
BBSD Serra de San D 46.67 133 *e*P **P 00 36 18.1 -0.7**
NBRS Nobres 48.51 126 *e*P **P 00 36 32.6 -0.5**
AC02 Maricunga 48.76 149 P P 00 36 36.6 +1.2
AC02 IAmb IAmb 00 36 38.9
comp=Z,9.9nm,1.3s
YKA Yellowknife Ar 49.14 348 P P 00 36 37.0 -0.2
YKA Yellowknife Ar 49.14 348 P P 00 36 37.3 0.0
comp=Z,6.0nm,0.7s,baz=155,slow=7.4,SNR=92
YKA PcP **PcP 00 38 00.1 -0.1**
comp=Z,1.3nm,0.9s,baz=152,slow=3.9,SNR=7.0
YKA LR LR 00 58 56.8
comp=Z,56nm,19.0s,baz=73,slow=38
comp=Z,6.0nm,0.7s
T35M Bob Quinn 49.45 335 P P 00 36 42.0 +2.2
baz=132
SALV Santo Antonio 49.51 127 *e*P **P 00 36 40.7 0.0**
KOTAN Kotaneelee Air 49.55 341 P P 00 36 42.3 +1.9
baz=141
CRAG Craig 49.70 332 P P 00 36 44.4 +2.8
baz=128
U33K Whale Pass 50.10 333 P P 00 36 46.9 +2.3
baz=128
DLBC Dease Lake 50.36 337 P P 00 36 47.6 +0.9
DLBC IAmb IAmb 00 36 50.6
comp=Z,14nm,1.2s
DLBC Dease Lake 50.36 337 P P 00 36 49.2 +2.4
baz=133
S34M Telegraph Cree 50.44 336 P P 00 36 50.1 +2.9
baz=132
SNDB Serra Nova Dou 50.86 120 *e*P **P 00 36 50.9 -0.2**
TAOE Nuku Hiva Isla 51.01 245 *e*LR LR 00 51 35.5
comp=Z,180nm,24.2s
R33M Jennings River 51.38 337 P P 00 36 56.9 +2.4
baz=133
S32K Killisnoo 51.57 334 P P 00 36 58.7 +3.0
baz=128
Q32M Nakina River 51.58 336 P P 00 36 58.6 +2.6
baz=131
FRB Frobisher Bay 51.64 14 LR LR 01 01 36.4
comp=Z,72nm,18.3s,baz=150,slow=39
WRGLY Wrigley 51.85 344 P P 00 36 59.1 +1.4
baz=144
TGTN Hyland Airport 51.96 340 P P 00 37 00.7 +2.0
baz=137
ARAG Araguaiana, MT 52.44 124 *e*P **P 00 37 02.0 -0.7**
P32M Atlin 52.55 336 P P 00 37 05.5 +2.4
baz=130
P33M Teslin, Yukon 52.62 337 P P 00 37 05.4 +1.8
baz=131
DVLD Doverlandia 52.68 125 *e*P **P 00 37 04.8 +0.2**
NBBC Barra do Corda 53.19 109 *e*P **P 00 37 08.2 -0.2**
N32M Quiet Lake 53.34 338 P P 00 37 09.8 +0.9
N32M IAmb IAmb 00 37 11.8
comp=Z,12nm,0.9s
N32M Quiet Lake 53.34 338 P P 00 37 11.3 +2.4
baz=131
WHY Whitehorse 53.69 337 P P 00 37 13.6 +2.1
baz=129
MMPY Sheldon Lake, 53.72 340 P P 00 37 14.1 +2.4
baz=134
FARO Faro, Yukon 54.16 339 P P 00 37 16.7 +1.8
baz=132
P30M Million Dollar 54.17 335 P P 00 37 17.4 +2.4
baz=127
P29M Windy Craggy 54.19 335 P P 00 37 17.0 +1.9
baz=125
O30N Mendenhall 54.22 336 P P 00 37 17.4 +2.1
baz=128
AMBA Amambai (Brazi 54.41 134 *e*P **P 00 37 16.8 -0.4**
M31M Drury Creek, Y 54.51 338 P P 00 37 19.2 +1.8
baz=131
N31M Braeburn, Yuko 54.55 337 P P 00 37 19.7 +1.9
baz=129
HYT Haines Junctio 54.81 336 P P 00 37 22.3 +2.7
baz=126
RKT Rikitea 54.87 227 *e*LR LR 00 53 32.2
comp=Z,932nm,27.8s
O29M Mount Kennedy 54.93 335 P P 00 37 22.9 +2.3
baz=125
SJPY San Joaquin 55.02 136 *e*P **P 00 37 21.0 -0.6**
N30M Aishikik Lake 55.03 337 P P 00 37 22.9 +1.7
baz=127
CPUP Villa Florida 55.13 138 P P 00 37 21.9 -0.4
comp=Z,1.8nm,0.9s,baz=352,slow=6.8,SNR=4.2
CPUP LR LR 01 01 06.1
comp=Z,57nm,19.4s,baz=260,slow=36
comp=Z,1.8nm,0.9s
CPUP Villa Florida 55.13 138 *e*P **P 00 37 22.3 0.0**
YUK6 Outpost Mounta 55.22 336 P P 00 37 24.6 +1.8
baz=126
BDFB Brasilia 55.48 122 P P 00 37 25.4 +0.3
BDFB IAmb IAmb 00 37 29.3
comp=Z,7.5nm,0.7s
BDFB Brasilia 55.48 122 P P 00 37 25.2 +0.1
comp=Z,7.0nm,0.6s,baz=293,slow=9.1,SNR=14
comp=Z,7.0nm,0.6s
PINM Pinnacle 55.50 334 P P 00 37 26.7 +2.1
baz=123
YUK4 Talbot Arm 55.56 336 P P 00 37 26.7 +1.5
baz=126
M30M Minto, Yukon 55.61 338 P P 00 37 26.6 +1.2
baz=128
O28M Mount Upton 55.85 335 P P 00 37 29.2 +1.8
baz=124
YUK8 Steele Glacier 55.97 336 P P 00 37 30.1 +1.9
baz=124
M29M Somme Creek 56.14 337 P P 00 37 30.6 +1.3
M29M IAmb IAmb 00 37 32.2
comp=Z,12nm,0.9s
M29M Somme Creek 56.14 337 P P 00 37 31.3 +2.0
baz=126,SNR=12
L29M L29M 56.42 338 P P 00 37 32.7 +1.6
baz=127
SDBA SAO DESIDERIO 56.51 116 *e*P **P 00 37 32.5 0.0**
YUK3 Moose Creek 56.52 336 P P 00 37 33.8 +1.7
baz=124
IPMB Ipameri, GO 56.56 124 *e*P **P 00 37 33.3 +0.5**
K29M Barlow Dome 56.66 339 P P 00 37 33.8 +0.9
baz=128
J30M Hart River 56.72 340 P P 00 37 34.6 +1.3
baz=130
H31M Peel River 56.91 342 P P 00 37 34.9 +0.4
baz=132
C36M Paulatuk 57.02 348 P P 00 37 35.6 +0.5
baz=145
BVCY Beaver Creek 57.04 336 P P 00 37 36.8 +1.3
baz=124
I30M Mount Dempster 57.15 341 P P 00 37 37.1 +0.7
baz=130
M27K Edge Creek, AK 57.40 336 P P 00 37 39.4 +1.1
baz=123
DAWY Dawson 57.45 338 P P 00 37 39.0 +0.6
baz=126
G31M Satah River 57.65 343 P P 00 37 40.4 +0.7
baz=133,SNR=8.4
NRS Narsarsuaq 57.66 26 P P 00 37 38.6 -1.2
NRS Narsarsuaq 57.66 26 *i* P **P 00 37 38.3 -1.5**
NRS IAmb IAmb 00 37 39.4
comp=Z,32nm,1.0s
BCAR Beaver Creek A 57.76 337 P P 00 37 41.1 +0.5
L27K Beaver Creek, 57.77 337 P P 00 37 42.0 +1.3
baz=123
BMRM Bremner River 57.80 334 P P 00 37 42.8 +1.9
baz=119
F31M Tsiigehtchic 57.86 343 P P 00 37 41.8 +0.7
baz=134
M26K Nabesna, AK 57.87 336 P P 00 37 42.3 +0.9
baz=122
I29M Ogilvie Camp, 57.87 340 P P 00 37 42.3 +1.0
baz=128
ITQB Itaqui 57.92 141 *e*P **P 00 37 41.9 -0.2**
EPYK Eagle Plains 58.01 341 P P 00 37 42.9 +0.6
baz=130
BB19B Bebedouro 58.02 127 *e*P **P 00 37 42.4 -0.6**
N25K Chitina, Valde 58.11 335 P P 00 37 45.0 +1.9
baz=119
JANB Januaria 58.27 119 *e*P **P 00 37 44.9 0.0**
PMNB Patos De Minas 58.28 124 *e*P **P 00 37 45.2 +0.2**
K27K Chicken 58.40 338 P P 00 37 46.5 +1.6
baz=123,SNR=5.6
INK Inuvik 58.41 344 P P 00 37 45.2 +0.3
INK IAmb IAmb 00 37 46.4
comp=Z,9.0nm,0.9s
INK Inuvik 58.41 344 LR LR 01 05 17.7
comp=Z,78nm,19.5s,baz=240,slow=38
INK Inuvik 58.41 344 P P 00 37 45.3 +0.3
baz=134,SNR=7.5
H29M Whitestone 58.43 341 P P 00 37 46.1 +1.0
baz=128
I28M Miner Creek 58.47 340 P P 00 37 46.4 +0.9
baz=126
F30M Barrier River 58.55 343 P P 00 37 47.2 +1.2
baz=132,SNR=5.8
FRTB Fartura 58.57 130 *e*P **P 00 37 45.9 -1.0**
P23K Montague Islan 58.57 332 P P 00 37 48.0 +1.7
baz=118
KLU Klutina 58.61 334 P P 00 37 48.2 +1.6
baz=118
G29M Pine Creek 58.76 342 P P 00 37 48.0 +0.5
baz=129
GLI Glacier Island 58.83 333 P P 00 37 49.7 +1.7
baz=116
DOT Dot Lake 58.94 337 P P 00 37 48.9 +0.2
DOT IAmb IAmb 00 37 51.3
comp=Z,11nm,1.0s
M24K Tolsona, Glenn 59.01 335 P P 00 37 50.4 +1.1
baz=118
SFJD Kangerlussuaq 59.06 19 LR LR 01 05 36.8
comp=Z,65nm,18.7s,baz=219,slow=38
SFJD Kangerlussuaq 59.06 19 *i* P **P 00 37 48.3 -1.2**
SFJD IAmb IAmb 00 37 54.9
comp=Z,138nm,1.9s
SCRK Sand Creek 59.08 337 P P 00 37 50.7 +0.8
SCRK IAmb IAmb 00 37 52.5
comp=Z,4.7nm,0.9s
SCRK Sand Creek 59.08 337 P P 00 37 51.5 +1.6
baz=121
I27K Kandik River 59.12 339 P P 00 37 51.6 +1.5
baz=124
PAX Paxson 59.14 336 P P 00 37 51.6 +1.3
baz=119
J26L Joseph Creek 59.20 338 P P 00 37 52.2 +1.5
baz=122,SNR=8.8
RIDG Independent Ri 59.28 337 P P 00 37 52.6 +1.4
baz=120,SNR=7.1
RES Resolute Bay 59.34 360 P P 00 37 50.6 -0.7
RES IAmb IAmb 00 37 51.8
comp=Z,7.1nm,0.8s
RES Resolute Bay 59.34 360 LR LR 01 08 55.0
comp=Z,49nm,19.7s,baz=1.5,slow=42
SCM Sheep Creek Mo 59.36 334 P P 00 37 53.5 +1.7
baz=117
A36M Sachs Harbour 59.43 349 P P 00 37 52.1 +0.1
baz=145,SNR=9.2
H27K Steamboat Moun 59.46 340 P P 00 37 54.0 +1.6
baz=125,SNR=6.2
I26K Coal Creek Min 59.49 339 P P 00 37 53.6 +1.1
baz=123
M23K Glacier View 59.51 334 P P 00 37 53.9 +1.2
baz=116
SEW Seward 59.55 332 P P 00 37 53.6 +0.7
baz=114
KNK Knik Glacier 59.66 333 P P 00 37 55.0 +1.2
baz=115
E29M Blow River 59.67 343 P P 00 37 54.7 +1.0
baz=130,SNR=9.9
K24K Donnelly Dome 59.67 336 P P 00 37 54.9 +1.0
baz=119
SML Sawmill 59.77 334 P P 00 37 55.5 +0.8
baz=116
G27K Doyon Strip 59.83 340 P P 00 37 55.9 +1.0
baz=125,SNR=6.7
J25K Salcha River, 59.92 337 P P 00 37 56.8 +1.2
baz=120,SNR=5.7
BRSE Bradley Lake S 60.00 331 P P 00 37 57.7 +1.6
baz=112
GHO Glory Hole Cre 60.01 334 P P 00 37 57.1 +0.9
PMR Palmer 60.02 333 P P 00 37 57.7 +1.5
baz=115
RC01 Rabbit Creek A 60.08 333 P P 00 37 57.8 +1.2
baz=114
PLCA Paso Flores 60.14 159 P P 00 37 59.3 +1.9
PLCA IAmb IAmb 00 38 17.5
comp=Z,18nm,1.5s
PLCA Paso Flores 60.14 159 P P 00 37 59.1 +1.8
comp=Z,1.9nm,1.0s,baz=323,slow=5.4,SNR=1.4
PLCA LR LR 00 57 54.2
comp=Z,69nm,20.0s,baz=206,slow=30
comp=Z,1.9nm,1.0s
PLCA Paso Flores 60.14 159 *e*P **P 00 38 00.4 +3.0**
KDAK Kodiak Island 60.19 328 LR LR 01 04 54.6
comp=Z,63nm,18.5s,baz=324,slow=37
E28M Babbage River 60.27 343 P P 00 37 58.3 +0.4
baz=128,SNR=8.0
OHAK Old Harbor 60.36 328 P P 00 37 58.9 +0.3
baz=108
DIAM Diamantina, MG 60.40 122 *e*P **P 00 37 59.8 +0.2**
HDA Harding Lake 60.42 337 P P 00 37 59.3 +0.4
baz=118
PRP Porcupine Dome 60.44 338 P P 00 38 00.0 +0.8
baz=120
D28M Stokes Point 60.51 344 P P 00 38 00.1 +0.7
baz=129
M22K Willow 60.52 333 P P 00 38 01.0 +1.4
baz=114
ILAR Eielson Array 60.57 337 P P 00 38 00.0 +0.1
ILAR Eielson Array 60.57 337 P P 00 38 00.6 +0.6
comp=Z,6.4nm,1.0s,baz=137,slow=4.4,SNR=35
comp=Z,6.4nm,1.0s
G26K Porcupine Rive 60.61 340 P P 00 38 01.3 +1.1
baz=123
SII Sitkinak Islan 60.62 327 P P 00 38 01.5 +1.0
baz=107
E27K Coleen River 60.62 342 P P 00 38 01.4 +1.0
baz=126,SNR=11
SUA Susitna One 60.68 333 P P 00 38 01.9 +1.0
baz=113
RND Reindeer 60.70 335 P P 00 38 01.8 +0.8
CUT Chulitna 60.85 334 P P 00 38 02.8 +0.9
baz=114
MCK McKinley 60.88 336 P P 00 38 02.8 +0.7
baz=116,SNR=5.7
BSCB Bom Sucesso 60.91 125 *e*P **P 00 38 01.1 -2.0**
H25L Birch Creek 60.93 339 P P 00 38 03.6 +1.2
baz=120,SNR=5.9
POKR Poker Plat Res 60.94 337 P P 00 38 03.4 +0.9
baz=118
R18K Karluk 61.07 328 P P 00 38 04.7 +1.2
baz=108
D27M Malcolm River 61.07 343 P P 00 38 03.8 +0.4
baz=127
Q19K Cape Douglas, 61.10 330 P P 00 38 05.0 +1.3
baz=109
BMAR Burnt Mountain 61.13 340 P P 00 38 04.7 +0.9
F26K Sheenjek River 61.14 341 P P 00 38 04.8 +1.1
baz=123,SNR=6.0
SKT Skwentna 61.23 333 P P 00 38 05.1 +0.7
baz=113
SPCR Spurr Chakacha 61.23 332 P P 00 38 05.5 +0.9
baz=112
PLTB Pedras Altas 61.24 140 *e*P **P 00 38 05.2 +0.2**
G25K Bearman Lake 61.29 339 P P 00 38 05.7 +0.9
baz=120
TRF Thorofare Moun 61.30 335 P P 00 38 05.8 +0.7
TRF Thorofare Moun 61.30 335 P P 00 38 06.5 +1.4
baz=115,SNR=6.3
NUUG Nuugaatsiaq 61.36 14 *i* P **P 00 38 03.5 -1.6**
NUUG IAmb IAmb 00 38 06.5
comp=Z,16nm,1.0s
H24K Noodor Dome 61.45 338 P P 00 38 07.0 +1.1
baz=118
F25K Christian Rive 61.56 340 P P 00 38 08.1 +1.4
baz=121,SNR=10
I23K Minto, Yukon-K 61.68 337 P P 00 38 08.6 +1.2
baz=116,SNR=9.9
Q18K Katmai Hardscr 61.68 329 P P 00 38 08.2 +0.5
baz=108
G24K Hadweenzic Riv 61.73 339 P P 00 38 08.9 +1.1
baz=119
E25K Arctic Village 61.82 341 P P 00 38 09.4 +1.0
baz=122,SNR=5.4
O19K Port Alsworth 61.84 331 P P 00 38 09.6 +1.0
baz=109
BPAW Bear Paw Mtn. 61.85 336 P P 00 38 09.3 +0.6
baz=114
M20K Styx River 61.89 333 P P 00 38 10.1 +1.0
baz=111
RCBR Riachuelo 61.95 105 LR LR 01 06 35.7
comp=Z,28nm,19.8s,baz=252,slow=38
Q17K Contact Creek 62.01 328 P P 00 38 10.7 +0.7
baz=106
P18K Big Mountain, 62.02 330 P P 00 38 10.6 +0.7
baz=108
CAST Castle Rocks 62.02 335 P P 00 38 10.0 +0.1
CAST IAmb IAmb 00 38 10.6
comp=Z,7.5nm,0.8s
CAST Castle Rocks 62.02 335 P P 00 38 10.3 +0.4
baz=113,SNR=6.1
TER01 Tubaro-SC 62.04 135 *e*P **P 00 38 10.7 +0.3**
H23K Yukon River 62.05 338 P P 00 38 10.3 +0.3
baz=116
C27K Jago River 62.09 343 P P 00 38 11.4 +1.3
baz=124,SNR=13
N19K Bonanza Creek 62.13 331 P P 00 38 11.4 +0.8
baz=109
O18K Koktuh Hills 62.16 330 P P 00 38 11.6 +0.8
baz=108
F24K Squaw Lake 62.27 340 P P 00 38 12.4 +0.9
baz=119
L20K Farewell, AK 62.43 333 P P 00 38 13.3 +0.7
baz=111,SNR=5.7
M19K Big River Lodg 62.45 333 P P 00 38 13.4 +0.7
baz=110
Q16K King Salmon 62.51 329 P P 00 38 14.4 +1.3
baz=106
P17K Kvichak River 62.55 329 P P 00 38 14.5 +1.1
baz=106
C26K Camden Bay 62.60 343 P P 00 38 15.0 +1.5
baz=123,SNR=6.6
G23K Bananza Creek 62.63 338 P P 00 38 15.0 +1.2
baz=116
D25K Kavik River 62.71 342 P P 00 38 15.6 +1.3
baz=121,SNR=14
N18K Kilae Creek 62.74 331 P P 00 38 15.2 +0.6
baz=108
E24K Your Creek 62.74 340 P P 00 38 16.0 +1.4
baz=119,SNR=5.2
L19K White Mountain 62.76 333 P P 00 38 15.6 +0.9
baz=110
H22K Ishtalitna Cre 62.76 337 P P 00 38 15.6 +0.9
baz=115
GUA01 Guaratinga, BA 62.81 118 *e*P **P 00 38 16.8 +1.0**
CHGN Chignik 62.82 326 P P 00 38 16.1 +1.0
baz=103
ANGG Ammassalik, Gr 62.82 23 *i* P **P 00 38 14.0 -1.0**
ANGG IAmb IAmb 00 38 15.4
comp=Z,9.9nm,0.6s
K20K Telida 62.83 334 P P 00 38 16.0 +0.7
baz=111
COLD Coldfoot 62.92 339 P P 00 38 17.3 +1.6
baz=116
M18K Stony River 62.96 332 P P 00 38 16.8 +0.7
baz=108
BSFB Barra de Sao F 62.99 121 *e*P **P 00 38 17.3 +0.4**
NBAN Anadia - L 63.02 109 *e*P **P 00 38 17.2 -0.1**
O17K Koliganek Bris 63.04 330 P P 00 38 17.4 +0.8
baz=106
E23K Chandalar 63.11 340 P P 00 38 18.5 +1.4
baz=118,SNR=6.6
CHNA Chernabura Isl 63.14 324 P P 00 38 17.9 +0.5
baz=101
J20K Nowinta River 63.16 335 P P 00 38 18.1 +0.8
baz=111,SNR=5.9
PPT Papeete 63.18 241 LR LR 00 57 49.0
comp=Z,130nm,20.9s,baz=60,slow=28
PPT2 Papeete2 63.19 241 *e*LR LR 00 57 12.7
comp=Z,114nm,30.8s
PPT2 *e*LR LR 00 57 15.9
comp=Z,124nm,24.5s
H21K Melozitna Rive 63.20 337 P P 00 38 17.8 +0.2
baz=113
G22K Bettles 63.25 338 P P 00 38 18.8 +0.9
baz=115
P16K Nushagak River 63.28 329 P P 00 38 19.5 +1.3
baz=105
N17K Nushagak Hills 63.30 331 P P 00 38 19.4 +1.0
baz=106
TOLK Toolik Lake Re 63.37 340 P P 00 38 19.9 +1.1
baz=118
D24K Happy Valley 63.37 341 P P 00 38 19.5 +0.8
baz=119

DUB01 **Friburgo-RJ** 63.38 125 *e*P P 00 38 20.5 +1.0
O16K **Kokwok River B** 63.48 329 P P 00 38 20.1 +0.5
baz=105
TTA **Tatalina** 63.51 333 P P 00 38 20.0 +0.2
baz=109
L18K **Granite Mounta** 63.58 333 P P 00 38 20.9 +0.7
baz=108
RIB01 **Linhares ES** 63.60 121 *e*P P 00 38 20.9 -0.1
C24K **Franklin Bluff** 63.61 342 P P 00 38 21.6 +1.3
baz=119
ICESG **Greenland Ices** 63.66 19 *i* P P 00 38 19.5 -1.5
ICESG IAmb IAmb 00 38 21.8
comp=Z,25nm,1.0s
M17K **Holitna River** 63.67 332 P P 00 38 21.3 +0.5
baz=107
J19K **Poorman** 63.70 335 P P 00 38 21.4 +0.4
baz=110,SNR=9.6
F22K **John River** 63.73 339 P P 00 38 22.6 +1.4
baz=115,SNR=6.2
G21K **Allakaket** 63.80 338 P P 00 38 22.5 +0.9
baz=113
D23K **Nanushuk River** 63.87 341 P P 00 38 23.3 +1.3
baz=117,SNR=5.6
E22K **Anaktuvuk Pass** 63.88 340 P P 00 38 23.0 +0.9
baz=115,SNR=8.6
H20K **Anotleneega Mo** 63.94 336 P P 00 38 23.3 +0.8
baz=111
J18K **Innoko River** 63.99 334 P P 00 38 23.7 +0.8
baz=108
N16K **Nishlik Lake** 64.04 330 P P 00 38 24.2 +0.9
baz=105
F21K **Alatna River** 64.08 338 P P 00 38 24.9 +1.6
baz=113,SNR=22
O15K **Ungalikthiuk R** 64.23 329 P P 00 38 25.1 +0.6
baz=103
C23K **Itkillik River** 64.25 341 P P 00 38 25.8 +1.4
baz=117,SNR=16
M16K **Timber Creek** 64.28 331 P P 00 38 25.5 +0.8
baz=105
L17K **Donlin** 64.28 332 P P 00 38 25.1 +0.4
baz=106
K17K **Iditarod** 64.45 333 P P 00 38 26.4 +0.5
baz=106
D22K **Ayikyak River** 64.49 340 P P 00 38 27.6 +1.5
baz=115,SNR=10
H19K **Roundabout Mou** 64.56 336 P P 00 38 26.9 +0.4
baz=110
L16K **Owhat River** 64.70 332 P P 00 38 28.4 +0.9
baz=105
E21K **Killik River** 64.74 339 P P 00 38 28.5 +0.8
baz=113,SNR=6.5
F20K **Avaraart Lake** 64.82 338 P P 00 38 29.4 +1.2
baz=111,SNR=8.9
EUNU **Eureka** 64.85 2 P P 00 38 28.3 0.0
G19K **Purcell Mounta** 65.02 337 P P 00 38 30.0 +0.5
baz=109
H18K **Honhosa River** 65.20 335 P P 00 38 31.4 +0.7
baz=108
C21K **Knifeblade Rid** 65.29 340 P P 00 38 32.8 +1.5
baz=113,SNR=5.4
B22K **Teshekpuk Lake** 65.34 341 P P 00 38 32.5 +1.0
baz=115,SNR=14
B21K **Ikpikpuk River** 65.42 341 P P 00 38 33.0 +0.9
baz=113,SNR=6.6
E20K **Nigu River** 65.43 339 P P 00 38 33.4 +1.2
baz=111
F19K **Shaleruckik Mo** 65.50 337 P P 00 38 33.4 +0.8
baz=109
E19K **Redstone River** 65.51 338 P P 00 38 33.6 +0.9
baz=110
G18K **Tagagawik** 65.54 336 P P 00 38 34.0 +1.0
baz=108
J16K **Anvik River** 65.61 333 P P 00 38 34.6 +1.2
baz=104
L15K **Ungalak Mounta** 65.62 331 P P 00 38 34.5 +1.0
baz=103
M14K **Bethel** 65.63 330 P P 00 38 34.6 +1.1
baz=102
SUMG **Summit** 65.66 16 P P 00 38 33.7 -0.4
SUMG IAmb IAmb 00 38 35.1
comp=Z,9.3nm,1.0s
SUMG **Summit** 65.66 16 *i* P P 00 38 33.0 -1.1
SUMG IAmb IAmb 00 38 35.3
comp=Z,7.9nm,0.9s
D20K **Etivluk River** 65.74 339 P P 00 38 35.3 +1.1
baz=111
H17K **Granite Mounta** 65.76 335 P P 00 38 35.2 +0.8
baz=106
K15K **Wolf Creek Mou** 65.78 332 P P 00 38 36.0 +1.4
baz=103
NEEM **North Greenlan** 65.84 10 *i* P P 00 38 32.4 -2.6
NEEM IAmb IAmb 00 38 35.7
comp=Z,13nm,0.8s
A22K **Sinclair Lake** 66.09 342 P P 00 38 37.6 +1.3
baz=113,SNR=10
L14K **Kuka Creek** 66.10 331 P P 00 38 37.0 +0.4
baz=102
F18K **Selawik** 66.14 337 P P 00 38 37.3 +0.6
baz=107
D19K **Kuna River** 66.18 339 P P 00 38 38.2 +1.1
baz=109
G17K **Kiwalik Mounta** 66.22 335 P P 00 38 38.6 +1.4
baz=105
M13K **Dall Lake** 66.24 330 P P 00 38 38.6 +1.2
baz=101
B20K **Meade River** 66.39 341 P P 00 38 39.5 +1.3
baz=111,SNR=22
H16K **Elim** 66.65 334 P P 00 38 41.1 +1.1
baz=104
E18K **Tukpahlearik C** 66.74 337 P P 00 38 41.5 +1.0
baz=106
J14K **Nanvaranak Lak** 66.80 332 P P 00 38 42.1 +1.1
baz=102
G16K **Koyuk River** 66.88 335 P P 00 38 42.6 +1.1
baz=104
E17K **Hotham Inlet** 67.10 337 P P 00 38 44.0 +1.1
baz=105
C18K **Utukok River** 67.30 339 P P 00 38 44.6 +0.3
baz=106
G15K **Niukluk** 67.48 335 P P 00 38 45.9 +0.6
baz=102
A19K **Wainwright** 67.71 340 P P 00 38 47.4 +0.8
baz=107
B18K **Kokolik River** 67.71 339 P P 00 38 47.4 +0.6
baz=106
D17K **Noatak River** 67.73 337 P P 00 38 47.5 +0.7
baz=104
F15K **North Star Dit** 67.88 335 P P 00 38 49.4 +1.6
baz=102
C17K **DeLong Mountai** 67.96 338 P P 00 38 49.8 +1.5
baz=104
NIKH **Nikolski High** 68.34 321 P P 00 38 52.3 +1.4
baz=93
F14K **Arctic Creek** 68.52 335 P P 00 38 52.9 +1.0
baz=100
C16K **Lisburne Hills** 68.69 338 P P 00 38 53.9 +1.1
baz=102
BORG **Borgarnes** 69.16 26 LR LR 01 09 09.0
comp=Z,60nm,19.6s,baz=205,slow=36
TNA **Tin City** 69.19 335 P P 00 38 57.0 +1.0
baz=99
SCO **Scoresbysund** 69.90 20 P P 00 38 58.9 -1.4
SCO IAmb IAmb 00 39 04.1
comp=Z,11nm,1.2s
RAR **Rarotonga** 73.42 242 LR LR 01 02 37.2
comp=Z,53nm,19.7s,baz=220,slow=28
ESK **Eskdalemuir** 78.40 36 P P 00 39 49.5 -0.6
EKA **Eskdalemuir Ar** 78.42 36 P P 00 39 49.9 -0.4
comp=Z,14nm,0.7s,baz=284,slow=5.3,SNR=28
comp=Z,14nm,0.7s
BILL **Bilibino** 79.22 338 P P 00 39 54.6 +0.1
BILL IAmb IAmb 00 39 56.5
comp=Z,12nm,0.9s
SPITS **Spitsbergen Ar** 79.30 11 P P 00 39 54.4 -0.3
comp=Z,8.8nm,1.0s,baz=316,slow=6.0,SNR=5.1
SPITS LR LR 01 19 30.2
comp=Z,72nm,18.6s,baz=236,slow=39
comp=Z,8.8nm,1.0s
PAB **San Pablo** 80.69 52 P P 00 40 02.8 -0.3
ESDC **Sonseca Array** 80.96 51 P P 00 40 04.1 -0.4
ESDC **Sonseca Array** 80.96 51 P P 00 40 04.0 -0.4
comp=Z,14nm,0.9s,baz=293,slow=5.7,SNR=39
ESDC LR LR 01 11 42.4
comp=Z,77nm,18.8s,baz=271,slow=33
comp=Z,14nm,0.9s
MDT **Midelt** 81.95 58 LR LR 01 10 34.5
comp=Z,29nm,19.9s,baz=288,slow=31
UCC **Uccle** 83.89 39 P P 00 40 18.7 -0.7
UCC **Uccle** 83.89 39 *d*P P 00 40 19.3 -0.1
comp=Z,15nm,0.9s
NB2 **NORSAR Subarra** 84.22 28 P P 00 40 21.5 +0.5
comp=Z,15nm,1.1s,baz=293,slow=4.8
NB2 **NORSAR Subarra** 84.22 28 P P 00 40 21.5 +0.5
baz=293,slow=4.8
NOA **NORSAR Array B** 84.22 28 P P 00 40 21.3 +0.3
comp=Z,3.8nm,0.9s,baz=298,slow=5.3,SNR=13
NOA LR LR 01 16 34.4
comp=Z,49nm,21.8s,baz=275,slow=35
comp=Z,3.8nm,0.9s
DOU **Dourbes** 84.24 40 *d*P P 00 40 21.3 +0.1
comp=Z,8.7nm,1.0s
BMRD **Maredsous** 84.28 39 *d*P P 00 40 22.0 +0.6
comp=Z,8.3nm,1.1s
BGES **Gesves** 84.45 39 *d*P P 00 40 22.6 +0.3
comp=Z,16nm,0.9s
NC602 **NORSAR Array S** 84.48 28 P P 00 40 22.8 +0.6
BCLA **Clavier** 84.58 39 *d*P P 00 40 23.3 +0.4
comp=Z,10nm,0.9s
RCHB **Rochefort** 84.61 40 *d*P P 00 40 22.9 -0.2
comp=Z,9.5nm,0.8s
RCHB *d*pP pP 00 40 36.6 +1.2
BSTI **Sart Tilman** 84.69 39 *d*P P 00 40 24.0 +0.5
BSTI *d*pP pP 00 40 37.3 +1.4
MEM **Membach** 84.95 39 *d*P P 00 40 25.3 +0.5
comp=Z,12nm,0.8s
BHOU **Houvegnez** 85.02 39 *d*P P 00 40 26.1 +0.9
comp=Z,5.9nm,1.1s
BTNL **Ternell** 85.03 39 *d*P P 00 40 23.9 -1.3
comp=Z,6.6nm,0.9s
WLF **Walferdange** 85.33 40 P P 00 40 25.7 -1.0
WLF **Walferdange** 85.33 40 *d*P P 00 40 27.2 +0.5
comp=Z,16nm,0.8s
ARCES **ARCESS Array B** 85.68 18 P P 00 40 27.9 -0.2
comp=Z,2.9nm,0.7s,baz=326,slow=3.7,SNR=8.6
ARCES LR LR 01 19 37.1
comp=Z,48nm,21.0s,baz=296,slow=36
comp=Z,2.9nm,0.7s
HFS **Hagfors** 85.70 28 P P 00 40 28.0 -0.3
comp=Z,3.7nm,0.8s,baz=256,slow=5.8,SNR=6.0
HFS LR LR 01 16 53.6
comp=Z,56nm,21.9s,baz=265,slow=34
comp=Z,3.7nm,0.8s
ECH **Echery** 86.42 41 P P 00 40 31.9 -0.3
SENIN **Lac Senin/Sane** 87.11 43 P P 00 40 36.4 +0.5
BFO **Black Forest** 87.12 41 P P 00 40 34.6 -1.0
BFO IAmb IAmb 00 40 37.3
comp=Z,7.1nm,1.0s
BNI **Bardonecchia** 87.13 44 P P 00 40 35.9 0.0
STU **Stuttgart** 87.50 40 P P 00 40 36.4 -1.1
DBIC **Dimbokro** 88.15 84 P P 00 40 40.6 -0.5
DBIC IAmb IAmb 00 40 42.8
comp=Z,7.8nm,1.0s
DBIC **Dimbokro** 88.15 84 P P 00 40 40.9 -0.3
comp=Z,3.2nm,0.7s,baz=267,slow=5.2,SNR=3.1
comp=Z,3.2nm,0.7s
TIXI **Tiksi** 88.39 347 LR LR 01 23 32.5
comp=Z,28nm,21.5s,baz=238,slow=38
TUE **Stuetta** 88.41 42 P P 00 40 42.8 +0.7
DAVA **Damuels** 88.46 41 *e*PcP P 00 40 43.4 +1.2
comp=Z,14nm,0.8s
DAVOX **Davos/Dischmat** 88.64 42 LR LR 01 17 46.7
comp=Z,52nm,18.4s,baz=259,slow=34
MA2 **Magadan** 88.69 332 LR LR 01 22 51.3
comp=Z,18nm,18.3s,baz=96,slow=37
CLL **Collm** 88.84 37 *e*P P 00 40 44.0 +0.3
comp=Z,6.0nm,1.0s
CLL *e*PP PP 00 44 12.0 -0.8
FUORN **Ofenpass-Fuorn** 88.94 42 P P 00 40 44.8 +0.1
FUORN IAmb IAmb 00 40 47.7
comp=Z,8.7nm,1.1s
RETA **Reutte** 88.95 41 *e*P P 00 40 44.4 0.0
comp=Z,10nm,1.1s
FETA **Feichten** 89.10 41 *e*P P 00 40 44.9 -0.3
comp=Z,5.6nm,0.8s
MOTA **Moosalm** 89.21 41 *e*PcP P 00 40 46.9 +1.1
comp=Z,4.9nm,1.0s
SQTA **Sankt Quirin** 89.33 41 *e*PcP P 00 40 46.6 +0.4
comp=Z,3.2nm,0.8s
BRG **Berggiesshubel** 89.56 37 *e*P P 00 40 48.1 +1.0
BRG Amp 00 40 50.3
comp=Z,4.4nm,0.8s
WTTA **Wattenberg** 89.58 41 *e*PcP P 00 40 49.0 +1.5
comp=Z,3.9nm,0.8s
LESA **Schwarzleotal** 90.17 40 *e*PcP P 00 40 50.3 +0.2
comp=Z,3.1nm,1.2s
GERES **GERESS Array B** 90.24 39 P P 00 40 49.9 -0.6
GERES **GERESS Array B** 90.24 39 P P 00 40 49.7 -0.8
comp=Z,3.5nm,0.8s,baz=323,slow=3.3,SNR=16
GERES LR LR 01 19 09.5
comp=Z,50nm,19.4s,baz=270,slow=34
comp=Z,3.5nm,0.8s
ABTA **Abfaltersbach** 90.33 41 *e*P P 00 40 50.2 -0.7
comp=Z,6.6nm,1.0s
FINES **FINESS Array B** 90.39 24 P P 00 40 49.0 -1.7
comp=Z,1.0nm,0.8s,baz=340,slow=2.2,SNR=7.3
FINES LR LR 01 23 42.5
comp=Z,43nm,18.4s,baz=288,slow=37
comp=Z,1.0nm,0.8s
BIOA **Bad Ischl, Aus** 90.66 40 *e*PcP P 00 40 53.3 +0.9
comp=Z,6.5nm,1.1s
KBA **Koelnbreinsper** 90.73 41 *e*PcP P 00 40 53.6 +0.8
comp=Z,4.7nm,1.0s
MOA **Molln** 90.99 40 *e*PcP P 00 40 55.5 +1.7
comp=Z,3.3nm,0.7s
MYKA **Terra Mystica** 91.09 41 *e*PcP P 00 40 55.6 +1.2
comp=Z,2.1nm,0.6s
OBKA **Obir** 91.71 41 *e*P P 00 40 56.8 -0.5
comp=Z,13nm,1.6s
VRAC **Vranov** 91.77 38 LR LR 01 20 13.7
comp=Z,29nm,20.8s,baz=302,slow=34
CONA **Conrad Observa** 91.93 39 *e*PcP P 00 40 59.2 +0.9
comp=Z,7.4nm,1.1s
SOKA **Soboth** 91.95 40 *e*PcP P 00 40 59.4 +1.0
comp=Z,3.2nm,0.8s
KEST **Kesra** 92.18 52 P P 00 41 00.5 +0.8
comp=Z,3.4nm,0.8s,baz=310,slow=5.4,SNR=4.3
comp=Z,3.4nm,0.8s
RONA **Rosalia, Austr** 92.29 39 *e*PcP P 00 40 60.0 0.0
comp=Z,8.8nm,0.9s
MODS **Modra-Piesok** 92.59 38 *e*P P 00 41 04.1 +2.9
MODS *e*PP PP 00 44 43.7 +1.1
TORD **Torodi Ar. Bea** 92.63 76 P P 00 41 00.7 -1.4
TORD IAmb IAmb 00 41 41.8
comp=Z,2.7nm,1.5s
TAM **Tamanrasset** 93.29 65 P P 00 41 05.0 -0.1
TAM IAmb IAmb 00 41 07.9
comp=Z,3.4nm,1.0s
VYHS **Vyhne** 93.46 38 *e*P P 00 41 07.5 +2.3
STHS **Stebnicka Huta** 94.41 36 *e*P P 00 41 13.0 +3.4
VAE **Valguarnera** 95.30 49 LR LR 01 20 17.4
comp=Z,120nm,18.5s,baz=196,slow=33
YAK **Yakutsk** 95.33 341 LR LR 01 28 34.3
comp=Z,18nm,18.7s,baz=12,slow=38
NRIK **Noril'sk** 95.52 359 P P 00 41 13.2 -1.0
comp=Z,0.9nm,0.2s,baz=6.5,slow=9.1,SNR=3.9
NRIK LR LR 01 30 56.3
comp=Z,21nm,18.4s,baz=354,slow=40
comp=Z,0.9nm,0.2s
AKASG **Malin Array Be** 98.03 32 P P 00 41 24.9 -1.1
comp=Z,0.6nm,0.6s,baz=313,slow=0.5,SNR=1.4
AKASG LR LR 01 26 20.6
comp=Z,22nm,20.2s,baz=300,slow=36
comp=Z,0.6nm,0.6s
OBN **Obninsk** 98.66 26 LR LR 01 27 12.5
comp=Z,40nm,19.0s,baz=29,slow=36
MLR **Muntele Rosu** 99.17 38 LR LR 01 24 50.5
comp=Z,36nm,21.8s,baz=292,slow=34
DZM **Mont Dzumac** 103.62 251 *e*LR LR 01 16 03.2
comp=Z,124nm,22.6s
MKAR **Makanchi Array** 118.09 2 PKP PKPdf 00 46 35.9 -0.8
comp=Z,0.6nm,0.7s,baz=18,slow=2.3,SNR=8.3
HHC **Hu-ho-hao-te** 119.00 337 *e*P PKiKP 00 46 40.5 +1.8
NJ2 **Nanjing** 122.92 326 *e*P PKiKP 00 46 48.4 +1.9
NJ2 pmax pmax
comp=Z,39nm,0.6s
BOSA **Boshof** 123.32 114 PKP PKPdf 00 46 47.1 -0.1
comp=Z,3.7nm,0.9s,baz=333,slow=8.1,SNR=4.4
WRA **Warramunga Arr** 133.13 257 PKP PKiKP 00 47 06.7 -0.5
comp=Z,0.3nm,0.7s,baz=89,slow=2.0,SNR=2.8
PZH **PanZhiHua** 135.42 339 PKP PKPdf 00 47 09.4 -0.9
CMAR **Chiang Mai Arr** 143.81 338 PKiKP PKPpre 00 47 23.0
comp=Z,1.3nm,0.3s,baz=344,slow=4.0,SNR=7.8

*IDC **04** 01:12:15.9±13.0, 18°.77S×167°.49E, h0km, mb4.0/3, mbtmp4.0/4, ML4.3/1, Error ellipse: s-maj=226.8km s-min=39.2km az=76.0*
*NOU **04** 01:12:19.5, 19°.66S×169°.11E, h88km, MLv3.8/15, Vanuatu Islands*
ISC 04 01:12:17.9±1.6, 19°.69S±0°.06×169°.2E±0°.1, h100km, n17, σ1§60/18, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	0.17	31	P	Pn	01 12 33.9	+1.9
MARNC	**Mare, Loyalty**	2.08	211	P	Pn	01 12 52.0	+0.5
MARNC	**Mare, Loyalty**	2.08	211	S	Sn	01 13 17.6	+0.4
DVP	**Devils Point**	2.17	334	P	Pn	01 12 54.4	+1.7
DVP	**Devils Point**	2.17	334	S	Sn	01 13 19.3	0.0
YATNC	**Mamie plateau,**	3.18	222	P	Pn	01 13 05.9	-0.2
OUENC	**Ouen Island, N**	3.48	218	P	Pn	01 13 11.7	+1.6
OUENC	**Ouen Island, N**	3.48	218	S	Sn	01 13 51.7	+1.2
DZM	**Mont Dzumac**	3.49	227	Pn	Pn	01 13 11.4	+1.1
	26nm,0.3s,baz=32,slow=9.5,SNR=379						
DZM				Sn	Sn	01 13 51.7	+1.0
	21nm,0.3s,baz=60,slow=20,SNR=10						
	69nm,0.4s						
DZM	**Mont Dzumac**	3.49	227	P	Pn	01 13 11.1	+0.8
DZM	**Mont Dzumac**	3.49	227	S	Sn	01 13 52.5	+1.8
ONTNC	**Ouen Toro**	3.64	224	P	Pn	01 13 13.7	+1.4
ONTNC	**Ouen Toro**	3.64	224	S	Sn	01 13 56.0	+1.7
KOUNC	**Koumac, New Ca**	4.68	259	P	Pn	01 13 27.8	+1.5
STKA	**Stephens Creek**	27.56	238	P	P	01 17 55.7	+0.2
	1.2nm,0.4s,baz=60,slow=14,SNR=3.1						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	32.74	264	P	P	01 18 38.4	-3.1
	0.5nm,0.5s,baz=87,slow=8.7,SNR=6.0						
	0.5nm,0.5s						
ASAR	**Alice Springs**	32.97	257	P	P	01 18 41.2	-2.2
	1.5nm,0.5s,baz=85,slow=9.2,SNR=17						
	1.5nm,0.5s						

*NEIC **04** 01:27:54.9±1.5, 51°.3N±0°.1×179°.5E±0°.1, h158km±10km, mb4.1/27, Error ellipse: s-maj=20.2km s-min=10.2km az=188.0*
*IDC **04** 01:27:57.1±2.3, 52°.12N×179°.65E, h129km±22km, mb3.4/9, mbtmp3.8/11, Error ellipse: s-maj=26.7km s-min=15.2km az=168.0*
ISC 04 01:27:57.9±0.8, 51°.9N±0°.1×179°.60E±0°.06, h150km, n53, σ1§35/54, mb3.9/17, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	2.01	91	Pn	Pn	01 28 32.3	-0.9
ADK	**Adak**	2.30	89	Pn	Pn	01 28 35.3	-1.2
GSTR	**Great Sitkin T**	2.69	85	Pn	Pn	01 28 40.5	-0.8
SHEM	**Shemya Is, Ala**	3.47	286	P	Pn	01 28 51.2	0.0
	44nm,0.5s,baz=108,slow=20,SNR=2.0						
SHEM				S	Sn	01 29 29.7	-2.9
	58nm,0.7s,baz=106,slow=20,SNR=1.6						
SMY	**Shemya**	3.47	286	Pn	Pn	01 28 50.9	-0.3
ATKA	**Atka Island**	3.84	83	Pn	Pn	01 28 54.9	-1.1
NIKH	**Nikolski High**	7.13	77	Pn	Pn	01 29 40.5	+0.9
UNV	**Unalaska Valle**	8.62	72	Pn	Pn	01 29 60.0	+0.5
LVA	**Lava Point**	8.94	70	Pn	Pn	01 30 04.8	+1.1
CNBA	**Chernabura Isl**	12.75	69	Pn	Pn	01 30 50.5	-3.1
O14K	**Tigyukauivet M**	13.04	48		P	01 31 03.0	+0.9
N14K	**Kuskokwak Cree**	13.16	45		P	01 31 03.2	-0.2
M14K	**Bethel**	13.47	42	Pn	Pn	01 31 04.6	+1.8
O15K	**Ungalikthiuk R**	13.68	50		P	01 31 10.0	+0.8
N15K	**Kwethluk River**	13.98	46		P	01 31 13.7	+1.1
J14K	**Nanvaranak Lak**	14.10	33	Pn	P	01 31 14.2	+0.4
O16K	**Kokwok River B**	14.66	50		P	01 31 21.1	+1.1
O16K				IAmb	IAmb	01 31 58.5	
	comp=Z,16nm,1.4s						
CHIR	**Chirikof Islan**	15.09	65	Pn	Pn	01 31 22.8	-0.4
ACHA	**Angle Creek He**	15.62	56		P	01 31 30.5	-0.2
SII	**Sitkinak Islan**	15.96	63		Pn	01 31 32.5	-1.4
P18K	**Big Mountain,**	15.97	52	P	Pn	01 31 33.9	-0.2
P18K				IAmb	IAmb	01 31 56.7	
	comp=Z,14nm,1.4s						
O18K	**Koktuh Hills**	16.13	51	P	P	01 31 36.8	+0.5
O18K				IAmb	IAmb	01 31 42.1	
	comp=Z,8.3nm,0.9s						
OHAK	**Old Harbor**	16.53	61	P	P	01 31 39.0	-1.6
OHAK				IAmb	IAmb	01 32 08.4	
	comp=Z,25nm,1.4s						
Q19K	**Cape Douglas,**	16.64	55	P	P	01 31 41.6	-0.4
N19K	**Bonanza Creek**	16.79	48	P	Pn	01 31 44.6	+0.6
N19K				IAmb	IAmb	01 31 47.9	
	comp=Z,5.5nm,0.8s						
KDAK	**Kodiak Island**	16.98	59	P	P	01 31 43.2	-2.4
KDAK	**Kodiak Island**	16.98	59	P	P	01 31 43.2	-2.4
	comp=Z,2.7nm,0.2s,baz=272,slow=14,SNR=45						
ILSW	**Iliamna Southw**	17.16	51	P	Pn	01 31 49.0	+0.6
ILSW				IAmb	IAmb	01 31 53.6	
	comp=Z,8.1nm,0.9s						
SKT	**Skwentna**	18.52	46		Pn	01 32 04.1	-0.4
DAWY	**Dawson**	24.40	44	P	P	01 33 04.0	+2.0
DAWY				IAmb	IAmb	01 33 05.7	
	comp=Z,3.6nm,0.8s						
I28M	**Miner Creek**	24.47	41	P	P	01 33 02.7	+0.1
I28M				IAmb	IAmb	01 33 06.0	
	comp=Z,6.0nm,1.2s						
M29M	**Somme Creek**	24.59	48	P	P	01 33 04.2	+0.4
M29M				IAmb	IAmb	01 33 39.6	
	comp=Z,5.6nm,1.3s						
L29M	**L29M**	24.82	47	P	P	01 33 05.9	+0.1
P29M	**Windy Craggy**	24.82	55	P	P	01 33 05.4	-0.4
P29M				IAmb	IAmb	01 33 37.8	
	comp=Z,11nm,1.4s						
HYT	**Haines Junctio**	24.94	52	P	P	01 33 06.7	-0.4
HYT				IAmb	IAmb	01 33 12.4	
	comp=Z,5.2nm,1.2s						
N30M	**Aishikik Lake**	25.16	51	P	P	01 33 09.1	+0.1
I30M	**Mount Dempster**	25.88	42	P	P	01 33 15.2	-0.2
E29M	**Blow River**	26.05	35	P	P	01 33 18.2	+1.4
F30M	**Barrier River**	26.60	37	P	P	01 33 22.7	+1.0
F30M				IAmb	IAmb	01 33 55.6	
	comp=Z,4.1nm,1.2s						
INK	**Inuvik**	27.59	36	P	P	01 33 32.5	+2.0
INK				IAmb	IAmb	01 33 51.4	
	comp=Z,5.6nm,1.4s						
YKAW3	**Yellowknife Wh**	35.56	47	P	P	01 34 40.7	+0.4
YKAW3				IAmb	IAmb	01 35 12.5	
	comp=Z,4.4nm,1.4s						
YKA	**Yellowknife Ar**	35.58	47	P	P	01 34 38.7	-1.7
YKA	**Yellowknife Ar**	35.58	47	P	P	01 34 40.5	+0.2
	comp=Z,0.7nm,0.7s,baz=283,slow=7.9,SNR=11						
	comp=Z,0.7nm,0.7s						
NVAR	**Mina Array Bea**	44.47	82	P	P	01 35 55.6	+1.5
	comp=Z,0.3nm,0.5s,baz=289,slow=8.1,SNR=3.9						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	45.51	295	P	P	01 36 03.7	+1.5
	comp=Z,0.5nm,0.6s,baz=59,slow=6.7,SNR=4.6						
	comp=Z,0.5nm,0.6s						
PDAR	**Pinedale Array**	47.09	72	P	P	01 36 14.3	-0.3
	comp=Z,0.6nm,0.6s,baz=316,slow=3.3,SNR=8.0						
	comp=Z,0.6nm,0.6s						
SPITS	**Spitsbergen Ar**	49.76	356	P	P	01 36 34.3	-0.1
	comp=Z,1.2nm,0.5s,baz=52,slow=4.3,SNR=8.9						
	comp=Z,1.2nm,0.5s						
TXAR	**Lajitas Array**	59.55	80	P	P	01 37 46.8	+1.2
	comp=Z,0.3nm,0.5s,baz=312,slow=6.6,SNR=6.0						
	comp=Z,0.3nm,0.5s						
FINES	**FINESS Array B**	65.03	346	P	P	01 38 20.7	-0.7
	comp=Z,1.5nm,0.9s,baz=24,slow=6.4,SNR=4.1						
	comp=Z,1.5nm,0.9s						
ABKAR	**Akbulak array**	66.90	322	P	P	01 38 32.6	-0.9
V53A	**Saluda**	67.09	61	P	P	01 38 31.8	-3.2
WRA	**Warramunga Arr**	81.73	222	P	P	01 40 01.4	+1.8
	comp=Z,1.0nm,0.7s,baz=25,slow=5.4,SNR=6.2						
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	85.23	221	P	P	01 40 20.1	+2.8
	comp=Z,0.3nm,0.3s,baz=23,slow=5.1,SNR=2.0						
	comp=Z,0.3nm,0.3s						

*NOU **04** 01:38:50.7, 37°.34S×177°.19E, h258km, MLv4.0/12, Off E. Coast of N. Island, N.Z.*
*WEL **04** 01:38:59.1±1.0, 37°S±7°×17°7E±°, h186km±8km, M3.2/45, MLv3.2/45, Error ellipse: s-maj=10.1km s-min=6.7km az=30.9, confirmed*
ISC 04 01:38:55.7±2.0, 37°.47S±0°.07×176°.65E±0°.06, h215km±11km, n84, σ1§40/94, North Island

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

TGRZ	Tauranga	0.40 230	P	Pn	01 39 24.6	+0.5
WIZ	White Island	0.44 98	P	Pn	01 39 25.0	+0.7
KARZ	Kaharoa	0.64 210	P	Pn	01 39 25.9	+0.9
NGRZ	Ngongotaha	0.73 210	P	Pn	01 39 26.8	+1.3
TARZ	Mount Tarawera	0.77 188	P	Pn	01 39 27.2	+1.4
URZ	Urewera	0.87 155	P	Pn	01 39 26.3	+0.1
URZ	Urewera	0.87 155	P	Pn	01 39 26.5	+0.3
RRRZ	Republican Roa	0.88 187	P	Pn	01 39 27.4	+1.1
RRRZ			S	S	01 39 50.5	+0.3
TOZ	Tahuroa Road	0.94 254	P	Pn	01 39 27.5	+0.9
HAZ	Te Kaha	0.95 108	P	Pn	01 39 26.9	+0.3
HAZ			S	S	01 39 49.3	-1.3
RUGZ	Raukumara Rang	0.96 122	P	Pn	01 39 26.6	-0.3
RUGZ			S	S	01 39 48.3	-2.8
GRRZ	Galatos Road	0.98 206	P	Pn	01 39 28.4	+1.5
MUGZ	Murupara	1.01 174	P	Pn	01 39 27.5	+0.5
MUGZ			S	S	01 39 49.8	-1.8
KUZ	Kuaotunu	1.03 314	P	Pn	01 39 27.2	0.0
KUZ	Kuaotunu	1.03 314	P	Pn	01 39 27.4	+0.1
PRRZ	Plateau Road	1.05 191	P	Pn	01 39 28.2	+0.9
PRRZ			S	S	01 39 52.4	+0.4
MWZ	Matawai	1.11 141	P	Pn	01 39 29.0	+1.2
MWZ			S	S	01 39 50.7	-2.0
ALRZ	Allen Road	1.12 192	P	Pn	01 39 29.0	+1.3
WPRZ	Whakapapatarin	1.12 200	P	Pn	01 39 29.3	+1.5
RTZ	Ruatahuna	1.18 167	P	Pn	01 39 29.1	+0.8
RTZ			S	S	01 39 52.4	-1.3
PKGZ	Pakihiroa	1.21 110	P	Pn	01 39 29.6	+1.2
TLZ	Tolley Road	1.23 225	P	Pn	01 39 30.0	+1.4
MKAZ	Moumakai	1.24 287	P	Pn	01 39 29.5	+0.9
MKAZ			S	S	01 39 53.6	-0.5
TWGZ	Tauwhareparae	1.27 124	P	Pn	01 39 31.0	+2.1
TWGZ			S	S	01 39 55.2	+0.5
MXZ	Matakaoa Point	1.32 95	P	Pn	01 39 30.3	+1.0
TKGZ	Te Karaka	1.36 136	P	Pn	01 39 30.9	+1.4
MRHZ	Matea Rd	1.38 187	P	Pn	01 39 30.7	+1.0
MRHZ			S	S	01 39 54.6	-1.6
WIAZ	Waiheke Island	1.38 299	P	Pn	01 39 30.4	+0.6
MTHZ	Maungataniwha	1.39 174	P	Pn	01 39 30.9	+1.1
PUZ	Puketiti	1.41 116	P	Pn	01 39 31.1	+1.2
SNGZ	Shannon Statio	1.42 158	P	Pn	01 39 31.4	+1.3
WATZ	Wairara	1.43 210	P	Pn	01 39 32.0	+1.8
WMGZ	Waiomatatini S	1.45 105	P	Pn	01 39 31.6	+1.4
RAHZ	Arahi	1.49 167	P	Pn	01 39 32.2	+1.6
RIGZ	Rimuhau	1.52 145	P	Pn	01 39 32.7	+1.8
MBAZ	Motutapu North	1.56 296	P	Pn	01 39 32.2	+1.0
CNGZ	Carnagh Statio	1.60 130	P	Pn	01 39 33.8	+2.3
RITZ	Rihia Road	1.63 202	P	Pn	01 39 33.8	+2.0
AWAZ	Awhitu Peninsu	1.65 284	P	Pn	01 39 32.9	+0.9
WHHZ	Waihua	1.67 164	P	Pn	01 39 34.0	+1.9
KATZ	Kakaramea	1.68 206	P	Pn	01 39 34.5	+2.1
ABAZ	Army Bay	1.69 300	P	Pn	01 39 33.4	+1.1
BKZ	Black Stump Fm	1.70 184	P	Pn	01 39 33.1	+0.6
BKZ	Black Stump Fm	1.70 184	P	Pn	01 39 33.3	+0.9
WTAZ	Waiatarua	1.74 287	P	Pn	01 39 34.0	+1.2
KNZ	Kokohu	1.75 153	P	Pn	01 39 34.4	+1.5
PRGZ	Paritu Road	1.75 146	P	Pn	01 39 34.5	+1.6
NTVZ	North Tongarir	1.80 205	P	Pn	01 39 35.4	+1.9
TMVZ	Te Maari	1.80 204	P	Pn	01 39 35.3	+1.8
KRVZ	Karewarewa	1.81 206	P	Pn	01 39 35.2	+1.7
ETVZ	East Tongariro	1.82 204	P	Pn	01 39 35.3	+1.6
WTVZ	West Tongariro	1.84 206	P	Pn	01 39 35.7	+1.8
NNVZ	North Ngauruho	1.85 206	P	Pn	01 39 35.7	+1.7
OTVZ	Oturere	1.86 204	P	Pn	01 39 35.8	+1.8
TWVZ	Taurewa	1.86 210	P	Pn	01 39 35.7	+1.7
SNVZ	South Ngauruho	1.89 204	P	Pn	01 39 36.1	+1.7
NGZ	Ngauruhoe	1.89 205	P	Pn	01 39 36.4	+2.1
COVZ	Chateau Observ	1.93 206	P	Pn	01 39 36.4	+1.7
MHGZ	Mahia Peninsul	1.95 150	P	Pn	01 39 36.8	+2.0
TUVZ	Tukino	1.96 203	P	Pn	01 39 36.5	+1.5
KWHZ	Kaweka Forest	1.96 185	P	Pn	01 39 36.4	+1.4
FWVZ	Far West T-bar	1.98 205	P	Pn	01 39 37.3	+1.9
WHVZ	Whangaehu Hut	1.99 204	P	Pn	01 39 37.1	+1.6
WNVZ	Wahianoa	2.03 204	P	Pn	01 39 37.1	+1.4
MOVZ	Moawhango	2.06 200	P	Pn	01 39 37.1	+1.2
PKVZ	Pokaka	2.08 209	P	Pn	01 39 36.7	+0.6
MTVZ	Mangateitei	2.12 205	P	Pn	01 39 38.3	+1.7
KRHZ	Kereru	2.18 186	P	Pn	01 39 38.4	+1.2
CKHZ	Cape Kidnapper	2.21 171	P	Pn	01 39 39.2	+1.8
WCZ	Waipu Caves	2.40 309	P	Pn	01 39 40.4	+1.0
PNHZ	Pukenui	2.47 188	P	Pn	01 39 41.2	+1.0
PXZ	Pawanui	2.56 176	P	Pn	01 39 42.4	+1.3
TSZ	Takapari Road	2.64 191	P	Pn	01 39 42.9	+0.9
KHEZ	Kahui Hut	2.76 228	P	Pn	01 39 46.3	+2.9
PRHZ	Porangahau	2.79 180	P	Pn	01 39 44.7	+1.0
DVHZ	Dannevirke	2.85 187	P	Pn	01 39 45.0	+0.6
BFZ	Birch Farm	3.22 185	P	Pn	01 39 49.2	+0.6
OUZ	Omahuta	3.33 311	P	Pn	01 39 51.1	+1.1
SNZO	South Karori	4.12 201	P	Pn	01 39 58.9	-0.5
QRZ	Quartz Range	4.63 222	P	Pn	01 40 07.1	+1.3
	56nm,2.0s					
KHZ	Kahutara	5.49 205	P	Pn	01 40 15.9	-0.6
	24nm,1.5s					
RPZ	Rata Peaks	7.55 213	P	Pn	01 40 42.8	-0.2
	13nm,1.2s					
ODZ	Otahua Downs	8.81 209	P	Pn	01 40 58.5	-0.8
	15nm,1.7s					
JCZ	Jackson Bay	8.89 220	P	Pn	01 40 58.9	-1.5
	39nm,2.7s					

*IDC **04** 01:50:51.8±1.0,22.°82N×121.°16E,h0km,mb3.5/9, mbtmp3.6/9,Error ellipse: s-maj=31.6km s-min=19.9km az=67.0*

*ASIES **04** 01:50:52.9,22.°97N×120.°86E,h2km,ML4.0,Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-8.01; $M_{\theta\theta}$6.01; $M_{\phi\phi}$2.00; $M_{r\theta}$-1.16; $M_{\theta\phi}$-5.45; $M_{\phi r}$5.16; Fault plane solution: $M_0$10.47460×10^{21} NP1: ϕ_s283.03000°,δ37.45000°,λ-126.44000°. NP2: ϕ_s145.96000°,δ60.71000°,λ-65.53000°. Principal axes: T Plg12.4420°, Azm218.5050°; N Plg21.1730°, Azm313.4070°; P Plg65.1300°, Azm100.0810°;*

*TAP **04** 01:50:52.9,22.°97N×120.°86E,h2km,ML4.0,C*

*NIED **04** 01:50:53.4,23.°00N×120.°86E,h2km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.68; $M_{\theta\theta}$1.41; $M_{\phi\phi}$0.28; $M_{r\theta}$0.66; $M_{\theta\phi}$0.17; $M_{\phi r}$1.17; Fault plane solution: $M_0$2.00000×10^{15} NP1:ϕ_s94.00000°, δ32.00000°,λ-55.00000°. NP2:ϕ_s234.00000°,δ64.00000°, λ-110.00000°.*

ISC 04 01:50:54.0±0.8,22.°94N±0.°01×120.°88E±0.°01,h10km±6km, n153,σ0$89/241,mb3.5/7,19C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	0.21	124	⇓*iP*	Pg	01 50 59.0	+0.5
TWG				S	Sg	01 51 03.2	+1.7
TWGBT	Beinan	0.22	124	P	Pg	01 50 58.9	+0.3
TWGBT				*i* S	Sg	01 51 03.1	+1.4
LONT	Longtian	0.23	99	*e*P	Pg	01 50 59.0	+0.2
LONT				*e*S	Sg	01 51 02.9	+0.8
STYH	Taoyuan	0.25	337	⇑P	Pg	01 50 57.2	-1.9
STYH				*e*S	Sg	01 51 01.1	-1.4
STYT	Tauyuan	0.25	333	*i* P	Pg	01 50 57.5	-1.6
STYT				*i* S	Sg	01 51 00.7	-1.9
ELDTW	Lidau	0.28	27	⇑*iP*	Pg	01 50 58.8	-0.9
ELDTW				*e*S	Sg	01 51 01.7	+0.3
SGST	Jiashian	0.31	297	⇓*e*P	Pg	01 50 59.0	-1.2
SGST				S	Sg	01 51 04.0	-0.3
TTN	Taitung	0.31	127	⇓P	Pb	01 51 01.8	+0.2
TTN				*e*S	Sb	01 51 07.7	+1.0
TSMG	Majia	0.32	223	*e*P	Pg	01 50 59.7	-0.8
TSMG				*e*S	Sg	01 51 03.8	-0.9
ECS	Chishang	0.35	64	⇑P	Pg	01 51 01.0	+0.1
ECS				*e*S	Sg	01 51 06.3	+0.7
ECL	Taimali	0.35	169	*e*P	Pg	01 51 01.1	+0.1
ECL				*e*S	Sb	01 51 06.9	-1.0
SCST	Cishan	0.36	261	*e*P	Pg	01 51 01.4	+0.2
SCST				*e*S	Sb	01 51 07.4	-0.8
EHD	Haiduan	0.36	55	⇑P	Pg	01 51 00.4	-0.8
EHD				S	Sg	01 51 05.6	-0.4
WTP	Ta-pu	0.39	321	⇓*iP*	Pg	01 51 01.6	-0.1
WTP				*e*S	Sg	01 51 07.0	0.0
EDH	Donghe	0.39	85	*e*P	Pb	01 51 02.7	-0.3
EDH				*e*S	Sb	01 51 09.3	+0.2
MASBT	Mashibuluo	0.40	215	⇑*iP*	Pg	01 51 01.5	-0.4
MASBT				S	Sg	01 51 07.0	-0.2
CHN1	Nanshi	0.41	307	P	Pg	01 51 02.5	+0.5
CHN1				*e*S	Sb	01 51 08.8	-0.7
SGLT	Jiouru	0.42	239	*e*P	Pg	01 51 02.5	+0.3
SGLT				S	Sb	01 51 09.0	-0.9
TPUB	Ta-pu	0.42	327	⇑P	Pg	01 51 02.3	-0.1
TPUB				*e*S	Sg	01 51 08.2	+0.1
TWM1	Shoushan	0.44	254	⇑*e*P	Pb	01 51 03.8	-0.1
TWM1				*e*S	Sb	01 51 12.2	+1.7
SNST	Tainan City	0.45	308	*e*P	Pb	01 51 03.5	-0.5
FULB	Fuli	0.46	56	⇑P	Pg	01 51 03.2	+0.2
FULB				*e*S	Sg	01 51 09.9	+0.8
CHKT	Chengkung	0.47	71	⇑*iP*	Pb	01 51 04.4	0.0
CHKT				*e*S	Sb	01 51 12.4	+1.0
TWK	Hsinying	0.48	312	*e*P	Pg	01 51 04.1	+0.6
TWK				S	Sb	01 51 12.1	+0.2
CHN4	Tsaushan	0.49	327	⇑P	Pg	01 51 04.0	+0.5
CHN4				*e*S	Sb	01 51 11.7	-0.1
CHN3	Shinhua	0.49	286	*e*P	Pb	01 51 05.1	+0.3
CHN3				*e*S	Sb	01 51 13.5	+1.5
SHHT	Tainan City	0.50	279	*e*P	Pb	01 51 04.5	-0.3
SHHT				*e*S	Sb	01 51 13.8	+1.6
CHKH	Chenggong	0.54	62	*e*P	Pg	01 51 04.8	+0.4
CHKH				*e*S	Sb	01 51 13.1	-0.1
SNJT	Kaohsiung City	0.54	250	*e*P	Pb	01 51 06.8	+1.3
SSPT	Xinbi	0.54	212	*e*P	Pb	01 51 06.0	+0.5
SSPT				*e*S	Sb	01 51 14.2	+0.8
WCKO	Fanlu	0.56	333	*e*P	Pg	01 51 05.5	+0.7
WCKO				*e*S	Sb	01 51 13.8	-0.1
EAST	Anshuo	0.56	183	P	Pg	01 51 05.0	+0.2
EAST				*e*S	Sb	01 51 13.2	-0.7
TWF1	Yuli	0.56	43	⇑P	Pg	01 51 04.2	-0.7
TWF1				*e*S	Sg	01 51 11.9	-0.4
ALS	Alishan	0.57	353	P	Pg	01 51 04.6	-0.5
ALS				*e*S	Sg	01 51 13.3	+0.5
EYUL	Yuli	0.57	45	⇑*e*P	Pg	01 51 04.8	-0.3
EYUL				14	eS	01 51 14.4	+0.1
TAW	Tawu	0.58	179	⇑P	Pb	01 51 05.8	-0.4
TAW				S	Sb	01 51 14.0	-0.6
YULB	Yu-li	0.59	40	⇑P	Pg	01 51 04.5	-1.0
YULB				*e*S	Sg	01 51 13.1	-0.2
TAWH	Dawu Township	0.60	179	*e*P	Pg	01 51 05.9	+0.2
TAWH				*e*S	Sb	01 51 14.3	-0.8
LDUT	Ludao	0.60	116	*e*P	Pb	01 51 06.5	-0.1
LDUT				*e*S	Sb	01 51 16.8	+1.6
SCZT	Fangliau	0.62	203	P	Pg	01 51 05.8	-0.1
ECBN	Changbin	0.64	55	*e*P	Pg	01 51 07.0	+0.5
ECBN				*e*S	Sb	01 51 17.4	+1.1
WSSB	Gushan	0.65	243	*e*P	Pn	01 51 09.2	0.0
EHY	Hungye	0.69	36	*e*P	Pg	01 51 06.7	-0.7
EHY				S	Sg	01 51 16.4	-0.1
CHY	Chiayi	0.69	323	*e*P	Pg	01 51 08.3	+0.1
CHY				S	Sb	01 51 19.2	+1.4
EHYH	Wanrong	0.70	38	P	Pg	01 51 06.8	-0.7
EHYH				*e*S	Sg	01 51 16.6	+0.1
SLIU	Shizi	0.73	186	*e*P	Pg	01 51 08.2	+0.2
SLIU				*e*S	Sb	01 51 19.4	+0.6
HGSD	Ruisui	0.74	42	⇑P	Pg	01 51 08.4	+0.1
HGSD				S	Sb	01 51 19.1	-0.1
WHYT	Xinyi Township	0.75	358	P	Pg	01 51 08.0	-0.5
WHYT				*e*S	Sg	01 51 18.4	+0.1
TSCK	Chigu Township	0.76	286	*e*P	Pb	01 51 09.9	+0.6
TSCK				S	Sn	01 51 22.3	0.0
TWP	Hsiaoliuchiu	0.76	219	*e*P	Pn	01 51 10.9	+0.1
TWP				*e*S	Sn	01 51 24.7	+2.4
WGK	Gukeng	0.80	338	*e*P	Pb	01 51 10.4	+0.5
WGK				*i* S	Sb	01 51 22.6	+1.8
WDLH	Douliu	0.81	337	P	Pb	01 51 10.9	+0.8
WDLH				*e*S	Sb	01 51 22.8	+1.7
WDL	Douliou City	0.83	338	*e*P	Pb	01 51 11.2	+0.7
WDL				*e*S	Sn	01 51 23.1	+2.0
WSL	Shuilin Townsh	0.83	314	*e*P	Pb	01 51 10.9	+0.4
WSL				*i* S	Sn	01 51 23.8	-0.3
VWDT	VWDT	0.84	16	*e*P	Pg	01 51 08.9	-1.3
VWDT				*e*S	Sg	01 51 20.5	-0.7
SSLB	Suanglung	0.84	5	⇑*iP*	Pg	01 51 09.1	-1.2
SSLB				*e*S	Sg	01 51 21.4	0.0
WTK	Tuku	0.87	329	*e*P	Pb	01 51 11.3	+0.1
WTK				*e*S	Sb	01 51 24.2	+1.3
EGFH	Guangfu	0.88	35	*e*P	Pg	01 51 10.1	-0.8
WJS	Zhushan	0.89	351	⇑*e*P	Pb	01 51 11.8	+0.4
WJS				*e*S	Sn	01 51 25.2	-0.3
WARBT	Fenglin Townsh	0.90	31	⇑*iP*	Pg	01 51 10.1	-1.3
WARBT				*e*S	Sg	01 51 21.6	-1.6
SMST	Manzhou Townsh	0.92	183	*e*P	Pb	01 51 12.6	+0.6
WSF	Szhu	0.92	319	*e*P	Pb	01 51 12.1	+0.1
WSF				*e*S	Sb	01 51 25.5	+1.1
SMLT	Sun Moon Lake	0.94	1	⇑P	Pg	01 51 10.5	-1.6
HEN	Hengchun	0.94	188	*e*P	Pn	01 51 08.5	-0.4
WNT	Mingjian	0.95	349	*e*P	Pb	01 51 12.8	+0.3
WNT				*e*S	Sn	01 51 27.3	+0.3
TYC	Yuchr	0.96	359	*e*P	Pg	01 51 12.4	-0.1
TYC				*e*S	Sb	01 51 26.8	+1.4
TEGC	Jichi Village	0.97	38	*e*P	Pg	01 51 12.9	+0.2
TWK1	Hengchun	1.00	184	*e*P	Pb	01 51 13.8	+0.4
TWK1				*e*S	Sn	01 51 28.5	+0.4
TWKBT	Hengchun	1.00	184	*e*P	Pn	01 51 14.1	0.0
TWKBT				*e*S	Sn	01 51 28.5	+0.4
ESL	Shilin	1.00	30	*e*P	Pg	01 51 12.2	-1.2
ESL				*e*S	Sg	01 51 26.0	-0.4
OWD	Renai	1.04	15	*e*P	Pg	01 51 12.5	-1.6
OWD				S	Sb	01 51 28.8	+0.8
SHUL	Shoufeng	1.05	37	*e*P	Pg	01 51 13.6	-0.6
SHUL				*e*S	Sb	01 51 29.2	+1.2
WRL	Guolierlin Hig	1.06	334	*e*P	Pg	01 51 13.9	-0.5
WUSB	Renai	1.07	12	*e*P	Pg	01 51 12.9	-1.7
WUSB				*e*S	Sb	01 51 29.1	+0.3
LAY	Lan-yu	1.09	145	*e*P	Pg	01 51 13.4	-1.6
WCS	Beigang Elemen	1.11	1	P	Pg	01 51 14.8	-0.5
WCS				*e*S	Sb	01 51 30.7	+0.9
TEYL	Yanliau Villag	1.13	35	*e*P	Pg	01 51 15.5	-0.2
TEYL				*e*S	Sb	01 51 31.5	+1.0
LYUB	Lan-yu	1.14	145	*e*P	Pg	01 51 12.8	-3.1
ETM	Tongmen	1.16	29	*e*P	Pg	01 51 15.1	-1.3
ETM				*e*S	Sg	01 51 29.4	-2.1
WDGT	Dungji	1.17	286	P	Pg	01 51 16.2	-0.3
WDGT				S	Sb	01 51 32.0	+0.6
WCHH	Zhanghua	1.17	345	*e*P	Pn	01 51 17.2	+0.8
WCHH				*i* S	Sn	01 51 33.3	+0.9
LXIB	Xiulin Townshi	1.18	24	*e*P	Pg	01 51 15.0	-1.8
TCU	Taichung	1.22	351	*e*P	Pn	01 51 18.2	+1.1
HWA	Hwalien	1.23	33	*e*P	Pb	01 51 16.9	-0.4
WHF	Hehuan Shan	1.25	16	*e*P	Pg	01 51 16.3	-1.7
WHF				*e*S	Sg	01 51 34.2	-0.1
TWD	Chiawan	1.31	30	*e*P	Pn	01 51 17.9	-0.4
TWD				S	Sn	01 51 36.5	+0.7
TDCB	Techi	1.33	11	*e*P	Pn	01 51 18.0	-0.8
TDCB				*e*S	Sb	01 51 36.8	+0.5
WHP	Taichung City	1.33	3	P	Pb	01 51 19.4	+0.3
WHP				*e*S	Sn	01 51 37.5	+0.9
PHUB	P'eng-hu	1.33	296	*e*P	Pn	01 51 17.6	-1.0
PHUB				*e*S	Sb	01 51 35.7	-0.4
TWT	Tachien	1.33	12	*e*P	Pn	01 51 18.4	-0.4
TWT				*e*S	Sb	01 51 36.6	+0.2
FUSS	Fushou	1.34	14	*e*P	Pn	01 51 17.9	-1.2
FUSS				*e*S	Sn	01 51 37.6	+0.6
VCHM	Qimei	1.36	282	*e*P	Pn	01 51 18.8	-0.3
VCHM				*e*S	Sn	01 51 37.6	+0.4
PNG	Penghu	1.37	297	*e*P	Pn	01 51 18.7	-0.5
PNG				*e*S	Sb	01 51 36.9	-0.4
ETLH	Xiulin Townshi	1.37	24	*e*P	Pn	01 51 19.0	-0.3
ETLH				*e*S	Sg	01 51 38.5	+0.2
ETL	Fush Village	1.39	29	*e*P	Pn	01 51 19.5	+0.1
ETL				*e*S	Sn	01 51 38.7	+0.8
NACB	Ninganchiao	1.39	28	*e*P	Pn	01 51 18.6	-0.8
NACB				*e*S	Sb	01 51 38.5	+0.6
TWQ1	Liyutan	1.40	356	*e*P	Pb	01 51 20.6	+0.3
TWQ1				*e*S	Sg	01 51 40.5	+1.3
WDJ	Dajia District	1.42	351	*e*P	Pb	01 51 20.7	+0.2
WDJ				*e*S	Sg	01 51 41.1	+1.5
NSY	Sanyi	1.47	356	*e*P	Pn	01 51 19.8	-0.8
NNSB	Datong	1.55	17	*e*P	Pn	01 51 21.6	-0.1
NNSB				*e*S	Sb	01 51 43.2	+0.6
NNS	Nan Shan	1.56	17	*e*P	Pn	01 51 21.9	0.0
NNS				*e*S	Sg	01 51 44.6	+0.5
EAHA	Aohua	1.59	30	*e*P	Pn	01 51 22.7	+0.6
EAHA				*e*S	Sg	01 51 44.9	-0.3
NMLH	Miaoli	1.59	357	*e*P	Pn	01 51 22.9	+0.7
NMLH				S	Sg	01 51 46.4	+1.2
ENA	Nanau	1.68	28	*e*P	Pn	01 51 23.8	+0.5
ENA				*e*S	Sb	01 51 46.3	+0.2
NSTT	Nanjuang	1.69	4	*e*P	Pb	01 51 25.3	+0.2
LATG	Datong	1.69	20	*e*P	Pn	01 51 24.4	+0.7
LATG				*e*S	Sb	01 51 47.3	+0.6
NFF	Wufeng Townshi	1.70	7	*e*P	Pb	01 51 25.3	-0.1
NFF				*e*S	Sg	01 51 49.0	+0.4
LIOB	Emei	1.70	4	*e*P	Pn	01 51 24.4	+0.6
EWUT	Wuta	1.71	29	*e*P	Pb	01 51 25.4	-0.1
EWUT				*e*S	Sb	01 51 47.4	+0.4
YHNB	Yeheng	1.78	15	*e*P	Pn	01 51 26.1	+1.2
YHNB				*e*S	Sb	01 51 50.2	+1.1
NSK	Sanguang	1.78	14	*e*P	Pb	01 51 26.7	0.0
NSK				*e*S	Sg	01 51 50.9	-0.4
ENTT	Nioudou	1.80	20	*e*P	Pb	01 51 27.2	+0.1
ENTT				*e*S	Sb	01 51 50.8	+1.0
KSHI	Guanxi Townshi	1.85	8	*e*P	Pb	01 51 27.4	-0.4
NDS	Dongshan	1.85	24	*e*P	Pb	01 51 28.1	+0.2
ESAO	Su ao	1.85	28	*e*P	Pb	01 51 27.8	-0.1
EOS3	EOS3	1.88	44	*e*P	Pn	01 51 26.1	+0.1
EOS3				*e*S	Sn	01 51 50.4	+0.7
TWC	Suao	1.88	28	*e*P	Pn	01 51 26.8	+0.7
TWC				S	Sb	01 51 52.6	+0.6
TWE	Neicheng	1.91	22	*e*P	Pn	01 51 27.0	+0.4
NWLT	Wulai	1.91	17	*e*P	Pb	01 51 28.3	-0.7
FUSB	Fushanzhiwuyua	1.92	20	*e*P	Pn	01 51 28.3	+1.5
TWA	Mucha	2.13	17	*e*P	Pb	01 51 32.9	+0.2
TIPB	Shuangxi	2.20	23	*e*P	Pn	01 51 32.4	+1.8
TWS1	Kuangyinshan	2.20	13	*e*P	Pb	01 51 32.9	-1.0
WFSB	Wu-fen Shan	2.27	21	*e*P	Pn	01 51 32.0	+0.5
YM01	YM01	2.28	16	*e*P	Pn	01 51 33.5	+1.8
ZUZH	Zhuzihu	2.29	15	*e*P	Pn	01 51 33.3	+1.4
TWB1	Santiao Chiao	2.29	26	*e*P	Pn	01 51 33.0	+1.1
SXI1	Grass Mountain	2.33	23	*e*P	Pn	01 51 34.2	+1.8
YM08	YM08	2.33	16	*e*P	Pn	01 51 33.1	+0.8
TNOU	National Taiwa	2.34	20	*e*P	Pn	01 51 34.6	+2.1
TWY	Chenhua	2.41	16	*e*P	Pn	01 51 34.1	+0.6
VWUC	VWUC	2.42	328	*e*P	Pn	01 51 33.4	-0.2
YOJ	Yonaguni jima	2.47	52	*e*P	Pn	01 51 33.4	-0.9
PTMZ	Houxiangcun	2.64	323	*e*P	Pn	01 51 37.4	+0.8
KNM	Kinmen	2.68	304	*e*P	Pn	01 51 38.9	+1.7
KNMB	Chin-men Tao	2.74	304	*e*P	Pn	01 51 37.9	-0.1
ZPLA	Ao Xicun	3.04	289	*e*P	Pn	01 51 42.8	+0.7
MHZQ	Yeshan	3.57	332	*e*P	Pn	01 51 49.5	+0.1
MJAR	Matsushiro Arr	20.21	44	P	P	01 55 28.6	-0.4
	0.6nm,0.3s,baz=233,slow=8.4,SNR=4.9 0.6nm,0.3s						
CMAR	Chiang Mai Arr	21.00	262	P	Pn	01 55 39.9	-0.4
	0.7nm,0.3s,baz=74,slow=10,SNR=2.3 0.7nm,0.3s						
SONM	Songino Array	27.41	339	P	P	01 56 40.7	+0.9
	0.4nm,0.7s,baz=141,slow=4.8,SNR=0.9 0.4nm,0.7s						
MKAR	Makanchi Array	39.04	317	P	P	01 58 23.2	+2.3
	0.9nm,0.9s,baz=108,slow=11,SNR=5.6 0.9nm,0.9s						
ZALV	Zalesovo Beam	41.14	328	P	P	01 58 39.4	+1.2
	1.0nm,0.5s,baz=125,slow=7.6,SNR=4.8 1.0nm,0.5s						
H11N1	WAKE ISLAND Hy	42.85	85	T	T	02 44 11.6	
	baz=282,slow=75,SNR=4.3						
H11N2	WAKE ISLAND Hy	42.85	85	T	T	02 44 11.7	
	baz=282,slow=75,SNR=6.7						
H11N3	WAKE ISLAND Hy	42.85	85	T	T	02 44 12.9	
	baz=282,slow=75,SNR=5.2						
H11S3	WAKE ISLAND Hy	42.94	87	T	T	02 44 18.8	
	baz=284,slow=75,SNR=6.4						
H11S1	WAKE ISLAND Hy	42.95	87	T	T	02 44 20.5	
	baz=284,slow=75,SNR=5.9						
H11S2	WAKE ISLAND Hy	42.96	87	T	T	02 44 20.6	
	baz=284,slow=75,SNR=5.3						
WRA	Warramunga Arr	44.60	162	P	P	01 59 04.5	-2.1
	0.4nm,0.3

YULB				eS	Sb	01 54 52.0	-0.4
ALS	**Alishan**	0.55	349	⇑iP	Pg	01 54 43.1	-0.5
ALS				eS	Sb	01 54 52.8	0.0
WCKO	**Fanlu**	0.56	328	eP	Pg	01 54 43.7	+0.1
WCKO				eS	Sb	01 54 52.3	-0.3
LDUT	**Ludao**	0.58	120	⇑P	Pb	01 54 44.9	0.0
LDUT				eS	Sb	01 54 55.0	+1.7
SNJT	**Kaohsiung City**	0.58	249	eP	Pg	01 54 43.8	-0.2
EAST	**Anshuo**	0.58	187	eP	Pg	01 54 43.6	-0.4
EAST				eS	Sg	01 54 51.4	-0.3
ECBN	**Changbin**	0.60	54	eP	Pb	01 54 45.5	+0.2
ECBN				eS	Sn	01 54 55.4	-1.7
TAW	**Tawu**	0.60	182	eP	Pg	01 54 44.2	-0.3
TAW				eS	Sg	01 54 52.1	-0.3
SSHA	**Shanhua**	0.61	286	eP	Pg	01 54 45.0	+0.5
SSHA				eS	Sb	01 54 54.6	+0.6
TAWH	**Dawu Township**	0.62	183	iP	Pg	01 54 44.4	-0.3
TAWH				S	Sg	01 54 52.7	-0.3
TAI1	**Yung-k'ang**	0.65	277	eP	Pb	01 54 47.1	+1.1
TAI1				eS	Sb	01 54 56.7	+1.6
EHY	**Hungye**	0.65	34	iP	Pg	01 54 45.0	-0.4
EHY				eS	Sb	01 54 54.9	-0.4
SCZT	**Fangliau**	0.65	205	iP	Pg	01 54 44.4	-1.0
SCZT				iS	Sg	01 54 52.7	-1.2
EHYH	**Wanrong**	0.65	36	iP	Pg	01 54 45.1	-0.3
EHYH				iS	Sb	01 54 54.6	-0.8
WSSB	**Gushan**	0.69	242	eP	Pb	01 54 47.8	+1.0
WSSB				eS	Sb	01 54 58.6	+2.2
CHN2	**Minshiung**	0.70	324	eP	Pg	01 54 46.0	-0.2
CHN2				eS	Sb	01 54 57.3	+0.6
HGSD	**Ruisui**	0.70	41	eP	Pb	01 54 47.0	0.0
HGSD				eS	Sn	01 54 57.7	-1.8
CHY	**Chiayi**	0.70	319	eP	Pb	01 54 46.9	-0.1
CHY				eS	Sb	01 54 57.1	+0.4
SCLT	**Jiali**	0.70	287	eP	Pg	01 54 47.2	+0.9
SCLT				eS	Sb	01 54 58.5	+1.8
ICHU	**Yijhu**	0.71	304	eP	Pb	01 54 47.4	+0.3
ICHU				eS	Sb	01 54 58.1	+1.1
WHYT	**Xinyi Township**	0.73	355	⇑P	Pg	01 54 46.6	-0.3
WHYT				eS	Sb	01 54 56.8	-0.9
SLIU	**Shizi**	0.75	189	iP	Pg	01 54 46.6	-0.6
CHN8	**Yiju**	0.76	300	eP	Pg	01 54 46.9	-0.4
CHN8				eS	Sb	01 54 59.9	+1.6
WGK	**Gukeng**	0.79	335	eP	Pb	01 54 48.6	0.0
WGK				eS	Sn	01 55 00.6	-1.2
TSCK	**Chigu Township**	0.79	283	eP	Pg	01 54 48.5	+0.5
TSCK				eS	Sb	01 55 01.1	+1.8
WDLH	**Douliu**	0.80	334	eP	Pb	01 54 49.0	+0.3
WDLH				eS	Sn	01 55 01.5	-0.6
TWP	**Hsiaoliuchiu**	0.80	220	eP	Pb	01 54 50.2	+1.4
VWDT	**VWDT**	0.81	14	eP	Pg	01 54 47.2	-1.1
SSLB	**Suanglung**	0.82	2	P	Pg	01 54 47.4	-1.1
SSLB	**Suanglung**	0.82	2	eP	Pg	01 54 47.8	-0.8
WDL	**Douliou City**	0.83	335	eP	Pn	01 54 50.1	-0.3
EGFH	**Guangfu**	0.84	33	eP	Pb	01 54 48.7	-0.7
WSL	**Shuilin Townsh**	0.85	311	eP	Pg	01 54 49.3	+0.3
WSL				eS	Sn	01 55 02.2	-0.9
WARBT	**Fenglin Townsh**	0.86	29	eP	Pg	01 54 48.5	-0.8
WJS	**Zhushan**	0.87	348	eP	Pb	01 54 50.2	+0.2
WJS				eS	Sn	01 55 04.0	+0.2
WTK	**Tuku**	0.87	326	eP	Pg	01 54 49.8	+0.3
WTK				eS	Sn	01 55 03.5	-0.3
SMLT	**Sun Moon Lake**	0.92	359	P	Pg	01 54 48.9	-1.5
SMLT				eS	Sn	01 55 04.4	-0.6
WSF	**Szhu**	0.93	316	eP	Pg	01 54 50.2	-0.4
WSF				iS	Sn	01 55 04.5	-0.7
TEGC	**Jichi Village**	0.93	37	eP	Pn	01 54 51.1	-0.7
WNT	**Mingjian**	0.94	346	eP	Pn	01 54 51.3	-0.6
WNT				S	Sn	01 55 05.6	+0.2
TYC	**Yuchr**	0.94	356	eP	Pg	01 54 50.5	-0.3
TYC				S	Sn	01 55 05.4	0.0
ESL	**Shilin**	0.97	29	eP	Pb	01 54 51.1	-0.4
HEN	**Hengchun**	0.97	190	eP	Pb	01 54 51.7	+0.1
SHUL	**Shoufeng**	1.01	36	eP	Pb	01 54 51.8	-0.5
OWD	**Renai**	1.01	13	eP	Pg	01 54 51.0	-1.2
OWD				eS	Sn	01 55 06.9	-0.6
TWK1	**Hengchun**	1.02	186	eP	Pb	01 54 52.5	0.0
TWKBT	**Hengchun**	1.02	186	eP	Pb	01 54 52.5	0.0
WUSB	**Renai**	1.04	10	eP	Pg	01 54 51.3	-1.4
WUSB				eS	Sn	01 55 08.0	-0.1
WCS	**Beigang Elemen**	1.09	359	eP	Pn	01 54 53.6	-0.3
WCS				eS	Sn	01 55 10.3	+1.2
LAY	**Lan-yu**	1.09	148	eP	Pb	01 54 52.0	-1.6
TEYL	**Yanliau Villag**	1.09	34	eP	Pn	01 54 54.4	+0.3
TEYL				eS	Sn	01 55 11.2	+2.0
ETM	**Tongmen**	1.12	28	eP	Pb	01 54 53.6	-0.7
LYUB	**Lan-yu**	1.14	147	eP	Pb	01 54 51.0	-3.4
LXIB	**Xiulin Townshi**	1.14	23	eP	Pb	01 54 53.5	-1.1
LXIB				eS	Sn	01 55 12.2	+1.5
WCH1	**Changhua City**	1.16	343	eP	Pg	01 54 54.9	0.0
WCH1				eS	Sn	01 55 11.6	+0.8
WCHH	**Zhanghua**	1.16	343	eP	Pg	01 54 55.3	+0.3
WCHH				eS	Sn	01 55 12.3	+1.4
HWA	**Hwalien**	1.19	32	eP	Pg	01 54 55.7	+0.2
TCU	**Taichung**	1.20	349	eP	Pg	01 54 56.5	+0.7
TCU				eS	Sn	01 55 13.8	+1.9
WDGT	**Dungji**	1.20	284	eP	Pn	01 54 54.6	-0.9
WDGT				S	Sb	01 55 10.2	-0.8
WHF	**Hehuan Shan**	1.22	15	eP	Pb	01 54 55.3	-0.7
WHF				eS	Sn	01 55 13.0	+0.1
TWD	**Chiawan**	1.27	29	eP	Pg	01 54 56.5	-0.6
TWD				eS	Sg	01 55 15.1	+1.5
TDCB	**Techi**	1.30	9	eP	Pg	01 54 57.1	-0.6
TDCB				eS	Sg	01 55 15.6	+0.9
TWT	**Tachien**	1.30	10	eP	Pg	01 54 57.8	+0.1
TWT				eS	Sg	01 55 15.4	+0.6
WHP	**Taichung City**	1.31	1	P	Pg	01 54 58.0	+0.2
WHP				eS	Sg	01 55 17.5	+2.7
FUSS	**Fushou**	1.31	13	eP	Pn	01 54 56.5	-0.8
FUSS				eS	Sg	01 55 16.7	+1.8
ETLH	**Xiulin Townshi**	1.34	22	eP	Pb	01 54 57.6	-0.3
ETLH				eS	Sg	01 55 18.1	+2.2
ETL	**Fush Village**	1.35	28	eP	Pg	01 54 58.2	-0.4
NACB	**Ninganchiao**	1.35	27	P	Pn	01 54 56.5	-1.1
NACB	**Ninganchiao**	1.35	27	S	Sg	01 55 16.1	-0.2
NACB	**Ninganchiao**	1.35	27	eP	Pn	01 54 57.1	-0.6
NACB				eS	Sg	01 55 16.9	+0.7
PHUB	**P'eng-hu**	1.36	294	eP	Pn	01 54 56.3	-1.4
PHUB				S	Sn	01 55 14.4	-1.3
TWQ1	**Liyutan**	1.38	354	eP	Pg	01 54 59.1	-0.2
TWQ1				eS	Sg	01 55 19.9	+2.6
PNG	**Penghu**	1.39	296	eP	Pn	01 54 57.1	-1.1
VCHM	**Qimei**	1.40	280	eP	Pn	01 54 57.0	-1.3
VCHM				eS	Sn	01 55 14.8	-1.9
WDJ	**Dajia District**	1.40	349	eP	Pg	01 54 59.5	-0.1
WDJ				eS	Sg	01 55 20.0	+2.2
NSY	**Sanyi**	1.45	354	eP	Pn	01 54 58.4	-0.6
NNSB	**Datong**	1.52	16	eP	Pb	01 55 00.4	-0.6
NNSB				eS	Sg	01 55 22.4	+0.8
NNS	**Nan Shan**	1.53	16	eP	Pb	01 55 00.6	-0.6
NNS				eS	Sg	01 55 22.3	+0.5
EAHA	**Aohua**	1.55	29	eP	Pb	01 55 01.2	-0.3
EAHA				eS	Sg	01 55 23.5	+0.8
NMLH	**Miaoli**	1.57	356	eP	Pg	01 55 02.4	-0.4
ENA	**Nanau**	1.64	27	eP	Pb	01 55 02.5	-0.5
LATG	**Datong**	1.66	19	eP	Pb	01 55 03.1	-0.4
LATG				eS	Sg	01 55 27.3	+1.2
NSTT	**Nanjuang**	1.66	2	eP	Pg	01 55 04.0	-0.5
NSTT				eS	Sg	01 55 26.7	+0.5
EWUT	**Wuta**	1.67	28	eP	Pb	01 55 03.6	+0.1
EWUT				eS	Sg	01 55 26.2	-0.2
NFF	**Wufeng Townshi**	1.67	6	iP	Pg	01 55 03.9	-0.9
NFF				iS	Sg	01 55 27.7	+1.2
LIOB	**Emei**	1.68	3	eP	Pb	01 55 03.7	0.0
YHNB	**Yeheng**	1.75	14	eP	Pb	01 55 05.0	0.0
YHNB				eS	Sg	01 55 28.5	-0.4
NSK	**Sanguang**	1.75	13	eP	Pg	01 55 05.7	-0.6
NSK				iS	Sg	01 55 29.9	+0.9
ENTT	**Nioudou**	1.77	19	eP	Pg	01 55 05.8	-0.9
ENTT				eS	Sg	01 55 31.1	+1.4
ESAO	**Su ao**	1.81	28	eP	Pb	01 55 06.1	+0.1
NDS	**Dongshan**	1.81	23	eP	Pg	01 55 06.7	-0.8
KSHI	**Guanxi Townshi**	1.82	7	eP	Pb	01 55 06.0	-0.1
EOS3	**EOS3**	1.83	44	eP	Pn	01 55 03.1	-1.0
EOS3				eS	Sg	01 55 29.3	-2.4
TWC	**Suao**	1.84	27	eP	Pb	01 55 06.5	0.0
TWC				iS	Sg	01 55 31.2	-0.8
TWE	**Neicheng**	1.88	21	eP	Pg	01 55 07.9	-0.8
TWE				eS	Sg	01 55 33.4	+0.4
EOS2	**EOS2**	1.88	39	eP	Pn	01 55 05.2	+0.4
NWLT	**Wulai**	1.88	16	eP	Pb	01 55 07.5	+0.3
NWLT				eS	Sg	01 55 31.9	-1.3
FUSB	**Fushanzhiwuyua**	1.89	19	iP	Pg	01 55 08.1	-0.8
FUSB				eS	Sg	01 55 34.6	+1.2
TWA	**Mucha**	2.10	17	eP	Pb	01 55 10.2	-0.6
TIPB	**Shuangxi**	2.16	22	eP	Pb	01 55 10.9	-1.1
TIPB				eS	Sb	01 55 39.4	+0.5
NWF	**Wu-fen Shan**	2.24	20	eP	Pb	01 55 12.6	-0.7
WFSB	**Wu-fen Shan**	2.24	20	eP	Pb	01 55 12.4	-0.9
WFSB				eS	Sg	01 55 41.8	-2.9
YM01	**YM01**	2.25	15	eP	Pb	01 55 11.6	-1.9
TWB1	**Santiao Chiao**	2.26	25	eP	Pb	01 55 12.4	-1.2
ZUZH	**Zhuzihu**	2.26	14	eP	Pn	01 55 11.3	+1.2
ANP	**Anpu**	2.28	14	eP	Pg	01 55 14.8	-1.6
SXI1	**Grass Mountain**	2.29	22	eP	Pb	01 55 13.8	-0.4
YM08	**YM08**	2.30	15	eP	Pb	01 55 13.5	-0.7
YOJ	**Yonaguni jima**	2.42	52	P	Pn	01 55 12.0	-0.4
YOJ	**Yonaguni jima**	2.42	52	eP	Pn	01 55 11.7	-0.7
KNMB	**Chin-men Tao**	2.76	303	eP	Pn	01 55 15.8	-1.2
MJAR	**Matsushiro Arr**	20.16	44	P	P	01 59 05.9	-1.3
	0.7nm,0.4s,baz=229,slow=8.4,SNR=7.8						
	0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	21.04	262	P	P	01 59 19.7	+2.9
	0.9nm,0.3s,baz=75,slow=9.2,SNR=4.1						
	0.9nm,0.3s						
SONM	**Songino Array**	27.40	338	P	P	02 00 18.5	0.0
	0.4nm,0.6s,baz=139,slow=9.6,SNR=1.0						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	39.05	317	P	P	02 02 00.7	+0.9
	1.2nm,0.8s,baz=104,slow=10,SNR=8.3						
MKAR				PcP	PcP	02 04 09.6	-0.1
	0.4nm,0.6s,baz=117,slow=1.6,SNR=3.8						
	1.2nm,0.8s						
ZALV	**Zalesovo Beam**	41.14	328	P	P	02 02 17.0	+0.1
	1.0nm,0.6s,baz=112,slow=7.1,SNR=6.0						
	1.0nm,0.6s						
H11N1	**WAKE ISLAND Hy**	42.81	85	T	T	02 47 47.4	
	baz=277						
H11N2	**WAKE ISLAND Hy**	42.81	85	T	T	02 47 49.4	
	baz=277						
H11N3	**WAKE ISLAND Hy**	42.83	85	T	T	02 47 49.3	
	baz=277						
KURBB	**Kurchatov Arra**	42.89	321	P	P	02 02 31.5	+0.2
	0.9nm,1.1s,baz=116,slow=6.3,SNR=4.0						
	0.9nm,1.1s						
H11S3	**WAKE ISLAND Hy**	42.90	87	T	T	02 47 57.9	
	baz=280						
H11S1	**WAKE ISLAND Hy**	42.91	87	T	T	02 47 60.0	
	baz=280						
H11S2	**WAKE ISLAND Hy**	42.92	87	T	T	02 48 00.4	
	baz=280						
WRA	**Warramunga Arr**	44.61	162	P	P	02 02 44.1	-1.3
	1.2nm,0.7s,baz=344,slow=8.8,SNR=9.0						
	1.2nm,0.7s						
ASAR	**Alice Springs**	48.04	164	P	P	02 03 11.6	-0.7
	0.3nm,0.3s,baz=355,slow=14,SNR=6.0						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	48.47	321	P	P	02 03 15.7	+0.4
	0.4nm,0.5s,baz=90,slow=10,SNR=3.9						
	0.4nm,0.5s						
ILAR	**Eielson Array**	70.40	27	P	P	02 05 47.1	+0.4
	0.2nm,0.5s,baz=285,slow=6.6,SNR=1.6						
	0.2nm,0.5s						
FINES	**FINESS Array B**	72.37	330	P	P	02 05 59.4	+0.8
	1.7nm,1.0s,baz=127,slow=8.2,SNR=1.6						
	1.7nm,1.0s						
GERES	**GERESS Array B**	83.63	321	P	P	02 07 02.3	+0.7
	0.6nm,0.8s,baz=354,slow=6.1,SNR=3.4						
	0.6nm,0.8s						
YKA	**Yellowknife Ar**	84.18	23	P	P	02 07 03.2	-0.8
	0.3nm,0.7s,baz=316,slow=4.8,SNR=6.6						
	0.3nm,0.7s						

GCG 04 01:56:44.8±0.8, 15°.37N×90°.11W, h8km±61km, MD3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVCB	**Coban**	0.30	289	eP	Pg	01 56 51.6	+0.8
AVCB				iS	Sb	01 56 57.0	-0.7
ESSG	**Sabana Grande**	1.20	215	eP	Pb	01 57 07.1	-0.8
MTO3	**Montecristo**	1.21	143	eP	Pg	01 57 06.8	-1.2
NUBE	**Las Nubes**	1.49	167	eP	Pn	01 57 12.0	-0.1

IDC ***04*** *01:56:54.2±0.3, 22°.87N×121°.09E, h0km, mb4.9/31, mbtmp4.9/35, ML4.3/4, MS4.5/56, Error ellipse: s-maj=14.1km s-min=8.8km az=71.0*
TAP ***04*** *01:56:55.1, 22°.98N×120°.86E, h3km, ML5.5, C*
JMA ***04*** *01:56:55.3±0.2, 22°.9N±0°.6×121°.4E±0°.7, h0km, MD5.0/11, MV5.1/11, TAIWAN REGION*
NIED ***04*** *01:56:55.3, 22°.87N×121°.35E, h0km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr=6.56; Mθθ=4.69; Mφφ 1.87; Mrθ 0.76; Mθφ-1.76; Mφr-1.16; Fault plane solution: M0 6.19000×10^16 NP1: φs111.00000°, δ40.00000°, λ-98.00000°. NP2: φs301.00000°, δ51.00000°, λ-83.00000°.*
ASIES ***04*** *01:56:55.1, 22°.98N×120°.86E, h3km, ML5.5, Mw5.1, Moment Tensor Solution. Moment tensor: Scale 10^23Nm; Mrr=4.88; Mθθ2.93; Mφφ 1.95; Mrθ 0.26; Mθφ-3.44; Mφr 1.44; Fault plane solution: M0 5.66563×10^23 NP1: φs294.81000°, δ43.43000°, λ-114.18000°. NP2: φs146.54000°, δ51.16000°, λ-68.80000°. Principal axes: T Plg4.0170°, Azm221.6890°; N Plg16.3550°, Azm312.8700°; P Plg73.1320°, Azm118.2980°;*
BGR ***04*** *01:56:56.6, 22°.16N×121°.68E, h33km, mb5.3, Ms5.0, Hypocentre not reviewed by the ISC*
NEIC ***04*** *01:56:56.7, 23°.31N×120°.84E, h12km, Moment Tensor Solution. Duration: 19s8 Moment tensor: Scale 10^16Nm; Mrr=3.97; Mθθ2.53; Mφφ 1.44; Mrθ 5.62; Mθφ-3.18; Mφr-1.68; Fault plane solution: M0 7.51000×10^16 NP1: φs153.67000°, δ23.71000°, λ-49.45000°. NP2: φs290.61000°, δ72.21000°, λ-105.94000°. Principal axes: T 7.8022, Plg26.0000°, Azm33.0000°; N -0.5840, Plg15.0000°, Azm296.0000°; P -7.2183, Plg60.0000°, Azm178.0000°;*
NEIC ***04*** *01:56:56.8, 23°.01N×120°.93E, h5km*
NEIC ***04*** *01:56:56.7, 23°.01N×120°.95E, h12km*
MOS ***04*** *01:56:56.0±1.0, 22°.95N×121°.02E, h20km, mb5.3/76, MS4.8/19, Error ellipse: s-maj=6.2km s-min=3.8km az=111.3*
BJI ***04*** *01:56:56.0, 22°.95N×120°.85E, h10km, mB5.2/54, mb4.8/83, ML5.3/11, Ms5.3/94, Ms7 5.1/91*
NEIC ***04*** *01:56:56.7±1.5, 23°.01N±0°.04×120°.95E±0°.06, h6km±3km, mb5.3/208, Mwr5.1/26, Mww5.2/30, Error ellipse: s-maj=8.6km s-min=5.5km az=120.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=4.34; Mθθ2.20; Mφφ2.14; Mrθ-0.22; Mθφ-3.15; Mφr3.52; Fault plane solution: M0 6.04000×10^16 NP1: φs291.55000°, δ35.47000°, λ-130.46000°. NP2: φs157.88000°, δ63.80000°, λ-65.19000°. Principal axes: T 6.0418, Plg15.0000°, Azm230.0000°; N -0.0037, Plg22.0000°, Azm326.0000°; P -6.0381, Plg63.0000°, Azm108.0000°;*
GCMT ***04*** *01:56:57.7±0.1, 23°.08N±0°.01×120°.79E±0°.01, h12km, MW5.2/123, Moment Tensor Solution. s68, c96; s123, c201; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=5.44±.10; Mθθ3.50±.09; Mφφ 1.94±.10; Mrθ2.29±.29; Mθφ-3.58±.08; Mφr3.34±.31; Best double couple: M0 7.10600×10^16 NP1: φs282.00000°, δ51.00000°, λ-131.00000°. NP2: φs156.00000°, δ54.00000°, λ-51.00000°. Principal axes: T 6.3940, Plg2.0000°, Azm220.0000°; N 1.4240, Plg30.0000°, Azm311.0000°; P -7.8180, Plg60.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 01:56:57.1±0.4, 22°.96N±0°.01×120°.92E±0°.01, h12km±2km, h12km: pP-P, n1238, σ1938/1368, mb5.2/256, MS4.7/83, 116C-30D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	0.20	134	Pg	**Pg**	01 57 01.4	0.0
TWG				Sg	**Sg**	01 57 05.0	+0.8
TWG	**Pinlang**	0.20	134	iP	**Pg**	01 57 00.9	-0.4
TWG				S	**Sg**	01 57 05.3	+1.0
LONT	**Longtian**	0.20	105	eP	Pg	01 57 01.0	-0.4
LONT				eS	Sg	01 57 05.1	+0.7
TWGBT	**Beinan**	0.20	133	S	Sg	01 57 01.2	-3.3
TWGBT	**Beinan**	0.20	133	S	Sg	01 57 05.4	+0.9
TWGBT	**Beinan**	0.20	133	⇓iP	Pg	01 57 00.9	-0.5
TWGBT				iS	Sg	01 57 04.8	+0.3
ELDTW	**Lidau**	0.25	21	⇑iP	Pg	01 57 00.8	-1.5
ELDTW				eS	Sg	01 57 04.5	-1.4
STYH	**Taoyuan**	0.25	328	⇑iP	Pg	01 56 59.2	-3.1
STYH				iS	Sg	01 57 02.7	-3.1
STYT	**Tauyuan**	0.25	324	⇑iP	Pg	01 56 59.3	-3.1
STYT				iS	Sg	01 57 02.5	-3.4
TTN	**Taitung**	0.29	134	⇓P	Pg	01 57 03.5	+0.5
TTN				S	Sb	01 57 09.4	+0.4
ECS	**Chishang**	0.31	64	⇑iP	Pg	01 57 03.0	-0.4
ECS				iS	Sb	01 57 08.5	-1.0
EHD	**Haiduan**	0.33	54	⇑iP	Pg	01 57 02.4	-1.3
EHD				eS	Sg	01 57 07.0	-1.1
SGST	**Jiashian**	0.33	292	⇓iP	Pg	01 57 01.1	-2.7
SGST				S	Sg	01 57 05.9	-2.4
EDH	**Donghe**	0.35	88	⇑P	Pg	01 57 04.4	+0.2
EDH				eS	Sb	01 57 11.2	+0.3
TSMG	**Majia**	0.36	225	eP	Pg	01 57 01.4	-2.8
TSMG				eS	Sg	01 57 05.4	-3.6
ECL	**Taimali**	0.36	175	iP	Pg	01 57 03.2	-1.0
ECL				eS	Sg	01 57 08.5	-0.6
SCST	**Cishan**	0.40	260	⇑iP	Pg	01 57 03.5	-1.5
SCST				eS	Sg	01 57 10.0	-0.3
WTP	**Ta-pu**	0.40	316	⇑P	Pg	01 57 03.7	-1.4
WTP				eS	Sg	01 57 09.1	-1.4
FULB	**Fuli**	0.42	55	⇑P	Pg	01 57 05.2	-0.2
FULB				eS	Sb	01 57 11.9	-0.8
CHN1	**Nanshi**	0.43	302	⇓iP	Pg	01 57 04.3	-1.2
CHN1				eS	Sg	01 57 10.2	-1.0
TPUB	**Ta-pu**	0.43	322	Pg	Pg	01 57 04.5	-1.2
TPUB				Sg	Sg	01 57 10.3	-1.2
TPUB	**Ta-pu**	0.43	322	P	Pg	01 57 04.7	-1.0
TPUB	**Ta-pu**	0.43	322	⇑iP	Pg	01 57 04.4	-1.2
TPUB				eS	Sg	01 57 10.6	-0.9
CHKT	**Chengkung**	0.43	71	⇑iP	Pg	01 57 06.1	+0.5
CHKT				eS	Sb	01 57 14.3	+1.1
MASBT	**Mashibuluo**	0.43	218	⇑iP	Pg	01 57 03.6	-2.1
MASBT				eS	Sg	01 57 09.5	-1.9
SGLT	**Jiouru**	0.46	240	⇑iP	Pg	01 57 05.0	-1.1
SGLT				eS	Sg	01 57 11.3	-0.9
SNST	**Tainan City**	0.47	304	⇓P	Pg	01 57 05.3	-1.0
SNST				S	Sg	01 57 11.4	-1.1
TWM1	**Shoushan**	0.48	254	⇑iP	Pg	01 57 05.7	-0.8
TWM1				eS	Sb	01 57 14.0	-0.5
CHN4	**Tsaushan**	0.49	323	⇑iP	Pg	01 57 05.7	-1.0
CHN4				eS	Sg	01 57 11.4	-1.9
CHKH	**Chenggong**	0.50	62	⇑P	Pg	01 57 06.7	-0.1
CHKH				eS	Sb	01 57 15.5	+0.6
TWK	**Hsinying**	0.50	308	eP	Pg	01 57 06.2	-0.7
TWK				eS	Sg	01 57 13.0	-0.6
TWF1	**Yuli**	0.52	41	⇑iP	Pg	01 57 06.2	-1.1
TWF1				eS	Sg	01 57 13.8	-0.5
CHN3	**Shinhua**	0.53	283	⇑iP	Pg	01 57 07.8	+0.4
CHN3				eS	Sg	01 57 14.8	+0.5
SHHT	**Tainan City**	0.53	277	eP	Pb	01 57 08.2	-0.2
SHHT				eS	Sb	01 57 17.7	+1.7
EYUL	**Yuli**	0.53	43	⇑iP	Pg	01 57 06.5	-1.0
YULB	**Yu-li**	0.56	39		Pg	01 57 06.4	-1.4
YULB				Sg	Sg	01 57 13.1	-2.2
YULB	**Yu-li**	0.56	39	P	Pg	01 57 06.6	-1.3
YULB	**Yu-li**	0.56	39	⇑iP	Pg	01 57 06.5	-1.4
YULB				S	Sg	01 57 13.6	-1.7
ALS	**Alishan**	0.56	349	⇑iP	Pg	01 57 06.8	-1.5
ALS				iS	Sg	01 57 15.4	-0.2
WCKO	**Fanlu**	0.56	329	⇑P	Pg	01 57 07.0	-1.0
WCKO				iS	Sg	01 57 15.7	+0.2
SSPT	**Xinbi**	0.57	215	⇑iP	Pg	01 57 08.0	-0.2
SSPT				eS	Sg	01 57 15.8	-0.1
EAST	**Anshuo**	0.58	187	P	Pg	01 57 07.2	-1.1
EAST				eS	Sg	01 57 15.8	-0.1
SNJT	**Kaohsiung City**	0.58	249	eP	Pb	01 57 09.4	+0.3
LDUT	**Ludao**	0.58	119	eP	Pg	01 57 08.3	-0.1
LDUT				S	Sb	01 57 18.5	+1.1
TAW	**Tawu**	0.60	182	⇑iP	Pg	01 57 07.5	-1.2
TAW				eS	Sg	01 57 15.6	-1.1
ECBN	**Changbin**	0.60	54	⇑iP	Pg	01 57 08.9	+0.1

WUSB	**Renai**	**1.04**	**10**	*eP*	**Pb**	**01 57 14.6**	**-2.6**
WUSB				*eS*	**Sg**	**01 57 30.5**	**-0.4**
TSEB	**Hengchuen, Pin**	**1.05**	**181**	*eP*	**Pb**	**01 57 16.8**	**-0.5**
WTCT	**Ta-ch'eng**	**1.08**	**327**	*eP*	**Pb**	**01 57 17.2**	**-0.4**
WTCT				*i S*	**Sg**	**01 57 31.8**	**-0.1**
LAY	**Lan-yu**	**1.08**	**147**	*eP*	**Pb**	**01 57 15.4**	**-2.3**
LAY				*eS*	**Sb**	**01 57 31.6**	**-0.3**
WCS	**Beigang Elemen**	**1.09**	**360**	*eP*	**Pb**	**01 57 16.6**	**-1.4**
WCS				*eS*	**Sn**	**01 57 32.9**	**-0.4**
TEYL	**Yanliau Villag**	**1.10**	**34**	P	**Pb**	**01 57 17.3**	**-0.8**
TEYL				*eS*	**Sn**	**01 57 33.6**	**+0.1**
ETM	**Tongmen**	**1.13**	**28**	P	**Pb**	**01 57 16.9**	**-1.7**
ETM				*eS*	**Sb**	**01 57 32.0**	**-1.3**
LYUB	**Lan-yu**	**1.13**	**147**	*eP*	**Pb**	**01 57 14.9**	**-3.7**
LYUB				*eS*	**Sb**	**01 57 31.2**	**-2.1**
LXIB	**Xiulin Townshi**	**1.15**	**23**	*i P*	**Pb**	**01 57 17.0**	**-2.0**
LXIB				*eS*	**Sn**	**01 57 35.5**	**+0.5**
WCH1	**Changhua City**	**1.16**	**343**	*eP*	**Pb**	**01 57 18.6**	**-0.4**
WCH1				*eS*	**Sn**	**01 57 35.5**	**+0.6**
HWA	**Hwalien**	**1.19**	**32**	*eP*	**Pn**	**01 57 18.7**	**-0.9**
HWA				*eS*	**Sn**	**01 57 36.2**	**+0.4**
WDGT	**Dungji**	**1.20**	**285**	*i P*	**Pn**	**01 57 18.1**	**-1.6**
WDGT				*i S*	**Sb**	**01 57 34.1**	**-1.0**
TCU	**Taichung**	**1.21**	**349**	*eP*	**Pn**	**01 57 19.4**	**-0.4**
TCU				*eS*	**Sn**	**01 57 36.6**	**+0.6**
WHF	**Hehuan Shan**	**1.22**	**15**	⇑P	**Pb**	**01 57 18.0**	**-2.4**
WHF				*eS*	**Sn**	**01 57 37.6**	**+0.5**
TWD	**Chiawan**	**1.28**	**29**	*eP*	**Pn**	**01 57 19.1**	**-1.6**
TWD				*eS*	**Sb**	**01 57 37.1**	**-0.4**
TDCB	**Techi**	**1.31**	**10**⇑	*eP*	**Pn**	**01 57 19.4**	**-1.9**
TDCB				*eS*	**Sg**	**01 57 39.4**	**+0.1**
TWT	**Tachien**	**1.31**	**10**	*eP*	**Pn**	**01 57 19.5**	**-1.9**
TWT				*eS*	**Sg**	**01 57 39.1**	**-0.2**
WHP	**Taichung City**	**1.31**	**1**	⇑P	**Pn**	**01 57 20.4**	**-0.9**
WHP				*eS*	**Sn**	**01 57 39.0**	**+0.1**
FUSS	**Fushou**	**1.32**	**13**⇑	*eP*	**Pn**	**01 57 19.5**	**-2.0**
FUSS				*eS*	**Sg**	**01 57 39.7**	**+0.1**
ETLH	**Xiulin Townshi**	**1.35**	**22**	⇑P	**Pn**	**01 57 20.5**	**-1.3**
ETLH				*eS*	**Sg**	**01 57 40.5**	**0.0**
PHUB	**P'eng-hu**	**1.36**	**294**	P	**Pn**	**01 57 20.3**	**-1.5**
PHUB				*i S*	**Sb**	**01 57 37.8**	**-1.9**
ETL	**Fush Village**	**1.36**	**28**	*eP*	**Pn**	**01 57 20.8**	**-1.2**
ETL				*eS*	**Sg**	**01 57 40.6**	**-0.3**
NACB	**Ninganchiao**	**1.36**	**27**		**Pn**	**01 57 20.2**	**-1.7**
NACB				Sn	**Sb**	**01 57 37.6**	**-2.3**
NACB	**Ninganchiao**	**1.36**	**27**	P	**Pn**	**01 57 21.0**	**-0.9**
NACB	**Ninganchiao**	**1.36**	**27**⇑	*eP*	**Pn**	**01 57 20.2**	**-1.7**
NACB				*eS*	**Sn**	**01 57 39.9**	**0.0**
TWQ1	**Liyutan**	**1.39**	**354**	⇑P	**Pn**	**01 57 22.3**	**0.0**
TWQ1				*i S*	**Sg**	**01 57 42.9**	**+1.1**
PNG	**Penghu**	**1.39**	**296**	*eP*	**Pn**	**01 57 20.6**	**-1.8**
PNG				S	**Sn**	**01 57 39.0**	**-1.7**
VCHM	**Qimei**	**1.40**	**281**	P	**Pn**	**01 57 20.6**	**-1.8**
VCHM				*eS*	**Sn**	**01 57 39.1**	**-1.7**
WDJ	**Dajia District**	**1.41**	**350**	⇑P	**Pb**	**01 57 22.9**	**-0.4**
WDJ				*i S*	**Sg**	**01 57 43.8**	**+1.4**
NSY	**Sanyi**	**1.46**	**354**	*eP*	**Pn**	**01 57 21.9**	**-1.4**
NSY				*i S*	**Sb**	**01 57 43.1**	**+0.4**
NNSB	**Datong**	**1.52**	**16**⇑	*eP*	**Pn**	**01 57 23.2**	**-1.1**
NNSB				*eS*	**Sb**	**01 57 45.2**	**+0.5**
NNS	**Nan Shan**	**1.53**	**16**	P	**Pn**	**01 57 23.9**	**-0.5**
NNS				*eS*	**Sg**	**01 57 45.7**	**-0.7**
EAHA	**Aohua**	**1.56**	**29**	*eP*	**Pn**	**01 57 24.5**	**-0.1**
EAHA				*eS*	**Sg**	**01 57 46.5**	**-0.7**
NMLH	**Miaoli**	**1.58**	**356**	*eP*	**Pn**	**01 57 25.1**	**+0.2**
NMLH				*i S*	**Sg**	**01 57 48.0**	**+0.2**
ENA	**Nanau**	**1.65**	**27**	*eP*	**Pn**	**01 57 25.5**	**-0.3**
ENA				S	**Sb**	**01 57 48.4**	**+0.4**
LATG	**Datong**	**1.67**	**19**⇑	*iP*	**Pn**	**01 57 26.0**	**-0.2**
LATG				*eS*	**Sb**	**01 57 48.4**	**-0.4**
NSTT	**Nanjuang**	**1.67**	**3**	*eP*	**Pn**	**01 57 26.2**	**+0.1**
NSTT				*eS*	**Sb**	**01 57 49.2**	**+0.5**
NFF	**Wufeng Townshi**	**1.68**	**6**⇑	*eP*	**Pn**	**01 57 26.6**	**+0.3**
NFF				*i S*	**Sg**	**01 57 51.1**	**+0.1**
EWUT	**Wuta**	**1.68**	**28**	*eP*	**Pn**	**01 57 26.6**	**+0.3**
EWUT				*eS*	**Sb**	**01 57 49.4**	**+0.5**
LIOB	**Emei**	**1.68**	**3**	⇑P	**Pn**	**01 57 26.7**	**+0.3**
LIOB				*eS*	**Sb**	**01 57 50.1**	**+1.0**
EOS4	**EOS4**	**1.73**	**48**	*eP*	**Pn**	**01 57 25.7**	**-0.9**
EOS4				*i S*	**Sn**	**01 57 48.7**	**+0.3**
YHNB	**Yeheng**	**1.75**	**14**		**Pn**	**01 57 26.9**	**-0.5**
YHNB	**Yeheng**	**1.75**	**14**	P	**Pb**	**01 57 29.0**	**-0.3**
YHNB	**Yeheng**	**1.75**	**14**	S	**Sg**	**01 57 53.0**	**-0.6**
YHNB	**Yeheng**	**1.75**	**14**	⇑P	**Pn**	**01 57 27.5**	**+0.1**
YHNB				*eS*	**Sb**	**01 57 52.3**	**+1.0**
NSK	**Sanguang**	**1.76**	**13**	P	**Pn**	**01 57 27.8**	**+0.4**
NSK				*eS*	**Sg**	**01 57 53.0**	**-0.6**
ENTT	**Nioudou**	**1.78**	**19**	P	**Pn**	**01 57 27.4**	**-0.2**
ENTT				*eS*	**Sb**	**01 57 51.8**	**-0.1**
ESAO	**Su ao**	**1.82**	**28**	*eP*	**Pn**	**01 57 28.5**	**+0.3**
NDS	**Dongshan**	**1.82**	**23**	*eP*	**Pb**	**01 57 29.8**	**-0.5**
KSHI	**Guanxi Townshi**	**1.83**	**7**	*eP*	**Pb**	**01 57 29.6**	**-0.8**
KSHI				*eS*	**Sg**	**01 57 54.6**	**-1.3**
SBCB	**Hsinchu**	**1.83**	**2**	*eP*	**Pn**	**01 57 29.1**	**+0.8**
SBCB				*eS*	**Sb**	**01 57 53.1**	**-0.2**
HSN	**Hsinchu**	**1.84**	**1**	*eP*	**Pb**	**01 57 29.9**	**-0.7**
HSN				*eS*	**Sb**	**01 57 54.7**	**+1.1**
EOS3	**EOS3**	**1.84**	**44**	*eP*	**Pn**	**01 57 27.7**	**-0.7**
EOS3				*eS*	**Sn**	**01 57 52.4**	**+0.9**
TWC	**Suao**	**1.85**	**27**	*eP*	**Pn**	**01 57 29.1**	**+0.4**
TWC				*i S*	**Sb**	**01 57 54.8**	**+0.8**
TWE	**Neicheng**	**1.88**	**21**⇓	*iP*	**Pb**	**01 57 31.1**	**-0.3**
TWE				*eS*	**Sg**	**01 57 56.6**	**-1.1**
EOS2	**EOS2**	**1.89**	**39**	*eP*	**Pn**	**01 57 29.2**	**+0.2**
NWLT	**Wulai**	**1.89**	**16**	*eP*	**Pn**	**01 57 30.2**	**+1.0**
NWLT				*eS*	**Sb**	**01 57 54.6**	**-0.5**
FUSB	**Fushanzhiwuyua**	**1.90**	**19**⇑	*iP*	**Pb**	**01 57 30.9**	**-0.8**
FUSB				*eS*	**Sg**	**01 57 57.4**	**-0.6**
ILA	**Ilan**	**1.95**	**23**	*eP*	**Pb**	**01 57 32.3**	**-0.3**
NCUH	**Zhongli**	**2.02**	**7**	*eP*	**Pn**	**01 57 32.1**	**+1.1**
TATO	**Taipei**	**2.08**	**14**		**Pn**	**01 57 32.1**	**+0.4**
TATO	**Taipei**	**2.08**	**14**	P	**Pb**	**01 57 35.3**	**+0.6**
TATO				S	**Sb**	**01 58 01.9**	**+1.5**
TATO	**Taipei**	**2.08**	**14**	P	**Pb**	**01 57 33.5**	**-1.2**
BACT	**New Taipei Cit**	**2.09**	**13**	*eP*	**Pn**	**01 57 32.7**	**+0.9**
EGS		**2.10**	**26**	*eP*	**Pn**	**01 57 33.4**	**+1.4**
TWA	**Mucha**	**2.10**	**17**	*eP*	**Pb**	**01 57 34.1**	**-1.0**
TAP	**Taipei**	**2.14**	**14**	*eP*	**Pn**	**01 57 32.7**	**+0.1**
TIPB	**Shuangxi**	**2.17**	**22**	*eP*	**Pn**	**01 57 34.0**	**+0.9**
TIPB				*eS*	**Sb**	**01 58 02.9**	**-0.3**
TWS1	**Kuangyinshan**	**2.18**	**12**	*eP*	**Pn**	**01 57 34.4**	**+1.2**
TWS1				*eS*	**Sb**	**01 58 04.2**	**+0.7**
WFSB	**Wu-fen Shan**	**2.25**	**20**	*eP*	**Pn**	**01 57 35.3**	**+1.2**
NTST	**Danshui**	**2.25**	**12**	*eP*	**Pn**	**01 57 35.6**	**+1.5**
YM01	**YM01**	**2.26**	**15**	*eP*	**Pn**	**01 57 35.1**	**+0.8**
TWB1	**Santiao Chiao**	**2.26**	**25**	*eP*	**Pn**	**01 57 35.3**	**+1.0**
TWB1				*eS*	**Sb**	**01 58 04.8**	**-1.1**
ZUZH	**Zhuzihu**	**2.27**	**14**	*eP*	**Pn**	**01 57 35.1**	**+0.7**
ZUZH				*eS*	**Sb**	**01 58 05.2**	**-0.8**
ANP	**Anpu**	**2.29**	**14**	*eP*	**Pn**	**01 57 36.0**	**+1.3**
SXI1	**Grass Mountain**	**2.30**	**22**	*eP*	**Pn**	**01 57 35.6**	**+0.7**
YM08	**YM08**	**2.30**	**15**	*eP*	**Pn**	**01 57 35.1**	**+0.2**
YM08				*eS*	**Sb**	**01 58 07.4**	**+0.4**
TNOU	**National Taiwa**	**2.32**	**19**	*eP*	**Pn**	**01 57 36.5**	**+1.5**
JYNG	**Yonaguni jima**	**2.38**	**51**	P	**Pn**	**01 57 35.8**	**-0.1**
JYNG	**Yonaguni jima**	**2.38**	**51**	A	A	01 57 35.8	
	comp=N,24nm,2.8s,comp=E,23nm,2.1s						
TWY	**Chenhua**	**2.39**	**15**	*eP*	**Pn**	**01 57 35.5**	**-0.5**
VWUC	**VWUC**	**2.43**	**327**	*eP*	**Pn**	**01 57 35.7**	**-0.9**
VWUC				*eS*	**Sn**	**01 58 05.8**	**-0.5**
YOJ	**Yonaguni jima**	**2.43**	**52**		**Pn**	**01 57 36.1**	**-0.5**
YOJ	**Yonaguni jima**	**2.43**	**52**	P	**Pn**	**01 57 36.5**	**-0.1**
YOJ	**Yonaguni jima**	**2.43**	**52**	S	**Sn**	**01 58 07.3**	**+1.0**
YOJ	**Yonaguni jima**	**2.43**	**52**	P	**Pn**	**01 57 36.1**	**-0.5**
YOJ	**Yonaguni jima**	**2.43**	**52**	P	**Pn**	**01 57 36.6**	**-0.1**
YOJ				*eS*	**Sn**	**01 58 06.7**	**+0.4**
YOJ	**Yonaguni jima**	**2.43**	**52**	A	A	01 57 36.6	
	comp=N,26nm,3.5s,comp=E,24nm,2.5s						
YOJ	**Yonaguni jima**	**2.43**	**52**	*eP*	**Pn**	**01 57 36.3**	**-0.3**
YOJ				*eS*	**Sn**	**01 58 06.7**	**+0.4**
PTMZ	**Houxiangcun**	**2.65**	**322**	*eP*	**Pn**	**01 57 38.0**	**-1.6**
KNM	**Kinmen**	**2.70**	**303**	*eP*	**Pn**	**01 57 40.2**	**-0.1**
KNMB	**Chin-men Tao**	**2.76**	**303**		**Pn**	**01 57 39.5**	**-1.6**
KNMB	**Chin-men Tao**	**2.76**	**303**	*eP*	**Pn**	**01 57 39.5**	**-1.6**
PCYT	**Pengchaiyu**	**2.86**	**21**	*eP*	**Pn**	**01 57 44.0**	**+1.5**
HATJ	**Hateruma jima**	**2.87**	**67**	*eP*	**Pn**	**01 57 41.1**	**-1.4**
HATJ	**Hateruma jima**	**2.87**	**67**	A	A	01 57 41.1	
	comp=N,26nm,3.9s,comp=E,23nm,4.1s						
QZH	**Quanzhou**	**2.91**	**313**	Pn	**Pn**	**01 57 41.8**	**-1.3**
QZH				Sn	**Sn**	**01 58 15.2**	**-2.8**
QZH				smax	smax		
	comp=E,4μm,1.0s						
QZH				smax	smax		
	comp=E,5μm,0.8s						
IRIF	**Iriomote-Funau**	**2.92**	**61**	A	A	01 57 40.1	
	comp=N,24nm,1.7s,comp=E,22nm,1.4s						
ZPLA	**Ao Xicun**	**3.07**	**289**	*eP*	**Pn**	**01 57 44.0**	**-1.4**
JKRS	**Kuro-shima**	**3.11**	**65**	*eP*	**Pn**	**01 57 45.1**	**-0.8**
JKRS	**Kuro-shima**	**3.11**	**65**	A	A	01 57 45.1	
	comp=N,30nm,3.8s,comp=E,25nm,4.5s						
JIJ	**Ishigaki jima**	**3.27**	**64**	A	A	01 57 44.9	
	comp=N,6.0nm,2.7s,comp=E,6.0nm,2.1s						
DSXP	**Dongshan**	**3.30**	**284**	*eP*	**Pn**	**01 57 47.5**	**-1.1**
MATB	**Ma-tsu**	**3.30**	**345**	*eP*	**Pn**	**01 57 47.2**	**-1.4**
AXDP	**Jialang**	**3.32**	**306**	*eP*	**Pn**	**01 57 47.4**	**-1.5**
JISG	**Ishigakijimahi**	**3.50**	**62**	A	A	01 57 48.4	
	comp=N,7.0nm,2.1s,comp=E,5.0nm,4.6s						
MHZQ	**Yeshan**	**3.57**	**332**	*eP*	**Pn**	**01 57 51.8**	**-0.5**
XPSS	**Dashiqiu**	**4.01**	**351**	*eP*	**Pn**	**01 57 56.5**	**-1.8**
JMJ	**Miyako jima 2**	**4.41**	**64**	P	**Pn**	**01 58 04.4**	**+0.6**
JMJ	**Miyako jima 2**	**4.41**	**64**	S	**Sn**	**01 58 55.5**	**+0.4**
JMJ2	**Miyako jima3**	**4.41**	**65**	A	A	01 58 00.9	
	comp=N,16nm,5.6s,comp=E,18nm,6.0s						
JOGS	**Gusukube**	**4.48**	**66**	A	A	01 58 01.9	
	comp=N,14nm,6.4s,comp=E,17nm,5.4s						
SXFK	**Yanhouchang**	**4.54**	**320**	*eP*	**Pn**	**01 58 03.9**	**-1.8**
SZP	**Santa**	**5.40**	**185**	P	**Pn**	**01 58 17.9**	**+0.5**
HKPS	**Hong Kong Po S**	**6.30**	**265**	Pn	**Pn**	**01 58 29.7**	**-0.2**
GZH	**Guangzhou**	**6.98**	**273**	Pn	Pn	01 58 33.6	-5.6
GZH				Sn	Sn	01 59 49.1	-9.4
GZH				smax	smax		
	comp=E,3μm,0.9s						
GZH				smax	smax		
	comp=E,2μm,1.1s						
JOW	**Kunigami**	**7.71**	**58**		**Pn**	**01 58 47.1**	**-2.1**
JOW	**Kunigami**	**7.71**	**58**	Pn	**Pn**	**01 58 46.0**	**-3.2**
	comp=E,9.6nm,0.3s,baz=222,slow=8.0,SNR=13						
JOW				Sn	**Sn**	**02 00 13.5**	**-3.0**
	comp=E,3.1nm,0.3s,baz=312,slow=26,SNR=1.6						
	comp=E,23nm,0.3s						
JOW	**Kunigami**	**7.71**	**58**	P	**Pn**	**01 58 46.8**	**-2.4**
SSE	**Sheshan**	**8.11**	**2**	P	**Pn**	**01 58 53.2**	**-1.4**
SSE				S	**Sn**	**02 00 26.9**	**+0.6**
SSE				pmax	pmax		
	comp=E,33nm,0.9s						
SSE				smax	smax		
	comp=E,310nm,1.0s						
SSE				smax	smax		
	comp=E,240nm,1.0s						
SSE				LR	LR		
	comp=E,2μm,5.9s						
TGY	**Tagaytay City**	**8.81**	**180**	Pn	**Pn**	**01 59 07.9**	**+3.5**
	comp=E,97nm,0.3s,baz=343,slow=18,SNR=5.2						
TGY				LR	LR	02 03 17.4	
	comp=E,4μm,19.2s,baz=360,slow=44						
CNSH	**ChangSha**	**8.89**	**307**	P	**Pn**	**01 59 02.4**	**-3.0**
CNSH				S	**Sn**	**02 00 37.9**	**-7.6**
CNSH				smax	smax		
	comp=E,950nm,1.7s						
CNSH				smax	smax		
	comp=E,1μm,1.4s						
CNSH				LR	LR		
	comp=E,11μm,7.8s						
CNSH				LR	LR		
	comp=E,11μm,6.5s						
CNSH				LR	LR		
	comp=E,10μm,9.7s						
NJ2	**Nanjing**	**9.24**	**349**	⇑P	**Pn**	**01 59 09.4**	**-0.8**
NJ2				sP		01 59 17.0	
NJ2				S	**Sn**	**02 00 55.8**	**+1.7**
NJ2				pmax	pmax		
	comp=E,410nm,0.7s						
NJ2				smax	smax		
	comp=E,2μm,1.0s						
NJ2				smax	smax		
	comp=E,2μm,1.2s						
NJ2				LR	LR		
	comp=E,20μm,7.5s						
NJ2				LR	LR		
	comp=E,47μm,8.4s						
NJ2				LR	LR		
	comp=E,30μm,8.9s						
WHN	**Wuhan**	**9.57**	**324**	P	**Pn**	**01 59 13.8**	**-0.8**
WHN				S	**Sn**	**02 00 57.1**	**-5.0**
WHN				LR	LR		
	comp=E,16μm,7.9s						
WHN				LR	LR		
	comp=E,16μm,7.9s						
WHN				LR	LR		
	comp=E,16μm,4.9s						
JMZ	**Minamidaito 2**	**9.81**	**71**	Pn	**Pn**	**01 59 19.2**	**+1.1**
GULI	**GuiLin**	**9.91**	**286**	P	**Pn**	**01 59 20.6**	**+1.1**
GULI				LR	LR		
	comp=E,5μm,9.0s						
GULI				LR	LR		
	comp=E,7μm,11.4s						
GULI				LR	LR		
	comp=E,8μm,11.4s						
QIZ	**Qiongzhong**	**11.06**	**251**	Pn	**Pn**	**01 59 36.0**	**+0.9**
QIZ	**Qiongzhong**	**11.06**	**251**	P	**Pn**	**01 59 36.6**	**+1.4**
QIZ				sP		01 59 42.6	
QIZ				S	**Sn**	**02 01 36.4**	**-2.5**
QIZ				pmax	pmax		
	comp=E,77nm,0.9s						
QIZ				LR	LR		
	comp=E,10μm,16.9s						
QIZ				LR	LR		
	comp=E,13μm,13.6s						
QIZ				LR	LR		
	comp=E,17μm,12.8s						
QIZ	**Qiongzhong**	**11.06**	**251**	P	**Pn**	**01 59 36.7**	**+1.5**
QIZ	**Qiongzhong**	**11.06**	**251**	S	**Sn**	**02 01 43.2**	**+4.3**
ENH	**Enshi**	**12.55**	**308**	P	**Pn**	**01 59 57.8**	**+2.2**
JNU	**Nakatsue**	**13.40**	**39**		**Pn**	**02 00 07.2**	**+0.1**
JNU	**Nakatsue**	**13.40**	**39**	Pn	**Pn**	**02 00 07.3**	**+0.2**
	comp=E,0.9nm,0.3s,baz=218,slow=19,SNR=3.9						
JNU				LR	LR	02 06 11.2	
	comp=E,2μm,20.8s,baz=220,slow=42						
	comp=E,11nm,0.9s						
JNU	**Nakatsue**	**13.40**	**39**	P	**Pn**	**02 00 08.1**	**+0.9**
GYA	**Guiyang**	**13.42**	**288**	P	**Pn**	**02 00 09.0**	**+1.5**
GYA				pmax	pmax		
	comp=E,38nm,1.0s						
GYA				LR	LR		
	comp=E,7μm,8.0s						
TIA	**Tai'an**	**13.61**	**347**	P	**Pn**	**02 00 10.4**	**+0.4**
TIA				pmax	pmax		
	comp=E,20nm,1.2s						
TIA				pmax	pmax		
	comp=E,430nm,7.4s						
TIA				LR	LR		
	comp=E,7μm,12.3s						
TIA				LR	LR		
	comp=E,6μm,9.8s						
TIA				LR	LR		
	comp=E,12μm,14.2s						
JTU	**Tsushima**	**13.71**	**31**	P	**Pn**	**02 00 14.1**	**+2.8**
LYN	**LuoYang**	**13.72**	**329**	⇑P	**Pn**	**02 00 12.3**	**+0.9**
LYN				pP	P	02 00 15.3	-4.8
LYN				PP		02 00 21.6	
LYN				S	**Sn**	**02 02 49.8**	**+6.1**
LYN				pmax	pmax		
	comp=E,20nm,0.4s						
LYN				pmax	pmax		
	comp=E,360nm,6.5s						
LYN				LR	LR		
	comp=E,11μm,10.3s						
LYN				LR	LR		
	comp=E,9μm,9.7s						
LYN				LR	LR		
	comp=E,8μm,12.0s						
TJN	**Taejon**	**14.49**	**21**	Pn	**Pn**	**02 00 21.6**	**-0.4**
TJN	**Taejon**	**14.49**	**21**	P	**Pn**	**02 00 23.1**	**+1.1**
TJN	**Taejon**	**14.49**	**21**	*i P*	**Pn**	**02 00 23.2**	**+1.2**
XAN	**Xi'an**	**15.25**	**319**	⇓P	**Pn**	**02 00 32.9**	**+0.5**
XAN				pP	P	02 00 38.6	+1.3
XAN				S	**Sn**	**02 03 23.7**	**+2.4**
XAN				pmax	pmax		
	comp=E,32nm,1.2s						
XAN				pmax	pmax		
	comp=E,650nm,6.4s						
XAN				LR	LR		
	comp=E,7μm,7.6s						
XAN				LR	LR		
	comp=E,6μm,8.2s						
XAN				LR	LR		
	comp=E,4μm,5.8s						
INCN	**Inchon**	**15.29**	**17**	Pn	**Pn**	**02 00 32.7**	**-0.1**
INCN				IAmb	IAmb	02 00 38.9	
	comp=Z,215nm,2.0s						
INCN	**Inchon**	**15.29**	**17**	P	**P**	**02 00 37.5**	**-0.1**
INCN	**Inchon**	**15.29**	**17**	P	**Pn**	**02 00 33.9**	**+1.1**
INCN	**Inchon**	**15.29**	**17**	P	**Pn**	**02 00 32.7**	**-0.1**
INCN				pmax	pmax		
	comp=Z,215nm,2.0s						
HNS	**HongShan**	**15.36**	**341**	⇑P	**Pn**	**02 00 34.5**	**+0.9**
HNS				*eS*	**Sn**	**02 03 22.7**	**-0.9**
HNS				SS	**S**	**02 03 38.7**	**-1.3**
HNS				pmax	pmax		
	comp=Z,54nm,1.0s						
HNS				pmax	pmax		
	comp=Z,810nm,4.5s						
HNS				LR	LR		
	comp=Z,6μm,13.0s						
HNS				LR	LR		
	comp=Z,9μm,11.8s						
HNS				LR	LR		
	comp=Z,9μm,12.7s						
KSRS	**Korea Array**	**15.66**	**21**	Pn	**Pn**	**02 00 38.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=22						
KSRS				LR	LR	02 07 13.6	
	comp=Z,2μm,20.3s,baz=205,slow=40						
	comp=Z,45nm,1.1s						
KS19	**Wonju Array Si**	**15.68**	**21**	Pn	**Pn**	**02 00 37.0**	**-0.9**
SLVN	**Son La**	**15.85**	**267**	Pn	**Pn**	**02 00 40.5**	**+0.3**
SLVN	**Son La**	**15.85**	**267**	P	**P**	**02 00 42.4**	**-1.6**
DL2	**Dalian**	**15.91**	**2**	P	**P**	**02 00 46.6**	**+2.2**
DL2				pmax	pmax		
	comp=Z,130nm,1.5s						
DL2				pmax	pmax		
	comp=Z,750nm,7.1s						
DL2				LR	LR		
	comp=Z,10μm,11.4s						
DL2				LR	LR		
	comp=Z,3μm,11.4s						
DL2				LR	LR		
	comp=Z,11μm,11.1s						
DLV	**Lat**	**16.13**	**229**	Pn	**Pn**	**02 00 42.9**	**-1.1**
DLV	**Lat**	**16.13**	**229**	P	**Pn**	**02 00 45.0**	**+1.0**
TIY	**Taiyuan**	**16.42**	**336**	*eP*	**P**	**02 00 51.8**	**+1.6**
TIY				S	**Sn**	**02 03 55.1**	**+5.5**
TIY				SS	**SnSn**	**02 04 12.8**	**+10**
TIY				pmax	pmax		
	comp=Z,78nm,0.8s						
TIY				pmax	pmax		
	comp=Z,340nm,4.3s						
TIY				LR	LR		
	comp=Z,10μm,12.7s						
TIY				LR	LR		
	comp=Z,6μm,12.1s						
TIY				LR	LR		
	comp=Z,11μm,12.1s						
DAV	**Davao City (W)**	**16.42**	**163**	LR	LR	02 07 26.8	
	comp=Z,2μm,21.5s,baz=338,slow=39						
KMI	**Kunming**	**16.75**	**281**	P	**P**	**02 00 53.3**	**-0.8**
KMI				S	**S**	**02 04 05.1**	**-3.9**
KMI				pmax	pmax		
	comp=Z,40nm,0.9s						
KMI				pmax	pmax		
	comp=Z,230nm,4.7s						
KMI				LR	LR		
	comp=Z,3μm,8.1s						
KMI				LR	LR		
	comp=Z,2μm,8.3s						
KMI				LR	LR		
	comp=Z,3μm,12.9s						
CD2	**Chengdu**	**17.22**	**301**	P	**P**	**02 00 59.1**	**0.0**
CD2				S	**Sn**	**02 04 13.3**	**+4.2**
CD2				pmax	pmax		
	comp=Z,80nm,1.0s						
CD2				LR	LR		
	comp=Z,10μm,5.1s						
CD2				LR	LR		
	comp=Z,9μm,10.4s						
NONG	**Nongkai**	**17.34**	**257**	P	**P**	**02 01 01.2**	**+0.7**
KKM	**Kota Kinabalu**	**17.42**	**196**	P	**P**	**02 01 00.9**	**-0.5**
KKM				IAmb	IAmb	02 01 08.1	
	comp=Z,459nm,2.0s						
KKM	**Kota Kinabalu**	**17.42**	**196**	P	**Pn**	**02 01 00.0**	**-0.1**
BJT	**Baijiatuau**	**17.48**	**348**		**Pn**	**02 01 00.7**	**0.0**
BJT	**Baijiatuau**	**17.48**	**348**	P	**P**	**02 01 04.6**	**+2.8**
BJT	**Baijiatuau**	**17.48**	**348**	P	**Pn**	**02 01 00.7**	**0.0**
BJT				pmax	pmax		
	comp=Z,43nm,0.8s						
BJI	**Beijing**	**17.50**	**348**	P	**P**	**02 01 01.7**	**-0.3**
BJI				S	**Sn**	**02 04 15.9**	**+0.3**
BJI				pmax	pmax		
	comp=Z,28nm,0.8s						
BJI				pmax	pmax		
	comp=Z,440nm,6.7s						
BJI				LR	LR		
	comp=Z,1μm,13.5s						
BJI				LR	LR		
	comp=Z,3μm,13.3s						
BJI				LR	LR		
	comp=Z,2μm,14.8s						
PZH	**PanZhiHua**	**17.77**	**285**	P	**P**	**02 01 06.8**	**+1.4**
PZH				S	**S**	**02 04 26.9

comp=Z,4μm,9.6s
LZH LR LR
comp=Z,4μm,8.6s
LZH LR LR
comp=Z,5μm,9.8s
BTO Baotou 19.86 335 *e*P **Pn 02 01 30.8 +1.1**
BTO pP **sP 02 01 34.7 +0.9**
BTO sP **pP 02 01 37.8 +5.8**
BTO PP **PnPn 02 01 47.0 +3.3**
BTO SS SS 02 05 40.1
BTO pmax pmax
comp=Z,44nm,1.0s
BTO pmax pmax
comp=Z,650nm,3.9s
BTO LR LR
comp=Z,15μm,13.5s
BTO LR LR
comp=Z,6μm,12.2s
BTO LR LR
comp=Z,12μm,10.0s
MAJO Matsushiro 20.17 44 P 02 01 30.7 -0.7
MAJO IAmb IAmb 02 01 36.9
comp=Z,109nm,0.9s
MAJO Matsushiro 20.17 44 P Pn 02 01 32.7 -0.6
MAJO Matsushiro 20.17 44 P **P 02 01 29.8 -1.6**
MAJO pmax pmax
comp=Z,110nm,0.9s
MJB9 Matsu-Tunnel 20.17 44 P **P 02 01 30.7 -0.8**
MJB9 IAmb IAmb 02 01 37.8
comp=Z,102nm,0.9s
MJAR Matsushiro Arr 20.17 44 P **P 02 01 31.7 +0.3**
comp=Z,94nm,0.9s,baz=228,slow=8.2,SNR=60
MJAR LR LR 02 09 57.0
comp=Z,1μm,20.7s,baz=222,slow=39
comp=Z,94nm,0.9s
NAYO Nakonayok 20.45 249 P Pn 02 01 36.8 +0.1
TNCH TengChong 20.57 280 P **P 02 01 34.9 -1.1**
TNCH pP Pn 02 01 37.5 -0.8
TNCH PP **PnPn 02 01 54.0 +0.4**
TNCH S **S 02 05 28.0 +1.9**
TNCH pmax pmax
comp=Z,170nm,0.5s
TNCH pmax pmax
comp=Z,390nm,2.7s
TNCH LR LR
comp=Z,3μm,8.4s
TNCH LR LR
comp=Z,3μm,7.7s
TNCH LR LR
comp=Z,3μm,12.8s
CHTO Chiang Mai 20.94 263 **P 02 01 41.1 +1.2**
CHTO Chiang Mai 20.94 263 P Pn 02 01 41.4 -1.1
CHTO Chiang Mai 20.94 263 P Pn 02 01 42.1 -0.4
CHTO Chiang Mai 20.94 263 P **P 02 01 41.1 +1.2**
CHTO pmax pmax
comp=Z,57nm,1.2s
CM31 Chiang Mai Arr 21.03 262 P **P 02 01 42.4 +1.4**
SNR=16
CMAR Chiang Mai Arr 21.03 262 P **P 02 01 41.2 +0.3**
CMAR Chiang Mai Arr 21.03 262 P **P 02 01 42.2 +1.3**
comp=Z,15nm,0.7s,baz=68,slow=8.9,SNR=68
CMAR PcP **PcP 02 05 48.2 +0.3**
comp=Z,5.4nm,0.7s,baz=54,slow=0.8,SNR=17
CMAR LR LR 02 11 21.2
comp=Z,2μm,19.0s,baz=70,slow=41
comp=Z,15nm,0.7s
CN2 Changchun 21.12 9 *e*P **P 02 01 43.7 +2.0**
CN2 *e*S **S 02 05 35.4 -1.1**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,400nm,9.0s
CN2 LR LR
comp=Z,3μm,12.0s
CN2 LR LR
comp=Z,3μm,12.0s
CN2 LR LR
comp=Z,4μm,12.0s
XLT XiLinHaoTe 21.27 350 *e*P **P 02 01 43.6 +0.3**
XLT sP sP 02 01 55.3 +6.2
XLT PP **PnPn 02 02 09.2 +6.2**
XLT S **S 02 05 38.8 -0.7**
XLT pmax pmax
comp=Z,63nm,1.3s
XLT LR LR
comp=Z,340nm,13.6s
XLT LR LR
comp=Z,2μm,11.1s
XLT LR LR
comp=Z,4μm,12.8s
PSTR Posyet 21.29 20 *i*P **P 02 01 43.5 0.0**
MSHR Mys Shultsa 21.34 21 *ce*P **P 02 01 42.9 -1.1**
MSHR pmax pmax
comp=Z,43nm,1.3s
TOLI2 Tolitoli 21.72 180 P **P 02 01 48.2 0.0**
TOLI2 IAmb IAmb 02 01 53.2
comp=Z,208nm,1.2s
TOLI2 Tolitoli 21.72 180 P **P 02 01 49.2 +1.0**
SBUM Sibu 22.06 204 P **P 02 01 50.9 -1.1**
SBUM Sibu 22.06 204 P **P 02 01 52.8 +0.8**
SRDT SRDT 22.34 251 P **P 02 01 56.7 +1.8**
MRSI Marisa 22.37 177 P **P 02 01 58.7 +3.5**
comp=Z,3μmcomp=Z,183nm,1.1s
KMSI Cibinong 22.45 172 P **P 02 01 57.6 +1.5**
MPSI Mapaga 22.51 183 P **P 02 01 57.5 +0.8**
comp=Z,1μmcomp=Z,78nm,1.2s
JMM Marumori 22.61 44 P **P 02 01 55.8 -1.9**
JMM IAmb IAmb 02 02 00.1
comp=Z,97nm,0.9s
JMM Marumori 22.61 44 P **P 02 01 56.4 -1.3**
MDJ Mudanjiang 22.75 16 P **P 02 01 59.5 +0.4**
MDJ S **S 02 06 05.6 -2.0**
MDJ pmax pmax
comp=Z,29nm,0.9s
MDJ pmax pmax
comp=Z,630nm,5.7s
MDJ LR LR
comp=Z,4μm,14.8s
MDJ LR LR
comp=Z,6μm,15.1s
MDJ LR LR
comp=Z,3μm,12.4s
MDJ Mudanjiang 22.75 16 P **P 02 01 59.9 +0.8**
TNTI Ternate 22.93 163 IAmb IAmb 02 02 04.5
comp=Z,100nm,1.0s
TNTI Ternate 22.93 163 P **P 02 02 01.7 +0.5**
TNTI Ternate 22.93 163 P **P 02 02 02.8 +1.6**
comp=Z,123nm,1.6s
USA0B Ussuriysk Arra 23.06 21 *i*P **P 02 02 00.2 -2.2**
USRK Ussuriysk Ar. 23.06 21 P **P 02 02 02.1 -0.2**
comp=Z,13nm,0.7s,baz=203,slow=9.2,SNR=15
USRK LR LR 02 11 42.1
comp=Z,1μm,20.9s,baz=194,slow=38
comp=Z,13nm,0.7s
BNX BinXian 23.33 12 ⇑P **P 02 02 04.8 -0.3**
BNX S **S 02 06 12.1 -5.4**
BNX pmax pmax
comp=Z,10.0nm,0.6s
BNX pmax pmax
comp=Z,410nm,8.2s
BNX LR LR
comp=Z,2μm,10.6s
BNX LR LR
comp=Z,1μm,12.1s
BNX LR LR
comp=Z,3μm,10.8s
SMKI Samarinda 23.54 189 P P 02 02 15.1 +7.7
KSM Kuching 23.71 207 P **P 02 02 07.8 -1.3**
KSM IAmb IAmb 02 02 14.6
comp=Z,164nm,1.6s
KSM Kuching 23.71 207 P **P 02 02 10.5 +1.4**
APSI Ampana 23.73 178 P **P 02 02 10.4 +1.1**
comp=Z,6μmcomp=Z,426nm,1.2s
PCI Palu 23.74 183 P **P 02 02 12.0 +2.6**
comp=Z,108nm,0.5s
LUWI Luwuk 23.92 175 P **P 02 02 11.5 +0.4**
LUWI Luwuk 23.92 175 P **P 02 02 10.7 -0.4**
comp=Z,6μmcomp=Z,387nm,1.2s
GTA Gaotai 24.30 317 P **P 02 02 15.6 +1.0**
GTA PcP **PcP 02 05 55.6 +1.2**
GTA S **S 02 06 38.8 +5.3**
GTA pmax pmax
comp=Z,50nm,1.2s
GTA pmax pmax
comp=Z,460nm,6.2s
GTA LR LR
comp=Z,2μm,10.2s
GTA LR LR
comp=Z,830nm,10.9s
GTA LR LR
comp=Z,2μm,13.8s
BKB Balikpapan 24.39 190 P **P 02 02 15.5 +0.1**
BKB Balikpapan 24.39 190 P **P 02 02 19.3 +3.9**
comp=Z,5μmcomp=Z,345nm,1.1s
STKI Sintang 24.54 203 P **P 02 02 18.9 +2.1**
comp=Z,45nm,0.4s
GUMO Guam 24.54 108 LR LR 02 10 57.4
comp=Z,814nm,19.6s,baz=302,slow=35
SRIT Nakonsritamara 24.94 238 IAmb IAmb 02 02 24.3
comp=Z,147nm,1.7s
SRIT Nakonsritamara 24.94 238 P **P 02 02 22.8 +2.3**
SANI Sanana 25.34 168 P **P 02 02 21.8 -2.2**
SANI Sanana 25.34 168 P **P 02 02 21.3 -2.7**
comp=Z,2μmcomp=Z,193nm,1.0s
SWI Sorong 25.73 156 P **P 02 02 28.1 +0.6**
comp=Z,53nm,1.0s
GOMU GeErMu 26.16 306 P **P 02 02 31.3 -0.5**
GOMU PcP **PcP 02 05 59.5 +0.6**
GOMU S **S 02 07 05.7 +1.9**
GOMU pmax pmax
comp=Z,38nm,1.3s
GOMU pmax pmax
comp=Z,390nm,4.1s
GOMU LR LR
comp=Z,5μm,10.3s
GOMU LR LR
comp=Z,6μm,11.5s
GOMU LR LR
comp=Z,9μm,10.9s
HIA Hailar 26.27 358 P **P 02 02 31.1 -1.1**
HIA IAmb IAmb 02 02 35.1
comp=Z,52nm,1.3s
HIA Hailar 26.27 358 P **P 02 02 32.9 +0.7**
HIA Hailar 26.27 358 P **P 02 02 31.1 -1.1**
HIA pmax pmax
comp=Z,52nm,1.3s
KULM Kulim 26.29 231 P **P 02 02 33.5 +0.8**
KULM IAmb IAmb 02 02 36.4
comp=Z,101nm,1.5s
KULM Kulim 26.29 231 P **P 02 02 35.2 +2.5**
ERM Erimo 26.57 39 P **P 02 02 33.6 -1.3**
ERM IAmb IAmb 02 02 43.2
comp=Z,39nm,0.9s
ERM Erimo 26.57 39 P **P 02 02 36.6 +1.7**
ERM Erimo 26.57 39 P **P 02 02 33.6 -1.3**
ERM pmax pmax
comp=Z,39nm,1.0s
JEM Erimo 26.57 39 P **P 02 02 36.6 +1.7**
SHL Shillong 26.58 282 P **P 02 02 34.1 -1.3**
SHL IAmb IAmb 02 02 39.6
comp=Z,89nm,1.2s
SHL PcP **PcP 02 05 59.8 -0.1**
SHL Shillong 26.58 282 P **P 02 02 35.4 0.0**
SNR=27
MYKOM Kota Tinggi 26.78 221 IAmb IAmb 02 02 45.6
comp=Z,45nm,1.0s
MYKOM Kota Tinggi 26.78 221 P **P 02 02 38.8 +1.7**
BRDH Bariadhala 26.97 275 LR LR 02 14 07.7
comp=Z,684nm,19.8s,baz=118,slow=38
ULN Ulaanbaatar 27.21 339 P **P 02 02 40.9 0.0**
ULN Ulaanbaatar 27.21 339 P **P 02 02 41.2 +0.3**
ULN S **S 02 07 22.9 +3.1**
ULN Ulaanbaatar 27.21 339 *ce*P **P 02 02 41.2 +0.3**
ULN pmax pmax
comp=Z,18nm,1.3s
SONM Songino Array 27.41 338 P **P 02 02 42.1 -0.5**
SONM Songino Array 27.41 338 P **P 02 02 42.5 -0.1**
comp=Z,15nm,1.0s,baz=158,slow=9.1,SNR=18
SONM PcP **PcP 02 06 01.1 -0.3**
comp=Z,1.3nm,0.7s,baz=143,slow=2.9,SNR=3.2
SONM ScP **ScP 02 09 41.6 -0.2**
comp=Z,2.2nm,1.0s,baz=154,slow=4.1,SNR=4.7
SONM LR LR 02 14 52.7
comp=Z,3μm,18.6s,baz=148,slow=39
comp=Z,15nm,1.0s
LSA Lhasa 27.46 290 P **P 02 02 45.3 +1.6**
LSA pmax pmax
comp=Z,25nm,1.1s
LSA Lhasa 27.46 290 P **P 02 02 44.1 +0.4**
LSA Lhasa 27.46 290 P **P 02 02 45.5 +1.8**
KLR Kul'dur 27.58 15 *ce*P **P 02 02 43.0 -1.0**
KLR pmax pmax
comp=Z,11nm,0.8s
ASAJ Asahikawa 27.63 35 LR LR 02 14 13.3
comp=Z,2μm,20.4s,baz=228,slow=38
ASAJ Asahikawa 27.63 35 P **P 02 02 43.1 -1.4**
ASAJ pmax pmax
comp=Z,41nm,1.0s
JKA Kamikawa-asahi 27.63 35 P **P 02 02 43.1 -1.4**
JKA IAmb IAmb 02 02 47.6
comp=Z,41nm,1.0s
HEH HeiHe 27.71 9 *e*P **P 02 02 47.9 +2.7**
HEH pP **sP 02 02 52.7 +1.8**
HEH S **S 02 07 32.9 +5.7**
HEH pmax pmax
comp=Z,14nm,1.2s
HEH pmax pmax
comp=Z,640nm,7.1s
HEH LR LR
comp=Z,4μm,13.0s
HEH LR LR
comp=Z,1μm,12.1s
HEH LR LR
comp=Z,4μm,12.7s
KAPI Kappang 27.82 182 P **P 02 02 45.3 -1.1**
KAPI IAmb IAmb 02 03 08.4
comp=Z,58nm,1.2s
KAPI Kappang 27.82 182 P **P 02 02 45.4 -1.1**
comp=Z,7.6nm,0.4s,baz=338,slow=2.7,SNR=8.0
KAPI LR LR 02 16 02.3
comp=Z,485nm,20.1s,baz=16,slow=41
comp=Z,7.6nm,0.4s
KAPI Kappang 27.82 182 P **P 02 02 47.7 +1.3**
KAPI Kappang 27.82 182 P **P 02 02 45.3 -1.1**
KAPI pmax pmax
comp=Z,59nm,1.2s
BBSI Bau Bau 28.32 177 P P 02 02 57.4 +6.6
TPI Tanjungpandan 28.65 209 P **P 02 02 55.7 +1.9**
comp=Z,860nmcomp=Z,52nm,1.4s
TSI Tuntungan 29.02 231 P P 02 03 03.1 +5.9
PSI Prapat 29.25 230 LR LR 02 14 41.4
comp=Z,934nm,18.9s,baz=29,slow=36
PSI Prapat 29.25 230 P **P 02 03 01.7 +2.3**
PSI Prapat 29.25 230 P **P 02 02 59.9 +0.5**
PSI 02 06 05.7
PSI pmax pmax
comp=Z,46nm,1.2s
RPSI Rantau Prapat 29.33 230 P **P 02 02 59.9 0.0**
RPSI IAmb IAmb 02 03 03.6
comp=Z,46nm,1.2s
RPSI PcP **PcP 02 06 05.7 -0.8**
CIT Chita 29.57 351 *e*P **P 02 03 01.4 -0.3**
CIT *e* 02 03 10.4
CIT *e* 02 03 55.4
CIT *e* 02 04 08.2
CIT *e* 02 06 06.8
CIT pmax pmax
comp=Z,91nm,2.5s
YSS Yuzhno-Sakhali 29.70 31 P **P 02 03 01.9 -1.0**
YSS IAmb IAmb 02 03 05.8
comp=Z,66nm,1.0s
YSS Yuzhno-Sakhali 29.70 31 P **P 02 03 04.8 +2.0**
YSS Yuzhno-Sakhali 29.70 31 *e*P **P 02 03 03.7 +0.9**
YSS *e*S **S 02 07 59.7 +1.3**
YSS pmax pmax
comp=Z,60nm,1.2s
YSS pmax pmax
comp=Z,400nm,4.5s
YSS MLR MLR
comp=Z,900nm,15.0s
YSS MLR MLR
comp=N,1μm,12.0s
MLSI Meulaboh, Aceh 30.12 236 P **P 02 03 09.6 +2.7**
comp=N,96nm,1.3s
BSI Banda Aceh 30.21 239 P **P 02 03 10.5 +2.8**
comp=N,716nmcomp=N,41nm,1.5s
MNSI Mandailing Nat 30.25 226 P **P 02 03 09.3 +1.2**
comp=N,81nm,0.9s
ZAK Zakamensk 30.65 338 *e*P **P 02 03 10.1 -1.3**
ZAK *e* 02 06 08.3
ZAK pmax pmax
comp=Z,10.0nm,1.3s
ZAK pmax pmax
comp=Z,7.0nm,1.4s
PPI Padang Panjang 30.67 223 P **P 02 03 13.6 +1.9**
comp=Z,17μmcomp=Z,972nmcomp=Z,39nm,1.2s
ZEA Zeya 31.11 7 *e*P **P 02 03 15.0 -0.2**
ZEA *e* 02 04 28.3
ZEA *e* 02 08 14.6
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=N,2μm,11.0s
ZEA MLR MLR
comp=Z,1μm,12.0s
GSI Gunungsitoli 31.26 230 P **P 02 03 18.8 +1.8**
GSI Gunungsitoli 31.26 230 P **P 02 03 18.0 +1.0**
comp=Z,2μmcomp=Z,24nm,0.9s
MMRI Maumere 31.43 178 P **P 02 03 17.3 -1.1**
MMRI Maumere 31.43 178 P **P 02 03 19.5 +1.1**
MMRI Maumere 31.43 178 P **P 02 03 18.1 -0.3**
comp=Z,90nm,1.3s
EDFI Ende, Flores 31.52 179 P **P 02 03 17.9 -1.4**
MDSI Maura Dua 31.80 213 P **P 02 03 23.6 +1.9**
comp=Z,75nm,1.2s
JAY Jayapura 31.83 140 LR LR 02 13 51.5
comp=Z,830nm,21.5s,baz=330,slow=32
IRK Irkutsk 31.91 341 *e*P **P 02 03 20.9 -1.5**
IRK pmax pmax
comp=Z,38nm,2.1s
SISI Saibi 32.17 224 P **P 02 03 26.2 +1.3**
comp=Z,34nm,0.9s
LWLI Liwa 32.32 213 P P 02 03 32.2 +5.8
MOY Mondy 32.53 337 *e*P **P 02 03 26.6 -1.3**
MOY pmax pmax
comp=Z,46nm,2.1s
TYV Tymovskoe 32.58 26 *e*P **P 02 03 28.3 +0.1**
TYV pmax pmax
comp=Z,400nm,3.9s
TYV pmax pmax
comp=Z,15nm,1.4s
SOEI Soe 32.68 174 P **P 02 03 29.5 0.0**
BBJI Bungbulang 32.90 205 P **P 02 03 32.8 +1.4**
WMQ Urumqi 34.34 315 *e*P **P 02 03 45.3 +1.6**
WMQ sP sP 02 03 54.0 +4.3
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ LR LR
comp=Z,1μm,11.1s
WMQ LR LR
comp=Z,1μm,13.7s
WMQ LR LR
comp=Z,440nm,15.3s
TABU Tabubil 34.36 142 P **P 02 03 45.0 +0.8**
ZSN Zaisan 37.76 319 *e*P **P 02 04 13.0 +0.1**
ZSN pmax pmax
comp=Z,27nm,1.6s
ZSN Zaisan 37.76 319 *e*P **P 02 04 13.1 +0.1**
comp=Z,27nm,1.6s
SKR Severo-Kuril's 38.89 36 *ce*P **P 02 04 21.3 -1.0**
MK31 Makanchi Array 39.06 317 P **P 02 04 23.4 -0.5**
MK31 Makanchi Array 39.06 317 P **P 02 04 23.4 -0.5**
MK31 pmax pmax
comp=Z,25nm,0.9s
MKAR Makanchi Array 39.06 317 P **P 02 04 23.6 -0.2**
MKAR PcP **PcP 02 06 33.4 -0.4**
MKAR ScP **S 02 10 23.2 +0.3**
MKAR Makanchi Array 39.06 317 P **P 02 04 24.3 +0.5**
comp=Z,12nm,0.9s,baz=110,slow=10,SNR=64
MKAR PcP **PcP 02 06 33.7 0.0**
comp=Z,10.0nm,0.8s,baz=95,slow=4.7,SNR=7.6
MKAR ScP **S 02 10 24.2 +1.3**
comp=Z,4.3nm,1.1s,baz=106,slow=6.4,SNR=8.3
MKAR LR LR 02 23 26.5
comp=Z,295nm,20.4s,baz=108,slow=41
comp=Z,12nm,0.9s
KNRA Kununurra 39.16 168 IAmb IAmb 02 04 23.8
comp=Z,60nm,1.1s
KNRA Kununurra 39.16 168 P **P 02 04 22.8 -2.0**
comp=Z,52nm,1.0s
MAKZ Makanchi 39.26 317 P **P 02 04 25.2 -0.4**
MAKZ IAmb IAmb 02 04 34.3
comp=Z,42nm,1.0s
MAKZ ScP **S 02 10 25.0 -1.0**
MAKZ Makanchi 39.26 317 P **P 02 04 25.2 -0.4**
MAKZ 02 10 25.0
MAKZ pmax pmax
comp=Z,42nm,1.0s
PATS Pohnpei 39.37 108 P **P 02 04 26.8 0.0**
comp=Z,164nm,1.4s
YAK Yakutsk 39.51 6 LR LR 02 22 15.3
comp=Z,683nm,18.3s,baz=186,slow=38
YAK Yakutsk 39.51 6 *e*P **P 02 04 26.5 -0.8**
YAK *e* 02 05 57.7
YAK *e* 02 06 33.5
YAK *e*S **S 02 10 30.0 +0.8**
YAK *e*SS **SS 02 13 12.9 -11**
YAK *e* 02 14 36.6
YAK pmax pmax
comp=Z,26nm,1.2s
YAK pmax pmax
comp=N,19nm,1.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,372nm,7.8s
YAK pmax pmax
comp=N,247nm,7.1s
YAK pmax pmax
comp=E,221nm,7.7s
YAK smax smax
comp=N,120nm,4.3s
YAK smax smax
comp=E,86nm,4.6s
YAK MLR MLR
comp=Z,2μm,29.0s
YAK MLR MLR
comp=N,1μm,20.0s
YAK MLR MLR
comp=E,270nm,20.0s
SHLS Shalkode 39.66 311 *e*P **P 02 04 26.2 -2.9**
SHLS Shalkode 39.66 311 *e*P **P 02 04 26.3 -2.9**
PDGK Podgornoye 39.69 311 P **P 02 04 28.8 -0.6**
UZB Uzynbulak 39.97 310 *e*P **P 02 04 31.5 -0.1**
UZB Uzynbulak 39.97 310 *e*P **P 02 04 31.6 -0.1**
HYB Hyderabad 40.04 270 *e*P **P 02 04 33.2 +0.8**
SATY Saty 40.38 310 *e*P **P 02 04 34.7 -0.3**
SATY Saty 40.38 310 *e*P **P 02 04 34.8 -0.3**
ZHN Zhinishke 40.38 310 *e*P **P 02 04 34.7 -0.4**
ZHN Zhinishke 40.38 310 *e*P **P 02 04 34.7 -0.4**
PEA0B Petropavlovsk- 41.02 33 *i*P **P 02 04 36.8 -3.2**
PETK Petropavlovsk- 41.02 33 P **P 02 04 38.4 -1.6**
PETK Petropavlovsk- 41.02 33 P **P 02 04 39.5 -0.5**
comp=E,11nm,0.8s,baz=227,slow=5.9,SNR=9.3
PETK LR LR 02 22 52.7
comp=E,873nm,20.1s,baz=225,slow=38
comp=E,11nm,0.8s
PETK Petropavlovsk- 41.02 33 P **P 02 04 38.4 -1.6**
FITZ Fitzroy Crossi 41.06 173 P **P 02 04 38.3 -2.4**
FITZ Fitzroy Crossi 41.06 173 P **P 02 04 38.9 -1.8**
ZAA0 Zalesovo Array 41.15 328 P **P 02 04 40.6 -0.4**
ZAA0 IAmb IAmb 02 04 47.4
comp=Z,56nm,0.9s
ZALV Zalesovo Beam 41.15 328 P **P 02 04 41.0 0.0**
ZALV Zalesovo Beam 41.15 328 P **P 02 04 40.8 -0.2**
comp=Z,16nm,0.6s,baz=111,slow=8.1,SNR=65
ZALV PcP **PcP 02 06 40.9 +0.6**
comp=Z,4.0nm,0.9s,baz=98,slow=5.0,SNR=2.3
ZALV ScP **ScP 02 10 31.1 +1.1**
comp=Z,0.5nm,0.5s,baz=145,slow=5.3,SNR=1.4
ZALV LR LR 02 21 33.9
comp=Z,3μm,19.3s,baz=152,slow=36
comp=Z,16nm,0.6s
MDOK Medeo 41.36 310 *e*P **P 02 04 43.0 -0.1**
MDOK Medeo 41.36 310 *e*P **P 02 04 43.1 -0.1**
KSH Kashi 41.37 304 P **P 02 04 46.7 +3.4**
KSH S **S 02 11 06.6 +8.6**
KSH SS **SS 02 14 04.9 +3.1**
KSH pmax pmax
comp=Z,21nm,1.4s
KSH pmax pmax
comp=Z,250nm,5.8s
KSH LR LR

comp=Z,850nm,11.5s
KSH LR LR
comp=Z,1µm,13.6s
KSH LR LR
comp=Z,2µm,13.7s
TNSS Tian-Shan 41.40 310 *e*P **P 02 04 43.4 -0.4**
TNSS Tian-Shan 41.40 310 *e*P **P 02 04 43.5 -0.4**
PET Petropavlovsk 41.46 34 P **P 02 04 43.4 -0.2**
PET Petropavlovsk 41.46 34 P **P 02 04 44.5 +0.9**
PET Petropavlovsk 41.46 34 *e*P **P 02 04 40.3 -3.3**
PET *e*S **S 02 10 52.9 -5.6**
PET pmax pmax
comp=Z,101nm,1.2s
PET MLR MLR
comp=Z,900nm,12.0s
PET MLR MLR
comp=Z,600nm,16.0s
AAA Alma-Ata 41.47 310 *e*P **P 02 04 43.8 -0.1**
AAA pmax pmax
comp=Z,31nm,1.2s
AAA Alma-Ata 41.47 310 *e*P **P 02 04 43.9 -0.1**
comp=Z,31nm,1.2s
PALK Pallekele 41.67 254 P **P 02 04 44.8 -1.1**
PALK Pallekele 41.67 254 LR LR 02 24 30.9
comp=Z,668nm,18.3s,baz=64,slow=40
PALK Pallekele 41.67 254 P **P 02 04 47.0 +1.2**
PALK P **P 02 04 47.0 +1.2**
PALK Pallekele 41.67 254 P **P 02 04 44.8 -1.1**
PALK pmax pmax
comp=Z,23nm,1.1s
ULHL Ulahol 41.72 308 P **P 02 04 47.4 +1.2**
SNR=30
BOOM Boomskoye usch 41.99 309 P **P 02 04 48.2 -0.2**
BOOM PcP **PcP 02 06 44.2 +0.7**
BOOM Boomskoye usch 41.99 309 P **P 02 04 48.2 -0.2**
BOOM 02 06 44.2
BOOM pmax pmax
comp=Z,9.0nm,0.9s
MA2 Magadan 42.21 22 P **P 02 04 49.9 +0.3**
MA2 PcP **PcP 02 06 43.5 -0.2**
MA2 Magadan 42.21 22 LR LR 02 22 27.4
comp=Z,635nm,19.7s,baz=202,slow=36
MA2 Magadan 42.21 22*ce*P **P 02 04 49.0 -0.6**
MA2 pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 42.34 309 P **P 02 04 52.4 +1.2**
SNR=30
TKM2 Tokmak 2 42.34 309 *i* P **P 02 04 50.8 -0.4**
TKM2 pmax pmax
comp=Z,36nm,1.1s
COEN Coen 42.67 147 P **P 02 04 52.4 -1.5**
COEN IAmb IAmb 02 04 53.7
comp=Z,74nm,0.8s
COEN Coen 42.67 147 P **P 02 04 52.6 -1.4**
comp=Z,105nm,1.3s
COEN Coen 42.67 147 P **P 02 04 52.9 -1.0**
H11N1 WAKE ISLAND Hy 42.81 85 T T 02 50 18.6
baz=282,slow=75,SNR=44
H11N2 WAKE ISLAND Hy 42.81 85 T T 02 50 18.8
baz=282,slow=75,SNR=57
H11N3 WAKE ISLAND Hy 42.83 85 T T 02 50 19.5
baz=282,slow=75,SNR=45
KURK Kurchatov 42.88 321 P **P 02 04 55.1 -0.1**
KURK IAmb IAmb 02 05 01.0
comp=Z,39nm,1.1s
KURK Kurchatov 42.88 321 P **P 02 04 53.9 -1.4**
KURK Kurchatov 42.88 321 *i* P **P 02 04 54.6 -0.6**
KURK pmax pmax
comp=Z,48nm,1.1s
KURBB Kurchatov Arra 42.90 321 P **P 02 04 55.4 0.0**
comp=Z,24nm,1.1s,baz=120,slow=7.4,SNR=68
KURBB PcP **PcP 02 06 45.0 -1.1**
comp=Z,0.5nm,0.3s,baz=114,slow=2.8,SNR=6.5
KURBB LR LR 02 23 14.7
comp=Z,325nm,21.1s,baz=174,slow=37
comp=Z,24nm,1.1s
H11S3 WAKE ISLAND Hy 42.91 87 T T 02 50 12.6
baz=284,slow=75,SNR=19
H11S1 WAKE ISLAND Hy 42.92 87 T T 02 50 23.8
baz=284,slow=75,SNR=40
H11S2 WAKE ISLAND Hy 42.92 87 T T 02 50 24.4
baz=284,slow=75,SNR=54
UCH Uchtor 42.97 308 P **P 02 04 58.9 +2.3**
SNR=6.2
NIL Nilore 42.97 295 P **P 02 04 56.4 +0.1**
NIL IAmb IAmb 02 05 01.6
comp=Z,60nm,0.8s
NIL Nilore 42.97 295 P **P 02 04 56.9 +0.6**
NIL Nilore 42.97 295 P **P 02 04 56.4 +0.1**
NIL pmax pmax
comp=Z,60nm,0.8s
AAK Ala-Archa 43.06 308 P **P 02 04 57.1 0.0**
AAK Ala-Archa 43.06 308 LR LR 02 24 30.6
comp=Z,598nm,18.6s,baz=101,slow=38
AAK Ala-Archa 43.06 308 P **P 02 04 58.2 +1.1**
AAK Ala-Archa 43.06 308 P **P 02 04 58.3 +1.2**
SNR=13
AAK Ala-Archa 43.06 308 *i* P **P 02 04 57.7 +0.6**
AAK pmax pmax
comp=Z,16nm,1.0s
AAK Ala-Archa 43.06 308 *i* P **P 02 04 57.9 +0.8**
SNR=14
SGDS Sogindy 43.15 310 *e*P **P 02 04 57.3 -0.3**
SGDS Sogindy 43.15 310 *e*P **P 02 04 57.3 -0.3**
USP Ospenovka 43.20 309 P **P 02 04 58.9 +0.8**
SNR=15
AML Almayashu 43.55 308 P **P 02 05 02.8 +1.5**
SNR=40
EKS2 Erkin-Say 43.59 308 P **P 02 05 02.9 +1.6**
SNR=9.2
MBWA Marble Bar 43.87 182 P **P 02 05 02.6 -0.9**
MBWA Marble Bar 43.87 182 P **P 02 05 01.8 -1.6**
comp=Z,36nm,1.1s
MBWA Marble Bar 43.87 182 P **P 02 05 03.8 +0.4**
PSAD1 Pilbara Seismi 44.16 181 P **P 02 05 04.3 -1.5**
comp=Z,85nm,1.3s
PSAC1 Pilbara Seismi 44.23 181 P **P 02 05 05.0 -1.4**
comp=Z,96nm,1.1s
PSA00 Pilbara Seismi 44.27 181 P **P 02 05 05.6 -1.1**
PSA00 IAmb IAmb 02 05 08.3
comp=Z,45nm,1.1s
PSA00 Pilbara Seismi 44.27 181 IAmb IAmb 02 05 08.3
comp=Z,142nm,1.3s
PSA00 Pilbara Seismi 44.27 181 P **P 02 05 05.1 -1.6**
comp=Z,92nm,1.4s
PSA00 Pilbara Seismi 44.27 181 P **P 02 05 05.4 -1.3**
WRAB Tennant Creek 44.60 162 P **P 02 05 07.5 -1.8**
WRAB IAmb IAmb 02 05 08.3
comp=Z,23nm,0.8s
WRAB Tennant Creek 44.60 162 P **P 02 05 07.6 -1.8**
WRAB pmax pmax
comp=Z,23nm,0.8s
WRA Warramunga Arr 44.61 162 P **P 02 05 06.7 -2.7**
WRA Warramunga Arr 44.61 162 P **P 02 05 07.5 -1.9**
comp=Z,17nm,0.7s,baz=344,slow=8.7,SNR=92
WRA PcP **PcP 02 06 51.2 -1.1**
comp=Z,3.6nm,0.8s,baz=337,slow=3.7,SNR=3.6
WRA S **S 02 11 43.1 -2.2**
comp=Z,1.2nm,1.1s,baz=356,slow=19,SNR=3.8
comp=Z,17nm,0.7s
WRA Warramunga Arr 44.61 162 *i* P **P 02 05 07.0 -2.4**
WRA pmax pmax
comp=Z,18nm,0.6s
WB2 Warramunga Arr 44.61 162 IAmb IAmb 02 05 11.2
comp=Z,30nm,0.8s
WR0 Warramunga Arr 44.68 162 IAmb IAmb 02 05 08.8
comp=Z,22nm,0.7s
SEY Seymchan 45.21 20*ce*P **P 02 05 15.2 +1.5**
SEY pmax pmax
comp=Z,12nm,1.7s
DZA Taraz 45.40 308 *e*P **P 02 05 15.5 -0.1**
DZA pmax pmax
comp=Z,8.0nm,0.6s
DZA Taraz 45.40 308 *e*P **P 02 05 15.5 -0.1**
comp=Z,8.2nm,0.6s
GIRL Giralia 45.79 189 P **P 02 05 18.9 +0.1**
GIRL Giralia 45.79 189 P **P 02 05 19.0 +0.3**
comp=Z,176nm,1.3s
GIRL Giralia 45.79 189 P **P 02 05 20.0 +1.2**
OTUK Ortayu 45.89 316 P **P 02 05 19.0 -0.4**
KK31 Karatay Array 46.03 308 P **P 02 05 20.1 -0.4**
KK31 IAmb IAmb 02 05 22.5
comp=Z,25nm,1.1s
KK31 PcP **PcP 02 06 57.1 +0.1**
KK31 Karatay Array 46.03 308 *i* P **P 02 05 20.4 -0.2**
KKAR Karatay Array 46.03 308 P **P 02 05 20.9 +0.3**
KKAR PcP **PcP 02 06 57.2 +0.2**
KKAR ScP **ScP 02 10 50.1 -0.1**
KKAR Karatay Array 46.03 308 P **P 02 05 20.5 -0.1**
KKAR IAmb IAmb 02 05 22.5
comp=Z,26nm,1.1s
KKAR PcP **PcP 02 06 56.9 -0.1**
KKAR Karatay Array 46.03 308 P **P 02 05 20.9 +0.3**
KKAR 02 06 57.2
BRZS Berezniki 46.17 318 *e*P **P 02 05 21.5 -0.1**
BRZS Berezniki 46.17 318 *e*P **P 02 05 21.5 -0.1**
IUG Iuzhnay 46.24 307 *e*P **P 02 05 21.9 -0.4**
IUG pmax pmax
comp=Z,30nm,1.2s
IUG Iuzhnay 46.24 307 *e*P **P 02 05 21.9 -0.4**
comp=Z,30nm,1.2s
KBL Kabul 46.48 296 P **P 02 05 24.4 -0.1**
KBL Kabul 46.48 296 P **P 02 05 24.3 -0.2**
SNR=22
KBL Kabul 46.48 296 P **P 02 05 24.4 -0.1**
KBL pmax pmax
comp=Z,64nm,1.3s
BRLS Borolday 46.51 308 *e*P **P 02 05 24.7 +0.4**
BRLS pmax pmax
comp=Z,12nm,1.4s
BRLS Borolday 46.51 308 *e*P **P 02 05 24.8 +0.4**
comp=Z,12nm,1.4s
CHM Chimkent 46.57 307 *e*P **P 02 05 24.6 -0.3**
CHM pmax pmax
comp=Z,25nm,1.3s
CHM Chimkent 46.57 307 *e*P **P 02 05 24.7 -0.3**
comp=Z,25nm,1.3s
SIMJ Simiganj 46.65 302 P **P 02 05 25.5 -0.2**
SIMJ IAmb IAmb 02 05 43.7
comp=Z,21nm,1.1s
MTSU Mount Surprise 46.81 149 P **P 02 05 26.6 -0.3**
comp=Z,47nm,0.9s
MTSU Mount Surprise 46.81 149 P **P 02 05 26.6 -0.3**
QIS Mount Isa 46.94 156 P **P 02 05 26.4 -1.5**
comp=Z,72nm,1.0s
QIS Mount Isa 46.94 156 P **P 02 05 26.9 -0.9**
AS15 Alice Springs 48.01 164 P **P 02 05 34.8 -1.3**
comp=Z,18nm,0.8s
AS31 Alice Springs 48.03 164 P **P 02 05 35.2 -1.2**
ASAR Alice Springs 48.03 164 P **P 02 05 35.1 -1.3**
ASAR Alice Springs 48.03 164 P **P 02 05 34.8 -1.6**
comp=Z,7.7nm,0.7s,baz=334,slow=6.1,SNR=51
ASAR PcP **PcP 02 07 02.9 -1.4**
comp=Z,10.0nm,1.1s,baz=337,slow=3.6,SNR=5.1
ASAR ScP **ScP 02 10 57.6 -1.1**
comp=Z,3.7nm,1.1s,baz=344,slow=3.6,SNR=7.5
ASAR S **S 02 12 32.6 -1.9**
comp=Z,1.8nm,1.0s,baz=358,slow=22,SNR=8.3
ASAR LR LR 02 26 47.8
comp=Z,137nm,18.5s,baz=352,slow=37
comp=Z,7.7nm,0.7s
AS01 Alice Springs 48.04 164 P **P 02 05 35.5 -0.9**
WRKA Warakurna 48.24 171 P **P 02 05 36.6 -1.3**
comp=Z,85nm,1.0s
WRKA Warakurna 48.24 171 P **P 02 05 36.7 -1.3**
BVA0 Borovoye Array 48.47 321 *i* P **P 02 05 38.7 -0.8**
BVAR Borovoye Array 48.47 321 P **P 02 05 40.0 +0.5**
comp=Z,9.9nm,0.8s,baz=108,slow=9.5,SNR=50
BVAR PcP **PcP 02 07 04.9 -0.6**
comp=Z,8.5nm,1.0s,baz=116,slow=3.4,SNR=5.3
BVAR ScP **ScP 02 11 01.0 +0.8**
comp=Z,1.2nm,0.7s,baz=97,slow=3.7,SNR=3.8
BVAR LR LR 02 29 37.2
comp=Z,323nm,19.7s,baz=101,slow=40
comp=Z,9.9nm,0.8s
BRVK Borovoye 48.54 321 P **P 02 05 39.9 -0.1**
BRVK IAmb IAmb 02 05 41.8
comp=Z,38nm,1.1s
BRVK Borovoye 48.54 321 P **P 02 05 39.3 -0.7**
BRVK Borovoye 48.54 321 *i* P **P 02 05 39.6 -0.4**
BRVK pmax pmax
comp=Z,43nm,1.2s
TIXI Tiksi 48.93 3 P **P 02 05 40.8 -1.8**
TIXI IAmb IAmb 02 06 02.8
comp=Z,35nm,1.5s
TIXI Tiksi 48.93 3 LR LR 02 26 21.8
comp=Z,746nm,18.2s,baz=204,slow=36
TIXI Tiksi 48.93 3 *i* P **P 02 05 39.9 -2.7**
TIXI pmax pmax
comp=Z,18nm,1.2s
TATA Tatamba Isabel 49.18 125 P **P 02 05 45.5 +0.2**
MEEK Meekatharra 49.35 183 P **P 02 05 44.9 -1.6**
comp=Z,75nm,1.1s
MEEK Meekatharra 49.35 183 P **P 02 05 44.9 -1.6**
SAVO Savo Central 49.67 126 P **P 02 05 49.9 +0.8**
SHEM Shemya Is, Ala 49.92 40 LR LR 02 29 26.1
comp=Z,113nm,18.5s,baz=283,slow=39
HNR Honiara 49.96 126 LR LR 02 24 51.8
comp=Z,193nm,20.2s,baz=305,slow=34
NRIK Noril'sk 50.52 345 P **P 02 05 54.1 -0.7**
NRIK IAmb IAmb 02 05 57.6
comp=Z,44nm,0.9s
NRIK Noril'sk 50.52 345 P **P 02 05 54.0 -0.7**
comp=Z,36nm,0.9s,baz=129,slow=6.5,SNR=29
comp=Z,36nm,0.9s
NRIK Noril'sk 50.52 345*ce*P **P 02 05 54.2 -0.7**
NRIK pmax pmax
comp=Z,53nm,1.0s
KAAM Kaadhehdhoo 51.62 251 P **P 02 06 06.8 +2.9**
MORW Morawa 51.94 185 P **P 02 06 04.7 -1.2**
comp=Z,27nm,1.1s
MORW Morawa 51.94 185 P **P 02 06 04.6 -1.3**
OOD Oodnadatta 52.43 163 P **P 02 06 08.6 -1.0**
BILL Bilibino 52.91 20 P **P 02 06 11.7 -1.0**
BILL IAmb IAmb 02 07 22.1
comp=Z,20nm,0.8s
BILL Bilibino 52.91 20*ce*P **P 02 06 12.6 -0.1**
BILL pmax pmax
comp=Z,25nm,1.3s
BLDU Ballidu 53.42 185 P **P 02 06 14.9 -1.9**
comp=Z,35nm,1.9s
FORT Forrest 53.87 172 P **P 02 06 18.9 -1.2**
comp=Z,163nm,1.1s
FORT Forrest 53.87 172 P **P 02 06 19.9 -0.2**
INKA Innaminka 53.92 158 P **P 02 06 21.6 +1.1**
KMBL Kambalda 54.02 179 P **P 02 06 19.0 -2.3**
comp=Z,58nm,1.1s
KMBL Kambalda 54.02 179 P **P 02 06 20.8 -0.5**
AB31 Akbulak array 54.13 315 *i* P **P 02 06 21.5 -0.4**
ABKAR Akbulak array 54.13 315 P **P 02 06 21.4 -0.5**
ABKAR PcP **PcP 02 07 25.6 -1.0**
ABKAR Akbulak array 54.13 315 IAmb IAmb 02 06 29.8
comp=Z,42nm,1.1s
ABKAR PcP **PcP 02 07 25.6 -1.0**
QLP Quilpie 54.17 154 P **P 02 06 21.2 -1.2**
comp=Z,41nm,1.0s
QLP Quilpie 54.17 154 P **P 02 06 21.6 -0.8**
NGCH Negor - Chabah 54.20 285 P **P 02 06 21.7 -1.2**
KLBR Kellerberrin 54.32 183 P **P 02 06 22.2 -1.2**
comp=Z,91nm,0.9s
KLBR Kellerberrin 54.32 183 P **P 02 06 23.0 -0.5**
SVE Sverdlovsk 54.89 324*c* *i* P **P 02 06 28.0 +0.7**
SVE pmax pmax
comp=Z,80nm,1.4s
SVE MLR MLR
comp=Z,618nm,13.0s
LUES Luesalemba Tem 55.29 122 P **P 02 06 31.6 +0.8**
AKTO Aktyubinsk 55.48 316 LR LR 02 32 33.1
comp=Z,446nm,18.2s,baz=47,slow=38
AKTO Aktyubinsk 55.48 316 P **P 02 06 31.0 -0.8**
LCRK Leigh Creek 55.64 162 P **P 02 06 32.2 -0.8**
NWAO Narrogin (SRO) 55.68 184 P **P 02 06 32.4 -0.9**
NWAO Narrogin (SRO) 55.68 184 P **P 02 06 32.3 -0.9**
NWAO Narrogin (SRO) 55.68 184 P **P 02 06 34.5 +1.3**
NWAO Narrogin (SRO) 55.68 184 P **P 02 06 32.4 -0.9**
NWAO pmax pmax
comp=Z,53nm,1.2s
ARTI Arti 56.03 323 P **P 02 06 35.0 -0.6**
ARTI IAmb IAmb 02 06 42.0
comp=Z,36nm,0.9s
ARTI Arti 56.03 323 LR LR 02 32 00.4
comp=Z,466nm,18.6s,baz=98,slow=38
ARTI Arti 56.03 323*d* *i* P **P 02 06 35.3 -0.3**
ARTI 02 07 36.3
ARTI 02 08 42.0
ARTI S **S 02 14 26.2 +2.5**
ARTI SS **SS 02 18 10.8 +1.3**
ARTI pmax pmax
comp=Z,36nm,1.0s
JLN Jalan Bani Buh 56.43 282 P **P 02 06 39.6 +0.6**
JLN P **P 02 06 39.6 +0.6**
WBK Wadi Bani Khal 56.72 283 P **P 02 06 42.3 +1.2**
WBK P **P 02 06 42.3 +1.2**
WSAR Wadi Sarin 56.88 284 P **P 02 06 43.4 +1.2**
SNR=5.4
BIDO Bidbid 57.27 284 P **P 02 06 46.1 +1.2**
SNR=7.8
BBOO Buckleboo 57.31 165 P **P 02 06 43.5 -1.3**
comp=Z,81nm,1.2s
BBOO Buckleboo 57.31 165 P **P 02 06 43.9 -0.9**
RKGY Rocky Gully 57.37 184 P **P 02 06 45.6 +0.4**
comp=Z,22nm,1.4s
SMDO Samad 57.44 283 P **P 02 06 47.1 +0.8**
SNR=5.3
SMDO P **P 02 06 47.1 +0.8**
SNR=5.3
JMDO Jabal Madar 57.55 283 P **P 02 06 47.9 +0.9**
JMDO P **P 02 06 47.9 +0.9**
WHYH Whyalla 57.90 163 P **P 02 06 48.4 -0.6**
HOQ Hoqain 57.98 284 P **P 02 06 50.3 +0.3**
SNR=8.5
HOQ P **P 02 06 50.3 +0.3**
SNR=8.5
STKA Stephens Creek 58.00 159 P **P 02 06 48.6 -1.2**
STKA Stephens Creek 58.00 159 P **P 02 06 48.6 -1.2**
comp=Z,84nm,0.9s
STKA Stephens Creek 58.00 159 P **P 02 06 48.5 -1.2**
comp=Z,16nm,0.9s,baz=340,slow=7.4,SNR=19
STKA LR LR 02 34 43.3
comp=Z,110nm,18.2s,baz=3.2,slow=39
comp=Z,16nm,0.9s
STKA Stephens Creek 58.00 159 P **P 02 06 48.7 -1.1**
STKA Stephens Creek 58.00 159 P **P 02 06 48.6 -1.2**
STKA pmax pmax
comp=Z,99nm,1.1s
MHTO MHTO 58.01 281 P **P 02 06 49.8 -0.4**
MHTO P **P 02 06 49.8 -0.4**
BSY Bisya 58.28 283 P **P 02 06 52.8 +0.7**
BSY P **P 02 06 52.8 +0.7**
TW1H Toowoomba 1 Ha 58.48 148 P **P 02 06 53.8 +0.5**
SOHO SOHO 58.55 285 P **P 02 06 55.0 +1.0**
SOHO P **P 02 06 55.0 +1.0**
SOHO SOHO 58.55 285 P **P 02 06 54.9 +1.0**
MASF Masafi 58.61 287 P **P 02 06 56.2 +1.8**
MASF P **P 02 06 56.2 +1.8**
MSFE Esma-Masafi 58.62 287 *i* P **P 02 06 55.8 +1.4**
SNR=8.8
HTT Hallett 58.64 162 P **P 02 06 53.4 -0.9**
comp=Z,6.5nm,1.3s
HTT Hallett 58.64 162 P **P 02 06 53.5 -0.8**
UOSS Minazif 58.66 286 P **P 02 06 54.5 -0.2**
UOSS Minazif 58.66 286 P **P 02 06 54.9 +0.1**
UOSS P **P 02 06 54.9 +0.1**
UOSS Minazif 58.66 286 P **P 02 06 54.8 +0.1**
DQM DQM 58.67 280 P **P 02 06 55.0 +0.2**
ARQ Araqi 58.74 284 P **P 02 06 56.3 +1.0**
SNR=6.7
ARQ P **P 02 06 56.3 +1.0**
SNR=6.7
HATD Hatta, Dubai 58.76 286 P **P 02 06 57.0 +1.6**
SNR=7.2
HATD P **P 02 06 57.0 +1.6**
SNR=7.2
HATD Hatta, Dubai 58.76 286 *i* P **P 02 06 56.7 +1.3**
SNR=8.5
ASHO Ashiyiah 58.85 286 P **P 02 06 57.1 +1.1**
SNR=8.1
ASHO P **P 02 06 57.1 +1.1**
SNR=8.1
ASHO Ashiyiah 58.85 286 *i* P **P 02 06 57.0 +0.9**
SNR=14
NAZ Nazwa, Dubai 59.13 286 P **P 02 06 58.5 +0.6**
SNR=6.1
NAZ Nazwa, Dubai 59.13 286 *i* P **P 02 06 59.0 +1.0**
SNR=9.8
CMSA Cobar Meteorol 59.15 155 P **P 02 06 57.6 -0.2**
comp=Z,91nm,1.2s
CMSA Cobar Meteorol 59.15 155 P **P 02 06 57.7 -0.1**
FAQ Al Faqa, Dubai 59.25 286 P **P 02 06 59.6 +0.8**
ALNE Al Ain 59.27 285 P **P 02 06 60.0 +1.1**
SNR=10
ALNE P **P 02 06 60.0 +1.1**
SNR=10
ALNE Al Ain 59.27 285 P **P 02 06 59.8 +0.9**
ASUD Al Ashush, Dub 59.51 286 P **P 02 07 01.8 +1.2**
SNR=5.7
ASUD P **P 02 07 01.8 +1.2**
SNR=5.7
ASUD Al Ashush, Dub 59.51 286 *i* P **P 02 07 02.0 +1.4**
SNR=7.0
SPIA Saint Paul Isl 59.57 36 P **P 02 07 00.2 -0.2**
baz=266
GAMB Gambell 59.67 28 P **P 02 07 00.8 -0.2**
baz=260
P08K Saint George I 59.91 37 P **P 02 07 01.6 -1.1**
baz=266
NIKH Nikolski High 60.17 41 P **P 02 07 04.2 -0.4**
baz=269
KOUNC Koumac, New Ca 60.49 132 P **P 02 07 03.7 +0.1**
ARMA Armidale 60.71 150 P **P 02 07 08.7 +0.1**
comp=Z,31nm,1.4s
ARMA Armidale 60.71 150 P **P 02 07 08.9 +0.2**
KIRV Kirov 61.08 325 LR LR 02 35 49.2
comp=Z,597nm,19.8s,baz=96,slow=38
KIRV Kirov 61.08 325*ce*P **P 02 07 11.0 +0.3**
MZR Muzera 61.54 285 P **P 02 07 14.9 +0.4**
SNR=6.3
MZR P **P 02 07 14.9 +0.4**
SNR=6.3
MZR Muzera 61.54 285 *i* P **P 02 07 14.9 +0.4**
SNR=14
TNA Tin City 61.54 27 P **P 02 07 12.7 -1.0**
baz=263
UNV Unalaska Valle 61.58 40 P **P 02 07 14.1 -0.1**
baz=270
M11K Mekoryuk 61.88 33 P **P 02 07 15.9 -0.1**
baz=267
DOK Doka 62.12 280 P **P 02 07 18.1 -0.3**
DOK P **P 02 07 18.1 -0.3**
F14K Arctic Creek 62.19 27 P **P 02 07 18.4 +0.3**
baz=264
RBK Rabkut 62.38 278 P **P 02 07 21.0 +0.8**
SNR=6.0
RBK P **P 02 07 21.0 +0.8**
SNR=6.0
ANM Nome 62.52 28 P **P 02 07 20.2 -0.1**
baz=266
ARPS Mount Arapiles 62.60 161 P **P 02 07 20.2 -1.0**
comp=Z,66nm,0.8s
ARPS Mount Arapiles 62.60 161 P **P 02 07 21.0 -0.1**
WHFO Wadi Hawf 62.65 279 P **P 02 07 22.0 0.0**
WHFO P **P 02 07 22.0 0.0**
K13K Kusilvak Mount 62.69 31 P **P 02 07 21.2 -0.3**
baz=268
MAK Makhachkala 62.84 308*c* *i* P P 02 07 17.7 -5.1
MAK *e*PPP PPP 02 11 07.8
MAK *e*S **S 02 15 44.6 -7.5**
MAK *e*SS **SS 02 20 01.1 +4.3**
MAK pmax pmax
comp=Z,223nm,1.2s
SLWR Sila 62.87 286 P **P 02 07 24.0 +0.7**
SLWR P **P 02 07 24.0 +0.7**
C16K Lisburne Hills 62.87 24 P **P 02 07 21.9 -0.7**
baz=264,SNR=6.9
F15K North Star Dit 62.91 27 P **P 02 07 22.3 -0.6**
baz=266
DZM Mont Dzumac 62.99 132 P **P 02 07 23.5 -0.6**
DZM Mont Dzumac 62.99 132 *e*P **P 02 07 22.8 -1.4**
comp=Z,80nm,1.1s
DZM *e*S **S 02 15 55.1 +0.5**
comp=Z,78nm,25.9s
DZM Mont Dzumac 62.99 132 *e*LR LR 02 26 09.8
comp=Z,527nm,23.2s
DZM Mont Dzumac 62.99 132 P **P 02 07 24.5 +0.3**
G15K Niukluk 63.12 27 P **P 02 07 23.3 -1.0**
baz=267
TRNA Turayna 63.12 287 P **P 02 07 25.8 +0.8**
J14K Nanvaranak Lak 63.23 30 P **P 02 07 25.1 0.0**
baz=268
ABTO Aybut 63.25 279 P **P 02 07 27.1 +1.0**
SNR=7.2
ABTO P **P 02 07 27.1 +1.0**
SNR=7.2
YATNC Mamie plateau, 63.29 132 P **P 02 07 26.6 +0.6**
M13K Dall Lake 63.29 33 P **P 02 07 25.6 +0.1**
baz=270
RIV Riverview 63.39 152 P **P 02 07 26.9 +0.5**

comp=Z,94nm,1.6s
SAKB Bahrain 63.42 289 P P 02 07 27.6 +0.6
SMRA Abu-Samra 63.46 287 P P 02 07 27.8 +0.6
SNR=5.7
OUENC Ouen Island, N 63.50 132 P P 02 07 27.8 +0.4
L14K Kuka Creek 63.62 32 P P 02 07 28.1 +0.4
baz=270
D17K Noatak River 63.67 24 P P 02 07 27.8 -0.1
baz=266
C17K DeLong Mountai 63.69 24 P P 02 07 28.1 0.0
baz=266
RDOG Red Dog Mine 63.76 24 P P 02 07 27.5 -1.0
baz=266
CAN Canberra 63.78 155 P P 02 07 28.8 -0.3
comp=Z,37nm,1.1s
CAN Canberra 63.78 155 P P 02 07 29.6 +0.5
G16K Koyuk River 63.84 27 P P 02 07 28.6 -0.4
baz=268
H16K Elim 63.87 28 P P 02 07 29.4 +0.1
baz=269
CNB Canberra Magne 63.92 154 P P 02 07 29.7 -0.4
comp=Z,52nm,0.9s
CNB Canberra Magne 63.92 154 P P 02 07 30.3 +0.3
M14K Bethel 63.98 32 P P 02 07 30.1 +0.1
baz=271
E17K Hotham Inlet 64.12 25 P P 02 07 31.1 +0.3
baz=268
N14K Kuskokwak Cree 64.13 33 P P 02 07 30.5 -0.5
baz=271
K15K Wolf Creek Mou 64.17 30 P P 02 07 31.3 +0.1
baz=270
L15K Ungalak Mounta 64.19 31 P P 02 07 31.3 -0.2
baz=271
B18K Kokolik River 64.24 23 P P 02 07 31.0 -0.6
baz=267,SNR=18
O14K Tigyukauivet M 64.36 34 P P 02 07 32.0 -0.5
baz=272
C18K Utukok River 64.42 23 P P 02 07 32.6 -0.4
baz=268
TOO Toolangi 64.50 159 P P 02 07 33.6 -0.1
TOO IAmb IAmb 02 07 35.0
comp=Z,26nm,1.1s
TOO Toolangi 64.50 159 P P 02 07 33.3 -0.4
comp=Z,24nm,1.0s
TOO Toolangi 64.50 159 P P 02 07 33.6 -0.1
TOO pmax pmax
comp=Z,26nm,1.1s
I17K Unalakleet 64.54 29 P P 02 07 33.7 +0.1
baz=270
A19K Wainwright 64.54 22 P P 02 07 33.3 -0.2
baz=267
G17K Kiwalik Mounta 64.56 27 P P 02 07 33.8 0.0
baz=270
J16K Anvik River 64.58 29 P P 02 07 33.6 -0.4
baz=271
M15K Kasigluk River 64.60 32 P P 02 07 33.5 -0.6
baz=272
E18K Tukpahlearik C 64.61 25 P P 02 07 34.0 -0.1
baz=269
H17K Granite Mounta 64.87 28 P P 02 07 35.8 0.0
baz=270
N15K Kwethluk River 64.92 33 P P 02 07 35.9 -0.3
baz=273
F18K Selawik 64.97 26 P P 02 07 36.6 +0.2
baz=270
SDPT Sand Point 65.02 38 P P 02 07 36.0 -0.9
baz=275
O15K Ungalikthiuk R 65.11 34 P P 02 07 36.3 -1.1
baz=273
L16K Owhat River 65.15 31 IAmb IAmb 02 08 40.8
comp=Z,58nm,1.9s
L16K Owhat River 65.15 31 P P 02 07 36.9 -0.7
baz=272
J17K VABM Dome 65.27 29 P P 02 07 37.5 -1.0
baz=272
G18K Tagagawik 65.38 26 P P 02 07 38.7 -0.5
baz=271
M16K Timber Creek 65.43 32 P P 02 07 39.0 -0.6
baz=273
S14K Fog Glacier 65.46 37 P P 02 07 39.7 -0.2
baz=275
H18K Honhosa River 65.52 27 P P 02 07 39.6 -0.5
baz=272
D19K Kuna River 65.55 24 P P 02 07 40.4 +0.2
baz=270
N16K Nishlik Lake 65.56 32 P P 02 07 40.6 +0.2
baz=274
CHNA Chernabura Isl 65.57 39 P P 02 07 40.3 -0.2
baz=276
K17K Iditarod 65.65 30 P P 02 07 41.1 +0.2
baz=273
L17K Donlin 65.69 31 P P 02 07 41.5 +0.4
baz=273
GOF Gofitskoye 65.75 311 *ce*P P 02 07 42.9 +1.0
VRH Novokhopyorsk 65.79 317 ⇓ *i*P P 02 07 41.7 -0.3
VRH pmax pmax
comp=Z,58nm,1.0s
B20K Meade River 65.88 22 P P 02 07 42.3 +0.1
baz=271
E19K Redstone River 65.91 25 P P 02 07 42.5 0.0
baz=272,SNR=18
O16K Kokwok River B 65.96 33 P P 02 07 43.0 0.0
baz=275
G19K Purcell Mounta 66.01 26 P P 02 07 43.8 +0.5
baz=272
A21K Barrow 66.04 20 P P 02 07 43.1 -0.1
baz=271
KBZ Khabaz 66.06 309 P P 02 07 44.6 +0.7
comp=Z,18nm,0.8s,baz=90,slow=5.4,SNR=46
KBZ LR LR 02 40 31.0
comp=Z,329nm,18.2s,baz=66,slow=40
comp=Z,18nm,0.8s
KBZ Khabaz 66.06 309 *ce*P P 02 07 43.9 0.0
KBZ pmax pmax
comp=Z,31nm,1.0s
P16K Nushagak River 66.06 34 P P 02 07 43.6 0.0
baz=275
KLMR Klimovskoe 66.07 328 *e*P P 02 07 39.7 -3.9
KLMR pmax pmax
comp=Z,103nm,1.3s
KLMR MLR MLR
comp=Z,905nm,14.0s
CHGN Chignik 66.09 37 P P 02 07 43.8 -0.1
baz=276
D20K Etivluk River 66.10 23 P P 02 07 43.6 -0.1
baz=272,SNR=23
M17K Holitna River 66.14 31 P P 02 07 43.7 -0.5
baz=274
KIV Kislovodsk 66.17 309 P P 02 07 45.0 +0.2
KIV Kislovodsk 66.17 309 P P 02 07 46.3 +1.5
KIV Kislovodsk 66.17 309 ⇓ P P 02 07 45.5 +0.8
KIV Kislovodsk 66.17 309 *e*P P 02 07 43.7 -1.1
KIV *e*S S 02 16 33.9 +0.4
KIV pmax pmax
comp=Z,48nm,1.1s
KIV pmax pmax
comp=Z,53nm,3.3s
KIV Kislovodsk 66.17 309 *i* P P 02 07 45.9 +1.2
SNR=10
GCSA Galena City Sc 66.17 28 P P 02 07 44.1 -0.1
baz=273
SHA1 Shidzhatmaz 66.23 309 *e*P P 02 07 46.4 +1.1
E20K Nigu River 66.27 24 P P 02 07 45.1 +0.1
baz=272
H19K Roundabout Mou 66.31 27 P P 02 07 45.3 +0.2
baz=273
J18K Innoko River 66.33 29 P P 02 07 45.4 +0.1
baz=274
N17K Nushagak Hills 66.34 32 P P 02 07 45.4 0.0
baz=275
L18K Granite Mounta 66.43 30 P P 02 07 45.8 -0.2
baz=275
O17K Koliganek Bris 66.45 33 P P 02 07 46.0 -0.1
baz=275
F20K Avaraart Lake 66.51 25 P P 02 07 46.6 +0.2
baz=273,SNR=6.3
A22K Sinclair Lake 66.58 21 P P 02 07 47.3 +0.5
baz=272
TTA Tatalina 66.69 30 P P 02 07 47.8 +0.2
baz=275
C21K Knifeblade Rid 66.74 23 P P 02 07 47.9 +0.1
baz=273,SNR=12
J19K Poorman 66.77 28 P P 02 07 48.0 -0.1
baz=275
B21K Ikpikpuk River 66.77 22 P P 02 07 48.0 0.0
baz=273,SNR=25
Q16K King Salmon 66.78 34 P P 02 07 48.0 -0.2
baz=276

P17K Kvichak River 66.84 34 P P 02 07 48.8 +0.2
baz=276
M18K Stony River 66.91 31 P P 02 07 49.0 0.0
baz=276
GEVA Gevas 66.93 303 IAmb IAmb 02 07 54.1
comp=Z,25nm,0.9s
H20K Anotleneega Mo 66.96 27 P P 02 07 48.8 -0.5
baz=275
E21K Killik River 67.08 24 P P 02 07 49.7 -0.4
baz=274,SNR=29
B22K Teshekpuk Lake 67.14 21 P P 02 07 49.9 -0.4
baz=274,SNR=30
I20K Naaghedeneel 67.19 28 P P 02 07 49.9 -0.8
baz=276
Q17K Contact Creek 67.23 35 P P 02 07 50.2 -1.1
baz=277
VORR Voronezh 67.28 318 *e*P P 02 07 49.9 -1.6
VORR pmax pmax
comp=Z,30nm,1.0s
L19K White Mountain 67.29 30 P P 02 07 51.3 -0.2
baz=276
LPSR Galich'ya Gora 67.31 319 ⇓ *i*P P 02 07 51.5 -0.2
LPSR pmax pmax
comp=Z,76nm,1.8s
VORD Divnogorie 67.34 317 *e*P P 02 07 47.3 -4.6
VORD pmax pmax
comp=Z,8.0nm,1.0s
F21K Alatna River 67.37 25 P P 02 07 51.5 -0.4
baz=275
VSR Storozhevoye 67.38 318 *e*P P 02 07 48.5 -3.7
VSR pmax pmax
comp=Z,10.0nm,1.1s
O18K Koktuh Hills 67.39 33 IAmb IAmb 02 08 05.5
comp=Z,18nm,0.8s
O18K Koktuh Hills 67.39 33 P P 02 07 51.8 -0.3
baz=277
J20K Nowinta River 67.40 28 P P 02 07 51.8 -0.3
baz=276,SNR=7.9
ERBR Yeremizino-Bor 67.42 312 *e*P P 02 07 48.1 -4.4
ERBR *i* *PP pP 02 07 52.6 -4.4
ERBR *e*S S 02 16 43.9 -4.4
ERBR pmax pmax
comp=Z,46nm,0.9s
G21K Allakaket 67.43 26 P P 02 07 51.6 -0.6
baz=276,SNR=12
P18K Big Mountain, 67.44 33 P P 02 07 51.9 -0.5
baz=277
LABN Labinsk 67.44 310 *e*P P 02 07 49.6 -3.1
LABN *e*PP pP 02 07 53.1 -4.1
LABN *e*S S 02 16 47.0 -1.6
LABN pmax pmax
comp=Z,9.0nm,0.7s
D22K Ayikyak River 67.51 23 P P 02 07 52.5 -0.3
baz=275
K20K Telida 67.52 29 P P 02 07 52.9 0.0
baz=276
M19K Big River Lodg 67.54 31 P P 02 07 52.8 -0.3
baz=277
LVZ Lovozero 67.56 336 P P 02 07 53.2 +0.1
MOS Moscow 67.62 323 *e*P P 02 07 50.9 -2.7
MOS *e*S S 02 16 45.3 -5.0
MOS pmax pmax
comp=Z,80nm,1.7s
MOS MLR MLR
comp=Z,500nm,20.0s
N19K Bonanza Creek 67.63 32 P P 02 07 53.4 -0.4
baz=277
Q18K Katmai Hardscr 67.64 34 P P 02 07 53.1 -0.8
baz=278
GURO Guroymak-BITLI 67.67 304 IAmb IAmb 02 07 56.9
comp=Z,15nm,1.1s
CHIR Chirikof Islan 67.70 37 P P 02 07 53.5 -0.6
baz=278
L20K Farewell, AK 67.71 30 P P 02 07 54.1 0.0
baz=277
O19K Port Alsworth 67.79 33 P P 02 07 54.7 +0.1
baz=278
H21K Melozitna Rive 67.80 27 P P 02 07 54.5 -0.2
baz=277
F22K John River 67.84 25 P P 02 07 54.8 -0.1
baz=276,SNR=15
E22K Anaktuvuk Pass 67.91 24 IAmb IAmb 02 07 57.5
comp=Z,19nm,1.1s
E22K Anaktuvuk Pass 67.91 24 P P 02 07 55.1 -0.2
baz=276
APA Apatity 68.07 336 ⇓ *i*P P 02 07 55.2 -1.0
APA *i* 02 10 24.3
APA *i* S S 02 16 54.0 -1.4
APA *i* 02 17 50.0
APA *i* SS SS 02 21 17.0 -0.1
APA pmax pmax
comp=Z,30nm,0.9s
APA MLR MLR
comp=Z,1μm,14.0s
M20K Styx River 68.14 31 P P 02 07 57.2 +0.3
baz=278
C23K Itkillik River 68.14 22 P P 02 07 57.0 +0.4
baz=277,SNR=14
G22K Bettles 68.17 25 P P 02 07 57.2 +0.3
baz=277
D23K Nanushuk River 68.22 23 P P 02 07 57.4 +0.2
baz=277,SNR=21
CHUM Lake Minchumin 68.23 28 P P 02 07 57.5 +0.2
baz=278
Q19K Cape Douglas, 68.31 34 P P 02 07 58.2 +0.2
baz=279
OBN Obninsk 68.31 322 LR LR 02 40 26.3
comp=Z,318nm,18.0s,baz=18,slow=38
OBN Obninsk 68.31 322 *e*P P 02 07 56.7 -1.2
OBN *e* 02 08 21.8
OBN *e* 02 10 24.5
OBN *e*PPP PPP 02 12 06.6
OBN pmax pmax
comp=Z,86nm,1.7s
OBN MLR MLR
comp=Z,338nm,15.0s
SOC Sochi 68.35 309 *e*P P 02 07 57.2 -1.3
SOC *e* 02 10 25.8
SOC *e*PPP PPP 02 12 06.3
SOC *e*S S 02 17 00.7 +1.1
SOC pmax pmax
comp=Z,12nm,0.7s
SOC MLR MLR
comp=Z,282nm,18.0s
H22K Ishtalitna Cre 68.36 26 P P 02 07 58.3 +0.1
baz=278,SNR=6.7
SII Sitkinak Islan 68.39 36 P P 02 07 58.3 -0.1
baz=279
CAST Castle Rocks 68.40 29 IAmb IAmb 02 08 00.3
comp=Z,11nm,0.9s
CAST Castle Rocks 68.40 29 P P 02 07 58.0 -0.5
baz=278
P19K Oil Pt 68.41 33 P P 02 07 57.7 -0.9
baz=279
PPLA Purkeypile 68.43 29 P P 02 07 57.9 -0.9
baz=278
RAYN Ar Rayn 68.47 287 P P 02 07 59.3 -0.3
RAYN Ar Rayn 68.47 287 P P 02 08 00.1 +0.5
RAYN Ar Rayn 68.47 287 P P 02 08 00.1 +0.5
RAYN Ar Rayn 68.47 287 *i* P P 02 08 00.1 +0.5
SNR=8.8
COLD Coldfoot 68.64 25 P P 02 07 59.8 -0.1
baz=278
O20K Slope Mountain 68.64 32 P P 02 07 59.8 -0.2
baz=279
TOLK Toolik Lake Re 68.67 23 IAmb IAmb 02 08 26.2
comp=Z,13nm,0.9s
TOLK Toolik Lake Re 68.67 23 P P 02 07 59.3 -0.8
baz=278,SNR=12
SPCR Spurr Chakacha 68.67 31 P P 02 07 59.6 -0.7
baz=279
E23K Chandalar 68.74 24 P P 02 08 00.4 -0.2
baz=278,SNR=14
OHAK Old Harbor 68.76 36 P P 02 08 01.0 +0.3
baz=280
BPAW Bear Paw Mtn. 68.78 28 P P 02 08 01.0 +0.2
baz=279
G23K Bananza Creek 68.78 25 P P 02 08 01.0 +0.2
baz=279,SNR=7.5
C24K Franklin Bluff 68.82 22 P P 02 08 01.2 +0.4
baz=279
D24K Happy Valley 68.86 23 P P 02 08 00.9 -0.2
baz=279,SNR=19
SKT Skwentna 68.87 30 P P 02 08 01.3 -0.1
baz=279
MSVF Nonsavu 68.94 121 P P 02 08 02.0 -0.5
MSVF Nonsavu 68.94 121 LR LR 02 34 39.3
comp=Z,202nm,21.5s,baz=346,slow=33
MSVF Nonsavu 68.94 121 P P 02 08 03.6 +1.1
MSVF Nonsavu 68.94 121 P P 02 08 02.0 -0.5
MSVF pmax pmax
comp=Z,51nm,0.9s
KDAK Kodiak Island 69.04 35 LR LR 02 38 50.0
comp=Z,371nm,21.8s,baz=91,slow=36
KDAK Kodiak Island 69.04 35 P P 02 08 01.7 -0.8
baz=280
H23K Yukon River 69.11 26 P P 02 08 02.7 -0.1
baz=279
E24K Your Creek 69.15 24 P P 02 08 03.0 -0.1
baz=280,SNR=16
VADS Vadso 69.15 339 *e*P P 02 08 02.9 -0.1
TRF Thorofare Moun 69.19 29 P P 02 08 03.1 -0.4
baz=280
I23K Minto, Yukon-K 69.30 27 P P 02 08 03.5 -0.5
baz=280
SUA Susitna One 69.33 31 P P 02 08 03.7 -0.6
baz=280
CUT Chulitna 69.38 30 P P 02 08 04.3 -0.2
baz=280
MOO Moorlands 69.45 160 P P 02 08 05.5 +0.4
comp=Z,38nm,1.6s
F24K Squaw Lake 69.47 24 P P 02 08 05.4 +0.3
baz=280,SNR=17
DGTI Dogotuki 69.50 119 P P 02 08 07.0 +1.0
NEA2 Nenana 69.52 27 P P 02 08 05.3 -0.1
baz=280,SNR=7.4
M22K Willow 69.57 31 P P 02 08 05.7 0.0
baz=280
BRSE Bradley Lake S 69.64 33 P P 02 08 06.3 +0.1
baz=281
JOF Joensuu 69.65 331 *e*P P 02 08 06.3 +0.2
D25K Kavik River 69.69 22 P P 02 08 06.0 -0.4
baz=281
ANN Anapa 69.71 311 *e*P P 02 08 02.4 -4.4
ANN *e*PP pP 02 08 05.9 -5.4
ANN *e*S S 02 17 11.1 -4.4
ANN pmax pmax
comp=Z,60nm,0.9s
ANN MLR MLR
comp=Z,398nm,20.0s
ANN MLR MLR
comp=E,243nm,15.0s
ANN MLR MLR
comp=N,332nm,18.0s
MCK McKinley 69.74 28 P P 02 08 06.3 -0.5
baz=281
G24K Hadweenzic Riv 69.78 25 P P 02 08 06.6 -0.3
baz=281
H24K Noodor Dome 69.79 26 P P 02 08 07.2 +0.2
baz=281
RND Reindeer 69.84 29 IAmb IAmb 02 08 08.5
comp=Z,21nm,0.8s
RC01 Rabbit Creek A 69.87 31 P P 02 08 07.7 +0.2
baz=281
COLA College 69.98 27 P P 02 08 10.4 +2.2
COLA College 69.98 27 *i* P P 02 08 09.2 +1.0
COLA pmax pmax
comp=Z,31nm,2.2s
O22K Cooper Landing 70.00 32 P P 02 08 08.1 -0.2
baz=281
PMR Palmer 70.06 31 P P 02 08 10.6 +1.9
PMR Palmer 70.06 31 P P 02 08 08.5 -0.2
baz=281
C26K Camden Bay 70.07 21 P P 02 08 08.7 +0.1
baz=282
POKR Poker Plat Res 70.11 27 P P 02 08 08.5 -0.5
baz=282
SEW Seward 70.20 32 P P 02 08 08.6 -1.0
baz=282
E25K Arctic Village 70.22 23 P P 02 08 09.3 -0.3
baz=282
F25K Christian Rive 70.31 24 P P 02 08 10.1 -0.2
baz=282,SNR=14
G25K Bearman Lake 70.31 25 P P 02 08 10.1 -0.1
baz=282
SML Sawmill 70.39 30 P P 02 08 10.4 -0.5
baz=282
ILAR Eielson Array 70.41 27 P P 02 08 09.7 -1.1
comp=Z,1.4nm,0.6s,baz=279,slow=4.5,SNR=17
comp=Z,1.4nm,0.6s
KNK Knik Glacier 70.41 31 P P 02 08 10.4 -0.5
baz=282
HDA Harding Lake 70.46 27 P P 02 08 11.1 -0.1
baz=282
H25L Birch Creek 70.52 25 P P 02 08 11.5 +0.1
baz=283
C27K Jago River 70.55 22 P P 02 08 11.2 -0.4
baz=283,SNR=16
ARA0 ARCESS Array S 70.58 338 *e*P P 02 08 12.2 +0.4
ARCES ARCESS Array B 70.58 338 P P 02 08 11.6 -0.2
comp=Z,8.1nm,0.7s,baz=68,slow=6.4,SNR=18
ARCES LR LR 02 42 12.1
comp=Z,485nm,19.7s,baz=58,slow=38
comp=Z,8.1nm,0.7s
PWL Port Wells 70.59 31 IAmb IAmb 02 08 17.0
comp=Z,17nm,0.8s
PWL Port Wells 70.59 31 P P 02 08 10.8 -1.2
baz=282
SPA0 Spitsbergen Ar 70.62 348 *e*P P 02 08 11.8 -0.2
SPITS Spitsbergen Ar 70.62 348 P P 02 08 11.9 0.0
comp=Z,36nm,1.0s,baz=105,slow=7.9,SNR=17
SPITS LR LR 02 42 32.8
comp=Z,713nm,19.1s,baz=32,slow=39
comp=Z,36nm,1.0s
SPITS Spitsbergen Ar 70.62 348 P P 02 08 11.7 -0.2
SPITS pmax pmax
comp=Z,80nm,1.2s
M23K Glacier View 70.68 30 P P 02 08 11.2 -1.3
baz=282
BMAR Burnt Mountain 70.74 24 P P 02 08 13.1 +0.2
PUL Pulkovo 70.75 328 *i* P P 02 08 13.4 +0.5
PUL pmax pmax
comp=Z,107nm,0.9s
PRP Porcupine Dome 70.81 26 P P 02 08 12.8 -0.6
baz=283
F26K Sheenjek River 70.84 24 P P 02 08 13.2 -0.2
baz=284,SNR=13
SCM Sheep Creek Mo 70.85 30 P P 02 08 12.9 -0.7
baz=283
J25K Salcha River, 71.08 27 P P 02 08 14.4 -0.6
baz=284
K24K Donnelly Dome 71.10 28 P P 02 08 14.3 -0.8
baz=283,SNR=9.3
G26K Porcupine Rive 71.16 24 P P 02 08 14.9 -0.4
baz=284,SNR=7.3
GLI Glacier Island 71.18 31 P P 02 08 15.3 -0.3
baz=283
KBS Kingsbay 71.18 349 *ce*P P 02 08 16.6 +1.3
KBS pmax pmax
comp=Z,30nm,1.7s
KBS Kingsbay 71.18 349 *i* P P 02 08 14.1 -1.2
P23K Montague Islan 71.23 32 P P 02 08 15.7 -0.2
baz=283
M24K Tolsona, Glenn 71.32 30 P P 02 08 15.7 -0.8
baz=284
PAX Paxson 71.43 29 IAmb IAmb 02 08 24.6
comp=Z,28nm,1.8s
PAX Paxson 71.43 29 P P 02 08 16.6 -0.6
baz=284
TOKA Tokat 71.44 307 IAmb IAmb 02 08 19.4
comp=Z,21nm,1.2s
KTK1 Kautokeino 71.50 338 *e*P P 02 08 17.9 +0.5
RIDG Independent Ri 71.51 28 IAmb IAmb 02 08 29.9
comp=Z,60nm,2.0s
RIDG Independent Ri 71.51 28 P P 02 08 16.8 -0.8
baz=284,SNR=7.0
D27M Malcolm River 71.58 22 P P 02 08 17.6 -0.4
baz=286,SNR=7.0
KLU Klutina 71.58 30 P P 02 08 18.1 0.0
baz=284
E27K Coleen River 71.65 23 P P 02 08 18.3 0.0
baz=286,SNR=11
GAZ Gaziantep 71.70 303 IAmb IAmb 02 08 26.0
comp=Z,22nm,1.0s
HARP HAARP 71.71 29 P P 02 08 19.0 +0.2
baz=284
I26K Coal Creek Min 71.82 26 P P 02 08 19.7 +0.3
baz=285
SCRK Sand Creek 71.82 28 P P 02 08 18.5 -1.0
SCRK IAmb IAmb 02 08 27.7
comp=Z,31nm,1.6s
SCRK Sand Creek 71.82 28 P P 02 08 19.2 -0.3
baz=285,SNR=7.0
J26L Joseph Creek 71.86 27 P P 02 08 19.6 -0.2
baz=285

SIM	Simferopol'	71.97	312	*e*P		P	02 08 21.0 +0.4
SIM				pmax		pmax	
	comp=Z,45nm,1.0s						
SIM				MLR		MLR	
	comp=Z,200nm,21.0s						
G27K	Doyon Strip	72.00	24	P		P	02 08 20.4 0.0
	baz=286						
N25K	Chitina, Valde	72.17	30	P		P	02 08 21.4 -0.2
	baz=285						
H27K	Steamboat Moun	72.22	25	P		P	02 08 21.7 -0.1
	baz=286						
E28M	Babbage River	72.26	22	P		P	02 08 21.9 -0.1
	baz=287						
JETT	Jettan, Norway	72.30	339	*e*P		P	02 08 22.7 +0.5
D28M	Stokes Point	72.31	22	P		P	02 08 22.2 0.0
	baz=288						
BMRM	Bremner River	72.33	31	P		P	02 08 22.2 -0.4
	baz=285						
L26K	Log Cabin Wild	72.35	28	P		P	02 08 22.1 -0.5
	baz=286						
I27K	Kandik River	72.36	26	P		P	02 08 22.2 -0.4
	baz=286						
FIA1	FINESS Array S	72.38	330	P		P	02 08 22.5 -0.2
FINES	FINESS Array B	72.38	330	P		P	02 08 22.2 -0.5
FINES	FINESS Array B	72.38	330	P		P	02 08 22.7 0.0
	comp=Z,36nm,1.1s,baz=86,slow=8.4,SNR=42						
FINES				LR		LR	02 43 47.9
	comp=Z,625nm,18.5s,baz=70,slow=39						
	comp=Z,36nm,1.1s						
FINES	FINESS Array B	72.38	330	*i* P		P	02 08 22.8 0.0
FINES				pmax		pmax	
	comp=Z,22nm,0.9s						
K27K	Chicken	72.62	27	P		P	02 08 23.4 -0.7
	baz=287						
M26K	Nabesna, AK	72.68	29	P		P	02 08 24.0 -0.6
	baz=286						
KAIM	Kayak Island	72.70	32	P		P	02 08 24.4 -0.3
	baz=286						
VSU	Vasula	72.87	327	*ce*P		P	02 08 25.0 -0.7
VSU				pmax		pmax	
	comp=Z,163nm,1.3s						
VSU	Vasula	72.87	327	*e*P		P	02 08 24.7 -1.0
E29M	Blow River	72.90	22	P		P	02 08 25.3 -0.4
	baz=289,SNR=9.5						
ARBE	Arbavere	72.97	328	*e*P		P	02 08 26.7 +0.4
L27K	Beaver Creek,	73.01	28	P		P	02 08 26.6 +0.1
	baz=287,SNR=12						
BCAR	Beaver Creek A	73.02	28	P		P	02 08 26.2 -0.4
I28M	Miner Creek	73.07	26	P		P	02 08 26.6 -0.4
	baz=288						
M27K	Edge Creek, AK	73.19	29	P		P	02 08 27.3 -0.5
	baz=287						
ASF	Jabal al Asfar	73.33	298	LR		LR	02 44 24.5
	comp=Z,183nm,18.5s,baz=149,slow=39						
G29M	Pine Creek	73.34	24	P		P	02 08 28.0 -0.4
	baz=289,SNR=11						
MNK	Minsk	73.35	323	*i* P		P	02 08 29.0 +0.4
MNK				*i*			02 08 44.7
MNK				*i*			02 11 12.7
MNK				*i* PPP		PPP	02 12 57.5
MNK				*i* S		SKiKP	02 17 59.7 -0.2
MNK				*i*			02 18 38.0
MNK				*i* SS		SS	02 22 43.4 +4.7
MNK				pmax		pmax	
	comp=E,21nm,1.1s						
MNK				pmax		pmax	
	comp=Z,50nm,1.0s						
MNK				pmax		pmax	
	comp=N,43nm,1.2s						
MNK				MLR		MLR	
	comp=N,231nm,17.0s						
MNK				MLR		MLR	
	comp=Z,367nm,19.0s						
MNK				MLR		MLR	
	comp=E,271nm,18.0s						
H29M	Whitestone	73.44	25	P		P	02 08 28.5 -0.5
	baz=289,SNR=5.8						
VAF	Ylistaro	73.44	332	*e*P		P	02 08 29.5 +0.5
MEF	Metsahovi	73.52	329	*e*P		P	02 08 29.9 +0.4
NOR	Nord	73.53	354	*i* P		P	02 08 28.0 -1.3
NOR				IAmb		IAmb	02 08 29.4
	comp=Z,20nm,1.0s						
AKASG	Malin Array Be	73.62	319	P		P	02 08 29.6 -0.7
	comp=Z,5.9nm,0.8s,baz=63,slow=5.2,SNR=33						
	comp=Z,5.9nm,0.8s						
AKASG	Malin Array Be	73.62	319	*i* P		P	02 08 29.6 -0.7
AKASG				pmax		pmax	
	comp=Z,7.0nm,0.8s						
AKBB	Malin Array Si	73.62	319	IAmb		IAmb	02 08 33.2
	comp=Z,52nm,1.6s						
BVCY	Beaver Creek	73.63	29	P		P	02 08 29.3 -0.9
	baz=288						
KIEV	Kiev	73.63	319	P		P	02 08 29.8 -0.6
KIEV				IAmb		IAmb	02 08 33.2
	comp=Z,51nm,1.6s						
KIEV	Kiev	73.63	319	P		P	02 08 29.8 -0.6
KIEV				pmax		pmax	
	comp=Z,51nm,1.6s						
KIEV	Kiev	73.63	319	*i* P		P	02 08 29.8 -0.6
	SNR=8.7						
KIRS	Kirsehir-Merke	73.67	306	⇓P		P	02 08 30.9 0.0
BR131	Keskin Array S	73.70	307	P		P	02 08 31.4 +0.1
	SNR=9.7						
BRTR	Keskin Array B	73.70	307	P		P	02 08 31.0 -0.2
BRTR	Keskin Array B	73.70	307	P		P	02 08 31.6 +0.3
	comp=Z,6.8nm,0.9s,baz=107,slow=6.6,SNR=37						
BRTR				LR		LR	02 43 41.8
	comp=Z,128nm,21.2s,baz=71,slow=38						
	comp=Z,6.8nm,0.9s						
DAWY	Dawson	73.73	27	P		P	02 08 30.5 -0.3
	baz=289,SNR=8.0						
IDID	Didziasalis	73.75	324	*e*P		P	02 08 28.6 -2.4
F30M	Barrier River	73.92	23	P		P	02 08 31.3 -0.5
	baz=291						
G30M	tAoh Zraii Nji	73.98	24	P		P	02 08 31.6 -0.6
	baz=291						
YUK3	Moose Creek	74.01	29	P		P	02 08 31.9 -0.8
	baz=289						
ISAL	Salakas	74.01	324	*e*P		P	02 08 32.0 -0.5
EPYK	Eagle Plains	74.01	24	P		P	02 08 31.9 -0.5
	baz=290,SNR=7.9						
J29N	Klondike Camp	74.09	26	P		P	02 08 32.5 -0.4
	baz=290						
MTSE	Matsula	74.26	327	*e*P		P	02 08 34.0 +0.2
MMAI	Mount Meron Ar	74.28	300	P		P	02 08 35.4 +0.7
	comp=Z,8.8nm,1.2s,baz=87,slow=3.6,SNR=8.4						
	comp=Z,8.8nm,1.2s						
ANTO	Ankara	74.29	307	P		P	02 08 35.0 +0.4
ANTO	Ankara	74.29	307	⇑P		P	02 08 34.8 +0.2
ANTO	Ankara	74.29	307	P		P	02 08 34.7 +0.2
INK	Inuvik	74.45	22	LR		LR	02 43 51.4
	comp=Z,184nm,18.7s,baz=268,slow=38						
INK	Inuvik	74.45	22	P		P	02 08 33.8 -1.0
	baz=293						
O28M	Mount Upton	74.45	30	P		P	02 08 33.8 -1.6
	baz=289						
YUK8	Steele Glacier	74.48	30	P		P	02 08 34.3 -1.2
	baz=289						
RAF	Rauma	74.50	330	*e*P		P	02 08 35.6 +0.5
I30M	Mount Dempster	74.56	25	P		P	02 08 34.7 -1.0
	baz=291						
K29M	Barlow Dome	74.59	27	P		P	02 08 35.2 -0.7
	baz=290						
L29M	L29M	74.59	28	P		P	02 08 35.3 -0.5
	baz=290						
STEI	Steigen	74.64	338	*e*P		P	02 08 35.8 -0.1
PINM	Pinnacle	74.65	31	P		P	02 08 35.7 -0.5
	baz=289						
M29M	Somme Creek	74.67	28	P		P	02 08 35.4 -1.0
	baz=290						
F31M	Tsiigehtchic	74.71	23	IAmb		IAmb	02 08 42.5
	comp=Z,16nm,0.8s						
F31M	Tsiigehtchic	74.71	23	P		P	02 08 35.3 -1.0
	baz=293						
G31M	Satah River	74.72	23	P		P	02 08 36.0 -0.4
	baz=292						
J30M	Hart River	74.81	26	P		P	02 08 36.7 -0.4
	baz=291						
FAUS	Fauske	74.84	337	*e*P		P	02 08 36.9 -0.2
SORM	Soroca	74.91	316	⇑P		P	02 08 37.4 -0.5
SORM	Soroca	74.91	316	P		P	02 08 37.3 -0.5
YUK4	Talbot Arm	74.97	29	P		P	02 08 37.5 -0.7
	baz=290						
H31M	Peel River	75.12	24	P		P	02 08 38.6 -0.2
	baz=293						
PNL	Peninsula	75.20	31	P		P	02 08 39.6 +0.2
	baz=290						
PABE	Paberze	75.20	324	P		P	02 08 39.5 +0.1
PABE	Paberze	75.20	324	*e*P		P	02 08 40.0 +0.6
YUK6	Outpost Mounta	75.24	30	P		P	02 08 39.2 -0.6
	baz=291						
CSS	Mathiatis	75.34	302	IAmb		IAmb	02 08 46.0
	comp=Z,18nm,0.7s						
M30M	Minto, Yukon	75.35	28	P		P	02 08 40.3 +0.1
	baz=292						
A36M	Sachs Harbour	75.36	17	IAmb		IAmb	02 08 40.7
	comp=Z,25nm,0.8s						
A36M	Sachs Harbour	75.36	17	P		P	02 08 40.1 0.0
	baz=299						
O29M	Mount Kennedy	75.36	30	P		P	02 08 40.5 0.0
	baz=290						
TLCR		75.51	313	⇑P		P	02 08 41.8 +0.4
TLCR		75.51	313	P		P	02 08 41.7 +0.4
N30M	Aishikik Lake	75.63	29	P		P	02 08 42.1 +0.3
	baz=292						
MOR8	Moi Rana	75.63	336	*e*P		P	02 08 40.5 -1.3
HYT	Haines Junctio	75.67	30	IAmb		IAmb	02 08 57.2
	comp=Z,23nm,1.4s						
HYT	Haines Junctio	75.67	30	P		P	02 08 42.4 +0.2
	baz=291						
TPGR	Topolog	75.88	313	⇑P		P	02 08 44.1 +0.6
SCTR	Scanteiesti	75.90	314	⇑P		P	02 08 44.4 +0.8
P29M	Windy Craggy	76.00	31	P		P	02 08 44.1 +0.1
	baz=291						
TIRR	Tirgusor	76.00	312	IAmb		IAmb	02 08 45.4
	comp=Z,18nm,1.0s						
TIRR	Tirgusor	76.00	312	⇑P		P	02 08 44.6 +0.4
TIRR	Tirgusor	76.00	312	P		P	02 08 44.6 +0.4
PBUR	Paburge	76.11	325	*e*P		P	02 08 45.0 +0.5
SUW	Suwalki	76.12	323	*e*P		P	02 08 44.4 -0.3
SUW	Suwalki	76.12	323	*e*P		P	02 08 45.3 +0.6
EUNU	Eureka	76.14	5	IAmb		IAmb	02 08 44.8
	comp=Z,63nm,1.8s						
LEIR	Leirfjorden	76.15	336	*e*P		P	02 08 43.8 -0.8
P30M	Million Dollar	76.18	30	P		P	02 08 45.2 +0.1
	baz=292						
N31M	Braeburn, Yuko	76.20	29	P		P	02 08 45.1 0.0
	baz=293						
HARR	Harsova	76.26	313	⇑P		P	02 08 46.2 +0.6
HARR	Harsova	76.26	313	P		P	02 08 46.2 +0.6
O30N	Mendenhall	76.34	29	P		P	02 08 46.2 +0.3
	baz=292						
PANC	Panciu	76.40	314	⇑P		P	02 08 46.7 +0.3
PRAR	RASCA	76.52	316	⇑P		P	02 08 47.0 -0.1
TESR	Tescani	76.52	315	⇑P		P	02 08 47.4 +0.2
M31M	Drury Creek, Y	76.53	28	P		P	02 08 46.7 -0.2
	baz=294						
ICOR	Ion Corvin	76.53	312	⇓P		P	02 08 48.1 +0.9
VRI	Vrincioaia	76.68	314	⇑P		P	02 08 48.9 +0.8
VRI	Vrincioaia	76.68	314	P		P	02 08 49.0 +0.9
PLOR	Plostina	76.74	314	⇑P		P	02 08 49.0 +0.5
PLOR	Plostina	76.74	314	P		P	02 08 48.9 +0.5
BISRR	Bisoca	76.80	314	⇑P		P	02 08 50.0 +1.2
WHY	Whitehorse	76.93	29	P		P	02 08 48.6 -0.7
	baz=294						
FARO	Faro, Yukon	76.96	28	P		P	02 08 48.7 -0.7
	baz=294						
COVR	Voineasa-Covas	77.03	314	⇓P		P	02 08 50.9 +0.8
C36M	Paulatuk	77.03	19	IAmb		IAmb	02 08 49.5
	comp=Z,37nm,1.1s						
C36M	Paulatuk	77.03	19	P		P	02 08 49.0 -0.5
	baz=301						
ISR	Istrita	77.05	314	⇑P		P	02 08 51.2 +1.0
ISR	Istrita	77.05	314	P		P	02 08 51.2 +1.0
BURAR	Bucovina Array	77.08	316	P		P	02 08 50.1 -0.3
BURAR	Bucovina Array	77.08	316	⇓P		P	02 08 50.2 -0.2
BURAR	Bucovina Array	77.08	316	P		P	02 08 50.8 +0.4
NEHR	Nehoiu	77.11	314	⇓P		P	02 08 51.2 +0.7
SKAG	Skagway	77.20	31	P		P	02 08 52.4 +1.7
SKAG	Skagway	77.20	31	P		P	02 08 50.5 -0.2
	baz=293						
OZUR		77.22	315	⇑P		P	02 08 52.0 +0.8
NSS	Namsos	77.28	335	*e*P		P	02 08 50.5 -0.5
MLR	Muntele Rosu	77.32	314	IAmb		IAmb	02 08 58.5
	comp=Z,32nm,1.0s						
MLR	Muntele Rosu	77.32	314	⇑P		P	02 08 52.1 +0.2
MLR	Muntele Rosu	77.32	314	P		P	02 08 52.1 +0.2
S31K	Pelican	77.36	32	P		P	02 08 51.3 -0.3
	baz=293						
N32M	Quiet Lake	77.53	29	P		P	02 08 52.2 -0.4
	baz=295						
BAND	Balkesir-Ban	77.56	309	⇑P		P	02 08 53.7 +0.6
RAZG	Razgrad	77.60	312	⇑P		P	02 08 53.9 +0.7
MMPY	Sheldon Lake,	77.67	27	P		P	02 08 53.4 0.0
	baz=296						
ARCR	ARCALIA	77.81	316	⇑P		P	02 08 54.8 +0.4
P32M	Atlin	77.90	30	P		P	02 08 54.3 -0.4
	baz=295						
VOIR		77.93	314	⇑P		P	02 08 55.1 -0.1
VOIR		77.93	314	P		P	02 08 55.1 -0.1
P33M	Teslin, Yukon	78.05	29	P		P	02 08 55.3 -0.2
	baz=295						
R32K	Eaglecrest	78.06	32	P		P	02 08 55.7 +0.2
	baz=294						
BMR	Baia Mare	78.15	317	⇑P		P	02 08 55.9 -0.4
BMR	Baia Mare	78.15	317	P		P	02 08 55.8 -0.4
ARR	Arges	78.23	314	⇑P		P	02 08 57.3 +0.5
BEL	Belsk	78.26	321	*e*P		P	02 08 57.0 +0.2
HUMR	Humele	78.30	313	⇓P		P	02 08 57.5 +0.4
CJR	Cluj-Napoca	78.43	316	⇓P		P	02 08 58.4 +0.5
CJR	Cluj-Napoca	78.43	316	P		P	02 08 58.3 +0.5
CBBR	Cluj-Babes-Bol	78.44	316	⇑P		P	02 08 59.1 +1.2
KOLS	Kolonicke sedl	78.45	318	*e*P		P	02 08 58.4 +0.5
KOLS				pmax		pmax	
	comp=Z,7.0nm,0.8s						
KOLS	Kolonicke sedl	78.45	318	*e*P		P	02 08 58.4 +0.5
HFS	Hagfors	78.51	331	P		P	02 08 57.5 -0.5
	comp=Z,19nm,0.9s,baz=83,slow=4.6,SNR=23						
HFS				LR		LR	02 46 50.7
	comp=Z,2μm,18.4s,baz=60,slow=38						
	comp=Z,19nm,0.9s						
MARR	Marisel-Cluj	78.75	316	⇑P		P	02 09 00.3 +0.6
LOT	Lotru	78.77	315	⇑P		P	02 09 00.4 +0.5
Q32M	Nakina River	78.84	30	P		P	02 08 59.3 -0.8
	baz=296						
STHS	Stebnicka Huta	78.90	319	*e*P		P	02 09 05.8 +5.4
STHS				pmax		pmax	
	comp=Z,11nm,1.2s						
STHS	Stebnicka Huta	78.90	319	*e*P		P	02 09 05.8 +5.4
DRGR		78.97	316	⇑P		P	02 09 01.5 +0.6
DRGR		78.97	316	P		P	02 09 01.4 +0.6
DEV	Deva	79.18	315	⇑P		P	02 09 02.7 +0.8
DEV	Deva	79.18	315	P		P	02 09 02.7 +0.8
NB2	NORSAR Subarra	79.19	332	P		P	02 09 01.4 -0.4
	comp=Z,5.5nm,0.8s,baz=60,slow=5.6						
NB2	NORSAR Subarra	79.19	332	P		P	02 09 01.4 -0.4
	baz=60,slow=5.6						
NOA	NORSAR Array B	79.19	332	P		P	02 09 01.4 -0.4
	comp=Z,16nm,1.0s,baz=60,slow=5.6,SNR=32						
NOA				LR		LR	02 47 13.5
	comp=Z,786nm,19.2s,baz=60,slow=38						
	comp=Z,16nm,1.0s						
NC602	NORSAR Array S	79.19	332	IAmb		IAmb	02 09 01.9
	comp=Z,44nm,1.4s						
NC602	NORSAR Array S	79.19	332	*e*P		P	02 09 00.8 -0.9
R33M	Jennings River	79.25	30	P		P	02 09 01.6 -0.7
	baz=297,SNR=6.0						
GZR	Gura Zlata	79.44	315	⇑P		P	02 09 03.9 +0.4
GZR	Gura Zlata	79.44	315	P		P	02 09 04.4 +0.9
OJC	Ojcow	79.45	320	*e*P		P	02 09 03.7 +0.3
NIE	Niedzica	79.47	319	*e*P		P	02 09 04.4 +0.9
DOMB	Dombas	79.61	334	*e*P		P	02 09 03.8 -0.2
VALD	Valchedram	79.64	313	P		P	02 09 04.7 +0.2
NEEM	North Greenlan	79.70	358	*i* P		P	02 09 03.3 -1.3
NEEM				IAmb		IAmb	02 09 05.3
	comp=Z,63nm,0.9s						
SURR	Surduc	79.73	315	⇑P		P	02 09 05.5 +0.5
DBG	Daneborg	79.75	350	*i* P		P	02 09 03.3 -1.3
DBG				IAmb		IAmb	02 09 05.0
	comp=Z,39nm,1.2s						
JCZ	Jackson Bay	79.81	147	P		P	02 09 06.5 +1.2
S34M	Telegraph Cree	79.84	31	P		P	02 09 04.9 -0.4
	baz=297						
HERR	Herculane	79.87	314	⇑P		P	02 09 06.2 +0.5
RES	Resolute Bay	79.91	9	IAmb		IAmb	02 09 05.7
	comp=Z,32nm,1.0s						
RES	Resolute Bay	79.91	9	LR		LR	02 47 23.9
	comp=Z,197nm,19.9s,baz=297,slow=38						
JMIC	Jan Mayen	79.95	345	LR		LR	02 47 29.0
	comp=Z,353nm,20.0s,baz=81,slow=38						
LANS	Liptovska Anna	80.08	319	*e*P		P	02 09 07.9 +1.1
LANS				pmax		pmax	
	comp=Z,6.0nm,1.0s						
LANS	Liptovska Anna	80.08	319	*e*P		P	02 09 07.9 +1.1
PLNA	Plana	80.10	312	P		P	02 09 07.0 -0.2
BZS	Buzias	80.11	315	⇑P		P	02 09 07.1 0.0
BZS	Buzias	80.11	315	P		P	02 09 07.0 0.0
DLBC	Dease Lake	80.12	30	P		P	02 09 06.4 -0.5
	baz=298						
VTS	Vitosha	80.17	312	P		P	02 09 07.4 -0.2
MMB	Musomishta	80.22	311	P		P	02 09 07.0 -0.8
PSZ	Piszkesteto	80.31	318	IAmb		IAmb	02 09 15.5
	comp=Z,52nm,1.4s						
PSZ	Piszkesteto	80.31	318	⇑P		P	02 09 08.9 +0.8
PSZ	Piszkesteto	80.31	318	P		P	02 09 08.9 +0.8
PSZ	Piszkesteto	80.31	318	*e*P		P	02 09 08.6 +0.5
AKN	Aaknes	80.38	334	*e*P		P	02 09 08.6 +0.4
WRGLY	Wrigley	80.49	24	P		P	02 09 08.2 -0.4
	baz=303						
URZ	Urewera	80.53	138	LR		LR	02 43 22.2
	comp=Z,90nm,19.8s,baz=34,slow=35						
KKB	Krupnik	80.54	311	P		P	02 09 09.2 -0.2
VYHS	Vyhne	80.72	319	*e*P		P	02 09 11.3 +1.0
VYHS				pmax		pmax	
	comp=Z,47nm,1.2s						
VYHS	Vyhne	80.72	319	*e*P		P	02 09 11.3 +1.0
BKZ	Black Stump Fm	80.73	139	IAmb		IAmb	02 09 15.1
	comp=Z,45nm,1.4s						
BKZ	Black Stump Fm	80.73	139	P		P	02 09 11.3 +1.0
STEB	Steborice	80.76	320	*e*P		P	02 09 09.9 -0.6
BOVS	Bovan	80.82	313	⇑P		P	02 09 11.0 +0.1
MORC	Moravsky Berou	80.97	320	IAmb		IAmb	02 09 15.5
	comp=Z,26nm,1.1s						
MORC	Moravsky Berou	80.97	320	*e*P		P	02 09 11.7 +0.1
MORC	Moravsky Berou	80.97	320	⇑P		P	02 09 12.2 +0.6
MORC	Moravsky Berou	80.97	320	P		P	02 09 12.4 +0.8
MAUC	Maruska	80.97	320	*e*P		P	02 09 12.3 +0.7
KHZ	Kahutara	81.16	143	P		P	02 09 14.0 +1.6
KSP	Ksiaz	81.24	322	*e*P		P	02 09 13.4 +0.4
JAVC	Velka Javorina	81.27	319	*e*P		P	02 09 14.9 +1.6
OSTC	Ostas	81.41	321	*e*P		P	02 09 14.5 +0.6
OSTC				AMS		AMS	02 49 50.0
	comp=Z,500nm,18.5s						
OSTC	Ostas	81.41	321	*e*P		P	02 09 14.5 +0.6
OSTC				MLR		MLR	
	comp=Z,500nm,18.5s						
DPC	Dobruska-Polom	81.43	321	*e*P		P	02 09 14.7 +0.6
DPC				AMS		AMS	02 50 00.0
	comp=Z,600nm,17.8s						
DPC	Dobruska-Polom	81.43	321	*e*P		P	02 09 14.7 +0.6
DPC				MLR		MLR	
	comp=Z,600nm,17.8s						
CHVC	Chvalec	81.48	321	AMS		AMS	02 49 50.0
	comp=Z,700nm,22.8s						
UPC	Upice	81.54	321	*e*P		P	02 09 15.5 +0.9
UPC				AMS		AMS	02 49 50.0
	comp=Z,500nm,17.3s						
UPC	Upice	81.54	321	*e*P		P	02 09 15.5 +0.9
UPC				MLR		MLR	
	comp=Z,500nm,17.3s						
BFZ	Birch Farm	81.55	141	P		P	02 09 15.4 +0.8
SMOL	Smolenice	81.56	319	*e*P		P	02 09 13.4 -1.4
SMOL				pmax		pmax	
	comp=Z,3.0nm,0.4s						
LIT	Litokhoron	81.65	310	IAmb		IAmb	02 09 15.8
	comp=Z,64nm,1.9s						
MODS	Modra-Piesok	81.72	319	*e*P		P	02 09 16.4 +0.8
MODS				pmax		pmax	
	comp=Z,49nm,1.3s						
MODS	Modra-Piesok	81.72	319	*e*P		P	02 09 16.4 +0.8
VRAC	Vranov	81.72	320	LR		LR	02 48 52.6
	comp=Z,340nm,19.1s,baz=55,slow=38						
VRAC	Vranov	81.72	320	*e*P		P	02 09 15.8 +0.2
VRAC	Vranov	81.72	320	⇓P		P	02 09 16.2 +0.6
VRAC	Vranov	81.72	320	P		P	02 09 16.2 +0.6
MORH	Mrgy, Hungar	81.78	317	⇑P		P	02 09 16.2 +0.3
KRUC	Moravsky	81.95	320	*e*P		P	02 09 17.0 +0.2
BLS5	Blasjo	82.06	332	*e*P		P	02 09 17.4 +0.3
TOAD	Toad River Com	82.09	29	P		P	02 09 16.8 -0.6
	baz=302						
MUD	Monsted U'grnd	82.36	329	*i* P		P	02 09 19.0 +0.3
MUD				IAmb		IAmb	02 09 20.7
	comp=Z,31nm,1.3s						
GOPC	GO Pecny, Ondr	82.51	321	*e*P		P	02 09 20.2 +0.5
GOPC				AMS		AMS	02 50 40.0
	comp=Z,500nm,17.2s						
GOPC	GO Pecny, Ondr	82.51	321	*e*P		P	02 09 20.2 +0.5
GOPC				MLR		MLR	
	comp=Z,500nm,17.2s						
BRG	Berggiesshubel	82.56	322	*e*P		P	02 09 20.0 +0.1
BRG				Amp			02 09 23.7
	comp=Z,21nm,1.1s						
BRG	Berggiesshubel	82.56	322	*e*P			02 09 20.4
	comp=Z,26nm,1.2s,baz=60,slow=5.0						
RONA	Rosalia, Austr	82.60	319	*i* P		P	02 09 20.8 +0.5
	comp=Z,9.5nm,1.3s						
PRU	Pruhonice	82.62	321	*e*P		P	02 09 21.0 +0.7
PRU				AMS		AMS	02 50 30.0
	comp=Z,500nm,15.5s						
PRU	Pruhonice	82.62	321	*e*P		P	02 09 21.0 +0.7
PRU				MLR		MLR	
	comp=Z,500nm,15.5s						
KULLO	Kullorsuaq	82.69	359	*i* P		P	02 09 19.2 -0.9
KULLO				IAmb		IAmb	02 09 20.3
	comp=Z,50nm,1.0s						
CONA	Conrad Observa	82.76	319	*e*P		P	02 09 21.6 +0.4
	comp=Z,36nm,1.8s,SNR=12						
CLL	Collm	82.88	323	IAmb		IAmb	02 09 22.7
	comp=Z,35nm,1.2s						
CLL	Collm	82.88	323	⇓*i*P		P	02 09 21.2 -0.4
CLL				*i*			02 09 23.6
CLL				pmax		pmax	
	comp=Z,32nm,1.1s						
CLL				MLR		MLR	
	comp=Z,900nm,18.0s						
CLL	Collm	82.88	323	⇓*i*P		P	02 09 21.2 -0.4
	comp=Z,32nm,1.1s						
CLL				*i* x		x	02 09 23.6
	comp=Z,38nm,1.3s						
CLL				*e*S		S	02 19 42.0 +2.0
CLL				*e*PS		PnS	02 20 30.0 -0.1
CLL				*e*SS		SS	02 25 06.0 +3.9
CLL				*e*SSSS			02 30 48.0
CLL				AMS		AMS	02 51 00.0
	comp=Z,900nm,18.0s						
CLL				AMS		AMS	07 38 00.0

GERES **GERESS Array B 83.63 321** P **P 02 09 26.1 +0.4**
comp=Z,9.3nm,0.8s,baz=58,slow=3.5,SNR=49
GERES LR LR 02 49 32.7
comp=Z,226nm,18.9s,baz=60,slow=38
comp=Z,9.3nm,0.8s
SUMG Summit 83.69 354 *i* P **P 02 09 25.0 -0.9**
SUMG IAmb IAmb 02 09 26.4
comp=Z,60nm,1.3s
NKC Novy Kostel 83.70 322 *eP* **P 02 09 25.9 0.0**
NKC AMS AMS 02 51 30.0
comp=Z,700nm,13.4s
NKC Novy Kostel 83.70 322 *eP* **P 02 09 25.9 0.0**
NKC MLR MLR
comp=Z,700nm,13.4s
PLN Plauen 83.74 323 *eP* 02 09 26.5
comp=Z,8.1nm,1.2s,baz=60,slow=5.0
ASSE Asse, Remlinge 83.76 324 *eP* 02 09 26.5
comp=Z,38nm,1.4s,baz=60,slow=5.0
MOA Molln 83.76 320 *i* pP **P 02 09 27.0 +0.8**
comp=Z,43nm,1.4s,SNR=9.5
GCIS Gornji Cirnik 83.82 317 *eP* **P 02 09 26.6 0.0**
SOKA Soboth 83.83 318 *i* P **P 02 09 26.7 0.0**
comp=Z,24nm,1.6s,SNR=6.7
NRDL Niedersach Rie 83.88 325 *eP* 02 09 27.5
comp=Z,34nm,1.2s,baz=60,slow=5.0
MOX Moxa 83.97 323 *eP* 02 09 27.5
comp=Z,34nm,1.4s,baz=60,slow=5.0
MOX *eL* 02 51 36.7
comp=Z,801nm,18.1s
WET Wettzell 83.97 321 *eP* 02 09 27.9
comp=Z,32nm,1.5s,baz=60,slow=5.0
MANZ Manzenberg 84.01 322 *eP* 02 09 28.1
comp=Z,5.5nm,1.2s,baz=60,slow=5.0
ROTZ Rotzenmuhle 84.06 322 *eP* 02 09 28.4
comp=Z,6.1nm,1.1s,baz=60,slow=5.0
CLZ Clausthal 84.06 324 *eP* 02 09 28.4
comp=Z,42nm,1.1s,baz=60,slow=5.0
YKA Yellowknife Ar 84.19 23 P **P 02 09 27.3 -0.8**
YKA Yellowknife Ar 84.19 23 P **P 02 09 27.4 -0.7**
comp=Z,5.4nm,0.7s,baz=318,slow=4.7,SNR=107
YKA PKKPbc **PKKPbc 02 27 38.6 -4.0**
comp=Z,0.6nm,0.7s,baz=127,slow=2.8,SNR=11
comp=Z,5.4nm,0.7s
YKA Yellowknife Ar 84.19 23 *i* P **P 02 09 27.3 -0.8**
YKA pmax pmax
comp=Z,6.0nm,0.7s
OBKA Obir 84.20 318 *eP* **P 02 09 28.7 +0.1**
comp=Z,15nm,1.0s
BIOA Bad Ischl, Aus 84.21 320 *i* P **P 02 09 29.0 +0.5**
comp=Z,20nm,1.3s,SNR=6.9
KIBK Kibwezi 84.35 265 IAmb IAmb 02 09 32.7
comp=Z,32nm,1.4s
GTTG Gottingen 84.43 324 *eP* 02 09 30.2
comp=Z,18nm,0.8s,baz=60,slow=5.0
GBRS Gornja Briga 84.49 317 *eP* **P 02 09 30.3 +0.3**
GBAS Gorenja Brezov 84.53 318 *eP* **P 02 09 30.0 -0.2**
LODK Lodwar 84.59 271 IAmb IAmb 02 09 37.7
comp=Z,27nm,1.6s
LODK Lodwar 84.59 271 P **P 02 09 33.1 +2.0**
SNR=7.3
KMBO Kilima Mbogo 84.60 266 P **P 02 09 32.6 +1.2**
KMBO IAmb IAmb 02 09 37.9
comp=Z,29nm,1.2s
KMBO Kilima Mbogo 84.60 266 P **P 02 09 32.7 +1.4**
comp=Z,8.7nm,0.9s,baz=49,slow=6.3,SNR=13
comp=Z,8.7nm,0.9s
KMBO Kilima Mbogo 84.60 266 P **P 02 09 33.5 +2.2**
KMBO P **P 02 09 33.5 +2.2**
KMBO Kilima Mbogo 84.60 266 P **P 02 09 32.6 +1.2**
KMBO pmax pmax
comp=Z,29nm,1.3s
KMBO Kilima Mbogo 84.60 266 *i* P **P 02 09 33.0 +1.6**
SNR=5.3
GRF Grafenberg Arr 84.66 322 *eP* 02 09 31.6
comp=Z,52nm,1.3s,baz=60,slow=5.0
GRF *eL* 02 51 38.8
comp=Z,511nm,20.7s
GRFO Grafenberg 84.66 322 P **P 02 09 31.2 +0.5**
GRFO Grafenberg 84.66 322 P **P 02 09 31.2 +0.5**
GRFO pmax pmax
comp=Z,52nm,1.3s
KBA Koelnbreinsper 84.67 319 *eP* **P 02 09 30.5 -0.6**
comp=Z,13nm,1.0s
RJOB Jochberg 84.69 320 *eP* 02 09 31.5
comp=Z,22nm,1.1s,baz=60,slow=5.0
UBBA Unterbreizbach 84.78 323 *eP* 02 09 31.6
comp=Z,27nm,1.3s,baz=60,slow=5.0
VOI Vohitsoka 84.82 244 IAmb IAmb 02 09 36.8
comp=Z,30nm,1.1s
VOI Vohitsoka 84.82 244 P **P 02 09 32.7 +0.6**
LESA Schwarzleotal 84.91 320 *i* P **P 02 09 32.3 +0.2**
comp=Z,26nm,1.3s,SNR=11
IBBN Ibbenburen 85.21 325 *eP* 02 09 33.9
comp=Z,39nm,1.1s,baz=60,slow=5.0
ABTA Abfaltersbach 85.33 319 *i* P **P 02 09 33.6 -0.7**
comp=Z,24nm,1.3s,SNR=7.3
FUR Furstenfeldbru 85.37 321 *eP* 02 09 35.2
comp=Z,44nm,1.1s,baz=60,slow=5.0
KASTN Kahler Asten 85.44 324 *eP* 02 09 35.2
comp=Z,22nm,1.3s,baz=60,slow=5.0
WATA Walderalm 85.60 320 *i* P **P 02 09 35.5 -0.2**
comp=Z,18nm,1.3s,SNR=5.5
WTTA Wattenberg 85.60 320 *i* P **P 02 09 35.1 -0.6**
comp=Z,28nm,1.3s,SNR=8.5
MOTA Moosalm 85.88 320 *eP* **P 02 09 36.7 -0.4**
comp=Z,12nm,1.1s
SQTA Sankt Quirin 85.88 320 *i* P **P 02 09 36.3 -0.7**
comp=Z,20nm,1.2s,SNR=5.2
BUG Bochum--Univer 85.93 325 *eP* 02 09 37.3
comp=Z,37nm,1.2s,baz=60,slow=5.0
TNS Taunus Mts 85.93 323 *eP* 02 09 37.6
comp=Z,19nm,1.4s,baz=60,slow=5.0
CTI Castel Tesino 86.19 319 IAmb IAmb 02 09 44.0
comp=Z,20nm,1.5s
FETA Feichten 86.26 320 *eP* **P 02 09 38.7 -0.3**
comp=Z,19nm,1.2s
UBR Ueberruh 86.30 321 *eP* 02 09 39.1
comp=Z,16nm,1.1s,baz=60,slow=5.0
DAVA Damuels 86.63 320 *eP* **P 02 09 41.1 +0.3**
comp=Z,9.6nm,1.0s
FUORN Ofenpass-Fuorn 86.74 320 IAmb IAmb 02 09 42.7
comp=Z,25nm,1.4s
BFO Black Forest 86.99 322 *eP* 02 09 42.2
comp=Z,45nm,2.0s,baz=60,slow=5.0
BTNL Ternell 86.99 325 *dP* **P 02 09 42.4 +0.1**
comp=Z,6.4nm,1.4s
MEM Membach 87.05 325 *dP* **P 02 09 44.0 +1.5**
ICESG Greenland Ices 87.14 353 *i* P **P 02 09 43.2 +0.1**
ICESG IAmb IAmb 02 09 43.9
comp=Z,60nm,1.2s
TUE Stuetta 87.36 320 IAmb IAmb 02 09 45.5
comp=Z,31nm,1.7s
WLF Walferdange 87.48 324 *dP* **P 02 09 44.9 +0.2**
comp=Z,13nm,1.3s
WLF Walferdange 87.48 324 *eP* 02 09 44.9
comp=Z,44nm,1.4s,baz=60,slow=5.0
BCLA Clavier 87.53 325 *dP* **P 02 09 44.9 0.0**
comp=Z,5.5nm,1.3s
RCHB Rochefort 87.71 325 *dP* **P 02 09 45.1 -0.6**
comp=Z,7.3nm,1.2s
LLLB Lillooet 88.25 35 IAmb IAmb 02 09 49.5
comp=Z,19nm,1.0s
EKA Eskdalemuir Ar 88.67 332 P **P 02 09 49.9 -0.3**
comp=Z,3.0nm,0.7s,baz=49,slow=3.4,SNR=8.7
comp=Z,3.0nm,0.7s
CASY Casey 89.31 184 P **P 02 09 52.6 0.0**
GNW Green Mountain 89.47 37 IAmb IAmb 02 09 55.6
comp=Z,24nm,1.1s
SFJD Kangerlussuaq 90.10 357 LR LR 02 53 01.5
comp=Z,312nm,19.6s,baz=354,slow=37
B08A Colville Reser 90.92 35 IAmb IAmb 02 10 01.8
comp=Z,24nm,1.1s
H04A Detroit Lake 91.47 40 IAmb IAmb 02 10 04.2
comp=Z,26nm,1.4s
D08A Wollman Farm, 91.92 36 IAmb IAmb 02 10 06.5
comp=Z,15nm,1.0s
HAWA Hanford 91.99 37 IAmb IAmb 02 10 07.0
comp=Z,13nm,1.1s
G06A Carlson Farm, 92.05 38 IAmb IAmb 02 10 07.3
comp=Z,18nm,1.1s
NEW Newport 92.14 35 IAmb IAmb 02 10 07.5
comp=Z,14nm,1.0s
NEW Newport 92.14 35 LR LR 02 52 53.1
comp=Z,93nm,20.2s,baz=325,slow=36
BBOR Butler Butte 92.19 41 IAmb IAmb 02 10 07.8
comp=Z,11nm,1.1s
YBH Yreka Blue Hor 92.82 42 IAmb IAmb 02 10 10.8
comp=Z,13nm,1.2s

J05D Fort Rock, OR 92.83 40 IAmb IAmb 02 10 11.2
comp=Z,13nm,0.9s
KEST Kesra 92.88 311 P **P 02 10 10.1 -0.2**
comp=Z,7.3nm,1.0s,baz=322,slow=4.9,SNR=4.3
comp=Z,7.3nm,1.0s
KEST Kesra 92.88 311 P **P 02 10 11.2 +0.8**
KEST P **P 02 10 11.2 +0.8**
LNOR Lincton Mounta 92.99 37 IAmb IAmb 02 10 11.7
comp=Z,6.4nm,0.8s
FCC Fort Churchill 93.58 17 IAmb IAmb 02 10 12.6
comp=Z,13nm,0.8s
HATC Hat Creek Radi 94.12 42 IAmb IAmb 02 10 16.9
comp=Z,18nm,1.1s
FFC Flin Flon 94.35 23 P **P 02 10 15.2 -1.3**
FFC Flin Flon 94.35 23 P **P 02 10 15.2 -1.3**
FFC pmax pmax
comp=Z,60nm,1.9s
J08A Circle Bar Ran 94.41 39 IAmb IAmb 02 10 18.3
comp=Z,8.4nm,1.0s
PPT Papeete 96.24 106 LR LR 02 48 53.9
comp=Z,107nm,19.7s,baz=270,slow=32
PPT2 Papeete2 96.25 106 *e*LR LR 02 41 27.7
comp=Z,254nm,24.5s
PPT2 *e*LR LR 02 41 30.5
comp=Z,218nm,28.2s
PNTR Pine Nut 96.28 43 P **P 02 10 24.5 -1.6**
PNTR IAmb IAmb 02 10 26.5
comp=Z,7.1nm,1.0s
CMB Columbia Colle 96.40 44 IAmb IAmb 02 10 26.8
comp=Z,7.6nm,1.1s
NVAR Mina Array Bea 97.49 43 P **P 02 10 30.4 -1.1**
comp=Z,1.1nm,0.8s,baz=304,slow=5.0,SNR=8.4
comp=Z,1.1nm,0.8s
LSZ Lusaka 98.28 257 P **P 02 10 34.5 -0.7**
LSZ IAmb IAmb 02 10 35.5
comp=Z,8.1nm,1.0s
LSZ Lusaka 98.28 257 LR LR 02 53 38.1
comp=Z,296nm,19.2s,baz=89,slow=35
LSZ Lusaka 98.28 257 P **P 02 10 34.8 -0.5**
LSZ P **P 02 10 34.8 -0.5**
LSZ Lusaka 98.28 257 P **P 02 10 34.5 -0.7**
LSZ pmax pmax
comp=Z,8.0nm,1.0s
ESDC Sonseca Array 99.22 320 LR LR 02 58 43.3
comp=Z,152nm,18.4s,baz=30,slow=37
PDAR Pinedale Array 99.76 35 P **Pdif 02 10 40.1 -1.5**
comp=Z,0.3nm,0.8s,baz=329,slow=1.7,SNR=3.5
PDAR LR LR 02 56 39.9
comp=Z,58nm,21.8s,baz=344,slow=36
comp=Z,0.3nm,0.8s
TAOE Nuku Hiva Isla 101.58 95 *e*LR LR 02 43 54.1
comp=Z,160nm,23.6s
VNDA Vanda 103.12 172 PP **PP 02 15 08.7 -1.7**
comp=Z,4.2nm,0.9s,baz=316,slow=8.4,SNR=9.5
SYO Syowa Base 108.16 202 ⇑*i*Pdiff **Pdif 02 11 18.6 +0.8**
SYO Syowa Base 108.16 202 ⇓*e*PKiKP **PKiKP 02 15 25.7 +1.5**
RKT Rikitea 110.99 107 *e*LR LR 02 48 18.3
comp=Z,850nm,25.0s
TXAR Lajitas Array 112.59 42 PKiKP **PKiKP 02 15 33.1 -1.0**
comp=Z,0.8nm,0.8s,baz=218,slow=1.0,SNR=7.3
ELIB Princess Elisa 113.98 200 *d*PKiKP **PKiKP 02 15 34.0 -1.4**
DBIC Dimbokro 119.37 292 PKP **PKPdf 02 15 46.8 -0.5**
comp=Z,6.7nm,1.1s,baz=124,slow=0.9,SNR=4.1
VNA2 Neumayer--Watz 123.65 198 ⇑P **PKPdf 02 15 52.1 -1.8**
comp=Z,22nm,0.7s,baz=109,slow=2.2
VNA3 Neumayer Olymp 124.12 197 ⇑P **PKPdf 02 15 49.9 -4.9**
comp=Z,10nm,0.7s
SDV Santo Domingo 146.39 21 PKPdf **PKPdf 02 16 36.6 -1.2**
SDV Santo Domingo 146.39 21 *eP* **PKPdf 02 16 36.2 -1.6**
ROSC El Rosal 148.61 30 PKPbc **PKPdf 02 16 42.2 +0.4**
comp=Z,7.2nm,0.4s,baz=29,slow=4.6,SNR=12
OTAV Otavalo 150.22 42 *eP* **PKPdf 02 16 44.3 -0.2**
TRQA Tornquist 164.75 171 PKPab **PKPab 02 17 56.9 +0.2**
TRQA Tornquist 164.75 171 PKP2 **PKPab 02 17 56.9 +0.2**
BDFB Brasilia 167.27 303 PKP **PKPdf 02 17 03.2 -0.8**
comp=Z,5.4nm,1.0s,baz=37,slow=3.4,SNR=5.6
BDFB PKPab **PKPab 02 18 08.0 -0.7**
comp=Z,4.5nm,0.8s,baz=49,slow=3.1,SNR=4.9
LPAZ La Paz 169.20 54 PKP **PKPdf 02 17 05.0 -0.9**
comp=Z,5.9nm,1.0s,baz=18,slow=3.4,SNR=13
LPAZ PKPab **PKPab 02 18 15.4 -2.4**
comp=Z,4.1nm,0.9s,baz=360,slow=7.5,SNR=5.1
LPAZ La Paz 169.20 54 *eP* **PKPdf 02 17 05.6 -0.3**
CPUP Villa Florida 176.28 205 PKP **PKPdf 02 17 06.8 -1.0**
comp=Z,1.8nm,1.0s,baz=136,slow=6.9,SNR=3.1
CPUP PKPab **PKPab 02 18 46.8 -1.3**
comp=Z,2.6nm,0.9s,baz=145,slow=5.2,SNR=4.9

TAP ***04*** *02:05:49.1, 22°.98N×120°.85E, h2km, ML3.7, C*
ISC 04 02:05:50.1±0.9, 22°.98N±0°.01×120°.86E±0°.01, h9km±7km, n148, σ0°71/205, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.20**	**338**	*i* P	**Pg**	**02 05 53.1**	**-1.2**
STYH				*eS*	**Sg**	**02 05 56.2**	**-0.9**
STYT	**Tauyuan**	**0.21**	**333**	*eP*	**Pg**	**02 05 54.2**	**-0.2**
TWG	**Pinlang**	**0.25**	**129**	P	**Pg**	**02 05 55.4**	**+0.3**
TWG				*i* S	**Sg**	**02 05 59.7**	**+1.1**
ELDTW	**Lidau**	**0.26**	**35**	*i* P	**Pg**	**02 05 54.9**	**-0.3**
TWGBT	**Beinan**	**0.26**	**128**	P	**Pg**	**02 05 55.3**	**0.0**
TWGBT	**Beinan**	**0.26**	**128**	S	**Sg**	**02 05 59.9**	**+1.1**
TWGBT	**Beinan**	**0.26**	**128**	P	**Pg**	**02 05 55.5**	**+0.2**
TWGBT	**Beinan**	**0.26**	**128**	S	**Sg**	**02 05 59.7**	**+0.9**
TWGBT	**Beinan**	**0.26**	**128**	P	**Pg**	**02 05 55.4**	**+0.2**
TWGBT				*eS*	**Sg**	**02 05 59.6**	**+0.9**
LONT	**Longtian**	**0.26**	**106**	P	**Pg**	**02 05 55.5**	**+0.2**
LONT				S	**Sg**	**02 05 59.6**	**+0.9**
SGST	**Jiashian**	**0.27**	**292**	*eP*	**Pg**	**02 05 55.1**	**-0.5**
SGST				*eS*	**Sg**	**02 05 59.7**	**+0.5**
TSMG	**Majia**	**0.34**	**216**	*eP*	**Pg**	**02 05 56.2**	**-0.5**
TSMG				*eS*	**Sg**	**02 06 00.2**	**-1.0**
TTN	**Taitung**	**0.35**	**130**	P	**Pb**	**02 05 58.0**	**-0.4**
TTN				*eS*	**Sb**	**02 06 04.2**	**+0.1**
SCST	**Cishan**	**0.35**	**255**	*eP*	**Pg**	**02 05 57.4**	**+0.5**
SCST				*eS*	**Sb**	**02 06 03.2**	**-0.9**
WTP	**Ta-pu**	**0.35**	**320**	*i* P	**Pg**	**02 05 57.6**	**+0.6**
WTP				*eS*	**Sb**	**02 06 03.0**	**-1.2**
ECS	**Chishang**	**0.35**	**71**	P	**Pg**	**02 05 57.3**	**+0.3**
ECS				*eS*	**Sg**	**02 06 02.7**	**+1.1**
EHD	**Haiduan**	**0.36**	**62**	*eP*	**Pg**	**02 05 56.6**	**-0.6**
EHD				*eS*	**Sg**	**02 06 01.4**	**-0.6**
CHN1	**Nanshi**	**0.37**	**304**	*eP*	**Pb**	**02 05 58.2**	**-0.6**
TPUB	**Ta-pu**	**0.38**	**327**	P	**Pg**	**02 05 58.2**	**+0.6**
TPUB	**Ta-pu**	**0.38**	**327**	S	**Sb**	**02 06 04.8**	**-0.5**
TPUB	**Ta-pu**	**0.38**	**327**	P	**Pb**	**02 05 58.4**	**-0.7**
TPUB	**Ta-pu**	**0.38**	**327**	S	**Sb**	**02 06 04.7**	**-0.5**
TPUB	**Ta-pu**	**0.38**	**327**	P	**Pg**	**02 05 58.3**	**+0.6**
TPUB				*eS*	**Sb**	**02 06 04.6**	**-0.6**
ECL	**Taimali**	**0.39**	**167**	P	**Pg**	**02 05 57.7**	**-0.1**
ECL				*eS*	**Sg**	**02 06 02.7**	**-0.2**
EDH	**Donghe**	**0.41**	**91**	P	**Pb**	**02 05 58.9**	**-0.6**
EDH				S	**Sb**	**02 06 05.2**	**-0.7**
SNST	**Tainan City**	**0.41**	**306**	*i* P	**Pb**	**02 05 59.6**	**0.0**
MASBT	**Mashibuluo**	**0.42**	**210**	*i* P	**Pg**	**02 05 57.9**	**-0.4**
MASBT				*eS*	**Sg**	**02 06 03.3**	**-0.5**
SGLT	**Jiouru**	**0.42**	**233**	*eP*	**Pb**	**02 05 59.2**	**-0.6**
TWM1	**Shoushan**	**0.43**	**249**	*eP*	**Pb**	**02 05 59.8**	**-0.1**
CHN4	**Tsaushan**	**0.44**	**327**	*eP*	**Pb**	**02 05 59.8**	**-0.4**
TWK	**Hsinying**	**0.45**	**310**	*eP*	**Pb**	**02 06 00.0**	**-0.2**
TWK				*eS*	**Sb**	**02 06 07.5**	**+0.5**
FULB	**Fuli**	**0.46**	**61**	P	**Pb**	**02 05 59.5**	**-0.8**
FULB				*eS*	**Sb**	**02 06 06.5**	**-0.8**
CHN3	**Shinhua**	**0.47**	**282**	*eP*	**Pb**	**02 06 00.3**	**-0.2**
SHHT	**Tainan City**	**0.47**	**275**	*eP*	**Pn**	**02 06 02.2**	**-0.9**
CHKT	**Chengkung**	**0.48**	**76**	P	**Pb**	**02 06 00.4**	**-0.4**
CHKT				*eS*	**Sb**	**02 06 08.1**	**+0.2**
WCKO	**Fanlu**	**0.51**	**333**	P	**Pb**	**02 06 01.3**	**0.0**
WCKO				S	**Sb**	**02 06 09.4**	**+0.4**
ALS	**Alishan**	**0.53**	**355**	*i* P	**Pb**	**02 06 00.5**	**0.0**
ALS				*eS*	**Sb**	**02 06 09.3**	**-0.4**
CHKH	**Chenggong**	**0.54**	**67**	*eP*	**Pb**	**02 06 01.1**	**-0.6**
CHKH				*eS*	**Sb**	**02 06 09.7**	**+0.1**
TWF1	**Yuli**	**0.55**	**47**	*i* P	**Pg**	**02 06 00.4**	**-0.3**
EYUL	**Yuli**	**0.56**	**49**	*eP*	**Pg**	**02 06 00.7**	**-0.3**
SSPT	**Xinbi**	**0.56**	**209**	*eP*	**Pb**	**02 06 02.4**	**+0.2**
SSPT				*eS*	**Sb**	**02 06 10.4**	**+0.1**
YULB	**Yu-li**	**0.58**	**44**	P	**Pg**	**02 06 00.5**	**-0.7**
YULB	**Yu-li**	**0.58**	**44**	S	**Sg**	**02 06 07.8**	**-1.0**
YULB	**Yu-li**	**0.58**	**44**	P	**Pg**	**02 06 00.6**	**-0.7**
YULB	**Yu-li**	**0.58**	**44**	S	**Sg**	**02 06 07.6**	**-1.2**
YULB	**Yu-li**	**0.58**	**44**	P	**Pg**	**02 06 00.5**	**-0.7**
EAST	**Anshuo**	**0.59**	**181**	*eP*	**Pg**	**02 06 01.6**	**+0.1**
TAW	**Tawu**	**0.62**	**177**	*eP*	**Pg**	**02 06 02.0**	**-0.1**
CHN5	**Tsauling**	**0.64**	**345**	P	**Pg**	**02 06 02.8**	**+0.4**
CHN5				*eS*	**Sb**	**02 06 13.2**	**+0.6**
TAWH	**Dawu Township**	**0.64**	**178**	*eP*	**Pg**	**02 06 02.3**	**-0.1**
ECBN	**Changbin**	**0.64**	**58**	P	**Pb**	**02 06 03.2**	**-0.3**
LDUT	**Ludao**	**0.64**	**118**	*eP*	**Pg**	**02 06 02.7**	**+0.3**
SCLT	**Jiali**	**0.64**	**288**	*eP*	**Pb**	**02 06 04.2**	**+0.6**
SCZT	**Fangliau**	**0.64**	**200**	P	**Pg**	**02 06 02.1**	**-0.4**
SCZT				*eS*	**Sg**	**02 06 10.5**	**-0.4**
WSSB	**Gushan**	**0.65**	**239**	*eP*	**Pn**	**02 06 05.7**	**+0.2**
CHY	**Chiayi**	**0.65**	**322**	*eP*	**Pb**	**02 06 04.1**	**+0.4**
CHY				*eS*	**Sn**	**02 06 14.5**	**-1.5**
ICHU	**Yijhu**	**0.66**	**306**	*eP*	**Pn**	**02 06 05.0**	**-0.6**
EHY	**Hungye**	**0.68**	**39**	P	**Pg**	**02 06 02.5**	**-0.6**
EHYH	**Wanrong**	**0.68**	**41**	*i* P	**Pg**	**02 06 02.8**	**-0.4**
CHN8	**Yiju**	**0.70**	**302**	*eP*	**Pb**	**02 06 04.9**	**+0.5**
CHN8				*eS*	**Sn**	**02 06 17.0**	**-0.1**
WHYT	**Xinyi Township**	**0.71**	**360**	P	**Pg**	**02 06 04.0**	**+0.2**
HGSD	**Ruisui**	**0.73**	**45**	P	**Pg**	**02 06 04.4**	**+0.3**
HGSD				*eS*	**Sb**	**02 06 15.6**	**+0.5**
TSCK	**Chigu Township**	**0.73**	**283**	*eP*	**Pb**	**02 06 05.3**	**+0.3**
TSCK				*eS*	**Sn**	**02 06 18.3**	**+0.4**
WGK	**Gukeng**	**0.76**	**339**	*eP*	**Pn**	**02 06 06.1**	**-0.8**
WGK				*eS*	**Sn**	**02 06 17.7**	**-0.8**
SLIU	**Shizi**	**0.76**	**184**	*eP*	**Pg**	**02 06 04.5**	**-0.2**
WDLH	**Douliu**	**0.77**	**337**	*eP*	**Pn**	**02 06 06.5**	**-0.6**
WDLH				S	**Sn**	**02 06 18.4**	**-0.5**
WSL	**Shuilin Townsh**	**0.79**	**313**	P	**Pb**	**02 06 06.6**	**+0.5**
WSL				*eS*	**Sn**	**02 06 19.4**	**-0.1**
SSLB	**Suanglung**	**0.81**	**6**	P	**Pg**	**02 06 05.0**	**-0.7**
SSLB	**Suanglung**	**0.81**	**6**	P	**Pg**	**02 06 05.0**	**-0.7**
VWDT	**VWDT**	**0.81**	**19**	*eP*	**Pg**	**02 06 04.8**	**-1.0**
WTK	**Tuku**	**0.83**	**329**	*eP*	**Pb**	**02 06 07.1**	**+0.4**
WTK				*eS*	**Sn**	**02 06 19.8**	**-0.5**
WJS	**Zhushan**	**0.85**	**352**	*i* P	**Pn**	**02 06 07.6**	**-0.7**
WJS				*eS*	**Sn**	**02 06 20.1**	**-0.7**
EGFH	**Guangfu**	**0.86**	**37**	*eP*	**Pg**	**02 06 06.3**	**-0.4**
WSF	**Szhu**	**0.88**	**318**	*eP*	**Pb**	**02 06 07.8**	**+0.2**
WSF				*eS*	**Sn**	**02 06 21.8**	**+0.1**
WARBT	**Fenglin Townsh**	**0.88**	**33**	*i* P	**Pg**	**02 06 06.2**	**-0.9**
WARBT				S	**Sg**	**02 06 18.8**	**+0.3**
SMLT	**Sun Moon Lake**	**0.90**	**2**	*eP*	**Pg**	**02 06 06.3**	**-1.1**
SMLT				*eS*	**Sn**	**02 06 22.1**	**-0.2**
WNT	**Mingjian**	**0.91**	**350**	*eP*	**Pn**	**02 06 08.7**	**-0.4**
TYC	**Yuchr**	**0.92**	**360**	P	**Pb**	**02 06 08.2**	**-0.1**
TYC				*i* S	**Sn**	**02 06 23.0**	**+0.4**
HEN	**Hengchun**	**0.97**	**187**	*eP*	**Pn**	**02 06 10.7**	**+0.7**
ESL	**Shilin**	**0.98**	**32**	*eP*	**Pg**	**02 06 08.3**	**-0.7**
OWD	**Renai**	**1.01**	**17**	*eP*	**Pg**	**02 06 09.2**	**-0.3**
OWD				*eS*	**Sb**	**02 06 23.9**	**+0.5**
SHUL	**Shoufeng**	**1.03**	**39**	*eP*	**Pb**	**02 06 10.2**	**+0.1**
TWK1	**Hengchun**	**1.03**	**183**	*eP*	**Pn**	**02 06 11.2**	**+0.4**
TWKBT	**Hengchun**	**1.03**	**182**	*eP*	**Pn**	**02 06 11.2**	**+0.4**
WUSB	**Renai**	**1.04**	**13**	*eP*	**Pg**	**02 06 08.8**	**-1.2**
WCS	**Beigang Elemen**	**1.07**	**3**	*eP*	**Pn**	**02 06 11.3**	**-0.1**
WCS				*eS*	**Sn**	**02 06 27.0**	**+0.5**
TSEB	**Hengchuen, Pin**	**1.07**	**178**	*eP*	**Pn**	**02 06 13.2**	**+1.8**
TEYL	**Yanliau Villag**	**1.11**	**37**	*eP*	**Pn**	**02 06 12.7**	**+0.7**
LAY	**Lan-yu**	**1.13**	**146**	*eP*	**Pg**	**02 06 10.8**	**-1.0**
WDGT	**Dungji**	**1.14**	**284**	P	**Pg**	**02 06 11.4**	**-0.5**
WDGT				*eS*	**Sn**	**02 06 27.5**	**-0.5**
ETM	**Tongmen**	**1.14**	**31**	*eP*	**Pg**	**02 06 11.3**	**-0.7**
LXIB	**Xiulin Townshi**	**1.16**	**26**	*eP*	**Pg**	**02 06 11.3**	**-0.9**
TCU	**Taichung**	**1.18**	**352**	*eP*	**Pn**	**02 06 13.4**	**+0.6**
LYUB	**Lan-yu**	**1.18**	**145**	*eP*	**Pb**	**02 06 10.8**	**-1.9**
HWA	**Hwalien**	**1.21**	**34**	*eP*	**Pg**	**02 06 14.1**	**+0.8**
WHF	**Hehuan Shan**	**1.22**	**18**	*eP*	**Pg**	**02 06 13.3**	**-0.2**
WHF				*eS*	**Sn**	**02 06 32.2**	**+1.5**
TWD	**Chiawan**	**1.29**	**32**	*eP*	**Pg**	**02 06 14.6**	**-0.2**
WHP	**Taichung City**	**1.29**	**4**	*eP*	**Pg**	**02 06 15.8**	**+0.9**
WHP				*eS*	**Sn**	**02 06 34.4**	**+2.4**
PHUB	**P'eng-hu**	**1.30**	**294**	P	**Pn**	**02 06 13.8**	**-0.6**
PHUB				S	**Sb**	**02 06 31.3**	**-0.2**
TDCB	**Techi**	**1.30**	**12**	*eP*	**Pg**	**02 06 14.8**	**-0.2**
TWT	**Tachien**	**1.30**	**13**	*eP*	**Pg**	**02 06 14.9**	**-0.1**
FUSS	**Fushou**	**1.31**	**16**	*eP*	**Pn**	**02 06 14.4**	**-0.5**
FUSS				*eS*	**Sn**	**02 06 33.8**	**+1.2**
PNG	**Penghu**	**1.33**	**296**	*eS*	**Sn**	**02 06 32.5**	**-0.3**
VCHM	**Qimei**	**1.34**	**280**	*eP*	**Pn**	**02 06 14.2**	**-0.8**
ETLH	**Xiulin Townshi**	**1.35**	**25**	*eP*	**Pn**	**02 06 14.8**	**-0.4**
ETLH				*eS*	**Sg**	**02 06 33.7**	**+0.2**
TWQ1	**Liyutan**	**1.36**	**357**	P	**Pg**	**02 06 16.7**	**+0.4**
TWQ1				*i* S	**Sg**	**02 06 36.6**	**+2.6**
NACB	**Ninganchiao**	**1.37**	**29**	P	**Pn**	**02 06 15.2**	**-0.2**
NACB	**Ninganchiao**	**1.37**	**29**	S	**Sn**	**02 06 33.6**	**-0.1**
NACB	**Ninganchiao**	**1.37**	**29**	P	**Pn**	**02 06 15.3**	**-0.2**
NACB	**Ninganchiao**	**1.37**	**29**	S	**Sn**	**02 06 33.7**	**0.0**
NACB	**Ninganchiao**	**1.37**	**29**	*eP*	**Pn**	**02 06 15.1**	**-0.2**
NACB				*eS*	**Sb**	**02 06 33.5**	**0.0**
NSY	**Sanyi**	**1.43**	**356**	*eP*	**Pn**	**02 06 15.8**	**-0.5**
NSY				*eS*	**Sg**	**02 06 36.8**	**+0.6**
NNSB	**Datong**	**1.52**	**18**	*eP*	**Pn**	**02 06 17.7**	**+0.1**
NNSB				*eS*	**Sg**	**02 06 40.0**	**+0.9**
NNS	**Nan Shan**	**1.53**	**18**	*eP*	**Pb**	**02 06 18.7**	**0.0**
NNS				*eS*	**Sg**	**02 06 40.6**	**+1.3**
NMLH	**Miaoli**	**1.55**	**358**	*eP*	**Pg**	**02 06 19.7**	**-0.2**
NMLH				*eS*	**Sg**	**02 06 42.1**	**+2.1**
EAHA	**Aohua**	**1.57**	**31**	*eP*	**Pb**	**02 06 19.0**	**-0.3**
EAHA				*eS*	**Sg**	**02 06 41.1**	**+0.5**
NSTT	**Nanjuang**	**1.65**	**4**	*eP*	**Pb**	**02 06 20.7**	**0.0**
ENA	**Nanau**	**1.65**	**29**	*eP*	**Pb**	**02 06 20.3**	**-0.5**
NFF	**Wufeng Townshi**	**1.66**	**8**	*eP*	**Pg**	**02 06 21.4**	**-0.5**
LATG	**Datong**	**1.67**	**21**	*eP*	**Pb**	**02 06 20.6**	**-0.4**
LIOB	**Emei**	**1.67**	**5**	*eP*	**Pb**	**02 06 21.3**	**+0.3**
EWUT	**Wuta**	**1.69**	**30**	*eP*	**Pb**	**02 06 20.9**	**-0.4**
YHNB	**Yeheng**	**1.75**	**16**

JNU	Nakatsue	21.56	28	LR	LR	02 20 10.7		
	comp=Z,238nm,18.6s,baz=229,slow=36							
KSAR	Wonju Array Be	24.29	17	P	P	02 12 35.8	+0.5	
KSRS	Korea Array	24.31	18	P	P	02 12 35.3	-0.2	
	9.3nm,1.1s,baz=203,slow=9.7,SNR=12							
	9.3nm,1.1s							
JCJ	Chichijima	25.07	56	LR	LR	02 23 02.2		
	comp=Z,135nm,18.8s,baz=340,slow=38							
GUMO	Guam	25.15	89	LR	LR	02 20 27.7		
	comp=Z,208nm,21.9s,baz=90,slow=31							
MJAR	Matsushiro Arr	27.97	34	P	P	02 13 09.6	+1.0	
	0.8nm,0.3s,baz=218,slow=7.7,SNR=2.1							
MJAR				LR	LR	02 24 31.8		
	comp=Z,180nm,19.0s,baz=228,slow=37							
	0.8nm,0.3s							
USRK	Ussuriysk Ar.	31.72	18	P	P	02 13 42.3	+0.6	
	1.5nm,0.6s,baz=210,slow=6.1,SNR=6.8							
	1.5nm,0.6s							
SONM	Songino Array	34.93	345	P	P	02 14 10.0	+0.1	
	8.3nm,0.9s,baz=164,slow=10,SNR=15							
	8.3nm,0.9s							
KLR	Kul'dur	36.29	14	P	P	02 14 21.9	+0.5	
	9.0nm,0.9s,baz=230,slow=6.4,SNR=19							
	9.0nm,0.9s							
WRA	Warramunga Arr	37.33	156	P	P	02 14 29.5	-1.0	
	2.0nm,0.8s,baz=336,slow=9.3,SNR=7.7							
	2.0nm,0.8s							
AS31	Alice Springs	40.55	159	P	P	02 14 56.4	-1.1	
ASAR	Alice Springs	40.56	159	P	P	02 14 57.5	0.0	
	3.7nm,0.6s,baz=338,slow=7.0,SNR=27							
ASAR				PcP	PcP	02 16 59.8	0.0	
	0.8nm,0.6s,baz=343,slow=3.8,SNR=4.8							
	3.7nm,0.6s							
MKAR	Makanchi Array	44.48	324	P	P	02 15 29.1	-0.1	
	1.1nm,0.9s,baz=127,slow=7.7,SNR=6.4							
MKAR				PcP	PP	02 17 12.3	-0.7	
	2.0nm,0.8s,baz=108,slow=4.0,SNR=11							
	1.1nm,0.9s							
ZALV	Zalesovo Beam	47.67	333	P	P	02 15 53.6	-0.6	
	0.6nm,0.5s,baz=134,slow=8.3,SNR=5.3							
	0.6nm,0.5s							
KURBB	Kurchatov Arra	48.67	327	P	P	02 16 01.2	-0.8	
	3.7nm,1.0s,baz=121,slow=8.1,SNR=12							
	3.7nm,1.0s							
KURK	Kurchatov	48.68	327	P	P	02 16 01.7	-0.3	
KURK				IAmb	IAmb	02 16 03.5		
	comp=Z,8.8nm,1.1s							
PETK	Petropavlovsk-	49.25	30	P	P	02 16 07.0	+0.7	
	comp=Z,3.1nm,0.9s,baz=205,slow=6.6,SNR=4.2							
	comp=Z,3.1nm,0.9s							
STKA	Stephens Creek	50.87	155	P	P	02 16 19.3	+0.4	
	comp=Z,3.6nm,1.0s,baz=340,slow=5.3,SNR=3.4							
	comp=Z,3.6nm,1.0s							
BVAR	Borovoye Array	54.25	326	P	P	02 16 43.6	-0.1	
	comp=Z,2.4nm,0.7s,baz=119,slow=9.2,SNR=12							
	comp=Z,2.4nm,0.7s							
BRVK	Borovoye	54.32	326	P	P	02 16 44.5	+0.3	
BRVK				IAmb	IAmb	02 16 45.8		
	comp=Z,9.8nm,1.1s							
TIXI	Tiksi	57.54	4	P	P	02 17 06.2	-0.7	
TIXI				IAmb	IAmb	02 17 07.2		
	comp=Z,9.6nm,1.2s							
NRIK	Noril'sk	58.36	347	P	P	02 17 12.7	-0.1	
NRIK				IAmb	IAmb	02 17 13.9		
	comp=Z,7.6nm,0.9s							
NRIK	Noril'sk	58.36	347	P	P	02 17 13.0	+0.2	
	comp=Z,3.5nm,0.6s,baz=135,slow=5.6,SNR=7.7							
	comp=Z,3.5nm,0.6s							
ABKAR	Akbulak array	59.10	319	P	P	02 17 18.2	-0.1	
ARTI	Arti	61.96	327	P	P	02 17 36.9	-0.7	
ARTI				IAmb	IAmb	02 17 38.2		
	comp=Z,7.7nm,1.0s							
RAYN	Ar Rayn	69.43	290	P	P	02 18 25.5	-1.1	
RAYN				IAmb	IAmb	02 18 27.5		
	comp=Z,5.0nm,0.9s							
KBZ	Khabaz	70.16	312	P	P	02 18 30.3	-0.3	
	comp=Z,2.4nm,1.0s,baz=148,slow=4.2,SNR=6.7							
	comp=Z,2.4nm,1.0s							
GURO	Guroymak-BITLI	71.02	306	P	P	02 18 36.6	+0.5	
J17K	VABM Dome	73.64	28	P	P	02 18 51.7	+0.5	
E19K	Redstone River	74.44	23	P	P	02 18 56.4	+0.6	
D20K	Etivluk River	74.67	22	P	P	02 18 58.2	+1.1	
D20K				IAmb	IAmb	02 18 59.4		
	comp=Z,8.0nm,0.9s							
F20K	Avaraart Lake	75.03	24	P	P	02 19 00.3	+1.2	
B21K	Ikpikpuk River	75.37	21	P	P	02 19 02.2	+1.1	
B21K				IAmb	IAmb	02 19 03.5		
	comp=Z,5.5nm,0.8s							
E21K	Killik River	75.65	22	P	P	02 19 02.9	+0.2	
E21K				IAmb	IAmb	02 19 04.8		
	comp=Z,9.0nm,1.1s							
B22K	Teshekpuk Lake	75.75	20	P	P	02 19 04.4	+1.2	
B22K				IAmb	IAmb	02 19 05.5		
	comp=Z,9.9nm,1.0s							
J20K	Nowinta River	75.81	27	P	P	02 19 04.7	+1.0	
G21K	Allakaket	75.93	24	P	P	02 19 05.4	+1.0	
G21K				IAmb	IAmb	02 19 06.7		
	comp=Z,9.8nm,1.1s							
H21K	Melozitna River	76.28	25	P	P	02 19 06.5	+0.2	
H21K				IAmb	IAmb	02 19 09.0		
	comp=Z,9.8nm,1.1s							
C23K	Itkillik River	76.75	21	P	P	02 19 09.9	+1.0	
CAST	Castle Rocks	76.78	28	P	P	02 19 10.1	+0.8	
D23K	Nanushuk River	76.81	22	P	P	02 19 09.9	+0.6	
BPAW	Bear Paw Mtn.	77.20	27	P	P	02 19 11.5	-0.1	
TOLK	Toolik Lake Re	77.24	22	P	P	02 19 12.6	+0.8	
E23K	Chandalar	77.30	23	P	P	02 19 12.9	+0.7	
E23K				IAmb	IAmb	02 19 14.6		
	comp=Z,6.0nm,0.8s							
D24K	Happy Valley	77.45	21	P	P	02 19 13.6	+0.7	
D24K				IAmb	IAmb	02 19 15.1		
	comp=Z,7.9nm,0.8s							
H23K	Yukon River	77.60	25	P	P	02 19 13.9	+0.1	
H23K				IAmb	IAmb	02 19 16.6		
	comp=Z,5.7nm,0.9s							
E24K	Your Creek	77.72	23	P	P	02 19 14.9	+0.4	
E24K				IAmb	IAmb	02 19 16.7		
	comp=Z,6.3nm,0.9s							
ARCES	ARCESS Array B	77.83	339	P	P	02 19 15.3	+0.3	
	comp=Z,1.4nm,0.6s,baz=84,slow=6.2,SNR=9.9							
	comp=Z,1.4nm,0.6s							
F24K	Squaw Lake	78.02	23	P	P	02 19 16.1	0.0	
F24K				IAmb	IAmb	02 19 18.5		
	comp=Z,5.0nm,0.8s							
MCK	McKinley	78.14	27	P	P	02 19 17.5	+0.6	
RND	Reindeer	78.23	27	P	P	02 19 15.9	-1.5	
RND				IAmb	IAmb	02 19 18.6		
	comp=Z,9.6nm,1.0s							
H24K	Noodor Dome	78.28	25	P	P	02 19 17.6	-0.1	
D25K	Kavik River	78.29	21	P	P	02 19 17.2	-0.4	
G24K	Hadweenzic Riv	78.30	24	P	P	02 19 16.8	-0.9	
G24K				IAmb	IAmb	02 19 20.2		
	comp=Z,6.5nm,1.0s							
SPITS	Spitsbergen Ar	78.57	348	P	P	02 19 19.4	+0.4	
	comp=Z,4.2nm,0.8s,baz=97,slow=6.8,SNR=9.4							
	comp=Z,4.2nm,0.8s							
AKASG	Malin Array Be	78.84	320	P	P	02 19 20.2	-0.7	
	comp=Z,0.9nm,0.6s,baz=70,slow=4.3,SNR=5.9							
	comp=Z,0.9nm,0.6s							
FINES	FINESS Array B	78.86	331	P	P	02 19 20.3	-0.5	
	comp=Z,2.8nm,0.7s,baz=66,slow=3.8,SNR=8.6							
	comp=Z,2.8nm,0.7s							
F25K	Christian River	78.86	23	P	P	02 19 20.4	-0.4	
ILAR	Eielson Array	78.86	26	P	P	02 19 20.1	-0.7	
	comp=Z,0.9nm,0.9s,baz=279,slow=5.5,SNR=6.3							
	comp=Z,0.9nm,0.9s							
PWL	Port Wells	78.87	30	P	P	02 19 20.1	-0.8	
C27K	Jago River	79.16	21	P	P	02 19 22.7	+0.3	
C27K				IAmb	IAmb	02 19 24.8		
	comp=Z,9.3nm,0.9s							
BMAR	Burnt Mountain	79.29	23	P	P	02 19 22.6	-0.6	
F26K	Sheenjek River	79.40	23	P	P	02 19 24.5	+0.8	
RIDG	Independent Ri	79.93	27	P	P	02 19 26.9	+0.2	
RIDG				IAmb	IAmb	02 19 28.1		
	comp=Z,10nm,1.0s							
E27K	Coleen River	80.23	22	P	P	02 19 28.4	+0.2	
E27K				IAmb	IAmb	02 19 30.5		
	comp=Z,6.2nm,0.8s							
DOT	Dot Lake	80.30	27	P	P	02 19 28.8	+0.1	
E28M	Babbage River	80.86	21	P	P	02 19 31.9	+0.3	
L27K	Beaver Creek,	81.41	27	P	P	02 19 35.4	+0.7	
L27K				IAmb	IAmb	02 19 37.0		
	comp=Z,8.2nm,1.2s							
BCAR	Beaver Creek A	81.43	27	P	P	02 19 35.7	+0.9	
E29M	Blow River	81.50	21	P	P	02 19 35.5	+0.5	
E29M				IAmb	IAmb	02 19 36.8		
	comp=Z,6.0nm,1.0s							
I28M	Miner Creek	81.58	24	P	P	02 19 37.0	+1.4	
G29M	Pine Creek	81.90	23	P	P	02 19 37.6	+0.5	
H29M	Whitestone	81.97	24	P	P	02 19 38.0	+0.5	
H29M				IAmb	IAmb	02 19 49.1		
	comp=Z,9.5nm,1.4s							
BURAR	Bucovina Array	82.00	317	P	P	02 19 38.4	+0.2	
BUR08	Bucovina Ar. S	82.00	317	P	P	02 19 37.3	-0.9	
DAWY	Dawson	82.19	26	P	P	02 19 38.8	0.0	
DAWY				IAmb	IAmb	02 19 41.0		
	comp=Z,6.1nm,1.1s							
KMBO	Kilima Mbogo	82.25	267	P	P	02 19 40.1	-0.1	
	comp=Z,1.2nm,0.5s,baz=62,slow=9.2,SNR=5.1							
	comp=Z,1.2nm,0.5s							
F30M	Barrier River	82.50	22	P	P	02 19 40.5	+0.3	
F30M				IAmb	IAmb	02 19 42.2		
	comp=Z,7.7nm,0.9s							
G30M	tAoh Zraii Nji	82.55	23	P	P	02 19 40.8	+0.2	
INK	Inuvik	83.05	21	P	P	02 19 44.0	+0.9	
INK				IAmb	IAmb	02 19 44.5		
	comp=Z,5.2nm,1.1s							
I30M	Mount Dempster	83.07	24	P	P	02 19 43.4	0.0	
I30M				IAmb	IAmb	02 19 45.8		
	comp=Z,4.5nm,0.9s							
F31M	Tsiigehtchic	83.29	22	P	P	02 19 44.7	+0.4	
H31M	Peel River	83.66	23	P	P	02 19 46.9	+0.5	
M30M	Minto, Yukon	83.77	27	P	P	02 19 47.9	+0.9	
M30M				IAmb	IAmb	02 19 49.9		
	comp=Z,7.4nm,1.2s							
A36M	Sachs Harbour	84.05	16	P	P	02 19 48.3	+0.2	
HFS	Hagfors	85.05	331	P	P	02 19 52.5	-0.9	
	comp=Z,5.0nm,0.8s,baz=120,slow=2.4,SNR=15							
	comp=Z,5.0nm,0.8s							
NC405	NORSAR Array S	85.61	332	P	P	02 19 55.8	-0.4	
C36M	Paulatuk	85.69	18	P	P	02 19 56.7	+0.3	
C36M				IAmb	IAmb	02 20 03.1		
	comp=Z,5.5nm,1.2s							
NB2	NORSAR Subarra	85.86	332	P	P	02 19 56.2	-1.3	
	comp=Z,9.8nm,1.1s,baz=70,slow=5.1							
NOA	NORSAR Array B	85.86	332	P	P	02 19 56.6	-0.9	
	comp=Z,3.3nm,0.8s,baz=69,slow=4.9,SNR=12							
	comp=Z,3.3nm,0.8s							
MMPY	Sheldon Lake,	86.13	26	P	P	02 19 59.0	+0.2	
RES	Resolute Bay	88.60	9	P	P	02 20 11.1	+0.7	
RES				IAmb	IAmb	02 20 12.3		
	comp=Z,4.1nm,0.9s							
YKA	Yellowknife Ar	92.77	22	P	P	02 20 30.6	+0.6	
	comp=Z,0.7nm,0.9s,baz=316,slow=4.5,SNR=9.0							
	comp=Z,0.7nm,0.9s							
TXAR	Lajitas Array	120.14	43	PKP	PKiKP	02 26 10.7	+1.0	
	comp=Z,0.2nm,0.4s,baz=90,slow=1.3,SNR=4.9							
PLCA	Paso Flores	152.48	164	PKPbc	PKiKP	02 27 15.3	+0.5	
	comp=Z,2.1nm,0.8s,baz=208,slow=2.0,SNR=3.5							

*TAP **04** 02:20:05.3,22°.96N×120°.86E,h4km,ML2.9,C*
ISC 04 02:20:05.9±1.0,22°.97N±0°.01×120°.86E±0°.01,h4km±8km,
n106,σ0°.84/195,2C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	Taoyuan	0.21	338⇓	eP	Pg	02 20 09.4	-0.7
STYH				eS	Sg	02 20 12.5	-0.4
STYT	Tauyuan	0.21	333⇓	eP	Pg	02 20 09.4	-0.7
STYT				eS	Sg	02 20 12.6	-0.3
TWG	Pinlang	0.24	128	i P	Pg	02 20 11.1	+0.5
TWG				eS	Sg	02 20 15.1	+1.2
TWGBT	Beinan	0.25	127	P	Pg	02 20 11.2	+0.4
TWGBT	Beinan	0.25	127	P	Pg	02 20 11.2	+0.4
TWGBT				eS	Sg	02 20 15.1	+1.0
LONT	Longtian	0.26	104	P	Pg	02 20 11.3	+0.4
LONT				i S	Sg	02 20 15.1	+0.9
ELDTW	Lidau	0.26	33	i P	Pg	02 20 11.1	+0.1
ELDTW				eS	Sg	02 20 14.8	+0.4
SGST	Jiashian	0.28	293	eP	Pg	02 20 11.3	-0.1
SGST				S	Sg	02 20 16.0	+1.0
SSD	Sandimen	0.31	223⇑	eP	Pg	02 20 11.6	-0.3
SSD				eS	Sg	02 20 15.6	-0.3
TSMG	Majia	0.33	217	eP	Pg	02 20 11.7	-0.6
TSMG				eS	Sg	02 20 15.7	-0.9
TTN	Taitung	0.34	129	P	Pb	02 20 13.7	-0.8
TTN				eS	Sb	02 20 19.5	-0.8
SCST	Cishan	0.35	256	P	Pb	02 20 13.7	-1.0
SCST				eS	Sb	02 20 19.0	-1.6
ECS	Chishang	0.35	69	i P	Pg	02 20 13.2	+0.5
ECS				S	Sg	02 20 18.5	+1.1
WTP	Ta-pu	0.36	320	i P	Pb	02 20 13.8	-1.1
WTP				i S	Sb	02 20 19.4	-1.4
EHD	Haiduan	0.36	61	eP	Pg	02 20 12.1	-0.9
EHD				eS	Sg	02 20 17.4	-0.3
CHN1	Nanshi	0.37	305	eP	Pb	02 20 14.6	-0.5
CHN1				eS	Sb	02 20 22.5	+1.1
ECL	Taimali	0.38	167	i P	Pg	02 20 13.4	+0.1
ECL				eS	Sg	02 20 18.0	-0.3
TPUB	Ta-pu	0.39	327	P	Pb	02 20 14.5	-0.9
TPUB	Ta-pu	0.39	327	i P	Pb	02 20 14.6	-0.9
TPUB				i S	Sb	02 20 20.9	-1.0
EDH	Donghe	0.41	90	i P	Pb	02 20 14.7	-1.0
EDH				eS	Sb	02 20 21.4	-0.9
MASBT	Mashibuluo	0.41	211	i P	Pg	02 20 13.8	-0.1
MASBT				eS	Sg	02 20 18.9	-0.4
SNST	Tainan City	0.42	307	P	Pb	02 20 15.8	-0.1
SNST				eS	Sb	02 20 23.2	+0.6
SGLT	Jiouru	0.42	234	eP	Pb	02 20 16.0	0.0
TWM1	Shoushan	0.43	250	eP	Pb	02 20 15.9	-0.2
TWM1				eS	Sb	02 20 24.0	+1.0
CHN4	Tsaushan	0.45	327	eP	Pb	02 20 16.2	-0.3
CHN4				eS	Sb	02 20 23.9	+0.3
TWK	Hsinying	0.45	311	i P	Pb	02 20 15.6	-1.0
TWK				eS	Sb	02 20 23.9	+0.2
FULB	Fuli	0.46	60	eP	Pg	02 20 15.4	+0.6
FULB				S	Sb	02 20 22.5	-1.3
CHN3	Shinhua	0.47	283	eP	Pb	02 20 17.3	+0.5
CHN3				eS	Sb	02 20 25.7	+1.7
SHHT	Tainan City	0.48	276	eP	Pn	02 20 19.1	-0.5
SHHT				eS	Sb	02 20 28.3	+4.1
CHKT	Chengkung	0.48	75	eP	Pb	02 20 16.5	-0.5
CHKT				eS	Sb	02 20 24.1	-0.4
WCKO	Fanlu	0.52	333	eP	Pb	02 20 17.9	+0.2
WCKO				S	Sb	02 20 25.7	+0.1
YUS	Yu-Shan	0.52	9⇑	eP	Pg	02 20 13.5	-2.5
ALS	Alishan	0.54	355	i P	Pg	02 20 16.8	+0.4
ALS				eS	Sb	02 20 26.1	-0.3
CHKH	Chenggong	0.54	66	eP	Pb	02 20 17.2	-0.8
CHKH				eS	Sb	02 20 25.8	-0.3
TWF1	Yuli	0.55	47	i P	Pg	02 20 16.4	-0.1
TWF1				eS	Sg	02 20 23.9	+0.2
SSPT	Xinbi	0.56	209	eP	Pb	02 20 18.2	0.0
EYUL	Yuli	0.56	48	eP	Pg	02 20 16.7	-0.1
EYUL				eS	Sg	02 20 23.9	-0.2
YULB	Yu-li	0.58	44	P	Pg	02 20 16.5	-0.6
YULB	Yu-li	0.58	44	eP	Pg	02 20 16.8	-0.3
YULB				eS	Sg	02 20 24.8	+0.2
EAST	Anshuo	0.58	181	P	Pg	02 20 17.3	+0.1
EAST				S	Sg	02 20 25.5	+0.8
TAW	Tawu	0.61	177	P	Pg	02 20 18.1	+0.5
TAW				eS	Sg	02 20 23.9	-1.7
TAWH	Dawu Township	0.63	178	eP	Pg	02 20 17.9	-0.1
TAWH				S	Sg	02 20 26.2	+0.1
LDUT	Ludao	0.64	118	eP	Pg	02 20 18.4	+0.3
LDUT				eS	Sb	02 20 28.6	-0.2
SCZT	Fangliau	0.64	201	eP	Pg	02 20 17.9	-0.2
SCZT				S	Sg	02 20 26.5	+0.1
ECBN	Changbin	0.64	58	P	Pb	02 20 19.1	-0.6
ECBN				S	Sb	02 20 28.9	-0.2
WSSB	Gushan	0.64	239	eP	Pn	02 20 22.4	+0.5
WSSB				eS	Sn	02 20 31.8	-0.7
CHN5	Tsauling	0.65	345	eP	Pb	02 20 19.2	-0.6
CHN5				eS	Sb	02 20 30.1	+0.9
CHY	Chiayi	0.66	323	P	Pb	02 20 20.1	0.0
CHY				eS	Sb	02 20 30.6	+1.0
ICHU	Yijhu	0.66	306	eP	Pb	02 20 20.9	+0.8
ICHU				eS	Sn	02 20 31.2	-1.7
CHN2	Minshiung	0.66	328	eS	Sn	02 20 33.3	+0.4
EHY	Hungye	0.68	38	eP	Pg	02 20 18.6	-0.4
EHY				S	Sg	02 20 28.5	+0.6
EHYH	Wanrong	0.69	40	eP	Pg	02 20 18.6	-0.5
EHYH				eS	Sg	02 20 28.1	+0.1
WHYT	Xinyi Township	0.72	359	eP	Pg	02 20 20.1	+0.3
WHYT				S	Sb	02 20 31.7	+0.3
HGSD	Ruisui	0.73	45	i P	Pb	02 20 20.7	-0.5
HGSD				eS	Sb	02 20 32.1	+0.4
TSCK	Chigu Township	0.73	284	eS	Sn	02 20 34.6	-0.1
SLIU	Shizi	0.75	184	i P	Pg	02 20 20.2	-0.1
SLIU				eS	Sg	02 20 30.1	-0.1
WDLH	Douliu	0.77	338	eP	Pn	02 20 23.0	-0.7
WDLH				eS	Sn	02 20 34.6	-1.1
WDL	Douliou City	0.80	338	eP	Pb	02 20 21.8	-0.6
WSL	Shuilin Townsh	0.80	313	P	Pb	02 20 22.9	+0.5
WSL				eS	Sn	02 20 35.4	-1.0
SSLB	Suanglung	0.82	6	P	Pg	02 20 21.1	-0.5
SSLB	Suanglung	0.82	6	eP	Pg	02 20 21.3	-0.3
SSLB				eS	Sb	02 20 34.5	+0.3
VWDT	VWDT	0.82	18	eP	Pg	02 20 21.0	-0.6
WTK	Tuku	0.83	329	P	Pb	02 20 22.8	-0.2
WTK				eS	Sn	02 20 36.4	-0.9
WJS	Zhushan	0.86	352	eP	Pn	02 20 24.3	-0.4
WJS				eS	Sb	02 20 35.4	+0.2
EGFH	Guangfu	0.87	37	eP	Pg	02 20 22.5	-0.1
EGFH				S	Sb	02 20 34.9	-0.7
WARBT	Fenglin Townsh	0.89	33	eP	Pg	02 20 22.2	-0.8
WARBT				eS	Sg	02 20 34.5	+0.1
WSF	Szhu	0.89	319	P	Pg	02 20 23.3	+0.4
WSF				S	Sn	02 20 37.7	-0.8
SMLT	Sun Moon Lake	0.91	2	eP	Pg	02 20 22.6	-0.7
SMLT				eS	Sn	02 20 38.6	-0.6
WNT	Mingjian	0.92	350	P	Pb	02 20 24.5	+0.1
WNT				S	Sn	02 20 38.3	-1.0
TYC	Yuchr	0.93	360	eP	Pn	02 20 25.4	-0.3
TYC				eS	Sn	02 20 39.4	-0.2
ESL	Shilin	0.99	32	eP	Pg	02 20 24.7	-0.2
ESL				eS	Sb	02 20 39.4	+0.3
OWD	Renai	1.02	16	eP	Pg	02 20 25.2	-0.3
OWD				S	Sn	02 20 41.3	-0.8
TWK1	Hengchun	1.02	183	eP	Pn	02 20 27.7	+0.6
TWKBT	Hengchun	1.03	183	eP	Pn	02 20 27.9	+0.8
SHUL	Shoufeng	1.04	38	P	Pg	02 20 26.0	+0.2
SHUL				eS	Sn	02 20 43.0	+0.8
WUSB	Renai	1.04	13	eP	Pg	02 20 26.1	+0.1
WUSB				eS	Sn	02 20 44.2	+1.6
TSEB	Hengchuen, Pin	1.07	178	P	Pb	02 20 26.6	-0.4
TSEB				eS	Sn	02 20 43.1	+0.1
WCS	Beigang Elemen	1.08	2	P	Pn	02 20 27.6	-0.3
WCS				eS	Sn	02 20 44.0	+0.7
WDGT	Dungji	1.14	285	P	Pn	02 20 28.9	+0.1
WDGT				eS	Sb	02 20 43.8	+0.4
ETM	Tongmen	1.15	30	eP	Pg	02 20 27.1	-0.9
ETM				eS	Sn	02 20 44.7	-0.3
LXIB	Xiulin Townshi	1.16	26	eP	Pg	02 20 27.6	-0.7
LXIB				eS	Sb	02 20 44.4	+0.2
LYUB	Lan-yu	1.17	145	eP	Pg	02 20 27.8	-0.6
WHF	Hehuan Shan	1.23	18	eP	Pg	02 20 28.7	-0.8
WHF				eS	Sn	02 20 49.1	+1.6
TWD	Chiawan	1.29	31	P	Pn	02 20 30.2	-0.6
TWD				S	Sn	02 20 48.4	-0.1
PHUB	P'eng-hu	1.30	295	eP	Pn	02 20 29.9	-1.0
PHUB				eS	Sb	02 20 48.1	0.0
WHP	Taichung City	1.30	3	P	Pb	02 20 31.3	+0.3
WHP				eS	Sn	02 20 51.1	+2.1
FUSS	Fushou	1.32	15	eP	Pg	02 20 29.4	-1.9
FUSS				eS	Sn	02 20 50.9	+1.3
VCHM	Qimei	1.34	280	P	Pb	02 20 31.5	-0.1
VCHM				eS	Sg	02 20 48.7	-0.3
ETLH	Xiulin Townshi	1.36	25	eP	Pn	02 20 30.9	-0.9
ETLH				eS	Sn	02 20 49.9	-0.4
TWQ1	Liyutan	1.37	357	P	Pg	02 20 33.0	+0.8
TWQ1				eS	Sn	02 20 53.1	+2.5
NACB	Ninganchiao	1.37	29	P	Pn	02 20 31.6	-0.3
NACB	Ninganchiao	1.37	29	eP	Pn	02 20 31.7	-0.3
NACB				eS	Sg	02 20 50.1	0.0
NSY	Sanyi	1.44	356	eP	Pn	02 20 32.2	-0.7
NSY				eS	Sg	02 20 52.8	+0.5
NNSB	Datong	1.53	18	P	Pn	02 20 34.4	+0.2
NNSB				S	Sg	02 20 55.9	+0.8
NNS	Nan Shan	1.54	18	eP	Pb	02 20 34.5	-0.5
NNS				S	Sg	02 20 56.4	+1.1
NFF	Wufeng Townshi	1.67	8	P	Pb	02 20 37.4	+0.1
NFF				eS	Sg	02 20 59.3	-0.3
LATG	Datong	1.67	21	eP	Pb	02 20 37.0	-0.3
LATG				eS	Sg	02 21 02.3	+2.6
EWUT	Wuta	1.69	30	eP	Pn	02 20 36.3	+0.1
EWUT				eS	Sg	02 20 59.8	-0.5
YHNB	Yeheng	1.76	15	P	Pb	02 20 38.4	-0.4
YHNB	Yeheng	1.76	15	i P	Pb	02 20 38.9	+0.1
YHNB				eS	Sg	02 21 03.4	+1.1
NSK	Sanguang	1.76	15	eP	Pb	02 20 38.8	0.0
NSK				eS	Sg	02 21 03.2	+0.8
ENTT	Nioudou	1.78	21	eP	Pg	02 20 40.0	-0.1
ENTT				eS	Sg	02 21 06.2	+2.9

EAST	Anshuo	0.59	180	⇑iP	Pb	02 26 48.5	-0.6
EAST				S	Sg	02 26 55.7	+0.5
YULB	Yu-li	0.59	45	⇑iP	Pg	02 26 47.9	-0.2
YULB				eS	Sg	02 26 55.2	-0.2
TAWH	Dawu Township	0.63	176	eP	Pb	02 26 49.3	-0.6
SCZT	Fangliau	0.63	199	P	Pg	02 26 49.0	+0.5
SCZT				S	Sg	02 26 57.2	+0.5
CHN5	Tsauling	0.64	346	P	Pb	02 26 50.1	-0.1
CHN5				eS	Sb	02 27 00.2	+0.7
LDUT	Ludao	0.65	117	P	Pg	02 26 49.5	+0.7
LDUT				eS	Sb	02 27 00.2	+0.7
CHY	Chiayi	0.65	324	eP	Pn	02 26 51.3	-1.0
CHY				eS	Sn	02 27 02.0	-1.0
EHY	Hungye	0.69	40	P	Pg	02 26 49.7	+0.1
EHY				eS	Sg	02 26 59.3	+0.7
WHYT	Xinyi Township	0.72	1	P	Pb	02 26 50.9	-0.5
HGSD	Ruisui	0.74	46	P	Pb	02 26 51.4	-0.4
HGSD				S	Sb	02 27 02.2	-0.1
TWP	Hsiaoliuchiu	0.77	216	eP	Pn	02 26 56.3	+2.4
WDLH	Douliu	0.77	339	eP	Pb	02 26 53.0	+0.8
WDLH				eS	Sn	02 27 06.1	+0.2
SSLB	Suanglung	0.82	7	⇑iP	Pg	02 26 52.1	0.0
SSLB				eS	Sb	02 27 05.0	+0.4
VWDT	VWDT	0.82	19	P	Pg	02 26 51.9	-0.3
VWDT				eS	Sn	02 27 06.0	-1.3
WARBT	Fenglin Townsh	0.89	34	P	Pg	02 26 53.2	-0.3
WARBT				eS	Sg	02 27 05.0	-0.1
SMLT	Sun Moon Lake	0.91	3	eP	Pg	02 26 53.2	-0.6
SMLT				S	Sn	02 27 08.7	-0.8
TYC	Yuchr	0.93	1	P	Pb	02 26 54.6	-0.4
TYC				eS	Sn	02 27 10.6	+0.7
ESL	Shilin	1.00	33	eP	Pg	02 26 54.9	-0.6
ESL				eS	Sb	02 27 09.1	-0.5
OWD	Renai	1.02	17	eP	Pg	02 26 55.6	-0.4
TWK1	Hengchun	1.02	182	eP	Pn	02 26 58.7	+1.3
TWKBT	Hengchun	1.03	182	eP	Pn	02 26 58.6	+1.1
WUSB	Renai	1.05	14	eP	Pg	02 26 55.8	-0.6
WUSB				eS	Sn	02 27 14.0	+1.1
DPDB	Guoxing	1.06	4	eP	Pn	02 26 57.8	-0.2
LXIB	Xiulin Townshi	1.17	26	P	Pg	02 26 57.8	-1.0
LXIB				S	Sn	02 27 15.4	-0.6
WHF	Hehuan Shan	1.23	18	eP	Pb	02 27 00.3	0.0
WHF				eS	Sn	02 27 18.9	+0.9
TWD	Chiawan	1.30	32	eP	Pg	02 27 01.3	0.0
WHP	Taichung City	1.30	4	eP	Pb	02 27 02.6	+1.2
FUSS	Fushou	1.32	16	eP	Pn	02 27 01.8	0.0
ETLH	Xiulin Townshi	1.36	25	eP	Pn	02 27 01.9	-0.2
TWQ1	Liyutan	1.37	357	eP	Pg	02 27 03.5	+0.8
NACB	Ninganchiao	1.38	30	P	Pn	02 27 02.1	-0.2
NSY	Sanyi	1.44	357	eP	Pn	02 27 02.3	-0.9
NNSB	Datong	1.53	19	eP	Pb	02 27 05.3	0.0

ASIES ***04*** *02:27:14.3, 22°.97N×120°.85E, h3km, ML4.2, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.95; $M_{\theta\theta}$2.77; $M_{\phi\phi}$-3.72; $M_{r\theta}$-1.89; $M_{\theta\phi}$-7.70; $M_{\phi r}$2.67; Fault plane solution: $M_0$9.00892×10^{21} NP1: ϕ_s256.83000°, δ70.11000°, λ170.04000°. NP2: ϕ_s350.26000°, δ80.64000°, λ20.17000°. Principal axes: T Plg20.8290°, Azm215.0020°; N Plg67.8460°, Azm14.1310°; P Plg7.2130°, Azm122.2420°;*

TAP ***04*** *02:27:14.3, 22°.97N×120°.85E, h3km, ML4.2, C*

JMA ***04*** *02:27:15.1±0.2, 22°.9N±0°.7×121°.3E±0°.9, h1km, TAIWAN REGION*

IDC ***04*** *02:27:15.3±1.4, 22°.50N×120°.78E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=72.5km s-min=28.3km az=62.0*

ISC 04 02:27:14.9±1.1, 22°.97N±0°.01×120°.87E±0°.01, h1km±8km, n140, σ1§16/242, mb3.3/5, 12C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STYH	Taoyuan	0.21	338	eP		Pg		02 27 18.6	-0.5
STYH				i S		Sg		02 27 21.7	-0.2
STYT	Tauyuan	0.22	333	⇓iP		Pg		02 27 18.4	-0.6
STYT				i S		Sg		02 27 21.5	-0.4
TWG	Pinlang	0.24	128	⇓iP		Pg		02 27 20.3	+0.8
TWG				S		Sg		02 27 24.3	+1.6
TWGBT	Beinan	0.25	128	⇓iP		Pg		02 27 20.3	+0.6
TWGBT				S		Sg		02 27 24.3	+1.4
LONT	Longtian	0.25	105	⇓iP		Pg		02 27 20.4	+0.6
LONT				S		Sg		02 27 24.1	+1.0
ELDTW	Lidau	0.26	33	⇑iP		Pg		02 27 20.1	+0.2
ELDTW				S		Sg		02 27 24.1	+0.9
SGST	Jiashian	0.28	293	⇓iP		Pg		02 27 20.3	-0.1
SGST				S		Sg		02 27 25.1	+1.1
TSMG	Majia	0.33	218	⇑iP		Pg		02 27 20.8	-0.5
TSMG				S		Sg		02 27 24.9	-0.8
TTN	Taitung	0.34	130	⇓iP		Pb		02 27 22.9	-0.8
TTN				S		Sb		02 27 28.6	-1.0
ECS	Chishang	0.35	69	P		Pg		02 27 22.3	+0.7
ECS				S		Sg		02 27 27.4	+1.2
SCST	Cishan	0.35	256	eP		Pb		02 27 22.7	-1.3
SCST				eS		Sb		02 27 28.6	-1.4
WTP	Ta-pu	0.36	320	⇓iP		Pb		02 27 22.8	-1.3
WTP				i S		Sb		02 27 28.6	-1.6
EHD	Haiduan	0.36	60	⇑iP		Pg		02 27 21.7	-0.1
CHN1	Nanshi	0.38	305	⇓iP		Pb		02 27 23.5	-0.9
CHN1				eS		Sb		02 27 29.2	-1.5
ECL	Taimali	0.38	168	⇑P		Pg		02 27 22.6	+0.4
ECL				eS		Sg		02 27 28.0	+0.8
TPUB	Ta-pu	0.39	327	⇓iP		Pb		02 27 23.5	-1.2
TPUB				S		Sb		02 27 29.5	-1.7
EDH	Donghe	0.40	90	⇓P		Pb		02 27 23.8	-1.1
EDH				eS		Sb		02 27 30.0	-1.5
MASBT	Mashibuluo	0.42	211	⇑iP		Pg		02 27 22.9	0.0
MASBT				eS		Sg		02 27 27.9	-0.4
SNST	Tainan City	0.42	306	⇓P		Pb		02 27 24.5	-0.6
SNST				eS		Sb		02 27 31.0	-1.0
SGLT	Jiouru	0.42	235	eP		Pb		02 27 23.7	-1.4
SGLT				eS		Sb		02 27 31.5	-0.5
TWM1	Shoushan	0.43	250	eP		Pb		02 27 25.4	0.0
TWM1				eS		Sb		02 27 31.8	-0.5
CHN4	Tsaushan	0.45	327	⇓P		Pb		02 27 24.8	-0.9
CHN4				eS		Sb		02 27 31.9	-1.0
FULB	Fuli	0.46	60	⇑iP		Pb		02 27 24.5	-1.2
FULB				S		Sb		02 27 31.6	-1.4
TWK	Hsinying	0.46	310	⇓P		Pb		02 27 25.1	-0.6
TWK				eS		Sb		02 27 32.4	-0.6
CHN3	Shinhua	0.47	283	eP		Pn		02 27 23.7	-1.5
CHN3				eS		Sb		02 27 33.4	0.0
CHKT	Chengkung	0.48	74	⇓P		Pb		02 27 25.4	-0.7
CHKT				eS		Sb		02 27 33.2	-0.4
SHHT	Tainan City	0.48	276	eP		Pn		02 27 27.0	-1.9
SHHT				eS		Sb		02 27 35.8	+2.1
WCKO	Fanlu	0.52	333	eP		Pb		02 27 26.6	-0.3
WCKO				i S		Sb		02 27 34.7	-0.3
CHKH	Chenggong	0.54	66	eP		Pb		02 27 26.2	-0.9
CHKH				eS		Sb		02 27 34.9	-0.3
ALS	Alishan	0.54	354	⇑iP		Pg		02 27 25.7	+0.4
ALS				i S		Sb		02 27 34.6	-1.1
TWF1	Yuli	0.55	46	⇑iP		Pg		02 27 25.4	0.0
TWF1				eS		Sg		02 27 32.9	+0.3
SSHA	Shanhua	0.56	287	eP		Pn		02 27 29.0	-0.9
SSPT	Xinbi	0.56	210	eP		Pb		02 27 27.4	0.0
SSPT				eS		Sb		02 27 35.7	-0.2
EYUL	Yuli	0.56	48	P		Pg		02 27 25.8	+0.1
EYUL				eS		Sb		02 27 34.3	-1.7
YULB	Yu-li	0.58	43	eP		Pg		02 27 25.8	-0.2
YULB				S		Sg		02 27 33.5	0.0
EAST	Anshuo	0.58	182	⇑P		Pg		02 27 26.4	+0.3
EAST				eS		Sb		02 27 34.7	-2.1
TAI1	Yung-k'ang	0.59	277	eP		Pn		02 27 28.9	-1.4
TAI1				eS		Sn		02 27 39.2	-1.3
TAW	Tawu	0.61	177	P		Pg		02 27 26.7	+0.1
TAW				eS		Sg		02 27 35.0	+0.5
TAWH	Dawu Township	0.63	178	eP		Pg		02 27 27.2	+0.2
TAWH				eS		Sg		02 27 35.3	+0.2
LDUT	Ludao	0.63	118	eP		Pb		02 27 27.7	-1.0
LDUT				eS		Sb		02 27 37.7	-0.3
SCZT	Fangliau	0.64	201	eP		Pg		02 27 27.1	0.0
SCZT				i S		Sg		02 27 35.3	-0.1
ECBN	Changbin	0.64	57	eP		Pb		02 27 28.3	-0.6
ECBN				eS		Sb		02 27 38.4	+0.1
WSSB	Gushan	0.65	240	eP		Pn		02 27 30.9	-0.3
SCLT	Jiali	0.65	288	eP		Pb		02 27 28.0	-1.1
SCLT				eS		Sn		02 27 41.2	-0.9
CHY	Chiayi	0.66	322	eP		Pb		02 27 29.2	0.0
CHY				i S		Sn		02 27 39.8	-2.6
CHN2	Minshiung	0.66	327	eP		Pn		02 27 30.1	-1.3
CHN2				eS		Sn		02 27 40.5	-2.0
ICHU	Yijhu	0.66	306	eP		Pn		02 27 29.6	-1.9
ICHU				eS		Sn		02 27 41.2	-1.3
EHY	Hungye	0.68	38	⇑iP		Pg		02 27 27.5	-0.4
EHY				eS		Sg		02 27 36.7	-0.1
EHYH	Wanrong	0.68	40	⇓iP		Pg		02 27 27.8	-0.2
EHYH				eS		Sb		02 27 37.9	-1.6
CHN8	Yiju	0.71	302	eP		Pn		02 27 30.1	-1.9
CHN8				S		Sn		02 27 42.8	-0.7
WHYT	Xinyi Township	0.72	359	⇑iP		Pb		02 27 29.2	-1.1
WHYT				eS		Sb		02 27 39.9	-0.8
HGSD	Ruisui	0.73	45	⇑P		Pg		02 27 29.1	+0.2
HGSD				eS		Sb		02 27 40.5	-0.4
TSCK	Chigu Township	0.74	284	eP		Pn		02 27 30.9	-1.5
TSCK				eS		Sn		02 27 43.5	-0.8
SLIU	Shizi	0.75	185	eP		Pg		02 27 29.5	+0.2
WGK	Gukeng	0.77	339	eP		Pn		02 27 31.3	-1.5
WGK				eS		Sn		02 27 43.4	-1.6
WDLH	Douliu	0.78	337	eP		Pn		02 27 31.6	-1.4
WDLH				eS		Sn		02 27 44.2	-1.0
TWP	Hsiaoliuchiu	0.78	217	eP		Pn		02 27 33.3	+0.4
TWP				eS		Sn		02 27 45.6	+0.4
WDL	Douliou City	0.80	338	eP		Pn		02 27 31.8	-1.5
WDL				eS		Sn		02 27 44.4	-1.4
WSL	Shuilin Townsh	0.80	313	P		Sn		02 27 31.9	-1.4
WSL				S		Sn		02 27 44.6	-1.3
SSLB	Suanglung	0.82	6	eP		Pg		02 27 30.1	-0.5
SSLB				eS		Sb		02 27 42.0	-1.4
VWDT	VWDT	0.82	18	eP		Pg		02 27 30.0	-0.6
VWDT				eS		Sb		02 27 42.1	-1.4
WTK	Tuku	0.84	329	i P		Pn		02 27 32.3	-1.5
WTK				eS		Sn		02 27 46.0	-0.8
WJS	Zhushan	0.86	352	i P		Pn		02 27 33.0	-1.1
WJS				eS		Sn		02 27 46.6	-0.7
EGFH	Guangfu	0.87	37	eP		Pg		02 27 31.5	0.0
EGFH				eS		Sb		02 27 44.1	-0.7
WARBT	Fenglin Townsh	0.89	33	P		Pg		02 27 30.9	-1.0
WARBT				S		Sb		02 27 44.1	-1.3
WSF	Szhu	0.89	318	eP		Pn		02 27 33.7	-0.8
WSF				eS		Sn		02 27 46.7	-1.3
SMLT	Sun Moon Lake	0.91	2	eP		Pg		02 27 31.6	-0.8
SMLT				eS		Sn		02 27 46.8	-1.9
WNT	Mingjian	0.92	350	P		Pn		02 27 33.9	-1.0
WNT				eS		Sn		02 27 48.1	-0.7
TYC	Yuchr	0.93	360	eP		Pn		02 27 33.4	-1.6
TYC				i S		Sn		02 27 47.9	-1.1
TEGC	Jichi Village	0.96	40	eP		Pg		02 27 33.3	-0.1
HEN	Hengchun	0.97	187	eP		Pn		02 27 35.5	-0.1
ESL	Shilin	0.99	32	eP		Pg		02 27 33.9	0.0
ESL				eS		Sb		02 27 47.5	-0.8
OWD	Renai	1.02	16	eP		Pg		02 27 33.7	-0.8
OWD				eS		Sn		02 27 49.6	-1.9
TWK1	Hengchun	1.02	183	eP		Pn		02 27 35.9	-0.5
TWKBT	Hengchun	1.03	183	eP		Pn		02 27 35.0	-1.4
SHUL	Shoufeng	1.03	38	eP		Pb		02 27 35.1	-0.5
SHUL				eS		Sn		02 27 50.2	-1.4
WUSB	Renai	1.04	13	eP		Pg		02 27 33.7	-1.2
WUSB				eS		Sn		02 27 49.6	-2.4
TSEB	Hengchuen, Pin	1.07	178	eP		Pn		02 27 36.6	-0.3
WCS	Beigang Elemen	1.08	2	eP		Pn		02 27 36.6	-0.5
WCS				eS		Sn		02 27 52.5	-0.3
TEYL	Yanliau Villag	1.12	37	eP		Pn		02 27 37.2	-0.5
LAY	Lan-yu	1.12	146	eP		Pb		02 27 34.8	-2.3
WCHH	Zhanghua	1.14	346	eP		Pn		02 27 37.5	-0.4
WCHH				eS		Sn		02 27 54.5	+0.3
ETM	Tongmen	1.15	30	eP		Pb		02 27 36.2	-1.3
ETM				eS		Sb		02 27 51.3	-1.5
WDGT	Dungji	1.15	285	eP		Pn		02 27 36.9	-1.1
WDGT				S		Sn		02 27 53.2	-1.2
LXIB	Xiulin Townshi	1.16	26	eP		Pb		02 27 36.2	-1.6
LXIB				eS		Sn		02 27 54.1	-0.9
LYUB	Lan-yu	1.17	145	eP		Pb		02 27 34.1	-3.9
TCU	Taichung	1.18	352	eP		Pg		02 27 39.1	+1.5
TCU				eS		Sn		02 27 56.4	+1.0
HWA	Hwalien	1.21	34	eP		Pg		02 27 38.1	0.0
HWA				eS		Sn		02 27 55.8	-0.2
WHF	Hehuan Shan	1.23	17	eP		Pb		02 27 38.1	-1.0
WHF				eS		Sn		02 27 56.3	-0.7
TWD	Chiawan	1.29	31	eP		Pn		02 27 38.6	-1.5
TWD				eS		Sg		02 27 57.6	+1.1
WHP	Taichung City	1.30	3	eP		Pg		02 27 41.0	+1.1
WHP				i S		Sg		02 28 00.0	+3.2
TDCB	Techi	1.30	12	eP		Pb		02 27 39.5	-0.8
TDCB				eS		Sb		02 28 13.3	+0.7
PHUB	P'eng-hu	1.31	295	eP		Pn		02 27 39.0	-1.3
PHUB				eS		Sb		02 27 56.9	0.0
TWT	Tachien	1.31	13	P		Pg		02 27 40.4	+0.3
TWT				i S		Sg		02 27 59.0	+2.0
FUSS	Fushou	1.32	15	eP		Pn		02 27 39.3	-1.4
FUSS				eS		Sg		02 27 59.2	+1.9
PNG	Penghu	1.34	296	eP		Pg		02 27 40.5	-0.1
PNG				eS		Sg		02 27 58.1	0.0
VCHM	Qimei	1.34	280	eP		Pb		02 27 40.1	-0.7
VCHM				eS		Sg		02 27 59.5	+1.5
ETLH	Xiulin Townshi	1.35	25	eP		Pb		02 27 40.3	-0.8
ETL	Fush Village	1.37	30	eP		Pn		02 27 40.1	-1.1
NACB	Ninganchiao	1.37	29	eP		Pb		02 27 40.5	-0.9
NACB				eS		Sg		02 27 58.8	-0.2
TWQ1	Liyutan	1.37	356	eP		Pg		02 27 42.2	+0.9
TWQ1				i S		Sg		02 28 01.9	+2.8
WDJ	Dajia District	1.39	351	eP		Pg		02 27 42.2	+0.7
WDJ				eS		Sg		02 28 02.5	+3.0
NSY	Sanyi	1.44	356	eP		Pb		02 27 41.4	-1.2
NSY				eS		Sg		02 28 02.6	+1.3
NNSB	Datong	1.53	18	eP		Pb		02 27 43.1	-0.9
NNSB				eS		Sg		02 28 05.6	+1.6
NNS	Nan Shan	1.54	18	eP		Pg		02 27 44.0	-0.3
NNS				S		Sg		02 28 05.7	+1.4
NMLH	Miaoli	1.56	358	eP		Pg		02 27 45.2	+0.4
NMLH				i S		Sg		02 28 07.1	+2.0
EAHA	Aohua	1.57	30	eP		Pg		02 27 44.6	-0.5
ENA	Nanau	1.66	29	eP		Pb		02 27 45.9	-0.4
ENA				eS		Sg		02 28 07.6	-0.6
NSTT	Nanjuang	1.66	4	eP		Pg		02 27 46.3	-0.4
NSTT				eS		Sg		02 28 08.9	+0.7
NFF	Wufeng Townshi	1.67	8	eP		Pg		02 27 46.5	-0.5
NFF				S		Sg		02 28 09.7	+1.1
LAIG	Datong	1.67	21	eP		Pb		02 27 46.1	-0.5
LIOB	Emei	1.67	5	eP		Pg		02 27 46.6	-0.4
LIOB				eS		Sg		02 28 10.2	+1.5
EWUT	Wuta	1.69	30	eP		Pb		02 27 46.6	-0.2
EWUT				eS		Sg		02 28 08.7	-0.5
YHNB	Yeheng	1.75	15	eP		Pg		02 27 48.3	-0.3
YHNB				eS		Sg		02 28 10.3	-1.0
EOS4	EOS4	1.76	49	eP		Pb		02 27 47.0	-0.7
EOS4				eS		Sn		02 28 07.4	-1.5
NSK	Sanguang	1.76	15	eP		Pg		02 27 48.3	-0.3
NSK				i S		Sg		02 28 12.0	+0.6
ENTT	Nioudou	1.78	21	P		Pg		02 27 48.5	-0.6
ENTT				S		Sg		02 28 13.4	+1.2
SBCB	Hsinchu	1.82	3	eP		Pg		02 27 50.4	+0.6
SBCB				eS		Sg		02 28 14.4	+1.1
KSHI	Guanxi Townshi	1.82	9	eP		Pb		02 27 48.8	-0.2
NDS	Dongshan	1.83	25	eP		Pg		02 27 49.2	-0.8
ESAO	Su ao	1.83	29	eP		Pb		02 27 49.1	-0.1
TWC	Suao	1.86	29	eP		Pb		02 27 49.6	-0.1
TWC				S		Sb		02 28 13.3	-0.2
EOS3	EOS3	1.87	45	eP		Pn		02 27 47.2	-0.7
EOS3				eS		Sb		02 28 12.2	-1.3
NWLT	Wulai	1.89	18	eP		Pg		02 27 50.4	-0.8
TWE	Neicheng	1.89	23	eP		Pg		02 27 50.5	-0.7
TWE				eS		Sg		02 28 15.0	-0.7
FUSB	Fushanzhiwuyua	1.90	20	eP		Pg		02 27 51.2	-0.2
TWA	Mucha	2.11	18	eP		Pg		02 27 55.5	+0.3
TIPB	Shuangxi	2.18	24	eP		Pb		02 27 54.7	-0.4
TIPB				eS		Sb		02 28 22.7	+0.1
WFSB	Wu-fen Shan	2.25	22	eP		Pb		02 27 56.1	-0.3
YM01	YM01	2.26	16	eP		Pb		02 27 55.8	-0.7
SXI1	Grass Mountain	2.31	23	eP		Pb		02 27 56.8	-0.6
JISG	Ishigakijimahi	3.54	62	eP		Pn		02 28 10.0	-1.0
SONM	Songino Array	27.38	339	P		P		02 33 06.6	+4.8
	0.8nm,1.0s,baz=134,slow=8.3,SNR=1.5 0.8nm,1.0s								
MKAR	Makanchi Array	39.01	317	P		P		02 34 44.9	+1.9
	0.3nm,0.7s,baz=114,slow=9.9,SNR=5.4 0.3nm,0.7s								
KURBB	Kurchatov Arra	42.85	321	P		P		02 35 18.5	+4.0
	0.5nm,0.8s,baz=119,slow=7.6,SNR=3.2 0.5nm,0.8s								
H11N1	WAKE ISLAND Hy	42.86	85	T		T		03 20 30.3	
	baz=288								
H11N2	WAKE ISLAND Hy	42.86	85	T		T		03 20 30.7	
	baz=288								
H11N3	WAKE ISLAND Hy	42.88	85	T		T		03 20 34.3	
	baz=288								
WRA	Warramunga Arr	44.63	162	P		P		02 35 26.4	-2.7
	0.3nm,0.5s,baz=342,slow=7.8,SNR=1.5 0.3nm,0.5s								
YKA	Yellowknife Ar	84.20	23	P		P		02 39 50.4	+2.7
	0.2nm,0.9s,baz=323,slow=3.9,SNR=4.8 0.2nm,0.9s								

DJA ***04*** *02:36:59.3±0.8, 5°.N±7°.×12°.6E±°, h90km±6km, M4.6/12, mB5.0/5, mb4.8/5, MLv4.6/12, Mw(mB)4.4/5*

IDC ***04*** *02:37:00.6±1.9, 4°.71N×125°.88E, h112km±23km, mb3.5/9, mbtmp3.9/10, MS3.6/1, Error ellipse: s-maj=60.9km s-min=12.7km az=69.0*

NEIC ***04*** *02:37:05.1±1.8, 4°.17N±0°.08×126°.0E±0°.1, h116km±11km, mb4.5/11, Error ellipse: s-maj=16.6km s-min=10.3km az=64.0*

ISC 04 02:36:59.4±0.7, 4°.67N±0°.06×126°.20E±0°.10, h100km, n34, σ1§70/33, mb4.1/13, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.19	214	P		Pn		02 37 21.6	-0.3
SGSI				S		Sn		02 37 39.3	+0.4
DAV	Davao City (W)	2.46	345	Pn		Pn		02 37 49.6	+12
DAV	Davao City (W)	2.46	345	P		Pn		02 37 37.4	-0.6
	260nm,0.4s,baz=223,slow=19,SNR=1.6								
DAV				S		Sn		02 38 08.3	+0.7
	326nm,0.4s,baz=142,slow=19,SNR=1.8								
TNTI	Ternate	4.05	163			Pn		02 37 58.9	-0.4
TNTI	Ternate	4.05	163	P		Pn		02 37 59.3	+0.1
MRSI	Marisa	5.96	226	P		Pn		02 38 26.2	+1.1
TOLI2	Tolitoli	6.47	237			Pn		02 38 31.1	-1.0
LUWI	Luwuk	6.63	211			Pn		02 38 31.8	-2.5
LUWI	Luwuk	6.63	211	P		Pn		02 38 37.7	+3.4
	0.3nm78nm,0.6s								
SANI	Sanana	6.68	182	P		Pn		02 38 33.0	-2.0
APSI	Ampana	7.17	219	P		Pn		02 38 43.7	+2.0
	0.2nm1μm56nm,0.7s								
MYLDM	Lahad Datu	7.69	274	Pn		Pn		02 38 51.3	+2.6
NLAI	Namlea	7.91	173	P		Pn		02 38 50.0	-1.7
JAY	Jayapura	16.16	116	LR		LR		02 46 29.2	
	comp=Z,220nm,21.0s,baz=8.0,slow=35								
MTN	Manton Dam	18.08	164	P		P		02 41 02.5	-0.8
MTN				IAmb		IAmb		02 41 28.7	
	comp=Z,51nm,1.4s								
KNRA	Kununurra	20.38	173	P		P		02 41 28.0	-0.3
KNRA				IAmb		IAmb		02 41 55.5	
	comp=Z,20nm,1.1s								
FITZ	Fitzroy Crossi	22.64	181	P		P		02 41 50.8	-1.4
FITZ	Fitzroy Crossi	22.64	181	P		P		02 41 52.8	+0.6
	comp=Z,2.0nm,0.5s,baz=356,slow=12,SNR=8.0 comp=Z,2.0nm,0.5s								
WB0	Warramunga Arr	25.59	162	P		P		02 42 20.1	+0.7
WRA	Warramunga Arr	25.74	162	P		P		02 42 21.5	+0.7
	comp=Z,0.9nm,0.4s,baz=342,slow=10,SNR=25 comp=Z,0.9nm,0.4s								
WR8	Warramunga Arr	25.80	162	P		P		02 42 21.6	+0.3
WR8				IAmb		IAmb		02 42 43.1	
	comp=Z,12nm,1.4s								
ASAR	Alice Springs	29.15	165	P		P		02 42 52.9	+1.6
	comp=Z,0.2nm,0.3s,baz=343,slow=7.1,SNR=6.1 comp=Z,0.2nm,0.3s								
CMAR	Chiang Mai Arr	29.95	299	P		P		02 42 56.0	-2.3
	comp=Z,1.2nm,0.3s,baz=111,slow=7.7,SNR=2.2 comp=Z,1.2nm,0.3s								
JGF	Kuroka	32.45	17	P		P		02 43 29.2	+8.9
JGF				IAmb		IAmb		02 43 45.9	
	comp=Z,6.6nm,0.9s								
FORT	Forrest	35.30	177	P		P		02 43 44.9	+0.1
FORT				IAmb		IAmb	

MTN Manton Dam 17.64 245 P P 02 45 13.9 +1.0
DRS Darwin Rock St 17.70 246 P P 02 45 14.3 +0.8
GD1S Gladstone Soft 18.57 169 P Pn 02 45 25.0 -0.1
LUES Luesalemba Tem 19.00 107 P Pn 02 45 30.4 +0.1
WB0 Warramunga Arr 19.01 221 P P 02 45 28.0 +0.3
WR0 Warramunga Arr 19.05 220 P P 02 45 28.4 +0.2
GUMO Guam 19.15 352 P P 02 45 30.4 +1.1
67nm,0.3s,baz=164,slow=12,SNR=6.1
WRAB Tennant Creek 19.16 220 P P 02 45 29.7 +0.4
WB2 Warramunga Arr 19.16 220 P P 02 45 29.7 +0.3
WRA Warramunga Arr 19.17 220 P P 02 45 28.6 -0.9
WRA Warramunga Arr 19.17 220 P P 02 45 29.7 +0.2
73nm,0.7s,baz=47,slow=12,SNR=135
WRA S S 02 48 54.5 -3.3
12nm,0.9s,baz=41,slow=18,SNR=10
WRA LR LR 02 53 59.0
comp=Z,320nm,19.6s,baz=30,slow=40
EIDS Eidsvold 20.05 170 P P 02 45 39.6 +0.8
EIDS Eidsvold 20.05 170 P P 02 45 40.6 +1.8
KNRA Kununurra 20.91 240 P P 02 45 48.8 +0.7
QLP Quilpie 21.17 188 P P 02 45 51.2 +0.4
AS01 Alice Springs 22.22 214 P P 02 46 01.8 +0.1
AS31 Alice Springs 22.25 214 P P 02 46 02.3 +0.3
ASAR Alice Springs 22.25 214 P P 02 46 02.0 +0.1
89nm,0.9s,baz=50,slow=8.8,SNR=250
ASAR S S 02 49 52.3 -2.1
21nm,0.9s,baz=30,slow=22,SNR=15
ASAR ScP ScP 02 53 11.3 -2.2
2.3nm,0.8s,baz=34,slow=3.2,SNR=6.6
ASAR LR LR 02 55 09.4
comp=Z,136nm,18.7s,baz=56,slow=37
89nm,0.9s
AUWSH Wavell State H 22.41 167 P P 02 46 05.5 +2.2
INKA Innaminka 23.00 195 P P 02 46 09.1 +0.4
SOEI Soe 23.33 258 P P 02 46 12.2 +0.1
SOEI Soe 23.33 258 P P 02 46 24.9 +13
FITZ Fitzroy Crossi 24.68 238 P P 02 46 24.3 +0.1
90nm,0.5s,baz=61,slow=8.4,SNR=136
90nm,0.5s
DZM Mont Dzumac 24.68 134 P P 02 46 23.9 -0.4
DZM Mont Dzumac 24.68 134 P P 02 46 25.0 +0.7
12nm,0.6s,baz=298,slow=7.7,SNR=18
12nm,0.6s
DZM Mont Dzumac 24.68 134 P P 02 46 25.0 +0.7
OOD Oodnadatta 24.80 205 P P 02 46 25.1 -0.1
YATNC Mamie plateau, 25.00 133 P P 02 46 29.8 +2.8
ARMA Armidale 25.08 171 P P 02 46 28.0 +0.1
ARMA Armidale 25.08 171 P P 02 46 28.8 +1.0
CMSA Cobar Meteorol 25.93 183 P P 02 46 35.2 -0.1
LCRK Leigh Creek 26.27 198 P P 02 46 38.0 -0.4
WRKA Warakurna 26.71 221 P P 02 46 41.8 -0.6
STKA Stephens Creek 26.78 191 P P 02 46 42.2 -0.8
STKA Stephens Creek 26.78 191 P P 02 46 42.1 -0.9
12nm,0.6s,baz=2.0,slow=9.2,SNR=38
STKA LR LR 02 57 46.2
comp=Z,160nm,20.5s,baz=16,slow=37
12nm,0.6s
STKA Stephens Creek 26.78 191 P P 02 46 42.2 -0.8
WHYH Whyalla 28.87 197 P P 02 47 01.6 +0.1
CAN Canberra 29.69 177 P P 02 47 09.5 +0.7
H11S3 WAKE ISLAND Hy 30.50 38 T T 03 20 40.7
baz=209
H11S2 WAKE ISLAND Hy 30.51 38 T T 03 20 39.4
baz=209
H11S1 WAKE ISLAND Hy 30.52 38 T T 03 21 05.7
baz=209
FORT Forrest 31.03 214 P P 02 47 19.8 -0.8
FORT Forrest 31.03 214 P P 02 47 21.0 +0.4
PSA00 Pilbara Seismi 31.11 237 P P 02 47 20.6 -0.8
PSA00 IAmb IAmb 02 47 22.5
comp=Z,18nm,0.7s
PSA00 Pilbara Seismi 31.11 237 P P 02 47 21.6 +0.2
ARPS Mount Arapiles 31.52 189 P P 02 47 25.4 +0.6
H11N1 WAKE ISLAND Hy 31.55 37 T T 03 22 09.3
baz=213
H11N3 WAKE ISLAND Hy 31.57 37 T T 03 22 23.9
baz=213
H11N2 WAKE ISLAND Hy 31.57 37 T T 03 22 20.8
baz=213
TOO Toolangi 31.95 183 P P 02 47 29.6 +1.0
TOO IAmb IAmb 02 47 30.8
comp=Z,13nm,1.1s
MSVF Nonsavu 32.30 115 P P 02 47 32.1 +0.2
comp=Z,2.7nm,0.5s,baz=288,slow=19,SNR=1.5
comp=Z,2.7nm,0.5s
MGBR Mount Gambier 32.66 190 P P 02 47 35.0 +0.3
MEEK Meekatharra 34.59 229 P P 02 47 51.8 +0.2
KMBL Kambalda 35.14 220 P P 02 47 56.2 -0.1
JOW Kunigami 37.12 331 P P 02 48 13.0 -0.1
comp=Z,12nm,0.7s,baz=139,slow=9.3,SNR=4.2
comp=Z,12nm,0.7s
MORW Morawa 37.80 228 P P 02 48 18.3 -0.6
MORW Morawa 37.80 228 P P 02 48 19.3 +0.4
KLBR Kellerberrin 38.01 223 P P 02 48 20.3 -0.3
OUZ Omahuta 38.16 144 P P 02 48 24.0 +2.3
NWAO Narrogin (SRO) 39.17 222 LR LR 03 05 11.0
comp=Z,161nm,19.1s,baz=20,slow=37
TOZ Tahuroa Road 41.01 145 P P 02 48 47.0 +1.7
TOZ IAmb IAmb 02 48 48.0
comp=Z,18nm,0.8s
TOZ Tahuroa Road 41.01 145 P P 02 48 47.5 +2.3
JMN Monobe 41.09 343 P P 02 48 46.2 +0.2
JMN IAmb IAmb 02 48 49.0
comp=Z,22nm,0.8s
JNU Nakatsue 41.51 339 P P 02 48 48.9 -0.5
JNU IAmb IAmb 02 48 51.3
comp=Z,18nm,0.9s
VRZ Vera Road 41.59 147 P P 02 48 52.4 +2.4
QRZ Quartz Range 41.73 151 P P 02 48 53.5 +2.4
TWVZ Taurewa 41.92 147 P P 02 48 55.0 +2.2
PKVZ Pokaka 42.03 147 P P 02 48 56.2 +2.6
WTVZ West Tongariro 42.04 147 P P 02 48 56.6 +2.9
NNVZ North Ngauruho 42.06 147 P P 02 48 56.7 +2.7
NTVZ North Tongarir 42.07 147 P P 02 48 56.7 +2.7
NGZ Ngauruhoe 42.09 147 P P 02 48 56.9 +2.7
TMVZ Te Maari 42.10 147 P P 02 48 56.4 +2.2
TKNZ Takaka Hill 42.10 151 P P 02 48 55.3 +1.2
OTVZ Oturere 42.11 147 P P 02 48 56.6 +2.2
SNVZ South Ngauruho 42.11 147 P P 02 48 57.2 +2.7
URZ Urewera 42.30 145 P P 02 48 55.5 -0.2
comp=Z,10nm,0.6s,baz=346,slow=4.1,SNR=18
comp=Z,10nm,0.6s
URZ Urewera 42.30 145 P P 02 48 56.5 +0.9
HAZ Te Kaha 42.35 144 P P 02 48 57.9 +1.8
NNZ Nelson 42.45 151 P P 02 48 58.8 +2.0
RTZ Ruatahuna 42.46 145 P P 02 48 57.4 +0.2
RTZ Ruatahuna 42.46 145 P P 02 48 58.5 +1.4
MTHZ Maungataniwha 42.55 145 P P 02 48 58.9 +1.1
BKZ Black Stump Fm 42.57 146 P P 02 48 56.9 -1.1
BKZ IAmb IAmb 02 49 00.1
comp=Z,14nm,0.8s
BKZ Black Stump Fm 42.57 146 P P 02 48 58.9 +0.9
BKZ Black Stump Fm 42.57 146 P P 02 48 59.0 +1.1
MWZ Matawai 42.59 144 P P 02 48 59.5 +1.4
THZ Tophouse 42.64 152 P P 02 48 59.3 +0.8
WVZ Waitaha Valley 42.70 155 P P 02 49 00.3 +1.4
KWHZ Kaweka Forest 42.71 146 P P 02 49 00.9 +1.8
MJAR Matsushiro Arr 42.72 349 P P 02 48 58.7 -0.4
comp=Z,16nm,1.1s,baz=161,slow=7.2,SNR=16
comp=Z,16nm,1.1s
MAJO Matsushiro 42.72 349 P P 02 48 58.9 -0.3
MAJO Matsushiro 42.72 349 P P 02 48 58.7 -0.4
MJB9 Matsu-Tunnel 42.73 349 P P 02 48 59.4 +0.3
MJB9 IAmb IAmb 02 49 01.8
comp=Z,58nm,1.4s
JCZ Jackson Bay 42.74 157 P P 02 49 01.2 +1.9
JCZ Jackson Bay 42.74 157 P P 02 49 01.5 +2.2
SNGZ Shannon Statio 42.78 145 P P 02 49 01.1 +1.5
KRHZ Kereru 42.84 147 P P 02 49 01.3 +1.3
PUZ Puketiti 42.84 143 P P 02 48 59.4 -0.7
TCW Tory Channel 42.88 150 P P 02 49 00.3 0.0
TUWZ Tuamarina 42.88 150 P P 02 49 00.9 +0.6
TSZ Takapari Road 42.91 147 P P 02 49 02.3 +1.6
BSWZ Blackbirch Sta 43.07 151 P P 02 49 02.5 +0.7
LTZ Lake Taylor 43.14 153 P P 02 49 03.9 +1.5
MRZ Mangatainoka R 43.14 148 P P 02 49 03.1 +0.6
MRZ IAmb IAmb 02 49 04.0
comp=Z,39nm,1.0s
MRZ Mangatainoka R 43.14 148 P P 02 49 03.3 +0.8
RPZ Rata Peaks 43.36 155 P P 02 49 04.8 +0.6
RPZ IAmb IAmb 02 49 07.6
comp=Z,17nm,0.7s
RPZ Rata Peaks 43.36 155 P P 02 49 04.2 0.0
comp=Z,15nm,0.6s,baz=294,slow=4.4,SNR=7.4
comp=Z,15nm,0.6s
RPZ Rata Peaks 43.36 155 P P 02 49 05.6 +1.5
PXZ Pawanui 43.38 147 P P 02 49 05.5 +1.1
KHZ Kahutara 43.44 152 P P 02 49 05.1 +0.3
BFZ Birch Farm 43.51 148 P P 02 49 05.0 -0.4
BFZ IAmb IAmb 02 49 08.5
comp=Z,36nm,1.0s
BFZ Birch Farm 43.51 148 P P 02 49 04.6 -0.8
LBZ Lake Benmore 43.55 156 P P 02 49 06.1 +0.4
MLZ Mavora Lakes 43.60 159 P P 02 49 07.4 +1.4
GVZ Greta Valley S 43.63 153 P P 02 49 06.9 +0.5
TMZ Timaru 43.88 156 P P 02 49 08.4 0.0
MOZ McQueen's Vall 44.04 154 P P 02 49 11.0 +1.4
TUZ Tuapeka 44.65 158 P P 02 49 16.0 +1.6
APZ The Paps 44.82 160 P P 02 49 16.6 +0.9
NJ2 Nanjing 46.22 326 eP P 02 49 29.2 +2.3
NJ2 pmax pmax
comp=Z,52nm,0.6s
KSRS Korea Array 46.46 339 P P 02 49 27.2 -1.4
comp=Z,2.6nm,0.7s,baz=159,slow=8.5,SNR=7.8
KSRS LR LR 03 07 25.1
comp=Z,60nm,19.4s,baz=130,slow=34
comp=Z,2.6nm,0.7s
KSAR Wonju Array Be 46.46 338 P P 02 49 29.6 +0.9
NONG Nongkai 49.57 299 P P 02 49 53.5 +0.6
ENH Enshi 50.86 317 P P 02 50 02.5 +0.1
USRK Ussuriysk Ar. 51.41 346 P P 02 50 06.4 +0.2
USRK Ussuriysk Ar. 51.41 346 P P 02 50 06.2 0.0
comp=Z,5.2nm,0.6s,baz=166,slow=7.5,SNR=14
USRK pP pwP 02 50 47.6 +1.1
comp=Z,2.9nm,0.7s,baz=182,slow=6.8,SNR=2.8
comp=Z,5.2nm,0.6s
HNS HongShan 52.47 327 ⇓P P 02 50 14.2 0.0
HNS pmax pmax
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 53.40 298 P P 02 50 21.4 0.0
comp=Z,1.6nm,0.3s,baz=120,slow=5.5,SNR=11
CMAR pP pwP 02 51 03.1 +1.3
comp=Z,1.1nm,0.4s,baz=112,slow=4.8,SNR=1.5
comp=Z,1.6nm,0.3s
XAN Xi'an 53.58 320 ⇑P P 02 50 21.7 -0.8
XAN pmax pmax
comp=Z,35nm,1.1s
BNX BinXian 54.07 343 ⇑P P 02 50 26.1 +0.4
BNX pmax pmax
comp=Z,13nm,1.7s
PZH PanZhiHua 54.49 308 P P 02 50 30.6 +1.3
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,6.6s
CD2 Chengdu 55.25 314 P P 02 50 34.9 +0.3
CD2 pmax pmax
comp=Z,10.0nm,0.6s
HHC Hu-ho-hao-te 56.65 328 eP P 02 50 50.8 +6.4
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,90nm,4.0s
LZH Lanzhou 58.12 319 eP P 02 50 55.0 +0.1
LZH S S 02 58 42.4 -0.6
LZH pmax pmax
comp=Z,32nm,1.0s
HEH HeiHe 58.19 345 eP P 02 50 53.0 -1.8
PETK Petropavlovsk- 59.05 7 P P 02 51 00.8 +0.1
comp=Z,4.8nm,0.7s,baz=165,slow=6.4,SNR=6.0
comp=Z,4.8nm,0.7s
SHL Shillong 62.11 303 P P 02 51 20.8 -1.4
SHL IAmb IAmb 02 51 22.5
comp=Z,29nm,1.5s
GTA Gaotai 62.65 320 eP P 02 51 26.3 +0.8
GTA pmax pmax
comp=Z,10.0nm,1.2s
ULN Ulaanbaatar 63.90 331 P P 02 51 33.2 -0.3
ULN IAmb IAmb 02 51 34.6
comp=Z,6.5nm,0.8s
SONM Songino Array 64.19 331 P P 02 51 35.5 +0.1
SONM Songino Array 64.19 331 P P 02 51 35.6 +0.1
comp=Z,3.4nm,0.6s,baz=147,slow=6.5,SNR=25
SONM pP pwP 02 52 17.9 +0.6
comp=Z,1.2nm,1.0s,baz=142,slow=5.1,SNR=1.5
comp=Z,3.4nm,0.6s
GOMU GeErMu 64.36 315 P P 02 51 36.9 -0.2
GOMU pmax pmax
comp=Z,7.0nm,1.3s
GOMU pmax pmax
comp=Z,340nm,5.4s
MA2 Magadan 64.94 2 LR LR 03 20 06.7
comp=Z,23nm,19.1s,baz=296,slow=36
VNDA Vanda 72.36 177 P P 02 52 26.2 +0.6
VNDA IAmb IAmb 02 52 26.9
comp=Z,12nm,0.7s
VNDA Vanda 72.36 177 P P 02 52 24.9 -0.7
comp=Z,9.7nm,0.6s,baz=334,slow=7.0,SNR=32
comp=Z,9.7nm,0.6s
BILL Bilibino 74.58 7 P P 02 52 39.5 +0.8
M14K Bethel 76.88 23 P P 02 52 52.6 +0.8
M14K IAmb IAmb 02 52 56.7
comp=Z,25nm,1.1s
MK31 Makanchi Array 77.40 320 P P 02 52 54.2 -0.9
MKAR Makanchi Array 77.40 320 P P 02 52 53.8 -1.3
MKAR Makanchi Array 77.40 320 P P 02 52 54.0 -1.1
comp=Z,3.3nm,0.5s,baz=100,slow=8.6,SNR=41
comp=Z,3.3nm,0.5s
MAKZ Makanchi 77.60 320 P P 02 52 55.1 -1.1
MAKZ IAmb IAmb 02 52 56.0
comp=Z,7.3nm,0.7s
TIXI Tiksi 77.98 354 P P 02 52 56.9 -0.8
ACHA Angle Creek He 78.23 27 P P 02 52 59.5 +0.1
ZALV Zalesovo Beam 78.83 328 P P 02 53 00.4 -2.3
ZALV Zalesovo Beam 78.83 328 P P 02 53 00.6 -2.2
comp=Z,3.5nm,0.4s,baz=113,slow=5.9,SNR=18
ZALV pP pwP 02 53 46.8 +2.9
comp=Z,1.4nm,0.7s,baz=113,slow=6.9,SNR=1.9
comp=Z,3.5nm,0.4s
KDJ Kajisay 79.25 315 P P 02 53 04.4 -1.2
KDJ IAmb IAmb 02 53 06.2
comp=Z,16nm,1.2s
KSH Kashi 79.37 312 P P 02 53 07.3 +1.1
KSH pmax pmax
comp=Z,6.0nm,1.0s
NIL Nilore 79.99 305 P P 02 53 08.2 -1.3
NIL IAmb IAmb 02 53 11.9
comp=Z,16nm,1.1s
BOOM Boomskoye usch 80.24 315 P P 02 53 09.4 -1.5
BOOM IAmb IAmb 02 53 11.6
comp=Z,19nm,1.4s
KURK Kurchatov 81.08 323 P P 02 53 13.7 -1.2
KURBB Kurchatov Arra 81.10 323 P P 02 53 13.5 -1.5
comp=Z,1.3nm,0.6s,baz=111,slow=4.3,SNR=12
comp=Z,1.3nm,0.6s
AAK Ala-Archa 81.31 314 P P 02 53 15.5 -1.0
C18K Utukok River 82.03 17 P P 02 53 19.6 +0.1
PWL Port Wells 82.62 26 P P 02 53 22.1 -0.7
PWL IAmb IAmb 02 53 26.5
comp=Z,12nm,0.8s
MAW Mawson 82.85 203 P P 02 53 22.6 -1.2
comp=Z,5.9nm,0.6s,baz=80,slow=12,SNR=6.7
comp=Z,5.9nm,0.6s
KK31 Karatay Array 84.26 314 P P 02 53 30.1 -1.5
KK31 IAmb IAmb 02 53 31.7
comp=Z,13nm,1.2s
KKAR Karatay Array 84.26 314 P P 02 53 30.2 -1.3
KKAR Karatay Array 84.26 314 P P 02 53 30.1 -1.4
KKAR IAmb IAmb 02 53 31.7
comp=Z,13nm,1.2s
SIMJ Simiganj 84.43 310 P P 02 53 31.0 -1.7
QSPA South Pole Qui 84.44 180 P P 02 53 30.8 -1.3
QSPA IAmb IAmb 02 53 32.5
comp=Z,14nm,0.8s
QSPA South Pole Qui 84.44 180 P P 02 53 30.6 -1.6
comp=Z,9.7nm,0.6s,baz=282,slow=0.7,SNR=22
QSPA pP pP 02 54 16.2 +1.4
comp=Z,4.8nm,0.9s,baz=8.1,slow=2.8,SNR=2.6
comp=Z,9.7nm,0.6s
ILAR Eielson Array 84.88 23 P P 02 53 32.4 -1.7
ILAR Eielson Array 84.88 23 P P 02 53 32.5 -1.6
comp=Z,4.3nm,0.7s,baz=253,slow=4.8,SNR=34
ILAR pP pwP 02 54 18.6 +0.6
comp=Z,1.9nm,0.9s,baz=261,slow=4.8,SNR=3.0
comp=Z,4.3nm,0.7s
NRIK Noril'sk 84.95 342 P P 02 53 32.9 -1.5
comp=Z,2.8nm,0.5s,baz=130,slow=5.3,SNR=5.0
NRIK pP pwP 02 54 19.3 +3.2
comp=Z,1.8nm,0.4s,baz=141,slow=5.3,SNR=1.9
comp=Z,2.8nm,0.5s

J25K Salcha River, 85.41 23 P P 02 53 36.1 -0.8
J25K IAmb IAmb 02 53 39.2
comp=Z,8.5nm,0.8s
G24K Hadweenzic Riv 85.47 21 P P 02 53 37.0 0.0
F24K Squaw Lake 85.67 20 P P 02 53 38.3 +0.2
C23K Itkillik River 85.83 18 P P 02 53 39.0 +0.3
J26L Joseph Creek 86.09 24 P P 02 53 40.9 +0.7
BVAR Borovoye Array 86.63 324 P P 02 53 40.6 -2.4
comp=Z,2.3nm,0.5s,baz=107,slow=5.8,SNR=18
BVAR pP pwP 02 54 28.3 +3.4
comp=Z,1.8nm,0.8s,baz=104,slow=6.3,SNR=3.5
comp=Z,2.3nm,0.5s
HYT Haines Junctio 87.57 28 P P 02 53 48.2 +0.7
HYT IAmb IAmb 02 53 51.4
comp=Z,8.1nm,1.0s
DAWY Dawson 87.66 25 P P 02 53 47.7 -0.1
I28M Miner Creek 87.86 24 P P 02 53 49.1 +0.4
I28M IAmb IAmb 02 53 54.9
comp=Z,10nm,1.4s
E27K Coleen River 88.13 21 P P 02 53 50.1 +0.2
E27K IAmb IAmb 02 53 53.8
comp=Z,9.4nm,1.4s
H02S1 DAWSON INLET T 88.47 36 T T 04 33 03.5
SNR=306
F30M Barrier River 90.06 22 P P 02 53 58.9 0.0
F30M IAmb IAmb 02 54 00.0
comp=Z,7.3nm,1.2s
G31M Satah River 90.47 23 P P 02 54 00.0 -0.7
G31M IAmb IAmb 02 54 04.3
comp=Z,9.7nm,1.1s
ABKAR Akbulak array 92.49 319 P P 02 54 07.8 -2.8
YBH Yreka Blue Hor 93.53 49 LR LR 03 29 37.0
comp=Z,26nm,20.5s,baz=352,slow=31
A36M Sachs Harbour 94.38 18 P P 02 54 18.1 -0.6
A36M IAmb IAmb 02 54 22.2
comp=Z,5.0nm,0.8s
ELIB Princess Elisa 94.77 195 dP P 02 54 20.4 -0.3
comp=Z,3.6nm,0.8s
PFO Pinyon Flats O 98.11 57 LR LR 03 32 57.4
comp=Z,35nm,18.5s,baz=288,slow=32
YKA Yellowknife Ar 98.55 28 P P 02 54 37.1 -0.6
comp=Z,1.4nm,1.0s,baz=278,slow=4.6,SNR=11
YKA pP pwP 02 55 23.7 +1.5
comp=Z,0.9nm,0.9s,baz=275,slow=4.6,SNR=4.2
comp=Z,1.4nm,1.0s
GERES GERESS Array B 121.75 326 PKP PKPdf 02 59 50.9 -1.8
comp=Z,0.6nm,0.5s,baz=79,slow=2.1,SNR=5.1
PLCA Paso Flores 122.29 146 PKP PKPdf 02 59 53.0 -1.1
comp=Z,1.3nm,0.8s,baz=226,slow=4.4,SNR=3.7
PB14 IPOC Station P 132.53 131 PKPdf PKPdf 03 00 12.8 -1.6
GO02 Mina Guanaco 132.83 132 PKPdf PKPdf 03 00 08.0 -6.9
TA01 Diego Aracena 134.88 126 PKPdf PKPdf 03 00 12.2 -6.2
CPUP Villa Florida 140.27 144 PKP PKPdf 03 00 28.1 -0.1
comp=Z,1.3nm,0.7s,baz=14,slow=0.7,SNR=4.2
TORD Torodi Ar. Bea 145.38 285 PKPdf PKPdf 03 00 35.5 -1.9
AQDB Aquidauana 145.60 139 PKPdf PKPdf 03 00 36.4 -1.3
PTLB Pontes e Lacer 146.44 129 PKPdf PKPdf 03 00 38.0 -1.2
VILB Vilhena 146.98 124 PKPab PKPdf 03 00 41.4 +1.1
VAO Valinhos 148.35 154 PKPdf PKPdf 03 00 41.3 -1.1
BDFB Brasilia 154.00 144 PKPbc PKPbc 03 00 58.0 -1.4
comp=Z,1.6nm,0.4s,baz=207,slow=2.3,SNR=5.2

*ISN **04** 03:01:53.2±0.3, 37.°07N×44.°91E, h20km±3km, ML2.9*
*TEH **04** 03:01:53.0, 37.°00N×45.°01E, h8km*
*ISK **04** 03:02:01.0, 37.°02N×44.°43E, h9km, ML2.8/7*
ISC 04 03:01:53.1±0.9, 37.°03N±0.°03×44.°91E±0.°04, h12km, n19,
σ1§63/23, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	Mahabad	0.69	112	Pg	Pg	03 02 04.3	-2.2
SDS1	Sardasht. Az.	0.99	152	Pg	Pg	03 02 10.3	-1.9
CUKT	Cukurca	1.06	282	Pg	Pn	03 02 14.9	+0.9
IAZR	Azarshahr	1.07	52	Pg	Pb	03 02 13.0	-0.8
ITBZ	Tabriz	1.56	39	Pg	Pn	03 02 20.7	-0.1
IKRK	Kirkuk	1.69	196	ePg	Pb	03 02 24.0	-0.1
IKRK				eSg	Sb	03 02 46.5	+1.2
IMRD	Marand	1.80	20	Pg	Pb	03 02 25.8	-0.3
IHSH	Hashtrud	1.90	81	Pn	Pn	03 02 26.6	+0.9
VANB	Van	1.98	323	Pn	Pg	03 02 31.5	+0.5
VANB				Sn	Sb	03 02 53.7	-0.1
IHRS	Heris	2.13	52	Pn	Pb	03 02 30.8	-0.9
MAKU	Maku	2.33	356	Pn	Pb	03 02 34.8	-0.4
ISRB	Sarab	2.33	69	Pn	Pn	03 02 33.4	+1.9
GURO	Guroymak-BITLI	2.74	305	Pn	Pb	03 02 42.0	-0.2
AGRB	Hanur-Agry	2.96	330	Pn	Pb	03 02 47.0	+1.1
SVAN	Silvan-Diyarba	3.15	292	Pn	Pb	03 02 47.3	-1.9
MAZI	Mazidag	3.59	278	Pn	Pb	03 02 53.1	-3.5
BHD	Baghdad	3.77	187	ePn	Pn	03 02 53.0	+1.9
BHD				eSn	Sn	03 03 36.5	+1.1
BNGB	Bingl	3.88	302	Pn	Pb	03 02 58.4	-3.1
IBDR	Badra	4.00	168	ePn	Pn	03 02 56.0	+1.8
IBDR				eSn	Sn	03 03 42.0	+1.1

*MOS **04** 03:04:30.4±0.8, 42.°45N×143.°63E, h85km, mb4.2/8, Error ellipse: s-maj=10.3km s-min=6.2km az=76.0*
*SKHL **04** 03:04:30.6±0.8, 42.°40N×143.°70E, h84km±5km, mb5.7/4, msha6.7/3*
*JMA **04** 03:04:31.9±0.1, 42.°5N±0.°4×143.°6E±0.°7, h71km±1km, MD4.0/39, MV4.1/39, SE OFF TOKACHI*
JMA Felt II J1 at SE OFF TOKACHI .
*IDC **04** 03:04:32.0±0.8, 42.°59N×143.°57E, h76km±5km, mb3.6/20, mbtmp3.9/23, MS3.1/2, Error ellipse: s-maj=14.3km s-min=8.2km az=55.0*
*NEIC **04** 03:04:32.1±1.1, 42.°46N±0.°08×143.°6E±0.°2, h82km±9km, mb4.4/30, Error ellipse: s-maj=24.5km s-min=10.4km az=103.0*
ISC 04 03:04:31.4±0.5, 42.°47N±0.°04×143.°64E±0.°03, h75km±4km,
n141, σ1§03/155, mb4.3/41, 4C-13D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	Churui	0.25	305	⇓iP	Pn	03 04 42.7	-0.1
JCH				⇓S	Sn	03 04 50.5	-0.6
JCH	Churui	0.25	305	A	A	03 04 42.7	
comp=N,10.0nm,0.6s,comp=E,11nm,0.7s							
JTHR	Tokachihiroo	0.31	234	iP	Pn	03 04 43.1	0.0
JTHR				S	Sn	03 04 51.1	-0.6
JTHR	Tokachihiroo	0.31	234	A	A	03 04 43.1	
comp=N,18nm,0.3s,comp=E,24nm,0.4s							
JOB	Onbets	0.46	19	⇓iP	Pn	03 04 44.9	+0.7
JOB				⇓S	Sn	03 04 54.8	+1.2
JOB	Onbets	0.46	19	A	A	03 04 44.9	
comp=N,18nm,0.6s,comp=E,12nm,0.8s							
JEM	Erimo	0.58	218	P	Pn	03 04 45.3	0.0
ERM	Erimo	0.58	218	Pn	Pn	03 04 46.3	+0.9
ERM				Sn	Sn	03 04 57.4	+1.8
ERM	Erimo	0.58	218	iPN	Pn	03 04 45.4	0.0
JNBK	Urakawa-nobuka	0.68	254	iP	Pn	03 04 46.5	0.0
JNBK				S	Sn	03 04 57.8	+0.3
JNBK	Urakawa-nobuka	0.68	254	A	A	03 04 46.5	
comp=N,10.0nm,0.6s,comp=E,14nm,0.5s							
JAR	Ashorobuto	0.83	7	⇓iP	Pn	03 04 48.5	+0.4
JAR				⇓S	Sn	03 05 01.0	+0.5
JAR	Ashorobuto	0.83	7	A	A	03 04 48.5	
comp=N,36nm,0.4s,comp=E,28nm,0.4s							
JSHD	Hidakashinhida	0.87	266	iP	Pn	03 04 49.2	+0.7
JAK	Akkeshi	0.94	56	⇓iP	Pn	03 04 49.7	+0.3
JAK				⇓S	Sn	03 05 03.4	+0.6
JAK	Akkeshi	0.94	56	A	A	03 04 49.7	
comp=N,15nm,0.6s,comp=E,13nm,0.7s							
JBT2	Biratori 2	0.99	288	⇓iP	Pn	03 04 49.6	-0.4
JBT2				⇓S	Sn	03 05 02.7	-1.1
JFR	Furan	1.03	312	iP	Pn	03 04 49.8	-0.8
JFR				S	Sn	03 05 04.0	-0.8
AKK	Akkeshi	1.04	58	eP	Pn	03 04 50.9	+0.3
AKK				eS	Sn	03 05 05.5	+0.5
JKHN	Kushirohamanak	1.28	61	⇓iP	Pn	03 04 54.0	+0.4
JKHN				⇓S	Sn	03 05 10.6	+0.4
JNK	Nakash	1.37	35	iP	Pn	03 04 55.0	+0.3
JNK				S	Sn	03 05 12.3	-0.1
JNK	Nakash	1.37	35	A	A	03 04 55.0	
comp=N,9.0nm,0.2s,comp=E,9.0nm,0.7s							
JAB	Ashibetsu	1.46	315	P	Pn	03 04 56.6	+0.6
JTKR	Abashiri--Toko	1.51	7	iP	Pn	03 04 57.2	+0.6
JTKR				S	Sn	03 05 16.5	+0.8
JKK2	Kamakawa 2	1.54	335	P	Pn	03 04 57.6	+0.5
JMP	Maruseppu	1.55	353	iP	Pn	03 04 57.4	+0.3
JMP				S	Sn	03 05 16.9	+0.3
JMP	Maruseppu	1.55	353	A	A	03 04 57.4	

comp=N,4.0nm,0.9s,comp=E,3.0nm,0.9s
JNSB Nemuroshibetsu 1.64 37 A A 03 04 59.7
comp=N,5.0nm,0.9s,comp=E,4.0nm,1.4s
JEW Eniwo 1.66 284 P **Pn** **03 04 60.0 +1.4**
JEW S **Sn** **03 05 20.4 +1.3**
NMR Nemuro--Hokkai 1.78 59 ⇑*i*PN **Pn** **03 04 59.9 -0.2**
NMR *e*S **Sn** **03 05 20.8 -1.2**
NMR Nemuro--Hokkai 1.78 59 *i* P **Pn** **03 04 59.9 -0.2**
NMR *e*S **Sn** **03 05 21.0 -1.0**
JKA Kamikawa-asahi 1.81 336 Pn **Pn** **03 05 01.4 +0.9**
JKA Kamikawa-asahi 1.81 336 *e*P **Pn** **03 05 01.2 +0.6**
ASAJ Asahikawa 1.81 336 P **Pn** **03 05 01.2 +0.6**
comp=E,54nm,0.3s,baz=204,slow=9.4,SNR=51
ASAJ S **Sn** **03 05 20.0 -2.8**
comp=E,149nm,0.5s,baz=198,slow=12,SNR=14
RUSJ Misakicho 2.01 35 ⇑*i*PN **Pn** **03 05 04.4 +1.1**
RUSJ *e*S **Sn** **03 05 31.8 +4.3**
JAHD Aomorihigashid 2.10 236 A A 03 05 04.9
comp=N,8.0nm,0.9s,comp=E,10.0nm,0.6s
YUK Yuzh-Kuril'sk 2.25 45 *d i*PN **Pn** **03 05 07.8 +1.3**
YUK *e*S **Sn** **03 05 33.8 +0.4**
YUK pmax pmax
comp=N,349nm,0.2s
YUK pmax pmax
comp=Z,951nm,0.2s
YUK pmax pmax
comp=E,359nm,0.1s
YUK smax smax
comp=N,3μm,0.3s
YUK smax smax
comp=E,6μm,0.5s
YUK Yuzh-Kuril'sk 2.25 45 *i* P **Pn** **03 05 07.6 +1.1**
YUK AMB AMB 03 05 08.0
comp=E,1μm,0.2s
YUK *e*S **Sn** **03 05 34.2 +0.8**
YUK A A 03 05 35.5
comp=E,4μm,0.3s
YUK A A 03 05 35.5
comp=E,5μm,0.3s
JTM Tenmabayashi 2.56 230 Pn **Pn** **03 05 10.3 -0.3**
SHO Shikotan 2.72 58 *e*PN **Pn** **03 05 13.2 +0.4**
SHO *e*S **Sn** **03 05 43.4 -1.3**
SHO pmax pmax
comp=Z,263nm,0.2s
SHO pmax pmax
comp=N,40nm,0.1s
SHO pmax pmax
comp=E,63nm,0.1s
SHO smax smax
comp=N,2μm,0.2s
SHO smax smax
comp=E,2μm,0.3s
SHO Shikotan 2.72 58 *e*P **Pn** **03 05 13.2 +0.4**
SHO AMB AMB 03 05 13.8
comp=E,260nm,0.2s
SHO *e*S **Sn** **03 05 43.4 -1.3**
SHO A A 03 05 45.1
comp=E,1μm,0.3s
SHO A A 03 05 45.1
comp=E,2μm,0.3s
KUR Kuril'sk 4.12 46 ⇑*i*PN **Pn** **03 05 33.2 +1.4**
KUR *i* S **Sn** **03 06 21.2 +2.5**
KUR pmax pmax
comp=Z,133nm,0.4s
KUR smax smax
comp=N,193nm,0.6s
KUR smax smax
comp=E,172nm,0.6s
KUR Kuril'sk 4.12 46 *e*P **Pn** **03 05 33.5 +1.7**
KUR AMB AMB 03 05 34.9
comp=E,130nm,0.3s
KUR *e*S **Sn** **03 06 21.3 +2.5**
KUR A A 03 06 22.3
comp=E,200nm,0.5s
KUR A A 03 06 22.3
comp=E,250nm,0.5s
YSS Yuzhno-Sakhali 4.53 352 *e*PN **Pn** **03 05 38.2 +0.8**
YSS *e*S **Sn** **03 06 28.5 -0.1**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS smax smax
comp=N,120nm,0.3s
YSS smax smax
comp=E,120nm,0.5s
YSS MLR MLR
comp=Z,300nm,13.0s
YSS Yuzhno-Sakhali 4.53 352 *e*P **Pn** **03 05 38.2 +0.8**
YSS *e*S **Sn** **03 06 28.3 -0.3**
JMM Marumori 5.09 206 Pn **Pn** **03 05 43.3 -1.8**
TEY Ternei 5.70 299 *e*PN **Pn** **03 05 55.4 +2.0**
TEY Ternei 5.70 299 *e*P **Pn** **03 05 55.4 +2.0**
JSD Sado 6.04 225 Pn **Pn** **03 05 58.8 +0.7**
MJA0 Matsu Arr-Jizo 7.24 217 *e*PN **Pn** **03 06 15.9 +1.4**
MJB9 Matsu-Tunnel 7.25 217 Pn **Pn** **03 06 15.0 +0.2**
MAJO Matsushiro 7.26 217 Pn **Pn** **03 06 15.4 +0.7**
MAJO Matsushiro 7.26 217 *i* PN **Pn** **03 06 15.6 +0.9**
MJAR Matsushiro Arr 7.26 217 P **Pn** **03 06 15.9 +1.2**
comp=Z,3.2nm,0.5s,baz=30,slow=12,SNR=11
MJAR LR LR 03 09 10.0
comp=Z,80nm,19.1s,baz=35,slow=38
JGF Kuroka 8.42 217 Pn **Pn** **03 06 32.1 +1.5**
TYV Tymovskoe 8.42 356 *e*PN **Pn** **03 06 33.1 +2.6**
TYV pmax pmax
comp=Z,10.0nm,1.2s
TYV pmax pmax
comp=Z,200nm,3.3s
TYV Tymovskoe 8.42 356 *e*P **Pn** **03 06 32.5 +2.0**
TYV *e*S **Sn** **03 08 02.6 -1.3**
USRK Ussuriysk Ar. 8.66 285 P **Pn** **03 06 33.8 0.0**
comp=Z,0.6nm,0.5s,baz=105,slow=13,SNR=1.4
JHJ Hachijo jima 2 9.82 199 P **Pn** **03 06 46.9 -2.8**
comp=Z,50nm,0.5s,baz=61,slow=17,SNR=1.7
JHJ S Sn 03 08 27.5 -11
comp=Z,44nm,0.4s,baz=80,slow=21,SNR=6.3
PEA0B Petropavlovsk- 14.20 37 Pn **Pn** **03 07 47.4 -1.3**
PEA0B Petropavlovsk- 14.20 37 P **Pn** **03 07 47.4 -1.3**
PETK Petropavlovsk- 14.20 37 Pn **Pn** **03 07 47.9 -0.8**
PETK Petropavlovsk- 14.20 37 P **Pn** **03 07 47.5 -1.3**
comp=Z,2.2nm,0.5s,baz=213,slow=10,SNR=8.2
SEY Seymchan 21.13 11 P **P** **03 09 07.9 -1.9**
comp=Z,12nm,0.8s,baz=199,slow=8.8,SNR=26
comp=Z,12nm,0.8s
SEY Seymchan 21.13 11 *i* P **P** **03 09 06.9 -2.9**
SEY pmax pmax
comp=Z,13nm,0.8s
SONM Songino Array 26.62 295 P **P** **03 10 02.8 -0.1**
comp=Z,0.5nm,0.6s,baz=104,slow=9.6,SNR=2.0
comp=Z,0.5nm,0.6s
H11N2 WAKE ISLAND Hy 29.99 132 T T 03 41 59.2
baz=325,slow=75,SNR=148
H11N1 WAKE ISLAND Hy 30.00 132 T T 03 42 09.9
baz=325,slow=75,SNR=174
H11N3 WAKE ISLAND Hy 30.01 132 T T 03 42 07.2
baz=325,slow=75,SNR=134
TIXI Tiksi 30.15 351 LR LR 03 22 40.8
comp=Z,70nm,21.8s,baz=3.5,slow=36
H11S1 WAKE ISLAND Hy 30.88 134 T T 03 43 08.0
baz=328,slow=76,SNR=204
H11S3 WAKE ISLAND Hy 30.89 134 T T 03 43 13.2
baz=328,slow=76,SNR=206
H11S2 WAKE ISLAND Hy 30.90 134 T T 03 43 16.8
baz=328,slow=76,SNR=205
ZALV Zalesovo Beam 39.73 308 P **P** **03 11 56.9 +0.6**
comp=Z,0.9nm,0.4s,baz=87,slow=8.6,SNR=5.5
comp=Z,0.9nm,0.4s
D19K Kuna River 39.74 29 P **P** **03 11 55.8 -0.5**
D19K IAmb IAmb 03 11 58.1
comp=Z,9.2nm,1.3s
E19K Redstone River 39.91 31 P **P** **03 11 57.7 +0.1**
E19K IAmb IAmb 03 12 00.7
comp=Z,3.1nm,0.9s
H19K Roundabout Mou 39.99 34 P **P** **03 11 58.3 0.0**
D20K Etivluk River 40.32 29 P **P** **03 12 00.6 -0.5**
B21K Ikpikpuk River 41.17 28 P **P** **03 12 07.6 -0.3**
G21K Allakaket 41.27 33 P **P** **03 12 09.2 +0.4**
G21K IAmb IAmb 03 12 11.8
comp=Z,6.1nm,0.8s
F21K Alatna River 41.32 32 P **P** **03 12 09.4 +0.1**
E22K Anaktuvuk Pass 42.02 30 P **P** **03 12 14.9 -0.2**
COLD Coldfoot 42.60 32 P **P** **03 12 19.9 +0.3**
COLD IAmb IAmb 03 12 22.3
comp=Z,4.1nm,1.0s
G23K Bananza Creek 42.66 33 P **P** **03 12 20.7 +0.5**
G23K IAmb IAmb 03 12 22.3
comp=Z,5.4nm,0.8s
E23K Chandalar 42.84 31 P **P** **03 12 22.0 +0.3**
E23K IAmb IAmb 03 12 23.4
comp=Z,4.6nm,0.7s
H23K Yukon River 42.86 34 P **P** **03 12 21.9 +0.1**
MK31 Makanchi Array 42.90 298 *i* P **P** **03 12 21.0 -1.4**
MKAR Makanchi Array 42.90 298 P **P** **03 12 22.3 -0.1**
comp=Z,0.4nm,0.5s,baz=84,slow=12,SNR=4.0
comp=Z,0.4nm,0.5s
C24K Franklin Bluff 43.23 28 P **P** **03 12 24.3 -0.4**
C24K IAmb IAmb 03 12 45.4
comp=Z,5.8nm,1.2s
E24K Your Creek 43.27 31 P **P** **03 12 25.4 +0.3**
E24K IAmb IAmb 03 12 27.6
comp=Z,4.0nm,0.8s
F24K Squaw Lake 43.50 31 P **P** **03 12 27.2 +0.3**
F24K IAmb IAmb 03 12 28.9
comp=Z,4.0nm,0.7s
COLA College 43.61 35 *i* P **P** **03 12 26.9 -0.9**
COLA pmax pmax
comp=Z,27nm,3.0s
IL31 44.03 35 P **P** **03 12 31.2 +0.1**
ILAR Eielson Array 44.03 35 P **P** **03 12 31.5 +0.3**
comp=Z,2.9nm,0.9s,baz=275,slow=6.4,SNR=20
ILAR pP **pP** **03 12 49.4 -0.1**
comp=Z,0.4nm,0.6s,baz=265,slow=5.9,SNR=2.1
comp=Z,2.9nm,0.9s
D25K Kavik River 44.04 29 P **P** **03 12 30.9 -0.4**
D25K IAmb IAmb 03 12 32.7
comp=Z,4.7nm,0.6s
KURK Kurchatov 44.11 304 P **P** **03 12 32.4 +0.4**
KURK Kurchatov 44.11 304 *e*P **P** **03 12 32.4 +0.4**
KURBB Kurchatov Arra 44.19 304 P **P** **03 12 32.4 -0.3**
comp=Z,1.1nm,0.4s,baz=71,slow=9.0,SNR=7.0
comp=Z,1.1nm,0.4s
F26K Sheenjek River 44.92 31 P **P** **03 12 38.2 -0.1**
F26K IAmb IAmb 03 12 41.3
comp=Z,4.6nm,0.8s
C27K Jago River 44.98 28 P **P** **03 12 38.5 -0.1**
C27K IAmb IAmb 03 12 40.7
comp=Z,3.9nm,0.8s
G26K Porcupine Rive 45.12 32 P **P** **03 12 39.8 -0.1**
G26K IAmb IAmb 03 12 43.4
comp=Z,4.9nm,0.8s
SCRK Sand Creek 45.37 36 P **P** **03 12 41.8 -0.2**
E28M Babbage River 46.55 29 P **P** **03 12 51.6 +0.5**
I28M Miner Creek 46.86 34 P **P** **03 12 54.6 +0.9**
E29M Blow River 47.18 30 P **P** **03 12 56.5 +0.6**
E29M IAmb IAmb 03 12 58.8
comp=Z,2.8nm,0.7s
EPYK Eagle Plains 47.99 32 P **P** **03 13 02.0 -0.4**
EPYK IAmb IAmb 03 13 05.1
comp=Z,4.8nm,0.7s
F30M Barrier River 48.10 31 P **P** **03 13 03.3 +0.2**
BVAR Borovoye Array 48.32 309 P **P** **03 13 05.1 +0.1**
comp=Z,0.7nm,0.3s,baz=84,slow=10,SNR=8.1
comp=Z,0.7nm,0.3s
BRVK Borovoye 48.37 309 *i* P **P** **03 13 04.4 -1.0**
BRVK pmax pmax
comp=Z,4.0nm,1.9s
BRVK Borovoye 48.37 309 *e*P **P** **03 13 04.4 -1.0**
I30M Mount Dempster 48.37 34 P **P** **03 13 05.7 +0.3**
I30M IAmb IAmb 03 13 08.3
comp=Z,3.7nm,1.1s
HYT Haines Junctio 48.97 40 P **P** **03 13 10.6 +0.6**
H31M Peel River 49.06 33 P **P** **03 13 10.5 0.0**
ARTI Arti 53.62 316 *c i*P **P** **03 13 45.2 +0.5**
ARTI 03 15 48.3
ARTI S **S** **03 21 14.8 +2.5**
ARTI SS **SS** **03 24 55.4 +2.4**
ARTI pmax pmax
comp=Z,5.0nm,0.7s
SPITS Spitsbergen Ar 55.53 349 P **P** **03 13 57.5 -0.8**
comp=Z,7.3nm,1.0s,baz=61,slow=7.4,SNR=8.5
comp=Z,7.3nm,1.0s
RES Resolute Bay 56.91 16 P **P** **03 14 07.6 -0.4**
RES Resolute Bay 56.91 16 P **P** **03 14 07.6 -0.4**
RES pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 58.27 32 P **P** **03 14 18.0 +0.2**
comp=Z,1.2nm,0.7s,baz=307,slow=6.7,SNR=17
comp=Z,1.2nm,0.7s
ARCES ARCESS Array B 59.53 339 P **P** **03 14 26.4 0.0**
comp=Z,2.3nm,0.8s,baz=42,slow=9.7,SNR=9.7
comp=Z,2.3nm,0.8s
ARCES ARCESS Array B 59.53 339 *e*P **P** **03 14 25.6 -0.8**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
WRA Warramunga Arr 62.69 190 P **P** **03 14 47.9 -0.5**
comp=Z,0.7nm,0.6s,baz=7.6,slow=7.0,SNR=4.6
comp=Z,0.7nm,0.6s
WRA Warramunga Arr 62.69 190 *i* P **P** **03 14 48.0 -0.3**
WRA pmax pmax
comp=Z,1.0nm,0.8s
OBN Obninsk 64.79 323 *e*P **P** **03 15 01.2 -0.6**
OBN *e* 03 15 32.0
OBN pmax pmax
comp=Z,1.0nm,0.9s
OBN Obninsk 64.79 323 *e*P **P** **03 15 01.2 -0.6**
FINES FINESS Array B 64.82 332 P **P** **03 15 01.3 -0.5**
comp=Z,2.8nm,0.5s,baz=45,slow=6.9,SNR=23
comp=Z,2.8nm,0.5s
ASAR Alice Springs 66.42 190 P **P** **03 15 13.0 +0.4**
comp=Z,0.5nm,0.7s,baz=12,slow=6.5,SNR=4.2
comp=Z,0.5nm,0.7s
ASAR Alice Springs 66.42 190 P **P** **03 15 13.0 +0.4**
NB2 NORSAR Subarra 69.83 337 P **P** **03 15 33.6 0.0**
comp=Z,0.4nm,0.4s,baz=32,slow=6.5
NOA NORSAR Array B 69.83 337 P **P** **03 15 33.1 -0.5**
comp=Z,1.1nm,0.8s,baz=39,slow=5.2,SNR=5.2
comp=Z,1.1nm,0.8s
NOA NORSAR Array B 69.83 337 *e*P **P** **03 15 33.5 0.0**
HFS Hagfors 69.84 336 P **P** **03 15 33.2 -0.4**
comp=Z,1.4nm,0.5s,baz=48,slow=6.6,SNR=9.8
comp=Z,1.4nm,0.5s
NVAR Mina Array Bea 70.43 56 P **P** **03 15 37.4 -0.5**
comp=Z,0.2nm,0.5s,baz=311,slow=5.0,SNR=2.4
NVAR pP **pP** **03 15 58.8 +1.4**
comp=Z,1.0nm,0.7s,baz=292,slow=6.2,SNR=7.5
comp=Z,0.2nm,0.5s
AKASG Malin Array Be 71.05 322 P **P** **03 15 41.3 +0.2**
comp=Z,0.6nm,0.4s,baz=43,slow=6.6,SNR=5.2
comp=Z,0.6nm,0.4s
PDAR Pinedale Array 72.69 48 P **P** **03 15 51.2 -0.1**
comp=Z,0.3nm,0.6s,baz=262,slow=0.7,SNR=4.6
PDAR pP **pP** **03 16 11.8 +0.9**
comp=Z,0.3nm,0.6s,baz=318,slow=4.0,SNR=3.0
comp=Z,0.3nm,0.6s
ULM Lac du Bonnet 74.05 35 *e*P **P** **03 15 59.3 +0.4**
ULM pmax pmax
comp=Z,1.0nm,0.4s
EKA Eskdalemuir Ar 78.56 341 P **P** **03 16 25.2 +0.8**
comp=Z,3.1nm,1.1s,baz=28,slow=5.6,SNR=1.9
comp=Z,3.1nm,1.1s
TXAR Lajitas Array 85.49 54 P **P** **03 17 01.7 +0.4**
comp=Z,0.2nm,0.6s,baz=292,slow=4.2,SNR=3.9
TXAR pP **pP** **03 17 22.2 +0.7**
comp=Z,0.5nm,0.8s,baz=298,slow=3.7,SNR=4.7
comp=Z,0.2nm,0.6s
H03N2 Juan Fernandez 145.55 89 T T 06 07 13.7
baz=300,slow=76,SNR=7.5
H03N3 Juan Fernandez 145.56 89 T T 06 07 15.3
baz=300,slow=76,SNR=13
H03N1 Juan Fernandez 145.56 89 T T 06 07 16.1
baz=300,slow=76,SNR=11
SIV San Ignacio 146.16 46 PKPbc **PKPab** **03 24 03.7 -0.5**
comp=Z,0.8nm,0.6s,baz=295,slow=2.5,SNR=5.8

*IDC **04** 03:06:29.9± 11.0, 38.°36N× 20.°39E, h0km, mb3.4/4, mbtmp3.3/6, ML2.7/2, Error ellipse: s-maj=204.8km s-min=26.7km az=32.0*
*PDG **04** 03:06:32.1± 0.3, 38.°26N× 20.°38E, h7km± 2km, ML3.4/9, Error ellipse: s-maj=2.4km s-min=1.6km az=90.0*
*THE **04** 03:06:33.2, 38.°23N× 20.°54E, h7km, ML3.3/7, Error ellipse: s-maj=0.8km s-min=0.4km az=250.0*
*ATH **04** 03:06:33.5, 38.°23N× 20.°50E, h9km, ML3.3/19, Manual Solution by I.Dede First location: 2019/04/04 03:07:22, This location: 2020/10/14 21:08:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*BEO **04** 03:06:56.0± 1.2, 40.°08N× 20.°29E, h12km± 6km, ML2.8/11*
ISC 04 03:06:32.2± 0.7, **38.°24N**± 0.°02× **20.°44E**± 0.°03, **h16**km± 4km, **n126**, σ1$ **46**/167, **mb3.4**/4, **3C-4D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LXR1	**Lixouri, Cepha**	**0.04**	**183**	P	**Pg**	**03 06 35.1**	**+0.1**
LXR1				S	**Sg**	**03 06 37.0**	**+0.1**
DMLN	**Damoulianata-K**	**0.05**	**267**	P	**Pg**	**03 06 35.5**	**+0.3**
DMLN				S	**Sg**	**03 06 38.2**	**+1.1**
DMLN	**Damoulianata-K**	**0.05**	**267**	P	**Pg**	**03 06 35.9**	**+0.8**
DMLN				S	**Sg**	**03 06 37.9**	**+0.8**
VLS	**Valsamata**	**0.13**	**119**	P	**Pg**	**03 06 35.1**	**-0.9**
VLS				S	**Sg**	**03 06 37.0**	**-1.5**
	56μm,0.2s						
VLS	**Valsamata**	**0.13**	**119**	P	**Pg**	**03 06 35.2**	**-0.9**
VLS				S	**Sg**	**03 06 37.8**	**-0.7**
SMHA	**Samh**	**0.16**	**87**	P	**Pg**	**03 06 35.0**	**-1.3**
SMHA				S	**Sg**	**03 06 38.1**	**-1.0**
PSDA	**Pessada-Kefalo**	**0.17**	**138**	P	**Pg**	**03 06 35.8**	**-0.7**
PSDA				S	**Sg**	**03 06 38.2**	**-1.1**
PSDA	**Pessada-Kefalo**	**0.17**	**138**	P	**Pg**	**03 06 35.7**	**-0.7**
PSDA				S	**Sg**	**03 06 38.6**	**-0.7**
VSK1	**VASILIKIADES**	**0.19**	**30**	P	**Pg**	**03 06 36.8**	**-0.1**
VSK1				S	**Sg**	**03 06 40.1**	**+0.2**
FSK	**Fiskardo**	**0.24**	**24**	P	**Pg**	**03 06 37.4**	**-0.1**
FSK				S	**Sg**	**03 06 41.1**	**0.0**
	17μm,0.2s						
FSK	**Fiskardo**	**0.24**	**24**	P	**Pg**	**03 06 37.6**	**+0.1**
FSK				S	**Sg**	**03 06 41.9**	**+0.7**
RTZL	**Ratzakli, Kefa**	**0.31**	**122**	P	**Pg**	**03 06 37.8**	**-0.9**
EVGI	**Lefkada island**	**0.41**	**24**	P	**Pg**	**03 06 40.7**	**+0.1**
EVGI				S	**Sg**	**03 06 46.7**	**+0.4**
EVGI	**Lefkada island**	**0.41**	**24**	P	**Pb**	**03 06 42.0**	**+0.8**
EVGI				S	**Sg**	**03 06 46.9**	**+0.6**
DRAG	**Dragano-Lefkad**	**0.45**	**13**	P	**Pg**	**03 06 41.5**	**+0.2**
DRAG				S	**Sb**	**03 06 48.4**	**-0.1**
DRAG	**Dragano-Lefkad**	**0.45**	**13**	P	**Pb**	**03 06 43.2**	**+1.3**
DRAG				S	**Sb**	**03 06 48.8**	**+0.3**
NYDR	**Nydri-Lefkada**	**0.51**	**23**	P	**Pg**	**03 06 42.4**	**0.0**
NYDR	**Nydri-Lefkada**	**0.51**	**23**	P	**Pb**	**03 06 43.4**	**+0.5**
NYDR				S	**Sb**	**03 06 50.0**	**-0.1**
LKD2	**Lefkada island**	**0.57**	**17**	P	**Pg**	**03 06 43.5**	**-0.1**
LKD2	**Lefkada island**	**0.57**	**17**	P	**Pg**	**03 06 43.3**	**-0.3**
LKD2				S	**Sb**	**03 06 52.2**	**+0.3**
AST1	**Astakos**	**0.59**	**59**	P	**Pg**	**03 06 43.4**	**-0.5**
TSLK	**Tsoukalades, L**	**0.61**	**16**	P	**Pb**	**03 06 44.4**	**-0.1**
TSLK				S	**Sb**	**03 06 53.8**	**+1.0**
	3μm,0.5s						
TSLK	**Tsoukalades, L**	**0.61**	**16**	P	**Pb**	**03 06 45.6**	**+1.1**
TSLK				S	**Sb**	**03 06 53.5**	**+0.7**
LTHK	**Lithakia**	**0.62**	**149**	P	**Pg**	**03 06 43.2**	**-1.1**
LTHK				S	**Sg**	**03 06 52.7**	**+0.2**
	3μm,0.3s						
LTHK	**Lithakia**	**0.62**	**149**	P	**Pg**	**03 06 44.9**	**+0.6**
LTHK				S	**Sg**	**03 06 52.9**	**+0.3**
RLS	**Riolos of Patr**	**0.83**	**102**	P	**Pg**	**03 06 47.0**	**-1.3**
RLS	**Riolos of Patr**	**0.83**	**102**	P	**Pg**	**03 06 48.7**	**+0.3**
RLS				S	**Sb**	**03 07 01.1**	**+1.9**
PVO	**Paravola**	**0.93**	**66**	P	**Pg**	**03 06 49.4**	**-0.9**
PVO				S	**Sg**	**03 07 03.4**	**+0.9**
UPR	**University Cam**	**1.06**	**87**	P	**Pg**	**03 06 52.7**	**0.0**
EFP	**Efpalio**	**1.17**	**80**	P	**Pb**	**03 06 53.1**	**-0.9**
EFP	**Efpalio**	**1.17**	**80**	P	**Pb**	**03 06 53.3**	**-0.8**
ANX	**Ano Chora**	**1.21**	**73**	P	**Pn**	**03 06 54.4**	**-0.3**
ANX	**Ano Chora**	**1.21**	**73**	P	**Pn**	**03 06 55.1**	**+0.4**
AMT	**Artemida-Makis**	**1.23**	**125**	P	**Pg**	**03 06 57.0**	**+1.1**
EVR	**Evrytania**	**1.27**	**57**	P	**Pn**	**03 06 55.9**	**+0.5**
EVR	**Evrytania**	**1.27**	**57**	P	**Pn**	**03 06 56.4**	**+1.0**
IGT	**Igoumenitsa**	**1.29**	**356**	P	**Pg**	**03 06 56.9**	**-0.2**
IGT				S	**Sn**	**03 07 15.2**	**+2.5**
	1μm,0.5s						
IGT	**Igoumenitsa**	**1.29**	**356**	P	**Pg**	**03 06 57.9**	**+0.8**
IGT				S	**Sn**	**03 07 14.8**	**+2.1**
ALIK	**Aliki, Aigiali**	**1.31**	**89**	P	**Pn**	**03 06 55.7**	**-0.3**
KALE	**Kalithea**	**1.34**	**83**	P	**Pn**	**03 06 55.9**	**-0.5**
KALE	**Kalithea**	**1.34**	**83**	P	**Pg**	**03 06 59.0**	**+0.9**
KLV	**Kalavryta, Ach**	**1.36**	**98**	P	**Pn**	**03 06 56.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.36**	**98**	P	**Pb**	**03 06 58.5**	**+1.1**
JAN	**Janina**	**1.45**	**13**	P	**Pb**	**03 06 59.4**	**+0.5**
JAN				S	**Sg**	**03 07 19.5**	**+0.5**
	1μm,0.6s						
JAN	**Janina**	**1.45**	**13**	P	**Pg**	**03 07 00.1**	**0.0**
GUR	**Goura**	**1.53**	**101**	P	**Pn**	**03 06 59.1**	**0.0**
GUR				S	**Sn**	**03 07 19.1**	**+0.4**
	858nm,0.5s						
GUR	**Goura**	**1.53**	**101**	P	**Pn**	**03 06 59.0**	**0.0**
MAKR	**Makrakomi, Fth**	**1.53**	**59**	P	**Pn**	**03 07 00.0**	**+1.0**
MAKR	**Makrakomi, Fth**	**1.53**	**59**	P	**Pn**	**03 07 00.6**	**+1.6**
KEK	**Kerkira**	**1.55**	**341**	P	**Pg**	**03 07 01.5**	**-0.6**
KEK	**Kerkira**	**1.55**	**341**	P	**Pg**	**03 07 01.6**	**-0.6**
ITM	**Ithomi**	**1.58**	**132**	P	**Pn**	**03 07 00.3**	**+0.6**
ITM	**Ithomi**	**1.58**	**132**	P	**Pn**	**03 07 00.6**	**+0.8**
SRN	**Sarande**	**1.67**	**348**	P	**Pb**	**03 07 02.2**	**-0.5**
THL	**Klokotos Trika**	**1.80**	**42**	P	**Pb**	**03 07 04.9**	**0.0**
AXAR	**Agios Charalam**	**1.82**	**73**	P	**Pn**	**03 07 04.9**	**+2.0**
LTK	**Loutraki**	**2.00**	**95**	P	**Pn**	**03 07 06.0**	**+0.6**
PENT	**Pentalofos**	**2.02**	**15**	P	**Pb**	**03 07 08.6**	**-0.2**
LKR	**Lokris**	**2.05**	**78**	P	**Pn**	**03 07 07.3**	**+1.2**
NEST	**Nestorio**	**2.22**	**12**	P	**Pn**	**03 07 09.9**	**+1.4**
VIL2	**Platees**	**2.23**	**90**	P	**Pn**	**03 07 10.4**	**+1.9**
KRND	**KRANIDI**	**2.31**	**111**	P	**Pn**	**03 07 11.1**	**+1.5**
NEO	**Neokhori**	**2.42**	**63**	Pn_2		03 07 12.8	
XOR	**Xorichti**	**2.42**	**62**	Pn_2		03 07 12.5	
FNA	**Florina**	**2.64**	**16**	*e*Pg	**Pn**	**03 07 16.7**	**+2.4**
OHR	**Ohrid**	**2.88**	**5**	*i* Pn	**Pb**	**03 07 20.8**	**-2.5**
TIR	**Tirane**	**3.13**	**352**	*e*Pg	**Pn**	**03 07 19.5**	**-1.5**
TIR				*e*Sg	Sn	03 07 38.5	-20
KNT	**Kendrikon**	**3.48**	**32**	Pn_3		03 07 28.0	
VAY	**Valandovo**	**3.49**	**27**	*i* Pn	**Pg**	**03 07 38.0**	**-1.0**
ULC	**Ulcinj**	**3.83**	**347**	⇓*i*Pn	**Pn**	**03 07 30.9**	**+0.3**
ULC				*e*Sn	**Sn**	**03 08 15.0**	**-0.3**
DRME	**Dracevica, Mon**	**4.06**	**347**	*e*Pn	**Pn**	**03 07 33.9**	**+0.2**
DRME	**Dracevica, Mon**	**4.06**	**347**	*e*Pn	**Pn**	**03 07 34.3**	**+0.6**
DRME				*e*Sn	**Sn**	**03 08 20.4**	**-0.5**
BUM	**Brajici-Budva**	**4.22**	**344**	⇑*i*Pn	**Pn**	**03 07 36.6**	**+0.6**
BUM				*e*Sn	**Sn**	**03 08 24.4**	**-0.7**
PDG	**Podgorica**	**4.28**	**348**	*e*Pn	**Pn**	**03 07 36.4**	**-0.3**
PDG	**Podgorica**	**4.28**	**348**	*e*Pn	**Pn**	**03 07 37.3**	**+0.6**
PDG				*e*Sg	Sn	03 08 15.6	-11
PDG	**Podgorica**	**4.28**	**348**	⇓*i*Pn	**Pn**	**03 07 37.6**	**+0.9**
PDG				*e*Sn	**Sn**	**03 08 25.8**	**-0.6**
PVY	**Plav**	**4.36**	**355**	*e*Pn	**Pn**	**03 07 38.8**	**+0.8**
CEME	**Cevo**	**4.46**	**345**	⇑*i*Pn	**Pn**	**03 07 39.6**	**+0.4**
CEME				*e*Sn	**Sn**	**03 08 29.9**	**-0.9**
HCY	**Herceg Novi**	**4.46**	**341**	*e*Pn	**Pn**	**03 07 36.2**	**-3.0**
HCY	**Herceg Novi**	**4.46**	**341**	⇓*i*Pn	**Pn**	**03 07 36.4**	**-2.8**
HCY				*e*Sn	**Sn**	**03 08 30.4**	**-0.3**
BOSS	**Bosilegrad**	**4.53**	**19**	*e*Pn	**Pn**	**03 07 42.3**	**+2.2**
IVA	**Berane**	**4.64**	**355**	*e*Pn	**Pn**	**03 07 43.2**	**+1.4**
IVA				*i* Sn	**Sn**	**03 08 34.4**	**-1.1**
KOME	**Kolasin**	**4.66**	**352**	⇑*i*Pn	**Pn**	**03 07 42.8**	**+0.8**
KOME				*e*Sn	**Sn**	**03 08 35.0**	**-0.8**
BARS	**Barje**	**4.69**	**12**	*e*Pn	**Pn**	**03 07 42.8**	**+0.4**
BARS				*e*Sg	**Sn**	**03 08 31.2**	**-5.3**
TREB	**Trebinje**	**4.75**	**341**	*e*Pn	**Pn**	**03 07 40.6**	**-2.6**
VTS	**Vitosha**	**4.86**	**25**	*e*Pn	**Pn**	**03 07 47.5**	**+2.6**
VTS				*e*Sg	**Sn**	**03 08 40.6**	**-0.4**
SELS	**Selova**	**5.00**	**6**	*e*Pn	**Pn**	**03 07 47.0**	**+0.3**
SELS				*e*Sg	**Sn**	**03 08 38.8**	**-5.3**
SJES	**Sjenica**	**5.03**	**356**	*e*Pn	**Pn**	**03 07 47.6**	**+0.5**
SJES	**Sjenica**	**5.03**	**356**	*e*Pn	**Pn**	**03 07 47.0**	**-0.1**
SJES				*e*Sg	**Sn**	**03 08 36.9**	**-8.0**
STON	**Ston**	**5.07**	**337**	*e*Pn	**Pn**	**03 07 47.0**	**-0.6**
STON	**Ston**	**5.07**	**337**	*e*Pn	**Pn**	**03 07 47.3**	**-0.3**
STON				*e*Sg	**Sn**	**03 08 44.0**	**-1.9**
PLE	**Pljevlja**	**5.15**	**351**	⇓*i*Pn	**Pn**	**03 07 49.8**	**+1.1**
PLE				*e*Sn	**Sn**	**03 08 46.6**	**-1.3**
RUDO	**Rudo**	**5.43**	**352**	*e*Pn	**Pn**	**03 07 52.3**	**-0.3**
BBLS	**Lazi&#263i**	**5.67**	**352**	*e*Pn	**Pn**	**03 07 53.6**	**-2.4**
BBLS	**Lazi&#263i**	**5.67**	**352**	*e*Pn	**Pn**	**03 07 54.6**	**-1.4**
DIVS	**Divibare**	**5.86**	**357**	*e*Pn	**Pn**	**03 07 57.2**	**-1.3**
DIVS				*e*Sg	**Sn**	**03 09 03.1**	**-2.4**
HAPS	**Han Pijesak,BI**	**5.95**	**350**	*e*Pn	**Pn**	**03 07 59.2**	**-0.5**
TRUS	**Trudelj

BOJS	Bojanci	8.22	334	*e*Pn		Pn	03 08 32.0	+1.1
CEY	Cerknica	8.72	331	*e*Pn		Pn	03 08 37.3	-0.5
CEY	Cerknica	8.72	331	*e*Pn		Pn	03 08 38.2	+0.4
SKDS	Skadanscina	8.73	329	*e*Pn		Pn	03 08 37.3	-0.5
SKDS	Skadanscina	8.73	329	*e*Pn		Pn	03 08 37.9	+0.1
SOKA	Soboth	9.33	336	*e*Pn		Pn	03 08 45.4	-0.7
	2.0nm,0.3s,SNR=7.1							
SOKA				*e*Sn		Sn	03 10 26.8	-3.9
	1.9nm,0.6s							
OBKA	Obir	9.34	334	*e*Pn		Pn	03 08 47.1	+0.9
OBKA	Obir	9.34	334	*e*Pn		Pn	03 08 47.3	+1.1
	1.7nm,0.3s							
MYKA	Terra Mystica	9.77	331	*e*Pn		Pn	03 09 01.9	+10
	1.6nm,0.4s							
KBA	Koelnbreinsper	10.26	332	*e*Pn		Pn	03 08 59.8	+0.9
	0.7nm,0.3s							
KBA				*e*Sn		Sn	03 10 49.4	-4.2
	0.9nm,0.5s							
ABTA	Abfaltersbach	10.31	328	*e*Pn		Pn	03 09 00.9	+1.3
	1.6nm,0.5s							
BRTR	Keskin Array B	10.38	78	Pn		Pn	03 09 04.1	+3.5
	baz=260,slow=12,SNR=2.3							
	0.3nm,0.7s							
BIOA	Bad Ischl, Aus	10.67	334	*e*Pn		Pn	03 09 05.6	+1.1
	2.8nm,0.5s							
LESA	Schwarzleotal	10.80	331	*e*Pn		Pn	03 09 06.8	+0.6
	2.2nm,0.3s							
GERES	GERESS Array B	11.67	337	Pn		Pn	03 09 17.3	-0.8
	baz=164,slow=15,SNR=5.0							
	0.3nm,0.4s							
KHC	Kasperske Hory	11.96	338	*e*PN		Pn	03 09 17.6	-4.4
NACGM	Naroch	17.21	12	*e*P		P	03 10 36.4	+3.0
	comp=Z,238nm,5.7s,baz=198							
HFS	Hagfors	22.33	351	P		P	03 11 27.5	-1.5
	comp=Z,1.3nm,0.8s,baz=158,slow=12,SNR=4.7							
	comp=Z,1.3nm,0.8s							
NOA	NORSAR Array B	23.54	349	P		P	03 11 40.5	-1.1
	comp=Z,0.1nm,0.5s,baz=161,slow=11,SNR=1.6							
	comp=Z,0.1nm,0.5s							
MKAR	Makanchi Array	45.32	58	P		P	03 14 49.1	-0.3
	comp=Z,0.2nm,0.4s,baz=277,slow=8.0,SNR=3.2							
	comp=Z,0.2nm,0.4s							
ZALV	Zalesovo Beam	45.70	48	P		P	03 14 51.8	-0.4
	comp=Z,0.8nm,0.5s,baz=269,slow=8.5,SNR=4.0							
	comp=Z,0.8nm,0.5s							

KRSC 04 03:41:00.0±1.4, 51°.79N×158°.90E, h83km±15km, MI3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	0.51	272	*e*P	Pn	03 41 16.0	+1.9
KDTR				*e*S	Sn	03 41 25.7	+1.2
RUS	Russkaya	0.69	340	*e*P	Pn	03 41 17.5	+1.8
RUS				*e*S	Sn	03 41 28.6	+1.2
GRL	Gorelyy	0.92	327	*e*P	Pn	03 41 20.9	+2.6
GRL				*e*S	Sn	03 41 33.9	+1.8
KRMR	Karymshinskiy	1.14	336	*e*P	Pn	03 41 22.7	+1.8
KRMR				*e*S	Sn	03 41 38.4	+1.8
PET	Petropavlovsk	1.24	353	*e*P	Pn	03 41 24.0	+1.9
PET				*e*S	Sn	03 41 39.7	+0.9
DALK	Dalny	1.25	356	*e*P	Pn	03 41 24.0	+1.9
DALK				*e*S	Sn	03 41 40.0	+1.2
INSR	Institute	1.29	352	*e*S	Sn	03 41 41.1	+1.2
PAU	Pauzhetka	1.34	257	*e*P	Pn	03 41 25.2	+1.8
PAU				*e*S	Sn	03 41 42.6	+1.6
NLC	Nalytchevo	1.41	11	*e*P	Pn	03 41 25.7	+1.4
NLC				*e*S	Sn	03 41 43.1	+0.6
UGLR	Uglovaya	1.42	358	*e*P	Pn	03 41 26.7	+2.2
UGLR				*e*S	Sn	03 41 44.6	+1.6
AVH	Avacha	1.48	356	*e*P	Pn	03 41 27.7	+2.5
AVH				*e*S	Sn	03 41 46.6	+2.3
SPN	Mys Shipunski	1.48	27	*e*P	Pn	03 41 27.8	+2.7
SPN				*e*S	Sn	03 41 46.4	+2.2
SDLR	Sedlovina	1.49	360	*e*P	Pn	03 41 27.3	+1.8
SDLR				*e*S	Sn	03 41 45.2	+0.6
KRER	Koryakskii	1.52	357	*e*P	Pn	03 41 28.3	+2.4
KRER				*e*S	Sn	03 41 47.4	+2.0
APC	Apacha	1.56	317	*e*P	Pn	03 41 28.5	+2.3
KRX	Arik	1.58	355	*e*P	Pn	03 41 28.9	+2.3
KRX				*e*S	Sn	03 41 47.8	+1.1
GNL	Ganaly	1.99	343	*e*P	Pn	03 41 33.8	+1.8
GNL				*e*S	Sn	03 41 57.8	+1.5
SKR	Severo-Kuril's	2.07	239	*e*P	Pn	03 41 34.5	+1.6
SKR				*e*S	Sn	03 41 58.0	+0.1
KII	Karymskiy	2.27	8	*e*P	Pn	03 41 38.7	+3.0
KII				*e*S	Sn	03 42 06.4	+3.4
TUMD	Tumrok D	3.53	14	*e*P	Pn	03 41 55.6	+3.0
TUMD				*e*S	Sn	03 42 35.0	+1.7
KMNR	Kamenistaya	4.05	11	*e*P	Pn	03 42 04.7	+5.0
BKI	Bering	5.43	48	*e*S	Sn	03 43 17.5	-1.9

TAP ***04*** *04:14:07.0, 22°.98N×120°.85E, h4km, ML3.1, C*
ISC 04 04:14:07.7±0.9, 22°.98N±0°.01×120°.86E±0°.01, h8km±7km, n111, σ0s67/161, 9C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	Taoyuan	0.21	339	*i* P	Pg	04 14 11.1	-0.8
STYH				S	Sg	04 14 14.4	-0.3
STYT	Tauyuan	0.21	334	*i* P	Pg	04 14 11.2	-0.7
STYT				*i* S	Sg	04 14 14.2	-0.6
TWG	Pinlang	0.25	128	⇓*i*P	Pg	04 14 13.2	+0.4
TWG				*i* S	Sg	04 14 16.9	+0.8
ELDTW	Lidau	0.26	35	⇑*i*P	Pg	04 14 12.8	-0.1
ELDTW				*i* S	Sg	04 14 16.6	+0.2
TWGBT	Beinan	0.26	127	P	Pg	04 14 13.0	+0.1
TWGBT	Beinan	0.26	127	S	Sg	04 14 17.1	+0.7
TWGBT	Beinan	0.26	127	⇓*i*P	Pg	04 14 13.1	+0.3
TWGBT				*i* S	Sg	04 14 17.1	+0.8
LONT	Longtian	0.26	105	⇑*i*P	Pg	04 14 13.3	+0.4
LONT				*i* S	Sg	04 14 16.9	+0.5
SGST	Jiashian	0.27	293	⇓*i*P	Pg	04 14 13.0	-0.1
SGST				*i* S	Sg	04 14 17.6	+0.8
TSMG	Majia	0.33	216	⇑*i*P	Pg	04 14 13.6	-0.7
TSMG				*i* S	Sg	04 14 17.8	-0.9
SCST	Cishan	0.34	255	*i* P	Pb	04 14 15.5	-0.6
SCST				S	Sb	04 14 21.1	-0.7
TTN	Taitung	0.35	129	*i* P	Pb	04 14 15.5	-0.7
TTN				*i* S	Sb	04 14 21.4	-0.4
WTP	Ta-pu	0.35	320	⇓*i*P	Pb	04 14 15.6	-0.6
WTP				*i* S	Sb	04 14 21.4	-0.5
ECS	Chishang	0.36	70	⇑*i*P	Pg	04 14 15.1	+0.4
ECS				*i* S	Sg	04 14 20.2	+0.8
CHN1	Nanshi	0.37	305	⇑*i*P	Pb	04 14 16.3	-0.2
CHN1				*i* S	Sb	04 14 23.0	+0.6
EHD	Haiduan	0.37	62	P	Pg	04 14 14.4	-0.4
EHD				S	Sg	04 14 19.1	-0.7
TPUB	Ta-pu	0.38	327	P	Pb	04 14 16.2	-0.6
TPUB	Ta-pu	0.38	327	P	Pn	04 14 22.0	+2.3
TPUB	Ta-pu	0.38	327	*i* P	Pb	04 14 16.3	-0.5
TPUB				S	Sb	04 14 22.6	-0.4
ECL	Taimali	0.39	166	⇑*i*P	Pg	04 14 15.3	+0.1
ECL				*i* S	Sg	04 14 20.3	-0.1
SNST	Tainan City	0.41	306	P	Pb	04 14 17.6	+0.4
EDH	Donghe	0.41	90	P	Pg	04 14 16.4	+0.7
EDH				S	Sb	04 14 22.8	-1.0
MASBT	Mashibuluo	0.42	210	⇑*i*P	Pg	04 14 15.7	-0.1
MASBT				*i* S	Sg	04 14 20.9	-0.4
TWM1	Shoushan	0.43	249	*i* P	Pb	04 14 17.6	+0.1
TWM1				S	Sb	04 14 25.5	+1.3
CHN4	Tsaushan	0.45	327	P	Pb	04 14 17.7	-0.1
CHN4				S	Sb	04 14 25.0	+0.3
TWK	Hsinying	0.45	311	*i* P	Pb	04 14 17.9	+0.1
TWK				S	Sb	04 14 26.0	+1.2
FULB	Fuli	0.46	61	P	Pg	04 14 16.7	+0.1
FULB				S	Sg	04 14 23.6	+0.9
SHHT	Tainan City	0.47	276	P	Pn	04 14 20.1	-0.6
CHKT	Chengkung	0.49	75	⇑*i*P	Pb	04 14 18.2	-0.4
CHKT				*i* S	Sb	04 14 26.1	+0.3
WCKO	Fanlu	0.52	333	P	Pb	04 14 19.4	+0.4
WCKO				S	Sb	04 14 27.9	+1.2
SNJT	Kaohsiung City	0.53	245	*e*P	Pb	04 14 19.1	-0.1
SNJT				*e*S	Sn	04 14 30.1	-0.6
ALS	Alishan	0.53	355	⇑*i*P	Pg	04 14 18.5	+0.4
ALS				*i* S	Sb	04 14 27.1	-0.5
CHKH	Chenggong	0.54	67	P	Pb	04 14 19.2	-0.3
CHKH				S	Sb	04 14 27.6	+0.1
TWF1	Yuli	0.55	47	*i* P	Pg	04 14 18.1	-0.3
TWF1				*i* S	Sg	04 14 25.9	+0.3
SSPT	Xinbi	0.56	208	*e*P	Pb	04 14 20.1	+0.4
EYUL	Yuli	0.56	49	P	Pg	04 14 18.5	-0.1
EYUL				S	Sg	04 14 26.2	+0.2
YULB	Yu-li	0.58	44	P	Pg	04 14 18.4	-0.5
YULB	Yu-li	0.58	44	S	Sg	04 14 25.5	-1.0
YULB	Yu-li	0.58	44	P	Pg	04 14 18.5	-0.4
YULB				S	Sg	04 14 26.5	-0.1
EAST	Anshuo	0.59	181	*i* P	Pg	04 14 19.2	+0.1
EAST				*i* S	Sg	04 14 27.1	+0.3
TAW	Tawu	0.62	176	P	Pg	04 14 19.5	-0.1
TAW				*i* S	Sg	04 14 27.5	-0.1
TAWH	Dawu Township	0.63	177	P	Pg	04 14 19.8	-0.2
TAWH				S	Sg	04 14 28.2	+0.1
CHN5	Tsauling	0.64	345	*i* P	Pb	04 14 21.3	+0.1
CHN5				S	Sb	04 14 31.8	+1.4
SCZT	Fangliau	0.64	200	*i* P	Pg	04 14 19.8	-0.2
SCZT				S	Sg	04 14 27.9	-0.5
WSSB	Gushan	0.64	239	P	Pn	04 14 24.1	+0.9
WSSB				S	Sn	04 14 36.0	+2.4
LDUT	Ludao	0.64	118	*i* P	Pg	04 14 20.5	+0.4
LDUT				*e*S	Sb	04 14 30.9	+0.6
ECBN	Changbin	0.65	58	*e*P	Pb	04 14 21.3	+0.1
ECBN				*e*S	Sn	04 14 32.4	-1.2
CHY	Chiayi	0.65	323	*e*P	Pb	04 14 21.8	+0.4
CHY				*e*S	Sn	04 14 32.2	-1.6
ICHU	Yijhu	0.65	306	*e*P	Pb	04 14 22.2	+0.8
EHY	Hungye	0.68	39	P	Pg	04 14 20.7	-0.1
EHY				S	Sg	04 14 29.3	-0.4
EHYH	Wanrong	0.69	41	*e*P	Pg	04 14 21.1	+0.2
EHYH				S	Sg	04 14 30.2	+0.4
WHYT	Xinyi Township	0.72	360	P	Pg	04 14 22.1	+0.6
WHYT				S	Sb	04 14 32.7	+0.1
HGSD	Ruisui	0.73	45	P	Pg	04 14 21.6	-0.2
HGSD				*e*S	Sb	04 14 33.8	+0.8
WGK	Gukeng	0.76	339	*e*P	Pn	04 14 24.2	-0.5
WGK				*e*S	Sn	04 14 36.1	-0.3
SLIU	Shizi	0.76	184	*i* P	Pg	04 14 22.3	0.0
WDLH	Douliu	0.77	338	*e*P	Pn	04 14 24.7	-0.2
WSL	Shuilin Townsh	0.79	313	*e*P	Pn	04 14 24.9	-0.4
WSL				S	Sn	04 14 37.4	0.0
SSLB	Suanglung	0.81	6	P	Pg	04 14 23.0	-0.3
SSLB	Suanglung	0.81	6	*e*P	Pg	04 14 23.0	-0.3
SSLB				*e*S	Sn	04 14 36.5	-1.4
VWDT	VWDT	0.82	19	*i* P	Pg	04 14 22.8	-0.6
VWDT				*e*S	Sb	04 14 36.1	+0.7
WTK	Tuku	0.83	329	*e*P	Pn	04 14 25.0	-0.7
WJS	Zhushan	0.85	352	*e*P	Pn	04 14 25.7	-0.4
EGFH	Guangfu	0.87	37	*e*P	Pg	04 14 24.0	-0.4
WARBT	Fenglin Townsh	0.89	33	*e*P	Pg	04 14 23.5	-1.3
SMLT	Sun Moon Lake	0.90	3	*e*P	Pg	04 14 24.8	-0.4
WNT	Mingjian	0.91	350	*e*P	Pn	04 14 26.4	-0.5
TYC	Yuchr	0.92	0	*e*P	Pb	04 14 26.4	+0.4
SMST	Manzhou Townsh	0.95	181	*e*P	Pg	04 14 24.8	-1.2
HEN	Hengchun	0.97	186	*e*P	Pb	04 14 26.6	-0.2
ESL	Shilin	0.99	32	P	Pg	04 14 26.2	-0.5
OWD	Renai	1.02	17	*e*P	Pg	04 14 26.4	-0.8
OWD				S	Sn	04 14 42.1	-1.0
TWK1	Hengchun	1.03	183	*e*P	Pb	04 14 27.8	0.0
TWKBT	Hengchun	1.03	182	*e*P	Pn	04 14 28.1	-0.4
SHUL	Shoufeng	1.04	39	*e*P	Pb	04 14 27.8	-0.1
WUSB	Renai	1.04	13	*e*P	Pb	04 14 28.2	+0.1
WCS	Beigang Elemen	1.08	3	P	Pn	04 14 29.5	+0.3
TEYL	Yanliau Villag	1.12	37	*e*P	Pn	04 14 30.4	+0.6
WCH1	Changhua City	1.13	346	*e*P	Pn	04 14 31.3	+1.5
WDGT	Dungji	1.14	285	P	Pg	04 14 29.8	+0.2
ETM	Tongmen	1.15	31	*e*P	Pb	04 14 29.4	-0.4
LXIB	Xiulin Townshi	1.16	26	P	Pb	04 14 29.1	-1.0
WHF	Hehuan Shan	1.22	18	*e*P	Pb	04 14 30.2	-1.2
TWD	Chiawan	1.29	32	*e*P	Pb	04 14 32.1	-0.2
PHUB	P'eng-hu	1.30	295	*e*P	Pn	04 14 30.9	-1.2
PHUB				*e*S	Sg	04 14 49.9	+0.5
WHP	Taichung City	1.30	4	*e*P	Pg	04 14 33.9	+1.3
TDCB	Techi	1.30	12	*e*P	Pg	04 14 33.1	+0.4
TWT	Tachien	1.30	13	*e*P	Pg	04 14 33.0	+0.2
FUSS	Fushou	1.31	16	*e*P	Pg	04 14 33.0	+0.1
VCHM	Qimei	1.33	280	*e*P	Pn	04 14 32.7	0.0
ETLH	Xiulin Townshi	1.35	25	*e*P	Pn	04 14 32.8	-0.2
TWQ1	Liyutan	1.37	357	*e*P	Pg	04 14 34.7	+0.7
ETL	Fush Village	1.37	31	*e*P	Pb	04 14 33.7	0.0
NACB	Ninganchiao	1.37	29	P	Pn	04 14 33.2	0.0
NACB	Ninganchiao	1.37	29	*i* P	Pb	04 14 33.5	-0.2
NACB				S	Sg	04 14 54.0	+2.2
NNSB	Datong	1.52	18	*e*P	Pn	04 14 35.7	+0.3
NNS	Nan Shan	1.53	18	*e*P	Pb	04 14 36.2	-0.3
NSTT	Nanjuang	1.65	5	*e*P	Pg	04 14 39.8	+0.4
NFF	Wufeng Townshi	1.67	8	*e*P	Pg	04 14 39.5	-0.1
LIOB	Emei	1.67	5	*e*P	Pg	04 14 39.6	-0.1
LATG	Datong	1.67	21	*e*P	Pn	04 14 37.7	+0.2
EWUT	Wuta	1.69	30	*e*P	Pn	04 14 38.2	+0.6
YHNB	Yeheng	1.75	16	P	Pb	04 14 40.2	0.0
YHNB	Yeheng	1.75	16	S	Sg	04 15 04.0	-0.1
YHNB	Yeheng	1.75	16	*e*P	Pb	04 14 40.7	+0.5
NSK	Sanguang	1.75	15	*e*P	Pg	04 14 41.3	0.0
ENTT	Nioudou	1.78	21	P	Pg	04 14 41.5	-0.4
KSHI	Guanxi Townshi	1.82	9	*e*P	Pg	04 14 43.1	+0.6
TWC	Suao	1.86	29	*e*P	Pb	04 14 42.1	+0.1
NWLT	Wulai	1.89	18	*e*P	Pg	04 14 43.8	-0.1
TWE	Neicheng	1.89	23	*e*P	Pb	04 14 42.1	-0.4
FUSB	Fushanzhiwuyua	1.90	21	*e*P	Pg	04 14 43.6	-0.6

IDC ***04*** *04:16:08.0±2.9, 24°.66N×49°.18E, h0km, mb3.8/7, mbtmp3.8/10, ML3.5/3, MS3.1/4, Error ellipse: s-maj=57.1km s-min=20.0km az=12.0*
OMAN ***04*** *04:16:09.9±0.4, 24°.51N×49°.12E, h10km, mb4.6/22, ml4.3/3, Error ellipse: s-maj=5.3km s-min=3.6km az=159.0*
DSN ***04*** *04:16:13.1±1.0, 25°.17N×49°.54E, h10km, ML3.6/8, Error ellipse: s-maj=11.6km s-min=9.4km az=155.0*
ISC 04 04:16:09.3±0.7, 24°.60N±0°.06×49°.17E±0°.04, h10km, n56, σ1s34/62, mb3.8/7, MS2.9/3, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRA	Abu-Samra	1.51	84	P	Pg	04 16 38.7	+0.3
	SNR=60						
SMRA				S	Sg	04 16 59.7	+1.6
SAKB	Bahrain	1.85	42	P	Pb	04 16 43.9	+0.5
SAKB				S	Sb	04 17 07.8	+1.3
TRNA	Turayna	1.86	85	P	Pb	04 16 44.2	+0.7
	SNR=90						
TRNA				S	Sg	04 17 09.3	-0.1
SHMA	Al-Shehemyia	2.06	52	P	Pb	04 16 47.0	+0.2
	SNR=18						
SHMA				S	Sb	04 17 14.4	+2.1
SLWR	Sila	2.36	102	P	Pn	04 16 49.7	+1.6
JRN	Qarnain Island	3.36	83	P	Pn	04 17 04.6	+2.7
RAYN	Ar Rayn	3.52	253	P	Pn	04 17 05.1	+0.9
RAYN				S	Sn	04 17 45.8	-0.1
MZR	Muzera	4.25	111	P	Pn	04 17 17.4	+3.1
MZR	Muzera	4.25	111	P	Pn	04 17 16.4	+2.2
KBD	Kabd	4.75	344	P	Pn	04 17 21.4	+0.4
ASUD	Al Ashush, Dub	5.61	88	P	Pn	04 17 33.4	+0.6
ASUD				S	Sn	04 18 38.1	+0.8
NAZ	Nazwa, Dubai	5.91	85	P	Pn	04 17 38.2	+1.1
ALNE	Al Ain	6.03	94	P	Pn	04 17 39.4	+0.8
ASHO	Ashiyiah	6.27	88	P	Pn	04 17 42.5	+0.5
	SNR=16						
ASHO	Ashiyiah	6.27	88	P	Pn	04 17 40.6	-1.4
ASHO				S	Sn	04 18 50.2	-3.6
HATD	Hatta, Dubai	6.34	86	P	Pn	04 17 43.9	+1.0
HATD	Hatta, Dubai	6.34	86	P	Pn	04 17 42.3	-0.6
MASF	Masafi	6.39	82	P	Pn	04 17 45.1	+1.4
UOSS	Minazif	6.41	85	P	Pn	04 17 44.2	+0.4
UOSS	Minazif	6.41	85	P	Pn	04 17 42.5	-1.3
SHME	Shamm	6.47	76	P	Pn	04 17 45.9	+1.1
SHME	Shamm	6.47	76	P	Pn	04 17 42.1	-2.6
MDH	Madha	6.51	82	P	Pn	04 17 46.0	+0.7
MDH	Madha	6.51	82	P	Pn	04 17 43.7	-1.6
BANOM	Banah	6.59	77	P	Pn	04 17 46.3	-0.1
BANOM	Banah	6.59	77	P	Pn	04 17 44.1	-2.2
SOHO	SOHO	6.73	92	P	Pn	04 17 49.4	+1.1
SOHO	SOHO	6.73	92	P	Pn	04 17 47.8	-0.5
ARQ	Araqi	6.84	99	P	Pn	04 17 51.4	+1.6
	SNR=8.2						
HOQ	Hoqain	7.51	96	P	Pn	04 17 59.8	+0.8
DOK	Doka	7.53	141	P	Pn	04 17 59.4	+0.1
BSY	Bisya	7.59	102	P	Pn	04 18 01.0	+0.9
WHFO	Wadi Hawf	7.91	146	P	Pn	04 18 04.6	+0.1
ABTO	Aybut	8.17	151	P	Pn	04 18 07.8	-0.3
	SNR=7.3						
SMDO	Samad	8.27	99	P	Pn	04 18 09.9	+0.4
JMDO	Jabal Madar	8.50	103	P	Pn	04 18 13.9	+1.4
DMTO	DMTO	8.71	141	P	Pn	04 18 15.5	0.0
WSAR	Wadi Sarin	8.76	97	Pn	Pn	04 18 16.4	+0.2
	baz=292,slow=24,SNR=7.9						
WSAR				Sn	Sn	04 19 50.5	-4.6
	baz=223,slow=24,SNR=5.9						
WSAR	Wadi Sarin	8.76	97	P	Pn	04 18 16.5	+0.3
MHTO	MHTO	8.88	112	P	Pn	04 18 18.3	+0.6
	SNR=10						
DQM	DQM	9.04	119	P	Pn	04 18 20.3	+0.4
WBK	Wadi Bani Khal	9.20	100	P	Pn	04 18 22.0	-0.2
JLN	Jalan Bani Buh	9.72	102	P	Pn	04 18 29.0	-0.3
ASF	Jabal al Asfar	13.17	308	Pn	Pn	04 19 16.1	-0.5
	0.2nm,0.3s,baz=103,slow=14,SNR=1.8						
ASF				Sn	Sn	04 21 43.8	+0.6
	0.4nm,0.3s,baz=190,slow=16,SNR=1.3						
ASF				Lg	Lg	04 23 05.4	
	0.4nm,0.3s,baz=143,slow=20,SNR=3.8						
	0.7nm,0.3s						
KBZ	Khabaz	19.77	346	P	P	04 20 39.6	+0.2
	0.2nm,0.3s,baz=153,slow=9.7,SNR=11						
KBZ				LR	LR	04 30 28.0	
	comp=Z,83nm,20.4s,baz=174,slow=44						
	2.6nm,0.7s						
BRTR	Keskin Array B	19.96	323	P	P	04 20 41.8	-0.1
	0.1nm,0.3s,baz=142,slow=12,SNR=7.6						
	1.1nm,0.7s						
AKTO	Aktyubinsk	26.69	13	LR	LR	04 33 46.1	
	comp=Z,50nm,19.7s,baz=220,slow=40						
BVAR	Borovoye Array	32.60	24	P	P	04 22 40.1	-0.8
	1.2nm,0.5s,baz=232,slow=7.7,SNR=7.7						
	1.2nm,0.5s						
MKAR	Makanchi Array	34.46	42	P	P	04 22 56.8	-0.4
	0.4nm,0.7s,baz=207,slow=1.1,SNR=3.8						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	34.47	33	P	P	04 22 57.4	+0.2
	0.7nm,0.7s,baz=234,slow=8.7,SNR=7.6						
	0.7nm,0.7s						
VRAC	Vranov	35.41	323	LR	LR	04 38 31.9	
	comp=Z,20nm,18.5s,baz=308,slow=38						
ZALV	Zalesovo Beam	39.55	33	P	P	04 23 39.8	-0.6
	2.6nm,0.6s,baz=244,slow=8.8,SNR=10						
	2.6nm,0.6s						
FINES	FINESS Array B	40.06	343	P	P	04 23 44.0	-0.6
	0.9nm,0.5s,baz=147,slow=11,SNR=8.0						
	0.9nm,0.5s						
HFS	Hagfors	43.17	335	P	P	04 24 09.5	-0.5
	1.1nm,0.5s,baz=120,slow=10,SNR=6.9						
	1.1nm,0.5s						
NOA	NORSAR Array B	44.69	335	LR	LR	04 46 01.3	
	comp=Z,14nm,18.1s,baz=350,slow=40						
ESDC	Sonseca Array	46.79	302	P	P	04 24 39.1	-0.2
	0.7nm,0.7s,baz=78,slow=7.8,SNR=4.1						
	0.7nm,0.7s						

NEIC 04 04:19:40.0±0.6, 35°.847N±0°.007×98°.22W±0°.01, h5km±2km, mb_Lg2.5/12, ML2.5/54, Error ellipse: s-maj=1.5km s-min=1.0km az=107.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSTR	Hydro, Custer	0.43	243	Pg	Pg	04 19 49.0	+0.6
CSTR				Sg	Sb	04 19 55.6	-1.4
OK029	Liberty Lake	0.62	94		Pg	04 19 52.2	+0.2
CROK	Carrier	0.68	16		Pg	04 19 53.4	+0.2
CROK				IAML		04 20 06.0	
	comp=E,200nm,0.3s						
CROK				IAML		04 20 11.2	
	comp=N,198nm,0.2s						
OK038	West end E0370	0.76	326		Pg	04 19 55.1	+0.4
OKCSW	OKLAHOMA CITY	0.77	125	Pg	Pg	04 19 54.6	-0.2
OKCSW				IAML		04 20 08.0	
	comp=N,193nm,0.5s						
OKCSW				IAML		04 20 08.3	
	comp=E,183nm,0.3s						
FNO	Franklin	0.89	131	Pg	Pg	04 19 57.1	0.0
FNO				IAML		04 20 11.6	
	comp=E,123nm,0.1s						
OK032	Salt Plains WL	0.95	0		Pg	04 19 58.3	-0.1
NOKA	Waynoka	0.98	324		Pg	04 19 58.3	-0.5
GC02	Grant County #	1.04	16		Pg	04 19 59.7	-0.3
OK031	S. Brethren Rd	1.12	84		Pg	04 20 01.1	-0.5
OK031				IAML		04 20 17.2

TTN	Taitung	0.35	129	*i* P	Pb	04 36 13.6	-0.3
TTN				*i* S	Sb	04 36 19.4	0.0
WTP	Ta-pu	0.35	321	⇓*i*P	Pb	04 36 13.8	-0.3
WTP				*i* S	Sb	04 36 19.6	-0.1
ECS	Chishang	0.36	70	*i* P	Pg	04 36 13.2	+0.3
ECS				*i* S	Sb	04 36 18.7	-1.1
CHN1	Nanshi	0.37	305	*i* P	Pb	04 36 14.4	+0.1
CHN1				*i* S	Sb	04 36 20.1	0.0
EHD	Haiduan	0.37	61	*i* P	Pg	04 36 12.7	-0.4
EHD				*i* S	Sg	04 36 17.5	-0.5
ECL	Taimali	0.38	166	⇓*i*P	Pg	04 36 13.2	-0.1
ECL				*i* S	Sg	04 36 18.6	+0.2
TPUB	Ta-pu	0.39	328	P	Pb	04 36 14.6	-0.1
TPUB	Ta-pu	0.39	328	S	Sb	04 36 21.2	+0.5
TPUB	Ta-pu	0.39	328	*i* P	Pb	04 36 14.5	-0.1
TPUB				*i* S	Sb	04 36 21.0	+0.3
SNST	Tainan City	0.41	307	P	Pb	04 36 15.3	+0.3
MASBT	Mashibuluo	0.41	210	⇑*i*P	Pg	04 36 13.6	-0.2
MASBT				*i* S	Sg	04 36 18.7	-0.5
EDH	Donghe	0.41	90	P	Pb	04 36 15.0	-0.1
EDH				S	Sb	04 36 20.7	-0.7
TWM1	Shoushan	0.42	250	*i* P	Pb	04 36 15.7	+0.5
TWM1				*i* S	Sb	04 36 22.1	+0.4
TWK	Hsinying	0.45	311	*i* P	Pb	04 36 16.1	+0.4
TWK				S	Sb	04 36 23.8	+1.3
CHN4	Tsaushan	0.45	328	*i* P	Pb	04 36 15.7	0.0
CHN4				*i* S	Sb	04 36 23.9	+1.5
FULB	Fuli	0.46	61	P	Pb	04 36 15.4	-0.6
FULB				S	Sb	04 36 22.6	-0.3
CHKT	Chengkung	0.49	75	*i* P	Pb	04 36 16.1	-0.3
CHKT				*i* S	Sb	04 36 23.9	+0.3
WCKO	Fanlu	0.52	334	*e*S	Sb	04 36 25.7	+1.3
ALS	Alishan	0.54	355	*i* P	Pb	04 36 16.9	-0.6
ALS				*i* S	Sb	04 36 25.0	-0.4
CHKH	Chenggong	0.55	66	*e*P	Pb	04 36 17.2	-0.1
CHKH				S	Sb	04 36 26.3	+1.1
SSPT	Xinbi	0.55	209	*e*P	Pg	04 36 16.6	+0.2
SSPT				*e*S	Sb	04 36 26.3	+0.9
TWF1	Yuli	0.56	47	P	Pg	04 36 16.1	-0.5
TWF1				S	Sg	04 36 23.9	0.0
EYUL	Yuli	0.57	49	P	Pg	04 36 16.3	-0.5
EYUL				*e*S	Sg	04 36 24.5	+0.2
EAST	Anshuo	0.58	181	P	Pg	04 36 17.1	0.0
EAST				S	Sg	04 36 25.1	+0.3
YULB	Yu-li	0.58	44	P	Pg	04 36 16.8	-0.3
YULB	Yu-li	0.58	44	S	Sg	04 36 25.4	+0.6
YULB	Yu-li	0.58	44	P	Pg	04 36 16.6	-0.5
YULB				S	Sg	04 36 25.0	+0.2
TAWH	Dawu Township	0.63	177	*e*P	Pg	04 36 16.9	-1.0
TAWH				*e*S	Sg	04 36 25.4	-0.8
SCZT	Fangliau	0.63	200	*i* P	Pg	04 36 17.8	-0.2
SCZT				*i* S	Sg	04 36 26.0	-0.3
LDUT	Ludao	0.64	117	P	Pg	04 36 18.4	+0.3
LDUT				*e*S	Sb	04 36 28.4	+0.5
CHN5	Tsauling	0.64	346	P	Pb	04 36 19.4	+0.4
ECBN	Changbin	0.65	58	*e*P	Pg	04 36 18.6	+0.3
ICHU	Yijhu	0.66	306	*e*P	Pb	04 36 19.6	+0.4
ICHU				*e*S	Sn	04 36 31.1	-0.3
EHY	Hungye	0.69	39	P	Pg	04 36 18.1	-0.9
EHY				S	Sg	04 36 28.2	+0.3
EHYH	Wanrong	0.69	41	*e*P	Pg	04 36 18.9	-0.2
EHYH				*e*S	Sb	04 36 28.8	-0.6
WHYT	Xinyi Township	0.72	360	P	Pb	04 36 20.0	-0.4
WHYT				S	Sb	04 36 30.8	+0.5
HGSD	Ruisui	0.74	45	P	Pb	04 36 20.6	0.0
HGSD				*i* S	Sb	04 36 31.9	+1.2
SLIJ	Shizi	0.75	184	*e*P	Pg	04 36 20.2	-0.1
WSL	Shuilin Townsh	0.80	314	*e*P	Pn	04 36 22.9	-0.1
SSLB	Suanglung	0.82	6	P	Pg	04 36 21.4	-0.1
SSLB	Suanglung	0.82	6	S	Sn	04 36 34.4	-1.1
SSLB	Suanglung	0.82	6	*e*P	Pg	04 36 21.3	-0.2
VWDT	VWDT	0.82	19	*e*P	Pg	04 36 21.3	-0.3
EGFH	Guangfu	0.87	37	*e*P	Pg	04 36 21.8	-0.7
WARBT	Fenglin Townsh	0.89	33	P	Pg	04 36 22.2	-0.6
WARBT				S	Sg	04 36 34.8	+0.3
SMLT	Sun Moon Lake	0.91	3	*e*P	Pg	04 36 21.8	-1.4
TYC	Yuchr	0.93	0	*e*P	Pb	04 36 23.9	+0.1
ESL	Shilin	0.99	32	*e*P	Pg	04 36 24.7	-0.1
ESL				*e*S	Sb	04 36 38.7	+0.5
OWD	Renai	1.02	17	*e*P	Pg	04 36 25.2	-0.2
SHUL	Shoufeng	1.04	39	*e*P	Pb	04 36 25.9	+0.1
WUSB	Renai	1.04	13	*e*P	Pg	04 36 24.9	-0.9
WCS	Beigang Elemen	1.08	3	P	Pn	04 36 28.3	+1.4
WDGT	Dungji	1.14	285	*e*P	Pn	04 36 27.7	+0.1
LXIB	Xiulin Townshi	1.17	26	*e*P	Pb	04 36 27.8	-0.2
WHF	Hehuan Shan	1.23	18	*e*P	Pb	04 36 29.4	+0.1
WHP	Taichung City	1.30	4	*e*P	Pb	04 36 30.3	-0.1
FUSS	Fushou	1.32	16	*e*P	Pb	04 36 30.6	-0.1
ETLH	Xiulin Townshi	1.36	25	*e*P	Pn	04 36 30.4	-0.4
NACB	Ninganchiao	1.38	29	*i* P	Pg	04 36 31.8	-0.3
NNSB	Datong	1.53	18	*e*P	Pb	04 36 33.9	-0.3
NNS	Nan Shan	1.54	18	*e*P	Pb	04 36 34.5	+0.1
EWUT	Wuta	1.69	30	*e*P	Pn	04 36 35.8	+0.5
YHNB	Yeheng	1.76	16	*e*P	Pg	04 36 39.2	-0.2
NSK	Sanguang	1.76	15	*e*P	Pg	04 36 39.2	-0.2
ENTT	Nioudou	1.79	21	*e*P	Pg	04 36 39.9	-0.1
FUSB	Fushanzhiwuyua	1.90	21	*e*P	Pg	04 36 42.3	+0.1

NEIC ***04*** *04:38:09.1±0.8, 19°.19N±0°.02×155°.51W±0°.03, h47km±3km, Error ellipse: s-maj=4.0km s-min=2.1km az=120.0*

HVO 04 04:38:10.6±0.8, 19°.15N±0°.04×155°.50W±0°.02, h42km±5km, ML2.3/25, ML2.6/36(NEIC), Error ellipse: s-maj=6.7km s-min=1.7km az=161.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	Honuapo	0.08	220		Pn	04 38 17.1	-0.2
HPO				Sn	Sn	04 38 21.7	-0.3
HTC	Hot Caves	0.13	48		Pn	04 38 16.9	-0.7
KHU	Kahuku	0.14	311		Pn	04 38 16.9	-1.0
KHU					Sn	04 38 22.2	-0.9
KHU	Kahuku	0.14	311	IAML		04 38 22.7	
KHU	comp=N,1μm,0.4s			IAML		04 38 22.9	
	comp=E,590nm,1.0s						
HLP	Hilina Pali	0.23	52		Pn	04 38 18.1	-0.3
HLP					Sn	04 38 23.4	-0.5
HLP	Hilina Pali	0.23	52	IAML		04 38 27.7	
HLP	comp=E,961nm,3.1s			IAML		04 38 32.0	
	comp=N,559nm,0.5s						
SDHHI	Sand Hill	0.31	39		Pn	04 38 17.9	-1.3
SDHHI					Sn	04 38 23.6	-1.6
WRMHI	West Rim	0.32	37		Pn	04 38 18.0	-1.3
WRMHI					Sn	04 38 24.4	-1.0
RIM	Rim	0.32	41		Pn	04 38 18.6	-0.7
KKO	Keanakako'i	0.33	42		Pn	04 38 18.0	-1.4
KKO					Sn	04 38 24.2	-1.4
UWE	Uwekahuna	0.33	36		Pn	04 38 18.2	-1.3
UWE	Uwekahuna	0.33	36		Sn	04 38 24.1	-1.7
OBL	Observatory Le	0.33	38		Pn	04 38 18.7	-0.8
OBL					Sn	04 38 25.4	-0.3
UWB	Uwekahuna Bluf	0.34	38		Pn	04 38 18.7	-0.9
UWB					Sn	04 38 23.7	-2.2
MWH	Mokuaweoweo	0.34	345		Pn	04 38 18.4	-1.6
MWH					Sn	04 38 25.1	-1.5
MWH	Mokuaweoweo	0.34	345	IAML		04 38 25.9	
MWH	comp=E,491nm,1.2s			IAML		04 38 32.0	
	comp=N,370nm,0.4s						
PUH	Pauahi	0.35	50		Pn	04 38 18.8	-0.9
PUH					Sn	04 38 23.8	-2.1
PUH	Pauahi	0.35	50	IAML		04 38 24.5	
PUH	comp=E,300nm,0.5s			IAML		04 38 25.2	
	comp=N,491nm,1.3s						
SBLHI	Steaming Bluff	0.35	39		Pn	04 38 18.7	-1.0
SBLHI					Sn	04 38 23.9	-2.1
HATHI	Halema'uma'u T	0.35	40		Pn	04 38 18.8	-0.9
HATHI	Halema'uma'u T	0.35	40	IAML		04 38 28.6	
HATHI	comp=E,476nm,1.8s			IAML		04 38 28.7	
	comp=N,482nm,2.8s						
MLH	Mauna Loa	0.36	17		Pn	04 38 18.6	-1.2
MLH					Sn	04 38 24.8	-1.6
MLH	Mauna Loa	0.36	17	IAML		04 38 25.5	
MLH	comp=N,538nm,0.6s			IAML		04 38 31.5	
	comp=E,356nm,1.1s						
KNHH	Kane Nui o Ham	0.39	54		Pn	04 38 18.6	-1.4
ALEP	Alea Permanent	0.41	341		Pn	04 38 19.1	-1.5
ALEP					Sn	04 38 25.6	-2.1
STCH	Steam Cracks	0.42	57		Pn	04 38 19.1	-1.4
NPOC	North of Pu'u	0.44	57		Pn	04 38 19.2	-1.5
NPOC					Sn	04 38 26.0	-1.8
JCUZ	Jacuzzi	0.44	58		Pn	04 38 19.8	-0.9
HMH	Humu'ula Sheep	0.45	2		Pn	04 38 19.9	-1.2
HMH					Sn	04 38 26.9	-1.5
HMH	Humu'ula Sheep	0.45	2	IAML		04 38 27.7	
HMH	comp=N,426nm,0.8s			IAML		04 38 27.9	
	comp=E,642nm,0.5s						
CPH	Captain Cook	0.52	310		Pn	04 38 20.1	-1.6
JOKA	Jonika Flow	0.55	59		Pn	04 38 20.3	-1.7
JOKA				IAML		04 38 26.8	
JOKA	comp=E,278nm,3.7s			IAML		04 38 33.2	
	comp=N,370nm,1.6s						
POHA	Pohakuloa	0.60	357		Sn	04 38 29.2	-2.6
HUH	Hualalai	0.62	329	Pn	Pn	04 38 21.9	-1.3
HUH				IAML		04 38 30.9	
	comp=N,306nm,0.4s						
HPAH	Hawaii Prepara	0.89	348		Sn	04 38 35.7	-2.9

TAP ***04*** *04:40:27.4, 23°.00N×120°.86E, h4km, ML2.4, C*

ISC 04 04:40:27.9±0.9, 23°.00N±0°.02×120°.85E±0°.02, h9km±7km, n62, σ0°52/94, 1C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	Taoyuan	0.18	338	*i* P	Pg	04 40 31.1	-0.6
STYH				*i* S	Sg	04 40 34.3	0.0
STYT	Tauyuan	0.18	332	*i* P	Pg	04 40 31.7	-0.5
STYT				*i* S	Sg	04 40 34.0	-0.4
ELDTW	Lidau	0.24	39	⇑*i*P	Pg	04 40 32.9	+0.1
ELDTW				*i* S	Sg	04 40 36.1	-0.1
SGST	Jiashian	0.26	289	⇓*i*P	Pg	04 40 33.1	0.0
SGST				*i* S	Sg	04 40 37.9	+1.3
TWG	Pinlang	0.27	131	⇓*i*P	Pg	04 40 33.6	+0.3
TWG				*i* S	Sg	04 40 37.2	+0.3
LONT	Longtian	0.27	110	*i* P	Pg	04 40 33.6	+0.2
LONT				*i* S	Sg	04 40 37.8	+0.7
TWGBT	Beinan	0.28	130	P	Pg	04 40 33.4	0.0
TWGBT	Beinan	0.28	130	S	Sg	04 40 37.1	-0.1
TWGBT	Beinan	0.28	130	⇓*i*P	Pg	04 40 33.6	+0.1
TWGBT				*i* S	Sg	04 40 37.6	+0.4
WTP	Ta-pu	0.33	319	*i* P	Pb	04 40 35.5	-0.4
WTP				*i* S	Sb	04 40 41.5	+0.1
SCST	Cishan	0.35	251	P	Pb	04 40 35.8	-0.4
SCST				S	Sb	04 40 41.4	-0.4
TSMG	Majia	0.35	213	*i* P	Pg	04 40 34.1	-0.7
CHN1	Nanshi	0.35	302	*i* P	Pb	04 40 36.1	-0.1
CHN1				*i* S	Sb	04 40 41.2	-0.7
ECS	Chishang	0.35	74	P	Pg	04 40 34.2	-0.6
ECS				S	Sg	04 40 40.5	+0.9
EHD	Haiduan	0.36	66	*e*P	Pg	04 40 34.8	-0.2
EHD				*i* S	Sg	04 40 39.3	-0.4
TPUB	Ta-pu	0.36	326	P	Pb	04 40 36.3	-0.2
TPUB	Ta-pu	0.36	326	S	Sb	04 40 41.8	-0.5
TPUB	Ta-pu	0.36	326	*i* P	Pb	04 40 36.2	-0.2
TPUB				*i* S	Sb	04 40 42.2	-0.1
TTN	Taitung	0.37	132	P	Pg	04 40 34.8	-0.3
TTN				S	Sb	04 40 42.2	-0.2
SNST	Tainan City	0.39	304	P	Pb	04 40 37.0	0.0
ECL	Taimali	0.41	167	*i* P	Pg	04 40 35.6	-0.3
ECL				*i* S	Sg	04 40 41.5	+0.1
EDH	Donghe	0.42	94	*e*P	Pb	04 40 37.0	-0.4
EDH				S	Sb	04 40 41.3	-0.6
CHN4	Tsaushan	0.42	326	P	Pb	04 40 37.3	-0.2
CHN4				S	Sb	04 40 45.3	+1.3
TWK	Hsinying	0.43	309	P	Pb	04 40 38.2	+0.6
TWK				S	Sb	04 40 45.6	+1.4
MASBT	Mashibuluo	0.43	208	*i* P	Pg	04 40 36.0	-0.4
FULB	Fuli	0.45	64	*i* P	Pb	04 40 37.5	-0.6
FULB				S	Sb	04 40 44.4	-0.6
CHKT	Chengkung	0.48	78	P	Pb	04 40 38.5	0.0
CHKT				S	Sb	04 40 46.6	+0.8
WCKO	Fanlu	0.49	333	*e*P	Pb	04 40 39.6	+0.9
ALS	Alishan	0.51	355	P	Pg	04 40 38.2	+0.4
ALS				S	Sb	04 40 47.1	+0.3
CHKH	Chenggong	0.54	69	*e*P	Pb	04 40 39.3	-0.2
CHKH				*e*S	Sb	04 40 47.3	0.0
TWF1	Yuli	0.54	49	*i* P	Pg	04 40 38.4	0.0
EYUL	Yuli	0.55	51	P	Pg	04 40 38.7	+0.1
EYUL				S	Sb	04 40 47.2	-0.6
YULB	Yu-li	0.57	46	P	Pg	04 40 38.7	+0.2
YULB	Yu-li	0.57	46	S	Sg	04 40 45.9	-0.5
YULB	Yu-li	0.57	46	P	Pg	04 40 38.7	-0.2
YULB				*e*S	Sg	04 40 47.2	+0.8
EAST	Anshuo	0.61	180	P	Pg	04 40 40.0	+0.2
CHN5	Tsauling	0.62	345	P	Pb	04 40 40.8	-0.1
CHN5				*e*S	Sb	04 40 51.0	+1.3
LDUT	Ludao	0.66	119	*e*P	Pg	04 40 40.9	+0.3
LDUT				S	Sb	04 40 51.8	+1.1
TAWH	Dawu Township	0.66	177	*e*P	Pg	04 40 39.6	-1.0
SCZT	Fangliau	0.66	199	*i* P	Pg	04 40 40.5	-0.1
EHY	Hungye	0.67	41	*e*P	Pg	04 40 40.6	-0.2
EHY				*i* S	Sg	04 40 49.8	+0.4
WHYT	Xinyi Township	0.69	0	*i* P	Pb	04 40 41.9	-0.2
WHYT				*e*S	Sb	04 40 51.9	0.0
HGSD	Ruisui	0.72	47	*e*P	Pb	04 40 42.7	+0.1
HGSD				*i* S	Sb	04 40 53.6	+1.0
SSLB	Suanglung	0.79	7	P	Pg	04 40 43.0	-0.1
SSLB	Suanglung	0.79	7	S	Sb	04 40 55.1	+0.3
VWDT	VWDT	0.80	20	*e*P	Pg	04 40 42.2	-1.0
WARBT	Fenglin Townsh	0.87	34	*i* P	Pg	04 40 44.0	-0.6
WARBT				S	Sb	04 40 56.6	-0.2
SMLT	Sun Moon Lake	0.88	3	*e*P	Pg	04 40 44.0	-0.9
TYC	Yuchr	0.90	0	*e*P	Pn	04 40 46.6	-0.1
OWD	Renai	1.00	17	*e*P	Pg	04 40 47.1	+0.1
OWD				*i* S	Sn	04 41 01.6	-0.8
TWK1	Hengchun	1.05	182	*e*P	Pn	04 40 49.1	+0.3
WCS	Beigang Elemen	1.05	3	*e*P	Pn	04 40 49.4	+0.6
LXIB	Xiulin Townshi	1.14	27	*e*P	Pg	04 40 49.6	-0.2
LXIB				*e*S	Sn	04 41 06.0	0.0
WHF	Hehuan Shan	1.20	18	*e*P	Pn	04 40 51.3	0.0
TWT	Tachien	1.28	13	*e*P	Pb	04 40 52.3	0.0
ETLH	Xiulin Townshi	1.33	26	P	Pb	04 40 53.0	-0.1
NACB	Ninganchiao	1.35	30	P	Pb	04 40 53.4	0.0
NACB	Ninganchiao	1.35	30	S	Sg	04 41 11.5	0.0
NACB	Ninganchiao	1.35	30	*e*P	Pn	04 40 52.9	-0.1
NNSB	Datong	1.50	19	*e*P	Pg	04 40 56.5	-0.3
YHNB	Yeheng	1.73	16	P	Pg	04 41 00.8	-0.3
YHNB	Yeheng	1.73	16	S	Sg	04 41 24.0	+0.4

RSNC ***04*** *04:42:22.1±0.0, 8°.N±1°.×7°.7W±°, h14km±2km, M2.8, mb3.9, ML2.6*

UPA ***04*** *04:42:26.4±1.5, 7°.74N×77°.66W, h10km±145km, MD3.9*

ISC 04 04:42:21.7±2.0, 7°.53N±0°.03×77°.40W±0°.03, h19km±6km, n38, σ1°22/69, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	Punta Ardita,	0.56	227	P	Pb	04 42 31.8	-1.0
PTAC				S	Sb	04 42 39.4	-0.9
APAC	Apartado, Choc	0.89	66	P	Pb	04 42 38.7	+0.2
APAC				S	Sn	04 42 51.8	+0.3
CAPC	Capurgana	1.10	2	P	Pn	04 42 41.3	-0.8
CAPC				S	Sb	04 42 56.3	+0.2
DBBC	Dabeiba	1.28	113	P	Pn	04 42 43.5	-1.2
DBBC				S	Sn	04 43 00.1	-1.3
SOLC	Bahia Solano	1.29	180	P	Pn	04 42 44.1	-0.7
SOLC				S	Sb	04 43 01.9	+0.2
LCBC	Los crdobas,	1.67	38	P	Pb	04 42 51.2	-0.6
LCBC				S	Sg	04 43 14.8	-0.8
UREC	San Jos de Ur	1.86	83	P	Pn	04 42 52.5	-0.1
UREC				S	Sb	04 43 17.6	-0.4
CBOC	Ciudad Bolivar	2.15	140	P	Pn	04 42 55.3	-1.4
CBOC				S	Sn	04 43 23.2	+0.2
HELC	Santa Helena	2.28	126	P	Pn	04 42 59.2	+0.5
HELC				S	Sn	04 43 27.3	+0.8
ZARC	Zaragoza, Cauc	2.52	91	P	Pn	04 43 01.9	+0.3
ZARC				S	Sn	04 43 31.3	-0.5
PIZC	Pizarro, Choco	2.55	179	P	Pn	04 43 02.7	+0.7
PIZC				S	Sn	04 43 33.6	+1.1
UPA	Univ. de Panam	2.56	304	*e*P	Pn	04 43 03.0	+0.8
CHOR3	La Chorrera	2.71	300	*e*P	Pn	04 43 05.6	+1.4
CHOR3				*e*S	Sn	04 43 33.7	-2.8
ACHO3	Achotines, Los	2.75	268	*e*P	Pn	04 43 06.0	+1.2
AZU	Azuero	2.86	275	P	Pn	04 43 06.8	+0.5
AZU				S	Sn	04 43 39.1	-1.2
BCIP	Isla Barro Col	2.91	304	P	Pn	04 43 06.9	-0.1
BCIP				S	Sn	04 43 42.7	+1.2
CHIT3	Chitre	3.02	278	*e*P	Pn	04 43 09.6	+1.1
CHIT3				*e*S	Sn	04 43 44.0	-0.3
GUY2C	Guyana, Caldas	3.06	138	P	Pn	04 43 10.1	+0.7
GUY2C				S	Sn	04 43 46.4	+0.7
PTBC	PUERTO BERRIO,	3.08	108	P	Pn	04 43 10.9	+1.5
PTBC				S	Sn	04 43 46.9	+1.2
NORC	Norcasia	3.18	128	P	Pn	04 43 12.0	+1.2
NORC				S	Sn	04 43 49.2	+0.9
SJCC	San Jacinto, C	3.21	43	P	Pn	04 43 11.7	+0.4
SJCC				S	Sn	04 43 48.7	-0.4
MALC	Bahia Malaga	3.50	179	P	Pn	04 43 14.0	-1.0
MALC				S	Sn	04 43 57.4	+1.5
BRJC	Barrancabermej	3.67	98	P	Pn	04 43 18.4	+1.0
BRJC				S	Sn	04 43 59.5	-0.6
YOTC	Yotoco, Valle	3.68	163	P	Pn	04 43 15.8	-1.9
YOTC				S	Sn	04 43 58.0	-2.5
GMAL	Guarumal, Vera	3.81	274	P	Pn	04 43 20.8	+1.4
GMAL				S	Sn	04 44 03.4	-0.2
GMAL	Guarumal, Vera	3.81	274	*e*P	Pn	04 43 21.6	+2.2
GMAL				*e*S	Sn	04 44 02.3	-1.3
ROSC	El Rosal	4.06	131	P	Pn	04 43 22.7	-0.5
OCAC	Ocana	4.10	80	P	Pn	04 43 24.3	+0.8
OCAC				S	Sn	04 44 10.0	-1.1
BARC	Barichara	4.29	102	P	Pn	04 43 28.0	+1.9
PRAC	Prado	4.54	146	P	Pn	04 43 31.2	+1.7
RUSC	La Rusia	4.58	111	P	Pn	04 43 31.6	+1.1
RUSC				S	Sn	04 44 25.1	+1.7
PAMC	Pamplona, Colo	4.66	92	P	Pn	04 43 32.8	+1.3
PAMC				S	Sn	04 44 24.6	-0.8
POPC	Popayan, Colom	5.01	172	P	Pn	04 43 37.0	+0.9
POPC	2.2nm,2.4s			S	Sn	04 44 33.1	-0.5
	2.2nm,2.4s						
BBAC	Balboa, Cauca	5.47	178	P	Pn	04 43 43.7	+1.2
	3.4nm,0.9s						
CRJC	Cerrejon, Guaj	5.65	52	P	Pn	04 43 45.1	+0.4
	15nm,0.8s						
CRJC				S	Sn	04 44 46.7	-2.4
	15nm,0.8s						
URIC	Uribia, Colomb	6.75	52	P	Pn	04 43 59.9	+0.1
	11nm,1.3s						
URIC				S	Sn	04 45 15.2	-1.0
	11nm,1.3s						
SDV	Santo Domingo	6.83	78	P	Pn	04 44 01.8	+0.7
	12nm,0.6s						
SDV				S	Sn	04 45 15.0	-3.5
	12nm,0.6s						
ESPN	Las Esperanzas	8.23	305	P	Pn	04 44 21.1	+1.0

RSNC 04 04:56:36.9±0.8, 3°.S±7°.×7°.8W±°, h103km±12km, M3.1, mB4.6, mb4.1, ML3.0, Mw(mB)3.8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COHC	Cochancay	1.24	302	P	Pn	04 57 00.9	+0.7
COHC				S	Sn	04 57 19.9	+2.1
PIAT	Ana Tenorio	2.11	358	P	Pn	04 57 10.3	-1.1
PIAT				S	Sn	04 57 38.1	+0.4
PTLC	Puerto Leguiza	4.72	46	P	Pn	04 57 37.2	-8.7
FLOC	Florencia	5.32	29	P	Pn	04 57 49.6	-4.5
	11nm,0.8s						
FLOC				S	Sn	04 58 45.4	-8.8
	11nm,0.8s						
GARC	Garzon, Huila	5.92	27	P	Pn	04 57 58.3	-4.2
GARC				S	Sn	04 59 00.6	-8.6
MACC	Macarena, Meta	6.80	40	P	Pn	04 58 09.1	-5.1

IDC ***04*** *04:58:18.0±3.5, 3°.42S×101°.51E, h0km, mb3.7/4, mbtmp3.8/5, ML3.0/1, Error ellipse: s-maj=154.3km s-min=20.3km az=56.0*

DJA ***04*** *04:58:22.0±1.2, 4°.S±5°.×10°.1E±°, h32km±20km, M4.3/9, mb4.7/1, MLv4.1/9*

ISC 04 04:58:18.6±1.2, 3°.9S±0°.1×100°.8E±0°.1, h29km, n20, σ2°.17/18, mb3.8/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	1.77	82	P	Pn	04 58 48.0	+0.6
MNAI	Manna	2.16	102	P	Pb	04 58 54.2	-3.0
MNAI				S	Sn	04 59 19.5	+0.9
SISI	Saibi	3.09	326	P	Pb	04 59 08.8	-4.2
MDSI	Maura Dua	3.38	100	P	Pn	04 59 11.4	+1.9
MDSI				S	Sn	04 59 49.7	+1.0
LWLI	Liwa	3.40	109	P	Pn	04 59 11.4	+1.5
LWLI				S	Sn	04 59 49.6	+0.3
PPI	Padang Panjang	3.44	353	P	Pn	04 59 13.5	+3.1
PPI				S	Sn	04 59 52.5	+2.2
KASI	Kota Agung	3.99	114	P	Pn	04 59 19.4	+1.5
PBSI	Pulau Batu	4.59	326	P	Pn	04 59 28.8	+2.6
PSI	Prapat	6.92	344	Pn	Pn	04 59 56.5	-1.9
	0.3nm,0.3s,baz=317,slow=13,SNR=6.7						
	2.8nm,0.3s						
CMAR	Chiang Mai Arr	22.29

n143,σ1$54/165,mb4.6/27,1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.02 241**			**Pn**	**05 08 56.6**	**+0.7**
PB09				Sn	**Sn**	**05 09 13.8**	**+0.5**
PB09	**IPOC Station P**	**1.02 241**		*eP*	**Pn**	**05 08 56.6**	**+0.7**
PB09				*i* S	**Sn**	**05 09 13.4**	**+0.2**
PB09	**IPOC Station P**	**1.02 241**		*eP*	**Pn**	**05 08 56.6**	**+0.7**
PB09				*eS*	**Sn**	**05 09 14.9**	**+1.7**
PB09				IAML		05 09 15.1	
	comp=Z,1μm,1.5s						
PB01	**IPOC Station P**	**1.16 283**			**Pn**	**05 08 57.2**	**+0.1**
PB01				Sn	**Sn**	**05 09 14.6**	**-0.8**
PB01	**IPOC Station P**	**1.16 283**		*eP*	**Pn**	**05 08 57.2**	**+0.1**
PB01				*i* S	**Sn**	**05 09 14.9**	**-0.5**
PB01	**IPOC Station P**	**1.16 283**		*eP*	**Pn**	**05 08 57.2**	**+0.1**
PB01				*eS*	**Sn**	**05 09 16.9**	**+1.5**
PB08	**IPOC Station P**	**1.41 324**			**Pn**	**05 09 01.8**	**+1.5**
PB08	**IPOC Station P**	**1.41 324**		*eP*	**Pn**	**05 09 01.9**	**+1.5**
PB08				*i* S	**Sn**	**05 09 22.6**	**+1.7**
PB08				IAML		05 09 23.7	
	comp=E,3μm,0.7s						
PB08	**IPOC Station P**	**1.41 324**		*eP*	**Pn**	**05 09 01.8**	**+1.5**
PB08				*eS*	**Sn**	**05 09 23.0**	**+2.1**
PB08				IAML		05 09 26.3	
	comp=Z,1μm,0.6s						
AF01	**San Pedro de A**	**1.65 177**			**Pn**	**05 09 04.8**	**+2.0**
AF01	**San Pedro de A**	**1.65 177**		*eP*	**Pn**	**05 09 04.8**	**+2.0**
AF01				*i* S	**Sn**	**05 09 28.6**	**+3.0**
AF01	**San Pedro de A**	**1.65 177**		*eP*	**Pn**	**05 09 02.8**	**0.0**
AF01				*eS*	**Sn**	**05 09 26.1**	**+0.6**
AF01				IAML		05 09 44.0	
	comp=Z,1μm,1.4s						
PATCX	**Punta Patache**	**1.81 285**			**Pn**	**05 09 04.6**	**0.0**
HMBC	**Humberstone**	**1.82 304**			**Pn**	**05 09 04.7**	**0.0**
HMBC	**Humberstone**	**1.82 304**		*eP*	**Pn**	**05 09 04.7**	**0.0**
HMBC				*i* S	**Sn**	**05 09 28.3**	**-0.5**
HMBC				IAML		05 09 33.3	
	comp=N,2μm,0.4s						
HMBC	**Humberstone**	**1.82 304**		*eP*	**Pn**	**05 09 04.7**	**0.0**
HMBC				*eS*	**Sn**	**05 09 29.9**	**+1.1**
HMBC				IAML		05 09 30.0	
	comp=Z,1μm,0.3s						
GO01	**Chusmiza**	**1.84 332**			**Pn**	**05 09 06.7**	**+1.4**
GO01	**Chusmiza**	**1.84 332**		*eP*	**Pn**	**05 09 06.7**	**+1.4**
GO01				*i* S	**Sn**	**05 09 31.0**	**+1.2**
GO01				IAML		05 09 36.2	
	comp=N,2μm,0.3s						
GO01	**Chusmiza**	**1.84 332**		*eP*	**Pn**	**05 09 06.1**	**+0.8**
GO01				*eS*	**Sn**	**05 09 33.5**	**+3.7**
PB06	**IPOC Station P**	**1.84 220**		*eP*	**Pn**	**05 09 05.2**	**+0.1**
PB06				*i* S	**Sn**	**05 09 29.3**	**-0.2**
PB06				IAML		05 09 30.1	
	comp=E,1μm,0.4s						
PB06	**IPOC Station P**	**1.84 220**		*eP*	**Pn**	**05 09 05.1**	**+0.1**
PB06				*eS*	**Sn**	**05 09 29.8**	**+0.4**
PB06				IAML		05 09 30.7	
	comp=Z,518nm,0.2s						
TA01	**Diego Aracena**	**1.92 292**			**Pn**	**05 09 05.7**	**-0.1**
TA01	**Diego Aracena**	**1.92 292**		*eP*	**Pn**	**05 09 05.7**	**-0.1**
TA01				*i* S	**Sn**	**05 09 29.7**	**-1.1**
TA01				IAML		05 09 31.9	
	comp=N,2μm,0.5s						
TA01	**Diego Aracena**	**1.92 292**		*eP*	**Pn**	**05 09 05.0**	**-0.8**
TA01				*eS*	**Sn**	**05 09 30.9**	**+0.1**
TA01				IAML		05 09 31.9	
	comp=Z,582nm,0.6s						
PB11	**IPOC Station P**	**2.00 320**			**Pn**	**05 09 07.6**	**+0.6**
PB11	**IPOC Station P**	**2.00 320**		*eP*	**Pn**	**05 09 07.4**	**+0.4**
PB11				*i* S	**Sn**	**05 09 33.0**	**+0.1**
PB11				IAML		05 09 36.7	
	comp=E,2μm,0.4s						
PB11	**IPOC Station P**	**2.00 320**		*eP*	**Pn**	**05 09 07.4**	**+0.4**
PB11				*eS*	**Sn**	**05 09 33.9**	**+1.0**
PB11				IAML		05 09 35.4	
	comp=Z,832nm,0.3s						
TA02	**Huaiquique**	**2.01 300**			**Pn**	**05 09 06.9**	**0.0**
TA02	**Huaiquique**	**2.01 300**		*eP*	**Pn**	**05 09 06.9**	**0.0**
TA02				*i* S	**Sn**	**05 09 31.9**	**-0.9**
TA02				IAML		05 09 34.4	
	comp=E,2μm,0.2s						
TA02	**Huaiquique**	**2.01 300**		*eP*	Pn	05 08 47.5	-19
TA02				*eP*		05 08 52.9	
TA02				*eS*	**Sn**	**05 09 33.9**	**+1.1**
TA02				IAML		05 09 41.0	
	comp=Z,711nm,0.1s						
PB05	**IPOC Station P**	**2.36 229**			**Pn**	**05 09 10.8**	**-0.7**
PB05	**IPOC Station P**	**2.36 229**		*eP*	**Pn**	**05 09 10.7**	**-0.7**
PB05				*i* S	**Sn**	**05 09 38.4**	**-2.4**
PB05				IAML		05 09 46.0	
	comp=N,524nm,0.5s						
PB05	**IPOC Station P**	**2.36 229**		*eP*	**Pn**	**05 09 11.0**	**-0.4**
PB05				*eS*	**Sn**	**05 09 33.9**	**-6.9**
PB05				IAML		05 09 47.7	
	comp=Z,356nm,0.5s						
YJA	**Yavi**	**2.71 109**		*eP*	**Pn**	**05 09 19.0**	**+2.8**
YJA				*eS*	**Sn**	**05 09 49.3**	**0.0**
PB16	**IPOC Station P**	**3.17 338**			**Pn**	**05 09 23.8**	**+1.5**
PB12	**IPOC Station P**	**3.29 324**		Pn	**Pn**	**05 09 23.3**	**-0.2**
PB12	**IPOC Station P**	**3.29 324**		*eP*	**Pn**	**05 09 22.6**	**-1.0**
PB12				*i* S	**Sn**	**05 10 00.8**	**-1.6**
PB12	**IPOC Station P**	**3.29 324**		*eP*	**Pn**	**05 09 22.8**	**-0.7**
PB12				*eS*	**Sn**	**05 10 02.0**	**-0.4**
PB12				IAML		05 10 10.1	
	comp=Z,274nm,0.4s						
PB14	**IPOC Station P**	**3.85 210**		Pn	**Pn**	**05 09 30.9**	**-0.1**
PB18	**Visviri**	**3.86 343**			**Pn**	**05 09 32.1**	**+0.6**
GO02	**Mina Guanaco**	**4.03 197**		Pn	**Pn**	**05 09 32.8**	**-0.6**
GO02	**Mina Guanaco**	**4.03 197**		*eP*	**Pn**	**05 09 33.1**	**-0.3**
GO02				*eS*	Sn	05 10 05.8	-14
LPAZ	**La Paz**	**4.99 2**		Pn	**Pn**	**05 09 48.3**	**+1.8**
LPAZ	**La Paz**	**4.99 2**		P	**Pn**	**05 09 49.1**	**+2.5**
	comp=Z,14nm,0.4s,baz=160,slow=3.3,SNR=105						
LPAZ				S	**Sn**	**05 10 43.5**	**0.0**
	comp=Z,5.9nm,0.6s,baz=186,slow=8.3,SNR=1.3						
LPAZ	**La Paz**	**4.99 2**		*eP*	**Pn**	**05 09 43.5**	**-3.1**
LPAZ	**La Paz**	**4.99 2**		*eP*	Pn	05 09 41.4	-5.2
FSA	**Cafayete**	**5.23 157**		*eP*	**Pn**	**05 09 46.1**	**-3.3**
AC01	**Pan de Azucar**	**5.27 203**		Pn	**Pn**	**05 09 47.6**	**-2.1**
AC01	**Pan de Azucar**	**5.27 203**		*eP*	**Pn**	**05 09 47.5**	**-2.2**
AC01				*eS*	Sn	05 11 04.7	+15
AC01				IAML		05 11 22.0	
	comp=Z,55nm,1.1s						
AC02	**Maricunga**	**5.56 188**			**Pn**	**05 09 53.9**	**-0.2**
AC06	**Mina Casimiro**	**6.32 197**			**Pn**	**05 10 01.4**	**-2.5**
GO03	**Copiapo**	**6.51 195**		Pn	**Pn**	**05 10 04.3**	**-2.2**
AC05	**El Transito**	**7.72 193**		Pn	**Pn**	**05 10 20.1**	**-2.7**
LCO	**Las Campanas**	**7.99 195**			**Pn**	**05 10 22.4**	**-4.2**
SIV	**San Ignacio**	**8.63 54**		P	**Pn**	**05 10 33.4**	**-1.8**
	comp=Z,44nm,0.6s,baz=240,slow=12,SNR=228						
SIV				S	**Sn**	**05 12 04.8**	**-6.1**
	comp=Z,8.8nm,1.0s,baz=311,slow=17,SNR=3.3						
PTLB	**Pontes e Lacer**	**10.45 58**			**Pn**	**05 10 57.8**	**-1.8**
PTLB	**Pontes e Lacer**	**10.45 58**		*eP*	**Pn**	**05 10 56.2**	**-3.3**
BDQN	**Bodoquena, MS**	**10.81 88**		*eP*	**Pn**	**05 11 01.8**	**-2.7**
CPUP	**Villa Florida**	**11.20 119**		Pn	**Pn**	**05 11 08.7**	**-0.9**
CPUP	**Villa Florida**	**11.20 119**		P	**Pn**	**05 11 08.3**	**-1.3**
	comp=Z,2.6nm,0.6s,baz=313,slow=12,SNR=13						
VILB	**Vilhena**	**11.33 44**			**Pn**	**05 11 10.9**	**-0.6**
VILB	**Vilhena**	**11.33 44**		*eP*	**Pn**	**05 11 08.1**	**-3.3**
AQDB	**Aquidauana**	**11.79 88**			**Pn**	**05 11 15.2**	**-2.2**
AQDB	**Aquidauana**	**11.79 88**		*eP*	**Pn**	**05 11 15.3**	**-2.2**
SJPY	**San Joaquin**	**11.79 111**		*eP*	**Pn**	**05 11 15.4**	**-2.0**
NNA	**Nana**	**12.37 317**		P	**P**	**05 11 30.5**	**-1.4**
	comp=Z,11nm,0.9s,baz=160,slow=10,SNR=5.6						
AMBA	**Amambai (Brazi**	**12.42 100**		*eP*	**Pn**	**05 11 24.1**	**-1.6**
SALV	**Santo Antonio**	**13.08 68**		*eP*	**Pn**	**05 11 32.5**	**-1.8**
RPRD	**Ribas do Rio P**	**13.65 89**		*eP*	**Pn**	**05 11 40.7**	**-1.0**
CZSB	**Cruzeiro do Su**	**14.15 342**		*eP*	**Pn**	**05 11 45.1**	**-3.0**
PDRB	**Porto dos Gac**	**14.67 51**		*eP*	**Pn**	**05 11 53.2**	**-1.5**
TBOT	**Tacuaremb**	**15.12 136**		*eP*	**Pn**	**05 12 00.7**	**+0.6**
PTGB	**Pitanga**	**15.31 106**		*eP*	**Pn**	**05 12 03.6**	**+0.9**
ITAB	**Concordia**	**15.86 115**			**P**	**05 12 10.8**	**+0.2**
ITAB				IAmb	IAmb	05 12 13.5	
	comp=Z,15nm,0.8s						
ITAB	**Concordia**	**15.86 115**		*eP*	**Pn**	**05 12 10.2**	**+0.8**
LDASE	**Londrina, Braz**	**16.01 101**		*eP*	**Pn**	**05 12 11.0**	**-0.4**
CPSB	**Cacapava Do Su**	**16.13 127**		*eP*	**Pn**	**05 12 13.4**	**+0.7**
ARAG	**Araguaiana, MT**	**16.57 73**		*eP*	**Pn**	**05 12 17.1**	**-1.2**
PLTB	**Pedras Altas**	**16.75 132**		P	**Pn**	**05 12 19.3**	**-1.0**
ITRB	**Iturama**	**16.86 88**		*eP*	**Pn**	**05 12 21.1**	**-0.7**
TBTG	**Tabatinga, AM**	**17.09 354**		P	**P**	**05 12 24.7**	**+0.5**
TBTG	**Tabatinga, AM**	**17.09 354**		*eP*	**P**	**05 12 22.5**	**-1.7**
FRTB	**Fartura**	**17.44 100**		*eP*	**P**	**05 12 28.5**	**+0.4**
TRQA	**Tornquist**	**17.57 163**		P	**P**	**05 12 29.8**	**+0.4**
MAJ01	**Sao Joao Batis**	**18.57 113**		*eP*	**P**	**05 12 40.3**	**-0.1**
SNDB	**Serra Nova Dou**	**18.71 63**		*eP*	**P**	**05 12 42.0**	**-0.1**
NPGB	**Novo Progresso**	**18.89 43**		*eP*	**P**	**05 12 43.5**	**-0.5**
IPMB	**Ipameri, GO**	**19.19 84**		*eP*	**P**	**05 12 47.3**	**0.0**
PLCA	**Paso Flores**	**19.47 185**		P	**Pn**	**05 12 54.1**	**+1.5**
	comp=Z,4.1nm,1.1s,baz=13,slow=14,SNR=2.5						
MACA	**Manacapuru-AM**	**19.48 23**		P	**P**	**05 12 49.9**	**-0.6**
MACA				IAmb	IAmb	05 12 53.1	
	comp=Z,11nm,0.6s						
VAO	**Valinhos**	**19.81 99**		P	**P**	**05 12 53.8**	**-0.2**
VAO				IAmb	IAmb	05 12 55.0	
	comp=Z,24nm,0.9s						
VAO	**Valinhos**	**19.81 99**		*eP*	**P**	**05 12 53.4**	**-0.7**
BDFB	**Brasilia**	**20.02 77**		P	**P**	**05 12 56.3**	**0.0**
BDFB	**Brasilia**	**20.02 77**		P	**P**	**05 12 55.4**	**-1.0**
	comp=Z,2.3nm,0.4s,baz=270,slow=11,SNR=8.5						
BDFB				LR	LR	05 20 50.7	
	comp=Z,92nm,18.9s,baz=94,slow=37						
PMNB	**Patos De Minas**	**20.72 86**		*eP*	**P**	**05 13 03.2**	**-0.7**
ITTB	**Itaituba**	**20.78 38**		*eP*	**P**	**05 13 03.7**	**-0.7**
DIAM	**Diamantina, MG**	**23.34 87**		*eP*	**P**	**05 13 29.6**	**-1.0**
MAL2	**Monte Alegre,**	**23.58 37**		P	**P**	**05 13 32.2**	**-0.5**
MAL2				IAmb	IAmb	05 13 43.1	
	comp=Z,19nm,1.0s						
JANB	**Januaria**	**23.59 79**		*eP*	**P**	**05 13 32.4**	**-0.3**
OTAV	**Otavalo**	**23.60 334**		P	**P**	**05 13 31.6**	**-1.7**
OTAV	**Otavalo**	**23.60 334**		*eP*	**P**	**05 13 33.2**	**-0.1**
FLOC	**Florencia**	**23.86 342**		P	**P**	**05 13 33.9**	**-1.3**
FLOC				IAmb	IAmb	05 13 37.5	
	comp=Z,15nm,0.9s						
SDBA	**SAO DESIDERIO**	**24.03 72**		*eP*	**P**	**05 13 37.0**	**+0.3**
BOAV	**Boa Vista**	**24.74 19**		P	**P**	**05 13 43.9**	**+0.8**
ROSC	**El Rosal**	**26.64 346**		P	**P**	**05 14 01.9**	**+1.2**
	comp=Z,4.5nm,0.5s,baz=132,slow=21,SNR=2.8						
	comp=Z,4.5nm,0.5s						
RUSC	**La Rusia**	**27.43 350**		P	**P**	**05 14 08.8**	**+1.0**
RUSC				IAmb	IAmb	05 14 12.7	
	comp=Z,16nm,1.2s						
SDV	**Santo Domingo**	**30.09 355**		P	**P**	**05 14 30.7**	**-0.3**
RCBR	**Riachuelo**	**34.92 69**		P	**P**	**05 15 13.3**	**+0.1**
RCBR				IAmb	IAmb	05 15 22.6	
	comp=Z,19nm,1.1s						
CELP	**Cerrillos**	**39.17 3**		P	**P**	**05 15 48.7**	**-0.2**
LRAL	**Lakeview Retre**	**56.91 341**		P	**P**	**05 18 05.4**	**+0.3**
LRAL				IAmb	IAmb	05 18 10.1	
	comp=Z,3.1nm,0.9s						
Y49A	**Blount Mountai**	**57.51 342**		P	**P**	**05 18 09.6**	**+0.3**
Y49A				IAmb	IAmb	05 18 21.8	
	comp=Z,5.3nm,1.0s						
X48A	**Hartselle**	**58.25 342**		P	**P**	**05 18 14.8**	**+0.3**
X48A				IAmb	IAmb	05 18 15.7	
	comp=Z,7.5nm,0.8s						
W50A	**Signal Mountai**	**58.47 344**		P	**P**	**05 18 16.9**	**+0.8**
W50A				IAmb	IAmb	05 18 17.1	
	comp=Z,6.7nm,0.7s						
V48A	**Smith Brothers**	**59.39 343**		P	**P**	**05 18 23.2**	**+0.9**
U49A	**Red Boiling Sp**	**59.83 344**		P	**P**	**05 18 25.4**	**+0.1**
U49A				IAmb	IAmb	05 18 26.1	
	comp=Z,5.5nm,0.6s						
WVT	**Waverly**	**60.04 342**		P	**P**	**05 18 27.0**	**+0.2**
T50A	**Nancy**	**60.07 345**		P	**P**	**05 18 27.4**	**+0.4**
T50A				IAmb	IAmb	05 18 27.8	
	comp=Z,5.1nm,0.6s						
MIAR	**Mount Ida**	**60.52 336**		P	**P**	**05 18 30.7**	**+0.7**
MIAR				IAmb	IAmb	05 18 32.2	
	comp=Z,9.0nm,1.1s						
TXAR	**Lajitas Array**	**60.80 325**		P	**P**	**05 18 33.3**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=141,slow=8.1,SNR=3.8						
	comp=Z,0.4nm,0.6s						
FCAR	**Ozark Folk Cen**	**61.20 338**		P	**P**	**05 18 34.9**	**+0.3**
FCAR				IAmb	IAmb	05 18 35.9	
	comp=Z,7.1nm,1.0s						
PBMO	**Poplar Bluff**	**61.44 340**		IAmb	IAmb	05 18 37.5	
	comp=Z,8.6nm,0.7s						
CGM3	**Cape Girardeau**	**61.67 341**		IAmb	IAmb	05 18 38.6	
	comp=Z,5.8nm,0.7s						
SIUC	**Southern Illin**	**61.92 341**		IAmb	IAmb	05 18 41.3	
	comp=Z,8.5nm,0.8s						
P52A	**Corning**	**61.98 348**		P	**P**	**05 18 40.3**	**+0.5**
P52A				IAmb	IAmb	05 18 41.3	
	comp=Z,6.6nm,0.7s						
R40A	**Maddies Statio**	**63.41 339**		IAmb	IAmb	05 18 50.7	
	comp=Z,7.3nm,0.6s						
DBIC	**Dimbokro**	**68.11 73**		P	**P**	**05 19 19.6**	**-0.4**
	comp=Z,5.2nm,0.4s,baz=235,slow=7.3,SNR=18						
	comp=Z,5.2nm,0.4s						
QSPA	**South Pole Qui**	**68.89 180**		P	**P**	**05 19 26.7**	**+2.5**
QSPA	**South Pole Qui**	**68.89 180**		P	**P**	**05 19 26.5**	**+2.3**
	comp=Z,1.2nm,0.5s,baz=290,slow=1.7,SNR=18						
	comp=Z,1.2nm,0.5s						
SRU	**San Rafael Swe**	**71.93 327**		IAmb	IAmb	05 19 46.0	
	comp=Z,4.2nm,0.6s						
PDAR	**Pinedale Array**	**74.23 330**		P	**P**	**05 19 57.6**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=133,slow=8.2,SNR=3.8						
	comp=Z,0.3nm,0.6s						
ULM	**Lac du Bonnet**	**75.31 342**		P	**P**	**05 20 03.0**	**+0.7**
ULM				IAmb	IAmb	05 20 03.6	
	comp=Z,3.9nm,0.6s						
ULM	**Lac du Bonnet**	**75.31 342**		P	**P**	**05 20 02.3**	**0.0**
	comp=Z,4.5nm,0.6s,baz=155,slow=6.6,SNR=11						
	comp=Z,4.5nm,0.6s						
NVAR	**Mina Array Bea**	**75.70 322**		P	**P**	**05 20 07.3**	**+2.2**
	comp=Z,1.1nm,0.9s,baz=154,slow=7.1,SNR=6.2						
	comp=Z,1.1nm,0.9s						
SYO	**Syowa Base**	**76.48 159**		*eP*	**P**	**05 20 06.0**	**-2.8**
TORD	**Torodi Ar. Bea**	**76.73 70**		P	**P**	**05 20 11.4**	**+0.3**
BOSA	**Boshof**	**83.02 118**		P	**P**	**05 20 45.9**	**+0.8**
	comp=Z,3.0nm,1.0s,baz=279,slow=11,SNR=1.9						
	comp=Z,3.0nm,1.0s						
YKA	**Yellowknife Ar**	**91.20 340**		P	**P**	**05 21 24.9**	**+1.4**
	comp=Z,3.0nm,0.6s,baz=135,slow=4.6,SNR=75						
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**130.36 207**		PKP	**PKPdf**	**05 27 30.6**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=134,slow=1.9,SNR=2.1						
WRA	**Warramunga Arr**	**133.42 210**		PKP	**PKiKP**	**05 27 37.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=157,slow=1.8,SNR=2.2						
KURBB	**Kurchatov Arra**	**140.85 34**		PKP	**PKPdf**	**05 27 48.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=299,slow=3.8,SNR=1.9						
ZALV	**Zalesovo Beam**	**141.52 25**		PKP	**PKPdf**	**05 27 50.2**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=321,slow=1.9,SNR=4.4						
MKAR	**Makanchi Array**	**145.13 36**		PKP	**PKPdf**	**05 27 57.4**	**+1.6**
	comp=Z,2.8nm,0.6s,baz=320,slow=3.5,SNR=35						
MJAR	**Matsushiro Arr**	**152.40 309**		PKPbc	**PKPbc**	**05 28 15.4**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=55,slow=0.8,SNR=2.1						

CATAC 04 05:22:16.8±0.2,13°N±1°×8°7W±°,h4km±1km,M2.9/16, MLv2.9/16,Error ellipse: s-maj=2.7km s-min=2.6km az=118.6,confirmed,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIMN	**Finca el Limon**	**0.37 120**		P	Pg	05 22 24.8	+0.9
AESN	**El Sauce Leon**	**0.39 157**		P	Pg	05 22 24.2	0.0
AESN	**El Sauce Leon**	**0.39 157**		S	Sg	05 22 30.1	+0.8
RCVN	**Varillal2**	**0.59 55**		S	Sg	05 22 36.6	+0.7
POLN	**Al Sur del Vol**	**0.60 191**		P	Pg	05 22 28.9	+0.5
POLN				S	Sg	05 22 37.5	+1.2
CRIN	**San Cristobal**	**0.65 213**		S	Sg	05 22 38.5	+1.0
RCPN	**Sur Rio San Ju**	**0.65 64**		P	Pb	05 22 30.1	-0.6
RCPN	**Sur Rio San Ju**	**0.65 64**		S	Sg	05 22 38.4	+0.8
HERN	**Volcan Telica**	**0.65 192**		P	Pg	05 22 29.9	+0.7
PLRN	**Geotermica Pol**	**0.66 186**		P	Pg	05 22 29.7	+0.2
PLRN				S	Sg	05 22 38.7	+0.5
ILCN	**San Idelfonso**	**0.67 181**		S	Sg	05 22 38.7	+0.5
CNGN	**Cerro Negro**	**0.74 180**		P	Pg	05 22 31.6	+0.5
CNGN	**Cerro Negro**	**0.74 180**		S	Sg	05 22 41.6	+1.0
CNGA	**Al SSO del Vol**	**0.75 181**		P	Pg	05 22 31.7	+0.6
CNGA				S	Sb	05 22 42.0	-1.0
MATN	**Matagalpa**	**0.81 113**		P	Pg	05 22 32.3	-0.1
MATN	**Matagalpa**	**0.81 113**		S	Sg	05 22 43.7	+0.7
MOMN	**Momotombo**	**0.85 170**		P	Pg	05 22 32.9	-0.1
MOMN				S	Sg	05 22 44.4	+0.3
CSGN	**Cosiguina Volc**	**0.89 252**		P	Pg	05 22 33.6	-0.1
CSGN				S	Sg	05 22 45.9	+0.6
TGUH	**Tegucigalpa,Un**	**0.98 325**		P	Pg	05 22 35.9	+0.2
TGUH				S	Sg	05 22 49.1	+0.6
COPN	**Copaltepe**	**1.06 175**		P	Pg	05 22 36.9	-0.3
APQ2	**Apoyeque**	**1.10 161**		P	Pg	05 22 37.3	-0.6
APQ2				S	Sb	05 22 53.5	+0.3
CNCH	**Conchagua**	**1.11 272**		P	Pg	05 22 37.4	-0.7
LCND	**La Caada**	**1.17 273**		P	Pg	05 22 38.1	-1.1
R4DEC	**Barrio San Lui**	**1.17 158**		S	Sg	05 22 54.4	-0.2
MGAN	**Managua**	**1.18 158**		S	Sg	05 22 54.5	-0.1
ENAN	**Enatrel Managu**	**1.20 159**		P	Pb	05 22 40.2	0.0
UNAN	**Cigeo UNAN**	**1.20 160**		S	Sb	05 22 56.2	+0.1
BOAB	**BOACO BROADBAN**	**.28 128**		P	Pg	05 22 40.1	-1.2
BOAB	**BOACO BROADBAN**	**.28 128**		S	Sg	05 22 57.3	-0.6
MAS3	**Al N del Volca**	**1.31 157**		S	Sg	05 22 58.8	-0.3

*TIR **04** 05:33:00.0,41°.47N×19°.64E,h19km,Md2.5/2,Ml2.5/3*
*SKO **04** 05:33:02.6,41°.55N×19°.58E,h16km*
*PDG **04** 05:33:02.8±0.2,41°.63N×19°.71E,h10km±1km,ML2.3/10, Error ellipse: s-maj=0.6km s-min=1.0km az=0.0*
*BEO **04** 05:33:03.0±0.5,41°.53N×19°.63E,h6km±3km,ML2.3/5*

ISC 04 05:33:02.0±1.0,41°.54N±0°.03×19°.64E±0°.03,h11km±8km, n33,σ1$01/54,13C-5D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.26 139**		⇑*i*Pg	**Pg**	**05 33 06.9**	**-0.4**
TIR				Sg	**Sg**	**05 33 09.5**	**-1.2**
TIR				AML	AML	05 33 15.8	
	1.2nm,0.4s						
TIR	**Tirane**	**0.26 139**		*e*Pg	**Pg**	**05 33 06.8**	**-0.4**
TIR				*e*Sg	**Sg**	**05 33 12.7**	**+2.0**
ULC	**Ulcinj**	**0.52 325**		⇑*i*Pg	**Pg**	**05 33 12.0**	**-0.1**
ULC				AMd		05 33 48.3	
ULC	**Ulcinj**	**0.52 325**		*i* Pg	**Pg**	**05 33 12.0**	**-0.1**
ULC	**Ulcinj**	**0.52 325**		*e*Pg	**Pg**	**05 33 11.9**	**-0.2**
ULC				*i* Sg	**Sg**	**05 33 19.7**	**+0.8**
PUK	**Puka**	**0.54 20**		⇑*e*Pg	**Pg**	**05 33 11.8**	**-0.7**
PUK				Sg	**Sb**	**05 33 21.3**	**0.0**
PUK				AML	AML	05 33 23.4	
	2.4nm,0.4s						
PUK				AMd		05 33 51.3	
PHP	**Peshkopia**	**0.62 76**		⇑*e*Pg	**Pg**	**05 33 12.8**	**-1.1**
PHP				Sg	**Sg**	**05 33 22.2**	**+0.1**
DRME	**Dracevica, Mon**	**0.73 332**		⇓*e*Pn	**Pg**	**05 33 15.8**	**-0.3**
DRME	**Dracevica, Mon**	**0.73 332**		⇓*i*Pg	**Pg**	**05 33 15.6**	**-0.5**
DRME				*e*Sg	**Sb**	**05 33 26.9**	**+0.1**
BCI	**Bajram Curri**	**0.88 21**		⇑*e*Pn	**Pb**	**05 33 18.1**	**-1.3**
BCI				Sn	**Sg**	**05 33 32.1**	**+1.5**
BCI				AML	AML	05 33 33.8	
	0.6nm,0.4s						
PDG	**Podgorica**	**0.94 342**		*e*Pg	**Pb**	**05 33 19.3**	**-1.0**
PDG				*e*Sg	**Sg**	**05 33 33.4**	**+1.2**
PDG	**Podgorica**	**0.94 342**		⇑*i*Pg	**Pb**	**05 33 19.1**	**-1.2**
PDG				*e*Sg	**Sg**	**05 33 33.2**	**+1.0**
BUM	**Brajici-Budva**	**0.94 324**		⇑*e*Pn	**Pb**	**05 33 19.9**	**-0.6**
BUM	**Brajici-Budva**	**0.94 324**		*e*Pg	**Pb**	**05 33 19.7**	**-0.8**
BUM				*i* Sg	**Sn**	**05 33 33.9**	**-1.0**
OHR	**Ohrid**	**0.97 116**		*i* Pg	**Pb**	**05 33 20.4**	**-0.6**
OHR				*i* Sg	**Sn**	**05 33 35.7**	**+0.2**
OHR	**Ohrid**	**0.97 116**		*e*Pg	**Pb**	**05 33 20.3**	**-0.6**
OHR				*e*Sg	**Sn**

UUPR	Utuado, UPR, P	1.88 229			Pn	05 41 37.8	+0.3
UUPR	Utuado, UPR, P	1.88 229⇑	eP		Pn	05 41 37.8	+0.3
UUPR	Utuado, UPR, P	1.88 229	eS		Sn	05 42 01.1	+0.6
CELP	Cerrillos	1.91 222			Pn	05 41 38.2	+0.3
CELP				IAML		05 42 11.8	
	comp=E,48nm,1.2s						
CELP	Cerrillos	1.91 222⇑	eP		Pn	05 41 38.5	+0.6
CELP	Cerrillos	1.91 222	eS		Sn	05 42 02.9	+1.6
OBIP	Obispado Ponce	1.95 222			Pn	05 41 38.1	-0.4
OBIP					Sn	05 42 02.7	+0.5
OBIP				IAML		05 42 08.4	
	comp=E,64nm,1.0s						
OBIP				IAML		05 42 13.4	
	comp=N,50nm,1.2s						
OBIP	Obispado Ponce	1.95 222⇑	eP		Pn	05 41 38.0	-0.4
OBIP	Obispado Ponce	1.95 222	eS		Sn	05 42 02.9	+0.7
AGPR	Aguadilla, PR	2.06 240			Pn	05 41 40.0	+0.1
AGPR				IAML		05 42 25.2	
	comp=E,112nm,2.0s						
AGPR				IAML		05 42 55.5	
	comp=N,111nm,2.6s						
AGPR	Aguadilla, PR	2.06 240⇑	eP		Pn	05 41 40.4	+0.5
AGPR	Aguadilla, PR	2.06 240	eS		Sn	05 42 06.6	+1.8
LSP	Las Mesas	2.20 233			Pn	05 41 42.6	+0.8
LSP	Las Mesas	2.20 233⇑	eP		Pn	05 41 42.6	+0.8
PRSN	Puerto Rico Se	2.22 235	Pn		Pn	05 41 42.8	+0.6
PRSN				IAML		05 42 27.8	
	comp=E,116nm,0.2s						
MLPR	Magueyes Islan	2.30 229⇑	eP		Pn	05 41 43.6	+0.4
MLPR	Magueyes Islan	2.30 229	eS		Sn	05 42 11.1	+0.4
CRPR	Cabo Rojo, PR	2.32 230			Pn	05 41 44.1	+0.6
CRPR				IAML		05 42 28.6	
	comp=N,36nm,2.0s						
CRPR				IAML		05 42 37.4	
	comp=E,44nm,2.8s						
CRPR	Cabo Rojo, PR	2.32 230⇑	eP		Pn	05 41 44.3	+0.8
IDE	Isla Desecheo	2.40 243			Pn	05 41 45.9	+1.3
IDE					Sn	05 42 13.5	+0.3
IDE	Isla Desecheo	2.40 243⇑	eP		Pn	05 41 45.9	+1.3
IDE	Isla Desecheo	2.40 243	eS		Sn	05 42 13.5	+0.3
PCDR	Punta Cana, DR	3.14 252	Pn		Pn	05 41 54.9	+0.1
DR12	Loma Pena Alta	3.99 260	Pn		Pn	05 42 06.4	-0.1
ANBD	Bethesda, Anti	4.10 126	eP		Pn	05 42 08.6	+0.6
ANBD	Bethesda, Anti	4.10 126	eS		Sn	05 42 56.3	+1.1
SDDR	Presa de Saban	5.75 266	Pn		Pn	05 42 31.3	+0.5
SDDR	Presa de Saban	5.75 266	eP		Pn	05 42 31.1	+0.4
SDDR	Presa de Saban	5.75 266	eS		Sn	05 43 35.0	-1.0

*IDC **04** 05:45:44.0±1.4, 61°.67S×154°.72E, h0km, mb4.5/7, mbtmp4.5/7, MS4.3/28, Error ellipse: s-maj=92.3km s-min=18.8km az=77.0*

*NEIC **04** 05:45:46.2±1.2, 61°.68S±0°.05×155°.0E±0°.4, h10km±1km, mb4.7/23, Error ellipse: s-maj=29.8km s-min=3.9km az=104.0*

*GCMT **04** 05:45:47.2±0.2, 61°.70S±0°.01×154°.76E±0°.03, h12km±1km, MW5.1/122, Moment Tensor Solution. s51,c72; s122,c186; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.92±.14; Mθθ4.30±.13; Mφφ-3.38±.12; Mrθ-0.62±.30; Mθφ-3.68±.12; Mφr0.98±.37; Best double couple: M0=5.44200×10^16 NP1:φ=247.00000°, δ78.00000°, λ-179.00000°. NP2:φ=157.00000°, δ89.00000°, λ-12.00000°. Principal axes: T 5.9090, Plg8.0000°, Azm202.0000°; N -0.9350, Plg77.0000°, Azm331.0000°; P -4.9740, Plg10.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 05:45:45.6±0.5, 61°.73S±0°.06×154°.9E±0°.1, h10km, n96, σ1$71/61, mb4.7/16, MS4.3/28, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	7.56	18	Pn	Pn	05 47 34.2	-1.5
MCQ	Macquarie Isla	7.56	18	P	Pn	05 47 34.4	-1.4
VNDA	Vanda	16.02	175		Pn	05 49 27.9	-2.7
VNDA	Vanda	16.02	175	Pn	Pn	05 49 27.1	-3.4
	1.2nm,0.3s,baz=352,slow=12,SNR=18						
VNDA				LR	LR	05 55 00.1	
	comp=Z,2μm,20.4s,baz=358,slow=34						
SBA	Scott Base	16.63	171		Pn	05 49 36.0	-2.4
SBA				IAmb	IAmb	05 49 46.0	
	comp=Z,40nm,1.2s						
APZ	The Paps	16.71	33	P	Pn	05 49 40.2	+0.6
SYZ	Scrubby Hill	17.29	35	P	P	05 49 50.0	+1.7
WHZ	Wether Hill Ro	17.57	31	P	Pn	05 49 50.8	+0.4
WHZ	Wether Hill Ro	17.57	31	P	P	05 49 53.8	+2.4
DCZ	Deep Cove	17.79	29	P	P	05 49 56.3	+2.6
DCZ				IAmb	IAmb	05 50 04.7	
	comp=Z,67nm,1.1s						
TUZ	Tuapeka	17.96	35	P	P	05 49 58.2	+2.5
MLZ	Mavora Lakes	18.11	31	P	P	05 50 00.3	+2.9
HHSZ	Highcliff Hill	18.29	37	P	P	05 50 01.9	+2.6
WKZ	Wanaka	18.84	32	P	Pn	05 50 07.5	+1.6
JCZ	Jackson Bay	19.49	31	P	Pn	05 50 13.9	+0.1
CASY	Casey	19.64	237	P	Pn	05 50 14.7	-0.6
CASY				IAmb	IAmb	05 50 28.2	
	comp=Z,53nm,1.4s						
FOZ	Fox Glacier	20.25	33	P	Pn	05 50 23.5	+0.7
RPZ	Rata Peaks	20.41	35	LR	LR	05 57 02.3	
	comp=Z,1μm,19.3s,baz=185,slow=33						
MRZ	Mangatainoka R	24.54	40	P	P	05 51 04.8	-0.3
TOO	Toolangi	24.89	342	P	P	05 51 08.4	0.0
TOO				IAmb	IAmb	05 51 23.4	
	comp=Z,18nm,1.2s						
URZ	Urewera	27.21	41	LR	LR	06 02 33.2	
	comp=Z,782nm,18.3s,baz=284,slow=37						
QSPA	South Pole Qui	28.36	180	P	P	05 51 40.6	+1.1
QSPA				IAmb	IAmb	05 51 53.3	
	comp=Z,16nm,1.2s						
QSPA	South Pole Qui	28.36	180	P	P	05 51 39.8	+0.2
	comp=Z,7.3nm,1.0s,baz=6.7,slow=4.6,SNR=9.8						
QSPA				LR	LR	06 03 02.5	
	comp=Z,839nm,18.7s,baz=16,slow=36						
	comp=Z,7.3nm,1.0s						
STKA	Stephens Creek	31.10	338	P	P	05 52 04.6	+0.7
STKA	Stephens Creek	31.10	338	P	P	05 52 03.3	-0.6
	comp=Z,6.0nm,0.9s,baz=150,slow=9.3,SNR=8.7						
STKA				LR	LR	06 01 31.2	
	comp=Z,407nm,20.7s,baz=156,slow=31						
	comp=Z,6.0nm,0.9s						
BBOO	Buckleboo	31.40	328	P	P	05 52 07.2	+0.7
ARMA	Armidale	31.40	355	P	P	05 52 07.4	+0.8
ARMA				IAmb	IAmb	05 52 10.4	
	comp=Z,19nm,1.2s						
FORT	Forrest	35.59	318	P	P	05 52 43.2	+0.3
MAW	Mawson	36.32	220	P	P	05 52 49.8	+0.9
MAW	Mawson	36.32	220	LR	LR	06 07 43.4	
	comp=Z,1μm,18.8s,baz=113,slow=36						
EIDS	Eidsvold	36.45	354	P	P	05 52 49.8	-0.5
EIDS				IAmb	IAmb	05 52 53.7	
	comp=Z,19nm,1.2s						
H01W1	Cape Leeuwin H	37.15	297	T	T	06 32 21.1	
	baz=148,slow=76,SNR=124						
H01W2	Cape Leeuwin H	37.15	297	T	T	06 32 21.4	
	baz=148,slow=76,SNR=92						
H01W3	Cape Leeuwin H	37.16	297	T	T	06 32 20.4	
	baz=148,slow=76,SNR=110						
NWAO	Narrogin (SRO)	37.58	303	LR	LR	06 04 40.3	
	comp=Z,496nm,19.4s,baz=132,slow=30						
DZM	Mont Dzumac	40.43	17	P	P	05 53 23.8	-0.2
DZM				IAmb	IAmb	05 53 26.2	
	comp=Z,27nm,1.0s						
DZM	Mont Dzumac	40.43	17	eS	S	05 59 28.2	-4.0
	comp=Z,165nm,27.4s						
DZM				eLR	LR	06 04 19.5	
	comp=Z,1μm,25.6s						
DZM	Mont Dzumac	40.43	17	LR	LR	06 06 29.6	
	comp=Z,617nm,20.2s,baz=208,slow=31						
BELA	Belgrano 2	40.51	177	P	P	05 53 26.0	+2.0
BELA				IAmb	IAmb	05 53 27.1	
	comp=Z,18nm,1.3s						
ASAR	Alice Springs	40.67	330	P	P	05 53 25.5	-0.5
ASAR	Alice Springs	40.67	330	P	P	05 53 24.9	-1.1
	comp=Z,5.7nm,0.8s,baz=167,slow=8.3,SNR=17						
ASAR				PcP	PcP	05 55 26.9	-0.6
	comp=Z,0.8nm,0.8s,baz=162,slow=3.9,SNR=3.1						
ASAR				LR	LR	06 08 01.9	
	comp=Z,286nm,19.8s,baz=163,slow=33						
	comp=Z,5.7nm,0.8s						
AS31	Alice Springs	40.68	330	P	P	05 53 26.0	0.0
WR0	Warramunga Arr	44.10	332	P	P	05 53 53.5	-0.3
WR0				IAmb	IAmb	05 54 02.0	
	comp=Z,16nm,1.4s						
WB2	Warramunga Arr	44.16	332	P	P	05 53 52.9	-1.3
WRA	Warramunga Arr	44.16	332	P	P	05 53 53.6	-0.7
WRA	Warramunga Arr	44.16	332	P	P	05 53 52.3	-2.0
	comp=Z,4.2nm,0.9s,baz=168,slow=6.9,SNR=16						
WRA				PcP	PcP	05 55 38.8	-0.3
	comp=Z,1.0nm,1.0s,baz=161,slow=3.1,SNR=2.1						
	comp=Z,4.2nm,0.9s						
WB0	Warramunga Arr	44.32	332	P	P	05 53 54.2	-1.4
WB0				IAmb	IAmb	05 53 59.8	
	comp=Z,23nm,1.4s						
SNAA	Sanae	45.99	190	P	P	05 54 08.7	+0.4
	comp=Z,4.8nm,1.0s,baz=168,slow=8.5,SNR=4.3						
SNAA				LR	LR	06 13 59.8	
	comp=Z,2μm,18.6s,baz=141,slow=37						
	comp=Z,4.8nm,1.0s						
MSVF	Nonsavu	46.88	31	LR	LR	06 11 01.8	
	comp=Z,345nm,18.3s,baz=194,slow=32						
FITZ	Fitzroy Crossi	48.21	321	P	P	05 54 26.5	+0.4
FITZ	Fitzroy Crossi	48.21	321	P	P	05 54 24.8	-1.4
	comp=Z,7.2nm,0.9s,baz=188,slow=7.4,SNR=6.4						
FITZ				LR	LR	06 13 41.4	
	comp=Z,299nm,18.2s,baz=168,slow=35						
	comp=Z,7.2nm,0.9s						
COEN	Coen	48.45	345	P	P	05 54 28.3	+0.2
PMSA	Palmer Station	50.51	160	LR	LR	06 14 59.3	
	comp=Z,251nm,18.0s,baz=187,slow=35						
RAR	Rarotonga	51.04	59	LR	LR	06 13 47.2	
	comp=Z,46nm,19.1s,baz=212,slow=33						
HNR	Honiara	52.33	6	LR	LR	06 11 57.4	
	comp=Z,612nm,22.0s,baz=167,slow=30						
TBI	Tubuai	53.58	70	eLR	LR	06 10 27.0	
	comp=Z,632nm,29.5s						
PPT2	Papeete2	58.58	67	eLR	LR	06 12 48.4	
	comp=Z,210nm,23.5s						
PPT2				eLR	LR	06 12 48.7	
	comp=Z,182nm,28.0s						
PPT	Papeete	58.59	67	LR	LR	06 16 19.9	
	comp=Z,65nm,19.8s,baz=230,slow=31						
JAY	Jayapura	60.05	344	LR	LR	06 19 43.8	
	comp=Z,252nm,20.6s,baz=172,slow=34						
RKT	Rikitea	60.49	84	eLR	LR	06 13 40.0	
	comp=Z,962nm,26.8s						
LEM	Lembang	64.89	306	LR	LR	06 22 59.0	
	comp=Z,137nm,18.9s,baz=163,slow=34						
TAOE	Nuku Hiva Isla	70.49	72	eLR	LR	06 18 13.4	
	comp=Z,114nm,26.9s						
PLCA	Paso Flores	71.46	145	LR	LR	06 22 18.2	
	comp=Z,132nm,19.9s,baz=206,slow=31						
H03S1	Juan Fernandez	75.30	136	T	T	07 20 52.4	
	baz=201,slow=74,SNR=40						
H03S2	Juan Fernandez	75.30	136	T	T	07 20 51.2	
	baz=201,slow=74,SNR=32						
H03S3	Juan Fernandez	75.32	136	T	T	07 20 52.8	
	baz=201,slow=74,SNR=36						
SUR	Sutherland	79.15	218	LR	LR	06 29 37.6	
	comp=Z,226nm,21.9s,baz=164,slow=33						
H08S2	Diego Garcia H	79.73	273	T	T	07 25 42.6	
	baz=151,slow=76,SNR=36						
H08S1	Diego Carcia H	79.74	273	T	T	07 25 39.5	
	baz=151,slow=76,SNR=50						
H08S3	Diego Garcia H	79.75	273	T	T	07 25 46.5	
	baz=151,slow=76,SNR=54						
BOSA	Boshof	81.27	223	LR	LR	06 32 49.2	
	comp=Z,158nm,18.5s,baz=191,slow=35						
LBTB	Lobatse	84.49	225	LR	LR	06 32 26.5	
	comp=Z,175nm,20.5s,baz=158,slow=33						
CPUP	Villa Florida	88.47	151	LR	LR	06 35 05.0	
	comp=Z,63nm,18.9s,baz=198,slow=33						
CMAR	Chiang Mai Arr	91.38	308	P	P	05 58 52.6	+1.2
	comp=Z,2.3nm,0.3s,baz=219,slow=7.4,SNR=0.7						
	comp=Z,2.3nm,0.3s						
TSUM	Tsumeb	92.48	220	LR	LR	06 38 09.6	
	comp=Z,311nm,20.5s,baz=156,slow=34						
LSZ	Lusaka	92.56	231	LR	LR	06 37 38.5	
	comp=Z,60nm,18.1s,baz=173,slow=34						
LPAZ	La Paz	95.10	139	LR	LR	06 33 19.0	
	comp=Z,45nm,21.8s,baz=150,slow=30						
NNA	Nana	96.13	129	LR	LR	06 33 38.5	
	comp=Z,107nm,21.2s,baz=224,slow=30						
SIV	San Ignacio	97.45	145	LR	LR	06 40 55.7	
	comp=Z,22nm,18.2s,baz=266,slow=34						
PZH	PanZhiHua	97.74	314	P	Pdif	05 59 22.8	+2.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,150nm,6.3s						
NJ2	Nanjing	97.92	330	eP	Pdif	05 59 23.1	+2.1
NJ2				pmax	pmax		
	comp=Z,37nm,0.5s						
WMQ	Urumqi	118.26	311	PKP	PKiKP	06 04 35.6	+3.5
WMQ				PP	PP	06 05 51.3	+2.6
WMQ				LR	LR		
	comp=N,700nm,15.7s						
WMQ				LR	LR		
	comp=E,410nm,18.3s						
WMQ				LR	LR		
	comp=Z,470nm,18.3s						
MKAR	Makanchi Array	122.78	309	PKP	PKPdf	06 04 40.0	-0.6
	comp=Z,0.2nm,0.6s,baz=116,slow=3.4,SNR=2.3						
KURBB	Kurchatov Arra	127.35	309	PKP	PKPdf	06 04 48.1	-1.0
	comp=Z,0.5nm,0.7s,baz=156,slow=1.2,SNR=4.5						
BVAR	Borovoye Array	132.34	306	PKP	PKiKP	06 04 59.1	-0.5
	comp=Z,0.9nm,0.7s,baz=177,slow=3.0,SNR=4.0						
ILAR	Eielson Array	133.39	30	PKP	PKPdf	06 04 59.8	-0.4
	comp=Z,0.5nm,0.8s,baz=277,slow=3.5,SNR=2.3						
YKA	Yellowknife Ar	141.32	48	PKP	PKPdf	06 05 14.6	-0.2
	comp=Z,0.3nm,0.8s,baz=230,slow=2.6,SNR=4.1						
VRI	Vrincioaia	146.60	266	PKP	PKPbc	06 05 26.0	-0.2
AKASG	Malin Array Be	148.80	275	PKPbc	PKPbc	06 05 30.2	-1.7
	comp=Z,0.9nm,0.6s,baz=88,slow=2.3,SNR=4.3						
KOLS	Kolonicke sedl	150.91	266	e	PKPab	06 05 43.9	-0.8
KOLS	Kolonicke sedl	150.91	266	ePKP	PKiKP	06 05 38.5	+0.7
STHS	Stebnicka Huta	151.73	266	ePKP	PKPab	06 05 44.5	-3.6
SRO	Srobarova	151.99	260	e	PKPab	06 05 50.8	+1.6
SRO	Srobarova	151.99	260	ePKP	PKiKP	06 05 41.6	+1.6
LANS	Liptovska Anna	152.39	263	ePKP	PKPab	06 05 46.7	-4.2
ARCES	ARCESS Array B	158.37	313	PKPab	PKPab	06 06 15.0	-0.9
	comp=Z,2.7nm,0.8s,baz=87,slow=7.4,SNR=9.1						

KRSC 04 05:53:57.7±2.0, 53°.86N×168°.42E, h25km±29km, MI3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.96	314	eP	Pn	05 54 29.6	+0.3
BKI				eS	Sb	05 54 55.2	-1.4
MKZ	Mys Kozlova	3.99	283	eP	Pn	05 55 00.6	+3.5
MKZ				eS	Sn	05 55 48.0	+5.0
KBTR	Krutoberegovo	3.99	308	eS	Sb	05 55 51.3	-3.7
TUMD	Tumrok D	4.86	289	eP	Pn	05 55 12.9	+3.7
TUMD				eS	Sn	05 56 09.6	+5.0
BZGR	Bezymyannyi-Gr	4.92	298	eS	Sn	05 56 10.1	+3.9
KMNR	Kamenistaya	5.10	295	eP	Pn	05 55 16.9	+4.4
KMNR				eS	Sn	05 56 16.7	+6.1
SDLR	Sedlovina	5.71	268	eP	Pn	05 55 25.2	+4.2
UGLR	Uglovaya	5.76	267	eP	Pn	05 55 26.4	+4.8
AVH	Avacha	5.80	268	eP	Pn	05 55 27.3	+5.2
KRX	Arik	5.84	269	eP	Pn	05 55 27.3	+4.6
KOK	Koryaka	5.86	268	eP	Pn	05 55 27.3	+4.4
GNL	Ganaly	6.21	273	eP	Pn	05 55 33.2	+5.3
KRMR	Karymshinskiy	6.25	265	eP	Pn	05 55 33.0	+4.8
KRMR				eS	Sn	05 56 42.4	+3.7
GRL	Gorelyy	6.35	262	eP	Pn	05 55 35.6	+5.9
KDTR	Khodutka, Kamc	6.59	256	eS	Sn	05 56 51.6	+4.3

*OSPL **04** 06:14:47.4±1.0, 18°.75N×70°.58W, h2km±8km, ML1.9*

*SDD **04** 06:14:53.2±1.2, 18°.73N×70°.84W, h12km±9km, MD2.6, ML2.4, MW2.7*

ISC 04 06:14:51.3±1.0, 18°.68N±0°.04×70°.83W±0°.03, h18km±6km, n11, σ1$37/22, 4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABDR	Alto Bandera	0.23	57	eP	Pg	06 14 57.4	+0.3
ABDR				eSg	Sg	06 15 01.5	+0.6
ABDR				IAML		06 15 04.6	
	comp=N,422nm,0.3s						
SDDR	Presa de Saban	0.52	305	ePg	Pg	06 15 01.6	-0.2
SDDR				⇓eSg	Sg	06 15 09.9	+0.9
SDDR	Presa de Saban	0.52	305	iP	Pg	06 15 00.8	-1.0
SDDR				eS	Sg	06 15 09.0	+0.1
SDDR				IAML		06 15 14.0	
	comp=Z,49nm,0.3s						
BANI	BANI	0.54	122	ePg	Pn	06 15 03.1	-1.1
BANI				eSg	Sb	06 15 11.6	+1.9
BANI				IAML		06 15 13.4	
	comp=N,193nm,0.2s						
PODR	Polo	0.67	220	iP	Pg	06 15 02.7	-1.8
PODR				eS	Sg	06 15 14.6	+1.2
DR08	Loma La Naviza	0.82	70	ePg	Pn	06 15 07.2	-0.9
DR08				⇓eSg	Sn	06 15 18.7	-1.1
DR08				IAML		06 15 22.0	
	comp=N,408nm,0.2s						
SFDR	San Fco. de Ma	0.82	43	ePg	Pn	06 15 07.8	-0.2
SFDR				eSg	Sn	06 15 18.4	-1.3
SFDR				IAML		06 15 20.6	
	comp=N,96nm,0.3s						
JIDR	Jimani	0.98	259	ePg	Pg	06 15 10.8	+0.4
JIDR				eSg	Sg	06 15 24.5	+1.2
LOBH	Bahia de las A	1.12	223	iP	Pb	06 15 10.8	-1.3
LOBH				eS	Sg	06 15 28.8	+1.1
LOBH				IAML		06 15 37.2	
	comp=Z,50nm,1.5s						
HATOM	Hato Mayor del	1.38	85	ePg	Pg	06 15 17.8	-0.2
HATOM				⇓eSg	Sn	06 15 36.2	+2.6
PAPH	Port-au-Prince	1.40	264	iP	Pn	06 15 15.5	-0.5
PAPH				eS	Sn	06 15 36.5	+2.5
PAPH				IAML		06 15 42.5	
	comp=Z,11nm,0.3s						

*SNET **04** 06:17:01.1±1.1, 12°.87N×87°.22W, h151km±17km, ML2.8*

CATAC 04 06:17:01.3±0.6, 13°N±5°×8°7W±°, h137km±5km, M2.7/13, MLv2.7/13, Error ellipse: s-maj=12.0km s-min=4.3km az=20.8, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.20	52	P	Pn	06 17 20.5	+0.4
QUEN	Al S del Volca	0.35	88	P	Pn	06 17 21.1	+0.6
QUEN				S	Sn	06 17 37.0	+2.0
HERN	Volcan Telica	0.37	85	P	Pn	06 17 21.0	+0.4
HERN	Volcan Telica	0.37	85	S	Sn	06 17 37.3	+2.1
POLN	Al Sur del Vol	0.40	79	S	Sn	06 17 36.9	+1.6
PLRN	Geotermica Pol	0.43	89	P	Pn	06 17 21.2	+0.4
PLRN				S	Sn	06 17 37.4	+1.9
CNGN	Cerro Negro	0.51	99	P	Pn	06 17 21.7	+0.4
CNGN	Cerro Negro	0.51	99	S	Sn	06 17 38.6	+2.3
CSGN	Cosiguina Volc	0.52	320	P	Pn	06 17 21.8	+0.4
CSGN				S	Sn	06 17 38.5	+1.9
LEVN	Ruinas Leon Vi	0.61	107	P	Pn	06 17 22.3	+0.5
LEVN				S	Sn	06 17 39.7	+2.5
MOMN	Momotombo	0.68	104	P	Pn	06 17 22.6	+0.3
COPN	Copaltepe	0.72	123	P	Pn	06 17 23.4	+0.8
CNCH	Conchagua	0.92	319	eP	Pn	06 17 24.1	-0.3
CNCH				eS	Sn	06 17 43.0	+1.2
CNCH	Conchagua	0.92	319	P	Pn	06 17 24.2	-0.1
LIMN	Finca el Limon	0.95	60	P	Pn	06 17 24.7	+0.2
LCND	La Caada	0.98	318	eP	Pn	06 17 24.3	-0.4
LCND				IAML		06 17 51.7	
	comp=Z,38nm,0.2s						
LCND	La Caada	0.98	318	P	Pn	06 17 24.5	-0.2
UNAN	Cigeo UNAN	1.03	117	S	Sn	06 17 43.9	+0.8
MAS3	Al N del Volca	1.15	118	S	Sn	06 17 46.2	+0.9
MATN	Matagalpa	1.30	74	P	Pn	06 17 27.2	-0.7
MATN	Matagalpa	1.30	74	S	Sn	06 17 48.7	+0.6
RANC	El Ranchito	1.35	309	P	Pn	06 17 28.8	+0.3
RANC	El Ranchito	1.35	309	S	Sn	06 17 50.0	+0.8
PACA	Pacayal	1.40	309	eP	Pn	06 17 29.0	0.0
PACA				eS	Sn	06 17 50.2	+0.2
PACA	Pacayal	1.40	309	P	Pn	06 17 29.2	+0.3
PACA	Pacayal	1.40	309	S	Sn	06 17 51.1	+1.1
RCVN	Varilla2	1.41	45	P	Pn	06 17 29.3	+0.3
RCPN	Sur Rio San Ju	1.44	49	P	Pn	06 17 29.6	+0.2
TGUH	Tegucigalpa,Un	1.47	358	P	Pn	06 17 29.9	+0.2
TGUH				S	Sn	06 17 51.2	-0.3
BOAB	BOACO BROADBAN	.51	95	P	Pn	06 17 30.9	+0.9
BOAB	BOACO BROADBAN	.51	95	S	Sn	06 17 52.6	+0.6
TECA	Tecapa	1.55	306	eP	Pn	06 17 29.8	-0.9
TECA				eS	Sn	06 17 53.5	+0.4
PQSS	Presa 15 de Se	1.68	309	P	Pn	06 17 32.1	+0.2
PQSS	Presa 15 de Se	1.68	309	S	Sn	06 17 56.0	+0.8
TECO	Alcaldia de Te	1.80	302	P	Pn	06 17 33.2	-0.1
TECO	Alcaldia de Te	1.80	302	S	Sn	06 17 58.3	+0.4
SCLA	Alcaldia de Sa	1.85	307	eP	Pn	06 17 33.3	-0.7
SCLA	Alcaldia de Sa	1.85	307	P	Pn	06 17 34.4	+0.4
SCLA	Alcaldia de Sa	1.85	307	S	Sn	06 17 59.4	+0.4
UESV	Universidad de	1.86	305	S	Sn	06 17 59.7	+0.6
COEG	Centro de Oper	1.93	303	S	Sn	06 18 00.3	-0.3
COEG	Centro de Oper	1.93	303	P	Pn	06 17 35.1	+0.2
PAVA	Las Pavas	2.02	304	S	Sn	06 18 02.9	+0.2
PAVA	Las Pavas	2.02	304	P	Pn	06 17 36.6	+0.5
JAYA	Jayaque - finc	2.43	296	eP	Pn	06 17 40.7	-0.4
JAYA				eS	Sn	06 18 10.5	-1.2
JAYA				IAML		06 18 16.1	
	comp=Z,97nm,0.2s						
JAYA	Jayaque - finc	2.43	296	P	Pn	06 17 41.2	+0.1
JAYA	Jayaque - finc	2.43	296	S	Sn	06 18 11.2	-0.4
MTO3	Montecristo	2.77	311	P	Pn	06 17 45.9	+0.4
MTO3	Montecristo	2.77	311	S	Sn	06 18 19.3	-0.1
NUBE	Las Nubes	2.83	298	eP	Pn	06 17 46.0	-0.1
NUBE	Las Nubes	2.83	298	P	Pn	06 17 46.0	-0.1

*IDC **04** 06:35:57.6±0.5, 4°.33N×127°.39E, h0km, mb4.4/28, mbtmp4.4/30, ML4.1/2, MS4.1/47,

TTSI	**Tana Toraja**	**10.48 226**	P	**Pn**	**06 38 33.2 +2.0**	
	2μm61nm,0.9s					
BBSI	**Bau Bau**	**10.82 206**	P	**Pn**	**06 38 37.1 +1.2**	
	142nm,1.0s					
SPSI	**Sidrap Palu**	**11.17 223**	P	**Pn**	**06 38 42.2 +1.6**	
	40nm,1.0s					
KKM	**Kota Kinabalu**	**11.24 279**	Pn	**Pn**	**06 38 40.8 -0.9**	
TGY	**Tagaytay City**	**11.63 327**	LR	LR	06 44 41.1	
	comp=Z,512nm,18.6s,baz=179,slow=45					
KAPI	**Kappang**	**11.96 220**		**Pn**	**06 38 49.6 -1.9**	
KAPI	**Kappang**	**11.96 220**	Pn	**Pn**	**06 38 49.8 -1.7**	
	1.0nm,0.3s,baz=51,slow=14,SNR=5.6					
KAPI			LR	LR	06 42 59.1	
	comp=Z,146nm,18.2s,baz=48,slow=35					
	3.1nm,0.5s					
KAPI	**Kappang**	**11.96 220**	P	**Pn**	**06 38 54.6 +3.1**	
BKSI	**Bulukumba**	**11.97 217**	P	**Pn**	**06 38 52.1 +0.5**	
	22nm,1.0s					
SMPI	**Sarmi**	**12.94 119**	P	**Pn**	**06 39 08.9 +4.1**	
	2μm82nm,1.2s					
MMRI	**Maumere**	**13.81 202**	Pn	**Pn**	**06 39 17.1 +0.3**	
EDFI	**Ende, Flores**	**14.13 204**	P	**Pn**	**06 39 21.3 +0.1**	
	600nm31nm,1.0s					
SOEI	**Soe**	**14.28 192**	Pn	**Pn**	**06 39 23.0 -0.3**	
SOEI	**Soe**	**14.28 192**	P	**P**	**06 39 26.8 -3.3**	
SOEI	**Soe**	**14.28 192**	P	**Pn**	**06 39 26.0 +2.7**	
	2μm117nm,1.5s					
GENI	**Genyem**	**14.50 118**	P	**P**	**06 39 34.8 +2.4**	
GENI	**Genyem**	**14.50 118**	P	**P**	**06 39 30.2 -2.2**	
JAY	**Jayapura**	**14.94 117**	Pn	**Pn**	**06 39 29.9 -2.2**	
	0.8nm,0.3s,baz=263,slow=23,SNR=1.5					
JAY			LR	LR	06 44 11.9	
	comp=Z,958nm,21.9s,baz=347,slow=33					
	8.7nm,0.8s					
JAY	**Jayapura**	**14.94 117**	P	**Pn**	**06 39 34.9 +2.7**	
	51nm,1.0s					
SBUM	**Sibu**	**15.23 264**	Pn	**Pn**	**06 39 35.4 -0.5**	
SBUM	**Sibu**	**15.23 264**	P	**P**	**06 39 39.6 -0.8**	
WSI	**Waingapu**	**15.55 207**	P	**Pn**	**06 39 41.4 +1.4**	
BASI	**Baing, Sumba**	**15.91 205**	P	**P**	**06 39 47.3 -0.7**	
	144nm,0.8s					
WBSI	**Waikabubak, Su**	**15.95 210**	P	**Pn**	**06 39 45.1 -0.2**	
	1μm105nm,0.9s					
PLAI	**Plampang**	**16.16 216**	P	**P**	**06 39 50.1 -0.6**	
PLAI	**Plampang**	**16.16 216**	P	**Pn**	**06 39 47.9 0.0**	
	1μm111nm,0.9s					
TWSI	**Taliwang, Sumb**	**16.63 219**	P	**Pn**	**06 39 54.1 +0.2**	
	57nm,0.7s					
TABU	**Tabubil**	**16.78 124**	P	**P**	**06 40 03.2 +5.4**	
KSM	**Kuching**	**17.26 261**	P	**Pn**	**06 40 01.6 -0.2**	
KSM	**Kuching**	**17.26 261**	P	**P**	**06 40 04.9 +1.9**	
SRBI	**Singaraja**	**17.26 225**	P	**P**	**06 40 03.0 0.0**	
	35nm,1.1s					
MTN	**Manton Dam**	**17.42 168**	P	**Pn**	**06 40 03.2 -0.6**	
JAGI	**Jajag, Banyuwa**	**18.28 226**	P	**P**	**06 40 11.9 -2.4**	
GUMO	**Guam**	**19.59 61**	LR	LR	06 46 48.2	
	comp=Z,322nm,19.9s,baz=236,slow=33					
YULB	**Yu-li**	**19.88 343**	P	**P**	**06 40 31.1 -0.6**	
YULB			IAmb	IAmb	06 40 35.8	
	comp=Z,53nm,1.3s					
KNRA	**Kununurra**	**19.88 176**	P	**P**	**06 40 31.6 -0.2**	
KNRA			IAmb	IAmb	06 40 41.8	
	comp=Z,35nm,0.6s					
TPUB	**Ta-pu**	**19.99 342**	P	**P**	**06 40 32.1 -0.9**	
TPUB			IAmb	IAmb	06 40 35.1	
	comp=Z,40nm,0.8s					
DLV	**Lat**	**20.17 293**	P	Pn	06 40 39.5 +2.3	
SSLB	**Suanglung**	**20.35 343**	P	**P**	**06 40 37.7 +0.8**	
TPI	**Tanjungpandan**	**20.90 251**	P	Pn	06 40 45.7 +0.1	
YHNB	**Yeheng**	**21.07 345**	P	**P**	**06 40 42.9 -1.8**	
YHNB			IAmb	IAmb	06 41 07.4	
	comp=Z,43nm,0.9s					
FITZ	**Fitzroy Crossi**	**22.31 184**	P	**P**	**06 40 57.1 -0.8**	
JOW	**Kunigami**	**22.44 2**	P	**P**	**06 40 59.2 0.0**	
JOW			IAmb	IAmb	06 41 14.2	
	comp=Z,22nm,0.8s					
JOW	**Kunigami**	**22.44 2**	P	**P**	**06 40 58.9 -0.4**	
	comp=Z,9.4nm,0.8s,baz=250,slow=20,SNR=3.6					
	comp=Z,9.4nm,0.8s					
QIZ	**Qiongzhong**	**22.53 312**	P	**P**	**06 41 01.5 +1.2**	
QIZ			PP	**PnPn**	**06 41 27.8 +3.4**	
QIZ			S	**S**	**06 45 02.0 -3.4**	
QIZ			LR	LR		
	comp=Z,310nm,15.5s					
QIZ			LR	LR		
	comp=Z,360nm,19.8s					
QIZ			LR	LR		
	comp=Z,700nm,18.5s					
LEM	**Lembang**	**22.59 241**	LR	LR	06 50 49.4	
	comp=Z,430nm,21.4s,baz=60,slow=39					
PMG	**Port Moresby**	**23.96 125**	LR	LR	06 52 09.0	
	comp=Z,3μm,20.4s,baz=308,slow=40					
COEN	**Coen**	**23.97 139**	P	**P**	**06 41 14.6 -0.1**	
UBPT	**Khong Chiam**	**24.15 298**	P	**P**	**06 41 15.4 -1.0**	
UBPT			IAmb	IAmb	06 41 36.4	
	comp=Z,30nm,1.3s					
MDSI	**Maura Dua**	**24.75 250**	P	**P**	**06 41 24.9 +3.1**	
	comp=Z,14nm,0.8s					
WB0	**Warramunga Arr**	**24.88 164**	P	**P**	**06 41 23.0 0.0**	
WB0			IAmb	IAmb	06 41 24.9	
	comp=Z,28nm,0.7s					
WRAB	**Tennant Creek**	**25.03 164**	P	**P**	**06 41 24.0 -0.3**	
WRAB			IAmb	IAmb	06 41 46.4	
	comp=Z,21nm,0.7s					
WRA	**Warramunga Arr**	**25.03 164**	P	**P**	**06 41 24.4 0.0**	
WRA	**Warramunga Arr**	**25.03 164**	P	**P**	**06 41 24.8 +0.4**	
	comp=Z,13nm,0.6s,baz=334,slow=11,SNR=12					
	comp=Z,13nm,0.6s					
WB2	**Warramunga Arr**	**25.04 164**	P	**P**	**06 41 24.5 +0.1**	
WB2			IAmb	IAmb	06 41 44.9	
	comp=Z,21nm,0.8s					
WR0	**Warramunga Arr**	**25.10 164**	P	**P**	**06 41 25.0 0.0**	
WR0			IAmb	IAmb	06 41 38.8	
	comp=Z,21nm,0.9s					
MBWA	**Marble Bar**	**26.37 196**	P	**P**	**06 41 34.9 -1.6**	
MBWA			IAmb	IAmb	06 41 42.0	
	comp=Z,55nm,1.4s					
MBWA	**Marble Bar**	**26.37 196**	P	**P**	**06 41 37.2 +0.8**	
PSA00	**Pilbara Seismi**	**26.73 196**	P	**P**	**06 41 38.4 -1.4**	
PSA00			IAmb	IAmb	06 42 05.7	
	comp=Z,39nm,1.1s					
PSA00	**Pilbara Seismi**	**26.73 196**	P	**P**	**06 41 41.9 +2.2**	
JCJ	**Chichijima**	**26.74 30**	LR	LR	06 50 30.8	
	comp=Z,271nm,19.9s,baz=264,slow=33					
QIS	**Mount Isa**	**27.46 154**	P	**P**	**06 41 47.7 +1.4**	
NAYO	**Nakonayok**	**27.53 293**	P	**P**	**06 41 51.4 +4.4**	
PSI	**Prapat**	**28.42 268**	LR	LR	06 54 19.3	
	comp=Z,349nm,20.9s,baz=78,slow=39					
ASAR	**Alice Springs**	**28.50 167**	P	**P**	**06 41 55.9 +0.3**	
	comp=Z,3.6nm,0.6s,baz=355,slow=7.6,SNR=53					
	comp=Z,3.6nm,0.6s					
JNU	**Nakatsue**	**28.88 6**	P	**P**	**06 41 59.5 +0.7**	
JNU			IAmb	IAmb	06 42 15.8	
	comp=Z,34nm,1.3s					
JNU	**Nakatsue**	**28.88 6**	LR	LR	06 52 48.9	
	comp=Z,147nm,21.8s,baz=176,slow=35					
GIRL	**Giralia**	**29.68 205**	P	**P**	**06 42 05.4 -0.6**	
CM31	**Chiang Mai Arr**	**31.15 299**	P	**P**	**06 42 17.2 -1.9**	
CMAR	**Chiang Mai Arr**	**31.15 299**	P	**P**	**06 42 17.2 -1.9**	
CMAR	**Chiang Mai Arr**	**31.15 299**	P	**P**	**06 42 18.9 -0.1**	
	comp=Z,2.4nm,0.3s,baz=118,slow=6.8,SNR=9.3					
CMAR			LR	LR	06 56 03.1	
	comp=Z,282nm,18.7s,baz=110,slow=39					
	comp=Z,2.4nm,0.3s					
CHTO	**Chiang Mai**	**31.29 300**	P	**P**	**06 42 18.6 -1.7**	
CHTO	**Chiang Mai**	**31.29 300**	P	**P**	**06 42 25.0 +4.7**	
MEEK	**Meekatharra**	**31.89 195**	P	**P**	**06 42 26.4 +0.9**	
PZH	**PanZhiHua**	**33.00 315**	P	**P**	**06 42 37.1 +1.7**	
PZH			S	**S**	**06 47 50.3 -1.5**	
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,100nm,6.9s					
PZH			LR	LR		
	comp=Z,310nm,22.6s					
PZH			LR	LR		
	comp=Z,380nm,21.8s					
PZH			LR	LR		
	comp=Z,530nm,21.6s					
KSRS	**Korea Array**	**33.02 1**	P	**P**	**06 42 35.3 +0.1**	
	comp=Z,4.4nm,0.8s,baz=179,slow=10,SNR=10.0					
KSRS			LR	LR	07 01 18.6	
	comp=Z,155nm,18.5s,baz=180,slow=46					
	comp=Z,4.4nm,0.8s					
LYN	**LuoYang**	**33.14 337**	⇑P	**P**	**06 42 38.3 +2.0**	
LYN			S	**S**	**06 47 54.5 +1.0**	
LYN			pmax	pmax		
	comp=Z,16nm,0.5s					
LYN			pmax	pmax		
	comp=Z,250nm,6.2s					
LYN			LR	LR		
	comp=Z,540nm,22.8s					
LYN			LR	LR		
	comp=Z,730nm,25.1s					
LYN			LR	LR		
	comp=Z,940nm,22.6s					
TIA	**Tai'an**	**33.14 345**	P	**P**	**06 42 36.3 -0.1**	
TIA			pmax	pmax		
	comp=Z,8.0nm,0.9s					
TIA			LR	LR		
	comp=Z,330nm,17.4s					
TIA			LR	LR		
	comp=Z,110nm,7.2s					
TIA			LR	LR		
	comp=Z,390nm,19.0s					
MJAR	**Matsushiro Arr**	**33.62 16**	P	**P**	**06 42 40.1 -0.5**	
	comp=Z,1.5nm,0.6s,baz=121,slow=10,SNR=1.9					
MJAR			LR	LR	06 53 55.5	
	comp=Z,371nm,21.8s,baz=214,slow=32					
	comp=Z,1.5nm,0.6s					
XAN	**Xi'an**	**34.22 332**	P	**P**	**06 42 46.8 +1.0**	
XAN			pP	**pP**	**06 42 57.1 +1.8**	
CD2	**Chengdu**	**34.58 323**	P	**P**	**06 42 53.3 +4.3**	
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
CD2			LR	LR		
	comp=Z,780nm,21.6s					
CD2			LR	LR		
	comp=Z,740nm,19.7s					
FORT	**Forrest**	**34.87 179**	P	**P**	**06 42 51.1 -0.3**	
HNS	**HongShan**	**34.94 342**	⇑P	**P**	**06 42 53.5 +1.6**	
HNS			S	**S**	**06 48 20.1 -1.1**	
HNS			pmax	pmax		
	comp=Z,18nm,0.9s					
HNS			LR	LR		
	comp=Z,320nm,16.7s					
HNS			LR	LR		
	comp=Z,250nm,17.1s					
HNS			LR	LR		
	comp=Z,410nm,18.4s					
HNR	**Honiara**	**35.22 113**	LR	LR	06 56 23.4	
	comp=Z,312nm,21.6s,baz=298,slow=35					
JMM	**Marumori**	**35.61 18**	P	P	06 43 07.1 +9.4	
LCRK	**Leigh Creek**	**36.06 164**	P	**P**	**06 43 04.8 +3.2**	
BJT	**Baijiatuau**	**36.98 346**	P	P	06 43 15.6 +6.2	
BJT	**Baijiatuau**	**36.98 346**	P	**P**	**06 43 10.8 +1.4**	
BJT			pP	**pwP**	**06 43 21.3 +0.1**	
BJI	**Beijing**	**37.00 346**	P	**P**	**06 43 13.6 +4.1**	
BJI			pmax	pmax		
	comp=Z,9.0nm,0.8s					
BJI			LR	LR		
	comp=Z,96nm,21.5s					
BJI			LR	LR		
	comp=Z,130nm,21.8s					
BJI			LR	LR		
	comp=Z,180nm,20.5s					
BBOO	**Buckleboo**	**37.80 168**	P	**P**	**06 43 17.5 +1.1**	
NWAO	**Narrogin (SRO)**	**38.23 194**	LR	LR	07 00 32.3	
	comp=Z,96nm,19.6s,baz=277,slow=38					
LZH	**Lanzhou**	**38.35 329**	*e*P	**P**	**06 43 24.9 +3.6**	
LZH			sP	sP	06 43 50.0 +15	
LZH			pmax	pmax		
	comp=Z,20nm,1.0s					
LZH			LR	LR		
	comp=Z,650nm,15.5s					
LZH			LR	LR		
	comp=Z,560nm,15.3s					
LZH			LR	LR		
	comp=Z,1μm,20.1s					
STKA	**Stephens Creek**	**38.43 160**	P	**P**	**06 43 21.9 +0.2**	
STKA	**Stephens Creek**	**38.43 160**	P	**P**	**06 43 21.8 +0.1**	
	comp=Z,30nm,0.7s,baz=338,slow=8.8,SNR=57					
STKA			LR	LR	07 01 16.0	
	comp=Z,223nm,19.4s,baz=332,slow=40					
	comp=Z,30nm,0.7s					
STKA	**Stephens Creek**	**38.43 160**	P	**P**	**06 43 22.6 +0.9**	
HHC	**Hu-ho-hao-te**	**39.08 341**	*e*P	**P**	**06 43 28.6 +1.4**	
HHC			S	**S**	**06 49 26.1 +1.6**	
HHC			pmax	pmax		
	comp=Z,16nm,0.7s					
HHC			pmax	pmax		
	comp=Z,120nm,4.1s					
HHC			LR	LR		
	comp=Z,230nm,17.7s					
HHC			LR	LR		
	comp=Z,170nm,19.3s					
HHC			LR	LR		
	comp=Z,380nm,22.7s					
BRDH	**Bariadhala**	**39.08 301**	LR	LR	07 00 14.1	
	comp=Z,269nm,21.3s,baz=151,slow=37					
CMSA	**Cobar Meteorol**	**39.67 155**	P	**P**	**06 43 33.7 +1.6**	
USRK	**Ussuriysk Ar.**	**39.96 5**	P	**P**	**06 43 32.7 -1.6**	
	comp=Z,3.2nm,0.7s,baz=188,slow=9.4,SNR=3.2					
USRK			LR	LR	07 00 42.1	
	comp=Z,159nm,21.2s,baz=198,slow=37					
	comp=Z,3.2nm,0.7s					
SHL	**Shillong**	**40.06 305**	P	**P**	**06 43 34.8 -1.0**	
MDJ	**Mudanjiang**	**40.22 2**	P	**P**	**06 43 37.9 +1.4**	
MDJ			pmax	pmax		
	comp=Z,10.0nm,0.9s					
MDJ	**Mudanjiang**	**40.22 2**	P	P	06 43 44.4 +7.9	
MDJ	**Mudanjiang**	**40.22 2**	P	**P**	**06 43 39.0 +2.5**	
MDJ			pP	**pwP**	**06 43 49.0 -0.6**	
BNX	**BinXian**	**41.29 0**	⇓P	**P**	**06 43 44.6 -0.7**	
BNX			pmax	pmax		
	comp=Z,4.0nm,1.4s					
ARMA	**Armidale**	**41.59 148**	P	**P**	**06 43 47.3 -0.8**	
ARMA			IAmb	IAmb	06 43 54.1	
	comp=Z,13nm,1.0s					
ASAJ	**Asahikawa**	**41.88 16**	LR	LR	07 02 31.9	
	comp=Z,280nm,19.4s,baz=206,slow=38					
JKA	**Kamikawa-asahi**	**41.88 16**	P	**P**	**06 43 50.2 0.0**	
JKA			IAmb	IAmb	06 44 13.4	
	comp=Z,12nm,0.9s					
GTA	**Gaotai**	**42.95 328**	*e*P	**P**	**06 44 03.7 +4.5**	
GTA			sP	sP	06 44 23.8 +11	
GTA			pmax	pmax		
	comp=Z,8.0nm,1.2s					
GTA			LR	LR		
	comp=Z,320nm,20.0s					
GTA			LR	LR		
	comp=Z,320nm,20.4s					
GTA			LR	LR		
	comp=Z,540nm,17.8s					
ARPS	**Mount Arapiles**	**43.02 163**	P	**P**	**06 44 00.9 +1.4**	
MGBR	**Mount Gambier**	**43.56 165**	P	**P**	**06 44 02.9 -1.0**	
GOMU	**GeErMu**	**43.65 321**	P	**P**	**06 44 05.8 +0.7**	
GOMU			pP	sP	06 44 20.9 +2.2	
GOMU			sP	pP	06 44 28.4 +14	
GOMU			PcP	**PcP**	**06 45 50.8 -1.3**	
GOMU			pmax	pmax		
	comp=Z,6.0nm,0.8s					
GOMU			LR	LR		
	comp=Z,710nm,20.3s					
GOMU			LR	LR		
	comp=Z,720nm,20.5s					
GOMU			LR	LR		
	comp=Z,1μm,21.3s					
TOO	**Toolangi**	**44.93 160**	P	**P**	**06 44 14.3 -0.6**	
KLR	**Kul'dur**	**44.94 4**	LR	LR	07 08 45.7	
	comp=Z,106nm,18.1s,baz=199,slow=44					
HEH	**HeiHe**	**45.81 0**	*e*P	**P**	**06 44 21.1 -0.5**	
HEH			pmax	pmax		
	comp=Z,7.0nm,0.9s					
DZM	**Mont Dzumac**	**46.34 126**	*e*S	**S**	**06 51 08.8 -2.9**	
	comp=Z,208nm,33.1s					
DZM			*e*SS	**SS**	**06 54 35.4 -2.4**	
	comp=Z,200nm,28.7s					
DZM			*e*LR	LR	06 57 32.9	
	comp=Z,238nm,24.6s					
PALK	**Pallekele**	**46.50 276**	LR	LR	07 05 52.3	
	comp=Z,126nm,18.9s,baz=97,slow=39					
ULN	**Ulaanbaatar**	**46.80 341**	P	**P**	**06 44 28.8 -0.9**	
ULN	**Ulaanbaatar**	**46.80 341**	P	**P**	**06 44 33.0 +3.3**	
ULN			pP	**sP**	**06 44 43.2 -0.3**	
SONM	**Songino Array**	**46.98 341**	P	**P**	**06 44 31.4 +0.4**	
SONM			IAmb	IAmb	06 44 44.6	
	comp=Z,22nm,1.4s					
SONM	**Songino Array**	**46.98 341**	P	**P**	**06 44 31.4 +0.4**	
	comp=Z,2.4nm,0.7s,baz=160,slow=8.3,SNR=9.2					
SONM			LR	LR	07 05 53.5	
	comp=Z,263nm,21.8s,baz=158,slow=38					
	comp=Z,2.4nm,0.7s					
WMQ	**Urumqi**	**52.64 324**	*e*P	**P**	**06 45 16.1 +2.0**	
WMQ			pP	sP	06 45 28.9 +1.1	
WMQ			pmax	pmax		
	comp=Z,10.0nm,0.8s					
WMQ			LR	LR		
	comp=Z,690nm,15.7s					
WMQ			LR	LR		
	comp=Z,560nm,19.9s					
WMQ			LR	LR		
	comp=Z,520nm,21.3s					
MSVF	**Nonsavu**	**54.57 115**	LR	LR	07 06 35.1	
	comp=Z,104nm,21.7s,baz=320,slow=34					
PETK	**Petropavlovsk-**	**54.68 22**	P	**P**	**06 45 29.4 +0.5**	
PETK	**Petropavlovsk-**	**54.68 22**	P	**P**	**06 45 27.1 -1.7**	
	comp=Z,2.7nm,0.6s,baz=196,slow=2.8,SNR=3.9					
PETK			LR	LR	07 07 50.1	
	comp=Z,54nm,20.3s,baz=218,slow=35					
	comp=Z,2.7nm,0.6s					
ZSN	**Zaisan**	**56.39 327**	*e*P	**P**	**06 45 41.3 0.0**	
SHLS	**Shalkode**	**57.33 320**	*e*P	**P**	**06 45 46.4 -1.7**	
MK31	**Makanchi Array**	**57.47 325**	P	**P**	**06 45 48.5 -0.4**	
MKAR	**Makanchi Array**	**57.47 325**	P	**P**	**06 45 48.6 -0.3**	
	comp=Z,4.6nm,0.4s,baz=122,slow=8.1,SNR=52					
MKAR			LR	LR	07 12 12.7	
	comp=Z,509nm,20.2s,baz=100,slow=38					
	comp=Z,4.6nm,0.4s					
UZB	**Uzynbulak**	**57.61 320**	*e*P	**P**	**06 45 50.1 0.0**	
YAK	**Yakutsk**	**57.64 1**	P	**P**	**06 45 49.0 -0.7**	
YAK	**Yakutsk**	**57.64 1**	LR	LR	07 15 31.7	
	comp=Z,66nm,18.9s,baz=194,slow=41					
MAKZ	**Makanchi**	**57.66 325**	P	**P**	**06 45 49.8 -0.4**	
MAKZ	**Makanchi**	**57.66 325**	P	**P**	**06 45 49.7 -0.5**	
MAKZ			pP	**pP**	**06 45 59.8 -0.3**	
MAKZ			sP	**sP**	**06 46 04.2 +0.2**	
SATY	**Saty**	**57.97 319**	*e*P	**P**	**06 45 52.8 +0.2**	
	comp=Z,6.2nm,1.1s					
MA2	**Magadan**	**58.02 14**	LR	LR	07 11 52.2	
	comp=Z,55nm,19.9s,baz=177,slow=37					
NIL	**Nilore**	**58.09 307**	P	**P**	**06 45 52.1 -1.4**	
NIL			IAmb	IAmb	06 46 11.3	
	comp=Z,18nm,1.1s					
NIL	**Nilore**	**58.09 307**	P	**P**	**06 45 53.6 0.0**	
KSH	**Kashi**	**58.10 315**	P	**P**	**06 45 56.4 +2.8**	
KSH			pP	sP	06 46 14.9 +7.5	
KSH			pmax	pmax		
	comp=Z,6.0nm,0.8s					
KSH			LR	LR		
	comp=Z,500nm,26.8s					
KSH			LR	LR		
	comp=Z,320nm,23.4s					
KSH			LR	LR		
	comp=Z,300nm,23.4s					
KDJ	**Kajisay**	**58.36 318**	P	**P**	**06 45 54.2 -1.2**	
KDJ			IAmb	IAmb	06 46 02.0	
	comp=Z,6.3nm,0.7s					
MDOK	**Medeo**	**58.90 319**	*e*P	**P**	**06 45 59.0 -0.1**	
TNSS	**Tian-Shan**	**58.91 319**	*e*P	**P**	**06 45 59.2 -0.3**	
AAA	**Alma-Ata**	**59.01 319**	*e*P	**P**	**06 45 59.8 0.0**	
BOOM	**Boomskoye usch**	**59.34 318**	P	**P**	**06 46 01.5 -0.7**	
AAK	**Ala-Archa**	**60.38 317**	P	**P**	**06 46 07.7 -1.7**	
AAK	**Ala-Archa**	**60.38 317**	LR	LR	07 14 40.8	
	comp=Z,309nm,20.8s,baz=106,slow=38					
AAK	**Ala-Archa**	**60.38 317**	P	**P**	**06 46 10.5 +1.2**	
AAK			sP	**sP**	**06 46 25.8 +2.6**	
ZALV	**Zalesovo Beam**	**60.39 333**	P	**P**	**06 46 08.0 -0.9**	
ZALV	**Zalesovo Beam**	**60.39 333**	P	**P**	**06 46 08.3 -0.6**	
	comp=Z,2.5nm,0.3s,baz=144,slow=8.9,SNR=9.8					
	comp=Z,2.5nm,0.3s					
DRK	**Karamyk**	**61.09 313**	P	**P**	**06 46 13.9 -0.5**	
KURBB	**Kurchatov Arra**	**61.62 327**	P	**P**	**06 46 17.0 -0.4**	
	comp=Z,7.8nm,0.7s,baz=126,slow=5.9,SNR=30					
KURBB			LR	LR	07 15 24.2	
	comp=Z,196nm,19.9s,baz=183,slow=38					
	comp=Z,7.8nm,0.7s					
KURK	**Kurchatov**	**61.62 327**	P	**P**	**06 46 17.2 -0.2**	
KURK	**Kurchatov**	**61.62 327**	P	**P**	**06 46 17.1 -0.3**	
BTLS	**Baital**	**61.66 320**	*e*P	**P**	**06 46 18.0 +0.2**	
SHEM	**Shemya Is, Ala**	**61.67 30**	LR	LR	07 07 28.9	
	comp=Z,91nm,21.0s,baz=111,slow=31					
BTK	**Batken**	**62.00 314**	P	**P**	**06 46 18.6 -1.7**	
BTK			IAmb	IAmb	06 46 36.3	
	comp=Z,12nm,1.1s					
GAR	**Garm**	**62.02 312**	P	**P**	**06 46 19.5 -1.0**	
URZ	**Urewera**	**62.52 137**	LR	LR	07 12 42.9	
	comp=Z,210nm,21.3s,baz=35,slow=35					
RTZ	**Ruatahuna**	**62.61 138**	P	**P**	**06 46 23.3 -1.1**	
DZA	**Taraz**	**62.63 317**	*e*P	**P**	**06 46 24.2 -0.1**	
IUG	**Iuzhnay**	**63.26 315**	*e*P	**P**	**06 46 28.6 -0.1**	
	comp=Z,4.8nm,0.6s					
KK31	**Karatay Array**	**63.26 317**	P	**P**	**06 46 28.2 -0.4**	
KK31			IAmb	IAmb	06 46 44.4	
	comp=Z,8.1nm,0.9s					
KKAR	**Karatay Array**	**63.26 317**	P	**P**	**06 46 28.0 -0.5**	
KKAR	**Karatay Array**	**63.26 317**	P	**P**	**06 46 27.2 -1.4**	
KKAR			IAmb	IAmb	06 46 44.5	
	comp=Z,8.5nm,0.9s					
CHM	**Chimkent**	**63.62 316**	*e*P	**P**	**06 46 30.9 -0.1**	
BRLS	**Borolday**	**63.70 316**	*e*P	**P**	**06 46 31.5 0.0**	
BRZS	**Berezniki**	**64.61 324**	*e*P	**P**	**06 46 37.7 +0.4**	
HRA	**Herat**	**67.13 305**	P	**P**	**06 46 51.4 -2.6**	
HRA			IAmb	IAmb	06 47 08.1	
	comp=Z,9.6nm,1.4s					
BVAR	**Borovoye Array**	**67.20 327**	P	**P**	**06 46 53.9 0.0**	
	comp=Z,7.9nm,0.7s,baz=126,slow=9.3,SNR=23					
BVAR			LR	LR	07 17 57.7	
	comp=Z,221nm,21.1s,baz=108,slow=38					
	comp=Z,7.9nm,0.7s					
BRVK	**Borovoye**	**67.28 327**	P	**P**	**06 46 53.0 -1.4**	
BRVK	**Borovoye**	**67.28 327**	P	**P**	**06 46 53.8 -0.5**	
BRVK			pP	**pP**	**06 47 04.2 -0.4**	
BRVK			sP	**sP**	**06 47 08.2 -0.1**	
TIXI	**Tiksi**	**67.28 1**	P	**P**	**06 46 52.8 -1.3**	
TIXI			IAmb	IAmb	06 47 13.1	
	comp=Z,6.0nm,0.8s					
TIXI	**Tiksi**	**67.28 1**	LR	LR	07 17 56.4	
	comp=Z,122nm,21.3s,baz=201,slow=38					
NRIK	**Noril'sk**	**70.05 346**	P	**P**	**06 47 10.9 -0.3**	
NRIK			IAmb	IAmb	06 47 29.1	
	comp=Z,13nm,1.1s					
NRIK	**Noril'sk**	**70.05 346**	P	**P**	**06 47 11.0 -0.3**	
	comp=Z,2.9nm,0.6s,baz=141,slow=6.2,SNR=4.7					
NRIK			LR	LR	07 20 34.5	
	comp=Z,146nm,20.8s,baz=155,slow=38					
	comp=Z,2.9nm,0.6s					
DRV	**Dumont d'Urvil**	**71.36 175**	P	**P**	**06 47 20.7 +1.4**	
DRV			pP	**pwP**	**06 47 31.8 -1.3**	
CASY	**Casey**	**71.44 187**	P	**P**	**06 47 18.5 -1.2**	
CASY			IAmb	IAmb	06 47 35.7	
	comp=Z,9.0nm,0.8s					
CASY	**Casey**	**71.44 187**	P	**P**	**06 47 22.6 +2.9**	
CASY			pP	**sP**	**06 47 34.4 +1.0**	
ABKAR	**Akbulak array**	**72.12 321**	P	**P**	**06 47 23.8 -0.5**	
ARTI	**Arti**	**74.89 327**	P	**P**	**06 47 39.1 -1.4**	

GURO	**Guroymak-BITLI**	**83.70 308**	P	**P**	**06 48 27.5**	**-1.5**
GURO			IAmb	IAmb	06 48 45.4	
	comp=Z,12nm,1.1s					
VNDA	**Vanda**	**83.89 173**	P	**P**	**06 48 28.1**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=302,slow=5.6,SNR=4.9					
	comp=Z,0.9nm,0.5s					
ILAR	**Eielson Array**	**84.33 25**	P	**P**	**06 48 31.1**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=253,slow=5.5,SNR=5.7					
	comp=Z,0.4nm,0.6s					
PPT	**Papeete**	**84.68 108**	LR	LR	07 22 50.7	
	comp=Z,85nm,19.4s,baz=266,slow=33					
PPT2	**Papeete2**	**84.68 108**	*e*S	**SKSac**	**06 58 57.7**	**+1.2**
	comp=Z,60nm,25.5s					
PPT2	**Papeete2**	**84.68 108**	*e*LR	LR	07 15 25.3	
	comp=Z,137nm,27.2s					
TBI	**Tubuai**	**85.43 114**	*e*LR	LR	07 15 44.4	
	comp=Z,596nm,27.0s					
MMAI	**Mount Meron Ar**	**89.34 303**	P	**P**	**06 48 56.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=167,slow=41,SNR=1.9					
	comp=Z,0.6nm,0.3s					
INK	**Inuvik**	**89.42 22**	P	**P**	**06 48 54.8**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=197,slow=7.7,SNR=5.6					
	comp=Z,1.0nm,0.7s					
BZK	**Bozkurt**	**89.67 312**	P	**P**	**06 48 56.9**	**-1.0**
	comp=Z,46nm,0.9s					
SPITS	**Spitsbergen Ar**	**90.06 349**	P	**P**	**06 48 58.7**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=99,slow=8.5,SNR=5.0					
SPITS			LR	LR	07 35 14.4	
	comp=Z,122nm,20.1s,baz=34,slow=40					
	comp=Z,3.8nm,0.9s					
ARCES	**ARCESS Array B**	**90.15 340**	P	**P**	**06 48 58.2**	**-1.4**
	comp=Z,2.3nm,0.6s,baz=85,slow=5.7,SNR=13					
ARCES			LR	LR	07 33 28.0	
	comp=Z,144nm,20.6s,baz=70,slow=38					
	comp=Z,2.3nm,0.6s					
BRTR	**Keskin Array B**	**90.16 310**	P	**P**	**06 48 58.9**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=101,slow=6.4,SNR=6.3					
	comp=Z,1.4nm,0.8s					
BR106	**Keskin Array S**	**90.17 310**	P	**P**	**06 48 59.2**	**-1.3**
FINES	**FINESS Array B**	**91.64 332**	P	**P**	**06 49 06.0**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=48,slow=5.7,SNR=6.6					
FINES			LR	LR	07 34 44.7	
	comp=Z,99nm,18.2s,baz=51,slow=38					
	comp=Z,1.9nm,0.8s					
AKASG	**Malin Array Be**	**91.86 321**	P	**P**	**06 49 07.2**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=70,slow=4.9,SNR=2.6					
AKASG			LR	LR	07 33 23.6	
	comp=Z,118nm,19.8s,baz=69,slow=38					
	comp=Z,1.0nm,0.6s					
AK04	**Malin Array Si**	**91.90 321**	P	**P**	**06 49 06.9**	**-1.2**
LUBAR	**Lubar, Ukraine**	**92.92 320**	P	**P**	**06 49 12.1**	**-0.8**
TAOE	**Nuku Hiva Isla**	**93.10 99**	*e*LR	LR	07 19 18.6	
	comp=Z,119nm,23.9s					
RNPP1	**Kostyukhnivka**	**93.89 322**	P	**P**	**06 49 16.8**	**-0.5**
ODBI	**Odobesti**	**94.12 316**	P	**P**	**06 49 17.4**	**-1.1**
QSPA	**South Pole Qui**	**94.19 180**	P	**P**	**06 49 18.2**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=193,slow=1.2,SNR=4.5					
	comp=Z,1.1nm,1.0s					
MLR	**Muntele Rosu**	**94.94 316**	LR	LR	07 37 13.3	
	comp=Z,234nm,21.8s,baz=60,slow=39					
HFS	**Hagfors**	**97.82 332**	P	**P**	**06 49 33.2**	**-1.8**
	comp=Z,3.0nm,1.0s,baz=129,slow=11,SNR=2.1					
HFS			LR	LR	07 37 08.4	
	comp=Z,195nm,20.9s,baz=67,slow=38					
	comp=Z,3.0nm,1.0s					
NOA	**NORSAR Array B**	**98.57 334**	LR	LR	07 38 14.7	
	comp=Z,167nm,21.4s,baz=65,slow=38					
RKT	**Rikitea**	**98.71 113**	*e*LR	LR	07 21 51.3	
	comp=Z,306nm,26.0s					
YKA	**Yellowknife Ar**	**98.73 24**	P	**P**	**06 49 38.4**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=64,slow=3.6,SNR=2.2					
	comp=Z,0.1nm,0.6s					
JMIC	**Jan Mayen**	**99.47 347**	LR	LR	07 40 39.4	
	comp=Z,82nm,19.1s,baz=248,slow=39					
LSZ	**Lusaka**	**99.96 255**	LR	LR	07 31 57.5	
	comp=Z,75nm,21.6s,baz=152,slow=34					

NEIC ***04*** *06:40:57.1±1.1, 61°.12N±0°.04×151°.41W±0°.09, h87km±7km, Error ellipse: s-maj=6.5km s-min=5.6km az=56.0*

AEIC 04 06:40:58.1±1.1, 61°.04N±0°.02×151°.40W±0°.09, h68km±7km, ML2.3, ML2.6/110(NEIC), Error ellipse: s-maj=6.5km s-min=2.2km az=69.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.30**	**157**	Pn	Pn	06 41 10.7	+1.7
STLK	**Strandline Lak**	**0.50**	**335**		Pn	06 41 10.4	-0.5
STLK				IAML		06 41 20.1	
	comp=N,149nm,0.2s						
SUA	**Susitna One**	**0.53**	**36**		Pn	06 41 10.9	-0.3
SUA				IAML		06 41 21.4	
	comp=E,260nm,0.5s						
SUA				IAML		06 41 23.1	
	comp=N,140nm,0.5s						
SLKM	**Skilak Lake**	**0.79**	**132**		Pn	06 41 14.0	+0.1
SLKM				IAML		06 41 27.8	
	comp=E,227nm,0.2s						
SLKM				IAML		06 41 28.6	
	comp=N,216nm,0.1s						
RC01	**Rabbit Creek A**	**0.81**	**86**		Pn	06 41 14.0	-0.1
RC01				IAML		06 41 27.8	
	comp=N,252nm,0.3s						
RC01				IAML		06 41 28.5	
	comp=E,214nm,0.3s						
M22K	**Willow**	**0.94**	**40**		Pn	06 41 15.9	+0.2
M22K				IAML		06 41 33.8	
	comp=E,230nm,0.3s						
SKT	**Skwentna**	**0.94**	**356**		Pn	06 41 15.2	-0.6
SKT				IAML		06 41 29.9	
	comp=N,100nm,0.4s						
SKT				IAML		06 41 30.0	
	comp=E,108nm,0.3s						
O22K	**Cooper Landing**	**1.00**	**124**		Pn	06 41 16.8	+0.4
M20K	**Styx River**	**1.19**	**316**		Pn	06 41 18.4	-0.5
PMR	**Palmer**	**1.22**	**62**	Pn	Pn	06 41 18.8	-0.5
PMR				IAML		06 41 37.5	
	comp=N,66nm,0.3s						
BRLK	**Bradley Lake**	**1.31**	**169**	Pn	Pn	06 41 21.1	+0.7
BRLK				IAML		06 41 42.6	
	comp=E,132nm,0.1s						
SEW	**Seward**	**1.34**	**134**		Pn	06 41 20.4	-0.5
SEW				IAML		06 41 45.1	
	comp=E,90nm,0.4s						
SEW				IAML		06 41 45.2	
	comp=N,95nm,0.3s						
ILSW	**Iliamna Southw**	**1.37**	**220**		Pn	06 41 21.5	+0.2
ILSW				IAML		06 41 41.9	
	comp=E,70nm,0.7s						
HOM	**Homer**	**1.40**	**185**	Pn	Pn	06 41 21.7	+0.2
GHO	**Glory Hole Cre**	**1.40**	**57**		Pn	06 41 21.4	-0.2
GHO				IAML		06 41 43.1	
	comp=N,61nm,0.5s						
GHO				IAML		06 41 43.2	
	comp=E,79nm,0.4s						
CUT	**Chulitna**	**1.47**	**21**		Pn	06 41 22.6	+0.1
KNK	**Knik Glacier**	**1.47**	**74**		Pn	06 41 22.3	-0.3
KNK				IAML		06 41 46.1	
	comp=E,61nm,0.2s						
KNK				IAML		06 41 48.3	
	comp=N,86nm,0.6s						
PWL	**Port Wells**	**1.50**	**96**	Pn	Pn	06 41 22.5	-0.5
PWL				IAML		06 41 47.0	
	comp=E,124nm,0.4s						
CNPM	**China Poot**	**1.52**	**177**	Pn	Pn	06 41 23.7	+0.4
N19K	**Bonanza Creek**	**1.52**	**263**	Pn	Pn	06 41 22.9	-0.5
SML	**Sawmill**	**1.66**	**61**		Pn	06 41 24.7	-0.4
SML				IAML		06 41 50.5	
	comp=N,30nm,0.5s						
P19K	**Oil Pt**	**1.67**	**214**	Pn	Pn	06 41 25.9	+0.7
PPLA	**Purkeypile**	**1.90**	**349**		Pn	06 41 28.0	-0.4
L19K	**White Mountain**	**2.01**	**306**	Pn	Pn	06 41 29.8	0.0
L19K				IAML		06 41 54.5	
	comp=N,35nm,0.8s						
L19K				IAML		06 41 54.7	
	comp=E,36nm,0.4s						
SCM	**Sheep Creek Mo**	**2.11**	**66**		Pn	06 41 30.7	-0.5
SCM				IAML		06 42 02.6	
	comp=E,28nm,0.8s						
SCM				IAML		06 42 07.2	
	comp=N,24nm,1.0s						
N18K	**Kilae Creek**	**2.23**	**263**	Pn	Pn	06 41 32.1	-0.7
O18K	**Koktuh Hills**	**2.23**	**239**	Pn	Pn	06 41 32.2	-0.7
CAST	**Castle Rocks**	**2.41**	**353**	Pn	Pn	06 41 34.6	-0.5
FID	**Port Fidalgo**	**2.42**	**95**	Pn	Pn	06 41 33.2	-2.2
FID				IAML		06 42 13.8	
	comp=E,39nm,0.6s						
FID				IAML		06 42 14.5	
	comp=N,42nm,0.6s						
THF	**Thorofare Moun**	**2.47**	**12**	Pn	Pn	06 41 36.6	+0.4
TRF				IAML		06 42 08.8	
	comp=E,42nm,0.5s						
KTH	**Kantishna Hill**	**2.53**	**5**		Pn	06 41 37.4	+0.5
P18K	**Big Mountain,**	**2.53**	**231**	Pn	Pn	06 41 36.5	-0.4
KLU	**Klutina**	**2.68**	**78**		Pn	06 41 38.1	-0.9
KLU				IAML		06 42 20.5	
	comp=N,22nm,1.0s						
KLU				IAML		06 42 21.3	
	comp=E,18nm,0.5s						
M24K	**Tolsona, Glenn**	**2.72**	**65**		Pn	06 41 39.4	0.0
M24K				IAML		06 42 21.7	
	comp=N,19nm,0.7s						
M24K				IAML		06 42 25.9	
	comp=E,26nm,0.6s						
DIV	**Divide**	**2.73**	**86**	Pn	Pn	06 41 38.4	-1.3
DIV				IAML		06 42 11.3	
	comp=E,18nm,0.4s						
DIV				IAML		06 42 24.2	
	comp=N,39nm,0.7s						
N17K	**Nushagak Hills**	**2.89**	**262**	Pn	Pn	06 41 41.0	-0.6
N17K				IAML		06 42 14.4	
	comp=E,11nm,0.6s						
N17K				IAML		06 42 14.8	
	comp=N,9.6nm,0.7s						
BPAW	**Bear Paw Mtn.**	**3.07**	**3**	Pn	Pn	06 41 44.4	+0.2
BPAW				IAML		06 42 21.2	
	comp=N,24nm,0.5s						
N25K	**Chitina, Valde**	**3.33**	**77**	Pn	Pn	06 41 46.6	-1.1
N25K				IAML		06 42 39.9	
	comp=E,9.8nm,0.8s						
N25K				IAML		06 42 46.4	
	comp=N,11nm,0.8s						
J20K	**Nowinta River**	**3.39**	**339**	Pn	Pn	06 41 47.9	-0.6
J20K				IAML		06 42 30.2	
	comp=N,8.8nm,0.6s						
PAX	**Paxson**	**3.40**	**53**	Pn	Pn	06 41 48.5	-0.2
PAX				IAML		06 42 40.9	
	comp=N,11nm,0.8s						
PAX				IAML		06 42 46.6	
	comp=E,8.9nm,0.6s						
J18K	**Innoko River**	**3.48**	**317**	Pn	Pn	06 41 49.1	-0.6
J19K	**Poorman**	**3.55**	**328**	Pn	Pn	06 41 50.1	-0.6
O16K	**Kokwok River B**	**3.63**	**249**	Pn	Pn	06 41 51.8	-0.1
GLB	**Gilahina Butte**	**3.69**	**80**	Pn	Pn	06 41 51.3	-1.4
GLB				IAML		06 42 48.6	
	comp=E,8.8nm,1.2s						
GLB				IAML		06 42 55.9	
	comp=N,8.4nm,0.8s						
L16K	**Owhat River**	**3.94**	**283**	Pn	Pn	06 41 55.5	-0.6
M26K	**Nabesna, AK**	**4.22**	**68**	Pn	Pn	06 42 00.2	+0.3
M26K				IAML		06 43 17.1	
	comp=N,4.8nm,1.1s						
M26K				IAML		06 43 51.2	
	comp=E,4.3nm,0.4s						
N15K	**Kwethluk River**	**4.38**	**262**	Pn	Pn	06 42 01.9	-0.1
N15K				IAML		06 43 04.0	
	comp=E,5.0nm,1.0s						
N15K				IAML		06 43 51.7	
	comp=N,4.6nm,0.9s						
SCRK	**Sand Creek**	**4.52**	**46**	Pn	Pn	06 42 03.5	-0.6
SCRK				IAML		06 43 07.5	
	comp=N,5.5nm,0.4s						
SCRK				IAML		06 43 10.1	
	comp=E,4.0nm,0.6s						
J25K	**Salcha River,**	**4.52**	**35**	Pn	Pn	06 42 04.4	+0.4
J25K				IAML		06 43 06.6	
	comp=N,9.5nm,0.3s						
J25K				IAML		06 43 08.3	
	comp=E,8.3nm,0.7s						
H21K	**Melozitna River**	**4.67**	**353**		Pn	06 42 05.7	-0.3
H21K				IAML		06 43 33.9	
	comp=E,7.9nm,0.4s						
H21K				IAML		06 43 35.2	
	comp=N,6.0nm,0.4s						
H18K	**Honhosa River**	**5.20**	**326**	Pn	Pn	06 42 13.0	-0.2
E24K	**Your Creek**	**7.17**	**9**	Pn	Pn	06 42 40.8	+0.6

IDC 04 06:50:23.7±2.2, 73°.03S×128°.25E, h0km, mb3.3/1, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=153.7km s-min=33.1km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.13**	**156**	Pn	Pn	06 53 45.6	+0.3
WRA				Sn	Sn	06 56 07.5	-16
	0.1nm,0.3s,baz=335,slow=11,SNR=5.9						
	0.5nm,0.3s,baz=328,slow=23,SNR=6.0						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**17.41**	**162**	P	Pn	06 54 28.0	-0.3
	0.1nm,0.3s,baz=339,slow=11,SNR=1.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.31**	**328**	P	P	07 01 20.5	0.0
	0.2nm,0.5s,baz=120,slow=8.3,SNR=4.4						
	0.2nm,0.5s						

ASRS ***04*** *07:00:00.0±0.7, 54°.21N×86°.41E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 04 07:00:04.8±2.4, 54°.17N×86°.31E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=18.2km s-min=10.8km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**257**	I	I	07 05 00.0	
	baz=74,slow=324,SNR=1.9						
ZALV	**Zalesovo Beam**	**0.91**	**257**	Pg	Pg	07 00 20.6	-1.6
	3.6nm,0.3s,baz=73,slow=17,SNR=27						
ZALV				Lg	Lg	07 00 35.7	
	7.7nm,0.3s,baz=78,slow=31,SNR=25						
KURBB	**Kurchatov Arra**	**5.94**	**236**	Pn	Pn	07 01 34.8	+0.9
	0.1nm,0.3s,baz=53,slow=13,SNR=4.8						
KURBB				Sn	Sn	07 02 42.6	-0.1
	baz=52,slow=25						
KURBB				Lg	Lg	07 03 13.7	
	0.1nm,0.3s,baz=50,slow=32,SNR=5.8						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	07 02 01.0	+1.3
	0.2nm,0.3s,baz=24,slow=14,SNR=9.5						
MKAR				Sn	Sn	07 03 28.1	-0.7
	0.1nm,0.3s,baz=17,slow=23,SNR=2.6						
MKAR				Lg	Lg	07 04 12.6	
	0.1nm,0.3s,baz=18,slow=32,SNR=5.7						
	0.3nm,0.3s						

IDC ***04*** *07:06:43.8±0.9, 12°.78S×45°.40E, h0km, mb4.1/6, mbtmp4.2/9, ML4.5/3, MS3.5/3, Error ellipse: s-maj=25.3km s-min=22.8km az=118.0*

NEIC ***04*** *07:06:45.8±1.0, 12°.87S±0°.09×45°.3E±0°.2, h10km±2km, mb4.5/6, Error ellipse: s-maj=35.5km s-min=5.2km az=66.0*

ISC 04 07:06:45.0±0.7, 12°.94S±0°.07×45°.4E±0°.1, h10km, n30, σ2°29/36, mb4.2/8, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.85**	**163**	Pn	**Pn**	**07 08 14.1**	**+2.2**
	3.2nm,0.3s,baz=337,slow=12,SNR=216						
OPO				Sn	**Sn**	**07 09 15.9**	**-3.3**
	5.3nm,0.3s,baz=244,slow=23,SNR=15						
OPO				LR	LR	07 10 44.7	
	comp=Z,209nm,18.3s,baz=182,slow=40						
	107nm,0.5s						
OPO	**Ambohidratompo**	**5.85**	**163**	P	**Pn**	**07 08 14.5**	**+2.5**
OPO				S	**Sn**	**07 09 16.2**	**-3.1**
FIRM	**Firavahana**	**5.90**	**166**	S	**Sn**	**07 09 17.0**	**-3.4**
FIRM				P	**Pn**	**07 08 15.2**	**+2.5**
ATG	**Ambohiby**	**5.95**	**173**	P	**Pn**	**07 08 15.8**	**+2.4**
ATG				S	**Sn**	**07 09 18.8**	**-2.9**
ABPO	**Ambohimpanom**	**6.29**	**164**	Pn	**Pn**	**07 08 19.7**	**+1.7**
MDSM	**Mandiavato**	**6.30**	**166**	P	**Pn**	**07 08 20.8**	**+2.6**
MDSM				S	**Sn**	**07 09 27.0**	**-3.4**
DGRM	**Ambatolahisoa**	**6.36**	**171**	P	**Pn**	**07 08 21.5**	**+2.6**
DGRM				S	**Sn**	**07 09 29.4**	**-2.3**
AVY	**Angavokely**	**6.36**	**160**	P	**Pn**	**07 08 20.6**	**+1.6**
AVY				S	**Sn**	**07 09 26.3**	**-5.5**
ABM	**Ambohimiarambe**	**7.05**	**165**	P	**Pn**	**07 08 31.0**	**+2.4**
VOI	**Vohitsoka**	**9.01**	**172**	Pn	**Pn**	**07 08 57.1**	**+1.7**
FOMA	**Nahampoana Res**	**12.06**	**173**	Pn	**Pn**	**07 09 37.4**	**+0.4**
KIBK	**Kibwezi**	**12.81**	**325**	Pn	**Pn**	**07 09 44.9**	**-2.5**
KMBO	**Kilima Mbogo**	**14.26**	**325**	Pn	**Pn**	**07 10 05.7**	**-1.6**
KMBO	**Kilima Mbogo**	**14.26**	**325**	Pn	**Pn**	**07 10 03.7**	**-3.6**
	0.4nm,0.3s,baz=129,slow=14,SNR=1.7						
KMBO				Sn	Sn	07 12 31.6	-14
	0.3nm,0.3s,baz=84,slow=20,SNR=1.6						
KMBO				LR	LR	07 14 52.0	
	comp=Z,99nm,18.4s,baz=88,slow=35						
	1.1nm,0.3s						
LSZ	**Lusaka**	**16.87**	**260**	P	**P**	**07 10 42.9**	**-0.7**
LSZ	**Lusaka**	**16.87**	**260**	Pn	**Pn**	**07 10 42.6**	**+1.0**
	0.5nm,0.3s,baz=86,slow=13,SNR=6.7						
LSZ				Sn	Sn	07 13 37.7	-12
	0.9nm,0.3s,baz=278,slow=2.9,SNR=3.8						
	4.5nm,0.6s						
LBTB	**Lobatse**	**22.23**	**234**	P	**P**	**07 11 42.3**	**+0.3**
LBTB				IAmb	IAmb	07 11 46.5	
	comp=Z,8.1nm,0.9s						
LBTB	**Lobatse**	**22.23**	**234**	P	**P**	**07 11 43.0**	**+1.0**
	comp=Z,5.4nm,0.8s,baz=70,slow=12,SNR=6.3						
	comp=Z,5.4nm,0.8s						
BOSA	**Boshof**	**24.41**	**227**	P	**P**	**07 12 03.7**	**-0.2**
BOSA				IAmb	IAmb	07 12 08.2	
	comp=Z,7.2nm,0.9s						
BOSA	**Boshof**	**24.41**	**227**	P	**P**	**07 12 05.0**	**+1.1**
	comp=Z,3.9nm,0.8s,baz=56,slow=8.1,SNR=7.3						
	comp=Z,3.9nm,0.8s						
SUR	**Sutherland**	**29.70**	**225**	P	**P**	**07 12 52.6**	**+1.1**
BORA	**Eskisehir**	**54.36**	**346**	P	**P**	**07 16 11.7**	**-0.3**
BORA				IAmb	IAmb	07 16 25.4	
	comp=Z,12nm,1.5s						
GERES	**GERESS Array B**	**67.62**	**338**	P	**P**	**07 17 41.9**	**-0.1**
	comp=Z,0.2nm,0.2s,baz=156,slow=5.0,SNR=2.9						
	comp=Z,0.2nm,0.2s						
MKAR	**Makanchi Array**	**68.03**	**26**	P	**P**	**07 17 44.7**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=216,slow=6.4,SNR=1.3						
QSPA	**South Pole Qui**	**77.16**	**180**	P	**P**	**07 18 40.5**	**+1.7**
QSPA				IAmb	IAmb	07 18 42.0	
	comp=Z,8.8nm,1.2s						
QSPA	**South Pole Qui**	**77.16**	**180**	P	**P**	**07 18 40.6**	**+1.9**
	comp=Z,3.4nm,1.0s,baz=242,slow=4.4,SNR=5.1						
	comp=Z,3.4nm,1.0s						
ASAR	**Alice Springs**	**83.54**	**113**	P	**P**	**07 19 14.8**	**+0.9**
	comp=Z,1.6nm,1.0s,baz=264,slow=4.4,SNR=7.0						
	comp=Z,1.6nm,1.0s						
WRA	**Warramunga Arr**	**84.68**	**109**	P	**P**	**07 19 20.3**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=257,slow=4.6,SNR=6.6						
	comp=Z,1.8nm,0.9s						
CPUP	**Villa Florida**	**95.45**	**242**	LR	LR	08 00 22.8	
	comp=Z,59nm,21.7s,baz=210,slow=34						
TXAR	**Lajitas Array**	**147.01**	**305**	PKPbc	**PKPdf**	**07 26 27.7**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=8.7,slow=3.0,SNR=2.9						

IDC ***04*** *07:10:08.5±3.1, 53°.58N×87°.82E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=26.8km s-min=15.3km az=62.0*

ASRS 04 07:10:05.0±1.0, 53°.59N×87°.90E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**282**	I	I	07 22 30.0	
	0.1nm,1.0s,baz=98,slow=327,SNR=5.9						
ZALV	**Zalesovo Beam**	**1.86**	**282**	Pg	Pg	07 10 40.9	+0.2
	1.6nm,0.3s,baz=101,slow=15,SNR=19						
ZALV				Lg	Lg	07 11 05.8	
	2.4nm,0.3s,baz=102,slow=32,SNR=13						
KURBB	**Kurchatov Arra**	**6.49**	**247**	Pn	Pn	07 11 45.4	+3.7
	0.2nm,0.3s,baz=61,slow=14,SNR=7.5						
KURBB				Lg	Lg	07 13 34.9	
	0.1nm,0.3s,baz=63,slow=24,SNR=1.9						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	07 12 02.6	+4.4
	0.1nm,0.3s,baz=28,slow=13,SNR=4.8						
MKAR				Sn	Sn	07 13 27.9	+1.8
	0.1nm,0.3s,baz=26,slow=24,SNR=2.7						
MKAR				Lg	Lg	07 14 09.7	
	0.1nm,0.3s,baz=24,slow=32,SNR=5.5						
	0.2nm,0.3s						

SDD ***04*** *07:12:27.4±2.1, 18°.35N×71°.36W, h19km±13km, MD2.8, ML2.4, MW2.8*

OSPL ***04*** *07:12:28.7±1.7, 18°.41N×71°.43W, h8km±39km, ML2.0*

ISC 04 07:12:27.3±1.0, 18°.38N±0°.03×71°.39W±0°.04, h16km±8km, n11, σ1°50/19, 11C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEDR	**Neiba UASD**	**0.10**	**347**	⇑*e*Pg	**Pg**	**07 12 30.9**	**+0.2**
NEDR				⇑*e*Sg	**Sb**	**07 12 34.3**	**+1.0**
NEDR				IAML		07 12 41.0	
	comp=N,980nm,0.3s						
PODR	**Polo**	**0.24**	**154**	⇑*e*Pg	**Pg**	**07 12 33.6**	**+0.8**
PODR				IAML		07 12 39.9	
	comp=N,478nm,0.2s						
PODR	**Polo**	**0.24**	**154**	*i* P	**Pg**	**07 12 33.5**	**+0.8**
PODR				*e*S	**Sb**	**07 12 38.3**	**+0.9**
JIDR	**Jimani**	**0.45**	**284**	⇑*e*Pg	**Pg**	**07 12 35.8**	**-0.5**
JIDR				⇑*e*Sg	**Sg**	**07 12 43.4**	**+1.0**
LOBH	**Bahia de las A**	**0.57**	**204**	*i* P	**Pg**	**07 12 38.3**	**-0.2**
LOBH				IAML		07 12 54.0	
	comp=Z,126nm,0.6s						
LOVI	**El Cajuil, Ovi**	**0.58**	**178**	*i* P	**Pg**	**07 12 39.1**	**+0.4**
LOVI				*e*S	**Sb**	**07 12 48.5**	**+1.5**
LOVI				IAML		07 12 49.0	
	comp=Z,111nm,0.7s						
SDDR	**Presa de Saban**	**0.61**	**9**	⇑*e*Pg	**Pg**	**07 12 39.7**	**+0.4**
SDDR				⇑*e*Sg	**Sg**	**07 12 47.3**	**-0.1**
SDDR	**Presa de Saban**	**0.61**	**9**	*i* P	**Pg**	**07 12 39.7**	**+0.4**
SDDR				IAML		07 13 00.7	
	comp=Z,60nm,0.5s						
REDR	**Restauracion**	**0.78**	**360**	⇑*e*Pg	**Pn**	**07 12 44.7**	**+1.1**
REDR				⇑*e*Sg	**Sn**	**07 12 57.9**	**+3.0**
REDR				IAML		07 12 58.8	
	comp=N,89nm,0.1s						
PAPH	**Port-au-Prince**	**0.87**	**279**	*i* P	**Pg**	**07 12 42.7**	**-1.5**
PAPH				*e*S	**Sg**	**07 12 55.4**	**-0.3**
PAPH				IAML		07 13 01.8	
	comp=Z,25nm,0.7s						
BANI	**BANI**	**0.98**	**89**	⇑*e*Pg	**Pb**	**07 12 42.6**	**-3.4**
BANI				⇑*e*Sg	**Sb**	**07 12 57.0**	**-1.7**

NEIC ***04*** *07:22:00

SOEI	Soe	4.88	99	P	Pn	07 23 13.4	+1.4
SPSI	Sidrap Palu	5.06	5	P	Pn	07 23 17.4	+3.0
	0.3nm46nm,0.5s						
JAGI	Jajag, Banyuwa	5.19	276	Pn	Pn	07 23 15.3	-0.8
JAGI	Jajag, Banyuwa	5.19	276	P	Pn	07 23 15.8	-0.3
JAGI	Jajag, Banyuwa	5.19	276	P	Pn	07 23 16.1	0.0
ABJI	Asem Bagus	5.23	283	P	Pn	07 23 16.6	0.0
	0.5nm2μm96nm,0.6s						
KMMI	Kalianget	5.71	290	P	Pn	07 23 24.7	+1.6
	45nm,0.6s						
GMJI	Gumukmas	5.91	277	P	Pn	07 23 24.8	-1.1
	0.8nm4μm140nm,0.5s						
PCJI	Pacitan	8.15	275	P	Pn	07 23 56.7	+0.3
UGM	Wanagama	8.82	277	Pn	Pn	07 24 07.3	+1.6
UGM	Wanagama	8.82	277	P	Pn	07 24 07.2	+1.6
FITZ	Fitzroy Crossi	10.87	147	Pn	Pn	07 24 31.8	-1.6
FITZ	Fitzroy Crossi	10.87	147	P	Pn	07 24 31.6	-1.8
	7.8nm,0.7s,baz=343,slow=7.6,SNR=20						
FITZ				S	Sn	07 26 24.7	-8.4
	23nm,0.5s,baz=176,slow=19,SNR=16						
KNRA	Kununurra	11.29	127	Pn	Pn	07 24 37.5	-1.7
BBJI	Bungbulang	11.71	277	P	Pn	07 24 44.7	-0.1
MBWA	Marble Bar	12.05	178	Pn	Pn	07 24 47.6	-1.8
MBWA	Marble Bar	12.05	178	P	Pn	07 24 47.6	-1.8
MTN	Manton Dam	12.15	109	Pn	Pn	07 24 48.6	-2.1
MTN	Manton Dam	12.15	109	P	Pn	07 24 50.9	+0.2
PSA00	Pilbara Seismi	12.46	178	Pn	Pn	07 24 53.0	-1.9
PSA00	Pilbara Seismi	12.46	178	P	Pn	07 24 53.8	-1.1
KDU	Kakadu	13.37	107	P	Pn	07 25 06.6	-0.2
FAKI	Fak Fak	14.18	65	Pn	Pn	07 25 16.2	-1.2
GIRL	Giralia	14.39	199	Pn	Pn	07 25 18.9	-1.2
GIRL	Giralia	14.39	199	P	Pn	07 25 20.4	+0.3
MNAI	Manna	16.95	285		Pn	07 25 49.8	-2.5
MNAI				IAmb	IAmb	07 26 28.0	
	comp=Z,76nm,0.9s						
MNAI	Manna	16.95	285	P	P	07 25 54.3	+1.6
MEEK	Meekatharra	17.51	182	P	Pn	07 26 01.0	+1.9
WB0	Warramunga Arr	18.02	128	P	P	07 26 04.0	-0.5
WB0				IAmb	IAmb	07 26 12.8	
	comp=Z,12nm,0.5s						
WRKA	Warakurna	18.04	153	P	Pn	07 26 06.6	+1.2
WRA	Warramunga Arr	18.08	128	P	P	07 26 04.1	-1.0
WRA	Warramunga Arr	18.08	128	P	P	07 26 05.4	+0.3
	comp=Z,2.0nm,0.4s,baz=306,slow=12,SNR=39						
WRA				S	S	07 29 17.5	-10
	comp=Z,5.0nm,0.7s,baz=306,slow=19,SNR=9.8						
AS31	Alice Springs	20.12	138	P	P	07 26 28.3	+0.9
ASAR	Alice Springs	20.12	138	P	P	07 26 28.7	+1.3
	comp=Z,17nm,0.7s,baz=315,slow=9.9,SNR=226						
ASAR				S	S	07 30 05.5	-2.8
	comp=Z,6.1nm,0.7s,baz=316,slow=19,SNR=6.6						
ASAR				LR	LR	07 35 19.7	
	comp=Z,60nm,18.3s,baz=316,slow=39						
	comp=Z,17nm,0.7s						
AS01	Alice Springs	20.15	138	P	P	07 26 29.2	+1.5
BLDU	Ballidu	21.61	186	P	P	07 26 44.1	+0.9
QIS	Mount Isa	22.63	123	P	P	07 26 54.2	0.0
FORT	Forrest	23.09	161	P	P	07 26 59.0	+0.4
FORT				IAmb	IAmb	07 27 00.3	
	comp=Z,31nm,0.8s						
FORT	Forrest	23.09	161	P	P	07 26 59.9	+1.3
RPSI	Rantau Prapat	23.48	299	P	P	07 26 59.7	-2.7
COEN	Coen	23.82	104	P	P	07 27 05.7	+0.2
COEN				IAmb	IAmb	07 27 07.3	
	comp=Z,15nm,0.9s						
COEN	Coen	23.82	104	P	P	07 27 06.2	+0.7
NWAO	Narrogin (SRO)	23.85	184	P	P	07 27 04.8	-0.7
NWAO				IAmb	IAmb	07 27 08.1	
	comp=Z,37nm,1.0s						
NWAO	Narrogin (SRO)	23.85	184	P	P	07 27 07.5	+2.0
OOD	Oodnadatta	24.18	143	P	P	07 27 09.5	+1.0
LCRK	Leigh Creek	27.62	143	P	P	07 27 41.4	+1.8
BBOO	Buckleboo	28.24	149	P	P	07 27 45.5	+0.4
HTT	Hallett	30.23	146	P	P	07 28 04.5	+1.7
STKA	Stephens Creek	30.69	141	P	P	07 28 07.4	+0.6
STKA	Stephens Creek	30.69	141	P	P	07 28 08.2	+1.4
	comp=Z,3.6nm,0.5s,baz=316,slow=9.3,SNR=8.6						
STKA				LR	LR	07 41 51.3	
	comp=Z,36nm,20.8s,baz=22,slow=39						
	comp=Z,3.6nm,0.5s						
CMAR	Chiang Mai Arr	33.96	324	P	P	07 28 35.7	+0.2
	comp=Z,2.4nm,0.5s,baz=154,slow=6.7,SNR=11						
	comp=Z,2.4nm,0.5s						
ARPS	Mount Arapiles	34.31	147	P	P	07 28 39.5	+1.2
PZH	PanZhiHua	39.27	335	P	P	07 29 21.5	+0.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,130nm,6.1s						
NJ2	Nanjing	40.87	359	eP	P	07 29 34.8	+1.2
NJ2				pmax	pmax		
	comp=Z,21nm,0.5s						
SHL	Shillong	43.58	323	P	P	07 29 54.0	-2.0
SHL				IAmb	IAmb	07 29 56.0	
	comp=Z,12nm,0.9s						
H08S2	Diego Garcia H	46.38	268	T	T	08 19 59.0	
	baz=95,slow=75,SNR=14						
H08S3	Diego Garcia H	46.39	268	T	T	08 19 59.7	
	baz=95,slow=75,SNR=11						
H08S1	Diego Carcia H	46.40	268	T	T	08 20 00.4	
	baz=95,slow=75,SNR=6.8						
HHC	Hu-ho-hao-te	50.16	352	eP	P	07 30 51.6	+4.7
HHC				pmax	pmax		
	comp=Z,22nm,0.5s						
HHC				pmax	pmax		
	comp=Z,150nm,4.5s						
GTA	Gaotai	51.52	341	eP	P	07 31 00.3	+3.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
USRK	Ussuriysk Ar.	54.21	11	P	P	07 31 15.2	-1.5
	comp=Z,1.2nm,0.5s,baz=186,slow=7.1,SNR=2.2						
	comp=Z,1.2nm,0.5s						
SONM	Songino Array	57.79	350	P	P	07 31 40.9	-1.4
SONM	Songino Array	57.79	350	P	P	07 31 41.5	-0.8
	comp=Z,1.8nm,0.6s,baz=170,slow=7.6,SNR=14						
	comp=Z,1.8nm,0.6s						
WMQ	Urumqi	59.95	334	eP	P	07 31 59.1	+1.8
WMQ				LR	LR		
	comp=N,1μm,14.3s						
WMQ				LR	LR		
	comp=E,2μm,17.7s						
WMQ				LR	LR		
	comp=Z,320nm,19.9s						
KBL	Kabul	64.38	315	P	P	07 32 24.8	-2.5
KBL				IAmb	IAmb	07 32 26.2	
	comp=Z,7.1nm,0.7s						
MK31	Makanchi Array	64.66	333	P	P	07 32 26.8	-1.8
MK31				IAmb	IAmb	07 32 28.2	
	comp=Z,3.5nm,1.2s						
MKAR	Makanchi Array	64.66	333	P	P	07 32 27.0	-1.7
MKAR	Makanchi Array	64.66	333	P	P	07 32 27.4	-1.2
	comp=Z,1.3nm,0.5s,baz=151,slow=7.4,SNR=19						
	comp=Z,1.3nm,0.5s						
DRK	Karamyk	65.36	321	P	P	07 32 32.8	-0.9
ARSB	Arslanbob	65.77	323	P	P	07 32 34.6	-1.5
ARSB				IAmb	IAmb	07 32 36.4	
	comp=Z,5.3nm,1.0s						
GAR	Garm	66.02	320	P	P	07 32 35.6	-2.1
GAR				IAmb	IAmb	07 32 37.0	
	comp=Z,10nm,0.7s						
H04N2	CROZET ISLANDS	68.02	224	T	T	08 48 01.3	
	baz=85,slow=75,SNR=10						
H04N1	CROZET ISLANDS	68.04	224	T	T	08 48 14.5	
	baz=85,slow=75,SNR=11						
H04N3	CROZET ISLANDS	68.04	224	T	T	08 48 13.6	
	baz=85,slow=75,SNR=9.6						
KURBB	Kurchatov Arra	69.17	334	P	P	07 32 55.7	-1.4
	comp=Z,0.9nm,0.5s,baz=140,slow=5.6,SNR=12						
	comp=Z,0.9nm,0.5s						
KURK	Kurchatov	69.20	334	P	P	07 32 55.8	-1.5
KURK				IAmb	IAmb	07 32 56.5	
	comp=Z,5.0nm,1.1s						
ZALV	Zalesovo Beam	69.21	339	P	P	07 32 54.8	-2.5
ZALV	Zalesovo Beam	69.21	339	P	P	07 32 55.1	-2.1
	comp=Z,1.3nm,0.3s,baz=139,slow=5.5,SNR=7.7						
	comp=Z,1.3nm,0.3s						
VNDA	Vanda	71.89	171	P	P	07 33 14.8	+1.5
VNDA	Vanda	71.89	171	P	P	07 33 14.9	+1.7
	comp=Z,0.8nm,0.7s,baz=59,slow=7.4,SNR=3.3						
	comp=Z,0.8nm,0.7s						
BVAR	Borovoye Array	74.51	332	P	P	07 33 28.1	-1.0
	comp=Z,0.3nm,0.3s,baz=130,slow=6.0,SNR=2.4						
	comp=Z,0.3nm,0.3s						
ABKAR	Akbulak array	77.81	325	P	P	07 33 45.0	-2.8
RAYN	Ar Rayn	79.05	296	P	P	07 33 53.0	-2.3
QSPA	South Pole Qui	80.95	180	P	P	07 34 06.0	+1.2
	comp=Z,1.4nm,0.6s,baz=279,slow=1.2,SNR=14						
	comp=Z,1.4nm,0.6s						
ARTI	Arti	82.15	331	LR	LR	08 13 01.3	
	comp=Z,98nm,20.7s,baz=102,slow=37						
TORD	Torodi Ar. Bea	118.83	280	PKP	PKPdf	07 40 39.0	-0.3
	comp=Z,0.8nm,0.3s,baz=97,slow=2.3,SNR=1.7						
CPUP	Villa Florida	144.69	185	PKP	PKPab	07 41 26.7	+0.5
	comp=Z,2.8nm,0.8s,baz=191,slow=3.7,SNR=8.2						
LPAZ	La Paz	153.76	164	PKPab	PKPab	07 42 04.5	+0.9
	comp=Z,0.8nm,0.6s,baz=123,slow=2.3,SNR=3.6						

RSNC 04 07:29:21.5±0.0, 7°N±1°×7°3W±°, h152km±2km, M2.7, mB4.4, mb3.1, ML2.5, Mw(mB)3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	187	P	Pn	07 29 42.0	-0.5
BARC				S	Sn	07 29 56.3	-2.2
BRJC	Barrancabermej	0.60	281	P	Pn	07 29 43.7	+0.1
BRJC				S	Sn	07 30 00.9	+0.5
PAMC	Pamplona, Colo	0.65	43	P	Pn	07 29 44.8	+0.3
PAMC				S	Sn	07 30 00.4	-1.6
PAMC	Pamplona, Colo	0.65	43	S	Sn	07 30 00.5	-1.5
RUSC	La Rusia	0.96	176	P	Pn	07 29 45.9	-0.9
RUSC				S	Sn	07 30 04.5	-1.5
PTBC	PUERTO BERRIO,	1.34	256	P	Pn	07 29 48.2	-1.4
PTBC				S	Sn	07 30 09.6	-1.4
OCAC	Ocana	1.38	353	P	Pn	07 29 47.0	-3.2
OCAC				S	Sn	07 30 12.1	-0.1
OCAC	Ocana	1.38	353	P	Pn	07 29 46.9	-3.3
TAMC	Tame, Arauca	1.41	107	P	Pn	07 29 50.3	-0.1
TAMC				S	Sn	07 30 12.1	-0.4
ZARC	Zaragoza, Cauc	1.81	290	P	Pn	07 29 54.1	-0.5
ZARC				S	Sn	07 30 19.4	-0.6
NORC	Norcasia	2.14	233	P	Pn	07 29 57.7	-0.8
NORC				S	Sn	07 30 26.1	-0.8
CHIC	Chingaza	2.29	195	P	Pn	07 29 59.9	-0.7
CHIC				S	Sn	07 30 30.0	-0.7
ROSC	El Rosal	2.32	210	P	Pn	07 30 01.7	+0.7
ROSC				S	Sn	07 30 33.4	+2.1
HELC	Santa Helena	2.46	254	P	Pn	07 30 02.7	+0.2
HELC				S	Sn	07 30 34.6	+0.5
CVER	Cruz Verde, Cu	2.50	202	P	Pn	07 30 03.3	+0.1
CVER				S	Sn	07 30 37.3	+2.0
UREC	San Jos de Ur	2.52	291	P	Pn	07 30 01.3	-1.7
UREC				S	Sn	07 30 32.4	-2.7
GUY2C	Guyana, Caldas	2.74	234	P	Pn	07 30 06.9	+0.8
GUY2C				S	Sn	07 30 41.5	+1.0
VILC	Villavicencio,	2.78	191	P	Pn	07 30 04.6	-1.8
VILC				S	Sn	07 30 40.6	-0.5
PTGC	Puerto Gaitan,	2.83	159	P	Pn	07 30 05.2	-1.7
PTGC				S	Sn	07 30 38.2	-3.7
NIZA	Niza - Manizal	2.92	232	P	Pn	07 30 08.9	+0.6
NIZA				S	Sn	07 30 44.0	-0.4
CBOC	Ciudad Bolivar	3.01	251	P	Pn	07 30 09.1	-0.2
CBOC				S	Sn	07 30 44.5	-1.7
DBBC	Dabeiba	3.04	273	P	Pn	07 30 09.7	+0.1
DBBC				S	Sn	07 30 44.0	-2.7
ARGC	Ariguani, Magd	3.17	340	P	Pn	07 30 11.9	+0.8
ARGC				S	Sn	07 30 48.6	-1.0
SDV	Santo Domingo	3.20	51	P	Pn	07 30 11.6	-0.1
SDV				S	Sn	07 30 47.9	-2.7
ANIL	Santa Ana	3.25	224	P	Pn	07 30 13.3	+0.9
ANIL				S	Sn	07 30 53.1	+1.2
APAC	Apartado, Choc	3.56	287	P	Pn	07 30 15.0	-1.1
APAC				S	Sn	07 30 56.3	-2.1
PRAC	Prado	3.57	209	P	Pn	07 30 15.5	-0.8
PRAC				S	Sn	07 30 58.2	-0.7
ORTC	Ortega, Tolima	3.60	216	P	Pn	07 30 15.8	-0.9
ORTC				S	Sn	07 30 59.8	+0.3
SJCC	San Jacinto, C	3.62	326	P	Pn	07 30 15.5	-1.5
SJCC				S	Sn	07 30 57.0	-3.1
URMC	La Uribe, Meta	3.79	199	P	Pn	07 30 18.9	-0.3
URMC				S	Sn	07 31 02.9	-1.2
CRJC	Cerrejon, Guaj	4.14	4	P	Pn	07 30 21.6	-2.2
CRJC				S	Sn	07 31 10.3	-2.0
GUVC	San Jose del G	4.32	173	P	Pn	07 30 24.3	-1.7
GUVC				S	Sn	07 31 13.4	-2.9
SMRC	Santa Marta, M	4.41	346	P	Pn	07 30 26.6	-0.6
SMRC				S	Sn	07 31 14.4	-3.9
URIC	Uribia, Colomb	4.95	13	P	Pn	07 30 32.2	-2.0
URIC				S	Sn	07 31 29.5	-1.5
GARC	Garzon, Huila	5.20	207	P	Pn	07 30 35.8	-2.0
POPC	Popayan, Colom	5.55	219	P	Pn	07 30 43.9	+1.4
	1.8nm,0.8s						
POPC				S	Sn	07 31 46.0	+0.3
	1.8nm,0.8s						
FLOC	Florencia	5.81	206	P	Pn	07 30 44.3	-1.4
	2.8nm,1.3s						
FLOC				S	Sn	07 31 50.8	-0.8
	2.8nm,1.3s						
BBAC	Balboa, Cauca	6.31	221	P	Pn	07 30 52.7	+0.1
BBAC				S	Sn	07 32 02.1	-1.8

RSNC 04 07:29:38.3±0.0, 8°N±1°×7°3W±°, h7km±2km, M1.7, ML1.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZNC	La Esperanza	0.12	202	P	Pg	07 29 41.2	+0.2
EZNC				S	Sg	07 29 44.0	+1.2
VMM05	San Martn	0.33	300	P	Pg	07 29 44.8	0.0
VMM05				S	Sg	07 29 49.4	+0.3
OCAC	Ocana	0.50	354	S	Sg	07 29 54.0	-0.5
VMM09	Lebrija	0.61	182	P	Pg	07 29 49.3	-0.8
VMM09				S	Sg	07 29 58.0	-0.1
PAMC	Pamplona, Colo	0.69	125	P	Pg	07 29 50.9	-0.8
BRJC	Barrancabermej	0.90	212	P	Pg	07 29 54.0	-1.5

*MOS **04** 07:45:26.9±1.0, 25°.41N×94°.45E, h50km, mb5.4/82, MS4.2/7, Error ellipse: s-maj=5.9km s-min=3.4km az=120.4*

*BJI **04** 07:45:27.1, 25°.51N×94°.44E, h55km, mB5.2/39, mb5.2/76, ML5.1/7, Ms4.7/78, Ms7 4.4/75*

*IDC **04** 07:45:28.7±1.1, 25°.40N×94°.54E, h52km±9km, mb4.5/34, mbtmp4.8/35, MS4.0/58, Error ellipse: s-maj=9.2km s-min=8.0km az=162.0*

*NEIC **04** 07:45:30.1, 25°.76N×94°.00E, h60km, Moment Tensor Solution. Duration: 1ŝ6 Moment tensor: Scale 10^{16}Nm; M_{rr}0.51; $M_{\theta\theta}$-1.89; $M_{\phi\phi}$ 1.38; $M_{r\theta}$-0.52; $M_{\theta\phi}$4.39; $M_{\phi r}$1.67; Fault plane solution: $M_0$4.99000×10^{16} NP1:ϕ_s79.65000°, δ69.55000°, λ0.95000°. NP2:ϕ_s349.31000°, δ89.11000°, λ159.55000°. Principal axes: T 4.7163, Plg15.0000°, Azm303.0000°; N 0.5566, Plg70.0000°, Azm167.0000°; P -5.2729, Plg14.0000°, Azm36.0000°;*

*NEIC **04** 07:45:30.1, 25°.46N×94°.43E, h60km*

*NDI **04** 07:45:30.4, 25°.44N×94°.41E, h60km, mb5.2, ML5.1, MW5.1*

*GCMT **04** 07:45:30.4±0.2, 25°.48N±0°.01×94°.41E±0°.01, h39km±1km, MW5.1/113, Moment Tensor Solution. s69, c84; s113, c173; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.30±.15; $M_{\theta\theta}$-2.18±.12; $M_{\phi\phi}$1.87±.11; $M_{r\theta}$-0.56±.14; $M_{\theta\phi}$4.80±.10; $M_{\phi r}$2.76±.14; Best double couple: $M_0$5.92500×10^{16} NP1:ϕ_s79.00000°, δ62.00000°, λ2.00000°. NP2:ϕ_s348.00000°, δ88.00000°, λ151.00000°. Principal axes: T 5.8220, Plg21.0000°, Azm300.0000°; N 0.1970, Plg61.0000°, Azm165.0000°; P -6.0290, Plg18.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **04** 07:45:30.4±1.1, 25°.45N±0°.06×94°.42E±0°.07, h62km±6km, mb5.3/196, Mww5.1/11 Error ellipse: s-maj=9.2km s-min=7.9km az=61.0*

ISC 04 07:45:29.4±0.2, 25°.47N±0°.03×94°.41E±0°.02, h55km±1km, h55km:pP-P, n1074, σ1ŝ22/1227, mb5.2/264, MS4.0/78, 47C-46D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOHI	KOHIMA	0.37	312	eP	Pn	07 45 41.5	+1.7
KOHI				IAML		07 45 49.0	
	comp=N,90μm,0.5s						
KOHI				IAML		07 45 49.0	
	comp=E,99μm,0.3s						
KOHI				eS	Sn	07 45 49.7	+2.3
IMP	Imphal	0.76	214	eP	Pn	07 45 45.1	+0.8
IMP				eS	Sn	07 45 55.8	+0.6
IMP				IAML		07 45 59.6	
	comp=N,49μm,0.7s						
IMP				IAML		07 45 60.0	
	comp=E,54μm,0.5s						
ITAN	ITANAGAR	1.78	340	eP	Pn	07 45 59.5	+1.7
ITAN				eS	Sn	07 46 20.5	+1.1
ITAN				IAML		07 46 29.2	
	comp=N,62μm,0.3s						
ITAN				IAML		07 46 29.7	
	comp=E,76μm,0.4s						
ZIRO	ZIRO	2.11	346	eP	Pn	07 46 02.9	+0.4
LKP	Lekhapani	2.26	34	eP	Pn	07 46 05.9	+1.6
LKP				eS	Sn	07 46 31.9	+0.8
LKP				IAML		07 46 42.8	
	comp=N,91μm,0.5s						
LKP				IAML		07 46 43.0	
	comp=E,57μm,0.4s						
SHL	Shillong	2.29	273	Pn	Pn	07 46 03.9	-1.0
SHL	Shillong	2.29	273	P	Pn	07 46 03.9	-1.0
	SNR=850						
SHL	Shillong	2.29	273	eP	Pn	07 46 04.5	-0.4
SHL				eS	Sn	07 46 29.5	-2.6
SHL				IAML		07 46 43.0	
	comp=E,23μm,0.4s						
SHL				IAML		07 46 43.4	
	comp=N,43μm,0.5s						
SHL	Shillong	2.29	273	P	Pn	07 46 03.9	-1.0
AZL	Aizawl	2.33	223	eP	Pn	07 46 06.2	+0.7
AZL				eS	Sn	07 46 32.0	-1.0
AZL				IAML		07 46 38.3	
	comp=E,43μm,0.3s						
AZL				IAML		07 46 38.9	
	comp=N,15μm,0.4s						
GUWA	GUWAHATI	2.56	287	eP	Pn	07 46 09.7	+1.3
TAWA	Tawang	3.11	313	eP	Pn	07 46 17.1	+0.8
TAWA				eS	Sn	07 46 51.4	-1.0
TAWA				IAML		07 46 52.4	
	comp=N,19μm,0.3s						
TAWA				IAML		07 46 55.3	
	comp=E,24μm,0.4s						
SAIH	SAIHA	3.24	204	eP	Pn	07 46 18.2	+0.2
AGT	Agartala	3.28	242	eP	Pn	07 46 18.9	+0.6
AGT				eS	Sn	07 46 54.7	-1.5
AGT				IAML		07 46 59.7	
	comp=E,5μm,0.5s						
AGT				IAML		07 47 00.1	
	comp=N,7μm,0.7s						
TNCH	TengChong	3.75	96	P	Pn	07 46 26.8	+1.9
TNCH				S	Sn	07 47 10.6	+2.7
TNCH				smax	smax		
	comp=N,12μm,1.5s						
TNCH				smax	smax		
	comp=N,10μm,1.8s						
TNCH				LR	LR		
	comp=N,5μm,3.8s						
BRDH	Bariadhala	3.76	223	P	Pn	07 46 24.9	0.0
	comp=N,104nm,0.3s,baz=40,slow=0.3,SNR=4.4						
BRDH				S	Sn	07 47 07.7	-0.3
	comp=N,2μm,0.6s,baz=56,slow=21,SNR=7.6						
LSA	Lhasa	5.11	326	Pn	Pn	07 46 44.7	+0.8
LSA	Lhasa	5.11	326	P	Pn	07 46 45.7	+1.8
LSA				S	Sn	07 47 30.3	-12
LSA				smax	smax		
	comp=N,670nm,0.6s						
LSA	Lhasa	5.11	326	P	Pn	07 46 44.7	+0.8
LSA	Lhasa	5.11	326	P	Pn	07 46 45.4	+1.6
JPG	JALPAIGURI	5.24	283	eP	Pn	07 46 45.8	+0.7
JPG				eS	Sn	07 47 41.1	-3.1
JPG				IAML		07 47 45.2	
	comp=N,2μm,0.5s						
JPG				IAML		07 47 45.5	
	comp=E,2μm,0.5s						
GTK	Tadong	5.53	291	eP	Pn	07 46 48.7	-0.5
GTK				eS	Sn	07 47 48.0	-3.6
GTK				IAML		07 47 51.9	
	comp=N,1μm,0.6s						
GTK				IAML		07 47 52.4	
	comp=E,942nm,0.5s						
ODAN	Odare	6.46	284	Pn	Pn	07 47 01.7	-0.5
	baz=280,slow=0.0						
PZH	PanZhiHua	6.68	80	P	Pn	07 47 08.1	+3.1
PZH				S	Sn	07 48 23.0	+3.2
PZH				LR	LR		
	comp=E,6μm,7.4s						
PZH				LR	LR		
	comp=E,2μm,5.8s						
PZH				LR	LR		
	comp=E,2μm,6.9s						
RAMN	Ramite	7.17	284	Pn	Pn	07 47 12.1	+0.2
	baz=280,slow=0.0						
RAMN				Sn	Sn	07 48 30.5	-1.6
	comp=E,2μm,0.6s,baz=280,slow=0.0						
KMI	Kunming	7.54	91	||P	Pn	07 47 20.4	+3.4
KMI				S	Sn	07 48 40.9	-0.4
KMI				smax	smax		
	comp=E,330nm,1.4s						
KMI				smax	smax		
	comp=E,230nm,1.5s						
KMI				LR	LR		
	comp=E,9μm,8.6s						
KMI				LR	LR		
	comp=E,2μm,5.4s						
KMI				LR	LR		
	comp=E,2μm,5.1s						
CHTO	Chiang Mai	7.84	147	Pn	Pn	07 47 21.3	+0.3
CHTO	Chiang Mai	7.84	147	P	Pn	07 47 22.2	+1.2
CHTO				S	Sn	07 48 52.2	+3.8
CHTO	Chiang Mai	7.84	147	P	Pn	07 47 21.0	0.0
CHTO	Chiang Mai	7.84	147	P	Pn	07 47 21.3	+0.3
GUN	Gumba	8.01	290	Pn	Pn	07 47 22.5	-1.0
	baz=286,slow=0.0						
GUN				Sn	Sn	07 48 50.2	-2.7
	comp=E,720nm,0.4s,baz=286,slow=0.0						
CM31	Chiang Mai Arr	8.15	148	Pn	Pn	07 47 25.8	+0.7
CM31	Chiang Mai Arr	8.15	148	P	Pn	07 47 26.2	+1.1
	SNR=28						
CMAR	Chiang Mai Arr	8.15	148		Pn	07 47 25.2	+0.1
CMAR	Chiang Mai Arr	8.15	148	P	Pn	07 47 25.7	+0.6
	comp=E,39nm,0.8s,baz=323,slow=13,SNR=155						
CMAR				Lg	Lg	07 49 34.9	
	comp=E,2.1nm,0.3s,baz=311,slow=30,SNR=4.3						
CMAR				LR	LR	07 50 46.6	
	comp=E,1μm,19.6s,baz=320,slow=40						
CMAR				ScP	ScP	07 57 24.1	+0.5
	comp=E,2.5nm,0.5s,baz=0.0,slow=0.6,SNR=9.3						
CMAR	Chiang Mai Arr	8.15	148	P	Pn	07 47 25.2	+0.1
PKI	Pulchoki	8.33	287	Pn	Pn	07 47 26.5	-1.4
	baz=283,slow=0.0						
PKIN	Phulchoki

GOMU				pmax	pmax	
	comp=E,120nm,1.1s					
GOMU				pmax	pmax	
	comp=E,490nm,3.6s					
GOMU				LR	LR	
	comp=E,3μm,7.9s					
GOMU				LR	LR	
	comp=E,10μm,7.7s					
GOMU				LR	LR	
	comp=E,3μm,7.8s					
GYA	**Guiyang**	**11.07**	**82**	⇑P	**Pn**	**07 48 05.7 +0.5**
GYA				S	**Sn**	**07 50 09.5 +2.0**
GYA				pmax	pmax	
	comp=E,210nm,1.0s					
GYA				LR	LR	
	comp=E,1μm,15.5s					
NAYO	**Nakonayok**	**12.86**	**148**	P	**Pn**	**07 48 30.4 +0.9**
LZH	**Lanzhou**	**13.32**	**35**	⇓P	**Pn**	**07 48 34.3 -1.6**
LZH				pP	P	07 48 46.3 +2.4
LZH				sP		07 48 51.9
LZH				pmax	pmax	
	comp=E,130nm,1.0s					
LZH				pmax	pmax	
	comp=E,560nm,4.5s					
LZH				LR	LR	
	comp=E,2μm,8.8s					
LZH				LR	LR	
	comp=E,3μm,8.2s					
LZH				LR	LR	
	comp=E,2μm,14.3s					
PBA	**Port Blair**	**13.83**	**187**		**Pn**	**07 48 42.1 -0.7**
PBA	**Port Blair**	**13.83**	**187**	P	**Pn**	**07 48 45.6 +2.8**
	SNR=7.9					
ENH	**Enshi**	**14.16**	**67**		**Pn**	**07 48 43.2 -3.9**
UBPT	**Khong Chiam**	**14.49**	**132**		**Pn**	**07 48 50.2 -1.3**
UBPT	**Khong Chiam**	**14.49**	**132**	P	**Pn**	**07 48 52.2 +0.7**
GTA	**Gaotai**	**14.62**	**17**	P	**Pn**	**07 48 50.8 -2.5**
GTA				pP	P	07 48 59.4 +1.1
GTA				sS	S	07 51 47.8 -2.7
GTA				ScP	**ScP**	**07 57 32.2 -0.3**
GTA				ScS	**ScS**	**08 01 08.8 -1.5**
GTA				pmax	pmax	
	comp=E,18nm,1.7s					
GTA				LR	LR	
	comp=E,390nm,9.5s					
GTA				LR	LR	
	comp=E,1μm,11.6s					
GTA				LR	LR	
	comp=E,610nm,10.5s					
XAN	**Xi'an**	**15.21**	**52**	P	**P**	**07 49 03.1 -1.7**
XAN				pP	Pn	07 49 09.0 +8.2
XAN				S	**Sn**	**07 51 50.3 +2.1**
XAN				pmax	pmax	
	comp=E,660nm,1.2s					
XAN				pmax	pmax	
	comp=E,660nm,4.0s					
XAN				LR	LR	
	comp=E,3μm,7.9s					
XAN				LR	LR	
	comp=E,2μm,8.6s					
XAN				LR	LR	
	comp=E,1μm,7.6s					
QIZ	**Qiongzhong**	**15.65**	**111**	P	**Pn**	**07 49 06.8 +0.3**
QIZ	**Qiongzhong**	**15.65**	**111**	P	**Pn**	**07 49 06.5 0.0**
QIZ				sP	**pP**	**07 49 23.3 +1.3**
QIZ				S	**Sn**	**07 52 00.0 +0.9**
QIZ				LR	LR	
	comp=E,2μm,12.3s					
QIZ				LR	LR	
	comp=E,1μm,11.1s					
QIZ				LR	LR	
	comp=E,940nm,14.6s					
SONA	**Sohna**	**15.71**	**284**	*e*P	**Pn**	**07 49 07.5 +0.3**
SONA				IAmb	IAmb	07 49 11.8
	comp=Z,102nm,0.6s					
SONA				*e*S	Sn	07 51 45.3 -15
KKR	**Kurukshetra**	**16.20**	**290**	*e*P	**Pn**	**07 49 14.1 +0.6**
KKR				IAmb	IAmb	07 49 18.1
	comp=Z,208nm,0.5s					
KKR				*e*S	Sn	07 51 57.4 -15
CNSH	**ChangSha**	**16.75**	**77**	P	**Pn**	**07 49 16.5 -3.8**
CNSH				S	Sn	07 52 13.2 -12
CNSH				pmax	pmax	
	comp=Z,40nm,1.0s					
CNSH				LR	LR	
	comp=Z,2μm,10.5s					
CNSH				LR	LR	
	comp=Z,610nm,10.8s					
CNSH				LR	LR	
	comp=Z,600nm,8.0s					
HYB	**Hyderabad**	**16.79**	**245**	*e*P	**Pn**	**07 49 21.3 +0.4**
HYB				*e*		07 52 09.7
HYB				*e*		07 52 16.7
HYB				*e*S	**Sn**	**07 52 25.7 -0.9**
HYB				IVMs_BB	IVMs_BB	07 54 15.7
	comp=Z,808nm,9.8s					
BHK	**Bhakra**	**16.89**	**295**	*e*P	**Pn**	**07 49 17.7 -4.4**
BHK				IAmb	IAmb	07 49 25.9
	comp=Z,118nm,0.9s					
BHK				*e*S	Sn	07 52 03.2 -26
GZH	**Guangzhou**	**17.42**	**94**	P	**P**	**07 49 30.8 +1.5**
GZH				pP	**pP**	**07 49 41.6 -0.1**
GZH				PP	**sP**	**07 49 46.9 -2.0**
GZH				S	**S**	**07 52 48.0 +0.4**
GZH				pmax	pmax	
	comp=Z,33nm,0.9s					
GZH				LR	LR	
	comp=Z,1μm,5.3s					
GZH				LR	LR	
	comp=Z,880nm,4.3s					
GZH				LR	LR	
	comp=Z,2μm,6.5s					
SRIT	**Nakonsritamara**	**17.50**	**163**	P	**Pn**	**07 49 29.1 -0.5**
LYN	**LuoYang**	**18.05**	**56**	⇑*i*P	**P**	**07 49 32.7 -3.4**
LYN				pP	pP	07 49 45.3 -3.4
LYN				sP	sP	07 49 52.8 -3.2
LYN				S	**Sn**	**07 52 54.8 -2.0**
LYN				SS	**SnSn**	**07 53 12.9 +1.8**
LYN				pmax	pmax	
	comp=Z,31nm,1.4s					
LYN				pmax	pmax	
	comp=Z,430nm,6.9s					
LYN				LR	LR	
	comp=Z,3μm,8.7s					
LYN				LR	LR	
	comp=Z,1μm,8.1s					
LYN				LR	LR	
	comp=Z,2μm,17.9s					
WHN	**Wuhan**	**18.31**	**69**	P	**P**	**07 49 36.2 -2.8**
WHN				LR	LR	
	comp=Z,3μm,10.0s					
WHN				LR	LR	
	comp=Z,810nm,11.6s					
WHN				LR	LR	
	comp=Z,2μm,11.2s					
UDPR	**Udaipur**	**18.78**	**272**	*e*P	**Pn**	**07 49 48.3 +3.1**
UDPR				IAmb	IAmb	07 50 00.3
	comp=Z,139nm,0.8s					
UDPR				*e*S	Sn	07 52 56.7 -18
DLV	**Lat**	**18.92**	**133**	P	**P**	**07 49 46.4 +0.5**
WMQ	**Urumqi**	**19.11**	**345**	*e*P	**Pn**	**07 49 49.8 +0.7**
WMQ				S	**S**	**07 53 19.3 -2.3**
WMQ				pmax	pmax	
	comp=Z,63nm,0.9s					
WMQ				LR	LR	
	comp=Z,1μm,11.3s					
WMQ				LR	LR	
	comp=Z,2μm,17.9s					
WMQ				LR	LR	
	comp=Z,350nm,12.3s					
TIY	**Taiyuan**	**19.57**	**47**	*e*P	**P**	**07 49 51.9 -1.0**
TIY				S	**S**	**07 53 28.4 -2.5**
TIY				SS	**SnSn**	**07 53 54.7 +6.0**
TIY				pmax	pmax	
	comp=Z,120nm,0.6s					
TIY				pmax	pmax	
	comp=Z,410nm,5.1s					
TIY				LR	LR	
	comp=Z,750nm,14.4s					
TIY				LR	LR	
	comp=Z,500nm,18.3s					
TIY				LR	LR	
	comp=Z,820nm,22.2s					
BSI	**Banda Aceh**	**19.88**	**177**	P	**P**	**07 49 55.2 -1.1**
	comp=Z,1μmcomp=Z,83nm,1.2s					
BTO	**Baotou**	**19.93**	**37**	*e*P	**P**	**07 49 56.6 -0.2**
BTO				pP	**pP**	**07 50 10.3 +0.8**
BTO				sP	**sP**	**07 50 17.2 +0.5**
BTO				PP	**PnPn**	**07 50 19.6 +5.1**
BTO				S	**S**	**07 53 36.8 -1.3**
BTO				pmax	pmax	
	comp=Z,720nm,0.9s					
BTO				pmax	pmax	
	comp=Z,690nm,4.5s					
BTO				LR	LR	
	comp=Z,2μm,14.0s					
BTO				LR	LR	
	comp=Z,3μm,12.0s					
BTO				LR	LR	
	comp=Z,3μm,14.3s					
NIL	**Nilore**	**20.11**	**299**	P	**P**	**07 49 57.4 -1.3**
NIL	**Nilore**	**20.11**	**299**	P	**P**	**07 49 59.0 +0.3**
NIL	**Nilore**	**20.11**	**299**	P	**P**	**07 49 57.4 -1.3**
NIL				pmax	pmax	
	comp=Z,423nm,1.1s					
WUS	**Wushi**	**20.13**	**325**	P	**P**	**07 49 58.3 -0.7**
KSH	**Kashi**	**20.87**	**317**	P	**P**	**07 50 07.8 +0.8**
KSH				pP	pP	07 50 21.8 +2.1
KSH				S	**S**	**07 53 51.8 -5.0**
KSH				pmax	pmax	
	comp=Z,170nm,1.1s					
KSH				pmax	pmax	
	comp=Z,720nm,3.0s					
KULM	**Kulim**	**20.94**	**162**	P	**P**	**07 50 07.5 -0.2**
KULM				IAmb	IAmb	07 50 22.3
	comp=Z,145nm,1.3s					
KULM	**Kulim**	**20.94**	**162**	P	**P**	**07 50 07.4 -0.3**
HHC	**Hu-ho-hao-te**	**20.95**	**39**	⇓*i*P	**P**	**07 50 08.0 +0.2**
HHC				sP	sP	07 50 27.2 -0.6
HHC				PP	**PnPn**	**07 50 32.0 +3.5**
HHC				S	**S**	**07 53 54.2 -4.1**
HHC				sS	Sn	07 54 07.3 +0.5
HHC				SS	**SnSn**	**07 54 24.5 +2.0**
HHC				pmax	pmax	
	comp=Z,240nm,1.2s					
HHC				pmax	pmax	
	comp=Z,500nm,3.5s					
HHC				LR	LR	
	comp=Z,1μm,11.8s					
HHC				LR	LR	
	comp=Z,2μm,11.4s					
HHC				LR	LR	
	comp=Z,2μm,12.7s					
HNS	**HongShan**	**20.96**	**51**	⇓P	**P**	**07 50 07.0 -0.8**
HNS				S	**S**	**07 53 57.0 -1.2**
HNS				ScP	**ScP**	**07 57 44.2 -1.5**
HNS				pmax	pmax	
	comp=Z,99nm,1.0s					
HNS				pmax	pmax	
	comp=Z,400nm,3.9s					
HNS				LR	LR	
	comp=Z,350nm,10.7s					
HNS				LR	LR	
	comp=Z,470nm,10.6s					
HNS				LR	LR	
	comp=Z,960nm,18.9s					
BOM	**Bombay**	**21.03**	**256**	*e*P	P	07 50 18.4 +10
BOM				IAmb	IAmb	07 50 26.9
	comp=Z,109nm,1.1s					
BOM				*e*S	S	07 53 48.7 -11
MLSI	**Meulaboh, Aceh**	**21.17**	**174**	P	**P**	**07 50 09.7 -0.5**
	comp=Z,217nm,0.9s					
TARG	**Taragay, Kyrgy**	**21.25**	**324**	P	**P**	**07 50 11.6 +0.2**
TARG				IAmb	IAmb	07 50 13.7
	comp=Z,134nm,0.8s					
TARG	**Taragay, Kyrgy**	**21.25**	**324**	P	**P**	**07 50 11.6 +0.2**
TARG				pmax	pmax	
	comp=Z,134nm,0.8s					
PRZ	**Przheval'sk**	**21.48**	**326**	P	**P**	**07 50 14.5 +0.9**
PRZ	**Przheval'sk**	**21.48**	**326**	P	**P**	**07 50 14.5 +0.9**
PRZ				pmax	pmax	
	comp=Z,286nm,1.0s					
PDGK	**Podgornoye**	**21.60**	**329**	P	**P**	**07 50 15.0 +0.3**
UZB	**Uzynbulak**	**21.68**	**328**	*e*P	**P**	**07 50 16.3 +0.7**
UZB	**Uzynbulak**	**21.68**	**328**	*e*P	**P**	**07 50 16.4 +0.7**
KDJ	**Kajisay**	**21.87**	**324**	P	**P**	**07 50 18.2 +0.5**
KDJ	**Kajisay**	**21.87**	**324**	P	**P**	**07 50 18.2 +0.5**
KDJ				pmax	pmax	
	comp=Z,234nm,0.9s					
SATY	**Saty**	**21.91**	**327**	*e*P	**P**	**07 50 19.1 +1.1**
SATY				*e*S	**S**	**07 54 18.9 +1.9**
SATY				pmax	pmax	
	comp=Z,91nm,1.0s					
SATY	**Saty**	**21.91**	**327**	*e*P	**P**	**07 50 19.1 +1.1**
	comp=Z,91nm,1.0s					
SATY				*e*S	**S**	**07 54 18.9 +1.9**
TIA	**Tai'an**	**22.20**	**56**	P	**P**	**07 50 19.6 -1.5**
TIA				S	**S**	**07 54 18.1 -4.1**
TIA				pmax	pmax	
	comp=Z,77nm,0.8s					
TIA				pmax	pmax	
	comp=Z,280nm,5.1s					
TIA				LR	LR	
	comp=Z,550nm,14.7s					
TIA				LR	LR	
	comp=Z,1μm,14.7s					
TIA				LR	LR	
	comp=Z,1μm,24.0s					
PALK	**Pallekele**	**22.33**	**218**	P	**P**	**07 50 22.8 0.0**
PALK				IAmb	IAmb	07 50 43.8
	comp=Z,107nm,1.3s					
PALK	**Pallekele**	**22.33**	**218**	P	**P**	**07 50 22.2 -0.5**
	comp=Z,10nm,0.9s,baz=28,slow=14,SNR=12					
PALK				S	**S**	**07 54 22.2 -2.8**
	comp=Z,4.3nm,0.3s,baz=326,slow=13,SNR=5.3					
PALK				LR	LR	07 59 32.3
	comp=Z,542nm,22.0s,baz=36,slow=38					
	comp=Z,10nm,0.9s					
PALK	**Pallekele**	**22.33**	**218**	P	**P**	**07 50 24.2 +1.5**
PALK				P	**P**	**07 50 24.2 +1.5**
PALK				S	**S**	**07 54 31.1 +6.1**
PALK				S	**S**	**07 54 31.1 +6.1**
PALK	**Pallekele**	**22.33**	**218**	*d*iP	**P**	**07 50 23.0 +0.2**
PALK				pmax	pmax	
	comp=Z,56nm,1.0s					
NJ2	**Nanjing**	**22.38**	**67**	⇑P	**P**	**07 50 20.2 -2.9**
NJ2				sP	**sP**	**07 50 43.0 -0.1**
NJ2				pmax	pmax	
	comp=Z,85nm,0.7s					
NJ2				LR	LR	
	comp=Z,6μm,12.2s					
NJ2				LR	LR	
	comp=Z,3μm,12.2s					
NJ2				LR	LR	
	comp=Z,3μm,9.8s					
ULHL	**Ulahol**	**22.45**	**323**	P	**P**	**07 50 25.2 +1.2**
	SNR=73					
TNSS	**Tian-Shan**	**22.62**	**325**	*e*P	**P**	**07 50 26.4 +0.3**
TNSS	**Tian-Shan**	**22.62**	**325**	*e*P	**P**	**07 50 26.5 +0.3**
MDOK	**Medeo**	**22.66**	**325**	*e*P	**P**	**07 50 27.0 +0.8**
MDOK				*e*S	**S**	**07 54 31.9 +1.4**
MDOK	**Medeo**	**22.66**	**325**	*e*P	**P**	**07 50 27.1 +0.8**
MDOK				*e*S	**S**	**07 54 32.0 +1.4**
AAA	**Alma-Ata**	**22.76**	**325**	*e*P	**P**	**07 50 28.1 +0.9**
AAA				pmax	pmax	
	comp=Z,124nm,1.0s					
AAA	**Alma-Ata**	**22.76**	**325**	*e*P	**P**	**07 50 28.1 +0.9**
	comp=Z,124nm,1.0s					
PSI	**Prapat**	**22.95**	**168**	P	**P**	**07 50 29.8 +0.4**
PSI				pmax	pmax	
	comp=Z,52nm,1.0s					
ARXS	**Arharly**	**23.05**	**328**	*e*P	**P**	**07 50 30.5 +0.4**
RPSI	**Rantau Prapat**	**23.06**	**168**	P	**P**	**07 50 29.8 -0.5**
ZSN	**Zaisan**	**23.20**	**343**	*e*P	**P**	**07 50 32.4 +0.9**
ZSN				*e*S	**S**	**07 54 40.8 +1.7**
ZSN	**Zaisan**	**23.20**	**343**	*e*P	**P**	**07 50 32.5 +0.9**
ZSN				*e*S	**S**	**07 54 40.9 +1.7**
TKM2	**Tokmak 2**	**23.26**	**323**	P	**P**	**07 50 33.2 +0.9**
	SNR=90					
TKM2	**Tokmak 2**	**23.26**	**323**	*i* P	**P**	**07 50 32.6 +0.3**
TKM2				pmax	pmax	
	comp=Z,137nm,0.9s					
BJT	**Baijiatuau**	**23.27**	**46**	P	**P**	**07 50 31.4 -0.7**
BJT				IAmb	IAmb	07 50 39.1
	comp=Z,91nm,0.9s					
BJT	**Baijiatuau**	**23.27**	**46**	P	**P**	**07 50 32.3 +0.2**
BJT	**Baijiatuau**	**23.27**	**46**	P	**P**	**07 50 31.5 -0.7**
BJT				pmax	pmax	
	comp=Z,91nm,0.9s					
BJI	**Beijing**	**23.28**	**46**	P	**P**	**07 50 32.0 -0.3**
BJI				pP	**pP**	**07 50 46.5 +1.0**
BJI				SS	Sn	07 55 16.7 +14
BJI				pmax	pmax	
	comp=Z,58nm,0.9s					
BJI				LR	LR	
	comp=Z,490nm,10.0s					
BJI				LR	LR	
	comp=Z,230nm,11.7s					
BJI				LR	LR	
	comp=Z,250nm,19.7s					
MK31	**Makanchi Array**	**23.37**	**339**	P	**P**	**07 50 33.2 +0.1**
MK31				IAmb	IAmb	07 50 50.3
	comp=Z,84nm,1.0s					
MK31	**Makanchi Array**	**23.37**	**339**	*c iP*	**P**	**07 50 33.2 +0.1**
MKAR	**Makanchi Array**	**23.37**	**339**	P	**P**	**07 50 33.3 +0.2**
	comp=Z,37nm,0.7s,baz=149,slow=9.9,SNR=251					
MKAR				S	**S**	**07 54 44.2 +2.4**
	comp=Z,4.3nm,0.9s,baz=155,slow=17,SNR=2.9					
MKAR				ScP	**ScP**	**07 57 52.7 +1.0**
	comp=Z,0.9nm,0.7s,baz=138,slow=3.4,SNR=1.8					
MKAR				LR	LR	08 01 21.2
	comp=Z,367nm,19.0s,baz=144,slow=41					
	comp=Z,37nm,0.7s					
UCH	**Uchtor**	**23.41**	**320**	P	**P**	**07 50 33.7 -0.3**
	SNR=14					
KBK	**Karagaybulak**	**23.44**	**322**	P	**P**	**07 50 35.5 +1.5**
	SNR=38					
MAKZ	**Makanchi**	**23.48**	**338**	P	**P**	**07 50 33.9 -0.3**
MAKZ				IAmb	IAmb	07 50 49.9
	comp=Z,80nm,0.9s					
MAKZ	**Makanchi**	**23.48**	**338**	P	**P**	**07 50 33.9 -0.3**
MAKZ				pmax	pmax	
	comp=Z,80nm,0.9s					
DRK	**Karamyk**	**23.56**	**312**	P	**P**	**07 50 35.0 -0.3**
DRK	**Karamyk**	**23.56**	**312**	P	**P**	**07 50 35.0 -0.3**
DRK				pmax	pmax	
	comp=Z,212nm,0.9s					
AAK	**Ala-Archa**	**23.68**	**321**	P	**P**	**07 50 37.0 +0.8**
AAK				IAmb	IAmb	07 50 40.1
	comp=Z,117nm,1.1s					
AAK	**Ala-Archa**	**23.68**	**321**	P	**P**	**07 50 37.7 +1.5**
AAK				P	**P**	**07 50 37.7 +1.5**
AAK				S	**S**	**07 54 48.9 +1.7**
AAK				S	**S**	**07 54 48.9 +1.7**
AAK	**Ala-Archa**	**23.68**	**321**	P	**P**	**07 50 37.6 +1.3**
	SNR=85					
AAK	**Ala-Archa**	**23.68**	**321**	*c iP*	**P**	**07 50 37.5 +1.3**
AAK				pmax	pmax	
	comp=Z,142nm,1.1s					
AAK	**Ala-Archa**	**23.68**	**321**	*i* P	**P**	**07 50 37.6 +1.3**
	SNR=99					
KBL	**Kabul**	**23.70**	**298**	P	**P**	**07 50 36.5 -0.1**
KBL	**Kabul**	**23.70**	**298**	P	**P**	**07 50 37.0 +0.5**
	SNR=89					
KBL				S	**S**	**07 54 53.7 +5.8**
KBL	**Kabul**	**23.70**	**298**	P	**P**	**07 50 36.5 -0.1**
KBL				pmax	pmax	
	comp=Z,161nm,0.9s					
FRU1	**Bishkek**	**23.72**	**322**	P	**P**	**07 50 37.1 +0.7**
FRU1				IAmb	IAmb	07 50 39.3
	comp=Z,179nm,1.3s					
FRU1	**Bishkek**	**23.72**	**322**	P	**P**	**07 50 37.1 +0.7**
FRU1				pmax	pmax	
	comp=Z,179nm,1.3s					
CHMS	**Chumysh**	**23.77**	**322**	P	**P**	**07 50 38.0 +1.1**
	SNR=13					
ARSB	**Arslanbob**	**23.78**	**317**	P	**P**	**07 50 37.1 0.0**
ARSB				IAmb	IAmb	07 50 59.0
	comp=Z,133nm,0.9s					
ARSB	**Arslanbob**	**23.78**	**317**	P	**P**	**07 50 37.1 0.0**
ARSB				pmax	pmax	
	comp=Z,133nm,0.9s					
AML	**Almayashu**	**23.83**	**319**	P	**P**	**07 50 39.2 +1.4**
	SNR=103					
USP	**Ospenovka**	**24.09**	**322**	P	**P**	**07 50 40.9 +1.1**
	SNR=58					
EKS2	**Erkin-Say**	**24.11**	**320**	P	**P**	**07 50 42.8 +2.7**
	SNR=66					
SGDS	**Sogindy**	**24.14**	**323**	*e*P	**P**	**07 50 41.2 +0.9**
SGDS	**Sogindy**	**24.14**	**323**	*e*P	**P**	**07 50 41.3 +0.9**
GSI	**Gunungsitoli**	**24.22**	**172**	P	**P**	**07 50 40.3 -0.9**
GSI	**Gunungsitoli**	**24.22**	**172**	P	**P**	**07 50 40.2 -0.9**
GSI	**Gunungsitoli**	**24.22**	**172**	P	**P**	**07 50 41.4 +0.3**
	comp=Z,3μmcomp=Z,123nm,1.3s					
SONM	**Songino Array**	**24.25**	**20**	P	**P**	**07 50 41.9 +0.6**
SONM	**Songino Array**	**24.25**	**20**	P	**P**	**07 50 42.3 +1.0**
	comp=Z,54nm,0.9s,baz=201,slow=10,SNR=213					
SONM				S	**S**	**07 54 57.6 +1.5**
	comp=Z,0.7nm,0.5s,baz=84,slow=40,SNR=1.2					
SONM				ScP	**ScP**	**07 57 53.8 -0.4**
	comp=Z,4.5nm,1.0s,baz=201,slow=4.1,SNR=9.0					
	comp=Z,54nm,0.9s					
GAR	**Garm**	**24.35**	**310**	P	**P**	**07 50 42.0 -0.3**
ULN	**Ulaanbaatar**	**24.48**	**21**	P	**P**	**07 50 44.0 +0.6**
ULN	**Ulaanbaatar**	**24.48**	**21**	P	**P**	**07 50 43.1 -0.3**
ULN				S	**S**	**07 55 00.7 +0.7**
ULN	**Ulaanbaatar**	**24.48**	**21**	*d iP*	**P**	**07 50 44.0 +0.6**
ULN				pmax	pmax	
	comp=Z,65nm,0.8s					
BTK	**Batken**	**24.50**	**312**	P	**P**	**07 50 44.3 +0.7**
BTK	**Batken**	**24.50**	**312**	P	**P**	**07 50 44.3 +0.7**
BTK				pmax	pmax	
	comp=Z,430nm,0.8s					
YULB	**Yu-li**	**24.55**	**89**	P	**P**	**07 50 45.3 +1.2**
SIMJ	**Simiganj**	**25.13**	**308**	P	**P**	**07 50 49.1 -0.3**
MYKOM	**Kota Tinggi**	**25.24**	**157**	P	**P**	**07 50 51.5 +1.1**
XLT	**XiLinHaoTe**	**25.47**	**38**	*e*P	**P**	**07 50 53.6 +1.2**
XLT				sP	sP	07 51 14.0 +0.8
XLT				S	**S**	**07 55 17.0 +1.3**
XLT				pmax	pmax	
	comp=Z,590nm,1.0s					
XLT				LR	LR	
	comp=Z,900nm,13.0s					
XLT				LR	LR	
	comp=Z,1μm,24.3s					
BTLS	**Baital**	**25.52**	**325**	*e*P	**P**	**07 50 53.2 +0.5**
BTLS				*e*S	**S**	**07 55 17.7 +1.4**
BTLS	**Baital**	**25.52**	**325**	*e*P	**P**	**07 50 53.2 +0.5**
BTLS				*e*S	**S**	**07 55 17.8 +1.4**
DZA	**Taraz**	**25.69**	**318**	*e*P	**P**	**07 50 55.2 +0.9**
DZA	**Taraz**	**25.69**	**318**	*e*P	**P**	**07 50 55.2 +0.9**
ZAK	**Zakamensk**	**25.80**	**13**	*e*P	**P**	**07 50 55.9 +0.6**
ZAK				pmax	pmax	
	comp=Z,41nm,1.6s					
IUG	**Iuzhnay**	**26.08**	**316**	*e*P	**P**	**07 50 58.9 +1.0**
IUG				pmax	pmax	
	comp=Z,72nm,1.1s					
IUG	**Iuzhnay**	**26.08**	**316**	*e*P	**P**	**07 50 59.0 +1.0**
	comp=Z,72nm,1.1s					
KK31	**Karatay Array**	**26.30**	**318**	P	**P**	**07 50 59.9 +0.1**
KK31	**Karatay Array**	**26.30**	**318**	P	**P**	**07 50 59.9 +0.1**
KK31				pmax	pmax	
	comp=Z,30nm,0.9s					
KKAR	**Karatay Array**	**26.30**	**318**	P	**P**	**07 50 59.8 0.0**
KKAR	**Karatay Array**	**26.30**	**318**	P	**P**	**07 50 59.8 0.0**
KKAR				pmax	pmax	
	comp=Z,31nm,0.9s					
PPI	**Padang Panjang**	**26.42**	**166**	P	pP	07 51 16.0 +0.6
CHM	**Chimkent**	**26.44**	**316**	*e*P	**P**	**07 51 01.8 +0.8**
CHM	**Chimkent**	**26.44**	**316**	*e*P	**P**	**07 51 01.9 +0.8**
DL2	**Dalian**	**26.53**	**53**	P	**P**	**07 51 01.2 -0.7**
DL2				pmax	pmax	
	comp=Z,110nm,0.6s					
MOY	**Mondy**	**26.64**	**9**	*i* P	**P**	**07 51 03.2 +0.3**
MOY				pmax	pmax	
	comp=Z,54nm,1.8s					
BRLS	**Borolday**	**26.67**	**317**	*e*P	**P**	**07 51 03.2 0.0**
BRLS				pmax	pmax	
	comp=Z,36nm,2.0s					
BRLS	**Borolday**	**26.67**	**317**	*e*P	**P**	**07 51 03.3 +0.1**
SISI	**Saibi**	**27.02**	**170**	P	pP	07 51 22.7 +1.9
TGY	**Tagaytay City**	**27.34**	**109**	LR	LR	08 02 10.5
	comp=Z,227nm,20.8s,baz=276,slow=37					
IRK	**Irkutsk**	**27.76**	**13**	*e*P	**P**	**07 51 14.6 +1.8**
IRK				*e*S	**S**	**07 55 53.0 +1.5**
IRK				pmax	pmax	
	comp=Z,80nm,1.8s					
KURBB	**Kurchatov Arra**	**27.93**	**338**	P	**P**	**07 51 15.6 +1.3**
	comp=Z,18nm,0.7s,baz=152,slow=10.0,SNR=91					
KURBB				PcP	**PcP**	**07 54 28.3 -0.2**
	comp=Z,3.5nm,0.8s,baz=150,slow=2.4,SNR=2.6					
KURBB				ScP	**ScP**	**07 58 05.4 +0.7**
	comp=Z,1.5nm,0.6s,baz=152,slow=3.0,SNR=4.4					
	comp=Z,18nm,0.7s					
KURK	**Kurchatov**	**27.98**	**338**	P	**P**	**07 51 15.2 +0.4**

```
KURK Kurchatov      27.98 338  P   P   07 51 15.1 +0.4
KURK                           S   S   07 55 57.1 +2.2
KURK Kurchatov      27.98 338c iP   P   07 51 15.3 +0.5
KURK                           pmax pmax
     comp=Z,24nm,0.7s
OTUK Ortayu         28.59 328  P   P   07 51 20.0 -0.3
SNY  Shenyang       29.06  49 ⇑P   P   07 51 23.8 -0.7
SNY                            pmax pmax
     comp=Z,72nm,0.8s
SNY                            pmax pmax
     comp=Z,180nm,4.7s
SNY                            LR   LR
     comp=Z,430nm,17.6s
SNY                            LR   LR
     comp=Z,290nm,14.7s
SNY                            LR   LR
     comp=Z,440nm,18.4s
HRA  Herat          29.16 295  P   P   07 51 25.2 -0.6
ZALV Zalesovo Beam  29.33 348  LR  LR  08 03 21.3
     comp=Z,189nm,18.9s,baz=170,slow=36
BRZS Berezniki      29.69 331 eP   P   07 51 31.1 +1.1
BRZS Berezniki      29.69 331 eP   P   07 51 31.1 +1.1
JOW  Kunigami       30.38  80  P   P   07 51 33.5 -2.8
     comp=Z,10nm,0.4s,baz=277,slow=9.1,SNR=7.1
JOW                            LR   LR  08 04 52.5
     comp=Z,239nm,21.6s,baz=4.5,slow=38
     comp=Z,10nm,0.4s
MYLDM Lahad Datu    30.66 127  P   P   07 51 39.0 +0.2
MYLDM                          IAmb IAmb 07 52 15.6
     comp=Z,64nm,1.2s
KSRS Korea Array    30.82  59  P   P   07 51 37.2 -2.9
     comp=Z,1.8nm,0.4s,baz=255,slow=8.7,SNR=5.9
KSRS                           PcP  PcP 07 54 35.6 -0.5
     comp=Z,1.6nm,0.7s,baz=253,slow=2.5,SNR=4.2
KSRS                           ScP  ScP 07 58 11.8 -2.5
     comp=Z,0.5nm,0.4s,baz=274,slow=4.8,SNR=2.5
KSRS                           LR   LR  08 04 10.9
     comp=Z,428nm,21.5s,baz=255,slow=36
     comp=Z,1.8nm,0.4s
TPI  Tanjungpandan  30.86 154  P   pP  07 51 55.8 +0.8
HIA  Hailar         30.87  33  P   P   07 51 40.8 +0.4
HIA  Hailar         30.87  33  P   P   07 51 40.8 +0.4
HIA  Hailar         30.87  33  P   P   07 51 40.8 +0.4
HIA                            pmax pmax
     comp=Z,26nm,0.8s
HIA  Hailar         30.87  33  P   P   07 51 41.3 +0.8
CN2  Changchun      31.15  46 eP   P   07 51 42.0 -0.9
CN2                            PcP  PcP 07 54 36.5 -0.4
CN2                           eS   S   07 56 41.2 -3.7
CN2                            pmax pmax
     comp=Z,50nm,0.6s
CN2                            LR   LR
     comp=Z,1μm,23.0s
CN2                            LR   LR
     comp=Z,1μm,23.0s
CN2                            LR   LR
     comp=Z,450nm,25.0s
MDSI Maura Dua      31.25 161  P   P   07 51 45.2 +1.2
     comp=Z,41nm,1.0s
JLN  Jalan Bani Buh 32.14 272  P   P   07 51 52.7 +0.8
     SNR=7.2
KASI Kota Agung     32.33 161  P   pP  07 52 08.8 +0.8
WBK  Wadi Bani Khal 32.44 273  P   P   07 51 55.8 +1.3
WBK                            P   P   07 51 55.8 +1.3
JNU  Nakatsue       32.58  68  P   P   07 51 54.4 -1.3
     comp=Z,10nm,0.7s,baz=312,slow=1.2,SNR=6.8
JNU                            LR   LR  08 07 07.6
     comp=Z,331nm,18.1s,baz=264,slow=40
     comp=Z,10nm,0.7s
WSAR Wadi Sarin     32.61 274  P   P   07 51 57.1 +1.1
BVAR Borovoye Array 32.91 333  P   P   07 51 59.2 +0.9
     comp=Z,6.0nm,0.7s,baz=132,slow=10,SNR=26
BVAR                           ScP  ScP 07 58 21.6 +0.6
     comp=Z,2.4nm,0.6s,baz=147,slow=3.0,SNR=4.4
     comp=Z,6.0nm,0.7s
BRVK Borovoye       32.97 333  P   P   07 51 59.6 +0.8
BRVK Borovoye       32.97 333  P   P   07 52 00.4 +1.6
BRVK Borovoye       32.97 333c iP   P   07 51 59.3 +0.5
BRVK                           pmax pmax
     comp=Z,13nm,0.9s
BRVK Borovoye       32.97 333  P   P   07 51 59.8 +1.0
BRVK                           pP   pP  07 52 13.5 +0.3
BRVK                           sP   sP  07 52 20.2 +0.3
BIDO Bidbid         33.01 274  P   P   07 52 01.0 +1.4
     SNR=7.1
SMDO Samad          33.17 274  P   P   07 52 01.8 +0.8
     SNR=10
SMDO                           P   P   07 52 01.8 +0.8
     SNR=10
BNX  BinXian        33.25  44 ⇑P   P   07 52 01.5 +0.2
BNX                            sP   sP  07 52 21.7 -0.7
BNX                            PP   PP  07 53 16.3 -1.0
BNX                            S    S   07 57 18.8 +1.3
BNX                            pmax pmax
     comp=Z,160nm,1.0s
BNX                            pmax pmax
     comp=Z,100nm,4.7s
BNX                            LR   LR
     comp=Z,450nm,15.1s
BNX                            LR   LR
     comp=Z,320nm,14.3s
BNX                            LR   LR
     comp=Z,350nm,14.2s
JMDO Jabal Madar    33.27 272  P   P   07 52 03.7 +1.9
MHTO MHTO           33.72 270  P   P   07 52 06.1 +0.5
     SNR=7.1
HOQ  Hoqain         33.74 275  P   P   07 52 07.0 +1.1
     SNR=12
HOQ                            P   P   07 52 07.0 +1.1
     SNR=12
BSY  Bisya          34.01 273  P   P   07 52 09.4 +1.2
     SNR=8.5
MDJ  Mudanjiang     34.21  47  P   P   07 52 08.3 -1.4
MDJ                            IAmb IAmb 07 52 09.8
     comp=Z,49nm,1.1s
MDJ  Mudanjiang     34.21  47  P   P   07 52 09.0 -0.6
MDJ                            pmax pmax
     comp=Z,50nm,1.0s
BANOM Banah         34.27 279  P   P   07 52 12.7 +2.2
BANOM Banah         34.27 279 iP   P   07 52 10.8 +0.4
     SNR=8.5
SOHO SOHO           34.34 276  P   P   07 52 10.9 -0.1
SOHO                           P   P   07 52 10.9 -0.1
SOHO SOHO           34.34 276  P   P   07 52 10.8 -0.1
PSTR Posyet         34.36  51⇓eP   P   07 52 09.7 -1.2
MDH  Madha          34.36 278  P   P   07 52 11.6 +0.4
MDH                            P   P   07 52 11.6 +0.4
MSFE Esma-Masafi    34.47 278  P   P   07 52 12.6 +0.4
ARQ  Araqi          34.50 275  P   P   07 52 13.5 +1.0
     SNR=6.5
UOSS Minazif        34.50 278  P   P   07 52 11.5 -0.9
UOSS Minazif        34.50 278  P   P   07 52 12.8 +0.4
UOSS                           P   P   07 52 12.8 +0.4
UOSS Minazif        34.50 278 iP   P   07 52 11.7 -0.7
     SNR=7.7
UOSS Minazif        34.50 278  P   P   07 52 11.8 -0.7
HATD Hatta, Dubai   34.58 277  P   P   07 52 15.0 +1.8
     SNR=10.0
HATD                           P   P   07 52 15.0 +1.8
     SNR=10.0
HATD Hatta, Dubai   34.58 277 iP   P   07 52 12.7 -0.4
     SNR=11
MSHR Mys Shultsa    34.58  51⇑eP   P   07 52 11.2 -1.7
MSHR                           pmax pmax
     comp=Z,54nm,1.2s
ASHO Ashiyiah       34.67 277  P   P   07 52 15.2 +1.3
     SNR=22
ASHO                           P   P   07 52 15.2 +1.3
     SNR=22
ASHO Ashiyiah       34.67 277 iP   P   07 52 14.5 +0.6
     SNR=44
DAV  Davao City (W) 34.92 116  LR  LR  08 06 27.5
     comp=Z,316nm,21.3s,baz=302,slow=36
ALNE Al Ain         35.05 276  P   P   07 52 18.0 +0.8
     SNR=8.8
ALNE                           P   P   07 52 18.0 +0.8
     SNR=8.8
FAQ  Al Faqa, Dubai 35.08 277  P   P   07 52 17.8 +0.4
JMN  Monobe         35.12  67  P   P   07 52 17.1 -0.6
BOD  Bodaibo        35.21  18 eP   P   07 52 19.0 +0.9
BOD                            pmax pmax
     comp=Z,74nm,1.6s
VLA  Vladivostok    35.26  51d iP   P   07 52 18.2 -0.5
VLA                            pmax pmax
     comp=Z,95nm,1.1s
ASUD Al Ashush, Dub 35.33 277  P   P   07 52 20.6 +1.0
     SNR=5.4
ASUD Al Ashush, Dub 35.33 277 iP   P   07 52 20.2 +0.6
     SNR=10
HEH  HeiHe          35.45  37 eP   P   07 52 21.5 +1.2
HEH                            pP   pP  07 52 35.6 +0.9
HEH                            S    S   07 57 52.3 +0.9
HEH                            LR   LR
     comp=Z,880nm,12.8s
HEH                            LR   LR
     comp=Z,760nm,13.1s
HEH                            LR   LR
     comp=Z,1μm,15.8s
USA0B Ussuriysk Arra 35.67  49  P   P   07 52 21.5 -0.7
USA0B Ussuriysk Arra 35.67  49 dP   P   07 52 21.0 -1.2
USRK Ussuriysk Ar.   35.67  49  P   P   07 52 20.9 -1.3
USRK Ussuriysk Ar.   35.67  49  P   P   07 52 21.7 -0.5
     comp=Z,43nm,0.8s,baz=251,slow=8.4,SNR=53
USRK                           LR   LR  08 08 03.6
     comp=Z,258nm,20.2s,baz=249,slow=38
     comp=Z,43nm,0.8s
USRK Ussuriysk Ar.   35.67  49  P   P   07 52 20.9 -1.3
AB31 Akbulak array   35.77 321 iP   P   07 52 23.8 +0.8
ABKAR Akbulak array  35.77 321  P   P   07 52 23.3 +0.2
SMRI Semarang        35.89 152  P   P   07 52 24.3 -0.1
MZR  Muzera          37.30 275  P   P   07 52 37.3 +0.8
     SNR=7.3
MZR                            P   P   07 52 37.3 +0.8
     SNR=7.3
ZEA  Zeya            37.32  32 eP   P   07 52 37.2 +1.0
ZEA                            pmax pmax
     comp=N,20nm,1.4s
ZEA                            pmax pmax
     comp=E,10.0nm,1.0s
ZEA                            pmax pmax
     comp=Z,20nm,1.0s
ZEA                            MLR  MLR
     comp=E,200nm,14.0s
ZEA                            MLR  MLR
     comp=N,500nm,15.0s
ZEA                            MLR  MLR
     comp=Z,500nm,15.0s
AKTO Aktyubinsk      37.43 321  LR  LR  08 10 24.5
     comp=Z,141nm,19.6s,baz=320,slow=40
AKTO Aktyubinsk      37.43 321  P   P   07 52 37.4 +0.2
KLR  Kul'dur         37.43  41  LR  LR  08 09 23.4
     comp=Z,426nm,18.6s,baz=244,slow=38
KLR  Kul'dur         37.43  41 dP   P   07 52 37.0 -0.2
KLR                            pmax pmax
     comp=Z,47nm,1.3s
JRN  Qarnain Island  37.50 278  P   P   07 52 38.9 +0.8
     SNR=8.6
KMMI Kalianget       37.51 147  P   P   07 52 42.6 +4.5
     comp=Z,60nm,1.1s
DOK  Doka            37.85 268  P   P   07 52 41.9 +0.8
DOK                            P   P   07 52 41.9 +0.8
LUWI Luwuk           38.04 130  P   P   07 52 42.4 -0.3
LUWI Luwuk           38.04 130  P   pP  07 52 57.3  0.0
JGF  Kuroka          38.09  64  P   P   07 52 43.1 +0.1
RBK  Rabkut          38.13 266  P   P   07 52 45.0 +1.5
SPSI Sidrap Palu     38.23 136  P   P   07 52 47.0 +2.7
     comp=Z,1μmcomp=Z,32nm,1.0s
WHFO Wadi Hawf       38.39 267  P   P   07 52 45.9 +0.2
WHFO                           P   P   07 52 45.9 +0.2
SLWR Sila            38.70 277  P   P   07 52 49.9 +1.7
SLWR                           P   P   07 52 49.9 +1.7
MJB9 Matsu-Tunnel    38.83  63  P   P   07 52 47.8 -1.4
MAJO Matsushiro      38.83  63  P   P   07 52 47.3 -1.9
MAJO Matsushiro      38.83  63  P   P   07 52 48.6 -0.6
MAJO Matsushiro      38.83  63c iP   P   07 52 48.0 -1.2
MAJO                           pmax pmax
     comp=Z,14nm,0.6s
MAJO Matsushiro      38.83  63  P   P   07 52 47.4 -1.7
MJAR Matsushiro Arr  38.83  63  P   P   07 52 47.7 -1.5
     comp=Z,11nm,0.7s,baz=278,slow=9.4,SNR=23
MJAR                           PcP  PcP 07 54 59.2 -0.2
     comp=Z,3.4nm,0.7s,baz=274,slow=2.6,SNR=4.2
MJAR                           ScP  ScP 07 58 40.6 -2.4
     comp=Z,2.8nm,0.7s,baz=265,slow=3.4,SNR=4.7
MJAR                           LR   LR  08 09 56.7
     comp=Z,219nm,20.2s,baz=270,slow=38
     comp=Z,11nm,0.7s
SHMA Al-Shehemyia    39.03 280  P   P   07 52 52.5 +1.6
KAPI Kappang         39.04 137  LR  LR  08 12 34.2
     comp=Z,184nm,18.6s,baz=321,slow=42
TEY  Ternei          39.06  49 eP   P   07 52 50.3 -0.6
SMRA Abu-Samra       39.34 279  P   P   07 52 54.0 +0.4
     SNR=8.6
SAKB Bahrain         39.39 281  P   P   07 52 56.2 +2.2
SVE  Sverdlovsk      39.62 331 eP   P   07 52 56.5 +1.1
SVE                            pmax pmax
     comp=Z,85nm,0.9s
ARTI Arti            40.36 330  P   P   07 53 01.4 -0.1
ARTI                           IAmb IAmb 07 53 17.4
     comp=Z,35nm,0.9s
ARTI Arti            40.36 330c iP   P   07 53 02.0 +0.4
ARTI                           *PP  pP  07 53 15.9 -0.3
ARTI                                    07 54 39.8
ARTI                                    07 55 03.3
ARTI                           S    S   07 59 07.6 +2.2
ARTI                           SS   SS  08 02 09.1 +3.3
ARTI                           pmax pmax
     comp=Z,26nm,0.9s
ARTI Arti            40.36 330  P   P   07 53 02.0 +0.4
ARTI                           pP   pP  07 53 16.3 +0.1
GRNR Gornyy          40.81  41⇓iP   P   07 53 05.8 +0.4
GRNR                           pmax pmax
     comp=E,70nm,0.7s
GRNR                           pmax pmax
     comp=Z,140nm,0.7s
GRNR                           MLR  MLR
     comp=E,310nm,14.0s
GRNR                           MLR  MLR
     comp=N,190nm,20.0s
GRNR                           MLR  MLR
     comp=Z,300nm,14.0s
JMM  Marumori        40.98  61  P   P   07 53 05.1 -1.9
JMM                            IAmb IAmb 07 53 06.3
     comp=Z,66nm,0.9s
JMM  Marumori        40.98  61  P   P   07 53 06.2 -0.7
PLAI Plampang        40.98 143  P   P   07 53 06.4 -0.8
JTM  Tenmabayashi    41.46  57  P   P   07 53 10.1 -0.7
KBD  Kabd            41.46 286  P   P   07 53 11.8 +0.8
MAK  Makhachkala     41.95 307d iP   P   07 53 14.0 -0.8
MAK                           e*PP  pP  07 53 28.7 -1.0
MAK                           e*SP  sP  07 53 36.9 +0.5
MAK                           e         07 54 54.1
MAK                           ePPP  PPP 07 55 23.5
MAK                           eS    S   07 59 30.0 +0.7
MAK                           e*SS  sS  07 59 55.0 +0.7
MAK                           eSS   SS  08 02 40.0 +2.4
MAK                           eSSS  SSS 08 03 13.1
MAK                            pmax pmax
     comp=Z,204nm,1.1s
MAK                            MLR  MLR
     comp=Z,319nm,17.0s
WBSI Waikabubak, Su  42.54 142  P   P   07 53 19.4 -0.5
     comp=Z,942nmcomp=Z,99nm,0.9s
JCJ  Chichijima      42.66  77  LR  LR  08 11 17.2
     comp=Z,92nm,21.7s,baz=250,slow=36
ASAJ Asahikawa       43.05  52  P   P   07 53 22.5 -1.3
     comp=Z,26nm,0.7s,baz=266,slow=5.9,SNR=20
ASAJ                           LR   LR  08 11 35.4
     comp=Z,155nm,19.0s,baz=183,slow=36
     comp=Z,26nm,0.7s
ASAJ Asahikawa       43.05  52  P   P   07 53 23.6 -0.1
ASAJ                           pmax pmax
     comp=Z,44nm,0.9s
JKA  Kamikawa-asahi  43.05  52  P   P   07 53 23.6 -0.1
JKA                            IAmb IAmb 07 53 60.0
     comp=Z,44nm,0.9s
EDFI Ende, Flores    43.15 139  P   P   07 53 26.1 +1.1
     comp=Z,423nmcomp=Z,28nm,1.1s
ERM  Erimo           43.16  55  P   P   07 53 24.1 -0.6
ERM  Erimo           43.16  55  P   P   07 53 23.8 -0.9
JEM  Erimo           43.16  55  P   P   07 53 24.0 -0.7
YAK  Yakutsk         43.52  23  P   P   07 53 27.2  0.0
YAK                            IAmb IAmb 07 53 28.6
     comp=Z,48nm,0.7s
YAK  Yakutsk         43.52  23 eP   P   07 53 27.2  0.0
YAK                           e*PP  pP  07 53 43.8 +1.8
YAK                           e         07 55 09.6
YAK                           ePPP  PPP 07 55 45.0
YAK                           eS    S   07 59 51.5 -0.4
YAK                           eSSS  SSS 08 03 47.4
YAK                            pmax pmax
     comp=Z,50nm,1.1s
YAK                            pmax pmax
     comp=N,22nm,1.5s
YAK                            pmax pmax
     comp=E,25nm,1.3s
YAK                            pmax pmax
     comp=Z,261nm,5.2s
YAK                            pmax pmax
     comp=N,158nm,5.3s
YAK                            pmax pmax
     comp=E,146nm,5.8s
YAK                            smax smax
     comp=E,223nm,5.9s
YAK                            smax smax
     comp=N,220nm,6.5s
YSS  Yuzhno-Sakhali  43.68  48  P   P   07 53 28.1 -0.7
YSS  Yuzhno-Sakhali  43.68  48k iP   P   07 53 28.2 -0.6
YSS                           e*PP  pP  07 53 43.3 -0.4
YSS                           e*SP  sP  07 53 51.0 +0.9
YSS                           e         07 55 15.6
YSS                           eS    S   07 59 55.2 +0.5
YSS                            pmax pmax
     comp=Z,200nm,4.6s
YSS                            pmax pmax
     comp=Z,60nm,1.1s
YSS                            MLR  MLR
     comp=Z,500nm,15.0s
YSS                            MLR  MLR
     comp=N,400nm,17.0s
UGL  Uglegorsk       43.73  45 eP   P   07 53 29.2 +0.1
UGL                           eS    S   07 59 52.5 -2.8
UGL                            pmax pmax
     comp=Z,100nm,0.7s
NRIK Noril'sk        44.08 357  P   P   07 53 32.6 +1.0
     comp=Z,8.5nm,0.7s,baz=164,slow=6.2,SNR=18
NRIK                           S    S   08 00 01.1 +1.2
     comp=Z,1.4nm,0.5s,baz=304,slow=21,SNR=1.7
NRIK                           LR   LR  08 12 05.3
     comp=Z,126nm,18.4s,baz=175,slow=36
     comp=Z,8.5nm,0.7s
NRIK Noril'sk        44.08 357d iP   P   07 53 32.4 +0.8
NRIK                           pmax pmax
     comp=Z,26nm,0.9s
RAYN Ar Rayn         44.35 278  P   P   07 53 34.5 -0.1
RAYN                           IAmb IAmb 07 53 51.6
     comp=Z,82nm,1.2s
RAYN Ar Rayn         44.35 278  P   P   07 53 36.2 +1.6
RAYN Ar Rayn         44.35 278  P   P   07 53 34.5 -0.1
RAYN                           pmax pmax
     comp=Z,82nm,1.2s
RAYN Ar Rayn         44.35 278 iP   P   07 53 34.5 -0.1
     SNR=21
RAYN Ar Rayn         44.35 278  P   P   07 53 34.6 +0.1
RAYN                           pP   pP  07 53 50.0 +0.5
TYV  Tymovskoe       44.58  42 eP   P   07 53 36.3 +0.4
TYV                            pmax pmax
     comp=Z,54nm,1.3s
TYV                            pmax pmax
     comp=Z,300nm,6.2s
NCK  Nalchik         44.85 307⇑eP   P   07 53 38.7 +0.5
NCK                            pmax pmax
     comp=Z,41nm,0.4s
GEVA Gevas           44.92 300  P   P   07 53 39.8 +0.8
KARS Kars            44.99 303  P   P   07 53 40.3 +0.8
KARS Kars            44.99 303  P   P   07 53 40.3 +0.8
KARS                           pmax pmax
     comp=Z,240nm,0.8s
KBZ  Khabaz          45.38 307  P   P   07 53 42.7 +0.4
     comp=Z,3.8nm,0.8s,baz=209,slow=5.0,SNR=11
KBZ                            S    S   08 00 20.7 +1.3
     comp=Z,1.0nm,0.8s,baz=262,slow=17,SNR=1.4
     comp=Z,3.8nm,0.8s
KBZ  Khabaz          45.38 307⇓eP   P   07 53 41.9 -0.4
KBZ                            pmax pmax
     comp=Z,19nm,2.2s
GOF  Gofitskoye      45.44 309ceP   P   07 53 43.9 +1.1
SOEI Soe             45.51 137  P   P   07 53 44.1 +0.3
SOEI Soe             45.51 137  P   P   07 53 45.0 +1.2
SHA1 Shidzhatmaz     45.55 307c iP   P   07 53 44.9 +0.8
KIV  Kislovodsk      45.56 307  P   P   07 53 43.8 -0.1
KIV                            IAmb IAmb 07 54 04.3
     comp=Z,50nm,1.1s
KIV  Kislovodsk      45.56 307  P   P   07 53 44.7 +0.9
KIV                            P   P   07 53 44.7 +0.9
KIV  Kislovodsk      45.56 307 ⇓P   P   07 53 45.8 +1.9
KIV  Kislovodsk      45.56 307 eP   P   07 53 43.5 -0.4
KIV                            pmax pmax
     comp=Z,32nm,1.1s
KIV                            MLR  MLR
     comp=Z,62nm,16.0s
KIV  Kislovodsk      45.56 307 iP   P   07 53 44.8 +0.9
     SNR=5.9
KIRV Kirov           45.64 329c iP   P   07 53 44.6 +0.4
GURO Guroymak-BITLI  45.73 300  P   P   07 53 44.8 -0.6
GURO                           IAmb IAmb 07 54 03.0
     comp=Z,57nm,1.6s
FAKI Fak Fak         46.27 122  P   P   07 53 48.7 -1.0
MARD Mardin          46.73 298  P   P   07 53 53.6 +0.4
KOPT Kop Dagi        46.94 302  P   P   07 53 55.9 +0.8
KOPT                           IAmb IAmb 07 54 14.6
     comp=Z,37nm,1.3s
VRH  Novokhopyorsk   47.38 317 eP   P   07 53 56.0 -1.9
VRH                           e*PP  pP  07 54 09.7 -3.1
VRH                            pmax pmax
     comp=Z,40nm,0.9s
SOC  Sochi           47.67 307 eP   P   07 53 59.7 -0.6
SOC                           e         07 55 50.5
SOC                           ePPP  PPP 07 56 38.4
SOC                           eS    S   08 00 52.6 +0.4
SOC                           eSS   SS  08 04 12.5 -8.2
SOC                           eSSS  SSS 08 05 27.2
SOC                            pmax pmax
     comp=Z,24nm,0.9s
GUMO Guam            48.74  94  LR  LR  08 15 52.8
     comp=Z,61nm,19.0s,baz=318,slow=38
VORD Divnogorie      48.84 316 eP   P   07 54 07.1 -2.1
VORD                          e*PP  pP  07 54 21.7 -2.4
VORD                           pmax pmax
     comp=Z,20nm,1.0s
VSR  Storozhevoye    48.96 317 eP   P   07 54 06.6 -3.5
VSR                           e*PP  pP  07 54 22.2 -2.9
VSR                            pmax pmax
     comp=Z,10.0nm,0.9s
VORR Voronezh        49.01 317 eP   P   07 54 08.7 -1.8
VORR                           pmax pmax
     comp=Z,40nm,0.9s
LPSR Galich'ya Gora  49.36 319 eP   P   07 54 11.6 -1.5
LPSR                          e*PP  pP  07 54 26.1 -2.0
LPSR                           pmax pmax
     comp=Z,50nm,0.8s
ANN  Anapa           49.38 308 eP   P   07 54 11.9 -1.5
ANN                           e*PP  pP  07 54 27.9 -0.6
ANN                           e         07 55 32.8
ANN                           eS    S   08 01 15.0 -1.2
ANN                            pmax pmax
     comp=Z,20nm,0.7s
GAZ  Gaziantep       49.58 298  P   P   07 54 15.0 -0.2
GAZ                            IAmb IAmb 07 54 17.1
     comp=Z,31nm,0.9s
TOKA Tokat           50.02 302  P   P   07 54 19.0 +0.6
TIXI Tiksi           50.08  14  P   P   07 54 17.8 -0.5
TIXI Tiksi           50.08  14  LR  LR  08 18 50.3
     comp=Z,182nm,19.4s,baz=212,slow=40
TIXI Tiksi           50.08  14d iP   P   07 54 18.4 +0.1
TIXI                           pmax pmax
     comp=Z,86nm,1.5s
TIXI Tiksi           50.08  14  P   P   07 54 18.4 +0.1
TIXI                           pP   pP  07 54 33.7 +0.3
ASF  Jabal al Asfar  50.33 292  LR  LR  08 18 40.8
     comp=Z,84nm,18.1s,baz=144,slow=40
ATD  Arta Tunnel     50.53 264  P   P   07 54 23.9 +1.2
ATD                            IAmb IAmb 07 54 42.8
     comp=Z,43nm,1.2s
ATD  Arta Tunnel     50.53 264  P   P   07 54 24.4 +1.8
BNN  Bunyan          50.56 300  P   P   07 54 23.1 +0.5
MOS  Moscow          50.75 322 eP   P   07 54 19.9 -3.7
MOS                           e*PP  pP  07 54 36.1 -2.5
MOS                           e*SP  sP  07 54 42.3 -2.8
MOS                           eS    S   08 01 31.7 -3.2
MOS                           e*SS  sS  08 01 58.7 -1.7
MOS                            pmax pmax
     comp=Z,38nm,0.8s
KLMR Klimovskoe      51.14 329 eP   P   07 54 23.9 -2.6
KLMR                          e*PP  pP  07 54 40.1 -1.6
KLMR                           S    S   08 01 33.4 -6.8
```

KLMR SS **SS** **08 05 13.4 -2.3**
KLMR pmax pmax
comp=Z,50nm,1.5s
KLMR MLR MLR
comp=Z,236nm,14.0s
OBN Obninsk 51.21 321⇓ *e*P **P** **07 54 27.1 0.0**
OBN *e**PP **pP** **07 54 41.5 -0.6**
OBN *e**SP **sP** **07 54 47.5 -1.1**
OBN *e* 07 55 39.0
OBN *e* 07 56 21.3
OBN *e*PPP PPP 07 57 22.9
OBN pmax pmax
comp=Z,38nm,1.3s
OBN MLR MLR
comp=Z,136nm,19.0s
OBN Obninsk 51.21 321 P **P** **07 54 27.2 +0.1**
comp=Z,25nm,0.4s
MA2 Magadan 51.46 33 P **P** **07 54 28.8 -0.2**
MA2 Magadan 51.46 33 LR LR 08 18 32.3
comp=Z,308nm,19.4s,baz=272,slow=38
MA2 Magadan 51.46 33 *d* i P **P** **07 54 28.7 -0.2**
MA2 pmax pmax
comp=Z,72nm,1.6s
MA2 Magadan 51.46 33 P **P** **07 54 28.6 -0.3**
comp=Z,52nm,1.2s
MA2 Magadan 51.46 33 P **P** **07 54 28.8 -0.2**
MA2 sP **sP** **07 54 49.8 -0.8**
MMAI Mount Meron Ar 51.47 293 P **P** **07 54 30.5 +1.0**
comp=Z,7.5nm,0.8s,baz=96,slow=7.6,SNR=11
MMAI S **S** **08 01 48.2 +2.5**
comp=Z,0.6nm,0.3s,baz=133,slow=31,SNR=1.2
MMAI LR LR 08 19 40.9
comp=Z,106nm,20.2s,baz=77,slow=40
comp=Z,7.5nm,0.8s
SIM Simferopol' 51.74 308 *e*P **P** **07 54 31.7 +0.4**
SIM *PP **pP** **07 54 47.0 +0.6**
SIM S **S** **08 01 52.0 +3.0**
SIM pmax pmax
comp=Z,26nm,0.8s
SIM MLR MLR
comp=Z,130nm,23.0s
BZK Bozkurt 51.84 304 ⇑P **P** **07 54 33.4 +1.3**
BZK Bozkurt 51.84 304 P **P** **07 54 32.6 +0.6**
comp=Z,100nm,0.7s
KIRS Kirsehir-Merke 52.04 301 ⇑P **P** **07 54 35.0 +1.3**
ILGA Ilgaz 52.09 303 P **P** **07 54 35.0 +0.8**
BR104 Keskin Array S 52.22 302 P **P** **07 54 35.1 0.0**
comp=Z,144nmcomp=Z,17nm,1.1s
BR131 Keskin Array S 52.22 302 P **P** **07 54 35.0 -0.1**
BR131 Keskin Array S 52.22 302 P **P** **07 54 35.3 +0.2**
SNR=8.2
BR131 P **P** **07 54 35.3 +0.2**
SNR=8.2
BR131 Keskin Array S 52.22 302 *c* i P **P** **07 54 35.2 +0.1**
BRTR Keskin Array B 52.22 302 P **P** **07 54 34.7 -0.4**
BRTR Keskin Array B 52.22 302 P **P** **07 54 35.1 +0.1**
comp=Z,11nm,0.8s,baz=110,slow=6.9,SNR=42
BRTR S **S** **08 01 57.4 +1.3**
comp=Z,0.3nm,0.3s,baz=105,slow=33,SNR=1.3
comp=Z,11nm,0.8s
BR106 Keskin Array S 52.23 302 P **P** **07 54 35.3 +0.1**
comp=Z,146nmcomp=Z,19nm,0.9s
BR105 Keskin Array S 52.24 302 P **P** **07 54 35.3 +0.1**
comp=Z,168nmcomp=Z,20nm,0.9s
EIL Elat 52.38 289 LR LR 08 21 41.5
comp=Z,116nm,18.0s,baz=80,slow=41
MBWA Marble Bar 52.47 150 P **P** **07 54 35.9 -1.0**
MBWA IAmb IAmb 07 54 52.9
comp=Z,25nm,0.8s
MBWA Marble Bar 52.47 150 P **P** **07 54 35.5 -1.3**
comp=Z,32nm,0.9s
MBWA Marble Bar 52.47 150 P **P** **07 54 37.8 +1.0**
MBWA Marble Bar 52.47 150 P **P** **07 54 36.5 -0.3**
MBWA Marble Bar 52.47 150 P **P** **07 54 35.6 -1.3**
MBWA pP **pP** **07 54 51.0 -1.2**
MBWA sP **sP** **07 54 57.6 -1.1**
JAY Jayapura 52.75 115 LR LR 08 17 04.8
comp=Z,55nm,20.3s,baz=298,slow=36
PSAD1 Pilbara Seismi 52.77 150 P **P** **07 54 37.7 -1.4**
comp=Z,32nm,0.8s
PSAC1 Pilbara Seismi 52.83 150 P **P** **07 54 38.2 -1.3**
comp=Z,33nm,1.4s
KNRA Kununurra 52.84 137 P **P** **07 54 39.4 -0.2**
KNRA IAmb IAmb 07 55 00.8
comp=Z,22nm,0.8s
KNRA Kununurra 52.84 137 P **P** **07 54 38.1 -1.6**
comp=Z,29nm,0.8s
ANTO Ankara 52.86 302 P **P** **07 54 39.9 +0.2**
ANTO IAmb IAmb 07 54 41.3
comp=Z,27nm,0.7s
ANTO Ankara 52.86 302 P **P** **07 54 39.5 -0.2**
ANTO Ankara 52.86 302 ⇑P **P** **07 54 40.4 +0.7**
ANTO Ankara 52.86 302 P **P** **07 54 39.9 +0.2**
ANTO pmax pmax
comp=Z,27nm,0.7s
ANTO Ankara 52.86 302 P **P** **07 54 40.0 +0.3**
comp=Z,392nmcomp=Z,22nm,1.2s
ANTO Ankara 52.86 302 P **P** **07 54 40.3 +0.5**
ANTO pP **pP** **07 54 55.3 +0.4**
PSAB1 Pilbara Seismi 52.87 150 P **P** **07 54 39.0 -0.8**
comp=Z,21nm,2.6s
PSAA2 Pilbara Seismi 52.87 150 P **P** **07 54 38.7 -1.2**
comp=Z,30nm,1.0s
PSAB2 Pilbara Seismi 52.87 150 P **P** **07 54 38.6 -1.2**
comp=Z,27nm,0.9s
PSA00 Pilbara Seismi 52.88 150 P **P** **07 54 39.4 -0.5**
FITZ Fitzroy Crossi 52.91 142 P **P** **07 54 38.4 -1.7**
FITZ Fitzroy Crossi 52.91 142 P **P** **07 54 38.7 -1.4**
comp=Z,5.2nm,1.2s
FITZ Fitzroy Crossi 52.91 142 P **P** **07 54 39.6 -0.5**
CSS Mathiatis 52.92 296 P **P** **07 54 39.7 -0.4**
CSS IAmb IAmb 07 55 06.7
comp=Z,54nm,1.5s
CSS Mathiatis 52.92 296 P **P** **07 54 40.2 +0.1**
comp=Z,23nm,1.0s
SEY Seymchan 53.16 29⇓ *i* P **P** **07 54 41.4 0.0**
SEY pmax pmax
comp=Z,30nm,1.5s
MDUB Mudurnu 54.03 303 P **P** **07 54 48.5 +0.1**
PEA0B Petropavlovsk- 54.11 42 P **P** **07 54 48.1 -0.5**
PEA0B Petropavlovsk- 54.11 42 *ce*P **P** **07 54 48.7 +0.1**
PETK Petropavlovsk- 54.11 42 P **P** **07 54 47.6 -1.0**
PETK Petropavlovsk- 54.11 42 P **P** **07 54 48.0 -0.6**
comp=Z,30nm,1.0s,baz=294,slow=2.0,SNR=21
PETK LR LR 08 20 39.3
comp=Z,143nm,19.6s,baz=252,slow=39
comp=Z,30nm,1.0s
PETK Petropavlovsk- 54.11 42 P **P** **07 54 48.0 -0.6**
BORA Esksehir 54.65 302 P **P** **07 54 52.7 -0.1**
PET Petropavlovsk 54.68 42 P **P** **07 54 52.4 -0.3**
PET Petropavlovsk 54.68 42⇑ *i* P **P** **07 54 52.7 0.0**
PET pmax pmax
comp=Z,65nm,1.2s
PET Petropavlovsk 54.68 42 P **P** **07 54 52.6 -0.1**
comp=Z,46nm,1.2s
ISP Isparta 54.82 300⇓ *e*P **P** **07 54 54.1 0.0**
ISP pmax pmax
comp=Z,33nm,0.7s
AK09 Malin Array Si 55.12 315 P **P** **07 54 55.6 -0.3**
AK08 Malin Array Si 55.14 315 P **P** **07 54 55.7 -0.3**
AKASG Malin Array Be 55.16 315 P **P** **07 54 55.4 -0.8**
AKASG IAmb IAmb 07 55 13.5
comp=Z,26nm,0.8s
AKASG Malin Array Be 55.16 315 P **P** **07 54 55.6 -0.6**
comp=Z,9.9nm,0.7s,baz=81,slow=6.6,SNR=81
AKASG S **S** **08 02 33.6 -1.5**
comp=Z,1.2nm,0.7s,baz=85,slow=13,SNR=7.1
comp=Z,9.9nm,0.7s
AKASG Malin Array Be 55.16 315 *i* P **P** **07 54 55.5 -0.7**
AKASG pmax pmax
comp=Z,15nm,0.7s
AKBB Malin Array Si 55.16 315 P **P** **07 54 55.1 -1.1**
AKBB IAmb IAmb 07 55 13.6
comp=Z,27nm,0.8s
AKBB Malin Array Si 55.16 315 *c* i P **P** **07 54 55.5 -0.7**
AKBB pmax pmax
comp=Z,27nm,0.8s
AKBB Malin Array Si 55.16 315 P **P** **07 54 55.7 -0.5**
AK03 Malin Array Si 55.16 315 P **P** **07 54 55.5 -0.7**
KIEV Kiev 55.17 315 P **P** **07 54 55.1 -1.2**
KIEV IAmb IAmb 07 55 13.6
comp=Z,24nm,0.8s
KIEV Kiev 55.17 315 ⇓P **P** **07 54 56.0 -0.3**
KIEV Kiev 55.17 315 P **P** **07 54 55.1 -1.2**
KIEV pmax pmax
comp=Z,24nm,0.8s
KIEV Kiev 55.17 315 *i* P **P** **07 54 55.7 -0.6**
SNR=16
KIEV Kiev 55.17 315 P **P** **07 54 55.6 -0.6**
comp=Z,2μmcomp=Z,127nm,0.9s
KIEV pP **pP** **07 55 11.5 -0.1**
comp=Z,2μmcomp=Z,127nm,0.9s
KIEV Kiev 55.17 315 P **P** **07 54 55.6 -0.6**
KIEV pP **pP** **07 55 11.3 -0.3**
YLV Yalova 55.41 303 P **P** **07 54 58.4 +0.1**
comp=Z,438nmcomp=Z,51nm,0.8s
JOF Joensuu 55.43 330 *e*P **P** **07 54 58.8 +0.9**
MILM Milestii Mici 55.43 311⇑ *i* P **P** **07 54 57.0 -1.2**
comp=Z,80nm,1.2s
MILM Milestii Mici 55.43 311 *c* i P **P** **07 54 57.0 -1.2**
MILM pmax pmax
comp=Z,80nm,1.2s
ELL Elmali 55.44 298 P **P** **07 54 57.9 -0.7**
ELL Elmali 55.44 298 P **P** **07 54 57.9 -0.7**
ELL pmax pmax
comp=Z,527nm,0.8s
SORM Soroca 55.72 312 ⇑P **P** **07 55 00.4 +0.2**
SORM Soroca 55.72 312 P **P** **07 55 00.4 +0.2**
SORM Soroca 55.72 312 P **P** **07 54 59.9 -0.3**
comp=Z,3μmcomp=Z,17nm,0.9s
APA Apatity 55.73 336⇓ *i* P **P** **07 55 03.2 +3.2**
APA *i* 07 56 05.4
APA pmax pmax
comp=Z,13nm,0.7s
APA MLR MLR
comp=Z,700nm,14.0s
AKAS Kas 55.75 298 P **P** **07 54 59.7 -1.2**
AKAS IAmb IAmb 07 55 16.5
comp=Z,41nm,1.2s
TPGR Topolog 55.79 308 ⇓P **P** **07 55 01.5 +0.7**
TIRR Tirgusor 55.82 308 P **P** **07 54 60.0 -1.0**
TIRR IAmb IAmb 07 55 19.7
comp=Z,23nm,1.0s
TIRR Tirgusor 55.82 308 P **P** **07 55 00.0 -1.0**
TIRR pmax pmax
comp=Z,23nm,1.0s
TIRR Tirgusor 55.82 308 P **P** **07 55 00.9 -0.1**
comp=Z,25nm,1.1s
LUBAR Lubar, Ukraine 56.09 314 P **P** **07 55 02.1 -0.8**
MNK Minsk 56.12 320 *i* P **P** **07 55 02.3 -0.8**
comp=E,27nm,0.9s
MNK *i* P **P** **07 55 02.3 -0.8**
comp=N,15nm,0.6s
MNK *i* P **P** **07 55 02.3 -0.8**
comp=Z,27nm,0.8s,baz=93
MNK *i* pP **pP** **07 55 18.2 -0.3**
MNK *i* PP **PP** **07 57 08.0 -0.3**
MNK *i* PPP PPP 07 58 22.9
MNK *i* S **S** **08 02 48.0 +0.1**
MNK *i* sS **sS** **08 03 15.4 +2.1**
MNK *i* SS **SS** **08 06 36.7 +2.1**
MNK *i* LR LR 08 19 31.4
MNK *i* LRM MLR 08 21 48.9
comp=E,804nm,19.0s
MNK *i* LRM MLR 08 21 48.9
comp=N,400nm,17.4s
MNK *i* LRM MLR 08 21 48.9
comp=Z,57nm,13.6s
MNK Minsk 56.12 320 *i* P **P** **07 55 02.2 -0.8**
MNK *i* *PP **pP** **07 55 18.1 -0.3**
MNK *i* 07 57 08.0
MNK *i* PPP PPP 07 58 22.9
MNK *i* S **S** **08 02 47.9 +0.1**
MNK *i* SS **SS** **08 06 36.6 +2.1**
MNK pmax pmax
comp=E,27nm,0.9s
MNK pmax pmax
comp=Z,27nm,0.8s
MNK pmax pmax
comp=N,15nm,0.6s
MNK MLR MLR
comp=E,804nm,19.0s
MNK MLR MLR
comp=N,400nm,17.0s
MNK MLR MLR
comp=Z,57nm,14.0s
HARR Harsova 56.15 308 ⇑P **P** **07 55 03.6 +0.2**
HARR Harsova 56.15 308 P **P** **07 55 03.5 +0.2**
MI28 Mi28,Pidlybu 56.15 316 P **P** **07 55 03.0 -0.3**
ICOR Ion Corvin 56.28 307 ⇑P **P** **07 55 05.2 +0.9**
NACGM Naroch 56.78 320⇑ *i* P **P** **07 55 08.0 +0.2**
comp=Z,39nm,0.9s,baz=93
MEEK Meekatharra 56.82 154 P **P** **07 55 07.1 -1.2**
comp=Z,28nm,1.0s
MEEK Meekatharra 56.82 154 P **P** **07 55 07.8 -0.5**
SPBR Spulber 56.91 309 ⇓P **P** **07 55 10.0 +1.2**
VRI Vrincioaia 56.92 310 ⇓P **P** **07 55 10.3 +1.4**
VRI Vrincioaia 56.92 310 P **P** **07 55 10.3 +1.4**
VRI Vrincioaia 56.92 310 P **P** **07 55 09.6 +0.7**
comp=Z,59nm,1.3s
ARG Arkhangelos 56.94 298 P **P** **07 55 08.4 -0.7**
ARG Arkhangelos 56.94 298 P **P** **07 55 08.4 -0.7**
ARG pmax pmax
comp=Z,44nm,1.0s
TESR Tescani 56.94 310 ⇑P **P** **07 55 09.1 +0.1**
TESR Tescani 56.94 310 P **P** **07 55 08.7 -0.3**
comp=Z,22nm,1.8s
PLOR5 Plostina Array 56.97 309 P **P** **07 55 10.0 +0.7**
comp=Z,1μmcomp=Z,166nm,0.7s
KMPD K-Podol'skiy 56.97 313 P **P** **07 55 08.7 -0.4**
KMPD P **P** **07 55 07.8 -1.3**
PLOR Plostina 56.98 310 ⇑P **P** **07 55 10.4 +1.1**
PLOR Plostina 56.98 310 P **P** **07 55 10.4 +1.1**
VSU Vasula 57.02 325 *d* i P **P** **07 55 08.8 -0.5**
VSU Vasula 57.02 325 *e*P **P** **07 55 08.6 -0.8**
ISR Istrita 57.10 309 ⇓P **P** **07 55 11.9 +1.7**
ISR Istrita 57.10 309 P **P** **07 55 11.9 +1.7**
ONER Baraj Valea Uz 57.12 310 ⇑P **P** **07 55 11.2 +0.9**
RNPP9 Sopachiv 57.27 316 P **P** **07 55 11.3 +0.1**
RNPP5 Staryi Chortor 57.27 316 P **P** **07 55 11.2 -0.1**
COVR Voineasa-Covas 57.29 310 ⇑P **P** **07 55 12.1 +0.6**
RNPP8 Varash 57.29 316 P **P** **07 55 11.1 -0.3**
ARBE Arbavere 57.49 326 *e*P **P** **07 55 13.7 +1.1**
MLR Muntele Rosu 57.49 309 P **P** **07 55 13.0 -0.1**
MLR Muntele Rosu 57.49 309 LR LR 08 24 14.8
comp=Z,137nm,19.4s,baz=60,slow=40
MLR Muntele Rosu 57.49 309 ⇑P **P** **07 55 14.2 +1.1**
MLR Muntele Rosu 57.49 309 P **P** **07 55 13.0 -0.1**
MLR pmax pmax
comp=Z,70nm,1.0s
MLR Muntele Rosu 57.49 309 P **P** **07 55 13.8 +0.7**
comp=Z,842nmcomp=Z,73nm,1.2s
FIA1 FINESS Array S 57.62 328 P **P** **07 55 13.9 +0.3**
FINES FINESS Array B 57.63 328 P **P** **07 55 14.0 +0.5**
FINES FINESS Array B 57.63 328 P **P** **07 55 14.2 +0.6**
comp=Z,7.9nm,0.6s,baz=101,slow=9.9,SNR=23
comp=Z,7.9nm,0.6s
FINES FINESS Array B 57.63 328 *i* P **P** **07 55 14.1 +0.5**
FINES pmax pmax
comp=Z,8.0nm,0.6s
EZN Ezine 57.82 302 P **P** **07 55 15.4 +0.1**
comp=Z,1μmcomp=Z,25nm,1.4s
KARP Karpathos 57.82 297 P **P** **07 55 14.9 -0.6**
KARP Karpathos 57.82 297 *e*P **P** **07 55 15.7 +0.2**
KARP Karpathos 57.82 297 P **P** **07 55 15.4 0.0**
comp=Z,2μmcomp=Z,315nm,0.8s
DOPR Dopca 57.85 310 ⇑P **P** **07 55 16.9 +1.5**
BURAR Bucovina Array 57.85 312 P **P** **07 55 14.8 -0.7**
BURAR Bucovina Array 57.85 312 ⇑P **P** **07 55 16.4 +0.9**
BURAR Bucovina Array 57.85 312 P **P** **07 55 16.4 +0.9**
BUR08 Bucovina Ar. S 57.86 312 P **P** **07 55 15.1 -0.5**
ALN Alexandroupoli 57.89 304 P **P** **07 55 15.8 0.0**
ALN IAmb IAmb 07 55 17.0
comp=Z,23nm,0.9s
ALN Alexandroupoli 57.89 304 P **P** **07 55 15.8 0.0**
ALN pmax pmax
comp=Z,23nm,0.9s
VOIR 58.13 309 ⇑P **P** **07 55 18.9 +1.4**
VOIR 58.13 309 P **P** **07 55 18.9 +1.4**
VOIR 58.13 309 P **P** **07 55 17.3 -0.2**
comp=Z,11nm,0.6s
RDO Rodhopi 58.24 304 P **P** **07 55 17.9 -0.3**
RDO IAmb IAmb 07 55 42.2
comp=Z,18nm,1.1s
STNU Starunia 58.26 313 P **P** **07 55 18.5 +0.2**
MEF Metsahovi 58.34 327 *e*P **P** **07 55 19.2 +0.6**
PABE Paberze 58.41 321 P **P** **07 55 19.1 0.0**
PABE Paberze 58.41 321 *e*P **P** **07 55 19.6 +0.5**
ARR Arges 58.43 309 ⇓P **P** **07 55 20.3 +0.7**
ARCR ARCALIA 58.47 311 ⇑P **P** **07 55 20.0 +0.3**
KEV Kevo 58.54 338 P **P** **07 55 20.4 +0.5**
KEV Kevo 58.54 338 P **P** **07 55 20.4 +0.5**
KEV pmax pmax
comp=Z,105nm,1.5s
KEV Kevo 58.54 338 P **P** **07 55 21.0 +1.2**
KEV pP **pP** **07 55 36.2 +1.0**
KEV PcP **PcP** **07 56 09.3 -0.3**
SUW Suwalki 58.87 319 *e*P **P** **07 55 22.1 -0.3**
ARCES ARCESS Array B 59.02 337 P **P** **07 55 23.7 +0.5**
comp=Z,2.8nm,0.7s,baz=94,slow=7.2,SNR=10
comp=Z,2.8nm,0.7s
LOT Lotru 59.02 309 ⇑P **P** **07 55 24.0 +0.2**
BRIU Brid 59.27 313 P **P** **07 55 25.6 +0.4**
MARR Marisel-Cluj 59.35 311 ⇑P **P** **07 55 26.5 +0.5**
VAF Ylistaro 59.35 330 *e*P **P** **07 55 26.3 +0.8**
WB0 Warramunga Arr 59.43 135 P **P** **07 55 25.2 -1.5**
MUKU Mukachevo 59.48 313 P **P** **07 55 27.3 +0.6**
WRA Warramunga Arr 59.53 136 P **P** **07 55 26.2 -1.2**
comp=Z,4.5nm,0.6s,baz=320,slow=7.1,SNR=5.3
WRA LR LR 08 23 31.0
comp=Z,103nm,21.5s,baz=324,slow=38
WRA PKP2ab 08 25 16.9
comp=Z,2.6nm,1.0s,baz=136,slow=5.0,SNR=5.3
comp=Z,4.5nm,0.6s
WRAB Tennant Creek 59.53 136 P **P** **07 55 26.2 -1.2**
WRAB Tennant Creek 59.53 136⇓ *e*P **P** **07 55 26.8 -0.6**
WRAB pmax pmax
comp=Z,27nm,1.2s
DRGR 59.62 311 ⇓P **P** **07 55 27.8 0.0**
DRGR 59.62 311 P **P** **07 55 27.8 0.0**
HOLU Holmets 59.67 313 P **P** **07 55 28.4 +0.4**
RAF Rauma 59.68 327 *e*P **P** **07 55 28.3 +0.5**
IDI Anoyia 59.69 297 P **P** **07 55 27.7 -0.7**
IDI IAmb IAmb 07 55 29.4
comp=Z,28nm,0.8s
KOLS Kolonicke sedl 59.71 313 *e*P **P** **07 55 30.0 +1.7**
KOLS pmax pmax
comp=Z,6.0nm,0.6s
KOLS Kolonicke sedl 59.71 313 *e*P **P** **07 55 30.0 +1.7**
KOLS *e*PP **PP** **07 57 46.0 +5.6**
BLDU Ballidu 59.72 158 P **P** **07 55 27.2 -1.2**
GZR Gura Zlata 59.72 309 ⇑P **P** **07 55 29.6 +1.0**
GZR Gura Zlata 59.72 309 P **P** **07 55 29.5 +1.0**
KTK1 Kautokeino 59.73 337 *e*P **P** **07 55 29.1 +1.0**
BILL Bilibino 59.86 24 P **P** **07 55 29.3 +0.3**
BILL Bilibino 59.86 24 *d* i P **P** **07 55 29.5 +0.5**
BILL pmax pmax
comp=Z,34nm,0.7s
BILL Bilibino 59.86 24 P **P** **07 55 29.4 +0.5**
BILL pP **pP** **07 55 45.7 +1.2**
BILL PcP **PcP** **07 56 15.2 +0.2**
WRKA Warakurna 59.95 144 P **P** **07 55 29.4 -0.8**
comp=Z,28nm,1.2s
WRKA Warakurna 59.95 144 P **P** **07 55 29.4 -0.8**
HERR Herculane 60.04 309 ⇑P **P** **07 55 32.0 +1.3**
SURR Surduc 60.14 310 ⇓P **P** **07 55 31.9 +0.7**
STHS Stebnicka Huta 60.34 314 *e*P **P** **07 55 32.3 -0.3**
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 60.34 314 *e*P **P** **07 55 32.3 -0.3**
STHS *e*PP **PP** **07 57 49.2 +3.3**
BEL Belsk 60.43 317 *e*P **P** **07 55 32.5 -0.6**
VAY Valandovo 60.43 305 *i* P **P** **07 55 32.7 -0.7**
LIT Litokhoron 60.69 303 P **P** **07 55 34.1 -1.1**
LIT IAmb IAmb 07 55 35.4
comp=Z,33nm,1.1s
LIT Litokhoron 60.69 303 P **P** **07 55 34.1 -1.1**
LIT pmax pmax
comp=Z,33nm,1.1s
LODK Lodwar 60.70 259 P **P** **07 55 34.9 -0.8**
LODK IAmb IAmb 07 56 07.9
comp=Z,19nm,1.1s
LODK Lodwar 60.70 259 P **P** **07 55 36.6 +1.0**
BOVS Bovan 60.71 307 ⇑P **P** **07 55 35.5 +0.3**
JETT Jettan, Norway 60.79 337 *e*P **P** **07 55 32.5 -2.9**
MUN Mundaring 60.80 159 P **P** **07 55 35.6 -0.2**
NIE Niedzica 60.95 314 *e*P **P** **07 55 37.9 +1.0**
NIE Niedzica 60.95 314 P **P** **07 55 37.4 +0.6**
comp=Z,16nm,1.0s
KIBK Kibwezi 61.12 252 P **P** **07 55 37.3 -1.2**
KIBK Kibwezi 61.12 252 P **P** **07 55 40.0 +1.5**
OJC Ojcow 61.19 315 *e*P **P** **07 55 38.3 -0.1**
OJC Ojcow 61.19 315 P **P** **07 55 38.3 -0.1**
comp=Z,19nm,0.8s
KMBO Kilima Mbogo 61.20 253 P **P** **07 55 38.5 -0.8**
KMBO IAmb IAmb 07 56 09.4
comp=Z,19nm,1.1s
KMBO Kilima Mbogo 61.20 253 P **P** **07 55 40.3 +1.0**
comp=Z,1.2nm,0.3s,baz=38,slow=10,SNR=5.9
comp=Z,1.2nm,0.3s
KMBO Kilima Mbogo 61.20 253 P **P** **07 55 42.3 +3.0**
KMBO Kilima Mbogo 61.20 253 P **P** **07 55 38.5 -0.8**
KMBO pmax pmax
comp=Z,19nm,1.2s
KMBO Kilima Mbogo 61.20 253 P **P** **07 55 40.0 +0.8**
TRO Tromso 61.32 337 *e*P **P** **07 55 39.6 +0.8**
PSZ Piszkesteto 61.39 312 P **P** **07 55 39.9 0.0**
PSZ Piszkesteto 61.39 312 ⇑P **P** **07 55 39.9 0.0**
PSZ Piszkesteto 61.39 312 P **P** **07 55 39.9 0.0**
PSZ pmax pmax
comp=Z,16nm,1.0s
PSZ Piszkesteto 61.39 312 *e*P **P** **07 55 40.5 +0.6**
FNA Florina 61.41 304 P **P** **07 55 38.7 -1.4**
FNA IAmb IAmb 07 56 03.8
comp=Z,15nm,0.9s
FNA Florina 61.41 304 P **P** **07 55 38.7 -1.4**
FNA pmax pmax
comp=Z,15nm,0.9s
ITM Ithomi 61.66 300 P **P** **07 55 40.2 -1.7**
OHR Ohrid 61.78 305 *i* P **P** **07 55 43.2 +0.6**
NWAO Narrogin (SRO) 62.01 158 LR LR 08 21 43.0
comp=Z,99nm,21.9s,baz=292,slow=35
NWAO Narrogin (SRO) 62.01 158 P **P** **07 55 43.3 -0.6**
AS15 Alice Springs 62.02 139 P **P** **07 55 43.4 -0.9**
comp=Z,16nm,0.9s
AS13 Alice Springs 62.02 139 P **P** **07 55 43.4 -0.9**
comp=Z,18nm,0.8s
VYHS Vyhne 62.02 313 *e*P **P** **07 55 44.1 +0.1**
VYHS pmax pmax
comp=Z,13nm,1.3s
VYHS Vyhne 62.02 313 *e*P **P** **07 55 44.1 +0.1**
ASAR Alice Springs 62.04 139 P **P** **07 55 43.5 -0.9**
comp=Z,3.5nm,0.6s,baz=321,slow=6.8,SNR=50
ASAR PKP2bc 08 25 00.3
comp=Z,0.3nm,0.4s,baz=261,slow=36,SNR=2.1
ASAR LR LR 08 26 17.6
comp=Z,110nm,18.6s,baz=312,slow=40
comp=Z,3.5nm,0.6s
AS01 Alice Springs 62.07 139 P **P** **07 55 43.8 -0.8**
PUK Puka 62.28 306 P **P** **07 55 45.8 -0.1**
PUK IAmb IAmb 07 55 46.2
comp=Z,29nm,1.0s
KMBL Kambalda 62.32 154 P **P** **07 55 44.5 -1.5**
comp=Z,20nm,0.9s
MORH Mrgy, Hungar 62.48 311 ⇓P **P** **07 55 47.3 +0.3**
MORH Mrgy, Hungar 62.48 311 P **P** **07 55 46.7 -0.4**
comp=Z,12nm,1.1s
STEB Steborice 62.52 315 *e*P **P** **07 55 48.2 +0.9**
MAUC Maruska 62.56 314 *e*P **P** **07 55 49.1 +1.4**
MAUC *ex* x 07 56 04.6
PDG Podgorica 62.68 306 ⇑P **P** **07 55 48.7 +0.2**
MORC Moravsky Berou 62.69 315 P **P** **07 55 48.5 0.0**
MORC IAmb IAmb 07 56 14.2
comp=Z,22nm,1.1s
MORC Moravsky Berou 62.69 315 *e*P **P** **07 55 49.0 +0.5**
MORC Moravsky Berou 62.69 315 ⇑P **P** **07 55 49.9 +1.3**
MORC Moravsky Berou 62.69 315 P **P** **07 55 49.8 +1.3**
JAVC Velka Javorina 62.74 314 *e*P **P** **07 55 49.9 +1.1**
SPB2 Spitsbergen Ar 62.80 347 P **P** **07 55 49.5 +0.8**
SPB2 IAmb IAmb 07 56 31.5
comp=Z,27nm,1.2s
SPA0 Spitsbergen Ar 62.80 347 *e*P **P** **07 55 49.8 +1.0**
SPITS Spitsbergen Ar 62.80 347 P **P** **07 55 49.5 +0.8**
comp=Z,3.0nm,0.5s,baz=100,slow=6.9,SNR=18
SPITS LR LR 08 26 31.0
comp=Z,85nm,19.3s,baz=89,slow=39
comp=Z,3.0nm,0.5s
MODS Modra-Piesok 63.07 313 *e*P **P** **07 55 51.9 +0.9**
MODS pmax pmax
comp=Z,15nm,0.9s
MODS Modra-Piesok 63.07 313 *e*P **P** **07 55 51.9 +0.9**
MODS *e*PP **PP** **07 58 07.2 -2.8**
KSP Ksiaz 63.34 316 *e*P **P** **07 55 53.2 +0.5**

VRAC	Vranov	63.37	314	LR	LR	08 27 41.6
	comp=Z,120nm,21.5s,baz=76,slow=40					
VRAC	Vranov	63.37	314	*e*P	P	07 55 53.7 +0.7
VRAC	Vranov	63.37	314	⇑P	P	07 55 53.7 +0.7
VRAC	Vranov	63.37	314	P	P	07 55 53.7 +0.7
DPC	Dobruska-Polom	63.39	315	*e*P	P	07 55 54.0 +0.9
DPC	Dobruska-Polom	63.39	315	*e*P	P	07 55 54.0 +0.9
QIS	Mount Isa	63.41	132	P	P	07 55 52.5 -1.0
	comp=Z,21nm,1.3s					
QIS	Mount Isa	63.41	132	P	P	07 55 52.9 -0.7
OPO	Ambohidratompo	63.45	231	LR	LR	08 21 40.8
	comp=Z,119nm,19.0s,baz=170,slow=34					
CHVC	Chvalec	63.52	316	*e*P	P	07 55 55.2 +1.2
CHVC	Chvalec	63.52	316	*e*P	P	07 55 55.2 +1.2
KRUC	Moravsky	63.54	314	*e*P	P	07 55 54.3 +0.2
HFS	Hagfors	63.69	327	P	P	07 55 55.2 +0.3
	comp=Z,15nm,0.6s,baz=91,slow=7.4,SNR=24					
	comp=Z,15nm,0.6s					
RONA	Rosalia, Austr	63.83	313	*e*P	P	07 55 55.7 -0.4
	comp=Z,7.4nm,0.8s					
SHEM	Shemya Is, Ala	64.03	42	LR	LR	08 23 55.4
	comp=Z,78nm,21.9s,baz=55,slow=36					
SMY	Shemya	64.03	42	P	P	07 55 57.2 0.0
SMY	Shemya	64.03	42	P	P	07 55 57.2 0.0
SMY				pmax	pmax	
	comp=Z,287nm,1.1s					
CONA	Conrad Observa	64.08	313	*e*P	P	07 55 58.0 +0.3
	comp=Z,30nm,1.3s					
CONA				*e*pP	pP	07 56 14.0 +0.7
	comp=Z,24nm,1.0s					
FORT	Forrest	64.54	148	P	P	07 55 59.9 -0.8
	comp=Z,32nm,1.8s					
FORT	Forrest	64.54	148	P	P	07 56 00.0 -0.8
NC405	NORSAR Array S	64.55	328	P	P	07 56 00.4 -0.1
NC405				IAmb	IAmb	07 56 21.0
	comp=Z,18nm,0.8s					
GROS	Grobnik	64.58	311	*e*P	P	07 56 01.0 0.0
NC602	NORSAR Array S	64.68	327	P	P	07 56 01.4 0.0
NC602				IAmb	IAmb	07 56 02.5
	comp=Z,25nm,1.1s					
NC602	NORSAR Array S	64.68	327	*e*P	P	07 56 01.7 +0.3
NC303	NORSAR Array S	64.70	328	P	P	07 56 01.4 -0.1
CRES	Cresnjevec Ost	64.73	311	*e*P	P	07 56 02.2 +0.2
BRG	Berggiesshubel	64.80	316	*e*P	P	07 56 02.9 +0.6
BRG				Amp		07 56 04.0
	comp=Z,11nm,0.9s					
BRG	Berggiesshubel	64.80	316	P	P	07 56 14.5 +12
BRG				Amp		07 56 15.1
	comp=Z,4.9nm,0.6s					
BRG				pP	pP	07 56 18.8 +0.8
BRG				Amp		07 56 21.1
	comp=Z,10nm,0.7s					
BRG	Berggiesshubel	64.80	316	Amp		07 56 34.1
	comp=Z,8.0nm,0.7s					
BRG				P	PcP	07 56 33.7 -1.7
NB2	NORSAR Subarra	64.80	328	P	P	07 56 02.0 -0.2
	comp=Z,17nm,1.0s,baz=82,slow=6.5					
NB2	NORSAR Subarra	64.80	328	P	P	07 56 02.0 -0.2
	baz=82,slow=6.5					
NOA	NORSAR Array B	64.80	328	P	P	07 56 02.1 0.0
	comp=Z,7.3nm,0.8s,baz=83,slow=6.5,SNR=23					
NOA				LR	LR	08 26 13.7
	comp=Z,163nm,19.8s,baz=95,slow=38					
	comp=Z,7.3nm,0.8s					
SOKA	Soboth	64.86	312	*i* P	P	07 56 03.0 +0.2
	comp=Z,12nm,0.9s					
ZVC	Zvikov	64.90	315	*e*P	P	07 56 03.7 +0.7
ZVC				*e*pP	pP	07 56 19.4 +0.8
NC204	NORSAR Array S	64.99	328	P	P	07 56 03.5 +0.1
MTSU	Mount Surprise	65.08	127	P	P	07 56 03.9 -0.7
	comp=Z,8.4nm,0.8s					
MOA	Molln	65.14	313	*i* P	P	07 56 04.8 +0.2
	comp=Z,17nm,0.9s					
HSKC	Hora Svate Kat	65.17	316	*e*P	P	07 56 05.6 +0.9
OSL	Oslo	65.19	327	*e*P	P	07 56 05.6 +0.9
CLL	Collm	65.31	317	*i* P	P	07 56 05.4 -0.2
CLL				*e**PP	pP	07 56 22.0 +0.8
CLL				*e*S	S	08 04 43.0 -2.2
CLL				pmax	pmax	
	comp=Z,14nm,1.2s					
CLL	Collm	65.31	317	*i* P	P	07 56 05.4 -0.2
	comp=Z,14nm,1.2s					
CLL				*ex*	x	07 56 17.0
CLL				*e*pP	pP	07 56 22.0 +0.8
CLL				*i* sP	sP	07 56 28.8 +1.2
CLL				*i* PcP	PcP	07 56 38.0 +0.5
CLL				*e*S	S	08 04 43.0 -2.2
CLL				*e*SS	SS	08 09 05.0 +6.5
CLL				*ex*	x	08 09 57.0
CLL				*e*SSS	SSS	08 12 07.0
CLL				AMS	AMS	08 27 00.0
	comp=Z,100nm,18.3s					
GEC2	GERESS Array S	65.32	314	P	P	07 56 06.0 +0.1
GEC2				IAmb	IAmb	07 56 24.5
	comp=Z,17nm,0.8s					
GERES	GERESS Array B	65.32	314	P	P	07 56 06.0 +0.1
GERES	GERESS Array B	65.32	314	P	P	07 56 06.3 +0.5
	comp=Z,10.0nm,0.8s,baz=77,slow=5.9,SNR=61					
GERES				LR	LR	08 27 30.0
	comp=Z,165nm,21.5s,baz=83,slow=38					
	comp=Z,10.0nm,0.8s					
KHC	Kasperske Hory	65.35	314	*e*P	P	07 56 06.3 +0.3
KHC				*e*pP	pP	07 56 21.1 -0.5
KHC	Kasperske Hory	65.35	314	*e*P	P	07 56 06.3 +0.3
KHC				*e*		07 56 21.1
CEY	Cerknica	65.46	311	*e*P	P	07 56 06.8 +0.1
DOMB	Dombas	65.68	329	*e*P	P	07 56 08.5 +0.7
PRED	Cave del Predi	65.90	312	P	P	07 56 09.2 -0.4
KBA	Koelnbreinsper	65.91	312	*e*P	P	07 56 09.5 -0.3
	comp=Z,9.3nm,0.9s					
VOI	Vohitsoka	65.97	229	P	P	07 56 09.2 -1.2
VOI				IAmb	IAmb	07 56 27.9
	comp=Z,20nm,0.8s					
VOI	Vohitsoka	65.97	229	P	P	07 56 16.7 +6.4
CEL	Celeste	66.08	302	P	P	07 56 10.4 -0.5
CEL				IAmb	IAmb	07 56 42.4
	comp=Z,35nm,0.9s					
CEL	Celeste	66.08	302	P	P	07 56 10.3 -0.6
	comp=Z,36nm,1.0s					
OOD	Oodnadatta	66.21	140	P	P	07 56 10.8 -0.8
SKAR	Skarslia	66.27	328	*e*P	P	07 56 10.0 -1.6
LESA	Schwarzleotal	66.28	313	*e*P	P	07 56 12.0 -0.1
	comp=Z,15nm,0.8s					
ABTA	Abfaltersbach	66.54	312	*e*P	P	07 56 13.2 -0.5
	comp=Z,18nm,1.2s					
MBAR	Mbarara	66.65	257	P	P	07 56 15.4 +0.5
MBAR				pP	pP	07 56 30.6 -0.2
INTR	Introdacqua	66.65	307	P	P	07 56 14.1 -0.4
INTR				IAmb	IAmb	07 56 55.7
	comp=Z,42nm,1.3s					
CIMO	Cimolais	66.69	312	P	P	07 56 14.3 -0.3
CAMP	Campotosto	66.89	307	P	P	07 56 15.9 -0.2
CAMP				IAmb	IAmb	07 56 50.9
	comp=Z,27nm,0.9s					
WTTA	Wattenberg	67.01	313	*e*P	P	07 56 16.2 -0.6
	comp=Z,14nm,0.7s					
WTTA				*e*pP	pP	07 56 33.1 +0.6
	comp=Z,16nm,0.8s					
NRCA	Norcia	67.03	308	P	P	07 56 16.5 -0.4
NRCA				IAmb	IAmb	07 56 50.1
	comp=Z,21nm,0.9s					
SQTA	Sankt Quirin	67.30	313	*e*P	P	07 56 18.0 -0.6
	comp=Z,18nm,0.9s					
MOTA	Moosalm	67.34	313	*e*P	P	07 56 18.1 -0.8
	comp=Z,20nm,0.9s					
MOTA				*e*pP	pP	07 56 35.8 +1.2
	comp=Z,29nm,0.9s					
RETA	Reutte	67.54	313	*e*P	P	07 56 19.7 -0.3
	comp=Z,13nm,0.7s					
FETA	Feichten	67.67	313	*i* P	P	07 56 20.3 -0.6
	comp=Z,11nm,0.9s					
DAVA	Damuels	68.17	313	*i* P	P	07 56 23.7 -0.4
	comp=Z,19nm,0.9s					
STU	Stuttgart	68.25	315	*e*P	P	07 56 25.2 +0.8
DAVOX	Davos/Dischmat	68.29	313	LR	LR	08 30 07.4
	comp=Z,212nm,21.6s,baz=80,slow=39					
TUE	Stuetta	68.72	312	P	P	07 56 27.0 -0.6
TUE	Stuetta	68.72	312	P	P	07 56 27.2 -0.4
	comp=Z,74nm,0.8s					
GAMB	Gambell	69.15	28	P	P	07 56 29.7 +0.1
	baz=285					
LCRK	Leigh Creek	69.65	140	P	P	07 56 32.5 -0.7
ECH	Echery	69.70	315	P	P	07 56 33.4 0.0
ECH	Echery	69.70	315	P	P	07 56 33.4 0.0
ECH				pmax	pmax	
	comp=Z,20nm,1.3s					
ECH	Echery	69.70	315	P	P	07 56 33.1 -0.3
ECH				pP	pP	07 56 48.0 -1.2
WLF	Walferdange	69.94	316	P	P	07 56 35.0 +0.2
WLF	Walferdange	69.94	316	*d*P	P	07 56 36.1 +1.3
	comp=Z,38nm,1.0s					
WLF				*d*PcP	PcP	07 56 56.9 0.0
WLF	Walferdange	69.94	316	P	P	07 56 35.0 +0.2
WLF				pmax	pmax	
	comp=Z,57nm,0.9s					
BSTI	Sart Tilman	70.05	317	*d*P	P	07 56 36.6 +1.2
SENIN	Lac Senin/Sane	70.12	313	P	P	07 56 35.9 -0.3
TNA	Tin City	70.20	26	P	P	07 56 36.5 +0.5
	baz=288					
BBOO	Buckleboo	70.23	144	P	P	07 56 35.3 -1.4
	comp=Z,25nm,1.7s					
BBOO	Buckleboo	70.23	144	P	P	07 56 36.1 -0.6
JMIC	Jan Mayen	70.25	340	LR	LR	08 32 53.2
	comp=Z,45nm,18.2s,baz=246,slow=40					
C16K	Lisburne Hills	70.30	23	P	P	07 56 37.2 +0.6
C16K				IAmb	IAmb	07 57 04.3
	comp=Z,44nm,1.2s					
C16K	Lisburne Hills	70.30	23	P	P	07 56 37.2 +0.6
	baz=289					
RCHB	Rochefort	70.38	317	*d*P	P	07 56 37.7 +0.3
	comp=Z,6.3nm,0.7s					
BMRD	Maredsous	70.62	317	*d*P	P	07 56 39.5 +0.5
BMRD				*d*PcP	PcP	07 56 59.3 -0.5
UCC	Uccle	70.73	318	*d*P	P	07 56 40.0 +0.4
F14K	Arctic Creek	70.86	26	P	P	07 56 39.6 -0.5
	baz=289					
C17K	DeLong Mountai	70.98	22	P	P	07 56 41.4 +0.5
	baz=291					
A19K	Wainwright	71.04	20	P	P	07 56 41.4 +0.3
	baz=292					
B18K	Kokolik River	71.12	21	P	P	07 56 42.8 +1.2
	baz=292					
RDOG	Red Dog Mine	71.23	23	P	P	07 56 42.8 +0.5
RDOG	Red Dog Mine	71.23	23	P	P	07 56 42.9 +0.5
	baz=291					
D17K	Noatak River	71.30	23	P	P	07 56 43.5 +0.8
	baz=291					
F15K	North Star Dit	71.43	25	P	P	07 56 43.7 +0.1
	baz=291					
ANM	Nome	71.55	27	P	P	07 56 44.9 +0.6
	baz=290					
C18K	Utukok River	71.60	22	P	P	07 56 44.7 +0.1
C18K	Utukok River	71.60	22	P	P	07 56 45.4 +0.7
	baz=293,SNR=8.0					
ALE	Alert	71.64	357	P	P	07 56 45.2 +0.5
ALE				pP	pP	07 57 01.1 +0.6
ALE				sP	sP	07 57 07.0 +0.2
SPIA	Saint Paul Isl	71.77	35	P	P	07 56 45.9 +0.1
	baz=289					
KEST	Kesra	71.83	301	P	P	07 56 46.8 +0.1
KEST				IAmb	IAmb	07 57 17.4
	comp=Z,52nm,1.1s					
KEST	Kesra	71.83	301	P	P	07 56 47.0 +0.4
	comp=Z,34nm,1.0s,baz=4.8,slow=4.4,SNR=19					
KEST				LR	LR	08 34 51.5
	comp=Z,57nm,19.3s,baz=24,slow=41					
	comp=Z,34nm,1.0s					
KEST	Kesra	71.83	301	P	P	07 56 47.9 +1.3
TATA	Tatamba Isabel	71.91	109	P	P	07 56 47.7 +0.4
A21K	Barrow	71.93	19	P	P	07 56 47.4 +0.9
	baz=296,SNR=12					
G15K	Niukluk	71.93	26	P	P	07 56 47.1 +0.5
	baz=291					
E17K	Hotham Inlet	71.98	24	P	P	07 56 47.4 +0.5
	baz=293					
HTT	Hallett	72.27	142	P	P	07 56 48.2 -0.9
	comp=Z,3.4nm,1.4s					
HTT	Hallett	72.27	142	P	P	07 56 47.9 -1.2
E18K	Tukpahlearik C	72.29	23	P	P	07 56 48.8 +0.1
E18K				IAmb	IAmb	07 57 17.9
	comp=Z,48nm,1.2s					
E18K	Tukpahlearik C	72.29	23	P	P	07 56 49.7 +1.0
	baz=294,SNR=15					
P08K	Saint George I	72.32	35	P	P	07 56 49.7 +0.7
	baz=289					
B20K	Meade River	72.34	20	P	P	07 56 49.9 +0.9
	baz=296					
G16K	Koyuk River	72.44	25	P	P	07 56 50.0 +0.4
G16K				IAmb	IAmb	07 56 56.2
	comp=Z,30nm,1.1s					
G16K	Koyuk River	72.44	25	P	P	07 56 49.0 -0.5
	baz=293					
F17K	Baldwin Pennin	72.44	24	P	P	07 56 49.9 +0.3
F17K				IAmb	IAmb	07 56 56.6
	comp=Z,36nm,0.8s					
F17K	Baldwin Pennin	72.44	24	P	P	07 56 49.9 +0.3
	baz=293					
A22K	Sinclair Lake	72.55	19	P	P	07 56 50.7 +0.5
	baz=298,SNR=17					
HNR	Honiara	72.56	110	LR	LR	08 25 41.8
	comp=Z,26nm,21.0s,baz=311,slow=33					
M11K	Mekoryuk	72.66	31	P	P	07 56 50.4 -0.6
	baz=291					
STKA	Stephens Creek	72.67	139	P	P	07 56 50.1 -1.3
STKA				IAmb	IAmb	07 57 28.4
	comp=Z,42nm,0.9s					
STKA	Stephens Creek	72.67	139	P	P	07 56 50.1 -1.3
	comp=Z,46nm,0.5s					
STKA	Stephens Creek	72.67	139	P	P	07 56 50.3 -1.1
	comp=Z,8.5nm,0.9s,baz=323,slow=4.9,SNR=16					
STKA				LR	LR	08 33 45.0
	comp=Z,71nm,19.5s,baz=347,slow=40					
	comp=Z,8.5nm,0.9s					
STKA	Stephens Creek	72.67	139	P	P	07 56 50.4 -1.0
STKA	Stephens Creek	72.67	139	⇓*i* P	P	07 56 50.6 -0.8
D19K	Kuna River	72.69	22	P	P	07 56 51.4 +0.3
D19K				IAmb	IAmb	07 57 23.8
	comp=Z,34nm,1.1s					
D19K	Kuna River	72.69	22	P	P	07 56 51.9 +0.8
	baz=295,SNR=14					
H16K	Elim	72.78	26	P	P	07 56 52.1 +0.5
	baz=293					
K13K	Kusilvak Mount	72.80	29	P	P	07 56 52.5 +0.7
	baz=292					
F18K	Selawik	72.96	24	P	P	07 56 53.5 +0.8
	baz=295					
J14K	Nanvaranak Lak	72.97	28	P	P	07 56 53.1 +0.4
J14K				IAmb	IAmb	07 56 58.5
	comp=Z,26nm,0.8s					
J14K	Nanvaranak Lak	72.97	28	P	P	07 56 53.5 +0.7
	baz=292					
G17K	Kiwalik Mounta	73.05	25	P	P	07 56 53.8 +0.6
	baz=294					
D20K	Etivluk River	73.09	21	P	P	07 56 53.8 +0.3
D20K				IAmb	IAmb	07 57 25.6
	comp=Z,76nm,1.4s					
D20K	Etivluk River	73.09	21	P	P	07 56 54.1 +0.6
	baz=297					
B21K	Ikpikpuk River	73.31	20	P	P	07 56 55.3 +0.7
B21K				IAmb	IAmb	07 57 21.5
	comp=Z,28nm,0.9s					
B21K	Ikpikpuk River	73.31	20	P	P	07 56 55.4 +0.7
	baz=298,SNR=12					
B22K	Teshekpuk Lake	73.32	19	P	P	07 56 55.1 +0.4
B22K				IAmb	IAmb	07 57 21.4
	comp=Z,34nm,0.9s					
B22K	Teshekpuk Lake	73.32	19	P	P	07 56 55.5 +0.8
	baz=299					
E20K	Nigu River	73.44	22	P	P	07 56 56.3 +0.7
	baz=297					
E19K	Redstone River	73.45	22	P	P	07 56 55.6 0.0
E19K				IAmb	IAmb	07 57 26.7
	comp=Z,20nm,0.8s					
E19K	Redstone River	73.45	22	P	P	07 56 56.2 +0.7
	baz=296,SNR=18					
C21K	Knifeblade Rid	73.47	20	P	P	07 56 56.6 +0.9
	baz=298					
EKA	Eskdalemuir Ar	73.56	324	P	P	07 56 57.1 +0.6
	comp=Z,12nm,0.8s,baz=83,slow=6.2,SNR=15					
	comp=Z,12nm,0.8s					
H17K	Granite Mounta	73.56	25	P	P	07 56 56.7 +0.4
H17K				IAmb	IAmb	07 57 24.8
	comp=Z,70nm,1.4s					
H17K	Granite Mounta	73.56	25	P	P	07 56 56.4 +0.1
	baz=295					
RMQ	Roma	73.59	131	P	P	07 56 56.7 -0.3
	comp=Z,34nm,1.1s					
G18K	Tagagawik	73.63	24	P	P	07 56 57.1 +0.4
G18K	Tagagawik	73.63	24	P	P	07 56 57.1 +0.4
	baz=296					
I17K	Unalakleet	73.70	26	P	P	07 56 57.7 +0.7
	baz=294					
L14K	Kuka Creek	73.89	29	P	P	07 56 59.0 +0.8
L14K				IAmb	IAmb	07 57 01.4
	comp=Z,43nm,0.8s					
L14K	Kuka Creek	73.89	29	P	P	07 56 58.6 +0.4
	baz=294,SNR=16					
NIKH	Nikolski High	73.95	39	P	P	07 56 59.1 +0.3
	baz=291					
M13K	Dall Lake	73.96	30	P	P	07 56 59.4 +0.7
	baz=293					
J16K	Anvik River	73.99	27	P	P	07 56 59.1 +0.3
J16K				IAmb	IAmb	07 57 02.9
	comp=Z,31nm,1.1s					
J16K	Anvik River	73.99	27	P	P	07 56 59.1 +0.3
	baz=295,SNR=7.8					
K15K	Wolf Creek Mou	74.01	28	P	P	07 56 58.6 -0.3
K15K				IAmb	IAmb	07 57 05.7
	comp=Z,37nm,1.1s					
K15K	Wolf Creek Mou	74.01	28	P	P	07 56 58.7 -0.3
	baz=294					
H18K	Honhosa River	74.06	25	P	P	07 56 59.4 +0.2
H18K				IAmb	IAmb	07 57 27.3
	comp=Z,69nm,1.5s					
H18K	Honhosa River	74.06	25	P	P	07 56 59.3 +0.1
	baz=296					
E21K	Killik River	74.08	21	P	P	07 56 59.3 0.0
E21K				IAmb	IAmb	07 57 25.5
	comp=Z,37nm,1.1s					
E21K	Killik River	74.08	21	P	P	07 56 59.5 +0.2
	baz=299					
G19K	Purcell Mounta	74.09	24	P	P	07 56 59.6 +0.2
	baz=297					
F20K	Avaraart Lake	74.16	23	P	P	07 56 59.8 +0.1
F20K	Avaraart Lake	74.16	23	P	P	07 56 60.0 +0.3
	baz=298,SNR=18					
D22K	Ayikyak River	74.27	20	P	P	07 57 00.6 +0.2
D22K				IAmb	IAmb	07 57 27.2
	comp=Z,40nm,1.0s					
D22K	Ayikyak River	74.27	20	P	P	07 57 00.9 +0.6
	baz=300					
L15K	Ungalak Mounta	74.28	29	P	P	07 57 00.9 +0.4
	baz=294					
C23K	Itkillik River	74.41	19	P	P	07 57 01.9 +0.8
C23K				IAmb	IAmb	07 57 27.9
	comp=Z,40nm,0.8s					
C23K	Itkillik River	74.41	19	P	P	07 57 01.6 +0.5
	baz=302					
M14K	Bethel	74.46	30	P	P	07 57 01.7 +0.2
	baz=294					
EIDS	Eidsvold	74.51	128	P	P	07 57 01.8 -0.6
	comp=Z,20nm,1.2s					
J17K	VABM Dome	74.56	27	P	P	07 57 02.7 +0.6
J17K				IAmb	IAmb	07 57 34.1
	comp=Z,74nm,1.5s					
J17K	VABM Dome	74.56	27	P	P	07 57 02.8 +0.6
	baz=296					
H19K	Roundabout Mou	74.61	24	P	P	07 57 03.0 +0.7
H19K				IAmb	IAmb	07 57 35.4
	comp=Z,36nm,1.0s					
H19K	Roundabout Mou	74.61	24	P	P	07 57 03.0 +0.7
	baz=298,SNR=16					
EUNU	Eureka	74.69	0	P	P	07 57 03.6 +0.9
EUNU				IAmb	IAmb	07 57 37.4
	comp=Z,55nm,1.6s					
GCSA	Galena City Sc	74.81	25	P	P	07 57 04.0 +0.5
	baz=298,SNR=10					
F21K	Alatna River	74.84	22	P	P	07 57 04.1 +0.4
	baz=300,SNR=27					
D23K	Nanushuk River	74.85	20	P	P	07 57 04.5 +0.8
D23K				IAmb	IAmb	07 57 30.7
	comp=Z,58nm,1.1s					
D23K	Nanushuk River	74.85	20	P	P	07 57 04.3 +0.6
	baz=302					
CMSA	Cobar Meteorol	74.92	136	P	P	07 57 04.1 -0.5
	comp=Z,20nm,0.9s					
CMSA	Cobar Meteorol	74.92	136	P	P	07 57 03.5 -1.1
N14K	Kuskokwak Cree	74.92	30	P	P	07 57 04.9 +0.6
	baz=295,SNR=5.6					
E22K	Anaktuvuk Pass	74.93	21	P	P	07 57 05.0 +0.7
	baz=301					
C24K	Franklin Bluff	75.03	19	P	P	07 57 05.4 +0.7
	baz=303					
M15K	Kasigluk River	75.05	29	P	P	07 57 05.2 +0.3
	baz=295,SNR=10					
F22K	John River	75.13	21	P	P	07 57 05.5 +0.1
	baz=301					
L16K	Owhat River	75.14	28	P	P	07 57 05.8 +0.3
	baz=296					
K17K	Iditarod	75.18	27	P	P	07 57 06.0 +0.3
K17K	Iditarod	75.18	27	P	P	07 57 05.9 +0.2
	baz=297,SNR=14					
G21K	Allakaket	75.19	23	P	P	07 57 05.7 0.0
G21K				IAmb	IAmb	07 57 33.7
	comp=Z,30nm,1.1s					
G21K	Allakaket	75.19	23	P	P	07 57 06.0 +0.3
	baz=300,SNR=19					
H20K	Anotleneega Mo	75.20	24	P	P	07 57 06.6 +0.8
	baz=299,SNR=7.1					
NEEM	North Greenlan	75.26	353	*i* P	P	07 57 06.7 +0.3
NEEM				IAmb	IAmb	07 57 07.5
	comp=Z,12nm,0.8s					
D24K	Happy Valley	75.31	19	P	P	07 57 07.3 +0.9
	baz=304					
TOLK	Toolik Lake Re	75.36	20	P	P	07 57 07.7 +1.0
	baz=303,SNR=12					
O14K	Tigyukauivet M	75.40	31	P	P	07 57 07.3 +0.2
	baz=295					
L17K	Donlin	75.44	28	P	P	07 57 08.3 +1.0
	baz=297,SNR=6.6					
J18K	Innoko River	75.47	26	P	P	07 57 07.9 +0.5
	baz=298,SNR=17					
N15K	Kwethluk River	75.54	30	P	P	07 57 08.1 +0.3
N15K	Kwethluk River	75.54	30	P	P	07 57 07.6 -0.2
	baz=296,SNR=5.5					
J19K	Poorman	75.65	25	P	P	07 57 08.9 +0.5
J19K				IAmb	IAmb	07 57 16.4
	comp=Z,38nm,1.1s					
J19K	Poorman	75.65	25	P	P	07 57 09.0 +0.6
	baz=299,SNR=19					
G22K	Bettles	75.66	22	P	P	07 57 08.8 +0.5
	baz=302					
M16K	Timber Creek	75.67	29	P	P	07 57 09.2 +0.6
M16K	Timber Creek	75.67	29	P	P	07 57 09.5 +1.0
	baz=297,SNR=7.2					
E23K	Chandalar	75.67	20	P	P	07 57 08.7 +0.2
E23K				IAmb	IAmb	07 57 40.2
	comp=Z,47nm,1.4s					
E23K	Chandalar	75.67	20	P	P	07 57 09.2 +0.7
	baz=303,SNR=13					
I20K	Naagheteneel	75.69	24	P	P	07 57 09.7 +1.1
	baz=300					
H21K	Melozitna Rive	75.87	23	P	P	07 57 10.2 +0.6
H21K				IAmb	IAmb	07 57 38.3
	comp=Z,43nm,1.1s					
H21K	Melozitna Rive	75.87	23	P	P	07 57 10.7 +1.0
	baz=301,SNR=31					
D25K	Kavik River	75.93	19	P	P	07 57 10.5 +0.6
D25K				IAmb	IAmb	07 57 36.7
	comp=Z,32nm,0.8s					
D25K	Kavik River	75.93	19	P	P	07 57 10.9 +0.9
	baz=306,SNR=15					
COLD	Coldfoot	75.93	21	P	P	07 57 11.3 +1.3
	baz=303					
C26K	Camden Bay	75.99	18	P	P	07 57 11.5 +1.3
	baz=307,SNR=8.3					
N16K	Nishlik Lake	76.00	29	P	P	07 57 10.6 +0.1
	baz=297					
TTA	Tatalina	76.01	26	P	P	07 57 11.1 +0.5
TTA	Tatalina	76.01	26	P	P	07 57 11.1 +0.5
TTA				pmax	pmax	
	comp=Z,25nm,1.3s					
TTA	Tatalina	76.01	26	P	P	07 57 11.1 +0.5
	baz=299,SNR=7.6					
E24K	Your Creek	76.01	20	P	P	07 57 11.5 +1.0
	baz=304,SNR=22					
L18K	Granite Mounta	76.07	27	P	P	07 57 11.2 +0.4
L18K	Granite Mounta	76.07	27	P	P	07 57 11.6 +0.7
	baz=298

comp=Z,33nm,0.9s
LSZ Lusaka 76.13 245 LR LR 08 29 53.7
comp=Z,220nm,20.0s,baz=99,slow=35
LSZ Lusaka 76.13 245 P P **07 57 11.9 -0.1**
LSZ pmax pmax
comp=Z,33nm,1.0s
M17K Holitna River 76.15 28 P P **07 57 12.3 +1.1**
baz=298,SNR=7.9
H22K Ishtalitna Cre 76.25 23 P P **07 57 12.5 +0.7**
baz=302
G23K Bananza Creek 76.27 22 P P **07 57 12.5 +0.5**
G23K Bananza Creek 76.27 22 P P **07 57 13.1 +1.2**
baz=303
ARPS Mount Arapiles 76.34 143 P P **07 57 11.8 -0.7**
comp=Z,22nm,0.9s
ARPS Mount Arapiles 76.34 143 P P **07 57 11.9 -0.7**
C27K Jago River 76.50 18 P P **07 57 14.4 +1.2**
baz=308
F24K Squaw Lake 76.51 20 P P **07 57 14.3 +1.0**
baz=305,SNR=9.4
K20K Telida 76.57 26 P P **07 57 14.3 +0.6**
baz=300
N17K Nushagak Hills 76.67 29 P P **07 57 14.9 +0.6**
baz=298,SNR=7.5
O16K Kokwok River B 76.70 30 P P **07 57 14.6 +0.1**
O16K IAmb IAmb 07 57 16.2
comp=Z,34nm,1.1s
O16K Kokwok River B 76.70 30 P P **07 57 14.7 +0.3**
baz=298,SNR=7.7
M18K Stony River 76.78 28 P P **07 57 15.4 +0.6**
baz=299,SNR=7.3
L19K White Mountain 76.84 27 P P **07 57 15.7 +0.5**
baz=300,SNR=22
E25K Arctic Village 76.88 19 P P **07 57 15.8 +0.5**
baz=306
H23K Yukon River 76.92 22 P P **07 57 16.4 +0.8**
baz=304
CHUM Lake Minchumin 76.97 25 P P **07 57 16.6 +0.8**
baz=302
P16K Nushagak River 77.01 30 P P **07 57 16.7 +0.6**
baz=298
O17K Koliganek Bris 77.06 29 P P **07 57 16.8 +0.4**
baz=298
L20K Farewell, AK 77.09 26 P P **07 57 17.4 +0.8**
baz=300
G24K Hadweenzic Riv 77.12 21 P P **07 57 17.5 +0.8**
baz=305
SUMG Summit 77.14 347 *i* P P **07 57 17.0 -0.2**
SUMG IAmb IAmb 07 57 18.5
comp=Z,3.5nm,0.8s
N18K Kilae Creek 77.15 28 P P **07 57 17.5 +0.5**
N18K Kilae Creek 77.15 28 P P **07 57 17.4 +0.5**
baz=299,SNR=6.4
F25K Christian Rive 77.17 20 P P **07 57 17.5 +0.5**
F25K IAmb IAmb 07 57 44.4
comp=Z,24nm,1.1s
F25K Christian Rive 77.17 20 P P **07 57 17.9 +0.9**
baz=307,SNR=11
M19K Big River Lodg 77.17 27 P P **07 57 18.0 +0.9**
baz=300
CAST Castle Rocks 77.30 25 P P **07 57 18.1 +0.3**
CAST IAmb IAmb 07 57 50.7
comp=Z,31nm,1.0s
CAST Castle Rocks 77.30 25 P P **07 57 18.6 +0.8**
baz=302,SNR=19
BPAW Bear Paw Mtn. 77.35 24 P P **07 57 18.3 +0.3**
BPAW IAmb IAmb 07 57 45.7
comp=Z,21nm,0.8s
BPAW Bear Paw Mtn. 77.35 24 P P **07 57 18.4 +0.3**
baz=303,SNR=13
I23K Minto, Yukon-K 77.36 23 P P **07 57 18.4 +0.4**
I23K Minto, Yukon-K 77.36 23 P P **07 57 18.5 +0.5**
baz=304,SNR=8.5
BORG Borgarnes 77.41 337 LR LR 08 34 08.9
comp=Z,67nm,18.4s,baz=4.1,slow=38
H24K Noodor Dome 77.48 22 P P **07 57 19.2 +0.4**
H24K Noodor Dome 77.48 22 P P **07 57 19.2 +0.4**
baz=305
D27M Malcolm River 77.50 17 P P **07 57 19.3 +0.5**
D27M Malcolm River 77.50 17 P P **07 57 19.1 +0.3**
baz=310
G25K Bearman Lake 77.52 21 P P **07 57 19.6 +0.8**
baz=306
S14K Fog Glacier 77.54 33 P P **07 57 19.7 +0.4**
baz=297
PPLA Purkeypile 77.54 26 P P **07 57 19.9 +0.6**
baz=302,SNR=6.5
F26K Sheenjek River 77.57 19 P P **07 57 19.5 +0.3**
baz=308,SNR=9.6
P17K Kvichak River 77.64 30 P P **07 57 20.1 +0.5**
baz=299
KTH Kantishna Hill 77.67 25 P P **07 57 19.7 -0.2**
N19K Bonanza Creek 77.69 28 P P **07 57 20.8 +0.7**
baz=300,SNR=11
M20K Styx River 77.70 27 P P **07 57 21.1 +1.0**
baz=301,SNR=19
NEA2 Nenana 77.78 23 P P **07 57 20.9 +0.6**
baz=304
Q16K King Salmon 77.79 30 P P **07 57 20.7 +0.2**
baz=299
O18K Koktuh Hills 77.86 29 P P **07 57 20.9 -0.1**
baz=300,SNR=7.1
H25L Birch Creek 77.91 21 P P **07 57 22.1 +1.1**
baz=307
TRF Thorofare Moun 77.97 25 P P **07 57 22.3 +0.6**
baz=303
E27K Coleen River 78.00 18 P P **07 57 21.4 -0.3**
E27K Coleen River 78.00 18 P P **07 57 22.2 +0.6**
baz=310,SNR=11
D28M Stokes Point 78.03 17 P P **07 57 22.1 +0.5**
baz=312,SNR=12
ARMA Armidale 78.03 132 P P **07 57 21.6 -0.8**
COLA College 78.05 23 *d i* P P **07 57 21.9 +0.1**
COLA pmax pmax
comp=Z,28nm,1.1s
COLA College 78.05 23 P P **07 57 22.0 +0.1**
baz=305
POKR Poker Plat Res 78.05 22 P P **07 57 22.0 +0.1**
baz=306,SNR=7.9
O19K Port Alsworth 78.07 28 P P **07 57 22.2 +0.1**
baz=301
P18K Big Mountain, 78.08 29 P P **07 57 22.4 +0.2**
P18K Big Mountain, 78.08 29 P P **07 57 22.4 +0.2**
baz=300,SNR=5.6
CHGN Chignik 78.09 33 P P **07 57 22.8 +0.6**
baz=298
G26K Porcupine Rive 78.14 20 P P **07 57 23.1 +0.8**
baz=308,SNR=7.6
CHNA Chernabura Isl 78.19 35 P P **07 57 22.2 -0.6**
baz=297
WRH Wood River Hil 78.19 23 P P **07 57 22.7 0.0**
SKT Skwentna 78.29 26 P P **07 57 23.9 +0.6**
baz=303,SNR=12
E28M Babbage River 78.31 18 P P **07 57 24.1 +0.9**
baz=312,SNR=16
MCK McKinley 78.31 24 P P **07 57 23.5 +0.1**
MCK McKinley 78.31 24 P P **07 57 23.5 +0.1**
MCK pmax pmax
comp=Z,28nm,1.2s
MCK McKinley 78.31 24 P P **07 57 23.5 +0.1**
baz=304
Q17K Contact Creek 78.35 31 P P **07 57 23.9 +0.1**
baz=300
SPCR Spurr Chakacha 78.43 27 P P **07 57 24.2 0.0**
baz=302
ILAR Eielson Array 78.44 23 P P **07 57 23.2 -0.8**
comp=Z,3.9nm,0.8s,baz=302,slow=4.9,SNR=28
ILAR PP PP **08 00 21.4 0.0**
comp=Z,2.0nm,0.8s,baz=298,slow=7.1,SNR=4.4
ILAR LR LR 08 33 06.7
comp=Z,134nm,21.0s,baz=292,slow=36
comp=Z,3.9nm,0.8s
PRP Porcupine Dome 78.46 22 P P **07 57 24.1 -0.2**
baz=307
KULLO Kullorsuaq 78.50 353 *i* P P **07 57 24.8 +0.6**
KULLO IAmb IAmb 07 57 25.7
comp=Z,11nm,0.8s
CUT Chulitna 78.55 25 P P **07 57 24.7 0.0**
baz=304
Q18K Katmai Hardscr 78.55 30 P P **07 57 24.9 0.0**
baz=300
HDA Harding Lake 78.63 23 P P **07 57 25.3 +0.2**
baz=306
P19K Oil Pt 78.82 29 P P **07 57 26.7 +0.5**
baz=302
G27K Doyon Strip 78.88 20 P P **07 57 27.2 +0.8**
baz=310

SUA Susitna One 78.88 26 P P **07 57 26.0 -0.6**
baz=303
E29M Blow River 78.90 17 P P **07 57 26.7 +0.2**
E29M Blow River 78.90 17 P P **07 57 26.8 +0.3**
baz=313,SNR=7.8
M22K Willow 78.97 26 P P **07 57 27.0 +0.1**
baz=304
Q19K Cape Douglas, 79.02 29 P P **07 57 27.5 +0.1**
baz=301
A36M Sachs Harbour 79.05 12 P P **07 57 27.7 +0.5**
A36M Sachs Harbour 79.05 12 P P **07 57 28.0 +0.8**
baz=324,SNR=40
J25K Salcha River, 79.06 22 P P **07 57 26.8 -0.7**
J25K Salcha River, 79.06 22 P P **07 57 27.6 +0.1**
baz=307
H27K Steamboat Moun 79.29 20 P P **07 57 29.6 +0.9**
baz=310,SNR=18
R18K Karluk 79.36 31 P P **07 57 29.4 +0.2**
baz=301
I26K Coal Creek Min 79.37 21 P P **07 57 29.0 -0.1**
baz=309
K24K Donnelly Dome 79.41 23 P P **07 57 29.0 -0.4**
K24K IAmb IAmb 07 57 53.1
comp=Z,43nm,0.8s
K24K Donnelly Dome 79.41 23 P P **07 57 29.2 -0.2**
baz=307,SNR=22
PMR Palmer 79.45 26 P P **07 57 29.6 0.0**
baz=305
RC01 Rabbit Creek A 79.50 26 P P **07 57 29.5 -0.4**
baz=304
CAN Canberra 79.50 137 P P **07 57 29.4 -0.9**
SML Sawmill 79.64 25 P P **07 57 31.1 +0.4**
baz=305,SNR=9.0
I27K Kandik River 79.67 20 P P **07 57 31.9 +1.1**
baz=310,SNR=11
CHIR Chirikof Islan 79.69 33 P P **07 57 30.5 -0.5**
CHIR Chirikof Islan 79.69 33 P P **07 57 31.0 -0.1**
baz=300
CNB Canberra Magne 79.72 137 P P **07 57 30.8 -0.7**
Q20K Shuyak Island 79.74 29 P P **07 57 31.5 +0.3**
baz=302
J26L Joseph Creek 79.74 22 P P **07 57 31.6 +0.3**
baz=309,SNR=14
RIDG Independent Ri 79.78 23 P P **07 57 31.2 -0.3**
baz=308,SNR=8.0
KNK Knik Glacier 79.82 26 P P **07 57 31.9 +0.2**
baz=305
BRSE Bradley Lake S 79.84 28 P P **07 57 31.2 -0.6**
baz=304
O22K Cooper Landing 79.85 27 P P **07 57 30.8 -1.0**
baz=304
G29M Pine Creek 79.88 19 P P **07 57 31.3 -0.6**
baz=313
M23K Glacier View 79.89 25 P P **07 57 32.1 +0.1**
baz=306
SCRK Sand Creek 79.93 22 P P **07 57 32.6 +0.3**
baz=309,SNR=12
SII Sitkinak Islan 80.01 32 P P **07 57 32.0 -0.8**
SII Sitkinak Islan 80.01 32 P P **07 57 32.6 -0.1**
baz=301
ICESG Greenland Ices 80.01 345 *i* P P **07 57 33.4 +0.4**
ICESG IAmb IAmb 07 57 34.2
comp=Z,19nm,1.1s
F30M Barrier River 80.01 17 P P **07 57 33.0 +0.4**
F30M IAmb IAmb 07 58 07.1
comp=Z,23nm,0.8s
F30M Barrier River 80.01 17 P P **07 57 32.9 +0.4**
baz=315
SCM Sheep Creek Mo 80.01 25 P P **07 57 32.7 0.0**
baz=306
PAX Paxson 80.03 24 P P **07 57 32.5 -0.3**
baz=308
OHAK Old Harbor 80.08 31 P P **07 57 32.9 -0.2**
OHAK Old Harbor 80.08 31 P P **07 57 32.6 -0.4**
OHAK Old Harbor 80.08 31 P P **07 57 32.6 -0.4**
baz=302
KDAK Kodiak Island 80.10 30 LR LR 08 36 45.0
comp=Z,133nm,18.6s,baz=146,slow=38
KDAK Kodiak Island 80.10 30 *d i* P P **07 57 33.7 +0.5**
KDAK pmax pmax
comp=Z,103nm,1.8s
KDAK Kodiak Island 80.10 30 P P **07 57 33.8 +0.6**
baz=302
INK Inuvik 80.10 16 P P **07 57 33.3 +0.3**
INK IAmb IAmb 07 57 53.6
comp=Z,26nm,0.9s
INK Inuvik 80.10 16 LR LR 08 39 40.8
comp=Z,128nm,18.5s,baz=305,slow=41
INK Inuvik 80.10 16 P P **07 57 33.3 +0.3**
INK pmax pmax
comp=Z,26nm,1.0s
INK Inuvik 80.10 16 P P **07 57 33.5 +0.5**
baz=317,SNR=7.7
SEW Seward 80.17 27 P P **07 57 33.0 -0.6**
SEW IAmb IAmb 07 57 38.5
comp=Z,38nm,1.2s
SEW Seward 80.17 27 P P **07 57 32.9 -0.6**
baz=305
PWL Port Wells 80.19 26 P P **07 57 33.8 +0.1**
baz=305
ESDC Sonseca Array 80.19 309 P P **07 57 34.7 +0.6**
comp=Z,4.1nm,1.0s,baz=53,slow=5.6,SNR=12
comp=Z,4.1nm,1.0s
H29M Whitestone 80.26 19 P P **07 57 33.9 -0.1**
baz=313,SNR=11
M24K Tolsona, Glenn 80.29 25 P P **07 57 34.1 -0.2**
baz=307
I28M Miner Creek 80.30 20 P P **07 57 34.5 +0.2**
baz=312,SNR=18
G30M tAoh Zraii Nji 80.34 18 P P **07 57 34.3 -0.1**
baz=315
HARP HAARP 80.49 24 P P **07 57 35.7 +0.5**
baz=308
K27K Chicken 80.55 22 P P **07 57 36.0 +0.5**
K27K IAmb IAmb 07 58 03.8
comp=Z,49nm,1.3s
K27K Chicken 80.55 22 P P **07 57 35.9 +0.5**
baz=310
EPYK Eagle Plains 80.63 19 P P **07 57 36.1 +0.1**
baz=314
F31M Tsiigehtchic 80.68 17 P P **07 57 36.0 -0.1**
baz=317
L26K Log Cabin Wild 80.75 23 P P **07 57 36.7 0.0**
baz=309
KLU Klutina 80.76 25 P P **07 57 36.9 +0.2**
baz=307,SNR=15
I29M Ogilvie Camp, 80.86 20 P P **07 57 37.2 0.0**
baz=313
G31M Satah River 80.92 17 P P **07 57 37.2 -0.2**
baz=317,SNR=9.0
DIV Divide 81.03 25 P P **07 57 38.1 -0.1**
P23K Montague Islan 81.07 27 P P **07 57 38.8 +0.5**
baz=306
N25K Chitina, Valde 81.19 24 P P **07 57 39.7 +0.6**
baz=308,SNR=9.4
L27K Beaver Creek, 81.26 23 P P **07 57 40.1 +0.8**
L27K IAmb IAmb 07 58 06.5
comp=Z,39nm,1.0s
L27K Beaver Creek, 81.26 23 P P **07 57 40.5 +1.1**
baz=310,SNR=15
M26K Nabesna, AK 81.27 23 P P **07 57 40.0 +0.5**
baz=310,SNR=7.5
EYAK Cordova Ski Ar 81.40 26 P P **07 57 40.1 +0.1**
baz=308
DAWY Dawson 81.41 21 P P **07 57 40.7 +0.6**
baz=312
C36M Paulatuk 81.44 13 P P **07 57 40.0 -0.2**
baz=325,SNR=22
J29N Klondike Camp 81.52 20 P P **07 57 40.4 -0.4**
baz=313
I30M Mount Dempster 81.54 19 P P **07 57 41.0 0.0**
baz=315,SNR=13
BMRM Bremner River 81.58 25 P P **07 57 41.3 +0.2**
BMRM IAmb IAmb 07 58 13.9
comp=Z,43nm,0.9s
BMRM Bremner River 81.58 25 P P **07 57 41.5 +0.4**
baz=308,SNR=13
M27K Edge Creek, AK 81.70 23 P P **07 57 42.7 +0.9**
baz=311,SNR=12
H31M Peel River 81.72 18 P P **07 57 41.7 0.0**
H31M IAmb IAmb 07 58 01.9
comp=Z,27nm,0.9s
H31M Peel River 81.72 18 P P **07 57 41.8 0.0**
baz=317,SNR=12
J30M Hart River 82.02 20 P P **07 57 43.5 0.0**
baz=315,SNR=6.9
BVCY Beaver Creek 82.02 23 P P **07 57 44.2 +0.8**

baz=311,SNR=9.3
K29M Barlow Dome 82.16 21 P P **07 57 44.7 +0.5**
baz=314,SNR=7.4
KAIM Kayak Island 82.31 26 P P **07 57 45.3 +0.5**
baz=309
L29M L29M 82.48 21 P P **07 57 46.4 +0.6**
baz=314
YUK3 Moose Creek 82.59 23 P P **07 57 47.4 +0.8**
baz=312,SNR=11
M29M Somme Creek 82.83 22 P P **07 57 48.6 +0.9**
baz=313,SNR=7.1
MESA MESA 83.10 25 P P **07 57 50.6 +1.4**
baz=311
YUK8 Steele Glacier 83.17 23 P P **07 57 50.5 +0.9**
baz=312
M30M Minto, Yukon 83.29 21 P P **07 57 50.4 +0.4**
baz=315
LBTB Lobatse 83.31 238 P P **07 57 50.8 +0.1**
LBTB IAmb IAmb 07 58 07.9
comp=Z,32nm,0.9s
LBTB Lobatse 83.31 238 LR LR 08 33 00.7
comp=Z,127nm,20.4s,baz=58,slow=34
LBTB Lobatse 83.31 238 P P **07 57 50.8 +0.1**
LBTB pmax pmax
comp=Z,32nm,1.0s
O28M Mount Upton 83.36 24 P P **07 57 51.5 +0.8**
baz=312
YUK4 Talbot Arm 83.52 23 P P **07 57 52.1 +0.7**
baz=314
MDT Midelt 83.61 303 LR LR 08 39 58.2
comp=Z,65nm,18.1s,baz=122,slow=39
PINM Pinnacle 83.79 24 P P **07 57 53.7 +1.1**
baz=312
YUK6 Outpost Mounta 83.90 23 P P **07 57 54.1 +0.7**
baz=314
N30M Aishikik Lake 83.98 22 P P **07 57 54.8 +1.2**
N30M IAmb IAmb 07 58 20.4
comp=Z,23nm,1.1s
N30M Aishikik Lake 83.98 22 P P **07 57 54.9 +1.4**
baz=315,SNR=10
SFJD Kangerlussuaq 84.14 347 LR LR 08 40 57.5
comp=Z,94nm,18.8s,baz=32,slow=40
O29M Mount Kennedy 84.26 24 P P **07 57 55.9 +0.8**
baz=314
HYT Haines Junctio 84.28 23 P P **07 57 55.9 +0.7**
baz=314,SNR=8.8
M31M Drury Creek, Y 84.34 21 P P **07 57 55.8 +0.5**
baz=317
PNL Peninsula 84.40 24 P P **07 57 56.9 +1.3**
baz=313
N31M Braeburn, Yuko 84.40 22 P P **07 57 56.3 +0.6**
baz=316
FARO Faro, Yukon 84.65 20 P P **07 57 57.9 +1.0**
baz=318
O30N Mendenhall 84.81 22 P P **07 57 58.8 +1.0**
baz=316,SNR=12
P30M Million Dollar 84.97 23 P P **07 57 59.5 +0.9**
baz=315
P29M Windy Craggy 85.03 24 P P **07 57 59.0 +0.1**
baz=314
WHY Whitehorse 85.30 22 P P **07 58 00.4 +0.1**
WHY Whitehorse 85.30 22 P P **07 58 00.5 +0.1**
baz=317,SNR=5.2
BOSA Boshof 85.47 236 P P **07 58 00.2 -1.4**
BOSA IAmb IAmb 07 58 37.3
comp=Z,29nm,1.0s
BOSA Boshof 85.47 236 P P **07 58 01.9 +0.3**
comp=Z,3.8nm,0.8s,baz=92,slow=6.4,SNR=3.6
BOSA LR LR 08 33 54.1
comp=Z,146nm,18.0s,baz=28,slow=34
comp=Z,3.8nm,0.8s
BOSA Boshof 85.47 236 P P **07 58 00.2 -1.4**
BOSA pmax pmax
comp=Z,29nm,1.0s
N32M Quiet Lake 85.54 21 P P **07 58 01.7 +0.3**
baz=318
PLBC Pleasant Camp 85.65 23 P P **07 58 02.5 +0.6**
baz=315
SKAG Skagway 86.02 23 P P **07 58 04.7 +1.0**
baz=316
P33M Teslin, Yukon 86.33 22 P P **07 58 05.9 +0.5**
baz=318,SNR=5.7
P32M Atlin 86.49 22 P P **07 58 05.2 -0.9**
P32M Atlin 86.49 22 P P **07 58 06.5 +0.4**
baz=318
WRGLY Wrigley 86.66 16 P P **07 58 07.3 +0.5**
baz=326
TGTN Hyland Airport 86.73 19 P P **07 58 08.0 +0.7**
baz=322
S31K Pelican 86.77 24 P P **07 58 08.5 +1.1**
baz=316
TOA0 Torodi Ar. Sit 86.85 283 P P **07 58 10.4 +1.8**
TOA0 P P **07 58 10.4 +1.8**
TORD Torodi Ar. Bea 86.85 283 P P **07 58 08.2 -0.5**
TORD IAmb IAmb 07 58 27.9
comp=Z,31nm,1.0s
TORD Torodi Ar. Bea 86.85 283 P P **07 58 09.1 +0.4**
comp=Z,2.3nm,0.7s,baz=74,slow=5.3,SNR=4.4
TORD PP PP **08 01 30.5 -1.3**
comp=Z,2.2nm,0.7s,baz=67,slow=8.6,SNR=2.5
comp=Z,2.3nm,0.7s
TSUM Tsumeb 86.86 247 LR LR 08 36 13.6
comp=Z,117nm,20.1s,baz=320,slow=35
R32K Eaglecrest 87.17 24 P P **07 58 10.4 +1.0**
baz=317
Q32M Nakina River 87.45 22 P P **07 58 11.9 +0.9**
baz=319
R33M Jennings River 87.56 21 P P **07 58 11.8 +0.4**
R33M IAmb IAmb 07 58 37.7
comp=Z,15nm,1.1s
R33M Jennings River 87.56 21 P P **07 58 12.5 +1.1**
baz=320,SNR=5.5
S32K Killisnoo 87.74 24 P P **07 58 11.9 -0.2**
baz=317
IVI Ivigtut 88.47 343 *i* P P **07 58 14.5 -1.0**
IVI IAmb IAmb 07 58 17.5
comp=Z,38nm,1.0s
DLBC Dease Lake 88.61 22 LR LR 08 42 55.4
comp=Z,108nm,19.4s,baz=318,slow=39
DLBC Dease Lake 88.61 22 P P **07 58 17.4 +1.1**
baz=321
S34M Telegraph Cree 88.64 22 P P **07 58 17.2 +0.8**
baz=320
KOTAN Kotaneelee Air 89.08 18 P P **07 58 18.7 +0.3**
baz=326
U33K Whale Pass 89.28 24 P P **07 58 20.2 +0.8**
baz=318
YKA Yellowknife Ar 89.32 13 P P **07 58 19.1 -0.4**
comp=Z,1.4nm,0.8s,baz=331,slow=4.3,SNR=23
YKA PP PP **08 01 49.5 -0.5**
comp=Z,1.5nm,0.7s,baz=333,slow=7.4,SNR=8.7
YKA LR LR 08 43 47.3
comp=Z,62nm,18.4s,baz=297,slow=39
comp=Z,1.4nm,0.8s
WRAK Wrangell Islan 89.34 24 P P **07 58 20.9 +1.2**
baz=319
T35M Bob Quinn 89.66 23 P P **07 58 22.4 +1.1**
baz=321
TOAD Toad River Com 89.80 19 P P **07 58 22.3 +0.4**
baz=325
FRB Frobisher Bay 90.07 353 LR LR 08 41 02.6
comp=Z,52nm,20.1s,baz=104,slow=37
SUR Sutherland 90.69 234 LR LR 08 38 10.8
comp=Z,91nm,19.6s,baz=58,slow=35
BBB Bella Bella 94.19 25 LR LR 08 46 28.0
comp=Z,71nm,19.3s,baz=314,slow=39
DBIC Dimbokro 95.47 280 LR LR 08 45 18.8
comp=Z,53nm,20.7s,baz=51,slow=38
MAW Mawson 95.73 192 LR LR 08 36 34.3
comp=Z,29nm,18.4s,baz=336,slow=32
SCHQ Schefferville 98.42 349 LR LR 08 47 34.6
comp=Z,56nm,20.2s,baz=279,slow=38
SYO Syowa Base 102.20 198 || *e* Pdiff **Pdif 07 59 21.4 +3.8**
PDAR Pinedale Array 108.59 18 PKiKP **PKiKP 08 03 51.8 -0.8**
comp=Z,0.3nm,0.6s,baz=54,slow=1.1,SNR=3.9
NVAR Mina Array Bea 109.42 27 PKiKP **PKiKP 08 03 54.6 +0.5**
comp=Z,0.4nm,0.7s,baz=316,slow=1.4,SNR=4.1
M65A Busby, Falmout 111.88 348 P **PKiKP 08 03 58.4 0.0**
baz=14
QSPA South Pole Qui 115.28 180 PKP **PKiKP 08 04 02.9 -1.1**
comp=Z,2.5nm,1.1s,baz=351,slow=1.0,SNR=1.8
TXAR Lajitas Array 122.81 19 PKP **PKPdf 08 04 19.9 +0.1**
comp=Z,1.2nm,0.6s,baz=188,slow=1.4,SNR=18
TXAR Lajitas Array 122.81 19 PKIKP **PKPdf 08 04 20.0 +0.1**
SDV Santo Domingo 142.88 335 *e* P **PKPdf 08 04 58.8 +0.9**
BDFB Brasilia 143.59 278 PKP **PKPdf 08 04 59.1 +0.2**
comp=Z,1.0nm,0.4s,baz=194,slow=2.9,SNR=3.3
ROSC El Rosal 147.94 338 PKPbc **PKiKP 08 05 11.4 -0.3**

comp=Z,44nm,0.6s,baz=141,slow=5.7,SNR=18
OTAV Otavalo 153.53 344 *eP* **PKPdf 08 05 15.6 +0.1**
CPUP Villa Florida 154.58 262 PKPbc **PKPbc 08 05 24.2 -0.3**
comp=Z,4.3nm,1.0s,baz=57,slow=3.9,SNR=5.8
SIV San Ignacio 155.25 288 PKP **PKPdf 08 05 16.8 -0.5**
comp=Z,1.2nm,0.9s,baz=111,slow=5.5,SNR=4.4
SIV PKPab **PKPab 08 05 42.0 -0.5**
comp=Z,3.8nm,1.0s,baz=68,slow=4.8,SNR=4.9
PLCA Paso Flores 160.29 216 PKP **PKPdf 08 05 21.8 -1.1**
comp=Z,3.0nm,1.1s,baz=40,slow=19,SNR=1.2
PLCA PKPab **PKPab 08 06 03.5 -0.1**
comp=Z,3.9nm,1.1s,baz=202,slow=10,SNR=3.7

---

*OSPL **04** 07:51:12.6±0.7, 18°.39N×71°.47W, h10km±7km, ML1.7*
SDD 04 07:51:12.7±2.1, 18°.35N×71°.51W, h12km±13km, MD2.6, ML2.1, MW2.5, 10C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEDR	**Neiba UASD**	**0.16**	**32**	⇑*e*Pg	Pg	07 51 15.1	-1.3
NEDR	comp=N,585nm,0.3s			IAML		07 51 18.4	
NEDR				⇑*e*Sg	Sg	07 51 18.8	-0.2
NEDR	comp=E,370nm,0.2s			IAML		07 51 20.0	
PODR	**Polo**	**0.28**	**130**	⇑*e*Pg	Pg	07 51 17.6	-0.9
PODR				⇑*e*Sg	Sg	07 51 22.7	+0.2
PODR	**Polo**	**0.28**	**130**	*i* P	Pg	07 51 17.6	-0.9
PODR				*e*S	Sg	07 51 22.5	0.0
JIDR	**Jimani**	**0.36**	**293**	⇑*e*Pg	Pb	07 51 20.9	-0.1
LOBH	**Bahia de las A**	**0.50**	**195**	*i* P	Pg	07 51 22.6	+0.1
LOBH	comp=Z,65nm,0.8s			IAML		07 51 37.1	
LOVI	**El Cajuil, Ovi**	**0.56**	**167**	*i* P	Pg	07 51 23.4	-0.3
LOVI	comp=Z,100nm,0.9s			IAML		07 51 35.2	
SDDR	**Presa de Saban**	**0.66**	**18**	⇑*e*Pg	Pg	07 51 23.8	-1.8
SDDR				⇓*e*Sg	Sg	07 51 34.6	+0.2
SDDR	**Presa de Saban**	**0.66**	**18**	*i* P	Pg	07 51 23.8	-1.8
SDDR	comp=Z,30nm,0.6s			IAML		07 51 42.3	
PAPH	**Port-au-Prince**	**0.77**	**283**	*i* P	Pg	07 51 26.9	-0.7
PAPH	comp=Z,13nm,0.8s			IAML		07 51 39.6	
REDR	**Restauracion**	**0.82**	**7**	⇑*e*Pg	Pb	07 51 29.0	+0.1
REDR				⇑*e*Sg	Sn	07 51 42.0	-0.1
REDR	comp=N,67nm,0.1s			IAML		07 51 42.9	
BANI	**BANI**	**1.09**	**88**	⇑*e*Pg	Pb	07 51 31.7	-1.9
BANI				⇑*e*Sg	Sb	07 51 47.7	-0.2

---

*KRNET **04** 07:55:30.6±0.1, 41°.42N×79°.20E, h18km, mb3.2*
*SOME **04** 07:55:32.5, 41°.53N×79°.10E, h5km*
ISC 04 07:55:28.7±2.7, 41°.39N±0°.10×79°.22E±0°.07, h2km±15km, n14, σ1°.54/28, 8C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.12**	**288**	⇑*i* P	**Pg**	**07 55 51.6**	**+1.5**
TARG				⇑*i* S	**Sn**	**07 56 06.9**	**-1.0**
PRZ	**Przheval'sk**	**1.25**	**331**	⇓*e* P	**Pg**	**07 55 53.8**	**+1.0**
PRZ				⇓*e* S	**Sg**	**07 56 11.1**	**+2.1**
KDJ	**Kajisay**	**1.70**	**297**	⇑*e* P	**Pb**	**07 56 01.5**	**+0.7**
KDJ				⇑*i* S	**Sg**	**07 56 23.9**	**+0.6**
UZB	**Uzynbulak**	**1.76**	**355**	*e* P	**Pg**	**07 56 03.1**	**+0.6**
UZB	6.9nm,0.2s			*e* S	**Sg**	**07 56 25.6**	**+0.3**
ANVS	**Anan'yevo**	**1.81**	**321**	⇓*e* P	**Pb**	**07 56 03.7**	**+1.0**
ANVS				⇓*e* S	**Sg**	**07 56 28.0**	**+1.1**
TNSS	**Tian-Shan**	**2.36**	**315**	*e* P	**Pg**	**07 56 13.8**	**-0.1**
TNSS	28nm,0.3s			*e* S	**Sg**	**07 56 43.7**	**-0.8**
ULHL	**Ulahol**	**2.39**	**292**	⇑*i* P	**Pb**	**07 56 13.1**	**+0.6**
ULHL				⇑*i* S	**Sb**	**07 56 43.8**	**+1.3**
NRN	**Naryn**	**2.42**	**272**	⇑*e* P	**Pb**	**07 56 13.3**	**+0.1**
NRN				⇑*e* S	**Sb**	**07 56 44.5**	**+0.8**
BOOM	**Boomskoye usch**	**2.68**	**295**	⇓*i* P	**Pb**	**07 56 16.6**	**-1.0**
BOOM				⇓*i* S	**Sb**	**07 56 50.0**	**-1.0**
MTBS	**Maitube**	**2.71**	**311**	*e* P	**Pg**	**07 56 20.0**	**-0.6**
MTBS	7.1nm,0.3s			*e* S	**Sg**	**07 56 54.6**	**-1.1**
KST	**Kastek**	**2.93**	**305**	*e* P	**Pb**	**07 56 23.3**	**+1.5**
KST	8.3nm,0.5s			*e* S	**Sb**	**07 56 59.8**	**+1.7**
CHKK	**Chushkaly**	**2.96**	**327**	*e* P	**Pb**	**07 56 24.4**	**+2.1**
CHKK	24nm,0.4s			*e* S	**Sg**	**07 57 01.7**	**-2.3**
DJR	**Jarkent**	**2.97**	**8**	*e* P	**Pg**	**07 56 24.8**	**-0.8**
DJR	14nm,0.3s			*e* S	**Sg**	**07 57 02.2**	**-2.0**
BTLS	**Baital**	**5.25**	**316**	*e* P	**Pg**	**07 57 06.8**	**-2.6**
BTLS	0.3nm,0.1s			*e* S	**Sg**	**07 58 14.1**	**-3.4**
	2.4nm,0.4s						

TAP 04 08:08:31.2, 23°.84N×120°.65E, h24km, ML3.0, 1C-3D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WNT	**Mingjian**	**0.05**	**39**	⇑*i* P	Pb	08 08 35.7	+0.3
WNT				*i* S	Sb	08 08 39.0	+0.8
WJS	**Zhushan**	**0.07**	**101**	*i* P	Pb	08 08 35.9	+0.4
WJS				*i* S	Sb	08 08 39.4	+0.9
WGK	**Gukeng**	**0.17**	**208**	*i* P	Pb	08 08 36.9	+0.5
WGK				*i* S	Sb	08 08 41.3	+1.4
WDLH	**Douliu**	**0.18**	**214**	*i* P	Pb	08 08 36.8	+0.4
WDLH				*e*S	Sb	08 08 41.7	+1.6
TYC	**Yuchr**	**0.20**	**71**	*i* P	Pb	08 08 37.4	+0.6
TYC				*i* S	Sb	08 08 41.8	+1.2
WHYT	**Xinyi Township**	**0.23**	**126**	*i* P	Pb	08 08 37.7	+0.5
WHYT				S	Sb	08 08 42.2	+0.9
SMLT	**Sun Moon Lake**	**0.24**	**79**	P	Pb	08 08 36.9	-0.4
SMLT				*e*S	Sb	08 08 41.7	+0.2
CHN5	**Tsauling**	**0.24**	**173**	*i* P	Pb	08 08 37.7	+0.3
CHN5				*e*S	Sb	08 08 42.1	+0.6
WCH1	**Changhua City**	**0.25**	**339**	*i* S	Sb	08 08 43.1	+1.4
WCHH	**Zhanghua**	**0.26**	**342**	P	Pb	08 08 37.9	+0.4
WCHH				S	Sb	08 08 43.2	+1.4
WTK	**Tuku**	**0.28**	**238**	*e*P	Pb	08 08 38.2	+0.4
WTK				*i* S	Sn	08 08 43.9	-1.3
SSLB	**Suanglung**	**0.28**	**100**	P	Pb	08 08 38.1	+0.2
SSLB	**Suanglung**	**0.28**	**100**	S	Sb	08 08 43.3	+0.7
SSLB	**Suanglung**	**0.28**	**100**	⇓*i* P	Pb	08 08 38.3	+0.4
SSLB				S	Sb	08 08 43.3	+0.7
TCU	**Taichung**	**0.31**	**5**	P	Pb	08 08 38.9	+0.5
TCU				*i* S	Sb	08 08 44.2	+1.0
WCS	**Beigang Elemen**	**0.33**	**48**	P	Pb	08 08 38.8	+0.3
WCS				*e*S	Sb	08 08 44.4	+0.8
WTCT	**Ta-ch'eng**	**0.34**	**275**	*i* P	Pb	08 08 38.7	0.0
WTCT				*i* S	Sb	08 08 44.7	+0.9
ALS	**Alishan**	**0.35**	**156**	*i* P	Pb	08 08 39.8	+0.6
ALS				*i* S	Sb	08 08 45.9	+1.2
CHY	**Chiayi**	**0.39**	**211**	*e*S	Sn	08 08 46.8	-1.3
WCKO	**Fanlu**	**0.40**	**186**	*i* S	Sb	08 08 46.4	+0.9
WSF	**Szhu**	**0.44**	**243**	*i* P	Pb	08 08 40.4	+0.1
WSF				*i* S	Sb	08 08 47.7	+1.2
WUSB	**Renai**	**0.46**	**70**	⇓*i* P	Pb	08 08 41.1	+0.3
WUSB				*i* S	Sb	08 08 47.9	+0.6
VWDT	**VWDT**	**0.46**	**100**	*i* P	Pn	08 08 41.5	-0.8
VWDT				*e*S	Sn	08 08 49.1	-0.6
CHN4	**Tsaushan**	**0.48**	**186**	*e*P	Pb	08 08 41.8	+0.7
WSL	**Shuilin Townsh**	**0.49**	**231**	P	Pb	08 08 41.5	+0.2
WSL				S	Sb	08 08 49.8	-0.8
OWD	**Renai**	**0.50**	**76**	*i* P	Pb	08 08 41.9	+0.5
OWD				S	Sb	08 08 49.3	+0.9
WDJ	**Dajia District**	**0.51**	**359**	*e*P	Pn	08 08 42.5	-0.5
WDJ				*e*S	Sn	08 08 50.9	0.0
WHP	**Taichung City**	**0.52**	**32**	P	Pb	08 08 42.3	+0.5
TWQ1	**Liyutan**	**0.52**	**13**	*i* P	Pn	08 08 42.5	-0.7
TWQ1				S	Sn	08 08 50.5	-0.8
TPUB	**Ta-pu**	**0.53**	**182**	P	Pb	08 08 42.2	+0.2
TPUB	**Ta-pu**	**0.53**	**182**	S	Sb	08 08 49.8	+0.5
TPUB	**Ta-pu**	**0.53**	**182**	*e*P	Pb	08 08 42.2	+0.2
TPUB				S	Sb	08 08 50.2	+0.9
ICHU	**Yijhu**	**0.58**	**216**	*e*P	Pb	08 08 43.3	+0.6
TWK	**Hsinying**	**0.58**	**194**	*e*P	Pb	08 08 43.1	+0.2
NSY	**Sanyi**	**0.59**	**10**	*e*P	Pb	08 08 41.5	-1.3
NSY				*e*S	Sb	08 08 51.2	+0.4
WTP	**Ta-pu**	**0.59**	**183**	P	Pb	08 08 43.1	+0.2
WTP				S	Sb	08 08 51.8	+1.0
TDCB	**Techi**	**0.62**	**48**	P	Pb	08 08 43.9	+0.3
TDCB				S	Sb	08 08 52.5	+0.4
SNST	**Tainan City**	**0.63**	**193**	*e*P	Pb	08 08 44.0	+0.4
CHN8	**Yiju**	**0.63**	**219**	*e*P	Pb	08 08 43.8	+0.2
CHN8				*e*S	Sn	08 08 53.6	-0.3
TWT	**Tachien**	**0.64**	**49**	*e*P	Pb	08 08 44.0	+0.2
TWT				*e*S	Sb	08 08 52.5	+0.1
WHF	**Hehuan Shan**	**0.64**	**61**	*e*P	Pn	08 08 45.0	-0.2
WHF				*i* S	Sn	08 08 54.4	-0.5
CHN1	**Nanshi**	**0.66**	**190**	*e*P	Pn	08 08 44.6	-0.5
CHN1				*e*S	Sn	08 08 54.4	-0.3
STYH	**Taoyuan**	**0.67**	**170**	*e*P	Pb	08 08 43.6	-0.7
FUSS	**Fushou**	**0.68**	**53**	P	Pb	08 08 44.9	+0.2
FUSS				*e*S	Sb	08 08 54.2	+0.5
WARBT	**Fenglin Townsh**	**0.69**	**100**	P	Pn	08 08 45.0	-0.4
EHY	**Hungye**	**0.70**	**118**	*e*P	Pn	08 08 45.3	-0.3
EHY				*e*S	Sn	08 08 55.3	-0.4
NMLH	**Miaoli**	**0.71**	**11**	*e*P	Pn	08 08 45.6	-0.2
ESL	**Shilin**	**0.72**	**92**	*i* P	Pn	08 08 45.9	0.0
ESL				S	Sn	08 08 56.1	-0.1
EHYH	**Wanrong**	**0.72**	**118**	*e*P	Pn	08 08 45.6	-0.3
LXIB	**Xiulin Townshi**	**0.72**	**75**	⇓*i* P	Pb	08 08 45.6	+0.3
LXIB				S	Sn	08 08 56.1	-0.4
ELDTW	**Lidau**	**0.73**	**152**	P	Pb	08 08 45.6	+0.3
EGFH	**Guangfu**	**0.73**	**103**	P	Pn	08 08 45.9	-0.1
YULB	**Yu-li**	**0.74**	**126**	P	Pn	08 08 46.3	-0.3
YULB	**Yu-li**	**0.74**	**126**	S	Sn	08 08 56.4	-0.3
YULB	**Yu-li**	**0.74**	**126**	P	Pb	08 08 45.7	+0.3
SGST	**Jiashian**	**0.75**	**184**	*e*P	Pb	08 08 45.3	-0.4
SGST				*e*S	Sn	08 08 56.6	-0.4
TWF1	**Yuli**	**0.77**	**129**	*e*P	Pn	08 08 46.5	0.0
ETM	**Tongmen**	**0.79**	**80**	*e*P	Pn	08 08 46.6	-0.2
EYUL	**Yuli**	**0.79**	**128**	*e*P	Pn	08 08 46.8	0.0
HGSD	**Ruisui**	**0.79**	**116**	*e*P	Pn	08 08 47.1	+0.3
SHUL	**Shoufeng**	**0.84**	**93**	*e*P	Pn	08 08 48.0	+0.5
SHUL				*e*S	Sn	08 09 00.0	+0.9
ETLH	**Xiulin Townshi**	**0.85**	**64**	P	Pn	08 08 47.7	0.0
ETLH				*e*S	Sn	08 08 59.5	+0.1
EHD	**Haiduan**	**0.85**	**143**	*e*P	Pn	08 08 48.1	+0.3
EHD				*e*S	Sn	08 08 59.6	+0.1
NSTT	**Nanjuang**	**0.85**	**22**	*e*P	Pn	08 08 47.9	+0.1
NSTT				S	Sn	08 08 59.5	0.0
TSCK	**Chigu Township**	**0.86**	**217**	*e*S	Sn	08 08 59.4	-0.1
FULB	**Fuli**	**0.87**	**137**	*e*P	Pn	08 08 49.5	+1.6
LIOB	**Emei**	**0.87**	**23**	*e*P	Pn	08 08 48.0	0.0
LIOB				*e*S	Sn	08 09 00.1	+0.1
NNSB	**Datong**	**0.89**	**49**	*e*P	Pb	08 08 48.2	0.0
NNSB				S	Sn	08 09 00.6	0.0
NNS	**Nan Shan**	**0.90**	**48**	*e*P	Pn	08 08 48.8	+0.4
NFF	**Wufeng Townshi**	**0.90**	**28**	*e*P	Pn	08 08 48.6	+0.2
NFF				*e*S	Sb	08 09 00.3	+0.4
TWD	**Chiawan**	**0.90**	**74**	P	Pn	08 08 48.6	+0.2
NACB	**Ninganchiao**	**0.93**	**69**	P	Pn	08 08 48.7	-0.1
NACB	**Ninganchiao**	**0.93**	**69**	S	Sn	08 09 02.0	+0.7
NACB	**Ninganchiao**	**0.93**	**69**	*i* P	Pn	08 08 48.9	+0.2
NACB				*i* S	Sn	08 09 01.9	+0.6
CHKH	**Chenggong**	**0.94**	**133**	*e*P	Pn	08 08 50.7	+1.8
LONT	**Longtian**	**1.03**	**154**	S	Sn	08 09 05.5	+1.8
PHUB	**P'eng-hu**	**1.04**	**252**	*e*P	Pn	08 08 49.4	-0.8
PHUB				*e*S	Sb	08 09 03.0	-0.6
EDH	**Donghe**	**1.05**	**145**	*e*P	Pn	08 08 50.4	0.0
KSHI	**Guanxi Townshi**	**1.05**	**27**	*e*P	Pn	08 08 50.4	-0.1
NSK	**Sanguang**	**1.06**	**38**	*e*P	Pb	08 08 51.4	+0.5
NSK				*e*S	Sb	08 09 04.3	0.0
LATG	**Datong**	**1.06**	**49**	*e*P	Pb	08 08 51.3	+0.3
YHNB	**Yeheng**	**1.06**	**39**	P	Pb	08 08 51.4	+0.4
YHNB	**Yeheng**	**1.06**	**39**	S	Sn	08 09 05.4	+0.6
YHNB	**Yeheng**	**1.06**	**39**	*e*P	Pb	08 08 51.1	+0.1
YHNB				*e*S	Sn	08 09 04.8	+0.1
WDGT	**Dungji**	**1.07**	**238**	*e*P	Pn	08 08 50.5	-0.2
WDGT				*e*S	Sn	08 09 04.7	-0.1
TWG	**Pinlang**	**1.08**	**159**	*e*S	Sn	08 09 06.8	+1.7
TWGBT	**Beinan**	**1.09**	**158**	*e*S	Sn	08 09 07.1	+1.9
ENA	**Nanau**	**1.16**	**59**	*e*P	Pb	08 08 53.0	+0.4
ENTT	**Nioudou**	**1.16**	**46**	*e*P	Pb	08 08 52.8	+0.3
EWUT	**Wuta**	**1.20**	**59**	*e*P	Pb	08 08 53.9	+0.6
EWUT				*e*S	Sb	08 09 09.9	+1.6
MASBT	**Mashibuluo**	**1.22**	**181**	*e*P	Pb	08 08 53.5	0.0
NWLT	**Wulai**	**1.22**	**40**	*e*S	Sb	08 09 09.4	+0.4
FUSB	**Fushanzhiwuyua**	**1.26**	**43**	*e*P	Pb	08 08 54.7	+0.5
ECL	**Taimali**	**1.27**	**167**	*e*P	Pb	08 08 54.1	-0.3
VCHM	**Qimei**	**1.28**	**241**	*e*P	Pn	08 08 53.7	+0.1
VCHM				*e*S	Sb	08 09 10.5	-0.1
TWC	**Suao**	**1.34**	**55**	*e*P	Pb	08 08 55.4	-0.2
EAST	**Anshuo**	**1.46**	**173**	*e*P	Pb	08 08 57.1	-0.5
TTN	**Taitung**	**0.34**	**130**	P	**Pg**	**08 55 44.2**	**+0.6**
TTN				*i* S	**Sb**	**08 55 50.5**	**-0.9**
ECS	**Chishang**	**0.35**	**70**	*i* P	**Pg**	**08 55 44.1**	**+0.4**
ECS				*e*S	**Sg**	**08 55 49.3**	**+1.0**
SCST	**Cishan**	**0.35**	**255**	*i* P	**Pg**	**08 55 44.2**	**+0.4**
SCST				*e*S	**Sb**	**08 55 50.2**	**-1.5**
WTP	**Ta-pu**	**0.35**	**319**	*e*P	**Pb**	**08 55 45.0**	**-0.9**
WTP				S	**Sb**	**08 55 50.8**	**-1.1**
EHD	**Haiduan**	**0.36**	**61**	*e*P	**Pg**	**08 55 43.3**	**-0.6**
EHD				*e*S	**Sg**	**08 55 48.2**	**-0.4**
CHN1	**Nanshi**	**0.37**	**304**	*e*P	**Pb**	**08 55 45.9**	**-0.3**
CHN1				*e*S	**Sb**	**08 55 53.1**	**+0.7**
ECL	**Taimali**	**0.39**	**168**	*e*P	**Pg**	**08 55 44.7**	**+0.3**
ECL				*e*S	**Sg**	**08 55 49.6**	**+0.2**
TPUB	**Ta-pu**	**0.39**	**326**	P	**Pb**	**08 55 45.7**	**-0.7**
TPUB	**Ta-pu**	**0.39**	**326**	P	**Pn**	**08 55 51.8**	**+2.4**
TPUB	**Ta-pu**	**0.39**	**326**	*e*P	**Pb**	**08 55 45.8**	**-0.7**
TPUB				*e*S	**Pn**	**08 55 51.9**	**+2.4**
EDH	**Donghe**	**0.41**	**90**	*e*P	**Pb**	**08 55 45.6**	**-1.2**
EDH				*i* S	**Sb**	**08 55 51.7**	**-1.6**
SNST	**Tainan City**	**0.41**	**306**	*e*P	**Pb**	**08 55 47.1**	**+0.2**
SNST				*e*S	**Sb**	**08 55 54.4**	**+0.8**
MASBT	**Mashibuluo**	**0.42**	**210**	*i* P	**Pg**	**08 55 44.9**	**-0.2**
MASBT				*e*S	**Sg**	**08 55 50.9**	**+0.4**
SGLT	**Jiouru**	**0.42**	**234**	P	**Pb**	**08 55 45.9**	**-1.2**
SGLT				*i* S	**Sb**	**08 55 52.4**	**-1.5**
TWM1	**Shoushan**	**0.43**	**250**	*i* P	**Pb**	**08 55 47.0**	**-0.2**
TWM1				S	**Sb**	**08 55 53.5**	**-0.6**
CHN4	**Tsaushan**	**0.45**	**326**	*e*P	**Pb**	**08 55 47.1**	**-0.4**
CHN4				S	**Sb**	**08 55 53.8**	**-0.7**
TWK	**Hsinying**	**0.45**	**310**	*e*P	**Pb**	**08 55 47.6**	**+0.1**
TWK				S	**Sb**	**08 55 54.0**	**-0.7**
FULB	**Fuli**	**0.45**	**61**	*i* P	**Pg**	**08 55 46.8**	**+0.6**
FULB				*e*S	**Sb**	**08 55 53.2**	**-1.6**
CHN3	**Shinhua**	**0.47**	**282**	*e*P	**Pn**	**08 55 50.0**	**-0.5**
SHHT	**Tainan City**	**0.48**	**276**	*e*P	**Pn**	**08 55 49.9**	**-0.7**
CHKT	**Chengkung**	**0.48**	**75**	*i* P	**Pb**	**08 55 47.4**	**-0.6**
CHKT				*e*S	**Sb**	**08 55 54.7**	**-0.7**
YUS	**Yu-Shan**	**0.52**	**9**	⇑*e*P	**Pg**	**08 55 44.5**	**-2.5**
WCKO	**Fanlu**	**0.52**	**333**	*e*P	**Pb**	**08 55 48.7**	**+0.1**
WCKO				*e*S	**Sb**	**08 55 57.2**	**+0.7**
ALS	**Alishan**	**0.54**	**354**	*i* P	**Pg**	**08 55 47.7**	**+0.5**
ALS				S	**Sb**	**08 55 56.8**	**-0.5**
CHKH	**Chenggong**	**0.54**	**66**	P	**Pg**	**08 55 47.6**	**+0.4**
CHKH				*e*S	**Sg**	**08 55 55.4**	**+1.2**
TWF1	**Yuli**	**0.55**	**47**	*i* P	**Pg**	**08 55 47.3**	**-0.1**
TWF1				*e*S	**Sg**	**08 55 54.7**	**+0.1**
EYUL	**Yuli**	**0.56**	**49**	*e*P	**Pg**	**08 55 47.6**	**-0.1**
EYUL				*e*S	**Sg**	**08 55 54.6**	**-0.3**
SSPT	**Xinbi**	**0.56**	**209**	*e*P	**Pb**	**08 55 48.9**	**-0.5**
YULB	**Yu-li**	**0.57**	**44**	P	**Pg**	**08 55 47.6**	**-0.4**
YULB	**Yu-li**	**0.57**	**44**	S	**Sg**	**08 55 56.0**	**+0.5**
YULB	**Yu-li**	**0.57**	**44**	*i* P	**Pg**	**08 55 47.6**	**-0.4**
YULB				S	**Sg**	**08 55 55.8**	**+0.3**
EAST	**Anshuo**	**0.59**	**181**	⇓P	**Pg**	**08 55 48.4**	**+0.1**
EAST				S	**Sg**	**08 55 56.8**	**+0.8**
TAWH	**Dawu Township**	**0.63**	**178**	P	**Pg**	**08 55 49.1**	**0.0**
TAWH				S	**Sg**	**08 55 57.4**	**0.0**
LDUT	**Ludao**	**0.64**	**118**	*i* P	**Pg**	**08 55 49.6**	**+0.4**
LDUT				S	**Sb**	**08 55 59.4**	**-0.4**
ECBN	**Changbin**	**0.64**	**58**	*e*P	**Pb**	**08 55 50.2**	**-0.4**
ECBN				*e*S	**Sb**	**08 56 00.7**	**+0.7**
CHN5	**Tsauling**	**0.64**	**345**	P	**Pb**	**08 55 50.3**	**-0.5**
CHN5				S	**Sb**	**08 56 00.0**	**-0.2**
SCZT	**Fangliau**	**0.64**	**201**	*i* P	**Pg**	**08 55 49.1**	**-0.2**
SCZT				*e*S	**Sg**	**08 55 57.9**	**+0.3**
WSSB	**Gushan**	**0.65**	**239**	*e*P	**Pn**	**08 55 52.7**	**-0.3**
WSSB				*e*S	**Sn**	**08 56 08.5**	**+2.9**
CHY	**Chiayi**	**0.66**	**322**	*e*S	**Sn**	**08 56 02.8**	**-1.1**
ICHU	**Yijhu**	**0.66**	**306**	P	**Pb**	**08 55 50.5**	**-0.6**
ICHU				*e*S	**Sn**	**08 56 04.0**	**0.0**
EHY	**Hungye**	**0.68**	**39**	P	**Pg**	**08 55 49.6**	**-0.4**
EHY				*i* S	**Sg**	**08 55 59.3**	**+0.6**
EHYH	**Wanrong**	**0.68**	**41**	P	**Pg**	**08 55 49.8**	**-0.2**
EHYH				S	**Sg**	**08 55 59.6**	**+0.8**
WHYT	**Xinyi Township**	**0.72**	**359**	*i* P	**Pg**	**08 55 51.1**	**+0.4**
WHYT				*e*S	**Sg**	**08 56 00.8**	**+0.7**
HGSD	**Ruisui**	**0.73**	**45**	*e*P	**Pb**	**08 55 51.4**	**-0.8**
HGSD				*i* S	**Sb**	**08 56 02.7**	**+0.1**
TSCK	**Chigu Township**	**0.74**	**284**	P	**Pb**	**08 55 52.8**	**+0.5**
TSCK				S	**Sn**	**08 56 06.0**	**+0.1**
SLIU	**Shizi**	**0.76**	**185**	*e*P	**Pg**	**08 55 50.8**	**-0.7**
SLIU				*e*S	**Sg**	**08 56 01.4**	**+0.1**
WDLH	**Douliu**	**0.77**	**337**	*e*P	**Pn**	**08 55 54.0**	**-0.6**
WDLH				*e*S	**Sn**	**08 56 04.6**	**-0.3**
WDL	**Douliou City**	**0.79**	**338**	*e*S	**Sb**	**08 56 04.5**	**+0.1**
WSL	**Shuilin Townsh**	**0.80**	**313**	*e*P	**Pb**	**08 55 53.8**	**+0.4**
WSL				*e*S	**Sn**	**08 56 08.3**	**+0.9**
SSLB	**Suanglung**	**0.81**	**6**	P	**Pg**	**08 55 52.3**	**-0.2**
SSLB	**Suanglung**	**0.81**	**6**	*i* P	**Pg**	**08 55 52.3**	**-0.2**
SSLB				*e*S	**Sb**	**08 56 05.2**	**+0.1**
VWDT	**VWDT**	**0.81**	**18**	P	**Pg**	**08 55 52.0**	**-0.6**
WTK	**Tuku**	**0.83**	**328**	P	**Pb**	**08 55 53.4**	**-0.6**
WTK				*e*S	**Sn**	**08 56 09.7**	**+1.5**
WJS	**Zhushan**	**0.85**	**352**	P	**Pn**	**08 55 55.3**	**-0.5**
EGFH	**Guangfu**	**0.86**	**37**	*e*P	**Pg**	**08 55 53.4**	**-0.1**
WARBT	**Fenglin Townsh**	**0.88**	**33**	P	**Pg**	**08 55 53.1**	**-0.8**
WARBT				*e*S	**Sg**	**08 56 05.7**	**+0.4**
WSF	**Szhu**	**0.88**	**318**	P	**Pb**	**08 55 54.4**	**-0.5**
WSF				*e*S	**Sb**	**08 56 07.1**	**+0.1**
SMLT	**Sun Moon Lake**	**0.90**	**2**	P	**Pg**	**08 55 53.8**	**-0.5**
SMLT				*e*S	**Sn**	**08 56 10.3**	**+0.1**
WNT	**Mingjian**	**0.91**	**350**	P	**Pn**	**08 55 56.1**	**-0.5**
WNT				S	**Sn**	**08 56 18.8**	**+0.6**
TYC	**Yuchr**	**0.92**	**360**	*e*P	**Pn**	**08 55 56.0**	**-0.8**
TYC				*e*S	**Sn**	**08 56 10.6**	**+0.1**
TEGC	**Jichi Village**	**0.96**	**40**	*e*P	**Pb**	**08 55 55.7**	**-0.5**
HEN	**Hengchun**	**0.97**	**187**	*e*S	**Sg**	**08 56 08.0**	**-0.2**
ESL	**Shilin**	**0.98**	**32**	*e*P	**Pg**	**08 55 55.6**	**-0.2**
ESL				*e*S	**Sn**	**08 56 11.1**	**-0.9**
OWD	**Renai**	**1.01**	**16**	*e*P	**Pg**	**08 55 55.6**	**-0.9**
OWD				S	**Sn**	**08 56 12.2**	**-0.8**
TWK1	**Hengchun**	**1.03**	**183**	*e*P	**Pn**	**08 55 59.1**	**+0.9**
SHUL	**Shoufeng**	**1.03**	**38**	*e*P	**Pb**	**08 55 56.9**	**-0.5**
SHUL				*e*S	**Sn**	**08 56 14.0**	**+0.8**
TWKBT	**Hengchun**	**1.03**	**183**	*e*P	**Pn**	**08 55 59.3**	**+1.1**
WUSB	**Renai**	**1.04**	**13**	*e*P	**Pg**	**08 55 56.3**	**-0.6**
WUSB				*e*S	**Sn**	**08 56 14.4**	**+0.9**
DPDB	**Guoxing**	**1.05**	**3**	P	**Pn**	**08 55 58.4**	**-0.2**
DPDB				*e*S	**Sn**	**08 56 15.0**	**+1.2**
WWF	**Wufeng**	**1.07**	**352**	P	**Pn**	**08 55 58.4**	**-0.4**
WWF				S	**Sn**	**08 56 14.5**	**+0.3**
WCS	**Beigang Elemen**	**1.08**	**2**	*e*P	**Pn**	**08 55 58.8**	**0.0**
WCS				*e*S	**Sn**	**08 56 15.0**	**+0.7**
LAY

NFF					eS	Sg	08 56 32.8	+2.3
LATG	Datong	1.67	21	i P		Pb	08 56 08.4	+0.1
LATG					eS	Sg	08 56 33.5	+3.0
LIOB	Emei	1.67	5	eP		Pg	08 56 09.4	+0.5
LIOB					eS	Sg	08 56 32.1	+1.5
YHNB	Yeheng	1.75	15	P		Pb	08 56 09.2	-0.5
YHNB	Yeheng	1.75	15	eP		Pg	08 56 11.7	+1.2
NSK	Sanguang	1.75	15	eP		Pg	08 56 10.1	-0.5
NSK					eS	Sg	08 56 35.2	+1.9
ENTT	Nioudou	1.78	21	eP		Pg	08 56 10.7	-0.3
NWLT	Wulai	1.89	18	P		Pb	08 56 11.5	-0.5
FUSB	Fushanzhiwuyua	1.90	20	eP		Pg	08 56 13.1	-0.2
FUSB					eS	Sg	08 56 40.3	+2.4
TIPB	Shuangxi	2.17	24	eP		Pb	08 56 16.2	-0.7
TIPB					eS	Sg	08 56 45.6	-1.3
SXI1	Grass Mountain	2.30	23	eP		Pg	08 56 20.4	-0.8
SXI1					eS	Sg	08 56 49.9	-1.1
VWUC	VWUC	2.39	327	eS		Sn	08 56 46.8	+0.2
ZPLA	Ao Xicun	3.01	289	eP		Pn	08 56 25.8	+0.3

UPA ***04*** *08:57:27.7±0.7, 9°.11N×83°.03W, h31km±6km, MD3.9, ML3.8*
CATAC ***04*** *08:57:27.5±0.3, 9°.N±2°×.8°3W×°, h18km±2km, M3.3/9, MLv3.3/9, Error ellipse: s-maj=7.1km s-min=3.6km az=50.6, confirmed*

ISC 04 08:57:27.9±0.9, 9°.07N±0°.04×83°.03W±°.04, h32km±9km, n25, σ0.9 65/32, 2C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK0	Durika	0.29	312	P		Pb	08 57 35.3	-0.4
DRK0	Durika	0.29	312	S		Sb	08 57 41.0	+0.1
BRU2	Volcan	0.43	129	⇑i P		Pb	08 57 37.7	+0.2
BRU2				eS		Sn	08 57 45.6	+0.7
BRU2	Volcan	0.43	129	P		Pb	08 57 37.7	+0.2
BC3P	Paso Ancho	0.48	121	⇑i P		Pb	08 57 38.2	-0.1
BC3P				AMP			08 57 38.3	
	comp=Z,7μm,0.1s							
BC3P				eS		Sn	08 57 46.1	-0.1
CDITO	Canoas	0.51	163	P		Pb	08 57 38.3	-0.3
CDITO	Canoas	0.51	163	S		Sn	08 57 46.8	0.0
OCHAL	Ojochal	0.61	273	P		Pn	08 57 39.5	-0.9
OCHAL	Ojochal	0.61	273	S		Sb	08 57 48.9	+0.1
LNBQ3	Los Naranjos,	0.64	115	eP		Pn	08 57 40.3	-0.7
LNBQ3				AMP			08 57 41.4	
	comp=Z,5μm,0.1s							
PTAR3	Potrerillos Ar	0.64	125	eP		Pn	08 57 40.6	-0.4
PIRO	Carate, Puerto	0.72	205	P		Pn	08 57 41.5	-0.5
PIRO	Carate, Puerto	0.72	205	S		Sb	08 57 52.8	+1.0
DVD	David	0.84	138	eP		Pn	08 57 43.5	-0.2
DVD				AMP			08 57 44.2	
	comp=Z,3μm,0.1s							
DVD				eS		Sb	08 57 55.7	+0.5
CHGR2	Aguacate	0.88	98	eP		Pn	08 57 43.8	-0.4
CHGR2				eS		Sn	08 57 55.5	-0.4
LOMA3	Las Lomas, Chi	0.89	135	eP		Pn	08 57 44.1	-0.1
LOMA3				eS		Sb	08 57 56.6	+0.2
LCR2	La Lucha 2	1.18	305	P		Pn	08 57 47.8	-0.6
LCR2	La Lucha 2	1.18	305	S		Sn	08 58 03.5	-0.1
HDC	Heredia	1.42	311	P		Pn	08 57 52.5	+0.7
HDC				S		Sb	08 58 11.2	-0.6
SOCE	Pocosol	2.04	310	P		Pn	08 58 00.2	0.0
SOCE	Pocosol	2.04	310	S		Sb	08 58 28.9	-0.7
COVE	Coope Vega, Sa	2.13	321	S		Sn	08 58 29.1	+2.3
GMAL	Guarumal, Vera	2.19	126	eP		Pn	08 58 02.3	+0.1
GMAL				eS		Sn	08 58 27.9	-0.4
BLUN	Bluefields	3.01	346	P		Pn	08 58 13.0	-0.5
ACON	Acoyapa	3.58	324	P		Pn	08 58 21.5	+0.2

IDC ***04*** *09:43:10.7±1.6, 39°.42N×140°.37E, h140km±18km, mb3.3/6, mbtmp3.7/8, Error ellipse: s-maj=29.7km s-min=14.2km az=94.0*
JMA ***04*** *09:43:11.1±0.1, 39°.4N±0°.4×140°.3E±0°.6, h132km, MV3.1/36, SOUTHERN AKITA PREF*

ISC 04 09:43:10.6±0.8, 39°.38N±0°.05×140°.36E±0°.07, h138km±6km, n23, σ0.40 /35, mb3.6/6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYW	Yuwa	0.20	325	P		Pn	09 43 29.6	+0.3
JYW				S		Sn	09 43 43.7	+0.1
JRG	Rokugo	0.21	84	i P		Pn	09 43 29.4	+0.1
JRG				S		Sn	09 43 43.5	-0.1
JYK	Kaneyama	0.46	180	i P		Pn	09 43 30.2	-0.1
JYK				S		Sn	09 43 45.0	-0.3
JOM	Ohasama	0.73	82	i P		Pn	09 43 32.2	+0.3
JOM				S		Sn	09 43 48.2	+0.1
JMK	Ichinoseki	0.79	122	i P		Pn	09 43 32.5	+0.1
JMK				eS		Sn	09 43 49.1	+0.2
JAH	Hinai	0.84	15	P		Pn	09 43 33.2	+0.4
JAH				S		Sn	09 43 49.9	+0.1
JYA	Atsumi	0.93	213	P		Pn	09 43 33.6	0.0
JYA				S		Sn	09 43 50.6	-0.4
JOU	Okura	1.03	167	i P		Pn	09 43 34.8	+0.3
JYS	Shirataka	1.18	191	P		Pn	09 43 36.2	+0.4
JYS				S		Sn	09 43 55.5	+0.5
JIO	Ouri	1.20	140	i P		Pn	09 43 35.7	-0.4
JIO				eS		Sn	09 43 55.2	-0.2
JAW	Awa shima	1.26	224	eP		Pn	09 43 36.7	0.0
JAW				eS		Sn	09 43 56.1	-0.4
JANG	Nango	1.34	41	i P		Pn	09 43 37.8	+0.4
JANG				eS		Sn	09 43 58.1	+0.2
JNS	Sasagawa	1.76	208	eP		Pn	09 43 42.2	+0.2
JOTO	OTAMA OYAMA	1.81	181	P		Pn	09 43 43.5	+0.8
JOT	Ohata	2.07	14	P		Pn	09 43 46.5	+0.7
MJAR	Matsushiro Arr	3.30	212	P		Pn	09 44 02.2	+0.9
	6.9nm,0.5s,baz=22,slow=14,SNR=23							
ASAJ	Asahikawa	5.03	19	P		Pn	09 44 24.3	+0.3
	3.3nm,0.3s,baz=225,slow=11,SNR=19							
ASAJ				S		Sn	09 45 20.3	-0.9
	5.4nm,0.7s,baz=267,slow=14,SNR=1.9							
MKAR	Makanchi Array	42.20	300	P		P	09 50 49.5	-0.2
	0.4nm,0.5s,baz=92,slow=8.8,SNR=6.8							
	0.4nm,0.5s							
KURBB	Kurchatov Arra	43.93	306	P		P	09 51 03.1	-0.3
	1.1nm,0.6s,baz=82,slow=8.7,SNR=10							
	1.1nm,0.6s							
BVAR	Borovoye Array	48.40	311	P		P	09 51 38.1	-0.2
	0.6nm,0.3s,baz=68,slow=9.5,SNR=4.1							
	0.6nm,0.3s							
WRA	Warramunga Arr	59.27	187	P		P	09 52 57.3	-0.3
	0.4nm,0.6s,baz=6.3,slow=7.3,SNR=5.3							
	0.4nm,0.6s							
ASAR	Alice Springs	63.00	187	P		P	09 53 23.0	+0.3
	0.1nm,0.3s,baz=0.4,slow=7.0,SNR=5.1							
	0.1nm,0.3s							
FINES	FINESS Array B	66.36	331	P		P	09 53 44.0	0.0
	1.2nm,0.7s,baz=44,slow=6.8,SNR=1.6							
	1.2nm,0.7s							

NEIC ***04*** *09:45:53.8±0.6, 42°.674N±0°.004×111°.48W±0°.02, h5km±1km, ML3.2/60, ML3.3/17(UUSS), Error ellipse: s-maj=2.7km s-min=2.1km az=127.0*
IDC ***04*** *09:45:53.3±1.3, 42°.70N×111°.48W, h0km, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=26.8km s-min=5.8km az=164.0*
UUSS ***04*** *09:45:54.3±0.6, 42°.66N±0°.01×111°.49W±0°.02, h5km±2km, Error ellipse: s-maj=2.1km s-min=1.4km az=126.0*

ISC 04 09:45:54.1±1.2, 42°.68N±0°.03×111°.49W±0°.04, h4km±13km, n39, σ0.77 /35, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRI	Grays Lake	0.27	10		Pg	09 45 59.9	+0.6
AHID	Auburn Hatcher	0.30	72	Pg	Pg	09 46 00.1	+0.2
AHID				Sg	Sg	09 46 04.7	+0.9
AHID				IAML		09 46 05.9	
	5μm,0.8s						
AHID				IAML		09 46 09.1	
	3μm,0.3s						
BEI	Bear River Ran	0.60	202		Pg	09 46 05.4	-0.2
BMUT	Black Mountain	0.74	165		Pg	09 46 07.7	-0.6
MLI	Malad Range	0.80	216		Pg	09 46 09.1	-0.4
HDU	Hyde Park	0.89	194		Pg	09 46 10.8	-0.5
TPAW	Teton Pass	0.90	25	Pg	Pg	09 46 10.5	-0.9
TPAW				Sg	Sg	09 46 23.0	-0.2
TPAW				IAML		09 46 25.0	
	561nm,0.7s						
NPI	North Pocatell	0.93	236		Pg	09 46 11.4	-0.5
SNOW	Snow King Moun	0.95	34	Pg	Pg	09 46 11.9	-0.4
SNOW				Sg	Sb	09 46 25.3	-1.1
SNOW				IAML		09 46 32.0	
	642nm,1.2s						
PTU	Portage	0.97	220		Pg	09 46 12.1	-0.6
FXWY	Fox Creek	1.02	19	Pg	Pg	09 46 13.2	-0.5
FXWY				Sg	Sg	09 46 26.9	0.0
HWUT	Hardware Ranch	1.07	183	Pg	Pg	09 46 14.1	-0.5
HWUT				Sg	Sb	09 46 28.8	-0.8
HWUT				IAML		09 46 32.6	
	363nm,0.7s						
LOHW	Long Hollow	1.14	34	Pg	Pg	09 46 15.1	-0.8
LOHW				IAML		09 46 35.0	
	300nm,0.9s						
LOHW				IAML		09 46 36.2	
	400nm,0.5s						
MOOW	Moose Ponds	1.20	26	Pg	Pg	09 46 16.5	-0.6
LTU	Little Mountai	1.22	208		Pg	09 46 16.7	-0.8
HVU	Hansel Valley	1.31	227	Pg	Pg	09 46 17.8	-1.4
PD31	Pinedale Array	1.42	86		Pn	09 46 20.1	-0.8
PDAR	Pinedale Array	1.42	86		Pn	09 46 20.4	-0.5
PDAR	Pinedale Array	1.42	86	Pg	Pn	09 46 20.8	-0.2
	11nm,0.3s,baz=263,slow=14,SNR=115						
PDAR				Lg	Lg	09 46 38.5	
	7.4nm,0.3s,baz=273,slow=21,SNR=7.8						
TCUT	Toone Canyon	1.56	178		Pg	09 46 23.5	-0.4
BGU	Big Grassy Mou	2.10	214	Pn	Pn	09 46 29.9	-0.2
BGU				IAML		09 47 01.4	
	comp=N,114nm,0.6s						
BGU				IAML		09 47 03.4	
	comp=E,202nm,0.6s						
YHH	Holmes Hill	2.16	12	Pn	Pn	09 46 31.2	+0.1
YHL	Hebgen Lake	2.19	6	Pn	Pn	09 46 31.1	-0.4
BSUT	Blindstream Ca	2.20	166	Pn	Pn	09 46 31.6	-0.1
BSUT				IAML		09 47 08.5	
	comp=N,135nm,0.7s						
BSUT				IAML		09 47 09.1	
	comp=E,127nm,1.4s						
HLID	Hailey	2.32	293	Pn	Pn	09 46 33.3	+0.1
HLID				IAML		09 47 09.6	
	comp=E,84nm,0.8s						
HLID				IAML		09 47 10.2	
	comp=E,130nm,0.8s						
DUG	Dugway, Tooele	2.67	202	Pn	Pn	09 46 37.4	-0.6
DUG				IAML		09 47 20.4	
	comp=E,84nm,1.1s						
DUG				IAML		09 47 21.3	
	comp=E,114nm,0.9s						
P18A	Preston Nutter	3.19	163	IAML		09 47 41.1	
	comp=E,52nm,1.0s						
P18A				IAML		09 47 44.5	
	comp=N,56nm,0.8s						
ELK	Elko	3.41	237	Pn	Pn	09 46 49.0	+0.8
	comp=N,0.3nm,0.3s,baz=52,slow=14,SNR=30						
ELK				Lg	Lg	09 47 40.8	
	comp=N,4.2nm,0.3s,baz=166,slow=19,SNR=12						
	comp=N,6.2nm,0.7s						
SRU	San Rafael Swe	3.63	168	IAML		09 47 52.3	
	comp=E,87nm,1.1s						
SRU				IAML		09 48 02.0	
	comp=N,56nm,1.1s						
Q16A	Castle Valley	3.76	176	IAML		09 47 53.2	
	comp=E,57nm,1.1s						
Q16A				IAML		09 47 57.6	
	comp=N,39nm,1.1s						
TCRU	Three Creeks R	4.13	191	IAML		09 48 23.0	
	comp=N,45nm,1.2s						
TCRU				IAML		09 48 28.3	
	comp=E,30nm,1.1s						
MVU	Marysvale	4.20	188	IAML		09 48 27.0	
	comp=E,64nm,2.3s						
SPR3	Spring Creek 3	4.26	211	IAML		09 48 16.9	
	comp=N,19nm,0.8s						
PV07	Paradox Valley	4.75	152	IAML		09 48 22.7	
	comp=N,36nm,0.8s						
NVAR	Mina Array Bea	6.70	233	Pn	Pn	09 47 35.3	+1.9
	comp=N,0.2nm,0.3s,baz=52,slow=14,SNR=9.9						
NVAR				Lg	Lg	09 49 24.4	
	comp=N,0.7nm,0.3s,baz=50,slow=31,SNR=5.8						
	comp=N,0.8nm,0.7s						
NEW	Newport	6.85	327	Lg	Lg	09 49 25.2	
	comp=N,0.2nm,0.3s,baz=234,slow=19,SNR=6.2						
YBH	Yreka Blue Hor	8.39	267	Pg	Pb	09 48 19.3	-0.6
	baz=86,slow=9.0						
YBH				Lg	Lg	09 50 17.4	
	baz=355,slow=9.0,SNR=1.5						
ANMO	Albuquerque	8.65	151	Pg	Pg	09 48 33.1	-6.7
	comp=N,0.1nm,0.3s,baz=286,slow=15,SNR=4.3						
ANMO				Lg	Lg	09 50 22.4	
	comp=N,0.1nm,0.3s,baz=67,slow=13,SNR=4.3						
TXAR	Lajitas Array	14.73	152	Pn	Pn	09 49 24.9	+1.7
	baz=335,slow=13,SNR=6.5						
	comp=N,0.7nm,0.9s						

IDC ***04*** *09:50:09.6±3.7, 54°.23N×87°.45E, h0km, mbtmp2.5/2, ML2.0/2, Error ellipse: s-maj=32.7km s-min=20.3km az=43.0*

ASRS 04 09:50:09.0±1.1, 54°.15N×87°.18E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.41	263	I	I	09 59 50.0	
	baz=81,slow=323,SNR=1.5						
ZALV	Zalesovo Beam	1.41	263	Pg	Pb	09 50 37.1	+1.0
	1.5nm,0.3s,baz=79,slow=14,SNR=13						
ZALV				Lg	Lg	09 51 00.0	
	2.3nm,0.3s,baz=76,slow=26,SNR=8.2						
KURBB	Kurchatov Arra	6.36	240	Pn	Pn	09 51 47.5	+3.5
	baz=54,slow=14,SNR=2.0						
	0.1nm,0.3s						
MKAR	Makanchi Array	8.00	205	Pn	Pn	09 52 10.3	+3.9
	baz=24,slow=13,SNR=1.3						
	0.1nm,0.2s						

IDC ***04*** *09:59:17.7±0.5, 20°.14N×120°.94E, h0km, mb4.2/26, mbtmp4.3/29, ML4.3/4, MS3.6/33, Error ellipse: s-maj=16.7km s-min=12.2km az=72.0*
JMA ***04*** *09:59:18.1±0.8, 20°.N±3°.×12°.1E±°., h0km, MV5.3/22, PHILIPPINE ISL REGION*
BJI ***04*** *09:59:19.8, 20°.36N×120°.73E, h10km, mB4.6/10, mb4.5/42, ML4.3/3, Ms4.0/19, Ms7 3.7/20*
NEIC ***04*** *09:59:20.2±2.2, 20°.27N±0°.06×120°.85E±0°.09, h10km±1km, mb4.6/46, Error ellipse: s-maj=14.5km s-min=9.7km az=93.0*

ISC 04 09:59:22.8±0.3, 20°.29N±0°.04×120°.83E±0°.05, h29km, n187, σ1.9 50/164, mb4.5/55, MS3.7/36, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	Beinan	2.52	5	P	Pn	10 00 00.6	-1.3
TWG	Pinlang	2.53	5		Pn	09 59 59.9	-2.0
TPUB	Ta-pu	3.00	356		Pn	10 00 07.0	-1.4
TPUB	Ta-pu	3.00	356	P	Pn	10 00 07.1	-1.4
YULB	Yu-li	3.12	8		Pn	10 00 08.0	-2.0
YULB	Yu-li	3.12	8	P	Pn	10 00 08.4	-1.6
SSLB	Suanglung	3.48	2	Pn	Pn	10 00 14.3	-0.8
SSLB	Suanglung	3.48	2	P	Pn	10 00 14.2	-0.8
NACB	Ninganchiao	3.93	10		Pn	10 00 20.2	-1.0
NACB	Ninganchiao	3.93	10	P	Pn	10 00 20.2	-1.0
YHNB	Yeheng	4.39	6	Pn	Pn	10 00 27.9	+0.3
YHNB	Yeheng	4.39	6	P	Pn	10 00 27.9	+0.3
JYNG	Yonagunijimaku	4.58	25	eP	Pn	10 00 30.6	+0.5
YOJ	Yonaguni jima	4.61	26	P	Pn	10 00 31.0	+0.4
YOJ	Yonaguni jima	4.61	26	eP	Pn	10 00 31.1	+0.6
HATJ	Hateruma jima	4.65	36	eP	Pn	10 00 30.9	-0.2
HATJ				S	Sn	10 01 23.7	-0.4
TATO	Taipei	4.70	7		Pn	10 00 32.6	+0.8
TATO	Taipei	4.70	7	P	Pn	10 00 32.3	+0.5
KNMB	Chin-men Tao	4.73	332		Pn	10 00 29.8	-2.4
IRIF	Iriomote-Funau	4.84	33	eP	Pn	10 00 34.0	+0.4
IRIF				eS	Sn	10 01 30.1	+1.4
JKRS	Kuro-shima	4.91	36	eP	Pn	10 00 34.8	+0.1
JKRS				eS	Sn	10 01 31.1	+0.6
QZH	Quanzhou	5.07	336	Pn	Pn	10 00 34.7	-2.2
QZH				Sn	Sn	10 01 29.8	-4.7
QZH				smax	smax		
	comp=N,160nm,0.5s						
QZH				smax	smax		
	comp=E,160nm,0.7s						
QZH				LR	LR		
	comp=N,890nm,13.0s						
QZH				LR	LR		
	comp=E,950nm,12.6s						
QZH				LR	LR		
	comp=Z,740nm,11.2s						
JIJ	Ishigaki jima	5.08	36	eP	Pn	10 00 36.6	-0.4
JIJ				S	Sn	10 01 32.6	-2.1
JISG	Ishigakijimahi	5.35	36	P	Pn	10 00 39.9	-0.8
JISG				S	Sn	10 01 39.5	-1.9
JTJ	Tarama	5.62	39	eP	Pn	10 00 44.2	-0.2
JTJ				eS	Sn	10 01 46.3	-1.6
JIRB	Irabujima	6.04	41	eP	Pn	10 00 49.6	-0.5
JIRB				S	Sn	10 01 56.5	-1.9
JMJ2	Miyako jima3	6.07	42	eP	Pn	10 00 49.8	-0.8
JMJ2				eS	Sn	10 01 57.9	-1.3
TGY	Tagaytay City	6.16	179	Pn	Pn	10 00 47.9	-4.0
	55nm,0.3s,baz=215,slow=3.9,SNR=5.8						
TGY				LR	LR	10 03 28.6	
	comp=Z,669nm,20.1s,baz=336,slow=42						
HKPS	Hong Kong Po S	6.54	289		Pn	10 00 54.4	-2.8
JIH	Iheya	9.37	43	eP	Pn	10 01 34.7	-1.1
JOW	Kunigami	9.43	45	Pn	Pn	10 01 35.3	-1.5
	3.6nm,0.3s,baz=187,slow=13,SNR=15						
JOW				Sn	Sn	10 03 16.6	-5.2
	0.9nm,0.3s,baz=100,slow=29,SNR=1.3						
	7.9nm,0.3s						
JOW	Kunigami	9.43	45	P	Pn	10 01 37.0	+0.2
JOW	Kunigami	9.43	45	eP	Pn	10 01 35.0	-1.7
JOW				eS	Sn	10 03 19.1	-2.7
QIZ	Qiongzhong	10.43	265	P	Pn	10 01 48.6	-1.9
QIZ				S	Sn	10 03 47.6	+1.1
QIZ				pmax	pmax		
	comp=Z,18nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,240nm,3.8s						
QIZ				LR	LR		
	comp=N,520nm,11.9s						
QIZ				LR	LR		
	comp=E,300nm,8.3s						
QIZ				LR	LR		
	comp=Z,230nm,10.3s						
QIZ	Qiongzhong	10.43	265	P	Pn	10 01 47.4	-3.1
JTK	Tokunoshima	10.52	43	eP	Pn	10 01 49.3	-2.4
JAMN	Amaminishikomi	10.98	42	eP	Pn	10 01 56.9	-1.0
JMZ	Minamidaito 2	11.03	58	eP	Pn	10 01 56.2	-2.5
NJ2	Nanjing	11.85	352	eP	Pn	10 02 09.9	+0.1
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
KKM	Kota Kinabalu	14.86	198	P	Pn	10 02 50.5	-0.6
MYLDM	Lahad Datu	15.19	189	Pn	Pn	10 02 54.8	-0.7
MYLDM				IAmb	IAmb	10 03 12.8	
	comp=Z,47nm,1.0s						
JNU	Nakatsue	15.60	33	Pn	Pn	10 02 59.0	-1.8
JNU				IAmb	IAmb	10 03 38.5	
	comp=Z,56nm,1.4s						
JNU	Nakatsue	15.60	33	Pn	Pn	10 03 00.7	0.0
	comp=Z,0.9nm,0.3s,baz=214,slow=5.7,SNR=6.2						
	comp=Z,14nm,0.8s						
JNU	Nakatsue	15.60	33	P	Pn	10 03 02.3	+1.6
SLVN	Son La	15.86	277	Pn	Pn	10 03 02.9	-1.3
TIA	Tai'an	16.19	349	P	P	10 03 11.0	-0.2
TIA				pmax	pmax		
	comp=Z,18nm,1.3s						
TIA				LR	LR		
	comp=Z,340nm,16.2s						
TIA				LR	LR		
	comp=Z,310nm,18.1s						
TIA				LR	LR		
	comp=Z,430nm,19.1s						
XAN	Xi'an	17.30	325	⇑P	P	10 03 31.6	+8.1
XAN				pP	pwP	10 03 38.1	+3.9
XAN				S	S	10 06 58.1	+16
XAN				pmax	pmax		
	comp=Z,14nm,1.4s						
XAN				pmax	pmax		
	comp=Z,430nm,4.2s						
XAN				LR	LR		
	comp=N,530nm,11.7s						
XAN				LR	LR		
	comp=E,410nm,16.5s						
XAN				LR	LR		
	comp=Z,530nm,15.1s						
JMN	Monobe	17.70	38	P	P	10 03 29.3	+1.3
HNS	HongShan	17.86	344	⇑P	P	10 03 31.3	+1.7
HNS				eS	Sn	10 06 44.4	-3.0
HNS				SS	SnSn	10 07 06.2	+4.8
HNS				pmax	pmax		
	comp=Z,24nm,0.9s						
HNS				pmax	pmax		
	comp=Z,200nm,5.7s						
HNS				LR	LR		
	comp=Z,160nm,13.6s						
HNS				LR	LR		
	comp=Z,370nm,13.6s						
HNS				LR	LR		
	comp=Z,300nm,16.1s						
KSRS	Korea Array	18.18	18	P	Pn	10 03 32.5	-0.5
	comp=Z,0.8nm,0.3s,baz=202,slow=12,SNR=30						
KSRS				LR	LR	10 11 35.7	
	comp=Z,105nm,18.4s,baz=205,slow=40						
	comp=Z,13nm,0.7s						
PZH	PanZhiHua	18.57	293	P	Pn	10 03 38.5	+0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,5.3s						
CD2	Chengdu	18.66	308	P	Pn	10 03 39.2	+0.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				LR	LR		
	comp=Z,260nm,10.2s						
CD2				LR	LR		
	comp=Z,270nm,12.1s						
TOLI2	Tolitoli	19.06	180	P	P	10 03 40.8	-2.2
TOLI2	Tolitoli	19.06	180	P	P	10 03 42.4	-0.6
SBUM	Sibu	19.62	206		P	10 03 47.9	-1.2
SBUM	Sibu	19.62	206	P	P	10 03 49.1	0.0
MRSI	Marisa	19.72	177	P	P	10 03 52.1	+1.9
MPSI	Mapaga	19.85	183	P	P	10 03 52.0	+0.4
BJT	Baijiatuau	20.07	350	Pn	Pn	10 03 55.3	-0.4
BJT				IAmb	IAmb	10 03 57.0	
	comp=Z,25nm,0.9s						
BJI	Beijing	20.09	350	P	Pn	10 03 55.2	-0.7
BJI				sP	pP	10 03 58.9	-2.1
BJI				S	Sn	10 07 39.4	-1.6
BJI				pmax	pmax		
	comp=Z,13nm,0.9s						
BJI				LR	LR		
	comp=Z,110nm,12.9s						
BJI				LR	LR		
	comp=Z,110nm,14.4s						
BJI				LR	LR		
	comp=Z,110nm,12.7s						
JCJ	Chichijima	20.68	67	LR	LR	10 12 18.7	
	comp=Z,83nm,18.4s,baz=262,slow=38						
CHTO	Chiang Mai	20.68	270		P	10 04 00.3	-0.3
CHTO				IAmb	IAmb	10 04 02.0	
	comp=Z,25nm,1.1s						
INU	Inuyama	20.69	40	P	P	10 04 00.7	+0.1
INU				IAmb	IAmb	10 04 05.2	
	comp=Z,62nm,1.1s						
INU	Inuyama	20.69	40	P	Pn	10 04 02.0	-1.0
CMAR	Chiang Mai Arr	20.73	269	P	P	10 04 00.8	-0

comp=Z,23nm,1.0s
LZH LR LR
comp=Z,410nm,13.7s
LZH LR LR
comp=Z,150nm,13.1s
LZH LR LR
comp=Z,330nm,14.1s
HHC Hu-ho-hao-te 21.96 341 eP **P 10 04 13.1 -1.3**
MJAR Matsushiro Arr 22.20 40 P **P 10 04 16.9 0.0**
comp=Z,7.4nm,0.8s,baz=222,slow=8.1,SNR=20
comp=Z,7.4nm,0.8s
SANI Sanana 22.77 167 P **P 10 04 20.9 -2.1**
SANI Sanana 22.77 167 P **P 10 04 20.8 -2.2**
comp=Z,57nm,0.8s
TTSI Tana Toraja 23.21 183 P **P 10 04 29.0 +1.4**
comp=Z,2μmcomp=Z,31nm,0.8s
CN2 Changchun 23.76 8 eP **P 10 04 29.6 -3.1**
CN2 epP pP 10 04 33.7 -6.6
XLT XiLinHaoTe 23.87 351 eP **P 10 04 35.0 +1.1**
XLT pP pP 10 04 38.6 -2.9
XLT sP sP 10 04 44.6 -0.1
XLT pmax pmax
comp=Z,20nm,1.3s
GUMO Guam 23.92 102 LR LR 10 11 51.4
comp=Z,66nm,21.2s,baz=234,slow=32
SPSI Sidrap Palu 24.13 183 P **P 10 04 35.5 -0.8**
comp=Z,36nm,0.9s
JMM Marumori 24.63 40 P **P 10 04 42.1 +1.3**
KAPI Kappang 25.17 183 P **P 10 04 44.8 -1.0**
KAPI Kappang 25.17 183 LR LR 10 16 16.8
comp=Z,112nm,19.0s,baz=0.5,slow=41
USRK Ussuriysk Ar. 25.59 19 P **P 10 04 49.0 -0.4**
USRK Ussuriysk Ar. 25.59 19 P **P 10 04 49.5 +0.1**
comp=Z,2.5nm,0.6s,baz=206,slow=6.0,SNR=8.2
USRK LR LR 10 15 57.2
comp=Z,94nm,20.4s,baz=202,slow=39
comp=Z,2.5nm,0.6s
FAKI Fak Fak 25.64 153 P **P 10 04 52.0 +1.9**
BNX BinXian 25.95 11 ⇑P **P 10 04 53.3 +0.6**
BNX pmax pmax
comp=Z,7.0nm,1.1s
GTA Gaotai 26.26 321 eP **P 10 04 56.9 +1.2**
GTA sP sP 10 05 06.9 +0.1
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA LR LR
comp=Z,140nm,14.5s
GTA LR LR
comp=Z,130nm,16.7s
GTA LR LR
comp=Z,140nm,13.8s
SHL Shillong 27.14 287 P **P 10 05 03.5 -0.4**
SHL IAmb IAmb 10 05 07.3
comp=Z,7.8nm,0.9s
BRDH Bariadhala 27.25 280 LR LR 10 15 23.2
comp=Z,152nm,19.5s,baz=138,slow=35
GOMU GeErMu 27.74 310 P **P 10 05 09.3 -0.1**
GOMU pmax pmax
comp=Z,7.0nm,0.7s
GOMU LR LR
comp=Z,460nm,18.2s
GOMU LR LR
comp=Z,300nm,18.5s
GOMU LR LR
comp=Z,420nm,16.8s
ERM Erimo 28.72 36 P **P 10 05 18.7 +1.2**
EDFI Ende, Flores 28.87 178 P **P 10 05 18.5 -0.7**
comp=Z,23nm,0.8s
SONM Songino Array 29.86 340 P **P 10 05 27.4 -0.3**
SONM Songino Array 29.86 340 P **P 10 05 28.6 +0.8**
comp=Z,2.0nm,0.7s,baz=156,slow=9.8,SNR=8.4
SONM LR LR 10 18 33.4
comp=Z,161nm,19.1s,baz=163,slow=38
comp=Z,2.0nm,0.7s
ASAJ Asahikawa 29.88 32 LR LR 10 18 41.3
comp=Z,140nm,20.3s,baz=229,slow=39
JAY Jayapura 29.90 137 LR LR 10 15 21.0
comp=Z,109nm,21.5s,baz=328,slow=32
KLR Kul'dur 30.17 14 LR LR 10 17 07.2
comp=Z,156nm,22.0s,baz=198,slow=35
HEH HeiHe 30.35 8 eP **P 10 05 32.7 +0.8**
HEH pmax pmax
comp=Z,6.0nm,0.6s
WMQ Urumqi 36.21 318 eP **P 10 06 24.8 +1.6**
WMQ LR LR
comp=Z,76nm,21.9s
FITZ Fitzroy Crossi 38.44 173 P **P 10 06 40.6 -1.6**
FITZ Fitzroy Crossi 38.44 173 P **P 10 06 40.3 -1.8**
PALK Pallekele 40.94 257 LR LR 10 24 48.8
comp=Z,49nm,18.2s,baz=76,slow=37
MKAR Makanchi Array 40.98 319 P **P 10 07 04.2 +1.1**
MKAR Makanchi Array 40.98 319 P **P 10 07 04.0 +0.9**
comp=Z,2.8nm,0.6s,baz=115,slow=9.1,SNR=28
MKAR LR LR 10 27 00.9
comp=Z,88nm,18.5s,baz=118,slow=40
comp=Z,2.8nm,0.6s
PSA00 Pilbara Seismi 41.62 181 P **P 10 07 09.4 +0.9**
WB0 Warramunga Arr 41.97 161 P **P 10 07 08.4 -3.0**
WRAB Tennant Creek 42.11 161 P **P 10 07 10.6 -2.0**
WRA Warramunga Arr 42.12 161 P **P 10 07 09.8 -2.8**
WRA Warramunga Arr 42.12 161 P **P 10 07 09.5 -3.1**
comp=Z,23nm,0.7s,baz=342,slow=8.9,SNR=122
YAK Yakutsk 42.16 6 LR LR 10 27 00.5
comp=Z,98nm,18.4s,baz=178,slow=39
WR0 Warramunga Arr 42.20 161 P **P 10 07 10.9 -2.3**
KDJ Kajisay 42.64 311 IAmb IAmb 10 07 19.5
comp=Z,6.5nm,0.8s
KSH Kashi 42.85 307 P **P 10 07 22.3 +3.7**
KSH pmax pmax
comp=Z,8.0nm,0.8s
H11N1 WAKE ISLAND Hy 43.17 82 T T 10 53 25.8
baz=278
H11N2 WAKE ISLAND Hy 43.18 82 T T 10 53 42.8
baz=278
H11S3 WAKE ISLAND Hy 43.19 84 T T 10 53 29.8
baz=281,slow=74,SNR=9.4
H11N3 WAKE ISLAND Hy 43.19 82 T T 10 53 21.0
baz=278
H11S1 WAKE ISLAND Hy 43.20 84 T T 10 53 26.5
baz=281,slow=74,SNR=3.2
H11S2 WAKE ISLAND Hy 43.20 84 T T 10 53 41.2
baz=281,slow=74,SNR=4.8
PEA0B Petropavlovsk- 43.30 32 P **P 10 07 22.4 +0.5**
PETK Petropavlovsk- 43.30 32 P **P 10 07 22.1 +0.2**
comp=Z,1.6nm,0.6s,baz=191,slow=3.3,SNR=7.3
PETK LR LR 10 27 00.2
comp=Z,51nm,19.2s,baz=247,slow=38
comp=Z,1.6nm,0.6s
ZALV Zalesovo Beam 43.37 330 P **P 10 07 22.9 +0.4**
comp=Z,1.3nm,0.5s,baz=123,slow=7.6,SNR=6.8
comp=Z,1.3nm,0.5s
BOOM Boomskoye usch 43.62 311 P **P 10 07 26.2 +1.4**
BOOM IAmb IAmb 10 07 27.1
comp=Z,5.3nm,0.7s
NIL Nilore 44.08 298 P **P 10 07 28.9 +0.3**
NIL IAmb IAmb 10 07 29.5
comp=Z,14nm,0.8s
QIS Mount Isa 44.56 155 P **P 10 07 30.8 -1.6**
AAK Ala-Archa 44.69 311 P **P 10 07 33.7 +0.2**
MA2 Magadan 44.70 21 LR LR 10 29 19.5
comp=Z,47nm,18.5s,baz=293,slow=40
KURK Kurchatov 44.92 323 P **P 10 07 35.2 +0.3**
KURK IAmb IAmb 10 07 48.4
comp=Z,3.4nm,0.7s
KURBB Kurchatov Arra 44.93 323 P **P 10 07 35.7 +0.8**
comp=Z,3.1nm,0.7s,baz=120,slow=7.4,SNR=25
comp=Z,3.1nm,0.7s
ASAR Alice Springs 45.51 163 P **P 10 07 38.4 -1.5**
comp=Z,10nm,0.7s,baz=350,slow=7.3,SNR=122
comp=Z,10nm,0.7s
AS01 Alice Springs 45.52 163 P **P 10 07 38.8 -1.2**
WRKA Warakurna 45.64 171 P **P 10 07 40.0 -0.9**
MEEK Meekatharra 46.70 183 P **P 10 07 50.4 +1.2**
KK31 Karatay Array 47.65 310 IAmb IAmb 10 07 58.3
comp=Z,5.3nm,0.8s
KKAR Karatay Array 47.65 310 P **P 10 07 57.1 +0.6**
KKAR Karatay Array 47.65 310 IAmb IAmb 10 07 58.3
comp=Z,5.6nm,0.8s
HNR Honiara 48.51 124 LR LR 10 26 09.8
comp=Z,45nm,20.8s,baz=276,slow=33
OOD Oodnadatta 49.92 163 P **P 10 08 13.6 -0.3**
BVAR Borovoye Array 50.52 323 P **P 10 08 19.3 +1.0**
comp=Z,0.4nm,0.4s,baz=118,slow=12,SNR=3.9
comp=Z,0.4nm,0.4s
FORT Forrest 51.25 172 P **P 10 08 25.1 +1.1**
KMBL Kambalda 51.37 179 P **P 10 08 25.9 +1.0**
TIXI Tiksi 51.58 3 LR LR 10 32 23.7
comp=Z,112nm,19.0s,baz=200,slow=38
KLBR Kellerberrin 51.67 183 P **P 10 08 27.9 +0.8**
NRIK Noril'sk 53.07 346 P **P 10 08 37.0 -0.1**
NRIK IAmb IAmb 10 08 39.7
comp=Z,15nm,1.4s
NRIK Noril'sk 53.07 346 P **P 10 08 38.1 +1.0**
comp=Z,3.4nm,0.6s,baz=107,slow=6.1,SNR=6.3
NRIK LR LR 10 33 08.8
comp=Z,103nm,18.7s,baz=151,slow=38
comp=Z,3.4nm,0.6s
LCRK Leigh Creek 53.15 161 P **P 10 08 39.5 +1.4**
BBOO Buckleboo 54.77 164 P **P 10 08 50.5 +0.6**
BILL Bilibino 55.45 19 P **P 10 08 54.1 -0.3**
BILL IAmb IAmb 10 09 09.9
comp=Z,3.2nm,0.7s
STKA Stephens Creek 55.56 159 P **P 10 08 55.7 +0.1**
STKA Stephens Creek 55.56 159 P **P 10 08 53.9 -1.7**
comp=Z,2.8nm,0.6s,baz=5.4,slow=5.9,SNR=6.4
comp=Z,2.8nm,0.6s
ABKAR Akbulak array 55.97 316 P **P 10 08 58.6 +0.2**
AKTO Aktyubinsk 57.37 318 P **P 10 09 08.8 +0.5**
comp=Z,1.8nm,0.9s,baz=309,slow=2.1,SNR=4.1
AKTO LR LR 10 36 02.4
comp=Z,58nm,18.1s,baz=244,slow=38
comp=Z,1.8nm,0.9s
ARTI Arti 58.13 325 P **P 10 09 14.6 +0.9**
comp=Z,1.8nm,0.5s,baz=159,slow=20,SNR=3.7
ARTI LR LR 10 35 35.3
comp=Z,42nm,21.1s,baz=64,slow=37
comp=Z,1.8nm,0.5s
DZM Mont Dzumac 61.30 131 eLR LR 10 27 47.9
comp=Z,69nm,24.7s
DZM Mont Dzumac 61.30 131 LR LR 10 33 22.1
comp=Z,47nm,19.3s,baz=1.0,slow=33
CAN Canberra 61.43 154 P **P 10 09 37.9 +1.4**
KIRV Kirov 63.23 326 LR LR 10 41 37.0
comp=Z,60nm,19.0s,baz=104,slow=40
MSVF Nonsavu 67.66 120 P **P 10 10 16.1 -1.6**
comp=Z,2.6nm,0.5s,baz=196,slow=23,SNR=1.7
comp=Z,2.6nm,0.5s
KBZ Khabaz 67.69 310 P **P 10 10 18.2 +0.9**
comp=Z,1.7nm,0.8s,baz=160,slow=3.5,SNR=6.4
comp=Z,1.7nm,0.8s
RAYN Ar Rayn 69.20 288 P **P 10 10 26.9 -0.5**
RAYN IAmb IAmb 10 10 28.2
comp=Z,4.8nm,0.9s
OHAK Old Harbor 70.98 35 P **P 10 10 39.2 +1.7**
KDAK Kodiak Island 71.27 34 P **P 10 10 39.3 0.0**
comp=Z,4.3nm,0.9s,baz=217,slow=3.8,SNR=7.2
comp=Z,4.3nm,0.9s
E24K Your Creek 71.62 23 IAmb IAmb 10 10 53.5
comp=Z,3.7nm,0.8s
D25K Kavik River 72.18 22 IAmb IAmb 10 11 01.7
comp=Z,3.1nm,0.7s
ILAR Eielson Array 72.81 27 P **P 10 10 48.7 +0.3**
comp=Z,0.4nm,0.6s,baz=278,slow=4.9,SNR=4.8
ILAR LR LR 10 43 05.9
comp=Z,23nm,21.6s,baz=294,slow=36
comp=Z,0.4nm,0.6s
ARCES ARCESS Array B 73.02 339 P **P 10 10 50.5 +0.9**
comp=Z,3.5nm,0.9s,baz=77,slow=5.7,SNR=2.5
comp=Z,3.5nm,0.9s
C27K Jago River 73.04 21 P **P 10 10 51.5 +1.8**
C27K IAmb IAmb 10 11 11.2
comp=Z,6.6nm,1.4s
SPITS Spitsbergen Ar 73.20 348 P **P 10 10 50.9 +0.3**
comp=Z,1.6nm,0.6s,baz=78,slow=5.8,SNR=4.9
comp=Z,1.6nm,0.6s
FINES FINESS Array B 74.64 330 P **P 10 10 59.4 +0.2**
comp=Z,3.1nm,0.8s,baz=78,slow=5.9,SNR=6.0
FINES LR LR 10 46 43.3
comp=Z,40nm,19.6s,baz=87,slow=38
comp=Z,3.1nm,0.8s
BRTR Keskin Array B 75.23 307 P **P 10 11 03.6 +0.4**
comp=Z,0.7nm,0.6s,baz=82,slow=5.9,SNR=5.3
comp=Z,0.7nm,0.6s
AKASG Malin Array Be 75.56 319 LR LR 10 47 03.1
comp=Z,40nm,18.6s,baz=62,slow=38
A36M Sachs Harbour 77.92 17 P **P 10 11 17.9 +0.3**
A36M IAmb IAmb 10 11 34.0
comp=Z,4.9nm,0.8s
MLR Muntele Rosu 79.12 314 LR LR 10 51 15.9
comp=Z,60nm,18.7s,baz=68,slow=39
N32M Quiet Lake 79.90 28 IAmb IAmb 10 11 34.3
comp=Z,6.3nm,0.9s
HFS Hagfors 80.79 331 P **P 10 11 33.3 -0.2**
comp=Z,1.9nm,0.7s,baz=71,slow=5.6,SNR=1.9
HFS LR LR 10 49 15.4
comp=Z,67nm,19.8s,baz=57,slow=37
comp=Z,1.9nm,0.7s
NOA NORSAR Array B 81.50 332 LR LR 10 53 05.9
comp=Z,50nm,18.1s,baz=50,slow=40
RES Resolute Bay 82.54 9 P **P 10 11 42.7 +0.2**
RES IAmb IAmb 10 11 44.2
comp=Z,4.7nm,0.8s
RES Resolute Bay 82.54 9 P **P 10 11 42.7 +0.2**
comp=Z,3.1nm,0.4s,baz=315,slow=5.6,SNR=89
comp=Z,3.1nm,0.4s
CLL Collm 84.95 323 eP **P 10 11 55.0 -0.3**
comp=Z,5.0nm,0.6s
GERES GERESS Array B 85.63 321 P **P 10 11 58.5 -0.3**
comp=Z,0.7nm,0.4s,baz=54,slow=6.8,SNR=6.2
comp=Z,0.7nm,0.4s
YKA Yellowknife Ar 86.67 23 P **P 10 12 03.4 -0.2**
comp=Z,0.9nm,0.8s,baz=316,slow=4.4,SNR=20
comp=Z,0.9nm,0.8s
DAVOX Davos/Dischmat 88.87 320 LR LR 10 53 00.9
comp=Z,33nm,18.6s,baz=76,slow=36
BORG Borgarnes 90.38 345 LR LR 10 57 59.9
comp=Z,52nm,18.4s,baz=6.6,slow=39
PPT2 Papeete2 95.58 107 eLR LR 10 43 34.5
comp=Z,44nm,24.0s
FRB Frobisher Bay 95.92 4 LR LR 11 00 02.4
comp=Z,32nm,18.3s,baz=262,slow=38

*UCC **04** 09:59:55.0, 49.˚48N×0.˚59W, h0km, ML3.8, Explosion.*
*STR **04** 09:59:55.8±0.4, 49˚N±5˚×˚±˚, h0km, MLv3.3/11, Error ellipse: s-maj=0.0km s-min=0.0km az=153.7, preliminary*
ISC 04 09:59:53.3±1.1, 49.˚44N±0.˚05×0.˚57W±0.˚04, h0km, n18, σ1§64/22, 3D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOUF	**Saint-Loup**	**0.90**	**212**	P	**Pb**	**10 00 12.4**	**+0.7**
LOUF				S	**Sb**	**10 00 24.8**	**+0.6**
JSA	**Saint Aubin**	**1.08**	**257**	P	**Pb**	**10 00 15.0**	**+0.2**
PLEF	**Pleven - 22200**	**1.50**	**232**	P	**Pb**	**10 00 22.6**	**+0.6**
ELSH	**Elham, Standar**	**2.03**	**32**	P	**Pn**	**10 00 30.4**	**+1.6**
ROSF	**Rostrenen**	**2.10**	**239**	P	**Pn**	**10 00 30.7**	**+0.9**
LOCF	**Locquirec - 29**	**2.18**	**251**	P	**Pn**	**10 00 31.3**	**+0.5**
CLF	**Chambon-Foret**	**2.34**	**126**	P	**Pn**	**10 00 35.2**	**+2.2**
DYA	**Yadsworthy**	**2.39**	**296**	P	**Pn**	**10 00 33.7**	**0.0**
MFF	**Saint Martin d**	**2.85**	**174**	P	**Pn**	**10 00 40.6**	**+0.6**
HTL	**Hartland**	**2.96**	**303**	P	**Pn**	**10 00 42.6**	**+1.1**
MCH1	**Michaelchurch**	**2.99**	**330**	P	**Pn**	**10 00 42.5**	**+0.5**
BMRD	**Maredsous**	**3.56**	**74**	dP	**Pn**	**10 00 51.5**	**+1.7**
BGES	**Gesves**	**3.77**	**73**	dP	**Pn**	**10 00 54.4**	**+1.7**
MANO	**Manonville**	**4.30**	**96**	Pg	**Pn**	**10 01 01.2**	**+1.1**
MEM	**Membach**	**4.40**	**72**	dP	**Pn**	**10 01 03.0**	**+1.7**
ETNF	**Estrennes**	**4.52**	**103**	P	**Pn**	**10 01 04.0**	**+1.0**
ETNF				S	**Sn**	**10 01 54.0**	**-2.3**
XAFF	**Xaffevillers**	**4.85**	**100**	P	**Pn**	**10 01 08.3**	**+0.8**
XAFF				S	**Sn**	**10 02 00.7**	**-3.6**
ECH	**Echery**	**5.25**	**101**	P	**Pn**	**10 01 13.7**	**+0.7**
ECH				S	**Sn**	**10 02 11.1**	**-3.1**

HEL 04 10:00:25.3±0.5, 67.˚15N×20.˚53E, h0km, ML0.8, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.89**	**132**	PG	Pg	10 00 41.7	-0.6
ERTU	baz=314			SB	Sg	10 00 53.5	-0.4
KLF	**Kolari**	**1.34**	**85**	PN	Pg	10 00 50.0	-1.0
KLF				MSG		10 01 05.7	
KLF	comp=Z,0.4nm,0.2s			SB	Sg	10 01 07.1	-1.2
HEF	**Hetta**	**1.73**	**42**	MSG		10 01 17.1	
HEF	comp=Z,0.5nm,0.2s			SN	Sn	10 01 19.3	-0.2
TOF	**Tornio**	**1.86**	**124**	PG	Pb	10 00 59.5	-0.6
TOF				MSG		10 01 20.8	
TOF	comp=Z,0.4nm,0.2s			SG	Sb	10 01 23.8	0.0
KIF	**Kilpisjarvi**	**1.86**	**3**	MSG		10 01 21.8	
KIF	comp=Z,0.6nm,0.2s			SG	Sg	10 01 25.0	0.0
KTK1	**Kautokeino**	**2.12**	**27**	PG	Pb	10 01 03.7	-0.9
KTK1				SG	Sb	10 01 30.7	-0.8
OUL	**Oulu**	**3.01**	**131**	SN	Sn	10 01 47.2	-3.7
OUF	**Merijarvi**	**3.29**	**146**	SN	Sn	10 01 54.8	-2.9
OLKF	**Oulanka, Finla**	**3.62**	**99**	SN	Sn	10 02 02.8	-3.1
VAF	**Ylistaro**	**4.23**	**167**	SN	Sn	10 02 17.8	-3.0

*HEL **04** 10:00:45.1±0.2, 64.˚67N×30.˚69E, h0km, ML1.7, Explosion*
*IDC **04** 10:00:46.0±3.0, 64.˚60N×31.˚00E, h0km, mbtmp3.0/3, ML1.7/3, Error ellipse: s-maj=46.6km s-min=9.3km az=102.0*
ISC 04 10:00:44.7±1.0, 64.˚70N±0.˚03×30.˚49E±0.˚05, h0km, n28, σ1§00/37, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.54**	**206**	PG	**Pg**	**10 00 55.6**	**+0.5**
RMF	comp=Z,11nm,0.2s			MSG		10 01 03.0	
KU1	**Kurvinen**	**0.95**	**336**	PG	**Pb**	**10 01 03.6**	**-0.5**
KU6	**Riekki**	**1.35**	**350**	PN	**Sb**	**10 01 28.3**	**-0.4**
KU6	**Riekki**	**1.35**	**350**	PG	**Pg**	**10 01 10.4**	**-0.2**
KU6	baz=164			MSG		10 01 27.4	
KU6	comp=Z,5.1nm,0.2s			SG	**Sb**	**10 01 28.3**	**-0.4**
MSF	**Maaselka**	**1.36**	**334**	PG	**Sn**	**10 01 29.3**	**-0.3**
MSF	**Maaselka**	**1.36**	**334**	PG	**Pg**	**10 01 10.7**	**0.0**
MSF	baz=148			SB	**Sn**	**10 01 29.3**	**-0.3**
KU2	**Taivalkoski**	**1.39**	**318**	PG	**Pb**	**10 01 11.6**	**+0.1**
OLKF	**Oulanka, Finla**	**1.69**	**345**	PG	**Pb**	**10 01 16.4**	**-0.2**
OLKF	comp=Z,8.3nm,0.2s			MSG		10 01 36.9	
OLKF				SN	**Sg**	**10 01 39.7**	**+0.8**
NIF	**Nilsia**	**1.77**	**223**	PG	**Pb**	**10 01 17.7**	**-0.3**
NIF				SG	**Sb**	**10 01 40.4**	**-0.2**
JOF	**Joensuu**	**1.83**	**168**	PG	**Pn**	**10 01 16.7**	**-0.6**
JOF				SG	**Sn**	**10 01 39.8**	**-1.4**
OUL	**Oulu**	**1.99**	**283**	PG	**Pg**	**10 01 22.5**	**-0.4**
OUL				SN	**Sn**	**10 01 45.6**	**+0.4**
RANF	**Ranua**	**2.03**	**312**	SB	**Sb**	**10 01 47.6**	**-0.7**
RANF	**Ranua**	**2.03**	**312**	PG	**Pb**	**10 01 22.5**	**0.0**
RANF	baz=123			SN	**Sb**	**10 01 47.6**	**-0.7**
OBF4	**Vikkela, Lumij**	**2.31**	**275**	SB	**Sn**	**10 01 52.5**	**-0.5**
OBF4	**Vikkela, Lumij**	**2.31**	**275**	PG	**Pb**	**10 01 27.2**	**+0.1**
OBF4	baz=87			SN	**Sn**	**10 01 52.5**	**-0.5**
OBF4				MSG		10 01 56.1	
OBF4	comp=Z,2.6nm,0.2s						
OUF	**Merijarvi**	**2.51**	**265**	PB	**Pb**	**10 01 29.4**	**-1.2**
OUF				MSG		10 02 01.5	
OUF	comp=Z,3.4nm,0.2s						
RNF	**Rovaniemi**	**2.66**	**318**	SG	**Pb**	**10 01 32.9**	**-0.3**
RNF	**Rovaniemi**	**2.66**	**318**	PB	**Pb**	**10 01 32.9**	**-0.3**
OBF0	**Syolatti, Pyha**	**2.70**	**268**	PB	**Pb**	**10 01 33.4**	**-0.5**
OBF0				MSG		10 02 07.2	
OBF0	comp=Z,2.2nm,0.2s						
SUF	**Sumiainen**	**2.77**	**226**	PB	**Pb**	**10 01 33.4**	**-1.7**
SUF				MSG		10 02 08.0	
SUF	comp=Z,1.6nm,0.2s						
TOF	**Tornio**	**2.92**	**301**	MSG		10 02 13.7	
TOF	comp=Z,1.1nm,0.2s			SG	**Sg**	**10 02 17.3**	**-1.3**
VRF	**Varrio**	**3.08**	**354**	PB	**Pn**	**10 01 36.7**	**+2.1**
VRF				MSG		10 02 16.8	
VRF	comp=Z,1.4nm,0.2s						
KLF	**Kolari**	**3.68**	**317**	PG	**Pg**	**10 01 53.3**	**-2.0**
FINES	**FINESS Array B**	**3.84**	**213**	Pn	**Pn**	**10 01 46.4**	**+1.4**
FINES	comp=Z,0.1nm,0.3s,baz=34,slow=13,SNR=1.2			Pg	**Pb**	**10 01 54.2**	**+1.0**
FINES	comp=Z,0.1nm,0.3s,baz=30,slow=15,SNR=5.1			Lg	Lg	10 02 45.1	
VAF	**Ylistaro**	**3.84**	**248**	PN	**Pn**	**10 01 47.7**	**+2.8**
ARCES	**ARCESS Array B**	**5.23**	**340**	Pn	**Pn**	**10 02 04.9**	**+0.9**
ARCES	comp=Z,0.1nm,0.3s,baz=155,slow=13,SNR=25			Sn	**Sn**	**10 03 05.3**	**+0.4**
I37NO	**I37NO**	**6.40**	**318**	I	I	10 44 00.0	
HFS	**Hagfors**	**9.02**	**247**	Pn	**Pn**	**10 02 57.4**	**+1.3**

*KOLA **04** 10:01:08.6, 64.˚62N×30.˚77E, h0km, ML2.2, Error ellipse: s-maj=24.9km s-min=10.2km az=160.0, Kostomuksha, Karelia*
*IDC **04** 10:01:10.7±2.6, 64.˚70N×30.˚56E, h0km, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=38.8km s-min=9.3km az=101.0*
ISC 04 10:01:08.9±1.2, 64.˚77N±0.˚07×30.˚30E±0.˚08, h0km, n11, σ1§55/19, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVDA	**Kovda**	**2.21**	**28**	P	**Pn**	**10 01 46.9**	**+0.2**
KVDA				S	**Sn**	**10 02 15.1**	**+0.5**
APA0	**Apatity Array**	**3.06**	**20**	P	**Pn**	**10 01 59.8**	**+1.4**
APA0				S	**Sn**	**10 02 36.4**	**+0.9**
FINES	**FINESS Array B**	**3.85**	**212**	Pn	**Pn**	**10 02 10.6**	**+1.4**
FINES	0.3nm,0.3s,baz=31,slow=14,SNR=6.8			Pg	**Pb**	**10 02 18.3**	**+0.8**
FINES	0.6nm,0.3s,baz=32,slow=15,SNR=9.2			Lg	Lg	10 03 08.7	
TERR	**Teriberka**	**4.84**	**21**	S	**Sn**	**10 03 15.6**	**-3.8**
PRVG	**Vayda Guba**	**5.06**	**7**	P	**Pn**	**10 02 24.3**	**-1.5**
PRVG				S	**Sn**	**10 03 24.9**	**+0.1**
ARCES	**ARCESS Array B**	**5.14**	**341**	Pn	**Pn**	**10 02 27.6**	**+0.5**
ARCES	0.1nm,0.3s,baz=156,slow=14,SNR=7.7			Sn	**Sn**	**10 03 25.6**	**-1.4**
ARCES	0.1nm,0.3s,baz=155,slow=26,SNR=1.6			Lg	Lg	10 03 48.9	
ARCES	**ARCESS Array B**	**5.14**	**341**	P	**Pn**	**10 02 27.5**	**+0.5**
ARCES				S	**Sn**	**10 03 27.6**	**+0.6**
VADS	**Vadso**	**5.39**	**357**	S	**Sn**	**10 03 35.4**	**+2.3**
FAUS	**Fauske**	**6.64**	**300**	S	**Sn**	**10 04 04.2**	**+0.4**
HFS	**Hagfors**	**8.97**	**247**	Pn	**Pn**	**10 03 19.5**	**-0.1**
HFS	0.2nm,0.3s,baz=54,slow=18,SNR=4.4			Sn	**Sn**	**10 04 59.0**	**-2.2**
HFS	0.2nm,0.3s,baz=55,slow=23,SNR=1.4						
NOA	**NORSAR Array B**	**9.46**	**256**	Pn	**Pn**	**10 03 26.3**	**+0.1**
NOA	baz=52,slow=12,SNR=3.8			Sn	**Sn**	**10 05 11.7**	**-1.5**
NOA	baz=55,slow=23,SNR=1.4						
NOA	0.2nm,0.3s						

HEL 04 10:25:00.4±0.1, 62.˚09N×25.˚67E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAF	**Kangasniemi**	**0.30**	**85**	PG	Pg	10 25 05.5	-0.6
KAF				SG	Sg	10 25 09.2	-0.7
SUF	**Sumiainen**	**0.67**	**19**	PG	Pg	10 25 12.3	-0.9
SUF	comp=Z,2.1nm,0.2s			MSG		10 25 21.4	
SUF				SG	Sg	10 25 21.9	0.0
NIF	**Nilsia**	**1.63**	**36**	PG	Pn	10 25 30.0	-0.4
NIF				SN	Sn	10 25 51.9	-0.2
VAF	**Ylistaro**	**1.69**	**306**	PG	Pn	10 25 30.8	-0.3
VAF	baz=121			MSG		10 25 50.9	
VAF	comp=Z,2.5nm,0.2s			SN	Sn	10 25 53.4	+0.1
RUF	**Ruokolahti**	**1.69**	**112**	PN	Pn	10 25 31.4	+0.2
RUF				MSG		10 25 50.9	
RUF	comp=Z,1.5nm,0.2s						
KPF	**Kankaanpaa**	**1.72**	**263**	PG	Pn	10 25 31.3	-0.3

KPF				SN	Sn	10 25 54.0	-0.2
VJF	**Virojoki**	**1.80**	**149**	PG	Pn	10 25 32.9	+0.2
VJF				MSG		10 25 54.0	
	comp=Z,2.0nm,0.2s						
MEF	**Metsahovi**	**1.98**	**199**	MSG		10 25 59.2	
	comp=Z,2.3nm,0.2s						
MEF				SG	Sb	10 26 02.5	+0.1
RAF	**Rauma**	**2.16**	**242**	PG	Pb	10 25 39.1	-1.2
RAF				MSG		10 26 04.4	
	comp=Z,4.3nm,0.2s						
RAF				SG	Sb	10 26 07.3	-0.2
OUF	**Merijarvi**	**2.33**	**350**	MSG		10 26 09.1	
	comp=Z,1.1nm,0.2s						
OUF				SG	Sb	10 26 12.0	-0.3
OBF0	**Syolatti, Pyha**	**2.50**	**346**	MSG		10 26 14.2	
	comp=Z,0.9nm,0.2s						
OBF0				SG	Sb	10 26 17.0	-0.4
JOF	**Joensuu**	**2.75**	**70**	SG	Sb	10 26 23.2	-1.2
OBF4	**Vikkela, Lumij**	**2.75**	**355**	MSG		10 26 21.2	
	comp=Z,1.0nm,0.2s						
OBF4				SG	Sb	10 26 24.2	-0.3
MTSE	**Matsula**	**3.51**	**196**	SB	Sb	10 26 43.9	-2.5
KALU	**Kalix**	**3.92**	**346**	SB	Sb	10 26 55.0	-3.2

*PRE **04** 10:28:36.9±1.0, 26°.40S×27°.40E, h2km, ML2.6*
*BUL **04** 10:28:38.9±1.0, 26°.42S×27°.85E, h20km±11km, MD3.3*
*BGSI **04** 10:28:40.0±2.0, 26°.46S×27°.68E, h0km±70km, ML3.0*

ISC 04 10:28:37.9±2.9, 26°.47S±0°.03×27°.45E±0°.03, h10km±20km, n29, σ1°.83/54, 1C, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.46**	**190**	*e*P	**Pb**	**10 28 48.0**	**-0.2**
PRYS				*e*S	**Sb**	**10 28 55.3**	**+0.2**
PRYS				IAML		10 29 00.4	
	comp=Z,146nm,0.4s						
SNKL	**Senekal, Frees**	**1.82**	**171**	*e*P	**Pb**	**10 29 11.7**	**+0.3**
SNKL				*e*S	**Sb**	**10 29 35.5**	**+1.3**
SNKL				IAML		10 29 41.3	
	comp=Z,138nm,0.3s						
SWZ	**Schweizer**	**2.02**	**249**	*e*P	**Pn**	**10 29 12.5**	**+0.3**
SWZ				*e*S	**Sn**	**10 29 39.1**	**+1.6**
SWZ				IAML		10 29 46.4	
	comp=Z,81nm,0.3s						
LBTB	**Lobatse**	**2.21**	**311**	*e*P	**Pn**	**10 29 14.7**	**-0.1**
LBTB				*e*S	**Sn**	**10 29 42.1**	**-0.1**
LBTB				IAML		10 29 48.5	
	comp=Z,118nm,0.3s						
LBTB	**Lobatse**	**2.21**	**311**	*i* P	**Pb**	**10 29 18.1**	**+0.1**
LBTB				*i* S	**Sb**	**10 29 46.8**	**+1.2**
MAKGR	**Makgori**	**2.47**	**285**	*i* P	**Pb**	**10 29 21.1**	**-1.4**
MAKGR				*i* S	**Sb**	**10 29 55.0**	**+2.1**
MAKGR				IAML		10 30 04.5	
	comp=N,204nm,0.5s						
NWCL	**Newcastle**	**2.51**	**121**	*e*P	**Pn**	**10 29 20.4**	**+1.5**
NWCL				*e*S	**Sb**	**10 29 52.9**	**-1.4**
NWCL				IAML		10 30 04.0	
	comp=Z,40nm,0.2s						
LEPH	**Lephalale, Lim**	**2.62**	**7**	*e*P	**Pn**	**10 29 20.5**	**+0.1**
LEPH				*e*S	**Sn**	**10 29 51.1**	**-1.3**
LEPH				IAML		10 30 01.2	
	comp=Z,46nm,0.6s						
BOSA	**Boshof**	**2.89**	**222**	*e*P	**Pn**	**10 29 25.8**	**+1.7**
BOSA				*e*S	**Sn**	**10 29 59.9**	**+0.9**
BOSA				IAML		10 30 18.6	
	comp=Z,25nm,0.3s						
BOSA	**Boshof**	**2.89**	**222**	*i* P	**Pb**	**10 29 27.3**	**-2.2**
BOSA				*i* S	**Sb**	**10 30 03.5**	**-1.5**
PILG	**Pilgrimsrest,**	**3.32**	**63**	*e*P	**Pn**	**10 29 31.1**	**+1.0**
PILG				*e*S	**Sn**	**10 30 11.2**	**+1.5**
PILG				IAML		10 30 27.2	
	comp=Z,33nm,0.5s						
LPHEP	**Lephephe**	**3.42**	**335⇑**	*i* P	**Pn**	**10 29 34.3**	**+3.0**
LPHEP				*i* S	**Sn**	**10 30 14.2**	**+2.2**
LPHEP				IAML		10 30 29.9	
	comp=E,52nm,0.2s						
MREMI	**Moremi**	**3.89**	**360**	*i* P	**Pn**	**10 29 39.6**	**+1.8**
MREMI				IAML		10 30 42.7	
	comp=N,79nm,0.2s						
POGA	**Pongola**	**3.90**	**104**	*e*P	**Pn**	**10 29 39.0**	**+1.2**
POGA				*e*S	**Sn**	**10 30 25.1**	**+1.4**
POGA				IAML		10 30 41.2	
	comp=Z,27nm,0.5s						
KDWAN	**Kaudwane**	**3.99**	**320**	*i* P	**Pn**	**10 29 41.5**	**+2.3**
KDWAN				*i* S	**Sn**	**10 30 28.2**	**+2.2**
KDWAN				IAML		10 30 44.2	
	comp=E,82nm,0.4s						
PMBG	**Pietermaritzbu**	**4.06**	**139**	*e*P	**Pn**	**10 29 41.9**	**+1.8**
PMBG				*e*S	**Sn**	**10 30 29.6**	**+1.9**
PMBG				IAML		10 30 49.5	
	comp=Z,25nm,0.4s						
MOPA	**Mopani**	**4.64**	**51**	*e*P	**Pn**	**10 29 47.9**	**-0.2**
MOPA				*e*S	**Sn**	**10 30 41.9**	**-0.1**
MOPA				IAML		10 31 07.8	
	comp=Z,22nm,0.2s						
MOPA	**Mopani**	**4.64**	**51**	*i* P	**Pn**	**10 29 44.2**	**-3.9**
MOPA				*i* S	Sn	10 30 30.4	-12
MUSN	**Musina, Limpop**	**4.71**	**28**	*e*P	**Pn**	**10 29 48.7**	**-0.4**
MUSN				*e*S	**Sn**	**10 30 41.3**	**-2.5**
MUSN				IAML		10 31 03.8	
	comp=Z,18nm,0.5s						
MUSN	**Musina, Limpop**	**4.71**	**28**	*i* P	**Pn**	**10 29 45.2**	**-3.9**
MUSN				*i* S	Sn	10 30 33.9	-10
KHWEE	**KHWEE**	**4.86**	**338**	*i* P	**Pn**	**10 29 54.2**	**+2.9**
KHWEE				*i* S	**Sn**	**10 30 46.9**	**-0.8**
KHWEE				IAML		10 31 09.4	
	comp=E,86nm,0.2s						
ALKP	**Alkanpan, Nort**	**5.75**	**232**	*e*P	**Pn**	**10 30 04.6**	**+1.3**
ALKP				*e*S	**Sn**	**10 31 08.0**	**-1.4**
ALKP				IAML		10 31 44.8	
	comp=Z,22nm,0.6s						
UPI	**Upington**	**5.82**	**250**	*e*P	**Pn**	**10 30 05.7**	**+1.3**
UPI				*e*S	**Sn**	**10 31 09.0**	**-2.2**
UPI				IAML		10 31 52.6	
	comp=Z,10nm,0.3s						
KGCAE	**Kacgae**	**5.98**	**306**	*i* P	**Pn**	**10 30 09.9**	**+3.4**
KGCAE				*i* S	**Sn**	**10 31 15.6**	**+0.5**
KGCAE				IAML		10 31 48.8	
	comp=E,33nm,0.6s						
BLWY	**Bulawayo**	**6.39**	**10**	*i* P	**Pn**	**10 30 09.7**	**-2.6**
BLWY				*i* S	Sn	10 31 16.2	-9.3
BRAK	**Brakfontein**	**6.62**	**216**	*e*P	**Pn**	**10 30 16.6**	**+1.2**
BRAK				*e*S	**Sn**	**10 31 29.9**	**-1.0**
BRAK				IAML		10 32 14.7	
	comp=Z,6.5nm,0.4s						
GRAN	**Grantham**	**7.41**	**217**	*e*P	**Pn**	**10 30 27.8**	**+1.7**
GRAN				*e*S	**Sn**	**10 31 48.8**	**-1.5**
GRAN				IAML		10 32 35.2	
	comp=Z,4.4nm,0.5s						
FRAZ	**Fraserburg**	**7.58**	**223**	*e*P	**Pn**	**10 30 30.2**	**+1.7**
FRAZ				*e*S	**Sn**	**10 31 52.5**	**-2.0**
FRAZ				IAML		10 32 11.7	
	comp=Z,3.2nm,0.4s						
CVNA	**Calvinia**	**8.38**	**232**	*e*P	**Pn**	**10 30 40.7**	**+1.2**
CVNA				*e*S	**Sn**	**10 32 11.5**	**-2.8**
CVNA				IAML		10 32 41.5	
	comp=Z,3.8nm,0.5s						

BER 04 10:31:14.2±2.1, 67°.64N×27°.33E, h0km, ML1.3(UPP), Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEF	**Hetta**	**1.58**	**301**	*e*P	Pn	10 31 39.7	-3.8
ARA0	**ARCESS Array S**	**2.02**	**342**	*e*P	Pn	10 31 47.6	-1.9
KTK1	**Kautokeino**	**2.05**	**314**	*e*P	Pn	10 31 47.6	-2.3
MASU	**Masugnsbyn**	**2.06**	**267**	P	Pn	10 31 47.8	-2.2
MASU				S	Sn	10 32 14.3	-1.9
LANU	**Lannavaara**	**2.06**	**284**	P	Pn	10 31 47.5	-2.6
LANU				S	Sn	10 32 14.5	-2.0
KEV	**Kevo**	**2.13**	**357**	*e*P	Pn	10 31 49.6	-1.4
ERTU	**Ertsjaerv**	**2.29**	**244**	P	Pn	10 31 51.7	-1.4
KALU	**Kalix**	**2.38**	**223**	P	Pn	10 31 52.9	-1.5
VADS	**Vadso**	**2.60**	**16**	*e*P	Pn	10 31 58.9	+1.5
DUNU	**Dundret**	**2.66**	**262**	P	Pn	10 31 56.6	-1.8
KUA	**Kurravaara**	**2.67**	**280**	P	Pn	10 31 55.6	-2.8
KOVU	**Salmi**	**2.77**	**286**	P	Pn	10 31 57.1	-2.7
KIF	**Kilpisjarvi**	**2.79**	**303**	*e*P	Pn	10 31 59.8	-0.2
RATU	**Laukkuluspa**	**2.95**	**277**	P	Pn	10 31 59.5	-2.8
SJUU	**Sjulsmark**	**3.13**	**230**	P	Pn	10 32 02.6	-2.1

*IDC **04** 10:31:31.5±1.7, 67°.74N×27°.10E, h0km, mbtmp3.2/1, ML2.1/1, Error ellipse: s-maj=35.1km s-min=9.4km az=80.0*
*HEL **04** 10:31:31.3±0.1, 67°.70N×26°.93E, h0km, ML1.7, Suspected explosion*
*UPP **04** 10:31:33.7±1.0, 67°.65N×26°.55E, h0km, ML2.0*

ISC 04 10:31:31.1±0.8, 67°.69N±0°.02×26°.94E±0°.03, h0km, n31, σ0°.94/49, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**0.95**	**32**	SB	**Sg**	**10 32 01.8**	**+0.4**
VRF	**Varrio**	**1.02**	**85**	PB	**Pg**	**10 31 50.2**	**-0.5**
VRF				MSG		10 32 02.7	
	comp=Z,4.6nm,0.2s						
VRF				SB	**Sg**	**10 32 03.9**	**0.0**
RNF	**Rovaniemi**	**1.14**	**199**	PG	**Pg**	**10 31 52.1**	**-0.8**
RNF				SN	**Sb**	**10 32 09.2**	**+0.2**
KLF	**Kolari**	**1.23**	**250**	PG	**Pg**	**10 31 53.9**	**-0.8**
	baz=62						
KLF				MSG		10 32 08.6	
	comp=Z,4.6nm,0.2s						
KLF				SN	**Sn**	**10 32 15.8**	**+2.9**
HEF	**Hetta**	**1.43**	**302**	PN	**Pn**	**10 31 57.6**	**-0.7**
	baz=115						
HEF				MSG		10 32 13.8	
	comp=Z,13nm,0.2s						
HEF				SN	**Sg**	**10 32 16.8**	**-0.2**
PAJU	**Pajala**	**1.62**	**248**	P	**Pn**	**10 32 00.8**	**-0.1**
PAJU				S	**Sn**	**10 32 20.7**	**-1.8**
OLKF	**Oulanka, Finla**	**1.68**	**144**	PG	**Pn**	**10 32 01.7**	**0.0**
OLKF				MSG		10 32 21.8	
	comp=Z,4.6nm,0.2s						
OLKF				SN	**Sg**	**10 32 25.2**	**+0.3**
RANF	**Ranua**	**1.68**	**182**	PG	**Pn**	**10 32 01.9**	**+0.2**
	baz=0.0						
RANF				SN	**Sn**	**10 32 23.8**	**-0.1**
LANU	**Lannavaara**	**1.91**	**283**	P	**Pb**	**10 32 06.0**	**-0.8**
LANU				S	**Sn**	**10 32 30.1**	**+0.6**
LANU	**Lannavaara**	**1.91**	**283**	PG	**Pb**	**10 32 05.9**	**-0.8**
LANU				SG	**Sb**	**10 32 31.7**	**+0.6**
KTK1	**Kautokeino**	**1.91**	**316**	PG	**Pn**	**10 32 05.6**	**+0.6**
KTK1				SG	**Sb**	**10 32 30.7**	**-0.6**
TOF	**Tornio**	**1.91**	**214**	PG	**Pn**	**10 32 05.8**	**+0.9**
	baz=35						
TOF				MSG		10 32 28.6	
	comp=Z,4.5nm,0.2s						
TOF				SG	**Sb**	**10 32 31.1**	**-0.1**
ARA0	**ARCESS Array S**	**1.93**	**345**	PG	**Pn**	**10 32 05.7**	**+0.5**
	baz=162						
ARA0				SG	**Sb**	**10 32 31.9**	**+0.1**
ARCES	**ARCESS Array B**	**1.93**	**345**	Pg	**Pn**	**10 32 05.8**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=162,slow=18,SNR=56						
ARCES				Lg	Lg	10 32 31.0	
	comp=Z,0.8nm,0.3s,baz=160,slow=27,SNR=11						
MSF	**Maaselka**	**1.97**	**154**	PG	**Pn**	**10 32 06.8**	**+1.1**
MSF				SG	**Sb**	**10 32 32.5**	**-0.2**
KU6	**Riekki**	**2.04**	**144**	PG	**Pb**	**10 32 08.1**	**-0.8**
	baz=322						
KU6				MSG		10 32 32.2	
	comp=Z,1.7nm,0.2s						
KU6				SG	**Sb**	**10 32 35.2**	**+0.5**
KU2	**Taivalkoski**	**2.05**	**165**	PG	**Pb**	**10 32 08.2**	**-0.9**
	baz=345						
KU2				SG	**Sb**	**10 32 34.7**	**-0.5**
KEV	**Kevo**	**2.08**	**1**	PG	**Pn**	**10 32 07.7**	**+0.5**
KEV				MSG		10 32 32.5	
	comp=Z,5.1nm,0.2s						
KEV				SG	**Sn**	**10 32 34.4**	**+0.7**
ERTU	**Ertsjaerv**	**2.18**	**241**	P	**Pn**	**10 32 09.6**	**+1.1**
ERTU	**Ertsjaerv**	**2.18**	**241**	PG	**Pn**	**10 32 09.6**	**+1.1**
ERTU				SG	**Sb**	**10 32 39.1**	**+0.4**
KALU	**Kalix**	**2.32**	**219**	P	**Pn**	**10 32 11.5**	**+1.1**
KALU	**Kalix**	**2.32**	**219**	PB	**Pn**	**10 32 11.9**	**+1.4**
KALU				SG	**Sb**	**10 32 43.2**	**+0.4**
KU1	**Kurvinen**	**2.37**	**153**	PG	**Pn**	**10 32 13.1**	**+1.8**
KUA	**Kurravaara**	**2.52**	**279**	P	**Pn**	**10 32 13.9**	**+0.7**
DUNU	**Dundret**	**2.52**	**260**	P	**Pn**	**10 32 14.1**	**+0.8**
KOVU	**Salmi**	**2.61**	**285**	P	**Pn**	**10 32 15.3**	**+0.7**
KIF	**Kilpisjarvi**	**2.63**	**303**	PB	**Pn**	**10 32 17.1**	**+2.3**
KIF				SB	**Sn**	**10 32 47.6**	**+0.3**
KIF				MSG		10 32 49.0	
	comp=Z,3.8nm,0.2s						
RATU	**Laukkuluspa**	**2.80**	**276**	P	**Pn**	**10 32 18.0**	**+0.9**
OBF4	**Vikkela, Lumij**	**2.98**	**195**	PB	**Pn**	**10 32 20.7**	**+1.2**
	baz=17						
OBF4				MSG		10 32 59.4	
	comp=Z,1.4nm,0.2s						
I37NO	**I37NO**	**3.38**	**298**	I	I	10 54 20.0	
	baz=110,slow=332,SNR=3.3						
FINES	**FINESS Array B**	**6.28**	**184**	Pn	**Pn**	**10 33 05.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=11,slow=10,SNR=2.3						
	comp=Z,2.3nm,1.0s						

*NEIC **04** 10:34:20.8±0.7, 42°.68N±0°.01×111°.50W±0°.02, h5km±1km, ML3.3/64, ML3.3/14(UUSS), Error ellipse: s-maj=2.7km s-min=2.1km az=190.0*
*IDC **04** 10:34:20.5±1.1, 42°.66N×111°.47W, h0km, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=19.5km s-min=8.2km az=159.0*
*UUSS **04** 10:34:21.4±0.6, 42°.67N±0°.01×111°.485W±0°.010, h4km±3km, Error ellipse: s-maj=1.8km s-min=1.0km az=167.0*

ISC 04 10:34:21.2±1.2, 42°.67N±0°.02×111°.48W±0°.04, h5km±11km, n40, σ0°.88/41, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRI	**Grays Lake**	**0.27**	**10**		**Pg**	**10 34 27.1**	**+0.6**
AHID	**Auburn Hatcher**	**0.30**	**72**		**Pg**	**10 34 27.4**	**+0.3**
AHID				Sg	**Sg**	**10 34 31.9**	**+0.9**
BEI	**Bear River Ran**	**0.60**	**202**		**Pg**	**10 34 32.5**	**-0.2**
BMUT	**Black Mountain**	**0.74**	**165**		**Pg**	**10 34 34.8**	**-0.6**
MLI	**Malad Range**	**0.80**	**217**		**Pg**	**10 34 36.2**	**-0.4**
HDU	**Hyde Park**	**0.89**	**194**		**Pg**	**10 34 37.9**	**-0.4**
TPAW	**Teton Pass**	**0.90**	**25**	Pg	**Pg**	**10 34 37.7**	**-0.9**
TPAW				Sg	**Sg**	**10 34 50.4**	**+0.1**
TPAW				IAML		10 34 52.3	
	1μm,0.5s						
TPAW				IAML		10 34 59.0	
	630nm,0.6s						
NPI	**North Pocatell**	**0.93**	**236**		**Pg**	**10 34 38.5**	**-0.5**
SNOW	**Snow King Moun**	**0.95**	**34**	Pg	**Pg**	**10 34 39.0**	**-0.5**
SNOW				Sg	**Sg**	**10 34 52.4**	**+0.6**
SNOW				IAML		10 34 55.4	
	943nm,0.6s						
SNOW				IAML		10 34 59.1	
	959nm,0.9s						
PTU	**Portage**	**0.97**	**220**		**Pg**	**10 34 39.3**	**-0.5**
FXWY	**Fox Creek**	**1.02**	**19**		**Pg**	**10 34 40.5**	**-0.3**
FXWY				Sg	**Sg**	**10 34 54.2**	**+0.1**
FXWY				IAML		10 34 55.1	
	592nm,0.4s						
HWUT	**Hardware Ranch**	**1.07**	**183**	Pg	**Pg**	**10 34 41.1**	**-0.6**
HWUT				IAML		10 34 58.3	
	423nm,0.8s						
HWUT				IAML		10 34 59.4	
	438nm,0.6s						
WVUT	**Wellsville**	**1.12**	**199**		**Pg**	**10 34 42.4**	**-0.3**
LOHW	**Long Hollow**	**1.14**	**34**	Pg	**Pg**	**10 34 42.5**	**-0.5**
LOHW				Sg	**Sg**	**10 34 57.7**	**-0.1**
LOHW				IAML		10 35 01.9	
	504nm,0.7s						
LOHW				IAML		10 35 03.2	
	829nm,0.5s						
MOOW	**Moose Ponds**	**1.20**	**26**	Pg	**Pg**	**10 34 43.5**	**-0.8**
MOOW				Sg	**Sg**	**10 34 60.0**	**+0.1**
MOOW				IAML		10 35 03.2	
	370nm,0.7s						
MOOW				IAML		10 35 04.0	
	364nm,0.6s						
MCU	**Monte Cristo P**	**1.21**	**181**		**Pg**	**10 34 44.1**	**-0.3**
LTU	**Little Mountai**	**1.22**	**208**		**Pg**	**10 34 43.8**	**-0.8**
HVU	**Hansel Valley**	**1.31**	**227**		**Pg**	**10 34 44.9**	**-1.4**
PD31	**Pinedale Array**	**1.42**	**86**		**Pn**	**10 34 47.5**	**-0.4**
PDAR	**Pinedale Array**	**1.42**	**86**		**Pn**	**10 34 47.5**	**-0.4**
PDAR	**Pinedale Array**	**1.42**	**86**	Pg	**Pb**	**10 34 48.0**	**-0.3**
	21nm,0.3s,baz=264,slow=16,SNR=222						
PDAR				Lg	Lg	10 35 05.2	
	27nm,0.3s,baz=268,slow=28,SNR=4.0						
TCUT	**Toone Canyon**	**1.56**	**178**		**Pb**	**10 34 50.3**	**-0.2**

YFT	**Old Faithful**	**1.84**	**15**	Pn	**Pb**	**10 34 54.5**	**-0.9**
YFT				IAML		10 35 02.5	
	comp=N,170nm,0.9s						
H17A	**Grant Village**	**1.84**	**21**	Pn	**Pn**	**10 34 54.4**	**+0.8**
YMR	**Madison River**	**2.03**	**11**	Pn	**Pb**	**10 34 57.4**	**-1.2**
YMR				IAML		10 35 32.2	
	comp=N,347nm,1.0s						
YMR				IAML		10 35 33.3	
	comp=E,264nm,0.7s						
BGU	**Big Grassy Mou**	**2.10**	**214**	Pn	**Pn**	**10 34 56.7**	**-0.4**
BGU				IAML		10 35 28.4	
	comp=N,143nm,0.6s						
BGU				IAML		10 35 30.2	
	comp=E,239nm,0.5s						
YNR	**Norris Junctio**	**2.12**	**16**	Pn	**Pn**	**10 34 58.5**	**+1.0**
YHH	**Holmes Hill**	**2.16**	**12**	Pn	**Pn**	**10 34 57.9**	**-0.2**
YHL	**Hebgen Lake**	**2.19**	**6**	Pn	**Pn**	**10 34 59.8**	**+1.3**
YHL				IAML		10 35 33.5	
	comp=N,119nm,0.9s						
BSUT	**Blindstream Ca**	**2.20**	**166**	Pn	**Pn**	**10 34 58.9**	**+0.2**
BSUT				IAML		10 35 32.9	
	comp=N,194nm,0.8s						
BSUT				IAML		10 35 36.2	
	comp=E,222nm,0.8s						
HLID	**Hailey**	**2.32**	**293**	Pn	**Pn**	**10 35 01.4**	**+1.2**
HLID				IAML		10 35 37.2	
	comp=E,179nm,0.7s						
HLID				IAML		10 35 37.5	
	comp=E,113nm,0.8s						
P18A	**Preston Nutter**	**3.18**	**163**	IAML		10 36 08.2	
	comp=E,74nm,0.8s						
P18A				IAML		10 36 11.6	
	comp=N,85nm,0.8s						
SRU	**San Rafael Swe**	**3.63**	**168**	IAML		10 36 17.2	
	comp=N,77nm,0.7s						
K22A	**Casper**	**3.66**	**89**	IAML		10 36 19.6	
	comp=N,80nm,0.3s						
K22A				IAML		10 36 25.0	
	comp=N,86nm,0.3s						
SPR3	**Spring Creek 3**	**4.26**	**211**	IAML		10 36 44.0	
	comp=N,22nm,0.7s						
SPR3				IAML		10 36 52.3	
	comp=E,18nm,0.9s						
PSUT	**Pine Spring**	**4.51**	**204**	IAML		10 36 48.8	
	comp=E,20nm,1.1s						
PSUT				IAML		10 36 50.3	
	comp=N,24nm,0.8s						
NVAR	**Mina Array Bea**	**6.70**	**233**	Pn	**Pn**	**10 36 01.6**	**+1.1**
	comp=N,0.4nm,0.3s,baz=53,slow=14,SNR=14						
NVAR				Lg	Lg	10 37 51.7	
	comp=N,0.8nm,0.3s,baz=46,slow=30,SNR=4.8						
	comp=N,1.1nm,0.6s						
ULM	**Lac du Bonnet**	**13.14**	**49**	Pn	**Pn**	**10 37 26.0**	**-2.4**
	comp=N,0.1nm,0.3s,baz=240,slow=14,SNR=3.0						
ULM				Lg	Lg	10 41 01.7	
	comp=N,0.1nm,0.3s,baz=276,slow=15,SNR=1.1						
	comp=N,1.2nm,0.6s						
TXAR	**Lajitas Array**	**14.73**	**152**	Pn	**Pn**	**10 37 52.6**	**+2.5**
	baz=333,slow=12,SNR=5.0						
	comp=N,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**19.94**	**356**	P	**P**	**10 38 54.2**	**+0.6**
	baz=176,slow=9.8,SNR=2.9						
	comp=N,0.1nm,0.5s						

HEL 04 11:00:42.3±0.1, 63°.96N×29°.03E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.47**	**57**	PG	Pg	11 00 50.7	-0.6
RMF				SG	Sg	11 00 56.9	-0.5
RMF				MSG		11 00 57.6	
	comp=Z,2.1nm,0.2s						
NIF	**Nilsia**	**0.79**	**224**	PG	Pg	11 00 56.4	-1.0
	baz=40						
NIF				SG	Sg	11 01 06.7	-1.0
JOF	**Joensuu**	**1.47**	**135**	PG	Pn	11 01 08.8	-1.2
	baz=315						
JOF				SG	Sg	11 01 27.1	-2.2
KU1	**Kurvinen**	**1.62**	**8**	PN	Pn	11 01 11.9	-0.2
	baz=190						
KU1				SN	Sn	11 01 33.5	-0.3
OUL	**Oulu**	**1.76**	**311**	PG	Pn	11 01 14.1	+0.1
KU2	**Taivalkoski**	**1.79**	**349**	PG	Pn	11 01 14.3	-0.1
KU2				SN	Sn	11 01 37.5	-0.3
SUF	**Sumiainen**	**1.80**	**227**	PG	Pn	11 01 14.6	0.0
SUF				MSG		11 01 36.0	
	comp=Z,1.0nm,0.2s						
SUF				SN	Sn	11 01 38.5	+0.5
OBF4	**Vikkela, Lumij**	**1.91**	**298**	PG	Pn	11 01 16.7	+0.7
	baz=114						
OBF4				MSG		11 01 39.1	
	comp=Z,1.5nm,0.2s						
OUF	**Merijarvi**	**1.93**	**284**	MSG		11 01 39.6	
	comp=Z,2.2nm,0.2s						
OUF				SG	Sn	11 01 41.6	+0.4
MSF	**Maaselka**	**1.96**	**0**	SG	Sn	11 01 42.3	+0.3
KU6	**Riekki**	**2.10**	**10**	PG	Pn	11 01 19.0	+0.3
KU6				MSG		11 01 44.8	
	comp=Z,1.3nm,0.2s						
KU6				SG	Sn	11 01 46.2	+0.6
OBF0	**Syolatti, Pyha**	**2.16**	**287**	MSG		11 01 46.3	
	comp=Z,1.3nm,0.2s						
OBF0				SG	Sb	11 01 48.8	-0.8
KAF	**Kangasniemi**	**2.23**	**215**	PG	Pn	11 01 21.6	+1.1
KAF				MSG		11 01 48.4	
	comp=Z,1.0nm,0.2s						
RANF	**Ranua**	**2.27**	**336**	PG	Pb	11 01 22.8	-1.3
	baz=157						
RANF				SG	Sn	11 01 50.5	+0.8
OLKF	**Oulanka, Finla**	**2.37**	**4**	MSG		11 01 52.5	
	comp=Z,0.6nm,0.2s						
OLKF				SG	Sb	11 01 54.5	-1.2
RNF	**Rovaniemi**	**2.94**	**336**	SN	Sn	11 02 05.4	-0.9
KPF	**Kankaanpaa**	**3.83**	**239**	SB	Sb	11 02 34.1	-3.6
KLF	**Kolari**	**3.90**	**330**	SN	Sn	11 02 25.4	-4.4
HUSU	**Husum**	**4.42**	**266**	SN	Sn	11 02 37.8	-4.8

*KOLA **04** 11:02:36.9, 68°.09N×32°.98E, h0km, ML2.1, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, Olenegorsk City, Mines*

HEL 04 11:02:36.4±0.1, 68°.14N×32°.97E, h0km, ML1.8, Explosion, Baltic States-Belarus-Northwestern Russia

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

comp=Z,6.1nm,0.2s
MSF Maaselka 2.71 216 SG Sb 11 03 58.3 -1.2
ARA0 ARCESS Array S 3.05 301 PB Pn 11 03 26.4 +0.6
ARA0 SB Sn 11 04 04.2 +1.3
ARCES ARCESS Array B 3.05 301 P Pn 11 03 26.2 +0.3
ARCES S Sn 11 04 02.6 -0.3
KU2 Taivalkoski 3.07 220 PB Pb 11 03 29.7 -2.0
RNF Rovaniemi 3.10 244 PN Pn 11 03 26.3 -0.1
baz=61
RNF SN Sn 11 04 03.8 -0.2
RANF Ranua 3.22 232 PN Pn 11 03 27.7 -0.5
baz=45
HEF Hetta 3.47 279 PN Pn 11 03 31.6 -0.1
baz=88
HEF SG Sb 11 04 21.8 +0.4
KLF Kolari 3.55 259 PN Pn 11 03 32.3 -0.4
KLF SN Sn 11 04 10.9 -4.4
KTK1 Kautokeino 3.68 288 PN Pn 11 03 34.6 +0.1
KTK1 SG Sg 11 04 31.0 -3.4
TOF Tornio 3.96 243 PN Pn 11 03 37.7 -0.5
TOF SN Sn 11 04 23.4 -1.8
LANU Lannavaara 4.11 274 PN Pn 11 03 40.6 +0.1
LANU SG Sb 11 04 43.6 +3.9
KALU Kalix 4.41 243 PN Pn 11 03 43.9 -0.5
ERTU Ertsjaerv 4.46 254 PN Pn 11 03 44.1 -1.0
ERTU SN Sn 11 04 36.3 -1.4
KIF Kilpisjarvi 4.55 287 PN Pn 11 03 46.0 -0.3
OBF4 Vikkela, Lumij 4.59 227 PN Pn 11 03 46.5 -0.4
FAUS Fauske 6.75 272 S Sn 11 05 28.3 -5.7

*IDC **04** 11:09:17.9±1.6, 18°.17S×178°.01W, h576km±19km, mb3.4/11, mbtmp4.3/13, Error ellipse: s-maj=18.4km s-min=15.1km az=115.0*
ISC 04 11:09:18.9±0.7, 18°.2S±0°.1×178°.1W±0°.1, h590km, n14, σ1§03/16, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.70 276**		P	**P**	**11 10 41.0**	**-0.7**
	152nm,0.7s,baz=121,slow=5.9,SNR=132						
DZM	**Mont Dzumac**	**15.04 252**		P	**P**	**11 12 27.7**	**-0.1**
	5.6nm,0.6s,baz=98,slow=14,SNR=9.3						
URZ	**Urewera**	**20.46 191**		P	**P**	**11 13 14.8**	**-2.2**
	5.4nm,0.4s,baz=11,slow=2.4,SNR=12						
	5.4nm,0.4s						
STKA	**Stephens Creek**	**38.78 242**		P	**P**	**11 15 54.8**	**+0.5**
	4.1nm,0.5s,baz=87,slow=9.6,SNR=14						
	4.1nm,0.5s						
WRA	**Warramunga Arr**	**44.89 260**		P	**P**	**11 16 42.4**	**0.0**
	3.7nm,0.5s,baz=96,slow=7.4,SNR=103						
WRA				PcP	**PcP**	**11 18 11.8**	**+0.7**
	0.5nm,0.8s,baz=91,slow=2.7,SNR=1.4						
	3.7nm,0.5s						
ASAR	**Alice Springs**	**45.02 254**		P	**P**	**11 16 43.9**	**+0.5**
	18nm,0.7s,baz=86,slow=8.7,SNR=240						
ASAR				PcP	**PcP**	**11 18 11.7**	**+0.2**
	0.5nm,0.5s,baz=93,slow=4.3,SNR=2.1						
	18nm,0.7s						
VNDA	**Vanda**	**60.22 185**		P	**P**	**11 18 32.2**	**+1.7**
	1.1nm,0.5s,baz=346,slow=4.9,SNR=5.8						
	1.1nm,0.5s						
QSPA	**South Pole Qui**	**71.89 180**		P	**P**	**11 19 43.9**	**+0.8**
	3.7nm,0.6s,baz=353,slow=7.2,SNR=18						
	3.7nm,0.6s						
PETK	**Petropavlovsk-**	**74.00 345**		P	**P**	**11 19 54.5**	**-0.6**
	3.1nm,0.9s,baz=100,slow=7.3,SNR=4.8						
	3.1nm,0.9s						
NVAR	**Mina Array Bea**	**79.39 44**		P	**P**	**11 20 25.0**	**-0.1**
	0.6nm,0.6s,baz=226,slow=7.7,SNR=5.8						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**85.87 57**		P	**P**	**11 20 57.9**	**+0.4**
	1.4nm,0.8s,baz=219,slow=5.5,SNR=15						
	1.4nm,0.8s						
PDAR	**Pinedale Array**	**87.33 43**		P	**P**	**11 21 04.2**	**-0.1**
	0.4nm,0.7s,baz=226,slow=3.9,SNR=3.7						
	0.4nm,0.7s						
SNAA	**Sanae**	**90.34 178**		P	**P**	**11 21 15.9**	**-1.7**
	1.5nm,0.8s,baz=209,slow=11,SNR=5.5						
	1.5nm,0.8s						
BRTR	**Keskin Array B**	**145.18 315**		PKPbc	**PKPdf**	**11 27 51.1**	**+0.7**
	0.8nm,0.7s,baz=132,slow=2.1,SNR=3.9						

*IDC **04** 11:09:20.8±1.1, 41°.26S×85°.43E, h0km, mb4.1/8, mbtmp4.1/8, MS3.9/34, Error ellipse: s-maj=34.1km s-min=27.3km az=83.0*
*GCMT **04** 11:09:26.0±0.4, 41°.24S±0°.02×85°.55E±0°.03, h21km±1km, MW4.8/74, Moment Tensor Solution. s12,c13; s74,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.55±.12; $M_{\theta\theta}$2.19±.11; $M_{\phi\phi}$-1.64±.09; $M_{r\theta}$0.62±.19; $M_{\theta\phi}$0.12±.08; $M_{r\phi}$0.16±.16; Best double couple: $M_0$1.99600×10^{16} NP1:ϕ_s134.00000°, δ76.00000°, λ3.00000°. NP2: ϕ_s43.00000°, δ87.00000°, λ166.00000°. Principal axes: T 2.3290, Plg12.0000°, Azm358.0000°; N -0.6650, Plg75.0000°, Azm211.0000°; P -1.6620, Plg8.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 04 11:09:22.4±1.0, 41°.3S±0°.2×85°.5E±0°.3, h10km, n49, σ0§41/8, mb4.2/8, MS4.0/34, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**23.37 84**		T	T	11 38 25.0	
	baz=245,slow=74,SNR=247						
H01W3	**Cape Leeuwin H**	**23.38 84**		T	T	11 38 25.6	
	baz=245,slow=74,SNR=191						
H01W1	**Cape Leeuwin H**	**23.39 84**		T	T	11 38 26.3	
	baz=245,slow=74,SNR=203						
H04S1	**CROZET ISLANDS**	**24.63 246**		T	T	11 40 27.9	
	baz=88,slow=76,SNR=22						
H04S2	**CROZET ISLANDS**	**24.65 246**		T	T	11 40 27.6	
	baz=88,slow=76,SNR=45						
H04S3	**CROZET ISLANDS**	**24.65 246**		T	T	11 40 32.6	
	baz=88,slow=76,SNR=48						
H04N2	**CROZET ISLANDS**	**24.71 247**		T	T	11 40 36.6	
	baz=91,slow=76,SNR=2296						
H04N3	**CROZET ISLANDS**	**24.72 247**		T	T	11 40 35.3	
	baz=91,slow=76,SNR=592						
H04N1	**CROZET ISLANDS**	**24.73 247**		T	T	11 40 36.4	
	baz=91,slow=76,SNR=596						
NWAO	**Narrogin (SRO)**	**26.55 82**		LR	LR	11 22 56.7	
	comp=Z,259nm,20.8s,baz=226,slow=31						
MAW	**Mawson**	**29.12 198**		LR	LR	11 24 35.6	
	comp=Z,240nm,18.1s,baz=18,slow=31						
H08S2	**Diego Garcia H**	**35.42 337**		T	T	11 53 46.1	
	baz=163,slow=76,SNR=667						
H08S1	**Diego Garcia H**	**35.42 337**		T	T	11 53 40.9	
	baz=163,slow=76,SNR=791						
H08S3	**Diego Garcia H**	**35.44 337**		T	T	11 53 49.9	
	baz=163,slow=76,SNR=786						
LEM	**Lembang**	**39.56 36**		LR	LR	11 30 18.9	
	comp=Z,168nm,20.8s,baz=176,slow=32						
FITZ	**Fitzroy Crossi**	**41.34 68**		LR	LR	11 32 24.1	
	comp=Z,113nm,18.4s,baz=237,slow=33						
ASAR	**Alice Springs**	**43.87 82**		P	**P**	**11 17 29.0**	**-0.1**
	2.0nm,0.9s,baz=229,slow=8.4,SNR=6.9						
ASAR				LR	LR	11 33 53.8	
	comp=Z,355nm,19.4s,baz=244,slow=34						
	2.0nm,0.9s						
STKA	**Stephens Creek**	**45.34 97**		LR	LR	11 35 22.2	
	comp=Z,67nm,18.8s,baz=213,slow=34						
PSI	**Prapat**	**45.54 19**		LR	LR	11 33 05.1	
	comp=Z,397nm,19.2s,baz=158,slow=31						
WRA	**Warramunga Arr**	**46.42 78**		P	**P**	**11 17 49.7**	**+0.4**
	2.9nm,0.9s,baz=230,slow=7.5,SNR=8.5						
	2.9nm,0.9s						
VNDA	**Vanda**	**47.16 163**		LR	LR	11 35 30.9	
	comp=Z,182nm,20.2s,baz=270,slow=33						
KAPI	**Kappang**	**47.34 50**		LR	LR	11 36 06.6	
	comp=Z,79nm,19.3s,baz=224,slow=34						
PALK	**Pallekele**	**48.50 354**		LR	LR	11 33 35.7	
	comp=Z,295nm,21.3s,baz=166,slow=30						
QSPA	**South Pole Qui**	**48.88 180**		P	**P**	**11 18 08.0**	**-0.1**
	4.2nm,0.9s,baz=328,slow=3.2,SNR=11						
QSPA				LR	LR	11 36 37.4	
	comp=Z,202nm,20.2s,baz=299,slow=34						
	4.2nm,0.9s						
BOSA	**Boshof**	**50.04 265**		LR	LR	11 35 50.4	
	comp=Z,174nm,18.2s,baz=204,slow=32						
SNAA	**Sanae**	**50.92 204**		LR	LR	11 37 28.5	
	comp=Z,75nm,19.2s,baz=103,slow=33						
SUR	**Sutherland**	**51.45 258**		LR	LR	11 34 45.6	
	comp=Z,138nm,21.5s,baz=135,slow=30						

LBTB	**Lobatse**	**51.72 269**	LR	LR	11 36 04.6	
	comp=Z,122nm,20.3s,baz=136,slow=31					
LSZ	**Lusaka**	**55.58 280**	LR	LR	11 38 51.4	
	comp=Z,131nm,18.6s,baz=156,slow=32					
KMBO	**Kilima Mbogo**	**59.01 300**	LR	LR	11 38 48.2	
	comp=Z,41nm,21.9s,baz=84,slow=30					
CMAR	**Chiang Mai Arr**	**60.72 15**	P	**P**	**11 19 34.0**	**0.0**
	1.1nm,0.4s,baz=205,slow=6.9,SNR=12					
CMAR			LR	LR	11 40 23.8	
	comp=Z,50nm,21.9s,baz=195,slow=31					
	1.1nm,0.4s					
TSUM	**Tsumeb**	**61.12 269**	LR	LR	11 41 54.0	
	comp=Z,157nm,21.2s,baz=154,slow=32					
JAY	**Jayapura**	**62.73 67**	LR	LR	11 44 07.6	
	comp=Z,42nm,21.5s,baz=331,slow=33					
BRDH	**Bariadhala**	**63.88 6**	LR	LR	11 42 54.7	
	comp=Z,233nm,21.9s,baz=172,slow=32					
DZM	**Mont Dzumac**	**69.19 101**	LR	LR	11 47 29.9	
	comp=Z,64nm,18.7s,baz=250,slow=33					
PMSA	**Palmer Station**	**71.62 193**	LR	LR	11 49 59.4	
	comp=Z,210nm,21.9s,baz=139,slow=34					
HNR	**Honiara**	**72.17 87**	LR	LR	11 49 42.2	
	comp=Z,37nm,18.9s,baz=188,slow=34					
MSVF	**Nonsavu**	**80.41 105**	LR	LR	11 54 10.4	
	comp=Z,64nm,19.2s,baz=233,slow=33					
AAK	**Ala-Archa**	**84.11 352**	LR	LR	11 54 53.8	
	comp=Z,89nm,21.9s,baz=179,slow=32					
JNU	**Nakatsue**	**85.02 37**	LR	LR	11 57 57.3	
	comp=Z,13nm,20.8s,baz=274,slow=34					
MKAR	**Makanchi Array**	**87.73 358**	P	**P**	**11 22 10.3**	**-0.6**
	0.7nm,1.0s,baz=165,slow=6.0,SNR=4.8					
MKAR			LR	LR	11 58 14.6	
	comp=Z,105nm,21.9s,baz=179,slow=33					
	0.7nm,1.0s					
SONM	**Songino Array**	**90.64 14**	P	**P**	**11 22 24.5**	**-0.2**
	1.2nm,0.7s,baz=198,slow=4.4,SNR=6.8					
SONM			LR	LR	12 02 34.5	
	comp=Z,49nm,18.5s,baz=214,slow=35					
	1.2nm,0.7s					
KURBB	**Kurchatov Arra**	**91.71 356**	P	**P**	**11 22 29.2**	**-0.2**
	0.3nm,0.4s,baz=187,slow=4.4,SNR=5.3					
	0.3nm,0.4s					
BRTR	**Keskin Array B**	**93.39 323**	P	**P**	**11 22 38.1**	**+0.5**
	0.7nm,0.8s,baz=167,slow=7.2,SNR=4.5					
	0.7nm,0.8s					
AKTO	**Aktyubinsk**	**94.44 343**	LR	LR	12 05 03.8	
	comp=Z,38nm,18.0s,baz=94,slow=35					
DBIC	**Dimbokro**	**94.60 275**	LR	LR	12 01 21.1	
	comp=Z,113nm,18.1s,baz=158,slow=33					
BVAR	**Borovoye Array**	**94.82 351**	LR	LR	12 03 03.3	
	comp=Z,82nm,19.0s,baz=184,slow=34					
ZALV	**Zalesovo Beam**	**94.84 360**	LR	LR	12 02 48.9	
	comp=Z,70nm,21.8s,baz=158,slow=34					
KLR	**Kul'dur**	**98.90 29**	LR	LR	12 07 55.9	
	comp=Z,24nm,18.7s,baz=214,slow=36					

*IDC **04** 11:26:17.3±0.7, 6°.75N×73°.01W, h161km±10km, mb3.4/6, mbtmp4.0/9, MS2.7/1, Error ellipse: s-maj=28.0km s-min=7.6km az=132.0*
*RSNC **04** 11:26:18.5±0.0, 7°.N±1°.×7°.3W±°., h152km±1km, M3.9, mb4.6, mB5.2, ML3.7, Mw(mB)4.6*
ISC 04 11:26:17.5±0.7, 6°.86N±0°.03×73°.12W±0°.03, h160km±5km, n52, σ1§72/92, mb3.7/6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27 194**		P	**Pn**	**11 26 39.0**	**-0.5**
BARC				S	**Sn**	**11 26 54.0**	**-2.2**
PAMC	**Pamplona, Colo**	**0.63 41**		P	**Pn**	**11 26 41.7**	**+0.5**
PAMC				S	**Sn**	**11 26 59.0**	**-0.4**
BRJC	**Barrancabermej**	**0.63 281**		P	**Pn**	**11 26 40.8**	**+0.2**
BRJC				S	**Sn**	**11 26 58.1**	**-0.2**
RUSC	**La Rusia**	**0.96 178**		P	**Pn**	**11 26 42.9**	**-0.6**
RUSC				S	**Sn**	**11 27 01.5**	**-1.9**
PTBC	**PUERTO BERRIO,**	**1.37 257**		P	**Pn**	**11 26 45.6**	**-0.9**
PTBC				S	**Sn**	**11 27 06.9**	**-1.9**
TAMC	**Tame, Arauca**	**1.38 108**		P	**Pn**	**11 26 47.2**	**+0.5**
TAMC				S	**Sn**	**11 27 08.8**	**-0.3**
OCAC	**Ocana**	**1.39 352**		P	**Pn**	**11 26 47.3**	**+0.4**
OCAC				S	**Sn**	**11 27 09.4**	**-0.1**
ZARC	**Zaragoza, Cauc**	**1.84 290**		P	**Pn**	**11 26 51.8**	**+0.4**
ZARC				S	**Sn**	**11 27 17.4**	**-0.2**
NORC	**Norcasia**	**2.17 234**		P	**Pn**	**11 26 54.7**	**-0.5**
NORC				S	**Sn**	**11 27 22.0**	**-2.3**
CHIC	**Chingaza**	**2.30 196**		P	**Pn**	**11 26 56.7**	**-0.4**
CHIC				S	**Sn**	**11 27 26.6**	**-1.1**
ROSC	**El Rosal**	**2.33 211**		P	**Pn**	**11 26 58.2**	**+0.7**
	490nm,0.4s,baz=125,slow=18,SNR=199						
ROSC				S	**Sn**	**11 27 27.7**	**-0.7**
	1000nm,0.6s,baz=71,slow=20,SNR=8.0						
ROSC	**El Rosal**	**2.33 211**		P	**Pn**	**11 26 58.5**	**+1.0**
ROSC				S	**Sn**	**11 27 28.5**	**+0.1**
HELC	**Santa Helena**	**2.49 255**		P	**Pn**	**11 26 59.5**	**+0.2**
HELC				S	**Sn**	**11 27 32.1**	**+0.6**
CVER	**Cruz Verde, Cu**	**2.51 202**		P	**Pn**	**11 27 00.2**	**+0.5**
CVER				S	**Sn**	**11 27 32.1**	**-0.2**
UREC	**San Jos de Ur**	**2.56 290**		P	**Pn**	**11 26 58.7**	**-1.1**
UREC				S	**Sn**	**11 27 29.4**	**-3.1**
GUY2C	**Guyana, Caldas**	**2.76 234**		P	**Pn**	**11 27 03.1**	**+0.3**
GUY2C				S	**Sn**	**11 27 37.5**	**-0.3**
PTGC	**Puerto Gaitan,**	**2.81 160**		P	**Pn**	**11 27 01.9**	**-1.1**
PTGC				S	**Sn**	**11 27 34.9**	**-3.4**
NIZA	**Niza - Manizal**	**2.95 233**		P	**Pn**	**11 27 05.7**	**+0.8**
NIZA				S	**Sn**	**11 27 43.7**	**+2.2**
CBOC	**Ciudad Bolivar**	**3.04 251**		P	**Pn**	**11 27 06.6**	**+0.7**
CBOC				S	**Sn**	**11 27 43.4**	**-0.1**
DBBC	**Dabeiba**	**3.08 273**		P	**Pn**	**11 27 06.2**	**-0.1**
DBBC				S	**Sn**	**11 27 42.5**	**-1.6**
SDV	**Santo Domingo**	**3.18 50**		P	**Pn**	**11 27 08.0**	**+0.4**
	106nm,0.3s,baz=214,slow=12,SNR=401						
SDV				S	**Sn**	**11 27 46.4**	**-0.2**
	95nm,0.3s,baz=276,slow=18,SNR=18						
SDV	**Santo Domingo**	**3.18 50**		P	**Pn**	**11 27 08.2**	**+0.5**
SDV				S	**Sn**	**11 27 45.2**	**-1.5**
ARGC	**Ariguani, Magd**	**3.19 340**		P	**Pn**	**11 27 08.7**	**+1.1**
ARGC				S	**Sn**	**11 27 46.5**	**0.0**
ANIL	**Santa Ana**	**3.27 224**		P	**Pn**	**11 27 09.3**	**+0.3**
ANIL				S	**Sn**	**11 27 50.4**	**+1.5**
PRAC	**Prado**	**3.58 210**		P	**Pn**	**11 27 11.9**	**-0.8**
PRAC				S	**Sn**	**11 27 53.5**	**-2.2**
APAC	**Apartado, Choc**	**3.59 287**		P	**Pn**	**11 27 13.0**	**+0.3**
APAC				S	**Sn**	**11 27 53.9**	**-1.7**
ORTC	**Ortega, Tolima**	**3.62 216**		P	**Pn**	**11 27 12.6**	**-0.5**
ORTC				S	**Sn**	**11 27 55.2**	**-1.2**
SJCC	**San Jacinto, C**	**3.65 326**		P	**Pn**	**11 27 12.6**	**-0.9**
SJCC				S	**Sn**	**11 27 53.9**	**-3.2**
LCBC	**Los crdobas,**	**3.79 302**		P	**Pn**	**11 27 15.3**	**+0.1**
LCBC				S	**Sn**	**11 27 55.3**	**-4.9**
URMC	**La Uribe, Meta**	**3.80 199**		P	**Pn**	**11 27 15.3**	**-0.2**
URMC				S	**Sn**	**11 27 59.3**	**-1.4**
CRJC	**Cerrejon, Guaj**	**4.14 3**		P	**Pn**	**11 27 19.2**	**-0.8**
CRJC				S	**Sn**	**11 28 06.6**	**-2.1**
YOTC	**Yotoco, Valle**	**4.30 229**		P	**Pn**	**11 27 21.6**	**-0.4**
YOTC				S	**Sn**	**11 28 11.7**	**-0.6**
GUVC	**San Jose del G**	**4.31 173**		P	**Pn**	**11 27 20.3**	**-1.8**
GUVC				S	**Sn**	**11 28 09.1**	**-3.4**
SMRC	**Santa Marta, M**	**4.42 346**		P	**Pn**	**11 27 24.0**	**+0.6**
SMRC				S	**Sn**	**11 28 11.7**	**-3.3**
CAPC	**Capurgana**	**4.55 293**		P	**Pn**	**11 27 23.2**	**-2.0**
CAPC				S	**Sn**	**11 28 11.0**	**-7.1**
PIZC	**Pizarro, Choco**	**4.62 246**		P	**Pn**	**11 27 26.8**	**+0.7**
PIZC				S	**Sn**	**11 28 17.9**	**-1.8**
PTAC	**Punta Ardita,**	**4.67 274**		P	**Pn**	**11 27 25.7**	**-1.0**
MACC	**Macarena, Meta**	**4.74 189**		P	**Pn**	**11 27 25.4**	**-2.3**
MACC				S	**Sn**	**11 28 17.3**	**-5.2**
BETC	**Betania**	**4.75 209**		P	**Pn**	**11 27 26.7**	**-1.2**
BETC				S	**Sn**	**11 28 20.2**	**-2.7**
URIC	**Uribia, Colomb**	**4.94 13**		P	**Pn**	**11 27 29.0**	**-1.3**
URIC				S	**Sn**	**11 28 25.4**	**-1.8**
MALC	**Bahia Malaga**	**5.06 236**		P	**Pn**	**11 27 33.1**	**+1.2**
MALC				S	**Sn**	**11 28 30.1**	**0.0**
GARC	**Garzon, Huila**	**5.21 207**		P	**Pn**	**11 27 32.2**	**-1.9**
	3μm42nm,0.4s						
BBAC	**Balboa, Cauca**	**6.33 221**		P	**Pn**	**11 27 49.7**	**+0.9**
PCRV	**Puerto La Cruz**	**9.01 68**		P	**Pn**	**11 28 24.8**	**+0.4**
	14nm,0.8s,baz=230,slow=4.9,SNR=9.5						
PCRV				LR	LR	11 33 00.9	
	comp=Z,48nm,21.9s,slow=45						
TXAR	**Lajitas Array**	**36.44 312**		P	**P**	**11 33 08.9**	**+1.7**
	0.3nm,0.6s,baz=125,slow=8.3,SNR=5.3						
	0.3nm,0.6s						
ULM	**Lac du Bonnet**	**47.25 340**		P	**P**	**11 34 34.5**	**+0.1**
	2.1nm,0.4s,baz=154,slow=5.8,SNR=5.2						
	2.1nm,0.4s						
PDAR	**Pinedale Array**	**48.05 324**		P	**P**	**11 34 41.4**	**+0.4**
	0.4nm,0.6s,baz=138,slow=8.3,SNR=4.2						
	0.4nm,0.6s						
SCHQ	**Schefferville**	**48.10 5**		P	**P**	**11 34 42.0**	**+1.1**
	2.3nm,0.5s,baz=212,slow=7.7,SNR=5.9						
	2.3nm,0.5s						
NVAR	**Mina Array Bea**	**51.46 315**		P	**P**	**11 35 07.8**	**+1.0**
	0.4nm,0.6s,baz=114,slow=5.9,SNR=3.5						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**63.23 340**		P	**P**	**11 36 28.8**	**+0.3**
	1.3nm,0.6s,baz=134,slow=6.9,SNR=27						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**149.13 234**		PKPbc	**PKPbc**	**11 45 46.4**	**-1.4**
	0.4nm,0.7s,baz=122,slow=3.1,SNR=7.7						
WRA	**Warramunga Arr**	**150.36 241**		PKPbc	**PKPbc**	**11 45 50.7**	**-0.1**
	0.2nm,0.3s,baz=106,slow=3.0,SNR=11						

*SOME **04** 11:56:06.6, 44°.33N×82°.13E, h10km*
*NNC **04** 11:56:08.9±0.7, 44°.72N×81°.98E, h0km, mb3.1, mpv2.6, Error ellipse: s-maj=10.5km s-min=1.9km az=117.0, Suspected Mining explosion.*
ISC 04 11:56:04.4±3.0, 44°.6N±0°.1×82°.2E±0°.2, h0km, n5, σ0§42/10, 6C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.77 262**		*e*P	**Pg**	**11 56 38.3**	**0.0**
	3.9nm,0.3s						
DJR				*e*S	**Sg**	**11 57 01.5**	**+0.3**
	6.2nm,0.3s						
MK31	**Makanchi Array**	**2.19 1**		⇑Pn	**Pb**	**11 56 45.3**	**+0.3**
	2.5nm,0.4s,baz=185,slow=15,SNR=66						
MK31				⇑Sn	**Sb**	**11 57 13.2**	**+0.5**
	1.8nm,0.4s,baz=187,slow=26,SNR=14						
MAKZ	**Makanchi**	**2.21 355**		⇑Pn	**Pb**	**11 56 44.9**	**-0.4**
	1.4nm,0.3s						
MAKZ				⇑Sn	**Sb**	**11 57 12.7**	**-0.5**
	2.0nm,0.3s						
PDGK	**Podgornoye**	**2.35 238**		⇑Pn	**Pb**	**11 56 47.9**	**+0.1**
	1.8nm,0.4s						
PDGK				⇑Sn	**Sb**	**11 57 17.8**	**+0.4**
	5.9nm,0.8s						
UZB	**Uzynbulak**	**2.74 239**		*e*P	**Pb**	**11 56 54.0**	**-0.4**
	2.8nm,0.2s						
UZB				*e*S	**Sb**	**11 57 28.3**	**-0.3**
	4.2nm,0.2s						

*VAO **04** 12:00:06.4±1.6, 30°.30S×71°.31W, h49km±10km, mb4.7*
*SJA **04** 12:00:07.3±0.7, 30°.22S×71°.36W, h64km±3km, ML4.7, MW4.7*
*GUC **04** 12:00:08.8±0.7, 30°.25S×71°.20W, h64km±1km, ML4.7*
*NEIC **04** 12:00:09.0±2.0, 30°.27S±0°.05×71°.39W±0°.09, h62km±6km, mb4.8/76, Error ellipse: s-maj=11.6km s-min=7.0km az=94.0*
*IDC **04** 12:00:09.8±1.6, 30°.25S×71°.29W, h73km±14km, mb4.2/11, mbtmp4.4/15, MS3.6/17, Error ellipse: s-maj=14.4km s-min=12.2km az=26.0*
ISC 04 12:00:08.7±0.4, 30°.24S±0°.02×71°.30W±0°.03, h64km±3km, n258, σ1§85/274, mb4.7/44, 8C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.44 81**			**Pn**	**12 00 21.5**	**+0.8**
GO04	**Tololo Observa**	**0.44 81**		*e*P	**Pn**	**12 00 21.1**	**+0.5**
GO04				*i* S	**Sn**	**12 00 30.5**	**+1.1**
GO04	**Tololo Observa**	**0.44 81**		*e*P	**Pn**	**12 00 21.5**	**+0.8**
GO04				*e*S	**Sn**	**12 00 30.6**	**+1.2**
CO06	**Fray Jorge**	**0.52 214**			**Pn**	**12 00 22.6**	**+1.4**
CO06	**Fray Jorge**	**0.52 214**		⇓*i*P	**Pn**	**12 00 22.6**	**+1.4**
CO06				*i* S	**Sn**	**12 00 32.5**	**+2.2**
CO06				IAML		12 00 34.6	
	comp=E,50μm,0.3s						
CO03	**El Pedregal**	**0.79 138**			**Pn**	**12 00 25.1**	**+0.7**
CO03	**El Pedregal**	**0.79 138**		⇑*i*P	**Pn**	**12 00 25.1**	**+0.7**
CO03				*i* S	**Sn**	**12 00 36.7**	**+0.7**
CO03				IAML		12 00 39.0	
	comp=E,31μm,0.3s						
CO03	**El Pedregal**	**0.79 138**		*e*P	**Pn**	**12 00 24.2**	**-0.2**
CO03				IAML		12 00 37.9	
	comp=Z,19μm,0.8s						
CO02	**Combarbal**	**0.99 165**		⇑*i*P	**Pn**	**12 00 27.8**	**+0.9**
CO02				*i* S	**Sn**	**12 00 40.6**	**+0.2**
CO02				IAML		12 00 43.4	
	comp=N,67μm,0.3s						
CO02	**Combarbal**	**0.99 165**		*e*P	**Pn**	**12 00 27.1**	**+0.2**
CO02				IAML		12 00 43.5	
	comp=Z,10μm,0.2s						
CO01	**Juntas del Tor**	**1.08 76**			**Pn**	**12 00 29.2**	**+1.1**
CO01	**Juntas del Tor**	**1.08 76**		⇑*i*P	**Pn**	**12 00 29.2**	**+1.1**
CO01				*i* S	**Sn**	**12 00 43.8**	**+1.2**
CO01				IAML		12 00 44.9	
	comp=N,33μm,0.3s						
CO01	**Juntas del Tor**	**1.08 76**		*e*P	**Pn**	**12 00 28.3**	**+0.2**
CO01				*e*S	**Sn**	**12 00 44.1**	**+1.5**
CO01				IAML		12 00 44.9	
	comp=Z,21μm,0.3s						
LCO	**Las Campanas**	**1.33 23**			**Pn**	**12 00 32.5**	**+1.0**
LCO	**Las Campanas**	**1.33 23**		*e*P	**Pn**	**12 00 31.8**	**+0.2**
LCO				*i* S	**Sn**	**12 00 48.6**	**0.0**
LCO	**Las Campanas**	**1.33 23**		*e*P	**Pn**	**12 00 31.6**	**0.0**
LCO				IAML		12 00 51.1	
	comp=Z,16μm,0.6s					

GO03 *i* S **Sn** 12 01 25.8 +1.9
GO03 IAML 12 01 30.2
comp=N,3μm,0.4s
GO03 Copiapo 2.80 20 *e*P **Pn** 12 00 51.3 +0.1
PEL Peldehue 2.94 170 **Pn** 12 00 54.7 +1.7
PEL Peldehue 2.94 170 *e*P **Pn** 12 00 54.3 +1.3
PEL *i* S **Sn** 12 01 28.9 +1.8
PEL IAML 12 01 34.1
comp=E,1μm,0.5s
PEL Peldehue 2.94 170 *e*P **Pn** 12 00 48.9 -4.2
PEL *e*S **Sn** 12 01 32.9 +5.7
CFA Coronel Fontan 2.96 118 P **Pn** 12 00 54.7 +1.4
comp=E,145nm,0.6s,baz=271,slow=14,SNR=253
CFA S **Sn** 12 01 30.1 +2.4
comp=E,1μm,0.7s,baz=62,slow=17,SNR=17
CFA LR LR 12 01 37.2
comp=E,221nm,19.2s,baz=286,slow=30
CFA Coronel Fontan 2.96 118 *e*P **Pn** 12 00 54.9 +1.6
CFA *e*S **Sn** 12 01 34.9 +7.2
CFA IAML 12 01 51.8
comp=Z,10μm,0.8s
AC06 Mina Casimiro 2.99 16 **Pn** 12 00 54.5 +0.7
AC06 Mina Casimiro 2.99 16 *e*P **Pn** 12 00 54.3 +0.5
AC06 *i* S **Sn** 12 01 30.6 +2.1
AC06 IAML 12 01 44.9
comp=E,2μm,0.3s
MT02 Curacav 3.01 177 Pn **Pn** 12 00 54.8 +0.8
MT02 Curacav 3.01 177 *e*P **Pn** 12 00 54.5 +0.6
MT02 *i* S **Sn** 12 01 28.7 -0.1
MT02 IAML 12 01 46.1
comp=E,1μm,0.4s
MT02 Curacav 3.01 177 *e*P **Pn** 12 00 53.8 -0.1
MT02 IAML 12 01 48.1
comp=Z,1μm,0.5s
MT10 Hacienda Santa 3.09 168 *e*P **Pn** 12 00 56.9 +1.7
MT10 *i* S **Sn** 12 01 33.4 +2.4
MT10 IAML 12 01 56.4
comp=N,5μm,0.5s
VCA Vinchina 3.09 62 *e*P **Pn** 12 00 53.5 -1.7
VCA *e*S **Sn** 12 01 31.6 +0.6
VCA IAML 12 01 43.2
comp=Z,8μm,0.7s
ASAL Salagasta 3.15 139 *e*P **Pn** 12 00 59.4 +3.5
ASAL *e*S Sn 12 01 21.8 -11
ASAL IAML 12 02 00.5
comp=Z,2μm,1.1s
MT05 Renca 3.17 171 **Pn** 12 00 57.5 +1.3
MT05 Renca 3.17 171 *e*P **Pn** 12 00 57.6 +1.4
MT05 *i* S **Sn** 12 01 35.3 +2.3
MT05 IAML 12 01 52.3
comp=E,4μm,0.3s
MT05 Renca 3.17 171 *e*P **Pn** 12 00 57.2 +0.9
MT05 *e*S **Sn** 12 01 30.1 -2.8
MT05 IAML 12 01 55.1
comp=Z,2μm,1.4s
FCH Farellones 3.19 165 ⇓*i*P **Pn** 12 00 58.9 +2.2
FCH *i* S **Sn** 12 01 37.1 +3.3
FCH IAML 12 01 40.8
comp=E,1μm,0.6s
MT14 Cerro Cal¡n 3.21 168 *e*P **Pn** 12 00 58.5 +1.7
MT14 *i* S **Sn** 12 01 35.4 +1.6
MT16 CCHEN 3.24 168 Pn **Pn** 12 00 58.7 +1.6
MT16 CCHEN 3.24 168 *e*P **Pn** 12 00 58.8 +1.6
MT16 *i* S **Sn** 12 01 36.7 +2.1
MT16 IAML 12 02 01.2
comp=E,1μm,0.7s
ARCO CERRO ARCO 3.29 143 *e*P **Pn** 12 01 02.3 +4.5
ARCO IAML 12 01 47.6
comp=Z,2μm,0.9s
MT04 Ro Olivares 3.30 163 ⇓*i*P **Pn** 12 01 00.7 +2.5
MT04 *i* S **Sn** 12 01 39.5 +3.1
MT04 IAML 12 02 00.2
comp=E,990nm,0.4s
MT04 Ro Olivares 3.30 163 *e*P **Pn** 12 01 00.2 +2.1
MT04 *e*S **Sn** 12 01 35.1 -1.3
MT04 IAML 12 01 44.8
comp=Z,1μm,1.6s
MT03 Universidad Ad 3.31 168 **Pn** 12 01 00.0 +1.9
MT03 Universidad Ad 3.31 168 *e*P **Pn** 12 00 59.6 +1.5
MT03 *i* S **Sn** 12 01 38.0 +1.7
MT03 IAML 12 01 54.8
comp=E,2μm,0.2s
MT03 Universidad Ad 3.31 168 *e*P **Pn** 12 00 59.6 +1.5
MT03 IAML 12 01 54.9
comp=Z,2μm,1.0s
AVFE Valle Fertil 3.35 98 *e*P **Pn** 12 01 00.6 +2.0
AVFE IAML 12 01 42.8
comp=Z,2μm,0.9s
MT08 Bocatoma Ro 3.37 161 *e*P **Pn** 12 01 02.0 +2.9
MT08 *i* S **Sn** 12 01 41.8 +3.7
MT08 IAML 12 01 53.6
comp=N,1μm,0.5s
MT08 Bocatoma Ro 3.37 161 *e*P **Pn** 12 01 02.2 +3.0
MT08 *e*S **Sn** 12 01 39.5 +1.4
MT08 IAML 12 01 51.5
comp=Z,1μm,0.7s
MT15 Las Vizcachas 3.41 169 *e*P **Pn** 12 01 00.4 +0.9
MT15 *i* S **Sn** 12 01 40.7 +1.9
MT15 IAML 12 01 47.4
comp=E,2μm,0.4s
VA05 Santo Domingo 3.41 184 *e*P **Pn** 12 00 59.4 0.0
VA05 *i* S **Sn** 12 01 37.6 -1.1
VA05 IAML 12 01 58.6
comp=E,2μm,0.3s
AAGR Agrelo 3.53 144 *e*P **Pn** 12 01 05.6 +4.4
AAGR IAML 12 02 17.6
comp=Z,2μm,1.1s
MT09 Talagante 3.53 176 *e*P **Pn** 12 01 02.1 +0.9
MT09 *i* S **Sn** 12 01 42.8 +0.9
MT09 IAML 12 01 45.6
comp=N,2μm,0.2s
MT12 Pirque 3.54 170 *e*P **Pn** 12 01 02.4 +1.2
MT12 *i* S **Sn** 12 01 43.2 +1.4
MT13 San Alfonso 3.59 166 *e*P **Pn** 12 01 04.2 +2.2
MT13 *e*S **Sn** 12 01 45.5 +2.2
MT13 San Alfonso 3.59 166 *e*P **Pn** 12 01 03.8 +1.7
MT13 *e*S **Sn** 12 01 46.6 +3.3
MT13 IAML 12 02 10.2
comp=Z,1μm,1.1s
MT01 Popeta 3.61 179 *e*P **Pn** 12 01 02.3 +0.1
MT01 *i* S **Sn** 12 01 43.4 -0.1
MT01 Popeta 3.61 179 *e*P **Pn** 12 01 02.0 -0.1
MT01 *e*S **Sn** 12 01 45.0 +1.5
MT01 IAML 12 01 53.0
comp=Z,2μm,1.2s
LMEL Las Melosas 3.71 166 *e*P **Pn** 12 01 05.7 +2.0
LMEL *i* S **Sn** 12 01 48.9 +2.7
LMEL Las Melosas 3.71 166 *e*P **Pn** 12 01 06.3 +2.6
LMEL *e*S **Sn** 12 01 49.7 +3.5
LMEL *e*S 12 01 50.5
BO04 La Punta 3.78 171 ⇓*i*P **Pn** 12 01 05.5 +1.0
ACLC CERRO LA CRUZ 3.87 79 *e*P **Pn** 12 01 07.9 +2.0
ACLC *e*S **Sn** 12 01 48.2 -1.9
ACLC IAML 12 01 59.4
comp=Z,1μm,0.6s
AC02 Maricunga 3.90 30 Pn **Pn** 12 01 08.0 +1.5
AC02 Maricunga 3.90 30 *e*P **Pn** 12 01 07.6 +1.0
AC02 Maricunga 3.90 30 *e*P **Pn** 12 01 02.0 -4.5
AC02 *e*P 12 01 07.6
AC02 *e*S **Sn** 12 01 49.0 -2.3
AC02 IAML 12 02 13.4
comp=Z,1μm,0.8s
ACHE Chepes 4.10 104 *e*P **Pn** 12 01 10.5 +1.6
AC01 Pan de Azucar 4.13 9 *e*P **Pn** 12 01 07.9 -1.4
AC01 Pan de Azucar 4.13 9 *e*P **Pn** 12 01 08.0 -1.3
AC01 *e*S **Sn** 12 02 04.3 +8.0
AC01 IAML 12 02 10.6
comp=Z,652nm,1.1s
APLL PUNTA DE LOS L 4.13 93 *e*P **Pn** 12 01 05.3 -4.0
APLL *e*S **Sn** 12 01 58.0 +1.7
BO01 Tunca 4.14 178 Pn **Pn** 12 01 09.9 +0.6
BO01 Tunca 4.14 178 *e*P **Pn** 12 01 09.4 +0.1
BO01 Tunca 4.14 178 *e*P Pn 12 00 59.1 -10
BO01 *e*S **Sn** 12 01 56.7 +0.2
BO01 IAML 12 02 09.5
comp=Z,620nm,1.3s
BO03 Pichilemu 4.28 187 *e*P **Pn** 12 01 10.4 -0.8
BO02 Sierra Bellavi 4.56 175 Pn **Pn** 12 01 16.2 +1.0
BO02 Sierra Bellavi 4.56 175 *e*P **Pn** 12 01 15.7 +0.5
BO02 Sierra Bellavi 4.56 175 *e*P **Pn** 12 01 16.2 +1.0
BO02 *e*S **Sn** 12 02 08.4 +1.5
BO02 IAML 12 02 10.0
comp=Z,594nm,0.1s

CYA Choya 5.12 71 *e*P **Pn** 12 01 18.9 -4.0
CYA *e*S **Sn** 12 02 15.6 -5.2
CYA IAML 12 02 27.1
comp=Z,512nm,1.2s
GO02 Mina Guanaco 5.28 17 Pn **Pn** 12 01 25.4 0.0
GO02 Mina Guanaco 5.28 17 *e*S **Sn** 12 02 30.8 +5.7
PB14 IPOC Station P 5.65 8 Pn **Pn** 12 01 29.1 -1.3
BI02 San Fabin de 6.40 180 Pn **Pn** 12 01 40.1 -0.3
H03N1 Juan Fernandez 7.22 242 P **Pn** 12 01 51.5 +0.2
baz=112,slow=19,SNR=1146
H03N1 T T 12 08 49.0
baz=71,slow=72,SNR=393
H03N2 Juan Fernandez 7.23 242 P **Pn** 12 01 51.7 +0.3
baz=112,slow=19,SNR=904
H03N2 T T 12 08 58.0
baz=71,slow=72,SNR=420
H03N3 Juan Fernandez 7.23 242 P **Pn** 12 01 51.5 0.0
baz=112,slow=19,SNR=816
H03N3 T T 12 08 57.5
baz=71,slow=72,SNR=285
VA04 Juan Fernndez 7.24 240 **Pn** 12 01 51.1 -0.7
H03S3 Juan Fernandez 7.38 239 P **Pn** 12 01 52.6 -0.8
baz=38,slow=18,SNR=29
H03S1 Juan Fernandez 7.38 239 P **Pn** 12 01 52.5 -1.0
baz=38,slow=18,SNR=11
H03S2 Juan Fernandez 7.40 239 P **Pn** 12 01 52.9 -0.8
baz=38,slow=18,SNR=15
PB05 IPOC Station P 7.43 8 Pn **Pn** 12 01 54.5 -0.1
PLCA Paso Flores 10.48 177 P **Pn** 12 02 35.8 -0.4
comp=Z,0.5nm,0.4s,baz=347,slow=9.0,SNR=6.9
PLCA LR LR 12 06 37.0
comp=Z,336nm,21.0s,baz=330,slow=37
TRQA Tornquist 10.96 138 Pn **Pn** 12 02 41.5 -1.2
CPUP Villa Florida 12.91 76 P **Pn** 12 03 07.5 -1.9
comp=Z,3.0nm,0.7s,baz=262,slow=9.5,SNR=6.5
CPUP LR LR 12 08 39.7
comp=Z,357nm,18.9s,baz=247,slow=40
TBOT Tacuaremb 13.26 100 *e*P **Pn** 12 03 12.0 -2.0
LPAZ La Paz 14.19 13 P **Pn** 12 03 28.0 +0.9
comp=Z,4.5nm,0.6s,baz=177,slow=6.1,SNR=14
SJPY San Joaquin 14.45 72 *e*P **Pn** 12 03 28.8 -1.0
PLTB Pedras Altas 15.25 100 Pn **Pn** 12 03 37.6 -2.6
PLTB Pedras Altas 15.25 100 *e*P **Pn** 12 03 36.4 -3.8
CPSB Cacapava Do Su 15.43 95 *e*P **Pn** 12 03 41.1 -1.3
AMBA Amambai (Brazi 16.30 67 *e*P **Pn** 12 03 51.4 -2.1
SIV San Ignacio 17.01 36 P **Pn** 12 04 02.4 0.0
comp=Z,11nm,0.8s,baz=218,slow=9.1,SNR=20
ITAB Concordia 17.08 85 Pn **Pn** 12 04 03.1 0.0
ITAB IAmb IAmb 12 04 07.3
comp=Z,64nm,1.1s
ITAB Concordia 17.08 85 *e*P **Pn** 12 04 02.0 -1.2
AQDB Aquidauana 17.11 59 Pn **Pn** 12 04 01.6 -2.0
AQDB Aquidauana 17.11 59 *e*P **Pn** 12 04 00.8 -2.8
CNLB Canela 17.78 92 *e*P **Pn** 12 04 13.0 +1.2
PTGB Pitanga 17.93 77 *e*P **P** 12 04 12.8 -0.7
PTLB Pontes e Lacer 18.48 40 P **Pn** 12 04 20.1 -0.3
PTLB Pontes e Lacer 18.48 40 *e*P **P** 12 04 18.3 -1.2
RPRD Ribas do Rio P 18.62 63 *e*P **Pn** 12 04 21.7 -0.3
LDASE Londrina, Braz 19.25 74 *e*P **P** 12 04 26.6 -1.4
MAJ01 Sao Joao Batis 19.73 87 *e*P **P** 12 04 32.5 -0.7
VILB Vilhena 20.04 33 P **P** 12 04 36.7 +0.1
VILB Vilhena 20.04 33 *e*P **P** 12 04 36.4 -0.1
SALV Santo Antonio 20.21 49 *e*P **P** 12 04 38.0 -0.4
FRTB Fartura 20.57 76 *e*P **P** 12 04 41.8 -0.5
ITRB Iturama 21.66 66 *e*P **P** 12 04 53.1 -0.8
CZSB Cruzeiro do Su 22.44 356 *e*P **P** 12 05 01.4 -1.0
VAO Valinhos 22.89 77 P **P** 12 05 05.9 -1.3
VAO Valinhos 22.89 77 *e*P **P** 12 05 05.7 -1.5
PDRB Porto dos Gac 22.95 39 *e*P **P** 12 05 07.9 +0.1
ARAG Araguaiana, MT 23.00 55 *e*P **P** 12 05 07.8 -0.4
IPMB Ipameri, GO 24.30 65 *e*P **P** 12 05 18.3 -2.0
PMNB Patos De Minas 25.41 68 *e*P **P** 12 05 30.1 -0.3
BDFB Brasilia 25.83 61 P **P** 12 05 33.6 -0.7
BDFB IAmb IAmb 12 05 58.9
comp=Z,18nm,0.8s
BDFB Brasilia 25.83 61 P **P** 12 05 33.2 -1.1
comp=Z,10nm,0.7s,baz=234,slow=8.6,SNR=17
BDFB LR LR 12 16 43.6
comp=Z,296nm,18.9s,baz=201,slow=38
comp=Z,10nm,0.7s
SNDB Serra Nova Dou 25.98 50 *e*P **P** 12 05 34.5 -1.0
TEFE Tefe 27.33 15 *e*P **P** 12 05 47.9 +0.4
JANB Januaria 29.03 65 *e*P **P** 12 06 01.8 -1.0
SJMB Sao Joao De Ma 29.63 74 *e*P **P** 12 06 07.3 -0.7
SDBA SAO DESIDERIO 30.20 60 *e*P **P** 12 06 11.9 -1.4
CMC01 Camacan, BA 32.69 70 *e*P **P** 12 06 34.7 -0.3
BOAV Boa Vista 34.05 19 **P** 12 06 46.8 0.0
BOAV IAmb IAmb 12 06 47.8
comp=Z,15nm,0.8s
BOAV Boa Vista 34.05 19 *e*P **P** 12 06 46.8 0.0
PMSA Palmer Station 34.85 175 LR LR 12 21 33.8
comp=Z,122nm,18.8s,baz=312,slow=37
ROSC El Rosal 35.00 355 LR LR 12 21 23.9
comp=Z,71nm,21.5s,baz=226,slow=36
RUSC La Rusia 35.97 357 P **P** 12 07 04.7 +0.8
SDV Santo Domingo 38.91 1 P **P** 12 07 27.6 -0.8
SDV Santo Domingo 38.91 1 LR LR 12 25 07.4
comp=Z,52nm,21.8s,baz=78,slow=38
SDV Santo Domingo 38.91 1 *e*P **P** 12 07 27.9 -0.6
MDP Montagnes des 39.43 30 LR LR 12 24 43.3
comp=Z,118nm,19.0s,baz=230,slow=37
RCBR Riachuelo 41.21 61 LR LR 12 26 36.7
comp=Z,43nm,19.8s,baz=244,slow=38
JTS Las Juntas de 42.39 340 LR LR 12 24 18.9
comp=Z,15nm,18.2s,baz=111,slow=34
CELP Cerrillos 48.25 6 P **P** 12 08 43.3 +0.1
BELA Belgrano 2 50.46 171 P **P** 12 08 59.6 +0.2
BELA IAmb IAmb 12 09 01.4
comp=Z,11nm,0.9s
PTCN Pitcairn Islan 51.84 261 P **P** 12 09 07.4 -3.1
VNA3 Neumayer Olymp 52.61 159 ⇑P **P** 12 09 16.1 +0.6
comp=Z,6.2nm,0.8s
TEIG Tepich 52.77 340 P **P** 12 09 18.3 +1.0
TEIG pP **pP** 12 09 34.7 +0.9
VNA2 Neumayer--Watz 53.24 158 ⇑P **P** 12 09 20.6 +0.4
comp=Z,12nm,0.7s,baz=280,slow=8.9
SNAA Sanae 54.84 159 P **P** 12 09 32.0 +0.2
comp=Z,18nm,1.0s,baz=275,slow=5.8,SNR=18
SNAA LR LR 12 32 58.8
comp=Z,64nm,18.5s,baz=308,slow=36
comp=Z,18nm,1.0s
TROLL Troll, Antarti 56.55 159 ⇑P **P** 12 09 44.6 +0.4
comp=Z,551nm,0.8s
QSPA South Pole Qui 59.98 180 P **P** 12 10 08.2 0.0
QSPA South Pole Qui 59.98 180 P **P** 12 10 08.7 +0.5
comp=Z,14nm,0.7s,baz=149,slow=2.7,SNR=73
comp=Z,14nm,0.7s
QSPA South Pole Qui 59.98 180 P **P** 12 10 09.0 +0.7
QSPA pP **pP** 12 10 25.2 -0.1
QSPA sP **sP** 12 10 32.3 -0.4
X48A Hartselle 66.04 346 IAmb IAmb 12 10 50.0
comp=Z,12nm,0.8s
V53A Saluda 66.45 350 IAmb IAmb 12 10 52.5
comp=Z,5.8nm,0.8s
CPCT Cooper Cave 66.52 348 IAmb IAmb 12 10 53.1
comp=Z,7.0nm,0.8s
PLAL Pickwick Lake 66.78 345 P **P** 12 10 52.7 -0.5
PLAL IAmb IAmb 12 10 54.0
comp=Z,5.9nm,0.8s
TXAR Lajitas Array 66.80 329 P **P** 12 10 54.5 +0.9
comp=Z,1.2nm,0.9s,baz=146,slow=9.2,SNR=12
TXAR LR LR 12 34 55.6
comp=Z,23nm,18.4s,baz=72,slow=31
comp=Z,1.2nm,0.9s
T59A Double "B" Far 67.12 355 P **P** 12 10 56.6 +1.3
V48A Smith Brothers 67.24 346 IAmb IAmb 12 10 57.7
comp=Z,21nm,1.4s
WVT Waverly 67.83 346 P **P** 12 10 59.9 +0.1
WVT IAmb IAmb 12 11 01.1
comp=Z,11nm,0.9s
WVT Waverly 67.83 346 P **P** 12 11 00.1 +0.3
WVT pP **pP** 12 11 16.8 -0.3
WVT sP **sP** 12 11 23.6 -0.6
VNDA Vanda 67.90 191 P **P** 12 11 01.0 +1.2
comp=Z,1.6nm,0.9s,baz=170,slow=5.5,SNR=4.4
comp=Z,1.6nm,0.9s
VNDA Vanda 67.90 191 P **P** 12 11 01.4 +1.6
R58B Mineral 68.13 354 IAmb IAmb 12 11 04.2
comp=Z,11nm,0.9s
LCAR Lake Charles 68.55 343 IAmb IAmb 12 11 06.0
comp=Z,5.9nm,0.6s
APMT Aspermont 68.86 334 IAmb IAmb 12 11 08.6
comp=Z,7.3nm,0.9s
BBTS Babate 69.08 58 LR LR 12 39 41.1
comp=Z,38nm,21.2s,baz=309,slow=34

FVM French Village 70.19 344 IAmb IAmb 12 11 16.8
comp=Z,12nm,1.1s
MSTX Muleshoe 70.45 333 IAmb IAmb 12 11 35.6
comp=Z,19nm,1.1s
SSPA Standing Stone 70.79 355 P **P** 12 11 19.1 +1.1
R40A Maddies Statio 70.94 343 IAmb IAmb 12 11 20.3
comp=Z,10nm,0.7s
PPT2 Papeete2 71.44 260 *e*LR LR 12 33 13.7
comp=Z,91nm,25.2s
DBIC Dimbokro 73.40 72 P **P** 12 11 34.1 -0.2
DBIC IAmb IAmb 12 11 35.0
comp=Z,16nm,1.1s
DBIC Dimbokro 73.40 72 P **P** 12 11 33.5 -0.7
comp=Z,7.0nm,0.8s,baz=222,slow=6.6,SNR=6.7
DBIC LR LR 12 41 59.9
comp=Z,57nm,18.9s,baz=176,slow=34
comp=Z,7.0nm,0.8s
T25A Trinidad 73.86 333 IAmb IAmb 12 11 57.3
comp=Z,11nm,1.0s
SDCO Great Sand Dun 74.82 333 IAmb IAmb 12 12 02.7
comp=Z,20nm,1.8s
Q24A Divide 75.73 333 IAmb IAmb 12 12 08.0
comp=Z,12nm,1.2s
ECSD EROS Data Cent 77.19 341 IAmb IAmb 12 11 57.2
comp=Z,18nm,1.1s
KNB Kanab 77.40 327 IAmb IAmb 12 12 18.1
comp=Z,8.1nm,1.2s
WIN Windhoek 77.67 109 P **P** 12 11 59.3 +0.4
WIN IAmb IAmb 12 12 00.5
comp=Z,18nm,1.0s
MTPU Mount Pierson 77.94 328 IAmb IAmb 12 12 03.1
comp=Z,16nm,1.8s
SRU San Rafael Swe 78.07 330 IAmb IAmb 12 12 21.4
comp=Z,9.9nm,1.3s
RAR Rarotonga 78.36 252 LR LR 12 37 07.2
comp=Z,71nm,21.4s,baz=148,slow=28
P18A Preston Nutter 78.38 330 IAmb IAmb 12 12 23.8
comp=Z,8.9nm,1.1s
K22A Casper 79.44 334 IAmb IAmb 12 12 28.4
comp=Z,11nm,1.1s
TSUM Tsumeb 79.64 106 P **P** 12 12 09.6 -0.1
SPR3 Spring Creek 3 79.70 327 IAmb IAmb 12 12 12.5
comp=Z,12nm,1.6s
PDAR Pinedale Array 80.72 332 P **P** 12 12 15.6 +0.6
comp=Z,0.4nm,0.6s,baz=160,slow=4.7,SNR=5.0
comp=Z,0.4nm,0.6s
NVAR Mina Array Bea 81.18 324 P **P** 12 12 19.2 +1.7
comp=Z,0.4nm,0.5s,baz=163,slow=6.2,SNR=6.9
comp=Z,0.4nm,0.5s
BOSA Boshof 81.26 118 P **P** 12 12 17.8 -0.5
comp=Z,20nm,0.8s,baz=248,slow=5.3,SNR=29
comp=Z,20nm,0.8s
PNTR Pine Nut 82.34 324 IAmb IAmb 12 12 26.9
comp=Z,6.7nm,0.9s
LAO LASA Array 82.82 337 IAmb IAmb 12 12 27.8
comp=Z,8.6nm,1.0s
ULM Lac du Bonnet 83.05 344 IAmb IAmb 12 12 28.0
comp=Z,7.9nm,0.9s
ULM Lac du Bonnet 83.05 344 P **P** 12 12 26.5 -0.2
comp=Z,5.4nm,0.8s,baz=155,slow=4.4,SNR=12
comp=Z,5.4nm,0.8s
LBTB Lobatse 83.31 115 LR LR 12 45 17.5
comp=Z,48nm,21.6s,baz=184,slow=32
J08A Circle Bar Ran 85.06 328 IAmb IAmb 12 12 40.6
comp=Z,9.0nm,1.2s
PLID Pearl Lake 85.30 330 IAmb IAmb 12 12 40.9
comp=Z,6.5nm,1.1s
PINE Pine Mountain 86.55 326 IAmb IAmb 12 12 47.7
comp=Z,4.5nm,0.8s
LSZ Lusaka 90.37 108 P **P** 12 13 04.7 +1.1
FCC Fort Churchill 90.68 348 IAmb IAmb 12 13 05.2
comp=Z,6.1nm,0.8s
ESDC Sonseca Array 93.52 46 LR LR 12 52 38.1
comp=Z,34nm,19.4s,baz=176,slow=34
YKA Yellowknife Ar 98.71 341 P **P** 12 13 40.1 -0.1
comp=Z,0.6nm,0.7s,baz=141,slow=4.7,SNR=15
comp=Z,0.6nm,0.7s
DZM Mont Dzumac 103.95 234 *e*LR LR 12 48 18.1
comp=Z,84nm,24.6s
AKASG Malin Array Be 119.16 46 PKP **PKPdf** 12 18 48.4 -1.4
comp=Z,2.4nm,0.8s,baz=263,slow=2.8,SNR=6.1
BRTR Keskin Array B 119.41 59 PKP **PKPdf** 12 18 50.6 -0.3
comp=Z,1.0nm,0.7s,baz=163,slow=4.5,SNR=5.6
WRA Warramunga Arr 124.33 210 PKP **PKPdf** 12 18 60.0 -0.9
comp=Z,1.0nm,0.8s,baz=153,slow=1.9,SNR=3.5
H11S2 WAKE ISLAND Hyl 26.38 271 T T 14 38 19.6
baz=115,slow=75,SNR=127
H11S1 WAKE ISLAND Hyl 26.39 271 T T 14 38 19.2
baz=115,slow=75,SNR=131
H11S3 WAKE ISLAND Hyl 26.39 271 T T 14 38 09.4
baz=115,slow=75,SNR=94
H11N3 WAKE ISLAND Hyl 26.69 273 T T 14 38 33.1
baz=113,slow=74
H11N1 WAKE ISLAND Hyl 26.71 273 T T 14 38 45.3
baz=113
H11N2 WAKE ISLAND Hyl 26.71 273 T T 14 38 34.5
baz=113,slow=74
KBZ Khabaz 127.04 56 PKP **PKiKP** 12 19 06.7 +1.0
comp=Z,2.5nm,0.9s,baz=226,slow=3.6,SNR=5.7
ARTI Arti 136.37 38 PKP **PKPdf** 12 19 22.9 +0.5
comp=Z,4.2nm,0.9s,baz=212,slow=3.7,SNR=4.8
AKTO Aktyubinsk 137.39 47 PKP **PKPdf** 12 19 23.2 -1.4
comp=Z,1.5nm,0.5s,baz=288,slow=4.2,SNR=4.7
BVAR Borovoye Array 144.05 40 PKP **PKPdf** 12 19 35.6 -0.8
comp=Z,5.0nm,0.6s,baz=312,slow=3.0,SNR=17
EKS2 Erkin-Say 149.51 56 P **PKiKP** 12 19 51.8 +0.1
SNR=12
AML Almayashu 149.56 57 P **PKiKP** 12 19 52.1 -0.1
SNR=15
KURBB Kurchatov Arra 149.64 39 PKP **PKPdf** 12 19 46.1 +0.2
comp=Z,4.2nm,1.0s,baz=299,slow=2.5,SNR=6.9
KURBB PKPbc **PKiKP** 12 19 51.2 -0.4
comp=Z,11nm,0.7s,baz=301,slow=3.1,SNR=11
USP Ospenovka 149.89 55 P **PKiKP** 12 19 52.4 -0.1
SNR=15
AAK Ala-Archa 150.04 56 P **PKiKP** 12 19 53.3 +0.4
SNR=26
ZALV Zalesovo Beam 150.69 29 PKPbc **PKiKP** 12 19 53.3 -0.3
comp=Z,51nm,0.7s,baz=236,slow=1.1,SNR=22
TKM2 Tokmak 2 150.76 55 P **PKiKP** 12 19 54.6 +0.1
SNR=17
ULHL Ulahol 151.38 56 P **PKiKP** 12 19 56.5 +0.8
SNR=13
KSH Kashi 151.73 62 PKPbc **PKiKP** 12 19 56.8 +0.4
KSH pPKP **PKPab** 12 20 04.4 -0.8
MKAR Makanchi Array 153.72 44 PKP **PKPdf** 12 19 50.6 -1.6
comp=Z,1.3nm,0.8s,baz=342,slow=1.5,SNR=11
MKAR PKPbc **PKiKP** 12 20 00.4 +0.2
comp=Z,3.2nm,0.7s,baz=325,slow=2.4,SNR=24
MKAR PKPab **PKPab** 12 20 12.8 -0.3
comp=Z,3.9nm,0.9s,baz=289,slow=3.7,SNR=12
BNX BinXian 158.71 322 ⇓P **PKPdf** 12 19 58.0 -0.7
SONM Songino Array 162.34 5 PKP **PKPdf** 12 20 02.7 -0.1
comp=Z,0.3nm,0.6s,baz=358,slow=2.5,SNR=3.5
SONM PKPab **PKPab** 12 20 51.3 +0.9
comp=Z,1.8nm,0.8s,baz=323,slow=4.3,SNR=9.7
CMAR Chiang Mai Arr 165.29 141 PKP **PKPdf** 12 20 05.2 -1.1
comp=Z,0.7nm,0.3s,baz=255,slow=2.5,SNR=4.1
CMAR PKPab **PKPab** 12 21 02.6 -1.4
comp=Z,0.4nm,0.3s,baz=203,slow=2.9,SNR=4.0
GOMU GeErMu 166.95 59 PKP **PKPdf** 12 20 07.9 +0.3
GTA Gaotai 168.31 36 *e*PKP **PKPdf** 12 20 08.9 +0.8
GTA sPKP 12 20 29.9
GTA PKPab **PKPab** 12 21 17.5 +0.5
HHC Hu-ho-hao-te 169.16 348 *e*P **PKPdf** 12 20 14.2 +5.6
NJ2 Nanjing 171.11 284 *e*P **PKPdf** 12 20 10.4 +0.6
LZH Lanzhou 172.89 34 *e*PKP **PKPdf** 12 20 06.8 -3.9
LZH sPKP 12 20 23.6

*IDC **04** 12:09:30.9±5.0, 36°.65N×71°.49E, h102km±40km, mb3.5/10, mbtmp3.9/16, MS2.4/1, Error ellipse: s-maj=38.2km s-min=20.4km az=8.0*
*NNC **04** 12:09:34.1±1.4, 37°.00N×71°.17E, h108km±28km, mb3.3, mpv3.9, Error ellipse: s-maj=14.7km s-min=10.3km az=137.0*
ISC 04 12:09:32.0±1.1, 36°.8N±0°.1×71°.4E±0°.1, h106km, n26, σ1°.02/30, mb3.7/10, 2C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=82	**5.61**	**18**	P		**Pn**	**12 10 54.1**	**+0.7**
EKS2	**Erkin-Say** SNR=11	**6.13**	**17**	P		**Pn**	**12 11 00.8**	**+0.7**
AAK	**Ala-Archa**	**6.30**	**21**	P		**Pn**	**12 11 03.4**	**+1.0**

11nm,0.3s,baz=170,slow=6.3,SNR=32
AAK S **Sn** **12 12 13.0 0.0**
4.1nm,0.3s,baz=135,slow=19,SNR=6.0
AAK LR LR 12 13 55.2
comp=Z,35nm,20.2s,baz=161,slow=41
AAK Ala-Archa 6.30 21 P **Pn** **12 11 03.5 +1.0**
SNR=15
AAK Ala-Archa 6.30 21 ⇑P **Pn** **12 11 03.3 +1.0**
5.9nm,0.3s
AAK S **Sn** **12 12 12.9 0.0**
6.7nm,0.6s
KK31 Karatay Array 6.32 354 ⇑P **Pn** **12 11 01.9 -0.8**
4.8nm,0.5s,baz=190,slow=14,SNR=61
KK31 ⇓S **Sn** **12 12 11.0 -2.5**
6.7nm,0.5s,baz=179,slow=20,SNR=5.8
USP Ospenovka 6.88 19 P **Pn** **12 11 10.5 +0.2**
SNR=6.2
TKM2 Tokmak 2 6.91 27 P **Pn** **12 11 11.5 +0.7**
SNR=6.1
TKM2 Tokmak 2 6.91 27 ⇓P **Pn** **12 11 11.2 +0.4**
3.6nm,0.6s
TKM2 ⇓S **Sn** **12 12 28.3 +0.3**
2.8nm,0.6s
MKAR Makanchi Array 12.86 36 P **Pn** **12 12 29.5 -1.3**
0.6nm,0.8s,baz=221,slow=13,SNR=5.3
KURBB Kurchatov Arra 14.73 18 P **P** **12 12 57.5 -0.7**
1.0nm,0.7s,baz=207,slow=10,SNR=9.3
AB31 Akbulak array 14.97 330 ⇓P **Pn** **12 12 55.9 -2.0**
0.4nm,0.3s,baz=170,slow=11,SNR=6.2
BVAR Borovoye Array 16.23 358 P **Pn** **12 13 14.2 +0.5**
1.1nm,0.4s,baz=155,slow=14,SNR=306
AKTO Aktyubinsk 16.67 329 P **Pn** **12 13 18.8 -0.3**
3.1nm,0.4s,baz=147,slow=9.7,SNR=10.0
AKTO Aktyubinsk 16.67 329 ⇓P **Pn** **12 13 18.4 -0.7**
2.4nm,0.7s
ZALV Zalesovo Beam 19.51 24 P **P** **12 13 50.9 +0.2**
3.6nm,0.3s,baz=213,slow=9.9,SNR=21
ARTI Arti 21.46 340 P **P** **12 14 12.3 +0.7**
1.6nm,0.4s,baz=176,slow=9.6,SNR=3.9
1.6nm,0.4s
SONM Songino Array 27.91 56 P **P** **12 15 13.1 +1.0**
0.4nm,0.7s,baz=283,slow=8.4,SNR=2.6
0.4nm,0.7s
BRTR Keskin Array B 29.64 287 P **P** **12 15 28.8 +1.3**
0.8nm,0.6s,baz=103,slow=11,SNR=3.0
0.8nm,0.6s
FINES FINESS Array B 37.40 326 P **P** **12 16 35.1 +0.8**
0.8nm,0.5s,baz=127,slow=9.4,SNR=7.1
0.8nm,0.5s
ARCESS ARCESS Array B 40.98 337 P **P** **12 17 04.8 +0.8**
1.3nm,0.5s,baz=111,slow=6.9,SNR=7.0
1.3nm,0.5s
NOA NORSAR Array B 44.32 323 P **P** **12 17 31.5 +0.4**
0.6nm,0.4s,baz=98,slow=8.4,SNR=5.5
0.6nm,0.4s
TIXI Tiksi 45.37 22 P **P** **12 17 39.3 0.0**
2.3nm,0.4s,baz=196,slow=2.4,SNR=4.1
2.3nm,0.4s
ESDC Sonseca Array 57.59 298 P **P** **12 19 11.4 +0.6**
0.6nm,0.7s,baz=61,slow=7.7,SNR=4.1
0.6nm,0.7s
YKA Yellowknife Ar 80.92 3 P **P** **12 21 33.7 -0.4**
0.1nm,0.6s,baz=353,slow=5.4,SNR=1.9
0.1nm,0.6s
WRA Warramunga Arr 81.89 122 P **P** **12 21 37.7 -2.2**
0.4nm,0.5s,baz=314,slow=6.3,SNR=1.3
0.4nm,0.5s

---

*IDC **04** 12:14:19.6±3.6, 13°.27N×51°.26E, h0km, mb3.7/7, mbtmp3.7/7, MS3.4/16, Error ellipse: s-maj=94.0km s-min=35.6km az=79.0*

ISC 04 12:14:23.0±3.6, 13°.3N±0°.3×51°.4E±0°.6, h18km, n21, σ0s55/7, mb3.8/7, MS3.4/16, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.50**	**259**	LR	LR	12 18 31.7	
	comp=Z,13nm,19.2s,baz=109,slow=30						
KMBO	**Kilima Mbogo**	**20.04**	**225**	LR	LR	12 26 08.4	
	comp=Z,134nm,19.1s,baz=82,slow=36						
ASF	**Jabal al Asfar**	**22.97**	**327**	LR	LR	12 29 46.9	
	comp=Z,44nm,20.4s,baz=128,slow=40						
MMAI	**Mount Meron Ar**	**24.42**	**326**	LR	LR	12 29 02.1	
	comp=Z,48nm,21.1s,baz=169,slow=36						
KBZ	**Khabaz**	**31.16**	**348**	LR	LR	12 35 22.6	
	comp=Z,111nm,20.5s,baz=158,slow=40						
AAK	**Ala-Archa**	**35.41**	**30**	LR	LR	12 37 55.5	
	comp=Z,60nm,18.7s,baz=214,slow=40						
AKTO	**Aktyubinsk**	**37.41**	**7**	LR	LR	12 40 17.7	
	comp=Z,110nm,18.8s,baz=3.5,slow=42						
MKAR	**Makanchi Array**	**42.26**	**32**	P	**P**	**12 22 15.0**	**-0.5**
	0.3nm,0.4s,baz=218,slow=8.6,SNR=5.0						
MKAR				LR	LR	12 41 01.0	
	comp=Z,49nm,21.4s,baz=176,slow=38						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**42.41**	**17**	P	**P**	**12 22 16.3**	**-0.2**
	0.6nm,0.6s,baz=210,slow=8.3,SNR=2.0						
BVAR				LR	LR	12 41 30.6	
	comp=Z,43nm,20.0s,baz=186,slow=38						
	0.6nm,0.6s						
ARTI	**Arti**	**43.32**	**6**	LR	LR	12 43 51.6	
	comp=Z,48nm,18.6s,baz=185,slow=41						
KIRV	**Kirov**	**45.20**	**359**	LR	LR	12 46 18.9	
	comp=Z,74nm,18.3s,baz=167,slow=42						
CMAR	**Chiang Mai Arr**	**45.95**	**77**	P	**P**	**12 22 45.6**	**+0.2**
	2.0nm,0.6s,baz=274,slow=8.9,SNR=15						
CMAR				LR	LR	12 42 16.6	
	comp=Z,9.8nm,18.1s,baz=265,slow=36						
	2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**48.34**	**26**	P	**P**	**12 23 04.1**	**+0.6**
	0.4nm,0.4s,baz=231,slow=9.1,SNR=1.8						
	0.4nm,0.4s						
BOSA	**Boshof**	**48.74**	**211**	LR	LR	12 43 04.5	
	comp=Z,77nm,19.7s,baz=48,slow=36						
SUR	**Sutherland**	**54.03**	**212**	LR	LR	12 48 14.0	
	comp=Z,125nm,18.0s,baz=336,slow=38						
NOA	**NORSAR Array B**	**55.80**	**338**	LR	LR	12 51 35.7	
	comp=Z,23nm,18.3s,baz=250,slow=40						
SONM	**Songino Array**	**56.97**	**41**	P	**P**	**12 24 07.7**	**0.0**
	0.9nm,1.0s,baz=255,slow=5.8,SNR=5.2						
	0.9nm,1.0s						
BORG	**Borgarnes**	**70.67**	**334**	LR	LR	12 59 11.6	
	comp=Z,23nm,18.8s,baz=193,slow=38						
TIXI	**Tiksi**	**73.51**	**19**	LR	LR	13 01 45.8	
	comp=Z,44nm,18.2s,baz=201,slow=39						
WRA	**Warramunga Arr**	**88.03**	**111**	P	**P**	**12 27 12.3**	**-0.6**
	0.6nm,0.9s,baz=296,slow=4.0,SNR=5.3						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**88.60**	**115**	P	**P**	**12 27 15.9**	**+0.3**
	0.5nm,0.8s,baz=291,slow=4.3,SNR=3.9						
	0.5nm,0.8s						

IDC 04 12:14:42.3±2.6, 6°.09S×130°.24E, h0km, mb3.6/1, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=110.2km s-min=30.2km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.75**	**200**	Pn	Pn	12 17 44.5	-0.4
	0.4nm,0.3s,baz=24,slow=12,SNR=18						
FITZ				Sn	Sn	12 19 54.7	-13
	0.9nm,0.3s,baz=338,slow=18,SNR=8.8						
	1.3nm,0.3s						
WRA	**Warramunga Arr**	**14.33**	**164**	Pn	Pn	12 18 06.8	+0.1
	0.4nm,0.3s,baz=347,slow=14,SNR=23						
WRA				Sn	Sn	12 20 33.3	-13
	1.0nm,0.3s,baz=348,slow=23,SNR=9.4						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**17.83**	**169**	P	Pn	12 18 52.2	+0.2
	0.2nm,0.3s,baz=342,slow=9.1,SNR=10						
ASAR				S	Sn	12 21 56.6	-15
	1.0nm,0.7s,baz=347,slow=27,SNR=6.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**67.60**	**327**	P	P	12 25 40.9	0.0
	0.3nm,0.5s,baz=121,slow=7.2,SNR=2.8						
	0.3nm,0.5s						

---

*IDC **04** 12:19:17.3±1.4, 56°.28N×149°.01W, h0km, mb3.7/5, mbtmp3.7/10, ML3.4/5, MS3.3/16, Error ellipse: s-maj=26.9km s-min=19.1km az=25.0*
*NEIC **04** 12:19:19.9±0.8, 56°.4N±0°.1×148°.9W±0°.2, h19km±11km, ML3.7/58, ML3.7(AEIC), Error ellipse: s-maj=22.0km s-min=11.1km az=154.0*
*AEIC **04** 12:19:19.2±1.4, 56°.4N±0°.1×149°.1W±0°.2, h0km±9km, Error ellipse: s-maj=20.2km s-min=10.8km az=155.0*

ISC 04 12:19:18.4±0.8, 56°.38N±0°.07×148°.85W±0°.05, h10km, n85, σ1s83/70, mb3.9/5, MS3.3/11, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.47**	**306**	Pn	**Pn**	**12 19 58.7**	**0.0**
KDAK	**Kodiak Island**	**2.47**	**306**	Pn	**Pn**	**12 19 57.9**	**-0.8**
	5.7nm,0.3s,baz=110,slow=14,SNR=227						
KDAK				Sn	**Sn**	**12 20 24.1**	**-4.8**
	5.9nm,0.3s,baz=143,slow=20,SNR=12						
KDAK				LR	LR	12 21 11.6	
	comp=Z,676nm,18.9s,baz=326,slow=46						
	12nm,0.2s						
OHAK	**Old Harbor**	**2.58**	**291**	Pn	**Pn**	**12 19 59.5**	**-0.7**
SII	**Sitkinak Islan**	**2.96**	**276**	Pn	**Pn**	**12 20 05.3**	**-0.2**
SII				IAML		12 20 37.8	
	comp=E,199nm,0.9s						
SII				IAML		12 20 38.0	
	comp=N,248nm,1.0s						
SII	**Sitkinak Islan**	**2.96**	**276**	P	**Pn**	**12 20 05.6**	**+0.1**
CNPM	**China Poot**	**3.40**	**339**	Pn	**Pn**	**12 20 11.8**	**+0.3**
CNPM				IAML		12 20 55.0	
	comp=E,117nm,1.2s						
BRLK	**Bradley Lake**	**3.56**	**343**	Pn	**Pn**	**12 20 13.8**	**+0.1**
BRLK				IAML		12 20 57.8	
	comp=E,98nm,0.4s						
Q19K	**Cape Douglas,**	**3.63**	**317**		**Pn**	**12 20 15.9**	**+1.3**
P23K	**Montague Islan**	**3.71**	**11**	Pn	**Pn**	**12 20 15.9**	**+0.3**
P23K				IAML		12 20 59.6	
	comp=N,215nm,0.3s						
SEW	**Seward**	**3.75**	**355**		**Pn**	**12 20 15.9**	**-0.3**
CHIR	**Chirikof Islan**	**3.83**	**264**	P	**Pn**	**12 20 17.7**	**+0.3**
ACHA	**Angle Creek He**	**3.96**	**300**		**Pn**	**12 20 20.7**	**+1.5**
SLKM	**Skilak Lake**	**4.20**	**351**	Pn	**Pn**	**12 20 23.6**	**+1.1**
HIN	**Hinchinbrook I**	**4.21**	**16**		**Pn**	**12 20 23.4**	**+0.7**
HIN				IAML		12 21 15.5	
	comp=E,140nm,1.1s						
HIN				IAML		12 21 20.7	
	comp=N,148nm,0.8s						
ILSW	**Iliamna Southw**	**4.27**	**330**		**Pn**	**12 20 23.8**	**+0.3**
ILSW				IAML		12 21 19.2	
	comp=N,101nm,0.8s						
ILSW				IAML		12 21 20.2	
	comp=E,89nm,1.0s						
EYAK	**Cordova Ski Ar**	**4.49**	**20**		**Pn**	**12 20 27.2**	**+0.9**
EYAK				IAML		12 21 17.2	
	comp=N,90nm,1.3s						
EYAK				IAML		12 21 24.1	
	comp=E,88nm,1.3s						
EYAK	**Cordova Ski Ar**	**4.49**	**20**	P	**Pn**	**12 20 27.1**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.49**	**20**	S	**Sn**	**12 21 16.7**	**-1.8**
PWL	**Port Wells**	**4.50**	**3**		**Pn**	**12 20 26.9**	**+0.4**
PWL				IAML		12 21 20.6	
	comp=N,101nm,0.6s						
PWL				IAML		12 21 24.7	
	comp=E,71nm,0.7s						
FID	**Port Fidalgo**	**4.55**	**15**		**Pn**	**12 20 27.8**	**+0.5**
FID				IAML		12 21 19.0	
	comp=N,55nm,0.3s						
FID				IAML		12 21 20.8	
	comp=E,70nm,0.4s						
SUCK	**Suckling Hills**	**4.57**	**34**		**Pn**	**12 20 29.1**	**+1.5**
GLI	**Glacier Island**	**4.60**	**11**	Pn	**Pn**	**12 20 29.0**	**+1.0**
GLI				IAML		12 21 21.1	
	comp=E,83nm,1.4s						
GLI				IAML		12 21 22.0	
	comp=N,71nm,0.9s						
RC01	**Rabbit Creek A**	**4.74**	**355**	Pn	**Pn**	**12 20 30.3**	**+0.4**
RC01				IAML		12 21 25.2	
	comp=N,72nm,0.3s						
RC01				IAML		12 21 38.0	
	comp=E,84nm,1.2s						
O19K	**Port Alsworth**	**4.79**	**325**		**Pn**	**12 20 31.1**	**+0.6**
DIV	**Divide**	**5.02**	**17**		**Pn**	**12 20 35.1**	**+1.2**
KNK	**Knik Glacier**	**5.05**	**2**		**Pn**	**12 20 34.6**	**+0.4**
KNK				IAML		12 21 38.9	
	comp=N,34nm,0.7s						
KNK				IAML		12 21 40.7	
	comp=E,41nm,1.0s						
BMRM	**Bremner River**	**5.10**	**24**	Pn	**Pn**	**12 20 36.1**	**+1.2**
BMRM				IAML		12 21 41.2	
	comp=N,51nm,1.4s						
BMRM				IAML		12 21 48.9	
	comp=E,57nm,2.1s						
WAX	**Waxell Ridge**	**5.16**	**35**	IAML		12 21 44.0	
	comp=N,82nm,0.9s						
PMR	**Palmer**	**5.23**	**359**	IAML		12 21 36.4	
	comp=N,31nm,0.4s						
PMR				IAML		12 21 38.6	
	comp=E,35nm,1.1s						
PMR	**Palmer**	**5.23**	**359**	P	**Pn**	**12 20 37.4**	**+0.9**
PMR	**Palmer**	**5.23**	**359**	S	**Sn**	**12 21 33.5**	**-3.3**
N19K	**Bonanza Creek**	**5.33**	**329**	Pn	**Pn**	**12 20 38.0**	**0.0**
KLU	**Klutina**	**5.34**	**15**	IAML		12 21 41.9	
	comp=E,37nm,0.3s						
KLU				IAML		12 21 42.6	
	comp=N,50nm,0.3s						
STLK	**Strandline Lak**	**5.36**	**345**		**Pn**	**12 20 39.1**	**+0.7**
STLK				IAML		12 21 41.4	
	comp=N,40nm,0.3s						
STLK				IAML		12 21 43.7	
	comp=E,32nm,0.8s						
GLB	**Gilahina Butte**	**5.71**	**25**		**Pn**	**12 20 44.4**	**+1.2**
PCA	**Pinnacle**	**5.87**	**47**		**Pn**	**12 20 47.4**	**+2.0**
O16K	**Kokwok River B**	**5.88**	**307**	Pn	**Pn**	**12 20 46.0**	**+0.6**
PNL	**Peninsula**	**6.01**	**53**	P	**Pn**	**12 20 49.2**	**+1.9**
CHNA	**Chernabura Isl**	**6.28**	**260**	P	**Pn**	**12 20 51.1**	**+0.1**
SDPT	**Sand Point**	**6.63**	**266**	P	**Pn**	**12 20 56.5**	**+0.8**
M16K	**Timber Creek**	**7.02**	**316**	Pn	**Pn**	**12 21 01.7**	**+0.5**
TRF	**Thorofare Moun**	**7.13**	**355**	Pn	**Pn**	**12 21 03.6**	**+0.8**
MCK	**McKinley**	**7.38**	**360**	Pn	**Pn**	**12 21 07.8**	**+1.8**
HYT	**Haines Junctio**	**7.41**	**48**	Pn	**Pn**	**12 21 08.8**	**+2.1**
DOT	**Dot Lake**	**7.67**	**16**	Pn	**Pn**	**12 21 12.7**	**+2.5**
SKAG	**Skagway**	**7.83**	**61**	P	**Pn**	**12 21 14.1**	**+1.9**
BESE	**Bessie Mountai**	**7.86**	**68**	Pn	**Pn**	**12 21 14.6**	**+1.9**
JIS	**Juneau Island**	**8.06**	**70**	P	**Pn**	**12 21 16.7**	**+1.4**
FALS	**False Pass**	**8.39**	**266**	P	**Pn**	**12 21 19.7**	**-0.2**
WHY	**Whitehorse**	**8.47**	**54**	Pn	**Pn**	**12 21 23.6**	**+2.5**
ILAR	**Eielson Array**	**8.47**	**6**	Pn	**Pn**	**12 21 20.9**	**-0.1**
	comp=E,0.5nm,0.3s,baz=191,slow=13,SNR=17						
ILAR				Sn	**Sn**	**12 22 52.6**	**-4.0**
	comp=E,0.7nm,0.3s,baz=189,slow=25,SNR=7.4						
	comp=E,1.0nm,0.3s						
COLA	**College**	**8.54**	**3**	P	**Pn**	**12 21 23.5**	**+1.6**
CRAG	**Craig**	**8.88**	**89**	P	**Pn**	**12 21 27.8**	**+1.2**
H02S1	**DAWSON INLET T**	**9.98**	**102**	Pn	**Pn**	**12 21 41.4**	**-0.3**
H02S1				Sn	**Sn**	**12 23 27.7**	**-5.8**
R33M	**Jennings River**	**9.98**	**65**		**Pn**	**12 21 44.0**	**+2.1**
J30M	**Hart River**	**10.26**	**32**	Pn	**Pn**	**12 21 47.9**	**+2.3**
DLBC	**Dease Lake**	**10.36**	**71**	Pn	**Pn**	**12 21 47.6**	**+0.7**
	comp=E,0.6nm,0.3s,baz=249,slow=9.8,SNR=15						
DLBC				Sn	**Sn**	**12 23 40.0**	**-2.9**
	comp=E,0.2nm,0.3s,baz=234,slow=19,SNR=1.0						
DLBC				LR	LR	12 25 11.7	
	comp=E,122nm,18.2s,baz=266,slow=34						
	comp=E,1.2nm,0.3s						
H31M	**Peel River**	**11.73**	**31**	Pn	**Pn**	**12 22 08.0**	**+2.3**
D23K	**Nanushuk River**	**12.66**	**357**		**Pn**	**12 22 21.5**	**+3.3**
BBB	**Bella Bella**	**12.81**	**100**	Sn	**Sn**	**12 24 38.5**	**-4.3**
	comp=E,0.1nm,0.3s,baz=273,slow=19,SNR=1.3						
BBB				LR	LR	12 26 01.2	
	comp=E,122nm,21.4s,baz=274,slow=31						
INK	**Inuvik**	**13.86**	**24**	Pn	**Pn**	**12 22 37.1**	**+2.6**
INK	**Inuvik**	**13.86**	**24**	Pn	**Pn**	**12 22 35.8**	**+1.3**
	comp=E,0.1nm,0.3s,baz=218,slow=14,SNR=7.7						
INK				LR	LR	12 28 09.6	
	comp=E,93nm,20.1s,baz=246,slow=38						
	comp=E,2.9nm,0.9s						
C36M	**Paulatuk**	**17.03**	**31**	Pn	**Pn**	**12 23 16.8**	**+0.5**
YKA	**Yellowknife Ar**	**18.29**	**56**	P	**P**	**12 23 33.7**	**+1.7**
	baz=266,slow=11,SNR=11						
YKA				LR	LR	12 30 26.9	
	comp=E,89nm,18.4s,baz=296,slow=36						
	comp=E,1.3nm,0.9s						
NEW	**Newport**	**20.87**	**99**	LR	LR	12 30 19.4	
	comp=E,57nm,20.5s,baz=274,slow=32						
YBH	**Yreka Blue Hor**	**22.36**	**120**	LR	LR	12 30 51.7	
	comp=E,113nm,21.3s,baz=293,slow=31						
NVAR	**Mina Array Bea**	**27.05**	**119**	P	**P**	**12 25 03.3**	**+2.3**
	comp=E,0.3nm,0.7s,baz=312,slow=12,SNR=0.7						
NVAR				LR	LR	12 33 58.4	
	comp=E,69nm,18.6s,baz=294,slow=32						
	comp=E,0.3nm,0.7s						
RES	**Resolute Bay**	**27.36**	**28**	P	**P**	**12 25 05.5**	**+2.4**
	comp=E,0.6nm,0.8s,baz=253,slow=14,SNR=2.4						
	comp=E,0.6nm,0.8s						
PETK	**Petropavlovsk-**	**30.38**	**287**	LR	LR	12 37 47.2	
	comp=E,37nm,18.3s,baz=59,slow=37						
MA2	**Magadan**	**31.21**	**301**	LR	LR	12 38 12.6	
	comp=E,55nm,21.4s,baz=98,slow=36						
PFO	**Pinyon Flats O**	**31.81**	**122**	LR	LR	12 36 18.0	
	comp=E,90nm,18.3s,baz=310,slow=32						
FRB	**Frobisher Bay**	**38.19**	**45**	LR	LR	12 42 34.8	
	comp=E,103nm,18.6s,baz=250,slow=36						
YAK	**Yakutsk**	**39.49**	**313**	LR	LR	12 45 19.1	
	comp=E,50nm,18.1s,baz=22,slow=40						
KLR	**Kul'dur**	**46.00**	**296**	LR	LR	12 48 20.6	
	comp=E,33nm,18.6s,baz=234,slow=38						
NRIK	**Noril'sk**	**48.11**	**337**	LR	LR	12 51 55.9	
	comp=E,47nm,18.3s,baz=23,slow=41						
H11N2	**WAKE ISLAND Hy**	**49.14**	**240**	T	T	13 21 47.5	
	baz=36						
H11N3	**WAKE ISLAND Hy**	**49.15**	**240**	T	T	13 21 40.3	
	baz=36						
H11N1	**WAKE ISLAND Hy**	**49.16**	**240**	T	T	13 21 33.3	
	baz=36						
H11S1	**WAKE ISLAND Hy**	**50.28**	**240**	T	T	13 23 16.1	
	baz=28,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**50.29**	**240**	T	T	13 23 22.5	
	baz=28,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**50.30**	**240**	T	T	13 23 19.5	
	baz=28,slow=76,SNR=11						
SONM	**Songino Array**	**58.76**	**310**	P	**P**	**12 29 15.9**	**-0.4**
	comp=E,1.0nm,0.9s,baz=62,slow=6.7,SNR=6.3						
	comp=E,1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**61.61**	**327**	P	**P**	**12 29 36.4**	**+0.8**
	comp=E,0.4nm,0.5s,baz=58,slow=3.6,SNR=1.8						
	comp=E,0.4nm,0.5s						
AKASG	**Malin Array Be**	**73.27**	**1**	P	**P**	**12 30 49.5**	**+0.1**
	comp=E,1.5nm,0.8s,baz=6.7,slow=6.5,SNR=4.5						
	comp=E,1.5nm,0.8s						
VRAC	**Vranov**	**73.98**	**10**	LR	LR	13 03 06.0	
	comp=E,22nm,21.9s,baz=357,slow=36						

---

*TEH **04** 12:33:18.2, 27°.57N×57°.42E, h10km±114km*
*DSN **04** 12:33:23.4±0.3, 27°.85N×56°.51E, h60km, ML2.7/4, Error ellipse: s-maj=29.7km s-min=4.9km az=272.0*

ISC 04 12:33:19.4±1.0, 27°.72N±0°.08×57°.32E±0°.06, h10km, n12, σ0s79/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.41**	**57**	Pg	**Pg**	**12 33 27.3**	**-0.2**
IBND	**Bandar-abas**	**0.74**	**249**	Pg	**Pg**	**12 33 34.2**	**+0.6**
BNDS	**Bandar-Abbas**	**1.06**	**253**	Pg	**Pg**	**12 33 39.3**	**-0.5**
KBAM	**BAM**	**1.73**	**35**	Pn	**Pb**	**12 33 51.4**	**+0.2**
SHME	**Shamm**	**1.97**	**212**	P	**Pn**	**12 33 52.3**	**-0.5**
NGRK	**Negar Kerman**	**1.98**	**345**	Pn	**Pb**	**12 33 56.0**	**+0.2**
BANOM	**Banah**	**2.01**	**207**	P	**Pn**	**12 33 52.8**	**-0.5**
BANOM				S	**Sn**	**12 34 17.3**	**-1.2**
CHMN	**Cheshme madani**	**2.14**	**5**	Pn	**Pb**	**12 33 58.6**	**+0.1**
KRBR	**Kerman**	**2.31**	**348**	Pn	**Pb**	**12 34 01.3**	**0.0**
MSFE	**Esma-Masafi**	**2.57**	**204**	P	**Pn**	**12 34 01.9**	**+0.8**
UOSS	**Minazif**	**2.94**	**200**	P	**Pn**	**12 34 07.8**	**+1.6**
ASHO	**Ashiyiah**	**3.23**	**201**	P	**Pn**	**12 34 10.5**	**+0.3**

---

*JMA **04** 12:38:16.4±0.2, 24°.N±1°.×122°.6E±0°.7, h28km, MV2.2/12, NW OFF ISHIGAKIJIMA IS*
*TAP **04** 12:38:16.4, 24°.03N×122°.58E, h28km, ML2.8, D*

ISC 04 12:38:15.5±1.0, 23°.93N±0°.03×122°.58E±0°.02, h27km±10km, n68, σ0s77/122, 3C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.31**	**308**	⇑*i*P	**Pb**	**12 38 23.0**	**+0.5**
EOS4				*i* S	**Sn**	**12 38 27.9**	**-1.5**
EOS3	**EOS3**	**0.43**	**326**	*i* P	**Pn**	**12 38 25.3**	**-0.5**
EOS3				*i* S	**Sn**	**12 38 31.4**	**-1.3**
EOS2	**EOS2**	**0.58**	**327**	⇑*i*P	**Pn**	**12 38 28.1**	**+0.2**
EOS2				*i* S	**Sn**	**12 38 36.8**	**+0.3**
JYNG	**Yonagunijimaku**	**0.62**	**32**	P	**Pb**	**12 38 27.3**	**-0.4**
JYNG				S	**Sb**	**12 38 34.5**	**-1.6**
YOJ	**Yonaguni jima**	**0.66**	**36**	P	**Pb**	**12 38 28.1**	**-0.4**
YOJ				S	**Sb**	**12 38 35.9**	**-1.4**
YOJ	**Yonaguni jima**	**0.66**	**36**	⇓P	**Pb**	**12 38 28.2**	**-0.3**
YOJ				S	**Sb**	**12 38 35.8**	**-1.4**
EAHA	**Aohua**	**0.87**	**298**	*e*S	**Sb**	**12 38 44.7**	**+1.6**
EWUT	**Wuta**	**0.90**	**305**	P	**Pb**	**12 38 32.6**	**+0.2**
EWUT				S	**Sb**	**12 38 44.0**	**0.0**
ENA	**Nanau**	**0.91**	**303**	P	**Pb**	**12 38 32.4**	**-0.3**
ENA				*e*S	**Sb**	**12 38 44.6**	**+0.1**
TWD	**Chiawan**	**0.91**	**280**	*e*S	**Sn**	**12 38 44.4**	**-0.5**
ESAO	**Su ao**	**0.93**	**314**	P	**Pb**	**12 38 33.1**	**+0.1**
ESAO				S	**Sb**	**12 38 45.6**	**+0.6**
NACB	**Ninganchiao**	**0.94**	**285**	*e*P	**Pn**	**12 38 33.0**	**+0.1**
NACB				*e*S	**Sb**	**12 38 45.0**	**-0.1**
SHUL	**Shoufeng**	**0.94**	**262**	*e*P	**Pn**	**12 38 33.0**	**0.0**
SHUL				*e*S	**Sb**	**12 38 46.9**	**+1.6**
TWC	**Suao**	**0.95**	**315**	*e*P	**Pb**	**12 38 33.4**	**0.0**
TWC				*e*S	**Sb**	**12 38 44.9**	**-0.7**
ETM	**Tongmen**	**1.00**	**272**	*e*P	**Pn**	**12 38 33.6**	**-0.2**
ETM				*e*S	**Sn**	**12 38 46.8**	**-0.1**
ETLH	**Xiulin Townshi**	**1.04**	**286**	*e*P	**Pn**	**12 38 34.5**	**0.0**
ETLH				*e*S	**Sb**	**12 38 48.4**	**+0.1**
NDS	**Dongshan**	**1.06**	**312**	*e*P	**Pb**	**12 38 34.9**	**-0.3**
NDS				*e*S	**Sb**	**12 38 48.8**	**+0.2**
ESL	**Shilin**	**1.06**	**264**	*e*P	**Pn**	**12 38 34.2**	**-0.4**
ESL				*e*S	**Sn**	**12 38 47.4**	**-1.0**
LXIB	**Xiulin Townshi**	**1.07**	**275**	*e*P	**Pn**	**12 38 35.1**	**+0.1**
LXIB				*e*S	**Sn**	**12 38 49.0**	**0.0**
EGFH	**Guangfu**	**1.09**	**256**	*e*P	**Pn**	**12 38 35.3**	**+0.3**
EGFH				*e*S	**Sn**	**12 38 49.5**	**+0.3**

SSLB	Suanglung	1.50	265	eP	Pn	12 38 41.8 +1.1
SSLB				eS	Sn	12 38 59.9 +0.6
NFF	Wufeng Townshi	1.51	298	eP	Pb	12 38 42.2 -0.7
YM01	YM01	1.52	323	eP	Pb	12 38 44.5 +1.4
WCS	Beigang Elemen	1.53	275	eP	Pb	12 38 42.4 -0.8
WHP	Taichung City	1.54	283	eP	Pb	12 38 44.1 +0.8
WHP				eS	Sb	12 39 02.6 +0.2
SMLT	Sun Moon Lake	1.54	269	eP	Pn	12 38 41.8 +0.5
SMLT				eS	Sn	12 39 00.8 +0.3
YUS	Yu-Shan	1.56	254	eP	Pn	12 38 40.0 -1.9
TYC	Yuchr	1.58	269	eP	Pn	12 38 43.0 +1.3
WHYT	Xinyi Township	1.60	262	eP	Pn	12 38 43.7 +1.6
ELDTW	Lidau	1.61	243	eP	Pn	12 38 42.4 0.0
ELDTW				eS	Sn	12 39 01.5 -0.8
ALS	Alishan	1.68	256	eP	Pn	12 38 44.9 +1.5
ALS				eS	Sn	12 39 05.6 +1.3
WJS	Zhushan	1.70	267	eP	Pn	12 38 43.4 0.0
WJS				eS	Sb	12 39 07.7 +0.6
JISG	Ishigakijimahi	1.71	67	P	Pn	12 38 44.5 +0.9
JISG				eS	Sn	12 39 05.0 +0.5
TWGBT	Beinan	1.77	232	eP	Pn	12 38 43.7 -0.6
TWGBT				eS	Sn	12 39 04.3 -1.7
STYH	Taoyuan	1.82	246	eP	Pn	12 38 45.1 0.0
STYH				eS	Sn	12 39 08.1 +0.8
WCKO	Fanlu	1.88	255	eP	Pb	12 38 48.3 -0.8
WCKO				eS	Sb	12 39 11.3 -0.9
TPUB	Ta-pu	1.90	251	eP	Pb	12 38 48.7 -0.8
TPUB				S	Sb	12 39 13.4 +0.6
SNST	Tainan City	2.04	250	eP	Pb	12 38 51.3 -0.6
SNST				S	Sb	12 39 17.7 +0.9

IDC 04 12:38:27.3±428.0, 48°.70N×49°.73E, h0km, Error ellipse: s-maj=140.3km s-min=116.9km az=38.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	5.67	69	I	I	13 10 40.0	
	baz=257,slow=330,SNR=2.0						
I43RU	DUBNA INFRASONI	1.04	321	I	I	13 45 40.0	
	baz=131,slow=326,SNR=2.1						
I46RU	ZALESOVO INFRA	22.39	63	I	I	14 54 30.0	
	baz=270,slow=336,SNR=1.8						

*IDC **04** 12:56:44.3±0.7,23°.64N×121°.69E, h0km, mb3.9/15, mbtmp3.9/17, ML3.9/2, MS3.4/12, Error ellipse: s-maj=23.3km s-min=14.8km az=65.0*

*NIED **04** 12:56:49.0,23°.67N×121°.59E, h33km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.30; $M_{\theta\theta}$1.18; $M_{\phi\phi}$-0.89; $M_{r\theta}$-0.44; $M_{\theta\phi}$-0.80; $M_{\phi r}$-0.43; Fault plane solution: $M_0$1.47000×10^{15} NP1: ϕ_s331.00000°, δ65.00000°, λ-13.00000°. NP2:ϕ_s67.00000°, δ79.00000°, λ-154.00000°.*

*JMA **04** 12:56:49.0±0.1,23°.7N±0°.3×121°.6E±0°.9, h33km±1km, MD4.1/19, MV4.5/19, TAIWAN REGION*

*NEIC **04** 12:56:49.6±1.6,23°.67N±0°.03×121°.62E±0°.05, h24km±6km, mb4.5/26, Error ellipse: s-maj=6.4km s-min=4.4km az=110.0*

*ASIES **04** 12:56:50.1,23°.71N×121°.58E, h31km, ML4.7, Mw4.2, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}-0.26; $M_{\theta\theta}$0.72; $M_{\phi\phi}$-0.47; $M_{r\theta}$-1.34; $M_{\theta\phi}$-1.38; $M_{\phi r}$-0.65; Fault plane solution: $M_0$2.12629×10^{22} NP1: ϕ_s343.29000°, δ47.13000°, λ-9.26000°. NP2:ϕ_s79.62000°, δ83.23000°, λ-136.75000°. Principal axes: T Plg23.4330°, Azm203.7710°; N Plg46.3320°, Azm86.7670°; P Plg34.3650°, Azm311.0110°.*

*BJI **04** 12:56:50.1,23°.87N×121°.58E, h31km, mb4.1/9, ML4.2/6, Ms4.0/4, Ms7 3.8/3*

*TAP **04** 12:56:50.1,23°.71N×121°.58E, h31km, ML4.7, B*

ISC 04 12:56:49.9±0.6, 23°.69N±0°.01×121°.60E±0°.02, h32km±3km, n271, σ1°.03/406, mb4.2/30, MS3.5/10, 32C-44D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	Jichi Village	0.06	293	⇑iP	Pb	12 56 55.6	+0.3
TEGC				eS	Sb	12 56 59.8	+0.9
SHUL	Shoufeng	0.11	342	⇑iP	Pb	12 56 55.8	+0.2
SHUL				S	Sb	12 57 00.2	+0.8
EGFH	Guangfu	0.16	264	i P	Pb	12 56 56.0	0.0
EGFH				S	Sb	12 57 00.0	0.0
TEYL	Yanliau Villag	0.18	360	⇑iP	Pn	12 56 56.7	+0.1
TEYL				eS	Sn	12 57 02.1	+1.5
WARBT	Fenglin Townsh	0.20	279	⇓iP	Pb	12 56 56.0	-0.4
WARBT				S	Sn	12 56 59.9	-1.2
ESL	Shilin	0.20	310	⇓iP	Pb	12 56 56.0	-0.3
ESL				eS	Sb	12 57 00.2	-0.5
HGSD	Ruisui	0.25	220	⇓iP	Pn	12 56 57.5	0.0
HGSD				S	Sn	12 57 03.4	+1.1
HWA	Hwalien	0.29	1	⇑iP	Pb	12 56 57.5	+0.1
HWA				eS	Sb	12 57 02.9	+0.4
ETM	Tongmen	0.30	341	⇓iP	Pb	12 56 57.2	-0.4
ETM				eS	Sb	12 57 01.8	-0.8
EHYH	Wanrong	0.30	231	⇑iP	Pb	12 56 57.4	-0.1
EHYH				eS	Sn	12 57 03.0	-0.5
EHY	Hungye	0.31	235	⇑iP	Pb	12 56 57.4	-0.3
EHY				eS	Sb	12 57 02.6	-0.4
LXIB	Xiulin Townshi	0.38	333	⇓iP	Pb	12 56 58.0	-0.7
LXIB				S	Sb	12 57 03.2	-1.5
ECBN	Changbin	0.39	200	⇓iP	Pn	12 56 59.3	-0.1
ECBN				S	Sn	12 57 06.4	+0.7
TWD	Chiawan	0.39	360	⇑iP	Pb	12 56 58.5	-0.3
TWD				eS	Sb	12 57 04.8	-0.1
YULB	Yu-li	0.40	224	Pg	Pb	12 56 58.5	-0.5
YULB	Yu-li	0.40	224	P	Pb	12 56 58.5	-0.5
YULB	Yu-li	0.40	224	S	Sb	12 57 05.0	-0.2
YULB	Yu-li	0.40	224	⇑iP	Pb	12 56 58.6	-0.3
YULB				eS	Sb	12 57 04.5	-0.6
EYUL	Yuli	0.42	217	⇑iP	Pn	12 56 59.3	-0.6
EYUL				eS	Sn	12 57 06.0	-0.5
VWDT	VWDT	0.43	279	⇓iP	Pn	12 56 59.4	-0.5
VWDT				S	Sb	12 57 05.6	-0.1
TWF1	Yuli	0.43	220	⇑iP	Pb	12 56 59.2	-0.3
TWF1				eS	Sb	12 57 05.8	-0.1
ETL	Fush Village	0.47	3	⇓P	Pb	12 56 59.5	-0.6
ETL				eS	Sn	12 57 07.8	-0.1
OWD	Renai	0.47	305	⇓iP	Pb	12 56 59.8	-0.4
OWD				eS	Sb	12 57 06.3	-0.8
NACB	Ninganchiao	0.49	359		Pb	12 56 59.5	-0.7
NACB	Ninganchiao	0.49	359	P	Pb	12 56 59.5	-0.7
NACB	Ninganchiao	0.49	359	S	Sn	12 57 08.1	-0.1
NACB	Ninganchiao	0.49	359	⇓iP	Pb	12 56 59.5	-0.7
NACB				eS	Sb	12 57 06.6	-0.8
CHKH	Chenggong	0.53	201	⇑eP	Pn	12 57 01.0	-0.2
CHKH				eS	Sn	12 57 09.6	+0.5
ETLH	Xiulin Townshi	0.53	348	⇓iP	Pb	12 57 00.2	-0.8
ETLH				eS	Sb	12 57 08.0	-0.6
WUSB	Renai	0.54	305	⇓iP	Pb	12 57 00.9	-0.3
WUSB				i S	Sb	12 57 07.9	-0.9
WHF	Hehuan Shan	0.55	326	⇓iP	Pb	12 57 00.7	-0.9
WHF				eS	Sb	12 57 08.4	-1.2
FULB	Fuli	0.56	210	⇑iP	Pn	12 57 01.6	-0.1
FULB				eS	Sn	12 57 10.7	+0.7
SSLB	Suanglung	0.60	280		Pb	12 57 01.6	-0.6
SSLB	Suanglung	0.60	280	P	Pb	12 57 01.7	-0.4
SSLB	Suanglung	0.60	280	S	Sb	12 57 09.7	-0.7
SSLB	Suanglung	0.60	280	⇓iP	Pb	12 57 01.5	-0.6
SSLB				S	Sb	12 57 08.7	-1.8
CHKT	Chengkung	0.62	200	⇓P	Pb	12 57 02.1	-0.3
CHKT				S	Sn	12 57 12.4	+0.9
EHP	Heping Village	0.64	12	eP	Pn	12 57 02.3	-0.5
EHP				eS	Sb	12 57 11.7	+0.3
EHD	Haiduan	0.65	214	⇑iP	Pb	12 57 01.2	-1.6
EHD				eS	Sb	12 57 11.1	-0.5
FUSS	Fushou	0.65	330	⇓iP	Pb	12 57 02.5	-0.6
FUSS				eS	Sb	12 57 11.0	-1.0
EAHA	Aohua	0.65	11	eP	Pn	12 57 02.3	-0.8
EAHA				eS	Sb	12 57 12.3	+0.4
SMLT	Sun Moon Lake	0.67	287	⇓iP	Pb	12 57 01.9	-1.4
SMLT				eS	Sb	12 57 11.1	-1.4
ECS	Chishang	0.68	211	⇑iP	Pn	12 57 02.7	-0.7
ECS				eS	Sn	12 57 13.5	+0.5
WHYT	Xinyi Township	0.68	271	⇓iP	Pb	12 57 03.5	0.0
WHYT				S	Sb	12 57 12.2	-0.5
TWT	Tachien	0.69	326	⇓iP	Pn	12 57 03.4	-0.3
TWT				S	Sb	12 57 12.2	-0.7
TDCB	Techi	0.69	325	⇓iP	Pn	12 57 03.4	-0.4
TDCB				eS	Sb	12 57 12.0	-1.1
TYC	Yuchr	0.71	288	⇓iP	Pn	12 57 03.5	-0.4
TYC				eS	Sb	12 57 12.9	-0.6
ELDTW	Lidau	0.73	227	⇑iP	Pn	12 57 03.3	-0.9
ELDTW				eS	Sb	12 57 12.6	-1.5
WCS	Beigang Elemen	0.73	301	⇓iP	Pb	12 57 04.0	-0.3
WCS				eS	Sb	12 57 13.4	-0.5
ALS	Alishan	0.75	257	⇑iP	Pb	12 57 04.9	+0.2
ALS				i S	Sn	12 57 14.9	-0.2
ENA	Nanau	0.75	10	⇓P	Pn	12 57 03.7	-0.7
ENA				eS	Sn	12 57 13.7	-1.0
EDH	Donghe	0.76	201	⇑iP	Pn	12 57 04.2	-0.3
EDH				eS	Sn	12 57 15.3	+0.5
NNSB	Datong	0.77	345	⇓iP	Pn	12 57 03.9	-0.8
NNSB				eS	Sn	12 57 13.5	-1.7
EWUT	Wuta	0.77	12	⇑iP	Pn	12 57 04.2	-0.5
EWUT				eS	Sb	12 57 15.7	+0.5
NNS	Nan Shan	0.78	345	⇓iP	Pn	12 57 04.1	-0.8
NNS				eS	Sn	12 57 13.6	-2.0
EOS4	EOS4	0.79	56	⇑P	Pn	12 57 04.3	-0.2
EOS4				eS	Sn	12 57 15.0	-0.1
WJS	Zhushan	0.81	280	⇓iP	Pb	12 57 06.0	+0.4
WJS				eS	Sb	12 57 17.6	+1.3
WHP	Taichung City	0.84	315	⇓iP	Pn	12 57 05.7	0.0
WHP				eS	Sn	12 57 16.2	-0.8
LATG	Datong	0.85	355	⇓iP	Pn	12 57 05.0	-0.9
LATG				eS	Sn	12 57 15.2	-2.1
CHN5	Tsauling	0.85	264	⇓iP	Pb	12 57 06.5	+0.2
CHN5				eS	Sb	12 57 17.8	+0.4
WNT	Mingjian	0.86	283	⇓iP	Pb	12 57 06.8	+0.4
WNT				i S	Sb	12 57 18.8	+1.2
LONT	Longtian	0.89	209	⇑eP	Pn	12 57 05.2	-1.1
LONT				eS	Sb	12 57 18.5	+0.1
EOS3	EOS3	0.89	48	eP	Pn	12 57 06.0	-0.1
ESAO	Su ao	0.91	14	P	Pn	12 57 06.5	-0.2
ESAO				eS	Sn	12 57 19.1	+0.4
STYH	Taoyuan	0.91	236	⇑iP	Pn	12 57 05.7	-0.9
EOS2	EOS2	0.93	38	eP	Pn	12 57 07.4	+0.7
WCKO	Fanlu	0.94	255	⇑iP	Pb	12 57 08.2	+0.4
WCKO				eS	Sb	12 57 20.7	+0.7
TWC	Suao	0.95	14	P	Pn	12 57 06.8	-0.2
TWC				eS	Sn	12 57 20.1	+0.6
NDS	Dongshan	0.95	6	eP	Pn	12 57 06.6	-0.6
NDS				eS	Sn	12 57 19.0	-0.6
ENTT	Nioudou	0.95	358	⇓iP	Pn	12 57 06.7	-0.5
ENTT				eS	Sn	12 57 18.9	-0.7
WGK	Gukeng	0.95	270	⇓iP	Pb	12 57 08.0	+0.1
WGK				i S	Sb	12 57 21.3	+1.1
TCU	Taichung	0.96	299	⇓iP	Pb	12 57 08.6	+0.5
TCU				eS	Sb	12 57 21.1	+0.6
TPUB	Ta-pu	0.97	247		Pb	12 57 08.4	+0.1
TPUB	Ta-pu	0.97	247	P	Pb	12 57 08.3	+0.1
TPUB	Ta-pu	0.97	247	S	Sb	12 57 22.2	+1.4
TPUB	Ta-pu	0.97	247	⇑iP	Pb	12 57 08.3	0.0
TPUB				eS	Sb	12 57 20.6	-0.2
WDL	Douliou City	0.97	272	eP	Pb	12 57 07.6	-0.6
WDL				eS	Sb	12 57 21.4	+0.6
WDLH	Douliu	0.97	270	eP	Pb	12 57 08.3	+0.1
WDLH				eS	Sb	12 57 22.2	+1.4
CHN4	Tsaushan	0.98	250	⇑iP	Pb	12 57 08.6	+0.1
CHN4				eS	Sb	12 57 22.2	+1.1
TWGBT	Beinan	0.99	209	P	Pn	12 57 06.5	-1.1
TWGBT	Beinan	0.99	209	⇑iP	Pn	12 57 06.3	-1.3
TWGBT				eS	Sn	12 57 20.3	-0.2
TWG	Pinlang	0.99	210		Pn	12 57 06.3	-1.3
TWG	Pinlang	0.99	210	⇑iP	Pn	12 57 06.3	-1.4
TWG				eS	Sn	12 57 20.3	-0.3
YHNB	Yeheng	1.00	348		Pn	12 57 07.7	-0.2
YHNB	Yeheng	1.00	348	P	Pn	12 57 07.7	-0.2
YHNB	Yeheng	1.00	348	⇓iP	Pn	12 57 07.8	-0.1
YHNB				eS	Sn	12 57 20.2	-0.7
TWQ1	Liyutan	1.00	311	⇓iP	Pb	12 57 09.1	+0.2
TWQ1				eS	Sb	12 57 22.0	+0.3
WTP	Ta-pu	1.00	244	⇑iP	Pb	12 57 08.9	0.0
WTP				i S	Sb	12 57 23.0	+1.2
NSK	Sanguang	1.01	347	⇓iP	Pn	12 57 07.9	-0.1
NSK				i S	Sn	12 57 20.7	-0.5
LDUT	Ludao	1.01	187	eP	Pn	12 57 06.8	-1.2
LDUT				eS	Sn	12 57 20.9	-0.3
TTN	Taitung	1.02	204	eP	Pn	12 57 08.0	0.0
TTN				eS	Sn	12 57 21.9	-0.1
WCHH	Zhanghua	1.03	293	⇓P	Pb	12 57 09.5	+0.2
WCHH				eS	Sb	12 57 23.5	+1.0
WCH1	Changhua City	1.04	292	eP	Pb	12 57 09.1	-0.3
WCH1				eS	Sb	12 57 23.8	+1.1
NFF	Wufeng Townshi	1.04	335	eP	Pn	12 57 08.8	+0.4
NFF				eS	Sn	12 57 21.6	-0.3
CHN2	Minshiung	1.04	262	eP	Pb	12 57 09.9	+0.4
CHN2				eS	Sb	12 57 24.6	+1.8
NSY	Sanyi	1.06	314	⇓eP	Pn	12 57 07.9	-0.7
NSY				eS	Sb	12 57 22.9	-0.3
FUSB	Fushanzhiwuyua	1.07	359	eP	Pn	12 57 08.5	-0.3
FUSB				eS	Sn	12 57 22.2	-0.5
ILA	Ilan	1.08	7	eP	Pb	12 57 10.0	-0.1
ILA				eS	Sn	12 57 22.4	-0.5
NSTT	Nanjuang	1.09	330	⇓P	Pb	12 57 10.0	-0.2
NSTT				eS	Sb	12 57 23.8	-0.4
NWLT	Wulai	1.09	355	eP	Pn	12 57 09.0	-0.1
CHY	Chiayi	1.09	260	eP	Pb	12 57 10.6	+0.3
CHY				eS	Sb	12 57 25.1	+0.9
LIOB	Emei	1.09	331	⇓iP	Pb	12 57 10.2	-0.1
LIOB				eS	Sb	12 57 23.7	-0.7
WDJ	Dajia District	1.10	307	⇓iP	Pb	12 57 10.6	+0.2
WDJ				eS	Sb	12 57 26.4	+1.6
TWK	Hsinying	1.10	248	⇑iP	Pb	12 57 10.1	-0.4
TWK				S	Sb	12 57 25.5	+0.9
CHN1	Nanshi	1.10	243	⇑iP	Pb	12 57 10.3	-0.2
CHN1				i S	Sb	12 57 26.1	+1.5
SGST	Jiashian	1.11	237	⇑iP	Pb	12 57 09.7	-1.0
SGST				i S	Sb	12 57 25.0	+0.2
WTK	Tuku	1.11	270	eP	Pb	12 57 10.7	+0.1
WTK				eS	Sb	12 57 25.8	+1.0
SNST	Tainan City	1.11	246	eP	Pb	12 57 10.4	-0.2
SNST				S	Sb	12 57 26.0	+1.1
NMLH	Miaoli	1.12	319	⇓iP	Pb	12 57 10.4	-0.4
NMLH				eS	Sb	12 57 24.8	-0.4
KSHI	Guanxi Townshi	1.15	340	⇓P	Pb	12 57 11.2	-0.1
KSHI				eS	Sn	12 57 25.2	+0.6
EGS		1.19	15	eP	Pn	12 57 11.3	+0.9
EGS				eS	Sb	12 57 26.8	-0.3
WTCT	Ta-ch'eng	1.22	279	eP	Pb	12 57 11.9	-0.5
WTCT				i S	Sb	12 57 28.9	+1.0
ECL	Taimali	1.24	209	eP	Pn	12 57 09.7	-1.3
SBCB	Hsinchu	1.24	333	P	Pb	12 57 12.4	-0.3
SBCB				eS	Sb	12 57 28.8	+0.4
HSN	Hsinchu	1.25	333	i P	Pb	12 57 12.7	-0.3
HSN				S	Sb	12 57 29.8	+1.0
ICHU	Yijhu	1.25	255	eP	Pb	12 57 12.6	-0.4
ICHU				eS	Sb	12 57 29.8	+0.9
WSF	Szhu	1.26	268	eP	Pb	12 57 12.6	-0.6
WSF				i S	Sb	12 57 29.4	+0.3
WSL	Shuilin Townsh	1.27	263	eP	Pb	12 57 12.7	-0.5
WSL				eS	Sb	12 57 29.6	+0.4
CHN3	Shinhua	1.29	242	eP	Pb	12 57 14.2	+0.6
CHN3				eS	Sb	12 57 31.8	+2.0
TATO	Taipei	1.29	355		Pn	12 57 12.3	+0.5
TATO	Taipei	1.29	355	P	Pn	12 57 12.3	+0.5
TATO	Taipei	1.29	355	S	Sn	12 57 29.0	+1.1
TWA	Mucha	1.29	359	eP	Pb	12 57 13.3	-0.4
TWA				eS	Sn	12 57 28.3	+0.3
SCST	Cishan	1.29	232	⇑P	Pb	12 57 14.2	+0.5
SCST				eS	Sb	12 57 31.5	+1.6
TIPB	Shuangxi	1.30	9	⇑iP	Pn	12 57 12.3	+0.4
TIPB				eS	Sn	12 57 26.7	-1.5
TSMG	Majia	1.31	222	eP	Pn	12 57 12.7	+0.6
TSMG				eS	Sb	12 57 30.8	+0.3
CHN8	Yiju	1.32	255	i P	Pb	12 57 13.5	-0.6
CHN8				i S	Sb	12 57 31.1	+0.4
SSHA	Shanhua	1.32	246	eP	Pb	12 57 14.4	+0.2
SSHA				eS	Sb	12 57 32.0	+1.2
SHHT	Tainan City	1.33	240	eP	Pb	12 57 14.8	+0.5
SHHT				eS	Sb	12 57 33.4	+2.5
NCUH	Zhongli	1.33	344	eP	Pb	12 57 13.6	-0.8
NCUH				eS	Sb	12 57 31.2	+0.2
NHY	Taipei	1.35	359	eP	Pn	12 57 12.8	+0.2
TWB1	Santiao Chiao	1.36	15	eP	Pn	12 57 13.7	+0.9
TWB1				eS	Sb	12 57 31.4	-0.5
TWM1	Shoushan	1.38	232	eP	Pb	12 57 15.8	+0.6
TWM1				eS	Sb	12 57 34.0	+1.5
SCLT	Jiali	1.39	249	P	Pb	12 57 14.8	-0.5
SCLT				i S	Sb	12 57 32.8	+0.2
NWF	Wu-fen Shan	1.39	7	P	Pn	12 57 13.9	+0.7
NWF				S	Sn	12 57 30.4	-0.1
WFSB	Wu-fen Shan	1.39	7	P	Pn	12 57 14.0	+0.8
WFSB				eS	Sn	12 57 30.2	-0.2
MASBT	Mashibuluo	1.39	220	eP	Pn	12 57 13.4	+0.2
MASBT				eS	Sb	12 57 32.5	-0.2
SGLT	Jiouru	1.40	227	P	Pb	12 57 16.2	+0.8
SGLT				eS	Sb	12 57 34.7	+1.8
TAI1	Yung-k'ang	1.42	243	eP	Pb	12 57 15.8	+0.1
TAI1				eS	Sb	12 57 34.8	+1.4
TWS1	Kuangyinshan	1.42	353	P	Pn	12 57 13.1	-0.5
TWS1				eS	Sn	12 57 31.9	+0.7
SXI1	Grass Mountain	1.43	10	eP	Pn	12 57 14.5	+0.8
SXI1				eS	Sn	12 57 31.7	+0.2
JYNG	Yonagunijimaku	1.45	58	P	Pn	12 57 14.4	+0.5
JYNG				eS	Sn	12 57 32.1	+0.2
JYNG	Yonagunijimaku	1.45	58	A	A	12 57 14.4	
	comp=N,6.0nm,1.4s,comp=E,4.0nm,0.7s						
YM01	YM01	1.46	359	eP	Pn	12 57 14.2	+0.1
TNOU	National Taiwa	1.47	6	eP	Pn	12 57 15.4	+1.2
TNOU				eS	Sn	12 57 32.9	+0.5
EAST	Anshuo	1.47	208	eP	Pn	12 57 13.4	-0.9
ZUZH	Zhuzihu	1.47	358	⇓P	Pn	12 57 14.4	0.0
ZUZH				eS	Sn	12 57 32.5	-0.1
TAW	Tawu	1.47	206	eP	Pn	12 57 13.2	-1.1
NTST	Danshui	1.48	355	eP	Pn	12 57 15.1	+0.7
NTST				eS	Sb	12 57 34.6	-0.6
SNJT	Kaohsiung City	1.49	232	eP	Pb	12 57 17.3	+0.3
SNJT				eS	Sb	12 57 38.2	+2.7
TSCK	Chigu Township	1.49	249	i P	Pn	12 57 15.3	+0.8
TSCK				eS	Sb	12 57 35.5	0.0
TAWH	Dawu Township	1.49	206	eP	Pn	12 57 13.7	-0.9
ANP	Anpu	1.50	357	eP	Pn	12 57 14.7	-0.1
ANP				eS	Sn	12 57 33.5	+0.2
YOJ	Yonaguni jima	1.50	59		Pn	12 57 15.0	+0.3
YOJ	Yonaguni jima	1.50	59	P	Pn	12 57 15.1	+0.3
YOJ	Yonaguni jima	1.50	59	P	Pn	12 57 15.2	+0.5
YOJ				S	Sn	12 57 33.3	+0.1
YOJ	Yonaguni jima	1.50	59	A	A	12 57 15.2	
	comp=N,5.0nm,3.1s,comp=E,3.0nm,3.5s						
YOJ	Yonaguni jima	1.50	59	eP	Pn	12 57 15.2	+0.5
YOJ				S	Sn	12 57 33.6	+0.4
SSPT	Xinbi	1.53	219	eP	Pb	12 57 18.8	+1.2
TWY	Chenhua	1.58	360	eP	Pn	12 57 15.2	-0.6
TWY				eS	Sn	12 57 35.3	+0.1
SCZT	Fangliau	1.59	215	eP	Pb	12 57 17.2	-1.5
SCZT				eS	Sb	12 57 37.4	-1.0
WSSB	Gushan	1.61	230	eP	Pb	12 57 18.3	-0.8
WSSB				eS	Sb	12 57 39.0	0.0
SLIU	Shizi	1.64	207	eP	Pn	12 57 15.8	-0.8
LAY	Lan-yu	1.64	182	eP	Pn	12 57 15.3	-1.4
LYUB	Lan-yu	1.68	180	P	Pn	12 57 15.1	-2.0
LYUB				eS	Sn	12 57 35.2	-2.3
TWP	Hsiaoliuchiu	1.75	221	P	Pb	12 57 21.2	-0.2
TWP				eS	Sb	12 57 44.0	+0.9
SMST	Manzhou Townsh	1.80	203	eP	Pb	12 57 20.6	-1.7
WDGT	Dungji	1.83	257	i P	Pn	12 57 19.9	+0.7
WDGT				S	Sn	12 57 40.6	-0.7
HEN	Hengchun	1.85	206	eP	Pb	12 57 21.8	-1.4
HEN				eS	Sn	12 57 43.1	+1.3
PHUB	P'eng-hu	1.87	265	eP	Pn	12 57 20.4	+0.7
PHUB				S	Sn	12 57 42.0	-0.2
PNG	Penghu	1.88	267	eP	Pn	12 57 20.6	+0.7
TWK1	Hengchun	1.88	203	eP	Pn	12 57 20.5	+0.6
TWK1				eS	Sn	12 57 43.2	+0.6
TWKBT	Hengchun	1.88	203	eP	Pn	12 57 19.8	-0.1
TWKBT				eS	Sb	12 57 45.6	-1.1
TSEB	Hengchuen, Pin	1.89	200	eP	Pb	12 57 21.7	-2.1
TSEB				eS	Sn	12 57 43.0	+0.3
PCYT	Pengchaiyu	1.98	12	eP	Pn	12 57 22.8	+1.5
VCHM	Qimei	2.05	257	eP	Pn	12 57 22.7	+0.5
VCHM				eS	Sn	12 57 45.5	-1.2
HATJ	Hateruma jima	2.05	79	P	Pn	12 57 22.7	+0.5
HATJ				S	Sn	12 57 46.7	-0.1
IRIF	Iriomote-Funau	2.05	71	P	Pn	12 57 23.0	+0.7
IRIF				S	Sn	12 57 47.9	+1.1
IRIF	Iriomote-Funau	2.05	71	A	A	12 57 23.0	
	comp=N,7.0nm,1.3s,comp=E,4.0nm,0.4s						
JKRS	Kuro-shima	2.27	76	P	Pn	12 57 26.1	+0.8
JKRS				S	Sn	12 57

GTA pmax pmax
comp=Z,3.0nm,1.1s
ULN Ulaanbaatar 26.77 338 P **P** **13 02 27.3 +0.2**
ULN IAmb IAmb 13 02 27.8
comp=Z,4.6nm,0.8s
SONM Songino Array 26.97 337 P **P** **13 02 28.5 -0.3**
SONM Songino Array 26.97 337 P **P** **13 02 28.6 -0.2**
comp=Z,2.1nm,0.7s,baz=158,slow=10,SNR=16
SONM LR LR 13 14 32.2
comp=Z,86nm,18.8s,baz=158,slow=40
comp=Z,2.1nm,0.7s
YAK Yakutsk 38.72 6 LR LR 13 21 58.9
comp=Z,56nm,18.5s,baz=180,slow=39
MK31 Makanchi Array 38.96 316 P **P** **13 04 13.6 +0.5**
MKAR Makanchi Array 38.96 316 P **P** **13 04 13.5 +0.4**
comp=Z,2.9nm,0.8s,baz=112,slow=9.7,SNR=33
comp=Z,2.9nm,0.8s
MAKZ Makanchi 39.16 316 P **P** **13 04 15.5 +0.7**
ZAA0 Zalesovo Array 40.87 327 P **P** **13 04 28.4 -0.4**
ZALV Zalesovo Beam 40.87 327 P **P** **13 04 28.2 -0.6**
ZALV Zalesovo Beam 40.87 327 P **P** **13 04 28.0 -0.8**
comp=Z,2.7nm,0.6s,baz=110,slow=9.6,SNR=18
ZALV LR LR 13 22 44.8
comp=Z,64nm,18.1s,baz=136,slow=38
comp=Z,2.7nm,0.6s
H11N1 WAKE ISLAND Hy 42.14 86 T T 13 49 46.5
baz=283,slow=75,SNR=28
H11N2 WAKE ISLAND Hy 42.14 86 T T 13 49 48.5
baz=283,slow=75,SNR=31
H11N3 WAKE ISLAND Hy 42.15 86 T T 13 49 47.5
baz=283,slow=75,SNR=23
H11S3 WAKE ISLAND Hy 42.25 88 T T 13 49 53.7
baz=284,slow=75,SNR=50
H11S1 WAKE ISLAND Hy 42.26 88 T T 13 49 54.1
baz=284,slow=75,SNR=34
H11S2 WAKE ISLAND Hy 42.27 88 T T 13 50 01.5
baz=284,slow=75,SNR=42
KURBB Kurchatov Arra 42.73 320 P **P** **13 04 44.0 -0.1**
comp=Z,0.8nm,0.2s,baz=108,slow=8.5,SNR=7.2
comp=Z,0.8nm,0.2s
AAK Ala-Archa 43.11 308 LR LR 13 25 09.0
comp=Z,50nm,18.9s,baz=102,slow=40
WB0 Warramunga Arr 44.95 163 P **P** **13 05 01.6 -0.6**
WB0 IAmb IAmb 13 05 06.1
comp=Z,16nm,1.4s
WRA Warramunga Arr 45.11 163 P **P** **13 05 02.8 -0.6**
WRA Warramunga Arr 45.11 163 P **P** **13 05 02.0 -1.5**
comp=Z,1.5nm,0.7s,baz=345,slow=8.9,SNR=15
comp=Z,1.5nm,0.7s
WR8 Warramunga Arr 45.16 163 P **P** **13 05 03.1 -0.8**
KKAR Karatay Array 46.08 308 P **P** **13 05 11.0 0.0**
TIXI Tiksi 48.17 3 LR LR 13 28 41.3
comp=Z,42nm,18.7s,baz=210,slow=40
BVAR Borovoye Array 48.30 321 P **P** **13 05 28.4 +0.2**
comp=Z,1.4nm,0.6s,baz=101,slow=7.7,SNR=4.5
comp=Z,1.4nm,0.6s
AS31 Alice Springs 48.56 165 P **P** **13 05 30.3 -0.1**
ASAR Alice Springs 48.56 165 P **P** **13 05 30.8 +0.3**
ASAR Alice Springs 48.56 165 P **P** **13 05 29.7 -0.8**
comp=Z,0.7nm,0.7s,baz=344,slow=7.2,SNR=17
comp=Z,0.7nm,0.7s
AB31 Akbulak array 54.06 315 P **P** **13 06 12.6 +1.1**
AB31 IAmb IAmb 13 06 12.8
comp=Z,2.5nm,0.8s
ABKAR Akbulak array 54.06 315 P **P** **13 06 12.3 +0.9**
ABKAR IAmb IAmb 13 06 12.8
comp=Z,2.6nm,0.8s
ARTI Arti 55.82 323 P **P** **13 06 23.9 -0.1**
ARTI IAmb IAmb 13 06 24.9
comp=Z,4.0nm,0.7s
BBOO Buckleboo 57.85 166 P **P** **13 06 38.1 -0.5**
STKA Stephens Creek 58.47 160 P **P** **13 06 41.9 -1.1**
STKA Stephens Creek 58.47 160 P **P** **13 06 40.5 -2.5**
comp=Z,1.7nm,0.8s,baz=326,slow=9.0,SNR=3.5
comp=Z,1.7nm,0.8s
C16K Lisburne Hills 61.95 24 P **P** **13 07 07.1 +0.7**
C16K IAmb IAmb 13 07 07.8
comp=Z,2.9nm,0.9s
DZM Mont Dzumac 63.02 133 LR LR 13 31 12.5
comp=Z,34nm,19.5s,baz=44,slow=33
E18K Tukpahlearik C 63.69 25 P **P** **13 07 18.5 +0.6**
E18K IAmb IAmb 13 07 22.9
comp=Z,5.1nm,1.1s
G18K Tagagawik 64.45 27 P **P** **13 07 23.7 +0.7**
G18K IAmb IAmb 13 07 30.5
comp=Z,5.7nm,1.1s
E19K Redstone River 64.99 25 P **P** **13 07 27.7 +1.3**
E19K IAmb IAmb 13 07 28.5
comp=Z,5.3nm,0.8s
TTA Tatalina 65.75 30 P **P** **13 07 32.9 +1.4**
TTA IAmb IAmb 13 07 33.0
comp=Z,11nm,1.5s
CAST Castle Rocks 67.47 29 P **P** **13 07 43.7 +1.2**
CAST IAmb IAmb 13 07 44.9
comp=Z,5.3nm,0.9s
PPLA Purkeypile 67.49 30 P **P** **13 07 43.9 +1.1**
STLK Strandline Lak 67.86 31 P **P** **13 07 45.8 +0.7**
E24K Your Creek 68.24 24 P **P** **13 07 48.8 +1.4**
E24K IAmb IAmb 13 07 49.4
comp=Z,3.1nm,0.8s
SUA Susitna One 68.38 31 P **P** **13 07 48.1 -0.3**
RND Reindeer 68.90 29 P **P** **13 07 51.8 +0.3**
ILAR Eielson Array 69.48 27 P **P** **13 07 54.3 -0.7**
comp=Z,0.8nm,0.7s,baz=293,slow=8.1,SNR=11
comp=Z,0.8nm,0.7s
BMAR Burnt Mountain 69.82 24 P **P** **13 07 58.4 +1.2**
SPITS Spitsbergen Ar 70.05 348 LR LR 13 42 39.2
comp=Z,28nm,18.0s,baz=334,slow=39
J26L Joseph Creek 70.94 27 P **P** **13 08 04.2 +0.2**
J26L IAmb IAmb 13 08 05.0
comp=Z,4.8nm,0.9s
FINES FINESS Array B 72.07 330 P **P** **13 08 09.8 -1.0**
comp=Z,0.7nm,0.5s,baz=90,slow=11,SNR=3.8
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 73.49 318 P **P** **13 08 17.8 -1.6**
comp=Z,0.2nm,0.3s,baz=78,slow=1.7,SNR=1.3
comp=Z,0.2nm,0.3s
BRTR Keskin Array B 73.77 307 P **P** **13 08 22.4 +0.9**
comp=Z,0.5nm,0.5s,baz=124,slow=2.2,SNR=2.6
comp=Z,0.5nm,0.5s
HFS Hagfors 78.19 331 LR LR 13 46 20.1
comp=Z,55nm,18.7s,baz=74,slow=38
NOA NORSAR Array B 78.84 332 P **P** **13 08 48.7 -1.0**
comp=Z,0.6nm,0.8s,baz=60,slow=5.7,SNR=2.5
NOA LR LR 13 47 12.1
comp=Z,38nm,18.6s,baz=60,slow=38
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 83.28 23 P **P** **13 09 12.4 -0.9**
comp=Z,0.7nm,0.8s,baz=316,slow=4.9,SNR=10
comp=Z,0.7nm,0.8s

*IDC **04** 13:07:34.1±0.7, 5°.65N×126°.70E, h0km, mb3.9/10, mbtmp3.9/10, MS2.8/2, Error ellipse: s-maj=70.2km s-min=15.6km az=69.0*
*NEIC **04** 13:07:38.6±1.6, 5°.55N±0°.03×126°.7E±0°.2, h35km±2km, mb3.9/11, Error ellipse: s-maj=29.9km s-min=5.1km az=85.0*
ISC 04 13:07:41.6±0.7, 5°.47N±0°.07×126°.5E±0°.2, h66km, n28, σ1§47/28, mb3.9/16, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.83**	**330**	Pn	**Pn**	**13 08 07.9**	**-3.0**
TOLI2	**Tolitoli**	**7.16**	**233**	Pn	**Pn**	**13 09 23.3**	**-0.4**
LUWI	**Luwuk**	**7.46**	**210**	Pn	**Pn**	**13 09 26.4**	**-1.5**
SAUI	**Saumlaki**	**14.20**	**160**	P	**Pn**	**13 10 59.2**	**-0.3**
MTN	**Manton Dam**	**18.77**	**166**	P	**P**	**13 11 52.8**	**-2.7**
KNRA	**Kununurra**	**21.13**	**174**	P	**P**	**13 12 20.4**	**-0.7**
KNRA				IAmb	IAmb	13 12 45.3	
comp=Z,3.0nm,0.9s							
FITZ	**Fitzroy Crossi**	**23.43**	**182**	P	**P**	**13 12 45.4**	**+0.2**
JCJ	**Chichijima**	**26.19**	**33**	LR	LR	13 22 53.8	
comp=Z,18nm,20.8s,baz=14,slow=36							
WB0	**Warramunga Arr**	**26.25**	**163**	P	**P**	**13 13 10.7**	**-0.1**
WB0				IAmb	IAmb	13 13 35.4	
comp=Z,4.0nm,0.8s							
WRA	**Warramunga Arr**	**26.41**	**163**	P	**P**	**13 13 10.2**	**-2.0**
WRA	**Warramunga Arr**	**26.41**	**163**	P	**P**	**13 13 14.0**	**+1.8**
comp=Z,0.8nm,0.6s,baz=343,slow=10,SNR=21							
WRA				PcP	**PcP**	**13 16 38.7**	**+2.2**
comp=Z,1.5nm,1.2s,baz=347,slow=2.6,SNR=2.0							
comp=Z,0.8nm,0.6s							
WR8	**Warramunga Arr**	**26.46**	**163**	P	**P**	**13 13 14.0**	**+1.3**
WR8				IAmb	IAmb	13 13 31.1	
comp=Z,4.5nm,1.0s							
AS31	**Alice Springs**	**29.85**	**166**	P	**P**	**13 13 41.8**	**-1.0**
AS31				IAmb	IAmb	13 14 06.4	
comp=Z,1.1nm,1.1s							
ASAR	**Alice Springs**	**29.85**	**166**	P	**P**	**13 13 42.8**	**-0.1**
ASAR	**Alice Springs**	**29.85**	**166**	P	**P**	**13 13 44.3**	**+1.4**
comp=Z,0.4nm,0.7s,baz=342,slow=7.0,SNR=16							
ASAR				PcP	**PcP**	**13 16 47.0**	**+2.1**
comp=Z,0.3nm,0.4s,baz=351,slow=2.4,SNR=7.5							
comp=Z,0.4nm,0.7s							
KSRS	**Korea Array**	**31.86**	**2**	LR	LR	13 27 30.5	
comp=Z,16nm,19.2s,baz=220,slow=38							
BBOO	**Buckleboo**	**39.14**	**167**	P	**P**	**13 15 02.5**	**-0.4**
BBOO				IAmb	IAmb	13 15 04.1	
comp=Z,5.8nm,1.1s							
STKA	**Stephens Creek**	**39.83**	**160**	P	**P**	**13 15 06.6**	**-2.0**
STKA	**Stephens Creek**	**39.83**	**160**	P	**P**	**13 15 09.9**	**+1.3**
comp=Z,2.3nm,0.8s,baz=348,slow=8.7,SNR=3.9							
comp=Z,2.3nm,0.8s							
SONM	**Songino Array**	**45.59**	**341**	P	**P**	**13 15 55.5**	**+0.3**
comp=Z,0.6nm,0.7s,baz=146,slow=6.7,SNR=2.8							
comp=Z,0.6nm,0.7s							
MK31	**Makanchi Array**	**56.01**	**325**	P	**P**	**13 17 12.7**	**-0.8**
MK31				IAmb	IAmb	13 17 26.9	
comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**56.01**	**325**	P	**P**	**13 17 13.2**	**-0.3**
MKAR	**Makanchi Array**	**56.01**	**325**	P	**P**	**13 17 14.0**	**+0.5**
comp=Z,0.5nm,0.3s,baz=120,slow=6.8,SNR=13							
comp=Z,0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**60.16**	**327**	P	**P**	**13 17 43.5**	**+1.1**
comp=Z,1.4nm,0.6s,baz=124,slow=6.3,SNR=11							
comp=Z,1.4nm,0.6s							
BVAR	**Borovoye Array**	**65.75**	**327**	P	**P**	**13 18 20.9**	**+1.5**
comp=Z,0.7nm,0.6s,baz=132,slow=6.2,SNR=5.3							
comp=Z,0.7nm,0.6s							
ILAR	**Eielson Array**	**83.64**	**25**	P	**P**	**13 20 03.0**	**+0.3**
comp=Z,0.2nm,0.6s,baz=252,slow=4.9,SNR=5.3							
comp=Z,0.2nm,0.6s							
ARCES	**ARCESS Array B**	**88.75**	**340**	P	**P**	**13 20 29.2**	**+1.5**
comp=Z,2.2nm,0.8s,baz=81,slow=7.5,SNR=3.7							
comp=Z,2.2nm,0.8s							
FINES	**FINESS Array B**	**90.20**	**332**	P	**P**	**13 20 35.2**	**+0.6**
comp=Z,0.6nm,0.5s,baz=63,slow=5.9,SNR=4.4							
comp=Z,0.6nm,0.5s							

TAP 04 13:10:55.8, 22°.97N×120°.86E, h5km, ML2.3, 5C-5D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.21**	**339**	⇓iP	Pg	13 11 00.2	+0.2
STYH				S	Sg	13 11 03.6	+0.7
TWG	**Pinlang**	**0.25**	**127**	⇓iP	Pg	13 11 01.7	+1.1
TWG				S	Sg	13 11 05.1	+1.3
TWGBT	**Beinan**	**0.25**	**126**	P	Pg	13 11 01.3	+0.6
TWGBT	**Beinan**	**0.25**	**126**	⇓iP	Pg	13 11 01.7	+1.0
TWGBT				S	Sg	13 11 05.1	+1.0
LONT	**Longtian**	**0.26**	**104**	P	Pg	13 11 01.8	+1.0
LONT				S	Sg	13 11 05.3	+1.0
ELDTW	**Lidau**	**0.26**	**34**	⇑iP	Pg	13 11 01.7	+0.8
ELDTW				S	Sg	13 11 05.0	+0.5
SGST	**Jiashian**	**0.28**	**294**	⇑iP	Pg	13 11 02.1	+0.9
SGST				S	Sb	13 11 06.7	-1.5
TSMG	**Majia**	**0.33**	**217**	P	Pg	13 11 02.5	+0.4
TSMG				S	Sg	13 11 06.6	+0.2
TTN	**Taitung**	**0.34**	**129**	S	Sb	13 11 09.9	-0.2
SCST	**Cishan**	**0.35**	**256**	P	Pb	13 11 04.3	-0.1
ECS	**Chishang**	**0.36**	**69**	⇑iP	Pb	13 11 03.8	-0.7
ECS				S	Sb	13 11 08.9	-1.5
WTP	**Ta-pu**	**0.36**	**321**	⇓P	Pb	13 11 04.7	+0.1
WTP				S	Sb	13 11 10.2	-0.4
EHD	**Haiduan**	**0.37**	**61**	⇑iP	Pg	13 11 03.2	+0.3
EHD				S	Sg	13 11 07.8	+0.1
CHN1	**Nanshi**	**0.37**	**305**	eP	Pb	13 11 05.5	+0.6
CHN1				eS	Sb	13 11 12.5	+1.6
ECL	**Taimali**	**0.38**	**167**	⇓P	Pg	13 11 03.9	+0.7
ECL				S	Sg	13 11 08.6	+0.5
TPUB	**Ta-pu**	**0.39**	**328**	P	Pb	13 11 05.1	-0.1
TPUB	**Ta-pu**	**0.39**	**328**	eP	Pb	13 11 05.4	+0.2
TPUB				eS	Sb	13 11 11.3	-0.3
EDH	**Donghe**	**0.41**	**89**	eP	Pb	13 11 05.1	-0.4
EDH				eS	Sb	13 11 11.2	-0.8
MASBT	**Mashibuluo**	**0.41**	**210**	⇑iP	Pg	13 11 04.3	+0.6
MASBT				S	Sg	13 11 09.8	+0.7
SNST	**Tainan City**	**0.41**	**307**	eP	Pb	13 11 06.7	+1.1
TWM1	**Shoushan**	**0.43**	**250**	eP	Pb	13 11 06.5	+0.7
TWK	**Hsinying**	**0.45**	**311**	eP	Pb	13 11 07.1	+0.9
CHN4	**Tsaushan**	**0.45**	**327**	eP	Pb	13 11 06.8	+0.6
FULB	**Fuli**	**0.46**	**60**	eP	Pb	13 11 06.0	-0.4
FULB				eS	Sb	13 11 12.6	-0.9
CHKT	**Chengkung**	**0.48**	**74**	eP	Pb	13 11 06.8	+0.1
CHKT				eS	Sb	13 11 14.5	+0.3
WCKO	**Fanlu**	**0.52**	**334**	eP	Pb	13 11 08.4	+1.0
WCKO				eS	Sb	13 11 16.5	+1.2
ALS	**Alishan**	**0.54**	**355**	eP	Pb	13 11 07.5	-0.4
ALS				eS	Sb	13 11 15.5	-0.6
CHKH	**Chenggong**	**0.54**	**66**	eP	Pg	13 11 06.9	+0.7
CHKH				eS	Sb	13 11 16.1	+0.2
TWF1	**Yuli**	**0.56**	**47**	eP	Pg	13 11 07.1	+0.6
TWF1				eS	Sg	13 11 14.5	+0.8
EYUL	**Yuli**	**0.57**	**48**	eP	Pg	13 11 07.2	+0.6
EAST	**Anshuo**	**0.58**	**181**	eP	Pb	13 11 07.7	-0.7
YULB	**Yu-li**	**0.58**	**44**	P	Pg	13 11 07.1	+0.1
YULB	**Yu-li**	**0.58**	**44**	eP	Pg	13 11 07.3	+0.3
YULB				eS	Sg	13 11 14.8	+0.2
TAWH	**Dawu Township**	**0.63**	**177**	eP	Pb	13 11 08.9	-0.3
TAWH				eS	Sg	13 11 16.6	+0.7
SCZT	**Fangliau**	**0.63**	**200**	eP	Pg	13 11 08.6	+0.6
SCZT				eS	Sg	13 11 16.6	+0.4
LDUT	**Ludao**	**0.64**	**117**	eP	Pb	13 11 09.1	-0.2
LDUT				eS	Sb	13 11 18.7	+0.2
ECBN	**Changbin**	**0.65**	**58**	eP	Pb	13 11 09.8	+0.3
CHN5	**Tsauling**	**0.65**	**345**	eP	Pb	13 11 10.0	+0.4
CHN5				eS	Sb	13 11 20.2	+1.2
EHY	**Hungye**	**0.68**	**39**	eP	Pg	13 11 09.2	+0.3
EHY				eS	Sg	13 11 18.4	+0.6
EHYH	**Wanrong**	**0.69**	**41**	eP	Pg	13 11 09.4	+0.4
WHYT	**Xinyi Township**	**0.72**	**360**	eP	Pb	13 11 10.9	0.0
TSCK	**Chigu Township**	**0.73**	**284**	eP	Pn	13 11 12.8	+0.1
TSCK				eS	Sn	13 11 24.8	+0.5
HGSD	**Ruisui**	**0.74**	**45**	eP	Pb	13 11 11.2	+0.1
HGSD				eS	Sb	13 11 21.9	+0.5
SLIU	**Shizi**	**0.75**	**184**	eP	Pb	13 11 10.8	-0.4
WDLH	**Douliu**	**0.77**	**338**	eP	Pn	13 11 13.6	+0.3
WDLH				eS	Sn	13 11 25.3	0.0
WSL	**Shuilin Townsh**	**0.80**	**314**	eP	Pn	13 11 13.6	0.0
WSL				eS	Sn	13 11 25.5	-0.4
SSLB	**Suanglung**	**0.82**	**6**	P	Pb	13 11 12.4	-0.1
SSLB	**Suanglung**	**0.82**	**6**	eP	Pg	13 11 11.9	+0.4
VWDT	**VWDT**	**0.82**	**18**	eP	Pg	13 11 11.7	+0.1
WJS	**Zhushan**	**0.86**	**352**	eP	Pn	13 11 14.2	-0.3
EGFH	**Guangfu**	**0.87**	**37**	eP	Pg	13 11 12.7	+0.2
WARBT	**Fenglin Townsh**	**0.89**	**33**	eP	Pg	13 11 12.6	-0.3
SMLT	**Sun Moon Lake**	**0.91**	**2**	eP	Pb	13 11 13.7	-0.4
SMLT				eS	Sn	13 11 28.9	+0.1
TYC	**Yuchr**	**0.93**	**360**	eP	Pn	13 11 15.5	0.0
TYC				eS	Sn	13 11 29.9	+0.7
ESL	**Shilin**	**0.99**	**32**	eP	Pb	13 11 15.3	-0.2
TWK1	**Hengchun**	**1.02**	**183**	eP	Pn	13 11 18.6	+1.9
OWD	**Renai**	**1.02**	**17**	eP	Pb	13 11 15.8	-0.2
TWKBT	**Hengchun**	**1.02**	**182**	eP	Pn	13 11 17.9	+1.2
SHUL	**Shoufeng**	**1.04**	**38**	eP	Pb	13 11 16.4	+0.1
WUSB	**Renai**	**1.05**	**13**	eP	Pg	13 11 15.6	-0.2
WCS	**Beigang Elemen**	**1.08**	**3**	eP	Pn	13 11 17.8	+0.2
WCS				eS	Sn	13 11 33.8	+0.9
WDGT	**Dungji**	**1.14**	**285**	eP	Pn	13 11 18.8	+0.4
ETM	**Tongmen**	**1.15**	**30**	eP	Pg	13 11 17.9	0.0
LXIB	**Xiulin Townshi**	**1.17**	**26**	eP	Pg	13 11 18.0	-0.1
LXIB				eS	Sn	13 11 35.0	-0.2
WHF	**Hehuan Shan**	**1.23**	**18**	eP	Pb	13 11 19.7	-0.1
WHP	**Taichung City**	**1.30**	**4**	eP	Pb	13 11 22.1	+1.3
WHP				eS	Sn	13 11 41.1	+2.6
FUSS	**Fushou**	**1.32**	**15**	eP	Pb	13 11 21.3	+0.1
ETLH	**Xiulin Townshi**	**1.36**	**25**	eP	Pn	13 11 21.5	+0.1
NACB	**Ninganchiao**	**1.38**	**29**	P	Pg	13 11 22.2	0.0
NACB	**Ninganchiao**	**1.38**	**29**	eP	Pn	13 11 21.5	-0.1
NACB				eS	Sb	13 11 39.4	-0.5
NNSB	**Datong**	**1.53**	**18**	eP	Pb	13 11 24.7	0.0
LIOB	**Emei**	**1.68**	**5**	eP	Pb	13 11 27.4	+0.3
YHNB	**Yeheng**	**1.76**	**16**	P	Pg	13 11 29.4	-0.1
YHNB	**Yeheng**	**1.76**	**16**	eP	Pg	13 11 29.1	-0.3
YHNB				eS	Sg	13 11 53.7	+1.4
ENTT	**Nioudou**	**1.79**	**21**	eP	Pg	13 11 29.9	-0.2
ENTT				eS	Sg	13 11 54.0	+0.8
FUSB	**Fushanzhiwuyua**	**1.90**	**20**	eP	Pb	13 11 31.6	+0.6

IDC 04 13:13:01.7±3.1, 31°.67S×178°.12W, h0km, mb3.6/2, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=72.3km s-min=46.8km az=122.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.65**	**209**	Pn	Pn	13 14 53.7	-0.7
0.2nm,0.3s,baz=18,slow=12,SNR=1.3							
URZ				Sn	Sn	13 16 16.8	-5.0
1.4nm,0.3s,baz=94,slow=16,SNR=7.8							
12nm,1.2s							
ASAR	**Alice Springs**	**42.95**	**268**	P	P	13 21 02.8	+0.1
0.5nm,0.5s,baz=107,slow=7.6,SNR=19							
0.5nm,0.5s							
WRA	**Warramunga Arr**	**44.06**	**274**	P	P	13 21 11.4	-0.2
0.4nm,0.3s,baz=113,slow=7.8,SNR=8.9							
0.4nm,0.3s							
FINES	**FINESS Array B**	**146.29**	**339**	PKPbc	PKPdf	13 32 42.7	+0.3
1.2nm,0.6s,baz=48,slow=2.1,SNR=6.0							

BER 04 13:15:47.6±0.3, 61°.12N×9°.04E, h0km, ML0.6, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAR	**Skarslia**	**0.57**	**220**	eP	Pg	13 15 57.8	-0.6
NC204	**NORSAR Array S**	**0.85**	**78**	eP	Pg	13 16 02.8	-1.1
NB201	**NORSAR Array S**	**1.10**	**93**	eP	Pg	13 16 07.0	-1.6
NB201				eS	Sg	13 16 21.8	-0.9
NB201				IAML		13 16 26.1	
comp=Z,1.9nm,0.1s							
NC303	**NORSAR Array S**	**1.13**	**83**	eP	Pg	13 16 08.0	-1.3
NC303				eS	Sg	13 16 22.9	-1.0
NC303				IAML		13 16 28.0	
comp=Z,1.8nm,0.2s							
NC602	**NORSAR Array S**	**1.28**	**106**	eP	Pg	13 16 10.3	-1.8

UPP 04 13:16:12.5±0.1, 63°.30N×18°.90E, h0km, ML1.7, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUSU	**Husum**	**0.15**	**72**	P	Pg	13 16 15.7	+0.3
HUSU				S	Sg	13 16 17.9	+0.6
BREU	**Bredtraesk**	**0.61**	**346**	P	Pg	13 16 24.1	-0.2
BREU				S	Sg	13 16 32.4	+0.2
HEMU	**Hemsoen**	**0.74**	**213**	P	Pg	13 16 26.3	-0.3
HEMU				S	Sg	13 16 36.7	+0.5
SOLU	**Sollefteaa**	**0.74**	**267**	P	Pg	13 16 26.8	0.0
SOLU				S	Sg	13 16 36.8	+0.4
SVAU	**Svanoeiden**	**1.23**	**14**	P	Pg	13 16 35.7	-0.5
ODEU	**Stanfors**	**1.38**	**35**	P	Pg	13 16 37.9	-0.9
HASU	**Hassela**	**1.56**	**224**	P	Pn	13 16 41.2	-0.1
BURU	**Burvik**	**1.69**	**39**	P	Pn	13 16 43.6	+0.4
ARNU	**Arnoeviken**	**1.76**	**204**	P	Pn	13 16 44.5	+0.3
HUDU	**Hudiksvall**	**1.77**	**209**	P	Pn	13 16 44.9	+0.6

TXNET 04 13:51:04.3, 31°.5N±0°.6×103°.3W±0°.9, h5km±1km, ML1.8/7, Error ellipse: s-maj=1.4km s-min=0.9km az=101.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB06	**Permian Basin**	**0.11**	**17**	P	Pg	13 51 07.2	+0.4
TPB06				S	Sg	13 51 09.1	+0.7
PCOS	**Crockett Middl**	**0.25**	**239**	S	Sb	13 51 14.8	-1.4
TPB04	**Verhalen**	**0.35**	**182**	P	Pg	13 51 12.0	+0.8
TPB04				S	Sg	13 51 17.4	+1.6
TPB16	**Coyonosa**	**0.41**	**180**	P	Pg	13 51 12.9	+0.5
TPB16				S	Sb	13 51 19.4	-1.3
TPB16	**Coyonosa**	**0.41**	**180**	P	Pg	13 51 12.8	+0.5
TPB16				S	Sb	13 51 19.4	-1.3
MNHN	**Monahans**	**0.47**	**115**	P	Pg	13 51 13.8	+0.5
MNHN				S	Sb	13 51 21.3	-1.0
TPB10	**Southeast of T**	**0.50**	**239**	P	Pb	13 51 15.0	-0.5
TPB10				S	Sb	13 51 22.5	-0.7
PECS	**Pecos**	**0.55**	**252**	P	Pg	13 51 15.6	+0.8
PECS				S	Sg	13 51 23.3	+1.2
TPB05	**Hovey Rd**	**0.62**	**185**	P	Pg	13 51 16.5	+0.3
TPB05				S	Sb	13 51 25.9	-0.9
TPB12	**Southwest of T**	**0.68**	**242**	S	Sb	13 51 27.7	-0.8
TPB08	**Permian Basin**	**0.71**	**155**	S	Sb	13 51 28.8	-0.6
TPB01	**Permian Basin**	**0.74**	**217**	P	Pb	13 51 19.7	-0.2
TPB01				S	Sb	13 51 30.0	-0.3
ODSA	**Odessa**	**0.83**	**46**	P	Pg	13 51 20.8	+0.4
ODSA				S	Sb	13 51 32.1	-0.9
VHRN	**Van Horn**	**1.66**	**244**	P	Pb	13 51 35.4	-0.1
VHRN				S	Sg	13 51 57.8	+0.1
MNTX	**Cornudas Mount**	**1.82**	**276**	P	Pb	13 51 38.2	0.0
MNTX				S	Sg	13 52 02.5	-0.3
SGCY	**Sterling City**	**1.85**	**78**	S	Sg	13 52 03.4	-0.5
SAND	**Sanderson**	**1.86**	**148**	P	Pb	13 51 39.1	+0.3
SAND				S	Sg	13 52 03.9	-0.1
OZNA	**Ozona**	**1.93**	**108**	P	Pb	13 51 39.4	-0.6
OZNA				S	Sb	13 52 05.1	+0.8

*IDC **04** 13:55:34.2±1.1, 56°.58N×148°.66W, h0km, mb3.8/12, mbtmp3.8/16, ML3.5/4, MS3.3/23, Error ellipse: s-maj=28.3km s-min=16.9km az=16.0*
*NEIC **04** 13:55:35.7±1.2, 56°.5N±0°.1×149°.0W±0°.1, h20km±11km, ML3.9/74, ML3.7(AEIC), Error ellipse: s-maj=16.5km s-min=9.3km az=159.0*
*AEIC **04** 13:55:37.1±1.6, 56°.4N±0°.1×149°.0W±0°.1, h2km±9km, Error ellipse: s-maj=17.0km s-min=9.6km az=157.0*
ISC 04 13:55:37.8±0.7, 56°.44N±0°.08×148°.94W±0°.05, h35km, n117, σ1§62/85, mb3.9/12, MS3.4/18, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.40**	**306**		**Pn**	**13 56 12.9**	**-1.7**
KDAK	**Kodiak Island**	**2.40**	**306**		**Sn**	**13 56 40.2**	**-2.6**
KDAK	**Kodiak Island**	**2.40**	**306**	Pn	**Pn**	**13 56 12.4**	**-

ANCK	Angle Creek	3.97	299			Pn	13 56 36.1 -0.1
SLKM	Skilak Lake	4.14	351			Pn	13 56 36.8 -1.7
HIN	Hinchinbrook I	4.17	17			Pn	13 56 37.7 -1.3
ILSW	Iliamna Southw	4.20	330			Pn	13 56 38.0 -1.4
ILSW					IAML		13 57 29.7
	comp=E,121nm,0.7s						
ILSW					IAML		13 57 33.5
	comp=N,129nm,0.9s						
KAIM	Kayak Island	4.24	32	Pn		Pn	13 56 38.8 -1.0
KAIM					IAML		13 57 41.0
	comp=E,151nm,1.2s						
PWL	Port Wells	4.45	4	IAML			13 57 35.0
	comp=N,122nm,0.7s						
PWL					IAML		13 57 38.8
	comp=E,105nm,0.6s						
EYAK	Cordova Ski Ar	4.45	21	IAML			13 57 38.0
	comp=N,116nm,0.7s						
EYAK					IAML		13 57 38.0
	comp=E,115nm,1.1s						
EYAK	Cordova Ski Ar	4.45	21	P		Pn	13 56 42.0 -0.7
EYAK	Cordova Ski Ar	4.45	21	S		Sn	13 57 30.9 -2.3
P18K	Big Mountain,	4.48	314			Pn	13 56 41.4 -1.8
FID	Port Fidalgo	4.51	16	IAML			13 57 33.5
	comp=N,88nm,0.6s						
FID					IAML		13 57 35.1
	comp=E,97nm,0.4s						
SUCK	Suckling Hills	4.55	35	IAML			13 57 43.2
	comp=E,117nm,1.0s						
GLI	Glacier Island	4.56	11	IAML			13 57 36.1
	comp=E,116nm,1.1s						
GLI					IAML		13 57 36.3
	comp=N,78nm,0.9s						
RC01	Rabbit Creek A	4.69	355	IAML			13 57 38.5
	comp=N,96nm,0.6s						
RC01					IAML		13 57 42.3
	comp=E,113nm,0.5s						
O18K	Koktuh Hills	4.77	319			Pn	13 56 45.5 -1.7
O18K					IAML		13 57 46.7
	comp=N,62nm,0.9s						
SNH	Sunshine Point	4.94	38	IAML			13 57 51.9
	comp=E,54nm,1.1s						
SNH					IAML		13 58 26.8
	comp=N,71nm,1.2s						
BMRM	Bremner River	5.08	25	IAML			13 57 54.9
	comp=N,64nm,1.0s						
BMRM					IAML		13 58 00.7
	comp=E,70nm,0.9s						
PMR	Palmer	5.17	359	IAML			13 57 49.9
	comp=E,48nm,0.7s						
PMR					IAML		13 57 50.0
	comp=N,42nm,0.4s						
PMR	Palmer	5.17	359	P		Pn	13 56 52.0 -0.6
MESA	MESA	5.26	42			Pn	13 56 54.0 0.0
MESA					IAML		13 58 05.1
	comp=E,69nm,1.1s						
MESA					IAML		13 58 11.0
	comp=N,64nm,1.0s						
N19K	Bonanza Creek	5.26	329	IAML			13 57 56.0
	comp=N,34nm,0.7s						
STLK	Strandline Lak	5.29	345	IAML			13 57 58.0
	comp=E,52nm,0.7s						
STLK					IAML		13 58 03.6
	comp=N,44nm,0.8s						
KLU	Klutina	5.31	16	IAML			13 57 59.3
	comp=N,69nm,0.4s						
KLU					IAML		13 58 01.6
	comp=E,66nm,0.5s						
SML	Sawmill	5.40	3	IAML			13 57 57.9
	comp=E,65nm,0.7s						
SML					IAML		13 57 59.7
	comp=N,79nm,1.1s						
YAH	Yahtse	5.46	41			Pn	13 56 56.0 -0.8
P16K	Nushagak River	5.50	302			Pn	13 56 56.5 -0.6
N18K	Kilae Creek	5.60	322			Pn	13 56 56.7 -1.8
N25K	Chitina, Valde	5.65	22	Pn		Pn	13 56 58.6 -0.7
O16K	Kokwok River B	5.80	307			Pn	13 57 00.2 -1.1
PCA	Pinnacle	5.87	48			Pn	13 57 01.8 -0.5
N17K	Nushagak Hills	5.96	317			Pn	13 57 02.1 -1.4
CHNA	Chernabura Isl	6.24	260	P		Pn	13 57 05.6 -1.7
O15K	Ungalikthiuk R	6.43	300			Pn	13 57 09.0 -1.0
L19K	White Mountain	6.51	335			Pn	13 57 09.1 -1.9
M17K	Holitna River	6.64	322			Pn	13 57 11.3 -1.5
PAX	Paxson	6.79	14	Pn		Pn	13 57 14.8 -0.1
M27K	Edge Creek, AK	6.95	28			Pn	13 57 17.0 -0.1
M16K	Timber Creek	6.95	316			Pn	13 57 15.9 -1.1
N15K	Kwethluk River	6.97	307			Pn	13 57 16.3 -1.0
RND	Reindeer	7.00	0			Pn	13 57 17.4 -0.4
TRF	Thorofare Moun	7.07	355	Pn		Pn	13 57 18.3 -0.5
CAST	Castle Rocks	7.18	349	Pn		Pn	13 57 20.2 0.0
HYT	Haines Junctio	7.41	49	Pn		Pn	13 57 23.3 -0.2
K24K	Donnelly Dome	7.56	11			Pn	13 57 26.9 +1.5
BCAR	Beaver Creek A	7.56	26	Pn		Pn	13 57 25.6 +0.1
RIDG	Independent Ri	7.61	14	Pn		Pn	13 57 26.4 +0.3
SKAG	Skagway	7.85	62	Pn		Pn	13 57 28.7 -0.7
SKAG	Skagway	7.85	62	P		Pn	13 57 28.8 -0.5
BESE	Bessie Mountai	7.88	68	Pn		Pn	13 57 28.8 -1.2
JIS	Juneau Island	8.09	71	P		Pn	13 57 31.4 -1.2
IL31		8.43	6	Pn		Pn	13 57 37.2 0.0
ILAR	Eielson Array	8.43	6	Pn		Pn	13 57 34.8 -2.4
	comp=N,0.4nm,0.3s,baz=190,slow=13,SNR=16						
ILAR				Sn		Sn	13 59 06.5 -4.5
	comp=N,0.9nm,0.3s,baz=191,slow=25,SNR=10.0						
ILAR				LR		LR	14 00 35.0
	comp=N,57nm,21.2s,baz=260,slow=36						
P33M	Teslin, Yukon	9.28	59			Pn	13 57 48.2 -0.8
R33M	Jennings River	10.01	65	Pn		Pn	13 57 58.3 -0.8
DLBC	Dease Lake	10.39	71	Pn		Pn	13 58 01.4 -2.8
	comp=N,0.6nm,0.3s,baz=266,slow=8.5,SNR=8.0						
DLBC				Sn		Sn	13 59 55.5 -3.7
	comp=N,0.1nm,0.3s,baz=263,slow=21,SNR=1.4						
DLBC				LR		LR	14 01 26.2
	comp=N,125nm,21.5s,baz=206,slow=34						
	comp=N,1.3nm,0.3s						
F20K	Avaraart Lake	11.12	346			Pn	13 58 13.3 -0.7
E24K	Your Creek	11.69	1			Pn	13 58 22.4 +0.5
BBB	Bella Bella	12.87	101	LR		LR	14 02 13.3
	comp=N,115nm,19.9s,baz=296,slow=31						
INK	Inuvik	13.83	24	Pn		Pn	13 58 50.2 -0.8
	comp=N,0.2nm,0.3s,baz=211,slow=15,SNR=11						
	comp=N,3.8nm,0.8s						
YKA	Yellowknife Ar	18.30	57	P		Pn	13 59 48.0 -0.5
	comp=N,0.1nm,0.3s,baz=267,slow=12,SNR=12						
YKA				LR		LR	14 06 41.2
	comp=N,69nm,18.9s,baz=256,slow=37						
	comp=N,1.3nm,0.9s						
NEW	Newport	20.93	99	LR		LR	14 06 44.1
	comp=N,70nm,20.2s,baz=292,slow=32						
YBH	Yreka Blue Hor	22.42	120	LR		LR	14 07 04.5
	comp=N,132nm,19.7s,baz=317,slow=31						
ELK	Elko	26.91	111	LR		LR	14 10 22.9
	comp=N,36nm,18.3s,baz=331,slow=33						
NVAR	Mina Array Bea	27.12	119	P		P	14 01 18.2 +0.7
	comp=N,0.3nm,0.7s,baz=322,slow=9.9,SNR=1.5						
NVAR				LR		LR	14 09 54.5
	comp=N,68nm,20.4s,baz=298,slow=32						
	comp=N,0.3nm,0.7s						
RES	Resolute Bay	27.34	28	LR		LR	14 11 51.3
	comp=N,47nm,18.8s,baz=17,slow=36						
PDAR	Pinedale Array	28.51	102	P		P	14 01 29.3 -0.7
	comp=N,0.2nm,0.6s,baz=314,slow=7.5,SNR=2.5						
	comp=N,0.2nm,0.6s						
PETK	Petropavlovsk-	30.32	287	LR		LR	14 14 20.9
	comp=N,37nm,20.1s,baz=76,slow=37						
MA2	Magadan	31.14	301	LR		LR	14 14 13.9
	comp=N,73nm,19.2s,baz=112,slow=36						
PFO	Pinyon Flats O	31.88	122	LR		LR	14 12 32.7
	comp=N,62nm,18.7s,baz=47,slow=32						
FRB	Frobisher Bay	38.19	45	LR		LR	14 18 49.2
	comp=N,94nm,18.2s,baz=282,slow=37						
YAK	Yakutsk	39.41	313	LR		LR	14 19 55.3
	comp=N,52nm,21.3s,baz=221,slow=37						
TXAR	Lajitas Array	41.70	111	LR		LR	14 19 32.9
	comp=N,27nm,18.1s,baz=40,slow=35						
SFJD	Kangerlussuaq	42.86	35	LR		LR	14 20 09.5
	comp=N,53nm,20.3s,baz=255,slow=35						
KLR	Kul'dur	45.93	296	LR		LR	14 23 58.9
	comp=N,37nm,20.3s,baz=116,slow=37						
NRIK	Noril'sk	48.04	337	LR		LR	14 26 23.4
	comp=N,62nm,19.7s,baz=28,slow=39						
H11N2	WAKE ISLAND Hy	49.12	240	T		T	14 57 56.1
	baz=32						
H11N3	WAKE ISLAND Hy	49.13	240	T		T	14 58 01.4
	baz=32						
H11N1	WAKE ISLAND Hy	49.14	240	T		T	14 57 53.5
	baz=32						
H11S1	WAKE ISLAND Hy	50.27	240	T		T	14 59 15.6
	baz=28,slow=76,SNR=12						
H11S2	WAKE ISLAND Hy	50.28	240	T		T	14 59 15.6
	baz=28,slow=76,SNR=10						
H11S3	WAKE ISLAND Hy	50.28	240	T		T	14 59 24.6
	baz=28,slow=76,SNR=10						
SONM	Songino Array	58.69	310	P		P	14 05 34.5 +3.0
	comp=N,1.3nm,0.9s,baz=49,slow=7.5,SNR=6.5						
SONM				LR		LR	14 31 33.9
	comp=N,60nm,18.2s,baz=233,slow=37						
	comp=N,1.3nm,0.9s						
ZALV	Zalesovo Beam	61.54	327	P		P	14 05 51.5 +0.8
	comp=N,0.4nm,0.4s,baz=64,slow=9.8,SNR=2.1						
ZALV				LR		LR	14 36 04.9
	comp=N,33nm,19.1s,baz=84,slow=40						
	comp=N,0.4nm,0.4s						
FINES	FINESS Array B	62.40	3	P		P	14 05 55.9 -0.5
	comp=N,3.6nm,1.1s,baz=6.1,slow=16,SNR=2.3						
	comp=N,3.6nm,1.1s						
HFS	Hagfors	62.96	10	P		P	14 06 01.7 +1.5
	comp=N,2.1nm,0.8s,baz=297,slow=9.5,SNR=2.5						
	comp=N,2.1nm,0.8s						
ARTI	Arti	65.38	344	LR		LR	14 38 44.7
	comp=N,27nm,18.4s,baz=52,slow=40						
BVAR	Borovoye Array	66.22	335	P		P	14 06 22.2 +0.6
	comp=N,1.3nm,1.0s,baz=15,slow=12,SNR=2.2						
BVAR				LR		LR	14 38 23.3
	comp=N,32nm,18.8s,baz=58,slow=39						
	comp=N,1.3nm,1.0s						
MKAR	Makanchi Array	68.58	325	P		P	14 06 39.0 +2.3
	comp=N,0.2nm,0.5s,baz=35,slow=6.5,SNR=3.7						
	comp=N,0.2nm,0.5s						
AKASG	Malin Array Be	73.22	1	P		P	14 07 05.2 +0.5
	comp=N,1.7nm,0.7s,baz=3.7,slow=6.0,SNR=5.8						
	comp=N,1.7nm,0.7s						
GERES	GERESS Array B	74.09	12	P		P	14 07 10.2 +0.1
	comp=N,0.2nm,0.3s,baz=359,slow=6.3,SNR=1.5						
	comp=N,0.2nm,0.3s						
ESDC	Sonseca Array	79.77	27	P		P	14 07 43.2 +1.2
	comp=N,0.8nm,0.8s,baz=318,slow=3.4,SNR=2.7						
	comp=N,0.8nm,0.8s						
BRTR	Keskin Array B	84.18	358	P		P	14 08 06.7 +1.3
	comp=N,0.5nm,0.6s,baz=23,slow=6.7,SNR=3.6						
	comp=N,0.5nm,0.6s						
QSPA	South Pole Qui	146.23	180	PKPbc		PKiKP	14 15 15.5 -0.6
	comp=N,1.0nm,0.8s,baz=93,slow=6.7,SNR=4.3						

*JMA **04** 14:02:01.1±0.2,23°.9N±0°.5×122°.6E±0°.3,h1km±1km, MV2.5/12,NW OFF ISHIGAKIJIMA IS*
*TAP **04** 14:02:02.8,24°.01N×122°.64E,h31km,ML2.7,D*
ISC 04 14:02:02.1±1.1,23°.94N±0°.03×122°.60E±0°.02,h18km±6km, n67,g0°68/103,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.32	305	*i* P	Pb	14 02 10.1	+1.0
EOS4				*i* S	Sn	14 02 16.1	-1.4
EOS3	EOS3	0.43	323	P	Pn	14 02 12.4	-1.0
EOS3				*i* S	Sb	14 02 18.7	+1.3
EOS2	EOS2	0.58	325	*i* P	Pn	14 02 15.2	-0.3
EOS2				*i* S	Sn	14 02 23.8	-0.7
JYNG	Yonagunijimaku	0.60	32	*e*P	Pb	14 02 14.4	+0.3
JYNG				*e*S	Sn	14 02 23.7	-1.4
YOJ	Yonaguni jima	0.64	36	*e*P	Pb	14 02 15.1	+0.2
YOJ				*e*S	Sn	14 02 25.0	-1.1
YOJ	Yonaguni jima	0.64	36	P	Pb	14 02 15.1	+0.3
YOJ				S	Sg	14 02 22.9	-0.6
EHP	Heping Village	0.87	295	*e*P	Pn	14 02 19.5	0.0
EAHA	Aohua	0.88	297	*e*P	Pg	14 02 19.1	-0.2
EWUT	Wuta	0.91	304	*e*P	Pg	14 02 19.7	0.0
EWUT				S	Sg	14 02 32.1	+0.4
TEYL	Yanliau Villag	0.92	266	*e*S	Sg	14 02 32.4	+0.2
ETL	Fush Village	0.92	284	P	Pn	14 02 20.6	+0.3
ETL				S	Sn	14 02 33.1	0.0
ENA	Nanau	0.92	302	*i* P	Pb	14 02 19.9	+0.2
ENA				*i* S	Sg	14 02 32.6	+0.2
TWD	Chiawan	0.93	279	*e*P	Pb	14 02 19.3	-0.5
TWD				*e*S	Sb	14 02 32.1	+0.4
ESAO	Su ao	0.94	313	*e*S	Sg	14 02 33.1	+0.3
NACB	Ninganchiao	0.95	285	P	Pb	14 02 20.0	-0.1
NACB				*e*S	Sg	14 02 33.2	0.0
TWC	Suao	0.96	314	*i* P	Pb	14 02 20.0	-0.2
TWC				*i* S	Sb	14 02 32.0	-0.5
SHUL	Shoufeng	0.96	261	*e*P	Pb	14 02 20.3	0.0
SHUL				*e*S	Sn	14 02 35.1	+1.1
ETM	Tongmen	1.01	272	*e*P	Pb	14 02 20.2	-1.0
ETLH	Xiulin Townshi	1.06	285	*i* P	Pb	14 02 22.0	0.0
ETLH				*i* S	Sg	14 02 36.2	-0.4
NDS	Dongshan	1.06	311	*e*P	Pg	14 02 22.6	-0.2
LXIB	Xiulin Townshi	1.09	275	P	Pb	14 02 21.9	-0.6
LXIB				*e*S	Sb	14 02 36.8	+0.2
EGS		1.09	326	*e*S	Sg	14 02 38.0	+0.5
IRIF	Iriomote-Funau	1.10	69	*e*P	Pg	14 02 23.5	-0.1
IRIF				*e*S	Sg	14 02 39.1	+1.1
EGFH	Guangfu	1.11	256	*e*P	Pn	14 02 23.1	+0.3
EGFH				*e*S	Sb	14 02 37.1	+0.2
WARBT	Fenglin Townsh	1.13	259	P	Pn	14 02 21.8	-1.3
WARBT				S	Sb	14 02 37.4	-0.3
LATG	Datong	1.15	301	*e*P	Pg	14 02 24.0	-0.4
LATG				*e*S	Sn	14 02 39.1	+0.3
TWE	Neicheng	1.16	313	*i* P	Pb	14 02 24.0	+0.4
TWE				S	Sg	14 02 40.3	+0.7
HGSD	Ruisui	1.17	248	*e*P	Pb	14 02 23.9	+0.1
HGSD				S	Sb	14 02 37.3	-1.3
ENTT	Nioudou	1.18	307	P	Pb	14 02 24.1	+0.2
ENTT				S	Sg	14 02 40.0	-0.3
NNSB	Datong	1.22	294	P	Pb	14 02 25.0	+0.3
NNSB				*i* S	Sn	14 02 40.8	+0.4
ECBN	Changbin	1.22	240	*e*S	Sb	14 02 39.7	-0.5
NNS	Nan Shan	1.23	294	*e*S	Sb	14 02 40.9	+0.4
FUSB	Fushanzhiwuyua	1.23	312	*e*P	Pg	14 02 26.4	+0.3
FUSB				*e*S	Sg	14 02 41.7	-0.5
WHF	Hehuan Shan	1.24	280	P	Pn	14 02 24.9	-0.1
WHF				S	Sb	14 02 40.9	-0.2
EHY	Hungye	1.25	250	P	Pn	14 02 24.2	-0.5
EHY				*e*S	Sb	14 02 40.6	-0.4
TIPB	Shuangxi	1.25	326	*e*P	Pn	14 02 23.7	-1.0
FUSS	Fushou	1.28	284	*e*P	Pb	14 02 25.7	-0.1
FUSS				S	Sn	14 02 42.8	+0.6
NWLT	Wulai	1.30	310	*e*P	Pg	14 02 27.4	0.0
OWD	Renai	1.30	271	*e*P	Pn	14 02 25.8	+0.2
OWD				*e*S	Sb	14 02 41.6	-1.0
YULB	Yu-li	1.31	246	*e*P	Pn	14 02 25.5	-0.1
YULB				S	Sn	14 02 42.1	-0.6
EYUL	Yuli	1.31	244	*e*P	Pn	14 02 25.6	0.0
EYUL				S	Sn	14 02 41.1	-1.6
JKRS	Kuro-shima	1.32	77	*e*P	Pb	14 02 26.7	+0.3
JKRS				*e*S	Sg	14 02 45.1	+0.2
SXI1	Grass Mountain	1.33	330	*e*P	Pb	14 02 26.9	+0.3
TWF1	Yuli	1.33	244	*e*P	Pn	14 02 25.7	-0.2
YHNB	Yeheng	1.33	303	*e*P	Pn	14 02 25.9	-0.1
YHNB				S	Sg	14 02 45.1	-0.3
VWDT	VWDT	1.35	262	*i* P	Pn	14 02 26.4	+0.3
VWDT				S	Sn	14 02 43.4	-0.1
NSK	Sanguang	1.35	303	*e*P	Pb	14 02 27.2	+0.2
NWF	Wu-fen Shan	1.35	327	*e*P	Pb	14 02 27.0	0.0
TDCB	Techi	1.35	284	*e*P	Pn	14 02 26.4	+0.1
WUSB	Renai	1.36	273	*e*P	Pn	14 02 26.6	+0.3
SSLB	Suanglung	1.52	265	*e*P	Pb	14 02 29.8	0.0
SSLB				S	Sb	14 02 49.4	+0.7
WCS	Beigang Elemen	1.55	275	*e*P	Pb	14 02 30.9	+0.6
WHP	Taichung City	1.55	283	*e*P	Pb	14 02 31.0	+0.6
SMLT	Sun Moon Lake	1.56	268	*e*P	Pn	14 02 29.9	+0.8
WHYT	Xinyi Township	1.62	262	*e*P	Pn	14 02 30.8	+0.9
JISG	Ishigakijimahi	1.69	67	*e*S	Sn	14 02 52.4	+0.4
LONT	Longtian	1.70	233	*e*P	Pn	14 02 32.0	+1.1
ALS	Alishan	1.70	256	*e*P	Pn	14 02 32.2	+1.0
WJS	Zhushan	1.72	267	*e*P	Pn	14 02 32.2	+1.0
CHN5	Tsauling	1.79	259	*e*P	Pb	14 02 35.4	+0.8
WCKO	Fanlu	1.90	255	*e*P	Pb	14 02 36.2	0.0
TPUB	Ta-pu	1.92	251	*e*P	Pb	14 02 35.9	-0.7
TPUB				S	Sb	14 02 59.8	-0.4
CHN4	Tsaushan	1.93	253	*e*P	Pb	14 02 36.1	-0.8
WTP	Ta-pu	1.95	250	*e*P	Pb	14 02 36.0	-1.1
CHN1	Nanshi	2.04	249	*e*P	Pb	14 02 37.9	-0.9
TWK	Hsinying	2.05	251	*e*P	Pb	14 02 37.9	-1.0
TSCK	Chigu Township	2.44	252	*i* P	Pn	14 02 42.7	+1.6
TSCK				*e*S	Sn	14 03 12.6	+2.2

IDC 04 14:04:38.9±5.8,13°.01S×167°.30E,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=297.1km

s-min=32.5km az=141.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.31	253	P	P	14 11 09.7	-0.3
	0.5nm,0.9s,baz=83,slow=9.1,SNR=2.0						
	0.5nm,0.9s						
ASAR	Alice Springs	33.35	247	P	P	14 11 19.1	+0.1
	0.5nm,0.8s,baz=80,slow=8.8,SNR=7.4						
	0.5nm,0.8s						
ILAR	Eielson Array	84.89	18	P	P	14 17 15.3	0.0
	0.5nm,0.4s,baz=235,slow=5.0,SNR=13						
	0.5nm,0.4s						

*WEL **04** 14:06:06.3±0.5,40°.5S±3°.×17°.5E±°,h21km±5km,M3.4/70, ML3.8/18,MLv3.4/70,Error ellipse: s-maj=4.3km s-min=3.1km az=114.2,confirmed*
*NOU **04** 14:06:07.0,40°.30S×174°.90E,h28km,MLv3.5/13,Cook Strait, New Zealand*
ISC 04 14:06:06.6±1.2,40°.27S±0°.02×174°.88E±0°.02,h21km±14km, n117,g0°76/130,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	Ohakea	0.34	79	P	Pn	14 06 15.5	-0.7
OHWZ				S	Sn	14 06 22.0	-0.4
WAZ	Wanganui	0.52	9	P	Pb	14 06 15.8	-1.3
OGWZ	Otaki Gorge	0.59	158	P	Pn	14 06 19.1	-0.6
OGWZ				S	Sn	14 06 27.9	-0.7
KIW	Kapiti Island	0.59	178	P	Pn	14 06 19.1	-0.6
KIW				S	Sn	14 06 27.7	-1.0
MRZ	Mangatainoka R	0.66	126	P	Pn	14 06 20.3	-0.3
MRZ				S	Sn	14 06 29.6	-0.9
POWZ	Post Office Ro	0.69	100	P	Pn	14 06 20.6	-0.5
HOWZ	Holdsworth Sta	0.79	142	P	Pn	14 06 22.5	0.0
HOWZ				S	Sn	14 06 33.9	+0.3
CAW	Cannon Point	0.85	170	P	Pn	14 06 23.0	-0.3
TSZ	Takapari Road	0.86	76	P	Pb	14 06 22.7	-0.1
TSZ				S	Sn	14 06 34.9	-0.4
PRWZ	Pori Road	0.88	109	P	Pn	14 06 24.1	+0.4
LREZ	Lake Rotokare	0.89	336	P	Pn	14 06 23.8	0.0
LREZ				S	Sn	14 06 36.6	+0.5
DUWZ	D'Urville Isla	0.90	234	P	Pb	14 06 23.4	-0.1
TIWZ	Tintock	0.92	124	P	Pn	14 06 24.8	+0.5
TIWZ				S	Sn	14 06 37.9	+1.1
DVHZ	Dannevirke	0.99	92	P	Pb	14 06 25.3	+0.3
DVHZ				S	Sn	14 06 39.3	+0.9
MTVZ	Mangateitei	1.00	27	P	Pn	14 06 24.3	-1.1
MTVZ				S	Sb	14 06 38.3	+0.4
WEL	Wellington	1.01	185	P	Pb	14 06 25.5	+0.1
TCW	Tory Channel	1.04	206	P	Pn	14 06 25.6	-0.3
TCW				S	Sn	14 06 39.5	-0.3
SNZO	South Karori	1.04	187	P	Pn	14 06 25.7	-0.2
PKVZ	Pokaka	1.05	20	P	Pn	14 06 24.6	-1.4
PNHZ	Pukenui	1.08	71	P	Pn	14 06 26.1	-0.4
PREZ	Palmer Road	1.08	329	P	Pb	14 06 26.8	+0.2
PREZ				S	Sn	14 06 42.4	+1.6
WNVZ	Wahianoa	1.09	31	P	Pn	14 06 25.7	-1.1
MOVZ	Moawhango	1.10	38	P	Pn	14 06 25.3	-1.4
MOVZ				S	Sb	14 06 40.1	-0.7
TRVZ	Turoa	1.10	28	P	Pn	14 06 25.7	-1.2
BFZ	Birch Farm	1.12	112	P	Pn	14 06 27.0	0.0
BFZ	Birch Farm	1.12	112	P	Pn	14 06 27.0	0.0
WHVZ	Whangaehu Hut	1.13	29	P	Pn	14 06 26.2	-1.1
MAVZ	Matarangi	1.13	28	P	Pn	14 06 26.4	-1.0
BHW	Baring Head	1.14	180	P	Pb	14 06 27.5	+0.1
TMWZ	Te Maipa	1.14	138	P	Pb	14 06 27.4	-0.1
FWVZ	Far West T-bar	1.14	27	P	Pn	14 06 26.2	-1.3
VRZ	Vera Road	1.15	355	P	Pn	14 06 26.9	-0.4
NMEZ	Namu Road	1.15	318	P	Pb	14 06 27.9	+0.1
NEZ	North Egmont	1.17	329	P	Pn	14 06 27.9	+0.2
TUVZ	Tukino	1.17	31	P	Pn	14 06 26.9	-0.9
MSWZ	Moikau Station	1.18	166	P	Pb	14 06 28.4	+0.1
KHEZ	Kahui Hut	1.18	325	P	Pb	14 06 28.2	-0.1
KHEZ	Kahui Hut	1.18	325	S	Sb	14 06 44.8	+1.6
KHEZ	Kahui Hut	1.18	325	P	Pb	14 06 28.3	-0.1
COVZ	Chateau Observ	1.19	26	P	Pn	14 06 26.8	-1.2
CPWZ	Castlepoint	1.19	123	P	Pb	14 06 29.4	+0.9
DREZ	Durham Road	1.20	334	P	Pb	14 06 28.5	-0.1
WPHZ	Waipukurau	1.22	81	P	Pb	14 06 28.8	0.0
NGZ	Ngauruhoe	1.23	27	P	Pn	14 06 27.6	-1.0
SNVZ	South Ngauruho	1.23	29	P	Pn	14 06 27.8	-0.9
ANWZ	Angora Road	1.23	99	P	Pn	14 06 28.6	0.0
OTVZ	Oturere	1.26	29	P	Pn	14 06 28.2	-0.9
NBEZ	Newall Road No	1.27	322	P	Pb	14 06 29.5	-0.2
NNVZ	North Ngauruho	1.27	27	P	Pn	14 06 28.1	-1.2
TWVZ	Taurewa	1.28	20	P	Pn	14 06 27.8	-1.4
WTVZ	West Tongariro	1.28	26	P	Pn	14 06 28.1	-1.2
TRWZ	Traveller	1.28	152	P	Pb	14 06 30.4	+0.4
ETVZ	East Tongariro	1.30	30	P	Pn	14 06 28.7	-0.9
KRHZ	Kereru	1.31	62	P	Pn	14

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.13**	**176**	P	Pg	14 18 15.2	+0.4
TPB03				S	Sg	14 18 17.7	+1.1
PCOS	**Crockett Middl**	**0.20**	**3**	S	Sg	14 18 20.1	+1.3
TPB10	**Southeast of T**	**0.21**	**290**	P	Pg	14 18 17.3	+0.9
TPB10				S	Sg	14 18 20.6	+1.3
TPB04	**Verhalen**	**0.22**	**96**	P	Pg	14 18 17.1	+0.5
TPB04				S	Sg	14 18 20.9	+1.4
TPB16	**Coyonosa**	**0.25**	**110**	P	Pg	14 18 17.5	+0.4
TPB16				S	Sg	14 18 21.9	+1.5
TPB16	**Coyonosa**	**0.25**	**110**	P	Pg	14 18 17.5	+0.4
TPB16				S	Sg	14 18 21.9	+1.5
PECS	**Pecos**	**0.34**	**299**	S	Sg	14 18 24.8	+1.6
TPB05	**Hovey Rd**	**0.34**	**149**	S	Sb	14 18 25.1	-1.4
TPB01	**Permian Basin**	**0.34**	**220**	P	Pb	14 18 20.0	-1.0
TPB01				S	Sg	14 18 25.0	+1.5
TPB12	**Southwest of T**	**0.37**	**271**	S	Sb	14 18 26.0	-1.5
VHRN	**Van Horn**	**1.32**	**252**	P	Pn	14 18 37.5	0.0
VHRN				S	Sn	14 18 55.9	+0.3
MNTX	**Cornudas Mount**	**1.66**	**288**	P	Pb	14 18 43.3	-0.1
MNTX				S	Sg	14 19 05.7	+0.1
SAND	**Sanderson**	**1.74**	**136**	S	Sg	14 19 08.1	0.0
TX31	**Lajitas Ar. Si**	**1.87**	**184**	P	Pb	14 18 46.6	-0.4
TX31				S	Sg	14 19 11.9	-0.6

*IDC **04** 14:26:36.1±2.2,26°.33N×142°.40E,h0km,mb3.5/5, mbtmp3.5/5,Error ellipse: s-maj=101.3km s-min=15.3km az=82.0*

ISC 04 14:26:40.3±2.6,26°.3N±0°.2×142°.5E±0°.7,h31km,n6, σ0973/7,mb3.4/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.81**	**338**	Pn	**Pn**	**14 26 54.7**	**-0.9**
	23nm,0.3s,baz=282,slow=20,SNR=11						
JCJ				Sn	**Sb**	**14 27 07.0**	**+0.4**
	67nm,0.3s,baz=260,slow=21,SNR=15						
SONM	**Songino Array**	**35.47**	**317**	P	**P**	**14 33 34.6**	**+0.6**
	0.1nm,0.3s,baz=126,slow=7.3,SNR=1.5						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**46.69**	**191**	P	**P**	**14 35 06.5**	**+0.2**
	1.1nm,0.5s,baz=11,slow=8.7,SNR=11						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**50.41**	**190**	P	**P**	**14 35 34.5**	**-0.4**
	0.4nm,0.9s,baz=8.3,slow=6.5,SNR=4.5						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**51.19**	**310**	P	**P**	**14 35 40.2**	**-0.4**
	0.2nm,0.8s,baz=85,slow=6.7,SNR=2.2						
	0.2nm,0.8s						
FINES	**FINESS Array B**	**78.76**	**334**	P	**P**	**14 38 40.2**	**+0.7**
	0.6nm,0.5s,baz=69,slow=6.5,SNR=5.5						
	0.6nm,0.5s						

*NNC **04** 14:35:08.4±3.0,37°.46N×71°.57E,h130km±85km,mb2.9, mpv3.7,Error ellipse: s-maj=29.8km s-min=23.1km az=168.0*

ISC 04 14:35:07.4±3.7,37°.4N±0°.2×71°.5E±0°.1,h109km,n9, σ0956/12,2C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.03**	**19**	P	**Pn**	**14 36 21.1**	**+0.2**
	SNR=18						
EKS2	**Erkin-Say**	**5.54**	**17**	P	**Pn**	**14 36 28.5**	**+0.8**
	SNR=9.9						
AAK	**Ala-Archa**	**5.72**	**22**	P	**Pn**	**14 36 30.5**	**+0.5**
	SNR=14						
AAK	**Ala-Archa**	**5.72**	**22**	⇓P	**Pn**	**14 36 29.8**	**-0.2**
	4.2nm,0.5s						
AAK				⇑S	**Sn**	**14 37 35.0**	**+0.6**
	5.2nm,0.6s						
KK31	**Karatay Array**	**5.77**	**353**	P	**Pn**	**14 36 31.2**	**+0.6**
	2.8nm,0.3s,baz=11,slow=14,SNR=34						
KK31				⇓S	**Sn**	**14 37 34.8**	**-0.6**
	2.0nm,0.3s,baz=165,slow=16,SNR=8.1						
CHMS	**Chumysh**	**6.12**	**23**	P	**Pn**	**14 36 35.4**	**0.0**
	SNR=5.5						
TKM2	**Tokmak 2**	**6.34**	**28**	P	**Pn**	**14 36 38.9**	**+0.4**
	SNR=6.9						
TKM2	**Tokmak 2**	**6.34**	**28**	⇓P	**Pn**	**14 36 38.3**	**-0.2**
	3.6nm,0.6s						
TKM2				⇑S	**Sn**	**14 37 49.1**	**-0.5**
	2.7nm,0.8s						
AB31	**Akbulak array**	**14.54**	**328**	P	**Pn**	**14 38 27.4**	**-0.3**
	0.2nm,0.5s,baz=168,slow=11,SNR=5.7						

*GII **04** 15:01:15.3±0.0,37°.49N×29°.36E,h6km,Mws4.3, confirmed*
*NEIC **04** 15:01:17.9±1.2,37°.48N±0°.04×29°.39E±0°.06,h5km±4km, mb4.3/51,Error ellipse: s-maj=7.5km s-min=4.4km az=122.0*
*ISK **04** 15:01:17.8,37°.50N×29°.32E,h8km,ML4.3/15*
*AFAD **04** 15:01:18.0,37°.47N×29°.34E,h7km±3km,MW4.3*
*MED_RC **04** 15:01:18.0±0.3,37°.36N×29°.33E,h13km±1km,MW4.3/24, Moment Tensor Solution.Mantle waves: s24,c30; Duration: 1ꝏ Moment tensor: Scale 1015Nm; Mrr=2.91±.44; Mθθ=0.07±.25; Mϕϕ2.98±.29; Mrθ1.37±.72; Mϕθ1.40±.16; Mϕr-2.32±.42; Best double couple: Mo4.21000×1015 NP1:ϕs226.00000°,δ37.00000°, λ-44.00000°. NP2:ϕs353.00000°,δ65.00000°, λ-119.00000°. Principal axes: T 3.9900, Plg16.0000°, Azm104.0000°; N 0.4400, Plg26.0000°, Azm6.0000°; P -4.4300, Plg59.0000°, Azm222.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*IDC **04** 15:01:18.0±0.7,37°.57N×29°.43E,h0km,mb4.0/17, mbtmp4.1/27,ML4.0/6,MS3.4/26 Error ellipse: s-maj=15.7km s-min=11.9km az=180.0*
*THE **04** 15:01:19.3,37°.50N×29°.39E,h0km,ML4.3/9,Error ellipse: s-maj=0.8km s-min=0.3km az=68.0*
*MCSM **04** 15:01:19.7±0.4,37°.N±2°.×2°.9E±°.,h10km±3km,mb4.4, mB5.1,MLv4.4,Mw(mB)4.5*
*HLW **04** 15:01:28.8,36°.86N×29°.14E,h10km±23km,Md4.0,Ml4.3*
*NAO **04** 15:01:42.3,39°.66N×29°.19E,h33km,mb4.1*

ISC 04 15:01:18.2±0.8,37°.48N±0°.02×29°.36E±0°.01,h8km±5km, n452,σ1934/494,mb4.3/40,MS3.5/16,22C-3D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.05**	**266**	Pg	**Pg**	**15 01 19.7**	**-0.2**
APMY				Sg	**Sg**	**15 01 21.4**	**+0.2**
GOLH	**Golhisar**	**0.29**	**146**	P	**Pg**	**15 01 24.1**	**+0.2**
GOLH				S	**Sg**	**15 01 28.8**	**+1.0**
INCE	**Denizli-Bozkur**	**0.29**	**36**	P	**Pg**	**15 01 24.0**	**0.0**
INCE				S	**Sg**	**15 01 28.4**	**+0.5**
DNIZ	**Denizli-Tavas-**	**0.30**	**301**	P	**Pg**	**15 01 24.4**	**+0.3**
DNIZ				S	**Sg**	**15 01 28.5**	**+0.5**
DNZT	**Denizli-Tavas-**	**0.33**	**234**	P	**Pg**	**15 01 24.9**	**+0.2**
DNZT				S	**Sg**	**15 01 28.8**	**-0.4**
CAEL	**Denizli, Camel**	**0.35**	**185**	P	**Pg**	**15 01 25.2**	**0.0**
CAEL				S	**Sb**	**15 01 31.7**	**-0.9**
TAVA	**DENIZLI_Tavas**	**0.35**	**269**	P	**Pg**	**15 01 25.3**	**+0.1**
TAVA				S	**Sg**	**15 01 30.0**	**+0.1**
CAME	**Cameli-Denizli**	**0.53**	**185**	Pg	**Pg**	**15 01 28.1**	**-0.4**
CAME				Sg	**Sb**	**15 01 37.0**	**-0.8**
BRDR	**BURDUR-Merkez**	**0.60**	**68**	P	**Pg**	**15 01 29.8**	**0.0**
BRDR				S	**Sb**	**15 01 38.8**	**-1.0**
KNIK	**Mula-Seydike**	**0.65**	**165**	P	**Pg**	**15 01 30.9**	**+0.1**
KNIK				S	**Sg**	**15 01 39.2**	**-0.1**
BASM	**Basmaki-Afyon**	**0.70**	**51**	Pg	**Pg**	**15 01 31.7**	**-0.1**
SABU	**Mula-Dalaman**	**0.72**	**206**	P	**Pg**	**15 01 32.0**	**-0.1**
SABU				S	**Sg**	**15 01 40.7**	**-0.8**
ELL	**Elmali**	**0.85**	**149**	Pg	**Pb**	**15 01 35.2**	**-0.1**
ELL	**Elmali**	**0.85**	**149**	Pg	**Pg**	**15 01 33.8**	**-0.7**
KHL	**Karahalli**	**0.86**	**9**	Pg	**Pg**	**15 01 34.3**	**-0.4**
MULA	**Mugla, Merkez-**	**0.86**	**255**	P	**Pg**	**15 01 34.5**	**-0.2**
MULA				S	**Sb**	**15 01 46.9**	**-0.2**
ESEN	**Aydn-Nazilli**	**0.86**	**292**	P	**Pg**	**15 01 34.7**	**-0.1**
ESEN				S	**Sg**	**15 01 45.1**	**-0.9**
DALY	**Dalyan (Mula)**	**0.87**	**221**	Pg	**Pg**	**15 01 34.8**	**0.0**
DALY				Sg	**Sb**	**15 01 47.1**	**-0.1**
FETY	**Fethiye**	**0.87**	**195**	Pg	**Pg**	**15 01 34.9**	**0.0**
FETY	**Fethiye**	**0.87**	**195**	P	**Pg**	**15 01 34.9**	**0.0**
PASA	**Karahalli, USA**	**0.88**	**7**	P	**Pb**	**15 01 35.8**	**0.0**
KORT	**Korkueli**	**0.92**	**121**	P	**Pg**	**15 01 35.5**	**-0.4**
KORT				S	**Sb**	**15 01 49.7**	**+0.7**
YER	**Yerkesik**	**0.92**	**249**	Pg	**Pg**	**15 01 35.6**	**-0.4**
BUCA	**Burdur, Bucak-**	**0.97**	**98**	P	**Pg**	**15 01 36.7**	**-0.1**
NAZL	**Nazilli-Aydin**	**0.98**	**300**	Pg	**Pg**	**15 01 36.3**	**-0.7**
BCK	**Bucak**	**0.98**	**90**	Pg	**Pg**	**15 01 37.2**	**+0.2**
ISP	**Isparta**	**0.99**	**69**	Pg	**Pg**	**15 01 37.1**	**-0.1**
ISP	**Isparta**	**0.99**	**69**		**Pg**	**15 01 36.1**	**-1.1**
ISP					**Sb**	**15 01 51.8**	**+0.9**
ISP	**Isparta**	**0.99**	**69**	P	**Pg**	**15 01 35.7**	**-1.5**
KZIL	**AFYON_Kizioren**	**1.00**	**38**	P	**Pg**	**15 01 36.0**	**-1.4**
KZIL				S	**Sn**	**15 01 54.0**	**+1.0**
IZZE	**Mula-Seydike**	**1.04**	**186**	P	**Pg**	**15 01 38.1**	**-0.1**
IZZE				S	**Sn**	**15 01 55.2**	**+1.2**
KIRA	**zmir-Kiraz**	**1.05**	**314**	P	**Pg**	**15 01 38.2**	**-0.1**
KIRA				S	**Sb**	**15 01 53.1**	**+0.5**
TURN	**Turunc**	**1.13**	**232**	P	**Pg**	**15 01 39.0**	**-0.9**
TURN				S	**Sg**	**15 01 54.4**	**-0.3**
KULA	**Kula-Manisa**	**1.18**	**332**	Pn	**Pg**	**15 01 40.4**	**-0.4**
ANTB	**Antalya**	**1.18**	**119**	Pn	**Pg**	**15 01 42.6**	**+1.5**
AYDN	**Tasoluk**	**1.19**	**279**	P	**Pg**	**15 01 41.0**	**-0.1**
AYDN				S	**Sn**	**15 01 57.2**	**-0.5**
MANT	**Manisa**	**1.20**	**328**	Pg	**Pg**	**15 01 40.4**	**-0.8**
AFYN	**Afyon-Dinar-K**	**1.20**	**48**	P	**Pg**	**15 01 41.3**	**0.0**
AFYN				S	**Sn**	**15 02 00.0**	**+1.9**
BAGO	**Egridir - ISPA**	**1.25**	**65**	P	**Pb**	**15 01 40.3**	**-1.8**
AKAS	**Kas**	**1.26**	**171**		**Pn**	**15 01 42.2**	**0.0**
AKAS				Sn	**Sn**	**15 02 00.6**	**+1.2**
AKAS	**Kas**	**1.26**	**171**	P	**Pg**	**15 01 44.3**	**+2.0**
AKAS				S	**Sn**	**15 02 02.8**	**+3.4**
AYDB	**Zeytinkoy-Aydi**	**1.26**	**292**	Pn	**Pn**	**15 01 41.9**	**-0.3**
USAK	**Uak-Merkez**	**1.27**	**348**	P	**Pn**	**15 01 42.1**	**-0.2**
BNAZ	**Uak-Banaz**	**1.27**	**19**	P	**Pg**	**15 01 42.6**	**0.0**
MLSB	**Milas**	**1.27**	**262**	Pn	**Pn**	**15 01 42.4**	**0.0**
ODEM	**Odemis-Izmir**	**1.29**	**309**	Pn	**Pn**	**15 01 42.6**	**-0.1**
KEMT	**Kemer-ANTALYA**	**1.29**	**132**	Pn	**Pg**	**15 01 43.9**	**+0.9**
IZMR	**zmir-demi**	**1.29**	**301**	P	**Pn**	**15 01 41.6**	**-1.1**
IZMR				P	**Pb**	**15 01 42.5**	**-0.4**
DEMR	**Demre-Antalya**	**1.31**	**160**	Pn	**Pg**	**15 01 43.6**	**+0.2**
KSL	**Kastellorizon**	**1.33**	**172**	P	**Pg**	**15 01 44.0**	**+0.2**
KSL				S	**Sn**	**15 02 03.3**	**+2.2**
	5μm,0.8s						
AKUM	**Antalya-Kumluc**	**1.40**	**145**	P	**Pg**	**15 01 45.9**	**+1.0**
AKUM				S	**Sg**	**15 02 06.5**	**+3.4**
SHUT	**Suhut-Afyon**	**1.43**	**41**	Pn	**Pn**	**15 01 44.5**	**-0.1**
AFYO	**Afyonkarahisar**	**1.50**	**29**	P	**Pn**	**15 01 45.8**	**+0.2**
DATC	**Datca-Mugla**	**1.53**	**243**	Pn	**Pn**	**15 01 45.7**	**-0.2**
SHAP	**Saphane-Kutahy**	**1.55**	**356**	Pn	**Pn**	**15 01 46.4**	**+0.1**
GEDZ	**Gediz**	**1.57**	**1**	Pn	**Pn**	**15 01 46.7**	**+0.2**
BDRM	**Kayabasi**	**1.58**	**256**	P	**Pb**	**15 01 47.2**	**-0.5**
ARG	**Arkhangelos**	**1.60**	**219**	P	**Pb**	**15 01 47.7**	**-0.3**
ARG				S	**Sg**	**15 02 10.3**	**+0.7**
	5μm,0.7s						
ARG	**Arkhangelos**	**1.60**	**219**	Pn	**Pn**	**15 01 47.0**	**+0.2**
ARG	**Arkhangelos**	**1.60**	**219**		**Pn**	**15 01 47.4**	**+0.5**
DAT	**Datca**	**1.61**	**243**	Pn	**Pn**	**15 01 46.7**	**-0.3**
GDZ	**Gediz**	**1.61**	**3**	P	**Pn**	**15 01 45.1**	**-2.0**
SIMA	**Simav-Kutahya**	**1.63**	**350**	Pn	**Pn**	**15 01 46.7**	**-0.7**
DEMI	**Demirci**	**1.65**	**342**	P	**Pn**	**15 01 47.8**	**+0.2**
DEMI				S	**Sg**	**15 02 12.0**	**+0.9**
SMAA	**Simav-Kutahya**	**1.65**	**350**	Pn	**Pn**	**15 01 47.6**	**0.0**
GOMA	**Golmarmara-Man**	**1.68**	**318**	Pn	**Pn**	**15 01 47.9**	**0.0**
DDIM	**Aydin, Didim**	**1.69**	**270**	P	**Pn**	**15 01 47.3**	**-0.7**
BODT	**Bodrum**	**1.69**	**256**	Pn	**Pn**	**15 01 47.6**	**-0.4**
YVAC	**Isparta, Yalva**	**1.69**	**61**	P	**Pn**	**15 01 48.8**	**+0.7**
YKAV	**Yalikavak-Bodr**	**1.69**	**259**	Pn	**Pn**	**15 01 48.3**	**+0.2**
GCAM	**G?zelcami?**	**1.70**	**278**	P	**Pn**	**15 01 48.3**	**0.0**
GORD	**Gordes-Manisa**	**1.71**	**327**	Pn	**Pn**	**15 01 48.3**	**-0.1**
YAZI	**Mula-Dat§a-**	**1.72**	**243**	P	**Pn**	**15 01 48.1**	**-0.4**
KURO	**Afyon-Bolvadin**	**1.77**	**44**	P	**Pn**	**15 01 48.0**	**-1.3**
MNVG	**Manavgat-Antal**	**1.78**	**112**	Pn	**Pb**	**15 01 50.5**	**-0.6**
AKHS	**Akhisar**	**1.86**	**319**	S	**Sg**	**15 02 19.9**	**+2.0**
AKS	**Akhisar**	**1.86**	**319**	Pn	**Pn**	**15 01 50.5**	**+0.1**
EMET	**Ktahya-Emet**	**1.90**	**359**	P	**Pn**	**15 01 50.1**	**-0.9**
SEDI	**Konya, Seydise**	**1.91**	**90**	P	**Pn**	**15 01 51.2**	**0.0**
SEDI				S	**Sg**	**15 02 24.3**	**+4.8**
DOGA	**KONYA_Doganhis**	**1.94**	**70**	P	**Pn**	**15 01 51.2**	**-0.4**
TVSB	**Tavsanli**	**1.97**	**2**	Pn	**Pn**	**15 01 52.1**	**0.0**
SEYD	**Seydisehir-KON**	**1.97**	**91**	Pn	**Pn**	**15 01 52.7**	**+0.6**
NISR	**Nisiros**	**1.98**	**245**	P	**Pn**	**15 01 53.2**	**+1.1**
NISR				S	**Sb**	**15 02 19.8**	**+0.4**
	10μm,1.8s						
GMLD	**Gumuldur**	**2.03**	**288**	Pn	**Pn**	**15 01 52.8**	**+0.1**
BLCB	**Balcova**	**2.04**	**297**	Pn	**Pn**	**15 01 52.7**	**-0.3**
DST	**Dursunbey**	**2.20**	**345**	Pn	**Pn**	**15 01 55.2**	**0.0**
SOMA	**Soma-Manisa**	**2.21**	**320**	Pn	**Pn**	**15 01 55.3**	**+0.1**
DURS	**Dursunbey**	**2.23**	**342**	P	**Pn**	**15 01 55.0**	**-0.7**
STEP	**BALIKESIR_Sava**	**2.29**	**326**	P	**Pn**	**15 01 55.6**	**-0.8**
CIFT	**Cifteler, Eski**	**2.31**	**35**	Pn	**Pn**	**15 01 56.3**	**-0.4**
ALAN	**Alanya-ANTALYA**	**2.33**	**112**	Pn	**Pn**	**15 01 58.4**	**+1.5**
ZEDA	**zmir-Bergama**	**2.33**	**310**	P	**Pn**	**15 01 56.5**	**-0.4**
FOCM	**Foa**	**2.41**	**302**	Pn	**Pn**	**15 01 58.4**	**+0.4**
KONT	**Konya--Tatoy**	**2.43**	**78**	Pn	**Pn**	**15 01 58.9**	**+0.7**
KIZT	**Kizilcal**	**2.43**	**54**	Pn	**Pn**	**15 01 57.8**	**-0.6**
DKL	**Dikili**	**2.50**	**310**	Pn	**Pn**	**15 01 59.4**	**+0.1**
HDMB	**Hadim**	**2.55**	**101**	Pn	**Pn**	**15 02 01.2**	**+1.1**
BORA	**Eskisehir**	**2.55**	**19**	Pn	**Pn**	**15 02 00.4**	**+0.4**
ORLT	**Orhaneli**	**2.59**	**352**	Pn	**Pn**	**15 02 00.9**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.60**	**40**	Pn	**Pn**	**15 02 01.2**	**+0.5**
KARB	**zmir-Karabur**	**2.61**	**298**	P	**Pn**	**15 02 00.1**	**-0.6**
KARP	**Karpathos**	**2.62**	**223**	P	**Pn**	**15 02 01.7**	**+0.9**
KARP				S	**Sn**	**15 02 34.9**	**+2.1**
	4μm,0.5s						
KARP	**Karpathos**	**2.62**	**223**	Pn	**Pn**	**15 02 01.8**	**+0.9**
KARP	**Karpathos**	**2.62**	**223**		**Pn**	**15 02 01.4**	**+0.6**
KARP	**Karpathos**	**2.62**	**223**	Pn	**Pn**	**15 02 01.7**	**+0.9**
SUSR	**Susurluk-Balik**	**2.68**	**339**	Pn	**Pn**	**15 02 02.1**	**+0.4**
CAVI	**Cavuskoy**	**2.75**	**8**	Pn	**Pn**	**15 02 03.8**	**+1.1**
YAYO	**Edremit-Balk**	**2.79**	**321**	Pn	**Pn**	**15 02 03.4**	**+0.3**
GONE	**Gonen-Balikesi**	**2.88**	**334**	Pn	**Pn**	**15 02 04.8**	**+0.3**
KCTX	**Karacabey (Bur**	**2.89**	**345**	Pn	**Pn**	**15 02 04.9**	**+0.2**
MDNY	**Mudanya-Bursa**	**2.91**	**353**	Pn	**Pn**	**15 02 05.6**	**+0.7**
YENI	**Yenice-Canakka**	**2.96**	**327**	Pn	**Pn**	**15 02 05.9**	**+0.3**
ADVT	**Abdulvahap**	**2.97**	**6**	Pn	**Pn**	**15 02 06.5**	**+0.8**
CHBY	**Cihanbeyli**	**3.00**	**67**	Pn	**Pn**	**15 02 07.2**	**+1.0**
PRK	**Paraskevi**	**3.00**	**307**	P	**Pn**	**15 02 06.9**	**+0.8**
PRK				S	**Sn**	**15 02 44.0**	**+1.7**
	4μm,0.9s						
BAND	**Balkesir-Ban**	**3.04**	**342**	⇑P	**Pn**	**15 02 04.6**	**-2.1**
APE	**Apeiranthos**	**3.08**	**264**	P	**Pn**	**15 02 08.1**	**+0.8**
APE				S	**Sn**	**15 02 46.2**	**+1.9**
	688nm,1.0s						
APE	**Apeiranthos**	**3.08**	**264**	Pn	**Pn**	**15 02 07.8**	**+0.5**
APE	**Apeiranthos**	**3.08**	**264**	⇑P	**Pn**	**15 02 07.6**	**+0.4**
APE				⇑S	**Sn**	**15 02 45.1**	**+0.8**
APE	**Apeiranthos**	**3.08**	**264**	P	**Pn**	**15 02 06.3**	**-1.0**
GULT	**Gulveren**	**3.09**	**17**	Pn	**Pn**	**15 02 08.4**	**+1.0**
YLV	**Yalova**	**3.09**	**0**	Pn	**Pn**	**15 02 08.1**	**+0.7**
EDC	**Edincik**	**3.10**	**338**	Pn	**Pn**	**15 02 07.8**	**+0.4**
CANM	**Can-anakkale**	**3.11**	**325**	Pn	**Pn**	**15 02 06.6**	**-1.0**
ARMT	**Armutlu**	**3.11**	**353**	Pn	**Pn**	**15 02 08.4**	**+0.8**
KRMN	**Karaman**	**3.13**	**94**	Pn	**Pn**	**15 02 09.1**	**+1.2**
GPNR	**Gulpinar-Canak**	**3.21**	**309**	Pn	**Pn**	**15 02 09.4**	**+0.4**
SIGR	**SIGRI**	**3.25**	**303**	P	**Pn**	**15 02 10.0**	**+0.4**
SIGR				S	**Sn**	**15 02 50.3**	**+1.8**
	2μm,0.9s						
SIGR	**SIGRI**	**3.25**	**303**	Pn	**Pn**	**15 02 10.3**	**+0.7**
KULU	**Kulu**	**3.27**	**60**	Pn	**Pn**	**15 02 11.4**	**+1.5**
TEKE	**Tekeli-Mersin**	**3.29**	**113**	Pn	**Pn**	**15 02 11.6**	**+1.5**
BERE	**Bereket-Mersin**	**3.29**	**109**	Pn	**Pn**	**15 02 11.9**	**+1.6**
MDUB	**Mudurnu**	**3.32**	**25**	Pn	**Pn**	**15 02 11.6**	**+1.0**
MDUB	**Mudurnu**	**3.32**	**25**		**Pn**	**15 02 11.5**	**+0.9**
KRBG	**Karabiga-Canak**	**3.33**	**332**	Pn	**Pn**	**15 02 10.9**	**+0.3**
EZN	**Ezine**	**3.34**	**316**	P	**Pn**	**15 02 11.6**	**+0.9**
EZN				S	**Sn**	**15 02 52.1**	**+1.5**
	878nm,0.8s						
EZN	**Ezine**	**3.34**	**316**	Pn	**Pn**	**15 02 10.9**	**+0.2**
EZN	**Ezine**	**3.34**	**316**	Pn	**Pn**	**15 02 11.1**	**+0.4**
THR3	**Thira Island,**	**3.34**	**253**	P	**Pn**	**15 02 12.0**	**+1.2**
SAUV	**Serdivan-Sakar**	**3.35**	**13**	Pn	**Pn**	**15 02 12.3**	**+1.5**
HRT	**Hereke**	**3.35**	**4**	Pn	**Pn**	**15 02 11.6**	**+0.6**
THR6	**Thira Island,**	**3.37**	**252**	P	**Pn**	**15 02 12.2**	**+1.1**
SULT	**Sultanhani-AKS**	**3.37**	**76**	Pn	**Pn**	**15 02 12.8**	**+1.5**
THR5	**Thira Island,**	**3.38**	**253**	P	**Pn**	**15 02 12.9**	**+1.6**
THR9	**Santorini-Faro**	**3.40**	**252**	P	**Pn**	**15 02 12.7**	**+1.2**
MRMT	**Marmara Adasi**	**3.41**	**337**	Pn	**Pn**	**15 02 12.3**	**+0.5**
YUVA	**Yuva-Kibriscik**	**3.43**	**31**	Pn	**Pn**	**15 02 13.2**	**+1.1**
TEVE	**Tevekalti-Mers**	**3.43**	**106**	Pn	**Pn**	**15 02 13.7**	**+1.6**
COMU	**Canakkale**	**3.46**	**320**	Pn	**Pn**	**15 02 12.6**	**+0.2**
ZKR	**Zakros**	**3.46**	**228**	P	**Pn**	**15 02 13.8**	**+1.3**
ZKR				S	**Sn**	**15 02 56.4**	**+2.7**
	625nm,0.8s						
ZKR	**Zakros**	**3.46**	**228**	Pn	**Pn**	**15 02 13.8**	**+1.3**
YESY	**Yesilyurt**	**3.49**	**84**	Pn	**Pn**	**15 02 14.4**	**+1.4**
YORU	**Yoruktepe-Mers**	**3.50**	**111**	Pn	**Pn**	**15 02 15.1**	**+2.0**
AFSR	**Afar-Bala (An**	**3.52**	**55**	Pn	**Pn**	**15 02 14.7**	**+1.4**
LPK	**Lapseki**	**3.53**	**326**	Pn	**Pn**	**15 02 13.8**	**+0.4**
KAVV	**Kandilli-Istan**	**3.59**	**356**	Pn	**Pn**	**15 02 14.8**	**+0.6**
ISK	**Istanbul-Kandi**	**3.59**	**356**	P	**Pn**	**15 02 14.7**	**+0.5**
ISK	**Istanbul-Kandi**	**3.59**	**356**	Pn	**Pn**	**15 02 15.5**	**+1.3**
LOD	**Lodumlu**	**3.59**	**47**	Pn	**Pn**	**15 02 15.4**	**+1.1**
ANTO	**Ankara**	**3.60**	**47**	Pn	**Pn**	**15 02 15.9**	**+1.5**
ANTO	**Ankara**	**3.60**	**47**		**Pn**	**15 02 15.0**	**+0.6**
ANTO	**Ankara**	**3.60**	**47**	⇑P	**Pn**	**15 02 13.3**	**-1.1**
ANTO	**Ankara**	**3.60**	**47**	Pn	**Pn**	**15 02 15.5**	**+1.1**
AKKU	**Akkuyu-Mersin**	**3.61**	**110**	Pn	**Pn**	**15 02 16.3**	**+1.8**
SERE	**Serefilikochisa**	**3.62**	**65**	Pn	**Pn**	**15 02 16.2**	**+1.4**
RKY	**Sarkoy-Tekirda**	**3.63**	**333**	Pn	**Pn**	**15 02 15.1**	**+0.3**
AKDN	**Akdeniz- Kıbrı**	**3.63**	**126**	Pn	**Pn**	**15 02 16.2**	**+1.4**
KEBE	**Keben-Mersin**	**3.63**	**105**	Pn	**Pn**	**15 02 16.9**	**+2.0**
SILT	**Sile**	**3.68**	**3**	Pn	**Pn**	**15 02 16.2**	**+0.8**
IKL	**Isikli**	**3.68**	**108**	Pn	**Pn**	**15 02 18.3**	**+2.8**
GELI	**Tayfur-Gelibol**	**3.69**	**323**	Pn	**Pn**	**15 02 16.4**	**+0.9**
LEF	**Lefka**	**3.70**	**128**	Pn	**Pn**	**15 02 16.2**	**+0.5**
BGKT	**Bogazkoy**	**3.73**	**353**	Pn	**Pn**	**15 02 16.9**	**+0.8**
KLYT	**Kilyos**	**3.78**	**356**	Pn	**Pn**	**15 02 16.5**	**-0.3**
KLYT	**Kilyos**	**3.78**	**356**	Pn	**Pn**	**15 02 18.3**	**+1.5**
CTKS	**Kestanelik-??a**	**3.81**	**350**	Pn	**Pn**	**15 02 18.5**	**+1.2**
SILI	**Silifke-Mersin**	**3.82**	**105**	Pn	**Pn**	**15 02 19.5**	**+2.1**
GADA	**Gvkgeada**	**3.83**	**316**	Pn	**Pn**	**15 02 18.2**	**+0.7**
SLFK	**Silifke-Mersin**	**3.83**	**105**	Pn	**Pn**	**15 02 19.5**	**+2.0**
SLVT	**Silivri**	**3.85**	**347**	Pn	**Pn**	**15 02 19.2**	**+1.4**
ERIK	**Erikli-Kesan**	**3.88**	**326**	Pn	**Pn**	**15 02 19.2**	**+1.0**
KAMT	**Kaman**	**3.91**	**60**	Pn	**Pn**	**15 02 21.1**	**+2.4**
KARY	**Karystos**	**3.94**	**280**	P	**Pn**	**15 02 20.0**	**+1.0**
KIRS	**Kirsehir-Merke**	**3.95**	**64**	⇑P	**Pn**	**15 02 19.1**	**-0.1**
BR105	**Keskin Array S**	**4.02**	**55**	Pn	**Pn**	**15 02 21.1**	**+0.9**
LFK	**Lefkose**	**4.02**	**122**	Pn	**Pn**	**15 02 22.5**	**+2.4**
BR106	**Keskin Array S**	**4.03**	**55**	Pn	**Pn**	**15 02 21.2**	**

comp=Z,8.0nm,0.4s
YAL *e*S **Sn** **15 04 41.7 -0.9**
YAL Sm 15 04 43.5
comp=N,3.0nm,0.3s
YAL Sm 15 04 43.5
comp=E,7.0nm,0.3s
HNAT Natroun 7.89 172 P **Pn** **15 03 14.9 +1.6**
HNAT S **Sn** **15 04 38.9 -4.0**
MSBI Mazada 7.89 139 P **Pn** **15 03 11.4 -1.9**
MSBI Mazada 7.89 139 S **Sn** **15 04 40.7 -2.1**
GHAJ Ghor Haditha 8.01 138 Pn **Pn** **15 03 14.3 -0.7**
GHAJ Ghor Haditha 8.01 138 P **Pn** **15 03 12.2 -2.8**
GHAJ Ghor Haditha 8.01 138 S **Sn** **15 04 44.4 -1.4**
ASF Jabal al Asfar 8.15 128 Pn **Pn** **15 03 18.3 +1.4**
comp=E,2.6nm,0.3s,baz=325,slow=3.0,SNR=15
ASF Sn **Sn** **15 04 51.1 +1.9**
comp=E,1.3nm,0.3s,baz=288,slow=13,SNR=2.0
ASF LR LR 15 06 55.7
comp=E,259nm,21.3s,baz=336,slow=41
comp=E,5.3nm,0.3s
SIM Simferopol' 8.28 24 *e*P Pn 15 03 26.6 +8.0
SIM Pm 15 03 27.9
comp=Z,48nm,0.5s
RYAN Fayoum 8.41 174 P **Pn** **15 03 21.1 +0.7**
MLR Muntele Rosu 8.41 343 Pn **Pn** **15 03 21.3 +0.8**
MLR Muntele Rosu 8.41 343 Pn **Pn** **15 03 22.2 +1.7**
comp=Z,2.1nm,0.3s,baz=135,slow=13,SNR=8.0
MLR LR LR 15 06 50.3
comp=Z,147nm,18.0s,baz=193,slow=40
comp=Z,5.6nm,0.4s
MLR Muntele Rosu 8.41 343 ⇓P **Pn** **15 03 18.8 -1.7**
MLR Muntele Rosu 8.41 343 Pn **Pn** **15 03 22.0 +1.5**
comp=Z,375nmcomp=Z,19nm,0.9s
BOVS Bovan 8.47 319 ⇓P **Pn** **15 03 19.7 -1.5**
PRNI Paran 8.51 145 P **Pn** **15 03 18.9 -3.0**
PRNI Paran 8.51 145 S **Sn** **15 04 55.8 -2.4**
VOIR 8.59 339 ⇑P **Pn** **15 03 21.0 -1.9**
VOIR 8.59 339 Pn **Pn** **15 03 24.2 +1.3**
comp=Z,9.6nm,0.9s
PLOR Plostina 8.61 347 ⇑P **Pn** **15 03 21.4 -1.8**
VRI Vrincioaia 8.61 348 ⇑P **Pn** **15 03 21.1 -2.1**
VRI Vrincioaia 8.61 348 Pn **Pn** **15 03 24.5 +1.3**
comp=Z,15nm,0.8s
COVR Voineasa-Covas 8.69 345 ⇑P **Pn** **15 03 22.4 -1.9**
HRFI Mount Harif 8.79 146 P **Pn** **15 03 23.7 -2.1**
HRFI Mount Harif 8.79 146 S **Sn** **15 05 03.0 -2.1**
SWA2 8.83 203 P **Pn** **15 03 26.2 0.0**
DOPR Dopca 8.99 342 ⇑P **Pn** **15 03 26.2 -2.2**
LOT Lotru 9.00 334 ⇑P **Pn** **15 03 26.7 -1.9**
PURM Purcari 9.06 2 Pn **Pn** **15 03 30.1 +0.9**
KOPT Kop Dagi 9.06 70 Pn **Pn** **15 03 30.0 +0.3**
EIL Elat 9.07 147 Pn **Pn** **15 03 30.5 +0.9**
comp=Z,3.0nm,0.3s,baz=339,slow=13,SNR=22
EIL Sn **Sn** **15 05 06.2 -5.7**
comp=Z,4.9nm,0.3s,baz=114,slow=21,SNR=6.8
comp=Z,8.7nm,0.3s
EIL Elat 9.07 147 P **Pn** **15 03 28.1 -1.4**
PDG Podgorica 9.20 306 ⇑P **Pn** **15 03 30.0 -1.2**
TESR Tescani 9.25 348 ⇑P **Pn** **15 03 30.2 -1.8**
TESR Tescani 9.25 348 Pn **Pn** **15 03 32.9 +1.0**
comp=Z,9.2nm,1.0s
GZR Gura Zlata 9.32 330 ⇓P **Pn** **15 03 31.4 -1.6**
TAMRE El Minia 9.85 172 P **Pn** **15 03 40.4 +0.2**
BZS Buzias 9.99 327 ⇑P **Pn** **15 03 40.0 -2.0**
TIP Timpagrande 10.05 284 **Pn** **15 03 44.1 +1.2**
TIP Timpagrande 10.05 284 ⇑P **Pn** **15 03 41.6 -1.3**
TIP Timpagrande 10.05 284 Pn **Pn** **15 03 44.7 +1.8**
comp=Z,19nm,1.0s
GURO Guroymak-BITLI 10.06 80 Pn **Pn** **15 03 42.8 -0.4**
MARR Marisel-Cluj 10.29 335 ⇑P **Pn** **15 03 44.4 -1.9**
BAL3X Bal3x, Balta 10.46 1 Pn **Pn** **15 03 49.7 +1.3**
BURAR Bucovina Array 10.58 345 Pn **Pn** **15 03 51.7 +1.5**
BURAR Bucovina Array 10.58 345 ⇑P **Pn** **15 03 48.9 -1.4**
BUR08 Bucovina Ar. S 10.61 345 Pn **Pn** **15 03 50.7 +0.1**
SORM Soroca 10.68 356 ⇑P **Pn** **15 03 49.4 -2.1**
SORM Soroca 10.68 356 Pn **Pn** **15 03 51.3 -0.1**
comp=Z,18nm,0.8s
GEVA Gevas 10.86 81 Pn **Pn** **15 03 53.7 -0.4**
CUC Castrocucco 10.88 288 Pn **Pn** **15 03 54.4 +0.2**
VAE Valguarnera 11.88 275 Pn **Pn** **15 04 10.1 +2.1**
comp=Z,5.3nm,0.3s,baz=72,slow=20,SNR=7.5
comp=Z,12nm,0.3s
KBZ Khabaz 12.03 55 Pn **Pn** **15 04 12.5 +2.5**
comp=Z,2.5nm,1.1s,baz=246,slow=13,SNR=1.6
KBZ LR LR 15 09 26.4
comp=Z,73nm,20.0s,baz=260,slow=41
LUBAR Lubar, Ukraine 12.49 355 Pn **Pn** **15 04 17.5 +1.2**
PSZ Piszkesteto 12.53 329 Pn **Pn** **15 04 16.9 0.0**
INTR Introdacqua 12.72 296 Pn **Pn** **15 04 19.1 -0.4**
BEHE Becsehely 12.96 318 Pn **Pn** **15 04 22.6 -0.1**
AK08 Malin Array Si 13.16 360 Pn **Pn** **15 04 27.4 +2.1**
JAVC Velka Javorina 14.20 327 *e*P **P** **15 04 48.2 +1.0**
CONA Conrad Observa 14.39 321 *e*Pn **Pn** **15 04 43.2 +1.0**
comp=Z,7.5nm,1.6s
OJC Ojcow 14.47 335 Pn **Pn** **15 04 41.9 -1.4**
SABO M.te Sabotino 14.49 311 Pn **Pn** **15 04 43.4 -0.2**
KRUC Moravsky 14.92 325 *e*P **P** **15 04 56.7 +1.6**
MORC Moravsky Berou 14.96 329 **Pn** **15 04 49.3 -0.6**
MORC Moravsky Berou 14.96 329 *e*P **P** **15 04 57.2 +1.6**
VRAC Vranov 15.01 326 Pn **P** **15 04 56.7 +0.6**
comp=Z,0.2nm,0.3s,baz=154,slow=9.1,SNR=6.3
VRAC LR LR 15 10 45.5
comp=Z,106nm,19.1s,baz=162,slow=38
VRAC Vranov 15.01 326 *e*P **P** **15 04 58.0 +1.9**
MOA Molln 15.16 318 *e*pP **P** **15 05 00.3 +2.5**
comp=Z,9.1nm,1.2s
BIOA Bad Ischl, Aus 15.41 316 *e*P **P** **15 05 05.9 +5.3**
comp=Z,14nm,1.6s
LESA Schwarzleotal 15.79 314 *e*pP **P** **15 05 08.0 +3.0**
comp=Z,8.3nm,1.0s
GEC2 GERESS Array S 16.08 320 P **Pn** **15 05 06.2 +1.6**
GERES GERESS Array B 16.08 320 P **Pn** **15 05 06.2 +1.6**
GERES GERESS Array B 16.08 320 Pn **P** **15 05 09.5 +1.5**
baz=133,slow=9.7,SNR=12
GERES LR LR 15 11 28.2
comp=Z,90nm,19.5s,baz=111,slow=38
KEST Kesra 16.17 270 P **Pn** **15 05 07.3 +1.4**
KEST IAmb IAmb 15 05 09.5
comp=Z,30nm,1.4s
KEST Kesra 16.17 270 Pn **P** **15 05 07.7 -1.4**
comp=Z,0.1nm,0.3s,baz=80,slow=17,SNR=5.6
KEST LR LR 15 12 02.4
comp=Z,61nm,20.8s,baz=42,slow=40
comp=Z,12nm,1.0s
WTTA Wattenberg 16.31 312 *e*P **P** **15 05 15.7 +4.9**
comp=Z,16nm,1.4s
KHC Kasperske Hory 16.32 321 *e*P **P** **15 05 11.0 +0.3**
WATA Walderalm 16.38 313 pP **P** **15 05 14.9 +3.4**
comp=Z,12nm,0.9s
SQTA Sankt Quirin 16.54 312 *e*pP **P** **15 05 16.7 +3.4**
comp=Z,5.6nm,0.7s
MOTA Moosalm 16.67 312 *i* pP **P** **15 05 18.1 +3.4**
comp=Z,14nm,1.0s
FETA Feichten 16.73 311 *e*pP **P** **15 05 19.1 +3.6**
comp=Z,16nm,1.1s
FUORN Ofenpass-Fuorn 16.84 309 **Pn** **15 05 15.2 +0.7**
MNK Minsk 17.06 357 *i* P **Pn** **15 05 16.4 -0.6**
comp=E,18nm,0.8s
MNK *i* P **Pn** **15 05 16.4 -0.6**
comp=N,13nm,0.7s
MNK *i* P **Pn** **15 05 16.4 -0.6**
comp=Z,15nm,0.9s,baz=176
MNK *i* PP **PnPn** **15 05 26.1 -0.6**
MNK *i* PPP PPP 15 05 33.8
MNK *i* S **Sn** **15 08 27.0 +0.3**
MNK *i* SS **SnSn** **15 08 41.6 +1.6**
MNK *i* SSS SSS 15 08 54.4
MNK *i* LQ LQ 15 10 33.9
MNK *i* LR LR 15 11 16.4
MNK *i* LRM MLR 15 12 23.4
comp=N,128nm,14.6s
MNK *i* LRM MLR 15 12 24.3
comp=Z,50nm,14.4s
MNK *i* LRM MLR 15 12 48.2
comp=E,127nm,20.6s
DAVOX Davos/Dischmat 17.14 309 P **P** **15 05 20.0 0.0**
comp=E,1.8nm,0.6s,baz=130,slow=15,SNR=3.2
DAVOX LR LR 15 12 58.7
comp=E,208nm,19.9s,baz=82,slow=41
BRG Berggiesshubel 17.32 326 *e*P **P** **15 05 23.6 +1.9**
BRG Amp 15 05 24.6
comp=Z,13nm,1.3s
TUE Stuetta 17.35 308 P **P** **15 05 21.8 -0.5**
CLL Collm 18.05 325 *i* P **P** **15 05 30.9 +1.2**
CLL *es*PP 15 05 43.0

CLL *e*S **S** **15 08 59.0 +2.3**
CLL AMS AMS 15 11 00.0
comp=N,100nm,19.6s
CLL AMS AMS 15 11 00.0
comp=E,300nm,18.0s
BNI Bardonecchia 18.62 301 P **P** **15 05 34.5 -1.7**
BNI IAmb IAmb 15 05 54.1
comp=Z,23nm,1.4s
SENIN Lac Senin/Sane 18.62 305 **P** **15 05 35.2 -1.1**
BFO Black Forest 18.78 312 **P** **15 05 37.1 -0.7**
BFO IAmb IAmb 15 05 42.1
comp=Z,16nm,1.1s
ECH Echery 19.43 311 P **P** **15 05 44.2 -0.7**
ECH IAmb IAmb 15 05 47.9
comp=Z,17nm,1.1s
RAYN Ar Rayn 19.63 131 P **P** **15 05 45.9 -1.4**
CEST Esterri de Car 22.07 292 P **P** **15 06 13.1 -0.5**
CEST IAmb IAmb 15 06 25.1
comp=Z,15nm,1.3s
CLF Chambon-Foret 22.41 307 P **P** **15 06 16.6 -0.5**
CART Cartagena 24.03 280 P **P** **15 06 33.2 -0.4**
FINES FINESS Array B 24.08 356 P **P** **15 06 33.0 -0.9**
FINES FINESS Array B 24.08 356 P **P** **15 06 33.8 -0.1**
comp=Z,4.9nm,0.6s,baz=155,slow=11,SNR=20
FINES LR LR 15 17 26.0
comp=Z,52nm,18.2s,baz=288,slow=40
comp=Z,4.9nm,0.6s
FIA1 FINESS Array S 24.08 356 P **P** **15 06 33.8 0.0**
AKTO Aktyubinsk 24.19 48 LR LR 15 18 58.4
comp=Z,110nm,18.8s,baz=148,slow=44
HFS Hagfors 24.78 341 P **P** **15 06 40.8 +0.5**
comp=Z,6.5nm,0.8s,baz=159,slow=8.9,SNR=8.4
HFS LR LR 15 17 55.3
comp=Z,123nm,18.1s,baz=155,slow=40
comp=Z,6.5nm,0.8s
ABKAR Akbulak array 24.98 52 P **P** **15 06 42.0 -0.3**
ABKAR Akbulak array 24.98 52 P **P** **15 06 42.1 -0.1**
ABKAR IAmb IAmb 15 06 51.5
comp=Z,5.1nm,0.8s
TAM Tamanrasset 25.19 241 P **P** **15 06 43.2 -1.3**
TAM IAmb IAmb 15 06 47.9
comp=Z,10nm,1.1s
UOSS Minazif 26.04 111 P **P** **15 06 50.0 -2.1**
ESDC Sonseca Array 26.06 285 P **P** **15 06 53.6 +1.4**
comp=Z,3.7nm,1.0s,baz=77,slow=9.7,SNR=11
ESDC LR LR 15 17 53.4
comp=Z,72nm,19.1s,baz=104,slow=38
comp=Z,3.7nm,1.0s
NAO01 NORSAR Array S 26.14 339 P **P** **15 06 52.4 -0.2**
NB2 NORSAR Subarra 26.21 340 P **P** **15 06 54.1 +0.8**
comp=Z,6.3nm,1.0s,baz=144,slow=10
NOA NORSAR Array B 26.21 340 P **P** **15 06 53.2 -0.1**
comp=Z,1.4nm,0.7s,baz=145,slow=9.5,SNR=5.8
NOA LR LR 15 19 28.9
comp=Z,116nm,18.4s,baz=150,slow=42
comp=Z,1.4nm,0.7s
NC204 NORSAR Array S 26.53 340 P **P** **15 06 56.3 +0.1**
NC204 IAmb IAmb 15 06 59.4
comp=Z,11nm,1.1s
ARTI Arti 27.08 36 P **P** **15 07 00.6 -0.5**
ARTI IAmb IAmb 15 07 09.1
comp=Z,4.2nm,0.7s
ARTI Arti 27.08 36 LR LR 15 20 32.8
comp=Z,52nm,19.6s,baz=266,slow=43
KK31 Karatay Array 31.65 67 P **P** **15 07 40.8 -1.2**
KKAR Karatay Array 31.65 67 P **P** **15 07 40.6 -1.3**
KKAR IAmb IAmb 15 07 46.1
comp=Z,2.5nm,1.0s
ARCES ARCESS Array B 32.19 357 P **P** **15 07 46.2 -0.1**
comp=Z,3.8nm,0.8s,baz=176,slow=7.9,SNR=6.9
ARCES LR LR 15 21 39.7
comp=Z,61nm,19.6s,baz=154,slow=38
comp=Z,3.8nm,0.8s
BVAR Borovoye Array 32.29 48 P **P** **15 07 47.5 +0.1**
comp=Z,0.7nm,0.7s,baz=255,slow=5.7,SNR=5.1
BVAR LR LR 15 23 52.4
comp=Z,93nm,18.9s,baz=263,slow=42
comp=Z,0.7nm,0.7s
TORD Torodi Ar. Bea 34.58 233 P **P** **15 08 07.1 -0.5**
TORD IAmb IAmb 15 08 08.5
comp=Z,4.8nm,1.2s
AAK Ala-Archa 34.61 67 P **P** **15 08 07.3 -0.6**
AAK IAmb IAmb 15 08 18.5
comp=Z,3.5nm,1.1s
AAK Ala-Archa 34.61 67 LR LR 15 25 20.6
comp=Z,80nm,18.6s,baz=288,slow=42
KDJ Kajisay 36.65 67 P **P** **15 08 24.8 -0.7**
KURBB Kurchatov Arra 37.03 53 P **P** **15 08 28.6 +0.3**
comp=Z,1.5nm,0.6s,baz=276,slow=8.8,SNR=11
comp=Z,1.5nm,0.6s
KURK Kurchatov 37.09 53 P **P** **15 08 27.6 -1.2**
KURK IAmb IAmb 15 08 35.9
comp=Z,3.8nm,0.9s
PMOZ Porto Moniz, M 38.05 277 P **P** **15 08 36.4 -1.0**
WUS Wushi 38.32 68 P **P** **15 08 38.7 -0.9**
WUS IAmb IAmb 15 08 48.4
comp=Z,3.3nm,0.7s
MAKZ Makanchi 39.46 59 P **P** **15 08 47.9 -1.0**
MK31 Makanchi Array 39.67 59 P **P** **15 08 50.0 -0.7**
MKAR Makanchi Array 39.67 59 P **P** **15 08 49.9 -0.8**
MKAR Makanchi Array 39.67 59 P **P** **15 08 50.5 -0.2**
comp=Z,1.2nm,0.5s,baz=273,slow=5.3,SNR=14
comp=Z,1.2nm,0.5s
BORG Borgarnes 40.23 329 LR LR 15 28 11.1
comp=Z,69nm,19.9s,baz=119,slow=40
KIBK Kibwezi 40.43 167 P **P** **15 08 55.8 -1.5**
ZAA0 Zalesovo Array 40.95 48 P **P** **15 09 00.7 -0.4**
ZALV Zalesovo Beam 40.95 48 P **P** **15 09 00.5 -0.6**
ZALV Zalesovo Beam 40.95 48 P **P** **15 09 00.7 -0.4**
comp=Z,0.9nm,0.6s,baz=266,slow=8.2,SNR=6.5
ZALV LR LR 15 28 28.4
comp=Z,24nm,20.6s,baz=244,slow=40
comp=Z,0.9nm,0.6s
NRIK Noril'sk 44.34 26 P **P** **15 09 29.6 +1.2**
comp=Z,1.5nm,0.5s,baz=238,slow=9.8,SNR=4.6
comp=Z,1.5nm,0.5s
SFJD Kangerlussuaq 52.30 331 LR LR 15 37 05.6
comp=Z,41nm,18.8s,baz=98,slow=41
SONM Songino Array 55.39 53 P **P** **15 10 52.0 -0.9**
SONM Songino Array 55.39 53 P **P** **15 10 53.1 +0.1**
comp=Z,0.7nm,0.9s,baz=292,slow=7.8,SNR=5.2
comp=Z,0.7nm,0.9s
EUNU Eureka 57.56 349 P **P** **15 11 08.0 +0.1**
EUNU IAmb IAmb 15 11 11.9
comp=Z,3.3nm,1.2s
TIXI Tiksi 57.79 22 P **P** **15 11 09.1 -0.4**
TIXI IAmb IAmb 15 11 14.7
comp=Z,4.9nm,1.1s
TIXI Tiksi 57.79 22 LR LR 15 39 55.4
comp=Z,46nm,18.2s,baz=199,slow=40
PZH PanZhiHua 61.01 78 P **P** **15 11 32.2 -0.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.7s
HHC Hu-ho-hao-te 61.54 59 *e*P **P** **15 11 35.6 -0.3**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,79nm,5.9s
CMAR Chiang Mai Arr 62.99 87 P **P** **15 11 47.2 +1.3**
comp=Z,0.7nm,0.8s,baz=308,slow=9.1,SNR=2.4
CMAR LR LR 15 44 55.7
comp=Z,34nm,18.3s,baz=165,slow=42
comp=Z,0.7nm,0.8s
SCHQ Schefferville 63.61 320 P **P** **15 11 48.9 -0.6**
A36M Sachs Harbour 69.38 352 P **P** **15 12 25.8 -0.2**
BILL Bilibino 69.95 16 P **P** **15 12 29.8 +0.2**
B22K Teshekpuk Lake 72.47 1 P **P** **15 12 45.6 +0.8**
USRK Ussuriysk Ar. 72.80 47 P **P** **15 12 46.0 -1.2**
USRK Ussuriysk Ar. 72.80 47 P **P** **15 12 48.8 +1.6**
comp=Z,2.7nm,0.8s,baz=272,slow=5.0,SNR=4.3
comp=Z,2.7nm,0.8s
C23K Itkillik River 73.00 360 P **P** **15 12 47.4 -0.5**
C23K IAmb IAmb 15 12 54.3
comp=Z,4.4nm,0.9s
B21K Ikpikpuk River 73.17 1 P **P** **15 12 49.9 +0.9**
D25K Kavik River 73.47 358 P **P** **15 12 51.1 +0.3**
D25K IAmb IAmb 15 12 56.4
comp=Z,4.4nm,1.1s
C18K Utukok River 73.90 4 P **P** **15 12 54.4 +1.0**
C18K IAmb IAmb 15 12 55.4
comp=Z,3.0nm,0.8s
E28M Babbage River 73.91 356 P **P** **15 12 53.9 +0.5**
E28M IAmb IAmb 15 12 58.1
comp=Z,5.3nm,1.4s

D22K Ayikyak River 73.95 1 P **P** **15 12 55.1 +1.4**
C16K Lisburne Hills 73.99 6 P **P** **15 12 54.0 +0.2**
C16K IAmb IAmb 15 13 08.0
comp=Z,4.9nm,1.4s
E29M Blow River 74.02 355 **P** **15 12 54.4 +0.4**
E29M IAmb IAmb 15 12 59.4
comp=Z,4.6nm,0.9s
BBSR BB Station 74.03 299 P **P** **15 12 54.9 +0.3**
KSRS Korea Array 74.18 55 LR LR 15 48 54.6
comp=Z,29nm,18.3s,baz=140,slow=39
D19K Kuna River 74.20 3 P **P** **15 12 55.3 +0.2**
F30M Barrier River 74.53 354 P **P** **15 12 58.2 +0.6**
E22K Anaktuvuk Pass 74.71 0 P **P** **15 12 58.5 +0.4**
E22K IAmb IAmb 15 13 05.1
comp=Z,6.6nm,1.3s
E23K Chandalar 74.78 360 P **P** **15 12 59.0 +0.4**
E23K IAmb IAmb 15 13 05.4
comp=Z,7.0nm,1.3s
F26K Sheenjek River 75.04 357 P **P** **15 13 00.7 +0.7**
F26K IAmb IAmb 15 13 02.7
comp=Z,3.8nm,1.1s
YKA Yellowknife Ar 76.24 344 P **P** **15 13 06.8 -0.1**
comp=Z,0.8nm,0.9s,baz=38,slow=6.3,SNR=8.7
comp=Z,0.8nm,0.9s
ILAR Eielson Array 78.05 358 P **P** **15 13 17.3 +0.3**
comp=Z,0.9nm,1.0s,baz=13,slow=5.7,SNR=5.8
comp=Z,0.9nm,1.0s
BBB Bella Bella 88.57 346 LR LR 15 54 16.3
comp=Z,29nm,18.7s,baz=156,slow=36
BDFB Brasília 89.70 250 P **P** **15 14 19.6 +2.2**
comp=Z,5.3nm,0.8s,baz=46,slow=5.3,SNR=6.3
comp=Z,5.3nm,0.8s
PDAR Pinedale Array 91.82 331 P **P** **15 14 26.6 -0.5**
comp=Z,0.3nm,0.7s,baz=50,slow=2.9,SNR=3.5
comp=Z,0.3nm,0.7s

IDC ***04*** *15:06:54.0±0.6, 8°.65S×147°.57E, h0km, mb4.1/15, mbtmp4.2/18, ML4.1/3, MS3.6/18, Error ellipse: s-maj=20.4km s-min=8.3km az=106.0*
NEIC ***04*** *15:06:55.4±1.4, 8°.65S±0°.05×147°.48E±0°.08, h10km±1km, mb4.9/64, Error ellipse: s-maj=15.0km s-min=6.3km az=295.0*
DJA ***04*** *15:06:58.3±1.4, 9°S±5°×14°7E±°, h21km±8km, M4.8/17, mb4.8/17, mB5.1/1, MLv4.8/2, Mw(mB)4.5/1*
ISC 04 15:06:58.8±0.4,**8°.73S**±0°.04×**147°.36E**±0°.06,**h35**km,**n155,**
σ1$**40**/141,**mb4.7**/45,**MS3.6**/16,**3D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**0.70**	**196**		**Pn**	**15 07 11.2**	**-1.0**
PMG				Sg	**Sn**	**15 07 22.1**	**+0.2**
PMG	**Port Moresby**	**0.70**	**196**	Pg	**Pn**	**15 07 11.7**	**-0.6**
2μm,0.3s,baz=24,slow=6.9,SNR=4233							
PMG				Lg	Lg	15 07 22.1	
4μm,0.3s,baz=24,slow=11,SNR=16							
PMG	**Port Moresby**	**0.70**	**196**	P	**Pn**	**15 07 11.7**	**-0.6**
PMG	**Port Moresby**	**0.70**	**196**	P	**Pn**	**15 07 11.6**	**-0.6**
RABL	**Rabaul**	**6.57**	**47**		**Pn**	**15 08 29.6**	**-3.4**
COEN	**Coen**	**6.62**	**218**	Pn	**Pn**	**15 08 33.4**	**-0.3**
COEN					**Sn**	**15 09 44.8**	**-3.1**
COEN	**Coen**	**6.62**	**218**	P	**Pn**	**15 08 34.5**	**+0.8**
JAY	**Jayapura**	**9.05**	**313**	Pn	**Pn**	**15 09 07.8**	**+0.6**
0.4nm,0.3s,baz=159,slow=14,SNR=1.2							
14nm,1.1s							
MTSU	**Mount Surprise**	**9.80**	**197**	P	**Pn**	**15 09 17.3**	**-0.1**
TV1H	**Townsville Har**	**10.48**	**183**	P	**Pn**	**15 09 27.0**	**+0.3**
SMPI	**Sarmi**	**10.91**	**307**	P	Pn	15 09 38.4	+5.9
29nm,1.3s							
TATA	**Tatamba Isabel**	**12.31**	**89**	P	Pn	15 09 57.4	+5.6
QIS	**Mount Isa**	**13.94**	**212**	P	**Pn**	**15 10 14.7**	**+0.7**
KDU	**Kakadu**	**15.14**	**254**	P	**Pn**	**15 10 31.6**	**+1.3**
SAUI	**Saumlaki**	**15.91**	**272**	Pn	**Pn**	**15 10 40.8**	**+0.6**
SAUI				IAmb	IAmb	15 10 41.3	
comp=Z,76nm,0.7s							
FAKI	**Fak Fak**	**16.10**	**290**		**Pn**	**15 10 44.3**	**+1.6**
FAKI	**Fak Fak**	**16.10**	**290**	P	**P**	**15 10 45.3**	**-0.3**
FAKI	**Fak Fak**	**16.10**	**290**	P	**P**	**15 10 44.6**	**-1.0**
comp=Z,32nm,1.2s							
MTN	**Manton Dam**	**16.45**	**254**		**P**	**15 10 48.8**	**-0.7**
MTN	**Manton Dam**	**16.45**	**254**	P	**P**	**15 10 49.8**	**+0.2**
DRS	**Darwin Rock St**	**16.59**	**256**	P	**P**	**15 10 50.6**	**-0.5**
WB0	**Warramunga Arr**	**16.67**	**227**	P	**P**	**15 10 52.2**	**+0.3**
WR0	**Warramunga Arr**	**16.68**	**227**	P	**P**	**15 10 51.6**	**-0.5**
WB2	**Warramunga Arr**	**16.81**	**227**		**Pn**	**15 10 52.2**	**+0.6**
WRA	**Warramunga Arr**	**16.82**	**227**	Pn	**P**	**15 10 52.9**	**-0.7**
comp=Z,0.9nm,0.3s,baz=51,slow=13,SNR=32							
WRA				Sn	**Sn**	**15 13 49.8**	**-7.9**
comp=Z,0.5nm,0.3s,baz=53,slow=23,SNR=6.9							
WRA				LR	LR	15 17 43.1	
comp=Z,108nm,19.3s,baz=346,slow=38							
comp=Z,3.0nm,0.5s							
EIDS	**Eidsvold**	**16.92**	**168**		**Pn**	**15 10 53.6**	**+0.6**
EIDS				IAmb	IAmb	15 10 56.8	
comp=Z,56nm,0.7s							
EIDS	**Eidsvold**	**16.92**	**168**	P	**P**	**15 10 55.6**	**+0.9**
QLP	**Quilpie**	**18.00**	**189**	P	**P**	**15 11 08.6**	**+2.0**
KNRA	**Kununurra**	**19.43**	**247**	P	**Pn**	**15 11 23.6**	**-0.2**
KNRA				IAmb	IAmb	15 11 28.5	
comp=Z,76nm,0.8s							
AS01	**Alice Springs**	**19.63**	**219**	P	**Pn**	**15 11 27.3**	**+1.2**
AS31	**Alice Springs**	**19.66**	**219**	P	**Pn**	**15 11 26.9**	**+0.5**
ASAR	**Alice Springs**	**19.66**	**219**	P	**Pn**	**15 11 26.9**	**+0.4**
ASAR	**Alice Springs**	**19.66**	**219**	P	**Pn**	**15 11 27.7**	**+1.2**
comp=Z,1.0nm,0.3s,baz=43,slow=10,SNR=91							
ASAR				S	**S**	**15 14 59.5**	**-5.3**
comp=Z,2.2nm,0.7s,baz=48,slow=22,SNR=6.4							
ASAR				LR	LR	15 18 38.1	
comp=Z,167nm,19.0s,baz=56,slow=36							
comp=Z,15nm,0.7s							
INKA	**Innaminka**	**19.91**	**197**	P	**Pn**	**15 11 29.8**	**+0.4**
OOD	**Oodnadatta**	**21.93**	**209**	P	**P**	**15 11 51.1**	**+1.8**
ARMA	**Armidale**	**21.94**	**170**	P	**P**	**15 11 50.1**	**+0.5**
GUMO	**Guam**	**22.31**	**354**	LR	LR	15 18 50.9	
comp=Z,54nm,20.9s,baz=90,slow=32							
DZM	**Mont Dzumac**	**22.64**	**128**	P	**P**	**15 11 56.7**	**-0.4**
DZM				IAmb	IAmb	15 11 59.2	
comp=Z,28nm,1.0s							
DZM	**Mont Dzumac**	**22.64**	**128**	*e*P	**P**	**15 11 55.5**	**-1.7**
comp=Z,74nm,1.1s							
DZM				*e*LR	LR	15 17 18.5	
comp=Z,165nm,25.2s							
DZM	**Mont Dzumac**	**22.64**	**128**	P	**P**	**15 11 57.1**	**0.0**
comp=Z,24nm,1.0s,baz=340,slow=9.1,SNR=6.9							
comp=Z,24nm,1.0s							
CMSA	**Cobar Meteorol**	**22.74**	**184**	P	**P**	**15 11 59.7**	**+1.7**
SOEI	**Soe**	**22.81**	**266**	P	**P**	**15 11 59.0**	**-0.1**
SOEI				IAmb	IAmb	15 12 15.9	
comp=Z,24nm,1.1s							
SOEI	**Soe**	**22.81**	**266**	P	**P**	**15 12 01.5**	**+2.4**
comp=Z,43nm,1.3s							
FITZ	**Fitzroy Crossi**	**23.06**	**244**	P	**P**	**15 12 02.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**23.06**	**244**	P	**P**	**15 12 02.6**	**+1.2**
LCRK	**Leigh Creek**	**23.23**	**200**	P	**P**	**15 12 04.3**	**+1.3**
STKA	**Stephens Creek**	**23.64**	**192**	P	**P**	**15 12 06.1**	**-0.9**
STKA				IAmb	IAmb	15 12 28.1	
comp=Z,40nm,0.8s							
STKA	**Stephens Creek**	**23.64**	**192**	P	**P**	**15 12 06.6**	**-0.4**
comp=Z,2.0nm,0.5s,baz=20,slow=8.9,SNR=5.8							
STKA				LR	LR	15 21 54.9	
comp=Z,225nm,18.6s,baz=15,slow=38							
comp=Z,2.0nm,0.5s							
STKA	**Stephens Creek**	**23.64**	**192**	P	**P**	**15 12 10.1**	**+3.1**
WRKA	**Warakurna**	**24.35**	**226**	P	**P**	**15 12 14.8**	**+1.1**
BBSI	**Bau Bau**	**24.80**	**276**	P	P	15 12 26.3	+8.4
MMRI	**Maumere**	**24.83**	**268**	P	**P**	**15 12 18.7**	**+0.5**
MMRI	**Maumere**	**24.83**	**268**	P	**P**	**15 12 19.7**	**+1.5**
comp=Z,62nm,0.9s							
LHI	**Lord Howe Isla**	**25.16**	**156**	P	**P**	**15 12 21.4**	**+0.5**
EDFI	**Ende, Flores**	**25.37**	**268**	P	**P**	**15 12 24.3**	**+1.2**
comp=Z,16nm,1.0s							
LUWI	**Luwuk**	**25.64**	**286**	P	**P**	**15 12 25.6**	**+0.1**
LUWI				IAmb	IAmb	15 12 37.8	
comp=Z,17nm,0.8s							
HTT	**Hallett**	**25.78**	**196**	P	**P**	**15 12 29.7**	**+3.1**
BBOO	**Buckleboo**	**26.14**	**202**	P	**P**	**15 12 31.0**	**+1.2**
BBOO				IAmb	IAmb	15 12 38.5	
comp=Z,26nm,1.2s							
FORT	**Forrest**	**28.38**	**217**	P	**P**	**15 12 50.5**	**+0.6**
MSVF	**Nonsavu**	**31.14**	**110**	LR	LR	15 23 28.9	
comp=Z,144nm,18.7s,baz=295,slow=32							
JCJ	**Chichijima**	**35.97**	**352**	LR	LR	15 26 51.5	
comp=Z,22nm,20.6s,baz=166,slow=33							

NWAO	Narrogin (SRO)	36.80 225	P	P	15 14 04.9	+1.4
NWAO	Narrogin (SRO)	36.80 225	LR	LR	15 28 44.3	
	comp=Z,154nm,20.6s,baz=292,slow=35					
TKNZ	Takaka Hill	39.37 149	P	P	15 14 24.7	-0.4
MRNZ	Matariki Terra	39.54 150	P	P	15 14 26.9	+0.5
URZ	Urewera	39.77 142	LR	LR	15 28 44.7	
	comp=Z,131nm,19.1s,baz=42,slow=33					
THZ	Tophouse	39.88 150	P	P	15 14 29.4	0.0
THZ			IAmb	IAmb	15 14 37.8	
	comp=Z,46nm,1.3s					
TUWZ	Tuamarina	40.16 149	P	P	15 14 31.1	-0.5
TCW	Tory Channel	40.18 148	P	P	15 14 31.3	-0.5
BSWZ	Blackbirch Sta	40.34 149	P	P	15 14 33.3	+0.2
LTZ	Lake Taylor	40.35 151	P	P	15 14 32.5	-0.7
LTZ			IAmb	IAmb	15 15 29.9	
	comp=Z,53nm,1.5s					
LBZ	Lake Benmore	40.67 155	P	P	15 14 35.4	-0.5
LBZ			IAmb	IAmb	15 15 57.3	
	comp=Z,63nm,1.4s					
KHZ	Kahutara	40.68 150	P	P	15 14 36.3	+0.4
YULB	Yu-li	40.85 322	P	P	15 14 37.3	-0.2
TPUB	Ta-pu	41.20 321	P	P	15 14 39.8	-0.6
SSLB	Suanglung	41.36 322	P	P	15 14 41.2	-0.5
YHNB	Yeheng	41.77 323	P	P	15 14 44.7	-0.4
JNU	Nakatsue	44.48 340	LR	LR	15 31 30.4	
	comp=Z,39nm,18.2s,baz=153,slow=33					
MJAR	Matsushiro Arr	45.85 350	P	P	15 15 18.1	+0.4
	comp=Z,5.3nm,1.0s,baz=171,slow=8.2,SNR=5.9					
MJAR			LR	LR	15 32 28.8	
	comp=Z,32nm,19.3s,baz=156,slow=34					
	comp=Z,5.3nm,1.0s					
KULM	Kulim	48.61 285	P	P	15 15 39.8	+0.2
KULM			IAmb	IAmb	15 16 36.8	
	comp=Z,29nm,1.4s					
NJ2	Nanjing	48.85 327	eP	P	15 15 41.8	+0.7
NJ2			pmax	pmax		
	comp=Z,27nm,0.6s					
KSRS	Korea Array	49.42 340	P	P	15 15 45.9	+0.5
	comp=Z,2.8nm,0.8s,baz=154,slow=8.1,SNR=6.7					
KSRS			LR	LR	15 35 50.1	
	comp=Z,33nm,20.9s,baz=145,slow=35					
	comp=Z,2.8nm,0.8s					
RAR	Rarotonga	52.33 110	LR	LR	15 36 32.9	
	comp=Z,53nm,18.5s,baz=268,slow=34					
JKA	Kamikawa-asahi	52.78 356	P	P	15 16 10.3	-0.2
JKA			IAmb	IAmb	15 18 06.4	
	comp=Z,30nm,1.6s					
CRAI	Chiangrai	54.45 302	P	P	15 16 23.3	+0.1
USRK	Ussuriysk Ar.	54.49 346	P	P	15 16 22.2	-0.8
	comp=Z,2.0nm,0.9s,baz=176,slow=7.7,SNR=1.8					
	comp=Z,2.0nm,0.9s					
CM31	Chiang Mai Arr	54.88 300	P	P	15 16 26.5	+0.2
CMAR	Chiang Mai Arr	54.88 300		P	15 16 26.8	+0.5
CMAR	Chiang Mai Arr	54.88 300	P	P	15 16 28.2	+1.9
	comp=Z,1.6nm,0.7s,baz=127,slow=5.8,SNR=14					
	comp=Z,1.6nm,0.7s					
CHTO	Chiang Mai	55.03 300		P	15 16 26.9	-0.5
PZH	PanZhiHua	56.45 310	P	P	15 16 39.1	+1.5
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
PZH			pmax	pmax		
	comp=Z,120nm,5.5s					
HHC	Hu-ho-hao-te	59.34 329	eP	P	15 16 57.0	-0.6
HHC			pmax	pmax		
	comp=Z,24nm,0.7s					
HHC			pmax	pmax		
	comp=Z,110nm,5.1s					
LZH	Lanzhou	60.51 320	eP	P	15 17 09.2	+3.4
LZH			sP	pP	15 17 18.0	+0.8
LZH			pmax	pmax		
	comp=Z,18nm,1.0s					
PPT2	Papeete2	61.81 105	eLR	LR	15 35 34.4	
	comp=Z,50nm,27.2s					
PEA0B	Petropavlovsk-	62.23 7	P	P	15 17 15.6	-1.3
PETK	Petropavlovsk-	62.23 7	P	P	15 17 15.2	-1.7
PETK	Petropavlovsk-	62.23 7	P	P	15 17 17.1	+0.2
	comp=Z,2.6nm,0.8s,baz=173,slow=6.8,SNR=8.9					
	comp=Z,2.6nm,0.8s					
CASY	Casey	62.74 196	P	P	15 17 20.5	+0.4
SHL	Shillong	63.81 304	P	P	15 17 28.4	+0.2
SHL			IAmb	IAmb	15 17 47.5	
	comp=Z,10nm,0.9s					
GTA	Gaotai	65.07 321	eP	P	15 17 45.0	+8.9
GTA			pP	pP	15 17 49.3	+1.8
GTA			sP	sP	15 17 52.6	+0.8
GTA			pmax	pmax		
	comp=Z,3.0nm,1.1s					
SMY	Shemya	65.34 18	P	P	15 17 36.9	-0.5
LSA	Lhasa	66.17 308	P	P	15 17 43.4	-0.4
SONM	Songino Array	66.95 331	P	P	15 17 47.7	-0.3
SONM	Songino Array	66.95 331	P	P	15 17 49.7	+1.7
	comp=Z,1.6nm,1.0s,baz=150,slow=7.8,SNR=6.6					
SONM			LR	LR	15 48 06.1	
	comp=Z,28nm,19.1s,baz=181,slow=37					
	comp=Z,1.6nm,1.0s					
KIWB	Kanaga Island	67.61 23	P	P	15 17 51.9	0.0
VNDA	Vanda	69.18 177	P	P	15 18 02.3	+0.9
VNDA			IAmb	IAmb	15 19 40.2	
	comp=Z,16nm,1.9s					
VNDA	Vanda	69.18 177	P	P	15 18 02.4	+0.9
	comp=Z,0.4nm,0.5s,baz=314,slow=6.4,SNR=3.9					
VNDA			LR	LR	15 47 41.5	
	comp=Z,68nm,18.0s,baz=310,slow=35					
	comp=Z,0.4nm,0.5s					
TAOE	Nuku Hiva Isla	71.52 96	eLR	LR	15 39 54.7	
	comp=Z,63nm,23.4s					
MK31	Makanchi Array	79.82 321	P	P	15 19 03.3	-0.4
MKAR	Makanchi Array	79.82 321	P	P	15 19 03.3	-0.4
MKAR	Makanchi Array	79.82 321	P	P	15 19 04.8	+1.1
	comp=Z,1.5nm,0.8s,baz=105,slow=6.4,SNR=14					
	comp=Z,1.5nm,0.8s					
ACHA	Angle Creek He	81.11 27	P	P	15 19 09.5	-0.9
QSPA	South Pole Qui	81.25 180	P	P	15 19 10.9	-0.3
QSPA			IAmb	IAmb	15 19 23.3	
	comp=Z,36nm,1.9s					
QSPA	South Pole Qui	81.25 180	P	P	15 19 12.0	+0.7
	comp=Z,1.4nm,0.6s,baz=154,slow=1.9,SNR=11					
	comp=Z,1.4nm,0.6s					
KDJ	Kajisay	81.46 315	P	P	15 19 12.3	-0.5
ZAA0	Zalesovo Array	81.50 328		P	15 19 12.4	-0.1
ZAA0			IAmb	IAmb	15 19 22.4	
	comp=Z,5.5nm,0.7s					
ZALV	Zalesovo Beam	81.50 328		P	15 19 12.5	0.0
ZALV	Zalesovo Beam	81.50 328	P	P	15 19 12.2	-0.3
	comp=Z,2.8nm,0.7s,baz=117,slow=4.6,SNR=12					
ZALV			LR	LR	15 55 44.9	
	comp=Z,18nm,19.4s,baz=110,slow=36					
	comp=Z,2.8nm,0.7s					
OHAK	Old Harbor	81.52 28	P	P	15 19 11.6	-0.9
NIL	Nilore	81.80 306	P	P	15 19 14.0	-0.6
NIL			IAmb	IAmb	15 19 28.8	
	comp=Z,16nm,0.8s					
L19K	White Mountain	83.45 24	P	P	15 19 21.9	-0.6
L19K			IAmb	IAmb	15 19 22.0	
	comp=Z,23nm,1.6s					
KURK	Kurchatov	83.60 323	P	P	15 19 22.9	-0.6
KURK			IAmb	IAmb	15 19 37.5	
	comp=Z,6.9nm,1.3s					
KURBB	Kurchatov Arra	83.62 323	P	P	15 19 23.7	+0.1
	comp=Z,0.9nm,1.0s,baz=107,slow=3.9,SNR=5.2					
	comp=Z,0.9nm,1.0s					
BRLK	Bradley Lake	83.88 27	P	P	15 19 25.1	+0.3
G18K	Tagagawik	84.19 20	P	P	15 19 24.7	-1.5
G18K			IAmb	IAmb	15 19 33.0	
	comp=Z,20nm,1.6s					
SLKM	Skilak Lake	84.53 26	P	P	15 19 27.8	-0.2
F19K	Shaleruckik Mo	85.03 19	P	P	15 19 29.7	-0.7
F19K			IAmb	IAmb	15 20 47.7	
	comp=Z,21nm,2.0s					
PWL	Port Wells	85.51 26	P	P	15 19 32.4	-0.6
E19K	Redstone River	85.57 19	P	P	15 19 32.8	-0.3
E19K			IAmb	IAmb	15 19 42.4	
	comp=Z,3.8nm,0.8s					
D19K	Kuna River	85.91 18	P	P	15 19 34.3	-0.5
D19K			IAmb	IAmb	15 20 46.9	
	comp=Z,5.2nm,1.2s					
KK31	Karatay Array	86.44 314	P	P	15 19 36.3	-1.7
KKAR	Karatay Array	86.44 314	P	P	15 19 36.7	-1.3
D20K	Etivluk River	86.49 18	P	P	15 19 37.3	-0.4
D20K			IAmb	IAmb	15 20 54.0	
	comp=Z,15nm,1.7s					
B20K	Meade River	87.08 16	P	P	15 19 39.2	-1.2
B20K			IAmb	IAmb	15 22 27.5	
	comp=Z,21nm,1.9s					
ILAR	Eielson Array	87.84 23	P	P	15 19 41.4	-2.8
ILAR	Eielson Array	87.84 23	P	P	15 19 43.0	-1.2
	comp=Z,1.1nm,0.8s,baz=257,slow=4.7,SNR=11					
	comp=Z,1.1nm,0.8s					
SYO	Syowa Base	88.17 200	iP	P	15 19 47.5	+1.7
SYO	Syowa Base	88.17 200	eP	PcP	15 19 49.0	+1.5
SYO	Syowa Base	88.17 200	eP	P	15 19 51.2	+5.4
J25K	Salcha River,	88.36 23	P	P	15 19 45.7	-1.1
J25K			IAmb	IAmb	15 20 10.4	
	comp=Z,4.3nm,0.8s					
F24K	Squaw Lake	88.69 20	P	P	15 19 48.3	0.0
F24K			IAmb	IAmb	15 19 56.7	
	comp=Z,4.0nm,1.2s					
BVAR	Borovoye Array	89.17 324	P	P	15 19 51.3	+0.5
	comp=Z,0.4nm,0.5s,baz=112,slow=6.6,SNR=4.4					
	comp=Z,0.4nm,0.5s					
BCAR	Beaver Creek A	89.24 25	P	P	15 19 49.5	-1.4
BMAR	Burnt Mountain	89.80 21	P	P	15 19 52.7	-0.8
G26K	Porcupine Rive	89.90 22	IAmb	IAmb	15 22 29.1	
	comp=Z,3.7nm,0.8s					
DLBC	Dease Lake	93.52 32	LR	LR	15 54 07.0	
	comp=Z,54nm,21.8s,baz=300,slow=30					
ABKAR	Akbulak array	94.86 319	P	P	15 20 16.2	-1.0
ABKAR			IAmb	IAmb	15 22 40.1	
	comp=Z,2.4nm,0.8s					
SNAA	Sanae	97.37 189	LR	LR	16 04 38.7	
	comp=Z,118nm,18.6s,baz=128,slow=36					
PFO	Pinyon Flats O	99.90 57	LR	LR	16 00 32.6	
	comp=Z,26nm,19.0s,baz=174,slow=32					
VYHS	Vyhne	121.48 322	ePDIFF	Pdif	15 22 18.8	+2.8
MODS	Modra-Piesok	122.47 323	ePDIFF	Pdif	15 22 22.5	+2.1
BAUV	El Baul	145.03 87	PKPdf	PKPbc	15 26 30.9	-2.1
TORD	Torodi Ar. Bea	146.02 281		PKPdf	15 26 35.7	+0.5
BDFB	Brasilia	151.39 148	PKPbc	PKiKP	15 26 50.8	+0.1
	comp=Z,4.3nm,0.6s,baz=106,slow=2.1,SNR=7.0					
DBIC	Dimbokro	152.39 268	PKPbc	PKiKP	15 26 55.5	+2.8
	comp=Z,3.5nm,0.6s,baz=76,slow=3.8,SNR=5.7					

*JMA **04** 15:07:10.9±0.2,24°N±1°×122°6E±0°.5, h25km±3km, MV3.1/16, NW OFF ISHIGAKIJIMA IS*
*TAP **04** 15:07:11.3,24°.03N×122°.67E, h31km, ML3.3, C*
ISC 04 15:07:09.1±1.0,**23°.94N**±0°.02×**122°.69E**±0°.02,**h18**km±7km,
n129,σ0°72/204,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.38	299	P	Pn	15 07 19.4	0.0
EOS4				S	Sn	15 07 25.1	-1.1
EOS3	EOS3	0.48	316	i P	Pn	15 07 20.9	-0.1
EOS3				S	Sn	15 07 28.2	-0.8
JYNG	Yonagunijimaku	0.56	25	P	Pn	15 07 21.6	-0.8
JYNG				S	Sb	15 07 29.2	+0.9
YOJ	Yonaguni jima	0.60	30	P	Pn	15 07 22.3	-0.5
YOJ	Yonaguni jima	0.60	30	P	Pn	15 07 22.3	-0.5
YOJ				S	Sb	15 07 30.1	+0.8
YOJ	Yonaguni jima	0.60	30	i P	Pn	15 07 22.4	-0.4
YOJ				i S	Sb	15 07 29.9	+0.6
EOS2	EOS2	0.63	319	i P	Pn	15 07 23.7	+0.6
EOS2				S	Sn	15 07 31.9	-0.8
EAHA	Aohua	0.95	294	P	Pn	15 07 28.3	+0.7
EAHA				eS	Sn	15 07 41.8	+1.2
EWUT	Wuta	0.97	302	P	Pn	15 07 28.3	+0.4
EWUT				eS	Sn	15 07 41.3	0.0
ENA	Nanau	0.99	300	eP	Pg	15 07 28.9	+0.5
ENA				eS	Sn	15 07 42.2	+0.4
ETL	Fush Village	0.99	283	eP	Pg	15 07 29.2	+0.8
ESAO	Su ao	1.00	310	eP	Pg	15 07 28.8	+0.3
ESAO				eS	Sn	15 07 42.4	+0.5
TEYL	Yanliau Villag	1.00	266	eP	Pg	15 07 28.7	+0.2
TEYL				eS	Sn	15 07 42.5	+0.6
TWD	Chiawan	1.01	278	P	Pg	15 07 28.4	-0.3
TWD				eS	Sb	15 07 40.8	-0.2
TWC	Suao	1.01	311	P	Pg	15 07 29.0	+0.1
TWC				eS	Sb	15 07 41.3	+0.1
NACB	Ninganchiao	1.02	283	P	Pn	15 07 28.6	0.0
NACB	Ninganchiao	1.02	283	eP	Pg	15 07 28.8	-0.2
HATJ	Hateruma jima	1.03	83	P	Pg	15 07 30.5	+1.4
HATJ				S	Sn	15 07 44.0	+1.2
IRIF	Iriomote-Funau	1.03	67	P	Pg	15 07 30.1	+0.9
IRIF				S	Sn	15 07 44.9	+2.1
SHUL	Shoufeng	1.04	262	P	Pg	15 07 29.3	0.0
SHUL				eS	Sn	15 07 44.5	+1.5
ETM	Tongmen	1.09	272	P	Pn	15 07 29.6	0.0
ETM				eS	Sb	15 07 43.5	0.0
NDS	Dongshan	1.12	308	eP	Pg	15 07 31.6	+0.7
ETLH	Xiulin Townshi	1.13	284	P	Pb	15 07 30.4	+0.2
EGS		1.13	323	P	Pg	15 07 31.0	-0.1
ESL	Shilin	1.15	264	P	Pn	15 07 30.2	-0.2
ESL				eS	Sb	15 07 44.9	-0.3
LXIB	Xiulin Townshi	1.17	274	P	Pb	15 07 30.9	0.0
LXIB				eS	Sb	15 07 45.4	-0.4
ILA	Ilan	1.19	314	eP	Pg	15 07 32.9	+0.8
ILA				eS	Sg	15 07 49.1	+1.4
WARBT	Fenglin Townsh	1.21	260	P	Pn	15 07 31.1	-0.1
WARBT				eS	Sb	15 07 46.2	-0.6
TWE	Neicheng	1.21	310	eP	Pg	15 07 32.1	-0.5
LATG	Datong	1.21	300	P	Pg	15 07 32.1	-0.5
LATG				eS	Sg	15 07 49.2	+0.7
ENTT	Nioudou	1.24	305	eP	Pg	15 07 32.4	-0.7
ENTT				eS	Sg	15 07 50.0	+0.7
HGSD	Ruisui	1.24	249	eP	Pn	15 07 31.6	0.0
HGSD				eS	Sb	15 07 47.5	-0.1
TWB1	Santiao Chiao	1.24	329	eP	Pb	15 07 31.9	-0.1
JKRS	Kuro-shima	1.25	76	P	Pg	15 07 33.9	+0.7
JKRS				S	Sg	15 07 50.8	+1.3
NNSB	Datong	1.28	293	P	Pb	15 07 33.0	+0.1
NNSB				eS	Sn	15 07 49.6	+0.3
ECBN	Changbin	1.29	242	eP	Pb	15 07 32.8	-0.1
FUSB	Fushanzhiwuyua	1.29	309	P	Pg	15 07 33.6	-0.6
FUSB				eS	Sg	15 07 51.4	+0.4
TIPB	Shuangxi	1.29	323	eP	Pg	15 07 33.3	-0.8
TIPB				eS	Sg	15 07 50.1	-1.0
NNS	Nan Shan	1.30	293	P	Pb	15 07 33.1	-0.1
NNS				eS	Sb	15 07 49.5	0.0
WHF	Hehuan Shan	1.31	279	P	Pb	15 07 33.6	+0.1
WHF				eS	Sb	15 07 50.0	-0.3
EHY	Hungye	1.32	251	P	Pb	15 07 33.5	+0.1
EHY				eS	Sn	15 07 49.4	-0.5
FUSS	Fushou	1.35	283	P	Pb	15 07 34.3	+0.2
NWLT	Wulai	1.36	308	eP	Pg	15 07 35.0	-0.5
SXI1	Grass Mountain	1.37	328	P	Pb	15 07 34.1	-0.2
SXI1				eS	Sn	15 07 50.9	-0.3
OWD	Renai	1.38	271	P	Pb	15 07 34.1	-0.5
OWD				eS	Sn	15 07 50.9	-0.7
YULB	Yu-li	1.38	247	P	Pb	15 07 34.3	-0.2
YULB	Yu-li	1.38	247	S	Sn	15 07 51.8	+0.3
YULB	Yu-li	1.38	247	eP	Pb	15 07 34.2	-0.3
YULB				eS	Sn	15 07 51.3	-0.2
EYUL	Yuli	1.38	245	P	Pn	15 07 34.0	+0.4
EYUL				eS	Sn	15 07 51.4	-0.1
NWF	Wu-fen Shan	1.40	324	i P	Pb	15 07 34.4	-0.3
NWF				eS	Sn	15 07 51.8	-0.1
WFSB	Wu-fen Shan	1.40	324	eP	Pb	15 07 34.4	-0.3
WFSB				eS	Sb	15 07 52.4	+0.1
CHKH	Chenggong	1.40	238	eS	Sn	15 07 50.1	-1.7
JIJ	Ishigaki jima	1.40	72	P	Pg	15 07 35.1	-1.0
JIJ				S	Sg	15 07 53.0	-1.3
YHNB	Yeheng	1.40	302	P	Pb	15 07 34.9	+0.1
YHNB	Yeheng	1.40	302	S	Sg	15 07 54.4	0.0
YHNB	Yeheng	1.40	302	eP	Pb	15 07 34.9	0.0
YHNB				eS	Sg	15 07 54.5	+0.1
TWF1	Yuli	1.40	246	eP	Pb	15 07 34.9	+0.1
TWF1				eS	Sn	15 07 52.0	+0.1
TWT	Tachien	1.41	283	eP	Pb	15 07 35.5	+0.4
NSK	Sanguang	1.42	302	P	Pb	15 07 34.9	-0.3
NSK				eS	Sg	15 07 54.7	-0.3
VWDT	VWDT	1.43	263	P	Pb	15 07 35.0	-0.2
VWDT				eS	Sn	15 07 52.0	-0.4
TDCB	Techi	1.43	283	P	Pb	15 07 35.4	0.0
WUSB	Renai	1.44	272	P	Pb	15 07 35.2	-0.3
WUSB				eS	Sb	15 07 53.6	+0.1
TWA	Mucha	1.44	316	P	Pg	15 07 36.5	-0.4
TWA				eS	Sg	15 07 54.9	-1.0
TNOU	National Taiwa	1.47	326	eP	Pg	15 07 36.4	-1.0
FULB	Fuli	1.47	240	eP	Pn	15 07 35.2	+0.3
FULB				eS	Sn	15 07 53.2	-0.5
TATO	Taipei	1.50	314	P	Pb	15 07 36.9	+0.4
EHD	Haiduan	1.57	240	eP	Pn	15 07 35.8	-0.4
EHD				eS	Sn	15 07 56.1	+0.1
YM01	YM01	1.57	320	eP	Pb	15 07 37.2	-0.6
ECS	Chishang	1.58	238	eP	Pn	15 07 36.6	+0.2
ECS				eS	Sn	15 07 57.2	+0.8
NFF	Wufeng Townshi	1.59	296	eP	Pb	15 07 38.3	+0.3
EDH	Donghe	1.59	233	P	Pn	15 07 36.3	-0.2
EDH				S	Sn	15 07 54.7	-1.9
SSLB	Suanglung	1.59	265	P	Pb	15 07 38.1	0.0
SSLB	Suanglung	1.59	265	eP	Pb	15 07 37.9	-0.2
SSLB				eS	Sn	15 07 56.6	0.0
ZUZH	Zhuzihu	1.60	320	eP	Pb	15 07 37.4	-0.8
KSHI	Guanxi Townshi	1.61	302	eP	Pb	15 07 38.2	-0.1
JISG	Ishigakijimahi	1.62	66	P	Pb	15 07 37.6	-0.9
JISG				S	Sb	15 07 58.1	-0.6
WHP	Taichung City	1.62	282	eP	Pg	15 07 39.6	-0.8
WCS	Beigang Elemen	1.63	275	eP	Pb	15 07 38.1	-0.6
SMLT	Sun Moon Lake	1.63	268	eP	Pn	15 07 37.1	0.0
TWS1	Kuangyinshan	1.64	315	eP	Pn	15 07 37.6	+0.5
TWY	Chenhua	1.66	324	eP	Pn	15 07 38.0	+0.6
TYC	Yuchr	1.67	269	eP	Pb	15 07 39.2	-0.2
LIOB	Emei	1.68	295	eP	Pb	15 07 39.4	-0.1
LDUT	Ludao	1.68	222	P	Pn	15 07 37.2	-0.5
NSTT	Nanjuang	1.68	295	eP	Pb	15 07 39.6	0.0
NSTT				eS	Sb	15 08 01.1	+0.6
WHYT	Xinyi Township	1.69	262	eP	Pb	15 07 39.7	-0.1
WHYT				eS	Sn	15 08 00.1	+0.9
ELDTW	Lidau	1.70	244	eP	Pn	15 07 38.3	+0.2
ELDTW				eS	Sn	15 07 58.4	-1.1
LONT	Longtian	1.76	235	eP	Pn	15 07 38.9	+0.1
LONT				eS	Sn	15 08 01.2	+0.5
SBCB	Hsinchu	1.77	299	eP	Pb	15 07 40.3	-0.8
ALS	Alishan	1.77	256	eP	Pb	15 07 40.7	-0.6
TWQ1	Liyutan	1.79	284	eP	Pb	15 07 41.4	-0.1
TWQ1				eS	Sb	15 08 04.7	+1.0
WJS	Zhushan	1.79	267	eP	Pb	15 07 42.1	+0.6
WJS				eS	Sg	15 08 05.7	-1.4
WNT	Mingjian	1.83	269	eP	Pb	15 07 42.1	-0.1
WNT				eS	Sb	15 08 05.0	+0.2
TCU	Taichung	1.85	277	eP	Pb	15 07 42.4	0.0
TCU				eS	Sb	15 08 05.7	+0.5
TWGBT	Beinan	1.85	233	eP	Pb	15 07 40.8	+0.8
TWGBT				eS	Sn	15 08 02.2	-0.7
TWG	Pinlang	1.85	233	eP	Pn	15 07 40.6	+0.6
TWG				eS	Sn	15 08 02.3	-0.7
CHN5	Tsauling	1.87	260	eP	Pb	15 07 43.1	+0.2
CHN5				eS	Sb	15 08 06.2	+0.2
STYH	Taoyuan	1.91	247	eP	Pb	15 07 41.3	+0.4
WGK	Gukeng	1.96	263	eP	Pb	15 07 43.7	-0.6
JTJ	Tarama	1.97	69	P	Pb	15 07 44.2	-0.3
JTJ				S	Sb	15 08 07.3	-1.4
WCKO	Fanlu	1.97	256	eP	Pb	15 07 44.6	+0.1
WCKO				eS	Sb	15 08 09.2	+0.4
WDLH	Douliu	1.98	263	eP	Pb	15 07 44.5	-0.1
WDLH				eS	Sb	15 08 10.7	+1.6
TPUB	Ta-pu	1.99	252	eP	Pb	15 07 44.5	-0.3
TPUB				eS	Sb	15 08 09.2	-0.1
CHN4	Tsaushan	2.00	253	eP	Pb	15 07 45.7	+0.6
CHN4				eS	Sb	15 08 10.7	+0.9
WTP	Ta-pu	2.02	250	eP	Pb	15 07 45.5	+0.1
WTP				eS	Sb	15 08 10.5	+0.2
ECL	Taimali	2.08	230	eP	Pn	15 07 43.2	+0.1
SGST	Jiashian	2.11	247	eP	Pb	15 07 46.2	-0.7
SGST				eS	Sb	15 08 13.1	+0.3
CHN1	Nanshi	2.12	250	eP	Pb	15 07 46.9	-0.2
CHN1				eS	Sb	15 08 13.5	+0.5
WTK	Tuku	2.12	264	eP	Pb	15 07 46.7	-0.3
WTK				eS	Sb	15 08 13.0	0.0
TWK	Hsinying	2.12	252	eP	Pb	15 07 46.9	-0.2
TWK				eS	Sb	15 08 13.1	-0.1
SNST	Tainan City	2.13	251	eP	Pb	15 07 47.0	-0.2
SNST				eS	Sb	15 08 13.9	+0.5
LAY	Lan-yu	2.16	209	eP	Pn	15 07 43.9	-0.4
LYUB	Lan-yu	2.18	208	eP	Pn	15 07 43.8	-0.7
WTCT	Ta-ch'eng	2.20	269	eP	Pb	15 07 47.0	-1.4
TSMG	Majia	2.24	237	eP	Pb	15 07 48.9	-0.2
SCST	Cishan	2.27	243	eP	Pb	15 07 49.5	-0.1
SCST				eS	Sb	15 08 18.8	+1.4
WSL	Shuilin Townsh	2.29	260	eP	Pb	15 07 48.3	-1.7
WSL				eS	Sb	15 08 16.5	-1.5
EAST	Anshuo	2.29	228	eP	Pn	15 07 46.7	+0.5
TAWH	Dawu Township	2.29	226	eP	Pn	15 07 46.5	+0.4
MASBT	Mashibuluo	2.30	235	eP	Pn	15 07 47.4	+1.2
SLIU	Shizi	2.44	226	eP	Pn	15 07 48.8	+0.6
SCZT	Fangliau	2.46	231	eP	Pb	15 07 52.1	-0.7
TSCK	Chigu Township	2.51	252	eP	Pn	15 07 50.8	+1.7
JMJ2	Miyako jima3	2.54	71	P	Pb	15 07 51.9	-2.3
JMJ2				S	Sn	15 08 21.8	+1.8
TWKBT	Hengchun	2.63	221	eP	Pn	15 07 52.5	+1.7
WDGT	Dungji	2.86	257	eP	Pn	15 07 56.1	+2.3
VCHM	Qimei	3.07	257	eP	Pn	15 07 58.5	+1.7
VWUC	VWUC	3.13	290	eP	Pn	15 07 57.8	+0.2
PTMZ	Houxiangcun	3.43	289	eP	Pn	15 08 01.9	+0.2

*GII **04** 15:39:07.7±0.0,35°.11N×26°.36E, h22km, Mws2.9, confirmed*
*THE **04** 15:39:16.2,35°.11N×26°.36E, h22km, ML2.9/5, Error ellipse: s-maj=2.7km s-min=0.8km az=167.0*
*ATH **04** 15:39:16.1,35°.26N×26°.32E, h12km±4km, ML2.8/7, Manual Solution by A.Andreou First location: 2019/04/04 15:40:25, This location:

PRNI	Paran	8.55 121	S	Sn	15 42 49.6	+0.2
MBRI	Mt Berech	8.82 125	P	Pn	15 41 15.8	-2.0
MBRI	Mt Berech	8.82 125	S	Sn	15 42 56.5	+0.3
EIL	Elat	8.93 125	P	Pn	15 41 17.8	-1.4
EIL	Elat	8.93 125	S	Sn	15 42 58.6	-0.1

UCR 04 16:20:58.4±1.4, 10°22′N×84°23′W, h90km±3km, MW3.5, 14C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VPL3	V. Platanar	0.14	329	⇓iP	Pn	16 21 11.6	+0.2
VPL3				eS	Sn	16 21 21.5	+0.6
VPL2	V. Platanar	0.17	299	⇑iP	Pn	16 21 11.7	+0.2
VBV1	V. Barva	0.17	130	⇑iP	Pn	16 21 11.5	-0.3
SARCI	Sarchi	0.17	220	eP	Pn	16 21 12.4	+0.9
TCS1	Tacares	0.19	200	eP	Pn	16 21 11.3	-0.3
TCS1				eS	Sn	16 21 21.3	0.0
BELE	Belen	0.25	170	eP	Pn	16 21 11.6	-0.2
BELE				eS	Sn	16 21 21.9	+0.3
HDC	Heredia	0.25	152	⇑iP	Pn	16 21 11.6	-0.2
HDC				eS	Sn	16 21 21.4	-0.4
RAMO	San Ramon	0.27	239	eP	Pn	16 21 12.6	+0.7
RAMO				eS	Sn	16 21 22.6	+0.7
SRA1	San Ramn	0.28	240	⇑iP	Pn	16 21 11.5	-0.4
SRA1				eS	Sn	16 21 21.4	-0.5
CVIMO	Finca Echandi	0.35	125	eP	Pn	16 21 12.3	-0.1
TRB2	Turrubares	0.37	214	⇑iP	Pn	16 21 11.8	-0.5
TRB2				eS	Sn	16 21 22.4	-0.3
SOCE	Pocosol	0.41	293	⇑iP	Pn	16 21 12.8	+0.3
SOCE				eS	Sn	16 21 23.5	+0.4
OROT	Orotina	0.42	223	eP	Pn	16 21 12.4	-0.3
OROT				eS	Sn	16 21 22.7	-0.5
ACOS	Acosta	0.43	171	⇑eP	Pn	16 21 12.7	-0.2
ACOS				eS	Sn	16 21 20.0	-3.5
PILE	Guapiles	0.44	91	eP	Pn	16 21 14.1	+1.4
PILE				eS	Sn	16 21 25.3	+1.9
VICA	Volcano Irazu	0.45	122	⇑iP	Pn	16 21 13.1	-0.2
VICA				eS	Sn	16 21 24.4	+0.1
CVTG	V. Turrialba,	0.46	100	⇑iP	Pn	16 21 13.2	+0.2
CVTG				eS	Sn	16 21 24.5	+0.8
VTLA	Turrialba Volc	0.50	116	⇓iP	Pn	16 21 14.1	+0.5
CVTQ	Turrialba Volc	0.51	115	eP	Pn	16 21 13.9	+0.2
CVTQ				eS	Sn	16 21 25.3	+0.3
CVTR	Volcan Turrial	0.51	113	⇑eP	Pn	16 21 13.7	0.0
CVTR				eS	Sn	16 21 25.1	0.0
VTR0	Volcan Turrial	0.51	114	⇑iP	Pn	16 21 13.8	+0.1
VTR0				eS	Sn	16 21 26.1	+1.0
CVTV	Tajo	0.53	115	eP	Pn	16 21 13.7	0.0
CVTV				eS	Sn	16 21 26.2	+1.1
LCR2	La Lucha 2	0.53	155	⇑iP	Pn	16 21 13.2	-0.5
LCR2				eS	Sn	16 21 24.2	-0.8
CEDE	Laguna Cedeo	0.53	300	eP	Pn	16 21 13.9	+0.4
CEDE				eS	Sn	16 21 25.8	+1.0
ARE1	Arenal 1	0.53	296	eP	Pn	16 21 14.1	+0.6
ARE1				eS	Sn	16 21 25.7	+1.0
VARE2	V. Arenal	0.53	296	eP	Pn	16 21 13.9	+0.4
VARE2				eS	Sn	16 21 25.4	+0.6
ABE2	San Pablo	0.55	161	⇓iP	Pn	16 21 13.5	-0.4
ABE2				eS	Sn	16 21 25.1	-0.1
VTCV	VTCV, Calle Va	0.55	116	⇑iP	Pn	16 21 14.1	+0.2
VTCV				eS	Sn	16 21 26.4	+1.0
PISJ	San Jernim	0.60	169	eP	Pn	16 21 13.6	-0.6
PISJ				eS	Sn	16 21 25.4	-0.5
PIEC	Cerro El Cedra	0.66	155	eP	Pn	16 21 14.2	-0.6
PIEC				eS	Sn	16 21 26.6	-0.4
JUNT	Juntas	0.72	275	eP	Pn	16 21 17.9	+2.9
JUNT				eS	Sn	16 21 27.7	+0.1
INVE	Universidad In	0.85	287	⇓iP	Pn	16 21 17.1	+0.5
INVE				eS	Sn	16 21 31.1	+1.1
JCR1	Jicaral	0.94	247	eP	Pn	16 21 18.7	+1.2
JCR1				eS	Sn	16 21 33.4	+1.6
NYURE	Nandayure	1.03	257	⇓iP	Pn	16 21 18.5	+0.1
NYURE				eS	Sn	16 21 34.1	+0.6
HORNC	Hornillas	1.05	298	⇓iP	Pn	16 21 19.1	+0.4
COLC	Colonia	1.05	295	⇓iP	Pn	16 21 19.2	+0.5
COLC				eS	Sn	16 21 34.7	+0.7
PLVR	Palo Verde	1.11	276	⇑eP	Pn	16 21 19.8	+0.3
PLVR				eS	Sn	16 21 36.7	+1.3
SAJE	San Jernim	1.13	141	eP	Pn	16 21 19.2	-0.6
SAJE				eS	Sn	16 21 34.2	-1.6
CMARA	Lajas Hojancha	1.19	260	eP	Pn	16 21 20.5	+0.1
CMARA				eS	Sn	16 21 36.6	-0.4
DRK0	Durika	1.36	134	eP	Pn	16 21 22.2	-0.5
DRK0				eS	Sn	16 21 39.9	-1.1
ACON	Acoyapa	1.96	332	eP	Pn	16 21 30.8	+0.7
PIRO	Carate, Puerto	2.01	154	eP	Pn	16 21 32.1	+1.2

*IDC **04** 16:33:06.8±1.9, 5°87S×142°83E, h0km, mb3.9/4, mbtmp3.8/6, ML3.5/2, MS2.8/2, Error ellipse: s-maj=60.7km s-min=30.4km az=102.0*

ISC 04 16:33:11.3±1.6, 6°3S±0°1×142°7E±0°3, h35km, n7, σ2°56/8, mb3.9/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	4.21	332	LR	LR	16 35 38.5	
	comp=Z,65nm,18.6s,baz=144,slow=38						
WRA	Warramunga Arr	15.82	210	Pn	P	16 36 54.4	-0.6
	0.2nm,0.3s,baz=28,slow=13,SNR=12						
WRA				Sn	Sn	16 39 43.0	-2.9
	0.1nm,0.3s,baz=26,slow=23,SNR=2.1						
	0.8nm,0.8s						
ASAR	Alice Springs	19.25	205	P	Pn	16 37 38.5	+4.5
	0.2nm,0.3s,baz=34,slow=9.9,SNR=31						
ASAR				S	S	16 41 08.0	-1.1
	0.3nm,0.7s,baz=20,slow=25,SNR=2.1						
	1.0nm,0.5s						
CMAR	Chiang Mai Arr	49.62	301	P	P	16 41 59.7	0.0
	1.2nm,0.3s,baz=121,slow=7.5,SNR=4.5						
CMAR				LR	LR	17 04 35.0	
	comp=Z,20nm,18.8s,baz=205,slow=38						
	1.2nm,0.3s						
MKAR	Makanchi Array	75.00	322	P	P	16 44 49.5	+0.3
	0.5nm,0.9s,baz=132,slow=4.0,SNR=4.0						
	0.5nm,0.9s						
BVAR	Borovoye Array	84.47	325	P	P	16 45 40.7	+0.4
	1.7nm,0.9s,baz=90,slow=4.3,SNR=3.7						
	1.7nm,0.9s						
ILAR	Eielson Array	87.44	24	P	P	16 45 53.1	-1.7
	0.3nm,0.7s,baz=254,slow=4.7,SNR=2.0						
	0.3nm,0.7s						

TAP 04 16:50:22.4, 22°43N×120°60E, h22km, ML2.4, 4D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSPT	Xinbi	0.06	332	eP	Pb	16 50 26.6	+0.2
SCZT	Fangliau	0.07	161	⇓iP	Pb	16 50 26.7	+0.2
SCZT				iS	Sb	16 50 30.0	+0.8
MASBT	Mashibuluo	0.18	11	⇓iP	Pb	16 50 28.2	+0.4
MASBT				iS	Sb	16 50 32.4	+1.0
TWP	Hsiaoliuchiu	0.23	248	P	Pb	16 50 30.1	+1.8
TWP				eS	Sb	16 50 37.3	+5.0
EAST	Anshuo	0.24	102	⇓iP	Pb	16 50 29.2	+0.8
EAST				S	Sb	16 50 34.9	+2.4
TSMG	Majia	0.27	9	P	Pb	16 50 28.9	0.0
TSMG				S	Sb	16 50 34.0	+0.7
TAWH	Dawu Township	0.28	109	eP	Pb	16 50 29.7	+0.7
TAWH				S	Sn	16 50 35.4	-1.5
SLIU	Shizi	0.29	139	⇓iP	Pb	16 50 29.5	+0.5
SLIU				S	Sb	16 50 34.9	+1.4
TAW	Tawu	0.29	105	P	Pb	16 50 29.8	+0.7
SGLT	Jiouru	0.31	341	P	Pn	16 50 31.5	-0.1
SGLT				eS	Sn	16 50 38.9	+1.5
SSD	Sandimen	0.31	6	P	Pb	16 50 30.0	+0.5
SSD				S	Sb	16 50 35.5	+1.3
ECL	Taimali	0.37	64	iP	Pb	16 50 31.2	+0.9
ECL				S	Sb	16 50 36.7	+1.0
WSSB	Gushan	0.37	304	P	Pn	16 50 32.2	-0.3
WSSB				S	Sn	16 50 40.4	+1.3
TWM1	Shoushan	0.42	337	P	Pn	16 50 33.5	+0.3
HEN	Hengchun	0.45	163	P	Pn	16 50 32.7	-0.8
HEN				S	Sn	16 50 40.2	-0.7
SCST	Cishan	0.46	348	P	Pn	16 50 33.8	+0.1
SCST				eS	Sn	16 50 42.6	+1.4
SMST	Manzhou Townsh	0.47	152	P	Pb	16 50 32.5	+0.5
TWK1	Hengchun	0.53	158	P	Pn	16 50 33.9	-0.6
TWK1				S	Sn	16 50 42.2	-0.6
TWKBT	Hengchun	0.53	158	P	Pn	16 50 33.9	-0.8
TWKBT				S	Sn	16 50 42.1	-0.8
TWG	Pinlang	0.58	49	P	Pn	16 50 34.9	-0.5
TWG				eS	Sn	16 50 43.2	-1.1
TWGBT	Beinan	0.59	49	P	Pn	16 50 34.9	-0.6
TWGBT	Beinan	0.59	49	S	Sn	16 50 43.9	-0.5
TWGBT	Beinan	0.59	49	P	Pn	16 50 34.8	-0.7
TWGBT				eS	Sn	16 50 43.3	-1.1
TSEB	Hengchuen, Pin	0.60	152	P	Pb	16 50 34.7	+0.4
TSEB				S	Sn	16 50 44.3	-0.3
SHHT	Tainan City	0.63	339	eP	Pn	16 50 36.8	+0.7
SHHT				eS	Sn	16 50 47.5	+2.2
SGST	Jiashian	0.65	359	eP	Pb	16 50 35.5	+0.4
SGST				eS	Sn	16 50 46.1	+0.3
LONT	Longtian	0.68	46	eP	Pn	16 50 36.7	0.0
LONT				S	Sn	16 50 48.1	+1.4
STYT	Tauyuan	0.74	11	eP	Pb	16 50 36.8	+0.1
STYT				eS	Sn	16 50 48.2	0.0
CHN1	Nanshi	0.75	355	eP	Pn	16 50 37.5	-0.3
CHN1				eS	Sn	16 50 49.7	+1.3
STYH	Taoyuan	0.75	13	eP	Pb	16 50 36.3	-0.5
STYH				eS	Sn	16 50 48.2	-0.2
SNST	Tainan City	0.79	353	P	Pn	16 50 38.4	+0.2
SNST				eS	Sn	16 50 50.9	+1.6
WTP	Ta-pu	0.81	1	eP	Pn	16 50 38.3	-0.3
WTP				eS	Sn	16 50 51.3	+1.4
TWK	Hsinying	0.83	353	eP	Pn	16 50 39.3	+0.4
TWK				eS	Sn	16 50 52.8	+2.3
EDH	Donghe	0.84	50	eP	Pn	16 50 38.9	0.0
EDH				eS	Sn	16 50 52.1	+1.4
ELDTW	Lidau	0.84	27	eP	Pn	16 50 39.4	+0.3
ELDTW				eS	Sn	16 50 51.9	+1.0
TSCK	Chigu Township	0.85	326	eP	Pb	16 50 37.4	-1.1
TSCK				eS	Sn	16 50 51.3	+0.4
TPUB	Ta-pu	0.86	2	P	Pb	16 50 38.8	0.0
TPUB	Ta-pu	0.86	2	P	Pb	16 50 38.6	-0.2
TPUB				eS	Sn	16 50 52.6	+1.4
CHN4	Tsaushan	0.91	360	eP	Pb	16 50 39.6	0.0
CHN4				eS	Sn	16 50 53.1	+0.7
FULB	Fuli	1.00	40	eP	Pn	16 50 42.5	+1.4
WCKO	Fanlu	1.00	0	eP	Pb	16 50 40.8	-0.3
WCKO				eS	Sn	16 50 55.2	+0.6
CHY	Chiayi	1.07	351	eP	Pb	16 50 42.8	+0.5
ALS	Alishan	1.09	10	eP	Pb	16 50 43.2	+0.4
ALS				eS	Sn	16 50 59.1	+1.9
TWF1	Yuli	1.12	35	eP	Pb	16 50 43.8	+0.6
TWF1				eS	Sn	16 50 59.0	+1.5
EYUL	Yuli	1.13	36	eP	Pb	16 50 43.9	+0.6
EYUL				eS	Sn	16 50 59.6	+1.9
YULB	Yu-li	1.15	34	P	Pb	16 50 44.1	+0.4
YULB	Yu-li	1.15	34	S	Sn	16 51 00.2	+1.9
YULB	Yu-li	1.15	34	eP	Pb	16 50 43.8	+0.1
YULB				eS	Sn	16 50 60.0	+1.6
CHN5	Tsauling	1.16	4	eP	Pn	16 50 43.0	-0.4
CHN5				eS	Sn	16 50 59.4	+0.7
EHY	Hungye	1.26	32	eP	Pb	16 50 47.3	+1.8
EHY				eS	Sb	16 51 03.0	+1.7
WTK	Tuku	1.26	351	eP	Pn	16 50 44.2	-0.5
WTK				eS	Sb	16 51 02.5	+1.2
WHYT	Xinyi Township	1.28	11	eP	Pn	16 50 45.0	0.0
WHYT				eS	Sb	16 51 03.1	+1.2
HGSD	Ruisui	1.30	36	eP	Pb	16 50 48.3	+2.1
SSLB	Suanglung	1.39	14	P	Pb	16 50 48.7	+1.0
SSLB	Suanglung	1.39	14	eP	Pn	16 50 46.7	+0.2
VWDT	VWDT	1.41	21	eP	Pn	16 50 46.9	+0.2
PHUB	P'eng-hu	1.43	319	eP	Pn	16 50 45.0	-2.0
PHUB				eS	Sn	16 51 02.7	-2.5
SMLT	Sun Moon Lake	1.47	11	eP	Pb	16 50 49.3	+0.2
SMLT				eS	Sb	16 51 07.8	+0.3
WARBT	Fenglin Townsh	1.47	29	eP	Pb	16 50 49.2	+0.1
WARBT				eS	Sb	16 51 09.6	+2.2
TYC	Yuchr	1.48	9	eP	Pb	16 50 49.3	0.0
OWD	Renai	1.60	19	eP	Pn	16 50 50.4	+0.8
OWD				eS	Sb	16 51 11.6	+0.2
WUSB	Renai	1.62	17	eP	Pn	16 50 50.6	+0.8
WUSB				eS	Sb	16 51 11.1	-0.8
WCS	Beigang Elemen	1.64	10	eP	Pn	16 50 50.5	+0.5
WCS				eS	Sb	16 51 11.6	-0.7
YHNB	Yeheng	2.34	18	P	Pb	16 51 02.9	-1.0

*ISN **04** 16:51:12.1±0.4, 33°72N×45°63E, h8km±2km, ML2.8*
*TEH **04** 16:51:13.0, 33°70N×45°64E, h10km±510km*

ISC 04 16:51:12.7±1.3, 33°70N±0°04×45°63E±0°06, h11km±12km, n8, σ0°61/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.47	29	Pg	Pg	16 51 22.3	+0.4
IBDR	Badra	0.64	157	ePg	Pg	16 51 25.0	-0.2
IBDR				eSg	Sg	16 51 34.0	+0.3
IBDR				AML	AML	16 51 39.7	
	comp=E,249nm,0.4s						
IBDR				AML	AML	16 51 42.8	
	comp=N,272nm,0.3s						
IGHG	Ghaleghazi	1.00	51	Pg	Pn	16 51 32.6	-0.2
IGHG				Sg	Sn	16 51 47.2	+0.2
BHD	Baghdad	1.13	248	ePg	Pb	16 51 34.0	-0.2
BHD				eSg	Sb	16 51 49.5	+0.6
BHD				AML	AML	16 52 02.1	
	comp=E,451nm,0.5s						
IDHR	Dehrash	1.17	32	Pg	Pn	16 51 35.8	+0.6
KCHF	Cheshme Sefid,	1.30	64	Pg	Pg	16 51 37.9	+0.2
IKRK	Kirkuk	2.00	328	ePn	Pb	16 51 48.0	-1.1
IKRK				eSn	Sb	16 52 14.0	0.0
RAFI	Al-Rafai	2.02	168	ePn	Pb	16 51 48.5	-0.8
RAFI				eSn	Sb	16 52 15.0	+0.6
RAFI				AML	AML	16 52 16.4	
	comp=N,123nm,0.5s						
RAFI				AML	AML	16 52 16.6	
	comp=E,86nm,0.2s						

*BER **04** 17:01:50.5±2.0, 66°78N×21°44E, h0km, ML2.0, Suspected explosion*
*HEL **04** 17:01:50.9±0.2, 67°06N×20°96E, h0km, ML2.1, Explosion*
*IDC **04** 17:01:50.8±1.1, 67°01N×21°14E, h0km, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=19.1km s-min=8.6km az=104.0*
*UPP **04** 17:01:50.4±0.1, 67°05N×20°97E, h0km, ML2.2, Unknown*

ISC 04 17:01:50.2±0.8, 67°04N±0°02×20°97E±0°02, h0km, n49, σ1°17/76, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.18	299	P	Pg	17 01 54.0	+0.4
DUNU				S	Sg	17 01 56.3	+0.4
MASU	Masugnsbyn	0.58	43	P	Pg	17 02 01.4	+0.1
MASU				S	Sg	17 02 09.0	+0.1
ERTU	Ertsjaerv	0.69	134	P	Pg	17 02 03.4	+0.1
ERTU				S	Sg	17 02 12.9	+0.8
ERTU	Ertsjaerv	0.69	134	PG	Pg	17 02 03.2	-0.1
ERTU				SG	Sg	17 02 09.7	-2.4
PAJU	Pajala	0.84	90	P	Pg	17 02 06.1	-0.2
PAJU				S	Sg	17 02 17.9	+0.7
PAJU	Pajala	0.84	90	PG	Pg	17 02 05.8	-0.5
	baz=276						
PAJU				SG	Sg	17 02 14.1	-3.0
RATU	Laukkuluspa	0.95	327	P	Pg	17 02 07.8	-0.7
KUA	Kurravaara	0.95	346	P	Pg	17 02 07.7	-0.8
LANU	Lannavaara	1.09	21	P	Pg	17 02 10.1	-0.9
LANU	Lannavaara	1.09	21	PG	Pg	17 02 10.0	-1.0
LANU				SN	Sn	17 02 29.6	+1.1
KLF	Kolari	1.19	79	PG	Pg	17 02 12.3	-0.6
KLF				MSG		17 02 26.9	
	comp=Z,21nm,0.2s						
KLF				SG	Sg	17 02 28.5	+0.3
KOVU	Salmi	1.23	346	P	Pg	17 02 12.9	-0.9
KOVU				S	Sg	17 02 29.4	-0.3
KALU	Kalix	1.52	140	P	Pn	17 02 18.4	-0.2
KALU	Kalix	1.52	140	PG	Pn	17 02 18.5	-0.1
	baz=326						
KALU				SN	Sg	17 02 40.6	+1.6
SJUU	Sjulsmark	1.56	170	P	Pn	17 02 19.2	+0.1
TOF	Tornio	1.65	124	PG	Pn	17 02 20.7	+0.4
TOF				MSG		17 02 40.9	
	comp=Z,13nm,0.2s						
TOF				SG	Sn	17 02 42.6	+0.3
HEF	Hetta	1.72	35	eP	Pn	17 02 21.3	-0.1
HEF				eS	Sn	17 02 44.0	0.0
HEF	Hetta	1.72	35	PG	Pn	17 02 20.9	-0.4
HEF				MSG		17 02 41.7	
	comp=Z,18nm,0.2s						
HEF				SN	Sb	17 02 44.7	0.0
LILU	Lilltraesk	1.82	195	P	Pn	17 02 23.3	+0.7
KIF	Kilpisjarvi	1.98	358	eP	Pb	17 02 26.5	-0.5
KIF				eS	Sg	17 02 53.4	-0.2
KIF	Kilpisjarvi	1.98	358	PG	Pb	17 02 26.1	-0.9
KIF				MSG		17 02 50.0	
	comp=Z,35nm,0.2s						
KIF				SG	Sg	17 02 54.1	+0.5
RNF	Rovaniemi	2.04	100	PG	Pn	17 02 26.9	+1.1
RNF				SG	Sb	17 02 54.6	+0.6
KTK1	Kautokeino	2.16	22	eP	Pb	17 02 29.2	-0.9
KTK1				eS	Sb	17 02 57.0	-0.4
KTK1				IAML		17 03 04.4	
	comp=Z,10nm,0.4s						
KTK1	Kautokeino	2.16	22	PG	Pb	17 02 29.2	-0.9
KTK1				SG	Sg	17 02 58.9	-0.6
I37NO	I37NO	2.23	338	I	I	17 16 40.0	
	comp=Z,0.1nm,0.6s,baz=154,slow=333,SNR=5.8						
FAUS	Fauske	2.24	282	eP	Pb	17 02 30.3	-1.1
FAUS				eS	Sb	17 03 00.7	+1.0
FAUS				IAML		17 03 05.0	
	comp=Z,21nm,0.2s						
STEI	Steigen	2.38	295	eP	Pn	17 02 31.1	+0.7
JETT	Jettan, Norway	2.54	356	eP	Pb	17 02 34.9	-1.7
JETT				eS	Sb	17 03 08.1	-0.3
JETT				IAML		17 03 14.3	
	comp=Z,20nm,0.3s						
RANF	Ranua	2.55	111	PN	Pn	17 02 33.6	+0.9
	baz=295						
RANF				SG	Sb	17 03 09.3	+0.8
TRO	Tromso	2.72	345	PB	Pn	17 02 37.0	+2.0
TRO				SB	Sb	17 03 11.8	-1.5
OBF4	Vikkela, Lumij	2.80	141	PN	Pn	17 02 37.5	+1.3
OBF4				MSG		17 03 14.1	
	comp=Z,4.6nm,0.2s						
OUL	Oulu	2.81	132	PB	Pn	17 02 38.1	+1.9
OBF0	Syolatti, Pyha	2.88	151	PB	Pb	17 02 40.6	-1.8
OBF0				MSG		17 03 16.4	
	comp=Z,3.6nm,0.2s						
ARA0	ARCESS Array S	3.02	32	PN	Pn	17 02 39.6	+0.4
	baz=220						
ARA0				SB	Sn	17 03 18.4	+2.3
ARCES	ARCESS Array B	3.02	32	Pn	Pn	17 02 39.4	+0.1
	comp=Z,0.2nm,0.3s,baz=212,slow=14,SNR=41						
ARCES				Sn	Sn	17 03 17.7	+1.6
	comp=Z,0.4nm,0.3s,baz=211,slow=22,SNR=9.1						
	comp=Z,0.8nm,0.2s						
OUF	Merijarvi	3.10	148	PB	Pb	17 02 44.6	-1.5
OUF				MSG		17 03 22.6	
	comp=Z,4.7nm,0.2s						
RAJF	Raja-Jooseppi	3.14	59	PB	Pn	17 02 43.4	+2.6
RAJF				SG	Sb	17 03 25.7	0.0
KU2	Taivalkoski	3.21	111	PB	Pn	17 02 44.8	+3.0
VRF	Varrio	3.41	74	PN	Pn	17 02 45.6	+1.0
VRF				SG	Sb	17 03 34.4	+0.9
MSF	Maaselka	3.43	106	PN	Pn	17 02 45.7	+0.9
OLKF	Oulanka, Finla	3.43	98	PN	Pn	17 02 46.1	+1.3
KEV	Kevo	3.53	37	PN	Pn	17 02 46.8	+0.7
KEV				SN	Sn	17 03 29.6	+1.1
KU6	Riekki	3.71	102	PN	Pn	17 02 49.4	+0.8
	baz=286						
KU1	Kurvinen	3.77	109	PN	Pn	17 02 51.1	+1.6
HUSU	Husum	3.78	192	PN	Pn	17 02 51.2	+1.5
VAF	Ylistaro	4.08	169	PN	Pn	17 02 55.7	+2.0
	baz=348						
NIF	Nilsia	4.66	139	PN	Pn	17 03 03.3	+1.7
FINES	FINESS Array B	6.04	156	Pn	Pn	17 03 21.5	+0.8
	comp=Z,0.1nm,0.3s,baz=345,slow=13,SNR=7.6						
FINES				Sn	Sn	17 04 29.3	-1.0
	comp=Z,0.2nm,0.3s,baz=344,slow=23,SNR=5.3						
FINES				Lg	Lg	17 04 58.6	
	comp=Z,0.2nm,0.3s,baz=342,slow=25,SNR=1.6						
	comp=Z,0.4nm,0.4s						
HFS	Hagfors	7.64	208	Pn	Pn	17 03 41.3	-1.3
	comp=Z,0.2nm,0.3s,baz=20,slow=14,SNR=6.8						
HFS				Lg	Lg	17 05 50.8	
	comp=Z,0.2nm,0.3s,baz=24,slow=30,SNR=1.9						
	comp=Z,0.8nm,0.7s						

TXNET 04 17:08:35.4, 31°4N±0°7×103°5W±0°6, h5km, 1C, Error ellipse: s-maj=1.1km s-min=0.9km az=21.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	Crockett Middl	0.04	320	⇑P	Pg	17 08 37.0	+0.2
PCOS				S	Sg	17 08 38.2	+0.5
TPB10	Southeast of T	0.25	248	P	Pg	17 08 41.3	+0.9
TPB10				S	Sg	17 08 45.4	+1.7
TPB07	Mentone	0.26	321	S	Sb	17 08 46.5	-0.9
TPB04	Verhalen	0.26	137	P	Pb	17 08 42.1	-0.6
TPB04				S	Sb	17 08 46.7	-0.8
TPB03	Saragosa	0.29	186	P	Pg	17 08 42.0	+0.9
TPB03				S	Sb	17 08 46.8	-1.6
TPB16	Coyonosa	0.32	142	S	Sg	17 08 47.2	+1.4
TPB16	Coyonosa	0.32	142	S	Sg	17 08 47.2	+1.3
PECS	Pecos	0.33	269	S	Sg	17 08 47.6	+1.3
TPB06	Permian Basin	0.35	40	S	Sg	17 08 47.7	+0.8
TPB12	Southwest of T	0.44	248	P	Pg	17 08 44.1	+0.2
TPB12				S	Sg	17 08 51.1	+1.3
TPB05	Hovey Rd	0.47	164	P	Pb	17 08 45.5	-0.8
TPB05				S	Sb	17 08 52.4	-1.3
TPB01	Permian Basin	0.50	211	P	Pg	17 08 45.5	+0.4
TPB01				S	Sb	17 08 53.2	-1.2
MNHN	Monahans	0.61	93	S	Sb	17 08 57.2	-0.5
TPB08	Permian Basin	0.69	135	S	Sb	17 08 59.6	-0.2
TPB11	China Draw	0.73	320	S	Sb	17

WARBT	Fenglin Townsh	1.12 258	eP		Pn	17 12 25.3	-0.6
WARBT			eS		Sn	17 12 40.0	-0.6
LATG	Datong	1.13 301	eP		Pb	17 12 27.2	+0.4
TWE	Neicheng	1.14 313	eP		Pb	17 12 26.9	+0.1
HGSD	Ruisui	1.16 247	eP		Pn	17 12 25.7	-0.7
HGSD			eS		Sn	17 12 40.4	-1.0
ENTT	Nioudou	1.16 307	eP		Pb	17 12 27.5	+0.3
TWB1	Santiao Chiao	1.19 333	eP		Pb	17 12 28.1	+0.3
NNSB	Datong	1.20 294	eP		Pb	17 12 27.6	-0.3
NNSB			eS		Sb	17 12 43.6	+0.5
NNS	Nan Shan	1.21 294	eP		Pb	17 12 27.6	-0.6
FUSB	Fushanzhiwuyua	1.22 312	eP		Pb	17 12 28.9	+0.6
FUSB			eS		Sb	17 12 44.7	+1.1
WHF	Hehuan Shan	1.22 280	eP		Pn	17 12 28.0	+0.3
WHF			eS		Sb	17 12 43.8	-0.3
TIPB	Shuangxi	1.23 326	eP		Pb	17 12 28.8	+0.3
TIPB			eS		Sb	17 12 44.5	+0.5
EHY	Hungye	1.24 249	eP		Pn	17 12 27.3	-0.3
EHY			eS		Sn	17 12 43.4	0.0
FUSS	Fushou	1.26 284	eP		Pb	17 12 28.7	-0.4
FUSS			eS		Sb	17 12 45.5	+0.5
NWLT	Wulai	1.29 310	eP		Pb	17 12 30.1	+0.7
NWLT			eS		Sb	17 12 46.6	+1.1
OWD	Renai	1.29 271	eP		Pn	17 12 28.5	+0.1
OWD			eS		Sn	17 12 44.6	-0.3
YULB	Yu-li	1.30 245	P		Pn	17 12 28.3	-0.2
YULB	Yu-li	1.30 245	S		Sn	17 12 45.0	-0.1
YULB	Yu-li	1.30 245	P		Pn	17 12 28.3	-0.2
YULB			eS		Sn	17 12 45.1	+0.1
EYUL	Yuli	1.30 243	P		Pn	17 12 28.4	-0.1
EYUL			S		Sn	17 12 45.7	+0.7
SXI1	Grass Mountain	1.31 331	eP		Pb	17 12 29.7	-0.2
YHNB	Yeheng	1.32 303	eP		Pb	17 12 29.7	-0.3
TWF1	Yuli	1.32 244	eP		Pn	17 12 28.7	0.0
TWT	Tachien	1.32 284	eP		Pb	17 12 29.8	-0.4
NSK	Sanguang	1.33 303	eP		Pb	17 12 29.8	-0.5
VWDT	VWDT	1.33 262	eP		Pn	17 12 29.2	+0.3
VWDT			eS		Sn	17 12 46.1	+0.2
JKRS	Kuro-shima	1.33 77	eP		Pb	17 12 30.4	+0.2
JKRS			eS		Sb	17 12 47.8	+0.9
WUSB	Renai	1.34 272	eP		Pn	17 12 29.5	+0.4
WUSB			eS		Sb	17 12 46.9	-0.4
SSLB	Suanglung	1.50 264	P		Pn	17 12 31.7	+0.5
SSLB	Suanglung	1.50 264	eP		Pn	17 12 31.8	+0.5
NFF	Wufeng Townshi	1.50 297	eP		Pb	17 12 32.6	-0.5
EDH	Donghe	1.52 231	eP		Pn	17 12 30.9	-0.6
WHP	Taichung City	1.53 283	eP		Pb	17 12 33.6	-0.1
WCS	Beigang Elemen	1.53 274	eP		Pn	17 12 32.7	+1.1
SMLT	Sun Moon Lake	1.54 268	eP		Pn	17 12 31.6	-0.2
SMLT			eS		Sn	17 12 52.1	+1.0
TYC	Yuchr	1.58 269	eP		Pn	17 12 33.1	+0.8
LIOB	Emei	1.59 296	eP		Pb	17 12 33.8	-0.8
WHYT	Xinyi Township	1.60 261	eP		Pn	17 12 33.8	+1.2
ELDTW	Lidau	1.62 243	eP		Pn	17 12 32.6	-0.3
ALS	Alishan	1.69 255	eP		Pn	17 12 35.1	+1.1
ALS			eS		Sn	17 12 55.9	+1.0
JISG	Ishigakijimahi	1.70 68	eP		Pn	17 12 34.4	+0.5
WJS	Zhushan	1.70 266	eP		Pb	17 12 35.6	-0.9
WNT	Mingjian	1.74 268	eP		Pn	17 12 36.0	+1.6
CHN5	Tsauling	1.78 259	eP		Pb	17 12 37.0	-0.9
TWG	Pinlang	1.79 231	eP		Pn	17 12 35.6	+0.5
STYH	Taoyuan	1.83 245	eP		Pn	17 12 35.5	-0.2
STYH			eS		Sn	17 12 57.9	-0.2
WGK	Gukeng	1.87 262	eP		Pn	17 12 37.8	+1.6
WCKO	Fanlu	1.88 255	eP		Pb	17 12 38.6	-1.0
WCKO			eS		Sb	17 13 02.4	-0.3
WDLH	Douliu	1.89 263	eP		Pb	17 12 38.6	-1.1
TPUB	Ta-pu	1.90 251	P		Pn	17 12 38.7	+1.9
TPUB	Ta-pu	1.90 251	P		Pn	17 12 38.6	+1.8
TPUB			eS		Sb	17 13 02.6	-0.7
CHN4	Tsaushan	1.92 252	eP		Pn	17 12 38.8	+1.9
WTP	Ta-pu	1.94 249	eP		Pn	17 12 39.4	+2.2
WTP			eS		Sb	17 13 03.9	-0.4
SGST	Jiashian	2.03 245	eP		Pn	17 12 40.2	+1.7
CHN1	Nanshi	2.03 249	eP		Pn	17 12 40.4	+1.9
TWK	Hsinying	2.04 251	eP		Pn	17 12 40.5	+1.9
SNST	Tainan City	2.05 250	eP		Pb	17 12 41.3	-1.1
SNST			eS		Sb	17 13 07.2	-0.2
MASBT	Mashibuluo	2.23 234	eP		Pn	17 12 42.3	+1.1
TSCK	Chigu Township	2.43 251	eP		Pn	17 12 45.5	+1.6

KRSC ***04*** *17:21:51.5±1.3, 51°.41N×159°.79E, h45km±23km, Ml4.1*
MOS ***04*** *17:21:54.5±0.9, 51°.53N×159°.53E, h55km, mb4.2/3, Error ellipse: s-maj=14.2km s-min=5.2km az=104.1*
IDC ***04*** *17:21:57.8±2.4, 51°.63N×159°.40E, h65km±20km, mb3.3/11, mbtmp3.7/13, Error ellipse: s-maj=24.9km s-min=17.6km az=101.0*

ISC 04 17:21:55.3±1.4,**51°.50N**±0°.06×**159°.62E**±0°.08,**h47**km±12km, **n67**,σ1**s52**/76,**mb3.9**/15,**3C-3D**,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.01**	**288**	PN	**Pn**	**17 22 12.4**	**-0.6**
KDTR				S	**Sn**	**17 22 27.4**	**+1.3**
KDTR	**Khodutka, Kamc**	**1.01**	**288**	eP	**Pn**	**17 22 12.5**	**-0.6**
KDTR				eS	**Sn**	**17 22 27.4**	**+1.3**
RUS	**Russkaya**	**1.16**	**324**	PN	**Pn**	**17 22 14.2**	**-0.9**
RUS				S	**Sn**	**17 22 30.6**	**+0.9**
RUS	**Russkaya**	**1.16**	**324**	eP	**Pn**	**17 22 14.2**	**-0.9**
RUS				eS	**Sn**	**17 22 30.7**	**+0.9**
GRL	**Gorelyy**	**1.42**	**318**	PN	**Pn**	**17 22 18.8**	**0.0**
GRL				S	**Sn**	**17 22 39.1**	**+2.7**
GRL	**Gorelyy**	**1.42**	**318**	eP	**Pn**	**17 22 18.9**	**0.0**
GRL				eS	**Sn**	**17 22 39.1**	**+2.7**
KRMR	**Karymshinskiy**	**1.62**	**326**	PN	**Pn**	**17 22 20.8**	**-0.5**
KRMR	**Karymshinskiy**	**1.62**	**326**	eP	**Pn**	**17 22 20.9**	**-0.5**
SPN	**Mys Shipunski**	**1.62**	**9**	PN	**Pn**	**17 22 21.8**	**+0.4**
SPN	**Mys Shipunski**	**1.62**	**9**	eP	**Pn**	**17 22 21.8**	**+0.4**
DALK	**Dalny**	**1.62**	**341**	PN	**Pn**	**17 22 20.5**	**-0.9**
DALK	**Dalny**	**1.62**	**341**	eP	**Pn**	**17 22 20.5**	**-0.9**
PET	**Petropavlovsk**	**1.64**	**339**	PN	**Pn**	**17 22 20.7**	**-0.9**
PET				S	**Sn**	**17 22 41.8**	**+0.4**
PET	**Petropavlovsk**	**1.64**	**339**	eP	**Pn**	**17 22 20.8**	**-0.9**
PET				eS	**Sn**	**17 22 41.9**	**+0.4**
NLC	**Nalytchevo**	**1.68**	**354**	PN	**Pn**	**17 22 21.0**	**-1.2**
NLC	**Nalytchevo**	**1.68**	**354**	eP	**Pn**	**17 22 21.1**	**-1.2**
PAU	**Pauzhetka**	**1.76**	**270**	PN	**Pn**	**17 22 23.7**	**+0.5**
PAU	**Pauzhetka**	**1.76**	**270**	eP	**Pn**	**17 22 23.8**	**+0.5**
UGLR	**Uglovaya**	**1.78**	**344**	PN	**Pn**	**17 22 23.7**	**0.0**
UGLR	**Uglovaya**	**1.78**	**344**	eP	**Pn**	**17 22 23.7**	**0.0**
SDLR	**Sedlovina**	**1.83**	**346**	PN	**Pn**	**17 22 23.4**	**-1.0**
SDLR	**Sedlovina**	**1.83**	**346**	eP	**Pn**	**17 22 23.5**	**-1.0**
AVH	**Avacha**	**1.85**	**343**	PN	**Pn**	**17 22 26.2**	**+1.6**
AVH	**Avacha**	**1.85**	**343**	eP	**Pn**	**17 22 26.3**	**+1.6**
KOK	**Koryaka**	**1.89**	**342**	PN	**Pn**	**17 22 25.4**	**+0.2**
KOK	**Koryaka**	**1.89**	**342**	eP	**Pn**	**17 22 25.5**	**+0.2**
KRX	**Arik**	**1.95**	**343**	PN	**Pn**	**17 22 25.7**	**-0.4**
KRX	**Arik**	**1.95**	**343**	eP	**Pn**	**17 22 25.8**	**-0.4**
PEA0B	**Petropavlovsk-**	**1.99**	**324**	*d iP*N	**Pn**	**17 22 25.6**	**-1.0**
PETK	**Petropavlovsk-**	**1.99**	**324**	P	**Pn**	**17 22 27.0**	**+0.5**
	35nm,0.3s,baz=66,slow=28,SNR=193						
PETK				S	**Sn**	**17 22 56.2**	**+5.9**
	77nm,0.5s,baz=246,slow=14,SNR=12						
PETK				LR	LR	17 23 18.9	
	comp=Z,71nm,20.6s,baz=109,slow=45						
APC	**Apacha**	**2.08**	**314**	PN	**Pn**	**17 22 28.5**	**+0.8**
APC	**Apacha**	**2.08**	**314**	eP	**Pn**	**17 22 28.6**	**+0.8**
SKR	**Severo-Kuril's**	**2.36**	**251**	ePN	**Pn**	**17 22 31.3**	**-0.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.7s						
SKR	**Severo-Kuril's**	**2.36**	**251**	eP	**Pn**	**17 22 31.0**	**-0.5**
SKR				eS	**Sn**	**17 22 59.8**	**+0.7**
GNL	**Ganaly**	**2.42**	**336**	PN	**Pn**	**17 22 32.7**	**+0.2**
GNL				S	**Sn**	**17 23 04.7**	**+3.7**
GNL	**Ganaly**	**2.42**	**336**	eP	**Pn**	**17 22 32.8**	**+0.2**
GNL				eS	**Sn**	**17 23 04.7**	**+3.7**
SHEM	**Shemya Is, Ala**	**9.00**	**76**	P	**Pn**	**17 24 05.4**	**+3.0**
	comp=Z,25nm,0.4s,baz=288,slow=20,SNR=1.4						
SEY	**Seymchan**	**12.10**	**344**	⇓*e*PN	**Pn**	**17 24 40.8**	**-4.0**
SEY				MLR	MLR		
	comp=Z,149nm,16.0s						
ASAJ	**Asahikawa**	**13.60**	**244**	P	**Pn**	**17 25 05.8**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=71,slow=18,SNR=1.6						
KLR	**Kul'dur**	**17.88**	**274**	P	**P**	**17 26 01.9**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=62,slow=8.2,SNR=5.3						
KLR	**Kul'dur**	**17.88**	**274**	⇑*iP*	**P**	**17 26 03.2**	**+2.6**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KLR				MLR	MLR		
	comp=Z,48nm,13.0s						
YAK	**Yakutsk**	**19.31**	**315**	*eP*	**P**	**17 26 14.5**	**-1.6**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
MJAR	**Matsushiro Arr**	**21.35**	**234**	P	**P**	**17 26 38.6**	**+0.2**
	comp=E,1.5nm,0.8s,baz=311,slow=9.3,SNR=1.5						
	comp=E,1.5nm,0.8s						
TIXI	**Tiksi**	**24.42**	**337**	⇓*eP*	**P**	**17 27 08.4**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TIXI				MLR	MLR		
	comp=Z,35nm,17.0s						
H11N2	**WAKE ISLAND Hy**	**32.22**	**167**	T	T	18 02 19.4	
	baz=352						
H11N3	**WAKE ISLAND Hy**	**32.23**	**167**	T	T	18 02 17.8	
	baz=352						
H11N1	**WAKE ISLAND Hy**	**32.23**	**167**	T	T	18 02 17.8	
	baz=352						
KURK	**Kurchatov**	**48.34**	**303**	⇑*eP*	**P**	**17 30 30.3**	**-1.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KURK				MLR	MLR		
	comp=Z,2μm,16.0s						
KURBB	**Kurchatov Arra**	**48.44**	**303**	P	**P**	**17 30 31.1**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=60,slow=7.7,SNR=4.6						
	comp=Z,0.9nm,0.7s						
MK31	**Makanchi Array**	**48.60**	**297**	⇑*eP*	**P**	**17 30 32.7**	**-1.2**
MKAR	**Makanchi Array**	**48.60**	**297**	P	**P**	**17 30 32.7**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=50,slow=7.5,SNR=4.4						
	comp=Z,0.1nm,0.4s						
MKAR	**Makanchi Array**	**48.60**	**297**	*eP*	**P**	**17 30 32.6**	**-1.3**
SPITS	**Spitsbergen Ar**	**48.66**	**351**	P	**P**	**17 30 33.8**	**-0.2**
	comp=Z,22nm,1.2s,baz=39,slow=7.6,SNR=9.4						
BVAR	**Borovoye Array**	**51.16**	**309**	P	**P**	**17 30 51.9**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=56,slow=9.0,SNR=7.5						
	comp=Z,1.0nm,0.6s						
HEF	**Hetta**	**56.02**	**342**	*eP*	**P**	**17 31 30.8**	**+2.1**
KIF	**Kilpisjarvi**	**56.04**	**343**	*eP*	**P**	**17 31 27.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**57.58**	**259**	P	**P**	**17 31 39.9**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=66,slow=6.7,SNR=2.1						
	comp=Z,0.2nm,0.4s						
FINES	**FINESS Array B**	**61.47**	**337**	P	**P**	**17 32 04.5**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=36,slow=10,SNR=3.5						
	comp=Z,0.5nm,0.6s						
FINES	**FINESS Array B**	**61.47**	**337**	*i P*	**P**	**17 32 07.0**	**+0.5**
OBN	**Obninsk**	**63.70**	**328**	*eP*	**P**	**17 32 21.5**	**+0.1**
OBN				*e*		17 32 53.2	
OBN				*e*		17 34 41.1	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**64.99**	**344**	P	**P**	**17 32 29.8**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=25,slow=3.2,SNR=1.8						
	comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**65.38**	**342**	P	**P**	**17 32 32.1**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=59,slow=12,SNR=5.5						
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**69.83**	**329**	P	**P**	**17 32 59.8**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=30,slow=7.0,SNR=4.9						
	comp=Z,0.7nm,0.4s						
AKASG	**Malin Array Be**	**69.83**	**329**	*eP*	**P**	**17 33 00.5**	**0.0**
WRA	**Warramunga Arr**	**74.51**	**205**	P	**P**	**17 33 29.6**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=17,slow=6.0,SNR=3.0						
	comp=Z,0.7nm,0.9s						
BRTR	**Keskin Array B**	**77.66**	**320**	*i P*	**P**	**17 33 48.2**	**+1.4**
ASAR	**Alice Springs**	**78.19**	**204**	P	**P**	**17 33 51.1**	**+1.5**
	comp=Z,0.3nm,0.9s,baz=17,slow=5.7,SNR=4.4						
	comp=Z,0.3nm,0.9s						

AFAD ***04*** *17:31:07.8, 38°.39N×39°.12E, h9km±2km, MW5.2*
ISK ***04*** *17:31:07.4, 38°.36N×39°.15E, h5km, ML5.3/41*
GII ***04*** *17:31:10.0±0.0, 38°.39N×39°.12E, h9km, Mws4.9, confirmed*
MOS ***04*** *17:31:09.6±1.1, 38°.37N×39°.02E, h10km, mb5.1/37, MS4.5/28, Error ellipse: s-maj=4.4km s-min=3.0km az=102.2*
IDC ***04*** *17:31:09.6±0.4, 38°.40N×39°.09E, h0km, mb4.6/29, mbtmp4.6/40, ML4.3/8, MS4.6/84, Error ellipse: s-maj=8.9km s-min=7.6km az=160.0*
NEIC ***04*** *17:31:10.2±2.0, 38°.30N±0°.05×39°.16E±0°.06, h10km±1km, mb5.1/130, Mww5.2/46, Error ellipse: s-maj=8.6km s-min=7.6km az=163.0*
BJI ***04*** *17:31:10.0, 38°.40N×39°.10E, h9km, mB5.2/20, mb4.8/53, Ms5.0/46, Ms7 4.8/46*
NEIC ***04*** *17:31:10.2, 38°.31N×39°.17E, h12km*
NEIC ***04*** *17:31:10.2, 38°.41N×39°.00E, h12km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16^Nm; Mrr=0.18; Mθθ=6.00; Mφφ=6.18; Mrθ=0.95; Mθφ=4.92; Mφr=3.03; Fault plane solution: Mo=8.37000×10^16^ NP1:φs=66.11000°, δ75.96000°, λ13.03000°. NP2:φs=332.90000°, δ77.37000°, λ165.61000°. Principal axes: T 9.0080, Plg19.0000°, Azm289.0000°; N -1.2680, Plg71.0000°, Azm112.0000°; P -7.7400, Plg1.0000°, Azm20.0000°;*
NAO ***04*** *17:31:10.7, 38°.39N×39°.12E, h10km, mb4.6*
GCMT ***04*** *17:31:11.2±0.1, 38°.35N±0°.01×39°.08E±0°.01, h12km, MW5.3/145, Moment Tensor Solution. s91,c129; s145,c275; Duration: 1s0 Moment tensor: Scale 10^17^ Nm; Mrr=0.06±.01; Mθθ=0.61±.01; Mφφ=0.67±.01; Mrθ=0.34±.03; Mrφ=0.65±.01; Mθφ=0.02±.03; Best double couple: Mo=0.97500×10^17^ NP1:φs=339.00000°, δ71.00000°, λ-173.00000°. NP2:φs=246.00000°, δ83.00000°, λ-20.00000°. Principal axes: T 0.9620, Plg9.0000°, Azm294.0000°; N 0.0250, Plg69.0000°, Azm48.0000°; P -0.9870, Plg19.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MED_RC ***04*** *17:31:11.0±0.3, 38°.40N×39°.23E, h10km, MW5.2/53, Moment Tensor Solution.Mantle waves: s53,c76; Duration: 1s1 Moment tensor: Scale 10^17^Nm; Mrr=0.06±.02; Mθθ=0.57±.02; Mφφ=0.51±.01; Mrθ=0.25±.06; Mrφ=0.56±.01; Mθφ=0.48±.06; Best double couple: Mo=0.93000×10^17^ NP1:φs=334.00000°, δ68.00000°, λ161.00000°. NP2:φs=71.00000°, δ72.00000°, λ24.00000°. Principal axes: T 1.0400, Plg29.0000°, Azm294.0000°; N -0.2400, Plg61.0000°, Azm106.0000°; P -0.8100, Plg3.0000°, Azm202.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
CFUSG ***04*** *17:31:11.8, 38°.40N×39°.10E, h10km, mb3.8/8, Eastern Turkey Magtype MSH 4.0 from 4 stations*
DSN ***04*** *17:31:11.4±0.0, 38°.28N×39°.15E, h10km, mb4.9/16, Error ellipse: s-maj=1.6km s-min=1.0km az=228.0*
BGR ***04*** *17:31:12.9, 37°.59N×38°.52E, h33km, mb5.0, Ms4.5, Hypocentre not reviewed by the ISC*
MCSM ***04*** *17:31:12.1±0.3, 38°N±2°×3°9E±°, h9km±2km, mb4.8, mB5.2, MLv5.4, Mw(mB)4.6*

ISC 04 17:31:10.2±0.6,**38°.37N**±0°.02×**39°.13E**±0°.02,**h6**km±3km, **n916**,σ1**s76**/972,**mb5.0**/135,**MS4.7**/106,**91C-56D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.17**	**318**	P	**Pg**	**17 31 11.9**	**-1.8**
MAYA	**Malatya/Merkez**	**0.55**	**265**	P	**Pg**	**17 31 19.2**	**-1.7**
MAYA				S	**Sg**	**17 31 26.0**	**-2.1**
PTK	**Pertek**	**0.56**	**22**	Pg	**Pg**	**17 31 17.9**	**-3.2**
PTK				Sg	**Sg**	**17 31 28.4**	**0.0**
NARI	**Adyaman-Kaht**	**0.57**	**211**	P	**Pg**	**17 31 20.1**	**-1.0**
NARI				S	**Sg**	**17 31 27.2**	**-1.3**
KOVA	**Elazig, Kovanc**	**0.63**	**58**	P	**Pg**	**17 31 20.0**	**-2.4**
TNCL	**Tunceli-Merkez**	**0.81**	**23**	P	**Pg**	**17 31 22.5**	**-3.3**
HANM	**anlurfa/Hi**	**0.81**	**194**	P	**Pg**	**17 31 24.6**	**-1.2**
AZEY	**Adyaman-Merk**	**0.89**	**231**	P	**Pg**	**17 31 26.3**	**-1.0**
AZEY				S	**Sg**	**17 31 37.8**	**-1.1**
DIYA	**Diyarbakir**	**0.90**	**119**	P	**Pg**	**17 31 26.1**	**-1.5**
ARPR	**Arapgir-MALATY**	**0.95**	**320**	Pg	**Pg**	**17 31 26.2**	**-2.3**
ARPR				Sg	**Sb**	**17 31 41.5**	**-0.7**
AKCD	**Akcadag**	**0.95**	**266**	P	**Pg**	**17 31 26.3**	**-2.2**
AKCD				S	**Sg**	**17 31 37.9**	**-2.9**
URFA	**Urfa**	**0.96**	**195**	Pg	**Pg**	**17 31 26.9**	**-1.7**
HANI	**Diyarbakir_Han**	**1.00**	**87**	P	**Pg**	**17 31 26.7**	**-2.7**
KEMA	**Kemaliye**	**1.02**	**331**	P	**Pg**	**17 31 27.1**	**-2.8**
KEMA				S	**Sg**	**17 31 40.9**	**-2.3**
HEKM	**Malatya_Hekimh**	**1.05**	**299**	P	**Pg**	**17 31 27.8**	**-2.5**
HEKM				S	**Sg**	**17 31 41.8**	**-2.1**
ATAB	**Bozova**	**1.11**	**216**	P	**Pg**	**17 31 30.3**	**-1.3**
ATAB				S	**Sg**	**17 31 45.1**	**-0.9**
SANL	**SANLIURFA_Merk**	**1.20**	**185**	P	**Pg**	**17 31 32.0**	**-1.3**
SANL				S	**Sb**	**17 31 49.3**	**0.0**
AKCA	**Adyaman/G¶l**	**1.27**	**244**	P	**Pg**	**17 31 32.8**	**-1.8**
AKCA				S	**Sg**	**17 31 48.7**	**-2.4**
DARE	**Darende-Malaty**	**1.31**	**279**	Pn	**Pn**	**17 31 32.2**	**-3.0**
DARE				Sn	**Sn**	**17 31 53.0**	**0.0**
BNGB	**Bingl**	**1.36**	**62**	Pn	**Pn**	**17 31 34.3**	**-1.7**
MAZI	**Mazidag**	**1.38**	**131**	Pn	**Pn**	**17 31 34.6**	**-1.6**
MAZI				Sn	**Sb**	**17 31 54.5**	**-0.1**
EUZM	**Uzumlu**	**1.41**	**18**	P	**Pn**	**17 31 33.6**	**-3.0**
CUGUR	**Gurin_SVAS**	**1.50**	**284**	P	**Pn**	**17 31 35.6**	**-2.2**
CUGUR				S	**Sn**	**17 31 55.7**	**-2.1**
YEDI	**Yedisu-Bingol**	**1.54**	**46**	Pn	**Pn**	**17 31 36.9**	**-1.5**
SURC	**SANLIURFA_SURC**	**1.54**	**196**	P	**Pn**	**17 31 37.0**	**-1.4**
SLHN	**Bingol, Solhan**	**1.60**	**68**	P	**Pn**	**17 31 38.6**	**-0.6**
SLHN				S	**Sn**	**17 31 58.3**	**-1.9**
GZT	**Gaziantep**	**1.60**	**231**	P	**Pn**	**17 31 37.9**	**-1.3**
GZT				S	**Sn**	**17 31 58.1**	**-2.2**
CUKAN	**kangal_SIVAS**	**1.60**	**307**	P	**Pn**	**17 31 37.2**	**-2.1**
MARD	**Mardin**	**1.68**	**128**		**Pn**	**17 31 37.7**	**-2.6**
MARD	**Mardin**	**1.68**	**128**	P	**Pn**	**17 31 38.2**	**-2.2**
MARD				S	**Sn**	**17 31 58.7**	**-3.6**
BTMN	**Batman**	**1.76**	**105**	P	**Pn**	**17 31 39.5**	**-1.9**
NZIP	**Nizip/Gaziante**	**1.76**	**221**	P	**Pn**	**17 31 40.5**	**-0.9**
NZIP				S	**Sn**	**17 32 00.5**	**-3.5**
KARO	**Karliova-Bingo**	**1.77**	**57**	Pn	**Pn**	**17 31 40.3**	**-1.3**
KELT	**Kelkit**	**1.78**	**3**	P	**Pn**	**17 31 40.5**	**-1.3**
KHMN	**Narli-Kahraman**	**1.84**	**239**	Pn	**Pn**	**17 31 41.5**	**-0.9**
CUZAR	**Zara_SIVAS**	**1.85**	**326**	P	**Pn**	**17 31 42.4**	**-0.2**
CUZAR				S	**Sn**	**17 32 07.0**	**+0.6**
ECAT	**Cat-ERZURUM**	**1.90**	**49**	P	**Pn**	**17 31 42.1**	**-1.2**
ECAT				S	**Sn**	**17 32 08.4**	**+0.7**
KAHM	**Kahramanmaras,**	**1.90**	**244**	P	**Pn**	**17 31 42.1**	**-1.0**
MUSM	**Mu-Merkez**	**1.90**	**79**	P	**Pn**	**17 31 41.7**	**-1.7**
GAZ	**Gaziantep**	**1.93**	**232**	Pn	**Pn**	**17 31 42.7**	**-1.1**
GAZ	**Gaziantep**	**1.93**	**232**		**Pn**	**17 31 42.4**	**-1.4**
GAZ	**Gaziantep**	**1.93**	**232**	⇓P	**Pn**	**17 31 42.5**	**-1.2**
KOPT	**Kop Dagi**	**1.96**	**32**		**Pn**	**17 31 43.5**	**-0.8**
KOPT	**Kop Dagi**	**1.96**	**32**	P	**Pn**	**17 31 43.2**	**-1.1**
KOPT				S	**Sb**	**17 32 11.3**	**0.0**
KMRS	**Kahramanmaras**	**1.96**	**245**	Pn	**Pn**	**17 31 43.1**	**-1.0**
SUSE	**Susehri**	**1.97**	**339**	P	**Pn**	**17 31 44.2**	**-0.2**
VRTB	**Varto-Mus**	**1.98**	**66**	Pn	**Pn**	**17 31 43.1**	**-1.4**
VRTB	**Varto-Mus**	**1.98**	**66**	P	**Pn**	**17 31 45.0**	**+0.5**
VRTB				S	**Sg**	**17 32 13.8**	**-0.2**
ALUC	**Giresun/Alucra**	**1.99**	**352**	P	**Pn**	**17 31 44.3**	**-0.3**
MIDY	**Mardin/Midyat-**	**2.04**	**118**	P	**Pn**	**17 31 42.7**	**-2.5**
CUAYA	**Sivas-Altinyay**	**2.06**	**296**	P	**Pn**	**17 31 45.3**	**-0.3**
CUAYA				S	**Sn**	**17 32 11.3**	**-0.5**
BAYB	**BAYBURT**	**2.08**	**25**	P	**Pn**	**17 31 44.5**	**-1.4**
GUMT	**Gumushane**	**2.10**	**7**	Pn	**Pn**	**17 31 45.4**	**-0.8**
ETEKE	**Tekederesi - E**	**2.11**	**47**	P	**Pn**	**17 31 45.9**	**-0.5**
SARI	**SarD1z-Kayseri**	**2.13**	**272**	Pn	**Pn**	**17 31 45.4**	**-1.2**
SCER	**sogukcermik**	**2.15**	**314**	P	**Pn**	**17 31 45.6**	**-1.3**
SCER				S	**Sb**	**17 32 16.7**	**-0.1**
BAYT	**Aydıntepe-Bayb**	**2.17**	**21**	Pn	**Pn**	**17 31 46.3**	**-0.8**
EMRE	**Erzurum,Aziziy**	**2.19**	**40**	P	**Pn**	**17 31 46.5**	**-1.0**
SRTM	**Siirt_Merkez**	**2.23**	**99**	P	**Pn**	**17 31 45.3**	**-2.6**
EDAM	**Erzurum-Paland**	**2.26**	**47**	Pn	**Pn**	**17 31 47.3**	**-1.0**
SVSK	**Karacayir**	**2.26**	**314**	Pn	**Pn**	**17 31 47.9**	**-0.3**
KAMA	**Osmaniye**	**2.28**	**240**	P	**Pn**	**17 31 46.8**	**-1.7**
KUZU	**Kuzuini**	**2.28**	**226**	P	**Pn**	**17 31 46.8**	**-1.7**
KUZU				S	**Sg**	**17 32 24.2**	**+0.7**
**G

SOC e 17 33 33.7
SOC MLR MLR
comp=Z,6μm,14.0s
BHL Bhannes 5.27 213 *e*P **Pn 17 32 29.0 -0.6**
BZK Bozkurt 5.32 314 Pn **Pn 17 32 31.2 +1.1**
BZK Bozkurt 5.32 314 ⇑P **Pn 17 32 31.2 +1.1**
BZK Bozkurt 5.32 314 Pn **Pn 17 32 31.9 +1.8**
comp=Z,4.9nmcomp=Z,10μmcomp=Z,1μm,0.9s
BZK Bozkurt 5.32 314 ⇑P **Pn 17 32 31.2 +1.1**
DQRL Deir Qamar 5.47 213 *e*P **Pn 17 32 32.6 +0.1**
RCY Rachaya 5.55 210 *e*P **Pn 17 32 34.2 +0.7**
QRWL Qaraoun 5.56 211 *e*P **Pn 17 32 34.0 +0.3**
SHBL Chebaa 5.71 210 *e*P **Pn 17 32 37.0 +1.2**
CSS Mathiatis 5.77 236 Pn **Pn 17 32 34.4 -2.1**
CSS Mathiatis 5.77 236 P **Pn 17 32 34.5 -1.9**
CSS Mathiatis 5.77 236 ⇑P **Pn 17 32 33.4 -3.1**
NATI Neve Ativ 5.79 209 P **Pn 17 32 36.8 +0.1**
NATI Neve Ativ 5.79 209 S **Sn 17 33 44.0 +0.5**
GEM Giv'at Ha'Em 5.87 210 P **Pn 17 32 37.5 -0.3**
GEM Giv'at Ha'Em 5.87 210 ⇓P **Pn 17 32 37.5 -0.3**
CIDE Kastamonu/Cide 5.89 308 ⇑P **Pn 17 32 38.7 +0.7**
SHA1 Shidzhatmaz 5.99 25 *ce*P **Pn 17 32 42.0 +2.4**
KSHT Keshet 6.02 208 P **Pn 17 32 39.8 0.0**
KBZ Khabaz 6.06 27 Pn **Pn 17 32 41.5 +1.1**
comp=Z,0.7nm,0.3s,baz=204,slow=13,SNR=20
KBZ LR LR 17 35 26.3
comp=Z,14μm,19.0s,baz=218,slow=42
comp=Z,5.9nm,0.5s
KBZ Khabaz 6.06 27 *ce*P **Pn 17 32 42.5 +2.1**
NCK Nalchik 6.13 32 ⇑*e*P **Pn 17 32 43.4 +2.0**
MMA0B Mount Meron ar 6.14 211 P **Pn 17 32 41.5 -0.1**
MMAI Mount Meron Ar 6.14 211 Pn **Pn 17 32 41.9 +0.3**
comp=Z,61nm,0.4s,baz=33,slow=11,SNR=109
MMAI Lg Lg 17 34 23.9
comp=Z,51nm,0.3s,baz=37,slow=24,SNR=3.7
HNTI Hanita 6.18 213 P **Pn 17 32 41.4 -0.7**
KIV Kislovodsk 6.19 25 Pn **Pn 17 32 43.1 +0.9**
KIV Kislovodsk 6.19 25 ⇓P **Pn 17 32 42.9 +0.6**
KIV Kislovodsk 6.19 25 *e*P **Pn 17 32 44.2 +1.9**
KIV *e*S **Sn 17 33 56.6 +3.2**
KIV pmax pmax
comp=Z,51nm,1.0s
KIV MLR MLR
comp=Z,3μm,9.0s
KIV Kislovodsk 6.19 25 *i* P **Pn 17 32 44.0 +1.8**
SNR=12
KIV Kislovodsk 6.19 25 Pn **Pn 17 32 44.1 +1.8**
comp=Z,0.3nmcomp=Z,953nmcomp=Z,66nm,0.8s
KIV Kislovodsk 6.19 25 ⇓P **Pn 17 32 44.4 +2.1**
LABN Labinsk 6.38 10 *e*P **Pn 17 32 43.5 -1.3**
LABN *e*S **Sn 17 33 57.0 -0.9**
LABN pmax pmax
comp=Z,24nm,0.6s
LABN MLR MLR
comp=E,15μm,11.0s
LABN MLR MLR
comp=N,7μm,10.0s
LABN MLR MLR
comp=Z,8μm,11.0s
ASF Jabal al Asfar 6.45 197 Pn **Pn 17 32 45.3 -0.6**
comp=Z,8.2nm,0.3s,baz=56,slow=7.2,SNR=85
ASF Sn **Sn 17 34 03.7 +3.9**
comp=Z,1.3nm,0.3s,baz=49,slow=20,SNR=1.3
ASF Lg Lg 17 34 35.9
comp=Z,20nm,0.3s,baz=189,slow=22,SNR=4.3
comp=Z,47nm,0.6s
BLGI Bet Lehem HaGe 6.47 211 P **Pn 17 32 45.7 -0.5**
MDUB Mudurnu 6.49 291 **Pn 17 32 47.0 +0.6**
MDUB Mudurnu 6.49 291 ⇑P **Pn 17 32 46.7 +0.4**
ANN Anapa 6.55 349 *e*P Pn 17 32 51.8 +4.7
ANN *e*S Sn 17 34 11.4 +9.4
ANN pmax pmax
comp=Z,21nm,0.7s
ANN MLR MLR
comp=N,2μm,10.0s
ANN MLR MLR
comp=E,5μm,14.0s
ANN MLR MLR
comp=Z,5μm,12.0s
MMLI Mount Malkishu 6.65 208 P **Pn 17 32 48.5 0.0**
OFRI `Ofer 6.66 212 P **Pn 17 32 48.5 -0.1**
HMDT Nahal Hemdat 6.78 207 P **Pn 17 32 50.2 0.0**
ISP Isparta 6.81 268 **Pn 17 32 49.4 -1.4**
ISP Isparta 6.81 268 *de*P **Pn 17 32 50.2 -0.6**
ISP Isparta 6.81 268 P **Pn 17 32 49.7 -1.0**
BORA Eskisehir 6.91 285 Pn **Pn 17 32 52.7 +0.5**
SLTI Sal'it 6.97 210 P **Pn 17 32 52.5 -0.4**
SALP Salfit 7.06 208 P **Pn 17 32 54.4 +0.2**
SALP Salfit 7.06 208 ⇓P **Pn 17 32 54.8 +0.6**
UJAP Al Uja 7.07 206 P **Pn 17 32 54.3 +0.1**
YAL Yalta 7.16 330 *e*P **Pn 17 32 59.6 +4.1**
YAL Yalta 7.16 330 *e*P **Pn 17 32 59.6 +4.1**
YAL Pm 17 33 05.0
comp=Z,73nm,0.8s
FEO Feodosiya 7.21 338 *e*P Pn 17 33 02.7 +6.6
FEO Feodosiya 7.21 338 *e*P Pn 17 33 02.7 +6.6
FEO Pm 17 33 09.5
comp=Z,66nm,0.7s
SUDU Sudak 7.21 336 *e*P **Pn 17 32 58.8 +2.7**
SUDU *e*S **Sn 17 34 20.8 +2.5**
SUDU Sudak 7.21 336 *e*P **Pn 17 32 58.8 +2.7**
SUDU Pm 17 33 12.4
comp=Z,45nm,0.7s
SUDU *e*S **Sn 17 34 20.8 +2.5**
SUDU Sm 17 34 23.2
comp=N,97nm,0.8s
SUDU Sm 17 34 23.2
comp=E,64nm,1.0s
ALU Alushta 7.23 332 *e*P **Pn 17 32 58.7 +2.3**
ALU *e*S **Sn 17 34 20.7 +1.8**
ALU Alushta 7.23 332 *e*P **Pn 17 32 58.7 +2.3**
ALU Pm 17 32 59.4
comp=Z,21nm,0.5s
ALU *e*S **Sn 17 34 20.7 +1.8**
GOF Gofitskoye 7.29 22 *ce*P **Pn 17 33 02.0 +4.7**
SEV Sevastopol' 7.41 328 *e*P **Pn 17 33 00.0 +1.2**
SEV *e*S **Sn 17 34 22.9 -0.2**
SEV Sevastopol' 7.41 328 *e*P **Pn 17 33 00.0 +1.2**
SEV Pm 17 33 16.3
comp=Z,51nm,1.0s
SEV *e*S **Sn 17 34 22.9 -0.2**
SEV Sm 17 34 27.5
comp=N,110nm,0.6s
SEV Sm 17 34 27.5
comp=E,17nm,0.9s
ERBR Yeremizino-Bor 7.41 7 *e*P **Pn 17 33 01.2 +2.3**
ERBR *e*S **Sn 17 34 28.4 +5.2**
ERBR pmax pmax
comp=Z,52nm,1.0s
ERBR MLR MLR
comp=E,13μm,13.0s
ERBR MLR MLR
comp=Z,6μm,14.0s
ERBR MLR MLR
comp=N,10μm,13.0s
DSI Dead Sea 7.45 205 P **Pn 17 32 58.9 -0.6**
ELL Elmali 7.50 260 Pn **Pn 17 33 00.5 +0.2**
ELL Elmali 7.50 260 P **Pn 17 33 00.5 +0.2**
ELL Elmali 7.50 260 ⇑P **Pn 17 33 04.0 +3.7**
SIM Simferopol' 7.57 332 *e*P **Pn 17 33 03.4 +2.3**
SIM pmax pmax
comp=Z,11μm,0.9s
SIM MLR MLR
comp=Z,2μm,19.0s
SIM Simferopol' 7.57 332 *e*P **Pn 17 33 05.5 +4.4**
SIM Pm 17 33 06.8
comp=Z,36nm,0.5s
SIM *e*S **Sn 17 34 32.6 +5.5**
SIM Sm 17 34 32.8
comp=E,12nm,0.3s
SIM Sm 17 34 32.8
comp=N,10.0nm,0.3s
GHAJ Ghor Haditha 7.63 204 Pn **Pn 17 33 01.1 -0.9**
GHAJ Ghor Haditha 7.63 204 P **Pn 17 33 01.8 -0.2**
AMAZ Amatzia 7.65 208 P **Pn 17 33 02.1 -0.1**
AMAZ Amatzia 7.65 208 ⇓P **Pn 17 33 02.8 +0.6**
MSBI Mazada 7.69 205 P **Pn 17 33 02.3 -0.4**
MSBI Mazada 7.69 205 ⇑P **Pn 17 33 03.1 +0.3**
YTIR Yattir 7.73 206 P **Pn 17 33 03.8 +0.3**
MAK Makhachkala 7.84 52 *d i* P **Pn 17 33 01.0 -3.9**
MAK pmax pmax
comp=Z,171nm,1.2s
MAK MLR MLR
comp=Z,13μm,11.0s

YLV Yalova 7.86 289 Pn **Pn 17 33 05.5 +0.4**
comp=Z,1.0nmcomp=Z,2μmcomp=Z,104nm,1.2s
AKAS Kas 7.88 257 **Pn 17 33 05.2 -0.4**
DNZ2 Donuzlav2 8.27 330 *e*P **Pn 17 33 12.6 +1.9**
DNZ2 Pm 17 33 15.6
comp=Z,31nm,0.3s
DNZ2 *e*S **Sn 17 34 46.5 +2.1**
DNZ2 Sm 17 34 46.7
comp=N,38nm,0.8s
DNZ2 Sm 17 34 46.7
comp=E,29nm,0.7s
KLYT Kilyos 8.28 294 Pn **Pn 17 33 12.6 +1.8**
comp=E,2μmcomp=E,106nm,1.5s
KZIT Kziot 8.40 209 P **Pn 17 33 12.6 0.0**
KZIT Kziot 8.40 209 ⇓P **Pn 17 33 13.7 +1.1**
ZFRI Zfri 8.45 204 P **Pn 17 33 12.4 -0.8**
TARU Tarkhankut 8.55 327 *e*P Pn 17 33 19.9 +5.3
TARU Pm 17 33 30.0
comp=Z,27nm,0.7s
PRNI Paran 8.69 204 P **Pn 17 33 16.5 -0.1**
BAND Balkesir-Ban 8.77 286 ⇓P **Pn 17 33 18.6 +1.0**
CTYL Yalikoy Yolu 8.88 294 Pn **Pn 17 33 21.1 +2.0**
comp=Z,2μmcomp=Z,114nm,1.1s
HRFI Mount Harif 8.98 203 P **Pn 17 33 20.1 -0.3**
KRMI Paran Flat 9.00 205 P **Pn 17 33 20.9 +0.1**
MBRI Mt Berech 9.24 203 P **Pn 17 33 23.9 -0.2**
EIL Elat 9.34 203 Pn **Pn 17 33 25.8 +0.3**
comp=Z,2.3nm,0.3s,baz=1.8,slow=7.1,SNR=29
EIL Lg Lg 17 36 05.3
comp=Z,3.2nm,0.3s,baz=54,slow=21,SNR=4.1
EIL LR LR 17 37 22.5
comp=Z,11μm,20.4s,baz=5.5,slow=40
comp=Z,12nm,0.5s
EIL Elat 9.34 203 P **Pn 17 33 25.5 0.0**
EIL Elat 9.34 203 ⇓P **Pn 17 33 25.6 +0.2**
MFTR Murfatlar 9.93 309 ⇑P **Pn 17 33 34.3 +0.9**
KARP Karpathos 9.98 257 P **Pn 17 33 37.0 +2.7**
KARP Karpathos 9.98 257 **Pn 17 33 32.6 -1.6**
KARP Karpathos 9.98 257 Pn **Pn 17 33 33.8 -0.5**
comp=Z,1μmcomp=Z,107nm,1.1s
KARP Karpathos 9.98 257 ⇑P **Pn 17 33 33.5 -0.7**
JURR Jurilovca 9.99 313 ⇑P **Pn 17 33 35.5 +1.3**
EZN Ezine 10.06 282 P **Pn 17 33 37.5 +2.2**
EZN Ezine 10.06 282 Pn **Pn 17 33 37.4 +2.2**
comp=Z,2μmcomp=Z,149nm,1.6s
TIRR Tirgusor 10.08 310 **Pn 17 33 32.9 -2.6**
TIRR Tirgusor 10.08 310 ⇑P **Pn 17 33 34.9 -0.7**
TIRR Tirgusor 10.08 310 P **Pn 17 33 32.9 -2.6**
TIRR Tirgusor 10.08 310 P **Pn 17 33 34.8 -0.7**
TIRR Tirgusor 10.08 310 Pn **Pn 17 33 34.8 -0.7**
comp=Z,624nmcomp=Z,47nm,0.8s
TIRR Tirgusor 10.08 310 ⇑P **Pn 17 33 35.3 -0.2**
EDRB Edirne 10.10 294 P **Pn 17 33 36.7 +0.9**
TLCR 10.27 315 ⇓P **Pn 17 33 37.9 -0.3**
TLCR 10.27 315 P **Pn 17 33 37.8 -0.3**
CAVK Edirne/Enez-Ca 10.28 287 ⇑P **Pn 17 33 38.7 +0.5**
ICOR Ion Corvin 10.28 308 ⇑P **Pn 17 33 38.6 +0.4**
ENEZ Enez 10.29 287 P **Pn 17 33 39.7 +1.2**
TPGR Topolog 10.30 312 ⇑P **Pn 17 33 38.3 -0.3**
ALN Alexandroupoli 10.40 288 P **Pn 17 33 41.2 +1.3**
ALN Alexandroupoli 10.40 288 ⇑P **Pn 17 33 40.8 +0.9**
HARR Harsova 10.50 311 ⇑P **Pn 17 33 41.2 -0.1**
HARR Harsova 10.50 311 P **Pn 17 33 41.1 -0.1**
PURM Purcari 10.63 323 ⇑P **Pn 17 33 43.6 +0.5**
SMTH Samothraki Isl 10.73 286 P **Pn 17 33 45.4 +1.0**
RDO Rodhopi 10.82 289 P **Pn 17 33 47.0 +1.3**
RDO Rodhopi 10.82 289 ⇑P **Pn 17 33 46.3 +0.6**
APE Apeiranthos 10.85 267 ⇑P **Pn 17 33 46.2 +0.1**
APE Apeiranthos 10.85 267 *ce*P **Pn 17 33 48.7 +2.6**
APE Apeiranthos 10.85 267 ⇑P **Pn 17 33 49.2 +3.1**
RAZG Razgrad 10.86 303 ⇑P **Pn 17 33 47.6 +1.4**
LIA Limnos Island 10.94 282 P **Pn 17 33 49.5 +2.2**
SZH Strazhitsa 11.10 300 P **Pn 17 33 52.7 +3.2**
MILM Milestii Mici 11.42 322 *e*P **Pn 17 33 51.0 -2.8**
comp=Z,360nm,3.1s
MILM *e*S **Sn 17 35 57.0 -4.7**
MILM *e*Lq LQ 17 38 11.0
comp=Z,3μm,16.0s
MILM Milestii Mici 11.42 322 *e*P **Pn 17 33 51.0 -2.8**
MILM *e*S **Sn 17 35 57.0 -4.7**
MILM pmax pmax
comp=Z,360nm,3.1s
MILM MLR MLR
comp=Z,3μm,19.0s
MILM MLR MLR
comp=E,3μm,16.0s
KIS Kishinev 11.47 322 *e*P **Pn 17 33 55.0 +0.4**
KIS *e*S **Sn 17 35 57.0 -6.0**
KIS *e*Lq LQ 17 39 06.0
comp=E,1μm,17.5s
KIS LRM MLR 17 41 17.0
comp=E,1μm,12.3s
KIS Kishinev 11.47 322 *e*P **Pn 17 33 55.0 +0.4**
KIS *e*S **Sn 17 35 57.0 -6.0**
KIS MLR MLR
comp=Z,1μm,12.3s
RZN Rozhen 11.52 291 P **Pn 17 33 56.8 +1.4**
ISR Istrita 11.56 310 ⇑P **Pn 17 33 56.9 +1.0**
ISR Istrita 11.56 310 P **Pn 17 33 56.8 +1.0**
ISR Istrita 11.56 310 Pn **Pn 17 33 57.3 +1.5**
comp=Z,136nm,1.1s
KAVA Kavala 11.56 288 P **Pn 17 33 56.5 +0.7**
KARY Karystos 11.57 273 P **Pn 17 33 58.6 +2.7**
PVL Pavlikeni 11.60 299 *e*P **Pn 17 34 00.0 +3.7**
BISRR Bisoca 11.69 312 Pn **Pn 17 33 59.3 +1.7**
SPBR Spulber 11.78 313 ⇑P **Pn 17 34 00.0 +1.2**
KYMI Kymi, Euboea I 11.78 276 P **Pn 17 34 02.7 +3.9**
IDI Anoyia 11.82 259 P **Pn 17 33 56.6 -2.8**
IDI Anoyia 11.82 259 **Pn 17 33 57.1 -2.3**
IDI Anoyia 11.82 259 Pn **Pn 17 33 58.0 -1.4**
comp=Z,16nm,0.4s,baz=90,slow=13,SNR=44
IDI LR LR 17 38 25.3
comp=Z,3μm,21.8s,baz=66,slow=37
VRI Vrincioaia 11.86 313 ⇑P **Pn 17 33 59.9 0.0**
VRI Vrincioaia 11.86 313 P **Pn 17 33 59.9 0.0**
VRI Vrincioaia 11.86 313 Pn **Pn 17 33 59.7 -0.2**
comp=Z,920nmcomp=Z,46nm,1.7s
NEHR Nehoiu 11.87 311 ⇑P **Pn 17 34 00.7 +0.6**
PLOR5 Plostina Array 11.88 313 Pn **Pn 17 34 00.7 +0.5**
comp=Z,966nmcomp=Z,66nm,1.4s
OUR Ouranopolis 11.89 284 P **Pn 17 34 01.5 +1.2**
PLOR Plostina 11.90 313 ⇓P **Pn 17 34 01.1 +0.6**
PLOR Plostina 11.90 313 P **Pn 17 34 01.0 +0.6**
KOKK Kokkinochori, 11.93 287 P **Pn 17 34 01.0 +0.2**
COPA Copaceanca 11.94 303 ⇑P **Pn 17 34 01.6 +0.6**
DION Dionisos Attik 11.96 273 P **Pn 17 34 04.1 +2.8**
PTL Penteli 12.01 273 P **Pn 17 34 05.3 +3.2**
PAIG Paliouri 12.10 282 P **Pn 17 34 01.5 -1.6**
MLR Muntele Rosu 12.11 310 Pn **Pn 17 34 04.0 +0.6**
comp=Z,0.4nm,0.3s,baz=85,slow=6.3,SNR=12
MLR LR LR 17 39 55.6
comp=Z,6μm,20.3s,baz=120,slow=44
comp=Z,12nm,0.9s
MLR Muntele Rosu 12.11 310 ⇑P **Pn 17 34 04.0 +0.6**
MLR Muntele Rosu 12.11 310 Pn **Pn 17 34 04.1 +0.6**
comp=Z,717nmcomp=Z,35nm,1.4s
PGB Panagyurishte 12.12 295 P **Pn 17 34 06.8 +3.3**
COVR Voineasa-Covas 12.15 312 ⇓P **Pn 17 34 04.2 +0.4**
MMB Musomishta 12.22 290 P **Pn 17 34 06.9 +2.0**
SRS Serrai 12.27 288 P **Pn 17 34 06.7 +1.2**
TESR Tescani 12.28 315 ⇑P **Pn 17 34 05.4 -0.2**
TESR Tescani 12.28 315 Pn **Pn 17 34 05.1 -0.6**
comp=Z,55nm,1.7s
ONER Baraj Valea Uz 12.32 314 ⇑P **Pn 17 34 06.5 +0.3**
SOH Sokhos 12.41 286 P **Pn 17 34 10.7 +3.2**
VILL Villia 12.44 274 P **Pn 17 34 10.9 +3.1**
IMMV Iera Moni Meta 12.47 261 P **Pn 17 34 09.0 +0.8**
SORM Soroca 12.51 325 ⇑P **Pn 17 34 08.8 -0.1**
SORM Soroca 12.51 325 P **Pn 17 34 08.7 -0.1**
SORM Soroca 12.51 325 Pn **Pn 17 34 08.3 -0.5**
comp=Z,546nmcomp=Z,33nm,0.7s
OZUR 12.53 312 ⇑P **Pn 17 34 08.9 -0.2**
HORT Hortiatis 12.58 285 P **Pn 17 34 11.3 +1.4**
GVD Gavdhos 12.59 258 P **Pn 17 34 11.9 +2.0**
VORD Divnogorie 12.59 0 *e*P **Pn 17 34 13.5 +3.6**
VORD pmax pmax
comp=Z,20nm,0.8s
VORD MLR MLR
comp=Z,750nm,9.0s
VOIR 12.63 308 ⇓P **Pn 17 34 10.6 0.0**
VOIR 12.63 308 P **Pn 17 34 10.5 0.0**
VOIR 12.63 308 Pn **Pn 17 34 11.9 +1.4**
comp=Z,971nmcomp=Z,43nm,1.2s

LKR Lokris 12.64 276 P **Pn 17 34 11.9 +1.3**
PLNA Plana 12.65 294 P **Pn 17 34 13.7 +2.9**
MPEP Malo Peshtene 12.66 298 P **Pn 17 34 12.9 +2.0**
KRND KRANIDI 12.67 270 P **Pn 17 34 13.0 +2.1**
DOPR Dopca 12.70 311 ⇑P **Pn 17 34 10.9 -0.4**
KKB Krupnik 12.73 291 P **Pn 17 34 14.6 +2.8**
KNT Kendrikon 12.80 288 P **Pn 17 34 15.0 +2.3**
VTS Vitosha 12.82 294 P **Pn 17 34 14.5 +1.4**
VSR Storozhevoye 12.84 0 *e*P **Pn 17 34 14.7 +1.4**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=Z,3μm,13.0s
ARR Arges 12.86 308 ⇑P **Pn 17 34 14.8 +1.3**
AXAR Agios Charalam 12.90 277 P **Pn 17 34 16.5 +2.4**
VLI Veliai 12.96 268 P **Pn 17 34 15.6 +0.7**
VRH Novokhopyorsk 12.96 7 *e*P **Pn 17 34 14.5 -0.4**
VRH pmax pmax
comp=Z,20nm,1.0s
VRH MLR MLR
comp=Z,4μm,13.0s
LIT Litokhoron 13.02 283 P **Pn 17 34 17.4 +1.7**
PRAR RASCA 13.03 318 ⇑P **Pn 17 34 15.7 -0.2**
VAY Valandovo 13.06 288 *i* P **Pn 17 34 19.7 +3.4**
GRG Griva 13.14 287 P **Pn 17 34 19.0 +1.5**
GUR Goura 13.22 273 P **Pn 17 34 20.4 +1.8**
MAKR Makrakomi, Fth 13.30 278 P **P 17 34 25.1 -4.4**
VORR Voronezh 13.30 0 *e*P **Pn 17 34 22.7 +3.2**
VORR pmax pmax
comp=Z,10.0nm,0.8s
VORR MLR MLR
comp=Z,3μm,13.0s
KALE Kalithea 13.33 275 P **Pn 17 34 22.7 +2.6**
KLV Kalavryta, Ach 13.36 274 P **Pn 17 34 23.9 +3.4**
THL Klokotos Trika 13.37 280 P **P 17 34 25.8 -4.5**
LOT Lotru 13.44 307 ⇓P **Pn 17 34 22.0 +0.5**
ANX Ano Chora 13.49 276 P **Pn 17 34 22.9 +0.7**
EFP Efpalio 13.51 276 P **P 17 34 27.3 -4.5**
EVR Evrytania 13.55 278 P **P 17 34 28.3 -4.1**
ITM Ithomi 13.66 270 P **Pn 17 34 25.5 +1.0**
ITM Ithomi 13.66 270 Pn **Pn 17 34 24.4 -0.1**
ITM Ithomi 13.66 270 ⇑P **Pn 17 34 27.2 +2.7**
BURAR Bucovina Array 13.73 317 **Pn 17 34 24.1 -1.4**
BURAR Bucovina Array 13.73 317 ⇑P **Pn 17 34 25.6 +0.1**
BURAR Bucovina Array 13.73 317 P **Pn 17 34 25.6 +0.1**
RLS Riolos of Patr 13.89 274 P **P 17 34 32.2 -3.9**
ARCR ARCALIA 13.90 314 ⇓P **Pn 17 34 28.8 +1.0**
FNA Florina 13.90 286 P **Pn 17 34 30.0 +2.1**
FNA Florina 13.90 286 ⇑P **Pn 17 34 30.8 +2.9**
AXS Araxos 13.95 275 P **P 17 34 33.0 -3.7**
GZR Gura Zlata 14.04 305 ⇓P **Pn 17 34 29.8 0.0**
GZR Gura Zlata 14.04 305 P **Pn 17 34 29.7 0.0**
HERR Herculane 14.08 303 ⇑P **Pn 17 34 30.3 +0.1**
AK10 Malin Array Si 14.09 333 Pn **Pn 17 34 29.6 -0.7**
NEST Nestorio 14.13 284 P **Pn 17 34 30.0 -1.0**
BOVS Bovan 14.16 297 ⇑P **Pn 17 34 32.2 +0.9**
AKASG Malin Array Be 14.19 334 **Pn 17 34 28.9 -2.7**
AKASG Malin Array Be 14.19 334 Pn **Pn 17 34 30.7 -0.9**
comp=Z,2.3nm,0.3s,baz=144,slow=14,SNR=16
AKASG LR LR 17 40 26.1
comp=Z,1μm,21.6s,baz=148,slow=39
comp=Z,2.3nm,0.5s
AKBB Malin Array Si 14.19 334 Pn **Pn 17 34 29.9 -1.8**
AKBB Malin Array Si 14.19 334 *ce*P **Pn 17 34 30.7 -0.9**
KIEV Kiev 14.19 333 **Pn 17 34 29.8 -1.8**
KIEV Kiev 14.19 333 ⇑P **Pn 17 34 30.8 -0.9**
KIEV Kiev 14.19 333 P **Pn 17 34 29.8 -1.8**
KIEV Kiev 14.19 333 P **Pn 17 34 30.4 -1.2**
KIEV Kiev 14.19 333 ⇑P **Pn 17 34 30.8 -0.9**
LPSR Galich'ya Gora 14.23 360 *e*P **Pn 17 34 33.5 +1.3**
LPSR pmax pmax
comp=Z,40nm,0.9s
LPSR MLR MLR
comp=Z,3μm,13.0s
KSV Kosov 14.24 319 Pn **Pn 17 34 34.6 +2.2**
JAN Janina 14.27 281 P **Pn 17 34 35.4 +2.5**
OHR Ohrid 14.37 287 *i* P **P 17 34 39.0 -2.4**
MARR Marisel-Cluj 14.41 310 ⇓P **Pn 17 34 35.0 +0.2**
TSLK Tsoukalades, L 14.46 278 P **Pn 17 34 34.4 -1.0**
LKD2 Lefkada island 14.46 277 P **Pn 17 34 36.3 +0.9**
LSK Leskovik 14.47 283 P **Pn 17 34 38.8 +3.2**
MI29 MI29, Kamyanyy 14.47 330 Pn **Pn 17 34 38.6 +3.1**
comp=Z,223nm,1.3s
EVGI Lefkada island 14.47 277 P **Pn 17 34 33.2 -2.4**
RAKU Rahkiv 14.54 316 Pn **P 17 34 39.9 -3.3**
IGT Igoumenitsa 14.68 280 P **P 17 34 44.4 -0.3**
PHP Peshkopia 14.69 289 P **Pn 17 34 40.4 +1.7**
BMR Baia Mare 14.71 314 ⇑P **Pn 17 34 38.3 -0.6**
BMR Baia Mare 14.71 314 P **Pn 17 34 38.2 -0.6**
DRGR 14.71 310 ⇑P **Pn 17 34 38.8 -0.2**
DRGR 14.71 310 P **Pn 17 34 38.7 -0.2**
DMLN Damoulianata-K 14.73 275 P **Pn 17 34 42.0 +2.9**
MESR Meseseni 14.75 312 ⇑P **Pn 17 34 40.2 +0.9**
BZS Buzias 14.88 305 ⇑P **Pn 17 34 41.9 +0.8**
BZS Buzias 14.88 305 P **Pn 17 34 41.9 +0.8**
MI28 Mi28,Pidlybu 14.95 331 Pn **Pn 17 34 43.5 +1.5**
SIRR Siria 15.12 307 ⇑P **Pn 17 34 45.5 +1.2**
MEZ Mezhgor'ye 15.18 317 P **Pn 17 34 47.6 +2.4**
SJES Sjenica 15.30 295 *e*P **Pn 17 34 47.8 +1.0**
BRIU Brid 15.35 316 P **P 17 34 49.8 -2.3**
SAKB Bahrain 15.67 139 P **Pn 17 34 51.3 -0.3**
SAKB S **Sn 17 37 44.1 -1.4**
PDG Podgorica 15.67 291 *e*P **P 17 34 54.3 -1.4**
DRME Dracevica, Mon 15.69 290 *e*P **P 17 34 54.7 -1.3**
RAYN Ar Rayn 15.77 158 P **Pn 17 34 53.0 0.0**
RAYN Ar Rayn 15.77 158 P **P 17 34 56.6 -0.4**
RAYN S **Sn 17 37 49.3 +1.1**
RAYN Ar Rayn 15.77 158 P **Pn 17 34 53.8 +0.7**
RAYN Ar Rayn 15.77 158 P **Pn 17 34 53.3 +0.2**
RUDO Rudo 15.80 296 *e*P **Pn 17 34 54.8 +1.5**
HOLU Holmets 15.81 315 P **Pn 17 34 54.8 +1.5**
BBLS Lazi&#263i 15.83 297 *e*P **Pn 17 34 53.8 0.0**
FRGS Fruska Gora 15.91 301 *e*P **Pn 17 34 54.9 +0.2**
TEKS Tekeris 15.92 299 *e*P **Pn 17 34 55.7 +0.8**
SHMA Al-Shehemyia 15.99 138 P **Pn 17 34 53.0 -2.8**
RNPP9 Sopachiv 16.03 329 P **P 17 34 57.8 -1.8**
KOLS Kolonicke sedl 16.09 316 *e*P **P 17 35 02.4 +1.9**
KOLS pmax pmax
comp=Z,4.0nm,0.6s
KOLS Kolonicke sedl 16.09 316 *e*P **P 17 35 02.4 +1.9**
SCTE Santa Cesarea 16.10 283 **Pn 17 34 57.5 +0.4**
SCTE IAmb IAmb 17 35 05.0
comp=Z,112nm,0.8s
HAPS Han Pijesak,Bl 16.20 297 *e*P **Pn 17 34 59.4 +0.8**
TREB Trebinje 16.37 292 *e*P **Pn 17 34 59.3 -1.3**
SMRA Abu-Samra 16.83 140 P **Pn 17 35 05.8 -0.7**
SMRA S **Sn 17 38 18.2 +4.5**
OBN Obninsk 16.84 355 Pn **Pn 17 35 05.5 -0.9**
comp=Z,1.4nm,0.3s,baz=49,slow=1.9,SNR=3.4
OBN LR LR 17 42 37.3
comp=Z,1μm,19.1s,baz=174,slow=41
comp=Z,5.1nm,0.4s
OBN Obninsk 16.84 355 ⇓*e*P **Pn 17 35 05.2 -1.2**
OBN pmax pmax
comp=Z,55nm,1.9s
STON Ston 16.87 292 *e*P **Pn 17 35 06.2 -0.7**
STHS Stebnicka Huta 16.93 316 *e*P **P 17 35 11.4 +1.7**
STHS pmax pmax
comp=Z,8.0nm,0.8s
STHS Stebnicka Huta 16.93 316 *e*P **P 17 35 11.4 +1.7**
PSZ Piszkesteto 16.93 310 ⇑P **P 17 35 08.8 -1.1**
PSZ Piszkesteto 16.93 310 P **P 17 35 08.7 -1.1**
PSZ Piszkesteto 16.93 310 *e*P **P 17 35 10.0 +0.2**
PSZ Piszkesteto 16.93 310 ⇓P **P 17 35 09.2 -0.6**
MORH Mrgy, Hungar 17.03 304 ⇑P **Pn 17 35 08.4 -0.5**
MORH Mrgy, Hungar 17.03 304 P **P 17 35 10.0 -0.8**
comp=Z,731nmcomp=Z,31nm,1.2s
TRNA Turayna 17.03 139 P **Pn 17 35 06.4 -2.7**
TRNA S **Sn 17 38 20.5 +1.8**
KOVH Kovagotottos 17.34 303 ⇑P **P 17 35 14.6 +0.2**
MOS Moscow 17.40 357 *e*P **Pn 17 35 10.3 -3.2**
MOS *e*S **Sn 17 38 25.1 -2.3**
MOS pmax pmax
comp=Z,90nm,1.8s
MOS MLR MLR
comp=Z,2μm,13.0s
MOS MLR MLR
comp=N,2μm,14.0s
NIE Niedzica 17.44 315 *e*P **P 17 35 16.1 +0.7**
MATE Matera 17.45 285 ⇑P **Pn 17 35 14.5 +0.3**
MATE Matera 17.45 285 *e*P **Pn 17 35 12.5 -1.7**
TIP Timpagrande 17.46 280 IAmb IAmb 17 35 19.8

comp=Z,155nm,1.0s
TIP Timpagrande 17.46 280 ⇑P P 17 35 15.0 -0.6
TIP Timpagrande 17.46 280 P P 17 35 16.1 +0.4
comp=Z,2µmcomp=Z,146nm,1.0s
TIP Timpagrande 17.46 280 ⇑P P 17 35 15.1 -0.6
BLY Banja Luka 17.59 298 *e*P **P 17 35 20.2 +3.2**
JRN Qarnain Island 17.74 135 P **Pn 17 35 15.6 -2.3**
JRN S **Sn 17 38 31.8 -4.0**
LANS Liptovska Anna 17.77 314 *e*P **P 17 35 23.7 +4.7**
LANS pmax pmax
comp=Z,12nm,2.2s
LANS Liptovska Anna 17.77 314 *e*P **P 17 35 23.7 +4.7**
SLWR Sila 17.82 139 P **Pn 17 35 16.7 -2.2**
SLWR P **Pn 17 35 16.7 -2.2**
SLWR S **Sn 17 38 38.0 +0.1**
SLWR S **Sn 17 38 38.0 +0.1**
VYHS Vyhne 17.82 311 *e*P **P 17 35 19.8 +0.2**
VYHS pmax pmax
comp=Z,108nm,1.7s
VYHS Vyhne 17.82 311 *e*P **P 17 35 19.8 +0.2**
A051A Mrakovica 17.84 299 *e*P **P 17 35 20.3 +0.4**
MNK Minsk 17.86 338 *i* P **Pn 17 35 17.3 -1.9**
comp=E,13nm,0.7s
MNK *i* P **Pn 17 35 17.3 -1.9**
comp=N,19nm,0.9s
MNK *i* P **Pn 17 35 17.3 -1.9**
comp=Z,21nm,0.9s,baz=150
MNK *i* PP **PnPn 17 35 27.8 -2.0**
MNK *i* PPP PPP 17 35 35.5
MNK *i* S **Sn 17 38 35.9 -2.6**
MNK *i* SS **SnSn 17 38 50.8 -1.1**
MNK *i* SSS SSS 17 39 03.6
MNK *i* LQ LQ 17 40 33.7
MNK *i* LR LR 17 41 54.7
MNK *i* LRM MLR 17 44 19.2
comp=Z,2µm,18.2s
MNK *i* LRM MLR 17 44 24.0
comp=N,2µm,16.7s
MNK *i* LRM MLR 17 44 43.1
comp=E,2µm,17.1s
MNK Minsk 17.86 338 *i* P **Pn 17 35 17.2 -1.9**
MNK *i* S **Sn 17 38 35.8 -2.6**
MNK pmax pmax
comp=E,13nm,0.7s
MNK pmax pmax
comp=Z,21nm,0.9s
MNK pmax pmax
comp=N,19nm,0.9s
MNK MLR MLR
MNK comp=Z,2µm,18.0s MLR MLR
MNK comp=N,2µm,17.0s MLR MLR
MNK comp=E,2µm,17.0s MLR MLR
A050A Klekovaca 17.98 297 *e*P **P 17 35 22.0 +0.5**
AKTO Aktyubinsk 18.04 42 P **Pn 17 35 19.2 -2.2**
comp=E,9.9nm,0.7s,baz=232,slow=7.7,SNR=21
AKTO LR LR 17 43 57.7
comp=E,2µm,20.0s,baz=231,slow=43
AKTO Aktyubinsk 18.04 42 P **Pn 17 35 18.0 -3.4**
CUC Castrocucco 18.14 282 P **Pn 17 35 22.4 -0.4**
CUC Castrocucco 18.14 282 ⇑P P 17 35 25.5 +2.3
OJC Ojcow 18.15 317 *e*P **P 17 35 23.4 +0.2**
OJC Ojcow 18.15 317 IAmb IAmb 17 35 25.3
comp=Z,215nm,2.0s
OJC Ojcow 18.15 317 P **Pn 17 35 22.5 -0.3**
comp=Z,1µmcomp=Z,43nm,1.6s
OJC Ojcow 18.15 317 ⇓P Pn 17 35 22.3 -0.6
CEL Celeste 18.23 277 Pn 17 35 22.2 -1.7
CEL Celeste 18.23 277 ⇓P P 17 35 26.0 +1.8
AB31 Akbulak array 18.48 47 P **P 17 35 24.7 -2.1**
ABKAR Akbulak array 18.48 47 P **P 17 35 24.1 -2.8**
ABKAR Akbulak array 18.48 47 P **P 17 35 21.9 -5.0**
ABKAR IAmb IAmb 17 35 36.9
comp=Z,35nm,1.7s
ABKAR Akbulak array 18.48 47 ⇑P P 17 35 25.0 -1.8
GHWR Ruwais 18.53 137 P **P 17 35 25.3 -2.2**
GHWR P **P 17 35 25.3 -2.2**
GHWR S **Sn 17 38 54.7 -0.3**
GHWR S **Sn 17 38 54.7 -0.3**
NACGM Naroch 18.53 337 ⇓*i*P **Pn 17 35 29.8 +2.3**
comp=Z,195nm,3.3s,baz=148
BEL Belsk 18.60 322 *e*P **Pn 17 35 28.2 -0.1**
BEL *e*L L 17 45 30.0
comp=Z,4µm,17.1s
JAVC Velka Javorina 18.68 311 *e*P **Pn 17 35 30.4 +1.0**
MODS Modra-Piesok 18.71 309 *e*P **Pn 17 35 30.8 +1.1**
MODS pmax pmax
comp=Z,279nm,2.2s
MODS Modra-Piesok 18.71 309 *e*P **Pn 17 35 30.8 +1.1**
MAUC Maruska 18.82 313 *e*P **Pn 17 35 32.5 +1.5**
OKC Ostrava-Krasne 18.86 314 *e*S **S 17 39 07.1 +1.4**
OKC AMS AMS 17 44 30.0
comp=Z,2µm,13.4s
SHME Shamm 18.89 126 P **P 17 35 29.3 -2.1**
SNR=13
SHME P **P 17 35 29.3 -2.1**
SNR=13
SHME S **Sn 17 39 02.3 -1.4**
SHME S **Sn 17 39 02.3 -1.4**
SHME Shamm 18.89 126 P **P 17 35 30.3 -1.1**
SNR=16
IDID Didziasalis 18.90 338 *e*P **Pn 17 35 32.1 +0.3**
UMQ Umm Al-Quwin 18.96 128 P **P 17 35 31.8 -0.4**
UMQ S **S 17 39 11.0 +3.1**
RONA Rosalia, Austr 19.06 307 *e*Pn **Pn 17 35 34.4 +0.4**
comp=Z,8.4nm,0.7s,SNR=12
SUW Suwalki 19.07 330 *e*P **Pn 17 35 34.7 +0.7**
SUW Suwalki 19.07 330 *e*P **Pn 17 35 34.0 0.0**
BOJS Bojanci 19.10 300 *e*P **P 17 35 33.6 0.0**
STEB Steborice 19.12 314 *e*P **Pn 17 35 34.9 +0.3**
MORC Moravsky Berou 19.17 313 IAmb IAmb 17 35 37.5
comp=Z,182nm,2.0s
MORC Moravsky Berou 19.17 313 *e*P **P 17 35 34.7 +0.2**
MORC Moravsky Berou 19.17 313 ⇑P Pn 17 35 35.0 -0.3
MORC Moravsky Berou 19.17 313 P **Pn 17 35 35.0 -0.3**
MORC Moravsky Berou 19.17 313 ⇑P Pn 17 35 35.0 -0.3
MZWR Madinat Zayed 19.24 135 P **P 17 35 35.0 -0.3**
AJN Ajban 19.26 131 P **P 17 35 34.8 -0.7**
SNR=12
AJN S **S 17 39 14.0 0.0**
AJN Ajban 19.26 131 *i* P **P 17 35 35.2 -0.3**
SNR=12
ISAL Salakas 19.30 337 *e*P **Pn 17 35 36.6 -0.1**
NAZ Nazwa, Dubai 19.35 129 P **P 17 35 36.2 -0.3**
SNR=18
NAZ S **Sn 17 39 13.9 -0.9**
NAZ Nazwa, Dubai 19.35 129 *i* P **P 17 35 36.6 +0.1**
SNR=12
MASF Masafi 19.38 127 P **P 17 35 35.8 -1.0**
SNR=22
MASF S **Sn 17 39 13.6 -2.1**
MSFE Esma-Masafi 19.39 127 *i* P **P 17 35 36.0 -1.0**
SNR=27
CONA Conrad Observa 19.41 307 *e*Pn **Pn 17 35 38.3 0.0**
comp=Z,12nm,0.8s,SNR=32
ASUD Al Ashush, Dub 19.42 130 P **P 17 35 37.2 0.0**
SNR=10.0
ASUD P **P 17 35 37.2 0.0**
SNR=10.0
ASUD S **Sn 17 39 11.5 -4.9**
ASUD S **Sn 17 39 11.5 -4.9**
ASUD Al Ashush, Dub 19.42 130 *i* P **P 17 35 37.4 +0.1**
SNR=20
FAQ Al Faqa, Dubai 19.49 129 P **P 17 35 35.2 -2.8**
SNR=13
FAQ P **P 17 35 35.2 -2.8**
SNR=13
FAQ S **Sn 17 39 17.5 -0.7**
FAQ S **Sn 17 39 17.5 -0.7**
FAQ Al Faqa, Dubai 19.49 129 *i* P **P 17 35 37.7 -0.3**
SNR=10.0
VAE Valguarnera 19.51 275 P **Pn 17 35 40.5 +1.0**
comp=Z,31nm,0.9s,baz=125,slow=4.6,SNR=5.5
VAE LR LR 17 44 04.0
comp=Z,815nm,18.9s,baz=94,slow=40
VRAC Vranov 19.51 311 P **Pn 17 35 38.8 -0.6**
comp=Z,0.5nm,0.3s,baz=98,slow=13,SNR=18
VRAC LR LR 17 45 04.3
comp=Z,2µm,18.6s,baz=106,slow=43
comp=Z,11nm,0.8s
VRAC Vranov 19.51 311 *e*P **Pn 17 35 38.7 -0.6**
VRAC Vranov 19.51 311 ⇑P P 17 35 38.6 +0.5
MDH Madha 19.52 127 P **P 17 35 37.5 -0.8**
SNR=20
MDH P **P 17 35 37.5 -0.8**
SNR=20
MDH P **P 17 35 37.5 -0.8**
SNR=20
MDH S **Sn 17 39 14.8 -4.2**
MDH S **Sn 17 39 14.8 -4.2**
MDH S **Sn 17 39 14.8 -4.2**
MDH Madha 19.52 127 *i* P **P 17 35 37.6 -0.8**
SNR=25
KRUC Moravsky 19.53 310 *e*P **Pn 17 35 38.8 -0.7**
INTR Introdacqua 19.59 289 IAmb IAmb 17 35 45.6
comp=Z,170nm,1.5s
MZR Muzera 19.63 137 P **P 17 35 38.1 -1.5**
SNR=15
MZR S **S 17 39 18.3 -3.2**
MZR Muzera 19.63 137 *i* P **P 17 35 39.2 -0.5**
SNR=9.3
CEY Cerknica 19.71 300 *e*P **Pn 17 35 41.5 -0.3**
UOSS Minazif 19.72 128 **P 17 35 38.9 -1.6**
UOSS IAmb IAmb 17 35 52.1
comp=Z,56nm,0.8s
UOSS Minazif 19.72 128 P **P 17 35 39.9 -0.6**
UOSS P **P 17 35 39.9 -0.6**
UOSS P **P 17 35 39.9 -0.6**
UOSS S **S 17 39 19.3 -3.9**
UOSS S **S 17 39 19.3 -3.9**
UOSS S **S 17 39 19.3 -3.9**
UOSS Minazif 19.72 128 *i* P **P 17 35 40.0 -0.6**
SNR=36
UOSS Minazif 19.72 128 ⇑P P 17 35 39.1 -1.4
HATD Hatta, Dubai 19.76 128 P **P 17 35 41.1 +0.1**
SNR=24
HATD S **S 17 39 20.5 -3.6**
HATD Hatta, Dubai 19.76 128 *i* P **P 17 35 41.0 0.0**
SNR=38
ASHO Ashiyiah 19.82 129 P **P 17 35 41.6 -0.1**
SNR=38
ASHO P **P 17 35 41.6 -0.1**
SNR=38
ASHO S **S 17 39 23.9 -1.4**
ASHO S **S 17 39 23.9 -1.4**
ASHO Ashiyiah 19.82 129 *i* P **P 17 35 41.4 -0.3**
SNR=60
OBKA Obir 19.82 302 *e*P **Pn 17 35 42.6 -0.6**
OBKA Obir 19.82 302 *e*P **Pn 17 35 45.3 +2.1**
comp=Z,5.9nm,0.7s,SNR=7.6
PABE Paberze 19.95 334 P **P 17 35 42.8 0.0**
PABE IAmb IAmb 17 35 53.0
comp=Z,80nm,1.1s
PABE Paberze 19.95 334 *e*P **Pn 17 35 43.9 -0.5**
AQU L'Aquila 19.98 290 P **Pn 17 35 44.3 -0.7**
comp=Z,2µmcomp=Z,148nm,1.1s
AQU L'Aquila 19.98 290 ⇓P Pn 17 35 44.7 -0.2
GUMA Gualdo di Mace 20.07 292 IAmb IAmb 17 35 46.8
comp=Z,112nm,1.0s
ALNE Al Ain 20.10 130 P **P 17 35 44.8 +0.1**
SNR=30
ALNE P **P 17 35 44.8 +0.1**
SNR=30
ALNE S **S 17 39 29.0 -1.9**
ALNE S **S 17 39 29.0 -1.9**
ALNE Al Ain 20.10 130 *i* P **P 17 35 44.6 -0.1**
SNR=37
DPC Dobruska-Polom 20.14 314 *e*P **P 17 35 45.6 +0.6**
DPC *e*S Sn 17 39 35.2 +1.6
DPC AMS AMS 17 46 00.0
comp=Z,2µm,11.2s
DPC Dobruska-Polom 20.14 314 *e*P **P 17 35 45.6 +0.6**
DPC MLR MLR
comp=Z,2µm,11.2s
DPC Dobruska-Polom 20.14 314 P **P 17 35 45.5 +0.6**
comp=Z,915nmcomp=Z,35nm,1.7s
TREC Trest 20.16 310 *e*P Pn 17 35 46.4 -0.7
TREC Trest 20.16 310 *e*P Pn 17 35 46.4 -0.7
FDMO Fiordimonte 20.25 292 IAmb IAmb 17 35 54.4
comp=Z,92nm,0.9s
OSTC Ostas 20.30 314 AMS AMS 17 46 10.0
comp=Z,2µm,12.9s
UPC Upice 20.39 314 *e*P Pn 17 35 48.8 -0.9
UPC Upice 20.39 314 *e*P Pn 17 35 48.8 -0.9
KSP Ksiaz 20.39 315 *e*P **P 17 35 47.8 +0.1**
KSP Ksiaz 20.39 315 P **P 17 35 48.2 +0.5**
comp=Z,46nm,1.7s
MOA Molln 20.40 306 *e*Pn **P 17 35 48.7 +0.9**
comp=Z,17nm,0.7s,SNR=14
CHVC Chvalec 20.40 314 *e*P Pn 17 35 50.6 +0.7
CHVC AMS AMS 17 46 10.0
comp=Z,2µm,11.8s
CHVC Chvalec 20.40 314 *e*P Pn 17 35 50.6 +0.7
CHVC MLR MLR
comp=Z,2µm,11.8s
MYKA Terra Mystica 20.46 302 *e*Pn Pn 17 35 50.0 -0.6
comp=Z,16nm,0.8s
SOHO SOHO 20.51 129 P **P 17 35 49.0 -0.1**
SOHO P **P 17 35 49.0 -0.1**
SOHO P **P 17 35 49.0 -0.1**
SOHO S Sn 17 39 41.5 -1.4
SOHO S Sn 17 39 41.5 -1.4
SOHO S Sn 17 39 41.5 -1.4
SOHO SOHO 20.51 129 *i* P **P 17 35 48.8 -0.3**
SNR=24
CESX Cesi 20.60 290 P **P 17 35 48.6 -1.4**
CESX IAmb IAmb 17 35 58.8
comp=Z,147nm,1.2s
PTCC Patocco-Chiusa 20.60 301 ⇑P P 17 35 50.2 +0.2
CKRC Cesky Krumlov 20.70 308 *e*P Pn 17 35 52.2 -1.2
CKRC AMS AMS 17 46 00.0
comp=Z,2µm,15.8s
CKRC Cesky Krumlov 20.70 308 *e*P Pn 17 35 52.2 -1.2
CKRC MLR MLR
comp=Z,2µm,15.8s
BIOA Bad Ischl, Aus 20.75 305 *i* Pn Pn 17 35 52.9 -1.1
comp=Z,24nm,0.8s,SNR=15
KBA Koelnbreinsper 20.77 303 *i* Pn **P 17 35 52.7 +0.7**
comp=Z,15nm,0.7s,SNR=16
KBA Koelnbreinsper 20.77 303 ⇓P P 17 35 53.1 +1.0
UMZA Um Al Zommool 20.79 134 P **P 17 35 51.6 -0.5**
UMZA P **P 17 35 51.6 -0.5**
UMZA S **S 17 39 43.4 -1.1**
UMZA S **S 17 39 43.4 -1.1**
GOPC GO Pecny, Ondr 20.83 311 *e*P **P 17 35 53.3 +0.8**
GOPC AMS AMS 17 45 50.0
comp=Z,3µm,17.7s
GOPC GO Pecny, Ondr 20.83 311 *e*P **P 17 35 53.3 +0.8**
GOPC MLR MLR
comp=Z,3µm,17.7s
MGAB Montegabbione 20.96 291 ⇓P Pn 17 35 55.7 -0.7
ZVC Zvikov 21.00 310 *e*P **P 17 35 54.9 +0.6**
ZVC AMS AMS 17 46 10.0
comp=Z,2µm,13.5s
PRU Pruhonice 21.01 311 *e*P **P 17 35 55.6 +1.2**
PRU *e*S **S 17 39 49.4 +0.8**
PRU AMS AMS 17 46 00.0
comp=Z,3µm,15.9s
PRU Pruhonice 21.01 311 *e*P **P 17 35 55.6 +1.2**
PRU *e*S **S 17 39 49.4 +0.8**
PRU MLR MLR
comp=Z,3µm,15.9s
GEC2 GERESS Array S 21.08 308 IAmb IAmb 17 36 03.2
comp=Z,146nm,1.6s
GEC2 GERESS Array S 21.08 308 *e*P 17 35 56.0
comp=Z,161nm,1.7s,baz=111,slow=10
GERES GERESS Array B 21.08 308 P **P 17 35 55.3 0.0**
GERES GERESS Array B 21.08 308 P **P 17 35 55.6 +0.3**
comp=Z,15nm,0.8s,baz=112,slow=9.5,SNR=52
GERES LR LR 17 45 49.1
comp=Z,1µm,18.2s,baz=111,slow=42
comp=Z,15nm,0.8s
ARQ Araqi 21.10 130 P **P 17 35 55.5 -0.1**
SNR=34
ARQ S **S 17 39 48.9 -1.9**
PRA Prague 21.11 312 *e*P **P 17 35 57.8 +2.4**
PRA AMS AMS 17 46 00.0
comp=Z,3µm,16.4s
PRA Prague 21.11 312 *e*P **P 17 35 57.8 +2.4**
PRA MLR MLR
comp=Z,3µm,16.4s
GKP Gorka Klasztor 21.20 322 *e*P **P 17 35 57.7 +1.3**
GKP *e*L L 17 47 27.3
comp=Z,4µm,15.8s
ABTA Abfaltersbach 21.24 302 *i* Pn **P 17 35 58.9 +1.9**
comp=Z,8.0nm,0.8s,SNR=6.8
KHC Kasperske Hory 21.26 309 *e*P **P 17 35 57.4 +0.3**
KHC *e*pP **sP 17 36 03.5 +3.4**
KHC *e*S **S 17 39 55.5 +1.8**
KHC AMS AMS 17 46 00.0
comp=Z,2µm,14.1s
KHC Kasperske Hory 21.26 309 *e*P **P 17 35 57.4 +0.3**
KHC *e* 17 36 03.5
KHC *e*S **S 17 39 55.5 +1.8**
KHC MLR MLR
comp=Z,2µm,14.1s
KHC Kasperske Hory 21.26 309 P **P 17 35 57.1 -0.1**
comp=Z,733nmcomp=Z,37nm,2.1s
KHC Kasperske Hory 21.26 309 ⇓P P 17 35 57.5 +0.3
KIRV Kirov 21.30 15 P **P 17 35 56.5 -0.9**
comp=Z,36nm,0.7s,baz=236,slow=3.7,SNR=9.3
KIRV LR LR 17 45 21.7
comp=Z,3µm,19.2s,baz=205,slow=40
comp=Z,36nm,0.7s
KIRV Kirov 21.30 15*c* *i*P **P 17 35 56.6 -0.8**
LESA Schwarzleotal 21.30 304 *i* P **P 17 36 00.5 +2.9**
comp=Z,10nm,0.5s,SNR=8.0
RJOB Jochberg 21.31 305 *e*P 17 35 58.4
comp=Z,32nm,1.0s,baz=111,slow=10
HOQ Hoqqain 21.40 128 P **P 17 35 58.4 -0.4**
SNR=28
HOQ P **P 17 35 58.4 -0.4**
SNR=28
HOQ S **S 17 39 56.3 -0.4**
HOQ S **S 17 39 56.3 -0.4**
RICC Richard 21.50 313 AMS AMS 17 46 40.0
comp=Z,3µm,14.5s
TEOL Teolo 21.54 298 IAmb IAmb 17 36 16.8
comp=Z,104nm,1.1s
OSSC Osservatorio P 21.63 293 P **P 17 35 58.8 -2.3**
OSSC IAmb IAmb 17 36 16.8
comp=Z,108nm,1.3s
VSU Vasula 21.65 342 ⇓*i*P **P 17 36 01.6 +0.4**
VSU pmax pmax
comp=Z,72nm,0.8s
VSU Vasula 21.65 342 *e*P **P 17 36 00.9 -0.3**
VSU Vasula 21.65 342 ⇑P P 17 36 01.4 +0.3
CTI Castel Tesino 21.68 300 P **P 17 36 00.6 -1.1**
CTI IAmb IAmb 17 36 04.3
comp=Z,142nm,1.3s
CTI Castel Tesino 21.68 300 P **P 17 36 00.6 -1.1**
CTI pmax pmax
comp=Z,142nm,1.3s
WET Wettzell 21.70 308 *e*P 17 36 01.8
comp=Z,72nm,1.3s,baz=111,slow=10
BRG Berggiesshubel 21.73 313 *e*P **P 17 36 03.4 +1.3**
BRG Amp 17 36 06.4
comp=Z,20nm,1.0s
BRG PP **PnPn 17 36 22.5 -0.3**
BRG Amp 17 36 23.6
comp=Z,33nm,1.2s
BRG Berggiesshubel 21.73 313 S Sn 17 40 08.0 -3.7
BRG Berggiesshubel 21.73 313 *e*P 17 36 02.9
comp=Z,44nm,1.3s,baz=111,slow=10
HSKC Hora Svate Kat 21.91 312 *e*P **P 17 36 06.0 +1.9**
HSKC *e*S **S 17 40 09.9 +3.5**
HSKC AMS AMS 17 46 40.0
comp=Z,4µm,15.7s
WTTA Wattenberg 21.95 303 *i* P **P 17 36 06.1 +1.4**
comp=Z,31nm,0.7s,SNR=16
BIDO Bidbid 21.95 127 P **P 17 36 03.7 -1.0**
SNR=14
BIDO P **P 17 36 03.7 -1.0**
SNR=14
BIDO S **S 17 40 05.3 -2.1**
BIDO S **S 17 40 05.3 -2.1**
BSY Bisya 21.95 130 P **P 17 36 04.5 -0.3**
SNR=37
BSY S **S 17 40 09.2 +1.6**
WATA Walderalm 22.00 303 *i* pP pP 17 36 07.3 0.0
comp=Z,13nm,0.7s,SNR=22
ARTI Arti 22.11 29 P **P 17 36 04.5 -1.7**
ARTI IAmb IAmb 17 36 12.1
comp=Z,43nm,0.9s
ARTI Arti 22.11 29 P **P 17 36 05.1 -1.1**
comp=Z,22nm,0.8s,baz=232,slow=6.5,SNR=35
ARTI LR LR 17 45 58.6
comp=Z,2µm,21.7s,baz=220,slow=40
comp=Z,22nm,0.8s
ARTI Arti 22.11 29*d* *i*P **P 17 36 06.0 -0.2**
ARTI S **S 17 40 11.0 +0.9**
ARTI SS **SnSn 17 40 43.2 +7.0**
ARTI pmax pmax
comp=Z,96nm,1.9s
ARTI MLR MLR
comp=Z,2µm,20.0s
ARTI Arti 22.11 29 ⇑P P 17 36 05.0 -1.2
SQTA Sankt Quirin 22.22 302 *i* P **P 17 36 08.7 +1.2**
comp=Z,19nm,0.6s,SNR=15
SMDO Samad 22.24 128 P **P 17 36 07.5 -0.4**
SNR=32
SMDO P **P 17 36 07.5 -0.4**
SNR=32
SMDO S **S 17 40 13.3 +0.1**
SMDO S **S 17 40 13.3 +0.1**
MOTA Moosalm 22.32 303 *e*P **P 17 36 08.6 0.0**
comp=Z,38nm,0.9s
ROTZ Rotzenmuhle 22.32 309 *e*P 17 36 09.8
comp=Z,22nm,1.1s,baz=111,slow=10
NKC Novy Kostel 22.35 311 *e*P **P 17 36 11.1 +2.3**
NKC AMS AMS 17 46 20.0
comp=Z,3µm,16.0s
NKC Novy Kostel 22.35 311 *e*P **P 17 36 11.1 +2.3**
NKC *e* 17 36 11.2
NKC MLR MLR
comp=Z,3µm,16.0s
TANN Tannenbergstha 22.41 311 *e*P 17 36 09.9
comp=Z,54nm,1.4s,baz=111,slow=10
FUR Furstenfeldbru 22.41 305 *e*P 17 36 11.1
comp=Z,1µm,2.4s,baz=111,slow=10
CLL Collm 22.45 314 *i* P **P 17 36 09.8 0.0**
CLL *i* 17 36 17.6
CLL *e*S **S 17 40 19.0 +2.4**
CLL pmax pmax
comp=Z,35nm,1.1s
CLL Collm 22.45 314 P **P 17 36 10.8 +1.0**
comp=Z,32nm,1.5s
CLL Collm 22.45 314 *i* P **P 17 36 09.8 0.0**
comp=Z,35nm,1.1s
CLL *i* x x 17 36 17.6
comp=Z,31nm,1.0s
CLL *e*RPP 17 36 32.0
CLL *e*S **S 17 40 19.0 +2.4**
CLL *e*SSS SSS 17 41 00.0
CLL *e*SSSS 17 41 17.0
CLL AMS AMS 17 46 00.0
CLL LH 17 47 00.0
comp=N,1µm,18.2s
CLL LH 17 47 00.0
comp=E,2µm,18.2s
CLL Collm 22.45 314 *e*P 17 36 10.1
comp=E,23nm,1.0s,baz=111,slow=10
MANZ Manzenberg 22.46 310 *e*P 17 36 10.7
comp=E,5.4nm,0.9s,baz=111,slow=10
WSAR Wadi Sarin 22.47 127 LR LR 17 45 54.6
comp=E,32nm,20.0s,baz=334,slow=39
WSAR Wadi Sarin 22.47 127 P **P 17 36 10.1 -0.2**
SNR=10
FETA Feichten 22.49 302 *i* P **P 17 36 11.8 +1.2**
comp=E,12nm,0.7s,SNR=8.8
KLMR Klimovskoe 22.51 0 *e*P **P 17 36 07.0 -3.3**
KLMR S **S 17 40 09.7 -7.7**
KLMR pmax pmax
comp=Z,100nm,1.3s
KLMR MLR MLR
comp=Z,2µm,13.0s
RUE Ruedersdorf 22.55 317 *e*P **P 17 36 11.6 +0.8**
RETA Reutte 22.57 303 *i* P **P 17 36 12.0 +0.7**
comp=Z,2.9nm,0.3s,SNR=10
PLN Plauen 22.61 311 *e*P 17 36 11.8
comp=Z,11nm,1.2s,baz=111,slow=10
MTSE Matsula 22.64 339 *e*P **P 17 36 12.5 +0.8**
ARBE Arbavere 22.70 342 *e*P **P 17 36 15.2 +2.8**
FUORN Ofenpass-Fuorn 22.73 301 IAmb IAmb 17 36 23.8
comp=Z,57nm,1.1s
JMDO Jabal Madar 22.79 129 P **P 17 36 12.8 -0.9**
SNR=12
JMDO P **P 17 36 12.8 -0.9**
SNR=12
JMDO S **S 17 40 23.2 +0.1**
JMDO S **S 17 40 23.2 +0.1**
GRF Grafenberg Arr 22.90 309 *e*P 17 36 15.1
comp=Z,90nm,1.0s,baz=111,slow=10
GRF *e*L 17 46 46.1
comp=Z,1µm,18.8s

GRFO Grafenberg 22.90 309 P **P** **17 36 13.5 -1.1**
GRFO Grafenberg 22.90 309 P **P** **17 36 13.5 -1.1**
GRFO pmax pmax
comp=Z,305nm,1.6s
MOX Moxa 22.99 311 *e*P 17 36 16.6
comp=Z,47nm,1.4s,baz=111,slow=10
MOX *e*L 17 47 16.5
comp=Z,2μm,18.9s
DAVOX Davos/Dischmat 23.02 301 LR LR 17 46 45.9
comp=Z,3μm,18.2s,baz=88,slow=41
UBR Ueberruh 23.05 303 *e*P 17 36 16.1
comp=Z,65nm,1.3s,baz=111,slow=10
NEUB Neuenburg 23.11 313 *e*P 17 36 20.2
comp=Z,51nm,1.1s,baz=111,slow=10
DAVA Damuels 23.12 302 *i* P **P** **17 36 16.9 -0.2**
comp=Z,43nm,0.6s,SNR=23
DAVA Damuels 23.12 302 ⇓P **P** **17 36 16.6 -0.5**
VSL Villasalto 23.12 282 IAmb IAmb 17 36 27.0
comp=Z,88nm,1.1s
WBK Wadi Bani Khal 23.14 127 P **P** **17 36 16.9 -0.5**
SNR=13
WBK P **P** **17 36 16.9 -0.5**
SNR=13
WBK S **S** **17 40 30.5 +1.1**
WBK S **S** **17 40 30.5 +1.1**
SVE Sverdlovsk 23.30 31 *e*P **P** **17 36 19.1 +0.4**
SVE *e*S **S** **17 40 30.8 -0.7**
SVE pmax pmax
comp=Z,79nm,1.2s
SVE MLR MLR
comp=Z,2μm,14.0s
TUE Stuetta 23.32 300 IAmb IAmb 17 36 22.2
comp=Z,94nm,1.5s
TUE Stuetta 23.32 300 P **P** **17 36 19.2 0.0**
comp=Z,4μmcomp=Z,123nm,1.1s
TUE Stuetta 23.32 300 ⇓P **P** **17 36 19.4 +0.1**
SIMJ Simiganj 23.34 80 P **P** **17 36 14.2 -5.2**
CHM Chimkent 23.50 71 *e*P **P** **17 36 22.9 +2.1**
CHM Chimkent 23.50 71 *e*P **P** **17 36 22.9 +2.1**
DOK Doka 23.63 142 P **P** **17 36 20.3 -1.9**
SNR=6.5
DOK P **P** **17 36 20.3 -1.9**
SNR=6.5
DOK S **S** **17 40 38.3 +1.1**
DOK S **S** **17 40 38.3 +1.1**
BRLS Borolday 23.67 69 *e*P **P** **17 36 22.3 -0.2**
BRLS pmax pmax
comp=Z,29nm,2.0s
BLEU Blekinge 23.71 327 *e*P **P** **17 36 28.5 +5.8**
BLEU IAmb IAmb 17 36 29.0
comp=Z,18nm,0.8s
MHTO MHTO 23.75 131 P **P** **17 36 23.0 -0.4**
SNR=23
MHTO P **P** **17 36 23.0 -0.4**
SNR=23
MHTO S **S** **17 40 40.1 +0.8**
MHTO S **S** **17 40 40.1 +0.8**
JLN Jalan Bani Buh 23.76 127 P **P** **17 36 22.7 -0.7**
JLN P **P** **17 36 22.7 -0.7**
JLN P **P** **17 36 22.7 -0.7**
JLN S **S** **17 40 40.3 +1.0**
JLN S **S** **17 40 40.3 +1.0**
JLN S **S** **17 40 40.3 +1.0**
MEF Metsahovi 23.77 342 *e*P **P** **17 36 24.3 +1.0**
IUG Iuzhnay 23.82 71 *e*P **P** **17 36 25.9 +1.9**
IUG pmax pmax
comp=Z,29nm,1.1s
IUG Iuzhnay 23.82 71 *e*P **P** **17 36 25.9 +1.9**
comp=Z,30nm,1.1s
KEST Kesra 23.87 273 P **P** **17 36 23.3 -1.3**
KEST IAmb IAmb 17 36 29.7
comp=Z,64nm,0.8s
KEST Kesra 23.87 273 P **P** **17 36 24.9 +0.4**
comp=Z,74nm,1.0s,baz=65,slow=3.2,SNR=20
KEST LR LR 17 48 14.6
comp=Z,1μm,18.3s,baz=69,slow=43
comp=Z,74nm,1.0s
KEST Kesra 23.87 273 P **P** **17 36 25.5 +0.9**
SNR=9.0
KEST P **P** **17 36 25.5 +0.9**
SNR=9.0
KEST S **S** **17 40 42.4 +1.3**
KEST S **S** **17 40 42.4 +1.3**
FLTG Flechtingen 23.88 315 *e*P 17 36 25.0
comp=Z,54nm,1.5s,baz=111,slow=10
STU Stuttgart 23.91 305 IAmb IAmb 17 36 29.0
comp=Z,78nm,1.2s
STU Stuttgart 23.91 305 *e*P **P** **17 36 25.1 +0.4**
STU Stuttgart 23.91 305 *e*P 17 36 24.1
comp=Z,182nm,1.2s,baz=111,slow=10
UBBA Unterbreizbach 24.01 311 *e*P 17 36 26.5
comp=Z,73nm,1.7s,baz=111,slow=10
WHFO Wadi Hawf 24.06 144 P **P** **17 36 25.6 -0.8**
WHFO S **S** **17 40 45.5 +1.2**
GORT1 Trebel 24.12 316 *e*P 17 36 29.7
comp=Z,114nm,2.0s,baz=111,slow=10
KK31 Karatay Array 24.16 69 IAmb IAmb 17 36 31.6
comp=Z,25nm,0.8s
KK31 Karatay Array 24.16 69 *i* P **P** **17 36 27.7 +0.5**
KKAR Karatay Array 24.16 69 P **P** **17 36 26.9 -0.3**
KKAR Karatay Array 24.16 69 IAmb IAmb 17 36 31.6
comp=Z,26nm,0.8s
KKAR Karatay Array 24.16 69 P **P** **17 36 26.9 -0.3**
KKAR Karatay Array 24.16 69 ⇓P **P** **17 36 28.0 +0.8**
CLZ Clausthal 24.17 313 *e*P 17 36 27.8
comp=Z,33nm,1.1s,baz=111,slow=10
GTTG Gottingen 24.29 312 *e*P 17 36 28.8
comp=Z,37nm,1.0s,baz=111,slow=10
GAR Garm 24.30 79 IAmb IAmb 17 36 47.6
comp=Z,44nm,1.0s
DQM DQM 24.34 134 P **P** **17 36 28.1 -0.9**
SNR=8.4
DQM P **P** **17 36 28.1 -0.9**
SNR=8.4
DQM S **S** **17 40 48.4 -0.2**
DQM S **S** **17 40 48.4 -0.2**
ABTO Aybut 24.34 145 P **P** **17 36 28.4 -0.6**
ABTO S **S** **17 40 50.1 +1.4**
BFO Black Forest 24.36 304 P **P** **17 36 25.7 -3.3**
BFO Black Forest 24.36 304 P **P** **17 36 25.7 -3.3**
BFO pmax pmax
comp=Z,31nm,1.1s
BFO Black Forest 24.36 304 ⇑P **P** **17 36 29.7 +0.7**
BFO Black Forest 24.36 304 *e*P 17 36 29.4
comp=Z,127nm,1.9s,baz=111,slow=10
LUNU Lund 24.37 323 *e*P **P** **17 36 33.3 +4.4**
FINES FINESS Array B 24.48 345 P **P** **17 36 29.9 +0.1**
FINES FINESS Array B 24.48 345 P **P** **17 36 30.3 +0.5**
comp=Z,7.3nm,0.6s,baz=148,slow=10,SNR=34
FINES LR LR 17 48 15.4
comp=Z,2μm,19.8s,baz=154,slow=42
comp=Z,7.3nm,0.6s
FINES FINESS Array B 24.48 345 *i* P **P** **17 36 31.2 +1.3**
FINES pmax pmax
comp=Z,7.0nm,0.6s
FIA1 FINESS Array S 24.48 345 P **P** **17 36 30.4 +0.5**
BTK Batken 24.55 76 IAmb IAmb 17 36 52.5
comp=Z,96nm,1.9s
RBK Rabkut 24.62 143 P **P** **17 36 30.9 -0.7**
SNR=7.1
RBK S **S** **17 40 54.8 +1.5**
DZA Taraz 24.77 69 *e*P **P** **17 36 34.4 +1.7**
DZA Taraz 24.77 69 *e*P **P** **17 36 34.5 +1.7**
TNS Taunus Mts 24.77 309 *e*P 17 36 32.8
comp=Z,112nm,1.6s,baz=111,slow=10
DMTO DMTO 24.80 142 P **P** **17 36 32.7 -0.4**
DMTO S **S** **17 40 56.7 +0.7**
BNI Bardonecchia 25.01 296 ⇑P **P** **17 36 35.3 +0.3**
JOF Joensuu 25.03 352 *e*P **P** **17 36 35.8 +0.9**
BSEG Bad Segeberg 25.07 318 *e*P 17 36 36.3
comp=Z,191nm,2.3s,baz=111,slow=10
KASTN Kahler Asten 25.09 311 *e*P 17 36 36.4
comp=Z,62nm,1.0s,baz=111,slow=10
ECH Echery 25.10 303 IAmb IAmb 17 36 47.3
comp=Z,55nm,1.1s
ECH Echery 25.10 303 ⇑P **P** **17 36 35.4 -0.3**
RAF Rauma 25.14 340 *e*P **P** **17 36 36.6 +0.8**
OTUK Ortayu 25.92 57 P **P** **17 36 43.6 +0.5**
BRVK Borovoye 25.99 45 P **P** **17 36 41.7 -1.9**
BRVK Borovoye 25.99 45 P **P** **17 36 44.1 +0.5**
BRVK S **S** **17 41 16.2 +1.7**
BRVK S **S** **17 41 16.2 +1.7**
BRVK Borovoye 25.99 45*c* *i*P **P** **17 36 44.8 +1.2**
BRVK pmax pmax
comp=Z,44nm,1.9s

BRVK Borovoye 25.99 45 ⇓P **P** **17 36 44.5 +0.9**
BVA0 Borovoye Array 26.04 46 *i* P **P** **17 36 44.5 +0.4**
BVAR Borovoye Array 26.04 46 P **P** **17 36 44.7 +0.6**
comp=Z,7.0nm,0.8s,baz=247,slow=5.1,SNR=40
BVAR LR LR 17 48 39.9
comp=Z,2μm,21.8s,baz=252,slow=40
comp=Z,7.0nm,0.8s
WLF Walferdange 26.06 306 *d*P **P** **17 36 45.7 +1.5**
ARSB Arslanbob 26.06 73 IAmb IAmb 17 37 09.8
comp=Z,47nm,1.4s
BTNL Ternell 26.29 308 *d*P **P** **17 36 47.1 +0.6**
MEM Membach 26.37 308 *d*P **P** **17 36 47.9 +0.8**
BRZS Berezniki 26.49 53 *e*P **P** **17 36 49.9 +1.7**
BRZS Berezniki 26.49 53 *e*P **P** **17 36 49.1 +0.9**
SSB Saint Sauveur 26.53 296 IAmb IAmb 17 36 52.9
comp=Z,62nm,1.6s
VAF Ylistaro 26.64 343 *e*P **P** **17 36 50.0 +0.6**
RCHB Rochefort 26.75 307 *d*P **P** **17 36 51.8 +1.3**
BTLS Baital 26.76 64 *e*P **P** **17 36 52.8 +2.1**
BTLS Baital 26.76 64 *e*P **P** **17 36 52.9 +2.1**
BCLA Clavier 26.76 308 *d*P **P** **17 36 54.4 +3.8**
ATD Arta Tunnel 26.93 172 LR LR 17 47 47.9
comp=Z,145nm,18.5s,baz=356,slow=37
HFS Hagfors 27.07 332 P **P** **17 36 53.7 +0.4**
comp=Z,11nm,0.7s,baz=133,slow=10,SNR=16
HFS LR LR 17 50 04.8
comp=Z,3μm,18.9s,baz=134,slow=42
comp=Z,11nm,0.7s
BMRD Maredsous 27.07 307 *d*P **P** **17 36 55.5 +2.1**
AAK Ala-Archa 27.10 70 P **P** **17 36 53.0 -1.0**
AAK Ala-Archa 27.10 70 LR LR 17 50 27.8
comp=Z,946nm,20.4s,baz=287,slow=43
AAK Ala-Archa 27.10 70 P **P** **17 36 54.9 +0.9**
AAK S **S** **17 41 38.6 +6.0**
AAK Ala-Archa 27.10 70*de*P **P** **17 36 55.5 +1.5**
AAK pmax pmax
comp=Z,13nm,1.2s
AAK Ala-Archa 27.10 70 ⇑P **P** **17 36 57.1 +3.1**
DOU Dourbes 27.13 307 *d*P **P** **17 36 55.7 +1.7**
LOR Lormes 27.16 301 ⇑P **P** **17 36 56.0 +1.6**
SGDS Sogindy 27.17 68 *e*P **P** **17 36 56.6 +2.1**
SGDS Sogindy 27.17 68 *e*P **P** **17 36 56.6 +2.1**
TKM2 Tokmak 2 27.90 69 P **P** **17 37 01.6 +0.4**
KSH Kashi 28.56 76 P **P** **17 37 07.5 +0.5**
KSH S **S** **17 41 56.8 +1.3**
KSH pmax pmax
comp=Z,4.0nm,0.9s
KSH LR LR
comp=Z,2μm,22.3s
KSH LR LR
comp=Z,990nm,14.8s
KSH LR LR
comp=Z,1μm,21.3s
NB2 NORSAR Subarra 28.59 332 P **P** **17 37 06.9 0.0**
comp=Z,7.7nm,1.1s,baz=130,slow=9.3
NOA NORSAR Array B 28.59 332 P **P** **17 37 06.7 -0.2**
comp=Z,1.3nm,0.6s,baz=125,slow=9.3,SNR=9.0
NOA LR LR 17 51 01.2
comp=Z,2μm,18.4s,baz=140,slow=42
comp=Z,1.3nm,0.6s
AAA Alma-Ata 28.85 68 *e*P **P** **17 37 11.6 +2.2**
AAA Alma-Ata 28.85 68 *e*P **P** **17 37 11.7 +2.2**
CHKK Chushkaly 28.87 67 *e*P **P** **17 37 11.5 +1.9**
CHKK Chushkaly 28.87 67 *e*P **P** **17 37 11.6 +1.9**
TNSS Tian-Shan 28.88 69 *e*P **P** **17 37 11.4 +1.3**
TNSS Tian-Shan 28.88 69 *e*P **P** **17 37 11.4 +1.3**
APA Apatity 29.43 356 ⇓*i*P **P** **17 37 13.9 -0.3**
APA *i* 17 38 07.2
APA *i* S **S** **17 42 06.0 -2.3**
APA pmax pmax
comp=Z,7.0nm,1.3s
APA MLR MLR
comp=Z,2μm,20.0s
SATY Saty 29.95 68 *e*P **P** **17 37 20.7 +1.4**
SATY Saty 29.95 68 *e*P **P** **17 37 20.8 +1.4**
KURBB Kurchatov Arra 30.30 53 P **P** **17 37 23.0 +0.9**
comp=Z,22nm,0.7s,baz=265,slow=9.0,SNR=110
KURBB PcP **PcP** **17 40 21.7 -0.6**
comp=Z,3.3nm,0.7s,baz=260,slow=3.3,SNR=8.8
KURBB LR LR 17 51 35.9
comp=Z,2μm,18.8s,baz=294,slow=40
comp=Z,22nm,0.7s
KURK Kurchatov 30.37 53 P **P** **17 37 21.9 -0.9**
KURK IAmb IAmb 17 37 25.9
comp=Z,30nm,0.8s
KURK Kurchatov 30.37 53 P **P** **17 37 23.8 +1.1**
KURK S **S** **17 42 22.6 -0.9**
KURK Kurchatov 30.37 53*d* *i*P **P** **17 37 23.8 +1.1**
KURK pmax pmax
comp=Z,35nm,0.9s
KURK Kurchatov 30.37 53 ⇑P **P** **17 37 22.3 -0.4**
UZB Uzynbulak 30.39 68 *e*P **P** **17 37 25.5 +2.3**
UZB Uzynbulak 30.39 68 *e*P **P** **17 37 25.6 +2.3**
SHLS Shalkode 30.71 68 *e*P **P** **17 37 30.4 +4.4**
SHLS Shalkode 30.71 68 *e*P **P** **17 37 30.4 +4.4**
PDGK Podgornoye 30.71 68 P **P** **17 37 26.5 +0.4**
ARCES ARCESS Array B 32.07 351 P **P** **17 37 37.8 +0.2**
comp=Z,3.6nm,0.6s,baz=164,slow=6.1,SNR=18
ARCES LR LR 17 51 49.4
comp=Z,1μm,21.1s,baz=152,slow=39
comp=Z,3.6nm,0.6s
MAKZ Makanchi 32.32 61 P **P** **17 37 41.0 +1.0**
MAKZ Makanchi 32.32 61 ⇓P **P** **17 37 41.1 +1.1**
MK31 Makanchi Array 32.53 61*d* *i*P **P** **17 37 42.9 +1.0**
MKAR Makanchi Array 32.53 61 P **P** **17 37 41.2 -0.7**
MKAR Makanchi Array 32.53 61 P **P** **17 37 43.0 +1.1**
comp=Z,11nm,0.7s,baz=273,slow=6.8,SNR=70
MKAR PcP **PcP** **17 40 30.1 +1.6**
comp=Z,1.9nm,0.8s,baz=255,slow=2.4,SNR=3.6
MKAR LR LR 17 52 24.7
comp=Z,1μm,19.8s,baz=260,slow=39
comp=Z,11nm,0.7s
MKAR Makanchi Array 32.53 61 *i* P **P** **17 37 43.0 +1.1**
MKAR pmax pmax
comp=Z,11nm,0.7s
TAM Tamanrasset 32.62 251 P **P** **17 37 41.8 -1.2**
TAM Tamanrasset 32.62 251 P **P** **17 37 41.8 -1.2**
TAM pmax pmax
comp=Z,12nm,0.9s
EKA Eskdalemuir Ar 32.90 315 P **P** **17 37 46.0 +1.0**
comp=Z,2.7nm,0.8s,baz=106,slow=9.1,SNR=5.0
comp=Z,2.7nm,0.8s
EKA Eskdalemuir Ar 32.90 315 P **P** **17 37 46.0 +1.0**
ESDC Sonseca Array 33.27 286 P **P** **17 37 48.3 -0.2**
ESDC Sonseca Array 33.27 286 P **P** **17 37 47.4 -1.1**
comp=Z,10nm,0.9s,baz=67,slow=8.6,SNR=23
ESDC LR LR 17 52 47.0
comp=Z,716nm,18.1s,baz=85,slow=39
comp=Z,10nm,0.9s
ZSN Zaisan 34.27 60 *e*P **P** **17 37 59.1 +2.0**
ZSN pmax pmax
comp=Z,15nm,1.3s
ZSN Zaisan 34.27 60 *e*P **P** **17 37 59.1 +2.0**
comp=Z,15nm,1.3s
ZAA0 Zalesovo Array 34.59 48 IAmb IAmb 17 38 02.3
comp=Z,54nm,1.9s
ZALV Zalesovo Beam 34.59 48 P **P** **17 37 59.0 -0.8**
ZALV Zalesovo Beam 34.59 48 P **P** **17 37 59.7 0.0**
comp=Z,7.6nm,0.7s,baz=262,slow=8.4,SNR=27
ZALV LR LR 17 53 05.2
comp=Z,1μm,20.0s,baz=260,slow=38
comp=Z,7.6nm,0.7s
MDT Midelt 35.74 275 LR LR 17 54 05.4
comp=Z,280nm,19.1s,baz=80,slow=38
PESTR Estremoz 36.19 286 IAmb IAmb 17 38 16.9
comp=Z,26nm,0.9s
WMQ Urumqi 36.58 66 *e*P **P** **17 38 17.8 +0.8**
WMQ sP sP 17 38 24.9 +4.9
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ LR LR
comp=Z,2μm,17.1s
WMQ LR LR
comp=Z,1μm,17.1s
WMQ LR LR
comp=Z,850nm,19.3s
KMBO Kilima Mbogo 39.34 183 P **P** **17 38 36.0 -4.7**
KMBO Kilima Mbogo 39.34 183 P **P** **17 38 42.3 +1.6**
comp=Z,3.4nm,0.7s,baz=10,slow=10,SNR=8.4
KMBO LR LR 17 53 35.7
comp=Z,515nm,20.5s,baz=306,slow=34
comp=Z,3.4nm,0.7s
KMBO Kilima Mbogo 39.34 183 *i* P **P** **17 38 43.5 +2.8**
KMBO pmax pmax
comp=Z,2.0nm,0.2s

MBAR Mbarara 39.55 193 P **P** **17 38 40.9 -1.4**
MBAR IAmb IAmb 17 38 44.3
comp=Z,51nm,1.8s
MBAR Mbarara 39.55 193 P **P** **17 38 42.9 +0.5**
MBAR Mbarara 39.55 193 P **P** **17 38 40.9 -1.4**
MBAR pmax pmax
comp=Z,51nm,1.8s
NRIK Noril'sk 40.27 24 P **P** **17 38 47.2 -0.4**
NRIK IAmb IAmb 17 38 51.9
comp=Z,45nm,1.4s
NRIK Noril'sk 40.27 24 P **P** **17 38 48.7 +1.1**
comp=Z,11nm,1.1s,baz=245,slow=7.7,SNR=19
NRIK LR LR 17 57 43.3
comp=Z,1μm,19.8s,baz=236,slow=40
comp=Z,11nm,1.1s
NRIK Noril'sk 40.27 24*c* *i*P **P** **17 38 49.0 +1.4**
NRIK pmax pmax
comp=Z,38nm,1.4s
JMIC Jan Mayen 40.74 338 LR LR 17 57 45.5
comp=Z,500nm,18.8s,baz=108,slow=39
EVN Everest 40.86 90 ⇑P **P** **17 38 55.9 +2.1**
SPITS Spitsbergen Ar 41.03 353 P **P** **17 38 54.4 +0.5**
comp=Z,9.2nm,0.8s,baz=184,slow=6.7,SNR=5.3
SPITS LR LR 17 58 36.5
comp=Z,693nm,18.2s,baz=128,slow=40
comp=Z,9.2nm,0.8s
LSA Lhasa 43.48 85 P **P** **17 39 15.7 +0.7**
LSA pmax pmax
comp=Z,3.0nm,0.4s
BORG Borgarnes 43.56 327 LR LR 17 59 49.3
comp=Z,478nm,18.5s,baz=106,slow=40
GOMU GeErMu 43.79 75 P **P** **17 39 17.5 +0.3**
GOMU S **S** **17 45 46.9 -1.7**
GOMU pmax pmax
comp=Z,15nm,0.7s
GOMU LR LR
comp=Z,860nm,14.1s
GOMU LR LR
comp=Z,1μm,17.0s
GOMU LR LR
comp=Z,1μm,16.8s
MOY Mondy 44.40 52 *e*P **P** **17 39 22.8 +1.2**
MOY pmax pmax
comp=Z,39nm,1.9s
SCO Scoresbysund 44.77 335 P **P** **17 39 25.6 +1.5**
SCO IAmb IAmb 17 39 30.5
comp=Z,46nm,1.7s
SCO Scoresbysund 44.77 335 P **P** **17 39 25.6 +1.5**
SCO pmax pmax
comp=Z,46nm,1.7s
SCO Scoresbysund 44.77 335 *i* P **P** **17 39 28.1 +4.0**
DBG Daneborg 45.26 341 *i* P **P** **17 39 31.9 +3.9**
DBG IAmb IAmb 17 39 32.9
comp=Z,21nm,1.3s
ZAK Zakamensk 46.03 53 *e*P **P** **17 39 35.8 +1.2**
ZAK *e* 17 41 09.9
ZAK pmax pmax
comp=Z,11nm,1.5s
ZAK pmax pmax
comp=Z,6.0nm,1.4s
IRK Irkutsk 46.32 50 *e*P **P** **17 39 37.3 +0.6**
IRK pmax pmax
comp=Z,52nm,1.8s
GTA Gaotai 46.45 69 *e*P **P** **17 39 38.6 +0.5**
GTA sP sP 17 39 45.2 +4.1
GTA PcP **PcP** **17 41 14.6 +1.9**
GTA S **S** **17 46 29.4 +2.9**
GTA SS **SS** **17 49 48.2 -3.8**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA LR LR
comp=Z,870nm,21.4s
GTA LR LR
comp=Z,630nm,18.9s
GTA LR LR
comp=Z,540nm,18.5s
BRDH Bariadhala 47.25 94 LR LR 18 03 32.9
comp=Z,911nm,18.5s,baz=304,slow=41
NOR Nord 47.44 350 *i* P **P** **17 39 46.6 +1.5**
NOR IAmb IAmb 17 39 48.0
comp=Z,4.5nm,0.8s
SONM Songino Array 48.59 56 P **P** **17 39 53.0 -1.6**
SONM Songino Array 48.59 56 P **P** **17 39 55.4 +0.8**
comp=Z,4.1nm,0.7s,baz=281,slow=8.6,SNR=19
SONM PcP **PcP** **17 41 20.8 +0.6**
comp=Z,2.3nm,0.6s,baz=267,slow=2.7,SNR=5.9
SONM LR LR 18 02 54.9
comp=Z,3μm,18.1s,baz=292,slow=39
comp=Z,4.1nm,0.7s
PALK Pallekele 48.62 119 LR LR 18 02 02.4
comp=Z,800nm,19.5s,baz=318,slow=38
ULN Ulaanbaatar 49.01 56 P **P** **17 39 57.5 -0.4**
ULN IAmb IAmb 17 40 01.1
comp=Z,20nm,0.8s
ULN Ulaanbaatar 49.01 56 P **P** **17 39 59.2 +1.4**
ULN Ulaanbaatar 49.01 56*c* *i*P **P** **17 39 59.3 +1.4**
ULN pmax pmax
comp=Z,37nm,1.3s
ULN Ulaanbaatar 49.01 56 ⇓P **P** **17 39 59.1 +1.3**
SUMG Summit 50.18 337 P **P** **17 40 05.8 -0.9**
SUMG IAmb IAmb 17 40 13.8
comp=Z,25nm,1.5s
SUMG Summit 50.18 337 P **P** **17 40 05.8 -0.9**
SUMG pmax pmax
comp=Z,25nm,1.5s
SUMG Summit 50.18 337 *i* P **P** **17 40 10.0 +3.3**
SUMG IAmb IAmb 17 40 14.4
comp=Z,13nm,1.0s
LZH Lanzhou 50.62 71 *e*P **P** **17 40 11.9 +1.6**
LZH sP sP 17 40 19.5 +6.1
LZH S **S** **17 47 31.0 +5.4**
LZH pmax pmax
comp=Z,27nm,1.1s
LZH LR LR
comp=Z,1μm,16.7s
LZH LR LR
comp=Z,1μm,16.5s
LZH LR LR
comp=Z,1μm,17.5s
DBIC Dimbokro 50.72 243 P **P** **17 40 09.3 -1.8**
DBIC IAmb IAmb 17 40 14.5
comp=Z,48nm,1.6s
DBIC Dimbokro 50.72 243 P **P** **17 40 11.4 +0.4**
comp=Z,4.8nm,0.6s,baz=31,slow=6.6,SNR=6.9
DBIC LR LR 18 06 39.5
comp=Z,711nm,19.7s,baz=27,slow=42
comp=Z,4.8nm,0.6s
DBIC Dimbokro 50.72 243 ⇓P **P** **17 40 10.7 -0.3**
BOD Bodaibo 50.80 42 *e*P **P** **17 40 11.9 +0.8**
BOD pmax pmax
comp=Z,43nm,1.6s
NEEM North Greenlan 52.94 344 *i* P **P** **17 40 30.1 +2.9**
PZH PanZhiHua 53.25 83 P **P** **17 40 31.9 +1.9**
PZH S **S** **17 48 04.6 +2.8**
PZH ScS **ScS** **17 50 20.3 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,170nm,4.9s
PZH LR LR
comp=Z,340nm,16.5s
PZH LR LR
comp=Z,330nm,14.5s
PZH LR LR
comp=Z,540nm,25.0s
TIXI Tiksi 54.02 23 P **P** **17 40 34.6 -0.2**
TIXI Tiksi 54.02 23 LR LR 18 07 13.5
comp=Z,851nm,19.9s,baz=308,slow=40
TIXI Tiksi 54.02 23 ⇓*i*P **P** **17 40 36.5 +1.7**
TIXI pmax pmax
comp=Z,34nm,1.5s
BBTS Babate 54.22 260 LR LR 18 07 20.0
comp=Z,552nm,19.2s,baz=300,slow=40
LSZ Lusaka 54.34 193 P **P** **17 40 36.1 -1.8**
LSZ IAmb IAmb 17 40 40.6
comp=Z,19nm,1.1s
LSZ Lusaka 54.34 193 LR LR 18 04 25.5
comp=Z,2μm,18.6s,baz=20,slow=37
LSZ Lusaka 54.34 193 P **P** **17 40 36.1 -1.8**
LSZ pmax pmax
comp=Z,19nm,1.1s
LSZ Lusaka 54.34 193 ⇓P **P** **17 40 39.6 +1.7**
HHC Hu-ho-hao-te 54.36 63 *e*P **P** **17 40 39.7 +1.8**
HHC S **S** **17 48 22.6 +6.1**
HHC pmax pmax
comp=Z,19nm,0.9s

HHC				pmax	pmax		
	comp=Z,63nm,3.8s						
HHC				LR	LR		
	comp=Z,740nm,13.7s						
HHC				LR	LR		
	comp=Z,730nm,15.7s						
HHC				LR	LR		
	comp=Z,840nm,21.0s						
KMI	**Kunming**	**54.71**	**84**	P	**P**	**17 40 41.1**	**+0.3**
KMI				S	**S**	**17 48 21.0**	**-0.8**
KMI				ScS	**ScS**	**17 50 29.0**	**-2.2**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KMI				LR	LR		
	comp=Z,320nm,17.0s						
KMI				LR	LR		
	comp=Z,490nm,18.0s						
KMI				LR	LR		
	comp=Z,490nm,17.6s						
CHTO	**Chiang Mai**	**55.08**	**93**	P	**P**	**17 40 41.8**	**-1.4**
CHTO				IAmb	IAmb	17 40 51.8	
	comp=Z,27nm,1.9s						
CHTO	**Chiang Mai**	**55.08**	**93**	P	**P**	**17 40 41.8**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,27nm,2.0s						
CHTO	**Chiang Mai**	**55.08**	**93**	⇓P	**P**	**17 40 45.0**	**+1.8**
XAN	**Xi'an**	**55.26**	**72**	⇑P	**P**	**17 40 45.0**	**+0.6**
XAN				pP	sP	17 40 50.2	+2.7
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
SFJD	**Kangerlussuaq**	**55.26**	**331**	LR	LR	18 05 04.2	
	comp=Z,309nm,18.5s,baz=76,slow=37						
CMAR	**Chiang Mai Arr**	**55.27**	**93**	P	**P**	**17 40 42.5**	**-2.1**
CMAR	**Chiang Mai Arr**	**55.27**	**93**	P	**P**	**17 40 43.5**	**-1.2**
	comp=Z,3.6nm,0.8s,baz=298,slow=8.2,SNR=20						
CMAR				LR	LR	18 09 56.8	
	comp=Z,316nm,20.6s,baz=300,slow=42						
	comp=Z,3.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**55.27**	**93**	*i* P	**P**	**17 40 46.5**	**+1.8**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GYA	**Guiyang**	**57.10**	**81**	⇑P	**P**	**17 40 59.4**	**+1.6**
GYA				S	**S**	**17 48 53.5**	**+0.1**
GYA				pmax	pmax		
	comp=Z,15nm,0.7s						
GYA				LR	LR		
	comp=Z,630nm,17.7s						
YAK	**Yakutsk**	**57.21**	**34**	LR	LR	18 09 53.9	
	comp=Z,2μm,18.7s,baz=282,slow=41						
YAK	**Yakutsk**	**57.21**	**34**	*e*P	**P**	**17 40 58.2**	**+0.4**
YAK				*e*PP	**sP**	**17 41 04.5**	**+3.6**
YAK				*e*		17 43 04.8	
YAK				*e*S	**S**	**17 48 54.7**	**+1.1**
YAK				*e*		17 50 48.0	
YAK				*e*SS	**SS**	**17 52 45.3**	**+3.4**
YAK				pmax	pmax		
	comp=Z,21nm,2.2s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.9s						
YAK				pmax	pmax		
	comp=E,12nm,1.9s						
YAK				pmax	pmax		
	comp=Z,102nm,5.0s						
YAK				pmax	pmax		
	comp=N,70nm,5.2s						
YAK				pmax	pmax		
	comp=E,51nm,3.8s						
YAK				smax	smax		
	comp=E,200nm,8.3s						
YAK				smax	smax		
	comp=N,75nm,4.1s						
YAK				MLR	MLR		
	comp=Z,1μm,28.0s						
YAK				MLR	MLR		
	comp=N,464nm,20.0s						
YAK				MLR	MLR		
	comp=E,662nm,19.0s						
SLVN	**Son La**	**57.60**	**87**	P	**P**	**17 40 59.7**	**-1.6**
EUNU	**Eureka**	**58.04**	**350**	P	**P**	**17 41 03.6**	**0.0**
ZEA	**Zeya**	**59.16**	**44**	*e*P	**P**	**17 41 14.4**	**+2.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ZEA				MLR	MLR		
	comp=E,400nm,17.0s						
ZEA				MLR	MLR		
	comp=N,400nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,17.0s						
HEH	**HeiHe**	**60.72**	**47**	*e*P	**P**	**17 41 22.8**	**+0.4**
HEH				S	**S**	**17 49 41.4**	**+1.9**
HEH				pmax	pmax		
	comp=Z,13nm,1.1s						
HEH				LR	LR		
	comp=Z,2μm,17.7s						
HEH				LR	LR		
	comp=Z,750nm,18.0s						
HEH				LR	LR		
	comp=Z,1μm,17.2s						
TSUM	**Tsumeb**	**60.74**	**203**	LR	LR	18 08 05.7	
	comp=Z,2μm,20.3s,baz=14,slow=36						
CN2	**Changchun**	**62.42**	**55**	*e*P	**P**	**17 41 33.4**	**-0.6**
CN2				*e*S	**S**	**17 49 56.6**	**-4.8**
CN2				LR	LR		
	comp=Z,2μm,21.0s						
CN2				LR	LR		
	comp=Z,2μm,21.0s						
CN2				LR	LR		
	comp=Z,1μm,20.0s						
BNX	**BinXian**	**62.75**	**52**	P	**P**	**17 41 37.3**	**+1.1**
BNX				pmax	pmax		
	comp=Z,9.0nm,0.8s						
RES	**Resolute Bay**	**63.21**	**348**	LR	LR	18 10 06.0	
	comp=Z,274nm,20.0s,baz=28,slow=37						
FRB	**Frobisher Bay**	**63.41**	**332**	LR	LR	18 11 03.1	
	comp=Z,207nm,18.2s,baz=60,slow=38						
QIZ	**Qiongzhong**	**63.52**	**86**	P	**P**	**17 41 38.2**	**-3.4**
QIZ				S	**S**	**17 50 15.2**	**-0.5**
QIZ	**Qiongzhong**	**63.52**	**86**	SS	SS	17 54 24.5	+1.9
QIZ				LR	LR		
	comp=N,310nm,15.1s						
QIZ				LR	LR		
	comp=E,370nm,8.3s						
QIZ				LR	LR		
	comp=Z,390nm,20.6s						
NJ2	**Nanjing**	**63.54**	**69**	*e*P	**P**	**17 41 39.6**	**-2.0**
NJ2				pmax	pmax		
	comp=Z,31nm,0.6s						
NJ2				LR	LR		
	comp=Z,900nm,15.9s						
NJ2				LR	LR		
	comp=Z,1μm,15.0s						
NJ2				LR	LR		
	comp=Z,1μm,15.9s						
KLR	**Kul'dur**	**63.69**	**47**	LR	LR	18 14 46.3	
	comp=Z,896nm,18.0s,baz=300,slow=41						
KLR	**Kul'dur**	**63.69**	**47**	*c*eP	**P**	**17 41 43.2**	**+0.9**
KLR				pmax	pmax		
	comp=Z,22nm,1.8s						
LBTB	**Lobatse**	**64.32**	**194**	LR	LR	18 10 10.8	
	comp=Z,1μm,18.9s,baz=16,slow=36						
PSI	**Prapat**	**64.85**	**108**	LR	LR	18 11 45.9	
	comp=Z,422nm,20.1s,baz=300,slow=38						
SEY	**Seymchan**	**65.94**	**27**	LR	LR	18 16 29.0	
	comp=Z,932nm,18.0s,baz=330,slow=41						
SEY	**Seymchan**	**65.94**	**27**	⇑*e*P	**P**	**17 41 58.2**	**+1.4**
SEY				pmax	pmax		
	comp=Z,50nm,1.7s						
USRK	**Ussuriysk Ar.**	**66.34**	**52**	P	**P**	**17 42 00.4**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=306,slow=6.1,SNR=7.1						
USRK				LR	LR	18 15 46.0	
	comp=Z,561nm,18.3s,baz=310,slow=40						
	comp=Z,2.9nm,0.6s						
BILL	**Bilibino**	**66.78**	**19**	P	**P**	**17 42 02.5**	**+0.4**
BILL	**Bilibino**	**66.78**	**19**	*c*P	**P**	**17 42 03.7**	**+1.6**
BILL				pmax	pmax		
	comp=Z,24nm,1.3s						
KS19	**Wonju Array Si**	**67.14**	**60**	P	**P**	**17 42 04.5**	**-0.4**
KSAR	**Wonju Array Be**	**67.18**	**60**	P	**P**	**17 42 03.9**	**-1.2**
KSAR	**Wonju Array Be**	**67.18**	**60**	P	**P**	**17 42 03.9**	**-1.2**
KSRS	**Korea Array**	**67.20**	**60**	P	**P**	**17 42 05.3**	**0.0**
	comp=Z,9.7nm,0.8s,baz=294,slow=5.9,SNR=17						
KSRS				LR	LR	18 14 53.1	
	comp=Z,1μm,18.1s,baz=300,slow=39						
	comp=Z,9.7nm,0.8s						
MA2	**Magadan**	**67.38**	**31**	LR	LR	18 15 00.3	
	comp=Z,1μm,20.5s,baz=302,slow=39						
MA2	**Magadan**	**67.38**	**31**	*d* P	**P**	**17 42 08.4**	**+2.4**
MA2				pmax	pmax		
	comp=Z,36nm,1.5s						
SCHQ	**Schefferville**	**67.72**	**323**	P	**P**	**17 42 07.4**	**-0.9**
	comp=Z,8.0nm,0.6s,baz=40,slow=7.8,SNR=8.3						
SCHQ				LR	LR	18 12 27.5	
	comp=Z,215nm,18.2s,baz=74,slow=37						
	comp=Z,8.0nm,0.6s						
BOSA	**Boshof**	**67.89**	**193**	P	**P**	**17 42 09.4**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=7.3,slow=5.7,SNR=8.7						
BOSA				LR	LR	18 12 55.4	
	comp=Z,1μm,18.4s,baz=22,slow=37						
	comp=Z,5.8nm,0.8s						
SHEL	**Horse Pasture**	**68.47**	**227**	*i* P	**P**	**17 42 16.3**	**+2.8**
A36M	**Sachs Harbour**	**69.39**	**355**	P	**P**	**17 42 18.8**	**+0.4**
A36M				IAmb	IAmb	17 42 59.6	
	comp=Z,12nm,1.1s						
YSS	**Yuzhno-Sakhali**	**71.13**	**45**	*e*P	**P**	**17 42 30.5**	**+1.1**
YSS				*e*S	**S**	**17 51 47.9**	**+1.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				MLR	MLR		
	comp=Z,600nm,17.0s						
JNU	**Nakatsue**	**71.58**	**62**	P	**P**	**17 42 32.7**	**+0.2**
	comp=Z,7.7nm,0.8s,baz=349,slow=4.6,SNR=3.6						
JNU				LR	LR	18 18 39.5	
	comp=Z,457nm,18.0s,baz=314,slow=40						
	comp=Z,7.7nm,0.8s						
SUR	**Sutherland**	**72.43**	**196**	LR	LR	18 14 47.6	
	comp=Z,847nm,19.0s,baz=14,slow=36						
D24K	**Happy Valley**	**72.63**	**3**	IAmb	IAmb	17 42 42.7	
	comp=Z,44nm,1.9s						
ASAJ	**Asahikawa**	**72.72**	**47**	LR	LR	18 19 23.7	
	comp=Z,791nm,20.2s,baz=316,slow=40						
JOW	**Kunigami**	**73.26**	**69**	LR	LR	18 18 51.6	
	comp=Z,504nm,21.2s,baz=236,slow=39						
E28M	**Babbage River**	**73.34**	**359**	IAmb	IAmb	17 42 46.7	
	comp=Z,34nm,1.9s						
E22K	**Anaktuvuk Pass**	**73.50**	**4**	P	**P**	**17 42 42.2**	**-1.1**
INK	**Inuvik**	**73.50**	**357**	LR	LR	18 20 18.6	
	comp=Z,274nm,19.4s,baz=30,slow=40						
E29M	**Blow River**	**73.54**	**359**	IAmb	IAmb	17 42 48.5	
	comp=Z,26nm,1.4s						
E27K	**Coleen River**	**73.76**	**0**	IAmb	IAmb	17 42 48.2	
	comp=Z,43nm,1.9s						
E25K	**Arctic Village**	**73.77**	**2**	IAmb	IAmb	17 42 49.3	
	comp=Z,50nm,1.9s						
F26K	**Sheenjek River**	**74.23**	**1**	IAmb	IAmb	17 42 52.5	
	comp=Z,33nm,1.9s						
F30M	**Barrier River**	**74.27**	**358**	IAmb	IAmb	17 43 38.2	
	comp=Z,21nm,1.5s						
F24K	**Squaw Lake**	**74.30**	**3**	IAmb	IAmb	17 42 52.7	
	comp=Z,44nm,2.0s						
F31M	**Tsiigehtchic**	**74.37**	**357**	IAmb	IAmb	17 43 16.6	
	comp=Z,22nm,1.0s						
MJAR	**Matsushiro Arr**	**74.54**	**56**	P	**P**	**17 42 50.3**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=313,slow=6.0,SNR=7.8						
MJAR				LR	LR	18 18 28.8	
	comp=Z,682nm,20.2s,baz=316,slow=38						
	comp=Z,4.0nm,0.8s						
PETK	**Petropavlovsk-**	**74.54**	**33**	LR	LR	18 18 39.1	
	comp=Z,621nm,19.8s,baz=314,slow=38						
G31M	**Satah River**	**74.91**	**357**	IAmb	IAmb	17 42 53.9	
	comp=Z,47nm,1.9s						
TGY	**Tagaytay City**	**75.03**	**84**	LR	LR	18 22 08.0	
	comp=Z,147nm,18.1s,baz=282,slow=41						
FCC	**Fort Churchill**	**75.69**	**337**	IAmb	IAmb	17 43 22.4	
	comp=Z,16nm,1.4s						
H27K	**Steamboat Moun**	**75.73**	**0**	IAmb	IAmb	17 43 01.9	
	comp=Z,44nm,1.9s						
H21K	**Melozitna Rive**	**75.89**	**5**	IAmb	IAmb	17 43 00.7	
	comp=Z,28nm,1.8s						
STKI	**Sintang**	**76.17**	**101**	P	**P**	**17 43 01.2**	**+1.6**
	comp=Z,14nm,1.2s						
I28M	**Miner Creek**	**76.51**	**360**	IAmb	IAmb	17 43 04.5	
	comp=Z,31nm,1.8s						
COLA	**College**	**76.94**	**3**	⇓*i* P	**P**	**17 43 05.2**	**+2.1**
COLA				pmax	pmax		
	comp=Z,27nm,1.6s						
ILAR	**Eielson Array**	**77.08**	**3**	P	**P**	**17 43 03.0**	**-1.0**
ILAR	**Eielson Array**	**77.08**	**3**	P	**P**	**17 43 04.4**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=333,slow=3.0,SNR=6.6						
ILAR				LR	LR	18 21 44.9	
	comp=Z,169nm,20.2s,baz=340,slow=39						
	comp=Z,0.7nm,0.9s						
YKA	**Yellowknife Ar**	**77.28**	**348**	P	**P**	**17 43 03.8**	**-1.3**
YKA	**Yellowknife Ar**	**77.28**	**348**	P	**P**	**17 43 05.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=26,slow=5.7,SNR=11						
YKA				LR	LR	18 19 12.2	
	comp=Z,306nm,20.1s,baz=6.0,slow=37						
	comp=Z,0.7nm,0.6s						
J19K	**Poorman**	**77.30**	**7**	IAmb	IAmb	17 43 08.5	
	comp=Z,46nm,1.9s						
J30M	**Hart River**	**77.33**	**358**	IAmb	IAmb	17 43 09.7	
	comp=Z,21nm,1.4s						
WRGLY	**Wrigley**	**77.79**	**352**	IAmb	IAmb	17 43 12.2	
	comp=Z,21nm,1.3s						
DAWY	**Dawson**	**77.89**	**359**	IAmb	IAmb	17 43 12.6	
	comp=Z,25nm,1.6s						
K24K	**Donnelly Dome**	**78.09**	**2**	IAmb	IAmb	17 43 13.5	
	comp=Z,21nm,1.0s						
KTH	**Kanthishna Hill**	**78.10**	**5**	IAmb	IAmb	17 43 25.8	
	comp=Z,38nm,1.8s						
CAST	**Castle Rocks**	**78.16**	**5**	IAmb	IAmb	17 43 14.4	
	comp=Z,13nm,1.0s						
DOT	**Dot Lake**	**78.29**	**1**	IAmb	IAmb	17 43 26.4	
	comp=Z,38nm,1.8s						
L29M	**L29M**	**78.84**	**359**	IAmb	IAmb	17 43 18.2	
	comp=Z,28nm,1.7s						
BCAR	**Beaver Creek A**	**78.90**	**0**	P	**P**	**17 43 14.7**	**+0.5**
M27K	**Edge Creek, AK**	**79.61**	**0**	IAmb	IAmb	17 43 55.5	
	comp=Z,36nm,1.7s						
SADO	**Sadowa**	**80.29**	**320**	LR	LR	18 20 57.4	
	comp=Z,558nm,18.0s,baz=78,slow=37						
N19K	**Bonanza Creek**	**80.54**	**7**	P	**P**	**17 43 22.3**	**-0.8**
SHEM	**Shemya Is, Ala**	**81.21**	**26**	LR	LR	18 24 51.7	
	comp=Z,500nm,18.1s,baz=321,slow=40						
FFC	**Flin Flon**	**81.45**	**338**	P	**P**	**17 43 25.2**	**-2.7**
FFC	**Flin Flon**	**81.45**	**338**	P	**P**	**17 43 25.3**	**-2.7**
FFC				pmax	pmax		
	comp=Z,15nm,1.5s						
RCBR	**Riachuelo**	**81.97**	**256**	LR	LR	18 22 41.0	
	comp=Z,106nm,18.2s,baz=55,slow=38						
MPSI	**Mapaga**	**82.55**	**95**	P	**P**	**17 43 33.4**	**-1.0**
DAV	**Davao City (W)**	**82.88**	**87**	LR	LR	18 26 20.1	
	comp=Z,333nm,18.3s,baz=332,slow=40						
JCJ	**Chichijima**	**83.01**	**61**	LR	LR	18 23 44.4	
	comp=Z,294nm,19.8s,baz=316,slow=38						
DLBC	**Dease Lake**	**83.12**	**354**	LR	LR	18 26 03.5	
	comp=Z,259nm,18.5s,baz=18,slow=40						
ULM	**Lac du Bonnet**	**83.27**	**333**	P	**P**	**17 43 38.1**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=37,slow=4.0,SNR=6.8						
ULM				LR	LR	18 22 05.6	
	comp=Z,342nm,18.6s,baz=18,slow=37						
	comp=Z,3.6nm,0.7s						
KDAK	**Kodiak Island**	**83.70**	**6**	LR	LR	18 25 45.9	
	comp=Z,148nm,19.2s,baz=208,slow=39						
COWI	**Conover**	**83.96**	**327**	IAmb	IAmb	17 43 49.1	
	comp=Z,13nm,0.9s						
KAPI	**Kappang**	**85.76**	**100**	LR	LR	18 26 21.3	
	comp=Z,144nm,19.7s,baz=288,slow=39						
MDP	**Montagnes des**	**88.26**	**275**	LR	LR	18 22 50.7	
	comp=Z,185nm,20.5s,baz=72,slow=35						
BBB	**Bella Bella**	**89.13**	**352**	LR	LR	18 26 15.7	
	comp=Z,172nm,21.6s,baz=18,slow=37						
TKL	**Tuckaleechee C**	**89.37**	**317**	LR	LR	18 26 08.2	
	comp=Z,240nm,19.6s,baz=47,slow=37						
SJG	**San Juan**	**90.34**	**293**	LR	LR	18 20 50.4	
	comp=Z,116nm,21.9s,baz=38,slow=33						
NEW	**Newport**	**91.19**	**344**	LR	LR	18 27 53.0	
	comp=Z,217nm,19.6s,baz=17,slow=37						
YNE	**Yellowstone No**	**92.46**	**339**	IAmb	IAmb	17 44 31.3	
	comp=Z,12nm,1.5s						
GUMO	**Guam**	**93.61**	**70**	LR	LR	18 31 44.2	
	comp=Z,113nm,19.4s,baz=1.0,slow=39						
FXWY	**Fox Creek**	**94.01**	**339**	IAmb	IAmb	17 44 34.0	
	comp=Z,12nm,1.8s						
PCRV	**Puerto La Cruz**	**94.34**	**286**	LR	LR	18 26 02.6	
	comp=Z,89nm,20.6s,slow=35						
BDFB	**Brasília**	**97.35**	**256**	LR	LR	18 31 24.3	
	comp=Z,371nm,18.5s,baz=83,slow=37						
FITZ	**Fitzroy Crossi**	**98.36**	**106**	LR	LR	18 32 31.0	
	comp=Z,150nm,20.0s,baz=310,slow=37						
YBH	**Yreka Blue Hor**	**98.57**	**346**	LR	LR	18 33 15.7	
	comp=Z,170nm,19.4s,baz=11,slow=38						
SDV	**Santo Domingo**	**99.66**	**289**	LR	LR	18 27 33.7	
	comp=Z,142nm,20.5s,baz=60,slow=34						
SYO	**Syowa Base**	**107.06**	**180**	⇓*es*Pdiff	**Pdif**	**17 45 32.6**	**+5.9**
PLCA	**Paso Flores**	**127.08**	**244**	PKP	**PKiKP**	**17 50 15.4**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=74,slow=3.9,SNR=4.4						
QSPA	**South Pole Qui**	**128.20**	**180**	PKP	**PKPdf**	**17 50 16.2**	**-0.3**
	comp=Z,2.1nm,1.0s,baz=220,slow=0.4,SNR=11						
DZM	**Mont Dzumac**	**132.29**	**86**	*e*LR	LR	18 32 26.8	
	comp=Z,245nm,22.8s						
TAOE	**Nuku Hiva Isla**	**150.60**	**359**	*e*LR	LR	18 40 59.8	
	comp=Z,268nm,22.3s						
PPT2	**Papeete2**	**157.94**	**23**	*e*LR	LR	18 44 19.6	
	comp=Z,320nm,23.5s						
PPT2				*e*LR	LR	18 44 24.8	
	comp=Z,238nm,24.8s						
TBI	**Tubuai**	**163.32**	**29**	*e*LR	LR	18 46 47.8	
	comp=Z,989nm,33.8s						
TBI				*e*LR	LR	18 46 47.8	
	comp=Z,2μm,28.5s						
RKT	**Rikitea**	**163.98**	**340**	*e*LR	LR	18 47 14.1	
	comp=Z,2μm,29.2s						

AUST 04 17:40:15.2±0.8, 17°S±6°×12°2E±°, h10km, mb3.7/11, ML2.5/2, Error ellipse: s-maj=14.7km s-min=9.6km az=134.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**3.36**	**104**	P	Pn	17 41 09.3	+1.4
FITZ				S	Sn	17 41 47.6	-0.2
KNRA	**Kununurra**	**6.50**	**76**	P	Pn	17 41 52.2	+1.2
	comp=Z,0.0nmcomp=Z,20nm,1.6s						
KNRA				S	Sn	17 42 58.6	-6.6
WRKA	**Warakurna**	**9.54**	**145**	P	Pn	17 42 32.8	0.0
	comp=Z,0.0nmcomp=Z,18nm,2.4s						
WRKA	**Warakurna**	**9.54**	**145**	S	Sn	17 44 14.3	-5.9
MTN	**Manton Dam**	**9.70**	**64**	P	Pn	17 42 35.0	0.0
	comp=Z,0.2nmcomp=Z,59nm,2.4s						
MTN	**Manton Dam**	**9.70**	**64**	S	Sn	17 44 16.5	-7.6
MEEK	**Meekatharra**	**9.85**	**199**	P	Pn	17 42 36.2	-0.8
	comp=Z,0.1nmcomp=Z,19nm,2.4s						
MEEK	**Meekatharra**	**9.85**	**199**	S	Sn	17 44 16.7	-11
KDU	**Kakadu**	**10.94**	**66**	P	Pn	17 42 50.3	-1.6
KDU	**Kakadu**	**10.94**	**66**	S	Sn	17 44 43.1	-11
AS05	**Alice Springs**	**12.67**	**122**	P	Pn	17 43 15.0	-0.6
	comp=Z,4.1nm,1.1s						
AS01	**Alice Springs**	**12.68**	**122**	P	Pn	17 43 16.9	+1.1
	comp=Z,3.6nm,1.1s						
AS06	**Alice Springs**	**12.69**	**122**	P	Pn	17 43 15.6	-0.3
	comp=Z,3.9nm,1.8s						
AS08	**Alice Springs**	**12.69**	**122**	P	Pn	17 43 16.3	+0.3
	comp=Z,3.8nm,1.6s						
AS07	**Alice Springs**	**12.70**	**122**	P	Pn	17 43 15.0	-1.0
	comp=Z,3.1nm,1.3s						
AS19	**Alice Springs**	**12.71**	**122**	P	Pn	17 43 16.7	+0.5
	comp=Z,5.5nm,2.1s						
AS17	**Alice Springs**	**12.71**	**122**	P	Pn	17 43 16.5	+0.2
	comp=Z,3.6nm,1.6s						

*IDC **04** 17:44:12.7±1.2, 37°.23N×142°.29E, h0km, mb3.6/6, mbtmp3.7/9, ML3.4/3, Error ellipse: s-maj=27.3km s-min=19.4km az=103.0*

*NIED **04** 17:44:15.7, 37°.23N×142°.16E, h37km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}1.08; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-1.09; $M_{r\theta}$-1.05; $M_{\theta\phi}$0.20; $M_{\phi r}$2.54; Fault plane solution: $M_0$2.96000×10^14^ NP1: ϕ_s182.00000°, δ12.00000°, λ113.00000°. NP2: ϕ_s338.00000°, δ79.00000°, λ85.00000°.*

*JMA **04** 17:44:15.7±0.2, 37°.2N±0°.6×14°2E±°, h37km±4km, MV3.7/38, E OFF FUKUSHIMA PREF*

ISC 04 17:44:12.9±3.8, 37°.24N±0°.05×142°.23E±0°.06, h3km±24km, n32, σ1§69/35, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.09**	**277**	P	**Pb**	**17 44 34.0**	**-0.4**
JFK				*e*S	**Sb**	**17 44 46.9**	**-2.1**
ONAJ	**Iwakimizuishiy**	**1.15**	**263**	P	**Pn**	**17 44 34.8**	**-1.2**
JMST	**Minamisoumatoc**	**1.17**	**295**	P	**Pn**	**17 44 35.4**	**-0.8**
JMST				*e*S	**Sb**	**17 44 49.3**	**-2.0**
JMM	**Marumori**	**1.30**	**299**	P	**Pn**	**17 44 37.7**	**-0.2**
JMM	**Marumori**	**1.30**	**299**	P	**Pn**	**17 44 37.4**	**-0.6**
JFFD	**Fukushimafurud**	**1.34**	**264**	*i* P	**Pn**	**17 44 37.7**	**-0.8**
JIO	**Ouri**	**1.40**	**330**	P	**Pn**	**17 44 38.9**	**-0.4**
JOTO	**OTAMA OYAMA**	**1.54**	**282**	*i* P	**Pn**	**17 44 41.6**	**+0.3**
JOTO				S	**Sn**	**17 45 00.1**	**-1.8**
JOU	**Okura**	**1.67**	**313**	P	**Pn**	**17 44 43.6**	**+0.5**
JOU				S	**Sn**	**17 45 04.0**	**-1.0**
JYS	**Shiratake**	**1.98**	**300**	P	**Pn**	**17 44 48.8**	**+1.6**
JYS				*e*S	**Sn**	**17 45 12.7**	**+0.2**
JFY	**Yanaizu**	**2.02**	**275**	P	**Pn**	**17 44 48.6**	**+0.7**
JFY				*e*S	**Sn**	**17 45 12.7**	**-0.9**
JYK	**Kaneyama**	**2.23**	**319**	P	**Pn**	**17 44 51.5**	**+0.8**
JSD	**Sado**	**3.25**	**285**	P	**Pn**	**17 45 06.4**	**+1.7**
MJAR	**Matsushiro Arr**	**3.30**	**259**	**Pn**	**Pn**	**17 45 07.6**	**+2.1**
	1.2nm,0.3s,baz=89,slow=15,SNR=44						
MJAR				Sn	**Sn**	**17 45 48.6**	**+3.4**
	0.6nm,0.3s,baz=100,slow=39,SNR=6.6						
	7.0nm,0.3s						
MAJO	**Matsushiro**	**3.30**	**259**	P	**Pn**	**17 45 08.2**	**+2.7**
JGF	**Kuroka**	**4.26**	**249**	P	**Pn**	**17 45 22.0**	**+3.3**
JHJ2	**Mitsune**	**4.57**	**206**	P	**Pn**	**17 45 24.3**	**+1.4**
JHJ	**Hachijo jima 2**	**4.58**	**207**	Pn	**Pn**	**17 45 23.5**	**+0.5**
	15nm,0.3s,baz=342,slow=22,SNR=6.9						
JHJ				Sn	**Sn**	**17 46 13.7**	**-3.0**
	14nm,0.3s,baz=83,slow=22,SNR=1.5						
	86nm,0.6s						
INU	**Inuyama**	**4.62**	**247**	P	**Pn**	**17 45 27.3**	**+3.8**
ASAJ	**Asahikawa**	**6.87**	**2**	Pn	**Pn**	**17 45 55.9**	**+1.4**
	0.8nm,0.3s,baz=200,slow=17,SNR=14						
ASAJ				Sn	**Sn**	**17 47 14.3**	**+1.1**
	0.3nm,0.3s,baz=202,slow=19,SNR=1.2						
	2.6nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.70**	**122**	T	T	18 19 17.8	
	baz=315,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**27.71**	**122**	T	T	18 19 06.4	
	baz=315,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**27.72**

KSHT	Keshet	0.50	149	P	Pn	17 52 28.3	-0.6
KSHT	Keshet	0.50	149	S	Sn	17 52 35.9	-0.8
BHL	Bhannes	0.51	14	eP	Pb	17 52 28.3	+0.3
ZAHL	Zahle	0.55	35	eP	Pb	17 52 29.2	+0.5
OFRI	`Ofer	0.90	209	P	Pn	17 52 34.2	-0.4
OFRI	`Ofer	0.90	209	S	Sb	17 52 46.8	+0.6
HWQ	Hawqa	0.94	23	eP	Pb	17 52 35.8	+0.5
MMLI	Mount Malkishu	0.97	184	P	Pn	17 52 35.5	0.0
MMLI	Mount Malkishu	0.97	184	S	Sb	17 52 48.9	+0.6
HMDT	Nahal Hemdat	1.15	179	P	Pb	17 52 38.8	0.0
HMDT	Nahal Hemdat	1.15	179	S	Sb	17 52 54.7	+1.3
SLTI	Sal'it	1.23	199	P	Pb	17 52 39.9	-0.3
SLTI	Sal'it	1.23	199	S	Sb	17 52 57.0	+1.4

*NEIC **04** 17:59:07.3±0.9, 19°.33N±0°.01×155°.142W±0°.007, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=145.0*

HVO 04 17:59:06.8±0.7, 19°.336N±0°.010×155°.13W±0°.01, h6km±5km, ML2.6/37, ML2.6/40(NEIC), Error ellipse: s-maj=2.0km s-min=1.0km az=128.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	Steam Cracks	0.05	4	Pg	Pg	17 59 08.7	+0.4
STCH				IAML		17 59 10.4	
	comp=E,8μm,0.3s						
KNHH	Kane Nui o Ham	0.06	319		Pg	17 59 08.9	+0.4
PUH	Pauahi	0.09	295		Pg	17 59 09.3	+0.4
PUH					Sg	17 59 11.3	+0.8
PUH				IAML		17 59 11.5	
	comp=E,4μm,0.2s						
PUH				IAML		17 59 11.5	
	comp=N,3μm,0.2s						
KKO	Keanakako'i	0.14	295		Pg	17 59 10.2	+0.4
KKO					Sg	17 59 12.8	+0.9
BYL	Byron's Ledge	0.14	301		Pg	17 59 10.2	+0.3
BYL					Sg	17 59 12.8	+0.9
BYL				IAML		17 59 13.2	
	comp=N,2μm,0.3s						
BYL				IAML		17 59 15.2	
	comp=E,2μm,0.3s						
RIM	Rim	0.15	293		Pg	17 59 10.3	+0.4
RIM					Sg	17 59 12.9	+0.8
HATHI	Halema'uma'u T	0.15	305		Pg	17 59 10.3	+0.3
HATHI					Sg	17 59 12.9	+0.7
JOKA	Jonika Flow	0.15	50		Pg	17 59 10.1	+0.1
JOKA					Sg	17 59 12.8	+0.7
JOKA	Jonika Flow	0.15	50	IAML		17 59 13.1	
	comp=E,576nm,0.4s						
JOKA				IAML		17 59 15.2	
	comp=N,1μm,0.3s						
SBLHI	Steaming Bluff	0.16	305		Pg	17 59 10.3	+0.2
SBLHI					Sg	17 59 13.5	+1.1
SDHHI	Sand Hill	0.17	289		Pg	17 59 10.5	+0.3
UWB	Uwekahuna Bluf	0.17	302		Pg	17 59 10.4	+0.2
UWB					Sg	17 59 13.3	+0.7
OBL	Observatory Le	0.17	299		Pg	17 59 10.6	+0.3
HLP	Hilina Pali	0.17	257		Sg	17 59 14.0	+1.3
HLP	Hilina Pali	0.17	257		Pg	17 59 10.8	+0.5
HLP				IAML		17 59 14.3	
	comp=E,1μm,0.3s						
HLP				IAML		17 59 15.3	
	comp=N,1μm,0.2s						
WRMHI	West Rim	0.18	294		Pg	17 59 10.6	+0.2
WRMHI					Sg	17 59 13.5	+0.6
UWE	Uwekahuna	0.18	299		Sg	17 59 13.7	+0.8
UWE	Uwekahuna	0.18	299		Pg	17 59 10.7	+0.3
UWE				IAML		17 59 16.1	
	comp=E,965nm,0.6s						
UWE				IAML		17 59 16.2	
	comp=N,1μm,0.7s						
RSD	Rainshed	0.19	312		Pg	17 59 10.9	+0.3
RSD					Sg	17 59 14.2	+1.0
HTC	Hot Caves	0.27	249		Pg	17 59 12.7	+0.5
MLH	Mauna Loa	0.29	303		Pg	17 59 12.7	+0.2
MLH	Mauna Loa	0.29	303	IAML		17 59 20.8	
	comp=E,646nm,0.2s						
MLH				IAML		17 59 23.2	
	comp=N,786nm,0.3s						
HMH	Humu'ula Sheep	0.43	309		Sg	17 59 22.2	+1.4
HMH	Humu'ula Sheep	0.43	309		Pg	17 59 15.1	-0.1
HMH				IAML		17 59 22.7	
	comp=N,3μm,0.3s						
HMH				IAML		17 59 22.8	
	comp=E,4μm,0.3s						
MWH	Mokuaweoweo	0.47	289		Pg	17 59 15.8	-0.1
MWH				IAML		17 59 32.3	
	comp=N,745nm,0.4s						
MLOA	Mauna Loa Obse	0.47	295		Pg	17 59 15.8	-0.2
MLOA	Mauna Loa Obse	0.47	295	IAML		17 59 17.6	
	comp=E,36nm,0.8s						
MLOA				IAML		17 59 29.6	
	comp=N,31nm,0.6s						
KHU	Kahuku	0.47	259		Sg	17 59 22.2	+0.1
KHU	Kahuku	0.47	259		Pg	17 59 15.6	-0.3
KHU				IAML		17 59 26.8	
	comp=N,373nm,1.1s						
KHU				IAML		17 59 30.3	
	comp=E,568nm,2.2s						
ALEP	Alea Permanent	0.53	293		Pg	17 59 16.6	-0.4
ALEP					Sg	17 59 24.4	+0.5
POHA	Pohakuloa	0.57	318		Pg	17 59 17.2	-0.6
POHA					Sg	17 59 25.5	+0.3
POHA	Pohakuloa	0.57	318	IAML		17 59 26.1	
	comp=E,664nm,0.6s						
POHA				IAML		17 59 26.7	
	comp=E,646nm,0.5s						

AFAD 04 18:04:43.1, 38°.38N×39°.09E, h7km±4km, ML1.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.14	324	P	Pg	18 04 47.1	+0.9
ELZG				S	Sg	18 04 49.2	+0.9
ELZG				*i* AML	AML	18 04 50.0	
	comp=N,281nm,0.3s						
ELZG				*i* AML	AML	18 04 50.0	
	comp=E,212nm,0.4s						
MAYA	Malatya/Merkez	0.53	264	P	Pg	18 04 53.6	+0.3
MAYA				S	Sg	18 05 00.9	+0.7
NARI	Adyaman-Kaht	0.56	208	P	Pb	18 04 54.7	-0.6
KOVA	Elazig, Kovanc	0.65	60	P	Pg	18 04 56.1	+0.5
AKCD	Akcadag	0.92	265	P	Pg	18 05 00.9	+0.1
AKCD				S	Sg	18 05 12.2	-0.6

IDC 04 18:13:52.8±9.2, 7°.40N×93°.48E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=469.1km s-min=23.5km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	Diego Garcia H	25.71	235	T	T	18 46 20.7	
	baz=54,slow=75,SNR=14						
H08S2	Diego Garcia H	25.72	235	T	T	18 46 22.0	
	baz=54,slow=75,SNR=19						
H08S1	Diego Carcia H	25.73	235	T	T	18 46 08.8	
	baz=54,slow=75,SNR=18						
MKAR	Makanchi Array	40.41	348	P	P	18 21 32.2	-0.5
	0.5nm,0.7s,baz=171,slow=8.6,SNR=6.6						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	44.84	347	P	P	18 22 08.7	0.0
	0.5nm,0.3s,baz=152,slow=6.1,SNR=4.0						
	0.5nm,0.3s						
ZALV	Zalesovo Beam	46.94	353	P	P	18 22 25.3	+0.2
	0.4nm,0.4s,baz=155,slow=7.9,SNR=4.8						
	0.4nm,0.4s						
WRA	Warramunga Arr	48.53	125	P	P	18 22 37.1	-1.0
	0.7nm,0.9s,baz=308,slow=7.1,SNR=3.1						
	0.7nm,0.9s						
ASAR	Alice Springs	50.12	129	P	P	18 22 50.9	+0.7
	0.2nm,0.8s,baz=298,slow=8.1,SNR=4.0						
	0.2nm,0.8s						
H04N2	CROZET ISLANDS	64.99	211	T	T	19 35 15.9	
	baz=47,slow=75,SNR=5.3						
H04N1	CROZET ISLANDS	65.00	211	T	T	19 35 23.8	
	baz=47,slow=75,SNR=6.9						
H04N3	CROZET ISLANDS	65.01	211	T	T	19 35 21.0	
	baz=47,slow=75,SNR=5.6						

TAP 04 18:31:09.2, 22°.98N×120°.83E, h3km±1km, ML0.7, C,

Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	Tauyuan	0.20	339	eP	Pg	18 31 12.9	-0.1
STYT				eS	Sg	18 31 15.7	0.0
STYH	Taoyuan	0.20	345	eP	Pg	18 31 12.9	-0.2
STYH				eS	Sg	18 31 15.8	+0.1
SGST	Jiashian	0.25	294	P	Pb	18 31 15.3	-1.1
SGST				S	Sg	18 31 19.2	+1.8
TWG	Pinlang	0.27	125	eP	Pb	18 31 16.1	-0.6
TWG				eS	Sb	18 31 20.6	-1.1
ELDTW	Lidau	0.27	39	P	Pg	18 31 15.2	+0.8
LONT	Longtian	0.28	104	eP	Pg	18 31 14.9	+0.3
LONT				eS	Sg	18 31 19.5	+1.1
SSD	Sandimen	0.29	219	eP	Pg	18 31 15.6	+0.8
SSD				eS	Sg	18 31 19.2	+0.5
TSMG	Majia	0.32	213	P	Pg	18 31 15.8	+0.5
TSMG				eS	Sg	18 31 19.7	+0.1
WTP	Ta-pu	0.34	323	eP	Pg	18 31 16.2	+0.5
WTP				eS	Sb	18 31 22.4	-1.3
TPUB	Ta-pu	0.37	330	eP	Pb	18 31 17.9	-0.5
TPUB				S	Sb	18 31 23.8	-0.9
ECL	Taimali	0.39	164	P	Pg	18 31 17.6	+0.8
ECL				eS	Sb	18 31 23.8	-1.5
MASBT	Mashibuluo	0.41	207	P	Pg	18 31 17.7	+0.7
MASBT				eS	Sg	18 31 22.8	+0.5

IDC 04 18:33:11.6±2.6, 1°.25S×130°.07E, h0km, mb2.9/2, mbtmp3.0/3, ML3.0/1, Error ellipse: s-maj=153.4km s-min=29.3km az=70.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.04	168	P	P	18 37 34.5	-1.0
	baz=347,slow=11,SNR=1.3						
	0.2nm,0.6s						
ASAR	Alice Springs	22.59	171	P	P	18 38 13.9	0.0
	0.2nm,0.6s,baz=357,slow=9.2,SNR=5.4						
	0.2nm,0.6s						
MKAR	Makanchi Array	63.52	325	P	P	18 43 44.3	+0.4
	0.1nm,0.4s,baz=117,slow=5.8,SNR=1.7						
	0.1nm,0.4s						

*NOU **04** 18:35:45.4, 38°.76S×178°.09E, h0km, MLv3.8/11, Off E. Coast of N. Island, N.Z.*
*WEL **04** 18:35:48.5±0.7, 39°.5S±2°.×17°.8E±°, h20km±5km, M3.6/60, ML3.9/59, MLv3.6/60, Error ellipse: s-maj=4.0km s-min=3.2km az=92.7, confirmed*

ISC 04 18:35:49.2±0.9, 38°.61S±0°.02×177°.95E±0°.03, h28km±5km, n98, σ1s14/114, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKBS	Kaiti Beach	0.10	136	P	Pb	18 35 53.5	-0.8
GKBS				S	Sb	18 35 58.0	+0.3
RIGZ	Rimuhau	0.17	237	P	Pb	18 35 53.8	-1.1
RIGZ				S	Sb	18 35 58.7	-0.2
TKGZ	Te Karaka	0.19	336	P	Pb	18 35 53.4	-1.7
TKGZ				S	Sb	18 35 57.8	-1.3
CNGZ	Carnagh Statio	0.24	58	P	Pb	18 35 55.8	+0.1
CNGZ				S	Sn	18 36 03.8	+3.6
PRGZ	Paritu Road	0.31	189	P	Pb	18 35 56.9	+0.2
PRGZ				S	Sn	18 36 05.1	+1.5
TBAS	Tolaga Bay Are	0.37	49	P	Pb	18 35 58.1	+0.7
MWZ	Matawai	0.43	310	P	Pb	18 35 57.1	-1.3
MWZ				S	Sb	18 36 03.0	-1.7
RAGZ	Rawiri	0.43	286	P	Pb	18 35 57.4	-1.1
RAGZ				S	Sb	18 36 04.4	-0.4
TWGZ	Tauwhareparae	0.44	4	P	Pb	18 35 58.1	-0.5
TWGZ				S	Sn	18 36 06.3	-0.2
KNZ	Kokohu	0.46	207	P	Pb	18 35 58.9	0.0
KNZ				S	Sn	18 36 08.0	+0.9
SNGZ	Shannon Statio	0.50	250	P	Pb	18 35 59.3	-0.3
SNGZ				S	Sn	18 36 08.2	0.0
MHGZ	Mahia Peninsul	0.54	183	P	Pb	18 36 00.6	+0.4
MHGZ				S	Sn	18 36 11.3	+2.2
WFSS	Wairoa Fire St	0.58	224	P	Pn	18 36 01.4	-0.1
WFSS				S	Sn	18 36 12.6	+2.4
PUZ	Puketiti	0.59	25	P	Pb	18 36 00.5	-0.5
PUZ				S	Sn	18 36 10.4	0.0
RUGZ	Raukumara Rang	0.68	342	P	Pb	18 36 01.4	-1.2
RUGZ				S	Sb	18 36 11.6	-0.1
WHHZ	Waihua	0.72	230	P	Pb	18 36 03.4	+0.2
RAHZ	Arahi	0.74	245	P	Pb	18 36 03.3	-0.2
URZ	Urewera	0.74	298	P	Pb	18 36 02.7	-0.9
URZ	Urewera	0.74	298	P	Pb	18 36 02.6	-1.0
URZ				S	Sb	18 36 13.4	+0.1
PKGZ	Pakihiroa	0.75	8	P	Pb	18 36 02.9	-0.8
PKGZ				S	Sn	18 36 15.0	+0.7
RTZ	Ruatahuna	0.76	269	P	Pb	18 36 03.2	-0.6
HAZ	Te Kaha	0.86	351	P	Pb	18 36 04.3	-1.3
WMGZ	Waiomatatini S	0.87	25	P	Pb	18 36 05.0	-0.8
MTHZ	Maungataniwha	0.90	254	P	Pb	18 36 05.4	-0.7
MUGZ	Murupara	0.93	278	P	Pb	18 36 06.1	-0.6
ARHZ	Aropaoanui	0.98	228	P	Pn	18 36 07.2	+0.1
NMHZ	Naumai	1.01	241	P	Pn	18 36 07.9	+0.3
MXZ	Matakaoa Point	1.09	15	P	Pn	18 36 07.9	-0.6
MXZ	Matakaoa Point	1.09	15	S	Sb	18 36 24.7	+1.6
MXZ	Matakaoa Point	1.09	15	P	Pn	18 36 08.2	-0.3
RRRZ	Republican Roa	1.16	283	P	Pn	18 36 09.7	+0.3
TARZ	Mount Tarawera	1.19	288	P	Pn	18 36 10.3	+0.3
MRHZ	Matea Rd	1.22	259	P	Pn	18 36 10.4	+0.1
PRRZ	Plateau Road	1.22	275	P	Pn	18 36 10.5	+0.1
WIZ	White Island	1.24	331	P	Pb	18 36 12.1	+0.2
CKHZ	Cape Kidnapper	1.24	213	P	Pn	18 36 10.3	-0.3
ALRZ	Allen Road	1.26	272	P	Pn	18 36 11.6	+0.7
BKZ	Black Stump Fm	1.26	244	P	Pn	18 36 10.9	0.0
BKZ	Black Stump Fm	1.26	244	S	Sb	18 36 28.6	+0.4
BKZ	Black Stump Fm	1.26	244	P	Pn	18 36 10.6	-0.4
MCHZ	McNeill Hill	1.28	229	P	Pn	18 36 11.0	-0.1
HLRZ	Highlands Stat	1.30	286	P	Pb	18 36 13.0	0.0
HRRZ	Handcock Road	1.32	279	P	Pb	18 36 13.3	-0.1
HSRZ	Hossack Road	1.37	282	P	Pb	18 36 13.7	-0.4
WPRZ	Whakapapatarin	1.40	273	P	Pb	18 36 14.5	-0.2
KWHZ	Kaweka Forest	1.44	235	P	Pn	18 36 13.0	-0.4
KAHZ	Kahuranaki	1.44	215	P	Pn	18 36 12.3	-1.1
UTU	Utuhina	1.44	287	P	Pb	18 36 15.9	+0.5
GRRZ	Galatos Road	1.46	280	P	Pb	18 36 15.2	-0.6
NGRZ	Ngongotaha	1.47	290	P	Pb	18 36 14.4	+0.6
HATZ	Hinemaiaia	1.48	259	P	Pb	18 36 16.5	+0.6
WHTZ	Whakaora	1.56	267	P	Pb	18 36 19.7	+2.3
KRHZ	Kereru	1.60	229	P	Pn	18 36 14.9	-0.7
PXZ	Pawanui	1.65	210	P	Pn	18 36 16.9	+0.8
KUTZ	Kaahu Road	1.67	274	P	Pn	18 36 17.9	+1.4
RITZ	Rihia Road	1.67	257	P	Pb	18 36 18.3	-0.9
KATZ	Kakaramea	1.80	258	P	Pb	18 36 20.6	-0.8
TMVZ	Te Maari	1.82	253	P	Pn	18 36 19.0	+0.3
ETVZ	East Tongariro	1.82	253	P	Pn	18 36 18.9	+0.2
NTVZ	North Tongarir	1.84	254	P	Pn	18 36 19.2	+0.3
WPHZ	Waipukurau	1.86	218	P	Pn	18 36 18.4	-0.7
KRVZ	Karewarewa	1.86	254	P	Pn	18 36 19.5	+0.2
OTVZ	Oturere	1.86	252	P	Pn	18 36 20.0	+0.7
PNHZ	Pukenui	1.88	226	P	Pn	18 36 18.0	-1.4
MOVZ	Moawhango	1.88	244	P	Pn	18 36 19.9	+0.4
SNVZ	South Ngauruho	1.89	252	P	Pn	18 36 20.1	+0.4
NNVZ	North Ngauruho	1.89	253	P	Pn	18 36 21.4	+1.7
TUVZ	Tukino	1.90	249	P	Pn	18 36 20.5	+0.7
WTVZ	West Tongariro	1.91	254	P	Pn	18 36 21.7	+1.8
TLZ	Tolley Road	1.91	278	P	Pn	18 36 20.9	+1.0
NGZ	Ngauruhoe	1.91	252	P	Pn	18 36 21.0	+1.0
PRHZ	Porangahau	1.94	211	P	Pn	18 36 18.5	-1.7
WHVZ	Whangaehu Hut	1.96	249	P	Pb	18 36 23.8	-0.4
COVZ	Chateau Observ	1.96	252	P	Pb	18 36 22.7	-1.6
WNVZ	Wahianoa	1.96	248	P	Pb	18 36 22.8	-1.5
MAVZ	Matarangi	1.97	250	P	Pb	18 36 25.4	+0.9
FWVZ	Far West T-bar	1.97	250	P	Pb	18 36 25.4	+0.9
TRVZ	Turoa	1.99	249	P	Pb	18 36 23.9	-0.9
TWVZ	Taurewa	2.01	256	P	Pn	18 36 23.0	+1.7
MTVZ	Mangateitei	2.08	247	P	Pn	18 36 22.1	-0.1
TSZ	Takapari Road	2.11	226	P	Pn	18 36 21.0	-1.6
PKVZ	Pokaka	2.14	251	P	Pb	18 36 25.3	-1.9
DVHZ	Dannevirke	2.17	219	P	Pn	18 36 21.8	-1.7
HIZ	Hauiti	2.42	271	P	Pn	18 36 28.7	+1.8
HIZ	Hauiti	2.42	271	P	Pn	18 36 29.2	+2.3
BFZ	Birch Farm	2.45	212	P	Pn	18 36 25.1	-2.1
BFZ	Birch Farm	2.45	212	S	Sn	18 36 55.5	-0.7
POWZ	Post Office Ro	2.45	223	P	Pn	18 36 26.5	-0.7
PRWZ	Pori Road	2.47	218	P	Pn	18 36 26.2	-1.3
VRZ	Vera Road	2.54	257	P	Pn	18 36 29.7	+1.2
WAZ	Wanganui	2.57	243	P	Pn	18 36 30.0	+1.1
PREZ	Palmer Road	3.04	255	P	Pn	18 36 37.3	+1.9
NEZ	North Egmont	3.07	256	P	Pn	18 36 37.8	+1.9
KHEZ	Kahui Hut	3.14	256	P	Pn	18 36 38.1	+1.3
KHEZ	Kahui Hut	3.14	256	P	Pn	18 36 38.4	+1.6
CAW	Cannon Point	3.33	221	P	Pn	18 36 37.8	-1.6
QRZ	Quartz Range	4.72	240	P	Pn	18 36 55.5	-3.0
CTZ	Chatham Island	6.56	143	P	Pn	18 37 22.5	-1.2

*IDC **04** 18:53:41.7±1.1, 0°.25S×123°.84E, h0km, mb3.8/5, mbtmp3.8/6, ML3.5/1, MS2.8/1, Error ellipse: s-maj=142.6km s-min=18.1km az=64.0*
*NEIC **04** 18:53:49.3±1.9, 0°.30S±0°.09×124°.20E±0°.05, h36km±14km, mb4.1/5, Error ellipse: s-maj=13.1km s-min=7.3km az=162.0*
*DJA **04** 18:53:50.4±0.8, 0°.5±2°.×12°.4E±°, h29km±8km, M4.1/21, mB4.6/1, mb4.3/11, MLv4.1/21, Mw(mB)3.7/1*

ISC 04 18:53:48.9±0.8, 0°.28S±0°.05×124°.14E±0°.06, h35km, n38, σ1s84/38, mb3.9/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.86	350	P	Pn	18 54 05.0	+0.4
KMSI				S	Sn	18 54 17.3	+1.3
LUWI	Luwuk	1.56	241	Pn	Pn	18 54 14.6	+0.4
LUWI				Sn	Sn	18 54 33.5	+0.4
LUWI	Luwuk	1.56	241	P	Pn	18 54 15.2	+1.1
LUWI				S	Sn	18 54 34.3	+1.2
MRSI	Marisa	2.32	289	P	Pn	18 54 22.3	-2.3
SANI	Sanana	2.55	133	P	Pn	18 54 27.7	-0.1
APSI	Ampana	2.56	256	P	Pn	18 54 30.0	+2.0
TNTI	Ternate	3.40	72	Pn	Pn	18 54 37.6	-1.8
TNTI	Ternate	3.40	72	P	Pn	18 54 43.0	+3.5
TOLI2	Tolitoli	3.63	292		Pn	18 54 42.4	-0.3
KDI	Kendari	3.95	203	S	Sn	18 55 31.2	-1.1
NLAI	Namlea	4.17	135	P	Pn	18 54 53.6	+3.5
MPSI	Mapaga	4.28	278	P	Pn	18 54 54.1	+2.5
PCI	Palu	4.34	262	P	Pn	18 54 54.7	+2.2
TTSI	Tana Toraja	5.11	237	P	Pn	18 55 04.7	+1.6
	0.2nm22nm,0.5s						
BBSI	Bau Bau	5.40	197	P	Pn	18 55 09.8	+2.8
	0.2nm23nm,0.9s						
MSAI	Masohi	5.67	122	P	Pn	18 55 15.5	+4.7
	0.2nm28nm,0.9s						
SPSI	Sidrap Palu	5.69	230	P	Pn	18 55 12.9	+1.9
BKSI	Bulukumba	6.41	219	P	Pn	18 55 23.0	+2.1
	0.1nm7.4nm,0.5s						
BSSI	Bau Bau, Buton	6.86	212	P	Pn	18 55 28.8	+1.6
	0.1nm26nm,1.1s						
SWI	Sorong	7.15	95	P	Pn	18 55 36.3	+5.3
	0.1nm20nm,0.8s						
DAV	Davao City (W)	7.45	11	LR	LR	18 58 36.4	
	comp=Z,58nm,18.5s,baz=310,slow=39						
MYLDM	Lahad Datu	7.82	314	Pn	Pn	18 55 41.2	+1.0
FAKI	Fak Fak	8.52	108	Pn	Pn	18 55 50.1	+0.1
FAKI	Fak Fak	8.52	108	P	Pn	18 55 50.8	+0.9
EDFI	Ende, Flores	8.76	196	P	Pn	18 55 54.9	+1.7
FITZ	Fitzroy Crossi	17.77	175	P	Pn	18 57 53.4	-0.2
	0.1nm,0.3s,baz=0.6,slow=12,SNR=2.5						
	3.6nm,0.9s						
WB0	Warramunga Arr	21.82	153	P	P	18 58 36.7	-1.6
WB0				IAmb	IAmb	18 59 10.9	
	comp=Z,18nm,1.4s						
WRA	Warramunga Arr	21.95	154	P	P	18 58 38.2	-1.5
	comp=Z,0.8nm,0.5s,baz=332,slow=12,SNR=11						
	comp=Z,0.8nm,0.5s						
WR8	Warramunga Arr	22.03	153	P	P	18 58 38.5	-2.1
WR8				IAmb	IAmb	18 58 46.2	
	comp=Z,12nm,1.4s						
AS31	Alice Springs	25.10	158	P	P	18 59 10.1	-0.6
ASAR	Alice Springs	25.11	158	P	P	18 59 10.7	+0.1
ASAR	Alice Springs	25.11	158	P	P	18 59 09.8	-0.9
	comp=Z,2.5nm,0.8s,baz=341,slow=15,SNR=48						
ASAR				PcP	PcP	19 02 43.4	-1.2
	comp=Z,0.3nm,0.6s,baz=344,slow=2.6,SNR=4.3						
	comp=Z,2.5nm,0.8s						
STKA	Stephens Creek	35.50	154	P	P	19 00 41.8	-0.6
STKA	Stephens Creek	35.50	154	P	P	19 00 41.2	-1.2
	comp=Z,2.4nm,0.8s,baz=353,slow=8.1,SNR=3.3						
	comp=Z,2.4nm,0.8s						
MKAR	Makanchi Array	59.45	328	P	P	19 03 48.3	0.0
MKAR	Makanchi Array	59.45	328	P	P	19 03 45.8	-2.5
	comp=Z,0.6nm,0.6s,baz=121,slow=8.8,SNR=9.1						
	comp=Z,0.6nm,0.6s						
MAKZ	Makanchi	59.63	328	P	P	19 03 49.9	+0.3
MAKZ				IAmb	IAmb	19 03 50.2	
	comp=Z,0.5nm,0.6s						
KURBB	Kurchatov Arra	63.78	330	P	P	19 04 13.6	-3.7
	comp=Z,0.6nm,0.6s,baz=136,slow=6.0,SNR=9.0						
	comp=Z,0.6nm,0.6s						

*IDC **04** 19:07:34.2±1.3, 6°.37S×129°.86E, h0km, mb3.8/5, mbtmp4.1/8, ML4.5/3, Error ellipse: s-maj=73.7km s-min=19.4km az=69.0*

ISC 04 19:07:50.5±0.8, 7°.14S±0°.06×129°.46E±0°.06, h150km, n27, σ2s36/30, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.01	115	P	Pn	19 08 27.8	+2.0
SAUI	Saumlaki	2.01	115	P	Sn	19 08 51.4	-1.4
BNDI	Bandanaira	2.64	10	P	Pn	19 08 34.0	+0.6
DRS	Darwin Rock St	5.44	165	P	Pn	19 09 11.7	+1.8
DRS	Darwin Rock St	5.44	165	S	Sn	19 10 12.6	+0.7
SOEI	Soe	5.75	243	P	Pn	19 09 14.6	+0.5
SOEI	Soe	5.75	243	S	Sn	19 10 21.2	+1.8
MTN	Manton Dam	5.90	164	P	Pn	19 09 17.7	+1.7
KDU	Kakadu	6.26	152	P	Pn	19 09 21.7	+1.0
MMRI	Maumere	7.30	258

YOJ	Yonaguni jima	0.43 123	P	Pn	19 16 24.1	+0.2
YOJ			eS	Sn	19 16 37.1	-0.4
YOJ	Yonaguni jima	0.43 123	P	Pn	19 16 24.1	+0.2
YOJ			S	Sn	19 16 37.0	-0.5
EOS2	EOS2	0.45 232	i P	Pn	19 16 24.5	+0.5
EOS2			eS	Sn	19 16 38.2	+0.9
EOS3	EOS3	0.49 214	i P	Pn	19 16 24.9	+0.7
EOS3			i S	Sn	19 16 39.5	+1.7
EOS4	EOS4	0.64 206	eP	Pn	19 16 25.1	+0.3
EOS4			eS	Sn	19 16 39.1	+0.1
EGS		0.64 283	eP	Pn	19 16 25.5	+0.2
TWB1	Santiao Chiao	0.65 298	P	Pn	19 16 25.6	+0.2
TWB1			S	Sn	19 16 39.6	-0.4
TWC	Suao	0.71 263	P	Pn	19 16 25.5	-0.2
TWC			eS	Sn	19 16 39.4	-1.3
ESAO	Su ao	0.72 260	eP	Pn	19 16 25.8	-0.1
ESAO			eS	Sn	19 16 39.8	-1.0
TIPB	Shuangxi	0.77 291	i P	Pn	19 16 26.7	+0.3
TIPB			S	Sn	19 16 40.9	-0.8
SXI1	Grass Mountain	0.78 300	P	Pn	19 16 26.5	0.0
SXI1			eS	Sn	19 16 42.0	+0.1
ILA	Ilan	0.80 275	eP	Pn	19 16 26.9	+0.4
ILA			eS	Sn	19 16 41.9	-0.1
EWUT	Wuta	0.81 252	P	Pn	19 16 26.8	+0.2
EWUT			eS	Sn	19 16 42.2	+0.1
NDS	Dongshan	0.82 266	eP	Pn	19 16 27.0	+0.2
NDS			eS	Sn	19 16 42.0	-0.4
ENA	Nanau	0.84 252	P	Pn	19 16 27.1	+0.2
ENA			eS	Sn	19 16 42.5	-0.2
NWF	Wu-fen Shan	0.85 296	P	Pn	19 16 27.5	+0.4
NWF			eS	Sn	19 16 42.6	-0.3
WFSB	Wu-fen Shan	0.85 296	P	Pn	19 16 27.5	+0.6
WFSB			S	Sn	19 16 42.5	-0.2
TWE	Neicheng	0.87 272	P	Pn	19 16 27.3	+0.2
TWE			eS	Sn	19 16 42.8	-0.3
EAHA	Aohua	0.88 246	P	Pn	19 16 27.3	0.0
EAHA			eS	Sn	19 16 43.3	0.0
TNOU	National Taiwa	0.89 301	eP	Pn	19 16 28.6	+1.3
FUSB	Fushanzhiwuyua	0.94 274	P	Pn	19 16 28.0	+0.1
FUSB			eS	Sn	19 16 43.3	-1.1
ENTT	Nioudou	0.96 267	P	Pn	19 16 28.6	+0.6
TWA	Mucha	0.98 287	P	Pn	19 16 29.1	+0.9
TWA			eS	Sn	19 16 45.0	0.0
LATG	Datong	1.01 261	P	Pn	19 16 29.1	+0.5
LATG			eS	Sn	19 16 46.2	+0.6
NHY	Taipei	1.01 290	eP	Pn	19 16 28.5	+0.1
NHY			eS	Sn	19 16 45.1	-0.4
NWLT	Wulai	1.02 275	P	Pn	19 16 28.6	0.0
NWLT			eS	Sn	19 16 44.6	-1.0
PCYT	Pengchaiyu	1.05 332	eP	Pn	19 16 29.6	+0.7
YM01	YM01	1.05 295	i P	Pn	19 16 29.2	+0.3
YM01			S	Sn	19 16 45.6	-0.6
YM08	YM08	1.05 298	P	Pn	19 16 28.9	0.0
YM08			S	Sn	19 16 45.2	-1.0
ETL	Fush Village	1.05 240	P	Pn	19 16 28.8	-0.1
TATO	Taipei	1.06 285	P	Pn	19 16 29.1	+0.1
TAP	Taipei	1.07 289	P	Pn	19 16 29.1	+0.1
TAP			eS	Sn	19 16 45.6	-0.8
NACB	Ninganchiao	1.07 241	P	Pn	19 16 29.0	-0.1
NACB	Ninganchiao	1.07 241	P	Pn	19 16 28.6	-0.5
NACB			eS	Sn	19 16 46.1	-0.3
IRIF	Iriomote-Funau	1.07 109	eP	Pn	19 16 29.4	+0.3
IRIF			eS	Sn	19 16 46.3	-0.3
ZUZH	Zhuzihu	1.08 296	P	Pn	19 16 29.5	+0.3
ZUZH			S	Sn	19 16 45.9	-0.8
TWY	Chenhua	1.09 302	eP	Pn	19 16 28.7	-0.6
TWY			eS	Sn	19 16 45.9	-0.9
ANP	Anpu	1.11 296	P	Pn	19 16 29.9	+0.3
ANP			eS	Sn	19 16 46.3	-1.1
TWD	Chiawan	1.12 237	eP	Pn	19 16 29.4	-0.2
TWD			eS	Sn	19 16 46.8	-0.5
YHNB	Yeheng	1.13 269	P	Pn	19 16 30.3	+0.5
YHNB	Yeheng	1.13 269	S	Sn	19 16 47.7	0.0
YHNB	Yeheng	1.13 269	i P	Pn	19 16 30.4	+0.6
YHNB			S	Sn	19 16 47.3	-0.4
ETLH	Xiulin Townshi	1.15 245	P	Pn	19 16 30.0	0.0
ETLH			eS	Sn	19 16 47.5	-0.5
NSK	Sanguang	1.15 269	i P	Pn	19 16 30.4	+0.5
NSK			i S	Sn	19 16 47.8	-0.2
NNSB	Datong	1.16 257	P	Pn	19 16 30.6	+0.5
NNSB			eS	Sn	19 16 48.1	-0.2
NTST	Danshui	1.16 294	eP	Pn	19 16 30.5	+0.5
NTST			S	Sn	19 16 47.6	-0.5
NNS	Nan Shan	1.16 258	P	Pn	19 16 30.6	+0.5
NNS			eS	Sn	19 16 48.4	0.0
TWS1	Kuangyinshan	1.16 290	i P	Pn	19 16 29.4	-0.6
TWS1			eS	Sn	19 16 46.7	-1.4
HWA	Hwalien	1.17 232	i P	Pn	19 16 30.4	+0.3
HWA			eS	Sn	19 16 49.8	+1.5
TEYL	Yanliau Villag	1.25 229	i P	Pn	19 16 30.9	0.0
TEYL			eS	Sn	19 16 49.1	-0.6
ETM	Tongmen	1.26 235	i P	Pn	19 16 31.1	0.0
ETM			eS	Sn	19 16 49.2	-0.8
LXIB	Xiulin Townshi	1.29 239	i P	Pn	19 16 31.4	-0.2
LXIB			S	Sn	19 16 49.4	-1.4
KSHI	Guanxi Townshi	1.31 274	P	Pn	19 16 32.5	+0.9
KSHI			eS	Sn	19 16 51.8	+0.8
SHUL	Shoufeng	1.32 227	i P	Pn	19 16 32.0	+0.3
SHUL			S	Sn	19 16 51.3	+0.1
FUSS	Fushou	1.33 251	P	Pn	19 16 32.8	+0.7
FUSS			eS	Sn	19 16 51.8	0.0
NCUH	Zhongli	1.33 282	P	Pn	19 16 32.6	+0.8
NCUH			S	Sn	19 16 51.7	+0.4
JKRS	Kuro-shima	1.35 110	S	Sn	19 16 51.9	+0.2
WHF	Hehuan Shan	1.35 246	P	Pn	19 16 33.0	+0.5
NFF	Wufeng Townshi	1.37 268	eP	Pn	19 16 32.8	+0.5
NFF			eS	Sn	19 16 51.9	-0.3
TWT	Tachien	1.39 252	P	Pn	19 16 33.8	+1.2
TWT			eS	Sn	19 16 53.2	+0.5
TEGC	Jichi Village	1.39 225	P	Pn	19 16 32.8	+0.3
TEGC			eS	Sn	19 16 52.5	-0.1
ESL	Shilin	1.40 231	P	Pn	19 16 32.3	-0.3
ESL			eS	Sn	19 16 51.4	-1.3
TDCB	Techi	1.40 252	i P	Pn	19 16 33.7	+0.9
TDCB			S	Sn	19 16 53.0	-0.1
JIJ	Ishigaki jima	1.43 103	P	Pn	19 16 33.2	+0.4
JIJ			S	Sn	19 16 52.3	-1.0
LIOB	Emei	1.46 268	P	Pn	19 16 33.9	+0.6
LIOB			eS	Sn	19 16 53.8	-0.1
NSTT	Nanjuang	1.47 268	eP	Pn	19 16 33.9	+0.5
NSTT			S	Sn	19 16 53.9	-0.3
SBCB	Hsinchu	1.49 274	eP	Pn	19 16 34.1	+0.5
SBCB			eS	Sn	19 16 54.6	+0.2
WARBT	Fenglin Townsh	1.49 229	P	Pn	19 16 33.2	-0.5
WARBT			eS	Sn	19 16 52.9	-1.7
EGFH	Guangfu	1.50 227	P	Pn	19 16 33.5	-0.2
EGFH			eS	Sn	19 16 53.5	-1.1
HSN	Hsinchu	1.50 274	P	Pn	19 16 34.0	+0.2
HSN			S	Sn	19 16 54.2	-0.5
OWD	Renai	1.51 241	eP	Pn	19 16 34.5	+0.5
OWD			S	Sn	19 16 54.5	-0.7
WUSB	Renai	1.54 243	P	Pn	19 16 35.1	+0.8
WUSB			eS	Sn	19 16 55.7	0.0
JISG	Ishigakijimahi	1.54 94	P	Pn	19 16 34.6	+0.4
JISG			eS	Sn	19 16 54.9	-0.7
WHP	Taichung City	1.58 255	i P	Pn	19 16 36.1	+1.4
WHP			eS	Sn	19 16 57.0	+0.5
HGSD	Ruisui	1.62 223	P	Pn	19 16 35.2	+0.1
HGSD			eS	Sn	19 16 57.2	-0.1
VWDT	VWDT	1.64 235	P	Pn	19 16 36.1	+0.7
VWDT			S	Sn	19 16 57.5	-0.2
EHYH	Wanrong	1.67 224	eP	Pn	19 16 35.6	-0.2
NMLH	Miaoli	1.67 265	P	Pn	19 16 36.1	+0.4
NMLH			S	Sn	19 16 58.3	0.0
EHY	Hungye	1.68 225	eP	Pn	19 16 35.4	-0.4
EHY			eS	Sn	19 16 56.7	-1.8
WCS	Beigang Elemen	1.68 248	eP	Pn	19 16 36.9	+1.1
WCS			eS	Sn	19 16 59.9	+1.4
NSY	Sanyi	1.71 261	eP	Pn	19 16 35.2	-1.1
NSY			eS	Sn	19 16 57.9	-1.4
TWQ1	Liyutan	1.72 259	P	Pn	19 16 37.0	+0.7
TWQ1			eS	Sn	19 16 59.1	-0.2
ECBN	Changbin	1.74 218	P	Pn	19 16 36.8	+0.2
ECBN			eS	Sn	19 16 59.1	-0.7
SMLT	Sun Moon Lake	1.77 243	P	Pn	19 16 37.3	+0.3
SMLT			eS	Sn	19 17 01.3	+0.8
SSLB	Suanglung	1.77 240	P	Pn	19 16 37.7	+0.8
SSLB	Suanglung	1.77 240	eP	Pn	19 16 37.5	+0.5
SSLB			eS	Sn	19 17 01.5	+1.1
YULB	Yu-li	1.77 223	P	Pn	19 16 36.8	-0.2
YULB	Yu-li	1.77 223	P	Pn	19 16 36.6	-0.4
YULB			eS	Sn	19 16 59.0	-1.5
TYC	Yuchr	1.79 244	eP	Pn	19 16 38.5	+1.4
TYC			eS	Sn	19 17 02.4	+1.6
EYUL	Yuli	1.79 222	eP	Pn	19 16 37.2	0.0
EYUL			eS	Sn	19 17 01.4	+0.5
TWF1	Yuli	1.80 222	P	Pn	19 16 37.3	-0.1
TWF1			eS	Sn	19 16 59.8	-1.4
WDJ	Dajia District	1.84 259	eP	Pn	19 16 38.6	+0.9
WDJ			eS	Sn	19 17 02.4	+0.6
TCU	Taichung	1.85 253	eP	Pn	19 16 38.7	+0.8
CHKH	Chenggong	1.87 217	eP	Pn	19 16 38.0	-0.1
CHKH			eS	Sn	19 17 01.0	-1.6
JTJ	Tarama	1.90 91	eP	Pn	19 16 39.2	+0.8
JTJ			eS	Sn	19 17 02.3	-0.8
WHYT	Xinyi Township	1.90 239	eP	Pn	19 16 39.8	+1.3
WHYT			eS	Sn	19 17 04.8	+1.6
FULB	Fuli	1.92 219	eP	Pn	19 16 39.0	+0.2
FULB			eS	Sn	19 17 03.6	-0.2
WJS	Zhushan	1.93 244	eP	Pn	19 16 40.2	+1.3
WJS			eS	Sn	19 17 05.8	+1.9
WNT	Mingjian	1.94 246	P	Pn	19 16 40.2	+1.1
WNT			eS	Sn	19 17 05.8	+1.6
CHKT	Chengkung	1.96 216	P	Pn	19 16 39.0	-0.3
CHKT			eS	Sn	19 17 02.8	-1.8
WCHH	Zhanghua	1.98 252	eP	Pn	19 16 40.1	+0.7
WCHH			eS	Sn	19 17 04.8	0.0
WCH1	Changhua City	1.99 252	eP	Pn	19 16 40.1	+0.5
WCH1			eS	Sn	19 17 05.2	0.0
EHD	Haiduan	2.01 220	eP	Pn	19 16 39.5	-0.4
ALS	Alishan	2.04 235	P	Pn	19 16 41.8	+1.4
ALS			eS	Sn	19 17 07.9	+1.2
ECS	Chishang	2.05 219	eP	Pn	19 16 40.6	+0.3
ECS			eS	Sn	19 17 07.1	+0.7
CHN5	Tsauling	2.08 239	P	Pn	19 16 42.2	+1.4
CHN5			eS	Sn	19 17 08.3	+0.8
EDH	Donghe	2.10 215	P	Pn	19 16 40.7	-0.2
EDH			S	Sn	19 17 06.1	-1.5
ELDTW	Lidau	2.10 225	P	Pn	19 16 41.1	0.0
ELDTW			eS	Sn	19 17 07.1	-0.7
WGK	Gukeng	2.13 242	eP	Pn	19 16 42.5	+1.2
WGK			eS	Sn	19 17 10.7	+2.3
WDL	Douliou City	2.14 243	eP	Pn	19 16 42.6	+1.2
WDL			eS	Sn	19 17 10.1	+1.7
WDLH	Douliu	2.15 243	eP	Pn	19 16 42.6	+1.1
WDLH			eS	Sn	19 17 10.2	+1.5
WCKO	Fanlu	2.23 236	eP	Pn	19 16 44.1	+1.5
WCKO			eS	Sn	19 17 12.0	+1.4
LONT	Longtian	2.25 218	eP	Pn	19 16 42.5	-0.3
LONT			eS	Sn	19 17 09.9	-1.0
STYH	Taoyuan	2.27 228	P	Pn	19 16 43.2	+0.1
STYH			eS	Sn	19 17 11.5	+0.1
WTK	Tuku	2.27 244	P	Pn	19 16 43.8	+0.7
WTK			eS	Sn	19 17 11.8	+0.3
LDUT	Ludao	2.27 208	eP	Pn	19 16 42.9	-0.3
LDUT			eS	Sn	19 17 09.8	-1.7
CHN4	Tsaushan	2.29 235	eP	Pn	19 16 44.4	+1.1
CHN4			eS	Sn	19 17 13.5	+1.6
WTCT	Ta-ch'eng	2.29 249	eP	Pn	19 16 43.8	+0.5
WTCT			eS	Sn	19 17 11.8	-0.1
TPUB	Ta-pu	2.29 233	P	Pn	19 16 44.6	+1.2
TPUB	Ta-pu	2.29 233	S	Sn	19 17 12.8	+0.8
TPUB	Ta-pu	2.29 233	eP	Pn	19 16 44.1	+0.7
TPUB			eS	Sn	19 17 13.5	+1.6
JIRB	Irabujima	2.33 86	eP	Pn	19 16 44.7	+0.9
JIRB			eS	Sn	19 17 12.2	-0.5
CHY	Chiayi	2.33 240	eP	Pn	19 16 44.4	+0.7
WTP	Ta-pu	2.33 232	eP	Pn	19 16 44.8	+0.9
WTP			eS	Sn	19 17 14.7	+1.7
TWGBT	Beinan	2.34 217	eP	Pn	19 16 43.7	-0.3
TWGBT			eS	Sn	19 17 12.3	-0.9
TWG	Pinlang	2.34 218	eP	Pn	19 16 44.0	0.0
TWG			eS	Sn	19 17 12.0	-1.2
JIKM	Ikemajima	2.40 84	eP	Pn	19 16 45.9	+1.2
JIKM			eS	Sn	19 17 14.4	0.0
TWK	Hsinying	2.41 234	eP	Pn	19 16 46.4	+1.4
TWK			eS	Sn	19 17 16.1	+1.3
WSF	Szhu	2.43 245	eP	Pn	19 16 46.0	+0.9
WSF			eS	Sn	19 17 15.4	+0.3
CHN1	Nanshi	2.44 232	eP	Pn	19 16 46.5	+1.3
CHN1			eS	Sn	19 17 16.1	+0.9
SNST	Tainan City	2.44 233	eP	Pn	19 16 46.4	+1.2
SNST			eS	Sn	19 17 16.6	+1.4
SGST	Jiashian	2.46 230	eP	Pn	19 16 46.3	+0.8
SGST			eS	Sn	19 17 16.5	+0.7
JMJ2	Miyako jima3	2.46 88	P	Pn	19 16 46.8	+1.2
JMJ2			eS	Sn	19 17 15.8	0.0
WSL	Shuilin Townsh	2.48 242	P	Pn	19 16 46.7	+1.0
WSL			eS	Sn	19 17 16.5	+0.3
ICHU	Yijhu	2.52 239	eS	Sn	19 17 17.5	+0.4
CHN8	Yiju	2.58 239	eP	Pn	19 16 47.8	+0.7
CHN8			eS	Sn	19 17 18.9	+0.4
ECL	Taimali	2.59 216	eP	Pn	19 16 46.6	-0.6
ECL			eS	Sn	19 17 16.6	-2.2
SCST	Cishan	2.65 228	eP	Pn	19 16 49.3	+1.3
SCST			eS	Sn	19 17 21.4	+1.2
TSMG	Majia	2.69 223	eP	Pn	19 16 49.7	+1.3
MASBT	Mashibuluo	2.76 222	P	Pn	19 16 50.7	+1.3
TSCK	Chigu Township	2.79 237	eP	Pn	19 16 49.5	-0.2
TSCK			eS	Sn	19 17 22.9	-0.4
MATB	Ma-tsu	2.82 301	eP	Pn	19 16 49.6	-0.4
LAY	Lan-yu	2.82 201	eP	Pn	19 16 51.2	+1.0
LAY			eS	Sn	19 17 21.8	-2.4
LYUB	Lan-yu	2.85 200	eS	Sn	19 17 21.5	-3.2
VWUC	VWUC	2.90 276	P	Pn	19 16 50.9	-0.2
VWUC			eS	Sn	19 17 22.9	-2.8
SCZT	Fangliau	2.95 219	eP	Pn	19 16 52.9	+1.0
PHUB	P'eng-hu	3.02 248	eP	Pn	19 16 52.2	-0.6
PHUB			eS	Sn	19 17 26.5	-2.3
WDGT	Dungji	3.06 243	eP	Pn	19 16 53.5	+0.3
PTMZ	Houxiangcun	3.20 277	eP	Pn	19 16 55.0	-0.1
PTMZ			eS	Sn	19 17 30.3	-2.5
MHZQ	Yeshan	3.53 294	eP	Pn	19 16 59.8	+0.3
KNM	Kinmen	3.82 267	eP	Pn	19 17 04.9	+1.6
KNMB	Chin-men Tao	3.86 267	eP	Pn	19 17 03.5	-0.4
AXDP	Jialang	4.23 274	eP	Pn	19 17 08.8	+0.1
ZPLA	Ao Xicun	4.51 261	eP	Pn	19 17 12.7	+0.2
DSXP	Dongshan	4.84 259	eP	Pn	19 17 17.2	+0.3

UCR 04 19:20:48.1±0.8, 9°.77N×83°.92W, h8km±1km, MW3.7,
10C-20D, Fault plane solution: NP1:φ=59.88000°,
δ75.92000°, λ-5.24000°., **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REPA	Paraso	0.08	39	⇓eP	Pg	19 20 50.9	+0.5
REPA				eS	Sg	19 20 52.8	+0.8
LCR2	La Lucha 2	0.09	253	⇑eP	Pg	19 20 50.8	+0.2
LCR2				eS	Sg	19 20 52.6	+0.3
TAGO	Cartago	0.10	357	⇓eP	Pg	19 20 51.3	+0.6
TAGO				eS	Sg	19 20 53.7	+1.3
ABE2	San Pablo	0.15	245	⇑eP	Pg	19 20 51.7	+0.3
ABE2				eS	Sg	19 20 54.3	+0.6
PIEC	Cerro El Cedra	0.15	195	⇓eP	Pg	19 20 51.5	0.0
RAZU	San Marcos de	0.15	224	⇓eP	Pg	19 20 51.6	+0.2
RAZU				eS	Sg	19 20 54.1	+0.4
TRIO	Tres Rios	0.15	331	⇓eP	Pg	19 20 52.0	+0.5
TRIO				eS	Sg	19 20 54.8	+0.9
PCAYA	Pacayas	0.18	35	⇓eP	Pg	19 20 52.7	+0.8
PCAYA				eS	Sg	19 20 56.0	+1.3
AMPA	Desamparados	0.19	312	eP	Pg	19 20 52.5	+0.4
AMPA				eS	Sg	19 20 55.7	+0.8
VINA	Juan Vinas	0.21	53	eP	Pg	19 20 53.2	+0.7
VINA				eS	Sg	19 20 56.6	+1.2
RAFA	San Farael, Vo	0.22	29	⇓eP	Pg	19 20 53.4	+0.8
RAFA				eS	Sg	19 20 57.0	+1.3
SJS	Escuela Geolog	0.22	322	eP	Pg	19 20 53.3	+0.8
LUJA	Lujan	0.22	316	eP	Pg	19 20 54.3	+1.7
LUJA				eS	Sg	19 20 57.8	+2.1
CORON	Coronado	0.22	338	⇓eP	Pg	19 20 53.7	+1.1
CORON				eS	Sg	19 20 57.8	+2.0
CENT	San Jose	0.23	315	eP	Pg	19 20 53.5	+0.7
CENT				eS	Sg	19 20 57.0	+1.0
VICA	Volcano Irazu	0.23	19	⇓eP	Pg	19 20 53.6	+0.7
PISJ	San Jernim	0.24	236	⇑eP	Pg	19 20 53.1	+0.1
ACOS	Acosta	0.24	277	⇑eP	Pg	19 20 53.6	+0.5
ACOS				eS	Sg	19 20 57.5	+1.1
CVIMO	Finca Echandi	0.26	354	⇓eP	Pg	19 20 54.2	+0.8
TURIB	Turrialba	0.27	59	eP	Pg	19 20 53.8	+0.4
BUS1	Rivas	0.27	142	eP	Pg	19 20 53.6	-0.1
BUS1				eS	Sg	19 20 57.6	+0.2
VTLA	Turrialba Volc	0.27	31	⇓eP	Pg	19 20 54.5	+0.8
CVTQ	Turrialba Volc	0.28	32	⇓eP	Pg	19 20 54.6	+0.8
VERB	Verbena	0.28	51	eP	Pg	19 20 54.5	+0.8
VTCV	VTCV, Calle Va	0.28	41	⇓eP	Pg	19 20 54.6	+0.8
CVTV	Tajo	0.29	35	⇓eP	Pb	19 20 54.9	-0.9
VTR0	Volcan Turrial	0.29	32	⇓eP	Pg	19 20 55.0	+0.8
CVTR	Volcan Turrial	0.29	32	⇓eP	Pg	19 20 54.9	+0.7
HDC	Heredia	0.30	320	eP	Pg	19 20 54.9	+0.7
PICV	PH. Pirrs	0.31	243	⇑eP	Pg	19 20 54.1	-0.1
SANTA	Santa Ana	0.31	302	eP	Pg	19 20 54.7	+0.4
SANTA				eS	Sg	19 20 59.3	+0.9
HEME	Heredia, Merce	0.31	316	eP	Pg	19 20 55.1	+0.8
HEME				eS	Sb	19 21 00.2	-1.1
BELE	Belen	0.34	308	eP	Pg	19 20 55.2	+0.4
BELE				eS	Sg	19 21 00.1	+0.9
RVSTA	Santa Teresita	0.34	52	eP	Pg	19 20 55.5	+0.7
LLNJ	Naranjito	0.34	212	eP	Pg	19 20 55.5	+0.6
UELA	Alajuela	0.38	311	eP	Pb	19 20 57.3	+0.1
VBV1	V. Barva	0.39	333	⇓eP	Pb	19 20 56.7	-0.7
VBV1				eS	Sb	19 21 02.5	-1.1
CVTG	V. Turrialba,	0.40	21	⇓eP	Pb	19 20 57.2	-0.3
PILE	Guapiles	0.46	16	⇓eP	Pb	19 20 59.2	+0.7
TCS1	Tacares	0.46	306	eP	Pg	19 20 57.8	+0.6
RVLA	Villa Bonita	0.47	44	⇓eP	Pb	19 20 57.9	-0.7
VPS8	V Poas	0.52	322	eP	Pb	19 20 59.3	-0.4
SARCI	Sarchi	0.53	307	eP	Pb	19 21 00.2	+0.5
TRB2	Turrubares	0.54	286	eP	Pg	19 20 58.4	-0.2
SAJE	San Jernim	0.58	136	⇑eP	Pg	19 20 58.6	-0.9
ARTO	Ro Cuarto	0.64	333	eP	Pb	19 21 01.2	-0.4
VPL1	V. Platanar	0.66	318	eP	Pg	19 21 01.1	+0.3
VPL3	V. Platanar	0.69	326	eP	Pb	19 21 02.1	-0.4
VPL2	V. Platanar	0.70	319	⇑eP	Pg	19 21 02.2	+0.4
ARZA	Esparza	0.77	287	eP	Pg	19 21 02.6	-0.4
DRK0	Durika	0.83	127	eP	Pg	19 21 03.0	-1.1
SOCE	Pocosol	0.92	312	⇑eP	Pg	19 21 05.8	0.0
FIMO	Fila Mora	0.95	144	eP	Pb	19 21 07.3	+0.3
FORC	Fortuna	1.01	313	eP	Pg	19 21 07.4	-0.2
VACR	Volcan Arenal	1.02	313	eP	Pg	19 21 07.4	-0.5
ARE1	Arenal 1	1.05	311	⇑eP	Pg	19 21 08.0	-0.2
VARE2	V. Arenal	1.05	311	⇑eP	Pg	19 21 08.0	-0.2
JUNT	Juntas	1.15	297	eP	Pg	19 21 09.3	-0.8
JCR1	Jicaral	1.18	274	eP	Pb	19 21 10.5	-0.3
QUEB	Quebradon, Cot	1.28	312	eP	Pn	19 21 11.8	-0.6
ALCO	Alturas Coton,	1.34	127	eP	Pn	19 21 12.4	-0.9
PIRO	Carate, Puerto	1.47	157	eP	Pn	19 21 15.0	+0.1
CUI	Cuipilapa	1.51	306	eP	Pn	19 21 15.6	+0.1
PLVR	Palo Verde	1.52	292	eP	Pn	19 21 15.1	-0.7
COLC	Colonia	1.55	305	eP	Pn	19 21 16.2	+0.2

*CNRM **04** 19:35:50.9, 36°.42N×10°.73W, h59km*
*IGIL **04** 19:35:52.5, 36°.85N×10°.95W, h25km, ML1.4*
*MDD **04** 19:35:52.6±1.5, 36°.99N×10°.66W, h0km, mb_Lg2.7/4,*
Error ellipse: s-maj=11.1km s-min=8.8km az=25.0
ISC 04 19:35:53.2±4.1, 37°.0N±0°.1×10°.8W±0°.2, h62km±44km, n28,
σ0°63/36, **Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.60	83	P	Pn	19 36 19.2	-0.1
PFVI				S	Sn	19 36 39.4	+0.4
PFVI	Vila Bisbo	1.60	83	P	Pn	19 36 17.2	-2.1
MORF	Marmelete	1.76	78	eP	Pn	19 36 21.8	+0.2
MORF				eS	Sn	19 36 43.4	+0.4
MORF				IAML		19 36 46.0	
	comp=E,5.1nm,0.1s						
MESJ	Messejana	2.24	66	eP	Pn	19 36 28.4	+0.4
MESJ				eS	Sn	19 36 55.0	+0.4
MESJ				IAML		19 36 55.8	
	comp=N,1.2nm,0.1s						
PCVE	Castro Verde	2.31	72	S	Sn	19 36 56.5	+0.2
PCVE				P	Pn	19 36 29.2	+0.2
PMAFR	Mafra	2.33	31	S	Sn	19 36 56.7	+0.1
PVAQ	Vaqueiros	2.51	79	P	Pn	19 36 32.3	+0.6
PVAQ				S	Sn	19 37 02.7	+1.5
PVAQ	Vaqueiros	2.51	79	P	Pn	19 36 30.9	-0.8
EVO	Evora	2.72	54	S	Sn	19 37 06.0	-0.2
EGRO	El Granado	2.72	77	S	Sn	19 37 06.1	-0.1
EGRO	El Granado	2.72	77	Pn	Pn	19 36 35.0	+0.5
EGRO				Sn	Sn	19 37 06.6	+0.4
EGRO				i Vmb_Lg		19 37 54.5	
PESTR	Estremoz	3.18	52	S	Sn	19 37 17.6	+0.1
PBAR	Barrancos	3.23	67	P	Pn	19 36 41.9	+0.3
PBAR				S	Sn	19 37 18.8	-0.1
EMIN	Mina Concepcio	3.40	75	S	Sn	19 37 22.7

PB09 IAML 19 43 44.1
comp=N,257nm,0.4s
PB09 IPOC Station P 3.00 321 *e*P **Pn 19 43 03.4 +1.2**
PB09 IAML 19 43 44.7
comp=Z,160nm,0.2s
PB05 IPOC Station P 3.04 294 *e*P **Pn 19 43 03.0 +0.4**
PB05 *i*S **Sn 19 43 39.1 -2.4**
PB05 IPOC Station P 3.04 294 *e*P **Pn 19 43 03.0 +0.4**
PB05 *e*S **Sn 19 43 41.2 -0.3**
PB05 IAML 19 43 44.8
comp=Z,181nm,0.3s
PB03 IPOC Station P 3.14 311⇑ *i*P **Pn 19 43 04.4 +0.5**
PB03 *i*S **Sn 19 43 41.8 -1.9**
PB03 IAML 19 43 45.0
comp=N,514nm,0.1s
PB03 IPOC Station P 3.14 311 *e*P **Pn 19 43 04.5 +0.6**
PB03 IAML 19 43 47.0
comp=Z,356nm,0.2s
AC02 Maricunga 3.20 213 *e*P **Pn 19 43 05.4 +0.7**
AC02 IAML 19 43 51.3
comp=E,154nm,0.3s
AC02 Maricunga 3.20 213 *e*P **Pn 19 43 05.5 +0.7**
AC02 *e*S **Sn 19 43 44.0 -1.6**
AC01 Pan de Azucar 3.67 236 *e*P **Pn 19 43 09.4 -0.7**
AC01 *e*S **Sn 19 43 52.7 -2.4**
PB01 IPOC Station P 3.74 325 *e*P **Pn 19 43 11.1 0.0**
PB01 *i*S **Sn 19 43 53.8 -3.0**
PB01 IPOC Station P 3.74 325 *e*P **Pn 19 43 11.3 +0.2**
PB01 *e*S **Sn 19 43 55.4 -1.4**
PB01 IAML 19 43 57.8
comp=Z,138nm,0.2s
PATCX Punta Patache 4.29 320 *e*P **Pn 19 43 18.3 +0.3**
PATCX *e*S **Sn 19 44 01.2 -8.0**
PATCX IAML 19 44 18.1
comp=Z,90nm,0.4s
PB08 IPOC Station P 4.38 335 *e*P **Pn 19 43 20.1 +0.7**
PB08 IAML 19 44 17.0
comp=Z,52nm,0.5s
GO03 Copiapo 4.39 218 *e*P **Pn 19 43 18.5 -0.7**
GO03 *e*S **Sn 19 44 09.1 -2.4**
TA01 Diego Aracena 4.50 322 *e*P **Pn 19 43 19.9 -0.7**
TA01 *e*S **Sn 19 44 11.9 -2.1**
HMBC Humberstone 4.58 327 *e*P **Pn 19 43 21.4 -0.3**
HMBC *e*S **Sn 19 44 11.4 -4.6**
HMBC IAML 19 44 23.7
comp=Z,102nm,0.2s
GO01 Chusmiza 4.82 337 *e*P **Pn 19 43 25.5 +0.3**
GO01 *e*S **Sn 19 44 21.1 -1.0**
PB11 IPOC Station P 4.92 332 *e*P **Pn 19 43 25.2 -1.0**
PB11 IAML 19 44 23.8
comp=Z,58nm,0.2s
AC05 El Transito 5.43 210 *e*P **Pn 19 43 32.1 -0.5**
AC05 *e*S **Sn 19 44 33.2 -2.3**
CFA Coronel Fontan 7.49 187 P **Pn 19 43 59.5 +0.1**
comp=Z,0.5nm,0.3s,baz=241,slow=4.4,SNR=1.8
CFA S Sn 19 45 13.4 -11
comp=Z,0.7nm,0.4s,baz=251,slow=18,SNR=1.5
LPAZ La Paz 7.86 353 P **Pn 19 44 05.0 +0.1**
comp=Z,1.4nm,0.4s,baz=166,slow=5.9,SNR=9.3
CPUP Villa Florida 9.20 106 P **Pn 19 44 19.2 -2.5**
comp=Z,0.7nm,0.4s,baz=300,slow=14,SNR=3.3
CPUP S **Sn 19 46 04.3 -0.2**
comp=Z,1.2nm,0.4s,baz=118,slow=6.9,SNR=2.1
SIV San Ignacio 9.94 36 P **Pn 19 44 29.0 -2.5**
comp=Z,1.1nm,0.4s,baz=246,slow=9.3,SNR=6.1
PLCA Paso Flores 16.78 189 P **Pn 19 45 56.8 0.0**
comp=Z,1.5nm,0.9s,baz=19,slow=11,SNR=3.0
BDFB Brasilia 19.91 68 P **P 19 46 28.8 -1.2**
comp=Z,3.1nm,0.5s,baz=236,slow=14,SNR=5.8
TORD Torodi Ar. Bea 76.79 69 P **P 19 53 44.0 +0.3**
comp=Z,49nm,0.3s,baz=250,slow=4.8,SNR=1.4
BOSA Boshof 80.83 117 P **P 19 54 07.3 +1.6**
comp=Z,1.6nm,0.8s,baz=270,slow=10,SNR=4.2
comp=Z,1.6nm,0.8s
YKA Yellowknife Ar 94.19 340 P **P 19 55 11.5 +2.2**
comp=Z,0.3nm,0.7s,baz=127,slow=4.8,SNR=6.5
comp=Z,0.3nm,0.7s
ASAR Alice Springs 128.25 205 PKP **PKiKP 20 00 58.5 +0.8**
comp=Z,0.3nm,0.5s,baz=134,slow=1.6,SNR=6.6
WRA Warramunga Arr 131.42 207 PKP **PKiKP 20 01 05.1 +1.1**
comp=Z,0.4nm,0.6s,baz=152,slow=2.0,SNR=7.1
ZALV Zalesovo Beam 143.60 28 PKP **PKPdf 20 01 24.8 +0.5**
comp=Z,0.8nm,0.2s,baz=289,slow=4.5,SNR=3.9
MKAR Makanchi Array 146.75 40 PKPbc **PKPab 20 01 33.5 -0.2**
comp=Z,1.0nm,0.6s,baz=298,slow=3.6,SNR=15

*IDC **04** 19:43:29.9±2.1, 3°.70N×126°.86E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=204.4km s-min=22.3km az=67.0*
*DJA **04** 19:43:35.3±0.6, 4°N±8°×12°7E±°, h24km±11km, M3.9/6, mb4.2/3, MLv3.8/6*
ISC 04 19:43:36.3±1.5, 3°.7N±0°.1×126°.9E±0°.1, h48km, n7, σ1§32/8, mb3.5/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.40**	**270**	P	**Pn**	**19 43 58.6**	**-0.9**
SGSI				S	**Sn**	**19 44 17.2**	**+0.4**
TNTI	**Ternate**	**2.92**	**171**	S	**Sn**	**19 44 53.2**	**-1.0**
LUWI	**Luwuk**	**6.27**	**222**	P	**Pn**	**19 45 06.4**	**+0.1**
WRA	**Warramunga Arr**	**24.58**	**163**	P	**P**	**19 48 50.5**	**-1.6**
	0.5nm,0.6s,baz=342,slow=10,SNR=5.9						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**19 49 25.1**	**+2.1**
	0.2nm,0.4s,baz=340,slow=10,SNR=6.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**57.71**	**325**	P	**P**	**19 53 22.2**	**+0.1**
	0.3nm,0.4s,baz=127,slow=7.1,SNR=8.5						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**61.89**	**327**	P	**P**	**19 53 50.5**	**-0.3**
	0.5nm,0.7s,baz=127,slow=5.9,SNR=4.9						
	0.5nm,0.7s						

*NOU **04** 19:44:28.9, 37°.24S×178°.15E, h184km, MLv4.3/11, Off E. Coast of N. Island, N.Z.*
*IDC **04** 19:44:36.1±1.9, 37°.93S×177°.86E, h154km±7km, mb3.7/4, mbtmp4.2/5, MS3.7/1, Error ellipse: s-maj=52.8km s-min=36.5km az=160.0*
*WEL **04** 19:44:37.0±1.0, 37°S±8°×17°8E±°, h98km±9km, M4.1/84, ML4.4/82, MLv4.1/84, Error ellipse: s-maj=11.7km s-min=7.0km az=40.4, confirmed*
ISC 04 19:44:35.1±0.9, 37°.32S±0°.06×177°.67E±0°.06, h136km±6km, n136, σ1§25/148, mb4.0/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.43**	**242**	P	**Pn**	**19 44 53.0**	**-1.4**
WIZ				S	**Sn**	**19 45 06.6**	**-2.4**
WSRZ	**White Island S**	**0.44**	**243**	P	**Pn**	**19 44 53.1**	**-1.3**
HAZ	**Te Kaha**	**0.44**	**168**	P	**Pn**	**19 44 53.8**	**-0.6**
HAZ				S	**Sn**	**19 45 06.7**	**-2.4**
MXZ	**Matakaoa Point**	**0.56**	**116**	P	**Pn**	**19 44 54.9**	**-0.2**
MXZ	**Matakaoa Point**	**0.56**	**116**	P	**Pn**	**19 44 54.9**	**-0.2**
MXZ				S	**Sn**	**19 45 09.3**	**-0.9**
PKGZ	**Pakihiroa**	**0.63**	**149**	P	**Pn**	**19 44 56.0**	**+0.4**
PKGZ				S	**Sn**	**19 45 11.2**	**0.0**
RUGZ	**Raukumara Rang**	**0.64**	**180**	P	**Pn**	**19 44 54.9**	**-0.8**
WHRZ	**Whale Island**	**0.77**	**226**	P	**Pn**	**19 44 56.5**	**-0.1**
WMGZ	**Waiomatatini S**	**0.77**	**130**	P	**Pn**	**19 44 56.9**	**+0.4**
WMGZ				S	**Sn**	**19 45 12.8**	**0.0**
PUZ	**Puketiti**	**0.88**	**148**	P	**Pn**	**19 44 57.8**	**+0.4**
PUZ				S	**Sn**	**19 45 14.2**	**-0.3**
TWGZ	**Tauwhareparae**	**0.89**	**164**	P	**Pn**	**19 44 58.5**	**+1.0**
TWGZ				S	**Sn**	**19 45 15.6**	**+0.9**
MWZ	**Matawai**	**1.02**	**186**	P	**Pn**	**19 44 59.0**	**+0.3**
MWZ				S	**Sn**	**19 45 16.5**	**-0.2**
URZ	**Urewera**	**1.04**	**205**	LR	LR	19 44 56.8	
	comp=Z,59nm,21.6s,baz=343,slow=31						
URZ				P	**Pn**	**19 44 58.6**	**-0.1**
	784nm,0.4s,baz=347,slow=4.0,SNR=2402						
URZ				S	**Sn**	**19 45 17.1**	**+0.3**
	1μm,0.4s,baz=187,slow=22,SNR=29						
URZ	**Urewera**	**1.04**	**205**	P	**Pn**	**19 44 58.8**	**+0.1**
URZ	**Urewera**	**1.04**	**205**	P	**Pn**	**19 44 58.9**	**+0.1**
URZ				S	**Sn**	**19 45 16.1**	**-0.7**
TKGZ	**Te Karaka**	**1.12**	**173**	P	**Pn**	**19 45 00.3**	**+0.7**
TKGZ				S	**Sn**	**19 45 18.6**	**+0.2**
RAGZ	**Rawiri**	**1.19**	**190**	P	**Pn**	**19 45 01.2**	**+0.9**
RAGZ				S	**Sn**	**19 45 20.7**	**+1.1**
TGRZ	**Tauranga**	**1.19**	**250**	P	**Pn**	**19 45 00.1**	**-0.2**
CNGZ	**Carnagh Statio**	**1.23**	**160**	P	**Pn**	**19 45 01.9**	**+1.2**
TARZ	**Mount Tarawera**	**1.30**	**225**	P	**Pn**	**19 45 02.1**	**+0.6**
KARZ	**Kaharoa**	**1.33**	**238**	P	**Pn**	**19 45 02.0**	**+0.3**
MUGZ	**Murupara**	**1.36**	**211**	P	**Pn**	**19 45 02.4**	**+0.4**
RRRZ	**Republican Roa**	**1.37**	**222**	P	**Pn**	**19 45 03.0**	**+0.9**
RIGZ	**Rimuhau**	**1.38**	**177**	P	**Pn**	**19 45 03.0**	**+0.7**
HLRZ	**Highlands Stat**	**1.40**	**228**	P	**Pn**	**19 45 03.2**	**+0.7**
RTZ	**Ruatahuna**	**1.40**	**203**	P	**Pn**	**19 45 02.7**	**+0.2**
NGRZ	**Ngongotaha**	**1.41**	**236**	P	**Pn**	**19 45 03.3**	**+0.7**
UTU	**Utuhina**	**1.45**	**233**	P	**Pn**	**19 45 04.6**	**+1.6**
SNGZ	**Shannon Statio**	**1.48**	**190**	P	**Pn**	**19 45 04.1**	**+0.7**
HSRZ	**Hossack Road**	**1.50**	**228**	P	**Pn**	**19 45 04.7**	**+1.2**
HRRZ	**Handcock Road**	**1.53**	**225**	P	**Pn**	**19 45 04.9**	**+0.9**
PRRZ	**Plateau Road**	**1.55**	**220**	P	**Pn**	**19 45 04.5**	**+0.4**
GRRZ	**Galatos Road**	**1.61**	**230**	P	**Pn**	**19 45 05.9**	**+1.2**
PRGZ	**Paritu Road**	**1.61**	**174**	P	**Pn**	**19 45 05.3**	**+0.5**
ALRZ	**Allen Road**	**1.62**	**220**	P	**Pn**	**19 45 05.7**	**+0.8**
RAHZ	**Arahi**	**1.66**	**196**	P	**Pn**	**19 45 06.2**	**+0.8**
KUZ	**Kuaotunu**	**1.66**	**290**	P	**Pn**	**19 45 04.1**	**-1.2**
KUZ	**Kuaotunu**	**1.66**	**290**	P	**Pn**	**19 45 04.2**	**-1.2**
MTHZ	**Maungataniwha**	**1.66**	**203**	P	**Pn**	**19 45 05.6**	**+0.2**
WPRZ	**Whakapapatarin**	**1.69**	**224**	P	**Pn**	**19 45 06.8**	**+1.1**
KNZ	**Kokohu**	**1.70**	**180**	P	**Pn**	**19 45 06.3**	**+0.6**
TOZ	**Tahuroa Road**	**1.77**	**256**	P	**Pn**	**19 45 06.9**	**+0.3**
WHHZ	**Waihua**	**1.79**	**191**	P	**Pn**	**19 45 07.6**	**+0.8**
MRHZ	**Matea Rd**	**1.81**	**213**	P	**Pn**	**19 45 07.4**	**+0.4**
MHGZ	**Mahia Peninsul**	**1.84**	**174**	P	**Pn**	**19 45 08.4**	**+1.0**
KUTZ	**Kaahu Road**	**1.87**	**231**	P	**Pn**	**19 45 09.0**	**+1.2**
NMHZ	**Naumai**	**1.90**	**201**	P	**Pn**	**19 45 09.3**	**+1.1**
WHTZ	**Whakaora**	**1.91**	**225**	P	**Pn**	**19 45 09.8**	**+1.5**
TLZ	**Tolley Road**	**1.97**	**239**	P	**Pn**	**19 45 09.8**	**+0.9**
HATZ	**Hinemaiaia**	**2.00**	**218**	P	**Pn**	**19 45 10.1**	**+0.7**
ARHZ	**Aropaoanui**	**2.01**	**195**	P	**Pn**	**19 45 10.2**	**+0.8**
MKAZ	**Moumakai**	**2.02**	**275**	P	**Pn**	**19 45 09.4**	**-0.1**
BKZ	**Black Stump Fm**	**2.06**	**206**	P	**Pn**	**19 45 10.4**	**+0.3**
BKZ	**Black Stump Fm**	**2.06**	**206**	P	**Pn**	**19 45 10.3**	**+0.2**
WATZ	**Wairara**	**2.06**	**227**	P	**Pn**	**19 45 11.2**	**+1.1**
GRZ	**Great Barrier**	**2.07**	**300**	P	**Pn**	**19 45 09.3**	**-0.9**
WIAZ	**Waiheke Island**	**2.10**	**284**	P	**Pn**	**19 45 10.1**	**-0.4**
RITZ	**Rihia Road**	**2.19**	**220**	P	**Pn**	**19 45 12.8**	**+1.2**
ETAZ	**East Tamaki Re**	**2.22**	**279**	P	**Pn**	**19 45 12.3**	**+0.3**
MCHZ	**McNeill Hill**	**2.25**	**200**	P	**Pn**	**19 45 13.1**	**+0.7**
KATZ	**Kakaramea**	**2.27**	**223**	P	**Pn**	**19 45 14.2**	**+1.5**
MBAZ	**Motutapu North**	**2.29**	**283**	P	**Pn**	**19 45 12.8**	**0.0**
KWHZ	**Kaweka Forest**	**2.32**	**205**	P	**Pn**	**19 45 13.4**	**+0.2**
TMVZ	**Te Maari**	**2.37**	**220**	P	**Pn**	**19 45 14.7**	**+0.8**
NTVZ	**North Tongarir**	**2.37**	**221**	P	**Pn**	**19 45 14.9**	**+0.9**
CKHZ	**Cape Kidnapper**	**2.38**	**191**	P	**Pn**	**19 45 14.2**	**+0.2**
ETVZ	**East Tongariro**	**2.38**	**220**	P	**Pn**	**19 45 14.7**	**+0.6**
ABAZ	**Army Bay**	**2.38**	**287**	P	**Pn**	**19 45 14.1**	**+0.1**
KRVZ	**Karewarewa**	**2.38**	**221**	P	**Pn**	**19 45 15.4**	**+1.2**
OTVZ	**Oturere**	**2.42**	**220**	P	**Pn**	**19 45 15.3**	**+0.6**
NNVZ	**North Ngauruho**	**2.43**	**221**	P	**Pn**	**19 45 15.7**	**+1.0**
WTVZ	**West Tongariro**	**2.43**	**222**	P	**Pn**	**19 45 15.6**	**+0.9**
AWAZ	**Awhitu Peninsu**	**2.43**	**275**	P	**Pn**	**19 45 15.3**	**+0.6**
SNVZ	**South Ngauruho**	**2.45**	**220**	P	**Pn**	**19 45 15.8**	**+0.7**
NGZ	**Ngauruhoe**	**2.47**	**221**	P	**Pn**	**19 45 16.1**	**+0.9**
TWVZ	**Taurewa**	**2.48**	**225**	P	**Pn**	**19 45 16.4**	**+1.0**
WTAZ	**Waiatarua**	**2.51**	**278**	P	**Pn**	**19 45 16.3**	**+0.7**
TUVZ	**Tukino**	**2.51**	**219**	P	**Pn**	**19 45 16.1**	**+0.4**
COVZ	**Chateau Observ**	**2.52**	**221**	P	**Pn**	**19 45 17.7**	**+1.9**
HIZ	**Hauiti**	**2.52**	**241**	P	**Pn**	**19 45 17.3**	**+1.6**
HIZ	**Hauiti**	**2.52**	**241**	P	**Pn**	**19 45 17.3**	**+1.6**
KRHZ	**Kereru**	**2.53**	**203**	P	**Pn**	**19 45 15.6**	**-0.3**
KAHZ	**Kahuranaki**	**2.55**	**194**	P	**Pn**	**19 45 16.2**	**+0.1**
FWVZ	**Far West T-bar**	**2.55**	**220**	P	**Pn**	**19 45 17.0**	**+0.7**
WHVZ	**Whangaehu Hut**	**2.55**	**219**	P	**Pn**	**19 45 16.7**	**+0.4**
MAVZ	**Matarangi**	**2.56**	**220**	P	**Pn**	**19 45 17.0**	**+0.5**
MOVZ	**Moawhango**	**2.57**	**215**	P	**Pn**	**19 45 16.2**	**-0.3**
WNVZ	**Wahianoa**	**2.58**	**219**	P	**Pn**	**19 45 16.9**	**+0.2**
TRVZ	**Turoa**	**2.59**	**220**	P	**Pn**	**19 45 17.4**	**+0.7**
PKVZ	**Pokaka**	**2.68**	**222**	P	**Pn**	**19 45 18.5**	**+0.7**
MTVZ	**Mangateitei**	**2.69**	**219**	P	**Pn**	**19 45 18.4**	**+0.4**
PXZ	**Pawanui**	**2.78**	**193**	P	**Pn**	**19 45 18.4**	**-0.6**
PNHZ	**Pukenui**	**2.83**	**204**	P	**Pn**	**19 45 18.9**	**-0.8**
WPHZ	**Waipukurau**	**2.90**	**199**	P	**Pn**	**19 45 20.0**	**-0.6**
VRZ	**Vera Road**	**2.92**	**231**	P	**Pn**	**19 45 22.0**	**+1.3**
WCZ	**Waipu Caves**	**3.01**	**296**	P	**Pn**	**19 45 21.6**	**-0.4**
TSZ	**Takapari Road**	**3.04**	**206**	P	**Pn**	**19 45 21.3**	**-1.1**
PRHZ	**Porangahau**	**3.05**	**195**	P	**Pn**	**19 45 21.6**	**-0.8**
DVHZ	**Dannevirke**	**3.20**	**201**	P	**Pn**	**19 45 23.1**	**-1.3**
WAZ	**Wanganui**	**3.21**	**220**	P	**Pn**	**19 45 25.3**	**+0.7**
ANWZ	**Angora Road**	**3.27**	**196**	P	**Pn**	**19 45 24.6**	**-0.7**
POWZ	**Post Office Ro**	**3.41**	**205**	P	**Pn**	**19 45 26.0**	**-1.1**
NEZ	**North Egmont**	**3.42**	**234**	P	**Pn**	**19 45 29.6**	**+2.3**
KHEZ	**Kahui Hut**	**3.49**	**234**	P	**Pn**	**19 45 30.3**	**+2.0**
KHEZ	**Kahui Hut**	**3.49**	**234**	P	**Pn**	**19 45 30.2**	**+2.0**
PRWZ	**Pori Road**	**3.49**	**202**	P	**Pn**	**19 45 27.4**	**-0.8**
BFZ	**Birch Farm**	**3.53**	**198**	P	**Pn**	**19 45 27.2**	**-1.6**
BFZ	**Birch Farm**	**3.53**	**198**	P	**Pn**	**19 45 27.1**	**-1.6**
MRZ	**Mangatainoka R**	**3.71**	**205**	P	**Pn**	**19 45 29.2**	**-1.9**
TIWZ	**Tintock**	**3.72**	**201**	P	**Pn**	**19 45 29.9**	**-1.4**
CPWZ	**Castlepoint**	**3.76**	**197**	P	**Pn**	**19 45 31.1**	**-0.6**
OUZ	**Omahuta**	**3.90**	**301**	P	**Pn**	**19 45 33.6**	**0.0**
OUZ	**Omahuta**	**3.90**	**301**	P	**Pn**	**19 45 33.7**	**0.0**
HOWZ	**Holdsworth Sta**	**3.94**	**204**	P	**Pn**	**19 45 32.0**	**-2.2**
OGWZ	**Otaki Gorge**	**4.00**	**208**	P	**Pn**	**19 45 33.0**	**-1.8**
TMWZ	**Te Maipa**	**4.03**	**200**	P	**Pn**	**19 45 33.3**	**-1.9**
KIW	**Kapiti Island**	**4.14**	**210**	P	**Pn**	**19 45 34.8**	**-1.9**
CAW	**Cannon Point**	**4.29**	**207**	P	**Pn**	**19 45 36.3**	**-2.4**
TRWZ	**Traveller**	**4.35**	**200**	P	**Pn**	**19 45 37.3**	**-2.3**
MSWZ	**Moikau Station**	**4.50**	**204**	P	**Pn**	**19 45 38.7**	**-2.8**
DUWZ	**D'Urville Isla**	**4.54**	**219**	P	**Pn**	**19 45 39.8**	**-2.2**
SNZO	**South Karori**	**4.60**	**209**	P	**Pn**	**19 45 40.7**	**-2.1**
BHW	**Baring Head**	**4.62**	**207**	P	**Pn**	**19 45 40.5**	**-2.6**
TCW	**Tory Channel**	**4.69**	**213**	P	**Pn**	**19 45 41.5**	**-2.6**
NNZ	**Nelson**	**5.12**	**219**	P	**Pn**	**19 45 47.1**	**-2.7**
TKNZ	**Takaka Hill**	**5.21**	**223**	P	**Pn**	**19 45 48.8**	**-2.2**
QRZ	**Quartz Range**	**5.32**	**227**	P	**Pn**	**19 45 49.8**	**-2.6**
KHZ	**Kahutara**	**6.00**	**211**	P	**Pn**	**19 45 58.3**	**-3.2**
AMCZ	**Amberley**	**6.99**	**212**	P	**Pn**	**19 46 12.6**	**-2.3**
CTZ	**Chatham Island**	**7.74**	**148**	P	**Pn**	**19 46 26.8**	**+1.9**
RPZ	**Rata Peaks**	**8.13**	**216**	P	**Pn**	**19 46 26.5**	**-3.7**
	7.8nm,0.4s,baz=54,slow=8.7,SNR=11						
STKA	**Stephens Creek**	**30.07**	**270**	P	**P**	**19 50 30.6**	**-0.9**
	1.0nm,0.6s,baz=105,slow=16,SNR=3.3						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**39.75**	**277**	P	**P**	**19 51 56.0**	**+1.4**
	2.7nm,0.6s,baz=124,slow=8.4,SNR=42						
	2.7nm,0.6s						
WRA	**Warramunga Arr**	**41.39**	**282**	P	**P**	**19 52 09.0**	**+0.9**
	1.6nm,0.5s,baz=126,slow=6.4,SNR=18						
	1.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**49.24**	**278**	P	**P**	**19 53 11.3**	**+1.4**
	2.3nm,0.8s,baz=129,slow=6.5,SNR=1.7						
FITZ				LR	LR	20 15 42.2	
	comp=Z,77nm,18.1s,baz=318,slow=38						
	2.3nm,0.8s						
FINES	**FINESS Array B**	**150.04**	**333**	PKPbc	**PKPbc**	**20 04 09.5**	**+0.8**
	0.8nm,0.6s,baz=35,slow=5.1,SNR=6.4						

DJA 04 19:46:28.3±0.8, 4°N±8°×12°7E±°, h40km±16km, M3.8/6, mB5.3/1, mb4.1/3, MLv3.6/6, Mw(mB)4.7/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.34**	**272**	P	Pn	19 46 50.3	-0.2
SWI	**Sorong**	**6.27**	**136**	P	Pn	19 47 58.9	+0.5
	0.1nm22nm,0.8s						
MSAI	**Masohi**	**7.25**	**163**	P	Pn	19 48 11.2	-0.6

*DJA **04** 20:14:31.9±0.4, 8°S±5°×12°0E±°, h182km±9km, M3.7/12, mb4.0/5, MLv3.6/12*
*IDC **04** 20:14:32.6±2.1, 8°.11S×119°.97E, h212km±18km, mb2.9/4, mbtmp3.6/7, Error ellipse: s-maj=64.3km s-min=10.3km az=54.0*
ISC 04 20:14:31.4±0.9, 8°.26S±0°.07×119°.89E±0°.08, h200km, n20, σ1§39/23, mb3.4/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.46**	**200**	P	**Pn**	**20 15 03.8**	**-1.0**
WSI	**Waingapu**	**1.46**	**164**	P	**Pn**	**20 15 04.0**	**-0.8**
EDFI	**Ende, Flores**	**1.85**	**105**	P	**Pn**	**20 15 07.9**	**-0.7**
BASI	**Baing, Sumba**	**2.06**	**161**	P	**Pn**	**20 15 10.0**	**-0.6**
PLAI	**Plampang**	**2.16**	**255**	P	**Pn**	**20 15 11.6**	**-0.1**
BSSI	**Bau Bau, Buton**	**2.19**	**16**	P	**Pn**	**20 15 10.7**	**-1.3**
MMRI	**Maumere**	**2.36**	**99**	P	**Pn**	**20 15 13.8**	**0.0**
BKSI	**Bulukumba**	**2.93**	**5**	P	**Pn**	**20 15 19.6**	**-0.7**
KAPI	**Kappang**	**3.23**	**358**	P	**Pn**	**20 15 23.5**	**-0.3**
	21nm,0.5s,baz=151,slow=7.0,SNR=9.5						
SOEI	**Soe**	**4.58**	**109**	P	**Pn**	**20 15 41.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**5.68**	**267**	P	**Pn**	**20 15 53.9**	**-0.7**
GMJI	**Gumukmas**	**6.38**	**269**	P	**Pn**	**20 16 03.6**	**0.0**
	17nm,1.0s						
PCJI	**Pacitan**	**8.62**	**270**	P	**Pn**	**20 16 33.2**	**+0.4**
	37nm,1.4s						
UGM	**Wanagama**	**9.28**	**271**	P	**Pn**	**20 16 42.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.27**	**151**	P	**Pn**	**20 17 09.1**	**+2.0**
	6.5nm,1.1s,baz=347,slow=14,SNR=2.5						
FITZ				S	**Sn**	**20 19 08.6**	**-4.2**
	3.1nm,0.6s,baz=190,slow=21,SNR=8.0						
WRA	**Warramunga Arr**	**18.18**	**131**	P	**P**	**20 18 30.2**	**+0.8**
	0.3nm,0.3s,baz=306,slow=12,SNR=22						
WRA				S	**S**	**20 21 49.7**	**+2.5**
	0.2nm,0.3s,baz=309,slow=21,SNR=4.7						
ASAR	**Alice Springs**	**20.38**	**140**	P	**P**	**20 18 54.2**	**+1.3**
	0.3nm,0.3s,baz=319,slow=9.3,SNR=19						
ASAR				S	**S**	**20 22 30.1**	**-0.2**
	0.4nm,0.8s,baz=319,slow=21,SNR=2.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**64.21**	**332**	P	**P**	**20 24 44.9**	**-0.1**
	0.3nm,0.5s,baz=144,slow=7.3,SNR=5.8						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**68.67**	**339**	P	**P**	**20 25 11.6**	**-1.4**
	0.5nm,0.5s,baz=134,slow=8.3,SNR=2.4						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**68.70**	**333**	P	**P**	**20 25 12.8**	**-0.5**
	0.1nm,0.5s,baz=138,slow=6.1,SNR=2.0						
	0.1nm,0.5s						

IDC 04 20:35:42.9±2.2, 6°.97S×129°.38E, h0km, mb3.5/1, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=85.8km s-min=28.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.65**	**198**	Pn	Pn	20 38 28.9	-1.6
	0.3nm,0.3s,baz=20,slow=11,SNR=21						
FITZ				Sn	Sn	20 40 24.7	-17
	0.8nm,0.3s,baz=45,slow=23,SNR=7.6						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**13.77**	**160**	Pn	Pn	20 38 59.8	+0.2
	0.3nm,0.3s,baz=345,slow=13,SNR=17						
WRA				Sn	Sn	20 41 20.8	-12
	0.6nm,0.3s,baz=332,slow=24,SNR=9.1						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.16**	**166**	P	P	20 39 45.8	-0.3
	0.1nm,0.3s,baz=341,slow=10,SNR=5.8						
ASAR				S	Sn	20 42 43.8	-12
	0.3nm,0.3s,baz=330,slow=21,SNR=5.3						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	20 46 43.2	+0.1
	0.3nm,0.6s,baz=121,slow=6.6,SNR=4.7						
	0.3nm,0.6s						

*NEIC **04** 20:50:20.8±1.1, 36°.58N±0°.03×121°.12W±0°.04, h18km±7km, Error ellipse: s-maj=6.1km s-min=1.3km az=46.0*
NCEDC 04 20:50:21.4±1.7, 36°.57N±0°.02×121°.12W±0°.02, h9km±7km, ML3.0/36, ML2.8/58(NEIC), Error ellipse: s-maj=2.4km s-min=1.9km az=199.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGB	**Big Mountain B**	**0.06**	**83**		Sg	20 50 26.5	+1.5
BBGB	**Big Mountain B**	**0.06**	**83**	Pg	Pg	20 50 24.2	+0.7
BBGB				IAML		20 50 26.5	
	comp=N,9μm,0.3s						
BBGB				IAML		20 50 26.7	
	comp=E,33μm,0.5s						
BEMM	**Emmet**	**0.09**	**11**		Pg	20 50 24.5	+0.7
BJOM	**Mount Johnson**	**0.17**	**290**		Pg	20 50 25.0	+0.1
BJOM					Sg	20 50 27.5	+0.2
LRV	**Little Rabbit**	**0.17**	**151**		Pg	20 50 25.6	+0.6
BSGM	**Shirttail Gulc**	**0.19**	**215**		Pg	20 50 25.1	-0.2
BJCM	**

JFP	**Foothills Park**	**1.17**	**313**		Pb	20 50 42.0	-1.7
JPSM		**1.17**	**303**		Pb	20 50 42.1	-1.6
JSFB	**Stanford Teles**	**1.19**	**315**		Pb	20 50 43.0	-1.1
TSCN	**Private Proper**	**1.20**	**148**		Pb	20 50 43.0	-1.3
JRSC	**Jasper Ridge**	**1.22**	**313**		Pn	20 50 42.7	-2.1
LSDC	**Los Osos Digit**	**1.29**	**170**		Pg	20 50 46.6	+0.4
TRAY	**Twisselman Ran**	**1.30**	**141**		Pn	20 50 45.6	-0.2
PBPM	**Bitterwater Pu**	**1.30**	**139**		Pb	20 50 46.1	+0.1
CBSNC	**Byron Hot Spri**	**1.31**	**342**		Pg	20 50 49.9	+3.3
CMOB	**Morgan Territo**	**1.35**	**336**		Pg	20 50 48.7	+1.3
JCHM	**Cahill Ridge**	**1.38**	**314**		Pn	20 50 45.1	-1.8
SAC	**San Andreas**	**1.45**	**315**		Pn	20 50 46.6	-1.2
CMB	**Columbia Colle**	**1.57**	**22**		Pn	20 50 49.1	-0.5
CMB	**Columbia Colle**	**1.57**	**22**		Pn	20 50 48.4	-1.2
CMB				IAML		20 51 15.2	
	comp=N,40nm,0.5s						
CMB				IAML		20 51 18.8	
	comp=E,34nm,0.8s						
CRGC	**Crocker Grade**	**1.74**	**139**		Pn	20 50 51.8	-0.2
MCCM	**Marconi Confer**	**2.11**	**319**	Pn	Pn	20 50 55.7	-1.2
MCCM				IAML		20 51 35.6	
	comp=E,53nm,1.0s						
MCCM				IAML		20 51 48.6	
	comp=N,63nm,1.6s						
BCW	**Bitter Crk WRg**	**2.14**	**139**		Pn	20 50 56.8	-0.6
BCW				IAML		20 51 41.7	
	comp=N,94nm,0.8s						
ISA	**Isabella, Lake**	**2.33**	**112**		Pn	20 50 59.0	-0.9
ISA				IAML		20 51 31.7	
	comp=N,64nm,0.8s						
ISA				IAML		20 51 31.8	
	comp=E,42nm,0.7s						
WAKR	**Walker**	**2.35**	**34**		Pn	20 51 01.3	+0.9
WAKR				IAML		20 51 39.2	
	comp=E,36nm,0.8s						
WAKR				IAML		20 51 45.2	
	comp=N,40nm,0.8s						
AFDM	**Forest Hills D**	**2.38**	**3**	Pn	Pn	20 51 00.4	-0.2
DSP	**Deep Springs**	**2.65**	**72**	Pn	Pn	20 51 05.1	+0.9
DSP				IAML		20 51 55.0	
	comp=E,22nm,1.6s						
LHV	**Little Huntoon**	**2.67**	**50**		Pn	20 51 04.5	-0.2
LHV				IAML		20 51 52.4	
	comp=N,39nm,0.8s						
LHV				IAML		20 51 52.7	
	comp=E,45nm,0.9s						
PNTR	**Pine Nut**	**2.79**	**25**		Pn	20 51 05.7	-0.8
PNTR				IAML		20 52 00.6	
	comp=E,34nm,1.1s						
PNTR				IAML		20 52 12.2	
	comp=N,33nm,1.1s						
MPK	**Martis Peak**	**2.85**	**17**		Pn	20 51 06.7	-0.8
MPK				IAML		20 52 01.3	
	comp=N,42nm,0.8s						
MPK				IAML		20 52 04.7	
	comp=E,43nm,1.1s						
CCAC	**Calif City Air**	**2.89**	**118**	Pn	Pn	20 51 07.3	-0.4
CCAC				IAML		20 51 50.6	
	comp=N,40nm,0.7s						
CCAC				IAML		20 52 02.9	
	comp=E,40nm,0.9s						
NVAR	**Mina Array Bea**	**2.91**	**49**		Pb	20 51 12.7	-0.9
RYN	**Ryan**	**2.91**	**44**		Pn	20 51 08.0	-0.1
RYN				IAML		20 51 53.5	
	comp=N,20nm,0.5s						
RYN				IAML		20 52 03.1	
	comp=E,19nm,0.9s						
NV11	**Mina Array Sit**	**3.00**	**51**		Pn	20 51 09.1	-0.2
BEKR	**Beckworth**	**3.34**	**10**		Pn	20 51 12.2	-1.9
BEKR				IAML		20 52 24.3	
	comp=E,14nm,0.9s						
PAHR	**Pah Rah Range**	**3.42**	**23**		Pn	20 51 14.0	-1.0
GWY	**Greenwater Val**	**3.61**	**95**	Pn	Pn	20 51 17.6	-0.1
GWY				IAML		20 52 34.3	
	comp=N,9.5nm,2.4s						
WCT	**Wildcat Mounta**	**3.62**	**85**		Pn	20 51 17.4	-0.4
WCT				IAML		20 52 23.7	
	comp=E,10nm,0.8s						
GSC	**Goldstone, Bar**	**3.72**	**109**		Pn	20 51 17.4	-1.8
GSC				IAML		20 52 26.5	
	comp=E,14nm,0.8s						
GSC				IAML		20 52 54.3	
	comp=N,16nm,0.5s						

*UCR **04** 21:17:57.3±0.9, 9°.34N×83°.23W, h6km±3km, MW4.0*
*UPA **04** 21:17:57.3±0.5, 9°.26N×83°.18W, h2km±3km, MW4.1*
ISC 04 21:17:57.2±0.9, 9°32N±0°.03×83°23W±0°.03, h15km±6km, n66, σ0s92/78, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK0	**Durika**	**0.06**	**199**	*e*P	**Pg**	**21 18 00.2**	**-0.1**
BURE	**Buenos Aires**	**0.18**	**217**	*e*P	**Pg**	**21 18 01.6**	**0.0**
BURE				*e*S	**Sg**	**21 18 04.4**	**-0.2**
SAJE	**San Jernim**	**0.28**	**275**	*e*P	**Pg**	**21 18 02.5**	**-0.8**
EDP2	**Potrero Grande**	**0.31**	**171**	*e*P	**Pb**	**21 18 04.3**	**-0.1**
EDP2				*e*S	**Sb**	**21 18 09.4**	**+0.1**
FIMO	**Fila Mora**	**0.35**	**201**	*e*P	**Pg**	**21 18 05.0**	**+0.5**
FIMO				*e*S	**Sb**	**21 18 11.4**	**+0.7**
ALCO	**Alturas Coton,**	**0.53**	**133**	*e*P	**Pg**	**21 18 07.9**	**+0.1**
VITO	**San Vito**	**0.56**	**153**	*e*P	**Pb**	**21 18 09.6**	**+0.8**
NELY	**Ciudad Neily**	**0.72**	**157**	*e*P	**Pn**	**21 18 13.1**	**+0.2**
BRU2	**Volcan**	**0.74**	**135**	*e*P	**Pb**	**21 18 11.8**	**-0.1**
BRU2	**Volcan**	**0.74**	**135**	*e*P	**Pb**	**21 18 11.7**	**-0.2**
BRU2				*e*S	**Sb**	**21 18 22.5**	**+0.5**
VINA	**Juan Vinas**	**0.77**	**318**	*e*P	**Pg**	**21 18 11.6**	**-0.6**
RVSTA	**Santa Teresita**	**0.77**	**328**	*e*P	**Pg**	**21 18 12.2**	**-0.1**
VERB	**Verbena**	**0.78**	**323**	*e*P	**Pg**	**21 18 11.8**	**-0.5**
PIEC	**Cerro El Cedra**	**0.78**	**293**	*e*P	**Pg**	**21 18 11.2**	**-1.3**
BC3P	**Paso Ancho**	**0.79**	**129**	*e*P	**Pg**	**21 18 12.5**	**-0.1**
BC3P				*e*S	**Sb**	**21 18 23.7**	**+0.3**
REPA	**Paraso**	**0.81**	**309**	*e*P	**Pg**	**21 18 12.0**	**-1.0**
IRES	**Siquirres**	**0.82**	**340**	*e*P	**Pg**	**21 18 13.4**	**+0.2**
VTCV	**VTCV, Calle Va**	**0.82**	**323**	*e*P	**Pg**	**21 18 12.7**	**-0.6**
PCAYA	**Pacayas**	**0.83**	**316**	*e*P	**Pg**	**21 18 12.7**	**-0.7**
CVTV	**Tajo**	**0.85**	**323**	*e*P	**Pg**	**21 18 13.4**	**-0.5**
RAFA	**San Farael, Vo**	**0.86**	**318**	*e*P	**Pg**	**21 18 13.3**	**-0.6**
RVLA	**Villa Bonita**	**0.86**	**336**	*e*P	**Pg**	**21 18 13.9**	**-0.1**
CVTQ	**Turrialba Volc**	**0.86**	**322**	*e*P	**Pg**	**21 18 13.6**	**-0.5**
VTLA	**Turrialba Volc**	**0.87**	**321**	*e*P	**Pg**	**21 18 13.5**	**-0.6**
VTR0	**Volcan Turrial**	**0.87**	**323**	*e*P	**Pg**	**21 18 13.7**	**-0.5**
CVTR	**Volcan Turrial**	**0.87**	**323**	*e*P	**Pg**	**21 18 13.7**	**-0.6**
LCR2	**La Lucha 2**	**0.88**	**299**	*e*P	**Pg**	**21 18 12.6**	**-1.7**
LLNJ	**Naranjito**	**0.88**	**280**	*e*P	**Pg**	**21 18 13.6**	**-0.6**
VICA	**Volcano Irazu**	**0.90**	**317**	*e*P	**Pg**	**21 18 13.9**	**-0.9**
ABE2	**San Pablo**	**0.90**	**295**	*e*P	**Pg**	**21 18 13.3**	**-1.4**
PIRO	**Carate, Puerto**	**0.92**	**187**	*e*P	**Pg**	**21 18 14.6**	**-0.4**
PIRO	**Carate, Puerto**	**0.92**	**187**	*e*P	**Pg**	**21 18 14.7**	**-0.3**
PIRO				*e*S	**Sb**	**21 18 27.6**	**+0.8**
LNBQ3	**Los Naranjos,**	**0.94**	**124**	*e*P	**Pg**	**21 18 14.9**	**-0.5**
LNBQ3				*e*S	**Sb**	**21 18 28.1**	**+0.5**
PTAR3	**Potrerillos Ar**	**0.95**	**131**	*e*P	**Pg**	**21 18 15.3**	**-0.4**
PTAR3				*e*S	**Sb**	**21 18 29.4**	**+1.4**
CVTG	**V. Turrialba,**	**0.98**	**327**	*e*P	**Pg**	**21 18 15.6**	**-0.7**
CVIMO	**Finca Echandi**	**0.99**	**315**	*e*P	**Pg**	**21 18 15.7**	**-0.8**
PICV	**PH. Pirrs**	**1.00**	**288**	*e*P	**Pg**	**21 18 15.5**	**-1.1**
CORON	**Coronado**	**1.00**	**310**	*e*P	**Pg**	**21 18 15.9**	**-0.8**
SJS	**Escuela Geolog**	**1.02**	**307**	*e*P	**Pg**	**21 18 15.8**	**-1.3**
LUJA	**Lujan**	**1.03**	**306**	*e*P	**Pg**	**21 18 15.6**	**-1.5**
LUPE	**Guadalupe**	**1.03**	**307**	*e*P	**Pg**	**21 18 16.3**	**-0.8**
ACOS	**Acosta**	**1.04**	**297**	*e*P	**Pg**	**21 18 16.0**	**-1.4**
PILE	**Guapiles**	**1.05**	**328**	*e*P	**Pg**	**21 18 18.0**	**+0.4**
DOMI	**Santo Domingo**	**1.08**	**308**	*e*P	**Pg**	**21 18 18.0**	**-0.1**
HDC	**Heredia**	**1.11**	**308**	*e*P	**Pg**	**21 18 17.1**	**-1.5**
HEME	**Heredia, Merce**	**1.12**	**307**	*e*P	**Pg**	**21 18 17.6**	**-1.4**
SANTA	**Santa Ana**	**1.12**	**303**	*e*P	**Pg**	**21 18 17.9**	**-1.1**
CHGR2	**Aguacate**	**1.13**	**109**	*e*P	**Pg**	**21 18 17.9**	**-1.2**
CHGR2				*e*S	**Sb**	**21 18 33.5**	**+0.4**
BELE	**Belen**	**1.15**	**305**	*e*P	**Pg**	**21 18 18.2**	**-1.3**
DVD	**David**	**1.17**	**139**	*e*P	**Pg**	**21 18 17.9**	**-1.8**
DVD				*e*S	**Sg**	**21 18 33.5**	**-1.5**
VBV1	**V. Barva**	**1.17**	**313**	*e*P	**Pg**	**21 18 18.5**	**-1.3**
GUAL3	**Gualaca, Chiri**	**1.21**	**130**	*e*P	**Pg**	**21 18 18.6**	**-1.9**
GUAL3				*e*S	**Sg**	**21 18 35.1**	**-1.1**
TCS1	**Tacares**	**1.28**	**304**	*e*P	**Pg**	**21 18 20.8**	**-1.1**
VPS5	**V. Poas**	**1.32**	**311**	*e*P	**Pg**	**21 18 22.1**	**-0.5**
TRB2	**Turrubares**	**1.34**	**296**	*e*P	**Pn**	**21 18 21.0**	**-0.5**
ARTO	**Ro Cuarto**	**1.41**	**316**	*e*P	**Pn**	**21 18 22.9**	**+0.5**
ITAL	**Pital**	**1.52**	**318**	*e*P	**Pn**	**21 18 24.1**	**+0.1**
SOCE	**Pocosol**	**1.73**	**308**	*e*P	**Pn**	**21 18 28.1**	**+1.2**
VACR	**Volcan Arenal**	**1.83**	**309**	*e*P	**Pn**	**21 18 29.6**	**+1.4**
ARE1	**Arenal 1**	**1.86**	**308**	*e*P	**Pn**	**21 18 29.8**	**+1.2**
VARE2	**V. Arenal**	**1.86**	**308**	*e*P	**Pn**	**21 18 29.9**	**+1.3**
CBL1	**Cabuya**	**1.86**	**278**	*e*P	**Pn**	**21 18 28.7**	**+0.1**
CEDE	**Laguna Cedeo**	**1.86**	**309**	*e*P	**Pn**	**21 18 30.2**	**+1.6**
QUEB	**Quebradon, Cot**	**2.09**	**308**	*e*P	**Pn**	**21 18 33.2**	**+1.4**
CALO3	**Calobre, Verag**	**2.56**	**113**	*e*P	**Pn**	**21 18 38.2**	**0.0**
AZU	**Azuero**	**3.29**	**117**	*e*P	**Pn**	**21 18 49.0**	**+0.8**
AZU				*e*S	**Sn**	**21 19 27.6**	**+0.4**

ASRS 04 21:21:48.0±0.7, 49°N±2°×9°8E±°, h4km, MLh3.9/9, 1D, Error ellipse: s-maj=6.2km s-min=4.0km az=137.3, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**1.27**	**356**	⇓P	Pg	21 22 12.1	-0.2
KNGR				Sg	Sn	21 22 33.3	+3.1
KZLR	**Kyzyl**	**3.13**	**320**	Pg	Pg	21 22 47.6	-0.4
KZLR				Sg	Sg	21 23 35.4	+6.8
TDJR	**Todzha**	**3.22**	**343**	Pg	Pg	21 22 48.8	-0.8
TDJR				Sg	Sg	21 23 36.2	+4.8
ARDR	**Aradan**	**4.21**	**322**	Pg	Pg	21 23 10.8	+2.2
ARDR				Sg	Sg	21 24 07.1	+4.1
TEL	**Teeli**	**5.09**	**292**	Pg	Pg	21 23 26.1	+0.7
TEL				Sg	Sg	21 24 36.7	+5.4
CERR	**Cheremushki**	**5.28**	**314**	Pg	Pg	21 23 30.3	+1.2
CERR				Sg	Sg	21 24 40.4	+2.8
DJO	**Djoy, Khakassi**	**5.33**	**313**	Pg	Pg	21 23 28.4	-1.7
DJO				Sg	Sg	21 24 42.5	+3.4
MINR	**Mina**	**5.96**	**340**	Pg	Pg	21 23 40.3	-1.9
MINR				Sg	Sg	21 25 08.2	+8.9
VEH	**Verkhnyaya Baz**	**6.05**	**313**	Sg	Sg	21 25 06.5	+4.3
CUR	**Chagan-Uzun**	**6.09**	**281**	Pg	Pg	21 23 43.4	-1.3
CUR				Sg	Sg	21 25 09.3	+5.7
ULGR	**Ulagan, Altay**	**6.39**	**285**	Pg	Pg	21 23 52.4	+1.9
ULGR				Sg	Sg	21 25 21.6	+8.4
AKAR	**Aktash**	**6.58**	**282**	Pg	Pg	21 23 54.5	+0.5
AKAR				Sg	Sg	21 25 27.1	+8.0
CHBI	**Chibit, Altay**	**6.65**	**282**	Pg	Pg	21 23 53.9	-1.5
CHBI				Sg	Sg	21 25 27.9	+6.4
DGZ	**Jazzator, Alta**	**6.68**	**277**	Pg	Pg	21 23 55.6	-0.3
DGZ				Sg	Sg	21 25 28.5	+6.1
YALR	**Yailyu, Altay**	**6.86**	**295**	Pg	Pg	21 24 00.7	+1.5
YALR				Sg	Sg	21 25 34.0	+6.0
LUZB	**Luzhba, Kemero**	**6.97**	**312**	Sg	Sg	21 25 35.7	+3.9
TASR	**Tashtagol**	**7.06**	**303**	Sg	Sg	21 25 40.2	+5.8
ARTR	**Artybash**	**7.06**	**294**	Sg	Sg	21 25 39.5	+4.9

*JMA **04** 21:27:51.9±0.1, 24°N±1°×123°.0E±0°.5, h57km±1km, MV3.1/15, NW OFF ISHIGAKIJIMA IS*
ISC 04 21:27:52.4±1.3, 24°14N±0°07×122°98E±0°.03, h47km±13km, n22, σ0s76/30, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.31**	**355**	*i* P	**Pn**	**21 28 01.1**	**-0.2**
JYNG				S	**Sn**	**21 28 07.7**	**+0.1**
YOJ	**Yonaguni jima**	**0.32**	**6**	P	**Pn**	**21 28 01.0**	**-0.4**
YOJ	**Yonaguni jima**	**0.32**	**6**	*i* P	**Pn**	**21 28 01.2**	**-0.2**
YOJ				S	**Sn**	**21 28 08.1**	**+0.3**
IRIF	**Iriomote-Funau**	**0.71**	**74**	*i* P	**Pn**	**21 28 05.9**	**-0.3**
IRIF				S	**Sn**	**21 28 16.4**	**+0.2**
HATJ	**Hateruma jima**	**0.76**	**96**	P	**Pn**	**21 28 07.2**	**+0.4**
HATJ				*e*S	**Sn**	**21 28 18.3**	**+1.0**
JKRS	**Kuro-shima**	**0.95**	**84**	*i* P	**Pn**	**21 28 09.6**	**+0.2**
JKRS				S	**Sn**	**21 28 23.1**	**+1.3**
JIJ	**Ishigaki jima**	**1.09**	**78**	*i* P	**Pn**	**21 28 10.7**	**-0.5**
JIJ				S	**Sn**	**21 28 24.7**	**-0.5**
NACB	**Ninganchiao**	**1.26**	**272**	P	**Pn**	**21 28 12.9**	**-0.7**
NACB	**Ninganchiao**	**1.26**	**272**	S	**Sn**	**21 28 29.3**	**-0.1**
JISG	**Ishigakijimahi**	**1.30**	**70**	*i* P	**Pn**	**21 28 13.4**	**-0.6**
JISG				S	**Sn**	**21 28 29.4**	**-0.9**
YHNB	**Yeheng**	**1.55**	**290**	P	**Pn**	**21 28 18.2**	**+0.6**
YHNB	**Yeheng**	**1.55**	**290**	S	**Sn**	**21 28 37.3**	**+0.7**
TATO	**Taipei**	**1.59**	**302**	P	**Pn**	**21 28 17.8**	**-0.2**
TATO	**Taipei**	**1.59**	**302**	S	**Sn**	**21 28 37.5**	**+0.1**
JTJ	**Tarama**	**1.65**	**72**	P	**Pn**	**21 28 18.8**	**-0.2**
JTJ				*e*S	**Sn**	**21 28 38.9**	**-0.1**
YULB	**Yu-li**	**1.71**	**244**	P	**Pn**	**21 28 19.0**	**-0.7**
YULB	**Yu-li**	**1.71**	**244**	S	**Sn**	**21 28 39.3**	**-1.1**
JIRB	**Irabujima**	**2.12**	**71**	*e*P	**Pn**	**21 28 25.2**	**-0.1**
TWGBT	**Beinan**	**2.18**	**233**	P	**Pn**	**21 28 25.7**	**-0.5**
TWGBT	**Beinan**	**2.18**	**233**	S	**Sn**	**21 28 50.9**	**-1.2**
TPUB	**Ta-pu**	**2.31**	**249**	P	**Pn**	**21 28 29.4**	**+1.4**
TPUB	**Ta-pu**	**2.31**	**249**	S	**Sn**	**21 28 56.9**	**+1.8**

*JMA **04** 21:34:31.2±0.1, 23°.9N±0°.7×142°.0E±0°.7, h100km, MD4.9/27, MV5.2/27, IOTO ISLANDS REGION*
*BJI **04** 21:34:33.0, 24°.12N×142°.93E, h52km, mB5.0/25, mb4.7/75, Ms4.2/43, Ms7 4.1/48*
*NEIC **04** 21:34:38.9±1.6, 24°.49N±0°.08×142°.51E±0°.10, h35km±1km, mb5.1/398, Error ellipse: s-maj=15.5km s-min=12.9km az=108.0*
*IDC **04** 21:34:40.6±1.2, 24°.47N×142°.12E, h61km±9km, mb4.3/28, mbtmp4.5/35, MS3.8/65, Error ellipse: s-maj=13.1km s-min=7.7km az=75.0*
ISC 04 21:34:39.3±0.5, 24°45N±0°.05×142°43E±0°.05, h49km±3km, h49km:pP-P, n802, σ1s27/777, mb5.0/238, MS3.9/78, 5C-4D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.19**	**354**	*e*P	**Pn**	**21 35 14.1**	**+0.8**
JHH2	**Haha-jima-NKT2**	**2.19**	**354**	A	A	21 35 14.1	
	comp=N,16nm,0.3s,comp=E,24nm,0.5s						
CBIJ	**Chichi jima**	**2.65**	**355**	*e*P	**Pn**	**21 35 19.6**	**0.0**
CBIJ	**Chichi jima**	**2.65**	**355**	A	A	21 35 19.6	
	comp=N,11nm,2.3s,comp=E,10.0nm,3.7s						
JCJ	**Chichijima**	**2.65**	**355**		**Pn**	**21 35 18.4**	**-1.2**
JCJ	**Chichijima**	**2.65**	**355**	P	**Pn**	**21 35 19.5**	**-0.1**
	comp=E,187nm,0.3s,baz=219,slow=13,SNR=30						
JCJ				S	**Sn**	**21 35 50.8**	**+0.3**
	comp=E,359nm,0.3s,baz=215,slow=22,SNR=5.6						
JCJ				LR	LR	21 36 13.3	
	comp=E,811nm,18.7s,baz=176,slow=35						
JHJ2	**Mitsune**	**8.93**	**346**	Pn	**Pn**	**21 36 45.1**	**-0.6**
JHJ	**Hachijo jima 2**	**8.95**	**346**	P	**Pn**	**21 36 46.6**	**+0.6**
	comp=E,180nm,1.0s,baz=51,slow=22,SNR=6.8						
JHJ				S	**Sn**	**21 38 19.9**	**-5.4**
	comp=E,39nm,0.5s,baz=265,slow=20,SNR=1.1						
JMZ	**Minamidaito 2**	**10.25**	**280**	Pn	**Pn**	**21 37 05.4**	**+1.7**
BSO3	**Boso 3**	**10.45**	**351**	*e*P	**Pn**	**21 37 06.2**	**-0.1**
BSO4	**Boso 4**	**10.66**	**351**	*e*P	**Pn**	**21 37 09.9**	**+0.6**
BSO4				*e*S	**Sn**	**21 39 09.3**	**+2.1**
GUMO	**Guam**	**11.04**	**168**	LR	LR	21 40 10.2	
	comp=E,180nm,19.4s,baz=23,slow=30						
JAO	**Obara**	**11.68**	**339**	*e*P	**Pn**	**21 37 24.3**	**+1.0**
INU	**Inuyama**	**11.83**	**338**	Pn	**Pn**	**21 37 25.2**	**-0.2**
JMN	**Monobe**	**11.89**	**323**		**Pn**	**21 37 25.9**	**-0.2**
JGF	**Kuroka**	**11.95**	**340**		**Pn**	**21 37 25.7**	**-1.4**
JAG	**Ashikaga**	**12.21**	**349**	*e*P	**Pn**	**21 37 27.3**	**-3.3**
JAG				*e*S	**Sn**	**21 39 39.7**	**-5.5**
MJAR	**Matsushiro Arr**	**12.59**	**344**	P	**Pn**	**21 37 34.2**	**-1.6**
	comp=E,1.8nm,0.4s,baz=162,slow=11,SNR=11						
MJAR				LR	LR	21 42 32.5	
	comp=E,326nm,18.2s,baz=137,slow=38						
MAJO	**Matsushiro**	**12.59**	**344**	Pn	**Pn**	**21 37 35.3**	**-0.5**
MJB9	**Matsu-Tunnel**	**12.60**	**344**	Pn	**Pn**	**21 37 35.3**	**-0.6**
JOW	**Kunigami**	**12.99**	**284**	Pn	**Pn**	**21 37 40.0**	**-1.3**
JOW	**Kunigami**	**12.99**	**284**	P	**Pn**	**21 37 39.0**	**-2.3**
	comp=E,17nm,0.8s,baz=168,slow=18,SNR=1.4						
JOW				LR	LR	21 42 05.1	
	comp=E,1μm,21.4s,baz=114,slow=35						
JNU	**Nakatsue**	**13.31**	**313**		**Pn**	**21 37 44.0**	**-1.6**
JNU	**Nakatsue**	**13.31**	**313**	P	**Pn**	**21 37 44.4**	**-1.2**
	comp=E,4.1nm,0.8s,baz=78,slow=5.2,SNR=6.4						
JNU				LR	LR	21 42 17.7	
	comp=E,404nm,20.6s,baz=124,slow=35						
JMM	**Marumori**	**13.45**	**354**		**Pn**	**21 37 44.4**	**-3.1**
JSD	**Sado**	**14.01**	**346**	Pn	**Pn**	**21 37 54.6**	**-0.4**
JTM	**Tenmabayashi**	**16.33**	**356**		**Pn**	**21 38 24.4**	**-0.9**
ERM	**Erimo**	**17.53**	**2**	P	**P**	**21 38 40.6**	**-0.1**
KSRS	**Korea Array**	**17.94**	**320**	P	**Pn**	**21 38 44.4**	**-0.9**
	comp=E,2.6nm,0.7s,baz=136,slow=12,SNR=10						
KSRS				LR	LR	21 45 01.6	
	comp=E,475nm,20.7s,baz=135,slow=35						
KS19	**Wonju Array Si**	**18.01**	**320**	P	**Pn**	**21 38 46.6**	**+0.5**
NACB	**Ninganchiao**	**18.99**	**273**	P	**Pn**	**21 38 58.8**	**+0.7**
TATO	**Taipei**	**19.04**	**276**	P	**Pn**	**21 38 58.9**	**+0.4**
TATO				IAmb	IAmb	21 39 03.5	
	comp=Z,191nm,1.6s						
YHNB	**Yeheng**	**19.16**	**275**	P	**Pn**	**21 39 01.6**	**+1.5**
YHNB				IAmb	IAmb	21 39 07.9	
	comp=Z,130nm,1.5s						
YULB	**Yu-li**	**19.35**	**271**	P	**Pn**	**21 39 03.8**	**+1.5**
SSLB	**Suanglung**	**19.61**	**273**		**Pn**	**21 39 07.0**	**+1.4**
SSLB				IAmb	IAmb	21 39 12.7	
	comp=Z,212nm,1.7s						
JKA	**Kamikawa-asahi**	**19.62**	**0**		**P**	**21 39 03.8**	**+0.1**
ASAJ	**Asahikawa**	**19.62**	**0**	P	**Pn**	**21 39 05.3**	**-0.1**
	comp=Z,6.4nm,0.8s,baz=267,slow=6.7,SNR=6.6						
ASAJ				LR	LR	21 46 52.3	
	comp=Z,232nm,21.7s,baz=177,slow=37						
TWG	**Pinlang**	**19.64**	**270**	P	**Pn**	**21 39 07.0**	**+1.3**
TPUB	**Ta-pu**	**19.97**	**271**	P	**Pn**	**21 39 10.4**	**+0.7**
USRK	**Ussuriysk Ar.**	**21.47**	**339**	P	**P**	**21 39 23.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**21.47**	**339**	P	**P**	**21 39 21.4**	**-2.3**
	comp=Z,3.6nm,0.6s,baz=148,slow=9.6,SNR=6.1						
USRK				LR	LR	21 46 41.0	
	comp=Z,261nm,22.0s,baz=152,slow=34						
	comp=Z,3.6nm,0.6s						
NJ2	**Nanjing**	**22.08**	**295**	*e*P	**P**	**21 39 31.8**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,26nm,0.5s						
YSS	**Yuzhno-Sakhali**	**22.46**	**1**	P	**P**	**21 39 32.7**	**-1.5**
MDJ	**Mudanjiang**	**22.68**	**336**	P	**P**	**21 39 40.7**	**+4.1**
MDJ				S	**S**	**21 43 46.0**	**+4.7**
MDJ				pmax	pmax		
	comp=Z,15nm,0.8s						
MDJ				LR	LR		
	comp=Z,400nm,15.1s						
TGY	**Tagaytay City**	**22.72**	**247**	LR	LR	21 46 53.5	
	comp=Z,270nm,21.7s,baz=92,slow=33						
H11N1	**WAKE ISLAND Hy**	**23.14**	**97**	T	T	22 05 12.9	
	baz=283,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hy**	**23.14**	**97**	T	T	22 05 06.1	
	baz=283,slow=74,SNR=21						
H11N3	**WAKE ISLAND Hy**	**23.16**	**97**	T	T	22 05 12.6	
	baz=283,slow=74,SNR=28						
H11S3	**WAKE ISLAND Hy**	**23.32**	**100**	T	T	22 05 32.4	
	baz=289,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy**	**23.33**	**100**	T	T	22 05 12.6	
	baz=289,slow=74,SNR=16						
H11S2	**WAKE ISLAND Hy**	**23.34**	**100**	T	T	22 05 34.5	
	baz=289,slow=74,SNR=12						
SNY	**Shenyang**	**23.36**	**322**	⇑P	**P**	**21 39 43.0**	**-0.4**
SNY				S	**S**	**21 44 01.1**	**+8.4**
SNY				pmax	pmax		
	comp=Z,11nm,1.3s						
SNY				pmax	pmax		
	comp=Z,92nm,3.4s						
SNY				LR	LR		
	comp=Z,230nm,17.5s						
SNY				LR	LR		
	comp=Z,210nm,12.0s						
SNY				LR	LR		
	comp=Z,280nm,18.8s						
DAV	**Davao City (W)**	**23.65**	**226**	LR	LR	21 47 14.3	
	comp=Z,329nm,21.1s,baz=350,slow=32						
BNX	**BinXian**	**24.46**	**334**	⇓P	**P**	**21 39 51.8**	**-1.8**
BNX				sP	**pP**	**21 40 07.1**	**+1.7**
BNX				S	**S**	**21 44 15.4**	**+5.0**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BNX				pmax	pmax		
	comp=Z,160nm,5.2s						
BNX				LR	LR		
	comp=Z,180nm,13

comp=Z,28nm,0.6s
GYA LR LR
PMG Port Moresby 33.96 172 P **P** **21 41 17.6 -0.7**
PMG IAmb IAmb 21 41 18.7
comp=Z,29nm,0.8s
CD2 Chengdu 34.72 289 P **P** **21 41 24.6 -0.3**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,190nm,15.2s
CD2 LR LR
comp=Z,200nm,15.9s
LZH Lanzhou 35.08 298 *e*P **P** **21 41 28.9 +0.9**
LZH sP pP 21 41 41.6 +1.5
LZH pmax pmax
comp=Z,18nm,1.0s
LZH LR LR
comp=Z,130nm,16.3s
LZH LR LR
comp=Z,240nm,15.1s
LZH LR LR
comp=Z,370nm,19.8s
SLVN Son La 35.55 273 P **P** **21 41 32.2 +0.1**
MA2 Magadan 35.59 7 LR LR 21 58 00.9
comp=Z,36nm,18.3s,baz=132,slow=39
BKB Balikpapan 35.59 228 P **P** **21 41 30.9 -1.5**
KMI Kunming 35.95 280 ⇑P **P** **21 41 37.0 +1.3**
KMI pP pP 21 41 45.8 -2.0
KMI pmax pmax
comp=Z,28nm,1.0s
KMI LR LR
comp=Z,150nm,17.9s
KMI LR LR
comp=Z,220nm,20.3s
KMI LR LR
comp=Z,330nm,21.8s
ULN Ulaanbaatar 36.42 319 P **P** **21 41 38.5 -0.9**
KAPI Kappang 36.68 220 LR LR 21 59 59.4
comp=Z,40nm,18.0s,baz=34,slow=42
PZH PanZhiHua 36.68 282 P **P** **21 41 42.5 +0.6**
PZH sP **pwP** **21 41 56.8 -0.5**
PZH S **S** **21 47 29.2 +7.1**
PZH pmax pmax
comp=Z,40nm,1.0s
PZH pmax pmax
comp=Z,170nm,4.8s
PZH LR LR
comp=Z,120nm,19.1s
PZH LR LR
comp=Z,230nm,20.1s
PZH LR LR
comp=Z,350nm,22.6s
SONM Songino Array 36.81 319 P **P** **21 41 40.8 -1.8**
comp=Z,0.8nm,0.5s,baz=127,slow=7.8,SNR=13
SONM ScP **ScP** **21 47 45.3 -1.5**
comp=Z,1.6nm,0.8s,baz=141,slow=4.7,SNR=9.0
SONM LR LR 21 56 42.6
comp=Z,262nm,21.2s,baz=104,slow=36
comp=Z,0.8nm,0.5s
SHEM Shemya Is, Ala 37.02 32 LR LR 21 53 19.4
comp=Z,109nm,21.0s,baz=318,slow=30
HNR Honiara 37.77 151 LR LR 21 55 36.6
comp=Z,277nm,21.9s,baz=342,slow=33
YAK Yakutsk 38.55 350 LR LR 21 57 56.3
comp=Z,251nm,19.9s,baz=170,slow=36
GTA Gaotai 38.76 303 P **P** **21 41 58.7 -0.5**
GTA ScP **ScP** **21 47 54.1 -0.2**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=Z,130nm,16.0s
GTA LR LR
comp=Z,120nm,17.1s
GTA LR LR
comp=Z,190nm,21.8s
CRAI Chiangrai 39.02 272 P **P** **21 42 02.9 +1.4**
TNCH TengChong 39.75 280 ⇑P **P** **21 42 08.3 +0.5**
TNCH pP pP 21 42 18.4 -1.5
TNCH sP pwP 21 42 22.0 -1.3
TNCH pmax pmax
comp=Z,14nm,1.2s
TNCH pmax pmax
comp=Z,140nm,4.0s
TNCH LR LR
comp=Z,100nm,7.2s
TNCH LR LR
comp=Z,170nm,10.1s
TNCH LR LR
comp=Z,250nm,16.6s
CHTO Chiang Mai 40.69 271 P **P** **21 42 15.7 +0.4**
CHTO Chiang Mai 40.69 271 P **P** **21 42 15.6 +0.3**
CM31 Chiang Mai Arr 40.79 270 P **P** **21 42 16.4 +0.2**
CMAR Chiang Mai Arr 40.79 270 P **P** **21 42 15.3 -0.9**
comp=Z,1.8nm,0.7s,baz=74,slow=8.8,SNR=15
CMAR ScP **ScP** **21 48 01.2 -1.1**
comp=Z,2.6nm,1.0s,baz=93,slow=3.4,SNR=11
CMAR LR LR 21 58 59.9
comp=Z,180nm,19.6s,baz=80,slow=36
comp=Z,1.8nm,0.7s
GOMU GeErMu 42.36 298 P **P** **21 42 29.8 +0.5**
GOMU sP pwP 21 42 43.9 -0.9
GOMU pmax pmax
comp=Z,16nm,1.1s
SRIT Nakonsritamara 43.77 256 P **P** **21 42 41.0 +0.6**
WB0 Warramunga Arr 44.64 191 P **P** **21 42 46.6 -0.7**
WB0 IAmb IAmb 21 43 01.2
comp=Z,21nm,0.9s
WR0 Warramunga Arr 44.80 191 P **P** **21 42 48.1 -0.4**
WR0 IAmb IAmb 21 42 49.5
comp=Z,21nm,1.1s
WRAB Tennant Creek 44.81 191 P **P** **21 42 48.1 -0.5**
WRAB IAmb IAmb 21 43 02.6
comp=Z,28nm,0.7s
WB2 Warramunga Arr 44.82 191 P **P** **21 42 48.0 -0.7**
WB2 IAmb IAmb 21 43 02.7
comp=Z,30nm,0.7s
WRA Warramunga Arr 44.82 191 P **P** **21 42 48.1 -0.6**
WRA Warramunga Arr 44.82 191 P **P** **21 42 48.1 -0.6**
comp=Z,23nm,0.7s,baz=7.2,slow=7.8,SNR=115
WRA PcP **PcP** **21 44 30.5 +0.5**
comp=Z,6.9nm,0.7s,baz=7.8,slow=3.5,SNR=6.8
WRA ScP **ScP** **21 48 17.8 -0.6**
comp=Z,0.7nm,1.0s,baz=7.4,slow=5.0,SNR=2.2
WRA S **S** **21 49 18.8 -4.0**
comp=Z,1.1nm,0.8s,baz=14,slow=14,SNR=4.3
comp=Z,23nm,0.7s
SHL Shillong 45.59 283 P **P** **21 42 55.0 -0.1**
LSA Lhasa 45.66 288 P **P** **21 42 56.6 +0.7**
LSA Lhasa 45.66 288 P **P** **21 42 57.0 +1.0**
LSA pmax pmax
comp=Z,5.0nm,0.9s
BILL Bilibino 45.98 12 P **P** **21 42 57.7 +0.4**
BILL Bilibino 45.98 12 P **P** **21 42 58.0 +0.6**
BILL pP **pP** **21 43 11.4 +1.7**
NIKH Nikolski High 46.26 39 P **P** **21 42 59.1 -0.6**
baz=251
BRDH Bariadhala 46.38 279 LR LR 22 02 11.3
comp=Z,122nm,20.7s,baz=128,slow=36
SPIA Saint Paul Isl 47.03 33 P **P** **21 43 05.2 -0.4**
baz=246
PSI Prapat 47.14 250 LR LR 22 04 36.0
comp=Z,213nm,18.4s,baz=64,slow=38
P08K Saint George I 47.16 34 P **P** **21 43 06.8 +0.1**
baz=247
TIXI Tiksi 47.86 354 P **P** **21 43 11.8 -0.1**
TIXI IAmb IAmb 21 43 23.5
comp=Z,10nm,0.7s
TIXI Tiksi 47.86 354 LR LR 22 04 51.3
comp=Z,115nm,18.0s,baz=198,slow=38
TIXI Tiksi 47.86 354 P **P** **21 43 12.0 +0.1**
UNV Unalaska Valle 47.86 38 P **P** **21 43 11.8 -0.4**
baz=253
WMQ Urumqi 48.33 308 *e*P **P** **21 43 15.8 -0.3**
WMQ pP pP 21 43 26.4 -2.1
WMQ pmax pmax
comp=Z,22nm,1.3s
WMQ pmax pmax
comp=Z,200nm,3.9s
WMQ LR LR
comp=Z,150nm,22.3s
AS31 Alice Springs 48.54 190 P **P** **21 43 17.1 -0.7**
ASAR Alice Springs 48.54 190 P **P** **21 43 17.1 -0.6**
comp=Z,3.5nm,0.6s,baz=14,slow=9.5,SNR=58
ASAR PcP **PcP** **21 44 43.6 +0.6**
comp=Z,1.4nm,0.7s,baz=5.0,slow=5.3,SNR=4.3
ASAR ScP **ScP** **21 48 33.7 -0.2**
comp=Z,0.4nm,0.8s,baz=11,slow=5.0,SNR=1.9
ASAR S **S** **21 50 13.1 -2.8**
comp=Z,1.2nm,0.7s,baz=20,slow=20,SNR=6.2
ASAR LR LR 22 04 57.2
comp=Z,82nm,18.6s,baz=36,slow=38
comp=Z,3.5nm,0.6s
GAMB Gambell 49.41 25 P **P** **21 43 23.9 0.0**
baz=239
FALS False Pass 49.88 38 P **P** **21 43 27.4 -0.3**
baz=255
M11K Mekoryuk 50.22 30 P **P** **21 43 30.8 +0.7**
baz=248
ZSN Zaisan 50.65 312 *e*P **P** **21 43 32.4 -1.3**
comp=Z,8.0nm,1.3s
K13K Kusilvak Mount 51.50 29 P **P** **21 43 40.3 +0.6**
baz=248
M13K Dall Lake 51.56 31 P **P** **21 43 40.7 +0.5**
baz=251
SDPT Sand Point 51.64 38 P **P** **21 43 40.8 0.0**
baz=257
ZALV Zalesovo Beam 51.65 320 P **P** **21 43 39.2 -1.8**
comp=Z,4.0nm,0.6s,baz=113,slow=7.6,SNR=14
ZALV LR LR 22 05 04.6
comp=Z,111nm,22.0s,baz=105,slow=36
comp=Z,4.0nm,0.6s
TNA Tin City 51.70 24 P **P** **21 43 41.7 +0.5**
baz=242
DZM Mont Dzumac 51.80 151 *e*LR LR 21 58 37.2
comp=Z,456nm,26.5s
DZM Mont Dzumac 51.80 151 LR LR 22 03 12.1
comp=Z,129nm,21.7s,baz=44,slow=33
L14K Kuka Creek 52.17 30 P **P** **21 43 44.8 0.0**
baz=251
N14K Kuskokwak Cree 52.19 32 P **P** **21 43 45.5 +0.6**
baz=253
O14K Tigyukauivet M 52.20 33 P **P** **21 43 45.5 +0.5**
baz=254
ANM Nome 52.23 26 P **P** **21 43 45.5 +0.3**
baz=246
F14K Arctic Creek 52.26 24 P **P** **21 43 45.5 +0.2**
baz=244
J14K Nanvaranak Lak 52.28 28 P **P** **21 43 45.9 +0.4**
baz=249
M14K Bethel 52.32 31 P **P** **21 43 46.2 +0.4**
baz=252
S14K Fog Glacier 52.35 37 P **P** **21 43 45.8 -0.5**
baz=257
MK31 Makanchi Array 52.35 311 P **P** **21 43 45.3 -1.1**
MKAR Makanchi Array 52.35 311 P **P** **21 43 45.0 -1.4**
MKAR Makanchi Array 52.35 311 P **P** **21 43 45.2 -1.3**
comp=Z,4.0nm,0.8s,baz=93,slow=8.5,SNR=33
MKAR ScP **ScP** **21 48 47.8 -2.3**
comp=Z,2.0nm,0.9s,baz=94,slow=4.7,SNR=7.4
MKAR S **S** **21 51 02.5 -6.1**
comp=Z,0.7nm,1.0s,baz=80,slow=19,SNR=3.6
MKAR LR LR 22 08 26.2
comp=Z,102nm,18.8s,baz=52,slow=39
comp=Z,4.0nm,0.8s
MAKZ Makanchi 52.57 311 P **P** **21 43 46.9 -1.1**
MAKZ Makanchi 52.57 311 P **P** **21 43 46.8 -1.2**
MAKZ pP **pP** **21 44 00.2 -0.4**
L15K Ungalak Mounta 52.83 30 P **P** **21 43 49.8 +0.2**
baz=252
M15K Kasigluk River 52.90 31 P **P** **21 43 50.5 +0.4**
baz=253
O15K Ungalikthiuk R 52.90 33 P **P** **21 43 49.8 -0.4**
baz=255
F15K North Star Dit 52.99 24 P **P** **21 43 51.3 +0.5**
baz=246
K15K Wolf Creek Mou 53.00 29 P **P** **21 43 51.9 +1.0**
baz=251
N15K Kwethluk River 53.03 32 IAmb IAmb 21 43 53.5
comp=Z,20nm,0.9s
N15K Kwethluk River 53.03 32 P **P** **21 43 51.2 0.0**
baz=254
H16K Elim 53.51 26 P **P** **21 43 54.8 +0.2**
baz=249
J16K Anvik River 53.73 28 P **P** **21 43 55.8 -0.4**
baz=251
G16K Koyuk River 53.74 25 P **P** **21 43 56.6 +0.3**
baz=248
N16K Nishlik Lake 53.75 32 P **P** **21 43 56.7 +0.3**
baz=255,SNR=7.3
L16K Owhat River 53.75 30 P **P** **21 43 56.8 +0.4**
baz=254
P16K Nushagak River 53.78 34 P **P** **21 43 56.5 -0.2**
baz=257
M16K Timber Creek 53.80 31 P **P** **21 43 56.9 +0.1**
baz=254
C16K Lisburne Hills 53.86 21 P **P** **21 43 57.8 +0.8**
C16K Lisburne Hills 53.86 21 P **P** **21 43 58.0 +0.9**
baz=243
O16K Kokwok River B 53.86 33 P **P** **21 43 57.5 +0.2**
O16K IAmb IAmb 21 43 59.4
comp=Z,16nm,0.9s
O16K Kokwok River B 53.86 33 P **P** **21 43 57.4 +0.2**
baz=256
I17K Unalakleet 53.88 27 P **P** **21 43 57.9 +0.6**
baz=251
SHLS Shalkode 54.30 307 *e*P **P** **21 43 56.9 -4.0**
D17K Noatak River 54.38 22 P **P** **21 44 02.2 +1.3**
baz=246,SNR=5.3
O17K Koliganek Bris 54.39 33 P **P** **21 44 01.8 +0.7**
baz=257,SNR=5.0
L17K Donlin 54.40 30 P **P** **21 44 02.1 +1.0**
baz=254
J17K VABM Dome 54.41 28 P **P** **21 44 02.5 +1.3**
baz=253
CHIR Chirikof Islan 54.43 38 P **P** **21 44 02.1 +0.6**
baz=261
MSVF Nonsavu 54.44 137 P **P** **21 44 02.9 +0.8**
comp=Z,10nm,1.0s,baz=263,slow=13,SNR=5.1
MSVF LR LR 22 05 48.1
comp=Z,44nm,18.8s,baz=11,slow=34
comp=Z,10nm,1.0s
G17K Kiwalik Mounta 54.44 25 P **P** **21 44 02.5 +1.1**
baz=250
N17K Nushagak Hills 54.52 32 P **P** **21 44 02.0 0.0**
N17K IAmb IAmb 21 44 04.7
comp=Z,16nm,0.8s
N17K Nushagak Hills 54.52 32 P **P** **21 44 03.5 +1.5**
baz=257,SNR=5.2
H17K Granite Mounta 54.55 26 P **P** **21 44 02.5 +0.3**
baz=251
F17K Baldwin Pennin 54.55 24 P **P** **21 44 01.2 -0.9**
F17K IAmb IAmb 21 44 05.4
comp=Z,16nm,0.9s
F17K Baldwin Pennin 54.55 24 P **P** **21 44 03.5 +1.4**
baz=248
K17K Iditarod 54.56 29 P **P** **21 44 01.8 -0.5**
K17K IAmb IAmb 21 44 05.1
comp=Z,25nm,0.8s
K17K Iditarod 54.56 29 P **P** **21 44 03.5 +1.3**
baz=254,SNR=6.1
E17K Hotham Inlet 54.58 23 P **P** **21 44 03.8 +1.5**
baz=248
RDOG Red Dog Mine 54.58 22 P **P** **21 44 03.8 +1.4**
baz=246
P17K Kvichak River 54.60 34 P **P** **21 44 03.2 +0.6**
baz=258
M17K Holitna River 54.61 31 P **P** **21 44 02.0 -0.6**
M17K IAmb IAmb 21 44 05.4
comp=Z,15nm,0.8s
M17K Holitna River 54.61 31 P **P** **21 44 04.2 +1.5**
baz=256
UZB Uzynbulak 54.62 307 *e*P **P** **21 44 01.8 -1.5**
C17K DeLong Mountai 54.67 22 P **P** **21 44 04.8 +1.8**
baz=245,SNR=7.2
Q17K Contact Creek 54.70 35 P **P** **21 44 03.5 0.0**
baz=259
KURK Kurchatov 55.01 316 P **P** **21 44 04.2 -1.5**
KURK Kurchatov 55.01 316 P **P** **21 44 04.1 -1.7**
KURK pP **pP** **21 44 17.5 -0.8**
KURK sP **sP** **21 44 23.6 -0.1**
KURBB Kurchatov Arra 55.06 316 P **P** **21 44 04.5 -1.6**
comp=Z,8.7nm,0.7s,baz=92,slow=8.1,SNR=84
KURBB S **S** **21 51 40.4 -4.7**
comp=Z,0.5nm,0.7s,baz=101,slow=39,SNR=3.5
comp=Z,8.7nm,0.7s
SATY Saty 55.07 307 *e*P **P** **21 44 05.0 -1.5**
PRZ Przheval'sk 55.10 306 P **P** **21 44 06.5 -0.3**
PRZ IAmb IAmb 21 44 21.7
comp=Z,21nm,0.7s
E18K Tukpahlearik C 55.15 23 P **P** **21 44 07.3 +0.9**
E18K IAmb IAmb 21 44 09.8
comp=Z,19nm,0.8s
E18K Tukpahlearik C 55.15 23 P **P** **21 44 08.4 +1.9**
baz=248
L18K Granite Mounta 55.15 30 P **P** **21 44 07.8 +1.2**
baz=256
N18K Kilae Creek 55.18 32 P **P** **21 44 08.2 +1.4**
baz=258
NRIK Noril'sk 55.19 339 P **P** **21 44 05.6 -1.1**
NRIK IAmb IAmb 21 44 36.0
comp=Z,10nm,0.8s
NRIK Noril'sk 55.19 339 P **P** **21 44 05.9 -0.8**
comp=Z,3.3nm,0.4s,baz=120,slow=7.5,SNR=9.4
NRIK LR LR 22 07 37.6
comp=Z,122nm,21.9s,baz=120,slow=36
comp=Z,3.3nm,0.4s
F18K Selawik 55.21 24 P **P** **21 44 09.2 +2.4**
baz=250,SNR=12
Q18K Katmai Hardscr 55.22 34 P **P** **21 44 07.1 -0.2**
baz=260
P18K Big Mountain, 55.24 33 P **P** **21 44 07.7 +0.3**
baz=259
SII Sitkinak Islan 55.34 37 P **P** **21 44 07.8 -0.3**
SII Sitkinak Islan 55.34 37 P **P** **21 44 08.5 +0.5**
baz=262
O18K Koktuh Hills 55.34 33 P **P** **21 44 07.2 -0.8**
O18K Koktuh Hills 55.34 33 P **P** **21 44 09.5 +1.5**
baz=259,SNR=7.8
G18K Tagagawik 55.35 25 P **P** **21 44 07.9 -0.1**
G18K Tagagawik 55.35 25 P **P** **21 44 09.4 +1.4**
baz=252,SNR=5.9
M18K Stony River 55.38 31 P **P** **21 44 09.2 +0.9**
baz=257
C18K Utukok River 55.41 22 P **P** **21 44 08.9 +0.5**
C18K IAmb IAmb 21 44 27.9
comp=Z,35nm,1.9s
C18K Utukok River 55.41 22 P **P** **21 44 09.7 +1.3**
baz=247,SNR=5.6
J18K Innoko River 55.45 28 P **P** **21 44 09.7 +1.0**
baz=255
B18K Kokolik River 55.49 21 P **P** **21 44 10.8 +1.9**
baz=246,SNR=14
TARG Taragay, Kyrgy 55.58 305 P **P** **21 44 09.9 -0.7**
TTA Tatalina 55.63 29 P **P** **21 44 09.6 -0.5**
TTA Tatalina 55.63 29 P **P** **21 44 11.3 +1.2**
baz=256
O19K Port Alsworth 55.84 33 P **P** **21 44 11.0 -0.6**
O19K Port Alsworth 55.84 33 P **P** **21 44 12.9 +1.3**
baz=260
N19K Bonanza Creek 55.88 32 P **P** **21 44 11.9 -0.1**
N19K IAmb IAmb 21 44 14.0
comp=Z,13nm,0.8s
N19K Bonanza Creek 55.88 32 P **P** **21 44 13.4 +1.4**
baz=259
OHAK Old Harbor 55.91 36 P **P** **21 44 12.0 -0.1**
OHAK IAmb IAmb 21 44 39.3
comp=Z,43nm,1.4s
OHAK Old Harbor 55.91 36 P **P** **21 44 13.2 +1.1**
baz=262
Q19K Cape Douglas, 55.97 34 P **P** **21 44 13.1 +0.5**
baz=261
L19K White Mountain 55.98 30 P **P** **21 44 12.6 0.0**
L19K White Mountain 55.98 30 P **P** **21 44 13.6 +1.0**
baz=258,SNR=6.1
F19K Shaleruckik Mo 55.99 24 P **P** **21 44 11.8 -0.7**
F19K Shaleruckik Mo 55.99 24 P **P** **21 44 13.2 +0.8**
baz=252
STKA Stephens Creek 56.01 181 P **P** **21 44 13.5 +0.5**
STKA Stephens Creek 56.01 181 P **P** **21 44 12.2 -0.9**
comp=Z,2.7nm,0.5s,baz=14,slow=8.6,SNR=13
STKA LR LR 22 07 53.9
comp=Z,124nm,21.9s,baz=22,slow=36
comp=Z,2.7nm,0.5s
KDJ Kajisay 56.02 305 P **P** **21 44 12.9 -0.5**
G19K Purcell Mounta 56.04 25 P **P** **21 44 13.6 +0.7**
G19K Purcell Mounta 56.04 25 P **P** **21 44 14.0 +1.1**
baz=253
J19K Poorman 56.06 28 P **P** **21 44 13.1 +0.1**
J19K Poorman 56.06 28 P **P** **21 44 13.8 +0.7**
baz=256
A19K Wainwright 56.06 20 P **P** **21 44 14.6 +1.7**
baz=246
MDOK Medeo 56.06 307 *e*P **P** **21 44 11.8 -1.8**
CHKK Chushkaly 56.07 308 *e*P **P** **21 44 12.0 -1.5**
H19K Roundabout Mou 56.12 26 P **P** **21 44 13.4 0.0**
H19K IAmb IAmb 21 44 16.1
comp=Z,22nm,1.2s
H19K Roundabout Mou 56.12 26 P **P** **21 44 14.7 +1.2**
baz=254,SNR=5.4
M19K Big River Lodg 56.14 31 P **P** **21 44 14.6 +0.9**
baz=258
TNSS Tian-Shan 56.14 307 *e*P **P** **21 44 12.6 -1.9**
AAA Alma-Ata 56.16 307 *e*P **P** **21 44 12.7 -1.5**
comp=Z,8.3nm,0.6s
P19K Oil Pt 56.29 33 P **P** **21 44 14.2 -0.7**
P19K Oil Pt 56.29 33 P **P** **21 44 15.1 +0.3**
baz=261
KDAK Kodiak Island 56.36 36 LR LR 22 05 35.9
comp=Z,195nm,21.7s,baz=92,slow=33
KDAK Kodiak Island 56.36 36 P **P** **21 44 15.8 +0.5**
baz=263
E19K Redstone River 56.38 24 P **P** **21 44 16.2 +0.8**
E19K IAmb IAmb 21 44 17.8
comp=Z,16nm,0.8s
E19K Redstone River 56.38 24 P **P** **21 44 16.6 +1.3**
baz=252
D19K Kuna River 56.40 22 P **P** **21 44 15.7 +0.1**
D19K IAmb IAmb 21 44 17.8
comp=Z,13nm,0.8s
D19K Kuna River 56.40 22 P **P** **21 44 16.6 +1.1**
baz=250
L20K Farewell, AK 56.49 30 P **P** **21 44 17.4 +1.2**
baz=258
Q20K Shuyak Island 56.57 35 P **P** **21 44 17.1 +0.4**
baz=262
K20K Telida 56.59 29 P **P** **21 44 16.7 -0.1**
K20K IAmb IAmb 21 44 19.6
comp=Z,15nm,0.7s
K20K Telida 56.59 29 P **P** **21 44 18.4 +1.6**
baz=258
O20K Slope Mountain 56.66 33 P **P** **21 44 18.6 +1.1**
baz=261
M20K Styx River 56.72 31 P **P** **21 44 17.7 -0.2**
M20K Styx River 56.72 31 P **P** **21 44 19.1 +1.1**
baz=260
J20K Nowinta River 56.73 28 P **P** **21 44 17.5 -0.3**
J20K IAmb IAmb 21 44 20.5
comp=Z,15nm,0.8s
J20K Nowinta River 56.73 28 P **P** **21 44 19.6 +1.7**
baz=257,SNR=13
H20K Anotleneega Mo 56.74 26 P **P** **21 44 19.2 +1.3**
baz=256,SNR=8.6
F20K Avaraart Lake 56.82 24 P **P** **21 44 19.3 +0.9**
F20K IAmb IAmb 21 44 20.9
comp=Z,16nm,0.8s
F20K Avaraart Lake 56.82 24 P **P** **21 44 20.0 +1.6**
baz=254,SNR=18
BOOM Boomskoye usch 56.92 306 P **P** **21 44 19.5 -0.3**
BOOM IAmb IAmb 21 44 34.9
comp=Z,10nm,0.6s
D20K Etivluk River 57.00 22 P **P** **21 44 20.4 +0.7**
D20K Etivluk River 57.00 22 P **P** **21 44 21.2 +1.5**
baz=252
E20K Nigu River 57.01 23 P **P** **21 44 21.5 +1.7**
baz=252
SPCR Spurr Chakacha 57.04 32 P **P** **21 44 21.7 +1.5**
baz=261
KSH Kashi 57.15 302 P **P** **21 44 23.5 +2.1**
KSH sP pwP 21 44 38.0 +0.6
KSH pmax pmax
comp=Z,10.0nm,1.4s
KSH pmax pmax
comp=Z,180nm,5.3s
KSH LR LR
comp=Z,140nm,19.2s
KSH LR LR
comp=Z,170nm,13.4s
KSH LR LR
comp=Z,200nm,16.5s
B20K Meade River 57.23 21 P **P** **21 44 21.4 +0.2**
B20K Meade River 57.23 21 P **P** **21 44 22.7 +1.4**
baz=250,SNR=18
STLK Strandline Lak 57.27 31 P **P** **21 44 20.5 -1.2**
PPLA Purkeypile 57.33 30 P **P** **21 44 23.7 +1.4**
baz=260
CHUM Lake Minchumin 57.46 28 P **P** **21 44 24.5 +1.5**
baz=259
CAST Castle Rocks 57.48 29 P **P** **21 44 24.1 +0.9**
CAST IAmb IAmb 21 44 25.5
comp=Z,18nm,0.8s

CAST	Castle Rocks	57.48	29	P	P	21 44 24.5	+1.3
	baz=260,SNR=16						
SKT	Skwentna	57.48	31	P	P	21 44 23.1	-0.2
SKT				IAmb	IAmb	21 44 25.1	
	comp=Z,16nm,1.1s						
SKT	Skwentna	57.48	31	P	P	21 44 23.8	+0.5
	baz=261,SNR=5.6						
G21K	Allakaket	57.53	25	P	P	21 44 24.3	+0.8
G21K				IAmb	IAmb	21 44 26.1	
	comp=Z,17nm,0.8s						
G21K	Allakaket	57.53	25	P	P	21 44 24.8	+1.4
	baz=256						
BRSE	Bradley Lake S	57.55	33	P	P	21 44 24.3	+0.5
	baz=263						
H21K	Melozitna Rive	57.62	26	P	P	21 44 24.9	+0.8
H21K				IAmb	IAmb	21 44 26.9	
	comp=Z,20nm,1.1s						
H21K	Melozitna Rive	57.62	26	P	P	21 44 25.6	+1.5
	baz=257,SNR=9.1						
F21K	Alatna River	57.71	24	P	P	21 44 25.1	+0.3
F21K	Alatna River	57.71	24	P	P	21 44 26.2	+1.4
	baz=256,SNR=12						
C21K	Knifeblade Rid	57.76	22	P	P	21 44 26.9	+1.9
	baz=253						
SUA	Susitna One	57.78	31	P	P	21 44 25.8	+0.4
	baz=262						
SGDS	Sogindy	57.80	307	eP	P	21 44 23.9	-2.0
E21K	Killik River	57.85	23	P	P	21 44 26.4	+0.8
E21K				IAmb	IAmb	21 44 28.0	
	comp=Z,19nm,0.8s						
E21K	Killik River	57.85	23	P	P	21 44 26.9	+1.2
	baz=255						
A21K	Barrow	57.85	19	P	P	21 44 26.3	+0.8
	baz=250						
B21K	Ikpikpuk River	57.95	22	P	P	21 44 27.4	+1.1
B21K				IAmb	IAmb	21 44 28.9	
	comp=Z,25nm,0.9s						
B21K	Ikpikpuk River	57.95	22	P	P	21 44 27.7	+1.4
	baz=253						
AAK	Ala-Archa	57.97	306	P	P	21 44 26.8	-0.3
AAK	Ala-Archa	57.97	306	LR	LR	22 11 31.2	
	comp=Z,109nm,19.7s,baz=94,slow=38						
AAK	Ala-Archa	57.97	306	P	P	21 44 26.6	-0.6
AAK				pP	pP	21 44 39.6	-0.3
AAK				sP	sP	21 44 44.7	-0.5
BPAW	Bear Paw Mtn.	58.08	28	P	P	21 44 26.7	-0.7
BPAW	Bear Paw Mtn.	58.08	28	P	P	21 44 29.4	+2.1
	baz=260						
M22K	Willow	58.11	31	P	P	21 44 26.6	-0.9
M22K	Willow	58.11	31	P	P	21 44 28.5	+0.9
	baz=262						
BTLS	Baital	58.11	309	eP	P	21 44 26.6	-1.3
CUT	Chulitna	58.13	30	P	P	21 44 28.2	+0.5
	baz=262						
RC01	Rabbit Creek A	58.21	32	P	P	21 44 27.9	-0.4
RC01				IAmb	IAmb	21 44 29.9	
	comp=Z,22nm,1.1s						
RC01	Rabbit Creek A	58.21	32	P	P	21 44 28.4	+0.1
	baz=263						
SEW	Seward	58.24	33	P	P	21 44 28.7	+0.2
	baz=264						
H22K	Ishtalitna Cre	58.24	26	P	P	21 44 28.9	+0.4
	baz=259						
A22K	Sinclair Lake	58.25	20	P	P	21 44 29.6	+1.2
	baz=252						
F22K	John River	58.27	24	P	P	21 44 30.6	+1.9
	baz=257,SNR=27						
TRF	Thorofare Moun	58.28	29	P	P	21 44 27.9	-1.0
TRF				IAmb	IAmb	21 44 30.5	
	comp=Z,17nm,0.8s						
TRF	Thorofare Moun	58.28	29	P	P	21 44 29.4	+0.5
	baz=261,SNR=6.6						
G22K	Bettles	58.40	25	P	P	21 44 31.0	+1.5
	baz=258						
D22K	Ayikyak River	58.42	23	P	P	21 44 30.8	+1.2
D22K	Ayikyak River	58.42	23	P	P	21 44 31.4	+1.8
	baz=256,SNR=40						
E22K	Anaktuvuk Pass	58.55	24	P	P	21 44 31.3	+0.7
E22K				IAmb	IAmb	21 44 33.3	
	comp=Z,22nm,1.0s						
E22K	Anaktuvuk Pass	58.55	24	P	P	21 44 32.2	+1.5
	baz=257,SNR=18						
B22K	Teshekpuk Lake	58.55	21	P	P	21 44 30.8	+0.3
B22K				IAmb	IAmb	21 44 32.7	
	comp=Z,16nm,0.8s						
B22K	Teshekpuk Lake	58.55	21	P	P	21 44 31.7	+1.2
	baz=254,SNR=12						
PMR	Palmer	58.56	31	P	P	21 44 30.3	-0.4
PMR	Palmer	58.56	31	P	P	21 44 30.7	0.0
	baz=263,SNR=6.9						
GHO	Glory Hole Cre	58.68	31	P	P	21 44 31.0	-0.7
GHO				IAmb	IAmb	21 44 34.0	
	comp=Z,15nm,0.9s						
BRZS	Berezniki	58.81	315	eP	P	21 44 31.3	-1.4
KNK	Knik Glacier	58.86	32	P	P	21 44 32.3	-0.6
KNK	Knik Glacier	58.86	32	P	P	21 44 33.4	+0.6
	baz=264,SNR=9.1						
PWL	Port Wells	58.87	32	P	P	21 44 32.5	-0.4
PWL	Port Wells	58.87	32	P	P	21 44 33.3	+0.4
	baz=265						
RND	Reindeer	58.91	29	P	P	21 44 32.6	-0.6
RND				IAmb	IAmb	21 44 34.3	
	comp=Z,14nm,0.7s						
MCK	McKinley	58.92	29	P	P	21 44 33.0	-0.2
MCK				IAmb	IAmb	21 44 34.6	
	comp=Z,21nm,1.0s						
MCK	McKinley	58.92	29	P	P	21 44 33.6	+0.4
	baz=262,SNR=7.9						
G23K	Bananza Creek	58.93	25	P	P	21 44 33.7	+0.4
G23K	Bananza Creek	58.93	25	P	P	21 44 34.3	+1.0
	baz=260,SNR=18						
I23K	Minto, Yukon-K	58.94	27	P	P	21 44 33.7	+0.4
I23K				IAmb	IAmb	21 44 36.2	
	comp=Z,10nm,0.8s						
I23K	Minto, Yukon-K	58.94	27	P	P	21 44 34.4	+1.1
	baz=261,SNR=7.1						
COLD	Coldfoot	58.96	25	P	P	21 44 33.9	+0.4
COLD				IAmb	IAmb	21 44 36.2	
	comp=Z,19nm,0.8s						
COLD	Coldfoot	58.96	25	P	P	21 44 35.1	+1.7
	baz=259,SNR=15						
SML	Sawmill	58.96	31	P	P	21 44 33.1	-0.5
SML	Sawmill	58.96	31	P	P	21 44 34.2	+0.6
	baz=264,SNR=9.5						
H23K	Yukon River	58.97	26	P	P	21 44 31.4	-2.1
H23K				IAmb	IAmb	21 44 36.4	
	comp=Z,11nm,0.8s						
H23K	Yukon River	58.97	26	P	P	21 44 35.4	+1.8
	baz=260						
NEA2	Nenana	58.98	28	P	P	21 44 34.7	+1.1
	baz=262						
D23K	Nanushuk River	59.14	23	P	P	21 44 36.3	+1.6
D23K	Nanushuk River	59.14	23	P	P	21 44 36.6	+1.9
	baz=258						
ARSB	Arslanbob	59.22	305	IAmb	IAmb	21 44 50.7	
	comp=Z,18nm,1.2s						
M23K	Glacier View	59.25	31	P	P	21 44 36.0	+0.5
	baz=265,SNR=9.4						
P23K	Montague Islan	59.26	33	P	P	21 44 36.6	+1.0
	baz=266						
E23K	Chandalar	59.34	24	P	P	21 44 37.8	+1.6
E23K	Chandalar	59.34	24	P	P	21 44 38.2	+2.0
	baz=259						
C23K	Itkillik River	59.35	22	P	P	21 44 37.2	+1.1
C23K	Itkillik River	59.35	22	P	P	21 44 37.6	+1.5
	baz=257						
WRH	Wood River Hil	59.38	28	P	P	21 44 36.4	+0.1
SCM	Sheep Creek Mo	59.44	31	P	P	21 44 37.1	+0.2
SCM	Sheep Creek Mo	59.44	31	P	P	21 44 37.9	+0.9
	baz=265,SNR=11						
TOLK	Toolik Lake Re	59.47	23	P	P	21 44 37.8	+0.8
TOLK				IAmb	IAmb	21 44 39.7	
	comp=Z,22nm,1.1s						
TOLK	Toolik Lake Re	59.47	23		P	21 44 38.0	+1.0
TOLK	Toolik Lake Re	59.47	23	P	P	21 44 38.4	+1.5
	baz=259,SNR=14						
GLI	Glacier Island	59.47	32	P	P	21 44 37.4	+0.3
GLI	Glacier Island	59.47	32	P	P	21 44 37.7	+0.7
	baz=266						
CCB	Clear Creek Bu	59.52	28	P	P	21 44 37.7	+0.4
COLA	College	59.53	28	P	P	21 44 35.8	-1.6
COLA				IAmb	IAmb	21 44 41.0	
	comp=Z,23nm,1.1s						
COLA	College	59.53	28	P	P	21 44 39.2	+1.8
	baz=263						
COLA	College	59.53	28	P	P	21 44 38.4	+1.1
HYB	Hyderabad	59.63	277	eP	P	21 44 40.9	+2.0
H24K	Noodor Dome	59.65	27	P	P	21 44 37.6	-0.7
H24K				IAmb	IAmb	21 44 40.9	
	comp=Z,17nm,0.8s						
H24K	Noodor Dome	59.65	27	P	P	21 44 40.0	+1.7
	baz=262,SNR=17						
HIN	Hinchinbrook I	59.73	33	P	P	21 44 38.4	-0.5
POKR	Poker Plat Res	59.74	27	P	P	21 44 39.5	+0.6
POKR				IAmb	IAmb	21 44 41.0	
	comp=Z,18nm,1.0s						
POKR	Poker Plat Res	59.74	27	P	P	21 44 39.7	+0.8
	baz=263,SNR=7.4						
E24K	Your Creek	59.76	24	P	P	21 44 39.7	+0.7
E24K	Your Creek	59.76	24	P	P	21 44 41.0	+2.0
	baz=260,SNR=28						
D24K	Happy Valley	59.83	23	P	P	21 44 40.4	+0.9
D24K	Happy Valley	59.83	23	P	P	21 44 41.5	+2.1
	baz=259						
HDA	Harding Lake	59.87	28	P	P	21 44 38.8	-0.9
HDA				IAmb	IAmb	21 44 40.6	
	comp=Z,13nm,1.0s						
HDA	Harding Lake	59.87	28	P	P	21 44 39.7	0.0
	baz=264,SNR=8.6						
F24K	Squaw Lake	59.89	25	P	P	21 44 40.6	+0.7
F24K				IAmb	IAmb	21 44 42.8	
	comp=Z,13nm,0.8s						
F24K	Squaw Lake	59.89	25	P	P	21 44 42.0	+2.0
	baz=261,SNR=13						
IL31		59.93	28	P	P	21 44 39.7	-0.4
ILAR	Eielson Array	59.93	28	P	P	21 44 39.9	-0.3
	comp=Z,17nm,0.8s,baz=262,slow=5.6,SNR=124						
ILAR				LR	LR	22 08 54.4	
	comp=Z,57nm,20.5s,baz=260,slow=34						
	comp=Z,17nm,0.8s						
G24K	Hadweenzic Riv	59.93	26	P	P	21 44 40.7	+0.6
G24K	Hadweenzic Riv	59.93	26	P	P	21 44 42.2	+2.0
	baz=262,SNR=19						
C24K	Franklin Bluff	59.98	22	P	P	21 44 41.0	+0.6
C24K	Franklin Bluff	59.98	22	P	P	21 44 41.8	+1.4
	baz=259						
KLU	Klutina	60.08	32	P	P	21 44 40.3	-1.1
KLU	Klutina	60.08	32	P	P	21 44 42.2	+0.8
	baz=266,SNR=7.6						
EYAK	Cordova Ski Ar	60.11	33	P	P	21 44 42.6	+1.2
	baz=267						
DIV	Divide	60.13	32	P	P	21 44 41.7	0.0
BVAR	Borovoye Array	60.15	319	P	P	21 44 40.9	-0.9
	comp=Z,9.6nm,0.5s,baz=83,slow=7.4,SNR=94						
BVAR				S	S	21 52 47.5	-4.2
	comp=Z,1.0nm,0.8s,baz=90,slow=16,SNR=5.4						
BVAR				LR	LR	22 11 45.2	
	comp=Z,114nm,19.5s,baz=90,slow=37						
	comp=Z,9.6nm,0.5s						
BRVK	Borovoye	60.21	319	P	P	21 44 41.2	-1.1
BRVK				IAmb	IAmb	21 44 55.3	
	comp=Z,11nm,0.8s						
BRVK	Borovoye	60.21	319	P	P	21 44 41.1	-1.2
BRVK				pP	pP	21 44 54.5	-0.5
DZA	Taraz	60.26	307	eP	P	21 44 41.5	-1.4
K24K	Donnelly Dome	60.32	29	P	P	21 44 43.0	+1.0
K24K				IAmb	IAmb	21 44 45.6	
	comp=Z,17nm,0.9s						
K24K	Donnelly Dome	60.32	29	P	P	21 44 44.4	+1.6
	baz=265						
DRK	Karamyk	60.36	303	P	P	21 44 44.2	+0.2
PAX	Paxson	60.39	30	P	P	21 44 43.8	+0.4
PAX	Paxson	60.39	30	P	P	21 44 44.5	+1.0
	baz=266,SNR=7.5						
G25K	Bearman Lake	60.48	26	P	P	21 44 45.8	+2.0
	baz=263						
HARP	HAARP	60.50	31	P	P	21 44 45.5	+1.4
	baz=266,SNR=7.3						
H25L	Birch Creek	60.54	26	P	P	21 44 45.5	+1.3
	baz=264,SNR=17						
J25K	Salcha River,	60.56	28	IAmb	IAmb	21 44 46.6	
	comp=Z,9.3nm,0.9s						
J25K	Salcha River,	60.56	28	P	P	21 44 44.7	+0.1
	baz=265,SNR=10						
PRP	Porcupine Dome	60.58	27	P	P	21 44 44.6	-0.1
PRP				IAmb	IAmb	21 44 47.0	
	comp=Z,9.8nm,0.6s						
PRP	Porcupine Dome	60.58	27	P	P	21 44 44.2	-0.5
	baz=264,SNR=6.6						
BMRM	Bremner River	60.69	32	P	P	21 44 45.5	+0.1
BMRM	Bremner River	60.69	32	P	P	21 44 46.5	+1.0
	baz=268,SNR=5.4						
D25K	Kavik River	60.72	23	P	P	21 44 46.4	+0.8
D25K	Kavik River	60.72	23	P	P	21 44 47.2	+1.7
	baz=262						
N25K	Chitina, Valde	60.72	32	P	P	21 44 46.2	+0.4
N25K				IAmb	IAmb	21 45 32.5	
	comp=Z,35nm,1.6s						
N25K	Chitina, Valde	60.72	32	P	P	21 44 46.9	+1.2
	baz=268						
RIDG	Independent Ri	60.73	29	P	P	21 44 44.5	-1.2
RIDG	Independent Ri	60.73	29	P	P	21 44 46.3	+0.6
	baz=266,SNR=9.8						
KAIM	Kayak Island	60.75	34	P	P	21 44 46.3	+0.5
	baz=269						
F25K	Christian Rive	60.76	25	P	P	21 44 46.7	+0.8
F25K				IAmb	IAmb	21 44 49.1	
	comp=Z,20nm,0.9s						
F25K	Christian Rive	60.76	25	P	P	21 44 48.1	+2.2
	baz=263,SNR=29						
FYU	Fort Yukon	60.80	26	P	P	21 44 47.2	+1.2
KK31	Karatay Array	60.83	307	P	P	21 44 46.3	-0.4
KK31				IAmb	IAmb	21 45 00.3	
	comp=Z,14nm,0.8s						
KKAR	Karatay Array	60.83	307	P	P	21 44 45.9	-0.8
KKAR	Karatay Array	60.83	307	IAmb	IAmb	21 45 00.3	
	comp=Z,14nm,0.8s						
E25K	Arctic Village	60.85	24	P	P	21 44 47.4	+0.9
E25K	Arctic Village	60.85	24	P	P	21 44 48.5	+2.0
	baz=263,SNR=25						
GLB	Gilahina Butte	61.09	32	P	P	21 44 49.0	+0.8
GLB				IAmb	IAmb	21 44 50.2	
	comp=Z,12nm,0.9s						
SCRK	Sand Creek	61.12	29	P	P	21 44 48.7	+0.2
SCRK	Sand Creek	61.12	29	P	P	21 44 49.2	+0.7
	baz=267,SNR=23						
BMAR	Burnt Mountain	61.15	25	P	P	21 44 49.7	+1.3
IUG	Iuzhnay	61.31	306	eP	P	21 44 48.7	-1.4
	comp=Z,7.5nm,0.9s						
C26K	Camden Bay	61.31	22	P	P	21 44 51.7	+2.3
	baz=263,SNR=26						
BGLC	Bering Glacier	61.33	33	P	P	21 44 51.3	+1.6
	baz=270						
BRLS	Borolday	61.33	307	eP	P	21 44 49.8	-0.3
J26L	Joseph Creek	61.34	28	P	P	21 44 50.5	+0.6
	baz=267,SNR=43						
F26K	Sheenjek River	61.34	25	P	P	21 44 51.5	+1.8
F26K	Sheenjek River	61.34	25	P	P	21 44 51.9	+2.2
	baz=264,SNR=41						
L26K	Log Cabin Wild	61.36	30	P	P	21 44 50.6	+0.6
L26K				IAmb	IAmb	21 44 52.0	
	comp=Z,12nm,0.6s						
L26K	Log Cabin Wild	61.36	30	P	P	21 44 51.3	+1.4
	baz=268,SNR=7.7						
G26K	Porcupine Rive	61.41	26	P	P	21 44 51.5	+1.3
G26K	Porcupine Rive	61.41	26	P	P	21 44 52.1	+1.9
	baz=265,SNR=11						
M26K	Nabesna, AK	61.50	31	P	P	21 44 51.9	+0.9
	baz=268						
CHM	Chimkent	61.60	306	eP	P	21 44 50.5	-1.4
C27K	Jago River	61.69	22	P	P	21 44 52.8	+0.8
C27K				IAmb	IAmb	21 44 54.9	
	comp=Z,34nm,1.4s						
C27K	Jago River	61.69	22	P	P	21 44 53.7	+1.6
	baz=264						
K27K	Chicken	61.96	29	P	P	21 44 55.0	+1.0
	baz=268						
MESA	MESA	61.99	33	P	P	21 44 56.3	+1.9
	baz=271						
M27K	Edge Creek, AK	62.02	31	P	P	21 44 55.5	+0.9
M27K				IAmb	IAmb	21 44 57.0	
	comp=Z,36nm,1.6s						
M27K	Edge Creek, AK	62.02	31	P	P	21 44 55.6	+1.0
	baz=270						
L27K	Beaver Creek,	62.06	30	P	P	21 44 54.5	-0.1
L27K				IAmb	IAmb	21 44 56.8	
	comp=Z,16nm,1.2s						
L27K	Beaver Creek,	62.06	30	P	P	21 44 55.7	+1.1
	baz=269,SNR=8.4						
BCAR	Beaver Creek A	62.08	30	P	P	21 44 55.0	+0.2
I27K	Kandik River	62.21	27	P	P	21 44 56.6	+0.9
	baz=268,SNR=9.2						
G27K	Doyon Strip	62.24	26	P	P	21 44 56.3	+0.4
G27K	Doyon Strip	62.24	26	P	P	21 44 57.6	+1.8
	baz=267,SNR=8.3						
H27K	Steamboat Moun	62.27	26	P	P	21 44 56.4	+0.4
H27K	Steamboat Moun	62.27	26	P	P	21 44 58.0	+2.0
	baz=268,SNR=51						
E27K	Coleen River	62.34	24	P	P	21 44 57.8	+1.3
E27K				IAmb	IAmb	21 44 59.2	
	comp=Z,13nm,0.9s						
E27K	Coleen River	62.34	24	P	P	21 44 58.4	+1.9
	baz=267,SNR=20						
BVCY	Beaver Creek	62.50	31	P	P	21 44 59.2	+1.5
	baz=270						
D27M	Malcolm River	62.63	23	P	P	21 44 59.1	+0.7
D27M				IAmb	IAmb	21 45 01.2	
	comp=Z,30nm,1.4s						
D27M	Malcolm River	62.63	23	P	P	21 44 60.0	+1.6
	baz=267						
SIMJ	Simiganj	62.64	302	P	P	21 44 58.8	-0.3
SIMJ				IAmb	IAmb	21 45 06.1	
	comp=Z,11nm,0.8s						
YUK3	Moose Creek	62.70	31	P	P	21 45 00.2	+1.0
	baz=271						
PINM	Pinnacle	62.84	33	P	P	21 45 01.3	+1.3
	baz=272						
O28M	Mount Upton	62.85	33	P	P	21 45 01.0	+0.7
O28M				IAmb	IAmb	21 45 02.6	
	comp=Z,14nm,1.0s						
O28M	Mount Upton	62.85	33	P	P	21 45 01.3	+1.0
	baz=272						
I28M	Miner Creek	62.91	27	P	P	21 45 01.1	+0.7
I28M	Miner Creek	62.91	27	P	P	21 45 01.5	+1.2
	baz=270,SNR=28						
YUK8	Steele Glacier	63.04	32	P	P	21 45 03.0	+1.4
	baz=272						
E28M	Babbage River	63.12	24	P	P	21 45 03.0	+1.4
E28M	Babbage River	63.12	24	P	P	21 45 03.7	+2.1
	baz=268,SNR=34						
DAWY	Dawson	63.15	29	P	P	21 45 02.5	+0.6
DAWY				IAmb	IAmb	21 45 04.2	
	comp=Z,18nm,1.0s						
DAWY	Dawson	63.15	29	P	P	21 45 03.3	+1.4
	baz=271,SNR=16						
PNL	Peninsula	63.29	34	P	P	21 45 04.3	+1.4
	baz=273						
D28M	Stokes Point	63.42	23	P	P	21 45 05.1	+1.5
	baz=269,SNR=18						
KBL	Kabul	63.42	298	P	P	21 45 04.2	-0.2
H29M	Whitestone	63.55	26	P	P	21 45 06.2	+1.7
	baz=271,SNR=13						
YUK4	Talbot Arm	63.58	32	P	P	21 45 06.9	+1.9
	baz=273,SNR=11						
I29M	Ogilvie Camp,	63.59	27	IAmb	IAmb	21 45 07.0	
	comp=Z,25nm,1.1s						
I29M	Ogilvie Camp,	63.59	27	P	P	21 45 06.0	+1.3
	baz=271,SNR=18						
M29M	Somme Creek	63.61	31	P	P	21 45 06.0	+0.9
M29M				IAmb	IAmb	21 45 07.8	
	comp=Z,19nm,0.8s						
M29M	Somme Creek	63.61	31	P	P	21 45 06.9	+1.8
	baz=272,SNR=12						
J29N	Klondike Camp	63.65	28	P	P	21 45 06.2	+0.9
J29N	Klondike Camp	63.65	28	P	P	21 45 06.9	+1.6
	baz=272						
O29M	Mount Kennedy	63.67	33	P	P	21 45 07.6	+2.0
	baz=273,SNR=7.6						
G29M	Pine Creek	63.68	26	P	P	21 45 06.1	+0.7
G29M	Pine Creek	63.68	26	P	P	21 45 07.2	+1.8
	baz=271,SNR=14						
E29M	Blow River	63.72	24	P	P	21 45 06.5	+1.0
E29M				IAmb	IAmb	21 45 08.2	
	comp=Z,15nm,1.1s						
E29M	Blow River	63.72	24	P	P	21 45 07.2	+1.7
	baz=270,SNR=18						
YUK6	Outpost Mounta	63.74	32	P	P	21 45 07.9	+1.8
	baz=273						
L29M	L29M	63.74	30	P	P	21 45 06.7	+0.9
L29M				IAmb	IAmb	21 45 08.8	
	comp=Z,22nm,0.9s						
L29M	L29M	63.74	30	P	P	21 45 07.9	+2.1
	baz=272,SNR=17						
K29M	Barlow Dome	63.98	29	P	P	21 45 08.2	+0.7
K29M				IAmb	IAmb	21 45 10.1	
	comp=Z,17nm,0.8s						
K29M	Barlow Dome	63.98	29	P	P	21 45 09.2	+1.7
	baz=273,SNR=18						
P29M	Windy Craggy	64.14	34	P	P	21 45 08.3	-0.2
P29M	Windy Craggy	64.14	34	P	P	21 45 10.5	+2.0
	baz=274,SNR=9.8						
HYT	Haines Junctio	64.16	32	IAmb	IAmb	21 45 11.6	
	comp=Z,27nm,1.1s						
HYT	Haines Junctio	64.16	32	P	P	21 45 10.8	+2.0
	baz=274,SNR=9.7						
EPYK	Eagle Plains	64.21	26	P	P	21 45 10.0	+1.1
EPYK	Eagle Plains	64.21	26	P	P	21 45 10.4	+1.5
	baz=272,SNR=19						
N30M	Aishikik Lake	64.32	32	P	P	21 45 10.8	+1.1
N30M				IAmb	IAmb	21 45 12.3	
	comp=Z,17nm,1.1s						
N30M	Aishikik Lake	64.32	32	P	P	21 45 11.4	+1.7
	baz=274,SNR=6.3						
M30M	Minto, Yukon	64.38	30	P	P	21 45 10.7	+0.6
M30M				IAmb	IAmb	21 45 12.6	
	comp=Z,23nm,1.3s						
M30M	Minto, Yukon	64.38	30	P	P	21 45 11.7	+1.6
	baz=274,SNR=8.7						
G30M	tAoh Zraii Nji	64.39	26	P	P	21 45 10.9	+0.9
G30M	tAoh Zraii Nji	64.39	26	P	P	21 45 11.3	+1.3
	baz=272,SNR=22						
I30M	Mount Dempster	64.40	28	P	P	21 45 10.8	+0.6
I30M				IAmb	IAmb	21 45 13.5	
	comp=Z,12nm,0.7s						
I30M	Mount Dempster	64.40	28	P	P	21 45 11.5	+1.2
	baz=273,SNR=17						
J30M	Hart River	64.46	28	P	P	21 45 11.2	+0.6
J30M				IAmb	IAmb	21 45 12.9	
	comp=Z,20nm,1.2s						
J30M	Hart River	64.46	28	P	P	21 45 12.0	+1.3
	baz=273,SNR=15						
P30M	Million Dollar	64.49	33	P	P	21 45 12.4	+1.6
	baz=275						
F30M	Barrier River	64.53	25	P	P	21 45 11.8	+0.9
F30M	Barrier River	64.53	25	P	P	21 45 12.7	+1.8
	baz=272,SNR=18						
PLBC	Pleasant Camp	64.85	34	P	P	21 45 14.5	+1.4
	baz=276						
O30N	Mendenhall	64.86	32	P	P	21 45 14.7	+1.4
	baz=275						
N31M	Braeburn, Yuko	64.94	32	P	P	21 45 13.6	-0.2
N31M				IAmb	IAmb	21 45 16.4	
	comp=Z,28nm,1.1s						
N31M	Braeburn, Yuko	64.94	32	P	P	21 45 15.4	+1.7
	baz=275,SNR=5.5						
S31K	Pelican	65.08	36	P	P	21 45 16.0	+1.4
	baz=276						
G31M	Satah River	65.16	26	P	P	21 45 14.9	0.0
G31M	Satah River	65.16	26	P	P	21 45 16.0	+1.1
	baz=274,SNR=29						
H31M	Peel River	65.21	27	P	P	21 45 15.3	-0.1
H31M	Peel River	65.21	27	P	P	21 45 16.6	+1.2
	baz=274,SNR=19						
F31M	Tsiigehtchic	65.32	25	IAmb	IAmb	21 45 17.6	
	comp=Z,11nm,0.9s						
F31M	Tsiigehtchic

R32K **Eaglecrest** 65.94 35 P P 21 45 21.8 +1.6
baz=278
FARO **Faro, Yukon** 66.01 31 P P 21 45 20.3 -0.3
FARO IAmb IAmb 21 45 33.8
comp=Z,17nm,1.3s
FARO **Faro, Yukon** 66.01 31 P P 21 45 22.1 +1.4
baz=277
P32M **Atlin** 66.17 34 P P 21 45 22.7 +1.0
P32M IAmb IAmb 21 45 24.1
comp=Z,13nm,0.9s
P32M **Atlin** 66.17 34 P P 21 45 23.1 +1.4
baz=278
N32M **Quiet Lake** 66.27 32 P P 21 45 22.9 +0.6
N32M IAmb IAmb 21 45 25.2
comp=Z,16nm,1.1s
N32M **Quiet Lake** 66.27 32 P P 21 45 23.5 +1.2
baz=278
P33M **Teslin, Yukon** 66.53 33 P P 21 45 24.3 +0.2
P33M IAmb IAmb 21 45 26.0
comp=Z,12nm,0.9s
P33M **Teslin, Yukon** 66.53 33 P P 21 45 25.5 +1.4
baz=278,SNR=9.8
ARTI **Arti** 66.76 323 P P 21 45 23.9 -1.5
ARTI IAmb IAmb 21 45 38.6
comp=Z,10nm,0.6s
ARTI **Arti** 66.76 323 LR LR 22 18 22.2
comp=Z,90nm,18.1s,baz=68,slow=39
ARTI **Arti** 66.76 323 P P 21 45 23.9 -1.5
ARTI pP pP 21 45 37.6 -0.8
ARTI sP pwP 21 45 43.0 +1.2
MMPY **Sheldon Lake,** 66.92 30 P P 21 45 27.1 +0.6
MMPY IAmb IAmb 21 45 29.1
comp=Z,31nm,1.8s
MMPY **Sheldon Lake,** 66.92 30 P P 21 45 28.1 +1.7
baz=279,SNR=5.1
Q32M **Nakina River** 67.00 34 IAmb IAmb 21 45 38.9
comp=Z,38nm,1.7s
Q32M **Nakina River** 67.00 34 P P 21 45 29.0 +1.8
baz=279
U33K **Whale Pass** 67.03 37 P P 21 45 28.7 +1.6
baz=280
ABKAR **Akbulak array** 67.11 315 P P 21 45 26.4 -1.3
ABKAR **Akbulak array** 67.11 315 IAmb IAmb 21 45 41.1
comp=Z,12nm,0.7s
CRAG **Craig** 67.14 38 P P 21 45 29.4 +1.6
baz=280
WRAK **Wrangell Islan** 67.40 37 P P 21 45 31.2 +1.7
baz=280
R33M **Jennings River** 67.59 34 P P 21 45 30.9 0.0
R33M **Jennings River** 67.59 34 P P 21 45 32.3 +1.4
baz=280
A36M **Sachs Harbour** 67.69 20 P P 21 45 32.6 +1.6
baz=280
S34M **Telegraph Cree** 67.78 35 P P 21 45 32.7 +0.9
S34M IAmb IAmb 21 45 34.8
comp=Z,15nm,0.8s
S34M **Telegraph Cree** 67.78 35 P P 21 45 33.8 +1.9
baz=281,SNR=7.6
V35K **Ketchikan** 68.01 38 P P 21 45 34.6 +1.3
baz=281
AKTO **Aktyubinsk** 68.09 317 LR LR 22 17 43.1
comp=Z,115nm,19.2s,baz=74,slow=38
DLBC **Dease Lake** 68.25 34 P P 21 45 35.4 +0.5
DLBC IAmb IAmb 21 45 37.8
comp=Z,30nm,1.3s
DLBC **Dease Lake** 68.25 34 LR LR 22 11 58.4
comp=Z,135nm,21.6s,baz=278,slow=33
DLBC **Dease Lake** 68.25 34 P P 21 45 36.6 +1.7
baz=281,SNR=9.9
T35M **Bob Quinn** 68.42 36 P P 21 45 36.0 0.0
T35M IAmb IAmb 21 45 38.4
comp=Z,9.2nm,0.8s
T35M **Bob Quinn** 68.42 36 P P 21 45 37.8 +1.8
baz=282,SNR=5.5
TGTN **Hyland Airport** 68.50 31 P P 21 45 38.0 +1.6
baz=282,SNR=12
WTLY **Watson Lake, Y** 68.53 33 P P 21 45 38.2 +1.6
baz=282
C36M **Paulatuk** 68.59 22 P P 21 45 36.4 -0.3
C36M IAmb IAmb 21 45 38.0
comp=Z,12nm,0.9s
C36M **Paulatuk** 68.59 22 P P 21 45 37.1 +0.4
baz=282,SNR=9.3
LIRD **Liard River Hi** 70.02 33 P P 21 45 47.6 +1.9
baz=284
WRGLY **Wrigley** 70.28 29 P P 21 45 47.1 -0.2
WRGLY IAmb IAmb 21 45 49.7
comp=Z,24nm,0.8s
WRGLY **Wrigley** 70.28 29 P P 21 45 48.9 +1.6
baz=285,SNR=11
URZ **Urewera** 70.35 152 LR LR 22 15 33.4
comp=Z,37nm,18.7s,baz=47,slow=35
TOAD **Toad River Com** 70.59 33 P P 21 45 51.0 +1.7
baz=285,SNR=8.9
BBB **Bella Bella** 70.75 41 LR LR 22 10 47.1
comp=Z,72nm,21.7s,baz=310,slow=30
KOTAN **Kotaneelee Air** 70.83 32 P P 21 45 52.3 +1.5
baz=286
KIRV **Kirov** 71.01 326 LR LR 22 20 11.7
comp=Z,139nm,18.6s,baz=85,slow=38
SPITS **Spitsbergen Ar** 73.02 350 P P 21 46 03.8 +0.2
comp=Z,12nm,0.9s,baz=80,slow=9.4,SNR=6.9
SPITS LR LR 22 20 22.9
comp=Z,74nm,19.4s,baz=355,slow=38
comp=Z,12nm,0.9s
NOR **Nord** 73.63 357 *i* P P 21 46 05.1 -2.0
NOR IAmb IAmb 21 46 07.1
comp=Z,2.4nm,1.0s
YKA **Yellowknife Ar** 74.36 28 P P 21 46 12.2 +0.6
comp=Z,9.1nm,0.7s,baz=294,slow=5.7,SNR=124
YKA LR LR 22 18 25.8
comp=Z,25nm,20.7s,baz=318,slow=35
comp=Z,9.1nm,0.7s
YKAB2 **New Yellowknif** 74.39 28 P P 21 46 12.0 +0.2
RES **Resolute Bay** 74.57 13 P P 21 46 13.2 +0.5
RES IAmb IAmb 21 46 23.7
comp=Z,39nm,1.9s
RES **Resolute Bay** 74.57 13 LR LR 22 23 19.2
comp=Z,22nm,19.0s,baz=6.0,slow=39
PGC **Sidney** 74.66 43 P P 21 46 13.1 -0.5
NLWA **Neilton Lookou** 74.81 45 P P 21 46 15.5 +0.9
NLWA IAmb IAmb 21 46 17.5
comp=Z,12nm,0.8s
LLLB **Lillooet** 74.95 41 P P 21 46 15.8 +0.4
LLLB IAmb IAmb 21 46 17.8
comp=Z,21nm,1.1s
E03A **Lebam** 75.30 45 P P 21 46 17.4 +0.1
E03A IAmb IAmb 21 46 20.1
comp=Z,24nm,0.9s
GNW **Green Mountain** 75.42 44 P P 21 46 19.0 +1.0
GNW IAmb IAmb 21 46 20.9
comp=Z,25nm,1.1s
F03A **Seaside** 75.51 46 P P 21 46 18.7 +0.1
F03A IAmb IAmb 21 46 21.5
comp=Z,29nm,0.9s
ARCES **ARCESS Array B** 76.11 341 P P 21 46 22.0 +0.4
ARCES **ARCESS Array B** 76.11 341 P P 21 46 21.9 +0.3
comp=Z,4.1nm,0.6s,baz=74,slow=8.4,SNR=32
ARCES LR LR 22 24 18.5
comp=Z,113nm,19.7s,baz=76,slow=39
comp=Z,4.1nm,0.6s
J01E **Myrtle Point** 76.22 49 P P 21 46 23.0 +0.4
LON **Longmire** 76.35 45 P P 21 46 24.0 +0.5
I03D **Drain, OR** 76.43 48 P P 21 46 24.8 +0.9
G04A **Mulino** 76.47 46 P P 21 46 25.6 +1.5
BUCK **Buck Mountain** 76.50 48 P P 21 46 23.5 -0.9
H04D **Lebanon** 76.55 47 P P 21 46 25.2 +0.6
H04D IAmb IAmb 21 46 27.6
comp=Z,32nm,1.4s
K02D **Willamette Mer** 76.57 49 P P 21 46 25.0 +0.2
K02D IAmb IAmb 21 46 27.2
comp=Z,22nm,1.1s
DBO **Dodson Butte** 76.71 49 P P 21 46 26.1 +0.5
DBO IAmb IAmb 21 46 28.1
comp=Z,15nm,0.9s
L02F **Cave Junction** 76.84 50 P P 21 46 26.9 +0.6
L02F IAmb IAmb 21 46 28.9
comp=Z,13nm,0.9s
H04A **Detroit Lake** 76.86 47 P P 21 46 26.6 +0.3
H04A IAmb IAmb 21 46 28.6
comp=Z,26nm,0.9s
UOSS **Minazif** 76.88 292 P P 21 46 27.7 +1.0
LTY **Liberty** 76.89 44 P P 21 46 26.5 0.0
LTY IAmb IAmb 21 46 28.1
comp=Z,8.7nm,0.7s
HOOD **Mount Hood Mea** 76.97 46 P P 21 46 28.0 +0.8
HOOD IAmb IAmb 21 46 29.6
comp=Z,19nm,0.9s
I04A **Tendick Farm,** 77.03 48 P P 21 46 28.3 +1.0
I04A IAmb IAmb 21 46 29.5
comp=Z,22nm,0.8s
KMPM **Mount Pierce** 77.06 51 P P 21 46 27.5 -0.1
BBOR **Butler Butte** 77.17 49 P P 21 46 28.7 +0.4
B08A **Colville Reser** 77.32 43 P P 21 46 29.0 +0.1
B08A IAmb IAmb 21 46 30.9
comp=Z,15nm,0.8s
MXC **Moxie City** 77.39 45 P P 21 46 29.5 +0.2
MXC IAmb IAmb 21 46 31.2
comp=Z,10nm,0.7s
J04A **Umpqua Nationa** 77.44 48 P P 21 46 30.6 +0.8
JOF **Joensuu** 77.55 334 *e*P P 21 46 29.2 -0.6
YBH **Yreka Blue Hor** 77.58 50 P P 21 46 30.8 +0.3
YBH IAmb IAmb 21 46 33.1
comp=Z,18nm,0.8s
YBH **Yreka Blue Hor** 77.58 50 LR LR 22 14 13.2
comp=Z,98nm,19.4s,baz=309,slow=30
G06A **Carlson Farm,** 77.67 46 P P 21 46 31.4 +0.5
E07A **Sunnyside** 77.68 44 P P 21 46 32.1 +1.2
E07A IAmb IAmb 21 46 33.3
comp=Z,13nm,0.7s
L04D **Klamath Falls** 77.68 49 P P 21 46 32.1 +1.0
WAH2 **Wahluke Slope** 77.78 44 P P 21 46 32.0 +0.6
F07A **Phinny Hill Vi** 77.88 45 P P 21 46 32.4 +0.4
F07A IAmb IAmb 21 46 34.5
comp=Z,20nm,1.2s
HAWA **Hanford** 77.94 44 P P 21 46 33.0 +0.7
HAWA IAmb IAmb 21 46 34.2
comp=Z,8.6nm,0.7s
J05D **Fort Rock, OR** 78.01 48 P P 21 46 34.4 +1.4
NEEM **North Greenlan** 78.01 3 *i* P P 21 46 32.5 0.0
PINE **Pine Mountain** 78.02 47 P P 21 46 34.1 +1.1
D08A **Wollman Farm,** 78.08 44 P P 21 46 33.9 +0.9
D08A IAmb IAmb 21 46 34.7
comp=Z,12nm,0.8s
O02D **Mt. Diablo Mer** 78.10 51 P P 21 46 34.1 +0.7
O02D IAmb IAmb 21 46 36.2
comp=Z,18nm,0.9s
PPT2 **Papeete2** 78.34 115 *e*LR LR 22 10 42.5
comp=Z,131nm,27.2s
PPT2 *e*LR LR 22 10 54.3
comp=Z,115nm,29.8s
GDXM **Geysers** 78.60 53 P P 21 46 36.4 +0.2
NEW **Newport** 78.71 42 P P 21 46 36.6 0.0
NEW IAmb IAmb 21 46 38.7
comp=Z,12nm,0.8s
NEW **Newport** 78.71 42 LR LR 22 16 29.2
comp=Z,48nm,20.8s,baz=321,slow=32
G08A **Pilot Rock** 78.74 45 P P 21 46 37.2 +0.2
OBN **Obninsk** 78.83 326 LR LR 22 24 45.9
comp=Z,114nm,19.3s,baz=10,slow=38
I07A **Izee** 78.86 47 P P 21 46 37.8 +0.2
LNOR **Lincton Mounta** 78.95 45 P P 21 46 39.2 +1.3
ORV **Oroville** 79.25 51 P P 21 46 39.2 -0.4
ORV IAmb IAmb 21 46 41.4
comp=Z,12nm,0.7s
F10A **Beach Ranch, E** 79.58 44 P P 21 46 41.5 0.0
J08A **Circle Bar Ran** 79.84 47 P P 21 46 43.4 +0.5
J08A IAmb IAmb 21 46 45.3
comp=Z,21nm,1.0s
AFDM **Forest Hills D** 79.86 52 P P 21 46 43.3 +0.2
BEKR **Beckworth** 79.94 51 P P 21 46 44.2 +0.6
BEKR IAmb IAmb 21 46 45.5
comp=Z,24nm,0.8s
KBZ **Khabaz** 79.98 313 P P 21 46 43.3 -0.2
comp=Z,7.5nm,0.9s,baz=113,slow=3.4,SNR=21
KBZ LR LR 22 24 45.2
comp=Z,114nm,21.1s,baz=57,slow=38
comp=Z,7.5nm,0.9s
BMO **Blue Mountains** 79.99 45 P P 21 46 44.1 +0.4
BMO IAmb IAmb 21 46 45.9
comp=Z,14nm,0.9s
KIV **Kislovodsk** 80.02 314 P P 21 46 44.3 +0.4
KIV **Kislovodsk** 80.02 314 P P 21 46 43.9 0.0
comp=Z,6.9nm,1.0s
WVOR **Wild Horse Val** 80.10 48 P P 21 46 44.1 -0.2
WVOR IAmb IAmb 21 46 46.6
comp=Z,18nm,1.1s
MPK **Martis Peak** 80.40 51 P P 21 46 46.8 +0.6
MPK IAmb IAmb 21 46 48.5
comp=Z,34nm,1.2s
FIA1 **FINESS Array S** 80.41 334 P P 21 46 46.1 +0.6
FINES **FINESS Array B** 80.41 334 P P 21 46 45.2 -0.3
FINES **FINESS Array B** 80.41 334 P P 21 46 44.8 -0.7
comp=Z,3.9nm,0.6s,baz=63,slow=5.2,SNR=27
FINES LR LR 22 25 54.4
comp=Z,43nm,18.0s,baz=65,slow=38
comp=Z,3.9nm,0.6s
CMB **Columbia Colle** 80.65 53 P P 21 46 47.2 -0.1
CMB IAmb IAmb 21 46 49.3
comp=Z,18nm,0.8s
PAHR **Pah Rah Range** 80.69 51 P P 21 46 48.3 +0.7
PLID **Pearl Lake** 80.74 45 P P 21 46 47.4 -0.4
BBGB **Big Mountain B** 80.75 54 P P 21 46 49.3 +1.3
BBGB IAmb IAmb 21 47 01.3
comp=Z,22nm,0.8s
VAF **Ylistaro** 80.78 336 *e*P P 21 46 46.7 -0.7
PNTR **Pine Nut** 80.79 51 P P 21 46 49.1 +0.8
PNTR IAmb IAmb 21 46 50.5
comp=Z,16nm,0.8s
PMPB **Monarch Peak** 81.07 54 P P 21 46 50.5 +0.9
PMPB IAmb IAmb 21 46 53.9
comp=Z,20nm,1.0s
WAKR **Walker** 81.14 52 P P 21 46 49.8 -0.3
MSO **Missoula** 81.27 42 P P 21 46 50.0 -0.5
MSO IAmb IAmb 21 46 52.1
comp=Z,28nm,1.9s
TBI **Tubuai** 81.37 120 *e*LR LR 22 12 13.6
comp=Z,572nm,27.5s
MFID **Camas Ranch** 81.56 46 P P 21 46 52.1 0.0
MFID IAmb IAmb 21 46 54.4
comp=Z,20nm,1.0s
ARBE **Arbavere** 81.59 332 *e*P P 21 46 51.1 -0.7
RYN **Ryan** 81.74 51 P P 21 46 53.5 +0.2
LHV **Little Huntoon** 81.91 52 P P 21 46 54.5 +0.6
LHV IAmb IAmb 21 46 56.7
comp=Z,14nm,1.0s
NVAR **Mina Array Bea** 81.98 52 P P 21 46 55.1 +0.5
NVAR **Mina Array Bea** 81.98 52 P P 21 46 55.8 +1.2
comp=Z,9.6nm,0.8s,baz=282,slow=5.5,SNR=42
comp=Z,9.6nm,0.8s
NV11 **Mina Array Sit** 82.09 51 P P 21 46 54.9 -0.2
NV11 IAmb IAmb 21 46 57.1
comp=Z,20nm,1.5s
TAOE **Nuku Hiva Isla** 82.34 103 *e*LR LR 22 12 43.8
comp=Z,184nm,25.6s
HLID **Hailey** 82.42 46 P P 21 46 57.6 +0.8
BCW **Bitter Crk WRg** 82.62 55 P P 21 46 57.9 +0.1
BCW IAmb IAmb 21 47 00.4
comp=Z,21nm,0.9s
DSP **Deep Springs** 82.67 52 P P 21 46 58.1 +0.3
DLMT **Dillon** 82.77 43 P P 21 46 58.7 +0.3
DLMT IAmb IAmb 21 47 00.7
comp=Z,19nm,1.4s
MTSE **Matsula** 82.92 333 *e*P P 21 46 58.4 -0.3
ELK **Elko** 83.12 48 P P 21 47 00.5 0.0
KOPT **Kop Dagi** 83.17 311 P P 21 46 59.8 -1.1
SUMG **Summit** 83.23 0 *i* P P 21 47 02.2 +1.6
BOZ **Bozeman (W)** 83.26 43 P P 21 47 01.3 +0.3
FFC **Flin Flon** 83.87 32 P P 21 47 04.5 +0.7
FFC IAmb IAmb 21 47 05.6
comp=Z,14nm,0.9s
WCT **Wildcat Mounta** 83.89 52 P P 21 47 05.0 +0.7
YHL **Hebgen Lake** 83.89 43 P P 21 47 05.3 +0.9
YHL IAmb IAmb 21 47 07.2
comp=Z,12nm,0.8s
YHB **Horse Butte** 83.93 43 P P 21 47 04.4 -0.2
YHB IAmb IAmb 21 47 07.3
comp=Z,12nm,0.9s
R11B **Troy Canyon, C** 83.94 51 P P 21 47 04.1 -0.6
TPNV **Topopah Spring** 84.09 52 P P 21 47 04.0 -1.4
TPNV IAmb IAmb 21 47 07.3
comp=Z,14nm,0.7s
YMR **Madison River** 84.12 43 P P 21 47 05.1 -0.4
YMR IAmb IAmb 21 47 08.5
comp=Z,15nm,0.7s
GWY **Greenwater Val** 84.12 53 P P 21 47 04.6 -1.0
GWY IAmb IAmb 21 47 07.4
comp=Z,16nm,0.8s
YHH **Holmes Hill** 84.13 43 P P 21 47 05.1 -0.5
S11A **Rachel** 84.14 51 P P 21 47 04.0 -1.7
MARD **Mardin** 84.17 308 P P 21 47 05.4 -0.4
YNR **Norris Junctio** 84.27 43 P P 21 47 06.6 +0.2
YNR IAmb IAmb 21 47 10.0
comp=Z,27nm,1.3s
YFT **Old Faithful** 84.30 44 P P 21 47 07.3 +0.8
YFT IAmb IAmb 21 47 10.7
comp=Z,18nm,0.9s
HVU **Hansel Valley** 84.31 47 P P 21 47 06.2 -0.3
HVU IAmb IAmb 21 47 09.9
comp=Z,20nm,1.5s
GSC **Goldstone, Bar** 84.40 54 P P 21 47 07.4 +0.5
GSC IAmb IAmb 21 47 09.0
comp=Z,22nm,1.2s
H17A **Grant Village** 84.49 44 P P 21 47 08.9 +1.5
H17A IAmb IAmb 21 47 12.4
comp=Z,17nm,1.0s
SPR3 **Spring Creek 3** 84.53 50 P P 21 47 07.1 -0.8
BGU **Big Grassy Mou** 84.54 47 P P 21 47 07.4 -0.3
YNE **Yellowstone No** 84.55 43 P P 21 47 06.3 -1.4
FXWY **Fox Creek** 84.57 44 P P 21 47 06.8 -1.0
YMP **Mirror Lake Pl** 84.59 43 P P 21 47 07.6 -0.4
YMP IAmb IAmb 21 47 11.3
comp=Z,23nm,1.1s
ELS **Elsinore Mount** 84.66 56 P P 21 47 06.9 -1.3
TPAW **Teton Pass** 84.69 44 P P 21 47 06.4 -2.1
TPAW IAmb IAmb 21 47 10.1
comp=Z,9.5nm,0.8s
MOOW **Moose Ponds** 84.70 44 P P 21 47 07.6 -0.9
PRN **Pahroc Range** 84.74 51 P P 21 47 08.3 -0.4
PRN IAmb IAmb 21 47 10.9
comp=Z,8.7nm,0.9s
PABE **Paberze** 84.76 330 *e*P P 21 47 07.3 -0.9
LOHW **Long Hollow** 84.85 44 P P 21 47 10.0 +0.8
AK03 **Malin Array Si** 84.87 324 P P 21 47 07.7 -1.1
AKASG **Malin Array Be** 84.88 324 P P 21 47 08.1 -0.8
AKASG **Malin Array Be** 84.88 324 P P 21 47 07.9 -1.0
comp=Z,2.3nm,0.6s,baz=49,slow=4.7,SNR=17
AKASG LR LR 22 28 31.5
comp=Z,76nm,19.8s,baz=58,slow=38
comp=Z,2.3nm,0.6s
AKBB **Malin Array Si** 84.88 324 IAmb IAmb 21 47 29.8
comp=Z,8.7nm,0.8s
AKBB **Malin Array Si** 84.88 324 P P 21 47 07.6 -1.3
FCC **Fort Churchill** 84.88 26 P P 21 47 08.4 -0.3
AK01 **Malin Array Si** 84.89 324 P P 21 47 07.9 -1.1
KIEV **Kiev** 84.89 324 P P 21 47 07.8 -1.2
KIEV IAmb IAmb 21 47 29.9
comp=Z,7.4nm,0.8s
KIEV **Kiev** 84.89 324 P P 21 47 07.5 -1.5
comp=Z,34nm,1.1s
AK08 **Malin Array Si** 84.90 324 P P 21 47 08.0 -1.0
AK22 **Malin Array Si** 84.93 324 P P 21 47 07.9 -1.3
AHID **Auburn Hatcher** 84.94 45 P P 21 47 09.1 -0.6
AHID IAmb IAmb 21 47 11.9
comp=Z,9.2nm,0.9s
RLMT **Red Lodge** 84.95 42 P P 21 47 09.7 0.0
AK20 **Malin Array Si** 84.97 324 P P 21 47 08.3 -1.1
AK14 **Malin Array Si** 84.98 324 P P 21 47 08.2 -1.2
DUG **Dugway, Tooele** 85.02 48 P P 21 47 10.1 0.0
DUG IAmb IAmb 21 47 12.1
comp=Z,14nm,0.8s
SHPR **Sheep Range** 85.07 52 P P 21 47 10.4 0.0
PSUT **Pine Spring** 85.08 50 P P 21 47 09.8 -0.6
PSUT IAmb IAmb 21 47 12.3
comp=Z,10nm,0.8s
HWUT **Hardware Ranch** 85.19 46 P P 21 47 11.6 +0.7
HWUT IAmb IAmb 21 47 13.1
comp=Z,14nm,0.9s
PFO **Pinyon Flats O** 85.40 55 P P 21 47 11.6 -0.5
PFO IAmb IAmb 21 47 13.9
comp=Z,14nm,1.1s
PFO **Pinyon Flats O** 85.40 55 LR LR 22 18 08.8
comp=Z,130nm,21.1s,baz=250,slow=30
V12A **Nelson** 85.64 53 P P 21 47 13.2 0.0
V12A IAmb IAmb 21 47 15.3
comp=Z,15nm,0.8s
MPU **Maple Canyon** 85.91 48 P P 21 47 13.7 -0.9
MPU IAmb IAmb 21 47 16.4
comp=Z,7.7nm,0.9s
NC405 **NORSAR Array S** 85.92 338 IAmb IAmb 21 47 27.8
comp=Z,13nm,0.9s
PD31 **Pinedale Array** 85.93 45 P P 21 47 14.7 0.0
PDAR **Pinedale Array** 85.93 45 P P 21 47 14.1 -0.6
PDAR **Pinedale Array** 85.93 45 P P 21 47 15.2 +0.5
comp=Z,5.2nm,1.0s,baz=278,slow=2.5,SNR=25
PDAR LR LR 22 18 01.7
comp=Z,96nm,21.6s,baz=264,slow=30
comp=Z,5.2nm,1.0s
HFS **Hagfors** 85.94 337 P P 21 47 12.8 -1.2
comp=Z,2.2nm,0.6s,baz=81,slow=9.2,SNR=8.9
HFS LR LR 22 27 41.0
comp=Z,90nm,21.5s,baz=47,slow=37
comp=Z,2.2nm,0.6s
LAO **LASA Array** 85.98 40 P P 21 47 13.8 -0.8
SUW **Suwalki** 86.02 329 *e*P P 21 47 14.1 -0.4
LUBAR **Lubar, Ukraine** 86.09 324 P P 21 47 13.3 -1.7
NB2 **NORSAR Subarra** 86.14 338 P P 21 47 13.7 -1.4
comp=Z,3.5nm,0.7s,baz=45,slow=5.1
NOA **NORSAR Array B** 86.14 338 P P 21 47 14.1 -1.0
comp=Z,2.8nm,0.8s,baz=43,slow=4.6,SNR=12
NOA LR LR 22 29 40.1
comp=Z,52nm,20.1s,baz=45,slow=38
comp=Z,2.8nm,0.8s
LCMT **Little Creek M** 86.21 51 P P 21 47 16.7 +0.7
LCMT IAmb IAmb 21 47 18.2
comp=Z,14nm,0.8s
MVU **Marysvale** 86.23 49 P P 21 47 15.3 -1.0
YUH **Yuha Desert** 86.23 56 P P 21 47 16.3 +0.3
YUH IAmb IAmb 21 47 17.8
comp=Z,15nm,1.1s
BSUT **Blindstream Ca** 86.24 47 P P 21 47 16.1 -0.3
MSU **Marysvale** 86.25 49 P P 21 47 16.5 +0.2
RAYN **Ar Rayn** 86.42 294 P P 21 47 17.4 +0.2
MTPU **Mount Pierson** 86.47 50 P P 21 47 16.9 -0.7
ESJX **Sierra Juarez** 86.50 56 P P 21 47 17.5 -0.1
ESJX IAmb IAmb 21 47 19.6
comp=Z,12nm,1.0s
KNB **Kanab** 86.50 51 P P 21 47 17.6 +0.1
W13A **Hualapai Mount** 86.63 53 P P 21 47 17.2 -1.0
PKCU **Pink Cliffs** 86.66 50 P P 21 47 17.9 -0.5
PKCU IAmb IAmb 21 47 21.4
comp=Z,33nm,1.9s
ICESG **Greenland Ices** 86.72 1 *i* P P 21 47 18.6 +0.4
Q16A **Castle Valley** 86.75 49 P P 21 47 18.6 -0.1
BLYC **Blythe** 86.78 54 P P 21 47 19.0 +0.3
BLYC IAmb IAmb 21 47 21.0
comp=Z,9.0nm,0.8s
GLA **Glamis** 86.87 55 P P 21 47 19.0 -0.2
RDMU **Red Mountain** 87.01 47 P P 21 47 20.0 0.0
RDMU IAmb IAmb 21 47 22.0
comp=Z,11nm,0.8s
P18A **Preston Nutter** 87.03 48 P P 21 47 19.3 -0.9
SRU **San Rafael Swe** 87.09 48 P P 21 47 19.9 -0.4
SRU IAmb IAmb 21 47 22.0
comp=Z,10.0nm,0.8s
U15A **North Rim** 87.16 51 P P 21 47 20.4 -0.5
U15A IAmb IAmb 21 47 23.1
comp=Z,12nm,0.9s
113A **Mohawk Valley,** 87.79 55 P P 21 47 24.1 +0.5
113A IAmb IAmb 21 47 25.6
comp=Z,13nm,1.0s
Y14A **Wickenburg** 87.81 54 P P 21 47 24.1 +0.3
BRTR **Keskin Array B** 87.96 313 P P 21 47 22.9 -1.6
BRTR **Keskin Array B** 87.96 313 P P 21 47 22.2 -2.3
comp=Z,1.1nm,0.8s,baz=86,slow=4.4,SNR=5.1
comp=Z,1.1nm,0.8s
WUAZ **Wupatki** 88.24 52 P P 21 47 26.2 +0.2
WUAZ IAmb IAmb 21 47 28.2
comp=Z,9.2nm,0.9s
SFJD **Kangerlussuaq** 88.31 5 LR LR 22 29 13.2
comp=Z,26nm,20.6s,baz=358,slow=37
PV21 **Cone Mtn., Par** 88.42 48 P P 21 47 26.6 -0.1
PV21 IAmb IAmb 21 47 29.2
comp=Z,12nm,0.8s
PV23 **Carpenter Ridg** 88.45 48 P P 21 47 27.9 +0.9
KSV **Kosov** 88.46 324 P P 21 47 26.9 +0.4
PV10 **Paradox Valley** 88.47 48 P P 21 47 27.6 +0.6
PV14 **Lion Creek, Pa** 88.48 48 P P 21 47 26.4 -0.7
PV20 **West Nyswonger** 88.53 48 P P 21 47 27.6 +0.4
PV19 **Morning Glory** 88.54 48 P P 21 47 27.4 0.0
PV17 **East Wray Mesa** 88.57 48 P P 21 47 27.5 +0.1
PV05 **Paradox Valley** 88.57 48 P P 21 47 28.1 +0.6
PV05 IAmb IAmb 21 47 29.5
comp=Z,9.5nm,0.8s
PV11 **David Mesa, Pa** 88.62 48 P P 21 47 28.6 +1.0

PV18	Skein Mesa, Pa	88.62	48	P		P	21 47 27.8	+0.1
PV03	Paradox Valley	88.66	48	P		P	21 47 27.4	-0.5
PV03				IAmb		IAmb	21 47 29.7	
	comp=Z,14nm,1.1s							
PV12	Saucer Basin,	88.66	48	P		P	21 47 27.9	0.0
PV07	Paradox Valley	88.70	48	P		P	21 47 28.0	-0.1
PV07				IAmb		IAmb	21 48 02.1	
	comp=Z,18nm,1.8s							
PV13	Radium Mtn., P	88.72	48	P		P	21 47 28.7	+0.4
PV13				IAmb		IAmb	21 47 30.0	
	comp=Z,8.6nm,0.7s							
X16A	Lo Mia Camp, P	88.72	53	P		P	21 47 28.7	+0.4
X16A				IAmb		IAmb	21 47 30.9	
	comp=Z,11nm,1.3s							
PV02	Paradox Valley	88.76	48	P		P	21 47 28.4	0.0
TIRR	Tirgusor	88.76	319	P		P	21 47 30.1	+2.2
FRB	Frobisher Bay	88.79	13	LR		LR	22 30 24.8	
	comp=Z,39nm,19.6s,baz=322,slow=38							
BURAR	Bucovina Array	88.79	323	P		P	21 47 27.4	-0.7
ULM	Lac du Bonnet	89.53	33	LR		LR	22 30 02.8	
	comp=Z,27nm,18.5s,baz=315,slow=37							
MLR	Muntele Rosu	89.62	321	LR		LR	22 30 34.6	
	comp=Z,47nm,18.9s,baz=88,slow=38							
MMAI	Mount Meron Ar	90.06	307	P		P	21 47 34.3	-0.1
	comp=Z,0.2nm,0.3s,baz=347,slow=4.4,SNR=1.9							
	comp=Z,0.2nm,0.3s							
TUC	Tucson	90.23	54	P		P	21 47 37.0	+1.9
TUC				IAmb		IAmb	21 47 37.6	
	comp=Z,14nm,1.6s							
NIE	Niedzica	90.28	326	P		P	21 47 35.1	+0.1
	comp=Z,2.7nm,1.0s							
S22A	4UR Ranch, Cre	90.28	48	P		P	21 47 36.4	+0.7
SDCO	Great Sand Dun	91.18	47	P		P	21 47 40.1	+0.4
SDCO				IAmb		IAmb	21 47 41.9	
	comp=Z,5.6nm,0.9s							
KSP	Ksiaz	91.29	329	P		P	21 47 39.1	-0.5
	comp=Z,14nm,1.6s							
DUN6	Lazy B Ranch	91.35	53	P		P	21 47 40.9	+0.5
HSIG		91.70	57	P		P	21 47 42.1	+0.1
HSIG				IAmb		IAmb	21 47 43.7	
	comp=Z,5.7nm,0.9s							
319A	Douglas	91.80	54	P		P	21 47 42.9	+0.3
319A				IAmb		IAmb	21 47 45.0	
	comp=Z,6.6nm,0.8s							
SBM	South Baldy	92.00	51	P		P	21 47 43.2	-0.5
ANMO	Albuquerque	92.01	50	P		P	21 47 44.2	+0.7
ANMO	Albuquerque	92.01	50	LR		LR	22 20 30.0	
	comp=Z,51nm,20.8s,baz=54,slow=30							
EIL	Elat	92.04	304	LR		LR	22 32 46.7	
	comp=Z,53nm,21.5s,baz=66,slow=38							
VRAC	Vranov	92.18	328	LR		LR	22 32 13.2	
	comp=Z,64nm,19.3s,baz=46,slow=38							
T25A	Trinidad	92.24	47	P		P	21 47 45.6	+1.1
T25A				IAmb		IAmb	21 47 46.9	
	comp=Z,10nm,1.1s							
BNM	Barren Site	92.30	51	P		P	21 47 44.9	0.0
CLL	Collm	92.46	331	*e*Px		Px	21 47 44.0	
CLL				*ep*P		pP	21 47 57.0	-1.5
CLL				AMS		AMS	22 31 00.0	
	comp=Z,100nm,21.2s							
ECSD	EROS Data Cent	93.23	39	P		P	21 47 48.6	-0.1
ECSD				IAmb		IAmb	21 47 50.1	
	comp=Z,9.0nm,1.2s							
ZVC	Zvikov	93.24	329	*e*P		P	21 47 52.0	+3.4
ZVC				*ep*P		pP	21 48 01.3	-0.8
KHC	Kasperske Hory	93.74	329	*e*P		P	21 47 54.2	+3.2
KHC				*ep*P		pP	21 48 03.8	-0.7
RTBA	Rita Blanca	93.74	47	P		P	21 47 50.1	-1.3
GERES	GERESS Array B	93.88	329	P		P	21 47 50.6	-1.2
	comp=Z,1.5nm,0.9s,baz=48,slow=4.2,SNR=4.8							
GERES				LR		LR	22 32 53.4	
	comp=Z,70nm,19.5s,baz=76,slow=37							
	comp=Z,1.5nm,0.9s							
LPIG	La Paz	94.59	61	LR		LR	22 23 54.6	
	comp=Z,53nm,19.7s,baz=284,slow=31							
TXAR	Lajitas Array	97.00	54	P		P	21 48 06.9	+0.5
	comp=Z,1.6nm,0.6s,baz=314,slow=3.2,SNR=9.9							
TXAR				LR		LR	22 25 37.9	
	comp=Z,52nm,19.6s,baz=285,slow=32							
	comp=Z,1.6nm,0.6s							
SCHQ	Schefferville	97.14	17	LR		LR	22 32 31.7	
	comp=Z,38nm,21.9s,baz=296,slow=36							
DAVOX	Davos/Dischmat	97.16	329	LR		LR	22 35 45.4	
	comp=Z,48nm,19.2s,baz=62,slow=38							
QSPA	South Pole Qui	114.23	180	PKP		PKPdf	21 53 12.0	-0.8
	comp=Z,0.7nm,0.5s,baz=286,slow=0.5,SNR=13							
SYO	Syowa Base	117.19	203‖	*e*Pdiff		Pdif	21 49 36.4	+1.4
ELIB	Princess Elisa	121.95	199	*d*PKPdf		PKPdf	21 53 27.3	-0.4
TORD	Torodi Ar. Bea	126.47	310	PKP		PKPdf	21 53 36.8	-1.0
	comp=Z,42nm,0.3s,baz=27,slow=4.4,SNR=1.5							
SNAA	Sanae	128.86	193	PKP		PKPdf	21 53 40.8	+0.1
	comp=Z,1.0nm,0.7s,baz=222,slow=1.9,SNR=2.0							
ROSC	El Rosal	133.88	56	PKP		PKPdf	21 53 52.9	+0.5
	comp=Z,5.3nm,0.3s,baz=40,slow=22,SNR=1.7							
LL02	Futaleuf	146.25	132			PKPab	21 54 15.1	-0.2
PLCA	Paso Flores	148.05	129	PKPbc		PKPbc	21 54 19.9	+0.2
	comp=Z,6.8nm,0.6s,baz=247,slow=2.4,SNR=30							
PB18	Visviri	149.49	83			PKiKP	21 54 27.0	+1.3
LPAZ	La Paz	150.27	80	PKPbc		PKiKP	21 54 27.4	-0.1
	comp=Z,14nm,0.6s,baz=312,slow=2.4,SNR=48							
CPUP	Villa Florida	162.05	100	PKPab		PKPab	21 55 22.5	+0.1
	comp=Z,3.6nm,0.9s,baz=267,slow=4.4,SNR=5.9							

*TAP **04** 21:43:35.7,23°.70N×121°.59E,h33km,ML3.3,C*

ISC 04 21:43:35.7±0.9,23°.69N±0°.01×121°.61E±0°.02,h31km±4km, n143,σ0s84/274,3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	Jichi Village	0.07	284	*i* P	Pb	21 43 41.3	+0.3
TEGC				*i* S	Sb	21 43 45.8	+1.3
SHUL	Shoufeng	0.10	336	*i* P	Pb	21 43 41.5	+0.3
SHUL				*i* S	Sb	21 43 46.2	+1.3
EGFH	Guangfu	0.17	262	*e*P	Pb	21 43 41.7	-0.1
EGFH				*e*S	Sn	21 43 46.0	-0.1
TEYL	Yanliau Villag	0.17	357	*i* P	Pn	21 43 42.5	+0.2
TEYL				*i* S	Sn	21 43 47.9	+1.7
ESL	Shilin	0.20	307	*i* P	Pb	21 43 41.8	-0.3
ESL				*i* S	Sb	21 43 46.3	-0.1
WARBT	Fenglin Townsh	0.21	277	*i* P	Pb	21 43 41.8	-0.4
WARBT				*e*S	Sb	21 43 46.1	-0.4
HGSD	Ruisui	0.26	220	*i* P	Pn	21 43 43.2	-0.2
HGSD				*i* S	Sn	21 43 50.4	+2.0
HWA	Hwalien	0.28	359	*i* P	Pb	21 43 43.3	+0.3
HWA				*i* S	Sn	21 43 49.5	+0.5
ETM	Tongmen	0.29	339	*i* P	Pb	21 43 42.9	-0.3
ETM				*i* S	Sn	21 43 48.9	-0.3
EHYH	Wanrong	0.31	231	*i* P	Pb	21 43 43.2	-0.3
EHYH				*e*S	Sb	21 43 48.3	-0.4
EHY	Hungye	0.32	235	*i* P	Pb	21 43 43.1	-0.5
EHY				*e*S	Sb	21 43 48.7	-0.2
LXIB	Xiulin Townshi	0.37	331	*i* P	Pb	21 43 43.8	-0.6
LXIB				S	Sb	21 43 50.1	-0.2
TWD	Chiawan	0.39	358	*i* P	Pb	21 43 44.4	-0.1
TWD				S	Sn	21 43 51.1	-0.4
ECBN	Changbin	0.40	201	*i* P	Pb	21 43 45.1	+0.4
ECBN				*e*S	Sn	21 43 52.2	+0.4
YULB	Yu-li	0.41	224	P	Pb	21 43 43.9	-1.0
YULB	Yu-li	0.41	224	S	Sb	21 43 50.7	-0.4
YULB	Yu-li	0.41	224	*e*P	Pb	21 43 44.5	-0.4
YULB				S	Sb	21 43 50.4	-0.8
VWDT	VWDT	0.43	278	‖*i*P	Pb	21 43 45.0	-0.1
VWDT				*e*S	Sb	21 43 51.6	0.0
EYUL	Yuli	0.43	218	*i* P	Pb	21 43 44.9	-0.3
EYUL				*e*S	Sb	21 43 51.9	+0.2
TWF1	Yuli	0.44	220	*i* P	Pb	21 43 44.9	-0.5
TWF1				*e*S	Sb	21 43 51.8	-0.1
ETL	Fush Village	0.46	2	*i* P	Pb	21 43 45.2	-0.4
ETL				*e*S	Sn	21 43 54.7	+1.2
OWD	Renai	0.47	303	‖*i*P	Pb	21 43 45.5	-0.4
OWD				*i* S	Sb	21 43 51.9	-0.9
NACB	Ninganchiao	0.48	358	P	Pb	21 43 44.9	-1.0
NACB	Ninganchiao	0.48	358	*i* P	Pb	21 43 45.2	-0.7
NACB				*i* S	Sn	21 43 53.9	+0.1
ETLH	Xiulin Townshi	0.52	347	*i* P	Pb	21 43 45.9	-0.8
ETLH				*e*S	Sb	21 43 53.8	-0.3
CHKH	Chenggong	0.54	201	*i* P	Pn	21 43 47.1	-0.1
CHKH				S	Sn	21 43 55.9	+0.7
WUSB	Renai	0.54	304	*i* P	Pb	21 43 46.6	-0.3
WUSB				S	Sb	21 43 53.9	-0.7
WHF	Hehuan Shan	0.55	325	*i* P	Pb	21 43 46.5	-0.8
WHF				S	Sb	21 43 53.8	-1.4
FULB	Fuli	0.57	210	*e*P	Pb	21 43 47.5	+0.1
FULB				*e*S	Sn	21 43 56.9	+0.8
SSLB	Suanglung	0.61	279	P	Pb	21 43 47.2	-0.8
SSLB	Suanglung	0.61	279	S	Sb	21 43 55.6	-0.7
SSLB	Suanglung	0.61	279	*i* P	Pb	21 43 47.3	-0.6
SSLB				*e*S	Sb	21 43 55.8	-0.6
CHKT	Chengkung	0.63	201	*i* P	Pb	21 43 48.1	-0.2
CHKT				*i* S	Sn	21 43 58.2	+0.7
YUS	Yu-Shan	0.64	251	*e*P	Pb	21 43 45.9	-2.8
YUS				*e*S	Sb	21 43 54.6	-3.0
EAHA	Aohua	0.64	11	*i* P	Pb	21 43 48.1	-0.5
EAHA				*e*S	Sb	21 43 57.4	0.0
FUSS	Fushou	0.65	329	*i* P	Pb	21 43 48.1	-0.6
FUSS				*e*S	Sb	21 43 56.8	-0.9
EHD	Haiduan	0.66	214	*i* P	Pb	21 43 46.9	-1.9
EHD				*e*S	Sb	21 43 57.0	-0.7
SMLT	Sun Moon Lake	0.68	286	P	Pb	21 43 47.7	-1.5
SMLT				S	Sb	21 43 57.5	-0.8
TWT	Tachien	0.68	325	*i* P	Pb	21 43 49.1	-0.3
TWT				*e*S	Sb	21 43 58.0	-0.6
TDCB	Techi	0.69	324	*i* P	Pb	21 43 49.1	-0.3
TDCB				*i* S	Sb	21 43 58.0	-0.8
WHYT	Xinyi Township	0.69	270	*i* P	Pb	21 43 49.2	-0.1
WHYT				S	Sb	21 43 58.2	-0.5
ECS	Chishang	0.69	211	*i* P	Pn	21 43 48.6	-0.9
ECS				*e*S	Sn	21 43 59.5	+0.4
DPDB	Guoxing	0.71	299	‖*i*P	Pn	21 43 49.3	-0.4
DPDB				S	Sn	21 43 59.2	-0.4
TYC	Yuchr	0.72	287	*i* P	Pn	21 43 49.1	-0.6
TYC				*i* S	Sb	21 43 59.2	-0.2
WCS	Beigang Elemen	0.73	300	*i* P	Pn	21 43 49.6	-0.3
WCS				*e*S	Sb	21 43 58.9	-0.9
ELDTW	Lidau	0.74	227	*i* P	Pn	21 43 49.1	-1.0
ELDTW				*e*S	Sb	21 43 58.4	-1.7
ENA	Nanau	0.74	9	*i* P	Pn	21 43 49.2	-0.8
ENA				S	Sn	21 44 01.1	+0.8
ALS	Alishan	0.76	256	P	Pb	21 43 50.6	0.0
ALS				*i* S	Sb	21 44 00.6	-0.3
NNSB	Datong	0.76	344	*i* P	Pn	21 43 49.9	-0.6
NNSB				*e*S	Sb	21 43 59.7	-1.0
NNSH	Datong	0.76	344	*i* P	Pn	21 43 49.8	-0.7
NNSH				*i* S	Sb	21 43 59.9	-0.8
EWUT	Wuta	0.76	12	*e*P	Pn	21 43 50.0	-0.4
EWUT				*e*S	Sb	21 44 00.6	0.0
EDH	Donghe	0.77	201	*i* P	Pn	21 43 50.2	-0.2
EDH				S	Sn	21 44 01.8	+0.8
NNS	Nan Shan	0.77	344	*e*P	Pn	21 43 50.0	-0.6
NNS				*i* S	Sb	21 43 59.9	-1.2
EOS4	EOS4	0.78	57	*i* P	Pb	21 43 50.8	+0.3
EOS4				*e*S	Sn	21 44 00.6	0.0
WJS	Zhushan	0.82	279	*i* P	Pb	21 43 51.8	+0.3
WJS				S	Sb	21 44 03.4	+1.2
WHP	Taichung City	0.84	314	*e*P	Pn	21 43 51.5	0.0
WHP				*i* S	Sb	21 44 02.9	0.0
LATG	Datong	0.84	355	*i* P	Pn	21 43 50.8	-0.8
LATG				*e*S	Sb	21 44 03.5	+0.5
CHN5	Tsauling	0.86	264	P	Pb	21 43 52.4	+0.2
CHN5				S	Sb	21 44 04.3	+0.8
WNT	Mingjian	0.87	282	*e*P	Pb	21 43 52.5	+0.3
WNT				*i* S	Sb	21 44 04.6	+1.0
EOS3	EOS3	0.88	48	*i* P	Pn	21 43 51.5	-0.2
EOS3				*e*S	Sn	21 44 03.0	-0.4
LONT	Longtian	0.90	209	*i* P	Pn	21 43 50.9	-1.3
LONT				*e*S	Sn	21 44 03.4	-0.8
WWF	Wufeng	0.90	293	*i* P	Pb	21 43 53.4	+0.6
WWF				S	Sb	21 44 06.6	+2.0
ESAO	Su ao	0.90	14	*e*P	Pb	21 43 53.0	+0.1
ESAO				*e*S	Sb	21 44 05.0	+0.4
EOS2	EOS2	0.92	38	P	Pn	21 43 52.2	-0.1
EOS2				*e*S	Sn	21 44 03.9	-0.6
STYH	Taoyuan	0.93	236	P	Pn	21 43 51.5	-1.0
STYH				*i* S	Sn	21 44 04.1	-0.7
TWC	Suao	0.94	13	*i* P	Pn	21 43 52.5	-0.2
TWC				*e*S	Sb	21 44 07.4	+1.9
NDS	Dongshan	0.94	6	*i* P	Pn	21 43 52.6	-0.2
NDS				*e*S	Sn	21 44 04.8	-0.4
ENTT	Nioudou	0.94	358	P	Pn	21 43 52.5	-0.4
ENTT				*e*S	Sn	21 44 04.9	-0.4
STYT	Tauyuan	0.94	236	*i* P	Pn	21 43 51.8	-1.1
STYT				S	Sn	21 44 05.0	-0.3
WCKO	Fanlu	0.96	255	*i* P	Pb	21 43 54.5	+0.7
WCKO				*i* S	Sb	21 44 06.3	+0.2
WGK	Gukeng	0.96	270	*i* P	Pb	21 43 55.4	+1.6
WGK				*e*S	Sb	21 44 07.0	+0.8
TCU	Taichung	0.97	298	*i* P	Pb	21 43 54.5	+0.6
TCU				S	Sb	21 44 07.8	+1.4
TPUB	Ta-pu	0.98	247	P	Pb	21 43 56.2	0.0
TPUB	Ta-pu	0.98	247	S	Sb	21 44 07.7	+0.9
TPUB	Ta-pu	0.98	247	*e*P	Pb	21 43 54.2	0.0
TPUB				*i* S	Sb	21 44 07.9	+1.1
WDLH	Douliu	0.98	270	*e*P	Pb	21 43 54.4	+0.2
WDLH				*i* S	Sb	21 44 07.3	+0.5
CHN4	Tsaushan	0.99	250	*e*P	Pb	21 43 54.7	+0.4
CHN4				S	Sb	21 44 08.7	+1.6
YHNB	Yeheng	0.99	348	P	Pn	21 43 53.6	-0.1
YHNB	Yeheng	0.99	348	S	Sn	21 44 06.1	-0.6
YHNB	Yeheng	0.99	348	*i* P	Pn	21 43 53.5	-0.1
YHNB				S	Sn	21 44 06.0	-0.7
TWGBT	Beinan	1.00	209	P	Pb	21 43 54.2	-0.3
TWGBT	Beinan	1.00	209	*i* P	Pn	21 43 52.1	-1.5
TWGBT				*e*S	Sn	21 44 06.3	-0.3
TWG	Pinlang	1.00	210	*e*P	Pn	21 43 52.3	-1.3
TWG				*e*S	Sn	21 44 05.7	-0.9
TWQ1	Liyutan	1.00	311	*i* P	Pb	21 43 55.5	+0.4
TWQ1				*i* S	Sb	21 44 08.4	+1.2
NSK	Sanguang	1.00	347	P	Pn	21 43 53.7	-0.1
NSK				*i* S	Sn	21 44 06.3	-0.6
WTP	Ta-pu	1.02	244	*e*P	Pb	21 43 54.7	-0.1
WTP				*e*S	Sb	21 44 09.0	+1.2
LDUT	Ludao	1.02	187	*i* P	Pn	21 43 52.5	-1.4
LDUT				S	Sn	21 44 07.0	-0.2
TWE	Neicheng	1.02	3	*i* P	Pn	21 43 53.8	-0.2
TWE				*e*S	Sn	21 44 07.2	0.0
NFF	Wufeng Townshi	1.04	334	P	Pb	21 43 54.9	-0.3
NFF				*e*S	Sb	21 44 08.0	-0.4
WCHH	Zhanghua	1.04	292	*i* P	Pb	21 43 55.4	+0.3
WCHH				*i* S	Sb	21 44 09.5	+1.2
WCH1	Changhua City	1.04	291	*i* P	Pb	21 43 55.2	0.0
WCH1				S	Sb	21 44 09.5	+1.0
CHN2	Minshiung	1.05	261	*e*P	Pb	21 43 56.0	+0.6
CHN2				*e*S	Sb	21 44 10.1	+1.2
NSY	Sanyi	1.06	313	*i* P	Pn	21 43 53.5	-0.9
NSY				S	Sn	21 44 08.2	0.0
FUSB	Fushanzhiwuyua	1.06	359	*i* P	Pn	21 43 54.4	-0.2
FUSB				*e*S	Sb	21 44 09.4	+0.2
NWLT	Wulai	1.08	355	*i* P	Pn	21 43 54.9	+0.1
NWLT				S	Sb	21 44 09.6	-0.1
NSTT	Nanjuang	1.09	329	*i* P	Pb	21 43 55.7	-0.2
NSTT				*i* S	Sb	21 44 09.4	-0.4
LIOB	Emei	1.09	330	*i* P	Pb	21 43 56.2	+0.2
LIOB				S	Sb	21 44 10.0	0.0
WDJ	Dajia District	1.10	307	*i* P	Pb	21 43 56.2	0.0
WDJ				*i* S	Sb	21 44 11.8	+1.6
CHY	Chiayi	1.10	260	*i* P	Pb	21 43 56.2	0.0
CHY				*i* S	Sb	21 44 11.2	+0.9
TWK	Hsinying	1.11	248	*i* P	Pb	21 43 56.4	-0.1
TWK				S	Sb	21 44 11.2	+0.6
CHN1	Nanshi	1.11	243	*i* P	Pb	21 43 56.3	-0.1
CHN1				S	Sb	21 44 12.1	+1.5
WTK	Tuku	1.12	270	*i* P	Pb	21 43 56.5	0.0
WTK				S	Sb	21 44 11.3	+0.6
SGST	Jiashian	1.12	237	*i* P	Pn	21 43 55.6	+0.3
SGST				S	Sb	21 44 11.6	+0.7
NMLH	Miaoli	1.12	319	*e*P	Pb	21 43 56.9	+0.3
NMLH				*i* S	Sb	21 44 11.5	+0.6
SNST	Tainan City	1.12	245	*i* P	Pb	21 43 56.4	-0.2
SNST				S	Sb	21 44 11.1	+0.3
NJD	Zhudong	1.14	335	*e*P	Pb	21 43 57.8	+0.9
NJD				*e*S	Sb	21 44 13.1	+1.7
KSHI	Guanxi Townshi	1.15	340	*i* P	Pb	21 43 57.4	+0.4
KSHI				S	Sb	21 44 11.7	+0.1
WTCT	Ta-ch'eng	1.23	278	*i* P	Pb	21 43 58.0	-0.4
WTCT				S	Sb	21 44 14.3	+0.5
SBCB	Hsinchu	1.23	333	*e*P	Pb	21 43 58.0	-0.4
SBCB				*e*S	Sb	21 44 15.5	+1.5
ECL	Taimali	1.25	209	*i* P	Pn	21 43 55.7	-1.3
ECL				*e*S	Sn	21 44 11.2	-1.5
ICHU	Yijhu	1.27	255	*e*P	Pb	21 43 58.6	-0.3
ICHU				*i* S	Sb	21 44 14.6	-0.3
WSL	Shuilin Townsh	1.28	263	P	Pb	21 43 58.3	-0.9
WSL				*i* S	Sb	21 44 14.7	-0.6
TATO	Taipei	1.28	355	P	Pb	21 43 59.0	-0.2
TATO	Taipei	1.28	355	S	Sb	21 44 14.5	-0.9
TWA	Mucha	1.28	359	*i* P	Pb	21 43 58.4	-0.8
TWA				*e*S	Sb	21 44 14.5	-0.9
TIPB	Shuangxi	1.29	9	*i* P	Pn	21 43 58.0	+0.4
TIPB				*e*S	Sn	21 44 13.7	-0.2
SCST	Cishan	1.30	232	*e*P	Pb	21 44 00.4	+0.8
SCST				*e*S	Sb	21 44 17.8	+1.8
TSMG	Majia	1.32	222	P	Pb	21 43 59.6	-0.3
TSMG				*i* S	Sb	21 44 16.7	+0.1
NCUH	Zhongli	1.33	343	P	Pb	21 43 59.5	-0.5
NCUH				S	Sb	21 44 17.4	+0.7
CHN8	Yiju	1.33	255	P	Pb	21 43 59.1	-0.9
CHN8				*i* S	Sb	21 44 16.7	0.0
SSHA	Shanhua	1.33	246	*e*P	Pn	21 43 57.8	-0.4
SSHA				S	Sb	21 44 18.3	+1.5
SHHT	Tainan City	1.34	240	*i* P	Pb	21 44 00.7	+0.5
SHHT				*e*S	Sb	21 44 21.0	+4.1
TWB1	Santiao Chiao	1.35	15	*i* P	Pb	21 43 59.6	-0.8
TWB1				*e*S	Sb	21 44 17.5	0.0
NWF	Wu-fen Shan	1.38	6	*e*P	Pn	21 43 59.9	+1.0
NWF				S	Sb	21 44 18.6	+0.4
TWM1	Shoushan	1.39	232	P	Pb	21 44 01.6	+0.5
TWM1				*e*S	Sb	21 44 22.0	+3.4
MASBT	Mashibuluo	1.40	220	*i* P	Pn	21 43 59.3	+0.1
MASBT				S	Sb	21 44 19.6	+0.8
TWS1	Kuangyinshan	1.41	353	P	Pn	21 43 59.2	-0.1
TWS1				*e*S	Sb	21 44 19.2	+0.2
SXI1	Grass Mountain	1.42	10	*e*P	Pb	21 44 00.6	-1.0
SXI1				*e*S	Sb	21 44 19.0	-0.3
YM01	YM01	1.45	359	P	Pn	21 44 00.1	+0.3
YM01				*e*S	Sn	21 44 17.8	0.0
ZUZH	Zhuzihu	1.46	358	*e*P	Pn	21 44 00.3	+0.3
ZUZH				*i* S	Sn	21 44 18.3	+0.1
NTST	Danshui	1.47	354	*e*P	Pb	21 44 01.4	-1.1
NTST				*e*S	Sb	21 44 21.6	+0.8
EAST	Anshuo	1.48	208	P	Pn	21 44 00.2	0.0
EAST				*e*S	Sn	21 44 17.3	-1.3
YM08	YM08	1.49	359	*e*P	Pn	21 44 01.3	+0.9
YM08				*e*S	Sn	21 44 19.6	+0.9
ANP	Anpu	1.49	357	*i* P	Pn	21 44 00.8	+0.4
ANP				*e*S	Sb	21 44 20.8	-0.6
YOJ	Yonaguni jima	1.49	59	*e*P	Pn	21 44 01.1	+0.7
YOJ				*e*S	Sn	21 44 19.6	+0.8
TSCK	Chigu Township	1.50	249	*i* P	Pn	21 44 01.1	+0.6
TSCK				*i* S	Sn	21 44 20.0	+1.0
TAWH	Dawu Township	1.50	206	P	Pn	21 43 59.8	-0.7
TAWH				*e*S	Sn	21 44 17.9	-1.1
SCZT	Fangliau	1.60	215	*e*P	Pb	21 44 04.0	-0.7
SCZT				S	Sb	21 44 24.9	+0.5
SLIU	Shizi	1.65	207	*i* P	Pn	21 44 03.8	+1.2
SLIU				*e*S	Sn	21 44 23.4	+0.7
LYUB	Lan-yu	1.68	181	*e*P	Pn	21 44 02.8	-0.2
LYUB				S	Sn	21 44 22.7	-0.9
PHUB	P'eng-hu	1.88	265	*i* P	Pn	21 44 05.8	+0.2
PHUB				*i* S	Sn	21 44 28.3	0.0
PNG	Penghu	1.89	267	*e*P	Pn	21 44 06.6	+0.8
PNG				*i* S	Sn	21 44 28.5	0.0
VCHM	Qimei	2.06	257	P	Pn	21 44 08.4	+0.3
VCHM				*e*S	Sn	21 44 32.3	-0.5

*IDC **04** 21:47:00.1±8.4,7°.13S×155°.95E,h122km±65km,mb3.6/9, mbtmp4.0/10,MS3.9/1,Error ellipse: s-maj=60.2km s-min=23.2km az=84.0*

ISC 04 21:46:55.1±2.8,7°.2S±0°.4×156°.4E±0°.4,h100km,n17, σ0s40/7,mb3.9/9,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	9.37	256	P	Pn	21 49 07.1	-0.2
	6.6nm,0.3s,baz=49,slow=7.6,SNR=4.9						
WRA	Warramunga Arr	24.82	237	P	P	21 52 08.5	+0.3
	3.0nm,0.6s,baz=60,slow=9.8,SNR=15						
	3.0nm,0.6s						
ASAR	Alice Springs	27.06	230	P	P	21 52 28.4

YHNB	**Yeheng**	**0.93 297**	*i* P	Pb	21 53 35.0	+0.2
YHNB		*e*S		Sn	21 53 47.4	+0.5
WHF	**Hehuan Shan**	**0.94 264**	*i* P	Pb	21 53 35.1	0.0
WHF		S		Sn	21 53 48.4	+0.7
NSK	**Sanguang**	**0.94 297**	*i* P	Pb	21 53 35.3	+0.2
NSK		S		Sb	21 53 47.2	0.0
FUSS	**Fushou**	**0.95 270**	*i* P	Pn	21 53 34.7	-0.3
FUSS		*e*S		Sn	21 53 49.1	+1.4
TWA	**Mucha**	**0.97 319**	P	Pb	21 53 36.2	+0.8
TWA		*e*S		Sn	21 53 48.7	+0.9
WARBT	**Fenglin Townsh**	**0.98 237**	P	Pn	21 53 34.3	-0.8
WARBT		*i* S		Sb	21 53 48.5	+0.3
OWD	**Renai**	**1.06 254**	*i* P	Pn	21 53 36.2	-0.1
OWD		*e*S		Sb	21 53 51.3	+0.8
HGSD	**Ruisui**	**1.09 226**	*e*P	Pn	21 53 36.5	-0.3
HGSD		*e*S		Sn	21 53 50.5	-0.4
WUSB	**Renai**	**1.10 257**	*e*P	Pn	21 53 36.2	-0.7
WUSB		*e*S		Sb	21 53 51.5	-0.2
YM01	**YM01**	**1.10 324**	*e*P	Pb	21 53 38.5	+0.7
YM01		S		Sb	21 53 52.8	+1.1
NFF	**Wufeng Townshi**	**1.13 290**	P	Pb	21 53 39.1	+0.9
WHP	**Taichung City**	**1.22 271**	*i* P	Pb	21 53 40.4	+0.6
WHP		S		Sb	21 53 55.9	+0.6
YULB	**Yu-li**	**1.25 227**	*e*P	Pn	21 53 38.3	-0.5
YULB		*e*S		Sb	21 53 55.7	-0.1
SSLB	**Suanglung**	**1.30 249**	P	Pn	21 53 40.2	+0.6
SSLB		*e*S		Sn	21 53 56.5	+0.3

TAP ***04*** *21:53:54.8, 23°.91N×122°.60E, h25km, ML3.1, D*
JMA ***04*** *21:53:55.3±0.3, 24°.N±1°.×122°.5E±0°.6, h18km±4km, MV2.7/14, NW OFF ISHIGAKIJIMA IS*
ISC 04 21:53:52.9±1.0**, 23°.83N**±0°.02×**122°.57E**±0°.02**, h11**km±9km**, n117**, σ0°.63/233**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.38**	**322**	P	**Pb**	**21 54 02.2**	**+0.8**
EOS4				*e*S	**Sb**	**21 54 07.5**	**+0.3**
EOS3	**EOS3**	**0.52**	**333**	*e*P	**Pb**	**21 54 04.7**	**+0.7**
EOS3				*e*S	**Sb**	**21 54 11.4**	**0.0**
EOS2	**EOS2**	**0.67**	**332**	*e*P	**Pn**	**21 54 07.6**	**-0.7**
EOS2				*e*S	**Sb**	**21 54 16.9**	**+1.0**
JYNG	**Yonagunijimaku**	**0.71**	**29**	P	**Pb**	**21 54 07.3**	**0.0**
JYNG				*e*S	**Sg**	**21 54 15.4**	**-0.6**
YOJ	**Yonaguni jima**	**0.75**	**32**	P	**Pb**	**21 54 08.1**	**+0.1**
YOJ				*e*S	**Sg**	**21 54 16.5**	**-0.7**
YOJ	**Yonaguni jima**	**0.75**	**32**	P	**Pb**	**21 54 08.1**	**+0.1**
YOJ				*i* S	**Sg**	**21 54 16.8**	**-0.5**
TEYL	**Yanliau Villag**	**0.89**	**273**	P	**Pn**	**21 54 11.8**	**+0.2**
TEYL				*e*S	**Sn**	**21 54 24.0**	**-0.5**
EAHA	**Aohua**	**0.91**	**303**	*e*P	**Pn**	**21 54 11.7**	**0.0**
EAHA				S	**Sn**	**21 54 24.3**	**-0.7**
SHUL	**Shoufeng**	**0.93**	**268**	*i* P	**Pn**	**21 54 12.1**	**+0.2**
SHUL				S	**Sb**	**21 54 24.4**	**+1.0**
TWD	**Chiawan**	**0.93**	**286**	*i* P	**Pn**	**21 54 12.9**	**+1.0**
TWD				S	**Sb**	**21 54 24.0**	**+0.5**
ETL	**Fush Village**	**0.93**	**291**	P	**Pn**	**21 54 12.5**	**+0.4**
ETL				*e*S	**Sb**	**21 54 24.0**	**+0.4**
EWUT	**Wuta**	**0.95**	**310**	*i* P	**Pb**	**21 54 11.8**	**+0.3**
EWUT				*e*S	**Sn**	**21 54 25.1**	**-0.8**
TEGC	**Jichi Village**	**0.95**	**263**	*e*P	**Pg**	**21 54 11.0**	**-0.4**
TEGC				*e*S	**Sn**	**21 54 25.9**	**-0.1**
NACB	**Ninganchiao**	**0.96**	**291**	*i* P	**Pb**	**21 54 12.0**	**+0.4**
NACB				S	**Sb**	**21 54 24.5**	**+0.1**
ENA	**Nanau**	**0.97**	**308**	*i* P	**Pb**	**21 54 12.1**	**+0.3**
ENA				S	**Sn**	**21 54 25.7**	**-0.6**
ETM	**Tongmen**	**1.00**	**278**	P	**Pb**	**21 54 12.4**	**+0.1**
ETM				*e*S	**Sb**	**21 54 26.3**	**+0.8**
ESAO	**Su ao**	**1.00**	**318**	P	**Pb**	**21 54 12.5**	**+0.2**
ESAO				S	**Sb**	**21 54 25.9**	**+0.4**
TWC	**Suao**	**1.02**	**320**	*i* P	**Pg**	**21 54 12.6**	**-0.1**
TWC				*e*S	**Sg**	**21 54 25.4**	**-0.6**
ESL	**Shilin**	**1.04**	**270**	*i* P	**Pg**	**21 54 13.2**	**+0.1**
ESL				*e*S	**Sg**	**21 54 26.7**	**+0.1**
EGFH	**Guangfu**	**1.06**	**262**	P	**Pn**	**21 54 14.0**	**+0.2**
EGFH				*i* S	**Sb**	**21 54 28.1**	**+0.8**
ETLH	**Xiulin Townshi**	**1.07**	**291**	*i* P	**Pb**	**21 54 13.8**	**+0.2**
ETLH				S	**Sg**	**21 54 27.4**	**0.0**
LXIB	**Xiulin Townshi**	**1.08**	**281**	*i* P	**Pb**	**21 54 13.9**	**+0.1**
LXIB				S	**Sb**	**21 54 28.1**	**+0.2**
WARBT	**Fenglin Townsh**	**1.09**	**265**	*i* P	**Pg**	**21 54 14.2**	**+0.2**
WARBT				S	**Sg**	**21 54 27.6**	**-0.6**
HGSD	**Ruisui**	**1.10**	**253**	*i* P	**Pg**	**21 54 14.4**	**+0.2**
HGSD				S	**Sb**	**21 54 28.2**	**-0.3**
NDS	**Dongshan**	**1.12**	**316**	*i* P	**Pn**	**21 54 14.6**	**0.0**
NDS				S	**Sn**	**21 54 29.7**	**-0.5**
ECBN	**Changbin**	**1.15**	**244**	*i* P	**Pg**	**21 54 15.4**	**+0.4**
ECBN				S	**Sb**	**21 54 30.1**	**+0.3**
HATJ	**Hateruma jima**	**1.15**	**78**	*e*S	**Sn**	**21 54 31.2**	**+0.4**
EGS		**1.17**	**330**	*i* P	**Pg**	**21 54 15.7**	**+0.2**
EGS				*e*S	**Sn**	**21 54 31.5**	**+0.1**
IRIF	**Iriomote-Funau**	**1.17**	**64**	P	**Pg**	**21 54 16.5**	**+1.0**
IRIF				*e*S	**Sn**	**21 54 30.9**	**-0.4**
EHYH	**Wanrong**	**1.17**	**254**	P	**Pg**	**21 54 16.0**	**+0.5**
EHYH				S	**Sb**	**21 54 31.0**	**+0.4**
LATG	**Datong**	**1.19**	**307**	P	**Pn**	**21 54 15.7**	**0.0**
LATG				*e*S	**Sn**	**21 54 31.6**	**-0.3**
EHY	**Hungye**	**1.19**	**255**	*i* P	**Pg**	**21 54 16.1**	**+0.3**
EHY				*i* S	**Sb**	**21 54 31.2**	**+0.1**
ILA	**Ilan**	**1.20**	**321**	*e*P	**Pg**	**21 54 17.0**	**+1.0**
ILA				*i* S	**Sn**	**21 54 32.8**	**+0.8**
TWE	**Neicheng**	**1.22**	**317**	*i* P	**Pb**	**21 54 16.1**	**+0.1**
TWE				*e*S	**Sn**	**21 54 32.3**	**-0.2**
ENTT	**Nioudou**	**1.23**	**312**	*i* P	**Pg**	**21 54 16.4**	**-0.1**
ENTT				*e*S	**Sn**	**21 54 32.6**	**-0.1**
WHF	**Hehuan Shan**	**1.24**	**285**	*i* P	**Pb**	**21 54 16.7**	**0.0**
WHF				*e*S	**Sb**	**21 54 30.5**	**-2.3**
NNSB	**Datong**	**1.24**	**299**	*i* P	**Pg**	**21 54 16.8**	**-0.1**
NNSB				*e*S	**Sb**	**21 54 32.7**	**0.0**
EYUL	**Yuli**	**1.25**	**248**	P	**Pg**	**21 54 17.1**	**+0.2**
EYUL				*e*S	**Sn**	**21 54 33.6**	**+0.4**
YULB	**Yu-li**	**1.25**	**250**	*i* P	**Pg**	**21 54 17.1**	**+0.1**
YULB				*e*S	**Sb**	**21 54 33.0**	**+0.3**
CHKH	**Chenggong**	**1.25**	**240**	P	**Pn**	**21 54 16.6**	**+0.2**
CHKH				S	**Sb**	**21 54 31.7**	**-1.0**
NNS	**Nan Shan**	**1.26**	**299**	*i* P	**Pb**	**21 54 16.8**	**0.0**
NNS				S	**Sn**	**21 54 33.6**	**0.0**
TWF1	**Yuli**	**1.26**	**248**	*i* P	**Pb**	**21 54 17.2**	**+0.4**
TWF1				*i* S	**Sb**	**21 54 33.7**	**+0.6**
FUSS	**Fushou**	**1.29**	**289**	*i* P	**Pb**	**21 54 17.5**	**+0.2**
FUSS				*e*S	**Sg**	**21 54 34.5**	**0.0**
OWD	**Renai**	**1.29**	**276**	*i* P	**Pb**	**21 54 17.4**	**+0.1**
OWD				*e*S	**Sb**	**21 54 32.1**	**-1.8**
TWB1	**Santiao Chiao**	**1.29**	**336**	*e*P	**Pb**	**21 54 17.1**	**-0.2**
TWB1				*e*S	**Sb**	**21 54 33.5**	**-0.5**
FUSB	**Fushanzhiwuyua**	**1.29**	**316**	*i* P	**Pg**	**21 54 17.9**	**0.0**
FUSB				*e*S	**Sn**	**21 54 34.3**	**-0.2**
VWDT	**VWDT**	**1.31**	**267**	*e*P	**Pg**	**21 54 18.3**	**+0.1**
VWDT				*e*S	**Sn**	**21 54 34.9**	**+0.1**
CHKT	**Chengkung**	**1.32**	**237**	*i* P	**Pn**	**21 54 17.5**	**+0.1**
CHKT				S	**Sb**	**21 54 33.9**	**-0.9**
TIPB	**Shuangxi**	**1.33**	**329**	*i* P	**Pb**	**21 54 17.8**	**-0.2**
TIPB				S	**Sb**	**21 54 34.6**	**-0.5**
FULB	**Fuli**	**1.33**	**242**	*i* P	**Pn**	**21 54 17.7**	**+0.1**
FULB				*i* S	**Sb**	**21 54 34.9**	**-0.2**
WUSB	**Renai**	**1.34**	**277**	*i* P	**Pn**	**21 54 18.1**	**+0.3**
WUSB				*e*S	**Sb**	**21 54 35.0**	**-0.6**
NWLT	**Wulai**	**1.36**	**314**	*i* P	**Pb**	**21 54 18.5**	**0.0**
NWLT				*e*S	**Sg**	**21 54 36.7**	**-0.1**
TDCB	**Techi**	**1.36**	**288**	P	**Pb**	**21 54 18.5**	**-0.1**
TDCB				*e*S	**Sn**	**21 54 36.3**	**+0.1**
JKRS	**Kuro-shima**	**1.38**	**72**	*e*P	**Pg**	**21 54 20.9**	**+1.5**
JKRS				*e*S	**Sg**	**21 54 37.9**	**+0.6**
YHNB	**Yeheng**	**1.38**	**308**	*i* P	**Pb**	**21 54 18.8**	**0.0**
YHNB				*e*S	**Sg**	**21 54 37.7**	**+0.3**
NSK	**Sanguang**	**1.40**	**308**	*i* P	**Pb**	**21 54 18.8**	**-0.3**
NSK				*e*S	**Sg**	**21 54 38.1**	**+0.2**
SXI1	**Grass Mountain**	**1.41**	**333**	*i* P	**Pn**	**21 54 18.5**	**-0.3**
SXI1				S	**Sb**	**21 54 37.6**	**0.0**
EHD	**Haiduan**	**1.43**	**242**	*i* P	**Pn**	**21 54 19.0**	**+0.2**
EHD				*i* S	**Sn**	**21 54 36.7**	**-0.9**
NWF	**Wu-fen Shan**	**1.44**	**330**	*e*P	**Pn**	**21 54 19.3**	**+0.3**
NWF				S	**Sb**	**21 54 38.3**	**+0.1**
ECS	**Chishang**	**1.44**	**240**	P	**Pg**	**21 54 20.5**	**-0.1**
ECS				*i* S	**Sb**	**21 54 38.9**	**+0.7**
EDH	**Donghe**	**1.44**	**234**	*e*P	**Pn**	**21 54 19.3**	**+0.3**
EDH				*i* S	**Sn**	**21 54 37.0**	**-1.0**
TWA	**Mucha**	**1.46**	**322**	*i* P	**Pg**	**21 54 20.8**	**-0.3**
TWA				*e*S	**Sg**	**21 54 39.5**	**-0.6**
SSLB	**Suanglung**	**1.48**	**269**	*i* P	**Pb**	**21 54 20.9**	**+0.3**
SSLB				*e*S	**Sn**	**21 54 39.4**	**+0.3**
TATO	**Taipei**	**1.51**	**319**	*i* P	**Pb**	**21 54 20.9**	**-0.1**
TATO				S	**Sg**	**21 54 40.9**	**-0.8**
DPDB	**Guoxing**	**1.52**	**278**	P	**Pb**	**21 54 21.7**	**+0.4**
DPDB				*e*S	**Sb**	**21 54 41.0**	**+0.4**
YUS	**Yu-Shan**	**1.52**	**258**	*e*P	**Pn**	**21 54 18.9**	**-1.8**
YUS				*e*S	**Sn**	**21 54 37.5**	**-3.2**
JIJ	**Ishigaki jima**	**1.53**	**69**	*e*P	**Pg**	**21 54 21.8**	**-0.6**
JIJ				*e*S	**Sb**	**21 54 41.0**	**+0.2**
LDUT	**Ludao**	**1.53**	**222**	*i* P	**Pn**	**21 54 20.5**	**+0.2**
LDUT				*i* S	**Sn**	**21 54 39.4**	**-0.9**
SMLT	**Sun Moon Lake**	**1.53**	**272**	*i* P	**Pn**	**21 54 20.8**	**+0.4**
SMLT				*i* S	**Sb**	**21 54 41.5**	**+0.5**
WCS	**Beigang Elemen**	**1.54**	**279**	*i* P	**Pb**	**21 54 21.8**	**+0.3**
WCS				*e*S	**Sb**	**21 54 41.0**	**0.0**
NFF	**Wufeng Townshi**	**1.55**	**301**	*i* P	**Pb**	**21 54 21.5**	**-0.3**
NFF				S	**Sb**	**21 54 41.5**	**0.0**
WHP	**Taichung City**	**1.56**	**287**	*i* P	**Pg**	**21 54 22.7**	**-0.1**
WHP				*e*S	**Sb**	**21 54 41.8**	**+0.2**
ELDTW	**Lidau**	**1.56**	**246**	*i* P	**Pn**	**21 54 21.3**	**+0.5**
ELDTW				*i* S	**Sn**	**21 54 40.2**	**-1.0**
TYC	**Yuchr**	**1.57**	**273**	*i* P	**Pg**	**21 54 23.5**	**+0.4**
TYC				*e*S	**Sb**	**21 54 42.2**	**+0.2**
WHYT	**Xinyi Township**	**1.58**	**266**	*i* P	**Pg**	**21 54 23.1**	**-0.2**
WHYT				*e*S	**Sb**	**21 54 42.8**	**+0.5**
KSHI	**Guanxi Townshi**	**1.59**	**307**	P	**Pb**	**21 54 22.6**	**+0.2**
KSHI				*e*S	**Sg**	**21 54 44.1**	**+0.1**
YM01	**YM01**	**1.60**	**325**	*i* P	**Pn**	**21 54 21.7**	**+0.4**
YM01				*e*S	**Sb**	**21 54 43.1**	**+0.2**
LONT	**Longtian**	**1.61**	**236**	*i* P	**Pn**	**21 54 22.3**	**-0.4**
LONT				S	**Sn**	**21 54 41.8**	**-0.4**
YM08	**YM08**	**1.63**	**327**	*e*P	**Pn**	**21 54 21.5**	**-0.1**
YM08				*e*S	**Sb**	**21 54 43.2**	**-0.3**
ZUZH	**Zhuzihu**	**1.63**	**325**	*i* P	**Pb**	**21 54 22.4**	**-0.7**
ZUZH				S	**Sn**	**21 54 42.2**	**-0.4**
LIOB	**Emei**	**1.64**	**300**	*i* P	**Pb**	**21 54 23.6**	**+0.3**
LIOB				*e*S	**Sb**	**21 54 44.2**	**+0.2**
NSTT	**Nanjuang**	**1.64**	**300**	*i* P	**Pb**	**21 54 23.7**	**+0.4**
NSTT				S	**Sb**	**21 54 44.0**	**-0.1**
TWS1	**Kuangyinshan**	**1.65**	**321**	P	**Pn**	**21 54 21.5**	**-0.4**
TWS1				*e*S	**Sn**	**21 54 43.5**	**+0.3**
ALS	**Alishan**	**1.65**	**259**	*i* P	**Pb**	**21 54 23.7**	**+0.1**
ALS				*i* S	**Sb**	**21 54 44.6**	**0.0**
WJS	**Zhushan**	**1.69**	**270**	*i* P	**Pg**	**21 54 25.8**	**+0.4**
WJS				S	**Sg**	**21 54 47.5**	**+0.1**
TWY	**Chenhua**	**1.69**	**329**	P	**Pn**	**21 54 23.0**	**+0.5**
TWY				*e*S	**Sb**	**21 54 45.1**	**-0.4**
TWGBT	**Beinan**	**1.70**	**234**	*i* P	**Pn**	**21 54 23.0**	**+0.4**
TWGBT				*i* S	**Sn**	**21 54 44.5**	**+0.1**
TWG	**Pinlang**	**1.71**	**234**	*i* P	**Pn**	**21 54 23.3**	**+0.6**
TWG				*i* S	**Sn**	**21 54 44.5**	**0.0**
TWQ1	**Liyutan**	**1.73**	**288**	*i* P	**Pb**	**21 54 25.0**	**+0.3**
TWQ1				S	**Sb**	**21 54 47.2**	**+0.8**
WNT	**Mingjian**	**1.73**	**272**	*i* P	**Pg**	**21 54 25.7**	**-0.5**
WNT				*i* S	**Sg**	**21 54 48.2**	**-0.4**
CHN5	**Tsauling**	**1.75**	**263**	*i* P	**Pg**	**21 54 26.4**	**-0.2**
CHN5				S	**Sg**	**21 54 49.1**	**-0.2**
NSY	**Sanyi**	**1.76**	**290**	*i* P	**Pn**	**21 54 23.5**	**+0.1**
NSY				*e*S	**Sn**	**21 54 46.6**	**+0.8**
JISG	**Ishigakijimahi**	**1.76**	**64**	P	**Pb**	**21 54 24.6**	**-0.7**
JISG				*e*S	**Sb**	**21 54 46.7**	**-0.6**
TCU	**Taichung**	**1.77**	**281**	P	**Pg**	**21 54 26.8**	**-0.1**
TCU				S	**Sg**	**21 54 49.2**	**-0.5**
NMLH	**Miaoli**	**1.77**	**294**	*e*P	**Pb**	**21 54 25.9**	**+0.3**
NMLH				*e*S	**Sg**	**21 54 49.3**	**-0.7**
STYH	**Taoyuan**	**1.77**	**249**	*e*P	**Pn**	**21 54 24.2**	**+0.6**
STYH				S	**Sn**	**21 54 46.1**	**-0.2**
WCKO	**Fanlu**	**1.85**	**258**	P	**Pb**	**21 54 27.6**	**+0.8**
WCKO				*i* S	**Sb**	**21 54 50.8**	**+0.9**
WGK	**Gukeng**	**1.85**	**266**	*e*P	**Pb**	**21 54 27.6**	**+0.9**
WGK				*e*S	**Sb**	**21 54 50.9**	**+1.0**
TPUB	**Ta-pu**	**1.86**	**254**	*e*P	**Pb**	**21 54 27.6**	**+0.6**
TPUB				S	**Sb**	**21 54 51.1**	**+0.8**
WCHH	**Zhanghua**	**1.86**	**278**	P	**Pb**	**21 54 27.2**	**+0.2**
WCHH				S	**Sb**	**21 54 51.2**	**+0.9**
WDLH	**Douliu**	**1.87**	**266**	P	**Pb**	**21 54 27.9**	**+0.7**
WDLH				S	**Sb**	**21 54 51.3**	**+0.7**
CHN4	**Tsaushan**	**1.88**	**256**	*i* P	**Pb**	**21 54 28.3**	**+1.0**
CHN4				S	**Sb**	**21 54 51.4**	**+0.6**
WTP	**Ta-pu**	**1.89**	**253**	*i* P	**Pb**	**21 54 28.2**	**+0.7**
WTP				S	**Sb**	**21 54 51.2**	**+0.1**
ECL	**Taimali**	**1.93**	**231**	*i* P	**Pn**	**21 54 26.0**	**+0.2**
ECL				S	**Sn**	**21 54 48.0**	**-2.0**
SGST	**Jiashian**	**1.97**	**248**	*i* P	**Pb**	**21 54 28.5**	**-0.4**
SGST				*i* S	**Sb**	**21 54 53.6**	**0.0**
CHN1	**Nanshi**	**1.98**	**252**	*i* P	**Pb**	**21 54 28.9**	**-0.2**
CHN1				*i* S	**Sb**	**21 54 54.7**	**+0.8**
TWK	**Hsinying**	**1.99**	**254**	*i* P	**Pb**	**21 54 29.3**	**0.0**
TWK				*i* S	**Sb**	**21 54 53.6**	**-0.6**
CHY	**Chiayi**	**2.00**	**261**	*e*P	**Pb**	**21 54 30.2**	**+0.9**
CHY				S	**Sb**	**21 54 54.9**	**+0.6**
SNST	**Tainan City**	**2.00**	**253**	*i* P	**Pb**	**21 54 29.5**	**+0.2**
SNST				S	**Sb**	**21 54 55.2**	**+0.9**
WTK	**Tuku**	**2.01**	**267**	*i* P	**Pb**	**21 54 30.3**	**+0.8**
WTK				*i* S	**Sb**	**21 54 55.6**	**+1.1**
TSMG	**Majia**	**2.10**	**238**	P	**Pb**	**21 54 29.9**	**-1.1**
TSMG				*e*S	**Sb**	**21 54 56.1**	**-0.9**
EAST	**Anshuo**	**2.14**	**228**	*i* P	**Pn**	**21 54 30.0**	**+1.3**
EAST				*e*S	**Sn**	**21 54 55.0**	**-0.3**
TAWH	**Dawu Township**	**2.14**	**227**	*i* P	**Pn**	**21 54 29.6**	**+0.9**
TAWH				*e*S	**Sn**	**21 54 55.0**	**-0.3**
MASBT	**Mashibuluo**	**2.16**	**236**	*i* P	**Pb**	**21 54 30.7**	**-1.1**
MASBT				*e*S	**Sn**	**21 54 57.2**	**+1.6**
WSL	**Shuilin Townsh**	**2.17**	**262**	*i* P	**Pb**	**21 54 31.5**	**-0.8**
WSL				*i* S	**Sb**	**21 54 58.5**	**-0.7**
SLIU	**Shizi**	**2.29**	**226**	*i* P	**Pn**	**21 54 31.6**	**+0.9**
SLIU				*e*S	**Sn**	**21 55 00.1**	**+1.2**
SCZT	**Fangliau**	**2.31**	**232**	*i* P	**Pb**	**21 54 33.2**	**-1.5**
SCZT				*e*S	**Sn**	**21 55 00.3**	**+0.8**

AFAD 04 22:03:16.0, 37°.50N×29°.38E, h7km±3km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.27**	**36**	P	Pg	22 03 21.5	+0.2
INCE				S	Sg	22 03 25.7	+0.9
INCE				*i* AML	AML	22 03 26.0	
	comp=N,114nm,0.6s						
INCE				*i* AML	AML	22 03 26.0	
	comp=E,86nm,0.1s						
GOLH	**Golhisar**	**0.30**	**150**	P	Pg	22 03 21.9	0.0
GOLH				S	Sg	22 03 26.4	+0.6
GOLH				*i* AML	AML	22 03 27.0	
	comp=E,44nm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.30**	**296**	P	Pg	22 03 22.7	+0.8
DNIZ				S	Sg	22 03 26.9	+1.0
DNIZ				*i* AML	AML	22 03 28.0	
	comp=N,77nm,0.2s						
DNZT	**Denizli-Tavas-**	**0.35**	**232**	P	Pg	22 03 23.3	+0.4
DNZT				S	Sg	22 03 28.2	+0.6
TAVA	**DENIZLI_Tavas**	**0.37**	**266**	P	Pg	22 03 23.8	+0.6
CAEL	**Denizli, Camel**	**0.37**	**187**	P	Pb	22 03 24.2	-0.8
CAEL				S	Sb	22 03 29.9	-1.3
CAEL				*i* AML	AML	22 03 31.0	
	comp=E,42nm,0.7s						
CAEL				*i* AML	AML	22 03 38.0	
	comp=N,34nm,1.3s						
BRDR	**BURDUR-Merkez**	**0.58**	**70**	P	Pg	22 03 26.4	-0.8
BRDR				S	Sg	22 03 35.4	+0.6
KNIK	**Mula-Seydike**	**0.67**	**166**	P	Pg	22 03 29.3	+0.4
KNIK				S	Sg	22 03 37.7	+0.1
SABU	**Mula-Dalaman**	**0.74**	**206**	P	Pb	22 03 31.4	+0.1
SABU				S	Sg	22 03 39.8	-0.2
PASA	**Karahalli, USA**	**0.86**	**6**	P	Pb	22 03 33.6	+0.3
ESEN	**Aydn-Nazilli**	**0.87**	**291**	P	Pb	22 03 32.7	0.0
KORT	**Korkueli**	**0.92**	**122**	P	Pb	22 03 34.2	-0.2
KORT				*i* AML	AML	22 03 49.0	
	comp=E,13nm,0.5s						
KZIL	**AFYON_Kizioren**	**0.97**	**38**	P	Pb	22 03 35.1	-0.2
KZIL				S	Sb	22 03 48.8	+0.4
IZZE	**Mula-Seydike**	**1.06**	**187**	P	Pg	22 03 36.5	+0.1
IZZE				S	Sg	22 03 49.7	-0.5
IZZE				*i* AML	AML	22 03 57.0	
	comp=N,17nm,0.4s						

ISK 04 22:03:58.7, 37°.47N×29°.43E, h13km, ML1.6/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.10**	**272**	Pg	Pg	22 04 01.9	+0.1
CAME	**Cameli-Denizli**	**0.53**	**191**	Pg	Pg	22 04 09.6	+0.4
BASM	**Basmaki-Afyon**	**0.67**	**48**	Pg	Pg	22 04 11.9	+0.2
ELL	**Elmali**	**0.82**	**152**	Pg	Pb	22 04 15.0	+0.2
DALY	**Dalyan (Mula)**	**0.90**	**224**	Pg	Pb	22 04 16.3	+0.2
DALY				Sg	Sn	22 04 29.4	-0.4
YER	**Yerkesik**	**0.97**	**250**	Pg	Pn	22 04 17.8	-0.3
NAZL	**Nazilli-Aydin**	**1.03**	**299**	Pg	Pn	22 04 18.9	+0.1

TEH ***04*** *22:04:15.8, 34°.62N×46°.25E, h8km±27km*
ISN ***04*** *22:04:15.0±0.6, 34°.62N×46°.25E, h5km±6km, ML2.8*
ISC 04 22:04:15.8±1.3**, 34°.62N**±0°.05×**46°.24E**±0°.04**, h3**km±13km**, n10**, σ0°.91/13**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**58**	Pg	**Pg**	**22 04 19.3**	**+0.5**
IGHG	**Ghaleghazi**	**0.40**	**137**	Pg	**Pg**	**22 04 24.1**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**0.55**	**258**	Pg	**Pg**	**22 04 26.8**	**+0.5**
GLG1	**Gilan-e-Gharb**	**0.58**	**208**	Pg	**Pg**	**22 04 27.1**	**+0.3**
KCHF	**Cheshme Sefid,**	**0.75**	**117**	Pg	**Pg**	**22 04 30.0**	**-0.2**
SNQR	**Sonqor, Kerman**	**1.17**	**78**	Sg	**Sn**	**22 04 55.6**	**-0.3**
IKFM	**Kafar-mosalman**	**1.73**	**129**	Pg	**Pg**	**22 04 48.8**	**-0.2**
IKRK	**Kirkuk**	**1.74**	**297**	*e*Pn	**Pb**	**22 04 47.5**	**-0.9**
IKRK				*e*Sn	**Sg**	**22 05 12.0**	**+0.2**
IKRK				AML	AML	22 05 16.0	
	comp=N,141nm,0.4s						
IKRK				AML	AML	22 05 16.4	
	comp=E,123nm,0.8s						
BHD	**Baghdad**	**2.05**	**229**	*e*Pn	**Pb**	**22 04 52.0**	**-1.7**
BHD				*e*Sn	**Sb**	**22 05 19.0**	**-0.6**
BHD				AML	AML	22 05 27.5	
	comp=E,112nm,0.4s						
RAFI	**Al-Rafai**	**2.89**	**182**	*e*Pn	**Pn**	**22 05 04.0**	**+1.3**
RAFI				*e*Sn	**Sn**	**22 05 39.0**	**+1.0**

MEX ***04*** *22:08:05.9±1.0, 14°.60N×92°.70W, h28km±24km, MD4.1*
GCG ***04*** *22:08:06.6±1.1, 14°.71N×92°.43W, h55km±16km, MD3.8*
ISC 04 22:08:00.4±1.7**, 14°.40N**±0°.09×**92°.70W**±0°.06**, h55**km±30km**, n15**, σ2°.24/26**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.66**	**40**	*i* P	**Pn**	**22 08 15.5**	**+1.6**
PATR	**El Naranjo**	**0.85**	**32**	*i* P	**Pn**	**22 08 17.0**	**+0.6**
PATR				*e*S	**Sn**	**22 08 26.9**	**-1.4**
PAVE	**Pavencul**	**0.94**	**33**	*e*P	**Pn**	**22 08 18.3**	**+0.6**
PAVE				*e*S	**Sn**	**22 08 27.9**	**-2.6**
RTAL	**Retalhuleu**	**0.99**	**82**	*i* P	**Pn**	**22 08 21.9**	**+3.8**
RTAL				*i* S	**Sn**	**22 08 32.6**	**+1.5**
STG8	**El Palmar, Qui**	**1.31**	**88**	*e*P	**Pn**	**22 08 22.3**	**-0.4**
STG8				*e*S	**Sn**	**22 08 35.9**	**-3.3**
STG0	**El Palmar, Qui**	**1.32**	**89**	*e*P	**Pn**	**22 08 22.4**	**-0.3**
STG0				*e*S	**Sn**	**22 08 35.6**	**-3.8**
PCIG		**1.39**	**

SSLB Suanglung 8.54 248 Pn **Pn 22 13 30.2 -0.5**
KSRS Korea Array 10.20 353 Pn **Pn 22 13 57.5 +4.1**
comp=E,0.2nm,0.3s,baz=182,slow=12,SNR=6.8
KSRS LR LR 22 18 07.9
comp=E,277nm,18.8s,baz=180,slow=40
JCJ Chichijima 11.23 88 LR LR 22 18 07.3
comp=E,122nm,19.0s,baz=259,slow=36
ENH Enshi 17.85 284 Pn **Pn 22 15 33.4 -2.1**
ERM Erimo 18.40 34 P **P 22 15 42.5 +0.6**
GUMO Guam 19.77 131 LR LR 22 22 26.7
comp=E,121nm,19.2s,baz=37,slow=33
ASAJ Asahikawa 19.78 29 P **P 22 15 56.7 -0.4**
comp=E,0.1nm,0.3s,baz=214,slow=7.3,SNR=1.3
ASAJ LR LR 22 23 55.5
comp=E,206nm,21.6s,baz=208,slow=38
comp=E,3.8nm,0.9s
JKA Kamikawa-asahi 19.78 29 P **P 22 15 55.6 -1.5**
QIZ Qiongzhong 19.91 250 P **Pn 22 16 06.1 +5.7**
QIZ pP pwP 22 16 32.2 +27
QIZ S **Sn 22 19 47.8 +3.7**
QIZ sS pS 22 20 33.4 +38
QIZ pmax pmax
comp=Z,130nm,4.7s
QIZ LR LR
comp=N,160nm,8.8s
QIZ LR LR
comp=E,130nm,9.9s
QIZ LR LR
comp=Z,240nm,18.1s
KLR Kul'dur 21.94 4 P **P 22 16 20.1 -0.3**
comp=Z,0.7nm,0.6s,baz=209,slow=9.1,SNR=2.5
KLR LR LR 22 24 40.2
comp=Z,42nm,19.9s,baz=182,slow=36
comp=Z,0.7nm,0.6s
PZH PanZhiHua 24.82 275 P **P 22 16 49.3 -0.1**
PZH S **SnSn 22 21 52.2 -6.7**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,150nm,5.1s
PZH LR LR
comp=N,200nm,13.9s
PZH LR LR
comp=E,210nm,13.5s
PZH LR LR
comp=Z,270nm,14.9s
SONM Songino Array 27.33 325 P **P 22 17 12.5 +0.6**
comp=Z,0.6nm,0.6s,baz=143,slow=11,SNR=4.9
comp=Z,0.6nm,0.6s
GTA Gaotai 27.50 304 *eP* **P 22 17 13.7 +0.2**
GTA pP pwP 22 17 23.6 +3.3
GTA S S 22 22 10.0 +16
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA LR LR
comp=N,140nm,13.8s
GTA LR LR
comp=E,250nm,15.3s
GTA LR LR
comp=Z,290nm,15.3s
CMAR Chiang Mai Arr 29.50 259 P **P 22 17 32.4 +0.9**
comp=Z,0.6nm,0.4s,baz=63,slow=9.3,SNR=4.3
CMAR LR LR 22 30 32.1
comp=Z,112nm,18.8s,baz=70,slow=39
comp=Z,0.6nm,0.4s
GOMU GeErMu 30.72 295 P **P 22 17 42.1 -0.4**
GOMU pmax pmax
comp=Z,6.0nm,1.0s
PETK Petropavlovsk- 33.15 31 LR LR 22 33 13.4
comp=E,65nm,18.5s,baz=238,slow=40
KAPI Kappang 33.52 198 LR LR 22 34 27.0
comp=Z,86nm,18.1s,baz=306,slow=41
YAK Yakutsk 34.71 0 LR LR 22 33 16.7
comp=Z,55nm,18.9s,baz=193,slow=38
H11N2 WAKE ISLAND Hy 34.94 94 T T 22 55 57.5
baz=290,slow=74
H11N1 WAKE ISLAND Hy 34.94 94 T T 22 55 55.5
baz=290
H11N3 WAKE ISLAND Hy 34.96 94 T T 22 55 56.5
baz=290,slow=74
MA2 Magadan 35.40 19 LR LR 22 34 51.6
comp=Z,54nm,18.7s,baz=126,slow=40
KRVT Keravat (AS076 38.19 142 LR LR 22 32 20.0
comp=Z,4.5nm,20.2s,baz=12,slow=33
MK31 Makanchi Array 41.73 311 P **P 22 19 15.2 -0.8**
MKAR Makanchi Array 41.73 311 P **P 22 19 14.5 -1.4**
MKAR Makanchi Array 41.73 311 P **P 22 19 15.0 -0.9**
comp=Z,0.5nm,0.6s,baz=92,slow=12,SNR=9.2
MKAR PcP **PcP 22 21 12.9 +0.7**
comp=Z,0.5nm,0.7s,baz=73,slow=5.4,SNR=3.6
comp=Z,0.5nm,0.6s
MAKZ Makanchi 41.94 311 P **P 22 19 16.9 -0.7**
ZALV Zalesovo Beam 42.13 322 P **P 22 19 17.7 -1.3**
comp=Z,0.3nm,0.3s,baz=108,slow=6.7,SNR=1.9
ZALV PcP **PcP 22 21 11.6 -1.8**
comp=Z,0.5nm,0.5s,baz=106,slow=4.7,SNR=2.3
comp=Z,0.3nm,0.3s
KNRA Kununurra 42.74 181 P **P 22 19 23.6 -0.7**
TIXI Tiksi 44.38 360 LR LR 22 38 26.4
comp=Z,53nm,21.7s,baz=200,slow=37
KDJ Kajisay 44.85 303 P **P 22 19 41.7 +0.3**
KURBB Kurchatov Arra 44.91 315 P **P 22 19 40.3 -1.2**
comp=Z,0.7nm,0.3s,baz=105,slow=8.8,SNR=5.4
KURBB PcP **PcP 22 21 21.5 -1.3**
comp=Z,0.6nm,0.6s,baz=109,slow=3.4,SNR=4.1
KURBB LR LR 22 40 17.5
comp=Z,160nm,19.3s,baz=168,slow=39
comp=Z,0.7nm,0.3s
FITZ Fitzroy Crossi 45.31 185 P **P 22 19 45.9 +1.0**
WB0 Warramunga Arr 47.04 174 P P 22 19 53.4 -5.2
WRA Warramunga Arr 47.21 174 P **P 22 19 55.4 -4.4**
WRA Warramunga Arr 47.21 174 P **P 22 20 01.2 +1.4**
comp=Z,1.8nm,0.8s,baz=354,slow=8.5,SNR=7.5
comp=Z,1.8nm,0.8s
WR8 Warramunga Arr 47.23 174 P **P 22 19 58.2 -1.9**
WR8 IAmb IAmb 22 20 17.9
comp=Z,9.6nm,1.1s
NRIK Noril'sk 48.60 342 P **P 22 20 09.9 -0.2**
comp=Z,1.7nm,0.7s,baz=118,slow=4.3,SNR=3.8
NRIK LR LR 22 42 18.3
comp=Z,76nm,20.1s,baz=152,slow=38
comp=Z,1.7nm,0.7s
KKAR Karatay Array 49.77 305 P **P 22 20 19.6 +0.1**
GAR Garm 50.17 299 P **P 22 20 22.3 -0.5**
GAR IAmb IAmb 22 20 39.5
comp=Z,17nm,1.4s
BVAR Borovoye Array 50.28 318 P **P 22 20 22.8 -0.4**
comp=Z,1.0nm,0.6s,baz=90,slow=8.7,SNR=4.6
BVAR PcP **PcP 22 21 40.4 -1.6**
comp=Z,1.6nm,0.7s,baz=100,slow=3.0,SNR=3.5
BVAR LR LR 22 43 40.5
comp=Z,286nm,19.1s,baz=97,slow=39
comp=Z,1.0nm,0.6s
BRVK Borovoye 50.34 318 P **P 22 20 23.2 -0.4**
ASAR Alice Springs 50.86 175 P **P 22 20 24.8 -3.1**
ASAR Alice Springs 50.86 175 P **P 22 20 28.3 +0.4**
comp=Z,1.5nm,0.8s,baz=356,slow=6.8,SNR=12
comp=Z,1.5nm,0.8s
SIMJ Simiganj 51.22 299 P **P 22 20 28.7 -2.1**
SIMJ IAmb IAmb 22 20 33.1
comp=Z,5.4nm,1.1s
KBL Kabul 51.76 294 P **P 22 20 34.0 -0.9**
KBL IAmb IAmb 22 20 50.1
comp=Z,11nm,1.4s
AB31 Akbulak array 56.79 313 P **P 22 21 10.6 -0.5**
ABKAR Akbulak array 56.79 313 P **P 22 21 10.9 -0.1**
ABKAR Akbulak array 56.79 313 P **P 22 21 10.7 -0.3**
C18K Utukok River 57.30 24 P **P 22 21 15.2 +0.8**
ARTI Arti 57.39 321 P **P 22 21 14.5 -0.7**
ARTI IAmb IAmb 22 21 50.0
comp=Z,4.2nm,1.0s
ARTI Arti 57.39 321 LR LR 22 48 38.8
comp=Z,134nm,19.0s,baz=78,slow=39
AKTO Aktyubinsk 57.93 314 LR LR 22 47 06.5
comp=Z,55nm,21.5s,baz=294,slow=37
D19K Kuna River 58.40 24 P **P 22 21 22.8 +0.7**
D19K IAmb IAmb 22 21 44.1
comp=Z,4.9nm,1.1s
D20K Etivluk River 58.97 24 P **P 22 21 26.2 +0.1**
D20K IAmb IAmb 22 21 39.7
comp=Z,5.4nm,1.1s
STKA Stephens Creek 59.97 168 P **P 22 21 34.1 +0.8**
comp=Z,2.3nm,0.8s,baz=350,slow=11,SNR=2.8
comp=Z,2.3nm,0.8s
D22K Ayikyak River 60.40 24 P **P 22 21 36.6 +0.7**
D22K IAmb IAmb 22 21 39.2
comp=Z,13nm,1.4s

E22K Anaktuvuk Pass 60.72 25 P **P 22 21 40.3 +2.1**
E22K IAmb IAmb 22 22 11.6
comp=Z,4.0nm,1.2s
D23K Nanushuk River 61.13 24 P **P 22 21 40.8 -0.1**
D23K IAmb IAmb 22 22 01.7
comp=Z,5.0nm,1.4s
E23K Chandalar 61.55 25 P **P 22 21 45.1 +1.3**
E23K IAmb IAmb 22 22 22.9
comp=Z,10nm,1.5s
H23K Yukon River 61.70 28 P **P 22 21 46.1 +1.3**
H23K IAmb IAmb 22 22 07.8
comp=Z,3.5nm,1.1s
D24K Happy Valley 61.79 24 P **P 22 21 44.4 -0.8**
C24K Franklin Bluff 61.80 23 P **P 22 21 46.6 +1.2**
C24K IAmb IAmb 22 21 49.1
comp=Z,7.8nm,1.1s
E24K Your Creek 61.97 25 P **P 22 21 47.9 +1.3**
E24K IAmb IAmb 22 22 13.1
comp=Z,3.8nm,1.1s
KIRV Kirov 62.06 324 LR LR 22 51 41.2
comp=Z,136nm,18.3s,baz=93,slow=39
RND Reindeer 62.20 30 P **P 22 21 48.6 +0.4**
RND IAmb IAmb 22 22 12.2
comp=Z,8.5nm,1.2s
F24K Squaw Lake 62.24 26 P **P 22 21 50.0 +1.6**
BMAR Burnt Mountain 63.51 25 P **P 22 21 59.8 +2.9**
C27K Jago River 63.55 23 P **P 22 21 59.4 +2.3**
C27K IAmb IAmb 22 22 06.4
comp=Z,4.4nm,1.4s
F26K Sheenjek River 63.64 25 P **P 22 21 59.7 +2.0**
F26K IAmb IAmb 22 22 18.3
comp=Z,3.8nm,1.2s
E27K Coleen River 64.52 24 P **P 22 22 05.4 +1.9**
E27K IAmb IAmb 22 22 48.3
comp=Z,4.8nm,1.5s
D27M Malcolm River 64.56 23 P **P 22 22 05.3 +1.5**
D27M IAmb IAmb 22 22 22.5
comp=Z,3.5nm,1.3s
H27K Steamboat Moun 64.90 27 P **P 22 22 08.5 +2.5**
H27K IAmb IAmb 22 22 27.2
comp=Z,5.4nm,1.3s
K27K Chicken 65.09 29 P **P 22 22 08.9 +1.7**
K27K IAmb IAmb 22 22 24.2
comp=Z,5.5nm,1.2s
E28M Babbage River 65.19 24 P **P 22 22 09.3 +1.5**
E28M IAmb IAmb 22 22 52.4
comp=Z,4.8nm,1.4s
M27K Edge Creek, AK 65.52 31 P **P 22 22 12.1 +1.9**
I28M Miner Creek 65.70 27 P **P 22 22 13.2 +2.0**
I28M IAmb IAmb 22 22 23.4
comp=Z,5.6nm,1.4s
E29M Blow River 65.83 24 P **P 22 22 14.0 +2.1**
E29M IAmb IAmb 22 22 17.7
comp=Z,5.7nm,1.5s
G29M Pine Creek 66.12 26 P **P 22 22 15.4 +1.6**
G29M IAmb IAmb 22 22 34.8
comp=Z,1.9nm,0.8s
H29M Whitestone 66.15 26 P **P 22 22 15.7 +1.6**
F30M Barrier River 66.79 25 P **P 22 22 20.3 +2.2**
F30M IAmb IAmb 22 22 47.7
comp=Z,9.8nm,1.3s
L29M L29M 67.02 30 P **P 22 22 20.8 +1.1**
L29M IAmb IAmb 22 22 45.0
comp=Z,6.1nm,1.2s
I30M Mount Dempster 67.20 27 P **P 22 22 22.9 +2.0**
I30M IAmb IAmb 22 22 54.1
comp=Z,2.3nm,1.0s
INK Inuvik 67.42 24 P **P 22 22 23.8 +1.7**
INK IAmb IAmb 22 22 25.8
comp=Z,5.7nm,1.4s
G31M Satah River 67.55 25 P **P 22 22 22.8 0.0**
M30M Minto, Yukon 67.76 30 P **P 22 22 26.4 +2.1**
M30M IAmb IAmb 22 22 48.8
comp=Z,5.9nm,1.5s
SPB2 Spitsbergen Ar 68.01 348 P **P 22 22 24.9 -0.8**
SPITS Spitsbergen Ar 68.01 348 P **P 22 22 25.5 -0.2**
comp=Z,14nm,1.0s,baz=95,slow=7.6,SNR=6.4
comp=Z,14nm,1.0s
KEV Kevo 68.87 339 P **P 22 22 31.6 +0.5**
KBZ Khabaz 69.40 309 P **P 22 22 34.7 -0.2**
comp=Z,4.9nm,1.0s,baz=76,slow=4.3,SNR=13
comp=Z,4.9nm,1.0s
ARCES ARCESS Array B 69.44 339 P **P 22 22 34.7 0.0**
ARCES ARCESS Array B 69.44 339 P **P 22 22 35.3 +0.6**
comp=Z,4.2nm,1.1s,baz=52,slow=7.9,SNR=5.7
ARCES LR LR 22 59 08.1
comp=Z,50nm,20.4s,baz=164,slow=41
comp=Z,4.2nm,1.1s
EUNU Eureka 71.07 6 P **P 22 22 45.4 +0.7**
EUNU IAmb IAmb 22 23 06.5
comp=Z,5.1nm,1.4s
FIA1 FINESS Array S 72.51 331 P **P 22 22 54.7 +1.3**
FINES FINESS Array B 72.51 331 P **P 22 22 53.7 +0.3**
FINES FINESS Array B 72.51 331 P **P 22 22 53.4 -0.1**
comp=Z,1.9nm,0.6s,baz=75,slow=3.9,SNR=11
FINES LR LR 22 58 23.0
comp=Z,104nm,18.9s,baz=74,slow=39
comp=Z,1.9nm,0.6s
RUBB Prince Rupert 73.86 37 P **P 22 22 59.6 -1.9**
RAYN Ar Rayn 74.60 289 P **P 22 23 07.5 +1.0**
AKASG Malin Array Be 75.48 320 P **P 22 23 10.8 -0.2**
comp=Z,1.4nm,0.5s,baz=52,slow=7.4,SNR=7.2
AKASG LR LR 22 58 55.1
comp=Z,116nm,21.0s,baz=64,slow=38
comp=Z,1.4nm,0.5s
PABE Paberze 76.16 326 P **P 22 23 15.0 +0.2**
YKA Yellowknife Ar 77.03 25 P **P 22 23 20.7 +1.1**
comp=Z,0.2nm,0.6s,baz=302,slow=6.0,SNR=4.0
comp=Z,0.2nm,0.6s
YKAW1 Yellowknife Wh 77.09 25 P **P 22 23 20.0 +0.1**
YKAW1 IAmb IAmb 22 23 37.9
comp=Z,1.5nm,1.1s
BRTR Keskin Array B 77.31 308 P **P 22 23 22.1 +0.2**
comp=Z,1.7nm,0.8s,baz=112,slow=5.5,SNR=11
comp=Z,1.7nm,0.8s
MSEY Mahe Island 78.11 258 P **P 22 23 24.7 -1.8**
MSEY IAmb IAmb 22 23 37.8
comp=Z,3.2nm,0.7s
HFS Hagfors 78.42 333 P **P 22 23 27.7 +0.3**
comp=Z,2.0nm,0.7s,baz=77,slow=6.4,SNR=9.3
HFS LR LR 23 02 06.5
comp=Z,92nm,18.6s,baz=60,slow=39
comp=Z,2.0nm,0.7s
NC405 NORSAR Array S 78.63 334 P **P 22 23 28.6 0.0**
NC303 NORSAR Array S 78.70 334 P **P 22 23 29.7 +0.8**
NB201 NORSAR Array S 78.83 334 P **P 22 23 30.0 +0.3**
MMAI Mount Meron Ar 78.86 301 LR LR 23 02 08.4
comp=Z,36nm,20.5s,baz=44,slow=39
NB2 NORSAR Subarra 78.87 334 P **P 22 23 29.8 -0.1**
comp=Z,3.8nm,0.8s,baz=53,slow=5.9
NOA NORSAR Array B 78.87 334 P **P 22 23 30.3 +0.4**
comp=Z,2.8nm,0.8s,baz=51,slow=5.6,SNR=7.1
NOA LR LR 23 01 53.3
comp=Z,38nm,18.5s,baz=75,slow=38
comp=Z,2.8nm,0.8s
NC204 NORSAR Array S 78.90 334 P **P 22 23 30.6 +0.4**
NC204 IAmb IAmb 22 23 32.8
comp=Z,14nm,1.2s
NBO00 NORSAR Array S 79.04 334 P **P 22 23 32.0 +1.1**
NBO00 IAmb IAmb 22 23 56.5
comp=Z,8.4nm,1.1s
BUR08 Bucovina Ar. S 79.23 318 P **P 22 23 33.2 +0.9**
BURAR Bucovina Array 79.23 318 P **P 22 23 33.0 +0.7**
NNZ Nelson 79.35 148 P **P 22 23 32.6 0.0**
BORA Eskisehir 79.46 309 P **P 22 23 32.8 -0.8**
BORA IAmb IAmb 22 23 34.8
comp=Z,3.4nm,0.8s
SUMG Summit 80.03 356 P **P 22 23 37.0 +0.5**
SUMG IAmb IAmb 22 23 38.9
comp=Z,8.2nm,1.3s
SUMG Summit 80.03 356 *i* P **P 22 23 36.4 -0.1**
SUMG IAmb IAmb 22 23 40.6
comp=Z,4.8nm,0.7s
EIL Elat 80.66 298 LR LR 23 05 32.9
comp=Z,51nm,18.4s,baz=18,slow=40
ILON Igloolik, Nuna 80.93 11 P **P 22 23 41.4 +0.6**
ILON IAmb IAmb 22 23 53.5
comp=Z,7.0nm,1.1s
ELL Elmali 81.26 307 P **P 22 23 43.9 +0.4**
COR Corvallis 82.40 44 P **P 22 23 49.0 -0.1**
VRAC Vranov 83.24 323 LR LR 23 06 51.6
comp=Z,44nm,18.1s,baz=25,slow=40
CLL Collm 83.94 326 *eP* **P 22 23 57.0 +0.1**
CONA Conrad Observa 84.42 322 *e*PcP **PcP 22 24 03.0 -0.2**
comp=Z,2.9nm,0.7s
GERES GERESS Array B 85.06 323 P **P 22 24 03.9 +1.1**
comp=Z,1.4nm,0.9s,baz=47,slow=4.5,SNR=6.0
GERES LR LR 23 07 40.7
comp=Z,68nm,18.3s,baz=82,slow=40
comp=Z,1.4nm,0.9s
DAVOX Davos/Dischmat 88.36 323 LR LR 23 09 03.2
comp=Z,59nm,21.7s,baz=40,slow=39

---

*ECX **04** 22:43:31.6±0.3, 30°.63N×114°.11W, h5km±5km, ML3.7*
*MEX **04** 22:43:33.3±0.9, 30°.55N×114°.50W, h6km, MD4.5*
ISC 04 22:43:30.9±1.5, 30°.62N±0°.06×114°.12W±0°.04, h9km±13km, n13, σ2ˢ33/20, 3C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.75**	**304⇑**	*eP*	**Pg**	**22 43 45.0**	**-0.4**
	baz=148,slow=7.4						
SFX				*i* S	**Sb**	**22 43 55.6**	**-1.0**
SFX	**San Felipe**	**0.75**	**304⇑**	*e*P	**Pg**	**22 43 44.9**	**-0.6**
SFX				*e*S	**Sb**	**22 43 55.1**	**-1.5**
SFX				IAML		22 44 04.6	
	comp=E,3μm,0.9s						
SFX				IAML		22 44 04.6	
	comp=N,2μm,0.7s						
SFX				*e*		22 44 04.6	
PPXB	**Puerto Pesaco**	**0.83**	**30⇓**	*e*P	**Pg**	**22 43 45.9**	**-1.0**
PPXB				*e*S	**Sg**	**22 43 56.8**	**-0.9**
PIX	**Pinacate**	**1.10**	**31**	*e*P	Pg	22 43 50.1	-1.9
PIX				*e*S	**Sg**	**22 44 04.9**	**-1.4**
SQX	**San Quintin**	**1.51**	**269⇑**	*e*P	**Pn**	**22 43 57.5**	**-0.8**
SQX				*e*S	**Sn**	**22 44 18.3**	**+0.2**
SQX				IAML		22 44 27.9	
	comp=N,869nm,0.8s						
SQX				*e*		22 44 27.9	
VTX	**Valle De La Tr**	**1.62**	**299**	*e*P	**Pn**	**22 43 59.6**	**-0.2**
RHX	**Rio Hardy**	**1.81**	**327**	*e*P	**Pn**	**22 44 02.4**	**0.0**
SV2X	**San Vicente**	**1.96**	**292**	*e*P	**Pn**	**22 44 04.9**	**+0.6**
SV2X				*e*S	**Sg**	**22 44 30.8**	**-3.0**
MBIG	**Mexicali**	**2.01**	**333**	*e*P	Pg	22 44 15.8	+6.4
MBIG				*i* S	**Sg**	**22 44 43.0**	**+7.6**
CBX	**Cerro Bola**	**2.75**	**309**	*i* P	**Pb**	**22 44 21.2**	**+0.7**
CBX				*e*S	**Sb**	**22 44 54.2**	**-0.2**
TJIG	**Tijuana**	**2.83**	**310**	*e*P	**Pb**	**22 44 22.8**	**+1.0**
TJIG				*i* S	**Sb**	**22 44 54.2**	**-2.4**
TUC	**Tucson**	**3.31**	**59**	*e*P	**Pn**	**22 44 22.5**	**-0.6**
TUC				*e*S	Sn	22 44 58.0	-4.6
GUYB	**Guaymas**	**3.92**	**133**	*e*	**Pb**	**22 44 42.5**	**+2.1**
GUYB				*e*		22 45 35.2	

---

*SNET **04** 22:56:05.5±1.0, 13°.82N×92°.37W, h35km±999km, ML3.9*
*IDC **04** 22:56:09.0±2.0, 13°.75N×91°.95W, h0km, mb3.9/6, mbtmp3.9/8, ML3.8/2, MS3.6/16, Error ellipse: s-maj=46.7km s-min=25.6km az=27.0*
*GCG **04** 22:56:09.1±1.7, 13°.58N×91°.90W, h1km±26km, MD4.5, ML4.2*
*NEIC **04** 22:56:14.5±2.1, 13°.81N±0°.07×91°.73W±0°.09, h35km±2km, mb4.4/69, Error ellipse: s-maj=15.7km s-min=10.5km az=232.0*
ISC 04 22:56:12.3±0.8, 13°.62N±0°.08×91°.95W±0°.06, h37km, n129, σ1ˢ51/110, mb4.4/29, MS3.6/17, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.93**	**15**		**Pn**	**22 56 28.8**	**-0.1**
STG0	**El Palmar, Qui**	**0.99**	**36**	*e*P	**Pn**	**22 56 31.2**	**+1.3**
STG0				IAML		22 56 50.2	
	comp=N,5μm,0.4s						
STG8	**El Palmar, Qui**	**1.01**	**35**	*e*P	**Pn**	**22 56 31.6**	**+1.5**
STG8				IAML		22 56 51.1	
	comp=E,2μm,0.4s						
SOKI	**Kika Raxquin**	**1.30**	**24**	*e*P	**Pn**	**22 56 33.8**	**-0.6**
SOKI				IAML		22 57 16.5	
	comp=N,4μm,1.0s						
THIG		**1.31**	**347**	*e*P	**Pn**	**22 56 32.8**	**-1.3**
ESSG	**Sabana Grande**	**1.32**	**55**	*e*P	**Pn**	**22 56 33.5**	**-0.8**
ESSJ	**San Jos, E**	**1.41**	**92**	*e*P	Pn	22 56 44.3	+8.8
ESSJ				IAML		22 57 31.8	
	comp=E,16μm,1.1s						
FG8	**Yepocapa, Chim**	**1.49**	**65**	*e*P	**Pn**	**22 56 33.3**	**-3.4**
FG8				*e*S	**Sn**	**22 56 52.3**	**-2.7**
GCG4	**OSOP**	**1.68**	**55**	*e*P	**Pn**	**22 56 39.7**	**+0.4**
HUEH	**Huehuetenango**	**1.74**	**14**		**Pn**	**22 56 40.5**	**+0.3**
HUEH	**Huehuetenango**	**1.74**	**14**	*e*P	**Pn**	**22 56 41.2**	**+0.9**
NUBE	**Las Nubes**	**2.13**	**82**	*e*P	**Pn**	**22 56 44.5**	**-1.0**
CEVE	**Cerro Verde**	**2.27**	**85**	*e*P	**Pn**	**22 56 46.9**	**-0.7**
CEVE				*e*S	**Sn**	**22 57 19.4**	**+5.0**
CEVE				IAML		22 57 29.2	
	comp=Z,704nm,0.4s						
JAYA	**Jayaque - finc**	**2.43**	**89**	*e*P	**Pn**	**22 56 48.7**	**-0.9**
JAYA				IAML		22 57 25.8	
	comp=E,1μm,0.3s						
LALI	**Alcalda de L**	**2.56**	**93**	*e*P	**Pn**	**22 56 51.7**	**+0.4**
BOQS	**Boqueron**	**2.60**	**87**	*e*P	**Pn**	**22 56 51.4**	**-0.7**
MTO3	**Montecristo**	**2.63**	**73**		**Pn**	**22 56 51.7**	**-0.7**
MTO3	**Montecristo**	**2.63**	**73**	*e*P	**Pn**	**22 56 52.3**	**-0.2**
CCIG	**Comitan**	**2.65**	**356**	Pn	**Pn**	**22 56 53.2**	**+0.6**
CCIG	**Comitan**	**2.65**	**356**	*i* P	**Pn**	**22 56 55.4**	**+2.7**
COEG	**Centro de Oper**	**2.98**	**90**	*e*P	**Pn**	**22 56 57.1**	**-0.1**
COEG				IAML		22 57 45.1	
	comp=Z,214nm,0.6s						
TGIG		**3.33**	**340**	*e*P	**Pn**	**22 57 03.2**	**+1.2**
PETF	**Flores**	**3.84**	**31**	Pn	**Pn**	**22 57 08.2**	**-0.7**
LCND	**La Caada**	**3.96**	**94**	*e*P	**Pn**	**22 57 10.5**	**-0.1**
CNCH	**Conchagua**	**4.02**	**94**	*e*P	**Pn**	**22 57 10.6**	**-0.9**
CMIG	**Matias Romero**	**4.46**	**321**	Pn	**Pn**	**22 57 16.0**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=132,slow=9.3,SNR=12						
CMIG				Sn	**Sn**	**22 58 02.7**	**-5.4**
	comp=Z,3.1nm,0.3s,baz=33,slow=8.0,SNR=4.1						
	comp=Z,3.5nm,0.5s						
TGUH	**Tegucigalpa,Un**	**4.56**	**84**	Pn	**Pn**	**22 57 18.9**	**-0.1**
CRIN	**San Cristobal**	**4.86**	**100**		**Pn**	**22 57 21.6**	**-1.4**
HERN	**Volcan Telica**	**5.09**	**101**	Pn	**Pn**	**22 57 22.8**	**-3.3**
BOAB	**BOACO BROADBAN**	**6.24**	**100**	Pn	**Pn**	**22 57 39.9**	**-1.9**
TEIG	**Tepich**	**7.45**	**28**	Pn	**Pn**	**22 57 59.7**	**+1.2**
TEIG	**Tepich**	**7.45**	**28**	Pn	**Pn**	**22 57 58.9**	**+0.4**
	baz=32,slow=24,SNR=5.8						
TLIG	**Tlapa**	**7.48**	**302**	Pn	**Pn**	**22 58 01.3**	**+2.2**
LCR2	**La Lucha 2**	**8.69**	**116**	Pn	**Pn**	**22 58 17.8**	**+2.1**
SOR	**Soroa**	**12.46**	**42**	Pn	**Pn**	**22 59 03.1**	**-4.0**
MTDJ	**Mount Denham**	**14.60**	**70**		**P**	**22 59 39.7**	**-2.7**
HBVL	**Hebbronville**	**14.78**	**336**	Pn	**Pn**	**22 59 39.7**	**+1.0**
KVTX	**Kingsville**	**14.92**	**339**	Pn	**Pn**	**22 59 41.2**	**+0.6**
553A	**Crawfordville**	**17.89**	**22**		**P**	**23 00 18.4**	**-0.2**
JCT	**Junction City**	**18.27**	**338**		**Pn**	**23 00 25.3**	**+2.2**
BRDY	**Brady**	**18.74**	**341**	P	**Pn**	**23 00 29.4**	**+0.8**
SAND	**Sanderson**	**18.78**	**332**	P	**Pn**	**23 00 28.9**	**-0.3**
TXAR	**Lajitas Array**	**19.04**	**327**	P	**P**	**23 00 31.2**	**-0.2**
TXAR	**Lajitas Array**	**19.04**	**327**	P	**Pn**	**23 00 32.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=131,slow=7.8,SNR=9.2						
	comp=Z,3.4nm,0.9s						
OZNA	**Ozona**	**19.18**	**335**	P	**Pn**	**23 00 34.9**	**+0.9**
Z47A	**Carrollton**	**19.81**	**10**	P	**Pn**	**23 00 40.3**	**-1.1**
Z47A				IAmb	IAmb	23 00 50.6	
	comp=Z,16nm,0.9s						
ALPN	**Alpine**	**19.86**	**329**	P	**Pn**	**23 00 41.6**	**-0.6**
SGCY	**Sterling City**	**20.06**	**337**	P	**Pn**	**23 00 43.3**	**-1.2**
SGCY				IAmb	IAmb	23 00 44.8	
	comp=Z,12nm,0.7s						
FLOC	**Florencia**	**20.08**	**125**	P	**P**	**23 00 43.7**	**+0.9**
RUSC	**La Rusia**	**20.11**	**111**	P	**P**	**23 00 44.0**	**+0.4**
ABTX	**Abilene, Hawle**	**20.18**	**341**	P	Pn	23 00 45.3	-0.5
ABTX				IAmb	IAmb	23 00 46.1	
	comp=Z,12nm,1.0s						
MNHN	**Monahans**	**20.24**	**332**	P	Pn	23 00 46.4	-0.2
MNHN				IAmb	IAmb	23 00 48.4	
	comp=Z,13nm,0.8s						
COHC	**Cochancay**	**20.35**	**141**	P	Pn	23 00 48.7	+0.7
154A	**Montrose**	**20.56**	**22**	P	**P**	**23 00 46.6**	**-1.2**
ODSA	**Odessa**	**20.81**	**334**	P	Pn	23 00 52.4	-0.9
SN05	**Snyder 5**	**20.83**	**338**	P	Pn	23 00 51.9	-1.6
SN05				IAmb	IAmb	23 00 52.3	
	comp=Z,11nm,1.0s						
APMT	**Aspermont**	**20.98**	**341**	P	**P**	**23 00 53.0**	**+0.6**
APMT				IAmb	IAmb	23 00 54.2	
	comp=Z,16nm,0.8s						
SN07	**Snyder 07**	**21.02**	**339**	P	**P**	**23 00 53.2**	**+0.3**
SN07				IAmb	IAmb	23 00 54.5	
	comp=Z,14nm,1.4s						
UALR	**University of**	**21.06**	**359**	P	**P**	**23 00 53.6**	**+0.3**
UALR				IAmb	IAmb	23 00 56.5	

comp=Z,7.6nm,0.7s
X48A Hartselle 21.21 11 P **P 23 00 53.9 -1.0**
POST Post 21.22 337 P **P 23 00 55.6 +0.5**
POST IAmb IAmb 23 00 56.8
comp=Z,20nm,0.9s
Y52A Lilburn 21.39 18 P **P 23 00 55.5 -1.2**
Y52A IAmb IAmb 23 00 57.6
comp=Z,9.4nm,0.9s
SDV Santo Domingo 21.43 100 P **P 23 00 59.6 +2.0**
comp=Z,4.1nm,0.6s,baz=339,slow=8.5,SNR=5.1
comp=Z,4.1nm,0.6s
PLAL Pickwick Lake 21.55 9 P **P 23 00 56.6 -1.9**
DKNS Dickens 21.56 339 P **P 23 00 59.0 +0.3**
FPAL Fort Paine 21.60 14 P **P 23 00 59.5 +0.4**
WMOK Wichita Mounta 21.91 345 P **P 23 01 02.4 -0.1**
SMWD Samnorwood 22.66 342 P **P 23 01 10.8 +0.3**
TKL Tuckaleechee C 23.14 17 P **P 23 01 14.4 -1.0**
TKL IAmb IAmb 23 01 16.0
comp=Z,12nm,0.9s
TKL Tuckaleechee C 23.14 17 P **P 23 01 15.3 -0.1**
comp=Z,8.5nm,0.9s,baz=206,slow=10,SNR=8.1
TKL LR LR 23 11 15.2
comp=Z,167nm,19.6s,baz=208,slow=39
comp=Z,8.5nm,0.9s
OK051 E0350 and S346 23.20 350 P **P 23 01 14.8 -1.1**
OK051 IAmb IAmb 23 01 16.1
comp=Z,6.3nm,0.7s
CGM3 Cape Girardeau 23.66 5 P **P 23 01 19.1 -1.4**
T47A Sharon Grove 23.67 10 P **P 23 01 19.0 -1.4**
S44A Carbondale 24.09 5 IAmb IAmb 23 01 24.2
comp=Z,22nm,1.3s
S44A P **P 23 01 24.2 -0.2**
SIUC Southern Illin 24.12 5 P **P 23 01 23.2 -1.4**
SIUC IAmb IAmb 23 01 25.0
comp=Z,17nm,1.1s
BNM Barren Site 24.39 329 P **P 23 01 28.9 +1.4**
U54A Nelsons Funny 24.54 20 P **P 23 01 28.2 -0.4**
U54A IAmb IAmb 23 01 29.2
comp=Z,12nm,1.0s
R40A Maddies Statio 24.57 359 P **P 23 01 27.2 -1.6**
AOPR Arecibo Observ 24.66 76 P **P 23 01 30.1 +0.2**
RTBA Rita Blanca 24.69 339 P **P 23 01 30.7 +0.6**
RTBA IAmb IAmb 23 01 32.4
comp=Z,11nm,0.9s
ANMO Albuquerque 24.95 331 LR LR 23 13 10.6
comp=Z,11nm,19.8s,baz=160,slow=41
WCI Wyandotte Cave 25.02 11 P **P 23 01 31.6 -1.2**
WCI IAmb IAmb 23 01 33.7
comp=Z,10nm,0.8s
SJG San Juan 25.20 76 LR LR 23 12 26.5
comp=Z,189nm,19.4s,baz=264,slow=39
HWUT Hardware Ranch 32.69 332 P **P 23 02 42.3 +0.9**
HWUT IAmb IAmb 23 02 45.1
comp=Z,3.6nm,1.1s
PDAR Pinedale Array 32.78 336 P **P 23 02 42.5 +0.2**
comp=Z,0.2nm,0.6s,baz=141,slow=5.0,SNR=3.7
comp=Z,0.2nm,0.6s
SADO Sadowa 32.91 17 LR LR 23 18 30.3
comp=Z,117nm,18.1s,baz=236,slow=41
TPAW Teton Pass 33.95 335 P **P 23 02 52.8 +0.3**
TPAW IAmb IAmb 23 03 00.7
comp=Z,11nm,1.4s
NVAR Mina Array Bea 33.99 321 P **P 23 02 55.0 +2.2**
NVAR Mina Array Bea 33.99 321 P **P 23 02 54.9 +2.1**
comp=Z,2.2nm,0.9s,baz=132,slow=9.7,SNR=8.8
comp=Z,2.2nm,0.9s
HLID Hailey 35.53 331 P **P 23 03 07.3 +1.4**
ULM Lac du Bonnet 36.66 356 LR LR 23 20 29.0
comp=Z,42nm,19.8s,baz=278,slow=40
J08A Circle Bar Ran 37.38 328 P **P 23 03 24.1 +2.4**
PLID Pearl Lake 37.43 332 P **P 23 03 23.6 +1.4**
PLID IAmb IAmb 23 03 25.0
comp=Z,6.0nm,1.1s
BMO Blue Mountains 37.87 330 P **P 23 03 27.2 +1.4**
I07A Izee 38.42 328 P **P 23 03 32.1 +1.6**
I07A IAmb IAmb 23 03 46.9
comp=Z,9.2nm,1.4s
F10A Beach Ranch, E 38.66 332 P **P 23 03 32.9 +0.4**
F10A IAmb IAmb 23 03 37.5
comp=Z,6.1nm,1.0s
YBH Yreka Blue Hor 38.69 322 LR LR 23 21 39.3
comp=Z,62nm,18.7s,baz=172,slow=40
HOOD Mount Hood Mea 40.39 327 P **P 23 03 49.2 +2.2**
LON Longmire 41.43 329 P **P 23 03 56.9 +1.4**
SCHQ Schefferville 45.56 20 LR LR 23 24 30.3
comp=Z,224nm,18.5s,baz=273,slow=37
YKA Yellowknife Ar 51.40 347 P **P 23 05 13.6 +0.3**
comp=Z,1.9nm,0.6s,baz=151,slow=7.8,SNR=32
comp=Z,1.9nm,0.6s
FRB Frobisher Bay 52.67 13 LR LR 23 29 05.7
comp=Z,49nm,18.3s,baz=267,slow=38
M29M Somme Creek 58.78 337 P **P 23 06 08.2 +1.6**
SFJD Kangerlussuaq 59.86 17 LR LR 23 32 40.5
comp=Z,116nm,20.5s,baz=224,slow=37
INK Inuvik 60.81 344 P **P 23 06 20.8 +0.5**
INK IAmb IAmb 23 06 22.0
comp=Z,3.8nm,0.9s
RES Resolute Bay 61.08 359 LR LR 23 37 07.9
comp=Z,48nm,18.4s,baz=8.5,slow=40
J26L Joseph Creek 61.81 337 P **P 23 06 28.8 +1.4**
J26L IAmb IAmb 23 06 30.3
comp=Z,3.2nm,1.0s
E29M Blow River 62.11 342 P **P 23 06 29.6 +0.5**
E28M Babbage River 62.72 342 P **P 23 06 33.5 +0.2**
E28M IAmb IAmb 23 06 34.6
comp=Z,3.0nm,0.8s
E27K Coleen River 63.10 341 P **P 23 06 36.6 +0.8**
ILAR Eielson Array 63.20 337 P **P 23 06 38.2 +1.7**
comp=Z,1.5nm,1.0s,baz=131,slow=5.5,SNR=9.5
comp=Z,1.5nm,1.0s
D27M Malcolm River 63.51 343 P **P 23 06 39.6 +1.0**
D27M IAmb IAmb 23 06 40.3
comp=Z,2.4nm,0.7s
I23K Minto, Yukon-K 64.31 337 P **P 23 06 46.0 +2.2**
I23K IAmb IAmb 23 06 54.7
comp=Z,4.8nm,0.9s
E25K Arctic Village 64.33 340 P **P 23 06 45.8 +1.9**
E25K IAmb IAmb 23 06 46.2
comp=Z,3.0nm,0.9s
C27K Jago River 64.53 342 P **P 23 06 46.5 +1.3**
C27K IAmb IAmb 23 06 48.2
comp=Z,5.6nm,1.1s
D25K Kavik River 65.19 341 P **P 23 06 50.1 +0.6**
E23K Chandalar 65.65 340 P **P 23 06 54.0 +1.4**
E23K IAmb IAmb 23 06 55.7
comp=Z,5.4nm,1.0s
E22K Anaktuvuk Pass 66.43 339 P **P 23 06 58.5 +0.9**
F21K Alatna River 66.67 338 P **P 23 07 00.6 +1.6**
C23K Itkillik River 66.74 341 P **P 23 07 00.4 +1.0**
JMIC Jan Mayen 75.08 20 LR LR 23 41 54.0
comp=Z,21nm,19.1s,baz=246,slow=37
NOA NORSAR Array B 84.45 28 LR LR 23 44 39.5
comp=Z,13nm,21.6s,baz=100,slow=34
HFS Hagfors 85.91 29 LR LR 23 46 22.9
comp=Z,14nm,18.9s,baz=256,slow=35
ARCES ARCESS Array B 86.48 18 LR LR 23 47 03.2
comp=Z,32nm,20.9s,baz=285,slow=35
GERES GERESS Array B 89.86 40 LR LR 23 43 46.1
comp=Z,23nm,20.7s,baz=282,slow=32
FINES FINESS Array B 90.82 25 LR LR 23 50 53.7
comp=Z,35nm,18.8s,baz=333,slow=36
NRIK Noril'sk 97.25 0 LR LR 23 57 59.0
comp=Z,61nm,18.6s,baz=4.0,slow=38
ELIB Princess Elisa 110.61 162 *d*PKiKP **PKiKP 23 14 41.1 +0.5**
CMAR Chiang Mai Arr 146.36 341 PKPbc **PKPab 23 15 51.2 +0.2**
comp=Z,1.0nm,0.3s,baz=16,slow=3.2,SNR=11

---

*IDC **04** 22:58:36.9±3.3, 13°.37N×91°.88W, h0km, mb3.6/3, mbtmp3.6/5, ML1.7/1, MS3.3/2, Error ellipse: s-maj=65.3km s-min=53.3km az=10.0*
*MEX **04** 22:58:39.7±0.6, 13°.42N×92°.24W, h10km, MD3.9*
*GCG **04** 22:58:43.8±1.5, 13°.74N×91°.76W, h22km±33km, MD4.4*
ISC 04 22:58:38.2±2.3, 13°.59N±0°.08×92°.00W±0°.06, h2km±13km, n24, σ1§89/33, mb3.7/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.98**	**18**	*i* P	**Pn**	**22 58 59.0**	**+0.1**
RTAL				*i* S	**Sn**	**22 59 14.5**	**+1.1**
STG0	**El Palmar, Qui**	**1.05**	**37**	*e*P	**Pn**	**22 59 01.3**	**+1.2**
STG8	**El Palmar, Qui**	**1.06**	**36**	*e*P	**Pn**	**22 59 01.9**	**+1.6**
THIG		**1.34**	**349**	*e*P	**Pg**	**22 59 04.3**	**+0.5**
THIG				*e*S	**Sn**	**22 59 22.3**	**+0.1**
SOKI	**Kika Raxquin**	**1.35**	**25**	*e*P	**Pn**	**22 59 04.9**	**+0.4**
PATR	**El Naranjo**	**1.54**	**352**	*e*P	**Pn**	**22 59 05.9**	**-0.9**
PATR				*e*S	**Sn**	**22 59 25.6**	**-1.9**
FG8	**Yepocapa, Chim**	**1.55**	**64**	*e*P	**Pn**	**22 59 03.5**	**-3.4**
PAVE	**Pavencul**	**1.60**	**354**	*e*P	**Pn**	**22 59 06.8**	**-1.0**
PAVE				*e*S	**Sn**	**22 59 27.1**	**-2.0**
HUEH	**Huehuetenango**	**1.79**	**16**	*i* P	**Pn**	**22 59 10.6**	**+0.3**
HUEH				*e*S	**Sn**	**22 59 34.9**	**+1.3**
PCIG		**2.41**	**331**	*e*P	**Pn**	**22 59 17.4**	**-1.2**
PCIG				*e*S	**Sn**	**22 59 46.5**	**-2.3**
JAYA	**Jayaque - finc**	**2.48**	**88**	*e*P	**Pn**	**22 59 19.4**	**-0.4**
CCIG	**Comitan**	**2.68**	**357**	*e*P	**Pb**	**22 59 25.2**	**-1.8**
CCIG				*e*S	**Sb**	**22 59 59.1**	**-1.3**
CCIG	**Comitan**	**2.68**	**357**	*e*P	**Pb**	**22 59 25.2**	**-1.8**
MTO3	**Montecristo**	**2.69**	**72**	*e*P	**Pn**	**22 59 22.5**	**-0.2**
TGIG		**3.35**	**341**	*e*P	**Pn**	**22 59 31.3**	**-0.3**
TGIG				*e*S	**Sn**	**23 00 12.8**	**+0.8**
UXUV	**UXUV**	**4.25**	**331**	*e*P	**Pn**	**22 59 46.8**	**+2.9**
UXUV				*e*S	**Sn**	**23 00 28.6**	**-5.5**
CMIG	**Matias Romero**	**4.46**	**322**	Pn	**Pn**	**22 59 48.6**	**+1.8**
	9.3nm,0.4s,baz=153,slow=13,SNR=0.7						
CMIG				Sn	**Sn**	**23 00 37.9**	**-1.4**
	2.1nm,0.3s,baz=79,slow=13,SNR=1.8						
TEIG	**Tepich**	**7.50**	**28**	Pn	**Pn**	**23 00 31.1**	**+2.5**
	baz=82,slow=24,SNR=1.5						
TXAR	**Lajitas Array**	**19.04**	**327**	P	**Pn**	**23 03 04.3**	**+1.9**
	1.0nm,0.9s,baz=147,slow=6.9,SNR=4.7						
PDAR	**Pinedale Array**	**32.79**	**336**	LR	LR	23 19 38.1	
	comp=Z,24nm,19.6s,baz=148,slow=38						
NVAR	**Mina Array Bea**	**33.99**	**321**	P	**P**	**23 05 25.9**	**+2.3**
	0.5nm,0.6s,baz=124,slow=5.4,SNR=3.6						
	0.5nm,0.6s						
YKA	**Yellowknife Ar**	**51.42**	**347**	P	**P**	**23 07 43.7**	**-0.7**
	0.9nm,0.6s,baz=154,slow=7.8,SNR=10						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**63.22**	**337**	P	**P**	**23 09 08.4**	**+0.7**
	0.3nm,0.6s,baz=110,slow=7.3,SNR=2.6						
ILAR				LR	LR	23 39 23.8	
	comp=Z,45nm,18.1s,baz=252,slow=39						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**146.38**	**341**	PKPbc	**PKPbc**	**23 18 20.9**	**-0.7**
	0.7nm,0.7s,baz=32,slow=2.7,SNR=4.6						

---

*NEIC **04** 23:57:40.9±1.2, 31°.21N±0°.01×103°.34W±0°.01, h6km±3km, Error ellipse: s-maj=1.7km s-min=1.5km az=192.0*
*TXNET **04** 23:57:40.9, 31°.2N±0°.7×103°.3W±0°.5, h6km±1km, ML2.5/10, Error ellipse: s-maj=1.0km s-min=0.7km az=179.7, final*
*NEIC **04** 23:57:41.3±1.3, 31°.20N±0°.01×103°.34W±0°.01, h6km±1km, mb_Lg2.6/23, ML2.5/10, ML2.3/58, Error ellipse: s-maj=1.8km s-min=1.6km az=115.0*
ISC 04 23:57:41.4±0.8, 31°.19N±0°.02×103°.34W±0°.02, h9km±6km, n58, σ0§62/79, 6D, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB04	**Verhalen**	**0.06**	**96**	⇓P	**Pg**	**23 57 42.9**	**-0.5**
TPB04				S	**Sg**	**23 57 44.3**	**-0.5**
TPB16	**Coyonosa**	**0.10**	**133**	P	**Pg**	**23 57 43.9**	**-0.1**
TPB16				S	**Sg**	**23 57 46.0**	**+0.3**
TPB03	**Saragosa**	**0.19**	**235**	P	**Pg**	**23 57 45.7**	**+0.3**
TPB03				S	**Sg**	**23 57 49.1**	**+1.1**
PCOS	**Crockett Middl**	**0.26**	**325**	P	**Pg**	**23 57 46.3**	**-0.5**
PCOS				S	**Sg**	**23 57 51.3**	**+0.9**
TPB05	**Hovey Rd**	**0.27**	**178**	⇓P	**Pb**	**23 57 48.0**	**-0.6**
TPB05				S	**Sb**	**23 57 53.6**	**+0.2**
TPB10	**Southeast of T**	**0.37**	**284**	⇓P	**Pg**	**23 57 48.8**	**0.0**
TPB10				S	**Sg**	**23 57 54.4**	**+0.8**
TPB01	**Permian Basin**	**0.46**	**237**	P	**Pg**	**23 57 50.5**	**+0.2**
TPB01				S	**Sb**	**23 57 57.5**	**-1.2**
TPB06	**Permian Basin**	**0.46**	**12**	P	**Pg**	**23 57 50.4**	**-0.1**
TPB06				S	**Sg**	**23 57 57.2**	**+0.6**
TPB08	**Permian Basin**	**0.47**	**129**	S	**Sb**	**23 57 59.3**	**+0.1**
TPB07	**Mentone**	**0.48**	**324**	S	**Sg**	**23 57 57.7**	**+0.6**
PECS	**Pecos**	**0.49**	**291**		**Pg**	**23 57 50.7**	**-0.3**
PECS				IAML		23 58 01.0	
	288nm,0.4s						
PECS	**Pecos**	**0.49**	**291**	⇓P	**Pg**	**23 57 50.7**	**-0.3**
MNHN	**Monahans**	**0.51**	**73**		**Pg**	**23 57 50.9**	**-0.6**
MNHN					**Sg**	**23 57 58.9**	**+0.7**
MNHN	**Monahans**	**0.51**	**73**	P	**Pg**	**23 57 51.2**	**-0.2**
MNHN				S	**Sg**	**23 57 58.9**	**+0.7**
TPB12	**Southwest of T**	**0.53**	**272**	⇓P	**Pg**	**23 57 51.7**	**-0.1**
TPB12				S	**Sg**	**23 57 59.6**	**+0.7**
ALPN	**Alpine**	**0.86**	**198**	Pg	**Pg**	**23 57 57.8**	**-0.2**
ALPN					**Sb**	**23 58 09.9**	**-0.4**
ALPN	**Alpine**	**0.86**	**198**	⇓P	**Pg**	**23 57 57.8**	**-0.2**
ALPN				S	**Sb**	**23 58 09.9**	**-0.4**
TPB11	**China Draw**	**0.95**	**321**	S	**Sg**	**23 58 12.0**	**-0.1**
TMB02	**Rankin**	**1.11**	**89**	P	**Pg**	**23 58 02.5**	**-0.4**
ODSA	**Odessa**	**1.14**	**36**		**Pg**	**23 58 02.3**	**-1.2**
ODSA					**Sg**	**23 58 18.1**	**-0.2**
ODSA	**Odessa**	**1.14**	**36**	P	**Pg**	**23 58 02.2**	**-1.2**
ODSA				S	**Sg**	**23 58 18.1**	**-0.2**
NM01	**Eunice**	**1.16**	**357**	S	**Sg**	**23 58 18.3**	**-0.5**
CLNB	**Carlsbad**	**1.16**	**337**		**Pb**	**23 58 03.8**	**0.0**
CLNB	**Carlsbad**	**1.16**	**337**	P	**Pb**	**23 58 03.8**	**0.0**
CLNB				S	**Sb**	**23 58 19.0**	**-0.1**
CLN7	**Carlsbad 7**	**1.28**	**342**		**Pg**	**23 58 05.7**	**-0.3**
HTMS	**Hat Mesa**	**1.30**	**349**		**Pb**	**23 58 06.4**	**+0.2**
GDL2	**Guadalupe Moun**	**1.33**	**319**		**Pn**	**23 58 06.0**	**-0.5**
GDL2	**Guadalupe Moun**	**1.33**	**319**	P	**Pg**	**23 58 06.8**	**-0.3**
VHRN	**Van Horn**	**1.47**	**254**	Pg	**Pn**	**23 58 08.5**	**+0.2**
VHRN					**Sg**	**23 58 28.8**	**-0.1**
VHRN				IAML		23 58 34.8	
	54nm,0.5s						
VHRN	**Van Horn**	**1.47**	**254**	P	**Pn**	**23 58 08.5**	**+0.2**
VHRN				S	**Sg**	**23 58 28.8**	**-0.1**
TMB04	**Seminole**	**1.60**	**27**	P	**Pn**	**23 58 10.0**	**0.0**
TMB04				S	**Sb**	**23 58 32.1**	**+0.4**
SAND	**Sanderson**	**1.62**	**139**	Pg	**Pn**	**23 58 10.7**	**+0.4**
SAND					**Sg**	**23 58 34.1**	**+0.7**
SAND	**Sanderson**	**1.62**	**139**	P	**Pb**	**23 58 11.6**	**+0.1**
SAND				S	**Sg**	**23 58 34.1**	**+0.7**
MNTX	**Cornudas Mount**	**1.82**	**287**		**Pb**	**23 58 14.1**	**-0.9**
MNTX					**Sb**	**23 58 38.6**	**+0.7**
MNTX				IAML		23 58 42.8	
	36nm,0.5s						
MNTX				IAML		23 58 42.8	
	25nm,0.6s						
MNTX	**Cornudas Mount**	**1.82**	**287**	P	**Pb**	**23 58 14.1**	**-0.9**
MNTX				S	**Sb**	**23 58 38.6**	**+0.7**
TX31	**Lajitas Ar. Si**	**1.88**	**189**		**Pb**	**23 58 15.2**	**-0.7**
TX31					**Sg**	**23 58 41.2**	**-0.5**
TX31	**Lajitas Ar. Si**	**1.88**	**189**	P	**Pb**	**23 58 15.5**	**-0.5**
TX31				S	**Sg**	**23 58 41.2**	**-0.5**
TXAR	**Lajitas Array**	**1.88**	**189**		**Pn**	**23 58 15.1**	**+1.3**
CPRX	**Cap Rock**	**1.89**	**346**		**Pn**	**23 58 14.9**	**+0.8**
OZNA	**Ozona**	**1.92**	**98**		**Pb**	**23 58 16.0**	**-0.6**
SGCY	**Sterling City**	**2.02**	**69**		**Pn**	**23 58 16.8**	**+1.0**
SGCY				IAmb_Lg		23 58 47.7	
	comp=Z,33nm,1.2s						
POST	**Post**	**2.43**	**39**		**Pn**	**23 58 22.4**	**+1.0**
SN05	**Snyder 5**	**2.68**	**50**		**Pn**	**23 58 25.1**	**+0.2**
SN07	**Snyder 07**	**2.81**	**47**		**Pn**	**23 58 27.3**	**+0.7**
MSTX	**Muleshoe**	**2.81**	**10**		**Pn**	**23 58 27.5**	**+0.8**
DRIO	**Del Rio**	**2.94**	**126**		**Pn**	**23 58 27.9**	**-0.5**
DRIO				IAmb_Lg		23 59 22.6	
	comp=Z,24nm,0.8s						
JCT	**Junction City**	**3.12**	**102**	Pn	**Pn**	**23 58 31.2**	**+0.3**
JCT				IAmb_Lg		23 59 26.8	
	comp=Z,17nm,0.7s						
DKNS	**Dickens**	**3.20**	**39**		**Pn**	**23 58 32.6**	**+0.6**
ABTX	**Abilene, Hawle**	**3.45**	**65**		**Pn**	**23 58 36.6**	**+1.2**
ABTX				IAmb_Lg		23 59 34.8	
	comp=Z,16nm,0.8s						
APMT	**Aspermont**	**3.46**	**51**		**Pn**	**23 58 36.5**	**+1.0**
APMT				IAmb_Lg		23 59 37.5	
	comp=Z,14nm,0.8s						
BRDY	**Brady**	**3.71**	**87**		**Pn**	**23 58 40.5**	**+1.4**
BRDY				IAmb_Lg		23 59 47.7	
	comp=Z,18nm,0.9s						
HNDO	**Hondo**	**3.88**	**114**	Pn	**Pn**	**23 58 41.9**	**+0.6**
HNDO				IAmb_Lg		23 59 51.9	
	comp=Z,16nm,0.8s						
AMTX	**Amarillo**	**3.93**	**20**	IAmb_Lg		23 59 51.1	
	comp=Z,14nm,0.9s						
BNM	**Barren Site**	**4.05**	**318**		**Pn**	**23 58 43.9**	**0.0**
LENM	**Lemitar**	**4.27**	**315**	Pn	**Pn**	**23 58 46.7**	**-0.1**
PLPT	**Palo Pinto**	**4.56**	**68**	IAmb_Lg		00 00 16.0	
	comp=Z,9.4nm,1.0s						
SMWD	**Samnorwood**	**4.69**	**33**	IAmb_Lg		00 00 16.7	
	comp=Z,13nm,0.7s						
WMOK	**Wichita Mounta**	**5.21**	**46**	IAML		00 01 17.9	
	comp=Z,9.3nm,5.0s						
WMOK				IAML		00 01 26.4	
	comp=Z,7.0nm,4.0s						

---

*NEIC **05** 00:04:39.9±2.6, 20°.9S±0°.1×178°.5W±0°.1, h580km±10km, mb4.5/26, Error ellipse: s-maj=20.0km s-min=17.3km az=105.0*
*IDC **05** 00:04:39.5±2.3, 20°.68S×178°.34W, h583km±27km, mb3.0/4, mbtmp3.9/5, Error ellipse: s-maj=49.1km s-min=25.8km az=33.0*
ISC 05 00:04:39.6±0.6, 20°.9S±0°.1×178°.5W±0°.1, h579km, n36, σ1§12/35, mb4.4/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.50**	**313**	P	**P**	**00 06 07.8**	**+0.3**
MSVF	**Nonsavu**	**4.50**	**313**	P	**P**	**00 06 07.6**	**+0.1**
	6.1nm,0.6s,baz=126,slow=12,SNR=8.6						
NIUE	**Niue**	**8.28**	**79**	P	**P**	**00 06 41.3**	**+0.2**
RTZ	**Ruatahuna**	**18.10**	**191**	P	**P**	**00 08 15.6**	**-1.3**
RTZ				IAmb	IAmb	00 08 16.6	
	comp=Z,13nm,1.0s						
BFZ	**Birch Farm**	**20.24**	**192**	P	**P**	**00 08 35.2**	**-1.1**
BFZ				IAmb	IAmb	00 08 49.8	
	comp=Z,23nm,1.2s						
MRZ	**Mangatainoka R**	**20.35**	**193**	P	**P**	**00 08 35.4**	**-1.9**
MRZ				IAmb	IAmb	00 08 35.5	
	comp=Z,20nm,1.1s						
QRZ	**Quartz Range**	**21.29**	**199**	P	**P**	**00 08 45.0**	**-0.7**
QRZ				IAmb	IAmb	00 09 03.6	
	comp=Z,26nm,1.0s						
NNZ	**Nelson**	**21.41**	**197**	P	**P**	**00 08 45.9**	**-0.9**
NNZ				IAmb	IAmb	00 08 58.5	
	comp=Z,11nm,1.0s						
THZ	**Tophouse**	**22.05**	**197**	P	**P**	**00 08 51.0**	**-1.6**
THZ				IAmb	IAmb	00 08 51.9	
	comp=Z,30nm,1.2s						
DSZ	**Denniston Nort**	**22.35**	**199**	P	**P**	**00 08 54.3**	**-1.0**
DSZ				IAmb	IAmb	00 09 13.1	
	comp=Z,33nm,1.1s						
KHZ	**Kahutara**	**22.49**	**196**	P	**P**	**00 08 56.5**	**+0.1**
GVZ	**Greta Valley S**	**23.13**	**196**	P	**P**	**00 09 00.2**	**-2.0**
LTZ	**Lake Taylor**	**23.17**	**197**	P	**P**	**00 08 59.5**	**-3.0**
LTZ				IAmb	IAmb	00 09 16.6	
	comp=Z,20nm,1.1s						
WHZ	**Wether Hill Ro**	**27.31**	**201**	P	**P**	**00 09 38.1**	**-0.8**
EIDS	**Eidsvold**	**28.27**	**255**	P	**P**	**00 09 48.4**	**+0.7**
EIDS				IAmb	IAmb	00 10 06.1	
	comp=Z,12nm,1.1s						
PATS	**Pohnpei**	**35.73**	**318**	P	**P**	**00 10 49.6**	**-1.3**
AS31	**Alice Springs**	**43.95**	**257**	P	**P**	**00 11 57.8**	**+1.1**
ASAR	**Alice Springs**	**43.96**	**257**	P	**P**	**00 11 57.4**	**+0.7**
ASAR	**Alice Springs**	**43.96**	**257**	P	**P**	**00 11 57.8**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=98,slow=7.7,SNR=18						
	comp=Z,2.0nm,0.6s						
WB0	**Warramunga Arr**	**44.04**	**263**	P	**P**	**00 11 58.0**	**+0.6**
WB0				IAmb	IAmb	00 12 02.3	
	comp=Z,4.6nm,1.1s						
WB2	**Warramunga Arr**	**44.05**	**263**	P	**P**	**00 11 58.0**	**+0.6**
WRA	**Warramunga Arr**	**44.06**	**263**	P	**P**	**00 11 57.8**	**+0.3**
WRA	**Warramunga Arr**	**44.06**	**263**	P	**P**	**00 11 58.3**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=97,slow=7.5,SNR=19						
	comp=Z,0.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.49**	**263**	P	**P**	**00 13 00.1**	**0.0**
MBWA	**Marble Bar**	**57.29**	**258**	P	**P**	**00 13 32.1**	**-1.4**
MBWA				IAmb	IAmb	00 13 39.6	
	comp=Z,9.8nm,1.1s						
VNDA	**Vanda**	**57.49**	**185**	P	**P**	**00 13 34.7**	**+0.9**
VNDA	**Vanda**	**57.49**	**185**	P	**P**	**00 13 34.8**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=10,slow=11,SNR=2.1						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**69.19**	**180**	P	**P**	**00 14 49.7**	**+0.8**
QSPA	**South Pole Qui**	**69.19**	**180**	P	**P**	**00 14 49.5**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=65,slow=2.0,SNR=12						
	comp=Z,1.1nm,0.6s						
YOJ	**Yonaguni jima**	**72.56**	**305**	P	**P**	**00 15 09.9**	**+0.8**
TPUB	**Ta-pu**	**73.77**	**303**	P	**P**	**00 15 15.8**	**-0.2**
TPUB				IAmb	IAmb	00 15 28.4	
	comp=Z,18nm,1.1s						
PEA0B	**Petropavlovsk-**	**76.51**	**346**	P	**P**	**00 15 30.5**	**-0.1**
PEA0B				IAmb	IAmb	00 15 50.4	
	comp=Z,19nm,1.1s						
P08K	**Saint George I**	**77.55**	**5**	P	**P**	**00 15 36.9**	**+0.8**
KMPM	**Mount Pierce**	**79.24**	**39**	P	**P**	**00 15 44.4**	**-1.3**
KMPM				IAmb	IAmb	00 15 52.4	
	comp=Z,19nm,1.2s						
R16K	**Pilot Point**	**80.09**	**11**	P	**P**	**00 15 50.5**	**+0.9**
AKASG	**Malin Array Be**	**143.10**	**330**	PKP	PKPbc	00 23 07.0	+0.5
	comp=Z,0.8nm,0.4s,baz=46,slow=4.0,SNR=8.0						

---

*SJA **05** 00:05:08.7±0.6, 20°.07S×67°.93W, h183km±11km, ML3.4, MW3.6*
*IDC **05** 00:05:09.7±1.7, 20°.06S×67°.66W, h170km±20km, mb3.4/2, mbtmp3.8/7, Error ellipse: s-maj=27.4km s-min=18.7km az=79.0*
*NEIC **05** 00:05:09.4±2.1, 20°.13S±0°.06×68°.1W±0°.1, h205km±9km, mb4.3/8, Error ellipse: s-maj=14.1km s-min=9.1km az=89.0*
*SCB **05** 00:05:10.3±1.4, 20°.06S×67°.94W, h175km±16km, ML3.5/3, MW3.5, Error ellipse: s-maj=4.5km s-min=4.3km az=358.0*
*GUC **05** 00:05:11.1±0.8, 20°.06S×68°.11W, h194km±4km, ML3.8*
ISC 05 00:05:08.7±0.6, 20°.09S±0°.04×67°.98W±0°.05, h189km±7km, n91, σ1§48/117, mb4.0/4, 9C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.11**	**267**		**Pn**	**00 05 39.7**	**+1.1**
PB08				Sn	**Sn**	**00 06 02.8**	**+1.3**
PB08	**IPOC Station P**	**1.11**	**267**	⇑*e*P	**Pn**	**00 05 39.9**	**+1.3**
PB08				*e*S	**Sn**	**00 06 02.5**	**+0.9**
PB08	**IPOC Station P**	**1.11**	**267**	*i* P	**Pn**	**00 05 38.9**	**+0.3**
PB08				IAML		00 06 04.5	
	comp=Z,178nm,0.4s						
PB08	**IPOC Station P**	**1.11**	**267**	Pg	**Pn**	**00 05 40.1**	**+1.5**
GO01	**Chusmiza**	**1.22**	**290**		**Pn**	**00 05 40.5**	**+0.9**
GO01				Sn	**Sn**	**00 06 05.2**	**+1.8**
GO01	**Chusmiza**	**1.22**	**290**	⇑*e*P	**Pn**	**00 05 40.5**	**+0.9**
GO01				*e*S	**Sn**	**00 06 03

TA02				IAML			00 06 16.9
	comp=Z,1μm,0.1s						
PB09	**IPOC Station P**	**2.07 215**			**Pn**		**00 05 48.5 +1.2**
PB09	**IPOC Station P**	**2.07 215⇑**		*eP*	**Pn**		**00 05 49.3 +1.9**
PB09				*eS*	**Sn**		**00 06 19.0 +1.5**
PB09	**IPOC Station P**	**2.07 215**	Pg		**Pn**		**00 05 49.5 +2.2**
TA01	**Diego Aracena**	**2.12 257**	Pn		**Pn**		**00 05 48.6 +0.9**
TA01	**Diego Aracena**	**2.12 257**		*eP*	**Pn**		**00 05 48.6 +0.9**
TA01				*eS*	**Sn**		**00 06 16.8 -1.2**
TA01				IAML			00 06 17.6
	comp=N,532nm,0.2s						
TA01	**Diego Aracena**	**2.12 257**	*i* P		**Pn**		**00 05 48.2 +0.5**
TA01			*i* S		**Sn**		**00 06 17.9 -0.1**
TA01				IAML			00 06 19.7
	comp=Z,151nm,0.4s						
PATCX	**Punta Patache**	**2.17 250**			**Pn**		**00 05 49.8 +1.5**
PATCX	**Punta Patache**	**2.17 250**		*eP*	**Pn**		**00 05 49.4 +1.1**
PATCX				*eS*	**Sn**		**00 06 18.4 -0.6**
PATCX				IAML			00 06 19.5
	comp=E,1μm,0.4s						
MOCB	**Mochara**	**2.48 118**	Pg		**Pn**		**00 05 53.6 +1.5**
MOCB			Sg		**Sn**		**00 06 26.4 +0.5**
MOCB				IAML			00 06 33.8
	comp=E,47nm,0.4s						
PB03	**IPOC Station P**	**2.56 220**		*eP*	**Pn**		**00 05 54.1 +1.3**
PB03				*eS*	**Sn**		**00 06 26.6 -0.6**
PB03				IAML			00 06 27.6
	comp=E,377nm,0.2s						
PB12	**IPOC Station P**	**2.66 303**	Pn		**Pn**		**00 05 54.4 +0.5**
PB12	**IPOC Station P**	**2.66 303⇑**		*eP*	**Pn**		**00 05 54.2 +0.2**
PB12				*eS*	**Sn**		**00 06 27.3 -1.8**
PB12				IAML			00 06 29.3
	comp=E,244nm,0.4s						
PB12	**IPOC Station P**	**2.66 303**	*i* P		**Pn**		**00 05 54.4 +0.5**
PB12			*i* S		**Sn**		**00 06 28.3 -0.8**
PB12				IAML			00 06 29.5
	comp=Z,114nm,0.4s						
AP01	**Chacalluta**	**2.81 307**	Pn		**Pn**		**00 05 56.3 +0.7**
AP01	**Chacalluta**	**2.81 307⇑**		*eP*	**Pn**		**00 05 56.1 +0.5**
AP01				*eS*	**Sn**		**00 06 30.7 -1.4**
AP01				IAML			00 06 31.9
	comp=E,513nm,0.4s						
AP01				IAML			00 06 35.0
	comp=N,357nm,0.4s						
AP01	**Chacalluta**	**2.81 307**		IAML			00 07 00.1
	comp=Z,252nm,0.2s						
SOET	**ToroToro**	**2.84 47**	Pg		**Pn**		**00 05 56.5 +0.2**
AF01	**San Pedro de A**	**2.85 184**	Pn		**Pn**		**00 05 56.5 +0.1**
AF01	**San Pedro de A**	**2.85 184**	IAML				00 07 30.2
	comp=Z,139nm,0.2s						
PB18	**Visviri**	**2.87 330**			**Pn**		**00 05 59.6 +2.9**
PB06	**IPOC Station P**	**3.00 209⇑**		*eP*	**Pn**		**00 05 59.6 +1.7**
PB06				*eS*	**Sn**		**00 06 36.1 -0.3**
PB06				IAML			00 06 37.4
	comp=E,474nm,0.3s						
PB06	**IPOC Station P**	**3.00 209**	*i* P		**Pn**		**00 05 58.9 +1.0**
PB06			*i* S		**Sn**		**00 06 36.1 -0.3**
PB06				IAML			00 06 39.5
	comp=Z,154nm,0.1s						
YJA	**Yavi**	**3.10 133**	*i* P		**Pn**		**00 06 00.1 +0.7**
YJA				IAML			00 06 41.6
	comp=Z,6.2nm,0.4s						
YJA	**Yavi**	**3.10 133**	Pg		**Pn**		**00 06 00.9 +1.5**
SOEJ	**Jacaque**	**3.10 356**	Pg		**Pn**		**00 06 01.6 +2.0**
AOEA	**Aiquile**	**3.21 54**	Pg		**Pn**		**00 06 01.0 +0.3**
AOEA	**Aiquile**	**3.21 54**	Pg		**Pn**		**00 06 01.1 +0.3**
PB05	**IPOC Station P**	**3.44 217**	Pn		**Pn**		**00 06 04.8 +1.5**
PB05	**IPOC Station P**	**3.44 217**		*eP*	**Pn**		**00 06 04.5 +1.2**
PB05				*eS*	**Sn**		**00 06 44.6 -1.5**
BBOD	**La Paz, Gloria**	**3.48 350**	Pg		**Pn**		**00 06 06.1 +1.8**
LPAZ	**La Paz**	**3.78 358**	P		**Pn**		**00 06 09.5 +1.5**
	comp=Z,4.5nm,0.4s,baz=164,slow=11,SNR=66						
LPAZ			S		**Sn**		**00 06 54.1 -0.3**
	comp=Z,14nm,0.7s,baz=180,slow=19,SNR=11						
LPAZ	**La Paz**	**3.78 358**	*i* P		**Pn**		**00 06 09.0 +0.9**
LPAZ				IAML			00 07 04.0
	comp=Z,8.9nm,1.0s						
LPAZ	**La Paz**	**3.78 358**	Pg		**Pn**		**00 06 09.6 +1.5**
PB14	**IPOC Station P**	**5.04 206**			**Pn**		**00 06 24.4 +0.7**
GO02	**Mina Guanaco**	**5.26 196**	Pn		**Pn**		**00 06 27.3 +0.7**
GO02	**Mina Guanaco**	**5.26 196**	IAML				00 07 29.6
	comp=Z,69nm,0.1s						
AC01	**Pan de Azucar**	**6.50 201**	Pn		**Pn**		**00 06 41.8 -0.4**
AC02	**Maricunga**	**6.80 189**	Pn		**Pn**		**00 06 47.2 +0.5**
AC06	**Mina Casimiro**	**7.56 196**	Pn		**Pn**		**00 06 55.1 -1.1**
SIV	**San Ignacio**	**7.73 59**	P		**Pn**		**00 06 55.7 -2.9**
	comp=Z,23nm,0.4s,baz=246,slow=12,SNR=105						
GO03	**Copiapo**	**7.75 195**	Pn		**Pn**		**00 06 57.6 -1.2**
AC04	**Llanos de Chal**	**8.56 199**	Pn		**Pn**		**00 07 06.9 -2.4**
AC05	**El Transito**	**8.96 193**			**Pn**		**00 07 13.3 -1.3**
LCO	**Las Campanas**	**9.22 195**	Pn		**Pn**		**00 07 15.7 -2.6**
PTLB	**Pontes e Lacer**	**9.60 63**			**Pn**		**00 07 21.2 -1.8**
CO01	**Juntas del Tor**	**10.03 191**	Pn		**Pn**		**00 07 27.7 -1.0**
VILB	**Vilhena**	**10.29 48**			**Pn**		**00 07 30.1 -1.9**
GO04	**Tololo Observa**	**10.36 194**	Pn		**Pn**		**00 07 30.6 -2.4**
CO03	**El Pedregal**	**10.98 192**	Pn		**Pn**		**00 07 39.8 -1.1**
CO02	**Combarbal**	**11.40 193**	Pn		**Pn**		**00 07 43.6 -2.6**
CFA	**Coronel Fontan**	**11.47 181**	P		**Pn**		**00 07 47.2 +0.1**
	comp=Z,0.5nm,0.3s,baz=14,slow=12,SNR=1.5						
CFA			S		**Sn**		**00 09 47.3 -7.5**
	comp=Z,1.3nm,0.4s,baz=90,slow=19,SNR=2.7						
CPUP	**Villa Florida**	**11.59 124**	Pn		**Pn**		**00 07 48.6 -0.1**
CPUP	**Villa Florida**	**11.59 124**	P		**Pn**		**00 07 46.9 -1.8**
	comp=Z,0.9nm,0.5s,baz=324,slow=11,SNR=4.8						
MT02	**Curacav**	**13.42 191**			**Pn**		**00 08 12.6 +0.8**
MT09	**Talagante**	**13.89 190**			**Pn**		**00 08 18.4 +0.6**
BO02	**Sierra Bellavi**	**14.86 189**			**Pn**		**00 08 28.6 -1.1**
ITAB	**Concordia**	**16.16 119**			**Pn**		**00 08 46.5 +1.0**
ITAB				IAmb	IAmb		00 08 48.2
	comp=Z,16nm,1.0s						
PLTB	**Pedras Altas**	**17.36 135**	P		**P**		**00 08 58.7 +0.3**
TRQA	**Tornquist**	**18.65 165**			**P**		**00 09 13.2 +1.0**
BDFB	**Brasilia**	**19.50 80**	P		**P**		**00 09 23.3 +1.5**
BDFB	**Brasilia**	**19.50 80**	P		**P**		**00 09 22.2 +0.3**
	comp=Z,1.0nm,0.3s,baz=270,slow=16,SNR=3.7						
VAO	**Valinhos**	**19.76 102**	P		**P**		**00 09 23.4 -1.1**
VAO			IAmb		IAmb		00 09 26.8
	comp=Z,13nm,1.3s						
MAL2	**Monte Alegre,**	**22.46 39**	P		**P**		**00 09 51.4 -0.9**
MAL2			IAmb		IAmb		00 10 16.3
	comp=Z,10nm,1.1s						
OTAV	**Otavalo**	**22.66 332**	P		**P**		**00 09 51.1 -3.5**
BOAV	**Boa Vista**	**23.51 19**	P		**P**		**00 10 01.7 -0.1**
BOAV			IAmb		IAmb		00 10 20.1
	comp=Z,9.1nm,1.4s						
SNAA	**Sanae**	**63.33 161**	P		**P**		**00 15 20.2 +2.9**
	comp=Z,2.0nm,1.1s,baz=310,slow=11,SNR=2.0						
	comp=Z,2.0nm,1.1s						
QSPA	**South Pole Qui**	**70.10 180**	P		**P**		**00 16 04.0 +3.8**
	comp=Z,0.8nm,0.9s,baz=112,slow=19,SNR=1.2						
	comp=Z,0.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.06 70**	P		**P**		**00 16 36.2 +0.4**
	comp=Z,41nm,0.3s,baz=258,slow=4.8,SNR=1.4						
MKAR	**Makanchi Array**	**143.98 35**	PKP		**PKiKP**		**00 24 23.7 -1.6**
	comp=Z,0.2nm,0.6s,baz=327,slow=2.4,SNR=2.2						

*LDG **05** 00:11:43.6±0.1, 49.°45N×7.°25E, h5km, Ml2.1/17, Error ellipse: s-maj=2.4km s-min=1.7km az=7.0*
STR 05 00:11:44.1±0.4, 49.°N±2.°×.°±.°, h15km±2km, MLv1.9/7, Error ellipse: s-maj=0.0km s-min=0.0km az=51.5, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABH	**Alteburg**	**0.45**	**17**	Pg	Pg	00 11 52.6	-0.6
ABH				Sg	Sg	00 11 58.9	-0.4
LEMB	**Lembach**	**0.50**	**146**	Pg	Pg	00 11 53.3	-0.6
LEMB				Sg	Sb	00 12 01.5	-0.2
VOEL	**Voellerdingen**	**0.50**	**196**	Pg	Pg	00 11 53.9	-0.1
VOEL				Sg	Sg	00 12 00.8	0.0
CIEL	**Dossenheim-sur**	**0.62**	**178**	Pg	Pg	00 11 55.8	-0.4
CIEL				Sg	Sg	00 12 04.3	-0.1
SZBH	**soultz borehol**	**0.62**	**146**	Pg	Pg	00 11 56.1	-0.2
SZBH				Sg	Sb	00 12 04.9	-0.3
NEEW	**Neewiller pres**	**0.70**	**134**	Pg	Pg	00 11 57.7	-0.1
NEEW				Sg	Sb	00 12 07.6	-0.1
HOHE	**HOHENGOEFT**	**0.80**	**173**	Pg	Pg	00 11 59.1	-0.4
HOHE				Sg	Sb	00 12 10.5	+0.2
WLF	**Walferdange**	**0.80**	**286**	Pg	Pb	00 12 00.0	+0.2
WLF	**Walferdange**	**0.80**	**286**	Sg	Sg	00 12 10.1	-0.1
BABA	**Baden-Baden-Ne**	**0.92**	**142**	Pg	Pb	00 12 01.5	-0.3
BABA	**Baden-Baden-Ne**	**0.92**	**142**	Sg	Sg	00 12 14.2	+0.2
WLS	**Welschbruch**	**1.04**	**179**	Pg	Pb	00 12 03.2	-0.6
WLS				Sg	Sb	00 12 17.4	+0.2
CDF	**Champ du Feu**	**1.04**	**182**	*e*Pg	Pb	00 12 03.0	-0.9
CDF				*e*Sg	Sb	00 12 16.1	-1.2
	6.3nm,0.2s						
OPP	**Oppenau**	**1.10**	**149**	Pn	Pb	00 12 03.9	-1.1
OPP	**Oppenau**	**1.10**	**149**	Sn	Sb	00 12 19.3	+0.2
MANO	**Manonville**	**1.12**	**237**	Pn	Pb	00 12 04.5	-0.6
MANO				Sn	Sn	00 12 20.4	0.0
XAFF	**Xaffevillers**	**1.15**	**205**	Pn	Pb	00 12 04.9	-0.7
XAFF				Sn	Sn	00 12 21.0	-0.1
ZELS	**Zelsheim**	**1.16**	**170**	Pn	Pn	00 12 04.7	-1.1
ECH	**Echery**	**1.24**	**186**	Pn	Pn	00 12 05.8	-1.2
ECH				Sn	Sb	00 12 22.9	-0.2
ECH	**Echery**	**1.24**	**186**	Pn	Pn	00 12 05.6	-1.3
ECH				Sn	Sb	00 12 23.1	0.0
PAGF	**Fort de Pagny**	**1.39**	**230**	*e*Pg	Pn	00 12 08.3	-0.7
PAGF	**Fort de Pagny**	**1.39**	**230**	*e*P	Pg	00 12 10.3	-0.5
PAGF				*e*Sg	Sn	00 12 25.8	-1.3
	2.8nm,0.2s						
ETNF	**Estrennes**	**1.47**	**216**	Sn	Sn	00 12 29.0	0.0
ETNF	**Estrennes**	**1.47**	**216**	Pn	Pn	00 12 08.9	-1.1
WALT	**Westhalten**	**1.48**	**182**	Pn	Pn	00 12 08.9	-1.4
WALT				Sn	Sn	00 12 29.2	-0.3
KIZ	**Kirchzarten**	**1.54**	**165**	Sn	Sn	00 12 31.3	+0.4
KIZ	**Kirchzarten**	**1.54**	**165**	Pn	Pn	00 12 10.0	-1.1
HAU	**Haudompre**	**1.59**	**205**	*e*Pg	Pn	00 12 12.1	+0.4
HAU				*e*Sg	Sb	00 12 32.6	-0.4
	4.4nm,0.2s						
HINF	**Hinteralfeld**	**1.67**	**191**	*e*Pg	Pb	00 12 13.9	-0.6
HINF				*e*Sg	Sb	00 12 35.3	0.0
	4.5nm,0.2s						
SAVF	**Savonnieres en**	**1.68**	**241**	*e*Pg	Pb	00 12 14.2	-0.5
	baz=60						
SAVF	**Savonnieres en**	**1.68**	**241**	*e*Pg	Pb	00 12 15.4	+0.7
SAVF				*e*Sg	Sn	00 12 34.1	-0.1
	1.9nm,0.2s						
SAVF				*e*Sg	Sb	00 12 34.3	-1.4
	1.2nm,0.2s						
GIVF	**Givet**	**1.76**	**293**	*e*Sg	Sb	00 12 37.2	-0.7
	3.0nm,0.2s						
MEZF	**Maizieres J'vi**	**1.78**	**239**	*e*Pg	Pb	00 12 16.3	-0.1
MEZF				*e*Sg	Sb	00 12 38.1	-0.5
	0.5nm,0.1s						
SFTF	**Sexfontaines**	**1.96**	**232**	*e*P	Pn	00 12 17.6	+0.7
SFTF				*e*Sg	Sb	00 12 43.7	-0.2
	5.0nm,0.1s						
BAIF	**Baives**	**2.12**	**288**	*e*Sg	Sb	00 12 48.5	+0.1
	1.6nm,0.4s						
CABF	**La Chapelle**	**2.96**	**197**	*e*P	Pn	00 12 31.7	+1.0
CABF				*e*Sg	Sb	00 13 15.5	+2.8
	1.1nm,0.3s						
LOR	**Lormes**	**3.18**	**228**	*e*Sn	Sn	00 13 07.8	-3.6
	0.4nm,0.2s						
LOR				*e*Sg	Sb	00 13 21.8	+2.8
	0.5nm,0.2s						
SSF	**Saint Saulge**	**3.50**	**228**	*e*Pg	Pb	00 12 46.6	+0.8
SSF				*e*Sn	Sn	00 13 16.1	-3.1
SSF				*e*Sg	Sb	00 13 31.6	+3.5
	0.5nm,0.2s						

JMA 05 00:20:10.4±0.2, 38.°0N±0.°9×14.°4E±.°, h44km, MV3.5/29, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.28**	**280**	P	Pn	00 20 46.7	+1.1
JIKH				*e*S	Sn	00 21 13.4	+1.1
OFUJ	**Ofunato**	**2.36**	**299**	P	Pn	00 20 48.0	+1.3
JIO	**Ouri**	**2.39**	**283**	P	Pn	00 20 48.6	+1.5
JIO				S	Sn	00 21 16.7	+1.5
JKMT	**Kesennumamotoy**	**2.39**	**292**	P	Pn	00 20 48.5	+1.4
JMK	**Ichinoseki**	**2.63**	**293**	P	Pn	00 20 52.0	+1.7
JOM	**Ohasama**	**2.81**	**303**	P	Pn	00 20 55.0	+2.2
JOTO	**OTAMA OYAMA**	**3.19**	**264**	*e*S	Sn	00 21 36.7	+1.9
JANG	**Nango**	**3.25**	**319**	*e*P	Pn	00 20 59.9	+1.1
JYK	**Kaneyama**	**3.25**	**288**	*e*P	Pn	00 21 01.2	+2.2
JYK				*e*S	Sn	00 21 39.6	+3.2
JCH	**Churui**	**4.70**	**351**	P	Pn	00 21 18.5	-0.3
JCH				*e*S	Sn	00 22 08.8	-3.2
JRY	**Ryogami san**	**4.75**	**248**	*e*P	Pn	00 21 20.6	+1.1
JRY				S	Sn	00 22 12.5	-0.9
NEM2	**Nemuro 2**	**5.50**	**11**	*e*P	Pn	00 21 27.0	-2.8
NEM2				*e*S	Sn	00 22 25.9	-5.8
JTKR	**Abashiri--Toko**	**6.01**	**357**	P	Pn	00 21 36.2	-0.5
JTKR				*e*S	Sn	00 22 38.7	-5.5

*TAP **05** 00:34:19.7, 23.°00N×120.°86E, h4km, ML2.2, C*
ISC 05 00:34:20.3±0.9, 22.°99N±0.°02×120.°86E±0.°02, h9km±8km, n65, σ0.°67/93, 3C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.20**	**337**	P	**Pg**	**00 34 23.4**	**-1.0**
STYT	**Tauyuan**	**0.20**	**332⇑**	*i*P	**Pg**	**00 34 23.7**	**-0.7**
STYT				*i*S	**Sg**	**00 34 26.6**	**-0.6**
ELDTW	**Lidau**	**0.25**	**36**	*i*P	**Pg**	**00 34 25.0**	**-0.3**
ELDTW				*i*S	**Sg**	**00 34 28.7**	**0.0**
TWG	**Pinlang**	**0.26**	**130⇓**	*i*P	**Pg**	**00 34 26.0**	**+0.5**
TWG				*i*S	**Sg**	**00 34 30.0**	**+1.0**
LONT	**Longtian**	**0.26**	**108**	P	**Pg**	**00 34 25.9**	**+0.4**
LONT				S	**Sg**	**00 34 29.9**	**+0.7**
TWGBT	**Beinan**	**0.27**	**130**	P	**Pg**	**00 34 25.7**	**+0.1**
TWGBT	**Beinan**	**0.27**	**130**	S	**Sg**	**00 34 30.1**	**+0.9**
TWGBT	**Beinan**	**0.27**	**130⇓**	*i*P	**Pg**	**00 34 25.9**	**+0.3**
TWGBT				*i*S	**Sg**	**00 34 30.1**	**+0.9**
SGST	**Jiashian**	**0.27**	**290**	*i*P	**Pg**	**00 34 25.6**	**-0.1**
SGST				*i*S	**Sg**	**00 34 30.0**	**+0.7**
WTP	**Ta-pu**	**0.34**	**319⇓**	*i*P	**Pb**	**00 34 28.1**	**-0.5**
WTP				*i*S	**Sb**	**00 34 33.9**	**-0.2**
TSMG	**Majia**	**0.34**	**215**	*i*P	**Pg**	**00 34 26.7**	**-0.4**
TSMG				*i*S	**Sg**	**00 34 30.7**	**-1.0**
ECS	**Chishang**	**0.35**	**72**	P	**Pg**	**00 34 27.5**	**+0.3**
ECS				S	**Sb**	**00 34 33.0**	**-1.4**
SCST	**Cishan**	**0.35**	**253**	P	**Pb**	**00 34 28.2**	**-0.5**
TTN	**Taitung**	**0.35**	**131**	P	**Pg**	**00 34 27.9**	**+0.7**
TTN				S	**Sb**	**00 34 33.6**	**-0.8**
EHD	**Haiduan**	**0.36**	**63**	*i*P	**Pg**	**00 34 27.1**	**-0.2**
EHD				*i*S	**Sg**	**00 34 31.8**	**-0.3**
CHN1	**Nanshi**	**0.36**	**303**	*i*P	**Pb**	**00 34 28.9**	**0.0**
CHN1				S	**Sb**	**00 34 35.1**	**+0.3**
TPUB	**Ta-pu**	**0.38**	**326**	P	**Pb**	**00 34 28.6**	**-0.6**
TPUB	**Ta-pu**	**0.38**	**326**	P	**Pn**	**00 34 34.7**	**+2.8**
TPUB	**Ta-pu**	**0.38**	**326**	*i*P	**Pb**	**00 34 28.8**	**-0.3**
TPUB				S	**Pn**	**00 34 34.8**	**+2.8**
ECL	**Taimali**	**0.40**	**167**	P	**Pg**	**00 34 28.2**	**+0.1**
ECL				S	**Sg**	**00 34 33.3**	**-0.1**
SNST	**Tainan City**	**0.40**	**305**	P	**Pb**	**00 34 30.1**	**+0.5**
EDH	**Donghe**	**0.41**	**92**	P	**Pb**	**00 34 29.7**	**0.0**
EDH				S	**Sb**	**00 34 35.4**	**-0.7**
MASBT	**Mashibuluo**	**0.43**	**209⇑**	*i*P	**Pg**	**00 34 28.5**	**-0.2**
MASBT				S	**Sg**	**00 34 33.7**	**-0.6**
SGLT	**Jiouru**	**0.43**	**232**	*e*P	**Pb**	**00 34 29.8**	**-0.3**
CHN4	**Tsaushan**	**0.44**	**326**	*i*P	**Pb**	**00 34 30.3**	**+0.1**
CHN4				*i*S	**Sb**	**00 34 38.3**	**+1.4**
TWK	**Hsinying**	**0.44**	**309⇑**	*i*P	**Pb**	**00 34 30.6**	**+0.3**
FULB	**Fuli**	**0.45**	**62**	P	**Pb**	**00 34 29.9**	**-0.6**
FULB				S	**Sb**	**00 34 36.4**	**-0.9**
SHHT	**Tainan City**	**0.47**	**274**	*e*P	**Pn**	**00 34 32.5**	**-0.8**
CHKT	**Chengkung**	**0.48**	**77**	*e*P	**Pb**	**00 34 30.5**	**-0.4**
CHKT				*e*S	**Sb**	**00 34 38.9**	**+0.8**
WCKO	**Fanlu**	**0.51**	**332**	P	**Pb**	**00 34 31.2**	**-0.2**
WCKO				S	**Sb**	**00 34 39.9**	**+1.1**
ALS	**Alishan**	**0.52**	**355**	*i*P	**Pg**	**00 34 30.6**	**+0.1**
ALS				S	**Sb**	**00 34 39.7**	**+0.1**
CHKH	**Chenggong**	**0.53**	**68**	*e*P	**Pn**	**00 34 33.2**	**-0.9**
TWF1	**Yuli**	**0.54**	**48**	P	**Pg**	**00 34 30.8**	**0.0**
TWF1				S	**Sg**	**00 34 38.1**	**+0.1**
EYUL	**Yuli**	**0.55**	**50**	*e*P	**Pg**	**00 34 30.9**	**-0.1**
YULB	**Yu-li**	**0.57**	**45**	P	**Pg**	**00 34 30.8**	**-0.5**
YULB	**Yu-li**	**0.57**	**45**	S	**Sg**	**00 34 38.2**	**-0.6**
YULB	**Yu-li**	**0.57**	**45**	*i*P	**Pg**	**00 34 31.1**	**-0.2**
YULB				S	**Sb**	**00 34 39.8**	**-0.9**
SSPT	**Xinbi**	**0.57**	**208**	*e*P	**Pb**	**00 34 32.7**	**+0.3**
EAST	**Anshuo**	**0.60**	**181**	P	**Pg**	**00 34 32.1**	**+0.2**
EAST				S	**Sg**	**00 34 39.7**	**-0.1**
CHN5	**Tsauling**	**0.63**	**345**	P	**Pb**	**00 34 33.2**	**-0.3**
ECBN	**Changbin**	**0.64**	**59**	*e*P	**Pb**	**00 34 33.8**	**+0.2**
LDUT	**Ludao**	**0.65**	**119**	*e*P	**Pb**	**00 34 33.6**	**-0.1**
SCZT	**Fangliau**	**0.65**	**200**	P	**Pg**	**00 34 32.5**	**-0.3**
SCZT				*e*S	**Sg**	**00 34 41.3**	**-0.1**
EHY	**Hungye**	**0.67**	**40**	P	**Pg**	**00 34 32.6**	**-0.6**
EHY				*e*S	**Sg**	**00 34 42.5**	**+0.6**
EHYH	**Wanrong**	**0.67**	**42**	*e*P	**Pg**	**00 34 33.1**	**-0.2**
WHYT	**Xinyi Township**	**0.70**	**360**	*e*P	**Pg**	**00 34 34.0**	**+0.1**
HGSD	**Ruisui**	**0.72**	**46**	P	**Pb**	**00 34 35.0**	**0.0**
HGSD				*e*S	**Sb**	**00 34 45.6**	**+0.6**
SLIU	**Shizi**	**0.77**	**184**	*e*P	**Pg**	**00 34 34.4**	**-0.7**
WSL	**Shuilin Townsh**	**0.79**	**313**	*e*P	**Pn**	**00 34 37.8**	**+0.3**
SSLB	**Suanglung**	**0.80**	**6**	P	**Pg**	**00 34 35.7**	**0.0**
SSLB	**Suanglung**	**0.80**	**6**	*e*P	**Pg**	**00 34 34.7**	**-1.0**
VWDT	**VWDT**	**0.80**	**19**	*e*P	**Pg**	**00 34 35.9**	**+0.1**
WARBT	**Fenglin Townsh**	**0.87**	**34**	*e*P	**Pg**	**00 34 37.0**	**-0.1**
SMLT	**Sun Moon Lake**	**0.89**	**2**	*e*P	**Pg**	**00 34 37.3**	**-0.2**
TYC	**Yuchr**	**0.91**	**360**	*e*P	**Pg**	**00 34 37.5**	**-0.4**
ESL	**Shilin**	**0.98**	**33**	*e*P	**Pg**	**00 34 38.6**	**-0.4**
SHUL	**Shoufeng**	**1.02**	**39**	*e*P	**Pg**	**00 34 39.6**	**-0.3**
WUSB	**Renai**	**1.03**	**13**	*e*P	**Pg**	**00 34 40.0**	**-0.1**
WCS	**Beigang Elemen**	**1.06**	**3**	*e*P	**Pn**	**00 34 41.3**	**-0.1**
WHP	**Taichung City**	**1.28**	**4**	*e*P	**Pg**	**00 34 45.0**	**0.0**
NACB	**Ninganchiao**	**1.36**	**30**	P	**Pb**	**00 34 45.8**	**-0.1**
NACB	**Ninganchiao**	**1.36**	**30**	S	**Sg**	**00 35 04.0**	**0.0**
NACB	**Ninganchiao**	**1.36**	**30**	*i*P	**Pb**	**00 34 46.0**	**+0.1**
NACB				*i*S	**Sg**	**00 35 04.0**	**0.0**
NNSB	**Datong**	**1.51**	**18**	*e*P	**Pg**	**00 34 49.0**	**-0.3**
YHNB	**Yeheng**	**1.74**	**16**	P	**Pb**	**00 34 52.5**	**0.0**

*DJA **05** 00:42:34.4±0.6, 2.°N±3.°×9.°9E±.°, h129km±6km, M3.6/11, mb3.7/1, MLv3.6/11*
*IDC **05** 00:42:36.5±1.9, 2.°05N×99.°33E, h118km±10km, mb3.3/4, mbtmp3.7/5, Error ellipse: s-maj=119.7km s-min=20.3km az=56.0*
ISC 05 00:42:35.1±0.9, 1.°91N±0.°05×99.°02E±0.°10, h100km, n13, σ2.°19/13, mb3.8/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.89**	**354**	P	**Pn**	**00 42 57.4**	**+2.8**
	6.2nm,0.3s,baz=176,slow=13,SNR=7.3						
PSI				S	**Sn**	**00 43 12.2**	**+3.1**
	22nm,0.5s,baz=51,slow=21,SNR=24						
MNSI	**Mandailing Nat**	**1.24**	**153**	P	**Pn**	**00 43 01.4**	**+3.1**
GSI	**Gunungsitoli**	**1.57**	**247**	P	**Pn**	**00 43 04.4**	**+2.1**
PBSI	**Pulau Batu**	**2.09**	**201**	P	**Pn**	**00 43 10.6**	**+1.7**
PBSI				S	**Sn**	**00 43 36.6**	**+1.9**
SNSI	**Sinabang, Aceh**	**2.74**	**280**	P	Pn	00 43 16.0	-1.4
SISI	**Saibi**	**3.22**	**179**	P	**Pn**	**00 43 23.4**	**-0.4**
MLSI	**Meulaboh, Aceh**	**3.51**	**312**	P	Pn	00 43 24.9	-2.9
BSI	**Banda Aceh**	**5.15**	**314**	P	**Pn**	**00 43 49.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.45**	**360**	P	**Pn**	**00 46 18.8**	**-1.2**
	1.2nm,0.3s,baz=169,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**40.89**	**124**	P	**P**	**00 50 05.7**	**-2.1**
	0.9nm,0.4s,baz=299,slow=8.1,SNR=14						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**47.02**	**344**	P	**P**	**00 50 55.7**	**-0.7**
	0.3nm,0.5s,baz=152,slow=9.0,SNR=6.3						
	0.3nm,0.5s						
KURBB	**Kurchatov

n62,σ0°57/93, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.34**	**319**	*i* P	**Pb**	**01 04 48.5**	**+0.2**
EOS4				*i* S	**Sb**	**01 04 53.8**	**+0.4**
EOS3	**EOS3**	**0.48**	**332**	*i* P	**Pb**	**01 04 51.0**	**+0.3**
EOS3				S	**Sb**	**01 04 57.7**	**+0.4**
EOS2	**EOS2**	**0.63**	**331**	*i* P	**Pn**	**01 04 53.9**	**-0.2**
EOS2				*i* S	**Sn**	**01 05 03.3**	**0.0**
JYNG	**Yonagunijimaku**	**0.68**	**31**	*e*P	**Pb**	**01 04 53.6**	**-0.5**
YOJ	**Yonaguni jima**	**0.72**	**34**	*e*P	**Pb**	**01 04 54.5**	**-0.4**
YOJ				*e*S	**Sb**	**01 05 03.1**	**-1.3**
YOJ	**Yonaguni jima**	**0.72**	**34**	P	**Pb**	**01 04 54.0**	**-0.9**
YOJ				S	**Sb**	**01 05 03.3**	**-1.1**
TWD	**Chiawan**	**0.91**	**284**	*e*P	**Pn**	**01 04 58.3**	**+0.2**
TWD				*e*S	**Sn**	**01 05 10.9**	**+0.5**
SHUL	**Shoufeng**	**0.92**	**265**	*e*P	**Pb**	**01 04 56.4**	**-1.8**
SHUL				*e*S	**Sn**	**01 05 11.8**	**+1.2**
EWUT	**Wuta**	**0.92**	**309**	*e*P	**Pn**	**01 04 58.3**	**0.0**
EWUT				*e*S	**Sn**	**01 05 10.9**	**+0.2**
ENA	**Nanau**	**0.94**	**307**	P	**Pn**	**01 04 58.8**	**+0.3**
ENA				*e*S	**Sn**	**01 05 10.9**	**-0.1**
NACB	**Ninganchiao**	**0.94**	**289**	*e*S	**Sb**	**01 05 10.7**	**+0.1**
ESAO	**Su ao**	**0.97**	**317**	P	**Pb**	**01 04 58.9**	**-0.2**
ESAO				*i* S	**Sn**	**01 05 11.4**	**-0.4**
ETM	**Tongmen**	**0.99**	**276**	*e*P	**Pn**	**01 04 58.4**	**-0.8**
ETM				*e*S	**Sn**	**01 05 13.5**	**+1.2**
TWC	**Suao**	**0.99**	**319**	P	**Pn**	**01 04 58.7**	**-0.4**
TWC				S	**Sb**	**01 05 11.6**	**-0.4**
ESL	**Shilin**	**1.04**	**268**	*e*P	**Pn**	**01 04 59.5**	**-0.3**
ETLH	**Xiulin Townshi**	**1.05**	**289**	*e*P	**Pn**	**01 04 59.7**	**-0.3**
ETLH				*e*S	**Sn**	**01 05 14.1**	**+0.2**
EGFH	**Guangfu**	**1.06**	**260**	*e*S	**Sn**	**01 05 14.5**	**+0.5**
NDS	**Dongshan**	**1.09**	**315**	*e*P	**Pb**	**01 05 01.2**	**+0.1**
WARBT	**Fenglin Townsh**	**1.09**	**263**	*e*P	**Pn**	**01 05 00.6**	**0.0**
WARBT				S	**Sn**	**01 05 14.9**	**+0.1**
HGSD	**Ruisui**	**1.11**	**251**	P	**Pn**	**01 05 00.9**	**+0.1**
HGSD				*i* S	**Sn**	**01 05 15.2**	**-0.1**
HATJ	**Hateruma jima**	**1.15**	**80**	*e*S	**Sb**	**01 05 17.5**	**+0.8**
ECBN	**Changbin**	**1.16**	**242**	*e*S	**Sn**	**01 05 16.7**	**+0.3**
LATG	**Datong**	**1.16**	**305**	*e*P	**Pb**	**01 05 02.7**	**+0.3**
IRIF	**Iriomote-Funau**	**1.16**	**66**	*e*S	**Sb**	**01 05 17.2**	**+0.2**
TWE	**Neicheng**	**1.18**	**316**	P	**Pb**	**01 05 02.9**	**+0.2**
TWE				S	**Sb**	**01 05 18.7**	**+1.1**
EHY	**Hungye**	**1.19**	**253**	*e*P	**Pn**	**01 05 01.4**	**-0.6**
EHY				*e*S	**Sb**	**01 05 18.3**	**+0.4**
ENTT	**Nioudou**	**1.20**	**310**	*e*P	**Pb**	**01 05 03.1**	**+0.2**
NNSB	**Datong**	**1.22**	**298**	*e*P	**Pb**	**01 05 03.2**	**-0.2**
NNS	**Nan Shan**	**1.23**	**298**	*e*P	**Pb**	**01 05 03.0**	**-0.6**
EYUL	**Yuli**	**1.25**	**246**	*e*P	**Pn**	**01 05 03.4**	**+0.7**
EYUL				S	**Sb**	**01 05 19.9**	**+0.3**
YULB	**Yu-li**	**1.25**	**248**	*i* P	**Pb**	**01 05 03.6**	**-0.3**
YULB				*e*S	**Sn**	**01 05 19.4**	**+0.5**
TWB1	**Santiao Chiao**	**1.25**	**335**	*e*P	**Pb**	**01 05 03.6**	**-0.4**
FUSB	**Fushanzhiwuyua**	**1.26**	**315**	*e*P	**Pb**	**01 05 04.2**	**+0.1**
CHKH	**Chenggong**	**1.27**	**238**	*e*P	**Pn**	**01 05 03.0**	**0.0**
CHKH				*i* S	**Sn**	**01 05 18.1**	**-1.0**
FUSS	**Fushou**	**1.27**	**288**	*e*P	**Pb**	**01 05 04.5**	**+0.2**
FUSS				*e*S	**Sb**	**01 05 20.8**	**+0.5**
TWF1	**Yuli**	**1.27**	**247**	*i* P	**Pb**	**01 05 03.8**	**-0.4**
TWF1				*i* S	**Sb**	**01 05 20.4**	**+0.3**
OWD	**Renai**	**1.27**	**274**	*e*P	**Pn**	**01 05 02.0**	**-1.2**
OWD				*e*S	**Sb**	**01 05 20.6**	**+0.2**
TIPB	**Shuangxi**	**1.29**	**329**	*i* P	**Pb**	**01 05 04.5**	**-0.1**
TIPB				*i* S	**Sb**	**01 05 21.1**	**+0.3**
VWDT	**VWDT**	**1.31**	**265**	*e*P	**Pb**	**01 05 04.4**	**-0.4**
VWDT				*e*S	**Sb**	**01 05 21.3**	**+0.1**
TWT	**Tachien**	**1.33**	**287**	*e*P	**Pb**	**01 05 05.5**	**+0.2**
NWT	**Wulai**	**1.33**	**313**	*e*P	**Pb**	**01 05 05.7**	**+0.4**
WUSB	**Renai**	**1.33**	**276**	*e*P	**Pb**	**01 05 05.2**	**-0.1**
CHKT	**Chengkung**	**1.34**	**236**	*e*P	**Pb**	**01 05 04.9**	**-0.5**
CHKT				*i* S	**Sn**	**01 05 20.3**	**-0.6**
FULB	**Fuli**	**1.34**	**241**	*e*P	**Pn**	**01 05 04.3**	**+0.2**
FULB				*e*S	**Sn**	**01 05 21.4**	**+0.4**
YHNB	**Yeheng**	**1.35**	**307**	*e*P	**Pb**	**01 05 05.4**	**-0.2**
NSK	**Sanguang**	**1.37**	**307**	*e*P	**Pb**	**01 05 05.5**	**-0.4**
JKRS	**Kuro-shima**	**1.37**	**74**	*e*S	**Sb**	**01 05 23.3**	**+0.3**
SXI1	**Grass Mountain**	**1.38**	**333**	*e*P	**Pb**	**01 05 05.2**	**-0.9**
TWA	**Mucha**	**1.43**	**321**	*e*P	**Pb**	**01 05 06.7**	**-0.2**
EHD	**Haiduan**	**1.44**	**241**	*e*P	**Pn**	**01 05 04.9**	**-0.4**
EDH	**Donghe**	**1.46**	**233**	*e*P	**Pn**	**01 05 05.7**	**+0.1**
EDH				S	**Sn**	**01 05 23.0**	**-0.9**
JIJ	**Ishigaki jima**	**1.52**	**71**	*e*P	**Pb**	**01 05 08.3**	**-0.3**
JIJ				*e*S	**Sb**	**01 05 27.4**	**0.0**
WCS	**Beigang Elemen**	**1.52**	**278**	*e*P	**Pn**	**01 05 07.0**	**+0.5**
NFF	**Wufeng Townshi**	**1.53**	**300**	P	**Pb**	**01 05 09.1**	**+0.5**
WHP	**Taichung City**	**1.54**	**286**	*e*P	**Pb**	**01 05 08.0**	**-0.8**
KSHI	**Guanxi Townshi**	**1.56**	**306**	*e*P	**Pb**	**01 05 08.6**	**-0.5**
YM01	**YM01**	**1.57**	**325**	*e*P	**Pn**	**01 05 06.0**	**-1.1**
WHYT	**Xinyi Township**	**1.58**	**264**	*e*P	**Pb**	**01 05 09.1**	**-0.4**
LIOB	**Emei**	**1.61**	**299**	*e*P	**Pb**	**01 05 10.2**	**+0.1**
NSTT	**Nanjuang**	**1.62**	**298**	*e*P	**Pb**	**01 05 09.6**	**-0.5**
JISG	**Ishigakijimahi**	**1.75**	**65**	*e*P	**Pn**	**01 05 10.9**	**+1.3**
JISG				*e*S	**Sn**	**01 05 31.7**	**+0.6**
STYH	**Taoyuan**	**1.78**	**248**	*e*P	**Pn**	**01 05 10.5**	**+0.4**
STYH				S	**Sn**	**01 05 32.5**	**+0.6**

*ISN **05** 01:16:07.8±0.3, 33°.66N×45°.79E, h14km±9km, ML2.5*
*TEH **05** 01:16:07.9, 33°.69N×45°.84E, h10km±608km*
ISC 05 01:16:08.1±1.0, **33°.68N**±0°.04×**45°.82E**±0°.05, **h19**km, **n8,**
σ0°74/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.43**	**9**	Pg	**Pg**	**01 16 16.2**	**-0.9**
IBDR	**Badra**	**0.58**	**171**	*e*Pg	**Pb**	**01 16 19.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**01 16 27.0**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.84**	**347**	Pg	**Pb**	**01 16 24.4**	**+0.3**
IGHG	**Ghaleghazi**	**0.89**	**44**	Pg	**Pb**	**01 16 25.3**	**+0.2**
IDHR	**Dehrash**	**1.12**	**25**	Pg	**Pn**	**01 16 29.5**	**+0.6**
KCHF	**Cheshme Sefid,**	**1.17**	**59**	Pg	**Pn**	**01 16 30.1**	**+0.5**
BHD	**Baghdad**	**1.27**	**252**	*e*Pn	**Pg**	**01 16 32.5**	**-0.2**
BHD				*e*Sn	**Sg**	**01 16 50.5**	**+1.1**
IKRK	**Kirkuk**	**2.11**	**325**	*e*Pn	**Pb**	**01 16 44.5**	**-1.2**
IKRK				*e*Sn	**Sb**	**01 17 11.5**	**+0.1**

*PGC **05** 01:22:43.1±0.2, 49°.33N×127°.87W, h10km, MLSn2.8/33, Mw3.4/33, 120km south of Port Alice, Bc Vancouver Island, Canada Region*
*IDC **05** 01:22:43.1±2.6, 49°.49N×127°.96W, h0km, mb3.0/1, mbtmp3.1/5, ML3.2/4, MS2.6/2, Error ellipse: s-maj=52.1km s-min=14.3km az=66.0*
ISC 05 01:22:42.2±1.3, **49°.38N**±0°.04×**127°.85W**±0°.04, **h10**km±9km,
n52,σ2°23/65, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPEB	**Brooks Peninsu**	**0.78**	**3**	P	**Pb**	**01 22 58.3**	**+0.3**
NTKA	**Nootka**	**0.83**	**74**	P	**Pg**	**01 22 58.5**	**+0.3**
NTKA				S	**Sg**	**01 23 09.2**	**+0.3**
ETB	**Estevan Point**	**0.85**	**90**	P	**Pg**	**01 22 59.1**	**+0.5**
NC89	**ODP889**	**0.96**	**137**	P	**Pg**	**01 23 00.1**	**-0.6**
NC89				S	**Sg**	**01 23 11.4**	**-1.8**
PACB	**Port Alice, BC**	**1.08**	**12**	P	**Pg**	**01 23 02.7**	**-0.3**
PACB				S	**Sg**	**01 23 16.2**	**-1.0**
MAYB	**Maynard**	**1.12**	**23**	P	**Pg**	**01 23 03.6**	**-0.1**
MAYB				S	**Sg**	**01 23 18.0**	**-0.2**
WOSB	**Woss**	**1.14**	**46**	P	**Pg**	**01 23 03.8**	**-0.3**
WOSB				S	**Sg**	**01 23 18.5**	**-0.4**
HOLB	**Holberg**	**1.28**	**352**	P	**Pg**	**01 23 05.2**	**-1.6**
HOLB				S	**Sg**	**01 23 20.6**	**-2.7**
MYRA	**Myra Falls**	**1.49**	**82**	P	**Pn**	**01 23 08.2**	**-0.9**
MYRA				S	**Sn**	**01 23 26.0**	**-2.7**
NCSB	**Newcastle Ridg**	**1.55**	**48**	Pn	**Pn**	**01 23 10.1**	**+0.1**
NCSB				Sn	**Sn**	**01 23 28.6**	**-1.6**
B012	**Ucluelet**	**1.58**	**106**	Sn	**Sn**	**01 23 27.1**	**-3.6**
OZB	**Mount Ozzard**	**1.60**	**104**	Pn	**Pn**	**01 23 10.0**	**-0.6**
OZB				Sn	**Sn**	**01 23 27.8**	**-3.5**
CBB	**Campbell River**	**1.74**	**67**	Pn	**Pn**	**01 23 12.4**	**-0.1**
CBB				Sn	**Sn**	**01 23 31.4**	**-3.3**
BFSB	**Bamfield**	**1.86**	**106**	Sn	**Sn**	**01 23 33.4**	**-4.3**
B928	**Bamfield**	**1.86**	**106**	Sn	**Sn**	**01 23 33.3**	**-4.4**
B927	**Port Alberni**	**1.99**	**93**	Sn	**Sn**	**01 23 37.0**	**-4.0**
PABB	**Port Alberni**	**1.99**	**93**	Sn	**Sn**	**01 23 38.1**	**-2.8**
MGRB	**Mount Grey**	**2.10**	**99**	Pn	**Pn**	**01 23 16.6**	**-0.9**
MGRB				Sn	**Sn**	**01 23 40.0**	**-3.7**
TXB	**Texada**	**2.24**	**80**	Pn	**Pn**	**01 23 19.2**	**-0.2**
B926	**Mesachie Lake**	**2.50**	**101**	Sn	**Sn**	**01 23 50.3**	**-3.3**
CLRS	**Cowichan Lake**	**2.50**	**101**	Pn	**Pn**	**01 23 22.5**	**-0.4**
CLRS				Sn	**Sn**	**01 23 50.7**	**-2.8**
NLLB	**Nanaimo Lost L**	**2.53**	**92**	Pn	**Pn**	**01 23 23.8**	**+0.5**
NLLB				Sn	**Sn**	**01 23 52.3**	**-1.9**
SHB	**Sechelt**	**2.60**	**84**	Pn	**Pn**	**01 23 24.6**	**+0.2**
SHB				Sn	**Sn**	**01 23 54.1**	**-2.0**
SYMB	**Survey Mountai**	**2.79**	**106**	Pn	**Pn**	**01 23 27.3**	**+0.3**
SYMB				Sn	**Sn**	**01 23 57.2**	**-3.5**
BBB	**Bella Bella**	**2.82**	**357**	Pn	**Pn**	**01 23 27.2**	**0.0**
	6.6nm,0.3s,baz=172,slow=7.1,SNR=110						
BBB				Sn	**Sn**	**01 23 59.3**	**-2.0**
	9.7nm,0.3s,baz=234,slow=18,SNR=4.7						
BBB				LR	LR	01 24 14.0	
	comp=Z,38nm,21.5s,baz=3.5,slow=34						
	24nm,0.5s						
BBB	**Bella Bella**	**2.82**	**357**	Pn	**Pn**	**01 23 27.0**	**-0.3**
BBB				Sn	**Sn**	**01 23 59.0**	**-2.3**
B010	**North Saanich**	**2.98**	**102**	Sn	**Sn**	**01 24 02.3**	**-3.1**
PGC	**Sidney**	**2.98**	**102**	Sn	**Sn**	**01 24 02.0**	**-3.3**
B011	**North Saanich**	**2.98**	**102**	Sn	**Sn**	**01 24 01.9**	**-3.5**
SNB	**Saturna Island**	**3.13**	**99**	Sn	**Sn**	**01 24 07.4**	**-1.7**
VGZ	**Gonzales**	**3.13**	**106**	Sn	**Sn**	**01 24 05.7**	**-3.4**
OSD	**Olympics--Snow**	**3.16**	**118**	Pn	**Pn**	**01 23 32.2**	**0.0**
JEDB	**Jedway, Haida**	**3.61**	**325**	Pn	**Pn**	**01 23 38.2**	**0.0**
JEDB				Sn	**Sn**	**01 24 17.9**	**-3.0**
BUTB	**Butedale**	**3.71**	**354**	Pn	**Pn**	**01 23 39.7**	**0.0**
BUTB				Sn	**Sn**	**01 24 21.4**	**-2.2**
LLLB	**Lillooet**	**4.04**	**70**	Pn	**Pn**	**01 23 44.4**	**+0.2**
BAIB	**Barry Inlet**	**4.04**	**324**	Sn	**Sn**	**01 24 29.2**	**-2.5**
GRIB	**Gribbell Islan**	**4.05**	**349**	Pn	**Pn**	**01 23 44.1**	**-0.2**
UBRB	**Upper Baezaeko**	**4.24**	**33**	Pn	**Pn**	**01 23 48.5**	**+1.5**
GRNB	**Grenville Isla**	**4.67**	**344**	Pn	**Pn**	**01 23 53.0**	**+0.3**
KITB	**Kitimat**	**4.73**	**354**	Pn	**Pn**	**01 23 54.1**	**+0.5**
KITB				Sn	**Sn**	**01 24 46.7**	**-1.8**
DIB	**Dawson Inlet,**	**4.81**	**325**	Pn	**Pn**	**01 23 55.6**	**+1.0**
PDAR	**Pinedale Array**	**14.29**	**111**	Pn	**Pn**	**01 26 09.1**	**+4.3**
	baz=310,slow=8.0,SNR=2.1						
	0.2nm,0.8s						
YKA	**Yellowknife Ar**	**15.05**	**24**	Pn	**Pn**	**01 26 13.4**	**-1.2**
	0.1nm,0.3s,baz=214,slow=13,SNR=4.9						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**18.45**	**334**	P	**Pn**	**01 26 57.1**	**-0.7**
	baz=151,slow=11,SNR=2.9						
	0.3nm,0.7s						
ULM	**Lac du Bonnet**	**20.57**	**75**	LR	LR	01 34 28.6	
	comp=Z,41nm,19.5s,baz=130,slow=34						
TXAR	**Lajitas Array**	**27.19**	**128**	P	**P**	**01 28 30.6**	**+4.6**
	0.1nm,0.6s,baz=319,slow=8.2,SNR=4.8						
	0.1nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**59.22**	**265**	T	T	02 37 16.4	
	baz=43,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**59.23**	**265**	T	T	02 37 18.8	
	baz=43,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**59.24**	**265**	T	T	02 37 24.5	
	baz=43,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**60.23**	**264**	T	T	02 38 29.9	
	baz=39						
H11S2	**WAKE ISLAND Hy**	**60.24**	**264**	T	T	02 38 41.7	
	baz=39						
H11S3	**WAKE ISLAND Hy**	**60.25**	**264**	T	T	02 38 45.5	
	baz=39						

*UPA **05** 01:25:56.9±1.9, 6°.55N×82°.39W, h29km±12km, MW4.6*
*UCR **05** 01:25:58.5±1.3, 6°.83N×82°.49W, h10km, MW3.6*
ISC 05 01:25:53.3±2.6, **6°.5N**±0°.1×**82°.41W**±0°.06, **h10**km, **n29,**
σ1°13/44, 2C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**1.71**	**43**	*i* P	**Pn**	**01 26 23.3**	**+0.1**
GMAL				*e*S	**Sn**	**01 26 43.9**	**-1.4**
MARI3	**Mariato, Verag**	**1.81**	**51**	*e*P	**Pn**	**01 26 24.7**	**+0.1**
MARI3				*e*S	**Sn**	**01 26 46.1**	**-1.6**
LOMA3	**Las Lomas, Chi**	**1.92**	**1**	*e*P	**Pn**	**01 26 27.6**	**+1.6**
LOMA3				*e*S	**Sn**	**01 26 51.4**	**+1.1**
DVD	**David**	**1.92**	**359**	*e*P	**Pb**	**01 26 28.6**	**+0.1**
DVD				*e*S	**Sn**	**01 26 47.8**	**-2.5**
GUA3	**Gualaca, Chiri**	**2.02**	**3**	*e*S	**Sn**	**01 26 52.0**	**-0.8**
STIA3	**Santiago, Vera**	**2.13**	**42**	*e*P	**Pn**	**01 26 30.3**	**+1.3**
STIA3				*e*S	**Sn**	**01 26 54.8**	**-0.8**
PTJ1	**Puerto Jimnez**	**2.21**	**336**	*e*P	**Pn**	**01 26 29.9**	**-0.2**
PTJ1	**Puerto Jimnez**	**2.21**	**336**	*e*P	**Pn**	**01 26 30.1**	**+0.1**
PTJ1				*e*S	**Sn**	**01 26 56.2**	**-1.1**
JIME	**Puerto Jimenez**	**2.22**	**336**	*e*P	**Pn**	**01 26 30.2**	**0.0**
EDAD	**Golfito**	**2.27**	**341**	*e*P	**Pn**	**01 26 30.0**	**-0.9**
LNBQ3	**Los Naranjos,**	**2.27**	**359**	*e*P	**Pn**	**01 26 31.7**	**+0.6**
LNBQ3				*e*S	**Sn**	**01 26 58.2**	**-1.1**
BRU2	**Volcan**	**2.29**	**353**	*e*P	**Pn**	**01 26 31.9**	**+0.5**
BRU2	**Volcan**	**2.29**	**353**	*e*P	**Pn**	**01 26 32.2**	**+0.8**
BRU2				*e*S	**Sn**	**01 26 58.8**	**-1.0**
CALO3	**Calobre, Verag**	**2.39**	**41**	*e*P	**Pn**	**01 26 34.3**	**+1.8**
CALO3				*e*S	**Sn**	**01 27 01.8**	**0.0**
ACHO3	**Achotines, Los**	**2.40**	**68**	*e*P	**Pn**	**01 26 32.9**	**+0.2**
CHGR2	**Aguacate**	**2.44**	**6**	*e*P	**Pn**	**01 26 34.2**	**+1.0**
CHGR2				*e*S	**Sn**	**01 27 02.3**	**-0.8**
CHIT3	**Chitre**	**2.45**	**54**	*e*P	**Pn**	**01 26 34.0**	**+0.7**
CHIT3				*e*S	**Sn**	**01 27 02.0**	**-1.4**
AZU	**Azuero**	**2.48**	**59**	*i* P	**Pn**	**01 26 34.5**	**+0.7**
AZU				*e*S	**Sn**	**01 27 02.7**	**-1.4**
FIMO	**Fila Mora**	**2.64**	**339**	*e*P	**Pn**	**01 26 36.6**	**+0.4**
DRK0	**Durika**	**2.87**	**343**	*e*P	**Pn**	**01 26 39.5**	**+0.2**
DRK0	**Durika**	**2.87**	**343**	*e*P	**Pn**	**01 26 39.6**	**+0.3**
DRK0				*e*S	**Sn**	**01 27 13.3**	**-0.6**
BUS1	**Rivas**	**3.31**	**337**	*e*P	**Pn**	**01 26 46.2**	**+0.6**
CHOR3	**La Chorrera**	**3.54**	**48**	*e*P	**Pn**	**01 26 50.6**	**+2.2**
CHOR3				*e*S	**Sn**	**01 27 28.8**	**-1.6**
ABE2	**San Pablo**	**3.58**	**333**	*e*P	**Pn**	**01 26 49.8**	**+0.7**
LCR2	**La Lucha 2**	**3.59**	**334**	*e*P	**Pn**	**01 26 49.9**	**+0.7**
BCIP	**Isla Barro Col**	**3.68**	**44**	*e*P	**Pn**	**01 26 51.8**	**+1.5**
BCIP				*e*S	**Sn**	**01 27 32.3**	**-1.4**
CVTG	**V. Turrialba,**	**3.87**	**340**	*e*P	**Pn**	**01 26 54.7**	**+1.8**
CBL1	**Cabuya**	**4.06**	**319**	*e*P	**Pn**	**01 26 56.2**	**+0.7**
SOCE	**Pocosol**	**4.43**	**331**	*e*P	**Pn**	**01 27 02.1**	**+1.4**

*IDC **05** 01:29:58.5±1.8, 3°.99S×131°.05E, h0km, mb3.7/3, mbtmp3.8/6, ML4.0/3, MS3.3/1, Error ellipse: s-maj=116.9km s-min=22.9km az=74.0*
*DJA **05** 01:30:02.5±0.8, 4°.5±4°.×13°.2E±°, h29km±9km, M3.8/6, MLv3.8/6*
ISC 05 01:29:57.5±0.7, **3°.92S**±0°.05×**131°.71E**±0°.08, **h10**km, **n18,**
σ3°64/19, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.13**	**28**	Pg	**Pb**	**01 30 20.7**	**+1.5**
FAKI				S	**Sg**	**01 30 35.2**	**+1.2**
BNDI	**Bandanaira**	**1.90**	**252**	P	**Pn**	**01 30 33.6**	**+3.6**
BNDI	**Bandanaira**	**1.90**	**252**	P	**Pn**	**01 30 31.0**	**+1.0**
KMPI	**Kaimana, Papua**	**2.00**	**83**	P	**Pb**	**01 30 35.7**	**+1.6**
MSAI	**Masohi**	**2.84**	**282**	P	**Pn**	**01 30 45.2**	**+2.3**
SWI	**Sorong**	**3.07**	**352**	P	**Pn**	**01 30 46.3**	**+0.1**
SWI				S	**Sn**	**01 31 16.2**	**-6.8**
GENI	**Genyem**	**8.54**	**81**	P	Pg	01 32 49.2	+8.0
	37nm,0.5s						
MTN	**Manton Dam**	**8.88**	**184**	P	**Pn**	**01 32 09.6**	**+3.5**
SOEI	**Soe**	**9.39**	**232**	P	Pn	01 32 06.8	-6.4
FITZ	**Fitzroy Crossi**	**15.29**	**202**	Pn	**Pn**	**01 33 29.8**	**-3.8**
	0.8nm,0.3s,baz=21,slow=15,SNR=16						
FITZ				Sn	Sn	01 36 11.6	-12
	0.1nm,0.3s,baz=338,slow=22,SNR=2.3						
	1.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**15.29**	**202**	P	**Pn**	**01 33 30.3**	**-3.4**
WRA	**Warramunga Arr**	**16.13**	**171**	Pn	**Pn**	**01 33 45.3**	**+0.7**
	0.3nm,0.3s,baz=354,slow=12,SNR=7.4						
WRA				Sn	**Sn**	**01 36 37.6**	**-6.0**
	0.7nm,0.3s,baz=333,slow=26,SNR=7.3						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**19.74**	**174**	P	**Pn**	**01 34 31.5**	**+2.3**
	1.4nm,0.3s,baz=354,slow=10,SNR=35						
ASAR				S	**S**	**01 38 03.6**	**-6.8**
	0.6nm,0.7s,baz=352,slow=26,SNR=1.6						
	3.9nm,0.3s						
PSA00	**Pilbara Seismi**	**20.99**	**212**	P	**P**	**01 34 41.8**	**+0.5**
STKA	**Stephens Creek**	**29.32**	**163**	LR	LR	01 50 43.6	
	comp=Z,52nm,18.4s,baz=194,slow=42						
MKAR	**Makanchi Array**	**66.64**	**325**	P	**P**	**01 40 50.7**	**+2.3**
	0.1nm,0.4s,baz=143,slow=5.0,SNR=2.5						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**70.82**	**327**	P	**P**	**01 41 14.1**	**-0.3**
	0.6nm,0.8s,baz=125,slow=5.2,SNR=8.7						
	0.6nm,0.8s						
VNDA	**Vanda**	**75.29**	**174**	P	**P**	**01 41 43.3**	**+2.9**
	0.9nm,0.7s,baz=309,slow=6.0,SNR=5.0						
	0.9nm,0.7s						

*IDC **05** 01:34:29.2±1.5, 40°.47S×78°.17E, h0km, mb3.8/6, mbtmp3.8/6, MS3.7/21, Error ellipse: s-maj=45.5km s-min=31.6km az=89.0*
ISC 05 01:34:30.8±1.4, **40°.5S**±0°.2×**78°.2E**±0°.3, **h10**km, **n32,**
σ1°31/6, mb3.9/6, MS3.7/21, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**19.95**	**245**	T	T	01 59 44.3	
	baz=82,slow=74,SNR=2279						
H04N1	**CROZET ISLANDS**	**19.97**	**245**	T	T	01 59 43.3	
	baz=82,slow=74,SNR=2255						
H04N3	**CROZET ISLANDS**	**19.97**	**245**	T	T	01 59 39.5	
	baz=82,slow=74,SNR=2070						
MAW	**Mawson**	**28.46**	**192**	LR	LR	01 49 25.5	
	comp=Z,172nm,18.8s,baz=45,slow=32						
H01W2	**Cape Leeuwin H**	**28.87**	**91**	T	T	02 10 43.0	
	baz=248,slow=74,SNR=20						
H01W3	**Cape Leeuwin H**	**28.88**	**90**	T	T	02 10 52.5	
	baz=248,slow=74,SNR=18						
H01W1	**Cape Leeuwin H**	**28.89**	**91**	T	T	02 10 49.9	
	baz=248,slow=74,SNR=19						
NWAO	**Narrogin (SRO)**	**32.02**	**89**	LR	LR	01 50 56.3	
	comp=Z,115nm,20.2s,baz=319,slow=31						
H08S2	**Diego Garcia H**	**33.08**	**350**	T	T	02 15 57.6	
	baz=172						
H08S1	**Diego Carcia H**	**33.08**	**350**	T	T	02 16 06.7	
	baz=172						
H08S3	**Diego Garcia H**	**33.10**	**350**	T	T	02 16 02.5	
	baz=172						
OPO	**Ambohidratompo**	**34.40**	**300**	LR	LR	01 52 42.9	
	comp=Z,49nm,19.0s,baz=351,slow=32						
LEM	**Lembang**	**42.61**	**46**	LR	LR	01 56 23.3	
	comp=Z,84nm,20.5s,baz=174,slow=31						
BOSA	**Boshof**	**44.55**	**268**	LR	LR	01 57 23.9	
	comp=Z,110nm,20.7s,baz=164,slow=31						
SUR	**Sutherland**	**46.14**	**261**	LR	LR	01 57 23.7	
	comp=Z,82nm,20.7s,baz=142,slow=30						
LBTB	**Lobatse**	**46.16**	**273**	LR	LR	01 59 54.6	
	comp=Z,88nm,18.5s,baz=138,slow=33						
FITZ	**Fitzroy Crossi**	**46.37**	**76**	LR	LR	02 01 42.0	
	comp=Z,48nm,19.4s,baz=274,slow=35						
PSI	**Prapat**	**47.07**	**29**	LR	LR	01 58 14.7	
	comp=Z,139nm,19.4s,baz=205,slow=30						
PALK	**Pallekele**	**47.56**	**3**	LR	LR	01 58 16.2	
	comp=Z,68nm,21.0s,baz=172,slow=30						
ASAR	**Alice Springs**	**49.33**	**88**	P	**P**	**01 43 18.9**	**-1.4**
	1.4nm,0.9s,baz=237,slow=6.6,S

R18K	Karluk	1.83	197		Pn	01 35 59.4	-0.9
R18K	Karluk	1.83	197	IAML		01 36 24.6	
	comp=E,758nm,0.4s						
O17K	Koliganek Bris	1.90	285		Pn	01 36 01.0	0.0
SLKM	Skilak Lake	2.02	53		Pn	01 36 02.7	0.0
SLKM				IAML		01 36 28.6	
	comp=N,530nm,0.3s						
SLKM				IAML		01 36 29.3	
	comp=E,436nm,0.3s						
OHAK	Old Harbor	2.11	177	Pn	Pn	01 36 02.7	-1.0
OHAK				IAML		01 36 28.9	
	comp=N,583nm,0.5s						
OHAK				IAML		01 36 29.6	
	comp=E,431nm,0.5s						
OHAK	Old Harbor	2.11	177	P	Pn	01 36 02.8	-1.0
OHAK	Old Harbor	2.11	177	S	Sn	01 36 27.8	-2.2
SEW	Seward	2.18	67		Pn	01 36 05.1	+0.5
SEW				IAML		01 36 30.7	
	comp=N,188nm,0.3s						
SEW				IAML		01 36 31.3	
	comp=E,189nm,0.3s						
O22K	Cooper Landing	2.22	57		Pn	01 36 05.5	+0.4
N17K	Nushagak Hills	2.23	304		Pn	01 36 05.2	-0.1
STLK	Strandline Lak	2.33	20		Pn	01 36 07.2	+0.5
P16K	Nushagak River	2.34	265		Pn	01 36 07.2	+0.4
P16K				IAML		01 36 42.7	
	comp=E,190nm,0.8s						
P16K				IAML		01 36 51.2	
	comp=N,187nm,1.0s						
O16K	Kokwok River B	2.38	279		Pn	01 36 07.4	+0.2
O16K	Kokwok River B	2.38	279	IAML		01 36 32.2	
	comp=E,76nm,0.9s						
M18K	Stony River	2.47	333		Pn	01 36 08.4	0.0
SUA	Susitna One	2.54	31		Pn	01 36 10.1	+0.7
SUA				IAML		01 36 42.9	
	comp=N,375nm,1.0s						
RC01	Rabbit Creek A	2.57	45	Pn	Pn	01 36 09.9	+0.2
RC01				IAML		01 36 41.8	
	comp=N,377nm,0.5s						
M20K	Styx River	2.57	4		Pn	01 36 10.4	+0.6
M19K	Big River Lodg	2.63	350		Pn	01 36 10.6	+0.1
SII	Sitkinak Islan	2.80	188		Pn	01 36 11.7	-1.1
SII				IAML		01 36 46.2	
	comp=E,273nm,0.5s						
SII	Sitkinak Islan	2.80	188	P	Pn	01 36 12.1	-0.6
SII	Sitkinak Islan	2.80	188	S	Sn	01 36 43.7	-2.3
SKT	Skwentna	2.83	19	Pn	Pn	01 36 13.3	+0.1
SKT				IAML		01 36 54.1	
	comp=N,73nm,0.3s						
SKT				IAML		01 36 56.5	
	comp=E,57nm,0.3s						
M17K	Holitna River	2.87	318		Pn	01 36 14.1	+0.5
M17K	Holitna River	2.87	318	IAML		01 37 07.8	
	comp=E,68nm,0.8s						
M17K				IAML		01 37 20.0	
	comp=N,71nm,0.8s						
N16K	Nishlik Lake	2.91	296		Pn	01 36 14.8	+0.7
L19K	White Mountain	2.95	347		Pn	01 36 14.7	0.0
L19K	White Mountain	2.95	347	IAML		01 37 07.9	
	comp=N,50nm,0.7s						
PWL	Port Wells	3.00	57	Pn	Pn	01 36 14.9	-0.4
PMR	Palmer	3.13	42	IAML		01 36 54.4	
	comp=N,144nm,0.3s						
PMR				IAML		01 36 55.2	
	comp=E,131nm,0.3s						
PMR	Palmer	3.13	42	P	Pn	01 36 16.6	-0.4
M16K	Timber Creek	3.23	304		Pn	01 36 19.0	+0.6
O15K	Ungalikthiuk R	3.27	270		Pn	01 36 19.4	+0.6
O15K	Ungalikthiuk R	3.27	270	IAML		01 36 59.4	
	comp=E,37nm,0.7s						
O15K				IAML		01 37 14.2	
	comp=N,39nm,1.1s						
L18K	Granite Mounta	3.31	333	IAML		01 36 59.5	
	comp=N,44nm,0.8s						
GHO	Glory Hole Cre	3.33	40	IAML		01 36 57.9	
	comp=E,186nm,0.4s						
GHO				IAML		01 37 06.6	
	comp=N,201nm,0.5s						
N15K	Kwethluk River	3.46	287		Pn	01 36 22.5	+1.1
N15K	Kwethluk River	3.46	287	IAML		01 37 03.2	
	comp=N,56nm,0.9s						
N15K				IAML		01 37 06.4	
	comp=E,50nm,0.9s						
CUT	Chulitna	3.47	25	IAML		01 37 06.9	
	comp=N,186nm,0.5s						
GLI	Glacier Island	3.55	61	IAML		01 37 02.7	
	comp=N,143nm,0.6s						
SML	Sawmill	3.56	43	IAML		01 37 03.0	
	comp=E,130nm,0.9s						
SML				IAML		01 37 04.0	
	comp=N,133nm,0.5s						
PPLA	Purkeypile	3.64	9	IAML		01 37 10.1	
	comp=E,30nm,0.8s						
HIN	Hinchinbrook I	3.68	70	IAML		01 37 08.7	
	comp=N,146nm,0.6s						
L17K	Donlin	3.68	322		Pn	01 36 24.5	+0.1
FID	Port Fidalgo	3.79	65	IAML		01 37 07.7	
	comp=E,146nm,0.4s						
L16K	Owhat River	3.81	311	Pn	Pn	01 36 26.5	+0.4
TTA	Tatalina	3.82	342		Pn	01 36 26.0	-0.3
M15K	Kasigluk River	3.88	294		Pn	01 36 27.5	+0.5
O14K	Tigyukauivet M	4.00	272		Pn	01 36 29.3	+0.7
O14K	Tigyukauivet M	4.00	272	IAML		01 37 14.8	
	comp=E,22nm,0.7s						
O14K				IAML		01 37 46.6	
	comp=N,21nm,0.9s						
EYAK	Cordova Ski Ar	4.08	69	IAML		01 37 16.8	
	comp=E,39nm,1.4s						
EYAK				IAML		01 37 19.4	
	comp=N,42nm,0.8s						
EYAK	Cordova Ski Ar	4.08	69	P	Pn	01 36 29.4	-0.2
EYAK	Cordova Ski Ar	4.08	69	S	Sn	01 37 13.4	-3.0
K17K	Iditarod	4.14	327		Pn	01 36 30.8	+0.4
K17K	Iditarod	4.14	327	IAML		01 37 34.6	
	comp=N,27nm,1.0s						
K17K				IAML		01 37 51.4	
	comp=E,37nm,1.1s						
N14K	Kuskokwak Cree	4.21	282	IAML		01 37 28.4	
	comp=E,39nm,1.4s						
N14K				IAML		01 37 49.4	
	comp=N,68nm,1.4s						
DIV	Divide	4.25	61	IAML		01 37 22.5	
	comp=E,50nm,0.6s						
TRF	Thorofare Moun	4.42	19	IAML		01 37 27.3	
	comp=N,43nm,0.5s						
TRF				IAML		01 37 27.8	
	comp=E,27nm,0.4s						
KTH	Kantishna Hill	4.42	15	IAML		01 37 28.0	
	comp=E,24nm,0.5s						
KTH				IAML		01 37 30.6	
	comp=N,33nm,0.5s						
J18K	Innoko River	4.44	341		Pn	01 36 34.2	-0.3
M14K	Bethel	4.49	292		Pn	01 36 36.3	+1.1
M14K				IAML		01 38 40.5	
	comp=N,16nm,1.1s						
M14K				IAML		01 39 36.5	
	comp=E,18nm,1.4s						
CHUM	Lake Minchumin	4.61	6		Pn	01 36 37.2	+0.4
RND	Reindeer	4.66	26	IAML		01 37 30.2	
	comp=N,34nm,0.4s						
RND				IAML		01 37 30.3	
	comp=E,43nm,0.3s						
J19K	Poorman	4.80	349		Pn	01 36 38.9	-0.4
J20K	Nowinta River	4.88	357	IAML		01 37 38.8	
	comp=N,12nm,0.8s						
J17K	VABM Dome	4.90	329	IAML		01 38 29.1	
	comp=N,12nm,1.3s						
MCK	McKinley	4.93	24	IAML		01 37 37.7	
	comp=N,32nm,0.9s						
MCK				IAML		01 37 37.8	
	comp=E,28nm,0.3s						
BPAW	Bear Paw Mtn.	4.94	13	IAML		01 37 36.7	
	comp=N,16nm,0.8s						
N25K	Chitina, Valde	4.95	59	IAML		01 37 39.0	
	comp=N,54nm,0.7s						
N25K				IAML		01 37 40.1	
	comp=E,42nm,0.5s						
L14K	Kuka Creek	5.00	298	IAML		01 38 03.1	
	comp=E,19nm,1.4s						
L14K				IAML		01 38 19.4	
	comp=N,18nm,1.4s						
GLB	Gilahina Butte	5.24	62	IAML		01 37 45.2	
	comp=N,43nm,0.5s						
GLB				IAML		01 37 45.2	
	comp=E,36nm,0.4s						
PAX	Paxson	5.33	43	IAML		01 37 46.7	
	comp=N,30nm,0.5s						
PAX				IAML		01 37 48.5	
	comp=E,33nm,0.4s						
VRDI	Verde Repeater	5.34	65	IAML		01 37 46.9	
	comp=E,34nm,0.6s						
VRDI				IAML		01 37 46.9	
	comp=N,45nm,0.6s						
COLA	College	6.16	23		Pn	01 36 57.2	-0.6
COLA	College	6.16	23	P	Pn	01 36 57.0	-0.7
ILAR	Eielson Array	6.28	27		Pn	01 36 58.2	-1.2
ILAR	Eielson Array	6.28	27	P	Pn	01 36 58.0	-1.4
	comp=N,7.3nm,0.4s,baz=218,slow=14,SNR=93						
ILAR				S	Sn	01 38 04.7	-5.0
	comp=N,2.8nm,0.5s,baz=201,slow=27,SNR=6.0						
BCAR	Beaver Creek A	6.78	51		Pn	01 37 06.2	0.0
PNL	Peninsula	7.17	81		Pn	01 37 11.5	0.0
PNL	Peninsula	7.17	81	P	Pn	01 37 11.6	0.0
PNL	Peninsula	7.17	81	S	Sn	01 38 30.0	-1.4
DLBC	Dease Lake	12.15	84	P	Pn	01 38 19.9	+1.4
	comp=N,1.6nm,0.4s,baz=268,slow=8,7,SNR=7.7						
DLBC				S	Sn	01 40 29.3	-2.7
	comp=N,0.6nm,0.5s,baz=241,slow=13,SNR=1.5						
INK	Inuvik	12.53	36	P	Pn	01 38 23.1	-0.2
	comp=N,0.6nm,0.4s,baz=247,slow=19,SNR=8.1						
BBB	Bella Bella	15.89	106	P	P	01 39 08.1	+0.3
	comp=N,9.1nm,0.8s,baz=276,slow=9.2,SNR=1.9						
YKA	Yellowknife Ar	18.96	64	P	P	01 39 42.4	+0.9
	comp=N,0.3nm,0.7s,baz=282,slow=12,SNR=8.7						
NVAR	Mina Array Bea	30.61	117	P	P	01 41 35.8	+2.9
	comp=N,0.7nm,0.9s,baz=321,slow=12,SNR=3.5						
	comp=N,0.7nm,0.9s						
PDAR	Pinedale Array	31.48	102	P	P	01 41 43.7	+3.2
	comp=N,0.2nm,0.5s,baz=280,slow=7.9,SNR=2.9						
	comp=N,0.2nm,0.5s						
SPITS	Spitsbergen Ar	42.61	3	P	P	01 43 13.2	-0.5
	comp=N,17nm,1.1s,baz=298,slow=3.1,SNR=1.8						
TXAR	Lajitas Array	44.98	109	P	P	01 43 35.8	+2.4
	comp=N,0.3nm,0.5s,baz=312,slow=6.6,SNR=8.5						
	comp=N,0.3nm,0.5s						
ARCES	ARCESS Array B	51.44	0	P	P	01 44 20.8	-1.5
	comp=N,2.0nm,0.9s,baz=1.0,slow=5.4,SNR=1.4						
	comp=N,2.0nm,0.9s						
SONM	Songino Array	54.99	306	P	P	01 44 47.4	-1.4
	comp=N,0.9nm,0.6s,baz=36,slow=6.7,SNR=5.7						
	comp=N,0.9nm,0.6s						
ZALV	Zalesovo Beam	57.78	324	P	P	01 45 07.7	-0.6
	comp=N,0.4nm,0.3s,baz=40,slow=11,SNR=3.1						
	comp=N,0.4nm,0.3s						
BVAR	Borovoye Array	62.55	332	P	P	01 45 40.8	-0.1
	comp=N,0.3nm,0.5s,baz=54,slow=9.8,SNR=2.0						
	comp=N,0.3nm,0.5s						
BOSA	Boshof	149.29	2	PKPbc	PKPbc	01 55 04.0	-0.7
	comp=N,1.9nm,0.7s,baz=337,slow=2.1,SNR=6.2						

*JSN **05** 01:42:28.6±0.3, 18°.09N×76°.41W, h4km±9km, MD3.2*
*SSNC **05** 01:42:29.7±1.0, 18°.23N×76°.47W, h10km±8km, MD3.5, ML3.6*
*OSPL **05** 01:42:31.4±1.1, 18°.36N×76°.58W, h20km±21km, ML3.0*
*RSNC **05** 01:42:58.2±8.5, 16°.N±69°×7°.6W±1°.9, h0km, mB4.1, mb4.2, ML3.1, Mw(mB)3.1*

ISC 05 01:42:24.5±1.6, **18°.27N**±0°.04×**76°.39W**±0°.04, **h3**km±13km, **n28**, σ1§**26**/38, **3D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJ	Hope	0.43	232	⇓*i*P	Pn	01 42 35.2	-2.4
STH	Stony Hill	0.44	244	*e*P	Pn	01 42 35.9	-1.8
STH				*e*S	Sb	01 42 41.4	-0.7
STH				IAML		01 42 42.0	
	comp=E,1033μm,0.1s						
STH				IAML		01 42 42.2	
	comp=N,805μm,0.1s						
STH	Stony Hill	0.44	244	⇓*i*P	Pn	01 42 36.0	-1.8
MTDJ	Mount Denham	1.09	268	*e*P	Pn	01 42 47.5	+0.8
MTDJ				*e*S	Sn	01 43 01.8	-0.6
MTDJ				IAML		01 43 03.1	
	comp=N,829nm,0.2s						
MTDJ				IAML		01 43 04.7	
	comp=N,951nm,0.3s						
MTDJ	Mount Denham	1.09	268	*i* P	Pn	01 42 47.6	+0.8
MTDJ				IAML		01 43 10.5	
	comp=Z,440nm,0.3s						
CHIV	Chivirico	1.69	359	*e*P	Pg	01 42 57.3	+0.3
CHIV				*e*S	Sb	01 43 18.2	+0.1
CHIV				*e*Sg	Sg	01 43 19.9	+0.9
MARVS	Santiago de Cu	1.78	15	*e*P	Pg	01 42 58.9	+0.3
MARVS				*e*S	Sb	01 43 20.8	+0.3
RCC	Rio Carpintero	1.83	21	*e*P	Pg	01 42 59.8	+0.1
RCC				*e*S	Sb	01 43 21.7	-0.4
RCC				IAML		01 43 24.5	
	comp=N,28nm,0.2s						
RCC				IAML		01 43 24.5	
	comp=E,20nm,0.2s						
LMGC	Las Mercedes	1.87	342	*e*P	Pb	01 42 59.2	-0.2
LMGC				*e*S	Sn	01 43 21.0	-0.6
LMGC				IAML		01 43 23.8	
	comp=N,176nm,0.1s						
LMGC				IAML		01 43 24.1	
	comp=E,146nm,0.1s						
PILO	Pilon	1.89	330	*e*P	Pb	01 42 59.5	-0.2
PILO				*e*S	Sn	01 43 20.8	-1.2
GTBY	Guantanamo Bay	2.04	36	*e*P	Pg	01 43 03.1	-0.6
GTBY				*e*S	Sb	01 43 27.0	-1.1
GTBY	Guantanamo Bay	2.04	36	*i* P	Pg	01 43 03.1	-0.6
GTBY				*e*S	Sb	01 43 28.1	+0.1
PINC	Pinares de May	2.27	14	*e*P	Pb	01 43 05.6	-0.6
QMBU	Quimbuelo	2.43	38	*e*P	Pb	01 43 07.5	-1.4
HLGC	Holguin	2.62	7	⇓*e*P	Pb	01 43 11.6	-0.6
NMDO	Nuevo Mundo	2.63	30	*e*P	Pb	01 43 11.0	-1.3
MOAC	Moa	2.73	29	*e*P	Pb	01 43 12.4	-1.6
MASC	Masc	2.78	47	*e*P	Pb	01 43 14.2	-0.6
MASC	Masc	2.78	47	*i* P	Pb	01 43 14.8	-0.1
MASC				IAML		01 43 56.4	
	comp=Z,36nm,2.9s						
SDDR	Presa de Saban	4.89	81	*i* P	Pb	01 43 44.9	-6.0
SDDR				*e*S	Sn	01 44 38.0	+1.8
SDDR				IAML		01 44 54.7	
	comp=Z,23nm,2.6s						
SMRC	Santa Marta, M	7.37	163	P	Pn	01 44 12.8	-0.3
CRJC	Cerrejon, Guaj	7.97	154	P	Pn	01 44 21.9	+0.5
	comp=Z,32nm,0.7s						
SJCC	San Jacinto, C	8.41	172	P	Pn	01 44 28.9	+1.5
	comp=Z,18nm,1.7s						
APAC	Apartado, Choc	10.31	181	P	Pn	01 44 55.5	+2.0
ZARC	Zaragoza, Cauc	10.82	172	P	Pn	01 45 00.2	-0.2
	comp=Z,8.4nm,0.5s						
PTBC	PUERTO BERRIO,	11.81	171	P	Pn	01 45 14.5	+0.4
	comp=Z,75nmcomp=Z,6.5nm,0.6s						
CBOC	Ciudad Bolivar	12.34	178	P	Pn	01 45 23.4	+2.0
	comp=Z,5.0nm,0.8s						
GUY2C	Guyana, Caldas	13.01	175	P	Pn	01 45 34.3	+3.5

*FUNV **05** 02:13:02.8, 8°.89N×70°.54W, h3km, MW3.1*
*RSNC **05** 02:13:12.9±0.0, 9°.N±10°×7°.1W±1°.0, h3km±11km, M2.3, ML2.1*

ISC 05 02:13:01.7±0.8, **8°.94N**±0°.04×**70°.56W**±0°.03, **h10**km, **n17**, σ1§**38**/32, **Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	Socops	0.72	204	*e*P	Pg	02 13 15.2	-0.3
SOCV				*e*S	Sg	02 13 25.0	0.0
TEPV	Terepaima	1.69	53	*e*P	Pn	02 13 33.1	+1.7
TEPV				*e*S	Sb	02 13 55.6	+1.3
CAPV	Capacho	2.04	238	*e*P	Pn	02 13 38.4	+2.1
CAPV				*e*S	Sn	02 14 03.4	+1.4
MCQV	Machiques	2.24	300	*e*P	Pn	02 13 40.3	+1.5
MCQV				*e*S	Sn	02 14 07.8	+1.2
BAUV	El Baul	2.49	90	*e*P	Pn	02 13 42.9	+0.6
BAUV				*e*S	Sn	02 14 12.8	0.0
PAMC	Pamplona, Colo	2.65	233	P	Pn	02 13 45.7	+0.8
PAMC				S	Sn	02 14 16.5	-0.9
JACV	Jacura	2.73	39	*e*P	Pn	02 13 46.9	+1.3
JACV				*e*S	Sn	02 14 20.5	+1.8
TAMC	Tame, Arauca	2.77	206	P	Pb	02 13 53.0	+1.6
TAMC				S	Sn	02 14 21.2	+1.3
OCAC	Ocana	2.82	256	P	Pb	02 13 50.9	-1.3
OCAC				S	Sn	02 14 22.5	+1.4
CRJC	Cerrejon, Guaj	3.08	312	P	Pn	02 13 49.7	-0.8
CRJC				S	Sn	02 14 25.0	-2.5
URIC	Uribia, Colomb	3.08	333	P	Pn	02 13 51.3	+0.8
URIC				S	Sn	02 14 28.0	+0.6
BENV	Beln	3.09	71	*e*P	Pn	02 13 52.4	+1.7
BENV				*e*S	Sn	02 14 27.4	-0.4
TACV	Tcata	3.68	71	*e*P	Pn	02 13 58.7	-0.1
RUSC	La Rusia	3.93	220	P	Pn	02 14 03.5	+0.9
RUSC				S	Sn	02 14 46.6	-2.4
CACV	CAICARA DEL OR	4.21	109	*e*P	Pb	02 14 13.7	-2.1
CACV				*e*S	Sb	02 15 05.2	-1.6
ZARC	Zaragoza, Cauc	4.49	252	P	Pn	02 14 10.2	+0.3
ZARC				S	Sn	02 15 01.5	-0.7
SJCC	San Jacinto, C	4.65	282	P	Pn	02 14 11.6	-0.6

*IDC **05** 02:20:18.9±0.6, 31°.02N×70°.03E, h0km, mb4.2/28, mbtmp4.3/30, ML4.0/2, MS3.7/43, Error ellipse: s-maj=14.6km s-min=12.8km az=25.0*
*NEIC **05** 02:20:18.1±2.0, 30°.72N±0°.09×70°.30E±0°.10, h10km±1km, mb4.5/31, Error ellipse: s-maj=15.7km s-min=13.8km az=153.0*
*MOS **05** 02:20:19.2±1.0, 31°.10N×70°.10E, h10km, mb4.8/27, Error ellipse: s-maj=7.4km s-min=3.8km az=89.2*
*NNC **05** 02:20:22.2±5.1, 31°.36N×69°.84E, h0km, mb4.3, Error ellipse: s-maj=69.8km s-min=46.6km az=140.0*
*NDI **05** 02:20:27.6±1.3, 30°.79N×70°.20E, h10km, ML4.1, MW4.3, mb4.5(NEIC)*

ISC 05 02:20:22.1±0.4, **30°.96N**±0°.04×**70°.10E**±0°.04, **h23**km, **n311**, σ1§**60**/307, **mb4.5**/92, **MS3.8**/49, **40C-21D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	3.68	346		Pn	02 21 19.4	+1.6
KBL	Kabul	3.68	346	P	Pn	02 21 18.9	+1.1
	SNR=21						
KBL	Kabul	3.68	346	P	Pn	02 21 19.5	+1.6
NIL	Nilore	3.79	44		Pn	02 21 20.9	+1.9
NIL	Nilore	3.79	44	P	Pn	02 21 21.4	+2.4
NIL	Nilore	3.79	44	P	Pn	02 21 21.0	+1.9
DHRM	DHARAMSHALA	5.44	75	*e*P	Pn	02 21 49.0	+7.0
DHRM				*e*S	Sn	02 22 47.1	+3.0
DHRM				IAML		02 23 11.1	
	comp=E,469nm,0.8s						
DHRM				IAML		02 23 23.6	
	comp=N,724nm,0.5s						
SMLA	Simla	6.07	87	*e*P	Pn	02 21 54.9	+4.5
SMLA				*e*S	Sn	02 23 01.4	+2.3
SMLA				IAML		02 23 08.1	
	comp=N,238nm,0.6s						
SMLA				IAML		02 23 08.5	
	comp=E,256nm,0.6s						
DDI	Dehra Dun	6.88	93	*e*P	Pn	02 22 07.2	+5.5
DDI				*e*S	Sn	02 23 18.9	-0.5
DDI				IAML		02 23 25.0	
	comp=E,304nm,0.5s						
DDI				IAML		02 23 26.5	
	comp=N,224nm,0.1s						
BHUJ	Bhuj	7.68	183	*e*P	Pn	02 22 16.6	+4.0
BHUJ				*e*S	Sn	02 23 36.9	-2.1
BHUJ				IAML		02 23 40.5	
	comp=E,121nm,0.9s						
BHUJ				IAML		02 23 49.6	
	comp=N,86nm,0.9s						
SIMJ	Simiganj	7.73	354		Pn	02 22 13.6	+0.2
GAR	Garm	8.03	1		Pn	02 22 17.4	0.0
DRK	Karamyk	8.62	9		Pn	02 22 27.4	+1.7
DRK	Karamyk	8.62	9	P	Pn	02 22 27.4	+1.7
BTK	Batken	9.10	3	Pn	Pn	02 22 31.8	-0.3
BTK	Batken	9.10	3	P	Pn	02 22 31.8	-0.3
OHH	Osh	9.79	12	P	Pn	02 22 41.4	-0.2
KSH	Kashi	9.79	28	P	Pn	02 22 36.5	-5.2
KSH				S	Sn	02 24 20.8	-10
KSH				smax	smax		
	comp=N,100nm,0.9s						
KSH				smax	smax		
	comp=N,76nm,0.7s						
ARSB	Arslanbob	10.60	12		Pn	02 22 51.6	-1.1
ARSB	Arslanbob	10.60	12	P	Pn	02 22 51.6	-1.1
ARK	Arkit	10.92	7	P	Pn	02 22 56.4	-0.7
IUG	Iuzhnay	11.17	360	*e*P	Pn	02 22 58.9	-1.5
ARLS	Aral	11.40	16	P	Pn	02 23 02.4	-1.2
AML	Almayashu	11.52	14	P	Pn	02 23 05.5	0.0
	SNR=14						
EKS2	Erkin-Say	12.04	13	P	Pn	02 23 14.4	+2.0
	SNR=5.7						
BRLS	Borolday	12.05	359	*e*P	Pn	02 23 06.5	-5.9
KK31	Karatay Array	12.13	1	Pn	Pn	02 23 11.5	-2.0
KK31	Karatay Array	12.13	1	P	Pn	02 23 10.9	-2.6
	comp=N,4.6nm,0.5s,baz=187,slow=14,SNR=60						
KK31				⇑S	Sn	02 25 24.6	-3.4
	comp=N,5.9nm,0.6s,baz=194,slow=24,SNR=4.8						
KK31	Karatay Array	12.13	1	P	Pn	02 23 11.5	-2.0
KKAR	Karatay Array	12.13	1	Pn	Pn	02 23 11.5	-2.0
KKAR	Karatay Array	12.13	1	Pn	Pn	02 23 11.5	-2.0
KKAR	Karatay Array	12.13	1	P	Pn	02 23 11.5	-2.0
AAK	Ala-Archa	12.17	16	Pn	Pn	02 23 13.0	-1.2
AAK	Ala-Archa	12.17	16	Pn	Pn	02 23 13.2	-1.0
	comp=N,1.7nm,0.3s,baz=198,slow=24,SNR=27						
AAK				Sn	Sn	02 25 27.5	-1.8
	comp=N,0.3nm,0.3s,baz=137,slow=24,SNR=3.0						
AAK				LR	LR	02 28 02.0	
	comp=N,118nm,19.5s,baz=200,slow=38						
	comp=N,12nm,0.6s						
AAK	Ala-Archa	12.17	16	P	Pn	02 23 13.4	-0.8
AAK				S	Sn	02 25 28.1	-1.2
AAK	Ala-Archa	12.17	16	P	Pn	02 23 13.2	-1.0
	SNR=22						
AAK	Ala-Archa	12.17	16	P	Pn	02 23 12.6	-1.7
	comp=N,12nm,0.7s						
AAK				S	Sn	02 25 26.7	-2.6
	comp=N,22nm,1.1s						
AAK	Ala-Archa	12.17	16	*de*P	Pn	02 23 13.0	-1.2
AAK	Ala-Archa	12.17	16	Pn	Pn	02 23 12.9	-1.4
ULHL	Ulahol	12.29	22	P	Pn	02 23 16.8	+0.8
	SNR=14						
TARG	Taragay, Kyrgy	12.41	28		Pn	02 23 17.2	-0.4
TARG	Taragay, Kyrgy	12.41	28	P	Pn	02 23 17.3	-0.4
BOOM	Boomskoye usch	12.42	20	Pn	Pn	02 23 16.6	-1.1
BOOM	Boomskoye usch	12.42	20	P	Pn	02 23 16.6	-1.1
KDJ	Kajisay	12.51	25	Pn	Pn	02 23 18.8	-0.1
KDJ	Kajisay	12.51	25	P	Pn	02 23 18.8	-0.1
TKM2	Tokmak 2	12.72	19	P	Pn	02 23 20.6	-1.2
	SNR=11						
TKM2	Tokmak 2	12.72	19	⇓P	Pn	02 23 20.9	-0.8
	comp=N,16nm,0.9s						
TKM2				⇓S	Sn	02 25 41.7	-1.0
	comp=N,7.7nm,0.9s						
TKM2	Tokmak 2	12.72	19	*i* P	Pn	02 23 20.9	-0.8
TKM2				pmax	pmax		
	comp=Z,17nm,1.1s						
WSAR	Wadi Sarin	12.78	236	Pn	Pn	02 23 20.9	-1.5

NAZ Nazwa, Dubai 14.07 249 Pn **Pn 02 23 40.4 +0.3**
BSY Bisya 14.12 238 P **Pn 02 23 41.3 +0.6**
SNR=7.1
ARQ Araqi 14.27 241 P **Pn 02 23 45.0 +2.2**
SNR=10
ARQ P **Pn 02 23 45.0 +2.2**
SNR=10
SHLS Shalkode 14.27 29 *e*P **Pn 02 23 43.1 +0.2**
SHLS pmax pmax
comp=Z,3.0nm,2.2s
PDGK Podgornoye 14.43 29 ⇑P **Pn 02 23 42.8 -2.2**
comp=Z,18nm,1.0s
PDGK Podgornoye 14.43 29 P **Pn 02 23 42.8 -2.2**
ASUD Al Ashush, Dub 14.51 248 P **Pn 02 23 47.4 +1.3**
ARXS Arharly 14.57 23 *e*P **Pn 02 23 42.9 -4.0**
MHTO MHTO 14.74 231 P **Pn 02 23 50.2 +1.0**
MHTO P **Pn 02 23 50.2 +1.0**
UMZA Um Al Zommool 15.65 242 P **P 02 24 03.8 -1.3**
UMZA P **P 02 24 03.8 -1.3**
OTUK Ortayu 17.35 5 ⇑P **Pn 02 24 20.4 -2.3**
comp=Z,4.4nm,0.8s
OTUK Ortayu 17.35 5 P **Pn 02 24 20.4 -2.3**
MAKZ Makanchi 18.30 27 **Pn 02 24 33.5 -0.8**
MAKZ Makanchi 18.30 27 ⇑P **Pn 02 24 33.2 -1.2**
comp=Z,22nm,1.3s
MAKZ Makanchi 18.30 27 P **Pn 02 24 33.5 -0.8**
MAKZ pmax pmax
comp=Z,22nm,1.2s
MK31 Makanchi Array 18.41 27 **P 02 24 34.2 -1.4**
MK31 Makanchi Array 18.41 27 ⇑P **P 02 24 34.5 -1.1**
comp=Z,5.6nm,0.8s,baz=206,slow=12,SNR=54
MK31 Makanchi Array 18.41 27*c i*P **P 02 24 34.8 -0.8**
MKAR Makanchi Array 18.41 27 **P 02 24 34.3 -1.2**
MKAR Makanchi Array 18.41 27 P **P 02 24 34.1 -1.5**
comp=Z,0.3nm,0.3s,baz=213,slow=9.9,SNR=48
MKAR LR LR 02 31 27.4
comp=Z,60nm,19.8s,baz=214,slow=36
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 18.41 27*ce*P **P 02 24 34.7 -0.9**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
WMQ Urumqi 18.93 42 *e*P **Pn 02 24 43.1 +0.9**
WMQ LR LR
comp=Z,450nm,13.9s
WMQ LR LR
comp=Z,330nm,21.1s
DOK Doka 18.98 233 P **Pn 02 24 43.0 +0.2**
SNR=13
DOK P **Pn 02 24 43.0 +0.2**
SNR=13
RBK Rabkut 19.70 231 P **Pn 02 24 51.1 -0.4**
WHFO Wadi Hawf 19.70 233 P **P 02 24 51.0 +1.0**
SNR=8.4
AB31 Akbulak array 19.82 340 P **P 02 24 51.1 0.0**
comp=Z,5.6nm,0.6s,baz=154,slow=12,SNR=110
AB31 Akbulak array 19.82 340 *e*P **P 02 24 51.0 0.0**
ABKAR Akbulak array 19.82 340 **P 02 24 50.7 -0.3**
ABKAR Akbulak array 19.82 340 P **P 02 24 51.1 +0.1**
ABKAR IAmb IAmb 02 24 53.3
comp=Z,8.9nm,0.7s
ABTO Aybut 20.42 232 P **P 02 24 58.5 +0.6**
SNR=8.2
ABTO P **P 02 24 58.5 +0.6**
SNR=8.2
KURBB Kurchatov Arra 20.63 15 P **P 02 24 58.4 -1.3**
comp=Z,4.8nm,0.9s,baz=208,slow=10,SNR=19
comp=Z,4.8nm,0.9s
KURBB Kurchatov Arra 20.63 15 ⇑P **P 02 24 58.5 -1.3**
comp=Z,4.6nm,0.7s
KURK Kurchatov 20.74 15 P **P 02 24 59.6 -1.3**
KURK Kurchatov 20.74 15 ⇑P **P 02 25 00.1 -0.8**
comp=Z,6.1nm,0.8s
KURK Kurchatov 20.74 15*d i*P **P 02 25 01.2 +0.3**
KURK pmax pmax
comp=Z,7.0nm,0.9s
BRDH Bariadhala 20.90 108 LR LR 02 35 15.1
comp=Z,362nm,18.3s,baz=306,slow=43
GOMU GeErMu 21.22 69 P **P 02 25 06.3 -0.4**
GOMU pmax pmax
comp=Z,12nm,0.8s
AKTO Aktyubinsk 21.45 339 P **P 02 25 07.5 -1.1**
comp=Z,12nm,0.8s,baz=169,slow=7.4,SNR=16
comp=Z,12nm,0.8s
AKTO Aktyubinsk 21.45 339 ⇑P **P 02 25 08.5 -0.1**
comp=Z,15nm,1.1s
MAK Makhachkala 21.59 310 *e*P **P 02 25 07.2 -3.0**
MAK *e*S **S 02 29 06.6 -1.7**
MAK pmax pmax
comp=Z,64nm,1.1s
MAK MLR MLR
comp=Z,120nm,15.0s
BVA0 Borovoye Array 22.05 0 ⇓P **P 02 25 14.0 -1.1**
comp=Z,10nm,1.0s
BVA0 Borovoye Array 22.05 0 P **P 02 25 14.0 -1.1**
BVAR Borovoye Array 22.05 0 P **P 02 25 14.1 -1.0**
comp=Z,5.4nm,0.7s,baz=163,slow=10,SNR=21
BVAR LR LR 02 34 54.5
comp=Z,283nm,19.4s,baz=183,slow=40
comp=Z,5.4nm,0.7s
BRVK Borovoye 22.09 0 P **P 02 25 14.7 -0.7**
BRVK IAmb IAmb 02 25 23.7
comp=Z,13nm,0.7s
BRVK Borovoye 22.09 0 P **P 02 25 15.0 -0.4**
BRVK P **P 02 25 15.0 -0.4**
BRVK Borovoye 22.09 0 ⇓P **P 02 25 14.9 -0.5**
comp=Z,14nm,0.9s
BRVK Borovoye 22.09 0*d i*P **P 02 25 14.6 -0.8**
BRVK pmax pmax
comp=Z,12nm,0.7s
RAYN Ar Rayn 23.06 257 P **P 02 25 27.2 +1.1**
RAYN IAmb IAmb 02 25 46.2
comp=Z,9.0nm,1.1s
RAYN Ar Rayn 23.06 257 P **P 02 25 26.2 +0.2**
RAYN Ar Rayn 23.06 257 P **P 02 25 27.2 +1.1**
RAYN pmax pmax
comp=Z,9.0nm,1.1s
NCK Nalchik 24.42 308 ⇓*e*P **P 02 25 39.1 +0.2**
NCK pmax pmax
comp=Z,5.0nm,0.4s
KBZ Khabaz 24.98 308 P **P 02 25 43.4 -0.5**
comp=Z,2.9nm,0.9s,baz=113,slow=12,SNR=9.0
KBZ LR LR 02 38 09.1
comp=Z,205nm,19.9s,baz=104,slow=43
comp=Z,2.9nm,0.9s
KBZ Khabaz 24.98 308*ce*P **P 02 25 43.2 -0.7**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
MARD Mardin 25.02 293 IAmb IAmb 02 25 47.3
comp=Z,7.6nm,0.7s
SHA1 Shidzhatmaz 25.14 308*c i*P **P 02 25 46.4 +0.7**
KIV Kislovodsk 25.20 309 P **P 02 25 46.0 -0.1**
KIV P **P 02 25 46.0 -0.1**
KIV Kislovodsk 25.20 309 *e*P **P 02 25 45.7 -0.4**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,104nm,15.0s
ZAA0 Zalesovo Array 25.31 21 P **P 02 25 46.5 -0.3**
ZAA0 IAmb IAmb 02 25 59.7
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam 25.31 21 P **P 02 25 44.9 -1.9**
ZALV Zalesovo Beam 25.31 21 P **P 02 25 46.4 -0.4**
comp=Z,1.6nm,0.4s,baz=224,slow=8.7,SNR=11
comp=Z,1.6nm,0.4s
PALK Pallekele 25.57 155 LR LR 02 36 04.5
comp=Z,204nm,19.1s,baz=349,slow=37
GTA Gaotai 25.62 63 *e*P **P 02 25 52.4 +2.4**
GTA pP pP 02 25 56.7 -0.4
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA LR LR
comp=Z,100nm,11.3s
GTA LR LR
comp=Z,130nm,12.0s
GTA LR LR
comp=Z,160nm,11.6s
KOPT Kop Dagi 25.65 299 P **P 02 25 52.7 +2.3**
KOPT IAmb IAmb 02 26 03.0
comp=Z,11nm,1.1s
ARTI Arti 26.72 345 P **P 02 25 59.4 -0.1**
ARTI IAmb IAmb 02 26 03.1
comp=Z,13nm,1.1s
ARTI Arti 26.72 345 LR LR 02 37 29.3
comp=Z,135nm,19.0s,baz=159,slow=39
ARTI Arti 26.72 345*c i*P **P 02 26 00.6 +1.1**
ARTI 02 26 41.3

ARTI S **S 02 30 41.0 +7.3**
ARTI SS **SnSn 02 31 49.1 +11**
ARTI pmax pmax
comp=Z,14nm,1.2s
PZH PanZhiHua 28.05 91 P **P 02 26 08.8 -3.1**
PZH S **S 02 30 49.4 -6.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,6.1s
PZH LR LR
comp=Z,220nm,9.8s
PZH LR LR
comp=Z,170nm,10.5s
PZH LR LR
comp=Z,180nm,12.0s
ASF Jabal al Asfar 28.26 281 LR LR 02 39 32.4
comp=Z,226nm,18.2s,baz=112,slow=41
LZH Lanzhou 28.50 71 *e*P P 02 26 09.4 -6.6
LZH sP pP 02 26 15.7 -7.4
LZH pmax pmax
comp=Z,26nm,1.3s
LZH LR LR
comp=N,190nm,11.3s
LZH LR LR
comp=E,180nm,12.7s
LZH LR LR
comp=Z,280nm,13.7s
CMAR Chiang Mai Arr 28.91 109 P **P 02 26 21.1 +1.5**
comp=Z,1.1nm,0.3s,baz=307,slow=8.0,SNR=2.2
CMAR LR LR 02 41 10.7
comp=Z,78nm,18.4s,baz=310,slow=43
comp=Z,1.1nm,0.3s
VRH Novokhopyorsk 29.14 322 *e*P P 02 26 27.5 +6.3
VRH pmax pmax
comp=Z,6.0nm,0.6s
MMAI Mount Meron Ar 29.42 283 P **P 02 26 24.2 +0.2**
comp=Z,0.2nm,0.3s,baz=282,slow=20,SNR=1.4
MMAI LR LR 02 40 26.4
comp=Z,276nm,18.0s,baz=74,slow=41
EIL Elat 30.30 277 LR LR 02 40 55.9
comp=Z,338nm,18.3s,baz=70,slow=41
VSR Storozhevoye 30.52 320 *e*P **P 02 26 31.4 -2.1**
VSR pmax pmax
comp=Z,4.0nm,0.9s
VORR Voronezh 30.73 321 *e*P **P 02 26 32.2 -3.1**
VORR pmax pmax
comp=Z,12nm,0.4s
BR104 Keskin Array S 30.83 297 P **P 02 26 36.7 +0.2**
comp=Z,3.1nm,1.0s
BR131 Keskin Array S 30.83 297 P **P 02 26 36.9 +0.3**
BR131 IAmb IAmb 02 26 37.4
comp=Z,3.3nm,0.8s
BR131 Keskin Array S 30.83 297 P **P 02 26 36.6 +0.2**
SNR=6.2
BR131 Keskin Array S 30.83 297*c i*P **P 02 26 36.7 +0.2**
BRTR Keskin Array B 30.83 297 P **P 02 26 36.5 0.0**
comp=Z,2.2nm,0.7s,baz=113,slow=9.7,SNR=21
BRTR LR LR 02 40 45.8
comp=Z,114nm,18.5s,baz=123,slow=40
comp=Z,2.2nm,0.7s
BR105 Keskin Array S 30.85 297 P **P 02 26 36.5 -0.2**
comp=Z,3.5nm,0.7s
BR106 Keskin Array S 30.85 297 P **P 02 26 36.8 +0.1**
comp=Z,30nmcomp=Z,3.4nm,0.8s
KIRV Kirov 31.02 339 LR LR 02 41 10.1
comp=Z,61nm,18.8s,baz=143,slow=40
KIRV Kirov 31.02 339*d i*P **P 02 26 37.7 0.0**
LPSR Galich'ya Gora 31.36 323 *e*P **P 02 26 38.2 -2.6**
LPSR pmax pmax
comp=Z,17nm,0.6s
SONM Songino Array 32.35 48 P **P 02 26 52.0 +2.2**
comp=Z,2.9nm,1.1s,baz=249,slow=9.6,SNR=13
SONM LR LR 02 41 37.4
comp=Z,146nm,21.7s,baz=252,slow=40
comp=Z,2.9nm,1.1s
SONM Songino Array 32.35 48 P **P 02 26 52.0 +2.2**
OBN Obninsk 33.86 325 ⇓*i*P **P 02 27 02.7 0.0**
OBN *e* 02 28 17.0
OBN *e*S **S 02 32 29.4 +3.9**
OBN pmax pmax
comp=Z,10.0nm,0.7s
OBN MLR MLR
comp=Z,143nm,17.0s
HHC Hu-ho-hao-te 34.73 62 *e*P **P 02 27 08.9 -1.6**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,65nm,4.7s
HHC LR LR
comp=Z,140nm,15.3s
HHC LR LR
comp=Z,170nm,16.1s
HHC LR LR
comp=Z,170nm,15.3s
SORM Soroca 35.96 311 P **P 02 27 20.0 -0.9**
comp=Z,7.3nm,0.9s
KARP Karpathos 35.99 289 P **P 02 27 22.0 +0.6**
comp=Z,20nm,0.9s
AK09 Malin Array Si 36.03 315 P **P 02 27 21.2 -0.2**
AK10 Malin Array Si 36.04 315 P **P 02 27 21.3 -0.2**
AK08 Malin Array Si 36.05 315 P **P 02 27 21.4 -0.2**
AK07 Malin Array Si 36.05 315 P **P 02 27 21.4 -0.3**
KLMR Klimovskoe 36.06 335 *e*P **P 02 27 17.3 -4.3**
KLMR pmax pmax
comp=Z,14nm,1.2s
AK06 Malin Array Si 36.07 315 P **P 02 27 21.6 -0.2**
AK05 Malin Array Si 36.08 315 P **P 02 27 21.4 -0.5**
AKASG Malin Array Be 36.09 315 P **P 02 27 21.4 -0.6**
comp=Z,4.7nm,0.6s,baz=102,slow=7.1,SNR=39
AKASG LR LR 02 44 49.4
comp=Z,72nm,19.4s,baz=110,slow=41
comp=Z,4.7nm,0.6s
AKASG Malin Array Be 36.09 315*ce*P **P 02 27 21.3 -0.6**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 36.09 315 P **P 02 27 21.5 -0.4**
AKBB Malin Array Si 36.09 315*c i*P **P 02 27 21.5 -0.4**
AKBB pmax pmax
comp=Z,10.0nm,0.7s
AKBB Malin Array Si 36.09 315 P **P 02 27 21.4 -0.5**
KIEV Kiev 36.10 315 P **P 02 27 21.4 -0.6**
KIEV IAmb IAmb 02 27 22.6
comp=Z,10.0nm,0.8s
KIEV Kiev 36.10 315 P **P 02 27 21.4 -0.6**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 36.10 315 P **P 02 27 21.6 -0.4**
comp=Z,59nm,0.8s
VRI Vrincioaia 36.63 306 ⇑P **P 02 27 28.3 +1.6**
VRI Vrincioaia 36.63 306 ⇑P **P 02 27 28.3 +1.6**
PLOR5 Plostina Array 36.67 306 P **P 02 27 27.9 +0.8**
comp=Z,9.4nm,0.9s
PLOR Plostina 36.68 306 ⇑P **P 02 27 28.3 +1.1**
PLOR Plostina 36.68 306 ⇑P **P 02 27 28.3 +1.1**
MI30 MI30,Zelenitsa 36.73 315 P **P 02 27 26.6 -0.8**
comp=Z,14nm,0.7s
LUBAR Lubar, Ukraine 36.77 313 P **P 02 27 26.9 -0.9**
COVR Voineasa-Covas 36.99 306 ⇓P **P 02 27 29.7 -0.1**
MLR Muntele Rosu 37.12 306 IAmb IAmb 02 27 33.7
comp=Z,14nm,1.0s
MLR Muntele Rosu 37.12 306 LR LR 02 45 38.9
comp=Z,126nm,19.9s,baz=64,slow=41
MLR Muntele Rosu 37.12 306 ⇑P **P 02 27 32.3 +1.3**
MLR Muntele Rosu 37.12 306 ⇑P **P 02 27 32.3 +1.3**
MLR Muntele Rosu 37.12 306 P **P 02 27 32.4 +1.4**
comp=Z,17nm,0.9s
DOPR Dopca 37.57 306 ⇑P **P 02 27 32.0 -2.7**
VOIR 37.74 305 ⇑P **P 02 27 36.4 +0.2**
VOIR 37.74 305 ⇑P **P 02 27 36.4 +0.2**
VOIR 37.74 305 P **P 02 27 36.4 +0.2**
comp=Z,4.2nm,0.6s
BURAR Bucovina Array 37.93 309 P **P 02 27 37.8 0.0**
BURAR Bucovina Array 37.93 309 ⇓P P 02 27 25.1 -13
ARR Arges 38.02 305 ⇑P **P 02 27 39.1 +0.5**
MNK Minsk 38.10 321 *i* P **P 02 27 36.9 -2.2**
comp=E,5.0nm,0.6s
MNK *i* P **P 02 27 36.9 -2.2**
comp=N,6.0nm,0.8s
MNK *i* P **P 02 27 36.9 -2.2**
comp=Z,8.0nm,0.8s,baz=110
MNK *i* PP **PP 02 29 05.6 -0.6**
MNK *i* PPP PPP 02 29 22.9
MNK *i* S **S 02 33 31.6 +1.1**
MNK *i* SS **SS 02 36 16.0 -2.1**
MNK *i* SSS SSS 02 36 34.2

MNK *i* LQ LQ 02 40 32.2
MNK *i* LR LR 02 43 44.4
MNK *i* LRM MLR 02 47 59.2
comp=Z,77nm,15.8s
MNK *i* LRM MLR 02 49 10.9
comp=N,130nm,17.8s
MNK *i* LRM MLR 02 49 12.9
comp=E,211nm,22.2s
MNK Minsk 38.10 321 *i* P **P 02 27 36.8 -2.2**
MNK *i* 02 29 05.6
MNK *i* S **S 02 33 31.6 +1.1**
MNK *i* SSS SSS 02 36 34.1
MNK pmax pmax
comp=E,5.0nm,0.6s
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=Z,8.0nm,0.8s
RNPP5 Staryi Chortor 38.26 315 P **P 02 27 40.3 -0.1**
RNPP9 Sopachiv 38.31 315 P **P 02 27 40.6 -0.2**
RNPP8 Varash 38.31 315 P **P 02 27 40.6 -0.2**
STNU Starunia 38.59 311 P **P 02 27 43.8 +0.6**
LOT Lotru 38.64 305 ⇑P **P 02 27 44.0 +0.2**
NACGM Naroch 38.84 321 ⇓*i* P **P 02 27 44.9 -0.4**
comp=Z,16nm,0.7s,baz=110
PSI Prapat 39.05 130 LR LR 02 44 29.8
comp=Z,288nm,18.3s,baz=298,slow=37
MARR Marisel-Cluj 39.22 307 ⇓P P 02 27 40.1 -8.5
GZR Gura Zlata 39.33 305 ⇑P **P 02 27 49.2 -0.3**
GZR Gura Zlata 39.33 305 ⇑P **P 02 27 49.2 -0.3**
BRIU Brid 39.50 310 P **P 02 27 51.5 +0.7**
DRGR 39.51 307 ⇓P P 02 27 39.9 -11
HERR Herculane 39.54 304 ⇑P P 02 27 59.3 +8.1
NRIK Noril'sk 39.70 10 IAmb IAmb 02 27 57.6
comp=Z,9.9nm,1.2s
NRIK Noril'sk 39.70 10 P **P 02 27 52.5 +0.4**
comp=Z,2.5nm,0.4s,baz=200,slow=6.3,SNR=6.6
NRIK LR LR 02 46 36.5
comp=Z,133nm,19.6s,baz=196,slow=40
comp=Z,2.5nm,0.4s
NRIK Noril'sk 39.70 10*de*P **P 02 27 52.6 +0.4**
NRIK pmax pmax
comp=Z,9.0nm,1.1s
SURR Surduc 39.81 306 ⇑P **P 02 27 54.0 +0.5**
HOLU Holmets 39.95 310 P **P 02 27 55.6 +1.1**
KOLS Kolonicke sedl 40.08 311 *e*P **P 02 27 56.0 +0.3**
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS Kolonicke sedl 40.08 311 *e*P **P 02 27 56.0 +0.3**
BZS Buzias 40.16 305 ⇑P **P 02 27 57.0 +0.7**
BZS Buzias 40.16 305 ⇑P **P 02 27 57.0 +0.7**
SIRR Siria 40.18 306 ⇑P **P 02 27 51.9 -4.7**
VSU Vasula 40.21 326 ⇓*i* P **P 02 27 54.9 -1.6**
VSU pmax pmax
comp=Z,29nm,2.2s
NJ2 Nanjing 41.30 75 *e*P **P 02 28 03.2 -2.7**
NJ2 pmax pmax
comp=Z,36nm,0.6s
NIE Niedzica 41.43 311 P **P 02 28 07.7 +0.9**
comp=Z,5.2nm,1.1s
FINES FINESS Array B 41.78 330 P **P 02 28 09.3 -0.1**
FINES FINESS Array B 41.78 330 P **P 02 28 08.9 -0.5**
comp=Z,1.1nm,0.6s,baz=117,slow=7.1,SNR=12
FINES PP **PP 02 29 45.3 -0.7**
comp=Z,1.0nm,0.8s,baz=110,slow=7.6,SNR=1.8
FINES LR LR 02 47 27.7
comp=Z,98nm,21.4s,baz=109,slow=39
comp=Z,1.1nm,0.6s
FINES FINESS Array B 41.78 330 *i* P **P 02 28 09.3 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.6s
LANS Liptovska Anna 41.94 311 *e*P **P 02 28 11.9 +0.9**
LANS Liptovska Anna 41.94 311 *e*P **P 02 28 11.9 +0.9**
MORH Mrgy, Hungar 42.26 306 P **P 02 28 13.7 +0.1**
comp=Z,3.2nm,1.1s
VYHS Vyhne 42.29 310 *e*P **P 02 28 14.1 +0.3**
VYHS Vyhne 42.29 310 *e*P **P 02 28 14.1 +0.3**
MORC Moravsky Berou 43.25 311 P **P 02 28 22.2 +0.4**
MORC IAmb IAmb 02 28 22.7
comp=Z,5.4nm,0.7s
MORC Moravsky Berou 43.25 311 *e*P **P 02 28 22.1 +0.4**
MODS Modra-Piesok 43.31 309 *e*P **P 02 28 24.6 +2.4**
MODS pmax pmax
comp=Z,21nm,1.4s
MODS Modra-Piesok 43.31 309 *e*P **P 02 28 24.6 +2.4**
VRAC Vranov 43.83 311 LR LR 02 49 13.5
comp=Z,71nm,19.8s,baz=83,slow=40
VRAC Vranov 43.83 311 *e*P **P 02 28 26.4 +0.1**
KRUC Moravsky 43.94 310 *e*P **P 02 28 27.3 +0.1**
MOA Molln 45.31 308 *i* P **P 02 28 38.0 -0.1**
comp=Z,3.3nm,0.4s
GERES GERESS Array B 45.70 310 P **P 02 28 40.9 -0.5**
comp=Z,2.2nm,0.7s,baz=94,slow=8.0,SNR=15
GERES LR LR 02 50 32.6
comp=Z,72nm,19.7s,baz=80,slow=40
comp=Z,2.2nm,0.7s
BIOA Bad Ischl, Aus 45.73 308 *e*P **P 02 28 41.1 -0.4**
comp=Z,1.1nm,0.2s
MYKA Terra Mystica 45.73 307 *e*P **P 02 28 40.6 -0.9**
comp=Z,1.2nm,0.4s
KHC Kasperske Hory 45.79 310 ⇑*i*P **P 02 28 41.5 -0.5**
KHC pmax pmax
comp=Z,20nm,2.5s
KBA Koelnbreinsper 45.93 307 *e*P **P 02 28 43.0 -0.2**
comp=Z,2.2nm,0.5s
ARCES ARCESS Array B 46.03 340 P **P 02 28 44.0 +0.5**
comp=Z,4.5nm,0.6s,baz=130,slow=8.1,SNR=20
ARCES LR LR 02 48 52.8
comp=Z,102nm,19.1s,baz=132,slow=37
comp=Z,4.5nm,0.6s
CLL Collm 46.26 313 *i* P **P 02 28 45.6 +0.1**
CLL pmax pmax
comp=Z,12nm,1.4s
CLL Collm 46.26 313 *i* P **P 02 28 45.6 +0.1**
comp=Z,12nm,1.4s
CLL *e*PP **PP 02 30 35.0 +0.9**
CLL *e*PPP PPP 02 31 12.0
CLL *e*SS SS 02 39 00.0 +3.9
CLL *e*SSS SSS 02 39 48.0
LESA Schwarzleotal 46.38 308 *e*P **P 02 28 46.5 -0.2**
comp=Z,0.7nm,0.2s
HFS Hagfors 47.07 325 P **P 02 28 51.3 -0.5**
comp=Z,4.9nm,0.6s,baz=125,slow=7.4,SNR=45
HFS LR LR 02 50 57.9
comp=Z,159nm,18.2s,baz=100,slow=39
comp=Z,4.9nm,0.6s
WTTA Wattenberg 47.09 308 *e*P **P 02 28 51.4 -1.0**
comp=Z,2.5nm,0.4s
WATA Walderalm 47.13 308 *e*pP **P 02 28 53.7 +1.1**
comp=Z,2.7nm,0.6s
SQTA Sankt Quirin 47.38 308 *i* P **P 02 28 53.6 -1.0**
comp=Z,1.6nm,0.3s
MOTA Moosalm 47.45 308 *i* P **P 02 28 53.7 -1.4**
comp=Z,3.7nm,0.7s
KSRS Korea Array 47.62 66 P **P 02 28 57.3 +0.9**
comp=Z,1.4nm,0.4s,baz=258,slow=6.3,SNR=5.0
KSRS LR LR 02 49 18.5
comp=Z,41nm,18.2s,baz=270,slow=36
comp=Z,1.4nm,0.4s
FUORN Ofenpass-Fuorn 48.06 307 P **P 02 28 59.1 -0.8**
FUORN IAmb IAmb 02 29 10.0
comp=Z,7.5nm,1.2s
DAVA Damuels 48.28 308 *e*P **P 02 29 00.8 -0.8**
comp=Z,1.9nm,0.3s
DAVOX Davos/Dischmat 48.31 307 LR LR 02 51 54.2
comp=Z,68nm,21.2s,baz=61,slow=39
NC303 NORSAR Array S 48.42 326 P **P 02 29 01.6 -0.6**
NB2 NORSAR Subarra 48.45 326 P **P 02 29 01.3 -1.2**
comp=Z,1.7nm,0.5s,baz=104,slow=7.9
NOA NORSAR Array B 48.45 326 P **P 02 29 01.6 -0.9**
comp=Z,1.5nm,0.5s,baz=104,slow=7.8,SNR=14
NOA LR LR 02 51 41.6
comp=Z,123nm,20.3s,baz=100,slow=39
comp=Z,1.5nm,0.5s
TUE Stuetta 48.70 307 P **P 02 29 04.6 -0.2**
comp=Z,30nm,1.5s
YAK Yakutsk 48.97 33 LR LR 02 51 54.3
comp=Z,138nm,18.2s,baz=254,slow=39
KLR Kul'dur 49.16 50 LR LR 02 51 57.3
comp=Z,95nm,18.1s,baz=330,slow=39
KLR Kul'dur 49.16 50 ⇑*e*P **P 02 29 07.2 -0.9**
KLR pmax pmax
comp=Z,7.0nm,1.8s
SENIN Lac Senin/Sane 50.12 307 P **P 02 29 15.2 -0.5**
KEST Kesra 50.28 293 P **P 02 29 17.5 +0.6**
comp=Z,3.1nm,0.8s,baz=90,slow=2.1,SNR=7.7

comp=Z,3.1nm,0.8s
BCLA Clavier 51.14 312 *d*P **P 02 29 23.2 +0.2**
TIXI Tiksi 51.20 20 LR LR 02 51 30.2
comp=Z,60nm,19.2s,baz=276,slow=37
TIXI Tiksi 51.20 20⇑ *i*P **P 02 29 21.9 -1.3**
TIXI pmax pmax
comp=Z,6.0nm,0.7s
BGES Gesves 51.28 312 *d*P **P 02 29 23.1 -1.0**
DOU Dourbes 51.61 312 *d*P **P 02 29 27.2 +0.6**
LEM Lembang 51.96 130 LR LR 02 54 39.4
comp=Z,127nm,18.5s,baz=282,slow=40
SPITS Spitsbergen Ar 52.72 348 P **P 02 29 35.6 +1.2**
comp=Z,3.8nm,0.6s,baz=107,slow=11,SNR=10
comp=Z,3.8nm,0.6s
EKA Eskdalemuir Ar 55.84 319 P **P 02 29 56.2 -1.2**
comp=Z,1.0nm,0.5s,baz=87,slow=7.1,SNR=6.6
comp=Z,1.0nm,0.5s
MJAR Matsushiro Arr 55.85 65 LR LR 02 56 30.6
comp=Z,62nm,19.0s,baz=278,slow=39
YSS Yuzhno-Sakhali 56.75 51⇑ *e*P **P 02 30 03.8 -0.3**
YSS pmax pmax
comp=Z,17nm,1.2s
ASAJ Asahikawa 57.24 55 LR LR 02 57 34.4
comp=Z,69nm,18.3s,baz=170,slow=39
JMIC Jan Mayen 57.37 338 LR LR 02 55 08.2
comp=Z,27nm,18.0s,baz=85,slow=36
MA2 Magadan 59.23 36 LR LR 02 57 01.2
comp=Z,38nm,18.0s,baz=212,slow=37
MA2 Magadan 59.23 36⇑ *e*P **P 02 30 22.2 +0.9**
MA2 pmax pmax
comp=Z,31nm,1.7s
SEY Seymchan 59.47 32⇓ *e*P **P 02 30 24.0 +1.1**
SEY pmax pmax
comp=Z,25nm,4.5s
ESDC Sonseca Array 59.50 301 P **P 02 30 22.8 -0.8**
comp=Z,1.8nm,0.8s,baz=69,slow=7.1,SNR=12
comp=Z,1.8nm,0.8s
LSZ Lusaka 61.12 227 LR LR 02 59 47.4
comp=Z,56nm,18.0s,baz=331,slow=39
PETK Petropavlovsk- 64.53 42 LR LR 03 02 02.9
comp=Z,126nm,18.2s,baz=279,slow=39
TORD Torodi Ar. Bea 64.93 271 P **P 02 31 00.3 +0.1**
TORD IAmb IAmb 02 31 04.4
comp=Z,3.2nm,1.2s
TORD Torodi Ar. Bea 64.93 271 LR LR 03 01 35.9
comp=Z,50nm,20.6s,baz=138,slow=38
SUMG Summit 66.06 342 P **P 02 31 07.7 +0.6**
SUMG Summit 66.06 342 P **P 02 31 07.7 +0.6**
SUMG pmax pmax
comp=Z,9.0nm,1.1s
C16K Lisburne Hills 72.92 19 P **P 02 31 49.0 -0.1**
C16K IAmb IAmb 02 31 50.9
comp=Z,2.5nm,1.0s
BOSA Boshof 73.04 220 P **P 02 31 51.0 +0.6**
comp=Z,5.7nm,1.0s,baz=304,slow=5.9,SNR=3.2
comp=Z,5.7nm,1.0s
DBIC Dimbokro 73.71 268 LR LR 03 07 43.1
comp=Z,75nm,18.1s,baz=38,slow=39
D19K Kuna River 74.65 17 IAmb IAmb 02 32 00.4
comp=Z,5.6nm,1.1s
E19K Redstone River 75.65 17 P **P 02 32 04.3 -0.7**
E19K IAmb IAmb 02 32 45.4
comp=Z,5.5nm,1.2s
NWAO Narrogin (SRO) 77.61 141 LR LR 03 05 37.6
comp=Z,74nm,18.4s,baz=7.0,slow=35
C36M Paulatuk 79.45 5 P **P 02 32 25.4 -0.8**
C36M IAmb IAmb 02 32 28.3
comp=Z,8.6nm,1.4s
INK Inuvik 79.48 9 P **P 02 32 25.9 -0.5**
comp=Z,2.0nm,0.9s,baz=359,slow=5.6,SNR=5.8
comp=Z,2.0nm,0.9s
WB0 Warramunga Arr 79.70 120 P **P 02 32 23.7 -4.6**
WRA Warramunga Arr 79.77 121 P **P 02 32 29.1 +0.5**
comp=Z,1.2nm,0.6s,baz=320,slow=5.1,SNR=12
comp=Z,1.2nm,0.6s
BBTS Babate 79.77 281 LR LR 03 11 14.9
comp=Z,54nm,20.3s,baz=318,slow=38
COLA College 80.00 15⇑ *e*P **P 02 32 29.2 0.0**
COLA pmax pmax
comp=Z,28nm,3.7s
FRB Frobisher Bay 80.11 343 LR LR 03 12 03.9
comp=Z,42nm,18.2s,baz=47,slow=39
ILAR Eielson Array 80.31 15 P **P 02 32 30.1 -0.8**
comp=Z,0.8nm,1.0s,baz=273,slow=0.9,SNR=4.3
comp=Z,0.8nm,1.0s
ASAR Alice Springs 81.76 124 P **P 02 32 39.7 +0.4**
comp=Z,1.5nm,0.5s,baz=309,slow=5.3,SNR=15
ASAR LR LR 03 10 08.6
comp=Z,39nm,21.7s,baz=308,slow=36
comp=Z,1.5nm,0.5s
KDAK Kodiak Island 84.61 21 P **P 02 32 53.8 +0.4**
comp=Z,5.7nm,1.0s,baz=10.0,slow=16,SNR=1.6
comp=Z,5.7nm,1.0s
YKA Yellowknife Ar 86.80 2 P **P 02 33 04.3 +0.1**
comp=Z,3.0nm,1.1s,baz=350,slow=4.8,SNR=22
comp=Z,3.0nm,1.1s
SCHQ Schefferville 86.88 337 P **P 02 33 04.1 -0.7**
comp=Z,3.7nm,0.8s,baz=234,slow=16,SNR=1.9
comp=Z,3.7nm,0.8s
BBB Bella Bella 95.69 11 LR LR 03 22 17.7
comp=Z,24nm,18.3s,baz=17,slow=39
MAW Mawson 98.41 183 P Pdif 02 33 58.2 +0.7
comp=Z,3.0nm,0.7s,baz=208,slow=7.7,SNR=2.3
CPUP Villa Florida 133.98 262 PKP **PKiKP 02 39 38.6 -0.5**
comp=Z,1.1nm,0.8s,baz=215,slow=18,SNR=1.3
PLCA Paso Flores 146.88 242 PKPbc **PKPbc 02 40 03.0 +0.4**
comp=Z,1.7nm,1.1s,baz=192,slow=22,SNR=3.1

NEIC ***05*** *02:29:46.8±1.7,8°.20S±0°.07×119°.76E±0°.07,h192km±11km, mb4.3/5,Error ellipse: s-maj=12.5km s-min=6.8km az=129.0*
DJA ***05*** *02:29:47.7±0.4,8°.S±4'×12°.0E±°,h166km±7km,M4.1/12, mB5.7/1,mb4.2/6,MLv4.1/12,Mw(mB)5.2/1*
IDC ***05*** *02:29:48.9±1.9,8°.05S×119°.92E,h213km±17km,mb3.4/5, mbtmp4.0/8,Error ellipse: s-maj=59.6km s-min=9.1km az=54.0*
ISC 05 02:29:46.7±0.6,8°.28S±0°.05×119°.76E±0°.06,h200km,n44, σ1§62/48,mb4.0/5,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.40**	**195**	P	**Pn**	**02 30 18.1**	**-1.5**
WBSI				S	**Sn**	**02 30 41.3**	**-4.0**
WSI	**Waingapu**	**1.48**	**159**	P	**Pn**	**02 30 19.0**	**-1.2**
WSI				S	**Sn**	**02 30 42.7**	**-3.7**
EDFI	**Ende, Flores**	**1.97**	**104**	P	**Pn**	**02 30 24.0**	**-1.0**
PLAI	**Plampang**	**2.03**	**254**	P	**Pn**	**02 30 24.9**	**-0.6**
PLAI				S	**Sn**	**02 30 53.2**	**-2.5**
BASI	**Baing, Sumba**	**2.09**	**157**	P	**Pn**	**02 30 25.4**	**-0.8**
BASI				S	**Sn**	**02 30 54.1**	**-2.9**
BSSI	**Bau Bau, Buton**	**2.24**	**19**	P	**Pn**	**02 30 26.1**	**-1.7**
BKSI	**Bulukumba**	**2.96**	**7**	P	**Pn**	**02 30 34.8**	**-1.1**
KAPI	**Kappang**	**3.24**	**360**		**Pn**	**02 30 38.4**	**-0.8**
KAPI	**Kappang**	**3.24**	**360**	P	**Pn**	**02 30 38.7**	**-0.6**
	53nm,0.5s,baz=184,slow=8.8,SNR=28						
BBSI	**Bau Bau**	**3.94**	**45**	P	**Pn**	**02 30 47.5**	**-0.2**
SRBI	**Singaraja**	**4.50**	**272**	P	**Pn**	**02 30 53.8**	**-1.0**
SOEI	**Soe**	**4.69**	**109**	Pn	**Pn**	**02 30 57.1**	**-0.2**
SOEI	**Soe**	**4.69**	**109**	P	**Pn**	**02 30 58.2**	**+0.9**
ABJI	**Asem Bagus**	**5.49**	**275**	P	**Pn**	**02 31 08.1**	**+0.7**
	0.2nm23nm,0.5s						
JAGI	**Jajag, Banyuwa**	**5.55**	**268**	Pn	**Pn**	**02 31 07.9**	**-0.3**
JAGI	**Jajag, Banyuwa**	**5.55**	**268**	P	**Pn**	**02 31 07.9**	**-0.3**
	35nm,1.0s						
GMJI	**Gumukmas**	**6.25**	**270**	P	**Pn**	**02 31 17.3**	**+0.1**
	0.1nm26nm,1.4s						
LUWI	**Luwuk**	**7.79**	**23**	Pn	**Pn**	**02 31 37.0**	**-0.3**
LUWI	**Luwuk**	**7.79**	**23**	P	**Pn**	**02 31 38.6**	**+1.3**
PCJI	**Pacitan**	**8.49**	**270**	P	**Pn**	**02 31 46.7**	**+0.3**
UGM	**Wanagama**	**9.15**	**272**	Pn	**Pn**	**02 31 54.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**11.32**	**150**	Pn	**Pn**	**02 32 25.6**	**+2.8**
FITZ	**Fitzroy Crossi**	**11.32**	**150**	P	**Pn**	**02 32 25.4**	**+2.5**
	5.0nm,1.0s,baz=329,slow=13,SNR=12						
FITZ				S	**Sn**	**02 34 26.8**	**-2.3**
	4.3nm,0.4s,baz=332,slow=24,SNR=10						
KNRA	**Kununurra**	**11.47**	**131**	Pn	**Pn**	**02 32 23.7**	**-1.2**
MTN	**Manton Dam**	**12.07**	**113**	Pn	**Pn**	**02 32 32.2**	**-0.3**
FAKI	**Fak Fak**	**13.52**	**68**	Pn	**Pn**	**02 32 49.2**	**-1.5**
WB0	**Warramunga Arr**	**18.21**	**130**	P	**P**	**02 33 46.5**	**+1.6**
WB0				IAmb	IAmb	02 33 54.1	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**18.27**	**131**	P	**P**	**02 33 47.1**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=312,slow=10.0,SNR=30						
WRA				S	**S**	**02 37 07.2**	**+3.1**
	comp=Z,1.1nm,0.9s,baz=303,slow=22,SNR=3.6						
WB2	**Warramunga Arr**	**18.28**	**131**	P	**P**	**02 33 47.2**	**+1.6**
WB2				IAmb	IAmb	02 34 07.4	
	comp=Z,15nm,1.5s						
ASAR	**Alice Springs**	**20.44**	**140**	P	**P**	**02 34 12.0**	**+3.1**
	comp=Z,1.0nm,0.4s,baz=316,slow=9.1,SNR=9.0						
ASAR				S	**S**	**02 37 47.4**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=325,slow=24,SNR=6.4						
	comp=Z,1.0nm,0.4s						
COEN	**Coen**	**23.65**	**106**	P	**P**	**02 34 41.0**	**+0.8**
STKA	**Stephens Creek**	**31.05**	**142**	P	**P**	**02 35 47.7**	**+1.8**
	comp=Z,1.6nm,0.5s,baz=321,slow=13,SNR=4.9						
	comp=Z,1.6nm,0.5s						
MK31	**Makanchi Array**	**64.16**	**332**	P	**P**	**02 39 59.9**	**0.0**
MKAR	**Makanchi Array**	**64.16**	**332**	P	**P**	**02 40 00.3**	**+0.5**
MKAR	**Makanchi Array**	**64.16**	**332**	P	**P**	**02 40 00.2**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=141,slow=7.6,SNR=16						
	comp=Z,1.1nm,0.6s						
KKAR	**Karatay Array**	**67.92**	**323**	P	**P**	**02 40 24.1**	**+0.2**
KKAR	**Karatay Array**	**67.92**	**323**	P	**P**	**02 40 24.8**	**+0.9**
KKAR				IAmb	IAmb	02 40 25.0	
	comp=Z,2.6nm,0.3s						
ZALV	**Zalesovo Beam**	**68.64**	**339**	P	**P**	**02 40 27.9**	**-0.1**
ZALV	**Zalesovo Beam**	**68.64**	**339**	P	**P**	**02 40 27.3**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=140,slow=5.8,SNR=5.6						
	comp=Z,1.6nm,0.5s						
KURBB	**Kurchatov Arra**	**68.66**	**333**	P	**P**	**02 40 28.5**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=142,slow=5.5,SNR=5.0						
	comp=Z,0.4nm,0.5s						
H04N2	**CROZET ISLANDS**	**68.84**	**224**	T	T	03 54 45.5	
	baz=82,slow=75,SNR=23						
H04N1	**CROZET ISLANDS**	**68.85**	**224**	T	T	03 54 46.3	
	baz=82,slow=75,SNR=26						
H04N3	**CROZET ISLANDS**	**68.85**	**224**	T	T	03 54 47.2	
	baz=82,slow=75,SNR=27						
ABKAR	**Akbulak array**	**77.41**	**325**	P	**P**	**02 41 18.1**	**-1.4**

IDC ***05*** *02:54:25.8±1.0,38°.72N×14°.35E,h0km,mb3.5/5, mbtmp3.4/9,ML2.5/4,Error ellipse: s-maj=29.0km s-min=10.9km az=92.0*
ROM ***05*** *02:54:25.4±0.2,38°.643N±0°.006×14°.188E±0°.006, h10km,ML3.5/126,Error ellipse: s-maj=0.8km s-min=0.1km az=339.0*
ISC 05 02:54:26.6±1.1,38°.58N±0°.03×14°.23E±0°.02,h17km±8km, n85,σ0§94/104,mb3.6/5,1C-1D,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IACL	**Alicudi**	**0.11**	**116**	P	**Pb**	**02 54 30.1**	**-0.1**
IACL				S	**Sb**	**02 54 32.5**	**-0.1**
IACL				AML	AML		
	comp=N,71450μm,0.5s						
IACL				AML	AML		
IACL				AML	AML		
	comp=N,71450μm,1.5s						
IFIL	**Filicudi I Eol**	**0.26**	**94**	P	**Pb**	**02 54 33.1**	**+0.3**
IFIL				S	**Sb**	**02 54 37.5**	**+0.4**
IFIL				AML	AML		
	comp=E,51600μm,1.3s						
IFIL				AML	AML		
	comp=N,21250μm,0.8s						
LLI	**Lipari**	**0.58**	**103**	P	**Pb**	**02 54 38.3**	**+0.1**
LLI				S	**Sb**	**02 54 46.2**	**+0.1**
LLI				AML	AML		
	comp=E,60100μm,0.7s						
LLI				AML	AML		
	comp=N,72750μm,0.8s						
LLI				AML	AML		
	comp=E,60100μm,1.3s						
PLLN	**Pollina**	**0.59**	**187**	P	**Pg**	**02 54 37.9**	**-0.4**
PLLN				S	**Sb**	**02 54 47.3**	**+0.7**
PLLN				AML	AML		
	comp=E,12250μm,1.5s						
PLLN				AML	AML		
	comp=N,15800μm,0.4s						
PLLN				AML	AML		
	comp=E,12250μm,0.5s						
IVGP	**Vulcano Grotta**	**0.60**	**108**	P	**Pg**	**02 54 38.4**	**-0.1**
IVGP				S	**Sb**	**02 54 47.5**	**+0.6**
GIB	**Gibilmanna**	**0.61**	**195**	⇓P	**Pg**	**02 54 38.3**	**-0.4**
GIB				S	**Sb**	**02 54 48.2**	**+1.0**
GIB				AML	AML		
	comp=N,11300μm,1.5s						
GIB				AML	AML		
	comp=N,11300μm,0.5s						
GIB				AML	AML		
	comp=E,12250μm,0.3s						
VPL	**Vulcano Piano**	**0.63**	**109**	P	**Pg**	**02 54 38.8**	**-0.1**
VPL				S	**Sb**	**02 54 48.0**	**+0.4**
VPL				AML	AML		
	comp=E,7310μm,0.4s						
VPL				AML	AML		
	comp=N,10680μm,0.6s						
CSLB	**Castelbuono**	**0.66**	**192**	P	**Pg**	**02 54 38.9**	**-0.7**
CSLB				S	**Sb**	**02 54 48.6**	**+0.1**
CSLB				AML	AML		
	comp=N,5265μm,0.4s						
CSLB				AML	AML		
	comp=E,4825μm,0.3s						
SOLUN	**Solunto**	**0.73**	**228**	⇑P	**Pb**	**02 54 39.8**	**-1.1**
SOLUN				S	**Sg**	**02 54 50.7**	**0.0**
SOLUN				AML	AML		
	comp=E,6640μm,0.5s						
SOLUN				AML	AML		
	comp=N,4580μm,0.3s						
SOLUN	**Solunto**	**0.73**	**228**	AML	AML		
	comp=E,9020μm,1.0s						
MUCR	**Ucria**	**0.74**	**137**	P	**Pb**	**02 54 40.5**	**-0.5**
MUCR				S	**Sg**	**02 54 51.6**	**+0.7**
MUCR				AML	AML		
	comp=N,20150μm,0.6s						
MUCR				AML	AML		
	comp=E,10600μm,0.7s						
MNO	**Monte Soro**	**0.74**	**150**	P	**Pb**	**02 54 40.8**	**-0.4**
MNO				S	**Sn**	**02 54 52.5**	**-0.9**
MNO				AML	AML		
	comp=N,9695μm,0.6s						
MNO				AML	AML		
	comp=E,5605μm,1.1s						
SCIAR	**Sciara**	**0.74**	**211**	P	**Pb**	**02 54 40.9**	**-0.1**
SCIAR				S	**Sg**	**02 54 51.2**	**+0.2**
SCIAR				AML	AML		
	comp=E,6745μm,0.6s						
SCIAR				AML	AML		
	comp=E,6130μm,0.7s						
SCIAR				AML	AML		
	comp=N,6680μm,0.4s						
SCIAR				AML	AML		
	comp=N,7025μm,1.1s						
ISTR	**Stromboli Gino**	**0.78**	**75**	P	**Pb**	**02 54 41.5**	**-0.2**
ISTR				S	**Sg**	**02 54 52.1**	**-0.1**
MPG	**Monte Pellegri**	**0.80**	**239**	P	**Pb**	**02 54 40.9**	**-1.2**
MPG				S	**Sb**	**02 54 51.2**	**-1.4**
MPG				AML	AML		
	comp=E,579μm,0.3s						
MPG				AML	AML		
	comp=N,486μm,1.0s						
IST3	**Stromboli F**	**0.81**	**74**	P	**Pb**	**02 54 41.7**	**-0.5**
IST3				S	**Sb**	**02 54 52.8**	**-0.1**
IST3				AML	AML		
	comp=E,2700μm,0.7s						
IST3				AML	AML		
	comp=E,2700μm,1.3s						
IST3				AML	AML		
	comp=N,2515μm,0.9s						
MILZ	**Milazzo**	**0.85**	**111**	P	**Pb**	**02 54 41.7**	**-1.0**
MILZ				S	**Sn**	**02 54 55.1**	**-0.5**
MILZ				AML	AML		
	comp=N,6545μm,0.4s						
MILZ				AML	AML		
	comp=E,9965μm,0.5s						
MILZ				AML	AML		
	comp=E,9965μm,1.5s						
NOV	**Novara**	**0.90**	**128**	P	**Pb**	**02 54 42.8**	**-1.0**
NOV				S	**Sn**	**02 54 57.0**	**-0.2**
NOV				AML	AML		
	comp=N,14100μm,0.8s						
NOV				AML	AML		
	comp=E,15350μm,0.5s						
NOV				AML	AML		
	comp=E,15350μm,1.5s						
EPZF	**Pizzo Felice**	**0.90**	**147**	P	**Pg**	**02 54 44.2**	**+0.1**
EPZF				AML	AML		
	comp=E,6265μm,1.2s						
EPZF				AML	AML		
	comp=N,8005μm,1.0s						
GALF	**Gagliano Caste**	**0.91**	**163**	P	**Pg**	**02 54 44.1**	**-0.2**
GALF				AML	AML		
	comp=N,9205μm,0.7s						
GALF				AML	AML		
	comp=E,760μm,0.5s						
GALF				AML	AML		
	comp=N,1280μm,0.6s						
GALF				AML	AML		
	comp=E,7070μm,0.6s						
GALF				AML	AML		
	comp=N,9205μm,1.3s						
GALF				AML	AML		
	comp=N,1280μm,1.4s						
ALJA	**Alia**	**0.91**	**204**	P	**Pb**	**02 54 43.7**	**-0.2**
ALJA				S	**Sg**	**02 54 56.8**	**+0.5**
ALJA				AML	AML		
	comp=N,9460μm,1.0s						
ALJA				AML	AML		
	comp=E,7970μm,1.5s						
ALJA				AML	AML		
	comp=N,9460μm,1.0s						
RESU	**Resuttano**	**0.94**	**188**	P	**Pb**	**02 54 44.4**	**-0.1**
RESU				AML	AML		
	comp=E,3465μm,0.5s						
RESU				AML	AML		
	comp=N,4020μm,0.7s						
RESU				AML	AML		
	comp=E,3465μm,1.5s						
RESU				AML	AML		
	comp=N,4020μm,1.3s						
EMSG	**Monte Spagnolo**	**0.95**	**143**	P	**Pg**	**02 54 45.1**	**+0.1**
EMSG				AML	AML		
	comp=E,7565μm,0.7s						
EMSG				AML	AML		
	comp=N,8705μm,0.4s						
CAGR	**Agira**	**0.98**	**167**	P	**Pn**	**02 54 45.5**	**-0.1**
CAGR				AML	AML		
	comp=E,5400μm,0.6s						
CAGR				AML	AML		
	comp=N,5210μm,0.7s						
MPNC	**Port Mandanici**	**0.98**	**116**	P	**Pb**	**02 54 44.0**	**-1.2**
MPNC				S	**Sn**	**02 54 59.4**	**+0.3**
MPNC				AML	AML		
	comp=E,6985μm,0.4s						
MPNC				AML	AML		
	comp=N,6175μm,0.6s						
ECTS	**Castiglione**	**0.99**	**135**	P	**Pb**	**02 54 44.5**	**-0.8**
ECTS				AML	AML		
	comp=N,2785μm,1.4s						
ECTS				AML	AML		
	comp=E,3935μm,0.6s						
ECTS				AML	AML		
	comp=N,2785μm,0.6s						
AIO	**Antillo**	**1.00**	**127**	P	**Pb**	**02 54 44.2**	**-1.2**
AIO				S	**Sn**	**02 54 59.3**	**-0.2**
AIO				AML	AML		
	comp=E,2415μm,0.5s						
AIO				AML	AML		
	comp=N,2965μm,0.9s						
CORL	**Corleone**	**1.00**	**227**	P	**Pb**	**02 54 44.5**	**-1.0**
CORL				AML	AML		
	comp=E,2720μm,0.4s						
CORL				AML	AML		
	comp=E,2720μm,1.6s						
CORL				AML	AML		
	comp=N,1975μm,0.5s						
EMCN	**Etna Monte Con**	**1.01**	**141**	P	**Pb**	**02 54 45.8**	**0.0**
MSRU	**Castanea**	**1.05**	**107**	P	**Pb**	**02 54 44.9**	**-1.4**
MSRU				AML	AML		
	comp=E,2790μm,0.5s						
MSRU				AML	AML		
	comp=N,2735μm,0.3s						
MCT	**Mte Cammarata**	**1.06**	**207**	P	**Pn**	**02 54 46.7**	**-0.1**
MCT				AML	AML		
	comp=N,2175μm,0.6s						
MCT				AML	AML		
	comp=E,1680μm,1.6s						
MCT				AML	AML		
	comp=N,2175μm,1.4s						
MCT				AML	AML		
	comp=E,1680μm,0.4s						
ESLN	**Serra La Nave**	**1.06**	**146**	P	**Pb**	**02 54 46.5**	**-0.1**
ESLN				AML	AML		
	comp=E,2835μm,0.5s						
ESLN				AML	AML		
	comp=N,4055μm,0.8s						
ESML	**S. M. di Licod**	**1.09**	**152**	P	**Pn**	**02 54 47.3**	**+0.3**
ESML				AML	AML		
	comp=N,2080μm,0.6s						
ESML				AML	AML		
	comp=E,2645μm,0.7s						
ESML				AML	AML		
	comp=N,2080μm,1.4s						
VAE	**Valguarnera**	**1.11**	**173**	Pg	**Pg**	**02 54 48.6**	**+0.5**
	comp=N,9.7nm,0.3s,baz=339,slow=10,SNR=22						
VAE				Lg	Lg	02 55 07.9	
	comp=N,42nm,0.3s,baz=76,slow=6.8,SNR=10.0						
VAE	**Valguarnera**	**1.11**	**173**	P	**Pb**	**02 54 47.0**	**-0.3**
CMDO	**Montedoro**	**1.16**	**196**	P	**Pn**	**02 54 47.1**	**-0.9**
CPTP	**Pietraperzia**	**1.17**	**183**	P	**Pb**	**02 54 48.8**	**+0.4**
CPTP				AML	AML		
	comp=E,1470μm,1.2s						
CPTP				AML	AML		
	comp=N,1905μm,1.2s						
CPTP				AML	AML		
	comp=N,1905μm,0.8s						
MBFT	**Monte Bonifato**	**1.19**	**238**	P	**Pn**	**02 54 46.9**	**-1.5**
MBFT				AML	AML		
	comp=E,569μm,0.9s						
MBFT				AML	AML		
	comp=N,393μm,0.5s						
MBFT				AML	AML		
	comp=E,569μm,1.1s						
SICLA	**Scilla**	**1.21**	**105**	P	**Pn**	**02 54 48.0**	**-0.7**
SICLA				AML	AML		
	comp=E,1405μm,0.4s						
SICLA				AML	AML		
	comp=N,1555μm,1.1s						
CRJA	**Costa Raja**	**1.24**	**231**	P	**Pn**	**02 54 48.8**	**-0.3**
CRJA				AML	AML		
	comp=N,1225μm,0.6s						
CRJA				AML	AML		
	comp=E,1310μm,0.6s						
EPOZ	**Pozzillo**	**1.26**	**147**	P	**Pn**	**02 54 48.8**	**-0.6**
CLTB	**Caltabellotta**	**1.28**	**219**	P	**Pn**	**02 54 49.8**	**0.0**
CLTB				AML	AML		
	comp=E,3280μm,1.5s						
CLTB				AML	AML		
	comp=N,5255μm,0.7s						
MTTG	**Motta San Giov**	**1.29**	**116**	P	**Pn**	**02 54 48.9**	**-0.9**
MTTG				AML	AML		
	comp=N,2075μm,0.6s						
MTTG				AML	AML		
	comp=E,1405μm,0.7s						
MFNL	**Monte Finestre**	**1.30**	**233**	P	**Pn**	**02 54 49.7**	**-0.3**
MFNL				AML	AML		
	comp=E,706μm,0.8s						
MFNL				AML	AML		
	comp=N,538μm,0.9s						
MFNL				AML	AML		
	comp=N,538μm,1.1s						
MFNL				AML	AML		
	comp=E,706μm,1.2s						
GMB	**Gambarie**	**1.32**	**108**	P	**Pn**	**02 54 48.9**	**-1.4**
GMB				AML	AML		
	comp=N,3925μm,0.5s						
GMB				AML	AML		
	comp=E,3505μm,0.5s						
HLNI	**Lentini**	**1.33**	**157**	P	**Pn**	**02 54 50.3**	**0.0**
HLNI				AML	AML		
	comp=E,931μm,0.6s						
HLNI				AML	AML		
	comp=N,995μm,1.0s						
HLNI				AML	AML		
	comp=E,931μm,1.4s						
HLNI				AML	AML		
	comp=N,995μm,1.0s						
CEL	**Celeste**	**1.35**	**103**	AML	AML		
	comp=N,640μm,0.5s						
CEL				AML	AML		
	comp=E,776μm,0.7s						
CEL				AML	AML		
	comp=E,643μm,0.7s						
CEL				AML	AML		
	comp=N,772μm,0.5s						
MTGR	**Montagna Grand**	**1.35**	**240**	P	**Pn**	**02 54 49.6**	**-1.0**

FAVR	**Favara**	**1.39**	**199**	P	**Pg**	**02 54 53.1**	**-0.2**
FAVR				AML	AML		
	comp=E,1070μm,1.1s						
FAVR				AML	AML		
	comp=N,1245μm,0.4s						
FAVR				AML	AML		
	comp=N,1285μm,0.4s						
FAVR				AML	AML		
	comp=N,1245μm,1.6s						
FAVR				AML	AML		
	comp=N,1285μm,1.6s						
FAVR				AML	AML		
	comp=E,538μm,1.1s						
ERC	**Erice**	**1.40**	**248**	P	**Pn**	**02 54 50.1**	**-1.3**
CLTA	**Licata**	**1.44**	**189**	P	**Pb**	**02 54 53.1**	**+0.2**
CLTA				AML	AML		
	comp=E,1710μm,1.0s						
CLTA				AML	AML		
	comp=N,1345μm,0.6s						
HVZN	**Vizzini**	**1.45**	**165**	P	**Pn**	**02 54 52.4**	**+0.3**
CAVT	**Castelvetrano**	**1.47**	**233**	P	**Pn**	**02 54 52.3**	**0.0**
HAGA	**Augusta**	**1.49**	**150**	P	**Pn**	**02 54 51.9**	**-0.6**
HAGA				AML	AML		
	comp=N,970μm,0.6s						
HAGA				AML	AML		
	comp=E,863μm,0.8s						
SOI	**Samo**	**1.52**	**109**	P	**Pb**	**02 54 54.7**	**+0.4**
GEA	**GELA**	**1.52**	**177**	P	**Pb**	**02 54 53.9**	**-0.5**
AGST	**Augusta-Monte**	**1.54**	**149**	P	**Pn**	**02 54 53.0**	**-0.2**
AGST				AML	AML		
	comp=N,1615μm,1.1s						
AGST				AML	AML		
	comp=N,1615μm,0.9s						
AGST				AML	AML		
	comp=E,1218μm,0.4s						
MARS	**Marsala (TP) I**	**1.55**	**238**	P	**Pn**	**02 54 53.2**	**-0.1**
SSY	**Sortino**	**1.57**	**155**	P	**Pn**	**02 54 53.3**	**-0.4**
SSY				AML	AML		
	comp=E,2875μm,1.3s						
SSY				AML	AML		
	comp=N,5900μm,1.1s						
SSY				AML	AML		
	comp=E,2875μm,0.7s						
SSY				AML	AML		
	comp=N,5900μm,0.9s						
CET2	**Cetraro**	**1.64**	**54**	P	**Pn**	**02 54 54.3**	**-0.4**
CET2				AML	AML		
	comp=N,1270μm,0.4s						
CET2				AML	AML		
	comp=E,1105μm,0.8s						
CAR1	**CAROLEI**	**1.69**	**66**	P	**Pn**	**02 54 54.7**	**-0.6**
CAR1				AML	AML		
	comp=E,1030μm,0.4s						
CAR1				AML	AML		
	comp=E,1190μm,1.6s						
CAR1				AML	AML		
	comp=N,1032μm,0.5s						
CAR1				AML	AML		
	comp=E,1030μm,1.6s						
CAR1				AML	AML		
	comp=E,1190μm,0.4s						
CAR1				AML	AML		
	comp=N,1070μm,0.6s						
GRI	**Girifalco**	**1.73**	**81**	P	**Pn**	**02 54 55.6**	**-0.2**
PLAC	**Placanica**	**1.74**	**94**	P	**Pn**	**02 54 55.7**	**-0.3**
PLAC				AML	AML		
	comp=E,630μm,0.5s						
PLAC				AML	AML		
	comp=N,680μm,0.5s						
PLAC				AML	AML		
	comp=N,706μm,0.4s						
PLAC				AML	AML		
	comp=N,680μm,1.5s						
PLAC				AML	AML		
	comp=E,630μm,1.5s						
PLAC				AML	AML		
	comp=E,697μm,0.4s						
BULG	**Bulgheria - Ca**	**1.74**	**30**	P	**Pn**	**02 54 56.0**	**0.0**
CROCE	**Santa Croce Ca**	**1.76**	**172**	P	**Pn**	**02 54 56.9**	**+0.6**
CROCE				AML	AML		
	comp=E,1200μm,0.8s						
CROCE				AML	AML		
	comp=N,1138μm,0.8s						
CROCE				AML	AML		
	comp=E,1235μm,0.8s						
CROCE				AML	AML		
	comp=N,1142μm,0.8s						
SPS2	**Spezzano della**	**1.79**	**66**	P	**Pn**	**02 54 56.2**	**-0.5**
SPS2				AML	AML		
	comp=E,283μm,0.4s						
SPS2				AML	AML		
	comp=N,238μm,1.3s						
CUC	**Castrocucco**	**1.87**	**41**	P	**Pn**	**02 54 57.8**	**0.0**
CUC				AML	AML		
	comp=E,299μm,0.4s						
CUC				AML	AML		
	comp=N,168μm,1.4s						
CUC				AML	AML		
	comp=E,351μm,0.4s						
CUC				AML	AML		
	comp=N,168μm,0.6s						
CUC				AML	AML		
	comp=N,166μm,0.4s						
CMPR	**Campora**	**1.92**	**25**	P	**Pn**	**02 54 58.4**	**-0.1**
CELI	**Celico**	**1.96**	**65**	P	**Pn**	**02 54 58.6**	**-0.4**
CELI				AML	AML		
	comp=E,234μm,0.7s						
CELI				AML	AML		
	comp=N,214μm,0.6s						
CELI				AML	AML		
	comp=E,570μm,0.7s						
CELI				AML	AML		
	comp=N,542μm,0.7s						
CELI				AML	AML		
	comp=E,234μm,1.3s						
CELI				AML	AML		
	comp=E,570μm,1.3s						
CELI				AML	AML		
	comp=N,542μm,1.3s						
TDS	**Terranova Siba**	**1.96**	**56**	P	**Pn**	**02 54 58.9**	**-0.1**
TDS				AML	AML		
	comp=E,173μm,1.1s						
TDS				AML	AML		
	comp=E,173μm,0.9s						
TDS				AML	AML		
	comp=N,146μm,0.9s						
SIRI	**Monte Sirino -**	**2.04**	**38**	P	**Pn**	**02 55 00.1**	**-0.1**
SIRI				AML	AML		
	comp=E,279μm,1.6s						
SIRI				AML	AML		
	comp=N,187μm,0.9s						
SIRI				AML	AML		
	comp=E,277μm,1.6s						
SIRI				AML	AML		
	comp=N,192μm,0.9s						
SIRI				AML	AML		
	comp=E,277μm,0.4s						
SIRI				AML	AML		
	comp=N,192μm,1.1s						
SIRI				AML	AML		
	comp=E,279μm,0.4s						
SIRI				AML	AML		
	comp=N,187μm,1.1s						
TIP	**Timpagrande**	**2.06**	**72**	P	**Pn**	**02 55 00.4**	**0.0**
TIP				AML	AML		
	comp=E,129μm,0.7s						
TIP				AML	AML		
	comp=N,160μm,1.3s						
TIP				AML	AML		
	comp=N,187μm,1.4s						
TIP				AML	AML		
	comp=N,160μm,0.7s						
TIP				AML	AML		
	comp=E,129μm,1.3s						
TIP				AML	AML		
	comp=N,187μm,0.6s						
TIP				AML	AML		
	comp=E,129μm,0.6s						
CDRU	**Civita di Ruta**	**2.08**	**23**	P	**Pn**	**02 55 00.9**	**+0.2**
SALB	**San Lorenzo Be**	**2.09**	**51**	P	**Pn**	**02 55 01.0**	**+0.1**
SALB				AML	AML		
	comp=E,294μm,1.5s						
SALB				AML	AML		
	comp=E,294μm,0.5s						
SALB				AML	AML		
	comp=N,260μm,0.6s						
LINA	**Linosa Island**	**2.92**	**202**	P	**Pn**	**02 55 11.8**	**-0.3**
LINA				AML	AML		
	comp=E,756μm,0.6s						
LINA				AML	AML		
	comp=N,809μm,1.6s						
LINA				AML	AML		
	comp=E,756μm,1.4s						
LINA				AML	AML		
	comp=N,809μm,0.4s						
AGLI	**Aglientu**	**4.65**	**305**	P	**Pn**	**02 55 35.4**	**-0.5**
KEST	**Kesra**	**4.83**	**235**	Pn	**Pn**	**02 55 41.1**	**+2.7**
	comp=N,0.3nm,0.3s,baz=55,slow=6.2,SNR=6.4						
	comp=N,2.9nm,0.6s						
DAVOX	**Davos/Dischmat**	**8.80**	**340**	Pn	**Pn**	**02 56 33.7**	**+0.7**
	comp=N,0.1nm,0.3s,baz=150,slow=11,SNR=1.8						
	comp=N,1.5nm,0.8s						
IDI	**Anoyia**	**9.15**	**108**	Pn	**Pn**	**02 56 37.1**	**-0.6**
	comp=N,0.4nm,0.3s,baz=313,slow=16,SNR=5.6						
IDI				Sn	**Sn**	**02 58 13.6**	**-6.7**
	comp=N,0.3nm,0.3s,baz=304,slow=22,SNR=1.6						
	comp=N,1.2nm,0.4s						
GERES	**GERESS Array B**	**10.27**	**358**	Pn	**Pn**	**02 56 53.0**	**-0.1**
	baz=170,slow=12,SNR=1.6						
	comp=N,0.1nm,0.4s						
HFS	**Hagfors**	**21.57**	**359**	P	**P**	**02 59 14.9**	**-0.1**
	comp=N,2.1nm,0.8s,baz=168,slow=14,SNR=3.6						
	comp=N,2.1nm,0.8s						
FINES	**FINESS Array B**	**24.04**	**14**	P	**P**	**02 59 41.3**	**+0.9**
	comp=N,1.5nm,0.9s,baz=196,slow=14,SNR=1.8						
	comp=N,1.5nm,0.9s						
ZALV	**Zalesovo Beam**	**49.09**	**48**	P	**P**	**03 03 13.6**	**+1.0**
	comp=N,0.4nm,0.4s,baz=289,slow=4.4,SNR=1.9						
	comp=N,0.4nm,0.4s						
MKAR	**Makanchi Array**	**49.27**	**57**	P	**P**	**03 03 14.8**	**+0.6**
	comp=N,0.2nm,0.4s,baz=295,slow=6.3,SNR=2.8						
	comp=N,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**71.22**	**338**	P	**P**	**03 05 45.4**	**+1.2**
	comp=N,0.2nm,0.7s,baz=40,slow=6.2,SNR=4.4						
	comp=N,0.2nm,0.7s						

*IDC **05** 02:55:03.0±1.2, 38°.65N×14°.23E, h0km, mb3.5/4, mbtmp3.5/7, ML2.4/3, Error ellipse: s-maj=31.6km s-min=16.0km az=89.0*
*ROM **05** 02:55:03.6±0.2, 38°.660N±0°.008×14°.200E±0°.007, h10km, ML3.7/42, Error ellipse: s-maj=0.8km s-min=0.5km az=341.0*

ISC 05 02:55:03.5±0.7, 38°.62N±0°.03×14°.23E±0°.02, h10km, n135, σ1§03/79, mb3.6/4, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IACL	**Alicudi**	**0.13**	**132**	S	**Sg**	**02 55 10.7**	**+2.0**
IACL	**Alicudi**	**0.13**	**132**	P	**Pg**	**02 55 08.2**	**+1.7**
LLI	**Lipari**	**0.59**	**107**	S	**Sn**	**02 55 25.8**	**-1.8**
LLI	**Lipari**	**0.59**	**107**	P	**Pb**	**02 55 16.3**	**+0.5**
IVGP	**Vulcano Grotta**	**0.61**	**111**	S	**Sb**	**02 55 25.3**	**+0.3**
IVGP	**Vulcano Grotta**	**0.61**	**111**	P	**Pb**	**02 55 16.4**	**+0.1**
PLLN	**Pollina**	**0.63**	**186**	S	**Sb**	**02 55 25.7**	**+0.1**
PLLN	**Pollina**	**0.63**	**186**	P	**Pb**	**02 55 16.3**	**-0.3**
VPL	**Vulcano Piano**	**0.64**	**112**	S	**Sb**	**02 55 26.0**	**+0.3**
VPL	**Vulcano Piano**	**0.64**	**112**	P	**Pb**	**02 55 16.4**	**-0.3**
GIB	**Gibilmanna**	**0.65**	**194**	P	**Pb**	**02 55 16.8**	**-0.2**
GIB	**Gibilmanna**	**0.65**	**194**	S	**Sb**	**02 55 26.0**	**-0.2**
GIB	**Gibilmanna**	**0.65**	**194**	AML	AML		
	comp=E,12265μm,1.4s						
GIB	**Gibilmanna**	**0.65**	**194**	AML	AML		
	comp=E,11228μm,0.8s						
GIB	**Gibilmanna**	**0.65**	**194**	AML	AML		
	comp=N,14650μm,0.4s						
GIB	**Gibilmanna**	**0.65**	**194**	AML	AML		
	comp=E,12265μm,0.6s						
CSLB	**Castelbuono**	**0.70**	**191**	P	**Pg**	**02 55 17.1**	**+0.1**
CSLB	**Castelbuono**	**0.70**	**191**	S	**Sb**	**02 55 26.6**	**-0.9**
CSLB	**Castelbuono**	**0.70**	**191**	AML	AML		
	comp=E,3690μm,1.0s						
CSLB	**Castelbuono**	**0.70**	**191**	AML	AML		
	comp=N,4900μm,0.6s						
SOLUN	**Solunto**	**0.76**	**226**	AML	AML		
	comp=E,9020μm,1.0s						
SOLUN	**Solunto**	**0.76**	**226**	AML	AML		
	comp=N,6310μm,1.3s						
SOLUN	**Solunto**	**0.76**	**226**	AML	AML		
	comp=N,6310μm,0.7s						
SOLUN	**Solunto**	**0.76**	**226**	P	**Pg**	**02 55 18.2**	**0.0**
SOLUN	**Solunto**	**0.76**	**226**	S	**Sb**	**02 55 29.2**	**-0.1**
MUCR	**Ucria**	**0.77**	**139**	AML	AML		
	comp=E,13050μm,0.9s						
MUCR	**Ucria**	**0.77**	**139**	AML	AML		
	comp=N,21300μm,0.7s						
MUCR	**Ucria**	**0.77**	**139**	P	**Pb**	**02 55 18.7**	**-0.3**
MUCR	**Ucria**	**0.77**	**139**	S	**Sb**	**02 55 29.6**	**+0.1**
ISTR	**Stromboli Gino**	**0.77**	**77**	P	**Pn**	**02 55 19.4**	**-1.0**
MNO	**Monte Soro**	**0.78**	**152**	AML	AML		
	comp=E,6790μm,1.1s						
MNO	**Monte Soro**	**0.78**	**152**	AML	AML		
	comp=E,6790μm,0.9s						
MNO	**Monte Soro**	**0.78**	**152**	AML	AML		
	comp=N,10495μm,0.6s						
MNO	**Monte Soro**	**0.78**	**152**	AML	AML		
	comp=E,6785μm,0.9s						
MNO	**Monte Soro**	**0.78**	**152**	P	**Pb**	**02 55 19.4**	**+0.1**
MNO	**Monte Soro**	**0.78**	**152**	S	**Sb**	**02 55 30.5**	**+0.5**
SCIAR	**Sciara**	**0.78**	**209**	AML	AML		
	comp=N,8125μm,1.4s						
SCIAR	**Sciara**	**0.78**	**209**	AML	AML		
	comp=N,8125μm,0.6s						
SCIAR	**Sciara**	**0.78**	**209**	AML	AML		
	comp=N,9100μm,0.5s						
SCIAR	**Sciara**	**0.78**	**209**	AML	AML		
	comp=E,7910μm,0.7s						
SCIAR	**Sciara**	**0.78**	**209**	AML	AML		
	comp=N,9100μm,0.4s						
SCIAR	**Sciara**	**0.78**	**209**	AML	AML		
	comp=E,8840μm,0.8s						
SCIAR	**Sciara**	**0.78**	**209**	P	**Pb**	**02 55 19.4**	**+0.3**
SCIAR	**Sciara**	**0.78**	**209**	S	**Sb**	**02 55 29.8**	**0.0**
IST3	**Stromboli F**	**0.80**	**77**	AML	AML		
	comp=E,4265μm,0.4s						
IST3	**Stromboli F**	**0.80**	**77**	AML	AML		
	comp=N,4780μm,0.7s						
IST3	**Stromboli F**	**0.80**	**77**	P	**Pn**	**02 55 20.2**	**-0.6**
MPG	**Monte Pellegri**	**0.82**	**236**	P	**Pg**	**02 55 18.7**	**-0.7**
MILZ	**Milazzo**	**0.86**	**114**	S	**Sn**	**02 55 33.2**	**-1.1**
MILZ	**Milazzo**	**0.86**	**114**	P	**Pb**	**02 55 20.2**	**-0.2**
NOV	**Novara**	**0.93**	**130**	AML	AML		
	comp=N,16850μm,0.4s						
NOV	**Novara**	**0.93**	**130**	AML	AML		
	comp=E,20100μm,1.5s						
NOV	**Novara**	**0.93**	**130**	AML	AML		
	comp=E,20100μm,0.5s						
NOV	**Novara**	**0.93**	**130**	P	**Pn**	**02 55 21.9**	**-0.7**
NOV	**Novara**	**0.93**	**130**	S	**Sn**	**02 55 35.2**	**-0.8**
EPZF	**Pizzo Felice**	**0.94**	**148**	P	**Pn**	**02 55 22.6**	**-0.2**
EPZF	**Pizzo Felice**	**0.94**	**148**	AML	AML		
	comp=E,6393μm,0.4s						
EPZF	**Pizzo Felice**	**0.94**	**148**	AML	AML		
	comp=N,10431μm,0.4s						
GALF	**Gagliano Caste**	**0.95**	**164**	P	**Pn**	**02 55 22.3**	**-0.6**
ALJA	**Alia**	**0.95**	**204**	S	**Sn**	**02 55 35.7**	**-0.9**
ALJA	**Alia**	**0.95**	**204**	AML	AML		
	comp=E,10348μm,0.7s						
ALJA	**Alia**	**0.95**	**204**	AML	AML		
	comp=N,8438μm,1.1s						
ALJA	**Alia**	**0.95**	**204**	P	**Pn**	**02 55 22.7**	**-0.2**
EMSG	**Monte Spagnolo**	**0.98**	**145**	P	**Pn**	**02 55 23.0**	**-0.4**
RESU	**Resuttano**	**0.98**	**188**	P	**Pb**	**02 55 22.7**	**+0.1**
MPNC	**Port Mandanici**	**1.00**	**118**	P	**Pb**	**02 55 22.4**	**-0.5**
ECTS	**Castiglione**	**1.02**	**136**	P	**Pn**	**02 55 23.3**	**-0.6**
ECTS	**Castiglione**	**1.02**	**136**	AML	AML		
	comp=N,3260μm,0.6s						
CAGR	**Agira**	**1.02**	**168**	P	**Pn**	**02 55 24.9**	**+1.0**
AIO	**Antillo**	**1.02**	**129**	P	**Pn**	**02 55 23.2**	**-0.7**
AIO	**Antillo**	**1.02**	**129**	AML	AML		
	comp=N,3279μm,0.4s						
AIO	**Antillo**	**1.02**	**129**	AML	AML		
	comp=E,2937μm,0.5s						
CORL	**Corleone**	**1.03**	**225**	P	**Pg**	**02 55 22.9**	**-0.4**
EMCN	**Etna Monte Con**	**1.04**	**142**	P	**Pn**	**02 55 24.4**	**0.0**
MSRU	**Castanea**	**1.06**	**109**	P	**Pg**	**02 55 23.2**	**-0.7**
ESLN	**Serra La Nave**	**1.10**	**146**	P	**Pn**	**02 55 25.8**	**+0.7**
MCT	**Mte Cammarata**	**1.10**	**206**	P	**Pb**	**02 55 24.7**	**+0.1**
ESML	**S. M. di Licod**	**1.12**	**153**	P	**Pn**	**02 55 26.2**	**+0.9**
VAE	**Valguarnera**	**1.15**	**173**	Pg	**Pn**	**02 55 26.6**	**+0.9**
	comp=E,60nm,0.3s,baz=354,slow=19,SNR=3.9						
MBFT	**Monte Bonifato**	**1.21**	**237**	P	**Pn**	**02 55 25.6**	**-0.9**
CPTP	**Pietraperzia**	**1.21**	**183**	P	**Pg**	**02 55 27.6**	**+0.8**
SICLA	**Scilla**	**1.22**	**107**	P	**Pb**	**02 55 26.0**	**-0.7**
RCU	**Reggio Calabri**	**1.23**	**113**	P	**Pb**	**02 55 25.9**	**-0.9**
EPOZ	**Pozzillo**	**1.29**	**148**	P	**Pn**	**02 55 27.2**	**-0.4**
MTTG	**Motta San Giov**	**1.31**	**118**	P	**Pb**	**02 55 27.6**	**-0.5**
CEL	**Celeste**	**1.35**	**105**	P	**Pn**	**02 55 27.6**	**-0.9**
ERC	**Erice**	**1.42**	**246**	P	**Pn**	**02 55 28.7**	**-0.7**
CLTA	**Licata**	**1.48**	**188**	P	**Pg**	**02 55 31.6**	**-0.2**
CLTA	**Licata**	**1.48**	**188**	AML	AML		
	comp=N,2162μm,0.6s						
CLTA	**Licata**	**1.48**	**188**	AML	AML		
	comp=E,2053μm,0.5s						
HVZN	**Vizzini**	**1.49**	**165**	P	**Pb**	**02 55 30.7**	**-0.6**
HAGA	**Augusta**	**1.52**	**151**	P	**Pb**	**02 55 31.3**	**-0.5**
SOI	**Samo**	**1.54**	**110**	P	**Pg**	**02 55 32.1**	**-0.8**
SOI	**Samo**	**1.54**	**110**	AML	AML		
	comp=E,1028μm,0.8s						
SOI	**Samo**	**1.54**	**110**	AML	AML		
	comp=N,919μm,1.0s						
CET2	**Cetraro**	**1.62**	**55**	P	**Pn**	**02 55 32.4**	**+0.2**
CET2	**Cetraro**	**1.62**	**55**	AML	AML		
	comp=N,2148μm,0.2s						
CET2	**Cetraro**	**1.62**	**55**	AML	AML		
	comp=E,1254μm,0.6s						
CAR1	**CAROLEI**	**1.67**	**67**	AML	AML		
	comp=N,1570μm,0.6s						
CAR1	**CAROLEI**	**1.67**	**67**	AML	AML		
	comp=N,1791μm,0.6s						
CAR1	**CAROLEI**	**1.67**	**67**	AML	AML		
	comp=E,1967μm,0.3s						
CAR1	**CAROLEI**	**1.67**	**67**	AML	AML		
	comp=E,1793μm,0.3s						
CAR1	**CAROLEI**	**1.67**	**67**	AML	AML		
	comp=N,1790μm,1.4s						
CAR1	**CAROLEI**	**1.67**	**67**	AML	AML		
	comp=E,1800μm,1.2s						
CAR1	**CAROLEI**	**1.67**	**67**	AML	AML		
	comp=N,1790μm,0.6s						
CAR1	**CAROLEI**	**1.67**	**67**	AML	AML		
	comp=E,1800μm,1.2s						
CAR1	**CAROLEI**	**1.67**	**67**	P	**Pn**	**02 55 33.0**	**+0.2**
BULG	**Bulgheria - Ca**	**1.70**	**31**	P	**Pn**	**02 55 33.6**	**+0.3**
GRI	**Girifalco**	**1.72**	**83**	P	**Pn**	**02 55 33.6**	**+0.1**
PLAC	**Placanica**	**1.74**	**95**	P	**Pn**	**02 55 33.7**	**-0.1**
PLAC	**Placanica**	**1.74**	**95**	AML	AML		
	comp=N,936μm,0.4s						
PLAC	**Placanica**	**1.74**	**95**	AML	AML		
	comp=E,977μm,0.4s						
PLAC	**Placanica**	**1.74**	**95**	AML	AML		
	comp=E,966μm,0.4s						
PLAC	**Placanica**	**1.74**	**95**	AML	AML		
	comp=N,1002μm,0.4s						
SPS2	**Spezzano della**	**1.77**	**67**	P	**Pn**	**02 55 34.4**	**+0.2**
SPS2	**Spezzano della**	**1.77**	**67**	AML	AML		
	comp=N,437μm,0.3s						
SPS2	**Spezzano della**	**1.77**	**67**	AML	AML		
	comp=E,423μm,0.4s						
TDS	**Terranova Siba**	**1.94**	**57**	P	**Pn**	**02 55 37.1**	**+0.6**
TDS	**Terranova Siba**	**1.94**	**57**	AML	AML		
	comp=N,185μm,0.9s						
TDS	**Terranova Siba**	**1.94**	**57**	AML	AML		
	comp=E,340μm,0.3s						
MTMR	**Montemarano**	**2.37**	**14**	P	**Pn**	**02 55 43.2**	**+0.7**
SFL3	**San Fele**	**2.40**	**25**	AML	AML		
	comp=E,5710μm,1.0s						
SFL3	**San Fele**	**2.40**	**25**	AML	AML		
	comp=N,4720μm,0.1s						
MATE	**Matera**	**2.78**	**43**	P	**Pn**	**02 55 47.7**	**-0.4**
MATE	**Matera**	**2.78**	**43**	AML	AML		
	comp=E,257μm,0.3s						
VSL	**Villasalto**	**3.88**	**285**	P	**Pn**	**02 56 01.2**	**-2.0**
SU26	**Carbonia-Igles**	**4.51**	**278**	P	**Pn**	**02 56 10.6**	**-1.2**
AGLI	**Aglientu**	**4.63**	**304**	P	**Pn**	**02 56 13.4**	**0.0**
KEST	**Kesra**	**4.85**	**235**	Pn	**Pn**	**02 56 16.4**	**-0.2**
	comp=E,0.6nm,0.3s,baz=58,slow=5.9,SNR=4.2						
KEST				Sn	**Sn**	**02 57 12.8**	**-0.1**
	comp=E,0.4nm,0.3s,baz=61,slow=19,SNR=1.2						
	comp=E,4.8nm,0.7s						
IDI	**Anoyia**	**9.16**	**108**	Pn	**Pn**	**02 57 15.7**	**0.0**
	comp=E,0.4nm,0.3s,baz=287,slow=17,SNR=2.6						
IDI				Sn	**Sn**	**02 58 52.8**	**-6.1**
	comp=E,0.4nm,0.3s,baz=344,slow=18,SNR=2.0						
	comp=E,4.3nm,0.9s						
GERES	**GERESS Array B**	**10.23**	**358**	Pn	**Pn**	**02 57 30.5**	**+0.1**
	baz=180,slow=16,SNR=1.8						
	comp=E,0.2nm,0.3s						
HFS	**Hagfors**	**21.54**	**359**	P	**P**	**02 59 55.2**	**+2.6**
	comp=E,2.5nm,0.7s,baz=172,slow=12,SNR=4.4						
	comp=E,2.5nm,0.7s						
FINES	**FINESS Array B**	**24.00**	**14**	P	**P**	**03 00 19.0**	**+1.0**
	comp=E,1.2nm,0.7s,baz=188,slow=7.8,SNR=3.4						
	comp=E,1.2nm,0.7s						
MKAR	**Makanchi Array**	**49.25**	**57**	P	**P**	**03 03 52.5**	**+0.4**
	comp=E,0.3nm,0.5s,baz=279,slow=6.8,SNR=3.5						
	comp=E,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**71.19**	**338**	P	**P**	**03 06 22.8**	**+0.7**
	comp=E,0.3nm,0.7s,baz=41,slow=5.8,SNR=5.0						
	comp=E,0.3nm,0.7s						

IDC 05 03:03:27.8±1.4, 1°.53N×123°.56E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=216.0km s-min=23.5km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.81**	**154**	P	P	03 08 43.5	+0.9
	0.8nm,0.9s,baz=333,slow=11,SNR=5.3						
	0.8nm,0.9s						
STKA	**Stephens Creek**	**37.37**	**154**	P	P	03 10 42.1	-0.3
	2.4nm,0.9s,baz=315,slow=14,SNR=1.9						
	2.4nm,0.9s						
MKAR	**Makanchi Array**	**57.62**	**328**	P	P	03 13 20.0	+0.2
	0.5nm,1.0s,baz=126,slow=7.3,SNR=3.4						
	0.5nm,1.0s						
KURBB	**Kurchatov Arra**	**61.94**	**329**	P	P	03 13 48.7	-0.7
	0.3nm,0.2s,baz=134,slow=5.3,SNR=4.2						
	0.3nm,0.2s						

IDC 05 03:27:03.1±2.2, 7°.01S×155°.39E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=60.5km s-min=44.1km az=115.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.13**	**236**	P	P	03 32 21.1	0.0
	2.3nm,0.9s,baz=62,slow=9.2,SNR=8.3						
	2.3nm,0.9s						
ASAR	**Alice Springs**	**26.46**	**229**	P	P	03 32 41.7	-0.5
	0.3nm,0.5s,baz=54,slow=9.9,SNR=2.8						
	0.3nm,0.5s						
QSPA	**South Pole Qui**	**82.97**	**180**	P	P	03 39 30.2	+0.2
	2.2nm,1.0s,baz=32,slow=1.9,SNR=3.7						
	2.2nm,1.0s						
MKAR	**Makanchi Array**	**83.67**	**319**	P	P	03 39 34.1	+0.2
	0.2nm,0.6s,baz=104,slow=6.1,SNR=2.4						
	0.2nm,0.6s						

*NNC **05** 03:29:11.7±4.5, 40°.83N×71°.69E, h0km, mb2.8, mpv3.0, Error ellipse: s-maj=35.7km s-min=14.9km az=3.0*
*KRNET **05** 03:29:13.8±0.1, 40°.92N×71°.59E, h13km, mb2.4*
*SOME **05** 03:29:14.9, 41°.10N×71°.65E, h5km*
*ISU **05** 03:29:15, 40°.95N×71°.65E, h15km*

ISC 05 03:29:13.9±1.2, 40°.93N±0°.02×71°.62E±0°.02, h4km±11km, n23, σ0§89/42, 23C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRG	**Fergana**	**0.57**	**168**	P	**Pb**	**03 29 26.7**	**+0.2**
FRG				S	**Sb**	**03 29 35.4**	**+0.4**
CHMI	**Chimion**	**0.67**	**187**	P	**Pb**	**03 29 28.6**	**+0.5**
CHMI				S	**Sb**	**03 29 38.5**	**+0.8**
TRKS	**Terek-Say**	**0.70**	**329**	⇓*iP*	**Pg**	**03 29 26.0**	**-1.3**
TRKS				⇓*iS*	**Sg**	**03 29 34.8**	**-1.6**
ARK	**Arkit**	**0.90**	**16**	⇑*iP*	**Pg**

DRK	**Karamyk**	**1.46**	**175**	⇑	*i* P	**Pn**	**03 29 41.2**	**-0.1**
DRK				⇑	*i* S	**Sb**	**03 30 01.1**	**+0.4**
SALK	**Salom-Alik**	**1.67**	**91**	⇑	*i* P	**Pb**	**03 29 45.4**	**+0.2**
SALK				⇑	*i* S	**Sg**	**03 30 08.5**	**+1.1**
MNAS	**Manas**	**1.69**	**23**	⇑	*i* P	**Pb**	**03 29 45.7**	**+0.1**
MNAS				⇑	*i* S	**Sg**	**03 30 09.1**	**+1.0**
SFK	**Sufi-Kurgan**	**1.70**	**122**	⇑	*e* P	**Pb**	**03 29 46.3**	**+0.4**
SFK				⇑	*e* S	**Sg**	**03 30 09.5**	**+0.9**
IUG	**Iuzhnay**	**1.70**	**316**		P	**Pb**	**03 29 45.5**	**-0.3**
IUG	40nm,0.1s				S	**Sb**	**03 30 07.4**	**-0.3**
	59nm,0.2s							
AML	**Almayashu**	**1.96**	**52**	⇑	*i* P	**Pb**	**03 29 50.8**	**+0.4**
AML				⇑	*i* S	**Sg**	**03 30 17.8**	**+0.9**
MRKS	**Merke**	**2.17**	**33**		Pg	**Pg**	**03 29 55.1**	**-0.4**
MRKS	2.7nm,0.1s				Lg	Lg	03 30 23.5	
	17nm,0.3s							
MRKS	**Merke**	**2.17**	**33**		*e* P	**Pg**	**03 29 55.0**	**-0.4**
MRKS	2.7nm,0.1s				*e* S	**Sg**	**03 30 24.1**	**+0.5**
	17nm,0.3s							
GAR	**Garm**	**2.18**	**208**	⇓	*i* P	**Pb**	**03 29 53.0**	**-0.9**
GAR				⇓	*i* S	**Sb**	**03 30 21.6**	**+0.3**
ARLS	**Aral**	**2.23**	**65**	⇑	*e* P	**Pb**	**03 29 54.6**	**-0.3**
ARLS				⇑	*e* S	**Sg**	**03 30 24.4**	**-1.2**
KK31	**Karatay Array**	**2.32**	**339**	⇑	Pn	**Pn**	**03 29 54.1**	**+1.2**
	0.9nm,0.3s,baz=164,slow=16,SNR=7.1							
KK31				⇑	Sn	**Sb**	**03 30 24.7**	**-0.7**
	8.6nm,0.6s,baz=160,slow=26,SNR=18							
BRLS	**Borolday**	**2.48**	**328**		Pg	**Pn**	**03 29 56.6**	**+1.5**
	1.3nm,0.2s							
BRLS					Lg	Lg	03 30 26.3	
	8.4nm,0.1s							
BRLS	**Borolday**	**2.48**	**328**		*e* P	**Pn**	**03 29 56.6**	**+1.5**
	1.3nm,0.2s							
BRLS					*e* S	**Sn**	**03 30 26.3**	**+0.4**
	8.4nm,0.1s							
AAK	**Ala-Archa**	**2.74**	**51**		Pg	**Pn**	**03 29 57.4**	**-1.4**
	0.7nm,0.6s							
AAK					Lg	Lg	03 30 39.6	
	2.0nm,0.9s							
TKM2	**Tokmak 2**	**3.57**	**55**	⇑	Pg	**Pb**	**03 30 18.1**	**+0.5**
	0.9nm,0.6s							
TKM2				⇓	Lg	Lg	03 31 04.0	
	1.8nm,0.7s							

STR 05 03:32:59.7±1.8, 50°N±9°×°±°, h5km, MLv2.1/4, Error ellipse: s-maj=0.0km s-min=0.0km az=32.8, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABH	**Alteburg**	**0.10**	**141**	Pg	Pg	03 33 03.4	+1.6
ABH				Sg	Sg	03 33 05.6	+2.4
WLF	**Walferdange**	**0.89**	**251**	Pg	Pg	03 33 16.4	-0.3
WLF				Sg	Sg	03 33 28.6	+0.4
LEMB	**Lembach**	**0.95**	**168**	Pg	Pg	03 33 17.0	-0.8
LEMB				Sg	Sg	03 33 29.7	-0.3
VOEL	**Voellerdingen**	**1.01**	**192**	Pg	Pg	03 33 19.1	0.0
VOEL				Sg	Sg	03 33 32.7	+0.5

PRE ***05*** *03:34:07.7±0.9, 19°.40S×26°.07E, h5km, ML2.5*
BGSI ***05*** *03:34:09.2±3.4, 19°.06S×25°.46E, h1km±40km, ML3.2*
BUL ***05*** *03:34:16.1±0.8, 18°.73S×25°.84E, h10km, MD3.6*
ISC 05 03:34:04.9±0.9, 19°.17S±0°.05×25°.86E±0°.04, h10km, n22, σ2°98/31, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSANE	**Kasane**	**1.52**	**334**	*i* P	**Pn**	**03 34 31.2**	**-1.0**
KSANE				*i* S	**Sn**	**03 34 49.2**	**-2.8**
KSANE				IAML		03 35 03.0	
	comp=E,456nm,0.2s						
PHDHD	**Phuduhudu**	**1.61**	**230**	*i* P	**Pn**	**03 34 31.7**	**-1.8**
PHDHD				IAML		03 34 51.6	
	comp=E,262nm,0.2s						
BLWY	**Bulawayo**	**2.77**	**111**	*i* P	**Pg**	**03 35 00.7**	**+2.7**
BLWY				*i* S	**Sg**	**03 35 34.3**	**+0.4**
KHWEE	**KHWEE**	**2.79**	**188**	*i* P	**Pb**	**03 34 54.5**	**-0.4**
KHWEE				*i* S	**Sn**	**03 35 27.6**	**+4.1**
KHWEE				IAML		03 35 36.7	
	comp=E,306nm,0.4s						
MREMI	**Moremi**	**3.69**	**157**	*i* P	**Pb**	**03 35 10.6**	**+0.3**
MREMI				*i* S	**Sb**	**03 35 53.4**	**-1.8**
MREMI				IAML		03 36 02.7	
	comp=E,140nm,0.3s						
XAUDM	**Khaudum**	**4.33**	**278**	*i* P	**Pn**	**03 35 07.8**	**-3.1**
KDWAN	**Kaudwane**	**4.33**	**195**	*i* P	Pn	03 35 16.0	+5.0
QNGWA	**Qangwa**	**4.44**	**265**	*i* P	**Pn**	**03 35 12.8**	**+0.4**
LSZ	**Lusaka**	**4.47**	**30**	*i* P	Pn	03 35 18.2	+5.3
LSZ				*i* S	**Sn**	**03 36 04.6**	**-0.4**
MUSN	**Musina, Limpop**	**4.86**	**130**	*e* P	**Pn**	**03 35 18.9**	**+0.7**
MUSN				*e* S	**Sn**	**03 36 09.3**	**-5.3**
MUSN				IAML		03 36 46.0	
	comp=Z,16nm,0.5s						
MUSN	**Musina, Limpop**	**4.86**	**130**	*i* P	**Pb**	**03 35 32.6**	**+2.3**
MUSN				*i* S	**Sb**	**03 36 29.3**	**+0.5**
GRTLG	**Ghanzi**	**4.87**	**243**	*i* P	**Pn**	**03 35 19.9**	**+1.5**
LEPH	**Lephalale, Lim**	**5.00**	**159**	*e* P	**Pn**	**03 35 20.4**	**+0.3**
LEPH				*e* S	**Sn**	**03 36 14.2**	**-3.9**
LEPH				IAML		03 36 46.1	
	comp=Z,15nm,0.4s						
KGCAE	**Kacgae**	**5.00**	**222**	*i* P	**Pn**	**03 35 21.1**	**+0.9**
KGCAE				IAML		03 36 40.2	
	comp=N,49nm,5.6s						
SKOMA	**Sekoma**	**5.61**	**198**	*i* P	**Pn**	**03 35 30.7**	**+2.2**
LBTB	**Lobatse**	**5.82**	**182**	*e* P	**Pn**	**03 35 33.1**	**+1.8**
LBTB				*e* S	**Sn**	**03 36 35.2**	**-3.0**
LBTB				IAML		03 37 06.5	
	comp=Z,7.3nm,0.7s						
LBTB	**Lobatse**	**5.82**	**182**	*i* P	**Pb**	**03 35 47.4**	**+0.8**
MOPA	**Mopani**	**6.73**	**131**	*e* P	**Pn**	**03 35 44.2**	**+0.3**
MOPA				*e* S	**Sn**	**03 36 54.4**	**-6.4**
MOPA				IAML		03 37 43.7	
	comp=Z,21nm,0.7s						
MOPA	**Mopani**	**6.73**	**131**	*i* P	Pb	03 35 57.8	-4.3
MOPA				*i* S	Sn	03 37 13.0	+12
PILG	**Pilgrimsrest,**	**7.29**	**143**	*e* P	**Pn**	**03 35 52.4**	**+0.7**
PILG				*e* S	**Sn**	**03 37 09.0**	**-5.6**
PILG				IAML		03 37 50.7	
	comp=Z,4.8nm,0.5s						
TSUM	**Tsumeb**	**7.82**	**268**	*i* P	Pn	03 36 08.6	+10
TSUM				*i* S	**Sn**	**03 37 31.7**	**+4.1**
BOSA	**Boshof**	**9.41**	**183**	*e* P	**Pn**	**03 36 21.7**	**+1.0**
BOSA				*e* S	**Sn**	**03 38 00.6**	**-6.2**
BOSA				IAML		03 38 14.7	
	comp=Z,1.1nm,0.3s						

JMA ***05*** *03:34:10.6±0.3, 24°N±2°×122°.6E±0°.7, h27km±5km, MV2.4/10, NW OFF ISHIGAKIJIMA IS*
TAP ***05*** *03:34:10.2, 23°.97N×122°.60E, h26km, ML3.2, D*
ISC 05 03:34:09.8±1.1, 23°.92N±0°.03×122°.60E±0°.02, h24km±12km, n106, σ0°86/144, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.33**	**307**	*e* P	**Pb**	**03 34 17.2**	**+0.3**
EOS3	**EOS3**	**0.45**	**325**	P	**Pn**	**03 34 19.4**	**-1.3**
EOS2	**EOS2**	**0.60**	**326**	*e* P	**Pn**	**03 34 22.3**	**-0.5**
JYNG	**Yonaguni jima**	**0.61**	**31**	P	**Pb**	**03 34 21.5**	**-0.4**
JYNG				*e* S	**Sb**	**03 34 28.9**	**-1.2**
YOJ	**Yonaguni jima**	**0.66**	**35**	P	**Pb**	**03 34 22.3**	**-0.3**
YOJ	**Yonaguni jima**	**0.66**	**35**	*e* P	**Pb**	**03 34 22.3**	**-0.3**
YOJ				S	**Sb**	**03 34 30.1**	**-1.3**
YOJ	**Yonaguni jima**	**0.66**	**35**	P	**Pb**	**03 34 22.4**	**-0.2**
EAHA	**Aohua**	**0.89**	**297**	*e* P	**Pn**	**03 34 26.7**	**-0.1**
EWUT	**Wuta**	**0.91**	**305**	*e* P	**Pn**	**03 34 26.8**	**-0.4**
EWUT				*e* S	**Sn**	**03 34 39.6**	**0.0**
TEYL	**Yanliau Villag**	**0.92**	**267**	*e* S	**Sn**	**03 34 40.1**	**+0.4**
ENA	**Nanau**	**0.93**	**303**	P	**Pb**	**03 34 27.1**	**-0.2**
ENA				S	**Sn**	**03 34 40.2**	**+0.1**
TWD	**Chiawan**	**0.93**	**280**	*e* P	**Pn**	**03 34 27.0**	**-0.4**
TWD				*e* S	**Sb**	**03 34 39.2**	**0.0**
ESAO	**Su ao**	**0.95**	**313**	P	**Pb**	**03 34 27.3**	**-0.3**
ESAO				*e* S	**Sn**	**03 34 40.4**	**-0.1**
NACB	**Ninganchiao**	**0.95**	**285**	P	**Pn**	**03 34 27.0**	**-0.7**
NACB	**Ninganchiao**	**0.95**	**285**	S	**Sb**	**03 34 38.2**	**-1.7**
NACB	**Ninganchiao**	**0.95**	**285**	P	**Pn**	**03 34 27.1**	**-0.7**
SHUL	**Shoufeng**	**0.96**	**262**	P	**Pn**	**03 34 27.5**	**-0.3**
TWC	**Suao**	**0.97**	**315**	*i* P	**Pn**	**03 34 27.4**	**-0.6**
TWC				*i* S	**Sn**	**03 34 40.4**	**-0.6**
ETM	**Tongmen**	**1.01**	**273**	*e* P	**Pn**	**03 34 28.0**	**-0.6**
ETM				*e* S	**Sb**	**03 34 41.6**	**-0.1**
ETLH	**Xiulin Townshi**	**1.06**	**286**	P	**Pn**	**03 34 29.0**	**-0.3**
ETLH				*e* S	**Sb**	**03 34 43.5**	**+0.5**
ESL	**Shilin**	**1.07**	**264**	*e* P	**Pn**	**03 34 28.4**	**-1.0**
NDS	**Dongshan**	**1.07**	**311**	*e* P	**Pb**	**03 34 29.4**	**-0.3**
LXIB	**Xiulin Townshi**	**1.09**	**275**	*e* P	**Pn**	**03 34 29.2**	**-0.5**
EGFH	**Guangfu**	**1.10**	**257**	*e* P	**Pn**	**03 34 29.7**	**-0.1**
EGFH				*e* S	**Sn**	**03 34 44.0**	**-0.3**
IRIF	**Iriomote-Funau**	**1.11**	**68**	P	**Pb**	**03 34 30.7**	**+0.3**
IRIF				*e* S	**Sb**	**03 34 44.7**	**+0.4**
WARBT	**Fenglin Townsh**	**1.13**	**260**	*e* P	**Pn**	**03 34 29.3**	**-0.9**
WARBT				*e* S	**Sn**	**03 34 44.1**	**-0.9**
LATG	**Datong**	**1.16**	**302**	P	**Pb**	**03 34 31.2**	**0.0**
HGSD	**Ruisui**	**1.16**	**249**	*e* P	**Pn**	**03 34 30.0**	**-0.6**
TWE	**Neicheng**	**1.17**	**313**	*e* P	**Pb**	**03 34 31.3**	**0.0**
ENTT	**Nioudou**	**1.18**	**307**	P	**Pb**	**03 34 31.7**	**+0.1**
ENTT				*e* S	**Sb**	**03 34 47.5**	**+0.9**
ECBN	**Changbin**	**1.21**	**240**	*e* S	**Sn**	**03 34 46.5**	**-0.6**
TWB1	**Santiao Chiao**	**1.22**	**333**	*e* P	**Pb**	**03 34 32.0**	**-0.2**
NNSB	**Datong**	**1.22**	**295**	*i* P	**Pb**	**03 34 31.8**	**-0.5**
NNSB				*e* S	**Sb**	**03 34 47.8**	**+0.1**
NNS	**Nan Shan**	**1.23**	**295**	P	**Pb**	**03 34 32.1**	**-0.4**
NNS				*e* S	**Sb**	**03 34 48.2**	**+0.1**
WHF	**Hehuan Shan**	**1.24**	**281**	*i* P	**Pn**	**03 34 32.1**	**0.0**
WHF				*i* S	**Sn**	**03 34 48.0**	**-0.3**
EHY	**Hungye**	**1.24**	**251**	P	**Pn**	**03 34 31.3**	**-0.5**
EHY				S	**Sn**	**03 34 47.9**	**+0.1**
FUSB	**Fushanzhiwuyua**	**1.24**	**312**	*e* P	**Pb**	**03 34 32.8**	**+0.1**
TIPB	**Shuangxi**	**1.26**	**326**	*e* P	**Pb**	**03 34 33.0**	**0.0**
TIPB				*e* S	**Sb**	**03 34 49.5**	**+0.8**
FUSS	**Fushou**	**1.28**	**285**	*e* P	**Pn**	**03 34 32.8**	**+0.3**
FUSS				*e* S	**Sb**	**03 34 49.2**	**-0.4**
OWD	**Renai**	**1.30**	**272**	*e* P	**Pn**	**03 34 32.6**	**-0.1**
OWD				*e* S	**Sn**	**03 34 48.9**	**-0.6**
YULB	**Yu-li**	**1.31**	**246**	P	**Pn**	**03 34 32.3**	**-0.3**
YULB	**Yu-li**	**1.31**	**246**	S	**Sn**	**03 34 49.4**	**+0.1**
YULB	**Yu-li**	**1.31**	**246**	*e* P	**Pn**	**03 34 32.4**	**-0.2**
EYUL	**Yuli**	**1.31**	**244**	P	**Pn**	**03 34 32.5**	**-0.1**
EYUL				*e* S	**Sn**	**03 34 49.6**	**+0.3**
NWLT	**Wulai**	**1.31**	**311**	*e* P	**Pb**	**03 34 34.2**	**+0.3**
CHKH	**Chenggong**	**1.32**	**237**	*e* S	**Sn**	**03 34 47.6**	**-2.1**
TWF1	**Yuli**	**1.32**	**245**	*e* P	**Pn**	**03 34 32.8**	**-0.1**
SXI1	**Grass Mountain**	**1.34**	**331**	*e* P	**Pb**	**03 34 33.8**	**-0.6**
YHNB	**Yeheng**	**1.34**	**304**	P	**Pb**	**03 34 33.9**	**-0.5**
YHNB	**Yeheng**	**1.34**	**304**	*e* P	**Pb**	**03 34 33.8**	**-0.6**
TWT	**Tachien**	**1.34**	**284**	*e* P	**Pb**	**03 34 34.2**	**-0.2**
VWDT	**VWDT**	**1.35**	**263**	P	**Pn**	**03 34 33.2**	**+0.1**
TDCB	**Techi**	**1.36**	**284**	*e* P	**Pn**	**03 34 34.0**	**+0.5**
WUSB	**Renai**	**1.36**	**273**	P	**Pn**	**03 34 33.6**	**+0.1**
NSK	**Sanguang**	**1.36**	**304**	*e* P	**Pb**	**03 34 34.0**	**-0.7**
CHKT	**Chengkung**	**1.40**	**234**	*e* P	**Pn**	**03 34 33.3**	**-0.6**
CHKT				S	**Sn**	**03 34 49.9**	**-1.7**
FULB	**Fuli**	**1.40**	**239**	*e* P	**Pn**	**03 34 33.5**	**-0.4**
FULB				*e* S	**Sn**	**03 34 51.3**	**-0.4**
TWA	**Mucha**	**1.40**	**319**	*e* P	**Pn**	**03 34 34.1**	**+0.2**
JIJ	**Ishigaki jima**	**1.48**	**72**	*e* P	**Pn**	**03 34 35.9**	**+1.0**
JIJ				*e* S	**Sb**	**03 34 54.4**	**-0.5**
EHD	**Haiduan**	**1.49**	**239**	*e* P	**Pn**	**03 34 34.6**	**-0.6**
SSLB	**Suanglung**	**1.51**	**265**	P	**Pn**	**03 34 36.1**	**+0.6**
SSLB	**Suanglung**	**1.51**	**265**	S	**Sb**	**03 34 56.7**	**+0.7**
SSLB	**Suanglung**	**1.51**	**265**	*e* P	**Pn**	**03 34 35.9**	**+0.4**
EDH	**Donghe**	**1.52**	**232**	P	**Pn**	**03 34 35.1**	**-0.4**
EDH				*i* S	**Sn**	**03 34 53.1**	**-1.5**
NFF	**Wufeng Townshi**	**1.53**	**298**	*e* P	**Pb**	**03 34 37.6**	**+0.1**
WCS	**Beigang Elemen**	**1.55**	**275**	*e* P	**Pn**	**03 34 36.7**	**+0.8**
KSHI	**Guanxi Townshi**	**1.55**	**304**	*e* P	**Pb**	**03 34 36.9**	**-1.0**
WHP	**Taichung City**	**1.55**	**284**	*e* P	**Pb**	**03 34 37.7**	**-0.2**
SMLT	**Sun Moon Lake**	**1.56**	**269**	*e* P	**Pn**	**03 34 35.9**	**-0.2**
SMLT				*e* S	**Sn**	**03 34 56.4**	**+0.7**
TYC	**Yuchr**	**1.59**	**270**	*e* P	**Pn**	**03 34 37.4**	**+0.8**
LIOB	**Emei**	**1.61**	**297**	*e* P	**Pb**	**03 34 38.8**	**-0.2**
WHYT	**Xinyi Township**	**1.62**	**262**	*e* P	**Pn**	**03 34 38.1**	**+1.2**
LDUT	**Ludao**	**1.62**	**220**	*e* P	**Pn**	**03 34 36.5**	**-0.4**
LDUT				*e* S	**Sn**	**03 34 55.4**	**-1.7**
NSTT	**Nanjuang**	**1.62**	**296**	*e* P	**Pb**	**03 34 37.9**	**-1.2**
ELDTW	**Lidau**	**1.63**	**244**	*e* P	**Pn**	**03 34 36.9**	**-0.2**
ALS	**Alishan**	**1.70**	**256**	*e* P	**Pn**	**03 34 39.2**	**+1.0**
ALS				*e* S	**Sn**	**03 35 00.2**	**+0.8**
JISG	**Ishigakijimahi**	**1.70**	**67**	*e* P	**Pn**	**03 34 38.7**	**+0.7**
JISG				*e* S	**Sn**	**03 34 59.0**	**+0.1**
WJS	**Zhushan**	**1.72**	**267**	*e* P	**Pb**	**03 34 40.5**	**-0.2**
WJS				*e* S	**Sb**	**03 35 02.7**	**+0.9**
TWO1	**Liyutan**	**1.72**	**285**	*e* S	**Sb**	**03 35 02.7**	**+0.7**
NSY	**Sanyi**	**1.75**	**287**	*e* S	**Sb**	**03 35 02.0**	**-0.8**
WNT	**Mingjian**	**1.75**	**269**	*e* P	**Pb**	**03 34 40.4**	**-1.0**
PCYT	**Pengchaiyu**	**1.77**	**344**	*e* P	**Pn**	**03 34 39.1**	**+0.2**
TWG	**Pinlang**	**1.78**	**232**	*e* P	**Pn**	**03 34 38.8**	**-0.4**
TWG				*e* S	**Sn**	**03 35 00.3**	**-0.8**
CHN5	**Tsauling**	**1.79**	**260**	*e* P	**Pn**	**03 34 40.9**	**+1.5**
STYH	**Taoyuan**	**1.83**	**246**	*e* P	**Pn**	**03 34 39.5**	**-0.3**
STYH				*e* S	**Sn**	**03 35 01.9**	**-0.4**
WCHH	**Zhanghua**	**1.87**	**275**	*e* P	**Pn**	**03 34 41.9**	**+1.5**
WCKO	**Fanlu**	**1.89**	**256**	*e* P	**Pb**	**03 34 43.4**	**-0.3**
WCKO				*e* S	**Sb**	**03 35 07.2**	**+0.3**
WDLH	**Douliu**	**1.90**	**263**	*e* P	**Pb**	**03 34 43.0**	**-0.9**
TPUB	**Ta-pu**	**1.91**	**251**	P	**Pn**	**03 34 42.6**	**+1.6**
TPUB	**Ta-pu**	**1.91**	**251**	S	**Sb**	**03 35 07.7**	**+0.2**
TPUB	**Ta-pu**	**1.91**	**251**	*e* P	**Pn**	**03 34 42.8**	**+1.8**
CHN4	**Tsaushan**	**1.93**	**253**	*e* P	**Pb**	**03 34 43.3**	**-1.0**
CHN4				*e* S	**Sb**	**03 35 08.9**	**+1.0**
WTP	**Ta-pu**	**1.94**	**250**	*e* P	**Pn**	**03 34 42.9**	**+1.5**
SGST	**Jiashian**	**2.03**	**246**	*e* P	**Pn**	**03 34 44.7**	**+2.1**
CHN1	**Nanshi**	**2.04**	**249**	*e* P	**Pn**	**03 34 44.2**	**+1.5**
TWK	**Hsinying**	**2.04**	**252**	*e* P	**Pn**	**03 34 44.2**	**+1.4**
SNST	**Tainan City**	**2.05**	**250**	*e* P	**Pn**	**03 34 45.0**	**+2.1**
SNST				*e* S	**Sb**	**03 35 11.4**	**-0.1**
SCST	**Cishan**	**2.19**	**242**	*e* P	**Pn**	**03 34 46.9**	**+2.1**
WSL	**Shuilin Townsh**	**2.21**	**260**	*e* P	**Pn**	**03 34 47.2**	**+2.1**
WSL				*e* S	**Sb**	**03 35 14.7**	**-1.4**
TAWH	**Dawu Township**	**2.23**	**225**	*e* P	**Pn**	**03 34 45.9**	**+0.6**
SLIU	**Shizi**	**2.37**	**225**	*e* P	**Pn**	**03 34 47.8**	**+0.5**
SCZT	**Fangliau**	**2.39**	**230**	*e* P	**Pn**	**03 34 49.4**	**+2.0**
TSCK	**Chigu Township**	**2.43**	**252**	*e* P	**Pn**	**03 34 49.7**	**+1.6**
TSCK				*e* S	**Sn**	**03 35 19.5**	**+2.3**
WDGT	**Dungji**	**2.78**	**257**	*e* P	**Pn**	**03 34 54.2**	**+1.4**
PHUB	**P'eng-hu**	**2.81**	**262**	*e* P	**Pn**	**03 34 54.6**	**+1.4**
PHUB				*e* S	**Sn**	**03 35 27.5**	**+1.2**
VWUC	**VWUC**	**3.06**	**291**	*e* P	**Pn**	**03 34 56.9**	**+0.2**

AFAD ***05*** *04:00:09.8, 38°.27N×41°.38E, h7km±3km, ML2.3*
ISK ***05*** *04:00:09.2, 38°.23N×41°.41E, h5km, ML2.5/12*
ISC 05 04:00:09.5±1.4, 38°.25N±0°.03×41°.40E±0°.03, h5km±12km, n24, σ0°67/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTMN	**Batman**	**0.37**	**196**	P	**Pb**	**04 00 17.9**	**-0.7**
BTMN				S	**Sb**	**04 00 23.4**	**-1.3**
BTMN				*i* AML	AML	04 00 27.0	
	comp=N,357nm,0.5s						
BTMN				*i* AML	AML	04 00 31.0	
	comp=E,302nm,0.7s						
MUSM	**Mu-Merkez**	**0.48**	**11**	P	**Pg**	**04 00 18.3**	**-0.6**
MUSM				S	**Sg**	**04 00 25.2**	**0.0**
SRTM	**Siirt_Merkez**	**0.49**	**121**	P	**Pb**	**04 00 20.5**	**-0.1**
SRTM				*i* AML	AML	04 00 37.0	
	comp=N,366nm,0.6s						
SRTM				*i* AML	AML	04 00 37.0	
	comp=E,320nm,0.6s						
GURO	**Guroymak-BITLI**	**0.58**	**58**	Pg	**Pb**	**04 00 21.5**	**-0.8**
GURO				Sg	**Sb**	**04 00 30.8**	**-0.2**
BLIS	**Bitlis-Merkez**	**0.59**	**73**	P	**Pg**	**04 00 21.2**	**+0.4**
BLIS				S	**Sb**	**04 00 30.1**	**-1.0**
BLIS				*i* AML	AML	04 00 34.0	
	comp=E,209nm,0.7s						
BLIS				*i* AML	AML	04 00 39.0	
	comp=N,138nm,0.4s						
SLHN	**Bingol, Solhan**	**0.77**	**338**	P	**Pb**	**04 00 24.8**	**-0.6**
SLHN				*i* AML	AML	04 00 43.0	
	comp=N,105nm,0.6s						
SLHN				*i* AML	AML	04 00 50.0	
	comp=E,116nm,0.5s						
HANI	**Diyarbakir_Han**	**0.80**	**282**	P	**Pb**	**04 00 25.6**	**-0.4**
HANI				S	**Sb**	**04 00 36.9**	**-0.3**
HANI				*i* AML	AML	04 00 44.0	
	comp=E,97nm,0.6s						
HANI				*i* AML	AML	04 00 55.0	
	comp=N,84nm,1.0s						
VRTB	**Varto-Mus**	**0.91**	**3**	Pg	**Pb**	**04 00 27.4**	**-0.6**
VRTB	**Varto-Mus**	**0.91**	**3**	P	**Pg**	**04 00 26.7**	**-0.4**
VRTB				*i* AML	AML	04 00 47.0	
	comp=N,78nm,1.0s						
VRTB				*i* AML	AML	04 00 55.0	
	comp=E,72nm,0.9s						
BNGB	**Bingl**	**0.93**	**323**	Pg	**Pb**	**04 00 28.4**	**+0.1**
BNGB				Sg	**Sn**	**04 00 42.9**	**-0.3**
PERV	**Siirt/Pervari-**	**0.95**	**108**	P	**Pb**	**04 00 28.3**	**-0.2**
PERV				S	**Sb**	**04 00 42.0**	**+0.5**
PERV				*i* AML	AML	04 00 48.0	
	comp=E,189nm,0.8s						
MAZI	**Mazidag**	**1.09**	**224**	Pn	**Pn**	**04 00 31.6**	**+0.1**
MAZI				Sn	**Sn**	**04 00 46.9**	**-0.1**
KARO	**Karliova-Bingo**	**1.09**	**346**	Pn	**Pn**	**04 00 31.5**	**-0.2**
KARO				Sn	**Sn**	**04 00 48.3**	**+1.0**
ADCV	**BITLIS_Adilcev**	**1.18**	**61**	P	**Pn**	**04 00 33.1**	**+0.2**
MLAZ	**Malazgirt-MUS**	**1.27**	**45**	Pn	**Pn**	**04 00 34.4**	**+0.3**
YEDI	**Yedisu-Bingol**	**1.36**	**331**	Pn	**Pg**	**04 00 36.8**	**+1.1**
ECAT	**Cat-ERZURUM**	**1.40**	**346**	P	**Pg**	**04 00 38.0**	**+1.7**
ECAT				*i* AML	AML	04 01 05.0	
	comp=N,57nm,0.9s						
ETEKE	**Tekederesi - E**	**1.56**	**353**	P	**Pg**	**04 00 40.0**	**+0.5**
ETEKE				*i* AML	AML	04 01 12.0	
	comp=N,30nm,0.9s						
ETEKE				*i* AML	AML	04 01 17.0	
	comp=E,36nm,0.8s						
VANB	**Van**	**1.60**	**77**	Pn	**Pb**	**04 00 39.8**	**+0.1**
ERZM	**Erzurum**	**1.66**	**359**	P	**Pb**	**04 00 40.2**	**-0.5**
PTK	**Pertek**	**1.70**	**293**	Pn	**Pb**	**04 00 41.5**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**1.78**	**11**	Pn	**Pg**	**04 00 43.1**	**-0.5**
AGRB	**Hanur-Agry**	**1.82**	**43**	Pn	**Pb**	**04 00 43.1**	**-0.3**
CUKT	**Cukurca**	**2.02**	**119**	Pn	**Pn**	**04 00 45.2**	**+0.9**

IDC ***05*** *04:06:57.9±0.8, 39°.12N×141°.46E, h77km±4km, mb3.6/9, mbtmp4.0/12, MS3.3/3, Error ellipse: s-maj=22.1km s-min=11.1km az=93.0*
JMA ***05*** *04:06:59.0±0.1, 39°.2N±0°.2×141°.5E±0°.3, h78km, MV3.5/39, SOUTHERN IWATE PREF*
JMA Felt I J1 at SOUTHERN IWATE PREF .
ISC 05 04:06:58.1±0.7, 39°.18N±0°.04×141°.54E±0°.07, h77km±4km, n35, σ0°93/50, mb4.0/9, 3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.14**	**136**	⇓ P	**Pn**	**04 07 10.5**	**+1.1**
JMK	**Ichinoseki**	**0.34**	**227**	P	**Pn**	**04 07 10.9**	**+0.5**
JMK				S	**Sn**	**04 07 19.9**	**+0.6**
JOM	**Ohasama**	**0.35**	**327**	P	**Pn**	**04 07 10.9**	**+0.5**
JOM				S	**Sn**	**04 07 19.9**	**+0.4**
JKMT	**Kesennumamotoy**	**0.38**	**188**	⇓ *i* P	**Pn**	**04 07 11.8**	**+1.2**
JKMT				⇓ S	**Sn**	**04 07 21.2**	**+1.4**
JRG	**Rokugo**	**0.73**	**287**	P	**Pn**	**04 07 14.4**	**+0.5**
JRG				*e* S	**Sn**	**04 07 26.2**	**+0.5**
JIO	**Ouri**	**0.74**	**192**	P	**Pn**	**04 07 15.0**	**+0.9**
JIO				S	**Sn**	**04 07 26.8**	**+1.0**
JYK	**Kaneyama**	**0.96**	**254**	P	**Pn**	**04 07 17.4**	**+0.9**
JYK				S	**

SFX				IAML		04 13 03.8	
	comp=N,1μm,0.5s						
PPXB	**Puerto Peasco**	**0.91**	**24**⇓	*e*P	**Pn**	**04 12 53.1**	**+0.4**
PPXB				*e*S	**Sn**	**04 13 04.1**	**-1.8**
PIX	**Pinacate**	**1.17**	**26**⇓	*e*P	**Pn**	**04 12 57.3**	**+1.0**
PIX				*e*S	**Sn**	**04 13 12.2**	**-0.3**
PIX				IAML		04 13 13.0	
	comp=E,1μm,0.3s						
PIX				*e*		04 13 13.6	
PIX				IAML		04 13 13.6	
	comp=N,2μm,0.2s						
SQX	**San Quintin**	**1.57**	**273**⇑	*e*P	**Pg**	**04 13 04.5**	**+0.5**
SQX				*e*S	**Sb**	**04 13 23.9**	**+0.9**
SQX			⇓	*e*		04 13 28.6	
SQX				IAML		04 13 28.6	
	comp=N,608nm,0.6s						
VTX	**Valle De La Tr**	**1.73**	**301**	*e*P	**Pb**	**04 13 05.4**	**-0.3**
VTX				*e*S	**Sb**	**04 13 27.0**	**-0.6**
RHX	**Rio Hardy**	**1.94**	**327**	*e*P	**Pb**	**04 13 09.1**	**-0.2**
SV2X	**San Vicente**	**2.05**	**295**	*e*P	**Pb**	**04 13 11.6**	**+0.3**
SV2X				*e*S	**Sb**	**04 13 37.0**	**+0.1**
MBIG	**Mexicali**	**2.13**	**333**	*e*P	**Pn**	**04 13 10.3**	**+0.7**
MBIG				*e*S	**Sn**	**04 13 34.6**	**-1.6**
CBX	**Cerro Bola**	**2.87**	**310**	*e*P	**Pn**	**04 13 21.0**	**+1.1**
CBX				*e*S	**Sb**	**04 13 59.5**	**-1.0**
TJIG	**Tijuana**	**2.95**	**311**	*e*P	**Pb**	**04 13 26.0**	**-0.6**
TJIG				*e*S	**Sn**	**04 13 56.5**	**+0.1**
HSIG		**3.08**	**118**	*e*P	**Pb**	**04 13 27.6**	**-1.1**
HSIG				*e*S	**Sb**	**04 14 06.3**	**-0.2**
HSIG			⇑	*i*		04 14 23.0	
TUC	**Tucson**	**3.33**	**56**	*e*P	**Pn**	**04 13 27.7**	**+1.6**
TUC				*e*S	**Sn**	**04 14 05.6**	**-0.2**
GUYB	**Guaymas**	**3.80**	**132**	*e*P	**Pb**	**04 13 39.3**	**-1.8**
GUYB				*e*S	**Sb**	**04 14 27.2**	**-0.1**
NZIG	**Nacozari, Sono**	**3.89**	**91**	*e*P	**Pn**	**04 13 33.1**	**-0.8**
NZIG				*e*S	**Sn**	**04 14 24.0**	**+4.2**

*IDC **05** 04:14:00.3±1.2, 1°.78S×128°.80E, h0km, mb3.8/6, mbtmp3.9/9, ML3.9/3, Error ellipse: s-maj=50.2km s-min=18.9km az=74.0*
*DJA **05** 04:14:04.4±0.2, 2°.S±2°.×12°.8E±°, h10km, M4.2/13, mB5.3/4, mb4.6/7, MLv3.9/13, Mw(mB)4.7/4*
ISC 05 04:14:05.6±0.8, 1°.84S±0°.06×128°.47E±0°.10, h34km, n22, σ1°.72/23, mb3.8/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.56**	**163**	P	**Pb**	**04 14 33.4**	**-0.7**
MSAI				S	**Sb**	**04 14 53.6**	**0.0**
AAI	**Ambon**	**1.86**	**189**	P	**Pn**	**04 14 35.1**	**0.0**
NLAI	**Namlea**	**1.95**	**225**	P	**Pn**	**04 14 35.6**	**-0.8**
SANI	**Sanana**	**2.49**	**265**	P	**Pn**	**04 14 40.4**	**-3.4**
TNTI	**Ternate**	**2.82**	**337**	P	**Pn**	**04 14 49.8**	**+1.5**
SWI	**Sorong**	**2.95**	**71**	P	**Pn**	**04 14 53.6**	**+3.4**
FAKI	**Fak Fak**	**3.92**	**106**	P	**Pn**	**04 15 04.3**	**+0.7**
KMSI	**Cibinong**	**5.09**	**298**	P	**Pn**	**04 15 17.4**	**-2.2**
LUWI	**Luwuk**	**5.75**	**278**	P	**Pn**	**04 15 28.0**	**-0.7**
	0.3nm3μm49nm,0.4s						
APSI	**Ampana**	**6.88**	**278**	P	**Pn**	**04 15 43.7**	**-0.5**
MRSI	**Marisa**	**6.92**	**289**	P	**Pn**	**04 15 46.1**	**+1.3**
	0.2nm33nm,0.5s						
MPSI	**Mapaga**	**8.84**	**284**	P	**Pn**	**04 16 11.9**	**+0.8**
	564nm11nm,0.5s						
SPSI	**Sidrap Palu**	**8.94**	**256**	P	**Pn**	**04 16 14.4**	**+1.9**
KAPI	**Kappang**	**9.26**	**250**	Pn	**Pn**	**04 16 20.2**	**+3.4**
	3.1nm,0.3s,baz=72,slow=12,SNR=8.4						
	6.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**16.39**	**190**	Pn	**P**	**04 17 54.5**	**-1.3**
	0.2nm,0.3s,baz=5.2,slow=11,SNR=2.6						
	4.2nm,0.9s						
WRA	**Warramunga Arr**	**18.89**	**163**	P	**P**	**04 18 21.5**	**-1.8**
	0.5nm,0.3s,baz=343,slow=12,SNR=16						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**22.33**	**167**	P	**P**	**04 18 59.5**	**-1.1**
	4.0nm,0.5s,baz=348,slow=11,SNR=32						
	4.0nm,0.5s						
SONM	**Songino Array**	**53.10**	**342**	P	**P**	**04 23 19.7**	**-0.2**
	0.2nm,0.4s,baz=148,slow=6.6,SNR=1.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**63.11**	**326**	P	**P**	**04 24 30.8**	**+0.9**
	0.2nm,0.3s,baz=110,slow=8.3,SNR=5.4						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**67.35**	**328**	P	**P**	**04 24 57.7**	**+0.4**
	0.6nm,0.7s,baz=128,slow=5.8,SNR=5.3						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**72.91**	**328**	P	**P**	**04 25 32.3**	**+0.9**
	0.4nm,0.4s,baz=131,slow=7.9,SNR=2.5						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**88.10**	**180**	P	**P**	**04 26 53.8**	**+1.1**
	0.8nm,0.9s,baz=70,slow=19,SNR=1.3						
	0.8nm,0.9s						

SGS 05 04:27:43.0, 16°.73N×42°.69E, h22km, MI1.2, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAZS	**Jizan**	**0.40**	**32**	S	Sb	04 27 56.1	-0.9
JAZS	**Jizan**	**0.40**	**32**	P	Pb	04 27 51.6	+0.3
AKWA	**Algayed**	**0.53**	**1**	P	Pb	04 27 53.8	+0.2
FRSS	**Farasan al Kab**	**0.55**	**271**	P	Pb	04 27 53.8	-0.2
MKHL	**Mahalah**	**0.63**	**359**	P	Pb	04 27 54.5	-0.9
BESHS	**BESHS**	**0.65**	**12**	P	Pb	04 27 55.2	-0.5
BESHS				P		04 27 55.2	
FRSS2	**Sair Farasan I**	**0.87**	**278**	P	Pb	04 27 57.9	-1.5
DRBS	**Ad Darb**	**1.16**	**341**	P	Pn	04 28 02.4	-1.5
ASIR3	**ASIR3**	**1.98**	**351**	P	Pb	04 28 17.3	-1.2

*IDC **05** 04:30:17.1±3.9, 55°.63N×86°.02E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=31.8km s-min=28.0km az=55.0*
ASRS 05 04:30:15.0±1.1, 55°.77N×86°.17E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**204**	I	I	04 43 00.0	
	baz=22,slow=329,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.99**	**204**	Pg	Pn	04 30 48.9	-0.9
	1.2nm,0.3s,baz=24,slow=18,SNR=14						
ZALV				Lg	Lg	04 31 15.3	
	1.9nm,0.3s,baz=20,slow=30,SNR=8.4						
KURBB	**Kurchatov Arra**	**6.90**	**225**	Pn	Pn	04 31 57.1	-0.2
	baz=44,slow=14,SNR=2.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**9.31**	**197**	Pn	Pn	04 32 30.9	+0.5
	baz=16,slow=16,SNR=1.3						
	0.1nm,0.3s						

TXNET 05 04:44:43.3, 31°.0N±0°.9×103°.7W±0°.6, h5km±1km, ML1.6/8, Error ellipse: s-maj=1.4km s-min=0.9km az=179.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.13**	**57**	P	Pg	04 44 46.3	+0.2
TPB03				S	Sg	04 44 48.7	+0.8
TPB01	**Permian Basin**	**0.14**	**240**	P	Pg	04 44 46.8	+0.7
TPB01				S	Sg	04 44 49.0	+1.1
TPB05	**Hovey Rd**	**0.29**	**108**	P	Pb	04 44 50.2	-0.9
TPB05				S	Sg	04 44 54.1	+1.3
TPB12	**Southwest of T**	**0.34**	**307**	P	Pg	04 44 50.6	+0.7
TPB12				S	Sg	04 44 55.7	+1.4
TPB16	**Coyonosa**	**0.36**	**71**	P	Pg	04 44 51.2	+1.0
TPB16				S	Sb	04 44 56.7	-1.5
TPB16	**Coyonosa**	**0.36**	**71**	P	Pb	04 44 51.4	-0.9
TPB16				S	Sb	04 44 56.8	-1.5
TPB04	**Verhalen**	**0.37**	**61**	P	Pb	04 44 51.5	-0.9
PECS	**Pecos**	**0.41**	**332**	P	Pg	04 44 51.7	+0.5
PECS				S	Sg	04 44 58.1	+1.6
ALPN	**Alpine**	**0.64**	**179**	P	Pg	04 44 55.6	+0.1
ALPN				S	Sg	04 45 04.2	+0.4
TPB08	**Permian Basin**	**0.65**	**100**	S	Sb	04 45 05.8	-0.7
TPB06	**Permian Basin**	**0.73**	**30**	S	Sb	04 45 10.0	+1.0
MNHN	**Monahans**	**0.83**	**66**	P	Pb	04 44 59.8	-0.4
MNHN				S	Sg	04 45 09.9	-0.1
TPB11	**China Draw**	**0.98**	**340**	S	Sb	04 45 16.3	+0.1
VHRN	**Van Horn**	**1.17**	**259**	P	Pb	04 45 06.0	-0.2
VHRN				S	Sb	04 45 21.8	0.0
TMB02	**Rankin**	**1.39**	**82**	P	Pn	04 45 09.0	-0.6
TMB02				S	Sb	04 45 27.6	-0.4
ODSA	**Odessa**	**1.45**	**40**	S	Sb	04 45 29.1	-0.5
MNTX	**Cornudas Mount**	**1.64**	**295**	P	Pg	04 45 14.6	-0.1
MNTX				S	Sg	04 45 35.5	-0.4
TX31	**Lajitas Ar. Si**	**1.67**	**181**	P	Pb	04 45 14.6	-0.1
TX31				S	Sg	04 45 36.9	-0.1
SAND	**Sanderson**	**1.68**	**128**	S	Sg	04 45 38.1	+0.6
TMB04	**Seminole**	**1.89**	**31**	P	Pb	04 45 17.5	-0.9
TMB04				S	Sb	04 45 43.1	+0.8
OZNA	**Ozona**	**2.17**	**92**	S	Sb	04 45 50.3	0.0
TMB05	**Klondike**	**2.21**	**43**	S	Sb	04 45 52.6	+0.9

TXNET 05 04:57:38.5, 31°.2N±0°.7×103°.5W±0°.6, h5km±1km, ML1.5/7, Error ellipse: s-maj=1.0km s-min=0.8km az=23.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.09**	**188**	P	Pg	04 57 40.6	+0.1
TPB03				S	Sg	04 57 42.8	+0.9
TPB04	**Verhalen**	**0.20**	**86**	P	Pg	04 57 42.6	+0.2
TPB04				S	Sg	04 57 46.0	+1.0
TPB16	**Coyonosa**	**0.22**	**103**	P	Pg	04 57 43.3	+0.5
TPB16				S	Sg	04 57 47.4	+1.7
TPB16	**Coyonosa**	**0.22**	**103**	P	Pg	04 57 43.3	+0.6
TPB16				S	Sg	04 57 47.3	+1.7
PCOS	**Crockett Middl**	**0.23**	**358**	S	Sg	04 57 47.8	+1.5
PCOS	**Crockett Middl**	**0.23**	**358**	S	Sg	04 57 48.0	+1.8
TPB10	**Southeast of T**	**0.24**	**297**	P	Pg	04 57 44.1	+0.8
TPB10				S	Sg	04 57 48.5	+2.0
TPB05	**Hovey Rd**	**0.29**	**149**	P	Pb	04 57 45.4	-0.9
TPB05				S	Sb	04 57 50.3	-1.2
TPB01	**Permian Basin**	**0.33**	**227**	P	Pg	04 57 45.6	+0.7
TPB01				S	Sb	04 57 51.1	-1.5
PECS	**Pecos**	**0.37**	**302**	P	Pg	04 57 46.1	+0.4
PECS				S	Sg	04 57 51.8	+1.2
TPB12	**Southwest of T**	**0.40**	**276**	P	Pg	04 57 46.5	+0.4
TPB12				S	Sb	04 57 53.1	-1.3
TPB07	**Mentone**	**0.43**	**340**	S	Sb	04 57 54.4	-1.0
TPB08	**Permian Basin**	**0.58**	**119**	P	Pb	04 57 50.5	-0.6
TPB08				S	Sb	04 57 58.9	-0.8
MNHN	**Monahans**	**0.65**	**75**	S	Sg	04 57 59.4	-0.1
ALPN	**Alpine**	**0.81**	**189**	P	Pg	04 57 53.6	-0.3
ALPN				S	Sg	04 58 05.0	+0.6
ODSA	**Odessa**	**1.24**	**40**	S	Sg	04 58 18.2	-0.3
VHRN	**Van Horn**	**1.33**	**254**	P	Pn	04 58 03.7	-0.1
VHRN				S	Sn	04 58 21.8	-0.3
TMB04	**Seminole**	**1.68**	**30**	P	Pn	04 58 09.1	+0.5
TMB04				S	Sb	04 58 31.8	+0.3
MNTX	**Cornudas Mount**	**1.69**	**288**	P	Pb	04 58 09.7	-0.4
MNTX				S	Sg	04 58 32.9	+0.1
SAND	**Sanderson**	**1.70**	**135**	S	Sg	04 58 33.3	+0.2
TX31	**Lajitas Ar. Si**	**1.84**	**185**	P	Pb	04 58 12.1	-0.6
TX31				S	Sg	04 58 37.3	-0.3
TMB05	**Klondike**	**2.01**	**43**	S	Sb	04 58 41.1	+0.2
OZNA	**Ozona**	**2.05**	**96**	P	Pb	04 58 15.0	-1.2
OZNA				S	Sb	04 58 42.7	+0.7

*UCR **05** 05:01:42.7±0.8, 8°.94N×84°.21W, h0km±6km, MW3.5*
*UPA **05** 05:01:42.7±0.6, 9°.01N×84°.21W, h6km±154km, MW3.3*
ISC 05 05:01:42.6±1.5, 8°.94N±0°.05×84°.21W±0°.04, h7km±12km, n72, σ0°.40/80, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUEP	**Quepos**	**0.49**	**6**	*e*P	**Pb**	**05 01 53.9**	**+0.3**
QUEP				*e*S	**Sb**	**05 02 01.2**	**+0.2**
LLNJ	**Naranjito**	**0.54**	**12**	*e*P	**Pb**	**05 01 54.2**	**-0.2**
PICV	**PH. Pirrs**	**0.68**	**2**	*e*P	**Pb**	**05 01 57.2**	**+0.3**
PISJ	**San Jernim**	**0.69**	**7**	*e*P	**Pb**	**05 01 56.9**	**-0.2**
PIEC	**Cerro El Cedra**	**0.72**	**20**	*e*P	**Pb**	**05 01 57.2**	**-0.5**
RAZU	**San Marcos de**	**0.74**	**15**	*e*P	**Pb**	**05 01 57.2**	**-0.7**
ABE2	**San Pablo**	**0.78**	**12**	*e*P	**Pb**	**05 01 58.9**	**+0.3**
SAJE	**San Jernim**	**0.80**	**60**	*e*P	**Pb**	**05 01 58.8**	**-0.2**
LCR2	**La Lucha 2**	**0.82**	**14**	*e*P	**Pb**	**05 01 59.0**	**-0.3**
FIMO	**Fila Mora**	**0.85**	**87**	*e*P	**Pb**	**05 01 59.7**	**-0.1**
ACOS	**Acosta**	**0.85**	**3**	*e*P	**Pb**	**05 01 59.6**	**-0.2**
BURE	**Buenos Aires**	**0.90**	**75**	*e*P	**Pb**	**05 02 00.6**	**+0.2**
REPA	**Paraso**	**0.95**	**21**	*e*P	**Pb**	**05 02 01.0**	**-0.4**
AMPA	**Desamparados**	**0.96**	**9**	*e*P	**Pg**	**05 02 01.2**	**+0.1**
SANTA	**Santa Ana**	**0.99**	**2**	*e*P	**Pb**	**05 02 02.0**	**-0.1**
TRB2	**Turrubares**	**1.00**	**347**	*e*P	**Pb**	**05 02 01.9**	**-0.3**
SJS3	**Mercedes San J**	**1.00**	**9**	*e*P	**Pb**	**05 02 02.4**	**-0.1**
SJS	**Escuela Geolog**	**1.01**	**9**	*e*P	**Pb**	**05 02 02.4**	**0.0**
DRK0	**Durika**	**1.01**	**71**	*e*P	**Pg**	**05 02 02.0**	**0.0**
LUPE	**Guadalupe**	**1.01**	**9**	*e*P	**Pb**	**05 02 02.6**	**0.0**
PIRO	**Carate, Puerto**	**1.02**	**121**	*e*P	**Pg**	**05 02 02.3**	**+0.2**
EDP2	**Potrero Grande**	**1.03**	**86**	*e*P	**Pb**	**05 02 02.9**	**+0.2**
BELE	**Belen**	**1.03**	**1**	*e*P	**Pb**	**05 02 02.7**	**-0.1**
CORON	**Coronado**	**1.05**	**11**	*e*P	**Pb**	**05 02 03.2**	**0.0**
PCAYA	**Pacayas**	**1.05**	**22**	*e*P	**Pb**	**05 02 03.3**	**+0.1**
HEME	**Heredia, Merce**	**1.05**	**4**	*e*P	**Pb**	**05 02 03.3**	**+0.1**
HEME				*i* P	**Pb**	**05 02 03.3**	**+0.1**
HDC	**Heredia**	**1.06**	**5**	*e*P	**Pb**	**05 02 03.4**	**0.0**
EDAD	**Golfito**	**1.07**	**105**	*e*P	**Pg**	**05 02 02.6**	**-0.6**
RAFA	**San Farael, Vo**	**1.09**	**21**	*e*P	**Pb**	**05 02 03.8**	**-0.1**
FITO	**Golfito**	**1.09**	**107**	*e*P	**Sg**	**05 02 18.0**	**+0.2**
TURIB	**Turrialba**	**1.09**	**28**	*e*P	**Pg**	**05 02 03.3**	**-0.3**
TCS1	**Tacares**	**1.10**	**356**	*e*P	**Pb**	**05 02 04.1**	**+0.1**
VICA	**Volcano Irazu**	**1.10**	**19**	*e*P	**Pg**	**05 02 03.8**	**0.0**
CVIMO	**Finca Echandi**	**1.11**	**14**	*e*P	**Pb**	**05 02 04.2**	**-0.1**
VERB	**Verbena**	**1.12**	**27**	*e*P	**Pb**	**05 02 04.3**	**-0.1**
POAS	**San Pedro de P**	**1.13**	**358**	*e*P	**Pn**	**05 02 04.8**	**-0.2**
VTLA	**Turrialba Volc**	**1.14**	**22**	*e*P	**Pb**	**05 02 04.6**	**-0.3**
VTCV	**VTCV, Calle Va**	**1.14**	**25**	*e*P	**Pg**	**05 02 04.3**	**-0.3**
CVTQ	**Turrialba Volc**	**1.15**	**23**	*e*P	**Pb**	**05 02 04.8**	**-0.1**
CVTV	**Tajo**	**1.15**	**23**	*e*P	**Pb**	**05 02 05.0**	**0.0**
VTR0	**Volcan Turrial**	**1.16**	**23**	*e*P	**Pn**	**05 02 05.4**	**-0.2**
CVTR	**Volcan Turrial**	**1.16**	**23**	*e*P	**Pb**	**05 02 05.1**	**-0.2**
RVSTA	**Santa Teresita**	**1.17**	**28**	*e*P	**Pn**	**05 02 05.3**	**-0.2**
VBV1	**V. Barva**	**1.17**	**5**	*e*P	**Pb**	**05 02 05.4**	**0.0**
VPS8	**V Poas**	**1.23**	**359**	*e*P	**Pn**	**05 02 06.4**	**-0.1**
VITO	**San Vito**	**1.23**	**95**	*e*P	**Pg**	**05 02 06.1**	**-0.2**
JCR1	**Jicaral**	**1.27**	**316**	*e*P	**Pg**	**05 02 06.4**	**-0.6**
CVTG	**V. Turrialba,**	**1.27**	**20**	*e*P	**Pn**	**05 02 07.1**	**+0.2**
NELY	**Ciudad Neily**	**1.28**	**103**	*e*P	**Pn**	**05 02 06.8**	**-0.2**
RVLA	**Villa Bonita**	**1.32**	**28**	*e*P	**Pn**	**05 02 07.4**	**+0.1**
PILE	**Guapiles**	**1.34**	**18**	*e*P	**Pg**	**05 02 09.2**	**+0.9**
IRES	**Siquirres**	**1.34**	**31**	*i* P	**Pg**	**05 02 08.5**	**+0.1**
IRES				*e*P	**Pg**	**05 02 08.5**	**+0.1**
ALCO	**Alturas Coton,**	**1.36**	**89**	*e*P	**Pn**	**05 02 08.1**	**-0.1**
VPL2	**V. Platanar**	**1.37**	**353**	*e*P	**Pn**	**05 02 08.2**	**-0.1**
ARTO	**Ro Cuarto**	**1.40**	**360**	*e*P	**Pn**	**05 02 06.3**	**-2.2**
CEUA	**Cerro Latsi, L**	**1.43**	**62**	*e*P	**Pg**	**05 02 10.1**	**+0.1**
SOCE	**Pocosol**	**1.49**	**344**	*e*P	**Pg**	**05 02 11.3**	**+0.1**
ITAL	**Pital**	**1.50**	**358**	*e*P	**Pb**	**05 02 10.4**	**-0.4**
BRU2	**Volcan**	**1.51**	**95**	*e*P	**Pn**	**05 02 09.9**	**-0.3**
BRU2	**Volcan**	**1.51**	**95**	*e*P	**Pn**	**05 02 09.8**	**-0.3**
BRU2				*e*S	**Sb**	**05 02 30.6**	**+0.1**
JTS	**Las Juntas de**	**1.53**	**332**	*e*P	**Pn**	**05 02 09.6**	**-0.7**
FORC	**Fortuna**	**1.58**	**344**	*e*P	**Pg**	**05 02 12.6**	**-0.4**
BC3P	**Paso Ancho**	**1.59**	**94**	*e*P	**Pn**	**05 02 11.0**	**-0.3**
BC3P				*e*S	**Sb**	**05 02 32.9**	**+0.2**
VACR	**Volcan Arenal**	**1.59**	**343**	*e*P	**Pn**	**05 02 11.8**	**+0.5**
ARE1	**Arenal 1**	**1.59**	**342**	*e*P	**Pb**	**05 02 12.5**	**+0.1**
VARE2	**V. Arenal**	**1.59**	**342**	*e*P	**Pb**	**05 02 12.4**	**0.0**
CEDE	**Laguna Cedeo**	**1.61**	**343**	*e*P	**Pg**	**05 02 14.0**	**+0.4**
LNBQ3	**Los Naranjos,**	**1.76**	**95**	*e*P	**Pn**	**05 02 12.9**	**-0.7**
LNBQ3				*e*S	**Sn**	**05 02 36.3**	**+0.1**
PLVR	**Palo Verde**	**1.79**	**321**	*e*P	**Pg**	**05 02 18.1**	**+1.1**
DVD	**David**	**1.81**	**106**	*e*P	**Pn**	**05 02 14.5**	**+0.3**
DVD				*e*S	**Sn**	**05 02 37.8**	**+0.3**
TENO	**El Achiote**	**1.91**	**337**	*e*P	**Pg**	**05 02 18.9**	**-0.3**
CHGR2	**Aguacate**	**2.04**	**90**	*e*P	**Pn**	**05 02 17.5**	**+0.1**
CHGR2				*e*S	**Sn**	**05 02 43.2**	**+0.1**

*IDC **05** 05:04:03.6±0.9, 23°.10N×143°.73E, h0km, mb3.9/12, mbtmp3.9/14, ML3.4/2, MS3.1/2, Error ellipse: s-maj=28.6km s-min=20.9km az=56.0*
*NEIC **05** 05:04:05.5±1.9, 23°.1N±0°.1×143°.99E±0°.04, h10km±2km, mb4.3/14, Error ellipse: s-maj=19.0km s-min=5.1km az=173.0*
ISC 05 05:04:08.8±0.7, 23°.20N±0°.09×143°.9E±0°.1, h34km, n47, σ1°.08/40, mb4.1/20, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.17**	**339**	Pn	**Pn**	**05 05 10.6**	**+0.5**
JCJ	**Chichijima**	**4.17**	**339**	Pn	**Pn**	**05 05 09.0**	**-1.1**
	7.3nm,0.3s,baz=280,slow=21,SNR=6.7						
JCJ				Sn	**Sn**	**05 05 56.8**	**-0.9**
	29nm,0.3s,baz=253,slow=23,SNR=14						
	37nm,0.7s						
MJAR	**Matsushiro Arr**	**14.17**	**341**	Pn	**Pn**	**05 07 27.3**	**+0.2**
	0.1nm,0.3s,baz=141,slow=16,SNR=4.6						
	0.6nm,0.4s						
MAJO	**Matsushiro**	**14.18**	**341**	Pn	**Pn**	**05 07 27.9**	**+0.7**
MJB9	**Matsu-Tunnel**	**14.18**	**341**	Pn	**Pn**	**05 07 27.8**	**+0.5**
JMM	**Marumori**	**14.86**	**350**	Pn	**Pn**	**05 07 33.6**	**-2.8**
KSRS	**Korea Array**	**19.75**	**320**	P	**Pn**	**05 08 39.2**	**+1.9**
	2.7nm,0.8s,baz=151,slow=9.5,SNR=5.7						
SSLB	**Suanglung**	**21.04**	**276**	P	**P**	**05 08 51.9**	**+2.0**
SSLB				IAmb	IAmb	05 08 54.5	
	comp=Z,18nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**21.69**	**95**	T	T	05 31 16.4	
	baz=283,slow=74,SNR=8.6						
H11N2	**WAKE ISLAND Hy**	**21.69**	**95**	T	T	05 31 12.1	
	baz=283,slow=74,SNR=8.3						
H11N3	**WAKE ISLAND Hy**	**21.70**	**95**	T	T	05 31 13.0	
	baz=283,slow=74,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**21.81**	**98**	T	T	05 31 43.5	
	baz=284						
H11S1	**WAKE ISLAND Hy**	**21.82**	**98**	T	T	05 31 51.5	
	baz=284						
H11S2	**WAKE ISLAND Hy**	**21.83**	**98**	T	T	05 31 30.8	
	baz=284						
USRK	**Ussuriysk Ar.**	**23.12**	**338**	LR	LR	05 17 25.0	
	comp=Z,47nm,18.6s,baz=201,slow=35						
SONM	**Songino Array**	**38.62**	**319**	P	**P**	**05 11 28.7**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=101,slow=7.5,SNR=3.6						
	comp=Z,0.3nm,0.5s						
WB0	**Warramunga Arr**	**43.70**	**193**	P	**P**	**05 12 09.8**	**-0.9**
WRA	**Warramunga Arr**	**43.88**	**193**	P	**P**	**05 12 10.8**	**-1.4**
WRA	**Warramunga Arr**	**43.88**	**193**	P	**P**	**05 12 10.3**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=17,slow=9.0,SNR=6.7						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**53.45**	**321**	P	**P**	**05 13 25.0**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=157,slow=5.8,SNR=3.8						
	comp=Z,0.8nm,0.5s						
MK31	**Makanchi Array**	**54.17**	**312**	P	**P**	**05 13 30.8**	**-0.1**
MKAR	**Makanchi Array**	**54.17**	**312**	P	**P**	**05 13 31.6**	**+0.7**
MKAR	**Makanchi Array**	**54.17**	**312**	P	**P**	**05 13 31.2**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=90,slow=8.8,SNR=18						
	comp=Z,2.0nm,0.7s						
MAKZ	**Makanchi**	**54.39**	**312**	P	**P**	**05 13 33.0**	**+0.6**
MAKZ				IAmb	IAmb	05 13 35.1	
	comp=Z,2.1nm,0.9s						
KURBB	**Kurchatov Arra**	**56.88**	**316**	P	**P**	**05 13 49.2**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=93,slow=8.6,SNR=9.1						
	comp=Z,0.8nm,0.5s						
BOOM	**Boomskoye usch**	**58.72**	**307**	P	**P**	**05 14 05.2**	**+1.6**
D22K	**Ayikyak River**	**59.06**	**22**	P	**P**	**05 14 06.4**	**+1.2**
D22K				IAmb	IAmb	05 14 11.4	
	comp=Z,4.9nm,1.2s						
AAK	**Ala-Archa**	**59.78**	**307**	P	**P**	**05 14 10.6**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=201,slow=14,SNR=2.4						
	comp=Z,0.8nm,0.4s						
ILAR	**Eielson Array**	**60.41**	**27**	P	**P**	**05 14 15.4**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=259,slow=5.5,SNR=2.9						
	comp=Z,0.5nm,0.9s						
J26L	**Joseph Creek**	**61.80**	**28**	P	**P**	**05 14 24.9**	**+0.7**
J26L				IAmb	IAmb	05 14 37.4	
	comp=Z,2.1nm,1.0s						
F26K	**

FUNV			eS	Sn	05 12 59.8	-2.4
TACV	**Tcata**	**2.63 243**	eP	Pn	05 12 38.6	-0.9
TACV			eS	Sn	05 13 08.0	-2.4
BENV	**Beln**	**3.22 245**	eP	Pn	05 12 47.5	-0.1
BAUV	**El Baul**	**4.11 235**	eP	Pn	05 12 58.2	-1.6
BAUV			eS	Sn	05 13 41.9	-4.9
CACV	**CAICARA DEL OR**	**4.20 207**	eP	Pn	05 12 57.6	-3.4
CACV			eS	Sn	05 13 40.4	-8.6

IDC 05 05:14:59.7±2.6, 54°.57N×83°.55E, h0km, mbtmp2.6/1, ML2.4/1, Error ellipse: s-maj=20.1km s-min=10.9km az=160.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**129**	I	I	05 20 50.0	
	baz=308,slow=332,SNR=3.3						
ZALV	**Zalesovo Beam**	**0.97**	**129**	Pg	Pg	05 15 17.7	-0.5
	1.4nm,0.3s,baz=311,slow=14,SNR=29						
ZALV				Lg	Lg	05 15 32.6	
	2.1nm,0.3s,baz=310,slow=28,SNR=20						
KURBB	**Kurchatov Arra**	**5.00**	**220**	Pg	Pb	05 16 28.0	0.0
	baz=43,slow=16						
KURBB				Lg	Lg	05 17 38.4	
	baz=41,slow=30,SNR=4.3						
MKAR	**Makanchi Array**	**7.82**	**186**	Pn	Pn	05 16 53.6	-1.2
	0.1nm,0.3s,baz=7.8,slow=13,SNR=2.9						
MKAR				Lg	Lg	05 19 10.0	
	baz=4.2,slow=22,SNR=1.8						
	0.2nm,0.6s						

*OSPL **05** 05:36:31.0±0.4, 18°.23N×69°.14W, h125km±8km, ML2.7*
*SDD **05** 05:36:31.8±0.5, 18°.76N×68°.80W, h130km±4km, MD3.1, ML2.8, MW2.4*
*RSPR **05** 05:36:32.2, 18°.28N×69°.01W, h115km±1km, MD2.8/12*
ISC 05 05:36:33.5±1.7, 18°.4N±0°.1×68°.93W±0°.04, h107km±12km, n31, σ1°15/38, 4C-12D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.28**	**46**⇓	eP	**Pn**	**05 36 48.7**	**-0.1**
HIDR	**Higuey Centro**	**0.28**	**46**	eS	**Sn**	**05 37 01.8**	**+1.4**
PCDR	**Punta Cana, DR**	**0.54**	**77**⇑	eP	**Pn**	**05 36 49.3**	**-1.0**
PCDR	**Punta Cana, DR**	**0.54**	**77**	i P	**Pn**	**05 36 50.3**	**0.0**
PCDR			⇑	eS	**Sn**	**05 37 04.8**	**+2.0**
PCDR				IAML		05 37 08.9	
	comp=Z,134nm,1.4s						
HATOM	**Hato Mayor del**	**0.58**	**312**	ePg	**Pn**	**05 36 50.1**	**-0.6**
HATOM				eSg	**Sn**	**05 37 03.8**	**+0.3**
HATOM				IAML		05 37 05.1	
	comp=N,68nm,0.3s						
HATOM				IAML		05 37 05.1	
	comp=N,68nm,0.3s						
MIDR	**Miches**	**0.59**	**349**	ePg	**Pn**	**05 36 49.0**	**-1.8**
MIDR				eSg	**Sn**	**05 37 01.9**	**-1.8**
MIDR				IAML		05 37 39.5	
	comp=N,43nm,2.3s						
SMDR	**Samana, DR**	**0.92**	**345**⇓	eP	**Pn**	**05 36 54.6**	**+0.9**
SMDR	**Samana, DR**	**0.92**	**345**	eS	**Sn**	**05 37 10.2**	**+1.3**
DR08	**Loma La Naviza**	**1.18**	**299**	ePg	**Pn**	**05 36 55.1**	**-1.4**
DR08				eSg	**Sn**	**05 37 12.7**	**-1.1**
DR08				IAML		05 37 14.8	
	comp=N,567nm,0.2s						
DR08				IAML		05 37 14.8	
	comp=N,567nm,0.2s						
BANI	**BANI**	**1.35**	**270**	ePg	**Pn**	**05 36 59.3**	**+0.7**
BANI			⇓	eSg	**Sn**	**05 37 19.1**	**+1.6**
AGPR	**Aguadilla, PR**	**1.73**	**87**⇓	eP	**Pn**	**05 37 03.0**	**0.0**
AGPR	**Aguadilla, PR**	**1.73**	**87**	i P	**Pn**	**05 37 02.7**	**-0.3**
AGPR				eS	**Sn**	**05 37 25.9**	**+0.5**
AGPR				IAML		05 37 35.1	
	comp=Z,55nm,3.4s						
LSP	**Las Mesas**	**1.77**	**97**⇓	eP	**Pn**	**05 37 03.9**	**+0.4**
LSP	**Las Mesas**	**1.77**	**97**	eS	**Sn**	**05 37 27.2**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.77**	**102**⇓	i P	**Pn**	**05 37 02.6**	**-1.0**
CRPR				IAML		05 37 34.6	
	comp=Z,27nm,2.1s						
MLPR	**Magueyes Islan**	**1.84**	**103**	ePg	**Pn**	**05 37 02.6**	**-1.8**
MLPR				eSg	**Sn**	**05 37 24.9**	**-3.1**
MLPR	**Magueyes Islan**	**1.84**	**103**⇓	eP	**Pn**	**05 37 03.3**	**-1.1**
MLPR	**Magueyes Islan**	**1.84**	**103**	eS	**Sn**	**05 37 29.0**	**+1.1**
AOPR	**Arecibo Observ**	**2.07**	**91**⇑	eP	**Pn**	**05 37 06.7**	**-0.6**
AOPR	**Arecibo Observ**	**2.07**	**91**	eS	**Sn**	**05 37 33.8**	**+0.7**
UUPR	**Utuado, UPR, P**	**2.10**	**94**⇓	eP	**Pn**	**05 37 07.9**	**+0.1**
UUPR	**Utuado, UPR, P**	**2.10**	**94**	eS	**Sn**	**05 37 34.2**	**+0.2**
OBIP	**Obispado Ponce**	**2.24**	**99**⇑	eP	**Pn**	**05 37 08.2**	**-1.2**
CELP	**Cerrillos**	**2.26**	**98**⇓	eP	**Pn**	**05 37 09.2**	**-0.6**
CELP	**Cerrillos**	**2.26**	**98**	eS	**Sn**	**05 37 37.5**	**0.0**
ECPR	**Experimental S**	**2.44**	**91**⇓	eP	**Pn**	**05 37 11.5**	**-0.6**
ECPR	**Experimental S**	**2.44**	**91**	eS	**Sn**	**05 37 42.7**	**+1.0**
GCPR	**Guaynabo City**	**2.71**	**91**⇓	eP	**Pn**	**05 37 15.7**	**+0.2**
GCPR	**Guaynabo City**	**2.71**	**91**	eS	**Sn**	**05 37 48.8**	**+0.9**
PDPR	**Patillas Dam,**	**2.79**	**97**⇓	eP	**Pn**	**05 37 17.3**	**+0.6**
PDPR	**Patillas Dam,**	**2.79**	**97**	eS	**Sn**	**05 37 50.2**	**+0.3**

*ASRS **05** 05:42:10.0±0.9, 54°.23N×87°.09E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 05 05:42:11.8±3.0, 54°.30N×87°.22E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=23.9km s-min=17.1km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**257**	I	I	05 51 35.0	
	baz=75,slow=321,SNR=7.5						
ZALV	**Zalesovo Beam**	**1.46**	**257**	Pg	Pn	05 42 37.1	-2.2
	1.4nm,0.3s,baz=71,slow=16,SNR=16						
ZALV				Lg	Lg	05 42 56.7	
	1.2nm,0.3s,baz=77,slow=26,SNR=7.0						
KURBB	**Kurchatov Arra**	**6.46**	**239**	Pn	Pn	05 43 48.8	+0.8
	0.1nm,0.3s,baz=56,slow=14,SNR=9.5						
KURBB				Sn	Sn	05 45 03.8	+1.4
	baz=17,slow=16,SNR=1.6						
KURBB				Lg	Lg	05 45 39.0	
	baz=55,slow=31,SNR=3.6						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**8.14**	**205**	Pn	Pn	05 44 13.0	+1.9
	0.1nm,0.3s,baz=26,slow=13,SNR=3.0						
MKAR				Sn	Sn	05 45 42.1	-1.7
	0.1nm,0.3s,baz=25,slow=24,SNR=5.5						
MKAR				Lg	Lg	05 46 28.8	
	0.1nm,0.3s,baz=24,slow=29,SNR=3.8						
	0.1nm,0.3s						

*ASRS **05** 05:45:03.0±1.0, 54°.24N×87°.10E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 05 05:45:05.0±3.0, 54°.23N×87°.13E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=25.6km s-min=16.4km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**259**	I	I	05 54 20.0	
	baz=75,slow=323,SNR=9.7						
ZALV	**Zalesovo Beam**	**1.39**	**259**	Pg	Pg	05 45 29.9	-1.7
	2.2nm,0.3s,baz=74,slow=16,SNR=17						
ZALV				Lg	Lg	05 45 49.0	
	2.0nm,0.3s,baz=78,slow=29,SNR=9.0						
KURBB	**Kurchatov Arra**	**6.38**	**239**	Pn	Pn	05 46 41.4	+1.3
	0.1nm,0.3s,baz=54,slow=13,SNR=9.1						
KURBB				Lg	Lg	05 48 27.4	
	baz=55,slow=32,SNR=6.1						
	1.4nm,0.4s						
MKAR	**Makanchi Array**	**8.05**	**204**	Pn	Pn	05 47 04.4	+1.3
	0.1nm,0.3s,baz=27,slow=14,SNR=2.2						
MKAR				Sn	Sn	05 48 33.3	-1.7
	baz=26,slow=24,SNR=2.9						
MKAR				Lg	Lg	05 49 20.6	
	0.1nm,0.3s,baz=23,slow=27,SNR=5.4						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**10.02**	**270**	Pn	Pn	05 47 32.2	+2.1
	baz=80,slow=17,SNR=2.6						

*IDC **05** 05:49:56.3±1.0, 38°.24N×99°.93E, h0km, mb3.7/7, mbtmp3.7/10, ML3.2/4, MS3.2/3, Error ellipse: s-maj=37.5km s-min=18.2km az=53.0*

ISC 05 05:50:01.7±1.1, 38°.4N±0°.1×99°.8E±0°.1, h35km, n13, σ1°75/12, mb3.7/7, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**10.61**	**25**	Pn	**Pn**	**05 52 32.9**	**+1.7**
	1.4nm,0.3s,baz=206,slow=15,SNR=28						
SONM				Sn	**Sn**	**05 54 26.3**	**-2.5**
	0.9nm,0.3s,baz=218,slow=28,SNR=2.4						
SONM				Lg	Lg	05 55 33.3	
	0.3nm,0.3s,baz=213,slow=34,SNR=2.0						
SONM				LR	LR	05 57 13.4	
	comp=Z,42nm,20.8s,baz=264,slow=41						
	4.2nm,0.5s						
MKAR	**Makanchi Array**	**15.37**	**309**	Pn	**Pn**	**05 53 32.5**	**-3.2**
	0.1nm,0.3s,baz=122,slow=19,SNR=2.9						
MKAR				Lg	Lg	05 58 09.4	
	baz=114,slow=30						
ZALV	**Zalesovo Beam**	**18.65**	**331**	P	**P**	**05 54 17.4**	**+1.2**
	0.2nm,0.3s,baz=134,slow=12,SNR=3.1						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**19.41**	**316**	P	**P**	**05 54 25.6**	**+1.0**
	0.1nm,0.3s,baz=124,slow=11,SNR=6.4						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**24.99**	**315**	P	**P**	**05 55 23.2**	**+1.3**
	0.3nm,0.4s,baz=112,slow=9.5,SNR=1.4						
	0.3nm,0.4s						
YAK	**Yakutsk**	**29.95**	**28**	LR	LR	06 08 42.3	
	comp=Z,46nm,20.1s,baz=254,slow=38						
ARCES	**ARCESS Array B**	**49.18**	**333**	P	**P**	**05 58 46.5**	**+0.7**
	5.3nm,1.1s,baz=85,slow=10.0,SNR=2.5						
	5.3nm,1.1s						
FINES	**FINESS Array B**	**49.60**	**323**	P	**P**	**05 58 50.1**	**+1.1**
	0.8nm,0.5s,baz=89,slow=8.5,SNR=2.2						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**64.84**	**26**	P	**P**	**06 00 36.3**	**-0.3**
	0.4nm,0.6s,baz=306,slow=5.9,SNR=4.4						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**66.46**	**144**	P	**P**	**06 00 46.2**	**-1.3**
	0.5nm,0.8s,baz=332,slow=5.9,SNR=7.4						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**69.52**	**147**	P	**P**	**06 01 06.5**	**-0.3**
	0.3nm,0.5s,baz=334,slow=7.5,SNR=2.3						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**75.73**	**16**	P	**P**	**06 01 43.8**	**+0.6**
	0.4nm,0.8s,baz=323,slow=5.4,SNR=6.4						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**95.92**	**29**	LR	LR	06 49 26.7	
	comp=Z,29nm,18.1s,baz=156,slow=37						

*IDC **05** 05:50:21.2±1.3, 6°.11S×153°.72E, h0km, mb3.6/5, mbtmp3.7/6, ML1.8/1, Error ellipse: s-maj=51.0km s-min=24.9km az=128.0*
ISC 05 05:50:26.4±1.2, 6°.2S±0°.2×153°.8E±0°.2, h35km, n7, σ1°17/8, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.30**	**243**	Pn	**Pn**	**05 52 09.5**	**-1.2**
	0.9nm,0.3s,baz=340,slow=21,SNR=1.2						
PMG				Sn	**Sn**	**05 53 34.0**	**+1.6**
	0.6nm,0.3s,baz=333,slow=18,SNR=1.4						
	4.6nm,0.4s						
WRA	**Warramunga Arr**	**23.33**	**232**	P	**P**	**05 55 31.2**	**-0.6**
	0.9nm,1.1s,baz=56,slow=9.0,SNR=1.7						
	0.9nm,1.1s						
ASAR	**Alice Springs**	**25.85**	**226**	P	**P**	**05 55 53.9**	**-1.1**
	1.2nm,0.8s,baz=46,slow=9.4,SNR=8.6						
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**81.97**	**319**	P	**P**	**06 02 43.3**	**+0.4**
	0.5nm,0.6s,baz=114,slow=3.5,SNR=10						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**83.04**	**22**	P	**P**	**06 02 48.1**	**+0.1**
	0.5nm,0.9s,baz=239,slow=10,SNR=2.4						
	0.5nm,0.9s						
QSPA	**South Pole Qui**	**83.82**	**180**	P	**P**	**06 02 53.1**	**+0.9**
	0.8nm,0.7s,baz=183,slow=8.7,SNR=1.8						
	0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.62**	**286**	PKPbc	**PKiKP**	**06 10 18.1**	**-0.5**
	36nm,0.3s,baz=64,slow=2.5,SNR=1.9						

*ASRS **05** 05:51:29.0±1.1, 53°.48N×87°.21E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 05 05:51:31.7±3.3, 53°.47N×87°.31E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=31.0km s-min=17.0km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.56**	**289**	Pg	Pn	05 51 59.3	-1.4
	0.5nm,0.3s,baz=106,slow=16,SNR=6.8						
ZALV				Lg	Lg	05 52 21.1	
	0.5nm,0.3s,baz=111,slow=20,SNR=5.7						
I46RU	**ZALESOVO INFRA**	**1.56**	**289**	I	I	06 01 55.0	
	baz=107,slow=326,SNR=19						
KURBB	**Kurchatov Arra**	**6.12**	**246**	Pn	Pn	05 53 04.3	+1.0
	baz=63,slow=14,SNR=3.3						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**7.42**	**208**	Pn	Pn	05 53 22.2	+1.1
	0.1nm,0.3s,baz=24,slow=12,SNR=2.1						
	0.1nm,0.3s						

*ASRS **05** 05:54:38.0±0.8, 54°.20N×87°.11E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 05 05:54:38.7±3.7, 54°.39N×87°.39E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=34.7km s-min=21.2km az=36.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**255**	I	I	06 04 00.0	
	baz=76,slow=325,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.57**	**255**	Pg	Pn	05 55 05.3	-2.6
	1.0nm,0.3s,baz=73,slow=17,SNR=10						
ZALV				Lg	Lg	05 55 29.8	
	0.9nm,0.3s,baz=70,slow=25,SNR=4.2						
KURBB	**Kurchatov Arra**	**6.59**	**239**	Pn	Pn	05 56 17.1	+0.3
	0.1nm,0.3s,baz=55,slow=14,SNR=4.9						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.26**	**205**	Pn	Pn	05 56 41.4	+1.7
	0.1nm,0.3s,baz=25,slow=12,SNR=5.7						
	0.2nm,0.3s						

*SOME **05** 05:55:12.6, 39°.63N×75°.57E, h10km*
*NNC **05** 05:55:14.4±1.4, 39°.73N×75°.63E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=9.8km s-min=8.4km az=163.0*
*KRNET **05** 05:55:21.5±0.1, 39°.96N×75°.99E, h12km, mb2.7*
ISC 05 05:55:21.9±1.8, 39°.97N±0°.08×75°.97E±0°.04, h15km±12km, n22, σ1°61/35, 14C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.47**	**1**⇑	eP	**Pb**	**05 55 49.1**	**+0.1**
NRN			⇑	eS	**Sg**	**05 56 09.5**	**+0.2**
SALK	**Salom-Alik**	**1.88**	**300**⇑	iP	**Pg**	**05 55 57.1**	**-0.9**
SALK			⇑	iS	**Sg**	**05 56 22.7**	**+0.3**
SFK	**Sufi-Kurgan**	**1.90**	**272**⇑	eP	**Pg**	**05 55 57.5**	**-0.8**
SFK			⇑	eS	**Sg**	**05 56 23.1**	**+0.1**
TARG	**Taragay, Kyrgy**	**2.24**	**38**⇑	iP	**Pb**	**05 56 01.4**	**-1.0**
TARG			⇑	iS	**Sg**	**05 56 31.9**	**-2.2**
ARLS	**Aral**	**2.27**	**327**⇑	iP	**Pb**	**05 56 02.6**	**0.0**
ARLS			⇑	iS	**Sb**	**05 56 32.6**	**+2.1**
KDJ	**Kajisay**	**2.35**	**23**⇑	eP	**Pb**	**05 56 03.7**	**-0.3**
KDJ			⇑	eS	**Sb**	**05 56 34.4**	**+1.6**
BOOM	**Boomskoye usch**	**2.52**	**359**⇓	eP	**Pb**	**05 56 06.3**	**-0.7**
BOOM			⇓	eS	**Sb**	**05 56 38.4**	**+0.6**
ARSB	**Arslanbob**	**2.65**	**302**⇓	iP	**Pb**	**05 56 08.1**	**-1.0**
ARSB			⇓	iS	**Sb**	**05 56 41.7**	**+0.3**
AML	**Almayashu**	**2.76**	**322**⇑	eP	**Pb**	**05 56 09.1**	**-2.1**
AML			⇑	iS	**Sb**	**05 56 44.7**	**-0.3**
KST	**Kastek**	**3.07**	**360**	Pg	**Pb**	**05 56 15.5**	**-0.8**
	3.2nm,0.3s						
KST				Lg	Lg	05 57 00.9	
	4.2nm,0.3s						
KST	**Kastek**	**3.07**	**360**	eP	**Pb**	**05 56 15.5**	**-0.8**
	3.2nm,0.3s						
KST				eS	**Sg**	**05 57 00.8**	**+0.2**
	4.2nm,0.3s						
TNSS	**Tian-Shan**	**3.15**	**13**	Pg	**Pb**	**05 56 17.3**	**-0.6**
	3.9nm,0.4s						
TNSS				Lg	Lg	05 57 04.0	
	2.6nm,0.6s						
TNSS	**Tian-Shan**	**3.15**	**13**	eP	**Pb**	**05 56 17.3**	**-0.6**
	3.9nm,0.4s						
TNSS				eS	**Sg**	**05 57 04.0**	**+0.7**
	2.6nm,0.6s						
DGS	**Degeres**	**3.28**	**357**	Pg	**Pb**	**05 56 17.9**	**-1.8**
	5.3nm,0.6s						
DGS				Lg	Lg	05 57 04.9	
	7.9nm,0.7s						
MDOK	**Medeo**	**3.29**	**14**	Pg	**Pb**	**05 56 19.8**	**-0.3**
MDOK				Lg	Lg	05 57 07.9	
MRKS	**Merke**	**3.46**	**324**	Pg	**Pn**	**05 56 18.3**	**+3.0**
	1.8nm,0.3s						
MRKS				Lg	Lg	05 57 05.6	
	2.0nm,0.2s						
MRKS	**Merke**	**3.46**	**324**	eP	**Pn**	**05 56 18.3**	**+3.0**
	1.8nm,0.3s						
MRKS				eS	**Sb**	**05 57 05.6**	**+0.8**
	2.0nm,0.2s						
KRBS	**Karabastau**	**3.73**	**357**	Pg	**Pb**	**05 56 26.8**	**-0.7**
	1.0nm,0.4s						
KRBS				Lg	Lg	05 57 20.2	
	3.5nm,0.6s						
KTBS	**Karatobe**	**3.78**	**8**	Pg	**Pb**	**05 56 29.6**	**+1.2**
	2.4nm,0.4s						
KTBS				Lg	Lg	05 57 25.0	
	4.7nm,0.6s						
UZB	**Uzynbulak**	**3.92**	**35**	Pg	**Pb**	**05 56 31.6**	**+0.9**
	1.2nm,0.7s						
UZB				Lg	Lg	05 57 28.5	
	6.0nm,0.4s						
UZB	**Uzynbulak**	**3.92**	**35**	eP	**Pb**	**05 56 31.6**	**+0.9**
	1.2nm,0.7s						
UZB				eS	**Sg**	**05 57 28.5**	**+0.8**
	6.0nm,0.4s						
KPKS	**Kokpek**	**4.04**	**29**	eP	Pn	05 56 17.9	-5.4
	5.3nm,0.6s						
KPKS				eS	**Sn**	**05 57 04.9**	**-5.5**
	7.9nm,0.7s						

*ASRS **05** 05:58:46.0±1.1, 55°.76N×86°.09E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 05 05:58:51.0±3.7, 55°.53N×86°.11E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=30.5km s-min=27.0km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**206**	I	I	06 11 10.0	
	baz=25,slow=327,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.75**	**206**	Pg	Pn	05 59 21.6	-1.0
	4.3nm,0.3s,baz=26,slow=21,SNR=38						
ZALV				Lg	Lg	05 59 46.8	
	3.3nm,0.3s,baz=29,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**6.71**	**226**	Pn	Pn	06 00 30.2	-0.4
	0.1nm,0.3s,baz=43,slow=14,SNR=4.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**9.07**	**197**	Pn	Pn	06 01 04.1	+1.0
	0.1nm,0.3s,baz=14,slow=12,SNR=2.8						
	0.2nm,0.4s						

*TAP **05** 06:03:12.2, 23°.99N×122°.62E, h27km, ML2.9, C*
ISC 05 06:03:11.0±1.2, 23°.90N±0°.03×122°.67E±0°.04, h28km±10km, n90, σ0°81/170, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.39**	**305**	i P	**Pb**	**06 03 19.3**	**0.0**
EOS4				i S	**Sb**	**06 03 24.7**	**-0.2**
EOS3	**EOS3**	**0.50**	**320**	P	**Pb**	**06 03 21.4**	**+0.1**
EOS3				eS	**Sb**	**06 03 28.1**	**-0.2**
YOJ	**Yonaguni jima**	**0.64**	**29**	P	**Pn**	**06 03 24.3**	**0.0**
YOJ	**Yonaguni jima**	**0.64**	**29**	S	**Sb**	**06 03 32.2**	**-0.2**
YOJ	**Yonaguni jima**	**0.64**	**29**	eP	**Pn**	**06 03 24.7**	**+0.4**
YOJ				S	**Sb**	**06 03 32.4**	**0.0**
EOS2	**EOS2**	**0.65**	**323**	P	**Pn**	**06 03 24.5**	**+0.2**
EOS2				i S	**Sn**	**06 03 33.1**	**-0.6**
EAHA	**Aohua**	**0.95**	**297**	P	**Pb**	**06 03 29.0**	**0.0**
EAHA				eS	**Sn**	**06 03 40.0**	**-1.3**
EWUT	**Wuta**	**0.98**	**304**	P	**Pn**	**06 03 29.1**	**+0.1**
EWUT				S	**Sn**	**06 03 41.4**	**-0.5**
TWD	**Chiawan**	**1.00**	**281**	P	**Pb**	**06 03 29.6**	**0.0**
TWD				eS	**Sn**	**06 03 41.7**	**-0.6**
ENA	**Nanau**	**1.00**	**302**	P	**Pn**	**06 03 29.1**	**-0.2**
ENA				eS	**Sb**	**06 03 42.4**	**-0.1**
ESAO	**Su ao**	**1.01**	**312**	eP	**Pn**	**06 03 29.4**	**0.0**
ESAO				S	**Sb**	**06 03 42.4**	**-0.5**
SHUL	**Shoufeng**	**1.02**	**264**	i P	**Pn**	**06 03 29.8**	**+0.3**
SHUL				i S	**Sb**	**06 03 43.3**	**+0.2**
NACB	**Ninganchiao**	**1.02**	**286**	P	**Pn**	**06 03 29.4**	**-0.1**
NACB	**Ninganchiao**	**1.02**	**286**	S	**Sn**	**06 03 41.9**	**-1.0**
NACB	**Ninganchiao**	**1.02**	**286**	eP	**Pn**	**06 03 29.5**	**0.0**
NACB				eS	**Sn**	**06 03 42.5**	**-0.5**
TWC	**Suao**	**1.03**	**314**	eP	**Pn**	**06 03 29.4**	**-0.3**
TWC				eS	**Sn**	**06 03 42.0**	**-1.2**
ETM	**Tongmen**	**1.08**	**274**	eP	**Pn**	**06 03 30.4**	**+0.1**
ETM				eS	**Sn**	**06 03 43.6**	**-0.8**
ETLH	**Xiulin Townshi**	**1.13**	**286**	eP	**Pn**	**06 03 31.2**	**+0.1**
ETLH				eS	**Sn**	**06 03 45.5**	**-0.2**
ESL	**Shilin**	**1.13**	**266**	eP	**Pn**	**06 03 30.8**	**-0.4**
ESL				eS	**Sn**	**06 03 44.9**	**-0.9**
NDS	**Dongshan**	**1.14**	**310**	P	**Pb**	**06 03 31.7**	**-0.4**
NDS				eS	**Sn**	**06 03 45.1**	**-0.8**
LXIB	**Xiulin Townshi**	**1.16**	**276**	eP	**Pn**	**06 03 31.6**	**+0.1**
LXIB				eS	**Sn**	**06 03 46.6**	**+0.1**
EGS		**1.16**	**325**	P	**Pn**	**06 03 31.7**	**+0.3**
EGS				eS	**Sn**	**06 03 43.1**	**-3.3**
EGFH	**Guangfu**	**1.16**	**259**	i P	**Pn**	**06 03 31.6**	**+0.2**
EGFH				eS	**Sb**	**06 03 47.1**	**0.0**
WARBT	**Fenglin Townsh**	**1.19**	**262**	eP	**Pn**	**06 03 31.7**	**-0.1**
WARBT				eS	**Sn**	**06 03 46.0**	**-1.2**
HGSD	**Ruisui**	**1.21**	**251**	eP	**Pn**	**06 03 32.4**	**+0.3**
HGSD				eS	**Sn**	**06 03 47.2**	**-0.4**
LATG	**Datong**	**1.22**	**302**	eP	**Pb**	**06 03 33.4**	**-0.2**
LATG				eS	**Sb**	**06 03 48.6**	**-0.3**
TWE	**Neicheng**	**1.23**	**312**

WUSB				eS	Sn	06 03 53.6	+0.5
NSK	**Sanguang**	**1.43**	**303**	eP	Pb	06 03 36.1	-0.9
NSK				eS	Sb	06 03 54.0	-0.8
EDH	**Donghe**	**1.56**	**234**	eP	Pn	06 03 36.5	-0.4
EDH				eS	Sn	06 03 54.3	-1.8
SSLB	**Suanglung**	**1.57**	**266**	P	Pn	06 03 38.3	+1.1
SSLB	**Suanglung**	**1.57**	**266**	eP	Pb	06 03 38.9	-0.6
SSLB				eS	Sn	06 03 57.5	+0.8
NFF	**Wufeng Townshi**	**1.59**	**298**	eP	Pb	06 03 40.4	+0.6
NFF				eS	Sb	06 04 00.3	+0.7
YM01	**YM01**	**1.59**	**321**	eP	Pb	06 03 40.9	+1.0
YM01				S	Sn	06 03 57.7	+0.4
DPDB	**Guoxing**	**1.60**	**275**	eP	Pn	06 03 38.7	+1.1
DPDB				eS	Sb	06 03 58.9	-0.9
WCS	**Beigang Elemen**	**1.61**	**276**	eP	Pb	06 03 41.5	+1.3
WCS				eS	Sb	06 04 00.6	+0.5
SMLT	**Sun Moon Lake**	**1.62**	**270**	eP	Pn	06 03 37.9	0.0
SMLT				eS	Sb	06 04 01.4	+1.0
WHP	**Taichung City**	**1.62**	**284**	eP	Pb	06 03 40.0	-0.3
WHP				eS	Sb	06 03 59.8	-0.6
TYC	**Yuchr**	**1.66**	**271**	P	Pn	06 03 39.7	+1.4
TYC				S	Sn	06 03 59.8	+1.1
ELDTW	**Lidau**	**1.67**	**245**	P	Pn	06 03 39.1	+0.5
ELDTW				S	Sn	06 03 59.1	-0.1
WHYT	**Xinyi Township**	**1.68**	**263**	eP	Pb	06 03 40.9	-0.4
WHYT				S	Sb	06 04 01.6	-0.4
NSTT	**Nanjuang**	**1.69**	**296**	P	Pn	06 03 40.0	+1.3
NSTT				S	Sb	06 04 00.9	-1.4
NCU	**National Centr**	**1.72**	**309**	eP	Pn	06 03 39.9	+0.7
NCU				eS	Sn	06 04 00.0	-0.2
LONT	**Longtian**	**1.72**	**235**	eP	Pb	06 03 42.5	+0.5
LONT				i S	Sn	06 04 01.3	+1.0
ALS	**Alishan**	**1.75**	**258**	i P	Pn	06 03 41.6	+1.7
ALS				eS	Sn	06 04 01.9	+0.5
WJS	**Zhushan**	**1.78**	**268**	eP	Pb	06 03 42.0	-1.0
WJS				eS	Sb	06 04 04.7	-0.1
TWQ1	**Liyutan**	**1.79**	**285**	eP	Pn	06 03 41.3	+1.2
TWQ1				eS	Sb	06 04 05.6	+0.4
PCYT	**Pengchaiyu**	**1.81**	**343**	eP	Pn	06 03 41.6	+1.3
PCYT				S	Sn	06 04 02.9	+0.5
TWGBT	**Beinan**	**1.81**	**234**	eP	Pb	06 03 42.9	-0.7
TWGBT				eS	Sn	06 04 02.8	+0.2
WNT	**Mingjian**	**1.82**	**270**	eP	Pb	06 03 42.5	-1.1
WNT				eS	Sb	06 04 04.6	-1.3
TWG	**Pinlang**	**1.82**	**234**	eP	Pb	06 03 43.9	+0.2
TWG				eS	Sb	06 04 06.7	+0.7
CHN5	**Tsauling**	**1.85**	**261**	i P	Pb	06 03 43.2	-1.0
CHN5				S	Sb	06 04 06.0	-1.0
STYH	**Taoyuan**	**1.88**	**248**	eP	Pn	06 03 41.5	+0.1
STYH				eS	Sn	06 04 03.4	-0.8
STYT	**Tauyuan**	**1.90**	**248**	P	Pn	06 03 42.8	+1.0
STYT				eS	Sn	06 04 05.1	+0.3
TPUB	**Ta-pu**	**1.96**	**253**	P	Pb	06 03 45.1	-1.0
TPUB	**Ta-pu**	**1.96**	**253**	eP	Pb	06 03 45.1	-1.0
TPUB				eS	Sb	06 04 09.7	-0.5
WDLH	**Douliu**	**1.96**	**264**	P	Pb	06 03 44.9	-1.2
WDLH				S	Sb	06 04 09.6	-0.6
CHN4	**Tsaushan**	**1.98**	**254**	P	Pb	06 03 45.6	-0.8
CHN4				eS	Sb	06 04 11.2	+0.5
WTP	**Ta-pu**	**1.99**	**251**	P	Pb	06 03 45.9	-0.8
WTP				S	Sb	06 04 10.5	-0.6
SGST	**Jiashian**	**2.08**	**247**	P	Pb	06 03 46.9	-1.2
SGST				eS	Sb	06 04 12.5	-1.1
CHN1	**Nanshi**	**2.09**	**251**	eP	Pb	06 03 47.7	-0.6
CHN1				eS	Sb	06 04 14.0	+0.2
TWK	**Hsinying**	**2.10**	**253**	eP	Pb	06 03 46.9	-1.5
TWK				eS	Sb	06 04 14.0	-0.1
SNST	**Tainan City**	**2.10**	**252**	eP	Pb	06 03 47.8	-0.7
SNST				eS	Sb	06 04 14.3	+0.1
MASBT	**Mashibuluo**	**2.27**	**236**	eP	Pb	06 03 51.0	-0.3
MASBT				eS	Sb	06 04 19.4	+0.5
SLIU	**Shizi**	**2.40**	**226**	eP	Pb	06 03 52.8	-0.8
SLIU				eS	Sb	06 04 21.6	-1.2
PHUB	**P'eng-hu**	**2.86**	**263**	P	Pn	06 03 57.4	+2.5
PHUB				S	Sn	06 04 30.0	+1.5
VWUC	**VWUC**	**3.13**	**291**	i P	Pn	06 04 00.1	+1.6
VWUC				eS	Sn	06 04 33.3	-1.7

ASRS ***05*** *06:04:11.0±0.7,54°.10N×87°.12E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 06:04:12.3±3.3,54°.16N×87°.22E,h0km,mbtmp3.1/2, ML2.6/2,1C-2D,Error ellipse: s-maj=29.8km s-min=18.8km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**263**	I	I	06 13 40.0	
	baz=80,slow=324,SNR=5.3						
ZALV	**Zalesovo Beam**	**1.43**	**263**	Pg	Pn	06 04 38.7	-0.8
	2.6nm,0.3s,baz=84,slow=16,SNR=24						
ZALV				Lg	Lg	06 04 57.5	
	0.9nm,0.3s,baz=78,slow=29,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.39**	**240**	Pn	Pn	06 05 48.6	+1.1
	0.1nm,0.3s,baz=59,slow=14,SNR=2.6						
	1.3nm,0.2s						
MK31	**Makanchi Array**	**8.01**	**205**	⇑Pg	Pn	06 06 07.3	-2.6
	0.1nm,0.4s,baz=122,slow=12,SNR=4.3						
MK31				Lg	Lg	06 06 41.9	
	0.7nm,0.5s,baz=186,slow=31,SNR=11						
MKAR	**Makanchi Array**	**8.01**	**205**	Pn	Pn	06 06 10.8	+0.9
	0.1nm,0.3s,baz=24,slow=14,SNR=2.2						
MKAR				Lg	Lg	06 08 26.2	
	baz=23,slow=38						
	0.1nm,0.3s						
MAKZ	**Makanchi**	**8.08**	**207**	⇓Pg	Pn	06 06 07.3	-3.5
	0.3nm,0.5s						
MAKZ				⇓Lg	Lg	06 06 41.0	
	1.5nm,0.6s						

LDG ***05*** *06:06:02.9±0.1,47°.86N×4°.01W,h16km,Md2.9/2,Ml3.5/41, Error ellipse: s-maj=2.3km s-min=1.8km az=45.0*
STR ***05*** *06:06:03.2±0.4,48°.N±3°×°±°,h21km±4km,MLv3.2/6,Error ellipse: s-maj=0.0km s-min=0.0km az=64.4,preliminary*
BGS ***05*** *06:06:06.4±2.1,48°.17N×4°.18W,h10km,ML2.6*

ISC 05 06:05:59.5±0.9,47°.79N±0°.02×3°.99W±0°.03,h10km,n82, σ2°53/141,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIF	**Quistinic**	**0.57**	**77**	ePg	Pn	06 06 14.3	+0.6
QUIF				eSg	Sb	06 06 21.4	+1.7
	831nm,0.2s						
CAMF	**Camaret-sur-Me**	**0.63**	**319**	Pg	Pb	06 06 13.7	+1.0
CAMF				Sg	Sg	06 06 21.0	+0.9
ROSF	**Rostrenen**	**0.73**	**41**	ePg	Pb	06 06 16.0	+1.7
ROSF				eSg	Sg	06 06 24.2	+1.2
	314nm,0.4s						
ROSF	**Rostrenen**	**0.73**	**41**	eP	Pn	06 06 16.3	+0.4
ROSF				eS	Sb	06 06 26.4	+2.1
ROSF				IAML		06 06 27.5	
	comp=E,195nm,0.5s						
ROSF				IAML		06 06 27.8	
	comp=N,276nm,0.2s						
ROSF	**Rostrenen**	**0.73**	**41**	Pg	Pn	06 06 16.2	+0.4
ROSF				Sg	Sb	06 06 26.4	+2.1
LOCF	**Locquirec - 29**	**0.91**	**13**	Pg	Pg	06 06 18.2	+1.1
LOCF				Pn	Pn	06 06 19.2	+0.8
LOCF				Sg	Sg	06 06 30.4	+1.4
SGMF	**Saint Gilles**	**1.07**	**64**	ePg	Pn	06 06 22.6	+2.1
SGMF				eSg	Sb	06 06 36.1	+2.0
	comp=N,268nm,0.3s						
PLEF	**Pleven - 22200**	**1.31**	**57**	Pn	Pn	06 06 24.6	+0.7
PLEF				Sg	Sg	06 06 44.3	+2.5
JSA	**Saint Aubin**	**1.85**	**40**	eP	Pb	06 06 35.1	+1.8
JSA				IAML		06 07 06.3	
	comp=N,65nm,0.5s						
JSA				IAML		06 07 06.4	
	comp=E,61nm,0.3s						
JSA	**Saint Aubin**	**1.85**	**40**	Pn	Pn	06 06 33.4	+2.2
JSA				Pg	Pg	06 06 35.8	+0.8
JSA	**Saint Aubin**	**1.85**	**40**	Sn	Sn	06 06 54.0	-0.6
JSA				Sg	Sg	06 07 00.6	+1.7
JRS	**Jersey**	**1.89**	**41**	eP	Pb	06 06 35.6	+1.6
JRS				IAML		06 07 08.1	
	comp=N,41nm,0.2s						
JRS				IAML		06 07 09.3	
	comp=E,54nm,0.5s						
JDC	**Jersey Dam (Cr**	**1.90**	**42**	eP	Pg	06 06 36.3	+0.4
JDC				IAML		06 07 04.8	
	comp=E,211nm,0.2s						
JDC				IAML		06 07 09.6	
	comp=N,393nm,0.2s						
JDG	**Jersey Dam (Ga**	**1.91**	**42**	eP	Pg	06 06 36.9	+0.8
JDG				IAML		06 07 07.5	
	comp=E,37nm,0.3s						
JDG				IAML		06 07 07.9	
	comp=N,41nm,0.3s						
JLP	**Les Platons**	**1.92**	**40**	eP	Pg	06 06 37.0	+0.7
LOUF	**Saint-Loup**	**2.01**	**63**	Pn	Pn	06 06 34.5	+0.9
LOUF				Pg	Pg	06 06 39.3	+1.2
LOUF				Sg	Sg	06 07 05.4	+1.2
GRR	**Gorron**	**2.18**	**73**	ePn	Pn	06 06 35.2	-0.7
GRR	**Gorron**	**2.18**	**73**	ePg	Pg	06 06 43.2	+1.9
GRR				eSg	Sg	06 07 11.0	+1.4
	comp=N,158nm,0.6s						
SDOF	**Saint-Denis-d'**	**2.49**	**134**	Pn	Pb	06 06 43.8	-0.5
CCA1	**Carnmenellis**	**2.53**	**342**	eP	Pn	06 06 40.8	+0.2
CCA1				IAML		06 07 25.9	
	comp=E,26nm,0.3s						
CCA1				IAML		06 07 25.9	
	comp=N,23nm,0.3s						
CCA1	**Carnmenellis**	**2.53**	**342**	Pn	Pn	06 06 40.6	0.0
FLN	**La Foliniere**	**2.54**	**66**	ePn	Pn	06 06 42.7	+2.0
FLN	**La Foliniere**	**2.54**	**66**	ePg	Pg	06 06 49.6	+1.5
FLN				eSn	Sn	06 07 09.5	-2.2
FLN				eSg	Sg	06 07 21.6	+0.6
	comp=N,55nm,0.2s						
DYA	**Yadsworthy**	**2.65**	**1**	eP	Pn	06 06 42.1	-0.2
DYA				IAML		06 07 24.8	
	comp=N,43nm,0.2s						
DYA				IAML		06 07 28.0	
	comp=E,45nm,0.3s						
DYA	**Yadsworthy**	**2.65**	**1**	Pn	Pn	06 06 41.5	-0.7
DYA	**Yadsworthy**	**2.65**	**1**	Sn	Sn	06 07 09.0	-5.3
LDF	**La Druitiere**	**2.71**	**71**	ePn	Pn	06 06 45.0	+1.9
LDF	**La Druitiere**	**2.71**	**71**	ePg	Pg	06 06 52.9	+1.5
LDF				eSg	Sg	06 07 27.7	+1.2
	comp=E,52nm,0.2s						
MFF	**Saint Martin d**	**2.88**	**113**	ePn	Pn	06 06 47.8	+2.3
MFF	**Saint Martin d**	**2.88**	**113**	ePg	Pg	06 06 56.7	+2.0
MFF				eSg	Sg	06 07 34.2	+2.2
	comp=E,44nm,0.2s						
MFF	**Saint Martin d**	**2.88**	**113**	Pn	Pn	06 06 47.8	+2.3
MFF	**Saint Martin d**	**2.88**	**113**	Sn	Sn	06 07 19.7	-0.5
CHIF	**Chize**	**2.96**	**123**	Pn	Pn	06 06 48.8	+2.2
HTL	**Hartland**	**3.22**	**354**	IAML		06 07 48.1	
	comp=N,38nm,0.3s						
HTL				IAML		06 07 51.3	
	comp=E,36nm,0.5s						
HTL	**Hartland**	**3.22**	**354**	Pn	Pn	06 06 50.4	+0.3
LFF	**La Frestale**	**4.34**	**129**	ePn	Pn	06 07 07.3	+1.7
LFF	**La Frestale**	**4.34**	**129**	ePg	Pg	06 07 23.4	+0.7
LFF				eSn	Sn	06 07 53.8	-2.4
LFF				eSg	Sg	06 08 20.9	+2.0
	comp=E,27nm,0.3s						
TCF	**Toulx Ste Croi**	**4.50**	**107**	ePn	Pn	06 07 07.3	-0.4
TCF	**Toulx Ste Croi**	**4.50**	**107**	ePg	Pg	06 07 26.2	+0.5
TCF				eSn	Sn	06 07 56.5	-3.6
TCF				eSg	Sg	06 08 24.9	+1.0
	comp=E,27nm,0.3s						
HYF	**Humbligny**	**4.52**	**94**	eSn	Sn	06 07 58.0	-2.6
HYF				eSg	Sg	06 08 26.2	+1.5
	comp=E,159nm,0.3s						
RJF	**Les Rejaudoux**	**4.54**	**121**	ePn	Pn	06 07 09.7	+1.4
RJF	**Les Rejaudoux**	**4.54**	**121**	ePg	Pg	06 07 28.1	+1.6
RJF				eSg	Sg	06 08 27.8	+2.5
	comp=E,18nm,0.2s						
BGF	**Bois d'Agland**	**4.82**	**102**	ePn	Pn	06 07 13.1	+0.9
BGF				eSn	Sn	06 08 04.6	-3.5
	comp=E,13nm,0.3s						
BGF				eSg	Sg	06 08 35.1	+0.8
	comp=E,46nm,0.3s						
VERF	**Verneugheol**	**4.89**	**112**	Pn	Pn	06 07 14.4	+1.2
VERF				Sn	Sn	06 08 04.9	-5.0
OSSF	**Osses**	**4.93**	**156**	Pn	Pn	06 07 15.2	+1.6
OSSF				Sn	Sn	06 08 06.2	-4.4
MONQ	**Montcuq**	**4.97**	**132**	Pn	Pn	06 07 16.0	+1.8
ORDF	**Ordiarp**	**5.06**	**154**	Pn	Pn	06 07 16.8	+1.4
ORDF				Sn	Sn	06 08 10.2	-3.6
SJPF	**Ste Jean**	**5.07**	**156**	ePn	Pn	06 07 16.7	+1.1
SJPF				eSn	Sn	06 08 10.2	-3.9
	comp=E,6.3nm,0.2s						
CAF	**Calviac**	**5.08**	**122**	ePn	Pn	06 07 17.1	+1.4
CAF				eSg	Sg	06 08 45.1	+2.6
	comp=E,23nm,0.4s						
AVF	**Avril sur Loir**	**5.10**	**99**	ePn	Pn	06 07 17.5	+1.6
AVF				eSn	Sn	06 08 09.7	-5.1
AVF				eSg	Sg	06 08 43.4	+0.3
	comp=E,6.8nm,0.3s						
FRNF	**Fournols**	**5.12**	**116**	Pn	Pn	06 07 17.4	+1.1
FRNF				Sn	Sn	06 08 10.4	-5.0
SSF	**Saint Saulge**	**5.14**	**95**	ePn	Pn	06 07 17.2	+0.7
SSF	**Saint Saulge**	**5.14**	**95**	ePg	Pg	06 07 38.0	+0.1
SSF				eSg	Sg	06 08 45.6	+1.1
	comp=E,16nm,0.4s						
AGO	**Saint Agoulin**	**5.18**	**107**	Pn	Pn	06 07 19.3	+2.2
AGO				Sn	Sn	06 08 12.3	-4.6
ATE	**Arette**	**5.25**	**153**	Pn	Pn	06 07 19.1	+1.1
LOR	**Lormes**	**5.34**	**93**	ePn	Pn	06 07 21.6	+2.3
LOR	**Lormes**	**5.34**	**93**	ePg	Pg	06 07 41.2	-0.6
LOR				eSg	Sg	06 08 50.1	-0.9
	comp=E,11nm,0.2s						
REYF	**Montagne du Re**	**5.36**	**151**	Pn	Pn	06 07 19.7	+0.1
REYF				Sn	Sn	06 08 16.2	-5.2
LEUC	**Leucamp**	**5.46**	**121**	Pn	Pn	06 07 22.0	+1.1
LEUC				Sn	Sn	06 08 18.5	-5.2
SMF	**Signal de Mont**	**5.46**	**99**	ePn	Pn	06 07 22.1	+1.2
SMF				eSg	Sg	06 08 55.6	+0.9
	comp=E,3.5nm,0.3s						
ETSF	**Etsaut**	**5.46**	**152**	ePn	Pn	06 07 21.0	0.0
ETSF				eSn	Sn	06 08 17.9	-5.9
	comp=E,2.1nm,0.3s						
PLDF	**La Plantade**	**5.53**	**106**	Pn	Pn	06 07 24.3	+2.4
LABF	**Labassere**	**5.54**	**147**	Pn	Pn	06 07 22.8	+0.8
CANF	**Canfranc**	**5.59**	**153**	Pn	Pn	06 07 24.2	+1.3
LBL	**Lubilhac**	**5.61**	**114**	Pn	Pn	06 07 24.3	+1.2
LBL				Sn	Sn	06 08 22.2	-5.5
EPF	**Esparros**	**5.65**	**146**	ePn	Pn	06 07 24.3	+0.7
EPF				eSn	Sn	06 08 23.0	-5.6
	comp=E,4.0nm,0.2s						
VIEF	**Viey**	**5.67**	**149**	Pn	Pn	06 07 28.6	+4.8
SFTF	**Sexfontaines**	**6.07**	**83**	eSn	Sn	06 08 33.2	-5.7
SFTF				eSg	Sg	06 09 13.7	-0.7
	comp=E,64nm,0.4s						
MEZF	**Maizieres J'vi**	**6.09**	**80**	eP	Pn	06 07 36.0	+6.4
MEZF				eSg	Sg	06 09 13.7	-1.3
	comp=E,9.0nm,0.4s						
SAVF	**Savonnieres en**	**6.15**	**79**	eSn	Sn	06 08 37.6	-3.1
SAVF				eSg	Sg	06 09 13.7	-3.1
	comp=E,8.1nm,0.3s						
SAVF				eSg	Sg	06 09 16.7	-0.1
	comp=E,4.9nm,0.3s						
MTLF	**Montolieu**	**6.23**	**133**	ePn	Pn	06 07 32.9	+1.4
MTLF				eSn	Sn	06 08 37.6	-5.1
	comp=E,4.8nm,0.3s						
MTLF				eSg	Sg	06 09 24.1	+4.7
	comp=E,2.4nm,0.4s						
GIVF	**Givet**	**6.25**	**65**	ePn	Pn	06 07 32.2	+0.5
GIVF				eSn	Sn	06 08 39.7	-3.4
GIVF				eSg	Sg	06 09 18.5	-1.5
	comp=E,5.4nm,0.3s						
PAGF	**Fort de Pagny**	**6.54**	**80**	eP	Pn	06 07 39.5	+3.7
PAGF				eSn	Sn	06 08 44.1	-6.3
PAGF				eSg	Sg	06 09 25.8	-3.6
	comp=E,12nm,0.6s						
LASF	**Ste Croix**	**6.61**	**121**	ePn	Pn	06 07 38.6	+1.8
LASF				eSn	Sn	06 08 50.7	-1.5
LASF				eSg	Sg	06 09 32.6	+0.9
	comp=E,7.1nm,0.3s						
VIVF	**Saint-Julien-l**	**6.68**	**113**	ePn	Pn	06 07 39.0	+1.3
VIVF	**Saint-Julien-l**	**6.68**	**113**	ePg	Pg	06 08 05.6	-1.8
VIVF				eSg	Sg	06 09 34.5	+0.7
	comp=E,8.1nm,0.5s						
HAU	**Haudompre**	**6.96**	**84**	eP	Pn	06 07 46.9	+5.4
HAU				eSn	Sn	06 08 52.3	-8.3
HAU				eSg	Sg	06 09 41.8	-0.8
	comp=E,7.2nm,0.4s						
CABF	**La Chapelle**	**6.97**	**96**	ePn	Pn	06 07 43.4	+1.7
CABF				eSn	Sn	06 08 57.4	-3.6
CABF				eSg	Sg	06 09 40.5	-2.6
	comp=E,3.4nm,0.6s						
HINF	**Hinteralfeld**	**7.30**	**86**	eSn	Sn	06 09 03.1	-6.1
HINF				eSg	Sg	06 09 50.6	-3.2
	comp=E,6.6nm,0.4s						
CDF	**Champ du Feu**	**7.57**	**81**	ePn	Pn	06 07 51.4	+1.4
CDF	**Champ du Feu**	**7.57**	**81**	ePg	Pg	06 08 22.5	-1.9
CDF				eSn	Sn	06 09 09.8	-6.0
CDF				eSg	Sg	06 10 00.4	-1.9
	comp=E,1.6nm,0.3s						
SMRF	**Simiane la Rot**	**7.69**	**116**	eSg	Sg	06 10 04.7	-1.4
	comp=E,5.1nm,0.5s						

TAP ***05*** *06:24:54.2,22°.98N×120°.89E,h5km,ML2.7,C*

ISC 05 06:24:54.8±0.9,22°.98N±0°.01×120°.89E±0°.01,h6km±8km, n101,σ0°76/190,2C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.22**	**330**	i P	Pg	06 24 58.4	-0.7
STYH				i S	Sg	06 25 02.1	+0.1
STYT	**Tauyuan**	**0.22**	**325**	⇓i P	Pg	06 24 58.6	-0.5
STYT				i S	Sg	06 25 02.0	-0.1
TWG	**Pinlang**	**0.23**	**134**	⇓i P	Pg	06 24 59.7	+0.4
TWG				i S	Sg	06 25 03.0	+0.7
LONT	**Longtian**	**0.23**	**109**	i P	Pg	06 24 59.6	+0.3
LONT				i S	Sg	06 25 03.1	+0.8
TWGBT	**Beinan**	**0.24**	**133**	P	Pg	06 24 59.8	+0.3
TWGBT	**Beinan**	**0.24**	**133**	S	Sg	06 25 03.2	+0.6
TWGBT	**Beinan**	**0.24**	**133**	⇓i P	Pg	06 24 59.7	+0.3
TWGBT				i S	Sg	06 25 03.3	+0.8
ELDTW	**Lidau**	**0.24**	**29**	⇑i P	Pg	06 24 59.7	+0.2
ELDTW				i S	Sg	06 25 02.9	+0.3
SGST	**Jiashian**	**0.30**	**290**	eP	Pg	06 25 00.8	+0.1
SGST				S	Sg	06 25 05.6	+0.9
ECS	**Chishang**	**0.32**	**69**	i P	Pg	06 25 01.6	+0.6
ECS				S	Sb	06 25 08.1	-0.3
TTN	**Taitung**	**0.33**	**134**	eP	Pb	06 25 02.2	-0.7
TTN				i S	Sb	06 25 07.7	-0.7
EHD	**Haiduan**	**0.33**	**60**	i P	Pg	06 25 01.1	-0.2
EHD				S	Sg	06 25 05.7	0.0
TSMG	**Majia**	**0.36**	**220**	i P	Pg	06 25 00.9	-0.8
TSMG				S	Sg	06 25 05.3	-1.1
WTP	**Ta-pu**	**0.37**	**316**	i P	Pb	06 25 03.1	-0.7
WTP				eS	Sb	06 25 09.6	-0.2
EDH	**Donghe**	**0.38**	**91**	i P	Pg	06 25 02.8	+0.7
EDH				S	Sb	06 25 08.7	-1.3
SCST	**Cishan**	**0.38**	**256**	i P	Pb	06 25 03.1	-0.8
SCST				S	Sb	06 25 09.6	-0.4
ECL	**Taimali**	**0.39**	**172**	i P	Pg	06 25 02.1	-0.1
ECL				eS	Sg	06 25 07.0	-0.3
CHN1	**Nanshi**	**0.39**	**301**	i P	Pb	06 25 03.9	-0.2
CHN1				S	Sb	06 25 10.2	-0.3
TPUB	**Ta-pu**	**0.40**	**323**	P	Pb	06 25 03.5	-0.8
TPUB	**Ta-pu**	**0.40**	**323**	S	Sb	06 25 10.4	-0.3
TPUB	**Ta-pu**	**0.40**	**323**	⇓i P	Pb	06 25 03.6	-0.6
TPUB				S	Sb	06 25 10.0	-0.7
FULB	**Fuli**	**0.43**	**59**	i P	Pb	06 25 03.9	-0.9
FULB				i S	Sb	06 25 10.8	-0.6
SNST	**Tainan City**	**0.44**	**303**	i P	Pb	06 25 05.0	+0.1
SNST				S	Sb	06 25 11.8	+0.2
MASBT	**Mashibuluo**	**0.44**	**213**	⇑i P	Pg	06 25 02.9	-0.3
MASBT				eS	Sg	06 25 08.9	-0.1
SGLT	**Jiouru**	**0.45**	**236**	i P	Pb	06 25 04.5	-0.6
SGLT				eS	Sg	06 25 10.6	+1.3
CHKT	**Chengkung**	**0.45**	**75**	P	Pb	06 25 04.6	-0.5
CHKT				S	Sb	06 25 11.8	-0.3
CHN4	**Tsaushan**	**0.46**	**323**	eP	Pb	06 25 05.1	-0.2
CHN4				S	Sb	06 25 13.4	+1.0
TWM1	**Shoushan**	**0.46**	**250**	i P	Pb	06 25 05.3	0.0
TWM1				eS	Sb	06 25 12.5	+0.1
TWK	**Hsinying**	**0.47**	**307**	i P	Pb	06 25 05.4	0.0
TWK				eS	Sb	06 25 12.4	-0.3
SHHT	**Tainan City**	**0.50**	**275**	P	Pb	06 25 07.0	+1.0
SHHT				eS	Sn	06 25 15.8	-1.7
CHKH	**Chenggong**	**0.51**	**65**	eP	Pb	06 25 05.3	-0.8
CHKH				eS	Sb	06 25 13.3	-0.4
YUS	**Yu-Shan**	**0.51**	**6**	eP	Pg	06 25 02.2	-2.4
YUS				eS	Sg	06 25 09.5	-1.9
TWF1	**Yuli**	**0.52**	**45**	eP	Pg	06 25 04.9	+0.1
TWF1				S	Sg	06 25 11.7	0.0
WCKO	**Fanlu**	**0.53**	**330**	eP	Pb	06 25 06.8	+0.4
WCKO				S	Sb	06 25 15.0	+0.7
ALS	**Alishan**	**0.53**	**351**	eP	Pg	06 25 05.7	+0.5
ALS				S	Sb	06 25 13.6	-1.2
EYUL	**Yuli**	**0.54**	**47**	i P	Pg	06 25 05.3	+0.2
EYUL				S	Sg	06 25 12.6	+0.5
YULB	**Yu-li**	**0.55**	**42**	P	Pg	06 25 05.2	-0.2
YULB	**Yu-li**	**0.55**	**42**	S	Sg	06 25 12.8	+0.1
YULB	**Yu-li**	**0.55**	**42**	P	Pg	06 25 05.3	-0.2
YULB				eS	Sg	06 25 12.7	+0.1
SSPT	**Xinbi**	**0.58**	**211**	i P	Pb	06 25 07.5	+0.3
SSPT				eS	Sb	06 25 15.9	+0.2
EAST	**Anshuo**	**0.60**	**184**	i P	Pg	06 25 06.0	-0.3
EAST				S	Sg	06 25 14.4	+0.3
LDUT	**Ludao**	**0.61**	**120**	i P	Pg	06 25 06.8	+0.2
LDUT				S

WDGT	**Dungji**	**1.17**	**284**	*i* P	**Pg**	**06 25 17.1**	**0.0**
WDGT				S	**Sb**	**06 25 32.8**	**+0.1**
WHF	**Hehuan Shan**	**1.21**	**16**	*i* P	**Pg**	**06 25 17.7**	**-0.3**
WHF				S	**Sn**	**06 25 37.4**	**+1.9**
TDCB	**Techi**	**1.29**	**11**	*e*P	**Pg**	**06 25 20.0**	**+0.5**
TDCB				S	**Sn**	**06 25 38.0**	**+0.9**
WHP	**Taichung City**	**1.29**	**2**	*i* P	**Pg**	**06 25 20.8**	**+1.3**
WHP				*i* S	**Sn**	**06 25 40.0**	**+2.9**
TWT	**Tachien**	**1.29**	**11**	*i* P	**Pb**	**06 25 20.6**	**+1.0**
TWT				S	**Sn**	**06 25 38.5**	**+1.2**
FUSS	**Fushou**	**1.30**	**14**	*i* P	**Pn**	**06 25 19.5**	**-0.3**
FUSS				*i* S	**Sn**	**06 25 38.2**	**+0.6**
PHUB	**P'eng-hu**	**1.33**	**294**	*i* P	**Pn**	**06 25 19.1**	**-0.7**
PHUB				S	**Sg**	**06 25 37.5**	**+0.1**
ETLH	**Xiulin Townshi**	**1.33**	**24**	*i* P	**Pn**	**06 25 19.6**	**-0.4**
ETLH				S	**Sn**	**06 25 38.4**	**+0.2**
NACB	**Ninganchiao**	**1.35**	**28**	P	**Pn**	**06 25 20.1**	**-0.1**
NACB	**Ninganchiao**	**1.35**	**28**	S	**Sn**	**06 25 39.7**	**+1.3**
NACB	**Ninganchiao**	**1.35**	**28**	*i* P	**Pn**	**06 25 19.7**	**-0.5**
NACB				S	**Sn**	**06 25 38.8**	**+0.4**
TWQ1	**Liyutan**	**1.37**	**355**	*i* P	**Pg**	**06 25 21.9**	**+1.0**
TWQ1				S	**Sn**	**06 25 42.0**	**+3.1**
NNSB	**Datong**	**1.51**	**17**	*i* P	**Pb**	**06 25 23.0**	**-0.2**
NNSB				S	**Sg**	**06 25 44.7**	**+1.3**
NNS	**Nan Shan**	**1.52**	**17**	*i* P	**Pb**	**06 25 23.4**	**0.0**
NNS				S	**Sg**	**06 25 45.3**	**+1.7**
LATG	**Datong**	**1.65**	**20**	*i* P	**Pb**	**06 25 25.4**	**-0.3**
LATG				S	**Sg**	**06 25 49.1**	**+1.2**
NFF	**Wufeng Townshi**	**1.66**	**7**	*e*P	**Pg**	**06 25 26.9**	**+0.3**
NFF				S	**Sg**	**06 25 50.4**	**+2.3**
LIOB	**Emei**	**1.66**	**4**	P	**Pg**	**06 25 26.5**	**-0.2**
LIOB				*e*S	**Sg**	**06 25 49.0**	**+0.8**
EWUT	**Wuta**	**1.67**	**29**	P	**Pb**	**06 25 25.5**	**-0.3**
EWUT				*e*S	**Sg**	**06 25 48.9**	**+0.4**
YHNB	**Yeheng**	**1.74**	**15**	P	**Pg**	**06 25 27.8**	**-0.3**
YHNB	**Yeheng**	**1.74**	**15**	S	**Sg**	**06 25 50.2**	**-0.5**
YHNB	**Yeheng**	**1.74**	**15**	*i* P	**Pg**	**06 25 27.6**	**-0.6**
YHNB				S	**Sg**	**06 25 51.2**	**+0.5**
NSK	**Sanguang**	**1.74**	**14**	*i* P	**Pb**	**06 25 27.4**	**+0.2**
NSK				*i* S	**Sg**	**06 25 50.7**	**0.0**
ENTT	**Nioudou**	**1.76**	**20**	*i* P	**Pg**	**06 25 28.3**	**-0.3**
ENTT				*i* S	**Sg**	**06 25 52.3**	**+0.8**
NWLT	**Wulai**	**1.87**	**17**	P	**Pb**	**06 25 29.4**	**0.0**
NWLT				S	**Sg**	**06 25 55.1**	**+0.1**
FUSB	**Fushanzhiwuyua**	**1.88**	**20**	*i* P	**Pg**	**06 25 30.2**	**-0.7**
FUSB				S	**Sg**	**06 25 54.8**	**-0.5**

*ASRS **05** 06:29:32.0±0.5, 53°.93N×86°.59E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 06:29:35.7±2.7, 53°.96N×86°.60E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=22.0km s-min=12.7km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**270**	I	I	06 37 20.0	
	baz=88, slow=323, SNR=2.6						
ZALV	**Zalesovo Beam**	**1.05**	**270**	Pg	Pg	06 29 55.3	-0.5
	0.8nm, 0.3s, baz=88, slow=15, SNR=9.3						
ZALV				Lg	Lg	06 30 10.5	
	3.9nm, 0.3s, baz=87, slow=28, SNR=29						
KURBB	**Kurchatov Arra**	**5.97**	**239**	Pn	Pn	06 31 06.6	+1.4
	0.1nm, 0.3s, baz=56, slow=13, SNR=4.7						
KURBB				Lg	Lg	06 32 43.4	
	baz=47, slow=33, SNR=2.2						
	0.5nm, 0.4s						
MKAR	**Makanchi Array**	**7.68**	**203**	Pn	Pn	06 31 29.6	+0.9
	0.2nm, 0.3s, baz=22, slow=14, SNR=8.5						
MKAR				Sn	Sn	06 32 55.7	-0.6
	0.1nm, 0.3s, baz=25, slow=24, SNR=2.0						
MKAR				Lg	Lg	06 33 39.0	
	baz=19, slow=27, SNR=1.8						
	0.2nm, 0.3s						

*ASRS **05** 06:39:56.0±1.0, 53°.54N×87°.67E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 06:39:58.5±3.0, 53°.58N×87°.62E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=25.7km s-min=14.5km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.70**	**284**	I	I	06 51 40.0	
	0.1nm, 0.9s, baz=99, slow=324, SNR=6.9						
ZALV	**Zalesovo Beam**	**1.70**	**284**	Pg	Pn	06 40 28.8	-0.6
	0.9nm, 0.3s, baz=102, slow=16, SNR=10						
ZALV				Lg	Lg	06 40 52.4	
	1.7nm, 0.3s, baz=98, slow=22, SNR=9.5						
KURBB	**Kurchatov Arra**	**6.33**	**246**	Pn	Pn	06 41 34.4	+1.4
	baz=61, slow=14, SNR=4.3						
KURBB				Lg	Lg	06 43 17.9	
	baz=64, slow=32, SNR=6.6						
	0.5nm, 0.6s						
MKAR	**Makanchi Array**	**7.61**	**209**	Pn	Pn	06 41 51.7	+1.2
	0.1nm, 0.3s, baz=27, slow=13, SNR=5.7						
MKAR				Sn	Sn	06 43 16.4	-1.0
	0.1nm, 0.3s, baz=28, slow=25, SNR=3.8						
MKAR				Lg	Lg	06 43 59.1	
	baz=22, slow=35, SNR=7.1						
	0.3nm, 0.4s						

KRSC 05 06:42:44.7±0.9, 54°.85N×165°.68E, h25km±13km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.40**	**25**	*e*P	Pb	06 42 53.8	+0.6
BKI				*e*S	Sb	06 42 59.2	+0.2
KBTR	**Krutoberegovo**	**2.12**	**311**	*e*P	Pn	06 43 20.3	+1.7
KBTR				*e*S	Sb	06 43 47.0	-1.4
TUMD	**Tumrok D**	**3.06**	**279**	*e*P	Pb	06 43 36.1	-2.4
NLC	**Nalytchevo**	**4.10**	**248**	*e*P	Pn	06 43 49.4	+3.7
SDLR	**Sedlovina**	**4.30**	**251**	*e*P	Pn	06 43 53.0	+4.3
AVH	**Avacha**	**4.39**	**252**	*e*P	Pn	06 43 55.4	+5.6
AVH				*e*S	Sn	06 44 44.9	+4.7
KRX	**Arik**	**4.40**	**253**	*e*P	Pn	06 43 54.5	+4.5
KOK	**Koryaka**	**4.43**	**252**	*e*P	Pn	06 43 55.1	+4.7
DALK	**Dalny**	**4.48**	**249**	*e*S	Sn	06 44 46.3	+4.0
KRMR	**Karymshinskiy**	**4.91**	**249**	*e*S	Sn	06 44 57.0	+4.3
GRL	**Gorelyy**	**5.07**	**246**	*e*S	Sn	06 45 02.1	+5.1

*KNET **05** 06:48:51.5±0.2, 43°.06N×74°.92E, h5km±6km, ml1.2, Error ellipse: s-maj=1.7km s-min=1.1km az=44.0*
*NNC **05** 06:48:51.7±0.3, 43°.02N×74°.92E, h0km, mb2.7, mpv3.0, Error ellipse: s-maj=3.2km s-min=1.4km az=156.0, Suspected Mining explosion.*
*SOME **05** 06:48:51.3, 43°.03N×74°.93E*

ISC 05 06:48:51.9±0.8, 43°.04N±0°.03×74°.92E±0°.02, h0km, n28, σ0s51/45, 16C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**0.13**	**251**	⇑P	**Pg**	**06 48 54.3**	**-0.2**
	47nm, 0.1s, SNR=89						
CHMS				⇑S	**Sg**	**06 48 56.2**	**+0.1**
	153nm, 0.2s						
USP	**Ospenovka**	**0.38**	**306**	⇑P	**Pg**	**06 48 59.1**	**-0.2**
	21nm, 0.1s, SNR=30						
USP				⇓S	**Sg**	**06 49 04.5**	**+0.3**
	19nm, 0.2s						
KBK	**Karagaybulak**	**0.38**	**177**	⇑P	**Pg**	**06 48 59.7**	**+0.4**
	36nm, 0.2s, SNR=23						
KBK				⇑S	**Sg**	**06 49 05.9**	**+1.6**
	78nm, 0.3s						
SGDS	**Sogindy**	**0.46**	**333**	P	**Pg**	**06 49 01.0**	**+0.2**
SGDS				S	**Sg**	**06 49 07.4**	**+0.5**
AAK	**Ala-Archa**	**0.51**	**218**	⇑P	**Pg**	**06 49 01.6**	**-0.1**
	2.7nm, 0.1s, SNR=19						
AAK				⇑S	**Sg**	**06 49 09.0**	**+0.7**
	12nm, 0.3s						
AAK	**Ala-Archa**	**0.51**	**218**	⇑P	**Pg**	**06 49 01.2**	**-0.5**
	1.0nm, 0.3s						
AAK				⇑S	**Sg**	**06 49 08.5**	**+0.2**
	3.6nm, 0.3s						
TKM2	**Tokmak 2**	**0.51**	**103**	⇑P	**Pg**	**06 49 01.5**	**-0.2**
	4.9nm, 0.1s, SNR=26						
TKM2				⇑S	**Sg**	**06 49 08.9**	**+0.6**
	18nm, 0.1s						
TKM2	**Tokmak 2**	**0.51**	**103**	⇑P	**Pg**	**06 49 01.3**	**-0.4**
	2.2nm, 0.3s						
TKM2				⇑S	**Sg**	**06 49 09.1**	**+0.7**
	4.5nm, 0.3s						
DGS	**Degeres**	**0.66**	**72**	P	**Pg**	**06 49 04.7**	**+0.2**
	5.1nm, 0.2s						
DGS				S	**Sg**	**06 49 13.7**	**+0.7**
	6.9nm, 0.2s						
KST	**Kastek**	**0.77**	**89**	P	**Pg**	**06 49 06.6**	**0.0**
	5.4nm, 0.1s						
KST				S	**Sg**	**06 49 17.2**	**+0.7**
	3.2nm, 0.2s						
KRBS	**Karabastau**	**0.86**	**40**	P	**Pg**	**06 49 08.2**	**-0.2**
	2.0nm, 0.1s						
KRBS				S	**Sg**	**06 49 19.7**	**+0.2**
	3.4nm, 0.2s						
UCH	**Uchtor**	**0.87**	**200**	⇑P	**Pg**	**06 49 08.3**	**-0.2**
	1.1nm, 0.2s						
EKS2	**Erkin-Say**	**0.92**	**246**	⇑P	**Pg**	**06 49 09.3**	**-0.3**
	3.5nm, 0.1s, SNR=9.2						
MTBS	**Maitube**	**1.11**	**85**	P	**Pg**	**06 49 13.0**	**-0.2**
	2.3nm, 0.1s						
MTBS				S	**Sg**	**06 49 28.0**	**+0.4**
	4.3nm, 0.1s						
ULHL	**Ulahol**	**1.26**	**129**	⇑P	**Pg**	**06 49 15.2**	**-0.9**
	1.6nm, 0.1s, SNR=8.5						
MRKS	**Merke**	**1.28**	**257**	P	**Pg**	**06 49 16.6**	**+0.1**
	1.9nm, 0.1s						
MRKS				S	**Sb**	**06 49 34.0**	**0.0**
	4.4nm, 0.2s						
AML	**Almayashu**	**1.28**	**225**	P	**Pg**	**06 49 15.9**	**-0.6**
	SNR=8.4						
KTBS	**Karatobe**	**1.45**	**62**	P	**Pn**	**06 49 19.3**	**-0.2**
	3.1nm, 0.1s						
KTBS				S	**Sb**	**06 49 38.8**	**0.0**
	6.1nm, 0.3s						
TNSS	**Tian-Shan**	**1.49**	**89**	P	**Pn**	**06 49 19.8**	**-0.5**
	14nm, 0.2s						
TNSS				S	**Sg**	**06 49 39.6**	**-0.1**
	1.1nm, 0.2s						
MDOK	**Medeo**	**1.56**	**85**	Pg	**Pn**	**06 49 21.1**	**0.0**
	8.8nm, 0.1s						
MDOK				Lg	Lg	06 49 41.8	
	1.8nm, 0.2s						
KOTS	**Kotyrbulak**	**1.62**	**82**	P	**Pb**	**06 49 22.6**	**-0.1**
	8.5nm, 0.2s						
KOTS				S	**Sg**	**06 49 44.6**	**+0.7**
	7.7nm, 0.3s						
CHKK	**Chushkaly**	**1.71**	**61**	P	**Pb**	**06 49 23.9**	**-0.4**
	1.6nm, 0.1s						
CHKK				S	**Sg**	**06 49 46.8**	**-0.1**
	6.0nm, 0.2s						
BTLS	**Baital**	**2.10**	**343**	Pg	**Pb**	**06 49 31.1**	**+0.3**
	1.2nm, 0.1s						
BTLS				Lg	Lg	06 49 59.0	
	2.2nm, 0.1s						
ARXS	**Arharly**	**2.41**	**60**	Pg	**Pb**	**06 49 36.4**	**+0.1**
	1.6nm, 0.2s						
ARXS				Lg	Lg	06 50 08.5	
	5.7nm, 0.3s						
KURS	**Kuram**	**2.42**	**78**	Pg	**Pb**	**06 49 37.0**	**+0.6**
	3.2nm, 0.2s						
KURS				Lg	Lg	06 50 09.1	
	1.8nm, 0.2s						
SATY	**Saty**	**2.56**	**88**	Pg	**Pg**	**06 49 39.8**	**-1.1**
	2.2nm, 0.1s						
SATY				Lg	Lg	06 50 14.2	
	7.0nm, 0.1s						
BLB	**Baldybastay**	**2.79**	**67**	Pg	**Pb**	**06 49 43.5**	**+0.7**
	2.6nm, 0.1s						
BLB				Lg	Lg	06 50 20.3	
	5.0nm, 0.2s						
KK31	**Karatay Array**	**3.23**	**273**	⇓Pg	**Pb**	**06 49 49.8**	**-0.4**
	0.1nm, 0.2s, baz=92, slow=15, SNR=9.8						
KK31				⇓Lg	Lg	06 50 40.1	
	0.3nm, 0.3s, baz=100, slow=26, SNR=5.2						

*IDC **05** 06:50:07.1±3.9, 53°.83N×88°.10E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=36.5km s-min=19.9km az=46.0*

ASRS 05 06:50:05.0±1.5, 53°.81N×88°.27E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.05**	**275**	I	I	07 03 00.0	
	baz=90, slow=326, SNR=4.5						
ZALV	**Zalesovo Beam**	**2.05**	**275**	Pg	Pb	06 50 42.1	-1.0
	1.0nm, 0.3s, baz=91, slow=14, SNR=13						
ZALV				Lg	Lg	06 51 08.8	
	1.1nm, 0.3s, baz=96, slow=23, SNR=14						
KURBB	**Kurchatov Arra**	**6.78**	**246**	Pn	Pn	06 51 47.6	+2.0
	0.1nm, 0.3s, baz=63, slow=14, SNR=3.3						
	0.3nm, 0.4s						
MKAR	**Makanchi Array**	**8.00**	**211**	Pn	Pn	06 52 04.9	+2.4
	baz=26, slow=14, SNR=1.6						
	0.1nm, 0.5s						

*JMA **05** 06:50:11.9±0.3, 24°.N±1°.×122°.6E±0°.6, h21km±4km, MV2.4/12, NW OFF ISHIGAKIJIMA IS*
*TAP **05** 06:50:11.6, 23°.98N×122°.61E, h26km, ML3.0, C*

ISC 05 06:50:09.4±1.0, 23°.89N±0°.02×122°.63E±0°.02, h17km±8km, n83, σ0s74/163, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.36**	**309**	P	**Pn**	**06 50 18.6**	**-1.0**
EOS4				*e*S	**Sb**	**06 50 23.9**	**+1.3**
EOS3	**EOS3**	**0.48**	**324**	*i* P	**Pn**	**06 50 20.8**	**-0.8**
EOS3				*i* S	**Sb**	**06 50 27.3**	**+1.0**
JYNG	**Yonagunijimaku**	**0.63**	**27**	*e*P	**Pn**	**06 50 22.5**	**-1.1**
JYNG				S	**Sb**	**06 50 32.0**	**-0.4**
EOS2	**EOS2**	**0.64**	**326**	*e*P	**Pn**	**06 50 23.9**	**+0.2**
EOS2				*e*S	**Sn**	**06 50 32.4**	**-0.9**
YOJ	**Yonaguni jima**	**0.67**	**32**	*e*P	**Pn**	**06 50 23.6**	**-0.6**
YOJ				S	**Sb**	**06 50 31.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.67**	**32**	P	**Pn**	**06 50 23.7**	**-0.5**
YOJ				*e*S	**Sn**	**06 50 34.0**	**-0.3**
EAHA	**Aohua**	**0.92**	**299**	*e*P	**Pn**	**06 50 28.1**	**+0.5**
EAHA				S	**Sg**	**06 50 40.2**	**+0.8**
EWUT	**Wuta**	**0.95**	**306**	*e*P	**Pn**	**06 50 28.2**	**+0.2**
EWUT				*e*S	**Sg**	**06 50 40.8**	**+0.4**
ETL	**Fush Village**	**0.96**	**286**	P	**Pn**	**06 50 29.1**	**+0.9**
ETL				*e*S	**Sn**	**06 50 41.9**	**+0.4**
TWD	**Chiawan**	**0.96**	**282**	*i* P	**Pn**	**06 50 29.5**	**+1.3**
TWD				*e*S	**Sb**	**06 50 39.8**	**-0.3**
ENA	**Nanau**	**0.97**	**304**	*i* P	**Pn**	**06 50 28.5**	**+0.2**
ENA				*e*S	**Sg**	**06 50 41.4**	**+0.4**
SHUL	**Shoufeng**	**0.98**	**264**	*i* P	**Pn**	**06 50 28.9**	**+0.4**
SHUL				*i* S	**Sn**	**06 50 42.6**	**+0.6**
NACB	**Ninganchiao**	**0.98**	**287**	*i* P	**Pn**	**06 50 28.8**	**+0.3**
NACB				*e*S	**Sg**	**06 50 41.6**	**+0.2**
ESAO	**Su ao**	**0.99**	**314**	*i* P	**Pn**	**06 50 28.3**	**-0.2**
ESAO				S	**Sn**	**06 50 42.1**	**0.0**
TWC	**Suao**	**1.01**	**315**	*i* P	**Pg**	**06 50 28.7**	**-0.2**
TWC				S	**Sb**	**06 50 41.3**	**-0.1**
ETM	**Tongmen**	**1.04**	**274**	*i* P	**Pb**	**06 50 28.9**	**-0.1**
ETM				S	**Sb**	**06 50 42.6**	**+0.2**
HATJ	**Hateruma jima**	**1.09**	**81**	*e*P	**Pn**	**06 50 32.3**	**+2.3**
ETLH	**Xiulin Townshi**	**1.09**	**287**	*i* P	**Pg**	**06 50 30.4**	**-0.1**
ETLH				S	**Sb**	**06 50 44.6**	**+0.6**
ESL	**Shilin**	**1.09**	**266**	*i* P	**Pg**	**06 50 30.1**	**-0.5**
ESL				S	**Sb**	**06 50 44.2**	**+0.2**
IRIF	**Iriomote-Funau**	**1.10**	**66**	*e*P	**Pg**	**06 50 31.7**	**+0.9**
NDS	**Dongshan**	**1.11**	**312**	P	**Pg**	**06 50 30.9**	**-0.1**
NDS				*e*S	**Sg**	**06 50 46.0**	**+0.5**
LXIB	**Xiulin Townshi**	**1.12**	**277**	*i* P	**Pb**	**06 50 30.5**	**+0.1**
LXIB				S	**Sb**	**06 50 45.4**	**+0.6**
EGFH	**Guangfu**	**1.12**	**259**	P	**Pg**	**06 50 31.1**	**0.0**
EGFH				*i* S	**Sn**	**06 50 45.8**	**+0.3**
EGS		**1.14**	**326**	*e*P	**Pg**	**06 50 31.2**	**-0.3**
EGS				*e*S	**Sb**	**06 50 45.7**	**+0.4**
WARBT	**Fenglin Townsh**	**1.15**	**262**	*e*P	**Pb**	**06 50 30.7**	**-0.2**
WARBT				S	**Sb**	**06 50 45.5**	**-0.1**
HGSD	**Ruisui**	**1.17**	**250**	*e*P	**Pb**	**06 50 31.0**	**-0.3**
HGSD				*e*S	**Sb**	**06 50 46.3**	**+0.1**
LATG	**Datong**	**1.19**	**303**	*i* P	**Pg**	**06 50 32.6**	**+0.1**
LATG				S	**Sg**	**06 50 49.2**	**+1.1**
TWE	**Neicheng**	**1.20**	**314**	*i* P	**Pg**	**06 50 32.8**	**+0.1**
TWE				S	**Sn**	**06 50 48.0**	**+0.5**
ENTT	**Nioudou**	**1.22**	**308**	*i* P	**Pg**	**06 50 33.1**	**0.0**
ENTT				*i* S	**Sg**	**06 50 48.9**	**-0.1**
EHY	**Hungye**	**1.25**	**253**	*e*P	**Pb**	**06 50 32.9**	**+0.2**
EHY				*i* S	**Sb**	**06 50 48.9**	**+0.3**
NNSB	**Datong**	**1.26**	**295**	*i* P	**Pg**	**06 50 33.3**	**-0.4**
NNSB				*e*S	**Sb**	**06 50 49.4**	**+0.6**
TWB1	**Santiao Chiao**	**1.26**	**333**	P	**Pg**	**06 50 33.5**	**-0.2**
TWB1				*e*S	**Sg**	**06 50 49.5**	**-0.5**
NNS	**Nan Shan**	**1.27**	**296**	*i* P	**Pg**	**06 50 33.4**	**-0.6**
NNS				S	**Sn**	**06 50 50.1**	**+0.8**
WHF	**Hehuan Shan**	**1.27**	**282**	*i* P	**Pg**	**06 50 33.5**	**-0.5**
WHF				*i* S	**Sb**	**06 50 49.2**	**-0.2**
FUSB	**Fushanzhiwuyua**	**1.28**	**313**	*e*P	**Pg**	**06 50 34.3**	**+0.1**
FUSB				S	**Sg**	**06 50 51.3**	**+0.3**
TIPB	**Shuangxi**	**1.30**	**326**	*i* P	**Pg**	**06 50 34.0**	**-0.5**
TIPB				*e*S	**Sb**	**06 50 50.5**	**+0.5**
JKRS	**Kuro-shima**	**1.31**	**74**	*e*P	**Pg**	**06 50 36.1**	**+1.4**
JKRS				*e*S	**Sg**	**06 50 54.0**	**+2.2**
FUSS	**Fushou**	**1.31**	**286**	*i* P	**Pb**	**06 50 33.5**	**-0.3**
FUSS				*e*S	**Sn**	**06 50 50.6**	**0.0**
EYUL	**Yuli**	**1.31**	**246**	*e*P	**Pn**	**06 50 32.6**	**-0.5**
EYUL				S	**Sb**	**06 50 50.9**	**+0.5**
YULB	**Yu-li**	**1.32**	**248**	*i* P	**Pb**	**06 50 33.7**	**0.0**
YULB				S	**Sb**	**06 50 51.4**	**+1.1**
OWD	**Renai**	**1.33**	**273**	*i* P	**Pb**	**06 50 34.0**	**-0.1**
OWD				*i* S	**Sn**	**06 50 50.4**	**-0.4**
TWF1	**Yuli**	**1.33**	**247**	*i* P	**Pn**	**06 50 33.3**	**0.0**
TWF1				S	**Sb**	**06 50 51.7**	**+0.8**
NWLT	**Wulai**	**1.35**	**311**	*e*P	**Pg**	**06 50 35.5**	**-0.1**
NWLT				S	**Sb**	**06 50 52.3**	**+0.8**
VWDT	**VWDT**	**1.37**	**265**	*e*P	**Pb**	**06 50 34.6**	**+0.1**
VWDT				*i* S	**Sn**	**06 50 51.7**	**+0.2**
TWT	**Tachien**	**1.37**	**286**	*i* P	**Pb**	**06 50 35.8**	**-0.1**
TWT				S	**Sb**	**06 50 53.1**	**+0.9**
SXI1	**Grass Mountain**	**1.38**	**330**	*i* P	**Pg**	**06 50 35.0**	**-1.1**
SXI1				S	**Sb**	**06 50 52.8**	**+0.5**
YHNB	**Yeheng**	**1.38**	**304**	*i* P	**Pb**	**06 50 35.1**	**+0.2**
YHNB				S	**Sg**	**06 50 53.8**	**-0.2**
WUSB	**Renai**	**1.38**	**274**	*i* P	**Pb**	**06 50 35.3**	**+0.3**
WUSB				*e*S	**Sn**	**06 50 51.5**	**-0.7**
TDCB	**Techi**	**1.39**	**285**	*e*P	**Pg**	**06 50 35.5**	**-0.7**
TDCB				*e*S	**Sb**	**06 50 53.8**	**+1.2**
NSK	**Sanguang**	**1.40**	**304**	*i* P	**Pb**	**06 50 35.4**	**+0.3**
NSK				S	**Sb**	**06 50 53.1**	**+0.3**
CHKT	**Chengkung**	**1.40**	**236**	*e*P	**Pb**	**06 50 34.9**	**-0.3**
CHKT				*e*S	**Sn**	**06 50 51.7**	**-0.7**
FULB	**Fuli**	**1.40**	**241**	*e*P	**Pg**	**06 50 36.2**	**-0.3**
FULB				*i* S	**Sn**	**06 50 52.8**	**+0.3**
TWA	**Mucha**	**1.44**	**319**	*e*P	**Pb**	**06 50 35.4**	**-0.5**
TWA				*e*S	**Sb**	**06 50 54.8**	**+0.8**
JIJ	**Ishigaki jima**	**1.46**	**71**	*e*P	**Pg**	**06 50 37.4**	**-0.2**
EDH	**Donghe**	**1.52**	**233**	P	**Pn**	**06 50 35.8**	**-0.1**
EDH				*e*S	**Sn**	**06 50 53.5**	**-1.9**
SSLB	**Suanglung**	**1.54**	**267**	*i* P	**Pn**	**06 50 35.4**	**-0.7**
SSLB				*e*S	**Sn**	**06 50 56.1**	**+0.4**
NFF	**Wufeng Townshi**	**1.56**	**299**	*i* P	**Pg**	**06 50 39.5**	**0.0**
NFF				S	**Sb**	**06 50 58.1**	**+0.6**
WCS	**Beigang Elemen**	**1.58**	**276**	*i* P	**Pb**	**06 50 38.1**	**-0.1**
WCS				*e*S	**Sb**	**06 50 58.5**	**+0.6**
YM01	**YM01**	**1.58**	**323**	*e*P	**Pb**	**06 50 38.0**	**-0.2**
YM01				*e*S	**Sb**	**06 50 58.1**	**+0.2**
SMLT	**Sun Moon Lake**	**1.58**	**270**	*e*P	**Pb**	**06 50 37.8**	**-0.5**
SMLT				*e*S	**Sn**	**06 50 57.4**	**+0.4**
WHP	**Taichung City**	**1.58**	**284**	*i* P	**Pg**	**06 50 39.6**	**-0.4**
WHP				*e*S	**Sb**	**06 50 58.6**	**+0.5**
YUS	**Yu-Shan**	**1.59**	**256**	P	**Pn**	**06 50 36.0**	**-1.3**
YUS				S	**Sn**	**06 50 55.5**	**-2.2**
KSHI	**Guanxi Townshi**	**1.59**	**304**	*e*P	**Pb**	**06 50 38.2**	**-0.2**
KSHI				*e*S	**Sb**	**06 50 59.0**	**+0.7**
LDUT	**Ludao**	**1.61**	**222**	P	**Pn**	**06 50 35.8**	**-1.3**
LDUT				S	**Sn**	**06 50 57.8**	**+0.2**
TYC	**Yuchr**	**1.62**	**271**	P	**Pn**	**06 50 37.5**	**+0.2**
TYC				*e*S	**Sb**	**06 50 59.9**	**+0.8**
ELDTW	**Lidau**	**1.63**	**245**	*e*P	**Pb**	**06 50 38.3**	**-0.9**
ELDTW				S	**Sn**	**06 50 58.0**	**-0.2**
WHYT	**Xinyi Township**	**1.64**	**264**	P	**Pb**	**06 50 39.3**	**+0.1**
WHYT				*e*S	**Sn**	**06 50 59.0**	**+0.7**
LIOB	**Emei**	**1.65**	**297**	P	**Pb**	**06 50 39.2**	**-0.3**
LIOB				*e*S	**Sb**	**06 51 00.9**	**+0.8**
NSTT	**Nanjuang**	**1.66**	**297**	*e*P	**Pg**	**06 50 40.3**	**-1.0**
NSTT				S	**Sb**	**06 51 00.7**	**+0.5**
TWY	**Chenhua**	**1.67**	**326**	*e*P	**Pb**	**06 50 40.0**	**+0.3**
TWY				*e*S	**Sb**	**06 51 00.6**	**+0.1**
JISG	**Ishigakijimahi**	**1.69**	**65**	*e*P	**Pg**	**06 50 40.0**	**-1.9**
JISG				*e*S	**Sg**	**06 51 00.6**	**-3.2**
WJS	**Zhushan**

20nm,1.1s,baz=31,slow=30
MKAR Makanchi Array 8.69 220 Pn **Pn 06 53 38.3 -0.3**
0.3nm,0.3s,baz=33,slow=13,SNR=19
MKAR Sn **Sn 06 55 17.9 +0.7**
0.2nm,0.3s,baz=36,slow=20,SNR=6.4
MKAR Lg Lg 06 56 04.5
0.2nm,0.3s,baz=35,slow=24,SNR=5.3
1.3nm,0.6s
MAKZ Makanchi 8.80 221 ⇓Pn **Pn 06 53 39.3 -0.8**
0.9nm,0.6s
MAKZ ⇓Sn **Sn 06 55 19.8 0.0**
6.6nm,1.1s
MAKZ ⇑Lg Lg 06 56 13.0
17nm,1.4s
BVAR Borovoye Array 11.97 275 Pn **Pn 06 54 23.3 -0.1**
baz=84,slow=15,SNR=1.8
0.4nm,0.6s

TRN 05 06:57:21.8, 12°.43N×59°.00W, h106km, MD3.9, South-east of Barbados., North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**0.90**	**322**	*eP*	Pn	06 57 42.7	+1.0
BBGH				*eS*	Sn	06 57 58.0	+1.5
SVOC	**Richmond Hill,**	**2.29**	**289**	*eP*	Pn	06 57 58.9	+0.6
SVOC				*eS*	Sn	06 58 26.8	+0.6
SVT	**Saint Vincent**	**2.31**	**289**	*eP*	Pn	06 57 58.8	+0.2
SVB	**Belmont**	**2.35**	**291**	*eP*	Pn	06 57 59.9	+0.7
SVB				*eS*	Sn	06 58 29.6	+1.7
SLAC	**Saint Lucia, A**	**2.35**	**308**	*eP*	Pn	06 58 00.1	+0.9
SLAC				*eS*	Sn	06 58 28.0	+0.1
GCMP	**Grenada, Carri**	**2.37**	**272**	*eP*	Pn	06 58 00.4	+1.0
GCMP				*eS*	Sn	06 58 29.9	+1.6
SLB	**Belfond**	**2.43**	**305**	*eP*	Pn	06 58 02.1	+1.9
SLB				*eS*	Sn	06 58 31.4	+1.7
SLBI	**Saint Lucia, B**	**2.49**	**310**	*eP*	Pn	06 58 01.5	+0.6
SLBI				*eS*	Sn	06 58 31.1	0.0
GRGR	**Grenville**	**2.61**	**264**	*eP*	Pn	06 58 03.4	+0.8
GRGR				*eS*	Sn	06 58 34.8	+0.8
GRW	**Mount Saint Ca**	**2.62**	**264**	*eS*	Sn	06 58 34.6	+0.4
GRFF	**Grenada Fort F**	**2.71**	**262**	*eS*	Sn	06 58 36.3	+0.1
BIM	**Bigot**	**2.89**	**316**	*eP*	Pn	06 58 07.4	+1.1
BIM				*eS*	Sn	06 58 40.0	-0.6
TRN	**Trinidad (W)**	**2.95**	**233**	*eP*	Pn	06 58 09.0	+2.0
TRN				*eS*	Sn	06 58 42.0	+0.2
MDN	**Morne-Daniel**	**3.69**	**321**	*eP*	Pn	06 58 20.3	+3.3
DSLB	**Salisbury**	**3.81**	**322**	*eP*	Pn	06 58 21.4	+2.9
DSLB				*eS*	Sn	06 59 04.7	+2.3
ANBD	**Bethesda, Anti**	**5.31**	**330**	*eP*	Pn	06 58 39.7	+0.9
ANBD				*eS*	Sn	06 59 37.7	-1.2

*ASRS **05** 06:59:54.0±1.3, 54°.13N×86°.45E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 06:59:57.8±2.7, 54°.08N×86°.52E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=23.2km s-min=13.8km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**263**	I	I	07 07 00.0	
	baz=80,slow=322,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.01**	**263**	Pg	Pg	07 00 17.6	+0.5
	1.3nm,0.3s,baz=78,slow=16,SNR=6.6						
ZALV				Lg	Lg	07 00 30.7	
	2.1nm,0.3s,baz=86,slow=26,SNR=8.2						
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	07 01 28.1	+0.5
	0.1nm,0.3s,baz=54,slow=13,SNR=5.8						
MKAR	**Makanchi Array**	**7.78**	**202**	Pn	Pn	07 01 53.2	+1.0
	0.5nm,0.3s,baz=26,slow=13,SNR=11						
	0.5nm,0.3s						

IDC 05 07:06:59.4±405.0, 53°.60N×34°.10E, h0km, Error ellipse: s-maj=161.7km s-min=75.2km az=24.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.61**	**28**	I	I	07 28 10.0	
	0.5nm,0.6s,baz=212,slow=331,SNR=4.7						
I26DE	**FREYUNG INFRAS**	**13.62**	**258**	I	I	08 26 00.0	
	baz=61,slow=339,SNR=0.5						
I37NO	**I37NO**	**17.12**	**341**	I	I	08 56 30.0	
	baz=146,slow=326,SNR=0.6						

*NEIC **05** 07:26:51.0±1.5, 24°.2S±0°.1×179°.8E±0°.2, h513km±9km, mb4.4/13, Error ellipse: s-maj=23.1km s-min=12.4km az=125.0*
*IDC **05** 07:26:52.1±2.1, 24°.26S×179°.77E, h516km±25km, mb3.3/8, mbtmp4.2/11, Error ellipse: s-maj=21.8km s-min=16.9km az=154.0*

ISC 05 07:26:51.2±0.6, 24°.22S±0°.07×179°.99E±0°.10, h526km, n109, σ1§67/109, mb4.3/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.36**	**160**	P	**P**	**07 28 23.9**	**+1.3**
GLKZ				S	**S**	**07 29 35.9**	**-1.6**
MSVF	**Nonsavu**	**6.70**	**344**	P	**P**	**07 28 33.5**	**-2.0**
MSVF	**Nonsavu**	**6.70**	**344**	P	**P**	**07 28 36.2**	**+0.7**
	1.6nm,0.4s,baz=20,slow=23,SNR=5.3						
OUZ	**Omahuta**	**12.28**	**205**	P	**P**	**07 29 34.4**	**+1.9**
DZM	**Mont Dzumac**	**12.64**	**277**	P	**P**	**07 29 37.1**	**+0.6**
	5.0nm,0.7s,baz=77,slow=20,SNR=3.1						
WCZ	**Waipu Caves**	**12.65**	**201**	P	**P**	**07 29 39.1**	**+2.8**
AFI	**Afiamalu**	**12.87**	**39**	P	**P**	**07 29 36.4**	**-2.6**
WIAZ	**Waiheke Island**	**13.21**	**197**	P	**P**	**07 29 44.1**	**+2.0**
MBAZ	**Motutapu North**	**13.25**	**198**	P	P	07 29 49.3	+6.8
MXZ	**Matakaoa Point**	**13.38**	**186**	P	**P**	**07 29 44.2**	**+0.3**
MXZ	**Matakaoa Point**	**13.38**	**186**	P	**P**	**07 29 44.7**	**+0.9**
ETAZ	**East Tamaki Re**	**13.41**	**198**	P	P	07 29 51.5	+7.2
MKAZ	**Moumakai**	**13.49**	**197**	P	**P**	**07 29 46.7**	**+1.6**
WTAZ	**Waiatarua**	**13.50**	**199**	P	**P**	**07 29 49.8**	**+4.7**
AWAZ	**Awhitu Peninsu**	**13.60**	**198**	P	**P**	**07 29 49.7**	**+3.5**
WMGZ	**Waiomatatini S**	**13.62**	**185**	P	**P**	**07 29 47.6**	**+1.2**
HAZ	**Te Kaha**	**13.62**	**187**	P	**P**	**07 29 47.0**	**+0.6**
PKGZ	**Pakihiroa**	**13.70**	**186**	P	**P**	**07 29 48.0**	**+0.7**
RUGZ	**Raukumara Rang**	**13.84**	**188**	P	**P**	**07 29 48.6**	**-0.3**
PUZ	**Puketiti**	**13.89**	**186**	P	**P**	**07 29 50.7**	**+1.5**
TOZ	**Tahuroa Road**	**14.00**	**195**	P	**P**	**07 29 50.4**	**0.0**
TOZ	**Tahuroa Road**	**14.00**	**195**	P	**P**	**07 29 51.9**	**+1.5**
MARZ	**Manawahe**	**14.01**	**191**	P	**P**	**07 29 51.9**	**+1.4**
KMRZ	**Kaimai**	**14.02**	**193**	P	**P**	**07 29 52.3**	**+1.7**
TWGZ	**Tauwhareparae**	**14.02**	**187**	P	**P**	**07 29 50.2**	**-0.5**
OMRZ	**Omania**	**14.18**	**192**	P	**P**	**07 29 54.2**	**+1.9**
URZ	**Urewera**	**14.21**	**189**	P	**P**	**07 29 51.5**	**-1.1**
	23nm,0.5s,baz=111,slow=1.4,SNR=34						
URZ				S	**S**	**07 32 19.4**	**-2.7**
	8.7nm,0.6s,baz=333,slow=23,SNR=6.5						
URZ	**Urewera**	**14.21**	**189**	P	**P**	**07 29 51.2**	**-1.3**
MWZ	**Matawai**	**14.23**	**188**	P	**P**	**07 29 51.4**	**-1.4**
TKGZ	**Te Karaka**	**14.29**	**187**	P	**P**	**07 29 53.2**	**-0.2**
CNGZ	**Carnagh Statio**	**14.30**	**186**	P	**P**	**07 29 54.1**	**+0.6**
RAGZ	**Rawiri**	**14.40**	**188**	P	**P**	**07 29 53.4**	**-1.2**
RIGZ	**Rimuhau**	**14.56**	**187**	P	**P**	**07 29 55.4**	**-0.9**
TLZ	**Tolley Road**	**14.57**	**194**	P	**P**	**07 29 58.5**	**+2.2**
RTZ	**Ruatahuna**	**14.58**	**189**	P	**P**	**07 29 55.1**	**-1.4**
RTZ	**Ruatahuna**	**14.58**	**189**	P	**P**	**07 29 54.3**	**-2.2**
SNGZ	**Shannon Statio**	**14.69**	**188**	P	**P**	**07 29 56.4**	**-1.2**
MTHZ	**Maungataniwha**	**14.83**	**190**	P	**P**	**07 29 58.0**	**-1.1**
RAHZ	**Arahi**	**14.86**	**189**	P	**P**	**07 29 57.2**	**-2.2**
WATZ	**Wairara**	**14.89**	**193**	P	**P**	**07 30 01.0**	**+1.3**
HIZ	**Hauiti**	**14.90**	**196**	P	**P**	**07 30 03.2**	**+3.4**
MHGZ	**Mahia Peninsul**	**14.99**	**186**	P	**P**	**07 30 00.4**	**-0.4**
NMHZ	**Naumai**	**15.07**	**190**	P	**P**	**07 30 00.9**	**-0.7**
RITZ	**Rihia Road**	**15.12**	**192**	P	**P**	**07 30 02.2**	**+0.1**
KATZ	**Kakaramea**	**15.15**	**193**	P	**P**	**07 30 03.6**	**+1.0**
BKZ	**Black Stump Fm**	**15.19**	**190**	P	**P**	**07 30 02.3**	**-0.6**
NTVZ	**North Tongarir**	**15.28**	**193**	P	**P**	**07 30 03.9**	**+0.1**
TMVZ	**Te Maari**	**15.29**	**193**	P	**P**	**07 30 03.8**	**-0.2**
TWVZ	**Taurewa**	**15.30**	**194**	P	**P**	**07 30 04.8**	**+0.7**
ETVZ	**East Tongariro**	**15.31**	**193**	P	**P**	**07 30 04.2**	**0.0**
WTVZ	**West Tongariro**	**15.31**	**193**	P	**P**	**07 30 03.8**	**-0.4**
NNVZ	**North Ngauruho**	**15.32**	**193**	P	**P**	**07 30 05.1**	**+0.8**
OTVZ	**Oturere**	**15.34**	**193**	P	**P**	**07 30 03.5**	**-1.0**
SNVZ	**South Ngauruho**	**15.37**	**193**	P	**P**	**07 30 03.9**	**-1.0**
MCHZ	**McNeill Hill**	**15.43**	**190**	P	**P**	**07 30 03.7**	**-1.6**
TUVZ	**Tukino**	**15.45**	**193**	P	**P**	**07 30 05.3**	**-0.3**
KWHZ	**Kaweka Forest**	**15.46**	**190**	P	**P**	**07 30 05.3**	**-0.3**
MOVZ	**Moawhango**	**15.56**	**192**	P	**P**	**07 30 03.9**	**-2.8**
KRHZ	**Kereru**	**15.68**	**190**	P	**P**	**07 30 06.6**	**-1.3**
KAHZ	**Kahuranaki**	**15.75**	**189**	P	**P**	**07 30 08.1**	**-0.5**
PNHZ	**Pukenui**	**15.97**	**191**	P	**P**	**07 30 07.8**	**-3.1**
PXZ	**Pawanui**	**15.98**	**189**	P	**P**	**07 30 09.5**	**-1.4**
TSZ	**Takapari Road**	**16.15**	**191**	P	**P**	**07 30 10.6**	**-2.0**
DVHZ	**Dannevirke**	**16.35**	**190**	P	**P**	**07 30 12.5**	**-2.1**
ANWZ	**Angora Road**	**16.46**	**189**	P	**P**	**07 30 14.5**	**-1.1**
BFZ	**Birch Farm**	**16.71**	**190**	P	**P**	**07 30 17.3**	**-0.8**
BFZ	**Birch Farm**	**16.71**	**190**	P	**P**	**07 30 16.3**	**-1.8**
MRZ	**Mangatainoka R**	**16.81**	**192**	P	**P**	**07 30 17.2**	**-1.8**
HOWZ	**Holdsworth Sta**	**17.05**	**192**	P	**P**	**07 30 20.0**	**-1.3**
QRZ	**Quartz Range**	**17.70**	**199**	P	**P**	**07 30 27.0**	**-0.2**
NNZ	**Nelson**	**17.83**	**196**	P	**P**	**07 30 27.0**	**-1.4**
NNZ	**Nelson**	**17.83**	**196**	P	**P**	**07 30 27.3**	**-1.1**
TUWZ	**Tuamarina**	**17.89**	**195**	P	**P**	**07 30 28.9**	**0.0**
MRNZ	**Matariki Terra**	**18.16**	**198**	P	**P**	**07 30 31.7**	**+0.2**
THZ	**Tophouse**	**18.46**	**197**	P	**P**	**07 30 35.6**	**+1.3**
DSZ	**Denniston Nort**	**18.76**	**199**	P	**P**	**07 30 36.7**	**-0.3**
KHZ	**Kahutara**	**18.92**	**195**	P	**P**	**07 30 36.9**	**-1.5**
GVZ	**Greta Valley S**	**19.56**	**195**	P	**P**	**07 30 45.8**	**+1.6**
LTZ	**Lake Taylor**	**19.58**	**197**	P	**P**	**07 30 45.8**	**+1.3**
CTZ	**Chatham Island**	**19.67**	**173**	P	**P**	**07 30 38.4**	**-6.8**
INZ	**Inchbonnie**	**19.76**	**199**	P	**P**	**07 30 46.2**	**+0.2**
WVZ	**Waitaha Valley**	**20.30**	**200**	P	**P**	**07 30 54.0**	**+3.1**
AKCZ	**Akaroa Harbour**	**20.45**	**195**	P	**P**	**07 30 53.5**	**+1.3**
JCZ	**Jackson Bay**	**21.83**	**202**	P	**P**	**07 31 05.4**	**+0.6**
WHZ	**Wether Hill Ro**	**23.71**	**201**	P	**P**	**07 31 23.4**	**+1.9**
EIDS	**Eidsvold**	**26.25**	**261**	P	**P**	**07 31 43.9**	**-0.4**
EIDS				IAmb	IAmb	07 32 02.7	
	comp=Z,15nm,1.3s						
STKA	**Stephens Creek**	**34.59**	**249**	P	**P**	**07 32 54.9**	**-1.1**
STKA				IAmb	IAmb	07 33 15.6	
	comp=Z,33nm,1.2s						
STKA	**Stephens Creek**	**34.59**	**249**	P	**P**	**07 32 56.2**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=97,slow=11,SNR=8.1						
	comp=Z,2.4nm,0.5s						
BBOO	**Buckleboo**	**39.31**	**247**	P	**P**	**07 33 33.3**	**-1.5**
AS31	**Alice Springs**	**41.97**	**261**	P	**P**	**07 33 54.5**	**-1.7**
AS31				IAmb	IAmb	07 33 58.1	
	comp=Z,2.0nm,0.3s						
ASAR	**Alice Springs**	**41.97**	**261**	P	**P**	**07 33 54.9**	**-1.3**
ASAR	**Alice Springs**	**41.97**	**261**	P	**P**	**07 33 56.1**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=95,slow=7.0,SNR=12						
	comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**07 33 58.3**	**-1.1**
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**07 33 58.7**	**-0.7**
	comp=Z,6.1nm,0.5s,baz=98,slow=8.3,SNR=66						
	comp=Z,6.1nm,0.5s						
KNRA	**Kununurra**	**48.67**	**270**	P	**P**	**07 34 46.9**	**-0.7**
KNRA				IAmb	IAmb	07 34 58.2	
	comp=Z,23nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.79**	**266**	P	**P**	**07 35 03.4**	**+0.3**
	comp=Z,7.2nm,0.7s,baz=105,slow=5.9,SNR=13						
	comp=Z,7.2nm,0.7s						
SBA	**Scott Base**	**54.06**	**183**	P	**P**	**07 35 27.3**	**+1.7**
MORW	**Morawa**	**56.75**	**250**	P	**P**	**07 35 44.5**	**-0.7**
MORW				IAmb	IAmb	07 36 07.7	
	comp=Z,26nm,1.3s						
CASY	**Casey**	**59.82**	**206**	P	**P**	**07 36 05.0**	**-0.2**
CASY				IAmb	IAmb	07 36 15.6	
	comp=Z,25nm,1.5s						
QSPA	**South Pole Qui**	**65.86**	**180**	P	**P**	**07 36 45.5**	**+1.1**
QSPA	**South Pole Qui**	**65.86**	**180**	P	**P**	**07 36 46.5**	**+2.1**
	comp=Z,1.8nm,0.7s,baz=316,slow=1.4,SNR=10						
	comp=Z,1.8nm,0.7s						
MAW	**Mawson**	**77.45**	**200**	P	**P**	**07 37 51.9**	**+0.3**
NVAR	**Mina Array Bea**	**84.99**	**44**	P	**P**	**07 38 33.3**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=242,slow=4.1,SNR=2.9						
	comp=Z,0.4nm,0.7s						
PINE	**Pine Mountain**	**86.65**	**38**	P	**P**	**07 38 40.3**	**+1.4**
PINE				IAmb	IAmb	07 38 49.6	
	comp=Z,8.2nm,1.4s						
TXAR	**Lajitas Array**	**90.61**	**58**	P	**P**	**07 39 01.0**	**+3.3**
	comp=Z,0.8nm,0.8s,baz=215,slow=5.6,SNR=9.8						
	comp=Z,0.8nm,0.8s						
PDAR	**Pinedale Array**	**92.93**	**44**	P	**P**	**07 39 09.8**	**+1.7**
	comp=Z,0.1nm,0.5s,baz=239,slow=4.9,SNR=1.6						
	comp=Z,0.1nm,0.5s						
HFS	**Hagfors**	**142.86**	**349**	PKhKP	PKPpre	07 45 22.2	
	comp=Z,1.3nm,0.4s,baz=64,slow=3.4,SNR=8.7						
GEC2	**GERESS Array S**	**153.15**	**340**	PKPdf	**PKPdf**	**07 45 40.9**	**-0.4**
GERES	**GERESS Array B**	**153.15**	**340**	PKPdf	**PKPdf**	**07 45 40.7**	**-0.5**
GERES				PKPab	**PKPab**	**07 46 01.6**	**-1.8**

*DJA **05** 07:28:12.9±1.7, 2°N±5°×12°7E±°, h20km±16km, M3.4/4, MLv3.4/4*

IDC 05 07:28:08.7±2.0, 1°.92N×126°.63E, h0km, mb3.4/4, mbtmp3.4/4, MS3.3/1, Error ellipse: s-maj=194.4km s-min=23.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.08**	**328**	P	Sn	07 29 08.3	-3.1
WRA	**Warramunga Arr**	**23.00**	**161**	P	P	07 33 15.9	+0.6
	1.6nm,0.7s,baz=340,slow=10,SNR=8.7						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**26.39**	**165**	P	P	07 33 46.2	-0.9
	0.3nm,0.7s,baz=341,slow=8.7,SNR=1.7						
	0.3nm,0.7s						
NWAO	**Narrogin (SRO)**	**35.78**	**194**	LR	LR	07 51 10.2	
	comp=Z,48nm,19.4s,baz=312,slow=39						
MKAR	**Makanchi Array**	**58.99**	**326**	P	P	07 38 10.6	+0.4
	0.2nm,0.4s,baz=116,slow=7.5,SNR=3.0						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.21**	**328**	P	P	07 38 38.5	-0.2
	0.2nm,0.5s,baz=129,slow=6.1,SNR=2.0						
	0.2nm,0.5s						

*IDC **05** 07:32:09.9±2.5, 17°.42S×178°.75W, h552km±22km, mb2.8/6, mbtmp3.6/7, Error ellipse: s-maj=132.0km s-min=19.6km az=152.0*

ISC 05 07:32:09.3±1.5, 17°.6S±0°.8×178°.7W±0°.4, h547km, n7, σ0§85/7, mb3.1/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.13**	**267**	P	**P**	**07 33 25.7**	**+0.6**
	4.1nm,0.6s,baz=170,slow=6.3,SNR=5.0						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**07 38 45.4**	**-0.4**
	1.4nm,0.5s,baz=87,slow=17,SNR=3.9						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**44.45**	**259**	P	**P**	**07 39 32.1**	**-0.3**
	0.2nm,0.3s,baz=98,slow=8.0,SNR=6.6						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**07 39 33.8**	**0.0**
	2.6nm,0.6s,baz=89,slow=8.0,SNR=28						
	2.6nm,0.6s						
NVAR	**Mina Array Bea**	**79.35**	**44**	P	**P**	**07 43 17.7**	**-1.3**
	0.3nm,0.8s,baz=260,slow=5.3,SNR=2.3						
	0.3nm,0.8s						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**07 43 53.4**	**+0.7**
	0.3nm,0.8s,baz=224,slow=7.0,SNR=4.1						
	0.3nm,0.8s						
PDAR	**Pinedale Array**	**87.28**	**44**	P	**P**	**07 43 58.5**	**+0.2**
	0.2nm,0.7s,baz=245,slow=3.3,SNR=2.3						
	0.2nm,0.7s						

*IDC **05** 07:33:39.6±1.0, 2°.40S×120°.90E, h0km, mb4.0/5, mbtmp4.0/6, ML3.5/1, MS3.4/8, Error ellipse: s-maj=29.2km s-min=16.3km az=83.0*
*DJA **05** 07:33:41.8±0.2, 2°S±2°×12°1E±°, h10km, M4.4/21, mB5.0/3, mb4.5/7, MLv4.4/21, Mw(mB)4.4/3*

ISC 05 07:33:41.5±0.8, 2°.36S±0°.06×120°.96E±0°.06, h10km, n31, σ1§09/26, mb4.1/6, MS3.5/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.33**	**239**	P	**Pn**	**07 34 05.4**	**-0.7**
APSI	**Ampana**	**1.60**	**25**	P	**Pn**	**07 34 10.3**	**+0.5**
PCI	**Palu**	**1.83**	**322**	P	**Pb**	**07 34 15.5**	**+0.3**
SPSI	**Sidrap Palu**	**1.99**	**217**	P	**Pn**	**07 34 13.9**	**-1.3**
LUWI	**Luwuk**	**2.23**	**54**	P	**Pn**	**07 34 18.2**	**-0.4**
KDI	**Kendari**	**2.29**	**134**	P	**Pn**	**07 34 20.5**	**+1.2**
MPSI	**Mapaga**	**2.89**	**338**	P	**Pn**	**07 34 27.6**	**+0.1**
KAPI	**Kappang**	**2.90**	**205**	Pn	**Pn**	**07 34 27.8**	**+0.1**
	7.8nm,0.3s,baz=27,slow=3.5,SNR=18						
KAPI				Lg	Lg	07 35 08.6	
	23nm,0.3s,baz=193,slow=22,SNR=5.2						
KAPI				LR	LR	07 35 30.4	
	comp=Z,104nm,18.7s,baz=31,slow=39						
	17nm,0.3s						
MRSI	**Marisa**	**2.98**	**19**	P	**Pn**	**07 34 28.5**	**-0.4**
BKSI	**Bulukumba**	**3.06**	**196**	P	**Pn**	**07 34 30.4**	**+0.5**
BBSI	**Bau Bau**	**3.49**	**153**	P	**Pn**	**07 34 37.7**	**+1.8**
BSSI	**Bau Bau, Buton**	**3.78**	**187**	P	**Pn**	**07 34 40.2**	**+0.3**
KMSI	**Cibinong**	**4.20**	**46**	P	**Pn**	**07 34 46.3**	**+0.7**
SMKI	**Samarinda**	**4.21**	**297**	P	**Pn**	**07 34 47.0**	**+1.2**
BKB	**Balikpapan**	**4.21**	**285**	P	**Pn**	**07 34 47.8**	**+2.0**
SANI	**Sanana**	**5.03**	**87**	P	**Pn**	**07 34 54.4**	**-2.7**
	0.2nm936nm16nm,0.8s						
EDFI	**Ende, Flores**	**6.39**	**174**	P	**Pn**	**07 35 14.3**	**-1.5**
PLAI	**Plampang**	**7.16**	**206**	P	**Pn**	**07 35 27.0**	**+0.6**
	0.1nm995nm11nm,0.5s						
SOEI	**Soe**	**8.04**	**156**	P	**Pn**	**07 35 39.1**	**+0.5**
BATI	**Baumata**	**8.24**	**161**	LR	LR	07 39 14.1	
	comp=Z,275nm,19.6s,baz=268,slow=41						
DAV	**Davao City (W)**	**10.44**	**26**	LR	LR	07 40 41.3	
	comp=Z,74nm,18.7s,baz=351,slow=40						
LEM	**Lembang**	**14.02**	**251**	LR	LR	07 43 12.0	
	comp=Z,176nm,20.8s,baz=114,slow=41						
FITZ	**Fitzroy Crossi**	**16.30**	**164**	LR	LR	07 44 49.8	
	comp=Z,99nm,21.1s,baz=25,slow=41						
WRA	**Warramunga Arr**	**21.82**	**144**	P	**P**	**07 38 33.0**	**-1.1**
	4.7nm,0.9s,baz=322,slow=11,SNR=14						
	4.7nm,0.9s						
ASAR	**Alice Springs**	**24.61**	**150**	P	**P**	**07 39 02.1**	**-0.1**
	3.1nm,0.8s,baz=325,slow=7.7,SNR=17						
ASAR				PcP	**PcP**	**07 42 39.5**	**-0.6**
	0.4nm,0.7s,baz=336,slow=2.2,SNR=3.4						
ASAR				LR	LR	07 50 04.7	
	comp=Z,94nm,18.6s,baz=311,slow=40						
	3.1nm,0.8s						
STKA	**Stephens Creek**	**35.21**	**149**	P	**P**	**07 40 35.6**	**-0.4**
	7.5nm,0.8s,baz=324,slow=9.8,SNR=9.0						
	7.5nm,0.8s						
GTA	**Gaotai**	**45.89**	**337**	*eP*	**P**	**07 42 05.5**	**+1.1**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MKAR	**Makanchi Array**	**59.59**	**330**	P	**P**	**07 43 45.6**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=127,slow=8.6,SNR=8.0						
	comp=Z,1.2nm,0.7s						
AAK	**Ala-Archa**	**61.30**	**322**	LR	LR	08 14 44.7	
	comp=Z,38nm,19.7s,baz=137,slow=40						
KURBB	**Kurchatov Arra**	**64.01**	**331**	P	**P**	**07 44 14.5**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=138,slow=6.5,SNR=4.6						
	comp=Z,0.3nm,0.6s						
SEY	**Seymchan**	**69.29**	**15**	LR	LR	08 15 18.2	
	comp=Z,155nm,21.6s,baz=193,slow=36						

*ASRS **05** 07:34:41.0±1.2, 53°.60N×87°.99E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 07:34:39.5±3.8, 53°.67N×88°.11E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=36.4km s-min=19.4km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**279**	I	I	07 46 50.0	
	baz=96,slow=326,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.97**	**279**	Pg	Pb	07 35 15.5	-0.8
	0.8nm,0.3s,baz=96,slow=16,SNR=13						
ZALV				Lg	Lg	07 35 42.5	
	1.5nm,0.3s,baz=99,slow=27,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.64**	**246**	Pn	Pn	07 36 18.3	+0.1
	0.1nm,0.3s,baz=60,slow=14,SNR=6.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.83**	**211**	Pn	Pn	07 36 36.2	+1.5
	0.1nm,0.3s,baz=31,slow=12,SNR=2.3						
	0.1nm,0.3s						

IDC 05 07:41:39.6±3.3, 53°.48N×87°.29E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=32.1km s-min=17.2km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**289**	I	I	07 51 50.0	
	baz=107,slow=328,SNR=14						
ZALV	**Zalesovo Beam**	**1.54**	**289**	Pg	Pn	07 42 07.1	-1.2
	0.3nm,0.3s,baz=108,slow=16,SNR=5.7						
ZALV				Lg	Lg	07 42 28.6	
	1.0nm,0.3s,baz=108,slow=23,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.11**	**246**	Pn	Pn	07 43 12.0	+0.9
	baz=62,slow=14,SNR=2.8						
	0.1nm,0

0.7nm,0.6s
ILAR Eielson Array 53.17 31 P **P 07 53 08.7 +2.7**
0.3nm,0.7s,baz=268,slow=7.2,SNR=4.6
0.3nm,0.7s
WRA Warramunga Arr 53.41 186 P **P 07 53 09.8 +1.5**
0.5nm,0.3s,baz=1.8,slow=7.8,SNR=18
0.5nm,0.3s
ASAR Alice Springs 57.14 186 P **P 07 53 36.5 +1.6**
0.2nm,0.3s,baz=20,slow=11,SNR=8.4
0.2nm,0.3s
STKA Stephens Creek 65.07 178 P **P 07 54 31.1 +2.9**
0.8nm,0.4s,baz=29,slow=10,SNR=3.8
0.8nm,0.4s
ARCES ARCESS Array B 66.83 340 P **P 07 54 40.5 +1.5**
1.8nm,0.8s,baz=58,slow=5.5,SNR=1.3
1.8nm,0.8s
FINES FINESS Array B 71.31 332 P **P 07 55 08.2 +1.4**
2.0nm,1.0s,baz=70,slow=5.5,SNR=4.9
2.0nm,1.0s
HFS Hagfors 76.74 335 P **P 07 55 39.8 +1.5**
1.0nm,0.6s,baz=285,slow=2.3,SNR=4.1
1.0nm,0.6s

BER 05 07:48:31.1±2.7, 71°.06N×6°.79W, h0km±32km, mb(Pn)3.8, ML3.4, 3C, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.50**	**263**	⇑*i*P		Pg	07 48 39.9	-0.6
JNE				*e*S		Sg	07 48 47.0	0.0
JNE				IAML			07 48 49.5	
	comp=Z,3μm,0.2s							
JNW	**Jan Mayen West**	**0.54**	**268**	⇑*i*P		Pg	07 48 40.6	-0.7
JNW				*e*S		Sg	07 48 48.0	-0.3
JNW				IAML			07 48 48.7	
	comp=Z,9μm,0.2s							
JMIC	**Jan Mayen**	**0.56**	**263**	⇑*i*P		Pg	07 48 40.8	-1.1
JMIC				*e*S		Sg	07 48 48.6	-0.5
JMIC				IAML			07 48 49.2	
	comp=Z,1μm,0.4s							
JMI	**Jan Mayen**	**0.65**	**259**	*e*P		Pg	07 48 42.4	-1.1
JMI				*e*S		Sg	07 48 51.0	-0.9
JMI				IAML			07 48 53.8	
	comp=Z,899nm,0.3s							
DBG	**Daneborg**	**5.16**	**315**	*e*P		Pn	07 49 46.8	-2.6
STEI	**Steigen**	**8.32**	**101**	*e*P		Pn	07 50 28.2	-4.5
STOK	**Stokkvaagen**	**8.60**	**114**	*e*P		Pn	07 50 32.7	-3.8
TRO	**Tromso**	**8.75**	**87**	*e*P		Pn	07 50 33.7	-4.9
JETT	**Jettan, Norway**	**9.26**	**86**	*e*P		Pn	07 50 41.2	-4.5
JETT				IAML			07 50 42.6	
	comp=Z,2.7nm,0.5s							
SPA0	**Spitsbergen Ar**	**9.33**	**30**	*e*P		Pn	07 50 47.6	+1.0
SPA0				IAML			07 50 48.9	
	comp=Z,3.2nm,0.6s							
KIF	**Kilpisjarvi**	**9.61**	**89**	*e*P		Pn	07 50 46.5	-3.9
NSS	**Namsos**	**9.62**	**124**	*e*P		Pn	07 50 46.6	-3.9
HEF	**Hetta**	**10.81**	**89**	*e*P		Pn	07 51 02.6	-4.3

IDC 05 07:50:14.7±3.6, 54°.21N×87°.27E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=32.8km s-min=20.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**261**		I	I	07 59 50.0	
	baz=80,slow=326,SNR=4.7							
ZALV	**Zalesovo Beam**	**1.46**	**261**		Pg	Pn	07 50 41.0	-1.4
	0.8nm,0.3s,baz=80,slow=13,SNR=10							
ZALV					Lg	Lg	07 51 00.9	
	1.0nm,0.3s,baz=76,slow=24,SNR=3.0							
KURBB	**Kurchatov Arra**	**6.43**	**240**		Pn	Pn	07 51 51.9	+1.3
	baz=58,slow=13,SNR=1.7							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**8.07**	**205**		Pn	Pn	07 52 13.9	+0.9
	0.1nm,0.3s,baz=28,slow=14,SNR=1.4							
	0.1nm,0.3s							

IDC 05 07:52:10.8±1.9, 3°.98S×150°.43E, h0km, mb3.6/3, mbtmp3.7/4, ML1.5/1, MS3.4/5, Error ellipse: s-maj=139.6km s-min=24.9km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.29**	**211**		Pn	Pn	07 53 45.7	+0.9
	0.7nm,0.3s,baz=5.8,slow=23,SNR=1.5							
PMG					Sn	Sn	07 54 58.9	+1.4
	0.3nm,0.3s,baz=282,slow=18,SNR=3.0							
PMG					LR	LR	07 56 14.3	
	comp=Z,355nm,21.4s,baz=43,slow=39							
	3.3nm,0.4s							
JAY	**Jayapura**	**9.81**	**278**		LR	LR	07 57 35.7	
	comp=Z,192nm,21.5s,baz=94,slow=33							
WRA	**Warramunga Arr**	**22.31**	**223**		P	P	07 57 09.6	-0.5
	2.1nm,0.9s,baz=49,slow=10,SNR=6.9							
	2.1nm,0.9s							
ASAR	**Alice Springs**	**25.25**	**218**		P	P	07 57 38.8	0.0
	1.2nm,0.9s,baz=52,slow=9.0,SNR=9.9							
ASAR					LR	LR	08 09 05.0	
	comp=Z,69nm,18.5s,baz=72,slow=40							
	1.2nm,0.9s							
STKA	**Stephens Creek**	**28.96**	**196**		LR	LR	08 10 02.0	
	comp=Z,84nm,18.6s,baz=23,slow=37							
MSVF	**Nonsavu**	**30.31**	**119**		LR	LR	08 11 03.6	
	comp=Z,58nm,18.4s,baz=31,slow=37							
ILAR	**Eielson Array**	**82.31**	**23**		P	P	08 04 34.1	+0.1
	0.5nm,0.8s,baz=242,slow=5.8,SNR=5.4							
	0.5nm,0.8s							

---

*IDC **05** 07:55:52.7±5.1, 35°.02N×26°.94E, h0km, mb3.8/5, mbtmp3.7/7, ML2.9/2, Error ellipse: s-maj=93.1km s-min=54.3km az=11.0*
*ISK **05** 07:55:58.9, 35°.05N×27°.21E, h68km±2km, ML3.0/17*
*AFAD **05** 07:55:58.5, 35°.18N×27°.49E, h13km±3km, ML2.7*
*THE **05** 07:56:00.5, 34°.93N×27°.32E, h45km±11km, ML2.8/4, Error ellipse: s-maj=12.1km s-min=1.1km az=331.0*
*ATH **05** 07:56:01.0±0.9, 35°.09N×27°.27E, h39km±10km, ML2.9/7, Manual Solution by N.Liadopoulou First location: 2019/04/05 07:57:20, This location: 2019/04/05 08:11:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 4 km*

ISC 05 07:56:01.2±1.1, 35°.07N±0°.07×27°.27E±0°.04, h56km±9km, n61, σ0§87/86, mb3.8/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.49**	**350**		P	**Pn**	**07 56 11.9**	**-0.8**
KARP					S	**Sn**	**07 56 22.4**	**+1.4**
	2μm,0.7s							
KARP	**Karpathos**	**0.49**	**350**		Pg	**Pn**	**07 56 11.9**	**-0.8**
KARP					Sg	**Sn**	**07 56 21.8**	**+0.8**
KARP	**Karpathos**	**0.49**	**350**		P	**Pn**	**07 56 12.0**	**-0.8**
KARP					S	**Sn**	**07 56 21.7**	**+0.6**
ZKR	**Zakros**	**0.86**	**273**		P	**Pn**	**07 56 16.8**	**-0.4**
ZKR					S	**Sn**	**07 56 29.0**	**0.0**
	422nm,0.3s							
ZKR	**Zakros**	**0.86**	**273**		P	**Pn**	**07 56 16.8**	**-0.4**
ARG	**Arkhangelos**	**1.34**	**31**		P	**Pn**	**07 56 24.2**	**+0.6**
ARG					S	**Sn**	**07 56 41.7**	**+1.3**
	238nm,0.5s							
ARG	**Arkhangelos**	**1.34**	**31**		Pn	**Pn**	**07 56 23.9**	**+0.3**
ARG					Sn	**Sn**	**07 56 41.2**	**+0.8**
ARG	**Arkhangelos**	**1.34**	**31**		P	**Pn**	**07 56 23.8**	**+0.2**
ASTA	**Astypalaia**	**1.65**	**334**		P	**Pn**	**07 56 27.2**	**-0.6**
DAT	**Datca**	**1.68**	**9**		Pn	**Pn**	**07 56 27.7**	**-0.6**
DAT					Sn	**Sn**	**07 56 48.4**	**-0.3**
TURN	**Turunc**	**1.88**	**25**		Pn	**Pn**	**07 56 30.7**	**-0.2**
TURN	**Turunc**	**1.88**	**25**		P	**Pn**	**07 56 30.7**	**-0.2**
TURN					S	**Sn**	**07 56 55.5**	**+2.0**
TURN				*i* AML		AML	07 56 56.0	
	comp=N,73nm,0.2s							
IDI	**Anoyia**	**1.96**	**277**		P	**Pn**	**07 56 32.2**	**+0.2**
IDI	**Anoyia**	**1.96**	**277**		P	**Pn**	**07 56 32.7**	**+0.6**
BODT	**Bodrum**	**1.99**	**1**		Pn	**Pn**	**07 56 32.3**	**-0.1**
THR5	**Thira Island,**	**2.06**	**311**		P	**Pn**	**07 56 33.3**	**-0.1**
DALY	**Dalyan (Mula)**	**2.08**	**32**		Pn	**Pn**	**07 56 33.5**	**-0.1**
IZZE	**Mula-Seydike**	**2.10**	**49**		P	**Pn**	**07 56 32.9**	**-1.0**
IZZE					S	**Sn**	**07 56 58.6**	**-0.3**
IZZE				*i* AML		AML	07 56 59.0	
	comp=N,95nm,0.2s							
IZZE				*i* AML		AML	07 57 02.0	
	comp=E,75nm,0.4s							
FETY	**Fethiye**	**2.15**	**43**		Pn	**Pn**	**07 56 34.0**	**-0.6**
FETY	**Fethiye**	**2.15**	**43**		P	**Pn**	**07 56 34.9**	**+0.3**
FETY					S	**Sn**	**07 57 01.3**	**+1.1**
KSL	**Kastellorizon**	**2.17**	**60**		P	**Pn**	**07 56 34.3**	**-0.7**
KSL					S	**Sn**	**07 56 59.7**	**-1.0**
	88nm,0.6s							
KSL	**Kastellorizon**	**2.17**	**60**		P	**Pn**	**07 56 34.2**	**-0.7**
YER	**Yerkesik**	**2.22**	**21**		Pn	**Pn**	**07 56 35.7**	**+0.1**
AKAS	**Kas**	**2.23**	**58**		Pn	**Pn**	**07 56 35.4**	**-0.4**
AKAS	**Kas**	**2.23**	**58**		P	**Pn**	**07 56 34.9**	**-0.9**
AKAS					S	**Sn**	**07 57 02.4**	**+0.1**
AKAS				*i* AML		AML	07 57 03.0	
	comp=N,170nm,0.5s							
AKAS				*i* AML		AML	07 57 06.0	
	comp=E,85nm,0.3s							
SABU	**Mula-Dalaman**	**2.23**	**38**		P	**Pn**	**07 56 35.1**	**-0.7**
SABU					S	**Sn**	**07 57 02.5**	**+0.3**
SABU				*i* AML		AML	07 57 03.0	
	comp=N,35nm,0.3s							
MLSB	**Milas**	**2.26**	**10**		Pn	**Pn**	**07 56 35.8**	**-0.3**
PRNS	**Prines Rethymn**	**2.28**	**278**		P	**Pn**	**07 56 37.1**	**+0.7**
MULA	**Mugla, Merkez-**	**2.34**	**21**		P	**Pn**	**07 56 38.4**	**+1.0**
MULA					S	**Sn**	**07 57 08.1**	**+3.1**
MULA				*i* AML		AML	07 57 23.0	
	comp=E,36nm,0.4s							
APE	**Apeiranthos**	**2.44**	**325**		P	**Pn**	**07 56 38.0**	**-0.6**
APE	**Apeiranthos**	**2.44**	**325**		P	**Pn**	**07 56 37.7**	**-0.9**
CAME	**Cameli-Denizli**	**2.50**	**41**		Pn	**Pn**	**07 56 39.5**	**0.0**
KNIK	**Mula-Seydike**	**2.58**	**46**		P	**Pn**	**07 56 40.5**	**-0.1**
KNIK					S	**Sn**	**07 57 11.7**	**+1.0**
GVD	**Gavdhos**	**2.62**	**266**		P	**Pn**	**07 56 40.7**	**-0.3**
DNZT	**Denizli-Tavas-**	**2.62**	**32**		P	**Pn**	**07 56 40.9**	**-0.3**
DNZT					S	**Sn**	**07 57 12.4**	**+0.5**
DNZT				*i* AML		AML	07 57 14.0	
	comp=E,25nm,0.5s							
CAEL	**Denizli, Camel**	**2.64**	**38**		P	**Pn**	**07 56 41.1**	**-0.3**
CAEL					S	**Sn**	**07 57 13.2**	**+0.9**
CAEL				*i* AML		AML	07 57 19.0	
	comp=E,85nm,0.7s							
CAEL				*i* AML		AML	07 57 24.0	
	comp=N,66nm,1.1s							
IMMV	**Iera Moni Meta**	**2.72**	**279**		P	**Pn**	**07 56 42.2**	**-0.1**
IMMV	**Iera Moni Meta**	**2.72**	**279**		P	**Pn**	**07 56 43.2**	**+0.9**
ELL	**Elmali**	**2.72**	**51**		Pn	**Pn**	**07 56 42.7**	**+0.2**
TAVA	**DENIZLI_Tavas**	**2.74**	**29**		P	**Pn**	**07 56 42.3**	**-0.4**
TAVA					S	**Sn**	**07 57 15.5**	**+0.8**
TAVA				*i* AML		AML	07 57 19.0	
	comp=E,30nm,0.2s							
TAVA				*i* AML		AML	07 57 20.0	
	comp=N,35nm,0.5s							
AKUM	**Antalya-Kumluc**	**2.80**	**63**		P	**Pn**	**07 56 42.6**	**-0.9**
AKUM					S	**Sn**	**07 57 15.4**	**-0.6**
AKUM				*i* AML		AML	07 57 16.0	
	comp=E,33nm,0.6s							
AKUM				*i* AML		AML	07 57 18.0	
	comp=N,39nm,0.6s							
GOLH	**Golhisar**	**2.85**	**40**		P	**Pn**	**07 56 44.7**	**+0.4**
GOLH					S	**Sn**	**07 57 19.0**	**+1.5**
GOLH				*i* AML		AML	07 57 20.0	
	comp=N,42nm,0.3s							
GOLH				*i* AML		AML	07 57 20.0	
	comp=E,31nm,0.4s							
ESEN	**Aydn-Nazilli**	**2.86**	**17**		P	**Pn**	**07 56 43.3**	**-1.0**
ESEN					S	**Sn**	**07 57 18.9**	**+1.4**
ESEN				*i* AML		AML	07 57 19.0	
	comp=N,33nm,0.3s							
ESEN				*i* AML		AML	07 57 19.0	
	comp=E,22nm,0.3s							
APMY	**Acipayam-Deniz**	**2.91**	**34**		Pn	**Pn**	**07 56 44.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.92**	**10**		Pn	**Pn**	**07 56 44.9**	**-0.3**
NAZL	**Nazilli-Aydin**	**3.01**	**16**		Pn	**Pn**	**07 56 46.4**	**+0.1**
KORT	**Korkueli**	**3.16**	**51**		Pn	**Pn**	**07 56 48.9**	**+0.4**
KORT	**Korkueli**	**3.16**	**51**		P	**Pn**	**07 56 48.9**	**+0.4**
KORT					S	**Sn**	**07 57 27.9**	**+2.9**
KORT				*i* AML		AML	07 57 28.0	
	comp=E,25nm,0.5s							
INCE	**Denizli-Bozkur**	**3.23**	**35**		P	**Pn**	**07 56 48.4**	**-1.0**
INCE					S	**Sn**	**07 57 26.1**	**-0.6**
INCE				*i* AML		AML	07 57 27.0	
	comp=N,29nm,0.4s							
KIRA	**zmir-Kiraz**	**3.25**	**16**		P	**Pn**	**07 56 48.5**	**-1.3**
KIRA					S	**Sn**	**07 57 26.6**	**-0.7**
ODEM	**Odemis-Izmir**	**3.27**	**11**		Pn	**Pn**	**07 56 49.7**	**-0.2**
ANKY	**Antikythira Is**	**3.33**	**285**		P	**Pn**	**07 56 49.4**	**-1.3**
PASA	**Karahalli, USA**	**3.73**	**28**		P	**Pn**	**07 56 55.4**	**-0.9**
PASA					S	**Sn**	**07 57 37.3**	**-1.7**
PASA				*i* AML		AML	07 57 40.0	
	comp=N,10nm,0.3s							
VLI	**Veliai**	**3.88**	**296**		P	**Pn**	**07 56 57.7**	**-0.6**
BRTR	**Keskin Array B**	**6.88**	**46**		Pn	**Pn**	**07 57 39.5**	**0.0**
	0.1nm,0.3s,baz=233,slow=12,SNR=3.7							
	0.3nm,0.3s							
KBZ	**Khabaz**	**14.84**	**50**		Pn	**P**	**07 59 31.8**	**-0.4**
	0.1nm,0.3s,baz=224,slow=9.2,SNR=7.6							
	2.3nm,0.7s							
AKTO	**Aktyubinsk**	**27.06**	**46**		P	**P**	**08 01 38.1**	**-0.1**
	0.9nm,0.6s,baz=228,slow=7.9,SNR=3.7							
	0.9nm,0.6s							
ARCES	**ARCESS Array B**	**34.53**	**359**		P	**P**	**08 02 43.1**	**-0.7**
	1.4nm,0.8s,baz=186,slow=8.9,SNR=1.6							
	1.4nm,0.8s							
KURBB	**Kurchatov Arra**	**39.84**	**51**		P	**P**	**08 03 29.6**	**+0.6**
	0.7nm,0.5s,baz=274,slow=8.8,SNR=6.6							
	0.7nm,0.5s							
MKAR	**Makanchi Array**	**42.38**	**57**		P	**P**	**08 03 51.0**	**+1.0**
	1.1nm,0.5s,baz=276,slow=7.6,SNR=14							
	1.1nm,0.5s							
ZALV	**Zalesovo Beam**	**43.82**	**46**		P	**P**	**08 04 01.3**	**-0.1**
	0.4nm,0.3s,baz=273,slow=9.7,SNR=2.5							
	0.4nm,0.3s							

---

*IDC **05** 07:57:42.8±2.1, 7°.51N×93°.58E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=121.5km s-min=22.1km az=56.0*

ISC 05 07:57:48.7±2.2, 7°.7N±0°.5×93°.9E±0°.7, h35km, n14, σ0§52/8, mb3.7/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.21**	**235**		T	T	08 30 07.9	
	baz=54,slow=75,SNR=18							
H08S2	**Diego Garcia H**	**26.22**	**235**		T	T	08 30 09.0	
	baz=54,slow=75,SNR=19							
H08S1	**Diego Garcia H**	**26.23**	**235**		T	T	08 30 06.8	
	baz=54,slow=75,SNR=17							
MKAR	**Makanchi Array**	**40.19**	**348**		P	**P**	**08 05 22.1**	**+0.5**
	0.5nm,0.6s,baz=172,slow=7.3,SNR=4.6							
	0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**44.64**	**346**		P	**P**	**08 05 58.1**	**+0.3**
	0.5nm,0.4s,baz=172,slow=7.0,SNR=5.4							
	0.5nm,0.4s							
ZALV	**Zalesovo Beam**	**46.68**	**353**		P	**P**	**08 06 13.7**	**-0.1**
	0.4nm,0.3s,baz=167,slow=7.0,SNR=4.2							
	0.4nm,0.3s							
WRA	**Warramunga Arr**	**48.38**	**125**		P	**P**	**08 06 27.0**	**-0.6**
	0.2nm,0.6s,baz=301,slow=7.7,SNR=1.4							
	0.2nm,0.6s							
BVAR	**Borovoye Array**	**49.06**	**341**		P	**P**	**08 06 32.1**	**-0.2**
	0.5nm,0.7s,baz=143,slow=8.1,SNR=2.0							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**50.01**	**130**		P	**P**	**08 06 40.7**	**+0.7**
	0.2nm,0.6s,baz=297,slow=8.5,SNR=4.3							
	0.2nm,0.6s							
H04N2	**CROZET ISLANDS**	**65.45**	**211**		T	T	09 19 10.7	
	baz=48,slow=75,SNR=4.3							
H04N1	**CROZET ISLANDS**	**65.46**	**211**		T	T	09 19 04.8	
	baz=48,slow=75,SNR=6.8							
H04N3	**CROZET ISLANDS**	**65.47**	**211**		T	T	09 19 07.0	
	baz=48,slow=75,SNR=5.0							
FINES	**FINESS Array B**	**72.73**	**332**		P	**P**	**08 09 13.1**	**0.0**
	0.7nm,0.7s,baz=173,slow=34,SNR=1.7							
	0.7nm,0.7s							
HFS	**Hagfors**	**78.46**	**330**		P	**P**	**08 09 45.5**	**-0.4**
	1.7nm,0.9s,baz=94,slow=9.2,SNR=1.2							
	1.7nm,0.9s							

---

*ASRS **05** 08:00:20.0±1.4, 54°.15N×86°.42E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 08:00:21.8±2.8, 54°.16N×86°.48E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=22.6km s-min=13.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**258**		I	I	08 07 30.0	
	baz=79,slow=319,SNR=2.1							
ZALV	**Zalesovo Beam**	**1.00**	**258**		Pg	Pg	08 00 39.7	-1.2
	1.1nm,0.3s,baz=78,slow=16,SNR=15							
ZALV					Lg	Lg	08 00 55.3	
	2.1nm,0.3s,baz=75,slow=28,SNR=12							
KURBB	**Kurchatov Arra**	**6.02**	**237**		Pn	Pn	08 01 52.8	+0.8
	0.1nm,0.3s,baz=54,slow=13,SNR=6.1							
	1.0nm,0.5s							
MKAR	**Makanchi Array**	**7.84**	**202**		Pn	Pn	08 02 18.2	+1.2
	0.2nm,0.3s,baz=25,slow=13,SNR=6.8							
	0.3nm,0.3s							

---

*NIED **05** 08:23:14.3, 34°.68N×140°.12E, h63km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.01; $M_{\theta\theta}$-0.38; $M_{\phi\phi}$0.37; $M_{r\theta}$-0.44; $M_{\theta\phi}$-1.86; $M_{\phi r}$3.78; Fault plane solution: $M_0$4.22000×10^{15} NP1: ϕ_s271.00000°, δ26.00000°, λ-178.00000°. NP2: ϕ_s179.00000°, δ89.00000°, λ-64.00000°.*
*JMA **05** 08:23:14.3±0.2, 34°.7N±0°.7×140°.1E±0°.8, h63km±2km, MD4.4/37, MV4.2/37, SE OFF BOSO PENINSULA*
JMA Felt III J1 at SE OFF BOSO PENINSULA .
*NEIC **05** 08:23:14.4±0.8, 34°.73N±0°.05×140°.33E±0°.05, h60km±8km, mb4.7/22, Error ellipse: s-maj=8.5km s-min=4.8km az=153.0*
*IDC **05** 08:23:15.3±1.1, 34°.68N×140°.14E, h65km±10km, mb3.6/19, mbtmp3.9/24, MS3.3/20, Error ellipse: s-maj=15.8km s-min=6.9km az=76.0*

ISC 05 08:23:14.9±0.7, 34°.69N±0°.03×140°.15E±0°.04, h62km±6km, n127, σ1§17/103, mb4.2/32, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.32**	**69**	*i* P		**Pn**	**08 23 25.4**	**+0.3**
BSO4	**Boso 4**	**0.34**	**27**	*i* P		**Pn**	**08 23 25.6**	**+0.2**
BSO4					X		08 23 34.4	
TATJ	**Tateyama 2**	**0.40**	**328**		P	**Pn**	**08 23 26.4**	**+0.3**
TATJ				*e*S		**Sn**	**08 23 35.3**	**+1.1**
TATJ	**Tateyama 2**	**0.40**	**328**		A	A	08 23 26.4	
	comp=N,236nm,0.5s,comp=E,405nm,0.7s							
JKUC	**kamogawauchiur**	**0.47**	**5**	*i* P		**Pn**	**08 23 26.3**	**-0.5**
JKUC					S	**Sn**	**08 23 35.1**	**-0.3**
JKUC	**kamogawauchiur**	**0.47**	**5**		A	A	08 23 26.3	
	comp=N,56nm,0.6s,comp=E,97nm,0.8s							
KTR	**Katsuura**	**0.48**	**16**		P	**Pn**	**08 23 26.5**	**-0.2**
KTR					S	**Sn**	**08 23 35.4**	**-0.1**
JIM2	**Oshima 3**	**0.59**	**273**	⇓*i* P		**Pn**	**08 23 27.3**	**-0.8**
JIM2				⇓S		**Sn**	**08 23 36.7**	**-1.1**
JIM2	**Oshima 3**	**0.59**	**273**		A	A	08 23 27.3	
	comp=N,63nm,0.4s,comp=E,36nm,0.3s							
JYO	**Yokosk**	**0.67**	**323**		A	A	08 23 28.3	
	comp=N,56nm,1.3s,comp=E,102nm,1.3s							
BSO1	**Boso 1**	**0.68**	**93**	*i* P		**Pn**	**08 23 28.7**	**+0.2**
JTHY	**Toshimahigashi**	**0.73**	**257**	*i* P		**Pn**	**08 23 29.4**	**-0.3**
JTHY					S	**Sn**	**08 23 40.6**	**+0.1**
JTHY	**Toshimahigashi**	**0.73**	**257**		A	A	08 23 29.4	
	comp=N,50nm,0.7s,comp=E,17nm,0.6s							
JNIO	**Niijimaoohara**	**0.80**	**246**		A	A	08 23 29.6	
	comp=N,34nm,1.3s,comp=E,27nm,1.5s							
JMYK	**Miyake Tsubota**	**0.80**	**219**		P	**Pn**	**08 23 30.9**	**+0.3**
JMYK					S	**Sn**	**08 23 42.4**	**+0.4**
JMYK	**Miyake Tsubota**	**0.80**	**219**		A	A	08 23 30.9	
	comp=N,25nm,0.4s,comp=E,25nm,0.4s							
JSKK	**Shikinejimakit**	**0.85**	**246**		A	A	08 23 30.4	
	comp=N,19nm,1.9s,comp=E,31nm,1.5s							
JMKN	**Mikurajimanish**	**0.92**	**210**		S	**Sn**	**08 23 44.7**	**0.0**
JMKN	**Mikurajimanish**	**0.92**	**210**		A	A	08 23 44.7	
	comp=N,14nm,1.4s,comp=E,8.0nm,0.2s							
KTJ3	**Kamata3**	**0.92**	**286**	⇓*i* P		**Pn**	**08 23 30.8**	**-1.2**
KTJ3				⇓S		**Sn**	**08 23 43.0**	**-1.7**
JHTM	**Izuhatsuma**	**0.98**	**286**		A	A	08 23 32.0	
	comp=N,14nm,1.1s,comp=E,18nm,2.5s							
JSMT	**Sammumatsuo**	**0.98**	**14**		A	A	08 23 32.6	
	comp=N,30nm,0.6s,comp=E,19nm,2.4s							
JOD2	**Odawara 2**	**1.04**	**304**	⇓*i* P		**Pn**	**08 23 32.5**	**-1.1**
JOD2				⇓S		**Sn**	**08 23 45.8**	**-1.7**
TOK	**Tokyo**	**1.05**	**342**		A	A	08 23 33.3	
	comp=N,22nm,0.7s,comp=E,56nm,2.0s							
JIZS	**Izushimoda**	**1.05**	**272**	*i* P		**Pn**	**08 23 32.9**	**-0.8**
JIZS					S	**Sn**	**08 23 46.8**	**-0.8**
JIZS	**Izushimoda**	**1.05**	**272**		A	A	08 23 32.9	
	comp=N,8.0nm,0.7s,comp=E,17nm,0.8s							
JIHU	**Itakohorinouch**	**1.31**	**13**		A	A	08 23 37.0	
	comp=N,21nm,0.8s,comp=E,20nm,1.2s							
JYT	**Yasato**	**1.54**	**1**		A	A	08 23 40.1	
	comp=N,4.0nm,1.8s,comp=E,8.0nm,0.5s							
JYN	**Shimob**	**1.54**	**302**	⇓*i* P		**Pn**	**08 23 39.9**	**-0.4**
JYN				⇓S		**Sn**	**08 23 59.3**	**-0.2**
JHJ	**Hachijo jima 2**	**1.60**	**191**		P	**Pn**	**08 23 41.9**	**+1.0**
	comp=E,213nm,0.3s,baz=322,slow=23,SNR=12							
JHJ					S	**Sn**	**08 24 00.7**	**+0.1**
	comp=E,1μm,0.3s,baz=129,slow=23,SNR=8.9							
JHJ2	**Mitsune**	**1.60**	**190**			**Pn**	**08 23 41.5**	**+0.5**
JHJ2	**Mitsune**	**1.60**	**190**		P	**Pn**	**08 23 41.5**	**+0.5**
JHJ2	**Mitsune**	**1.60**	**190**		P	**Pn**	**08 23 41.8**	**+0.8**
JHJ2					S	**Sn**	**08 24 00.8**	**+0.2**

PETK			LR	LR	08 36 28.6	
	comp=Z,43nm,21.5s,baz=230,slow=36					
	comp=Z,1.3nm,0.9s					
MA2	**Magadan**	**25.86 12**	LR	LR	08 40 27.2	
	comp=Z,34nm,18.4s,baz=168,slow=40					
ENH	**Enshi**	**26.19 269**	P	**P**	**08 28 42.7**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**27.95 115**	T	T	08 58 44.6	
	baz=308,slow=75,SNR=2333					
H11N1	**WAKE ISLAND Hy**	**27.96 115**	T	T	08 58 50.0	
	baz=308,slow=75,SNR=1441					
H11N3	**WAKE ISLAND Hy**	**27.97 115**	T	T	08 58 45.9	
	baz=308,slow=75,SNR=1578					
SONM	**Songino Array**	**28.33 308**	P	**P**	**08 29 04.0**	**+1.1**
SONM	**Songino Array**	**28.33 308**	P	**P**	**08 29 02.1**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=115,slow=11,SNR=6.3					
SONM			LR	LR	08 40 51.7	
	comp=Z,102nm,18.4s,baz=28,slow=37					
	comp=Z,1.1nm,0.9s					
H11S3	**WAKE ISLAND Hy**	**28.57 118**	T	T	08 59 31.7	
	baz=310,slow=76					
H11S1	**WAKE ISLAND Hy**	**28.57 118**	T	T	08 59 31.7	
	baz=310,slow=76					
H11S2	**WAKE ISLAND Hy**	**28.58 118**	T	T	08 59 32.9	
	baz=310,slow=76					
DAV	**Davao City (W)**	**30.59 209**	LR	LR	08 43 14.5	
	comp=Z,19nm,18.5s,baz=117,slow=39					
CD2	**Chengdu**	**30.72 273**	P	**P**	**08 29 23.2**	**-0.9**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH	**PanZhiHua**	**33.89 267**	P	**P**	**08 29 54.5**	**+2.4**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,90nm,3.8s					
CMAR	**Chiang Mai Arr**	**39.94 257**	LR	LR	08 47 20.4	
	comp=Z,31nm,21.1s,baz=70,slow=36					
ZALV	**Zalesovo Beam**	**42.77 314**	P	**P**	**08 31 06.1**	**0.0**
	comp=Z,1.3nm,0.5s,baz=108,slow=7.7,SNR=5.4					
ZALV			LR	LR	08 48 57.6	
	comp=Z,30nm,18.7s,baz=253,slow=36					
	comp=Z,1.3nm,0.5s					
BRDH	**Bariadhala**	**43.83 267**	LR	LR	08 52 34.2	
	comp=Z,152nm,19.3s,baz=132,slow=40					
MK31	**Makanchi Array**	**44.53 304**	P	**P**	**08 31 20.0**	**-0.4**
MKAR	**Makanchi Array**	**44.53 304**	P	**P**	**08 31 20.2**	**-0.2**
MKAR	**Makanchi Array**	**44.53 304**	P	**P**	**08 31 20.4**	**0.0**
	comp=Z,2.4nm,0.8s,baz=91,slow=10.0,SNR=23					
MKAR			LR	LR	08 50 54.0	
	comp=Z,60nm,18.1s,baz=76,slow=37					
	comp=Z,2.4nm,0.8s					
MAKZ	**Makanchi**	**44.75 304**	P	**P**	**08 31 21.6**	**-0.4**
KURK	**Kurchatov**	**46.60 310**	P	**P**	**08 31 36.7**	**+0.1**
KURK			IAmb	IAmb	08 31 57.0	
	comp=Z,4.5nm,0.8s					
KURBB	**Kurchatov Arra**	**46.67 310**	P	**P**	**08 31 36.5**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=78,slow=22,SNR=7.4					
	comp=Z,2.0nm,0.7s					
TARG	**Taragay, Kyrgy**	**48.55 298**	P	**P**	**08 31 52.3**	**0.0**
TARG			IAmb	IAmb	08 31 55.4	
	comp=Z,6.4nm,1.2s					
KDJ	**Kajisay**	**48.91 298**	P	**P**	**08 31 55.0**	**+0.2**
KDAK	**Kodiak Island**	**49.53 40**	LR	LR	08 50 13.7	
	comp=Z,39nm,21.8s,baz=134,slow=33					
PSI	**Prapat**	**49.72 240**	LR	LR	08 55 10.6	
	comp=Z,229nm,18.2s,baz=200,slow=38					
AAK	**Ala-Archa**	**50.73 300**	P	**P**	**08 32 07.0**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=148,slow=12,SNR=3.6					
	comp=Z,0.9nm,0.4s					
BVAR	**Borovoye Array**	**51.41 314**	P	**P**	**08 32 12.2**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=69,slow=4.9,SNR=5.9					
BVAR			LR	LR	08 52 58.8	
	comp=Z,26nm,21.0s,baz=83,slow=35					
	comp=Z,1.2nm,0.5s					
ILAR	**Eielson Array**	**52.02 31**	P	**P**	**08 32 16.1**	**-1.6**
	comp=Z,0.5nm,0.9s,baz=278,slow=8.5,SNR=4.7					
	comp=Z,0.5nm,0.9s					
KK31	**Karatay Array**	**53.44 301**	P	**P**	**08 32 28.6**	**+0.1**
KK31			IAmb	IAmb	08 32 29.9	
	comp=Z,6.4nm,1.0s					
KKAR	**Karatay Array**	**53.44 301**	P	**P**	**08 32 28.4**	**-0.2**
WB0	**Warramunga Arr**	**54.43 187**	P	**P**	**08 32 35.3**	**-0.6**
WB0			IAmb	IAmb	08 32 35.8	
	comp=Z,10nm,0.8s					
WRAB	**Tennant Creek**	**54.60 187**	P	**P**	**08 32 36.8**	**-0.3**
WRAB			IAmb	IAmb	08 32 37.0	
	comp=Z,10nm,0.8s					
WR0	**Warramunga Arr**	**54.61 186**	P	**P**	**08 32 36.7**	**-0.5**
WR0			IAmb	IAmb	08 32 37.1	
	comp=Z,9.2nm,0.8s					
WB2	**Warramunga Arr**	**54.61 187**	P	**P**	**08 32 36.7**	**-0.5**
WB2			IAmb	IAmb	08 32 37.1	
	comp=Z,10nm,0.8s					
WRA	**Warramunga Arr**	**54.61 187**	P	**P**	**08 32 36.4**	**-0.7**
WRA	**Warramunga Arr**	**54.61 187**	P	**P**	**08 32 36.5**	**-0.7**
	comp=Z,8.2nm,0.7s,baz=2,6,slow=7.7,SNR=68					
SIMJ	**Simiganj**	**55.88 296**	P	**P**	**08 32 46.2**	**-0.2**
SIMJ			IAmb	IAmb	08 32 47.4	
	comp=Z,6.3nm,0.9s					
INK	**Inuvik**	**56.94 26**	P	**P**	**08 32 53.5**	**+0.2**
	comp=Z,1.0nm,1.1s,baz=307,slow=5.1,SNR=1.9					
	comp=Z,1.0nm,1.1s					
KBL	**Kabul**	**57.32 292**	P	**P**	**08 32 56.3**	**-0.5**
KBL			IAmb	IAmb	08 32 58.4	
	comp=Z,4.5nm,1.0s					
ARTI	**Arti**	**57.56 319**	P	**P**	**08 32 57.3**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=82,slow=7.1,SNR=1.9					
	comp=Z,0.9nm,0.4s					
ASAR	**Alice Springs**	**58.34 187**	P	**P**	**08 33 03.4**	**-0.2**
ASAR	**Alice Springs**	**58.34 187**	P	**P**	**08 33 03.6**	**0.0**
	comp=Z,2.4nm,0.8s,baz=16,slow=13,SNR=30					
	comp=Z,2.4nm,0.8s					
ABKAR	**Akbulak array**	**58.68 311**	P	**P**	**08 33 05.7**	**-0.1**
MBWA	**Marble Bar**	**58.84 202**	P	**P**	**08 33 06.2**	**-0.9**
P33M	**Teslin, Yukon**	**59.19 35**	P	**P**	**08 33 08.3**	**-1.0**
P33M			IAmb	IAmb	08 33 29.3	
	comp=Z,8.2nm,1.4s					
AKTO	**Aktyubinsk**	**59.49 313**	P	**P**	**08 33 13.0**	**+1.6**
	comp=Z,2.0nm,0.8s,baz=70,slow=9.0,SNR=4.8					
	comp=Z,2.0nm,0.8s					
RES	**Resolute Bay**	**65.12 14**	P	**P**	**08 33 49.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=286,slow=7.4,SNR=1.4					
	comp=Z,0.5nm,0.7s					
FORT	**Forrest**	**66.11 191**	P	**P**	**08 33 56.0**	**+0.5**
YKA	**Yellowknife Ar**	**66.35 29**	P	**P**	**08 33 58.3**	**+1.7**
	comp=Z,0.2nm,0.8s,baz=302,slow=6.9,SNR=2.7					
	comp=Z,0.2nm,0.8s					
NWAO	**Narrogin (SRO)**	**70.62 200**	P	**P**	**08 34 23.7**	**+0.1**
KBZ	**Khabaz**	**71.65 311**	P	**P**	**08 34 30.1**	**+0.3**
	comp=Z,3.6nm,0.9s,baz=77,slow=2.4,SNR=7.5					
	comp=Z,3.6nm,0.9s					
AKASG	**Malin Array Be**	**75.52 322**	P	**P**	**08 34 52.3**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=51,slow=5.8,SNR=9.7					
AKASG			LR	LR	09 09 27.9	
	comp=Z,20nm,19.4s,baz=48,slow=37					
	comp=Z,1.0nm,0.5s					
NOA	**NORSAR Array B**	**75.94 337**	LR	LR	09 12 26.5	
	comp=Z,18nm,18.3s,baz=5.0,slow=39					
NVAR	**Mina Array Bea**	**77.22 52**	P	**P**	**08 35 03.4**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=286,slow=5.5,SNR=3.8					
	comp=Z,0.6nm,0.8s					
BRTR	**Keskin Array B**	**79.63 311**	P	**P**	**08 35 16.3**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=46,slow=7.1,SNR=4.8					
	comp=Z,1.0nm,0.8s					
PDAR	**Pinedale Array**	**80.05 45**	P	**P**	**08 35 18.8**	**+0.7**
	comp=Z,0.3nm,0.9s,baz=296,slow=6.4,SNR=1.6					
	comp=Z,0.3nm,0.9s					
VRAC	**Vranov**	**82.52 327**	LR	LR	09 15 23.3	
	comp=Z,22nm,20.3s,baz=330,slow=38					
PPT2	**Papeete2**	**84.54 116**	*e*LR	LR	09 02 23.1	
	comp=Z,54nm,25.8s					
H03N2	**Juan Fernandez**	**147.73 99**	T	T	11 28 33.4	
	baz=289,slow=76,SNR=3.6					
H03N3	**Juan Fernandez**	**147.74 99**	T	T	11 28 34.4	
	baz=289,slow=76,SNR=4.9					
H03N1	**Juan Fernandez**	**147.75 99**	T	T	11 28 35.1	
	baz=289,slow=76,SNR=4.4					
BDFB	**Brasilia**	**159.66 23**	PKP	**PKPdf**	**08 43 08.0**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=180,slow=1.0,SNR=3.0					

ASRS ***05*** *08:29:59.0±0.7, 53°.95N×86°.58E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 08:29:59.8±2.8, 53°.95N×86°.73E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=24.5km s-min=14.0km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.13 271**		I	I	08 37 40.0	
	baz=88,slow=318,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.13 271**		Pg	Pg	08 30 20.6	-0.9
	1.3nm,0.3s,baz=88,slow=18,SNR=9.7						
ZALV				Lg	Lg	08 30 36.6	
	2.3nm,0.3s,baz=91,slow=28,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.04 240**		Pn	Pn	08 31 32.1	+1.8
	0.1nm,0.3s,baz=56,slow=13,SNR=5.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.71 203**		Pn	Pn	08 31 53.8	+0.5
	0.2nm,0.3s,baz=24,slow=13,SNR=7.9						
	0.3nm,0.3s						

HEL 05 08:34:37.8±0.2, 67°.86N×20°.03E, h0km, ML1.1, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.77**	**75**	SG	Sg	08 35 01.2	-1.2
KIF	**Kilpisjarvi**	**1.19**	**14**	PN	Pn	08 35 02.1	+0.5
KIF				MSG		08 35 14.9	
	comp=Z,1.6nm,0.2s						
KIF				SG	Sg	08 35 15.5	-0.4
HEF	**Hetta**	**1.47**	**66**	PG	Pn	08 35 04.6	-0.9
	baz=250						
HEF				MSG		08 35 21.9	
	comp=Z,0.9nm,0.2s						
HEF				SB	Sg	08 35 24.5	-0.4
ERTU	**Ertsjaerv**	**1.56**	**146**	PG	Pn	08 35 05.9	-0.8
ERTU				SN	Sn	08 35 27.0	-0.6
KLF	**Kolari**	**1.64**	**111**	MSG		08 35 26.8	
	comp=Z,0.8nm,0.2s						
KLF				SN	Sn	08 35 28.9	-0.6
KTK1	**Kautokeino**	**1.66**	**44**	PN	Pg	08 35 09.8	+0.2
KTK1				SN	Sg	08 35 31.8	+0.7
KALU	**Kalix**	**2.40**	**145**	PB	Pn	08 35 19.0	+0.8
KALU				SG	Sb	08 35 52.2	+0.4
TOF	**Tornio**	**2.46**	**135**	PG	Pn	08 35 20.8	+1.7
TOF				MSG		08 35 50.6	
	comp=Z,0.6nm,0.2s						
TOF				SG	Sb	08 35 52.8	-0.7
ARA0	**ARCESS Array S**	**2.62**	**47**	SB	Sb	08 35 56.6	-1.5
RNF	**Rovaniemi**	**2.65**	**116**	PB	Pn	08 35 23.6	+2.0
	baz=302						
RNF				SG	Sb	08 35 58.0	-0.9
KEV	**Kevo**	**3.17**	**50**	SG	Sb	08 36 13.0	-1.1
BURU	**Burvik**	**3.33**	**170**	PG	Pb	08 35 37.5	-0.2
OBF4	**Vikkela, Lumij**	**3.68**	**144**	SB	Sb	08 36 25.2	-3.4

OSPL ***05*** *08:35:02.9±0.3, 18°.99N×67°.98W, h17km±2km, ML2.1*
RSPR ***05*** *08:35:16.5, 18°.68N×67°.01W, h64km±1km, MD2.7/7*

ISC 05 08:35:01.8±2.5, 19°.0N±0°.2×67°.96W±0°.05, h10km, n24, σ2°94/19, 5C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.63**	**220**	*i* P	**Pg**	**08 35 13.9**	**-0.1**
PCDR				*e*S	**Sb**	**08 35 22.0**	**-1.7**
PCDR				IAML		08 35 25.8	
	comp=Z,67nm,0.9s						
AGPR	**Aguadilla, PR**	**0.96**	**123**	⇑*e*P	**Pn**	**08 35 25.7**	**+4.2**
AGPR	**Aguadilla, PR**	**0.96**	**123**	*e*S	**Sg**	**08 35 33.4**	**+0.4**
AGPR	**Aguadilla, PR**	**0.96**	**123**	*e*S	**Sg**	**08 35 32.8**	**-0.2**
AGPR				IAML		08 35 35.5	
	comp=Z,46nm,1.1s						
LSP	**Las Mesas**	**1.17**	**135**	⇓*e*P	**Pn**	**08 35 27.6**	**+3.3**
LSP	**Las Mesas**	**1.17**	**135**	*e*S	**Sg**	**08 35 37.7**	**-1.8**
CRPR	**Cabo Rojo, PR**	**1.28**	**141**	⇓*e*P	**Pg**	**08 35 30.1**	**+3.7**
CRPR	**Cabo Rojo, PR**	**1.28**	**141**	*e*S	**Sb**	**08 35 40.4**	**-2.1**
CRPR	**Cabo Rojo, PR**	**1.28**	**141**	*e*S	**Sb**	**08 35 40.3**	**-2.1**
CRPR				IAML		08 35 43.8	
	comp=Z,32nm,2.4s						
AOPR	**Arecibo Observ**	**1.32**	**119**	⇑*e*P	**Pn**	**08 35 27.4**	**+1.1**
AOPR	**Arecibo Observ**	**1.32**	**119**	*e*S	**Sb**	**08 35 35.8**	**-7.8**
MLPR	**Magueyes Islan**	**1.34**	**140**	⇑*e*P	**Pg**	**08 35 30.3**	**+2.6**
MLPR	**Magueyes Islan**	**1.34**	**140**	*e*S	**Sb**	**08 35 41.3**	**-3.1**
UUPR	**Utuado, UPR, P**	**1.39**	**122**	⇑*e*P	**Pn**	**08 35 28.3**	**+1.0**
UUPR	**Utuado, UPR, P**	**1.39**	**122**	*e*S	Sb	08 35 37.1	-8.7
OBIP	**Obispado Ponce**	**1.60**	**126**	⇓*e*P	**Pn**	**08 35 30.2**	**0.0**
OBIP	**Obispado Ponce**	**1.60**	**126**	*e*S	Sn	08 35 41.4	-9.5
CELP	**Cerrillos**	**1.60**	**125**	⇓*e*P	**Pn**	**08 35 30.7**	**+0.4**
CELP	**Cerrillos**	**1.60**	**125**	*e*S	Sn	08 35 41.9	-9.1
ECPR	**Experimental S**	**1.66**	**114**	⇑*e*P	**Pn**	**08 35 30.8**	**-0.2**
ECPR	**Experimental S**	**1.66**	**114**	*e*S	Sn	08 35 41.3	-11
PDPR	**Patillas Dam,**	**2.08**	**118**	⇓*e*P	**Pn**	**08 35 36.3**	**-0.6**
PDPR	**Patillas Dam,**	**2.08**	**118**	*e*S	Sn	08 35 50.9	-12
HUMP	**Col San Antoni**	**2.18**	**113**	*e*S	Sn	08 35 52.0	-13

ASRS ***05*** *08:40:06.0±1.2, 53°.58N×87°.96E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 08:40:06.2±3.4, 53°.66N×87°.99E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=34.1km s-min=19.1km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**280**	I	I	08 52 10.0	
	baz=97,slow=327,SNR=6.2						
ZALV	**Zalesovo Beam**	**1.90**	**280**	Pn	Pn	08 40 40.2	+0.3
	1.8nm,0.3s,baz=96,slow=15,SNR=23						
ZALV				Lg	Lg	08 41 06.4	
	1.8nm,0.3s,baz=97,slow=29,SNR=9.4						
KURBB	**Kurchatov Arra**	**6.57**	**246**	Pn	Pn	08 41 44.4	+0.4
	0.1nm,0.3s,baz=56,slow=13,SNR=6.2						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.78**	**210**	Pn	Pn	08 42 01.8	+1.1
	0.2nm,0.3s,baz=30,slow=13,SNR=4.6						
	0.2nm,0.3s						

FUNV ***05*** *08:59:35.8, 8°.00N×70°.00W, h5km, MW3.0*
RSNC ***05*** *08:59:37.5±0.0, 9°.N±17°.×7°.0W±1°.7, h124km±10km, M2.0, ML2.0*

ISC 05 08:59:34.8±1.7, 8°.21N±0°.05×70°.01W±0°.04, h6km±15km, n11, σ1°65/20, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.84**	**275**	*e*P	**Pn**	**08 59 52.3**	**-1.0**
SOCV				*e*S	**Sn**	**09 00 04.8**	**-1.4**
SDV	**Santo Domingo**	**0.91**	**317**	P	**Pn**	**08 59 55.9**	**+1.4**
SDV				S	**Sn**	**09 00 09.6**	**+1.5**
TEPV	**Terepaima**	**1.92**	**25**	*e*P	**Pg**	**09 00 11.6**	**0.0**
TEPV				*e*S	**Sg**	**09 00 38.1**	**+1.5**
BAUV	**El Baul**	**2.08**	**69**	*e*P	**Pn**	**09 00 11.1**	**+0.8**
BAUV				*e*S	**Sb**	**09 00 37.9**	**-1.1**
CAPV	**Capacho**	**2.31**	**262**	*e*P	**Pn**	**09 00 14.7**	**+0.9**
CAPV				*e*S	**Sn**	**09 00 42.0**	**-0.6**
TAMC	**Tame, Arauca**	**2.50**	**225**	P	**Pn**	**09 00 16.8**	**+0.6**
TAMC				S	**Sn**	**09 00 49.7**	**+2.6**
PAMC	**Pamplona, Colo**	**2.81**	**252**	P	**Pn**	**09 00 20.5**	**-0.3**
PAMC				S	**Sb**	**09 01 01.2**	**+0.6**
BENV	**Beln**	**2.95**	**54**	*e*P	**Pn**	**09 00 23.6**	**+1.2**
BENV				*e*S	**Sb**	**09 01 00.3**	**-3.9**
CACV	**CAICARA DEL OR**	**3.49**	**100**	*e*P	**Pb**	**09 00 35.8**	**-1.4**
CACV				*e*S	**Sb**	**09 01 21.8**	**+1.8**
RUSC	**La Rusia**	**3.83**	**233**	P	**Pn**	**09 00 34.0**	**-0.8**
PTGC	**Puerto Gaitan,**	**4.51**	**208**	P	**Pb**	**09 00 53.9**	**-0.7**

SNET ***05*** *09:08:14.8±2.0, 13°.09N×89°.83W, h16km, ML4.6*
GCG ***05*** *09:08:16.8±2.2, 13°.24N×89°.85W, h31km±15km, MD4.6, ML4.1, MW4.0*
NEIC ***05*** *09:08:17.6±1.9, 13°.17N±0°.05×89°.65W±0°.04, h60km±9km, mb4.4/143, Error ellipse: s-maj=8.4km s-min=3.6km az=148.0*
IDC ***05*** *09:08:23.6±2.8, 13°.61N×89°.22W, h104km±23km, mb3.7/7, mbtmp4.1/9, MS3.5/18, Error ellipse: s-maj=36.4km s-min=17.5km az=50.0*

ISC 05 09:08:15.5±1.0, 13°.12N±0°.06×89°.76W±0°.04, h49km±8km, n222, σ1°50/236, mb4.4/62, MS3.5/15, 1C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.56**	**49**	*e*P	**Pn**	**09 08 27.9**	**+0.4**
LALI				*e*S	**Sn**	**09 08 36.6**	**+0.5**
LALI	**Alcalda de L**	**0.56**	**49**	*i* P	**Pn**	**09 08 27.9**	**+0.4**
	comp=Z,2μm,0.4s						
LALI				*e*S	**Sn**	**09 08 36.1**	**0.0**
LALI				IAML		09 08 39.4	
	comp=Z,2μm,0.4s						
JAYA	**Jayaque - finc**	**0.61**	**30**	*e*P	**Pn**	**09 08 28.4**	**+0.2**
JAYA				*e*S	**Sn**	**09 08 38.4**	**+0.9**
JAYA	**Jayaque - finc**	**0.61**	**30**	*i* P	**Pn**	**09 08 28.5**	**+0.2**
CEVE	**Cerro Verde**	**0.71**	**11**	*e*P	**Pn**	**09 08 29.8**	**+0.1**
CEVE				*e*S	**Sn**	**09 08 41.7**	**+1.7**
ITCA	**Escuela Especi**	**0.72**	**40**	*e*P	**Pn**	**09 08 30.0**	**+0.3**
SBLS	**San Blas**	**0.73**	**11**	⇓*i*P	**Pn**	**09 08 29.9**	**0.0**
SBLS				⇓*i*P	**Pn**	**09 08 29.9**	**0.0**
SBLS				*e*S	**Sn**	**09 08 41.0**	**+0.8**
SNJE	**San Jose**	**0.76**	**11**	*e*P	**Pn**	**09 08 30.2**	**0.0**
SNJE				*i* P		09 08 30.3	
CEDA	**San Andres**	**0.77**	**28**	*e*P	**Pn**	**09 08 30.6**	**+0.4**
BOQS	**Boqueron**	**0.77**	**37**	*e*P	**Pn**	**09 08 30.8**	**+0.5**
NUBE	**Las Nubes**	**0.78**	**359**	*i* P	**Pn**	**09 08 30.2**	**-0.3**
NUBE				*e*S	**Sn**	**09 08 40.8**	**-0.4**
NUBE	**Las Nubes**	**0.78**	**359**	*i* P	**Pn**	**09 08 30.2**	**-0.3**
NUBE				*i* S	**Sn**	**09 08 40.8**	**-0.4**
RTR	**El Retiro**	**0.78**	**8**	⇓*i*P	**Pn**	**09 08 30.7**	**+0.2**
UEES	**Universidad Ev**	**0.78**	**41**	*i* P	**Pn**	**09 08 30.8**	**+0.4**
UEES				*e*S	**Sn**	**09 08 43.7**	**+2.5**
UESS	**Universidad de**	**0.81**	**42**	*e*P	**Pn**	**09 08 31.4**	**+0.6**
UESS				*e*S	**Sn**	**09 08 43.6**	**+1.8**
UDBS	**Universidad Do**	**0.83**	**45**	*e*P	**Pn**	**09 08 31.8**	**+0.7**
UDBS				*e*S	**Sn**	**09 08 44.1**	**+1.6**
LFRS	**El Faro**	**0.84**	**54**	⇑*i*P	**Pn**	**09 08 31.9**	**+0.7**
ESSJ	**San Jos, E**	**0.84**	**301**	*e*P	Pn	09 08 37.7	+6.6
ESSJ				*i* S	Sn	09 08 55.0	+12
AEIL	**Aeropuerto Ilo**	**0.85**	**47**	*e*P	**Pn**	**09 08 32.6**	**+1.3**
LFU	**La Fuente**	**0.89**	**45**	*e*P	**Pn**	**09 08 32.7**	**+0.9**
SLOZ	**Alcaldia de Sa**	**0.90**	**359**	*e*P	**Pn**	**09 08 32.1**	**+0.2**
SLOZ				*e*S	**Sn**	**09 08 45.3**	**+1.3**
COEG	**Centro de Oper**	**0.99**	**60**	*e*P	**Pn**	**09 08 34.2**	**+1.1**
COEG				*e*S	**Sn**	**09 08 48.3**	**+2.2**
SNVI	**San Vicente**	**1.02**	**61**	*e*P	**Pn**	**09 08 34.9**	**+1.2**
TECO	**Alcaldia de Te**	**1.04**	**66**	*e*P	**Pn**	**09 08 34.6**	**+0.8**
TECO				*e*S	**Sn**	**09 08 49.2**	**+1.9**
UESV	**Universidad de**	**1.08**	**61**	*e*P	**Pn**	**09 08 35.6**	**+1.3**
SCLA	**Alcaldia de Sa**	**1.16**	**60**	*e*P	**Pn**	**09 08 37.0**	**+1.6**
SCLA				*e*S	**Sn**	**09 08 52.9**	**+2.7**
ALJI	**Alcalda de J**	**1.18**	**80**	*e*P	**Pn**	**09 08 36.9**	**+1.3**
ALJI				*e*S	**Sn**	**09 08 52.9**	**+2.4**
LLGN	**La Laguna**	**1.30**	**37**	*e*P	**Pn**	**09 08 38.6**	**+1.1**
MTO3	**Montecristo**	**1.33**	**17**		**Pn**	**09 08 38.7**	**+0.8**
MTO3	**Montecristo**	**1.33**	**17**	*e*P	**Pn**	**09 08 38.8**	**+0.8**
MTO3	**Montecristo**	**1.33**	**17**	*i* P	**Pn**	**09 08 38.7**	**+0.8**
	comp=Z,1μm,0.7s						
MTO3				IAML		09 09 21.7	
	comp=Z,1μm,0.7s						
FG8	**Yepocapa, Chim**	**1.37**	**326**	*e*P	**Pn**	**09 08 42.7**	**+4.3**
FG8				*i* S	**Sn**	**09 09 03.4**	**+7.9**
PACA	**Pacayal**	**1.44**	**76**	*e*P	**Pn**	**09 08 41.4**	**+2.1**
ESQI	**Esquipulas**	**1.49**	**16**	Pn	**Pn**	**09 08 41.1**	**+1.2**
BLLM	**Bellamira**	**1.52**	**78**	*e*P	**Pn**	**09 08 42.3**	**+1.9**
ESSG	**Sabana Grande**	**1.63**	**320**	*e*P	**Pn**	**09 08 41.1**	**-0.8**
	comp=Z,5μm,0.2s						
ESSG				*e*S	**Sn**	**09 08 59.8**	**-2.0**
ESSG				IAML		09 09 04.9	
	comp=Z,5μm,0.2s						
GCG4	**OSOP**	**1.64**	**333**	*e*P	**Pn**	**09 08 42.6**	**+0.5**
	comp=Z,3μm,0.7s						
GCG4				*i* S	**Sn**	**09 09 03.0**	**+0.9**
GCG4				IAML		09 09 08.6	
	comp=Z,3μm,0.7s						
CAHU	**Cacacuatique**	**1.64**	**67**	*e*P	**Pn**	**09 08 43.9**	**+1.8**
LCND	**La Caada**	**1.83**	**84**	*e*P	**Pn**	**09 08 46.1**	**+1.5**
CNCH	**Conchagua**	**1.88**	**85**	*e*P	**Pn**	**09 08 47.0**	**+1.6**
STG0	**El Palmar, Qui**	**2.01**	**310**	*e*P	**Pn**	**09 08 51.6**	**+4.4**
STG8	**El Palmar, Qui**	**2.03**	**311**	*e*P	**Pn**	**09 08 52.1**	**+4.5**
STG8				*e*S	**Sn**	**09 09 18.9**	**+7.0**
SOKI	**Kika Raxquin**	**2.32**	**317**	*e*P	**Pn**	**09 08 52.2**	**+0.5**
RTAL	**Retalhuleu**	**2.34**	**307**		**Pn**	**09 08 53.1**	**+1.5**
RTAL	**Retalhuleu**	**2.34**	**307**	*e*P	**Pn**	**09 08 53.1**	**+1.5**
RTAL				*e*S	**Sn**	**09 09 17.2**	**-2.0**
TGUH	**Tegucigalpa,Un**	**2.59**	**69**	Pn	**Pn**	**09 08 56.6**	**+1.5**
CRIN	**San Cristobal**	**2.67**	**99**		**Pn**	**09 08 55.8**	**-0.4**
CRIN				Sn	**Sn**	**09 09 26.5**	**-0.9**
HUEH	**Huehuetenango**	**2.76**	**322**		**Pn**	**09 08 58.7**	**+1.2

Y45A Yeager Farm, C 20.65 1 P Pn 09 12 52.5 -1.3
Y45A IAmb IAmb 09 13 09.8
comp=Z,26nm,0.9s
TXAR Lajitas Array 20.66 324 P **P** **09 12 52.7 +1.3**
TXAR Lajitas Array 20.66 324 P Pn 09 12 55.0 +0.9
comp=Z,4.4nm,0.5s,baz=146,slow=10,SNR=122
TXAR PcP **PcP** **09 17 02.6 +2.4**
comp=Z,0.4nm,0.6s,baz=138,slow=4.5,SNR=7.4
comp=Z,4.4nm,0.5s
TX31 Lajitas Ar. Si 20.66 324 P Pn 09 12 54.0 -0.1
WLAR White Oak Lake 20.70 352 P **P** **09 12 52.8 +1.2**
WLAR IAmb IAmb 09 13 17.0
comp=Z,29nm,1.0s
FW07 Weatherford 20.83 341 P **P** **09 12 53.9 +0.8**
FW07 IAmb IAmb 09 13 10.8
comp=Z,17nm,1.0s
Y49A Blount Mountai 20.87 8 P Pn 09 12 55.0 -1.4
FW06 Azle 21.01 341 P **P** **09 12 55.8 +0.9**
FW06 IAmb IAmb 09 13 15.5
comp=Z,11nm,0.8s
PLPT Palo Pinto 21.11 340 P **P** **09 12 56.7 +0.7**
PLPT IAmb IAmb 09 13 14.5
comp=Z,34nm,1.2s
FW03 Perrin-Whitt E 21.23 340 P **P** **09 12 57.3 0.0**
Z35A Perchaven, San 21.25 342 P **P** **09 12 57.5 0.0**
Z35A IAmb IAmb 09 13 15.3
comp=Z,24nm,1.1s
Y52A Lilburn 21.29 13 P **P** **09 12 56.9 -1.1**
X48A Hartselle 21.38 6 P **P** **09 12 58.4 -0.5**
X48A IAmb IAmb 09 13 20.1
comp=Z,13nm,0.9s
ABTX Abilene, Hawle 21.42 337 P **P** **09 12 59.8 +0.4**
ABTX IAmb IAmb 09 13 03.9
comp=Z,14nm,1.1s
ALPN Alpine 21.43 325 P **P** **09 13 00.8 +1.1**
MIAR Mount Ida 21.61 351 P **P** **09 13 02.2 +0.8**
FPAL Fort Paine 21.65 9 P **P** **09 13 01.3 -0.6**
UALR University of 21.68 354 P **P** **09 13 02.8 +0.6**
MNHN Monahans 21.73 329 P **P** **09 13 04.0 +1.3**
MNHN IAmb IAmb 09 13 06.8
comp=Z,7.3nm,0.6s
PLAL Pickwick Lake 21.82 4 P **P** **09 13 04.2 +0.6**
WTFS Witchita Falls 22.03 340 P **P** **09 13 06.7 +0.8**
WTFS IAmb IAmb 09 13 18.0
comp=Z,19nm,1.2s
HODGE Hodges 22.09 17 P **P** **09 13 06.3 -0.2**
HODGE IAmb IAmb 09 13 27.0
comp=Z,17nm,1.4s
SN05 Snyder 5 22.14 334 P **P** **09 13 07.9 +0.8**
SN05 IAmb IAmb 09 13 11.0
comp=Z,8.2nm,0.6s
APMT Aspermont 22.22 337 P **P** **09 13 07.8 -0.2**
APMT IAmb IAmb 09 13 09.6
comp=Z,9.3nm,0.6s
W50A Signal Mountai 22.35 10 P **P** **09 13 09.2 -0.2**
Y57A Sumter 22.48 21 P **P** **09 13 09.2 -1.6**
VHRN Van Horn 22.50 324 P **P** **09 13 12.9 +1.8**
POST Post 22.57 334 P **P** **09 13 11.7 -0.1**
X34A Smith Ranch, M 22.60 342 P **P** **09 13 12.7 +0.6**
X34A IAmb IAmb 09 13 40.9
comp=Z,12nm,0.9s
BG3 Lake Jocassee 22.64 15 P **P** **09 13 12.5 +0.1**
V48A Smith Brothers 22.68 6 P **P** **09 13 13.2 +0.4**
V48A IAmb IAmb 09 13 35.4
comp=Z,18nm,1.3s
DKNS Dickens 22.84 335 P **P** **09 13 14.9 +0.3**
DKNS IAmb IAmb 09 13 17.9
comp=Z,8.9nm,0.7s
W35A Tecumseh 22.86 345 P **P** **09 13 14.2 -0.5**
W35A IAmb IAmb 09 13 27.3
comp=Z,19nm,0.9s
LCAR Lake Charles 22.89 357 P **P** **09 13 15.3 +0.3**
WVT Waverly 22.98 4 P **P** **09 13 17.5 +1.6**
WMOK Wichita Mounta 23.02 341 P **P** **09 13 15.2 -1.2**
BIRD Birdtown, Kers 23.03 20 P **P** **09 13 16.7 +0.3**
BIRD IAmb IAmb 09 13 45.2
comp=Z,18nm,1.1s
ATAH Atahualpa 23.07 150 LR LR 09 21 18.6
comp=Z,89nm,20.1s,baz=327,slow=33
CLTN Cedars of Leba 23.08 7 P **P** **09 13 17.7 +0.7**
TKL Tuckaleechee C 23.08 13 P **P** **09 13 16.4 -0.5**
TKL IAmb IAmb 09 13 31.9
comp=Z,19nm,1.1s
TKL Tuckaleechee C 23.08 13 LR LR 09 22 38.3
comp=Z,195nm,19.7s,baz=188,slow=38
FNO Franklin 23.10 344 P **P** **09 13 16.7 -0.4**
SJG San Juan 23.26 75 LR LR 09 22 59.3
comp=Z,123nm,20.1s,baz=269,slow=39
V53A Saluda 23.31 14 P **P** **09 13 20.0 +0.7**
TUL3 Leonard 23.33 348 P **P** **09 13 18.8 -0.6**
HHAR Hobbs 23.37 351 P **P** **09 13 20.0 +0.3**
HHAR IAmb IAmb 09 13 49.1
comp=Z,22nm,1.2s
MNTX Cornudas Mount 23.41 325 P **P** **09 13 21.1 +0.8**
PARMO Parma 23.44 0 P **P** **09 13 20.6 +0.1**
PBMO Poplar Bluff 23.57 359 P **P** **09 13 22.1 +0.6**
PBMO IAmb IAmb 09 13 42.9
comp=Z,8.6nm,0.8s
U49A Red Boiling Sp 23.57 8 P **P** **09 13 21.5 -0.1**
OK031 S. Brethren Rd 23.61 346 P **P** **09 13 21.8 -0.2**
OK031 IAmb IAmb 09 13 40.6
comp=Z,7.5nm,0.8s
OK052 Battle Ridge R 23.64 346 P **P** **09 13 22.5 +0.2**
OK052 IAmb IAmb 09 13 24.1
comp=Z,10nm,0.7s
W57A Gilead 23.65 20 P **P** **09 13 21.3 -1.1**
W57A IAmb IAmb 09 13 24.0
comp=Z,7.1nm,0.7s
T45A Paducah 23.82 2 P **P** **09 13 24.3 +0.4**
CSTR Hydro, Custer 23.83 342 P **P** **09 13 23.8 -0.3**
SMWD Samnorwood 23.85 338 P **P** **09 13 25.4 +1.1**
SMWD IAmb IAmb 09 13 27.2
comp=Z,14nm,0.8s
T47A Sharon Grove 23.89 5 P **P** **09 13 24.5 -0.1**
MGMO Mountain Grove 24.04 355 P **P** **09 13 25.8 -0.2**
MGMO IAmb IAmb 09 13 40.5
comp=Z,14nm,1.3s
CGM3 Cape Girardeau 24.08 0 P **P** **09 13 26.9 +0.6**
CGM3 IAmb IAmb 09 13 50.0
comp=Z,12nm,0.9s
OK048 Pawnee Station 24.08 346 P **P** **09 13 27.1 +0.7**
OK048 IAmb IAmb 09 13 39.1
comp=Z,10nm,0.9s
OK051 E0350 and S346 24.14 346 P **P** **09 13 27.8 +0.9**
OK051 IAmb IAmb 09 13 28.3
comp=Z,13nm,0.6s
U54A Nelsons Funny 24.37 16 P **P** **09 13 28.7 -0.3**
U54A IAmb IAmb 09 13 38.2
comp=Z,11nm,1.0s
S44A Carbondale 24.48 1 P **P** **09 13 31.0 +1.0**
SIUC Southern Illin 24.50 1 P **P** **09 13 29.5 -0.7**
V58A Windy Hill, Pi 24.53 21 P **P** **09 13 30.3 -0.1**
V58A IAmb IAmb 09 13 45.8
comp=Z,12nm,0.9s
U56A King 24.61 18 P **P** **09 13 31.1 -0.2**
U56A IAmb IAmb 09 13 47.6
comp=Z,27nm,1.4s
PCRV Puerto La Cruz 24.78 94 LR LR 09 23 30.9
comp=Z,88nm,20.8s,slow=37
USIN University of 24.81 4 P **P** **09 13 32.9 -0.2**
WCI Wyandotte Cave 25.20 6 P **P** **09 13 36.5 +0.1**
WCI IAmb IAmb 09 13 59.4
comp=Z,14nm,0.8s
OLIL Olney 25.55 3 P **P** **09 13 39.7 0.0**
OLIL IAmb IAmb 09 13 54.4
comp=Z,26nm,1.3s
T57A Hurt 25.57 20 P **P** **09 13 39.6 -0.3**
T57A IAmb IAmb 09 14 21.6
comp=Z,14nm,1.3s
BNM Barren Site 25.94 327 P **P** **09 13 45.0 +1.4**
RTBA Rita Blanca 25.98 336 P **P** **09 13 45.4 +1.6**
LENM Lemitar 26.14 326 P **P** **09 13 46.3 +0.9**
T59A Double "B" Far 26.15 23 P **P** **09 13 44.9 -0.3**
T59A IAmb IAmb 09 14 05.1
comp=Z,13nm,1.2s
DUN6 Lazy B Ranch 26.21 321 P **P** **09 13 49.1 +3.1**
DUN6 IAmb IAmb 09 13 53.1
comp=Z,12nm,0.8s
KSU1 Kansas State U 26.58 348 P **P** **09 13 49.5 +0.5**
KSU1 IAmb IAmb 09 13 51.9
comp=Z,7.9nm,0.7s
N35A Tabor 28.11 351 P **P** **09 14 02.8 +0.1**
N35A IAmb IAmb 09 14 04.3
comp=Z,8.9nm,0.6s

X16A Lo Mia Camp, P 28.92 321 P **P** **09 14 12.6 +2.4**
L34A Svendsen Farm, 29.31 350 P **P** **09 14 13.2 -0.2**
L34A **PcP** **09 17 19.3 +0.2**
ECSD EROS Data Cent 31.07 350 P **P** **09 14 27.8 -1.1**
ECSD IAmb IAmb 09 14 42.6
comp=Z,10.0nm,1.2s
PFO Pinyon Flats O 31.72 315 LR LR 09 28 17.0
comp=Z,103nm,20.1s,baz=120,slow=38
V12A Nelson 31.89 319 P **P** **09 14 39.0 +2.5**
V12A IAmb IAmb 09 14 39.7
comp=Z,6.2nm,0.7s
SADO Sadowa 32.82 14 LR LR 09 28 30.4
comp=Z,128nm,19.7s,baz=254,slow=38
GSC Goldstone, Bar 32.91 317 P **P** **09 14 47.9 +2.6**
F33A 5 Mile Ranch, 33.08 352 IAmb IAmb 09 14 59.2
comp=Z,5.3nm,0.7s
GWY Greenwater Val 33.34 318 IAmb IAmb 09 14 52.3
comp=Z,3.1nm,0.5s
TPNV Topopah Spring 33.54 320 P **P** **09 14 52.8 +1.9**
TPNV IAmb IAmb 09 14 54.6
comp=Z,3.6nm,0.8s
S11A Rachel 33.66 321 P **P** **09 14 53.9 +2.0**
S11A IAmb IAmb 09 15 08.4
comp=Z,5.6nm,0.7s
WCT Wildcat Mounta 33.68 319 P **P** **09 14 55.0 +3.1**
PDAR Pinedale Array 34.15 334 P **P** **09 14 56.7 +0.6**
comp=Z,0.2nm,0.7s,baz=139,slow=7.6,SNR=2.1
PDAR PcP **PcP** **09 17 33.0 +0.5**
comp=Z,0.7nm,0.6s,baz=134,slow=4.7,SNR=10
PDAR LR LR 09 31 02.7
comp=Z,48nm,20.7s,baz=128,slow=40
comp=Z,0.2nm,0.7s
DSP Deep Springs 34.88 319 P **P** **09 15 04.8 +2.5**
DSP IAmb IAmb 09 15 05.9
comp=Z,2.7nm,0.7s
SNOW Snow King Moun 35.23 333 P **P** **09 15 06.8 +1.4**
SNOW IAmb IAmb 09 15 23.2
comp=Z,3.7nm,0.8s
NV11 Mina Array Sit 35.64 320 P **P** **09 15 10.9 +2.0**
NV11 IAmb IAmb 09 15 12.7
comp=Z,5.7nm,0.8s
NVAR Mina Array Bea 35.73 320 P **P** **09 15 12.6 +2.8**
NVAR **PcP** **09 17 39.1 +2.0**
NVAR Mina Array Bea 35.73 320 P **P** **09 15 12.9 +3.1**
comp=Z,7.0nm,0.7s,baz=132,slow=8.6,SNR=66
NVAR PcP **PcP** **09 17 38.8 +1.6**
comp=Z,2.1nm,0.8s,baz=138,slow=3.9,SNR=11
NVAR LR LR 09 31 23.1
comp=Z,103nm,18.4s,baz=166,slow=39
comp=Z,7.0nm,0.7s
LHV Little Huntoon 35.75 320 P **P** **09 15 12.2 +2.5**
LPAZ La Paz 36.21 143 LR LR 09 30 25.5
comp=Z,64nm,21.2s,baz=308,slow=36
WAKR Walker 36.49 319 P **P** **09 15 18.9 +2.6**
WAKR IAmb IAmb 09 15 20.0
comp=Z,3.0nm,0.7s
EPLO Experimental L 36.59 356 P **P** **09 15 15.3 -1.5**
EPLO IAmb IAmb 09 15 29.1
comp=Z,9.0nm,1.3s
CMB Columbia Colle 36.83 318 P **P** **09 15 19.7 +0.7**
PNTR Pine Nut 36.94 320 P **P** **09 15 21.0 +0.9**
PNTR IAmb IAmb 09 15 25.0
comp=Z,5.8nm,0.8s
HLID Hailey 37.01 330 P **P** **09 15 19.6 -1.0**
DGMT Dagmar 37.23 344 P **P** **09 15 22.8 +0.5**
ULM Lac du Bonnet 37.36 354 P **P** **09 15 21.7 -1.6**
comp=Z,3.0nm,0.5s,baz=166,slow=8.8,SNR=8.4
ULM LR LR 09 33 25.6
comp=Z,72nm,18.2s,baz=178,slow=41
comp=Z,3.0nm,0.5s
F10A Beach Ranch, E 40.14 330 P **P** **09 15 46.1 -0.6**
F10A IAmb IAmb 09 15 49.1
comp=Z,3.6nm,0.8s
YBH Yreka Blue Hor 40.41 321 LR LR 09 34 31.5
comp=Z,76nm,19.2s,baz=150,slow=39
SIV San Ignacio 40.52 135 LR LR 09 31 41.3
comp=Z,102nm,20.1s,baz=287,slow=34
NEW Newport 41.76 333 LR LR 09 36 23.1
comp=Z,59nm,20.0s,baz=121,slow=40
SCHQ Schefferville 45.32 18 P **P** **09 16 26.9 -1.6**
SCHQ Schefferville 45.32 18 P **P** **09 16 26.4 -2.2**
comp=Z,6.2nm,0.5s,baz=214,slow=6.9,SNR=10
SCHQ PcP **PcP** **09 18 06.6 -0.9**
comp=Z,2.9nm,0.8s,baz=225,slow=5.7,SNR=1.1
SCHQ LR LR 09 34 13.8
comp=Z,66nm,18.3s,baz=335,slow=35
comp=Z,6.2nm,0.5s
KUQ Kuujjuuaa 47.71 15 P **P** **09 16 46.0 -1.1**
BBB Bella Bella 49.60 330 LR LR 09 39 44.7
comp=Z,34nm,21.5s,baz=164,slow=38
YKAW1 Yellowknife Wh 52.35 346 P **P** **09 17 21.5 -0.7**
YKAW1 IAmb IAmb 09 17 24.1
comp=Z,2.8nm,0.9s
YKA Yellowknife Ar 52.39 346 P **P** **09 17 21.9 -0.6**
comp=Z,1.8nm,0.8s,baz=148,slow=7.9,SNR=29
YKA PcP **PcP** **09 18 32.2 -0.7**
comp=Z,0.4nm,0.7s,baz=146,slow=4.0,SNR=4.5
comp=Z,1.8nm,0.8s
YKAW3 Yellowknife Wh 52.45 346 P **P** **09 17 22.5 -0.4**
YKAW3 IAmb IAmb 09 17 54.7
comp=Z,4.3nm,1.4s
ILON Igloolik, Nuna 56.44 3 P **P** **09 17 50.9 -0.9**
F30M Barrier River 62.13 342 P **P** **09 18 31.7 +0.5**
F30M IAmb IAmb 09 18 57.5
comp=Z,5.5nm,1.2s
A36M Sachs Harbour 62.54 348 P **P** **09 18 33.0 -0.8**
A36M IAmb IAmb 09 18 33.2
comp=Z,3.3nm,0.7s
ILAR Eielson Array 64.50 336 P **P** **09 18 45.6 -1.3**
comp=Z,0.2nm,0.4s,baz=172,slow=4.7,SNR=7.9
comp=Z,0.2nm,0.4s
BMAR Burnt Mountain 64.86 340 P **P** **09 18 49.8 +0.5**
BWN Browne 65.29 335 P **P** **09 18 52.6 +0.6**
EUNU Eureka 66.97 1 P **P** **09 19 02.1 -0.6**
EUNU IAmb IAmb 09 19 02.7
comp=Z,2.9nm,0.7s
C23K Itkillik River 67.91 341 P **P** **09 19 10.5 +1.8**
C23K IAmb IAmb 09 19 48.6
comp=Z,4.9nm,1.2s
F21K Alatna River 67.93 338 P **P** **09 19 09.3 +0.4**
F21K IAmb IAmb 09 19 09.9
comp=Z,2.7nm,0.7s
KURBB Kurchatov Arra 115.71 8 PKP **PKiKP** **09 26 52.0 -0.5**
comp=Z,0.2nm,0.5s,baz=353,slow=1.5,SNR=7.3
MKAR Makanchi Array 119.94 6 PKP **PKPdf** **09 26 59.5 -1.2**
comp=Z,0.3nm,0.5s,baz=30,slow=3.1,SNR=3.8
WRA Warramunga Arr 137.28 255 PKP **PKiKP** **09 27 36.5 +0.3**
comp=Z,1.4nm,0.6s,baz=88,slow=2.5,SNR=17
ASAR Alice Springs 137.41 249 PKP **PKiKP** **09 27 38.2 +1.8**
comp=Z,0.5nm,0.6s,baz=84,slow=2.0,SNR=7.3
CMAR Chiang Mai Arr 147.47 345 PKPbc **PKPbc** **09 27 55.9 +0.9**
comp=Z,4.1nm,0.6s,baz=339,slow=3.6,SNR=17

*SOME **05** 09:17:33.7, 40°.93N×79°.83E, h10km*
*NNC **05** 09:17:35.2±1.0, 40°.96N×79°.80E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=6.7km s-min=6.1km az=149.0
*KRNET **05** 09:17:35.5±0.1, 40°.87N×79°.84E, mb2.9*
ISC 05 09:17:34.8±3.5, 40°.9N±0°.1×79°.81E±0°.10, h17km±17km, n21, σ1°59/33, 10C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.71**	**299**	⇑*iP*	**Pg**	**09 18 08.2**	**+0.4**
TARG				⇑*iS*	**Sg**	**09 18 32.3**	**+2.2**
PRZ	**Przheval'sk**	**1.89**	**327**	⇑*eP*	**Pg**	**09 18 11.7**	**+0.6**
PRZ				⇑*eS*	**Sg**	**09 18 38.1**	**+2.5**
SHLS	**Shalkode**	**2.25**	**354**	Pg	**Pb**	**09 18 15.2**	**+0.1**
	16nm,0.2s						
SHLS				Lg	Lg	09 18 44.9	
	17nm,0.3s						
SHLS	**Shalkode**	**2.25**	**354**	*eP*	**Pb**	**09 18 15.2**	**+0.1**
	16nm,0.2s						
SHLS				*eS*	**Sg**	**09 18 44.9**	**-2.4**
	17nm,0.3s						
UZB	**Uzynbulak**	**2.30**	**346**	Pg	**Pb**	**09 18 16.7**	**+0.7**
	4.6nm,0.2s						
UZB				Lg	Lg	09 18 47.6	
	13nm,0.3s						
UZB	**Uzynbulak**	**2.30**	**346**	*eP*	**Pb**	**09 18 16.7**	**+0.7**
	4.6nm,0.2s						
UZB				*eS*	**Sg**	**09 18 47.6**	**-1.3**
	13nm,0.3s						
KDJ	**Kajisay**	**2.31**	**302**	⇓*eP*	**Pb**	**09 18 17.3**	**+1.1**
KDJ				⇓*eS*	**Sg**	**09 18 47.8**	**-1.5**
SATY	**Saty**	**2.38**	**334**	Pg	**Pb**	**09 18 18.4**	**+1.1**
	5.3nm,0.2s						
SATY				Lg	Lg	09 18 50.4	
	8.7nm,0.2s						
ANVS	**Anan'yevo**	**2.46**	**320**	⇑*eP*	**Pb**	**09 18 19.9**	**+1.3**
ANVS				⇑*eS*	**Sg**	**09 18 51.6**	**-2.2**
ZHN	**Zhinishke**	**2.47**	**336**	Pg	**Pb**	**09 18 19.4**	**+0.6**
	3.4nm,0.1s						
ZHN				Lg	Lg	09 18 52.2	
	30nm,0.3s						
ZHN	**Zhinishke**	**2.47**	**336**	*eP*	**Pb**	**09 18 19.4**	**+0.6**
	3.4nm,0.1s						
ZHN				*eS*	**Sg**	**09 18 52.2**	**-2.0**
	30nm,0.3s						
NRN	**Naryn**	**2.92**	**281**	⇓*eP*	**Pb**	**09 18 25.8**	**-0.7**
NRN				⇓*eS*	**Sb**	**09 19 02.7**	**+0.7**
ULHL	**Ulahol**	**2.98**	**298**	⇑*iP*	**Pb**	**09 18 26.5**	**-1.1**
ULHL				⇑*iS*	**Sb**	**09 19 03.8**	**-0.1**
TNSS	**Tian-Shan**	**3.00**	**316**	Pg	**Pb**	**09 18 29.6**	**+1.5**
	3.3nm,0.2s						
TNSS				Lg	Lg	09 19 09.7	
	3.0nm,0.3s						
TNSS	**Tian-Shan**	**3.00**	**316**	*eP*	**Pb**	**09 18 29.6**	**+1.5**
	3.3nm,0.2s						
TNSS				*eS*	**Sg**	**09 19 09.7**	**-1.7**
	3.0nm,0.3s						
MDOK	**Medeo**	**3.04**	**318**	Pg	**Pb**	**09 18 30.2**	**+1.6**
	1.5nm,0.2s						
MDOK				Lg	Lg	09 19 11.0	
	4.8nm,0.4s						
BOOM	**Boomskoye usch**	**3.29**	**300**	⇑*iP*	**Pb**	**09 18 30.9**	**-1.9**
BOOM				⇑*iS*	**Sb**	**09 19 11.4**	**-1.3**
BLB	**Baldybastay**	**3.33**	**343**	Pg	**Pb**	**09 18 34.0**	**+0.6**
BLB				Lg	Lg	09 19 17.8	
KST	**Kastek**	**3.57**	**308**	Pg	**Pb**	**09 18 39.5**	**+2.0**
	1.3nm,0.3s						
KST				Lg	Lg	09 19 26.5	
	6.0nm,0.6s						
KST	**Kastek**	**3.57**	**308**	*eP*	**Pb**	**09 18 39.5**	**+2.0**
	1.3nm,0.3s						
KST				*eS*	**Sg**	**09 19 26.5**	**-2.8**
	6.0nm,0.6s						
KTBS	**Karatobe**	**3.63**	**321**	Pg	**Pb**	**09 18 40.3**	**+1.8**
	0.4nm,0.2s						
KTBS				Lg	Lg	09 19 28.7	
	3.0nm,0.6s						

*NOU **05** 09:24:38.3, 21°.81S×169°.87E, h0km, mb2.0/11, Southeast of Loyalty Islands*
*NEIC **05** 09:24:41.9±2.4, 21°.9S±0°.1×169°.65E±0°.09, h10km±1km, mb4.6/14, Error ellipse: s-maj=22.5km s-min=10.5km az=153.0*
*IDC **05** 09:24:46.2±2.3, 21°.89S×169°.63E, h44km±20km, mb3.9/10, mbtmp4.2/13, ML4.2/3, MS3.5/4, Error ellipse: s-maj=19.8km s-min=16.3km az=4.0*
ISC 05 09:24:43.7±0.5, 21°.82S±0°.07×169°.67E±0°.06, h25km, n61, σ0°98/59, mb4.4/17, MS3.7/4, 4C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.56**	**282**	P	**Pn**	**09 25 08.7**	**-1.1**
MARNC	**Mare, Loyalty**	**1.56**	**282**	S	**Sb**	**09 25 32.3**	**+1.1**
PINNC	**Pines Island,**	**2.20**	**248**	Pn	**Pn**	**09 25 18.2**	**-0.6**
PINNC	**Pines Island,**	**2.20**	**248**	P	**Pn**	**09 25 18.7**	**0.0**
PINNC	**Pines Island,**	**2.20**	**248**	P	**Pn**	**09 25 18.4**	**-0.3**
INH	**Isangel**	**2.29**	**351**	P	Pn	09 25 16.3	-3.6
YATNC	**Mamie plateau,**	**2.59**	**264**	P	**Pn**	**09 25 23.4**	**-0.6**
YATNC	**Mamie plateau,**	**2.59**	**264**	P	**Pn**	**09 25 23.6**	**-0.4**
OUENC	**Ouen Island, N**	**2.69**	**257**	P	**Pn**	**09 25 25.1**	**-0.3**
DZM	**Mont Dzumac**	**3.00**	**265**	Pn	**Pn**	**09 25 29.2**	**-0.6**
DZM	**Mont Dzumac**	**3.00**	**265**	P	**Pn**	**09 25 29.9**	**+0.1**
	9.3nm,0.3s,baz=111,slow=18,SNR=54						
DZM				LR	LR	09 25 58.8	
	comp=Z,268nm,18.1s,baz=94,slow=24						
DZM				S	**Sn**	**09 26 05.6**	**+0.6**
	54nm,0.4s,baz=142,slow=18,SNR=3.9						
	34nm,0.5s						
DZM	**Mont Dzumac**	**3.00**	**265**	P	**Pn**	**09 25 29.5**	**-0.3**
DZM	**Mont Dzumac**	**3.00**	**265**	P	**Pn**	**09 25 29.8**	**0.0**
ONTNC	**Ouen Toro**	**3.02**	**260**	Pn	**Pn**	**09 25 29.3**	**-0.7**
ONTNC	**Ouen Toro**	**3.02**	**260**	P	**Pn**	**09 25 29.9**	**-0.1**
ONTNC	**Ouen Toro**	**3.02**	**260**	P	**Pn**	**09 25 30.2**	**+0.2**
DVP	**Devils Point**	**4.30**	**341**	P	**Pn**	**09 25 46.2**	**-1.4**
KOUNC	**Koumac, New Ca**	**5.17**	**283**	P	**Pn**	**09 26 00.6**	**+1.0**
MSVF	**Nonsavu**	**8.88**	**64**	Pn	**Pn**	**09 26 50.3**	**-0.3**
MSVF	**Nonsavu**	**8.88**	**64**	P	**Pn**	**09 26 52.9**	**+2.4**
	0.2nm,0.3s,baz=228,slow=12,SNR=4.9						
	5.3nm,0.8s						
EIDS	**Eidsvold**	**17.39**	**255**		**Pn**	**09 28 44.3**	**-0.6**
EIDS				IAmb	IAmb	09 29 22.4	
	comp=Z,34nm,1.4s						
URZ	**Urewera**	**17.60**	**160**	P	**P**	**09 28 49.1**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=18,slow=9.6,SNR=1.7						
	comp=Z,5.9nm,0.7s						
STKA	**Stephens Creek**	**26.91**	**242**	P	**P**	**09 30 22.8**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=106,slow=13,SNR=3.4						
STKA				LR	LR	09 41 02.3	
	comp=Z,199nm,18.0s,baz=25,slow=36						
	comp=Z,2.9nm,0.8s						
WR8	**Warramunga Arr**	**32.87**	**267**	P	**P**	**09 31 14.4**	**-1.5**
WR8				IAmb	IAmb	09 31 24.4	
	comp=Z,13nm,1.3s						
AS31	**Alice Springs**	**32.98**	**260**	P	**P**	**09 31 14.4**	**-2.5**
ASAR	**Alice Springs**	**32.98**	**260**	P	**P**	**09 31 15.4**	**-1.5**
ASAR	**Alice Springs**	**32.98**	**260**	P	**P**	**09 31 16.9**	**0.0**
	comp=Z,2.2nm,1.1s,baz=80,slow=9.1,SNR=12						
ASAR				LR	LR	09 44 05.7	
	comp=Z,65nm,19.7s,baz=92,slow=35						
	comp=Z,2.2nm,1.1s						
WB0	**Warramunga Arr**	**33.00**	**267**	P	**P**	**09 31 14.8**	**-2.2**
WRA	**Warramunga Arr**	**33.02**	**267**	P	**P**	**09 31 16.5**	**-0.7**
WRA	**Warramunga Arr**	**33.02**	**267**	P	**P**	**09 31 17.0**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=97,slow=8.2,SNR=7.1						
	comp=Z,1.0nm,0.9s						
MTN	**Manton Dam**	**37.76**	**277**	P	**P**	**09 31 57.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**41.45**	**267**	P	**P**	**09 32 29.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**41.45**	**267**	LR	LR	09 50 16.9	
	comp=Z,108nm,18.3s,baz=106,slow=37						
TOLI2	**Tolitoli**	**52.85**	**289**	P	**P**	**09 33 57.5**	**-0.2**
TOLI2				IAmb	IAmb	09 33 59.1	
	comp=Z,12nm,1.0s						
VNDA	**Vanda**	**55.88**	**182**	P	**P**	**09 34 19.1**	**+0.2**
VNDA	**Vanda**	**55.88**	**182**	P	**P**	**09 34 18.7**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=325,slow=1.5,SNR=10						
	comp=Z,0.9nm,0.3s						
SBA	**Scott Base**	**56.10**	**181**	P	**P**	**09 34 21.9**	**+1.4**
SBA				IAmb	IAmb	09 34 22.1	
	comp=Z,6.1nm,1.0s						
QSPA	**South Pole Qui**	**68.25**	**180**	P	**P**	**09 35 41.9**	**-0.4**
QSPA				IAmb	IAmb	09 35 43.8	
	comp=Z,6.2nm,1.0s						
QSPA	**South Pole Qui**	**68.25**	**180**	P	**P**	**09 35 41.5**	**-0.7**
	comp=Z,5.2nm,1.0s,baz=0.0,slow=3.0,SNR=14						
	comp=Z,5.2nm,1.0s						
PETK	**Petropavlovsk-**	**75.33**	**353**	P	**P**	**09 36 25.7**	**+1.1**
	comp=Z,2.6nm,0.9s,baz=177,slow=7.3,SNR=1.7						
	comp=Z,2.6nm,0.9s						
BELA	**Belgrano 2**	**79.51**	**175**	P	**P**	**09 36 47.0**	**-0.8**
BELA				IAmb	IAmb	09 36 47.1	
	comp=Z,2.6nm,0.7s						
FALS	**False Pass**	**79.77**	**15**	P	**P**	**09 36 48.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**79.92**	**294**	P	**P**	**09 36 51.7**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=109,slow=5.8,SNR=4.5						
	comp=Z,1.1nm,0.3s						
TROLL	**Troll, Antarti**	**86.01**	**184**	⇑P	**P**	**09 37 20.8**	**-1.0**
	comp=Z,428nm,0.7s						
SNAA	**Sanae**	**86.62**	**182**	P	**P**	**09 37 24.0**	**-0.8**
SNAA				IAmb	IAmb	09 37 24.5	
	comp=Z,5.1nm,0.9s						
SNAA	**Sanae**	**86.62**	**182**	⇑P	**P**	**09 37 24.0**	**-0.8**
	comp=Z,90nm,0.8s						
SNAA	**Sanae**	**86.62**	**182**	P	**P**	**09 37 23.8**	**-1.0**
	comp=Z,5.8nm,1.0s,baz=199,slow=3.4,SNR=8.1						
	comp=Z,5.8nm,1.0s						
VNA3	**Neumayer Olymp**	**87.19**	**180**	⇑P	**P**	**09 37 26.3**	**-1.2**
	comp=Z,19nm,0.7s						
VNA2	**Neumayer--Watz**	**87.49**	**181**	⇑P	**P**	**09 37 27.8**	**-1.1**
	comp=Z,12nm,0.6s,baz=168,slow=7.1						
YAK	**Yakutsk**	**89.44**	**342**	LR	LR	10 15 39.3	
	comp=Z,468nm,18.7s,baz=199,slow=34						
SONM	**Songino Array**	**89.51**	**323**	P	**P**	**09 37 38.8**	**0.0**
	comp=Z,1.0nm,0.9s,baz=163,slow=5.8,SNR=4.9						
	comp=Z,1.0nm,0.9s						
K20K	**Telida**	**89.54**	**15**	P	**P**	**09 37 39.1**	**+0.6**

K20K IAmb IAmb 09 37 55.8
comp=Z,9.1nm,1.2s
NVAR Mina Array Bea 90.20 48 P **P** **09 37 42.0 -0.5**
comp=Z,0.4nm,0.6s,baz=217,slow=8.1,SNR=4.7
comp=Z,0.4nm,0.6s
KARP Karpathos 144.59 301 PKPdf **PKPab** **09 44 18.5 +1.4**
EKA Eskdalemuir Ar 146.10 353 PKPbc **PKPdf** **09 44 19.7 -0.7**
comp=Z,7.4nm,0.9s,baz=328,slow=3.0,SNR=8.0
GERES GERESS Array B 146.93 330 PKPbc **PKPdf** **09 44 24.4 +2.3**
GERES GERESS Array B 146.93 330 PKPbc **PKPdf** **09 44 23.4 +1.2**
comp=Z,6.5nm,0.9s,baz=47,slow=2.4,SNR=19
FUORN Ofenpass-Fuorn 150.14 331 PKPbc **PKPbc** **09 44 32.9 +0.1**
SGRT San Giovanni R 150.41 318 PKPbc **PKPbc** **09 44 32.5 -0.8**
TUE Stuetta 150.66 332 PKPbc **PKPbc** **09 44 34.1 +0.2**
NRCA Norcia 151.33 322 PKPbc **PKPbc** **09 44 34.9 -0.5**

---

*ASRS **05** 09:26:20.0±1.0, 54°.19N×87°.04E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 09:26:20.5±3.3, 54°.30N×87°.39E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=29.2km s-min=20.2km az=37.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**258**	I	I	09 35 50.0	
	baz=76,slow=320,SNR=7.7						
ZALV	**Zalesovo Beam**	**1.56**	**258**	Pg	Pn	09 26 47.3	-2.1
	1.2nm,0.3s,baz=77,slow=14,SNR=18						
ZALV				Lg	Lg	09 27 10.3	
	1.0nm,0.3s,baz=80,slow=27,SNR=6.5						
KURBB	**Kurchatov Arra**	**6.55**	**239**	Pn	Pn	09 27 58.6	+0.6
	0.1nm,0.3s,baz=55,slow=14,SNR=6.1						
KURBB				Lg	Lg	09 29 48.9	
	baz=56,slow=35,SNR=1.3						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**8.19**	**205**	Pn	Pn	09 28 22.0	+1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=5.1						
MKAR				Lg	Lg	09 30 40.6	
	baz=26,slow=26,SNR=2.5						
	0.3nm,0.4s						

KRSC 05 09:32:04.1±2.0, 53°.30N×157°.34E, h297km±18km, MI4.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**0.39**	**196**	*eP*	Pn	09 32 43.0	+0.8
GNL	**Ganaly**	**0.54**	**42**	*eP*	Pn	09 32 43.3	+0.8
KRMR	**Karymshinskiy**	**0.67**	**134**	*eP*	Pn	09 32 43.9	+1.1
KOK	**Koryaka**	**0.78**	**90**	*eP*	Pn	09 32 44.8	+1.5
KRX	**Arik**	**0.79**	**85**	*eP*	Pn	09 32 44.7	+1.3
PET	**Petropavlovsk**	**0.84**	**108**	*eP*	Pn	09 32 44.8	+1.4
AVH	**Avacha**	**0.84**	**91**	*eP*	Pn	09 32 45.1	+1.6
GRL	**Gorelyy**	**0.87**	**149**	*eP*	Pn	09 32 45.6	+1.9
DALK	**Dalny**	**0.89**	**107**	*eP*	Pn	09 32 44.6	+1.0
UGLR	**Uglovaya**	**0.90**	**95**	*eP*	Pn	09 32 45.4	+1.6
RUS	**Russkaya**	**1.12**	**140**	*eP*	Pn	09 32 46.1	+1.4
RUS				*eS*	S	09 33 17.6	+0.6
NLC	**Nalytchevo**	**1.22**	**95**	*eP*	Pn	09 32 46.2	+1.0
KDTR	**Khodutka, Kamc**	**1.56**	**163**	*eS*	S	09 33 21.7	0.0
KMNR	**Kamenistaya**	**2.99**	**33**	*eP*	Pn	09 33 01.0	+1.5
KBTR	**Krutoberegovo**	**4.31**	**45**	*eP*	Pn	09 33 15.3	+1.8
BKI	**Bering**	**5.41**	**66**	*eS*	S	09 34 29.0	-3.2

---

*ASRS **05** 09:38:50.0±1.5, 53°.75N×91°.05E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 09:38:55.3±3.7, 53°.53N×91°.01E, h0km, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=33.7km s-min=25.2km az=32.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.70**	**279**	I	I	10 03 50.0	
	0.1nm,0.8s,baz=90,slow=327,SNR=14						
ZALV	**Zalesovo Beam**	**3.70**	**279**	Pn	Pn	09 39 54.4	+0.7
	0.6nm,0.3s,baz=99,slow=15,SNR=6.8						
ZALV				Lg	Lg	09 40 50.6	
	1.2nm,0.3s,baz=93,slow=27,SNR=7.2						
	1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**8.22**	**254**	Pn	Pn	09 40 56.0	+0.3
	baz=67,slow=15,SNR=2.8						
KURBB				Sn	Sn	09 42 28.1	-1.2
	baz=66,slow=26,SNR=5.3						
KURBB				Lg	Lg	09 43 16.0	
	baz=61,slow=33,SNR=7.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.76**	**223**	Pn	Pn	09 41 03.5	+0.4
	0.1nm,0.3s,baz=41,slow=17,SNR=5.6						
MKAR				Lg	Lg	09 43 32.2	
	0.1nm,0.3s,baz=44,slow=32,SNR=5.5						
	0.2nm,0.5s						

---

*ASRS **05** 09:45:03.0±1.1, 53°.56N×87°.80E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*IDC **05** 09:45:05.0±2.8, 53°.51N×87°.59E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=24.8km s-min=13.6km az=64.0*

*NNC **05** 09:45:06.3±2.1, 53°.45N×87°.47E, h0km±15km, mb2.9, mpv2.6, Error ellipse: s-maj=20.1km s-min=7.8km az=69.0, Suspected Mining explosion.*

ISC 05 09:45:05.4±3.5, 53°.6N±0°.1×87°.5E±0°.2, h0km, n9, σ1§30/12, 7C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**285**	I	I	09 56 40.0	
	0.1nm,1.0s,baz=98,slow=328,SNR=14						
ZAA0	**Zalesovo Array**	**1.65**	**285**	⇑Pn	**Pb**	**09 45 36.3**	**-0.3**
	0.2nm,0.3s						
ZAA0				⇑Sn	**Sg**	**09 45 59.6**	**+1.2**
	5.7nm,0.8s						
ZALV	**Zalesovo Beam**	**1.65**	**285**	Pg	**Pn**	**09 45 35.2**	**-0.4**
	1.1nm,0.3s,baz=99,slow=14,SNR=12						
ZALV				Lg	Lg	09 45 59.5	
	1.8nm,0.3s,baz=107,slow=29,SNR=16						
KURK	**Kurchatov**	**6.16**	**246**	⇓Pn	**Pn**	**09 46 39.0**	**+1.4**
	0.8nm,0.6s						
KURK				⇓Lg	Lg	09 48 21.7	
	4.1nm,0.8s						
KURBB	**Kurchatov Arra**	**6.26**	**246**	Pn	**Pn**	**09 46 39.5**	**+0.6**
	0.1nm,0.3s,baz=57,slow=14,SNR=4.1						
KURBB				Lg	Lg	09 48 23.3	
	0.1nm,0.3s,baz=63,slow=30,SNR=5.7						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**6.26**	**246**	⇓Pn	**Pn**	**09 46 38.3**	**-0.6**
	0.4nm,0.3s						
KURBB				⇑Lg	Lg	09 48 23.0	
	5.7nm,0.8s						
MK31	**Makanchi Array**	**7.54**	**208**	⇑Pn	**Pn**	**09 46 58.4**	**+1.8**
	0.2nm,0.4s,baz=30,slow=14,SNR=11						
MK31				⇓Sn	**Sn**	**09 48 22.2**	**-0.5**
	0.5nm,0.6s,baz=34,slow=28,SNR=4.6						
MK31				⇑Lg	Lg	09 49 02.5	
	2.4nm,0.9s,baz=35,slow=30,SNR=6.5						
MKAR	**Makanchi Array**	**7.54**	**208**	Pn	**Pn**	**09 46 57.8**	**+1.2**
	0.3nm,0.3s,baz=30,slow=14,SNR=11						
MKAR				Sn	**Sn**	**09 48 20.5**	**-2.3**
	0.1nm,0.3s,baz=30,slow=27,SNR=8.7						
MKAR				Lg	Lg	09 49 04.8	
	0.1nm,0.3s,baz=24,slow=32,SNR=9.3						
	0.3nm,0.3s						
MAKZ	**Makanchi**	**7.62**	**210**	⇑Pn	**Pn**	**09 46 57.3**	**-0.4**
	0.3nm,0.5s						
MAKZ				⇑Sn	**Sn**	**09 48 24.0**	**-0.6**
	0.4nm,0.6s						
MAKZ				⇓Lg	Lg	09 49 02.8	
	2.5nm,1.2s						

---

*IDC **05** 09:45:04.2±0.9, 13°.54S×76°.83W, h0km, mb3.8/7, mbtmp3.8/9, ML3.6/2, MS3.6/7, Error ellipse: s-maj=48.4km s-min=16.7km az=76.0*

*NEIC **05** 09:45:06.1±1.9, 13°.58S±0°.06×77°.0W±0°.1, h10km±1km, mb4.4/28, Error ellipse: s-maj=16.9km s-min=9.2km az=255.0*

*VAO **05** 09:45:08.6±1.0, 13°.70S×76°.74W, h10km, mb4.4*

ISC 05 09:45:08.1±0.6, 13°.57S±0°.06×77°.01W±0°.07, h28km, n87, σ1§26/77, mb4.3/16, MS3.5/4, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.58**	**6**	Pn	**Pn**	**09 45 33.1**	**-1.3**
NNA				Sn	**Sn**	**09 45 54.5**	**+0.6**
NNA	**Nana**	**1.58**	**6**	Pn	**Pn**	**09 45 33.1**	**-1.3**
	94nm,0.3s,baz=190,slow=13,SNR=76						
NNA				Sn	**Sn**	**09 45 54.1**	**+0.1**
	878nm,0.3s,baz=236,slow=7.6,SNR=23						
ATAH	**Atahualpa**	**6.54**	**348**	Pn	**Pn**	**09 46 43.8**	**+0.9**
	2.0nm,0.3s,baz=10,slow=1.5,SNR=9.4						
ATAH				Sn	**Sn**	**09 47 54.5**	**-2.4**
	3.0nm,0.3s,baz=240,slow=21,SNR=1.2						
ATAH				Lg	Lg	09 48 14.3	
	3.4nm,0.3s,baz=72,slow=23,SNR=5.9						
	10.0nm,0.7s						
CZSB	**Cruzeiro do Su**	**7.18**	**37**	Pn	**Pn**	**09 46 52.4**	**+1.0**
CZSB				Sn	**Sn**	**09 48 12.5**	**+0.4**
CZSB	**Cruzeiro do Su**	**7.18**	**37**	*eP*	**Pn**	**09 46 53.7**	**+2.3**
PB12	**IPOC Station P**	**8.15**	**129**	Pn	**Pn**	**09 47 02.1**	**-2.6**
PB18	**Visviri**	**8.28**	**120**		**Pn**	**09 47 06.7**	**-0.3**
PB16	**IPOC Station P**	**8.63**	**124**	Pn	**Pn**	**09 47 10.6**	**-1.2**
LPAZ	**La Paz**	**9.00**	**109**	Pn	**Pn**	**09 47 14.2**	**-2.7**
LPAZ	**La Paz**	**9.00**	**109**	Pn	**Pn**	**09 47 17.9**	**+1.0**
	0.4nm,0.3s,baz=297,slow=7.6,SNR=9.4						
LPAZ				Sn	Sn	09 49 07.0	+9.3
	baz=335,slow=11						
LPAZ				LR	LR	09 51 23.1	
	comp=Z,234nm,18.1s,baz=292,slow=43						
LPAZ	**La Paz**	**9.00**	**109**	*eP*	**Pn**	**09 47 14.9**	**-1.9**
PB11	**IPOC Station P**	**9.36**	**132**	Pn	**Pn**	**09 47 18.7**	**-2.7**
TA02	**Huaiquique**	**9.36**	**136**	Pn	**Pn**	**09 47 19.4**	**-1.9**
GO01	**Chusmiza**	**9.64**	**130**	Pn	**Pn**	**09 47 24.1**	**-1.3**
PB08	**IPOC Station P**	**9.96**	**132**	Pn	**Pn**	**09 47 29.6**	**-0.2**
PB01	**IPOC Station P**	**10.33**	**137**	Pn	**Pn**	**09 47 34.1**	**-0.6**
COHC	**Cochancay**	**11.26**	**348**	Pn	**Pn**	**09 47 47.3**	**+0.1**
TBTG	**Tabatinga, AM**	**11.67**	**38**	Pn	**Pn**	**09 47 51.5**	**-1.4**
TBTG	**Tabatinga, AM**	**11.67**	**38**	*eP*	**Pn**	**09 47 55.5**	**+2.7**
PB14	**IPOC Station P**	**12.64**	**151**	Pn	**Pn**	**09 48 03.7**	**-2.8**
OTAV	**Otavalo**	**13.79**	**354**	*eP*	**P**	**09 48 27.8**	**-2.8**
AC06	**Mina Casimiro**	**15.06**	**157**	Pn	**Pn**	**09 48 37.9**	**-1.2**
AC06				IAmb	IAmb	09 48 49.2	
	comp=Z,16nm,1.2s						
FLOC	**Florencia**	**15.12**	**5**	Pn	**Pn**	**09 48 39.9**	**-0.1**
FLOC				IAmb	IAmb	09 49 08.1	
	comp=Z,23nm,1.2s						
AC02	**Maricunga**	**15.12**	**152**	Pn	**Pn**	**09 48 38.9**	**-1.5**
AC02				IAmb	IAmb	09 48 48.9	
	comp=Z,9.2nm,0.9s						
GO03	**Copiapo**	**15.32**	**157**	Pn	**Pn**	**09 48 41.3**	**-1.2**
SIV	**San Ignacio**	**15.60**	**101**	Pn	**Pn**	**09 48 44.6**	**-1.7**
	baz=269,slow=14,SNR=7.4						
SIV				Lg	Lg	09 53 13.9	
	baz=163,slow=22,SNR=1.5						
SIV				LR	LR	09 55 31.8	
	comp=Z,263nm,20.0s,baz=287,slow=41						
	comp=Z,0.5nm,0.7s						
PTLB	**Pontes e Lacer**	**17.41**	**98**	Pn	**Pn**	**09 49 07.5**	**-1.6**
PTLB	**Pontes e Lacer**	**17.41**	**98**	*eP*	**P**	**09 49 09.2**	**-1.0**
ROSC	**El Rosal**	**18.49**	**8**	LR	LR	09 57 23.4	
	comp=Z,272nm,19.1s,baz=226,slow=40						
H03N1	**Juan Fernandez**	**19.86**	**185**	T	T	10 10 05.7	
	baz=5.7,slow=75,SNR=118						
H03N2	**Juan Fernandez**	**19.86**	**185**	T	T	10 10 07.7	
	baz=5.7,slow=75,SNR=99						
H03N3	**Juan Fernandez**	**19.87**	**185**	T	T	10 10 08.3	
	baz=5.7,slow=75,SNR=173						
PDRB	**Porto dos Gac**	**19.89**	**87**	*eP*	**Pn**	**09 49 38.9**	**-0.4**
BDQN	**Bodoquena, MS**	**20.54**	**112**	*eP*	**P**	**09 49 44.4**	**-0.1**
NPGB	**Novo Progresso**	**22.26**	**75**	*eP*	**P**	**09 50 04.5**	**+1.3**
CPUP	**Villa Florida**	**22.40**	**128**	P	**P**	**09 50 04.2**	**-0.3**
CPUP				IAmb	IAmb	09 50 36.9	
	comp=Z,17nm,1.5s						
CPUP	**Villa Florida**	**22.40**	**128**	LR	LR	10 00 47.1	
	comp=Z,188nm,19.6s,baz=302,slow=42						
BOAV	**Boa Vista**	**22.79**	**47**	P	**P**	**09 50 07.9**	**-0.8**
BOAV				IAmb	IAmb	09 50 26.4	
	comp=Z,8.5nm,1.0s						
BOAV	**Boa Vista**	**22.79**	**47**	*eP*	**P**	**09 50 08.5**	**-0.2**
ITTB	**Itaituba**	**22.90**	**68**	*eP*	**P**	**09 50 10.2**	**+0.2**
SDV	**Santo Domingo**	**23.19**	**16**	P	**P**	**09 50 12.4**	**-0.6**
SDV				IAmb	IAmb	09 50 29.6	
	comp=Z,8.7nm,0.8s						
RPRD	**Ribas do Rio P**	**23.31**	**110**	*eP*	**P**	**09 50 15.3**	**+1.2**
BAUV	**El Baul**	**24.08**	**22**	P	**P**	**09 50 21.1**	**-0.3**
ITQB	**Itaqui**	**24.75**	**134**	P	**P**	**09 50 27.6**	**+0.2**
JTS	**Las Juntas de**	**24.98**	**341**	LR	LR	09 59 57.7	
	comp=Z,82nm,18.2s,baz=151,slow=36						
SNDB	**Serra Nova Dou**	**25.13**	**89**	*eP*	**P**	**09 50 30.3**	**-0.7**
ITRB	**Iturama**	**26.23**	**107**	*eP*	**P**	**09 50 40.8**	**-0.2**
LDASE	**Londrina, Braz**	**26.39**	**115**	*eP*	**P**	**09 50 44.0**	**+1.5**
PCRV	**Puerto La Cruz**	**26.60**	**28**	LR	LR	10 02 05.6	
	comp=Z,272nm,20.5s,slow=38						
PLCA	**Paso Flores**	**27.64**	**169**	P	**P**	**09 50 53.2**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=336,slow=6.8,SNR=3.5						
	comp=Z,1.1nm,0.8s						
IPMB	**Ipameri, GO**	**28.04**	**103**	*eP*	**P**	**09 50 56.7**	**-0.6**
BDFB	**Brasilia**	**28.13**	**98**	LR	LR	10 02 06.4	
	comp=Z,101nm,18.0s,baz=283,slow=37						
RIB01	**Linhares ES**	**35.53**	**104**	*eP*	**P**	**09 52 03.1**	**0.0**
NBAN	**Anadia - AL**	**40.06**	**89**	*eP*	**P**	**09 52 41.4**	**+0.1**
TXAR	**Lajitas Array**	**49.82**	**329**	P	**P**	**09 54 00.2**	**+1.3**
TXAR	**Lajitas Array**	**49.82**	**329**	P	**P**	**09 53 59.8**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=150,slow=8.8,SNR=7.8						
	comp=Z,0.5nm,0.6s						
TX31	**Lajitas Ar. Si**	**49.82**	**329**	P	**P**	**09 54 00.3**	**+1.4**
ANMO	**Albuquerque**	**55.76**	**331**	P	**P**	**09 54 43.3**	**+0.5**
ANMO	**Albuquerque**	**55.76**	**331**	P	**P**	**09 54 43.7**	**+0.9**
ANMO				IAmb	IAmb	09 54 53.7	
	comp=Z,2.0nm,0.9s						
ANMO	**Albuquerque**	**55.76**	**331**	P	**P**	**09 54 43.7**	**+0.9**
ANMO				IAmb	IAmb	09 54 53.7	
	comp=Z,2.1nm,0.9s						
SDCO	**Great Sand Dun**	**57.63**	**333**	P	**P**	**09 54 56.4**	**+0.3**
FRNY	**Flat Rock**	**58.21**	**3**	P	**P**	**09 55 00.6**	**+0.9**
FRNY				IAmb	IAmb	09 55 45.2	
	comp=Z,5.9nm,1.1s						
LDAQ	**Lac Daran**	**61.47**	**4**	P	**P**	**09 55 22.9**	**+0.7**
BSUT	**Blindstream Ca**	**62.27**	**331**	P	**P**	**09 55 29.2**	**+1.1**
BSUT				IAmb	IAmb	09 55 44.9	
	comp=Z,2.8nm,1.4s						
R11B	**Troy Canyon, C**	**63.02**	**327**	P	**P**	**09 55 31.6**	**-1.3**
PDAR	**Pinedale Array**	**63.52**	**334**	P	**P**	**09 55 37.1**	**+0.9**
PDAR	**Pinedale Array**	**63.52**	**334**	P	**P**	**09 55 36.8**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=130,slow=12,SNR=5.7						
	comp=Z,0.3nm,0.8s						
LHV	**Little Huntoon**	**64.55**	**325**	P	**P**	**09 55 42.2**	**-0.5**
LHV				IAmb	IAmb	09 55 53.8	
	comp=Z,2.6nm,0.9s						
NVAR	**Mina Array Bea**	**64.56**	**325**	P	**P**	**09 55 43.3**	**+0.2**
NVAR	**Mina Array Bea**	**64.56**	**325**	P	**P**	**09 55 44.8**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=143,slow=7.1,SNR=8.3						
	comp=Z,0.6nm,0.7s						
TPAW	**Teton Pass**	**64.71**	**333**	P	**P**	**09 55 44.1**	**+0.1**
ULM	**Lac du Bonnet**	**65.67**	**347**	P	**P**	**09 55 49.3**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=186,slow=12,SNR=3.6						
	comp=Z,1.8nm,0.7s						
SNAA	**Sanae**	**72.23**	**161**	P	**P**	**09 56 31.4**	**+0.9**
SNAA				IAmb	IAmb	09 56 40.4	
	comp=Z,4.7nm,1.2s						
SNAA	**Sanae**	**72.23**	**161**	P	**P**	**09 56 31.2**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=288,slow=5.9,SNR=5.4						
	comp=Z,2.1nm,0.8s						
QSPA	**South Pole Qui**	**76.57**	**180**	P	**P**	**09 56 56.7**	**+0.9**
QSPA				IAmb	IAmb	09 57 07.5	
	comp=Z,7.5nm,1.5s						
YKA	**Yellowknife Ar**	**81.30**	**343**	P	**P**	**09 57 21.6**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=142,slow=6.0,SNR=8.2						
	comp=Z,0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.37**	**75**	P	**P**	**09 57 29.0**	**+0.8**
L29M	**L29M**	**89.66**	**337**	P	**P**	**09 58 03.8**	**+0.6**
K29M	**Barlow Dome**	**89.82**	**337**	P	**P**	**09 58 05.6**	**+1.6**
K29M				IAmb	IAmb	09 58 40.9	
	comp=Z,4.3nm,1.4s						
I30M	**Mount Dempster**	**90.15**	**339**	P	**P**	**09 58 07.0**	**+1.5**
I30M				IAmb	IAmb	09 58 33.8	
	comp=Z,3.0nm,1.2s						
A36M	**Sachs Harbour**	**91.15**	**347**	P	**P**	**09 58 10.6**	**+0.8**
H11N3	**WAKE ISLAND Hyl**	**18.75**	**285**	T	T	12 13 47.4	
	baz=96,slow=74,SNR=56						
H11N2	**WAKE ISLAND Hyl**	**18.76**	**285**	T	T	12 13 49.6	
	baz=96,slow=74,SNR=41						
H11N1	**WAKE ISLAND Hyl**	**18.76**	**285**	T	T	12 13 48.1	
	baz=96,slow=74,SNR=39						
H11S2	**WAKE ISLAND Hyl**	**18.83**	**284**	T	T	12 13 57.1	
	baz=94,slow=74,SNR=49						
H11S1	**WAKE ISLAND Hyl**	**18.83**	**284**	T	T	12 13 55.5	
	baz=94,slow=74,SNR=43						
H11S3	**WAKE ISLAND Hyl**	**18.84**	**284**	T	T	12 13 54.5	
	baz=94,slow=74,SNR=35						

---

*JMA **05** 09:56:51.1±0.2, 30°.N±1°.×13°.9E±°, h414km±3km, MD5.9/39, MW5.9/39, NEAR TORISHIMA IS*

JMA Felt II J1 at NEAR TORISHIMA IS .

*BJI **05** 09:56:51.0, 30°.45N×138°.70E, h390km, mB6.0/52, mb6.4/87*

*NIED **05** 09:56:51.1, 30°.40N×139°.01E, h414km, MW5.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.23; $M_{\theta\theta}$1.16; $M_{\phi\phi}$2.07; $M_{r\theta}$0.64; $M_{\theta\phi}$-1.98; $M_{\phi r}$-4.11; Fault plane solution: $M_0$5.41000×10^{17} NP1: ϕ_s121.00000°, δ25.00000°, λ-130.00000°. NP2: ϕ_s343.00000°, δ71.00000°, λ-74.00000°.*

*NEIC **05** 09:56:52.7±2.0, 30°.41N±0°.06×138°.68E±0°.08, h383km±1km, mb5.9/843, Mwb5.9/66, Mww5.9/58 Error ellipse: s-maj=12.4km s-min=10.2km az=68.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.95; $M_{\theta\theta}$1.63; $M_{\phi\phi}$1.31; $M_{r\theta}$1.58; $M_{\theta\phi}$-2.10; $M_{\phi r}$-7.50; Fault plane solution: $M_0$8.35000×10^{17} NP1: ϕ_s109.64000°, δ16.57000°, λ-143.46000°. NP2: ϕ_s344.26000°, δ80.22000°, λ-76.56000°. Principal axes: T 8.0581, Plg34.0000°, Azm63.0000°; N 0.5566, Plg13.0000°, Azm162.0000°; P -8.6147, Plg53.0000°, Azm270.0000°;*

*MOS **05** 09:56:52.2±0.9, 30°.48N×138°.56E, h398km, mb6.1/70, MS4.8/7 Error ellipse: s-maj=6.1km s-min=3.3km az=112.6*

*IDC **05** 09:56:52.9±0.3, 30°.43N×138°.63E, h393km±3km, mb5.5/34, mbtmp6.2/41, Error ellipse: s-maj=8.8km s-min=5.5km az=72.0*

*IPGP **05** 09:56:53.0, 30°.45N×138°.63E, h392km, Mw5.9, Fault plane solution: NP1:ϕ_s105.00000°, δ23.00000°, λ-141.00000°. NP2:ϕ_s339.00000°, δ76.00000°, λ-72.00000°.*

*NEIC **05** 09:56:53, 30°.45N×138°.64E, h387km*

*GCMT **05** 09:56:53.7±0.1, 30°.45N±0°.01×138°.54E±0°.01, h392km, MW5.9/158, Moment Tensor Solution. s158, c336; s119, c139; Duration: 2§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.89±.04; $M_{\theta\theta}$2.25±.07; $M_{\phi\phi}$0.63±.07; $M_{r\theta}$1.70±.06; $M_{\theta\phi}$-2.54±.06; $M_{\phi r}$-6.76±.06; Best double couple: $M_0$7.85800×10^{17} NP1:ϕ_s98.00000°, δ22.00000°, λ-150.00000°. NP2:ϕ_s340.00000°, δ79.00000°, λ-71.00000°. Principal axes: T 7.5990, Plg32.0000°, Azm54.0000°; N 0.5150, Plg19.0000°, Azm156.0000°; P -8.1170, Plg52.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

*NEIC **05** 09:56:53.5, 30°.35N×139°.00E, h410km, Moment Tensor Solution. Duration: 4§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.73; $M_{\theta\theta}$2.49; $M_{\phi\phi}$0.24; $M_{r\theta}$2.12; $M_{\theta\phi}$-2.29; $M_{\phi r}$-7.15; Fault plane solution: $M_0$8.21000×10^{17} NP1:ϕ_s94.66000°, δ19.99000°, λ-152.01000°. NP2:ϕ_s338.12000°, δ80.77000°, λ-72.19000°. Principal axes: T 7.8627, Plg33.0000°, Azm53.0000°; N 0.6879, Plg18.0000°, Azm155.0000°; P -8.5507, Plg51.0000°, Azm268.0000°;*

*NEIC **05** 09:56:53.5, 30°.45N×138°.64E, h410km*

*BGR **05** 09:56:58.1, 31°.58N×139°.26E, h420km±14km, mb6.2, mB_BB6.5, Hypocentre not reviewed by the ISC*

ISC 05 09:56:53.0±0.2, 30°.42N±0°.02×138°.59E±0°.02, h396km±1km, h397km:pP-P, n2597, σ1§31/2815, mb5.9/714, 61C-223D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.27**	**26**	A	A	09 57 49.7	
	comp=N,255nm,2.9s,comp=E,335nm,2.3s						
JHCJ	**Hachijojimakas**	**2.84**	**21**	⇓P	**Pn**	**09 57 53.9**	**-0.6**
JHCJ	**Hachijojimakas**	**2.84**	**21**	A	A	09 57 53.9	
	comp=N,80nm,2.4s,comp=E,129nm,2.2s						
JHJ	**Hachijo jima 2**	**2.88**	**20**	P	**Pn**	**09 57 54.2**	**-0.6**
	comp=E,12μm,0.4s,baz=98,slow=5.9,SNR=137						
JHJ				S	**S**	**09 58 42.5**	**-2.4**
	comp=E,9μm,0.5s,baz=57,slow=20,SNR=13						
JHJ2	**Mitsune**	**2.88**	**21**		**Pn**	**09 57 54.1**	**-0.7**
JHJ2				Sn	**S**	**09 58 41.3**	**-3.6**
JHJ2	**Mitsune**	**2.88**	**21**	P	**Pn**	**09 57 54.1**	**-0.7**
JHJ2	**Mitsune**	**2.88**	**21**	⇓*iP*	**Pn**	**09 57 54.1**	**-0.7**
JHJ2	**Mitsune**	**2.88**	**21**	A	A	09 57 54.1	
	comp=N,112nm,3.8s,comp=E,142nm,5.1s						
TTO1	**TONANKAI O.B.S**	**3.54**	**335**	P	**Pn**	**09 58 02.6**	**+2.5**
TTO1	**TONANKAI O.B.S**	**3.54**	**335**	A	A	09 58 02.6	
	comp=N,136nm,3.0s,comp=E,206nm,1.8s						
TTO2	**TONANKAI O.B.S**	**3.56**	**339**	A	A	09 58 02.0	
	comp=N,226nm,1.6s,comp=E,150nm,3.7s						
JMKN	**Mikurajimanish**	**3.56**	**14**	P	**Pn**	**09 58 00.2**	**-0.5**
JMKN	**Mikurajimanish**	**3.56**	**14**	A	A	09 58 00.2	
	comp=N,61nm,4.2s,comp=E,80nm,1.7s						
**

JCJ S **S** **09 59 05.1 -8.4**
comp=E,8μm,0.4s,baz=210,slow=23,SNR=13
JCJ Chichijima 4.58 135 P **Pn** **09 58 06.9 -3.7**
SHZ3 Shizuoka 3 4.64 356 A A 09 58 11.3
comp=N,52nm,1.5s,comp=E,72nm,3.7s
TSUJ Tsu 2 4.65 337 A A 09 58 12.5
comp=N,35nm,3.4s,comp=E,45nm,2.0s
BSO1 Boso 1 4.68 25 *i* P **Pn** **09 58 08.9 -1.8**
TATJ Tateyama 2 4.73 13 A A 09 58 11.1
comp=N,33nm,3.9s,comp=E,325nm,1.3s
JFNN Fujinakano 4.76 1 A A 09 58 12.1
comp=N,72nm,1.9s,comp=E,78nm,2.8s
MRT2 Murotomisaki 2 4.80 309 A A 09 58 15.3
comp=N,27nm,4.8s,comp=E,29nm,3.8s
JOD2 Odawara 2 4.85 5 P **Pn** **09 58 12.4 -0.7**
JOD2 Odawara 2 4.85 5 A A 09 58 12.4
comp=N,39nm,5.8s,comp=E,48nm,3.6s
JAI Aioi 4.86 315 A A 09 58 15.7
comp=N,25nm,5.6s,comp=E,26nm,2.9s
JYO Yokosk 4.87 10 A A 09 58 12.7
comp=N,78nm,1.6s,comp=E,102nm,2.1s
JHE Heguri 4.88 331 A A 09 58 15.2
comp=N,13nm,3.3s,comp=E,26nm,3.9s
JKUC kamogawauchiur 4.92 16 A A 09 58 12.8
comp=N,80nm,1.9s,comp=E,104nm,1.7s
JHH2 Haha-jima-NKT2 4.92 139 A A 09 58 11.0
comp=N,57nm,4.4s,comp=E,75nm,0.5s
JAO Obara 4.96 347 A A 09 58 15.0
comp=N,24nm,1.6s,comp=E,68nm,2.2s
JNY Yasuok 4.96 353 A A 09 58 14.7
comp=N,32nm,1.3s,comp=E,59nm,2.2s
JEG Eigenji 5.05 339 A A 09 58 16.5
comp=N,23nm,5.4s,comp=E,22nm,7.2s
JYN Shimob 5.06 360 A A 09 58 15.3
comp=N,32nm,4.5s,comp=E,36nm,4.3s
JICN Ichinomiyachia 5.08 344 A A 09 58 16.5
comp=N,56nm,4.1s,comp=E,71nm,2.3s
INU Inuyama 5.09 345 Pn **Pn** **09 58 16.9 +1.4**
INU Sn **S** **09 59 23.0 +0.2**
INU Inuyama 5.09 345 P **Pn** **09 58 17.2 +1.6**
INU Inuyama 5.09 345 S **S** **09 59 23.5 +0.7**
JAWN Awajishima-nag 5.11 323 A A 09 58 17.9
comp=N,20nm,3.3s,comp=E,21nm,2.4s
JMN Monobe 5.18 311 Pn **Pn** **09 58 19.4 +2.8**
JMN Sn **S** **09 59 25.9 +1.2**
JMN Monobe 5.18 311 P **Pn** **09 58 19.2 +2.6**
JMN Monobe 5.18 311 A A 09 58 19.2
comp=N,26nm,5.2s,comp=E,31nm,2.4s
JSGW Sagamiharawaka 5.19 6 A A 09 58 16.2
comp=N,19nm,3.4s,comp=E,28nm,1.3s
JMAF Mimaanabuki 5.21 315 A A 09 58 19.3
comp=N,16nm,6.2s,comp=E,22nm,4.5s
JGF Kuroka 5.27 349 Pn **Pn** **09 58 18.5 +1.0**
JGF Kuroka 5.27 349 P **Pn** **09 58 18.6 +1.1**
JGF Kuroka 5.27 349 A A 09 58 18.1
comp=N,28nm,4.3s,comp=E,35nm,3.2s
JMIK Miki 5.29 327 A A 09 58 19.7
comp=N,22nm,3.1s,comp=E,24nm,2.1s
JKHR Kochiharuno 5.31 307 A A 09 58 20.7
comp=N,26nm,4.0s,comp=E,25nm,3.9s
TOK Tokyo 5.34 10 A A 09 58 17.5
comp=N,96nm,1.2s,comp=E,127nm,2.2s
JYTA Yamagatataniai 5.39 344 A A 09 58 19.7
comp=N,27nm,4.8s,comp=E,14nm,3.0s
JSMT Sammumatsuo 5.44 16 A A 09 58 18.1
comp=N,101nm,1.9s,comp=E,106nm,2.2s
JNT Takato 5.45 356 A A 09 58 19.6
comp=N,30nm,5.7s,comp=E,30nm,3.2s
JTO Tosashimizu 5.50 298 *i* P **Pn** **09 58 22.5 +2.6**
JTO S **S** **09 59 33.6 +2.8**
JTO Tosashimizu 5.50 298 A A 09 58 22.5
comp=N,17nm,3.6s,comp=E,25nm,3.0s
JKU Kubokawa 5.51 303 A A 09 58 23.0
comp=N,16nm,4.4s,comp=E,23nm,4.4s
JKS Kasai 5.53 326 A A 09 58 22.3
comp=N,16nm,3.7s,comp=E,16nm,3.6s
JWT Wachi 5.54 332 A A 09 58 22.0
comp=N,11nm,7.7s,comp=E,19nm,2.3s
JFM Mihama 5.54 337 A A 09 58 21.7
comp=N,27nm,4.9s,comp=E,17nm,1.7s
JJS Sakaide 5.57 316 A A 09 58 23.1
comp=N,20nm,4.7s,comp=E,22nm,3.2s
JRY Ryogami san 5.59 3 *i* P **Pn** **09 58 20.1 -0.8**
JRY *e*S **S** **09 59 27.0 -5.5**
JRY Ryogami san 5.59 3 A A 09 58 20.1
comp=N,43nm,3.1s,comp=E,35nm,1.8s
JIHU Itakohorinouch 5.76 16 A A 09 58 21.5
comp=N,150nm,3.9s,comp=E,127nm,1.7s
JET Tanbara 5.77 307 A A 09 58 25.6
comp=N,24nm,3.4s,comp=E,27nm,3.9s
UWA2 Uwa jima 2 5.79 300 A A 09 58 26.1
comp=N,21nm,5.2s,comp=E,33nm,3.6s
JGN Niukaw 5.88 350 A A 09 58 24.6
comp=N,30nm,3.9s,comp=E,12nm,6.0s
JYT Yasato 5.95 13 A A 09 58 23.7
comp=N,52nm,1.4s,comp=E,63nm,2.4s
JKY Yasaka 5.96 332 A A 09 58 26.5
comp=N,13nm,2.6s,comp=E,19nm,2.1s
JNG Nsakai 5.98 356 A A 09 58 25.2
comp=N,37nm,2.5s,comp=E,24nm,2.8s
JAG Ashikaga 6.03 7 A A 09 58 25.0
comp=N,33nm,0.8s,comp=E,43nm,1.7s
JNA Nagahama 6.06 303 A A 09 58 28.9
comp=N,20nm,5.7s,comp=E,30nm,3.1s
MJAR Matsushiro Arr 6.11 357 P **Pn** **09 58 25.3 -1.2**
comp=E,397nm,0.5s,baz=164,slow=11,SNR=378
MJAR S **S** **09 59 41.3 -1.6**
comp=E,984nm,0.9s,baz=111,slow=25,SNR=8.6
MJAR ScP **ScP** **10 07 32.0 +1.1**
comp=E,7.7nm,0.9s,baz=187,slow=1.5,SNR=4.6
MAJO Matsushiro 6.11 357 Pn **Pn** **09 58 25.8 -0.8**
MAJO Matsushiro 6.11 357 P **Pn** **09 58 26.0 -0.6**
MAJO Matsushiro 6.11 357 S **S** **09 59 43.7 +0.8**
MAJO Matsushiro 6.11 357 *c i* P **Pn** **09 58 25.7 -0.8**
JKSM Kasumi 6.11 328 A A 09 58 28.4
comp=N,17nm,3.8s,comp=E,15nm,5.9s
MJB9 Matsu-Tunnel 6.12 357 Pn **Pn** **09 58 26.8 +0.2**
JGK Kuni 6.12 0 A A 09 58 26.5
comp=N,23nm,4.1s,comp=E,19nm,2.2s
JHYU Hitachinakayam 6.13 15 A A 09 58 25.5
comp=N,114nm,2.5s,comp=E,97nm,3.0s
JKG Kaga 6.14 343 A A 09 58 27.8
comp=N,49nm,4.9s,comp=E,17nm,2.2s
JSKE Saikikamae 6.17 294 A A 09 58 30.4
comp=N,23nm,3.4s,comp=E,37nm,2.6s
JJG Jouge 6.22 314 A A 09 58 30.3
comp=N,35nm,3.8s,comp=E,23nm,3.0s
JTT Ttatey 6.25 351 A A 09 58 28.6
comp=N,39nm,9.1s,comp=E,39nm,2.9s
JHHC Hyugahichiya 6.27 291 A A 09 58 31.6
comp=N,19nm,2.0s,comp=E,20nm,4.6s
JNKG Nichinankitago 6.31 283 A A 09 58 32.1
comp=N,37nm,2.9s,comp=E,82nm,3.3s
JTSN Tsuno 6.33 289 A A 09 58 32.2
comp=N,29nm,2.5s,comp=E,43nm,2.6s
JKT Katashina 6.35 5 A A 09 58 28.7
comp=N,42nm,1.3s,comp=E,53nm,1.5s
JKR Kurayoshi 6.36 322 A A 09 58 31.5
comp=N,41nm,2.6s,comp=E,16nm,2.6s
JNAR Kushima--Naru 6.38 282 A A 09 58 32.9
comp=N,36nm,3.6s,comp=E,68nm,3.9s
JHO Hitachi 6.39 14 A A 09 58 28.4
comp=N,46nm,1.8s,comp=E,46nm,4.9s
JUS Usuki 6.39 296 A A 09 58 32.8
comp=N,22nm,4.3s,comp=E,30nm,2.7s
JKIT Kitakata 6.47 292 A A 09 58 33.8
comp=N,19nm,3.8s,comp=E,19nm,3.9s
JHS Saijyo 6.49 316 ‖ *i P* **Pn** **09 58 33.4 +2.6**
JHS ‖ *e*S **S** **09 59 53.6 +3.1**
JHS Saijyo 6.49 316 A A 09 58 33.4
comp=N,20nm,2.5s,comp=E,16nm,2.1s
JTN Tanegashima 3 6.57 274 A A 09 58 35.0
comp=N,24nm,3.2s,comp=E,35nm,3.7s
JTZ Takazaki 6.59 285 A A 09 58 35.2
comp=N,25nm,2.2s,comp=E,48nm,4.5s
JSB Shiboa 6.62 9 A A 09 58 31.3
comp=N,112nm,1.5s,comp=E,98nm,2.8s
JTSR Tashiro 2 6.64 278 A A 09 58 35.8
comp=N,18nm,5.4s,comp=E,31nm,3.9s
JMTN Minamitane 6.64 272 A A 09 58 35.8
comp=N,32nm,2.8s,comp=E,47nm,4.6s
JJH Hakui 6.66 347 A A 09 58 33.2
comp=N,24nm,9.0s,comp=E,13nm,5.9s
JJN Nakama 6.67 357 A A 09 58 32.7
comp=N,23nm,3.4s,comp=E,19nm,2.8s
JHT Toyohira 6.71 311 A A 09 58 35.8
comp=N,37nm,2.8s,comp=E,40nm,2.1s
JKD Kudamatsu 6.74 304 A A 09 58 36.4
comp=N,34nm,2.6s,comp=E,58nm,2.9s
JBEP Beppuamama 6.76 297 A A 09 58 36.8
comp=N,83nm,3.6s,comp=E,35nm,2.6s
JKI Kunimi 6.76 300 A A 09 58 36.8
comp=N,28nm,6.6s,comp=E,66nm,2.8s
JUON Uonuma 6.78 3 A A 09 58 33.4
comp=N,37nm,2.0s,comp=E,19nm,4.1s
JFFD Fukushimafurud 6.85 13 A A 09 58 33.5
comp=N,97nm,1.8s,comp=E,67nm,3.9s
JNM Ikuma 6.88 319 A A 09 58 37.4
comp=N,37nm,5.0s,comp=E,31nm,6.7s
JGT2 ShimaneMisato 6.90 314 A A 09 58 37.8
comp=N,46nm,2.6s,comp=E,73nm,2.1s
ONAJ Iwakimizuishiy 6.91 15 A A 09 58 34.1
comp=N,63nm,2.1s,comp=E,100nm,1.6s
JHIK Hikimi 6.96 308 A A 09 58 38.7
comp=N,32nm,3.8s,comp=E,36nm,3.5s
JIU3 Izumi3 6.97 290 A A 09 58 39.3
comp=N,37nm,3.0s,comp=E,89nm,3.5s
JYAK Yakushimahirau 6.98 271 A A 09 58 39.6
comp=N,21nm,5.4s,comp=E,19nm,3.3s
JISK Izumosakaura 6.99 318 A A 09 58 38.6
comp=N,34nm,5.0s,comp=E,30nm,6.6s
JFY Yanaizu 7.03 7 A A 09 58 35.9
comp=N,28nm,4.1s,comp=E,27nm,1.9s
JZO Okuchi 7.05 286 A A 09 58 40.3
comp=N,21nm,4.1s,comp=E,48nm,4.5s
JSU Suzuyama 7.07 281 A A 09 58 40.6
comp=N,12nm,6.1s,comp=E,20nm,6.0s
JSZ Suzu 7.08 352 A A 09 58 37.6
comp=N,21nm,2.4s,comp=E,22nm,3.2s
JIZZ Izumozaki 7.09 1 A A 09 58 37.1
comp=N,56nm,2.7s,comp=E,49nm,2.0s
JNU Nakatsue 7.09 294 Pn **P** **09 58 41.0 +2.8**
JNU Nakatsue 7.09 294 P **P** **09 58 40.6 +2.4**
comp=E,946nm,0.8s,baz=88,slow=3.9,SNR=300
JNU S **S** **10 00 01.4 -1.6**
comp=E,1μm,1.2s,baz=285,slow=20,SNR=12
JNU ScP **ScP** **10 07 32.0 +0.3**
comp=E,20nm,0.8s,baz=79,slow=2.4,SNR=3.7
JNU Nakatsue 7.09 294 P **P** **09 58 40.0 +1.8**
JNU Nakatsue 7.09 294 A A 09 58 40.6
comp=N,48nm,3.7s,comp=E,46nm,3.7s
JFK Kawauchi 7.18 15 A A 09 58 37.1
comp=N,58nm,2.0s,comp=E,68nm,3.0s
JKC Kuchinoerabu 7.25 272 A A 09 58 42.6
comp=N,18nm,3.6s,comp=E,25nm,4.0s
JOTO OTAMA OYAMA 7.27 11 A A 09 58 38.3
comp=N,108nm,2.2s,comp=E,82nm,2.0s
JTA Tamana 7.32 292 A A 09 58 43.2
comp=N,19nm,3.0s,comp=E,50nm,5.8s
JOI OKI 7.36 324 P **P** **09 58 42.2 +1.1**
JOI S **S** **10 00 09.5 +1.1**
JOI OKI 7.36 324 A A 09 58 42.2
comp=N,13nm,2.9s,comp=E,23nm,3.4s
JFA Akaike 7.38 298 A A 09 58 43.8
comp=N,35nm,3.5s,comp=E,42nm,2.7s
JNS Sasagawa 7.40 4 A A 09 58 40.3
comp=N,30nm,1.7s,comp=E,22nm,1.7s
JTY Toyota 7.43 303 A A 09 58 44.2
comp=N,33nm,2.7s,comp=E,45nm,2.3s
JHD Hondo 7.50 288 A A 09 58 45.4
comp=N,82nm,2.9s,comp=E,54nm,3.8s
JMST Minamisoumatoc 7.53 14 A A 09 58 41.0
comp=N,110nm,1.6s,comp=E,107nm,1.8s
JHG Hegura jima 7.54 350 A A 09 58 42.8
comp=N,26nm,2.4s,comp=E,15nm,3.6s
JNN Nakanoshima 7.57 268 A A 09 58 46.2
comp=N,28nm,5.1s,comp=E,52nm,5.0s
JYAR Yonezawaarcadi 7.58 9 A A 09 58 42.0
comp=N,77nm,1.2s,comp=E,72nm,1.5s
JFI Itaya 7.58 295 A A 09 58 46.2
comp=N,25nm,3.5s,comp=E,38nm,4.2s
JSD Sado 7.60 358 Pn **Pn** **09 58 41.9 -1.3**
JSD Sado 7.60 358 P **Pn** **09 58 41.6 -1.6**
JSD Sado 7.60 358 A A 09 58 43.0
comp=N,12nm,2.2s,comp=E,11nm,5.4s
JHGM Hagimishima 7.64 307 A A 09 58 46.4
comp=N,41nm,5.4s,comp=E,59nm,5.7s
JMM Marumori 7.65 13 Pn **Pn** **09 58 41.7 -2.0**
JMM Marumori 7.65 13 P **Pn** **09 58 42.0 -1.7**
JMM Marumori 7.65 13 A A 09 58 42.4
comp=N,37nm,2.7s,comp=E,36nm,2.6s
JSJ Shimokoshiki 7.71 282 *i* P **P** **09 58 47.0 +1.9**
JSJ S **S** **10 00 18.8 +2.9**
JSJ Shimokoshiki 7.71 282 A A 09 58 47.0
comp=N,24nm,4.1s,comp=E,30nm,4.1s
JZK Kikaishima 7.80 257 A A 09 58 48.8
comp=N,33nm,5.0s,comp=E,54nm,3.4s
NGSJ Nagasakinomoza 7.82 289 A A 09 58 49.0
comp=N,48nm,3.9s,comp=E,44nm,6.6s
JUR Ureshino 7.82 292 A A 09 58 49.0
comp=N,30nm,3.3s,comp=E,48nm,4.2s
JKDJ Kitadaitoujima 7.82 237 A A 09 58 48.4
comp=N,51nm,3.3s,comp=E,113nm,5.1s
JYS Shirataka 7.88 9 A A 09 58 45.3
comp=N,91nm,2.5s,comp=E,71nm,1.1s
JMZ Minamidaito 2 7.95 237 P **P** **09 58 49.5 +1.6**
JMZ Minamidaito 2 7.95 237 P **P** **09 58 49.7 +1.8**
JMZ Minamidaito 2 7.95 237 *i* P **P** **09 58 49.4 +1.6**
JMZ Minamidaito 2 7.95 237 A A 09 58 49.4
comp=N,46nm,6.2s,comp=E,111nm,8.4s
JAW Awa shima 8.03 4 A A 09 58 47.5
comp=N,22nm,1.6s,comp=E,32nm,2.7s
JAM Amami Oshima 8.09 258 A A 09 58 52.0
comp=N,20nm,3.3s,comp=E,24nm,4.8s
JOU Okura 8.11 12 A A 09 58 47.8
comp=N,59nm,2.0s,comp=E,76nm,2.1s
JYA Atsumi 8.20 6 A A 09 58 49.3
comp=N,44nm,2.2s,comp=E,33nm,1.3s
JII Iki 8.23 296 A A 09 58 53.5
comp=N,30nm,4.9s,comp=E,36nm,4.0s
JTAJ Takarajima 8.25 264 A A 09 58 54.0
comp=N,17nm,3.5s,comp=E,34nm,4.7s
JIO Ouri 8.33 15 A A 09 58 50.0
comp=N,15nm,1.5s,comp=E,21nm,2.5s
JOFO Osakifurukawao 8.38 13 A A 09 58 50.8
comp=N,185nm,1.9s,comp=E,179nm,2.0s
JAMN Amaminishikomi 8.50 258 P **P** **09 58 55.2 +1.2**
JAMN S **S** **10 00 35.0 +2.5**
JAMN Amaminishikomi 8.50 258 A A 09 58 55.2
comp=N,20nm,3.3s,comp=E,31nm,3.4s
JYK Kaneyama 8.60 9 A A 09 58 53.5
comp=N,40nm,2.9s,comp=E,27nm,2.1s
JYYZ Yamagatayuza 8.64 7 A A 09 58 54.2
comp=N,55nm,3.9s,comp=E,60nm,2.5s
JFU Fukue jima 2 8.69 287 A A 09 58 58.9
comp=N,21nm,4.3s,comp=E,36nm,3.5s
JKMT Kesennumamotoy 8.70 15 A A 09 58 54.2
comp=N,17nm,4.8s,comp=E,38nm,2.7s
JTSM Tsushimamitsus 8.71 299 A A 09 58 58.9
comp=N,14nm,3.0s,comp=E,19nm,3.4s
JTU Tsushima 8.77 300 P **P** **09 58 59.1 +2.2**
JTU Tsushima 8.77 300 *i* P **P** **09 58 59.4 +2.5**
JTU *e*S **S** **10 00 41.5 +3.2**
JTU Tsushima 8.77 300 A A 09 58 59.4
comp=N,20nm,3.9s,comp=E,23nm,3.4s
JMK Ichinoseki 8.78 14 *i* P **Pn** **09 58 55.2 -1.4**
JMK *e*S **S** **10 00 30.3 -8.0**
JMK Ichinoseki 8.78 14 A A 09 58 55.2
comp=N,21nm,1.5s,comp=E,35nm,2.5s
JTB Tobi-shima 8.79 5 A A 09 58 56.0
comp=N,18nm,4.0s,comp=E,31nm,3.7s
JTK Tokunoshima 8.83 255 A A 09 59 00.5
comp=N,30nm,3.8s,comp=E,23nm,9.0s
OFUJ Ofunato 9.00 16 A A 09 58 57.7
comp=N,17nm,2.4s,comp=E,33nm,1.9s
JRG Rokugo 9.11 10 A A 09 58 59.3
comp=N,40nm,2.2s,comp=E,34nm,4.2s
JYW Yuwa 9.19 8 A A 09 59 00.5
comp=N,58nm,2.9s,comp=E,63nm,1.7s
JOKE Okinoerabujima 9.29 253 A A 09 59 05.8
comp=N,25nm,3.2s,comp=E,55nm,7.6s
JOM Ohasama 9.30 13 A A 09 59 01.3
comp=N,14nm,3.2s,comp=E,29nm,2.1s
JOG3 Oga3 9.48 2 A A 09 59 04.4
comp=N,42nm,2.1s,comp=E,48nm,2.5s
JSZI Iwateshizukuis 9.50 11 A A 09 59 03.7
comp=N,120nm,5.3s,comp=E,83nm,2.1s
MIYJ Miyakonagasawa 9.51 15 A A 09 59 03.5
comp=N,12nm,3.1s,comp=E,23nm,1.7s
JYRO Yoronjima 9.52 252 A A 09 59 08.3
comp=N,26nm,3.6s,comp=E,67nm,4.3s
JOW Kunigami 9.74 251 P **Pn** **09 59 10.9 +2.9**
comp=E,3μm,0.8s,baz=89,slow=9.5,SNR=220
JOW ScP **ScP** **10 07 35.8 +1.2**
comp=E,115nm,1.0s,baz=43,slow=3.4,SNR=6.8
JOW Kunigami 9.74 251 P **Pn** **09 59 10.2 +2.2**
JOW Kunigami 9.74 251 P **Pn** **09 59 10.9 +2.9**
JOW *e*S **S** **10 01 03.0 +4.3**
JOW Kunigami 9.74 251 A A 09 59 10.9
comp=N,13nm,5.6s,comp=E,73nm,5.1s
JKZ Kuzumaki 9.80 12 A A 09 59 07.1
comp=N,18nm,2.2s,comp=E,19nm,4.9s
JTH Tanohata 9.87 15 A A 09 59 07.7
comp=N,45nm,2.3s,comp=E,24nm,3.2s
JAH Hinai 9.89 9 A A 09 59 08.3
comp=N,23nm,1.8s,comp=E,36nm,2.7s
JNTW Noshirotokiwa 9.91 7 A A 09 59 08.8
comp=N,124nm,3.4s,comp=E,76nm,2.3s
JIH Iheya 9.91 253 A A 09 59 12.9
comp=N,64nm,4.3s,comp=E,62nm,3.4s
JNTH Nagotoyohara 10.07 250 A A 09 59 14.7
comp=N,21nm,2.7s,comp=E,61nm,5.2s
JKEN Kujiedanarisaw 10.09 14 A A 09 59 10.3
comp=N,33nm,3.1s,comp=E,27nm,2.8s
JANG Nango 10.21 13 A A 09 59 11.8
comp=N,18nm,3.5s,comp=E,39nm,2.2s
JIW Iwasaki 10.21 6 A A 09 59 12.4
comp=N,19nm,1.7s,comp=E,19nm,0.9s
JHHS Hirosakihyakuz 10.31 8 A A 09 59 13.3
comp=N,68nm,5.6s,comp=E,66nm,4.0s
JJT3 Tamagusuku3 10.43 249 A A 09 59 18.8
comp=N,62nm,5.5s,comp=E,111nm,3.8s
JTM Tenmabayashi 10.54 10 P **P** **09 59 16.4 +0.1**
JTM Tenmabayashi 10.54 10 P **P** **09 59 16.5 +0.1**
JTM Tenmabayashi 10.54 10 S **S** **10 01 13.6 -1.1**
JTM Tenmabayashi 10.54 10 A A 09 59 15.8
comp=N,36nm,3.9s,comp=E,28nm,3.9s
JAGN Aguni-jima 10.68 252 A A 09 59 21.8
comp=N,58nm,2.7s,comp=E,87nm,4.4s
JSI2 Shiura 2 10.72 7 A A 09 59 18.0
comp=N,24nm,2.5s,comp=E,23nm,4.1s
JARK Aomorirokkasho 10.80 11 A A 09 59 18.7
comp=N,40nm,3.9s,comp=E,28nm,1.7s
JAHD Aomorihigashid 11.05 11 A A 09 59 21.6
comp=N,40nm,4.2s,comp=E,37nm,2.0s
TJN Taejon 11.10 305 P **Pn** **09 59 24.2 +0.6**
TJN Taejon 11.10 305 P **Pn** **09 59 23.3 -0.3**
TJN Taejon 11.10 305 *d i* P **Pn** **09 59 23.9 +0.3**
JOT Ohata 11.12 10 *i* P **P** **09 59 23.1 +0.3**
JOT *e*S **S** **10 01 23.9 -2.6**
JOT Ohata 11.12 10 A A 09 59 23.1
comp=N,14nm,2.6s,comp=E,27nm,3.9s
JOMM Oshimamatsumae 11.14 6 A A 09 59 23.0
comp=N,15nm,4.3s,comp=E,14nm,3.3s
JKE Kume jima 2 11.16 251 P **Pn** **09 59 27.1 +2.6**
JKE *e*S **S** **10 01 32.1 +4.3**
JKE Kume jima 2 11.16 251 A A 09 59 27.1
comp=N,31nm,3.2s,comp=E,40nm,4.0s
JSR Shiriuchi 11.18 7 A A 09 59 23.5
comp=N,29nm,4.7s,comp=E,29nm,5.3s
KSRS Korea Array 11.29 311 P **Pn** **09 59 26.2 +0.4**
comp=E,2μm,0.9s,baz=123,slow=11,SNR=1336
KSRS S **S** **10 01 30.6 +0.5**
comp=E,204nm,1.0s,baz=124,slow=20,SNR=4.6
KSRS PcP **PcP** **10 04 42.7 +0.7**
comp=E,27nm,0.7s,baz=196,slow=0.7,SNR=6.5
KSRS ScP **ScP** **10 07 37.4 +1.0**
comp=E,132nm,0.9s,baz=172,slow=1.2,SNR=61
KSRS PKiKP **PKiKP** **10 12 39.6 -0.7**
comp=E,2.4nm,0.7s,baz=100,slow=1.3,SNR=5.5
KSAR Wonju Array Be 11.31 311 P **Pn** **09 59 26.1 +0.1**
KSAR Wonju Array Be 11.31 311 P **Pn** **09 59 26.1 +0.1**
KS19 Wonju Array Si 11.36 311 P **Pn** **09 59 26.3 -0.3**
JKB Kayabe 11.61 9 A A 09 59 28.2
comp=N,35nm,4.6s,comp=E,17nm,3.2s
JOSM Okushiri--Mats 11.66 3 P **P** **09 59 29.2 +0.4**
JOSM S **S** **10 01 35.2 -2.4**
JOSM Okushiri--Mats 11.66 3 A A 09 59 29.2
comp=N,22nm,2.8s,comp=E,19nm,4.7s
JYM2 Yakumo 2 11.76 7 A A 09 59 30.1
comp=N,34nm,2.3s,comp=E,20nm,2.7s
JHST Hiyamasetana 12.02 5 A A 09 59 33.2
comp=N,21nm,5.8s,comp=E,50nm,3.7s
ERM Erimo 12.14 16 P **P** **09 59 34.7 +0.6**
ERM Erimo 12.14 16 P **P** **09 59 34.5 +0.4**
ERM Erimo 12.14 16 *c i* P **P** **09 59 34.7 +0.6**
JEM Erimo 12.14 16 P **P** **09 59 34.6 +0.5**
JEM Erimo 12.14 16 S **S** **10 01 49.1 +1.7**
JEM Erimo 12.14 16 A A 09 59 33.7
comp=N,14nm,3.2s,comp=E,15nm,4.1s
INCN Inchon 12.16 309 P **Pn** **09 59 35.3 -0.7**
INCN Inchon 12.16 309 P **P** **09 59 34.9 +0.4**
INCN P **P** **09 59 34.9 +0.4**
INCN S **S** **10 01 46.9 -1.1**
INCN S **S** **10 01 46.9 -1.1**
INCN Inchon 12.16 309 P **Pn** **09 59 36.1 +0.1**
INCN Inchon 12.16 309 P **Pn** **09 59 35.3 -0.7**
JNB Noboribetsu 12.18 9 A A 09 59 34.8
comp=N,9.0nm,3.2s,comp=E,12nm,6.8s
JSH Shimam 12.25 5 A A 09 59 35.8
comp=N,15nm,4.9s,comp=E,15nm,5.1s
JNBK Urakawa-nobuka 12.30 15 A A 09 59 35.6
comp=N,38nm,5.0s,comp=E,33nm,3.9s
JSHD Hidakashinhida 12.36 14 A A 09 59 36.4
comp=N,45nm,4.4s,comp=E,36nm,3.7s
JTHR Tokachihiroo 12.44 16 A A 09 59 37.0
comp=N,20nm,2.2s,comp=E,27nm,3.0s
JIAM Iburiatsuma 12.47 11 A A 09 59 37.7
comp=N,42nm,5.0s,comp=E,27nm,2.8s
JEW Eniwo 12.60 10 A A 09 59 39.4
comp=N,28nm,1.8s,comp=E,22nm,4.9s
JBT2 Biratori 2 12.70 13 A A 09 59 40.3
comp=N,23nm,5.1s,comp=E,16nm,3.3s
JCH Churui 12.76 16 P **P** **09 59 41.3 +0.4**
JCH S **S** **10 02 00.1 +0.3**
JCH Churui 12.76 16 A A 09 59 41.3
comp=N,15nm,3.9s,comp=E,21nm,3.6s
JOGS Gusukube 12.97 247 P **Pn** **09 59 46.8 +1.3**
JOGS Gusukube 12.97 247 A A 09 59 46.8
comp=N,30nm,4.3s,comp=E,59nm,3.3s
JSK Shakotan 12.99 6 A A 09 59 44.0
comp=N,16nm,7.4s,comp=E,12nm,3.6s
JIKM Ikemajima 13.02 248 A A 09 59 48.1
comp=N,36nm,6.9s,comp=E,58nm,3.7s
JISS Ishikarishitsu 13.03 9 A A 09 59 44.2
comp=N,31nm,5.6s,comp=E,22nm,2.5s
JMJ Miyako jima 2 13.04 248 P **Pn** **09 59 46.1 -0.2**
JMJ2 Miyako jima3 13.05 247 A A 09 59 48.3
comp=N,26nm,4.5s,comp=E,59nm,3.4s
JFR Furan 13.11 13 A A 09 59 44.9
comp=N,22nm,6.0s,comp=E,10.0nm,2.3s
JIRB Irabujima 13.13 248 A A 09 59 49.2
comp=N,31nm,4.4s,comp=E,48nm,3.8s
JOB Onbets 13.15 17 A A 09 59 44.9
comp=N,30nm,4.4s,comp=E,23nm,3.0s
JAB Ashibetsu 13.38 12 A A 09 59 47.8
comp=N,23nm,2.4s,comp=E,17nm,4.2s
JAK Akkeshi 13.47 20 A A 09 59 48.3
comp=N,23nm,7.8s,comp=E,29nm,4.4s
JAR Ashorobuto 13.50 16 A A 09 59 48.8
comp=N,15nm,4.7s,comp=E,18nm,2.9s
MSHR Mys Shultsa 13.52 336 *d i* P **P** **09 59 49.1 -0.1**
MSHR pmax pmax
comp=Z,922nm,0.6s
JHR Hokuryu 13.53 10 P **P** **09 59 50.2 +0.9**
JHR *e*S **S** **10 02 16.3 +1.0**
JHR Hokuryu 13.53 10 A A 09 59 50.2
comp=N,14nm,7.4s,comp=E,17nm,2.0s
JTJ Tarama 13.59 248 A A 09 59 54.2
comp=N,19nm,5.3s,comp=E,50nm,2.8s
JKHN Kushirohamanak 13.68 21 A A 09 59 50.5
comp=N,39nm,3.7s,comp=E,32nm,3.1s
PSTR Posyet 13.71 335 *d i* P **P** **09 59 51.2 -0.1**
VLA Vladivostok 13.76 339 *c i* P **P** **09 59 52.5 +0.7**
VLA pmax pmax
comp=Z,595nm,0.9s
JKK2 Kamakawa 2 13.83 13 A A 09 59 52.6
comp=N,13nm,5.1s,comp=E,8.0nm,4.7s
JISG Ishigakijimahi 13.93 249 A A 09 59 57.9
comp=N,11nm,2.2s,comp=E,27nm,2.8s
JNK Nakash 14.02 19 A A 09 59 54.2
comp=N,12nm,1.4s,comp=E,10.0nm,1.7s
ASAJ Asahikawa 14.04 12 P **P** **09 59 55.6 +0.8**
comp=E,481nm,0.7s,baz=226,slow=13,SNR=345
ASAJ S **S** **10 02 25.4 -0.1**
comp=E,1μm,1.1s,baz=6.3,slow=22,SNR=6.3
ASAJ ScP **ScP** **10 07 41.2 +0.7**
comp=E,43nm,0.9s,baz=294,slow=3.7,SNR=7.5
ASAJ Asahikawa 14.04 12 A A 09 59 54.9
comp=N,12nm,4.4s,comp=E,5.0nm,6.5s

JKA	Kamikawa-asahi	14.04	12	P	P	09 59 55.5	+0.7
JMP	Maruseppu	14.08	14	A	A	09 59 55.2	
	comp=N,11nm,3.2s,comp=E,15nm,6.5s						
NMR	Nemuro--Hokkai	14.12	22	⇑iP	P	09 59 56.1	+0.3
NMR				iS	S	10 02 26.2	-0.9
NEM2	Nemuro 2	14.12	22	A	A	09 59 55.1	
	comp=N,12nm,10.1s,comp=E,10.0nm,4.2s						
JYG	Yagishiri	14.16	8	A	A	09 59 56.5	
	comp=N,11nm,3.0s,comp=E,9.0nm,3.3s						
JTKR	Abashiri--Toko	14.17	16	A	A	09 59 56.0	
	comp=N,8.0nm,3.2s,comp=E,11nm,3.3s						
JIJ	Ishigaki jima	14.17	248	A	A	10 00 00.3	
	comp=N,11nm,3.7s,comp=E,29nm,3.1s						
JSS	Shosan	14.19	10	A	A	09 59 56.7	
	comp=N,17nm,3.7s,comp=E,22nm,4.5s						
JNSB	Nemuroshibetsu	14.27	19	A	A	09 59 56.9	
	comp=N,40nm,3.0s,comp=E,31nm,4.3s						
JKRS	Kuro-shima	14.34	248	A	A	10 00 02.1	
	comp=N,44nm,3.0s,comp=E,62nm,6.1s						
JRA	Rausu	14.45	19	A	A	09 59 58.9	
	comp=N,15nm,2.7s,comp=E,11nm,3.0s						
IRIF	Iriomote-Funau	14.52	249	A	A	10 00 04.0	
	comp=N,33nm,2.5s,comp=E,45nm,2.3s						
HATJ	Hateruma jima	14.59	248	A	A	10 00 04.7	
	comp=N,59nm,3.2s,comp=E,51nm,3.2s						
RUSJ	Misakicho	14.64	19	⇑iP	P	10 00 02.7	+1.2
RUSJ				iS	S	10 02 40.1	+2.6
TEY	Ternei	14.67	354	⇑eP	P	10 00 02.4	+0.6
TEY				pmax	pmax		
	comp=N,280nm,0.6s						
TEY				pmax	pmax		
	comp=E,70nm,0.6s						
TEY				pmax	pmax		
	comp=Z,350nm,0.6s						
USA0B	Ussuriysk Arra	14.71	341	P	P	10 00 02.9	+0.6
USA0B	Ussuriysk Arra	14.71	341	diP	P	10 00 02.7	+0.5
USRK	Ussuriysk Ar.	14.71	341	P	P	10 00 02.8	+0.5
	comp=Z,771nm,0.6s,baz=150,slow=11,SNR=774						
USRK				ScP	ScP	10 07 42.4	+0.6
	comp=Z,12nm,0.8s,baz=222,slow=2.3,SNR=4.8						
YUK	Yuzh-Kuril'sk	14.76	21	eP	P	10 00 03.5	+0.7
YUK				iS	S	10 02 39.0	-0.9
YUK				pmax	pmax		
	comp=Z,2μm,0.9s						
YUK				pmax	pmax		
	comp=N,555nm,0.4s						
YUK				pmax	pmax		
	comp=E,668nm,0.6s						
YUK				pmax	pmax		
	comp=Z,7μm,1.3s						
JRR	Rishiri	14.85	8	A	A	10 00 03.7	
	comp=N,33nm,8.9s,comp=E,34nm,5.9s						
JSE	Soyaes	14.85	11	A	A	10 00 03.5	
	comp=N,6.0nm,11.2s,comp=E,9.0nm,3.7s						
SHO	Shikotan	14.93	24	ciP	P	10 00 05.1	+0.5
SHO				iS	S	10 02 41.9	-1.4
SHO				pmax	pmax		
	comp=N,50nm,0.7s						
SHO				pmax	pmax		
	comp=Z,431nm,0.7s						
SHO				pmax	pmax		
	comp=E,101nm,0.4s						
SHO				pmax	pmax		
	comp=Z,885nm,1.9s						
SSE	Sheshan	14.98	277	P	P	10 00 04.9	-0.4
SSE				S	S	10 02 44.3	-0.2
SSE				pmax	pmax		
	comp=Z,410nm,0.8s						
SSE				pmax	pmax		
	comp=Z,1μm,3.6s						
SSE				LR	LR		
	comp=Z,3μm,9.6s						
SSE				LR	LR		
	comp=Z,2μm,9.6s						
YOJ	Yonaguni jima	15.04	251	P	P	10 00 06.9	+0.8
YOJ	Yonaguni jima	15.04	251	P	P	10 00 06.7	+0.6
YOJ	Yonaguni jima	15.04	251	S	S	10 02 47.0	+1.0
YOJ	Yonaguni jima	15.04	251	P	P	10 00 06.9	+0.8
YOJ	Yonaguni jima	15.04	251	A	A	10 00 09.4	
	comp=N,12nm,3.8s,comp=E,21nm,3.5s						
JWK2	Keihoku	15.10	9	A	A	10 00 06.2	
	comp=N,14nm,7.7s,comp=E,17nm,3.8s						
JYNG	Yonagunijimaku	15.10	251	A	A	10 00 10.1	
	comp=N,8.0nm,2.5s,comp=E,18nm,3.9s						
JRBN	Rebuntou	15.10	7	A	A	10 00 06.4	
	comp=N,6.0nm,5.8s,comp=E,12nm,9.4s						
MDJ	Mudanjiang	15.85	336	P	P	10 00 15.2	+0.7
MDJ	Mudanjiang	15.85	336	P	P	10 00 15.2	+0.7
MDJ				S	S	10 02 59.2	-2.2
MDJ				ScS	ScS	10 11 22.6	-0.1
MDJ				pmax	pmax		
	comp=E,2μm,1.0s						
MDJ				pmax	pmax		
	comp=E,4μm,3.8s						
MDJ	Mudanjiang	15.85	336	P	P	10 00 15.0	+0.5
TATO	Taipei	16.08	254	P	P	10 00 17.7	+0.5
TATO	Taipei	16.08	254	P	P	10 00 17.7	+0.5
TATO				P	P	10 00 17.7	+0.5
TATO				S	S	10 03 03.0	-3.4
TATO				S	S	10 03 03.0	-3.4
TATO	Taipei	16.08	254	P	P	10 00 17.8	+0.5
TATO	Taipei	16.08	254	S	S	10 03 08.2	+1.8
YHNB	Yeheng	16.30	254	P	P	10 00 19.4	-0.3
YHNB	Yeheng	16.30	254	P	P	10 00 19.8	+0.1
DL2	Dalian	16.30	306	P	P	10 00 19.4	0.0
DL2				S	S	10 03 08.9	-1.5
DL2				pmax	pmax		
	comp=E,2μm,1.0s						
DL2				pmax	pmax		
	comp=E,3μm,5.2s						
NACB	Ninganchiao	16.33	252	P	P	10 00 18.8	-1.1
NACB	Ninganchiao	16.33	252	P	P	10 00 18.9	-1.0
NACB	Ninganchiao	16.33	252	S	S	10 03 11.2	-0.1
KUR	Kuril'sk	16.48	24	ciP	P	10 00 21.3	0.0
KUR				iS	S	10 03 12.5	-1.3
KUR				pmax	pmax		
	comp=N,180nm,1.0s						
KUR				pmax	pmax		
	comp=E,252nm,1.0s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				smax	smax		
	comp=N,17μm,6.5s						
KUR				smax	smax		
	comp=E,7μm,6.0s						
SNY	Shenyang	16.60	317	⇓P	P	10 00 23.1	+0.5
SNY				S	S	10 03 06.1	-10
SNY				pmax	pmax		
	comp=E,2μm,1.4s						
SNY				pmax	pmax		
	comp=E,6μm,13.5s						
SNY				LR	LR		
	comp=E,2μm,7.7s						
SNY				LR	LR		
	comp=E,1μm,11.0s						
SNY				LR	LR		
	comp=E,2μm,7.9s						
YSS	Yuzhno-Sakhali	16.82	10	P	P	10 00 25.3	+0.4
YSS	Yuzhno-Sakhali	16.82	10	P	P	10 00 25.3	+0.4
YSS	Yuzhno-Sakhali	16.82	10	αiP	P	10 00 25.4	+0.5
YSS				eS	S	10 03 17.7	-2.6
YSS				pmax	pmax		
	comp=Z,8μm,2.4s						
YSS				pmax	pmax		
	comp=N,6μm,2.3s						
YSS				pmax	pmax		
	comp=N,1μm,0.9s						
YSS				pmax	pmax		
	comp=E,910nm,0.9s						
YSS				pmax	pmax		
	comp=Z,910nm,0.9s						
YSS				smax	smax		
	comp=N,600nm,1.6s						
YSS				smax	smax		
	comp=E,560nm,1.3s						
YSS				smax	smax		
	comp=N,7μm,7.0s						
YSS				smax	smax		
	comp=E,7μm,8.7s						
YULB	Yu-li	16.93	250	P	P	10 00 26.1	-0.3
YULB	Yu-li	16.93	250	P	P	10 00 26.2	-0.1
YULB	Yu-li	16.93	250	S	S	10 03 25.8	+2.8
CN2	Changchun	16.95	326	⇓P	P	10 00 26.7	+0.4
CN2				esP	sP	10 02 08.7	-3.1
CN2				eS	S	10 03 20.1	-2.7
CN2				pmax	pmax		
	comp=E,700nm,0.7s						
CN2				pmax	pmax		
	comp=E,3μm,3.0s						
NJ2	Nanjing	16.96	281	⇓iP	P	10 00 26.7	+0.2
NJ2				S	S	10 03 23.0	-0.3
SSLB	Suanglung	17.02	251	P	P	10 00 27.6	+0.2
SSLB	Suanglung	17.02	251	S	S	10 03 24.6	-0.3
TWGBT	Beinan	17.38	248	P	P	10 00 31.2	+0.1
TWGBT	Beinan	17.38	248	S	S	10 03 34.7	+2.9
TWG	Pinlang	17.38	248	P	P	10 00 30.9	-0.3
TPUB	Ta-pu	17.51	250	P	P	10 00 32.8	+0.2
TPUB	Ta-pu	17.51	250	P	P	10 00 32.8	+0.2
TPUB	Ta-pu	17.51	250	S	S	10 03 35.9	+1.5
BNX	BinXian	17.62	333	⇓P	P	10 00 33.6	+0.3
BNX				S	S	10 03 37.4	+1.5
BNX				PcP	PcP	10 04 50.9	+0.3
BNX				ScS	ScS	10 11 25.1	-2.7
GUMO	Guam	17.73	160	P	P	10 00 36.0	+1.2
	comp=E,970nm,1.1s,baz=196,slow=4.3,SNR=16						
GUMO				S	S	10 03 39.8	+1.1
	comp=E,152nm,0.9s,baz=35,slow=23,SNR=6.1						
GUMO	Guam	17.73	160	P	P	10 00 36.1	+1.2
QZH	Quanzhou	18.52	259	⇓iP	P	10 00 42.2	-1.0
QZH				sP	sP	10 02 23.0	-5.0
QZH				S	S	10 03 50.9	-2.2
QZH				pmax	pmax		
	comp=E,2μm,1.1s						
UGL	Uglegorsk	18.82	7	⇑iP	P	10 00 46.8	+0.8
UGL				eS	S	10 03 56.3	-1.4
UGL				pmax	pmax		
	comp=Z,14μm,1.4s						
UGL				pmax	pmax		
	comp=Z,5μm,1.0s						
UGL				smax	smax		
	comp=N,12μm,5.5s						
UGL				smax	smax		
	comp=E,24μm,5.3s						
TIA	Tai'an	18.83	294	P	P	10 00 45.4	-0.9
TIA				sP	sP	10 02 27.8	-5.4
TIA				S	S	10 03 56.2	-2.0
TIA				PcP	PcP	10 04 53.6	+0.7
TIA				ScP	ScP	10 07 51.0	+0.7
TIA				PcS	PcS	10 08 28.6	-1.5
TIA				ScS	ScS	10 11 31.7	-0.4
TIA				pmax	pmax		
	comp=E,6μm,4.0s						
TIA				LR	LR		
	comp=E,4μm,7.6s						
TIA				LR	LR		
	comp=E,2μm,7.2s						
TIA				LR	LR		
	comp=E,4μm,11.0s						
KNMB	Chin-men Tao	18.87	257	P	P	10 00 46.2	-0.7
KLR	Kul'dur	19.49	346	P	P	10 00 52.5	-0.1
	comp=E,333nm,0.7s,baz=160,slow=9.8,SNR=496						
KLR				S	S	10 04 11.0	+2.2
	comp=E,157nm,0.9s,baz=275,slow=22,SNR=22						
KLR				ScP	ScP	10 07 52.0	+0.4
	comp=E,108nm,0.9s,baz=324,slow=3.4,SNR=13						
KLR				ScS	ScS	10 11 34.1	+0.4
	comp=E,40nm,1.1s,baz=33,slow=21,SNR=31						
GRNR	Gornyy	20.39	356	⇑iP	P	10 01 01.9	+0.9
GRNR				pmax	pmax		
	comp=N,390nm,1.2s						
GRNR				pmax	pmax		
	comp=Z,620nm,1.2s						
GRNR				MLR	MLR		
	comp=E,810nm,12.0s						
GRNR				MLR	MLR		
	comp=N,880nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,1μm,14.0s						
BJT	Baijiatuau	20.62	304	P	P	10 01 01.9	-1.3
BJI	Beijing	20.62	304	P	P	10 01 02.2	-1.0
BJI				sP	sP	10 02 50.7	-1.8
BJI				S	S	10 04 24.8	-2.6
BJI				ScP	ScP	10 07 54.6	+0.2
BJI				PcS	PcS	10 08 39.1	+5.0
BJI				ScS	ScS	10 11 34.3	-3.7
BJI				pmax	pmax		
	comp=Z,740nm,1.3s						
BJI				pmax	pmax		
	comp=Z,3μm,3.9s						
TYV	Tymovskoe	20.65	7	eP	P	10 01 04.0	+0.8
TYV				eS	S	10 04 26.7	-0.8
TYV				pmax	pmax		
	comp=Z,5μm,3.9s						
TYV				pmax	pmax		
	comp=Z,837nm,0.8s						
TYV				smax	smax		
	comp=N,85nm,1.4s						
TYV				smax	smax		
	comp=E,77nm,1.4s						
TYV				smax	smax		
	comp=N,7μm,4.4s						
TYV				smax	smax		
	comp=E,6μm,4.4s						
WHN	Wuhan	20.88	277	⇓P	P	10 01 06.3	+0.6
WHN				sP	sP	10 02 53.7	-1.7
WHN				S	S	10 04 33.9	+2.0
WHN				ScP	ScP	10 07 56.4	+1.2
WHN				ScS	ScS	10 11 39.5	+0.2
WHN				pmax	pmax		
	comp=E,6μm,1.0s						
WHN				pmax	pmax		
	comp=E,28μm,2.8s						
HNS	HongShan	20.97	296	⇓P	P	10 01 06.0	-0.4
HNS				sP	sP	10 02 55.1	-1.4
HNS				S	S	10 04 32.0	-1.2
HNS				ScP	ScP	10 07 56.4	+1.1
HNS				ScS	ScS	10 11 39.1	-0.2
HNS				pmax	pmax		
	comp=E,2μm,1.2s						
HNS				LR	LR		
	comp=E,3μm,13.7s						
HNS				LR	LR		
	comp=E,1μm,13.5s						
HNS				LR	LR		
	comp=E,2μm,14.7s						
HEH	HeiHe	21.52	340	⇓iP	P	10 01 12.1	+0.9
HEH				S	S	10 04 42.0	+0.4
HEH				ScP	ScP	10 07 56.2	-0.2
HEH				ScS	ScS	10 11 39.1	-1.8
HEH				pmax	pmax		
	comp=E,3μm,0.9s						
XLT	XiLinHaoTe	22.33	313	⇓iP	P	10 01 18.5	-0.3
XLT				sP	sP	10 03 08.0	-3.4
XLT				S	S	10 04 53.4	-1.6
XLT				PcP	PcP	10 05 00.6	+1.0
XLT				ScP	ScP	10 07 59.2	+0.4
XLT				ScS	ScS	10 11 43.6	-0.8
XLT				pmax	pmax		
	comp=E,770nm,0.9s						
LYN	LuoYang	22.39	287	⇓P	P	10 01 19.2	-0.2
LYN				sP	sP	10 03 09.6	-2.1
LYN				S	S	10 04 52.8	-3.1
LYN				ScP	ScP	10 07 59.5	+0.5
LYN				ScS	ScS	10 11 45.6	+0.9
LYN				pmax	pmax		
	comp=E,4μm,0.8s						
LYN				pmax	pmax		
	comp=E,5μm,11.8s						
CNSH	ChangSha	22.47	271	P	P	10 01 20.6	+0.4
CNSH				sP	sP	10 03 12.3	+0.5
CNSH				S	S	10 05 00.9	+3.5
CNSH				pmax	pmax		
	comp=E,450nm,0.9s						
CNSH				LR	LR		
	comp=E,4μm,13.8s						
CNSH				LR	LR		
	comp=E,3μm,8.1s						
CNSH				LR	LR		
	comp=E,5μm,12.8s						
TIY	Taiyuan	22.81	296	eP	P	10 01 23.7	+0.5
TIY				sP	sP	10 03 13.7	-2.7
TIY				S	S	10 05 02.6	0.0
TIY				pmax	pmax		
	comp=E,1μm,0.9s						
TIY				LR	LR		
	comp=E,2μm,11.5s						
TIY				LR	LR		
	comp=E,2μm,9.9s						
TIY				LR	LR		
	comp=E,3μm,10.1s						
HKPS	Hong Kong Po S	23.32	255	P	P	10 01 28.1	+0.2
HKPS				IAmb	IAmb	10 01 33.2	
	comp=Z,336nm,0.8s						
HIA	Hailar	23.62	328	P	P	10 01 30.8	+0.5
GZH	Guangzhou	23.66	258	P	P	10 01 26.9	-4.1
GZH				sP	sP	10 03 20.1	-3.4
GZH				S	S	10 05 10.8	-5.4
GZH				pmax	pmax		
	comp=Z,1μm,1.8s						
SKR	Severo-Kuril's	24.11	28	eP	P	10 01 32.8	-1.8
SKR				eS	S	10 05 21.7	-1.0
SKR				pmax	pmax		
	comp=Z,2μm,6.0s						
SKR				MLR	MLR		
	comp=Z,2μm,17.0s						
HHC	Hu-ho-hao-te	24.21	303	eP	P	10 01 36.2	+0.3
HHC				sP	sP	10 03 27.3	-4.5
HHC				S	S	10 05 24.6	-0.2
HHC				ScS	ScS	10 11 50.4	-1.6
HHC				pmax	pmax		
	comp=Z,2μm,0.9s						
HHC				pmax	pmax		
	comp=Z,6μm,4.7s						
ZEA	Zeya	24.71	344	eP	P	10 01 41.0	+1.0
ZEA				eS	S	10 05 31.4	-0.6
ZEA				pmax	pmax		
	comp=N,340nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,610nm,0.8s						
ZEA				pmax	pmax		
	comp=E,200nm,1.0s						
ZEA				pmax	pmax		
	comp=N,300nm,0.9s						
ZEA				smax	smax		
	comp=N,1μm,2.6s						
ZEA				smax	smax		
	comp=E,2μm,3.0s						
ZEA				MLR	MLR		
	comp=N,2μm,13.0s						
ZEA				MLR	MLR		
	comp=E,2μm,13.0s						
ZEA				MLR	MLR		
	comp=Z,2μm,13.0s						
ENH	Enshi	25.09	277	P	P	10 01 44.0	+0.3
BTO	Baotou	25.28	302	⇓iP	P	10 01 46.9	+1.6
BTO				S	S	10 05 44.0	+2.4
BTO				pmax	pmax		
	comp=Z,2μm,0.9s						
BTO				pmax	pmax		
	comp=Z,11μm,7.7s						
BTO				LR	LR		
	comp=Z,5μm,16.1s						
BTO				LR	LR		
	comp=Z,5μm,16.9s						
BTO				LR	LR		
	comp=Z,5μm,14.9s						
XAN	Xi'an	25.31	286	⇓P	P	10 01 45.9	+0.2
XAN				S	S	10 05 34.8	-7.3
XAN				pmax	pmax		
	comp=Z,4μm,1.1s						
XAN				pmax	pmax		
	comp=Z,11μm,3.9s						
GULI	GuiLin	25.43	265	P	P	10 01 48.3	+1.5
GULI				S	S	10 05 42.4	-1.8
GULI				pmax	pmax		
	comp=Z,1μm,0.9s						
GULI				LR	LR		
	comp=Z,4μm,9.0s						
GULI				LR	LR		
	comp=Z,3μm,12.3s						
GULI				LR	LR		
	comp=Z,7μm,19.9s						
DAV	Davao City (W)	26.24	210	P	P	10 01 53.8	-0.3
DAV	Davao City (W)	26.24	210	P	P	10 01 53.7	-0.4
DAV				P	P	10 01 53.7	-0.4
DAV				S	S	10 05 55.9	-1.1
DAV				S	S	10 05 55.9	-1.1
DAV	Davao City (W)	26.24	210	P	P	10 01 54.0	-0.1
PEA0B	Petropavlovsk-	26.61	26	P	P	10 01 57.0	+0.1
PEA0B				IAmb	IAmb	10 01 58.7	
	comp=Z,710nm,1.2s						
PEA0B	Petropavlovsk-	26.61	26	ciP	P	10 01 57.0	+0.1
PETK	Petropavlovsk-	26.61	26	P	P	10 01 56.4	-0.5
	comp=Z,262nm,0.9s,baz=210,slow=5.1,SNR=145						
PETK				pP	pP	10 03 05.1	+0.1
	comp=Z,77nm,1.1s,baz=165,slow=6.2,SNR=1.6						
PETK				ScP	ScP	10 08 09.4	-1.1
	comp=Z,61nm,0.9s,baz=192,slow=3.1,SNR=14						
	comp=Z,262nm,0.9s						
PET	Petropavlovsk	26.92	27	P	P	10 01 59.7	+0.1
PET	Petropavlovsk	26.92	27	P	P	10 01 59.8	+0.2
PET	Petropavlovsk	26.92	27	eP	P	10 01 59.6	+0.1
PET				e*PP	pP	10 03 08.4	+0.1
PET				e*SP	sP	10 03 55.3	-1.6
PET				eS	S	10 06 05.3	-1.5
PET				e		10 08 10.9	
PET				pmax	pmax		
	comp=Z,793nm,1.5s						
PET				pmax	pmax		
	comp=Z,1μm,12.3s						
PET				MLR	MLR		
	comp=Z,500nm,14.0s						
PET	Petropavlovsk	26.92	27	P	P	10 01 59.6	+0.1
	comp=Z,10μmcomp=Z,837nm,1.4s						
H11N2	WAKE ISLAND Hy 27.69	106		P	P	10 02 06.8	+0.2
	baz=270,slow=9.9,SNR=18						
H11N1	WAKE ISLAND Hy 27.70	106		P	P	10 02 06.8	+0.2
	baz=270,slow=9.9,SNR=25						
H11N3	WAKE ISLAND Hy 27.71	106		P	P	10 02 07.1	+0.4
	baz=270,slow=9.9,SNR=15						
H11S3	WAKE ISLAND Hy 28.12	108		P	P	10 02 11.0	+0.6
	baz=267,slow=5.9,SNR=9.6						
H11S1	WAKE ISLAND Hy 28.12	108		P	P	10 02 11.0	+0.6
	baz=267,slow=5.9,SNR=16						
H11S2	WAKE ISLAND Hy 28.14	108		P	P	10 02 11.0	+0.5
	baz=267,slow=5.9,SNR=12						
GYA	Guiyang	28.30	270	⇓P	P	10 02 12.4	+0.2
GYA				pmax	pmax		
	comp=Z,1μm,1.0s						
GYA				LR	LR		
	comp=Z,6μm,14.4s						
QIZ	Qiongzhong	28.38	253	P	P	10 02 14.6	+1.6
QIZ				pP	pP	10 03 25.4	+1.5
QIZ				sP	sP	10 04 08.3	-0.7
QIZ				PcP	PcP	10 05 15.1	+1.3
QIZ				S	S	10 06 32.1	+1.5
QIZ				ScP	ScP	10 08 17.9	+1.3
QIZ				ScS	ScS	10 12 09.0	-1.7
QIZ				pmax	pmax		
	comp=Z,380nm,0.9s						
QIZ				pmax	pmax		
	comp=Z,2μm,4.0s						
QIZ	Qiongzhong	28.38	253	P	P	10 02 14.5	+1.6
CIT	Chita	28.39	327	⇑iP	P	10 02 14.0	+1.4
CIT				e		10 03 26.4	
CIT				e		10 04 09.0	
CIT				e		10 05 14.5	
CIT				eS	S	10 06 31.5	+1.5
CIT				pmax	pmax		
	comp=Z,4μm,1.2s						
SGSI	Sangihe	29.32	207	P	P	10 02 20.7	-0.5
LZH	Lanzhou	29.49	290	⇓P	P	10 02 23.0	+0.3
LZH				pP	pwP	10 03 36.4	-2.4
LZH				sP	sP	10 04 15.8	-3.5
LZH				PcP	PcP	10 05 18.2	+1.6
LZH				S	S	10 06 45.8	-2.1
LZH				ScP	ScP	10 08 21.8	+1.7
LZH				sS	sS	10 09 01.3	+1.5
LZH				ScS	ScS	10 12 15.8	0.0
LZH				pmax	pmax		
	comp=Z,2μm,1.3s						
LZH				pmax	pmax		
	comp=Z,5μm,4.7s						
LZH				LR	LR		
	comp=Z,4μm,15.8s						
LZH				LR	LR		
	comp=Z,2μm,15.8s						
LZH				LR	LR		
	comp=Z,3μm,16.2s						
ULN	Ulaanbaatar	29.74	315	P	P	10 02 25.7	+0.9
ULN	Ulaanbaatar	29.74	315	P	P	10 02 25.6	+0.9
ULN				P	P	10 02 25.6	+0.9
ULN				S	S	10 06 50.7	-0.8
ULN				S	S	10 06 50.7	-0.8

ULN	**Ulaanbaatar**	**29.74 315**	*d iP*	**P**	**10 02 25.4**	**+0.7**
ULN			pmax	pmax		
	comp=Z,1μm,1.1s					
CD2	**Chengdu**	**29.89 280**	⇓P	**P**	**10 02 26.0**	**-0.1**
CD2			pP	pP	10 03 37.3	+0.3
CD2			sP	sP	10 04 20.9	-1.8
CD2			S	**S**	**10 06 53.3**	**-0.6**
CD2			sS	sS	10 09 05.4	-0.6
CD2			SS	**SS**	**10 09 22.5**	**+0.2**
CD2			pmax	pmax		
	comp=Z,2μm,0.6s					
CD2			LR	LR		
	comp=Z,4μm,8.3s					
CD2			LR	LR		
	comp=Z,5μm,9.5s					
SONM	**Songino Array**	**30.14 314**	P	**P**	**10 02 28.9**	**+0.8**
SONM			IAmb	IAmb	10 02 30.0	
	comp=Z,1μm,1.2s					
SONM	**Songino Array**	**30.14 314**	P	**P**	**10 02 28.8**	**+0.7**
	comp=Z,521nm,0.9s,baz=120,slow=7.9,SNR=1078					
SONM			PcP	**PcP**	**10 05 18.7**	**+0.6**
	comp=Z,47nm,0.7s,baz=105,slow=2.1,SNR=22					
SONM			ScP	**ScP**	**10 08 22.2**	**+0.2**
	comp=Z,38nm,0.9s,baz=142,slow=3.9,SNR=8.2					
SONM			ScS	**ScS**	**10 12 19.1**	**+0.6**
	comp=Z,7.1nm,0.9s,baz=176,slow=4.1,SNR=5.4					
	comp=Z,521nm,0.9s					
MA2	**Magadan**	**30.30 12**	P	**P**	**10 02 29.6**	**+0.4**
MA2	**Magadan**	**30.30 12**	P	**P**	**10 02 29.6**	**+0.4**
MA2	**Magadan**	**30.30 12**	*c iP*	**P**	**10 02 29.5**	**+0.4**
MA2			pmax	pmax		
	comp=Z,942nm,1.0s					
MA2	**Magadan**	**30.30 12**	P	**P**	**10 02 29.4**	**+0.3**
	comp=Z,15μmcomp=Z,1μm,1.3s					
MA2	**Magadan**	**30.30 12**	P	**P**	**10 02 29.5**	**+0.3**
MA2			pP	**pP**	**10 03 42.1**	**+0.8**
MA2			ScP	**ScP**	**10 08 21.2**	**-0.8**
TNTI	**Ternate**	**31.36 202**	P	**P**	**10 02 38.3**	**-0.5**
TNTI	**Ternate**	**31.36 202**	P	**P**	**10 02 39.0**	**+0.1**
TNTI	**Ternate**	**31.36 202**	P	**P**	**10 02 38.4**	**-0.5**
	comp=Z,5μmcomp=Z,444nm,1.1s					
MYLDM	**Lahad Datu**	**31.44 221**	P	**P**	**10 02 41.3**	**+1.7**
MYLDM	**Lahad Datu**	**31.44 221**	P	**P**	**10 02 41.7**	**+2.1**
SWI	**Sorong**	**31.88 194**	P	**P**	**10 02 43.1**	**-0.3**
	comp=Z,4μmcomp=Z,354nm,0.9s					
RKPI	**Ransiki, Papua**	**32.03 188**	P	**P**	**10 02 45.8**	**+1.1**
	comp=Z,7μmcomp=Z,206nm,1.4s					
KMI	**Kunming**	**32.06 269**	⇓P	**P**	**10 02 45.7**	**+0.5**
KMI			pP	pP	10 03 57.3	+0.5
KMI			PP	**PnPn**	**10 04 12.3**	**+1.1**
KMI			sP	sP	10 04 41.2	-0.9
KMI			PcP	**PcP**	**10 05 24.6**	**+0.8**
KMI			S	**S**	**10 07 27.1**	**-0.9**
KMI			ScP	**ScP**	**10 08 30.0**	**+1.1**
KMI			sS	sS	10 09 41.6	+0.9
KMI			ScS	**ScS**	**10 12 29.6**	**+0.5**
KMI			pmax	pmax		
	comp=Z,650nm,0.9s					
KMI			pmax	pmax		
	comp=Z,3μm,3.7s					
KMI			LR	LR		
	comp=Z,2μm,14.4s					
KMI			LR	LR		
	comp=Z,2μm,14.1s					
KMI			LR	LR		
	comp=Z,2μm,15.2s					
KMI	**Kunming**	**32.06 269**	P	**P**	**10 02 45.5**	**+0.3**
KMI			PcP	**PcP**	**10 05 24.5**	**+0.8**
KMI			ScP	**ScP**	**10 08 30.1**	**+1.1**
KKM	**Kota Kinabalu**	**32.10 225**	P	**P**	**10 02 46.3**	**+0.8**
KKM			IAmb	IAmb	10 03 01.5	
	comp=Z,423nm,1.0s					
KKM	**Kota Kinabalu**	**32.10 225**	P	**P**	**10 02 45.4**	**-0.1**
YAK	**Yakutsk**	**32.15 352**	P	**P**	**10 02 45.2**	**+0.1**
YAK			IAmb	IAmb	10 04 00.3	
	comp=Z,413nm,0.8s					
YAK	**Yakutsk**	**32.15 352**	P	**P**	**10 02 45.1**	**-0.1**
	comp=Z,257nm,0.8s,baz=157,slow=3.9,SNR=47					
YAK			pP	**pP**	**10 03 57.5**	**+0.3**
	comp=Z,356nm,0.8s,baz=134,slow=2.5,SNR=5.4					
YAK			S	**S**	**10 07 26.1**	**-1.8**
	comp=Z,256nm,0.9s,baz=57,slow=23,SNR=26					
YAK			ScP	**ScP**	**10 08 28.0**	**-0.1**
	comp=Z,128nm,0.7s,baz=190,slow=1.7,SNR=2.9					
	comp=Z,257nm,0.8s					
YAK	**Yakutsk**	**32.15 352**	*d iP*	**P**	**10 02 45.0**	**-0.1**
YAK			*e**PP	**pP**	**10 03 58.4**	**+1.3**
YAK			*e*		10 04 10.5	
YAK			*e*		10 05 22.2	
YAK			*e*S	**S**	**10 07 28.7**	**+0.8**
YAK			*e**SS	**sS**	**10 09 43.5**	**+3.0**
YAK			*e*SS	**SS**	**10 10 08.8**	**+1.9**
YAK			*e*		10 12 24.4	
YAK			pmax	pmax		
	comp=Z,282nm,0.8s					
YAK			pmax	pmax		
	comp=E,15nm,1.0s					
YAK			pmax	pmax		
	comp=N,91nm,1.1s					
YAK			pmax	pmax		
	comp=Z,175nm,0.9s					
YAK			pmax	pmax		
	comp=N,38nm,1.1s					
YAK			pmax	pmax		
	comp=E,64nm,1.1s					
YAK			smax	smax		
	comp=N,4μm,1.9s					
YAK			smax	smax		
	comp=E,2μm,1.4s					
SMPI	**Sarmi**	**32.23 180**	P	**P**	**10 02 46.3**	**-0.1**
	comp=E,4μmcomp=E,345nm,1.5s					
SLVN	**Son La**	**32.38 262**	P	**P**	**10 02 48.9**	**+1.0**
SLVN	**Son La**	**32.38 262**	P	**P**	**10 02 49.3**	**+1.5**
PZH	**PanZhiHua**	**32.53 272**	P	**P**	**10 02 49.2**	**+0.1**
PZH			PP	**PnPn**	**10 04 16.4**	**-0.1**
PZH			sP	**sP**	**10 04 45.9**	**-0.3**
PZH			PcP	**PcP**	**10 05 25.0**	**+0.1**
PZH			S	**S**	**10 07 32.0**	**-3.0**
PZH			ScP	**ScP**	**10 08 30.9**	**+0.5**
PZH			sS	**sS**	**10 09 44.1**	**-3.7**
PZH			SS	**SS**	**10 10 16.0**	**+0.1**
PZH			ScS	**ScS**	**10 12 29.2**	**-2.0**
PZH			pmax	pmax		
	comp=E,2μm,1.0s					
PZH			pmax	pmax		
	comp=E,4μm,3.5s					
KMSI	**Cibinong**	**32.77 208**	P	**P**	**10 02 50.1**	**-1.0**
JAY	**Jayapura**	**32.81 176**	P	**P**	**10 02 51.8**	**+0.3**
	comp=E,178nm,1.1s					
GTA	**Gaotai**	**32.83 297**	P	**P**	**10 02 52.0**	**+0.5**
GTA			PP	**PnPn**	**10 04 19.4**	**-0.3**
GTA			PcP	**PcP**	**10 05 26.9**	**+1.3**
GTA			S	**S**	**10 07 37.6**	**-1.6**
GTA			ScP	**ScP**	**10 08 32.2**	**+1.0**
GTA			PcS	**PcS**	**10 09 11.6**	**+0.1**
GTA			SS	**SS**	**10 10 17.6**	**-3.8**
GTA			ScS	**ScS**	**10 12 31.0**	**-1.4**
GTA			pmax	pmax		
	comp=E,2μm,1.1s					
GTA			pmax	pmax		
	comp=E,4μm,9.0s					
GTA			LR	LR		
	comp=E,850nm,12.7s					
GTA			LR	LR		
	comp=E,2μm,10.9s					
GTA			LR	LR		
	comp=E,2μm,10.9s					
GENI	**Genyem**	**32.86 177**	P	**P**	**10 02 53.5**	**+1.6**
GENI	**Genyem**	**32.86 177**	P	**P**	**10 02 54.0**	**+2.1**
	comp=E,6μmcomp=E,600nm,1.0s					
ZAK	**Zakamensk**	**33.03 317**	*e*P	**P**	**10 02 53.3**	**+0.2**
ZAK			*e*		10 12 33.2	
ZAK			pmax	pmax		
	comp=Z,834nm,1.2s					
IRK	**Irkutsk**	**33.28 321**	*e*P	**P**	**10 02 54.9**	**-0.1**
IRK			*e*		10 07 45.2	
IRK			pmax	pmax		
	comp=Z,952nm,2.6s					
DLV	**Lat**	**33.39 243**	P	**P**	**10 02 57.8**	**+1.2**
DLV				**PcP**	**10 05 28.7**	**+1.1**
DLV	**Lat**	**33.39 243**	P	**P**	**10 02 57.6**	**+1.0**
TOLI2	**Tolitoli**	**33.70 213**	P	**P**	**10 02 58.3**	**-0.7**
TOLI2	**Tolitoli**	**33.70 213**	P	**P**	**10 02 58.4**	**-0.6**
FAKI	**Fak Fak**	**33.70 191**	P	**P**	**10 02 58.0**	**-1.0**
FAKI	**Fak Fak**	**33.70 191**	P	**P**	**10 02 58.4**	**-0.3**
FAKI	**Fak Fak**	**33.70 191**	P	**P**	**10 02 58.7**	**-0.3**
SEY	**Seymchan**	**33.72 11**	*c iP*	**P**	**10 02 59.3**	**+0.7**
SEY			pmax	pmax		
	comp=Z,815nm,1.3s					
MRSI	**Marisa**	**33.72 211**	P	**P**	**10 02 58.9**	**-0.3**
	comp=Z,3μmcomp=Z,14μmcomp=Z,1μm,1.2s					
UBPT	**Khong Chiam**	**33.88 251**	P	**P**	**10 03 01.7**	**+1.1**
UBPT	**Khong Chiam**	**33.88 251**	P	**P**	**10 03 01.5**	**+0.9**
SMY	**Shemya**	**34.15 39**	P	**P**	**10 03 03.9**	**+1.5**
SMY	**Shemya**	**34.15 39**	P	**P**	**10 03 04.3**	**+1.9**
SMY	**Shemya**	**34.15 39**	P	**P**	**10 03 03.9**	**+1.5**
KMPI	**Kaimana, Papua**	**34.21 189**	P	**P**	**10 03 02.5**	**-0.8**
	comp=Z,286nm,1.1s					
NONG	**Nongkai**	**34.43 257**	P	**P**	**10 03 06.1**	**+0.8**
SANI	**Sanana**	**34.45 203**	P	**P**	**10 03 02.6**	**-2.9**
SANI	**Sanana**	**34.45 203**	P	**P**	**10 03 03.9**	**-1.5**
SANI	**Sanana**	**34.45 203**	P	**P**	**10 03 04.1**	**-1.3**
	comp=Z,3μmcomp=Z,7μmcomp=Z,759nm,0.9s					
LUWI	**Luwuk**	**34.73 209**	P	**P**	**10 03 05.7**	**-2.1**
LUWI	**Luwuk**	**34.73 209**	P	**P**	**10 03 04.3**	**-3.5**
LUWI	**Luwuk**	**34.73 209**	P	**P**	**10 03 06.1**	**-1.6**
LUWI	**Luwuk**	**34.73 209**	P	**P**	**10 03 07.0**	**-0.7**
	comp=Z,5μmcomp=Z,385nm,0.8s					
MPSI	**Mapaga**	**34.80 214**	P	**P**	**10 03 07.7**	**-0.6**
MSAI	**Masohi**	**34.82 197**	P	**P**	**10 03 08.0**	**-0.5**
	comp=Z,4μmcomp=Z,8μmcomp=Z,468nm,1.8s					
MOY	**Mondy**	**34.87 318**	*e*P	**P**	**10 03 09.1**	**+0.4**
MOY			pmax	pmax		
	comp=Z,692nm,1.9s					
APSI	**Ampana**	**35.09 210**	P	**P**	**10 03 10.1**	**-0.7**
	comp=Z,12μmcomp=Z,1μm,1.2s					
NLAI	**Namlea**	**35.23 200**	P	**P**	**10 03 09.0**	**-2.9**
	comp=Z,2μmcomp=Z,4μmcomp=Z,307nm,0.9s					
AAI	**Ambon**	**35.34 198**	P	**P**	**10 03 12.4**	**-0.5**
	comp=Z,9μmcomp=Z,950nm,0.8s					
TABU	**Tabubil**	**35.58 175**	P	**P**	**10 03 17.2**	**+2.2**
BNDI	**Bandanaira**	**35.73 195**	P	**P**	**10 03 16.4**	**+0.3**
BNDI	**Bandanaira**	**35.73 195**	P	**P**	**10 03 13.2**	**-2.9**
	comp=Z,2μmcomp=Z,10μmcomp=Z,621nm,1.1s					
TNCH	**TengChong**	**35.74 271**	⇓P	**P**	**10 03 17.4**	**+1.0**
TNCH			pP	pP	10 04 31.1	+1.9
TNCH			PP	**PP**	**10 04 50.4**	**+2.4**
TNCH			sP	sP	10 05 14.1	-0.3
TNCH			PcP	**PcP**	**10 05 35.4**	**+1.0**
TNCH			S	**S**	**10 08 25.3**	**+1.4**
TNCH			ScP	**ScP**	**10 08 43.4**	**+1.4**
TNCH			PcS	**PcS**	**10 09 22.5**	**-0.2**
TNCH			sS	sS	10 10 39.0	+0.8
TNCH			pmax	pmax		
	comp=Z,3μm,1.0s					
TNCH			pmax	pmax		
	comp=Z,9μm,4.0s					
TNCH			LR	LR		
	comp=Z,2μm,11.2s					
TNCH			LR	LR		
	comp=Z,3μm,13.8s					
TNCH			LR	LR		
	comp=Z,5μm,14.0s					
RABL	**Rabaul**	**36.79 157**	P	**P**	**10 03 24.2**	**-0.8**
GOMU	**GeErMu**	**36.80 291**	P	**P**	**10 03 26.1**	**+0.8**
GOMU			pP	pP	10 04 38.6	-0.2
GOMU			PcP	**PcP**	**10 05 38.9**	**+1.3**
GOMU			S	**S**	**10 08 39.1**	**-0.9**
GOMU			pmax	pmax		
	comp=Z,4μm,1.0s					
GOMU			LR	LR		
	comp=Z,2μm,16.4s					
GOMU			LR	LR		
	comp=Z,2μm,15.1s					
GOMU			LR	LR		
	comp=Z,3μm,16.9s					
SMKI	**Samarinda**	**36.83 217**	P	**P**	**10 03 26.2**	**+0.8**
	comp=Z,567nm,1.4s					
SBUM	**Sibu**	**37.38 227**	P	**P**	**10 03 30.4**	**+0.5**
SBUM	**Sibu**	**37.38 227**	P	**P**	**10 03 30.4**	**+0.5**
LKP	**Lekhapani**	**37.39 276**	*e*P	**P**	**10 03 27.1**	**-2.8**
CHTO	**Chiang Mai**	**37.67 261**	P	**P**	**10 03 33.1**	**+0.8**
CHTO	**Chiang Mai**	**37.67 261**	P	**P**	**10 03 33.1**	**+0.8**
CHTO			P	**P**	**10 03 33.1**	**+0.8**
CHTO	**Chiang Mai**	**37.67 261**	P	**P**	**10 03 32.8**	**+0.4**
CHTO	**Chiang Mai**	**37.67 261**	P	**P**	**10 03 33.1**	**+0.8**
CHTO			pmax	pmax		
	comp=Z,2μm,0.9s					
CHTO	**Chiang Mai**	**37.67 261**	⇓P	**P**	**10 03 33.1**	**+0.8**
CHTO			pP	**pP**	**10 04 47.8**	**+2.0**
CHTO			PcP	**PcP**	**10 05 41.1**	**+1.0**
BKB	**Balikpapan**	**37.68 217**	P	**P**	**10 03 32.3**	**-0.1**
BKB			IAmb	IAmb	10 03 34.5	
	comp=Z,564nm,0.8s					
BKB	**Balikpapan**	**37.68 217**	P	**P**	**10 03 33.9**	**+1.5**
BKB	**Balikpapan**	**37.68 217**	P	**P**	**10 03 31.7**	**-0.7**
	comp=Z,4μmcomp=Z,12μmcomp=Z,1μm,1.4s					
NAYO	**Nakonayok**	**37.80 253**	P	**P**	**10 03 34.1**	**+0.7**
TTSI	**Tana Toraja**	**37.80 212**	P	**P**	**10 03 33.6**	**+0.2**
	comp=Z,173nm,0.9s					
CM31	**Chiang Mai Arr**	**37.82 261**	P	**P**	**10 03 34.6**	**+0.9**
CM31			IAmb	IAmb	10 03 35.3	
	comp=Z,596nm,0.7s					
CM31	**Chiang Mai Arr**	**37.82 261**	P	**P**	**10 03 34.8**	**+1.1**
	SNR=317					
CM31			P	**P**	**10 03 34.8**	**+1.1**
	SNR=317					
CM31			S	S	10 08 44.8	-10
CM31			S	S	10 08 44.8	-10
CMAR	**Chiang Mai Arr**	**37.82 261**	P	**P**	**10 03 34.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**37.82 261**	P	**P**	**10 03 34.5**	**+0.9**
	comp=Z,368nm,0.7s,baz=58,slow=6.4,SNR=1511					
CMAR			PcP	**PcP**	**10 05 41.9**	**+1.3**
	comp=Z,120nm,0.9s,baz=35,slow=1.2,SNR=12					
CMAR			ScP	**ScP**	**10 08 51.4**	**+1.7**
	comp=Z,107nm,1.0s,baz=34,slow=2.9,SNR=27					
CMAR			PKiKP	**PKiKP**	**10 12 55.6**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=306,slow=2.0,SNR=4.4					
	comp=Z,368nm,0.7s					
MIDW	**Midway**	**38.29 82**	P	**P**	**10 03 38.2**	**+0.9**
MTKI	**Muara Teweh, K**	**38.49 220**	P	**P**	**10 03 39.3**	**+0.1**
SPSI	**Sidrap Palu**	**38.64 211**	P	**P**	**10 03 39.7**	**-0.6**
	comp=Z,3μmcomp=Z,235nm,1.0s					
SAUI	**Saumlaki**	**38.82 192**	P	**P**	**10 03 42.3**	**+0.6**
SAUI			IAmb	IAmb	10 03 43.6	
	comp=Z,2μm,1.6s					
SAUI				**PcP**	**10 05 45.6**	**+1.9**
SAUI	**Saumlaki**	**38.82 192**	P	**P**	**10 03 42.1**	**+0.3**
SAUI	**Saumlaki**	**38.82 192**	P	**P**	**10 03 42.0**	**+0.3**
	comp=Z,8μmcomp=Z,602nm,1.3s					
KIWB	**Kanaga Island**	**38.84 44**	P	**P**	**10 03 41.6**	**+0.1**
BBSI	**Bau Bau**	**38.86 206**	P	**P**	**10 03 40.9**	**-1.2**
	comp=Z,3μmcomp=Z,5μmcomp=Z,317nm,1.2s					
BNSI	**Bone**	**38.88 210**	P	**P**	**10 03 43.0**	**+0.7**
	comp=Z,8μmcomp=Z,534nm,1.1s					
JORH	**JORHAT**	**38.92 276**	*e*P	**P**	**10 03 39.9**	**-2.6**
ZIRO	**ZIRO**	**39.05 277**	*e*P	**P**	**10 03 42.6**	**-1.3**
ITAN	**ITANAGAR**	**39.27 277**	*e*P	**P**	**10 03 43.3**	**-2.1**
KOHI	**KOHIMA**	**39.34 274**	*e*P	**P**	**10 03 43.0**	**-3.1**
KSM	**Kuching**	**39.35 228**	P	**P**	**10 03 47.2**	**+1.1**
KSM			IAmb	IAmb	10 03 48.7	
	comp=Z,850nm,1.0s					
KSM	**Kuching**	**39.35 228**	P	**P**	**10 03 47.1**	**+1.0**
GSTR	**Great Sitkin T**	**39.56 44**	P	**P**	**10 03 47.4**	**0.0**
KAPI	**Kappang**	**39.58 210**	P	**P**	**10 03 48.2**	**+0.2**
KAPI			IAmb	IAmb	10 03 49.9	
	comp=Z,618nm,1.2s					
KAPI	**Kappang**	**39.58 210**	P	**P**	**10 03 47.9**	**-0.1**
KAPI			P	**P**	**10 03 47.9**	**-0.1**
KAPI			S	**S**	**10 09 19.4**	**-1.5**
KAPI			S	**S**	**10 09 19.4**	**-1.5**
KAPI	**Kappang**	**39.58 210**	P	**P**	**10 03 48.5**	**+0.5**
KAPI	**Kappang**	**39.58 210**	*d iP*	**P**	**10 03 48.1**	**+0.1**
KAPI			pmax	pmax		
	comp=Z,395nm,1.1s					
KAPI	**Kappang**	**39.58 210**	P	**P**	**10 03 48.2**	**+0.2**
KAPI			pP	**pP**	**10 05 02.5**	**+0.1**
KAPI			PcP	**sP**	**10 05 46.9**	**0.0**
STKI	**Sintang**	**39.69 226**	P	**P**	**10 03 48.1**	**-0.9**
	comp=Z,14μmcomp=Z,639nm,0.9s					
BKSI	**Bulukumba**	**39.70 210**	P	**P**	**10 03 48.3**	**-0.6**
IMP	**Imphal**	**39.75 273**	*e*P	**P**	**10 03 47.1**	**-2.3**
BSSI	**Bau Bau, Buton**	**40.28 209**	P	**P**	**10 03 53.0**	**-0.7**
	comp=Z,3μmcomp=Z,155nm,0.7s					
PMG	**Port Moresby**	**40.45 167**	P	**P**	**10 03 54.1**	**-0.9**
PMG	**Port Moresby**	**40.45 167**	P	**P**	**10 03 54.8**	**-0.2**
PMG	**Port Moresby**	**40.45 167**	P	**P**	**10 03 55.1**	**+0.1**
PMG	**Port Moresby**	**40.45 167**	*d iP*	**P**	**10 03 54.4**	**-0.6**
PMG			pmax	pmax		
	comp=Z,79nm,1.3s					
PMG	**Port Moresby**	**40.45 167**	P	**P**	**10 03 54.3**	**-0.7**
PMG			PcP	**PcP**	**10 05 49.2**	**+0.3**
PMG			ScP	**ScP**	**10 08 58.9**	**-0.8**
ATKA	**Atka Island**	**40.70 44**	P	**P**	**10 03 56.2**	**-0.4**
ATKA			IAmb	IAmb	10 03 57.5	
	comp=Z,789nm,0.9s					
ATKA	**Atka Island**	**40.70 44**	P	**P**	**10 03 56.4**	**-0.2**
TAWA	**Tawang**	**40.73 278**	*e*P	**P**	**10 03 55.0**	**-2.7**
LSA	**Lhasa**	**40.82 281**	P	**P**	**10 04 00.0**	**+1.5**
LSA	**Lhasa**	**40.82 281**	P	**P**	**10 04 00.0**	**+1.5**
LSA			S	**S**	**10 09 38.1**	**-1.9**
LSA			pmax	pmax		
	comp=Z,330nm,1.1s					
LSA			LR	LR		
	comp=Z,490nm,14.4s					
LSA			LR	LR		
	comp=Z,2μm,15.1s					
LSA	**Lhasa**	**40.82 281**	P	**P**	**10 04 00.0**	**+1.5**
LSA			pmax	pmax		
	comp=Z,237nm,0.8s					
LSA	**Lhasa**	**40.82 281**	P	**P**	**10 03 59.4**	**+0.9**
LSA	**Lhasa**	**40.82 281**	P	**P**	**10 03 59.7**	**+1.2**
LSA			pP	**pP**	**10 05 14.9**	**+1.5**
LSA			PcP	**PcP**	**10 05 51.4**	**+0.7**
BILL	**Bilibino**	**41.01 15**	P	**P**	**10 03 59.5**	**+0.5**
BILL	**Bilibino**	**41.01 15**	*c iP*	**P**	**10 03 59.2**	**+0.3**
BILL			pmax	pmax		
	comp=Z,2μm,1.0s					
BILL	**Bilibino**	**41.01 15**	P	**P**	**10 03 59.4**	**+0.5**
BILL			ScP	**ScP**	**10 09 00.7**	**-0.5**
SHL	**Shillong**	**41.30 275**	P	**P**	**10 04 01.9**	**-0.2**
SHL			IAmb	IAmb	10 04 03.9	
	comp=Z,649nm,1.0s					
SHL	**Shillong**	**41.30 275**	P	**P**	**10 04 02.0**	**0.0**
	SNR=277					
SHL	**Shillong**	**41.30 275**	*e*P	**P**	**10 03 59.3**	**-2.8**
SHL	**Shillong**	**41.30 275**	P	**P**	**10 04 01.9**	**-0.2**
SHL			pmax	pmax		
	comp=Z,649nm,1.0s					
SAIH	**SAIHA**	**41.36 270**	*e*P	**P**	**10 04 01.2**	**-1.3**
TIXI	**Tiksi**	**41.62 355**	P	**P**	**10 04 03.5**	**-0.2**
TIXI	**Tiksi**	**41.62 355**	P	**P**	**10 04 03.5**	**-0.2**
	comp=Z,28nm,0.5s,baz=159,slow=5.4,SNR=68					
	comp=Z,28nm,0.5s					
TIXI	**Tiksi**	**41.62 355**	*de*P	**P**	**10 04 03.3**	**-0.4**
TIXI			pmax	pmax		
	comp=Z,68nm,1.3s					
TIXI	**Tiksi**	**41.62 355**	P	**P**	**10 04 03.5**	**-0.2**
TIXI			PcP	**PcP**	**10 05 51.2**	**-0.6**
MMRI	**Maumere**	**41.89 205**	P	**P**	**10 04 05.8**	**-0.8**
MMRI	**Maumere**	**41.89 205**	P	**P**	**10 04 06.9**	**+0.3**
MMRI	**Maumere**	**41.89 205**	P	**P**	**10 04 05.4**	**-1.2**
	comp=Z,4μmcomp=Z,7μmcomp=Z,270nm,1.0s					
WMQ	**Urumqi**	**42.09 303**	⇓P	**P**	**10 04 08.8**	**+0.8**
WMQ			PcP	**PP**	**10 05 54.9**	**-0.5**
WMQ			ScP	**ScP**	**10 09 06.9**	**+0.8**
WMQ			S	**S**	**10 09 56.9**	**-0.4**
WMQ			ScS	**ScS**	**10 13 24.1**	**-1.2**
WMQ			pmax	pmax		
	comp=Z,2μm,1.3s					
WMQ			pmax	pmax		
	comp=Z,6μm,4.1s					
WMQ			LR	LR		
	comp=Z,1μm,17.7s					
WMQ			LR	LR		
	comp=Z,1μm,15.3s					
WMQ			LR	LR		
	comp=Z,620nm,18.7s					
WMQ	**Urumqi**	**42.09 303**	P	**P**	**10 04 08.9**	**+0.8**
WMQ			PcP	**PP**	**10 05 55.0**	**-0.4**
WMQ			ScP	**ScP**	**10 09 06.6**	**+0.5**
EDFI	**Ende, Flores**	**42.19 205**	P	**P**	**10 04 07.3**	**-1.8**
	comp=Z,2μmcomp=Z,5μmcomp=Z,319nm,1.6s					
SOEI	**Soe**	**42.25 201**	P	**P**	**10 04 08.7**	**-0.9**
SOEI			IAmb	IAmb	10 05 44.9	
	comp=Z,566nm,1.1s					
SOEI	**Soe**	**42.25 201**	P	**P**	**10 04 07.9**	**-1.8**
SOEI	**Soe**	**42.25 201**	P	**P**	**10 04 09.8**	**+0.2**
SOEI	**Soe**	**42.25 201**	P	**P**	**10 04 10.1**	**+0.5**
	comp=Z,5μmcomp=Z,432nm,1.1s					
SRIT	**Nakonsritamara**	**42.37 247**	P	**P**	**10 04 11.9**	**+1.4**
SRIT	**Nakonsritamara**	**42.37 247**	P	**P**	**10 04 11.9**	**+1.4**
AGT	**Agartala**	**42.38 273**	*e*P	**P**	**10 04 08.9**	**-1.6**
DRS	**Darwin Rock St**	**43.24 191**	P	**P**	**10 04 16.6**	**-0.7**
KDU	**Kakadu**	**43.26 189**	P	**P**	**10 04 16.8**	**-0.6**
	comp=Z,471nm,1.5s					
KDU	**Kakadu**	**43.26 189**	P	**P**	**10 04 16.7**	**-0.7**
MYKOM	**Kota Tinggi**	**43.52 236**	P	**P**	**10 04 20.8**	**+1.2**
MYKOM	**Kota Tinggi**	**43.52 236**	P	**P**	**10 04 20.7**	**+1.1**
KULM	**Kulim**	**43.57 243**	P	**P**	**10 04 20.5**	**+0.5**
GTK	**Tadong**	**43.60 279**	*e*P	**P**	**10 04 19.3**	**-1.0**
MTN	**Manton Dam**	**43.61 191**	P	**P**	**10 04 19.4**	**-0.8**
	comp=Z,459nm,1.1s					
MTN	**Manton Dam**	**43.61 191**	P	**P**	**10 04 19.5**	**-0.7**
TATA	**Tatamba Isabel**	**43.64 149**	P	**P**	**10 04 20.7**	**+0.3**
TPRI	**Tanjung Pinang**	**43.65 234**	P	**P**	**10 04 20.9**	**+0.3**
	comp=Z,4μmcomp=Z,471nm,1.6s					
BWJI	**Bawean**	**43.79 219**	P	**P**	**10 04 19.9**	**-1.8**
	comp=Z,3μmcomp=Z,15μmcomp=Z,1μm,1.2s					
PLAI	**Plampang**	**43.85 210**	P	**P**	**10 04 20.6**	**-1.5**
PLAI	**Plampang**	**43.85 210**	P	**P**	**10 04 20.6**	**-1.5**
	comp=Z,3μmcomp=Z,8μmcomp=Z,795nm,1.1s					
WBSI	**Waikabubak, Su**	**43.90 208**	P	**P**	**10 04 20.5**	**-2.0**
	comp=Z,294nm,0.9s					
BASI	**Baing, Sumba**	**43.96 206**	P	**P**	**10 04 23.3**	**+0.3**
	comp=Z,4μmcomp=Z,272nm,1.1s					
NIKH	**Nikolski High**	**44.04 44**	P	**P**	**10 04 22.4**	**-0.7**
NIKH	**Nikolski High**	**44.04 44**	P	**P**	**10 04 23.1**	**-0.1**
NIKH	**Nikolski High**	**44.04 44**	P	**P**	**10 04 22.5**	**-0.7**
	baz=261,SNR=92					
KMMI	**Kalianget**	**44.11 216**	P	**P**	**10 04 24.3**	**+0.1**
	comp=Z,11μmcomp=Z,1μm,1.2s					
SPIA	**Saint Paul Isl**	**44.15 38**	P	**P**	**10 04 24.5**	**+0.6**
SPIA	**Saint Paul Isl**	**44.15 38**	P	**P**	**10 04 24.2**	**+0.3**
SPIA	**Saint Paul Isl**	**44.

JAGI Jajag, Banyuwa 45.23 215 P **P 10 04 32.0 -0.9**
comp=Z,3µmcomp=Z,4µmcomp=Z,443nm,1.1s
DGPR DIGLIPUR 45.40 258 *e*P **P 10 04 33.3 -0.9**
GMJI Gumukmas 45.42 216 P **P 10 04 33.2 -1.1**
UNV Unalaska Valle 45.56 43 P **P 10 04 33.9 -1.1**
UNV Unalaska Valle 45.56 43 P **P 10 04 33.3 -1.6**
baz=262,SNR=11
GAMB Gambell 45.61 28 P **P 10 04 35.4 +0.2**
GAMB Gambell 45.61 28 P **P 10 04 36.0 +0.9**
baz=247,SNR=26
GAMB S **S 10 10 48.3 +1.5**
baz=247
NGJI Ngawi 45.70 219 P **P 10 04 36.8 +0.2**
comp=Z,6µmcomp=Z,521nm,1.1s
MK31 Makanchi Array 45.94 307 P **P 10 04 38.3 +0.2**
MK31 IAmb IAmb 10 04 39.6
comp=Z,771nm,0.9s
MK31 PcP **PcP 10 06 07.5 +0.1**
MK31 Makanchi Array 45.94 307*d i*P **P 10 04 38.3 +0.2**
MKAR Makanchi Array 45.94 307 P **P 10 04 38.2 +0.1**
MKAR PcP **PcP 10 06 07.8 +0.5**
MKAR Makanchi Array 45.94 307 P **P 10 04 38.3 +0.3**
comp=Z,812nm,0.9s,baz=92,slow=9.6,SNR=3309
MKAR ScP **ScP 10 09 21.9 +0.1**
comp=Z,25nm,0.6s,baz=85,slow=5.4,SNR=9.5
MKAR PKiKP **PKiKP 10 13 00.7 -1.3**
comp=Z,3.7nm,0.7s,baz=248,slow=0.8,SNR=7.3
MKAR ScS **ScS 10 13 47.0 -2.7**
comp=Z,28nm,0.9s,baz=98,slow=8.7,SNR=12
MKAR P4KPbc 10 42 19.3
comp=Z,3.9nm,0.6s,baz=80,slow=4.7,SNR=21
comp=Z,812nm,0.9s
SMRI Semarang 46.01 221 IAmb IAmb 10 04 40.4
comp=Z,424nm,0.8s
SMRI Semarang 46.01 221 P **P 10 04 39.2 +0.3**
SMRI Semarang 46.01 221 P **P 10 04 37.6 -1.3**
comp=Z,5µmcomp=Z,575nm,1.0s
MAKZ Makanchi 46.16 307 P **P 10 04 40.1 +0.4**
MAKZ Makanchi 46.16 307 P **P 10 04 40.1 +0.4**
MAKZ pmax pmax
comp=Z,2µm,1.5s
MAKZ Makanchi 46.16 307 P **P 10 04 40.1 +0.4**
MAKZ PcP **PcP 10 06 07.9 -0.2**
PMBI Palembang 46.27 230 P **P 10 04 42.8 +1.8**
PMBI Palembang 46.27 230 P **P 10 04 43.4 +2.4**
comp=Z,5µmcomp=Z,2µm,1.1s
TSI Tuntungan 46.30 243 P **P 10 04 41.4 +0.2**
comp=Z,4µmcomp=Z,17µmcomp=Z,809nm,0.9s
PBA Port Blair 46.32 256 IAmb IAmb 10 04 49.5
comp=Z,476nm,0.9s
PBA Port Blair 46.32 256 P **P 10 04 41.1 -0.2**
SNR=24
PBA Port Blair 46.32 256 *e*P **P 10 04 40.4 -1.0**
PSI Prapat 46.48 242 P **P 10 04 42.7 0.0**
LHMI Lhok Sumawe 46.49 246 P **P 10 04 44.3 +1.7**
LHMI Lhok Sumawe 46.49 246 P **P 10 04 45.2 +2.6**
RPSI Rantau Prapat 46.55 241 IAmb IAmb 10 06 11.7
comp=Z,563nm,1.0s
PCJI Pacitan 46.55 219 P **P 10 04 41.3 -1.7**
comp=Z,7µmcomp=Z,403nm,1.1s
BKNI Bangkinang 46.55 237 P **P 10 04 44.1 +1.0**
BKNI Bangkinang 46.55 237 P P 10 04 37.5 -5.6
BKNI Bangkinang 46.55 237 P **P 10 04 44.1 +1.0**
BKNI Bangkinang 46.55 237 P **P 10 04 43.3 +0.2**
comp=Z,4µmcomp=Z,16µmcomp=Z,2µm,1.3s
UGM Wanagama 46.67 220 P **P 10 04 43.5 -0.5**
UGM Wanagama 46.67 220 P **P 10 04 42.3 -1.7**
comp=Z,16µmcomp=Z,1µm,1.2s
YOGI Yogyakarta 46.72 220 P **P 10 04 43.8 -0.6**
comp=Z,13µmcomp=Z,1µm,1.0s
KNRA Kununurra 46.80 193 P **P 10 04 44.7 -0.1**
comp=Z,398nm,1.2s
M11K Mekoryuk 46.99 34 IAmb IAmb 10 04 48.4
comp=Z,517nm,1.1s
M11K Mekoryuk 46.99 34 P **P 10 04 47.2 +1.4**
baz=256
M11K S **S 10 11 06.8 +0.4**
baz=256
MNSI Mandailing Nat 47.30 239 P **P 10 04 48.2 -0.7**
comp=Z,4µmcomp=Z,10µmcomp=Z,909nm,1.1s
LEM Lembang 47.47 224 P **P 10 04 49.8 -0.5**
FALS False Pass 47.49 42 P **P 10 04 50.0 +0.3**
FALS False Pass 47.49 42 P **P 10 04 48.2 -1.5**
baz=264,SNR=12
MLSI Meulaboh, Aceh 47.50 245 P **P 10 04 49.7 -0.7**
VLK Valmikinagar 47.63 281 *e*P **P 10 04 49.5 -1.7**
BSI Banda Aceh 47.64 247 P **P 10 04 50.7 -0.7**
comp=Z,4µmcomp=Z,6µmcomp=Z,457nm,1.1s
CMJI Cimerak 47.74 222 P **P 10 04 51.4 -0.7**
comp=Z,3µmcomp=Z,249nm,0.9s
TNA Tin City 47.78 27 IAmb IAmb 10 04 54.0
comp=Z,581nm,1.1s
TNA Tin City 47.78 27 P **P 10 04 52.9 +1.2**
baz=250,SNR=31
TNA S **S 10 11 19.0 +1.8**
baz=250
BLSI Bandar Lampung 47.80 228 P **P 10 04 51.8 -0.8**
SBJI Serang 47.82 226 P **P 10 04 53.5 +0.7**
comp=Z,13µmcomp=Z,880nm,1.8s
MDSI Maura Dua 47.83 229 P **P 10 04 52.4 -0.4**
BBJI Bungbulang 47.95 223 P **P 10 04 52.0 -1.8**
PDGK Podgornoye 48.07 303 P **P 10 04 54.0 -0.5**
K13K Kusilvak Mount 48.10 32 IAmb IAmb 10 04 56.6
comp=Z,829nm,1.1s
K13K Kusilvak Mount 48.10 32 P **P 10 04 55.5 +1.3**
baz=256,SNR=97
K13K S **S 10 11 23.5 +1.7**
baz=256
SHLS Shalkode 48.10 302 *e*P **P 10 04 52.5 -2.2**
SHLS pmax pmax
comp=Z,699nm,1.5s
SHLS Shalkode 48.10 302 *e*P **P 10 04 52.5 -2.2**
comp=Z,699nm,1.5s
CNJI Cibinong 48.14 224 P **P 10 04 53.6 -1.6**
SKJI Sukabumi 48.25 225 P **P 10 04 54.4 -1.6**
comp=Z,3µmcomp=Z,6µmcomp=Z,373nm,1.2s
LWLI Liwa 48.30 229 P **P 10 04 55.5 -1.1**
comp=Z,4µmcomp=Z,12µmcomp=Z,1µm,0.9s
F14K Arctic Creek 48.38 27 P **P 10 04 57.9 +1.7**
baz=251
F14K S **S 10 11 28.6 +3.0**
baz=251
M13K Dall Lake 48.38 34 IAmb IAmb 10 04 59.0
comp=Z,727nm,0.9s
M13K Dall Lake 48.38 34 P **P 10 04 57.8 +1.5**
baz=259,SNR=46
NRIK Noril'sk 48.41 338 P **P 10 04 57.2 +0.7**
NRIK Noril'sk 48.41 338 P **P 10 04 57.0 +0.5**
comp=Z,1µm,0.9s,baz=112,slow=8.7,SNR=1022
NRIK ScP **ScP 10 09 31.6 -0.2**
comp=Z,120nm,0.9s,baz=89,slow=5.4,SNR=8.5
comp=Z,1µm,0.9s
NRIK Noril'sk 48.41 338*d i*P **P 10 04 56.8 +0.4**
NRIK pmax pmax
comp=Z,1µm,0.9s
KURK Kurchatov 48.41 313 P **P 10 04 56.5 -0.3**
KURK Kurchatov 48.41 313 P **P 10 04 57.5 +0.7**
KURK P **P 10 04 57.5 +0.7**
KURK S **S 10 11 23.3 -3.2**
KURK S **S 10 11 23.3 -3.2**
KURK Kurchatov 48.41 313 P **P 10 04 57.2 +0.4**
KURK 10 06 16.0
KURK Kurchatov 48.41 313 ||P **P 10 04 56.8 +0.1**
KURK PcP **PcP 10 06 15.5 -0.5**
UZB Uzynbulak 48.43 302 *e*P **P 10 04 57.3 +0.1**
UZB *e*S **S 10 11 27.6 +0.3**
UZB Uzynbulak 48.43 302 *e*P **P 10 04 57.3 +0.1**
UZB *e*S **S 10 11 27.7 +0.3**
GSI Gunungsitoli 48.47 241 P **P 10 04 57.7 0.0**
GSI PcP **PcP 10 06 16.6 -0.3**
GSI Gunungsitoli 48.47 241 P **P 10 04 57.9 +0.2**
GSI Gunungsitoli 48.47 241 P **P 10 04 57.6 -0.1**
KURBB Kurchatov Arra 48.47 312 P **P 10 04 57.1 0.0**
comp=Z,881nm,0.8s,baz=92,slow=7.1,SNR=3173
KURBB PcP **PcP 10 06 16.0 -0.2**
comp=Z,97nm,0.8s,baz=97,slow=3.6,SNR=5.3
KURBB PP **PP 10 06 53.8 -0.5**
comp=Z,92nm,1.1s,baz=94,slow=10,SNR=4.1
KURBB ScP **ScP 10 09 31.8 -0.5**
comp=Z,10nm,0.5s,baz=92,slow=4.2,SNR=5.9
KURBB P4KPbc 10 42 29.8
comp=Z,1.6nm,0.8s,baz=93,slow=3.5,SNR=4.7
comp=Z,881nm,0.8s
KURBB Kurchatov Arra 48.47 312 P **P 10 04 56.3 -0.9**
CGJI Cibinong 48.48 226 P **P 10 04 54.6 -3.1**
comp=Z,4µmcomp=Z,289nm,1.2s

ANM Nome 48.49 29 IAmb IAmb 10 04 59.5
comp=Z,588nm,1.0s
ANM Nome 48.49 29 P **P 10 04 58.4 +1.3**
baz=253,SNR=38
ANM S **S 10 11 29.5 +2.3**
baz=253
WUS Wushi 48.49 300 ||P **P 10 04 58.5 +0.8**
WUS PcP **PcP 10 06 16.4 -0.3**
WUS ScP **ScP 10 09 33.0 +0.1**
MNAI Manna 48.55 231 P **P 10 04 58.7 +0.5**
MNAI Manna 48.55 231 P **P 10 04 57.5 -0.7**
MTSU Mount Surprise 48.59 173 P **P 10 04 58.5 +0.1**
comp=Z,19nm,0.8s
MTSU Mount Surprise 48.59 173 P **P 10 04 58.7 +0.2**
SNSI Sinabang, Aceh 48.72 243 P **P 10 04 59.8 +0.2**
comp=Z,1µm,1.4s
J14K Nanvaranak Lak 48.79 31 IAmb IAmb 10 05 01.7
comp=Z,670nm,1.0s
J14K Nanvaranak Lak 48.79 31 P **P 10 05 00.5 +1.1**
baz=256,SNR=70
J14K S **S 10 11 34.0 +2.7**
baz=256
PBSI Pulau Batu 48.83 239 P **P 10 04 59.5 -0.9**
ZHN Zhinishke 48.85 303 *e*P **P 10 05 00.4 +0.1**
ZHN Zhinishke 48.85 303 *e*P **P 10 05 00.5 +0.1**
SATY Saty 48.88 302 *e*P **P 10 05 01.0 +0.4**
SATY *e*S **S 10 11 34.3 +0.7**
SATY Saty 48.88 302 *e*P **P 10 05 01.0 +0.4**
SATY *e*S **S 10 11 34.3 +0.7**
L14K Kuka Creek 48.88 33 P **P 10 05 01.5 +1.4**
baz=258,SNR=168
L14K S **S 10 11 35.1 +2.4**
baz=258
VAR Varanasi 48.99 278 *e*P **P 10 05 01.2 -0.3**
JOHN Johnston Islan 49.08 94 P **P 10 05 02.7 +0.5**
JOHN IAmb IAmb 10 05 04.1
comp=Z,1µm,1.3s
JOHN Johnston Islan 49.08 94 P **P 10 05 03.2 +1.0**
JOHN Johnston Islan 49.08 94 P **P 10 05 02.7 +0.5**
SISI Saibi 49.10 237 P **P 10 05 02.1 -0.3**
comp=Z,7µmcomp=Z,593nm,0.9s
N14K Kuskokwak Cree 49.11 35 IAmb IAmb 10 05 03.9
comp=Z,652nm,0.9s
N14K Kuskokwak Cree 49.11 35 P **P 10 05 02.8 +1.0**
baz=261,SNR=60
N14K S **S 10 11 38.3 +2.4**
baz=261
F15K North Star Dit 49.12 27 IAmb IAmb 10 05 04.3
comp=Z,716nm,0.9s
F15K North Star Dit 49.12 27 P **P 10 05 03.1 +1.3**
baz=253
F15K S **S 10 11 39.1 +3.3**
baz=253
M14K Bethel 49.12 34 P **P 10 05 03.1 +1.3**
baz=260
M14K S **S 10 11 38.1 +2.2**
baz=260
G15K Niukluk 49.16 28 P **P 10 05 03.0 +0.9**
baz=254
G15K S **S 10 11 38.5 +2.2**
baz=254
SDPT Sand Point 49.22 41 P **P 10 05 01.8 -0.9**
SDPT IAmb IAmb 10 05 02.6
comp=Z,855nm,1.2s
SDPT Sand Point 49.22 41 P **P 10 05 02.3 -0.4**
SDPT Sand Point 49.22 41 P **P 10 05 01.7 -0.9**
baz=266,SNR=12
O14K Tigyukauivet M 49.22 36 P **P 10 05 03.3 +0.7**
baz=262
O14K S **S 10 11 38.7 +1.3**
baz=262
PPSI Pulau Pagai 49.43 235 P **P 10 05 04.1 -0.8**
comp=Z,14µmcomp=Z,1µm,1.0s
L15K Ungalak Mounta 49.51 33 P **P 10 05 05.5 +0.7**
baz=259
L15K S **S 10 11 42.0 +0.7**
baz=259
JHSG JHARSUGUGA 49.58 274 *e*P **P 10 05 05.6 -0.3**
K15K Wolf Creek Mou 49.61 32 IAmb IAmb 10 05 08.0
comp=Z,569nm,0.9s
K15K Wolf Creek Mou 49.61 32 P **P 10 05 06.8 +1.3**
baz=259,SNR=114
K15K S **S 10 11 44.8 +2.1**
baz=259
C16K Lisburne Hills 49.67 24 IAmb IAmb 10 05 07.9
comp=Z,693nm,1.0s
C16K Lisburne Hills 49.67 24 P **P 10 05 06.5 +0.6**
baz=250,SNR=419
C16K S **S 10 11 44.8 +1.4**
baz=250
CHNA Chernabura Isl 49.69 42 P **P 10 05 06.4 +0.2**
CHNA Chernabura Isl 49.69 42 P **P 10 05 05.9 -0.3**
baz=267,SNR=37
CHNA S **S 10 11 42.5 -1.4**
baz=267
CNBA Chernabura Isl 49.69 42 IAmb IAmb 10 05 07.6
comp=Z,934nm,1.0s
M15K Kasigluk River 49.73 34 P **P 10 05 07.0 +0.6**
baz=261,SNR=86
M15K S **S 10 11 44.0 -0.3**
baz=261
S14K Fog Glacier 49.80 40 P **P 10 05 06.2 -1.0**
baz=266,SNR=6.0
H16K Elim 49.81 29 P **P 10 05 07.7 +0.8**
baz=256,SNR=68
H16K S **S 10 11 47.5 +2.1**
baz=256
FITZ Fitzroy Crossi 49.82 196 P **P 10 05 07.9 +0.2**
FITZ Fitzroy Crossi 49.82 196 P **P 10 05 07.8 +0.2**
comp=Z,61nm,1.3s
FITZ Fitzroy Crossi 49.82 196 P **P 10 05 07.7 +0.1**
CHKK Chushkaly 49.83 304 *e*P **P 10 05 07.7 +0.2**
CHKK Chushkaly 49.83 304 *e*P **P 10 05 07.8 +0.2**
MDOK Medeo 49.86 303 *e*P **P 10 05 08.4 +0.5**
MDOK *e*S **S 10 11 47.6 +0.5**
MDOK Medeo 49.86 303 *e*P **P 10 05 08.5 +0.5**
MDOK *e*S **S 10 11 47.7 +0.6**
KDJ Kajisay 49.89 301 P **P 10 05 08.9 +0.7**
KDJ IAmb IAmb 10 05 09.6
comp=Z,361nm,0.6s
KDJ Kajisay 49.89 301 P **P 10 05 08.9 +0.7**
KDJ pmax pmax
comp=Z,361nm,0.6s
N15K Kwethluk River 49.94 35 IAmb IAmb 10 05 10.1
comp=Z,814nm,1.0s
N15K Kwethluk River 49.94 35 P **P 10 05 09.1 +1.1**
baz=262,SNR=138
N15K S **S 10 11 48.4 +1.1**
baz=262
O15K Ungalikthiuk R 49.94 36 P **P 10 05 08.7 +0.6**
O15K IAmb IAmb 10 05 09.9
comp=Z,803nm,1.1s
O15K Ungalikthiuk R 49.94 36 P **P 10 05 08.9 +0.8**
baz=263,SNR=102
O15K S **S 10 11 48.0 +0.7**
baz=263
G16K Koyuk River 49.95 28 P **P 10 05 08.4 +0.4**
baz=255
G16K S **S 10 11 47.9 +0.7**
baz=255
TNSS Tian-Shan 49.95 303 *e*P **P 10 05 09.1 +0.2**
TNSS Tian-Shan 49.95 303 *e*P **P 10 05 09.1 +0.2**
AAA Alma-Ata 49.95 303 *e*P **P 10 05 08.9 +0.4**
AAA Alma-Ata 49.95 303 *e*P **P 10 05 09.0 +0.4**
ALBI Allahabad 50.02 279 *e*P **P 10 05 08.6 -0.6**
TV1H Townsville Har 50.02 170 P **P 10 05 09.4 +0.3**
WB0 Warramunga Arr 50.06 185 IAmb IAmb 10 05 10.0
comp=Z,468nm,0.8s
PTH Pithoragarh 50.06 285 *e*P **P 10 05 08.8 -0.9**
LGTI Lohaghat 50.07 284 *e*P **P 10 05 10.2 +0.7**
J16K Anvik River 50.22 31 P **P 10 05 11.2 +1.1**
baz=259,SNR=34
J16K S **S 10 11 53.9 +2.9**
baz=259
WRAB Tennant Creek 50.23 185 P **P 10 05 10.4 -0.3**
WRAB IAmb IAmb 10 05 11.3
comp=Z,350nm,0.8s
WRAB Tennant Creek 50.23 185*d i*P **P 10 05 10.1 -0.6**
WRAB pmax pmax
comp=Z,378nm,1.0s
WB2 Warramunga Arr 50.24 185 IAmb IAmb 10 05 11.4
comp=Z,389nm,0.8s
WB2 Warramunga Arr 50.24 185 P **P 10 05 10.2 -0.5**
comp=Z,636nm,1.1s
WRA Warramunga Arr 50.24 185 P **P 10 05 10.1 -0.6**
WRA Warramunga Arr 50.24 185 P **P 10 05 10.4 -0.4**

comp=Z,282nm,0.7s,baz=1.6,slow=7.7,SNR=502
WRA PcP **PcP 10 06 23.9 +0.8**
comp=Z,83nm,0.9s,baz=359,slow=4.0,SNR=15
WRA pP **pP 10 06 30.6 +1.3**
comp=Z,64nm,1.0s,baz=3.9,slow=8.5,SNR=4.8
WRA ScP **ScP 10 09 40.4 +0.1**
comp=Z,20nm,0.7s,baz=357,slow=4.6,SNR=6.3
WRA PKiKP **PKiKP 10 13 06.0 -1.0**
comp=Z,0.6nm,0.3s,baz=331,slow=1.5,SNR=6.7
WRA ScS **ScS 10 14 20.2 +1.1**
comp=Z,26nm,1.2s,baz=1.3,slow=7.0,SNR=9.0
WRA P4KPbc 10 42 38.1
comp=Z,4.3nm,0.8s,baz=3.1,slow=4.5,SNR=14
comp=Z,282nm,0.7s
HNLY HANLEY 50.24 289 *e*P **P 10 05 10.6 -0.8**
WR0 Warramunga Arr 50.24 185 IAmb IAmb 10 05 11.4
comp=Z,338nm,0.8s
WB1 Warramunga Ar. 50.26 185 P **P 10 05 10.3 -0.6**
KUU Kurty 50.29 304 *e*P **P 10 05 11.2 +0.3**
KUU pmax pmax
comp=Z,903nm,1.0s
KUU Kurty 50.29 304 *e*P **P 10 05 11.3 +0.3**
comp=Z,903nm,1.0s
D17K Noatak River 50.30 25 P **P 10 05 11.8 +1.2**
baz=253
D17K S **S 10 11 54.5 +2.6**
baz=253
I17K Unalakleet 50.30 30 IAmb IAmb 10 05 13.1
comp=Z,590nm,0.9s
I17K Unalakleet 50.30 30 P **P 10 05 11.9 +1.3**
baz=258
I17K S **S 10 11 53.7 +1.7**
baz=258
JOSI Joshimath 50.33 286 *e*P **P 10 05 11.3 -0.4**
LKN LUCKNOW 50.33 281 *e*P **P 10 05 10.9 -0.6**
CHGN Chignik 50.44 40 P **P 10 05 10.8 -0.9**
baz=267,SNR=6.8
L16K Owhat River 50.46 33 P **P 10 05 12.4 +0.6**
L16K Owhat River 50.46 33 P **P 10 05 12.6 +0.7**
baz=261,SNR=108
L16K S **S 10 11 55.7 +1.3**
baz=261
RDOG Red Dog Mine 50.47 25 IAmb IAmb 10 05 14.1
comp=Z,557nm,1.0s
RDOG Red Dog Mine 50.47 25 P **P 10 05 13.0 +1.1**
baz=253,SNR=64
RDOG S **S 10 11 56.3 +2.0**
baz=253
ULHL Ulahol 50.57 302 P **P 10 05 14.1 +0.8**
SNR=96
E17K Hotham Inlet 50.59 26 P **P 10 05 13.8 +1.1**
baz=255
E17K S **S 10 11 57.8 +1.9**
baz=255
M16K Timber Creek 50.61 34 IAmb IAmb 10 05 15.0
comp=Z,414nm,0.8s
M16K Timber Creek 50.61 34 P **P 10 05 13.9 +0.9**
baz=262,SNR=150
M16K S **S 10 11 56.9 +0.5**
baz=262
N16K Nishlik Lake 50.63 35 P **P 10 05 14.4 +1.2**
baz=263,SNR=191
N16K S **S 10 11 57.7 +0.9**
baz=263
F17K Baldwin Pennin 50.65 27 IAmb IAmb 10 05 15.4
comp=Z,673nm,0.9s
F17K Baldwin Pennin 50.65 27 P **P 10 05 14.3 +1.2**
baz=256
F17K S **S 10 11 58.9 +2.3**
baz=256
G17K Kiwalik Mounta 50.66 28 P **P 10 05 14.4 +1.1**
baz=257
G17K S **S 10 11 58.5 +1.5**
baz=257
QIS Mount Isa 50.70 179 P **P 10 05 13.6 -0.4**
comp=Z,253nm,1.1s
QIS Mount Isa 50.70 179 P **P 10 05 13.7 -0.4**
RAGD RAYAGADA 50.83 271 *e*P **P 10 05 14.9 -0.3**
H17K Granite Mounta 50.85 29 P **P 10 05 15.8 +1.1**
baz=258,SNR=115
H17K S **S 10 12 01.3 +1.8**
baz=258
P16K Nushagak River 50.87 37 IAmb IAmb 10 05 17.1
comp=Z,395nm,0.8s
P16K Nushagak River 50.87 37 P **P 10 05 16.0 +1.1**
baz=265
P16K S **S 10 12 02.6 +2.7**
baz=265
O16K Kokwok River B 50.87 36 **P 10 05 15.5 +0.6**
O16K Kokwok River B 50.87 36 P **P 10 05 15.6 +0.7**
baz=264,SNR=62
O16K S **S 10 12 00.4 +0.4**
baz=264
J17K VABM Dome 50.92 31 IAmb IAmb 10 05 17.7
comp=Z,774nm,1.0s
J17K VABM Dome 50.92 31 P **P 10 05 16.6 +1.4**
baz=260
J17K S **S 10 12 02.8 +2.3**
baz=260
TKM2 Tokmak 2 50.95 303 P **P 10 05 17.1 +1.1**
SNR=491
TKM2 Tokmak 2 50.95 303 P **P 10 05 16.5 +0.5**
R16K Pilot Point 50.98 39 IAmb IAmb 10 05 16.5
comp=Z,460nm,0.9s
R16K Pilot Point 50.98 39 P **P 10 05 15.3 -0.3**
baz=266
L17K Donlin 51.08 33 P **P 10 05 17.8 +1.4**
baz=262
L17K S **S 10 12 05.0 +2.3**
baz=262
E18K Tukpahlearik C 51.14 26 IAmb IAmb 10 05 19.3
comp=Z,550nm,1.2s
E18K Tukpahlearik C 51.14 26 P **P 10 05 18.1 +1.3**
baz=256,SNR=204
E18K S **S 10 12 04.6 +1.3**
baz=256
K17K Iditarod 51.16 32 IAmb IAmb 10 05 19.6
comp=Z,795nm,0.9s
K17K Iditarod 51.16 32 P **P 10 05 18.4 +1.4**
baz=262,SNR=162
K17K S **S 10 12 05.1 +1.4**
baz=262
KSH Kashi 51.20 298 P **P 10 05 21.8 +4.0**
KSH PcP **PcP 10 06 29.5 +2.7**
KSH PP **PP 10 07 23.3 +4.1**
KSH ScP **ScP 10 09 47.2 +2.7**
KSH PcS **PcS 10 10 27.2 +2.0**
KSH S **S 10 12 11.4 +6.1**
KSH ScS **ScS 10 14 25.7 -0.1**
KSH pmax pmax
comp=Z,850nm,0.8s
KSH LR LR
comp=Z,390nm,16.1s
KSH LR LR
comp=Z,930nm,16.5s
KSH LR LR
comp=Z,950nm,15.6s
BNDA BANDA 51.22 280 *e*P **P 10 05 17.3 -0.7**
B18K Kokolik River 51.24 23 P **P 10 05 19.2 +1.7**
baz=253,SNR=1000
B18K S **S 10 12 06.2 +1.4**
baz=253
C18K Utukok River 51.25 24 IAmb IAmb 10 05 19.7
comp=Z,653nm,1.1s
C18K Utukok River 51.25 24 P **P 10 05 18.4 +0.8**
baz=254,SNR=338
C18K S **S 10 12 06.0 +1.0**
baz=254
F18K Selawik 51.31 27 P **P 10 05 19.0 +1.1**
baz=257
F18K S **S 10 12 06.4 +0.8**
baz=257
TKRD Thakurdwara 51.32 285 *e*P **P 10 05 18.1 -0.6**
M17K Holitna River 51.39 34 P **P 10 05 20.1 +1.4**
baz=263,SNR=227
M17K S **S 10 12 08.5 +1.6**
baz=263
O17K Koliganek Bris 51.39 36 P **P 10 05 19.6 +0.9**
baz=265,SNR=50
O17K S **S 10 12 08.3 +1.4**
baz=265
N17K Nushagak Hills 51.42 35 P **P 10 05 20.3 +1.4**
baz=264,SNR=126
N17K S **S 10 12 08.1 +0.8**
baz=264
KBK Karagaybulak 51.46 302 P **P 10 05 20.7 +0.9**
SNR=366

XMI	**Christmas Isla**	**51.49**	**223**	P	**P**	**10 05 19.6**	**-0.5**
H18K	**Honhosa River**	**51.53**	**29**	P	**P**	**10 05 20.4**	**+0.7**
H18K				IAmb	IAmb	10 05 21.6	
	comp=Z,571nm,0.9s						
H18K	**Honhosa River**	**51.53**	**29**	P	**P**	**10 05 20.4**	**+0.7**
	baz=260,SNR=131						
H18K				S	**S**	**10 12 10.7**	**+1.9**
	baz=260						
Q16K	**King Salmon**	**51.53**	**37**	P	**P**	**10 05 20.0**	**+0.3**
	baz=266						
Q16K				S	**S**	**10 12 09.6**	**+0.7**
	baz=266						
XMIS	**Christmas Isla**	**51.54**	**223**	IAmb	IAmb	10 05 20.0	
	comp=Z,546nm,1.1s						
XMIS	**Christmas Isla**	**51.54**	**223**	P	**P**	**10 05 19.1**	**-1.3**
CHMS	**Chumysh**	**51.55**	**303**	P	**P**	**10 05 20.8**	**+0.5**
	SNR=117						
G18K	**Tagagawik**	**51.55**	**28**	IAmb	IAmb	10 05 21.8	
	comp=Z,931nm,1.0s						
G18K	**Tagagawik**	**51.55**	**28**	P	**P**	**10 05 20.6**	**+0.8**
	baz=259,SNR=411						
G18K				S	**S**	**10 12 09.6**	**+0.5**
	baz=259						
VIS	**Vishakhapatnam**	**51.56**	**269**	*e*P	**P**	**10 05 20.4**	**-0.2**
SGDS	**Sogindy**	**51.58**	**303**	*e*P	**P**	**10 05 20.6**	**+0.2**
SGDS	**Sogindy**	**51.58**	**303**	*e*P	**P**	**10 05 20.7**	**+0.2**
DDI	**Dehra Dun**	**51.64**	**286**	*e*P	**P**	**10 05 21.0**	**-0.2**
P17K	**Kvichak River**	**51.68**	**36**	P	**P**	**10 05 21.6**	**+0.8**
	baz=266						
P17K				S	**S**	**10 12 11.0**	**+0.1**
	baz=266						
USP	**Ospenovka**	**51.70**	**303**	P	**P**	**10 05 21.7**	**+0.4**
	SNR=365						
A19K	**Wainwright**	**51.73**	**22**	P	**P**	**10 05 22.8**	**+1.7**
	baz=253,SNR=644						
A19K				S	**S**	**10 12 13.6**	**+2.3**
	baz=253						
BTLS	**Baital**	**51.79**	**305**	*e*P	**P**	**10 05 22.0**	**+0.2**
BTLS				pmax	pmax		
	comp=Z,382nm,0.8s						
BTLS	**Baital**	**51.79**	**305**	*e*P	**P**	**10 05 22.1**	**+0.2**
	comp=Z,382nm,0.8s						
AAK	**Ala-Archa**	**51.79**	**302**	P	**P**	**10 05 22.7**	**+0.6**
AAK				IAmb	IAmb	10 05 23.8	
	comp=Z,508nm,0.9s						
AAK				PcP	**PcP**	**10 06 29.4**	**+0.4**
AAK	**Ala-Archa**	**51.79**	**302**	P	**P**	**10 05 22.7**	**+0.6**
	comp=Z,425nm,0.8s,baz=116,slow=5.5,SNR=679						
AAK				PcP	**PcP**	**10 06 29.3**	**+0.3**
	comp=Z,167nm,0.8s,baz=136,slow=6.6,SNR=4.8						
AAK				ScP	**ScP**	**10 09 47.0**	**-0.1**
	comp=Z,71nm,1.1s,baz=95,slow=4.7,SNR=5.3						
	comp=Z,425nm,0.8s						
AAK	**Ala-Archa**	**51.79**	**302**	P	**P**	**10 05 22.2**	**+0.1**
AAK				P	**P**	**10 05 22.2**	**+0.1**
AAK				S	**S**	**10 12 13.0**	**-0.3**
AAK				S	**S**	**10 12 13.0**	**-0.3**
AAK	**Ala-Archa**	**51.79**	**302**	P	**P**	**10 05 22.7**	**+0.6**
	SNR=393						
AAK	**Ala-Archa**	**51.79**	**302**	*i* P	**P**	**10 05 22.6**	**+0.5**
	SNR=99						
AAK	**Ala-Archa**	**51.79**	**302**	⇓P	**P**	**10 05 22.7**	**+0.6**
AAK				PcP	**PcP**	**10 06 29.3**	**+0.3**
AAK				ScP	**ScP**	**10 09 46.9**	**-0.1**
L18K	**Granite Mounta**	**51.84**	**33**	IAmb	IAmb	10 05 24.6	
	comp=Z,662nm,1.1s						
L18K	**Granite Mounta**	**51.84**	**33**	P	**P**	**10 05 23.4**	**+1.5**
	baz=263,SNR=208						
L18K				S	**S**	**10 12 13.5**	**+0.5**
	baz=263						
UCH	**Uchtor**	**51.84**	**302**	P	**P**	**10 05 24.2**	**+1.4**
	SNR=140						
Q17K	**Contact Creek**	**51.91**	**38**	P	**P**	**10 05 21.8**	**-0.9**
	baz=267,SNR=35						
J18K	**Innoko River**	**51.98**	**31**	P	**P**	**10 05 23.5**	**+0.5**
	baz=262,SNR=68						
J18K				S	**S**	**10 12 15.3**	**+0.4**
	baz=262						
CHIR	**Chirikof Islan**	**51.99**	**41**	P	**P**	**10 05 24.3**	**+1.2**
CHIR	**Chirikof Islan**	**51.99**	**41**	P	**P**	**10 05 23.6**	**+0.5**
	baz=269,SNR=19						
CHIR				S	**S**	**10 12 15.5**	**+0.3**
	baz=269						
N18K	**Kilae Creek**	**52.07**	**35**	IAmb	IAmb	10 05 26.3	
	comp=Z,1μm,1.5s						
N18K	**Kilae Creek**	**52.07**	**35**	P	**P**	**10 05 24.9**	**+1.2**
	baz=265,SNR=133						
N18K				S	**S**	**10 12 17.6**	**+1.4**
	baz=265						
F19K	**Shaleruckik Mo**	**52.09**	**27**	P	**P**	**10 05 23.9**	**+0.3**
	baz=259						
F19K				S	**S**	**10 12 16.3**	**+0.1**
	baz=259						
GCSA	**Galena City Sc**	**52.09**	**29**	P	**P**	**10 05 24.0**	**+0.3**
	baz=261,SNR=104						
GCSA				S	**S**	**10 12 16.3**	**+0.1**
	baz=261						
SMLA	**Simla**	**52.15**	**288**	*e*P	**P**	**10 05 24.4**	**-0.3**
M18K	**Stony River**	**52.17**	**34**	P	**P**	**10 05 25.6**	**+1.3**
	baz=265,SNR=110						
M18K				S	**S**	**10 12 19.1**	**+1.7**
	baz=265						
TTA	**Tatalina**	**52.23**	**32**	P	**P**	**10 05 25.0**	**+0.1**
TTA	**Tatalina**	**52.23**	**32**	P	**P**	**10 05 25.3**	**+0.4**
TTA	**Tatalina**	**52.23**	**32**	P	**P**	**10 05 25.0**	**+0.1**
TTA				pmax	pmax		
	comp=Z,326nm,1.1s						
TTA	**Tatalina**	**52.23**	**32**	P	**P**	**10 05 25.6**	**+0.7**
	baz=264,SNR=155						
TTA				S	**S**	**10 12 19.4**	**+1.0**
	baz=264						
G19K	**Purcell Mounta**	**52.23**	**28**	P	**P**	**10 05 25.2**	**+0.5**
	baz=260,SNR=230						
G19K				S	**S**	**10 12 18.6**	**+0.5**
	baz=260						
BRZS	**Berezniki**	**52.24**	**312**	*e*P	**P**	**10 05 25.3**	**+0.3**
BRZS	**Berezniki**	**52.24**	**312**	*e*P	**P**	**10 05 25.4**	**+0.3**
BRZS				*e*S	**S**	**10 12 19.1**	**+0.4**
D19K	**Kuna River**	**52.31**	**25**	IAmb	IAmb	10 05 27.4	
	comp=Z,801nm,1.4s						
D19K	**Kuna River**	**52.31**	**25**	P	**P**	**10 05 26.1**	**+0.8**
	baz=257,SNR=379						
D19K				S	**S**	**10 12 19.9**	**+0.7**
	baz=257						
MERT	**Meerut**	**52.31**	**285**	*e*P	**P**	**10 05 25.7**	**-0.2**
EKS2	**Erkin-Say**	**52.31**	**302**	P	**P**	**10 05 26.5**	**+0.6**
	SNR=221						
P18K	**Big Mountain,**	**52.31**	**36**	IAmb	IAmb	10 05 27.2	
	comp=Z,502nm,1.0s						
P18K	**Big Mountain,**	**52.31**	**36**	P	**P**	**10 05 26.0**	**+0.5**
	baz=267,SNR=56						
P18K				S	**S**	**10 12 18.6**	**-0.9**
	baz=267						
O18K	**Koktuh Hills**	**52.35**	**36**	P	**P**	**10 05 26.3**	**+0.6**
O18K				IAmb	IAmb	10 05 29.1	
	comp=Z,495nm,1.1s						
O18K	**Koktuh Hills**	**52.35**	**36**	P	**P**	**10 05 26.8**	**+1.1**
	baz=267,SNR=79						
O18K				S	**S**	**10 12 21.0**	**+1.0**
	baz=267						
UGON	**Onchagaon**	**52.36**	**284**	*e*P	**P**	**10 05 25.7**	**-0.7**
H19K	**Roundabout Mou**	**52.39**	**28**	IAmb	IAmb	10 05 28.1	
	comp=Z,756nm,0.9s						
H19K	**Roundabout Mou**	**52.39**	**28**	P	**P**	**10 05 27.0**	**+1.1**
	baz=261,SNR=298						
H19K				S	**S**	**10 12 22.6**	**+2.4**
	baz=261						
Q18K	**Katmai Hardscr**	**52.39**	**37**	P	**P**	**10 05 25.5**	**-0.7**
	baz=268,SNR=37						
Q18K				S	**S**	**10 12 18.6**	**-2.2**
	baz=268						
E19K	**Redstone River**	**52.42**	**26**	IAmb	IAmb	10 05 28.2	
	comp=Z,664nm,0.8s						
E19K	**Redstone River**	**52.42**	**26**	P	**P**	**10 05 27.1**	**+1.0**
	baz=259,SNR=914						
E19K				S	**S**	**10 12 21.5**	**+0.8**
	baz=259						
AML	**Almayashu**	**52.45**	**302**	P	**P**	**10 05 28.5**	**+1.2**
	SNR=359						
J19K	**Poorman**	**52.53**	**30**	IAmb	IAmb	10 05 28.9	
	comp=Z,538nm,0.9s						
J19K	**Poorman**	**52.53**	**30**	P	**P**	**10 05 27.7**	**+0.8**
	baz=263,SNR=440						
J19K				S	**S**	**10 12 22.3**	**+0.1**
	baz=263						
DHRM	**DHARAMSHALA**	**52.56**	**289**	*e*P	**P**	**10 05 27.5**	**-0.5**
R18K	**Karluk**	**52.66**	**39**	P	**P**	**10 05 27.1**	**-0.8**
	baz=269						
R18K				S	**S**	**10 12 21.1**	**-3.0**
	baz=269						
L19K	**White Mountain**	**52.69**	**33**	IAmb	IAmb	10 05 30.6	
	comp=Z,668nm,1.2s						
L19K	**White Mountain**	**52.69**	**33**	P	**P**	**10 05 29.2**	**+1.0**
	baz=265,SNR=221						
L19K				S	**S**	**10 12 26.8**	**+2.3**
	baz=265						
BHK	**Bhakra**	**52.69**	**288**	*e*P	**P**	**10 05 25.7**	**-3.0**
JHNI	**Jhansi**	**52.75**	**280**	*e*P	**P**	**10 05 27.8**	**-1.4**
N19K	**Bonanza Creek**	**52.77**	**34**	IAmb	IAmb	10 05 31.2	
	comp=Z,385nm,0.9s						
N19K	**Bonanza Creek**	**52.77**	**34**	P	**P**	**10 05 30.0**	**+1.2**
	baz=266						
N19K				S	**S**	**10 12 28.0**	**+2.2**
	baz=266						
KKR	**Kurukshetra**	**52.77**	**286**	*e*P	**P**	**10 05 29.2**	**0.0**
SII	**Sitkinak Islan**	**52.80**	**40**	P	**P**	**10 05 29.5**	**+0.5**
SII	**Sitkinak Islan**	**52.80**	**40**	P	**P**	**10 05 29.2**	**+0.2**
	baz=270,SNR=29						
JMIU	**JAMIA UNIVERSI**	**52.80**	**284**	*e*P	**P**	**10 05 29.5**	**0.0**
O19K	**Port Alsworth**	**52.81**	**35**	P	**P**	**10 05 30.0**	**+1.0**
	baz=267,SNR=176						
O19K				S	**S**	**10 12 29.4**	**+3.4**
	baz=267						
NDI	**New Delhi**	**52.83**	**285**	*e*P	**P**	**10 05 29.7**	**0.0**
GNR	**GANAUR**	**52.85**	**285**	*e*P	**P**	**10 05 29.8**	**-0.1**
NPLP	**NPLP New Delhi**	**52.88**	**285**	*e*P	**P**	**10 05 29.9**	**-0.1**
M19K	**Big River Lodg**	**52.88**	**33**	P	**P**	**10 05 30.8**	**+1.3**
	baz=266,SNR=139						
M19K				S	**S**	**10 12 30.3**	**+3.2**
	baz=266						
D20K	**Etivluk River**	**52.89**	**24**	P	**P**	**10 05 30.2**	**+0.7**
D20K				IAmb	IAmb	10 05 31.6	
	comp=Z,994nm,1.1s						
D20K	**Etivluk River**	**52.89**	**24**	P	**P**	**10 05 30.5**	**+0.9**
	baz=258,SNR=661						
D20K				S	**S**	**10 12 26.8**	**-0.2**
	baz=258						
F20K	**Avaraart Lake**	**52.92**	**27**	P	**P**	**10 05 30.5**	**+0.8**
	baz=261						
F20K				S	**S**	**10 12 28.3**	**+0.9**
	baz=261						
E20K	**Nigu River**	**52.96**	**25**	P	**P**	**10 05 30.8**	**+0.8**
	baz=259						
E20K				S	**S**	**10 12 27.4**	**-0.6**
	baz=259						
AYAN	**Aya Nagar**	**52.96**	**284**	*e*P	**P**	**10 05 30.6**	**0.0**
B20K	**Meade River**	**52.98**	**23**	IAmb	IAmb	10 05 32.3	
	comp=Z,624nm,0.8s						
B20K	**Meade River**	**52.98**	**23**	P	**P**	**10 05 31.2**	**+1.2**
	baz=257						
B20K				S	**S**	**10 12 28.9**	**+0.9**
	baz=257						
THN	**Thein Dam**	**52.98**	**290**	*e*P	**P**	**10 05 30.2**	**-0.5**
H20K	**Anotleneega Mo**	**53.03**	**29**	P	**P**	**10 05 31.6**	**+1.0**
	baz=263,SNR=417						
H20K				S	**S**	**10 12 30.6**	**+1.7**
	baz=263						
BHGR	**Bahadurgarh**	**53.06**	**285**	*e*P	**P**	**10 05 31.3**	**0.0**
SONA	**Sohna**	**53.07**	**284**	*e*P	**P**	**10 05 31.6**	**+0.2**
Q19K	**Cape Douglas,**	**53.11**	**37**	IAmb	IAmb	10 05 31.8	
	comp=Z,438nm,1.0s						
Q19K	**Cape Douglas,**	**53.11**	**37**	P	**P**	**10 05 30.5**	**-0.7**
	baz=269,SNR=8.8						
I20K	**Naaghedeneel**	**53.12**	**30**	P	**P**	**10 05 32.5**	**+1.5**
I20K	**Naaghedeneel**	**53.12**	**30**	P	**P**	**10 05 32.6**	**+1.5**
	baz=264						
I20K				S	**S**	**10 12 32.4**	**+2.4**
	baz=264						
K20K	**Telida**	**53.15**	**31**	P	**P**	**10 05 33.0**	**+1.5**
	baz=265						
K20K				S	**S**	**10 12 32.8**	**+2.2**
	baz=265						
L20K	**Farewell, AK**	**53.16**	**32**	P	**P**	**10 05 32.8**	**+1.2**
	baz=266,SNR=155						
L20K				S	**S**	**10 12 33.3**	**+2.4**
	baz=266						
J20K	**Nowinta River**	**53.19**	**30**	P	**P**	**10 05 33.2**	**+1.5**
	baz=264,SNR=771						
J20K				S	**S**	**10 12 33.3**	**+2.2**
	baz=264						
SRNI	**Srinagar**	**53.25**	**292**	*e*P	**P**	**10 05 33.1**	**+0.5**
SANVU	**Saraoutou**	**53.28**	**145**	P	**P**	**10 05 33.0**	**+0.1**
SANVU				pP	**pP**	**10 06 51.5**	**-1.8**
SANVU				ScP	**ScP**	**10 09 53.8**	**+0.3**
OHAK	**Old Harbor**	**53.28**	**39**	P	**P**	**10 05 32.4**	**-0.1**
OHAK	**Old Harbor**	**53.28**	**39**	P	**P**	**10 05 32.2**	**-0.2**
	baz=270,SNR=32						
OHAK				S	**S**	**10 12 30.9**	**-1.6**
	baz=270						
P19K	**Oil Pt**	**53.34**	**36**	IAmb	IAmb	10 05 34.3	
	comp=Z,614nm,0.8s						
P19K	**Oil Pt**	**53.34**	**36**	P	**P**	**10 05 33.2**	**+0.3**
	baz=268,SNR=30						
P19K				S	**S**	**10 12 31.7**	**-1.6**
	baz=268						
A21K	**Barrow**	**53.45**	**21**	P	**P**	**10 05 34.6**	**+1.1**
	baz=257,SNR=674						
A21K				S	**S**	**10 12 35.6**	**+1.3**
	baz=257						
BVA0	**Borovoye Array**	**53.47**	**316**	*i* P	**P**	**10 05 33.7**	**-0.2**
BVAR	**Borovoye Array**	**53.47**	**316**	P	**P**	**10 05 34.1**	**+0.2**
	comp=Z,1μm,0.8s,baz=92,slow=8.9,SNR=2910						
BVAR				PcP	**PcP**	**10 06 35.2**	**+0.3**
	comp=Z,415nm,0.7s,baz=89,slow=4.0,SNR=14						
BVAR				ScP	**ScP**	**10 09 53.5**	**-0.5**
	comp=Z,34nm,0.5s,baz=93,slow=4.3,SNR=9.8						
BVAR				P4KPbc		10 42 51.9	
	comp=Z,12nm,0.7s,baz=103,slow=3.8,SNR=38						
	comp=Z,1μm,0.8s						
M20K	**Styx River**	**53.48**	**33**	P	**P**	**10 05 35.2**	**+1.3**
	baz=267						
M20K				S	**S**	**10 12 36.4**	**+1.2**
	baz=267						
BRVK	**Borovoye**	**53.53**	**316**	P	**P**	**10 05 34.6**	**+0.3**
BRVK				PcP	**PcP**	**10 06 35.4**	**+0.3**
BRVK	**Borovoye**	**53.53**	**316**	P	**P**	**10 05 35.1**	**+0.8**
BRVK				P	**P**	**10 05 35.1**	**+0.8**
BRVK				S	**S**	**10 12 33.1**	**-2.8**
BRVK				S	**S**	**10 12 33.1**	**-2.8**
BRVK	**Borovoye**	**53.53**	**316**	P	**P**	**10 05 34.6**	**+0.3**
BRVK						10 06 35.4	
BRVK				pmax	pmax		
	comp=Z,2μm,1.0s						
BRVK	**Borovoye**	**53.53**	**316**	⇓P	**P**	**10 05 34.6**	**+0.3**
BRVK				PcP	**PcP**	**10 06 35.5**	**+0.3**
BRVK				ScP	**ScP**	**10 09 53.4**	**-0.8**
JMU	**Jammu**	**53.57**	**290**	*e*P	**P**	**10 05 35.4**	**+0.4**
KUDL	**Kundal**	**53.60**	**284**	*e*P	**P**	**10 05 35.4**	**+0.1**
C21K	**Knifeblade Rid**	**53.62**	**24**	P	**P**	**10 05 35.9**	**+1.2**
	baz=260,SNR=251						
C21K				S	**S**	**10 12 37.9**	**+1.2**
	baz=260						
O20K	**Slope Mountain**	**53.66**	**35**	P	**P**	**10 05 35.1**	**-0.1**
	baz=269,SNR=31						
O20K				S	**S**	**10 12 35.7**	**-1.9**
	baz=269						
KDAK	**Kodiak Island**	**53.66**	**38**	P	**P**	**10 05 35.1**	**0.0**
KDAK				IAmb	IAmb	10 05 36.4	
	comp=Z,871nm,0.9s						
KDAK	**Kodiak Island**	**53.66**	**38**	*c i* P	**P**	**10 05 35.0**	**-0.2**
KDAK				pmax	pmax		
	comp=Z,1μm,1.0s						
KDAK	**Kodiak Island**	**53.66**	**38**	P	**P**	**10 05 35.2**	**0.0**
	baz=270						
KDAK				S	**S**	**10 12 35.7**	**-1.8**
	baz=270						
KDAK	**Kodiak Island**	**53.66**	**38**	⇑P	**P**	**10 05 35.2**	**0.0**
KDAK				pP	**pP**	**10 06 54.9**	**-0.9**
KDAK				ScP	**ScP**	**10 09 54.6**	**0.0**
G21K	**Allakaket**	**53.72**	**27**	IAmb	IAmb	10 05 37.6	
	comp=Z,440nm,0.9s						
G21K	**Allakaket**	**53.72**	**27**	P	**P**	**10 05 36.4**	**+1.0**
	baz=263						
G21K				S	**S**	**10 12 39.5**	**+1.5**
	baz=263						
Q20K	**Shuyak Island**	**53.76**	**37**	P	**P**	**10 05 35.6**	**-0.3**
	baz=270,SNR=30						
Q20K				S	**S**	**10 12 40.0**	**+1.2**
	baz=270						
SYI	**Shuyak Island**	**53.76**	**37**	IAmb	IAmb	10 05 36.8	
	comp=Z,1μm,1.1s						
B21K	**Ikpikpuk River**	**53.77**	**24**	P	**P**	**10 05 37.0**	**+1.3**
	baz=260						
B21K				S	**S**	**10 12 39.7**	**+1.2**
	baz=260						
E21K	**Killik River**	**53.80**	**25**	P	**P**	**10 05 36.4**	**+0.4**
E21K				IAmb	IAmb	10 05 37.9	
	comp=Z,468nm,0.9s						
E21K	**Killik River**	**53.80**	**25**	P	**P**	**10 05 36.6**	**+0.6**
	baz=261						
E21K				S	**S**	**10 12 38.4**	**-0.7**
	baz=261						
F21K	**Alatna River**	**53.81**	**27**	P	**P**	**10 05 36.6**	**+0.5**
	baz=263,SNR=276						
F21K				S	**S**	**10 12 40.0**	**+0.7**
	baz=263						
NGP	**Nagpur**	**53.88**	**275**	*e*P	**P**	**10 05 37.3**	**0.0**
SPCR	**Spurr Chakacha**	**53.89**	**34**	P	**P**	**10 05 37.9**	**+1.0**
	baz=268,SNR=307						
SPCR				S	**S**	**10 12 42.3**	**+1.6**
	baz=268						
A22K	**Sinclair Lake**	**53.91**	**22**	P	**P**	**10 05 38.1**	**+1.4**
	baz=258						
A22K				S	**S**	**10 12 42.0**	**+1.6**
	baz=258						
H21K	**Melozitna Rive**	**53.91**	**29**	IAmb	IAmb	10 05 39.3	
	comp=Z,805nm,0.9s						
H21K	**Melozitna Rive**	**53.91**	**29**	P	**P**	**10 05 38.1**	**+1.2**
	baz=264,SNR=672						
H21K				S	**S**	**10 12 42.6**	**+2.0**
	baz=264						
AS01	**Alice Springs**	**53.96**	**185**	P	**P**	**10 05 37.5**	**-0.3**
AS31	**Alice Springs**	**53.97**	**185**	P	**P**	**10 05 37.6**	**-0.3**
AS31				PcP	**PcP**	**10 06 38.0**	**+0.8**
AS31	**Alice Springs**	**53.97**	**185**	P	**P**	**10 05 37.5**	**-0.3**
	comp=Z,119nm,0.6s						
ASAR	**Alice Springs**	**53.97**	**185**	P	**P**	**10 05 37.5**	**-0.4**
	comp=Z,158nm,0.8s,baz=356,slow=5.5,SNR=947						
ASAR				PcP	**PcP**	**10 06 38.1**	**+0.9**
	comp=Z,51nm,0.9s,baz=5.6,slow=3.6,SNR=9.9						
ASAR				ScP	**ScP**	**10 09 56.4**	**0.0**
	comp=Z,5.8nm,0.6s,baz=0.0,slow=4.4,SNR=4.2						
ASAR				ScS	**ScS**	**10 14 46.1**	**+0.9**
	comp=Z,8.0nm,1.0s,baz=346,slow=4.7,SNR=5.4						
ASAR				P4KPbc		10 42 54.9	
	comp=Z,1.8nm,0.9s,baz=2.9,slow=5.2,SNR=7.6						
	comp=Z,158nm,0.8s						
PPLA	**Purkeypile**	**53.97**	**32**	P	**P**	**10 05 38.5**	**+1.0**
PPLA	**Purkeypile**	**53.97**	**32**	P	**P**	**10 05 38.7**	**+1.2**
	baz=267,SNR=221						
PPLA				S	**S**	**10 12 42.1**	**+0.3**
	baz=267						
CHUM	**Lake Minchumin**	**53.97**	**31**	P	**P**	**10 05 38.7**	**+1.5**
	baz=266,SNR=296						
CHUM				S	**S**	**10 12 42.7**	**+1.2**
	baz=266						
CAST	**Castle Rocks**	**54.05**	**31**	P	**P**	**10 05 39.1**	**+1.2**
	baz=267,SNR=844						
CAST				S	**S**	**10 12 43.2**	**+0.7**
	baz=267						
DZA	**Taraz**	**54.05**	**303**	*e*P	**P**	**10 05 38.6**	**+0.4**
DZA				pmax	pmax		
	comp=Z,343nm,0.9s						
DZA	**Taraz**	**54.05**	**303**	*e*P	**P**	**10 05 38.7**	**+0.4**
	comp=Z,343nm,0.9s						
GUNA	**GUNA**	**54.06**	**280**	*e*P	**P**	**10 05 37.9**	**-0.7**
HOM	**Homer**	**54.15**	**36**	IAmb	IAmb	10 05 40.6	
	comp=Z,987nm,1.0s						
HOM	**Homer**	**54.15**	**36**	P	**P**	**10 05 38.7**	**+0.1**
	baz=270,SNR=7.3						
HOM				S	**S**	**10 12 42.7**	**-1.2**
	baz=270						
I21K	**Tanana**	**54.21**	**29**	IAmb	IAmb	10 05 41.6	
	comp=Z,774nm,1.1s						
I21K	**Tanana**	**54.21**	**29**	P	**P**	**10 05 40.5**	**+1.5**
	baz=266						
I21K				S	**S**	**10 12 46.8**	**+2.3**
	baz=266						
SKT	**Skwentna**	**54.24**	**33**	P	**P**	**10 05 39.3**	**0.0**
SKT				IAmb	IAmb	10 05 40.7	
	comp=Z,480nm,1.0s						
SKT	**Skwentna**	**54.24**	**33**	P	**P**	**10 05 39.4**	**+0.1**
	baz=268,SNR=224						
SKT				S	**S**	**10 12 45.1**	**0.0**
	baz=268						
B22K	**Teshekpuk Lake**	**54.29**	**23**	P	**P**	**10 05 40.4**	**+1.0**
	baz=260,SNR=113						
B22K				S	**S**	**10 12 46.9**	**+1.4**
	baz=260						
D22K	**Ayikyak River**	**54.33**	**25**	P	**P**	**10 05 40.8**	**+1.0**
D22K				IAmb	IAmb	10 05 42.2	
	comp=Z,621nm,1.1s						
D22K	**Ayikyak River**	**54.33**	**25**	P	**P**	**10 05 41.1**	**+1.3**
	baz=262						
D22K				S	**S**	**10 12 46.7**	**+0.6**
	baz=262						
F22K	**John River**	**54.35**	**26**	P	**P**	**10 05 41.2**	**+1.3**
	baz=264						
CNPM	**China Poot**	**54.35**	**36**	IAmb	IAmb	10 05 40.9	
	comp=Z,477nm,1.0s						
DRK	**Karamyk**	**54.37**	**299**	IAmb	IAmb	10 05 42.4	
	comp=Z,442nm,0.8s						
VJD	**Vijayawada**	**54.39**	**269**	*e*P	**P**	**10 05 41.4**	**+0.4**
MBWA	**Marble Bar**	**54.40**	**202**	P	**P**	**10 05 40.7**	**-0.1**
MBWA				IAmb	IAmb	10 05 42.0	
	comp=Z,674nm,1.3s						
MBWA				PcP	**PcP**	**10 06 38.6**	**-0.2**
MBWA	**Marble Bar**	**54.40**	**202**	P	**P**	**10 05 40.9**	**+0.1**
	comp=Z,478nm,1.3s						
MBWA	**Marble Bar**	**54.40**	**202**	P	**P**	**10 05 40.3**	**-0.5**
MBWA				S	**S**	**10 12 46.4**	**-1.6**
MBWA	**Marble Bar**	**54.40**	**202**	P	**P**	**10 05 40.7**	**-0.1**
MBWA	**Marble Bar**	**54.40**	**202**	⇓P	**P**	**10 05 40.6**	**-0.1**
MBWA				PcP	**PcP**	**10 06 38.8**	**-0.1**
CAPN	**Captain Cook N**	**54.40**	**35**	P	**P**	**10 05 41.8**	**+1.5**
	baz=270						
H22K	**Ishtalitna Cre**	**54.51**	**28**	P	**P**	**10 05 42.7**	**+1.6**
	baz=266						
H22K				S	**S**	**10 12 52.0**	**+3.4**
	baz=266						
BRLK	**Bradley Lake**	**54.53**	**36**	IAmb	IAmb	10 05 43.6	
	comp=Z,819nm,0.9s						
G22K	**Bettles**	**54.55**	**27**	P	**P**	**10 05 42.1**	**+0.7**
	baz=265						
G22K				S	**S**	**10 12 49.2**	**+0.2**
	baz=265						
E22K	**Anaktuvuk Pass**	**54.55**	**26**	IAmb	IAmb	10 05 43.7	
	comp=Z,672nm,1.0s						
E22K	**Anaktuvuk Pass**	**54.55**	**26**	P	**P**	**10 05 42.6**	**+1.1**
	baz=264,SNR=695						
E22K				S	**S**	**10 12 50.0**	**+0.9**
	baz=264						
BPAW	**Bear Paw Mtn.**	**54.57**	**31**	P	**P**	**10 05 42.3**	**+0.8**
BPAW				IAmb	IAmb	10 05 43.8	
	comp=Z,576nm,1.1s						
BPAW	**Bear Paw Mtn.**	**54.57**	**31**	P	**P**	**10 05 42.6**	**+1.0**
	baz=267,SNR=302						

PSA00	Pilbara Seismi	54.74	201	P	P	10 05 43.3	0.0
	comp=Z,408nm,1.2s						
PSA00	Pilbara Seismi	54.74	201	P	P	10 05 43.2	-0.1
CUT	Chulitna	54.84	33	P	P	10 05 43.5	0.0
	baz=269,SNR=109						
CUT				S	S	10 12 53.2	+0.3
	baz=269						
TRF	Thorofare Moun	54.85	31	P	P	10 05 43.9	+0.1
TRF				IAmb	IAmb	10 05 45.5	
	comp=Z,499nm,1.2s						
TRF	Thorofare Moun	54.85	31	P	P	10 05 44.1	+0.3
	baz=268,SNR=176						
TRF				S	S	10 12 53.6	+0.2
	baz=268						
SLKM	Skilak Lake	54.86	35	IAmb	IAmb	10 05 44.5	
	comp=Z,791nm,1.2s						
NRDN	NARMADA NAGAR	54.90	278	eP	P	10 05 45.3	+0.7
M22K	Willow	54.90	33	P	P	10 05 43.5	-0.4
	baz=270,SNR=178						
M22K				S	S	10 12 53.4	-0.3
	baz=270						
BTK	Batken	54.98	300	IAmb	IAmb	10 05 46.6	
	comp=Z,478nm,1.0s						
D23K	Nanushuk River	55.06	25	IAmb	IAmb	10 05 47.6	
	comp=Z,648nm,1.1s						
D23K	Nanushuk River	55.06	25	P	P	10 05 46.3	+1.3
	baz=264,SNR=442						
D23K				S	S	10 12 56.4	+0.7
	baz=264						
COLD	Coldfoot	55.08	27	P	P	10 05 46.3	+1.1
	baz=266,SNR=261						
COLD				S	S	10 12 57.0	+0.9
	baz=266						
RC01	Rabbit Creek A	55.09	34	P	P	10 05 45.2	-0.1
	baz=270,SNR=116						
RC01				S	S	10 12 54.5	-1.8
	baz=270						
BRLS	Borolday	55.10	304	eP	P	10 05 47.2	+1.5
BRLS				pmax	pmax		
	comp=Z,553nm,1.4s						
BRLS	Borolday	55.10	304	eP	P	10 05 47.2	+1.5
	comp=Z,552nm,1.4s						
O22K	Cooper Landing	55.10	35	P	P	10 05 45.3	-0.1
	baz=271,SNR=49						
G23K	Bananza Creek	55.12	27	IAmb	IAmb	10 05 47.8	
	comp=Z,749nm,0.9s						
G23K	Bananza Creek	55.12	27	P	P	10 05 46.7	+1.2
	baz=266,SNR=622						
G23K				S	S	10 12 59.3	+2.7
	baz=266						
IUG	Iuzhnay	55.13	302	eP	P	10 05 46.7	+0.7
IUG				eS	S	10 12 58.4	+0.7
IUG	Iuzhnay	55.13	302	eP	P	10 05 46.8	+0.7
IUG				eS	S	10 12 58.4	+0.7
C23K	Itkillik River	55.17	24	IAmb	IAmb	10 05 48.0	
	comp=Z,653nm,0.9s						
C23K	Itkillik River	55.17	24	P	P	10 05 46.9	+1.1
	baz=264,SNR=444						
C23K				S	S	10 12 58.6	+1.4
	baz=264						
SEW	Seward	55.25	35	P	P	10 05 46.2	-0.2
SEW	Seward	55.25	35	P	P	10 05 46.4	0.0
	baz=271,SNR=168						
SEW				S	S	10 12 57.0	-1.4
	baz=271						
H23K	Yukon River	55.26	28	IAmb	IAmb	10 05 49.2	
	comp=Z,773nm,1.1s						
H23K	Yukon River	55.26	28	P	P	10 05 48.0	+1.6
	baz=267						
H23K				S	S	10 13 01.5	+2.9
	baz=267						
I23K	Minto, Yukon-K	55.31	29	IAmb	IAmb	10 05 49.0	
	comp=Z,426nm,1.1s						
I23K	Minto, Yukon-K	55.31	29	P	P	10 05 47.6	+0.9
	baz=268,SNR=185						
I23K				S	S	10 13 00.3	+1.2
	baz=268						
E23K	Chandalar	55.37	26	IAmb	IAmb	10 05 49.9	
	comp=Z,651nm,1.1s						
E23K	Chandalar	55.37	26	P	P	10 05 48.5	+1.2
	baz=266,SNR=637						
E23K				S	S	10 13 01.6	+1.7
	baz=266						
PMR	Palmer	55.38	34	P	P	10 05 47.1	-0.2
PMR	Palmer	55.38	34	P	P	10 05 47.1	-0.2
	baz=271,SNR=359						
PMR				S	S	10 12 60.0	0.0
	baz=271						
CHM	Chimkent	55.41	303	eP	P	10 05 48.5	+0.6
CHM				pmax	pmax		
	comp=Z,733nm,0.9s						
CHM	Chimkent	55.41	303	eP	P	10 05 48.5	+0.6
	comp=Z,732nm,0.9s						
KEKH	Kekaha	55.42	83	P	P	10 05 48.7	+0.5
NEA2	Nenana	55.42	30	P	P	10 05 48.2	+0.6
	baz=269,SNR=494						
NEA2				S	S	10 13 02.6	+2.0
	baz=269						
TOLK	Toolik Lake Re	55.43	25	P	P	10 05 48.5	+0.9
TOLK				IAmb	IAmb	10 05 50.0	
	comp=Z,474nm,1.1s						
TOLK	Toolik Lake Re	55.43	25	P	P	10 05 48.5	+0.9
	baz=265,SNR=211						
TOLK				S	S	10 13 01.7	+1.0
	baz=265						
MCK	McKinley	55.46	31	P	P	10 05 48.0	+0.1
	baz=269,SNR=711						
MCK				S	S	10 13 00.0	-1.2
	baz=269						
AJM	Ajmer	55.70	283	eP	P	10 05 50.5	+0.2
KNK	Knik Glacier	55.70	34	P	P	10 05 49.9	+0.3
	baz=271,SNR=320						
KNK				S	S	10 13 04.7	+0.3
	baz=271						
D24K	Happy Valley	55.74	24	IAmb	IAmb	10 05 52.1	
	comp=Z,627nm,0.9s						
D24K	Happy Valley	55.74	24	P	P	10 05 50.9	+1.1
	baz=266						
D24K				S	S	10 13 05.6	+1.0
	baz=266						
SML	Sawmill	55.75	33	P	P	10 05 50.3	+0.3
	baz=271,SNR=342						
SML				S	S	10 13 05.8	+0.7
	baz=271						
PWL	Port Wells	55.78	34	P	P	10 05 50.2	0.0
	baz=272,SNR=170						
PWL				S	S	10 13 05.6	+0.2
	baz=272						
E24K	Your Creek	55.79	26	P	P	10 05 51.2	+1.0
E24K				IAmb	IAmb	10 05 52.8	
	comp=Z,963nm,1.7s						
E24K	Your Creek	55.79	26	P	P	10 05 51.4	+1.2
	baz=267						
E24K				S	S	10 13 07.1	+1.6
	baz=267						
AKL	Akola	55.80	275	eP	P	10 05 51.5	+0.5
HYB	Hyderabad	55.82	271	⇓eP	P	10 05 51.5	+0.4
HYB				IVmB_BB		10 05 52.0	
	comp=Z,7μm,1.4s						
C24K	Franklin Bluff	55.83	24	IAmb	IAmb	10 05 52.5	
	comp=Z,844nm,0.9s						
C24K	Franklin Bluff	55.83	24	P	P	10 05 51.2	+1.0
	baz=266						
C24K				S	S	10 13 07.1	+1.5
	baz=266						
COLA	College	55.95	30	P	P	10 05 51.3	+0.2
COLA	College	55.95	30	P	P	10 05 51.5	+0.3
COLA	College	55.95	30	c iP	P	10 05 51.1	-0.1
COLA				pmax	pmax		
	comp=Z,313nm,0.9s						
COLA	College	55.95	30	P	P	10 05 51.4	+0.2
	baz=270						
COLA				S	S	10 13 08.5	+1.1
	baz=270						
COLA	College	55.95	30	P	P	10 05 51.4	+0.2
H24K	Noodor Dome	55.95	28	IAmb	IAmb	10 05 53.8	
	comp=Z,500nm,1.1s						
H24K	Noodor Dome	55.95	28	P	P	10 05 52.4	+1.1
	baz=269						
H24K				S	S	10 13 10.2	+2.7
	baz=269						
F24K	Squaw Lake	55.99	26	IAmb	IAmb	10 05 54.0	
	comp=Z,370nm,0.8s						
F24K	Squaw Lake	55.99	26	P	P	10 05 52.8	+1.2
	baz=268,SNR=498						
F24K				S	S	10 13 10.0	+1.9
	baz=268						
WRKA	Warakurna	56.02	191	P	P	10 05 52.3	0.0
	comp=Z,384nm,0.9s						
WRKA	Warakurna	56.02	191	P	P	10 05 52.4	+0.1
M23K	Glacier View	56.04	33	P	P	10 05 52.2	+0.2
	baz=272,SNR=244						
M23K				S	S	10 13 10.5	+1.7
	baz=272						
POKR	Poker Plat Res	56.13	29	IAmb	IAmb	10 05 55.4	
	comp=Z,670nm,1.1s						
POKR	Poker Plat Res	56.13	29	P	P	10 05 53.0	+0.4
	baz=270,SNR=146						
POKR				S	S	10 13 11.3	+1.5
	baz=270						
G24K	Hadweenzic Riv	56.13	27	IAmb	IAmb	10 05 55.2	
	comp=Z,516nm,0.9s						
G24K	Hadweenzic Riv	56.13	27	P	P	10 05 53.9	+1.4
	baz=269,SNR=267						
G24K				S	S	10 13 13.0	+3.2
	baz=269						
SCM	Sheep Creek Mo	56.23	33	P	P	10 05 53.9	+0.5
	baz=272,SNR=443						
SCM				S	S	10 13 12.7	+1.4
	baz=272						
P23K	Montague Islan	56.28	36	P	P	10 05 54.4	+0.7
P23K	Montague Islan	56.28	36	P	P	10 05 54.2	+0.6
	baz=273,SNR=51						
P23K				S	S	10 13 14.0	+2.2
	baz=273						
BKNR	BIKANER	56.33	285	eP	P	10 05 54.5	-0.1
HDA	Harding Lake	56.34	30	IAmb	IAmb	10 05 54.8	
	comp=Z,618nm,1.0s						
HDA	Harding Lake	56.34	30	P	P	10 05 53.6	-0.4
	baz=271,SNR=264						
HDA				S	S	10 13 10.7	-1.9
	baz=271						
ILAR	Eielson Array	56.36	30	P	P	10 05 53.3	-0.8
ILAR	Eielson Array	56.36	30	P	P	10 05 53.4	-0.7
	comp=Z,253nm,1.1s,baz=284,slow=5.3,SNR=589						
ILAR				ScP	ScP	10 10 04.7	-1.7
	comp=Z,3.4nm,1.0s,baz=232,slow=4.8,SNR=4.3						
	comp=Z,253nm,1.1s						
GLI	Glacier Island	56.38	34	P	P	10 05 54.5	+0.2
	baz=273,SNR=94						
GLI				S	S	10 13 14.8	+1.5
	baz=273						
KOUNC	Koumac, New Ca	56.39	151	P	P	10 05 55.1	+0.3
D25K	Kavik River	56.62	24	P	P	10 05 56.8	+0.9
	baz=268						
D25K				S	S	10 13 16.3	+0.1
	baz=268						
SIMJ	Simiganj	56.67	299	P	P	10 05 57.2	+0.2
SIMJ	Simiganj	56.67	299	⇓P	P	10 05 57.4	+0.5
SIMJ				PcP	PcP	10 06 48.1	+0.2
SIMJ				ScP	ScP	10 10 08.0	-0.5
G25K	Bearman Lake	56.68	27	P	P	10 05 57.8	+1.5
	baz=270,SNR=144						
G25K				S	S	10 13 20.6	+3.8
	baz=270						
EIDS	Eidsvold	56.75	166	P	P	10 05 57.3	0.0
	comp=Z,139nm,1.2s						
EIDS	Eidsvold	56.75	166	P	P	10 05 57.4	0.0
M24K	Tolsona, Glenn	56.76	33	P	P	10 05 58.1	+1.1
	baz=273,SNR=136						
M24K				S	S	10 13 20.6	+2.4
	baz=273						
H25L	Birch Creek	56.79	28	P	P	10 05 58.5	+1.4
	baz=270,SNR=222						
H25L				S	S	10 13 21.1	+2.8
	baz=270						
F25K	Christian Rive	56.86	26	IAmb	IAmb	10 06 00.6	
	comp=Z,466nm,1.0s						
F25K	Christian Rive	56.86	26	P	P	10 05 59.2	+1.6
	baz=270,SNR=582						
F25K				S	S	10 13 22.4	+3.1
	baz=270						
K24K	Donnelly Dome	56.87	31	IAmb	IAmb	10 05 58.9	
	comp=Z,519nm,1.1s						
K24K	Donnelly Dome	56.87	31	P	P	10 05 57.6	-0.1
	baz=272,SNR=174						
K24K				S	S	10 13 18.9	-0.6
	baz=272						
E25K	Arctic Village	56.89	26	IAmb	IAmb	10 06 00.6	
	comp=Z,567nm,1.1s						
E25K	Arctic Village	56.89	26	P	P	10 05 59.2	+1.5
	baz=270,SNR=452						
E25K				S	S	10 13 22.8	+3.2
	baz=270						
KLU	Klutina	56.91	34	IAmb	IAmb	10 06 00.0	
	comp=Z,691nm,0.9s						
KLU	Klutina	56.91	34	P	P	10 05 58.7	+0.6
	baz=274,SNR=236						
KLU				S	S	10 13 21.7	+1.4
	baz=274						
PRP	Porcupine Dome	56.92	29	P	P	10 05 57.3	-0.9
	baz=271,SNR=114						
PRP				S	S	10 13 20.2	-0.2
	baz=271						
QLP	Quilpie	56.94	174	P	P	10 05 57.8	-0.8
	comp=Z,326nm,1.1s						
QLP	Quilpie	56.94	174	P	P	10 05 57.9	-0.7
J25K	Salcha River,	57.02	30	P	P	10 05 57.6	-1.2
	baz=272,SNR=167						
J25K				S	S	10 13 19.3	-2.1
	baz=272						
PAX	Paxson	57.04	32	IAmb	IAmb	10 06 00.8	
	comp=Z,458nm,1.0s						
PAX	Paxson	57.04	32	P	P	10 05 59.4	+0.4
	baz=273,SNR=361						
PAX				S	S	10 13 22.4	+0.4
	baz=273						
EYAK	Cordova Ski Ar	57.06	35	IAmb	IAmb	10 06 01.1	
	comp=Z,522nm,1.1s						
EYAK	Cordova Ski Ar	57.06	35	P	P	10 06 00.0	+1.0
EYAK	Cordova Ski Ar	57.06	35	P	P	10 05 59.7	+0.6
	baz=274,SNR=63						
EYAK				S	S	10 13 23.6	+1.6
	baz=274						
KIP	Kipapa	57.09	83	P	P	10 06 00.8	+0.9
KIP	Kipapa	57.09	83	ceP	P	10 06 00.6	+0.7
KIP				pmax	pmax		
	comp=Z,117nm,1.3s						
KIP	Kipapa	57.09	83	P	P	10 06 00.7	+0.7
KIP				pP	pP	10 07 22.5	+1.1
C26K	Camden Bay	57.15	24	P	P	10 06 01.1	+1.6
	baz=269,SNR=369						
C26K				S	S	10 13 24.4	+1.6
	baz=269						
HARP	HAARP	57.22	33	P	P	10 06 01.1	+1.0
	baz=274,SNR=408						
HARP				S	S	10 13 25.3	+1.2
	baz=274						
BMAR	Burnt Mountain	57.27	27	P	P	10 06 01.8	+1.4
RIDG	Independent Ri	57.28	31	IAmb	IAmb	10 06 02.9	
	comp=Z,441nm,1.0s						
RIDG	Independent Ri	57.28	31	P	P	10 06 00.5	-0.1
	baz=273,SNR=176						
RIDG				S	S	10 13 24.4	-0.5
	baz=273						
RMQ	Roma	57.42	169	P	P	10 06 02.2	+0.3
	comp=Z,49nm,1.1s						
RMQ	Roma	57.42	169	P	P	10 06 02.5	+0.6
F26K	Sheenjek River	57.43	26	IAmb	IAmb	10 06 04.6	
	comp=Z,534nm,1.1s						
F26K	Sheenjek River	57.43	26	P	P	10 06 03.3	+1.7
	baz=271,SNR=528						
F26K				S	S	10 13 30.3	+3.7
	baz=271						
N25K	Chitina, Valde	57.54	33	P	P	10 06 03.3	+0.8
	baz=275,SNR=126						
N25K				S	S	10 13 30.5	+2.2
	baz=275						
C27K	Jago River	57.56	24	IAmb	IAmb	10 06 04.9	
	comp=Z,331nm,0.9s						
C27K	Jago River	57.56	24	P	P	10 06 03.6	+1.2
	baz=270						
C27K				S	S	10 13 29.2	+0.9
	baz=270						
G26K	Porcupine Rive	57.59	27	IAmb	IAmb	10 06 05.4	
	comp=Z,370nm,1.1s						
G26K	Porcupine Rive	57.59	27	P	P	10 06 04.0	+1.5
	baz=272,SNR=170						
G26K				S	S	10 13 32.0	+3.4
	baz=272						
BMRM	Bremner River	57.59	34	P	P	10 06 03.5	+0.7
BMRM	Bremner River	57.59	34	P	P	10 06 03.6	+0.8
	baz=275,SNR=265						
BMRM				S	S	10 13 31.2	+2.3
	baz=275						
RAGM	Ragged Mountai	57.61	35	IAmb	IAmb	10 06 05.1	
	comp=Z,888nm,1.4s						
SCRK	Sand Creek	57.65	31	IAmb	IAmb	10 06 04.5	
	comp=Z,700nm,1.0s						
SCRK	Sand Creek	57.65	31	P	P	10 06 03.3	+0.1
	baz=274,SNR=465						
SCRK				S	S	10 13 29.6	-0.2
	baz=274						
GIRL	Giralia	57.71	207	P	P	10 06 05.1	+1.2
	comp=Z,938nm,1.2s						
GIRL	Giralia	57.71	207	P	P	10 06 05.2	+1.2
KBL	Kabul	57.75	294	P	P	10 06 04.4	-0.2
KBL				IAmb	IAmb	10 06 05.8	
	comp=Z,643nm,0.9s						
KBL	Kabul	57.75	294	P	P	10 06 04.8	+0.2
	SNR=278						
KBL				P	P	10 06 04.8	+0.2
	SNR=278						
KBL				S	S	10 13 30.4	-1.8
KBL				S	S	10 13 30.4	-1.8
KBL	Kabul	57.75	294	P	P	10 06 04.4	-0.2
KBL				pmax	pmax		
	comp=Z,643nm,0.9s						
KAIM	Kayak Island	57.78	35	IAmb	IAmb	10 06 06.2	
	comp=Z,588nm,1.1s						
KAIM	Kayak Island	57.78	35	P	P	10 06 04.9	+0.9
	baz=276,SNR=11						
KAIM				S	S	10 13 34.1	+2.8
	baz=276						
J26L	Joseph Creek	57.80	30	IAmb	IAmb	10 06 05.2	
	comp=Z,633nm,0.9s						
J26L	Joseph Creek	57.80	30	P	P	10 06 03.9	-0.3
	baz=274,SNR=874						
J26L				S	S	10 13 30.4	-1.2
	baz=274						
HMT	Hamilton	57.82	35	IAmb	IAmb	10 06 06.4	
	comp=Z,714nm,1.4s						
INKA	Innaminka	57.87	178	P	P	10 06 05.1	+0.1
I26K	Coal Creek Min	57.92	29	P	P	10 06 04.1	-0.8
	baz=274,SNR=123						
I26K				S	S	10 13 33.3	+0.4
	baz=274						
GLB	Gilahina Butte	57.93	34	P	P	10 06 05.8	+0.7
OOD	Oodnadatta	57.96	183	P	P	10 06 05.4	-0.2
L26K	Log Cabin Wild	58.01	32	P	P	10 06 06.5	+1.0
	baz=275,SNR=279						
L26K				S	S	10 13 35.8	+1.6
	baz=275						
SUCK	Suckling Hills	58.09	35	IAmb	IAmb	10 06 08.5	
	comp=Z,671nm,1.3s						
VRDI	Verde Repeater	58.12	34	IAmb	IAmb	10 06 08.5	
	comp=Z,870nm,1.3s						
M26K	Nabesna, AK	58.22	32	IAmb	IAmb	10 06 09.3	
	comp=Z,837nm,1.2s						
M26K	Nabesna, AK	58.22	32	P	P	10 06 07.9	+0.8
	baz=276,SNR=256						
M26K				S	S	10 13 39.0	+1.9
	baz=276						
MALK	Mahakanadarawa	58.30	261	P	P	10 06 07.7	-0.6
BGLC	Bering Glacier	58.33	35	P	P	10 06 09.1	+1.4
	baz=277						
BGLC				S	S	10 13 40.6	+2.4
	baz=277						
COCO	West Island	58.37	230	P	P	10 06 08.8	+0.1
COCO	West Island	58.37	230	P	P	10 06 08.8	+0.1
COCO	West Island	58.37	230	P	P	10 06 09.6	+0.9
COCO	West Island	58.37	230	P	P	10 06 08.8	+0.1
COCO				pmax	pmax		
	comp=Z,1μm,1.3s						
E27K	Coleen River	58.37	26	P	P	10 06 09.3	+1.3
	baz=273,SNR=266						
E27K				S	S	10 13 40.8	+2.0
	baz=273						
G27K	Doyon Strip	58.44	27	P	P	10 06 09.7	+1.2
	baz=274,SNR=111						
G27K				S	S	10 13 41.8	+2.2
	baz=274						
K27K	Chicken	58.48	31	IAmb	IAmb	10 06 11.0	
	comp=Z,486nm,1.0s						
K27K	Chicken	58.48	31	P	P	10 06 09.8	+1.0
	baz=275						
K27K				S	S	10 13 41.6	+1.4
	baz=275						
WAX	Waxell Ridge	58.50	35	IAmb	IAmb	10 06 10.9	
	comp=Z,296nm,0.6s						
H27K	Steamboat Moun	58.53	28	P	P	10 06 10.3	+1.2
H27K				IAmb	IAmb	10 06 12.9	
	comp=Z,401nm,1.1s						
H27K	Steamboat Moun	58.53	28	P	P	10 06 10.5	+1.4
	baz=274,SNR=292						
H27K				S	S	10 13 44.7	+3.8
	baz=274						
SNH	Sunshine Point	58.54	35	IAmb	IAmb	10 06 11.5	
	comp=Z,594nm,1.0s						
I27K	Kandik River	58.54	29	P	P	10 06 09.8	+0.6
	baz=275,SNR=223						
I27K				S	S	10 13 42.5	+1.5
	baz=275						
D27M	Malcolm River	58.55	24	P	P	10 06 10.3	+1.1
	baz=273						
D27M				S	S	10 13 42.3	+1.3
	baz=273						
NOUC	Port Laguerre	58.62	150	P	P	10 06 11.1	+0.9
NOUC				PcP	PcP	10 06 57.0	+1.6
NOUC				pP	pP	10 07 32.0	-0.4
NOUC				ScP	ScP	10 10 17.6	+0.6
DZM	Mont Dzumac	58.66	150	P	P	10 06 11.4	+0.8
DZM	Mont Dzumac	58.66	150	eP	P	10 06 10.5	-0.1
	comp=Z,194nm,1.1s						
DZM				epP	pP	10 07 31.8	-1.1
	comp=Z,261nm,1.8s						
DZM				eS	S	10 13 43.2	-0.4
	comp=Z,424nm,25.2s						
DZM				eLQ	LQ	10 21 30.2	
	comp=Z,1μm,32.9s						
DZM				eLR	LR	10 24 04.7	
	comp=Z,712nm,24.4s						
DZM	Mont Dzumac	58.66	150	P	P	10 06 11.1	+0.5
DZM	Mont Dzumac	58.66	150	P	P	10 06 11.7	+1.1
DZM				pP	pP	10 07 32.6	-0.3
DZM				ScP	ScP	10 10 17.9	+0.7
SVE	Sverdlovsk	58.67	321	c iP	P	10 06 10.6	+0.5
SVE				i S	S	10 13 42.2	-0.5
SVE				e		10 15 14.8	
SVE				eSS	SS	10 17 38.6	-4.2
SVE				pmax	pmax		
	comp=Z,1μm,0.9s						
JASL	Jaisalmer	58.68	285	eP	P	10 06 11.0	+0.2
L27K	Beaver Creek,	58.69	32	IAmb	IAmb	10 06 12.5	
	comp=Z,470nm,1.1s						
L27K	Beaver Creek,	58.69	32	P	P	10 06 11.2	+1.0
	baz=276						
L27K				S	S	10 13 45.0	+2.0
	baz=276						
BCAR	Beaver Creek A	58.71	32	P	P	10 06 11.2	+0.8
SALM	Salem	58.72	265	eP	P	10 06 12.3	+1.2
PALK	Pallekele	58.74	259	P	P	10 06 12.1	+0.7
PALK				IAmb	IAmb	10 06 13.3	
	comp=Z,461nm,0.9s						
PALK	Pallekele	58.74	259	P	P	10 06 11.2	-0.2
PALK				P	P	10 06 11.2	-0.2
PALK	Pallekele	58.74	259	d iP	P	10 06 11.9	+0.6
PALK				pmax	pmax		
	comp=Z,548nm,1.0s						
PALK	Pallekele	58.74	259	⇓P	P	10 06 12.0	+0.7
PALK				PcP	PcP	10 06 57.0	+0.7
PALK				ScP	ScP	10 10 18.6	+0.7
M27K	Edge Creek, AK	58.74	32	IAmb	IAmb	10 06 12.9	
	comp=Z,771nm,1.1s						
M27K	Edge Creek, AK	58.74	32	P	P	10 06 11.6	+0.8
	baz=276,SNR=322						
M27K				S	S	10 13 45.6	+1.7
	baz=276						
YATNC	Mamie plateau,	58.84	149	P	P	10 06 13.8	+2.0
HLK	Haleakala	58.87	83	IAmb	IAmb	10 06 14.8	
	comp=Z,683nm,1.4s						
ONTNC	Ouen Toro	58.87	150	P	P	10 06 12.7	+0.8
MESA	MESA	58.98	35	P	P	10 06 13.1	+0.6
MESA				IAmb	IAmb	10 06 14.4	
	comp=Z,697nm,1.6s						
MESA	MESA	58.98	35	P	P	10 06 13.1	+0.6
	baz=278,SNR=15						
MESA				S	S	10 13 48.5	+1.4
	baz=278						
TW1H	Toowoomba 1 Ha	59.04	166	P	P	10 06 13.7	+0.6

YAH	**Yahtse**	**59.06**	**35**	IAmb	IAmb	10 06 15.0
	comp=Z,421nm,1.2s					
E28M	**Babbage River**	**59.10**	**25**	IAmb	IAmb	10 06 15.6
	comp=Z,462nm,1.1s					
E28M	**Babbage River**	**59.10**	**25**	P	**P**	**10 06 14.4 +1.4**
	baz=275					
E28M				S	**S**	**10 13 50.1 +2.1**
	baz=275					
AUWSH	**Wavell State H**	**59.13**	**165**	P	**P**	**10 06 14.3 +0.7**
BVCY	**Beaver Creek**	**59.21**	**32**	P	**P**	**10 06 14.5 +0.7**
	baz=277,SNR=90					
BVCY				S	**S**	**10 13 51.5 +2.0**
	baz=277					
I28M	**Miner Creek**	**59.25**	**29**	IAmb	IAmb	10 06 16.3
	comp=Z,522nm,1.0s					
I28M	**Miner Creek**	**59.25**	**29**	P	**P**	**10 06 15.0 +0.9**
	baz=276,SNR=625					
I28M				S	**S**	**10 13 51.7 +1.5**
	baz=276					
D28M	**Stokes Point**	**59.33**	**24**	P	**P**	**10 06 15.5 +1.1**
	baz=275					
D28M				S	**S**	**10 13 54.1 +3.3**
	baz=275					
YUK3	**Moose Creek**	**59.48**	**33**	P	**P**	**10 06 16.3 +0.5**
	baz=278,SNR=301					
YUK3				S	**S**	**10 13 55.1 +1.7**
	baz=278					
HPAH	**Hawaii Prepara**	**59.63**	**83**	IAmb	IAmb	10 06 19.4
	comp=Z,536nm,1.4s					
KAD	**Karad**	**59.64**	**273**	*e*P	**P**	**10 06 17.4 +0.1**
HUH	**Hualalai**	**59.65**	**84**	IAmb	IAmb	10 06 20.0
	comp=Z,447nm,1.4s					
DAWY	**Dawson**	**59.65**	**30**	P	**P**	**10 06 17.0 +0.3**
DAWY	**Dawson**	**59.65**	**30**	P	**P**	**10 06 17.5 +0.8**
	baz=278,SNR=168					
DAWY				S	**S**	**10 13 56.2 +1.1**
	baz=278					
E29M	**Blow River**	**59.73**	**25**	IAmb	IAmb	10 06 19.6
	comp=Z,419nm,1.3s					
E29M	**Blow River**	**59.73**	**25**	P	**P**	**10 06 18.2 +1.1**
	baz=276					
E29M				S	**S**	**10 13 57.5 +1.6**
	baz=276					
O28M	**Mount Upton**	**59.76**	**34**	P	**P**	**10 06 18.4 +0.6**
O28M				IAmb	IAmb	10 06 19.8
	comp=Z,383nm,1.1s					
O28M	**Mount Upton**	**59.76**	**34**	P	**P**	**10 06 18.5 +0.6**
	baz=279					
O28M				S	**S**	**10 13 58.3 +1.2**
	baz=279					
H29M	**Whitestone**	**59.80**	**28**	IAmb	IAmb	10 06 20.2
	comp=Z,496nm,1.2s					
H29M	**Whitestone**	**59.80**	**28**	P	**P**	**10 06 18.8 +1.1**
	baz=277,SNR=168					
H29M				S	**S**	**10 13 59.1 +2.2**
	baz=277					
PCA	**Pinnacle**	**59.83**	**35**	IAmb	IAmb	10 06 20.0
	comp=Z,497nm,1.1s					
PINM	**Pinnacle**	**59.83**	**35**	P	**P**	**10 06 18.7 +0.6**
	baz=279,SNR=40					
PINM				S	**S**	**10 13 58.4 +0.8**
	baz=279					
G29M	**Pine Creek**	**59.85**	**27**	P	**P**	**10 06 19.4 +1.3**
G29M	**Pine Creek**	**59.85**	**27**	P	**P**	**10 06 19.4 +1.4**
	baz=277,SNR=403					
G29M				S	**S**	**10 14 00.1 +2.5**
	baz=277					
MEEK	**Meekatharra**	**59.87**	**201**	P	**P**	**10 06 18.1 -0.5**
	comp=Z,372nm,1.1s					
MEEK	**Meekatharra**	**59.87**	**201**	P	**P**	**10 06 18.3 -0.3**
YUK8	**Steele Glacier**	**59.88**	**34**	P	**P**	**10 06 19.4 +0.8**
	baz=279,SNR=110					
YUK8				S	**S**	**10 14 00.1 +1.5**
	baz=279					
POHA	**Pohakuloa**	**59.88**	**84**	P	**P**	**10 06 20.4 +1.1**
POHA	**Pohakuloa**	**59.88**	**84**	P	**P**	**10 06 21.0 +1.7**
POHA	**Pohakuloa**	**59.88**	**84**	P	**P**	**10 06 20.2 +1.0**
POHA				pP	**pP**	**10 07 41.7 0.0**
MWH	**Mokuaweoweo**	**59.94**	**84**	IAmb	IAmb	10 06 22.1
	comp=Z,660nm,1.2s					
I29M	**Ogilvie Camp,**	**59.94**	**29**	IAmb	IAmb	10 06 20.8
	comp=Z,597nm,1.1s					
I29M	**Ogilvie Camp,**	**59.94**	**29**	P	**P**	**10 06 19.3 +0.7**
	baz=278,SNR=380					
I29M				S	**S**	**10 13 59.9 +1.2**
	baz=278					
ARTI	**Arti**	**59.97**	**321**	P	**P**	**10 06 19.0 0.0**
ARTI	**Arti**	**59.97**	**321**	*d i*P	**P**	**10 06 19.0 0.0**
ARTI						10 06 59.3
ARTI				*PP	**pwP**	**10 07 44.0 -2.6**
ARTI						10 08 29.9
ARTI				S	**S**	**10 13 59.4 +0.1**
ARTI						10 15 24.4
ARTI				pmax	pmax	
	comp=Z,1μm,0.7s					
ARTI	**Arti**	**59.97**	**321**	⇓P	**P**	**10 06 18.9 0.0**
ARTI				PcP	**PcP**	**10 07 00.3 -0.2**
HMH	**Humu'ula Sheep**	**59.99**	**84**	P	**P**	**10 06 21.0 +0.9**
HMH				IAmb	IAmb	10 06 22.7
	comp=Z,846nm,1.3s					
J29N	**Klondike Camp**	**60.11**	**30**	P	**P**	**10 06 20.7 +0.9**
J29N				IAmb	IAmb	10 06 22.2
	comp=Z,492nm,1.0s					
J29N	**Klondike Camp**	**60.11**	**30**	P	**P**	**10 06 20.9 +1.0**
	baz=278,SNR=300					
J29N				S	**S**	**10 14 02.7 +1.8**
	baz=278					
MLH	**Mauna Loa**	**60.12**	**84**	IAmb	IAmb	10 06 23.2
	comp=Z,697nm,1.2s					
BCPM	**Bancas Point**	**60.16**	**35**	P	**P**	**10 06 21.1 +0.9**
BCPM				IAmb	IAmb	10 06 22.3
	comp=Z,695nm,1.1s					
UWE	**Uwekahuna**	**60.23**	**84**	IAmb	IAmb	10 06 23.7
	comp=Z,509nm,1.2s					
HATHI	**Halema'uma'u T**	**60.26**	**84**	IAmb	IAmb	10 06 23.9
	comp=Z,508nm,1.4s					
M29M	**Somme Creek**	**60.31**	**32**	P	**P**	**10 06 22.6 +1.3**
M29M				IAmb	IAmb	10 06 24.0
	comp=Z,522nm,1.0s					
M29M	**Somme Creek**	**60.31**	**32**	P	**P**	**10 06 22.6 +1.3**
	baz=279,SNR=312					
M29M				S	**S**	**10 14 06.3 +2.7**
	baz=279					
PUH	**Pauahi**	**60.31**	**84**	IAmb	IAmb	10 06 24.2
	comp=Z,466nm,1.1s					
PNL	**Peninsula**	**60.33**	**35**	P	**P**	**10 06 22.5 +1.2**
PNL	**Peninsula**	**60.33**	**35**	P	**P**	**10 06 22.1 +0.7**
	baz=280,SNR=36					
PNL				S	**S**	**10 14 05.5 +1.7**
	baz=280					
L29M	**L29M**	**60.35**	**31**	P	**P**	**10 06 23.0 +1.5**
	baz=279,SNR=529					
L29M				S	**S**	**10 14 07.2 +3.2**
	baz=279					
STCH	**Steam Cracks**	**60.39**	**84**	P	**P**	**10 06 23.4 +1.0**
STCH				IAmb	IAmb	10 06 24.6
	comp=Z,595nm,1.2s					
YUK4	**Talbot Arm**	**60.41**	**33**	P	**P**	**10 06 23.3 +1.2**
	baz=280,SNR=192					
YUK4				S	**S**	**10 14 07.9 +2.9**
	baz=280					
EPYK	**Eagle Plains**	**60.44**	**27**	P	**P**	**10 06 22.9 +0.9**
	baz=279,SNR=848					
EPYK				S	**S**	**10 14 07.4 +2.4**
	baz=279					
JOKA	**Jonika Flow**	**60.47**	**84**	IAmb	IAmb	10 06 25.2
	comp=Z,375nm,1.0s					
K29M	**Barlow Dome**	**60.50**	**30**	P	**P**	**10 06 23.4 +0.9**
K29M				IAmb	IAmb	10 06 24.9
	comp=Z,504nm,1.0s					
K29M	**Barlow Dome**	**60.50**	**30**	P	**P**	**10 06 23.6 +1.1**
	baz=279,SNR=354					
K29M				S	**S**	**10 14 07.6 +1.6**
	baz=279					
AB31	**Akbulak array**	**60.52**	**312**	P	**P**	**10 06 22.0 -0.8**
ABKAR	**Akbulak array**	**60.52**	**312**	P	**P**	**10 06 22.8 0.0**
ABKAR	**Akbulak array**	**60.52**	**312**	IAmb	IAmb	10 06 24.0
	comp=Z,2μm,0.8s					
LCRK	**Leigh Creek**	**60.53**	**180**	P	**P**	**10 06 23.5 +0.5**
G30M	**tAoh Zraii Nji**	**60.55**	**27**	P	**P**	**10 06 23.2 +0.5**
	baz=279					
G30M				S	**S**	**10 14 07.3 +1.0**
	baz=279					
YUK6	**Outpost Mounta**	**60.61**	**34**	P	**P**	**10 06 24.9 +1.4**
	baz=280,SNR=76					
YUK6				S	**S**	**10 14 11.9 +4.2**
	baz=280					
F30M	**Barrier River**	**60.62**	**26**	P	**P**	**10 06 24.2 +1.1**
	baz=279					
F30M				S	**S**	**10 14 08.8 +1.6**
	baz=279					
O29M	**Mount Kennedy**	**60.62**	**35**	P	**P**	**10 06 24.9 +1.5**
	baz=280					
O29M				S	**S**	**10 14 11.4 +3.8**
	baz=280					
GOA	**Goa**	**60.74**	**271**	*e*P	**P**	**10 06 25.2 +0.5**
I30M	**Mount Dempster**	**60.76**	**29**	IAmb	IAmb	10 06 27.1
	comp=Z,573nm,1.1s					
I30M	**Mount Dempster**	**60.76**	**29**	P	**P**	**10 06 24.9 +0.6**
	baz=280,SNR=516					
I30M				S	**S**	**10 14 10.9 +1.6**
	baz=280					
J30M	**Hart River**	**60.89**	**29**	P	**P**	**10 06 25.9 +0.7**
	baz=280,SNR=199					
J30M				S	**S**	**10 14 12.7 +1.8**
	baz=280					
MNGI	**Mangalore**	**61.03**	**268**	*e*P	**P**	**10 06 26.8 +0.1**
HYT	**Haines Junctio**	**61.05**	**34**	IAmb	IAmb	10 06 28.8
	comp=Z,446nm,1.0s					
HYT	**Haines Junctio**	**61.05**	**34**	P	**P**	**10 06 27.5 +1.2**
	baz=281,SNR=177					
HYT				S	**S**	**10 14 16.1 +3.2**
	baz=281					
DGTI	**Dogotuki**	**61.05**	**134**	P	**P**	**10 06 28.4 +1.7**
M30M	**Minto, Yukon**	**61.05**	**32**	P	**P**	**10 06 27.1 +1.0**
M30M				IAmb	IAmb	10 06 28.6
	comp=Z,389nm,1.2s					
M30M	**Minto, Yukon**	**61.05**	**32**	P	**P**	**10 06 27.3 +1.2**
	baz=281,SNR=168					
M30M				S	**S**	**10 14 16.5 +3.8**
	baz=281					
BHUJ	**Bhuj**	**61.09**	**281**	*e*P	**P**	**10 06 27.9 +1.0**
MSVF	**Nonsavu**	**61.12**	**136**	P	**P**	**10 06 29.2 +2.0**
MSVF	**Nonsavu**	**61.12**	**136**	P	**P**	**10 06 27.6 +0.4**
MSVF	**Nonsavu**	**61.12**	**136**	‖*e*P	**P**	**10 06 28.6 +1.4**
MSVF				pmax	pmax	
	comp=Z,30nm,1.2s					
MSVF	**Nonsavu**	**61.12**	**136**	P	**P**	**10 06 29.1 +1.9**
MSVF				PcP	**PcP**	**10 07 08.1 +2.4**
MSVF				pP	**pP**	**10 07 50.7 +0.3**
MSVF				sP	**sP**	**10 08 31.9 -0.9**
MSVF				ScP	**ScP**	**10 10 28.5 +0.2**
N30M	**Aishikik Lake**	**61.12**	**33**	IAmb	IAmb	10 06 29.1
	comp=Z,375nm,1.2s					
N30M	**Aishikik Lake**	**61.12**	**33**	P	**P**	**10 06 27.8 +1.1**
	baz=281,SNR=108					
N30M				S	**S**	**10 14 16.5 +2.7**
	baz=281					
P29M	**Windy Craggy**	**61.16**	**35**	P	**P**	**10 06 28.4 +1.5**
P29M				IAmb	IAmb	10 06 29.6
	comp=Z,446nm,1.0s					
P29M	**Windy Craggy**	**61.16**	**35**	P	**P**	**10 06 28.3 +1.5**
	baz=282,SNR=72					
P29M				S	**S**	**10 14 17.7 +3.4**
	baz=282					
TRD	**Trivandrum**	**61.31**	**263**	*e*P	**P**	**10 06 29.1 +0.6**
INK	**Inuvik**	**61.34**	**25**	P	**P**	**10 06 27.9 +0.1**
INK	**Inuvik**	**61.34**	**25**	P	**P**	**10 06 27.9 +0.1**
INK				pmax	pmax	
	comp=Z,246nm,1.1s					
INK	**Inuvik**	**61.34**	**25**	P	**P**	**10 06 28.1 +0.2**
	baz=280,SNR=186					
INK				S	**S**	**10 14 16.2 +0.2**
	baz=280					
F31M	**Tsiigehtchic**	**61.42**	**26**	IAmb	IAmb	10 06 29.7
	comp=Z,342nm,1.3s					
F31M	**Tsiigehtchic**	**61.42**	**26**	P	**P**	**10 06 28.5 +0.1**
	baz=281,SNR=117					
F31M				S	**S**	**10 14 17.1 0.0**
	baz=281					
P30M	**Million Dollar**	**61.45**	**35**	P	**P**	**10 06 30.2 +1.3**
	baz=282					
P30M				S	**S**	**10 14 21.3 +3.4**
	baz=282					
AKTO	**Aktyubinsk**	**61.45**	**314**	P	**P**	**10 06 28.8 -0.2**
	comp=Z,968nm,0.7s,baz=82,slow=6.0,SNR=1397					
	comp=Z,968nm,0.7s					
AKTO	**Aktyubinsk**	**61.45**	**314**	P	**P**	**10 06 28.3 -0.7**
H31M	**Peel River**	**61.49**	**28**	P	**P**	**10 06 29.7 +0.7**
	baz=281,SNR=371					
H31M				S	**S**	**10 14 19.1 +0.9**
	baz=281					
TAVE	**Taveuni**	**61.58**	**134**	P	**P**	**10 06 30.8 +0.6**
FORT	**Forrest**	**61.68**	**190**	P	**P**	**10 06 30.9 +0.3**
	comp=Z,2μm,0.9s					
FORT	**Forrest**	**61.68**	**190**	P	**P**	**10 06 31.0 +0.4**
N31M	**Braeburn, Yuko**	**61.73**	**33**	IAmb	IAmb	10 06 33.1
	comp=Z,448nm,0.9s					
N31M	**Braeburn, Yuko**	**61.73**	**33**	P	**P**	**10 06 31.9 +1.3**
	baz=282,SNR=140					
N31M				S	**S**	**10 14 24.3 +3.0**
	baz=282					
O30N	**Mendenhall**	**61.74**	**34**	IAmb	IAmb	10 06 32.9
	comp=Z,310nm,1.2s					
O30N	**Mendenhall**	**61.74**	**34**	P	**P**	**10 06 31.6 +0.9**
	baz=282,SNR=96					
O30N				S	**S**	**10 14 24.5 +3.1**
	baz=282					
ARMA	**Armidale**	**61.76**	**167**	P	**P**	**10 06 31.6 +0.3**
	comp=Z,67nm,1.3s					
ARMA	**Armidale**	**61.76**	**167**	P	**P**	**10 06 31.6 +0.3**
PLBC	**Pleasant Camp**	**61.88**	**35**	P	**P**	**10 06 32.7 +1.1**
	baz=283,SNR=29					
PLBC				S	**S**	**10 14 25.5 +2.4**
	baz=283					
CMSA	**Cobar Meteorol**	**61.99**	**173**	P	**P**	**10 06 33.1 +0.6**
	comp=Z,188nm,1.4s					
CMSA	**Cobar Meteorol**	**61.99**	**173**	P	**P**	**10 06 33.2 +0.6**
STKA	**Stephens Creek**	**62.02**	**177**	P	**P**	**10 06 32.8 +0.1**
	comp=Z,1μm,1.1s					
STKA	**Stephens Creek**	**62.02**	**177**	P	**P**	**10 06 32.9 +0.1**
	comp=Z,162nm,0.7s,baz=346,slow=7.3,SNR=198					
	comp=Z,162nm,0.7s					
STKA	**Stephens Creek**	**62.02**	**177**	P	**P**	**10 06 32.7 -0.1**
STKA	**Stephens Creek**	**62.02**	**177**	*d i*P	**P**	**10 06 32.6 -0.2**
M31M	**Drury Creek, Y**	**62.22**	**32**	P	**P**	**10 06 34.5 +0.7**
M31M				IAmb	IAmb	10 06 35.8
	comp=Z,275nm,0.9s					
M31M	**Drury Creek, Y**	**62.22**	**32**	P	**P**	**10 06 34.7 +0.9**
	baz=283,SNR=155					
M31M				S	**S**	**10 14 29.0 +1.7**
	baz=283					
S31K	**Pelican**	**62.29**	**37**	IAmb	IAmb	10 06 36.5
	comp=Z,299nm,1.1s					
S31K	**Pelican**	**62.29**	**37**	P	**P**	**10 06 35.2 +0.9**
	baz=284,SNR=27					
S31K				S	**S**	**10 14 29.8 +1.7**
	baz=284					
WHY	**Whitehorse**	**62.34**	**34**	P	**P**	**10 06 35.9 +1.2**
	baz=283,SNR=121					
WHY				S	**S**	**10 14 31.7 +2.7**
	baz=283					
SKAG	**Skagway**	**62.40**	**35**	IAmb	IAmb	10 06 37.4
	comp=Z,316nm,0.9s					
SKAG	**Skagway**	**62.40**	**35**	P	**P**	**10 06 35.9 +0.9**
SKAG	**Skagway**	**62.40**	**35**	P	**P**	**10 06 36.1 +1.1**
	baz=284,SNR=72					
SKAG				S	**S**	**10 14 32.6 +3.2**
	baz=284					
R31K	**City Hall, Gus**	**62.44**	**36**	P	**P**	**10 06 35.9 +0.7**
	baz=284,SNR=7.1					
FARO	**Faro, Yukon**	**62.69**	**32**	P	**P**	**10 06 37.4 +0.5**
FARO				IAmb	IAmb	10 06 38.9
	comp=Z,315nm,1.0s					
FARO	**Faro, Yukon**	**62.69**	**32**	P	**P**	**10 06 37.7 +0.8**
	baz=284,SNR=178					
FARO				S	**S**	**10 14 35.1 +2.0**
	baz=284					
BESE	**Bessie Mountai**	**62.85**	**36**	IAmb	IAmb	10 06 40.2
	comp=Z,337nm,1.0s					
BBOO	**Buckleboo**	**62.94**	**182**	IAmb	IAmb	10 06 40.1
	comp=Z,578nm,1.4s					
BBOO	**Buckleboo**	**62.94**	**182**	P	**P**	**10 06 38.8 +0.1**
	comp=Z,356nm,1.5s					
BBOO	**Buckleboo**	**62.94**	**182**	P	**P**	**10 06 38.8 +0.1**
MORW	**Morawa**	**62.94**	**202**	P	**P**	**10 06 38.7 -0.2**
MORW				PcP	**PcP**	**10 07 13.2 +0.4**
MORW	**Morawa**	**62.94**	**202**	P	**P**	**10 06 38.7 -0.2**
	comp=Z,541nm,1.0s					
MORW	**Morawa**	**62.94**	**202**	P	**P**	**10 06 38.7 -0.2**
SIT	**Sitka**	**62.99**	**38**	IAmb	IAmb	10 06 41.2
	comp=Z,412nm,1.4s					
SIT	**Sitka**	**62.99**	**38**	P	**P**	**10 06 40.4 +1.6**
SIT	**Sitka**	**62.99**	**38**	P	**P**	**10 06 39.7 +0.9**
	baz=285,SNR=14					
SIT				S	**S**	**10 14 39.5 +2.8**
	baz=285					
N32M	**Quiet Lake**	**63.08**	**33**	IAmb	IAmb	10 06 41.3
	comp=Z,289nm,1.0s					
N32M	**Quiet Lake**	**63.08**	**33**	P	**P**	**10 06 40.2 +0.7**
	baz=284,SNR=21					
N32M				S	**S**	**10 14 40.2 +2.4**
	baz=284					
R32K	**Eaglecrest**	**63.10**	**36**	P	**P**	**10 06 40.7 +1.1**
R32K				IAmb	IAmb	10 06 41.9
	comp=Z,333nm,1.0s					
R32K	**Eaglecrest**	**63.10**	**36**	P	**P**	**10 06 40.7 +1.1**
	baz=285					
R32K				S	**S**	**10 14 41.3 +3.2**
	baz=285					
WHYH	**Whyalla**	**63.12**	**181**	P	**P**	**10 06 40.2 +0.3**
HRA	**Herat**	**63.13**	**296**	P	**P**	**10 06 41.1 +0.6**
JIS	**Juneau Island**	**63.17**	**36**	P	**P**	**10 06 40.9 +0.9**
P32M	**Atlin**	**63.17**	**35**	IAmb	IAmb	10 06 42.2
	comp=Z,291nm,1.1s					
P32M	**Atlin**	**63.17**	**35**	P	**P**	**10 06 41.0 +0.9**
	baz=285,SNR=97					
P32M				S	**S**	**10 14 42.0 +2.9**
	baz=285					
A36M	**Sachs Harbour**	**63.26**	**20**	IAmb	IAmb	10 06 42.4
	comp=Z,391nm,0.9s					
A36M	**Sachs Harbour**	**63.26**	**20**	P	**P**	**10 06 41.1 +0.8**
	baz=286,SNR=364					
A36M				S	**S**	**10 14 41.4 +1.8**
	baz=286					
S32K	**Killisnoo**	**63.27**	**37**	IAmb	IAmb	10 06 42.8
	comp=Z,272nm,1.1s					
S32K	**Killisnoo**	**63.27**	**37**	P	**P**	**10 06 41.6 +0.9**
	baz=285,SNR=30					
P33M	**Teslin, Yukon**	**63.44**	**34**	IAmb	IAmb	10 06 44.1
	comp=Z,372nm,1.1s					
P33M	**Teslin, Yukon**	**63.44**	**34**	P	**P**	**10 06 42.8 +0.9**
	baz=285,SNR=172					
P33M				S	**S**	**10 14 44.9 +2.4**
	baz=285					
KMBL	**Kambalda**	**63.47**	**196**	P	**P**	**10 06 41.8 -0.5**
	comp=Z,370nm,1.1s					
KMBL	**Kambalda**	**63.47**	**196**	P	**P**	**10 06 41.7 -0.5**
HTT	**Hallett**	**63.51**	**180**	P	**P**	**10 06 43.0 +0.5**
	comp=Z,55nm,1.3s					
HTT	**Hallett**	**63.51**	**180**	P	**P**	**10 06 43.0 +0.5**
Q32M	**Nakina River**	**64.05**	**35**	P	**P**	**10 06 47.0 +1.1**
	baz=286,SNR=48					
Q32M				S	**S**	**10 14 51.8 +1.7**
	baz=286					
BLDU	**Ballidu**	**64.17**	**201**	P	**P**	**10 06 46.5 -0.3**
	comp=Z,463nm,1.6s					
BLDU	**Ballidu**	**64.17**	**201**	P	**P**	**10 06 46.4 -0.3**
KIRV	**Kirov**	**64.17**	**324**	*d i*P	**P**	**10 06 46.7 +0.3**
NTLH	**Newcastle Hard**	**64.19**	**168**	P	**P**	**10 06 47.5 +0.7**
T33K	**Petersburg**	**64.31**	**38**	P	**P**	**10 06 48.3 +1.0**
	baz=287,SNR=6.2					
MGCD	**Mangrove Creek**	**64.39**	**168**	P	**P**	**10 06 49.0 +0.9**
	comp=Z,73nm,1.0s					
C36M	**Paulatuk**	**64.41**	**23**	IAmb	IAmb	10 06 49.3
	comp=Z,262nm,1.1s					
C36M	**Paulatuk**	**64.41**	**23**	P	**P**	**10 06 48.0 +0.1**
	baz=288,SNR=137					
C36M				S	**S**	**10 14 53.4 -0.4**
	baz=288					
U33K	**Whale Pass**	**64.42**	**38**	P	**P**	**10 06 49.0 +1.0**
U33K				IAmb	IAmb	10 06 50.4
	comp=Z,275nm,1.1s					
U33K	**Whale Pass**	**64.42**	**38**	P	**P**	**10 06 49.1 +1.0**
	baz=287,SNR=20					
U33K				S	**S**	**10 14 58.0 +3.8**
	baz=287					
R33M	**Jennings River**	**64.57**	**35**	IAmb	IAmb	10 06 51.7
	comp=Z,304nm,1.1s					
R33M	**Jennings River**	**64.57**	**35**	P	**P**	**10 06 50.5 +1.3**
	baz=287,SNR=138					
R33M				S	**S**	**10 14 58.9 +2.7**
	baz=287					
LHI	**Lord Howe Isla**	**64.60**	**161**	P	**P**	**10 06 50.6 +1.1**
	comp=Z,158nm,1.1s					
CRAG	**Craig**	**64.61**	**39**	IAmb	IAmb	10 06 51.5
	comp=Z,260nm,1.2s					
CRAG	**Craig**	**64.61**	**39**	P	**P**	**10 06 49.8 +0.5**
CRAG	**Craig**	**64.61**	**39**	P	**P**	**10 06 50.2 +0.9**
	baz=287,SNR=9.5					
CRAG				S	**S**	**10 14 59.8 +3.3**
	baz=287					
WRAK	**Wrangell Islan**	**64.74**	**38**	P	**P**	**10 06 51.0 +0.9**
WRAK				IAmb	IAmb	10 06 52.4
	comp=Z,444nm,1.6s					
WRAK	**Wrangell Islan**	**64.74**	**38**	P	**P**	**10 06 51.0 +0.9**
	baz=287,SNR=16					
WRAK				S	**S**	**10 15 01.2 +3.1**
	baz=287					
KLBR	**Kellerberrin**	**64.77**	**200**	P	**P**	**10 06 50.2 -0.3**
	comp=Z,885nm,1.0s					
KLBR	**Kellerberrin**	**64.77**	**200**	P	**P**	**10 06 50.1 -0.5**
SYDH	**Sydney Hard Ro**	**64.86**	**169**	P	**P**	**10 06 52.1 +1.0**
S34M	**Telegraph Cree**	**64.93**	**36**	IAmb	IAmb	10 06 53.9
	comp=Z,216nm,1.0s					
S34M	**Telegraph Cree**	**64.93**	**36**	P	**P**	**10 06 52.4 +1.1**
	baz=288,SNR=73					
S34M				S	**S**	**10 15 01.2 +0.9**
	baz=288					
AFI	**Afiamalu**	**64.98**	**125**	P	**P**	**10 06 53.3 +0.9**
AFI	**Afiamalu**	**64.98**	**125**	P	**P**	**10 06 52.8 +0.4**
AFI	**Afiamalu**	**64.98**	**125**	P	**P**	**10 06 53.3 +0.9**
AFI				pmax	pmax	
	comp=Z,130nm,1.4s					
GHSS	**Government Hou**	**64.99**	**180**	P	**P**	**10 06 52.7 +0.8**
TGTN	**Hyland Airport**	**65.19**	**32**	P	**P**	**10 06 54.0 +1.0**
	baz=288,SNR=195					
TGTN				S	**S**	**10 15 05.6 +1.9**
	baz=288					
DLBC	**Dease Lake**	**65.32**	**35**	IAmb	IAmb	10 06 56.5
	comp=Z,485nm,1.2s					
DLBC	**Dease Lake**	**65.32**	**35**	P	**P**	**10 06 55.1 +1.2**
	baz=288,SNR=120					
DLBC				S	**S**	**10 15 07.9 +2.6**
	baz=288					
WTLY	**Watson Lake, Y**	**65.40**	**33**	P	**P**	**10 06 55.2 +0.8**
	baz=288,SNR=6.7					
HMDM	**Hanimaadhoo**	**65.41**	**263**	P	**P**	**10 06 56.0 +0.9**
HMDM	**Hanimaadhoo**	**65.41**	**263**	P	**P**	**10 06 56.6 +1.5**
	SNR=49					
V35K	**Ketchikan**	**65.47**	**39**	P	**P**	**10 06 54.9 +0.2**
	baz=288,SNR=8.7					
V35K				S	**S**	**10 15 08.1 +1.2**
	baz=288					
WOLH	**Wollongong Har**	**65.52**	**169**	P	**P**	**10 06 55.4 +0.2**
MUN	**Mundaring**	**65.59**	**201**	P	**P**	**10 06 55.4 -0.4**
	comp=Z,274nm,0.7s					
MUN	**Mundaring**	**65.59**	**201**	P	**P**	**10 06 55.3 -0.5**
DIB	**Dawson Inlet,**	**65.66**	**41**	P	**P**	**10 06 56.2 +0.2**
DIB				IAmb	IAmb	10 06 57.3
	comp=Z,329nm,0.9s					
H02S1	**DAWSON INLET T**	**65.66**	**41**	P	**P**	**10 06 54.8 -1.3**
	SNR=132					
T35M	**Bob Quinn**	**65.67**	**37**	IAmb	IAmb	10 06 58.7
	comp=Z,263nm,1.1s					
T35M	**Bob Quinn**	**65.67**	**37**	P	**P**	**10 06 57.5 +1.4**
	baz=289,SNR=67					
T35M				S	**S**	**10 15 11.2 +1.8**
	baz=289					
MTKN	**Mount Kenneth**	**65.68**	**201**	P	**P**	**10 06 57.0 +0.7**
	comp=Z,759nm,0.9s					
MTKN	**Mount Kenneth**	**65.68**	**201**	P	**P**	**10 06 56.8 +0.5**
HOPEN	**Hopen**	**65.88**	**346**	*e*P	**P**	**10 06 58.1 +1.1**
HOPEN				*e*S	**S**

baz=289
NWAO Narrogin (SRO) 66.17 200 P P 10 06 59.6 +0.2
NWAO Narrogin (SRO) 66.17 200 P P 10 06 59.3 -0.1
comp=Z,2μm,1.0s
NWAO Narrogin (SRO) 66.17 200 P P 10 06 59.8 +0.4
NWAO S S 10 15 12.0 -3.7
NWAO Narrogin (SRO) 66.17 200 P P 10 06 58.9 -0.5
NWAO Narrogin (SRO) 66.17 200 P P 10 06 59.3 -0.1
NWAO Narrogin (SRO) 66.17 200 P P 10 06 59.6 +0.2
NWAO pmax pmax
comp=Z,640nm,0.8s
NWAO Narrogin (SRO) 66.17 200 P P 10 06 59.6 +0.2
NWAO PcP **PcP** **10 07 26.3 +0.2**
NWAO pP **pP** **10 08 23.0 -0.5**
CNB Canberra Magne 66.17 170 P P 10 07 00.2 +0.7
comp=Z,82nm,1.1s
CNB Canberra Magne 66.17 170 P P 10 06 59.9 +0.4
SPB2 Spitsbergen Ar 66.54 349 IAmb IAmb 10 07 03.0
comp=Z,129nm,0.8s
SPA0 Spitsbergen Ar 66.54 349 *e*P **P** **10 07 01.8 +0.6**
SPA0 IVmB_BB 10 07 02.9
comp=Z,904nm,1.1s
SPITS Spitsbergen Ar 66.54 349 P P 10 07 01.8 +0.6
comp=Z,105nm,0.8s,baz=74,slow=9.6,SNR=39
comp=Z,105nm,0.8s
SPITS Spitsbergen Ar 66.54 349 P P 10 07 01.7 +0.5
SPITS pmax pmax
comp=Z,159nm,0.9s
HG4B Hotspring 66.70 42 P P 10 07 02.5 -0.1
HG4B IAmb IAmb 10 07 03.9
comp=Z,344nm,1.1s
WRGLY Wrigley 66.73 29 IAmb IAmb 10 07 04.6
comp=Z,392nm,1.0s
WRGLY Wrigley 66.73 29 P P 10 07 03.2 +0.7
baz=291,SNR=88
WRGLY S **S** **10 15 22.6 +0.9**
baz=291
KBS Kingsbay 66.75 350 P P 10 07 03.5 +1.1
KBS IAmb IAmb 10 07 04.7
comp=Z,190nm,0.9s
KBS Kingsbay 66.75 350*d* *i*P **P** **10 07 03.1 +0.6**
KBS pmax pmax
comp=Z,172nm,0.9s
KBS Kingsbay 66.75 350 *i* P **P** **10 07 02.7 +0.2**
KBS Kingsbay 66.75 350 P **P** **10 07 03.6 +1.1**
ALE Alert 66.83 3 P **P** **10 07 04.1 +1.2**
ALE PcP **PcP** **10 07 30.5 +2.2**
ALE pP **pP** **10 08 28.3 +0.5**
GRNB Grenville Isla 66.87 40 IAmb IAmb 10 07 05.5
comp=Z,252nm,1.0s
ARPS Mount Arapiles 66.91 177 P P 10 07 04.1 +0.1
comp=Z,343nm,1.0s
ARPS Mount Arapiles 66.91 177 P P 10 07 04.2 +0.3
LIRD Liard River Hi 66.92 34 P P 10 07 04.9 +1.0
baz=291,SNR=297
LIRD S **S** **10 15 25.1 +0.9**
baz=291
LVZ Lovozero 67.19 337 P P 10 07 05.4 0.0
LVZ Lovozero 67.19 337*d* *i*P **P** **10 07 05.1 -0.3**
LVZ pmax pmax
comp=Z,416nm,1.0s
LVZ Lovozero 67.19 337 P P 10 07 05.2 -0.2
comp=Z,5μmcomp=Z,510nm,1.1s
LVZ Lovozero 67.19 337 P **P** **10 07 05.2 -0.2**
HSPB Hornsund (broa 67.41 348 *e*P **P** **10 07 07.7 +1.1**
NOR Nord 67.48 356 *i* P **P** **10 07 05.9 -1.0**
NOR IAmb IAmb 10 07 09.6
comp=Z,26nm,1.1s
TOAD Toad River Com 67.54 34 P P 10 07 08.2 +0.5
baz=292,SNR=145
TOAD S **S** **10 15 32.2 +0.6**
baz=292
KOTAN Kotaneelee Air 67.62 32 P P 10 07 08.8 +0.6
baz=292,SNR=58
KOTAN S **S** **10 15 33.8 +1.4**
baz=292
APA Apatity 67.76 336⇓*i*P **P** **10 07 08.2 -0.7**
APA *i* 10 07 34.0
APA *i* *PP **pwP** **10 08 38.0 -0.9**
APA *i* S **S** **10 15 33.0 -0.8**
APA *i* 10 16 26.0
APA pmax pmax
comp=Z,740nm,0.8s
APA MLR MLR
comp=Z,800nm,17.0s
RKGY Rocky Gully 67.82 199 P P 10 07 09.6 0.0
comp=Z,218nm,1.2s
MGBR Mount Gambier 67.82 178 P P 10 07 10.5 +0.9
MILA Mila 67.85 171 P P 10 07 10.5 +0.7
comp=Z,77nm,1.1s
VADS Vadso 67.91 340⇓*i*P **P** **10 07 10.3 +0.5**
VADS IVmB_BB 10 07 10.8
comp=Z,4μm,1.0s
VADS *e*pP **pP** **10 08 35.8 +1.5**
VADS *e*S **S** **10 15 36.9 +1.5**
VADS *e* 10 16 29.9
VADS IVMs_BB IVMs_BB 10 40 19.9
comp=Z,645nm,2.9s
TOO Toolangi 67.95 174 P P 10 07 11.0 +0.6
comp=Z,84nm,1.3s
KLMR Klimovskoe 68.12 329 *e*P **P** **10 07 08.3 -2.9**
KLMR *e* 10 07 30.0
KLMR *e* 10 09 45.7
KLMR S **S** **10 15 30.7 -7.5**
KLMR 10 16 24.8
KLMR pmax pmax
comp=Z,1μm,1.3s
KLMR MLR MLR
comp=Z,682nm,18.0s
GEXS Deakin Univers 68.48 175 P P 10 07 14.5 +0.9
BBB Bella Bella 68.51 41 IAmb IAmb 10 07 15.0
comp=Z,290nm,1.1s
KEV Kevo 68.79 340 P P 10 07 15.8 +0.6
KEV Kevo 68.79 340 P P 10 07 15.8 +0.6
KEV pmax pmax
comp=Z,616nm,0.9s
KEV Kevo 68.79 340⇓P **P** **10 07 15.7 +0.6**
KAAM Kaadhehdhoo 68.82 258 P P 10 07 17.9 +1.6
SNR=37
H01W3 Cape Leeuwin H 68.92 201 P P 10 07 17.3 +1.2
baz=37,slow=6.2,SNR=6.3
H01W1 Cape Leeuwin H 68.93 201 P P 10 07 17.3 +1.2
baz=37,slow=6.2,SNR=9.1
H01W2 Cape Leeuwin H 68.94 201 P P 10 07 17.3 +1.2
baz=37,slow=6.2,SNR=8.6
HOLB Holberg 69.08 43 IAmb IAmb 10 07 19.1
comp=Z,437nm,1.1s
HAMF Hammerfest 69.28 341⇓*i*P **P** **10 07 18.4 +0.3**
HAMF *e*pP **pwP** **10 08 48.1 -0.4**
HAMF *e*S **S** **10 15 51.8 +0.4**
HAMF *e*SS **SS** **10 20 19.3 -7.2**
HAMF IVMs_BB IVMs_BB 10 45 49.1
comp=Z,786nm,3.4s
ARA0 ARCESS Array S 69.36 340⇓*i*P **P** **10 07 19.4 +0.7**
ARA0 IVmB_BB 10 07 19.8
comp=Z,4μm,0.8s
ARA0 *e*S **S** **10 15 52.0 -0.4**
ARA0 *e*SKSac **ScS** **10 16 40.4 -0.2**
ARCES ARCESS Array B 69.36 340 P **P** **10 07 19.3 +0.7**
comp=Z,513nm,0.8s,baz=68,slow=8.2,SNR=916
ARCES PKPPKP P'P'df 10 35 19.7 -8.4
comp=Z,12nm,1.1s,baz=302,slow=2.3,SNR=5.8
comp=Z,513nm,0.8s
RES Resolute Bay 69.57 13 P P 10 07 20.2 +0.4
RES Resolute Bay 69.57 13 P P 10 07 20.2 +0.4
RES pmax pmax
comp=Z,56nm,0.8s
JLN Jalan Bani Buh 70.17 285 P P 10 07 25.0 +0.6
SNR=98
JLN S **S** **10 16 01.5 -1.8**
KTK1 Kautokeino 70.32 340⇓*i*P **P** **10 07 24.8 +0.4**
KTK1 IVmB_BB 10 07 25.3
comp=Z,3μm,1.2s
KTK1 *e*pP **pP** **10 08 49.0 -0.7**
KTK1 *e*S **S** **10 16 04.1 +0.6**
KTK1 *e*SS **SS** **10 20 38.4 -4.0**
KTK1 IVMs_BB IVMs_BB 10 46 40.2
comp=Z,456nm,3.4s
WBK Wadi Bani Khal 70.34 285 P P 10 07 25.7 +0.2
WBK P **P** **10 07 25.7 +0.2**
WBK P **P** **10 07 26.0 +0.6**
SNR=73
WBK P **P** **10 07 26.0 +0.6**
SNR=73
WBK P **P** **10 07 26.3 +0.9**
SNR=179
WBK P **P** **10 07 26.3 +0.9**
SNR=179
WSAR Wadi Sarin 70.35 286 P P 10 07 26.2 +0.7
SNR=109
BIDO Bidbid 70.65 286 P P 10 07 28.0 +0.8
SNR=238
JOF Joensuu 70.70 332 *e*P **P** **10 07 26.6 -0.2**
YKA Yellowknife Ar 70.72 28 P P 10 07 26.7 -0.2
comp=Z,77nm,0.9s,baz=296,slow=5.6,SNR=601
YKA pP **pP** **10 08 54.4 +1.2**
comp=Z,31nm,1.0s,baz=296,slow=6.0,SNR=7.6
YKA PKPPKP P'P'df 10 35 14.4 -11
comp=Z,12nm,1.2s,baz=113,slow=3.6,SNR=17
comp=Z,77nm,0.9s
MAK Makhachkala 70.72 309*c* *i*P **P** **10 07 26.4 -0.9**
MAK *e**PP **pP** **10 08 53.9 +1.3**
MAK *e**SP **sP** **10 09 36.7 +2.3**
MAK *e* 10 10 06.3
MAK *e*PPP PPP 10 11 58.2
MAK *e*S **S** **10 16 06.5 -2.4**
MAK *e*SS **SS** **10 20 50.4 +0.7**
MAK *e*SSS SSS 10 24 07.7
MAK pmax pmax
comp=Z,927nm,0.9s
JETT Jettan, Norway 70.83 341⇓*i*P **P** **10 07 28.2 +0.7**
SMDO Samad 70.91 286 P P 10 07 29.0 +0.1
SNR=128
VRH Novokhopyorsk 70.93 319 *e*P **P** **10 07 26.4 -2.0**
VRH *e*S **S** **10 16 07.8 -3.2**
VRH pmax pmax
comp=Z,2μm,0.7s
VRH smax smax
comp=N,1μm,1.5s
BANOM Banah 71.13 289 P P 10 07 30.4 +0.4
BANOM Banah 71.13 289 *i* P **P** **10 07 30.7 +0.6**
SNR=296
JMDO Jabal Madar 71.16 285 P P 10 07 30.4 +0.1
SNR=38
JMDO P **P** **10 07 30.5 +0.1**
SNR=141
MOS Moscow 71.18 324*d* *i*P **P** **10 07 29.9 +0.2**
MOS *e**PP **pP** **10 08 57.1 +1.8**
MOS *e*PPP PPP 10 11 59.7
MOS *e*S **S** **10 16 11.7 -1.9**
MOS *e* 10 16 50.3
MOS pmax pmax
comp=Z,2μm,1.1s
MOS pmax pmax
comp=N,721nm,1.1s
MOS pmax pmax
comp=E,777nm,1.1s
MOS pmax pmax
comp=Z,3μm,1.4s
MOS pmax pmax
comp=N,700nm,1.1s
MOS pmax pmax
comp=E,700nm,1.1s
MOS smax smax
comp=N,4μm,3.4s
MOS smax smax
comp=E,2μm,3.4s
TRO Tromso 71.20 341⇓*i*P **P** **10 07 29.6 0.0**
TRO IVmB_BB 10 07 30.3
comp=Z,3μm,0.9s
TRO *e*S **S** **10 16 15.8 +2.4**
TRO *e*ScS **ScS** **10 16 57.2 +2.1**
TRO *e*SS **SS** **10 20 53.3 -2.3**
TRO IVMs_BB IVMs_BB 10 44 17.6
comp=Z,537nm,4.5s
SHME Shamm 71.20 290 P P 10 07 31.3 +0.8
SNR=429
SHME P **P** **10 07 31.6 +1.1**
SNR=25
SHME Shamm 71.20 290 *i* P **P** **10 07 31.2 +0.8**
SNR=497
HOQ Hoqain 71.30 287 P P 10 07 31.6 +0.5
SNR=250
OZB Mount Ozzard 71.33 44 IAmb IAmb 10 07 33.0
comp=Z,399nm,1.0s
MDH Madha 71.39 289 P P 10 07 31.1 -0.5
SNR=71
MDH Madha 71.39 289 *i* P **P** **10 07 30.9 -0.7**
SNR=36
MASF Masafi 71.48 289 P P 10 07 32.5 +0.4
SNR=199
MASF P **P** **10 07 33.1 +0.9**
SNR=21
MSFE Esma-Masafi 71.48 289 *i* P **P** **10 07 32.4 +0.2**
SNR=263
GLAD Gladstone 71.58 172 P P 10 07 33.0 +0.8
UOSS Minazif 71.62 289 P P 10 07 32.3 -0.6
UOSS Minazif 71.62 289 P P 10 07 33.4 +0.4
UOSS Minazif 71.62 289 *i* P **P** **10 07 32.6 -0.4**
SNR=88
UOSS Minazif 71.62 289 P P 10 07 32.6 -0.4
SOHO SOHO 71.70 288 P P 10 07 33.3 -0.1
SOHO SOHO 71.70 288 *i* P **P** **10 07 33.1 -0.3**
SNR=1104
HATD Hatta, Dubai 71.73 288 P P 10 07 34.0 +0.4
SNR=263
HATD Hatta, Dubai 71.73 288 *i* P **P** **10 07 34.1 +0.4**
SNR=603
BSY Bisya 71.75 286 P P 10 07 34.4 +0.6
SNR=198
UMQ Umm Al-Quwin 71.82 289 P P 10 07 35.7 +1.6
SNR=26
UMQ Umm Al-Quwin 71.82 289 *i* P **P** **10 07 35.1 +1.0**
SNR=21
ASHO Ashiyiah 71.86 288 P P 10 07 35.0 +0.6
SNR=15
ASHO P **P** **10 07 35.0 +0.6**
SNR=358
ASHO Ashiyiah 71.86 288 *i* P **P** **10 07 34.9 +0.6**
SNR=514
MHTO MHTO 71.88 284 P P 10 07 34.7 +0.2
SNR=286
LPSR Galich'ya Gora 71.89 321 *e*P **P** **10 07 32.5 -1.5**
LPSR *e*S **S** **10 16 18.8 -3.0**
LPSR pmax pmax
comp=Z,2μm,0.9s
LPSR smax smax
comp=N,3μm,4.6s
TULEG Thule 71.93 7 P P 10 07 34.6 +0.7
CORO Coronation Par 71.95 173 P P 10 07 35.4 +1.1
OBN Obninsk 72.00 324 P P 10 07 34.6 +0.1
OBN Obninsk 72.00 324 ⇑P **P** **10 07 35.1 +0.6**
OBN Obninsk 72.00 324*d* *i*P **P** **10 07 34.4 -0.1**
OBN *e**PP **pwP** **10 09 04.9 -1.0**
OBN *e* 10 10 21.1
OBN *i* S **S** **10 16 19.6 -3.3**
OBN *i* SS **SS** **10 21 12.4 +4.0**
OBN pmax pmax
comp=Z,1μm,0.9s
OBN Obninsk 72.00 324 P **P** **10 07 34.5 -0.1**
comp=Z,13μmcomp=Z,2μm,1.0s
OBN Obninsk 72.00 324 P **P** **10 07 34.7 +0.1**
NAZ Nazwa, Dubai 72.05 289 P **P** **10 07 36.0 +0.5**
SNR=143
NAZ Nazwa, Dubai 72.05 289 *i* P **P** **10 07 35.7 +0.2**
SNR=170
ARQ Araqi 72.06 287 P P 10 07 36.4 +0.8
SNR=391
VORR Voronezh 72.15 320 *e*P **P** **10 07 34.0 -1.5**
VORR *e*S **S** **10 16 21.9 -2.8**
VORR pmax pmax
comp=Z,1μm,0.6s
VORR smax smax
comp=E,400nm,0.8s
CLRS Cowichan Lake 72.20 44 P P 10 07 36.7 +0.8
CLRS IAmb IAmb 10 07 38.2
comp=Z,312nm,1.1s
FAQ Al Faqa, Dubai 72.21 289 P P 10 07 36.3 -0.1
SNR=129
FAQ P **P** **10 07 36.5 +0.1**
SNR=18
FAQ S **S** **10 16 23.6 -2.8**
FAQ Al Faqa, Dubai 72.21 289 *i* P **P** **10 07 36.5 +0.1**
SNR=18
NEEM North Greenlan 72.22 2 *i* P **P** **10 07 36.1 +0.2**
NEEM IAmb IAmb 10 07 41.9
comp=Z,78nm,0.8s
C03A Quillayute Air 72.32 44 IAmb IAmb 10 07 39.9
comp=Z,514nm,1.1s
VSR Storozhevoye 72.38 319 *e*P **P** **10 07 35.3 -1.6**
VSR *e*S **S** **10 16 24.1 -3.2**
VSR pmax pmax
comp=Z,2μm,0.8s
VSR smax smax
comp=N,3μm,3.1s
ALNE Al Ain 72.38 288 P **P** **10 07 38.0 +0.6**
SNR=290
ALNE S **S** **10 16 25.0 -3.3**
ALNE Al Ain 72.38 288 *i* P **P** **10 07 37.9 +0.5**
SNR=33
VORD Divnogorie 72.42 319 *e*P **P** **10 07 35.3 -1.8**
VORD *e*S **S** **10 16 25.0 -2.7**
VORD pmax pmax
comp=Z,2μm,1.4s
VORD smax smax
comp=N,510nm,1.1s
ASUD Al Ashush, Dub 72.48 289 P **P** **10 07 39.0 +1.0**
SNR=74
ASUD S **S** **10 16 28.0 -1.3**
ASUD Al Ashush, Dub 72.48 289 *i* P **P** **10 07 38.5 +0.5**
SNR=79
PGC Sidney 72.68 43 P **P** **10 07 39.6 +1.0**
PGC IAmb IAmb 10 07 40.8
comp=Z,371nm,1.0s
PUL Pulkovo 72.69 330*d* *i*P **P** **10 07 38.7 +0.2**
PUL pmax pmax
comp=Z,1μm,0.9s
DQM DQM 72.71 283 P **P** **10 07 40.0 +0.6**
SNR=41
LLLB Lillooet 72.71 41 IAmb IAmb 10 07 40.9
comp=Z,288nm,1.1s
GOF Gofitskoye 72.77 312*d* *i*P **P** **10 07 39.5 +0.2**
GOF *e*S **SKiKP** **10 16 30.0 -0.1**
AJN Ajban 72.78 289 P **P** **10 07 40.0 +0.2**
SNR=72
AJN S **SKiKP** **10 16 30.7 0.0**
AJN Ajban 72.78 289 *i* P **P** **10 07 39.8 0.0**
SNR=35
MOO Moorlands 72.94 173 P **P** **10 07 40.5 +0.4**
comp=Z,146nm,1.4s
MOO Moorlands 72.94 173 P **P** **10 07 40.6 +0.5**
NLWA Neilton Lookou 72.98 45 P **P** **10 07 41.9 +1.3**
NLWA IAmb IAmb 10 07 43.4
comp=Z,310nm,1.0s
A04D Lummi Island 73.09 43 IAmb IAmb 10 07 43.5
comp=Z,467nm,1.1s
OUZ Omahuta 73.14 151 P **P** **10 07 43.3 +1.9**
STEI Steigen 73.32 341⇓*i*P **P** **10 07 42.1 +0.1**
STEI IVmB_BB 10 07 42.8
comp=Z,4μm,0.9s
STEI *e*S **S** **10 16 39.0 +1.8**
STEI IVMs_BB IVMs_BB 10 40 39.3
comp=Z,673nm,3.2s
TAU Tasmania Unive 73.41 173 P **P** **10 07 43.5 +0.7**
TAU IAmb IAmb 10 07 44.8
comp=Z,214nm,1.1s
TAU Tasmania Unive 73.41 173 P **P** **10 07 43.5 +0.7**
TAU Tasmania Unive 73.41 173 P **P** **10 07 43.5 +0.7**
TAU pmax pmax
comp=Z,214nm,1.1s
KBZ Khabaz 73.44 311*d* *i*P **P** **10 07 43.8 +0.6**
KBZ pmax pmax
comp=Z,2μm,0.9s
UMZA Um Al Zommool 73.46 287 P **P** **10 07 43.1 -0.6**
UMZA S **S** **10 16 37.9 -2.4**
RADR Rader Ridge 73.46 46 IAmb IAmb 10 07 46.1
comp=Z,449nm,1.1s
KIV Kislovodsk 73.48 311 P **P** **10 07 44.2 +0.7**
KIV Kislovodsk 73.48 311 P **P** **10 07 43.5 -0.1**
KIV S **S** **10 16 37.4 -2.8**
KIV Kislovodsk 73.48 311⇓P **P** **10 07 44.4 +0.8**
KIV Kislovodsk 73.48 311 *e*P **P** **10 07 43.9 +0.3**
KIV *e* 10 10 35.2
KIV *e*PPP PPP 10 12 19.7
KIV *e*S **S** **10 16 39.5 -0.6**
KIV *e*SSS SSS 10 24 53.4
KIV pmax pmax
comp=Z,2μm,1.1s
KIV pmax pmax
comp=Z,291nm,3.2s
KIV Kislovodsk 73.48 311 *i* P **P** **10 07 44.0 +0.5**
SNR=234
KIV Kislovodsk 73.48 311 P **P** **10 07 44.1 +0.5**
comp=Z,15μmcomp=Z,2μm,1.3s
GNW Green Mountain 73.54 44 P **P** **10 07 44.8 +1.1**
GNW IAmb IAmb 10 07 46.3
comp=Z,328nm,1.1s
FINES FINESS Array B 73.56 332 P **P** **10 07 43.6 +0.1**
comp=Z,861nm,0.9s,baz=62,slow=5.5,SNR=1767
FINES PP **PP** **10 10 31.7 -1.7**
comp=Z,60nm,0.9s,baz=66,slow=11,SNR=3.8
comp=Z,861nm,0.9s
FINES FINESS Array B 73.56 332 *i* P **P** **10 07 43.5 -0.1**
FINES pmax pmax
comp=Z,861nm,0.9s
SHA1 Shidzhatmaz 73.59 311*d* *i*P **P** **10 07 44.8 +0.4**
DGAR Diego Garcia 73.62 251 P **P** **10 07 45.3 +0.6**
DGAR Diego Garcia 73.62 251 P **P** **10 07 45.3 +0.6**
DGAR pmax pmax
comp=Z,1μm,1.1s
LOF Lofoten 73.66 341 *e*P **P** **10 07 43.8 -0.2**
LOF IVmB_BB 10 07 44.7
comp=Z,896nm,1.1s
LOF *e*S **S** **10 16 43.2 +2.2**
FAUS Fauske 73.67 340⇓*i*P **P** **10 07 44.5 +0.4**
FAUS *e*S **S** **10 16 42.3 +1.1**
FAUS *e*SS **SS** **10 21 34.8 +1.7**
FAUS IVMs_BB IVMs_BB 10 44 28.2
comp=Z,657nm,3.3s
H08S3 Diego Garcia H 73.71 251 P **P** **10 07 45.4 +0.5**
baz=7.4,slow=9.4,SNR=96
H08S2 Diego Garcia H 73.72 251 P **P** **10 07 45.6 +0.7**
baz=7.4,slow=9.4,SNR=148
H08S1 Diego Carcia H 73.73 251 P **P** **10 07 45.6 +0.6**
baz=7.4,slow=9.4,SNR=77
VAF Ylistaro 73.95 335 *e*P **P** **10 07 45.5 -0.2**
HEBO Mount Hebo 74.04 47 P **P** **10 07 47.8 +1.0**
HEBO IAmb IAmb 10 07 49.3
comp=Z,509nm,1.2s
MZWR Madinat Zayed 74.05 288 P **P** **10 07 46.5 -0.5**
MZWR S **S** **10 16 42.8 -4.0**
ERBR Yeremizino-Bor 74.09 314*d* *i*P **P** **10 07 47.4 +0.5**
ERBR *e**PP **pP** **10 09 12.8 -0.4**
ERBR *e* 10 10 37.7
ERBR *e*PPP PPP 10 12 22.0
ERBR *e*S **S** **10 16 44.7 -1.9**
ERBR *e*SS **SS** **10 21 38.6 -1.9**
ERBR *e*SSS SSS 10 25 01.6
ERBR pmax pmax
comp=N,45nm,0.8s
ERBR pmax pmax
comp=Z,1μm,1.0s
F04D Rainier, OR 74.10 46 IAmb IAmb 10 07 49.3
comp=Z,287nm,1.0s
D05A Enumclaw 74.22 44 IAmb IAmb 10 07 50.3
comp=Z,436nm,1.2s
G03D McMinnville, O 74.35 47 P **P** **10 07 49.1 +0.8**
G03D IAmb IAmb 10 07 50.9
comp=Z,419nm,1.1s
JRN Qarnain Island 74.36 290 P **P** **10 07 48.9 0.0**
SNR=20
JRN S **S** **10 16 45.6 -4.7**
LABN Labinsk 74.43 313 *e*P **P** **10 07 48.5 -0.4**
LABN *e**PP **pP** **10 09 14.9 -0.4**
LABN *e* 10 10 40.4
LABN PPP PPP 10 12 29.4
LABN *e*S **S** **10 16 49.8 -0.6**
LABN *e*SSS SSS 10 25 12.4
LABN pmax pmax
comp=Z,421nm,0.9s
I02E Swisshome, OR 74.48 48 IAmb IAmb 10 07 51.8
comp=Z,334nm,1.2s
LON Longmire 74.53 45 P **P** **10 07 49.8 +0.3**
LON Longmire 74.53 45 P **P** **10 07 49.8 +0.3**
LON pmax pmax
comp=Z,142nm,1.2s
KHAM Kharkiv 74.59 319 P **P** **10 07 49.6 -0.1**
DBG Daneborg 74.60 354 *i* P **P** **10 07 48.3 -0.9**
DBG IAmb IAmb 10 07 50.0
comp=Z,46nm,0.9s
COR Corvallis 74.61 47 P **P** **10 07 51.4 +1.5**
COR Corvallis 74.61 47 P **P** **10 07 51.4 +1.5**
COR pmax pmax
comp=Z,732nm,1.2s
VAGH Vaagaholmen 74.69 340⇓*i*P **P** **10 07 49.6 -0.3**
VAGH IVmB_BB 10 07 50.1

comp=Z,2μm,1.6s
VAGH e S S 10 16 53.8 +1.4
VAGH e SS SS 10 21 50.5 +2.0
VAGH IVMs_BB IVMs_BB 10 47 15.3
comp=Z,901nm,3.5s
KARS Kars 74.71 308 P P 10 07 52.0 +1.2
KARS Kars 74.71 308 P P 10 07 52.0 +1.2
KARS pmax pmax
comp=Z,2μm,0.9s
MZR Muzera 74.71 288 P P 10 07 51.0 +0.1
SNR=140
MZR S S 10 16 50.4 -3.9
MZR Muzera 74.71 288 i P P 10 07 50.9 0.0
SNR=354
ARBE Arbavere 74.73 331 e P P 10 07 51.1 +0.9
MOR8 Moi Rana 74.73 340 e P P 10 07 50.4 +0.2
MOR8 e S S 10 16 52.9 0.0
MOR8 e SS SS 10 21 43.4 -5.8
MOR8 IVMs_BB IVMs_BB 10 47 41.0
comp=Z,698nm,3.6s
KULLO Kullorsuaq 74.75 4 i P P 10 07 50.4 +0.3
KULLO IAmb IAmb 10 07 54.4
comp=Z,69nm,0.8s
J01E Myrtle Point 74.86 49 IAmb IAmb 10 07 53.8
comp=Z,290nm,1.0s
KONS Konsvik 74.90 340 e P P 10 07 50.9 -0.2
KONS IVmB_BB 10 07 52.2
comp=Z,2μm,1.3s
MEF Metsahovi 74.94 332 e P P 10 07 51.4 0.0
VSU Vasula 74.95 330 d i P P 10 07 50.6 -0.9
VSU pmax pmax
comp=Z,1μm,1.0s
VSU Vasula 74.95 330 e P P 10 07 51.1 -0.4
LTY Liberty 74.98 44 P P 10 07 52.5 +0.4
LTY IAmb IAmb 10 07 53.7
comp=Z,228nm,1.1s
STOK Stokkvaagen 75.04 340 e P P 10 07 51.8 -0.1
STOK IVMs_BB IVMs_BB 10 42 55.3
comp=Z,980nm,3.4s
KBO Bosley Butte 75.11 50 IAmb IAmb 10 07 55.5
comp=Z,379nm,1.1s
LEIR Leirfjorden 75.17 340 e P P 10 07 52.2 -0.4
LEIR IVmB_BB 10 07 53.1
comp=Z,3μm,1.2s
LEIR e S S 10 16 58.8 +1.2
K02D Willamette Mer 75.25 49 P P 10 07 54.7 +1.0
K02D IAmb IAmb 10 07 55.9
comp=Z,290nm,1.1s
H04A Detroit Lake 75.27 47 IAmb IAmb 10 07 55.7
comp=Z,406nm,1.1s
DBO Dodson Butte 75.33 49 IAmb IAmb 10 07 56.5
comp=Z,201nm,1.1s
MKAZ Moumakai 75.41 151 P P 10 07 55.7 +1.4
SHMA Al-Shehemyia 75.47 292 P P 10 07 55.0 -0.1
SNR=40
RAF Rauma 75.51 333 e P P 10 07 54.4 -0.2
MXC Moxie City 75.53 44 IAmb IAmb 10 07 57.3
comp=Z,389nm,1.1s
SOC Sochi 75.56 312 e P P 10 07 53.9 -1.4
SOC e* PP pP 10 09 21.3 -0.7
SOC e* SP sP 10 10 04.1 +0.7
SOC e 10 10 48.6
SOC e PPP PPP 10 12 35.2
SOC e S S 10 17 00.7 -2.1
SOC e 10 17 26.9
SOC e SS SS 10 22 06.7 +3.9
SOC e SSS SSS 10 25 22.9
SOC pmax pmax
comp=Z,722nm,0.6s
SLWR Sila 75.69 290 P P 10 07 55.9 -0.4
KRPM Rodgers 75.73 51 IAmb IAmb 10 07 59.1
comp=Z,277nm,1.1s
PLTM Poltava 75.74 319 P P 10 07 56.6 +0.4
SAKB Bahrain 75.76 292 P P 10 07 55.9 -0.8
TRNA Turayna 75.78 290 P P 10 07 57.0 +0.1
SNR=26
E07A Sunnyside 75.81 44 IAmb IAmb 10 07 58.9
comp=Z,404nm,1.1s
WAH2 Wahluke Slope 75.88 44 IAmb IAmb 10 07 59.0
comp=Z,309nm,1.0s
JCC Jacoby Creek, 75.89 51 P P 10 07 58.3 +1.1
JCC IAmb IAmb 10 07 59.8
comp=Z,438nm,1.1s
DMTO DMTO 75.90 282 P P 10 07 58.0 +0.4
SNR=29
I05D Terrebonne, OR 75.97 47 P P 10 07 58.5 +0.9
I05D IAmb IAmb 10 07 59.8
comp=Z,296nm,1.1s
G06A Carlson Farm, 75.97 46 IAmb IAmb 10 07 59.9
comp=Z,420nm,1.2s
KMPM Mount Pierce 76.02 51 P P 10 07 59.4 +1.3
KMPM IAmb IAmb 10 08 00.7
comp=Z,362nm,1.1s
MTSE Matsula 76.06 331 e P P 10 07 58.1 +0.4
KHMM Horse Mountain 76.06 51 IAmb IAmb 10 08 01.0
comp=Z,370nm,1.2s
HAWA Hanford 76.08 44 IAmb IAmb 10 08 00.3
comp=Z,286nm,1.1s
TOZ Tahuroa Road 76.08 151 P P 10 07 59.3 +1.3
F07A Phinny Hill Vi 76.08 45 IAmb IAmb 10 08 00.5
comp=Z,406nm,1.1s
SMRA Abu-Samra 76.09 291 P P 10 07 58.2 -0.4
SNR=40
D08A Wollman Farm, 76.12 43 IAmb IAmb 10 08 00.2
comp=Z,378nm,1.0s
JNW Jan Mayen West 76.16 349 e P P 10 07 59.7 +1.6
JNW e S S 10 17 12.5 +4.2
DOK Doka 76.17 284 P P 10 07 59.0 -0.1
SNR=156
JNE Jan Mayen East 76.18 349 e S S 10 17 13.8 +5.4
JMIC Jan Mayen 76.21 349 e P P 10 07 60.0 +1.6
JMIC IVmB_BB 10 08 00.9
comp=Z,2μm,0.8s
JMIC e 10 17 16.4
E08A Dider Farm, El 76.32 44 IAmb IAmb 10 08 01.5
comp=Z,281nm,1.1s
YBH Yreka Blue Hor 76.33 50 IAmb IAmb 10 08 02.1
comp=Z,193nm,1.1s
L04D Klamath Falls 76.37 49 P P 10 08 00.9 +0.9
L04D IAmb IAmb 10 08 02.1
comp=Z,436nm,1.2s
KMRM Mail Ridge 76.39 51 IAmb IAmb 10 08 02.6
comp=Z,216nm,1.1s
ANN Anapa 76.42 314 d i P P 10 07 59.9 -0.1
ANN e* PP pwP 10 09 33.3 +0.8
ANN e 10 10 59.0
ANN i S S 10 17 09.3 -2.6
ANN pmax pmax
comp=Z,2μm,0.9s
ANN pmax pmax
comp=N,509nm,1.0s
ANN pmax pmax
comp=E,362nm,0.9s
ANN smax smax
comp=Z,72nm,1.3s
ANN smax smax
comp=E,927nm,4.7s
ANN smax smax
comp=N,1μm,4.6s
HIZ Hauiti 76.47 151 P P 10 08 01.7 +1.5
KBD Kabd 76.55 296 P P 10 08 00.9 -0.2
NEW Newport 76.56 42 IAmb IAmb 10 08 02.7
comp=Z,335nm,1.1s
UPNV Upernavik 76.58 4 i P P 10 08 00.6 +0.2
UPNV IAmb IAmb 10 08 04.7
comp=Z,76nm,0.8s
YPT Yellepit 76.59 44 IAmb IAmb 10 08 03.2
comp=Z,360nm,1.1s
NSS Namsos 76.61 339 ⇓ i P P 10 08 00.5 -0.2
NSS IVmB_BB 10 08 00.8
comp=Z,3μm,0.9s
NSS e S S 10 17 12.7 -0.6
RBK Rabkut 76.63 283 P P 10 08 01.5 -0.2
SNR=111
MNK Minsk 76.64 326 i P P 10 08 01.8 +0.8
MNK i* PP pwP 10 09 33.8 +0.3
MNK i 10 11 00.2
MNK i PPP PPP 10 12 50.0
MNK i S S 10 17 13.2 -0.7
MNK i SS SS 10 22 24.3 +6.0
MNK i SSS SSS 10 25 46.7
MNK pmax pmax
comp=Z,2μm,0.9s
MNK pmax pmax
comp=N,774nm,1.1s

MNK pmax pmax
comp=E,723nm,1.0s
MNK MLR MLR
comp=Z,635nm,16.0s
MNK MLR MLR
comp=N,553nm,15.0s
MNK MLR MLR
comp=E,273nm,16.0s
IDID Didziasalis 76.72 327 e P P 10 07 57.8 -3.7
WHFO Wadi Hawf 76.80 283 P P 10 08 02.2 -0.5
SNR=102
E09A Wood Farm, Sta 76.85 44 P P 10 08 03.1 +0.7
ISAL Salakas 76.86 327 e P P 10 08 02.1 -0.2
VRZ Vera Road 76.95 152 P P 10 08 04.0 +1.1
G08A Pilot Rock 76.97 45 IAmb IAmb 10 08 05.4
comp=Z,270nm,1.3s
O02D Mt. Diablo Mer 77.03 51 IAmb IAmb 10 08 06.1
comp=Z,243nm,1.1s
HAZ Te Kaha 77.09 149 P P 10 08 03.0 -0.6
LNOR Lincton Mounta 77.09 44 IAmb IAmb 10 08 06.2
comp=Z,453nm,1.7s
URZ Urewera 77.21 150 P P 10 08 03.3 -1.1
comp=Z,37nm,0.8s,baz=53,slow=3.2,SNR=14
comp=Z,37nm,0.8s
URZ Urewera 77.21 150 P P 10 08 03.2 -1.1
RUGZ Raukumara Rang 77.22 149 P P 10 08 03.3 -1.2
I07A Izee 77.24 46 IAmb IAmb 10 08 07.0
comp=Z,180nm,1.2s
SUMG Summit 77.26 359 i P P 10 08 05.0 +0.3
SUMG IAmb IAmb 10 08 08.8
comp=Z,126nm,1.1s
PKGZ Pakihiroa 77.31 149 P P 10 08 04.6 -0.3
SLIT Slitere, Latvi 77.36 330 e P P 10 08 04.5 -0.4
RTZ Ruatahuna 77.45 150 IAmb IAmb 10 08 06.1
comp=Z,176nm,1.0s
RTZ Ruatahuna 77.45 150 P P 10 08 05.0 -0.7
MWZ Matawai 77.46 150 P P 10 08 05.1 -0.6
ABTO Aybut 77.46 283 P P 10 08 06.3 -0.1
SNR=200
TWGZ Tauwhareparae 77.53 149 P P 10 08 05.8 -0.3
QRZ Quartz Range 77.54 154 P P 10 08 06.2 +0.2
PUZ Puketiti 77.56 149 P P 10 08 06.0 -0.3
HATC Hat Creek Radi 77.60 50 IAmb IAmb 10 08 08.8
comp=Z,369nm,1.1s
VSVD Vaisvydziai 77.63 328 e P P 10 08 06.9 +0.5
GDXM Geysers 77.68 52 IAmb IAmb 10 08 09.7
comp=Z,255nm,1.3s
BKZ Black Stump Fm 77.71 151 P P 10 08 06.8 -0.3
BKZ Black Stump Fm 77.71 151 P P 10 08 06.6 -0.5
RIGZ Rimuhau 77.87 150 P P 10 08 07.7 -0.2
PABE Paberze 77.90 328 e P P 10 08 08.2 +0.3
MCCM Marconi Confer 77.95 53 P P 10 08 08.4 -0.1
MCCM IAmb IAmb 10 08 10.1
comp=Z,342nm,1.1s
NUUG Nuugaatsiaq 77.98 4 i P P 10 08 07.3 -0.8
NUUG IAmb IAmb 10 08 12.6
comp=Z,15nm,0.7s
AK03 Malin Array Si 78.06 322 P P 10 08 08.7 -0.2
TBLU Trondheim 78.06 339 ⇓ i P P 10 08 07.8 -0.8
AKASG Malin Array Be 78.07 322 P P 10 08 08.7 -0.3
AKASG Malin Array Be 78.07 322 P P 10 08 08.8 -0.3
comp=Z,677nm,0.7s,baz=52,slow=5.6,SNR=1987
AKASG PP PP 10 11 09.3 -1.9
comp=Z,52nm,0.9s,baz=51,slow=8.7,SNR=7.1
AKASG PKKPbc PKKPbc 10 27 03.5 -1.7
comp=Z,1.3nm,0.5s,baz=262,slow=2.5,SNR=4.4
comp=Z,677nm,0.7s
AKASG Malin Array Be 78.07 322 P P 10 08 08.7 -0.3
AKASG pmax pmax
comp=Z,914nm,0.9s
AKBB Malin Array Si 78.07 322 P P 10 08 08.9 -0.1
AKBB Malin Array Si 78.07 322 d i P P 10 08 08.5 -0.5
AKBB Malin Array Si 78.07 322 P P 10 08 08.9 -0.1
DSZ Denniston Nort 78.08 155 P P 10 08 10.1 +1.1
AK01 Malin Array Si 78.08 322 P P 10 08 08.8 -0.2
KIEV Kiev 78.08 322 P P 10 08 08.7 -0.3
KIEV Kiev 78.08 322 P P 10 08 08.7 -0.3
KIEV pmax pmax
comp=Z,955nm,0.8s
KIEV Kiev 78.08 322 i P P 10 08 08.8 -0.3
SNR=626
KIEV Kiev 78.08 322 P P 10 08 08.7 -0.3
comp=Z,49μmcomp=Z,6μm,0.9s
AK21 Malin Array Si 78.12 322 P P 10 08 09.0 -0.3
ORV Oroville 78.19 51 P P 10 08 10.0 +0.1
ORV IAmb IAmb 10 08 11.3
comp=Z,277nm,1.2s
ORV Oroville 78.19 51 P P 10 08 10.0 +0.1
ORV pmax pmax
comp=Z,277nm,1.2s
NNZ Nelson 78.20 154 P P 10 08 09.4 -0.3
AK13 Malin Array Si 78.20 322 P P 10 08 09.4 -0.3
BMO Blue Mountains 78.21 45 P P 10 08 10.5 +0.5
BMO IAmb IAmb 10 08 11.9
comp=Z,254nm,1.1s
BMO Blue Mountains 78.21 45 P P 10 08 10.5 +0.5
BMO pmax pmax
comp=Z,254nm,1.1s
TSZ Takapari Road 78.24 152 P P 10 08 09.2 -0.7
J08A Circle Bar Ran 78.25 47 IAmb IAmb 10 08 12.6
comp=Z,339nm,1.0s
SIM Simferopol' 78.38 315 e P P 10 08 11.1 +0.3
SIM e S S 10 17 31.6 -1.2
SIM pmax pmax
comp=Z,1μm,0.9s
SCO Scoresbysund 78.42 353 IAmb IAmb 10 08 12.9
comp=Z,175nm,1.1s
SCO Scoresbysund 78.42 353 i P P 10 08 10.3 -0.1
SCO IAmb IAmb 10 08 12.7
comp=Z,204nm,1.2s
THZ Tophouse 78.50 155 P P 10 08 10.3 -1.1
PBUR Paburge 78.50 329 e P P 10 08 11.2 0.0
MRZ Mangatainoka R 78.59 152 P P 10 08 11.3 -0.5
TUWZ Tuamarina 78.60 154 P P 10 08 11.4 -0.3
WVOR Wild Horse Val 78.62 47 IAmb IAmb 10 08 14.4
comp=Z,227nm,1.1s
MI28 Mi28,Pidlybu 78.76 323 P P 10 08 12.7 0.0
BEKR Beckworth 78.80 50 IAmb IAmb 10 08 15.0
comp=Z,237nm,1.0s
WVZ Waitaha Valley 78.87 157 P P 10 08 13.0 -0.1
BFZ Birch Farm 78.88 152 P P 10 08 13.2 -0.1
UMMG Uummannaq 78.90 4 i P P 10 08 12.0 -1.1
UMMG IAmb IAmb 10 08 16.8
comp=Z,18nm,0.7s
FOZ Fox Glacier 78.97 157 P P 10 08 13.5 -0.1
HFS Hagfors 79.11 335 P P 10 08 14.1 -0.3
comp=Z,614nm,0.8s,baz=112,slow=3.5,SNR=810
HFS PKKPbc PKKPbc 10 27 00.3 -3.0
comp=Z,0.9nm,0.4s,baz=180,slow=2.7,SNR=2.7
comp=Z,614nm,0.8s
JCZ Jackson Bay 79.11 158 P P 10 08 16.0 +1.4
JCZ Jackson Bay 79.11 158 P P 10 08 15.2 +0.6
NC405 NORSAR Array S 79.12 337 P P 10 08 14.4 -0.1
LTZ Lake Taylor 79.15 155 P P 10 08 15.3 +0.6
MSO Missoula 79.15 42 P P 10 08 14.9 -0.2
MSO IAmb IAmb 10 08 16.4
comp=Z,258nm,1.6s
NC303 NORSAR Array S 79.16 337 P P 10 08 14.7 0.0
SUW Suwalki 79.16 327 e P P 10 08 14.8 +0.1
SUW Suwalki 79.16 327 e P P 10 08 14.9 +0.1
LUBAR Lubar, Ukraine 79.29 322 P P 10 08 15.3 -0.3
KHZ Kahutara 79.30 154 P P 10 08 14.3 -1.2
NB201 NORSAR Array S 79.31 337 P P 10 08 15.4 -0.1
DOMB Dombas 79.32 338 ⇓ i P P 10 08 15.7 +0.1
DOMB e S S 10 17 41.3 -0.9
DOMB IVMs_BB IVMs_BB 10 50 04.4
comp=Z,1μm,4.0s
NB2 NORSAR Subarra 79.34 337 P P 10 08 15.3 -0.4
comp=Z,523nm,0.8s,baz=43,slow=5.3
NB2 NORSAR Subarra 79.34 337 P P 10 08 15.3 -0.4
baz=43,slow=5.3
NOA NORSAR Array B 79.34 337 P P 10 08 15.4 -0.3
comp=Z,295nm,0.8s,baz=46,slow=5.2,SNR=902
NOA pP pP 10 09 45.5 +2.1
comp=Z,48nm,1.0s,baz=44,slow=5.6,SNR=4.7
NOA PP PP 10 11 18.5 -2.9
comp=Z,57nm,1.0s,baz=45,slow=8.3,SNR=7.5
comp=Z,295nm,0.8s
DIKM Dikmen 79.38 312 ⇓ P P 10 08 16.9 +0.7
DIKM Dikmen 79.38 312 P P 10 08 16.6 +0.4
comp=Z,4μmcomp=Z,404nm,1.2s
MSZ Milford Sound 79.38 159 P P 10 08 16.0 +0.1
RNPP9 Sopachiv 79.39 324 P P 10 08 15.9 -0.2
BAL3X Bal3x, Balta 79.40 320 P P 10 08 16.4 +0.2
MOL Molde 79.40 339 ⇓ i P P 10 08 16.2 +0.3

MOL IVmB_BB 10 08 16.6
comp=Z,3μm,1.6s
MOL i 10 39 36.8
RNPP2 Kostyukhnivka 79.44 324 P P 10 08 16.4 0.0
NC602 NORSAR Array S 79.45 336 IAmb IAmb 10 08 16.9
comp=Z,504nm,1.4s
NC602 NORSAR Array S 79.45 336 ⇓ i P P 10 08 15.6 -0.6
NC602 IVmB_BB 10 08 16.0
comp=Z,3μm,1.6s
NC602 e 10 09 49.9
NC602 e S S 10 17 41.2 -2.2
NC602 i 10 20 16.3
NC602 e SS SS 10 22 54.4 -5.4
NC602 IVMs_BB IVMs_BB 10 54 36.6
comp=Z,1μm,4.0s
PAHR Pah Rah Range 79.53 50 IAmb IAmb 10 08 18.9
comp=Z,162nm,1.1s
RPZ Rata Peaks 79.54 157 P P 10 08 16.4 -0.4
RPZ Rata Peaks 79.54 157 P P 10 08 16.3 -0.5
comp=Z,79nm,0.9s,baz=110,slow=1.8,SNR=12
comp=Z,79nm,0.9s
RPZ Rata Peaks 79.54 157 P P 10 08 16.4 -0.5
OXZ Oxford 79.55 156 P P 10 08 16.4 -0.5
OXZ Oxford 79.55 156 P P 10 08 16.3 -0.5
NAO01 NORSAR Array S 79.59 337 P P 10 08 16.7 -0.3
SAO San Andreas Ge 79.62 54 P P 10 08 17.9 +0.3
SAO IAmb IAmb 10 08 19.2
comp=Z,163nm,1.1s
SAO San Andreas Ge 79.62 54 P P 10 08 17.9 +0.3
SAO pmax pmax
comp=Z,163nm,1.1s
PNTR Pine Nut 79.70 51 IAmb IAmb 10 08 20.3
comp=Z,238nm,1.2s
CMB Columbia Colle 79.71 52 IAmb IAmb 10 08 19.8
comp=Z,183nm,0.9s
LBZ Lake Benmore 79.84 158 P P 10 08 18.2 -0.2
AKN Aaknes 79.87 339 e P P 10 08 18.9 +0.5
AKN IVmB_BB 10 08 19.3
comp=Z,4μm,1.1s
AKN e S S 10 17 50.3 +2.5
MFID Camas Ranch 79.87 45 IAmb IAmb 10 08 21.1
comp=Z,382nm,1.2s
SORM Soroca 79.98 320 ⇓ P P 10 08 19.0 -0.3
SORM Soroca 79.98 320 P P 10 08 18.9 -0.3
SORM Soroca 79.98 320 P P 10 08 18.8 -0.5
comp=Z,8μmcomp=Z,793nm,1.0s
BBGB Big Mountain B 80.00 54 IAmb IAmb 10 08 21.8
comp=Z,312nm,1.0s
BZK Bozkurt 80.01 313 P P 10 08 20.1 +0.5
BZK Bozkurt 80.01 313 ⇓ P P 10 08 20.4 +0.9
BZK Bozkurt 80.01 313 P P 10 08 19.7 +0.1
comp=Z,11μmcomp=Z,1μm,0.8s
PURM Purcari 80.03 318 ⇓ P P 10 08 19.7 +0.1
WAKR Walker 80.11 51 IAmb IAmb 10 08 22.6
comp=Z,184nm,1.2s
TMZ Timaru 80.12 157 P P 10 08 19.8 0.0
NDNU Novodnistrovsk 80.26 321 P P 10 08 20.5 -0.2
OSL Oslo 80.31 336 ⇓ i P P 10 08 19.9 -0.8
OSL IVmB_BB 10 08 21.1
comp=Z,7μm,0.8s
OSL e S S 10 17 52.6 +0.4
PMPB Monarch Peak 80.34 54 P P 10 08 21.5 -0.1
KIS Kishinev 80.37 319 ⇓ i P P 10 08 20.9 -0.4
comp=Z,600nm,0.9s
KIS e pP pwP 10 09 54.0 -0.5
KIS i S S 10 17 50.5 -2.9
KIS Kishinev 80.37 319 ⇑ P P 10 08 21.4 0.0
KIS Kishinev 80.37 319 d i P P 10 08 20.9 -0.4
KIS e* PP pwP 10 09 54.0 -0.5
KIS i S S 10 17 50.5 -2.9
KIS e 10 17 57.0
KIS pmax pmax
comp=Z,600nm,0.9s
KIS Kishinev 80.37 319 P P 10 08 21.3 0.0
comp=Z,5μmcomp=Z,670nm,0.7s
ILULI Ilulissat 80.41 3 i P P 10 08 22.6 +1.5
ILULI IAmb IAmb 10 08 23.8
comp=Z,91nm,1.2s
MILM Milestii Mici 80.41 319 ⇓ i P P 10 08 20.9 -0.7
comp=Z,1μm,1.1s
MILM Milestii Mici 80.41 319 e PcP PcP 10 08 28.0 +0.8
MILM e pP pwP 10 09 54.0 -0.7
MILM Milestii Mici 80.41 319 e PP PP 10 11 32.0 +1.4
MILM i S S 10 17 51.0 -2.9
comp=Z,1μm,8.0s
MILM e L L 10 40 15.0
MILM LRM MLR 10 45 45.0
comp=Z,400nm,15.5s
MILM Milestii Mici 80.41 319 ⇓ P P 10 08 21.1 -0.4
MILM Milestii Mici 80.41 319 d i P P 10 08 20.9 -0.7
MILM e* PP pwP 10 09 54.0 -0.7
MILM e 10 11 32.0
MILM i S S 10 17 51.0 -2.9
MILM pmax pmax
comp=Z,1μm,1.1s
MILM smax smax
comp=N,1μm,8.0s
MILM smax smax
comp=E,2μm,14.0s
MILM MLR MLR
comp=Z,400nm,15.5s
FFC Flin Flon 80.55 31 P P 10 08 21.9 -0.3
FFC IAmb IAmb 10 08 23.3
comp=Z,208nm,0.9s
FFC Flin Flon 80.55 31 P P 10 08 21.9 -0.3
FFC pmax pmax
comp=Z,208nm,1.0s
SKAR Skarslia 80.58 338 e P P 10 08 23.5 +1.2
SKAR e S S 10 17 57.1 +1.9
SKAR e 10 20 29.5
SKAR i 10 23 11.7
SKAR IVMs_BB IVMs_BB 10 47 11.1
comp=Z,1μm,4.0s
ODZ Otahua Downs 80.58 158 P P 10 08 22.7 +0.5
RYN Ryan 80.66 51 P P 10 08 23.8 +0.5
RYN IAmb IAmb 10 08 25.2
comp=Z,196nm,1.1s
CIDE Kastamonu/Cide 80.72 313 ⇑ P P 10 08 23.4 +0.1
KMPD K-Podol'skiy 80.77 321 P P 10 08 22.9 -0.5
KMPD P P 10 08 23.1 -0.3
ICESG Greenland Ices 80.78 359 i P P 10 08 23.6 +0.1
ICESG IAmb IAmb 10 08 25.1
comp=Z,152nm,0.9s
STRU Stroemstad 80.80 335 i P P 10 08 23.0 -0.3
LHV Little Huntoon 80.87 51 IAmb IAmb 10 08 26.7
comp=Z,321nm,1.2s
HYA Hoyanger 80.89 339 e P P 10 08 23.9 +0.1
HYA e S S 10 17 59.8 +1.5
HYA e SS SS 10 23 22.2 +1.1
HYA IVMs_BB IVMs_BB 10 46 35.6
comp=Z,2μm,3.6s
KONO Kongsberg 80.91 336 P P 10 08 23.5 -0.4
KONO IAmb IAmb 10 08 24.8
comp=Z,179nm,0.9s
KONO Kongsberg 80.91 336 d i P P 10 08 23.2 -0.7
KONO pmax pmax
comp=Z,149nm,0.9s
KONO Kongsberg 80.91 336 e P P 10 08 23.6 -0.4
KONO IVmB_BB 10 08 23.9
comp=Z,2μm,1.9s
KONO e S S 10 17 58.8 +0.3
KONO e 10 20 34.4
FOO Floro 80.91 339 ⇓ i P P 10 08 24.1 +0.2
FOO e S S 10 17 59.5 +1.1
FOO e SS SS 10 23 22.7 +1.4
FOO IVMs_BB IVMs_BB 10 48 23.7
comp=Z,2μm,3.7s
NVAR Mina Array Bea 80.91 51 P P 10 08 24.6 -0.1
NVAR Mina Array Bea 80.91 51 P P 10 08 25.2 +0.5
comp=Z,110nm,1.0s,baz=276,slow=5.3,SNR=422
NVAR pP pP 10 09 52.7 -1.1
comp=Z,19nm,0.8s,baz=286,slow=5.5,SNR=4.1
NVAR PKKPbc PKKPbc 10 26 58.9 0.0
comp=Z,3.3nm,0.7s,baz=144,slow=2.5,SNR=15
comp=Z,110nm,1.0s
BLEU Blekinge 80.93 332 i P P 10 08 22.7 -1.4
RAYN Ar Rayn 80.95 292 P P 10 08 25.1 +0.2
RAYN Ar Rayn 80.95 292 P P 10 08 25.0 +0.1
RAYN Ar Rayn 80.95 292 P P 10 08 25.1 +0.2
RAYN pmax pmax
comp=Z,1μm,1.1s
RAYN Ar Rayn 80.95 292 i P P 10 08 25.4 +0.5
SNR=1301
IASR Iasi 80.96 320 ⇓ P P 10 08 24.6 +0.2

FCC Fort Churchill 80.97 25 P **P 10 08 23.6 -0.6**
FCC Fort Churchill 80.97 25 P **P 10 08 23.6 -0.6**
FCC pmax pmax
comp=Z,133nm,1.3s
NV11 Mina Array Sit 81.01 51 P **P 10 08 25.5 +0.4**
BOZ Bozeman (W) 81.17 42 P **P 10 08 26.2 +0.4**
BOZ IAmb IAmb 10 08 27.6
comp=Z,157nm,1.0s
BOZ Bozeman (W) 81.17 42 P **P 10 08 26.2 +0.4**
BOZ pmax pmax
comp=Z,157nm,1.0s
BORU Boraas 81.21 334 *i* P **P 10 08 24.2 -1.3**
CHRU Chernivtsi 81.21 321 P **P 10 08 25.2 -0.5**
comp=Z,7μmcomp=Z,767nm,1.1s
R9F13 Warsaw-Wawer 81.24 326 *i* P **P 10 08 26.0 +0.2**
R9F13 *i* S **S 10 18 01.6 -0.5**
LVV L'vov 81.30 323 P **P 10 08 26.4 +0.3**
TJOU Tjoern 81.36 335 *i* P **P 10 08 25.4 -0.9**
TLCR 81.40 318 ⇓P **P 10 08 27.2 +0.4**
TLCR 81.40 318 P **P 10 08 27.1 +0.4**
SUE Sulen 81.42 339 *i* P **P 10 08 26.9 +0.4**
SUE *e*S **S 10 18 05.3 +1.8**
BR131 Keskin Array S 81.44 311 P **P 10 08 27.5 +0.2**
BR131 Keskin Array S 81.44 311 P **P 10 08 27.7 +0.4**
SNR=748
BR131 Keskin Array S 81.44 311 *d i* P **P 10 08 27.3 0.0**
BRTR Keskin Array B 81.44 311 P **P 10 08 27.3 0.0**
BRTR Keskin Array B 81.44 311 P **P 10 08 27.4 +0.2**
comp=Z,801nm,0.8s,baz=102,slow=3.6,SNR=1942
BRTR pP **pP 10 09 56.3 +0.8**
comp=Z,26nm,1.0s,baz=97,slow=5.1,SNR=1.8
BRTR PKKPbc **PKKPbc 10 26 58.0 +0.4**
comp=Z,2.4nm,0.8s,baz=196,slow=4.7,SNR=10
comp=Z,801nm,0.8s
Q09A Carvers 81.44 50 IAmb IAmb 10 08 29.2
comp=Z,172nm,1.1s
VLDR Vladesti 81.44 319 ⇓P **P 10 08 27.7 +0.7**
BR104 Keskin Array S 81.44 311 P **P 10 08 27.6 +0.3**
comp=Z,9μmcomp=Z,1μm,0.9s
BR106 Keskin Array S 81.45 311 P **P 10 08 27.6 +0.3**
comp=Z,8μmcomp=Z,1μm,0.9s
BR105 Keskin Array S 81.45 311 P **P 10 08 27.7 +0.3**
comp=Z,9μmcomp=Z,1μm,0.9s
VARL Varlezi 81.54 319 ⇓P **P 10 08 28.3 +0.8**
KIRS Kirsehir-Merke 81.57 310 ⇓P **P 10 08 28.4 +0.5**
GIUM Giurgiulesti 81.58 318 ⇑P **P 10 08 28.5 +0.8**
SCTR Scanteiesti 81.59 318 ⇑P **P 10 08 28.5 +0.8**
DEL Delary 81.60 333 *i* P **P 10 08 26.4 -1.1**
PRAR RASCA 81.60 321 ⇑P **P 10 08 28.2 +0.4**
JURR Jurilovca 81.60 317 ⇓P **P 10 08 28.5 +0.7**
TATR Tatarca 81.60 318 ⇓P **P 10 08 28.4 +0.6**
BEL Belsk 81.65 326 *e*P **P 10 08 28.7 +0.8**
KSV Kosov 81.66 322 P **P 10 08 27.3 -0.8**
FABU Falkenberg 81.68 333 *i* P **P 10 08 26.9 -1.1**
ELK Elko 81.68 48 IAmb IAmb 10 08 30.8
comp=Z,206nm,1.4s
GIRR Girov 81.69 320 ⇑P **P 10 08 29.1 +0.9**
DSP Deep Springs 81.69 52 IAmb IAmb 10 08 30.8
comp=Z,231nm,1.2s
ONAU Onsala 81.70 334 *i* P **P 10 08 26.8 -1.3**
GHRR 81.70 319 P **P 10 08 29.4 +1.1**
ODD1 Odda 81.71 338 ⇓*i* P **P 10 08 28.1 -0.1**
ODD1 IVmB_BB 10 08 28.7
comp=Z,3μm,1.0s
ODD1 *e*S **S 10 18 07.1 +0.4**
ODD1 *e* 10 20 42.1
ODD1 *e*SS **SS 10 23 32.9 -0.5**
STNU Starunia 81.72 322 P **P 10 08 28.5 +0.1**
ASK Askoy 81.73 339 *e*P **P 10 08 28.3 +0.2**
ASK IVmB_BB 10 08 29.4
comp=Z,3μm,0.9s
ASK *e*S **S 10 18 07.8 +1.1**
ASK *e*SS **SS 10 23 30.0 -3.5**
NEGRR Negrea 81.74 318 ⇓P **P 10 08 29.3 +0.8**
BER Bergen 81.76 339 *e*P **P 10 08 28.7 +0.4**
BER IVmB_BB 10 08 29.5
comp=Z,2μm,0.9s
BER *e*S **S 10 18 08.7 +1.6**
BER *e*SS **SS 10 23 33.3 -0.7**
BER IVMs_BB IVMs_BB 10 48 19.3
comp=Z,2μm,3.9s
SCHL Schela 81.78 318 ⇑P **P 10 08 29.8 +1.0**
IZVR Izvoarele 81.80 318 ⇑P **P 10 08 29.7 +0.9**
SCHLR Schela 81.80 318 ⇓P **P 10 08 29.5 +0.7**
TPGR Topolog 81.81 318 ⇓P **P 10 08 29.7 +0.8**
TUDR 81.82 319 ⇓P **P 10 08 29.8 +0.9**
YHL Hebgen Lake 81.86 42 IAmb IAmb 10 08 31.9
comp=Z,256nm,1.0s
TESR Tescani 81.86 320 ⇓P **P 10 08 29.5 +0.3**
TESR Tescani 81.86 320 P **P 10 08 29.4 +0.2**
comp=Z,18μmcomp=Z,2μm,1.0s
COSR Cosmesti PH 81.88 319 ⇓P **P 10 08 30.7 +1.6**
YHB Horse Butte 81.91 42 IAmb IAmb 10 08 32.1
comp=Z,277nm,0.9s
ANTO Ankara 81.91 312 P **P 10 08 30.2 +0.6**
ANTO Ankara 81.91 312 P **P 10 08 29.9 +0.3**
ANTO Ankara 81.91 312 ⇓P **P 10 08 30.2 +0.6**
ANTO Ankara 81.91 312 P **P 10 08 30.2 +0.6**
ANTO Ankara 81.91 312 P **P 10 08 30.2 +0.6**
comp=Z,6μmcomp=Z,716nm,1.1s
PANC Panciu 81.96 319 ⇓P **P 10 08 31.1 +1.4**
BCW Bitter Crk WRg 81.97 54 IAmb IAmb 10 08 32.3
comp=Z,421nm,1.2s
BUR08 Bucovina Ar. S 81.99 321 P **P 10 08 30.3 +0.3**
BURAR Bucovina Array 82.00 321 P **P 10 08 30.4 +0.4**
BURAR Bucovina Array 82.00 321 ⇓P **P 10 08 30.6 +0.6**
BURAR Bucovina Array 82.00 321 P **P 10 08 30.6 +0.6**
TIRR Tirgusor 82.05 317 ⇓P **P 10 08 30.7 +0.5**
TIRR Tirgusor 82.05 317 P **P 10 08 30.6 +0.5**
TIRR Tirgusor 82.05 317 P **P 10 08 30.5 +0.4**
comp=Z,8μmcomp=Z,850nm,1.2s
ODBI Odobesti 82.08 319 P **P 10 08 32.1 +1.9**
comp=Z,12μmcomp=Z,2μm,0.9s
TSCT Constanta Port 82.08 317 ⇑P **P 10 08 31.1 +0.8**
YMR Madison River 82.09 42 IAmb IAmb 10 08 33.2
comp=Z,304nm,1.0s
ONER Baraj Valea Uz 82.11 320 ⇓P **P 10 08 31.3 +0.9**
BSD Bornholm Skovb 82.11 331 *e*P **P 10 08 29.6 -0.6**
BSD Bornholm Skovb 82.11 331 *i* P **P 10 08 29.2 -1.0**
BSD IAmb IAmb 10 08 30.6
comp=Z,949nm,1.2s
EFOR EFORIE 82.14 317 ⇓P **P 10 08 31.4 +0.9**
BLS5 Blasjo 82.14 337 *e*P **P 10 08 30.7 +0.4**
BLS5 *e*SKSac **S 10 18 11.2 +0.2**
BLS5 IVMs_BB IVMs_BB 10 52 03.1
comp=Z,1μm,4.4s
HARR Harsova 82.20 318 ⇓P **P 10 08 31.7 +0.8**
HARR Harsova 82.20 318 P **P 10 08 31.7 +0.8**
VRI Vrincioaia 82.20 319 ⇓P **P 10 08 31.7 +0.8**
VRI Vrincioaia 82.20 319 P **P 10 08 31.7 +0.8**
VRI Vrincioaia 82.20 319 P **P 10 08 31.6 +0.7**
comp=Z,19μmcomp=Z,2μm,1.2s
MFTR Murfatlar 82.20 317 ⇑P **P 10 08 31.9 +0.9**
YNM Yellowstone No 82.21 42 IAmb IAmb 10 08 34.9
comp=Z,274nm,1.1s
TLBR Topalu 82.21 317 ⇑P **P 10 08 31.6 +0.6**
BJUU Bjuv 82.21 333 *i* P **P 10 08 30.3 -0.4**
YNR Norris Junctio 82.23 42 IAmb IAmb 10 08 34.5
comp=Z,256nm,1.1s
PLOR5 Plostina Array 82.25 319 P **P 10 08 31.8 +0.6**
comp=Z,8μmcomp=Z,703nm,0.7s
PLOR Plostina 82.25 319 ⇓P **P 10 08 31.9 +0.6**
PLOR Plostina 82.25 319 P **P 10 08 31.8 +0.6**
SPBR Spulber 82.26 319 ⇓P **P 10 08 32.4 +1.2**
YFT Old Faithful 82.29 43 IAmb IAmb 10 08 35.5
comp=Z,285nm,1.1s
GRAC Grapevine Rang 82.30 52 IAmb IAmb 10 08 33.7
comp=Z,242nm,1.1s
HOMB Homborsund 82.31 336 ⇓*i* P **P 10 08 30.7 -0.4**
HOMB *e*pP **pwP 10 10 03.8 -1.1**
HOMB *e*S **S 10 18 10.9 -1.8**
HOMB IVMs_BB IVMs_BB 10 49 04.8
comp=Z,1μm,3.6s
HOMB Homborsund 82.31 336 *i* P **P 10 08 30.2 -0.9**
MANR Mangalia 82.31 317 ⇓P **P 10 08 32.3 +0.8**
RAKU Rahkiv 82.31 322 P **P 10 08 31.8 +0.3**
LUNU Lund 82.36 332 *i* P **P 10 08 31.0 -0.5**
GKP Gorka Klasztor 82.36 329 *e*P **P 10 08 31.8 +0.2**
GKP Gorka Klasztor 82.36 329 *e*P **P 10 08 31.2 -0.3**
MEZ Mezhgor'ye 82.36 323 P **P 10 08 32.2 +0.5**
JOSR Joseni 82.38 320 ⇓P **P 10 08 33.2 +1.4**
BISRR Bisoca 82.40 319 ⇑P **P 10 08 33.3 +1.3**
BISRR Bisoca 82.40 319 P **P 10 08 33.3 +1.3**
comp=Z,5μm,1.0s
OVD Ostervraa, Den 82.40 335 *i* P **P 10 08 31.2 -0.4**
OVD IAmb IAmb 10 08 32.3
comp=Z,863nm,0.9s
FKH Fakeheh 82.45 305 *e*P **P 10 08 33.1 +0.5**
BEIL Beino 82.46 306 *e*P **P 10 08 32.9 +0.4**
COVR Voineasa-Covas 82.51 319 ⇑P **P 10 08 33.2 +0.7**
YMP Mirror Lake PI 82.52 42 IAmb IAmb 10 08 35.7
comp=Z,297nm,1.1s
OZUR 82.59 320 ⇓P **P 10 08 34.1 +1.2**
MDUB Mudurnu 82.60 313 P **P 10 08 33.4 +0.3**
ICOR Ion Corvin 82.60 317 ⇓P **P 10 08 34.0 +1.0**
SFJD Kangerlussuaq 82.64 4 P **P 10 08 33.2 +0.5**
SFJD Kangerlussuaq 82.64 4 P **P 10 08 33.2 +0.5**
SFJD pmax pmax
comp=Z,116nm,1.5s
SFJD Kangerlussuaq 82.64 4 *i* P **P 10 08 31.6 -1.1**
SFJD IAmb IAmb 10 08 33.6
comp=Z,36nm,0.9s
FXWY Fox Creek 82.65 43 IAmb IAmb 10 08 36.1
comp=Z,223nm,1.3s
HVU Hansel Valley 82.65 46 IAmb IAmb 10 08 35.9
comp=Z,246nm,1.0s
PSN Preselentsi 82.68 317 P **P 10 08 34.5 +1.1**
KMY Karmoy 82.70 338 *e*P **P 10 08 33.6 +0.5**
KMY *e*S **SKSac 10 18 18.2 +2.6**
KMY *e*SS **SS 10 23 47.2 -0.6**
NEHR Nehoiu 82.70 319 ⇓P **P 10 08 34.4 +0.9**
SNART Snartemo 82.71 336 ⇓*i* P **P 10 08 33.1 -0.1**
SNART IVmB_BB 10 08 33.5
comp=Z,8μm,1.0s
SNART Snartemo 82.71 336 *i* P **P 10 08 33.0 -0.3**
COP Copenhagen 82.72 333 *i* P **P 10 08 33.1 -0.2**
COP IAmb IAmb 10 08 34.0
comp=Z,2μm,0.9s
BRIU Brid 82.73 323 P **P 10 08 34.0 +0.5**
ISR Istrita 82.75 319 ⇓P **P 10 08 35.2 +1.4**
ISR Istrita 82.75 319 P **P 10 08 35.1 +1.4**
ISR Istrita 82.75 319 P **P 10 08 34.6 +0.8**
comp=Z,13μmcomp=Z,1μm,1.2s
KOLS Kolonicke sedl 82.75 323 *e*P **P 10 08 34.0 +0.4**
KOLS pmax pmax
comp=Z,363nm,1.0s
KOLS Kolonicke sedl 82.75 323 *e*P **P 10 08 34.0 +0.4**
KOLS *e*PP **PP 10 11 49.1 -0.4**
KOLS *e*S **SKSac 10 18 15.7 -0.7**
R11B Troy Canyon, C 82.76 50 IAmb IAmb 10 08 36.1
comp=Z,252nm,1.3s
HWQ Hawqa 82.77 305 *e*P **P 10 08 34.0 -0.1**
SNCC San Nicolas Is 82.77 56 IAmb IAmb 10 08 35.9
comp=Z,315nm,1.1s
KORU Korolevo 82.78 322 P **P 10 08 32.6 -1.2**
ARCR ARCALIA 82.79 321 ⇓P **P 10 08 35.1 +1.2**
RLMT Red Lodge 82.80 41 IAmb IAmb 10 08 36.5
comp=Z,233nm,1.1s
MUKU Mukachevo 82.83 323 P **P 10 08 34.6 +0.6**
CCAC Calif City Air 82.83 53 P **P 10 08 34.8 +0.4**
CCAC IAmb IAmb 10 08 36.3
comp=Z,345nm,1.1s
MLR Muntele Rosu 82.86 319 ⇑P **P 10 08 34.6 +0.1**
MLR Muntele Rosu 82.86 319 P **P 10 08 34.5 +0.1**
MLR Muntele Rosu 82.86 319 P **P 10 08 34.5 +0.1**
comp=Z,5μmcomp=Z,533nm,1.3s
BMR Baia Mare 82.89 322 ⇓P **P 10 08 35.2 +0.8**
BMR Baia Mare 82.89 322 P **P 10 08 35.1 +0.8**
DOPR Dopca 82.89 320 ⇓P **P 10 08 35.5 +1.0**
WCT Wildcat Mounta 82.91 51 IAmb IAmb 10 08 36.6
comp=Z,236nm,1.3s
LOHW Long Hollow 82.91 43 P **P 10 08 35.7 +0.8**
TRSU Trosnyk 82.91 322 P **P 10 08 35.3 +0.9**
UZHM Uzhgorod 82.93 323 P **P 10 08 34.5 0.0**
HOLU Holmets 82.94 323 P **P 10 08 35.1 +0.5**
LEHL Lehliu 82.97 318 ⇓P **P 10 08 35.8 +1.0**
STHS Stebnicka Huta 82.97 324 *e*P **P 10 08 34.3 -0.5**
STHS pmax pmax
comp=Z,219nm,0.8s
STHS Stebnicka Huta 82.97 324 *e*P **P 10 08 34.3 -0.5**
STHS *e*S **SKSac 10 18 18.1 +0.2**
BGU Big Grassy Mou 82.97 46 IAmb IAmb 10 08 37.3
comp=Z,228nm,1.4s
BERU Beregovo 82.99 323 P **P 10 08 35.5 +0.7**
CICN Ciocanesti 83.01 318 ⇑P **P 10 08 36.1 +1.1**
ZAHL Zahle 83.03 305 *e*P **P 10 08 36.0 +0.4**
TGMR Targu Mures 83.03 321 ⇑P **P 10 08 36.4 +1.3**
S11A Rachel 83.03 50 IAmb IAmb 10 08 37.0
comp=Z,341nm,1.1s
LLD Lille Linde 83.06 332 *i* P **P 10 08 34.6 -0.4**
LLD IAmb IAmb 10 08 35.5
comp=Z,460nm,0.8s
TPNV Topopah Spring 83.08 51 IAmb IAmb 10 08 37.5
comp=Z,388nm,1.1s
PLAR PLOIESTI 83.16 319 ⇓P **P 10 08 37.0 +1.2**
BHL Bhannes 83.17 305 *e*P **P 10 08 36.2 0.0**
OJC Ojcow 83.17 325 *e*P **P 10 08 36.1 +0.3**
OJC Ojcow 83.17 325 P **P 10 08 35.8 0.0**
OJC Ojcow 83.17 325 P **P 10 08 35.8 0.0**
OJC pmax pmax
comp=Z,408nm,0.9s
OJC Ojcow 83.17 325 P **P 10 08 35.9 +0.1**
comp=Z,6μmcomp=Z,520nm,1.1s
RGN Rugen 83.17 331 *e*P 10 08 35.2
comp=Z,580nm,0.9s,baz=42,slow=4.8
SULR 83.17 318 ⇓P **P 10 08 36.5 +0.7**
SPR3 Spring Creek 3 83.22 49 IAmb IAmb 10 08 39.0
comp=Z,306nm,1.5s
PASC Pasadena Art C 83.23 54 IAmb IAmb 10 08 37.8
comp=Z,240nm,1.1s
RCY Rachaya 83.25 305 *e*P **P 10 08 37.1 +0.4**
DQRL Deir Qamar 83.33 305 *e*P **P 10 08 37.5 +0.5**
QRWL Qaraoun 83.34 305 *e*P **P 10 08 37.2 +0.2**
MDB Medias 83.35 320 ⇑P **P 10 08 37.9 +1.2**
MDB Medias 83.35 320 P **P 10 08 37.9 +1.2**
PRD Provadia 83.39 317 P **P 10 08 38.1 +1.1**
SHBL Chebaa 83.40 305 *e*P **P 10 08 37.8 +0.3**
VOIR 83.40 319 ⇓P **P 10 08 37.1 0.0**
VOIR 83.40 319 P **P 10 08 37.1 0.0**
VOIR 83.40 319 P **P 10 08 37.1 0.0**
comp=Z,4μmcomp=Z,303nm,0.8s
BORA Eskisehir 83.40 313 P **P 10 08 36.9 -0.4**
NEF NEVSHA 83.41 317 P **P 10 08 38.8 +1.7**
CBBR Cluj-Babes-Bol 83.42 321 ⇑P **P 10 08 37.8 +0.7**
MUD Monsted U'grnd 83.42 334 *i* P **P 10 08 36.0 -0.8**
MUD IAmb IAmb 10 08 37.5
comp=Z,600nm,1.1s
CJR Cluj-Napoca 83.42 321 ⇑P **P 10 08 38.0 +0.8**
CJR Cluj-Napoca 83.42 321 P **P 10 08 37.9 +0.8**
NIE Niedzica 83.44 325 *e*P **P 10 08 37.9 +0.8**
NIE Niedzica 83.44 325 P **P 10 08 37.8 +0.6**
comp=Z,2μmcomp=Z,204nm,1.3s
DGMT Dagmar 83.50 37 IAmb IAmb 10 08 38.9
comp=Z,283nm,1.1s
MESR Meseseni 83.50 322 ⇓P **P 10 08 38.3 +0.8**
KLYT Kilyos 83.51 314 P **P 10 08 37.6 0.0**
comp=Z,11μmcomp=Z,1μm,0.9s
DUG Dugway, Tooele 83.52 47 IAmb IAmb 10 08 40.0
comp=Z,292nm,1.1s
LAO LASA Array 83.55 39 IAmb IAmb 10 08 39.8
comp=Z,270nm,1.1s
GSC Goldstone, Bar 83.59 53 IAmb IAmb 10 08 40.0
comp=Z,337nm,1.1s
ISK Istanbul-Kandi 83.60 314 P **P 10 08 37.5 -0.6**
SGRR Singureni 83.60 318 ⇑P **P 10 08 38.5 +0.5**
PRN Pahroc Range 83.63 50 IAmb IAmb 10 08 40.6
comp=Z,261nm,1.1s
ARR Arges 83.68 320 ⇓P **P 10 08 39.2 +0.7**
RAZG Razgrad 83.68 317 ⇑P **P 10 08 39.1 +0.6**
YLV Yalova 83.69 314 P **P 10 08 38.4 -0.3**
comp=Z,6μmcomp=Z,608nm,1.2s
MARR Marisel-Cluj 83.71 321 ⇓P **P 10 08 38.9 +0.3**
MMAI Mount Meron Ar 83.82 305 P **P 10 08 39.9 +0.4**
comp=Z,826nm,0.9s,baz=50,slow=5.6,SNR=781
comp=Z,826nm,0.9s
CTYL Yalikoy Yolu 83.84 315 P **P 10 08 39.3 0.0**
comp=Z,9μmcomp=Z,1μm,1.0s
BORG Borgarnes 83.85 351 P **P 10 08 40.5 +1.7**
BORG IAmb IAmb 10 08 41.7
comp=Z,215nm,1.4s
BORG Borgarnes 83.85 351 P **P 10 08 40.5 +1.7**
BORG pmax pmax
comp=Z,215nm,1.4s
DRGR 83.85 322 ⇓P **P 10 08 39.4 +0.1**
DRGR 83.85 322 P **P 10 08 39.4 +0.1**
TCUT Toone Canyon 83.87 46 IAmb IAmb 10 08 41.8
comp=Z,264nm,1.1s
LRW Lerwick 83.90 341 *e*P **P 10 08 39.5 +0.3**
LRW IAmb IAmb 10 08 40.5
comp=Z,958nm,1.5s
PPT2 Papeete2 83.94 114 *e*P **P 10 08 35.8 -4.4**
comp=Z,63nm,25.2s
PPT2 *e*pP pP 10 10 01.5 -8.2
comp=Z,248nm,26.5s
PPT2 *e*S **S 10 18 29.3 -1.1**
comp=Z,413nm,24.8s
PPT2 *e*SS **SS 10 24 04.0 -5.5**
comp=Z,540nm,25.8s
PPT2 *e*LQ LQ 10 30 52.3
comp=Z,817nm,27.5s
PPT2 *e*LR LR 10 35 42.8
comp=Z,452nm,23.8s
KECS Kecovo 83.95 324 *e*P **P 10 08 39.9 +0.2**
KECS pmax pmax
comp=Z,185nm,0.9s
KECS Kecovo 83.95 324 *e*P **P 10 08 39.9 +0.2**
KECS *e*PP **PP 10 11 58.0 -1.2**
KECS *e*S **SKSac 10 18 28.5 +4.4**
SSRD Sdr. Stenderup 83.97 334 *i* P **P 10 08 39.4 -0.2**
SSRD IAmb IAmb 10 08 40.5
comp=Z,899nm,1.0s
HUMR Humele 83.99 319 ⇓P **P 10 08 39.3 -0.7**
BW06 Boulder Array 84.03 43 P **P 10 08 40.4 -0.1**
PD31 Pinedale Array 84.03 43 P **P 10 08 40.4 -0.1**
PDAR Pinedale Array 84.03 43 P **P 10 08 40.1 -0.4**
PDAR Pinedale Array 84.03 43 P **P 10 08 40.4 -0.1**
comp=Z,63nm,1.0s,baz=298,slow=2.4,SNR=274
PDAR pP **pP 10 10 11.2 +0.7**
comp=Z,30nm,1.0s,baz=300,slow=2.9,SNR=8.2
PDAR PP **PP 10 11 59.4 -0.9**
comp=Z,26nm,1.1s,baz=297,slow=4.8,SNR=6.0
PDAR PKKPbc **PKKPbc 10 26 48.8 -3.2**
comp=Z,0.5nm,0.5s,baz=141,slow=6.6,SNR=5.7
PDAR PKPPKP P'P'df 10 34 52.5 -8.7
comp=Z,1.5nm,1.0s,baz=80,slow=3.3,SNR=4.4
comp=Z,63nm,1.0s
LANS Liptovska Anna 84.03 325 *e*P **P 10 08 40.9 +0.8**
LANS pmax pmax
comp=Z,102nm,0.9s
LANS Liptovska Anna 84.03 325 *e*P **P 10 08 40.9 +0.8**
LANS *e*S **S 10 18 30.5 +0.2**
ELS Elsinore Mount 84.05 54 P **P 10 08 40.5 -0.1**
ELS IAmb IAmb 10 08 42.1
comp=Z,281nm,1.3s
COPA Copaceanca 84.09 318 ⇓P **P 10 08 39.8 -0.6**
LOT Lotru 84.11 320 ⇓P **P 10 08 40.7 0.0**
BORR Bors 84.16 322 ⇑P **P 10 08 41.8 +1.1**
SZH Strazhitsa 84.17 317 P **P 10 08 42.2 +1.3**
CSS Mathiatis 84.22 307 P **P 10 08 41.2 -0.1**
comp=Z,9μmcomp=Z,960nm,1.0s
OKC Ostrava-Krasne 84.23 326 ⇓*i* P **P 10 08 41.0 0.0**
OKC *e*SKS **SKSac 10 18 27.8 +2.0**
OKC Ostrava-Krasne 84.23 326 ⇓*i* P **P 10 08 41.0 0.0**
OKC *e* 10 18 27.8
ANGG Ammassalik, Gr 84.23 358 P **P 10 08 40.3 -0.4**
ANGG Ammassalik, Gr 84.23 358 *i* P **P 10 08 39.1 -1.6**
ANGG IAmb IAmb 10 08 40.9
comp=Z,74nm,0.9s
JMB Yambol 84.31 316 P **P 10 08 42.9 +1.3**
DEV Deva 84.32 321 ⇑P **P 10 08 41.5 -0.1**
DEV Deva 84.32 321 P **P 10 08 41.5 -0.1**
ISOG Isortoq, Green 84.33 359 *i* P **P 10 08 39.9 -1.3**
ISOG IAmb IAmb 10 08 41.6
comp=Z,78nm,0.9s
STEB Steborice 84.34 326 ⇓*i* P **P 10 08 41.7 +0.1**
MPU Maple Canyon 84.37 47 IAmb IAmb 10 08 44.2
comp=Z,266nm,1.1s
KSP Ksiaz 84.43 327 *e*P **P 10 08 42.4 +0.4**
KSP Ksiaz 84.43 327 P **P 10 08 42.2 +0.2**
comp=Z,6μmcomp=Z,698nm,1.3s
RUE Ruedersdorf 84.43 330 *e*P **P 10 08 41.9 0.0**
RUE Ruedersdorf 84.43 330 *e*P 10 08 41.6
comp=Z,437nm,1.0s,baz=42,slow=4.8
RUE *e*PP 10 12 02.1
baz=46,slow=7.2
RUE *e*S 10 18 31.4
baz=43,slow=9.9
ISP Isparta 84.52 311 IAmb IAmb 10 08 46.1
comp=Z,156nm,0.7s
ISP Isparta 84.52 311 *e*P **P 10 08 41.6 -1.2**
MORC Moravsky Berou 84.56 326 P **P 10 08 42.3 -0.4**
MORC IAmb IAmb 10 08 43.9
comp=Z,236nm,1.1s
MORC Moravsky Berou 84.56 326 *e*P **P 10 08 42.5 -0.2**
MORC *e*S **SKSac 10 18 33.5 +5.4**
MORC Moravsky Berou 84.56 326 ⇓P **P 10 08 42.6 -0.2**
MORC Moravsky Berou 84.56 326 P **P 10 08 42.5 -0.2**
EDRB Edirne 84.56 316 P **P 10 08 41.8 -1.1**
BSUT Blindstream Ca 84.61 46 P **P 10 08 43.8 +0.2**
BAND Balkesir-Ban 84.61 314 ⇑P **P 10 08 43.0 -0.1**
PSZ Piszkesteto 84.61 324 P **P 10 08 43.0 -0.1**
PSZ Piszkesteto 84.61 324 ⇓P **P 10 08 43.1 -0.1**
PSZ Piszkesteto 84.61 324 P **P 10 08 43.0 -0.1**
PSZ Piszkesteto 84.61 324 *e*P **P 10 08 43.2 +0.1**
VLAD Vladila 84.64 319 ⇓P **P 10 08 43.0 -0.2**
TCRU Three Creeks R 84.66 48 IAmb IAmb 10 08 46.0
comp=Z,173nm,1.3s
OSTC Ostas 84.66 327 ⇓*i* P **P 10 08 43.4 +0.2**
OSTC *e*SKS **SKSac 10 18 33.0 +4.4**
OSTC Ostas 84.66 327 ⇓*i* P **P 10 08 43.4 +0.2**
OSTC *e* 10 18 33.0
V12A Nelson 84.69 52 IAmb IAmb 10 08 45.7
comp=Z,231nm,1.1s
GZR Gura Zlata 84.69 320 ⇓P **P 10 08 43.1 -0.4**
GZR Gura Zlata 84.69 320 P **P 10 08 43.1 -0.4**
MAUC Maruska 84.69 326 ⇓*e*P **P 10 08 43.5 +0.1**
CHVC Chvalec 84.72 327 ⇓*i* P **P 10 08 43.7 +0.2**
CHVC Chvalec 84.72 327 ⇓*i* P **P 10 08 43.7 +0.2**
KRLC Kraliky 84.72 327 ⇓*e*P **P 10 08 43.8 +0.2**
KRLC Kraliky 84.72 327 *e*P **P 10 08 43.8 +0.2**
PVL Pavlikeni 84.73 318 P **P 10 08 44.5 +0.8**
PFO Pinyon Flats O 84.75 54 P **P 10 08 44.4 +0.3**
PFO Pinyon Flats O 84.75 54 P **P 10 08 44.4 +0.3**
PFO pmax pmax
comp=Z,367nm,1.1s
DPC Dobruska-Polom 84.75 327 ⇓*i* P **P 10 08 44.0 +0.3**
DPC Dobruska-Polom 84.75 327 ⇓*i* P **P 10 08 44.0 +0.3**
DPC Dobruska-Polom 84.75 327 P **P 10 08 44.1 +0.3**
comp=Z,4μmcomp=Z,407nm,1.4s
VYHS Vyhne 84.78 325 *e*P **P 10 08 43.9 +0.1**
VYHS pmax pmax
comp=Z,396nm,1.3s
VYHS Vyhne 84.78 325 *e*P **P 10 08 43.9 +0.1**
VYHS *e*pP **pwP 10 10 19.9 +2.1**
VYHS *e*PP **PP 10 12 04.3 -1.6**
UPC Upice 84.79 327 ⇓*i* P **P 10 08 44.0 +0.2**
UPC *e*SKS **SKSac 10 18 32.6 +3.2**
UPC Upice 84.79 327 ⇓*i* P **P 10 08 44.0 +0.2**
UPC *e* 10 18 32.6
SURR Surduc 84.82 321 ⇓P **P 10 08 44.1 0.0**
BSEG Bad Segeberg 84.84 332 *e*P 10 08 43.5
comp=Z,181nm,0.9s,baz=42,slow=4.8
BSEG *e*pP 10 10 16.5
BSEG *e*PP 10 12 04.0
baz=46,slow=7.2
BSEG *e*S 10 18 34.6
baz=43,slow=9.9
SRE Strehaia 84.91 320 ⇓P **P 10 08 45.0 +0.5**
SRE Strehaia 84.91 320 P **P 10 08 45.0 +0.5**
LCMT Little Creek M 85.04 50 P **P 10 08 46.1 +0.5**
LCMT IAmb IAmb 10 08 47.6
comp=Z,201nm,1.1s
JAVC Velka Javorina 85.11 325 *e*P **P 10 08 46.3 +0.8**
JAVC *e*S **S 10 18 41.3 +0.4**
GORT1 Trebel 85.12 331 *e*P 10 08 45.0
comp=Z,390nm,1.4s,baz=42,slow=4.8
GORT1 *e*pP 10 10 20.0
DIM Dimitrovgrad 85.14 317 P **P 10 08 46.5 +0.8**
MTPU Mount Pierson 85.15 48 IAmb IAmb 10 08 48.7
comp=Z,188nm,1.2s
BZS Buzias 85.19 321 ⇓P **P 10 08 45.3 -0.5**
BZS Buzias 85.19 321 P **P 10 08 45.3 -0.5**
TKX Tecate 85.21 55 IAmb IAmb 10 08 47.7
comp=Z,189nm,1.2s
HERR Herculane 85.21 320 ⇓P **P 10 08 45.4 -0.6**
Q16A Castle Valley 85.29 47 P **P 10 08 47.5 +0.7**
Q16A IAmb IAmb 10 08 49.8
comp=Z,364nm,1.5s
PUNG Punghina 85.30 319 ⇑P **P 10 08 46.3 -0.1**
CBX Cerro Bola 85.31 55 IAmb IAmb 10 08 48.5
comp=Z,294nm,1.1s

VRAC **Vranov** 85.33 326 *eP* **P** **10 08 46.5 0.0**
VRAC *eS* **S** **10 18 41.7 -1.3**
VRAC **Vranov** 85.33 326 ⇑P **P** **10 08 46.6 0.0**
VRAC **Vranov** 85.33 326 P **P** **10 08 46.5 0.0**
NUUK **Nuuk** 85.37 5 *i P* **P** **10 08 45.6 -0.7**
NUUK IAmb IAmb 10 08 47.5
comp=Z,93nm,1.1s
VALD **Valchedram** 85.38 319 P **P** **10 08 46.9 +0.1**
MANT **Manisa** 85.40 312 IAmb IAmb 10 08 47.8
comp=Z,174nm,0.8s
PKCU **Pink Cliffs** 85.41 49 IAmb IAmb 10 08 50.1
comp=Z,198nm,1.4s
MPEP **Malo Peshtene** 85.42 318 P **P** **10 08 47.6 +0.6**
PVCC **Panska Ves** 85.44 328⇓*iP* **P** **10 08 47.1 +0.1**
PVCC **Panska Ves** 85.44 328⇓*iP* **P** **10 08 47.1 +0.1**
P18A **Preston Nutter** 85.46 46 IAmb IAmb 10 08 49.9
comp=Z,241nm,1.3s
SMOL **Smolenice** 85.46 325 *eP* **P** **10 08 47.6 +0.4**
SMOL pmax pmax
comp=Z,133nm,1.1s
BRG **Berggiesshubel** 85.49 328⇓*iP* **P** **10 08 47.0 -0.2**
BRG Amp 10 08 48.2
comp=Z,274nm,1.1s
BRG pP **pwP** **10 10 23.2 +1.5**
BRG Amp 10 10 23.9
comp=Z,66nm,1.0s
BRG **Berggiesshubel** 85.49 328 S **S** **10 18 43.0 -1.3**
BRG **Berggiesshubel** 85.49 328 sS sS 10 21 22.0 -3.6
BRG **Berggiesshubel** 85.49 328 SS SS 10 24 30.0 +0.9
SRO **Srobarova** 85.49 324 *eP* **P** **10 08 47.7 +0.4**
SRO pmax pmax
comp=Z,105nm,0.9s
SRO **Srobarova** 85.49 324 *eP* **P** **10 08 47.6 +0.3**
SRO *ePP* **PP** **10 12 12.9 +1.4**
BRG **Berggiesshubel** 85.49 328 *eP* 10 08 46.6
comp=Z,272nm,1.1s,baz=42,slow=4.8
BRG *eS* 10 18 41.2
baz=43,slow=9.9
ELL **Elmali** 85.53 310 P **P** **10 08 47.0 -0.9**
ELL **Elmali** 85.53 310 P **P** **10 08 47.0 -0.9**
ELL pmax pmax
comp=Z,881nm,0.8s
KDZ **Kurdzhali** 85.53 316 P **P** **10 08 47.6 -0.1**
CCX **Cicese** 85.55 56 P **P** **10 08 47.6 -0.3**
ALN **Alexandroupoli** 85.55 315 P **P** **10 08 46.4 -1.3**
ALN **Alexandroupoli** 85.55 315 IAmb IAmb 10 08 49.0
comp=Z,228nm,0.9s
PLD **Plovdiv** 85.57 317 P **P** **10 08 47.8 0.0**
ENEZ **Enez** 85.58 315 P **P** **10 08 46.7 -1.2**
SRU **San Rafael Swe** 85.59 47 IAmb IAmb 10 08 49.9
comp=Z,141nm,1.1s
KRUC **Moravsky** 85.59 326 *eP* **P** **10 08 47.6 -0.2**
KRUC *eS* **S** **10 18 44.2 -1.3**
BANR **Banloc** 85.59 321 ⇑P **P** **10 08 48.6 +0.8**
CAVK **Edirne/Enez-Ca** 85.60 315 ⇓P **P** **10 08 47.9 -0.1**
CLL **Collm** 85.60 329⇓*iP* **P** **10 08 47.2 -0.5**
CLL *e*PP* **pP** **10 10 19.0 +2.0**
CLL *eS* **SKSac** **10 18 35.0 +0.6**
CLL pmax pmax
comp=Z,438nm,1.2s
CLL **Collm** 85.60 329 P **P** **10 08 47.2 -0.5**
comp=Z,4μmcomp=Z,357nm,1.1s
CLL **Collm** 85.60 329 *eP* 10 08 46.9
comp=Z,392nm,1.1s,baz=42,slow=4.8
CLL *eS* 10 18 40.1
baz=43,slow=9.9
HLG **Helgoland** 85.61 333 *eS* 10 18 41.2
baz=43,slow=9.9
FLTG **Flechtingen** 85.63 331 *eP* 10 08 46.7
comp=Z,215nm,1.1s,baz=42,slow=4.8
FLTG *epP* 10 10 22.1
FLTG *eS* 10 18 39.8
baz=43,slow=9.9
MODS **Modra-Piesok** 85.63 325 *eP* **P** **10 08 48.4 +0.4**
MODS pmax pmax
comp=Z,731nm,1.4s
MODS **Modra-Piesok** 85.63 325 *eP* **P** **10 08 48.4 +0.4**
MODS *epP* **pwP** **10 10 23.9 +1.4**
RICC **Richard** 85.65 328⇓*eP* **P** **10 08 48.1 +0.1**
YUH **Yuha Desert** 85.65 55 IAmb IAmb 10 08 50.1
comp=Z,170nm,1.1s
MDVR **Moldovita** 85.66 320 ⇑P **P** **10 08 47.9 -0.4**
PGB **Panagyurishte** 85.68 318 P **P** **10 08 48.3 -0.1**
W13A **Hualapai Mount** 85.69 52 P **P** **10 08 48.6 -0.2**
GOPC **GO Pecny, Ondr** 85.77 327⇓*iP* **P** **10 08 48.6 -0.1**
GOPC **GO Pecny, Ondr** 85.77 327⇓*iP* **P** **10 08 48.6 -0.1**
PRA **Prague** 85.83 328⇓*eP* **P** **10 08 49.0 +0.1**
PRA **Prague** 85.83 328 *eP* **P** **10 08 49.0 +0.1**
PRU **Pruhonice** 85.83 328⇓*iP* **P** **10 08 48.6 -0.3**
PRU *e*SKS **SKSac** **10 18 41.7 +5.8**
PRU **Pruhonice** 85.83 328⇓*iP* **P** **10 08 48.6 -0.3**
PRU *e* 10 18 41.7
RZN **Rozhen** 85.85 317 P **P** **10 08 49.6 +0.2**
TREC **Trest** 85.87 327⇓*iP* **P** **10 08 48.9 -0.3**
TREC **Trest** 85.87 327⇓*iP* **P** **10 08 48.9 -0.3**
K22A **Casper** 85.88 42 IAmb IAmb 10 08 50.8
comp=Z,125nm,0.9s
HSKC **Hora Svate Kat** 85.91 329⇓*iP* **P** **10 08 49.0 -0.3**
HSKC *e*SKS **S** **10 18 45.4 -3.1**
NRDL **Niedersach Rie** 85.98 331 *eP* 10 08 48.9
comp=Z,88nm,1.2s,baz=42,slow=4.8
NRDL *epP* 10 10 24.6
NRDL *ePP* 10 12 11.9
baz=46,slow=7.2
NRDL *eS* 10 18 42.9
baz=43,slow=9.9
ESJX **Sierra Juarez** 85.98 55 P **P** **10 08 50.5 +0.3**
ESJX IAmb IAmb 10 08 52.2
comp=Z,268nm,1.2s
U15A **North Rim** 86.00 50 P **P** **10 08 50.9 +0.5**
ASSE **Asse, Remlinge** 86.01 331 *eP* 10 08 49.0
comp=Z,120nm,1.2s,baz=42,slow=4.8
ASSE *eS* 10 18 44.5
baz=43,slow=9.9
BLYC **Blythe** 86.01 53 IAmb IAmb 10 08 52.0
comp=Z,167nm,1.1s
EZN **Ezine** 86.02 314 P **P** **10 08 49.1 -0.9**
EZN **Ezine** 86.02 314 P **P** **10 08 49.5 -0.5**
comp=Z,4μmcomp=Z,535nm,0.9s
BIGH **Upper Bighouse** 86.05 341 *eP* **P** **10 08 49.5 -0.2**
KSL **Kastellorizon** 86.09 310 P **P** **10 08 48.7 -1.7**
SMTH **Samothraki Isl** 86.12 315 P **P** **10 08 49.1 -1.4**
PLNA **Plana** 86.14 318 P P 10 08 56.9 +6.2
VTS **Vitosha** 86.16 318 P **P** **10 08 51.4 +0.5**
GLA **Glamis** 86.19 54 IAmb IAmb 10 08 53.0
comp=Z,245nm,1.1s
CPBX **Cerro Prieto** 86.21 55 IAmb IAmb 10 08 53.1
comp=Z,250nm,1.4s
NEUB **Neuenburg** 86.21 330 *eP* 10 08 50.1
comp=Z,243nm,0.9s,baz=42,slow=4.8
NEUB *epP* 10 10 25.8
MPLH **Magyarpolny** 86.31 324 P **P** **10 08 50.9 -0.4**
comp=Z,7μmcomp=Z,756nm,1.2s
ULM **Lac du Bonnet** 86.33 32 P **P** **10 08 51.0 -0.3**
comp=Z,66nm,1.0s,baz=309,slow=5.5,SNR=73
ULM pP **pP** **10 10 20.6 -1.1**
comp=Z,20nm,1.1s,baz=299,slow=8.2,SNR=4.3
ULM PP **PP** **10 12 16.0 -2.2**
comp=Z,26nm,1.1s,baz=324,slow=9.0,SNR=3.8
ULM PKKPbc **PKKPbc** **10 26 44.5 -2.2**
comp=Z,4.9nm,0.9s,baz=209,slow=1.7,SNR=5.5
comp=Z,66nm,1.0s
CLZ **Clausthal** 86.35 331 *eP* 10 08 50.9
comp=Z,236nm,1.2s,baz=42,slow=4.8
CLZ *epP* 10 10 27.6
CLZ *eS* 10 18 47.9
baz=43,slow=9.9
MORH **Mrgy, Hungar** 86.38 323 ⇓P **P** **10 08 51.0 -0.7**
MORH **Mrgy, Hungar** 86.38 323 P **P** **10 08 50.9 -0.7**
comp=Z,2μmcomp=Z,239nm,0.9s
ZVC **Zvikov** 86.38 327⇓*iP* **P** **10 08 51.2 -0.4**
ZVC *e*SKS **S** **10 18 50.2 -2.8**
BOVS **Bovan** 86.39 320 ⇓P **P** **10 08 51.0 -0.8**
O20A **White River Ci** 86.39 45 IAmb IAmb 10 08 53.7
comp=Z,165nm,1.2s
PRK **Paraskevi** 86.40 314 P **P** **10 08 50.8 -1.0**
KAVA **Kavala** 86.41 316 P **P** **10 08 51.2 -0.7**
MSEY **Mahe Island** 86.41 263 P **P** **10 08 52.7 +0.3**
MSEY **Mahe Island** 86.41 263 P **P** **10 08 52.7 +0.3**
MSEY pmax pmax
comp=Z,493nm,1.0s
MSEY **Mahe Island** 86.41 263 P **P** **10 08 52.9 +0.5**
VTX **Valle De La Tr** 86.44 56 IAmb IAmb 10 08 54.2
comp=Z,171nm,1.1s

FRGS **Fruska Gora** 86.45 322⇓*iP* **P** **10 08 51.6 -0.4**
TANN **Tannenbergstha** 86.48 329 *eP* 10 08 51.4
comp=Z,94nm,1.1s,baz=42,slow=4.8
TANN *eS* 10 18 49.2
baz=43,slow=9.9
MMB **Musomishta** 86.53 317 P **P** **10 08 52.7 +0.2**
THAS **Thassos island** 86.53 316 P **P** **10 08 51.5 -0.9**
E28A **Huff** 86.54 36 IAmb IAmb 10 08 54.1
comp=Z,243nm,1.2s
PLN **Plauen** 86.56 329 *eP* 10 08 51.9
comp=Z,41nm,1.2s,baz=42,slow=4.8
PLN *ePP* 10 12 14.4
baz=46,slow=7.2
PLN *eS* 10 18 50.2
baz=43,slow=9.9
RONA **Rosalia, Austr** 86.57 325 *eP* **P** **10 08 51.3 -1.3**
comp=Z,703nm,2.0s,SNR=49
NKC **Novy Kostel** 86.61 329⇓*iP* **P** **10 08 52.4 -0.3**
NKC **Novy Kostel** 86.61 329⇓*iP* **P** **10 08 52.4 -0.3**
CONA **Conrad Observa** 86.63 325 *i P* **P** **10 08 53.0 +0.1**
comp=Z,665nm,1.9s,SNR=53
MCD **Coleburn Disti** 86.64 341 *eP* **P** **10 08 52.1 -0.5**
MCD IAmb IAmb 10 08 53.4
comp=Z,226nm,0.9s
SIGR **SIGRI** 86.68 314 P **P** **10 08 52.2 -1.0**
MOX **Moxa** 86.69 329 *eP* 10 08 52.4
comp=Z,85nm,1.1s,baz=42,slow=4.8
MOX *epP* 10 10 28.3
MOX *eS* 10 18 50.7
baz=43,slow=9.9
KKB **Krupnik** 86.71 317 P **P** **10 08 53.7 +0.4**
GTTG **Gottingen** 86.74 331 *eP* 10 08 52.7
comp=Z,94nm,1.1s,baz=42,slow=4.8
GTTG *ePP* 10 12 18.2
baz=46,slow=7.2
CKRC **Cesky Krumlov** 86.76 327⇓*iP* **P** **10 08 53.2 -0.2**
CKRC *e*SKS **S** **10 18 52.3 -4.4**
CKRC **Cesky Krumlov** 86.76 327⇓*iP* **P** **10 08 53.2 -0.2**
CKRC *e* 10 18 52.3
KOKK **Kokkinochori,** 86.83 316 P **P** **10 08 52.9 -1.0**
KHC **Kasperske Hory** 86.88 327⇓*iP* **P** **10 08 53.6 -0.4**
KHC *ePP* **PP** **10 12 21.0 -1.7**
KHC *e*SKS **SKSac** **10 18 46.0 +3.6**
KHC *ex* x 10 21 30.9
KHC *ex* x 10 24 39.1
KHC **Kasperske Hory** 86.88 327⇓*iP* **P** **10 08 53.6 -0.4**
KHC *e* 10 12 21.0
KHC *e* 10 18 46.0
KHC **Kasperske Hory** 86.88 327 P **P** **10 08 53.7 -0.3**
comp=Z,3μmcomp=Z,232nm,1.6s
SRS **Serrai** 86.89 317 P **P** **10 08 52.9 -1.3**
PV23 **Carpenter Ridg** 86.93 47 P **P** **10 08 55.2 +0.4**
PV23 IAmb IAmb 10 10 29.6
comp=Z,241nm,0.9s
MANZ **Manzenberg** 86.94 329 *eP* 10 08 53.8
comp=Z,20nm,1.0s,baz=42,slow=4.8
MANZ *epP* 10 10 28.8
TAOE **Nuku Hiva Isla** 86.99 102 *eP* P 10 08 49.6 -5.5
comp=Z,209nm,27.7s
TAOE **Nuku Hiva Isla** 86.99 102 *eS* **SKSac** **10 18 50.2 +6.1**
comp=Z,393nm,27.3s
TEKS **Tekeris** 87.00 321⇓*iP* **P** **10 08 53.5 -1.2**
ARG **Arkhangelos** 87.01 311 P **P** **10 08 53.6 -1.2**
GEC2 **GERESS Array S** 87.03 327 P **P** **10 08 54.0 -0.7**
GEC2 IAmb IAmb 10 08 54.7
comp=Z,92nm,0.8s
GERES **GERESS Array B** 87.03 327 P **P** **10 08 53.9 -0.9**
GERES **GERESS Array B** 87.03 327 P **P** **10 08 54.1 -0.7**
comp=Z,78nm,0.7s,baz=43,slow=4.5,SNR=412
GERES PP **PP** **10 12 22.1 -1.8**
comp=Z,23nm,1.0s,baz=54,slow=6.8,SNR=5.9
GERES PKKPbc **PKKPbc** **10 26 44.0 -1.1**
comp=Z,3.9nm,0.9s,baz=216,slow=1.1,SNR=11
comp=Z,78nm,0.7s
GEC2 **GERESS Array S** 87.03 327 *eP* 10 08 53.7
comp=Z,100nm,0.8s,baz=42,slow=4.8
GEC2 *epP* 10 10 30.7
ROTZ **Rotzenmuhle** 87.06 328 *eP* 10 08 54.5
comp=Z,98nm,1.4s,baz=42,slow=4.8
ROTZ *eS* 10 18 54.3
baz=43,slow=9.9
PV16 **Nyswonger Mesa** 87.08 47 P **P** **10 08 55.5 +0.1**
PV16 IAmb IAmb 10 08 57.3
comp=Z,231nm,1.4s
IBBN **Ibbenburen** 87.08 332 *eP* 10 08 54.0
comp=Z,346nm,1.1s,baz=42,slow=4.8
IBBN *eS* 10 18 52.5
baz=43,slow=9.9
PV11 **David Mesa, Pa** 87.11 47 IAmb IAmb 10 08 57.5
comp=Z,253nm,1.3s
WUAZ **Wupatki** 87.14 50 IAmb IAmb 10 08 57.8
comp=Z,167nm,1.3s
OUR **Ouranopolis** 87.14 316 P **P** **10 08 54.3 -1.0**
LEWI **Lewis, Hebride** 87.14 342 *eP* **P** **10 08 55.3 +0.3**
BEHE **Becsehely** 87.17 324 IAmb IAmb 10 08 56.1
comp=Z,244nm,1.0s
WET **Wettzell** 87.20 328 *eP* 10 08 55.0
comp=Z,82nm,1.0s,baz=42,slow=4.8
WET *ePP* 10 12 20.3
baz=46,slow=7.2
WET *eS* 10 18 56.2
baz=43,slow=9.9
SOH **Sokhos** 87.21 317 P **P** **10 08 54.3 -1.5**
PV13 **Radium Mtn., P** 87.23 47 IAmb IAmb 10 08 57.9
comp=Z,172nm,1.4s
UBBA **Unterbreizbach** 87.26 330 *eP* 10 08 55.1
baz=42,slow=4.8
UBBA *epP* 10 10 32.3
UBBA *ePP* 10 12 20.7
baz=46,slow=7.2
UBBA *eS* 10 18 55.6
baz=43,slow=9.9
KNT **Kendrikon** 87.27 317 P **P** **10 08 55.2 -0.8**
TBI **Tubuai** 87.28 119 *epP* pP 10 10 14.9 -12
comp=Z,1μm,29.0s
TBI *eS* **S** **10 19 00.4 -1.8**
comp=Z,2μm,34.5s
TBI *eSS* **SS** **10 24 55.7 -2.2**
comp=Z,2μm,27.5s
TBI *eLQ* LQ 10 33 37.5
comp=Z,3μm,29.2s
TBI *eLR* LR 10 37 19.3
comp=Z,2μm,27.8s
SFX **San Felipe** 87.30 55 IAmb IAmb 10 08 58.1
comp=Z,224nm,1.2s
VAY **Valandovo** 87.36 317 *i P* **P** **10 08 55.6 -0.7**
NISR **Nisiros** 87.42 311 P **P** **10 08 55.1 -1.6**
MOA **Molln** 87.46 326 *i P* **P** **10 08 56.5 -0.3**
comp=Z,558nm,2.3s,SNR=27
HORT **Hortiatis** 87.50 317 P **P** **10 08 55.7 -1.5**
BBLS **Lazi&#263i** 87.52 321⇓*iP* **P** **10 08 56.5 -0.7**
KPL **Plockton** 87.52 342 *eP* **P** **10 08 56.8 0.0**
KPL IAmb IAmb 10 08 57.9
comp=Z,493nm,0.8s
GRA1 **Grafenberg Arr** 87.55 329 IAmb IAmb 10 08 58.4
comp=Z,302nm,1.1s
GRF **Grafenberg Arr** 87.56 329 *eP* 10 08 56.9
comp=Z,354nm,1.2s,baz=42,slow=4.8
GRFO **Grafenberg** 87.56 329 P **P** **10 08 57.1 0.0**
GRFO **Grafenberg** 87.56 329 P **P** **10 08 57.1 0.0**
GRFO pmax pmax
comp=Z,344nm,1.2s
THE **Thessaloniki** 87.56 317 P **P** **10 08 56.0 -1.3**
PAIG **Paliouri** 87.57 316 P **P** **10 08 56.1 -1.3**
SJES **Sjenica** 87.60 320⇓*iP* **P** **10 08 57.1 -0.5**
HAPS **Han Pijesak,BI** 87.62 321⇓*iP* **P** **10 08 57.6 -0.1**
KASTN **Kahler Asten** 87.65 331 *eP* 10 08 56.8
comp=Z,60nm,1.0s,baz=42,slow=4.8
KASTN *epP* 10 10 34.2
KASTN *ePP* 10 12 24.9
baz=46,slow=7.2
SKY **Skiros Island** 87.69 314 P **P** **10 08 56.5 -1.5**
GRG **Griva** 87.69 317 P **P** **10 08 56.0 -2.0**
RUDO **Rudo** 87.70 321⇓*iP* **P** **10 08 57.0 -0.9**
EPLO **Experimental L** 87.71 31 P **P** **10 08 57.8 0.0**
EPLO IAmb IAmb 10 08 58.9
comp=Z,245nm,1.0s
AGMN **Agassiz Nation** 87.73 33 IAmb IAmb 10 08 58.9
comp=Z,130nm,1.1s
ESY **Stoneypath** 87.86 339 *eP* **P** **10 08 57.8 -0.6**
BIOA **Bad Ischl, Aus** 87.87 326 *i P* **P** **10 08 58.3 -0.4**
comp=Z,424nm,1.4s,SNR=53
PERS **Pernice** 87.89 325 *i P* **P** **10 08 58.2 -0.7**
SOKA **Soboth** 87.90 325 *i P* **P** **10 08 58.4 -0.6**
comp=Z,511nm,1.2s,SNR=57

AOS **Alonnisos** 87.92 315 P **P** **10 08 57.4 -1.6**
BUG **Bochum--Univer** 87.94 332 *eP* 10 08 57.7
comp=Z,142nm,0.9s,baz=42,slow=4.8
BUG *ePP* 10 12 26.1
baz=46,slow=7.2
PIX **Pinacate** 87.99 54 IAmb IAmb 10 09 01.4
comp=Z,240nm,1.7s
KARP **Karpathos** 88.03 311 P **P** **10 08 58.1 -1.6**
KARP **Karpathos** 88.03 311 *eP* **P** **10 08 58.5 -1.2**
KARP **Karpathos** 88.03 311 P **P** **10 08 58.7 -1.0**
comp=Z,4μmcomp=Z,413nm,0.9s
A051A **Mrakovica** 88.09 323⇓*iP* **P** **10 08 59.1 -0.7**
KYMI **Kymi, Euboea I** 88.12 315 P **P** **10 08 58.0 -2.0**
BLY **Banja Luka** 88.12 323⇓*iP* **P** **10 08 59.5 -0.4**
APE **Apeiranthos** 88.18 313 P **P** **10 08 57.7 -2.6**
APE **Apeiranthos** 88.18 313*d iP* **P** **10 08 57.8 -2.6**
APE pmax pmax
comp=Z,105nm,1.0s
LIT **Litokhoron** 88.18 316 P **P** **10 08 58.6 -1.7**
LIT **Litokhoron** 88.18 316 P **P** **10 08 59.1 -1.2**
LIT **Litokhoron** 88.18 316 P **P** **10 08 59.1 -1.2**
LIT pmax pmax
comp=Z,525nm,0.9s
XOR **Xorichti** 88.22 316 P **P** **10 08 58.2 -2.3**
NEO **Neokhori** 88.23 315 P **P** **10 08 58.9 -1.7**
RJOB **Jochberg** 88.24 327 *eP* 10 08 59.9
comp=Z,284nm,0.9s,baz=42,slow=4.8
OBKA **Obir** 88.26 325⇓*iP* **P** **10 08 59.4 -1.2**
OBKA **Obir** 88.26 325 *i P* **P** **10 08 59.6 -1.0**
comp=Z,170nm,1.4s,SNR=14
KARY **Karystos** 88.28 314 P **P** **10 08 58.9 -1.8**
TNS **Taunus Mts** 88.37 331 *eP* 10 09 00.3
comp=Z,44nm,0.8s,baz=42,slow=4.8
TNS *ePP* 10 12 30.3
baz=46,slow=7.2
LAWE **Loch Awe, Argy** 88.38 341 *eP* **P** **10 09 00.5 -0.3**
LAWE IAmb IAmb 10 09 01.6
comp=Z,288nm,1.1s
FNA **Florina** 88.40 318 P **P** **10 08 59.7 -1.6**
FNA **Florina** 88.40 318 IAmb IAmb 10 09 01.1
comp=Z,222nm,1.4s
KBA **Koelnbreinsper** 88.44 326 *i P* **P** **10 09 00.7 -0.9**
comp=Z,175nm,1.1s,SNR=21
BRIGG **Briggsdale** 88.46 43 IAmb IAmb 10 09 03.7
comp=Z,179nm,1.1s
KZN **Kozani** 88.47 317 P **P** **10 09 03.1 +1.4**
PGBU **Glenifferbraes** 88.50 340 *eP* **P** **10 09 01.4 0.0**
PGBU IAmb IAmb 10 09 02.5
comp=Z,1μm,1.0s
EKA **Eskdalemuir Ar** 88.52 339 P **P** **10 09 01.2 -0.3**
comp=Z,70nm,0.8s,baz=32,slow=3.7,SNR=69
EKA pP **pP** **10 10 33.7 +2.2**
comp=Z,14nm,0.9s,baz=24,slow=2.5,SNR=2.9
EKA PP **PP** **10 12 34.0 -1.3**
comp=Z,73nm,1.0s,baz=46,slow=7.5,SNR=9.0
comp=Z,70nm,0.8s
LESA **Schwarzleotal** 88.52 327 *i* P **P** **10 09 01.2 -0.6**
comp=Z,255nm,0.7s,SNR=56
OHR **Ohrid** 88.53 318 *i* P **P** **10 09 01.4 -0.5**
ESK **Eskdalemuir** 88.54 339 P **P** **10 09 01.5 -0.1**
ESK IAmb IAmb 10 09 02.7
comp=Z,164nm,0.9s
ESK **Eskdalemuir** 88.54 339 *eP* **P** **10 09 01.1 -0.5**
ESK IAmb IAmb 10 09 02.4
comp=Z,168nm,1.0s
ESK **Eskdalemuir** 88.54 339 P **P** **10 09 01.5 -0.1**
ESK pmax pmax
comp=Z,164nm,1.0s
PDG **Podgorica** 88.54 320 IAmb IAmb 10 09 05.4
comp=Z,230nm,0.9s
PDG **Podgorica** 88.54 320⇓*iP* **P** **10 09 01.0 -0.9**
PDG **Podgorica** 88.54 320 ⇓P **P** **10 09 01.2 -0.7**
DION **Dionisos Attik** 88.56 314 P **P** **10 08 59.8 -2.3**
EDMD **Edmundbyers** 88.57 338 *eP* **P** **10 09 01.1 -0.6**
LJU **Ljubljana** 88.59 325 *i P* **P** **10 09 01.1 -0.9**
BOJS **Bojanci** 88.60 324⇓*iP* **P** **10 09 01.3 -0.8**
MYKA **Terra Mystica** 88.62 326 *i P* **P** **10 09 01.1 -1.2**
comp=Z,131nm,0.7s,SNR=23
PTL **Penteli** 88.62 314 P **P** **10 09 00.1 -2.3**
FUR **Furstenfeldbru** 88.64 328 *eP* 10 09 01.8
comp=Z,473nm,0.9s,baz=42,slow=4.8
A050A **Klekovaca** 88.64 323⇓*iP* **P** **10 09 01.6 -0.8**
DRME **Dracevica, Mon** 88.74 320 *eP* **P** **10 09 01.8 -1.0**
LKR **Lokris** 88.78 315 P **P** **10 09 01.0 -2.1**
PRED **Cave del Predi** 88.79 325 IAmb IAmb 10 09 02.6
comp=Z,108nm,0.9s
THL **Klokotos Trika** 88.80 316 P **P** **10 09 00.6 -2.5**
TREB **Trebinje** 88.86 320 *eP* **P** **10 09 01.5 -1.9**
CEY **Cerknica** 88.86 325⇓*iP* **P** **10 09 02.1 -1.2**
CEY **Cerknica** 88.86 325 *i P* **P** **10 09 02.2 -1.1**
SUSD **Miller** 88.88 37 IAmb IAmb 10 09 05.5
comp=Z,170nm,1.1s
VILL **Villia** 88.89 315 P **P** **10 09 01.0 -2.7**
TIR **Tirane** 88.91 319 P **P** **10 09 02.6 -0.9**
TIR IAmb IAmb 10 09 06.8
comp=Z,225nm,0.8s
TIR **Tirane** 88.91 319 ⇑P **P** **10 09 02.9 -0.8**
TIR **Tirane** 88.91 319 P **P** **10 09 02.7 -0.9**
TIR pmax pmax
comp=Z,225nm,0.8s
TIR **Tirane** 88.91 319 P **P** **10 09 03.1 -0.5**
comp=Z,295nm,0.8s
ZKR **Zakros** 88.91 311 P **P** **10 09 02.4 -1.4**
AXAR **Agios Charalam** 88.92 315 P **P** **10 09 01.8 -1.9**
HCY **Herceg Novi** 88.95 320 *eP* **P** **10 09 01.1 -2.7**
NEWG **New Galloway** 89.02 340 *eP* **P** **10 09 03.4 -0.4**
NEWG IAmb IAmb 10 09 04.5
comp=Z,161nm,0.9s
BTNL **Ternell** 89.06 332 *dP* **P** **10 09 03.3 -0.8**
comp=Z,48nm,1.0s
BEBN **Eben Emael** 89.08 332 *dP* **P** **10 09 03.3 -0.8**
comp=Z,136nm,0.9s
MAKR **Makrakomi, Fth** 89.08 316 P **P** **10 09 02.5 -2.0**
ABTA **Abfaltersbach** 89.08 326 *i P* **P** **10 09 02.9 -1.6**
comp=Z,373nm,0.9s,SNR=80
MEM **Membach** 89.09 332 *dP* **P** **10 09 03.4 -0.9**
comp=Z,62nm,1.0s
SABO **M.te Sabotino** 89.10 325 P **P** **10 09 03.1 -1.4**
WATA **Walderalm** 89.10 327 *i P* **P** **10 09 03.8 -0.8**
comp=Z,256nm,1.1s,SNR=36
WATA *ePP* **PP** **10 12 41.4 +1.0**
comp=Z,79nm,1.1s
STON **Ston** 89.11 321⇓*iP* **P** **10 09 00.8 -3.7**
ATD **Arta Tunnel** 89.12 283 P **P** **10 09 06.2 +1.0**
SNR=31
WTTA **Wattenberg** 89.12 327 *i P* **P** **10 09 04.0 -0.7**
comp=Z,494nm,1.5s,SNR=42
KESW **Keswick, Cumbr** 89.13 339 *eP* **P** **10 09 04.6 +0.2**
KESW IAmb IAmb 10 09 05.4
comp=Z,305nm,1.1s
STU **Stuttgart** 89.13 329 *eP* **P** **10 09 04.1 -0.4**
STU **Stuttgart** 89.13 329 *eP* 10 09 03.8
comp=Z,738nm,0.9s,baz=42,slow=4.8
LMK **Market Rasen** 89.17 337 *eP* **P** **10 09 04.4 -0.1**
LMK IAmb IAmb 10 09 05.3
comp=Z,859nm,1.2s
HPK **Haverah Park** 89.19 338 *eP* **P** **10 09 04.4 -0.3**
HPK IAmb IAmb 10 09 05.5
comp=Z,396nm,1.1s
LSK **Leskovik** 89.26 317 P **P** **10 09 04.5 -0.9**
F33A **5 Mile Ranch,** 89.26 35 IAmb IAmb 10 09 06.8
comp=Z,247nm,1.1s
BSTI **Sart Tilman** 89.28 332 *dP* **P** **10 09 04.6 -0.6**
comp=Z,20nm,0.8s
BHOU **Houvegnez** 89.28 332 *dP* **P** **10 09 04.7 -0.5**
comp=Z,44nm,1.1s
MOTA **Moosalm** 89.32 327 *i P* **P** **10 09 04.7 -0.9**
comp=Z,352nm,1.3s
MOTA *i* PP **PP** **10 12 42.4 +0.3**
comp=Z,74nm,1.0s
EVR **Evrytania** 89.33 316 P **P** **10 09 04.9 -0.9**
SQTA **Sankt Quirin** 89.36 327 *i P* **P** **10 09 05.0 -0.7**
comp=Z,281nm,1.1s,SNR=44
RETA **Reutte** 89.37 328 *i P* **P** **10 09 05.2 -0.5**
comp=Z,623nm,1.4s,SNR=48
GAL1 **Galloway** 89.38 340 *eP* **P** **10 09 04.9 -0.6**
GAL1 IAmb IAmb 10 09 06.2
comp=Z,327nm,0.9s
TUC **Tucson** 89.41 52 P **P** **10 09 06.5 +0.3**
TUC **Tucson** 89.41 52 P **P** **10 09 06.6 +0.3**
CIMO **Cimolais** 89.43 326 P **P** **10 09 04.2 -1.8**
CIMO IAmb IAmb 10 09 05.2
comp=Z,197nm,1.1s
JAN **Janina** 89.43 317 P **P** **10 09 05.3 -0.8**
WACR **West Acre** 89.44 336 *eP* **P** **10 09 04.9 -0.9**

WACR IAmb IAmb 10 09 06.3
comp=Z,481nm,1.0s
KALE Kalithea 89.47 315 P **P 10 09 04.2 -2.2**
ANX Ano Chora 89.47 316 P **P 10 09 05.2 -1.2**
BCLA Clavier 89.52 332 *d*P **P 10 09 05.4 -0.8**
comp=Z,48nm,1.0s
OGNE Ogallala 89.55 41 IAmb IAmb 10 09 08.1
comp=Z,188nm,0.9s
UCC Uccle 89.60 333 *d*P **P 10 09 05.7 -0.9**
comp=Z,58nm,0.9s
CLGH Cloghs, Cushen 89.61 341 *e*P **P 10 09 06.7 +0.2**
CLGH IAmb IAmb 10 09 07.4
comp=Z,376nm,0.9s
GUR Goura 89.63 315 P **P 10 09 04.5 -2.7**
BGES Gesves 89.63 332 *d*P **P 10 09 05.8 -1.0**
comp=Z,49nm,1.1s
IDI Anoyia 89.67 311 P **P 10 09 05.0 -2.4**
KLV Kalavryta, Ach 89.68 315 P **P 10 09 04.8 -2.6**
LBWR Ladybower, Pea 89.68 338 *e*P **P 10 09 06.6 -0.4**
LBWR IAmb IAmb 10 09 07.8
comp=Z,627nm,1.0s
FETA Feichten 89.73 327 *i* P **P 10 09 06.8 -0.7**
comp=Z,394nm,1.1s,SNR=89
K30B Basset 89.74 39 IAmb IAmb 10 09 09.1
comp=Z,178nm,1.2s
RCHB Rochefort 89.75 332 *d*P **P 10 09 06.5 -0.9**
comp=Z,88nm,0.9s
WLF Walferdange 89.76 331 IAmb IAmb 10 09 08.6
comp=Z,322nm,1.3s
WLF Walferdange 89.76 331 P **P 10 09 06.0 -1.4**
WLF Walferdange 89.76 331 *d*P **P 10 09 07.0 -0.4**
comp=Z,95nm,1.3s
WLF Walferdange 89.76 331 *e*P 10 09 07.2
comp=Z,316nm,1.3s,baz=42,slow=4.8
WLF *e*S 10 19 25.3
baz=43,slow=9.9
IGT Igoumenitsa 89.82 317 P **P 10 09 06.6 -1.3**
BMRD Maredsous 89.82 332 *d*P **P 10 09 06.9 -0.7**
comp=Z,73nm,1.1s
ELMS Elmsett, Ipswi 89.83 335 *e*P **P 10 09 06.9 -0.7**
ELMS IAmb IAmb 10 09 08.0
comp=Z,356nm,1.2s
BFO Black Forest 89.84 329 P **P 10 09 07.2 -0.7**
BFO Black Forest 89.84 329 P **P 10 09 07.2 -0.7**
BFO pmax pmax
comp=Z,330nm,1.0s
BFO Black Forest 89.84 329 *e*P 10 09 07.0
comp=Z,324nm,1.0s,baz=42,slow=4.8
IOMK Kirk Michael 89.86 339 *e*P **P 10 09 06.7 -1.1**
IOMK IAmb IAmb 10 09 08.4
comp=Z,124nm,1.1s
DAVA Damuels 89.92 328 *i* P **P 10 09 07.9 -0.6**
comp=Z,757nm,1.1s,SNR=87
EYMN Ely 89.98 31 P **P 10 09 08.7 +0.2**
EYMN IAmb IAmb 10 09 10.0
comp=Z,147nm,1.1s
WIM Isle of Man 89.99 339 *e*P **P 10 09 07.9 -0.4**
CTI Castel Tesino 90.00 326 P **P 10 09 07.1 -1.6**
CTI IAmb IAmb 10 09 08.2
comp=Z,279nm,1.2s
CTI Castel Tesino 90.00 326 P **P 10 09 07.1 -1.6**
CTI pmax pmax
comp=Z,279nm,1.2s
IDGL Inch Island, C 90.01 341 P **P 10 09 07.5 -0.9**
KEK Kerkira 90.01 317 IAmb IAmb 10 09 10.3
comp=Z,314nm,1.2s
VLI Veliai 90.03 314 P **P 10 09 06.2 -2.7**
DOU Dourbes 90.06 332 *d*P **P 10 09 07.8 -0.9**
comp=Z,31nm,1.3s
RLS Riolos of Patr 90.09 315 P **P 10 09 08.2 -1.0**
CWF Charnwood Fore 90.10 337 *e*P **P 10 09 08.1 -0.8**
CWF IAmb IAmb 10 09 09.3
comp=Z,371nm,0.9s
STNC Stoke 90.10 338 *e*P **P 10 09 09.0 +0.1**
STNC IAmb IAmb 10 09 09.8
comp=Z,355nm,1.0s
LKD2 Lefkada island 90.11 316 P **P 10 09 07.8 -1.5**
NYDR Nydri-Lefkada 90.13 316 P **P 10 09 08.1 -1.2**
IMMV Iera Moni Meta 90.15 312 P **P 10 09 08.1 -1.4**
EVGI Lefkada island 90.22 316 P **P 10 09 08.4 -1.4**
DAVOX Davos/Dischmat 90.30 328 PP **PP 10 12 47.3 -2.6**
comp=Z,22nm,1.0s,baz=274,slow=3.1,SNR=5.3
ANKY Antikythira Is 90.33 313 P **P 10 09 08.6 -1.7**
ITM Ithomi 90.36 314 P **P 10 09 08.8 -1.7**
ITM Ithomi 90.36 314 P **P 10 09 09.0 -1.5**
FSK Fiskardo 90.38 316 P **P 10 09 08.7 -1.8**
ECH Echery 90.44 330 IAmb IAmb 10 09 11.1
comp=Z,198nm,1.0s
GVD Gavdhos 90.47 312 P **P 10 09 09.4 -1.6**
KSCO Kaye Shedlock' 90.47 43 IAmb IAmb 10 09 12.6
comp=Z,150nm,1.1s
RTZL Ratzakli, Kefa 90.50 316 P **P 10 09 10.0 -1.0**
WME Myndd Eilian 90.52 339 *e*P **P 10 09 10.4 -0.4**
WPS Cemaes, Angles 90.58 339 *e*P **P 10 09 10.4 -0.7**
WPS IAmb IAmb 10 09 11.1
comp=Z,155nm,1.1s
ILTH Belurgan, Co L 90.59 340 *e*P **P 10 09 10.0 -1.1**
ILTH Belurgan, Co L 90.59 340 P **P 10 09 09.6 -1.5**
FOEL Foel Wylfa 90.60 338 *e*P **P 10 09 11.0 -0.2**
FOEL IAmb IAmb 10 09 12.1
comp=Z,495nm,0.9s
T25A Trinidad 90.60 45 P **P 10 09 12.6 +0.7**
T25A IAmb IAmb 10 09 13.8
comp=Z,131nm,1.0s
DMLN Damoulianata-K 90.63 316 P **P 10 09 10.4 -1.3**
WLF1 Llynfaes 90.64 339 *e*P **P 10 09 11.0 -0.4**
WLF1 IAmb IAmb 10 09 12.1
comp=Z,698nm,1.0s
ANMO Albuquerque 90.69 48 P **P 10 09 12.6 +0.4**
ANMO Albuquerque 90.69 48 P **P 10 09 12.8 +0.5**
ANMO IAmb IAmb 10 09 14.4
comp=Z,100nm,1.1s
ANMO Albuquerque 90.69 48*c* *i*P **P 10 09 12.7 +0.4**
ANMO pmax pmax
comp=Z,44nm,1.0s
YLL Llanberis 90.69 339 *e*P **P 10 09 10.9 -0.8**
TUE Stuetta 90.77 328 P **P 10 09 11.9 -0.6**
comp=Z,13µmcomp=Z,1µm,1.2s
LLW Llanuwchllyn 90.78 338 *e*P **P 10 09 11.5 -0.5**
HLM1 Long Mynd 90.81 338 *e*P **P 10 09 11.3 -0.9**
HLM1 IAmb IAmb 10 09 12.7
comp=Z,243nm,1.3s
SGRT San Giovanni R 90.93 321 P **P 10 09 12.2 -0.9**
Y22D IRIS PASSCAL I 90.93 49 P **P 10 09 14.4 +1.0**
baz=308
E38A The Farm, Brul 90.96 32 IAmb IAmb 10 09 14.1
comp=Z,122nm,0.9s
319A Douglas 90.99 52 P **P 10 09 14.1 +0.5**
319A IAmb IAmb 10 09 15.8
comp=Z,144nm,1.1s
BNM Barren Site 91.08 49 P **P 10 09 14.7 +0.5**
HSIG 91.22 55 IAmb IAmb 10 09 16.7
comp=Z,132nm,1.1s
DSB Dublin 91.28 340 P **P 10 09 12.6 -1.7**
DSB Dublin 91.28 340 P **P 10 09 13.1 -1.3**
SRIG Santa Rosalia 91.28 57 P **P 10 09 15.8 +0.9**
MCH1 Michaelchurch 91.29 337 *e*P **P 10 09 13.9 -0.5**
MCH1 IAmb IAmb 10 09 15.0
comp=Z,343nm,0.7s
SWN1 Swindon 91.29 337 *e*P **P 10 09 14.1 -0.4**
SWN1 IAmb IAmb 10 09 15.2
comp=Z,583nm,1.0s
MONM Monmouth 91.36 337 *e*P **P 10 09 13.9 -0.8**
MONM IAmb IAmb 10 09 15.3
comp=Z,398nm,0.8s
BGNE Belgrade 91.40 39 IAmb IAmb 10 09 16.0
comp=Z,188nm,1.1s
OLDB Oldbury-Upon-S 91.42 337 *e*P **P 10 09 14.7 -0.3**
OLDB IAmb IAmb 10 09 15.3
comp=Z,134nm,0.8s
ZCCA Zocca 91.56 325 IAmb IAmb 10 09 17.8
comp=Z,252nm,1.3s
INTR Introdacqua 91.74 322 IAmb IAmb 10 09 17.6
comp=Z,90nm,0.8s
AQU L'Aquila 91.76 323 P **P 10 09 15.5 -1.4**
AQU L'Aquila 91.76 323 P **P 10 09 17.3 +0.4**
comp=Z,3µmcomp=Z,287nm,1.3s
RSBS Rosebush, Pemb 91.89 338 *e*P **P 10 09 16.1 -1.1**
RSBS IAmb IAmb 10 09 17.7
comp=Z,182nm,1.1s
L34A Svendsen Farm, 91.96 38 IAmb IAmb 10 09 18.8
comp=Z,176nm,1.1s
IGLA Glengowla, Co 91.98 341 P **P 10 09 16.8 -0.8**
VLC Villacollemand 91.99 326 P **P 10 09 16.2 -1.7**
I37A Lemond, Waseca 92.00 35 P **P 10 09 18.6 +0.7**
I37A IAmb IAmb 10 09 19.6
comp=Z,150nm,1.1s
CESX Cesi 92.01 323 IAmb IAmb 10 09 18.0
comp=Z,186nm,1.3s
RTBA Rita Blanca 92.08 45 IAmb IAmb 10 09 20.2
comp=Z,164nm,1.3s
CUC Castrocucco 92.10 320 IAmb IAmb 10 09 18.6
comp=Z,159nm,1.4s
TIP Timpagrande 92.12 319 ⇓P **P 10 09 18.5 -0.1**
TIP Timpagrande 92.12 319 P **P 10 09 18.5 -0.1**
comp=Z,2µmcomp=Z,127nm,1.4s
IWEX Carrickbyrne, 92.16 340 *e*P **P 10 09 17.8 -0.6**
IWEX Carrickbyrne, 92.16 340 P **P 10 09 18.2 -0.2**
CBKS Cedar Bluff 92.28 42 IAmb IAmb 10 09 20.1
comp=Z,152nm,1.1s
MSSA Maissana 92.29 326 IAmb IAmb 10 09 18.8
comp=Z,119nm,1.2s
SCHQ Schefferville 92.32 14 P **P 10 09 17.3 -1.8**
comp=Z,10nm,0.9s,baz=48,slow=17,SNR=4.2
SCHQ pP **pP 10 10 51.3 +1.1**
comp=Z,22nm,1.1s,baz=4.6,slow=2.8,SNR=5.7
SCHQ PKKPbc **PKKPbc 10 26 30.5 -1.9**
comp=Z,8.9nm,0.7s,baz=204,slow=2.2,SNR=6.5
SBD Saint Breward 93.06 338 *e*P **P 10 09 21.3 -1.3**
BNI Bardonecchia 93.07 328 IAmb IAmb 10 09 23.6
comp=Z,83nm,1.0s
N35A Tabor 93.13 38 IAmb IAmb 10 09 24.4
comp=Z,83nm,1.0s
CEL Celeste 93.25 318 P **P 10 09 23.0 -0.8**
comp=Z,6µmcomp=Z,738nm,1.0s
JSA Saint Aubin 93.36 335 *e*P **P 10 09 23.7 -0.3**
JSA IAmb IAmb 10 09 24.5
comp=Z,198nm,0.9s
VAL Valentia 93.55 341 P **P 10 09 24.3 -0.5**
SCIA State Center 93.64 36 IAmb IAmb 10 09 27.1
comp=Z,143nm,1.2s
MSTX Muleshoe 93.66 47 IAmb IAmb 10 13 15.5
comp=Z,143nm,1.6s
KSU1 Kansas State U 93.85 40 IAmb IAmb 10 09 27.4
comp=Z,122nm,0.9s
SSB Saint Sauveur 93.85 329 IAmb IAmb 10 09 26.8
comp=Z,118nm,0.9s
VHRN Van Horn 94.26 51 IAmb IAmb 10 09 30.8
comp=Z,135nm,1.4s
E46A Sault Ste Mari 94.29 28 IAmb IAmb 10 09 29.6
comp=Z,113nm,1.2s
ELIS Ellis County 94.33 44 IAmb IAmb 10 09 30.6
comp=Z,84nm,1.0s
N38A Joes South For 94.44 37 IAmb IAmb 10 09 30.3
comp=Z,115nm,1.4s
L40A Anamosa 94.52 35 IAmb IAmb 10 09 30.4
comp=Z,94nm,1.1s
KAN05 Bluff City Nor 94.52 42 IAmb IAmb 10 09 30.9
comp=Z,70nm,1.1s
KAN17 Caldwell West 94.63 42 IAmb IAmb 10 11 04.5
comp=Z,172nm,1.7s
DKNS Dickens 95.02 46 P **P 10 09 32.1 +0.1**
DKNS IAmb IAmb 10 11 06.8
comp=Z,213nm,1.9s
POST Post 95.06 47 P **P 10 09 32.0 -0.2**
SLBS Sierra La Lagu 95.08 59 P **P 10 09 33.3 +0.8**
T35A Sooner Cattle 95.44 41 IAmb IAmb 10 11 07.9
comp=Z,147nm,1.6s
SBV Sambava 95.56 258 P **P 10 09 35.4 +0.8**
SNR=6.5
OK029 Liberty Lake 95.67 43 IAmb IAmb 10 11 08.5
comp=Z,84nm,1.2s
APMT Aspermont 95.75 46 IAmb IAmb 10 11 09.6
comp=Z,94nm,1.4s
QUOK Quay 95.85 42 IAmb IAmb 10 11 09.7
comp=Z,120nm,1.4s
VSL Villasalto 95.93 323 IAmb IAmb 10 09 36.2
comp=Z,101nm,1.2s
SGCY Sterling City 96.05 48 IAmb IAmb 10 13 33.6
comp=Z,94nm,1.5s
TX31 Lajitas Ar. Si 96.06 51 IAmb IAmb 10 11 12.7
comp=Z,81nm,1.1s
TXAR Lajitas Array 96.06 51 P **P 10 09 37.1 +0.2**
TXAR Lajitas Array 96.06 51 P **P 10 09 37.3 +0.4**
comp=Z,12nm,0.9s,baz=298,slow=3.5,SNR=101
TXAR pP **pP 10 11 08.3 +0.2**
comp=Z,33nm,0.9s,baz=297,slow=3.2,SNR=15
TXAR PP **PP 10 13 31.4 -3.6**
comp=Z,16nm,1.1s,baz=306,slow=4.3,SNR=5.1
TXAR PKKPbc **PKKPdf 10 26 20.4 -0.8**
comp=Z,1.6nm,0.6s,baz=130,slow=6.0,SNR=9.8
comp=Z,12nm,0.9s
DEOK Depew 96.20 42 IAmb IAmb 10 11 11.4
comp=Z,128nm,1.5s
WTFS Witchita Falls 96.47 45 IAmb IAmb 10 11 12.6
comp=Z,121nm,1.7s
ABTX Abilene, Hawle 96.52 46 IAmb IAmb 10 11 13.3
comp=Z,118nm,1.5s
M44A Midewin, Midew 96.57 33 IAmb IAmb 10 11 11.9
comp=Z,75nm,1.2s
HDIL Hopedale 96.61 35 IAmb IAmb 10 09 40.0
comp=Z,76nm,1.1s
EJON La Jonquera 96.82 329 P **P 10 09 39.3 -0.6**
U38A Gravette 96.98 40 IAmb IAmb 10 11 14.7
comp=Z,94nm,1.7s
PLPT Palo Pinto 97.21 45 IAmb IAmb 10 11 16.4
comp=Z,100nm,1.6s
Z35A Perchaven, San 97.50 44 IAmb IAmb 10 09 45.4
comp=Z,59nm,0.9s
JCT Junction City 97.85 48 IAmb IAmb 10 13 47.6
comp=Z,61nm,1.2s
MAHO Mahon 98.19 326 P **P 10 09 44.0 -2.0**
RKT Rikitea 98.47 112 *e*S **S 10 20 38.2 -2.7**
comp=Z,1µm,27.5s
RKT Rikitea 98.47 112 *e*LR LR 10 42 28.0
comp=Z,1µm,28.2s
KEST Kesra 98.72 320 P Pdif 10 09 48.4 -0.2
comp=Z,37nm,0.9s,baz=342,slow=1.3,SNR=23
KEST PP **PP 10 13 53.5 -1.3**
comp=Z,22nm,0.9s,baz=338,slow=6.7,SNR=5.4
comp=Z,37nm,0.9s
KEST Kesra 98.72 320 P **P 10 09 50.0 +1.4**
SNR=5.0
ETOS Mallorca 98.98 327 P Pdif 10 09 46.6 -3.0
CMAH Djebel Manchou 99.10 322 P **Pdif 10 09 49.6 -0.7**
CRHA Rehia 99.62 321 P **Pdif 10 09 52.8 +0.2**
COAT Oued Athmania 99.99 323 P **Pdif 10 09 53.5 -0.7**
CTEI Djebel Teioual 100.06 322 P **Pdif 10 09 54.3 -0.3**
KIBK Kibwezi 100.27 273 P **Pdif 10 09 54.1 -1.8**
KIBK Kibwezi 100.27 273 P **Pdif 10 09 56.2 +0.4**
SNR=11
CBBAR Babar 100.33 321 P **Pdif 10 09 56.0 +0.1**
KMBO Kilima Mbogo 100.34 275 P **Pdif 10 09 56.2 -0.2**
comp=Z,30nm,1.0s,baz=43,slow=6.8,SNR=47
KMBO PP **PP 10 14 07.5 -1.0**
comp=Z,23nm,0.9s,baz=51,slow=8.2,SNR=8.4
KMBO Kilima Mbogo 100.34 275 P **Pdif 10 09 56.2 -0.2**
KMBO Kilima Mbogo 100.34 275*d* *i*P **Pdif 10 09 56.1 -0.3**
KMBO pmax pmax
comp=Z,30nm,1.0s
KMBO Kilima Mbogo 100.34 275 *i* P **Pdif 10 09 56.5 +0.1**
SNR=24
CTGD Timgad 100.39 322 P **Pdif 10 09 55.8 -0.3**
CKHR Kef el Ahmar 100.56 323 P **Pdif 10 09 56.5 -0.4**
CAZD Ain Tagrout 100.62 323 P **Pdif 10 09 57.5 +0.4**
CNGR Negrine 100.66 321 P **Pdif 10 09 57.4 +0.2**
CKTS El Kantara 101.07 322 P **Pdif 10 09 58.5 -0.5**
AKED El Kharrouba 101.14 325 P **Pdif 10 09 57.7 -1.5**
AKET Djebel Ketaf 101.38 324 P **Pdif 10 10 00.8 +0.3**
ADJB Djebel Djouab 101.52 324 P **Pdif 10 10 01.4 +0.3**
ABSD Ouled Sidi Bra 101.69 323 P **Pdif 10 10 01.2 -0.6**
CDCN Doucen 101.86 322 P **Pdif 10 10 02.5 0.0**
ESDC Sonseca Array 102.06 331 P **Pdif 10 10 02.6 -0.7**
comp=Z,4.1nm,0.8s,baz=20,slow=4.7,SNR=15
ESDC PP **PP 10 14 17.8 -1.7**
comp=Z,30nm,0.9s,baz=36,slow=7.0,SNR=8.3
ESDC PKKPbc **PKKPbc 10 26 05.3 -0.4**
comp=Z,1.4nm,0.9s,baz=204,slow=2.7,SNR=4.6
AFRS Ain Fares 102.11 323 P **Pdif 10 10 03.4 -0.3**
EARB Arib 102.11 325 P **Pdif 10 10 03.5 -0.1**
VOI Vohitsoka 102.24 252 P **Pdif 10 10 04.7 +0.3**
ADCK Dar Chioukh 102.48 324 P **Pdif 10 10 05.3 -0.1**
ESMB Sidi M'hamed B 103.39 326 P **Pdif 10 10 09.0 -0.3**
VNDA Vanda 108.61 175 PKiKP **PKiKP 10 14 34.2 0.0**
comp=Z,4.6nm,0.8s,baz=317,slow=4.5,SNR=14
VNDA PP **PP 10 15 06.5 -1.3**
comp=Z,6.8nm,1.1s,baz=334,slow=8.8,SNR=5.0
MAW Mawson 112.56 204 PKiKP **PKiKP 10 14 42.1 +0.3**
comp=Z,15nm,0.9s,baz=319,slow=0.8,SNR=7.7
MAW PP **PP 10 15 34.9 -1.3**
comp=Z,30nm,1.0s,baz=62,slow=11,SNR=9.4
LSZ Lusaka 114.99 266 **PKiKP 10 14 48.9 +0.6**
LSZ Lusaka 114.99 266 P **PKiKP 10 14 49.2 +0.9**
LSZ Lusaka 114.99 266 *i* PKIKP **PKiKP 10 14 48.9 +0.6**
POGA Pongola 116.96 253 **PKiKP 10 14 52.2 +0.6**
MREMI Moremi 118.70 259 *i* P **PKPdf 10 14 54.9 -0.3**
KSANE Kasane 118.70 265 *i* P **PKiKP 10 14 56.1 +0.7**
TOA0 Torodi Ar. Sit 120.03 310 P **PKPdf 10 14 57.6 -0.3**
KHWEE KHWEE 120.16 261 *i* P **PKiKP 10 14 58.6 +0.5**
QSPA South Pole Qui 120.18 180 PKPdf **PKPdf 10 14 56.1 -0.5**
QSPA South Pole Qui 120.18 180 PKP **PKPdf 10 14 56.3 -0.4**
comp=Z,76nm,0.6s,baz=299,slow=0.8,SNR=254
QSPA SKP 10 17 53.2
comp=Z,27nm,1.0s,baz=288,slow=2.7,SNR=4.3
LPHEP Lephephe 120.35 259 *i* P **PKiKP 10 14 58.7 +0.2**
LBTB Lobatse 121.19 258 **PKiKP 10 15 00.1 +0.1**
LBTB Lobatse 121.19 258 PKIKP **PKiKP 10 15 00.2 +0.1**
SYO Syowa Base 121.24 205⇑*e*PKPdf **PKiKP 10 15 00.6 +1.9**
KDWAN Kaudwane 121.38 260 *i* P **PKiKP 10 15 00.9 +0.4**
GMARE Gumare 121.95 265 *i* P **PKiKP 10 15 02.5 +0.8**
MAKGR Makgori 122.16 257 *i* P **PKiKP 10 15 02.0 0.0**
XAUDM Khaudum 122.31 266 *i* P **PKiKP 10 15 03.5 +1.0**
SKOMA Sekoma 122.42 259 *i* P **PKiKP 10 15 02.8 +0.3**
BOSA Boshof 122.74 254 PKP **PKiKP 10 15 03.0 -0.1**
comp=Z,74nm,0.8s,baz=82,slow=1.6,SNR=72
QNGWA Qangwa 122.86 265 *i* P **PKiKP 10 15 04.0 +0.5**
KGCAE Kacgae 123.27 261 *i* P **PKiKP 10 15 05.0 +0.7**
GRHM Grahamstown, E 123.28 248 **PKiKP 10 15 04.3 +0.4**
GRTLG Ghanzi 123.55 263 *i* P **PKiKP 10 15 05.5 +0.6**
PHPEN Phepeng 123.67 258 *i* P **PKPdf 10 15 04.7 0.0**
SOE Somerset East 123.77 249 **PKiKP 10 15 05.5 +0.5**
DR12 Loma Pena Alta 124.16 32 PKPdf **PKPdf 10 15 05.4 -0.4**
LKGWB Lokgwabe 124.58 260 *i* P **PKPdf 10 15 06.0 -0.5**
KOOLE Kule 125.04 262 *i* P **PKiKP 10 15 08.1 +0.3**
TSUM Tsumeb 125.82 267 **PKPdf 10 15 09.2 +0.2**
GMAL Guarumal, Vera 126.15 52 P **PP 10 17 08.7 -0.3**
comp=Z,21µmcomp=Z,14nm,0.7s
ELIB Princess Elisa 126.41 201 *d*PKPdf **PKPdf 10 15 08.7 +0.1**
ELIB *d*PP **PP 10 17 09.4 -1.0**
SUR Sutherland 127.53 251 **PKiKP 10 15 13.8 +1.2**
SUR Sutherland 127.53 251 P **PKiKP 10 15 13.7 +1.2**
DBIC Dimbokro 129.13 310 PKPdf **PKPdf 10 15 15.1 -0.3**
DBIC Dimbokro 129.13 310 PKhKP PKPpre 10 15 05.3
comp=Z,4.4nm,0.6s,baz=310,slow=8.5,SNR=3.2
DBIC PKP **PKPdf 10 15 15.4 +0.1**
comp=Z,60nm,0.8s,baz=47,slow=1.8,SNR=23
UREC San Jos de Ur 129.88 46 P SKPbc 10 18 01.2 -0.3
NVL N'lazarevskaya 130.29 200 *e*PKIKP **PKPdf 10 15 15.8 0.0**
NVL pmax pmax
comp=Z,102nm,1.0s
ZARC Zaragoza, Cauc 130.50 46 P **SKPbc 10 18 03.4 -0.4**
comp=Z,4µmcomp=Z,225nm,1.5s
HELC Santa Helena 131.08 48 P **SKPbc 10 18 03.1 -3.3**
comp=Z,2µmcomp=Z,88nm,2.7s
SDV Santo Domingo 131.88 40 PKPdf **PKPdf 10 15 20.9 +0.1**
SDV Santo Domingo 131.88 40 *e*P **PKPdf 10 15 20.5 -0.3**
YOTC Yotoco, Valle 132.20 50 P **SKPbc 10 18 10.3 +0.3**
comp=Z,2µmcomp=Z,131nm,1.2s
TROLL Troll, Antarti 132.24 197 ⇓P **PKPdf 10 15 20.1 +0.4**
comp=Z,4µm,0.7s
TROLL ⇑SKPbc **SKPbc 10 18 09.0 +0.6**
comp=Z,5µm,0.8s
BELA Belgrano 2 132.36 182 PKPdf **PKPdf 10 15 19.8 +0.2**
RUSC La Rusia 132.84 45 **PKPdf 10 15 22.5 -0.5**
ROSC El Rosal 132.88 48 PKP **PKPdf 10 15 23.4 +0.5**
comp=Z,9.8nm,0.4s,baz=187,slow=2.1,SNR=4.5
ROSC pPKP **pPKPdf 10 17 00.2 +1.1**
comp=Z,6.6nm,0.4s,baz=70,slow=7.7,SNR=1.8
ROSC SKPbc **SKPbc 10 18 12.0 -0.7**
comp=Z,49nm,0.9s,baz=118,slow=9.5,SNR=6.2
POPC Popayan, Colom 133.03 52 P **SKPbc 10 18 13.0 0.0**
comp=Z,2µmcomp=Z,165nm,1.2s
PAC1 Pacto, Paraso 133.16 56 P **SKPbc 10 18 13.8 +0.4**
comp=Z,3µmcomp=Z,152nm,1.6s
BAUV El Baul 133.24 37 **PKPdf 10 15 22.9 -0.3**
TULM Tulcn-Chalpat 133.57 55 P **SKPbc 10 18 15.8 +0.7**
SNAA Sanae 133.76 196 PKPdf **PKPdf 10 15 22.6 +0.2**
SNAA Sanae 133.76 196 ⇓P **PKPdf 10 15 22.2 -0.2**
comp=Z,819nm,0.9s
SNAA ⇑SKPbc **SKPbc 10 18 13.3 0.0**
comp=Z,2µm,1.0s
SNAA Sanae 133.76 196 PKP **PKPdf 10 15 21.5 -0.9**
comp=Z,47nm,1.0s,baz=129,slow=2.5,SNR=19
SNAA SKPbc **SKPbc 10 18 12.8 -0.5**
comp=Z,104nm,1.1s,baz=114,slow=2.8,SNR=20
VNA2 Neumayer--Watz 135.33 195 ⇓P **PKPdf 10 15 25.6 +0.3**
comp=Z,72nm,0.6s,baz=124,slow=2.6
VNA2 ⇑SKPbc **SKPbc 10 18 18.3 0.0**
comp=Z,82nm,0.9s,baz=131,slow=2.6
VNA3 Neumayer Olymp 135.59 194 ⇓P **PKPdf 10 15 25.1 -0.8**
comp=Z,72nm,0.8s
VNA3 ⇑SKPbc **SKPbc 10 18 18.8 -0.2**
comp=Z,54nm,0.8s
VNA1 Neumayer--Stat 135.73 195 ⇓P **PKiKP 10 15 26.9 -0.8**
comp=Z,99nm,1.1s
VNA1 ⇑SKPbc **SKPbc 10 18 19.3 -0.2**
comp=Z,109nm,1.1s
TBTG Tabatinga, AM 142.53 51 *e*P **PKPdf 10 15 39.9 -0.3**
BOAV Boa Vista 142.62 33 *e*P **PKPdf 10 15 38.7 -1.6**
PMSA Palmer Station 142.83 164 *e*P **PKPdf 10 15 39.0 -0.1**
CZSB Cruzeiro do Su 143.02 59 PKPab 10 15 37.9 +0.1
CZSB Cruzeiro do Su 143.02 59 *e*P PKPbc 10 15 39.0 +0.5
TEFE Tefe 145.38 44 *e*P **PKPbc 10 15 45.7 -0.2**
ESPZ Base Esperanza 145.53 168 **PKPab 10 15 45.8 0.0**
ASCN Ascension 146.21 306 PKPbc **PKPbc 10 15 49.0 +0.7**
H10N2 ASCENSION HYDR 146.23 306 PKPbc **PKPab 10 15 49.0 -0.7**
baz=53,slow=3.3,SNR=11
H10N1 ASCENSION HYDR 146.23 306 PKPbc **PKPab 10 15 49.0 -0.6**
baz=53,slow=3.3,SNR=19
H10N3 ASCENSION HYDR 146.25 306 PKPbc **PKPab 10 15 49.1 -0.6**
baz=53,slow=3.3,SNR=10.0
MACA Manacapuru-AM 147.33 38 PKPbc **PKPbc 10 15 51.4 0.0**
MACA Manacapuru-AM 147.33 38 *e*P **PKPdf 10 15 48.5 +0.1**
MG03 Isla Dawson 148.57 147 **PKiKP 10 15 54.0 -0.5**
MG04 Isla Riesco 148.60 144 PKPbc **PKiKP 10 15 54.9 +0.3**
MG05 Puerto Natales 148.74 142 PKPbc **PKiKP 10 15 54.6 -0.3**
MG01 Puerto William 149.17 150 **PKiKP 10 15 56.1 +0.4**
MAL2 Monte Alegre, 149.27 26 PKPbc **PKPbc 10 15 56.6 +0.3**
MG02 Cerro Sombrero 149.81 146 PKPbc **PKiKP 10 15 57.1 0.0**
ITTB Itaituba 150.77 30 *e*P **PKPdf 10 15 54.0 +0.1**
PB12 IPOC Station P 151.27 73 **PKiKP 10 16 01.2 -0.1**
TMAB Tom-Au,PA,Br 151.39 14 *e*P **PKPdf 10 15 54.6 -0.3**
PB18 Visviri 151.44 70 PKPbc **PKiKP 10 16 03.5 +1.3**
AY01 Puyuhuapi 151.72 128 **PKPdf 10 15 53.8 -0.5**
AY01 **PKiKP 10 16 01.4 +0.1**
AY01 PKPab **PKPab 10 16 11.8 +0.1**
LPAZ La Paz 151.82 66 **PKPdf 10 15 56.2 +0.2**
LPAZ PKPbc **PKiKP 10 16 04.0 +0.8**
LPAZ PKPab **PKPab 10 16 14.1 +0.5**
LPAZ La Paz 151.82 66 PKP **PKPdf 10 15 56.7 +0.6**
comp=Z,7.1nm,0.8s,baz=360,slow=2.3,SNR=34
LPAZ PKPbc **PKiKP 10 16 03.6 +0.5**
comp=Z,31nm,1.0s,baz=330,slow=5.1,SNR=11
LPAZ pPKPbc **pPKPbc 10 17 38.0 -0.7**
comp=Z,34nm,0.8s,baz=345,slow=3.8,SNR=3.9
LPAZ La Paz 151.82 66 PKIKP **PKPdf 10 15 56.3 +0.2**
LPAZ 10 16 14.1
LPAZ La Paz 151.82 66 *e*P **PKPdf 10 15 56.4 +0.3**
LL01 San Ignacio de 152.50 124 **PKPdf 10 15 55.5 0.0**
LL01 PKPbc **PKiKP 10 16 03.2 +0.2**
LL01 PKPab **PKPab 10 16 16.3 +1.2**
PB01 IPOC Station P 153.10 76 **PKPdf 10 15 55.8 -1.4**
PB01 PKPbc **PKiKP 10 16 05.6 +0.5**
PB01 PKPab **PKPab 10 16 19.5 +1.1**
LR05 Currie 153.31 120 PKPdf **PKPdf 10 15 55.6 -1.2**
LR05 **PKiKP 10 16 05.2 +0.4**
LR05 PKPab **PKPab 10 16 19.5 +0.9**
NPGB Novo Progresso 153.31 32 *e*P **PKPdf 10 15 57.4 -0.3**
PLCA Paso Flores 154.27 122 PKPdf **PKPdf 10 15 57.5 -0.8**
PLCA **PKiKP 10 16 07.6 +0.7**
PLCA PKPab **PKPab 10 16 23.3 +0.5**
PLCA Paso Flores 154.27 122 PKP **PKPdf 10 15 59.3 +1.0**
comp=Z,4.4nm,0.9s,baz=235,slow=4.7,SNR=6.2
PLCA PKPbc **PKiKP 10 16 07.5 +0.7**
comp=Z,4.9nm,0.8s,baz=234,slow=5.8,SNR=5.0
PLCA PKPab **PKPab 10 16 23.9 +1.0**
comp=Z,12nm,0.7s,baz=255,slow=5.1,SNR=8.0
PLCA pPKPbc **pPKPbc 10 17 41.7 -1.0**
comp=Z,18nm,1.1s,baz=236,slow=2.4,SNR=5.3
PLCA Paso Flores 154.27 122 PKIKP **PKPdf 10 15 57.5 -0.8**
PLCA 10 16 23.3
PLCA Paso Flores 154.27 122 *e*P **PKPdf 10 15 58.6 +0.3**
PRPB Parauapebas 154.62 20 *e*P **PKPdf 10 15 59.2 -0.3**
RCBR Riachuelo 154.99 347 PKPdf **PKPdf 10 16 00.5 +0.5**

RCBR						PKPab	10 16 26.3	0.0
RCBR	**Riachuelo**	**154.99**	**347**	PKIKP		**PKPdf**	**10 16 00.5**	**+0.5**
RCBR							10 16 26.3	
RCBR	**Riachuelo**	**154.99**	**347**	*eP*		**PKPdf**	**10 15 59.8**	**-0.2**
VA03	**San Esteban**	**155.10**	**103**	PKPdf		**PKPdf**	**10 15 59.6**	**-0.1**
VA03				PKPab		**PKPab**	**10 16 27.4**	**+0.7**
NBPB	**Pedra_Branca-C**	**155.19**	**356**	*eP*		**PKPdf**	**10 16 01.0**	**+0.8**
HOPE	**Hope Point**	**155.89**	**187**	PKPdf		**PKPdf**	**10 15 58.4**	**-1.4**
HOPE						**PKPab**	**10 16 29.9**	**+0.8**
HOPE	**Hope Point**	**155.89**	**187**	PKIKP		**PKPdf**	**10 15 58.4**	**-1.4**
HOPE							10 16 29.9	
CLDB	**Colider**	**156.40**	**38**	*eP*		**PKPdf**	**10 16 01.9**	**+0.1**
PDRB	**Porto dos Gac**	**156.50**	**40**	*eP*		**PKPdf**	**10 16 02.2**	**+0.3**
SIV	**San Ignacio**	**156.97**	**56**	PKP		**PKPdf**	**10 16 03.2**	**+0.7**
	comp=Z,13nm,1.0s,baz=285,slow=0.4,SNR=34							
SIV				PKPab		**PKPab**	**10 16 34.2**	**-0.7**
	comp=Z,37nm,0.9s,baz=302,slow=4.2,SNR=22							
SIV				pPKP		**pPKPdf**	**10 17 38.9**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=310,slow=4.9,SNR=1.3							
CFA	**Coronel Fontan**	**157.00**	**100**	PKP		**PKPdf**	**10 16 03.8**	**+1.7**
	comp=Z,2.3nm,0.9s,baz=51,slow=3.6,SNR=5.7							
CFA				PKPab		**PKPab**	**10 16 34.9**	**+0.1**
	comp=Z,8.0nm,0.9s,baz=283,slow=4.6,SNR=12							
SMTB	**Santa Maria do**	**157.79**	**16**	*eP*		**PKPdf**	**10 16 03.5**	**-0.1**
PTLB	**Pontes e Lacer**	**157.94**	**51**			**PKPdf**	**10 16 03.1**	**-0.5**
PTLB						**PKPab**	**10 16 38.6**	**-0.5**
PTLB	**Pontes e Lacer**	**157.94**	**51**	*eP*		**PKPdf**	**10 16 03.5**	**-0.2**
NBAN	**Anadia - AL**	**158.80**	**346**	*eP*		**PKPdf**	**10 16 04.7**	**-0.1**
SNDB	**Serra Nova Dou**	**159.48**	**29**	*eP*		**PKPdf**	**10 16 05.3**	**-0.2**
SALV	**Santo Antonio**	**160.50**	**45**	*eP*		**PKPdf**	**10 16 06.3**	**-0.3**
SDBA	**SAO DESIDERIO**	**161.78**	**11**	*eP*		**PKPdf**	**10 16 08.1**	**+0.1**
ARAG	**Araguaiana, MT**	**162.52**	**35**	*eP*		**PKPdf**	**10 16 08.1**	**-0.6**
BDQN	**Bodoquena, MS**	**162.97**	**58**	*eP*		**PKPdf**	**10 16 08.7**	**-0.3**
MURT	**Porto Murtinho**	**163.04**	**63**	*eP*		**PKPdf**	**10 16 08.9**	**-0.1**
AQDB	**Aquidauana**	**163.75**	**56**	PKPdf		**PKPdf**	**10 16 09.4**	**-0.3**
AQDB				PKPab		**PKPab**	**10 17 03.7**	**-0.8**
AQDB	**Aquidauana**	**163.75**	**56**	*eP*		**PKPdf**	**10 16 09.7**	**0.0**
BDFB	**Brasilia**	**164.09**	**24**	PKP		**PKPdf**	**10 16 10.9**	**+0.6**
	comp=Z,17nm,0.9s,baz=213,slow=2.1,SNR=19							
BDFB				PKPab		**PKPab**	**10 17 06.5**	**+0.5**
	comp=Z,21nm,0.8s,baz=4.8,slow=5.3,SNR=10							
C2SB	**Chapadao do Su**	**164.44**	**44**	*eP*		**PKPdf**	**10 16 10.3**	**0.0**
JANB	**Januaria**	**164.48**	**11**	*eP*		**PKPdf**	**10 16 10.5**	**0.0**
CMC01	**Camacan, BA**	**164.91**	**353**	*eP*		**PKPdf**	**10 16 11.3**	**+0.5**
RPRD	**Ribas do Rio P**	**165.14**	**51**	*eP*		**PKPdf**	**10 16 11.6**	**+0.6**
CPUP	**Villa Florida**	**165.41**	**78**			**PKPdf**	**10 16 11.3**	**+0.3**
CPUP						**PKPab**	**10 17 11.9**	**+0.2**
CPUP	**Villa Florida**	**165.41**	**78**	PKP		**PKPdf**	**10 16 11.7**	**+0.7**
	comp=Z,18nm,1.0s,baz=325,slow=1.2,SNR=19							
CPUP				PKPab		**PKPab**	**10 17 11.9**	**+0.2**
	comp=Z,15nm,1.0s,baz=306,slow=3.6,SNR=8.4							
CPUP	**Villa Florida**	**165.41**	**78**	PKIKP		**PKPdf**	**10 16 11.3**	**+0.3**
CPUP							10 17 11.9	
CPUP	**Villa Florida**	**165.41**	**78**	*eP*		**PKPdf**	**10 16 11.1**	**+0.2**
AMBA	**Amambai (Brazi**	**165.76**	**62**	*eP*		**PKPdf**	**10 16 11.6**	**+0.1**
SJPY	**San Joaquin**	**165.91**	**71**	*eP*		**PKPdf**	**10 16 11.3**	**-0.1**
GUA01	**Guaratinga, BA**	**166.15**	**354**	*eP*		**PKPdf**	**10 16 11.8**	**-0.1**
IPMB	**Ipameri, GO**	**166.16**	**28**	*eP*		**PKPdf**	**10 16 12.4**	**+0.5**
ITRB	**Iturama**	**166.61**	**39**	*eP*		**PKPdf**	**10 16 13.4**	**+1.2**
ITQB	**Itaqui**	**166.80**	**91**	*eP*		**PKPdf**	**10 16 11.9**	**0.0**
PMNB	**Patos De Minas**	**167.32**	**22**	*eP*		**PKPdf**	**10 16 12.6**	**-0.2**
TBOT	**Tacuaremb**	**167.48**	**99**	*eP*		**PKPdf**	**10 16 13.0**	**+0.6**
DIAM	**Diamantina, MG**	**167.75**	**10**	*eP*		**PKPdf**	**10 16 13.2**	**0.0**
SJMB	**Sao Joao De Ma**	**168.33**	**359**	*eP*		**PKPdf**	**10 16 14.0**	**+0.6**
BB19B	**Bebedouro**	**168.69**	**36**	*eP**		**PKPdf**	**10 16 13.8**	**+0.2**
LDASE	**Londrina, Braz**	**168.87**	**53**	*eP*		**PKPdf**	**10 16 13.4**	**-0.3**
RIB01	**Linhares ES**	**168.90**	**355**	*eP*		**PKPdf**	**10 16 13.4**	**-0.3**
PTGB	**Pitanga**	**168.98**	**62**	*eP*		**PKPdf**	**10 16 14.2**	**+0.4**
PLTB	**Pedras Altas**	**169.46**	**100**	*eP*		**PKPdf**	**10 16 14.8**	**+1.0**
CPSB	**Cacapava Do Su**	**169.62**	**93**	*eP*		**PKPdf**	**10 16 14.2**	**+0.3**
FRTB	**Fartura**	**169.87**	**48**	*eP*		**PKPdf**	**10 16 14.4**	**+0.1**
ITAB	**Concordia**	**170.08**	**74**	*eP*		**PKPdf**	**10 16 13.5**	**-0.7**
VAO	**Valinhos**	**171.10**	**35**	PKPdf		**PKPdf**	**10 16 16.2**	**+1.2**
VAO				PKPab		**PKPab**	**10 17 35.8**	**-1.1**
VAO	**Valinhos**	**171.10**	**35**	*eP*		**PKPdf**	**10 16 15.1**	**+0.1**
CAM01	**Campos-RJ**	**171.44**	**2**	*eP*		**PKPdf**	**10 16 15.4**	**+0.4**
DUB01	**Friburgo-RJ**	**171.65**	**6**	*eP*		**PKPdf**	**10 16 15.4**	**+0.2**
VAS01	**Vassouras-RJ**	**171.69**	**13**	*eP*		**PKPdf**	**10 16 15.4**	**+0.2**
MAN01	**Angra dos Reis**	**172.14**	**17**	*eP*		**PKPdf**	**10 16 15.4**	**0.0**
MAJ01	**Sao Joao Batis**	**172.69**	**68**	*eP*		**PKPdf**	**10 16 15.8**	**+0.3**
TER01	**Tubaro-SC**	**173.02**	**76**	*eP*		**PKPdf**	**10 16 16.1**	**+0.5**

*ASRS **05** 09:57:09.0±1.4, 54°.26N×87°.04E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 09:57:02.2±3.7, 54°.39N×87°.53E, h0km, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=30.0km s-min=19.4km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**256**	I	I	10 06 00.0	
	baz=76,slow=322,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.66**	**256**	Pg	Pn	09 57 32.5	0.0
	1.3nm,0.3s,baz=74,slow=18,SNR=18						
ZALV				Lg	Lg	09 57 54.2	
	1.4nm,0.3s,baz=70,slow=28,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.66**	**239**	Pn	Pn	09 58 41.3	+0.1
	0.1nm,0.3s,baz=54,slow=13,SNR=1.8						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.30**	**206**	Pn	Pn	09 59 04.5	+0.7
	baz=25,slow=13,SNR=2.3						
MKAR				Sn	Sn	10 00 38.8	+0.7
	0.1nm,0.3s,baz=25,slow=27,SNR=1.6						
	0.2nm,0.3s						

RSNC 05 10:01:17.9±0.0, 9°N±3°×7°4W±°, h56km±7km, M1.1, ML0.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCC	**Aguachica**	**0.55**	**95**	P	Pn	10 01 29.2	-1.0
AGCC				S	Sn	10 01 39.0	-0.1
OCAC	**Ocana**	**0.87**	**111**	P	Pn	10 01 32.2	-2.1
OCAC				S	Sn	10 01 46.3	0.0
ZARC	**Zaragoza, Cauc**	**1.28**	**214**	P	Pn	10 01 39.4	-0.1
ZARC				S	Sn	10 01 55.2	-0.5
PTBC	**PUERTO BERRIO,**	**2.03**	**189**	S	Sn	10 02 13.0	-1.1

*NEIC **05** 10:24:40.3±1.1, 19°.493N±0°.004×155°.667W±0°.009, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.4km az=31.0*

HVO 05 10:24:40.2±1.4, 19°.491N±0°.004×155°.666W±0°.008, h3km±6km, ML2.5/32, ML2.4/42(NEIC), Error ellipse: s-maj=1.1km s-min=0.4km az=107.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.07**	**96**	Pg	Pg	10 24 42.5	+0.7
MWH				Sg	Sg	10 24 44.1	+1.2
MLOA	**Mauna Loa Obse**	**0.10**	**62**		Pg	10 24 43.0	+0.8
MLOA					Sg	10 24 45.2	+1.6
MLOA	**Mauna Loa Obse**	**0.10**	**62**	IAML		10 24 45.2	
	comp=N,38nm,0.3s						
MLOA				IAML		10 24 45.2	
	comp=E,44nm,0.4s						
HMH	**Humu'ula Sheep**	**0.20**	**57**		Pg	10 24 44.9	+0.7
HMH					Sg	10 24 48.4	+1.5
HMH				IAML		10 24 49.4	
	comp=E,598nm,0.2s						
CPH	**Captain Cook**	**0.24**	**269**		Pg	10 24 45.1	+0.3
KHU	**Kahuku**	**0.25**	**169**		Pg	10 24 45.3	+0.3
KHU					Sg	10 24 49.3	+1.1
HUH	**Hualalai**	**0.25**	**320**		Pg	10 24 46.0	+1.0
MLH	**Mauna Loa**	**0.26**	**89**		Pg	10 24 45.7	+0.4
MLH					Sg	10 24 49.8	+1.0
MLH				IAML		10 24 50.0	
	comp=E,611nm,0.5s						
POHA	**Pohakuloa**	**0.29**	**25**		Pg	10 24 46.2	+0.4
POHA	**Pohakuloa**	**0.29**	**25**	IAML		10 24 54.9	
	comp=E,279nm,0.6s						
POHA				IAML		10 24 55.8	
	comp=E,283nm,0.3s						
WRMHI	**West Rim**	**0.35**	**104**		Pg	10 24 47.1	0.0
WRMHI					Sg	10 24 52.4	+0.7
HTC	**Hot Caves**	**0.36**	**135**		Pg	10 24 47.0	0.0
UWE	**Uwekahuna**	**0.36**	**101**		Pg	10 24 47.2	+0.1
UWE					Sg	10 24 53.0	+1.2
SDHHI	**Sand Hill**	**0.36**	**106**		Pg	10 24 47.2	0.0
SDHHI					Sg	10 24 53.4	+1.4
OBL	**Observatory Le**	**0.37**	**101**		Pg	10 24 47.5	+0.2
OBL					Sg	10 24 53.2	+1.1
UWB	**Uwekahuna Bluf**	**0.37**	**100**		Pg	10 24 47.3	0.0
UWB					Sg	10 24 53.0	+0.8
SBLHI	**Steaming Bluff**	**0.38**	**100**		Pg	10 24 47.5	0.0
SBLHI					Sg	10 24 53.1	+0.6
RIM	**Rim**	**0.38**	**104**		Pg	10 24 47.5	-0.1
KKO	**Keanakako'i**	**0.39**	**104**		Pg	10 24 47.6	-0.1
KKO					Sg	10 24 54.2	+1.4
HLP	**Hilina Pali**	**0.39**	**120**		Pg	10 24 47.5	-0.2
HLP					Sg	10 24 53.5	+0.7
HLP				IAML		10 24 54.9	
	comp=N,514nm,0.5s						
HLP				IAML		10 24 57.5	
	comp=E,450nm,0.8s						
BYL	**Byron's Ledge**	**0.39**	**102**		Pg	10 24 47.6	-0.1
BYL					Sg	10 24 53.3	+0.5
BYL				IAML		10 24 59.5	
	comp=E,468nm,0.7s						
BYL				IAML		10 25 00.3	
	comp=N,304nm,0.7s						
HPO	**Honuapo**	**0.41**	**165**	Pg	Pg	10 24 47.7	-0.4
PUH	**Pauahi**	**0.44**	**105**		Pg	10 24 48.3	-0.4
PUH					Sg	10 24 54.4	0.0
PUH				IAML		10 24 55.2	
	comp=E,252nm,0.7s						
PUH				IAML		10 24 55.8	
	comp=N,286nm,1.9s						
KNHH	**Kane Nui o Ham**	**0.48**	**103**		Pg	10 24 49.0	-0.4
STCH	**Steam Cracks**	**0.52**	**102**		Pg	10 24 49.7	-0.4
STCH				IAML		10 24 58.6	
	comp=E,157nm,0.1s						
STCH				IAML		10 25 02.2	
	comp=N,169nm,0.5s						
NPOC	**North of Pu'u**	**0.53**	**100**		Pg	10 24 49.9	-0.6
NPOC					Sg	10 24 57.4	+0.1
HPAH	**Hawaii Prepara**	**0.54**	**357**		Pg	10 24 50.0	-0.5
HPAH					Sg	10 24 57.5	0.0
HPAH				IAML		10 24 57.9	
	comp=N,221nm,0.2s						
HPAH				IAML		10 25 08.6	
	comp=E,301nm,0.6s						
JCUZ	**Jacuzzi**	**0.54**	**101**		Pg	10 24 50.4	-0.2
JCUZ					Sg	10 24 57.6	-0.1
JOKA	**Jonika Flow**	**0.63**	**95**		Pg	10 24 51.2	-1.0
JOKA				IAML		10 24 59.2	
	comp=N,268nm,3.8s						
JOKA				IAML		10 25 03.0	
	comp=E,121nm,2.0s						
MHA	**Mahukona**	**0.73**	**342**	Pg	Pg	10 24 53.3	-0.9

*NEIC **05** 10:28:04.5±2.2, 12°.72S±0°.07×45°.44E±0°.09, h10km±1km, mb5.1/44, Error ellipse: s-maj=14.6km s-min=12.4km az=83.0*
*IDC **05** 10:28:05.7±0.5, 12°.80S×45°.21E, h0km, mb4.4/25, mbtmp4.4/28, ML4.6/3, MS4.2/17, Error ellipse: s-maj=16.6km s-min=12.7km az=103.0*
*BJI **05** 10:28:05.0, 12°.70S×45°.50E, h10km, mB5.1/3, mb4.6/17, Ms4.9/4, Ms7 4.7/4*

ISC 05 10:28:05.9±0.3, 12°.91S±0°.04×45°.46E±0°.06, h10km, n233, σ2°55/213, mb4.8/60, MS4.2/17, 6C-2D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.87**	**164**	Pn	Pn	**10 29 34.8**	**+1.6**
	69nm,0.3s,baz=332,slow=13,SNR=3497						
OPO				Sn	Sn	**10 30 36.2**	**-4.4**
	24nm,0.3s,baz=97,slow=23,SNR=7.8						
OPO				LR	LR	10 32 10.8	
	comp=Z,1μm,18.2s,baz=192,slow=41						
OPO	**Ambohidratompo**	**5.87**	**164**	P	Pn	**10 29 34.9**	**+1.8**
OPO				S	Sn	**10 30 34.2**	**-6.4**
FIRM	**Firavahana**	**5.92**	**167**	P	Pn	**10 29 35.6**	**+1.8**
FIRM				S	Sn	**10 30 38.4**	**-3.5**
ATG	**Ambohiby**	**5.98**	**173**	P	Pn	**10 29 35.7**	**+1.0**
ATG				S	Sn	**10 30 40.7**	**-2.5**
ABPO	**Ambohimpanom**	**6.31**	**165**	Pn	Pn	**10 29 40.3**	**+1.1**
MDSM	**Mandiavato**	**6.32**	**166**	P	Pn	**10 29 41.1**	**+1.7**
MDSM				S	Sn	**10 30 47.7**	**-4.1**
AVY	**Angavokely**	**6.37**	**160**	P	Pn	**10 29 41.2**	**+1.1**
AVY				S	Sn	**10 30 47.2**	**-5.9**
DGRM	**Ambatolahisoa**	**6.38**	**172**	P	Pn	**10 29 41.5**	**+1.3**
DGRM				S	Sn	**10 30 50.6**	**-2.6**
ABM	**Ambohimiarambe**	**7.07**	**165**	P	Pn	**10 29 51.2**	**+1.5**
VOI	**Vohitsoka**	**9.04**	**172**	Pn	Pn	**10 30 17.3**	**+0.7**
FOMA	**Nahampoana Res**	**12.09**	**173**	Pn	Pn	**10 30 58.7**	**+0.4**
RER	**Riviere de l'E**	**12.80**	**131**		Pn	**10 31 07.6**	**-0.6**
KIBK	**Kibwezi**	**12.81**	**324**	Pn	Pn	**10 31 05.0**	**-3.3**
KIBK	**Kibwezi**	**12.81**	**324**	P	Pn	**10 31 09.7**	**+1.4**
	SNR=7.4						
MSEY	**Mahe Island**	**12.84**	**51**		Pn	10 31 05.4	-3.3
KMBO	**Kilima Mbogo**	**14.25**	**325**	Pn	Pn	10 31 22.8	-5.4
KMBO	**Kilima Mbogo**	**14.25**	**325**	Pn	Pn	10 31 24.6	-3.5
	1.4nm,0.3s,baz=146,slow=12,SNR=7.2						
KMBO				Sn	Sn	10 33 53.7	-13
	1.1nm,0.3s,baz=90,slow=13,SNR=1.8						
KMBO				LR	LR	10 36 05.6	
	comp=Z,485nm,20.5s,baz=88,slow=34						
	2.8nm,0.3s						
KMBO	**Kilima Mbogo**	**14.25**	**325**	P	Pn	**10 31 30.2**	**+2.0**
LSZ	**Lusaka**	**16.91**	**260**		Pn	**10 32 01.7**	**-1.3**
LSZ				IAmb	IAmb	10 32 08.1	
	comp=Z,179nm,0.8s						
LSZ	**Lusaka**	**16.91**	**260**	Pn	Pn	**10 32 02.0**	**-1.0**
	comp=Z,3.0nm,0.3s,baz=88,slow=11,SNR=40						
LSZ				Sn	Sn	10 34 55.7	-16
	comp=Z,0.6nm,0.3s,baz=76,slow=8.3,SNR=1.9						
	comp=Z,71nm,0.7s						
LSZ	**Lusaka**	**16.91**	**260**	P	Pn	10 31 51.1	-12
LSZ	**Lusaka**	**16.91**	**260**	*i* P	Pn	**10 32 03.3**	**+0.2**
MOPA	**Mopani**	**17.00**	**230**	*i* P	Pn	**10 32 04.8**	**+0.8**
MUSN	**Musina, Limpop**	**17.54**	**236**	*i* P	P	**10 32 12.0**	**+0.2**
BLWY	**Bulawayo**	**17.67**	**244**	*i* P	P	**10 32 16.4**	**+3.0**
MATP	**Matopo**	**17.87**	**243**	P	P	**10 32 15.7**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=65,slow=13,SNR=79						
MATP				S	Sn	10 35 22.4	-12
	comp=Z,4.8nm,0.8s,baz=152,slow=15,SNR=2.3						
MATP				LR	LR	10 39 09.2	
	comp=Z,328nm,19.1s,baz=58,slow=38						
	comp=Z,27nm,0.8s						
MBAR	**Mbarara**	**19.04**	**309**	P	P	**10 32 27.3**	**-1.1**
LODK	**Lodwar**	**19.07**	**328**	P	P	**10 32 24.7**	**-4.1**
LODK	**Lodwar**	**19.07**	**328**	P	Pn	**10 32 31.2**	**+1.7**
	SNR=9.1						
MREMI	**Moremi**	**19.64**	**238**	*i* P	Pn	**10 32 36.8**	**+0.5**
KSANE	**Kasane**	**20.16**	**254**	*i* P	P	**10 32 41.5**	**+0.8**
KHWEE	**KHWEE**	**21.08**	**242**	*i* P	P	**10 32 51.1**	**+0.4**
LPHEP	**Lephephe**	**21.30**	**238**	*i* P	P	**10 32 54.5**	**+1.5**
PHDHD	**Phuduhudu**	**21.31**	**247**	*i* P	P	**10 32 55.2**	**+2.0**
LBTB	**Lobatse**	**22.27**	**234**	P	P	**10 33 02.5**	**-1.0**
LBTB				IAmb	IAmb	10 33 08.0	
	comp=Z,89nm,1.1s						
LBTB	**Lobatse**	**22.27**	**234**	P	P	**10 33 03.6**	**+0.2**
	comp=Z,45nm,0.9s,baz=53,slow=9.3,SNR=21						
LBTB				S	S	**10 36 59.9**	**-8.9**
	comp=Z,2.7nm,0.8s,baz=75,slow=20,SNR=1.2						
LBTB				LR	LR	10 42 07.4	
	comp=Z,629nm,18.4s,baz=62,slow=38						
	comp=Z,45nm,0.9s						
LBTB	**Lobatse**	**22.27**	**234**	*i* P	P	**10 33 04.7**	**+1.2**
KDWAN	**Kaudwane**	**22.31**	**239**	*i* P	P	**10 33 05.2**	**+1.3**
MAKGR	**Makgori**	**23.29**	**234**	*i* P	P	**10 33 14.6**	**+0.4**
SKOMA	**Sekoma**	**23.39**	**237**	*i* P	P	**10 33 15.4**	**+0.3**
KGCAE	**Kacgae**	**24.20**	**243**	*i* P	P	**10 33 24.4**	**+1.4**
QNGWA	**Qangwa**	**24.21**	**251**	*i* P	P	**10 33 24.7**	**+1.6**
ATD	**Arta Tunnel**	**24.42**	**354**	P	P	**10 33 21.5**	**-3.4**
ATD				IAmb	IAmb	10 33 45.1	
	comp=Z,38nm,1.2s						
ATD	**Arta Tunnel**	**24.42**	**354**	LR	LR	10 41 22.3	
	comp=Z,14nm,21.9s,baz=86,slow=33						
BOSA	**Boshof**	**24.45**	**227**	P	P	**10 33 24.9**	**-0.4**
BOSA				IAmb	IAmb	10 33 37.4	
	comp=Z,27nm,0.9s						
BOSA	**Boshof**	**24.45**	**227**	P	P	**10 33 25.9**	**+0.7**
	comp=Z,11nm,0.5s,baz=48,slow=9.7,SNR=34						
	comp=Z,11nm,0.5s						
BOSA	**Boshof**	**24.45**	**227**	*i* P	P	**10 33 25.9**	**+0.7**
GRTLG	**Ghanzi**	**24.62**	**247**	*i* P	P	**10 33 28.2**	**+1.4**
PHPEN	**Phepeng**	**24.68**	**236**	*i* P	P	**10 33 28.1**	**+0.8**
GRHM	**Grahamstown, E**	**26.73**	**218**	P	P	**10 33 45.5**	**-0.2**
DOK	**Doka**	**32.47**	**15**	P	P	**10 34 39.0**	**+2.3**
	SNR=6.5						
MHTO	**MHTO**	**35.86**	**20**	P	P	**10 35 08.5**	**+2.4**
RAYN	**Ar Rayn**	**36.21**	**0**	P	P	**10 35 06.7**	**-2.4**
MZR	**Muzera**	**36.55**	**12**	P	P	**10 35 14.1**	**+2.1**
MZR				P	P	**10 35 14.1**	**+2.1**
BSY	**Bisya**	**37.26**	**18**	P	P	**10 35 21.0**	**+3.0**
	SNR=11						
BSY				P	P	**10 35 21.0**	**+3.0**
	SNR=11						
SLWR	**Sila**	**37.26**	**9**	P	P	**10 35 20.7**	**+2.8**
MZWR	**Madinat Zayed**	**37.37**	**13**	P	P	**10 35 21.3**	**+2.4**
JLN	**Jalan Bani Buh**	**37.44**	**22**	P	P	**10 35 20.7**	**+1.2**
ARQ	**Araqi**	**37.62**	**17**	P	P	**10 35 23.2**	**+2.2**
WBK	**Wadi Bani Khal**	**37.70**	**21**	P	P	**10 35 24.2**	**+2.4**
SMRA	**Abu-Samra**	**37.79**	**8**	P	P	**10 35 25.7**	**+3.3**
SMDO	**Samad**	**37.81**	**19**	P	P	**10 35 25.0**	**+2.1**
	SNR=8.9						
SMDO				P	P	**10 35 25.0**	**+2.1**
	SNR=8.8						
HOQ	**Hoqain**	**38.08**	**18**	P	P	**10 35 28.0**	**+3.0**
	SNR=6.4						
ALNE	**Al Ain**	**38.09**	**15**	P	P	**10 35 27.6**	**+2.5**
WSAR	**Wadi Sarin**	**38.17**	**20**	P	P	**10 35 27.4**	**+1.7**
	comp=Z,0.1nm,1.0s,baz=197,slow=19,SNR=8.0						
WSAR	**Wadi Sarin**	**38.17**	**20**	P	P	**10 35 27.7**	**+2.0**
	SNR=7.2						
BIDO	**Bidbid**	**38.27**	**19**	P	P	**10 35 29.4**	**+2.8**
SOHO	**SOHO**	**38.38**	**16**	P	P	**10 35 29.8**	**+2.4**
SOHO				P	P	**10 35 29.8**	**+2.4**
AJN	**Ajban**	**38.39**	**14**	P	P	**10 35 30.6**	**+3.1**
AJN				P	P	**10 35 30.6**	**+3.1**
FAQ	**Al Faqa, Dubai**	**38.71**	**15**	P	P	**10 35 32.6**	**+2.3**
ASHO	**Ashiyiah**	**38.77**	**16**	P	P	**10 35 33.4**	**+2.6**
NAZ	**Nazwa, Dubai**	**38.96**	**15**	P	P	**10 35 34.8**	**+2.5**
NAZ				P	P	**10 35 34.8**	**+2.5**
UOSS	**Minazif**	**39.06**	**16**	P	P	**10 35 30.5**	**-2.6**
UOSS	**Minazif**	**39.06**	**16**	P	P	**10 35 35.5**	**+2.3**
UOSS				P	P	**10 35 35.5**	**+2.3**
MDH	**Madha**	**39.42**	**16**	P	P	**10 35 38.6**	**+2.5**
MASF	**Masafi**	**39.45**	**15**	P	P	**10 35 39.3**	**+2.8**
	SNR=10						
MASF				P	P	**10 35 39.3**	**+2.8**
BANOM	**Banah**	**40.02**	**15**	P	P	**10 35 44.1**	**+2.9**
SHME	**Shamm**	**40.10**	**15**	P	P	**10 35 44.3**	**+2.5**
SHME				P	P	**10 35 44.3**	**+2.5**
PALK	**Pallekele**	**40.35**	**62**	P	P	**10 35 43.4**	**-0.8**
HYB	**Hyderabad**	**44.45**	**48**	*eP*	P	10 36 14.5	-3.0
ACRG	**Accra**	**48.97**	**289**	P	P	10 36 48.9	-4.1
TORD	**Torodi Ar. Bea**	**50.52**	**299**	P	P	**10 37 02.1**	**-2.6**
KBL	**Kabul**	**52.24**	**25**	P	P	**10 37 18.9**	**+1.3**
GNI	**Garni**	**52.79**	**359**	LR	LR	11 00 46.3	
	comp=Z,192nm,19.6s,baz=153,slow=37						
BRTR	**Keskin Array B**	**53.51**	**349**	P	P	10 37 21.7	-5.1
BRTR	**Keskin Array B**	**53.51**	**349**	P	P	**10 37 27.9**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=184,slow=9.8,SNR=9.8						
	comp=Z,0.7nm,0.6s						
BR131	**Keskin Array S**	**53.51**	**349**	P	P	10 37 22.1	-4.6
BR131				IAmb	IAmb	10 37 59.9	
	comp=Z,26nm,1.8s						
BR131	**Keskin Array S**	**53.51**	**349**	P	P	**10 37 28.1**	**+1.3**
MANT	**Manisa**	**53.52**	**344**	P	P	10 37 22.2	-4.7
ANTO	**Ankara**	**53.81**	**348**	P	P	**10 37 29.9**	**+1.0**
LHMI	**Lhok Sumawe**	**54.23**	**74**	P	P	10 37 29.1	-3.2
LHMI	**Lhok Sumawe**	**54.23**	**74**	P	P	10 37 37.7	+5.3
BORA	**Eskisehir**	**54.34**	**346**	P	P	10 37 28.9	-3.9
BORA				IAmb	IAmb	10 37 43.4	
	comp=Z,29nm,1.7s						
PSI	**Prapat**	**55.32**	**77**	LR	LR	10 58 37.2	
	comp=Z,358nm,18.6s,baz=289,slow=33						
**

comp=Z,3.6nm,0.7s,baz=213,slow=5.5,SNR=15
comp=Z,3.6nm,0.7s
WMQ Urumqi 68.33 32 *eP* **P 10 39 07.1 -0.3**
BVAR Borovoye Array 69.07 16 P **P 10 39 12.9 +1.1**
comp=Z,2.1nm,0.8s,baz=232,slow=5.2,SNR=12
comp=Z,2.1nm,0.8s
BRVK Borovoye 69.08 16 P **P 10 39 09.1 -2.7**
BRVK IAmb IAmb 10 39 19.2
comp=Z,7.5nm,0.9s
BRVK Borovoye 69.08 16 P **P 10 39 12.4 +0.6**
KURBB Kurchatov Arra 69.56 22 P **P 10 39 16.0 +1.2**
comp=Z,0.7nm,0.3s,baz=222,slow=6.9,SNR=8.7
comp=Z,0.7nm,0.3s
ESDC Sonseca Array 69.61 321 P **P 10 39 14.4 -1.1**
comp=Z,3.7nm,1.0s,baz=132,slow=6.3,SNR=10
comp=Z,3.7nm,1.0s
KURK Kurchatov 69.66 22 P **P 10 39 12.8 -2.7**
KURK IAmb IAmb 10 39 22.9
comp=Z,13nm,1.6s
KURK Kurchatov 69.66 22 P **P 10 39 16.0 +0.5**
ARTI Arti 69.88 8 P **P 10 39 14.3 -2.4**
ARTI IAmb IAmb 10 39 24.5
comp=Z,15nm,0.8s
QIZ Qiongzhong 70.92 65 P P 10 39 17.2 -6.7
QIZ S **S 10 48 37.3 -2.7**
QIZ LR LR
comp=N,210nm,16.3s
QIZ LR LR
comp=E,210nm,13.9s
QIZ LR LR
comp=Z,240nm,15.9s
MBWA Marble Bar 70.95 108 P P 10 39 14.7 -9.4
PSAB3 Pilbara Seismi 71.02 109 P **P 10 39 24.6 0.0**
comp=Z,21nm,1.0s
KIRV Kirov 71.31 2 LR LR 11 13 30.1
comp=Z,109nm,18.7s,baz=154,slow=38
GTA Gaotai 72.55 41 *eP* P 10 39 40.8 +7.3
GTA sP PcP 10 39 47.6 -3.5
GTA pmax pmax
comp=Z,5.0nm,1.6s
LZH Lanzhou 73.51 46 *eP* P 10 39 29.3 -10
LZH pP pP 10 39 32.5 -9.5
LZH pmax pmax
comp=Z,16nm,1.3s
KAPI Kappang 73.61 91 P P 10 39 32.2 -7.9
ZAA0 Zalesovo Array 74.54 23 P **P 10 39 42.3 -2.3**
ZALV Zalesovo Beam 74.54 23 P **P 10 39 42.3 -2.3**
ZALV Zalesovo Beam 74.54 23 P **P 10 39 45.6 +0.9**
comp=Z,2.5nm,0.8s,baz=240,slow=5.0,SNR=11
comp=Z,2.5nm,0.8s
EDFI Ende, Flores 74.76 96 P **P 10 39 49.5 +2.5**
comp=Z,12nm,0.8s
MPSI Mapaga 74.92 86 P **P 10 39 49.7 +2.0**
comp=Z,13nm,1.0s
BELA Belgrano 2 75.38 192 P **P 10 39 49.4 +0.1**
FINES FINESS Array B 75.68 351 P **P 10 39 48.3 -2.8**
FINES FINESS Array B 75.68 351 P **P 10 39 51.0 0.0**
comp=Z,1.8nm,0.7s,baz=149,slow=4.0,SNR=12
comp=Z,1.8nm,0.7s
FITZ Fitzroy Crossi 76.90 106 P **P 10 39 56.4 -2.6**
HFS Hagfors 77.13 344 P **P 10 40 00.2 +0.9**
comp=Z,2.8nm,0.8s,baz=125,slow=7.8,SNR=7.3
comp=Z,2.8nm,0.8s
QSPA South Pole Qui 77.19 180 P **P 10 39 59.4 -0.5**
QSPA IAmb IAmb 10 40 04.5
comp=Z,30nm,1.2s
QSPA South Pole Qui 77.19 180 P **P 10 40 02.0 +2.1**
comp=Z,12nm,1.0s,baz=249,slow=3.2,SNR=15
QSPA LR LR 11 10 48.1
comp=Z,206nm,20.4s,baz=338,slow=33
comp=Z,12nm,1.0s
NB2 NORSAR Subarra 78.56 344 P **P 10 40 09.0 +1.7**
comp=Z,4.2nm,1.0s,baz=121,slow=6.2
NOA NORSAR Array B 78.56 344 P **P 10 40 08.7 +1.4**
comp=Z,1.4nm,0.9s,baz=134,slow=5.5,SNR=4.4
comp=Z,1.4nm,0.9s
EKA Eskdalemuir Ar 79.27 334 P **P 10 40 12.4 +1.1**
comp=Z,2.0nm,0.8s,baz=135,slow=5.5,SNR=4.2
comp=Z,2.0nm,0.8s
SONM Songino Array 81.08 37 P **P 10 40 24.7 +3.2**
comp=Z,2.5nm,1.0s,baz=236,slow=5.3,SNR=6.7
comp=Z,2.5nm,1.0s
HHC Hu-ho-hao-te 81.09 45 *eP* **P 10 40 18.7 -2.9**
HHC pmax pmax
comp=Z,33nm,0.7s
HHC pmax pmax
comp=Z,120nm,5.3s
HNS HongShan 81.90 49 ⇑P P 10 40 30.7 +4.9
HNS pmax pmax
comp=Z,13nm,1.1s
VNDA Vanda 82.97 169 P **P 10 40 33.4 +2.7**
comp=Z,2.2nm,1.1s,baz=295,slow=6.4,SNR=2.4
VNDA LR LR 11 14 53.5
comp=Z,225nm,19.2s,baz=234,slow=34
comp=Z,2.2nm,1.1s
NJ2 Nanjing 83.14 55 *eP* **P 10 40 31.0 -1.4**
NJ2 pmax pmax
comp=Z,18nm,0.6s
TIA Tai'an 83.25 51 P **P 10 40 36.5 +3.5**
TIA pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 83.42 353 P **P 10 40 34.4 +1.3**
comp=Z,1.6nm,0.8s,baz=170,slow=5.5,SNR=6.5
comp=Z,1.6nm,0.8s
ASAR Alice Springs 83.52 113 P **P 10 40 36.8 +2.1**
comp=Z,3.8nm,0.5s,baz=260,slow=4.7,SNR=92
ASAR LR LR 11 13 26.1
comp=Z,166nm,18.3s,baz=272,slow=32
comp=Z,3.8nm,0.5s
AS31 Alice Springs 83.52 113 P **P 10 40 32.8 -2.0**
WRA Warramunga Arr 84.65 109 P **P 10 40 37.9 -2.7**
WRA Warramunga Arr 84.65 109 P **P 10 40 42.5 +1.9**
comp=Z,6.3nm,0.9s,baz=263,slow=3.7,SNR=20
comp=Z,6.3nm,0.9s
WB2 Warramunga Arr 84.67 109 P **P 10 40 38.2 -2.4**
WRAB Tennant Creek 84.67 109 P **P 10 40 38.4 -2.2**
WB0 Warramunga Arr 84.74 109 P **P 10 40 38.2 -2.7**
WB0 IAmb IAmb 10 40 52.3
comp=Z,18nm,0.9s
WR0 Warramunga Arr 84.84 109 P **P 10 40 38.7 -2.7**
WR0 IAmb IAmb 10 40 53.1
comp=Z,17nm,1.2s
XLT XiLinHaoTe 85.39 43 *eP* P 10 40 51.6 +7.9
XLT sP sP 10 40 58.5 +11
XLT pmax pmax
comp=Z,9.0nm,0.9s
FAKI Fak Fak 86.23 92 P **P 10 40 45.5 -2.9**
PMSA Palmer Station 86.50 204 P **P 10 40 47.8 -0.9**
NRIK Noril'sk 87.18 14 LR LR 11 23 31.4
comp=Z,81nm,18.2s,baz=249,slow=38
STKA Stephens Creek 88.40 122 P **P 10 41 02.7 +4.1**
comp=Z,5.1nm,0.8s,baz=256,slow=4.2,SNR=4.5
STKA LR LR 11 14 57.3
comp=Z,109nm,20.0s,baz=217,slow=32
comp=Z,5.1nm,0.8s
BDFB Brasília 89.85 254 P **P 10 41 07.8 +1.9**
comp=Z,2.2nm,0.6s,baz=151,slow=10,SNR=3.4
comp=Z,2.2nm,0.6s
CN2 Changchun 91.74 46 *eP* **P 10 41 12.5 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KSRS Korea Array 91.87 52 P **P 10 41 16.8 +2.1**
comp=Z,1.5nm,0.8s,baz=249,slow=6.4,SNR=5.2
comp=Z,1.5nm,0.8s
ILAR Eielson Array 127.50 7 PKP **PKPdf 10 47 10.8 +0.1**
comp=Z,1.0nm,1.0s,baz=320,slow=3.6,SNR=7.1
YKA Yellowknife Ar 128.48 348 PKP **PKPdf 10 47 12.7 0.0**
comp=Z,1.1nm,0.9s,baz=31,slow=2.0,SNR=10.0
ULM Lac du Bonnet 131.22 328 PKP **PKPdf 10 47 18.6 +0.4**
comp=Z,1.9nm,0.7s,baz=298,slow=2.2,SNR=3.9
PLAL Pickwick Lake 132.70 306 PKPdf **PKPdf 10 47 16.4 -5.1**
PDAR Pinedale Array 143.23 329 PKP **PKPdf 10 47 41.0 0.0**
comp=Z,2.0nm,0.9s,baz=26,slow=5.7,SNR=13
ALPN Alpine 146.59 306 PKPbc **PKPdf 10 47 46.2 -0.8**
TXAR Lajitas Array 147.03 305 PKPbc **PKPdf 10 47 49.5 +1.7**
comp=Z,1.9nm,0.7s,baz=106,slow=2.7,SNR=22
HMU Henry Mountain 147.28 324 PKPdf **PKPdf 10 47 44.3 -3.8**
MNTX Cornudas Mount 147.34 310 PKPbc **PKPdf 10 47 49.1 +1.0**
J05D Fort Rock, OR 147.63 342 PKPab **PKPdf 10 47 50.4 +2.0**
BBOR Butler Butte 148.41 343 PKPbc **PKPdf 10 47 49.8 +0.1**
PSUT Pine Spring 148.55 328 PKPdf **PKPdf 10 47 45.5 -4.7**
L04D Klamath Falls 148.92 342 PKPdf **PKPdf 10 47 45.2 -5.3**
X18A Snowflake 149.01 318 PKPdf **PKPdf 10 47 45.5 -5.4**
KNB Kanab 149.10 325 PKPbc **PKPdf 10 47 53.0 +2.0**
U15A North Rim 149.21 323 PKPbc 10 47 55.2 -0.3
LCMT Little Creek M 149.34 325 PKPbc 10 47 55.1 -0.6
HPIG 149.57 302 PKPbc **PKPdf 10 47 54.9 +2.8**
DUN6 Lazy B Ranch 149.59 314 PKPbc 10 47 57.0 +0.5
HATC Hat Creek Radi 149.93 340 PKPab **PKiKP 10 48 00.1 +2.2**
X16A Lo Mia Camp, P 150.04 320 PKPab **PKiKP 10 48 00.4 +2.0**
PAHR Pah Rah Range 150.14 336 PKiKP 10 48 00.4 +1.9
RYN Ryan 150.70 334 PKPab **PKiKP 10 48 01.5 +1.9**
NV11 Mina Array Sit 150.70 333 PKPab **PKiKP 10 48 00.9 +1.2**
SHPR Sheep Range 150.76 327 PKPab **PKiKP 10 48 03.0 +3.2**
NVAR Mina Array Bea 150.77 333 PKPbc **PKPdf 10 47 56.8 +3.1**
NVAR Mina Array Bea 150.77 333 PKP **PKPdf 10 47 55.3 +1.6**
comp=Z,2.4nm,0.9s,baz=84,slow=1.2,SNR=11
W13A Hualapai Mount 151.07 323 PKiKP 10 48 03.1 +2.5
V12A Nelson 151.17 325 PKiKP 10 48 03.1 +2.5
WAKR Walker 151.19 335 PKiKP 10 48 03.4 +2.7
WCT Wildcat Mounta 151.30 329 PKPdf **PKPdf 10 47 48.6 -5.7**
WCT **PKiKP 10 48 02.8 +2.0**
Y14A Wickenburg 151.33 320 PKiKP 10 48 03.1 +2.2
AFDM Forest Hills D 151.41 338 PKPdf **PKPdf 10 47 49.3 -5.1**
DSP Deep Springs 151.49 332 PKPab **PKiKP 10 48 03.8 +2.7**
GWY Greenwater Val 151.79 328 PKPab **PKiKP 10 48 04.9 +2.9**
CMB Columbia Colle 151.98 336 PKPab **PKiKP 10 48 05.0 +2.8**
GSC Goldstone, Bar 152.54 327 PKPdf **PKPdf 10 47 51.0 -5.3**
HSIG 152.84 310 PKPab **PKiKP 10 48 10.6 +6.4**
PFO Pinyon Flats O 153.61 324 PKPab **PKiKP 10 48 12.7 +6.9**
PMPB Monarch Peak 153.71 334 PKPab **PKiKP 10 48 10.9 +5.1**

NNC 05 10:33:14.6±8.3, 36°.84N×70°.77E, h0km, mb4.1, mpv3.8, 3C-3D, Error ellipse: s-maj=69.7km s-min=59.1km az=133.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.26**	**358**	⇓P			Pn	10 34 49.9	+1.7
	2.4nm,0.2s,baz=180,slow=13,SNR=158								
KK31				⇑S			Sn	10 36 02.8	+2.3
	33nm,0.6s,baz=190,slow=23,SNR=14								
AAK	**Ala-Archa**	**6.46**	**25**	P			Pn	10 34 51.5	+0.4
	2.6nm,0.4s								
AAK				S			Sn	10 36 06.8	+1.2
	6.8nm,0.6s								
CHMS	**Chumysh**	**6.87**	**25**	⇓P			Pn	10 34 56.4	-0.2
	3.3nm,0.5s								
CHMS				⇓S			Sn	10 36 16.5	+1.0
	8.2nm,0.9s								
TKM2	**Tokmak 2**	**7.12**	**30**	⇑P			Pn	10 34 59.0	-1.2
	2.7nm,0.6s								
TKM2				⇑S			Sn	10 36 20.8	-1.0
	5.0nm,0.8s								

*IDC **05** 10:49:24.0±2.6, 22°.02N×121°.60E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=231.5km s-min=19.8km az=63.0*
*JMA **05** 10:49:34.8±0.3, 22°.N±1°.×121°.5E±1°.0, h67km, MV3.7/15, TAIWAN REGION*
*TAP **05** 10:49:34.6, 22°.12N×121°.40E, h75km, ML4.0, C*
ISC 05 10:49:34.2±0.9, 22°.05N±0°.04×121°.38E±0°.03, h79km±5km, n158, σ1°.21/242, mb3.6/5, 1C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.16**	**96**	*i* P			**Pn**	**10 49 45.7**	**0.0**
LAY				*i* S			**Sn**	**10 49 54.0**	**-0.1**
LYUB	**Lan-yu**	**0.20**	**106**	⇓*i* P			**Pn**	**10 49 45.4**	**-0.3**
LYUB				*i* S			**Sn**	**10 49 53.0**	**-1.3**
TSEB	**Hengchuen, Pin**	**0.47**	**251**	*i* P			**Pn**	**10 49 49.3**	**+1.7**
TSEB				*i* S			**Sn**	**10 49 59.6**	**+2.2**
SMST	**Manzhou Townsh**	**0.51**	**266**	*eP*			**Pn**	**10 49 48.6**	**+0.8**
SMST				*i* S			**Sn**	**10 49 59.0**	**+1.0**
TAWH	**Dawu Township**	**0.54**	**302**	*i* P			**Pn**	**10 49 48.3**	**+0.2**
TAWH				S			**Sn**	**10 49 58.0**	**-0.5**
TWKBT	**Hengchun**	**0.54**	**258**	⇓*i* P			**Pn**	**10 49 49.3**	**+1.2**
TWKBT				*i* S			**Sn**	**10 49 59.9**	**+1.4**
TAW	**Tawu**	**0.54**	**304**	*i* P			**Pn**	**10 49 48.2**	**+0.1**
TAW				*i* S			**Sn**	**10 49 58.1**	**-0.4**
TWK1	**Hengchun**	**0.55**	**258**	P			**Pn**	**10 49 49.2**	**+1.0**
TWK1				S			**Sn**	**10 49 59.5**	**+0.9**
SLIU	**Shizi**	**0.56**	**287**	P			**Pn**	**10 49 48.8**	**+0.4**
SLIU				S			**Sn**	**10 49 59.0**	**+0.1**
EAST	**Anshuo**	**0.59**	**304**	*i* P			**Pn**	**10 49 49.0**	**+0.3**
EAST				*i* S			**Sn**	**10 49 59.3**	**-0.1**
HEN	**Hengchun**	**0.60**	**265**	*i* P			**Pn**	**10 49 49.9**	**+1.2**
HEN				*i* S			**Sn**	**10 50 00.5**	**+1.1**
LDUT	**Ludao**	**0.62**	**7**	P			**Pn**	**10 49 48.7**	**-0.2**
LDUT				S			**Sn**	**10 49 59.6**	**-0.3**
ECL	**Taimali**	**0.67**	**324**	⇑*i* P			**Pn**	**10 49 49.1**	**-0.3**
ECL				S			**Sn**	**10 49 59.3**	**-1.4**
TTN	**Taitung**	**0.73**	**343**	*i* P			**Pn**	**10 49 50.6**	**+0.6**
SCZT	**Fangliau**	**0.77**	**294**	P			**Pn**	**10 49 50.8**	**+0.3**
SCZT				S			**Sn**	**10 50 02.4**	**-0.3**
TWGBT	**Beinan**	**0.81**	**340**	P			**Pn**	**10 49 50.2**	**-0.7**
TWGBT	**Beinan**	**0.81**	**340**	P			**Pn**	**10 49 50.6**	**-0.3**
TWGBT	**Beinan**	**0.81**	**340**	S			**Sn**	**10 50 01.6**	**-1.8**
TWGBT	**Beinan**	**0.81**	**340**	*i* P			**Pn**	**10 49 50.7**	**-0.3**
TWGBT				*i* S			**Sn**	**10 50 02.5**	**-0.9**
TWG	**Pinlang**	**0.81**	**339**	*i* P			**Pn**	**10 49 50.8**	**-0.2**
TWG				*i* S			**Sn**	**10 50 02.0**	**-1.5**
LONT	**Longtian**	**0.88**	**345**	*eP*			**Pn**	**10 49 51.5**	**-0.2**
LONT				S			**Sn**	**10 50 03.9**	**-0.9**
MASBT	**Mashibuluo**	**0.89**	**309**	*i* P			**Pn**	**10 49 52.3**	**+0.5**
MASBT				*eS*			**Sn**	**10 50 04.4**	**-0.6**
EDH	**Donghe**	**0.92**	**356**	P			**Pn**	**10 49 52.2**	**+0.1**
EDH				*eS*			**Sn**	**10 50 05.8**	**+0.2**
TSMG	**Majia**	**0.94**	**314**	*eP*			**Pn**	**10 49 52.9**	**+0.5**
TWP	**Hsiaoliuchiu**	**0.99**	**287**	*i* P			**Pn**	**10 49 55.0**	**+2.0**
TWP				S			**Sn**	**10 50 10.6**	**+3.6**
CHKT	**Chengkung**	**1.04**	**359**	*eP*			**Pn**	**10 49 54.1**	**+0.5**
CHKT				*i* S			**Sn**	**10 50 07.9**	**-0.2**
ECS	**Chishang**	**1.05**	**352**	*eP*			**Pn**	**10 49 54.2**	**+0.4**
ECS				*i* S			**Sn**	**10 50 08.2**	**-0.2**
SGLT	**Jiouru**	**1.06**	**309**	*eP*			**Pn**	**10 49 55.3**	**+1.5**
SGLT				*eS*			**Sn**	**10 50 10.2**	**+1.6**
EHD	**Haiduan**	**1.10**	**352**	*i* P			**Pn**	**10 49 53.9**	**-0.5**
EHD				*i* S			**Sn**	**10 50 07.5**	**-2.0**
CHKH	**Chenggong**	**1.13**	**1**	P			**Pn**	**10 49 55.5**	**+0.8**
CHKH				*i* S			**Sn**	**10 50 10.5**	**+0.3**
FULB	**Fuli**	**1.14**	**356**	P			**Pn**	**10 49 55.7**	**+0.8**
FULB				*i* S			**Sn**	**10 50 11.4**	**+0.9**
SCST	**Cishan**	**1.17**	**315**	*i* P			**Pn**	**10 49 56.2**	**+1.0**
SCST				*i* S			**Sn**	**10 50 12.1**	**+1.2**
TWM1	**Shoushan**	**1.17**	**311**	*eP*			**Pn**	**10 49 56.6**	**+1.4**
ELDTW	**Lidau**	**1.18**	**343**	*eP*			**Pn**	**10 49 55.5**	**+0.1**
ELDTW				*eS*			**Sn**	**10 50 11.7**	**+0.3**
WSSB	**Gushan**	**1.19**	**300**	*eP*			**Pn**	**10 49 57.0**	**+1.5**
WSSB				*eS*			**Sn**	**10 50 14.3**	**+2.8**
STYH	**Taoyuan**	**1.24**	**333**	*i* P			**Pn**	**10 49 55.8**	**-0.4**
STYH				S			**Sn**	**10 50 11.8**	**-0.9**
ECBN	**Changbin**	**1.26**	**3**	*eP*			**Pn**	**10 49 56.7**	**+0.4**
ECBN				*eS*			**Sn**	**10 50 13.1**	**+0.1**
SGST	**Jiashian**	**1.26**	**324**	P			**Pn**	**10 49 56.3**	**-0.1**
EYUL	**Yuli**	**1.29**	**357**	*eP*			**Pn**	**10 49 56.8**	**+0.1**
EYUL				*eS*			**Sn**	**10 50 13.8**	**+0.1**
TWF1	**Yuli**	**1.29**	**357**	*eP*			**Pn**	**10 49 56.5**	**-0.3**
TWF1				*i* S			**Sn**	**10 50 12.5**	**-1.3**
YULB	**Yu-li**	**1.33**	**357**	P			**Pn**	**10 49 57.4**	**+0.1**
YULB	**Yu-li**	**1.33**	**357**	P			**Pn**	**10 49 57.2**	**-0.1**
YULB	**Yu-li**	**1.33**	**357**	*i* P			**Pn**	**10 49 57.2**	**-0.1**
YULB				S			**Sn**	**10 50 13.4**	**-1.3**
SHHT	**Tainan City**	**1.36**	**315**	*eP*			**Pn**	**10 49 59.2**	**+1.7**
SHHT				S			**Sn**	**10 50 17.5**	**+2.3**
CHN1	**Nanshi**	**1.37**	**325**	*eP*			**Pn**	**10 49 58.5**	**+0.7**
CHN1				S			**Sn**	**10 50 15.3**	**-0.3**
WTP	**Ta-pu**	**1.38**	**329**	*eP*			**Pn**	**10 49 58.4**	**+0.5**
WTP				S			**Sn**	**10 50 15.3**	**-0.5**
CHN3	**Shinhua**	**1.38**	**317**	*eS*			**Sn**	**10 50 18.0**	**+2.1**
SNST	**Tainan City**	**1.42**	**325**	*eP*			**Pn**	**10 49 58.7**	**+0.4**
SNST				S			**Sn**	**10 50 16.2**	**-0.5**
TPUB	**Ta-pu**	**1.42**	**331**	P			**Pn**	**10 49 59.0**	**+0.6**
TPUB	**Ta-pu**	**1.42**	**331**	*i* P			**Pn**	**10 49 58.9**	**+0.4**
TPUB				*i* S			**Sn**	**10 50 16.7**	**-0.1**
HGSD	**Ruisui**	**1.43**	**2**	*eP*			**Pn**	**10 49 59.5**	**+0.9**
HGSD				*i* S			**Sn**	**10 50 18.7**	**+1.8**
EHYH	**Wanrong**	**1.43**	**359**	*eP*			**Pn**	**10 49 59.5**	**+1.0**
EHYH				*eS*			**Sn**	**10 50 16.1**	**-0.9**
EHY	**Hungye**	**1.45**	**358**	*eP*			**Pn**	**10 49 58.7**	**0.0**
EHY				S			**Sn**	**10 50 16.0**	**-1.3**
TAI1	**Yung-k'ang**	**1.45**	**313**	*eS*			**Sn**	**10 50 17.8**	**+0.6**
TWK	**Hsinying**	**1.46**	**326**	*eP*			**Pn**	**10 50 00.5**	**+1.5**
TWK				*eS*			**Sn**	**10 50 18.1**	**+0.4**
SSHA	**Shanhua**	**1.48**	**317**	*eS*			**Sn**	**10 50 20.7**	**+2.7**
CHN4	**Tsaushan**	**1.48**	**331**	P			**Pn**	**10 49 59.7**	**+0.5**
CHN4				S			**Sn**	**10 50 18.1**	**0.0**
ALS	**Alishan**	**1.54**	**340**	*eP*			**Pn**	**10 50 01.2**	**+0.9**
ALS				*eS*			**Sn**	**10 50 20.1**	**+0.1**
WCKO	**Fanlu**	**1.55**	**333**	P			**Pn**	**10 50 00.7**	**+0.5**
WCKO				*i* S			**Sn**	**10 50 19.2**	**-0.5**
SCLT	**Jiali**	**1.56**	**316**	*eS*			**Sn**	**10 50 20.1**	**+0.1**
EGFH	**Guangfu**	**1.61**	**1**	*eP*			**Pn**	**10 50 01.0**	**+0.2**
TSCK	**Chigu Township**	**1.62**	**312**	*i* P			**Pn**	**10 50 00.7**	**-0.2**
ICHU	**Yijhu**	**1.65**	**322**	P			**Pn**	**10 50 01.7**	**+0.3**
ICHU				*i* S			**Sn**	**10 50 20.8**	**-1.3**
WARBT	**Fenglin Townsh**	**1.66**	**0**	*eP*			**Pn**	**10 50 01.5**	**0.0**
WARBT				*eS*			**Sn**	**10 50 20.5**	**-1.7**
CHN5	**Tsauling**	**1.67**	**337**	*i* P			**Pn**	**10 50 02.2**	**+0.5**
CHN5				*eS*			**Sn**	**10 50 22.6**	**0.0**
CHN8	**Yiju**	**1.68**	**320**	*eP*			**Pn**	**10 50 02.1**	**+0.3**
CHN8				*i* S			**Sn**	**10 50 22.2**	**-0.4**
CHY	**Chiayi**	**1.69**	**329**	*eP*			**Pn**	**10 50 02.9**	**+1.1**
CHY				*eS*			**Sn**	**10 50 22.8**	**0.0**
WHYT	**Xinyi Township**	**1.71**	**343**	P			**Pn**	**10 50 03.1**	**+0.9**
WHYT				*i* S			**Sn**	**10 50 24.2**	**+0.8**
VWDT	**VWDT**	**1.71**	**353**	*i* P			**Pn**	**10 50 03.7**	**+1.6**
VWDT				*eS*			**Sn**	**10 50 23.6**	**+0.3**
SHUL	**Shoufeng**	**1.73**	**5**	*eP*			**Pn**	**10 50 03.5**	**+1.1**
SHUL				S			**Sn**	**10 50 24.8**	**+0.8**
ESL	**Shilin**	**1.75**	**2**	*eP*			**Pn**	**10 50 04.0**	**+1.3**
ESL				S			**Sn**	**10 50 22.5**	**-1.9**
SSLB	**Suanglung**	**1.77**	**347**	P			**Pn**	**10 50 04.7**	**+1.7**
SSLB	**Suanglung**	**1.77**	**347**	P			**Pn**	**10 50 05.0**	**+2.0**
SSLB	**Suanglung**	**1.77**	**347**	S			**Sn**	**10 50 26.2**	**+1.3**
SSLB	**Suanglung**	**1.77**	**347**	*eP*			**Pn**	**10 50 03.9**	**+0.9**
SSLB				*eS*			**Sn**	**10 50 26.3**	**+1.4**
WGK	**Gukeng**	**1.79**	**335**	*eS*			**Sn**	**10 50 25.4**	**+0.1**
WDLH	**Douliu**	**1.80**	**335**	*eP*			**Pn**	**10 50 04.5**	**+1.1**
WDLH				S			**Sn**	**10 50 25.2**	**-0.4**
WSL	**Shuilin Townsh**	**1.81**	**324**	*eP*			**Pn**	**10 50 03.5**	**+0.1**
WSL				*eS*			**Sn**	**10 50 24.9**	**-0.9**
WJS	**Zhushan**	**1.86**	**341**	*eP*			**Pn**	**10 50 06.9**	**+2.8**
WJS				S			**Sn**	**10 50 27.4**	**+0.5**
WTK	**Tuku**	**1.87**	**331**	*eP*			**Pn**	**10 50 04.6**	**+0.3**
WTK				*i* S			**Sn**	**10 50 26.9**	**-0.2**
SMLT	**Sun Moon Lake**	**1.87**	**346**	*eP*			**Pn**	**10 50 06.0**	**+1.6**
SMLT				*eS*			**Sn**	**10 50 27.6**	**+0.2**
OWD	**Renai**	**1.90**	**354**	*eP*			**Pn**	**10 50 06.2**	**+1.3**
OWD				S			**Sn**	**10 50 27.9**	**-0.2**
TYC	**Yuchr**	**1.90**	**345**	*eP*			**Pn**	**10 50 05.6**	**+0.9**
TYC				S			**Sn**	**10 50 28.7**	**+0.8**
ETM	**Tongmen**	**1.91**	**3**	*eP*			**Pn**	**10 50 05.1**	**+0.3**
WSF	**Szhu**	**1.91**	**326**	*eS*			**Sn**	**10 50 27.0**	**-1.0**
WNT	**Mingjian**	**1.93**	**341**	*eS*			**Sn**	**10 50 29.0**	**+0.5**
WUSB	**Renai**	**1.94**	**353**	P			**Pn**	**10 50 07.1**	**+1.7**
WUSB				*i* S			**Sn**	**10 50 29.7**	**+0.5**
LXIB	**Xiulin Townshi**	**1.96**	**1**	*eP*			**Pn**	**10 50 06.1**	**+0.4**
LXIB				*eS*			**Sn**	**10 50 28.7**	**-0.8**
WDGT	**Dungji**	**1.99**	**307**	*i* P			**Pn**	**10 50 05.5**	**-0.4**
WDGT				*i* S			**Sn**	**10 50 27.6**	**-2.5**
WCS	**Beigang Elemen**	**2.04**	**348**	*eP*			**Pn**	**10 50 08.2**	**+1.7**
WTCT	**Ta-ch'eng**	**2.07**	**331**	*i* S			**Sn**	**10 50 31.1**	**-0.8**
WHF	**Hehuan Shan**	**2.08**	**357**	*eP*			**Pn**	**10 50 09.2**	**+1.6**
ETL	**Fush Village**	**2.11**	**6**	*eP*			**Pn**	**10 50 08.3**	**+0.9**
ETL				*eS*			**Sn**	**10 50 33.8**	**+0.9**
NACB	**Ninganchiao**	**2.12**	**5**	P			**Pn**	**10 50 08.0**	**+0.4**
NACB	**Ninganchiao**	**2.12**	**5**	P			**Pn**	**10 50 08.2**	**+0.6**
NACB	**Ninganchiao**	**2.12**	**5**	*i* P			**Pn**	**10 50 08.5**	**+0.9**
NACB				*i* S			**Sn**	**10 50 33.2**	**0.0**
VCHM	**Qimei**	**2.14**	**303**	*i* P			**Pn**	**10 50 07.5**	**-0.4**
VCHM				S			**Sn**	**10 50 31.3**	**-2.3**
ETLH	**Xiulin Townshi**	**2.14**	**2**	*eP*			**Pn**	**10 50 08.7**	**+0.6**
ETLH				S			**Sn**	**10 50 34.4**	**+0.5**
WCH1	**Changhua City**	**2.15**	**339**	*eS*			**Sn**	**10 50 34.1**	**+0.3**
TCU	**Taichung**	**2.18**	**343**	*eS*			**Sn**	**10 50 35.6**	**+1.0**
FUSS	**Fushou**	**2.19**	**357**	*eP*			**Pn**	**10 50 10.5**	**+1.8**
TWT	**Tachien**	**2.20**	**355**	*eP*			**Pn**	**10 50 11.9**	**+3.1**
TWT				*eS*			**Sn**	**10 50 36.3**	**+1.1**
TDCB	**Techi**	**2.20**	**355**	*eP*			**Pn**	**10 50 10.3**	**+1.5**
PHUB	**P'eng-hu**	**2.21**	**311**	*i* P			**Pn**	**10 50 08.3**	**-0.6**
PHUB				*i* S			**Sn**	**10 50 32.6**	**-2.7**
EOS4	**EOS4**	**2.23**	**23**	*eP*			**Pn**	**10 50 09.7**	**+1.0**
EOS4				S			**Sn**	**10 50 34.9**	**-0.4**
WHP	**Taichung City**	**2.25**	**350**	*eP*			**Pn**	**10 50 11.4**	**+2.0**
WHP				*eS*			**Sn**	**10 50 37.7**	**+1.3**
PNG	**Penghu**	**2.26**	**312**	*eP*			**Pn**	**10 50 08.9**	**-0.6**
PNG				*i* S			**Sn**	**10 50 33.8**	**-2.7**
EAHA	**Aohua**	**2.29**	**8**	*eP*			**Pn**	**10 50 10.7**	**+0.8**
EAHA				S			**Sn**	**10 50 37.9**	**+0.7**
TWQ1	**Liyutan**	**2.35**	**346**	*eP*			**Pn**	**10 50 12.2**	**+1.4**
TWQ1				*eS*			**Sn**	**10 50 39.1**	**+0.4**

0.6nm,0.5s
ASAR Alice Springs 47.05 164 P P 10 57 57.5 -0.6
0.6nm,0.3s,baz=342,slow=7.1,SNR=33
0.6nm,0.3s

*IDC **05** 10:53:03.6±8.4, 6°.98N×94°.43E, h0km, mb4.1/5, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=210.2km s-min=63.3km az=127.0*
*NEIC **05** 10:53:05.6±1.8, 6°.98N±0°.05×94°.5E±0°.1, h10km±1km, mb4.6/12, Error ellipse: s-maj=19.0km s-min=8.8km az=274.0*
*NDI **05** 10:53:14.9±0.3, 6°.98N×94°.53E, h10km, ML4.1, MW4.2, mb4.6(NEIC)*
ISC 05 10:53:06.4±0.8, 6°.78N±0°.09×94°.41E±0°.09, h26km, n29, σ1°63/28, mb4.4/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.53**	**296**	*e*P	Pn	10 53 27.2	+8.9
CMBY	comp=E,18μm,0.1s			AMP		10 53 38.4	
CMBY	comp=N,14μm,0.1s			AMP		10 53 38.6	
LHMI	**Lhok Sumawe**	**2.96**	**121**	Pn	**Pn**	**10 53 52.7**	**+0.9**
PBA	**Port Blair**	**5.12**	**341**	*e*P	Pb	10 54 29.6	-5.6
PBA				*e*S	**Sn**	**10 55 24.3**	**+4.6**
SRIT	**Nakonsritamara**	**5.46**	**70**	Pn	Pn	10 54 32.3	+6.2
SRIT				Sn	**Sn**	**10 55 31.3**	**+3.1**
KULM	**Kulim**	**6.38**	**103**	Pn	**Pn**	**10 54 40.0**	**+1.1**
DGPR	**DIGLIPUR**	**6.52**	**347**	*e*P	Pn	10 54 48.5	+7.8
DGPR				*e*S	**Sn**	**10 55 56.7**	**+2.4**
DGPR				AMP		10 56 03.4	
	comp=N,61nm,0.4s						
CMAR	**Chiang Mai Arr**	**12.42**	**20**	Pn	**Pn**	**10 55 59.5**	**-2.2**
	comp=N,0.2nm,0.3s,baz=202,slow=14,SNR=1.7						
	comp=N,0.4nm,0.3s						
LSA	**Lhasa**	**23.00**	**353**	P	**P**	**10 58 09.0**	**-0.9**
ENH	**Enshi**	**27.33**	**29**	P	**P**	**10 58 47.7**	**-1.7**
PSA00	**Pilbara Seismi**	**37.64**	**139**	P	**P**	**11 00 19.8**	**+0.3**
PSA00				IAmb	IAmb	11 00 39.1	
	comp=Z,18nm,1.3s						
TARG	**Taragay, Kyrgy**	**37.80**	**340**	P	**P**	**11 00 19.1**	**-2.1**
TARG				IAmb	IAmb	11 00 34.1	
	comp=Z,5.2nm,1.0s						
ARSB	**Arslanbob**	**39.33**	**334**	P	**P**	**11 00 32.5**	**-1.2**
ARSB				IAmb	IAmb	11 01 02.2	
	comp=Z,5.6nm,0.5s						
MKAR	**Makanchi Array**	**41.21**	**347**	P	**P**	**11 00 48.6**	**-0.4**
MKAR	**Makanchi Array**	**41.21**	**347**	P	**P**	**11 00 47.9**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=162,slow=8.5,SNR=13						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**45.66**	**346**	P	**P**	**11 01 24.6**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=167,slow=7.2,SNR=14						
	comp=Z,1.9nm,0.8s						
KURK	**Kurchatov**	**45.73**	**346**	P	**P**	**11 01 25.8**	**+0.4**
ZAA0	**Zalesovo Array**	**47.67**	**352**	P	**P**	**11 01 39.1**	**-1.4**
ZAA0				IAmb	IAmb	11 01 41.6	
	comp=Z,2.4nm,0.6s						
ZALV	**Zalesovo Beam**	**47.67**	**352**	P	**P**	**11 01 40.6**	**+0.2**
ZALV	**Zalesovo Beam**	**47.67**	**352**	P	**P**	**11 01 40.2**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=186,slow=7.7,SNR=8.9						
	comp=Z,1.3nm,0.4s						
INU	**Inuyama**	**48.32**	**48**	P	**P**	**11 01 44.7**	**-1.2**
JGF	**Kuroka**	**48.67**	**48**	P	**P**	**11 01 47.2**	**-1.5**
JGF				IAmb	IAmb	11 01 50.1	
	comp=Z,12nm,1.1s						
AB31	**Akbulak array**	**51.31**	**332**	P	**P**	**11 02 09.1**	**+0.7**
ABKAR	**Akbulak array**	**51.31**	**332**	P	**P**	**11 02 09.2**	**+0.8**
BRTR	**Keskin Array B**	**63.34**	**311**	P	**P**	**11 03 33.6**	**-0.1**
CAN	**Canberra**	**66.23**	**133**	P	**P**	**11 03 53.0**	**+0.5**
TIXI	**Tiksi**	**68.25**	**11**	P	**P**	**11 04 04.0**	**-0.5**
TIXI				IAmb	IAmb	11 04 30.9	
	comp=Z,6.0nm,1.4s						
FINES	**FINESS Array B**	**73.79**	**332**	P	**P**	**11 04 40.1**	**+1.7**
FINES	**FINESS Array B**	**73.79**	**332**	P	**P**	**11 04 38.2**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=94,slow=5.6,SNR=4.7						
	comp=Z,2.9nm,0.9s						
HFS	**Hagfors**	**79.53**	**330**	P	**P**	**11 05 11.9**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=93,slow=7.8,SNR=6.9						
	comp=Z,1.0nm,0.5s						

*DJA **05** 11:32:20.7±0.7, 4°.N±6°.×12°.6E±°, h57km±7km, M4.1/9, mB4.8/1, mb4.0/7, MLv4.2/9, Mw(mB)4.1/1*
*IDC **05** 11:32:42.5±2.1, 1°.55N×127°.99E, h0km, mb3.5/3, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=119.1km s-min=25.5km az=70.0*
ISC 05 11:32:18.0±1.9, 4°.6N±0°.2×126°.6E±0°.1, h50km, n9, σ0°97/10, mb3.3/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.39**	**232**	P	**Pn**	**11 32 41.1**	**0.0**
SGSI				S	**Sn**	**11 32 57.2**	**-1.2**
MRSI	**Marisa**	**6.19**	**229**	P	**Pn**	**11 33 48.4**	**+1.5**
SANI	**Sanana**	**6.59**	**186**	P	**Pn**	**11 33 51.6**	**-0.9**
	0.1nm9.8nm,1.1s						
NLAI	**Namlea**	**7.76**	**176**	P	**Pn**	**11 34 08.9**	**+0.5**
	24nm,1.1s						
MPSI	**Mapaga**	**7.92**	**238**	P	**Pn**	**11 34 10.6**	**0.0**
FITZ	**Fitzroy Crossi**	**22.53**	**182**	P	**P**	**11 37 14.9**	**+1.0**
	0.3nm,0.3s,baz=354,slow=11,SNR=8.6						
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**25.50**	**163**	P	**P**	**11 37 41.9**	**-0.1**
	1.2nm,0.7s,baz=340,slow=9.8,SNR=14						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**28.94**	**166**	P	**P**	**11 38 13.0**	**+0.2**
	0.5nm,0.6s,baz=342,slow=8.3,SNR=11						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**56.82**	**325**	P	**PcP**	**11 42 51.8**	**-0.9**
	0.4nm,0.5s,baz=125,slow=3.7,SNR=4.3						
	0.4nm,0.5s						

*NOU **05** 11:36:53.0, 39°.90S×177°.00E, h7km, MLv3.9/11, Off E. Coast of N. Island, N.Z.*
*WEL **05** 11:36:53.4±0.9, 40°.3±3°.×17°.7E±°, h12km±5km, M3.8/10, ML4.1/10, MLv3.8/10, Error ellipse: s-maj=4.2km s-min=3.5km az=121.8, confirmed*
*WEL **05** 11:36:53.1, 39°.91S×176°.80E, h6km, ML3.8, Mw3.8, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; M_{rr}0.44; $M_{\theta\theta}$2.09; $M_{\phi\phi}$-2.53; $M_{r\theta}$4.38; $M_{\theta\phi}$-1.77; $M_{\phi r}$2.59; Fault plane solution: $M_0$5.88000×10^{14} NP1: ϕ_s60.00000°, δ87.00000°, λ119.00000°. NP2: ϕ_s155.00000°, δ29.00000°, λ5.00000°. Principal axes: T -6.0120, Plg41.0000°, Azm357.0000°; N 5.7380, Plg29.0000°, Azm238.0000°; P 0.2740, Plg36.0000°, Azm125.0000°; Stations used: BKZ WHVZ OTVZ MRZ OBLIQUE FAULTING*
*IDC **05** 11:36:56.1±5.5, 39°.35S×176°.01E, h0km, mb3.9/3, mbtmp3.9/3, MS3.1/1 Error ellipse: s-maj=133.0km s-min=14.5km az=144.0*
ISC 05 11:36:53.6±0.9, 39°.91S±0°.02×176°.83E±0°.03, h15km±6km, n88, σ0°67/94, mb3.7/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	**Kahuranaki**	**0.12**	**19**	P	**Pg**	**11 36 56.9**	**-0.2**
KAHZ				S	**Sb**	**11 37 00.7**	**+0.4**
PXZ	**Pawanui**	**0.12**	**167**	P	**Pg**	**11 36 57.4**	**+0.3**
PXZ				S	**Sb**	**11 37 02.0**	**+1.6**
WPWS	**Waipawa Distri**	**0.19**	**259**	P	**Pg**	**11 36 57.3**	**-0.7**
WPWS				S	**Sg**	**11 37 00.7**	**-0.2**
CKHZ	**Cape Kidnapper**	**0.32**	**38**	P	**Pb**	**11 37 01.5**	**+0.5**
WPHZ	**Waipukurau**	**0.33**	**242**	P	**Pg**	**11 37 00.6**	**+0.2**
WPHZ				S	**Sb**	**11 37 07.1**	**+0.6**
PRHZ	**Porangahau**	**0.39**	**202**	P	**Pg**	**11 37 02.2**	**+0.8**
KRHZ	**Kereru**	**0.44**	**307**	P	**Pg**	**11 37 02.1**	**-0.2**
KRHZ				S	**Sg**	**11 37 09.6**	**+1.2**
MCHZ	**McNeill Hill**	**0.47**	**348**	P	**Pg**	**11 37 03.6**	**+0.6**
PNHZ	**Pukenui**	**0.48**	**269**	P	**Pg**	**11 37 02.9**	**-0.3**
PNHZ				S	**Sg**	**11 37 10.6**	**+0.9**
KWHZ	**Kaweka Forest**	**0.58**	**327**	P	**Pg**	**11 37 04.8**	**-0.1**
KWHZ				S	**Sb**	**11 37 14.3**	**+0.8**
ANWZ	**Angora Road**	**0.61**	**206**	P	**Pb**	**11 37 07.0**	**+1.0**
DVHZ	**Dannevirke**	**0.64**	**232**	P	**Pg**	**11 37 05.9**	**-0.2**
ARHZ	**Aropaoanui**	**0.66**	**12**	P	**Pb**	**11 37 07.7**	**+1.0**
TSZ	**Takapari Road**	**0.68**	**257**	P	**Pg**	**11 37 06.6**	**-0.3**
BKZ	**Black Stump Fm**	**0.79**	**341**	P	**Pb**	**11 37 08.9**	**-0.1**
BKZ	**Black Stump Fm**	**0.79**	**341**	S	**Sn**	**11 37 21.2**	**-0.5**
BKZ	**Black Stump Fm**	**0.79**	**341**	P	**Pb**	**11 37 08.7**	**-0.2**
NMHZ	**Naumai**	**0.81**	**359**	P	**Pg**	**11 37 10.3**	**+0.9**
WHHZ	**Waihua**	**0.89**	**21**	P	**Pn**	**11 37 12.2**	**+0.7**
BFZ	**Birch Farm**	**0.89**	**210**	P	**Pb**	**11 37 11.0**	**+0.2**
BFZ	**Birch Farm**	**0.89**	**210**	S	**Sn**	**11 37 25.7**	**+1.4**
BFZ	**Birch Farm**	**0.89**	**210**	P	**Pb**	**11 37 10.8**	**0.0**
PRWZ	**Pori Road**	**0.92**	**225**	P	**Pg**	**11 37 12.0**	**+0.6**
POWZ	**Post Office Ro**	**0.94**	**239**	P	**Pn**	**11 37 12.7**	**+0.3**
MOVZ	**Moawhango**	**0.97**	**301**	P	**Pb**	**11 37 11.5**	**-0.6**
RAHZ	**Arahi**	**1.01**	**12**	P	**Pg**	**11 37 13.7**	**+0.6**
MTHZ	**Maungataniwha**	**1.05**	**1**	P	**Pn**	**11 37 14.2**	**+0.3**
KNZ	**Kokohu**	**1.10**	**37**	P	**Pb**	**11 37 14.0**	**-0.4**
CPWZ	**Castlepoint**	**1.11**	**205**	P	**Pg**	**11 37 15.6**	**+0.7**
TUVZ	**Tukino**	**1.11**	**305**	P	**Pb**	**11 37 14.6**	**+0.1**
WNVZ	**Wahianoa**	**1.11**	**301**	P	**Pb**	**11 37 14.6**	**-0.1**
MRHZ	**Matea Rd**	**1.12**	**343**	P	**Pb**	**11 37 15.0**	**+0.3**
TIWZ	**Tintock**	**1.12**	**219**	P	**Pn**	**11 37 14.7**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.13**	**48**	P	**Pb**	**11 37 14.4**	**-0.4**
WHVZ	**Whangaehu Hut**	**1.14**	**303**	P	**Pn**	**11 37 15.2**	**-0.1**
ETVZ	**East Tongariro**	**1.16**	**311**	P	**Pn**	**11 37 15.5**	**+0.1**
TRVZ	**Turoa**	**1.16**	**301**	P	**Pn**	**11 37 15.5**	**-0.1**
HATZ	**Hinemaiaia**	**1.17**	**331**	P	**Pn**	**11 37 15.7**	**+0.3**
OTVZ	**Oturere**	**1.17**	**309**	P	**Pn**	**11 37 15.5**	**0.0**
SNVZ	**South Ngauruho**	**1.17**	**308**	P	**Pn**	**11 37 15.5**	**0.0**
MAVZ	**Matarangi**	**1.17**	**303**	P	**Pn**	**11 37 15.8**	**+0.1**
MTVZ	**Mangateitei**	**1.17**	**296**	P	**Pn**	**11 37 15.7**	**+0.2**
TMVZ	**Te Maari**	**1.18**	**312**	P	**Pn**	**11 37 15.8**	**+0.2**
FWVZ	**Far West T-bar**	**1.18**	**303**	P	**Pn**	**11 37 15.7**	**-0.1**
SNGZ	**Shannon Statio**	**1.19**	**20**	P	**Pn**	**11 37 16.1**	**+0.3**
RITZ	**Rihia Road**	**1.20**	**321**	P	**Pb**	**11 37 16.3**	**+0.4**
NGZ	**Ngauruhoe**	**1.20**	**307**	P	**Pn**	**11 37 16.1**	**+0.2**
OHWZ	**Ohakea**	**1.20**	**255**	P	**Pg**	**11 37 17.2**	**+0.6**
NTVZ	**North Tongarir**	**1.20**	**312**	P	**Pn**	**11 37 16.2**	**+0.2**
MRZ	**Mangatainoka R**	**1.21**	**231**	P	**Pn**	**11 37 15.6**	**-0.4**
NNVZ	**North Ngauruho**	**1.22**	**309**	P	**Pn**	**11 37 16.5**	**+0.3**
COVZ	**Chateau Observ**	**1.22**	**305**	P	**Pn**	**11 37 16.5**	**+0.2**
KRVZ	**Karewarewa**	**1.23**	**311**	P	**Pn**	**11 37 16.8**	**+0.5**
WTVZ	**West Tongariro**	**1.24**	**309**	P	**Pn**	**11 37 16.8**	**+0.3**
KATZ	**Kakaramea**	**1.28**	**316**	P	**Pb**	**11 37 17.7**	**+0.2**
PRGZ	**Paritu Road**	**1.28**	**40**	P	**Pn**	**11 37 16.4**	**-0.6**
RTZ	**Ruatahuna**	**1.30**	**5**	P	**Pn**	**11 37 17.6**	**+0.3**
PKVZ	**Pokaka**	**1.30**	**298**	P	**Pn**	**11 37 17.9**	**+0.6**
TWVZ	**Taurewa**	**1.36**	**307**	P	**Pn**	**11 37 18.8**	**+0.7**
TMWZ	**Te Maipa**	**1.39**	**211**	P	**Pn**	**11 37 17.4**	**-1.1**
ALRZ	**Allen Road**	**1.40**	**344**	P	**Pb**	**11 37 19.8**	**+0.5**
RIGZ	**Rimuhau**	**1.40**	**31**	P	**Pn**	**11 37 18.8**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.41**	**225**	P	**Pn**	**11 37 17.9**	**-0.8**
WAZ	**Wanganui**	**1.43**	**276**	P	**Pb**	**11 37 20.7**	**+0.8**
MUGZ	**Murupara**	**1.43**	**358**	P	**Pb**	**11 37 20.3**	**+0.4**
PRRZ	**Plateau Road**	**1.45**	**346**	P	**Pn**	**11 37 19.8**	**+0.5**
WATZ	**Wairara**	**1.47**	**324**	P	**Pn**	**11 37 20.3**	**+0.7**
WPRZ	**Whakapapatarin**	**1.48**	**339**	P	**Pn**	**11 37 20.6**	**+0.9**
RAGZ	**Rawiri**	**1.48**	**18**	P	**Pn**	**11 37 20.4**	**+0.5**
HRRZ	**Handcock Road**	**1.57**	**344**	P	**Pb**	**11 37 22.6**	**+0.2**
RRRZ	**Republican Roa**	**1.59**	**351**	P	**Pn**	**11 37 22.2**	**+1.0**
KUTZ	**Kaahu Road**	**1.62**	**331**	P	**Pn**	**11 37 22.4**	**+0.8**
URZ	**Urewera**	**1.66**	**8**	Pg	**Pn**	**11 37 21.9**	**-0.2**
	39nm,0.3s,baz=313,slow=7.5,SNR=217						
URZ				Lg	Lg	11 37 40.6	
	27nm,0.3s,baz=45,slow=21,SNR=5.8						
URZ	**Urewera**	**1.66**	**8**	P	**Pn**	**11 37 22.1**	**-0.1**
MWZ	**Matawai**	**1.67**	**19**	P	**Pn**	**11 37 21.8**	**-0.5**
TKGZ	**Te Karaka**	**1.67**	**29**	P	**Pn**	**11 37 21.8**	**-0.4**
CNGZ	**Carnagh Statio**	**1.78**	**37**	P	**Pn**	**11 37 22.9**	**-0.9**
CAW	**Cannon Point**	**1.80**	**228**	P	**Pn**	**11 37 23.0**	**-1.0**
HIZ	**Hatiti**	**2.07**	**312**	P	**Pn**	**11 37 28.5**	**+0.7**
SNZO	**South Karori**	**2.14**	**228**	P	**Pb**	**11 37 31.1**	**-0.9**
KHEZ	**Kahui Hut**	**2.26**	**285**	P	**Pb**	**11 37 33.7**	**-0.4**
MXZ	**Matakaoa Point**	**2.61**	**27**	P	**Pn**	**11 37 35.1**	**-0.2**
QRZ	**Quartz Range**	**3.41**	**253**	P	**Pn**	**11 37 47.5**	**+1.3**
KHZ	**Kahutara**	**3.52**	**224**	P	**Pn**	**11 37 49.6**	**+1.8**
MSVF	**Nonsavu**	**22.12**	**3**	LR	LR	11 48 43.3	
	comp=Z,49nm,18.6s,baz=193,slow=33						
STKA	**Stephens Creek**	**29.50**	**275**	P	**P**	**11 42 56.1**	**-1.1**
	2.3nm,0.7s,baz=109,slow=18,SNR=3.6						
	2.3nm,0.7s						
ASAR	**Alice Springs**	**39.51**	**281**	P	**P**	**11 44 22.2**	**-1.6**
	0.8nm,0.6s,baz=125,slow=8.0,SNR=11						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**41.38**	**286**	P	**P**	**11 44 38.1**	**-1.2**
	0.9nm,0.6s,baz=126,slow=7.8,SNR=12						
	0.9nm,0.6s						

*ASRS **05** 11:43:44.0±1.9, 51°.50N×82°.01E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 05 11:43:48.9±1.6, 51°.33N×81°.86E, h0km, mbtmp2.0/1, ML1.9/1, Error ellipse: s-maj=16.9km s-min=12.9km az=132.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.22**	**253**	Pg	Pn	11 44 28.1	+1.2
	0.1nm,0.3s,baz=72,slow=18,SNR=1.5						
KURBB				Lg	Lg	11 45 01.1	
	0.1nm,0.3s,baz=71,slow=35,SNR=1.5						
I46RU	**ZALESOVO INFRA**	**3.18**	**33**	I	I	12 00 20.0	
	baz=214,slow=322,SNR=1.3						
ZALV	**Zalesovo Beam**	**3.18**	**33**	Pg	Pb	11 44 48.0	+1.7
	0.2nm,0.3s,baz=223,slow=16,SNR=2.8						
ZALV				Lg	Lg	11 45 29.9	
	0.4nm,0.3s,baz=222,slow=26,SNR=4.1						
MKAR	**Makanchi Array**	**4.55**	**176**	Pn	Pn	11 44 59.7	+0.6
	0.1nm,0.3s,baz=5.3,slow=11,SNR=2.0						
MKAR				Pg	Pb	11 45 11.8	+2.1
	0.1nm,0.3s,baz=352,slow=13,SNR=3.4						
MKAR				Lg	Lg	11 46 16.0	
	0.2nm,0.3s,baz=9.7,slow=30,SNR=5.2						
	0.1nm,0.4s						

*AEIC **05** 12:10:33.5±2.5, 61°.39N±0°.02×150°.15W±0°.05, h20km±7km, Error ellipse: s-maj=3.8km s-min=3.1km az=49.0*
NEIC 05 12:10:33.7±1.4, 61°.450N±0°.007×150°.05W±0°.05, h45km±8km, ML3.0/198, ML2.9(AEIC), Error ellipse: s-maj=3.5km s-min=1.0km az=96.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.31**	**354**		Pn	12 10 41.8	-0.6
M22K					Sn	12 10 49.1	+0.5
FIS	**Fire Island**	**0.32**	**195**		Pn	12 10 42.7	+0.2
FIS					Sn	12 10 50.7	+2.0
SUA	**Susitna One**	**0.34**	**273**		Pn	12 10 42.2	-0.6
SUA					Sn	12 10 49.3	0.0
SUA				IAML		12 10 49.8	
	comp=E,1μm,0.8s						
RC01	**Rabbit Creek A**	**0.39**	**157**	Pn	Pn	12 10 42.7	-0.7
RC01					Sn	12 10 49.8	-0.3
RC01				IAML		12 10 50.1	
	comp=E,939nm,0.3s						
PMR	**Palmer**	**0.46**	**72**		Pn	12 10 43.9	-0.3
PMR					Sn	12 10 52.0	+0.4
PMR				IAML		12 10 53.3	
	comp=N,802nm,0.3s						
PMR				IAML		12 10 53.4	
	comp=E,876nm,0.2s						
GHO	**Glory Hole Cre**	**0.63**	**58**		Pn	12 10 46.4	0.0
GHO				IAML		12 10 57.9	
	comp=E,653nm,0.3s						
GHO				IAML		12 10 58.6	
	comp=N,875nm,0.3s						
KNK	**Knik Glacier**	**0.77**	**92**		Pn	12 10 48.3	+0.2
KNK				IAML		12 11 02.8	
	comp=E,617nm,0.2s						
STLK	**Strandline Lak**	**0.86**	**274**		Pn	12 10 48.9	-0.5
STLK				IAML		12 11 01.2	
	comp=E,465nm,0.3s						
CAPN	**Captain Cook N**	**0.87**	**219**		Pn	12 10 49.6	+0.1
SKT	**Skwentna**	**0.88**	**308**	Pn	Pn	12 10 49.2	-0.5
SKT				IAML		12 11 02.0	
	comp=E,502nm,0.3s						
SML	**Sawmill**	**0.90**	**66**		Pn	12 10 49.9	0.0
SML				IAML		12 11 05.8	
	comp=N,420nm,0.3s						
SML				IAML		12 11 06.8	
	comp=E,510nm,0.5s						
SLKM	**Skilak Lake**	**0.95**	**185**	Pn	Pn	12 10 49.6	-1.0
SLKM				IAML		12 11 04.9	
	comp=N,548nm,0.3s						
CUT	**Chulitna**	**0.96**	**354**		Pn	12 10 50.9	+0.1
CUT				IAML		12 11 05.1	
	comp=E,470nm,0.4s						
O22K	**Cooper Landing**	**0.98**	**171**		Pn	12 10 50.9	-0.1
PWL	**Port Wells**	**1.02**	**125**		Pn	12 10 51.6	+0.1
SCM	**Sheep Creek Mo**	**1.35**	**72**		Pn	12 10 57.0	+0.8
SEW	**Seward**	**1.38**	**167**		Pn	12 10 56.1	-0.4
SEW				IAML		12 11 18.9	
	comp=N,175nm,0.4s						
SEW				IAML		12 11 20.2	
	comp=E,123nm,0.4s						
M20K	**Styx River**	**1.53**	**288**		Pn	12 10 59.3	+0.7
M20K				IAML		12 11 20.6	
	comp=N,113nm,0.8s						
GLI	**Glacier Island**	**1.54**	**110**		Pn	12 10 58.3	-0.4
GLI				IAML		12 11 24.0	
	comp=N,179nm,0.3s						
BRLK	**Bradley Lake**	**1.74**	**194**		Pn	12 11 00.7	-0.7
PPLA	**Purkeypile**	**1.77**	**326**		Pn	12 11 01.7	-0.1
PPLA				IAML		12 11 40.5	
	comp=N,139nm,0.8s						
PPLA				IAML		12 11 41.0	
	comp=E,115nm,0.9s						
FID	**Port Fidalgo**	**1.87**	**110**		Pn	12 11 01.9	-1.2
FID				IAML		12 11 34.8	
	comp=E,134nm,0.5s						
FID				IAML		12 11 38.0	
	comp=N,120nm,0.5s						
P23K	**Montague Islan**	**1.95**	**137**	Pn	Pn	12 11 03.6	-0.7
P23K				IAML		12 11 36.1	
	comp=E,105nm,0.3s						
P23K				IAML		12 11 36.9	
	comp=N,114nm,0.4s						
M24K	**Tolsona, Glenn**	**1.96**	**69**		Pn	12 11 05.7	+1.3
HOM	**Homer**	**1.96**	**204**	Pn	Pn	12 11 04.7	+0.3
KLU	**Klutina**	**1.98**	**87**		Pn	12 11 05.2	+0.4
KLU				IAML		12 11 36.9	
	comp=E,73nm,0.4s						
KLU				IAML		12 11 40.2	
	comp=N,152nm,0.3s						
TRF	**Thorofare Moun**	**2.01**	**357**		Pn	12 11 06.0	+0.7
TRF				IAML		12 11 42.9	
	comp=E,67nm,0.6s						
TRF				IAML		12 11 43.1	
	comp=N,67nm,0.6s						
CNPM	**China Poot**	**2.02**	**197**	Pn	Pn	12 11 05.2	-0.1
CNPM				IAML		12 11 34.3	
	comp=N,141nm,0.4s						
HIN	**Hinchinbrook I**	**2.03**	**120**	Pn	Pn	12 11 05.4	0.0
HIN				IAML		12 11 41.3	
	comp=N,122nm,0.7s						
HIN				IAML		12 11 42.7	
	comp=E,120nm,0.6s						
RND	**Reindeer**	**2.04**	**15**		Pn	12 11 07.4	+1.8
RND				IAML		12 11 43.3	
	comp=E,66nm,0.5s						
DIV	**Divide**	**2.09**	**97**	Pn	Pn	12 11 05.5	-0.7
DIV				IAML		12 11 40.6	
	comp=N,112nm,0.5s						
DIV				IAML		12 11 41.4	
	comp=E,77nm,0.4s						
ILSW	**Iliamna Southw**	**2.12**	**227**		Pn	12 11 06.7	+0.1
ILSW				IAML		12 11 37.5	
	comp=E,54nm,0.7s						
M19K	**Big River Lodg**	**2.12**	**284**		Pn	12 11 06.2	-0.4
KTH	**Kantishna Hill**	**2.15**	**350**	Pn	Pn	12 11 05.6	-1.5
KTH				IAML		12 11 36.6	
	comp=E,64nm,0.7s						
CAST	**Castle Rocks**	**2.19**	**335**		Pn	12 11 08.0	+0.4
CAST				IAML		12 11 50.0	
	comp=E,52nm,0.9s						
N19K	**Bonanza Creek**	**2.24**	**255**		Pn	12 11 07.7	-0.7
EYAK	**Cordova Ski Ar**	**2.28**	**111**		Pn	12 11 08.8	0.0
EYAK				IAML		12 11 45.6	
	comp=E,49nm,0.4s						
EYAK				IAML		12 11 48.0	
	comp=N,63nm,0.4s						
MCK	**McKinley**	**2.35**	**12**		Pn	12 11 09.5	-0.2
MCK				IAML		12 11 51.2	
	comp=N,50nm,1.0s						
P19K	**Oil Pt**	**2.39**	**222**		Pn	12 11 10.9	+0.5
P19K				IAML		12 12 03.8	
	comp=N,107nm,0.5s						
L19K	**White Mountain**	**2.40**	**290**	Pn	Pn	12 11 10.9	+0.5
L19K				IAML		12 11 41.1	
	comp=E,38nm,0.5s						
O19K	**Port Alsworth**	**2.44**	**241**	Pn	Pn	12 11 11.1	+0.2
O19K				IAML		12 11 47.4	
	comp=E,105nm,0.5s						
N25K	**Chitina, Valde**	**2.62**	**84**		Pn	12 11 15.6	+2.1
N25K				IAML		12 11 54.6	
	comp=E,56nm,0.5s						
N25K				IAML		12 11 56.2	
	comp=N,89nm,0.5s						
PAX	**Paxson**	**2.63**	**53**		Pn	12 11 15.6	+1.9
PAX				IAML		12 11 53.4	
	comp=N,52nm,0.5s						
PAX				IAML		12 11 54.1	
	comp=E,34nm,0.5s						
K20K	**Telida**	**2.68**	**317**		Pn	12 11 14.8	+0.6
BMRM	**Bremner River**	**2.68**	**98**	Pn	Pn	12 11 13.6	-0.7
BMRM				IAML		12 11 55.1	
	comp=E,56nm,0.7s		

comp=N,17nm,0.7s
J19K Poorman 3.62 317 Pn Pn 12 11 28.0 +0.9
IL31 3.63 22 Pn 12 11 28.8 +1.5
ILAR Eielson Array 3.63 22 Pn Pn 12 11 28.9 +1.6
J18K Innoko River 3.70 306 Pn 12 11 28.8 +0.5
I23K Minto, Yukon-K 3.73 4 Pn 12 11 30.3 +1.8
I23K IAML 12 12 42.4
comp=N,14nm,0.8s
SCRK Sand Creek 3.77 45 Pn 12 11 30.6 +1.2
SCRK IAML 12 12 33.2
comp=E,18nm,0.6s
SCRK IAML 12 12 36.1
comp=N,14nm,1.0s
J25K Salcha River, 3.82 32 Pn 12 11 31.7 +1.7
J25K IAML 12 12 23.9
comp=E,32nm,0.5s
J25K IAML 12 12 24.2
comp=N,28nm,0.5s
I21K Tanana 3.84 348 Pn Pn 12 11 32.6 +2.4
I20K Naaghedeneel 3.92 331 Pn Pn 12 11 31.7 +0.5
K17K Iditarod 4.08 292 Pn Pn 12 11 33.8 +0.3
K17K IAML 12 12 55.6
comp=E,19nm,0.9s
K17K IAML 12 12 56.1
comp=N,11nm,1.3s
MESA MESA 4.17 104 Pn Pn 12 11 36.5 +1.6
MESA IAML 12 12 41.8
comp=E,27nm,1.2s
MESA IAML 12 13 39.6
comp=N,26nm,1.1s
L27K Beaver Creek, 4.17 64 Pn Pn 12 11 36.2 +1.5
BCAR Beaver Creek A 4.19 64 Pn 12 11 35.6 +0.5
ACHA Angle Creek He 4.20 222 Pn Pn 12 11 34.1 -1.1
J26L Joseph Creek 4.26 41 Pn 12 11 37.3 +1.3
J26L IAML 12 12 32.4
comp=N,18nm,0.6s
O16K Kokwok River B 4.39 248 Pn Pn 12 11 37.0 -0.7
O16K IAML 12 12 47.6
comp=N,10nm,1.2s
O16K IAML 12 12 50.3
comp=E,8.7nm,1.4s
H23K Yukon River 4.40 3 Pn Pn 12 11 42.1 +4.3
H24K Noodor Dome 4.51 11 Pn Pn 12 11 41.7 +2.3
L16K Owhat River 4.51 277 Pn Pn 12 11 39.3 -0.1
L16K IAML 12 13 04.5
comp=N,7.8nm,1.5s
OHAK Old Harbor 4.55 203 Pn Pn 12 11 39.5 -0.5
OHAK IAML 12 12 45.0
comp=N,14nm,1.4s
OHAK IAML 12 13 29.9
comp=E,12nm,1.4s
PRP Porcupine Dome 4.56 24 Pn Pn 12 11 42.9 +2.7
PRP IAML 12 12 42.8
comp=E,10nm,0.5s
PRP IAML 12 12 57.1
comp=N,12nm,0.6s
J17K VABM Dome 4.63 299 Pn Pn 12 11 41.0 +0.1
P16K Nushagak River 4.64 242 Pn Pn 12 11 41.5 +0.4
O28M Mount Upton 4.83 94 Pn Pn 12 11 45.2 +1.2
O28M IAML 12 13 01.8
comp=E,8.1nm,1.4s
O28M IAML 12 13 03.1
comp=N,8.5nm,0.5s
I26K Coal Creek Min 4.96 36 Pn 12 11 47.7 +2.2
I26K IAML 12 13 10.9
comp=E,15nm,1.2s
I26K IAML 12 13 13.4
comp=N,14nm,1.2s
PCA Pinnacle 4.99 101 Pn Pn 12 11 47.1 +1.2
H19K Roundabout Mou 5.00 328 Pn Pn 12 11 47.0 +1.1
H19K IAML 12 12 40.0
comp=N,5.4nm,1.5s
H19K IAML 12 13 20.4
comp=E,6.6nm,1.5s
N15K Kwethluk River 5.08 260 Pn Pn 12 11 47.4 +0.2
N15K IAML 12 13 18.5
comp=N,12nm,1.1s
N15K IAML 12 13 21.4
comp=E,14nm,1.1s
J16K Anvik River 5.25 295 Pn Pn 12 11 49.6 +0.1
J16K IAML 12 13 04.7
comp=N,6.2nm,1.4s
J16K IAML 12 15 10.4
comp=E,9.2nm,1.4s
H18K Honhosa River 5.28 318 Pn Pn 12 11 51.0 +1.1
H18K IAML 12 12 54.4
comp=N,4.2nm,1.3s
H18K IAML 12 13 29.2
comp=E,5.0nm,1.5s
G21K Allakaket 5.31 345 Pn Pn 12 11 52.1 +1.9
O15K Ungalikthiuk R 5.37 249 Pn Pn 12 11 51.8 +0.7
O15K IAML 12 13 28.1
comp=E,9.6nm,1.3s
O15K IAML 12 13 41.9
comp=N,10.0nm,1.3s
I17K Unalakleet 5.48 301 Pn Pn 12 11 53.9 +1.3
K15K Wolf Creek Mou 5.50 284 Pn Pn 12 11 52.7 -0.2
DAWY Dawson 5.55 57 Pn Pn 12 11 55.7 +2.0
FYU Fort Yukon 5.55 20 Pn Pn 12 11 54.5 +0.9
M29M Somme Creek 5.56 75 Pn Pn 12 11 55.6 +1.8
H17K Granite Mounta 5.67 312 Pn Pn 12 11 55.4 +0.2
O29M Mount Kennedy 5.72 97 Pn Pn 12 11 56.2 +0.1
COLD Coldfoot 5.80 359 Pn Pn 12 11 58.4 +1.4
L29M L29M 5.81 68 Pn Pn 12 11 59.5 +2.3
G18K Tagagawik 5.88 323 Pn Pn 12 11 59.2 +1.1
N14K Kuskokwak Cree 5.92 260 Pn Pn 12 11 59.2 +0.6
O14K Tigyukauivet M 5.99 253 Pn Pn 12 11 59.5 -0.1
I28M Miner Creek 6.05 44 Pn Pn 12 12 05.3 +4.7
L14K Kuka Creek 6.07 275 Pn Pn 12 12 00.4 -0.3
H27K Steamboat Moun 6.10 34 Pn Pn 12 12 03.4 +2.3
HYT Haines Junctio 6.11 90 Pn Pn 12 12 03.9 +2.5
F20K Avaraart Lake 6.14 339 Pn Pn 12 12 03.5 +1.9
K29M Barlow Dome 6.25 62 Pn Pn 12 12 05.0 +1.6
P29M Windy Craggy 6.34 101 Pn Pn 12 12 05.8 +1.3
BMAR Burnt Mountain 6.45 19 Pn Pn 12 12 09.2 +3.3
F25K Christian Rive 6.45 15 Pn Pn 12 12 08.0 +2.0
G27K Doyon Strip 6.51 31 Pn Pn 12 12 08.8 +2.0
E24K Your Creek 6.69 5 Pn Pn 12 12 10.8 +1.6
F26K Sheenjek River 6.76 19 Pn Pn 12 12 12.5 +2.2
E19K Redstone River 6.78 336 Pn Pn 12 12 12.3 +1.9
J30M Hart River 6.98 57 Pn Pn 12 12 15.5 +2.2
F17K Baldwin Pennin 7.02 320 Pn Pn 12 12 13.9 +0.2
H29M Whitestone 7.03 42 Pn Pn 12 12 14.9 +0.9
I30M Mount Dempster 7.22 52 Pn Pn 12 12 17.0 +0.4
TOLK Toolik Lake Re 7.22 1 Pn 12 12 19.5 +3.0
G29M Pine Creek 7.58 39 Pn Pn 12 12 23.5 +2.1
E27K Coleen River 7.66 24 Pn Pn 12 12 24.9 +2.4
C23K Itkillik River 8.43 359 Pn Pn 12 12 34.2 +1.3
D27M Malcolm River 8.69 22 Pn Pn 12 12 38.7 +2.1

*NOU **05** 12:16:51.5, 39.°95S×176.°85E, h11km, MLv4.1/12, North Island, New Zealand*
*WEL **05** 12:16:52.6±0.6, 40.°S±2.°×17.°7E±.°, h9km±3km, M4.2/16, ML4.6/16, MLv4.2/16, Error ellipse: s-maj=3.3km s-min=2.4km az=120.0, confirmed*
*WEL **05** 12:16:52.6, 39.°91S×176.°77E, h9km, ML4.1, Mw4.1, Moment Tensor Solution. s5 Moment tensor: Scale 10^{15} Nm; M_{rr}-0.02; $M_{\theta\theta}$1.51; $M_{\phi\phi}$-1.49; $M_{r\theta}$0.64; $M_{\theta\phi}$-0.49; $M_{r\phi}$0.20; Fault plane solution: $M_0$1.71000×10^{15} NP1: ϕ_s53.00000°, δ85.00000°, λ159.00000°. NP2: ϕ_s145.00000°, δ69.00000°, λ5.00000°. Principal axes: T 1.7874, Plg18.0000°, Azm7.0000°; N -1.6271, Plg68.0000°, Azm220.0000°; P -0.1603, Plg11.0000°, Azm101.0000°; Stations used: BKZ BFZ HIZ TOZ MKAZ STRIKE-SLIP FAULTING*

ISC 05 12:16:52.3±0.8, 39.°94S±0.°02×176.°82E±0.°03, h16km±5km, n143, σ0.°94/157, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.10**	**163**	P	**Pg**	**12 16 55.7**	**0.0**
PXZ				S	**Sg**	**12 17 00.1**	**+2.3**
KAHZ	**Kahuranaki**	**0.15**	**16**	P	**Pg**	**12 16 55.3**	**-1.0**
KAHZ				S	**Sg**	**12 16 59.1**	**+0.2**
WPWS	**Waipawa Distri**	**0.18**	**267**	P	**Pg**	**12 16 55.8**	**-1.0**
WPWS				S	**Sg**	**12 16 59.4**	**-0.4**
WPHZ	**Waipukurau**	**0.32**	**246**	P	**Pb**	**12 16 59.2**	**-0.5**
WPHZ				S	**Sb**	**12 17 05.1**	**+0.5**
CKHZ	**Cape Kidnapper**	**0.34**	**35**	P	**Pb**	**12 16 59.8**	**-0.1**
CKHZ				S	**Sb**	**12 17 06.8**	**+1.6**
PRHZ	**Porangahau**	**0.36**	**204**	P	**Pb**	**12 17 00.7**	**+0.4**
KRHZ	**Kereru**	**0.46**	**310**	P	**Pg**	**12 17 00.7**	**-0.8**
KRHZ				S	**Sg**	**12 17 07.6**	**0.0**
PNHZ	**Pukenui**	**0.48**	**272**	P	**Pg**	**12 17 01.4**	**-0.5**
PNHZ				S	**Sb**	**12 17 09.1**	**-0.2**
MCHZ	**McNeill Hill**	**0.50**	**349**	P	**Pg**	**12 17 02.0**	**-0.2**
MCHZ				S	**Sb**	**12 17 10.6**	**+0.9**
ANWZ	**Angora Road**	**0.59**	**207**	P	**Pb**	**12 17 05.4**	**+1.1**
KWHZ	**Kaweka Forest**	**0.60**	**329**	P	**Pg**	**12 17 03.3**	**-0.8**
KWHZ				S	**Sb**	**12 17 12.6**	**-0.1**
DVHZ	**Dannevirke**	**0.62**	**234**	P	**Pb**	**12 17 04.8**	**0.0**
DVHZ				S	**Sb**	**12 17 14.8**	**+1.5**
TSZ	**Takapari Road**	**0.67**	**259**	P	**Pg**	**12 17 05.0**	**-0.5**
TSZ				S	**Sb**	**12 17 15.0**	**+0.1**
ARHZ	**Aropaoanui**	**0.69**	**11**	P	**Pb**	**12 17 06.1**	**+0.3**
BKZ	**Black Stump Fm**	**0.81**	**341**	P	**Pg**	**12 17 07.0**	**-1.1**
BKZ	**Black Stump Fm**	**0.81**	**341**	P	**Pg**	**12 17 07.3**	**-0.7**
BKZ				S	**Sb**	**12 17 19.3**	**+0.5**
NMHZ	**Naumai**	**0.84**	**359**	P	**Pb**	**12 17 08.7**	**+0.1**
BFZ	**Birch Farm**	**0.87**	**210**	P	**Pb**	**12 17 09.1**	**+0.1**
BFZ	**Birch Farm**	**0.87**	**210**	P	**Pb**	**12 17 09.3**	**+0.3**
PRWZ	**Pori Road**	**0.90**	**226**	P	**Pn**	**12 17 10.5**	**+0.2**
PRWZ				S	**Sn**	**12 17 25.9**	**+2.9**
WHHZ	**Waihua**	**0.92**	**20**	P	**Pn**	**12 17 10.6**	**0.0**
POWZ	**Post Office Ro**	**0.93**	**240**	P	**Pn**	**12 17 10.7**	**0.0**
POWZ				S	**Sn**	**12 17 25.7**	**+2.0**
MOVZ	**Moawhango**	**0.98**	**302**	P	**Pg**	**12 17 10.0**	**-1.2**
MOVZ				S	**Sg**	**12 17 23.1**	**-1.0**
RAHZ	**Arahi**	**1.04**	**11**	P	**Pb**	**12 17 12.2**	**+0.3**
MTHZ	**Maungataniwha**	**1.08**	**1**	P	**Pg**	**12 17 12.6**	**-0.6**
CPWZ	**Castlepoint**	**1.08**	**206**	P	**Pn**	**12 17 13.7**	**+0.9**
TIWZ	**Tintock**	**1.10**	**220**	P	**Pb**	**12 17 13.2**	**+0.2**
TUVZ	**Tukino**	**1.12**	**306**	P	**Pg**	**12 17 13.1**	**-0.9**
KNZ	**Kokohu**	**1.12**	**36**	P	**Pb**	**12 17 12.4**	**-1.0**
WNVZ	**Wahianoa**	**1.12**	**302**	P	**Pg**	**12 17 13.0**	**-1.1**
MRHZ	**Matea Rd**	**1.15**	**344**	P	**Pb**	**12 17 13.5**	**-0.3**
MHGZ	**Mahia Peninsul**	**1.15**	**47**	P	**Pb**	**12 17 12.9**	**-0.9**
WHVZ	**Whangaehu Hut**	**1.16**	**304**	P	**Pg**	**12 17 13.7**	**-0.9**
TRVZ	**Turoa**	**1.17**	**302**	P	**Pb**	**12 17 13.9**	**-0.5**
ETVZ	**East Tongariro**	**1.18**	**313**	P	**Pb**	**12 17 14.1**	**-0.2**
MTVZ	**Mangateitei**	**1.18**	**297**	P	**Pb**	**12 17 14.2**	**-0.2**
MAVZ	**Matarangi**	**1.18**	**304**	P	**Pb**	**12 17 13.9**	**-0.6**
SNVZ	**South Ngauruho**	**1.18**	**309**	P	**Pb**	**12 17 14.1**	**-0.4**
OTVZ	**Oturere**	**1.18**	**310**	P	**Pb**	**12 17 14.0**	**-0.5**
HATZ	**Hinemaiaia**	**1.19**	**331**	P	**Pb**	**12 17 14.0**	**-0.5**
OHWZ	**Ohakea**	**1.19**	**256**	P	**Pg**	**12 17 15.2**	**-0.1**
TMVZ	**Te Maari**	**1.19**	**313**	P	**Pb**	**12 17 14.1**	**-0.5**
FWVZ	**Far West T-bar**	**1.20**	**304**	P	**Pb**	**12 17 14.1**	**-0.6**
MRZ	**Mangatainoka R**	**1.20**	**232**	P	**Pb**	**12 17 14.1**	**-0.5**
NGZ	**Ngauruhoe**	**1.21**	**308**	P	**Pb**	**12 17 14.6**	**-0.4**
RITZ	**Rihia Road**	**1.22**	**322**	P	**Pb**	**12 17 14.8**	**-0.1**
NTVZ	**North Tongarir**	**1.22**	**313**	P	**Pb**	**12 17 14.6**	**-0.5**
SNGZ	**Shannon Statio**	**1.22**	**19**	P	**Pn**	**12 17 14.4**	**-0.3**
NNVZ	**North Ngauruho**	**1.23**	**310**	P	**Pb**	**12 17 14.9**	**-0.4**
COVZ	**Chateau Observ**	**1.23**	**306**	P	**Pn**	**12 17 14.8**	**-0.2**
KRVZ	**Karewarewa**	**1.24**	**312**	P	**Pn**	**12 17 15.2**	**+0.1**
WTVZ	**West Tongariro**	**1.26**	**310**	P	**Pn**	**12 17 15.3**	**-0.1**
KATZ	**Kakaramea**	**1.30**	**317**	P	**Pn**	**12 17 16.1**	**+0.2**
PRGZ	**Paritu Road**	**1.30**	**39**	P	**Pn**	**12 17 14.9**	**-1.0**
PKVZ	**Pokaka**	**1.31**	**299**	P	**Pb**	**12 17 16.5**	**-0.1**
RTZ	**Ruatahuna**	**1.32**	**5**	P	**Pn**	**12 17 16.0**	**-0.2**
TMWZ	**Te Maipa**	**1.37**	**211**	P	**Pn**	**12 17 15.8**	**-1.0**
TWVZ	**Taurewa**	**1.38**	**308**	P	**Pn**	**12 17 17.2**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.39**	**226**	P	**Pn**	**12 17 16.5**	**-0.6**
ALRZ	**Allen Road**	**1.42**	**345**	P	**Pb**	**12 17 18.4**	**-0.1**
WAZ	**Wanganui**	**1.43**	**277**	P	**Pg**	**12 17 19.0**	**-0.7**
RIGZ	**Rimuhau**	**1.43**	**31**	P	**Pn**	**12 17 17.0**	**-0.6**
MUGZ	**Murupara**	**1.46**	**358**	P	**Pn**	**12 17 18.0**	**0.0**
PRRZ	**Plateau Road**	**1.47**	**347**	P	**Pn**	**12 17 18.2**	**0.0**
WATZ	**Wairara**	**1.49**	**325**	P	**Pn**	**12 17 18.6**	**+0.1**
WPRZ	**Whakapapatarin**	**1.50**	**340**	P	**Pn**	**12 17 18.8**	**+0.2**
RAGZ	**Rawiri**	**1.51**	**18**	P	**Pn**	**12 17 18.6**	**-0.1**
OGWZ	**Otaki Gorge**	**1.54**	**235**	P	**Pn**	**12 17 18.9**	**-0.2**
HRRZ	**Handcock Road**	**1.60**	**345**	P	**Pn**	**12 17 20.9**	**+0.9**
RRRZ	**Republican Roa**	**1.61**	**351**	P	**Pn**	**12 17 20.1**	**-0.1**
KUTZ	**Kaahu Road**	**1.64**	**331**	P	**Pn**	**12 17 20.5**	**0.0**
GRRZ	**Galatos Road**	**1.68**	**340**	P	**Pn**	**12 17 21.7**	**+0.7**
HSRZ	**Hossack Road**	**1.68**	**344**	P	**Pn**	**12 17 21.2**	**+0.1**
URZ	**Urewera**	**1.69**	**8**	P	**Pn**	**12 17 20.1**	**-1.0**
URZ	**Urewera**	**1.69**	**8**	S	**Sn**	**12 17 43.5**	**+1.1**
URZ	**Urewera**	**1.69**	**8**	P	**Pn**	**12 17 20.3**	**-0.8**
MWZ	**Matawai**	**1.69**	**19**	P	**Pn**	**12 17 20.1**	**-1.1**
TKGZ	**Te Karaka**	**1.69**	**28**	P	**Pn**	**12 17 20.1**	**-1.1**
TARZ	**Mount Tarawera**	**1.72**	**352**	P	**Pn**	**12 17 21.7**	**+0.1**
HLRZ	**Highlands Stat**	**1.72**	**348**	P	**Pg**	**12 17 24.6**	**-0.8**
KIWZ	**Kapiti Island**	**1.73**	**237**	P	**Pn**	**12 17 21.9**	**+0.1**
CAW	**Cannon Point**	**1.78**	**228**	P	**Pn**	**12 17 21.6**	**-0.8**
VRZ	**Vera Road**	**1.79**	**296**	P	**Pn**	**12 17 23.5**	**+1.0**
CNGZ	**Carnagh Statio**	**1.81**	**37**	P	**Pn**	**12 17 21.5**	**-1.2**
UTU	**Utuhina**	**1.82**	**344**	P	**Pb**	**12 17 25.8**	**+0.5**
OMRZ	**Omania**	**1.86**	**349**	P	**Pn**	**12 17 23.2**	**-0.3**
TLZ	**Tolley Road**	**1.89**	**328**	P	**Pn**	**12 17 23.9**	**-0.1**
NGRZ	**Ngongotaha**	**1.90**	**345**	P	**Pg**	**12 17 29.7**	**+1.0**
MSWZ	**Moikau Station**	**1.90**	**218**	P	**Pn**	**12 17 22.7**	**-1.4**
LREZ	**Lake Rotokare**	**1.93**	**283**	P	**Pb**	**12 17 26.6**	**-0.4**
KARZ	**Kaharoa**	**1.96**	**347**	P	**Pn**	**12 17 25.4**	**+0.4**
TWGZ	**Tauwhareparae**	**1.97**	**28**	P	**Pn**	**12 17 24.1**	**-1.1**
PLWZ	**Palliser**	**2.02**	**216**	P	**Pn**	**12 17 24.1**	**-1.7**
RUGZ	**Raukumara Rang**	**2.08**	**19**	P	**Pn**	**12 17 25.7**	**-0.9**
WHRZ	**Whale Island**	**2.08**	**3**	P	**Pn**	**12 17 26.1**	**-0.4**
HIZ	**Hauiti**	**2.09**	**312**	P	**Pn**	**12 17 26.4**	**-0.2**
HIZ	**Hauiti**	**2.09**	**312**	P	**Pn**	**12 17 26.9**	**+0.2**
BHW	**Baring Head**	**2.09**	**225**	P	**Pn**	**12 17 26.7**	**+0.1**
SNZO	**South Karori**	**2.12**	**229**	P	**Pn**	**12 17 26.7**	**-0.3**
PREZ	**Palmer Road**	**2.14**	**285**	P	**Pn**	**12 17 30.1**	**-0.6**
DREZ	**Duncan Road**	**2.16**	**289**	P	**Pn**	**12 17 28.6**	**+0.9**
PUZ	**Puketiti**	**2.17**	**31**	P	**Pn**	**12 17 25.8**	**-2.0**
NEZ	**North Egmont**	**2.21**	**287**	P	**Pb**	**12 17 31.7**	**-0.2**
TGRZ	**Tauranga**	**2.25**	**349**	P	**Pb**	**12 17 33.3**	**+0.8**
KHEZ	**Kahui Hut**	**2.26**	**286**	P	**Pg**	**12 17 34.3**	**-1.4**
PKGZ	**Pakihiroa**	**2.29**	**26**	P	**Pn**	**12 17 27.9**	**-1.5**
HAZ	**Te Kaha**	**2.30**	**19**	P	**Pn**	**12 17 28.5**	**-1.0**
TCW	**Tory Channel**	**2.32**	**236**	P	**Pn**	**12 17 29.2**	**-0.6**
NMEZ	**Namu Road**	**2.33**	**282**	P	**Pb**	**12 17 33.5**	**-0.4**
NBEZ	**Newall Road No**	**2.38**	**285**	P	**Pb**	**12 17 35.0**	**+0.3**
DUWZ	**D'Urville Isla**	**2.38**	**248**	P	**Pn**	**12 17 31.9**	**+1.2**
TOZ	**Tahuroa Road**	**2.43**	**334**	P	**Pn**	**12 17 31.4**	**0.0**
WMGZ	**Waiomatatini S**	**2.45**	**31**	P	**Pn**	**12 17 29.9**	**-1.7**
MXZ	**Matakaoa Point**	**2.64**	**27**	P	**Pn**	**12 17 34.1**	**-0.1**
MXZ	**Matakaoa Point**	**2.64**	**27**	P	**Pn**	**12 17 34.0**	**-0.1**
TUWZ	**Tuamarina**	**2.65**	**235**	P	**Pn**	**12 17 33.3**	**-1.1**
BSWZ	**Blackbirch Sta**	**2.86**	**231**	P	**Pn**	**12 17 36.2**	**-1.0**
NNZ	**Nelson**	**2.92**	**243**	P	**Pn**	**12 17 37.6**	**-0.5**
MKAZ	**Moumakai**	**3.11**	**335**	P	**Pn**	**12 17 41.0**	**+0.2**
TKNZ	**Takaka Hill**	**3.14**	**248**	P	**Pb**	**12 17 45.9**	**-2.0**
KUZ	**Kuaotunu**	**3.30**	**344**	P	**Pn**	**12 17 43.9**	**+0.6**
ETAZ	**East Tamaki Re**	**3.33**	**333**	P	**Pn**	**12 17 42.1**	**-1.6**
AWAZ	**Awhitu Peninsu**	**3.34**	**328**	P	**Pn**	**12 17 44.5**	**+0.7**
QRZ	**Quartz Range**	**3.40**	**253**	P	**Pn**	**12 17 44.7**	**0.0**
QRZ	**Quartz Range**	**3.40**	**253**	P	**Pn**	**12 17 43.6**	**-1.1**
WIAZ	**Waiheke Island**	**3.41**	**337**	P	**Pn**	**12 17 45.3**	**+0.5**
MRNZ	**Matariki Terra**	**3.42**	**243**	P	**Pn**	**12 17 44.6**	**-0.3**
WTAZ	**Waiatarua**	**3.48**	**329**	P	**Pn**	**12 17 48.5**	**+2.7**
THZ	**Tophouse**	**3.49**	**237**	P	**Pn**	**12 17 44.4**	**-1.5**
KHZ	**Kahutara**	**3.50**	**224**	P	**Pn**	**12 17 45.5**	**-0.6**
KHZ	**Kahutara**	**3.50**	**224**	P	**Pn**	**12 17 44.8**	**-1.3**
MBAZ	**Motutapu North**	**3.51**	**334**	P	**Pn**	**12 17 46.8**	**+0.7**
RVAZ	**Riverhead Bore**	**3.62**	**330**	P	**Pn**	**12 17 48.3**	**+0.6**
WCZ	**Waipu Caves**	**4.45**	**333**	P	**Pn**	**12 17 59.8**	**+0.7**
LTZ	**Lake Taylor**	**4.45**	**229**	P	**Pn**	**12 17 56.6**	**-2.6**
OKCZ	**Okains Bay**	**4.71**	**215**	P	**Pn**	**12 18 00.6**	**-2.2**
MQZ	**McQueen's Vall**	**4.89**	**218**	P	**Pn**	**12 18 02.5**	**-2.6**
INZ	**Inchbonnie**	**4.92**	**234**	P	**Pn**	**12 18 03.2**	**-2.3**
OUZ	**Omahuta**	**5.36**	**330**	P	**Pn**	**12 18 12.5**	**+0.9**
GCSZ	**Gaunt Creek Bo**	**5.92**	**233**	P	Pn	12 18 24.3	+4.9
CTZ	**Chatham Island**	**6.20**	**130**	P	**Pn**	**12 18 22.5**	**-0.5**
TMZ	**Timaru**	**6.20**	**222**	P	**Pn**	**12 18 21.6**	**-1.6**
ODZ	**Otahua Downs**	**6.85**	**220**	P	**Pn**	**12 18 30.5**	**-1.5**

*IDC **05** 12:33:47.3±1.5, 1.°76N×126.°36E, h0km, mb4.0/4, mbtmp4.0/5, ML4.0/1, MS3.9/2, Error ellipse: s-maj=101.8km s-min=22.4km az=68.0*
*DJA **05** 12:33:52.8±1.1, 2.°N±2.°×12.°6E±.°, h17km±10km, M4.0/12, mB4.9/1, mb4.1/3, MLv4.0/12, Mw(mB)4.2/1*

ISC 05 12:33:53.7±0.9, 1.°65N±0.°06×126.°35E±0.°07, h47km, n14, σ1°54/17, mb4.0/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.34**	**131**	P	**Pn**	**12 34 16.5**	**+0.5**
SGSI	**Sangihe**	**2.18**	**338**	P	**Pn**	**12 34 26.3**	**-1.2**
SGSI				S	**Sn**	**12 34 54.0**	**+0.7**
KMSI	**Cibinong**	**2.59**	**246**	P	**Pn**	**12 34 33.3**	**+0.1**
KMSI				S	**Sn**	**12 35 03.6**	**+0.1**
SANI	**Sanana**	**3.69**	**186**	P	**Pn**	**12 34 47.1**	**-1.2**
LUWI	**Luwuk**	**4.46**	**233**	P	**Pn**	**12 34 59.1**	**+0.2**
MRSI	**Marisa**	**4.56**	**255**	P	**Pn**	**12 35 00.6**	**+0.5**
NLAI	**Namlea**	**4.92**	**171**	P	**Pn**	**12 35 05.8**	**+0.7**
MPSI	**Mapaga**	**6.58**	**259**	P	**Pn**	**12 35 29.0**	**+1.1**
	0.1nm13nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.64**	**182**	P	**P**	**12 38 18.2**	**-0.4**
	0.3nm,0.3s,baz=16,slow=12,SNR=9.2						
FITZ				S	**S**	**12 41 52.9**	**-4.9**
	5.6nm,1.0s,baz=70,slow=15,SNR=2.3						
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**22.85**	**160**	P	**P**	**12 38 53.0**	**-0.1**
	5.3nm,0.6s,baz=340,slow=11,SNR=58						
	5.3nm,0.6s						
ASAR	**Alice Springs**	**26.22**	**164**	P	**P**	**12 39 24.9**	**+0.5**
	1.1nm,0.5s,baz=344,slow=7.3,SNR=23						
ASAR				PcP	**PcP**	**12 42 51.2**	**+0.8**
	0.2nm,0.6s,baz=330,slow=2.4,SNR=1.9						
	1.1nm,0.5s						
STKA	**Stephens Creek**	**36.35**	**158**	P	**P**	**12 40 54.9**	**+1.5**
	2.7nm,0.8s,baz=320,slow=9.6,SNR=2.8						
	2.7nm,0.8s						
MKAR	**Makanchi Array**	**59.05**	**326**	P	**P**	**12 43 48.5**	**-0.5**
	0.3nm,0.3s,baz=122,slow=7.5,SNR=7.4						
MKAR				LR	LR	13 11 09.8	
	comp=Z,38nm,18.6s,baz=40,slow=38						
	0.3nm,0.3s						
RES	**Resolute Bay**	**99.91**	**10**	LR	LR	13 35 00.1	
	comp=Z,109nm,20.3s,baz=304,slow=37						

*IDC **05** 12:40:12.9±0.5, 15.°17S×173.°41W, h0km, mb4.3/17, mbtmp4.3/17, MS4.5/55, Error ellipse: s-maj=24.0km s-min=15.2km az=134.0*
*BJI **05** 12:40:12.5, 14.°91S×172.°88W, h8km, mB5.4/16, mb5.0/28, Ms5.0/19, Ms7 4.7/20*
*NEIC **05** 12:40:14.0±2.5, 14.°97S±0.°07×172.°99W±0.°07, h10km±1km, mb5.0/180, Mww5.2/10, Error ellipse: s-maj=13.7km s-min=10.4km az=142.0*
*NOU **05** 12:40:14.3, 15.°05S×172.°73W, h0km, mb5.0/13, Samoa Islands Region*
*GCMT **05** 12:40:19.9±0.1, 15.°07S±0.°01×173.°11W±0.°01, h13km±1km, MW5.2/139, Moment Tensor Solution. s70,c94; s139,c235; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.91±.11; $M_{\theta\theta}$3.13±.10; $M_{\phi\phi}$-4.04±.10; $M_{r\theta}$1.93±.30; $M_{\theta\phi}$3.07±.08; $M_{r\phi}$4.42±.49; Best double couple: $M_0$6.78900×10^{16} NP1:ϕ_s117.00000°, δ44.00000°, λ7.00000°. NP2:ϕ_s21.00000°, δ85.00000°, λ134.00000°. Principal axes: T 6.6400, Plg35.0000°, Azm328.0000°; N 0.3010, Plg43.0000°, Azm197.0000°; P -6.9390, Plg27.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 12:40:13.7±0.3, 15.°10S±0.°06×172.°83W±0.°05, h10km, n525, σ2.°21/432, mb5.0/119, MS4.6/62, 15C-11D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.56**	**41**		**Pn**	**12 40 40.9**	**-0.7**
AFI	**Afiamalu**	**1.56**	**41**	P	**Pn**	**12 40 40.8**	**-0.8**
NIUE	**Niue**	**4.83**	**145**	Pn	**Pn**	**12 41 27.4**	**+0.9**
NIUE	**Niue**	**4.83**	**145**	P	**Pn**	**12 41 27.5**	**+0.9**
FUTU	**Fugatoga**	**5.18**	**278**		**Pn**	**12 41 27.5**	**-3.8**
LKBA	**Tubou, Lakemba**	**6.52**	**241**	P	**Pn**	**12 41 51.5**	**+1.7**
TAVE	**Taveuni**	**6.99**	**256**	P	**Pn**	**12 41 58.2**	**+2.0**
DGTI	**Dogotuki**	**7.25**	**260**	P	**Pn**	**12 42 01.3**	**+1.5**
MSVF	**Nonsavu**	**9.13**	**252**	Pn	**Pn**	**12 42 28.8**	**+3.1**
MSVF	**Nonsavu**	**9.13**	**252**	Pn	**Pn**	**12 42 28.3**	**+2.6**
	0.7nm,0.3s,baz=98,slow=12,SNR=48						
MSVF				LR	LR	12 45 14.1	
	comp=Z,8μm,18.8s,baz=71,slow=35						
MSVF	**Nonsavu**	**9.13**	**252**	P	Pn	12 42 29.4	+3.7
YSA	**Yasawairara**	**9.36**	**259**	P	**Pn**	**12 42 31.7**	**+3.0**
RAR	**Rarotonga**	**13.82**	**118**	Pn	**Pn**	**12 43 30.3**	**+0.6**
RAR	**Rarotonga**	**13.82**	**118**	Pn	**Pn**	**12 43 30.0**	**+0.3**
	2.1nm,0.3s,baz=260,slow=7.0,SNR=13						
RAR				Sn	**Sn**	**12 45 59.9**	**-3.4**
	0.7nm,0.3s,baz=180,slow=18,SNR=1.1						
RAR				LR	LR	12 47 27.9	
	comp=Z,2μm,21.7s,baz=304,slow=30						
RAR	**Rarotonga**	**13.82**	**118**	P	**Pn**	**12 43 30.9**	**+1.2**
**

BBOO Buckleboo 49.43 240 P P 12 49 03.6 -0.5
WR0 Warramunga Arr 50.25 256 P P 12 49 07.2 -3.4
WR0 IAmb IAmb 12 49 15.4
comp=Z,45nm,1.7s
WR8 Warramunga Arr 50.29 256 P P 12 49 08.9 -2.0
WR8 IAmb IAmb 12 49 16.4
comp=Z,35nm,1.6s
WB0 Warramunga Arr 50.40 257 P P 12 49 08.6 -3.1
WB0 IAmb IAmb 12 49 13.4
comp=Z,35nm,1.6s
WB2 Warramunga Arr 50.43 256 P P 12 49 08.7 -3.2
WRA Warramunga Arr 50.45 256 P P 12 49 08.9 -3.1
WRA Warramunga Arr 50.45 256 P P 12 49 06.8 -5.2
comp=Z,1.9nm,0.7s,baz=90,slow=6.9,SNR=27
WRA LR LR 13 08 08.6
comp=Z,624nm,20.9s,baz=90,slow=34
comp=Z,1.9nm,0.7s
GUMO Guam 50.64 302 LR LR 13 08 24.7
comp=Z,332nm,19.1s,baz=104,slow=34
AS31 Alice Springs 50.72 252 P P 12 49 10.9 -3.2
ASAR Alice Springs 50.72 252 P P 12 49 10.2 -3.9
ASAR Alice Springs 50.72 252 P P 12 49 09.6 -4.5
comp=Z,11nm,0.8s,baz=86,slow=8.0,SNR=87
ASAR LR LR 13 08 30.9
comp=Z,2µm,21.6s,baz=93,slow=34
comp=Z,11nm,0.8s
FORT Forrest 56.04 243 P P 12 49 50.8 -2.2
FITZ Fitzroy Crossi 58.81 258 P P 12 50 11.5 -1.2
comp=Z,4.4nm,1.1s,baz=150,slow=14,SNR=1.5
FITZ LR LR 13 13 15.1
comp=Z,912nm,20.4s,baz=101,slow=34
comp=Z,4.4nm,1.1s
JCJ Chichijima 60.54 314 LR LR 13 11 36.0
comp=Z,464nm,21.0s,baz=126,slow=31
SBA Scott Base 63.59 185 P P 12 50 44.9 +0.7
SBA IAmb IAmb 12 51 03.5
comp=Z,15nm,1.3s
VNDA Vanda 63.73 186 P P 12 50 45.4 +0.3
VNDA Vanda 63.73 186 P P 12 50 45.4 +0.3
comp=Z,5.1nm,1.1s,baz=16,slow=5.6,SNR=5.3
VNDA LR LR 13 15 02.1
comp=Z,87nm,19.8s,baz=10.0,slow=33
comp=Z,5.1nm,1.1s
PSA00 Pilbara Seismi 63.81 253 P P 12 50 45.3 -1.3
PSA00 IAmb IAmb 12 52 45.0
comp=Z,24nm,1.8s
MBWA Marble Bar 63.97 254 P P 12 50 44.7 -3.0
DAV Davao City (W) 64.88 285 LR LR 13 17 29.2
comp=Z,395nm,18.4s,baz=114,slow=35
NWAO Narrogin (SRO) 65.24 240 LR LR 13 16 56.8
comp=Z,397nm,21.1s,baz=81,slow=34
KAPI Kappang 66.92 271 LR LR 13 18 31.4
comp=Z,169nm,20.9s,baz=110,slow=35
SHEM Shemya Is, Ala 68.49 352 LR LR 13 16 15.4
comp=Z,496nm,19.4s,baz=163,slow=32
MJAR Matsushiro Arr 69.07 319 LR LR 13 15 47.7
comp=Z,616nm,21.9s,baz=108,slow=31
JOW Kunigami 70.75 306 LR LR 13 16 23.6
comp=Z,417nm,21.8s,baz=106,slow=31
SDPT Sand Point 70.95 7 P P 12 51 35.5 +4.5
baz=193
ASAJ Asahikawa 71.58 328 LR LR 13 17 08.0
comp=Z,205nm,21.6s,baz=125,slow=31
TGY Tagaytay City 71.64 291 LR LR 13 17 32.2
comp=Z,490nm,21.9s,baz=110,slow=32
JNU Nakatsue 72.00 313 LR LR 13 17 47.3
comp=Z,214nm,20.6s,baz=126,slow=32
O02D Mt. Diablo Mer 72.01 38 P P 12 51 36.9 -1.0
O02D IAmb IAmb 12 51 50.5
comp=Z,16nm,1.2s
ISA Isabella, Lake 72.06 44 P P 12 51 36.6 -1.7
CHIR Chirikof Islan 72.12 10 P P 12 51 37.0 -1.1
CHGN Chignik 72.15 8 P P 12 51 37.2 -1.0
CHGN Chignik 72.15 8 P P 12 51 41.0 +2.8
baz=195
PET Petropavlovsk 72.16 342 P P 12 51 36.8 -1.6
CMB Columbia Colle 72.18 41 P P 12 51 38.2 -0.8
PFO Pinyon Flats O 72.32 47 P P 12 51 38.9 -1.1
PFO Pinyon Flats O 72.32 47 LR LR 13 15 21.4
comp=Z,514nm,21.9s,baz=242,slow=29
LPIG La Paz 72.42 58 LR LR 13 15 23.6
comp=Z,317nm,20.9s,baz=218,slow=29
PETK Petropavlovsk- 72.52 342 P P 12 51 39.8 -0.7
PETK Petropavlovsk- 72.52 342 P P 12 51 40.8 +0.3
comp=Z,5.9nm,0.8s,baz=143,slow=8.9,SNR=6.5
PETK LR LR 13 20 56.3
comp=Z,139nm,19.0s,baz=157,slow=34
comp=Z,5.9nm,0.8s
GSC Goldstone, Bar 72.99 45 P P 12 51 43.3 -0.6
YBH Yreka Blue Hor 73.03 37 LR LR 13 16 31.8
comp=Z,246nm,21.2s,baz=236,slow=30
DSP Deep Springs 73.36 43 P P 12 51 44.4 -1.5
PIX Pinacate 73.43 50 P P 12 51 45.2 -1.2
PIX IAmb IAmb 12 53 22.7
comp=Z,23nm,0.9s
YSS Yuzhno-Sakhali 73.50 330 P P 12 51 44.1 -2.4
RYN Ryan 73.72 42 P P 12 51 47.0 -1.2
RYN IAmb IAmb 12 52 37.6
comp=Z,20nm,1.7s
NVAR Mina Array Bea 73.74 42 P P 12 51 46.6 -1.8
NVAR Mina Array Bea 73.74 42 P P 12 51 52.1 +3.7
comp=Z,1.0nm,0.9s,baz=225,slow=11,SNR=7.2
NVAR LR LR 13 16 59.9
comp=Z,259nm,21.1s,baz=196,slow=30
comp=Z,1.0nm,0.9s
113A Mohawk Valley, 73.81 49 P P 12 51 47.6 -1.1
NV11 Mina Array Sit 73.84 42 P P 12 51 48.4 -0.5
Q16K King Salmon 74.70 9 P P 12 51 55.9 +2.7
baz=196
SHPR Sheep Range 74.76 45 P P 12 51 53.8 -0.5
J05D Fort Rock, OR 74.86 36 P P 12 51 52.8 -2.0
J05D IAmb IAmb 12 52 07.3
comp=Z,13nm,1.1s
P16K Nushagak River 74.86 8 P P 12 51 57.4 +3.3
baz=195
QSPA South Pole Qui 74.94 180 P P 12 51 56.3 +1.4
QSPA IAmb IAmb 12 52 04.3
comp=Z,37nm,1.4s
QSPA South Pole Qui 74.94 180 P P 12 51 56.4 +1.6
comp=Z,7.3nm,0.8s,baz=18,slow=0.3,SNR=18
QSPA LR LR 13 19 15.8
comp=Z,168nm,21.7s,baz=44,slow=31
comp=Z,7.3nm,0.8s
Y14A Wickenburg 74.95 48 P P 12 51 54.3 -1.0
P17K Kvichak River 75.23 9 P P 12 51 59.6 +3.3
baz=197
P18K Big Mountain, 75.60 9 P P 12 52 01.1 +2.6
baz=198
O17K Koliganek Bris 75.70 8 P P 12 52 02.4 +3.5
baz=196
M14K Bethel 76.09 5 P P 12 52 04.2 +3.0
baz=191
N16K Nishlik Lake 76.16 7 P P 12 52 04.4 +2.8
baz=194
M15K Kasigluk River 76.16 6 P P 12 52 04.7 +3.1
baz=192
KSRS Korea Array 76.33 315 P P 12 52 03.5 +0.4
comp=Z,4.4nm,1.1s,baz=128,slow=6.7,SNR=9.8
KSRS LR LR 13 20 25.0
comp=Z,198nm,21.4s,baz=110,slow=32
comp=Z,4.4nm,1.1s
KSAR Wonju Array Be 76.35 315 P P 12 52 02.4 -0.8
N17K Nushagak Hills 76.41 8 P P 12 52 04.8 +1.8
baz=196
HOM Homer 76.46 11 P P 12 52 06.6 +3.3
baz=201
O19K Port Alsworth 76.51 9 P P 12 52 06.5 +3.0
baz=199
L14K Kuka Creek 76.61 5 P P 12 52 07.4 +3.3
baz=190
M16K Timber Creek 76.67 7 P P 12 52 07.9 +3.4
baz=194
U15A North Rim 76.70 46 P P 12 52 04.6 -1.0
N18K Kilae Creek 76.74 8 P P 12 52 07.8 +2.9
baz=197
WUAZ Wupatki 76.89 47 P P 12 52 05.5 -1.0
ELK Elko 77.00 41 P P 12 52 05.7 -1.5
K13K Kusilvak Mount 77.05 4 P P 12 52 09.5 +2.9
baz=188
L15K Ungalak Mounta 77.05 6 P P 12 52 09.5 +2.9
baz=191
PKCU Pink Cliffs 77.20 45 P P 12 52 08.7 +0.3
M17K Holitna River 77.22 8 P P 12 52 10.5 +2.9
baz=195
L16K Owhat River 77.29 6 P P 12 52 11.0 +3.1
baz=193
SEW Seward 77.29 12 P P 12 52 10.9 +3.0
baz=203
G08A Pilot Rock 77.37 36 P P 12 52 08.5 -0.5
G08A IAmb IAmb 12 52 19.9
comp=Z,12nm,1.2s
BBB Bella Bella 77.38 26 LR LR 13 20 05.3
comp=Z,103nm,19.7s,baz=235,slow=31
USRK Ussuriysk Ar. 77.48 323 LR LR 13 19 47.5
comp=Z,471nm,21.8s,baz=131,slow=31
M18K Stony River 77.53 8 P P 12 52 11.9 +2.6
baz=197
O22K Cooper Landing 77.58 11 P P 12 52 13.1 +3.5
baz=203
P23K Montague Islan 77.61 13 P P 12 52 13.0 +3.2
baz=205
K15K Wolf Creek Mou 77.65 5 P P 12 52 13.2 +3.2
baz=191
L17K Donlin 77.83 7 P P 12 52 14.1 +3.1
baz=194
CRAG Craig 77.86 22 P P 12 52 14.3 +3.1
baz=219
L18K Granite Mounta 78.11 8 P P 12 52 15.8 +3.3
baz=196
LEM Lembang 78.20 266 LR LR 13 27 35.7
comp=Z,237nm,18.8s,baz=122,slow=37
SIT Sitka 78.36 20 P P 12 52 16.9 +3.0
baz=217
K17K Iditarod 78.40 7 P P 12 52 17.5 +3.4
baz=194
GLI Glacier Island 78.47 13 P P 12 52 17.8 +3.2
baz=206
GAMB Gambell 78.63 1 P P 12 52 18.5 +3.1
baz=181
SKT Skwentna 78.65 10 P P 12 52 19.4 +3.8
baz=201
KNK Knik Glacier 78.69 12 P P 12 52 19.2 +3.4
baz=204
M22K Willow 78.69 11 P P 12 52 18.9 +3.2
baz=202
J16K Anvik River 78.71 6 P P 12 52 19.0 +3.1
baz=192
PMR Palmer 78.72 11 P P 12 52 19.3 +3.5
baz=204
L20K Farewell, AK 78.75 9 P P 12 52 19.4 +3.3
baz=199
S31K Pelican 78.80 19 P P 12 52 19.7 +3.4
baz=216
TTA Tatalina 78.89 8 P P 12 52 16.0 -0.9
TTA IAmb IAmb 12 52 23.8
comp=Z,19nm,1.3s
TTA Tatalina 78.89 8 P P 12 52 20.2 +3.3
baz=197
S32K Killisnoo 78.93 20 P P 12 52 20.4 +3.3
baz=218
J17K VABM Dome 78.98 6 P P 12 52 20.8 +3.5
baz=194
B08A Colville Reser 79.03 33 P P 12 52 17.1 -0.9
MESA MESA 79.04 15 P P 12 52 21.4 +3.4
baz=210
HLID Hailey 79.05 39 P P 12 52 18.5 +0.1
SML Sawmill 79.07 12 P P 12 52 21.5 +3.6
baz=204
BMRM Bremner River 79.10 14 P P 12 52 17.4 -0.7
BMRM IAmb IAmb 12 52 25.0
comp=Z,29nm,1.1s
BMRM Bremner River 79.10 14 P P 12 52 21.1 +3.0
baz=208
HVU Hansel Valley 79.12 41 P P 12 52 18.4 -0.4
M23K Glacier View 79.18 12 P P 12 52 21.7 +3.2
baz=205
CUT Chulitna 79.27 10 P P 12 52 22.0 +3.1
baz=202
KLU Klutina 79.28 13 P P 12 52 19.5 +0.5
KLU IAmb IAmb 12 53 22.9
comp=Z,20nm,1.3s
KLU Klutina 79.28 13 P P 12 52 22.4 +3.3
baz=207
PNL Peninsula 79.28 17 P P 12 52 21.7 +2.6
baz=213
SCM Sheep Creek Mo 79.29 12 P P 12 52 22.6 +3.4
baz=205
J18K Innoko River 79.31 7 P P 12 52 18.3 -0.9
J18K IAmb IAmb 12 52 29.9
comp=Z,24nm,1.2s
J18K Innoko River 79.31 7 P P 12 52 22.4 +3.2
baz=196
PINM Pinnacle 79.41 16 P P 12 52 23.2 +3.4
baz=212
VHRN Van Horn 79.54 54 P P 12 52 20.1 -1.2
VHRN IAmb IAmb 12 52 27.7
comp=Z,34nm,1.8s
K20K Telida 79.56 8 P P 12 52 20.1 -0.3
K20K Telida 79.56 8 P P 12 52 23.4 +2.9
baz=199
R32K Eaglecrest 79.59 19 P P 12 52 23.8 +3.1
baz=218
MNTX Cornudas Mount 79.61 53 P P 12 52 20.0 -1.5
ANM Nome 79.62 3 P P 12 52 24.4 +3.6
baz=188
N25K Chitina, Valde 79.67 13 P P 12 52 20.0 -1.2
N25K IAmb IAmb 12 52 25.5
comp=Z,54nm,1.9s
N25K Chitina, Valde 79.67 13 P P 12 52 23.9 +2.7
baz=208
M24K Tolsona, Glenn 79.78 12 P P 12 52 25.1 +3.3
baz=206
H16K Elim 79.91 5 P P 12 52 25.6 +3.3
baz=191
CAST Castle Rocks 79.91 9 IAmb IAmb 12 53 27.8
comp=Z,26nm,1.7s
CAST Castle Rocks 79.91 9 P P 12 52 25.1 +2.7
baz=200
J19K Poorman 79.96 8 P P 12 52 25.4 +2.8
baz=197
TX31 Lajitas Ar. Si 79.99 56 P P 12 52 23.4 -0.4
TX31 IAmb IAmb 12 52 29.3
comp=Z,18nm,1.4s
TXAR Lajitas Array 79.99 56 P P 12 52 22.6 -1.1
TXAR Lajitas Array 79.99 56 P P 12 52 27.5 +3.8
comp=Z,2.0nm,1.0s,baz=228,slow=4.9,SNR=18
TXAR LR LR 13 19 41.7
comp=Z,221nm,20.9s,baz=238,slow=29
comp=Z,2.0nm,1.0s
O28M Mount Upton 80.00 16 P P 12 52 26.0 +2.7
baz=212
O29M Mount Kennedy 80.04 17 P P 12 52 26.2 +2.9
baz=214
PV21 Cone Mtn., Par 80.04 46 P P 12 52 24.1 +0.1
PV12 Saucer Basin, 80.05 46 P P 12 52 23.2 -0.8
PV12 IAmb IAmb 12 52 35.7
comp=Z,19nm,1.1s
MA2 Magadan 80.05 342 LR LR 13 23 31.5
comp=Z,186nm,19.9s,baz=126,slow=32
G15K Niukluk 80.13 4 P P 12 52 26.5 +3.0
baz=189
NEW Newport 80.16 34 LR LR 13 21 42.3
comp=Z,137nm,20.1s,baz=233,slow=31
ANMO Albuquerque 80.19 50 P P 12 52 26.4 +1.5
ANMO Albuquerque 80.19 50 LR LR 13 20 22.5
comp=Z,298nm,20.7s,baz=44,slow=30
PV07 Paradox Valley 80.21 46 P P 12 52 24.9 0.0
KTH Kantishna Hill 80.23 10 P P 12 52 25.4 +1.2
KTH IAmb IAmb 12 52 35.0
comp=Z,19nm,1.2s
TRF Thorofare Moun 80.23 10 IAmb IAmb 12 52 37.5
comp=Z,45nm,1.6s
TRF Thorofare Moun 80.23 10 P P 12 52 27.2 +2.8
baz=202
HARP HAARP 80.25 13 P P 12 52 26.8 +2.5
baz=207
SKAG Skagway 80.29 18 P P 12 52 27.0 +2.5
baz=217
CHUM Lake Minchumin 80.31 9 P P 12 52 27.3 +2.7
baz=200
J20K Nowinta River 80.33 8 P P 12 52 24.4 -0.2
J20K IAmb IAmb 12 52 31.9
comp=Z,19nm,1.1s
J20K Nowinta River 80.33 8 P P 12 52 27.8 +3.1
baz=198
P30M Million Dollar 80.34 17 P P 12 52 27.9 +3.1
baz=215
H17K Granite Mounta 80.40 6 P P 12 52 28.1 +3.1
baz=193
NJ2 Nanjing 80.42 307 *e*P P 12 52 25.5 -0.3
NJ2 pmax pmax
comp=Z,26nm,0.6s
ALPN Alpine 80.43 55 P P 12 52 27.6 +1.5
ALPN IAmb IAmb 12 52 31.3
comp=Z,28nm,1.7s
RND Reindeer 80.44 11 P P 12 52 26.7 +1.4
RND IAmb IAmb 12 52 32.1
comp=Z,29nm,1.2s
S34M Telegraph Cree 80.44 21 P P 12 52 28.6 +3.2
baz=221
F14K Arctic Creek 80.48 3 P P 12 52 28.1 +2.7
baz=187
TNA Tin City 80.51 2 P P 12 52 28.3 +2.8
baz=185
GCSA Galena City Sc 80.53 7 P P 12 52 29.0 +3.4
baz=196
YUK8 Steele Glacier 80.55 15 P P 12 52 28.8 +2.6
baz=212
KLR Kul'dur 80.57 327 LR LR 13 22 34.5
comp=Z,267nm,21.5s,baz=140,slow=32
YUK6 Outpost Mounta 80.63 16 P P 12 52 29.1 +2.5
baz=214
G16K Koyuk River 80.64 4 P P 12 52 28.7 +2.4
baz=190
PAX Paxson 80.70 12 P P 12 52 29.5 +2.7
baz=207
BPAW Bear Paw Mtn. 80.73 10 P P 12 52 29.7 +2.9
baz=202
M26K Nabesna, AK 80.73 14 IAmb IAmb 12 52 34.0
comp=Z,19nm,1.1s
M26K Nabesna, AK 80.73 14 P P 12 52 29.6 +2.7
baz=209,SNR=11
MCK McKinley 80.73 11 IAmb IAmb 12 52 33.3
comp=Z,21nm,0.9s
MCK McKinley 80.73 11 P P 12 52 29.8 +3.0
baz=204
H18K Honhosa River 80.76 6 P P 12 52 26.7 -0.3
H18K IAmb IAmb 12 52 33.5
comp=Z,20nm,1.3s
H18K Honhosa River 80.76 6 P P 12 52 29.9 +3.0
baz=194
HYT Haines Junctio 80.77 17 P P 12 52 27.0 -0.2
HYT IAmb IAmb 12 52 34.9
comp=Z,16nm,1.2s
HYT Haines Junctio 80.77 17 P P 12 52 30.2 +3.0
baz=215
YUK3 Moose Creek 80.79 15 P P 12 52 30.4 +3.0
baz=212
F15K North Star Dit 80.80 3 P P 12 52 30.3 +3.2
baz=188
Q32M Nakina River 80.86 20 P P 12 52 30.8 +3.0
baz=220
G17K Kiwalik Mounta 80.89 5 P P 12 52 30.9 +3.3
baz=192
YUK4 Talbot Arm 80.89 16 P P 12 52 31.7 +3.7
baz=214
M27K Edge Creek, AK 80.95 14 IAmb IAmb 12 52 35.1
comp=Z,35nm,1.4s
M27K Edge Creek, AK 80.95 14 P P 12 52 30.9 +2.8
baz=210,SNR=8.5
BNX BinXian 81.03 322 ||P P **12 52 29.4 +0.6**
BNX S **SKSac 13 02 43.9 -3.9**
BNX sS **SKKSac 13 02 48.0 -2.3**
BNX pmax pmax
comp=Z,11nm,1.0s
BNX LR LR
comp=Z,220nm,16.3s
BNX LR LR
comp=Z,280nm,19.5s
BNX LR LR
comp=Z,480nm,21.7s
O30N Mendenhall 81.12 17 P P 12 52 32.1 +3.0
baz=216
S22A 4UR Ranch, Cre 81.17 47 IAmb IAmb 12 52 41.3
comp=Z,20nm,1.3s
L26K Log Cabin Wild 81.20 13 P P 12 52 32.1 +2.8
baz=209
CN2 Changchun 81.21 320 *e*P P **12 52 31.6 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BVCY Beaver Creek 81.24 14 P P 12 52 33.1 +3.5
baz=211
H19K Roundabout Mou 81.33 7 IAmb IAmb 12 52 37.0
comp=Z,15nm,1.1s
H19K Roundabout Mou 81.33 7 P P 12 52 33.0 +3.0
baz=196
DL2 Dalian 81.37 314 P P **12 52 31.4 +0.7**
DL2 S S **13 02 42.6 +0.7**
DL2 pmax pmax
comp=Z,18nm,1.1s
DL2 pmax pmax
comp=Z,180nm,6.7s
DL2 LR LR
comp=Z,250nm,23.3s
DL2 LR LR
comp=Z,320nm,23.3s
DL2 LR LR
comp=Z,430nm,25.5s
K24K Donnelly Dome 81.39 12 IAmb IAmb 12 52 36.7
comp=Z,22nm,1.1s
K24K Donnelly Dome 81.39 12 P P 12 52 32.8 +2.5
baz=206
WHY Whitehorse 81.39 18 P P 12 52 33.2 +2.7
baz=217
N30M Aishikik Lake 81.41 16 P P 12 52 33.2 +2.7
baz=215
LOHW Long Hollow 81.44 41 IAmb IAmb 12 52 37.2
comp=Z,34nm,2.0s
G18K Tagagawik 81.46 6 P P 12 52 33.5 +2.8
baz=194
H20K Anotleneega Mo 81.49 7 P P 12 52 33.8 +3.0
baz=198
NEA2 Nenana 81.50 10 P P 12 52 33.3 +2.4
baz=203
RIDG Independent Ri 81.52 12 IAmb IAmb 12 52 37.2
comp=Z,17nm,1.2s
RIDG Independent Ri 81.52 12 P P 12 52 33.2 +2.2
baz=207
L27K Beaver Creek, 81.57 14 P P 12 52 34.4 +3.0
baz=210
BCAR Beaver Creek A 81.58 14 P P 12 52 31.2 -0.2
I21K Tanana 81.59 9 P P 12 52 34.0 +2.7
baz=200
DOT Dot Lake 81.60 13 P P 12 52 31.2 -0.3
DOT IAmb IAmb 12 52 38.3
comp=Z,14nm,1.0s
R33M Jennings River 81.63 20 P P 12 52 34.5 +2.7
baz=221
PD31 Pinedale Array 81.68 42 P P 12 52 32.4 -0.2
PD31 IAmb IAmb 12 52 37.1
comp=Z,17nm,1.6s
PDAR Pinedale Array 81.68 42 P P 12 52 33.3 +0.7
PDAR Pinedale Array 81.68 42 P P 12 52 34.8 +2.1
comp=Z,0.7nm,0.6s,baz=219,slow=3.8,SNR=8.1
PDAR LR LR 13 22 28.6
comp=Z,114nm,20.3s,baz=232,slow=31
comp=Z,0.7nm,0.6s
HDA Harding Lake 81.71 11 IAmb IAmb 12 52 38.9
comp=Z,11nm,0.9s
HDA Harding Lake 81.71 11 P P 12 52 35.3 +3.3
baz=205
F17K Baldwin Pennin 81.76 5 P P 12 52 33.8 +1.6
baz=192
CCB Clear Creek Bu 81.77 11 IAmb IAmb 12 52 36.1
comp=Z,17nm,1.0s
N31M Braeburn, Yuko 81.79 17 P P 12 52 35.2 +2.7
baz=216
G19K Purcell Mounta 81.86 6 IAmb IAmb 12 52 39.6
comp=Z,15nm,1.2s
G19K Purcell Mounta 81.86 6 P P 12 52 35.7 +2.9
baz=196
M29M Somme Creek 81.86 15 P P 12 52 35.7 +2.7
baz=214
SCRK Sand Creek 81.90 12 P P 12 52 36.2 +3.0
baz=208
H21K Melozitna Rive 81.92 8 IAmb IAmb 12 52 44.3
comp=Z,15nm,1.3s
H21K Melozitna Rive 81.92 8 P P 12 52 35.6 +2.5
baz=200,SNR=5.7
I23K Minto, Yukon-K 81.97 10 IAmb IAmb 12 52 39.8
comp=Z,14nm,1.1s
I23K Minto, Yukon-K 81.97 10 P P 12 52 36.2 +2.9
baz=203
COLA College 81.97 10 P P 12 52 34.3 +1.0
COLA IAmb IAmb 12 52 37.2
comp=Z,17nm,0.8s
COLA College 81.97 10 P P 12 52 35.8 +2.5
baz=204
IL31 82.05 11 P P 12 52 34.6 +0.9
IL31 IAmb IAmb 12 52 44.4
comp=Z,23nm,1.4s
ILAR Eielson Array 82.05 11 P P 12 52 34.9 +1.1

ILAR	Eielson Array	82.05	11	P	P	12 52 34.7	+0.9
	comp=Z,4.2nm,0.9s,baz=224,slow=4.4,SNR=19						
	comp=Z,4.2nm,0.9s						
F18K	Selawik	82.05	5	P	P	12 52 36.1	+2.4
	baz=193						
SDCO	Great Sand Dun	82.11	48	IAmb	IAmb	12 52 41.0	
	comp=Z,32nm,2.0s						
J25K	Salcha River,	82.19	12	IAmb	IAmb	12 52 40.9	
	comp=Z,20nm,1.2s						
J25K	Salcha River,	82.19	12	P	P	12 52 36.7	+2.1
	baz=207,SNR=12						
POKR	Poker Plat Res	82.27	11	P	P	12 52 37.3	+2.4
	baz=205,SNR=8.3						
H22K	Ishtalitna Cre	82.35	9	P	P	12 52 37.5	+2.2
	baz=201,SNR=5.6						
K27K	Chicken	82.36	13	IAmb	IAmb	12 52 42.5	
	comp=Z,13nm,1.3s						
K27K	Chicken	82.36	13	P	P	12 52 38.0	+2.6
	baz=210						
M30M	Minto, Yukon	82.41	16	P	P	12 52 38.0	+2.2
	baz=215						
J26L	Joseph Creek	82.45	12	IAmb	IAmb	12 52 43.6	
	comp=Z,14nm,1.1s						
J26L	Joseph Creek	82.45	12	P	P	12 52 38.8	+2.8
	baz=209,SNR=9.7						
F19K	Shaleruckik Mo	82.46	6	IAmb	IAmb	12 52 39.9	
	comp=Z,7.5nm,0.8s						
F19K	Shaleruckik Mo	82.46	6	P	P	12 52 37.8	+2.0
	baz=195						
L29M	L29M	82.50	15	IAmb	IAmb	12 52 43.8	
	comp=Z,20nm,1.1s						
L29M	L29M	82.50	15	P	P	12 52 38.9	+2.7
	baz=214						
H23K	Yukon River	82.56	9	P	P	12 52 39.4	+2.9
	baz=203						
OZNA	Ozona	82.64	55	IAmb	IAmb	12 52 52.3	
	comp=Z,14nm,1.4s						
G21K	Allakaket	82.64	8	P	P	12 52 39.8	+2.9
	baz=199						
M31M	Drury Creek, Y	82.76	17	P	P	12 52 40.5	+2.9
	baz=217						
E18K	Tukpahlearik C	82.78	5	P	P	12 52 40.4	+2.9
	baz=192						
H24K	Noodor Dome	82.85	10	P	P	12 52 40.3	+2.3
	baz=204						
D17K	Noatak River	82.88	4	P	P	12 52 40.7	+2.7
	baz=190						
F20K	Avaraart Lake	82.88	7	P	P	12 52 40.0	+2.0
	baz=197						
PRP	Porcupine Dome	82.97	11	P	P	12 52 41.0	+2.2
	baz=207,SNR=9.5						
DAWY	Dawson	83.00	14	IAmb	IAmb	12 52 45.5	
	comp=Z,15nm,1.1s						
DAWY	Dawson	83.00	14	P	P	12 52 41.3	+2.5
	baz=213,SNR=11						
FARO	Faro, Yukon	83.08	17	P	P	12 52 41.8	+2.5
	baz=218						
E19K	Redstone River	83.12	6	IAmb	IAmb	12 52 46.1	
	comp=Z,18nm,1.1s						
E19K	Redstone River	83.12	6	P	P	12 52 42.0	+2.7
	baz=195						
I26K	Coal Creek Min	83.25	12	IAmb	IAmb	12 52 46.8	
	comp=Z,18nm,1.2s						
I26K	Coal Creek Min	83.25	12	P	P	12 52 42.4	+2.4
	baz=209,SNR=7.2						
TOAD	Toad River Com	83.26	23	P	P	12 52 42.7	+2.5
	baz=226						
K29M	Barlow Dome	83.27	15	IAmb	IAmb	12 52 46.7	
	comp=Z,8.9nm,1.1s						
K29M	Barlow Dome	83.27	15	P	P	12 52 42.8	+2.5
	baz=214						
CMIG	Matias Romero	83.27	70	LR	LR	13 23 46.9	
	comp=Z,241nm,18.4s,baz=214,slow=31						
G22K	Bettles	83.29	8	P	P	12 52 42.8	+2.6
	baz=201						
QIZ	Qiongzhong	83.30	292	P	P	12 52 40.5	-0.8
QIZ				S	SKSac	13 03 04.4	+0.2
QIZ				pmax	pmax		
	comp=Z,190nm,11.2s						
QIZ				LR	LR		
	comp=Z,110nm,14.7s						
QIZ				LR	LR		
	comp=Z,210nm,16.9s						
QIZ				LR	LR		
	comp=Z,310nm,21.4s						
G23K	Bananza Creek	83.31	9	IAmb	IAmb	12 52 47.6	
	comp=Z,11nm,1.1s						
G23K	Bananza Creek	83.31	9	P	P	12 52 42.7	+2.3
	baz=202						
F21K	Alatna River	83.32	7	IAmb	IAmb	12 52 50.7	
	comp=Z,12nm,1.3s						
F21K	Alatna River	83.32	7	P	P	12 52 43.0	+2.6
	baz=199						
C16K	Lisburne Hills	83.32	3	IAmb	IAmb	12 52 51.4	
	comp=Z,28nm,1.6s						
C16K	Lisburne Hills	83.32	3	P	P	12 52 42.9	+2.6
	baz=188						
LIRD	Liard River Hi	83.33	22	P	P	12 52 43.3	+2.8
	baz=225						
TIA	Tai'an	83.43	310	P	P	12 52 42.8	+1.2
TIA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HEH	HeiHe	83.47	326	*e*P	P	12 52 41.4	0.0
HEH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
RTBA	Rita Blanca	83.56	50	IAmb	IAmb	12 55 02.9	
	comp=Z,7.1nm,0.6s						
J29N	Klondike Camp	83.60	14	IAmb	IAmb	12 52 49.1	
	comp=Z,22nm,1.3s						
J29N	Klondike Camp	83.60	14	P	P	12 52 44.5	+2.6
	baz=214						
G24K	Hadweenzic Riv	83.70	10	P	P	12 52 45.0	+2.7
	baz=205						
F22K	John River	83.75	8	P	P	12 52 45.0	+2.4
	baz=200						
COLD	Coldfoot	83.77	9	IAmb	IAmb	12 52 50.4	
	comp=Z,11nm,1.1s						
COLD	Coldfoot	83.77	9	P	P	12 52 45.0	+2.3
	baz=202,SNR=11						
I27K	Kandik River	83.82	13	P	P	12 52 45.2	+2.2
	baz=210						
C18K	Utukok River	83.94	4	P	P	12 52 45.7	+2.1
	baz=192						
E20K	Nigu River	84.00	6	P	P	12 52 45.9	+2.0
	baz=196						
D19K	Kuna River	84.04	5	IAmb	IAmb	12 52 55.1	
	comp=Z,15nm,1.1s						
D19K	Kuna River	84.04	5	P	P	12 52 46.6	+2.5
	baz=194						
I28M	Miner Creek	84.05	13	P	P	12 52 46.6	+2.3
	baz=212						
J30M	Hart River	84.17	15	IAmb	IAmb	12 52 51.5	
	comp=Z,8.7nm,1.1s						
J30M	Hart River	84.17	15	P	P	12 52 47.7	+2.8
	baz=215						
PMSA	Palmer Station	84.22	156	LR	LR	13 26 14.6	
	comp=Z,359nm,18.6s,baz=292,slow=33						
BILL	Bilibino	84.29	352	P	P	12 52 46.2	+0.9
APMT	Aspermont	84.33	53	P	P	12 52 46.9	+0.6
I29M	Ogilvie Camp,	84.34	14	P	P	12 52 48.1	+2.4
	baz=214						
F24K	Squaw Lake	84.39	9	IAmb	IAmb	12 52 58.3	
	comp=Z,17nm,1.3s						
F24K	Squaw Lake	84.39	9	P	P	12 52 48.0	+2.1
	baz=204						
H27K	Steamboat Moun	84.39	12	IAmb	IAmb	12 52 53.4	
	comp=Z,21nm,1.4s						
H27K	Steamboat Moun	84.39	12	P	P	12 52 48.4	+2.5
	baz=210						
E22K	Anaktuvuk Pass	84.39	8	P	P	12 52 48.3	+2.5
	baz=201						
D20K	Etivluk River	84.40	6	P	P	12 52 48.4	+2.5
	baz=196						
E21K	Killik River	84.42	7	IAmb	IAmb	12 52 53.0	
	comp=Z,16nm,1.0s						
E21K	Killik River	84.42	7	P	P	12 52 48.0	+2.1
	baz=198						
G26K	Porcupine Rive	84.58	11	P	P	12 52 49.4	+2.6
	baz=208						
KOTAN	Kotaneelee Air	84.58	22	P	P	12 52 49.6	+2.7
	baz=227						
B18K	Kokolik River	84.61	4	P	P	12 52 49.1	+2.3
	baz=191						
E23K	Chandalar	84.62	9	IAmb	IAmb	12 52 54.6	
	comp=Z,9.3nm,1.1s						
E23K	Chandalar	84.62	9	P	P	12 52 49.6	+2.5
	baz=203						
I30M	Mount Dempster	84.69	15	IAmb	IAmb	12 52 54.0	
	comp=Z,17nm,1.2s						
I30M	Mount Dempster	84.69	15	P	P	12 52 50.0	+2.4
	baz=215						
E24K	Your Creek	84.81	9	IAmb	IAmb	12 53 01.2	
	comp=Z,9.1nm,1.1s						
E24K	Your Creek	84.81	9	P	P	12 52 50.5	+2.5
	baz=204						
F25K	Christian Rive	84.82	10	P	P	12 52 50.6	+2.5
	baz=206						
BMAR	Burnt Mountain	84.86	11	P	P	12 52 49.8	+1.5
G27K	Doyon Strip	84.86	12	IAmb	IAmb	12 53 04.7	
	comp=Z,30nm,1.9s						
G27K	Doyon Strip	84.86	12	P	P	12 52 50.5	+2.2
	baz=210						
D22K	Ayikyak River	84.99	7	IAmb	IAmb	12 52 56.4	
	comp=Z,14nm,0.9s						
D22K	Ayikyak River	84.99	7	P	P	12 52 51.3	+2.5
	baz=200,SNR=16						
C21K	Knifeblade Rid	85.01	6	P	P	12 52 51.3	+2.4
	baz=198,SNR=7.6						
H29M	Whitestone	85.05	13	P	P	12 52 51.9	+2.7
	baz=213						
TOLK	Toolik Lake Re	85.17	8	IAmb	IAmb	12 52 53.9	
	comp=Z,10.0nm,1.1s						
TOLK	Toolik Lake Re	85.17	8	P	P	12 52 52.3	+2.5
	baz=203,SNR=6.3						
F26K	Sheenjek River	85.17	11	IAmb	IAmb	12 52 57.8	
	comp=Z,14nm,1.2s						
F26K	Sheenjek River	85.17	11	P	P	12 52 52.6	+2.8
	baz=208,SNR=9.3						
E25K	Arctic Village	85.31	10	IAmb	IAmb	12 52 58.2	
	comp=Z,13nm,1.1s						
E25K	Arctic Village	85.31	10	P	P	12 52 52.7	+2.2
	baz=206,SNR=10						
D23K	Nanushuk River	85.32	8	IAmb	IAmb	12 52 57.5	
	comp=Z,14nm,1.1s						
D23K	Nanushuk River	85.32	8	P	P	12 52 52.4	+1.9
	baz=202,SNR=14						
B21K	Ikpikpuk River	85.47	6	IAmb	IAmb	12 52 55.4	
	comp=Z,32nm,1.9s						
B21K	Ikpikpuk River	85.47	6	P	P	12 52 53.3	+2.1
	baz=198						
A19K	Wainwright	85.48	4	P	P	12 52 53.4	+2.2
	baz=192						
EPYK	Eagle Plains	85.55	14	IAmb	IAmb	12 52 58.1	
	comp=Z,18nm,1.2s						
EPYK	Eagle Plains	85.55	14	P	P	12 52 53.8	+2.1
	baz=215						
B20K	Meade River	85.60	5	IAmb	IAmb	12 53 02.3	
	comp=Z,17nm,1.4s						
B20K	Meade River	85.60	5	P	P	12 52 54.0	+2.3
	baz=195						
H31M	Peel River	85.66	15	IAmb	IAmb	12 52 58.3	
	comp=Z,17nm,1.4s						
H31M	Peel River	85.66	15	P	P	12 52 54.6	+2.3
	baz=217						
BJI	Beijing	85.66	313	P	P	12 52 53.9	+1.1
BJI				S	S	13 03 30.5	+5.2
BJI				pmax	pmax		
	comp=Z,6.0nm,2.5s						
BJI				pmax	pmax		
	comp=Z,96nm,4.4s						
BJI				LR	LR		
	comp=Z,77nm,17.3s						
BJI				LR	LR		
	comp=Z,83nm,19.4s						
BJI				LR	LR		
	comp=Z,110nm,19.8s						
HNS	HongShan	85.68	310	⇓P	P	12 52 54.4	+1.4
HNS				S	S	13 03 21.8	-3.8
HNS				pmax	pmax		
	comp=Z,11nm,1.4s						
HNS				LR	LR		
	comp=Z,140nm,18.6s						
HNS				LR	LR		
	comp=Z,180nm,18.6s						
HNS				LR	LR		
	comp=Z,300nm,19.8s						
G29M	Pine Creek	85.71	13	P	P	12 52 54.5	+2.0
	baz=214						
D24K	Happy Valley	85.75	8	IAmb	IAmb	12 53 10.1	
	comp=Z,27nm,1.8s						
D24K	Happy Valley	85.75	8	P	P	12 52 54.9	+2.3
	baz=203						
E27K	Coleen River	86.07	11	IAmb	IAmb	12 53 01.3	
	comp=Z,14nm,1.4s						
E27K	Coleen River	86.07	11	P	P	12 52 56.2	+2.0
	baz=210						
C23K	Itkillik River	86.15	8	P	P	12 52 56.4	+1.9
	baz=202						
G30M	tAoh Zraii Nji	86.17	14	IAmb	IAmb	12 53 01.7	
	comp=Z,22nm,1.2s						
G30M	tAoh Zraii Nji	86.17	14	P	P	12 52 57.0	+2.2
	baz=215						
D25K	Kavik River	86.27	9	P	P	12 52 57.2	+2.0
	baz=206						
B22K	Teshekpuk Lake	86.29	6	P	P	12 52 57.5	+2.3
	baz=199						
C24K	Franklin Bluff	86.29	8	P	P	12 52 57.6	+2.4
	baz=204						
A22K	Sinclair Lake	86.76	6	P	P	12 52 59.5	+2.0
	baz=197						
F30M	Barrier River	86.78	13	P	P	12 53 00.2	+2.5
	baz=216						
E28M	Babbage River	86.82	12	IAmb	IAmb	12 53 39.5	
	comp=Z,28nm,1.9s						
E28M	Babbage River	86.82	12	P	P	12 53 00.4	+2.5
	baz=212						
A21K	Barrow	86.92	5	P	P	12 52 60.0	+1.7
	baz=196						
C27K	Jago River	86.96	10	P	P	12 53 00.4	+1.9
	baz=208						
E29M	Blow River	86.97	12	IAmb	IAmb	12 53 55.9	
	comp=Z,19nm,1.6s						
E29M	Blow River	86.97	12	P	P	12 53 00.5	+1.9
	baz=214						
C26K	Camden Bay	87.03	9	P	P	12 53 01.1	+2.2
	baz=207						
D27M	Malcolm River	87.10	11	IAmb	IAmb	12 53 07.3	
	comp=Z,14nm,1.6s						
D27M	Malcolm River	87.10	11	P	P	12 53 01.6	+2.2
	baz=211						
F31M	Tsiigehtchic	87.11	14	P	P	12 53 01.3	+2.0
	baz=218						
XLT	XiLinHaoTe	87.28	317	*e*P	P	12 53 01.5	+0.7
XLT				pP	PcP	12 53 05.9	+3.0
XLT				sP	pwP	12 53 09.3	-0.5
XLT				PP	PP	12 56 28.5	+3.3
XLT				pmax	pmax		
	comp=Z,13nm,1.0s						
D28M	Stokes Point	87.59	11	P	P	12 53 04.2	+2.7
	baz=213						
INK	Inuvik	87.85	14	P	P	12 53 05.2	+2.4
	baz=218						
MAW	Mawson	88.25	198	LR	LR	13 32 30.4	
	comp=Z,383nm,18.0s,baz=116,slow=36						
XAN	Xi'an	88.90	306	P	P	12 53 10.5	+1.8
XAN				pP	pwP	12 53 18.2	+0.4
XAN				S	S	13 04 01.9	+5.0
XAN				pmax	pmax		
	comp=Z,11nm,1.1s						
XAN				pmax	pmax		
	comp=Z,130nm,8.2s						
XAN				LR	LR		
	comp=Z,210nm,20.6s						
XAN				LR	LR		
	comp=Z,330nm,22.0s						
XAN				LR	LR		
	comp=Z,400nm,20.6s						
PSI	Prapat	89.03	273	LR	LR	13 34 10.2	
	comp=Z,124nm,18.1s,baz=146,slow=37						
YAK	Yakutsk	89.06	337	LR	LR	13 29 44.5	
	comp=Z,114nm,19.1s,baz=114,slow=33						
HHC	Hu-ho-hao-te	89.23	313	*e*P	P	12 53 10.4	+0.3
HHC				SKS	SKSac	13 03 39.1	-1.4
HHC				S	ScS	13 04 01.0	-3.7
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,4.7s						
HHC				LR	LR		
	comp=Z,140nm,13.7s						
HHC				LR	LR		
	comp=Z,140nm,13.8s						
HHC				LR	LR		
	comp=Z,180nm,14.5s						
PLCA	Paso Flores	89.30	132	LR	LR	13 25 31.3	
	comp=Z,259nm,20.2s,baz=216,slow=30						
YKA	Yellowknife Ar	89.61	23	P	P	12 53 12.1	+0.8
	comp=Z,0.9nm,0.9s,baz=238,slow=4.1,SNR=10						
YKA				LR	LR	13 27 20.8	
	comp=Z,131nm,18.6s,baz=348,slow=31						
	comp=Z,0.9nm,0.9s						
BTO	Baotou	90.24	312	*e*P	P	12 53 17.1	+2.2
BTO				pmax	pmax		
	comp=Z,25nm,1.4s						
BTO				pmax	pmax		
	comp=Z,490nm,5.3s						
JTS	Las Juntas de	90.62	80	LR	LR	13 24 55.2	
	comp=Z,468nm,20.3s,baz=293,slow=29						
ECSD	EROS Data Cent	90.66	45	P	P	12 53 16.4	-0.3
ECSD				IAmb	IAmb	12 53 23.0	
	comp=Z,21nm,2.0s						
C36M	Paulatuk	90.93	15	P	P	12 53 19.4	+2.2
	baz=227						
MGMO	Mountain Grove	91.67	52	IAmb	IAmb	12 53 28.1	
	comp=Z,8.1nm,1.0s						
ATAH	Atahualpa	92.42	98	LR	LR	13 25 56.1	
	comp=Z,684nm,20.1s,baz=253,slow=30						
ELIB	Princess Elisa	92.48	185	*d*P	P	12 53 24.7	-0.1
	comp=Z,5.4nm,1.0s						
A36M	Sachs Harbour	92.48	13	P	P	12 53 26.4	+2.0
	baz=226						
T42A	Van Buren	92.53	52	IAmb	IAmb	12 55 34.8	
	comp=Z,9.8nm,1.4s						
NNA	Nana	92.59	103	LR	LR	13 26 52.0	
	comp=Z,209nm,21.9s,baz=257,slow=30						
PZH	PanZhiHua	92.63	297	P	P	12 53 26.9	+0.6
PZH				S	S	13 04 30.6	-0.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,4.9s						
PZH				LR	LR		
	comp=Z,140nm,14.1s						
PZH				LR	LR		
	comp=Z,230nm,15.0s						
PZH				LR	LR		
	comp=Z,230nm,16.3s						
SYO	Syowa Base	93.00	191	⇑*e*pP	pP	12 53 29.2	+0.9
CMAR	Chiang Mai Arr	93.04	288	P	P	12 53 26.1	-2.1
	comp=Z,0.5nm,0.4s,baz=99,slow=5.5,SNR=1.5						
CMAR				LR	LR	13 29 58.4	
	comp=Z,140nm,21.7s,baz=95,slow=32						
	comp=Z,0.5nm,0.4s						
TROLL	Troll, Antarti	93.04	179	⇑P	P	12 53 29.2	+1.8
	comp=Z,265nm,1.3s						
VNA3	Neumayer Olymp	93.10	175	⇑P	P	12 53 29.3	+1.8
	comp=Z,6.7nm,1.0s						
SNAA	Sanae	93.17	177	⇑P	P	12 53 29.7	+1.8
	comp=Z,68nm,0.9s						
SNAA	Sanae	93.17	177	P	P	12 53 27.8	-0.1
	comp=Z,3.1nm,1.1s,baz=252,slow=3.3,SNR=3.6						
SNAA				LR	LR	13 35 13.0	
	comp=Z,116nm,18.3s,baz=220,slow=35						
	comp=Z,3.1nm,1.1s						
ULM	Lac du Bonnet	93.36	39	LR	LR	13 30 07.2	
	comp=Z,240nm,20.0s,baz=258,slow=32						
VNA2	Neumayer--Watz	93.60	175	⇑P	P	12 53 32.0	+2.2
	comp=Z,3.9nm,0.8s,baz=180,slow=2.0						
TIXI	Tiksi	94.86	344	P	P	12 53 35.3	-0.1
TIXI				IAmb	IAmb	12 53 40.8	
	comp=Z,7.8nm,1.4s						
TIXI	Tiksi	94.86	344	LR	LR	13 32 09.9	
	comp=Z,218nm,21.0s,slow=33						
SONM	Songino Array	94.99	318	P	P	12 53 36.1	-0.6
	comp=Z,0.3nm,0.4s,baz=130,slow=6.2,SNR=4.1						
SONM				LR	LR	13 31 14.0	
	comp=Z,199nm,22.0s,baz=96,slow=32						
	comp=Z,0.3nm,0.4s						
TKL	Tuckaleechee C	97.89	55	LR	LR	13 31 27.6	
	comp=Z,255nm,21.1s,baz=245,slow=31						
LPAZ	La Paz	99.40	110	LR	LR	13 32 03.5	
	comp=Z,136nm,18.8s,baz=254,slow=31						
WMQ	Urumqi	107.08	312	Pdif	Pdif	12 54 30.3	-0.5
WMQ				PP	PP	12 59 02.6	+5.0
BVAR	Borovoye Array	117.98	322	PKP	PKPdf	12 59 00.1	-0.5
	comp=Z,0.3nm,0.4s,baz=114,slow=1.7,SNR=4.0						
DRK	Karamyk	118.96	307		PKPdf	12 59 01.5	-1.8
KK31	Karatay Array	119.58	311	PKPdf	PKPdf	12 59 02.8	-1.2
KKAR	Karatay Array	119.58	311	PKPdf	PKPdf	12 59 03.1	-0.9
NRS	Narsarsuaq	120.73	27	PKPdf	PKPdf	12 59 05.4	-0.2
ARCES	ARCESS Array B	124.39	352	PKP	PKPdf	12 59 12.6	+0.1
	comp=Z,2.2nm,0.9s,baz=30,slow=3.0,SNR=3.7						
AB31	Akbulak array	125.34	320	PKPdf	PKPdf	12 59 14.6	-0.2
ABKAR	Akbulak array	125.34	320	PKPdf	PKPdf	12 59 14.1	-0.8
CLL	Collm	143.58	354	*e*PKPdf	PKPdf	12 59 50.0	+1.3
CLL				*ex*	x	12 59 56.0	
CLL				AMS	AMS	14 02 00.0	
	comp=N,100nm,18.0s						
CLL				AMS	AMS	14 02 00.0	
	comp=E,100nm,20.4s						
BUR08	Bucovina Ar. S	144.27	339	PKPdf	PKPdf	12 59 49.3	-0.9
BURAR	Bucovina Array	144.29	339	PKPdf	PKPdf	12 59 49.5	-0.8
MORC	Moravsky Berou	144.40	348		PKPdf	12 59 50.2	-0.1
MORC	Moravsky Berou	144.40	348	*e*PKP	PKPdf	12 59 50.8	+0.5
VRAC	Vranov	145.02	349	*e*PKP	PKPdf	12 59 52.1	+0.8
VRAC	Vranov	145.02	349	⇓P	PKPdf	12 59 52.8	+1.4
VRI	Vrincioaia	145.20	336	⇑P	PKPdf	12 59 53.0	+1.2
PLOR	Plostina	145.25	336	⇑P	PKPdf	12 59 52.4	+0.5
JAVC	Velka Javorina	145.25	348	*e*PKP	PKPdf	12 59 53.7	+1.9
ZVC	Zvikov	145.28	352	*e*PKP	PKiKP	12 59 54.7	-1.0
KRUC	Moravsky	145.30	349	*e*PKP	PKPdf	12 59 52.4	+0.6
TPGR	Topolog	145.31	333	⇑P	PKPdf	12 59 53.4	+1.4
VYHS	Vyhne	145.34	346	*e*PKP	PKPdf	12 59 53.1	+1.2
GRA1	Grafenberg Arr	145.34	355	PKPbc	PKPbc	12 59 50.4	-1.3
PSZ	Piszkesteto	145.62	345	PKPdf	PKPbc	12 59 50.9	-1.8
PSZ	Piszkesteto	145.62	345	⇑P	PKPab	12 59 53.8	+0.8
DOPR	Dopca	145.63	337	⇑P	PKPab	12 59 54.5	+1.5
KHC	Kasperske Hory	145.66	353	*e*PKP	PKiKP	12 59 54.8	-1.7
MODS	Modra-Piesok	145.79	348	*e*PKP	PKiKP	12 59 56.0	-0.8
MARR	Marisel-Cluj	145.81	340	⇑P	PKPab	12 59 54.4	+0.7
MLR	Muntele Rosu	145.82	336	PKPdf	PKPdf	12 59 51.1	-1.9
MLR	Muntele Rosu	145.82	336	⇓P	PKPab	12 59 54.6	+0.8
DRGR		145.84	341	⇑P	PKPab	12 59 54.1	+0.3
GEC2	GERESS Array S	145.92	352	PKPdf	PKPdf	12 59 50.6	-2.4
GERES	GERESS Array B	145.92	352	PKPdf	PKPdf	12 59 51.2	-1.8
GERES	GERESS Array B	145.92	352	PKPbc	PKPab	12 59 54.6	+0.5
	comp=E,7.4nm,1.0s,baz=28,slow=3.2,SNR=18						
KMBO	Kilima Mbogo	146.16	244	PKPbc	PKPdf	12 59 52.7	-1.9
	comp=E,2.7nm,0.5s,baz=311,slow=3.1,SNR=4.4						
VOIR		146.21	337	⇓P	PKPab	12 59 56.1	+0.9
BR131	Keskin Array S	146.27	322	PKPbc	PKPbc	12 59 55.0	-0.1
BRTR	Keskin Array B	146.27	322	PKPbc	PKPbc	12 59 54.8	-0.2
BRTR	Keskin Array B	146.27	322	PKPbc	PKPab	12 59 56.1	+0.3
	comp=E,11nm,0.9s,baz=111,slow=2.8,SNR=53						
ARR	Arges	146.42	338	⇑P	PKiKP	12 59 57.5	-0.8
KIRS	Kirsehir-Merke	146.47	321	⇓P	PKPab	12 59 56.9	+0.4
CONA	Conrad Observa	146.49	349	*e*pPKP	PKPab	12 59 57.0	+0.7
	comp=E,31nm,2.0s						
RONA	Rosalia, Austr	146.63	349	*i* PKP	PKPab	12 59 56.6	-0.2
	comp=E,19nm,1.1s						
ANTO	Ankara	146.68	323	PKPbc	PKPbc	12 59 55.5	-0.6
MOA	Molln	146.82	351	*i* pPKP	PKPab	12 59 57.7	+0.2
	comp=E,20nm,1.2s						
SURR	Surduc	146.95	341	⇓P	PKPab	12 59 57.2	-0.8
GZR	Gura Zlata	147.06	340	⇑P	PKPab	12 59 57.6	-0.9
BIOA	Bad Ischl, Aus	147.06	352	*i* PKiKP	PKiKP	12 59 59.2	-0.3
	comp=E,22nm,1.4s						
MDUB	Mudurnu	147.18	325	PKPbc	PKPab	12 59 58.1	-1.1
BZS	Buzias

OBKA	**Obir**	**148.08**	**350**	*i* PKiKP	**PKiKP**	**13 00 01.6**	**-0.1**
	comp=E,15nm,1.2s						
MYKA	**Terra Mystica**	**148.10**	**352**	*i* PKiKP	**PKiKP**	**13 00 01.3**	**-0.4**
	comp=E,8.3nm,1.0s						
ABTA	**Abfaltersbach**	**148.13**	**353**	*i* PKiKP	**PKiKP**	**13 00 02.0**	**+0.3**
	comp=E,18nm,1.4s						
FUORN	**Ofenpass-Fuorn**	**148.47**	**356**	PKPbc	**PKPbc**	**13 00 01.6**	**+0.5**
CIMO	**Cimolais**	**148.57**	**353**	PKPbc	**PKPbc**	**13 00 01.2**	**+0.1**
TUE	**Stuetta**	**148.67**	**357**	PKPbc	**PKPbc**	**13 00 01.8**	**+0.3**
MMAI	**Mount Meron Ar**	**148.80**	**310**	PKPbc	**PKPbc**	**13 00 02.5**	**+0.3**
	comp=E,11nm,0.9s,baz=48,slow=2.1,SNR=8.3						
CTI	**Castel Tesino**	**148.92**	**354**		**PKiKP**	**13 00 03.5**	**+0.1**
BOVS	**Bovan**	**148.97**	**339**	⇑P	**PKPdf**	**12 59 58.8**	**+0.7**
CSS	**Mathiatis**	**149.29**	**315**	PKPbc	**PKPbc**	**13 00 03.0**	**-0.2**
TEOL	**Teolo**	**149.60**	**354**	PKPbc	**PKPbc**	**13 00 03.6**	**-0.1**
LODK	**Lodwar**	**149.90**	**250**	PKPbc	**PKPbc**	**13 00 05.4**	**-0.1**
MANT	**Manisa**	**150.03**	**325**	PKPbc	**PKPbc**	**13 00 05.1**	**-0.1**
BNI	**Bardonecchia**	**150.14**	**1**	PKPbc	**PKiKP**	**13 00 05.6**	**-0.4**
ELL	**Elmali**	**150.43**	**321**	PKPbc	**PKiKP**	**13 00 06.6**	**-0.2**
AKAS	**Kas**	**150.95**	**321**	PKPbc	**PKPbc**	**13 00 07.2**	**-0.2**
AGG	**Agios Georgios**	**152.69**	**334**	PKPbc	**PKPbc**	**13 00 10.2**	**-0.9**
ESDC	**Sonseca Array**	**153.65**	**20**	PKPbc	**PKiKP**	**13 00 15.1**	**+1.8**
	comp=E,0.7nm,0.8s,baz=344,slow=3.4,SNR=2.0						
TORD	**Torodi Ar. Bea**	**174.35**	**109**	PKPdf	**PKPdf**	**13 00 24.4**	**-0.4**
TORD				PKPab	**PKPab**	**13 01 57.9**	**+0.8**

*IDC **05** 12:45:55.0±4.6, 15°.02S×173°.77W, h138km±41km, mb3.5/9, mbtmp3.9/10, Error ellipse: s-maj=37.2km s-min=19.1km az=140.0*

ISC 05 12:45:56.2±0.8, 15°.0S±0°.2×173°.9W±0°.2, h150km, n17, σ0°56/12, mb3.5/9, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.24**	**249**	P	**Pn**	**12 47 53.0**	**0.0**
	25nm,1.1s,baz=89,slow=12,SNR=7.9						
DZM	**Mont Dzumac**	**19.96**	**246**	*e*LR	LR	12 54 44.5	
	894nm,25.2s						
PPT2	**Papeete2**	**23.45**	**100**	*e*S	S	12 54 25.8	-29
	986nm,28.0s						
PPT2				*e*LR	LR	12 55 47.4	
	581nm,27.2s						
PPT2				*e*LR	LR	12 55 49.2	
	741nm,25.5s						
TBI	**Tubuai**	**24.48**	**114**	*e*S	S	12 54 39.3	-32
	4μm,28.2s						
TBI				*e*LR	LR	12 56 15.7	
	3μm,25.8s						
TAOE	**Nuku Hiva Isla**	**33.51**	**83**	*e*LR	LR	13 00 29.7	
	478nm,23.5s						
RKT	**Rikitea**	**37.55**	**109**	*e*LR	LR	13 02 15.0	
	2μm,24.0s						
STKA	**Stephens Creek**	**43.87**	**239**	P	**P**	**12 53 47.2**	**-0.7**
	2.3nm,0.8s,baz=111,slow=8.6,SNR=2.1						
	2.3nm,0.8s						
WRA	**Warramunga Arr**	**49.51**	**256**	P	**P**	**12 54 32.5**	**+0.6**
	0.8nm,0.6s,baz=90,slow=7.1,SNR=8.6						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**49.83**	**252**	P	**P**	**12 54 34.6**	**+0.3**
	2.9nm,0.6s,baz=86,slow=8.1,SNR=29						
	2.9nm,0.6s						
NVAR	**Mina Array Bea**	**74.31**	**42**	P	**P**	**12 57 17.9**	**+0.3**
	0.5nm,0.7s,baz=229,slow=8.3,SNR=5.2						
	0.5nm,0.7s						
QSPA	**South Pole Qui**	**75.07**	**180**	P	**P**	**12 57 21.7**	**+0.4**
	2.5nm,0.8s,baz=62,slow=1.1,SNR=6.4						
	2.5nm,0.8s						
TXAR	**Lajitas Array**	**80.74**	**56**	P	**P**	**12 57 53.1**	**-0.2**
	0.4nm,0.8s,baz=253,slow=5.3,SNR=4.8						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**82.11**	**11**	P	**P**	**12 58 00.5**	**+0.9**
	1.0nm,1.0s,baz=225,slow=4.7,SNR=5.0						
	1.0nm,1.0s						
PDAR	**Pinedale Array**	**82.24**	**42**	P	**P**	**12 58 00.5**	**-0.6**
	0.9nm,1.1s,baz=261,slow=7.7,SNR=4.2						
	0.9nm,1.1s						
YKA	**Yellowknife Ar**	**89.88**	**24**	P	**P**	**12 58 37.5**	**-0.3**
	0.4nm,0.9s,baz=233,slow=4.1,SNR=3.8						
	0.4nm,0.9s						
BRTR	**Keskin Array B**	**145.55**	**321**	PKPbc	**PKPab**	**13 05 17.2**	**-0.7**
	2.8nm,0.9s,baz=98,slow=3.5,SNR=9.4						
GERES	**GERESS Array B**	**145.65**	**351**	PKPbc	**PKPab**	**13 05 17.7**	**-0.2**
	0.3nm,0.3s,baz=349,slow=1.4,SNR=4.2						

ROM 05 12:47:02.3±0.1, 42°.649N±0°.003×13°.252E±0°.004, h13km, ML2.1/20, 3C-1D, Error ellipse: s-maj=0.3km s-min=0.1km az=226.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.06**	**107**	⇓P	Pg	12 47 05.4	+0.3
SMA1				S	Sg	12 47 07.3	+0.3
SMA1				AML	AML		
	comp=E,3615μm,0.2s						
SMA1				AML	AML		
	comp=N,2080μm,0.2s						
RM33	**Pellescritta (**	**0.14**	**191**	P	Pg	12 47 06.4	+0.5
RM33				S	Sg	12 47 09.1	+0.6
RM33				AML	AML		
	comp=E,958μm,0.6s						
RM33				AML	AML		
	comp=N,780μm,0.9s						
RM33				AML	AML		
	comp=E,878μm,0.6s						
RM33				AML	AML		
	comp=N,819μm,1.0s						
RM33				AML	AML		
	comp=E,879μm,0.6s						
MTRA	**Matera**	**0.15**	**45**	P	Pg	12 47 06.3	+0.2
MTRA				S	Sg	12 47 08.9	+0.2
MTRA				AML	AML		
	comp=N,1640μm,0.1s						
MTRA				AML	AML		
	comp=E,1470μm,0.6s						
MTRA				AML	AML		
	comp=N,1715μm,0.1s						
MTRA				AML	AML		
	comp=E,1555μm,1.3s						
CAMP	**Campotosto**	**0.16**	**134**	P	Pg	12 47 06.6	+0.4
CAMP				S	Sb	12 47 09.8	-0.8
CAMP				AML	AML		
	comp=E,143μm,0.9s						
CAMP				AML	AML		
	comp=N,90μm,1.1s						
LNSS	**Leonessa**	**0.16**	**254**	⇑P	Pg	12 47 06.6	+0.4
LNSS				S	Sg	12 47 09.6	+0.6
LNSS				AML	AML		
	comp=N,952μm,0.4s						
LNSS				AML	AML		
	comp=N,953μm,0.4s						
LNSS				AML	AML		
	comp=E,1420μm,0.1s						
LNSS				AML	AML		
	comp=N,931μm,0.4s						
LNSS				AML	AML		
	comp=E,1322μm,0.1s						
NRCA	**Norcia**	**0.21**	**331**	P	Pg	12 47 07.2	+0.2
NRCA				S	Sg	12 47 10.5	+0.3
NRCA				AML	AML		
	comp=E,1420μm,0.2s						
NRCA				AML	AML		
	comp=N,784μm,0.1s						
MMO1	**Montemonaco**	**0.26**	**12**	⇑P	Pg	12 47 08.1	+0.3
MMO1				S	Sg	12 47 12.2	+0.7
TERO	**Teramo**	**0.26**	**96**	P	Pg	12 47 08.1	+0.3
TERO				S	Sg	12 47 12.2	+0.6
TERO				AML	AML		
	comp=E,177μm,1.1s						
TERO				AML	AML		
	comp=E,368μm,0.2s						
TERO				AML	AML		
	comp=N,720μm,0.3s						
TERO				AML	AML		
	comp=N,319μm,0.3s						
TERO				AML	AML		
	comp=E,177μm,0.9s						
GAVE	**Gavelli**	**0.27**	**279**	⇑P	Pg	12 47 08.2	+0.2
GAVE				S	Sg	12 47 12.5	+0.7
GAVE				AML	AML		
	comp=E,455μm,0.2s						
GAVE				AML	AML		
	comp=N,408μm,1.3s						
GAVE				AML	AML		
	comp=E,454μm,0.2s						
GAVE				AML	AML		
	comp=N,408μm,0.7s						
MC2	**Monte Cornacci**	**0.27**	**350**	P	Pg	12 47 08.2	+0.2
MC2				S	Sb	12 47 12.8	-0.9
GIGS	**Gran Sasso**	**0.31**	**130**	P	Pg	12 47 08.9	+0.2
GIGS				S	Sg	12 47 13.7	+0.8
ARRO	**Arrone**	**0.37**	**259**	P	Pg	12 47 09.8	+0.1
ARRO				S	Sb	12 47 15.7	-0.6
ARRO				AML	AML		
	comp=N,98μm,1.6s						
ARRO				AML	AML		
	comp=E,103μm,0.4s						
MF5	**Montefalcone A**	**0.37**	**24**	P	Pg	12 47 10.3	+0.5
MF5				S	Sb	12 47 16.4	-0.2
FIAM	**Fiamignano**	**0.39**	**195**	P	Pg	12 47 10.5	+0.3
FIAM				S	Sb	12 47 16.7	-0.5
FIAM				AML	AML		
	comp=N,47μm,1.9s						
FIAM				AML	AML		
	comp=N,47μm,0.1s						
FDMO	**Fiordimonte**	**0.41**	**343**	P	Pg	12 47 10.4	0.0
FDMO				S	Sb	12 47 16.8	-0.8
GUMA	**Gualdo di Mace**	**0.42**	**8**	P	Pb	12 47 11.2	-0.4
OFFI	**Offida**	**0.43**	**48**	P	Pb	12 47 12.0	+0.2
CESI	**CESI - Serrava**	**0.44**	**324**	P	Pg	12 47 11.2	+0.1
CESI				S	Sb	12 47 17.9	-0.6
CESX	**Cesi**	**0.50**	**266**	P	Pg	12 47 12.0	-0.1
CESX				S	Sb	12 47 19.6	-0.5
MOMA	**Monte Martano**	**0.53**	**287**	P	Pg	12 47 12.9	+0.2
MOMA				S	Sb	12 47 20.7	-0.3
MOMA				AML	AML		
	comp=E,95μm,1.3s						
MOMA				AML	AML		
	comp=E,95μm,0.7s						
MOMA				AML	AML		
	comp=N,97μm,0.7s						
EL6	**Elcito**	**0.69**	**351**	P	Pg	12 47 15.8	+0.1
EL6				AML	AML		
	comp=E,125μm,1.6s						
EL6				AML	AML		
	comp=N,123μm,1.6s						

ROM 05 12:47:28.6±0.1, 42°.647N±0°.003×13°.251E±0°.004, h12km, ML2.2/28, 7C-2D, Error ellipse: s-maj=0.3km s-min=0.1km az=61.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.07**	**104**	⇓P	Pg	12 47 31.5	+0.4
SMA1				S	Sg	12 47 33.3	+0.3
SMA1				AML	AML		
	comp=E,14850μm,0.2s						
SMA1				AML	AML		
	comp=N,10095μm,0.4s						
SMA1				AML	AML		
	comp=N,10112μm,0.4s						
SMA1				AML	AML		
	comp=E,14860μm,0.2s						
RM33	**Pellescritta (**	**0.14**	**191**	⇑P	Pg	12 47 32.6	+0.5
RM33				S	Sg	12 47 35.3	+0.8
RM33				AML	AML		
	comp=E,3655μm,0.6s						
RM33				AML	AML		
	comp=N,2525μm,0.1s						
RM33				AML	AML		
	comp=E,3650μm,0.6s						
RM33				AML	AML		
	comp=E,3595μm,0.6s						
RM33				AML	AML		
	comp=N,2580μm,0.9s						
RM33				AML	AML		
	comp=E,2898μm,0.2s						
RM33				AML	AML		
	comp=N,2524μm,0.1s						
RM33				AML	AML		
	comp=N,2525μm,0.1s						
RM33				AML	AML		
	comp=E,2914μm,0.2s						
MTRA	**Matera**	**0.15**	**44**	P	Pg	12 47 32.5	+0.2
MTRA				S	Sg	12 47 35.1	+0.3
MTRA				AML	AML		
	comp=E,10075μm,1.3s						
MTRA				AML	AML		
	comp=N,10055μm,0.2s						
MTRA				AML	AML		
	comp=N,9880μm,0.2s						
MTRA				AML	AML		
	comp=E,10080μm,1.3s						
MTRA				AML	AML		
	comp=N,10060μm,0.2s						
MTRA				AML	AML		
	comp=E,9960μm,1.3s						
MTRA				AML	AML		
	comp=E,9152μm,0.2s						
MTRA				AML	AML		
	comp=E,9171μm,0.3s						
MTRA				AML	AML		
	comp=N,10037μm,0.2s						
MTRA				AML	AML		
	comp=N,9892μm,0.2s						
CAMP	**Campotosto**	**0.16**	**133**	P	Pg	12 47 32.9	+0.5
CAMP				S	Sg	12 47 35.8	+0.8
CAMP				AML	AML		
	comp=E,540μm,0.3s						
CAMP				AML	AML		
	comp=N,404μm,0.3s						
CAMP				AML	AML		
	comp=E,540μm,0.3s						
CAMP				AML	AML		
	comp=N,404μm,0.3s						
CAMP				AML	AML		
	comp=E,540μm,0.3s						
LNSS	**Leonessa**	**0.16**	**254**	⇑P	Pg	12 47 32.8	+0.4
LNSS				S	Sg	12 47 35.8	+0.8
LNSS				AML	AML		
	comp=E,5525μm,0.1s						
LNSS				AML	AML		
	comp=E,5780μm,0.1s						
LNSS				AML	AML		
	comp=N,4290μm,0.5s						
LNSS				AML	AML		
	comp=N,4050μm,0.5s						
LNSS				AML	AML		
	comp=E,5525μm,0.2s						
LNSS				AML	AML		
	comp=E,5525μm,0.1s						
LNSS				AML	AML		
	comp=E,5780μm,0.1s						
LNSS				AML	AML		
	comp=N,4290μm,0.5s						
LNSS				AML	AML		
	comp=N,2928μm,0.4s						
LNSS				AML	AML		
	comp=N,4290μm,1.5s						
NRCA	**Norcia**	**0.21**	**332**	⇓P	Pg	12 47 33.4	+0.2
NRCA				S	Sg	12 47 36.8	+0.4
NRCA				AML	AML		
	comp=N,4185μm,0.1s						
NRCA				AML	AML		
	comp=E,7405μm,0.2s						
NRCA				AML	AML		
	comp=N,4180μm,0.1s						
NRCA				AML	AML		
	comp=N,4900μm,0.1s						
NRCA				AML	AML		
	comp=E,7405μm,0.1s						
NRCA				AML	AML		
	comp=E,7770μm,0.2s						
NRCA				AML	AML		
	comp=E,7405μm,0.1s						
NRCA				AML	AML		
	comp=N,4182μm,0.1s						
NRCA				AML	AML		
	comp=E,7772μm,0.2s						
NRCA				AML	AML		
	comp=N,4901μm,0.1s						
MMO1	**Montemonaco**	**0.26**	**13**	⇑P	Pg	12 47 34.2	+0.2
MMO1				S	Sg	12 47 38.3	+0.7
TERO	**Teramo**	**0.26**	**95**	P	Pg	12 47 34.2	+0.2
TERO				S	Sg	12 47 38.3	+0.6
TERO				AML	AML		
	comp=N,723μm,0.3s						
TERO				AML	AML		
	comp=E,583μm,0.2s						
TERO				AML	AML		
	comp=E,976μm,0.3s						
TERO				AML	AML		
	comp=N,1630μm,0.2s						
TERO				AML	AML		
	comp=E,583μm,0.2s						
TERO				AML	AML		
	comp=N,724μm,0.3s						
TERO				AML	AML		
	comp=N,1630μm,0.2s						
TERO				AML	AML		
	comp=E,583μm,0.2s						
TERO				AML	AML		
	comp=N,707μm,0.1s						
TERO				AML	AML		
	comp=E,975μm,0.3s						
GAVE	**Gavelli**	**0.27**	**280**	P	Pg	12 47 34.3	+0.1
GAVE				S	Sg	12 47 38.7	+0.8
GAVE				AML	AML		
	comp=E,1850μm,0.7s						
GAVE				AML	AML		
	comp=N,636μm,0.4s						
GAVE				AML	AML		
	comp=N,2325μm,1.3s						
GAVE				AML	AML		
	comp=N,636μm,0.4s						
GAVE				AML	AML		
	comp=E,1775μm,0.2s						
GAVE				AML	AML		
	comp=N,636μm,0.4s						
GAVE				AML	AML		
	comp=N,2320μm,0.3s						
GAVE				AML	AML		
	comp=N,2320μm,1.7s						
GAVE				AML	AML		
	comp=E,1791μm,0.2s						
GAVE				AML	AML		
	comp=E,1776μm,0.2s						
GAVE				AML	AML		
	comp=N,636μm,1.6s						
MC2	**Monte Cornacci**	**0.27**	**351**	⇑P	Pg	12 47 34.4	+0.2
MC2				S	Sg	12 47 38.8	+0.7
GIGS	**Gran Sasso**	**0.31**	**130**	P	Pg	12 47 35.1	+0.2
GIGS				S	Sg	12 47 39.9	+0.8
GIGS				AML	AML		
	comp=E,121μm,1.6s						
GIGS				AML	AML		
	comp=N,120μm,0.4s						
GIGS				AML	AML		
	comp=N,118μm,0.2s						
GIGS				AML	AML		
	comp=N,118μm,1.8s						
GIGS				AML	AML		
	comp=E,120μm,0.3s						
FEMA	**Monte Fema**	**0.35**	**335**	P	Pb	12 47 36.7	-0.1
FEMA				S	Sb	12 47 41.4	-1.0
ARRO	**Arrone**	**0.36**	**260**	P	Pg	12 47 35.9	+0.1
ARRO				S	Sb	12 47 41.9	-0.8
ARRO				AML	AML		
	comp=E,405μm,1.4s						
ARRO				AML	AML		
	comp=N,457μm,0.2s						
ARRO				AML	AML		
	comp=N,457μm,0.2s						
ARRO				AML	AML		
	comp=E,396μm,0.2s						
MF5	**Montefalcone A**	**0.38**	**24**	⇑P	Pg	12 47 36.6	+0.5
MF5				S	Sb	12 47 42.5	-0.6
MF5				AML	AML		
	comp=E,1062μm,1.0s						
MF5				AML	AML		
	comp=E,1062μm,1.0s						
MF5				AML	AML		
	comp=N,1006μm,0.2s						
MF5				AML	AML		
	comp=E,996μm,0.7s						
MF5				AML	AML		
	comp=N,1003μm,0.2s						
FIAM	**Fiamignano**	**0.39**	**195**	P	Pg	12 47 36.6	+0.2
FIAM				S	Sb	12 47 42.7	-0.8
FIAM				AML	AML		
	comp=E,270μm,0.2s						
FIAM				AML	AML		
	comp=N,170μm,0.4s						
FIAM				AML	AML		
	comp=E,1575μm,3.1s						
FIAM				AML	AML		
	comp=N,416μm,0.5s						
FIAM				AML	AML		
	comp=E,270μm,0.2s						
FIAM				AML	AML		
	comp=N,170μm,0.4s						
FIAM				AML	AML		
	comp=E,1575μm,0.9s						
FDMO	**Fiordimonte**	**0.41**	**343**	P	Pg	12 47 36.7	0.0
FDMO				S	Sg	12 47 42.8	+0.7
FDMO				AML	AML		
	comp=E,408μm,0.7s						
FDMO				AML	AML		
	comp=N,413μm,1.0s						
FDMO				AML	AML		
	comp=E,339μm,0.2s						
FDMO				AML	AML		
	comp=N,395μm,0.4s						
GUMA	**Gualdo di Mace**	**0.42**	**8**	⇑P	Pg	12 47 37.3	+0.4
GUMA				S	Sb	12 47 44.2	-0.2
GUMA				AML	AML		
	comp=N,3450μm,0.2s						
GUMA				AML	AML		
	comp=E,2845μm,0.3s						
GUMA				AML	AML		
	comp=E,4890μm,0.3s						
GUMA				AML	AML		
	comp=N,2425μm,0.4s						
GUMA				AML	AML		
	comp=E,2844μm,0.3s						
GUMA				AML	AML		
	comp=E,4891μm,0.3s						
GUMA				AML	AML		
	comp=N,3446μm,0.2s						
GUMA				AML	AML		
	comp=N,2422μm,0.4s						
OFFI	**Offida**	**0.43**	**48**	⇑P	Pb	12 47 38.1	-0.1
OFFI				AML	AML		
	comp=E,376μm,1.5s						
OFFI				AML	AML		
	comp=N,874μm,0.5s						
OFFI				AML	AML		
	comp=E,364μm,0.3s						
OFFI				AML	AML		
	comp=N,872μm,0.5s						
CESI	**CESI - Serrava**	**0.44**	**325**	P	Pg	12 47 37.2	-0.1
CESI				S	Sg	12 47 44.0	+0.8
CESI				AML	AML		
	comp=N,406μm,0.7s						
CESI				AML	AML		
	comp=E,274μm,0.4s						
CESI				AML	AML		
	comp=E,273μm,0.4s						
CESI				AML	AML		
	comp=N,406μm,0.7s						
CSP1	**Cessapalombo**	**0.45**	**356**	P	Pb	12 47 38.0	-0.5
CSP1				S	Sg	12 47 44.3	+0.9
CESX	**Cesi**	**0.50**	**266**	P	Pg	12 47 38.1	-0.2
CESX				S	Sg	12 47 45.1	+0.2
CESX				AML	AML		
	comp=E,238μm,0.2s						
CESX				AML	AML		
	comp=N,268μm,0.2s						
CESX				AML	AML		
	comp=E,238μm,0.2s						
CESX				AML	AML		
	comp=N,268μm,0.2s						
VCEL	**Villa Celiera**	**0.50**	**120**	P	Pb	12 47 39.0	-0.5
MOMA	**Monte Martano**	**0.53**	**288**	P	Pg	12 47 39.1	+0.3
MOMA				S	Sb	12 47 47.0	-0.5
MOMA				AML	AML		
	comp=N,446μm,0.7s						
MOMA				AML	AML		
	comp=E,502μm,0.9s						
MOMA				AML	AML		
	comp=N,446μm,0.7s						
MOMA				AML	AML		
	comp=E,464μm,0.8s						
MOMA				AML	AML		
	comp=N,473μm,0.7s						
MOMA				AML	AML		
	comp=E,388μm,0.1s						
MOMA				AML	AML		

comp=E,415μm,0.1s
MOMA AML AML
comp=N,403μm,0.2s
MOMA AML AML
comp=N,377μm,0.2s
ASSB Assisi San Ben 0.59 312 P Pg 12 47 40.1 0.0
ASSB S Sb 12 47 48.8 -0.5
ASSB AML AML
comp=N,250μm,0.1s
ASSB AML AML
comp=E,258μm,0.6s
ASSB AML AML
comp=N,250μm,0.1s
ASSB AML AML
comp=E,238μm,0.3s
SNTG Esanatoglia 0.65 340 P Pg 12 47 41.0 -0.2
SNTG S Sb 12 47 50.9 0.0
SNTG AML AML
comp=E,100μm,1.5s
SNTG AML AML
comp=N,99μm,1.2s
SNTG AML AML
comp=E,76μm,0.5s
SNTG AML AML
comp=N,89μm,0.7s
SNTG AML AML
comp=E,203μm,3.6s
SNTG AML AML
comp=N,201μm,0.8s
SNTG AML AML
comp=E,203μm,0.4s
EL6 Elcito 0.69 351 P Pg 12 47 42.0 -0.1
EL6 AML AML
comp=E,329μm,1.0s
EL6 AML AML
comp=N,365μm,1.0s
EL6 AML AML
comp=E,330μm,1.0s
EL6 AML AML
comp=E,283μm,0.2s
EL6 AML AML
comp=N,321μm,0.5s
ATCC AVT- Casa Cast 0.70 320 P Pg 12 47 42.2 +0.1
ATCC S Sb 12 47 52.5 0.0
ATCC AML AML
comp=E,170μm,0.3s
ATCC AML AML
comp=N,147μm,1.3s
ATCC AML AML
comp=E,170μm,0.3s
ATCC AML AML
comp=N,139μm,1.6s
ATCC AML AML
comp=N,139μm,0.4s
ARVD Arcevia 0.88 345 P Pg 12 47 45.4 -0.2
ARVD AML AML
comp=E,93μm,1.4s
ARVD AML AML
comp=N,81μm,1.4s
ARVD AML AML
comp=N,81μm,0.6s
ARVD AML AML
comp=E,93μm,0.6s
ARVD AML AML
comp=E,110μm,4.1s
ARVD AML AML
comp=N,73μm,2.0s
ARVD AML AML
comp=N,73μm,0.0s
ARVD AML AML
comp=E,110μm,0.1s

---

*IDC **05** 12:49:23.9±1.2, 36.°20N×141.°48E, h0km, mb3.4/5, mbtmp3.6/9, ML3.3/4, Error ellipse: s-maj=25.7km s-min=20.1km az=83.0*
*JMA **05** 12:49:27.6±0.2, 36.°2N±0.°4×14.°1E±.°, h55km±3km, MV3.1/37, FAR E OFF IBARAKI PREF*
ISC 05 12:49:25.0±2.6, 36.°24N±0.°05×141.°49E±0.°07, h10km±16km, n26, σ0°99/27, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.74**	**278**	*i* P	**Pn**	**12 49 41.6**	**+0.1**
JHYU				*e*S	**Sn**	**12 49 52.2**	**-0.6**
JIHU	**Itakohorinouch**	**0.83**	**251**	P	**Pn**	**12 49 43.1**	**+0.4**
JHO	**Hitachi**	**0.83**	**297**	P	**Pn**	**12 49 42.5**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.03**	**327**	P	**Pn**	**12 49 45.8**	**+0.3**
JYT	**Yasato**	**1.05**	**270**	*i* P	**Pn**	**12 49 45.6**	**-0.1**
JFK	**Kawauchi**	**1.23**	**336**	P	**Pb**	**12 49 48.5**	**+0.1**
JOTO	**OTAMA OYAMA**	**1.61**	**325**	P	**Pb**	**12 49 54.9**	**0.0**
JOTO				S	**Sg**	**12 50 16.5**	**-0.4**
JAG	**Ashikaga**	**1.66**	**277**	*i* P	**Pn**	**12 49 54.3**	**+0.2**
JMM	**Marumori**	**1.72**	**341**	P	**Pn**	**12 49 55.6**	**+0.6**
JMM				*e*S	**Sn**	**12 50 16.2**	**-0.8**
JFY	**Yanaizu**	**1.85**	**310**	P	**Pb**	**12 49 58.3**	**-0.6**
JKT	**Katashina**	**1.89**	**287**	P	**Pn**	**12 49 58.5**	**+1.1**
JKT				*e*S	**Sb**	**12 50 22.8**	**-0.3**
MJAR	**Matsushiro Arr**	**2.67**	**278**	Pn	**Pn**	**12 50 09.1**	**+1.1**
	1.4nm,0.3s,baz=100,slow=8.9,SNR=105						
MJAR				Sn	**Sn**	**12 50 40.2**	**-0.2**
	0.6nm,0.3s,baz=301,slow=29,SNR=4.7						
	7.1nm,0.4s						
JHJ	**Hachijo jima 2**	**3.42**	**205**	Pn	**Pn**	**12 50 19.4**	**+1.2**
	14nm,0.3s,baz=327,slow=18,SNR=1.5						
JHJ				Sn	**Sn**	**12 50 57.9**	**-0.9**
	21nm,0.3s,baz=55,slow=19,SNR=1.2						
	81nm,0.5s						
ASAJ	**Asahikawa**	**7.92**	**6**	Pn	**Pn**	**12 51 21.7**	**+1.6**
	0.2nm,0.3s,baz=158,slow=11,SNR=2.0						
ASAJ				Sn	**Sn**	**12 52 46.9**	**-2.8**
	0.1nm,0.3s,baz=170,slow=17,SNR=1.6						
	6.9nm,0.9s						
JCJ	**Chichijima**	**9.13**	**176**	Pn	**Pn**	**12 51 35.0**	**-1.8**
	2.7nm,0.3s,baz=16,slow=19,SNR=6.9						
JCJ				Sn	Sn	12 53 10.2	-10
	2.1nm,0.3s,baz=170,slow=14,SNR=2.3						
	18nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.69**	**120**	T	T	13 24 24.7	
	baz=311,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.70**	**120**	T	T	13 24 25.9	
	baz=311,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.71**	**120**	T	T	13 24 26.3	
	baz=311,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.38**	**122**	T	T	13 25 12.3	
	baz=313						
H11S3	**WAKE ISLAND Hy**	**28.38**	**122**	T	T	13 25 16.8	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**28.39**	**122**	T	T	13 25 13.7	
	baz=313						
ZALV	**Zalesovo Beam**	**42.50**	**313**	P	**P**	**12 57 20.2**	**+0.1**
	0.4nm,0.5s,baz=104,slow=6.1,SNR=2.0						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**44.60**	**303**	P	**P**	**12 57 37.9**	**+0.6**
	0.3nm,0.7s,baz=92,slow=7.2,SNR=3.0						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**46.55**	**309**	P	**P**	**12 57 52.5**	**0.0**
	0.4nm,0.4s,baz=85,slow=7.9,SNR=5.4						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**56.28**	**188**	P	**P**	**12 59 06.3**	**+0.6**
	0.5nm,1.0s,baz=6.0,slow=7.8,SNR=1.5						
	0.5nm,1.0s						
NVAR	**Mina Array Bea**	**75.41**	**53**	P	**P**	**13 01 10.2**	**+0.9**
	0.1nm,0.4s,baz=303,slow=6.3,SNR=1.9						
	0.1nm,0.4s						

IDC 05 12:49:39.2±11.0, 15.°58S×173.°49W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=515.4km s-min=68.7km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.72**	**257**	P	P	12 58 33.7	+0.2
	0.6nm,0.9s,baz=89,slow=7.0,SNR=2.0						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**49.97**	**252**	P	P	12 58 35.2	-0.3
	0.9nm,0.6s,baz=85,slow=8.2,SNR=13						
	0.9nm,0.6s						
BRTR	**Keskin Array B**	**146.24**	**321**	PKPbc	PKPdf	13 09 21.3	+0.2
	0.6nm,0.8s,baz=80,slow=1.6,SNR=2.8						

---

*SOME **05** 12:57:29.2, 39.°67N×75.°68E, h5km*
*KRNET **05** 12:57:29.5±0.1, 39.°71N×75.°60E, h35km, mb3.5*

*NNC **05** 12:57:33.0±1.2, 39.°82N×75.°69E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=9.2km s-min=7.2km az=152.0*
ISC 05 12:57:31.8±1.4, 39.°65N±0.°06×75.°62E±0.°04, h10km, n60, σ1°57/93, 41C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.67**	**283**	⇑*i*P	**Pn**	**12 58 00.6**	**-0.8**
SFK				⇑*i*S	**Sn**	**12 58 23.3**	**+0.3**
NRN	**Naryn**	**1.81**	**9**	⇓*e*P	**Pn**	**12 58 02.0**	**-1.3**
NRN				⇓*e*S	**Sn**	**12 58 25.4**	**-1.1**
SALK	**Salom-Alik**	**1.85**	**312**	⇑*e*P	**Pn**	**12 58 03.0**	**-0.8**
SALK				⇑*e*S	**Sn**	**12 58 27.5**	**+0.2**
OHH	**Osh**	**2.35**	**293**	⇑*i*P	**Pn**	**12 58 11.0**	**+0.5**
OHH				⇑*i*S	**Sn**	**12 58 41.2**	**+1.8**
ARLS	**Aral**	**2.42**	**336**	⇑*i*P	**Pn**	**12 58 11.8**	**+0.2**
ARLS				⇑*i*S	**Sn**	**12 58 42.4**	**+1.0**
ARSB	**Arslanbob**	**2.62**	**311**	⇑*e*P	**Pn**	**12 58 14.7**	**+0.4**
ARSB				⇑*e*S	**Sn**	**12 58 47.7**	**+1.4**
ULHL	**Ulahol**	**2.64**	**10**	P	**Sg**	**12 58 54.8**	**-1.8**
	SNR=7.5						
ULHL	**Ulahol**	**2.64**	**10**	⇑*i*P	**Pn**	**12 58 15.1**	**+0.5**
ULHL				⇑*i*S	**Sn**	**12 58 48.2**	**+1.4**
TARG	**Taragay, Kyrgy**	**2.66**	**38**	⇑*i*P	**Pn**	**12 58 15.4**	**+0.3**
TARG				⇑*i*S	**Sn**	**12 58 49.2**	**+1.6**
UCH	**Uchtor**	**2.71**	**342**	P	**Pn**	**12 58 16.7**	**+0.9**
	SNR=6.4						
UCH	**Uchtor**	**2.71**	**342**	⇓*i*P	**Pn**	**12 58 16.0**	**+0.1**
UCH				⇓*i*S	**Sn**	**12 58 50.2**	**+1.2**
KDJ	**Kajisay**	**2.75**	**25**	⇑*i*P	**Pn**	**12 58 16.6**	**+0.5**
KDJ				⇑*i*S	**Sn**	**12 58 50.9**	**+1.4**
BOOM	**Boomskoye usch**	**2.85**	**5**	⇑*e*P	**Pn**	**12 58 18.1**	**+0.6**
BOOM				⇑*i*S	**Sn**	**12 58 53.0**	**+1.0**
AML	**Almayashu**	**2.88**	**330**	P	**Pn**	**12 58 18.4**	**+0.3**
	SNR=15						
AML	**Almayashu**	**2.88**	**330**	⇑*i*P	**Pn**	**12 58 18.5**	**+0.3**
AML				⇑*i*S	**Sn**	**12 58 54.4**	**+1.4**
DRK	**Karamyk**	**2.96**	**268**	⇑*i*P	**Pn**	**12 58 19.8**	**+0.7**
DRK				⇑*i*S	**Sn**	**12 58 56.8**	**+2.0**
KBK	**Karagaybulak**	**3.05**	**351**	P	**Pn**	**12 58 21.9**	**+1.6**
	SNR=12						
KBK	**Karagaybulak**	**3.05**	**351**	⇑*i*P	**Pn**	**12 58 20.7**	**+0.4**
KBK				⇑*i*S	**Sn**	**12 58 58.1**	**+1.2**
AAK	**Ala-Archa**	**3.11**	**344**	P	**Pn**	**12 58 22.3**	**+1.3**
	SNR=9.3						
AAK	**Ala-Archa**	**3.11**	**344**	Pn	**Pn**	**12 58 22.1**	**+1.1**
	18nm,0.6s						
AAK				Lg	Lg	12 59 03.4	
	37nm,0.8s						
AAK	**Ala-Archa**	**3.11**	**344**	⇓*i*P	**Pn**	**12 58 21.6**	**+0.6**
AAK				⇓*i*S	**Sn**	**12 58 59.6**	**+1.3**
FRU1	**Bishkek**	**3.25**	**347**	⇓*i*P	**Pn**	**12 58 23.6**	**+0.7**
FRU1				⇓*i*S	**Sn**	**12 59 02.2**	**+0.6**
TKM2	**Tokmak 2**	**3.27**	**360**	P	**Pn**	**12 58 24.6**	**+1.3**
	SNR=11						
TKM2	**Tokmak 2**	**3.27**	**360**	⇓Pn	**Pn**	**12 58 24.4**	**+1.0**
	4.9nm,0.6s						
TKM2				⇓Lg	Lg	12 59 12.2	
	55nm,0.9s						
TKM2	**Tokmak 2**	**3.27**	**360**	⇑*i*P	**Pn**	**12 58 24.1**	**+0.8**
TKM2				⇑*i*S	**Sn**	**12 59 03.5**	**+1.1**
EKS2	**Erkin-Say**	**3.32**	**336**	⇓*i*P	**Pn**	**12 58 24.5**	**+0.6**
EKS2				⇓*i*S	**Sn**	**12 59 04.4**	**+0.9**
KST	**Kastek**	**3.40**	**4**	Pg	**Pb**	**12 58 31.5**	**-0.8**
	4.1nm,0.3s						
KST				Lg	Lg	12 59 15.4	
	37nm,0.7s						
KST	**Kastek**	**3.40**	**4**	*e*P	**Pb**	**12 58 31.5**	**-0.8**
	4.1nm,0.3s						
KST				*e*S	**Sb**	**12 59 15.4**	**+1.6**
	37nm,0.7s						
CHMS	**Chumysh**	**3.41**	**349**	⇑Pn	**Pn**	**12 58 25.7**	**+0.5**
	8.1nm,0.7s						
CHMS				⇑Lg	Lg	12 59 15.8	
	34nm,0.9s						
CHMS	**Chumysh**	**3.41**	**349**	⇑*e*P	**Pn**	**12 58 25.6**	**+0.5**
CHMS				⇑*i*S	**Sn**	**12 59 06.6**	**+0.9**
ANVS	**Anan'yevo**	**3.49**	**26**	⇑*i*P	**Pn**	**12 58 26.8**	**+0.5**
ANVS				⇑*i*S	**Sn**	**12 59 08.6**	**+0.8**
ARK	**Arkit**	**3.52**	**309**	⇑*i*P	**Pn**	**12 58 27.1**	**+0.5**
ARK				⇑*i*S	**Sn**	**12 59 09.2**	**+0.9**
TNSS	**Tian-Shan**	**3.53**	**16**	Pg	**Pb**	**12 58 34.6**	**0.0**
	4.8nm,0.5s						
TNSS				Lg	Lg	12 59 20.4	
	12nm,0.9s						
TNSS	**Tian-Shan**	**3.53**	**16**	*e*P	**Pb**	**12 58 34.6**	**0.0**
	4.8nm,0.5s						
TNSS				*e*S	**Sb**	**12 59 20.4**	**+2.8**
	12nm,0.9s						
MTBS	**Maitube**	**3.53**	**10**	Pg	**Pb**	**12 58 33.8**	**-0.6**
	11nm,0.6s						
MTBS				Lg	Lg	12 59 19.1	
	10nm,0.6s						
MTBS	**Maitube**	**3.53**	**10**	*e*P	**Pb**	**12 58 33.8**	**-0.6**
	11nm,0.6s						
MTBS				*e*S	**Sb**	**12 59 19.1**	**+1.7**
	10nm,0.6s						
MRKS	**Merke**	**3.59**	**330**	Pg	**Pb**	**12 58 36.7**	**+1.4**
	10nm,0.6s						
MRKS				Lg	Lg	12 59 24.2	
	17nm,0.9s						
MRKS	**Merke**	**3.59**	**330**	*e*P	**Pb**	**12 58 36.7**	**+1.4**
	10nm,0.6s						
MRKS				*e*S	**Sg**	**12 59 24.2**	**-2.7**
	17nm,0.9s						
DGS	**Degeres**	**3.59**	**2**	Pg	**Pb**	**12 58 35.7**	**+0.2**
	9.7nm,0.6s						
DGS				Lg	Lg	12 59 22.3	
	26nm,0.9s						
MDOK	**Medeo**	**3.67**	**16**	Pg	**Pb**	**12 58 37.0**	**+0.1**
	4.3nm,0.6s						
MDOK				Pg	Pg	12 58 37.3	-4.9
	3.0nm,0.6s						
MDOK				Lg	Lg	12 59 24.7	
	14nm,1.1s						
MDOK				Lg	Lg	12 59 24.7	
	29nm,1.2s						
MNAS	**Manas**	**3.69**	**321**	⇑*i*P	**Pn**	**12 58 29.5**	**+0.5**
MNAS				⇑*i*S	**Sn**	**12 59 13.2**	**+0.6**
USP	**Ospenovka**	**3.71**	**347**	⇑*i*P	**Pn**	**12 58 29.8**	**+0.5**
USP				⇑*i*S	**Sn**	**12 59 13.8**	**+0.7**
BTK	**Batken**	**3.72**	**278**	⇓*i*P	**Pn**	**12 58 30.1**	**+0.7**
BTK				⇓*i*S	**Sn**	**12 59 14.6**	**+1.3**
SGDS	**Sogindy**	**3.88**	**349**	Pg	**Pb**	**12 58 41.0**	**+0.8**
	8.1nm,0.7s						
SGDS				Lg	Lg	12 59 31.6	
	19nm,0.6s						
TRKS	**Terek-Say**	**3.90**	**300**	⇓*e*P	**Pn**	**12 58 31.8**	**-0.1**
TRKS				⇓*e*S	**Sn**	**12 59 17.1**	**-0.7**
SATY	**Saty**	**4.00**	**31**	Pg	**Pb**	**12 58 42.7**	**+0.3**
	5.1nm,0.5s						
SATY				Lg	Lg	12 59 34.4	
	14nm,1.0s						
KTBS	**Karatobe**	**4.14**	**11**	Pg	**Pb**	**12 58 45.5**	**+0.7**
	3.4nm,0.4s						
KTBS				Lg	Lg	12 59 39.5	
	17nm,0.9s						
KURS	**Kuram**	**4.29**	**26**	Pg	**Pb**	**12 58 47.6**	**+0.3**
	4.5nm,0.4s						
KURS				Lg	Lg	12 59 43.0	
	11nm,1.2s						
KURS	**Kuram**	**4.29**	**26**	*e*P	**Pb**	**12 58 49.0**	**+1.7**
	0.5nm,0.1s						
KURS				*e*S	**Sg**	**12 59 45.4**	**-4.0**
	22nm,0.7s						
CHKK	**Chushkaly**	**4.33**	**13**	Pg	**Pb**	**12 58 49.0**	**+1.0**
	0.5nm,0.1s						
CHKK				Lg	Lg	12 59 45.4	
	22nm,0.7s						
CHKK	**Chushkaly**	**4.33**	**13**	*e*P	**Pb**	**12 58 49.0**	**+1.0**
	0.5nm,0.1s						
CHKK				*e*S	**Sb**	**12 59 45.4**	**+5.3**
	22nm,0.7s						
UZB	**Uzynbulak**	**4.33**	**35**	Pg	**Pb**	**12 58 48.5**	**+0.4**
	4.0nm,0.2s						
UZB				Lg	Lg	12 59 44.3	
	6.3nm,1.1s						
UZB	**Uzynbulak**	**4.33**	**35**	*e*P	**Pb**	**12 58 48.5**	**+0.4**
	4.0nm,0.2s						
UZB				*e*S	**Sb**	**12 59 44.3**	**+3.8**
	6.3nm,1.1s						
KPKS	**Kokpek**	**4.45**	**30**	*e*P	Pn	12 58 35.7	-3.7
	9.7nm,0.6s						
KPKS				*e*S	Sn	12 59 22.3	-9.1
	26nm,0.9s						
PDGK	**Podgornoye**	**4.69**	**37**	⇓Pg	**Pb**	**12 58 52.0**	**-2.2**
	4.0nm,0.8s						
PDGK				⇑Lg	Lg	12 59 57.3	
	7.6nm,0.8s						
BLB	**Baldybastay**	**4.93**	**25**	Pg	**Pb**	**12 59 00.2**	**+1.9**
	5.1nm,0.5s						
BLB				Lg	Lg	13 00 04.3	
	21nm,0.9s						
KK31	**Karatay Array**	**5.17**	**314**	⇑Pg	**Pb**	**12 59 03.6**	**+1.3**
	1.0nm,0.4s,baz=128,slow=17,SNR=4.2						
KK31				⇑Lg	Lg	13 00 13.2	
	2.4nm,0.5s,baz=134,slow=27						
BRLS	**Borolday**	**5.51**	**310**	*e*P	**Pg**	**12 59 13.3**	**-4.0**
	2.0nm,0.6s						
BRLS				*e*S	**Sg**	**13 00 26.9**	**-1.8**
	5.6nm,0.6s						
BTLS	**Baital**	**5.52**	**348**	Pg	**Pb**	**12 59 12.0**	**+3.8**
	1.5nm,0.4s						
BTLS				Lg	Lg	13 00 24.6	
	5.1nm,0.6s						
BTLS	**Baital**	**5.52**	**348**	*e*P	**Pb**	**12 59 12.0**	**+3.8**
	1.5nm,0.4s						
BTLS				*e*S	**Sg**	**13 00 24.6**	**-4.2**
	5.1nm,0.6s						

---

*SOME **05** 13:10:07.0, 39.°67N×75.°62E, h5km*
*KRNET **05** 13:10:07.3±0.1, 39.°51N×75.°60E, mb3.5*
*NNC **05** 13:10:11.4±1.0, 39.°81N×75.°69E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=8.0km s-min=6.0km az=162.0*
ISC 05 13:10:08.9±1.4, 39.°43N±0.°07×75.°70E±0.°04, h10km, n55, σ1°49/90, 31C-24D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.79**	**290**	⇑*i*P	**Pn**	**13 10 38.9**	**-1.2**
SFK				⇑*i*S	**Sn**	**13 11 01.7**	**-1.3**
SALK	**Salom-Alik**	**2.04**	**316**	⇓*e*P	**Pn**	**13 10 43.0**	**-0.5**
SALK				⇓*e*S	**Sn**	**13 11 09.0**	**-0.1**
OHH	**Osh**	**2.49**	**297**	⇑*i*P	**Pn**	**13 10 49.5**	**0.0**
OHH				⇑*i*S	**Sn**	**13 11 20.2**	**+0.2**
ARLS	**Aral**	**2.64**	**337**	⇓*i*P	**Pn**	**13 10 51.2**	**-0.5**
ARLS				⇓*i*S	**Sn**	**13 11 23.7**	**-0.2**
TARG	**Taragay, Kyrgy**	**2.80**	**34**	⇑*i*P	**Pn**	**13 10 55.0**	**+0.9**
TARG				⇑*i*S	**Sn**	**13 11 29.5**	**+1.4**
ARSB	**Arslanbob**	**2.81**	**313**	⇑*e*P	**Pn**	**13 10 53.7**	**-0.2**
ARSB				⇑*e*S	**Sn**	**13 11 27.4**	**-0.5**
ULHL	**Ulahol**	**2.84**	**8**	⇑*i*P	**Pn**	**13 10 54.6**	**+0.1**
ULHL				⇑*i*S	**Sn**	**13 11 29.6**	**+0.8**
KDJ	**Kajisay**	**2.92**	**22**	⇓*i*P	**Pn**	**13 10 56.1**	**+0.6**
KDJ				⇓*i*S	**Sn**	**13 11 32.2**	**+1.4**
UCH	**Uchtor**	**2.93**	**343**	⇓*e*P	**Pn**	**13 10 55.7**	**-0.3**
UCH				⇓*i*S	**Sn**	**13 11 31.1**	**-0.4**
DRK	**Karamyk**	**3.02**	**272**	⇑*i*P	**Pn**	**13 10 57.1**	**+0.1**
DRK				⇑*i*S	**Sn**	**13 11 33.5**	**+0.1**
BOOM	**Boomskoye usch**	**3.06**	**3**	⇑*i*P	**Pn**	**13 10 58.1**	**+0.7**
BOOM				⇑*i*S	**Sn**	**13 11 34.5**	**+0.3**
AML	**Almayashu**	**3.10**	**331**	⇑*i*P	**Pn**	**13 10 57.5**	**-0.6**
AML				⇑*i*S	**Sn**	**13 11 35.2**	**-0.2**
KBK	**Karagaybulak**	**3.27**	**350**	⇓*i*P	**Pn**	**13 11 01.2**	**+0.9**
KBK				⇓*i*S	**Sn**	**13 11 39.5**	**+0.1**
AAK	**Ala-Archa**	**3.33**	**344**	Pn	**Pn**	**13 11 01.4**	**+0.2**
	8.7nm,0.5s						
AAK				Lg	Lg	13 11 42.8	
	24nm,0.6s						
AAK	**Ala-Archa**	**3.33**	**344**	⇓*i*P	**Pn**	**13 11 01.3**	**+0.2**
AAK				⇓*i*S	**Sn**	**13 11 40.5**	**-0.3**
FRU1	**Bishkek**	**3.47**	**347**	⇓*i*P	**Pn**	**13 11 03.1**	**+0.1**
FRU1				⇓*i*S	**Sn**	**13 11 44.0**	**-0.2**
TKM2	**Tokmak 2**	**3.48**	**359**	⇓Pn	**Pn**	**13 11 03.0**	**-0.3**
	5.9nm,0.5s						
TKM2				⇓Lg	Lg	13 11 51.6	
	56nm,0.9s						
TKM2	**Tokmak 2**	**3.48**	**359**	⇑*i*P	**Pn**	**13 11 03.3**	**0.0**
TKM2				⇑*i*S	**Sn**	**13 11 44.6**	**-0.2**
EKS2	**Erkin-Say**	**3.54**	**336**	⇓*i*P	**Pn**	**13 11 04.3**	**+0.3**
EKS2				⇓*i*S	**Sn**	**13 11 45.7**	**-0.2**
CHMS	**Chumysh**	**3.63**	**349**	⇑Pn	**Pn**	**13 11 03.2**	**-2.0**
	7.7nm,0.8s						
CHMS				⇑Lg	Lg	13 11 55.5	
	56nm,1.1s						
CHMS	**Chumysh**	**3.63**	**349**	⇑*i*P	**Pn**	**13 11 05.2**	**0.0**
CHMS				⇑*i*S	**Sn**	**13 11 47.4**	**-0.8**
ANVS	**Anan'yevo**	**3.66**	**23**	⇓*i*P	**Pn**	**13 11 06.3**	**+0.6**
ANVS				⇓*i*S	**Sn**	**13 11 49.7**	**+0.6**
TNSS	**Tian-Shan**	**3.72**	**14**	Pg	**Pb**	**13 11 12.0**	**-2.9**
	16nm,0.6s						
TNSS				Lg	Lg	13 11 58.8	
	15nm,0.9s						
TNSS	**Tian-Shan**	**3.72**	**14**	*e*P	**Pb**	**13 11 12.0**	**-2.9**
	16nm,0.6s						
TNSS				*e*S	**Sb**	**13 11 58.8**	**-1.5**
	15nm,0.9s						
MTBS	**Maitube**	**3.73**	**8**	Pg	**Pb**	**13 11 12.6**	**-2.3**
	13nm,0.5s						
MTBS				Lg	Lg	13 11 59.4	
	23nm,0.5s						
MTBS	**Maitube**	**3.73**	**8**	*e*P	**Pb**	**13 11 12.6**	**-2.3**
	13nm,0.5s						
MTBS				*e*S	**Sb**	**13 11 59.4**	**-0.9**
	23nm,0.5s						
MRKS	**Merke**	**3.80**	**331**	Pg	**Pn**	**13 11 08.7**	**+1.1**
	0.8nm,0.1s						
MRKS				Lg	Lg	13 11 52.8	
	22nm,0.6s						
MRKS	**Merke**	**3.80**	**331**	*e*P	**Pn**	**13 11 08.7**	**+1.1**
	0.8nm,0.1s						
MRKS				*e*S	**Sn**	**13 11 52.8**	**+0.4**
	22nm,0.6s						
DGS	**Degeres**	**3.81**	**1**	Pg	**Pn**	**13 11 08.1**	**+0.5**
	6.7nm,0.7s						
DGS				Lg	Lg	13 11 51.9	
	25nm,0.6s						
BTK	**Batken**	**3.81**	**281**	⇑*i*P	**Pn**	**13 11 08.0**	**+0.3**
BTK				⇑*i*S	**Sn**	**13 11 52.4**	**-0.3**
MDOK	**Medeo**	**3.86**	**15**	Pg	**Pb**	**13 11 13.2**	**-4.0**
	10.0nm,0.6s						
MDOK				Pg	Pn	13 11 14.6	+6.2
	12nm,0.5s						
MDOK				Lg	Lg	13 12 03.0	
	17nm,0.6s						
MDOK				Lg	Lg	13 12 03.8	
	14nm,1.0s						
MNAS	**Manas**	**3.89**	**323**	⇑*e*P	**Pn**	**13 11 09.0**	**+0.1**
MNAS				⇑*i*S	**Sn**	**13 11 53.7**	**-1.0**
USP	**Ospenovka**	**3.94**	**347**	⇑*i*P	**Pn**	**13 11 09.8**	**+0.4**
USP				⇑*i*S	**Sn**	**13 11 55.1**	**-0.5**
KOTS	**Kotyrbulak**	**3.94**	**15**	*e*P	**Pb**	**13 11 17.0**	**-1.5**
	15nm,0.6s						
KOTS				*e*S	**Sb**	**13 12 06.7**	**+0.3**
	40nm,0.7s						
TRKS	**Terek-Say**	**4.06**	**303**	⇓*i*P	**Pn**	**13 11 10.4**	**-0.8**
TRKS				⇓*i*S	**Sn**	**13 11 56.6**	**-2.2**
SGDS	**Sogindy**	**4.09**	**349**	Pg	**Pb**	**13 11 19.3**	**-1.8**
SGDS				Lg	Lg	13 12 10.7	
SATY	**Saty**	**4.16**	**29**	Pg	**Pb**	**13 11 21.0**	**-1.2**
	13nm,0.5s						
SATY				Lg	Lg	13 12 13.9	
	19nm,0.6s						
KTBS	**Karatobe**	**4.34**	**9**	Pg	**Pb**	**13 11 23.5**	**-1.7**
	8.7nm,0.5s						
KTBS				Lg	Lg	13 12 18.4	
	22nm,0.6s						
KURS	**Kuram**	**4.46**	**24**	*e*P	**Pb**	**13 11 26.7**	**-0.5**
	7.7nm,0.5s						
KURS				*e*S	**Sb**	**13 12 23.6**	**+2.

13nm,0.3s
SHLS Shalkode 4.68 36 *e*P **Pg 13 11 36.1 -2.3**
18nm,0.5s
SHLS *e*S **Sg 13 12 39.9 +0.9**
13nm,0.3s
PDGK Podgornoye 4.82 35 ⇓Pn **Pn 13 11 21.5 -0.1**
1.7nm,0.5s
PDGK ⇑Pg **Pb 13 11 33.6 +0.1**
9.8nm,0.6s
PDGK ⇑Lg Lg 13 12 33.8
11nm,0.6s
ARXS Arharly 5.03 18 Pg **Pb 13 11 37.0 -0.1**
12nm,0.6s
ARXS Lg Lg 13 12 41.9
11nm,0.8s
BLB Baldybastay 5.10 23 Pg **Pb 13 11 37.8 -0.4**
32nm,0.5s
BLB Lg Lg 13 12 43.1
10nm,0.4s
KK31 Karatay Array 5.36 315 ⇓Pg **Pb 13 11 43.8 +1.2**
0.8nm,0.4s,baz=138,slow=13,SNR=4.3
KK31 ⇑Lg Lg 13 12 52.8
7.6nm,0.8s,baz=129,slow=30,SNR=5.4
BRLS Borolday 5.70 311 Pg **Pb 13 11 48.9 +0.6**
1.7nm,0.3s
BRLS Lg Lg 13 13 02.2
5.8nm,0.8s
BRLS Borolday 5.70 311 *e*P **Pb 13 11 48.9 +0.6**
1.7nm,0.3s
BRLS *e*S **Sb 13 13 02.2 +5.5**
5.8nm,0.8s
BTLS Baital 5.74 348 Pg **Pb 13 11 49.3 +0.3**
1.1nm,0.3s
BTLS Lg Lg 13 13 01.5
8.3nm,0.7s
BTLS Baital 5.74 348 *e*P **Pb 13 11 49.3 +0.3**
1.1nm,0.3s
BTLS *e*S **Sb 13 13 01.5 +3.7**
8.3nm,0.7s
DJR Jarkent 5.77 31 Pg **Pb 13 11 50.4 +0.8**
1.8nm,0.5s
DJR Lg Lg 13 13 04.5
2.7nm,0.1s
DJR Jarkent 5.77 31 *e*P **Pb 13 11 50.4 +0.8**
1.8nm,0.5s
DJR *e*S **Sb 13 13 04.5 +5.7**
2.7nm,0.1s

---

*NNC **05** 13:17:19.2±8.8, 38°.28N×71°.29E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=67.2km s-min=52.9km az=5.0*
*KRNET **05** 13:17:22.6±0.1, 39°.01N×70°.81E, h9km, mb3.2*
ISC 05 13:17:24.9±1.3, 39°.02N±0°.07×70°.77E±0°.04, h10km, n18, σ2°76/31, 19C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.35**	**267**	⇑*i*P	**Pg**	**13 17 30.0**	**-2.0**
GAR				⇑*i*S	**Sg**	**13 17 35.4**	**-1.3**
DRK	**Karamyk**	**0.92**	**60**	⇑*i*P	**Pg**	**13 17 39.9**	**-2.8**
DRK				⇑*i*S	**Sg**	**13 17 52.6**	**-2.2**
BTK	**Batken**	**1.04**	**2**	⇑*i*P	**Pg**	**13 17 42.6**	**-2.3**
BTK				⇑*i*S	**Sg**	**13 17 57.1**	**-1.4**
SFK	**Sufi-Kurgan**	**2.34**	**64**	⇑*e*P	**Pn**	**13 18 03.9**	**+0.3**
SFK				⇑*i*S	**Sb**	**13 18 34.0**	**-2.3**
TRKS	**Terek-Say**	**2.53**	**6**	⇑*e*P	**Pn**	**13 18 06.2**	**+0.1**
TRKS				⇑*e*S	**Sn**	**13 18 37.9**	**+0.8**
ARSB	**Arslanbob**	**2.86**	**36**	⇑*e*P	**Pn**	**13 18 11.4**	**+0.7**
ARSB				⇑*e*S	**Sn**	**13 18 46.8**	**+1.5**
ARK	**Arkit**	**2.92**	**18**	⇑*e*P	**Pn**	**13 18 12.3**	**+0.7**
ARK				⇑*i*S	**Sn**	**13 18 48.6**	**+1.8**
SALK	**Salom-Alik**	**3.00**	**51**	⇓*e*P	**Pn**	**13 18 13.3**	**+0.7**
SALK				⇓*e*S	**Sn**	**13 18 50.2**	**+1.5**
MNAS	**Manas**	**3.71**	**20**	⇑*e*P	**Pn**	**13 18 23.4**	**+1.0**
MNAS				⇑*e*S	**Sn**	**13 19 07.7**	**+1.5**
AML	**Almayashu**	**3.83**	**35**	P	**Pn**	**13 18 27.1**	**+2.9**
SNR=9.2							
ARLS	**Aral**	**3.93**	**43**	⇓*e*P	**Pn**	**13 18 26.3**	**+0.9**
ARLS				⇓*e*S	**Sn**	**13 19 12.5**	**+0.9**
KK31	**Karatay Array**	**4.09**	**357**	P	**Pn**	**13 18 30.4**	**+2.9**
1.9nm,0.4s,baz=169,slow=12,SNR=17							
KK31				⇑S	**Sg**	**13 19 32.9**	**-3.2**
4.5nm,0.3s,baz=159,slow=30,SNR=3.5							
EKS2	**Erkin-Say**	**4.30**	**31**	P	**Pn**	**13 18 34.8**	**+4.4**
SNR=7.3							
AAK	**Ala-Archa**	**4.59**	**37**	P	**Pn**	**13 18 38.8**	**+4.3**
SNR=5.1							
CHMS	**Chumysh**	**4.99**	**36**	⇓P	**Pn**	**13 18 42.3**	**+2.4**
2.3nm,0.5s							
CHMS				⇓S	**Sn**	**13 19 44.1**	**+6.4**
15nm,0.8s							
USP	**Ospenovka**	**5.09**	**32**	P	**Pn**	**13 18 44.0**	**+2.7**
SNR=6.9							
TKM2	**Tokmak 2**	**5.34**	**42**	P	**Pn**	**13 18 48.4**	**+3.5**
SNR=11							
TKM2	**Tokmak 2**	**5.34**	**42**	⇑P	**Pn**	**13 18 47.3**	**+2.4**
2.6nm,0.3s							
TKM2				⇑S	**Sn**	**13 19 52.0**	**+5.4**
4.3nm,0.7s							

---

*IDC **05** 13:32:02.8±6.6, 36°.54N×71°.14E, h194km±56km, mb3.4/4, mbtmp3.8/10, Error ellipse: s-maj=54.6km s-min=22.8km az=35.0*
*NNC **05** 13:32:04.4±5.2, 36°.82N×70°.74E, h154km±86km, mb3.1, mpv3.8, Error ellipse: s-maj=43.4km s-min=33.8km az=31.0*
ISC 05 13:32:04.4±1.3, 36°.7N±0°.1×71°.0E±0°.1, h200km, n21, σ1s60/28, mb3.5/4, 6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.78**	**20**	P	**Pn**	**13 33 29.8**	**+0.7**
SNR=56							
EKS2	**Erkin-Say**	**6.29**	**19**	P	**Pn**	**13 33 36.4**	**+0.9**
SNR=5.5							
KK31	**Karatay Array**	**6.38**	**357**	⇓P	**Pn**	**13 33 36.5**	**0.0**
3.1nm,0.3s,baz=175,slow=12,SNR=52							
KK31				⇑S	**Sn**	**13 34 46.4**	**-3.0**
16nm,0.5s,baz=185,slow=22,SNR=24							
AAK	**Ala-Archa**	**6.48**	**23**	P	**Pn**	**13 33 39.2**	**+1.2**
3.5nm,0.3s,baz=183,slow=2.5,SNR=13							
AAK				S	**Sn**	**13 34 51.8**	**-0.3**
9.2nm,0.7s,baz=320,slow=22,SNR=16							
AAK	**Ala-Archa**	**6.48**	**23**	P	**Pn**	**13 33 39.1**	**+1.2**
SNR=6.1							
AAK	**Ala-Archa**	**6.48**	**23**	⇓P	**Pn**	**13 33 38.3**	**+0.3**
1.7nm,0.3s							
AAK				⇑S	**Sn**	**13 34 52.8**	**+0.7**
11nm,0.5s							
CHMS	**Chumysh**	**6.89**	**24**	⇑P	**Pn**	**13 33 42.9**	**-0.2**
4.4nm,0.7s							
CHMS				⇓S	**Sn**	**13 34 59.5**	**-2.0**
8.4nm,0.7s							
USP	**Ospenovka**	**7.05**	**21**	P	**Pn**	**13 33 45.8**	**+0.5**
SNR=6.3							
TKM2	**Tokmak 2**	**7.12**	**28**	P	**Pn**	**13 33 47.4**	**+1.2**
SNR=7.3							
TKM2	**Tokmak 2**	**7.12**	**28**	⇑P	**Pn**	**13 33 45.0**	**-1.3**
7.0nm,0.7s							
TKM2				⇓S	**Sn**	**13 35 06.3**	**-0.9**
5.0nm,0.7s							
MKAR	**Makanchi Array**	**13.10**	**36**	P	**Pn**	**13 35 03.0**	**0.0**
0.3nm,0.6s,baz=219,slow=12,SNR=4.6							
AB31	**Akbulak array**	**14.89**	**331**	⇑P	**Pn**	**13 35 23.9**	**-1.2**
0.7nm,0.5s							
AB31				⇓S	**S**	**13 38 05.9**	**-4.3**
0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**14.90**	**19**	P	**P**	**13 35 26.9**	**+0.9**
0.7nm,0.7s,baz=210,slow=11,SNR=7.7							
BVAR	**Borovoye Array**	**16.30**	**359**	P	**Pn**	**13 35 43.0**	**+0.9**
1.3nm,0.5s,baz=165,slow=11,SNR=6.9							
AKTO	**Aktyubinsk**	**16.59**	**330**	P	**P**	**13 35 45.8**	**+1.2**
3.4nm,0.5s,baz=139,slow=9.9,SNR=10							
AKTO	**Aktyubinsk**	**16.59**	**330**	⇓P	**P**	**13 35 45.6**	**+1.0**
1.8nm,0.6s							
AKTO				⇑S	**S**	**13 38 50.9**	**+3.3**
0.6nm,0.6s							
ZALV	**Zalesovo Beam**	**19.70**	**25**	P	**P**	**13 36 19.1**	**+0.8**
1.6nm,0.4s,baz=220,slow=11,SNR=8.1							
FINES	**FINESS Array B**	**37.30**	**326**	P	**P**	**13 38 56.9**	**+0.1**
1.2nm,0.9s,baz=111,slow=9.2,SNR=4.1							
1.2nm,0.9s							
ARCES	**ARCESS Array B**	**40.94**	**337**	P	**P**	**13 39 28.2**	**+1.3**
3.1nm,0.9s,baz=117,slow=8.6,SNR=1.9							
HFS	**Hagfors**	**42.89**	**322**	P	**P**	**13 39 43.1**	**+0.3**
0.8nm,0.5s,baz=81,slow=9.2,SNR=5.0							
0.8nm,0.5s							
ASAR	**Alice Springs**	**84.38**	**125**	P	**P**	**13 44 12.2**	**-2.1**
0.4nm,0.6s,baz=311,slow=4.8,SNR=8.4							
0.4nm,0.6s							

---

*IDC **05** 13:37:45.5±1.4, 1°.88N×127°.48E, h0km, mb3.2/3, mbtmp3.4/4, ML3.3/1, MS3.2/1, Error ellipse: s-maj=63.7km s-min=18.8km az=85.0*
*DJA **05** 13:37:59.4±0.6, 2°N±3°×12°7E±°, h140km±7km, M3.8/8, MLv3.8/8*
ISC 05 13:38:01.9±1.0, 1°.55N±0°.08×127°.05E±0°.09, h150km, n8, σ2s56/13, mb3.1/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.84**	**158**	P	**Pn**	**13 38 23.2**	**-2.2**
TNTI				S	**Sn**	**13 38 40.8**	**-2.5**
SGSI	**Sangihe**	**2.61**	**324**	P	**Pn**	**13 38 41.5**	**-2.9**
KMSI	**Cibinong**	**3.22**	**252**	P	**Pn**	**13 38 50.9**	**-1.2**
KMSI				S	**Sn**	**13 39 29.8**	**-1.2**
SANI	**Sanana**	**3.73**	**197**	P	**Pn**	**13 38 56.3**	**-2.4**
FITZ	**Fitzroy Crossi**	**19.58**	**184**	P	**Pn**	**13 42 18.7**	**-2.6**
0.1nm,0.3s,baz=4.8,slow=12,SNR=2.6							
FITZ				S	**Sn**	**13 46 06.1**	**+3.5**
5.7nm,1.1s,baz=5.2,slow=11,SNR=2.2							
5.8nm,1.1s							
WRA	**Warramunga Arr**	**22.53**	**162**	P	**P**	**13 42 49.8**	**+0.4**
0.6nm,0.4s,baz=340,slow=11,SNR=15							
WRA				PcP	**PcP**	**13 46 40.5**	**+2.5**
0.8nm,0.9s,baz=333,slow=2.7,SNR=1.5							
WRA				LR	LR	13 52 03.0	
comp=Z,69nm,21.4s,baz=14,slow=38							
0.6nm,0.4s							
ASAR	**Alice Springs**	**25.94**	**166**	P	**P**	**13 43 21.6**	**+1.1**
0.1nm,0.5s,baz=341,slow=7.5,SNR=8.5							
ASAR				PcP	**PcP**	**13 46 47.7**	**+2.4**
0.2nm,0.8s,baz=344,slow=2.4,SNR=1.5							
0.1nm,0.5s							
MKAR	**Makanchi Array**	**59.52**	**326**	P	**P**	**13 47 51.7**	**+2.3**
0.1nm,0.4s,baz=115,slow=9.6,SNR=2.0							
0.1nm,0.4s							

IDC 05 14:21:50.3±43.0, 17°.29S×179°.22W, h563km±97km, mb3.1/3, mbtmp4.0/4, Error ellipse: s-maj=850.3km s-min=121.1km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.65**	**260**	P	P	14 23 04.5	0.0
10nm,0.8s,baz=107,slow=11,SNR=9.6							
STKA	**Stephens Creek**	**38.26**	**240**	P	P	14 28 23.5	+0.3
0.7nm,0.3s,baz=63,slow=9.0,SNR=3.7							
0.7nm,0.3s							
WRA	**Warramunga Arr**	**43.99**	**259**	P	P	14 29 08.3	-0.4
0.7nm,0.5s,baz=96,slow=7.6,SNR=18							
0.7nm,0.5s							
ASAR	**Alice Springs**	**44.22**	**254**	P	P	14 29 10.3	-0.2
5.2nm,0.5s,baz=89,slow=8.0,SNR=85							
5.2nm,0.5s							

IDC 05 14:45:57.1±441.0, 57°.52N×29°.74E, h0km, Error ellipse: s-maj=167.6km s-min=85.8km az=92.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.16**	**98**	I	I	15 12 50.0	
0.3nm,0.6s,baz=281,slow=327,SNR=2.0							
I37NO	**I37NO**	**12.60**	**341**	I	I	15 56 50.0	
baz=145,slow=327,SNR=3.1							
I31KZ	**AKTYUBINSK INF**	**18.01**	**101**	I	I	16 37 20.0	
baz=309,slow=330,SNR=0.9							

---

*NEIC **05** 14:48:06.0±0.4, 35°.910N±0°.010×98°.042W±0°.009, h4km±3km, ML2.6/66, ML2.6/33, Error ellipse: s-maj=1.5km s-min=1.0km az=164.0*
NEIC 05 14:48:06.2±0.6, 35°.913N±0°.009×98°.05W±0°.01, h7km±4km, Error ellipse: s-maj=1.5km s-min=1.2km az=46.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.44**	**126**		Pg	14 48 14.8	+0.1
BCOK					Sg	14 48 21.2	+0.8
OK029	**Liberty Lake**	**0.49**	**103**		Pg	14 48 15.8	+0.1
OK029					Sg	14 48 22.9	+0.7
CSTR	**Hydro, Custer**	**0.59**	**243**		Pg	14 48 18.1	+0.6
CSTR					Sg	14 48 26.2	+0.9
CROK	**Carrier**	**0.59**	**5**		Pg	14 48 17.8	+0.2
CROK					Sg	14 48 26.2	+0.7
CROK				IAML		14 48 26.4	
comp=E,310nm,0.2s							
CROK				IAML		14 48 36.8	
comp=N,212nm,0.2s							
ADOK	**Arcadia Dam**	**0.61**	**115**	Pg	Pg	14 48 17.9	0.0
OKCSW	**OKLAHOMA CITY**	**0.71**	**136**	Pg	Pg	14 48 19.7	-0.1
OKCSW				IAML		14 48 30.0	
comp=E,197nm,0.1s							
OKCSW				IAML		14 48 39.3	
comp=N,178nm,0.1s							
OK038	**West end E0370**	**0.80**	**315**		Pg	14 48 21.4	-0.1
FNO	**Franklin**	**0.84**	**141**		Pg	14 48 22.0	-0.3
FNO					Sg	14 48 33.6	+0.3
FNO				IAML		14 48 33.7	
comp=E,140nm,0.4s							
OK032	**Salt Plains WL**	**0.90**	**351**		Pg	14 48 23.2	-0.3
OK032					Sg	14 48 35.7	+0.5
OK032				IAML		14 48 37.3	
comp=E,265nm,0.1s							
GC02	**Grant County #**	**0.95**	**9**		Pg	14 48 24.1	-0.3
GC02					Sg	14 48 37.0	+0.2
OK031	**S. Brethren Rd**	**0.98**	**87**		Pg	14 48 24.6	-0.4
OK031					Sg	14 48 38.0	+0.3
OK031				IAML		14 48 38.9	
comp=E,167nm,0.1s							
OK031				IAML		14 48 39.7	
comp=E,155nm,0.1s							
OK052	**Battle Ridge R**	**1.01**	**85**		Pg	14 48 25.1	-0.5
OK052					Sg	14 48 39.0	+0.3
OK052				IAML		14 48 41.1	
comp=E,178nm,0.2s							
OK052				IAML		14 48 44.9	
comp=E,193nm,0.2s							
NOKA	**Waynoka**	**1.02**	**315**		Pg	14 48 25.1	-0.7
NOKA					Sg	14 48 39.2	+0.3
OK048	**Pawnee Station**	**1.02**	**60**		Pg	14 48 25.6	-0.3
OK048					Sg	14 48 39.2	+0.1
OK048				IAML		14 48 41.6	
comp=E,142nm,0.2s							
OK048				IAML		14 48 43.6	
comp=E,124nm,0.3s							
KAN14	**Manchester OK**	**1.04**	**4**		Pg	14 48 25.6	-0.6
KAN14					Sg	14 48 40.0	+0.1
KAN14				IAML		14 48 42.5	
comp=N,125nm,0.1s							
KAN14				IAML		14 48 43.5	
comp=E,136nm,0.1s							
QUOK	**Quay**	**1.11**	**76**		Pg	14 48 27.0	-0.6
OK051	**E0350 and S346**	**1.14**	**58**	Pg	Pg	14 48 27.7	-0.4
KAN17	**Caldwell West**	**1.15**	**11**		Pg	14 48 27.6	-0.7
KAN17				IAML		14 48 45.2	
comp=N,126nm,0.2s							
KAN17				IAML		14 48 49.0	
comp=E,162nm,0.2s							
KAN13	**South Haven SW**	**1.19**	**22**		Pg	14 48 28.4	-0.7
KAN13				IAML		14 48 49.7	
comp=N,183nm,0.2s							
KAN05	**Bluff City Nor**	**1.20**	**7**		Pg	14 48 28.6	-0.7
KAN05				IAML		14 48 48.5	
comp=N,132nm,0.4s							
KAN05				IAML		14 48 53.9	
comp=E,123nm,0.2s							
W35A	**Tecumseh**	**1.22**	**128**		Pg	14 48 28.6	-1.0
KAN01	**Argonia South**	**1.26**	**10**	Pg	Pn	14 48 29.5	-0.8
KAN01				IAML		14 48 49.6	
comp=N,82nm,0.2s							
KAN01				IAML		14 48 49.8	
comp=E,114nm,2.6s							
KAN09	**Caldwell North**	**1.27**	**16**		Pn	14 48 29.6	-0.8
KAN08	**Anthony NE Sta**	**1.31**	**3**		Pn	14 48 30.6	-0.5
KAN08				IAML		14 48 49.8	
comp=E,78nm,0.1s							
KAN08				IAML		14 48 51.6	
comp=N,75nm,0.1s							
WMOK	**Wichita Mounta**	**1.32**	**207**		Pn	14 48 30.2	-0.9
X34A	**Smith Ranch, M**	**1.32**	**172**		Pn	14 48 31.2	+0.1
X34A				IAML		14 48 50.5	
comp=E,121nm,0.3s							
T35A	**Sooner Cattle**	**1.59**	**51**		Pn	14 48 35.2	+0.3
SMWD	**Samnorwood**	**1.97**	**246**	Pn	Pn	14 48 39.7	-0.4
WTFS	**Witchita Falls**	**2.17**	**189**	Pn	Pn	14 48 42.5	-0.3
U38A	**Gravette**	**3.01**	**79**	Pn	Pn	14 48 54.1	-0.3

IDC 05 14:54:34.2±441.0, 57°.46N×29°.85E, h0km, Error ellipse: s-maj=168.2km s-min=84.5km az=92.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.09**	**97**	I	I	15 21 20.0	
0.2nm,0.6s,baz=281,slow=326,SNR=4.2							
I37NO	**I37NO**	**12.67**	**341**	I	I	16 06 19.8	
baz=146,slow=327,SNR=3.6							
I31KZ	**AKTYUBINSK INF**	**17.94**	**101**	I	I	16 44 05.4	
baz=308,slow=331,SNR=1.1							

---

*NEIC **05** 15:03:31.0±2.2, 45°.87N±0°.05×106°.8W±0°.1, h0km±1km, ML2.7/28, Error ellipse: s-maj=13.9km s-min=7.9km az=282.0*
*IDC **05** 15:03:32.6±1.4, 45°.51N×106°.42W, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=71.3km s-min=9.3km az=136.0*
ISC 05 15:03:29.8±1.0, 45°.83N±0°.05×106°.96W±0°.06, h0km, n20, σ1s87/20, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.00**	**31**	Pg	**Pg**	**15 03 48.9**	**0.0**
LAO				IAML		15 04 09.6	
156nm,0.4s							
RLMT	**Red Lodge**	**1.77**	**247**	Pn	**Pg**	**15 04 05.7**	**+2.0**
RLMT				IAML		15 04 33.3	
90nm,0.5s							
RLMT				IAML		15 04 35.5	
54nm,0.5s							
YNE	**Yellowstone No**	**2.30**	**250**		**Pg**	**15 04 13.1**	**-0.6**
YNE				IAML		15 04 47.3	
comp=N,45nm,0.8s							
YNE				IAML		15 04 49.1	
comp=E,42nm,0.5s							
YMP	**Mirror Lake Pl**	**2.50**	**245**	Pn	**Pb**	**15 04 16.5**	**+0.7**
EGMT	**Eagleton**	**2.91**	**320**	Pn	**Pb**	**15 04 21.1**	**-1.5**
YHH	**Holmes Hill**	**2.93**	**251**	Pn	**Pg**	**15 04 25.1**	**-0.9**
YMR	**Madison River**	**3.06**	**249**	Pn	**Pn**	**15 04 20.6**	**+1.1**
YMR				IAML		15 05 22.2	
comp=E,26nm,1.4s							
YHL	**Hebgen Lake**	**3.13**	**253**	Pn	**Pb**	**15 04 24.5**	**-2.0**
YHL				IAML		15 05 25.5	
comp=N,16nm,0.7s							
YHL				IAML		15 05 32.4	
comp=E,19nm,0.7s							
K22A	**Casper**	**3.20**	**174**	Pn	**Pn**	**15 04 22.9**	**+1.5**
K22A				IAML		15 05 25.4	
comp=E,23nm,0.4s							
K22A				IAML		15 05 26.4	
comp=E,19nm,0.4s							
DGMT	**Dagmar**	**3.25**	**35**	Pn	**Pn**	**15 04 24.6**	**+2.7**
BOZ	**Bozeman (W)**	**3.28**	**268**		**Pn**	**15 04 22.7**	**+0.2**
LOHW	**Long Hollow**	**3.41**	**231**	Pn	**Pb**	**15 04 30.7**	**-0.5**
BW06	**Boulder Array**	**3.59**	**212**	Pn	**Pb**	**15 04 30.8**	**-3.4**
BW06				IAML		15 05 36.4	
comp=E,12nm,3.7s							
BW06				IAML		15 05 37.3	
comp=E,11nm,2.7s							
PD31	**Pinedale Array**	**3.59**	**212**		**Pb**	**15 04 31.2**	**-3.0**
PDAR	**Pinedale Array**	**3.59**	**212**	Pn	**Pb**	**15 04 31.5**	**-2.7**
comp=E,0.7nm,0.3s,baz=48,slow=20,SNR=29							
PDAR				Pg	**Pg**	**15 04 39.2**	**+0.7**
comp=E,1.7nm,0.3s,baz=38,slow=18,SNR=19							
PDAR				Lg	Lg	15 05 25.1	
comp=E,0.6nm,0.3s,baz=41,slow=29,SNR=1.7							
comp=E,0.6nm,0.4s							
FXWY	**Fox Creek**	**3.63**	**234**	Pn	**Pb**	**15 04 34.7**	**-0.3**
TPAW	**Teton Pass**	**3.68**	**232**	Pn	**Pb**	**15 04 33.5**	**-2.4**
TPAW				IAML		15 05 46.7	
comp=E,12nm,4.8s							
TPAW				IAML		15 05 49.0	
comp=E,9.1nm,4.8s							
BSUT	**Blindstream Ca**	**5.98**	**209**	Pn	**Pn**	**15 05 01.4**	**+1.7**
I10CA	**LAC DU BONNET**	**8.53**	**55**	I	I	15 51 58.9	
baz=235,slow=345,SNR=0.9							
ULM	**Lac du Bonnet**	**8.64**	**55**	Pn	**Pn**	**15 05 35.6**	**-0.4**
comp=E,0.6nm,0.3s,baz=236,slow=10,SNR=4.8							
ULM				Lg	Lg	15 07 57.4	
comp=E,0.4nm,0.3s,baz=155,slow=23,SNR=3.8							
comp=E,1.5nm,0.4s							

---

*IPEC **05** 15:03:35.9±0.2, 51°.57N×16°.23E, h1km, ML2.5/5, Error ellipse: s-maj=3.0km s-min=1.5km az=72.0*
*VIE **05** 15:03:37.9±0.8, 51°.44N×16°.19E, h0km, mb2.8/6, ml2.8/6, Error ellipse: s-maj=8.9km s-min=4.7km az=59.0 69 km NW of Wroclaw Suspected Mining induced.*
*PRU **05** 15:03:38.5, 51°.48N×16°.15E, h0km*
ISC 05 15:03:36.0±1.1, 51°.57N±0°.05×16°.21E±0°.03, h0km, n34, σ0s93/68, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**176**	*e*Pg	**Pg**	**15 03 50.3**	**+0.4**
KSP				*e*Sg	**Sg**	**15 03 59.7**	**+0.5**
CHVC	**Chvalec**	**0.98**	**186**	*e*PG	**Pg**	**15 03 55.2**	**+0.4**
CHVC				*e*SG	**Sg**	**15 04 07.8**	**+0.3**
comp=Z,69nm,0.6s							
OSTC	**Ostas**	**1.01**	**180**	*e*PG	**Pb**	**15 03 56.0**	**-0.3**
OSTC				*e*SG	**Sg**	**15 04 08.9**	**+0.6**
UPC	**Upice**	**1.07**	**187**	*e*PG	**Pg**	**15 03 56.5**	**+0.1**
UPC				*e*SG	**Sg**	**15 04 10.2**	**+0.1**
DPC	**Dobruska-Polom**	**1.22**	**176**	*e*PG	**Pg**	**15 03 59.2**	**-0.1**
DPC				*e*SG	**Sg**	**15 04 14.4**	**-0.6**
comp=Z,34nm,0.3s							
PIVO	**Bartosovice**	**1.40**	**171**	*e*Pg	**Pn**	**15 04 02.1**	**-0.6**
baz=352							
PIVO				*e*Sg	**Sg**	**15 04 19.7**	**-1.1**
58nm,0.2s,baz=352							
PVCC	**Panska Ves**	**1.46**	**225**	*e*PG	**Pn**	**15 04 03.6**	**0.0**
PVCC				*e*SG	**Sg**	**15 04 23.5**	**+0.6**
comp=Z,122nm,0.4s							
KRLC	**Kraliky**	**1.54**	**166**	*e*PG	**Pn**	**15 04 04.1**	**-0.5**
KRLC				*e*SG	**Sn**	**15 04 24.5**	**-0.8**
comp=Z,33nm,0.3s							
BRG	**Berggiesshubel**	**1.58**	**245**	Pg	**Pb**	**15 04 05.9**	**-0.2**
BRG				Sg	**Sn**	**15 04 26.4**	**0.0**
BRG				Amp		15 04 27.6	
comp=Z,89nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.88**	**209**	*e*PG	**Pb**	**15 04 10.9**	**-0.3**
PRU	**Pruhonice**	**1.90**	**214**	*e*PG	**Pb**	**15 04 10.8**	**-0.7**
PRU				*e*SG	**Sb**	**15 04 35.7**	**0.0**
comp=Z,21nm,0.3s							
STEB	**Steborice**	**1.91**	**148**	*e*PN	**Pn**	**15 04 09.3**	**-0.5**
STEB				*e*PG	**Pg**	**15 04 12.1**	**-0.5**
STEB				*e*SG	**Sb**	**15 04 36.4**	**+0.3**
MORC	**Moravsky Berou**	**1.98**	**154**	*e*Pn	**Pn**	**15 04 10.3**	**-0.5**
baz=336							
MORC				*e*Sg	**Sb**	**15 04 37.8**	**-0.3**
comp=Z,32nm,0.6s,baz=336							
HSKC	**Hora Svate Kat**	**2.00**	**242**	*e*PG	**Pb**	**15 04 12.3**	**

baz=358
KRUC eSg **Sb** **15 04 54.4 +1.1**
comp=Z,17nm,0.6s,baz=358
OJC Ojcow 2.64 119 ePg **Pg** **15 04 25.9 -0.7**
OJC eSg **Sg** **15 05 00.7 -0.2**
NKC Novy Kostel 2.73 242 ePN **Pn** **15 04 20.9 -0.1**
NKC ePG **Pb** **15 04 26.5 +0.9**
NKC eSG **Sb** **15 05 01.7 +2.1**
comp=Z,48nm,0.4s
JAVC Velka Javorina 2.87 160 ePn **Pn** **15 04 22.6 -0.4**
baz=342
JAVC Velka Javorina 2.87 160 ePN **Pn** **15 04 22.7 -0.3**
KHC Kasperske Hory 2.96 216 ePN **Pn** **15 04 23.6 -0.6**
KHC ePG **Pb** **15 04 29.8 +0.2**
KHC eSN **Sn** **15 04 57.0 -3.5**
KHC eSG **Sb** **15 05 08.3 +2.0**
comp=Z,18nm,0.5s
CKRC Cesky Krumlov 3.01 205 ePN **Pn** **15 04 24.8 0.0**
CKRC ePG **Pb** **15 04 30.8 +0.5**
MODS Modra-Piesok 3.27 167 ePG **Pg** **15 04 38.2 -0.4**
MODS eSG **Sg** **15 05 22.9 +2.0**
NIE Niedzica 3.38 128 ePg **Pg** **15 04 41.1 +0.4**
NIE eSg **Sg** **15 05 25.0 +0.4**
VYHS Vyhne 3.51 150 ePN **Pn** **15 04 31.5 -0.3**
VYHS ePG **Pg** **15 04 44.4 +1.2**
CONA Conrad Observa 3.65 184 i Pn **Pn** **15 04 34.1 +0.4**
comp=Z,1.3nm,0.2s,SNR=4.1
CONA Sg **Sg** **15 05 31.7 -1.3**
comp=Z,11nm,0.5s
RONA Rosalia, Austr 3.87 179 i Pn **Pn** **15 04 36.5 -0.2**
comp=Z,2.2nm,0.5s
RONA eSg **Sg** **15 05 38.0 -2.2**
comp=Z,6.1nm,0.4s
MOA Molln 3.93 199 i Pn **Pn** **15 04 37.6 +0.1**
comp=Z,4.4nm,0.3s,SNR=9.3
MOA eSg **Sg** **15 05 41.8 -0.3**
comp=Z,17nm,0.6s
BIOA Bad Ischl, Aus 4.22 204 i Pn **Pn** **15 04 41.4 -0.1**
comp=Z,3.7nm,0.3s
KOLS Kolonicke sedl 4.70 122 ePN **Pn** **15 04 48.4 +0.3**
KOLS ePG **Pg** **15 05 08.3 +2.3**
KBA Koelnbreinsper 4.86 204 i Pn **Pn** **15 04 50.6 +0.1**
comp=Z,2.2nm,0.3s
KBA eSg **Sg** **15 06 12.6 +0.5**
comp=Z,3.6nm,0.5s
WTTA Wattenberg 5.24 216 i Pn **Pn** **15 04 57.0 +1.4**
comp=Z,1.0nm,0.2s
WTTA eSg **Sg** **15 06 25.0 +0.9**
comp=Z,3.9nm,0.4s

IDC 05 15:11:58.8±2.7, 20°.75S×177°.99W, h484km±27km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=47.9km s-min=32.7km az=25.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.80**	**308**	P	P	15 13 23.3	0.0
	29nm,0.5s,baz=126,slow=15,SNR=46						
ASAR	**Alice Springs**	**44.47**	**257**	P	P	15 19 26.5	+0.1
	3.9nm,0.8s,baz=97,slow=8.2,SNR=38						
ASAR				PcP	PcP	15 20 59.9	+0.2
	0.3nm,0.5s,baz=98,slow=3.7,SNR=6.9						
	3.9nm,0.8s						
WRA	**Warramunga Arr**	**44.58**	**262**	P	P	15 19 26.6	-0.5
	0.8nm,0.5s,baz=96,slow=7.5,SNR=30						
	0.8nm,0.5s						
QSPA	**South Pole Qui**	**69.31**	**180**	P	P	15 22 16.7	0.0
	1.0nm,0.7s,baz=108,slow=1.4,SNR=6.4						
	1.0nm,0.7s						
AKASG	**Malin Array Be**	**143.24**	**331**	PKP	PKPdf	15 30 36.2	-0.9
	1.1nm,0.5s,baz=46,slow=3.6,SNR=12						

---

*NEIC **05** 15:18:12.0±0.4, 36°.864N±0°.006×97°.78W±0°.01, h3km±2km, mb_Lg2.3/13, ML2.8/52, ML2.8/39, Error ellipse: s-maj=1.6km s-min=0.6km az=118.0*

NEIC 05 15:18:12.2±0.5, 36°.868N±0°.008×97°.78W±0°.01, h8km±2km, Error ellipse: s-maj=1.5km s-min=1.1km az=61.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.07**	**256**	Pg	Pg	15 18 14.1	+0.1
GC02					Sg	15 18 15.5	+0.2
KAN14	**Manchester OK**	**0.17**	**301**		Pg	15 18 16.1	+0.5
KAN14					Sg	15 18 18.8	+0.7
KAN14				IAML		15 18 18.9	
	comp=E,3μm,0.1s						
KAN17	**Caldwell West**	**0.18**	**4**		Pg	15 18 16.3	+0.5
KAN17					Sg	15 18 19.1	+0.8
KAN17				IAML		15 18 19.2	
	comp=N,2μm,0.3s						
KAN05	**Bluff City Nor**	**0.25**	**343**		Pg	15 18 17.7	+0.5
KAN05					Sg	15 18 21.3	+0.8
KAN05				IAML		15 18 21.4	
	comp=N,1μm,0.2s						
KAN05				IAML		15 18 22.0	
	comp=E,1μm,0.2s						
KAN13	**South Haven SW**	**0.28**	**59**		Pg	15 18 18.1	+0.4
KAN13					Sg	15 18 22.1	+0.6
KAN13				IAML		15 18 22.4	
	comp=N,1μm,0.4s						
KAN13				IAML		15 18 22.4	
	comp=E,1μm,0.3s						
KAN01	**Argonia South**	**0.28**	**3**		Pg	15 18 18.3	+0.5
KAN01					Sg	15 18 22.4	+0.7
KAN09	**Caldwell North**	**0.30**	**26**		Pg	15 18 18.4	+0.4
KAN09					Sg	15 18 22.8	+0.7
OK032	**Salt Plains WL**	**0.35**	**260**		Pg	15 18 19.3	+0.3
OK032					Sg	15 18 24.4	+0.7
OK032				IAML		15 18 24.5	
	comp=E,932nm,0.1s						
OK032				IAML		15 18 24.6	
	comp=E,1μm,0.2s						
KAN10	**Anthony SW Sta**	**0.36**	**315**		Pg	15 18 19.7	+0.5
KAN10					Sg	15 18 24.8	+0.8
KAN08	**Anthony NE Sta**	**0.39**	**337**		Pg	15 18 20.2	+0.5
KAN08					Sg	15 18 25.8	+0.9
KAN08				IAML		15 18 26.0	
	comp=E,855nm,0.3s						
CROK	**Carrier**	**0.40**	**204**		Pg	15 18 20.2	+0.3
CROK					Sg	15 18 25.8	+0.7
KAN12	**Harper NE Stat**	**0.46**	**338**		Pg	15 18 21.5	+0.4
KAN12					Sg	15 18 28.0	+0.8
KAN12				IAML		15 18 28.4	
	comp=E,1μm,0.4s						
KAN12				IAML		15 18 33.4	
	comp=N,788nm,0.3s						
OK048	**Pawnee Station**	**0.81**	**124**		Pg	15 18 27.6	-0.1
OK048					Sg	15 18 38.3	+0.1
OK051	**E0350 and S346**	**0.84**	**115**		Pg	15 18 28.2	-0.1
OK051					Sg	15 18 39.4	+0.1
OK051				IAML		15 18 39.7	
	comp=N,323nm,0.2s						
OK051				IAML		15 18 45.9	
	comp=N,347nm,0.2s						
OK038	**West end E0370**	**0.87**	**244**		Pg	15 18 28.6	-0.2
OK038					Sg	15 18 40.5	+0.5
NOKA	**Waynoka**	**0.95**	**256**		Pg	15 18 30.3	-0.2
NOKA					Sg	15 18 43.0	+0.2
NOKA				IAML		15 18 52.3	
	comp=N,237nm,0.2s						
NOKA				IAML		15 18 52.6	
	comp=E,264nm,0.2s						
T35A	**Sooner Cattle**	**1.02**	**87**		Pg	15 18 31.4	-0.2
T35A					Sg	15 18 45.0	+0.1
OK029	**Liberty Lake**	**1.10**	**166**		Pg	15 18 32.9	-0.3
OK029					Sg	15 18 47.6	0.0
OK029				IAML		15 18 55.0	
	comp=E,140nm,0.5s						
QUOK	**Quay**	**1.11**	**129**		Pg	15 18 33.1	-0.3
QUOK					Sg	15 18 47.4	-0.4
OK052	**Battle Ridge R**	**1.18**	**138**		Pg	15 18 34.4	-0.3
OK052					Sg	15 18 49.6	-0.3
OK052				IAML		15 18 50.8	
	comp=E,263nm,0.3s						
OK052				IAML		15 18 53.7	
	comp=E,251nm,0.2s						
OK031	**S. Brethren Rd**	**1.19**	**140**		Pg	15 18 33.1	-1.8
CSTR	**Hydro, Custer**	**1.42**	**211**		Pn	15 18 37.4	-1.0
FNO	**Franklin**	**1.64**	**169**		Pn	15 18 39.7	-1.6
FNO				IAmb_Lg		15 19 04.3	
	comp=Z,25nm,1.2s						
W35A	**Tecumseh**	**1.86**	**157**	Pn	Pn	15 18 43.3	-1.1

TUL3	**Leonard**	**1.87**	**120**		Pn	15 18 43.9	-0.6
X34A	**Smith Ranch, M**	**2.26**	**181**	IAmb_Lg		15 19 29.7	
	comp=Z,9.9nm,0.8s						
WMOK	**Wichita Mounta**	**2.28**	**201**	Pn	Pn	15 18 50.6	+0.5
SMWD	**Samnorwood**	**2.66**	**229**	Pn	Pn	15 18 54.3	-1.1
SMWD				IAmb_Lg		15 19 39.0	
	comp=Z,7.9nm,0.8s						
AMTX	**Amarillo**	**3.73**	**239**	IAmb_Lg		15 20 11.3	
	comp=Z,9.5nm,0.8s						
L34A	**Svendsen Farm,**	**5.21**	**12**	IAmb_Lg		15 21 02.3	
	comp=Z,7.4nm,0.8s						
FVM	**French Village**	**5.96**	**77**	IAmb_Lg		15 21 36.0	
	comp=Z,4.4nm,0.9s						
Q24A	**Divide**	**6.19**	**292**	IAmb_Lg		15 21 43.2	
	comp=Z,5.0nm,0.7s						

NOU 05 15:19:42.8, 22°.12S×172°.99E, h20km, MLv4.7/9, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**4.65**	**277**	P	Pn	15 20 51.7	-0.3
PINNC	**Pines Island,**	**5.16**	**263**	P	Pn	15 20 59.6	+0.8
YATNC	**Mamie plateau,**	**5.66**	**269**	P	Pn	15 21 05.3	-0.5
OUENC	**Ouen Island, N**	**5.70**	**266**	P	Pn	15 21 05.9	-0.5
ONTNC	**Ouen Toro**	**6.06**	**267**	P	Pn	15 21 11.9	+0.6
DZM	**Mont Dzumac**	**6.07**	**269**	P	Pn	15 21 11.4	-0.2
PVC	**Port Vila**	**6.19**	**314**	P	Pn	15 21 14.0	+0.9
KOUNC	**Koumac, New Ca**	**8.26**	**279**	P	Pn	15 21 41.8	+0.2

---

*KRSC **05** 16:02:01.4±2.0, 54°.72N×167°.96E, h46km±33km, Ml5.0*
*IDC **05** 16:02:01.7±0.6, 54°.94N×167°.85E, h0km, mb4.1/27, mbtmp4.2/31, ML4.1/4, MS3.5/9, Error ellipse: s-maj=16.3km s-min=10.8km az=168.0*
*NEIC **05** 16:02:02.9±2.2, 54°.87N±0°.09×167°.9E±0°.1, h10km±2km, mb4.4/63, Error ellipse: s-maj=15.2km s-min=11.8km az=166.0*
*MOS **05** 16:02:04.5±0.9, 54°.81N×167°.89E, h36km, mb4.5/17, MS3.5/4, Error ellipse: s-maj=6.2km s-min=5.6km az=44.0*

ISC 05 16:02:05.7±0.4, 54°.79N±0°.05×167°.95E±0°.04, h29km, n419, σ1°26/434, mb4.3/68, MS3.9/12, 9C-6D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.21**	**291**	PN	**Pn**	**16 02 23.7**	**-2.8**
BKI				S	**Sn**	**16 02 39.1**	**-2.8**
BKI	**Bering**	**1.21**	**291**	*eP*	**Pn**	**16 02 23.8**	**-2.8**
BKI				*eS*	**Sn**	**16 02 39.2**	**-2.8**
KBTR	**Krutoberegovo**	**3.24**	**298**	PN	**Pn**	**16 02 52.5**	**-2.0**
KBTR				S	**Sn**	**16 03 29.5**	**-2.6**
KBTR	**Krutoberegovo**	**3.24**	**298**	*eP*	**Pn**	**16 02 52.6**	**-2.0**
KBTR				*eS*	**Sn**	**16 03 29.6**	**-2.6**
SMKR	**Semkarok**	**4.08**	**299**	PN	**Pn**	**16 03 06.2**	**+0.1**
SMKR				S	**Sn**	**16 03 54.4**	**+1.5**
SMKR	**Semkarok**	**4.08**	**299**	*eP*	**Pn**	**16 03 06.2**	**+0.1**
SMKR				*eS*	**Sn**	**16 03 54.4**	**+1.5**
SHEM	**Shemya Is, Ala**	**4.20**	**117**	Pn	**Pn**	**16 03 07.0**	**-0.6**
	33nm,0.3s,baz=54,slow=3.4,SNR=28						
SHEM				Sn	**Sn**	**16 03 54.8**	**-0.8**
	18nm,0.3s,baz=234,slow=16,SNR=3.6						
	90nm,0.3s						
SMY	**Shemya**	**4.20**	**117**	Pn	**Pn**	**16 03 07.0**	**-0.6**
SMY	**Shemya**	**4.20**	**117**	PN	**Pn**	**16 03 07.0**	**-0.6**
BDR	**Baidarnaya**	**4.21**	**298**	*eS*	**Sn**	**16 03 57.9**	**+1.9**
ZLN	**Zelenaya**	**4.25**	**290**	PN	**Pn**	**16 03 09.9**	**+1.4**
ZLN	**Zelenaya**	**4.25**	**290**	*eP*	**Pn**	**16 03 09.9**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**4.29**	**288**	PN	**Pn**	**16 03 09.6**	**+0.6**
BZGR				S	**Sn**	**16 04 00.0**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**4.29**	**288**	*eP*	**Pn**	**16 03 09.6**	**+0.6**
BZGR				*eS*	**Sn**	**16 04 00.1**	**+1.9**
TUMD	**Tumrok D**	**4.37**	**278**	PN	**Pn**	**16 03 09.3**	**-0.6**
TUMD				S	**Sn**	**16 03 59.9**	**+0.1**
TUMD	**Tumrok D**	**4.37**	**278**	*eP*	**Pn**	**16 03 09.4**	**-0.6**
TUMD				*eS*	**Sn**	**16 03 60.0**	**+0.1**
BZWR	**Bezymyannyi-We**	**4.41**	**288**	PN	**Pn**	**16 03 11.5**	**+0.8**
BZWR	**Bezymyannyi-We**	**4.41**	**288**	*eP*	**Pn**	**16 03 11.5**	**+0.8**
KLY	**Klyuchi**	**4.41**	**293**	PN	**Pn**	**16 03 09.0**	**-1.6**
KLY				S	**Sn**	**16 03 59.3**	**-1.6**
KLY	**Klyuchi**	**4.41**	**293**	*eP*	**Pn**	**16 03 09.0**	**-1.6**
KLY				*eS*	**Sn**	**16 03 59.3**	**-1.6**
KRSR	**Krestovskiy**	**4.43**	**292**	PN	**Pn**	**16 03 10.7**	**-0.2**
KRSR				S	**Sn**	**16 04 02.2**	**+0.6**
KRSR	**Krestovskiy**	**4.43**	**292**	*eP*	**Pn**	**16 03 10.8**	**-0.2**
KRSR				*eS*	**Sn**	**16 04 02.3**	**+0.6**
KIRR	**Kirishev**	**4.49**	**288**	PN	**Pn**	**16 03 12.3**	**+0.5**
KIRR				S	**Sn**	**16 04 04.0**	**+1.0**
KIRR	**Kirishev**	**4.49**	**288**	*eP*	**Pn**	**16 03 12.4**	**+0.5**
KIRR				*eS*	**Sn**	**16 04 04.1**	**+1.0**
KMNR	**Kamenistaya**	**4.51**	**285**	PN	**Pn**	**16 03 13.1**	**+1.0**
KMNR	**Kamenistaya**	**4.51**	**285**	*eP*	**Pn**	**16 03 13.1**	**+1.0**
KPT	**Kopyto**	**4.56**	**288**	PN	**Pn**	**16 03 13.4**	**+0.7**
KPT				S	**Sn**	**16 04 06.0**	**+1.3**
KPT	**Kopyto**	**4.56**	**288**	*eP*	**Pn**	**16 03 13.4**	**+0.7**
KPT				*eS*	**Sn**	**16 04 06.1**	**+1.3**
KOZ	**Kozyrevsk**	**4.77**	**289**	PN	**Pn**	**16 03 16.8**	**+1.3**
KOZ				S	**Sn**	**16 04 11.5**	**+1.7**
KOZ	**Kozyrevsk**	**4.77**	**289**	*eP*	**Pn**	**16 03 16.8**	**+1.3**
KOZ				*eS*	**Sn**	**16 04 11.6**	**+1.7**
SPN	**Mys Shipunski**	**4.98**	**253**	PN	**Pn**	**16 03 16.5**	**-1.8**
SPN	**Mys Shipunski**	**4.98**	**253**	*eP*	**Pn**	**16 03 16.5**	**-1.8**
SPN				*eS*	**Sn**	**16 04 11.4**	**-3.5**
OSSR	**Ossora**	**5.21**	**331**	PN	**Pn**	**16 03 20.8**	**-0.6**
OSSR	**Ossora**	**5.21**	**331**	*eP*	**Pn**	**16 03 20.8**	**-0.6**
NLC	**Nalytchevo**	**5.33**	**256**	PN	**Pn**	**16 03 21.7**	**-1.4**
NLC	**Nalytchevo**	**5.33**	**256**	*eP*	**Pn**	**16 03 21.8**	**-1.4**
ESO	**Esso**	**5.40**	**286**	PN	**Pn**	**16 03 24.2**	**+0.1**
ESO	**Esso**	**5.40**	**286**	*eP*	**Pn**	**16 03 24.2**	**+0.1**
ESO				*eS*	**Sn**	**16 04 25.0**	**-0.2**
UGLR	**Uglovaya**	**5.61**	**257**	PN	**Pn**	**16 03 26.9**	**-0.2**
UGLR	**Uglovaya**	**5.61**	**257**	*eP*	**Pn**	**16 03 26.9**	**-0.2**
KRER	**Koryakskii**	**5.62**	**258**	PN	**Pn**	**16 03 27.0**	**-0.3**
KRER	**Koryakskii**	**5.62**	**258**	*eP*	**Pn**	**16 03 27.1**	**-0.3**
KRER				*eS*	**Sn**	**16 04 29.0**	**-2.0**
AVH	**Avacha**	**5.64**	**258**	PN	**Pn**	**16 03 27.5**	**0.0**
AVH	**Avacha**	**5.64**	**258**	*eP*	**Pn**	**16 03 27.5**	**0.0**
AVH				*eS*	**Sn**	**16 04 30.5**	**-0.8**
KRX	**Arik**	**5.66**	**259**	PN	**Pn**	**16 03 27.5**	**-0.3**
KRX	**Arik**	**5.66**	**259**	*eP*	**Pn**	**16 03 27.5**	**-0.3**
KRX				*eS*	**Sn**	**16 04 29.3**	**-2.6**
KOK	**Koryaka**	**5.69**	**258**	PN	**Pn**	**16 03 27.6**	**-0.6**
KOK	**Koryaka**	**5.69**	**258**	*eP*	**Pn**	**16 03 27.7**	**-0.6**
DALK	**Dalny**	**5.71**	**256**	PN	**Pn**	**16 03 27.5**	**-0.9**
DALK	**Dalny**	**5.71**	**256**	*eP*	**Pn**	**16 03 27.5**	**-0.9**
DALK				*eS*	**Sn**	**16 04 29.7**	**-3.2**
TILK	**Tilichiki**	**5.75**	**351**	PN	**Pn**	**16 03 28.1**	**-0.8**
TILK	**Tilichiki**	**5.75**	**351**	*eP*	**Pn**	**16 03 28.2**	**-0.8**
PET	**Petropavlovsk**	**5.77**	**256**		**Pn**	**16 03 28.6**	**-0.6**
PET	**Petropavlovsk**	**5.77**	**256**	*ePN*	**Pn**	**16 03 29.1**	**-0.1**
PET				pmax	pmax		
	comp=Z,179nm,0.6s						
PET				MLR	MLR		
	comp=Z,1μm,16.0s						
PET	**Petropavlovsk**	**5.77**	**256**	*eP*	**Pn**	**16 03 29.2**	**0.0**
GNL	**Ganaly**	**5.97**	**263**	PN	**Pn**	**16 03 32.2**	**+0.2**
GNL	**Ganaly**	**5.97**	**263**	*eP*	**Pn**	**16 03 32.2**	**+0.2**
KRMR	**Karymshinskiy**	**6.14**	**255**	PN	**Pn**	**16 03 33.8**	**-0.4**
KRMR	**Karymshinskiy**	**6.14**	**255**	*eP*	**Pn**	**16 03 33.9**	**-0.4**
KRMR				*eS*	**Sn**	**16 04 40.6**	**-2.8**
PEA0B	**Petropavlovsk-**	**6.28**	**259**	Pn	**Pn**	**16 03 36.8**	**+0.6**
PEA0B	**Petropavlovsk-**	**6.28**	**259**	*ePN*	**Pn**	**16 03 36.3**	**0.0**
PETK	**Petropavlovsk-**	**6.28**	**259**	Pn	**Pn**	**16 03 36.2**	**0.0**
PETK	**Petropavlovsk-**	**6.28**	**259**	Pn	**Pn**	**16 03 36.1**	**-0.1**
	comp=Z,5.2nm,0.3s,baz=69,slow=17,SNR=69						
PETK				Sn	**Sn**	**16 04 46.9**	**-0.1**
	comp=Z,9.2nm,0.3s,baz=263,slow=12,SNR=6.0						
PETK				LR	LR	16 06 21.9	
	comp=Z,335nm,18.8s,baz=69,slow=42						
	comp=Z,17nm,0.5s						
GRL	**Gorelyy**	**6.28**	**253**	PN	**Pn**	**16 03 36.0**	**-0.4**
GRL	**Gorelyy**	**6.28**	**253**	*eP*	**Pn**	**16 03 36.0**	**-0.4**
KDTR	**Khodutka, Kamc**	**6.63**	**247**	PN	**Pn**	**16 03 39.5**	**-1.4**
KDTR	**Khodutka, Kamc**	**6.63**	**247**	*eP*	**Pn**	**16 03 39.6**	**-1.4**
KDTR				*eS*	**Sn**	**16 04 51.1**	**-4.3**
APC	**Apacha**	**6.65**	**258**	PN	**Pn**	**16 03 42.5**	**+1.2**
APC	**Apacha**	**6.65**	**258**	*eP*	**Pn**	**16 03 42.5**	**+1.2**
APC				*eS*	**Sn**	**16 04 55.5**	**-0.5**
PAU	**Pauzhetka**	**7.48**	**248**	PN	**Pn**	**16 03 52.1**	**-0.6**

PAU	**Pauzhetka**	**7.48**	**248**	*eP*	**Pn**	**16 03 52.1**	**-0.6**
KMSK	**Kamenskaya**	**7.75**	**354**	PN	**Pn**	**16 03 56.2**	**-0.1**
KMSK	**Kamenskaya**	**7.75**	**354**	*eP*	**Pn**	**16 03 56.3**	**-0.1**
KMSK				*eS*	**Sn**	**16 05 22.5**	**-0.5**
SKR	**Severo-Kuril's**	**8.27**	**245**	*ePN*	**Pn**	**16 04 06.7**	**+3.2**
SKR				pmax	pmax		
	comp=Z,43nm,0.5s						
SKR				pmax	pmax		
	comp=Z,1μm,3.8s						
SKR				MLR	MLR		
	comp=Z,2μm,13.0s						
SKR	**Severo-Kuril's**	**8.27**	**245**	*eP*	**Pn**	**16 04 02.9**	**-0.6**
MA2	**Magadan**	**10.47**	**304**	Pn	**Pn**	**16 04 31.7**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=149,slow=15,SNR=3.6						
MA2				LR	LR	16 08 25.8	
	comp=Z,292nm,19.2s,baz=105,slow=37						
	comp=Z,5.4nm,0.8s						
SEY	**Seymchan**	**11.44**	**322**	Pn	**Pn**	**16 04 48.9**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=123,slow=12,SNR=14						
SEY	**Seymchan**	**11.44**	**322**	*ePN*	**Pn**	**16 04 47.7**	**+0.9**
SEY				pmax	pmax		
	comp=Z,11nm,1.1s						
BILL	**Bilibino**	**13.32**	**357**	Pn	**Pn**	**16 05 13.4**	**+0.9**
BILL	**Bilibino**	**13.32**	**357**	‖*ePN*	**Pn**	**16 05 13.3**	**+0.9**
BILL				pmax	pmax		
	comp=Z,15nm,1.8s						
NIKH	**Nikolski High**	**13.79**	**88**	Pn	**Pn**	**16 05 17.9**	**-1.1**
NIKH	**Nikolski High**	**13.79**	**88**	P	**Pn**	**16 05 19.0**	**0.0**
	baz=287						
UNV	**Unalaska Valle**	**14.91**	**83**	P	**P**	**16 05 40.4**	**+0.9**
UNV	**Unalaska Valle**	**14.91**	**83**	P	**Pn**	**16 05 34.5**	**+0.3**
	baz=284						
LVA	**Lava Point**	**15.11**	**82**	Pn	**Pn**	**16 05 36.6**	**-0.2**
TNA	**Tin City**	**16.01**	**38**	P	**Pn**	**16 05 48.0**	**-0.4**
	baz=239						
M13K	**Dall Lake**	**16.29**	**58**	P	**P**	**16 05 56.6**	**+1.9**
M13K	**Dall Lake**	**16.29**	**58**	P	**Pn**	**16 05 51.1**	**-0.9**
	baz=263						
ANM	**Nome**	**16.51**	**43**	P	**Pn**	**16 05 53.9**	**-0.9**
	baz=246						
J14K	**Nanvaranak Lak**	**16.66**	**50**	P	**Pn**	**16 05 56.5**	**-0.2**
	baz=255						
L14K	**Kuka Creek**	**16.75**	**55**	P	**Pn**	**16 05 58.0**	**+0.1**
	baz=260						
M14K	**Bethel**	**17.02**	**57**	P	**Pn**	**16 06 00.7**	**-0.4**
	baz=263						
N14K	**Kuskokwak Cree**	**17.07**	**60**	P	**Pn**	**16 06 01.4**	**-0.4**
	baz=266						
O14K	**Tigyukauivet M**	**17.25**	**62**	P	**Pn**	**16 06 04.4**	**+0.3**
	baz=269						
F15K	**North Star Dit**	**17.27**	**40**	P	**Pn**	**16 06 04.5**	**+0.1**
	baz=244						
L15K	**Ungalak Mounta**	**17.38**	**54**	P	**Pn**	**16 06 05.0**	**-0.6**
	baz=261						
K15K	**Wolf Creek Mou**	**17.47**	**52**	P	**Pn**	**16 06 06.4**	**-0.4**
	baz=259						
M15K	**Kasigluk River**	**17.63**	**58**	P	**Pn**	**16 06 08.5**	**-0.3**
	baz=265						
YSS	**Yuzhno-Sakhali**	**17.66**	**254**	P	**P**	**16 06 13.1**	**+3.2**
YSS	**Yuzhno-Sakhali**	**17.66**	**254**	*eP*	**P**	**16 06 12.4**	**+2.5**
YSS				*eS*	**S**	**16 09 31.4**	**-0.2**
YSS				pmax	pmax		
	comp=Z,100nm,5.7s						
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
YSS				MLR	MLR		
	comp=E,400nm,17.0s						
H16K	**Elim**	**17.79**	**44**	P	**Pn**	**16 06 10.3**	**-0.5**
	baz=251						
N15K	**Kwethluk River**	**17.88**	**60**	P	**Pn**	**16 06 11.5**	**-0.5**
	baz=267						
O15K	**Ungalikthiuk R**	**17.99**	**63**	P	**Pn**	**16 06 11.6**	**-1.6**
O15K				IAmb	IAmb	16 06 16.1	
	comp=Z,35nm,1.1s						
O15K	**Ungalikthiuk R**	**17.99**	**63**	P	**Pn**	**16 06 12.9**	**-0.4**
	baz=270						
SDPT	**Sand Point**	**18.02**	**75**	P	**Pn**	**16 06 12.7**	**-0.9**
	baz=282						
J16K	**Anvik River**	**18.10**	**49**	P	**Pn**	**16 06 13.4**	**-1.1**
	baz=257						
I17K	**Unalakleet**	**18.21**	**47**	P	**Pn**	**16 06 15.1**	**-0.8**
	baz=255						
L16K	**Owhat River**	**18.33**	**55**	P	**P**	**16 06 16.0**	**-1.2**
	baz=263						
C16K	**Lisburne Hills**	**18.34**	**32**	P	**P**	**16 06 16.5**	**-0.8**
	baz=236						
S14K	**Fog Glacier**	**18.36**	**72**	P	**P**	**16 06 16.9**	**-0.9**
	baz=279						
M16K	**Timber Creek**	**18.50**	**57**	P	**P**	**16 06 17.9**	**-1.3**
	baz=265						
N16K	**Nishlik Lake**	**18.56**	**59**	P	**P**	**16 06 18.0**	**-1.8**
	baz=267						
G17K	**Kiwalik Mounta**	**18.72**	**43**	P	**P**	**16 06 20.2**	**-1.4**
	baz=250						
D17K	**Noatak River**	**18.76**	**35**	P	**P**	**16 06 21.0**	**-0.9**
	baz=241						
J17K	**VABM Dome**	**18.80**	**50**	P	**P**	**16 06 21.3**	**-1.1**
	baz=258						
H17K	**Granite Mounta**	**18.83**	**45**	P	**P**	**16 06 20.9**	**-1.9**
	baz=253						
O16K	**Kokwok River B**	**18.88**	**61**		**P**	**16 06 23.4**	**+0.1**
O16K	**Kokwok River B**	**18.88**	**61**	P	**P**	**16 06 21.8**	**-1.5**
	baz=270						
L17K	**Donlin**	**18.94**	**54**	P	**P**	**16 06 22.6**	**-1.4**
	baz

B18K	**Kokolik River**	20.01	31	P	P	16 06 35.4	-0.2
	baz=239						
M18K	**Stony River**	20.05	56	P	P	16 06 36.7	+0.7
	baz=267						
Q17K	**Contact Creek**	20.09	65	P	P	16 06 37.1	+0.4
	baz=276,SNR=6.8						
TTA	**Tatalina**	20.09	52	P	P	16 06 36.9	+0.3
	baz=263,SNR=5.8						
F19K	**Shaleruckik Mo**	20.27	40	P	P	16 06 34.8	-3.6
F19K	**Shaleruckik Mo**	20.27	40	P	P	16 06 36.9	-1.6
	baz=250						
G19K	**Purcell Mounta**	20.32	42	P	P	16 06 39.0	+0.1
	baz=253						
O18K	**Koktuh Hills**	20.33	61	P	P	16 06 39.9	+0.7
	baz=272						
P18K	**Big Mountain,**	20.34	62	P	P	16 06 39.9	+0.5
	baz=273						
ACHA	**Angle Creek He**	20.39	65		Pn	16 06 41.2	-0.9
ACHA				IAmb	IAmb	16 06 57.6	
	comp=Z,18nm,1.1s						
H19K	**Roundabout Mou**	20.40	44	P	P	16 06 40.3	+0.5
	baz=256						
J19K	**Poorman**	20.42	49	P	P	16 06 40.4	+0.3
J19K				IAmb	IAmb	16 06 46.0	
	comp=Z,18nm,0.9s						
J19K	**Poorman**	20.42	49	P	P	16 06 40.4	+0.3
	baz=260,SNR=7.3						
Q18K	**Katmai Hardscr**	20.51	64	P	P	16 06 41.4	+0.2
	baz=276						
L19K	**White Mountain**	20.55	54	P	P	16 06 40.7	-0.8
L19K	**White Mountain**	20.55	54	P	P	16 06 41.9	+0.4
	baz=266,SNR=8.5						
A19K	**Wainwright**	20.67	30	P	P	16 06 42.3	-0.4
	baz=238						
N19K	**Bonanza Creek**	20.68	58	P	P	16 06 43.1	+0.1
	baz=270						
E19K	**Redstone River**	20.69	39	P	P	16 06 43.9	+0.9
E19K	**Redstone River**	20.69	39	P	P	16 06 43.3	+0.3
	baz=250,SNR=7.4						
M19K	**Big River Lodg**	20.75	55	P	P	16 06 44.3	+0.6
M19K				IAmb	IAmb	16 07 10.7	
	comp=Z,16nm,1.1s						
M19K	**Big River Lodg**	20.75	55	P	P	16 06 43.6	-0.1
	baz=267						
O19K	**Port Alsworth**	20.77	60	P	P	16 06 44.2	+0.4
	baz=272						
D19K	**Kuna River**	20.78	35	P	P	16 06 44.1	+0.1
	baz=246,SNR=6.4						
R18K	**Karluk**	20.93	67	P	P	16 06 45.6	-0.1
	baz=279						
K20K	**Telida**	21.02	51	P	P	16 06 45.9	-0.7
	baz=264						
L20K	**Farewell, AK**	21.02	53	P	P	16 06 45.9	-0.8
	baz=266						
H20K	**Anotleneega Mo**	21.03	45	P	P	16 06 46.4	-0.3
	baz=257						
YAK	**Yakutsk**	21.04	306	P	P	16 06 44.8	-2.0
YAK	**Yakutsk**	21.04	306	P	P	16 06 45.6	-1.2
	comp=Z,11nm,0.3s,baz=126,slow=1.9,SNR=6.9						
YAK				LR	LR	16 14 56.1	
	comp=Z,184nm,19.4s,baz=95,slow=37						
	comp=Z,11nm,0.3s						
YAK	**Yakutsk**	21.04	306	*e*P	P	16 06 45.4	-1.4
YAK				*e*		16 07 02.2	
YAK				*e*S	S	16 10 35.5	-3.7
YAK				*e*SS	SnSn	16 10 55.7	-5.2
YAK				*e*		16 18 15.4	
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,58nm,1.5s						
YAK				pmax	pmax		
	comp=N,13nm,1.9s						
YAK				pmax	pmax		
	comp=E,35nm,1.6s						
YAK				smax	smax		
	comp=E,75nm,4.0s						
YAK				smax	smax		
	comp=N,64nm,4.0s						
J20K	**Nowinta River**	21.09	48	P	P	16 06 47.2	-0.1
J20K	**Nowinta River**	21.09	48	P	P	16 06 46.2	-1.1
	baz=262						
F20K	**Avaraart Lake**	21.11	40	P	P	16 06 46.2	-1.3
	baz=252						
Q19K	**Cape Douglas,**	21.19	63	P	P	16 06 48.0	-0.4
	baz=276						
SII	**Sitkinak Islan**	21.25	70	P	P	16 06 49.1	0.0
	baz=282						
D20K	**Etivluk River**	21.37	36	P	P	16 06 49.1	-1.3
	baz=247						
OHAK	**Old Harbor**	21.61	68	P	P	16 06 52.9	0.0
	baz=280						
B20K	**Meade River**	21.74	32	P	P	16 06 51.6	-2.6
B20K	**Meade River**	21.74	32	P	P	16 06 52.9	-1.3
	baz=244						
SPCR	**Spurr Chakacha**	21.78	57	P	P	16 06 54.1	-0.8
	baz=271						
G21K	**Allakaket**	21.81	42	P	P	16 06 54.2	-0.9
	baz=256						
PPLA	**Purkeypile**	21.83	52	P	P	16 06 54.4	-1.0
	baz=267						
CHUM	**Lake Minchumin**	21.85	49	P	P	16 06 55.2	-0.3
	baz=264						
Q20K	**Shuyak Island**	21.87	64	P	P	16 06 55.3	-0.5
	baz=277						
KDAK	**Kodiak Island**	21.89	66	P	P	16 06 55.6	-0.4
	comp=N,16nm,1.0s,baz=304,slow=3.6,SNR=9.0						
	comp=N,16nm,1.0s						
KDAK	**Kodiak Island**	21.89	66	P	P	16 06 55.4	-0.6
	baz=279						
H21K	**Melozitna Rive**	21.91	45	P	P	16 06 56.0	-0.1
	baz=259						
CAST	**Castle Rocks**	21.91	51	P	P	16 06 56.6	+0.4
CAST	**Castle Rocks**	21.91	51	P	P	16 06 55.3	-0.9
	baz=266						
F21K	**Alatna River**	22.00	40	P	P	16 06 56.7	-0.4
	baz=255						
SKT	**Skwentna**	22.10	55	P	P	16 06 58.0	-0.2
	baz=270						
C21K	**Knifeblade Rid**	22.15	35	P	P	16 06 57.3	-1.4
	baz=249						
I21K	**Tanana**	22.16	46	P	P	16 06 57.8	-1.1
	baz=261						
E21K	**Killik River**	22.18	37	P	P	16 06 56.1	-2.9
E21K	**Killik River**	22.18	37	P	P	16 06 58.6	-0.4
	baz=251						
B21K	**Ikpikpuk River**	22.38	34	P	P	16 07 00.4	-0.7
	baz=248						
BPAW	**Bear Paw Mtn.**	22.46	49	P	P	16 07 00.7	-1.3
	baz=265						
G22K	**Bettles**	22.68	42	P	P	16 07 03.8	-0.4
	baz=258						
TRF	**Thorofare Moun**	22.72	51	P	P	16 07 02.5	-2.5
TRF	**Thorofare Moun**	22.72	51	P	P	16 07 04.3	-0.7
	baz=267,SNR=5.6						
D22K	**Ayikyak River**	22.77	36	P	P	16 07 04.0	-1.3
	baz=252						
KLR	**Kul'dur**	22.78	271	P	P	16 07 05.2	-0.3
	comp=N,4.9nm,0.7s,baz=67,slow=9.5,SNR=21						
KLR				LR	LR	16 16 56.7	
	comp=N,227nm,18.6s,baz=62,slow=39						
	comp=N,4.9nm,0.7s						
KLR	**Kul'dur**	22.78	271⇓	*e*P	P	16 07 04.7	-0.8
KLR				pmax	pmax		
	comp=Z,17nm,1.9s						
A22K	**Sinclair Lake**	22.84	31	P	P	16 07 05.3	-0.6
	baz=244						
E22K	**Anaktuvuk Pass**	22.86	39	P	P	16 07 05.6	-0.7
E22K				IAmb	IAmb	16 07 31.9	
	comp=Z,14nm,1.1s						
E22K	**Anaktuvuk Pass**	22.86	39	P	P	16 07 04.9	-1.3
	baz=255						
B22K	**Teshekpuk Lake**	23.04	33	P	P	16 07 06.0	-1.9
	baz=248						
SEW	**Seward**	23.20	59	P	P	16 07 08.8	-0.9
	baz=276						
G23K	**Bananza Creek**	23.21	42	P	P	16 07 08.9	-1.0
	baz=260						
COLD	**Coldfoot**	23.24	41	P	P	16 07 09.1	-1.0
	baz=258						
PMR	**Palmer**	23.25	56	P	P	16 07 10.1	-0.1
	baz=273						
I23K	**Minto, Yukon-K**	23.26	47	P	P	16 07 09.1	-1.1
	baz=264						
MCK	**McKinley**	23.34	50	P	P	16 07 10.6	-0.5
	baz=268						
RND	**Reindeer**	23.36	51	P	P	16 07 08.5	-2.9
RND	**Reindeer**	23.36	51	P	P	16 07 08.5	-2.9
RND				pmax	pmax		
	comp=Z,7.0nm,0.8s						
D23K	**Nanushuk River**	23.49	37	P	P	16 07 12.1	-0.4
	baz=254						
ZEA	**Zeya**	23.56	284	*e*P	P	16 07 08.8	-4.5
ZEA				*e*		16 18 10.8	
KNK	**Knik Glacier**	23.58	56	P	P	16 07 13.0	-0.5
	baz=274						
SML	**Sawmill**	23.62	55	P	P	16 07 12.6	-1.3
SML	**Sawmill**	23.62	55	P	P	16 07 13.0	-0.9
	baz=273						
E23K	**Chandalar**	23.64	39	P	P	16 07 13.7	-0.4
	baz=257						
PWL	**Port Wells**	23.68	57	P	P	16 07 13.6	-0.9
	baz=275						
TIXI	**Tiksi**	23.70	330	P	P	16 07 14.0	-0.5
TIXI				IAmb	IAmb	16 07 15.3	
	comp=Z,11nm,0.8s						
TIXI	**Tiksi**	23.70	330	LR	LR	16 16 55.6	
	comp=Z,104nm,18.8s,baz=179,slow=38						
TIXI	**Tiksi**	23.70	330⇑	*e*P	P	16 07 14.4	-0.1
TIXI				pmax	pmax		
	comp=Z,20nm,1.3s						
C23K	**Itkillik River**	23.77	35	IAmb	IAmb	16 07 33.6	
	comp=Z,8.3nm,1.0s						
C23K	**Itkillik River**	23.77	35	P	P	16 07 13.9	-1.2
	baz=252						
TOLK	**Toolik Lake Re**	23.79	38	P	P	16 07 14.9	-0.6
TOLK				IAmb	IAmb	16 07 44.8	
	comp=Z,12nm,1.1s						
TOLK	**Toolik Lake Re**	23.79	38	P	P	16 07 14.3	-1.2
	baz=256,SNR=7.4						
COLA	**College**	23.87	47⇓	*e*P	P	16 07 17.0	+0.8
COLA				pmax	pmax		
	comp=Z,12nm,0.8s						
COLA	**College**	23.87	47	P	P	16 07 15.3	-0.8
	baz=266						
CCB	**Clear Creek Bu**	23.88	48	IAmb	IAmb	16 07 37.6	
	comp=Z,7.7nm,0.8s						
M23K	**Glacier View**	23.91	55	P	P	16 07 16.0	-0.6
	baz=273						
H24K	**Noodor Dome**	23.94	45	P	P	16 07 15.9	-1.1
	baz=264						
E24K	**Your Creek**	24.05	39	P	P	16 07 16.8	-1.1
	baz=258						
POKR	**Poker Plat Res**	24.07	47	P	P	16 07 16.8	-1.2
	baz=266						
SCM	**Sheep Creek Mo**	24.10	55	P	P	16 07 17.5	-0.9
	baz=274						
F24K	**Squaw Lake**	24.18	41	IAmb	IAmb	16 07 40.4	
	comp=Z,5.2nm,0.7s						
F24K	**Squaw Lake**	24.18	41	P	P	16 07 17.9	-1.1
	baz=260						
D24K	**Happy Valley**	24.18	37	P	P	16 07 17.6	-1.4
	baz=256						
G24K	**Hadweenzic Riv**	24.21	43	IAmb	IAmb	16 07 41.3	
	comp=Z,7.4nm,0.8s						
G24K	**Hadweenzic Riv**	24.21	43	P	P	16 07 17.9	-1.4
	baz=263						
HDA	**Harding Lake**	24.24	49	P	P	16 07 18.6	-1.0
	baz=268						
IL31		24.28	48	IAmb	IAmb	16 07 30.9	
	comp=Z,6.1nm,0.8s						
ILAR	**Eielson Array**	24.28	48	P	P	16 07 19.5	-0.5
	comp=Z,4.7nm,1.0s,baz=249,slow=8.4,SNR=26						
ILAR				LR	LR	16 17 08.7	
	comp=Z,102nm,20.3s,baz=248,slow=37						
	comp=Z,4.7nm,1.0s						
ILAR	**Eielson Array**	24.28	48	*e*P	P	16 07 19.7	-0.3
ILAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GLI	**Glacier Island**	24.29	57	P	P	16 07 18.5	-1.6
	baz=276						
C24K	**Franklin Bluff**	24.37	35	P	P	16 07 19.1	-1.6
	baz=255						
M24K	**Tolsona, Glenn**	24.62	54	P	P	16 07 21.6	-1.6
	baz=274						
K24K	**Donnelly Dome**	24.74	50	P	P	16 07 22.6	-1.6
	baz=271						
G25K	**Bearman Lake**	24.76	43	P	P	16 07 22.8	-1.5
	baz=264						
KLU	**Klutina**	24.79	56	IAmb	IAmb	16 07 46.5	
	comp=Z,10nm,0.9s						
KLU	**Klutina**	24.79	56	P	P	16 07 23.2	-1.5
	baz=276						
HEH	**HeiHe**	24.82	276	*e*P	P	16 07 24.4	-0.6
HEH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HEH				LR	LR		
	comp=N,610nm,15.4s						
HEH				LR	LR		
	comp=E,300nm,12.8s						
HEH				LR	LR		
	comp=Z,470nm,15.1s						
H25L	**Birch Creek**	24.82	44	P	P	16 07 23.6	-1.2
	baz=265						
PRP	**Porcupine Dome**	24.89	46	IAmb	IAmb	16 07 37.7	
	comp=Z,11nm,0.9s						
PRP	**Porcupine Dome**	24.89	46	P	P	16 07 23.6	-2.1
	baz=267,SNR=7.8						
PAX	**Paxson**	24.90	52	P	P	16 07 24.0	-1.7
	baz=273						
J25K	**Salcha River,**	24.92	48	IAmb	IAmb	16 07 56.9	
	comp=Z,11nm,1.1s						
J25K	**Salcha River,**	24.92	48	P	P	16 07 24.2	-1.7
	baz=269						
EYAK	**Cordova Ski Ar**	24.98	58	P	P	16 07 24.9	-1.5
	baz=278						
F25K	**Christian Rive**	25.04	41	IAmb	IAmb	16 07 34.3	
	comp=Z,8.3nm,0.8s						
F25K	**Christian Rive**	25.04	41	P	P	16 07 25.2	-1.7
	baz=262						
D25K	**Kavik River**	25.07	37	IAmb	IAmb	16 07 47.2	
	comp=Z,5.9nm,0.7s						
D25K	**Kavik River**	25.07	37	P	P	16 07 26.0	-1.1
	baz=258,SNR=6.1						
E25K	**Arctic Village**	25.14	40	P	P	16 07 28.4	+0.6
E25K				IAmb	IAmb	16 07 52.6	
	comp=Z,6.4nm,0.8s						
E25K	**Arctic Village**	25.14	40	P	P	16 07 26.1	-1.7
	baz=262						
RIDG	**Independent Ri**	25.16	50	P	P	16 07 26.6	-1.4
	baz=272						
USRK	**Ussuriysk Ar.**	25.37	260	LR	LR	16 17 10.6	
	comp=Z,165nm,20.8s,baz=66,slow=36						
N25K	**Chitina, Valde**	25.41	55	P	P	16 07 29.5	-0.8
	baz=276						
BMAR	**Burnt Mountain**	25.42	42	P	P	16 07 30.2	-0.2
BMRM	**Bremner River**	25.48	57	P	P	16 07 30.0	-1.0
	baz=278						
DOT	**Dot Lake**	25.51	50	IAmb	IAmb	16 08 01.4	
	comp=Z,10nm,1.0s						
SCRK	**Sand Creek**	25.53	50	IAmb	IAmb	16 07 51.2	
	comp=Z,6.4nm,1.0s						
SCRK	**Sand Creek**	25.53	50	P	P	16 07 30.2	-1.3
	baz=272						
F26K	**Sheenjek River**	25.62	41	P	P	16 07 31.0	-1.1
	baz=264						
G26K	**Porcupine Rive**	25.69	43	IAmb	IAmb	16 07 55.1	
	comp=Z,9.5nm,0.9s						
G26K	**Porcupine Rive**	25.69	43	P	P	16 07 31.1	-1.6
	baz=266						
C26K	**Camden Bay**	25.69	36	P	P	16 07 31.8	-0.9
	baz=258						
J26L	**Joseph Creek**	25.70	48	IAmb	IAmb	16 07 53.8	
	comp=Z,7.3nm,1.1s						
J26L	**Joseph Creek**	25.70	48	P	P	16 07 32.2	-0.8
	baz=271						
KAIM	**Kayak Island**	25.73	59	P	P	16 07 32.2	-1.0
	baz=280						
L26K	**Log Cabin Wild**	25.87	52	P	P	16 07 33.9	-0.5
	baz=274						
I26K	**Coal Creek Min**	25.88	46	P	P	16 07 33.7	-0.7
	baz=270						
C27K	**Jago River**	26.05	37	IAmb	IAmb	16 07 46.5	
	comp=Z,5.3nm,0.6s						
C27K	**Jago River**	26.05	37	P	P	16 07 35.5	-0.4
	baz=260						
BGLC	**Bering Glacier**	26.26	58	P	P	16 07 37.3	-0.6
	baz=280						
K27K	**Chicken**	26.37	49	IAmb	IAmb	16 08 10.3	
	comp=Z,9.5nm,1.1s						
K27K	**Chicken**	26.37	49	P	P	16 07 38.9	0.0
	baz=273						
I27K	**Kandik River**	26.52	46	P	P	16 07 40.2	-0.1
	baz=271						
G27K	**Doyon Strip**	26.52	43	P	P	16 07 39.8	-0.5
	baz=268						
L27K	**Beaver Creek,**	26.55	52	P	P	16 07 40.1	-0.5
	baz=276,SNR=11						
H27K	**Steamboat Moun**	26.56	44	P	P	16 07 40.5	-0.1
	baz=269						
BCAR	**Beaver Creek A**	26.57	52	P	P	16 07 40.5	-0.4
M27K	**Edge Creek, AK**	26.60	53	P	P	16 07 40.4	-0.8
	baz=277						
E27K	**Coleen River**	26.62	40	P	P	16 07 40.6	-0.6
	baz=265						
D27M	**Malcolm River**	26.96	38	P	P	16 07 43.9	-0.3
	baz=264,SNR=5.4						
BVCY	**Beaver Creek**	27.07	53	P	P	16 07 45.1	-0.1
	baz=278						
BNX	**BinXian**	27.11	267	⇑P	P	16 07 45.3	-0.4
BNX				S	S	16 12 20.6	-1.3
BNX				sS	sS	16 12 38.7	+2.9
BNX				pmax	pmax		
	comp=Z,15nm,0.9s						
BNX				pmax	pmax		
	comp=Z,200nm,4.3s						
BNX				LR	LR		
	comp=N,190nm,10.3s						
BNX				LR	LR		
	comp=E,170nm,10.0s						
I28M	**Miner Creek**	27.22	46	P	P	16 07 46.9	+0.2
	baz=272						
MAJO	**Matsushiro**	27.34	240⇑	*e*P	P	16 07 48.4	+0.5
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MJAR	**Matsushiro Arr**	27.34	240	P	P	16 07 48.7	+0.7
	comp=Z,2.2nm,0.7s,baz=351,slow=12,SNR=5.0						
	comp=Z,2.2nm,0.7s						
YUK3	**Moose Creek**	27.34	54	P	P	16 07 47.0	-0.9
	baz=279						
E28M	**Babbage River**	27.42	39	P	P	16 07 47.8	-0.5
	baz=267						
DAWY	**Dawson**	27.55	49	P	P	16 07 49.3	-0.2
	baz=276						
O28M	**Mount Upton**	27.65	56	P	P	16 07 50.7	-0.1
	baz=281						
D28M	**Stokes Point**	27.75	38	P	P	16 07 50.3	-0.9
	baz=266						
PINM	**Pinnacle**	27.75	58	P	P	16 07 49.9	-1.5
	baz=282						
YUK8	**Steele Glacier**	27.76	55	P	P	16 07 50.4	-1.3
	baz=280						
H29M	**Whitestone**	27.84	44	P	P	16 07 51.3	-0.8
	baz=272						
I29M	**Ogilvie Camp,**	27.91	46	P	P	16 07 51.9	-0.8
	baz=274						
G29M	**Pine Creek**	27.96	43	P	P	16 07 51.6	-1.5
	baz=271						
E29M	**Blow River**	28.01	40	P	P	16 07 51.8	-1.8
	baz=269						
J29N	**Klondike Camp**	28.02	48	P	P	16 07 53.2	-0.6
	baz=276						
M29M	**Somme Creek**	28.17	52	P	P	16 07 54.8	-0.4
	baz=279						
L29M	**L29M**	28.22	51	IAmb	IAmb	16 08 07.4	
	comp=Z,8.6nm,1.1s						
L29M	**L29M**	28.22	51	P	P	16 07 55.1	-0.5
	baz=278						
PNL	**Peninsula**	28.27	58	P	P	16 07 56.1	+0.1
	baz=284						
YUK4	**Talbot Arm**	28.27	55	P	P	16 07 55.3	-0.9
	baz=281						
K29M	**Barlow Dome**	28.39	49	P	P	16 07 56.4	-0.8
	baz=277						
YUK6	**Outpost Mounta**	28.49	56	P	P	16 07 58.1	-0.1
	baz=282						
EPYK	**Eagle Plains**	28.50	44	IAmb	IAmb	16 08 17.7	
	comp=Z,6.6nm,0.8s						
EPYK	**Eagle Plains**	28.50	44	P	P	16 07 56.7	-1.3
	baz=273						
O29M	**Mount Kennedy**	28.53	57	P	P	16 07 57.8	-0.6
	baz=283						
G30M	**tAoh Zraii Nji**	28.66	43	P	P	16 07 58.8	-0.6
	baz=273						
I30M	**Mount Dempster**	28.73	46	P	P	16 07 59.5	-0.6
	baz=276						
F30M	**Barrier River**	28.81	41	P	P	16 08 00.2	-0.5
	baz=272						
J30M	**Hart River**	28.82	48	P	P	16 08 00.4	-0.6
	baz=277						
M30M	**Minto, Yukon**	28.91	52	P	P	16 08 01.3	-0.3
	baz=280						
HYT	**Haines Junctio**	28.93	56	P	P	16 08 01.7	-0.3
	baz=283						
N30M	**Aishikik Lake**	28.99	54	P	P	16 08 02.4	0.0
	baz=282						
P30M	**Million Dollar**	29.35	57	P	P	16 08 04.8	-0.9
	baz=284						
H31M	**Peel River**	29.51	45	P	P	16 08 07.1	+0.2
	baz=276						
F31M	**Tsiigehtchic**	29.60	42	P	P	16 08 07.1	-0.6
	baz=274						
O30N	**Mendenhall**	29.61	55	P	P	16 08 08.1	+0.1
	baz=284						
INK	**Inuvik**	29.63	40	P	P	16 08 07.9	0.0
	baz=273						
FARO	**Faro, Yukon**	30.55	52	P	P	16 08 15.7	-0.5
	baz=283						
N32M	**Quiet Lake**	30.94	54	P	P	16 08 19.4	-0.2
	baz=285						
R32K	**Eaglecrest**	31.09	60	P	P	16 08 19.6	-1.3
	baz=289						
SIT	**Sitka**	31.09	62	P	P	16 08 20.3	-0.6
	baz=290						
P33M	**Teslin, Yukon**	31.32	56	P	P	16 08 21.9	-1.2
	baz=287						
S32K	**Killisnoo**	31.33	61	P	P	16 08 22.1	-0.9
	baz=290						
MMPY	**Sheldon Lake,**	31.40	51	P	P	16 08 23.0	-0.7
	baz=284						
Q32M	**Nakina River**	31.98	58	P	P	16 08 28.0	-0.9
	baz=289						
KSRS	**Korea Array**	32.16	254	P	P	16 08 31.2	+0.7
	comp=Z,0.9nm,0.6s,baz=42,slow=7.9,SNR=4.3						
KSRS				LR	LR	16 20 48.7	
	comp=Z,74nm,20.3s,baz=35,slow=35						
	comp=Z,0.9nm,0.6s						
KSRS	**Korea Array**	32.16	254	*e*P	P	16 08 32.4	+1.9
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
A36M	**Sachs Harbour**	32.25	32	P	P	16 08 32.6	+1.6
A36M				IAmb	IAmb	16 09 02.5	
	comp=Z,3.8nm,0.8s						
R33M	**Jennings River**	32.47	57	P	P	16 08 32.3	-0.9
	baz=289						
CRAG	**Craig**	32.82	64	P	P	16 08 35.1	-1.0
	baz=294						
C36M	**Paulatuk**	32.94	37	P	P	16 08 35.9	-1.1
	baz=279						
XLT	**XiLinHaoTe**	34.73	274	*e*P	P	16 08 54.9	+1.9
XLT				pP	sP	16 09 06.5	+1.5
XLT				sP	pP	16 09 14.4	+13
XLT				pmax	pmax		
	comp=Z,5.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,130nm,5.8s						
H11N2	**WAKE ISLAND Hy**	35.01	182	T	T	16 46 01.9	
	baz=0.4,slow=76,SNR=2262						
H11N3	**WAKE ISLAND Hy**	35.02	182	T	T	16 45 58.6	
	baz=0.4,slow=76,SNR=2382						
H11N1	**WAKE ISLAND Hy**	35.03	182	T	T	16 45 55.8	
	baz=0.4,slow=76,SNR=3174						
TOAD	**Toad River Com**	35.42	56	P	P	16 08 58.1	-0.6
	baz=293						
H11S1	**WAKE ISLAND Hy**	36.23	182	T	T	16 47 29.7	
	baz=0.6,slow=76,SNR=357						
H11S3	**WAKE ISLAND Hy**	36.24	182	T	T	16 47 12.5	
	baz=0.6,slow=76,SNR=147						
H11S2	**WAKE ISLAND Hy**	36.25	182	T	T	16 47 27.4	
	baz=0.6,slow=76,SNR=565						
NRIK	**Noril'sk**	37.20	325⇑	*e*P	P	16 09 13.5	-0.3
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ULN	**Ulaanbaatar**	37.59	285	P	P	16 09 17.2	-0.2
ULN				IAmb	IAmb	16 09 19.3	
	comp=Z,11nm,1.4s						
ULN	**Ulaanbaatar**	37.59	285⇓	*e*P	P	16 09 18.4	+0.9
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SONM	**Songino Array**	37.97

comp=Z,2.0nm,0.8s,baz=60,slow=8.4,SNR=12
SONM PcP **PcP** **16 11 35.7 -0.2**
comp=Z,0.3nm,0.6s,baz=48,slow=2.8,SNR=1.6
comp=Z,2.0nm,0.8s
SONM Songino Array 37.97 286 *eP* **P** **16 09 21.4 +0.7**
SONM pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 38.70 46 P **P** **16 09 26.6 +0.2**
comp=Z,1.6nm,0.8s,baz=297,slow=7.8,SNR=17
comp=Z,1.6nm,0.8s
YKA Yellowknife Ar 38.70 46 *eP* **P** **16 09 27.1 +0.7**
YKA pmax pmax
comp=Z,2.0nm,0.8s
MOY Mondy 38.83 294 *eP* **P** **16 09 27.4 -0.4**
HHC Hu-ho-hao-te 39.25 273 *eP* **P** **16 09 29.2 -2.2**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,41nm,3.8s
HHC LR LR
comp=N,360nm,12.2s
HHC LR LR
comp=E,300nm,14.5s
HHC LR LR
comp=Z,190nm,13.8s
ZALV Zalesovo Beam 45.69 305 P **P** **16 10 22.1 -1.3**
comp=Z,0.4nm,0.3s,baz=83,slow=12,SNR=3.6
comp=Z,0.4nm,0.3s
SPITS Spitsbergen Ar 46.16 352 P **P** **16 10 26.2 -0.6**
comp=Z,22nm,1.2s,baz=15,slow=6.6,SNR=1.9
comp=Z,22nm,1.2s
GTA Gaotai 46.95 280 *eP* **P** **16 10 34.1 +0.4**
GTA pP pP 16 10 38.4 -4.0
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=N,180nm,15.6s
GTA LR LR
comp=E,150nm,12.7s
GTA LR LR
comp=Z,220nm,14.9s
KURK Kurchatov 50.68 305 P **P** **16 11 00.9 -1.1**
KURK Kurchatov 50.68 305 *ceP* **P** **16 11 01.6 -0.4**
KURK pmax pmax
comp=Z,8.0nm,1.0s
WMQ Urumqi 50.69 293 *eP* **P** **16 11 04.1 +1.8**
WMQ LR LR
comp=N,990nm,20.5s
WMQ LR LR
comp=E,860nm,24.9s
WMQ LR LR
comp=Z,150nm,21.3s
KURBB Kurchatov Arra 50.79 305 P **P** **16 11 02.1 -0.6**
comp=Z,3.3nm,0.8s,baz=52,slow=7.6,SNR=31
comp=Z,3.3nm,0.8s
MK31 Makanchi Array 51.50 299 P **P** **16 11 06.9 -1.4**
MK31 Makanchi Array 51.50 299 P **P** **16 11 06.9 -1.4**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 51.50 299 P **P** **16 11 06.6 -1.6**
MKAR Makanchi Array 51.50 299 P **P** **16 11 07.3 -0.9**
comp=Z,0.7nm,0.5s,baz=43,slow=7.0,SNR=8.8
comp=Z,0.7nm,0.5s
MKAR Makanchi Array 51.50 299 *eP* **P** **16 11 07.1 -1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
PD31 Pinedale Array 52.61 67 P **P** **16 11 16.7 -0.1**
PDAR Pinedale Array 52.61 67 P **P** **16 11 17.0 +0.2**
comp=Z,0.6nm,0.5s,baz=306,slow=1.0,SNR=15
comp=Z,0.6nm,0.5s
BVAR Borovoye Array 52.87 311 P **P** **16 11 17.3 -1.0**
comp=Z,9.9nm,0.9s,baz=41,slow=7.9,SNR=26
comp=Z,9.9nm,0.9s
BRVK Borovoye 52.89 311 P **P** **16 11 14.1 -4.3**
BRVK Borovoye 52.89 311 *ceP* **P** **16 11 17.7 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
ARCES ARCESS Array B 53.01 344 P **P** **16 11 18.3 -0.8**
comp=Z,5.3nm,1.0s,baz=30,slow=7.0,SNR=1.9
comp=Z,5.3nm,1.0s
PZH PanZhiHua 55.16 267 P **P** **16 11 36.0 +0.5**
ARTI Arti 55.27 320 P **P** **16 11 32.2 -3.5**
ARTI IAmb IAmb 16 11 36.8
comp=Z,5.0nm,1.0s
ARTI Arti 55.27 320 *c iP* **P** **16 11 34.8 -0.9**
ARTI S **S** **16 19 19.0 +1.8**
ARTI SS **SS** **16 23 01.0 +0.2**
ARTI pmax pmax
comp=Z,7.0nm,1.5s
KLMR Klimovskoe 57.68 333 *eP* **P** **16 11 52.3 -0.5**
KLMR pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 58.37 300 *ceP* **P** **16 11 58.0 -0.1**
AAK pmax pmax
comp=Z,5.0nm,1.2s
KSH Kashi 59.92 297 P **P** **16 12 12.2 +3.3**
KSH pP pP 16 12 16.5 -0.4
KSH pmax pmax
comp=Z,5.0nm,1.2s
FINES FINESS Array B 60.26 340 P **P** **16 12 10.1 -0.5**
comp=Z,1.9nm,0.8s,baz=26,slow=9.3,SNR=5.2
comp=Z,1.9nm,0.8s
FINES FINESS Array B 60.26 340 *eP* **P** **16 12 11.6 +0.9**
FINES pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 63.03 264 P **P** **16 12 30.7 +0.7**
comp=Z,2.0nm,0.7s,baz=23,slow=6.8,SNR=17
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 63.03 264 *eP* **P** **16 12 31.0 +1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 63.05 348 P **P** **16 12 29.1 -0.4**
comp=Z,4.8nm,1.0s,baz=16,slow=6.9
NOA NORSAR Array B 63.05 348 P **P** **16 12 29.1 -0.4**
comp=Z,1.1nm,0.6s,baz=17,slow=6.8,SNR=6.4
comp=Z,1.1nm,0.6s
NOA NORSAR Array B 63.05 348 *eP* **P** **16 12 30.4 +0.9**
NOA pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 63.59 346 P **P** **16 12 33.0 -0.1**
comp=Z,1.4nm,0.6s,baz=28,slow=6.7,SNR=7.8
comp=Z,1.4nm,0.6s
TXAR Lajitas Array 65.70 73 P **P** **16 12 48.2 +0.8**
comp=Z,1.2nm,0.4s,baz=303,slow=4.7,SNR=16
comp=Z,1.2nm,0.4s
MNK Minsk 66.22 336 *i* P **P** **16 12 49.8 -0.5**
MNK *i* 16 15 14.9
MNK *i* PPP PPP 16 16 49.4
MNK *i* S **S** **16 21 39.1 +2.2**
MNK *i* SS **SS** **16 25 55.0 +3.0**
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=Z,11nm,0.9s
MNK pmax pmax
comp=E,15nm,1.0s
MNK MLR MLR
comp=N,747nm,18.0s
MNK MLR MLR
comp=Z,427nm,17.0s
MNK MLR MLR
comp=E,686nm,19.0s
AKASG Malin Array Be 69.36 333 P **P** **16 13 10.0 -0.1**
comp=E,1.4nm,0.5s,baz=27,slow=6.4,SNR=6.7
comp=E,1.4nm,0.5s
AKASG Malin Array Be 69.36 333 P **P** **16 13 10.0 -0.1**
AKBB Malin Array Si 69.36 333 *eP* **P** **16 13 09.2 -0.9**
KBZ Khabaz 71.31 321 P **P** **16 13 22.8 +0.7**
comp=E,1.9nm,0.8s,baz=16,slow=7.4,SNR=6.4
comp=E,1.9nm,0.8s
KBZ Khabaz 71.31 321 *eP* **P** **16 13 24.7 +2.6**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 72.47 338 *eP* **P** **16 13 27.8 -1.2**
STHS Stebnicka Huta 72.47 338 *eP* **P** **16 13 27.8 -1.2**
LANS Liptovska Anna 73.10 339 *eP* **P** **16 13 32.4 -0.4**
LANS Liptovska Anna 73.10 339 *eP* **P** **16 13 32.4 -0.4**
GERES GERESS Array B 74.49 343 P **P** **16 13 41.3 +0.3**
comp=Z,0.5nm,0.5s,baz=46,slow=5.9,SNR=3.4
comp=Z,0.5nm,0.5s
BRTR Keskin Array B 78.06 326 P **P** **16 14 01.4 -0.1**
comp=Z,0.6nm,0.8s,baz=1.9,slow=4.3,SNR=3.1
comp=Z,0.6nm,0.8s
WRA Warramunga Arr 79.78 212 P **P** **16 14 11.6 +0.7**
comp=Z,1.7nm,1.0s,baz=24,slow=6.1,SNR=5.8
comp=Z,1.7nm,1.0s
WRA Warramunga Arr 79.78 212 *eP* **P** **16 14 13.9 +3.1**
WRA pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 83.42 211 P **P** **16 14 31.1 +1.1**
comp=Z,1.8nm,0.7s,baz=17,slow=6.1,SNR=25
comp=Z,1.8nm,0.7s
ESDC Sonseca Array 85.65 354 P **P** **16 14 41.0 -0.3**
comp=Z,1.6nm,1.0s,baz=358,slow=5.5,SNR=3.0
comp=Z,1.6nm,1.0s

HEL 05 16:04:21.6±1.2, 69°.40N×31°.17E, h0^km, ML1.0,
Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.39**	**230**	PN	Pg			16 04 48.1	0.0
KEV	**Kevo**	**1.50**	**286**	PN	Pn			16 04 49.5	-0.3
	baz=106								
KEV				MSG				16 05 06.7	
	comp=Z,0.6nm,0.2s								
KEV				SG	Sg			16 05 07.4	-2.5
ARA0	**ARCESS Array S**	**2.00**	**277**	PG	Pb			16 04 58.4	-0.4
ARA0				SG	Sn			16 05 22.4	0.0
KTK1	**Kautokeino**	**2.86**	**266**	SB	Sb			16 05 47.0	-1.8
HEF	**Hetta**	**2.89**	**253**	MSG				16 05 46.6	
	comp=Z,0.5nm,0.2s								
HEF				SG	Sb			16 05 47.7	-2.2

HEL 05 16:05:58.9±0.3, 65°.82N×24°.65E, h0^km, ML1.1,
Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.30**	**333**	SN	Sb			16 06 10.8	-1.7
TOF	**Tornio**	**0.30**	**333**	PG	Pg			16 06 03.2	-1.4
TOF				SG	Sg			16 06 06.5	-1.9
KALU	**Kalix**	**0.53**	**275**	PG	Pg			16 06 08.9	-0.2
KALU				SG	Sg			16 06 16.8	+0.8
RANF	**Ranua**	**0.90**	**76**	SG	Pg			16 06 15.0	-1.1
RANF	**Ranua**	**0.90**	**76**	PB	Pg			16 06 15.0	-1.1
	baz=260								
RANF				SB	Sg			16 06 28.6	+0.9
OUL	**Oulu**	**0.90**	**144**	PG	Pg			16 06 14.1	-2.0
RNF	**Rovaniemi**	**0.97**	**34**	PB	Pg			16 06 17.6	+0.2
	baz=218								
ERTU	**Ertsjaerv**	**1.24**	**308**	PN	Pg			16 06 22.6	-0.1
ERTU				SN	Sn			16 06 42.5	+1.5
OBF0	**Syolatti, Pyha**	**1.34**	**188**	PG	Pg			16 06 22.7	-1.8
OBF0				MSG				16 06 39.3	
	comp=Z,1.1nm,0.2s								
KLF	**Kolari**	**1.45**	**349**	PN	Pn			16 06 25.8	-0.6
KLF				MSG				16 06 42.5	
	comp=Z,1.7nm,0.2s								
OUF	**Merijarvi**	**1.46**	**179**	PG	Pn			16 06 25.3	-1.1
	baz=355								
OUF				MSG				16 06 42.7	
	comp=Z,1.1nm,0.2s								
OUF				SN	Sn			16 06 47.0	+0.9
KU2	**Taivalkoski**	**1.48**	**93**	PN	Pn			16 06 25.9	-0.9
	baz=271								
KU2				SN	Sg			16 06 46.4	0.0
KU6	**Riekki**	**2.16**	**82**	PG	Pb			16 06 38.5	-0.3
KU6				MSG				16 07 02.9	
	comp=Z,0.6nm,0.2s								

MOS ***05*** *16:14:15.2±0.9, 55°.89S×27°.72W, h57^km, mb6.6/14, MS6.0/11, Error ellipse: s-maj=15.5km s-min=9.5km az=101.5*
BJI ***05*** *16:14:16.6, 55°.85S×27°.90W, h60^km, mB6.4/44, Ms6.4/77, Ms7 6.4/78*
ISC-PP ***05*** *16:14:16, 55°.93S×27°.85W, h47^km, Mwppsm6.7, Moment Tensor Solution. s31 Moment tensor: Scale 10^19Nm; M_rr0.15±.09; M_θθ-0.61±.10; M_φφ0.48±.10; M_rθ-0.32±.20; M_θφ-0.29±.09; M_φr-0.03±.12; Fault plane solution: M_0 1.22000×10^19 NP1:φ_s132.00000°, δ49.70000°, λ170.90000°. NP2:φ_s227.90000°, δ83.00000°, λ40.60000°.*
PMR ***05*** *16:14:16.0, 55°.51S×27°.69W, h61^km*
NEIC ***05*** *16:14:16.3, 55°.86S×28°.00W, h70^km, Moment Tensor Solution. Duration: 8s5 Moment tensor: Scale 10^18Nm; M_rr0.42; M_θθ0.73; M_φφ-1.15; M_rθ-3.55; M_θφ1.17; M_φr-3.84; Fault plane solution: M_0 5.35000×10^18 NP1: φ_s305.89000°, δ12.68000°, λ-2.72000°. NP2:φ_s38.54000°, δ89.40000°, λ-102.67000°. Principal axes: T 5.9647, Plg43.0000°, Azm141.0000°; N -1.2292, Plg13.0000°, Azm39.0000°; P -4.7356, Plg44.0000°, Azm296.0000°;*
IPGP ***05*** *16:14:16.0, 55°.93S×27°.85W, h57^km, Mw6.4, Fault plane solution: NP1:φ_s287.00000°, δ7.00000°, λ-25.00000°. NP2:φ_s41.00000°, δ87.00000°, λ-96.00000°.*
NEIC ***05*** *16:14:16.7±1.8, 55°.93S±0°.08×27°.9W±0°.1, h57^km±1^km, mb6.3/228, Mwb6.4/48, Mww6.4/44, Error ellipse: s-maj=14.1km s-min=11.9km az=12.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; M_rr0.59; M_θθ0.72; M_φφ-1.31; M_rθ-3.04; M_θφ0.77; M_φr-3.34; Fault plane solution: M_0 4.71000×10^18 NP1:φ_s313.59000°, δ14.75000°, λ5.96000°. NP2:φ_s217.83000°, δ88.49000°, λ104.67000°. Principal axes: T 5.0885, Plg45.0000°, Azm142.0000°; N -0.8730, Plg15.0000°, Azm37.0000°; P -4.2154, Plg42.0000°, Azm294.0000°;*
NEIC ***05*** *16:14:16.3, 55°.96S×27°.90W, h70^km*
NEIC ***05*** *16:14:18.5, 55°.97S×27°.92W, h71^km*
GCMT ***05*** *16:14:20.8±0.0, 56°.02S×27°.45W, h58^km, MW6.5/172, Moment Tensor Solution. s172,c431; s169,c677; Duration: 4s2 Moment tensor: Scale 10^18Nm; M_rr-0.33±.02; M_θθ1.25±.02; M_φφ-0.91±.02; M_rθ-4.04±.03; M_θφ1.11±.02; M_φr-4.56±.03; Best double couple: M_0 6.25600×10^18 NP1:φ_s295.00000°, δ12.00000°, λ-16.00000°. NP2:φ_s40.00000°, δ87.00000°, λ-101.00000°. Principal axes: T 6.6510, Plg41.0000°, Azm141.0000°; N -0.7850, Plg11.0000°, Azm41.0000°; P -5.8610, Plg47.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
IDC ***05*** *16:14:20.5±0.9, 55°.95S×27°.79W, h91^km±6^km, mb5.8/22, mbtmp6.1/24, MS6.0/40 Error ellipse: s-maj=9.2km s-min=7.5km az=49.0*
RSNC ***05*** *16:14:57.7±1.0, 54°S±15°×2°8W±1°3, h388^km±9^km, M6.3, mB6.4, mb5.9, Mw(mB)6.1, MwMwp6.5, Mwp6.5*
ISC 05 16:14:16.7±0.3, 55°.95S±0°.03×27°.89W±0°.03, h62^km±2^km, h62^km:pP-P, n1411, σ1°67/1558, mb6.2/172, 66C-98D,
South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.21**	**285**				**Pn**	**16 15 33.7**	**+1.8**
HOPE					Sn		**Sn**	**16 16 28.9**	**-1.7**
HOPE	**Hope Point**	**5.21**	**285**	*eP*			**Pn**	**16 15 33.7**	**+1.8**
HOPE	**Hope Point**	**5.21**	**285**	⇓P			**Pn**	**16 15 33.7**	**+1.8**
ESPZ	**Base Esperanza**	**16.36**	**231**	P			**P**	**16 18 04.7**	**+1.0**
VNA1	**Neumayer--Stat**	**17.03**	**158**	⇑P			**Pn**	**16 18 10.5**	**+0.3**
	comp=Z,2μm,0.9s								
VNA1				⇑ScP			**ScP**	**16 26 18.8**	**-2.3**
VNA3	**Neumayer Olymp**	**17.21**	**160**	⇑P			**Pn**	**16 18 12.5**	**0.0**
	comp=Z,2μm,0.8s								
VNA3				⇑S			**S**	**16 21 29.7**	**+0.9**
	comp=Z,12nm,0.5s								
VNA3				⇑ScP			**ScP**	**16 26 19.5**	**-2.0**
VNA2	**Neumayer--Watz**	**17.43**	**157**	⇑P			**Pn**	**16 18 14.8**	**-0.4**
	comp=Z,1μm,0.6s,baz=315,slow=7.2								
VNA2				⇑S			**S**	**16 21 33.9**	**+0.9**
	comp=Z,2μm,3.6s,baz=332,slow=14								
VNA2				⇑ScP			**ScP**	**16 26 19.4**	**-2.5**
	baz=319,slow=3.9								
EFI	**East Falkland**	**18.24**	**271**	P			**P**	**16 18 24.9**	**+0.2**
EFI	**East Falkland**	**18.24**	**271**	*d iP*			**Pn**	**16 18 26.7**	**+1.5**
EFI				pmax			pmax		
	comp=Z,459nm,1.0s								
EFI				MLR			MLR		
	comp=Z,12μm,17.0s								
SNAA	**Sanae**	**18.99**	**156**	P			**P**	**16 18 33.5**	**+0.7**
SNAA				IAmb			IAmb	16 18 39.9	
	comp=Z,2μm,0.7s								
SNAA	**Sanae**	**18.99**	**156**	⇑P			**P**	**16 18 33.6**	**+0.8**
	comp=Z,45μm,0.7s								
SNAA				⇑S			**S**	**16 22 06.3**	**+1.5**
	comp=Z,57nm,0.4s								
SNAA				⇓ScP			**ScP**	**16 26 22.4**	**-2.9**
SNAA	**Sanae**	**18.99**	**156**	P			**P**	**16 18 33.4**	**+0.7**
	comp=Z,1μm,0.7s,baz=300,slow=9.7,SNR=1627								
SNAA				S			**Sn**	**16 22 04.9**	**-0.9**
	comp=Z,48nm,0.8s,baz=315,slow=20,SNR=1.8								
SNAA				PcP			**PcP**	**16 22 55.7**	**+0.4**
	comp=Z,46nm,0.7s,baz=288,slow=3.2,SNR=1.5								
SNAA				LR			LR	16 24 37.2	
	comp=Z,81μm,20.8s,baz=311,slow=32								
SNAA				ScP			**ScP**	**16 26 22.5**	**-2.8**
	comp=Z,95nm,0.8s,baz=246,slow=1.2,SNR=15								
PMSA	**Palmer Station**	**19.67**	**229**				**Pn**	**16 18 44.4**	**+2.4**
PMSA				IAmb			IAmb	16 18 49.3	
	comp=Z,1μm,1.2s								
PMSA	**Palmer Station**	**19.67**	**229**	P			**Pn**	**16 18 42.0**	**0.0**
	comp=Z,186nm,1.0s,baz=63,slow=7.5,SNR=19								
PMSA				S			**Sn**	**16 22 21.8**	**-0.1**
	comp=Z,69nm,1.0s,baz=236,slow=17,SNR=7.9								
PMSA				PcP			**PcP**	**16 22 57.0**	**+0.5**
	comp=Z,29nm,0.6s,baz=111,slow=3.9,SNR=1.5								
PMSA				ScP			**ScP**	**16 26 23.5**	**-3.3**
	comp=Z,142nm,0.8s,baz=53,slow=2.2,SNR=14								
PMSA	**Palmer Station**	**19.67**	**229**	*eP*			**P**	**16 18 40.0**	**-0.2**
PMSA	**Palmer Station**	**19.67**	**229**	⇓P			**Pn**	**16 18 44.0**	**+2.0**
TROLL	**Troll, Antarti**	**20.51**	**153**	⇑P			**P**	**16 18 49.9**	**+0.6**
	comp=Z,163μm,0.8s								
TROLL				⇑S			Sn	16 22 40.4	-1.9
TROLL				⇑ScP			**ScP**	**16 26 25.7**	**-3.3**
SMAI	**San Martin Ant**	**21.59**	**220**	P			**P**	**16 19 01.4**	**+0.7**
H09W1	**TRISTAN DA CUN**	**21.59**	**36**	T			T	16 41 29.8	
	SNR=16								
TRIS	**Tristan da Cun**	**21.62**	**36**	P			**P**	**16 19 02.9**	**+1.5**
BELA	**Belgrano 2**	**22.15**	**184**	P			**P**	**16 19 07.0**	**+0.3**
MG01	**Puerto William**	**22.36**	**256**	P			**P**	**16 19 05.9**	**-3.2**
NVL	**N'lazarevskaya**	**22.56**	**146**	*eP*			**P**	**16 19 07.1**	**-4.1**
NVL				*e*PP			**sP**	**16 19 35.1**	**+2.9**
NVL				*e*S			**S**	**16 23 05.6**	**-8.1**
NVL				pmax			pmax		
	comp=Z,304nm,0.9s								
NVL				MLR			MLR		
	comp=Z,13μm,18.0s								
USHA	**Ushuaia**	**22.83**	**256**	P			**P**	**16 19 15.4**	**+1.3**
	comp=Z,218nm,0.9s,baz=104,slow=9.7,SNR=42								
USHA				PcP			**PcP**	**16 23 03.1**	**+0.4**
	comp=Z,18nm,0.8s,baz=106,slow=4.1,SNR=1.7								
USHA				LR			LR	16 26 09.3	
	comp=Z,49μm,19.9s,baz=98,slow=31								
USHA				ScP			**ScP**	**16 26 30.9**	**-3.9**
	comp=Z,43nm,0.8s,baz=90,slow=3.0,SNR=8.1								
	comp=Z,218nm,0.9s								
MG02	**Cerro Sombrero**	**24.03**	**260**	P			**P**	**16 19 24.9**	**-0.5**
GO10	**Punta Arenas**	**24.89**	**258**	P			**P**	**16 19 32.4**	**-0.9**
GO10				IAmb			IAmb	16 19 38.1	
	comp=Z,1μm,1.1s								
GO10	**Punta Arenas**	**24.89**	**258**	⇑P			**P**	**16 19 35.1**	**+1.8**
MG04	**Isla Riesco**	**25.30**	**259**	P			**P**	**16 19 37.0**	**+0.1**
MG04				IAmb			IAmb	16 20 12.4	
	comp=Z,695nm,1.0s								
MG05	**Puerto Natales**	**26.32**	**260**	P			**P**	**16 19 46.3**	**+0.1**
ELIB	**Princess Elisa**	**26.44**	**147**	*dP*			**P**	**16 19 47.9**	**+0.6**
	comp=Z,482nm,0.8s								
ELIB				*d*S			**S**	**16 24 14.6**	**-1.6**
ELIB				*d*ScP			**ScP**	**16 26 41.6**	**-3.3**
AY03	**Cochrane**	**28.64**	**269**	P			**P**	**16 20 07.6**	**+0.6**
TRQA	**Tornquist**	**28.92**	**294**	P			**P**	**16 20 10.3**	**+0.6**
TRQA				PcP			**PcP**	**16 23 17.7**	**+0.6**
TRQA	**Tornquist**	**28.92**	**294**	P			**P**	**16 20 10.9**	**+1.2**
TRQA				S			**S**	**16 24 52.7**	**-3.0**
COYC	**Coyhaique**	**29.33**	**272**	P			**P**	**16 20 13.6**	**+0.4**
COYC	**Coyhaique**	**29.33**	**272**	⇓P			**P**	**16 20 14.2**	**+1.0**
PLTB	**Pedras Altas**	**30.14**	**313**	P			**P**	**16 20 21.6**	**+1.2**
PLTB	**Pedras Altas**	**30.14**	**313**	*eP*			**P**	**16 20 22.1**	**+1.7**
PLTB	**Pedras Altas**	**30.14**	**313**	P			**P**	**16 20 22.4**	**+1.9**
PLTB				S			**S**	**16 25 15.4**	**+0.6**
AY01	**Puyuhuapi**	**30.36**	**273**	P			**P**	**16 20 22.4**	**+0.2**
LL02	**Futaleuf**	**30.68**	**276**	P			**P**	**16 20 24.8**	**-0.4**
TBOT	**Tacuaremb**	**31.20**	**309**	*eP*			**P**	**16 20 31.5**	**+1.7**
CNLB	**Canela**	**31.24**	**319**	*eP*			**P**	**16 20 32.5**	**+2.4**
CNLB	**Canela**	**31.24**	**319**	P			**P**	**16 20 32.4**	**+2.2**
CPSB	**Cacapava Do Su**	**31.27**	**314**	*eP*			**P**	**16 20 32.5**	**+2.2**
CPSB	**Cacapava Do Su**	**31.27**	**314**	P			**P**	**16 20 32.5**	**+2.2**
CPSB				S			**S**	**16 25 30.0**	**-2.4**
TER01	**Tubaro-SC**	**31.33**	**322**	*eP*			**P**	**16 20 33.2**	**+2.2**
TER01	**Tubaro-SC**	**31.33**	**322**	P			**P**	**16 20 33.4**	**+2.4**
PLCA	**Paso Flores**	**31.60**	**281**	P			**P**	**16 20 32.7**	**-0.6**
PLCA	**Paso Flores**	**31.60**	**281**	P			**P**	**16 20 33.2**	**-0.1**
	comp=Z,58nm,0.8s,baz=136,slow=8.2,SNR=120								
PLCA				PcP			**PcP**	**16 23 24.6**	**+0.4**
	comp=Z,37nm,1.0s,baz=121,slow=4.3,SNR=4.6								
PLCA				ScP			**ScP**	**16 26 57.7**	**-4.0**
	comp=Z,39nm,0.8s,baz=147,slow=3.3,SNR=13								
PLCA				LR			LR	16 33 37.0	
	comp=Z,28μm,19.4s,baz=129,slow=36								
	comp=Z,58nm,0.8s								
PLCA	**Paso Flores**	**31.60**	**281**	*eP*			**P**	**16 20 32.8**	**-0.6**
PLCA	**Paso Flores**	**31.60**	**281**	P			**P**	**16 20 32.6**	**-0.6**
PLCA				pP			**pP**	**16 20 47.0**	**-1.1**
PLCA				sP			**sP**	**16 20 53.6**	**-1.6**
PLCA				PcP			**PcP**	**16 23 24.4**	**+0.2**
PLCA				ScP			**ScP**	**16 26 57.7**	**-4.0**
PLCA	**Paso Flores**	**31.60**	**281**	P			**P**	**16 20 32.7**	**-0.6**
PLCA				S			**S**	**16 25 43.0**	**+5.4**
SYO	**Syowa Base**	**31.91**	**141**	⇓*iP*			**P**	**16 20 33.8**	**-1.8**
SYO	**Syowa Base**	**31.91**	**141**	⇓*i*sP			sP	16 20 53.4	-4.4
LL06	**Loncomilla**	**32.32**	**276**	P			**P**	**16 20 39.6**	**+0.2**
MAJ01	**Sao Joao Batis**	**32.34**	**323**	*eP*			**P**	**16 20 41.9**	**+2.2**
MAJ01	**Sao Joao Batis**	**32.34**	**323**	P			**P**	**16 20 42.0**	**+2.2**
LL04	**Puerto Octay**	**32.51**	**279**	PcP			**PcP**	**16 23 26.3**	**-0.2**
LR05	**Currie**	**32.75**	**280**	P			**P**	**16 20 42.8**	**-0.5**
ITQB	**Itaqui**	**33.23**	**310**	*eP*			**P**	**16 20 48.8**	**+1.2**
ITQB	**Itaqui**	**33.23**	**310**	P			**P**	**16 20 48.8**	**+1.2**
ITAB	**Concordia**	**33.59**	**319**	*eP*			**P**	**16 20 52.7**	**+2.0**
ITAB	**Concordia**	**33.59**	**319**	P			**P**	**16 20 52.9**	**+2.2**
ITAB				S			**S**	**16 26 07.6**	**-1.0**
LR04	**Corral**	**33.78**	**279**	IAmb			IAmb	16 21 22.5	
	comp=Z,357nm,1.5s								
TIJ01	**Guaruva-PR**	**34.25**	**325**	P			**P**	**16 20 54.1**	**-2.5**
TIJ01				S			**S**	**16 26 13.5**	**-5.6**
QSPA	**South Pole Qui**	**34.30**	**180**	P			**P**	**16 20 57.8**	**+1.1**
QSPA	**South Pole Qui**	**34.30**	**180**	P			**P**	**16 20 57.6**	**+0.9**
	comp=Z,1μm,0.8s,baz=187,slow=2.8,SNR=1561								
QSPA				PKiKP			**PKiKP**	**16 30 53.4**	**-0.7**
	comp=Z,7.8nm,0.6s,baz=212,slow=1.1,SNR=2.7								
QSPA				LR			LR	16 34 13.4	
	comp=Z,67μm,21.6s,baz=190,slow=35								
	comp=Z,1μm,0.8s								
QSPA	**South Pole Qui**	**34.30**	**180**	P			**P**	**16 20 58.5**	**+1.8**
QSPA				sP			**sP**	**16 21 21.5**	**+3.0**
PARB	**Paraibuna**	**35.10**	**331**	*eP*			**P**	**16 21 05.6**	**+1.7**
PARB	**Paraibuna**	**35.10**	**331**	P			**P**	**16 21 06.1**	**+2.2**
PARB				S			**S**	**16 26 34.3**	**+2.2**
MAN01	**Angra dos Reis**	**35.12**	**334**	*eP*			**P**	**16 21 04.6**	**+0.5**
MAN01	**Angra dos Reis**	**35.12**	**334**	P			**P**	**16 21 06.4**	**+2.3**
DUB01	**Friburgo-RJ**	**35.50**	**336**	*eP*			**P**	**16 21 09.4**	**+2.1**
DUB01	**Friburgo-RJ**	**35.50**	**336**	P			**P**	**16 21 09.5**	**+2.2**
DUB01				S			**S**	**16 26 37.5**	**-0.7**
VAS01	**Vassouras-RJ**	**35.55**	**335**	*eP*			**P**	**16 21 09.6**	**+1.8**
VAS01	**Vassouras-RJ**	**35.55**	**335**	P			**P**	**16 21 10.0**	**+2.2**
VAS01				S			**S**	**16 26 41.2**	**+2.3**
CAM01	**Campos-RJ**	**35.59**	**338**	*eP*			**P**	**16 21 09.6**	**+1.6**
CAM01	**Campos-RJ**	**35.59**	**338**	P			**P**	**16 21 10.1**	**+2.1**
SIM2

comp=Z,103nm,0.8s,baz=149,slow=4.3,SNR=22
CPUP LR LR 16 35 00.3
comp=Z,37µm,21.9s,baz=148,slow=34
comp=Z,587nm,0.9s
CPUP Villa Florida 36.45 312 *e*P **P 16 21 16.4 +1.0**
CPUP Villa Florida 36.45 312 P **P 16 21 16.4 +1.0**
CPUP PcP **PcP 16 23 38.8 +0.7**
CPUP ScP **ScP 16 27 15.7 -3.2**
CPUP Villa Florida 36.45 312 P **P 16 21 16.4 +1.0**
MT08 Bocatoma Ro 36.65 290 IAmb IAmb 16 21 21.8
comp=Z,288nm,0.8s
LDASE Londrina, Braz 36.75 323 *e*P **P 16 21 19.8 +1.8**
MT03 Universidad Ad 36.87 289 IAmb IAmb 16 21 50.5
comp=Z,288nm,1.1s
MT09 Talagante 36.91 289 IAmb IAmb 16 21 43.7
comp=Z,185nm,0.8s
MT16 CCHEN 36.93 289 IAmb IAmb 16 21 50.9
comp=Z,274nm,0.9s
MT01 Popeta 36.98 288 IAmb IAmb 16 21 50.8
comp=Z,240nm,1.1s
MT05 Renca 37.07 289 IAmb IAmb 16 21 44.8
comp=Z,228nm,0.9s
SJPY San Joaquin 37.14 315 *e*P **P 16 21 21.4 +0.2**
CFA Coronel Fontan 37.16 294 P **P 16 21 21.4 0.0**
comp=Z,146nm,0.7s,baz=144,slow=8.7,SNR=357
CFA PcP **PcP 16 23 40.5 +0.2**
comp=Z,114nm,0.8s,baz=146,slow=3.3,SNR=8.4
CFA LR LR 16 35 50.8
comp=Z,13µm,21.5s,baz=146,slow=35
comp=Z,146nm,0.7s
PEL Peldehue 37.23 290 ⇓P **P 16 21 21.9 -0.1**
VA05 Santo Domingo 37.33 288 IAmb IAmb 16 21 23.9
comp=Z,528nm,0.8s
MT02 Curacav 37.38 289 IAmb IAmb 16 21 24.6
comp=Z,255nm,0.8s
ZON Zonda 37.44 293 IAmb IAmb 16 21 26.7
comp=Z,353nm,0.7s
ZON Zonda 37.44 293 ⇓P **P 16 21 23.7 -0.1**
VA03 San Esteban 37.46 290 IAmb IAmb 16 21 26.2
comp=Z,310nm,0.8s
RIB01 Linhares ES 37.78 340 *e*P **P 16 21 27.7 +1.1**
RIB01 Linhares ES 37.78 340 P **P 16 21 28.5 +1.9**
VA01 Torpederas 37.84 289 IAmb IAmb 16 21 48.5
comp=Z,504nm,1.4s
BB19B Bebedouro 38.09 328 *e*P **P 16 21 31.1 +1.9**
BB19B Bebedouro 38.09 328 P **P 16 21 30.8 +1.5**
ACCO Cerro Coronel 38.40 294 *e*P **P 16 21 35.0 +2.8**
SJMB Sao Joao De Ma 38.52 340 *e*P **P 16 21 34.3 +1.3**
SJMB Sao Joao De Ma 38.52 340 P **P 16 21 34.2 +1.3**
SJMB S **S 16 27 22.6 -1.5**
AMBA Amambai (Brazi 38.57 318 *e*P **P 16 21 34.3 +1.0**
CO02 Combarbal 38.91 291 IAmb IAmb 16 21 42.9
comp=Z,271nm,0.7s
CO02 Combarbal 38.91 291 ⇓P **P 16 21 36.6 +0.4**
CO01 Juntas del Tor 39.42 293 IAmb IAmb 16 21 44.8
comp=Z,339nm,0.7s
DIAM Diamantina, MG 39.45 336 *e*P **P 16 21 42.1 +1.3**
DIAM Diamantina, MG 39.45 336 P **P 16 21 42.1 +1.3**
DIAM S **S 16 27 38.9 +0.7**
GO04 Tololo Observa 39.63 292 IAmb IAmb 16 21 44.8
comp=Z,322nm,0.8s
GO04 Tololo Observa 39.63 292 ⇓P **P 16 21 42.5 +0.1**
CO06 Fray Jorge 39.67 291 IAmb IAmb 16 23 14.1
comp=Z,606nm,1.8s
PMNB Patos De Minas 39.90 332 *e*P **P 16 21 46.0 +1.5**
PMNB Patos De Minas 39.90 332 P **P 16 21 46.3 +1.8**
PMNB S **S 16 27 45.1 +0.3**
ITRB Iturama 39.93 326 *e*P **P 16 21 46.2 +1.5**
ITRB Iturama 39.93 326 P **P 16 21 46.1 +1.5**
ITRB S **S 16 27 46.2 +1.0**
CAR01 Carai MG 40.15 340 P **P 16 21 47.1 +0.6**
CAR01 S **S 16 27 47.3 -1.3**
RPRD Ribas do Rio P 40.33 321 *e*P **P 16 21 49.2 +1.3**
GUA01 Guaratinga, BA 40.34 342 *e*P **P 16 21 49.2 +1.2**
GUA01 Guaratinga, BA 40.34 342 P **P 16 21 49.2 +1.2**
GUA01 S **S 16 27 50.9 -0.3**
AC05 El Transito 40.43 294 P **P 16 21 49.6 +0.8**
AC05 IAmb IAmb 16 21 51.3
comp=Z,532nm,0.8s
MAW Mawson 40.46 144 P **P 16 21 48.6 +0.1**
MAW Mawson 40.46 144 P **P 16 21 49.2 +0.7**
comp=Z,0.0nmcomp=Z,137nm,0.7s
MAW Mawson 40.46 144 P **P 16 21 49.3 +0.9**
comp=Z,491nm,0.7s,baz=231,slow=8.7,SNR=287
MAW ScP **ScP 16 27 31.2 -2.3**
comp=Z,58nm,0.8s,baz=244,slow=5.8,SNR=10
MAW LR LR 16 36 16.1
comp=Z,35µm,21.3s,baz=249,slow=32
comp=Z,491nm,0.7s
LCO Las Campanas 40.51 294 P **P 16 21 50.1 +0.4**
LCO IAmb IAmb 16 21 51.4
comp=Z,276nm,0.8s
LCO PcP **PcP 16 23 51.8 +0.7**
LCO Las Campanas 40.51 294 P **P 16 21 50.1 +0.4**
LCO 16 23 51.8
LCO pmax pmax
comp=Z,276nm,0.8s
LCO Las Campanas 40.51 294 ⇓P **P 16 21 49.9 +0.2**
LCO Las Campanas 40.51 294 P **P 16 21 49.8 +0.2**
LCO pP **pP 16 22 05.0 +0.2**
LCO PcP **PcP 16 23 51.5 +0.4**
JQT1 Jequitai-MG 40.62 335 P **P 16 21 51.7 +1.2**
MURT Porto Murtinho 40.73 315 *e*P **P 16 21 51.3 +0.1**
ITU3 Corumbazu 40.88 329 P **P 16 21 54.2 +1.7**
IPMB Ipameri, GO 40.91 330 *e*P **P 16 21 54.4 +1.6**
IPMB Ipameri, GO 40.91 330 P **P 16 21 54.4 +1.6**
IPMB S **S 16 28 03.3 +3.3**
SUR Sutherland 40.99 76 P **P 16 21 54.6 +1.0**
SUR IAmb IAmb 16 21 56.9
comp=Z,734nm,1.4s
SUR Sutherland 40.99 76 LR LR 16 35 59.2
comp=Z,30µm,18.2s,baz=208,slow=32
SUR Sutherland 40.99 76 P **P 16 21 52.2 -1.4**
SUR Sutherland 40.99 76 ⇑P **P 16 21 54.8 +1.2**
SUR Sutherland 40.99 76 P **P 16 21 54.6 +1.0**
SUR pP **sP 16 22 10.5 -5.2**
SUR ScP **ScP 16 27 34.4 -2.1**
AQDB Aquidauana 41.07 318 *e*P **P 16 21 54.5 +0.6**
AQDB Aquidauana 41.07 318 P **P 16 21 54.6 +0.6**
H03S1 Juan Fernandez 41.16 281 P **P 16 21 51.7 -2.7**
H03S3 Juan Fernandez 41.18 281 P **P 16 21 53.5 -1.0**
H03S2 Juan Fernandez 41.18 281 P **P 16 21 54.5 0.0**
SNR=3.6
BAT3 Ipameri 41.28 331 P **P 16 21 57.3 +1.5**
BAT3 S **S 16 28 06.5 +1.1**
BAT2 UHE Batalha 41.30 331 P **P 16 21 57.4 +1.4**
AC04 Llanos de Chal 41.35 294 P **P 16 21 56.9 +0.6**
GO03 Copiapo 41.42 295 IAmb IAmb 16 21 58.7
comp=Z,471nm,0.8s
GO03 Copiapo 41.42 295 ⇑P **P 16 21 57.3 +0.4**
H03N3 Juan Fernandez 41.46 281 P **P 16 21 58.5 +1.7**
baz=148,slow=22,SNR=5.2
H03N1 Juan Fernandez 41.47 281 P **P 16 21 56.9 +0.1**
baz=148,slow=22,SNR=8.1
H03N2 Juan Fernandez 41.48 281 P **P 16 21 59.0 +2.1**
baz=148,slow=22,SNR=6.5
CMC01 Camacan, BA 41.49 343 *e*P **P 16 21 58.6 +1.1**
CMC01 Camacan, BA 41.49 343 P **P 16 21 58.5 +1.1**
BDQN Bodoquena, MS 41.49 317 *e*P **P 16 21 57.5 +0.1**
C2SB Chapadao do Su 41.62 323 *e*P **P 16 22 00.6 +2.1**
C2SB Chapadao do Su 41.62 323 P **P 16 22 00.2 +1.7**
C2SB S **S 16 28 10.7 +0.5**
AC06 Mina Casimiro 41.67 295 IAmb IAmb 16 22 00.8
comp=Z,440nm,0.8s
NBIT Itapeh - BA 41.89 343 P **P 16 22 02.0 +1.3**
ANA01 Lindo Horizont 42.51 341 P **P 16 22 06.8 +1.0**
ANA01 S **S 16 28 23.0 -0.5**
JANB Januaria 42.72 336 *e*P **P 16 22 08.8 +1.2**
JANB Januaria 42.72 336 P **P 16 22 08.8 +1.2**
JANB S **S 16 28 27.1 +0.5**
AC01 Pan de Azucar 42.79 296 IAmb IAmb 16 22 32.4
comp=Z,726nm,1.1s
BDFB Brasilia 43.09 331 P **P 16 22 11.9 +1.3**
BDFB IAmb IAmb 16 22 14.6
comp=Z,873nm,1.5s
BDFB Brasilia 43.09 331 P **P 16 22 12.5 +1.9**
comp=Z,180nm,0.7s,baz=148,slow=7.0,SNR=79
BDFB LR LR 16 37 27.1
comp=Z,38µm,21.5s,baz=162,slow=32
comp=Z,180nm,0.7s
BDFB Brasilia 43.09 331 P **P 16 22 12.4 +1.9**
BDFB S **S 16 28 33.7 +1.6**
GO02 Mina Guanaco 43.10 298 ⇑P **P 16 22 11.2 +0.4**
SOE Somerset East 43.36 81 P **P 16 22 12.4 -0.2**
SOE IAmb IAmb 16 22 14.9
comp=Z,1µm,1.8s
SOE Somerset East 43.36 81 ⇓P **P 16 22 12.7 0.0**
SHEL Horse Pasture 43.36 32 P **P 16 22 11.9 -0.8**
SHEL Horse Pasture 43.36 32 P **P 16 22 11.9 -0.8**
SHEL pmax pmax
comp=Z,1µm,1.0s
SHEL Horse Pasture 43.36 32 ⇓P **P 16 22 14.4 +1.8**
SHEL Horse Pasture 43.36 32 P **P 16 22 14.5 +1.8**
SHEL sP **sP 16 22 36.6 +1.6**
GRHM Grahamstown, E 43.39 82 P **P 16 22 12.3 -0.5**
GRHM Grahamstown, E 43.39 82 ⇑P **P 16 22 12.9 0.0**
PB14 IPOC Station P 43.95 298 P **P 16 22 16.9 -0.9**
ARAG Araguaiana, MT 44.14 326 *e*P **P 16 22 20.8 +1.8**
ARAG Araguaiana, MT 44.14 326 P **P 16 22 20.7 +1.7**
AF01 San Pedro de A 44.27 301 P **P 16 22 22.1 +1.8**
PB10 IPOC Station P 44.96 298 IAmb IAmb 16 22 27.7
comp=Z,367nm,0.8s
SALV Santo Antonio 45.27 321 *e*P **P 16 22 28.9 +1.0**
SALV Santo Antonio 45.27 321 P **P 16 22 29.4 +1.5**
SALV S **S 16 29 02.3 -1.2**
SDBA SAO DESIDERIO 45.42 336 *e*P **P 16 22 30.4 +1.2**
SDBA SAO DESIDERIO 45.42 336 P **P 16 22 30.2 +1.0**
SDBA S **S 16 29 05.4 -0.4**
CAN3 Cana Brava 45.59 332 P **P 16 22 31.9 +1.5**
SSV2 Sao Salvador 45.80 332 P **P 16 22 33.8 +1.7**
SSV2 S **S 16 29 11.3 -0.1**
SBA Scott Base 46.15 184 P **P 16 22 35.9 +1.8**
SBA IAmb IAmb 16 22 38.8
comp=Z,530nm,0.9s
SBA Scott Base 46.15 184 P **P 16 22 35.9 +1.8**
SBA pmax pmax
comp=Z,530nm,1.0s
SBA Scott Base 46.15 184 P **P 16 22 36.3 +2.2**
SBA ScP **ScP 16 27 53.7 -2.8**
BOSA Boshof 46.33 77 P **P 16 22 35.6 -0.7**
BOSA IAmb IAmb 16 22 38.2
comp=Z,334nm,1.3s
BOSA Boshof 46.33 77 P **P 16 22 36.5 +0.2**
comp=Z,76nm,0.7s,baz=218,slow=7.8,SNR=78
BOSA ScP **ScP 16 27 55.7 -2.5**
comp=Z,28nm,0.9s,baz=222,slow=4.1,SNR=5.5
BOSA LR LR 16 39 14.7
comp=Z,39µm,18.3s,baz=210,slow=32
comp=Z,76nm,0.7s
BOSA Boshof 46.33 77 ⇑P **P 16 22 36.1 -0.2**
BOSA Boshof 46.33 77 P **P 16 22 36.2 -0.1**
BOSA pP **pP 16 22 52.0 +0.2**
BOSA ScP **ScP 16 27 55.3 -2.9**
BOSA Boshof 46.33 77 P **P 16 22 36.1 -0.2**
BOSA S **S 16 29 14.9 -4.0**
NBAN Anadia - AL 46.64 349 *e*P **P 16 22 39.1 +0.4**
NBAN Anadia - AL 46.64 349 P **P 16 22 38.5 -0.2**
NBAN S **S 16 29 21.4 -1.9**
VNDA Vanda 46.65 183 P **P 16 22 39.3 +1.2**
VNDA Vanda 46.65 183 P **P 16 22 40.0 +1.9**
comp=Z,526nm,0.7s,baz=187,slow=6.7,SNR=742
VNDA LR LR 16 41 53.4
comp=Z,5µm,20.9s,baz=172,slow=35
comp=Z,526nm,0.7s
VNDA Vanda 46.65 183 P **P 16 22 40.2 +2.1**
VNDA ScP **ScP 16 27 55.6 -3.0**
PTLB Pontes e Lacer 46.95 317 P **P 16 22 41.8 +0.6**
PTLB Pontes e Lacer 46.95 317 *e*P **P 16 22 42.4 +1.3**
PTLB Pontes e Lacer 46.95 317 P **P 16 22 42.1 +1.0**
PB08 IPOC Station P 47.14 302 P **P 16 22 43.6 +0.5**
SIV San Ignacio 47.23 314 P **P 16 22 43.8 +0.5**
comp=Z,175nm,0.9s,baz=154,slow=7.3,SNR=397
SIV PcP **PcP 16 24 14.3 +0.5**
comp=Z,80nm,0.8s,baz=123,slow=6.3,SNR=5.5
SIV ScP **ScP 16 27 59.4 -2.5**
comp=Z,104nm,0.8s,baz=140,slow=6.3,SNR=15
SIV LR LR 16 41 30.9
comp=Z,22µm,21.9s,baz=162,slow=34
comp=Z,175nm,0.9s
TA02 Huaiquique 47.49 301 P **P 16 22 46.3 +1.0**
NBBL Bica de Lurdes 47.50 350 P **P 16 22 46.0 +0.6**
NBBL S **S 16 29 34.4 -1.1**
SNDB Serra Nova Dou 47.51 328 *e*P **P 16 22 47.0 +1.5**
SNDB Serra Nova Dou 47.51 328 P **P 16 22 47.2 +1.7**
SNDB S **S 16 29 36.4 +0.8**
PHPEN Phepeng 47.52 72 *i*P **P 16 22 45.9 +0.3**
LKGWB Lokgwabe 47.75 69 *i*P **P 16 22 47.5 0.0**
CCD Concordia, Ant 47.84 170 P **P 16 22 48.7 +0.9**
CCD PcP **PcP 16 24 17.6 +2.0**
H04S2 CROZET ISLANDS 47.95 115 P **P 16 22 49.3 +1.0**
SNR=3.9
H04S2 T T 17 15 03.1
baz=232,slow=76,SNR=31
H04S3 CROZET ISLANDS 47.95 115 P **P 16 22 50.0 +1.6**
H04S3 T T 17 15 16.3
baz=232,slow=76,SNR=38
H04S1 CROZET ISLANDS 47.96 115 P **P 16 22 50.0 +1.5**
H04S1 T T 17 15 12.8
baz=232,slow=76,SNR=60
H10S2 ASCENSION HYDR 48.02 18 T T 17 14 37.0
SNR=37
H10S3 ASCENSION HYDR 48.03 18 T T 17 15 23.6
SNR=22
NBCA Caruaru-PE 48.04 349 P **P 16 22 50.4 +0.8**
NBCA S **S 16 29 42.4 -0.8**
KOOLE Kule 48.13 67 *i*P **P 16 22 50.8 +0.3**
CRZF Crozet Islands 48.21 114 IAmb IAmb 16 22 52.2
comp=Z,193nm,0.9s
MAKGR Makgori 48.29 74 *i*P **P 16 22 51.3 -0.3**
H04N3 CROZET ISLANDS 48.34 114 P **P 16 22 54.2 +2.8**
baz=198,slow=74,SNR=4.8
H04N1 CROZET ISLANDS 48.35 114 P **P 16 22 48.7 -2.7**
H04N2 CROZET ISLANDS 48.36 114 P **P 16 22 51.6 +0.2**
baz=20,slow=74,SNR=4.1
LAJE UHE Lajeado 48.58 333 P **P 16 22 55.0 +1.2**
PB16 IPOC Station P 48.86 303 IAmb IAmb 16 22 59.1
comp=Z,171nm,0.8s
SKOMA Sekoma 48.86 72 *i*P **P 16 22 55.7 -0.3**
PB12 IPOC Station P 49.01 302 IAmb IAmb 16 23 02.5
comp=Z,417nm,1.0s
H10N1 ASCENSION HYDR 49.14 18 P **P 16 22 59.6 +1.9**
baz=189,slow=10.0,SNR=12
H10N1 T T 17 16 13.0
baz=189,slow=75,SNR=70
H10N3 ASCENSION HYDR 49.14 18 P **P 16 23 00.1 +2.4**
baz=189,slow=10.0,SNR=18
H10N3 T T 17 15 45.0
baz=189,slow=75,SNR=81
H10N2 ASCENSION HYDR 49.16 18 P **P 16 22 57.4 -0.4**
baz=189,slow=10.0,SNR=18
H10N2 T T 17 16 09.5
baz=189,slow=75,SNR=80
NBMA Muriti-CE 49.22 346 P **P 16 22 59.8 +1.1**
NBMA S **S 16 29 59.6 -0.3**
KGCAE Kacgae 49.30 69 *i*P **P 16 22 59.7 +0.3**
LBTB Lobatse 49.36 74 P **P 16 22 59.1 -0.7**
LBTB IAmb IAmb 16 23 01.7
comp=Z,266nm,0.9s
LBTB Lobatse 49.36 74 LR LR 16 41 31.4
comp=Z,12µm,18.0s,baz=206,slow=33
LBTB Lobatse 49.36 74 P **P 16 22 59.1 -0.7**
LBTB pmax pmax
comp=Z,266nm,1.0s
LBTB Lobatse 49.36 74 *i*P **P 16 22 59.8 +0.1**
LBTB Lobatse 49.36 74 ⇑P **P 16 22 59.6 -0.2**
LBTB Lobatse 49.36 74 P **P 16 22 59.9 +0.1**
LBTB ScP **ScP 16 28 08.1 -2.9**
SMTB Santa Maria do 49.47 334 *e*P **P 16 23 02.0 +1.4**
SMTB Santa Maria do 49.47 334 P **P 16 23 02.2 +1.7**
SMTB S **S 16 30 02.9 -0.4**
PDRB Porto dos Gac 49.60 322 *e*P **P 16 23 02.4 +0.8**
PDRB Porto dos Gac 49.60 322 P **P 16 23 02.3 +0.8**
VILB Vilhena 49.64 317 P **P 16 23 02.4 +0.5**
VILB Vilhena 49.64 317 *e*P **P 16 23 02.6 +0.7**
VILB Vilhena 49.64 317 P **P 16 23 02.6 +0.7**
NBPV Pedro Velho 49.75 350 P **P 16 23 03.5 +0.9**
NBPV S **S 16 30 07.1 -0.1**
CLDB Colider 49.97 323 *e*P **P 16 23 04.9 +0.5**
CLDB Colider 49.97 323 P **P 16 23 05.0 +0.5**
CLDB S **S 16 30 07.0 -3.3**
TSUM Tsumeb 49.98 62 P **P 16 23 04.9 +0.3**
TSUM Tsumeb 49.98 62 LR LR 16 40 43.2
comp=Z,10µm,20.3s,baz=212,slow=32
TSUM Tsumeb 49.98 62 *i*P **P 16 23 05.1 +0.6**
TSUM Tsumeb 49.98 62 ⇑P **P 16 23 04.8 +0.3**
TSUM Tsumeb 49.98 62 P **P 16 23 04.9 +0.3**
LPAZ La Paz 50.00 306 P **P 16 23 07.0 +1.6**
comp=Z,496nm,0.7s,baz=150,slow=5.7,SNR=1149
LPAZ ScP **ScP 16 28 11.8 -2.6**
comp=Z,33nm,0.8s,baz=172,slow=2.5,SNR=5.6
LPAZ S **S 16 30 11.9 +0.1**
comp=Z,7.6nm,0.9s,baz=203,slow=24,SNR=3.6
LPAZ LR LR 16 42 52.0
comp=Z,10µm,20.0s,baz=149,slow=34
LPAZ PKPPKP **P'P'df 16 53 50.6 -4.8**
comp=Z,1.5nm,0.6s,baz=54,slow=1.1,SNR=4.2
comp=Z,496nm,0.7s
LPAZ La Paz 50.00 306 P **P 16 23 07.0 +1.6**
LPAZ S **S 16 30 12.0 +0.1**
LPAZ La Paz 50.00 306 *e*P **P 16 23 07.0 +1.6**
LPAZ La Paz 50.00 306 ⇓P **P 16 23 06.9 +1.6**
LPAZ La Paz 50.00 306 P **P 16 23 06.9 +1.6**
LPAZ S **S 16 30 10.2 -1.7**
GRTLG Ghanzi 50.01 67 *i*P **P 16 23 04.8 0.0**
KDWAN Kaudwane 50.17 72 *i*P **P 16 23 05.7 -0.2**
RCBR Riachuelo 50.39 350 P **P 16 23 07.7 +0.1**
RCBR IAmb IAmb 16 23 10.5
comp=Z,611nm,1.6s
RCBR Riachuelo 50.39 350 LR LR 16 40 59.0
comp=Z,4µm,20.0s,baz=194,slow=32
RCBR Riachuelo 50.39 350 P **P 16 23 07.7 +0.1**
RCBR pmax pmax
comp=Z,611nm,1.7s
RCBR Riachuelo 50.39 350 *e*P **P 16 23 08.2 +0.7**
RCBR Riachuelo 50.39 350 ⇓P **P 16 23 08.3 +0.7**
RCBR Riachuelo 50.39 350 P **P 16 23 08.4 +0.9**
RCBR pP **sP 16 23 24.8 -5.0**
RCBR sP pwP 16 23 31.9 +5.9
RCBR Riachuelo 50.39 350 P **P 16 23 08.5 +0.9**
RCBR S **S 16 30 16.1 -0.1**
NBPA Parau_RN 50.60 348 P **P 16 23 09.9 +0.8**
NBPA S **S 16 30 19.7 +0.7**
LPHEP Lephephe 50.83 73 *i*P **P 16 23 11.4 +0.5**
POGA Pongola 50.88 81 P **P 16 23 10.9 -0.2**
POGA IAmb IAmb 16 23 13.0
comp=Z,163nm,0.9s
POGA Pongola 50.88 81 ⇑P **P 16 23 10.9 -0.2**
NBPB Pedra_Branca-C 51.13 345 *e*P **P 16 23 14.2 +1.1**
NBPB Pedra_Branca-C 51.13 345 P **P 16 23 14.2 +1.1**
NBPB S **S 16 30 25.9 -0.5**
PAL2 UHE Estreito - 51.45 335 P **P 16 23 17.6 +2.2**
PAL2 S **S 16 30 32.5 +1.8**
QNGWA Qangwa 51.51 66 *i*P **P 16 23 16.5 +0.4**
PAL01 Palmeiras do T 51.60 335 P **P 16 23 18.4 +1.8**
PAL01 S **S 16 30 34.7 +1.8**
KHWEE KHWEE 51.75 71 *i*P **P 16 23 17.8 -0.1**
GMARE Gumare 52.14 66 *i*P **P 16 23 21.6 +0.9**
NBBC Barra do Corda 52.17 338 P **P 16 23 22.5 +1.6**
NBBC S **S 16 30 42.1 +1.4**
NBCL Cascavel-CE 52.25 347 P **P 16 23 22.4 +1.0**
NBCL S **S 16 30 42.4 +0.8**
MREMI Moremi 52.32 74 *i*P **P 16 23 22.5 +0.5**
NBPS Pedro II - PI 52.55 343 P **P 16 23 24.4 +0.7**
NBPS S **S 16 30 45.8 -0.1**
PRPB Parauapebas 52.62 332 *e*P **P 16 23 26.1 +1.9**
PRPB Parauapebas 52.62 332 P **P 16 23 25.9 +1.7**
PRPB S **S 16 30 47.5 +0.6**
PHDHD Phuduhudu 52.71 69 *i*P **P 16 23 25.6 +0.7**
SBBR Sobral 53.00 344 P **P 16 23 28.0 +1.0**
SBBR S **S 16 30 51.7 -0.2**
NBMO Morrinhos-CE 53.39 345 P **P 16 23 30.6 +0.8**
NBMO S **S 16 30 56.8 -0.4**
NPGB Novo Progresso 53.41 325 *e*P **P 16 23 30.2 +0.2**
NPGB Novo Progresso 53.41 325 P **P 16 23 30.7 +0.7**
NPGB S **S 16 30 53.8 -3.7**
MOPA Mopani 53.72 78 *i*P **P 16 23 32.4 +0.2**
MUSN Musina, Limpop 53.86 76 *i*P **P 16 23 34.0 +0.7**
CASY Casey 54.13 161 P **P 16 23 35.3 +0.7**
CASY Casey 54.13 161 ⇑P **P 16 23 35.7 +1.1**
CASY Casey 54.13 161 P **P 16 23 35.9 +1.3**
CASY pP **sP 16 23 52.6 -4.8**
TUC4 UHE Tucurui 54.39 333 P **P 16 23 38.7 +1.6**
TUC4 S **S 16 31 11.6 +0.9**
SAML Samuel 54.46 315 *e*P **P 16 23 38.1 +0.5**
MATP Matopo 54.63 73 LR LR 16 44 16.2
comp=Z,3µm,18.3s,baz=206,slow=33
BLWY Bulawayo 54.92 73 *i*P **P 16 23 41.0 -0.1**
PAF Port-aux-Franc 54.99 128 P **P 16 23 42.5 +1.4**
PAF Port-aux-Franc 54.99 128 P **P 16 23 42.5 +1.4**
PAF pmax pmax
comp=Z,725nm,1.2s
PAF Port-aux-Franc 54.99 128 ⇑P **P 16 23 42.2 +1.2**
KSANE Kasane 55.02 68 *i*P **P 16 23 41.9 +0.1**
TMAB Tom-Au,PA,Br 55.85 335 *e*P **P 16 23 49.4 +1.8**
TMAB Tom-Au,PA,Br 55.85 335 P **P 16 23 49.5 +1.9**
TMAB S **S 16 31 33.3 +3.0**
BMO2 UHE Belo Monte 55.91 331 P **P 16 23 49.8 +1.7**
BMO2 S **S 16 31 32.0 +0.9**
BMO1 UHE Belo Monte 56.03 331 P **P 16 23 50.4 +1.5**
ITTB Itaituba 56.05 326 *e*P **P 16 23 50.0 +1.0**
ITTB Itaituba 56.05 326 P **P 16 23 49.9 +0.8**
ITTB S **S 16 31 31.6 -1.4**
DRV Dumont d'Urvil 57.36 174 P **P 16 23 58.4 +0.7**
MAL2 Monte Alegre, 57.80 328 P **P 16 24 02.8 +1.4**
NNA Nana 57.86 299 P **P 16 24 02.6 +0.7**
NNA Nana 57.86 299 P **P 16 24 02.9 +1.0**
comp=Z,403nm,0.9s,baz=173,slow=6.0,SNR=109
NNA LR LR 16 50 50.9
comp=Z,5µm,20.0s,baz=140,slow=38
comp=Z,403nm,0.9s
NNA Nana 57.86 299 *d*iP **P 16 24 02.5 +0.6**
NNA pmax pmax
comp=Z,1µm,1.0s
NNA Nana 57.86 299 ⇓P **P 16 24 02.8 +0.8**
NNA Nana 57.86 299 P **P 16 24 02.7 +0.8**
LSZ Lusaka 58.70 70 P **P 16 24 07.9 0.0**
LSZ IAmb IAmb 16 24 09.9
comp=Z,199nm,0.9s
LSZ Lusaka 58.70 70 LR LR 16 47 22.4
comp=Z,14µm,18.6s,baz=210,slow=34
LSZ Lusaka 58.70 70 P **P 16 24 08.4 +0.4**
LSZ P **P 16 24 08.4 +0.4**
LSZ Lusaka 58.70 70 P **P 16 24 07.9 0.0**
LSZ pmax pmax
comp=Z,199nm,0.9s
LSZ Lusaka 58.70 70 ⇑P **P 16 24 07.9 0.0**
LSZ Lusaka 58.70 70 P **P 16 24 07.9 0.0**
MACA Manacapuru-AM 58.84 321 P **P 16 24 08.5 -0.2**
MACA Manacapuru-AM 58.84 321 *e*P **P 16 24 08.4 -0.2**
MACA Manacapuru-AM 58.84 321 P **P 16 24 08.3 -0.4**
MACA S **S 16 32 05.4 -4.2**
CZSB Cruzeiro do Su 59.61 306 P **P 16 24 13.2 -0.9**
CZSB IAmb IAmb 16 24 15.1
comp=Z,320nm,0.8s
CZSB Cruzeiro do Su 59.61 306 *e*P **P 16 24 13.4 -0.6**
CZSB Cruzeiro do Su 59.61 306 P **P 16 24 12.3 -1.7**
comp=Z,44µmcomp=Z,11µmcomp=Z,594nm,1.3s
CZSB Cruzeiro do Su 59.61 306 P **P 16 24 13.2 -0.9**
CN01 Coaracy Nunes 59.81 333 P **P 16 24 15.4 +0.1**
CN01 S **S 16 32 19.2 -2.8**
TEFE Tefe 59.99 316 *e*P **P 16 24 17.0 +0.3**
TEFE Tefe 59.99 316 P **P 16 24 16.8 +0.2**
FOMA Nahampoana Res 61.28 93 P **P 16 24 25.8 +0.5**
FOMA IAmb IAmb 16 24 48.3
comp=Z,217nm,1.2s
FOMA Nahampoana Res 61.28 93 ⇑P **P 16 24 26.1 +0.8**
FOMA Nahampoana Res 61.28 93 P **P 16 24 26.2 +0.8**
FOMA pP **sP 16 24 42.9 -5.4**
TBTG Tabatinga, AM 61.53 311 P **P 16 24 26.3 -0.8**
TBTG IAmb IAmb 16 24 27.3
comp=Z,293nm,1.0s
TBTG Tabatinga, AM 61.53 311 *e*P **P 16 24 26.5 -0.5**
TBTG Tabatinga, AM 61.53 311 P **P 16 24 24.9 -2.2**
comp=Z,8µmcomp=Z,411nm,1.1s
TBTG Tabatinga, AM 61.53 311 P **P 16 24 26.2 -0.9**
ZOMB Zomba 62.47 76 ⇑P **P 16 24 33.5 0.0**
ATAH Atahualpa 62.81 301 P **P 16 24 38.7 +2.6**
comp=Z,457nm,0.8s,baz=156,slow=4.7,SNR=248
ATAH LR LR 16 53 35.3
comp=Z,12µm,21.0s,baz=159,slow=38
comp=Z,457nm,0.8s
VOI Vohitsoka 63.60 90 P **P 16 24 41.0 0.0**
VOI Vohitsoka 63.60 90 P **P 16 24 37.8 -3.2**
SNR=8.9
VOI Vohitsoka 63.60 90 ⇑P **P 16 24 42.1 +1.1**
BOAV Boa Vista 63.97 323 P **P 16 24 43.0 -0.2**
BOAV IAmb IAmb 16 24 44.7
comp=Z,429nm,0.8s
BOAV Boa Vista 63.97 323 *e*P **P 16 24 43.4 +0.1**
BOAV Boa Vista 63.97 323 P **P 16 24 42.7 -0.6**

comp=Z,39μmcomp=Z,10μmcomp=Z,678nm,1.1s
BOAV Boa Vista 63.97 323 P **P 16 24 43.3 +0.1**
BOAV S **S 16 33 10.2 -4.3**
SGC2 Sao Gabriel da 63.98 315 P **P 16 24 42.1 -1.3**
comp=Z,40μmcomp=Z,7μmcomp=Z,369nm,1.2s
SGC2 Sao Gabriel da 63.98 315 P **P 16 24 42.5 -0.9**
SGC2 S **S 16 33 09.3 -5.3**
MDP Montagnes des 64.17 332 LR LR 16 49 49.3
comp=Z,19μm,21.0s,baz=150,slow=33
MPGF Montagnes des 64.18 332 P **P 16 24 45.4 +0.7**
MPGF PcP **PcP 16 25 18.8 -0.3**
DBIC Dimbokro 65.24 25 P **P 16 24 52.0 +0.5**
comp=Z,83nm,0.7s,baz=177,slow=6.0,SNR=74
DBIC S **S 16 33 29.2 -0.9**
comp=Z,6.7nm,1.1s,baz=190,slow=6.1,SNR=7.6
DBIC LR LR 16 48 21.4
comp=Z,11μm,19.0s,baz=190,slow=31
DBIC PKPPKP **P'P'df 16 53 33.0 +3.4**
comp=Z,25nm,1.3s,baz=23,slow=2.0,SNR=6.8
comp=Z,83nm,0.7s
DBIC Dimbokro 65.24 25 ⇓P **P 16 24 51.9 +0.4**
DBIC Dimbokro 65.24 25 P **P 16 24 52.1 +0.6**
DBIC pP **pP 16 25 08.2 +0.5**
DBIC sP **sP 16 25 15.2 +0.8**
DBIC Dimbokro 65.24 25 P **P 16 24 52.2 +0.6**
DBIC S **S 16 33 28.1 -2.0**
ACRG Accra 65.48 31 IAmb IAmb 16 25 18.3
comp=Z,188nm,1.0s
ABPO Ambohimpanom 66.14 89 P **P 16 24 58.2 +0.6**
ABPO Ambohimpanom 66.14 89 P **P 16 24 58.2 +0.6**
ABPO pmax pmax
comp=Z,178nm,1.2s
ABPO Ambohimpanom 66.14 89 ⇑P **P 16 24 59.2 +1.6**
ABPO Ambohimpanom 66.14 89 P **P 16 24 59.4 +1.7**
ABPO pP **sP 16 25 16.6 -4.1**
OPO Ambohidratompo 66.47 89 LR LR 16 49 45.4
comp=Z,18μm,18.7s,baz=332,slow=32
COHC Cochancay 67.28 302 IAmb IAmb 16 25 07.7
comp=Z,206nm,0.8s
COHC Cochancay 67.28 302 P **P 16 25 05.2 +0.5**
comp=Z,37μmcomp=Z,15μmcomp=Z,1μm,1.1s
AIS Amsterdam Isla 67.30 124 IAmb IAmb 16 25 07.0
comp=Z,446nm,0.8s
AIS Amsterdam Isla 67.30 124 P **P 16 25 06.4 +1.9**
AIS pP **sP 16 25 23.0 -4.8**
PIAT Ana Tenorio 68.10 304 P **P 16 25 11.4 +1.1**
comp=Z,40μmcomp=Z,12μmcomp=Z,770nm,1.2s
PPLP Puerto Lpez 68.81 301 P **P 16 25 14.6 +0.3**
MACC Macarena, Meta 68.90 310 P **P 16 25 13.7 -1.1**
comp=Z,40μmcomp=Z,10μmcomp=Z,446nm,2.0s
BONI La Bonita 69.04 305 P **P 16 25 15.7 -0.3**
comp=Z,38μmcomp=Z,4μmcomp=Z,144nm,2.0s
FLOC Florencia 69.19 308 IAmb IAmb 16 25 17.6
comp=Z,309nm,1.1s
FLOC Florencia 69.19 308 P **P 16 25 16.0 -0.6**
comp=Z,35μmcomp=Z,8μmcomp=Z,397nm,1.8s
RER Riviere de l'E 69.21 97 IAmb IAmb 16 25 46.3
comp=Z,418nm,1.1s
RER Riviere de l'E 69.21 97 P **P 16 25 18.7 +1.9**
RER PcP **PcP 16 25 44.2 +4.0**
OTAV Otavalo 69.28 304 P **P 16 25 17.0 -0.7**
OTAV Otavalo 69.28 304 P **P 16 25 17.0 -0.7**
OTAV pmax pmax
comp=Z,1μm,1.7s
OTAV Otavalo 69.28 304 *eP* **P 16 25 18.6 +1.0**
OTAV Otavalo 69.28 304 P **P 16 25 18.5 +0.8**
comp=Z,36μmcomp=Z,10μmcomp=Z,460nm,1.8s
OTAV Otavalo 69.28 304 ⇓P **P 16 25 18.9 +1.2**
OTAV Otavalo 69.28 304 P **P 16 25 18.7 +1.0**
OTAV PcP **PcP 16 25 42.4 +1.4**
OTAV Otavalo 69.28 304 P **P 16 25 19.2 +1.5**
OTAV S **S 16 34 19.0 -0.6**
CUSE Cuicocha Este 69.31 304 P **P 16 25 18.8 +0.9**
comp=Z,8μmcomp=Z,291nm,2.1s
TULM Tulcn-Chalpat 69.39 305 P **P 16 25 19.6 +1.2**
comp=Z,42μmcomp=Z,14μmcomp=Z,968nm,1.2s
PAC1 Pacto, Paraso 69.46 304 P **P 16 25 18.9 +0.5**
comp=Z,33μmcomp=Z,11μmcomp=Z,615nm,1.7s
CMBC Cumbal 69.61 305 P **P 16 25 21.8 +2.1**
GARC Garzon, Huila 69.66 308 P **P 16 25 19.4 -0.4**
comp=Z,41μmcomp=Z,8μmcomp=Z,367nm,0.9s
CRUC La Cruz 69.76 306 P **P 16 25 22.1 +1.6**
MCQ Macquarie Isla 69.77 184 P **P 16 25 21.6 +1.9**
comp=Z,443nm,1.3s
MCQ Macquarie Isla 69.77 184 P **P 16 25 21.5 +1.9**
PTGC Puerto Gaitan, 70.02 312 P **P 16 25 20.5 -1.2**
comp=Z,38μmcomp=Z,8μmcomp=Z,196nm,0.9s
BBAC Balboa, Cauca 70.30 306 P **P 16 25 22.7 -1.0**
comp=Z,39μmcomp=Z,6μmcomp=Z,282nm,1.0s
POPC Popayan, Colom 70.50 307 P **P 16 25 24.7 -0.2**
comp=Z,38μmcomp=Z,9μmcomp=Z,356nm,2.0s
VILC Villavicencio, 70.60 311 P **P 16 25 25.1 -0.3**
comp=Z,2μmcomp=Z,187nm,0.8s
PRAC Prado 70.75 309 P **P 16 25 25.8 -0.4**
comp=Z,34μmcomp=Z,13μmcomp=Z,552nm,1.7s
TUMC Tumaco 70.80 305 P **P 16 25 25.6 -0.8**
TUMC IAmb IAmb 16 25 28.9
comp=Z,404nm,1.1s
BBTS Babate 70.99 12 LR LR 16 48 59.8
comp=Z,11μm,22.0s,baz=68,slow=29
CHIC Chingaza 71.08 311 P **P 16 25 26.9 -1.7**
comp=Z,40μmcomp=Z,8μmcomp=Z,177nm,1.8s
ORTC Ortega, Tolima 71.09 309 P **P 16 25 28.1 -0.1**
comp=Z,39μmcomp=Z,16μmcomp=Z,1μm,1.1s
ROSC El Rosal 71.52 310 IAmb IAmb 16 25 34.9
comp=Z,268nm,0.9s
ROSC El Rosal 71.52 310 P **P 16 25 32.0 +0.8**
comp=Z,178nm,0.9s,baz=158,slow=3.4,SNR=71
ROSC LR LR 16 57 23.2
comp=Z,12μm,21.7s,baz=162,slow=36
comp=Z,178nm,0.9s
ROSC El Rosal 71.52 310 P **P 16 25 30.9 -0.3**
comp=Z,38μmcomp=Z,9μmcomp=Z,447nm,1.6s
GR1C Gorgona, Isla 71.58 306 P **P 16 25 31.4 +0.2**
YOTC Yotoco, Valle 71.64 308 P **P 16 25 30.1 -1.5**
comp=Z,37μmcomp=Z,5μmcomp=Z,214nm,0.9s
TAMC Tame, Arauca 71.90 314 P **P 16 25 33.2 +0.1**
comp=Z,46μmcomp=Z,13μmcomp=Z,602nm,1.2s
RUSC La Rusia 71.94 312 IAmb IAmb 16 25 35.1
comp=Z,628nm,1.3s
RUSC La Rusia 71.94 312 P **P 16 25 32.8 -1.1**
comp=Z,38μmcomp=Z,10μmcomp=Z,487nm,1.6s
TRN Trinidad (W) 71.99 325 *eP* **P 16 25 30.8 -2.7**
MALC Bahia Malaga 72.10 307 P **P 16 25 35.6 +1.3**
SBV Sambava 72.14 88 P **P 16 25 33.8 -0.7**
SNR=10
SBV Sambava 72.14 88 ⇑P **P 16 25 36.5 +2.0**
GUY2C Guyana, Caldas 72.31 310 P **P 16 25 35.0 -1.1**
comp=Z,36μmcomp=Z,6μmcomp=Z,230nm,2.0s
MBAR Mbarara 72.46 64 P **P 16 25 35.8 -0.9**
MBAR Mbarara 72.46 64 P **P 16 25 37.8 +1.2**
MBAR P **P 16 25 37.8 +1.2**
MBAR Mbarara 72.46 64 *c iP* **P 16 25 34.7 -1.9**
MBAR pmax pmax
comp=Z,211nm,1.9s
MBAR Mbarara 72.46 64 ⇑P **P 16 25 39.1 +2.5**
BARC Barichara 72.62 312 P **P 16 25 34.8 -2.8**
comp=Z,1μm,1.9s
PCRV Puerto La Cruz 72.63 322 LR LR 16 57 48.0
comp=Z,17μm,22.0s,slow=36
BAUV El Baul 72.72 318 P **P 16 25 36.5 -1.4**
BAUV El Baul 72.72 318 *eP* **P 16 25 37.0 -0.9**
PIZC Pizarro, Choco 72.96 308 P **P 16 25 40.5 +1.1**
comp=Z,14μmcomp=Z,583nm,1.9s
PAMC Pamplona, Colo 73.09 313 P **P 16 25 39.2 -1.5**
PTBC PUERTO BERRIO, 73.10 311 P **P 16 25 37.9 -2.3**
comp=Z,3μmcomp=Z,371nm,0.8s
CBOC Ciudad Bolivar 73.17 309 P **P 16 25 39.1 -1.7**
comp=Z,32μmcomp=Z,7μmcomp=Z,184nm,1.3s
TOA0 Torodi Ar. Sit 73.17 30 P **P 16 25 41.3 +0.8**
SNR=27
TOA0 P **P 16 25 41.3 +0.8**
SNR=27
TORD Torodi Ar. Bea 73.17 30 P **P 16 25 40.6 +0.1**
TORD IAmb IAmb 16 25 47.2
comp=Z,156nm,0.7s
TORD Torodi Ar. Bea 73.17 30 P **P 16 25 41.4 +0.9**
comp=Z,114nm,0.4s,baz=199,slow=6.0,SNR=2.9
TORD LR LR 16 52 57.0
comp=Z,7μm,19.5s,baz=202,slow=32
comp=Z,114nm,0.4s
HELC Santa Helena 73.25 310 P **P 16 25 38.9 -2.6**
comp=Z,33μmcomp=Z,4μmcomp=Z,105nm,1.4s
GRFF Grenada Fort F 73.41 325 *eP* **P 16 25 42.1 +0.1**
GRGR Grenville 73.47 325 *eP* **P 16 25 42.1 -0.2**
GRGR Grenville 73.47 325 P **P 16 25 41.2 -1.1**
comp=Z,30μmcomp=Z,15μmcomp=Z,933nm,1.5s
GRGR Grenville 73.47 325 ⇑P **P 16 25 43.3 +1.0**
GRW Mount Saint Ca 73.49 325 *eP* **P 16 25 42.8 +0.3**
GRSS Sisters 73.61 326 *eP* **P 16 25 42.1 -1.0**
SDV Santo Domingo 73.66 316 P **P 16 25 42.4 -1.3**
SDV IAmb IAmb 16 25 45.7
comp=Z,390nm,0.8s
SDV Santo Domingo 73.66 316 P **P 16 25 44.3 +0.6**
comp=Z,420nm,0.8s,baz=164,slow=3.9,SNR=320
SDV LR LR 16 57 45.6
comp=Z,36μm,21.6s,baz=158,slow=35
comp=Z,420nm,0.8s
SDV Santo Domingo 73.66 316 *eP* **P 16 25 44.4 +0.6**
SDV Santo Domingo 73.66 316 P **P 16 25 43.9 +0.2**
comp=Z,42μmcomp=Z,10μmcomp=Z,627nm,1.2s
SDV Santo Domingo 73.66 316 P **P 16 25 44.2 +0.6**
SDV S **SKiKP 16 35 04.8 -2.6**
GCMP Grenada, Carri 73.73 326 *eP* **P 16 25 43.9 +0.1**
BBGH Gun Hill 73.77 328 *eP* **P 16 25 46.2 +2.1**
ZARC Zaragoza, Cauc 74.13 311 P **P 16 25 43.6 -2.6**
comp=Z,7μmcomp=Z,362nm,1.0s
OCAC Ocna 74.16 313 P **P 16 25 44.2 -2.4**
comp=Z,31μmcomp=Z,7μmcomp=Z,342nm,1.1s
DBBC Dabeiba 74.28 310 P **P 16 25 46.9 -0.3**
SVT Saint Vincent 74.31 326 *eP* **P 16 25 44.1 -3.0**
PAYG Puerto Ayora 74.32 293 P **P 16 25 47.4 -0.1**
PAYG IAmb IAmb 16 25 49.8
comp=Z,347nm,1.2s
SVB Belmont 74.41 326 *eP* **P 16 25 46.8 -1.0**
UREC San Jos de Ur 74.65 311 P **P 16 25 46.7 -2.5**
comp=Z,35μmcomp=Z,6μmcomp=Z,263nm,1.1s
KIBK Kibwezi 74.77 71 P **P 16 25 52.4 +2.2**
KIBK Kibwezi 74.77 71 P **P 16 25 50.9 +0.8**
SNR=44
SLAC Saint Lucia, A 74.89 327 *eP* **P 16 25 50.3 -0.2**
SLBI Saint Lucia, B 75.03 327 *eP* **P 16 25 50.7 -0.7**
PTAC Punta Ardita, 75.10 308 P **P 16 25 51.6 -0.2**
comp=Z,15μmcomp=Z,1μm,1.1s
APAC Apartado, Choc 75.23 310 P **P 16 25 52.9 +0.3**
comp=Z,43μmcomp=Z,8μmcomp=Z,464nm,1.1s
KMBO Kilima Mbogo 75.37 70 P **P 16 25 55.0 +1.2**
comp=Z,7.8nm,0.8s,baz=204,slow=6.1,SNR=25
KMBO LR LR 16 57 34.0
comp=Z,14μm,18.6s,baz=195,slow=34
KMBO Kilima Mbogo 75.37 70 P **P 16 25 55.0 +1.2**
KMBO P **P 16 25 55.0 +1.2**
KMBO Kilima Mbogo 75.37 70 *c iP* **P 16 25 50.7 -3.1**
MPOM Morne Pois Mar 75.39 327 IAmb IAmb 16 25 57.3
comp=Z,1μm,1.9s
BIM Bigot 75.53 327 IAmb IAmb 16 25 58.0
comp=Z,608nm,0.9s
BIM Bigot 75.53 327 *eP* **P 16 25 52.6 -1.7**
FDF Fort de France 75.75 327 ⇓P **P 16 25 56.9 +1.4**
SVN Savane Anatole 75.86 327 *eP* **P 16 25 53.0 -3.1**
SVN Savane Anatole 75.86 327 *eP* **P 16 25 56.7 +0.6**
ARGC Arigani, Magd 76.00 313 P **P 16 25 57.0 0.0**
comp=Z,40μmcomp=Z,15μmcomp=Z,734nm,1.1s
MDN Morne-Daniel 76.38 327 *eP* **P 16 26 00.0 +1.0**
ACHO3 Achotines, Los 76.40 306 *eP* **P 16 25 58.1 -1.1**
SJCC San Jacinto, C 76.43 312 P **P 16 25 58.5 -0.9**
comp=Z,44μmcomp=Z,10μmcomp=Z,598nm,1.2s
CRJC Cerrejon, Guaj 76.50 314 P **P 16 25 57.7 -2.2**
comp=Z,31μmcomp=Z,5μmcomp=Z,359nm,0.7s
DSLB Salisbury 76.57 327 *eP* **P 16 26 01.3 +1.6**
APZ The Paps 76.72 191 P **P 16 26 01.9 +1.2**
URIC Uribia, Colomb 76.76 313 P **P 16 25 58.8 -2.4**
comp=Z,30μmcomp=Z,3μmcomp=Z,107nm,1.0s
AZU Azuero 76.77 306 P **P 16 26 00.8 -0.5**
comp=Z,37μmcomp=Z,6μmcomp=Z,178nm,2.1s
AZU Azuero 76.77 306 ⇓*iP* **P 16 26 02.2 +0.9**
SYZ Scrubby Hill 76.88 192 P **P 16 26 03.8 +2.2**
SYZ Scrubby Hill 76.88 192 P **P 16 26 02.2 +0.6**
TBG Guadaloupe-3 76.96 327 *eP* **P 16 26 02.4 +0.1**
SMRC Santa Marta, M 77.17 313 IAmb IAmb 16 26 05.8
comp=Z,368nm,0.8s
SMRC Santa Marta, M 77.17 313 P **P 16 26 03.5 -0.1**
comp=Z,36μmcomp=Z,8μmcomp=Z,476nm,0.7s
GMAL Guarumal, Vera 77.19 305 P **P 16 26 03.9 +0.2**
comp=Z,12μmcomp=Z,248nm,2.0s
GMAL Guarumal, Vera 77.19 305 *eP* **P 16 26 04.8 +1.2**
GDSD La Dsirade Is 77.22 327 IAmb IAmb 16 26 07.7
comp=Z,331nm,1.0s
CTZ Chatham Island 77.22 203 P **P 16 26 03.5 -0.1**
CTZ IAmb IAmb 16 26 06.8
comp=Z,209nm,1.2s
CTZ Chatham Island 77.22 203 P **P 16 26 04.4 +0.8**
CTZ Chatham Island 77.22 203 P **P 16 26 04.4 +0.8**
TUZ Tuapeka 77.40 192 P **P 16 26 05.1 +0.6**
PYZ Puysegur Point 77.51 190 IAmb IAmb 16 26 07.5
comp=Z,295nm,1.3s
PYZ Puysegur Point 77.51 190 P **P 16 26 06.2 +1.0**
CHOR3 La Chorrera 77.52 307 *eP* **P 16 26 06.6 +1.0**
ARRA3 Arraijan, Pana 77.53 307 *eP* **P 16 26 06.2 +0.7**
ZANG Zanguenga, Cho 77.62 307 ⇓*iP* **P 16 26 06.9 +0.8**
WHZ Wether Hill Ro 77.65 191 IAmb IAmb 16 26 08.4
comp=Z,387nm,1.3s
WHZ Wether Hill Ro 77.65 191 P **P 16 26 06.5 +0.5**
FRIJ El Hiral 77.79 307 *eP* **P 16 26 07.7 +0.7**
BCIP Isla Barro Col 77.79 307 IAmb IAmb 16 26 08.6
comp=Z,262nm,1.2s
BCIP Isla Barro Col 77.79 307 P **P 16 26 06.1 -0.9**
comp=Z,9μmcomp=Z,357nm,1.9s
BCIP Isla Barro Col 77.79 307 ⇓*iP* **P 16 26 07.7 +0.6**
BCIP Isla Barro Col 77.79 307 ⇓P **P 16 26 07.7 +0.6**
MLYT Lee's Yard 77.95 326 *eP* **P 16 26 08.2 +0.3**
MBFL Flemmings, Mon 77.98 326 *eP* **P 16 26 08.2 +0.2**
ANBD Bethesda, Anti 78.12 327 *eP* **P 16 26 10.0 +1.3**
EAZ Earnscleugh 78.15 192 P **P 16 26 09.5 +0.8**
MLZ Mavora Lakes 78.15 191 IAmb IAmb 16 26 11.8
comp=Z,303nm,1.3s
MLZ Mavora Lakes 78.15 191 P **P 16 26 09.7 +0.9**
DCZ Deep Cove 78.16 191 P **P 16 26 09.1 +0.3**
ODZ Otahua Downs 78.17 193 P **P 16 26 10.2 +1.4**
ODZ Otahua Downs 78.17 193 P **P 16 26 10.2 +1.4**
ODZ Otahua Downs 78.17 193 ⇑P **P 16 26 10.7 +1.9**
LODK Lodwar 78.25 66 P **P 16 26 11.5 +1.7**
SNR=37
DVD David 78.34 305 *eP* **P 16 26 12.2 +2.1**
WKZ Wanaka 78.58 192 IAmb IAmb 16 26 22.2
comp=Z,202nm,0.9s
WKZ Wanaka 78.58 192 P **P 16 26 11.8 +0.7**
CHGR2 Aguacate 78.64 305 *eP* **P 16 26 13.1 +1.4**
ANWB Willy Bob 78.72 327 IAmb IAmb 16 26 14.1
comp=Z,514nm,1.0s
ANWB Willy Bob 78.72 327 *eP* **P 16 26 10.2 -1.8**
ANWB Willy Bob 78.72 327 ⇓P **P 16 26 12.5 +0.5**
PIRO Carate, Puerto 78.72 304 ⇓*iP* **P 16 26 13.6 +1.4**
BC3P Paso Ancho 78.75 305 *eP* **P 16 26 13.5 +0.9**
NELY Ciudad Neily 78.76 304 ⇓*eP* **P 16 26 14.4 +2.1**
BRU2 Volcan 78.77 305 IAmb IAmb 16 26 21.2
comp=Z,237nm,1.1s
BRU2 Volcan 78.77 305 *eP* **P 16 26 13.6 +1.0**
TMZ Timaru 78.77 194 P **P 16 26 12.5 +0.3**
JIME Puerto Jimenez 78.83 304 *eP* **P 16 26 14.9 +2.1**
MSZ Milford Sound 78.86 191 P **P 16 26 13.2 +0.6**
EDAD Golfito 78.86 304 ⇓*iP* **P 16 26 14.3 +1.3**
LBZ Lake Benmore 78.87 193 P **P 16 26 13.8 +1.1**
VITO San Vito 78.92 304 *eP* **P 16 26 15.8 +2.4**
SEUS St. Eustatius 78.92 326 IAmb IAmb 16 26 15.3
comp=Z,516nm,0.8s
ALCO Alturas Coton, 78.97 305 *eP* **P 16 26 14.4 +0.7**
EDP2 Potrero Grande 79.19 304 ⇓*iP* **P 16 26 16.7 +2.0**
MQZ McQueen's Vall 79.20 195 IAmb IAmb 16 26 16.8
comp=Z,422nm,1.4s
MQZ McQueen's Vall 79.20 195 P **P 16 26 13.9 -0.6**
FIMO Fila Mora 79.24 304 ⇓*iP* **P 16 26 16.7 +1.5**
JCZ Jackson Bay 79.35 192 P **P 16 26 17.3 +1.8**
JCZ Jackson Bay 79.35 192 P **P 16 26 17.1 +1.7**
RPZ Rata Peaks 79.42 194 IAmb IAmb 16 26 18.1
comp=Z,341nm,1.4s
RPZ Rata Peaks 79.42 194 P **P 16 26 16.4 +0.6**
DRK0 Durika 79.43 304 ⇓*iP* **P 16 26 17.4 +1.1**
DRK0 Durika 79.43 304 *eP* **P 16 26 17.6 +1.3**
SMRT St. Maarten 79.47 326 IAmb IAmb 16 26 17.1
comp=Z,307nm,0.9s
SAJE San Jernim 79.63 304 ⇓*iP* **P 16 26 18.7 +1.4**
OXZ Oxford 79.66 195 IAmb IAmb 16 26 19.3
comp=Z,299nm,1.4s
OXZ Oxford 79.66 195 P **P 16 26 18.0 +1.0**
AMCZ Amberley 79.72 195 P **P 16 26 19.8 +2.4**
FOZ Fox Glacier 79.76 193 P **P 16 26 18.4 +0.9**
GVZ Greta Valley S 79.87 195 IAmb IAmb 16 26 21.2
comp=Z,424nm,1.1s
GVZ Greta Valley S 79.87 195 P **P 16 26 20.0 +1.8**
LLNJ Naranjito 80.02 304 ⇓*eP* **P 16 26 20.8 +1.5**
PIEC Cerro El Cedra 80.08 304 ⇓*eP* **P 16 26 21.2 +1.4**
WVZ Waitaha Valley 80.09 194 P **P 16 26 20.9 +1.6**
LTZ Lake Taylor 80.16 195 IAmb IAmb 16 26 23.4
comp=Z,354nm,1.1s
LTZ Lake Taylor 80.16 195 P **P 16 26 20.3 +0.4**
PISJ San Jernim 80.17 304 ⇓*iP* **P 16 26 21.2 +1.0**
PICV PH. Pirrs 80.19 304 ⇓*eP* **P 16 26 21.2 +1.0**
ABE2 San Pablo 80.20 304 *eP* **P 16 26 22.7 +2.2**
LCR2 La Lucha 2 80.21 304 IAmb IAmb 16 26 23.1
comp=Z,398nm,0.9s
LCR2 La Lucha 2 80.21 304 ⇓*eP* **P 16 26 21.6 +1.1**
VERB Verbena 80.24 304 *eP* **P 16 26 21.9 +1.3**
RVSTA Santa Teresita 80.25 304 *eP* **P 16 26 22.2 +1.6**
IRES Siquirres 80.28 304 *eP* **P 16 26 22.4 +1.8**
CVTV Tajo 80.32 304 ⇓*iP* **P 16 26 22.6 +1.3**
CVTQ Turrialba Volc 80.33 304 ⇓*iP* **P 16 26 22.9 +1.6**
KHZ Kahutara 80.33 196 IAmb IAmb 16 26 22.6
comp=Z,329nm,1.5s
KHZ Kahutara 80.33 196 P **P 16 26 21.5 +0.9**
KHZ Kahutara 80.33 196 ⇓P **P 16 26 21.5 +0.9**
RVLA Villa Bonita 80.33 304 ⇓*eP* **P 16 26 22.2 +1.3**
VTR0 Volcan Turrial 80.33 304 ⇓*iP* **P 16 26 23.2 +1.7**
CVTR Volcan Turrial 80.34 304 ⇓*iP* **P 16 26 22.8 +1.4**
INZ Inchbonnie 80.34 194 IAmb IAmb 16 26 22.4
comp=Z,352nm,1.5s
INZ Inchbonnie 80.34 194 P **P 16 26 20.5 -0.1**
TRIO Tres Rios 80.34 304 ⇓*eP* **P 16 26 22.6 +1.4**
VICA Volcano Irazu 80.34 304 ⇓*eP* **P 16 26 23.0 +1.5**
AMPA Desamparados 80.37 304 *eP* **P 16 26 22.2 +0.9**
PDPR Patillas Dam, 80.40 323 P **P 16 26 21.0 -0.2**
CVIMO Finca Echandi 80.42 304 ⇓*eP* **P 16 26 23.4 +1.7**
CVTG V. Turrialba, 80.45 304 ⇓*iP* **P 16 26 23.2 +1.6**
HDC Heredia 80.48 304 *eP* **P 16 26 23.4 +1.5**
HDC Heredia 80.48 304 ⇓*iP* **P 16 26 23.8 +1.9**
HEME Heredia, Merce 80.49 304 *eP* **P 16 26 23.8 +1.8**
BELE Belen 80.50 304 *eP* **P 16 26 22.6 +0.7**
PILE Guapiles 80.52 304 ⇓*iP* **P 16 26 24.8 +2.9**
SJG San Juan 80.53 323 LR LR 17 02 17.8
comp=Z,7μm,21.9s,baz=146,slow=36
SJG San Juan 80.53 323 *eP* P 16 26 17.6 -4.2
SJG San Juan 80.53 323 P **P 16 26 21.4 -0.4**
comp=Z,12μmcomp=Z,69nm,1.8s
TRB2 Turrubares 80.56 304 ⇓*eP* **P 16 26 23.3 +1.1**
TCS1 Tacares 80.61 304 *eP* **P 16 26 24.7 +2.2**
CELP Cerrillos 80.64 323 P **P 16 26 20.7 -1.7**
VPS8 V Poas 80.70 304 ⇓*iP* **P 16 26 24.8 +1.5**
VPS5 V. Poas 80.70 304 ⇓*iP* **P 16 26 24.9 +1.6**
PAQE Paquera 80.71 303 *eP* **P 16 26 24.1 +1.2**
CRPR Cabo Rojo, PR 80.76 322 IAmb IAmb 16 26 49.0
comp=Z,352nm,1.2s
JCR1 Jicaral 80.82 303 ⇓*eP* **P 16 26 25.6 +1.9**
VPL2 V. Platanar 80.88 304 ⇓*iP* **P 16 26 26.0 +2.0**
PLWZ Palliser 80.88 197 P **P 16 26 24.1 +0.4**
ITAL Pital 80.95 304 *eP* **P 16 26 26.0 +1.8**
AOPR Arecibo Observ 80.95 323 IAmb IAmb 16 26 24.8
comp=Z,517nm,1.9s
AOPR Arecibo Observ 80.95 323 *eP* P 16 26 20.0 -4.2
BSWZ Blackbirch Sta 80.96 196 P **P 16 26 25.0 +0.9**
SOCE Pocosol 81.05 304 IAmb IAmb 16 26 34.6
comp=E,579nm,1.1s
SOCE Pocosol 81.05 304 ⇓*iP* **P 16 26 26.0 +1.2**
THZ Tophouse 81.07 196 IAmb IAmb 16 26 35.6
comp=Z,212nm,0.6s
THZ Tophouse 81.07 196 P **P 16 26 25.9 +1.2**
MTEVE Monteverde 81.10 303 ⇓*eP* **P 16 26 27.3 +1.8**
CMARA Lajas Hojancha 81.12 303 ⇓*iP* **P 16 26 26.3 +1.1**
JUNT Juntas 81.13 303 *eP* **P 16 26 26.4 +1.2**
JTS Las Juntas de 81.13 303 P **P 16 26 25.7 +0.5**
JTS IAmb IAmb 16 26 29.3
comp=Z,562nm,1.1s
JTS Las Juntas de 81.13 303 P **P 16 26 26.5 +1.3**
comp=Z,273nm,1.0s,baz=171,slow=3.2,SNR=89
JTS LR LR 17 04 07.7
comp=Z,3μm,21.9s,baz=124,slow=37
comp=Z,273nm,1.0s
JTS Las Juntas de 81.13 303 ⇓*iP* **P 16 26 26.3 +1.1**
JTS Las Juntas de 81.13 303 ⇓*iP* **P 16 26 25.9 +0.7**
JTS Las Juntas de 81.13 303 ⇓P **P 16 26 26.4 +1.1**
ARE1 Arenal 1 81.17 304 ⇓*iP* **P 16 26 26.5 +1.1**
VARE2 V. Arenal 81.17 304 ⇓*iP* **P 16 26 26.6 +1.1**
CEDE Laguna Cedeo 81.19 304 *eP* **P 16 26 27.0 +1.4**
TMWZ Te Maipa 81.22 198 P **P 16 26 27.1 +1.6**
SNZO South Karori 81.22 197 P **P 16 26 25.6 +0.1**
SNZO IAmb IAmb 16 26 31.5
comp=Z,290nm,0.8s
SNZO South Karori 81.22 197 P **P 16 26 27.0 +1.6**
SNZO South Karori 81.22 197 ⇑P **P 16 26 26.6 +1.2**
SNZO South Karori 81.22 197 S **S 16 37.8 -2.6**
NICO Nicoya 81.23 303 ⇓*iP* **P 16 26 27.9 +2.2**
TUWZ Tuamarina 81.23 196 P **P 16 26 26.8 +1.3**
DSZ Denniston Nort 81.25 195 IAmb IAmb 16 26 26.9
comp=Z,436nm,1.2s
DSZ Denniston Nort 81.25 195 P **P 16 26 24.8 -0.9**
CNAS Canas 81.32 303 *eP* **P 16 26 27.6 +1.4**
CAW Cannon Point 81.36 197 P **P 16 26 27.4 +1.2**
PLVR Palo Verde 81.37 303 ⇓*iP* **P 16 26 27.9 +1.3**
TCW Tory Channel 81.39 197 P **P 16 26 26.9 +0.5**
TAU Tasmania Unive 81.42 176 P **P 16 26 25.7 -0.7**
TAU IAmb IAmb 16 26 29.2
comp=Z,368nm,0.8s
TAU Tasmania Unive 81.42 176 P **P 16 26 25.7 -0.7**
TAU pmax pmax
comp=Z,368nm,0.9s
TAU Tasmania Unive 81.42 176 ⇑P **P 16 26 27.2 +0.8**
MRNZ Matariki Terra 81.44 196 P **P 16 26 27.5 +0.9**
BAGA Bagaces 81.48 303 *eP* **P 16 26 29.2 +2.2**
HOWZ Holdsworth Sta 81.49 198 P **P 16 26 27.5 +0.6**
TENO El Achiote 81.50 303 ⇓*eP* **P 16 26 27.9 +0.7**
NNZ Nelson 81.53 196 IAmb IAmb 16 26 29.2
comp=Z,878nm,1.6s
NNZ Nelson 81.53 196 P **P 16 26 27.4 +0.4**
CUI Cuipilapa 81.55 303 *eP* **P 16 26 27.9 +0.5**
BFZ Birch Farm 81.57 198 IAmb IAmb 16 26 33.5
comp=Z,721nm,1.8s
BFZ Birch Farm 81.57 198 P **P 16 26 28.3 +1.0**
BFZ Birch Farm 81.57 198 P **P 16 26 28.2 +0.9**
COLC Colonia 81.58 303 *eP* **P 16 26 28.1 +0.5**
VERA Finca Concepci 81.58 304 *eP* **P 16 26 28.4 +0.8**
HORNC Hornillas 81.61 303 *eP* **P 16 26 28.1 +0.3**
OGWZ Otaki Gorge 81.63 197 P **P 16 26 28.7 +1.1**
ALIBA Liberia Airpor 81.67 303 *eP* **P 16 26 28.9 +0.9**
MRZ Mangatainoka R 81.71 198 IAmb IAmb 16 26 30.2
comp=Z,523nm,1.6s
MRZ Mangatainoka R 81.71 198 P **P 16 26 28.7 +0.6**
GPS2 Hotel Rincn d 81.72 303 *eP* **P 16 26 28.9 +0.5**
ELI1 Hacienda Flor 81.72 303 ⇓*iP* **P 16 26 29.9 +1.6**
VRLE La Escondida, 81.76 303 ⇓*iP* **P 16 26 28.4 -0.2**
TKNZ Takaka Hill 81.77 196 P **P 16 26 28.2 -0.2**
VORI VORI 81.78 303 ⇓*iP* **P 16 26 29.5 +0.7**
PEJA Penjamo Buenos 81.83 303 ⇓*eP* **P 16 26 28.9 0.0**
DUWZ D'Urville Isla 81.85 197 P **P 16 26 30.2 +1.4**
MOO Moorlands 81.89 176 P **P 16 26 29.6 +0.6**
comp=Z,0.0nmcomp=Z,589nm,1.4s
MOO Moorlands 81.89 176 P **P 16 26 30.4 +1.5**
PRHZ Porangahau 81.91 199 P **P 16 26 30.0 +1.0**
POWZ Post Office Ro 81.94 198 P **P 16 26 30.0 +0.8**
DVHZ Dannevirke 81.96 198 P **P 16 26 30.4 +1.0**
QRZ Quartz Range 82.04 196 IAmb IAmb 16 26 32.0
comp=Z,903nm,1.9s
QRZ Quartz Range 82.04 196 P **P 16 26 28.8 -1.0**
BLUN Bluefields 82.08 305 P **P 16 26 29.3 -0.9**
comp=Z,6μmcomp=Z,326nm,1.9s
TSZ Takapari Road 82.23 198 P **P 16 26 32.0 +1.2**
BANI BANI 82.26 320 IAmb IAmb 16 26 32.7
comp=Z,372nm,0.9s
ESPN Las Esperanzas 82.49 305 IAmb IAmb 16 26 33.8
comp=Z,359nm,0.8s
ESPN Las Esperanzas 82.49 305 P **P 16 26 31.3 -1.0**
comp=Z,8μmcomp=Z,551nm,1.2s
ESPN Las Esperanzas 82.49 305 ⇓*iP* **P 16 26 32.7 +0.4**
ACON Acoyapa 82.70 304 P **P 16 26 32.4 -1.0**
comp=Z,13μmcomp=Z,1μm,1.1s
ACON Acoyapa 82.70 304 *eP* **P 16 26 33.5 +0.2**
CORO Coronation Par 82.87 176 P **P 16 26 36.2 +2.2**
BKZ Black Stump Fm 83.00 199 P **P 16 26 35.9 +1.0**
BKZ IAmb IAmb 16 26 37.7
comp=Z,398nm,1.6s
BKZ Black Stump Fm 83.00 199 P **P 16 26 36

SDDR Presa de Saban 83.14 319 IAmb IAmb 16 26 37.8
comp=Z,167nm,0.8s
SDDR Presa de Saban 83.14 319 *e*P **P** **16 26 35.6 -0.1**
SDDR Presa de Saban 83.14 319 ⇓P **P** **16 26 35.6 -0.1**
NGZ Ngauruhoe 83.15 198 P **P** **16 26 36.6 +0.8**
NEZ North Egmont 83.31 197 P **P** **16 26 37.2 +0.6**
VRZ Vera Road 83.35 198 P **P** **16 26 36.5 -0.1**
SC01 Santiago de Io 83.35 320 IAmb IAmb 16 26 38.7
comp=Z,478nm,0.8s
BOAB BOACO BROADBAND 83.35 304 P **P** **16 26 37.0 +0.2**
BOAB BOACO BROADBAND 83.35 304 P **P** **16 26 36.5 -0.2**
BOAB BOACO BROADBAND 83.35 304 ⇓P **P** **16 26 36.6 -0.1**
MGAN Managua 83.36 303 P **P** **16 26 36.0 -0.8**
comp=Z,414nm,0.9s
MGAN Managua 83.36 303 ⇓*e*P **P** **16 26 36.2 -0.6**
GLAD Gladstone 83.37 177 P **P** **16 26 38.3 +1.7**
TAM Tamanrasset 83.41 31 ⇓P **P** **16 26 39.3 +2.3**
RTZ Ruatahuna 83.45 199 IAmb IAmb 16 26 39.9
comp=Z,545nm,1.4s
RTZ Ruatahuna 83.45 199 P **P** **16 26 38.3 +1.1**
MWZ Matawai 83.61 200 P **P** **16 26 38.8 +0.8**
PUZ Puketiti 83.73 200 P **P** **16 26 40.0 +1.4**
URZ Urewera 83.77 200 LR LR 17 00 36.9
comp=Z,5μm,19.4s,baz=249,slow=33
URZ Urewera 83.77 200 P **P** **16 26 40.0 +1.3**
URZ Urewera 83.77 200 P **P** **16 26 40.0 +1.3**
URZ Urewera 83.77 200 ⇑P **P** **16 26 39.2 +0.5**
CNGN Cerro Negro 83.88 303 *e*P **P** **16 26 37.8 -1.7**
H01W2 Cape Leeuwin H 83.89 149 P **P** **16 26 40.6 +1.5**
baz=186,slow=6.3,SNR=16
H01W1 Cape Leeuwin H 83.90 149 P **P** **16 26 40.3 +1.2**
baz=186,slow=6.3,SNR=16
H01W3 Cape Leeuwin H 83.90 149 P **P** **16 26 40.7 +1.5**
baz=186,slow=6.3,SNR=20
HIZ Hauiti 83.93 198 IAmb IAmb 16 26 44.5
comp=Z,146nm,0.7s
HIZ Hauiti 83.93 198 P **P** **16 26 39.2 -0.4**
TLZ Tolley Road 83.99 198 P **P** **16 26 41.0 +1.1**
HERN Volcan Telica 84.04 303 IAmb IAmb 16 26 54.9
comp=Z,444nm,1.1s
HAZ Te Kaha 84.13 200 P **P** **16 26 42.1 +1.6**
EOSO Osorio 84.35 11 P **P** **16 26 43.3 +1.7**
HOJ Hope 84.37 314 *i*P **P** **16 26 44.0 +2.2**
STH Stony Hill 84.46 314 *e*P **P** **16 26 43.5 +1.2**
STH Stony Hill 84.46 314 ⇓*i*P **P** **16 26 44.0 +1.7**
TOZ Tahuroa Road 84.57 198 P **P** **16 26 43.3 +0.5**
MCJ Malvern 84.68 313 ⇑*i*P **P** **16 26 46.0 +2.5**
MTDJ Mount Denham 84.89 313 IAmb IAmb 16 26 47.0
comp=Z,688nm,1.8s
MTDJ Mount Denham 84.89 313 ⇓*i*P **P** **16 26 46.0 +1.4**
MTDJ Mount Denham 84.89 313 ⇓P **P** **16 26 46.1 +1.6**
RKGY Rocky Gully 84.95 152 P **P** **16 26 44.8 0.0**
MASC Masc 85.34 317 *e*P **P** **16 26 46.0 -0.7**
GTBY Guantanamo Bay 85.45 316 *i*P P 16 26 42.0 -5.3
TGUH Tegucigalpa,Un 85.50 303 IAmb IAmb 16 26 49.0
comp=Z,432nm,1.2s
TGUH Tegucigalpa,Un 85.50 303 ⇓P **P** **16 26 48.2 +0.4**
QMBU Quimbuelo 85.58 317 *e*P **P** **16 26 48.0 +0.1**
RCC Rio Carpintero 85.74 316 *e*P **P** **16 26 48.9 +0.3**
GEXS Deakin Univers 85.97 174 P **P** **16 26 51.7 +1.9**
CHIV Chivirico 86.01 315 IAmb IAmb 16 26 51.9
comp=Z,198nm,1.1s
MOAC Moa 86.06 317 *e*P **P** **16 26 51.2 +1.0**
PINC Pinares de May 86.23 316 *e*P **P** **16 26 51.8 +0.7**
LMGC Las Mercedes 86.33 315 *e*P **P** **16 26 53.0 +1.4**
PILO Pilon 86.35 314 *e*P **P** **16 26 50.4 -1.4**
MLBS Spotswood, Mel 86.38 174 P **P** **16 26 53.4 +1.6**
WCZ Waipu Caves 86.52 198 P **P** **16 26 52.0 -0.5**
NWAO Narrogin (SRO) 86.60 151 P **P** **16 26 52.8 -0.2**
NWAO IAmb IAmb 16 26 58.7
comp=Z,181nm,0.9s
NWAO Narrogin (SRO) 86.60 151 LR LR 17 04 26.9
comp=Z,2μm,18.1s,baz=188,slow=35
NWAO Narrogin (SRO) 86.60 151 P **P** **16 26 53.2 +0.2**
NWAO Narrogin (SRO) 86.60 151 P **P** **16 26 52.9 -0.1**
NWAO Narrogin (SRO) 86.60 151 P **P** **16 26 53.0 -0.1**
NWAO Narrogin (SRO) 86.60 151 P **P** **16 26 52.8 -0.2**
NWAO pmax pmax
comp=Z,181nm,0.9s
TOO Toolangi 86.67 175 P **P** **16 26 54.1 +0.8**
TOO Toolangi 86.67 175 P **P** **16 26 54.0 +0.8**
TOO Toolangi 86.67 175 P **P** **16 26 54.1 +0.8**
TOO pmax pmax
comp=Z,25nm,0.9s
TOO Toolangi 86.67 175 ⇑P **P** **16 26 54.0 +0.6**
MTKN Mount Kenneth 87.13 150 P **P** **16 26 57.6 +2.0**
MUN Mundaring 87.21 150 P **P** **16 26 56.2 +0.2**
MUN Mundaring 87.21 150 P **P** **16 26 56.0 0.0**
ARPS Mount Arapiles 87.22 172 P **P** **16 26 56.4 +0.4**
ARPS Mount Arapiles 87.22 172 P **P** **16 26 57.2 +1.2**
MILA Mila 87.32 178 P **P** **16 26 58.1 +1.6**
MILA Mila 87.32 178 ⇑P **P** **16 26 56.8 +0.2**
OUZ Omahuta 87.35 197 P **P** **16 26 56.3 -0.3**
OUZ Omahuta 87.35 197 ⇑P **P** **16 26 56.3 -0.3**
KLBR Kellerberrin 88.00 151 P **P** **16 27 00.3 +0.5**
KLBR Kellerberrin 88.00 151 P **P** **16 27 00.3 +0.5**
TIO Tiouine 88.31 18 P **P** **16 27 03.2 +2.2**
BLDU Ballidu 88.64 150 P **P** **16 27 03.0 +0.2**
BLDU Ballidu 88.64 150 P **P** **16 27 03.2 +0.4**
GHSS Government Hou 88.75 169 P **P** **16 27 05.1 +1.9**
ATD Arta Tunnel 88.99 68 P **P** **16 27 06.3 +1.7**
comp=Z,1.1nm,0.9s,baz=235,slow=1.1,SNR=6.4
CAN Canberra 89.05 177 P **P** **16 27 05.8 +1.1**
CAN IAmb IAmb 16 27 07.3
comp=Z,339nm,1.5s
CAN Canberra 89.05 177 P **P** **16 27 06.5 +1.7**
CAN Canberra 89.05 177 P **P** **16 27 06.2 +1.5**
CAN Canberra 89.05 177 P **P** **16 27 05.8 +1.1**
CAN pmax pmax
comp=Z,339nm,1.5s
CAN Canberra 89.05 177 ⇑P **P** **16 27 05.7 +0.9**
CNB Canberra Magne 89.06 178 P **P** **16 27 06.6 +1.8**
CNB Canberra Magne 89.06 178 P **P** **16 27 06.7 +1.9**
KMBL Kambalda 89.28 154 P **P** **16 27 06.2 +0.4**
H08S1 Diego Carcia H 89.48 103 P P 16 27 13.7 +7.1
baz=357,slow=3.8,SNR=2.5
H08S2 Diego Garcia H 89.50 103 P P 16 27 15.6 +9.0
baz=357,slow=3.8,SNR=2.5
H08S3 Diego Garcia H 89.50 103 P P 16 27 14.5 +7.8
baz=357,slow=3.8,SNR=2.8
DGAR Diego Garcia 89.67 103 P **P** **16 27 09.4 +1.6**
DGAR Diego Garcia 89.67 103 ⇑*e*P **P** **16 27 05.8 -2.0**
DGAR pmax pmax
comp=Z,159nm,1.4s
CCIG Comitan 89.75 300 IAmb IAmb 16 27 35.6
comp=Z,146nm,0.9s
CCIG Comitan 89.75 300 ⇓P **P** **16 27 08.2 0.0**
MORW Morawa 89.90 149 P **P** **16 27 08.6 -0.2**
MORW IAmb IAmb 16 27 10.8
comp=Z,112nm,0.8s
MORW Morawa 89.90 149 P **P** **16 27 08.2 -0.6**
MORW Morawa 89.90 149 P **P** **16 27 09.0 +0.2**
MORW Morawa 89.90 149 ⇑P **P** **16 27 08.6 -0.2**
WOLH Wollongong Har 89.99 179 P **P** **16 27 10.9 +1.9**
HTT Hallett 90.26 169 P **P** **16 27 11.7 +1.3**
HTT Hallett 90.26 169 P **P** **16 27 11.6 +1.2**
HTT Hallett 90.26 169 ⇑P **P** **16 27 11.4 +1.0**
WHYH Whyalla 90.50 168 P **P** **16 27 12.4 +1.0**
BBOO Buckleboo 90.53 167 P **P** **16 27 12.0 +0.4**
BBOO Buckleboo 90.53 167 P **P** **16 27 12.5 +0.8**
BBOO Buckleboo 90.53 167 P **P** **16 27 12.4 +0.8**
RIV Riverview 90.57 179 P **P** **16 27 13.5 +1.8**
RIV Riverview 90.57 179 ⇑P **P** **16 27 13.3 +1.6**
AVE Averroes 90.60 17 P **P** **16 27 13.4 +1.9**
MDT Midelt 90.62 19 LR LR 17 03 30.1
comp=Z,9μm,18.8s,baz=204,slow=33
SYDH Sydney Hard Ro 90.63 179 P **P** **16 27 13.6 +1.6**
MGCD Mangrove Creek 91.19 179 P **P** **16 27 16.6 +2.0**
FORT Forrest 91.20 159 P **P** **16 27 15.3 +0.5**
FORT Forrest 91.20 159 P **P** **16 27 15.7 +1.0**
FORT Forrest 91.20 159 ⇑P **P** **16 27 15.2 +0.4**
IFR Ifrane 91.21 19 P **P** **16 27 17.4 +2.8**
SOR Soroa 91.24 311 IAmb IAmb 16 27 16.8
comp=Z,157nm,1.1s
TEIG Tepich 91.33 305 P **P** **16 27 15.4 +0.2**
TEIG Tepich 91.33 305 P **P** **16 27 15.7 +0.5**
TEIG Tepich 91.33 305 ⇓P **P** **16 27 16.2 +1.0**
NTLH Newcastle Hard 91.50 180 P **P** **16 27 17.8 +1.7**
PPT Papeete 91.94 234 LR LR 17 01 11.7
comp=Z,3μm,20.6s,baz=155,slow=31
STKA Stephens Creek 92.06 171 P **P** **16 27 19.6 +0.9**
comp=Z,43nm,0.6s,baz=149,slow=3.6,SNR=42
STKA PP **PP** **16 30 54.2 -3.8**
comp=Z,19nm,1.1s,baz=161,slow=6.8,SNR=3.1
STKA LR LR 17 07 56.2
comp=Z,15μm,19.0s,baz=182,slow=35
comp=Z,43nm,0.6s
STKA Stephens Creek 92.06 171 *c i*P **P** **16 27 19.4 +0.7**
PSMA Santa Maria 92.61 2 *e*T T 18 09 44.6
PSMA Santa Maria 92.61 2 *e*T T 18 09 44.6
CMSA Cobar Meteorol 92.69 175 P **P** **16 27 22.9 +1.3**
MEEK Meekatharra 92.93 150 P **P** **16 27 22.8 0.0**
RAR Rarotonga 93.03 224 P **P** **16 27 23.5 +0.2**
comp=Z,21nm,0.8s,baz=184,slow=4.7,SNR=5.1
comp=Z,21nm,0.8s
RAR Rarotonga 93.03 224 P **P** **16 27 23.7 +0.4**
LCRK Leigh Creek 93.13 168 P **P** **16 27 24.7 +1.1**
CMLA Cha da Macela 93.37 2 *e*T T 18 10 41.5
CMLA Cha da Macela 93.37 2 *e*T T 18 10 41.5
PGRON Lagoa das Cont 93.38 2 *e*T T 18 10 39.0
PGRON Lagoa das Cont 93.38 2 *e*T T 18 10 39.0
PCALD Caldeiras da R 93.41 2 *e*T T 18 10 40.9
PCALD Caldeiras da R 93.41 2 *e*T T 18 10 40.9
SFS San Fernando 93.90 17 P **P** **16 27 29.5 +2.8**
ARMA Armidale 93.97 180 IAmb IAmb 16 27 29.6
comp=Z,143nm,2.0s
ARMA Armidale 93.97 180 ⇑P **P** **16 27 29.1 +1.4**
TLIG Tlapa 94.04 296 IAmb IAmb 16 27 30.6
comp=Z,211nm,1.0s
MORF Marmelete 94.33 15 *e*P **P** **16 27 30.4 +1.6**
MORF *e*SKSac **SKSac** **16 38 01.1 +3.3**
MORF IAMs_20 IAMs_20 16 59 02.0
comp=Z,15μm,30.6s
ESPR Espera 94.35 18 P **P** **16 27 31.0 +2.3**
EMAL Malaga-Limoner 94.50 19 P **P** **16 27 30.6 +1.2**
PVAQ Vaqueiros 94.57 16 P **P** **16 27 32.0 +2.3**
EGRO El Granado 94.73 16 P **P** **16 27 32.0 +1.5**
MESJ Messejana 94.92 16 *e*P **P** **16 27 32.9 +1.6**
MESJ *e*SKSac **SKSac** **16 38 04.1 +3.2**
MESJ IAMs_20 IAMs_20 17 00 02.9
comp=Z,12μm,29.8s
MESJ Messejana 94.92 16 IAmb IAmb 16 28 06.8
comp=Z,105nm,1.4s
MESJ Messejana 94.92 16 *e*P **P** **16 27 32.9 +1.6**
MESJ *e* 16 38 04.1
EMIN Mina Concepcio 95.09 17 P **P** **16 27 33.7 +1.6**
OOD Oodnadatta 95.42 165 P **P** **16 27 35.2 +1.0**
EVO Evora 95.63 16 P **P** **16 27 36.4 +1.8**
KEST Kesra 96.68 30 PP **PP** **16 31 34.3 -1.2**
comp=Z,13nm,1.1s,baz=220,slow=8.2,SNR=3.6
KEST PKKPbc **PKKPbc** **16 44 20.9 -0.4**
comp=Z,3.7nm,0.6s,baz=16,slow=3.2,SNR=5.1
KEST LR LR 17 06 11.7
comp=Z,6μm,21.9s,baz=218,slow=32
WRKA Warakurna 96.82 158 ⇓P **P** **16 27 40.6 -0.1**
PAB San Pablo 97.22 18 ⇓P Pdif 16 27 44.0 +2.0
ESDC Sonseca Array 97.41 18 P Pdif 16 27 44.4 +1.6
comp=Z,6.4nm,0.7s,baz=189,slow=4.5,SNR=23
ESDC PKKPbc **PKKPbc** **16 44 20.6 +1.1**
comp=Z,2.1nm,0.9s,baz=4.2,slow=3.1,SNR=9.0
ESDC LR LR 17 07 34.5
comp=Z,7μm,20.3s,baz=198,slow=33
comp=Z,6.4nm,0.7s
PSA00 Pilbara Seismi 98.07 150 P **P** **16 27 45.8 -0.5**
PSA00 Pilbara Seismi 98.07 150 IAmb IAmb 16 27 47.7
comp=Z,41nm,0.8s
MBWA Marble Bar 98.43 150 P **P** **16 27 47.3 -0.7**
MBWA Marble Bar 98.43 150 P **P** **16 27 47.5 -0.4**
MBWA Marble Bar 98.43 150 ⇑P **P** **16 27 47.2 -0.7**
ASAR Alice Springs 99.20 163 P **Pdif** **16 27 51.4 0.0**
comp=Z,51nm,0.8s,baz=190,slow=4.1,SNR=350
ASAR PP **PP** **16 31 49.1 -4.4**
comp=Z,34nm,0.9s,baz=185,slow=6.3,SNR=11
ASAR S **SKSac** **16 38 18.5 -5.8**
comp=Z,3.0nm,0.8s,baz=172,slow=7.6,SNR=6.5
ASAR PKKPbc **PKKPbc** **16 44 13.3 +0.2**
comp=Z,3.2nm,0.8s,baz=8.4,slow=2.1,SNR=11
ASAR LR LR 17 09 12.0
comp=Z,12μm,21.9s,baz=189,slow=33
comp=Z,51nm,0.8s
ABTO Aybut 99.37 73 P **Pdif** **16 27 54.6 +2.6**
ABTO P **Pdif** **16 27 54.6 +2.6**
VAE Valguarnera 99.79 33 LR LR 17 09 22.9
comp=Z,3μm,19.1s,baz=325,slow=33
RBK Rabkut 99.98 74 P **Pdif** **16 27 58.2 +3.4**
WHFO Wadi Hawf 100.09 73 P **Pdif** **16 27 59.2 +4.0**
RAYN Ar Rayn 100.40 63 P **Pdif** **16 27 58.9 +2.4**
DMTO DMTO 100.56 74 P **Pdif** **16 27 57.7 +0.4**
DOK Doka 100.85 73 P **Pdif** **16 27 57.1 -1.4**
DZM Mont Dzumac 101.34 194 P **Pdif** **16 28 00.8 -0.1**
comp=Z,7.7nm,0.8s,baz=180,slow=7.4,SNR=3.4
TKL Tuckaleechee C 102.89 316 PP **PP** **16 32 18.4 -4.1**
comp=Z,11nm,0.9s,baz=147,slow=8.2,SNR=4.0
WRA Warramunga Arr 102.92 163 P **Pdif** **16 28 07.6 -0.3**
comp=Z,12nm,0.7s,baz=199,slow=4.5,SNR=76
WRA PP **PP** **16 32 15.0 -6.6**
comp=Z,16nm,1.0s,baz=193,slow=6.2,SNR=5.0
WRA S **SKSac** **16 38 36.1 -6.2**
comp=Z,3.7nm,1.0s,baz=219,slow=6.2,SNR=5.9
WRA PKKPbc **PKKPbc** **16 44 03.4 +0.9**
comp=Z,1.8nm,0.3s,baz=358,slow=2.9,SNR=99
MSVF Nonsavu 103.40 205 Pdiff **Pdif** **16 28 10.8 +0.6**
comp=Z,2.8nm,0.8s,baz=89,slow=21,SNR=1.3
MMAI Mount Meron Ar 103.65 51 Pdiff **Pdif** **16 28 12.5 +1.7**
comp=Z,1.9nm,0.8s,baz=232,slow=7.1,SNR=3.8
MMAI PP **PP** **16 32 23.2 -5.1**
comp=Z,4.4nm,0.9s,baz=228,slow=8.8,SNR=4.1
SLWR Sila 104.03 68 P **Pdif** **16 28 15.5 +3.0**
MZR Muzera 104.09 70 P **Pdif** **16 28 14.1 +1.3**
UMZA Um Al Zommool 104.75 71 P **Pdif** **16 28 17.3 +1.5**
MHTO MHTO 104.86 75 P **Pdif** **16 28 15.0 -1.3**
TRD Trivandrum 105.31 98 *e*P **PKiK** **16 32 35.0 +2.8**
TXAR Lajitas Array 106.40 298 Pdiff **Pdif** **16 28 23.8 +0.7**
comp=Z,4.6nm,0.9s,baz=144,slow=6.6,SNR=29
TXAR PKiKP **PKiK** **16 32 34.2 +0.3**
comp=Z,6.2nm,1.0s,baz=154,slow=4.7,SNR=11
TXAR PKKPbc **PKKPbc** **16 43 52.0 -0.6**
comp=Z,1.5nm,0.8s,baz=151,slow=0.2,SNR=6.1
TXAR SKKPbc SKKPbc 16 47 27.6 -2.8
comp=Z,1.6nm,0.7s,baz=227,slow=0.7,SNR=5.2
FETA Feichten 107.60 27 *e*Pdiff **Pdif** **16 28 29.1 +1.1**
comp=Z,5.3nm,1.2s
FETA *e*PKiKP **PKiK** **16 32 38.2 +2.5**
comp=Z,21nm,1.7s
FETA *e*PKKP **PKKPbc** **16 43 49.2 -0.4**
comp=Z,6.2nm,1.4s
DAVA Damuels 107.64 26 *e*PKiKP **PKiK** **16 32 36.9 +1.2**
comp=Z,41nm,1.9s
DAVA *i* PKKP **PKKPab** **16 44 02.7 +2.0**
comp=Z,10nm,1.2s
ABTA Abfaltersbach 107.81 28 Pdiff **Pdif** **16 28 30.6 +1.7**
comp=Z,7.0nm,0.9s
ABTA *e*PKiKP **PKiK** **16 32 39.0 +3.1**
comp=Z,16nm,1.3s
ABTA *i* PKKP **PKKPdf** **16 44 02.7 -0.3**
comp=Z,9.7nm,1.3s
SQTA Sankt Quirin 107.91 27 *e*Pdiff **Pdif** **16 28 31.0 +1.7**
comp=Z,6.3nm,1.0s
SQTA *e*PKiKP **PKiK** **16 32 39.7 +3.5**
comp=Z,43nm,1.6s
SQTA *e*PKKP **PKKPdf** **16 44 02.9 +0.1**
comp=Z,13nm,1.5s
MOTA Moosalm 108.00 27 *e*PKiKP **PKiK** **16 32 36.3 0.0**
comp=Z,29nm,1.2s
MOTA *i* PKKP **PKKPdf** **16 44 02.7 -0.1**
comp=Z,15nm,1.1s
MYKA Terra Mystica 108.00 29 *e*PKiKP **PKiK** **16 32 40.9 +4.6**
comp=Z,24nm,1.3s
MYKA *i* PKKP **PKKPab** **16 44 01.8 +2.7**
comp=Z,7.5nm,1.0s
RETA Reutte 108.04 26 *e*PKiKP **PKiK** **16 32 38.5 +2.2**
comp=Z,22nm,1.5s
RETA *e*PKKP **PKKPdf** **16 44 02.6 0.0**
comp=Z,12nm,1.1s
WTTA Wattenberg 108.06 27 *e*PKiKP **PKiK** **16 32 36.5 +0.1**
comp=Z,32nm,1.6s
WTTA *e*PKKP **PKKPdf** **16 44 02.8 +0.1**
comp=Z,23nm,1.4s
WATA Walderalm 108.11 27 Pdiff **Pdif** **16 28 31.1 +0.9**
comp=Z,2.7nm,0.6s
WATA *e*PKiKP **PKiK** **16 32 36.4 -0.1**
comp=Z,37nm,2.0s
WATA *i* PKKP **PKKPdf** **16 44 02.3 -0.2**
comp=Z,16nm,1.0s
OBKA Obir 108.14 29 Pdiff **Pdif** **16 28 35.1 +4.8**
comp=Z,13nm,1.7s
OBKA *e*PKiKP **PKiK** **16 32 36.5 0.0**
comp=Z,29nm,1.6s
OBKA *e*PKKP **PKKPbc** **16 43 48.0 +0.2**
comp=Z,8.3nm,1.2s
OBKA *i* PKKP **PKKPdf** **16 44 01.8 -0.6**
comp=Z,6.7nm,1.2s
KBA Koelnbreinsper 108.33 28 *e*PKiKP **PKiK** **16 32 37.8 +0.8**
comp=Z,23nm,1.7s
SOKA Soboth 108.42 30 *e*Pdiff **Pdif** **16 28 32.7 +1.1**
comp=Z,8.8nm,1.7s
SOKA *e*PKiKP **PKiK** **16 32 37.3 +0.3**
comp=Z,26nm,1.5s
SOKA *i* PKKP **PKKPdf** **16 44 00.8 -1.0**
comp=Z,19nm,1.4s
LESA Schwarzleotal 108.47 28 *e*PKiKP **PKiK** **16 32 40.2 +3.0**
comp=Z,22nm,1.5s
LESA *i* PKKP **PKKPdf** **16 44 00.8 -0.9**
comp=Z,22nm,1.4s
BRTR Keskin Array B 108.64 46 Pdiff **Pdif** **16 28 32.4 -0.4**
comp=Z,0.6nm,1.0s,baz=204,slow=3.2,SNR=2.2
BRTR PKiKP **PKiK** **16 32 37.4 -0.4**
comp=Z,1.2nm,0.7s,baz=168,slow=3.9,SNR=4.1
BRTR PP **PP** **16 33 01.9 -3.1**
comp=Z,3.7nm,0.9s,baz=176,slow=3.6,SNR=7.1
BRTR PKKPbc **PKKPbc** **16 43 46.1 +0.1**
comp=Z,1.5nm,0.8s,baz=149,slow=2.6,SNR=4.8
BIOA Bad Ischl, Aus 108.97 28 *i* Pdiff **Pdif** **16 28 35.2 +1.2**
comp=Z,2.9nm,0.8s
BIOA *i* PKiKP **PKiK** **16 32 38.8 +0.9**
comp=Z,13nm,1.2s
BIOA *e*PKKP **PKKPab** **16 43 58.6 +3.9**
comp=Z,20nm,1.4s
SADO Sadowa 109.24 324 PKiKP **PKiK** **16 32 37.9 -0.7**
comp=Z,7.1nm,0.9s,baz=192,slow=9.6,SNR=3.8
SADO PP **PP** **16 33 05.1 -4.1**
comp=Z,19nm,1.0s,baz=184,slow=6.8,SNR=8.6
MOA Molln 109.29 29 *e*PKKP 16 43 57.1
comp=Z,7.5nm,1.1s
RONA Rosalia, Austr 109.71 30 *e*Pdiff **Pdif** **16 28 42.5 +5.3**
comp=Z,5.6nm,0.9s
RONA *e*PKiKP **PKiK** **16 32 41.8 +2.4**
comp=Z,19nm,1.3s
RONA *i* PKKP **PKKPab** **16 43 54.0 +2.5**
comp=Z,9.6nm,1.1s
CONA Conrad Observa 109.80 30 *e*Pdiff **Pdif** **16 28 40.2 +2.6**
comp=Z,6.2nm,1.0s
CONA *e*PKiKP **PKiK** **16 32 42.7 +3.2**
comp=Z,17nm,1.5s
CONA *e*PKKP **PKKPab** **16 43 55.1 +4.0**
comp=Z,13nm,1.2s
GERES GERESS Array B 110.05 28 Pdiff **Pdif** **16 28 40.1 +1.3**
comp=Z,0.3nm,0.7s,baz=232,slow=6.1,SNR=1.8
GERES PKiKP **PKiK** **16 32 40.0 -0.1**
comp=Z,2.2nm,0.8s,baz=180,slow=1.3,SNR=6.3
GERES PKKPbc **PKKPbc** **16 43 39.9 -1.8**
comp=Z,1.5nm,0.8s,baz=56,slow=5.0,SNR=4.1
CKRC Cesky Krumlov 110.19 28 *e*SDIF 16 40 51.3
CKRC AMS AMS 17 17 20.0
comp=Z,4μm,20.4s
GRF Grafenberg Arr 110.20 26 *e*PP 16 33 01.5
baz=200,slow=7.9
GRF *e*PKKP 16 43 52.4
baz=27,slow=4.0
KHC Kasperske Hory 110.28 28 *e*PP PP 16 33 25.0 +8.3
KHC *e*SKS **SKSac** **16 39 16.1 +3.2**
KHC *e*SDIF **Sdif** **16 40 54.8 +6.2**
KHC *e*PKKP **PKKPab** **16 43 52.0 +3.1**
KHC AMS AMS 17 12 20.0
comp=Z,6μm,23.7s
ZVC Zvikov 110.72 28 AMS AMS 17 13 30.0
comp=Z,4μm,22.5s
KRUC Moravsky 110.97 29 *e*PP **PP** **16 33 23.2 +1.5**
KRUC *e* 16 42 55.1
NKC Novy Kostel 111.01 26 *e*SDIF 16 41 03.1
NKC AMS AMS 17 17 00.0
comp=Z,4μm,18.2s
JAVC Velka Javorina 111.15 30 *e*PP **PP** **16 33 20.0 -3.0**
JAVC *e* 16 42 50.3
VYHS Vyhne 111.16 31 *e*PKIKP **PKiK** **16 32 42.1 +0.1**
VYHS Vyhne 111.16 31 *e*PKP **PKiK** **16 32 42.1 +0.1**
VRAC Vranov 111.25 29 *e*PP **PP** **16 33 22.3 -1.4**
VRAC *e* 16 42 55.1
GOPC GO Pecny, Ondr 111.32 28 AMS AMS 17 13 50.0
comp=Z,5μm,21.5s
PRU Pruhonice 111.32 28 *e*SDIF 16 41 01.6
PRU AMS AMS 17 14 00.0
comp=Z,5μm,22.7s
PRA Prague 111.36 28 AMS AMS 17 15 50.0
comp=Z,4μm,19.9s
HSKC Hora Svate Kat 111.60 27 AMS AMS 17 16 40.0
comp=Z,5μm,18.4s
RICC Richard 111.71 27 AMS AMS 17 16 40.0
comp=Z,3μm,18.0s
PVCC Panska Ves 111.82 28 AMS AMS 17 16 00.0
comp=Z,3μm,18.9s
MORC Moravsky Berou 111.94 30 *e*PP **PP** **16 33 27.9 -0.7**
MORC *e* 16 43 01.9
BRG Berggiesshubel 111.97 27 P **PKiK** **16 32 48.0 +4.6**
BRG Amp 16 32 48.8
comp=Z,4.1nm,0.8s
KRLC Kraliky 112.00 29 *e*PS PS 16 43 02.5 +0.8
KRLC AMS AMS 17 18 30.0
comp=Z,3μm,18.5s
DPC Dobruska-Polom 112.12 29 *e*PS PS 16 43 05.4 +2.5
DPC AMS AMS 17 20 20.0
comp=Z,3μm,17.3s
CLL Collm 112.13 26 *e*P **Pdif** **16 28 52.0 +4.2**
CLL *e* 16 33 29.0
CLL *e* 16 39 25.0
OKC Ostrava-Krasne 112.17 30 AMS AMS 17 19 50.0
comp=Z,3μm,17.3s
UPC Upice 112.18 29 AMS AMS 17 13 40.0
comp=Z,4μm,22.5s
CHVC Chvalec 112.27 29 AMS AMS 17 13 40.0
comp=Z,4μm,22.9s
OSTC Ostas 112.28 29 AMS AMS 17 14 30.0
comp=Z,4μm,21.9s
ANMO Albuquerque 112.33 299 Pdiff **Pdif** **16 28 50.5 +1.1**
comp=Z,0.8nm,0.4s,baz=331,slow=5.3,SNR=3.7
ANMO PKiKP **PKiK** **16 32 44.7 -0.2**
comp=Z,6.7nm,0.9s,baz=325,slow=5.6,SNR=7.4
ANMO Albuquerque 112.33 299 *c i*PKiKP **PKiK** **16 32 45.0 0.0**
ANMO pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 112.58 33 *e*PKiKP **PKiK** **16 32 47.6 +2.9**
KOLS *e* 16 33 37.7
KOLS Kolonicke sedl 112.58 33 *e*PKP **PKiK** **16 32 47.6 +2.9**
KOLS *e*PP **PP** **16 33 37.7 +4.5**
STHS Stebnicka Huta 112.69 32 *e*PP **PP** **16 33 36.4 +2.4**
EKA Eskdalemuir Ar 112.75 15 PKiKP **PKiK** **16 32 44.7 -0.1**
comp=Z,1.5nm,0.6s,baz=197,slow=1.1,SNR=3.7
EKA PKKPbc **PKKPbc** **16 43 32.1 -0.7**
comp=Z,1.2nm,0.4s,baz=350,slow=2.5,SNR=8.8
MILM Milestii Mici 112.98 38 *e*PKP **PKiK** **16 32 45.0 -0.5**
MILM Milestii Mici 112.98 38 *e*PKiKP **PKiK** **16 32 45.0 -0.5**
HYB Hyderabad 113.45 94 *e*PKiKP **PKiK** **16 32 47.5 0.0**
HYB *e*PP **PP** **16 33 38.7 -0.8**
HYB *e* 16 39 22.6
HYB *e*SP SP 16 43 09.9 +1.0
HYB IVMs_BB IVMs_BB 17 10 53.0
comp=Z,3μm,21.0s
KAPI Kappang 113.67 144 ⇑*i*PKiKP **PKiK** **16 32 48.1 +0.1**
SOC Sochi 114.35 48 *i* PKIKP PKPdf 16 32 47.6 -0.7
SOC *e* 16 33 45.8
SOC *e*PPP PPP 16 36 09.0
SOC *e* 16 39 34.4
SOC *e*PS **PS** **16 43 21.4 -1.9**
SOC *e*SS SS 16 49 31.3 -1.8
SOC *e*SSS SSS 16 53 50.1
SOC MLR MLR
comp=Z,3μm,20.0s
BNSI Bone 114.36 145 PKP PKPdf 16 32 52.6 +3.3
ANN Anapa 114.42 45 *i* PKIKP PKPdf 16 32 48.7 +0.4
ANN *e* 16 33 09.0
ANN *e* 16 33 44.9
ANN *e*PPP PPP 16 36 08.6
ANN *e* 16 39 26.6
ANN *e*PS **PS** **16 43 23.1 -0.8**
ANN *e*SS SS 16 49 38.6 +4.7
ANN pmax pmax
comp=Z,27nm,1.0s
SPSI Sidrap Palu 114.66 144 PKP PKPdf 16 32 52.4 +2.5
PMG Port Moresby 114.75 175 *c i*PKIKP **PKiK** **16 32 49.2 -0.9**
PMG pmax pmax
comp=Z,44nm,1.0s
SCHQ Schefferville 114.92 336 PKP PKPdf 16 32 48.6 -0.4
comp=Z,4.3nm,0.4s,baz=209,slow=1.3,SNR=9.3

SCHQ SKP 16 36 16.3
comp=Z,21nm,0.8s,baz=57,slow=0.9,SNR=10
SCHQ PKKPbc **PKKPbc** **16 43 26.1 +0.7**
comp=Z,3.8nm,0.6s,baz=327,slow=4.9,SNR=7.1
STKI Sintang 115.33 134 PKP **PKiKP** **16 32 56.2 +5.0**
LABN Labinsk 115.63 47 *i* PKIKP **PKPdf** **16 32 50.0 -0.7**
LABN *e* 16 33 11.3
LABN *e* 16 33 51.5
LABN *e* 16 39 32.1
LABN *e*SSS SSS 16 54 02.5
LABN pmax pmax
comp=Z,15nm,0.6s
SHA1 Shidzhatmaz 115.71 49⇑ *i*PKIKP **PKPdf** **16 32 50.9 -0.3**
KBZ Khabaz 115.81 49 PKP **PKPdf** **16 32 50.9 -0.1**
comp=Z,3.7nm,0.7s,baz=244,slow=4.8,SNR=9.4
KBZ PKKPab **PKKPab** **16 43 25.9 +0.5**
comp=Z,5.5nm,1.1s,baz=170,slow=3.7,SNR=4.5
KBZ Khabaz 115.81 49*c* *i*PKIKP **PKPdf** **16 32 51.5 +0.5**
KIV Kislovodsk 115.90 49 *i* P **Pdif** **16 29 02.9 -2.0**
KIV *i* 16 32 50.6
KIV *e* 16 33 54.8
KIV *e* 16 39 32.4
KIV *e*PS **PS** **16 43 36.1 -1.6**
KIV *e*SS SS 16 49 51.6 -2.0
KIV *e*SSS SSS 16 54 09.4
KIV pmax pmax
comp=Z,14nm,1.1s
KIV Kislovodsk 115.90 49 PKP **PKPdf** **16 32 51.1 -0.3**
PFO Pinyon Flats O 116.35 291 PKP **PKPdf** **16 32 52.4 -0.2**
comp=Z,15nm,1.0s,baz=154,slow=2.1,SNR=14
PFO Pinyon Flats O 116.35 291*d* *i*PKIKP **PKPdf** **16 32 52.5 -0.1**
AKASG Malin Array Be 116.35 37 PKP **PKPdf** **16 32 50.9 -1.0**
comp=Z,7.8nm,0.8s,baz=239,slow=1.7,SNR=14
AKASG SKP 16 36 17.8
comp=Z,4.9nm,0.8s,baz=250,slow=2.0,SNR=5.4
AKASG PKKPbc **PKKPbc** **16 43 18.6 -1.6**
comp=Z,3.8nm,0.8s,baz=35,slow=4.9,SNR=10.0
AKBB Malin Array Si 116.35 37*d* *i*PKIKP **PKPdf** **16 32 50.7 -1.2**
ERBR Yeremizino-Bor 116.41 47 *i* PKIKP **PKPdf** **16 32 50.7 -1.5**
ERBR *e* 16 33 12.2
ERBR *e* 16 39 33.8
ERBR *e*PS **PS** **16 43 42.0 0.0**
ERBR pmax pmax
comp=Z,11nm,0.7s
MAK Makhachkala 117.22 53 *i* P **Pdif** **16 29 17.4 +6.8**
MAK *i* 16 32 53.7
MAK *e* 16 33 11.0
MAK *e*PPP PPP 16 36 35.7
MAK *e* 16 39 36.6
MAK *e*PS **PS** **16 43 53.1 +3.7**
MAK *e*SS SS 16 50 11.1 +0.6
MAK *e*SSS SSS 16 54 30.0
MAK pmax pmax
comp=Z,179nm,1.6s
AAI Ambon 117.41 153 PKP **PKiKP** **16 32 58.6 +3.4**
HOMB Homborsund 117.56 21 *e*PP **PP** **16 34 08.7 +0.7**
HOMB *e*SP SP 16 43 47.3 +2.6
HOMB *e*SS **SS** **16 50 16.2 +1.7**
HOMB IVMs_BB IVMs_BB 17 14 14.1
comp=Z,2μm,26.9s
KMY Karmoy 117.83 19 IVmB_BB 16 33 13.9
comp=Z,938nm,2.6s
KMY IVmBBB 16 33 47.0
comp=Z,1μm,2.7s
KMY *e*PP **PP** **16 34 10.6 +0.7**
KMY *e*SP SP 16 43 51.4 +4.3
KMY *e*SS **SS** **16 50 14.6 -3.3**
BLS5 Blasjo 118.24 19 *e*PP **PP** **16 34 12.3 -0.5**
BLS5 *e*SP SP 16 43 52.9 +2.0
BLS5 *e*SS **SS** **16 50 19.6 -3.8**
LUWI Luwuk 118.38 146 PKP **PKiKP** **16 32 58.3 +1.2**
SANI Sanana 118.38 150 PKP **PKPdf** **16 32 57.5 +0.5**
KMPI Kaimana, Papua 118.69 159 PKP **PKiKP** **16 32 59.4 +1.7**
MPSI Mapaga 118.73 143 PKP **PKPdf** **16 32 58.5 +0.8**
ODD1 Odda 118.73 19 *e*PP **PP** **16 34 14.1 -2.1**
ODD1 *e*SP SP 16 43 59.0 +3.7
ODD1 *e*SS **SS** **16 50 31.3 +1.5**
BER Bergen 118.94 18 *e*PKPdf **PKiKP** **16 33 01.4 +4.9**
BER *e*PP **PP** **16 34 18.3 +0.8**
BER *e*SKPdf **SKiKP** **16 36 29.0 +2.5**
BER *e*SKSac **SKSac** **16 39 48.8 +3.3**
BER *e*SS **SS** **16 50 34.6 +2.3**
ASK Askoy 119.01 18 *e*PKPdf **PKiKP** **16 32 58.7 +2.0**
ASK *e*PP **PP** **16 34 19.0 +1.0**
ASK *e*SP SP 16 43 59.8 +2.1
ASK *e*SS **SS** **16 50 35.2 +2.0**
KONO Kongsberg 119.06 21 *e*PP **PP** **16 34 18.8 +0.5**
KONO *e*SP SP 16 43 58.6 +0.5
KONO *e*SS **SS** **16 50 35.2 +1.3**
FAKI Fak Fak 119.11 157 PKP **PKPdf** **16 32 58.4 -0.1**
FAKI Fak Fak 119.11 157 PKP **PKiKP** **16 33 02.7 +4.2**
MNK Minsk 119.15 34 *i* PKIKP **PKPdf** **16 32 55.7 -1.4**
MNK *i* 16 34 15.4
MNK *i* 16 40 00.9
MNK *i* SS SS 16 50 31.6 -3.7
MNK *i* 16 50 45.4
MNK *i* SSS SSS 16 54 55.2
MNK pmax pmax
comp=N,28nm,0.8s
MNK pmax pmax
comp=Z,32nm,0.7s
MNK pmax pmax
comp=E,22nm,0.7s
SUE Sulen 119.48 18 *e*PP **PP** **16 34 22.2 +1.0**
SUE *e*SP SP 16 44 06.4 +4.5
SUE *e*SS **SS** **16 50 41.8 +2.6**
SUE IVMs_BB IVMs_BB 17 15 40.5
comp=Z,2μm,13.7s
MRSI Marisa 119.54 145 PKP **PKiKP** **16 33 02.7 +3.4**
SKAR Skarslia 119.76 20 *e*PKPdf **PKPdf** **16 32 58.1 -0.1**
SKAR *e*SP SP 16 44 07.1 +2.6
SKAR *e*SS **SS** **16 50 45.0 +1.9**
SKAR IVMs_BB IVMs_BB 17 17 25.6
comp=Z,2μm,20.8s
HYA Hoyanger 119.83 18 *e*PKPdf **PKPdf** **16 32 58.9 +0.7**
HYA IVmB_BB 16 33 16.3
comp=Z,962nm,3.3s
HYA *e*PP **PP** **16 34 22.5 -1.1**
HYA *e*SS SS 16 50 43.5 -0.2
ULM Lac du Bonnet 119.91 317 PKP **PKPdf** **16 32 57.9 -0.9**
comp=Z,37nm,0.7s,baz=126,slow=0.8,SNR=61
ULM SKP 16 36 26.1
comp=Z,32nm,0.7s,baz=8.6,slow=0.2,SNR=9.6
ULM PKKPbc **PKKPab** **16 43 07.8 +0.6**
comp=Z,8.6nm,0.6s,baz=333,slow=5.2,SNR=12
ULM SKKPbc SKKPbc 16 46 45.2 -5.8
comp=Z,5.5nm,0.8s,baz=262,slow=5.3,SNR=3.3
ULM Lac du Bonnet 119.91 317*d* *i*PKIKP **PKPdf** **16 32 57.3 -1.4**
PDAR Pinedale Array 119.96 303 **PKPdf** **16 32 58.7 -0.8**
PDAR Pinedale Array 119.96 303 PKP **PKPdf** **16 32 58.5 -1.0**
comp=Z,18nm,0.9s,baz=116,slow=1.0,SNR=21
PDAR PKKPbc **PKKPbc** **16 43 07.8 +0.5**
comp=Z,3.8nm,0.8s,baz=74,slow=0.5,SNR=12
PDAR SKKPbc SKKPbc 16 46 46.3 -4.0
comp=Z,1.0nm,0.7s,baz=89,slow=1.5,SNR=4.2
FOO Floro 120.03 17 *e*PKPdf **PKPdf** **16 32 59.3 +0.7**
FOO *e*PP **PP** **16 34 23.0 -2.0**
FOO *e*SP SP 16 44 07.5 +0.6
FOO *e*SS **SS** **16 50 48.2 +1.9**
FOO IVMs_BB IVMs_BB 17 15 52.0
comp=Z,2μm,15.7s
VORD Divnogorie 120.17 42 *e*PKIKP **PKPdf** **16 32 58.2 -1.0**
VORD pmax pmax
comp=Z,10.0nm,0.8s
KMSI Cibinong 120.28 147 PKP **PKiKP** **16 33 05.4 +4.6**
VSR Storozhevoye 120.33 42 *e*PKIKP **PKPdf** **16 32 57.5 -2.0**
VSR pmax pmax
comp=Z,10.0nm,0.8s
HFS Hagfors 120.35 23 PKP **PKPdf** **16 32 57.9 -1.4**
comp=Z,7.6nm,0.6s,baz=145,slow=5.4,SNR=30
HFS PP **PP** **16 34 21.0 -6.3**
comp=Z,10nm,0.8s,baz=214,slow=1.6,SNR=4.5
HFS PKKPbc **PKKPab** **16 43 05.8 +1.2**
comp=Z,4.8nm,0.5s,baz=66,slow=4.0,SNR=13
NC602 NORSAR Array S 120.44 21 *e*PKPdf **PKPdf** **16 32 58.9 -0.5**
NB2 NORSAR Subarra120.66 21 PKPdf **PKPdf** **16 32 59.3 -0.6**
comp=Z,34nm,1.4s,baz=202,slow=1.9
NB2 pPKP 16 36 25.7
comp=Z,161nm,3.3s,baz=204,slow=1.9
NB2 PKKP **PKKPab** **16 43 04.9 +1.7**
comp=Z,11nm,1.0s,baz=24,slow=3.3
NB2 NORSAR Subarra120.66 21 PKPdf **PKPdf** **16 32 59.3 -0.6**
baz=202,slow=1.9

NOA NORSAR Array B 120.66 21 PKP **PKPdf** **16 32 59.5 -0.4**
comp=Z,8.5nm,0.9s,baz=204,slow=1.9,SNR=33
NOA SKP 16 36 26.2
comp=Z,2.9nm,0.7s,baz=200,slow=1.7,SNR=5.3
NOA PKKPbc **PKKPab** **16 43 05.0 +1.7**
comp=Z,4.1nm,0.7s,baz=26,slow=3.4,SNR=11
VORR Voronezh 120.71 42 *e*PKIKP **PKPdf** **16 32 58.4 -1.8**
VORR pmax pmax
comp=Z,10.0nm,0.9s
SWI Sorong 120.88 156 PKP **PKPdf** **16 33 02.5 +0.7**
AKN Aaknes 120.91 18 *e*PKPdf **PKPdf** **16 33 00.9 +0.6**
AKN *e*PP **PP** **16 34 28.2 -2.9**
SRPI Serui, Papua 120.92 161 PKP **PKiKP** **16 33 03.5 +1.4**
NVAR Mina Array Bea 121.00 294 PKP **PKPdf** **16 33 02.5 +0.9**
comp=Z,93nm,1.0s,baz=90,slow=3.0,SNR=7.5
NVAR PKKPbc **PKKPbc** **16 43 03.9 +0.6**
comp=Z,1.5nm,0.7s,baz=204,slow=3.3,SNR=6.1
DOMB Dombas 121.16 19 *e*PKPdf **PKPdf** **16 33 01.0 +0.2**
DOMB *e*PP **PP** **16 34 32.3 -0.5**
DOMB *e*PS **PS** **16 44 31.6 +7.1**
DOMB *e*SS SS 16 51 03.5 +2.5
DOMB IVMs_BB IVMs_BB 17 19 34.4
comp=Z,2μm,25.9s
ELK Elko 121.19 297 PKP **PKPdf** **16 33 02.2 +0.4**
comp=Z,37nm,0.8s,baz=145,slow=1.1,SNR=85
VRH Novokhopyorsk 121.29 44 *e*PKIKP **PKPdf** **16 32 59.6 -1.7**
VRH pmax pmax
comp=Z,20nm,0.8s
LPSR Galich'ya Gora 121.34 41 *e*PKIKP **PKPdf** **16 32 59.8 -1.6**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MOL Molde 121.37 18 *e*SS SS 16 51 07.5 +4.0
MANU Manus Island 122.06 174 **PKPdf** **16 33 04.9 +0.8**
VSU Vasula 122.16 30*d* *i*PKIKP **PKPdf** **16 33 01.1 -1.7**
VSU pmax pmax
comp=Z,33nm,0.6s
VSU MLR MLR
comp=Z,3μm,19.0s
TBLU Trondheim 122.49 19 *e*PP **PP** **16 34 44.2 +2.4**
TBLU *e* 16 44 10.9
OBN Obninsk 122.51 38*d* *i*PKIKP **PKPdf** **16 33 02.7 -0.8**
OBN *i* 16 33 25.5
OBN *e* 16 40 16.1
OBN *e*PS **PS** **16 44 33.5 -3.0**
OBN *i* SSS SSS 16 55 56.9
OBN pmax pmax
comp=Z,50nm,0.9s
OBN MLR MLR
comp=Z,3μm,18.0s
MOS Moscow 123.37 38 *i* PKIKP **PKPdf** **16 33 03.9 -1.3**
MOS *e* 16 33 19.4
MOS *e* 16 39 57.2
MOS pmax pmax
comp=Z,41nm,0.7s
SFJD Kangerlussuaq 123.81 349 **PKPdf** **16 33 05.9 +0.2**
SFJD Kangerlussuaq 123.81 349 PKIKP **PKPdf** **16 33 05.9 +0.2**
SFJD Kangerlussuaq 123.81 349 *i* P **PKPdf** **16 33 05.0 -0.7**
NSS Namsos 123.98 20 *e*PKPdf **PKPdf** **16 33 06.0 -0.1**
NSS *e*SS SS 16 51 39.0 +2.5
FINES FINESS Array B 124.48 28 **PKPdf** **16 33 07.1 -0.1**
FINES FINESS Array B 124.48 28 PKP **PKPdf** **16 33 06.8 -0.3**
comp=Z,41nm,0.7s,baz=270,slow=3.8,SNR=4.3
FINES SKP 16 36 33.1
comp=Z,17nm,0.8s,baz=126,slow=2.6,SNR=5.9
FINES PKKPbc **PKKPab** **16 42 49.3 +2.2**
comp=Z,1.3nm,0.7s,baz=64,slow=8.9,SNR=5.2
FINES SKKPbc SKKPbc 16 46 30.8 -5.8
comp=Z,3.1nm,0.8s,baz=64,slow=2.8,SNR=5.7
ICESG Greenland Ices 125.03 355 *i* P **PKPdf** **16 33 07.7 -0.8**
CMAR Chiang Mai Arr 125.47 111 **PKPdf** **16 33 10.4 -0.1**
CMAR Chiang Mai Arr 125.47 111 PKP **PKPdf** **16 33 10.2 -0.2**
comp=Z,28nm,0.8s,baz=229,slow=3.8,SNR=73
CMAR PKKPbc **PKKPab** **16 42 48.7 +1.3**
comp=Z,2.4nm,0.8s,baz=353,slow=2.0,SNR=12
CMAR PKKP **PKKPdf** **16 43 28.7 +0.9**
comp=Z,2.7nm,0.8s,baz=329,slow=2.7,SNR=6.0
CMAR SKKPbc SKKPbc 16 46 25.9 -2.9
comp=Z,3.2nm,0.8s,baz=6.2,slow=5.7,SNR=7.0
CMAR Chiang Mai Arr 125.47 111 PKIKP **PKPdf** **16 33 10.4 -0.1**
LEIR Leirfjorden 125.61 19 *e*PKPdf **PKPdf** **16 33 09.2 0.0**
LEIR *e*PP **PP** **16 35 03.1 +0.5**
LEIR *e*SS SS 16 51 51.7 -5.4
LEIR IVMs_BB IVMs_BB 17 20 50.5
comp=Z,1μm,14.9s
YBH Yreka Blue Hor 125.71 293 PKP **PKPdf** **16 33 10.3 -0.1**
comp=Z,38nm,0.8s,baz=108,slow=2.8,SNR=49
FFC Flin Flon 125.74 317 **PKPdf** **16 33 10.2 +0.4**
FFC Flin Flon 125.74 317 PKIKP **PKPdf** **16 33 10.2 +0.4**
CHTO Chiang Mai 125.76 111 **PKPdf** **16 33 11.8 +0.8**
CHTO Chiang Mai 125.76 111 PKIKP **PKPdf** **16 33 11.8 +0.8**
CHTO Chiang Mai 125.76 111 PKP **PKPdf** **16 33 10.8 -0.2**
CHTO PKP **PKiKP** **16 33 11.2 -0.2**
STOK Stokkvaagen 125.79 19 *e*SS SS 16 51 54.7 -4.6
MOR8 Moi Rana 125.92 20 *e*PKPdf **PKPdf** **16 33 10.4 +0.6**
MOR8 IVmB_BB 16 33 33.1
comp=Z,536nm,3.1s
MOR8 *e*PP **PP** **16 35 05.6 +0.9**
MOR8 *e*SS SS 16 52 04.9 +3.9
MOR8 IVMs_BB IVMs_BB 17 21 06.8
comp=Z,1μm,17.7s
KONS Konsvik 125.96 19 *e*PKPdf **PKPdf** **16 33 10.3 +0.4**
ILULI Ilulissat 126.00 350 *i* P **PKPdf** **16 33 09.4 -0.5**
VAGH Vaagaholmen 126.19 19 *e*PKPdf **PKiKP** **16 33 12.5 +1.8**
VAGH *e*PP **PP** **16 35 05.5 -1.0**
VAGH *e*SS SS 16 52 02.2 -2.1
VAGH IVMs_BB IVMs_BB 17 19 43.5
comp=Z,1μm,13.3s
SCO Scoresbysund 126.21 2 *i* P **PKPdf** **16 33 10.8 +0.6**
MLH Mauna Loa 126.67 249 **PKPdf** **16 33 13.9 +0.9**
FAUS Fauske 127.14 19 *e*PKPdf **PKPdf** **16 33 12.4 +0.4**
FAUS IVmB_BB 16 33 17.2
comp=Z,785nm,2.0s
FAUS *e*PP **PP** **16 35 11.4 -1.3**
FAUS *e*PS **PS** **16 45 17.5 +0.3**
FAUS *e*SS SS 16 52 13.5 -2.6
FAUS IVMs_BB IVMs_BB 17 20 16.6
comp=Z,1μm,20.4s
JMI Jan Mayen 127.32 8 *e*PKPdf **PKiKP** **16 33 15.3 +2.4**
JMI *e*PP **PP** **16 35 15.9 +2.1**
JMIC Jan Mayen 127.39 8 *e*SS SS 16 52 23.4 +4.3
JNE Jan Mayen East 127.41 8 *e*SS SS 16 52 23.6 +4.2
JNW Jan Mayen West 127.44 8 *e*PKPdf **PKiKP** **16 33 17.7 +4.6**
JNW *e*PP **PP** **16 35 13.5 -1.1**
JNW IVMs_BB IVMs_BB 17 15 41.5
comp=Z,2μm,5.8s
LOF Lofoten 127.49 18 *e*PKPdf **PKPdf** **16 33 13.6 +0.9**
LOF *e*PP **PP** **16 35 15.2 +0.2**
LOF *e*SS SS 16 52 18.5 -1.9
UMMG Uummannaq 127.51 350 *i* P **PKPdf** **16 33 11.8 -0.9**
CHM Chimkent 127.52 68 *e*PKIKP **PKPdf** **16 33 13.1 -0.5**
CHM MLR MLR
comp=Z,1μm,22.0s
CHM Chimkent 127.52 68 *e*PKP **PKPdf** **16 33 13.2 -0.5**
CHM LR LR 17 28 55.0
comp=Z,1μm,22.1s
NEW Newport 127.60 303 PKhKP PKPpre 16 32 57.9
comp=Z,2.0nm,0.7s,baz=51,slow=4.5,SNR=3.6
NEW PKP **PKPdf** **16 33 12.2 -1.4**
comp=Z,18nm,0.8s,baz=106,slow=4.2,SNR=25
STEI Steigen 127.62 19 *e*PKPdf **PKPdf** **16 33 12.7 -0.2**
STEI IVmB_BB 16 33 14.6
comp=Z,657nm,2.5s
STEI *e*PP **PP** **16 35 13.6 -2.3**
STEI *e*SS SS 16 52 20.6 -1.4
STEI IVMs_BB IVMs_BB 17 17 30.7
comp=Z,1μm,20.1s
IUG Iuzhnay 127.62 68 *e*PKIKP **PKPdf** **16 33 13.3 -0.6**
IUG *e* 16 35 14.6
IUG Iuzhnay 127.62 68 *e*PKP **PKPdf** **16 33 13.4 -0.6**
IUG *e*PP **PP** **16 35 14.6 -1.9**
KLMR Klimovskoe 127.97 35 *e*PKIKP **PKPdf** **16 33 12.3 -1.5**
KLMR *e* 16 33 33.2
KLMR *e* 16 35 14.4
KLMR *e*PPP PPP 16 38 01.3
KLMR pmax pmax
comp=Z,111nm,1.4s
BRLS Borolday 128.14 68 *e*PKIKP **PKPdf** **16 33 13.7 -1.1**
BRLS *e* 16 35 16.1
BRLS Borolday 128.14 68 *e*PKP **PKPdf** **16 33 13.7 -1.1**
BRLS *e*PP **PP** **16 35 16.2 -3.7**
NUUG Nuugaatsiaq 128.45 350 *i* P **PKPdf** **16 33 13.8 -0.6**
SUMG Summit 128.45 356 *i* P **PKPdf** **16 33 15.0 0.0**
KK31 Karatay Array 128.55 68 **PKPdf** **16 33 15.8 +0.2**

KK31 Karatay Array 128.55 68 PKIKP **PKPdf** **16 33 15.8 +0.2**
DZA Taraz 128.82 69 *e*PKIKP **PKPdf** **16 33 15.6 -0.5**
DZA Taraz 128.82 69 *e*PKP **PKPdf** **16 33 15.6 -0.5**
KSH Kashi 128.92 75 PKP **PKPdf** **16 33 16.8 +0.2**
KSH PP **PP** **16 35 23.3 -1.8**
KSH SKKS 16 42 11.3
KSH SS **SS** **16 52 38.8 -0.6**
KSH AMB AMB
comp=Z,2μm,12.4s
KSH LR LR
comp=Z,2μm,23.4s
KSH LR LR
comp=Z,4μm,19.9s
KSH LR LR
comp=Z,9μm,33.0s
AML Almayashu 129.54 71 P **PKPdf** **16 33 18.7 +0.7**
SNR=18
KIP Kipapa 129.64 248⇓ *i*PKIKP **PKPdf** **16 33 17.5 -0.8**
KIP pmax pmax
comp=Z,80nm,1.7s
KIRV Kirov 129.76 42*d* *i*PKIKP **PKPdf** **16 33 16.8 -0.5**
TRO Tromso 129.77 19 *e*PKPdf **PKPdf** **16 33 17.1 +0.1**
TRO *e*PP **PP** **16 35 29.5 -0.4**
TRO *e*SP SP 16 45 34.7 +2.4
TRO *e*SS **SS** **16 52 50.0 +1.4**
UPNV Upernavik 129.92 349 *i* P **PKPdf** **16 33 16.7 -0.6**
EKS2 Erkin-Say 129.95 70 P **PKPdf** **16 33 19.0 +0.6**
SNR=14
JETT Jettan, Norway 129.99 20 *e*PKPdf **PKPdf** **16 33 17.7 +0.1**
JETT *e*PP **PP** **16 35 33.5 +2.0**
JETT *e*SS SS 16 52 56.7 +5.3
DBG Daneborg 130.08 3 *i* P **PKPdf** **16 33 17.5 0.0**
KTK1 Kautokeino 130.10 22 *e*PKPdf **PKPdf** **16 33 17.8 +0.1**
KTK1 *e*PP **PP** **16 35 34.1 +2.0**
KTK1 *e*SS SS 16 52 51.4 -1.3
LSA Lhasa 130.17 95 PKP **PKPdf** **16 33 20.8 +1.1**
LSA LR LR
comp=Z,3μm,20.5s
LSA LR LR
comp=Z,5μm,21.2s
AAK Ala-Archa 130.32 71 P **PKPdf** **16 33 19.5 +0.3**
SNR=14
AAK Ala-Archa 130.32 71*d* *i*PKIKP **PKPdf** **16 33 19.2 0.0**
AAK pmax pmax
comp=Z,23nm,0.6s
AAK MLR MLR
comp=Z,5μm,21.0s
AAK Ala-Archa 130.32 71 PKP **PKPdf** **16 33 19.8 +0.6**
KBK Karagaybulak 130.57 71 P **PKPdf** **16 33 20.4 +0.7**
SNR=13
TNCH TengChong 130.60 106 PKP **PKPdf** **16 33 20.7 +0.4**
TNCH SKKS 16 42 23.2
TNCH SS **SS** **16 53 02.0 +2.2**
TNCH AMB AMB
comp=Z,1μm,4.6s
TNCH LR LR
comp=Z,3μm,24.5s
TNCH LR LR
comp=Z,2μm,23.7s
TNCH LR LR
comp=Z,11μm,25.1s
CHMS Chumysh 130.70 71 P **PKPdf** **16 33 19.3 -0.4**
SNR=7.8
USP Ospenovka 130.75 70 P **PKPdf** **16 33 20.1 +0.3**
SNR=13
SGDS Sogindy 130.95 70 *e*PKIKP **PKPdf** **16 33 19.5 -0.7**
SGDS Sogindy 130.95 70 *e*PKP **PKPdf** **16 33 19.5 -0.7**
ARA0 ARCESS Array S 131.00 22 *e*PKPdf **PKPdf** **16 33 19.7 +0.3**
ARA0 *e*PKPdf **PKiKP** **16 33 22.2 +1.8**
ARA0 IVmB_BB 16 33 24.1
comp=Z,854nm,1.9s
ARA0 *e*PP **PP** **16 35 39.5 +1.5**
ARA0 *e*SS SS 16 52 58.5 -5.3
ARCES ARCESS Array B 131.00 22 PKhKP PKPpre 16 33 01.8
comp=Z,4.3nm,0.9s,baz=225,slow=2.9,SNR=8.3
ARCES PKP **PKPdf** **16 33 18.7 -0.7**
comp=Z,27nm,0.6s,baz=217,slow=1.7,SNR=22
ARCES SKPbc **SKPbc** **16 36 34.1 -4.0**
comp=Z,38nm,0.7s,baz=217,slow=3.0,SNR=9.9
TKM2 Tokmak 2 131.10 71 P **PKPdf** **16 33 20.7 0.0**
SNR=10
APA Apatity 131.29 27⇓ *i*PKIKP **PKPdf** **16 33 17.5 -2.5**
APA *i* 16 35 40.0
APA pmax pmax
comp=Z,21nm,0.7s
QIZ Qiongzhong 131.43 122 PKP **PKPdf** **16 33 22.9 +1.1**
QIZ sPKP 16 33 46.0
QIZ SS SS 16 53 09.5 +0.2
QIZ AMB AMB
comp=Z,1μm,10.9s
QIZ LR LR
comp=Z,5μm,22.0s
QIZ LR LR
comp=Z,5μm,22.1s
QIZ LR LR
comp=Z,8μm,23.5s
HAMF Hammerfest 131.53 20 *e*PKPdf **PKPdf** **16 33 21.4 +1.0**
HAMF *e*PP **PP** **16 35 42.9 +1.7**
HAMF *e*SS SS 16 53 11.6 +1.5
HAMF IVMs_BB IVMs_BB 17 18 40.4
comp=Z,1μm,4.4s
KULLO Kullorsuaq 131.72 350 *i* P **PKPdf** **16 33 19.9 -0.7**
BTLS Baital 131.73 68 *e*PKIKP **PKPdf** **16 33 21.0 -0.5**
BTLS Baital 131.73 68 *e*PKP **PKPdf** **16 33 21.1 -0.5**
ARTI Arti 131.82 48 *i* PKIKP **PKPdf** **16 33 21.0 -0.3**
ARTI 16 35 40.0
ARTI PPP PPP 16 38 38.1
ARTI MLR MLR
comp=Z,6μm,27.0s
LVZ Lovozero 131.85 27 **PKPdf** **16 33 21.9 +0.8**
LVZ Lovozero 131.85 27*d* *i*PKIKP **PKPdf** **16 33 20.6 -0.5**
LVZ pmax pmax
comp=Z,168nm,1.7s
LVZ MLR MLR
comp=Z,5μm,19.0s
TNSS Tian-Shan 131.90 72 *e*PKIKP **PKPdf** **16 33 21.2 -1.2**
TNSS Tian-Shan 131.90 72 *e*PKP **PKPdf** **16 33 21.3 -1.2**
AAA Alma-Ata 132.00 72 *e*PKIKP **PKPdf** **16 33 21.6 -0.6**
AAA Alma-Ata 132.00 72 *e*PKP **PKPdf** **16 33 21.6 -0.6**
MDOK Medeo 132.04 72 *e*PKIKP **PKPdf** **16 33 21.7 -0.7**
MDOK *e* 16 35 43.5
MDOK Medeo 132.04 72 *e*PKP **PKPdf** **16 33 21.7 -0.7**
MDOK *e*PP **PP** **16 35 43.6 -1.8**
MDOK LR LR 17 30 56.3
comp=Z,1μm,17.4s
VADS Vadso 132.29 23 *e*PKPdf **PKiKP** **16 33 23.4 +0.6**
VADS IVmB_BB 16 33 28.7
comp=Z,740nm,2.0s
VADS *e*PP **PP** **16 35 46.5 +0.3**
VADS *e*SS SS 16 53 22.0 +2.7
CHKK Chushkaly 132.48 71 *e*PKIKP **PKPdf** **16 33 22.2 -0.8**
CHKK Chushkaly 132.48 71 *e*PKP **PKPdf** **16 33 22.3 -0.8**
SATY Saty 132.70 73 *e*PKIKP **PKPdf** **16 33 23.0 -0.6**
SATY *e* 16 35 47.9
SATY Saty 132.70 73 *e*PKP **PKPdf** **16 33 23.1 -0.6**
SATY *e*PP **PP** **16 35 47.9 -1.6**
ZHN Zhinishke 132.79 73 *e*PKIKP **PKPdf** **16 33 22.9 -0.8**
ZHN *e* 16 35 48.1
ZHN Zhinishke 132.79 73 *e*PKP **PKPdf** **16 33 23.0 -0.8**
ZHN *e*PP **PP** **16 35 48.1 -2.0**
KMI Kunming 132.93 110 ⇑PKP **PKPdf** **16 33 24.4 -0.3**
KMI 16 33 51.2
KMI PKS **PKSdf** **16 36 57.8 -3.7**
KMI SKS **SKSdf** **16 40 24.8 -5.9**
KMI SKKS **SKKSac** **16 42 36.8 -4.4**
KMI SS **SS** **16 53 29.8 +1.5**
KMI AMB AMB
comp=Z,2μm,6.3s
KMI LR LR
comp=Z,3μm,27.9s
KMI LR LR
comp=Z,4μm,29.2s
KMI LR LR
comp=Z,12μm,26.8s
SVE Sverdlovsk 133.06 49*c* *i*PKIKP **PKPdf** **16 33 23.9 +0.3**
SVE pmax pmax
comp=Z,83nm,0.9s
SVE MLR MLR
comp=Z,4μm,24.0s
UZB Uzynbulak 133.09 74 *e*PKIKP **PKPdf** **16 33 23.7 -0.7**
UZB *e* 16 35 50.3
UZB Uzynbulak 133.09 74 *e*PKP **PKPdf** **16 33 23.8 -0.7**
UZB *e*PP **PP** **16 35 50.3 -1.8**
ARXS Arharly 133.17 72 *i* PKIKP **PKPdf** **16 33 23.7 -0.7**

SHLS	Shalkode	133.34	74	*e*PKIKP	PKPdf	16 33 24.5	-0.3
SHLS				*e*		16 35 52.9	
SHLS	Shalkode	133.34	74	*e*PKP	PKPdf	16 33 24.5	-0.3
SHLS				*e*PP	PP	16 35 52.9	-0.7
PZH	PanZhiHua	133.51	108	PKP	PKPdf	16 33 25.3	-0.4
PZH				SKS	SKSdf	16 40 26.0	-5.4
PZH				AMB	AMB		
	comp=Z,1μm,6.7s						
PZH				LR	LR		
	comp=Z,2μm,26.5s						
PZH				LR	LR		
	comp=Z,2μm,24.5s						
PZH				LR	LR		
	comp=Z,4μm,25.5s						
BJO1	Bjornoya	133.87	16	*e*PKPdf	PKPdf	16 33 25.3	+0.6
BJO1				*e*PP	PP	16 35 57.1	+0.9
BJO1				*e*SP	SP	16 46 09.5	+2.2
BJO1				*e*SS	SS	16 53 41.1	+2.8
NEEM	North Greenlan	133.92	353	*i* P	PKPdf	16 33 24.5	-0.6
BRZS	Berezniki	134.27	62	*e*PKIKP	PKPdf	16 33 25.8	-0.3
BRZS				*e*		16 35 57.7	
BRZS	Berezniki	134.27	62	*e*PKP	PKPdf	16 33 25.9	-0.3
BRZS				*e*PP	PP	16 35 57.7	-1.6
BRVK	Borovoye	135.03	58	*d i*PKIKP	PKPdf	16 33 27.4	-0.1
BRVK				MLR	MLR		
	comp=Z,7μm,25.0s						
BVAR	Borovoye Array	135.06	58	PKhKP	PKPpre	16 33 18.4	
	comp=Z,3.6nm,0.7s,baz=234,slow=1.5,SNR=10						
BVAR				PKP	PKPdf	16 33 28.7	+1.2
	comp=Z,14nm,0.6s,baz=238,slow=1.5,SNR=28						
BVAR				SKPbc	SKPbc	16 36 48.8	-3.6
	comp=Z,32nm,0.7s,baz=259,slow=3.0,SNR=9.3						
BVAR				PKKP	PKKPdf	16 43 08.8	-1.7
	comp=Z,3.3nm,0.9s,baz=66,slow=1.7,SNR=3.6						
BVAR				SKKPbc	SKKPbc	16 45 52.2	-5.5
	comp=Z,1.3nm,0.6s,baz=42,slow=4.2,SNR=4.2						
BBB	Bella Bella	135.48	300	PKP	PKPdf	16 33 28.6	+0.3
	comp=Z,37nm,0.9s,baz=278,slow=4.6,SNR=6.5						
BBB				SKPbc	SKPbc	16 36 50.2	-3.5
	comp=Z,19nm,0.8s,baz=271,slow=2.6,SNR=4.3						
YKA	Yellowknife Ar	135.84	318	PKP	PKPdf	16 33 29.1	+0.5
	comp=Z,67nm,0.7s,baz=129,slow=2.5,SNR=73						
YKA				PP	PP	16 36 02.4	-6.5
	comp=Z,20nm,0.9s,baz=124,slow=5.8,SNR=4.9						
YKA				SKPbc	SKPbc	16 36 51.2	-3.3
	comp=Z,35nm,0.9s,baz=124,slow=2.1,SNR=11						
YKA				PKKP	PKKPdf	16 43 08.8	-0.4
	comp=Z,2.6nm,0.8s,baz=306,slow=1.7,SNR=5.2						
YKA				SKKPbc	SKKPbc	16 45 51.8	-3.7
	comp=Z,2.9nm,0.9s,baz=311,slow=2.8,SNR=5.9						
HOPEN	Hopen	136.39	16	*e*SS	SS	16 54 00.9	-7.6
SPITS	Spitsbergen Ar	136.55	12	PKhKP	PKPpre	16 33 21.0	
	comp=Z,3.7nm,0.5s,baz=157,slow=4.5,SNR=13						
SPITS				PKP	PKPdf	16 33 30.6	+0.9
	comp=Z,15nm,0.8s,baz=163,slow=6.0,SNR=9.1						
SPITS				SKPbc	SKPbc	16 36 52.5	-3.8
	comp=Z,26nm,0.9s,baz=163,slow=18,SNR=4.8						
GZH	Guangzhou	136.57	123	PKP	PKPdf	16 33 31.6	+0.3
GZH				SKKS		16 43 03.3	
GZH				SS	SS	16 54 21.1	+10
GZH				LR	LR		
	comp=Z,6μm,20.9s						
GZH				LR	LR		
	comp=Z,5μm,22.0s						
GOMU	GeErMu	137.05	93	PKP	PKPdf	16 33 28.9	-3.4
GOMU				sPKP		16 33 53.8	
GOMU				PP	PP	16 36 16.1	-1.2
GOMU				SKS	SKSdf	16 40 37.8	+0.1
GOMU				SKKS	SKKSac	16 43 00.3	-5.6
GOMU				SS	SS	16 54 18.3	0.0
GOMU				AMB	AMB		
	comp=Z,2μm,10.9s						
GOMU				LR	LR		
	comp=Z,5μm,20.6s						
GOMU				LR	LR		
	comp=Z,4μm,21.2s						
GOMU				LR	LR		
	comp=Z,7μm,19.6s						
MK31	Makanchi Array	137.23	72	*ce*PKIKP	PKPdf	16 33 29.9	-1.9
MKAR	Makanchi Array	137.23	72	PKhKP	PKPpre	16 33 19.1	
	comp=Z,0.9nm,0.6s,baz=240,slow=2.9,SNR=10						
MKAR				SKPbc	SKPbc	16 36 55.1	-4.2
	comp=Z,26nm,0.8s,baz=250,slow=2.5,SNR=14						
MKAR				SKKPbc	SKKPbc	16 45 46.9	-2.0
	comp=Z,2.2nm,0.9s,baz=36,slow=3.5,SNR=4.8						
GUMO	Guam	137.36	170	PKhKP	PKPpre	16 33 27.3	
	comp=Z,82nm,0.6s,baz=139,slow=9.6,SNR=5.6						
KURBB	Kurchatov Arra	137.62	65	PKhKP	PKPpre	16 33 22.5	
	comp=Z,7.3nm,0.7s,baz=234,slow=3.4,SNR=18						
KURBB				SKPbc	SKPbc	16 36 56.6	-3.6
	comp=Z,32nm,0.8s,baz=234,slow=3.2,SNR=15						
KURBB				SKKPbc	SKKPbc	16 45 44.8	-2.9
	comp=Z,1.8nm,0.6s,baz=54,slow=3.9,SNR=7.8						
TOAD	Toad River Com	138.05	310	P	PKPdf	16 33 33.1	+0.1
	baz=123,SNR=6.9						
CD2	Chengdu	138.06	106	PKP	PKPdf	16 33 31.2	-2.7
CD2				AMB	AMB		
	comp=Z,1μm,4.5s						
CD2				LR	LR		
	comp=Z,4μm,21.0s						
CD2				LR	LR		
	comp=Z,5μm,22.8s						
KOTAN	Kotaneelee Air	138.25	312	P	PKPdf	16 33 34.0	+0.8
	baz=122,SNR=13						
WMQ	Urumqi	138.27	79	*e*PKP	PKPdf	16 33 35.7	+1.8
WMQ				LR	LR		
	comp=Z,3μm,20.3s						
WMQ				LR	LR		
	comp=Z,2μm,23.9s						
WMQ				LR	LR		
	comp=Z,4μm,23.9s						
U35K	Hyder	138.58	304	P	PKPdf	16 33 34.2	+0.3
	baz=123						
LIRD	Liard River Hi	138.73	310	P	PKPdf	16 33 34.3	+0.2
	baz=122,SNR=6.0						
V35K	Ketchikan	139.01	302	P	PKPdf	16 33 35.0	+0.3
	baz=123						
ZSN	Zaisan	139.01	73	*e*PKIKP	PKPdf	16 33 34.4	-0.6
ZSN	Zaisan	139.01	73	*e*PKP	PKPdf	16 33 34.5	-0.6
T35M	Bob Quinn	139.27	305	P	PKPdf	16 33 35.4	+0.2
	baz=122						
WRGLY	Wrigley	139.63	316	P	PKPdf	16 33 35.9	+0.3
	baz=120						
CRAG	Craig	139.81	302	P	PKPdf	16 33 36.1	0.0
	baz=122						
DLBC	Dease Lake	139.94	307	PKhKP	PKPpre	16 33 28.6	
	comp=Z,28nm,0.9s,baz=122,slow=3.7,SNR=18						
DLBC				SKP		16 37 03.1	
	comp=Z,60nm,0.8s,baz=294,slow=4.6,SNR=10						
DLBC	Dease Lake	139.94	307	P	PKPdf	16 33 36.3	-0.2
	baz=121,SNR=11						
WRAK	Wrangell Islan	139.95	303	P	PKPdf	16 33 36.6	+0.2
	baz=122						
U33K	Whale Pass	140.15	302	P	PKPdf	16 33 37.2	+0.5
	baz=122,SNR=5.7						
S34M	Telegraph Cree	140.17	306	P	PKPdf	16 33 37.0	+0.2
	baz=121						
WTLY	Watson Lake, Y	140.26	310	P	PKPdf	16 33 37.6	+0.7
	baz=120,SNR=9.7						
T33K	Petersburg	140.44	304	P	PKPdf	16 33 38.0	+0.8
	baz=121						
QZH	Quanzhou	140.57	128	PKPbc	PKPdf	16 33 29.8	-8.8
QZH				PP	PP	16 36 39.1	+0.9
ENH	Enshi	140.60	113		PKPpre	16 33 32.0	
CNSH	ChangSha	140.65	118	PKP	PKPdf	16 33 36.8	-1.8
CNSH				LR	LR		
	comp=Z,3μm,30.6s						
CNSH				LR	LR		
	comp=Z,2μm,30.6s						
CNSH				LR	LR		
	comp=Z,9μm,33.3s						
TGTN	Hyland Airport	140.74	312	P	PKPdf	16 33 38.3	+0.5
	baz=118						
R33M	Jennings River	140.85	308	P	PKPdf	16 33 38.4	+0.3
	baz=119,SNR=23						
Q32M	Nakina River	141.22	307	P	PKPdf	16 33 39.3	+0.4
	baz=119,SNR=12						
S32K	Killisnoo	141.54	304	P	PKPdf	16 33 39.5	+0.3
	baz=119						
SIT	Sitka	141.68	303	P	PKPdf	16 33 39.5	0.0
	baz=119						
R32K	Eaglecrest	141.91	305	P	PKPdf	16 33 40.0	+0.1
	baz=118						
H11N1	WAKE ISLAND Hyl	142.15	203	PKP	PKPdf	16 33 40.7	-0.6
	baz=216,slow=5.0,SNR=6.2						
H11N3	WAKE ISLAND Hyl	142.15	203	PKP	PKPdf	16 33 39.1	-2.2
	baz=216,slow=5.0,SNR=5.5						
H11N2	WAKE ISLAND Hyl	142.16	203	PKP	PKPdf	16 33 40.4	-0.9
	baz=216,slow=5.0,SNR=3.4						
ZALV	Zalesovo Beam	142.68	64		PKPdf	16 33 38.4	-3.0
ZALV	Zalesovo Beam	142.68	64	PKhKP	PKPpre	16 33 37.0	
	comp=Z,7.5nm,0.4s,baz=235,slow=3.7,SNR=34						
ZALV				SKP		16 37 08.6	
	comp=Z,24nm,0.9s,baz=228,slow=3.2,SNR=6.8						
ZALV	Zalesovo Beam	142.68	64	PKIKP	PKPdf	16 33 38.4	-3.0
XAN	Xi'an	143.25	108	PKP	PKPab	16 33 40.0	+0.9
XAN				SS	SS	16 55 29.1	-0.8
XAN				AMB	AMB		
	comp=Z,3μm,7.4s						
XAN				LR	LR		
	comp=Z,7μm,21.2s						
XAN				LR	LR		
	comp=Z,5μm,19.4s						
XAN				LR	LR		
	comp=Z,10μm,22.7s						
WHN	Wuhan	143.29	118	⇑PKP	PKPab	16 33 37.7	-1.5
WHN				PP	PP	16 36 55.5	+0.6
WHN				SKKS		16 43 36.5	
WHN				LR	LR		
	comp=Z,5μm,19.7s						
WHN				LR	LR		
	comp=Z,12μm,22.3s						
WHN				LR	LR		
	comp=Z,18μm,22.0s						
A36M	Sachs Harbour	143.92	328		PKPbc	16 33 42.3	+1.2
HYT	Haines Junctio	144.42	308	P	PKPbc	16 33 44.0	+0.9
	baz=114,SNR=203						
N30M	Aishikik Lake	144.50	309	P	PKPbc	16 33 44.3	+1.0
	baz=113,SNR=489						
O29M	Mount Kennedy	144.69	306	P	PKPab	16 33 44.4	+0.5
	baz=114,SNR=85						
PNL	Peninsula	144.79	305	P	PKPab	16 33 45.1	+0.9
	baz=114,SNR=61						
M30M	Minto, Yukon	144.81	311	P	PKPab	16 33 44.5	+0.3
	baz=112,SNR=496						
YUK6	Outpost Mounta	144.85	307	P	PKPab	16 33 45.2	+0.6
	baz=113,SNR=118						
H31M	Peel River	144.99	316	P	PKPbc	16 33 44.9	+0.2
	baz=109,SNR=243						
YUK4	Talbot Arm	145.14	308	P	PKPbc	16 33 46.2	+0.7
	baz=112,SNR=405						
F31M	Tsiigehtchic	145.29	319	P	PKPbc	16 33 45.8	+0.3
	baz=108						
J30M	Hart River	145.35	314	P	PKPdf	16 33 46.5	+0.6
	baz=110,SNR=321						
PINM	Pinnacle	145.37	305	P	PKPdf	16 33 46.8	+0.8
	baz=113,SNR=20						
M29M	Somme Creek	145.48	310	P	PKPdf	16 33 47.0	+0.8
	baz=111,SNR=370						
INK	Inuvik	145.48	321	P	PKPdf	16 33 46.5	+0.6
	baz=106,SNR=281						
LYN	LuoYang	145.51	112	⇑PKPbc	PKPdf	16 33 47.0	0.0
LYN				PP	PP	16 37 14.3	+6.1
LYN				PKS	PKSdf	16 37 22.3	-0.1
LYN				SKKS		16 43 49.8	
LYN				AMB	AMB		
	comp=Z,4μm,11.7s						
LYN				LR	LR		
	comp=Z,6μm,24.4s						
LYN				LR	LR		
	comp=Z,7μm,23.0s						
LYN				LR	LR		
	comp=Z,13μm,24.0s						
L29M	L29M	145.58	311	P	PKPdf	16 33 47.2	+0.9
	baz=110,SNR=916						
K29M	Barlow Dome	145.58	312	P	PKPdf	16 33 47.0	+0.6
	baz=110,SNR=454						
I30M	Mount Dempster	145.59	315	P	PKPdf	16 33 46.7	+0.3
	baz=109,SNR=568						
O28M	Mount Upton	145.60	307	P	PKPdf	16 33 47.8	+1.1
	baz=112,SNR=66						
YUK8	Steele Glacier	145.61	307	P	PKPdf	16 33 47.7	+1.1
	baz=112,SNR=168						
G30M	tAoh Zraii Nji	146.08	318	P	PKPdf	16 33 48.3	+1.3
	baz=106,SNR=461						
J29N	Klondike Camp	146.08	313	P	PKPbc	16 33 48.8	+0.6
	baz=108,SNR=45						
EPYK	Eagle Plains	146.09	317	P	PKPdf	16 33 48.2	+1.2
	baz=107,SNR=239						
F30M	Barrier River	146.10	319	P	PKPdf	16 33 48.3	+1.4
	baz=106,SNR=344						
YUK3	Moose Creek	146.10	308	P	PKPdf	16 33 48.6	+1.2
	baz=111,SNR=115						
MESA	MESA	146.18	305	P	PKPbc	16 33 49.4	+0.7
	baz=112,SNR=51						
JOW	Kunigami	146.19	140	PKPbc	PKPdf	16 33 49.3	+0.9
	comp=Z,266nm,0.7s,baz=236,slow=5.2,SNR=50						
JOW				SKPbc	SKPbc	16 37 21.0	-1.9
	comp=Z,34nm,0.8s,baz=93,slow=4.0,SNR=3.6						
I29M	Ogilvie Camp,	146.40	315	P	PKPdf	16 33 48.8	+1.3
	baz=107,SNR=13						
DAWY	Dawson	146.44	312	P	PKPdf	16 33 49.3	+1.6
	baz=108,SNR=196						
BVCY	Beaver Creek	146.51	309	P	PKPbc	16 33 49.8	+0.4
	baz=110,SNR=159						
H29M	Whitestone	146.68	316	P	PKPbc	16 33 50.1	+0.3
	baz=106,SNR=248						
NJ2	Nanjing	146.72	122	⇑PKPbc	PKPdf	16 33 50.6	+1.5
NJ2				PKPab	PKiKP	16 33 53.9	+0.3
NJ2				sPKP		16 34 10.9	
NJ2				PP	PP	16 37 15.8	+0.6
NJ2				SKKS		16 43 59.1	
NJ2				AMB	AMB		
	comp=Z,10μm,12.2s						
NJ2				LR	LR		
	comp=Z,7μm,20.6s						
NJ2				LR	LR		
	comp=Z,7μm,21.6s						
NJ2				LR	LR		
	comp=Z,9μm,20.6s						
G29M	Pine Creek	146.74	318	P	PKPbc	16 33 50.4	+0.4
	baz=105						
BGLC	Bering Glacier	146.77	304	P	PKPbc	16 33 51.0	+0.9
	baz=111,SNR=5.4						
M27K	Edge Creek, AK	146.94	309	P	PKPbc	16 33 51.1	+0.3
	baz=109,SNR=116						
SSE	Sheshan	147.02	126	PKPbc	PKPdf	16 33 48.9	-0.7
SSE				PP	PP	16 37 17.0	+0.1
SSE				SS	SS	16 56 11.7	-0.7
SSE				AMB	AMB		
	comp=Z,780nm,11.7s						
E29M	Blow River	147.07	320	P	PKPbc	16 33 50.9	+0.1
	baz=103,SNR=702						
I28M	Miner Creek	147.08	315	P	PKPbc	16 33 51.1	+0.1
	baz=106,SNR=419						
L27K	Beaver Creek,	147.15	310	P	PKPbc	16 33 51.7	+0.4
	baz=108,SNR=442						
KAIM	Kayak Island	147.23	304	P	PKPbc	16 33 52.5	+1.0
	baz=111,SNR=24						
M26K	Nabesna, AK	147.44	308	P	PKPbc	16 33 52.2	+0.1
	baz=108,SNR=82						
K27K	Chicken	147.55	312	P	PKPbc	16 33 53.1	+0.8
	baz=106						
D28M	Stokes Point	147.57	322	P	PKPbc	16 33 53.0	+0.8
	baz=101						
BMRM	Bremner River	147.69	305	P	PKPbc	16 33 53.4	+0.6
	baz=109,SNR=121						
E28M	Babbage River	147.70	320	P	PKPbc	16 33 52.3	-0.2
	baz=101,SNR=74						
L26K	Log Cabin Wild	147.79	309	P	PKPbc	16 33 53.4	+0.5
	baz=107,SNR=32						
I27K	Kandik River	147.79	314	P	PKPbc	16 33 53.7	+0.8
	baz=104,SNR=127						
TIY	Taiyuan	147.88	108	*e*PKPbc	PKPbc	16 33 53.6	-0.5
TIY				PP	PP	16 37 29.5	+7.2
TIY				SKKS		16 44 02.7	
TIY				AMB	AMB		
	comp=Z,3μm,8.3s						
TIY				LR	LR		
	comp=Z,2μm,23.3s						
TIY				LR	LR		
	comp=Z,2μm,22.2s						
TIY				LR	LR		
	comp=Z,4μm,27.5s						
N25K	Chitina, Valde	147.90	307	P	PKPbc	16 33 54.1	+0.7
	baz=108,SNR=63						
H27K	Steamboat Moun	147.92	316	P	PKPbc	16 33 53.9	+0.7
	baz=103,SNR=320						
EYAK	Cordova Ski Ar	148.07	304	P	PKPbc	16 33 54.6	+0.9
	baz=109,SNR=104						
G27K	Doyon Strip	148.10	317	P	PKPbc	16 33 54.2	+0.5
	baz=102,SNR=98						
J26L	Joseph Creek	148.30	312	P	PKPbc	16 33 55.0	+0.6
	baz=104,SNR=93						
D27M	Malcolm River	148.33	321	P	PKPbc	16 33 55.1	+0.9
	baz=99,SNR=7.8						
I26K	Coal Creek Min	148.34	314	P	PKPbc	16 33 55.0	+0.7
	baz=104						
SCRK	Sand Creek	148.34	311	P	PKPbc	16 33 55.0	+0.5
	baz=105,SNR=28						
E27K	Coleen River	148.37	319	P	PKPbc	16 33 54.8	+0.4
	baz=100,SNR=76						
HARP	HAARP	148.40	308	P	PKPbc	16 33 55.0	+0.4
	baz=107,SNR=46						
KLU	Klutina	148.46	306	P	PKPbc	16 33 55.8	+1.0
	baz=108,SNR=26						
BTO	Baotou	148.63	101	*e*PKPbc	PKPdf	16 33 52.3	+0.1
BTO				PP	PP	16 37 29.0	+2.2
BTO				SS	SS	16 56 32.0	+0.7
BTO				AMB	AMB		
	comp=Z,7μm,6.4s						
BTO				LR	LR		
	comp=Z,7μm,22.7s						
BTO				LR	LR		
	comp=Z,5μm,23.1s						
BTO				LR	LR		
	comp=Z,13μm,22.9s						
RIDG	Independent Ri	148.64	310	P	PKPbc	16 33 56.1	+0.9
	baz=105,SNR=34						
P23K	Montague Islan	148.66	303	P	PKPbc	16 33 55.8	+0.6
	baz=109						
PAX	Paxson	148.70	309	P	PKPbc	16 33 55.8	+0.4
	baz=106,SNR=20						
M24K	Tolsona, Glenn	148.76	307	P	PKPbc	16 33 56.7	+1.1
	baz=106,SNR=12						
GLI	Glacier Island	148.81	304	P	PKPbc	16 33 56.1	+0.4
	baz=108,SNR=33						
HNS	HongShan	148.86	111	⇑PKPbc	PKPdf	16 33 52.6	+0.1
HNS				PP	PP	16 37 36.1	+8.3
HNS				SS	SS	16 56 39.0	+5.6
HNS				AMB	AMB		
	comp=Z,3μm,14.0s						
HNS				LR	LR		
	comp=Z,4μm,22.7s						
HNS				LR	LR		
	comp=Z,2μm,23.5s						
HNS				LR	LR		
	comp=Z,7μm,24.5s						
G26K	Porcupine Rive	148.96	317	P	PKPbc	16 33 56.4	+0.6
	baz=100,SNR=274						
K24K	Donnelly Dome	149.06	310	P	PKPbc	16 33 56.7	+0.5
	baz=104,SNR=59						
J25K	Salcha River,	149.09	312	P	PKPbc	16 33 56.9	+0.5
	baz=103,SNR=26						
NRIK	Noril'sk	149.18	39	PKPbc	PKPbc	16 33 56.3	0.0
	comp=Z,45nm,1.0s,baz=186,slow=1.4,SNR=23						
NRIK				SKKPbc		16 44 58.1	
	comp=Z,1.5nm,0.5s,baz=90,slow=6.5,SNR=5.2						
TIA	Tai'an	149.20	115	PKPbc	PKPdf	16 33 53.0	-0.1
TIA				PKS	PKSdf	16 37 24.8	-3.2
TIA				PP	PP	16 37 37.0	+7.2
TIA				SKS	SKSdf	16 40 49.1	-6.4
TIA				AMB	AMB		
	comp=Z,3μm,14.2s						
TIA				LR	LR		
	comp=Z,4μm,21.3s						
TIA				LR	LR		
	comp=Z,3μm,22.0s						
TIA				LR	LR		
	comp=Z,8μm,25.0s						
SCM	Sheep Creek Mo	149.21	306	P	PKPbc	16 33 57.6	+0.9
	baz=106,SNR=13						
F26K	Sheenjek River	149.23	318	P	PKPbc	16 33 57.6	+1.0
	baz=99						
C27K	Jago River	149.35	322	P	PKPbc	16 33 57.5	+0.7
	baz=96,SNR=79						
PRP	Porcupine Dome	149.35	314	P	PKPbc	16 33 57.4	+0.4
	baz=101,SNR=18						
M23K	Glacier View	149.37	306	P	PKPbc	16 33 57.7	+0.6
	baz=106,SNR=68						
PWL	Port Wells	149.38	304	P	PKPbc	16 33 57.5	+0.5
	baz=107,SNR=12						
KNK	Knik Glacier	149.60	305	P	PKPbc	16 33 58.0	+0.4
	baz=106,SNR=8.1						
H25L	Birch Creek	149.62	315	P	PKPbc	16 33 58.5	+1.0
	baz=100						
HHC	Hu-ho-hao-te	149.65	103	*e*PKPbc	PKPdf	16 33 53.8	0.0
HHC				PP	PP	16 37 32.4	-0.3
HHC				SKKS		16 44 13.6	
HHC				SS	SS	16 56 46.9	+4.2
HHC				LR	LR		
	comp=Z,3μm,22.2s						
HHC				LR	LR		
	comp=Z,3μm,22.2s						
HHC				LR	LR		
	comp=Z,5μm,21.4s						
SML	Sawmill	149.65	306	P	PKPbc	16 33 58.3	+0.6
	baz=106,SNR=18						
SEW	Seward	149.67	302	P	PKPbc	16 33 58.1	+0.4
	baz=108,SNR=58						
HDA	Harding Lake	149.71	311	P	PKPbc	16 33 57.9	+0.1
	baz=102,SNR=25						
ILAR	Eielson Array	149.76	312	PKPbc	PKPbc	16 33 58.1	+0.2
	comp=Z,13nm,0.8s,baz=317,slow=1.4,SNR=97						
ILAR				SKiKP		16 37 27.2	
	comp=Z,13nm,0.8s,baz=139,slow=2.3,SNR=4.0						
F25K	Christian Rive	149.78	318	P	PKPbc	16 33 59.0	+1.1
	baz=98,SNR=161						
C26K	Camden Bay	149.79	322	P	PKPbc	16 33 58.9	+1.1
	baz=94						
G25K	Bearman Lake	149.82	316	P	PKPbc	16 33 59.2	+1.3
	baz=99						
E25K	Arctic Village	149.82	319	P	PKPbc	16 33 58.7	+0.7
	baz=97,SNR=196						
O22K	Cooper Landing	149.91	303	P	PKPbc	16 33 58.8	+0.5
	baz=107,SNR=19						
PMR	Palmer	149.96	305	P	PKPbc	16 33 58.9	+0.5
	baz=105,SNR=12						
POKR	Poker Plat Res	150.06	312	P	PKPbc	16 33 58.6	0.0
	baz=101,SNR=55						
MOY	Mondy	150.09	76	*e*PKIKP	PKPdf	16 33 53.2	-0.9
MOY				pmax	pmax		
	comp=Z,415nm,1.8s						
RC01	Rabbit Creek A	150.10	304	P	PKPbc	16 33 59.6	+0.8
	baz=106,SNR=23						
BRSE	Bradley Lake S	150.17	301	P	PKPbc	16 33 59.6	+0.6
	baz=107,SNR=61						
COLA	College	150.18	312	P	PKPbc	16 33 58.7	-0.1
	baz=101						
D25K	Kavik River	150.25	321	P	PKPbc	16 33 59.2	+0.2
	baz=94,SNR=36						
JCJ	Chichijima	150.28	162		PKPbc	16 33 59.5	-0.8
JCJ	Chichijima	150.28	162	PKPbc	PKPdf	16 33 58.6	+3.5
	comp=Z,342nm,0.6s,baz=279,slow=23,SNR=26						
G24K	Hadweenzic Riv	150.35	316	P	PKPbc	16 34 00.0	+0.8
	baz=98						
H24K	Noodor Dome	150.37	314	P	PKPbc	16 33 59.8	+0.4
	baz=99,SNR=24						
MCK	McKinley	150.41	309	P	PKPbc	16 34 00.1	+0.6
	baz=102,SNR=531						
KDAK	Kodiak Island	150.42	297		PKPbc	16 34 00.9	+1.3
KDAK	Kodiak Island	150.42	297	PKIKP	PKPbc	16 34 00.9	+1.3
KDAK	Kodiak Island	150.42	297	P	PKPbc	16 34 00.3	+0.7
	baz=110						
M22K	Willow	150.46	305	P	PKPbc	16 34 00.3	+0.7
	baz=104,SNR=8.5						
HOM	Homer	150.58	301	P	PKPbc	16 34 00.7	+0.8
	baz=107,SNR=9.3						
OHAK	Old Harbor	150.58	295	P	PKPbc	16 34 00.6	+0.6

	baz=95					
TRF	Thorofare Moun	150.94	309	P	PKPbc	16 34 01.3 +0.4
	baz=101,SNR=33					
C24K	Franklin Bluff	151.09	322	P	PKPbc	16 34 01.4 +0.5
	baz=91					
D24K	Happy Valley	151.11	321	P	PKPbc	16 34 01.2 +0.2
	baz=92					
SONM	Songino Array	151.11	87	PKPbc	PKPbc	16 34 02.0 +0.2
	comp=Z,13nm,0.9s,baz=210,slow=3.0,SNR=31					
SONM				SKKPbc		16 44 48.5
	comp=Z,4.7nm,0.8s,baz=51,slow=3.0,SNR=6.1					
SKT	Skwentna	151.16	305	P	PKPbc	16 34 01.7 +0.4
	baz=103,SNR=25					
O20K	Slope Mountain	151.18	301	P	PKPbc	16 34 01.4 0.0
	baz=106,SNR=17					
CHIR	Chirikof Islan	151.26	292	P	PKPbc	16 34 02.3 +0.6
	baz=111,SNR=23					
SPCR	Spurr Chakacha	151.28	304	P	PKPbc	16 34 01.7 0.0
	baz=104,SNR=8.5					
R18K	Karluk	151.29	296	P	PKPbc	16 34 02.0 +0.4
	baz=109					
E23K	Chandalar	151.33	318	P	PKPbc	16 34 02.0 +0.4
	baz=94					
Q19K	Cape Douglas,	151.33	299	P	PKPbc	16 34 02.0 +0.2
	baz=107,SNR=22					
P19K	Oil Pt	151.34	300	P	PKPbc	16 34 01.8 0.0
	baz=106,SNR=33					
TOLK	Toolik Lake Re	151.35	319	P	PKPbc	16 34 02.3 +0.7
	baz=93,SNR=54					
G23K	Bananza Creek	151.36	315	P	PKPbc	16 34 02.7 +1.1
	baz=96					
BPAW	Bear Paw Mtn.	151.37	310	P	PKPbc	16 34 02.0 +0.3
	baz=100,SNR=30					
COLD	Coldfoot	151.48	316	P	PKPbc	16 34 02.8 +0.9
	baz=95,SNR=33					
ULN	Ulaanbaatar	151.50	87	P	PKPdf	16 33 56.5 0.0
BJI	Beijing	151.57	109	PKPbc	PKPdf	16 33 56.6 0.0
BJI				PP	PP	16 37 51.1 +7.6
BJI				AMB	AMB	
	comp=Z,1μm,13.8s					
BJI				LR	LR	
	comp=Z,1μm,21.0s					
BJI				LR	LR	
	comp=Z,430nm,22.7s					
BJI				LR	LR	
	comp=Z,2μm,22.7s					
PPLA	Purkeypile	151.66	307	P	PKPbc	16 34 02.6 0.0
	baz=101,SNR=16					
CAST	Castle Rocks	151.72	308	P	PKPbc	16 34 02.4 -0.2
	baz=100,SNR=20					
C23K	Itkillik River	151.76	322	P	PKPbc	16 34 02.7 +0.3
	baz=89					
D23K	Nanushuk River	151.77	320	P	PKPbc	16 34 03.2 +0.7
	baz=91					
H22K	Ishtalitna Cre	151.81	314	P	PKPbc	16 34 03.2 +0.6
	baz=96,SNR=23					
M20K	Styx River	151.88	305	P	PKPbc	16 34 02.8 -0.3
	baz=102					
CHUM	Lake Minchumin	151.91	309	P	PKPbc	16 34 03.0 +0.1
	baz=99,SNR=16					
Q18K	Katmai Hardscr	151.92	298	P	PKPbc	16 34 03.1 -0.1
	baz=107,SNR=9.2					
G22K	Bettles	151.96	316	P	PKPbc	16 34 03.6 +0.7
	baz=94					
I21K	Tanana	151.96	312	P	PKPbc	16 34 02.9 -0.1
	baz=97,SNR=26					
O19K	Port Alsworth	152.02	301	P	PKPbc	16 34 02.9 -0.4
	baz=104,SNR=51					
E22K	Anaktuvuk Pass	152.16	318	P	PKPbc	16 34 03.8 +0.3
	baz=92,SNR=36					
Q17K	Contact Creek	152.24	297	P	PKPbc	16 34 03.9 -0.1
	baz=107,SNR=34					
P18K	Big Mountain,	152.25	299	P	PKPbc	16 34 03.5 -0.4
	baz=105,SNR=7.7					
N19K	Bonanza Creek	152.26	302	P	PKPbc	16 34 03.6 -0.3
	baz=103,SNR=49					
F22K	John River	152.26	317	P	PKPbc	16 34 04.4 +0.7
	baz=92					
L20K	Farewell, AK	152.34	306	P	PKPbc	16 34 03.7 -0.3
	baz=100,SNR=11					
O18K	Koktuh Hills	152.36	300	P	PKPbc	16 34 04.0 -0.1
	baz=104,SNR=78					
H21K	Melozitna Rive	152.36	313	P	PKPbc	16 34 04.4 +0.4
	baz=95,SNR=29					
M19K	Big River Lodg	152.46	305	P	PKPbc	16 34 04.4 +0.1
	baz=101					
D22K	Ayikyak River	152.49	320	P	PKPbc	16 34 05.0 +0.8
	baz=89,SNR=30					
K20K	Telida	152.59	308	P	PKPbc	16 34 04.5 0.0
	baz=99,SNR=6.0					
B22K	Teshekpuk Lake	152.71	323	P	PKPbc	16 34 05.0 +0.5
	baz=86					
G21K	Allakaket	152.72	315	P	PKPbc	16 34 05.2 +0.5
	baz=93					
L19K	White Mountain	152.73	305	P	PKPbc	16 34 04.8 -0.1
	baz=100,SNR=12					
J20K	Nowinta River	152.75	310	P	PKPbc	16 34 04.9 +0.1
	baz=97,SNR=25					
Q16K	King Salmon	152.75	297	P	PKPbc	16 34 04.9 0.0
	baz=106,SNR=29					
F21K	Alatna River	152.75	316	P	PKPbc	16 34 05.5 +0.7
	baz=92					
P17K	Kvichak River	152.79	298	P	PKPbc	16 34 05.0 0.0
	baz=105,SNR=41					
JNU	Nakatsue	152.83	138	PKPbc	PKPbc	16 34 05.6 -0.4
	comp=Z,135nm,0.8s,baz=307,slow=3.6,SNR=44					
R16K	Pilot Point	152.88	295	P	PKPbc	16 34 04.9 -0.4
	baz=107					
CHGN	Chignik	152.90	292	P	PKPbc	16 34 05.2 -0.1
	baz=109,SNR=15					
N18K	Kilae Creek	152.90	302	P	PKPbc	16 34 05.1 -0.2
	baz=102,SNR=20					
E21K	Killik River	152.96	319	P	PKPbc	16 34 05.6 +0.4
	baz=89					
I20K	Naaghedeneel	152.97	311	P	PKPbc	16 34 06.0 +0.7
	baz=96,SNR=5.9					
CHNA	Chernabura Isl	152.98	288	P	PKPbc	16 34 05.2 -0.4
	baz=111					
M18K	Stony River	153.04	303	P	PKPbc	16 34 05.3 -0.2
	baz=101,SNR=18					
B21K	Ikpikpuk River	153.16	322	P	PKPbc	16 34 06.1 +0.6
	baz=86,SNR=28					
A22K	Sinclair Lake	153.16	325	P	PKPbc	16 34 06.2 +0.7
	baz=83					
H20K	Anotleneega Mo	153.21	312	P	PKPbc	16 34 06.8 +1.0
	baz=94,SNR=27					
C21K	Knifeblade Rid	153.24	321	P	PKPbc	16 34 06.6 +0.9
	baz=87					
O17K	Koliganek Bris	153.26	299	P	PKPbc	16 34 06.0 -0.1
	baz=103,SNR=26					
J19K	Poorman	153.37	309	P	PKPbc	16 34 06.8 +0.6
	baz=96,SNR=18					
TTA	Tatalina	153.39	307	P	PKPbc	16 34 07.1 +0.8
	baz=98,SNR=19					
N17K	Nushagak Hills	153.49	301	P	PKPbc	16 34 07.3 +0.8
	baz=102,SNR=15					
S14K	Fog Glacier	153.49	291	P	PKPbc	16 34 07.1 +0.4
	baz=109,SNR=14					
P16K	Nushagak River	153.52	298	P	PKPbc	16 34 06.0 -0.6
	baz=104,SNR=5.4					
DL2	Dalian	153.55	117	PKPbc	PKPdf	16 33 59.0 -0.6
DL2				AMB	AMB	
	comp=Z,1μm,10.0s					
DL2				LR	LR	
	comp=Z,3μm,26.9s					
DL2				LR	LR	
	comp=Z,2μm,26.3s					
DL2				LR	LR	
	comp=Z,7μm,29.4s					
L18K	Granite Mounta	153.59	305	P	PKPbc	16 34 07.7 +1.0
	baz=99,SNR=19					
F20K	Avaraart Lake	153.62	316	P	PKPbc	16 34 06.8 +0.2
	baz=90					
SDPT	Sand Point	153.65	289	PKPbc	PKPbc	16 34 07.0 +0.1
SDPT	Sand Point	153.65	289	P	PKPbc	16 34 06.8 -0.2
	baz=110					
A21K	Barrow	153.65	326	P	PKPbc	16 34 07.1 +0.5
	baz=81,SNR=6.7					
O16K	Kokwok River B	153.71	299	P	PKPbc	16 34 06.8 -0.2
	baz=103,SNR=7.1					
J18K	Innoko River	153.78	308	P	PKPbc	16 34 08.1 +1.0
	baz=96					
M17K	Holitna River	153.79	303	P	PKPbc	16 34 08.1 +1.0
	baz=100					
E20K	Nigu River	153.79	319	P	PKPbc	16 34 08.0 +0.9
	baz=87					
H19K	Roundabout Mou	153.86	312	P	PKPbc	16 34 08.1 +0.9
	baz=92					
D20K	Etivluk River	153.93	320	P	PKPbc	16 34 08.0 +0.7
	baz=86					
GCSA	Galena City Sc	153.99	311	P	PKPbc	16 34 08.4 +1.0
	baz=94,SNR=9.6					
B20K	Meade River	154.01	323	P	PKPbc	16 34 08.1 +0.8
	baz=83					
G19K	Purcell Mounta	154.15	314	P	PKPbc	16 34 08.8 +1.0
	baz=91					
XLT	XiLinHaoTe	154.17	103	*e*PKPbc	PKPdf	16 34 00.2 -0.3
XLT				PKPab	PKPab	16 34 22.4 -0.4
XLT				PP	PP	16 38 07.0 +8.6
XLT				SS	SS	16 57 36.5 +4.0
XLT				LR	LR	
	comp=Z,320nm,23.8s					
XLT				LR	LR	
	comp=Z,950nm,24.7s					
XLT				LR	LR	
	comp=Z,4μm,24.2s					
E19K	Redstone River	154.21	317	P	PKPbc	16 34 08.0 +0.1
	baz=88					
N16K	Nishlik Lake	154.24	300	P	PKiKP	16 34 09.3 +1.1
	baz=101,SNR=6.9					
L17K	Donlin	154.32	304	P	PKiKP	16 34 09.3 +1.0
	baz=98,SNR=10.0					
K17K	Iditarod	154.40	306	P	PKPbc	16 34 09.4 +0.9
	baz=97					
F19K	Shaleruckik Mo	154.43	315	P	PKPbc	16 34 08.9 +0.6
	baz=88					
M16K	Timber Creek	154.44	302	P	PKiKP	16 34 09.9 +1.3
	baz=100,SNR=6.1					
O15K	Ungalikthiuk R	154.47	297	P	PKPbc	16 34 08.0 -0.7
	baz=103,SNR=5.9					
D19K	Kuna River	154.49	319	P	PKPbc	16 34 09.2 +0.7
	baz=85					
H18K	Honhosa River	154.64	311	P	PKPbc	16 34 09.9 +1.0
	baz=92,SNR=6.8					
G18K	Tagagawik	154.79	313	P	PKPbc	16 34 10.0 +0.8
	baz=90					
L16K	Owhat River	154.80	303	P	PKiKP	16 34 10.3 +1.0
	baz=98					
N15K	Kwethluk River	154.82	299	P	PKPbc	16 34 10.3 +0.9
	baz=101,SNR=6.0					
J17K	VABM Dome	154.83	307	P	PKiKP	16 34 10.4 +1.1
	baz=95					
FALS	False Pass	155.05	286	P	PKPdf	16 34 11.0 +10
	baz=110					
F18K	Selawik	155.18	315	P	PKPdf	16 34 10.8 +10
	baz=87					
O14K	Tigyukauivet M	155.21	297	P	PKPdf	16 34 10.8 +10
	baz=102					
M15K	Kasigluk River	155.21	301	P	PKPdf	16 34 11.0 +10
	baz=99					
H17K	Granite Mounta	155.29	311	P	PKPdf	16 34 10.9 +10
	baz=91,SNR=6.4					
A19K	Wainwright	155.30	324	P	PKPdf	16 34 10.8 +10
	baz=78,SNR=14					
KSRS	Korea Array	155.37	129	PKP	PKPdf	16 34 01.8 -0.4
	comp=Z,8.9nm,0.9s,baz=208,slow=1.4,SNR=16					
KSRS				PKPab	pPKPbc	16 34 27.6 -1.5
	comp=Z,14nm,0.8s,baz=216,slow=4.6,SNR=12					
J16K	Anvik River	155.51	307	P	PKPab	16 34 28.7 +0.9
	baz=94					
E18K	Tukpahlearik C	155.51	317	P	PKPab	16 34 28.1 +0.4
	baz=84,SNR=13					
N14K	Kuskokwak Cree	155.56	299	P	PKPab	16 34 28.9 +0.8
	baz=100,SNR=11					
I17K	Unalakleet	155.59	308	P	PKPab	16 34 29.2 +1.1
	baz=92					
C18K	Utukok River	155.60	320	P	PKPab	16 34 28.7 +0.6
	baz=81					
G17K	Kiwalik Mounta	155.61	312	P	PKPab	16 34 29.0 +0.8
	baz=89,SNR=6.7					
PYAG	Pyongyang	155.68	123	PKPbc	PKPdf	16 34 02.2 -0.3
PYAG				PP	PP	16 38 10.4 +3.9
PYAG				AmB		
	comp=Z,191nm,1.3s					
PYAG				AMS	AMS	
	comp=Z,1μm,10.3s					
B18K	Kokolik River	155.70	322	P	PKPab	16 34 29.9 +1.4
	baz=79					
L15K	Ungalak Mounta	155.75	303	P	PKPab	16 34 29.8 +0.9
	baz=96,SNR=5.6					
F17K	Baldwin Pennin	155.83	314	P	PKPab	16 34 28.9 -0.2
	baz=86					
M14K	Bethel	155.84	300	P	PKPab	16 34 30.0 +0.7
	baz=98,SNR=11					
K15K	Wolf Creek Mou	155.84	304	P	PKPab	16 34 30.4 +1.2
	baz=95,SNR=11					
SUJ	Sinuiju	155.89	119	PKPbc	PKPdf	16 34 02.3 -0.5
SUJ				AmB		
	comp=Z,742nm,4.0s					
E17K	Hotham Inlet	156.01	316	P	PKPab	16 34 30.1 +0.3
	baz=84					
L14K	Kuka Creek	156.27	302	P	PKPab	16 34 31.4 +0.3
	baz=96,SNR=7.0					
H16K	Elim	156.28	310	P	PKPab	16 34 31.8 +0.8
	baz=89					
RDOG	Red Dog Mine	156.31	319	P	PKPab	16 34 31.7 +0.5
	baz=81,SNR=6.8					
G16K	Koyuk River	156.32	312	P	PKPab	16 34 31.5 +0.3
	baz=87					
UNV	Unalaska Valle	156.36	282	P	PKPab	16 34 34.1 +2.4
	baz=111					
D17K	Noatak River	156.43	318	P	PKPab	16 34 32.3 +0.7
	baz=81,SNR=12					
M13K	Dall Lake	156.46	299	P	PKPab	16 34 33.4 +1.4
	baz=98,SNR=6.8					
SNY	Shenyang	156.73	115	PKP	PKPdf	16 34 03.5 -0.3
SNY				PP	PP	16 38 16.0 +3.6
SNY				LR	LR	
	comp=Z,880nm,16.7s					
SNY				LR	LR	
	comp=Z,2μm,22.1s					
SNY				LR	LR	
	comp=Z,4μm,26.4s					
J14K	Nanvaranak Lak	156.81	305	P	PKPab	16 34 34.9 +1.5
	baz=92,SNR=5.4					
G15K	Niukluk	157.05	311	P	PKPab	16 34 35.5 +1.2
	baz=87					
C16K	Lisburne Hills	157.17	320	P	PKPab	16 34 35.7 +0.9
	baz=78					
CIT	Chita	157.20	84	*e*PKIKP	PKPdf	16 34 03.6 -0.6
CIT				pmax	pmax	
	comp=Z,400nm,2.6s					
HHU	Hamhung	157.20	124	PKPbc	PKPdf	16 34 03.6 -0.9
F15K	North Star Dit	157.26	313	P	PKPab	16 34 36.7 +1.4
	baz=84					
K13K	Kusilvak Mount	157.27	303	P	PKPab	16 34 36.5 +1.1
	baz=93,SNR=9.5					
NIKH	Nikolski High	157.33	279	P	PKPab	16 34 36.4 +0.5
	baz=112					
ANM	Nome	157.64	310	P	PKPab	16 34 37.7 +0.8
	baz=86					
M11K	Mekoryuk	157.86	299	P	PKPab	16 34 39.6 +1.6
	baz=96,SNR=6.6					
F14K	Arctic Creek	157.98	312	P	PKPab	16 34 39.2 +0.8
	baz=83					
MAJO	Matsushiro	158.41	148	PKP	PKPdf	16 34 05.4 -0.7
MJAR	Matsushiro Arr	158.41	148	PKP	PKPdf	16 34 05.7 -0.4
	comp=Z,18nm,1.1s,baz=193,slow=1.6,SNR=16					
MJAR				PKPab	PKPab	16 34 41.1 +0.1
	comp=Z,58nm,0.7s,baz=183,slow=4.9,SNR=20					
TNA	Tin City	158.63	313	P	PKPab	16 34 42.2 +1.1
	baz=81,SNR=6.2					
P08K	Saint George I	158.88	288	P	PKPab	16 34 42.2 -0.3
	baz=103					
CN2	Changchun	159.10	114	PKP	PKPdf	16 34 05.9 -0.8
CN2				*e*PP	PP	16 38 27.5 +2.1
CN2				*e*SS	SS	16 58 22.6 -2.3
CN2				AMB	AMB	
	comp=Z,500nm,6.0s					
CN2				LR	LR	
	comp=Z,500nm,20.0s					
CN2				LR	LR	
	comp=Z,700nm,20.0s					
CN2				LR	LR	
	comp=Z,2μm,22.0s					
SPIA	Saint Paul Isl	159.39	289	P	PKPab	16 34 44.3 -0.5
	baz=101					
GAMB	Gambell	160.47	308	P	PKPab	16 34 48.9 -0.3
	baz=82					
BNX	BinXian	161.45	113	⇑PKP	PKPdf	16 34 07.8 -1.4
BNX				pPKP	sPKPdf	16 34 29.4 -4.2
BNX				PP	PP	16 38 38.0 -0.1
BNX				SS	SS	16 58 48.7 -0.9
BNX				AMB	AMB	
	comp=Z,2μm,11.4s					
BNX				LR	LR	
	comp=Z,2μm,19.5s					
BNX				LR	LR	
	comp=Z,2μm,21.7s					
BNX				LR	LR	
	comp=Z,5μm,22.8s					
MDJ	Mudanjiang	161.77	119	PKP	PKPdf	16 34 09.0 -0.6
MDJ				PP	PP	16 38 44.5 +4.8
MDJ				AMB	AMB	
	comp=Z,5μm,11.5s					
MDJ				LR	LR	
	comp=Z,3μm,21.1s					
MDJ				LR	LR	
	comp=Z,2μm,20.3s					
MDJ				LR	LR	
	comp=Z,7μm,22.5s					
USRK	Ussuriysk Ar.	162.61	124		PKPab	16 34 59.0 -0.1
USRK	Ussuriysk Ar.	162.61	124	PKP	PKPdf	16 34 09.4 -1.0
	comp=Z,8.4nm,1.1s,baz=280,slow=3.7,SNR=7.5					
USRK				PKPab	PKPab	16 34 58.8 -0.3
	comp=Z,21nm,0.7s,baz=204,slow=3.6,SNR=22					
HEH	HeiHe	164.16	101	PKP	PKPdf	16 34 10.8 -0.9
HEH				sPKP		16 34 33.9
HEH				AMB	AMB	
	comp=Z,5μm,11.8s					
HEH				LR	LR	
	comp=Z,2μm,21.0s					
HEH				LR	LR	
	comp=Z,4μm,20.8s					
HEH				LR	LR	
	comp=Z,11μm,20.5s					
ERM	Erimo	164.88	154	PKP	PKPdf	16 34 13.8 +1.2
ZEA	Zeya	165.53	88	*i* PKIKP	PKPdf	16 34 11.8 -1.0
ZEA				*e*		16 35 12.0
ZEA				pmax	pmax	
	comp=N,10.0nm,1.2s					
ZEA				pmax	pmax	
	comp=Z,20nm,1.5s					
ZEA				pmax	pmax	
	comp=Z,600nm,14.0s					
KLR	Kul'dur	165.94	110	PKP	PKPdf	16 34 13.2 -0.1
	comp=Z,14nm,0.9s,baz=269,slow=0.6,SNR=19					
KLR				PKPab	PKPab	16 35 13.1 -0.7
	comp=Z,13nm,0.8s,baz=240,slow=3.9,SNR=10					
ASAJ	Asahikawa	166.68	149	PKP	PKPdf	16 34 14.2 +0.2
	comp=Z,31nm,0.9s,baz=268,slow=9.5,SNR=5.7					
ASAJ				PKPab	PKPab	16 35 17.2 +0.2
	comp=Z,41nm,0.8s,baz=211,slow=5.2,SNR=7.4					
YAK	Yakutsk	166.98	53	*e*PKIKP	PKPdf	16 34 10.8 -2.8
YAK				*e*		16 34 33.2
YAK				*e*		16 39 04.1
YAK				*e*SS	SS	16 59 39.9 -6.1
YAK				pmax	pmax	
	comp=Z,34nm,1.4s					
YAK				pmax	pmax	
	comp=N,4.0nm,1.5s					
YAK				pmax	pmax	
	comp=E,6.0nm,1.5s					
YAK				pmax	pmax	
	comp=Z,645nm,3.2s					
YAK				pmax	pmax	
	comp=E,206nm,2.8s					
YAK				pmax	pmax	
	comp=N,131nm,3.3s					
YUK	Yuzh-Kuril'sk	167.42	159	*i* PKP2	PKPab	16 35 17.4 -2.8
YUK				SS	SS	16 59 56.1 +6.5
YUK				*i* SSS	SSS	17 06 22.0
YSS	Yuzhno-Sakhali	169.27	143α	*i* PKIKP	PKPdf	16 34 15.3 -0.4
YSS				*e*		16 35 28.5
YSS				*e*		16 39 15.7
YSS				*e*		16 41 06.0
YSS				*e*SS	SS	17 00 03.6 -5.0
YSS				*e*		17 34 35.5
YSS				pmax	pmax	
	comp=Z,700nm,3.2s					
YSS				pmax	pmax	
	comp=N,70nm,1.4s					
GRNR	Gornyy	169.29	112 ‖	*i* PKIKP	PKPdf	16 34 15.1 -0.5
GRNR				pmax	pmax	
	comp=Z,20nm,1.3s					
UGL	Uglegorsk	170.79	134	*e*PKIKP	PKPdf	16 34 16.6 +0.2
UGL				*e*		16 39 24.6
UGL				pmax	pmax	
	comp=Z,130nm,1.7s					
UGL				pmax	pmax	
	comp=N,2μm,5.3s					
UGL				pmax	pmax	
	comp=E,4μm,5.3s					
TYV	Tymovskoe	172.39	128	*e*PKIKP	PKPdf	16 34 16.2 -1.0
TYV				pmax	pmax	
	comp=Z,33nm,1.3s					
TYV				pmax	pmax	
	comp=Z,500nm,4.0s					
SEY	Seymchan	173.00	359	*i* PKIKP	PKPdf	16 34 11.1 -6.0
SEY				pmax	pmax	
	comp=Z,60nm,1.3s					
PET	Petropavlovsk	175.19	235	*e*PKIKP	PKPdf	16 34 15.9 -2.2
PET				*e*		16 39 46.9
PET				*e*SS	SS	17 01 08.1 +1.3
PET				pmax	pmax	
	comp=Z,61nm,1.3s					
PET				pmax	pmax	
	comp=Z,2μm,6.6s					
PET				pmax	pmax	
	comp=Z,2μm,14.3s					
PETK	Petropavlovsk-	175.67	231	PKP	PKPdf	16 34 16.9 -1.4
	comp=Z,42nm,1.0s,baz=88,slow=4.6,SNR=24					
PETK				PKPab	PKPab	16 35 56.7 0.0
	comp=Z,14nm,0.6s,baz=90,slow=8.1,SNR=18					

DJA 05 16:29:43.5±1.0, 7°S±2°×12°6E±°, h15km±8km, M4.2/12, mb4.2/7, MLv4.1/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	2.81	211	P	Pn	16 30 28.8	+0.8
SOEI				S	Sn	16 31 02.0	+0.3
BBSI	Bau Bau	3.65	300	P	Pn	16 30 39.3	-0.2
BBSI				S	Sn	16 31 22.9	+0.6
MMRI	Maumere	3.70	249	P	Pn	16 30 40.9	+0.7
MMRI				S	Sn	16 31 24.2	+0.6
EDFI	Ende, Flores	4.25	250	P	Pn	16 30 48.7	+0.9
NLAI	Namlea	4.29	18	P	Pn	16 30 47.3	-1.0
SANI	Sanana	5.26	3	P	Pn	16 31 01.1	-0.6
	0.2nm10nm,0.8s						
BSSI	Bau Bau, Buton	5.35	283	P	Pn	16 31 03.0	+0.1
BKSI	Bulukumba	5.93	289	P	Pn	16 31 11.0	+0.1
	0.2nm36nm,0.9s						
SPSI	Sidrap Palu	6.82	299	P	Pn	16 31 23.9	+0.8
	20nm,0.7s						

HEL 05 16:32:25.7±0.5, 67°84N×20°20E, h0km, ML1.2, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	Lannavaara	0.71	72	SG	Sg	16 32 47.9	-0.6
KIF	Kilpisjarvi	1.19	11	PN	Pn	16 32 49.7	+0.1
KIF				SG	Sg	16 33 02.5	-1.5
KIF				MSG		16 33 03.0	
	comp=Z,1.2nm,0.2s						
HEF	Hetta	1.42	65	*e*P	Pn	16 32 50.5	-2.3
HEF	Hetta	1.42	65	PG	Pn	16 32 51.2	-1.5
	baz=251						
HEF				MSG		16 33 08.5	
	comp=Z,1.9nm,0.2s						
HEF				SG	Sg	16 33 09.4	-1.7
ERTU	Ertsjaerv	1.50	148	PG	Pn	16 32 52.8	-1.1
ERTU				SN	Sg	16 33 13.6	-0.4
KLF	Kolari	1.57	111	MSG		16 33 12.6	
	comp=Z,1.8nm,0.2s						
KLF				SN	Sn	16 33 15.6	-0.2
KTK1	Kautokeino	1.63	42	PN	Pb	16 32 56.5	-0.1
JETT	Jettan, Norway	1.73	2	*e*P	Pn	16 32 55.9	-1.1
TRO	Tromso	1.86	346	SG	Sg	16 33 25.0	-0.4
ARA0	ARCESS Array S	2.58	46	PN	Pn	16 33 08.2	-0.5
RAJF	Raja-Jooseppi	3.10	74	PB	Pb	16 33 19.0	-2.6
KEV	Kevo	3.13	49	PG	Pb	16 33 21.4	-0.8
KEV				MSG		16 33 57.7	
	comp=Z,0.5nm,0.2s						
RANF	Ranua	3.18	122	PN	Pn	16 33 15.0	-1.8
VRF	Varrio	3.58	87	PB	Pb	16 33 26.1	-3.6

*DJA **05** 16:46:12.7±0.6, 7°S±4°×12°7E±°, h430km±10km, M4.0/12, mb3.7/6, MLv4.1/12*
ISC 05 16:46:13.8±1.0, 6°91S±0°.09×126°.9E±0°.1, h407km, n20, σ1°22/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.44**	**21**	P	**P**	**16 47 22.7**	**+1.5**
NLAI	**Namlea**	**3.65**	**3**	P	**P**	**16 47 25.3**	**+2.2**
NLAI				S	**S**	**16 48 21.1**	**+1.7**
BNDI	**Bandanaira**	**3.79**	**51**	P	**P**	**16 47 25.9**	**+1.6**
BNDI	**Bandanaira**	**3.79**	**51**	P	**P**	**16 47 24.9**	**+0.6**
SOEI	**Soe**	**3.87**	**223**	P	**P**	**16 47 26.0**	**+0.9**
SOEI	**Soe**	**3.87**	**223**	P	**P**	**16 47 25.7**	**+0.6**
MSAI	**Masohi**	**4.06**	**29**	P	**P**	**16 47 26.6**	**-0.2**
SANI	**Sanana**	**4.92**	**349**	P	**P**	**16 47 35.3**	**+0.1**
SANI	**Sanana**	**4.92**	**349**	P	**P**	**16 47 34.7**	**-0.5**
MMRI	**Maumere**	**4.96**	**249**	P	**P**	**16 47 36.5**	**+0.9**
MMRI	**Maumere**	**4.96**	**249**	P	**P**	**16 47 36.2**	**+0.6**
EDFI	**Ende, Flores**	**5.51**	**250**	P	**P**	**16 47 40.2**	**-1.2**
FAKI	**Fak Fak**	**6.61**	**53**	P	**P**	**16 47 52.0**	**-1.9**
FAKI	**Fak Fak**	**6.61**	**53**	P	**P**	**16 47 52.4**	**-1.5**
	0.1nm24nm,1.3s						
BKSI	**Bulukumba**	**6.96**	**283**	P	**P**	**16 47 56.6**	**-1.1**
MBWA	**Marble Bar**	**15.79**	**205**	P	**P**	**16 49 34.4**	**-0.2**
AS01	**Alice Springs**	**17.97**	**159**	P	**P**	**16 49 57.8**	**-0.1**
WRKA	**Warakurna**	**18.07**	**176**	P	**P**	**16 49 59.0**	**+0.1**
MTSU	**Mount Surprise**	**20.28**	**125**	P	**P**	**16 50 19.4**	**-1.1**
MEEK	**Meekatharra**	**21.16**	**201**	P	**P**	**16 50 27.6**	**-0.8**

NNC 05 16:51:14.0±12.0, 36°.07N×68°.00E, h0km, mb3.9, mpv3.6, 1C-5D, Error ellipse: s-maj=112.8km s-min=95.2km az=126.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.28**	**15**	⇓P	Pn	16 53 04.2	+2.6
	0.6nm,0.3s,baz=201,slow=15,SNR=14						
KK31				⇑S	Sn	16 54 27.9	+2.9
	2.5nm,0.5s,baz=203,slow=23						
CHMS	**Chumysh**	**8.66**	**35**	⇓P	Pn	16 53 20.4	-0.1
	3.0nm,0.6s						
CHMS				⇓S	Sn	16 54 59.5	+0.6
	13nm,0.9s						
TKM2	**Tokmak 2**	**9.01**	**38**	⇓P	Pn	16 53 23.2	-2.3
	1.5nm,0.5s						
TKM2				⇓S	Sn	16 55 06.3	-1.5
	2.6nm,0.8s						

*NEIC **05** 16:58:42.4±2.8, 18°.53S±0°.02×70°.93W±0°.08, h30km±5km, mb4.8/18, Error ellipse: s-maj=11.2km s-min=2.7km az=84.0*
*IDC **05** 16:58:44.5±0.5, 18°.42S×71°.01W, h39km±4km, mb4.2/13, mbtmp4.4/18, ML4.0/5, Error ellipse: s-maj=20.1km s-min=12.1km az=66.0*
*GUC **05** 16:58:45.2±0.7, 18°.41S×71°.01W, h25km±5km, ML4.7*
*VAO **05** 16:58:50.1±0.7, 18°.34S×70°.66W, h80km±5km, mb4.8*
*RSNC **05** 16:59:56.0±2.7, 13°S±22°×7°W±°, h266km±17km, M4.9, mB5.4, mb4.5, Mw(mB)4.9*
ISC 05 16:58:43.4±0.5, 18°.48S±0°.03×70°.96W±0°.04, h34km±1km, h35km:pP-P, n172, σ29°01/171, mb4.8/41, 11C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.60**	**80**		**Pb**	**16 58 56.1**	**+0.4**
AP01	**Chacalluta**	**0.60**	**80**	⇑*i*P	**Pb**	**16 58 57.1**	**+1.4**
AP01				*i* S	**Sb**	**16 59 05.2**	**+1.2**
AP01				IAML		16 59 08.1	
	comp=E,80μm,0.5s						
PB12	**IPOC Station P**	**0.62**	**103**		**Pn**	**16 58 54.3**	**-1.5**
PB12	**IPOC Station P**	**0.62**	**103**	*e*P	**Pb**	**16 58 57.5**	**+1.5**
PB12				*i* S	**Sb**	**16 59 06.5**	**+1.7**
PB16	**IPOC Station P**	**1.39**	**85**		**Pn**	**16 59 04.5**	**-2.5**
PB16	**IPOC Station P**	**1.39**	**85**	⇑*i*P	**Pb**	**16 59 09.7**	**+0.5**
PB16				*i* S	**Sb**	**16 59 29.0**	**+2.1**
PB16				IAML		16 59 30.8	
	comp=E,12μm,0.8s						
PB18	**Visviri**	**1.66**	**58**		**Pb**	**16 59 12.8**	**-1.1**
PB18	**Visviri**	**1.66**	**58**	⇓*i*P	**Pb**	**16 59 15.2**	**+1.3**
PB18				*i* S	**Sb**	**16 59 38.0**	**+3.4**
PB18				IAML		16 59 46.7	
	comp=N,15μm,0.7s						
PB11	**IPOC Station P**	**1.78**	**136**		**Pn**	**16 59 08.6**	**-3.3**
PB11	**IPOC Station P**	**1.78**	**136**	⇑*i*P	**Pb**	**16 59 15.6**	**0.0**
PB11				*i* S	**Sb**	**16 59 39.4**	**+1.8**
PB11				IAML		16 59 45.2	
	comp=N,22μm,0.6s						
TA02	**Huaiquique**	**1.95**	**156**		**Pn**	**16 59 14.6**	**+0.5**
TA02	**Huaiquique**	**1.95**	**156**	*e*P	**Pb**	**16 59 17.6**	**-0.8**
TA02				*i* S	**Sb**	**16 59 41.9**	**-0.5**
TA02				IAML		16 59 43.6	
	comp=N,10μm,0.6s						
GO01	**Chusmiza**	**2.05**	**126**		**Pn**	**16 59 12.7**	**-3.3**
GO01	**Chusmiza**	**2.05**	**126**	⇑*i*P	**Pb**	**16 59 20.3**	**-0.1**
GO01				*i* S	**Sb**	**16 59 47.9**	**+2.1**
GO01				IAML		16 59 51.9	
	comp=E,14μm,0.9s						
PB08	**IPOC Station P**	**2.38**	**134**		**Pn**	**16 59 20.4**	**0.0**
PB08	**IPOC Station P**	**2.38**	**134**	⇑*i*P	**Pb**	**16 59 24.2**	**-1.7**
PB08				*i* S	**Sb**	**16 59 54.9**	**-0.2**
PB08				IAML		17 00 01.6	
	comp=E,4μm,0.4s						
PB01	**IPOC Station P**	**2.91**	**152**	Pn	**Pn**	**16 59 24.7**	**-2.8**
PB01	**IPOC Station P**	**2.91**	**152**	⇑*i*P	**Pn**	**16 59 30.4**	**+3.0**
PB01				*i* S	**Sn**	**17 00 03.3**	**+2.0**
LPAZ	**La Paz**	**3.47**	**52**	Pn	**Pn**	**16 59 34.1**	**-1.6**
LPAZ	**La Paz**	**3.47**	**52**	Pn	**Pb**	**16 59 40.8**	**-3.9**
	comp=E,8.7nm,0.3s,baz=227,slow=9.0,SNR=88						
LPAZ	**La Paz**	**3.47**	**52**	*e*P	**Pn**	**16 59 37.9**	**+2.3**
PB09	**IPOC Station P**	**3.68**	**154**		**Pn**	**16 59 38.7**	**+0.6**
PB09	**IPOC Station P**	**3.68**	**154**	*e*P	**Pn**	**16 59 41.8**	**+3.7**
PB03	**IPOC Station P**	**3.73**	**162**	*e*P	**Pn**	**16 59 41.2**	**+2.4**
PB05	**IPOC Station P**	**4.41**	**171**		**Pn**	**16 59 43.4**	**-4.8**
PB10	**IPOC Station P**	**5.03**	**176**		**Pn**	**16 59 51.9**	**-4.6**
PB14	**IPOC Station P**	**6.14**	**175**	Pn	**Pn**	**17 00 08.1**	**-4.0**
AC01	**Pan de Azucar**	**7.64**	**178**		**Pn**	**17 00 31.3**	**-1.1**
NNA	**Nana**	**8.59**	**318**	Pn	**Pn**	**17 00 46.5**	**+1.0**
	comp=E,3.3nm,0.3s,baz=162,slow=12,SNR=6.7						
NNA				Sn	**Sn**	**17 02 22.9**	**+1.6**
	comp=E,2.0nm,0.3s,baz=83,slow=19,SNR=1.4						
	comp=E,7.0nm,0.4s						
AC06	**Mina Casimiro**	**8.86**	**176**		**Pn**	**17 00 48.3**	**-0.8**
GO03	**Copiapo**	**9.10**	**176**		**Pn**	**17 00 52.4**	**-0.1**
SIV	**San Ignacio**	**9.77**	**77**	Pn	**Pn**	**17 01 04.6**	**+3.0**
	comp=E,0.7nm,0.3s,baz=269,slow=10,SNR=84						
	comp=E,62nm,0.8s						
CZSB	**Cruzeiro do Su**	**10.81**	**351**	*e*P	Pn	17 01 22.8	+6.9
GO04	**Tololo Observa**	**11.65**	**179**		**Pn**	**17 01 25.6**	**-1.9**
PTLB	**Pontes e Lacer**	**11.71**	**77**	Pn	**Pn**	**17 01 28.4**	**+0.2**
PTLB	**Pontes e Lacer**	**11.71**	**77**	*e*P	**Pn**	**17 01 29.7**	**+1.5**
VILB	**Vilhena**	**11.72**	**64**	Pn	**Pn**	**17 01 28.4**	**0.0**
VILB	**Vilhena**	**11.72**	**64**	*e*P	**Pn**	**17 01 30.2**	**+1.8**
SAML	**Samuel**	**12.11**	**40**	*e*P	**Pn**	**17 01 34.4**	**+0.7**
MURT	**Porto Murtinho**	**12.94**	**106**	*e*P	**Pn**	**17 01 46.5**	**+1.5**
CFA	**Coronel Fontan**	**13.30**	**170**	Pn	**Pn**	**17 01 50.6**	**+0.7**
	comp=E,0.2nm,0.3s,baz=341,slow=12,SNR=6.4						
CFA				Sn	**Sn**	**17 04 09.5**	**-7.2**
	comp=E,0.6nm,0.3s,baz=179,slow=13,SNR=3.6						
	comp=E,0.9nm,0.3s						
ATAH	**Atahualpa**	**13.39**	**326**	Pn	**Pn**	**17 01 50.8**	**-0.8**
	comp=E,0.5nm,0.3s,baz=126,slow=19,SNR=1.0						
	comp=E,2.2nm,0.2s						
MT02	**Curacav**	**14.72**	**181**	P	**Pn**	**17 02 10.9**	**+1.7**
SALV	**Santo Antonio**	**14.81**	**82**	*e*P	**Pn**	**17 02 11.9**	**+1.3**
CPUP	**Villa Florida**	**14.83**	**124**	Pn	**Pn**	**17 02 11.3**	**+0.6**
	comp=E,0.2nm,0.3s,baz=305,slow=12,SNR=6.2						
	comp=E,4.1nm,0.8s						
MT08	**Bocatoma Ro**	**14.93**	**177**		**Pn**	**17 02 08.8**	**-3.5**
SJPY	**San Joaquin**	**15.25**	**118**	*e*P	**Pn**	**17 02 18.0**	**+1.7**
PDRB	**Porto dos Gac**	**15.34**	**66**	*e*P	**Pn**	**17 02 15.5**	**-2.0**
AMBA	**Amambai (Brazi**	**15.59**	**109**	*e*P	**Pn**	**17 02 22.2**	**+1.4**
BO01	**Tunca**	**15.85**	**180**	Pn	**Pn**	**17 02 20.9**	**-3.2**
BO02	**Sierra Bellavi**	**16.25**	**179**	P	**P**	**17 02 36.0**	**+4.0**
RPRD	**Ribas do Rio P**	**16.40**	**100**	*e*P	**P**	**17 02 33.0**	**-0.7**
CLDB	**Colider**	**16.50**	**65**	*e*P	**Pn**	**17 02 33.6**	**+1.2**
H03N1	**Juan Fernandez**	**16.52**	**204**	T	T	17 19 59.3	
	baz=28,slow=73,SNR=867						
H03N2	**Juan Fernandez**	**16.52**	**204**	T	T	17 20 12.9	
	baz=28,slow=73,SNR=617						
H03N3	**Juan Fernandez**	**16.54**	**204**	T	T	17 20 00.6	
	baz=28,slow=73,SNR=592						
ITQB	**Itaqui**	**17.18**	**133**	*e*P	**P**	**17 02 44.7**	**+2.6**
C2SB	**Chapadao do Su**	**17.18**	**94**	*e*P	**P**	**17 02 42.4**	**0.0**
COHC	**Cochancay**	**17.86**	**332**	P	**Pn**	**17 02 46.7**	**-2.7**
MACA	**Manacapuru-AM**	**18.25**	**35**	P	**P**	**17 02 53.0**	**-1.1**
MACA				IAmb	IAmb	17 02 54.0	
	comp=Z,70nm,0.7s						
MACA	**Manacapuru-AM**	**18.25**	**35**	*e*P	**P**	**17 02 53.7**	**-0.4**
ARAG	**Araguaiana, MT**	**18.51**	**84**	*e*P	**Pn**	**17 02 58.5**	**+1.1**
SGC2	**Sao Gabriel da**	**18.62**	**13**	P	**P**	**17 02 55.6**	**-2.6**
	comp=Z,38nm,0.9s						
PIAT	**Ana Tenorio**	**18.79**	**337**	P	Pn	17 03 10.8	+10
	comp=Z,48nm,1.0s						
TBOT	**Tacuaremb**	**18.90**	**137**	*e*P	**Pn**	**17 03 02.9**	**+1.0**
NPGB	**Novo Progresso**	**18.97**	**55**	*e*P	**P**	**17 03 01.6**	**-0.5**
LDASE	**Londrina, Braz**	**19.17**	**108**	*e*P	**Pn**	**17 03 05.7**	**+0.4**
ITAB	**Concordia**	**19.40**	**120**	P	**P**	**17 03 05.5**	**-1.2**
ITRB	**Iturama**	**19.51**	**97**	*e*P	**Pn**	**17 03 10.0**	**+0.6**
CPSB	**Cacapava Do Su**	**19.86**	**130**	*e*P	**Pn**	**17 03 13.5**	**+0.1**
OTAV	**Otavalo**	**20.00**	**338**	*e*P	Pn	17 03 16.6	+1.0
OTAV	**Otavalo**	**20.00**	**338**	P	Pn	17 03 15.3	-0.3
	comp=Z,17nm,1.8s						
SNDB	**Serra Nova Dou**	**20.04**	**74**	*e*P	**P**	**17 03 13.7**	**-0.1**
TULM	**Tulcn-Chalpat**	**20.22**	**340**	P	Pn	17 03 25.6	+7.4
	comp=Z,94nm,0.9s						
ITTB	**Itaituba**	**20.45**	**49**	*e*P	**P**	**17 03 16.6**	**-1.6**
FLOC	**Florencia**	**20.46**	**346**	P	Pn	17 03 20.0	-0.6
	comp=Z,56nm,1.1s						
PLTB	**Pedras Altas**	**20.51**	**133**	P	**P**	**17 03 16.5**	**-2.2**
PLTB	**Pedras Altas**	**20.51**	**133**	*e*P	Pn	17 03 20.1	-1.0
FRTB	**Fartura**	**20.56**	**107**	*e*P	Pn	17 03 21.1	-0.7
GARC	**Garzon, Huila**	**21.01**	**347**	P	**P**	**17 03 24.3**	**-0.2**
	comp=Z,75nm,0.9s						
TRQA	**Tornquist**	**21.03**	**160**	P	**P**	**17 03 22.6**	**-1.7**
TRQA				IAmb	IAmb	17 03 38.4	
	comp=Z,41nm,1.2s						
BBAC	**Balboa, Cauca**	**21.29**	**342**	P	**P**	**17 03 27.8**	**+0.4**
	comp=Z,93nm,1.0s						
BETC	**Betania**	**21.48**	**348**	P	**P**	**17 03 32.5**	**+3.2**
IPMB	**Ipameri, GO**	**21.62**	**92**	*e*P	**P**	**17 03 31.2**	**+0.4**
POPC	**Popayan, Colom**	**21.63**	**344**	P	**P**	**17 03 33.3**	**+2.2**
	comp=Z,2μmcomp=Z,38nm,1.0s						
URMC	**La Uribe, Meta**	**21.84**	**351**	P	**P**	**17 03 34.7**	**+1.4**
	comp=Z,24nm,1.2s						
BDFB	**Brasilia**	**22.12**	**86**	P	**P**	**17 03 34.8**	**-1.5**
BDFB	**Brasilia**	**22.12**	**86**	P	**P**	**17 03 37.7**	**+1.4**
	comp=Z,15nm,0.7s,baz=248,slow=13,SNR=4.7						
	comp=Z,15nm,0.7s						
PLCA	**Paso Flores**	**22.19**	**179**	P	**P**	**17 03 36.6**	**-0.2**
PLCA				IAmb	IAmb	17 03 52.8	
	comp=Z,31nm,1.2s						
PLCA	**Paso Flores**	**22.19**	**179**	P	**P**	**17 03 37.9**	**+1.1**
	comp=Z,13nm,1.1s,baz=350,slow=11,SNR=15						
	comp=Z,13nm,1.1s						
PLCA	**Paso Flores**	**22.19**	**179**	*e*P	**P**	**17 03 39.2**	**+2.5**
PRAC	**Prado**	**22.38**	**350**	P	**P**	**17 03 37.6**	**-1.4**
	comp=Z,29nm,1.0s						
GR1C	**Gorgona, Isla**	**22.49**	**341**	P	**P**	**17 03 34.4**	**-5.7**
ORTC	**Ortega, Tolima**	**22.64**	**349**	P	**P**	**17 03 38.4**	**-3.3**
	comp=Z,90nm,0.9s						
VAO	**Valinhos**	**22.88**	**105**	*e*P	**P**	**17 03 42.7**	**-1.6**
YOTC	**Yotoco, Valle**	**22.94**	**346**	P	**P**	**17 03 46.4**	**+1.4**
	comp=Z,52nm,0.8s						
BOAV	**Boa Vista**	**23.15**	**27**	P	**P**	**17 03 46.1**	**-0.9**
BOAV				IAmb	IAmb	17 04 05.3	
	comp=Z,36nm,1.2s						
BOAV	**Boa Vista**	**23.15**	**27**	*e*P	**P**	**17 03 46.6**	**-0.4**
BOAV	**Boa Vista**	**23.15**	**27**	P	**P**	**17 03 42.2**	**-4.8**
	comp=Z,30nm,1.2s						
ANIL	**Santa Ana**	**23.24**	**349**	P	**P**	**17 03 45.9**	**-2.3**
PMNB	**Patos De Minas**	**23.25**	**94**	*e*P	**P**	**17 03 48.0**	**-0.2**
ROSC	**El Rosal**	**23.40**	**352**	P	**P**	**17 03 51.4**	**+1.5**
	comp=Z,5.7nm,0.4s,baz=209,slow=19,SNR=1.1						
	comp=Z,5.7nm,0.4s						
GUY2C	**Guyana, Caldas**	**23.95**	**349**	P	**P**	**17 03 55.2**	**0.0**
	comp=Z,34nm,0.7s						
PRPB	**Parauapebas**	**23.97**	**62**	*e*P	**P**	**17 03 53.8**	**-1.1**
NORC	**Norcasia**	**24.19**	**350**	P	**P**	**17 03 55.2**	**-1.8**
	comp=Z,25nm,0.9s						
RUSC	**La Rusia**	**24.30**	**355**	P	**P**	**17 03 57.2**	**-1.3**
RUSC	**La Rusia**	**24.30**	**355**	P	**P**	**17 03 55.2**	**-3.3**
	comp=Z,51nm,0.5s						
SMTB	**Santa Maria do**	**24.61**	**70**	*e*P	**P**	**17 04 00.8**	**-0.1**
CBOC	**Ciudad Bolivar**	**24.69**	**348**	P	**P**	**17 03 59.4**	**-2.3**
	comp=Z,34nm,0.9s						
TAMC	**Tame, Arauca**	**24.77**	**358**	P	**P**	**17 03 59.4**	**-2.8**
	comp=Z,75nm,1.0s						
BARC	**Barichara**	**25.00**	**355**	P	**P**	**17 04 09.8**	**+5.2**
PTBC	**PUERTO BERRIO,**	**25.09**	**352**	P	**P**	**17 04 03.4**	**-1.7**
	comp=Z,213nmcomp=Z,15nm,0.5s						
PAMC	**Pamplona, Colo**	**25.71**	**356**	P	**P**	**17 04 10.6**	**-0.6**
JANB	**Januaria**	**25.73**	**86**	*e*P	**P**	**17 04 11.0**	**-0.1**
SDBA	**SAO DESIDERIO**	**25.82**	**80**	*e*P	**P**	**17 04 12.1**	**+0.3**
ZARC	**Zaragoza, Cauc**	**26.09**	**351**	P	**P**	**17 04 12.7**	**-1.4**
	comp=Z,38nm,1.0s						
PTAC	**Punta Ardita,**	**26.34**	**345**	P	**P**	**17 04 22.3**	**+5.9**
	comp=Z,45nm,0.8s						
UREC	**San Jos de Ur**	**26.45**	**350**	P	**P**	**17 04 19.9**	**+2.5**
	comp=Z,15nm,0.6s						
APAC	**Apartado, Choc**	**26.79**	**348**	P	**P**	**17 04 23.4**	**+3.0**
	comp=Z,54nm,0.8s						
SDV	**Santo Domingo**	**27.19**	**1**	*e*P	**P**	**17 04 25.4**	**+1.1**
SDV	**Santo Domingo**	**27.19**	**1**	P	P	17 04 32.5	+8.2
	comp=Z,13nm,0.8s						
BAUV	**El Baul**	**27.40**	**6**	P	**P**	**17 04 26.7**	**+0.8**
BAUV				IAmb	IAmb	17 05 06.1	
	comp=Z,33nm,0.9s						
SJCC	**San Jacinto, C**	**28.50**	**351**	P	P	17 04 41.6	+5.8
	comp=Z,42nm,1.1s						
GUA01	**Guaratinga, BA**	**29.75**	**91**	*e*P	**P**	**17 04 46.9**	**-0.1**
NBPB	**Pedra_Branca-C**	**33.20**	**71**	*e*P	**P**	**17 05 16.6**	**-0.7**
NBAN	**Anadia - AL**	**34.71**	**80**	*e*P	**P**	**17 05 29.2**	**-1.3**
RPN	**Rapa Nui**	**36.29**	**249**	P	**P**	**17 05 48.3**	**+4.4**
RCBR	**Riachuelo**	**36.42**	**74**	P	**P**	**17 05 45.2**	**-0.1**
SLBS	**Sierra La Lagu**	**56.59**	**316**	P	**P**	**17 08 24.7**	**+1.5**
MIAR	**Moun Iteda**	**56.95**	**338**	P	**P**	**17 08 24.1**	**-1.3**
MIAR				IAmb	IAmb	17 08 40.0	
	comp=Z,9.8nm,0.8s						
TXAR	**Lajitas Array**	**57.05**	**326**	P	**P**	**17 08 26.5**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=146,slow=6.9,SNR=3.6						
SACV	**Santiago Islan**	**57.28**	**58**	P	**P**	**17 08 31.3**	**+3.1**
SSPA	**Standing Stone**	**59.16**	**354**	P	P	17 08 50.4	+10
ANMO	**Albuquerque**	**62.92**	**328**	P	**P**	**17 09 05.9**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=180,slow=4.0,SNR=1.8						
	comp=Z,1.2nm,0.4s						
VNA3	**Neumayer Olymp**	**63.54**	**162**	⇑P	**P**	**17 09 12.3**	**+2.2**
	comp=Z,5.4nm,0.9s						
VNA1	**Neumayer--Stat**	**63.77**	**161**	⇑P	**P**	**17 09 14.2**	**+2.6**
	comp=Z,11nm,1.0s						
VNA2	**Neumayer--Watz**	**64.13**	**161**	⇑P	**P**	**17 09 16.1**	**+2.1**
	comp=Z,5.3nm,0.7s,baz=286,slow=7.9						
SNAA	**Sanae**	**65.75**	**161**	P	**P**	**17 09 23.7**	**-0.9**
SNAA				IAmb	IAmb	17 09 27.5	
	comp=Z,6.4nm,0.9s						
SNAA	**Sanae**	**65.75**	**161**	⇑P	**P**	**17 09 25.4**	**+0.8**
	comp=Z,91nm,0.7s						
SNAA	**Sanae**	**65.75**	**161**	P	**P**	**17 09 25.6**	**+1.0**
	comp=Z,4.8nm,0.8s,baz=281,slow=8.3,SNR=11						
SNAA				pP	**sP**	**17 09 38.3**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=264,slow=6.6,SNR=6.3						
	comp=Z,4.8nm,0.8s						
TROLL	**Troll, Antarti**	**67.47**	**161**	⇑P	**P**	**17 09 37.8**	**+2.1**
	comp=Z,213nm,0.7s						
DBIC	**Dimbokro**	**69.79**	**75**	P	**P**	**17 09 49.4**	**-1.5**
DBIC				IAmb	IAmb	17 09 54.1	
	comp=Z,13nm,0.8s						
DBIC	**Dimbokro**	**69.79**	**75**	P	**P**	**17 09 50.5**	**-0.4**
	comp=Z,11nm,0.9s,baz=230,slow=6.5,SNR=6.6						
	comp=Z,11nm,0.9s						
DBIC	**Dimbokro**	**69.79**	**75**	P	**P**	**17 09 50.3**	**-0.6**
DBIC				pP	**pP**	**17 10 02.2**	**+1.1**
PDAR	**Pinedale Array**	**70.54**	**331**	P	**P**	**17 09 55.7**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=128,slow=6.7,SNR=4.4						
PDAR				pP	**sP**	**17 10 08.2**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=127,slow=6.9,SNR=5.6						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**71.70**	**180**	P	**P**	**17 10 01.8**	**0.0**
QSPA				IAmb	IAmb	17 10 20.2	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**71.70**	**180**	P	**P**	**17 10 03.1**	**+1.2**
	comp=Z,3.6nm,0.8s,baz=164,slow=3.1,SNR=18						
	comp=Z,3.6nm,0.8s						
QSPA	**South Pole Qui**	**71.70**	**180**	P	**P**	**17 10 04.2**	**+2.3**
QSPA				pP	**sP**	**17 10 16.1**	**+0.2**
ULM	**Lac du Bonnet**	**71.87**	**343**	P	**P**	**17 10 01.2**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=174,slow=4.4,SNR=4.0						
	comp=Z,1.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**78.21**	**72**	P	**P**	**17 10 39.0**	**-1.1**
TORD				IAmb	IAmb	17 10 56.0	
	comp=Z,8.8nm,0.9s						
VNDA	**Vanda**	**79.48**	**190**	P	**P**	**17 10 46.8**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=143,slow=1.5,SNR=4.9						
	comp=Z,1.3nm,0.9s						
PAB	**San Pablo**	**84.75**	**45**	P	**P**	**17 11 13.2**	**-1.1**
ESDC	**Sonseca Array**	**85.07**	**45**	P	**P**	**17 11 16.4**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=258,slow=4.3,SNR=10						
	comp=Z,3.4nm,0.9s						
BOSA	**Boshof**	**86.58**	**119**	P	**P**	**17 11 23.6**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=271,slow=5.4,SNR=3.5						
	comp=Z,4.0nm,0.9s						
YKA	**Yellowknife Ar**	**87.71**	**341**	P	**P**	**17 11 27.7**	**-0.5**
	comp=Z,5.3nm,0.8s,baz=138,slow=4.9,SNR=60						
	comp=Z,5.3nm,0.8s						
KBZ	**Khabaz**	**119.69**	**50**	PKP	**PKiKP**	**17 17 30.4**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=262,slow=2.4,SNR=8.4						
H11S2	**WAKE ISLAND Hyl**	**25.52**	**280**	T	T	19 35 32.3	
	baz=100,slow=75,SNR=363						
H11S1	**WAKE ISLAND Hyl**	**25.53**	**280**	T	T	19 35 32.9	
	baz=100,slow=75,SNR=183						
H11N3	**WAKE ISLAND Hyl**	**25.53**	**281**	T	T	19 35 20.8	
	baz=100,slow=75,SNR=70						
H11S3	**WAKE ISLAND Hyl**	**25.54**	**280**	T	T	19 35 34.4	
	baz=100,slow=75,SNR=175						
H11N2	**WAKE ISLAND Hyl**	**25.54**	**281**	T	T	19 35 21.9	
	baz=100,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hyl**	**25.55**	**281**	T	T	19 35 32.0	
	baz=100,slow=75,SNR=29						
ASAR	**Alice Springs**	**131.59**	**211**	PKP	**PKPdf**	**17 17 53.6**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=132,slow=2.6,SNR=8.8						
ASAR				pPKP	**pPKPdf**	**17 18 05.0**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=125,slow=1.6,SNR=6.7						
BVAR	**Borovoye Array**	**134.33**	**32**	PKP	**PKiKP**	**17 17 58.6**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=320,slow=13,SNR=3.1						
BVAR				pPKP	**sPKPdf**	**17 18 11.1**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=298,slow=3.1,SNR=9.8						
WRA	**Warramunga Arr**	**134.46**	**214**	PKP	**PKPdf**	**17 17 59.3**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=165,slow=1.6,SNR=15						
WRA				pPKP	**sPKPdf**	**17 18 11.7**	**-1.7**
	comp=Z,2.5nm,0.6s,baz=149,slow=1.8,SNR=9.6						
KURBB	**Kurchatov Arra**	**139.79**	**30**	PKP	**PKPdf**	**17 18 07.9**	**+0.1**
	comp=Z,0.6nm,0.2s,baz=316,slow=2.5,SNR=2.1						
ZALV	**Zalesovo Beam**	**139.97**	**22**	PKP	**PKPdf**	**17 18 09.0**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=304,slow=3.4,SNR=8.3						
ZALV				pPKP	**sPKPdf**	**17 18 21.0**	**-1.4**
	comp=Z,4.3nm,0.7s,baz=287,slow=2.4,SNR=9.3						
MKAR	**Makanchi Array**	**144.21**	**32**	PKP	PKPbc	17 18 14.3	+0.3
	comp=Z,1.7nm,0.7s,baz=320,slow=4.0,SNR=22						
USRK	**Ussuriysk Ar.**	**

FSK Fiskardo 0.86 267 P **Pg** 17 17 30.1 -1.4
FSK S **Sg** 17 17 43.1 +0.2
DRAG Dragano-Lefkad 0.87 282 P **Pg** 17 17 30.3 -1.3
DRAG Dragano-Lefkad 0.87 282 P **Pg** 17 17 30.1 -1.5
DRAG S **Sg** 17 17 43.0 0.0
TETR Tetrakomo, Epi 0.89 340 P **Pg** 17 17 30.9 -1.0
TETR S **Sg** 17 17 43.6 0.0
VLS Valsamata 0.91 249 P **Pg** 17 17 30.6 -1.7
VLS S **Sb** 17 17 45.4 +1.2
VLS Valsamata 0.91 249 P **Pg** 17 17 30.9 -1.4
VLS S **Sg** 17 17 44.1 0.0
PSDA Pessada-Kefalo 0.94 245 P **Pg** 17 17 31.2 -1.6
PSDA S **Sb** 17 17 45.6 +0.6
2μm,0.2s
PSDA Pessada-Kefalo 0.94 245 P **Pg** 17 17 31.2 -1.6
PSDA S **Sg** 17 17 44.8 -0.3
KYPS Kipseli, Zakin 0.96 224 P **Pg** 17 17 32.5 -0.8
KYPS S **Sb** 17 17 46.5 +0.9
AMT Artemida-Makis 0.98 178 P **Pg** 17 17 32.9 -0.7
AMT S **Sb** 17 17 47.3 +1.0
ORTH Orthonies,Zaky 1.01 229 P **Pg** 17 17 32.9 -1.3
ORTH S **Sb** 17 17 47.9 +0.8
LTHK Lithakia 1.03 219 P **Pg** 17 17 33.4 -1.3
LTHK Lithakia 1.03 219 P **Pg** 17 17 33.2 -1.4
LTHK S **Sb** 17 17 48.9 +1.1
DMLN Damoulianata-K 1.05 255 P **Pg** 17 17 33.2 -1.8
DMLN Damoulianata-K 1.05 255 P **Pg** 17 17 33.2 -1.8
DMLN S **Sb** 17 17 48.8 +0.5
LKR Lokris 1.06 82 P **Pg** 17 17 33.1 -2.1
LKR S **Sg** 17 17 48.6 -0.4
905nm,0.3s
LKR Lokris 1.06 82 P **Pg** 17 17 33.7 -1.5
LKR S **Sg** 17 17 48.6 -0.4
THL Klokotos Trika 1.09 15 P **Pg** 17 17 34.5 -1.2
THL S **Sb** 17 17 50.1 +0.7
THL Klokotos Trika 1.09 15 P **Pg** 17 17 34.7 -1.1
THL S **Sg** 17 17 49.7 -0.2
LTK Loutraki 1.14 115 P **Pb** 17 17 35.6 -0.6
LTK S **Sn** 17 17 52.4 +0.7
AIDA Aidipsos 1.14 72 P **Pb** 17 17 36.0 -0.3
AIDA S **Sb** 17 17 51.0 +0.1
VLX Vlachokerasia 1.27 153 P **Pn** 17 17 37.9 -0.3
VLX S **Sg** 17 17 56.0 +0.1
VIL2 Platees 1.30 103 P **Pn** 17 17 39.1 +0.6
VIL2 S **Sg** 17 17 58.0 +1.4
JAN Janina 1.31 331 P **Pb** 17 17 39.5 +0.4
JAN S **Sb** 17 17 56.2 +0.4
ITM Ithomi 1.35 171 P **Pn** 17 17 39.5 +0.4
ITM S **Sg** 17 17 58.2 0.0
IGT Igoumenitsa 1.45 315 P **Pn** 17 17 41.4 +0.7
IGT S **Sn** 17 17 59.9 +0.4
NEO Neokhori 1.45 56 P **Pn** 17 17 40.7 0.0
NEO Neokhori 1.45 56 P **Pn** 17 17 40.5 -0.2
NEO S **Sn** 17 18 00.1 +0.5
XOR Xorichti 1.47 54 P **Pn** 17 17 40.5 -0.3
XOR Xorichti 1.47 54 P **Pn** 17 17 40.5 -0.3
XOR S **Sn** 17 18 00.5 +0.6
MET5 Makryloggos,Me 1.61 123 P **Pn** 17 17 43.6 +0.9
MET5 S **Sb** 17 18 04.8 +0.4
KRND KRANIDI 1.63 133 P **Pn** 17 17 43.6 +0.6
KRND S **Sb** 17 18 05.3 +0.3
ATH Athens Observa 1.71 108 P **Pn** 17 17 44.8 +0.8
ATH S **Sb** 17 18 07.6 +0.4
LIT Litokhoron 1.71 22 P **Pn** 17 17 44.5 +0.2
LIT S **Sn** 17 18 07.2 +1.2
VLI Veliai 2.06 150 P **Pn** 17 17 49.5 +0.6
PAIG Paliouri 2.11 47 P **Pn** 17 17 49.0 -0.6
KARY Karystos 2.24 101 P **Pn** 17 17 51.9 +0.5
SOH Sokhos 2.65 29 P **Pn** 17 17 57.6 +0.5
OHR Ohrid 2.68 346 *i* Pn **Pb** 17 18 02.1 -0.4
OHR *i* Sn **Sg** 17 18 43.3 +2.4
VAY Valandovo 2.89 14 *i* Pn **Pn** 17 18 03.3 +2.9
BRTR Keskin Array B 9.39 79 Pn **Pn** 17 19 31.6 +1.9
0.1nm,0.3s,baz=262,slow=12,SNR=4.1
0.3nm,0.4s
HFS Hagfors 22.22 349 P **P** 17 22 10.2 -0.4
0.9nm,0.7s,baz=172,slow=11,SNR=1.1
0.9nm,0.7s
FINES FINESS Array B 23.12 5 P **P** 17 22 20.2 +0.1
1.9nm,1.0s,baz=189,slow=10.0,SNR=4.5
1.9nm,1.0s
NOA NORSAR Array B 23.48 347 P **P** 17 22 23.5 -0.3
0.5nm,0.8s,baz=142,slow=10,SNR=1.2
0.5nm,0.8s
EKA Eskdalemuir Ar 23.68 323 P **P** 17 22 26.0 +0.2
2.7nm,0.9s,baz=122,slow=9.7,SNR=3.4
2.7nm,0.9s
MKAR Makanchi Array 44.36 59 P **P** 17 25 24.2 -0.3
0.3nm,0.3s,baz=276,slow=7.6,SNR=11
0.3nm,0.3s
ZALV Zalesovo Beam 44.80 48 P **P** 17 25 27.0 -0.9
0.5nm,0.5s,baz=279,slow=9.5,SNR=2.5
0.5nm,0.5s

IDC 05 17:25:01.1±3.8,47°.66N×92°.47W,h0km,mbtmp2.6/2,
ML0.6/1,Error ellipse: s-maj=45.4km s-min=19.2km
az=78.0,Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.42**	**320**	Pn	Pn	17 25 53.6	-2.1
	0.1nm,0.3s,baz=136,slow=9.3,SNR=1.4						
ULM				Pg	Pb	17 26 02.7	+0.1
	0.4nm,0.3s,baz=152,slow=14,SNR=8.0						
ULM				Lg	Lg	17 26 46.4	
	3.2nm,0.3s,baz=230,slow=20,SNR=22						
	1.0nm,0.8s						
I10CA	**LAC DU BONNET**	**3.46**	**319**	I	I	17 46 20.0	
	0.1nm,1.4s,baz=136,slow=328,SNR=3.9						
PDAR	**Pinedale Array**	**13.00**	**254**	Pn	Pn	17 28 04.5	-2.7
	0.1nm,0.4s,baz=49,slow=15,SNR=1.8						

*NEIC **05** 17:52:32.5±1.1,35°.86N±0°.01×120°.40W±0°.02,h10km±1km,*
Error ellipse: s-maj=2.6km s-min=2.4km az=65.0
NCEDC 05 17:52:32.6±1.2,35°.86N±0°.01×120°.41W±0°.02,h8km±2km,
Mwr3.5/3,ML3.4/97(NEIC),Error ellipse: s-maj=1.8km
s-min=1.7km az=105.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHFM	**Heflinger Ranc**	**0.02**	**24**		Pg	17 52 34.5	+0.3
PHAM	**Harlan Ranch**	**0.03**	**154**		Pg	17 52 34.5	+0.3
GHC	**Gold Hill**	**0.06**	**122**		Pg	17 52 34.7	+0.3
PWKM	**Work Ranch**	**0.09**	**240**		Pg	17 52 35.6	+0.7
CTM	**Castle Mountai**	**0.09**	**41**		Pg	17 52 35.8	+0.8
PSTM	**Stockdale Moun**	**0.10**	**311**		Pg	17 52 35.4	+0.3
PKLM	**Kerr Lake**	**0.11**	**146**		Pg	17 52 35.6	+0.5
PSRM	**Scobie Ranch**	**0.11**	**92**		Pg	17 52 35.6	+0.4
PKD	**Bear Valley Ra**	**0.13**	**309**		Pg	17 52 35.8	+0.2
PKD					Sg	17 52 38.2	+0.5
PMRM	**Maxey Ranch**	**0.16**	**118**		Pg	17 52 36.5	+0.5
PPO	**Portuguese Can**	**0.17**	**272**		Pg	17 52 36.8	+0.7
TCHL	**Shandon**	**0.17**	**177**		Pg	17 52 37.0	+0.8
PAGB	**Antelope Grade**	**0.19**	**134**		Pg	17 52 36.9	+0.5
PAGB					Sg	17 52 40.7	+1.7
PHPM	**Hope Ranch**	**0.20**	**307**		Pg	17 52 36.9	+0.3
THIS	**South End of C**	**0.20**	**132**		Pg	17 52 37.5	+0.8
THIS					Sg	17 52 41.5	+1.9
TRAM	**Private Proper**	**0.22**	**148**		Pg	17 52 37.5	+0.5
TRAM					Sg	17 52 41.3	+1.4
TRAM	**Private Proper**	**0.22**	**148**	IAML		17 52 44.7	
	comp=N,24μm,0.4s						
PSMM	**Smith Mountain**	**0.26**	**325**		Pg	17 52 38.5	+0.8
TCAS	**Cass Winery, P**	**0.28**	**206**		Pg	17 52 38.7	+0.6
TCAS					Sb	17 52 43.4	-1.2
PKEM	**Kettleman Hill**	**0.32**	**51**		Pb	17 52 40.6	+0.2
TSCN	**Private Proper**	**0.32**	**171**		Pg	17 52 39.6	+0.7
PPTM	**Peach Tree Val**	**0.35**	**315**		Pg	17 52 39.9	+0.4
TRAY	**Twisselman Ran**	**0.39**	**143**		Pg	17 52 40.5	+0.3
PBPM	**Bitterwater Pu**	**0.39**	**136**		Pg	17 52 40.9	+0.6
PJUM	**Juniper Ridge**	**0.39**	**338**		Pb	17 52 41.6	-0.3
PANM	**San Antonio Re**	**0.41**	**259**		Pg	17 52 40.9	+0.3
PSAM	**San Ardo**	**0.42**	**293**		Pg	17 52 40.9	+0.1
TSCS	**Shell Creek So**	**0.42**	**173**		Pg	17 52 40.9	0.0
RAMR	**Ramage Ranch**	**0.43**	**239**		Pg	17 52 41.2	+0.2
RAMR	**Ramage Ranch**	**0.43**	**239**	IAML		17 52 49.6	
	comp=E,20μm,0.6s						
RAMR				IAML		17 52 50.1	
	comp=N,23μm,0.5s						
PMPB	**Monarch Peak**	**0.47**	**318**		Pg	17 52 42.1	+0.2
PMPB					Sg	17 52 48.3	+0.2
PMPB				IAML		17 52 54.9	
	comp=E,3μm,0.7s						
PMPB				IAML		17 52 57.9	
	comp=N,4μm,0.9s						
PDRM	**Domengine Ranc**	**0.47**	**4**		Pb	17 52 43.3	+0.1
PHSB	**Hesperia Broad**	**0.52**	**266**		Pg	17 52 42.8	+0.1
PTAM	**Tassajara Cree**	**0.53**	**207**		Pg	17 52 42.9	+0.1
PWMM	**Westland Maint**	**0.59**	**16**		Pb	17 52 45.6	+0.4
EFD	**Emergency Oper**	**0.60**	**205**		Pg	17 52 44.1	0.0
SMMC	**Simmler**	**0.64**	**148**		Pg	17 52 45.1	+0.2
PCCM	**Crazy Canyon**	**0.65**	**291**		Pg	17 52 45.1	0.0
LSDC	**Los Osos Digit**	**0.66**	**212**		Pg	17 52 45.7	+0.4
HULI	**Fort Hunter Li**	**0.69**	**284**		Pg	17 52 45.7	-0.1
HULI	**Fort Hunter Li**	**0.69**	**284**	IAML		17 52 58.4	
	comp=N,3μm,0.7s						
DPD	**Davis Peak**	**0.69**	**206**		Pg	17 52 46.3	+0.3
CARC	**Carrizo Plain**	**0.72**	**140**		Pg	17 52 46.6	+0.2
DCD	**Diablo Creek**	**0.74**	**208**		Pg	17 52 46.9	+0.1
LRV	**Little Rabbit**	**0.75**	**319**		Pg	17 52 47.2	+0.2
PAPM	**Alder Peak**	**0.77**	**274**		Pg	17 52 47.0	-0.4
CRGC	**Crocker Grade**	**0.83**	**138**		Pg	17 52 48.6	-0.1
BSGM	**Shirttail Gulc**	**0.88**	**309**		Pg	17 52 48.6	-0.8
BBGB	**Big Mountain B**	**0.88**	**325**		Pg	17 52 49.5	0.0
BBGB					Sg	17 53 02.7	+0.7
VOG	**Valley Oaks Go**	**0.95**	**61**		Pg	17 52 50.1	-0.7
BSMM	**Soledad Missio**	**0.97**	**303**		Pg	17 52 50.6	-0.7
KARE	**Kearney REC, C**	**1.04**	**45**		Pg	17 52 51.4	-1.1
BJCM	**Johnson Can.**	**1.05**	**311**		Pg	17 52 51.5	-1.2
BJOM	**Mount Johnson**	**1.06**	**317**		Pg	17 52 51.8	-1.1
VES	**Vestal, Richgr**	**1.08**	**91**		Pg	17 52 51.8	-1.5
PKM	**Mcpherson Peak**	**1.09**	**153**		Pg	17 52 52.7	-0.7
SCZ	**Santa Cruz**	**1.09**	**313**		Pg	17 52 52.0	-1.5
SCZ	**Santa Cruz**	**1.09**	**313**	IAML		17 53 08.6	
	comp=N,891nm,0.7s						
SCZ				IAML		17 53 09.3	
	comp=E,649nm,0.6s						
FIGC	**Figueroa Mtn.**	**1.18**	**163**		Pb	17 52 54.4	-0.9
BPRM	**Ponciano Ridge**	**1.20**	**297**		Pb	17 52 53.5	-2.0
BSRM	**Salinas Radio**	**1.20**	**312**		Pb	17 52 53.6	-2.0
BPCNC	**Pine Canyon**	**1.21**	**306**		Pb	17 52 54.0	-1.8
BCW	**Bitter Crk WRg**	**1.23**	**138**		Pb	17 52 54.0	-2.0
SAO	**San Andreas Ge**	**1.23**	**317**		Pn	17 52 54.1	-1.9
SAO					Sg	17 53 10.7	-1.3
FRP	**Fremont Peak**	**1.25**	**316**		Pn	17 52 54.6	-1.7
FRI	**Friant**	**1.26**	**27**		Pn	17 52 54.8	-1.7
MAGC	**SCE Magundon P**	**1.31**	**112**		Pn	17 52 55.2	-1.9
PACP	**Pacheco Peak**	**1.34**	**329**		Pn	17 52 57.3	-0.4
PACP	**Pacheco Peak**	**1.34**	**329**	IAML		17 53 18.7	
	comp=E,803nm,0.8s						
LEGD	**La Grand CA**	**1.37**	**9**		Pn	17 52 56.1	-1.8
HFEM	**San Felipe**	**1.38**	**325**		Pn	17 52 57.3	-0.8
SLD	**San Luis Dam**	**1.38**	**332**		Pn	17 52 57.0	-1.1
SPG2	**Springville 2**	**1.38**	**75**		Pn	17 52 56.3	-1.8
HPCM	**Pacheco Lake**	**1.38**	**330**		Pn	17 52 57.2	-0.9
HTUM	**Tustin Road**	**1.38**	**315**		Pn	17 52 56.1	-2.0
HERM	**Elkhorn Road**	**1.41**	**312**		Pn	17 52 57.5	-0.9
HMOM	**Monterey**	**1.42**	**302**		Pn	17 52 56.6	-2.1
CDC	**Canada Road**	**1.45**	**324**		Pn	17 52 58.3	-0.7
HCOM	**Corn Cob Canyo**	**1.46**	**315**		Pn	17 52 57.7	-1.5
ARVC	**Arvin**	**1.48**	**119**		Pn	17 52 57.7	-1.9
GHS	**Gilroy Hot Spr**	**1.49**	**326**		Pn	17 52 59.2	-0.4
WASM	**Alta Sierra Ca**	**1.51**	**94**		Pn	17 52 58.5	-1.6
HLPM	**Lions Peak**	**1.53**	**321**		Pn	17 52 59.3	-0.9
TEJ	**El Tejon**	**1.54**	**114**		Pn	17 52 57.9	-2.5
JELB	**Ellicott, Sant**	**1.56**	**313**		Pn	17 52 59.4	-1.1
ISA	**Isabella, Lake**	**1.59**	**97**		Pn	17 52 59.6	-1.4
ISA					Sn	17 53 21.2	-0.6
TJR	**Tejon Ranch**	**1.60**	**121**		Pn	17 52 58.9	-2.2
CMPM	**Mikes Peak**	**1.66**	**334**		Pn	17 53 01.5	-0.6
JLAB	**Laurel Hill**	**1.67**	**321**		Pn	17 53 01.0	-1.2
KCC	**Kaiser Creek**	**1.71**	**31**		Pn	17 53 01.8	-0.8
CCOB	**Coe Ranch Numb**	**1.73**	**324**		Pn	17 53 02.2	-0.6
ARN	**Arnold Ranch**	**1.74**	**329**		Pn	17 53 02.1	-1.0
WORM	**Onyx Ranch**	**1.77**	**95**		Pn	17 53 03.4	-0.2
SCZ2	**Santa Cruz Isl**	**1.97**	**161**		Pb	17 53 08.0	-0.6
WNMM	**Nine Mile Cany**	**2.04**	**90**		Pn	17 53 07.4	+0.3
MDPB	**Devils Postpil**	**2.07**	**31**		Pn	17 53 07.9	+0.1
JFP	**Foothills Park**	**2.07**	**317**		Pn	17 53 06.8	-0.8
CCAC	**Calif City Air**	**2.08**	**109**		Pn	17 53 07.6	-0.1
CCAC				IAML		17 53 43.2	
	comp=E,443nm,0.6s						
CMB	**Columbia Colle**	**2.17**	**1**		Pn	17 53 08.4	-0.6
DSP	**Deep Springs**	**2.48**	**52**		Pn	17 53 12.5	-0.6
DSP				IAML		17 54 01.3	
	comp=N,162nm,1.3s						
DSP				IAML		17 54 01.6	
	comp=E,194nm,1.1s						
PASC	**Pasadena Art C**	**2.49**	**132**		Pn	17 53 12.4	-0.9
PASC				IAML		17 53 48.9	
	comp=E,156nm,0.9s						
PASC				IAML		17 54 01.0	
	comp=N,112nm,0.8s						
GRAC	**Grapevine Rang**	**2.71**	**64**		Pn	17 53 16.0	-0.3
GRAC				IAML		17 54 11.9	
	comp=N,227nm,1.1s						
SNCC	**San Nicolas Is**	**2.71**	**164**		Pn	17 53 14.3	-2.1
WAKR	**Walker**	**2.75**	**16**		Pn	17 53 16.3	-0.9
WAKR				IAML		17 54 07.5	
	comp=E,182nm,0.6s						
WAKR				IAML		17 54 15.7	
	comp=N,122nm,0.9s						
LHV	**Little Huntoon**	**2.83**	**32**		Pn	17 53 18.2	+0.2
LHV				IAML		17 54 17.3	
	comp=E,182nm,1.2s						
LHV				IAML		17 54 21.5	
	comp=N,138nm,0.8s						
GSC	**Goldstone, Bar**	**2.99**	**100**		Pn	17 53 18.4	-1.9
GSC				IAML		17 54 10.3	
	comp=E,159nm,0.6s						
GSC				IAML		17 54 20.2	
	comp=N,112nm,0.9s						
MCCM	**Marconi Confer**	**3.02**	**320**	Pn	Pn	17 53 18.8	-1.7
MCCM				IAML		17 54 15.4	
	comp=E,86nm,1.6s						
MCCM				IAML		17 54 30.7	
	comp=N,84nm,1.5s						
MZP	**Montezuma Peak**	**3.05**	**52**		Pn	17 53 20.2	-1.1
GWY	**Greenwater Val**	**3.05**	**83**		Pn	17 53 19.6	-1.6
GWY				IAML		17 54 30.6	
	comp=E,90nm,1.0s						
GWY				IAML		17 54 31.6	
	comp=N,68nm,0.8s						
AFDM	**Forest Hills D**	**3.11**	**352**		Pn	17 53 22.1	+0.1
NV11	**Mina Array Sit**	**3.14**	**34**		Pn	17 53 21.6	-0.8
RYN	**Ryan**	**3.15**	**28**		Pb	17 53 26.6	-2.2
RYN				IAML		17 54 21.2	
	comp=N,51nm,0.9s						
RYN				IAML		17 54 24.2	
	comp=E,62nm,0.9s						
WCT	**Wildcat Mounta**	**3.20**	**72**		Pn	17 53 23.3	+0.1
WCT				IAML		17 54 24.8	
	comp=E,50nm,0.6s						
PNTR	**Pine Nut**	**3.29**	**11**		Pn	17 53 22.6	-1.9
PNTR				IAML		17 54 25.4	
	comp=N,139nm,0.9s						
ELS	**Elsinore Mount**	**3.30**	**131**	Pn	Pn	17 53 23.6	-1.0
ELS				IAML		17 54 19.3	
	comp=E,40nm,1.4s						
TPNV	**Topopah Spring**	**3.53**	**71**		Pn	17 53 26.4	-1.4
TPNV				IAML		17 54 25.2	
	comp=E,55nm,1.1s						
TPNV				IAML		17 54 31.4	
	comp=E,56nm,1.1s						
PAHR	**Pah Rah Range**	**3.92**	**12**		Pn	17 53 31.5	-1.7
PAHR				IAML		17 54 41.4	
	comp=E,32nm,1.4s						
Q09A	**Carvers**	**3.93**	**40**		Pn	17 53 33.8	+0.5
PFO	**Pinyon Flats O**	**3.95**	**123**		Pn	17 53 32.2	-1.4
BEKR	**Beckworth**	**4.00**	**1**		Pn	17 53 34.4	+0.2
BEKR				IAML		17 54 46.4	
	comp=E,55nm,0.7s						
BEKR				IAML		17 54 53.0	
	comp=N,29nm,0.7s						
S11A	**Rachel**	**4.15**	**63**		Pn	17 53 36.0	-0.3
SHPR	**Sheep Range**	**4.30**	**80**		Pn	17 53 38.3	0.0
V12A	**Nelson**	**4.52**	**90**		Pn	17 53 39.5	-1.9
PRN	**Pahroc Range**	**4.58**	**69**		Pn	17 53 41.3	-0.9
PRN				IAML		17 55 10.2	
	comp=E,36nm,0.8s						
PRN				IAML		17 55 21.9	
	comp=N,44nm,0.9s						
R11B	**Troy Canyon, C**	**4.59**	**56**		Pn	17 53 41.5	-0.9
CBX	**Cerro Bola**	**4.71**	**138**		Pn	17 53 42.7	-1.3
CBX				IAML		17 55 07.5	
	comp=E,38nm,1.9s						
CBX				IAML		17 55 09.0	
	comp=N,29nm,0.8s						
YUH	**Yuha Desert**	**4.91**	**129**		Pn	17 53 46.2	-0.4
YUH				IAML		17 55 18.4	
	comp=N,12nm,4.5s						
ESJX	**Sierra Juarez**	**5.34**	**135**	Pn	Pn	17 53 53.1	+0.3
W13A	**Hualapai Mount**	**5.38**	**96**	Pn	Pn	17 53 52.3	-1.0
W13A				IAML		17 55 33.0	
	comp=N,16nm,1.9s						
W13A				IAML		17 55 33.6	
	comp=E,11nm,1.1s						
GLA	**Glamis**	**5.40**	**120**	Pn	Pn	17 53 52.6	-0.8
SPR3	**Spring Creek 3**	**5.76**	**55**		Pn	17 53 56.5	-2.1
PSUT	**Pine Spring**	**5.88**	**61**		Pn	17 53 57.6	-2.5
KNB	**Kanab**	**6.23**	**77**	Pn	Pn	17 54 03.5	-1.4
ELK	**Elko**	**6.35**	**38**		Pn	17 54 04.2	-2.4
Y14A	**Wickenburg**	**6.38**	**105**		Pn	17 54 05.4	-1.5
U15A	**North Rim**	**6.60**	**83**		Pn	17 54 10.3	+0.3
PKCU	**Pink Cliffs**	**6.70**	**74**	Pn	Pn	17 54 09.4	-2.1
DUG	**Dugway, Tooele**	**7.39**	**52**	Pn	Pn	17 54 18.7	-2.2

*IDC **05** 18:01:40.6±3.2,15°.14S×167°.60E,h123km±25km,mb4.0/9,*
mbtmp4.3/11,Error ellipse: s-maj=31.9km s-min=15.1km
az=73.0
*NEIC **05** 18:01:41.7±1.9,15°.1S±0°.1×167°.5E±0°.1,h118km±6km,*
mb4.6/19,Error ellipse: s-maj=18.6km s-min=14.4km
az=62.0
*NOU **05** 18:01:41.1,15°.05S×167°.49E,h116km,mb4.3/32,*
Vanuatu Islands
ISC 05 18:01:41.3±0.5,15°.08S±0°.06×167°.53E±0°.07,h129km,n74,
σ0°.83/71,mb4.4/19,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**1.03**	**186**	P	**Pn**	**18 02 03.8**	**-0.6**
VLAKA	**Lakatoro**	**1.03**	**186**	P	**Sn**	**18 02 21.3**	**-0.7**
DVP	**Devils Point**	**2.71**	**167**	P	**Pn**	**18 02 23.3**	**-0.8**
LUES	**Luesalemba Tem**	**4.66**	**340**	P	**Pn**	**18 02 48.9**	**-1.1**
KOUNC	**Koumac, New Ca**	**6.26**	**209**	P	**Pn**	**18 03 11.0**	**-0.3**
KOUNC	**Koumac, New Ca**	**6.26**	**209**	S	**Sn**	**18 04 21.4**	**-0.3**
YATNC	**Mamie plateau,**	**6.97**	**185**	P	**Pn**	**18 03 21.0**	**+0.1**
YATNC	**Mamie plateau,**	**6.97**	**185**	S	**Sn**	**18 04 39.1**	**+0.2**
DZM	**Mont Dzumac**	**7.03**	**188**		**Pn**	**18 03 20.7**	**-1.2**
DZM	**Mont Dzumac**	**7.03**	**188**	P	**Pn**	**18 03 21.5**	**-0.3**
	10nm,0.4s,baz=315,slow=7.8,SNR=57						
DZM				S	**Sn**	**18 04 37.1**	**-3.3**
	26nm,0.4s,baz=154,slow=20,SNR=11						
DZM	**Mont Dzumac**	**7.03**	**188**	P	**Pn**	**18 03 21.9**	**+0.1**
DZM	**Mont Dzumac**	**7.03**	**188**	S	**Sn**	**18 04 41.1**	**+0.6**
ONTNC	**Ouen Toro**	**7.26**	**188**		**Pn**	**18 03 24.7**	**-0.1**
ONTNC	**Ouen Toro**	**7.26**	**188**	P	**Pn**	**18 03 25.1**	**+0.2**
ONTNC	**Ouen Toro**	**7.26**	**188**	S	**Sn**	**18 04 46.6**	**+0.7**
OUENC	**Ouen Island, N**	**7.33**	**185**	P	**Pn**	**18 03 26.5**	**+0.7**
OUENC	**Ouen Island, N**	**7.33**	**185**	S	**Sn**	**18 04 48.3**	**+0.8**
PINNC	**Pines Island,**	**7.50**	**181**	Pn	**Pn**	**18 03 28.9**	**+0.9**
PINNC	**Pines Island,**	**7.50**	**181**	P	**Pn**	**18 03 29.3**	**+1.3**
PINNC	**Pines Island,**	**7.50**	**181**	S	**Sn**	**18 04 52.9**	**+1.4**
NGOA	**Tingoa Renbel**	**8.07**	**295**	P	**Pn**	**18 03 34.5**	**-1.3**
HNR	**Honiara**	**9.30**	**306**	Pn	**Pn**	**18 03 52.6**	**+0.3**
HNR	**Honiara**	**9.30**	**306**	P	**Pn**	**18 03 53.4**	**+1.1**
	43nm,0.7s,baz=136,slow=10,SNR=5.0						
HNR				S	**Sn**	**18 05 36.1**	**+0.9**
	65nm,0.9s,baz=347,slow=15,SNR=4.2						
SAVO	**Savo Central**	**9.57**	**307**	P	**Pn**	**18 03 56.7**	**+0.6**
TATA	**Tatamba Isabel**	**10.07**	**310**	P	**Pn**	**18 04 03.1**	**+0.4**
MSVF	**Nonsavu**	**10.43**	**106**	Pn	**Pn**	**18 04 06.8**	**-0.8**
EIDS	**Eidsvold**	**18.50**	**234**	P	**P**	**18 05 47.5**	**-0.2**
ARMA	**Armidale**	**21.13**	**221**	P	**P**	**18 06 16.8**	**+0.7**
ARMA				IAmb	IAmb	18 06 23.1	
	comp=Z,24nm,1.5s						
MTSU	**Mount Surprise**	**22.45**	**259**	P	**P**	**18 06 29.9**	**0.0**
TOZ	**Tahuroa Road**	**23.64**	**164**	P	**P**	**18 06 41.1**	**+0.3**
TOZ				IAmb	IAmb	18 06 44.2	
	comp=Z,20nm,0.7s						
HIZ	**Hauiti**	**24.22**	**166**	P	**P**	**18 06 46.5**	**+0.4**
HIZ				IAmb	IAmb	18 07 03.2	
	comp=Z,82nm,1.4s						
MXZ	**Matakaoa Point**	**24.35**	**159**	P	**P**	**18 06 46.6**	**-0.6**
URZ	**Urewera**	**24.59**	**162**	P	**P**	**18 06 51.3**	**+1.9**
RTZ	**Ruatahuna**	**24.88**	**162**	P	**P**	**18 06 52.3**	**+0.1**
RTZ				IAmb	IAmb	18 07 20.9	
	comp=Z,42nm,1.4s						
BKZ	**Black Stump Fm**	**25.26**	**164**	P	**P**	**18 06 56.0**	**+0.4**
BKZ				IAmb	IAmb	18 07 04.1	
	comp=Z,44nm,1.4s						
BKZ	**Black Stump Fm**	**25.26**	**164**	P	**P**	**18 06 56.3**	**+0.8**
CMSA	**Cobar Meteorol**	**25.82**	**227**	P	**P**	**18 07 00.9**	**+0.3**
	comp=Z,10.0nm,2.1s						
LTZ	**Lake Taylor**	**27.91**	**173**	P	**P**	**18 07 19.9**	**+0.6**
STKA	**Stephens Creek**	**28.96**	**230**	P	**P**	**18 07 29.1**	**+0.4**
STKA	**Stephens Creek**	**28.96**	**230**	P	**P**	**18 07 29.2**	**+0.4**
	comp=Z,4.8nm,0.5s,baz=35,slow=7.2,SNR=18						
	comp=Z,4.8nm,0.5s						
STKA	**Stephens Creek**	**28.96**	**230**	P	**P**	**18 07 29.4**	**+0.7**
DCZ	**Deep Cove**	**30.29**	**181**	P	**P**	**18 07 40.5**	**+0.3**
DCZ				IAmb	IAmb	18 08 08.3	
	comp=Z,25nm,1.5s						
LCRK	**

mb4.6/42, Error ellipse: s-maj=9.2km s-min=5.0km az=307.0
*IDC **05** 18:01:50.7±2.4, 2°.98S×129°.77E, h43km±22km, mb3.8/12, mbtmp4.2/16, ML4.2/4, Error ellipse: s-maj=21.7km s-min=10.0km az=71.0*
*DJA **05** 18:01:51.4±0.2, 3°.S±2°×13°.0E±°, h57km±8km, M4.7/19, mB5.1/5, mb4.8/12, MLv4.7/19, Mw(mB)4.5/5, MwMwp5.0/1, Mwp5.2/1*
ISC 05 18:01:50.0±0.5, 2°.87S±0°.04×129°.57E±0°.04, h38km±2km, n128, σ1§78/137, mb4.4/31, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.80**	**234**	P	**Pn**	**18 02 06.2**	**+1.4**
MSAI				S	**Sn**	**18 02 20.0**	**+4.5**
AAI	**Ambon**	**1.60**	**239**	P	**Pn**	**18 02 18.0**	**+2.2**
BNDI	**Bandanaira**	**1.67**	**169**	P	**Pn**	**18 02 20.2**	**+3.4**
BNDI	**Bandanaira**	**1.67**	**169**	P	**Pn**	**18 02 19.7**	**+2.9**
BNDI				S	**Sn**	**18 02 40.2**	**+3.2**
NLAI	**Namlea**	**2.50**	**262**	P	**Pn**	**18 02 30.2**	**+2.1**
NLAI				S	**Sn**	**18 02 57.2**	**-0.2**
SWI	**Sorong**	**2.61**	**40**	P	**Pn**	**18 02 31.5**	**+1.8**
SWI				S	**Sn**	**18 03 01.7**	**+1.6**
FAKI	**Fak Fak**	**2.67**	**91**		**Pn**	**18 02 31.6**	**+1.0**
FAKI				Sn	**Sn**	**18 03 00.7**	**-1.0**
FAKI	**Fak Fak**	**2.67**	**91**	P	**Pn**	**18 02 31.8**	**+1.3**
FAKI	**Fak Fak**	**2.67**	**91**	P	**Pn**	**18 02 32.2**	**+1.7**
FAKI				S	**Sn**	**18 03 04.5**	**+2.8**
SANI	**Sanana**	**3.67**	**283**	P	**Pn**	**18 02 42.7**	**-1.6**
SANI	**Sanana**	**3.67**	**283**	S	**Sn**	**18 03 23.7**	**-2.7**
SANI	**Sanana**	**3.67**	**283**	P	**Pn**	**18 02 44.2**	**-0.1**
KMPI	**Kaimana, Papua**	**4.20**	**101**	P	**Pn**	**18 02 53.5**	**+2.0**
TNTI	**Ternate**	**4.24**	**329**	Pn	**Pn**	**18 02 51.7**	**-0.3**
TNTI	**Ternate**	**4.24**	**329**	P	**Pn**	**18 02 52.8**	**+0.7**
TNTI	**Ternate**	**4.24**	**329**	P	**Pn**	**18 02 52.9**	**+0.8**
SAUI	**Saumlaki**	**5.36**	**161**		**Pn**	**18 03 06.7**	**-0.8**
SAUI				Sn	**Sn**	**18 04 07.4**	**-0.6**
SAUI	**Saumlaki**	**5.36**	**161**	P	**Pn**	**18 03 10.3**	**+2.8**
SAUI	**Saumlaki**	**5.36**	**161**	P	**Pn**	**18 03 11.2**	**+3.7**
	0.6nm148nm,1.0s						
KMSI	**Cibinong**	**6.55**	**301**	P	**Pn**	**18 03 22.8**	**-1.1**
SRPI	**Serui, Papua**	**6.73**	**82**	P	**Pn**	**18 03 27.9**	**+1.5**
	0.3nm6µm44nm,0.5s						
BAKI	**Biak**	**6.74**	**76**	P	**Pn**	**18 03 28.1**	**+1.6**
	0.3nm91nm,1.1s						
KDI	**Kendari**	**7.03**	**261**	P	**Pn**	**18 03 30.8**	**+0.4**
	154nm,0.8s						
LUWI	**Luwuk**	**7.04**	**285**		**Pn**	**18 03 30.1**	**-0.5**
LUWI				Sn	**Sn**	**18 04 45.0**	**-4.4**
LUWI	**Luwuk**	**7.04**	**285**	P	**Pn**	**18 03 30.4**	**-0.1**
LUWI	**Luwuk**	**7.04**	**285**	S	**Sn**	**18 04 48.4**	**-0.9**
LUWI	**Luwuk**	**7.04**	**285**	P	**Pn**	**18 03 31.0**	**+0.5**
	79nm,0.5s						
SOEI	**Soe**	**8.64**	**217**		**Pn**	**18 03 52.9**	**+0.2**
SOEI	**Soe**	**8.64**	**217**	P	**Pn**	**18 03 53.9**	**+1.3**
DRS	**Darwin Rock St**	**9.59**	**172**	P	**Pn**	**18 04 08.9**	**+3.3**
BSSI	**Bau Bau, Buton**	**9.62**	**250**	P	**Pn**	**18 04 06.8**	**+0.8**
TOLI2	**Tolitoli**	**9.64**	**294**		**Pn**	**18 04 05.0**	**-1.3**
TOLI2				Sn	**Sn**	**18 05 48.9**	**-4.4**
TOLI2	**Tolitoli**	**9.64**	**294**	S	**Sn**	**18 05 52.3**	**-1.0**
TOLI2	**Tolitoli**	**9.64**	**294**	P	**Pn**	**18 04 06.6**	**+0.3**
KAPI	**Kappang**	**10.03**	**257**		**Pn**	**18 04 14.8**	**+3.3**
KAPI	**Kappang**	**10.03**	**257**	P	**Pn**	**18 04 15.7**	**+4.1**
	1.1nm,0.3s,baz=107,slow=7.1,SNR=10.0						
KAPI				S	**Sn**	**18 06 08.5**	**+5.7**
	2.6nm,0.4s,baz=61,slow=19,SNR=1.4						
	16nm,0.8s						
MTN	**Manton Dam**	**10.03**	**171**		**Pn**	**18 04 10.6**	**-1.0**
MTN				Sn	**Sn**	**18 06 02.0**	**-0.9**
MTN	**Manton Dam**	**10.03**	**171**	P	**Pn**	**18 04 12.1**	**+0.5**
KDU	**Kakadu**	**10.17**	**164**	P	**Pn**	**18 04 13.1**	**-0.4**
MPSI	**Mapaga**	**10.18**	**288**	P	**Pn**	**18 04 15.6**	**+1.9**
GENI	**Genyem**	**10.59**	**89**	P	**Pn**	**18 04 18.1**	**-1.1**
JAY	**Jayapura**	**11.12**	**88**	P	**Pn**	**18 04 25.1**	**-1.6**
	1.5nm,0.3s,baz=280,slow=9.0,SNR=7.2						
	7.3nm,0.7s						
KNRA	**Kununurra**	**12.75**	**184**	Pn	**Pn**	**18 04 47.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**15.62**	**194**	Pn	**Pn**	**18 05 25.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**15.62**	**194**	P	**Pn**	**18 05 26.8**	**-0.6**
	0.7nm,0.3s,baz=28,slow=11,SNR=15						
	4.8nm,0.5s						
JAGI	**Jajag, Banyuwa**	**16.32**	**249**	Pn	**Pn**	**18 05 35.5**	**-0.9**
COEN	**Coen**	**17.37**	**130**	P	**Pn**	**18 05 47.4**	**-2.2**
COEN				IAmb	IAmb	18 06 05.3	
	comp=Z,50nm,1.5s						
COEN	**Coen**	**17.37**	**130**	P	**Pn**	**18 05 50.0**	**+0.3**
WB0	**Warramunga Arr**	**17.44**	**165**	P	**Pn**	**18 05 47.4**	**-3.1**
WB0				IAmb	IAmb	18 05 58.9	
	comp=Z,32nm,1.3s						
WRAB	**Tennant Creek**	**17.59**	**165**	P	**Pn**	**18 05 49.7**	**-2.6**
WRA	**Warramunga Arr**	**17.59**	**165**	P	**Pn**	**18 05 49.8**	**-2.6**
WRA	**Warramunga Arr**	**17.59**	**165**	P	**Pn**	**18 05 50.1**	**-2.3**
	comp=Z,1.3nm,0.3s,baz=351,slow=12,SNR=32						
WRA				S	**Sn**	**18 09 02.6**	**-4.9**
	comp=Z,1.2nm,0.7s,baz=348,slow=21,SNR=3.2						
	comp=Z,3.7nm,0.3s						
WB2	**Warramunga Arr**	**17.60**	**165**	P	**Pn**	**18 05 49.9**	**-2.5**
WB2				IAmb	IAmb	18 06 27.6	
	comp=Z,29nm,1.3s						
WR0	**Warramunga Arr**	**17.66**	**164**	P	**Pn**	**18 05 50.3**	**-2.9**
UGM	**Wanagama**	**19.61**	**254**	P	**P**	**18 06 14.6**	**-0.7**
UGM				IAmb	IAmb	18 06 27.3	
	comp=Z,91nm,1.3s						
KSM	**Kuching**	**19.74**	**282**	P	**P**	**18 06 16.0**	**-0.7**
QIS	**Mount Isa**	**20.12**	**152**	P	**P**	**18 06 22.0**	**+1.2**
MBWA	**Marble Bar**	**20.55**	**207**	P	**P**	**18 06 24.3**	**-1.1**
PSA00	**Pilbara Seismi**	**20.86**	**206**	P	**P**	**18 06 27.3**	**-1.5**
PSA00				IAmb	IAmb	18 07 01.5	
	comp=Z,16nm,1.1s						
PSA00	**Pilbara Seismi**	**20.86**	**206**	P	Pn	18 06 30.7	-0.7
AS31	**Alice Springs**	**21.09**	**169**	P	**P**	**18 06 30.8**	**-0.5**
AS31				IAmb	IAmb	18 06 37.4	
	comp=Z,16nm,0.6s						
ASAR	**Alice Springs**	**21.09**	**169**	P	**P**	**18 06 31.3**	**0.0**
ASAR	**Alice Springs**	**21.09**	**169**	P	**P**	**18 06 31.6**	**+0.2**
	comp=Z,28nm,0.5s,baz=344,slow=10,SNR=745						
ASAR				S	**S**	**18 10 21.8**	**-2.4**
	comp=Z,2.4nm,0.9s,baz=352,slow=21,SNR=6.6						
ASAR				PcP	**PcP**	**18 10 38.7**	**+1.8**
	comp=Z,1.7nm,0.5s,baz=4.5,slow=2.0,SNR=7.0						
	comp=Z,28nm,0.5s						
AS01	**Alice Springs**	**21.10**	**169**	P	**P**	**18 06 31.8**	**+0.4**
WRKA	**Warakurna**	**22.07**	**183**	P	**P**	**18 06 41.4**	**-0.4**
RABL	**Rabaul**	**22.59**	**94**	P	**P**	**18 06 46.4**	**-1.0**
RABL				IAmb	IAmb	18 06 50.6	
	comp=Z,16nm,0.7s						
GIRL	**Giralia**	**24.65**	**216**	P	**P**	**18 07 07.8**	**+0.6**
OOD	**Oodnadatta**	**25.46**	**167**	P	**P**	**18 07 15.3**	**+0.8**
MEEK	**Meekatharra**	**25.86**	**203**	P	**P**	**18 07 18.9**	**+0.7**
YULB	**Yu-li**	**27.32**	**343**	P	**P**	**18 07 31.1**	**-0.3**
YULB				IAmb	IAmb	18 07 44.9	
	comp=Z,37nm,1.5s						
FORT	**Forrest**	**27.80**	**183**	P	**P**	**18 07 34.8**	**-0.8**
FORT	**Forrest**	**27.80**	**183**	P	**P**	**18 07 37.0**	**+1.5**
BKNI	**Bangkinang**	**28.70**	**276**	P	**P**	**18 07 43.1**	**-0.7**
MORW	**Morawa**	**29.06**	**205**	P	**P**	**18 07 46.3**	**-0.5**
MORW				IAmb	IAmb	18 08 27.3	
	comp=Z,26nm,1.4s						
BBOO	**Buckleboo**	**30.40**	**169**	P	**P**	**18 07 58.5**	**-0.2**
BBOO	**Buckleboo**	**30.40**	**169**	P	**P**	**18 07 59.6**	**+1.0**
KLBR	**Kellerberrin**	**30.66**	**200**	P	**P**	**18 08 00.7**	**-0.3**
STKA	**Stephens Creek**	**30.99**	**160**	P	**P**	**18 08 02.9**	**-1.0**
STKA	**Stephens Creek**	**30.99**	**160**	P	**P**	**18 08 02.8**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=348,slow=9.5,SNR=4.8						
	comp=Z,1.9nm,0.5s						
NWAO	**Narrogin (SRO)**	**32.06**	**200**	P	**P**	**18 08 11.9**	**-1.4**
NWAO	**Narrogin (SRO)**	**32.06**	**200**	P	**P**	**18 08 13.8**	**+0.5**
CMSA	**Cobar Meteorol**	**32.31**	**154**	P	**P**	**18 08 17.6**	**+2.1**
ARMA	**Armidale**	**34.44**	**145**	P	**P**	**18 08 35.5**	**+1.3**
ARMA				IAmb	IAmb	18 08 41.6	
	comp=Z,20nm,1.4s						
ARPS	**Mount Arapiles**	**35.58**	**163**	P	**P**	**18 08 44.9**	**+1.1**
NJ2	**Nanjing**	**36.19**	**344**	*eP*	**P**	**18 08 51.8**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,26nm,0.6s						
CMAR	**Chiang Mai Arr**	**36.86**	**306**	P	**P**	**18 08 56.9**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=134,slow=6.8,SNR=6.1						
	comp=Z,0.6nm,0.7s						
CAN	**Canberra**	**36.98**	**153**	P	**P**	**18 08 55.2**	**-0.7**
CAN				IAmb	IAmb	18 08 59.9	
	comp=Z,22nm,1.4s						
CHTO	**Chiang Mai**	**37.05**	**307**	P	**P**	**18 08 57.4**	**+0.8**
CHTO				IAmb	IAmb	18 09 05.4	
	comp=Z,7.8nm,1.3s						
PZH	**PanZhiHua**	**39.70**	**319**	P	**P**	**18 09 21.1**	**+2.1**
PZH	**PanZhiHua**	**39.70**	**319**	P	**P**	**18 09 21.2**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
KSAR	**Wonju Array Be**	**40.14**	**358**	P	**P**	**18 09 22.2**	**0.0**
DZM	**Mont Dzumac**	**40.56**	**121**	P	**P**	**18 09 24.7**	**-1.4**
DZM				IAmb	IAmb	18 09 44.6	
	comp=Z,14nm,1.1s						
HHC	**Hu-ho-hao-te**	**46.52**	**341**	*eP*	**P**	**18 10 16.8**	**+3.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XLT	**XiLinHaoTe**	**48.11**	**347**	*eP*	P	18 10 32.8	+6.6
XLT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA	**Gaotai**	**50.19**	**330**	*eP*	P	18 10 49.2	+7.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WKZ	**Wanaka**	**54.28**	**146**	P	**P**	**18 11 13.9**	**+1.5**
WHZ	**Wether Hill Ro**	**54.38**	**148**	P	**P**	**18 11 12.3**	**-0.7**
HIZ	**Hauiti**	**54.40**	**137**	P	**P**	**18 11 12.5**	**-0.8**
SONM	**Songino Array**	**54.42**	**341**	P	**P**	**18 11 14.3**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=133,slow=4.9,SNR=1.5						
	comp=Z,0.4nm,0.5s						
LBZ	**Lake Benmore**	**54.67**	**145**	P	**P**	**18 11 15.0**	**-0.2**
OXZ	**Oxford**	**55.13**	**143**	P	**P**	**18 11 17.7**	**-0.9**
TUWZ	**Tuamarina**	**55.27**	**140**	P	**P**	**18 11 18.2**	**-1.4**
BKZ	**Black Stump Fm**	**55.83**	**137**	P	**P**	**18 11 21.8**	**-2.0**
WMQ	**Urumqi**	**59.74**	**326**	*eP*	P	18 11 56.4	+5.3
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
WMQ				LR	LR		
	comp=N,540nm,20.9s						
WMQ				LR	LR		
	comp=E,900nm,18.5s						
WMQ				LR	LR		
	comp=Z,250nm,18.7s						
PEA0B	**Petropavlovsk-**	**60.57**	**19**	P	**P**	**18 11 57.0**	**+0.5**
PETK	**Petropavlovsk-**	**60.57**	**19**	P	**P**	**18 11 57.2**	**+0.7**
PETK	**Petropavlovsk-**	**60.57**	**19**	P	**P**	**18 11 57.4**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=132,slow=2.2,SNR=5.7						
	comp=Z,2.2nm,0.7s						
MK31	**Makanchi Array**	**64.57**	**326**	P	**P**	**18 12 22.4**	**-1.0**
MKAR	**Makanchi Array**	**64.57**	**326**	P	**P**	**18 12 23.3**	**-0.1**
MKAR	**Makanchi Array**	**64.57**	**326**	P	**P**	**18 12 24.4**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=115,slow=8.2,SNR=10						
	comp=Z,0.5nm,0.4s						
YAK	**Yakutsk**	**64.72**	**0**	P	**P**	**18 12 22.9**	**-1.0**
KSH	**Kashi**	**64.73**	**316**	P	P	18 12 32.4	+7.7
KSH				pmax	pmax		
	comp=Z,3.0nm,1.9s						
MAKZ	**Makanchi**	**64.76**	**326**	P	**P**	**18 12 24.0**	**-0.6**
MAKZ				IAmb	IAmb	18 12 34.8	
	comp=Z,2.8nm,1.4s						
ZAA0	**Zalesovo Array**	**67.72**	**333**	P	**P**	**18 12 42.1**	**-1.3**
ZAA0				IAmb	IAmb	18 12 52.0	
	comp=Z,3.5nm,1.0s						
ZALV	**Zalesovo Beam**	**67.72**	**333**	P	**P**	**18 12 42.1**	**-1.3**
ZALV	**Zalesovo Beam**	**67.72**	**333**	P	**P**	**18 12 44.4**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=127,slow=6.1,SNR=7.3						
	comp=Z,1.9nm,0.7s						
GAR	**Garm**	**68.49**	**314**	P	**P**	**18 12 48.1**	**-0.7**
GAR				IAmb	IAmb	18 12 56.2	
	comp=Z,8.9nm,1.4s						
KURBB	**Kurchatov Arra**	**68.80**	**328**	P	**P**	**18 12 51.5**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=129,slow=5.9,SNR=20						
	comp=Z,1.3nm,0.5s						
KURK	**Kurchatov**	**68.80**	**328**	P	**P**	**18 12 49.5**	**-0.7**
KURK				IAmb	IAmb	18 12 59.3	
	comp=Z,4.1nm,0.8s						
BVAR	**Borovoye Array**	**74.37**	**327**	P	**P**	**18 13 24.9**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=126,slow=7.5,SNR=6.1						
	comp=Z,0.8nm,0.6s						
VNDA	**Vanda**	**76.57**	**173**	P	**P**	**18 13 35.3**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=342,slow=6.4,SNR=6.4						
	comp=Z,0.8nm,0.4s						
ABKAR	**Akbulak array**	**79.04**	**321**	P	**P**	**18 13 50.4**	**+0.3**
VOI	**Vohitsoka**	**82.24**	**248**	P	**P**	**18 14 08.5**	**+0.4**
K17K	**Iditarod**	**84.43**	**26**	P	**P**	**18 14 18.2**	**-0.1**
QSPA	**South Pole Qui**	**87.08**	**180**	P	**P**	**18 14 31.6**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=338,slow=5.4,SNR=1.8						
	comp=Z,0.9nm,0.7s						
ILAR	**Eielson Array**	**89.81**	**25**	P	**P**	**18 14 43.8**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=252,slow=4.8,SNR=2.5						
	comp=Z,0.3nm,0.5s						
AC02	**Maricunga**	**145.38**	**150**	PKPbc	**PKPbc**	**18 21 25.0**	**-0.1**
PLTB	**Pedras Altas**	**145.43**	**175**		**PKPab**	**18 21 25.0**	**+0.2**

*GCG **05** 18:11:04.0±0.6, 13°.77N×92°.50W, h25km±23km, MD4.0*
*MEX **05** 18:11:09.5±0.5, 14°.21N×92°.27W, h96km±25km, MD4.0*
ISC 05 18:11:08.3±2.7, 14°.0N±0°.2×92°.4W±0°.1, h59km±50km, n12, σ1§41/18, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.83**	**54**	*i P*	**Pn**	**18 11 24.2**	**0.0**
RTAL				*i* S	**Sn**	**18 11 36.5**	**+0.6**
PATR	**El Naranjo**	**1.09**	**8**	*eP*	**Pn**	**18 11 27.5**	**-0.2**
PATR				*i* S	**Sn**	**18 11 43.1**	**+1.0**
STG0	**El Palmar, Qui**	**1.09**	**69**	*eP*	**Pn**	**18 11 27.4**	**-0.3**
STG8	**El Palmar, Qui**	**1.09**	**68**	*eP*	**Pn**	**18 11 27.3**	**-0.4**
PAVE	**Pavencul**	**1.17**	**10**	*eP*	**Pn**	**18 11 28.9**	**+0.1**
PAVE				*i* S	**Sn**	**18 11 42.8**	**-1.2**
SOKI	**Kika Raxquin**	**1.23**	**51**	*eP*	**Pn**	**18 11 30.1**	**+0.2**
PCIG		**1.84**	**334**	*i P*	**Pn**	**18 11 37.4**	**-0.3**
PCIG				*i* S	**Sn**	**18 11 59.0**	**-0.9**
CCIG	**Comitan**	**2.25**	**6**	*eP*	Pn	18 11 47.3	+4.0
TGIG		**2.82**	**346**	*eP*	**Pn**	**18 11 49.5**	**-1.5**
TGIG				*i* S	**Sn**	**18 12 21.9**	**-2.0**
TGIG		**2.82**	**346**	*eS*	**Sn**	**18 12 27.6**	**+3.7**
UXUV	**UXUV**	**3.68**	**333**	*eP*	**Pn**	**18 12 04.5**	**+1.7**
UXUV				*i* S	**Sn**	**18 12 44.0**	**-0.9**
CMIG	**Matias Romero**	**3.87**	**322**	*eP*	**Pn**	**18 12 05.6**	**+0.1**
CMIG				*eS*	**Sn**	**18 12 49.6**	**-0.1**

DJA 05 18:40:06.5±1.2, 2°N±2°×12°7E±°, h17km±10km, M3.9/12, mB4.7/1, mb4.2/4, MLv3.7/12, Mw(mB)3.9/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.41**	**175**	P	Pb	18 40 32.2	-0.1
TNTI				S	Sb	18 40 50.4	+0.5
SGSI	**Sangihe**	**2.27**	**311**	P	Pn	18 40 42.3	-1.0
KMSI	**Cibinong**	**3.63**	**244**	P	Pn	18 41 01.2	-0.7
KMSI				S	Sn	18 41 45.4	+1.0
SANI	**Sanana**	**4.38**	**197**	P	Pn	18 41 10.0	-2.3
NLAI	**Namlea**	**5.38**	**181**	P	Pn	18 41 27.8	+1.7
	0.1nm21nm,0.7s						
FAKI	**Fak Fak**	**7.12**	**135**	P	Pn	18 41 51.1	+1.1

*NEIC **05** 18:46:42.7, 1°.41N×85°.24W, h10km*
*NEIC **05** 18:46:42.7±2.0, 1°.45N±0°.05×85°.27W±0°.07, h10km±1km, mb5.1/252, Ms_20 5.4/773, Mwb5.8/27, Mww5.8/18, Error ellipse: s-maj=12.1km s-min=8.4km az=73.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.37; $M_{\theta\theta}$0.13; $M_{\phi\phi}$-0.51; $M_{r\theta}$-0.02; $M_{\theta\phi}$5.18; $M_{\phi r}$-1.31; Fault plane solution: $M_0$5.36000×10^{17} NP1: ϕ_s271.84000°, δ75.73000°, λ1.28000°. NP2:ϕ_s181.53000°, δ88.76000°, λ165.72000°. Principal axes: T 5.1806, Plg11.0000°, Azm136.0000°; N 0.3484, Plg76.0000°, Azm357.0000°; P -5.5290, Plg9.0000°, Azm228.0000°;*
*NEIC **05** 18:46:43, 1°.42N×85°.00W, h12km, Moment Tensor Solution. Duration: 4s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.31; $M_{\theta\theta}$1.40; $M_{\phi\phi}$-1.71; $M_{r\theta}$1.20; $M_{\theta\phi}$5.98; $M_{\phi r}$-0.64; Fault plane solution: $M_0$6.32000×10^{17} NP1:ϕ_s7.68000°, δ78.69000°, λ-176.71000°. NP2:ϕ_s277.03000°, δ86.77000°, λ-11.33000°. Principal axes: T 6.0834, Plg6.0000°, Azm323.0000°; N 0.4750, Plg78.0000°, Azm81.0000°; P -6.5585, Plg10.0000°, Azm232.0000°;*
*NEIC **05** 18:46:43, 1°.42N×85°.23W, h12km*
*IDC **05** 18:46:44.1±0.6, 1°.60N×85°.57W, h0km, mb4.4/15, mbtmp4.6/21, ML3.8/6, MS5.3/63, Error ellipse: s-maj=26.2km s-min=12.4km az=62.0*
*IGQ **05** 18:46:50.5±0.7, 1°N±5°×8°5W±°, h16km±8km, MLv5.2/31*
*GCMT **05** 18:46:50.7±0.1, 1°.53N×85°.27W, h15km, MW5.8/169, Moment Tensor Solution. s136,c241; s169,c526; Duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.51±.06; $M_{\theta\theta}$1.16±.05; $M_{\phi\phi}$-1.67±.06; $M_{r\theta}$-0.30±.11; $M_{\theta\phi}$6.98±.06; $M_{\phi r}$-0.20±.11; Best double couple: $M_0$7.13200×10^{17} NP1:ϕ_s186.00000°, δ88.00000°, λ178.00000°. NP2:ϕ_s276.00000°, δ88.00000°, λ2.00000°. Principal axes: T 6.8870, Plg3.0000°, Azm141.0000°; N 0.4860, Plg87.0000°, Azm316.0000°; P -7.3770, Plg0.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 05 18:46:43.7±0.3, 1°.54N±0°.04×85°.49W±0°.04, h10km, n836, σ2§32/402, mb5.1/125, MS5.4/451, 16C-2D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	**Isla de la Pla**	**5.22**	**122**	S	**Sn**	**18 49 01.7**	**-0.6**
ISPT				⇑P	**Pn**	**18 47 59.8**	**-2.2**
PAYG	**Puerto Ayora**	**5.28**	**245**		**Pn**	**18 48 04.0**	**+1.3**
CAB1	**Cabo Pasado-Ma**	**5.41**	**111**	P	**Pn**	**18 48 04.6**	**0.0**
JAMA	**Jama**	**5.58**	**109**	P	**Pn**	**18 48 04.7**	**-2.2**
PPLP	**Puerto Lpez**	**5.62**	**123**	P	**Pn**	**18 48 07.1**	**-0.4**
	16µm1µm,0.8s						
PPLP	**Puerto Lpez**	**5.62**	**123**	S	**Sn**	**18 49 11.8**	**-0.5**
PPLP				⇑P	**Pn**	**18 48 06.7**	**-0.8**
SALI	**Salinas**	**5.83**	**129**	S	**Sn**	**18 49 17.2**	**0.0**
SALI				⇑P	**Pn**	**18 48 09.8**	**-0.5**
FLF1	**Flavio Alfaro-**	**5.95**	**108**	⇑P	**Pn**	**18 48 11.9**	**-0.2**
VCH1	**Volcn Chico**	**6.06**	**248**	S	**Sb**	**18 49 43.0**	**+0.6**
VCH1				⇓P	Pn	18 48 20.1	+6.4
RVRD	**Rio Verde**	**6.12**	**94**	S	**Sn**	**18 49 22.7**	**-1.8**
RVRD				P	**Pn**	**18 48 16.3**	**+2.0**
FER2	**Fernandina2, P**	**6.25**	**251**	P	Pb	18 48 26.3	-6.4
FER1	**Fernandina1, P**	**6.29**	**251**	⇓P	Pn	18 48 22.3	+5.6
CEAZ	**Cerra Azul, Ca**	**6.36**	**249**	P	Pn	18 48 24.4	+6.8
BV15	**Puerto Quito-O**	**6.42**	**102**	S	**Sn**	**18 49 30.5**	**-1.2**
BV15				P	**Pn**	**18 48 20.2**	**+1.9**
SNLR	**San Lorenzo-Es**	**6.64**	**92**	S	**Sn**	**18 49 35.4**	**-1.9**
SNLR				P	**Pn**	**18 48 24.1**	**+2.5**
TUMC	**Tumaco**	**6.77**	**88**	Pn	**Pn**	**18 48 18.5**	**-4.7**
TUMC	**Tumaco**	**6.77**	**88**	P	**Pn**	**18 48 25.5**	**+2.3**
	68µm7µm367nm,1.0s						
ALCE	**Alcedo, Punta**	**6.77**	**253**	S	**Sn**	**18 49 36.8**	**-3.9**
ALCE				P	Pn	18 48 17.3	-6.1
PAC1	**Pacto, Paraso**	**6.82**	**101**	P	**Pn**	**18 48 23.3**	**-0.7**
	31µm4µm260nm,0.8s						
PAC1	**Pacto, Paraso**	**6.82**	**101**	S	**Sn**	**18 49 40.4**	**-1.5**
PAC1				P	**Pn**	**18 48 25.7**	**+1.7**
ISPG	**Isla Puna-Puer**	**6.96**	**130**	S	**Sn**	**18 49 45.3**	**+0.2**
ISPG				P	**Pn**	**18 48 27.3**	**+1.5**
MILO	**Milagro-Astudi**	**7.04**	**123**	P	**Pn**	**18 48 25.9**	**-1.1**
HPAL	**Hacienda Las P**	**7.06**	**104**	P	**Pn**	**18 48 29.1**	**+1.6**
PINO	**Pino**	**7.09**	**104**	P	**Pn**	**18 48 25.3**	**-2.8**
GGPT	**Toaza - Volcan**	**7.09**	**104**	P	**Pn**	**18 48 26.2**	**-1.8**
TERV	**Terraza Guagua**	**7.09**	**104**	P	**Pn**	**18 48 25.9**	**-2.3**
GGPC	**Guagua Pichinc**	**7.10**	**104**	P	**Pn**	**18 48 30.2**	**+1.9**
JUA2	**San Juan 2**	**7.10**	**104**	P	**Pn**	**18 48 28.5**	**+0.3**
YANA	**Yana**	**7.11**	**103**	P	**Pn**	**18 48 29.2**	**+0.8**
ILLI	**Illinizas Sur**	**7.12**	**108**	P	**Pn**	**18 48 29.2**	**+0.7**
PULU	**Pululahua**	**7.15**	**102**	P	**Pn**	**18 48 29.9**	**+1.1**
OTAV	**Otavalo**	**7.16**	**100**	Pn	Pn	18 48 23.0	-5.9
OTAV	**Otavalo**	**7.16**	**100**	P	**Pn**	**18 48 28.9**	**-0.1**
	16µm2µm105nm,1.1s						
OTAV	**Otavalo**	**7.16**	**100**	P	**Pn**	**18 48 28.8**	**-0.1**
OTAV	**Otavalo**	**7.16**	**100**	*

21µm5µm249nm,1.3s
BLUN Bluefields 10.53 9 P Pn 18 49 21.4 +6.5
2µm46nm,1.1s
USIM UNAN 10.53 356 Pn **Pn 18 49 15.5 +0.6**
MGAN Managua 10.56 356 Pn 18 49 17.5 +2.2
ESPN Las Esperanzas 10.65 6 Pn 18 49 17.0 +0.6
ESPN Las Esperanzas 10.65 6 P **Pn 18 49 20.3 +3.8**
2µm156nm,1.1s
DBBC Dabeiba 10.73 59 P **Pn 18 49 19.5 +1.8**
GUY2C Guyana, Caldas 10.75 70 P **Pn 18 49 18.7 +0.5**
31µm3µm114nm,0.9s
PTLC Puerto Leguiza 10.78 97 P **Pn 18 49 19.6 +1.3**
4µm137nm,1.0s
PRAC Prado 10.81 78 P **Pn 18 49 20.4 +1.7**
17µm4µm113nm,1.2s
BOAB BOACO BROADBAN 10.84 359 Pn **Pn 18 49 19.6 +0.5**
APAC Apartado, Choc 10.89 54 P **Pn 18 49 22.4 +2.6**
56µm11µm164nm,1.8s
CNGN Cerro Negro 10.95 354 Pn 18 49 23.8 +3.2
HELC Santa Helena 10.96 65 P **Pn 18 49 22.4 +1.4**
30µm4µm150nm,1.3s
HERN Volcan Telica 11.07 353 Pn 18 49 25.5 +3.1
ATAH Atahualpa 11.15 141 Pn **Pn 18 49 27.4 +3.6**
3.2nm,0.3s,baz=320,slow=15,SNR=37
ATAH Sn **Sn 18 51 32.4 +3.5**
2.0nm,0.3s,baz=315,slow=18,SNR=1.7
ATAH LR LR 18 53 18.0
comp=Z,53µm,20.4s,baz=318,slow=35
128nm,1.0s
CRIN San Cristobal 11.19 352 Pn 18 49 24.6 +0.6
CRIN San Cristobal 11.19 352 P Pn 18 49 30.0 +6.0
4µm256nm,0.7s
ROSC El Rosal 11.62 73 Pn **Pn 18 49 25.8 -4.4**
ROSC El Rosal 11.62 73 Pn **Pn 18 49 32.1 +2.0**
2.2nm,0.3s,baz=265,slow=20,SNR=11
ROSC LR LR 18 53 43.4
comp=Z,30µm,18.4s,baz=235,slow=36
35nm,0.8s
MACC Macarena, Meta 11.65 87 P **Pn 18 49 31.7 +1.5**
111nm,1.1s
UREC San Jos de Ur 11.68 58 P **Pn 18 49 31.7 +1.1**
31µm4µm40nm,1.1s
TGUH Tegucigalpa,Un 12.56 352 Pn **Pn 18 49 39.9 -2.9**
RUSC La Rusia 13.11 70 Pn 18 49 44.1 -6.5
BARC Barichara 13.26 67 P **Pn 18 49 54.0 +1.6**
MTO3 Montecristo 13.33 344 Pn 18 49 53.0 -0.4
ESQI Esquipulas 13.48 344 Pn **Pn 18 49 55.5 +0.1**
PAMC Pamplona, Colo 13.99 65 P **P 18 50 07.2 -3.5**
SMRC Santa Marta, M 14.71 49 Pn 18 50 09.7 -2.4
HUEH Huehuetenango 14.92 337 Pn 18 50 16.1 +1.1
CRJC Cerrejon, Guaj 15.66 53 P **P 18 50 30.0 +1.1**
CZSB Cruzeiro do Su 15.73 126 Pn **Pn 18 50 20.9 -4.8**
CZSB IAmb IAmb 18 50 28.9
comp=Z,72nm,0.8s
CZSB Cruzeiro do Su 15.73 126 P **Pn 18 50 25.7 +0.1**
comp=Z,17µmcomp=Z,6µmcomp=Z,222nm,0.7s
PETF Flores 15.87 345 Pn 18 50 28.1 +0.7
NNA Nana 15.95 148 Pn 18 50 24.7 -3.8
NNA Nana 15.95 148 Pn **P 18 50 32.8 +0.7**
comp=Z,3.1nm,0.3s,baz=316,slow=7.7,SNR=7.5
NNA LR LR 18 55 45.9
comp=Z,26µm,21.0s,baz=323,slow=34
comp=Z,16nm,0.5s
CCIG Comitan 16.04 336 P **Pn 18 50 29.1 -0.6**
SDV Santo Domingo 16.49 63 Pn **Pn 18 50 30.4 -5.1**
SDV Santo Domingo 16.49 63 Pn **P 18 50 38.3 +0.1**
comp=Z,0.8nm,0.3s,baz=237,slow=7.9,SNR=34
SDV LR LR 18 56 26.9
comp=Z,23µm,20.9s,baz=238,slow=35
comp=Z,82nm,0.9s
SDV Santo Domingo 16.49 63 *eP* **Pn 18 50 34.8 -0.8**
TBTG Tabatinga, AM 16.58 110 Pn 18 50 31.9 -4.6
URIC Uribia, Colomb 16.77 52 P **P 18 50 40.0 -1.1**
comp=Z,21µmcomp=Z,3µmcomp=Z,93nm,2.4s
CMIG Matias Romero 18.00 330 P **P 18 50 55.3 +0.5**
comp=Z,0.1nm,0.3s,baz=156,slow=12,SNR=5.8
CMIG LR LR 18 55 01.9
comp=Z,3µm,19.7s,baz=145,slow=28
comp=Z,3.2nm,1.0s
MTDJ Mount Denham 18.33 25 Pn 18 50 56.0 -2.3
SGC2 Sao Gabriel da 18.59 95 P **Pn 18 51 01.7 +0.2**
BAUV El Baul 18.86 66 P **P 18 50 59.6 -4.6**
CHIV Chivirico 20.36 25 P **P 18 51 18.1 -2.5**
CHIV IAmb IAmb 18 51 33.6
comp=Z,86nm,1.4s
CHIV IAMs_20 IAMs_20 18 59 17.4
comp=Z,5µm,18.0s
TLIG Tlapa 20.46 322 P Pn 18 51 23.6 -0.3
SOR Soroa 21.26 6 P **P 18 51 28.5 -1.8**
PAPH Port-au-Prince 21.26 37 P **P 18 51 26.9 -3.5**
PAPH IAMs_20 IAMs_20 18 58 04.6
comp=Z,14µm,21.0s
TEFE Tefe 21.44 104 *eP* **P 18 51 33.0 +0.7**
UNM Universidad Na 22.18 324 IAMs_20 IAMs_20 18 58 22.0
comp=Z,18µm,21.0s
SDDR Presa de Saban 22.23 38 P **P 18 51 39.1 -1.7**
BANI BANI 22.38 41 P **P 18 51 38.9 -3.6**
BANI IAmb IAmb 18 51 57.6
comp=Z,79nm,1.1s
PCRV Puerto La Cruz 22.43 67 LR LR 19 01 53.6
comp=Z,12µm,19.7s,slow=40
SDD Santo Domingo 22.72 41 P **P 18 51 44.3 -1.7**
SC01 Santiago de lo 22.91 38 P **P 18 51 45.7 -2.3**
DR12 Loma Pena Alta 23.30 42 P **P 18 51 48.7 -3.4**
DR12 IAmb IAmb 18 52 14.8
comp=Z,129nm,1.4s
PCDR Punta Cana, DR 23.79 44 P **P 18 51 55.2 -1.7**
PCDR IAMs_20 IAMs_20 18 59 20.6
comp=Z,10µm,22.0s
JRQG Juriquilla Cam 24.00 324 P **P 18 52 04.3 +5.3**
GRTK Grand Turk 24.28 34 P **P 18 52 00.5 -0.9**
GRTK IAMs_20 IAMs_20 19 00 01.0
comp=Z,11µm,21.0s
CRPR Cabo Rojo, PR 24.36 47 P **P 18 52 01.8 -0.4**
SAML Samuel 24.55 116 P **P 18 52 01.6 -2.4**
061Z Ochoppi 24.58 10 P **P 18 52 03.8 -0.3**
LPAZ La Paz 24.65 137 P **P 18 52 01.4 -4.2**
LPAZ La Paz 24.65 137 P **P 18 52 08.1 +2.5**
comp=Z,51nm,1.0s,baz=327,slow=9.8,SNR=46
LPAZ LR LR 19 02 43.3
comp=Z,16µm,20.1s,baz=298,slow=39
comp=Z,51nm,1.0s
LPAZ La Paz 24.65 137 *eP* **P 18 52 06.4 +0.9**
PB18 Visviri 24.70 141 P **P 18 52 03.2 -2.7**
PB18 IAMs_20 IAMs_20 19 02 50.8
comp=Z,19µm,21.0s
OBIP Obispado Ponce 24.75 47 P **P 18 52 02.8 -2.9**
AP01 Chacalluta 24.77 144 IAMs_20 IAMs_20 19 01 30.9
comp=Z,18µm,21.0s
CELP Cerrillos 24.79 47 P **P 18 52 04.5 -1.6**
UUPR Utuado, UPR, P 24.80 47 P **P 18 52 04.9 -1.3**
AOPR Arecibo Observ 24.84 47 P **P 18 52 04.4 -2.1**
BOAV Boa Vista 24.97 88 P **P 18 52 06.8 -1.0**
BOAV IAmb IAmb 18 52 33.5
comp=Z,90nm,1.9s
BOAV Boa Vista 24.97 88 *eP* **P 18 52 08.9 +1.1**
PB12 IPOC Station P 24.97 144 P **P 18 52 04.2 -3.6**
IGPR InterUniversit 25.07 48 P **P 18 52 05.0 -3.6**
IGPR IAmb IAmb 18 52 22.1
comp=Z,62nm,1.0s
SJG San Juan 25.13 48 P **P 18 52 05.9 -3.2**
SJG IAMs_20 IAMs_20 19 00 52.4
comp=Z,13µm,22.0s
SJG San Juan 25.13 48 LR LR 19 01 48.4
comp=Z,6µm,21.7s,baz=246,slow=36
PDPR Patillas Dam, 25.17 48 P **P 18 52 05.9 -3.6**
MACA Manacapuru-AM 25.23 101 P **P 18 52 10.5 +0.3**
MACA IAMs_20 IAMs_20 19 03 17.3
comp=Z,9µm,21.0s
MACA Manacapuru-AM 25.23 101 *eP* **P 18 52 10.5 +0.3**
PB16 IPOC Station P 25.25 142 P **P 18 52 12.8 +1.9**
PB16 IAMs_20 IAMs_20 19 02 33.4
comp=Z,16µm,21.0s
GCPR Guaynabo City 25.30 48 P **P 18 52 07.9 -2.8**
GCPR IAmb IAmb 18 52 35.9
comp=Z,59nm,1.4s
HUMP Col San Antoni 25.37 48 P **P 18 52 06.6 -4.7**
HUMP IAMs_20 IAMs_20 19 01 05.8
comp=Z,9µm,22.0s
060A Indiantown 25.82 11 IAMs_20 IAMs_20 19 01 42.3
comp=Z,7µm,20.0s
PB11 IPOC Station P 26.26 144 P **P 18 52 15.0 -4.6**
PB11 IAmb IAmb 18 52 36.8
comp=Z,29nm,0.9s
PB11 IAMs_20 IAMs_20 19 01 34.3
comp=Z,14µm,22.0s
TA02 Huaiquique 26.39 146 P **P 18 52 15.9 -4.6**
TA02 IAmb IAmb 18 52 40.0
comp=Z,78nm,1.3s
GO01 Chusmiza 26.46 144 P **P 18 52 16.4 -5.3**
ZAIG Zacatecas 26.84 323 P **P 18 52 26.1 +1.1**
ZAIG IAmb IAmb 18 52 48.6
comp=Z,53nm,1.7s
PB08 IPOC Station P 26.85 144 P **P 18 52 19.0 -6.1**
PB08 IAmb IAmb 18 53 00.8
comp=Z,57nm,1.7s
SEUS St. Eustatius 27.21 53 P **P 18 52 26.0 -2.0**
PB01 IPOC Station P 27.37 146 IAMs_20 IAMs_20 19 03 26.8
comp=Z,15µm,20.0s
MPOM Morne Pois Mar 27.51 61 IAMs_20 IAMs_20 19 03 16.3
comp=Z,7µm,20.0s
ILAM Ilet Lapin Mar 27.64 60 IAMs_20 IAMs_20 19 03 00.7
comp=Z,8µm,20.0s
PB09 IPOC Station P 28.11 147 P **P 18 52 38.2 +2.0**
PB09 IAmb IAmb 18 52 52.4
comp=Z,74nm,1.5s
BBGH Gun Hill 28.14 65 IAMs_20 IAMs_20 19 05 09.7
comp=Z,12µm,22.0s
HBVL Hebbronville 28.35 335 P P 18 52 43.2 +5.1
HBVL IAmb IAmb 18 53 07.0
comp=Z,84nm,1.8s
PB05 IPOC Station P 28.46 149 IAMs_20 IAMs_20 19 01 46.8
comp=Z,11µm,22.0s
PB10 IPOC Station P 28.84 151 IAMs_20 IAMs_20 19 02 16.9
comp=Z,11µm,22.0s
VILB Vilhena 28.93 121 P **P 18 52 39.2 -4.3**
VILB IAmb IAmb 18 53 38.1
comp=Z,77nm,1.8s
VILB Vilhena 28.93 121 *eP* **P 18 52 45.0 +1.5**
SIV San Ignacio 29.76 127 LR LR 19 05 22.5
comp=Z,15µm,20.7s,baz=318,slow=38
PB14 IPOC Station P 29.85 152 P **P 18 52 48.4 -3.4**
HKT Hockley 29.91 342 P **P 18 52 50.9 -1.0**
HKT IAmb IAmb 18 53 19.7
comp=Z,52nm,1.5s
250A Grady 30.28 359 P **P 18 52 55.4 +0.3**
ITTB Itaituba 30.31 101 *eP* **P 18 52 56.9 +1.3**
HNVL Huntsville, TX 30.55 343 P **P 18 53 01.2 +3.7**
257A Skidaway Islan 30.56 7 IAMs_20 IAMs_20 19 04 58.9
comp=Z,7µm,18.0s
GO02 Mina Guanaco 30.69 151 P **P 18 52 54.8 -4.5**
HNDO Hondo 30.77 336 P **P 18 53 01.1 +1.5**
152A Waverly Hall 30.97 1 P **P 18 53 01.6 +0.3**
152A IAmb IAmb 18 53 35.5
comp=Z,70nm,2.0s
PTLB Pontes e Lacer 31.05 124 *eP* **P 18 53 04.0 +1.9**
AC01 Pan de Azucar 31.06 153 P **P 18 52 59.3 -2.8**
AC01 IAmb IAmb 18 53 08.2
comp=Z,41nm,1.4s
AC01 IAMs_20 IAMs_20 19 02 45.8
comp=Z,12µm,22.0s
DRIO Del Rio 31.25 334 P **P 18 53 02.3 -1.4**
DRIO IAmb IAmb 18 53 15.1
comp=Z,32nm,1.6s
NPGB Novo Progresso 31.25 106 *eP* **P 18 53 04.6 +0.5**
LRAL Lakeview Retre 31.36 358 P **P 18 53 05.4 +0.8**
LRAL IAmb IAmb 18 53 16.5
comp=Z,29nm,1.3s
MAL2 Monte Alegre, 31.50 96 P **P 18 53 01.5 -4.8**
MAL2 IAmb IAmb 18 53 14.3
comp=Z,24nm,1.1s
CSU Charleston Sou 31.69 9 IAMs_20 IAMs_20 19 05 25.7
comp=Z,5µm,18.0s
GOGA Godfrey 31.76 3 P **P 18 53 08.9 +0.8**
GOGA IAmb IAmb 18 53 33.6
comp=Z,37nm,1.4s
NHSC New Hope 31.79 8 IAMs_20 IAMs_20 19 05 28.4
comp=Z,5µm,19.0s
HPIG 31.82 324 P **P 18 53 08.4 -0.7**
HPIG IAmb IAmb 18 53 49.8
comp=Z,52nm,1.9s
JCT Junction City 31.82 336 P **P 18 53 08.2 -0.6**
JCT IAmb IAmb 18 53 37.6
comp=Z,25nm,1.1s
CLDB Colider 32.01 113 *eP* **P 18 53 12.1 +1.4**
AC06 Mina Casimiro 32.22 154 **P 18 53 08.1 -4.3**
AC06 IAMs_20 IAMs_20 19 03 29.5
comp=Z,10µm,20.0s
BRDY Brady 32.23 338 P **P 18 53 10.4 -1.9**
BRDY IAmb IAmb 18 53 30.2
comp=Z,26nm,1.2s
AC02 Maricunga 32.33 152 P P 18 53 08.2 -5.7
AC02 IAMs_20 IAMs_20 19 03 40.1
comp=Z,9µm,21.0s
SLBS Sierra La Lagu 32.34 315 P **P 18 53 12.7 -0.8**
SLBS IAmb IAmb 18 53 26.5
comp=Z,46nm,1.4s
SAND Sanderson 32.38 332 P **P 18 53 12.3 -1.4**
GO03 Copiapo 32.48 154 IAMs_20 IAMs_20 19 03 26.3
comp=Z,11µm,22.0s
TX31 Lajitas Ar. Si 32.61 330 P **P 18 53 14.5 -1.4**
TX31 IAmb IAmb 18 53 46.1
comp=Z,38nm,1.9s
TXAR Lajitas Array 32.61 330 P **P 18 53 14.4 -1.5**
TXAR Lajitas Array 32.61 330 P **P 18 53 17.5 +1.6**
comp=Z,2.6nm,1.0s,baz=134,slow=8.8,SNR=9.3
TXAR LR LR 19 05 32.6
comp=Z,4µm,20.9s,baz=136,slow=35
comp=Z,2.6nm,1.0s
Y58A Scranton 32.65 9 IAMs_20 IAMs_20 19 06 06.2
comp=Z,5µm,21.0s
Y57A Sumter 32.66 8 IAMs_20 IAMs_20 19 06 23.4
comp=Z,6µm,19.0s
HODGE Hodges 32.66 5 P **P 18 53 14.8 -1.3**
HODGE IAmb IAmb 18 53 24.6
comp=Z,20nm,1.0s
HODGE IAMs_20 IAMs_20 19 05 37.8
comp=Z,5µm,20.0s
OZNA Ozona 32.76 335 P **P 18 53 15.7 -1.4**
JSC Jenkinsville 32.81 6 P **P 18 53 14.9 -2.5**
LPIG La Paz 32.86 315 LR LR 19 03 53.8
comp=Z,2µm,18.3s,baz=118,slow=31
MDP Montagnes des 32.98 83 LR LR 19 06 32.8
comp=Z,11µm,19.2s,baz=270,slow=36
Y60A Bolivia 33.00 11 IAMs_20 IAMs_20 19 05 46.2
comp=Z,6µm,22.0s
BIRD Birdtown, Kers 33.27 8 IAMs_20 IAMs_20 19 06 41.5
comp=Z,6µm,19.0s
PAULI Pauline 33.28 6 P **P 18 53 21.5 -0.1**
PAULI IAmb IAmb 18 53 30.3
comp=Z,28nm,1.0s
PAULI IAMs_20 IAMs_20 19 06 05.3
comp=Z,5µm,20.0s
X58A Rowland 33.34 9 IAMs_20 IAMs_20 19 06 36.3
comp=Z,7µm,19.0s
PLAL Pickwick Lake 33.36 356 P **P 18 53 21.5 -0.7**
PLPT Palo Pinto 33.36 340 P **P 18 53 21.6 -0.7**
PLPT IAmb IAmb 18 53 29.7
comp=Z,33nm,1.3s
BG3 Lake Jocassee 33.37 4 P **P 18 53 21.4 -0.8**
BG3 IAmb IAmb 18 53 30.7
comp=Z,25nm,1.2s
ALPN Alpine 33.45 331 P **P 18 53 22.9 -0.3**
ALPN IAmb IAmb 18 54 03.6
comp=Z,50nm,1.9s
X40A Basin Creek Fa 33.48 349 P **P 18 53 23.7 +0.4**
Z35A Perchaven, San 33.49 342 P **P 18 53 22.7 -0.7**
SWET Sewanee 33.51 359 P **P 18 53 22.0 -1.5**
SWET IAmb IAmb 18 53 39.7
comp=Z,51nm,1.8s
LCO Las Campanas 33.52 156 P **P 18 53 20.4 -3.6**
LCO Las Campanas 33.52 156 IAMs_20 IAMs_20 19 03 55.1
comp=Z,9µm,21.0s
AC05 El Transito 33.54 155 P **P 18 53 20.1 -3.9**
AC05 IAMs_20 IAMs_20 19 03 57.7
comp=Z,11µm,22.0s
SGCY Sterling City 33.62 336 P **P 18 53 25.1 +0.5**
SGCY IAmb IAmb 18 53 41.6
comp=Z,31nm,1.4s
KMSC Kings Mountain 33.65 6 P **P 18 53 22.8 -1.9**
KMSC IAmb IAmb 18 54 26.5
comp=Z,48nm,1.6s
KMSC IAMs_20 IAMs_20 19 06 25.9
comp=Z,5µm,19.0s
ABTX Abilene, Hawle 33.66 338 P **P 18 53 24.7 -0.3**
UALR University of 33.67 350 P **P 18 53 24.7 -0.3**
MNHN Monahans 33.84 333 P **P 18 53 26.4 -0.1**
MNHN IAmb IAmb 18 53 44.6
comp=Z,27nm,1.1s
TKL Tuckaleechee C 33.98 2 LR LR 19 07 05.8
comp=Z,2µm,18.9s,baz=183,slow=36
V48A Smith Brothers 34.05 358 P **P 18 53 28.0 -0.2**
V48A IAmb IAmb 18 53 44.5
comp=Z,49nm,1.8s
W59A Clinton 34.09 10 IAMs_20 IAMs_20 19 06 53.1
comp=Z,4µm,18.0s
CO05 La Serena 34.12 158 IAMs_20 IAMs_20 19 04 00.1
comp=Z,10µm,21.0s
SALV Santo Antonio 34.16 122 *eP* **P 18 53 31.2 +1.7**
WHAR Wooly Hollow 34.17 350 P **P 18 53 30.0 +0.8**
WHAR IAmb IAmb 18 54 17.1
comp=Z,34nm,1.6s
HBAR Harrisburg 34.18 352 P **P 18 53 28.5 -0.8**
WTFS Witchita Falls 34.28 341 P **P 18 53 29.7 -0.5**
SN05 Snyder 5 34.37 337 P **P 18 53 30.5 -0.6**
V55A Taylorsville 34.37 6 IAMs_20 IAMs_20 19 06 47.9
comp=Z,5µm,19.0s
PECS Pecos 34.38 331 P **P 18 53 30.4 -0.9**
VHRN Van Horn 34.45 329 P **P 18 53 31.6 -0.3**
APMT Aspermont 34.47 338 P **P 18 53 31.1 -0.8**
APMT IAmb IAmb 18 53 49.9
comp=Z,45nm,1.2s
GO04 Tololo Observa 34.51 157 P **P 18 53 29.0 -3.6**
GO04 IAMs_20 IAMs_20 19 04 13.5
comp=Z,10µm,22.0s
SN07 Snyder 07 34.56 337 P **P 18 53 32.7 0.0**
SN07 IAmb IAmb 18 54 00.7
comp=Z,43nm,1.5s
V58A Windy Hill, Pi 34.59 9 P **P 18 53 30.6 -2.2**
V58A IAmb IAmb 18 53 40.3
comp=Z,31nm,1.2s
V58A IAMs_20 IAMs_20 19 07 22.4
comp=Z,5µm,19.0s
CO01 Juntas del Tor 34.62 156 P **P 18 53 30.2 -3.3**
CO01 IAmb IAmb 18 54 09.8
comp=Z,76nm,1.9s
LCAR Lake Charles 34.75 352 P **P 18 53 32.8 -1.5**
POST Post 34.78 336 P **P 18 53 34.2 -0.4**
POST IAmb IAmb 18 53 52.1
comp=Z,26nm,1.1s
U49A Red Boiling Sp 34.80 360 P **P 18 53 32.4 -2.3**
X34A Smith Ranch, M 34.85 342 P **P 18 53 34.7 -0.5**
U56A King 34.95 7 IAMs_20 IAMs_20 19 07 51.3
comp=Z,5µm,18.0s
V61A Roper 35.07 13 IAMs_20 IAMs_20 19 07 21.6
comp=Z,5µm,20.0s
DKNS Dickens 35.08 337 P **P 18 53 36.6 -0.6**
DKNS IAmb IAmb 18 53 54.4
comp=Z,30nm,1.1s
W35A Tecumseh 35.08 344 P **P 18 53 36.0 -1.1**
CO03 El Pedregal 35.15 158 IAMs_20 IAMs_20 19 04 31.4
comp=Z,10µm,22.0s
H03N2 Juan Fernandez 35.34 170 T T 19 31 00.8
baz=349,slow=76,SNR=281
H03N1 Juan Fernandez 35.35 170 T T 19 31 02.0
baz=349,slow=76,SNR=539
H03N3 Juan Fernandez 35.36 170 T T 19 31 00.8
baz=349,slow=76,SNR=359
CO02 Combarbal 35.36 158 IAMs_20 IAMs_20 19 04 38.0
comp=Z,11µm,22.0s
MNTX Cornudas Mount 35.39 330 IAMs_20 IAMs_20 19 07 10.4
comp=Z,6µm,20.0s
OKCSW OKLAHOMA CITY 35.48 343 IAMs_20 IAMs_20 19 08 28.8
comp=Z,9µm,21.0s
T42A Van Buren 35.69 352 P **P 18 53 43.4 +1.0**
T57A Hurt 35.75 9 IAMs_20 IAMs_20 19 08 42.1
comp=Z,6µm,18.0s
CPRX Cap Rock 35.76 333 P **P 18 53 43.2 0.0**
BLA Blacksburg 35.80 7 IAMs_20 IAMs_20 19 07 32.7
comp=Z,5µm,22.0s
OK031 S. Brethren Rd 35.82 344 P **P 18 53 42.8 -0.7**
T59A Double "B" Far 36.01 11 IAMs_20 IAMs_20 19 07 55.8
comp=Z,9µm,21.0s
EPT El Paso 36.02 329 IAMs_20 IAMs_20 19 07 57.1
comp=Z,6µm,18.0s
SMWD Samnorwood 36.11 339 P **P 18 53 45.6 -0.5**
SMWD IAmb IAmb 18 54 03.7
comp=Z,33nm,1.0s
BBSR BB Station 36.38 30 IAMs_20 IAMs_20 19 06 21.2
comp=Z,6µm,22.0s
AQDB Aquidauana 36.48 128 *eP* **P 18 53 51.3 +2.0**
WCI Wyandotte Cave 36.52 359 P **P 18 53 48.0 -1.4**
WCI IAmb IAmb 18 53 57.6
comp=Z,31nm,1.2s
SNDB Serra Nova Dou 36.53 112 *eP* **P 18 53 49.9 +0.1**
S57A Dark Hollow, R 36.54 9 IAMs_20 IAMs_20 19 09 40.1
comp=Z,4µm,18.0s
ZON Zonda 36.58 156 IAMs_20 IAMs_20 19 05 23.9
comp=Z,6µm,19.0s
CFA Coronel Fontan 36.81 155 LR LR 19 06 15.8
comp=Z,4µm,21.5s,baz=355,slow=32
R55A Marlinton 36.89 7 IAMs_20 IAMs_20 19 08 16.7
comp=Z,6µm,22.0s
R58B Mineral 36.91 10 IAMs_20 IAMs_20 19 08 34.8
comp=Z,9µm,20.0s
S61A Accomac 37.08 13 IAMs_20 IAMs_20 19 09 33.9
comp=Z,4µm,19.0s
R40A Maddies Statio 37.10 351 P **P 18 53 53.9 -0.4**
MT02 Curacav 37.17 160 IAMs_20 IAMs_20 19 05 30.1
comp=Z,9µm,22.0s
319A Douglas 37.23 325 P **P 18 53 55.3 -0.4**
CBN Corbin Frederi 37.24 11 IAMs_20 IAMs_20 19 08 43.4
comp=Z,9µm,21.0s
VA05 Santo Domingo 37.37 161 IAMs_20 IAMs_20 19 05 23.5
comp=Z,10µm,22.0s
MT05 Renca 37.43 159 IAMs_20 IAMs_20 19 05 38.9
comp=Z,8µm,22.0s
ARAG Araguaiana, MT 37.44 119 *eP* **P 18 53 57.1 -0.5**
MT16 CCHEN 37.54 159 IAMs_20 IAMs_20 19 05 29.8
comp=Z,10µm,22.0s
MT03 Universidad Ad 37.60 159 IAMs_20 IAMs_20 19 05 55.4
comp=Z,6µm,19.0s
MT09 Talagante 37.69 160 P **P 18 54 00.8 +1.1**
MT09 IAmb IAmb 18 54 17.5
comp=Z,43nm,1.4s
Q56A Snyder Ridge, 37.76 8 IAMs_20 IAMs_20 19 09 28.5
comp=Z,4µm,18.0s
MT13 San Alfonso 37.91 159 P **P 18 54 03.6 +2.2**
MT13 IAmb IAmb 18 54 18.4
comp=Z,68nm,1.4s
MT13 IAMs_20 IAMs_20 19 05 42.5
comp=Z,9µm,22.0s
BO04 La Punta 38.02 160 IAMs_20 IAMs_20 19 06 06.4
comp=Z,8µm,20.0s
LMEL Las Melosas 38.03 159 IAMs_20 IAMs_20 19 06 09.7
comp=Z,7µm,21.0s
RPRD Ribas do Rio P 38.06 127 *eP* **P 18 54 04.0 +1.2**
Y22D IRIS PASSCAL I 38.07 331 IAMs_20 IAMs_20 19 08 48.2
comp=Z,5µm,19.0s
SBM South Baldy 38.12 330 P **P 18 54 03.5 0.0**
BO01 Tunca 38.22 161 IAMs_20 IAMs_20 19 06 00.9
comp=Z,9µm,22.0s
P40A Paris 38.28 352 P **P 18 54 04.2 -0.1**
MCWV Mont Chateau 38.28 7 IAMs_20 IAMs_20 19 09 19.5
comp=Z,6µm,21.0s
P57A Homestead Farm 38.37 9 IAMs_20 IAMs_20 19 09 20.5
comp=Z,6µm,20.0s
AMBA Amambai (Brazi 38.40 131 *eP* **P 18 54 07.5 +1.8**
SDMD Soldier's Deli 38.51 11 IAMs_20 IAMs_20 19 09 29.9
comp=Z,4µm,20.0s
ANMO Albuquerque 38.55 332 P **P 18 54 08.6 +1.7**
ANMO Albuquerque 38.55 332 IAMs_20 IAMs_20 19 09 05.8
comp=Z,4µm,20.0s
ANMO Albuquerque 38.55 332 IAMs_20 IAMs_20 19 09 06.0
comp=Z,4µm,20.0s
ANMO Albuquerque 38.55 332 IAMs_20 IAMs_20 19 09 06.0
comp=Z,4µm,20.0s
ANMO Albuquerque 38.55 332 LR LR 19 09 17.8
comp=Z,4µm,21.7s,baz=311,slow=35
R32A Long Quarter, 38.65 343 P **P 18 54 07.2 -0.4**
R32A IAmb IAmb 18 54 25.2
comp=Z,76nm,1.4s
BO02 Sierra Bellavi 38.69 160 P **P 18 54 05.6 -2.4**
BO02 IAmb IAmb 18 54 48.1
comp=Z,77nm,1.8s
O53A New Philadelph 38.72 5 IAMs_20 IAMs_20 19 09 16.3
comp=Z,4µm,21.0s
O54A Avella 38.74 6 IAMs_20 IAMs_20 19 09 34.6
comp=Z,6µm,21.0s
TUC Tucson 38.78 325 P **P 18 54 11.5 +2.7**
SJPY San Joaquin 38.82 135 *eP* **P 18 54 10.6 +1.5**
CPUP Villa Florida 38.82 137 P **P 18 54 11.6 +2.5**
comp=Z,12nm,1.3s,baz=321,slow=12,SNR=5.4
CPUP LR LR 19 12 15.3
comp=Z,7µm,18.6s,baz=323,slow=39
comp=Z,12nm,1.3s
SMTB Santa Maria do 39.16 106 *eP* **P 18 54 13.8 +1.6**

MVL	Millersville	39.17	11	IAMs_20	IAMs_20	19 09 59.4	
	comp=Z,7µm,21.0s						
N51A	Ashland	39.30	4	IAMs_20	IAMs_20	19 11 20.7	
	comp=Z,3µm,18.0s						
N53A	Lisbon	39.31	6	IAMs_20	IAMs_20	19 09 43.8	
	comp=Z,5µm,22.0s						
CBKS	Cedar Bluff	39.32	342	IAMs_20	IAMs_20	19 12 08.6	
	comp=Z,4µm,20.0s						
ML02	Panimavida	39.37	162	IAMs_20	IAMs_20	19 06 33.5	
	comp=Z,7µm,20.0s						
SSPA	Standing Stone	39.52	9	P	P	18 54 14.9	+0.1
SSPA	Standing Stone	39.52	9	IAMs_20	IAMs_20	19 10 05.9	
	comp=Z,7µm,20.0s						
M50A	Fremont	39.74	3	IAMs_20	IAMs_20	19 09 37.5	
	comp=Z,4µm,22.0s						
N58A	Sunbury	39.92	10	IAMs_20	IAMs_20	19 10 14.2	
	comp=Z,7µm,22.0s						
LUPA	Lehigh Univers	39.94	12	IAMs_20	IAMs_20	19 09 52.8	
	comp=Z,4µm,22.0s						
M52A	Chesterland	39.99	5	IAMs_20	IAMs_20	19 10 05.9	
	comp=Z,4µm,20.0s						
BRNJ	Basking Ridge	40.20	13	IAMs_20	IAMs_20	19 10 20.4	
	comp=Z,4µm,20.0s						
N35A	Tabor	40.20	348	IAmb	IAmb	18 54 30.0	
	comp=Z,41nm,0.8s						
ALLY	Alegheny Colle	40.22	6	IAmb	IAmb	18 54 20.0	
	comp=Z,28nm,0.6s						
ALLY				IAMs_20	IAMs_20	19 10 30.7	
	comp=Z,7µm,20.0s						
KSCO	Kaye Shedlock'	40.45	339	P	P	18 54 23.1	+0.5
KSCO				IAmb	IAmb	18 54 40.8	
	comp=Z,86nm,1.6s						
SDCO	Great Sand Dun	40.46	335	IAmb	IAmb	18 54 45.9	
	comp=Z,50nm,1.6s						
ODNJ	Ogdensburg	40.57	13	IAMs_20	IAMs_20	19 10 12.3	
	comp=Z,4µm,21.0s						
AAM	Ann Arbor	40.61	2	IAMs_20	IAMs_20	19 10 15.6	
	comp=Z,4µm,21.0s						
N62A	Caumsett State	40.69	14	IAMs_20	IAMs_20	19 11 38.3	
	comp=Z,5µm,19.0s						
ERPA	Erie	40.70	6	IAMs_20	IAMs_20	19 10 54.4	
	comp=Z,6µm,20.0s						
BDFB	Brasilia	40.79	116	P	P	18 54 22.8	-3.0
BDFB	Brasilia	40.79	116	P	P	18 54 28.8	+3.0
	comp=Z,1.7nm,0.5s,baz=296,slow=8.8,SNR=5.1						
BDFB				LR	LR	19 12 42.4	
	comp=Z,15µm,18.1s,baz=291,slow=38						
	comp=Z,1.7nm,0.5s						
KSPA	Keystone Colle	40.79	11	IAMs_20	IAMs_20	19 10 49.2	
	comp=Z,5µm,20.0s						
113A	Mohawk Valley,	40.88	322	P	P	18 54 26.1	-0.1
S22A	4UR Ranch, Cre	41.03	334	IAMs_20	IAMs_20	19 11 17.8	
	comp=Z,3µm,20.0s						
L56A	Greenwood	41.04	9	IAMs_20	IAMs_20	19 11 13.1	
	comp=Z,7µm,19.0s						
K50A	Casco	41.13	3	IAMs_20	IAMs_20	19 11 45.3	
	comp=Z,3µm,19.0s						
MVCO	Mesa Verde	41.35	332	IAMs_20	IAMs_20	19 10 55.7	
	comp=Z,7µm,20.0s						
BINY	Binghamton	41.37	11	P	P	18 54 30.1	0.0
BINY				IAMs_20	IAMs_20	19 11 19.6	
	comp=Z,5µm,20.0s						
L34A	Svendsen Farm,	41.42	348	IAMs_20	IAMs_20	19 12 31.6	
	comp=Z,4µm,22.0s						
M63A	Gales Ferry	41.49	15	IAMs_20	IAMs_20	19 09 03.4	
	comp=Z,4µm,21.0s						
IPMB	Ipameri, GO	41.51	120	eP	P	18 54 31.0	-0.6
ITQB	Itaqui	41.52	141	P	P	18 54 26.7	-4.7
ITQB	Itaqui	41.52	141	eP	P	18 54 33.6	+2.1
L59A	Walton	41.54	12	IAMs_20	IAMs_20	19 11 03.1	
	comp=Z,4µm,21.0s						
PTGB	Pitanga	41.61	131	eP	P	18 54 35.4	+3.0
LDASE	Londrina, Braz	41.62	129	eP	P	18 54 35.6	+3.1
ESJX	Sierra Juarez	41.74	320	P	P	18 54 34.8	+1.3
ESJX				IAmb	IAmb	18 54 56.1	
	comp=Z,53nm,1.8s						
K57A	Scipio Center	41.79	10	IAMs_20	IAMs_20	19 11 43.8	
	comp=Z,6µm,20.0s						
UCCT	U. Connecticut	41.81	15	IAMs_20	IAMs_20	19 09 25.9	
	comp=Z,3µm,20.0s						
BLYC	Blythe	42.01	323	P	P	18 54 39.9	+4.5
BLYC				IAmb	IAmb	18 54 58.8	
	comp=Z,91nm,2.0s						
J55A	Hilton	42.10	8	IAMs_20	IAMs_20	19 12 23.4	
	comp=Z,6µm,20.0s						
I49A	Point Hope	42.28	3	IAMs_20	IAMs_20	19 11 05.8	
	comp=Z,4µm,21.0s						
L61B	Northampton	42.32	14	IAMs_20	IAMs_20	19 13 02.3	
	comp=Z,3µm,18.0s						
TRY	Troy	42.35	13	IAMs_20	IAMs_20	19 10 54.4	
	comp=Z,3µm,21.0s						
CBX	Cerro Bola	42.40	319	P	P	18 54 42.0	+3.2
CBX				IAmb	IAmb	18 55 02.3	
	comp=Z,66nm,1.6s						
PV07	Paradox Valley	42.41	333	P	P	18 54 38.6	-0.3
J57A	Williamstown	42.54	10	IAMs_20	IAMs_20	19 12 15.6	
	comp=Z,5µm,20.0s						
BCX	Boston College	42.60	16	IAMs_20	IAMs_20	19 13 25.6	
	comp=Z,5µm,20.0s						
WES	Weston	42.60	16	IAMs_20	IAMs_20	19 13 16.7	
	comp=Z,5µm,19.0s						
SDBA	SAO DESIDERIO	42.61	110	eP	P	18 54 40.5	-0.1
K62A	Royalston	42.63	14	IAMs_20	IAMs_20	19 13 09.6	
	comp=Z,3µm,19.0s						
HRV	Adam Dziewonsk	42.65	15	IAMs_20	IAMs_20	19 13 18.1	
	comp=Z,4µm,19.0s						
U15A	North Rim	42.66	328	IAmb	IAmb	18 55 04.6	
	comp=Z,95nm,1.9s						
J59A	Piesco	42.88	12	IAMs_20	IAMs_20	19 11 43.4	
	comp=Z,4µm,21.0s						
PECO	Prince Edward	42.88	9	IAMs_20	IAMs_20	19 12 18.9	
	comp=Z,7µm,19.0s						
ACCN	Adirondack Com	42.98	13	IAMs_20	IAMs_20	19 11 11.9	
	comp=Z,4µm,22.0s						
ITAB	Concordia	43.01	134	eP	P	18 54 44.2	+0.5
GLMI	Grayling	43.11	1	IAMs_20	IAMs_20	19 13 46.8	
	comp=Z,3µm,19.0s						
PFO	Pinyon Flats O	43.11	321	LR	LR	19 11 46.0	
	comp=Z,3µm,18.5s,baz=118,slow=35						
J61A	Chester	43.19	14	IAMs_20	IAMs_20	19 10 19.6	
	comp=Z,3µm,20.0s						
PMNB	Patos De Minas	43.27	119	eP	P	18 54 45.5	-0.5
DELO	Deloro Mine	43.36	8	IAMs_20	IAMs_20	19 12 26.6	
	comp=Z,7µm,20.0s						
LR05	Currie	43.36	165	P	P	18 54 48.5	+2.2
SADO	Sadowa	43.41	7	IAMs_20	IAMs_20	19 13 36.2	
	comp=Z,6µm,18.0s						
SADO	Sadowa	43.41	7	LR	LR	19 12 22.6	
	comp=Z,2µm,21.2s,baz=196,slow=36						
NCB	Newcomb	43.42	12	IAMs_20	IAMs_20	19 11 47.8	
	comp=Z,4µm,20.0s						
V12A	Nelson	43.58	325	P	P	18 54 48.6	+0.3
HNH	Hanover	43.60	14	IAMs_20	IAMs_20	19 10 31.2	
	comp=Z,3µm,18.0s						
O20A	White River Ci	43.62	335	IAMs_20	IAMs_20	19 13 07.9	
	comp=Z,4µm,18.0s						
JANB	Januaria	43.95	114	eP	P	18 54 51.6	+0.2
LONY	Lake Ozonia	43.97	11	IAMs_20	IAMs_20	19 12 38.4	
	comp=Z,4µm,20.0s						
SPMN	Marine on St.	43.98	353	P	P	18 54 49.4	-1.8
SPMN				IAmb	IAmb	18 55 04.5	
	comp=Z,21nm,0.8s						
I62A	Tamworth	43.99	15	IAMs_20	IAMs_20	19 10 16.5	
	comp=Z,3µm,21.0s						
CPSB	Cacapava Do Su	44.07	139	eP	P	18 54 53.0	+0.9
VT1	Waterbury	44.08	13	IAMs_20	IAMs_20	19 13 40.8	
	comp=Z,4µm,18.0s						
WBO	Williamsburg	44.21	10	IAMs_20	IAMs_20	19 12 46.8	
	comp=Z,5µm,21.0s						
PLCA	Paso Flores	44.23	164	P	P	18 54 50.6	-2.7
PLCA				IAmb	IAmb	18 55 03.0	
	comp=Z,59nm,1.5s						
PLCA	Paso Flores	44.23	164	P	P	18 54 55.7	+2.4
	comp=Z,12nm,1.1s,baz=331,slow=9.0,SNR=11						
PLCA				LR	LR	19 10 22.5	
	comp=Z,6µm,18.1s,baz=342,slow=32						
	comp=Z,12nm,1.1s						
PLCA	Paso Flores	44.23	164	eP	P	18 54 56.0	+2.6
SHPR	Sheep Range	44.30	325	P	P	18 54 57.9	+3.7
I63A	Otisfield	44.35	15	IAMs_20	IAMs_20	19 14 53.0	
	comp=Z,3µm,18.0s						
FRNY	Flat Rock	44.38	12	IAMs_20	IAMs_20	19 12 16.1	
	comp=Z,4µm,21.0s						
E46A	Sault Ste Mari	44.65	1	P	P	18 54 58.8	+2.2
E46A				IAMs_20	IAMs_20	19 13 58.7	
	comp=Z,4µm,18.0s						
H62A	Milan	44.69	15	IAMs_20	IAMs_20	19 09 35.1	
	comp=Z,3µm,22.0s						
MNTQ	Montreal, Queb	45.01	12	IAMs_20	IAMs_20	19 12 37.8	
	comp=Z,4µm,21.0s						
BSUT	Blindstream Ca	45.07	333	IAmb	IAmb	18 55 22.0	
	comp=Z,57nm,1.7s						
WVL	Waterville	45.08	16	IAMs_20	IAMs_20	19 14 02.1	
	comp=Z,3µm,20.0s						
CCAC	Calif City Air	45.09	322	P	P	18 55 04.8	+4.5
TPNV	Topopah Spring	45.24	325	P	P	18 55 00.8	-0.8
TPNV				IAMs_20	IAMs_20	19 13 52.4	
	comp=Z,4µm,18.0s						
G62A	West of Eustis	45.45	15	IAMs_20	IAMs_20	19 11 00.2	
	comp=Z,3µm,22.0s						
TRQ	Mont Tremblant	45.52	11	IAMs_20	IAMs_20	19 12 54.4	
	comp=Z,4µm,20.0s						
DIAM	Diamantina, MG	45.62	118	eP	P	18 55 04.8	-0.1
SPR3	Spring Creek 3	45.65	328	IAmb	IAmb	18 55 27.3	
	comp=Z,29nm,1.5s						
DUG	Dugway, Tooele	45.77	331	P	P	18 55 06.9	+1.2
DUG				IAMs_20	IAMs_20	19 13 56.2	
	comp=Z,5µm,20.0s						
PKME	Peaks-Kenny Pk	45.82	16	IAMs_20	IAMs_20	19 14 34.9	
	comp=Z,3µm,19.0s						
BCW	Bitter Crk WRg	45.84	320	P	P	18 55 10.9	+4.6
LL02	Futaleuf	46.19	166	P	P	18 55 11.0	+2.2
G65A	Princeton	46.26	18	IAMs_20	IAMs_20	19 16 18.3	
	comp=Z,3µm,19.0s						
HWUT	Hardware Ranch	46.29	333	IAmb	IAmb	18 55 31.0	
	comp=Z,16nm,1.1s						
PD31	Pinedale Array	46.35	335	IAmb	IAmb	18 55 29.7	
	comp=Z,28nm,1.8s						
PDAR	Pinedale Array	46.35	335	P	P	18 55 12.4	+2.0
	comp=Z,2.4nm,1.0s,baz=126,slow=7.5,SNR=9.1						
PDAR				LR	LR	19 15 25.2	
	comp=Z,5µm,18.6s,baz=134,slow=37						
	comp=Z,2.4nm,1.0s						
DSP	Deep Springs	46.53	324	IAmb	IAmb	18 55 34.8	
	comp=Z,6nm,1.9s						
AHID	Auburn Hatcher	47.01	334	IAMs_20	IAMs_20	19 14 31.5	
	comp=Z,4µm,22.0s						
E62A	Clayton Lake	47.01	15	IAMs_20	IAMs_20	19 16 15.5	
	comp=Z,3µm,18.0s						
ELK	Elko	47.41	329	IAmb	IAmb	18 55 36.1	
	comp=Z,18nm,1.3s						
ELK	Elko	47.41	329	LR	LR	19 14 59.4	
	comp=Z,10µm,18.9s,baz=141,slow=36						
SNOW	Snow King Moun	47.42	335	IAMs_20	IAMs_20	19 15 23.4	
	comp=Z,6µm,21.0s						
NVAR	Mina Array Bea	47.44	325	LR	LR	19 15 19.5	
	comp=Z,4µm,18.2s,baz=125,slow=36						
LOHW	Long Hollow	47.48	335	IAMs_20	IAMs_20	19 15 36.0	
	comp=Z,6µm,20.0s						
TPAW	Teton Pass	47.53	335	IAMs_20	IAMs_20	19 15 13.3	
	comp=Z,6µm,21.0s						
D62A	Allapoint, All	47.56	15	IAMs_20	IAMs_20	19 16 57.1	
	comp=Z,3µm,18.0s						
MOOW	Moose Ponds	47.65	335	IAMs_20	IAMs_20	19 15 41.5	
	comp=Z,5µm,20.0s						
LMQ	La Malbaie	47.68	14	IAMs_20	IAMs_20	19 12 44.2	
	comp=Z,4µm,22.0s						
MDND	Maddock	47.72	347	P	P	18 55 20.6	-0.1
LDAQ	Lac Daran	47.86	13	IAMs_20	IAMs_20	19 15 55.1	
	comp=Z,3µm,20.0s						
RLMT	Red Lodge	48.20	337	IAMs_20	IAMs_20	19 16 02.1	
	comp=Z,5µm,19.0s						
SAO	San Antreas Ge	48.26	321	IAMs_20	IAMs_20	19 13 51.8	
	comp=Z,3µm,22.0s						
COYC	Coyhaique	48.40	167	IAMs_20	IAMs_20	19 11 13.9	
	comp=Z,6µm,20.0s						
LAO	LASA Array	48.47	341	IAMs_20	IAMs_20	19 16 01.0	
	comp=Z,3µm,22.0s						
BATG	Bathurst New B	48.59	18	IAMs_20	IAMs_20	19 17 46.8	
	comp=Z,3µm,19.0s						
YHL	Hebgen Lake	48.73	336	P	P	18 55 29.2	+0.3
YHL				IAmb	IAmb	18 56 18.4	
	comp=Z,38nm,1.6s						
HLID	Hailey	49.13	332	IAMs_20	IAMs_20	19 15 56.8	
	comp=Z,3µm,19.0s						
ULM	Lac du Bonnet	49.33	351	P	P	18 55 34.7	+1.7
	comp=Z,3.8nm,0.7s,baz=150,slow=8.5,SNR=3.5						
ULM				LR	LR	19 20 07.3	
	comp=Z,865nm,18.1s,baz=158,slow=41						
	comp=Z,3.8nm,0.7s						
BOZ	Bozeman (W)	49.53	336	IAMs_20	IAMs_20	19 17 02.0	
	comp=Z,3µm,18.0s						
MFID	Camas Ranch	49.68	331	IAMs_20	IAMs_20	19 16 50.6	
	comp=Z,4µm,18.0s						
DLMT	Dillon	49.74	335	IAMs_20	IAMs_20	19 16 22.7	
	comp=Z,6µm,22.0s						
MCCM	Marconi Confer	50.01	321	IAMs_20	IAMs_20	19 14 43.0	
	comp=Z,4µm,22.0s						
ORV	Oroville	50.05	324	IAMs_20	IAMs_20	19 16 08.9	
	comp=Z,3µm,20.0s						
RCBR	Riachuelo	50.06	99	IAMs_20	IAMs_20	19 19 00.2	
	comp=Z,5µm,20.0s						
RCBR	Riachuelo	50.06	99	LR	LR	19 18 54.4	
	comp=Z,2µm,20.9s,baz=278,slow=38						
NBAN	Anadia - AL	50.26	104	eP	P	18 55 41.5	+0.8
ICQ	Pointe Anglais	50.28	15	IAMs_20	IAMs_20	19 17 49.8	
	comp=Z,3µm,19.0s						
EGMT	Eagleton	50.83	339	IAMs_20	IAMs_20	19 17 44.6	
	comp=Z,3µm,22.0s						
PLID	Pearl Lake	51.03	332	P	P	18 55 45.5	-0.8
PLID				IAMs_20	IAMs_20	19 17 54.0	
	comp=Z,3µm,18.0s						
O02D	Mt. Diablo Mer	51.21	323	IAMs_20	IAMs_20	19 17 47.6	
	comp=Z,3µm,18.0s						
BMO	Blue Mountains	51.47	331	IAMs_20	IAMs_20	19 18 05.7	
	comp=Z,4µm,18.0s						
MSO	Missoula	51.47	335	IAmb	IAmb	18 56 06.7	
	comp=Z,22nm,1.1s						
MSO				IAMs_20	IAMs_20	19 17 12.5	
	comp=Z,5µm,22.0s						
YBH	Yreka Blue Hor	52.15	325	LR	LR	19 18 16.5	
	comp=Z,4µm,18.3s,baz=143,slow=36						
JCC	Jacoby Creek,	52.35	323	IAMs_20	IAMs_20	19 18 05.8	
	comp=Z,3µm,20.0s						
DRLN	Deer Lake	53.23	23	IAMs_20	IAMs_20	19 18 28.1	
	comp=Z,3µm,19.0s						
HAWA	Hanford	53.66	331	IAMs_20	IAMs_20	19 18 42.8	
	comp=Z,4µm,18.0s						
NEW	Newport	53.94	334	IAMs_20	IAMs_20	19 19 44.0	
	comp=Z,4µm,20.0s						
NEW	Newport	53.94	334	LR	LR	19 20 05.3	
	comp=Z,3µm,19.0s,baz=141,slow=37						
RKT	Rikitea	54.02	240	eS	S	19 03 42.3	-2.7
	comp=Z,8µm,29.0s						
RKT				eSS	SS	19 07 27.3	+0.6
	comp=Z,3µm,35.0s						
RKT				eLQ	LQ	19 09 28.8	
	comp=Z,12µm,27.8s						
RKT				eLR	LR	19 11 44.8	
	comp=Z,44µm,27.2s						
FFC	Flin Flon	54.70	348	IAMs_20	IAMs_20	19 22 01.0	
	comp=Z,3µm,22.0s						
SCHQ	Schefferville	55.27	13	LR	LR	19 19 44.7	
	comp=Z,2µm,19.9s,baz=202,slow=36						
TAOE	Nuku Hiva Isla	55.43	258	eS	S	19 04 03.6	-0.9
	comp=Z,1µm,26.8s						
TAOE				eSS	SS	19 07 48.5	-0.9
	comp=Z,431nm,27.2s						
TAOE				eLQ	LQ	19 10 11.8	
	comp=Z,7µm,33.5s						
TAOE				eLR	LR	19 12 30.2	
	comp=Z,17µm,26.6s						
FCC	Fort Churchill	57.46	355	P	P	18 56 33.0	+0.5
FCC				IAmb	IAmb	18 56 48.8	
	comp=Z,18nm,1.1s						
LLLB	Lillooet	57.77	333	P	P	18 56 35.4	+0.4
USHA	Ushuaia	57.92	168	LR	LR	19 16 58.7	
	comp=Z,5µm,20.5s,baz=342,slow=31						
BBB	Bella Bella	61.71	332	LR	LR	19 24 10.2	
	comp=Z,2µm,19.7s,baz=144,slow=36						
FRB	Frobisher Bay	63.30	8	LR	LR	19 24 30.1	
	comp=Z,4µm,19.4s,baz=198,slow=36						
YKA	Yellowknife Ar	64.58	346	P	P	18 57 21.7	+0.7
	comp=Z,3.2nm,1.0s,baz=142,slow=6.8,SNR=12						
YKA				LR	LR	19 27 46.1	
	comp=Z,2µm,18.7s,baz=144,slow=38						
	comp=Z,3.2nm,1.0s						
U35K	Hyder	64.96	334	IAMs_20	IAMs_20	19 25 50.4	
	comp=Z,2µm,19.0s						
V35K	Ketchikan	65.30	333	IAMs_20	IAMs_20	19 26 37.5	
	comp=Z,3µm,18.0s						
T35M	Bob Quinn	65.73	335	IAMs_20	IAMs_20	19 27 15.8	
	comp=Z,3µm,18.0s						
PPT	Papeete	65.88	250	LR	LR	19 18 57.6	
	comp=Z,6µm,21.6s,baz=60,slow=29						
PPT2	Papeete2	65.88	250	eS	S	19 06 17.4	-0.6
	comp=Z,1µm,26.5s						
PPT2				eSS	SS	19 10 30.8	-2.3
	comp=Z,1µm,28.2s						
PPT2				eLQ	LQ	19 14 26.4	
	comp=Z,7µm,31.2s						
PPT2				eLR	LR	19 17 20.2	
	comp=Z,16µm,24.8s						
PPT2				eLR	LR	19 17 20.4	
	comp=Z,13µm,26.8s						
U33K	Whale Pass	66.45	333	IAMs_20	IAMs_20	19 27 31.1	
	comp=Z,3µm,19.0s						
DLBC	Dease Lake	66.58	336	LR	LR	19 28 06.4	
	comp=Z,3µm,18.8s,baz=114,slow=37						
S34M	Telegraph Cree	66.69	335	IAMs_20	IAMs_20	19 26 57.1	
	comp=Z,2µm,22.0s						
TBI	Tubuai	66.88	244	eS	S	19 06 25.8	-4.1
TBI				eSS	SS	19 10 44.1	-4.2
	comp=Z,4µm,25.2s						
TBI				eLQ	LQ	19 14 50.4	
	comp=Z,4µm,34.0s						
TBI				eLR	LR	19 17 43.3	
	comp=Z,21µm,35.2s						
TBI				eLR	LR	19 17 45.0	
	comp=Z,44µm,26.8s						
WTLY	Watson Lake, Y	67.20	338	IAMs_20	IAMs_20	19 28 09.7	
	comp=Z,2µm,20.0s						
R33M	Jennings River	67.57	337	IAMs_20	IAMs_20	19 28 35.4	
	comp=Z,3µm,19.0s						
Q32M	Nakina River	67.81	336	IAMs_20	IAMs_20	19 27 52.8	
	comp=Z,3µm,20.0s						
PMSA	Palmer Station	68.00	170	LR	LR	19 22 09.0	
	comp=Z,2µm,21.2s,baz=311,slow=31						
P33M	Teslin, Yukon	68.81	337	IAMs_20	IAMs_20	19 30 14.2	
	comp=Z,2µm,19.0s						
MBO	M'Bour	68.83	75	IAMs_20	IAMs_20	19 23 48.3	
	comp=Z,2µm,21.0s						
BBTS	Babate	69.26	75	LR	LR	19 25 07.8	
	comp=Z,757nm,21.9s,baz=140,slow=33						
N32M	Quiet Lake	69.49	338	IAMs_20	IAMs_20	19 29 31.2	
	comp=Z,2µm,18.0s						
SFJD	Kangerlussuaq	69.70	14	LR	LR	19 27 16.3	
	comp=Z,2µm,21.8s,baz=220,slow=35						
MMPY	Sheldon Lake,	69.75	339	IAMs_20	IAMs_20	19 31 23.9	
	comp=Z,2µm,20.0s						
FARO	Faro, Yukon	70.26	338	IAMs_20	IAMs_20	19 31 11.4	
	comp=Z,2µm,20.0s						
M31M	Drury Creek, Y	70.63	338	IAMs_20	IAMs_20	19 30 27.2	
	comp=Z,2µm,21.0s						
N31M	Braeburn, Yuko	70.73	337	IAMs_20	IAMs_20	19 30 14.2	
	comp=Z,3µm,19.0s						
N30M	Aishikik Lake	71.24	337	IAMs_20	IAMs_20	19 31 03.1	
	comp=Z,3µm,20.0s						
M30M	Minto, Yukon	71.76	338	IAmb	IAmb	18 59 20.0	
	comp=Z,14nm,1.0s						
M29M	Somme Creek	72.32	337	IAMs_20	IAMs_20	19 31 15.1	
	comp=Z,3µm,18.0s						
ANGG	Ammassalik, Gr	72.37	19	IAMs_20	IAMs_20	19 24 24.6	
	comp=Z,3µm,22.0s						
L29M	L29M	72.56	338	IAmb	IAmb	18 59 30.7	
	comp=Z,13nm,0.8s						
J30M	Hart River	72.75	339	P	P	18 58 11.2	-0.9
J30M				IAmb	IAmb	18 58 39.0	
	comp=Z,28nm,1.6s						
J30M				IAMs_20	IAMs_20	19 33 03.0	
	comp=Z,2µm,20.0s						
K29M	Barlow Dome	72.75	339	IAmb	IAmb	18 58 33.9	
	comp=Z,18nm,1.2s						
K29M				IAMs_20	IAMs_20	19 32 55.2	
	comp=Z,2µm,18.0s						
H31M	Peel River	72.81	341	IAMs_20	IAMs_20	19 30 56.7	
	comp=Z,3µm,22.0s						
I30M	Mount Dempster	73.14	340	IAmb	IAmb	18 58 34.9	
	comp=Z,29nm,1.4s						
I30M				IAMs_20	IAMs_20	19 31 54.4	
	comp=Z,2µm,22.0s						
RES	Resolute Bay	73.27	357	LR	LR	19 32 28.9	
	comp=Z,2µm,18.2s,baz=165,slow=38						
J29N	Klondike Camp	73.34	339	IAMs_20	IAMs_20	19 33 47.9	
	comp=Z,2µm,21.0s						
DAWY	Dawson	73.56	338	IAmb	IAmb	18 58 38.3	
	comp=Z,19nm,1.3s						
EPYK	Eagle Plains	73.93	341	IAMs_20	IAMs_20	19 33 38.1	
	comp=Z,2µm,20.0s						
BCAR	Beaver Creek A	73.95	337	P	P	18 58 19.4	+0.3
M26K	Nabesna, AK	74.11	336	IAmb	IAmb	18 58 42.1	
	comp=Z,38nm,1.6s						
INK	Inuvik	74.14	343	IAmb	IAmb	18 58 37.1	
	comp=Z,26nm,1.1s						
INK	Inuvik	74.14	343	LR	LR	19 34 28.7	
	comp=Z,4µm,18.2s,baz=119,slow=39						
H29M	Whitestone	74.39	340	IAmb	IAmb	18 58 39.2	
	comp=Z,35nm,1.2s						
N25K	Chitina, Valde	74.41	335	IAMs_20	IAMs_20	19 30 54.1	
	comp=Z,3µm,22.0s						
I28M	Miner Creek	74.50	339	P	P	18 58 22.3	-0.1
I28M				IAmb	IAmb	18 58 56.3	
	comp=Z,34nm,1.5s						
A36M	Sachs Harbour	74.66	348	P	P	18 58 22.1	-0.9
A36M				IAMs_20	IAMs_20	19 34 42.6	
	comp=Z,2µm,18.0s						
G29M	Pine Creek	74.67	341	IAMs_20	IAMs_20	19 31 52.6	
	comp=Z,3µm,22.0s						
DIV	Divide	74.70	334	IAMs_20	IAMs_20	19 32 57.0	
	comp=Z,2µm,20.0s						
HIN	Hinchinbrook I	74.71	333	I

ILAR LR LR 19 34 23.8
comp=Z,3µm,18.7s,baz=112,slow=37
comp=Z,4.3nm,1.1s
SYI Shuyak Island 76.82 330 IAms_20 IAms_20 19 30 26.4
comp=Z,2µm,19.0s
M22K Willow 76.86 334 IAms_20 IAms_20 19 34 28.2
comp=Z,2µm,21.0s
D27M Malcolm River 76.88 342 P **P 18 58 33.3 -2.6**
D27M IAmb IAmb 18 58 46.0
comp=Z,12nm,0.9s
RND Reindeer 76.96 336 IAms_20 IAms_20 19 31 53.7
comp=Z,3µm,22.0s
SUA Susitna One 77.03 333 IAms_20 IAms_20 19 34 24.8
comp=Z,2µm,19.0s
F26K Sheenjek River 77.10 340 IAmb IAmb 18 59 07.9
comp=Z,18nm,1.2s
MCK McKinley 77.13 336 IAms_20 IAms_20 19 32 34.9
comp=Z,2µm,20.0s
CUT Chulitna 77.17 334 IAms_20 IAms_20 19 32 45.2
comp=Z,2µm,20.0s
BWN Browne 77.52 336 IAms_20 IAms_20 19 32 01.4
comp=Z,2µm,20.0s
Q19K Cape Douglas, 77.54 330 IAms_20 IAms_20 19 32 05.4
comp=Z,1µm,20.0s
F25K Christian Rive 77.56 340 IAmb IAmb 18 59 03.6
comp=Z,22nm,1.4s
F25K IAms_20 IAms_20 19 35 06.2
comp=Z,2µm,20.0s
SKT Skwentna 77.57 334 IAms_20 IAms_20 19 34 59.9
comp=Z,2µm,19.0s
TRF Thorofare Moun 77.58 335 IAms_20 IAms_20 19 32 08.8
comp=Z,3µm,21.0s
H24K Noodor Dome 77.58 338 IAmb IAmb 18 59 01.6
comp=Z,36nm,1.4s
E25K Arctic Village 77.78 341 IAmb IAmb 18 58 51.6
comp=Z,16nm,0.9s
G24K Hadweenzic Riv 77.80 339 IAmb IAmb 18 59 05.7
comp=Z,43nm,1.6s
BORG Borgarnes 77.82 23 LR LR 19 29 49.5
comp=Z,1µm,19.1s,baz=243,slow=33
C27K Jago River 77.91 342 P **P 18 58 41.0 -0.6**
C27K IAmb IAmb 18 58 59.4
comp=Z,24nm,1.3s
BPAW Bear Paw Mtn. 78.11 336 IAms_20 IAms_20 19 32 39.8
comp=Z,2µm,21.0s
PPLA Purkeypile 78.18 335 IAms_20 IAms_20 19 34 41.9
comp=Z,2µm,21.0s
M20K Styx River 78.25 333 IAms_20 IAms_20 19 32 14.8
comp=Z,2µm,21.0s
O19K Port Alsworth 78.26 332 IAms_20 IAms_20 19 30 47.3
comp=Z,1µm,20.0s
CAST Castle Rocks 78.31 335 IAmb IAmb 18 59 15.6
comp=Z,22nm,1.3s
CAST IAms_20 IAms_20 19 33 35.4
comp=Z,2µm,21.0s
P18K Big Mountain, 78.46 331 IAms_20 IAms_20 19 32 41.7
comp=Z,1µm,19.0s
N19K Bonanza Creek 78.52 332 IAms_20 IAms_20 19 32 46.3
comp=Z,1µm,21.0s
O18K Koktuh Hills 78.58 331 IAms_20 IAms_20 19 33 45.9
comp=Z,1µm,18.0s
D25K Kavik River 78.59 342 IAmb IAmb 18 58 58.4
comp=Z,17nm,0.8s
D25K IAms_20 IAms_20 19 36 02.3
comp=Z,2µm,18.0s
G23K Bananza Creek 78.73 339 IAmb IAmb 18 59 08.3
comp=Z,43nm,1.6s
E24K Your Creek 78.74 340 IAms_20 IAms_20 19 36 05.4
comp=Z,2µm,18.0s
M19K Big River Lodg 78.82 333 IAms_20 IAms_20 19 34 31.0
comp=Z,2µm,22.0s
I21K Tanana 78.90 337 IAmb IAmb 18 58 58.1
comp=Z,14nm,0.9s
L19K White Mountain 79.11 333 IAms_20 IAms_20 19 34 50.7
comp=Z,2µm,20.0s
E23K Chandalar 79.12 340 IAmb IAmb 18 59 05.8
comp=Z,24nm,1.2s
K20K Telida 79.14 335 IAms_20 IAms_20 19 35 29.2
comp=Z,2µm,20.0s
COI Coimbra 79.14 49 IAms_20 IAms_20 19 27 07.0
comp=Z,2µm,19.0s
AVE Averroes 79.19 57 IAms_20 IAms_20 19 27 59.8
comp=Z,2µm,22.0s
TOLK Toolik Lake Re 79.34 340 IAms_20 IAms_20 19 37 39.2
comp=Z,2µm,20.0s
PVAQ Vaqueiros 79.35 52 IAms_20 IAms_20 19 28 36.4
comp=Z,1µm,21.0s
J20K Nowinta River 79.43 335 IAmb IAmb 18 59 22.9
comp=Z,35nm,1.5s
J20K IAms_20 IAms_20 19 33 15.9
comp=Z,2µm,22.0s
C24K Franklin Bluff 79.50 342 IAms_20 IAms_20 19 36 44.4
comp=Z,2µm,18.0s
PESTR Estremoz 79.61 51 IAms_20 IAms_20 19 28 18.4
comp=Z,2µm,21.0s
P16K Nushagak River 79.73 330 IAms_20 IAms_20 19 33 13.4
comp=Z,1µm,20.0s
I20K Naaghedeneel 79.77 336 IAms_20 IAms_20 19 33 38.7
comp=Z,2µm,22.0s
D23K Nanushuk River 79.84 341 IAmb IAmb 18 59 23.0
comp=Z,20nm,1.2s
D23K IAms_20 IAms_20 19 37 06.4
comp=Z,2µm,19.0s
E22K Anaktuvuk Pass 79.91 340 IAmb IAmb 18 59 14.2
comp=Z,30nm,1.4s
O16K Kokwok River B 79.92 330 IAms_20 IAms_20 19 33 38.3
comp=Z,1µm,20.0s
SCO Scoresbysund 79.93 18 IAms_20 IAms_20 19 31 00.4
comp=Z,2µm,19.0s
L18K Granite Mounta 79.95 333 IAms_20 IAms_20 19 36 26.8
comp=Z,2µm,21.0s
G21K Allakaket 79.95 338 P **P 18 58 52.5 -0.3**
G21K IAmb IAmb 18 59 14.6
comp=Z,49nm,1.7s
J19K Poorman 79.99 335 IAmb IAmb 18 59 50.7
comp=Z,40nm,1.9s
J19K IAms_20 IAms_20 19 34 35.8
comp=Z,2µm,21.0s
M17K Holitna River 80.07 332 IAms_20 IAms_20 19 34 22.1
comp=Z,2µm,22.0s
C23K Itkillik River 80.16 341 IAmb IAmb 18 59 11.6
comp=Z,40nm,1.5s
C23K IAms_20 IAms_20 19 37 01.7
comp=Z,2µm,20.0s
J18K Innoko River 80.31 334 IAms_20 IAms_20 19 36 04.1
comp=Z,2µm,19.0s
D22K Ayikyak River 80.48 340 P **P 18 58 55.4 -0.2**
D22K IAmb IAmb 18 59 17.6
comp=Z,29nm,1.4s
DBIC Dimbokro 80.52 84 P **P 18 58 60.0 +3.0**
comp=Z,2.2nm,0.6s,baz=290,slow=5.5,SNR=4.0
comp=Z,2.2nm,0.6s
O15K Ungalikthiuk R 80.68 330 IAms_20 IAms_20 19 33 42.6
comp=Z,2µm,20.0s
M16K Timber Creek 80.69 332 IAms_20 IAms_20 19 31 35.5
comp=Z,2µm,22.0s
E21K Killik River 80.77 340 IAmb IAmb 18 59 14.7
comp=Z,19nm,1.2s
H19K Roundabout Mou 80.78 336 IAms_20 IAms_20 19 35 15.5
comp=Z,2µm,22.0s
K17K Iditarod 80.80 334 IAms_20 IAms_20 19 36 35.3
comp=Z,1µm,20.0s
N15K Kwethluk River 81.03 331 IAms_20 IAms_20 19 32 46.8
comp=Z,1µm,18.0s
L16K Owhat River 81.09 332 IAms_20 IAms_20 19 37 19.1
comp=Z,2µm,20.0s
G19K Purcell Mounta 81.21 337 IAms_20 IAms_20 19 36 10.1
comp=Z,2µm,22.0s
B22K Teshekpuk Lake 81.24 341 P **P 18 58 57.9 -1.7**
B22K IAmb IAmb 18 59 20.9
comp=Z,40nm,1.6s
J17K VABM Dome 81.31 334 IAms_20 IAms_20 19 33 33.8
comp=Z,1µm,21.0s
O14K Tigyukauivet M 81.42 330 IAms_20 IAms_20 19 34 16.2
comp=Z,1µm,22.0s
H18K Honhosa River 81.45 336 IAms_20 IAms_20 19 36 44.2
comp=Z,1µm,21.0s
MDT Midelt 81.50 57 LR LR 19 30 19.9
comp=Z,1µm,22.0s,baz=305,slow=32
F19K Shaleruckik Mo 81.67 338 IAmb IAmb 18 59 11.4
comp=Z,20nm,1.2s
F19K IAms_20 IAms_20 19 36 45.6
comp=Z,3µm,22.0s
G18K Tagagawik 81.76 337 IAms_20 IAms_20 19 35 55.4
comp=Z,2µm,21.0s
N14K Kuskokwak Cree 81.76 330 IAms_20 IAms_20 19 34 47.2
comp=Z,1µm,19.0s
D20K Etivluk River 81.78 340 IAmb IAmb 18 59 24.2
comp=Z,32nm,1.4s
J16K Anvik River 81.96 334 IAms_20 IAms_20 19 36 31.8
comp=Z,1µm,20.0s
H17K Granite Mounta 82.04 336 IAms_20 IAms_20 19 36 14.8
comp=Z,1µm,22.0s
I17K Unalakleet 82.13 334 IAms_20 IAms_20 19 35 28.3
comp=Z,1µm,22.0s
K15K Wolf Creek Mou 82.16 333 IAms_20 IAms_20 19 38 16.4
comp=Z,1µm,19.0s
PAB San Pablo 82.18 50 IAms_20 IAms_20 19 25 28.5
comp=Z,1µm,21.0s
D19K Kuna River 82.25 339 IAmb IAmb 18 59 22.9
comp=Z,20nm,1.2s
ESDC Sonseca Array 82.49 50 P **P 18 59 09.2 +2.3**
comp=Z,1.1nm,0.8s,baz=280,slow=3.8,SNR=4.4
ESDC LR LR 19 29 14.3
comp=Z,660nm,21.3s,baz=271,slow=31
comp=Z,1.1nm,0.8s
L14K Kuka Creek 82.52 332 IAms_20 IAms_20 19 38 06.9
comp=Z,2µm,18.0s
E18K Tukpahlearik C 82.89 338 IAmb IAmb 18 59 18.4
comp=Z,10nm,1.0s
E18K IAms_20 IAms_20 19 37 35.8
comp=Z,3µm,22.0s
F17K Baldwin Pennin 82.92 337 IAmb IAmb 18 59 30.2
comp=Z,20nm,1.1s
F17K IAms_20 IAms_20 19 35 20.8
comp=Z,2µm,22.0s
G16K Koyuk River 83.14 336 IAms_20 IAms_20 19 35 05.0
comp=Z,3µm,22.0s
J14K Nanvaranak Lak 83.17 333 IAms_20 IAms_20 19 38 21.0
comp=Z,2µm,20.0s
C18K Utukok River 83.38 339 P **P 18 59 09.5 -1.5**
C18K IAmb IAmb 18 59 29.8
comp=Z,34nm,1.7s
K13K Kusilvak Mount 83.54 332 IAms_20 IAms_20 19 37 05.0
comp=Z,2µm,19.0s
BELA Belgrano 2 83.84 171 IAms_20 IAms_20 19 36 11.3
comp=Z,2µm,19.0s
RDOG Red Dog Mine 83.88 338 IAms_20 IAms_20 19 38 40.4
comp=Z,2µm,22.0s
M11K Mekoryuk 84.07 330 IAms_20 IAms_20 19 32 18.1
comp=Z,2µm,21.0s
F15K North Star Dit 84.14 336 IAms_20 IAms_20 19 38 35.2
comp=Z,2µm,21.0s
ANM Nome 84.26 335 IAms_20 IAms_20 19 38 26.7
comp=Z,1µm,20.0s
JMIC Jan Mayen 84.31 19 LR LR 19 34 34.7
comp=Z,421nm,21.6s,baz=254,slow=34
EKA Eskdalemuir Ar 84.37 35 P **P 18 59 17.5 +1.3**
comp=Z,5.0nm,0.9s,baz=255,slow=5.9,SNR=8.0
comp=Z,5.0nm,0.9s
C16K Lisburne Hills 84.81 338 P **P 18 59 17.5 -0.7**
C16K IAms_20 IAms_20 19 39 22.1
comp=Z,2µm,22.0s
ACRG Accra 85.16 85 IAms_20 IAms_20 19 33 39.3
comp=Z,1µm,20.0s
TNA Tin City 85.46 336 IAms_20 IAms_20 19 38 15.4
comp=Z,2µm,20.0s
CEST Esterri de Car 86.56 48 IAms_20 IAms_20 19 31 56.6
comp=Z,1µm,21.0s
VNA3 Neumayer Olymp 86.91 162 ⇑P **P 18 59 31.2 +2.7**
comp=Z,14nm,0.9s
TORD Torodi Ar. Bea 86.91 77 P **P 18 59 26.0 -3.7**
TORD Torodi Ar. Bea 86.91 77 LR LR 19 36 04.3
comp=Z,924nm,20.9s,baz=260,slow=34
GAMB Gambell 86.94 334 IAms_20 IAms_20 19 38 47.7
comp=Z,1µm,21.0s
VNA1 Neumayer--Stat 87.22 161 ⇑P **P 18 59 33.8 +3.8**
comp=Z,14nm,1.0s
VNA2 Neumayer--Watz 87.56 161 ⇑P **P 18 59 34.2 +2.6**
comp=Z,6.2nm,0.8s,baz=297,slow=6.6
MAHO Mahon 88.83 50 IAms_20 IAms_20 19 33 59.5
comp=Z,1µm,20.0s
SNAA Sanae 89.14 162 P **P 18 59 36.4 -2.8**
SNAA IAmb IAmb 18 59 55.0
comp=Z,14nm,1.2s
SNAA IAms_20 IAms_20 19 41 58.5
comp=Z,2µm,19.0s
SNAA Sanae 89.14 162 ⇑P **P 18 59 43.1 +3.9**
comp=Z,124nm,1.0s
SNAA Sanae 89.14 162 P **P 18 59 41.6 +2.4**
SNAA comp=Z,3.7nm,1.0s,baz=292,slow=5.3,SNR=4.4 LR LR 19 34 03.2
comp=Z,1µm,20.0s,baz=268,slow=32
comp=Z,3.7nm,1.0s
WLF Walferdange 89.90 41 IAms_20 IAms_20 19 33 04.3
comp=Z,2µm,22.0s
KBS Kingsbay 89.93 11 IAms_20 IAms_20 19 42 49.3
comp=Z,1µm,18.0s
TAM Tamanrasset 90.34 67 IAms_20 IAms_20 19 34 59.8
comp=Z,1µm,22.0s
BNI Bardonecchia 90.45 45 IAms_20 IAms_20 19 38 52.7
comp=Z,1µm,20.0s
TROLL Troll, Antarti 90.84 162 ⇑P **P 18 59 50.2 +2.9**
comp=Z,214nm,0.8s
SPITS Spitsbergen Ar 90.93 12 LR LR 19 42 03.0
comp=Z,2µm,18.6s,baz=247,slow=36
KONO Kongsberg 91.26 30 IAms_20 IAms_20 19 33 44.9
comp=Z,1µm,22.0s
BFO Black Forest 91.41 42 IAms_20 IAms_20 19 35 23.0
comp=Z,922nm,20.0s
QSPA South Pole Qui 91.58 180 IAms_20 IAms_20 19 40 16.9
comp=Z,2µm,19.0s
QSPA South Pole Qui 91.58 180 P **P 18 59 53.4 +2.7**
comp=Z,4.8nm,0.8s,baz=170,slow=1.3,SNR=14
QSPA LR LR 19 35 51.3
comp=Z,918nm,18.8s,baz=156,slow=32
comp=Z,4.8nm,0.8s
NOA NORSAR Array B 91.92 29 P **P 18 59 54.8 +2.4**
comp=Z,1.3nm,1.1s,baz=271,slow=4.4,SNR=3.9
NOA LR LR 19 36 44.6
comp=Z,1µm,21.3s,baz=275,slow=33
comp=Z,1.3nm,1.1s
STU Stuttgart 91.95 41 IAms_20 IAms_20 19 35 49.4
comp=Z,2µm,21.0s
TUE Stuetta 92.23 44 IAms_20 IAms_20 19 36 06.8
comp=Z,986nm,21.0s
DAVOX Davos/Dischmat 92.57 43 LR LR 19 38 47.6
comp=Z,686nm,19.2s,baz=278,slow=34
FUORN Ofenpass-Fuorn 92.85 43 IAms_20 IAms_20 19 40 11.1
comp=Z,878nm,21.0s
KEST Kesra 93.04 54 LR LR 19 38 59.8
comp=Z,582nm,20.3s,baz=297,slow=34
HFS Hagfors 93.25 30 LR LR 19 36 38.8
comp=Z,1µm,21.8s,baz=277,slow=32
ZCCA Zocca 93.56 46 IAms_20 IAms_20 19 36 30.9
comp=Z,1µm,22.0s
OSSC Osservatorio P 93.84 46 IAms_20 IAms_20 19 36 02.2
comp=Z,1µm,22.0s
RGN Rugen 93.87 35 IAms_20 IAms_20 19 41 00.6
comp=Z,1µm,20.0s
NKC Novy Kostel 93.91 40 *e*SP SP 19 12 29.4 +4.0
NKC AMS AMS 19 34 30.0
comp=Z,4µm,24.6s
CLL Collm 94.12 38 IAms_20 IAms_20 19 37 29.0
comp=Z,1µm,20.0s
CLL Collm 94.12 38 *e*SKSac **SKSac 19 10 36.0 -1.8**
CLL *e*S **ScS 19 11 16.0 +1.0**
CLL *e*PS PS 19 12 31.0 +1.7
CLL *e*SS **SS 19 17 40.0 +6.3**
CLL *e*SSS SSS 19 21 15.0
CLL *e*SSSS 19 24 30.0
CIMO Cimolais 94.38 44 IAms_20 IAms_20 19 37 37.6
comp=Z,997nm,20.0s
HSKC Hora Svate Kat 94.48 39 *e*SKS **SKSac 19 10 45.9 +6.0**
HSKC AMS AMS 19 34 50.0
comp=Z,3µm,22.0s
KHC Kasperske Hory 94.78 41 *e*SKS **SKSac 19 10 45.5 +3.9**
KHC *e*SP **SP 19 12 34.7 -0.3**
KHC AMS AMS 19 34 50.0
comp=Z,3µm,21.8s
GERES GERESS Array B 94.90 41 LR LR 19 36 39.9
comp=Z,866nm,21.8s,baz=273,slow=32
CESX Cesi 94.91 47 IAms_20 IAms_20 19 37 36.6
comp=Z,970nm,20.0s
RICC Richard 94.91 39 AMS AMS 19 35 50.0
comp=Z,3µm,23.5s
SHEM Shemya Is, Ala 95.08 323 LR LR 19 41 27.4
comp=Z,350nm,18.2s,baz=106,slow=35
PRED Cave del Predi 95.13 43 IAms_20 IAms_20 19 37 27.6
comp=Z,1µm,22.0s
ZVC Zvikov 95.13 40 AMS AMS 19 34 50.0
comp=Z,4µm,25.9s
PRA Prague 95.19 40 AMS AMS 19 35 10.0
comp=Z,4µm,23.3s
PVCC Panska Ves 95.21 39 AMS AMS 19 35 10.0
comp=Z,3µm,23.6s
FDMO Fiordimonte 95.23 47 IAms_20 IAms_20 19 38 02.9
comp=Z,1µm,22.0s
PRU Pruhonice 95.28 40 AMS AMS 19 35 00.0
comp=Z,4µm,24.0s
CKRC Cesky Krumlov 95.30 41 AMS AMS 19 34 30.0
comp=Z,2µm,23.3s
BILL Bilibino 95.33 339 IAms_20 IAms_20 19 48 04.0
comp=Z,1µm,18.0s
GOPC GO Pecny, Ondr 95.44 40 AMS AMS 19 35 20.0
comp=Z,4µm,23.6s
CAMP Campotosto 95.53 47 IAms_20 IAms_20 19 37 15.8
comp=Z,2µm,22.0s
ARCES ARCESS Array B 95.79 19 LR LR 19 41 00.1
comp=Z,568nm,20.0s,baz=286,slow=34
INTR Introdacqua 95.96 48 IAms_20 IAms_20 19 37 31.2
comp=Z,1µm,21.0s
TREC Trest 95.99 40 AMS AMS 19 35 00.0
comp=Z,3µm,23.3s
UPC Upice 96.12 39 AMS AMS 19 35 50.0
comp=Z,3µm,22.6s
CHVC Chvalec 96.14 39 AMS AMS 19 35 40.0
comp=Z,3µm,23.6s
KEV Kevo 96.20 19 IAms_20 IAms_20 19 38 19.3
comp=Z,1µm,22.0s
OSTC Ostas 96.24 39 *e*SP SP 19 12 51.6 +0.6
OSTC AMS AMS 19 35 40.0
comp=Z,3µm,24.4s
VNDA Vanda 96.31 192 LR LR 19 35 22.1
comp=Z,871nm,20.1s,baz=120,slow=30
DPC Dobruska-Polom 96.35 39 AMS AMS 19 35 50.0
comp=Z,3µm,23.3s
PAOL Paolisi 96.58 49 IAms_20 IAms_20 19 38 37.6
comp=Z,893nm,21.0s
MSVF Nonsavu 96.62 252 LR LR 19 34 23.4
comp=Z,1µm,20.8s,baz=96,slow=30
KRLC Kraliky 96.69 39 *e*SP SP 19 12 54.7 -1.2
KRLC AMS AMS 19 36 40.0
comp=Z,3µm,22.7s
VRAC Vranov 96.70 40 LR LR 19 37 57.9
comp=Z,2µm,21.6s,baz=284,slow=32
URZ Urewera 96.77 232 LR LR 19 35 23.7
comp=Z,3µm,19.8s,baz=206,slow=30
VAE Valguarnera 96.92 52 LR LR 19 38 23.7
comp=Z,2µm,21.8s,baz=312,slow=32
BEHE Becsehely 97.32 43 IAms_20 IAms_20 19 37 02.5
comp=Z,1µm,21.0s
OKC Ostrava-Krasne 97.60 39 AMS AMS 19 36 30.0
comp=Z,3µm,24.2s
TIP Timpagrande 98.51 50 IAms_20 IAms_20 19 39 16.7
comp=Z,937nm,21.0s
PSZ Piszkesteto 99.12 41 IAms_20 IAms_20 19 38 27.3
comp=Z,957nm,22.0s
SUW Suwalki 99.63 35 IAms_20 IAms_20 19 44 29.8
comp=Z,988nm,21.0s
PABE Paberze 99.64 33 IAms_20 IAms_20 19 40 04.3
comp=Z,1µm,22.0s
SYO Syowa Base 103.41 162 ⇑*i*Pdiff **Pdif 19 00 39.6 -4.4**
MLR Muntele Rosu 103.77 42 IAms_20 IAms_20 19 43 56.0
comp=Z,944nm,22.0s
KIEV Kiev 104.18 37 IAms_20 IAms_20 19 43 36.5
comp=Z,1µm,21.0s
MA2 Magadan 105.04 334 IAms_20 IAms_20 19 50 11.1
comp=Z,765nm,20.0s
TIRR Tirgusor 105.75 43 IAms_20 IAms_20 19 45 02.4
comp=Z,831nm,22.0s
H11S2 WAKE ISLAND Hyl 106.36 290 T T 21 00 05.2
baz=85,slow=75,SNR=10
H11S1 WAKE ISLAND Hyl 106.36 290 T T 21 00 07.1
baz=85,slow=75,SNR=9.1
H11S3 WAKE ISLAND Hyl 106.38 290 T T 21 00 12.5
baz=85,slow=75,SNR=6.8
OBN Obninsk 106.44 31 IAms_20 IAms_20 19 46 18.1
comp=Z,853nm,20.0s
DZM Mont Dzumac 107.31 247 *e*SS SS 19 20 36.1 -3.2
comp=Z,406nm,29.5s
DZM Mont Dzumac 107.31 247 *e*LQ LQ 19 32 00.8
comp=Z,2µm,30.8s
DZM *e*LR LR 19 36 32.1
comp=Z,3µm,27.2s
BZK Bozkurt 110.44 44 IAms_20 IAms_20 19 46 50.6
comp=Z,1µm,21.0s
YAK Yakutsk 111.20 343 IAms_20 IAms_20 19 52 46.8
comp=Z,1µm,22.0s
BNN Bunyan 112.91 46 IAms_20 IAms_20 19 48 45.8
comp=Z,1µm,21.0s
ARTI Arti 115.27 21 IAms_20 IAms_20 19 54 14.1
comp=Z,738nm,20.0s
KIV Kislovodsk 115.32 39 IAms_20 IAms_20 19 48 47.9
comp=Z,1µm,22.0s
YSS Yuzhno-Sakhali 115.88 325 IAms_20 IAms_20 20 04 59.0
comp=Z,633nm,20.0s
BVAR Borovoye Array 121.99 17 PKP **PKiKP 19 05 40.5 +1.8**
comp=Z,0.9nm,0.8s,baz=298,slow=4.1,SNR=3.8
RABL Rabaul 122.37 266 IAms_20 IAms_20 19 53 03.5
comp=Z,790nm,18.0s
ZALV Zalesovo Beam 124.12 7 PKP **PKiKP 19 05 43.2 +0.3**
comp=Z,1.2nm,0.8s,baz=318,slow=2.0,SNR=4.1
MDJ Mudanjiang 124.44 330 IAms_20 IAms_20 20 06 16.6
comp=Z,1µm,21.0s
MAJO Matsushiro 124.48 318 IAms_20 IAms_20 19 58 02.0
comp=Z,915nm,19.0s
HIA Hailar 124.90 340 IAms_20 IAms_20 20 08 03.4
comp=Z,881nm,20.0s
INU Inuyama 125.95 317 IAms_20 IAms_20 19 52 10.6
comp=Z,1µm,21.0s
KURK Kurchatov 126.20 12 IAms_20 IAms_20 20 03 46.8
comp=Z,1µm,20.0s
RAYN Ar Rayn 126.25 59 IAms_20 IAms_20 20 12 04.0
comp=Z,541nm,21.0s
KURBB Kurchatov Arra 126.27 13 PKP **PKiKP 19 05 47.3 +0.1**
comp=Z,0.9nm,0.9s,baz=339,slow=2.1,SNR=6.7
CN2 Changchun 127.04 332 *e*PKP **PKiKP 19 05 52.2 +3.2**
ATD Arta Tunnel 127.04 74 IAms_20 IAms_20 20 06 24.8
comp=Z,814nm,20.0s
MANU Manus Island 127.17 269 IAms_20 IAms_20 19 57 19.9
comp=Z,1µm,19.0s
ULN Ulaanbaatar 129.59 349 IAms_20 IAms_20 20 09 13.2
comp=Z,958nm,21.0s
SONM Songino Array 129.74 350 PKP **PKiKP 19 05 55.0 +0.5**
comp=Z,1.7nm,1.0s,baz=28,slow=3.4,SNR=5.4
COEN Coen 130.35 253 IAms_20 IAms_20 19 53 09.3
comp=Z,1µm,20.0s
KSRS Korea Array 130.38 325 PKP **PKiKP 19 05 56.0 +0.1**
comp=Z,0.3nm,0.5s,baz=8.7,slow=14,SNR=2.2
MAKZ Makanchi 130.60 11 IAms_20 IAms_20 20 07 32.5
comp=Z,954nm,22.0s
MKAR Makanchi Array 130.68 11 PKP **PKiKP 19 05 56.5 +0.2**
comp=Z,1.7nm,1.2s,baz=339,slow=2.1,SNR=4.7
XLT XiLinHaoTe 130.81 339 *e*PKP **PKiKP 19 06 00.4 +3.7**
XLT SS SS 19 25 44.6 +4.9
XLT LR LR
comp=Z,80nm,21.7s
XLT LR LR
comp=Z,290nm,18.7s
XLT LR LR
comp=Z,1µm,20.4s
INCN Inchon 131.09 326 IAms_20 IAms_20 20 06 25.7
comp=Z,476nm,20.0s
FRU1 Bishkek 132.35 20 IAms_20 IAms_20 20 01 54.1
comp=Z,822nm,22.0s
AAK Ala-Archa 132.46 20 IAms_20 IAms_20 20 11 09.9
comp=Z,614nm,19.0s
BOOM Boomskoye usch 133.07 19 IAms_20 IAms_20 20 06 16.2
comp=Z,795nm,21.0s
SIMJ Simiganj 133.61 28 IAms_20 IAms_20 20 02 37.2
comp=Z,1µm,21.0s
KDJ Kajisay 133.79 18 IAms_20 IAms_20 20 07 00.4
comp=Z,870nm,21.0s
PRZ Przheval'sk 133.82 17 IAms_20 IAms_20 20 07 39.9
comp=Z,1µm,21.0s
BJT Baijiatuau 134.14 337 IAms_20 IAms_20 20 08 52.5
comp=Z,969nm,22.0s
WMQ Urumqi 134.43 7 *e*PKP **PKPdf 19 06 01.8 -0.8**
WMQ LR LR
comp=Z,820nm,22.1s
WMQ LR LR
comp=Z,1µm,20.9s
WMQ LR LR
comp=Z,1µm,19.7s
UOSS Minazif 134.50 52 IAms_20 IAms_20 20 10 43.5
comp=Z,515nm,20.0s
HHC Hu-ho-hao-te 135.04 342 *e*PKP **PKPdf 19 05 57.6 -6.3**
HHC PP **PP 19 08 38.4 +0.9**
HHC AMB AMB
comp=Z,190nm,7.2s
HHC LR LR
comp=Z,540nm,20.6s
HHC LR LR

comp=Z,700nm,20.6s
HHC LR LR
WUS Wushi 135.24 16 IAMs_20 IAMs_20 20 09 56.8
comp=Z,960nm,21.4s
KSH Kashi 135.74 21 PKP **PKiKP 19 06 06.1 -0.8**
ASAR Alice Springs 135.97 237 PKP **PKiKP 19 06 06.9 -0.7**
comp=Z,0.3nm,0.8s,baz=97,slow=1.9,SNR=4.2
WRA Warramunga Arr 136.99 242 PKP **PKiKP 19 06 09.1 -0.7**
comp=Z,2.9nm,1.0s,baz=107,slow=2.5,SNR=9.9
GTA Gaotai 138.96 354 *e*PKP **PKiKP 19 06 17.3 +3.9**
GTA pPKP sPKPdf 19 06 21.3 +6.5
GTA PP PP 19 09 11.4 +10
NJ2 Nanjing 139.40 327 *e*PKP **PKPdf 19 06 10.7 -1.3**
NJ2 LR LR
comp=Z,960nm,24.0s
NJ2 LR LR
comp=Z,1μm,22.1s
NJ2 LR LR
comp=Z,3μm,24.0s
NIL Nilore 139.67 28 IAMs_20 IAMs_20 20 04 20.8
comp=Z,754nm,21.0s
LZH Lanzhou 141.56 348 *e*PKP **PKPdf 19 06 17.2 +1.1**
LZH LR LR
comp=Z,630nm,21.2s
LZH LR LR
comp=Z,510nm,22.0s
LZH LR LR
comp=Z,1μm,21.6s
GOMU GeErMu 142.45 360 PKP **PKPdf 19 06 14.0 -3.9**
GOMU SS SS 19 27 58.8 +0.3
GOMU LR LR
comp=Z,2μm,23.3s
GOMU LR LR
comp=Z,850nm,22.9s
GOMU LR LR
comp=Z,3μm,24.2s
WHN Wuhan 142.91 331 PKPbc **PKiKP 19 06 25.2 +3.6**
WHN LR LR
comp=Z,3μm,22.9s
YHNB Yeheng 143.15 317 IAMs_20 IAMs_20 20 12 29.4
comp=Z,985nm,20.0s
NACB Ninganchiao 143.32 316 IAMs_20 IAMs_20 19 58 12.1
comp=Z,853nm,21.0s
SSLB Suanglung 144.02 316 IAMs_20 IAMs_20 20 07 15.5
comp=Z,910nm,21.0s
YULB Yu-li 144.03 315 IAMs_20 IAMs_20 20 19 28.0
comp=Z,911nm,22.0s
TWG Pinlang 144.55 315 IAMs_20 IAMs_20 20 19 19.9
comp=Z,749nm,21.0s
TPUB Ta-pu 144.56 316 IAMs_20 IAMs_20 20 15 15.9
comp=Z,669nm,20.0s
KNMB Chin-men Tao 145.28 320 IAMs_20 IAMs_20 20 08 51.4
comp=Z,669nm,20.0s
ENH Enshi 145.29 337 **PKPbc 19 06 18.9 -3.4**
ENH IAMs_20 IAMs_20 20 20 37.5
comp=Z,986nm,22.0s
CD2 Chengdu 146.55 345 PKPbc **PKPdf 19 06 21.6 -3.2**
CD2 LR LR
comp=Z,280nm,16.5s
CD2 LR LR
comp=Z,220nm,14.0s
TNTI Ternate 147.07 274 IAMs_20 IAMs_20 20 00 21.5
comp=Z,456nm,21.0s
LSA Lhasa 148.77 6 PKPdf **PKPdf 19 06 23.4 -5.6**
LSA IAMs_20 IAMs_20 20 17 25.6
comp=Z,898nm,22.0s
HKPS Hong Kong Po S 149.54 322 IAMs_20 IAMs_20 20 19 50.8
comp=Z,791nm,21.0s
PZH PanZhiHua 151.26 346 PKPbc **PKPdf 19 06 29.6 -3.0**
PZH PP **PP 19 10 15.7 +0.5**
PZH SS SS 19 29 41.5 +3.5
PZH AMB AMB
comp=Z,160nm,6.5s
PZH LR LR
comp=Z,400nm,25.5s
PZH LR LR
comp=Z,350nm,24.0s
PZH LR LR
comp=Z,1μm,26.5s
MMRI Maumere 151.51 255 IAMs_20 IAMs_20 20 09 34.5
comp=Z,773nm,20.0s
LUWI Luwuk 151.74 271 PKPdf **PKPdf 19 06 30.4 -3.1**
SHL Shillong 152.93 5 **PKPdf 19 06 30.9 -4.3**
SHL IAMs_20 IAMs_20 20 23 02.0
comp=Z,842nm,21.0s
TNCH TengChong 153.30 352 PKPbc **PKPdf 19 06 38.3 +2.5**
TNCH PKPab **sPKPab 19 06 59.6 +1.2**
TNCH PP **PP 19 10 34.1 +7.3**
TNCH SKS **SKSdf 19 13 42.4 -1.1**
TNCH AMB AMB
comp=Z,99nm,5.1s
TNCH LR LR
comp=Z,330nm,23.0s
TNCH LR LR
comp=Z,460nm,21.6s
TNCH LR LR
comp=Z,1μm,24.3s
KAPI Kappang 154.57 262 IAMs_20 IAMs_20 20 31 23.4
comp=Z,608nm,20.0s
QIZ Qiongzhong 154.60 324 IAMs_20 IAMs_20 20 07 17.4
comp=Z,787nm,20.0s
QIZ Qiongzhong 154.60 324 PKPbc **PKPdf 19 06 34.2 -3.3**
QIZ PP **PP 19 10 34.6 -0.1**
QIZ SS SS 19 30 17.2 +1.4
QIZ LR LR
comp=Z,570nm,18.6s
QIZ LR LR
comp=Z,330nm,18.2s
QIZ LR LR
comp=Z,930nm,30.9s
HYB Hyderabad 155.46 39 *e*PKPbc **PKPdf 19 06 45.7 +7.0**
SLVN Son La 155.48 338 IAMs_20 IAMs_20 20 21 27.5
comp=Z,762nm,22.0s
KKM Kota Kinabalu 157.06 289 IAMs_20 IAMs_20 20 33 14.9
comp=Z,746nm,22.0s
CHTO Chiang Mai 159.31 348 IAMs_20 IAMs_20 20 27 45.1
comp=Z,783nm,20.0s
CMAR Chiang Mai Arr 159.65 348 PKP **PKPdf 19 06 45.6 +1.7**
comp=Z,2.0nm,1.1s,baz=328,slow=1.7,SNR=5.9
CMAR PKPab **sPKPab 19 07 25.0 -0.5**
comp=Z,1.8nm,0.9s,baz=0.6,slow=5.2,SNR=6.0

*IDC **05** 18:54:50.8±1.8, 7°.25N×73°.48W, h134km±30km, mb2.8/1, mbtmp3.4/3, Error ellipse: s-maj=67.2km s-min=8.1km az=131.0*
*RSNC **05** 18:54:53.2±0.0, 7°N±1°×7°3W±°, h146km±2km, M3.2, ML2.9*
ISC 05 18:54:51.1±1.0, 6°.86N±0°.03×73°.11W±0°.03, h158km±6km, n36, σ1§37/68, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**195**	P	**Pn**	**18 55 12.9**	**+0.1**
BARC				S	**Sn**	**18 55 27.7**	**-1.6**
PAMC	**Pamplona, Colo**	**0.63**	**40**	P	**Pn**	**18 55 15.6**	**+1.1**
PAMC				S	**Sn**	**18 55 32.7**	**+0.3**
BRJC	**Barrancabermej**	**0.64**	**280**	P	**Pn**	**18 55 14.8**	**+0.8**
BRJC				S	**Sn**	**18 55 31.3**	**-0.2**
RUSC	**La Rusia**	**0.96**	**178**	P	**Pn**	**18 55 16.9**	**+0.1**
RUSC				S	**Sn**	**18 55 35.1**	**-1.4**
TAMC	**Tame, Arauca**	**1.38**	**108**	P	**Pn**	**18 55 21.3**	**+1.3**
TAMC				S	**Sn**	**18 55 43.1**	**+0.9**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	P	**Pn**	**18 55 19.4**	**-0.6**
PTBC				S	**Sn**	**18 55 40.4**	**-1.7**
OCAC	**Ocana**	**1.39**	**351**	P	**Pn**	**18 55 21.8**	**+1.6**
OCAC				S	**Sn**	**18 55 42.6**	**-0.1**
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P	**Pn**	**18 55 26.0**	**+1.1**
ZARC				S	**Sn**	**18 55 51.4**	**+0.4**
NORC	**Norcasia**	**2.17**	**234**	P	**Pn**	**18 55 29.0**	**+0.3**
NORC				S	**Sn**	**18 55 56.6**	**-1.2**
CHIC	**Chingaza**	**2.30**	**196**	P	**Pn**	**18 55 31.4**	**+0.8**
CHIC				S	**Sn**	**18 56 00.2**	**-0.9**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**18 55 33.2**	**+2.1**
ROSC	49nm,0.3s,baz=50,slow=17,SNR=29						
				S	**Sn**	**18 56 04.0**	**+2.1**
	86nm,0.4s,baz=192,slow=24,SNR=13						
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**18 55 32.7**	**+1.6**
ROSC				S	**Sn**	**18 56 03.2**	**+1.3**
HELC	**Santa Helena**	**2.50**	**255**	P	**Pn**	**18 55 34.8**	**+1.9**
HELC				S	**Sn**	**18 56 03.9**	**-1.2**
CVER	**Cruz Verde, Cu**	**2.51**	**203**	P	**Pn**	**18 55 33.9**	**+0.7**
CVER				S	**Sn**	**18 56 06.0**	**+0.3**
UREC	**San Jos de Ur**	**2.56**	**290**	P	**Pn**	**18 55 33.4**	**+0.1**
UREC				S	**Sn**	**18 56 03.4**	**-2.6**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	P	**Pn**	**18 55 38.1**	**+1.8**
GUY2C				S	**Sn**	**18 56 12.7**	**+1.4**
VILC	**Villavicencio,**	**2.79**	**192**	P	**Pn**	**18 55 36.7**	**+0.4**
VILC				S	**Sn**	**18 56 08.2**	**-3.1**
PTGC	**Puerto Gaitan,**	**2.82**	**160**	P	**Pn**	**18 55 35.8**	**-0.7**
PTGC				S	**Sn**	**18 56 09.0**	**-2.7**
NIZA	**Niza - Manizal**	**2.95**	**233**	P	**Pn**	**18 55 41.5**	**+3.1**
NIZA				S	**Sn**	**18 56 16.9**	**+1.8**
CBOC	**Ciudad Bolivar**	**3.05**	**251**	P	**Pn**	**18 55 40.6**	**+1.1**
CBOC				S	**Sn**	**18 56 16.3**	**-0.8**
DBBC	**Dabeiba**	**3.08**	**273**	P	**Pn**	**18 55 41.2**	**+1.4**
DBBC				S	**Sn**	**18 56 16.7**	**-0.9**
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**18 55 42.7**	**+1.6**
	4.4nm,0.3s,baz=216,slow=3.2,SNR=7.6						
SDV				S	**Sn**	**18 56 19.9**	**0.0**
	30nm,0.6s,baz=252,slow=22,SNR=36						
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**18 55 41.5**	**+0.4**
SDV				S	**Sn**	**18 56 18.8**	**-1.1**
ANIL	**Santa Ana**	**3.28**	**224**	P	**Pn**	**18 55 43.9**	**+1.3**
ANIL				S	**Sn**	**18 56 23.0**	**+0.5**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**18 55 46.4**	**+0.1**
PRAC				S	**Sn**	**18 56 28.1**	**-1.2**
APAC	**Apartado, Choc**	**3.59**	**287**	P	**Pn**	**18 55 46.8**	**+0.5**
APAC				S	**Sn**	**18 56 28.1**	**-1.1**
ORTC	**Ortega, Tolima**	**3.62**	**216**	P	**Pn**	**18 55 47.4**	**+0.7**
ORTC				S	**Sn**	**18 56 29.7**	**-0.3**
SJCC	**San Jacinto, C**	**3.65**	**326**	P	**Pn**	**18 55 47.1**	**+0.1**
SJCC				S	**Sn**	**18 56 29.2**	**-1.4**
URMC	**La Uribe, Meta**	**3.81**	**199**	P	**Pn**	**18 55 50.1**	**+1.0**
URMC				S	**Sn**	**18 56 33.8**	**-0.5**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**18 55 53.5**	**+0.1**
CRJC				S	**Sn**	**18 56 38.9**	**-3.2**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P	**Pn**	**18 55 55.5**	**-0.2**
YOTC				S	**Sn**	**18 56 46.4**	**+0.4**
PTAC	**Punta Ardita,**	**4.67**	**274**	P	**Pn**	**18 56 00.5**	**+0.2**
BETC	**Betania**	**4.76**	**209**	P	**Pn**	**18 56 01.6**	**+0.1**
URIC	**Uribia, Colomb**	**4.94**	**13**	P	**Pn**	**18 56 03.5**	**-0.3**
URIC				S	**Sn**	**18 57 04.1**	**+3.5**
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**19 05 01.8**	**-0.6**
	0.1nm,0.5s,baz=140,slow=6.8,SNR=2.5						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKiKP**	**19 14 25.9**	**+0.4**
	0.3nm,0.5s,baz=98,slow=2.5,SNR=2.3						

*JMA **05** 19:22:08.1±0.2, 34°N±2°×13°8E±°, h372km, MV3.0/32, FAR S OFF SHIZUOKA PREF*
*IDC **05** 19:22:10.1±0.6, 33°.55N×137°.54E, h345km±8km, mb3.0/9, mbtmp3.8/15, Error ellipse: s-maj=19.4km s-min=9.8km az=69.0*
ISC 05 19:22:10.5±0.8, 33°.57N±0°.07×137°.45E±0°.06, h352km, n35, σ1§19/39, mb3.2/9, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.39**	**295**	*e*P	**Pn**	**19 22 55.1**	**+0.8**
TTO4	**TONANKAI O.B.S**	**0.44**	**9**	*e*P	**Pn**	**19 22 55.1**	**+0.7**
TTO1	**TONANKAI O.B.S**	**0.56**	**276**	*e*P	**Pn**	**19 22 55.4**	**+0.7**
JIE	**Ise**	**1.03**	**323**	*i* P	**Pn**	**19 22 56.6**	**+0.2**
JTNC	**Tanabenakahech**	**1.56**	**280**	*i* P	**Pn**	**19 22 58.9**	**-0.2**
JWY	**Kouya**	**1.68**	**293**	P	**Pn**	**19 23 00.1**	**+0.3**
JHJ	**Hachijo jima 2**	**2.00**	**102**	P	**Pn**	**19 23 02.0**	**0.0**
	104nm,0.3s,baz=266,slow=23,SNR=6.0						
JHJ				S	**S**	**19 23 41.3**	**-2.0**
	82nm,0.7s,baz=44,slow=20,SNR=1.0						
JHJ2	**Mitsune**	**2.03**	**102**	*e*P	**Pn**	**19 23 01.9**	**-0.2**
JYTA	**Yamagatataniai**	**2.10**	**344**	*i* P	**Pn**	**19 23 02.9**	**+0.3**
JYTA				*e*S	**S**	**19 23 43.8**	**-0.7**
JOD2	**Odawara 2**	**2.17**	**38**	P	**Pn**	**19 23 03.0**	**0.0**
JWT	**Wachi**	**2.41**	**316**	P	**Pn**	**19 23 05.0**	**+0.1**
JAI	**Aioi**	**2.51**	**276**	P	**Pn**	**19 23 05.7**	**0.0**
JRY	**Ryogami san**	**2.72**	**26**	P	**Pn**	**19 23 07.8**	**+0.3**
JKG	**Kaga**	**2.85**	**341**	*e*P	**Pn**	**19 23 08.5**	**0.0**
JMN	**Monobe**	**2.98**	**274**	P	**Pn**	**19 23 10.0**	**+0.2**
MJAR	**Matsushiro Arr**	**3.03**	**12**	P	**Pn**	**19 23 10.0**	**-0.2**
	9.1nm,0.5s,baz=259,slow=7.5,SNR=23						
MJAR				S	**S**	**19 23 56.0**	**-2.3**
	1.8nm,0.3s,baz=189,slow=18,SNR=9.6						
MAT	**Matsushiro**	**3.03**	**12**	*e*P	**Pn**	**19 23 10.1**	**0.0**
BSO1	**Boso 1**	**3.12**	**69**	*e*P	**Pn**	**19 23 08.9**	**-1.5**
JAG	**Ashikaga**	**3.29**	**29**	*e*P	**Pn**	**19 23 11.0**	**-1.5**
JHS	**Saijyo**	**3.86**	**293**	*e*P	**Pn**	**19 23 18.7**	**+0.5**
JTO	**Tosashimizu**	**3.96**	**261**	*e*P	**Pn**	**19 23 19.4**	**+0.2**
JTO				S	**S**	**19 24 09.6**	**-5.0**
JNU	**Nakatsue**	**5.52**	**267**	P	**Pn**	**19 23 36.3**	**+0.4**
	54nm,1.3s,baz=125,slow=17,SNR=11						
KSRS	**Korea Array**	**8.68**	**299**	P	**Pn**	**19 24 13.8**	**+1.3**
	1.6nm,0.5s,baz=110,slow=12,SNR=10						
ASAJ	**Asahikawa**	**11.27**	**19**	P	**P**	**19 24 44.5**	**+0.8**
	3.6nm,0.6s,baz=215,slow=12,SNR=7.1						
USRK	**Ussuriysk Ar.**	**11.43**	**340**	P	**P**	**19 24 46.1**	**+0.6**
	1.7nm,0.6s,baz=155,slow=11,SNR=2.7						
KLR	**Kul'dur**	**16.21**	**347**	P	**Pn**	**19 25 39.3**	**-1.8**
	0.8nm,0.4s,baz=167,slow=9.3,SNR=4.4						
SONM	**Songino Array**	**27.30**	**311**	P	**P**	**19 27 25.4**	**+1.4**
	1.0nm,0.9s,baz=122,slow=9.5,SNR=5.9						
	1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**37.50**	**256**	P	**P**	**19 28 52.4**	**+0.4**
	0.8nm,0.6s,baz=70,slow=3.8,SNR=8.5						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**43.31**	**305**	P	**P**	**19 29 39.3**	**+0.5**
	0.3nm,0.4s,baz=84,slow=10,SNR=11						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**45.67**	**310**	P	**P**	**19 29 57.9**	**+0.8**
	0.8nm,0.3s,baz=91,slow=9.3,SNR=10						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**50.57**	**314**	P	**P**	**19 30 34.8**	**+0.6**
	0.4nm,0.4s,baz=95,slow=9.0,SNR=4.6						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**53.29**	**184**	P	**P**	**19 30 54.1**	**-0.3**
	0.5nm,0.3s,baz=0.6,slow=7.7,SNR=13						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**57.02**	**184**	P	**P**	**19 31 20.9**	**+0.2**
	0.3nm,0.3s,baz=354,slow=4.0,SNR=23						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**70.34**	**332**	P	**P**	**19 32 46.9**	**+0.5**
	0.9nm,0.4s,baz=58,slow=5.6,SNR=15						
	0.9nm,0.4s						
NOA	**NORSAR Array B**	**76.08**	**336**	P	**P**	**19 33 19.7**	**0.0**
	0.5nm,0.9s,baz=47,slow=5.3,SNR=1.6						
	0.5nm,0.9s						

*IDC **05** 19:35:26.6±3.0, 55°.10N×164°.57E, h0km, mb3.2/3, mbtmp3.2/4, ML2.8/1, Error ellipse: s-maj=85.8km s-min=25.8km az=155.0*
*KRSC **05** 19:35:27.3±1.2, 55°.24N×164°.51E, h62km±27km, Ml3.7*
ISC 05 19:35:29.2±1.0, 55°.27N±0°.04×164°.53E±0°.04, h22km, n36, σ1§56/57, mb3.3/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.83**	**94**	*e*P	**Pn**	**19 35 44.7**	**-0.9**
BKI				*e*S	**Sn**	**19 35 56.2**	**-0.8**
KBTR	**Krutoberegovo**	**1.35**	**315**	*e*P	**Pn**	**19 35 50.4**	**-2.3**
KBTR				*e*S	**Sn**	**19 36 05.3**	**-4.7**
ZLN	**Zelenaya**	**2.24**	**291**	*e*P	**Pn**	**19 36 05.3**	**+0.2**
ZLN				*e*S	**Sn**	**19 36 32.1**	**0.0**
BZGR	**Bezymyannyi-Gr**	**2.28**	**289**	*e*P	**Pn**	**19 36 06.2**	**+0.6**
BZGR				*e*S	**Sn**	**19 36 32.5**	**-0.5**
CIRR	**Tsirk**	**2.30**	**293**	*e*P	**Pn**	**19 36 04.8**	**-1.2**
TUMD	**Tumrok D**	**2.37**	**270**	*e*P	**Pn**	**19 36 06.8**	**0.0**
TUMD				*e*S	**Sn**	**19 36 32.6**	**-2.4**
BZWR	**Bezymyannyi-We**	**2.39**	**289**	*e*P	**Pn**	**19 36 08.1**	**+0.9**
BZWR				*e*S	**Sn**	**19 36 36.1**	**+0.2**
KLY	**Klyuchi**	**2.43**	**297**	*e*P	**Pn**	**19 36 06.7**	**-0.8**
KLY				*e*S	**Sn**	**19 36 32.3**	**-4.2**
KRSR	**Krestovskiy**	**2.43**	**295**	*e*P	**Pn**	**19 36 07.4**	**-0.3**
KRSR				*e*S	**Sn**	**19 36 36.0**	**-0.8**
KIRR	**Kirishev**	**2.47**	**288**	*e*P	**Pn**	**19 36 09.3**	**+1.0**
KIRR				*e*S	**Sn**	**19 36 37.8**	**-0.1**
KMNR	**Kamenistaya**	**2.49**	**283**	*e*P	**Pn**	**19 36 09.4**	**+0.9**
KMNR				*e*S	**Sn**	**19 36 38.5**	**+0.3**
KPT	**Kopyto**	**2.54**	**288**	*e*P	**Pn**	**19 36 10.0**	**+0.8**
KPT				*e*S	**Sn**	**19 36 40.6**	**+1.2**
KOZ	**Kozyrevsk**	**2.75**	**289**	*e*P	**Pn**	**19 36 13.1**	**+1.0**
ESO	**Esso**	**3.37**	**284**	*e*P	**Pn**	**19 36 21.1**	**+0.6**
ESO				*e*S	**Sn**	**19 36 58.5**	**-1.4**
NLC	**Nalytchevo**	**3.70**	**237**	*e*P	**Pn**	**19 36 24.6**	**-0.4**
NLC				*e*S	**Sn**	**19 37 04.6**	**-3.2**
SDLR	**Sedlovina**	**3.87**	**241**	*e*P	**Pn**	**19 36 27.6**	**+0.2**
KRER	**Koryakskii**	**3.92**	**242**	*e*P	**Pn**	**19 36 29.0**	**+0.8**
KRER				*e*S	**Sn**	**19 37 12.0**	**-1.6**
UGLR	**Uglovaya**	**3.93**	**241**	*e*P	**Pn**	**19 36 28.7**	**+0.3**
UGLR				*e*S	**Sn**	**19 37 11.3**	**-2.6**
KRX	**Arik**	**3.94**	**243**	*e*P	**Pn**	**19 36 28.6**	**+0.1**
KRX				*e*S	**Sn**	**19 37 11.2**	**-2.8**
AVH	**Avacha**	**3.94**	**242**	*e*P	**Pn**	**19 36 29.1**	**+0.6**
AVH				*e*S	**Sn**	**19 37 12.1**	**-2.0**
KOK	**Koryaka**	**3.98**	**243**	*e*P	**Pn**	**19 36 29.5**	**+0.5**
KOK				*e*S	**Sn**	**19 37 13.5**	**-1.5**
OSSR	**Ossora**	**4.07**	**349**	*e*P	**Pn**	**19 36 30.5**	**+0.4**
OSSR				*e*S	**Sn**	**19 37 14.7**	**-2.3**
PET	**Petropavlovsk**	**4.12**	**239**	*e*P	**Pn**	**19 36 30.6**	**-0.2**
PET				*e*S	**Sn**	**19 37 15.5**	**-2.8**
GNL	**Ganaly**	**4.15**	**250**	*e*P	**Pn**	**19 36 31.5**	**+0.1**
KRMR	**Karymshinskiy**	**4.49**	**240**	*e*P	**Pn**	**19 36 36.2**	**+0.3**
KRMR				*e*S	**Sn**	**19 37 25.8**	**-1.7**
PETK	**Petropavlovsk-**	**4.56**	**244**	Pn	**Pn**	**19 36 37.0**	**+0.1**
	2.1nm,0.3s,baz=67,slow=17,SNR=47						
PETK				Sn	**Sn**	**19 37 29.5**	**+0.4**
	1.9nm,0.3s,baz=89,slow=22,SNR=7.6						
	3.5nm,0.5s						
GRL	**Gorelyy**	**4.69**	**237**	*e*P	**Pn**	**19 36 39.2**	**+0.4**
GRL				*e*S	**Sn**	**19 37 30.2**	**-2.2**
APC	**Apacha**	**4.93**	**245**	*e*P	**Pn**	**19 36 43.0**	**+1.0**
APC				*e*S	**Sn**	**19 37 37.2**	**-1.0**
KDTR	**Khodutka, Kamc**	**5.18**	**231**	*e*P	**Pn**	**19 36 44.5**	**-0.8**
TILK	**Tilichiki**	**5.26**	**9**	*e*P	**Pn**	**19 36 47.4**	**+0.9**
ILAR	**Eielson Array**	**25.42**	**48**	P	**P**	**19 40 56.4**	**+1.6**
	0.7nm,1.0s,baz=231,slow=11,SNR=4.3						
	0.7nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**35.52**	**176**	T	T	20 20 21.8	
	baz=358,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**35.54**	**176**	T	T	20 20 22.6	
	baz=358,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**35.54**	**176**	T	T	20 20 25.4	
	baz=358,slow=76,SNR=47						
KURBB	**Kurchatov Arra**	**48.88**	**302**	P	**P**	**19 44 15.3**	**+2.4**
	0.3nm,0.6s,baz=52,slow=7.5,SNR=4.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**49.54**	**297**	P	**P**	**19 44 18.0**	**0.0**
	0.2nm,0.8s,baz=59,slow=8.6,SNR=1.7						
	0.2nm,0.8s						

IDC 05 19:40:49.2±839.0, 68°.60N×36°.01E, h0km, Error ellipse: s-maj=408.5km s-min=171.0km az=150.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASONI**	**1.94**	**177**	I	I	20 52 20.0	
	baz=357,slow=330,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	**21.16**	**138**	I	I	21 49 50.0	
	baz=339,slow=333,SNR=0.8						
I46RU	**ZALESOVO INFRA**	**26.72**	**98**	I	I	22 23 20.0	
	baz=320,slow=335,SNR=0.9						

*NEIC **05** 19:42:49.1±1.8, 56°.11N±0°.08×149°.20W±0°.08, h10km±1km, mb4.2/23, ML4.1/70, ML3.9(AEIC), Error ellipse: s-maj=14.7km s-min=7.0km az=163.0*
*IDC **05** 19:42:49.8±0.8, 56°.05N×149°.38W, h0km, mb3.8/14, mbtmp3.8/19, ML3.7/5, Error ellipse: s-maj=20.5km s-min=13.3km az=29.0*
*AEIC **05** 19:42:55.6±2.4, 56°.16N±0°.07×149°.3W±0°.1, h13km±2km, Error ellipse: s-maj=10.7km s-min=9.1km az=179.0*
ISC 05 19:42:53.4±0.6, 56°.15N±0°.06×149°.34W±0°.04, h35km, n227, σ1§50/226, mb4.1/27, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.42**	**314**		**Pn**	**19 43 29.4**	**-0.9**
KDAK				Sn	**Sn**	**19 43 56.3**	**-2.3**
KDAK	**Kodiak Island**	**2.42**	**314**	Pn	**Pn**	**19 43 29.6**	**-0.7**
	5.0nm,0.3s,baz=258,slow=1.1,SNR=152						
KDAK				Sn	**Sn**	**19 43 56.6**	**-2.0**
	16nm,0.3s,baz=235,slow=22,SNR=30						
	11nm,0.3s						
OHAK	**Old Harbor**	**2.43**	**298**		**Sn**	**19 43 57.1**	**-1.8**
OHAK	**Old Harbor**	**2.43**	**298**		**Pn**	**19 43 29.0**	**-1.5**
OHAK				IAML		19 43 59.6	
	comp=E,484nm,0.4s						
SII	**Sitkinak Islan**	**2.73**	**281**		**Sn**	**19 44 04.5**	**-1.9**
SII	**Sitkinak Islan**	**2.73**	**281**	Pn	**Pn**	**19 43 33.8**	**-0.9**
SII				IAML		19 44 06.7	
	comp=E,670nm,0.7s						
SII				IAML		19 44 09.4	
	comp=N,775nm,0.5s						
SII	**Sitkinak Islan**	**2.73**	**281**	P	**Pn**	**19 43 34.1**	**-0.5**
SII	**Sitkinak Islan**	**2.73**	**281**	S	**Sn**	**19 44 05.8**	**-0.6**
SYI	**Shuyak Island**	**2.97**	**327**		**Pn**	**19 43 37.2**	**-0.7**
SYI				Sn	**Sn**	**19 44 11.6**	**-0.6**
R18K	**Karluk**	**3.15**	**299**		**Pn**	**19 43 40.8**	**+0.5**
R18K					**Sn**	**19 44 15.3**	**-1.3**
R18K	**Karluk**	**3.15**	**299**	IAML		19 44 21.8	
	comp=E,793nm,0.5s						
CNPM	**China Poot**	**3.53**	**344**		**Pn**	**19 43 44.8**	**-0.9**
CNPM				Sn	**Sn**	**19 44 24.5**	**-1.8**
CNPM				IAML		19 44 27.7	
	comp=E,186nm,0.6s						
CHIR	**Chirikof Islan**	**3.55**	**267**	Pn	**Pn**	**19 43 44.9**	**-0.9**
CHIR				Sn	**Sn**	**19 44 23.8**	**-2.7**
CHIR				IAML		19 44 24.7	
	comp=E,498nm,0.8s						
CHIR				IAML		19 44 25.0	
	comp=N,526nm,0.4s						
CHIR	**Chirikof Islan**	**3.55**	**267**	P	**Pn**	**19 43 45.0**	**-0.9**
CHIR	**Chirikof Islan**	**3.55**	**267**	S	**Sn**	**19 44 24.1**	**-2.4**
Q19K	**Cape Douglas,**	**3.63**	**322**		**Pn**	**19 43 46.4**	**-0.6**
Q19K				IAML		19 44 38.7	
	comp=E,576nm,0.8s						
KAHG	**Katmai Hook Gl**	**3.67**	**312**		**Pn**	**19 43 48.7**	**+1.0**
BRSE	**Bradley Lake S**	**3.68**	**349**		**Pn**	**19 43 46.7**	**-1.0**
BRLK	**Bradley Lake**	**3.72**	**348**		**Pn**	**19 43 47.0**	**-1.2**
BRLK				IAML		19 44 33.5	
	comp=E,181nm,0.6s						
ACHA	**Angle Creek He**	**3.86**	**305**		**Pn**	**19 43 50.7**	**+0.5**
AUCH	**Augustine Cone**	**3.90**	**327**		**Pn**	**19 43 52.2**	**+1.4**
ANCK	**Angle Creek**	**3.93**	**304**		**Pn**	**19 43 52.5**	**+1.3**
KAHC	**Katmai Hardscr**	**3.96**	**312**		**Pn**	**19 43 52.3**	**+0.7**
SEW	**Seward**	**3.96**	**359**		**Pn**	**19 43 50.0**	**-1.5**
P23K	**Montague Islan**	**3.99**	**14**		**Pn**	**19 43

EYAK	Cordova Ski Ar	4.80	22	P	Pn	19 44 02.6	-0.4
EYAK	Cordova Ski Ar	4.80	22	S	Sn	19 44 54.1	-3.2
O19K	Port Alsworth	4.84	329		Pn	19 44 02.6	-0.9
FID	Port Fidalgo	4.85	17		Pn	19 44 01.8	-2.0
FID				IAML		19 44 54.4	
	comp=E,114nm,0.4s						
FID				IAML		19 44 55.7	
	comp=N,104nm,0.5s						
O18K	Koktuh Hills	4.85	322		Pn	19 44 03.4	-0.4
P17K	Kvichak River	4.88	312		Pn	19 44 04.8	+0.7
GLI	Glacier Island	4.89	13		Pn	19 44 03.2	-1.1
GLI				IAML		19 45 04.4	
	comp=E,86nm,0.7s						
GLI				IAML		19 45 04.4	
	comp=N,68nm,0.9s						
RAGM	Ragged Mountai	4.91	28		Pn	19 44 03.4	-1.2
SUCK	Suckling Hills	4.91	35		Pn	19 44 03.9	-0.7
SUCK				IAML		19 44 58.8	
	comp=N,189nm,0.9s						
SUCK				IAML		19 45 03.1	
	comp=E,131nm,0.7s						
RC01	Rabbit Creek A	4.96	358	Pn	Pn	19 44 04.3	-0.9
RC01				IAML		19 44 59.9	
	comp=E,102nm,0.5s						
RC01				IAML		19 45 01.2	
	comp=N,65nm,0.4s						
HMT	Hamilton	4.98	30		Pn	19 44 05.0	-0.5
NICHA	Nichawak Mount	4.98	33		Pn	19 44 05.3	-0.3
GOAT	Goat Mountain	5.06	27		Pn	19 44 06.2	-0.5
CHGN	Chignik	5.07	275		Pn	19 44 07.0	+0.3
BGLC	Bering Glacier	5.11	36		Pn	19 44 07.2	-0.1
BERG	Berg Lake	5.19	33		Pn	19 44 07.1	-1.3
KNK	Knik Glacier	5.30	5		Pn	19 44 09.3	-0.7
KNK				IAML		19 45 15.5	
	comp=E,60nm,0.9s						
KNK				IAML		19 45 15.8	
	comp=N,65nm,0.8s						
SNH	Sunshine Point	5.30	38		Pn	19 44 09.2	-0.8
SNH				IAML		19 45 06.2	
	comp=N,90nm,2.1s						
SNH				IAML		19 45 08.1	
	comp=E,84nm,0.8s						
DIV	Divide	5.33	19		Pn	19 44 09.5	-0.9
SUA	Susitna One	5.38	353	Pn	Pn	19 44 09.4	-1.7
N19K	Bonanza Creek	5.40	332		Pn	19 44 09.7	-1.6
BMRM	Bremner River	5.43	25	Pn	Pn	19 44 10.7	-1.1
PMR	Palmer	5.46	1		Pn	19 44 11.3	-0.8
P16K	Nushagak River	5.48	305	Pn	Pn	19 44 11.6	-0.8
WAX	Waxell Ridge	5.50	36		Pn	19 44 11.9	-0.9
STLK	Strandline Lak	5.52	347		Pn	19 44 12.3	-0.7
MESA	MESA	5.62	41		Pn	19 44 12.4	-2.1
M22K	Willow	5.63	356	Pn	Pn	19 44 12.0	-2.4
GHO	Glory Hole Cre	5.64	2		Pn	19 44 14.3	-0.4
KLU	Klutina	5.64	17		Pn	19 44 13.9	-0.8
SML	Sawmill	5.70	5	Pn	Pn	19 44 14.6	-0.8
N18K	Kilae Creek	5.70	326	Pn	Pn	19 44 14.5	-0.9
SCM	Sheep Creek Mo	5.79	9		Pn	19 44 16.0	-0.7
O16K	Kokwok River B	5.81	310	Pn	Pn	19 44 17.1	+0.2
YAH	Yahtse	5.82	40		Pn	19 44 16.3	-1.0
VRDI	Verde Repeater	5.94	29	Pn	Pn	19 44 17.8	-1.1
SKT	Skwentna	5.96	350	Pn	Pn	19 44 18.1	-0.8
CHNA	Chernabura Isl	5.98	261	P	Pn	19 44 18.7	-0.5
CHNA	Chernabura Isl	5.98	261	S	Sn	19 45 23.3	-3.0
CNBA	Chernabura Isl	5.98	261	Pn	Pn	19 44 18.2	-1.0
N25K	Chitina, Valde	6.00	22	Pn	Pn	19 44 18.5	-1.1
N17K	Nushagak Hills	6.03	320		Pn	19 44 19.1	-0.8
GLB	Gilahina Butte	6.03	26	Pn	Pn	19 44 18.8	-1.2
YKU2	Yakutat	6.16	53	Pn	Pn	19 44 21.2	-0.5
M24K	Tolsona, Glenn	6.19	14	Pn	Pn	19 44 21.6	-0.6
PCA	Pinnacle	6.23	47		Pn	19 44 21.9	-0.8
CUT	Chulitna	6.29	356	Pn	Pn	19 44 22.1	-1.4
SDPT	Sand Point	6.34	267	Pn	Pn	19 44 23.9	-0.3
SDPT	Sand Point	6.34	267	P	Pn	19 44 24.2	0.0
SDPT	Sand Point	6.34	267	S	Sn	19 45 32.0	-3.3
PNL	Peninsula	6.36	52	P	Pn	19 44 23.8	-0.7
PNL	Peninsula	6.36	52	S	Sn	19 45 33.8	-2.1
WASW	Wrangell South	6.38	23		Pn	19 44 25.0	+0.1
O15K	Ungalikthiuk R	6.39	303		Pn	19 44 25.1	+0.2
BCPM	Bancas Point	6.41	49		Pn	19 44 24.2	-0.9
WAZA	Wrangell Mount	6.51	22		Pn	19 44 27.8	+1.0
O28M	Mount Upton	6.67	42		Pn	19 44 28.4	-0.5
L19K	White Mountain	6.68	337	Pn	Pn	19 44 28.4	-0.4
M17K	Holitna River	6.74	325		Pn	19 44 29.1	-0.6
PPLA	Purkeypile	6.92	349	Pn	Pn	19 44 29.7	-2.5
N15K	Kwethluk River	6.97	310	Pn	Pn	19 44 33.5	+0.7
M16K	Timber Creek	7.01	318		Pn	19 44 33.2	-0.2
O29M	Mount Kennedy	7.04	49	Pn	Pn	19 44 33.8	-0.1
M26K	Nabesna, AK	7.06	25		Pn	19 44 33.4	-0.7
P29M	Windy Craggy	7.10	56		Pn	19 44 33.5	-1.1
O14K	Tigyukauivet M	7.11	301	Pn	Pn	19 44 33.8	-0.8
PAX	Paxson	7.12	14		Pn	19 44 33.7	-1.2
L18K	Granite Mounta	7.16	331	Pn	Pn	19 44 34.0	-1.4
RND	Reindeer	7.28	2		Pn	19 44 35.7	-1.5
M27K	Edge Creek, AK	7.30	28		Pn	19 44 37.4	-0.1
S31K	Pelican	7.37	70		Pn	19 44 35.0	-3.3
N14K	Kuskokwak Cree	7.56	305		Pn	19 44 41.1	+0.2
TTA	Tatalina	7.59	336	Pn	Pn	19 44 40.4	-1.1
MCK	McKinley	7.61	1	Pn	Pn	19 44 41.0	-0.7
L16K	Owhat River	7.65	321	Pn	Pn	19 44 41.8	-0.3
HYT	Haines Junctio	7.77	48	Pn	Pn	19 44 43.1	-0.7
SIT	Sitka	7.79	78	Pn	Pn	19 44 40.0	-4.0
K24K	Donnelly Dome	7.88	12		Pn	19 44 45.7	+0.4
L27K	Beaver Creek,	7.90	26		Pn	19 44 44.5	-1.2
BCAR	Beaver Creek A	7.92	26	Pn	Pn	19 44 44.5	-1.3
RIDG	Independent Ri	7.94	15	Pn	Pn	19 44 46.1	0.0
DOT	Dot Lake	7.97	17	Pn	Pn	19 44 45.4	-1.2
K17K	Iditarod	8.01	329	Pn	Pn	19 44 45.0	-2.0
M14K	Bethel	8.06	310	Pn	Pn	19 44 46.2	-1.5
FALS	False Pass	8.10	267		Pn	19 44 46.8	-1.6
SKAG	Skagway	8.18	60	Pn	Pn	19 44 47.7	-1.7
BESE	Bessie Mountai	8.20	67	Pn	Pn	19 44 48.4	-1.4
S32K	Killisnoo	8.21	75	Pn	Pn	19 44 46.6	-3.2
J18K	Innoko River	8.22	336	Pn	Pn	19 44 48.1	-1.9
N30M	Aishikik Lake	8.28	45		Pn	19 44 50.5	-0.3
SCRK	Sand Creek	8.29	17	Pn	Pn	19 44 51.0	-0.1
R32K	Eaglecrest	8.32	69	Pn	Pn	19 44 49.3	-2.1
O30N	Mendenhall	8.34	51		Pn	19 44 51.0	-0.6
HDA	Harding Lake	8.37	7		Pn	19 44 52.2	+0.2
WRH	Wood River Hil	8.37	4	Pn	Pn	19 44 51.8	-0.3
M29M	Somme Creek	8.40	37		Pn	19 44 52.3	-0.3
J19K	Poorman	8.47	341	Pn	Pn	19 44 52.0	-1.4
NEA2	Nenana	8.47	1		Pn	19 44 50.7	-2.7
M13K	Dall Lake	8.52	306	Pn	Pn	19 44 52.8	-1.3
CCB	Clear Creek Bu	8.56	4	Pn	Pn	19 44 53.2	-1.4
L14K	Kuka Creek	8.66	312	Pn	Pn	19 44 56.7	+0.7
K27K	Chicken	8.69	22		Pn	19 44 56.4	0.0
J25K	Salcha River,	8.71	11		Pn	19 44 55.6	-1.1
IL31		8.73	7		Pn	19 44 56.7	-0.2
ILAR	Eielson Array	8.73	7	Pn	Pn	19 44 56.6	-0.4
ILAR	Eielson Array	8.73	7	Pn	Pn	19 44 57.1	+0.1
	comp=E,0.8nm,0.3s,baz=187,slow=13,SNR=38						
ILAR				Sn	Sn	19 46 31.2	-2.8
	comp=E,0.8nm,0.3s,baz=183,slow=20,SNR=9.4						
	comp=E,1.7nm,0.4s						
IL03	Eielson Array	8.74	7	Pn	Pn	19 44 57.4	+0.4
WHY	Whitehorse	8.82	53	Pn	Pn	19 44 58.0	-0.3
N31M	Braeburn, Yuko	8.83	47		Pn	19 44 58.0	-0.3
J26L	Joseph Creek	8.85	16	Pn	Pn	19 44 58.4	-0.3
L29M	L29M	8.98	34		Pn	19 45 00.2	-0.2
P32M	Atlin	9.01	61	Pn	Pn	19 44 59.6	-1.1
I23K	Minto, Yukon-K	9.03	360		Pn	19 45 00.6	-0.4
M30M	Minto, Yukon	9.07	40	Pn	Pn	19 45 01.3	-0.4
DAWY	Dawson	9.35	28	Pn	Pn	19 45 05.0	-0.5
I26K	Coal Creek Min	9.67	16		Pn	19 45 09.7	-0.1
H21K	Melozitna Rive	9.69	351		Pn	19 45 09.2	-0.8
K29M	Barlow Dome	9.71	33	Pn	Pn	19 45 10.2	-0.2
H24K	Noodor Dome	9.75	4		Pn	19 45 11.9	+1.1
M31M	Drury Creek, Y	9.76	45		Pn	19 45 11.5	+0.4
J29N	Klondike Camp	9.97	29	Pn	Pn	19 45 14.2	+0.2
R33M	Jennings River	10.33	64	Pn	Pn	19 45 16.7	-2.2
I28M	Miner Creek	10.38	22	Pn	Pn	19 45 18.4	-1.2
J30M	Hart River	10.60	32	Pn	Pn	19 45 21.6	-1.1
G24K	Hadweenzic Riv	10.62	4	Pn	Pn	19 45 22.2	-0.7
DLBC	Dease Lake	10.69	70	Pn	Pn	19 45 24.0	+0.1
	comp=E,0.6nm,0.3s,baz=266,slow=8.0,SNR=7.0						
DLBC				Sn	Sn	19 47 24.4	+2.2
	comp=E,0.3nm,0.3s,baz=60,slow=15,SNR=4.2						
	comp=E,2.1nm,0.4s						
H27K	Steamboat Moun	10.78	17		Pn	19 45 23.1	-1.9
I30M	Mount Dempster	11.07	29	Pn	Pn	19 45 27.6	-1.5
MMPY	Sheldon Lake,	11.24	47		Pn	19 45 29.5	-1.8
F21K	Alatna River	11.28	352		Pn	19 45 30.1	-1.8
F24K	Squaw Lake	11.43	3	Pn	Pn	19 45 33.0	-0.9
E24K	Your Creek	11.97	2		Pn	19 45 40.1	-1.3
G29M	Pine Creek	12.04	22		Pn	19 45 40.2	-2.0
H31M	Peel River	12.07	31	Pn	Pn	19 45 40.4	-2.3
E25K	Arctic Village	12.14	7	Pn	Pn	19 45 41.7	-1.9
E21K	Killik River	12.52	352		Pn	19 45 46.0	-2.8
D23K	Nanushuk River	12.88	358	Pn	Pn	19 45 50.7	-2.9
C24K	Franklin Bluff	13.62	1		Pn	19 46 01.9	-1.9
C27K	Jago River	13.76	8		Pn	19 46 03.5	-2.1
INK	Inuvik	14.18	24	Pn	Pn	19 46 07.2	-4.0
INK	Inuvik	14.18	24	Pn	Pn	19 46 12.7	+1.4
	comp=E,0.1nm,0.3s,baz=222,slow=10,SNR=5.3						
	comp=E,3.7nm,1.0s						
B22K	Teshekpuk Lake	14.36	354	Pn	Pn	19 46 09.6	-4.1
C36M	Paulatuk	17.37	30	P	Pn	19 46 51.1	-1.4
YKA	Yellowknife Ar	18.64	56	P	Pn	19 47 09.1	+0.9
	comp=E,0.2nm,0.3s,baz=266,slow=9.7,SNR=30						
	comp=E,1.1nm,0.6s						
LTY	Liberty	19.74	105	P	P	19 47 16.8	-3.2
LTY				IAmb	IAmb	19 47 24.4	
	comp=Z,15nm,1.1s						
B08A	Colville Reser	19.83	100	P	P	19 47 18.1	-2.7
B08A				IAmb	IAmb	19 47 25.3	
	comp=Z,14nm,1.2s						
NEW	Newport	21.10	98	P	P	19 47 35.8	+1.1
	comp=Z,3.2nm,0.9s,baz=318,slow=9.9,SNR=4.0						
	comp=Z,3.2nm,0.9s						
LNOR	Lincton Mounta	21.89	105	P	P	19 47 40.4	-2.7
LNOR				IAmb	IAmb	19 47 45.4	
	comp=Z,9.8nm,1.0s						
G08A	Pilot Rock	21.90	107	P	P	19 47 40.6	-2.7
G08A				IAmb	IAmb	19 47 47.6	
	comp=Z,14nm,1.4s						
J05D	Fort Rock, OR	22.08	114	P	P	19 47 44.2	-1.1
F10A	Beach Ranch, E	22.40	103	P	P	19 47 47.0	-1.7
F10A				IAmb	IAmb	19 47 52.1	
	comp=Z,8.2nm,0.8s						
I07A	Izee	22.42	110	P	P	19 47 48.1	-0.8
I07A				IAmb	IAmb	19 47 51.4	
	comp=Z,7.6nm,0.8s						
BMO	Blue Mountains	23.08	106	P	P	19 47 54.1	-1.6
PLID	Pearl Lake	23.63	104	P	P	19 47 59.4	-1.9
WVOR	Wild Horse Val	24.02	112	P	P	19 48 03.8	-1.1
MFID	Camas Ranch	24.83	107	P	P	19 48 09.7	-2.6
MFID				IAmb	IAmb	19 48 14.6	
	comp=Z,4.0nm,0.9s						
HLID	Hailey	25.49	105	P	P	19 48 21.5	+3.2
WAKR	Walker	26.56	119	P	P	19 48 25.9	-2.1
WAKR				IAmb	IAmb	19 48 32.2	
	comp=Z,8.3nm,1.3s						
ELK	Elko	27.01	110	P	P	19 48 29.7	-2.4
NVAR	Mina Array Bea	27.18	118	P	P	19 48 35.0	+1.4
	comp=Z,2.0nm,0.8s,baz=308,slow=8.4,SNR=9.1						
	comp=Z,0.2nm,0.8s						
R11B	Troy Canyon, C	28.61	114	P	P	19 48 44.2	-2.1
R11B				IAmb	IAmb	19 48 49.1	
	comp=Z,3.6nm,0.9s						
PDAR	Pinedale Array	28.67	101	P	P	19 48 48.0	+1.1
	comp=Z,0.6nm,0.6s,baz=323,slow=4.7,SNR=4.6						
	comp=Z,0.6nm,0.6s						
BSUT	Blindstream Ca	29.54	105	P	P	19 48 52.6	-2.2
BSUT				IAmb	IAmb	19 48 57.7	
	comp=Z,4.6nm,1.2s						
PRN	Pahroc Range	29.60	115	P	P	19 48 53.0	-2.0
PETK	Petropavlovsk-	30.18	287	P	P	19 49 01.5	+1.5
	comp=Z,2.5nm,0.8s,baz=68,slow=12,SNR=1.9						
	comp=Z,2.5nm,0.8s						
SDCO	Great Sand Dun	34.39	104	P	P	19 49 36.6	-0.7
SDCO				IAmb	IAmb	19 49 51.3	
	comp=Z,2.9nm,1.2s						
G40A	Rib Lake	37.86	81	P	P	19 50 04.7	-1.8
TXAR	Lajitas Array	41.81	110	P	P	19 50 41.0	+1.5
	comp=Z,0.9nm,0.8s,baz=324,slow=6.2,SNR=6.4						
	comp=Z,0.9nm,0.8s						
SUMG	Summit	43.10	24	P	P	19 50 48.4	-1.5
SUMG				IAmb	IAmb	19 50 56.6	
	comp=Z,6.8nm,1.1s						
H11N2	WAKE ISLAND Hy	48.79	240	T	T	20 44 13.4	
	baz=31,slow=76,SNR=6.4						
H11N3	WAKE ISLAND Hy	48.80	240	T	T	20 44 16.6	
	baz=31,slow=76,SNR=5.9						
H11N1	WAKE ISLAND Hy	48.81	240	T	T	20 44 16.8	
	baz=31,slow=76,SNR=6.4						
H11S1	WAKE ISLAND Hy	49.93	239	T	T	20 45 41.8	
	baz=30,slow=76,SNR=8.3						
H11S2	WAKE ISLAND Hy	49.94	239	T	T	20 45 47.5	
	baz=30,slow=76,SNR=7.8						
H11S3	WAKE ISLAND Hy	49.95	239	T	T	20 45 42.9	
	baz=30,slow=76,SNR=6.7						
SONM	Songino Array	58.70	310	P	P	19 52 49.1	+2.0
	comp=Z,1.7nm,0.8s,baz=46,slow=7.0,SNR=12						
	comp=Z,1.7nm,0.8s						
ZALV	Zalesovo Beam	61.65	327	P	P	19 53 09.0	+1.9
	comp=Z,0.7nm,0.5s,baz=23,slow=7.1,SNR=8.9						
	comp=Z,0.7nm,0.5s						
HHC	Hu-ho-hao-te	61.78	302	eP	P	19 53 07.9	-0.4
NOA	NORSAR Array B	62.15	11	P	P	19 53 11.9	+1.5
	comp=Z,0.6nm,0.8s,baz=349,slow=6.8,SNR=2.2						
	comp=Z,0.6nm,0.8s						
TIA	Tai'an	62.64	295	P	P	19 53 07.8	-6.2
TIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
FINES	FINESS Array B	62.69	2	P	P	19 53 15.7	+1.7
	comp=Z,2.1nm,1.0s,baz=355,slow=9.6,SNR=5.6						
	comp=Z,2.1nm,1.0s						
BVAR	Borovoye Array	66.39	335	P	P	19 53 40.7	+2.5
	comp=Z,0.4nm,0.6s,baz=28,slow=6.7,SNR=4.9						
	comp=Z,0.4nm,0.6s						
KURBB	Kurchatov Arra	66.44	329	P	P	19 53 40.6	+2.1
	comp=Z,0.3nm,0.4s,baz=28,slow=6.6,SNR=6.0						
	comp=Z,0.3nm,0.4s						
GTA	Gaotai	68.30	309	eP	P	19 53 52.9	+2.2
GTA				pP	sP	19 54 01.1	-2.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	Makanchi Array	68.68	325	P	P	19 53 54.5	+1.6
	comp=Z,0.5nm,0.6s,baz=32,slow=5.5,SNR=7.0						
	comp=Z,0.5nm,0.6s						
AKASG	Malin Array Be	73.51	1	P	P	19 54 24.6	+2.6
	comp=Z,0.2nm,0.3s,baz=2.9,slow=5.9,SNR=7.7						
	comp=Z,0.2nm,0.3s						
GERES	GERESS Array B	74.42	12	P	P	19 54 31.8	+4.4
	comp=Z,0.1nm,0.3s,baz=352,slow=8.1,SNR=3.9						
	comp=Z,0.1nm,0.3s						
PZH	PanZhiHua	78.16	300	P	P	19 54 48.8	-0.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
QSPA	South Pole Qui	145.94	180	PKPbc	PKiKP	20 02 28.9	-2.1
	comp=Z,1.0nm,0.7s,baz=65,slow=2.4,SNR=5.7						

*GCG **05** 19:44:31.6±8.5, 13°.57N×95°.43W, h50km±999km, MD4.4*
*MEX **05** 19:44:57.3±0.5, 16°.08N×94°.73W, h66km±12km, MD4.2*

ISC 05 19:44:55.8±1.2, 16°.08N±0°.04×94°.74W±0°.03, h50km, n33, σ2°25/62, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.01	352	*i* P	Pn	19 45 14.1	+0.3
CMIG				*i* S	Sn	19 45 27.2	+0.3
UXUV	UXUV	1.35	25	*e*P	Pn	19 45 19.0	+0.7
UXUV				*i* S	Sn	19 45 35.9	+0.7
HUIG	Huatulco	1.36	257	*e*P	Pn	19 45 16.9	-1.5
HUIG				*e*S	Sn	19 45 36.2	+0.9
HUIG	Huatulco	1.36	257	*e*P	Pn	19 45 06.7	-12
HUIG				*e*S	Sn	19 45 35.6	+0.3
PCIG		1.51	104	*e*P	Pn	19 45 20.6	+0.2
PCIG				*i* S	Sn	19 45 38.8	-0.1
TGIG		1.70	66	*e*P	Pn	19 45 23.3	+0.3
TGIG				*e*S	Sn	19 45 43.1	-0.6
TGIG		1.70	66	*e*P	Pn	19 45 23.4	+0.3
NEUV	Arroyo Zacate	1.91	328	*e*P	Pn	19 45 26.4	+0.4
NEUV				*e*S	Sn	19 45 49.6	+0.7
OXLC	Oaxaca	2.12	298	*e*P	Pn	19 45 31.1	+2.0
OXLC				*i* S	Sn	19 45 58.0	+3.6
VHO	Vista Hermosa	2.15	297	*e*P	Pn	19 45 31.2	+1.8
VHO				*e*S	Sn	19 45 56.6	+1.5
PEIG	Puerto Escondi	2.32	268	*e*P	Pn	19 45 31.2	-0.3
PEIG				*i* S	Sn	19 45 58.4	-0.6
PMUV	Sontecomapan	2.47	351	*e*P	Pn	19 45 30.9	-2.9
PMUV				*e*S	Sn	19 45 59.4	-3.4
CCIG	Comitan	2.50	85	*e*P	Pn	19 45 33.7	-0.5
CCIG				*e*S	Sn	19 46 02.2	-1.5
CCIG	Comitan	2.50	85	*e*P	Pn	19 45 37.6	+3.3
PATR	El Naranjo	2.60	111	*e*P	Pn	19 45 35.8	+0.2
PATR				*e*S	Sn	19 46 04.5	-1.5
PAVE	Pavencul	2.62	109	*e*P	Pn	19 45 36.8	+0.9
PAVE				*e*S	Sn	19 46 07.5	+0.9
YOIG	Yosondua	2.80	286	*e*P	Pn	19 45 40.5	+2.0
YOIG				*i* S	Sn	19 46 09.6	-1.6
TOIG	Toxpalan	2.99	312	*e*P	Pn	19 45 42.8	+1.9
TOIG				*i* S	Sn	19 46 16.5	+0.8
TXIG	Tlaxiaco	3.13	292	*e*P	Pn	19 45 45.3	+2.4
TXIG				*e*S	Sn	19 46 14.6	-4.6
PNIG	Pinotepa	3.27	276	*e*P	Pn	19 45 45.2	+0.5
PNIG				*i* S	Sn	19 46 17.8	-4.6
HLIG	Huajuapan de L	3.41	301	*e*P	Pn	19 45 49.3	+2.6
HLIG				*e*S	Sn	19 46 27.0	+1.0
TPIG	Tehuac#an	3.42	313	*e*P	Pn	19 45 48.5	+1.7
TPIG				*e*S	Sn	19 46 25.2	-1.0
FTIG	Fresnillo de T	3.72	300	*e*P	Pn	19 45 53.6	+2.7
FTIG				*e*S	Sn	19 46 34.1	+0.5
JAUV	Jalcomulco	3.81	329	*e*P	Pn	19 45 51.5	-0.6
JAUV				*e*S	Sn	19 46 33.0	-2.7
POHV	Veracruz	3.83	321	*e*P	Pn	19 45 54.1	+1.3
POHV				*i* S	Sn	19 46 38.2	+1.3
TLIG	Tlapa	3.95	292	*e*P	Pn	19 45 55.8	+1.8
TLIG				*e*S	Sn	19 46 36.1	-3.1
PPM	Popocatepetl	4.75	309	*e*P	Pn	19 46 09.6	+4.2
CXUV	Coxquihui	4.89	327	*e*P	Pn	19 46 06.7	-0.2
CXUV				*e*S	Sn	19 46 60.0	-2.2
YAIG	Yautepec	4.97	304	*e*P	Pn	19 46 10.6	+2.5
YAIG				*e*S	Sn	19 47 00.9	-3.5
MEIG	Mezcala	5.02	292	*i* P	Pn	19 46 11.9	+3.2
MEIG				*e*S	Sn	19 47 04.7	-0.7
PLIG	Platanillo	5.10	297	*e*P	Pn	19 46 13.2	+3.4
PLIG				*i* S	Sn	19 47 04.9	-2.6
CAIG	El Cayaco	5.39	281	*e*P	Pn	19 46 15.1	+1.4
CAIG				*e*S	Sn	19 47 08.1	-6.4
ARIG	Puente Sto Nin	5.79	293	*e*P	Pn	19 46 22.5	+3.2
ARIG				*e*S	Sn	19 47 21.9	-2.5

IDC 05 19:49:38.2±2.3, 11°.60S×161°.93E, h0km, mb3.8/3, mbtmp3.9/5, ML3.5/2, Error ellipse: s-maj=49.6km s-min=26.4km az=71.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.91	318	Pn	Pn	19 50 26.3	+0.6
	15nm,0.3s,baz=163,slow=11,SNR=6.6						
HNR				Sn	Sn	19 51 01.3	-0.1
	42nm,0.3s,baz=147,slow=20,SNR=7.4						
	22nm,0.3s						
DZM	Mont Dzumac	11.27	158	Pn	Pn	19 52 20.4	-0.3
	0.2nm,0.3s,baz=317,slow=19,SNR=10						
	3.7nm,0.8s						
WRA	Warramunga Arr	27.78	249	P	P	19 55 29.2	+0.1
	1.0nm,0.8s,baz=78,slow=9.4,SNR=4.7						
	1.0nm,0.8s						
ASAR	Alice Springs	29.21	242	P	P	19 55 41.8	-0.1
	1.2nm,0.8s,baz=68,slow=9.7,SNR=11						
	1.2nm,0.8s						
SONM	Songino Array	76.94	325	P	P	20 01 32.7	0.0
	0.5nm,0.6s,baz=130,slow=4.9,SNR=4.5						
	0.5nm,0.6s						

*IDC **05** 19:56:19.6±0.7, 32°.52N×141°.84E, h0km, mb4.1/19, mbtmp4.1/25, ML3.5/5, MS4.9/1, Error ellipse: s-maj=18.7km s-min=13.8km az=62.0*
*JMA **05** 19:56:21.2±0.3, 32°.6N±1°.0×14°.2E±°, h15km, MV4.2/27, E OFF HACHIJOJIMA ISLAND*
*NEIC **05** 19:56:22.5±2.1, 32°.58N±0°.07×141°.92E±0°.07, h17km±4km, mb4.5/42, Error ellipse: s-maj=9.7km s-min=8.5km az=172.0*

ISC 05 19:56:20.8±0.4, 32°.51N±0°.05×141°.92E±0°.05, h10km, n115, σ1°31/124, mb4.4/36, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.82	269	*e*P	Pn	19 56 53.5	+1.2
JHJ2	Mitsune	1.87	289	Pn	Pn	19 56 53.5	+0.7
JHJ2	Mitsune	1.87

baz=306,slow=74
H11N3 WAKE ISLAND Hy 25.73 114 T T 20 28 43.7
baz=306,slow=74
ULN Ulaanbaatar 30.43 311 P **P** **20 02 36.1 +2.6**
ULN **sP** **20 02 36.4 +1.7**
SONM Songino Array 30.84 310 P **P** **20 02 39.3 +2.2**
SONM Songino Array 30.84 310 P **P** **20 02 38.1 +1.0**
comp=Z,3.6nm,0.9s,baz=112,slow=9.0,SNR=16
comp=Z,3.6nm,0.9s
GOMU GeErMu 38.77 289 P **P** **20 03 44.1 -1.8**
GOMU pmax pmax
comp=Z,8.0nm,1.0s
M11K Mekoryuk 43.67 34 P **P** **20 04 23.2 -2.2**
ZALV Zalesovo Beam 45.35 316 P **P** **20 04 38.6 -0.4**
comp=Z,1.6nm,0.7s,baz=98,slow=11,SNR=6.0
ZALV PcP **PcP** **20 06 17.7 -0.6**
comp=Z,0.8nm,0.4s,baz=117,slow=4.9,SNR=4.3
comp=Z,1.6nm,0.7s
COEN Coen 46.22 178 P **P** **20 04 47.7 +1.5**
MTN Manton Dam 46.27 195 P **P** **20 04 46.2 -0.3**
MK31 Makanchi Array 46.99 306 P **P** **20 04 52.0 0.0**
MK31 IAmb IAmb 20 04 55.5
comp=Z,3.6nm,1.0s
MK31 PcP **PcP** **20 06 25.1 +0.8**
MKAR Makanchi Array 46.99 306 P **P** **20 04 52.4 +0.4**
comp=Z,2.8nm,0.6s,baz=87,slow=9.8,SNR=28
MKAR PcP **PcP** **20 06 25.0 +0.7**
comp=Z,0.3nm,0.3s,baz=74,slow=8.0,SNR=2.4
comp=Z,2.8nm,0.6s
MAKZ Makanchi 47.20 306 P **P** **20 04 53.9 +0.2**
MAKZ IAmb IAmb 20 04 56.8
comp=Z,3.3nm,0.7s
RDOG Red Dog Mine 47.38 25 P **P** **20 04 52.7 -2.1**
NRIK Noril'sk 47.56 337 P **P** **20 04 55.5 -0.6**
comp=Z,2.3nm,0.5s,baz=107,slow=2.4,SNR=4.7
comp=Z,2.3nm,0.5s
KURK Kurchatov 49.14 311 P **P** **20 05 07.5 -1.1**
KURK IAmb IAmb 20 05 14.3
comp=Z,2.9nm,0.7s
KURBB Kurchatov Arra 49.20 311 P **P** **20 05 08.9 -0.1**
comp=Z,1.5nm,0.4s,baz=89,slow=8.2,SNR=30
comp=Z,1.5nm,0.4s
KNRA Kununurra 49.54 197 P **P** **20 05 11.4 -0.5**
D20K Etivluk River 49.81 25 P **P** **20 05 14.9 +1.4**
PSI Prapat 49.97 243 LR LR 20 23 42.9
comp=Z,1μm,21.6s,baz=242,slow=33
B21K Ikpikpuk River 50.71 24 P **P** **20 05 22.0 +1.8**
STLK Strandline Lak 50.76 35 P **P** **20 05 23.6 +2.8**
STLK IAmb IAmb 20 05 42.3
comp=Z,7.2nm,1.4s
TOLK Toolik Lake Re 52.33 26 P **P** **20 05 34.2 +1.8**
TOLK IAmb IAmb 20 06 08.6
comp=Z,5.8nm,1.4s
WB0 Warramunga Arr 52.48 189 P **P** **20 05 33.9 -0.1**
WR0 Warramunga Arr 52.65 189 P **P** **20 05 35.0 -0.2**
WRA Warramunga Arr 52.66 189 P **P** **20 05 35.3 -0.1**
comp=Z,2.6nm,0.3s,baz=4.7,slow=7.6,SNR=94
comp=Z,2.6nm,0.3s
FITZ Fitzroy Crossi 52.68 200 P **P** **20 05 35.5 0.0**
AAK Ala-Archa 53.10 302 P **P** **20 05 38.7 0.0**
ILAR Eielson Array 53.13 30 P **P** **20 05 39.1 +0.8**
comp=Z,0.5nm,0.7s,baz=250,slow=6.4,SNR=5.8
comp=Z,0.5nm,0.7s
BVAR Borovoye Array 53.99 315 P **P** **20 05 45.2 +0.4**
comp=Z,1.7nm,0.3s,baz=96,slow=7.8,SNR=5.6
comp=Z,1.7nm,0.3s
KK31 Karatay Array 55.84 303 P **P** **20 05 58.0 -0.5**
KK31 IAmb IAmb 20 06 02.2
comp=Z,8.9nm,1.3s
KKAR Karatay Array 55.84 303 P **P** **20 05 58.0 -0.5**
KKAR Karatay Array 55.84 303 P **P** **20 05 58.1 -0.3**
KKAR IAmb IAmb 20 06 02.2
comp=Z,9.3nm,1.3s
AS31 Alice Springs 56.38 189 P **P** **20 06 03.1 +0.7**
ASAR Alice Springs 56.39 189 P **P** **20 06 02.5 +0.1**
comp=Z,1.0nm,0.5s,baz=5.1,slow=6.7,SNR=33
comp=Z,1.0nm,0.5s
NIL Nilore 56.54 291 P **P** **20 06 03.9 +0.3**
MWH Mokuaweoweo 56.93 87 P **P** **20 06 09.6 +2.5**
GAR Garm 57.11 298 P **P** **20 06 07.3 -0.4**
GAR IAmb IAmb 20 06 13.6
comp=Z,3.9nm,0.8s
I30M Mount Dempster 57.56 30 P **P** **20 06 11.1 +0.7**
I30M IAmb IAmb 20 06 28.3
comp=Z,7.6nm,1.5s
SIMJ Simiganj 58.19 298 P **P** **20 06 13.6 -1.6**
SIMJ IAmb IAmb 20 06 16.5
comp=Z,3.4nm,0.8s
H31M Peel River 58.31 29 P **P** **20 06 16.0 +0.5**
H31M IAmb IAmb 20 06 49.4
comp=Z,6.8nm,1.4s
P33M Teslin, Yukon 60.11 35 P **P** **20 06 28.0 -0.2**
ARTI Arti 60.17 320 P **P** **20 06 28.1 -0.4**
AB31 Akbulak array 61.23 312 P **P** **20 06 35.1 -0.7**
AB31 IAmb IAmb 20 06 41.3
comp=Z,1.6nm,0.5s
ABKAR Akbulak array 61.23 312 P **P** **20 06 35.1 -0.7**
ABKAR IAmb IAmb 20 06 41.3
comp=Z,1.6nm,0.5s
ABKAR Akbulak array 61.23 312 P **P** **20 06 35.7 -0.1**
FORT Forrest 64.30 193 P **P** **20 06 57.1 +0.7**
EUNU Eureka 64.59 8 P **P** **20 06 58.4 +0.5**
EUNU IAmb IAmb 20 07 12.4
comp=Z,3.2nm,1.2s
SPITS Spitsbergen Ar 65.03 349 P **P** **20 07 00.7 0.0**
comp=Z,7.4nm,1.1s,baz=88,slow=8.8,SNR=7.3
comp=Z,7.4nm,1.1s
MORW Morawa 65.99 205 P **P** **20 07 07.5 +0.2**
RES Resolute Bay 66.87 14 P **P** **20 07 12.8 +0.3**
RES IAmb IAmb 20 07 54.5
comp=Z,5.3nm,1.4s
PINE Pine Mountain 72.97 49 P **P** **20 07 51.4 +0.5**
FINES FINESS Array B 73.01 333 P **P** **20 07 50.2 -0.3**
FINES FINESS Array B 73.01 333 P **P** **20 07 49.7 -0.7**
comp=Z,1.2nm,0.7s,baz=90,slow=5.7,SNR=4.1
comp=Z,1.2nm,0.7s
KBZ Khabaz 74.19 312 P **P** **20 07 58.2 +0.6**
comp=Z,1.1nm,0.9s,baz=66,slow=5.6,SNR=4.4
comp=Z,1.1nm,0.9s
NVAR Mina Array Bea 77.38 52 P **P** **20 08 18.5 +2.2**
comp=Z,0.3nm,0.8s,baz=340,slow=5.4,SNR=2.6
comp=Z,0.3nm,0.8s
HFS Hagfors 78.38 336 P **P** **20 08 21.0 -0.2**
comp=Z,1.9nm,0.9s,baz=321,slow=1.9,SNR=2.2
comp=Z,1.9nm,0.9s
NC204 NORSAR Array S 78.48 338 P **P** **20 08 22.0 +0.2**
NOA NORSAR Array B 78.52 338 P **P** **20 08 21.6 -0.4**
comp=Z,1.0nm,0.9s,baz=44,slow=4.6,SNR=2.8
comp=Z,1.0nm,0.9s
PDAR Pinedale Array 80.55 45 P **P** **20 08 34.2 +0.6**
comp=Z,0.3nm,0.7s,baz=253,slow=1.5,SNR=3.7
comp=Z,0.3nm,0.7s
BUR08 Bucovina Ar. S 82.11 322 P **P** **20 08 41.1 -0.6**
BUR08 IAmb IAmb 20 09 20.3
comp=Z,4.9nm,1.4s
BURAR Bucovina Array 82.12 322 P **P** **20 08 40.9 -0.8**
BRTR Keskin Array B 82.18 312 P **P** **20 08 43.4 +1.1**
BRTR Keskin Array B 82.18 312 P **P** **20 08 42.5 +0.3**
comp=Z,1.1nm,0.9s,baz=94,slow=2.9,SNR=4.6
comp=Z,1.1nm,0.9s
MMAI Mount Meron Ar 84.94 306 P **P** **20 08 57.1 +0.6**
comp=Z,0.8nm,0.5s,baz=70,slow=7.2,SNR=3.9
comp=Z,0.8nm,0.5s
TXAR Lajitas Array 92.53 53 P **P** **20 09 34.1 +1.3**
comp=Z,0.5nm,0.8s,baz=267,slow=2.1,SNR=4.1
comp=Z,0.5nm,0.8s

---

*PGC **05** 20:04:03.6±0.1, 48.°60N×123.°09W, h16km, ML2.0/21, 23km east of Sidney, Bc Vancouver Island, Canada Region*
*SEA **05** 20:04:03.5±1.7, 48.°599N±0.°006×123.°08W±0.°02, h13km±3km, ML2.5/15, ML2.3/36(NEIC), Error ellipse: s-maj=2.0km s-min=0.8km az=103.0*
*PNSN **05** 20:04:03.5, 48.°60N×123.°08W, h13km, MD2.5, Fault plane solution: NP1:φs=25.00000°, δ45.00000°, λ30.00000°.*
NEIC 05 20:04:02.6±1.4, 48.°62N±0.°02×123.°10W±0.°04, h19km±1km, Error ellipse: s-maj=4.5km s-min=2.7km az=60.0, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNB	**Saturna Island**	**0.17**	**342**		Pg	20 04 07.7	+0.4
SNB					Sg	20 04 10.9	+0.6
SNB	**Saturna Island**	**0.17**	**342**	P	Pg	20 04 07.7	+0.4
SNB				S	Sg	20 04 10.9	+0.6
MCW	**Mount Constitu**	**0.18**	**71**		Pg	20 04 07.4	-0.1
MCW					Sg	20 04 10.5	-0.4
B011	**North Saanich**	**0.24**	**278**		Pg	20 04 08.4	+0.2
B011					Sg	20 04 12.1	0.0
B011	**North Saanich**	**0.24**	**278**	P	Pg	20 04 08.4	+0.2
B011				S	Sg	20 04 12.1	0.0
B009	**North Saanich**	**0.24**	**277**	P	Pg	20 04 08.4	+0.2
B009				S	Sg	20 04 12.1	0.0
B010	**North Saanich**	**0.24**	**278**	P	Pg	20 04 08.4	+0.2
B010				S	Sg	20 04 12.1	0.0
PGC	**Sidney**	**0.24**	**278**		Pg	20 04 08.4	+0.1
PGC					Sg	20 04 12.2	+0.1
PGC				IAML		20 04 12.3	
comp=E,528nm,0.2s							
PGC	**Sidney**	**0.24**	**278**	P	Pg	20 04 08.4	+0.2
PGC				S	Sg	20 04 12.2	+0.1
VGZ	**Gonzales**	**0.26**	**217**		Pb	20 04 08.3	-0.1
VGZ					Sb	20 04 12.0	-0.2
VGZ	**Gonzales**	**0.26**	**217**	P	Pb	20 04 08.3	-0.1
VGZ				S	Sb	20 04 11.8	-0.4
A04D	**Lummi Island**	**0.28**	**68**		Pg	20 04 08.7	-0.2
A04D				IAML		20 04 13.1	
comp=E,399nm,0.5s							
A04D				IAML		20 04 14.8	
comp=N,442nm,0.2s							
GOBB	**Galiano Island**	**0.43**	**320**		Pb	20 04 11.8	+0.2
GOBB					Sb	20 04 18.5	+0.7
GOBB	**Galiano Island**	**0.43**	**320**	P	Pb	20 04 11.8	+0.2
GOBB				S	Sb	20 04 18.1	+0.3
SVOH	**Skagit Valley**	**0.45**	**137**		Pg	20 04 11.5	-0.3
SVOH	**Skagit Valley**	**0.45**	**137**	P	Pg	20 04 11.6	-0.3
SYMB	**Survey Mountai**	**0.47**	**263**		Pg	20 04 12.0	-0.3
SYMB					Sg	20 04 18.3	-0.5
SYMB	**Survey Mountai**	**0.47**	**263**	P	Pg	20 04 12.0	-0.3
SYMB				S	Sg	20 04 18.3	-0.5
SQM	**Sequim**	**0.55**	**177**		Pb	20 04 13.4	0.0
STW	**Striped Peak**	**0.61**	**220**		Pb	20 04 14.3	-0.2
STW					Sb	20 04 22.6	+0.1
STW	**Striped Peak**	**0.61**	**220**	P	Pb	20 04 14.3	-0.2
B04A	**Port Angeles**	**0.62**	**206**		Pb	20 04 14.4	-0.4
B04A					Sb	20 04 22.8	-0.3
CLRS	**Cowichan Lake**	**0.71**	**287**		Pb	20 04 16.1	-0.3
CLRS				IAML		20 04 26.2	
comp=E,204nm,0.4s							
CLRS				IAML		20 04 27.4	
comp=N,134nm,0.1s							
CLRS	**Cowichan Lake**	**0.71**	**287**		Sb	20 04 25.6	-0.3
CLRS	**Cowichan Lake**	**0.71**	**287**	P	Pb	20 04 16.1	-0.3
CLRS				S	Sb	20 04 25.6	-0.3
B926	**Mesachie Lake**	**0.72**	**287**		Sb	20 04 25.5	-0.3
B926	**Mesachie Lake**	**0.72**	**287**	P	Pb	20 04 16.0	-0.4
B926				S	Sb	20 04 25.5	-0.4
MBW	**Mount Baker**	**0.81**	**78**		Pb	20 04 18.2	+0.1
VDEB	**Vedder Mountai**	**0.81**	**57**	P	Pb	20 04 17.7	-0.4
VDEB				S	Sb	20 04 28.2	-0.5
B013	**Quilcene**	**0.82**	**171**		Pb	20 04 17.4	-0.7
NLLB	**Nanaimo Lost L**	**0.85**	**316**		Pb	20 04 18.7	0.0
NLLB					Sb	20 04 29.8	+0.1
NLLB	**Nanaimo Lost L**	**0.85**	**316**	P	Pb	20 04 18.1	-0.6
NLLB				S	Sb	20 04 29.4	-0.2
OBC	**Olympics--Boni**	**0.88**	**229**		Pb	20 04 19.1	-0.2
OBC	**Olympics--Boni**	**0.88**	**229**	P	Pb	20 04 19.0	-0.3
PTRF	**Port Renfrew**	**0.88**	**266**	P	Pb	20 04 18.5	-0.7
PTRF				S	Sb	20 04 29.8	-0.7
JCW	**Jim Creek**	**0.89**	**118**		Pb	20 04 18.7	-0.6
JCW	**Jim Creek**	**0.89**	**118**	P	Pb	20 04 18.5	-0.9
P403	**Sandy Floe Qua**	**0.89**	**232**		Pb	20 04 19.0	-0.5
P403					Sb	20 04 30.8	-0.1
OSD	**Olympics--Snow**	**0.90**	**207**		Pb	20 04 19.4	-0.2
OSD	**Olympics--Snow**	**0.90**	**207**	P	Pb	20 04 19.4	-0.3
C04A	**Brinnon**	**0.91**	**175**		Pb	20 04 18.8	-0.9
C04A					Sb	20 04 30.8	-0.5
HDW	**Hoodsport**	**0.97**	**178**		Pb	20 04 19.9	-0.9
HDW	**Hoodsport**	**0.97**	**178**	P	Pb	20 04 19.8	-1.1
WPB	**Watts Point**	**1.04**	**356**	P	Pb	20 04 21.9	-0.2
WPB				S	Sb	20 04 35.0	-0.3
BLH	**Bald Hill**	**1.06**	**137**		Pb	20 04 22.2	0.0
GNW	**Green Mountain**	**1.07**	**170**		Pb	20 04 21.4	-1.1
GNW	**Green Mountain**	**1.07**	**170**	P	Pb	20 04 21.4	-1.1
GNW				S	Sb	20 04 35.2	-0.8
GMW	**Gold Mountain**	**1.09**	**169**		Pb	20 04 21.7	-1.1
SHB	**Sechelt**	**1.11**	**333**		Pn	20 04 22.8	-0.3
SHB	**Sechelt**	**1.11**	**333**	P	Pn	20 04 22.7	-0.5
SHB				S	Sb	20 04 37.0	-0.3
MGRB	**Mount Grey**	**1.13**	**290**	P	Pn	20 04 22.7	-0.8
MGRB				S	Sb	20 04 37.1	-0.7
C03A	**Quillayute Air**	**1.19**	**236**	Pn	Pg	20 04 25.6	-0.1
C03A				IAML		20 04 44.8	
comp=E,108nm,2.3s							
HTW	**Haystack Looko**	**1.21**	**132**		Pn	20 04 24.2	-0.3
B927	**Port Alberni**	**1.28**	**299**		Pb	20 04 26.0	-0.1
B927	**Port Alberni**	**1.28**	**299**	P	Pn	20 04 25.7	+0.3
B927				S	Sn	20 04 41.8	-0.2
PABB	**Port Alberni**	**1.28**	**299**	P	Pn	20 04 25.8	+0.3
PABB				S	Sn	20 04 41.9	-0.2
C05A	**Tolt Reservoir**	**1.32**	**134**	S	Sn	20 04 42.8	-0.3
NLWA	**Neilton Lookou**	**1.33**	**203**		Pb	20 04 27.4	+0.4
NLWA				Sn	Sg	20 04 45.2	-0.6
NLWA				IAML		20 04 49.2	
comp=E,45nm,2.5s							
HOPB	**Hope**	**1.34**	**54**	S	Sn	20 04 43.7	0.0
B928	**Bamfield**	**1.37**	**280**	P	Pn	20 04 26.9	+0.3
B928				S	Sn	20 04 44.2	+0.1
BFSB	**Bamfield**	**1.37**	**280**	P	Pn	20 04 26.8	+0.2
BFSB				S	Sn	20 04 44.3	+0.1
TXB	**Texada**	**1.39**	**321**		Pn	20 04 27.3	+0.3
TXB	**Texada**	**1.39**	**321**	P	Pn	20 04 27.2	+0.1
TXB				S	Sn	20 04 44.6	-0.3
GPW	**Glacier Peak**	**1.40**	**110**		Pb	20 04 27.9	-0.3
RATT	**Rattlesnake La**	**1.48**	**144**		Pn	20 04 28.3	+0.1
WSLR	**Whistler**	**1.51**	**4**		Pb	20 04 30.1	-0.1
WSLR	**Whistler**	**1.51**	**4**	P	Pb	20 04 29.6	-0.5
WSLR				S	Sb	20 04 48.8	-0.1
WISH	**Wishkah**	**1.57**	**197**		Pg	20 04 32.3	-0.5
D05A	**Enumclaw**	**1.61**	**152**	Pn	Pb	20 04 31.3	-0.4
D05A				IAML		20 04 54.2	
comp=N,33nm,4.8s							
OZB	**Mount Ozzard**	**1.62**	**283**	Pn	Pb	20 04 31.5	-0.4
OZB	**Mount Ozzard**	**1.62**	**283**	P	Pb	20 04 31.4	-0.5
OZB				S	Sn	20 04 51.3	+0.7
B012	**Ucluelet**	**1.65**	**282**	S	Sb	20 04 52.4	-0.2
WRW	**Wenatchee Ridg**	**1.66**	**116**		Pb	20 04 31.9	-0.8
MYRA	**Myra Falls**	**1.88**	**301**	P	Pb	20 04 35.2	-1.1
MYRA				S	Sb	20 04 58.3	-1.0
FMW	**Mount Fremont**	**1.94**	**150**		Pb	20 04 36.4	-1.1
FMW	**Mount Fremont**	**1.94**	**150**	P	Pn	20 04 35.7	+1.0
REMR	**Mount Rainier-**	**1.99**	**154**		Pn	20 04 36.8	+1.4
B019	**Raymond**	**2.00**	**191**		Pn	20 04 35.6	+0.3
CBB	**Campbell River**	**2.05**	**314**	Pn	Pn	20 04 37.4	+1.3
CBB				IAML		20 05 05.2	
comp=E,33nm,3.5s							
CBB				IAML		20 05 44.6	
comp=N,26nm,4.0s							
CBB	**Campbell River**	**2.05**	**314**	S	Sb	20 05 02.8	-1.5
LON	**Longmire**	**2.06**	**155**		Pn	20 04 37.5	+1.3
LON	**Longmire**	**2.06**	**155**	P	Pn	20 04 37.5	+1.3
LON				S	Sn	20 05 02.6	+1.2
E03A	**Lebam**	**2.10**	**189**	Pn	Pn	20 04 38.1	+1.5
E03A				IAML		20 05 26.7	
comp=E,42nm,3.2s							
LTY	**Liberty**	**2.12**	**129**		Pb	20 04 39.0	-1.6
LTY				IAML		20 05 10.2	
comp=N,16nm,0.6s							
LTY	**Liberty**	**2.12**	**129**	P	Pn	20 04 38.7	+1.6
LTY				S	Sn	20 05 04.3	+1.3
LLLB	**Lillooet**	**2.14**	**21**	Pn	Pn	20 04 38.8	+1.4
LLLB				IAML		20 05 09.3	
comp=N,19nm,0.7s							
LLLB				IAML		20 05 10.2	
comp=E,17nm,0.6s							
LLLB	**Lillooet**	**2.14**	**21**	P	Pb	20 04 39.1	-1.7
TBM	**Table Mountain**	**2.22**	**130**		Pb	20 04 41.9	-0.2
GDR	**Gold River**	**2.25**	**302**		Pb	20 04 41.1	-1.5
B201	**Coldwater, Mou**	**2.38**	**166**		Pb	20 04 42.9	-2.0
NAC	**Naches**	**2.43**	**140**		Pb	20 04 44.6	-1.1
SOSW	**Source of Smit**	**2.46**	**164**		Pb	20 04 44.9	-1.4
B08A	**Colville Reser**	**2.52**	**95**	Pn	Pn	20 04 43.5	+1.1
F03A	**Seaside**	**2.71**	**187**	Pn	Pn	20 04 45.5	+0.4
MXC	**Moxie City**	**2.79**	**136**	Pn	Pn	20 04 47.4	+1.2
MXC				IAML		20 05 33.1	
comp=E,11nm,0.8s							
MXC				IAML		20 06 02.5	
comp=N,12nm,4.7s							

---

*NEIC **05** 20:10:40.4±1.1, 62.°15N±0.°03×150.°90W±0.°06, h62km±8km, Error ellipse: s-maj=4.7km s-min=4.1km az=210.0*
AEIC 05 20:10:40.9±1.3, 62.°15N±0.°02×150.°88W±0.°07, h58km±6km, ML3.2, ML3.1/240(NEIC), Error ellipse: s-maj=4.5km s-min=3.4km az=95.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.35**	**241**		Pn	20 10 51.3	+0.1
SKT				Sn	Sn	20 10 59.2	+0.6
CUT	**Chulitna**	**0.38**	**48**		Pn	20 10 52.2	+0.8
M22K	**Willow**	**0.54**	**138**		Pn	20 10 53.1	0.0
M22K				Sn	Sn	20 11 03.4	+1.5
M22K				IAML		20 11 04.2	
comp=E,1μm,0.4s							
M22K				IAML		20 11 05.9	
comp=N,1μm,0.4s							
SUA	**Susitna One**	**0.69**	**175**		Pn	20 10 54.9	-0.1
SUA				Sn	Sn	20 11 06.0	+0.7
SUA				IAML		20 11 07.3	
comp=E,701nm,0.7s							
SUA				IAML		20 11 08.5	
comp=N,445nm,0.6s							
STLK	**Strandline Lak**	**0.80**	**215**		Pn	20 10 56.0	-0.3
STLK				Sn	Sn	20 11 07.8	+0.3
STLK				IAML		20 11 09.1	
comp=N,926nm,0.2s							
PPLA	**Purkeypile**	**0.96**	**322**		Pn	20 10 58.3	-0.2
GHO	**Glory Hole Cre**	**1.00**	**111**		Pn	20 10 59.0	+0.1
GHO				Sn	Sn	20 11 11.9	-0.3
GHO				IAML		20 11 15.8	
comp=N,436nm,0.7s							
GHO				IAML		20 11 16.0	
comp=E,555nm,0.5s							
PMR	**Palmer**	**1.00**	**123**		Pn	20 10 58.5	-0.3
PMR				Sn	Sn	20 11 12.2	+0.1
PMR				IAML		20 11 14.4	
comp=N,320nm,0.3s							
PMR				IAML		20 11 14.9	
comp=E,354nm,0.3s							
FIS	**Fire Island**	**1.06**	**162**	Pn	Pn	20 11 00.7	+1.2
M20K	**Styx River**	**1.09**	**257**		Pn	20 10 59.4	-0.7
M20K				IAML		20 11 15.4	
comp=N,487nm,0.4s							
RC01	**Rabbit Creek A**	**1.20**	**152**		Pn	20 11 00.7	-0.8
RC01				IAML		20 11 19.6	
comp=E,216nm,0.4s							
RC01				IAML		20 11 23.6	
comp=N,258nm,0.2s							
SML	**Sawmill**	**1.25**	**105**		Pn	20 11 02.1	-0.2
SML				Sn	Sn	20 11 17.7	-0.5
SML				IAML		20 11 21.7	
comp=N,277nm,0.4s							
SML				IAML		20 11 22.0	
comp=E,498nm,1.0s							
TRF	**Thorofare Moun**	**1.33**	**12**	Pn	Pn	20 11 03.4	0.0
TRF				Sn	Sn	20 11 20.6	+0.3
TRF				IAML		20 11 22.4	
comp=N,327nm,0.5s							
TRF				IAML		20 11 23.7	
comp=E,326nm,0.5s							
KNK	**Knik Glacier**	**1.37**	**122**		Pn	20 11 03.5	-0.3
KNK				Sn	Sn	20 11 21.1	+0.2
KNK				IAML		20 11 27.0	
comp=N,243nm,0.4s							
CAST	**Castle Rocks**	**1.39**	**337**		Pn	20 11 03.8	-0.2
CAST				Sn	Sn	20 11 21.1	-0.3
CAPN	**Captain Cook N**	**1.39**	**185**	Pn	Pn	20 11 05.6	+1.6
CAPN				Sn	Sn	20 11 24.7	+3.4
KTH	**Kantishna Hill**	**1.41**	**359**		Pn	20 11 04.7	+0.4
KTH				Sn	Sn	20 11 22.0	+0.1
KTH				IAML		20 11 23.3	
comp=E,270nm,0.8s							
KTH				IAML		20 11 23.9	
comp=N,174nm,0.7s							
RND	**Reindeer**	**1.57**	**36**		Pn	20 11 06.2	-0.3
RND				IAML		20 11 29.3	
comp=E,151nm,0.6s							
M19K	**Big River Lodg**	**1.67**	**263**		Pn	20 11 06.8	-1.0
SLKM	**Skilak Lake**	**1.68**	**169**		Pn	20 11 07.1	-0.8
SLKM				IAML		20 11 35.0	
comp=N,138nm,0.2s							
SLKM				IAML		20 11 35.5	
comp=E,146nm,0.3s							
SCM	**Sheep Creek Mo**	**1.71**	**99**		Pn	20 11 07.3	-1.0
SCM				IAML		20 11 35.0	
comp=E,234nm,0.7s							
SCM				IAML		20 11 36.2	
comp=N,298nm,0.6s							
O22K	**Cooper Landing**	**1.77**	**161**		Pn	20 11 09.1	0.0
PWL	**Port Wells**	**1.78**	**136**		Pn	20 11 07.8	-1.5
PWL				IAML		20 11 36.7	
comp=E,165nm,0.4s							
PWL				IAML		20 11 38.3	
comp=N,159nm,0.5s							
MCK	**McKinley**	**1.82**	**28**		Pn	20 11 10.0	+0.1
MCK				IAML		20 11 34.2	
comp=N,170nm,0.5s							
L19K	**White Mountain**	**1.86**	**273**		Pn	20 11 09.8	-0.7
L19K				IAML		20 11 33.4	
comp=E,129nm,0.5s							
K20K	**Telida**	**1.90**	**311**		Pn	20 11 10.2	-0.7
BPAW	**Bear Paw Mtn.**	**1.96**	**359**		Pn	20 11 10.9	-0.8
BPAW				IAML		20 11 35.2	
comp=E,158nm,0.2s							
BPAW				IAML		20 11 35.3	
comp=N,122nm,0.2s							
BWN	**Browne**	**2.13**	**17**		Pn	20 11 13.4	-0.6
BWN				IAML		20 12 02.3	
comp=N,156nm,1.3s							
BWN				IAML		20 12 02.6	
comp=E,135nm,1.4s							
SEW	**Seward**	**2.17**	**161**	Pn	Pn	20 11 14.3	-0.2
N19K	**Bonanza Creek**	**2.19**	**234**	Pn	Pn	20 11 13.9	-1.0
M24K	**Tolsona, Glenn**	**2.21**	**89**	Pn	Pn	20 11 15.1	-0.1
GLI	**Glacier Island**	**2.22**	**123**		Pn	20 11 13.6	-1.7
GLI				IAML		20 11 50.9	
comp=E,186nm,0.4s							
GLI				IAML		20 11 50.9	
comp=N,144nm,0.6s							
BRLK	**Bradley Lake**	**2.40**	**180**		Pn	20 11 17.9	+0.2
ILSW	**Iliamna Southw**	**2.44**	**208**		Pn	20 11 17.6	-0.7
KLU	**Klutina**	**2.44**	**103**		Pn	20 11 17.0	-1.4
KLU				IAML		20 11 57.6	
comp=E,94nm,0.7s							
KLU				IAML		20 11 59.1	
comp=N,100nm,0.4s							
TTA	**Tatalina**	**2.50**	**290**		Pn	20 11 17.7	-1.5
J20K	**Nowinta River**	**2.52**	**325**		Pn	20 11 18.7	-0.6
J20K				IAML		20 11 49.1	
comp=N,78nm,0.5s							
J20K				IAML		20 11 49.5	
comp=E,71nm,0.5s							
HOM	**Homer**	**2.53**	**189**	Pn	Pn	20 11 20.2	+0.8
FID	**Port Fidalgo**	**2.54**	**122**		Pn	20 11 17.6	-2.1
FID				IAML		20 11 58.2	
comp=E,106nm,0.4s							
FID				IAML		20 11 59.6	
comp=N,72nm,0.3s							
O19K	**Port Alsworth**	**2.57**	**222**	Pn	Pn	20 11 19.1	-0.9
O19K				IAML		20 11 50.1	
comp=E,95nm,0.4s							
NEA2	**Nenana**	**2.58**	**18**		Pn	20 11

WRH	**Wood River Hil**	**2.65 27**		Pn	20 11 20.6	-0.5
L18K	**Granite Mounta**	**2.72 274**		Pn	20 11 21.1	-1.0
P23K	**Montague Islan**	**2.74 140**	Pn	Pn	20 11 22.3	-0.1
P23K			IAML		20 11 54.3	
	comp=E,76nm,2.0s					
P23K			IAML		20 12 10.4	
	comp=N,67nm,1.3s					
HIN	**Hinchinbrook I**	**2.75 128**	Pn	Pn	20 11 20.8	-1.7
HIN			IAML		20 12 15.2	
	comp=E,89nm,0.8s					
HIN			IAML		20 12 51.0	
	comp=N,61nm,1.9s					
P19K	**Oil Pt**	**2.76 206**	Pn	Pn	20 11 22.4	-0.2
P19K			IAML		20 12 04.0	
	comp=N,84nm,0.8s					
P19K			IAML		20 12 05.7	
	comp=E,89nm,0.7s					
N18K	**Kilae Creek**	**2.82 241**	Pn	Pn	20 11 22.4	-1.2
J19K	**Poorman**	**2.84 313**		Pn	20 11 23.0	-0.7
K24K	**Donnelly Dome**	**2.86 52**		Pn	20 11 24.8	+0.8
K24K			IAML		20 12 20.0	
	comp=N,101nm,0.5s					
CCB	**Clear Creek Bu**	**2.86 28**		Pn	20 11 23.6	-0.4
HDA	**Harding Lake**	**2.88 36**		Pn	20 11 24.1	-0.2
HDA			IAML		20 11 58.2	
	comp=E,57nm,0.3s					
HDA			IAML		20 12 20.9	
	comp=N,66nm,0.5s					
EYAK	**Cordova Ski Ar**	**2.95 121**		Pn	20 11 24.6	-0.5
EYAK			IAML		20 12 25.8	
	comp=N,43nm,0.9s					
J18K	**Innoko River**	**2.98 299**		Pn	20 11 25.2	-0.5
N25K	**Chitina, Valde**	**3.03 98**		Pn	20 11 25.3	-1.0
N25K			IAML		20 12 13.8	
	comp=N,49nm,0.7s					
N25K			IAML		20 12 14.6	
	comp=E,36nm,0.6s					
COLA	**College**	**3.05 25**		Pn	20 11 26.1	-0.4
COLA			IAML		20 12 06.2	
	comp=E,91nm,0.5s					
COLA			IAML		20 12 30.1	
	comp=E,80nm,0.5s					
I21K	**Tanana**	**3.08 351**		Pn	20 11 26.1	-0.9
I23K	**Minto, Yukon-K**	**3.08 12**		Pn	20 11 26.8	-0.2
I23K			IAML		20 12 02.6	
	comp=E,34nm,0.4s					
I20K	**Naaghedeneel**	**3.11 330**	Pn	Pn	20 11 26.6	-0.8
I20K			IAML		20 12 06.9	
	comp=N,75nm,0.8s					
O18K	**Koktuh Hills**	**3.12 224**	Pn	Pn	20 11 26.8	-0.8
IL31		**3.18 33**		Pn	20 11 27.9	-0.5
ILAR	**Eielson Array**	**3.18 33**	Pn	Pn	20 11 27.6	-0.8
RIDG	**Independent Ri**	**3.19 57**	Pn	Pn	20 11 28.8	+0.3
RIDG			IAML		20 12 16.2	
	comp=E,51nm,0.7s					
RIDG			IAML		20 12 30.3	
	comp=N,39nm,0.7s					
M17K	**Holitna River**	**3.20 259**		Pn	20 11 27.6	-1.1
M17K			IAML		20 12 33.5	
	comp=N,73nm,1.1s					
M17K			IAML		20 12 37.2	
	comp=E,42nm,0.8s					
BMRM	**Bremner River**	**3.23 109**		Pn	20 11 27.6	-1.5
BMRM			IAML		20 12 19.3	
	comp=E,72nm,0.6s					
BMRM			IAML		20 12 20.6	
	comp=N,64nm,0.5s					
POKR	**Poker Plat Res**	**3.35 26**		Pn	20 11 30.5	-0.2
GLB	**Gilahina Butte**	**3.43 99**		Pn	20 11 30.5	-1.4
GLB			IAML		20 12 26.7	
	comp=E,27nm,0.7s					
GLB			IAML		20 12 29.0	
	comp=N,36nm,1.0s					
N17K	**Nushagak Hills**	**3.45 245**	Pn	Pn	20 11 30.9	-1.1
DOT	**Dot Lake**	**3.46 61**		Pn	20 11 31.9	-0.4
DOT			IAML		20 12 32.7	
	comp=N,30nm,0.7s					
DOT			IAML		20 12 39.1	
	comp=E,29nm,0.6s					
RAGM	**Ragged Mountai**	**3.48 118**	Pn	Pn	20 11 32.2	-0.3
P18K	**Big Mountain,**	**3.49 220**	Pn	Pn	20 11 31.9	-0.8
P18K			IAML		20 12 39.2	
	comp=N,29nm,3.3s					
P18K			IAML		20 13 24.5	
	comp=E,25nm,3.6s					
K17K	**Iditarod**	**3.50 283**	Pn	Pn	20 11 31.9	-0.7
J25K	**Salcha River,**	**3.50 43**		Pn	20 11 32.5	-0.3
J25K			IAML		20 12 21.5	
	comp=N,26nm,0.5s					
Q19K	**Cape Douglas,**	**3.51 204**	Pn	Pn	20 11 32.7	-0.2
L26K	**Log Cabin Wild**	**3.59 73**		Pn	20 11 33.9	-0.1
L26K			IAML		20 12 44.7	
	comp=N,45nm,0.5s					
H21K	**Melozitna Rive**	**3.62 347**		Pn	20 11 34.1	-0.3
SYI	**Shuyak Island**	**3.63 193**	Pn	Pn	20 11 34.2	-0.3
SCRK	**Sand Creek**	**3.63 57**	Pn	Pn	20 11 34.1	-0.6
VRDI	**Verde Repeater**	**3.66 101**	Pn	Pn	20 11 33.6	-1.5
VRDI			IAML		20 12 36.1	
	comp=N,34nm,0.6s					
HMT	**Hamilton**	**3.68 117**	Pn	Pn	20 11 34.0	-1.2
M26K	**Nabesna, AK**	**3.69 83**		Pn	20 11 34.2	-1.3
M26K			IAML		20 12 35.7	
	comp=N,28nm,0.8s					
M26K			IAML		20 12 38.0	
	comp=E,34nm,0.4s					
KAIM	**Kayak Island**	**3.85 122**	Pn	Pn	20 11 36.5	-1.1
H24K	**Noodor Dome**	**3.93 18**		Pn	20 11 37.7	-0.9
H24K			IAML		20 12 24.1	
	comp=E,22nm,0.6s					
H24K			IAML		20 12 24.1	
	comp=N,22nm,0.6s					
J17K	**VABM Dome**	**3.97 292**	Pn	Pn	20 11 38.2	-0.9
M16K	**Timber Creek**	**4.02 257**		Pn	20 11 38.9	-1.0
M16K			IAML		20 12 24.0	
	comp=E,27nm,3.6s					
M16K			IAML		20 14 17.6	
	comp=N,23nm,3.5s					
SUCK	**Suckling Hills**	**4.03 118**	Pn	Pn	20 11 39.1	-0.9
J26L	**Joseph Creek**	**4.06 51**	Pn	Pn	20 11 40.4	-0.1
J26L			IAML		20 12 36.0	
	comp=N,28nm,1.0s					
J26L			IAML		20 12 39.8	
	comp=E,22nm,0.7s					
L16K	**Owhat River**	**4.08 268**		Pn	20 11 39.5	-1.2
L16K			IAML		20 12 47.1	
	comp=N,18nm,4.3s					
L16K			IAML		20 14 19.4	
	comp=E,17nm,4.4s					
PRP	**Porcupine Dome**	**4.13 33**	Pn	Pn	20 11 40.0	-1.4
PRP			IAML		20 12 27.8	
	comp=E,17nm,0.6s					
PRP			IAML		20 12 28.2	
	comp=N,19nm,0.6s					
H19K	**Roundabout Mou**	**4.19 326**	Pn	Pn	20 11 41.6	-0.5
M27K	**Edge Creek, AK**	**4.22 83**		Pn	20 11 42.3	-0.4
M27K			IAML		20 12 50.8	
	comp=E,15nm,2.8s					
M27K			IAML		20 13 41.3	
	comp=N,14nm,4.8s					
WAX	**Waxell Ridge**	**4.23 110**	Pn	Pn	20 11 41.7	-1.1
L27K	**Beaver Creek,**	**4.28 74**		Pn	20 11 42.4	-1.1
BCAR	**Beaver Creek A**	**4.30 74**	Pn	Pn	20 11 42.4	-1.4
O16K	**Kokwok River B**	**4.36 237**	Pn	Pn	20 11 43.3	-1.1
O16K			IAML		20 12 29.9	
	comp=E,21nm,3.4s					
O16K			IAML		20 13 22.7	
	comp=N,15nm,3.4s					
SNH	**Sunshine Point**	**4.37 113**	Pn	Pn	20 11 44.3	-0.3
KDAK	**Kodiak Island**	**4.46 192**	Pn	Pn	20 11 45.0	-0.9
ACHA	**Angle Creek He**	**4.53 211**	Pn	Pn	20 11 46.4	-0.5
ACHA			IAML		20 13 06.4	
	comp=E,18nm,4.2s					
ACHA			IAML		20 13 48.8	
	comp=N,13nm,3.4s					
G23K	**Bananza Creek**	**4.59 4**	Pn	Pn	20 11 47.0	-0.7
J16K	**Anvik River**	**4.62 289**	Pn	Pn	20 11 47.3	-0.7
J16K			IAML		20 12 43.4	
	comp=N,15nm,4.1s					
J16K			IAML		20 13 53.6	
	comp=E,16nm,4.6s					
P16K	**Nushagak River**	**4.70 231**	Pn	Pn	20 11 48.0	-1.1
MESA	**MESA**	**4.76 111**	Pn	Pn	20 11 49.4	-0.8
YAH	**Yahtse**	**4.76 108**	Pn	Pn	20 11 48.9	-1.4
I17K	**Unalakleet**	**4.80 296**	Pn	Pn	20 11 50.0	-0.4
I17K			IAML		20 12 48.8	
	comp=N,15nm,4.1s					
I17K			IAML		20 14 19.1	
	comp=E,18nm,3.6s					
G24K	**Hadweenzic Riv**	**4.80 16**		Pn	20 11 50.1	-0.4
G24K			IAML		20 13 34.7	
	comp=N,12nm,4.8s					
G19K	**Purcell Mounta**	**4.84 329**		Pn	20 11 49.9	-1.1
G19K			IAML		20 14 49.7	
	comp=N,18nm,0.2s					
N15K	**Kwethluk River**	**4.88 250**	Pn	Pn	20 11 51.0	-0.7
H17K	**Granite Mounta**	**4.91 309**	Pn	Pn	20 11 51.3	-0.7
H17K			IAML		20 12 39.3	
	comp=N,8.6nm,4.2s					
H17K			IAML		20 13 43.4	
	comp=E,12nm,4.3s					
K15K	**Wolf Creek Mou**	**4.99 276**	Pn	Pn	20 11 52.1	-1.0
K15K			IAML		20 13 55.2	
	comp=N,19nm,3.7s					
K15K			IAML		20 14 47.4	
	comp=E,18nm,3.4s					
FYU	**Fort Yukon**	**5.07 26**	Pn	Pn	20 11 53.7	-0.4
G18K	**Tagagawik**	**5.08 321**		Pn	20 11 54.1	-0.2
G18K			IAML		20 14 14.0	
	comp=N,10nm,4.0s					
G18K			IAML		20 14 25.1	
	comp=E,8.7nm,4.7s					
OHAK	**Old Harbor**	**5.09 195**	Pn	Pn	20 11 54.1	-0.4
COLD	**Coldfoot**	**5.11 3**	Pn	Pn	20 11 54.6	-0.1
COLD			IAML		20 12 55.2	
	comp=N,9.0nm,4.2s					
COLD			IAML		20 13 22.3	
	comp=E,7.8nm,4.1s					
F21K	**Alatna River**	**5.21 349**		Pn	20 11 56.4	+0.3
F21K			IAML		20 12 55.5	
	comp=N,11nm,0.6s					
O15K	**Ungalikthiuk R**	**5.31 240**	Pn	Pn	20 11 56.7	-0.8
O15K			IAML		20 13 33.8	
	comp=E,16nm,1.8s					
O28M	**Mount Upton**	**5.31 100**	Pn	Pn	20 11 56.5	-1.3
O28M			IAML		20 12 42.6	
	comp=E,11nm,4.8s					
O28M			IAML		20 13 21.7	
	comp=N,15nm,3.9s					
F20K	**Avaraart Lake**	**5.34 339**		Pn	20 11 57.7	-0.2
F20K			IAML		20 12 56.1	
	comp=E,7.0nm,4.3s					
F20K			IAML		20 15 36.1	
	comp=N,6.6nm,4.4s					
M14K	**Bethel**	**5.50 260**	Pn	Pn	20 11 59.7	-0.3
F24K	**Squaw Lake**	**5.54 12**		Pn	20 12 00.7	0.0
PCA	**Pinnacle**	**5.55 107**	Pn	Pn	20 11 59.9	-0.9
DAWY	**Dawson**	**5.56 65**	Pn	Pn	20 11 59.6	-1.3
L14K	**Kuka Creek**	**5.67 267**	Pn	Pn	20 12 01.6	-0.7
R16K	**Pilot Point**	**5.70 219**	Pn	Pn	20 12 02.2	-0.6
N14K	**Kuskokwak Cree**	**5.70 252**	Pn	Pn	20 12 02.1	-0.8
G26K	**Porcupine Rive**	**5.71 29**	Pn	Pn	20 12 02.2	-0.6
H27K	**Steamboat Moun**	**5.78 41**		Pn	20 12 04.0	0.0
M29M	**Somme Creek**	**5.80 82**		Pn	20 12 03.8	-0.6
O14K	**Tigyukauivet M**	**5.87 245**	Pn	Pn	20 12 04.6	-0.5
I28M	**Miner Creek**	**5.87 51**	Pn	Pn	20 12 04.9	-0.3
F25K	**Christian Rive**	**5.90 20**		Pn	20 12 05.2	-0.4
J14K	**Nanvaranak Lak**	**5.91 281**	Pn	Pn	20 12 05.3	-0.4
BMAR	**Burnt Mountain**	**5.94 24**	Pn	Pn	20 12 05.5	-0.7
E23K	**Chandalar**	**5.96 5**		Pn	20 12 06.3	-0.1
L29M	**L29M**	**5.96 75**	Pn	Pn	20 12 05.7	-0.7
E22K	**Anaktuvuk Pass**	**6.02 357**	Pn	Pn	20 12 06.1	-1.2
E24K	**Your Creek**	**6.03 9**		Pn	20 12 07.2	-0.3
G16K	**Koyuk River**	**6.04 308**	Pn	Pn	20 12 07.2	-0.1
G27K	**Doyon Strip**	**6.14 36**		Pn	20 12 08.6	-0.3
J29N	**Klondike Camp**	**6.16 62**	Pn	Pn	20 12 08.6	-0.6
O29M	**Mount Kennedy**	**6.23 102**	Pn	Pn	20 12 09.1	-1.0
F26K	**Sheenjek River**	**6.26 24**		Pn	20 12 09.5	-1.0
M13K	**Dall Lake**	**6.26 259**	Pn	Pn	20 12 10.3	-0.1
K29M	**Barlow Dome**	**6.32 69**	Pn	Pn	20 12 10.5	-0.9
E25K	**Arctic Village**	**6.40 18**	Pn	Pn	20 12 11.9	-0.5
I29M	**Ogilvie Camp,**	**6.44 55**	Pn	Pn	20 12 12.7	-0.2
K13K	**Kusilvak Mount**	**6.48 274**	Pn	Pn	20 12 12.7	-0.8
TOLK	**Toolik Lake Re**	**6.54 4**	Pn	Pn	20 12 14.9	+0.5
HYT	**Haines Junctio**	**6.54 96**	Pn	Pn	20 12 12.8	-1.7
M30M	**Minto, Yukon**	**6.57 80**	Pn	Pn	20 12 12.1	-2.7
N30M	**Aishikik Lake**	**6.58 90**	Pn	Pn	20 12 12.8	-2.1
D22K	**Ayikyak River**	**6.80 354**	Pn	Pn	20 12 15.9	-2.0
CHIR	**Chirikof Islan**	**6.80 203**	Pn	Pn	20 12 16.7	-1.2
H29M	**Whitestone**	**6.81 48**	Pn	Pn	20 12 17.3	-0.7
D23K	**Nanushuk River**	**6.84 1**	Pn	Pn	20 12 17.2	-1.2
P29M	**Windy Craggy**	**6.89 106**	Pn	Pn	20 12 18.4	-0.8
J30M	**Hart River**	**6.98 63**	Pn	Pn	20 12 19.7	-0.7
CHGN	**Chignik**	**7.02 217**	Pn	Pn	20 12 20.1	-0.8
F15K	**North Star Dit**	**7.03 306**	Pn	Pn	20 12 20.4	-0.6
I30M	**Mount Dempster**	**7.14 58**	Pn	Pn	20 12 21.4	-1.3
N31M	**Braeburn, Yuko**	**7.18 89**	Pn	Pn	20 12 21.8	-1.4
E27K	**Coleen River**	**7.20 29**	Pn	Pn	20 12 22.0	-1.4
O30N	**Mendenhall**	**7.22 94**	Pn	Pn	20 12 21.2	-2.5
G29M	**Pine Creek**	**7.31 44**	Pn	Pn	20 12 23.8	-1.1
D25K	**Kavik River**	**7.43 12**	Pn	Pn	20 12 25.8	-0.8
EPYK	**Eagle Plains**	**7.47 49**	Pn	Pn	20 12 25.7	-1.4
B21K	**Ikpikpuk River**	**7.66 350**	Pn	Pn	20 12 28.5	-1.0

*TAP **05** 20:28:07.8, 22.″64N×122.″70E, h40km±1km, ML3.0, D*
*JMA **05** 20:28:07.1±0.5, 23.″0N±2.″×12.″3E±.″, h45km, MV2.6/15, FAR*
S OFF ISHIGAKIJIMA

ISC 05 20:28:08.2±1.3, 22.″63N±0.″04×122.″73E±0.″04, h35km, n87, σ1§55/153, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**1.16**	**273**	*eP*	**Pn**	**20 28 26.7**	**-1.3**
LDUT				*eS*	**Sn**	**20 28 39.4**	**-3.3**
LYUB	**Lan-yu**	**1.23**	**240**	P	**Pn**	**20 28 28.4**	**-0.5**
LYUB				*eS*	**Sn**	**20 28 42.3**	**-2.0**
LAY	**Lan-yu**	**1.24**	**242**	P	**Pn**	**20 28 28.7**	**-0.3**
LAY				*eS*	**Sn**	**20 28 41.8**	**-2.8**
CHKT	**Chengkung**	**1.34**	**291**	P	**Pn**	**20 28 29.1**	**-1.4**
CHKT				*eS*	**Sn**	**20 28 44.1**	**-3.0**
CHKH	**Chenggong**	**1.35**	**295**	*i* P	**Sn**	**20 28 29.4**	**-1.2**
CHKH				S	**Sn**	**20 28 44.0**	**-3.3**
EDH	**Donghe**	**1.36**	**285**	P	**Pn**	**20 28 29.8**	**-0.9**
EDH				*eS*	**Sn**	**20 28 45.5**	**-2.0**
FULB	**Fuli**	**1.44**	**294**	*i* P	**Pn**	**20 28 30.7**	**-1.2**
FULB				*eS*	**Sn**	**20 28 46.9**	**-2.7**
ECS	**Chishang**	**1.47**	**289**	P	**Pn**	**20 28 31.8**	**-0.4**
ECS				*eS*	**Sn**	**20 28 49.1**	**-1.1**
HGSD	**Ruisui**	**1.48**	**306**	*eP*	**Pn**	**20 28 31.0**	**-1.3**
HGSD				*eS*	**Sn**	**20 28 47.0**	**-3.5**
EYUL	**Yuli**	**1.48**	**299**	P	**Pn**	**20 28 31.8**	**-0.6**
EYUL				*eS*	**Sn**	**20 28 49.0**	**-1.7**
EHD	**Haiduan**	**1.50**	**291**	P	**Pn**	**20 28 31.7**	**-0.9**
LONT	**Longtian**	**1.50**	**281**	*eP*	**Pn**	**20 28 32.9**	**+0.2**
LONT				*eS*	**Sn**	**20 28 50.1**	**-0.9**
TWF1	**Yuli**	**1.50**	**299**	P	**Pn**	**20 28 31.9**	**-0.9**
TWF1				*eS*	**Sn**	**20 28 48.5**	**-2.6**
YULB	**Yu-li**	**1.52**	**300**	P	**Pn**	**20 28 32.2**	**-0.7**
YULB				S	**Sn**	**20 28 50.7**	**-0.9**
TWGBT	**Beinan**	**1.53**	**277**	*eP*	**Pn**	**20 28 33.1**	**-0.1**
TWGBT				*eS*	**Sn**	**20 28 51.4**	**-0.4**
EOS4	**EOS4**	**1.54**	**346**	*eP*	**Pn**	**20 28 32.8**	**0.0**
EOS4				S	**Sn**	**20 28 50.1**	**-1.2**
EHYH	**Wanrong**	**1.54**	**304**	P	**Pn**	**20 28 32.3**	**-0.9**
EHYH				S	**Sn**	**20 28 50.8**	**-1.2**
TWG	**Pinlang**	**1.54**	**278**	P	**Pn**	**20 28 33.1**	**-0.2**
TWG				S	**Sn**	**20 28 51.5**	**-0.5**
EHY	**Hungye**	**1.56**	**304**	*i* P	**Pn**	**20 28 32.6**	**-1.0**
EHY				S	**Sn**	**20 28 50.8**	**-1.8**
SHUL	**Shoufeng**	**1.58**	**317**	S	**Sn**	**20 28 50.9**	**-2.0**
EGFH	**Guangfu**	**1.58**	**311**	P	**Pn**	**20 28 33.1**	**-0.7**
EGFH				S	**Sn**	**20 28 50.8**	**-2.3**
ECL	**Taimali**	**1.64**	**269**	P	**Pn**	**20 28 34.2**	**-0.4**
ECL				*eS*	**Sn**	**20 28 53.1**	**-1.4**
WARBT	**Fenglin Townsh**	**1.65**	**312**	P	**Pn**	**20 28 34.0**	**-0.6**
WARBT				*eS*	**Sn**	**20 28 52.2**	**-2.5**
ELDTW	**Lidau**	**1.67**	**290**	P	**Pn**	**20 28 34.5**	**-0.7**
ELDTW				*eS*	**Sn**	**20 28 52.0**	**-3.5**
EOS3	**EOS3**	**1.69**	**347**	P	**Pn**	**20 28 35.1**	**-0.1**
EOS3				*eS*	**Sn**	**20 28 55.0**	**-0.6**
TAWH	**Dawu Township**	**1.73**	**261**	P	**Pn**	**20 28 35.8**	**+0.1**
TAWH				*eS*	**Sn**	**20 28 56.4**	**-0.2**
HATJ	**Hateruma jima**	**1.73**	**35**	*eS*	**Sn**	**20 28 56.4**	**-0.4**
EAST	**Anshuo**	**1.75**	**262**	P	**Pn**	**20 28 36.4**	**+0.2**
EAST				*eS*	**Sn**	**20 28 57.8**	**+0.4**
JYNG	**Yonagunijimaku**	**1.83**	**6**	*eP*	**Pn**	**20 28 37.9**	**+0.8**
JYNG				*eS*	**Sn**	**20 29 00.1**	**+1.0**
SLIU	**Shizi**	**1.83**	**258**	*eP*	**Pn**	**20 28 37.2**	**0.0**
ETL	**Fush Village**	**1.83**	**327**	P	**Pn**	**20 28 36.5**	**-0.8**
ETL				*eS*	**Sn**	**20 28 57.1**	**-2.2**
LXIB	**Xiulin Townshi**	**1.84**	**319**	*eP*	**Pn**	**20 28 37.4**	**-0.1**
LXIB				*eS*	**Sn**	**20 28 57.5**	**-2.2**
EOS2	**EOS2**	**1.84**	**346**	*eP*	**Pn**	**20 28 38.0**	**+0.8**
EOS2				*eS*	**Sn**	**20 28 59.9**	**+0.6**
VWDT	**VWDT**	**1.84**	**308**	P	**Pn**	**20 28 37.3**	**0.0**
VWDT				S	**Sn**	**20 28 58.2**	**-1.2**
YOJ	**Yonaguni jima**	**1.85**	**8**	*eP*	**Pn**	**20 28 38.5**	**+1.0**
NACB	**Ninganchiao**	**1.86**	**326**	P	**Pn**	**20 28 36.8**	**-0.9**
NACB				S	**Sn**	**20 28 57.2**	**-2.7**
STYH	**Taoyuan**	**1.88**	**287**	*eP*	**Pn**	**20 28 37.0**	**-0.9**
TWKBT	**Hengchun**	**1.90**	**249**	P	**Pn**	**20 28 38.8**	**+0.7**
EAHA	**Aohua**	**1.92**	**332**	P	**Pn**	**20 28 38.1**	**-0.4**
EAHA				*eS*	**Sn**	**20 28 60.0**	**-1.5**
IRIF	**Iriomote-Funau**	**1.93**	**28**	*eP*	**Pn**	**20 28 38.7**	**+0.1**
MASBT	**Mashibuluo**	**1.94**	**270**	P	**Pn**	**20 28 39.0**	**+0.4**
HEN	**Hengchun**	**1.94**	**252**	*eP*	**Pn**	**20 28 39.8**	**+1.1**
HEN				*eS*	**Sn**	**20 29 01.8**	**-0.2**
OWD	**Renai**	**1.94**	**313**	*eP*	**Pn**	**20 28 38.5**	**-0.4**
OWD				*eS*	**Sn**	**20 28 59.6**	**-2.6**
ETLH	**Xiulin Townshi**	**1.95**	**324**	P	**Pn**	**20 28 38.3**	**-0.6**
ETLH				*eS*	**Sn**	**20 28 59.6**	**-2.6**
SCZT	**Fangliau**	**1.96**	**263**	*eP*	**Pn**	**20 28 40.2**	**+1.2**
JKRS	**Kuro-shima**	**1.99**	**36**	*eP*	**Pn**	**20 28 39.9**	**+0.5**
JKRS				S	**Sn**	**20 29 02.3**	**-0.8**
SSLB	**Suanglung**	**2.00**	**306**	P	**Pn**	**20 28 39.8**	**+0.2**
SSLB				*eS*	**Sn**	**20 29 02.6**	**-0.8**
EWUT	**Wuta**	**2.01**	**334**	P	**Pn**	**20 28 39.8**	**+0.1**
EWUT				*eS*	**Sn**	**20 29 02.6**	**-0.9**
WUSB	**Renai**	**2.01**	**313**	*eP*	**Pn**	**20 28 40.0**	**+0.2**
WHYT	**Xinyi Township**	**2.03**	**302**	*i* P	**Pn**	**20 28 40.7**	**+0.7**
WHYT				*eS*	**Sn**	**20 29 04.2**	**+0.1**
SGST	**Jiashian**	**2.03**	**283**	P	**Pn**	**20 28 40.7**	**+0.7**
WTP	**Ta-pu**	**2.04**	**288**	P	**Pn**	**20 28 41.6**	**+1.4**
WTP				*eS*	**Sn**	**20 29 07.7**	**+3.2**
TPUB	**Ta-pu**	**2.05**	**290**	P	**Pn**	**20 28 41.8**	**+1.6**
TPUB				*eS*	**Sn**	**20 29 06.6**	**+2.0**
CHN4	**Tsaushan**	**2.10**	**291**	P	**Pn**	**20 28 42.8**	**+1.9**
CHN4				*eS*	**Sn**	**20 29 09.2**	**+3.5**
SMLT	**Sun Moon Lake**	**2.10**	**307**	P	**Pn**	**20 28 40.6**	**-0.3**
CHN1	**Nanshi**	**2.10**	**286**	P	**Pn**	**20 28 43.2**	**+2.2**
CHN1				*eS*	**Sn**	**20 29 09.7**	**+3.7**
FUSS	**Fushou**	**2.11**	**320**	P	**Pn**	**20 28 41.2**	**-0.2**
WCKO	**Fanlu**	**2.12**	**293**	P	**Pn**	**20 28 43.0**	**+1.8**
WCKO				*eS*	**Sn**	**20 29 08.6**	**+2.3**
CHN5	**Tsauling**	**2.12**	**298**	*eP*	**Pn**	**20 28 43.3**	**+2.0**
CHN5				*eS*	**Sn**	**20 29 09.8**	**+3.3**
TWC	**Suao**	**2.13**	**338**	P	**Pn**	**20 28 41.8**	**+0.4**
TWC				*eS*	**Sn**	**20 29 06.6**	**0.0**
SNST	**Tainan City**	**2.14**	**286**	P	**Pn**	**20 28 43.6**	**+2.1**
SNST				S	**Sn**	**20 29 10.8**	**+3.9**
TYC	**Yuchr**	**2.14**	**307**	P	**Pn**	**20 28 42.2**	**+0.7**
TWT	**Tachien**	**2.16**	**319**	*eP*	**Pn**	**20 28 42.4**	**+0.5**
TWK	**Hsinying**	**2.16**	**288**	P	**Pn**	**20 28 43.8**	**+2.0**
TWK				*eS*	**Sn**	**20 29 09.9**	**+2.5**
JIJ	**Ishigaki jima**	**2.16**	**37**	P	**Pn**	**20 28 41.9**	**+0.1**
JIJ				*eS*	**Sn**	**20 29 05.8**	**-1.6**
NNSB	**Datong**	**2.18**	**326**	*eP*	**Pn**	**20 28 42.2**	**+0.1**
NNSB				S	**Sn**	**20 29 06.7**	**-1.2**
WJS	**Zhushan**	**2.19**	**303**	P	**Pn**	**20 28 44.0**	**+1.8**
NNS	**Nan Shan**	**2.19**	**326**	P	**Pn**	**20 28 42.3**	**0.0**
NNS				*eS*	**Sn**	**20 29 06.5**	**-1.8**
WCS	**Beigang Elemen**	**2.19**	**311**	*eP*	**Pn**	**20 28 42.9**	**+0.7**
LATG	**Datong**	**2.20**	**330**	P	**Pn**	**20 28 42.3**	**-0.1**
LATG				*eS*	**Sn**	**20 29 07.2**	**-1.2**
WGK	**Gukeng**	**2.25**	**298**	P	**Pn**	**20 28 45.5**	**+2.4**
WGK				S	**Sn**	**20 29 12.0**	**+2.3**
WNT	**Mingjian**	**2.25**	**304**	P	**Pn**	**20 28 45.6**	**+2.5**
WNT				*eS*	**Sn**	**20 29 11.3**	**+1.6**
ENTT	**Nioudou**	**2.27**	**332**	P	**Pn**	**20 28 44.3**	**+1.0**
ENTT				*eS*	**Sn**	**20 29 09.5**	**-0.6**
WDLH	**Douliu**	**2.28**	**298**	P	**Pn**	**20 28 45.9**	**+2.5**
WDLH				*eS*	**Sn**	**20 29 13.3**	**+3.1**
TWE	**Neicheng**	**2.30**	**335**	P	**Pn**	**20 28 44.3**	**+0.6**
TWE				S	**Sn**	**20 29 10.6**	**-0.2**
WHP	**Taichung City**	**2.32**	**315**	*eP*	**Pn**	**20 28 45.0**	**+0.9**
WHP				*eS*	**Sn**	**20 29 11.7**	**+0.3**
FUSB	**Fushanzhiwuyua**	**2.37**	**334**	P	**Pn**	**20 28 45.6**	**+0.9**
FUSB				*eS*	**Sn**	**20 29 12.5**	**-0.1**
YHNB	**Yeheng**	**2.38**	**329**	P	**Pn**	**20 28 45.4**	**+0.5**
YHNB				*eS*	**Sn**	**20 29 11.3**	**-1.6**
NSK	**Sanguang**	**2.40**	**329**	*eP*	**Pn**	**20 28 45.4**	**+0.3**

MBIG				eS	Sn	20 38 12.4	-8.1
SV2X	**San Vicente**	**1.91**	**289**	eP	**Pb**	**20 37 59.3**	**-0.3**
SV2X				eS	**Sb**	**20 38 25.3**	**+2.1**
SFQB	**San Francisqui**	**2.57**	**154**	eP	Pg	20 38 16.8	+2.2
BKIRB	**Bahia Kino**	**2.63**	**135**	eP	**Pg**	**20 38 15.7**	**+0.1**
CBX	**Cerro Bola**	**2.68**	**307**	eP	**Pn**	**20 38 07.6**	**-0.2**
CBX				eS	**Sn**	**20 38 33.9**	**-6.0**
TJIG	**Tijuana**	**2.75**	**308**	eP	**Pn**	**20 38 07.6**	**-1.1**
TJIG				eS	**Sn**	**20 38 41.4**	**-0.3**
HSIG		**3.25**	**121**	eP	**Pn**	**20 38 15.4**	**-0.1**
HSIG				eS	**Sn**	**20 38 54.0**	**+0.2**
TUC	**Tucson**	**3.25**	**60**	eP	**Pn**	**20 38 16.7**	**+1.1**
SRIG	**Santa Rosalia**	**3.79**	**154**	eP	**Pn**	**20 38 21.8**	**-1.1**
NZIG	**Nacozari, Sono**	**3.96**	**94**	eP	**Pn**	**20 38 25.1**	**-0.3**
NZIG				eP	**Pn**	**20 38 25.7**	**+0.2**
NZIG				eS	**Sn**	**20 39 12.0**	**+0.3**
GUYB	**Guaymas**	**4.01**	**134**	eP	**Pn**	**20 38 27.3**	**+1.3**

ECX ***05*** *20:53:36.9±0.3, 30°.63N×114°.10W, h5km±5km, ML3.6*
MEX ***05*** *20:53:38.9±0.8, 30°.72N×114°.15W, h10km, MD4.0*
ISC 05 20:53:37.4±1.8, 30.77N±0°.10×114.13W±0°.04,
h12km±11km, n12, σ1§13/21, 2C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.67**	**294**	eP	**Pg**	**20 53 50.4**	**-0.1**
SFX				*i* S	**Sg**	**20 53 59.9**	**+0.6**
SFX	**San Felipe**	**0.67**	**294**	eP	**Pg**	**20 53 50.3**	**-0.1**
SFX				eS	**Sb**	**20 54 00.6**	**+0.3**
SFX				IAML		20 54 09.8	
	comp=E,2μm,0.9s						
SFX				⇓*e*		20 54 09.8	
PPXB	**Puerto Peasco**	**0.71**	**37**	⇓eP	**Pb**	**20 53 51.4**	**-0.3**
PPXB				eS	**Sb**	**20 54 02.3**	**+0.9**
PPXB				⇑*e*		20 54 09.1	
PPXB				IAML		20 54 09.1	
	comp=E,2μm,0.8s						
PIX	**Pinacate**	**0.98**	**36**	⇓eP	**Pg**	**20 53 55.5**	**-0.7**
PIX				eS	**Sb**	**20 54 10.2**	**+1.1**
SQX	**San Quintin**	**1.51**	**263**	⇑eP	**Pn**	**20 54 03.0**	**-1.3**
SQX				eS	**Sn**	**20 54 23.8**	**-0.2**
VTX	**Valle De La Tr**	**1.55**	**294**	eS	**Sb**	**20 54 26.8**	**+1.2**
RHX	**Rio Hardy**	**1.68**	**324**	eP	**Pb**	**20 54 07.8**	**-0.4**
MBIG	**Mexicali**	**1.87**	**331**	eP	**Pn**	**20 54 09.3**	**+0.1**
MBIG				eS	**Sn**	**20 54 29.5**	**-3.3**
SV2X	**San Vicente**	**1.89**	**288**	eP	**Pn**	**20 54 10.4**	**+0.8**
SV2X				eS	**Sb**	**20 54 36.5**	**+1.0**
CBX	**Cerro Bola**	**2.65**	**306**	eP	**Pn**	**20 54 19.6**	**-0.5**
CBX				eS	**Sn**	**20 54 53.5**	**+1.2**
TJIG	**Tijuana**	**2.73**	**308**	eP	**Pb**	**20 54 25.7**	**-0.4**
TJIG				eS	**Sn**	**20 54 54.8**	**+0.7**
TUC	**Tucson**	**3.25**	**61**	eP	**Pn**	**20 54 29.0**	**+0.8**

NEIC ***05*** *21:11:38.2±2.6, 43°.64N±0°.06×105°.36W±0°.05, h0km±1km, ML3.7/90, Error ellipse: s-maj=9.9km s-min=5.8km az=6.0*
IDC ***05*** *21:11:38.8±1.0, 44°.25N×105°.90W, h0km, mb4.0/3, mbtmp3.7/7, ML3.6/4, MS2.3/1, Error ellipse: s-maj=24.4km s-min=7.0km az=146.0*
ISC 05 21:11:36.5±0.8, 43°.67N±0°.05×105°.01W±0°.04, h0km, n39, σ1§49/36, mb4.2/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.50**	**228**		**Pn**	**21 12 03.5**	**-1.4**
BRIGG	**Briggsdale**	**3.12**	**170**		**Pb**	**21 12 30.0**	**-3.0**
BRIGG				IAML		21 13 27.7	
	comp=N,165nm,0.9s						
BRIGG				IAML		21 14 10.4	
	comp=E,178nm,2.5s						
LAO	**LASA Array**	**3.14**	**345**		**Pn**	**21 12 29.3**	**+2.0**
LAO				IAML		21 13 23.8	
	comp=E,275nm,1.0s						
RLMT	**Red Lodge**	**3.38**	**297**		**Pn**	**21 12 31.0**	**+0.2**
RLMT				IAML		21 13 20.9	
	comp=E,124nm,0.3s						
BW06	**Boulder Array**	**3.45**	**256**		**Pb**	**21 12 38.4**	**-0.2**
PD31	**Pinedale Array**	**3.45**	**256**		**Pn**	**21 12 31.2**	**-0.5**
PDAR	**Pinedale Array**	**3.45**	**256**		**Pn**	**21 12 31.3**	**-0.3**
PDAR	**Pinedale Array**	**3.45**	**256**	Pn	**Pn**	**21 12 31.5**	**-0.1**
	comp=E,5.2nm,0.3s,baz=69,slow=15,SNR=74						
PDAR				Lg	Lg	21 13 15.0	
	comp=E,46nm,0.3s,baz=66,slow=28,SNR=19						
PDAR				LR	LR	21 13 45.4	
	comp=E,52nm,21.0s,baz=1.0,slow=42						
	comp=E,10nm,0.3s						
OGNE	**Ogallala**	**3.50**	**140**		**Pb**	**21 12 38.4**	**-0.9**
OGNE					Pg	21 12 48.0	+4.4
OGNE				IAML		21 13 43.8	
	comp=E,187nm,1.9s						
YNE	**Yellowstone No**	**3.83**	**292**		**Pn**	**21 12 36.5**	**-0.5**
YNE				IAML		21 13 40.6	
	comp=E,155nm,0.3s						
YMP	**Mirror Lake Pl**	**3.86**	**288**		**Pn**	**21 12 38.1**	**+0.7**
YMP				IAML		21 13 42.8	
	comp=E,166nm,0.8s						
YMP				IAML		21 13 48.0	
	comp=N,168nm,1.7s						
ISCO	**Idaho Springs**	**3.89**	**187**		**Pn**	**21 12 39.7**	**+1.9**
LOHW	**Long Hollow**	**4.06**	**271**		**Pn**	**21 12 39.0**	**-1.1**
K30B	**Basset**	**4.07**	**102**		**Pb**	**21 12 48.0**	**-1.0**
H17A	**Grant Village**	**4.08**	**282**		**Pn**	**21 12 40.7**	**+0.3**
H17A				IAML		21 13 44.4	
	comp=E,125nm,2.0s						
H17A				IAML		21 13 44.4	
	comp=N,88nm,1.3s						
MOOW	**Moose Ponds**	**4.16**	**273**		**Pn**	**21 12 41.6**	**+0.2**
MOOW					**Pb**	**21 12 52.0**	**+1.2**
SNOW	**Snow King Moun**	**4.18**	**269**		**Pn**	**21 12 39.6**	**-2.2**
SNOW				IAML		21 14 04.1	
	comp=N,115nm,1.7s						
SNOW				IAML		21 14 31.5	
	comp=N,128nm,2.0s						
YNR	**Norris Junctio**	**4.21**	**286**		**Pn**	**21 12 39.9**	**-2.3**
YFT	**Old Faithful**	**4.28**	**283**		**Pb**	**21 12 52.8**	**+0.1**
O20A	**White River Ci**	**4.28**	**215**		**Pn**	**21 12 44.9**	**+1.9**
TPAW	**Teton Pass**	**4.32**	**270**		**Pn**	**21 12 42.0**	**-1.7**
TPAW				IAML		21 14 12.2	
	comp=N,64nm,2.0s						
YHH	**Holmes Hill**	**4.35**	**287**		**Pn**	**21 12 42.8**	**-1.3**
FXWY	**Fox Creek**	**4.37**	**272**		**Pn**	**21 12 44.4**	**+0.1**
YMR	**Madison River**	**4.40**	**285**		**Pn**	**21 12 45.4**	**+0.7**
YMR				IAML		21 14 06.9	
	comp=N,81nm,1.9s						
YMR				IAML		21 14 23.7	
	comp=E,77nm,1.1s						
AHID	**Auburn Hatcher**	**4.54**	**261**		**Pn**	**21 12 46.4**	**-0.3**
AHID				IAML		21 14 00.1	
	comp=E,94nm,2.3s						
AHID				IAML		21 14 10.4	
	comp=E,63nm,1.6s						
YHB	**Horse Butte**	**4.58**	**286**		**Pn**	**21 12 45.1**	**-2.1**
RDMU	**Red Mountain**	**4.59**	**229**		**Pn**	**21 12 47.4**	**+0.1**
RDMU				IAML		21 14 05.0	
	comp=N,52nm,2.8s						
RDMU				IAML		21 14 06.2	
	comp=E,76nm,1.5s						
YHL	**Hebgen Lake**	**4.59**	**287**		**Pn**	**21 12 47.4**	**0.0**
YHL				IAML		21 14 10.5	
	comp=E,73nm,1.7s						
YHL				IAML		21 14 54.9	
	comp=N,61nm,1.7s						
Q24A	**Divide**	**4.70**	**181**		**Pn**	**21 12 51.4**	**+2.5**
Q24A				IAML		21 14 13.4	
	comp=E,62nm,0.6s						
BOZ	**Bozeman (W)**	**5.11**	**295**	IAML		21 14 14.1	
	comp=E,44nm,2.1s						
BOZ				IAML		21 14 14.1	
	comp=E,42nm,1.7s						
HWUT	**Hardware Ranch**	**5.26**	**249**	IAML		21 14 39.6	
	comp=E,49nm,1.0s						
BSUT	**Blindstream Ca**	**5.30**	**236**	IAML		21 14 25.3	
	comp=N,40nm,1.8s						
BSUT				IAML		21 14 41.8	
	comp=E,45nm,2.6s						
ELK	**Elko**	**8.14**	**252**	Pn	**Pn**	**21 13 33.1**	**-2.9**
	comp=E,0.1nm,0.3s,baz=69,slow=14,SNR=1.5						
ELK				Lg	Lg	21 15 43.0	
	comp=E,0.1nm,0.3s,baz=101,slow=2.9,SNR=2.0						
	comp=E,0.3nm,0.3s						
I10CA	**LAC DU BONNET**	**8.97**	**40**	I	I	22 05 40.0	
	baz=225,slow=317,SNR=7.1						
ULM	**Lac du Bonnet**	**9.07**	**40**	Pn	**Pn**	**21 13 48.2**	**-0.3**
	comp=E,4.8nm,0.3s,baz=231,slow=12,SNR=22						
ULM				Sn	**Sn**	**21 15 28.9**	**-2.4**
	comp=E,0.6nm,0.3s,baz=215,slow=12,SNR=5.9						
ULM				Lg	Lg	21 16 24.3	
	comp=E,0.3nm,0.3s,baz=300,slow=20,SNR=5.3						
	comp=E,3.7nm,0.3s						
NEW	**Newport**	**9.61**	**303**	Pn	Pn	21 13 43.7	-12
	comp=E,0.2nm,0.3s,baz=342,slow=14,SNR=1.8						
NEW				Lg	Lg	21 16 11.6	
	comp=E,0.2nm,0.3s,baz=87,slow=15,SNR=1.5						
	comp=E,1.5nm,0.7s						
ARCES	**ARCESS Array B**	**61.43**	**18**	P	**P**	**21 21 55.2**	**+1.2**
	comp=E,4.2nm,1.1s,baz=328,slow=7.0,SNR=5.1						
	comp=E,4.2nm,1.1s						
FINES	**FINESS Array B**	**68.02**	**23**	P	**P**	**21 22 39.0**	**+1.9**
	comp=E,1.3nm,0.9s,baz=313,slow=8.8,SNR=1.7						
	comp=E,1.3nm,0.9s						
MKAR	**Makanchi Array**	**89.69**	**355**	P	**P**	**21 24 36.2**	**-0.1**
	comp=E,0.3nm,0.8s,baz=20,slow=4.7,SNR=3.6						
	comp=E,0.3nm,0.8s						

IDC ***05*** *21:24:52.0±0.7, 22°.70N×120°.78E, h0km, mb3.8/16, mbtmp3.9/18, ML3.8/2, MS3.3/8, Error ellipse: s-maj=21.8km s-min=16.0km az=66.0*
NEIC ***05*** *21:24:56.0±1.8, 22°.78N±0°.03×120°.66E±0°.04, h22km±5km, mb4.4/20, Mwr4.1/27, Error ellipse: s-maj=5.6km s-min=3.9km az=137.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr0.42; Mθθ-0.28; Mφφ-0.14; Mrθ0.30; Mθφ-1.28; Mφr-1.27; Fault plane solution: M0 1.86000×10^15 NP1:φs185.11000°, δ79.31000°, λ44.20000°. NP2:φs84.88000°, δ46.76000°, λ165.25000°. Principal axes: T 1.9645, Plg38.0000°, Azm55.0000°; N -0.2254, Plg45.0000°, Azm196.0000°; P -1.7391, Plg21.0000°, Azm308.0000°;*
ASIES ***05*** *21:24:55.2, 22°.82N×120°.69E, h17km, ML4.6, Mw4.1, Moment Tensor Solution. Moment tensor: Scale 10^22Nm; Mrr0.43; Mθθ-0.42; Mφφ-0.01; Mrθ0.04; Mθφ-0.85; Mφr-1.67; Fault plane solution: M0 1.91813×10^22 NP1:φs85.76000°, δ28.82000°, λ166.15000°. NP2:φs187.95000°, δ83.37000°, λ61.89000°. Principal axes: T Plg44.5170°, Azm70.0920°; N Plg27.9070°, Azm191.4770°; P Plg32.5430°, Azm301.2300°;*
TAP ***05*** *21:24:55.2, 22°.82N×120°.69E, h17km, ML4.6, B*
NEIC ***05*** *21:24:55.7, 22°.78N×120°.66E, h20km*
JMA ***05*** *21:24:56.0±0.1, 22°.8N±0°.7×120°.7E±0°.6, h25km±2km, MV4.6/14, TAIWAN REGION*
NIED ***05*** *21:24:56.0, 22°.81N×120°.67E, h25km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr1.04; Mθθ0.19; Mφφ-1.23; Mrθ-0.22; Mθφ-0.32; Mφr-1.17; Fault plane solution: M0 1.67000×10^15 NP1:φs14.00000°, δ22.00000°, λ93.00000°. NP2:φs191.00000°, δ68.00000°, λ89.00000°.*
ISC 05 21:24:55.4±0.8, 22°.79N±0°.01×120°.67E±0°.01, h19km±5km, n237, σ0§99/355, mb4.2/25, MS3.3/7, 29C-32D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSMG	**Majia**	**0.09**	**198**	⇑*i*P	**Pg**	**21 24 59.3**	**0.0**
TSMG				*i* S	**Sg**	**21 25 02.0**	**+0.2**
MASBT	**Mashibuluo**	**0.18**	**192**	⇑*i*P	**Pb**	**21 25 00.7**	**+1.4**
MASBT				*i* S	**Sb**	**21 25 04.3**	**+2.5**
SGLT	**Jiouru**	**0.18**	**249**	⇑*i*P	**Pb**	**21 25 01.4**	**+2.2**
SGLT				eS	**Sb**	**21 25 05.5**	**+3.8**
SCST	**Cishan**	**0.19**	**300**	⇑*i*P	**Pb**	**21 25 00.9**	**+1.3**
SCST				*i* S	**Sb**	**21 25 05.7**	**+3.3**
TWM1	**Shoushan**	**0.23**	**278**	⇑*i*P	**Pb**	**21 25 02.1**	**+1.3**
TWM1				S	**Sb**	**21 25 08.1**	**+3.7**
SGST	**Jiashian**	**0.30**	**344**	⇓*i*P	**Pg**	**21 25 01.7**	**-0.5**
SGST				*i* S	**Sb**	**21 25 07.1**	**+0.3**
SNJT	**Kaohsiung City**	**0.32**	**263**	eP	**Pn**	**21 25 04.5**	**-0.5**
SNJT				eS	**Sn**	**21 25 11.4**	**+0.4**
SSPT	**Xinbi**	**0.32**	**198**	P	**Pn**	**21 25 04.5**	**-0.5**
SSPT				*i* S	**Sn**	**21 25 10.5**	**-0.6**
ECL	**Taimali**	**0.32**	**126**	⇓*i*P	**Pb**	**21 25 03.0**	**+0.4**
ECL				eS	**Sb**	**21 25 08.4**	**+0.9**
TWG	**Pinlang**	**0.37**	**85**	Pg	**Pb**	**21 25 03.9**	**+0.4**
TWG				Sg	**Sb**	**21 25 09.8**	**+0.9**
TWGBT	**Beinan**	**0.38**	**86**	P	**Pb**	**21 25 03.6**	**0.0**
TWGBT	**Beinan**	**0.38**	**86**	S	**Sb**	**21 25 09.0**	**-0.1**
TWGBT	**Beinan**	**0.38**	**86**	⇓*i*P	**Pb**	**21 25 04.0**	**+0.4**
TWGBT				eS	**Sb**	**21 25 09.1**	**0.0**
SHHT	**Tainan City**	**0.38**	**308**	⇓*i*P	**Pn**	**21 25 05.0**	**-0.8**
SHHT				eS	**Sn**	**21 25 11.4**	**-1.3**
STYH	**Taoyuan**	**0.39**	**14**	⇑*i*P	**Pg**	**21 25 02.9**	**-0.8**
STYH				*i* S	**Sg**	**21 25 09.1**	**-0.1**
CHN3	**Shinhua**	**0.40**	**315**	⇓*i*P	**Pn**	**21 25 05.4**	**-0.8**
CHN3				eS	**Sn**	**21 25 12.8**	**-0.5**
KAU	**Kaohsiung**	**0.40**	**237**	eP	**Pn**	**21 25 06.5**	**+0.3**
WSSB	**Gushan**	**0.41**	**249**	⇓*i*P	**Pn**	**21 25 06.1**	**-0.2**
WSSB				eS	**Sn**	**21 25 14.5**	**+1.1**
CHN1	**Nanshi**	**0.42**	**341**	⇓*i*P	**Pb**	**21 25 04.6**	**+0.3**
CHN1				eS	**Sb**	**21 25 11.9**	**+1.6**
SCZT	**Fangliau**	**0.42**	**187**	⇑*i*P	**Pb**	**21 25 04.6**	**+0.3**
SCZT				S	**Sb**	**21 25 09.9**	**-0.4**
EAST	**Anshuo**	**0.43**	**158**	⇓*i*P	**Pn**	**21 25 05.3**	**-1.4**
EAST				*i* S	**Sb**	**21 25 11.7**	**+0.9**
LONT	**Longtian**	**0.44**	**74**	eP	**Pb**	**21 25 05.0**	**+0.4**
LONT				eS	**Sb**	**21 25 11.4**	**+0.6**
TTN	**Taitung**	**0.44**	**95**	⇓*i*P	**Pn**	**21 25 06.0**	**-0.7**
TTN				eS	**Sn**	**21 25 13.1**	**-1.0**
SNST	**Tainan City**	**0.46**	**339**	⇓*i*P	**Pb**	**21 25 05.4**	**+0.4**
SNST				eS	**Sb**	**21 25 13.0**	**+1.6**
WTP	**Ta-pu**	**0.46**	**353**	⇓*i*P	**Pb**	**21 25 05.2**	**+0.2**
WTP				*i* S	**Sb**	**21 25 12.5**	**+1.0**
TAW	**Tawu**	**0.48**	**154**	⇓*i*P	**Pn**	**21 25 05.9**	**-1.3**
TAW				S	**Sn**	**21 25 13.2**	**-1.8**
TAI1	**Yung-k'ang**	**0.48**	**301**	eP	**Pn**	**21 25 06.5**	**-0.7**
TAI1				eS	**Sn**	**21 25 14.8**	**-0.3**
TAWH	**Dawu Township**	**0.49**	**156**	⇓*i*P	**Pn**	**21 25 06.1**	**-1.3**
TAWH				eS	**Sn**	**21 25 13.7**	**-1.7**
SSHA	**Shanhua**	**0.49**	**314**	eP	**Pn**	**21 25 06.7**	**-0.8**
SSHA				eS	**Sn**	**21 25 15.4**	**-0.1**
TWK	**Hsinying**	**0.51**	**340**	⇓*i*P	**Pb**	**21 25 05.9**	**+0.1**
TWK				eS	**Sb**	**21 25 13.3**	**+0.6**
ELDTW	**Lidau**	**0.51**	**38**	⇑*i*P	**Pb**	**21 25 05.9**	**+0.1**
ELDTW				S	**Sb**	**21 25 13.5**	**+0.6**
TPUB	**Ta-pu**	**0.51**	**355**		**Pb**	**21 25 05.7**	**-0.1**
TPUB				Sg	**Sb**	**21 25 13.8**	**+1.0**
TPUB	**Ta-pu**	**0.51**	**355**	P	**Pb**	**21 25 05.9**	**+0.1**
TPUB	**Ta-pu**	**0.51**	**355**	S	**Sb**	**21 25 14.1**	**+1.3**
TPUB	**Ta-pu**	**0.51**	**355**	⇓*i*P	**Pb**	**21 25 05.8**	**0.0**
TPUB				eS	**Sb**	**21 25 13.4**	**+0.6**
TWP	**Hsiaoliuchiu**	**0.53**	**213**	eP	**Pn**	**21 25 09.2**	**+1.3**
TWP				S	**Sn**	**21 25 18.9**	**+2.6**
CHN4	**Tsaushan**	**0.56**	**352**	⇓*i*P	**Pb**	**21 25 06.7**	**+0.1**
CHN4				S	**Sb**	**21 25 15.4**	**+1.1**
SLIU	**Shizi**	**0.58**	**169**	⇓*i*P	**Pn**	**21 25 07.8**	**-0.9**
SLIU				*i* S	**Sn**	**21 25 16.3**	**-1.4**
SCLT	**Jiali**	**0.58**	**311**	⇓P	**Pb**	**21 25 07.6**	**+0.6**
SCLT				*i* S	**Sn**	**21 25 18.1**	**+0.3**
ECS	**Chishang**	**0.59**	**59**	⇑*i*P	**Pb**	**21 25 07.7**	**+0.6**
ECS				S	**Sb**	**21 25 16.7**	**+1.8**
EHD	**Haiduan**	**0.61**	**54**	⇑*i*P	**Pg**	**21 25 07.2**	**-0.4**
EHD				eS	**Sg**	**21 25 15.6**	**-0.2**
EDH	**Donghe**	**0.61**	**72**	⇑eP	**Pb**	**21 25 08.0**	**+0.6**
EDH				S	**Sb**	**21 25 17.3**	**+1.8**
TSCK	**Chigu Township**	**0.65**	**303**	eP	**Pn**	**21 25 09.0**	**-0.6**
TSCK				eS	**Sn**	**21 25 20.1**	**+0.8**
WCKO	**Fanlu**	**0.65**	**354**	eP	**Pb**	**21 25 08.1**	**0.0**
WCKO				S	**Sb**	**21 25 17.9**	**+1.2**
ICHU	**Yijhu**	**0.68**	**327**	⇓eP	**Pb**	**21 25 09.0**	**+0.5**
ICHU				S	**Sn**	**21 25 20.1**	**+0.1**
CHN8	**Yiju**	**0.70**	**323**	⇓*i*P	**Pb**	**21 25 09.4**	**+0.4**
CHN8				*i* S	**Sn**	**21 25 20.7**	**+0.2**
FULB	**Fuli**	**0.70**	**54**	⇑*i*P	**Pn**	**21 25 09.8**	**-0.5**
FULB				eS	**Sb**	**21 25 19.4**	**+1.1**
CHKT	**Chengkung**	**0.71**	**64**	⇑*i*P	**Pb**	**21 25 09.7**	**+0.6**
CHKT				S	**Sn**	**21 25 20.8**	**0.0**
ALS	**Alishan**	**0.73**	**10**	eP	**Pb**	**21 25 09.7**	**0.0**
ALS				eS	**Sn**	**21 25 21.1**	**-0.7**
CHY	**Chiayi**	**0.74**	**342**	eP	**Pn**	**21 25 10.3**	**-0.6**
CHY				*i* S	**Sn**	**21 25 22.1**	**+0.4**
LDUT	**Ludao**	**0.74**	**99**	eP	**Pb**	**21 25 10.1**	**+0.4**
LDUT				eS	**Sn**	**21 25 21.2**	**-0.5**
CHKH	**Chenggong**	**0.78**	**59**	eP	**Pg**	**21 25 10.6**	**-0.1**
CHKH				eS	**Sn**	**21 25 23.3**	**+0.8**
SMST	**Manzhou Townsh**	**0.78**	**169**	eP	**Pn**	**21 25 11.6**	**+0.2**
SMST				eS	**Sn**	**21 25 22.9**	**+0.3**
HEN	**Hengchun**	**0.78**	**176**	⇓P	**Pn**	**21 25 12.1**	**+0.7**
HEN				*i* S	**Sn**	**21 25 23.8**	**+1.2**
TWF1	**Yuli**	**0.80**	**46**	⇑*i*P	**Pg**	**21 25 10.9**	**-0.3**
TWF1				S	**Sb**	**21 25 21.6**	**+0.3**
CHN5	**Tsauling**	**0.80**	**0**	⇓P	**Pb**	**21 25 10.8**	**-0.1**
CHN5				*i* S	**Sn**	**21 25 22.8**	**-0.5**
EYUL	**Yuli**	**0.81**	**47**	⇑*i*P	**Pg**	**21 25 11.2**	**-0.2**
EYUL				eS	**Sg**	**21 25 22.9**	**+0.6**
YULB	**Yu-li**	**0.83**	**44**		**Pb**	**21 25 11.0**	**-0.3**
YULB				Sg	**Sg**	**21 25 23.0**	**+0.2**
YULB	**Yu-li**	**0.83**	**44**	P	**Pb**	**21 25 11.3**	**0.0**
YULB	**Yu-li**	**0.83**	**44**	⇑P	**Pb**	**21 25 11.2**	**0.0**
YULB				eS	**Sb**	**21 25 22.0**	**-0.1**
WSL	**Shuilin Townsh**	**0.84**	**331**	⇓*i*P	**Pg**	**21 25 11.4**	**-0.4**
WSL				S	**Sn**	**21 25 24.6**	**+0.6**
TWK1	**Hengchun**	**0.85**	**172**	eP	**Pn**	**21 25 13.1**	**+0.7**
TWK1				S	**Sn**	**21 25 25.7**	**+1.4**
TWKBT	**Hengchun**	**0.85**	**171**	⇑P	**Pn**	**21 25 13.1**	**+0.7**
TWKBT				S	**Sn**	**21 25 25.6**	**+1.2**
ECBN	**Changbin**	**0.89**	**54**	⇑eP	**Pg**	**21 25 12.7**	**-0.1**
WGK	**Gukeng**	**0.90**	**353**	⇓*i*P	**Pg**	**21 25 12.8**	**-0.2**
WGK				*i* S	**Sn**	**21 25 26.3**	**+0.8**
WDLH	**Douliu**	**0.90**	**352**	eP	**Pg**	**21 25 12.8**	**-0.3**
WDLH				S	**Sn**	**21 25 26.8**	**+1.2**
TSEB	**Hengchuen, Pin**	**0.91**	**167**	⇓P	**Pn**	**21 25 14.1**	**+0.9**
TSEB				*i* S	**Sn**	**21 25 28.0**	**+2.2**
WHYT	**Xinyi Township**	**0.92**	**10**	P	**Pg**	**21 25 13.1**	**-0.3**
WHYT				*i* S	**Sn**	**21 25 26.3**	**+0.3**
WDL	**Douliou City**	**0.93**	**352**	eP	**Pg**	**21 25 13.2**	**-0.4**
WDL				eS	**Sn**	**21 25 27.4**	**+1.2**
EHY	**Hungye**	**0.93**	**40**	⇑P	**Pb**	**21 25 12.9**	**0.0**
WTK	**Tuku**	**0.93**	**344**	⇓P	**Pb**	**21 25 13.0**	**0.0**
WTK				S	**Sn**	**21 25 27.3**	**+0.9**
EHYH	**Wanrong**	**0.93**	**41**	eP	**Pb**	**21 25 13.1**	**0.0**
EHYH				eS	**Sb**	**21 25 24.8**	**-0.3**
WSF	**Szhu**	**0.94**	**334**	⇓P	**Pb**	**21 25 12.9**	**-0.3**
WSF				S	**Sn**	**21 25 26.9**	**+0.3**
HGSD	**Ruisui**	**0.98**	**44**	⇑P	**Pg**	**21 25 14.4**	**-0.2**
HGSD				eS	**Sb**	**21 25 25.7**	**-0.7**
SSLB	**Suanglung**	**1.03**	**14**		**Pb**	**21 25 14.3**	**-0.3**
SSLB					**Sn**	**21 25 29.9**	**+1.2**
SSLB	**Suanglung**	**1.03**	**14**	P	**Pb**	**21 25 14.7**	**+0.1**
SSLB	**Suanglung**	**1.03**	**14**	S	**Sn**	**21 25 30.5**	**+1.8**
SSLB	**Suanglung**	**1.03**	**14**	⇑*i*P	**Pb**	**21 25 14.5**	**-0.1**
SSLB				S	**Sn**	**21 25 29.7**	**+0.9**
WJS	**Zhushan**	**1.03**	**3**	⇓eP	**Pg**	**21 25 15.1**	**-0.4**
WJS				S	**Sn**	**21 25 30.2**	**+1.4**
WDGT	**Dungji**	**1.04**	**297**	⇓*i*P	**Pb**	**21 25 13.9**	**-1.0**
WDGT				S	**Sb**	**21 25 28.2**	**0.0**
VWDT	**VWDT**	**1.05**	**24**	⇑*i*P	**Pb**	**21 25 15.1**	**+0.1**
VWDT				eS	**Sg**	**21 25 29.5**	**-0.3**
WNT	**Mingjian**	**1.08**	**0**	eP	**Pn**	**21 25 15.7**	**+0.1**
WNT				eS	**Sg**	**21 25 31.2**	**+0.4**
LAY	**Lan-yu**	**1.10**	**132**	eP	**Pb**	**21 25 15.1**	**-0.8**
LAY				eS	**Sg**	**21 25 31.2**	**-0.2**
SMLT	**Sun Moon Lake**	**1.11**	**11**	⇑P	**Pb**	**21 25 15.5**	**-0.6**
SMLT				eS	**Sn**	**21 25 31.3**	**+0.5**
EGFH	**Guangfu**	**1.12**	**38**	eP	**Pg**	**21 25 16.9**	**-0.3**
EGFH				eS	**Sb**	**21 25 30.3**	**0.0**
TYC	**Yuchr**	**1.12**	**9**	⇓eP	**Pb**	**21 25 16.5**	**+0.3**
TYC				*i* S	**Sg**	**21 25 32.5**	**+0.5**
WTCT	**Ta-ch'eng**	**1.13**	**341**	P	**Pn**	**21 25 15.9**	**-0.3**
WTCT				S	**Sn**	**21 25 31.4**	**+0.2**
WARBT	**Fenglin Townsh**	**1.13**	**35**	⇑*i*P	**Pn**	**21 25 16.1**	**-0.1**
WARBT				eS	**Sb**	**21 25 30.9**	**+0.1**
LYUB	**Lan-yu**	**1.15**	**133**	eP	**Pn**	**21 25 14.4**	**-2.1**
TEGC	**Jichi Village**	**1.21**	**41**	P	**Pg**	**21 25 18.6**	**-0.4**
VCHM	**Qimei**	**1.22**	**290**	⇓P	**Pn**	**21 25 16.2**	**-1.2**
VCHM				eS	**Sb**	**21 25 31.8**	**-1.4**
ESL	**Shilin**	**1.24**	**34**	⇑P	**Pn**	**21 25 17.9**	**+0.2**
ESL				eS

EOS2	EOS2	2.16	41	eP	Pb	21 25 32.4	-1.5
ILA	Ilan	2.20	26	eP	Pb	21 25 33.2	-1.4
NCUH	Zhongli	2.22	12	eP	Pb	21 25 34.0	-1.0
NCUH				eS	Sn	21 25 59.4	+1.3
TATO	Taipei	2.30	19		Pb	21 25 36.2	-0.1
TWA	Mucha	2.33	21	eP	Pb	21 25 36.9	0.0
EGS		2.35	29	eP	Pb	21 25 35.8	-1.4
TWS1	Kuangyinshan	2.40	16	eP	Pn	21 25 34.0	+0.3
TIPB	Shuangxi	2.42	26	eP	Pn	21 25 35.9	+2.0
TIPB				eS	Sn	21 26 05.6	+2.6
VWUC	VWUC	2.46	333	P	Pn	21 25 33.8	-0.7
NTST	Danshui	2.47	17	eP	Pn	21 25 36.5	+1.8
YM01	YM01	2.48	19	eP	Pn	21 25 35.8	+0.9
NWF	Wu-fen Shan	2.49	24	eP	Pb	21 25 37.4	-2.2
WFSB	Wu-fen Shan	2.49	24	eP	Pn	21 25 36.2	+1.3
ZUZH	Zhuzihu	2.49	18	eP	Pn	21 25 36.0	+1.0
ZUZH				eS	Sn	21 26 06.4	+1.5
ANP	Anpu	2.51	18	eP	Pn	21 25 37.0	+1.7
TWB1	Santiao Chiao	2.52	28	eP	Pb	21 25 38.1	-1.9
YM08	YM08	2.53	19	eP	Pn	21 25 35.7	+0.2
SXI1	Grass Mountain	2.54	25	eP	Pn	21 25 37.6	+1.8
SXI1				eS	Sn	21 26 09.1	+2.9
TWY	Chenhua	2.62	19	eP	Pb	21 25 39.5	-2.2
KNM	Kinmen	2.62	309	eP	Pn	21 25 37.2	+0.5
PTMZ	Houxiangcun	2.65	328	eP	Pn	21 25 36.0	-1.1
JYNG	Yonagunijimaku	2.66	51	P	Pn	21 25 39.0	+1.7
JYNG				eS	Sn	21 26 10.1	+1.1
KNMB	Chin-men Tao	2.68	309	Pn	Pn	21 25 36.1	-1.5
KNMB	Chin-men Tao	2.68	309	eP	Pn	21 25 36.6	-0.9
YOJ	Yonaguni jima	2.71	52		Pn	21 25 39.9	+1.9
YOJ	Yonaguni jima	2.71	52	P	Pn	21 25 40.1	+2.1
YOJ				eS	Sn	21 26 12.7	+2.4
YOJ	Yonaguni jima	2.71	52	eP	Pn	21 25 39.5	+1.5
ZPLA	Ao Xicun	2.92	293	eP	Pn	21 25 40.0	-0.8
PCYT	Pengchaiyu	3.10	24	eP	Pn	21 25 44.4	+1.0
DSXP	Dongshan	3.12	288	eP	Pn	21 25 43.0	-0.6
HATJ	Hateruma jima	3.14	66	P	Pn	21 25 45.6	+1.7
HATJ				eS	Sn	21 26 20.7	-0.1
IRIF	Iriomote-Funau	3.20	61	P	Pn	21 25 45.7	+1.1
IRIF				eS	Sn	21 26 23.6	+1.3
AXDP	Jialang	3.25	311	eP	Pn	21 25 44.3	-1.1
JKRS	Kuro-shima	3.38	64	P	Pn	21 25 48.6	+1.4
MATB	Ma-tsu	3.41	349	eP	Pn	21 25 46.6	-1.0
JIJ	Ishigaki jima	3.55	63	P	Pn	21 25 50.0	+0.5
JIJ				eS	Sn	21 26 31.2	+0.3
MHZQ	Yeshan	3.62	336	eP	Pn	21 25 50.0	-0.5
JISG	Ishigakijimahi	3.78	61	P	Pn	21 25 53.0	+0.3
JISG				eS	Sn	21 26 37.6	+0.9
XPSS	Dashiqiu	4.15	354	eP	Pn	21 25 56.8	-1.0
HKPS	Hong Kong Po S	6.06	266		Pn	21 26 23.1	-0.9
JOW	Kunigami	7.99	58	Pn	Pn	21 26 49.4	-1.2
JOW	Kunigami	7.99	58	Pn	Pn	21 26 49.5	-1.1
	3.6nm,0.3s,baz=193,slow=8.3,SNR=11						
	9.2nm,0.3s						
TGY	Tagaytay City	8.64	178	LR	LR	21 31 19.0	
	comp=Z,55nm,18.5s,baz=66,slow=45						
QIZ	Qiongzhong	10.79	252	Pn	Pn	21 27 29.2	+0.2
QIZ	Qiongzhong	10.79	252	P	Pn	21 27 29.2	+0.2
QIZ				S	Sn	21 29 26.4	-2.9
QIZ				LR	LR		
	comp=N,160nm,9.2s						
QIZ				LR	LR		
	comp=E,200nm,10.5s						
QIZ				LR	LR		
	comp=Z,250nm,11.9s						
JNU	Nakatsue	13.67	39	LR	LR	21 33 41.7	
	comp=Z,84nm,20.1s,baz=154,slow=39						
KSRS	Korea Array	15.89	22	Pn	Pn	21 28 38.9	+0.8
	comp=Z,0.2nm,0.3s,baz=199,slow=12,SNR=5.8						
KSRS				LR	LR	21 35 30.5	
	comp=Z,64nm,19.9s,baz=190,slow=40						
	comp=Z,2.2nm,0.8s						
LZH	Lanzhou	19.72	316	eP	Pn	21 29 26.2	+0.6
LZH				sP	sP	21 29 35.3	+2.8
LZH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LZH				LR	LR		
	comp=N,150nm,11.7s						
LZH				LR	LR		
	comp=E,150nm,12.7s						
LZH				LR	LR		
	comp=Z,170nm,15.2s						
MJAR	Matsushiro Arr	20.45	44	P	P	21 29 32.0	+0.2
	comp=Z,7.2nm,0.7s,baz=231,slow=8.2,SNR=20						
MJAR				LR	LR	21 38 30.7	
	comp=Z,75nm,18.4s,baz=296,slow=40						
	comp=Z,7.2nm,0.7s						
CMAR	Chiang Mai Arr	20.79	262	P	Pn	21 29 36.9	-1.2
	comp=Z,0.4nm,0.4s,baz=71,slow=9.3,SNR=6.2						
CMAR				LR	LR	21 38 50.0	
	comp=Z,126nm,18.4s,baz=80,slow=40						
	comp=Z,0.4nm,0.4s						
GTA	Gaotai	24.27	318	eP	P	21 30 13.4	+1.8
GTA				sP	sP	21 30 28.9	+8.8
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				LR	LR		
	comp=N,76nm,14.2s						
GTA				LR	LR		
	comp=E,85nm,14.5s						
GTA				LR	LR		
	comp=Z,110nm,14.2s						
GUMO	Guam	24.71	108	LR	LR	21 39 09.5	
	comp=Z,50nm,20.9s,baz=122,slow=35						
SONM	Songino Array	27.48	339	P	P	21 30 41.2	+0.6
	comp=Z,1.0nm,0.8s,baz=149,slow=9.6,SNR=7.2						
	comp=Z,1.0nm,0.8s						
ASAJ	Asahikawa	27.89	35	LR	LR	21 42 48.5	
	comp=Z,69nm,18.4s,baz=233,slow=39						
MK31	Makanchi Array	39.02	317	P	P	21 32 21.2	+0.3
MKAR	Makanchi Array	39.02	317	P	P	21 32 21.8	+1.0
	comp=Z,1.2nm,0.8s,baz=114,slow=9.6,SNR=13						
	comp=Z,1.2nm,0.8s						
MAKZ	Makanchi	39.23	317	P	P	21 32 23.5	+1.0
ZALV	Zalesovo Beam	41.17	328	P	P	21 32 39.3	+0.9
	comp=Z,1.2nm,0.6s,baz=126,slow=7.5,SNR=3.9						
	comp=Z,1.2nm,0.6s						
PALK	Pallekele	41.40	254	LR	LR	21 51 23.4	
	comp=Z,90nm,18.0s,baz=56,slow=38						
KURBB	Kurchatov Arra	42.88	321	P	P	21 32 53.2	+0.7
	comp=Z,0.6nm,0.8s,baz=108,slow=9.5,SNR=4.2						
	comp=Z,0.6nm,0.8s						
H11N1	WAKE ISLAND Hy	43.05	85	T	T	22 18 10.5	
	baz=281						
H11N2	WAKE ISLAND Hy	43.05	85	T	T	22 18 42.6	
	baz=281						
H11N3	WAKE ISLAND Hy	43.07	85	T	T	22 18 38.9	
	baz=281						
H11S3	WAKE ISLAND Hy	43.14	87	T	T	22 18 18.7	
	baz=282,slow=74						
H11S1	WAKE ISLAND Hy	43.15	87	T	T	22 18 41.3	
	baz=282,slow=74						
H11S2	WAKE ISLAND Hy	43.16	87	T	T	22 18 28.7	
	baz=282						
WRA	Warramunga Arr	44.52	162	P	P	21 33 04.0	-2.0
	comp=Z,1.9nm,0.8s,baz=343,slow=8.3,SNR=8.5						
	comp=Z,1.9nm,0.8s						
ASAR	Alice Springs	47.94	164	P	P	21 33 31.9	-1.0
	comp=Z,0.7nm,0.5s,baz=340,slow=7.2,SNR=13						
ASAR				PcP	PcP	21 35 00.6	-0.5
	comp=Z,0.8nm,0.9s,baz=318,slow=1.7,SNR=4.6						
	comp=Z,0.7nm,0.5s						
BVAR	Borovoye Array	48.46	322	P	P	21 33 37.0	+0.4
	comp=Z,1.6nm,0.7s,baz=92,slow=10,SNR=8.8						
BVAR				PcP	PcP	21 35 01.9	-0.7
	comp=Z,0.3nm,0.5s,baz=82,slow=3.1,SNR=3.0						
	comp=Z,1.6nm,0.7s						
BRVK	Borovoye	48.53	322	P	P	21 33 37.0	-0.1
BRVK				IAmb	IAmb	21 33 39.2	
	comp=Z,3.5nm,0.8s						
NRIK	Noril'sk	50.62	345	P	P	21 33 51.6	-1.2
	comp=Z,2.1nm,0.6s,baz=106,slow=4.7,SNR=3.6						
	comp=Z,2.1nm,0.6s						
ABKAR	Akbulak array	54.09	315	P	P	21 34 19.2	+0.4
KBZ	Khabaz	65.99	309	P	P	21 35 40.9	+0.3
	comp=Z,1.6nm,0.9s,baz=127,slow=1.2,SNR=5.8						
	comp=Z,1.6nm,0.9s						
B21K	Ikpikpuk River	67.01	22	P	P	21 35 47.0	+0.3
N18K	Kilae Creek	67.22	32	P	P	21 35 46.6	-1.6
E21K	Killik River	67.33	24	P	P	21 35 49.1	+0.3
E21K				IAmb	IAmb	21 35 49.6	
	comp=Z,3.1nm,0.7s						
B22K	Teshekpuk Lake	67.37	21	P	P	21 35 49.4	+0.4
E24K	Your Creek	69.40	24	P	P	21 36 01.4	-0.4
E24K				IAmb	IAmb	21 36 02.9	
	comp=Z,2.1nm,0.7s						
SUA	Susitna One	69.58	31	P	P	21 36 03.0	-0.1
F24K	Squaw Lake	69.72	24	P	P	21 36 04.4	+0.6
F24K				IAmb	IAmb	21 36 04.9	
	comp=Z,2.9nm,0.7s						
D25K	Kavik River	69.93	22	P	P	21 36 05.1	+0.1
D25K				IAmb	IAmb	21 36 05.8	
	comp=Z,3.4nm,0.9s						
F25K	Christian Rive	70.55	24	P	P	21 36 09.4	+0.5
F25K				IAmb	IAmb	21 36 10.3	
	comp=Z,2.3nm,0.8s						
SML	Sawmill	70.65	30	P	P	21 36 08.8	-0.8
SML				IAmb	IAmb	21 36 12.2	
	comp=Z,2.9nm,0.9s						
ARCES	ARCESS Array B	70.65	338	P	P	21 36 10.1	+0.7
	comp=Z,3.2nm,0.9s,baz=56,slow=6.8,SNR=3.6						
	comp=Z,3.2nm,0.9s						
ILAR	Eielson Array	70.66	27	P	P	21 36 10.0	+0.5
	comp=Z,0.4nm,0.8s,baz=294,slow=6.8,SNR=2.9						
	comp=Z,0.4nm,0.8s						
FINES	FINESS Array B	72.41	330	P	P	21 36 20.5	+0.4
	comp=Z,1.0nm,0.8s,baz=42,slow=3.1,SNR=4.1						
	comp=Z,1.0nm,0.8s						
F30M	Barrier River	74.16	23	P	P	21 36 30.4	+0.1
INK	Inuvik	74.69	22	P	P	21 36 32.9	-0.4
INK				IAmb	IAmb	21 36 33.4	
	comp=Z,3.6nm,0.9s						
I30M	Mount Dempster	74.80	25	P	P	21 36 33.5	-0.8
L29M	L29M	74.84	28	P	P	21 36 34.1	-0.3
L29M				IAmb	IAmb	21 36 36.6	
	comp=Z,4.1nm,1.0s						
M29M	Somme Creek	74.93	28	P	P	21 36 34.1	-1.0
H31M	Peel River	75.37	24	P	P	21 36 36.9	-0.5
HYT	Haines Junctio	75.93	30	P	P	21 36 40.5	-0.3
HYT				IAmb	IAmb	21 36 52.4	
	comp=Z,4.2nm,1.1s						
NOA	NORSAR Array B	79.23	332	P	P	21 37 00.5	+1.3
	comp=Z,0.5nm,0.9s,baz=61,slow=5.4,SNR=1.9						
	comp=Z,0.5nm,0.9s						
YKA	Yellowknife Ar	84.43	23	P	P	21 37 25.8	-0.7
	comp=Z,0.9nm,0.7s,baz=317,slow=4.7,SNR=15						
	comp=Z,0.9nm,0.7s						
DAVOX	Davos/Dischmat	86.87	320	LR	LR	22 21 17.6	
	comp=Z,171nm,18.5s,baz=316,slow=39						

ECX ***05*** *21:31:14.2±0.4, 30.°62N×114.°09W, h17km±4km, ML4.5*
IDC ***05*** *21:31:16.6±1.1, 30.°80N×113.°87W, h0km, mb3.8/4,*
mbtmp3.7/13, ML3.4/8, MS4.1/58, Error ellipse:
s-maj=18.2km s-min=8.3km az=40.0
GCMT ***05*** *21:31:18.0±0.5, 30.°74N±0.°04×114.°12W±0.°03, h16km±2km,*
MW4.9/82, Moment Tensor Solution. s9,c9; s82,c104;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.65±.23;
$M_{\theta\theta}$-1.96±.17; $M_{\phi\phi}$2.61±.17; $M_{r\theta}$0.15±.56; $M_{\theta\phi}$0.82±.14;
$M_{\phi r}$0.49±.41; Best double couple: $M_0$2.46700×10^{16}
NP1:ϕ_s325.00000°, δ82.00000°, λ176.00000°. NP2:
ϕ_s55.00000°, δ86.00000°, λ8.00000°. Principal axes: T
2.8270, Plg8.0000°, Azm280.0000°; N -0.7220,
Plg81.0000°, Azm82.0000°; P -2.1070, Plg3.0000°,
Azm190.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Surface-wave
location Triangular moment-rate function
ISC 05 21:31:16.1±0.8, 30.°70N±0.°07×114.°10W±0.°04, h10km, n69,
σ2°33/29, mb3.8/4, MS4.2/51, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.73	298	eP	Pg	21 31 28.0	-2.2
SFX				eS	Sg	21 31 38.6	-1.2
SFX				e		21 31 58.9	
SFX				IAML		21 31 58.9	
	comp=E,11μm,0.9s						
PPXB	Puerto Peasco	0.75	32	eP	Pg	21 31 28.8	-1.8
PPXB				eS	Sg	21 31 39.5	-0.9
PPXB				⇑e		21 31 41.1	
PPXB				IAML		21 31 41.1	
	comp=E,20μm,0.9s						
PIX	Pinacate	1.02	32	eP	Pg	21 31 32.9	-2.8
PIX				eS	Sg	21 31 47.5	-1.5
SQX	San Quintin	1.54	266	eP	Pn	21 31 40.5	-3.1
SQX				eS	Sn	21 32 00.2	-3.4
VTX	Valle De La Tr	1.61	296	eP	Pn	21 31 42.7	-1.9
VTX				eS	Sn	21 32 05.4	-0.1
RHX	Rio Hardy	1.76	325	eP	Pn	21 31 43.4	-3.2
PESCX	Ej. Pescaderos	1.88	337	eP	Pn	21 31 46.4	-2.0
SV2X	San Vicente	1.95	290	eP	Pn	21 31 46.8	-2.4
CPBX	Cerro Prieto	2.00	329	eP	Pn	21 31 47.9	-2.1
CPBX				IAML		21 32 45.7	
	comp=N,8μm,1.5s						
CPBX				⇑e		21 32 45.7	
PFO	Pinyon Flats O	3.53	326	Pn	Pn	21 32 13.7	+2.6
	comp=N,0.3nm,0.3s,baz=132,slow=13,SNR=3.7						
PFO				Lg	Lg	21 33 07.6	
	comp=N,4.7nm,0.3s,baz=319,slow=3.9,SNR=4.1						
PFO				LR	LR	21 33 34.2	
	comp=N,1μm,18.2s,baz=352,slow=39						
	comp=N,4.5nm,0.5s						
LPIG	La Paz	7.38	152	Pn	Pn	21 33 05.1	+1.2
	comp=N,24nm,0.3s,baz=36,slow=5.0,SNR=1.6						
LPIG				Lg	Lg	21 35 11.2	
	comp=N,30nm,0.3s,baz=183,slow=2.6,SNR=4.5						
LPIG				LR	LR	21 36 02.6	
	comp=N,1μm,18.4s,baz=342,slow=39						
ANMO	Albuquerque	7.70	55	Pn	Pn	21 33 06.8	-1.6
	comp=N,0.3nm,0.3s,baz=25,slow=12,SNR=7.3						
ANMO				Sn	Sn	21 34 33.9	-1.9
	comp=N,0.3nm,0.3s,baz=45,slow=10.0,SNR=1.5						
ANMO				Lg	Lg	21 35 13.9	
	comp=N,0.2nm,0.3s,baz=327,slow=5.5,SNR=3.6						
ANMO				LR	LR	21 35 48.0	
	comp=N,385nm,18.6s,baz=48,slow=36						
	comp=N,0.9nm,0.2s						
NVAR	Mina Array Bea	8.46	337	Pn	Pn	21 33 20.9	+2.0
	comp=N,0.1nm,0.3s,baz=161,slow=15,SNR=6.1						
NVAR				Lg	Lg	21 35 43.0	
	baz=120,slow=13						
NVAR				LR	LR	21 36 54.3	
	comp=N,1μm,19.7s,baz=186,slow=40						
	comp=N,0.9nm,0.6s						
TXAR	Lajitas Array	9.14	96	Pn	Pn	21 33 28.2	0.0
	comp=N,0.5nm,0.3s,baz=260,slow=15,SNR=8.4						
TXAR				Sn	Sn	21 35 07.9	-3.4
	comp=N,0.3nm,0.3s,baz=282,slow=30,SNR=1.6						
TXAR				Lg	Lg	21 36 01.4	
	comp=N,0.6nm,0.3s,baz=265,slow=29,SNR=6.2						
TXAR				LR	LR	21 37 19.9	
	comp=N,2μm,19.0s,baz=278,slow=40						
	comp=N,1.7nm,0.6s						
ELK	Elko	10.07	355	Pn	Pn	21 33 44.9	+3.9
	comp=N,0.1nm,0.3s,baz=170,slow=7.9,SNR=4.6						
ELK				Lg	Lg	21 36 28.9	
	comp=N,0.2nm,0.3s,baz=244,slow=19,SNR=1.3						
	comp=N,0.6nm,0.5s						
PDAR	Pinedale Array	12.58	16	Pn	Pn	21 34 17.7	+2.3
	comp=N,0.1nm,0.3s,baz=169,slow=6.8,SNR=4.1						
PDAR				Lg	Lg	21 37 47.2	
	baz=206,slow=33,SNR=1.8						
PDAR				LR	LR	21 39 23.9	
	comp=N,891nm,18.3s,baz=192,slow=39						
	comp=N,0.2nm,0.6s						
YBH	Yreka Blue Hor	13.02	330	Pn	Pn	21 34 24.9	+3.7
	comp=N,0.1nm,0.3s,baz=108,slow=16,SNR=3.9						
	comp=N,1.3nm,0.6s						
NEW	Newport	17.70	353	P	P	21 35 25.3	+1.8
	comp=N,0.2nm,0.3s,baz=173,slow=14,SNR=3.6						
NEW				LR	LR	21 43 04.8	
	comp=N,591nm,21.5s,baz=188,slow=40						
	comp=N,2.6nm,0.7s						
CMIG	Matias Romero	22.13	123	P	P	21 36 12.6	+0.6
	comp=N,2.6nm,0.8s,baz=332,slow=8.0,SNR=5.7						
CMIG				LR	LR	21 43 56.8	
	comp=N,684nm,20.0s,baz=276,slow=34						
	comp=N,2.6nm,0.8s						
BBB	Bella Bella	23.82	338	LR	LR	21 46 29.7	
	comp=N,784nm,19.5s,baz=164,slow=38						
ULM	Lac du Bonnet	23.83	30	P	P	21 36 30.2	+0.9
	comp=N,2.4nm,0.8s,baz=271,slow=6.2,SNR=3.5						
ULM				LR	LR	21 45 27.3	
	comp=N,363nm,21.4s,baz=216,slow=36						
	comp=N,2.4nm,0.8s						
TKL	Tuckaleechee C	25.80	71	LR	LR	21 47 31.8	
	comp=N,935nm,18.5s,baz=274,slow=38						
SADO	Sadowa	30.75	53	LR	LR	21 48 49.5	
	comp=N,258nm,18.9s,baz=256,slow=34						
YKA	Yellowknife Ar	31.81	360	LR	LR	21 51 10.6	
	comp=N,452nm,21.9s,baz=172,slow=38						
JTS	Las Juntas de	33.85	121	LR	LR	21 52 11.8	
	comp=N,415nm,20.1s,baz=297,slow=37						
INK	Inuvik	39.33	349	LR	LR	21 57 11.1	
	comp=N,591nm,21.3s,baz=202,slow=40						
ILAR	Eielson Array	39.71	339	P	P	21 38 49.8	+1.4
	comp=N,1.0nm,0.9s,baz=148,slow=6.9,SNR=9.1						
ILAR				LR	LR	21 56 09.1	
	comp=N,157nm,21.3s,baz=132,slow=38						
	comp=N,1.0nm,0.9s						
SCHQ	Schefferville	41.19	40	LR	LR	21 54 53.8	
	comp=N,381nm,18.2s,baz=288,slow=35						
FRB	Frobisher Bay	43.68	27	LR	LR	21 58 10.2	
	comp=N,521nm,19.9s,baz=251,slow=37						
RES	Resolute Bay	45.10	7	LR	LR	21 58 59.5	
	comp=N,485nm,20.8s,baz=210,slow=37						
SJG	San Juan	45.11	95	LR	LR	22 01 57.9	
	comp=N,112nm,21.3s,baz=306,slow=41						
ROSC	El Rosal	45.39	116	LR	LR	22 00 02.7	
	comp=N,243nm,19.0s,baz=7.5,slow=38						
SDV	Santo Domingo	45.91	109	LR	LR	22 01 48.0	
	comp=N,151nm,18.4s,baz=273,slow=40						
PCRV	Puerto La Cruz	50.18	103	LR	LR	22 04 49.9	
	comp=N,58nm,19.0s,slow=40						
SFJD	Kangerlussuaq	51.81	27	LR	LR	22 01 45.8	
	comp=N,317nm,20.1s,baz=254,slow=35						
MDP	Montagnes des	62.94	101	LR	LR	22 13 35.1	
	comp=N,69nm,18.0s,baz=298,slow=40						
BORG	Borgarnes	63.83	29	LR	LR	22 09 08.5	
	comp=N,138nm,20.8s,baz=297,slow=36						
PETK	Petropavlovsk-	65.07	318	LR	LR	22 08 54.6	
	comp=N,24nm,19.1s,baz=73,slow=35						
JMIC	Jan Mayen	66.17	20	LR	LR	22 11 08.1	
	comp=N,202nm,18.1s,baz=246,slow=36						
SPITS	Spitsbergen Ar	67.56	10	LR	LR	22 12 08.8	
	comp=N,118nm,21.1s,baz=300,slow=36						
SIV	San Ignacio	68.95	125	LR	LR	22 13 01.8	
	comp=N,136nm,18.2s,baz=291,slow=36						
TIXI	Tiksi	69.04	342	LR	LR	22 14 47.3	
	comp=N,67nm,18.7s,baz=48,slow=38						
ARCES	ARCESS Array B	75.83	14	LR	LR	22 17 48.2	
	comp=N,142nm,18.6s,baz=332,slow=37						
NOA	NORSAR Array B	78.38	24	LR	LR	22 17 42.5	
	comp=N,58nm,18.1s,baz=310,slow=36						
NRIK	Noril'sk	79.00	352	LR	LR	22 20 09.9	
	comp=N,126nm,20.0s,baz=30,slow=37						
HFS	Hagfors	79.89	24	LR	LR	22 19 46.4	
	comp=N,128nm,18.9s,baz=306,slow=36						
MSVF	Nonsavu	81.04	243	LR	LR	22 13 44.3	
	comp=N,179nm,18.6s,baz=89,slow=31						
FINES	FINESS Array B	82.67	18	P	P	21 43 40.6	+1.1
	comp=N,1.4nm,0.8s,baz=358,slow=6.6,SNR=2.3						
FINES				LR	LR	22 20 32.1	
	comp=N,137nm,18.4s,baz=317,slow=36						
	comp=N,1.4nm,0.8s						
RCBR	Riachuelo	82.87	101	LR	LR	22 21 31.9	
	comp=N,23nm,21.3s,baz=258,slow=36						
ESDC	Sonseca Array	84.60	47	LR	LR	22 20 33.5	
	comp=N,212nm,18.5s,baz=304,slow=35						
MJAR	Matsushiro Arr	84.82	310	LR	LR	22 13 32.5	
	comp=N,78nm,19.7s,baz=61,slow=30						
GERES	GERESS Array B	88.13	31	LR	LR	22 26 01.5	
	comp=N,65nm,18.6s,baz=253,slow=37						
MDT	Midelt	88.17	53	LR	LR	22 22 11.1	
	comp=N,87nm,19.4s,baz=340,slow=35						
BBTS	Babate	88.97	74	LR	LR	22 19 47.6	
	comp=N,100nm,18.6s,baz=191,slow=33						
KIRV	Kirov	90.00	9	LR	LR	22 27 15.2	
	comp=N,160nm,18.4s,baz=344,slow=37						
KSRS	Korea Array	90.80	315	LR	LR	22 20 18.3	
	comp=N,26nm,21.6s,baz=335,slow=32						
OBN	Obninsk	90.90	16	LR	LR	22 26 41.0	
	comp=N,167nm,19.4s,baz=356,slow=37						
HNR	Honiara	91.31	260	LR	LR	22 18 40.5	
	comp=N,74nm,18.9s,baz=46,slow=31						
JNU	Nakatsue	91.69	310	LR	LR	22 25 51.8	
	comp=N,28nm,18.1s,baz=44,slow=36						
GUMO	Guam	92.39	287	LR	LR	22 17 36.1	
	comp=N,119nm,21.2s,baz=97,slow=30						
ARTI	Arti	93.03	4	LR	LR	22 30 36.0	
	comp=N,82nm,19.6s,baz=350,slow=38						
SONM	Songino Array	93.78	334	LR	LR	22 28 31.4	
	comp=N,69nm,19.5s,baz=42,slow=37						
ZALV	Zalesovo Beam	94.13	349	LR	LR	22 33 32.3	
	comp=N,56nm,18.4s,baz=14,slow=40						
MLR	Muntele Rosu	95.93	27	LR	LR	22 29 51.6	
	comp=N,134nm,18.4s,baz=325,slow=37						
BVAR	Borovoye Array	96.54	357	LR	LR	22 34 54.7	
	comp=N,82nm,18.1s,baz=355,slow=40						
VAE	Valguarnera	96.83	39	LR	LR	22 27 44.7	
	comp=N,95nm,18.7s,baz=202,slow=35						
JOW	Kunigami	97.41	307	LR	LR	22 30 12.2	
	comp=N,20nm,18.4s,baz=86,slow=36						
KURBB	Kurchatov Arra	98.27	352	LR	LR	22 33 07.0	
	comp=N,90nm,20.8s,baz=170,slow=38						
AKTO	Aktyubinsk	98.92	5	LR	LR	22 33 14.3	
	comp=N,142nm,19.3s,baz=25,slow=38						

JMA ***05*** *21:44:14.2±0.5, 23.°N±2.°×12.°3E±.°, h50km, MV2.7/12, FAR*
S OFF ISHIGAKIJIMA
TAP ***05*** *21:44:16.4, 22.°48N×122.°63E, h38km±1km, ML2.6, D*
ISC 05 21:44:11.4±1.9, 22.°52N±0.°04×122.°79E±0.°04, h15km±13km,
n55, σ0°84/84, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	Ludao	1.23

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WUSB				S	**Sb**	**21 45 14.0**	**-1.8**
WHYT	**Xinyi Township**	**2.13**	**304**	*eP*	**Pb**	**21 44 50.1**	**+0.4**
WHYT				S	**Sb**	**21 45 15.1**	**-0.9**
WTP	**Ta-pu**	**2.13**	**290**	*eP*	**Pb**	**21 44 49.9**	**+0.2**
WTP				*eS*	**Sb**	**21 45 16.4**	**+0.4**
TPUB	**Ta-pu**	**2.13**	**292**	*eP*	**Pb**	**21 44 50.0**	**+0.2**
TPUB				*eS*	**Sb**	**21 45 16.2**	**+0.1**
CHN4	**Tsaushan**	**2.18**	**293**	*eP*	**Pb**	**21 44 51.4**	**+0.7**
CHN1	**Nanshi**	**2.19**	**288**	*eP*	**Pb**	**21 44 51.2**	**+0.5**
SMLT	**Sun Moon Lake**	**2.20**	**308**	*eP*	**Pb**	**21 44 50.8**	**-0.2**
WCKO	**Fanlu**	**2.21**	**295**	*eP*	**Pb**	**21 44 51.4**	**+0.3**
JIJ	**Ishigaki jima**	**2.21**	**34**	*eS*	**Sn**	**21 45 13.4**	**-1.4**
CHN5	**Tsauling**	**2.22**	**299**	*eP*	**Pb**	**21 44 52.0**	**+0.8**
FUSS	**Fushou**	**2.23**	**321**	*eP*	**Pb**	**21 44 51.4**	**-0.1**
FUSS				*eS*	**Sb**	**21 45 16.9**	**-2.1**
TWK	**Hsinying**	**2.25**	**290**	*eP*	**Pb**	**21 44 51.7**	**0.0**
TYC	**Yuchr**	**2.25**	**308**	*eP*	**Pb**	**21 44 51.6**	**0.0**
WJS	**Zhushan**	**2.29**	**305**	*eP*	**Pb**	**21 44 53.1**	**+0.6**
WJS				*eS*	**Sb**	**21 45 20.7**	**0.0**
LATG	**Datong**	**2.31**	**330**	*eS*	**Sn**	**21 45 18.4**	**+1.1**
WHP	**Taichung City**	**2.43**	**316**	*eP*	**Pb**	**21 44 55.5**	**+0.6**
JISG	**Ishigakijimahi**	**2.48**	**34**	*eP*	**Pn**	**21 44 52.1**	**+0.8**
JISG				*eS*	**Sn**	**21 45 20.0**	**-1.4**
YHNB	**Yeheng**	**2.50**	**329**	*eP*	**Pb**	**21 44 54.2**	**-1.8**
YHNB				*eS*	**Sn**	**21 45 23.3**	**+1.4**
JTJ	**Tarama**	**2.74**	**39**	*eS*	**Sn**	**21 45 26.8**	**-1.0**

ECX ***05*** *21:45:26.3±0.3, 30°.69N×114°.12W, h18km±4km, ML3.4*
MEX ***05*** *21:45:27.5±0.6, 30°.81N×114°.24W, h10km, MD4.2*
ISC 05 21:45:27.7±1.3, 30°.88N±0°.05×114°.24W±0°.02, h18km±4km, n15, σ1°.19/29, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.55**	**287**	*eP*	**Pg**	**21 45 38.6**	**-0.1**
SFX				*eS*	**Sb**	**21 45 48.1**	**+2.0**
SFX	**San Felipe**	**0.55**	**287**	*eP*	**Pb**	**21 45 39.1**	**+0.4**
SFX				*eS*	**Sn**	**21 45 49.2**	**0.0**
PPXB	**Puerto Peasco**	**0.70**	**49**	*eP*	**Pb**	**21 45 40.0**	**-1.3**
PPXB				*eS*	**Sb**	**21 45 50.4**	**-0.1**
PPXB				IAML		21 45 51.5	
	comp=E,2μm,0.4s						
PPXB				⇓*e*		21 45 51.5	
PIX	**Pinacate**	**0.96**	**44**	*eP*	**Pb**	**21 45 45.1**	**-0.6**
PIX				*eS*	**Sg**	**21 45 59.2**	**+0.2**
PIX				IAML		21 45 59.9	
	comp=E,782nm,0.3s						
PIX				⇑*e*		21 46 00.5	
VTX	**Valle De La Tr**	**1.42**	**292**	*eP*	**Pg**	**21 45 55.0**	**-0.1**
VTX				*eS*	**Sg**	**21 46 15.8**	**+2.2**
SQX	**San Quintin**	**1.44**	**258**	⇑*eP*	**Pn**	**21 45 51.7**	**-1.1**
SQX				*eS*	**Sb**	**21 46 12.0**	**+0.1**
SQX				IAML		21 46 16.6	
	comp=N,691nm,0.5s						
SQX				⇓*e*		21 46 16.6	
RHX	**Rio Hardy**	**1.54**	**325**	*eP*	**Pb**	**21 45 55.7**	**0.0**
MBIG	**Mexicali**	**1.73**	**332**	*eS*	**Sn**	**21 46 17.5**	**-0.9**
SV2X	**San Vicente**	**1.77**	**286**	*eP*	**Pb**	**21 45 59.2**	**-0.4**
SV2X				*eS*	**Sg**	**21 46 23.9**	**-1.0**
CBX	**Cerro Bola**	**2.51**	**305**	*eP*	**Pn**	**21 46 08.2**	**+0.4**
CBX				*eS*	**Sn**	**21 46 38.2**	**+0.2**
TJIG	**Tijuana**	**2.59**	**307**	*eP*	**Pn**	**21 46 07.0**	**-1.7**
TJIG				*eS*	**Sb**	**21 46 44.4**	**-0.7**
TUC	**Tucson**	**3.28**	**63**	*eP*	**Pn**	**21 46 18.8**	**+0.6**
TUC				*eS*	**Sn**	**21 46 58.7**	**+1.9**
HSIG		**3.41**	**122**	*eP*	**Pn**	**21 46 19.4**	**-0.5**
HSIG				*eS*	**Sn**	**21 46 57.8**	**-2.1**
NZIG	**Nacozari, Sono**	**4.07**	**96**	*eP*	**Pn**	**21 46 29.4**	**+0.2**
NZIG				*eP*	**Pn**	**21 46 30.0**	**+0.8**
NZIG				*eS*	**Sn**	**21 47 17.4**	**+0.9**
GUYB	**Guaymas**	**4.18**	**134**	*eP*	**Pn**	**21 46 29.4**	**-1.1**
GUYB				*eS*	**Sn**	**21 47 21.3**	**+2.5**

IDC ***05*** *22:05:32.7±1.1, 4°.81N×124°.58E, h0km, mb3.7/4,*
mbtmp3.8/5, ML3.9/1, MS3.6/1, Error ellipse: s-maj=57.6km
s-min=20.8km az=75.0
DJA ***05*** *22:05:46.6±0.9, 5°.N±2°.×12°.6E±°, h21km±7km, M4.5/12,*
mb4.6/11, mB5.1/5, MLv4.5/12, Mw(mB)4.5/5
ISC 05 22:05:42.9±0.9, 5°.38N±0°.06×126°.2E±0°.1, h100km, n16, σ2°.07/20, mb3.5/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.80**	**339**	Pn	**Pn**	**22 06 15.1**	**+2.1**
	26nm,0.3s,baz=128,slow=19,SNR=1.5						
DAV				Sn	**Sn**	**22 06 36.6**	**+0.8**
	34nm,0.3s,baz=240,slow=20,SNR=7.4						
	244nm,0.3s						
SGSI	**Sangihe**	**1.82**	**203**	P	**Pn**	**22 06 14.1**	**+0.9**
SGSI				S	**Sn**	**22 06 34.3**	**-2.0**
TNTI	**Ternate**	**4.71**	**166**	P	**Pn**	**22 06 53.2**	**+1.4**
TNTI				S	**Sn**	**22 07 44.7**	**-0.6**
KMSI	**Cibinong**	**5.28**	**205**	P	**Pn**	**22 07 00.2**	**+0.8**
MRSI	**Marisa**	**6.49**	**222**	P	**Pn**	**22 07 16.6**	**+0.7**
LUWI	**Luwuk**	**7.26**	**209**	P	**Pn**	**22 07 28.7**	**+2.4**
	59nm,0.5s						
SANI	**Sanana**	**7.38**	**182**	P	**Pn**	**22 07 25.7**	**-2.3**
	0.2nm1μm45nm,0.7s						
APSI	**Ampana**	**7.75**	**216**	P	**Pn**	**22 07 37.2**	**+4.2**
	66nm,1.1s						
MPSI	**Mapaga**	**8.07**	**232**	P	**Pn**	**22 07 38.8**	**+1.4**
	0.1nm8.8nm,0.6s						
NLAI	**Namlea**	**8.60**	**174**	P	**Pn**	**22 07 44.6**	**0.0**
	2μm40nm,0.5s						
AAI	**Ambon**	**9.22**	**168**	P	**Pn**	**22 07 54.0**	**+1.0**
WRA	**Warramunga Arr**	**26.39**	**163**	P	**P**	**22 11 11.6**	**+1.5**
	0.7nm,0.5s,baz=341,slow=9.9,SNR=11						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**29.82**	**166**	P	**P**	**22 11 41.5**	**+0.8**
	0.4nm,0.6s,baz=342,slow=9.2,SNR=9.8						
ASAR				PcP	**PcP**	**22 14 42.6**	**+0.6**
	0.3nm,0.6s,baz=345,slow=2.3,SNR=2.1						
	0.4nm,0.6s						
XLT	**XiLinHaoTe**	**39.39**	**348**	*eP*	**P**	**22 12 58.6**	**-4.3**
XLT				pP	pwP	22 13 31.2	+2.7
XLT				sP	sP	22 13 45.3	+8.9
XLT				pmax	pmax		
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**39.84**	**159**	P	**P**	**22 13 08.6**	**+2.0**
	comp=Z,1.6nm,0.8s,baz=322,slow=12,SNR=3.2						
STKA				LR	LR	22 31 41.5	
	comp=Z,82nm,18.4s,baz=30,slow=39						
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**55.93**	**325**	P	**P**	**22 15 09.3**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=125,slow=6.8,SNR=10						
	comp=Z,0.2nm,0.4s						

NEIC ***05*** *22:22:33.8±1.5, 38°.79N±0°.02×122°.75W±0°.07, h5km±2km,*
Error ellipse: s-maj=9.2km s-min=3.1km az=259.0
NCEDC 05 22:22:33.8±1.1, 38°.79N±0°.02×122°.76W±0°.07, h1km±1km, Md2.8/58, ML2.6/50(NEIC), Error ellipse: s-maj=7.6km s-min=2.1km az=76.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.03**	**308**	Pg	Pg	22 22 34.6	+0.1
GDXM				Sg	Sg	22 22 35.3	+0.3
GBGM	**Boggs Mountain**	**0.07**	**67**		Pg	22 22 35.6	+0.4
GGPM	**Geyser Peak**	**0.07**	**252**		Pg	22 22 35.5	+0.2
GAXM	**Alexander Vall**	**0.08**	**177**		Pg	22 22 35.5	+0.2
GSGM	**Seigler Mounta**	**0.09**	**26**		Pg	22 22 36.2	+0.6
GPMM	**Pine Mountain**	**0.16**	**293**		Pg	22 22 37.4	+0.5
GRTM	**Round Top Moun**	**0.17**	**25**		Pg	22 22 37.4	+0.3
NHSM	**Mount Saint He**	**0.17**	**139**		Pg	22 22 37.4	+0.2
NHSM					Sg	22 22 40.0	+0.5
NMTM	**Middletown**	**0.25**	**86**		Pg	22 22 38.9	+0.4
MNRC	**McLaughlin Min**	**0.26**	**70**		Pg	22 22 39.9	+1.0
MNRC	**McLaughlin Min**	**0.26**	**70**	IAML		22 22 47.5	
	comp=E,907nm,1.0s						
MNRC				IAML		22 22 48.0	
	comp=N,1μm,0.8s						
GHCM	**House Creek**	**0.39**	**242**		Pg	22 22 42.0	+0.8
OAKV	**Oakville Exper**	**0.45**	**142**		Pg	22 22 42.8	+0.4
CVS	**Carmenet Viney**	**0.50**	**152**		Pg	22 22 43.7	+0.3
CVS	**Carmenet Viney**	**0.50**	**152**	IAML		22 22 56.8	
	comp=E,521nm,1.1s						
CVS				IAML		22 22 57.8	
	comp=N,495nm,0.8s						
QRDG	**Quail Ridge Na**	**0.57**	**122**		Pg	22 22 45.6	+0.9
GGUM	**Gualala**	**0.58**	**277**		Pg	22 22 45.7	+0.8
GWRM	**Wonder Ranch**	**0.59**	**315**		Pg	22 22 46.0	+0.8
MCCM	**Marconi Confer**	**0.65**	**188**		Pg	22 22 46.6	+0.4
MCCM				Sg	Sb	22 22 56.0	-1.4
MCCM				IAML		22 23 05.7	
	comp=N,210nm,1.4s						
MCCM				IAML		22 23 05.9	
	comp=E,309nm,0.8s						
NGVM		**0.66**	**140**		Pb	22 22 47.6	-0.5
NADM	**Allendale**	**0.70**	**118**		Pb	22 22 49.1	+0.4
RUSS	**Russell Ranch**	**0.74**	**109**		Pb	22 22 50.0	+0.6
NOLM	**Olema**	**0.75**	**182**		Pg	22 22 48.6	+0.5
NPRM	**Point Reyes**	**0.81**	**194**		Pb	22 22 50.1	-0.6
DCMP	**DeCamp, Califo**	**0.82**	**327**		Pb	22 22 50.5	-0.3
PINL	**Point Pinole R**	**0.83**	**158**		Pb	22 22 50.5	-0.6
OSUM	**Sutter Buttes**	**0.86**	**55**		Pg	22 22 50.5	+0.3
GTC	**Three Chop Rid**	**0.87**	**315**		Pb	22 22 51.8	+0.1
SUTB	**Sutter Butte**	**0.88**	**59**		Pg	22 22 50.7	0.0
SUTB	**Sutter Butte**	**0.88**	**59**	IAML		22 23 05.9	
	comp=N,199nm,0.5s						
SUTB				IAML		22 23 06.6	
	comp=E,177nm,0.5s						
CPMM	**Point Molate**	**0.88**	**162**		Pg	22 22 50.9	+0.2
JEPS	**Jepson Natural**	**0.90**	**126**		Pg	22 22 51.2	+0.1
CPIM	**Pinole Ridge**	**0.90**	**152**		Pg	22 22 51.3	+0.1
CTAM	**Taylor**	**0.96**	**142**		Pg	22 22 52.5	+0.3
GVV	**Valley View**	**0.99**	**4**		Pb	22 22 54.4	+0.5
BL67	**Building 67, L**	**0.99**	**156**		Pg	22 22 53.3	+0.4
BRK	**Berkeley--Havi**	**0.99**	**157**		Pg	22 22 53.1	+0.3
VAK	**Adit at Lawren**	**0.99**	**156**		Pg	22 22 53.3	+0.5
BKS	**Berkeley--Byer**	**1.00**	**155**		Pg	22 22 52.7	-0.3
JPRM	**Presidio of Sa**	**1.01**	**167**		Pg	22 22 53.3	+0.1
CYBM	**Yerba Buena Is**	**1.02**	**162**		Pg	22 22 53.2	-0.2
OSTM	**Stimpson Lane**	**1.08**	**57**		Pg	22 22 52.7	-1.7
BDM	**Black Diamond**	**1.09**	**140**		Pg	22 22 54.0	-0.7
KCPM	**Cahto Peak**	**1.10**	**325**		Pb	22 22 56.0	+0.2
KCPM				IAML		22 23 17.3	
	comp=N,122nm,1.9s						
KCPM				IAML		22 23 22.0	
	comp=E,194nm,1.2s						
FARB	**Farallon Islan**	**1.10**	**190**		Pg	22 22 53.7	-1.2
FARB	**Farallon Islan**	**1.10**	**190**	IAML		22 23 18.9	
	comp=E,140nm,0.8s						
BGC	**Bolinger Road**	**1.11**	**150**		Pg	22 22 55.3	+0.2
KBNM	**Bluenose Ridge**	**1.16**	**343**		Pn	22 22 57.8	+0.6
KIPM	**Iron Peak**	**1.16**	**331**		Pn	22 22 58.5	+1.1
JMGM	**Milagra Ridge**	**1.17**	**169**		Pg	22 22 55.9	-0.4
SFRE	**Sierra Foothil**	**1.21**	**67**		Pg	22 22 55.3	-1.8
CMOB	**Morgan Territo**	**1.23**	**142**		Pb	22 22 58.0	+0.1
SAC	**San Andreas**	**1.23**	**167**		Pg	22 22 56.2	-1.2
ABJM	**Bob Jauregui R**	**1.28**	**72**		Pg	22 22 57.4	-0.9
CNIC	**Niles Canyon**	**1.33**	**152**		Pg	22 22 57.8	-1.6
O02D	**Mt. Diablo Mer**	**1.39**	**359**		Pb	22 23 01.4	+0.8
AFDM	**Forest Hills D**	**1.41**	**83**		Pn	22 22 58.1	-2.4
KMRM	**Mail Ridge**	**1.61**	**333**		Pg	22 23 05.2	+0.5
KMRM				IAML		22 23 21.2	
	comp=N,67nm,4.0s						
KMRM				IAML		22 23 40.4	
	comp=E,87nm,1.9s						
CMB	**Columbia Colle**	**2.01**	**111**		Pn	22 23 07.9	-1.0
CMB				IAML		22 23 37.6	
	comp=E,31nm,0.7s						
CMB				IAML		22 23 38.8	
	comp=N,36nm,0.6s						
BEKR	**Beckworth**	**2.15**	**59**		Pn	22 23 10.8	-0.2
BEKR				IAML		22 23 44.9	
	comp=E,30nm,0.8s						
KHMM	**Horse Mountain**	**2.21**	**341**	Pn	Pn	22 23 12.8	+0.9
KHMM				IAML		22 23 36.9	
	comp=N,48nm,3.4s						
JCC	**Jacoby Creek,**	**2.25**	**335**	Pn	Pn	22 23 13.0	+0.8
SAO	**San Andreas Ge**	**2.27**	**152**	Pn	Pn	22 23 10.8	-1.7
PNTR	**Pine Nut**	**2.48**	**82**		Pn	22 23 15.8	+0.2
WAKR	**Walker**	**2.62**	**95**		Pn	22 23 17.9	+0.5
WAKR				IAML		22 23 56.1	
	comp=N,36nm,0.6s						
PAHR	**Pah Rah Range**	**2.78**	**70**		Pn	22 23 19.3	-0.3
PAHR				IAML		22 24 10.6	
	comp=E,16nm,2.1s						
PMPB	**Monarch Peak**	**3.00**	**148**	Pn	Pn	22 23 22.1	-0.5
PMPB				IAML		22 24 30.0	
	comp=E,26nm,3.9s						
PMPB				IAML		22 25 03.0	
	comp=N,25nm,2.5s						
RYN	**Ryan**	**3.32**	**91**		Pn	22 23 27.9	+0.9
RYN				IAML		22 24 29.9	
	comp=E,16nm,0.9s						
RYN				IAML		22 24 33.7	
	comp=N,15nm,3.4s						
LHV	**Little Huntoon**	**3.38**	**98**		Pb	22 23 36.4	+1.9
NVAR	**Mina Array Bea**	**3.51**	**94**	Pg	Pb	22 23 38.5	+1.6
NV11	**Mina Array Sit**	**3.62**	**94**		Pb	22 23 40.2	+1.5
NV11				IAML		22 24 32.9	
	comp=N,13nm,2.0s						
NV11				IAML		22 24 42.0	
	comp=E,10nm,2.8s						
DSP	**Deep Springs**	**4.04**	**109**		Pn	22 23 36.4	-0.2
DSP				IAML		22 24 40.6	
	comp=E,6.2nm,1.3s						
MZP	**Montezuma Peak**	**4.37**	**103**		Pn	22 23 41.0	-0.5
J08A	**Circle Bar Ran**	**5.60**	**34**		Pg	22 24 26.5	+5.4
TKX	**Tecate**	**7.97**	**139**		Pn	22 24 28.1	-2.7

IDC ***05*** *22:35:24.6±2.2, 8°.82S×123°.42E, h0km, mb3.2/1,*
mbtmp3.5/3, ML3.9/2, Error ellipse: s-maj=262.3km
s-min=32.7km az=56.0
DJA ***05*** *22:35:38.8±0.3, 9°.S±3°.×12°.4E±°, h10km, M3.8/9, mB4.8/1,*
MLv3.8/9, Mw(mB)4.1/1
ISC 05 22:35:34.0±1.3, 8°.9S±0°.1×123°.98E±0°.09, h150km, n12, σ3°.38/14, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.86**	**161**	P	**Pn**	**22 36 00.2**	**+2.4**
SOEI				S	**Sn**	**22 36 17.0**	**+1.1**
MMRI	**Maumere**	**1.75**	**280**	P	**Pn**	**22 36 06.9**	**+0.6**
MMRI				S	**Sn**	**22 36 25.2**	**-5.8**
EDFI	**Ende, Flores**	**2.27**	**275**	P	**Pn**	**22 36 13.6**	**+1.1**
BASI	**Baing, Sumba**	**3.59**	**249**	P	**Pn**	**22 36 31.2**	**+2.3**
WSI	**Waingapu**	**3.71**	**258**	P	**Pn**	**22 36 33.1**	**+2.7**
BSSI	**Bau Bau, Buton**	**4.44**	**308**	P	**Pn**	**22 36 42.1**	**+2.1**
WBSI	**Waikabubak, Su**	**4.59**	**261**	P	**Pn**	**22 36 44.6**	**+2.6**
BKSI	**Bulukumba**	**5.25**	**313**	P	**Pn**	**22 36 52.6**	**+1.8**
PLAI	**Plampang**	**6.13**	**271**	P	**Pn**	**22 37 05.5**	**+3.0**
WRA	**Warramunga Arr**	**14.83**	**139**	Pn	**P**	**22 39 00.3**	**+2.0**
	0.6nm,0.3s,baz=311,slow=14,SNR=25						
WRA				Sn	**Sn**	**22 41 34.6**	**-6.5**
	0.8nm,0.3s,baz=319,slow=24,SNR=8.0						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**17.45**	**148**	P	Pn	22 39 35.7	+7.3
	0.3nm,0.3s,baz=326,slow=12,SNR=28						
ASAR				S	**S**	**22 42 40.8**	**-0.7**
	1.4nm,0.7s,baz=315,slow=21,SNR=5.5						
	1.8nm,0.7s						
MKAR	**Makanchi Array**	**66.75**	**330**	P	P	22 46 15.3	+6.2
	0.1nm,0.5s,baz=125,slow=7.4,SNR=1.9						
	0.1nm,0.5s						

IDC ***05*** *23:53:54.2±1.3, 14°.65N×89°.01W, h0km, mb3.9/6,*
mbtmp3.9/9, ML3.2/2, MS3.5/4, Error ellipse: s-maj=27.5km
s-min=19.6km az=30.0
NEIC ***05*** *23:53:55.9±2.0, 14°.53N±0°.06×89°.13W±0°.04, h10km±2km,*
mb4.4/24, Error ellipse: s-maj=9.4km s-min=5.7km
az=182.0
SNET ***05*** *23:53:55.2±1.5, 14°.50N×89°.13W, h10km, ML4.4*
ISC 05 23:53:54.9±1.0, 14°.52N±0°.03×89°.10W±0°.02, h10km±7km, n94, σ0°.92/108, mb4.4/16, MS3.8/3, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.23**	**280**		**Pg**	**23 53 59.5**	**-0.2**
ESQI	**Esquipulas**	**0.23**	**280**	*eP*	**Pg**	**23 53 59.7**	**-0.1**
ESQI				*eS*	**Sg**	**23 54 03.6**	**+0.5**
MTO3	**Montecristo**	**0.28**	**244**		**Pg**	**23 54 00.2**	**-0.3**
MTO3				Sg	**Sb**	**23 54 04.8**	**-2.2**
MTO3	**Montecristo**	**0.28**	**244**	*eP*	**Pg**	**23 54 00.2**	**-0.3**
MTO3				*eS*	**Sb**	**23 54 05.0**	**-2.0**
LLGN	**La Laguna**	**0.39**	**157**	*eP*	**Pg**	**23 54 02.2**	**-0.3**
LLGN				*eS*	**Sg**	**23 54 08.5**	**+0.8**
QUEZ	**Alcaldia de Qu**	**0.70**	**194**	*eP*	**Pg**	**23 54 08.4**	**0.0**
CEDA	**San Andres**	**0.77**	**202**	*eS*	**Sb**	**23 54 21.4**	**+0.4**
PIC2	**El Picacho**	**0.79**	**191**	*eP*	**Pg**	**23 54 10.0**	**-0.1**
BOQS	**Boqueron**	**0.80**	**192**	*eP*	**Pg**	**23 54 10.1**	**-0.3**
SNJE	**San Jose**	**0.81**	**217**	*eP*	**Pg**	**23 54 10.2**	**-0.4**
PAVA	**Las Pavas**	**0.82**	**169**	*i P*	**Pg**	**23 54 10.3**	**-0.4**
AEIL	**Aeropuerto Ilo**	**0.82**	**181**	*eP*	**Pg**	**23 54 10.3**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.82**	**233**	*eP*	**Pg**	**23 54 10.4**	**-0.3**
SLOZ				*eS*	**Sb**	**23 54 22.2**	**-0.3**
PMON	**Piamonte**	**0.83**	**194**	*eP*	**Pg**	**23 54 10.6**	**-0.3**
PMON				*eP*	**Pb**	**23 54 10.9**	**-0.6**
LOAL	**Lomas de Alarc**	**0.84**	**232**	*eP*	**Pb**	**23 54 11.1**	**-0.5**
LOAL				*eS*	**Sb**	**23 54 22.4**	**-0.6**
SBLS	**San Blas**	**0.84**	**217**	*eP*	**Pb**	**23 54 11.0**	**-0.8**
SBLS				*eS*	**Sb**	**23 54 23.2**	**-0.1**
CEVE	**Cerro Verde**	**0.85**	**216**	*eP*	**Pb**	**23 54 11.2**	**-0.7**
CEVE				*eS*	**Sb**	**23 54 24.3**	**+0.7**
ITCA	**Escuela Especi**	**0.86**	**192**	*eP*	**Pg**	**23 54 11.2**	**-0.3**
LOMA	**Loma Larga**	**0.87**	**184**	*eP*	**Pg**	**23 54 11.2**	**-0.5**
SCLA	**Alcaldia de Sa**	**0.89**	**156**	*eP*	**Pg**	**23 54 11.5**	**-0.5**
LFRS	**El Faro**	**0.89**	**177**	*eP*	**Pg**	**23 54 11.6**	**-0.5**
NUBE	**Las Nubes**	**0.90**	**227**	*eP*	**Pg**	**23 54 11.9**	**-0.4**
NUBE				*eS*	**Sb**	**23 54 24.5**	**-0.4**
COEG	**Centro de Oper**	**0.92**	**166**	*eP*	**Pg**	**23 54 12.0**	**-0.7**
JAYA	**Jayaque - finc**	**0.93**	**201**	*eP*	**Pg**	**23 54 12.3**	**-0.4**
JAYA				*eS*	**Sg**	**23 54 24.2**	**-0.5**
SNVI	**San Vicente**	**0.94**	**164**	*eP*	**Pg**	**23 54 12.5**	**-0.4**
PQSS	**Presa 15 de Se**	**1.03**	**149**	*eP*	**Pg**	**23 54 13.8**	**-1.0**
LALI	**Alcalda de L**	**1.05**	**192**	*eP*	**Pg**	**23 54 14.5**	**-0.5**
CAHU	**Cacacuatique**	**1.14**	**131**	*eP*	**Pg**	**23 54 15.8**	**-1.1**
TECA	**Tecapa**	**1.17**	**150**	*eP*	**Pg**	**23 54 16.4**	**-1.1**
PACA	**Pacayal**	**1.29**	**144**	*eP*	**Pg**	**23 54 18.3**	**-1.4**
IZABA	**Izabal, Puerto**	**1.30**	**23**	*eP*	**Pn**	**23 54 18.5**	**-0.6**
LCY	**Lacayo**	**1.34**	**144**	*eP*	**Pn**	**23 54 19.2**	**-0.6**
BLLM	**Bellamira**	**1.36**	**142**	*eP*	**Pn**	**23 54 19.3**	**-0.8**
CNRM	**Centro Naciona**	**1.38**	**139**	*eP*	**Pn**	**23 54 19.4**	**-0.8**
LCND	**La Caada**	**1.68**	**136**	*eP*	**Pn**	**23 54 24.9**	**+0.5**
CNCH	**Conchagua**	**1.75**	**135**	*eP*	**Pn**	**23 54 25.8**	**+0.4**
CNCH				*eS*	**Sb**	**23 54 49.7**	**+0.5**
TGUH	**Tegucigalpa,Un**	**1.83**	**104**		**Pn**	**23 54 25.8**	**-0.8**
TGUH				Sn	**Sb**	**23 54 52.6**	**+1.0**
HUEH	**Huehuetenango**	**2.45**	**289**		**Pn**	**23 54 34.9**	**-0.3**
HUEH				Sn	**Sn**	**23 55 07.0**	**+1.6**
HUEH	**Huehuetenango**	**2.45**	**289**	*eP*	**Pn**	**23 54 35.0**	**-0.3**
PETF	**Flores**	**2.49**	**343**	Pn	**Pn**	**23 54 35.2**	**-0.3**
PETF	**Flores**	**2.49**	**343**	*eP*	**Pn**	**23 54 35.2**	**-0.3**
RTAL	**Retalhuleu**	**2.51**	**270**		**Pn**	**23 54 36.3**	**+0.5**
CRIN	**San Cristobal**	**2.69**	**132**	Pn	**Pn**	**23 54 40.0**	**+1.6**
HERN	**Volcan Telica**	**2.91**	**130**	Pn	**Pn**	**23 54 41.7**	**+0.2**
CNGN	**Cerro Negro**	**3.08**	**130**	Pn	**Pn**	**23 54 45.3**	**+1.5**
CCIG	**Comitan**	**3.41**	**301**		**Pn**	**23 54 49.5**	**+1.2**
MGAN	**Managua**	**3.65**	**130**	Pn	**Pn**	**23 54 52.8**	**+1.4**
BOAB	**BOACO BROADBAN**	**4.92**	**121**		**Pn**	**23 54 54.7**	**-0.6**
ACON	**Acoyapa**	**4.59**	**123**		**Pn**	**23 55 05.0**	**+0.6**
ESPN	**Las Esperanzas**	**5.21**	**116**	Pn	**Pn**	**23 55 13.4**	**+0.4**
TEIG	**Tepich**	**5.73**	**8**		**Pn**	**23 55 19.6**	**-0.4**
TEIG	**Tepich**	**5.73**	**8**	Pn	**Pn**	**23 55 18.7**	**-1.3**
	baz=197,slow=20,SNR=21						
TEIG				Sn	**Sn**	**23 56 22.7**	**-3.2**
	baz=197,slow=19,SNR=6.7						
TEIG				Lg	Lg	23 56 51.7	
	baz=270,slow=20,SNR=8.5						
SOCE	**Pocosol**	**6.01**	**133**	Pn	**Pn**	**23 55 24.5**	**+0.5**
CMIG	**Matias Romero**	**6.12**	**295**	Pn	**Pn**	**23 55 25.3**	**-0.2**
	0.8nm,0.3s,baz=112,slow=12,SNR=4.5						
CMIG				Sn	**Sn**	**23 56 32.4**	**-3.3**
	3.5nm,0.3s,baz=128,slow=19,SNR=4.3						
CMIG				Lg	Lg	23 57 07.3	

ISC 05 23:55:28.4±0.8, 67°.84N±0°.02×20°.21E±0°.03, h0km, n35, σ0°97/58, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	22	P	Pg	23 55 30.9	0.0
KUA				S	Sg	23 55 32.7	+0.2
RATU	Laukkuluspa	0.23	268	P	Pg	23 55 33.0	+0.1
RATU				S	Sg	23 55 36.3	+0.5
KOVU	Salmi	0.39	357	P	Pg	23 55 35.6	-0.3
KOVU				S	Sg	23 55 40.9	0.0
LANU	Lannavaara	0.71	72	P	Pg	23 55 41.6	-0.4
LANU				S	Sg	23 55 50.9	-0.3
LANU	Lannavaara	0.71	72	PG	Pg	23 55 41.4	-0.6
LANU				SG	Sg	23 55 50.8	-0.3
DUNU	Dundret	0.73	169	P	Pg	23 55 42.1	-0.2
DUNU				S	Sg	23 55 52.1	+0.3
MASU	Masugnsbyn	0.78	118	P	Pg	23 55 43.1	-0.3
KIF	Kilpisjarvi	1.20	10	eP	Pg	23 55 51.0	-0.3
KIF	Kilpisjarvi	1.20	10	PG	Pg	23 55 50.5	-0.7
KIF				MSG		23 56 05.8	
	comp=Z,9.4nm,0.2s						
KIF				SG	Sg	23 56 06.6	-0.1
HEF	Hetta	1.42	64	eP	Pn	23 55 54.5	-0.9
HEF	Hetta	1.42	64	PG	Pn	23 55 54.2	-1.2
	baz=248						
HEF				MSG		23 56 11.5	
	comp=Z,6.5nm,0.2s						
HEF				SB	Sg	23 56 12.5	-1.3
ERTU	Ertsjaerv	1.50	148	P	Pn	23 55 55.8	-0.7
ERTU	Ertsjaerv	1.50	148	PG	Pn	23 55 55.6	-0.9
ERTU				SN	Sg	23 56 16.6	+0.1
KLF	Kolari	1.56	111	PG	Pn	23 55 56.7	-0.7
KLF				MSG		23 56 15.7	
	comp=Z,7.2nm,0.2s						
KLF				SN	Sg	23 56 18.8	+0.2
KTK1	Kautokeino	1.63	42	PG	Pn	23 55 57.8	-0.5
KTK1				SN	Sg	23 56 21.7	+1.1
TRO	Tromso	1.87	346	PG	Pn	23 56 01.9	+0.4
TRO				SG	Sn	23 56 26.0	+0.3
KALU	Kalix	2.34	146	PB	Pn	23 56 09.0	+0.9
	baz=331						
KALU				SG	Sb	23 56 40.1	-0.7
TOF	Tornio	2.39	135	PB	Pn	23 56 09.9	+1.1
TOF				MSG		23 56 39.5	
	comp=Z,5.7nm,0.2s						
TOF				SG	Sb	23 56 42.7	+0.4
RNF	Rovaniemi	2.57	116	PB	Pn	23 56 12.8	+1.6
RNF				SG	Sb	23 56 47.5	+0.1
ARA0	ARCESS Array S	2.58	46	PN	Pn	23 56 11.8	+0.4
ARA0				SB	Sn	23 56 45.6	+2.2
ARCES	ARCESS Array B	2.58	46	Pn	Pn	23 56 11.7	+0.3
	comp=Z,1.0nm,0.3s,baz=227,slow=14,SNR=81						
ARCES				Sn	Sn	23 56 43.8	+0.4
	comp=Z,1.7nm,0.3s,baz=230,slow=24,SNR=15						
	comp=Z,2.1nm,0.3s						
RAJF	Raja-Jooseppi	3.10	74	PN	Pn	23 56 18.5	0.0
RAJF				SG	Sb	23 57 01.7	-0.8
KEV	Kevo	3.13	49	PN	Pn	23 56 19.4	+0.5
	baz=239						
KEV				SN	Sn	23 56 57.8	+0.8
KEV				MSG		23 57 00.7	
	comp=Z,3.7nm,0.2s						
RANF	Ranua	3.17	122	PN	Pn	23 56 20.5	+1.0
	baz=312						
RANF				SG	Sb	23 57 06.4	+1.7
VRF	Varrio	3.57	87	PB	Pn	23 56 27.6	+2.6
OUL	Oulu	3.58	138	PG	Pb	23 56 32.6	0.0
OUL				SG	Sb	23 57 17.4	+0.9
KU2	Taivalkoski	3.83	120	PN	Pn	23 56 29.7	+1.2
OLKF	Oulanka, Finla	3.91	109	PN	Pn	23 56 30.1	+0.5
MSF	Maaselka	3.98	115	PN	Pn	23 56 31.6	+1.0
KU6	Riekki	4.22	111	PN	Pn	23 56 34.4	+0.6
	baz=298						
KU1	Kurvinen	4.36	117	PN	Pn	23 56 37.4	+1.7
FINES	FINESS Array B	6.89	156	Pn	Pn	23 57 11.3	+0.8
	comp=Z,0.1nm,0.3s,baz=347,slow=12,SNR=3.4						
FINES				Sn	Sn	23 58 27.1	-2.4
	comp=Z,0.1nm,0.3s,baz=344,slow=20,SNR=4.0						
FINES				Lg	Lg	23 59 01.8	
	comp=Z,0.3nm,0.3s,baz=343,slow=28,SNR=6.3						
	comp=Z,0.9nm,0.7s						
NOA	NORSAR Array B	7.84	214	Pn	Pn	23 57 23.7	+0.1
	baz=24,slow=11,SNR=1.4						
NOA				Lg	Lg	23 59 37.9	
	baz=25,slow=21,SNR=4.1						
	comp=Z,0.2nm,0.5s						
HFS	Hagfors	8.24	203	Pn	Pn	23 57 28.6	-0.4
	comp=Z,0.1nm,0.3s,baz=18,slow=12,SNR=1.5						
HFS				Sn	Sn	23 59 00.0	-2.6
	comp=Z,0.1nm,0.3s,baz=22,slow=24,SNR=1.8						
HFS				Lg	Lg	23 59 45.3	
	comp=Z,0.2nm,0.3s,baz=17,slow=25,SNR=1.5						
	comp=Z,1.3nm,0.8s						
SPITS	Spitsbergen Ar	10.46	356	Pn	Pn	23 57 58.8	-0.5
	baz=172,slow=13						
	comp=Z,4.6nm,0.9s						

*THR **05** 23:56:41.5±0.0, 35°.62N×58°.44E, h10km±6km, mb4.0*
*TEH **05** 23:56:41.7, 35°.63N×58°.40E, h9km±23km*
*IDC **05** 23:56:41.6±5.5, 35°.81N×58°.20E, h0km, mb3.5/6,*
mbtmp3.5/8, ML3.0/2, MS3.4/2, Error ellipse:
s-maj=113.2km s-min=24.5km az=4.0

ISC 05 23:56:42.0±0.7, 35°.63N±0°.03×58°.39E±0°.03, h10km, n63, σ1°70/53, mb3.4/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBHD	Torbat heydari	0.73	107	Pg	Pb	23 56 56.4	-0.4
IMOG	Moghan	0.91	58	Pg	Pg	23 56 58.9	-0.6
IPAY	Payeh	0.96	31	Pg	Pg	23 56 59.9	-0.5
SBZV	Sabzevar	0.98	320	Pg	Pg	23 57 00.7	-0.3
SBZV	Sabzevar	0.98	320	ePgA		23 57 00.1	
SBZV				eSg	Sn	23 57 15.9	-0.3
SBZV				IAML		23 57 30.9	
	comp=Z,1μm,1.0s						
IAKL	Akhelmad	1.01	17	Pg	Pg	23 57 01.2	-0.4
TAPT	Tabas- Tapeh t	1.25	234	Pg	Pg	23 57 05.9	-0.1
ISFR	Sfrayin	1.46	348	Pg	Pg	23 57 09.4	-0.5
IKRD	Kardeh	1.46	38	Pg	Pb	23 57 09.3	-0.2
IMYA	Miami	1.56	62	Pg	Pg	23 57 12.1	+0.1
IEMG	Emamgholi	1.79	7	Pg	Pb	23 57 14.8	-0.3
SHRO	Shahrood	1.96	281	ePnA		23 57 16.8	
SHRO				IAML		23 57 49.1	
	comp=Z,490nm,1.0s						
BJRD	Bojnurd	2.21	339	ePnA		23 57 20.6	
BJRD				IAML		23 57 58.1	
	comp=Z,210nm,1.0s						
TNSJ	Nastanj	2.21	222	Pn	Pn	23 57 20.3	+1.4
TABS	Tabas	2.24	208	ePnA		23 57 20.4	
TABS				IAML		23 58 04.6	
	comp=Z,740nm,1.0s						
AFRZ	Afriz	2.26	167	Pn	Pn	23 57 21.0	+1.4
TKDS	Koohdasht(Taba	2.27	208	Pn	Pb	23 57 21.2	-1.8
SHRT	Shahrakht	2.53	141	Pn	Pn	23 57 24.3	+1.2
SHRT	Shahrakht	2.53	141	ePnA		23 57 24.1	
SHRT				IAML		23 58 15.7	
	comp=Z,520nm,1.0s						
MRVT	Maraveh tapeh	2.74	318	Pn	Pn	23 57 27.8	+1.7
MRVT	Maraveh tapeh	2.74	318	ePnA		23 57 27.7	
MRVT				IAML		23 58 24.5	
	comp=Z,110nm,1.0s						
ITEG	Tejag	2.74	174	Pn	Pn	23 57 28.1	+1.9
IMND	Minoodasht	2.90	305	Pn	Pn	23 57 29.9	+1.7
TPRV	Parvadeh(Tabas	2.95	209	Pn	Pn	23 57 30.7	+1.7
IDAH	Dahanechah	3.13	157	Pn	Pn	23 57 33.1	+1.5
IKOO	Kooshah	3.24	171	Pn	Pn	23 57 34.6	+1.5
BSRN	Basiran	3.71	170	Pn	Pn	23 57 40.9	+1.5
BSRN	Basiran	3.71	170	ePn	Pn	23 57 40.8	+1.4
BSRN				IAML		23 58 52.9	
	comp=Z,91nm,1.0s						
IGLO	Ghaloghah	3.79	285	Pn	Pn	23 57 43.2	+2.5
ILAS	Lasjerd	4.43	268	Pn	Pn	23 57 52.1	+2.5
NHDN	Nehbandan	4.45	161	Pn	Pn	23 57 51.3	+1.7
YZKH	Yazd	4.51	225	ePn	Pn	23 57 52.9	+2.4
YZKH				IAML		23 59 18.4	
	comp=Z,120nm,1.0s						
IALA	Alasht	4.55	277	Pn	Pn	23 57 53.8	+2.6
ANAR	Anarak	4.55	239	Pn	Pn	23 57 53.0	+1.9
ZRDN	Zarand Kerman	4.90	199	Pn	Pn	23 57 58.4	+2.4
IPRN	Peran	4.95	279	Pn	Pn	23 57 59.0	+2.6
IDMV	Damavand	5.18	271	Pn	Pn	23 58 02.3	+2.5
KRM1	Kerman Provinc	5.20	191	Pn	Pn	23 58 02.1	+2.1
ISFB	Sefidab	5.20	258	Pn	Pn	23 58 02.1	+2.2
IMEH	Mehriz	5.27	218	Pn	Pn	23 58 02.8	+1.8
KRSH	Karshahi	5.40	254	Pn	Pn	23 58 04.5	+1.7
KHGB	Koh Gabri	5.48	198	Pn	Pn	23 58 06.3	+2.4
IVRN	Varamin	5.48	265	Pn	Pn	23 58 05.6	+1.9
MZPU	Pul - Mazandar	5.58	280	Pn	Pn	23 58 07.0	+1.7
IZEF	Zefreh	5.71	243	Pn	Pn	23 58 08.3	+1.2
KRBR	Kerman	5.80	194	Pn	Pn	23 58 10.8	+2.5
CHMN	Cheshme madani	5.80	187	Pn	Pn	23 58 10.1	+1.7
GHVR	GHOM	5.93	261	ePnA		23 58 14.0	
GHVR				IAML		23 58 50.9	
	comp=Z,52nm,1.0s						
IQOM	Qom	6.04	265	Pn	Pn	23 58 13.5	+1.9
NGRK	Negar Kerman	6.13	194	Pn	Pn	23 58 15.3	+2.4
IRAM	Ramesheh	6.29	234	Pn	Pn	23 58 17.1	+2.1
ASAO	Ashtian	6.94	263	ePnA		23 58 27.5	
ASAO				IAML		00 00 45.3	
	comp=Z,24nm,1.0s						
KHMZ	Khomeyn	7.19	257	IAML		23 58 32.8	
	comp=Z,16nm,1.0s						
GRMI	Germi	8.95	294	IAML		23 59 06.6	
	comp=Z,7.0nm,0.8s						
KBZ	Khabaz	14.39	309	Pn	Pn	00 00 03.7	-2.1
	comp=Z,0.1nm,0.3s,baz=103,slow=14,SNR=4.9						
	comp=Z,1.4nm,0.7s						
BVAR	Borovoye Array	19.35	22	P	Pn	00 01 07.7	-0.9
	baz=204,slow=8.7,SNR=10.0						
	comp=Z,1.3nm,0.6s						
MKAR	Makanchi Array	21.08	51	P	P	00 01 27.1	+0.8
	comp=Z,0.4nm,0.6s,baz=245,slow=9.4,SNR=6.2						
	comp=Z,0.4nm,0.6s						
AKASG	Malin Array Be	25.85	315	P	P	00 02 13.5	+0.1
	comp=Z,0.2nm,0.2s,baz=121,slow=8.8,SNR=2.0						
AKASG				LR	LR	00 13 03.3	
	comp=Z,53nm,18.1s,baz=335,slow=38						
	comp=Z,0.2nm,0.2s						
MLR	Muntele Rosu	26.39	302	LR	LR	00 17 24.5	
	comp=Z,95nm,18.7s,baz=319,slow=48						
FINES	FINESS Array B	32.92	332	P	P	00 03 16.5	+0.4
	comp=Z,1.0nm,0.7s,baz=134,slow=12,SNR=2.1						
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	37.27	56	P	P	00 03 55.1	+1.1
	comp=Z,0.2nm,0.4s,baz=286,slow=6.6,SNR=1.6						
	comp=Z,0.2nm,0.4s						
HFS	Hagfors	37.63	325	P	P	00 03 54.9	-1.8
	comp=Z,1.7nm,0.8s,baz=114,slow=7.0,SNR=2.2						
	comp=Z,1.7nm,0.8s						
NOA	NORSAR Array B	39.09	326	P	P	00 04 08.3	-0.8
	comp=Z,0.2nm,0.5s,baz=117,slow=5.7,SNR=1.0						
	comp=Z,0.2nm,0.5s						

NEIC 06 00:05:48.4±1.2, 36°.86N±0°.04×104°.91W±0°.01, h5km±2km,
mb_Lg2.8/64, ML2.9/70, Error ellipse: s-maj=6.7km
s-min=3.0km az=179.0, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	Trinidad	0.49	54		Pb	00 05 59.8	+0.2
SDCO	Great Sand Dun	1.01	332	Pg	Pg	00 06 07.9	+0.1
S22A	4UR Ranch, Cre	1.77	301		Pb	00 06 21.1	-0.5
RTBA	Rita Blanca	1.79	103		Pb	00 06 21.7	-0.2
Q24A	Divide	2.11	355		Pg	00 06 29.8	+0.9
Q24A				IAML		00 07 01.8	
	comp=E,52nm,0.3s						
ANMO	Albuquerque	2.29	214		Pn	00 06 26.9	-0.1
KSCO	Kaye Shedlock'	2.81	39		Pn	00 06 35.0	+0.9
MVCO	Mesa Verde	2.90	278		Pn	00 06 36.5	+1.0
MVCO				IAML		00 07 21.2	
	comp=E,67nm,0.6s						
ISCO	Idaho Springs	2.99	349		Pn	00 06 38.7	+1.8
ISCO				IAML		00 07 32.1	
	comp=E,40nm,1.4s						
BNM	Barren Site	3.04	208		Pn	00 06 39.9	+2.4
PV15	Paradox Valley	3.20	299	IAML		00 07 33.8	
	comp=N,25nm,1.4s						
PV15				IAML		00 07 43.7	
	comp=E,23nm,0.8s						
PV07	Paradox Valley	3.36	299	IAML		00 07 40.3	
	comp=E,17nm,1.1s						
MSTX	Muleshoe	3.37	148	IAmb_Lg		00 07 44.4	
	comp=Z,21nm,0.8s						
PV13	Radium Mtn., P	3.37	294	IAML		00 07 37.9	
	comp=E,37nm,2.6s						
PV13				IAML		00 07 49.6	
	comp=N,16nm,1.7s						
PV10	Paradox Valley	3.62	296	IAML		00 07 58.4	
	comp=N,30nm,1.5s						
PV10				IAML		00 08 12.7	
	comp=E,21nm,2.5s						
O20A	White River Ci	4.19	322	IAML		00 07 36.1	
	comp=E,18nm,3.7s						
O20A				IAML		00 07 46.6	
	comp=E,16nm,4.5s						
DKNS	Dickens	4.55	133	IAmb_Lg		00 08 24.0	
	comp=Z,20nm,0.8s						
POST	Post	4.70	143	IAmb_Lg		00 08 17.3	
	comp=Z,26nm,0.9s						
X18A	Snowflake	4.72	242	IAML		00 08 17.4	
X18A				IAML		00 08 26.6	
	comp=E,12nm,2.2s						
NOKA	Waynoka	4.80	91	IAmb_Lg		00 08 30.5	
	comp=Z,21nm,0.8s						
OK038	West end E0370	4.97	93	IAmb_Lg		00 08 39.0	
	comp=Z,20nm,0.8s						
SRU	San Rafael Swe	4.98	299	IAML		00 08 40.6	
	comp=N,11nm,0.8s						
SRU				IAML		00 08 40.8	
	comp=E,13nm,1.5s						
SN07	Snyder 07	5.00	138	IAmb_Lg		00 08 23.4	
	comp=Z,24nm,0.9s						
R32A	Long Quarter,	5.16	70	IAmb_Lg		00 08 43.5	
	comp=Z,11nm,0.7s						
SN05	Snyder 5	5.16	139	IAmb_Lg		00 08 32.0	
	comp=Z,24nm,1.0s						
WMOK	Wichita Mounta	5.41	111	IAmb_Lg		00 08 53.0	
	comp=Z,14nm,0.8s						
PECS	Pecos	5.54	171	IAmb_Lg		00 08 57.9	
	comp=Z,11nm,0.7s						
SGCY	Sterling City	5.84	147	IAmb_Lg		00 09 04.7	
	comp=Z,17nm,0.8s						
ABTX	Abilene, Hawle	6.05	133	IAmb_Lg		00 09 05.7	
	comp=Z,16nm,0.7s						
OK029	Liberty Lake	6.11	98	IAmb_Lg		00 09 17.4	
	comp=Z,12nm,0.8s						
X34A	Smith Ranch, M	6.18	109	IAmb_Lg		00 09 10.8	
	comp=Z,12nm,0.8s						
OZNA	Ozona	6.70	151	IAmb_Lg		00 09 24.5	
	comp=Z,13nm,0.9s						
W35A	Tecumseh	6.73	102	IAmb_Lg		00 09 39.5	
	comp=Z,14nm,1.2s						
PLPT	Palo Pinto	6.75	125	IAmb_Lg		00 09 34.5	
	comp=Z,13nm,1.1s						
SAND	Sanderson	7.26	161	IAmb_Lg		00 09 55.4	
	comp=Z,11nm,1.0s						
BRDY	Brady	7.41	137	IAmb_Lg		00 09 50.9	
	comp=Z,12nm,0.8s						
JCT	Junction City	7.65	145	IAmb_Lg		00 09 56.6	
	comp=Z,12nm,0.7s						
HNDO	Hondo	8.69	146	IAmb_Lg		00 10 37.1	
	comp=Z,14nm,0.9s						
GLA	Glamis	8.98	248	IAmb_Lg		00 10 46.5	
	comp=Z,11nm,0.8s						

*TAP **06** 00:08:10.8, 24°.40N×121°.75E, h19km, ML3.4, B*
*JMA **06** 00:08:11.2±0.1, 24°.4N±0°.5×121°.8E±0°.9, h17km±3km,*
MV2.7/10, TAIWAN REGION

ISC 06 00:08:11.1±0.8, 24°.38N±0°.01×121°.75E±0°.02, h18km±3km,
n126, σ0°65/191, 10C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	Aohua	0.05	192	iP	Pg	00 08 14.4	+0.1
EAHA				S	Sg	00 08 16.5	0.0
ENA	Nanau	0.05	350	iP	Pg	00 08 14.3	0.0
ENA				S	Sg	00 08 16.6	0.0
EHP	Heping Village	0.07	187	P	Pg	00 08 14.6	+0.1
EHP				S	Sg	00 08 17.1	+0.3
EWUT	Wuta	0.07	211	iP	Pg	00 08 14.4	-0.1
EWUT				i S	Sg	00 08 16.9	+0.1
ESAO	Su ao	0.21	23	iP	Pg	00 08 15.9	-0.4
ESAO				S	Sg	00 08 18.9	-0.8
TWC	Suao	0.25	21	iP	Pg	00 08 16.5	-0.2
TWC				i S	Sg	00 08 20.3	-0.3
ETL	Fush Village	0.25	208	eP	Pg	00 08 16.6	-0.2
ETL				eS	Sb	00 08 20.6	-0.4
NACB	Ninganchiao	0.25	215	P	Pg	00 08 16.0	-0.8
NACB	Ninganchiao	0.25	215	S	Sb	00 08 20.8	-0.3
NACB	Ninganchiao	0.25	215	iP	Pg	00 08 16.5	-0.3
NACB				i S	Sb	00 08 20.7	-0.4
NDS	Dongshan	0.26	353	eP	Pg	00 08 16.9	0.0
LATG	Datong	0.26	307	iP	Pg	00 08 16.8	-0.2
LATG				eS	Sg	00 08 20.4	-0.7
ETLH	Xiulin Townshi	0.30	235	iP	Pg	00 08 17.6	-0.1
ETLH				eS	Sb	00 08 22.4	-0.3
ENTT	Nioudou	0.31	327	iP	Pg	00 08 17.6	-0.2
NNSB	Datong	0.34	279	iP	Pg	00 08 18.3	-0.1
NNSB				S	Sg	00 08 22.8	-0.5
NNS	Nan Shan	0.35	280	iP	Pg	00 08 18.4	-0.2
NNS				eS	Sg	00 08 23.3	-0.4
ILA	Ilan	0.39	360	P	Pg	00 08 19.2	+0.1
ILA				S	Sg	00 08 24.7	+0.2
FUSB	Fushanzhiwuyua	0.41	339	iP	Pg	00 08 19.3	-0.3
FUSB				i S	Sg	00 08 24.7	-0.6
HWA	Hwalien	0.42	198	eP	Pb	00 08 19.9	-0.1
HWA				eS	Sb	00 08 26.7	+0.5
EOS2	EOS2	0.44	85	eP	Pg	00 08 20.2	+0.1
YHNB	Yeheng	0.45	310	P	Pg	00 08 19.7	-0.6
YHNB	Yeheng	0.45	310	S	Sb	00 08 26.6	-0.4
YHNB	Yeheng	0.45	310	iP	Pg	00 08 20.1	-0.2
YHNB				eS	Sg	00 08 25.5	-1.0
NWLT	Wulai	0.46	330	iP	Pg	00 08 20.1	-0.4
NWLT				S	Sg	00 08 25.9	-0.9
NSK	Sanguang	0.46	310	iP	Pg	00 08 20.3	-0.3
NSK				eS	Sg	00 08 26.6	-0.3
LXIB	Xiulin Townshi	0.47	221	iP	Pg	00 08 20.0	-0.7
LXIB				i S	Sb	00 08 28.0	+0.3
ETM	Tongmen	0.47	210	eP	Pg	00 08 20.2	-0.5
ETM				eS	Sb	00 08 27.3	-0.4
FUSS	Fushou	0.48	254	iP	Pb	00 08 21.0	-0.2
FUSS				eS	Sb	00 08 27.9	-0.2
EGS		0.49	20	iP	Pg	00 08 20.8	-0.3
EGS				eS	Sg	00 08 27.7	0.0
WHF	Hehuan Shan	0.50	242	iP	Pg	00 08 21.2	-0.2
WHF				eS	Sg	00 08 26.8	-1.4
EOS3	EOS3	0.53	100	eP	Pb	00 08 22.1	+0.4
EOS3				eS	Sg	00 08 28.8	+0.2
TEYL	Yanliau Villag	0.53	195	eP	Pb	00 08 21.8	-0.1
TEYL				eS	Sb	00 08 28.8	-0.4
TWT	Tachien	0.54	257	P	Pb	00 08 22.4	+0.2
TWT				eS	Sb	00 08 29.6	-0.1
EOS4	EOS4	0.58	116	eP	Pg	00 08 22.6	+0.1
TIPB	Shuangxi	0.59	7	iP	Pg	00 08 22.4	-0.6
TIPB				eS	Sg	00 08 29.8	-1.2
SHUL	Shoufeng	0.61	196	eP	Pb	00 08 23.8	+0.5
SHUL				eS	Sn	00 08 33.4	-1.0
TWA	Mucha	0.62	346	eP	Pg	00 08 23.3	-0.1
TWA				eS	Sg	00 08 31.5	-0.2
NFF	Wufeng Townshi	0.63	294	P	Pb	00 08 23.8	+0.1
NFF				i S	Sg	00 08 31.6	-0.4
TATO	Taipei	0.64	338	P	Pb	00 08 24.4	+0.6
TATO	Taipei	0.64	338	S	Sg	00 08 31.8	-0.6
KSHI	Guanxi Townshi	0.66	307	eP	Pb	00 08 24.9	+0.8
KSHI				eS	Sb	00 08 34.0	+1.1
TWB1	Santiao Chiao	0.66	19	i P	Pg	00 08 23.6	-0.6
TWB1				eS	Sg	00 08 32.1	-1.0
OWD	Renai	0.67	231	iP	Pg	00 08 24.1	-0.3
OWD				eS	Sg	00 08 32.6	-0.8
NHY	Taipei	0.68	346	eP	Pg	00 08 24.5	0.0
NHY				eS	Sb	00 08 34.2	+0.6
WFSB	Wu-fen Shan	0.69	2	eP	Pg	00 08 24.6	-0.2
WFSB				eS	Sg	00 08 33.0	-0.9
TEGC	Jichi Village	0.69	196	eP	Pb	00 08 25.3	+0.6
TEGC				eS	Sn	00 08 38.6	+2.2
TAP	Taipei	0.69	341	eP	Pb	00 08 25.1	+0.4
TAP				eS	Sb	00 08 34.2	+0.2
WUSB	Renai	0.69	236	iP	Pg	00 08 24.4	-0.4
WUSB				eS	Sb	00 08 34.5	+0.4
LIOB	Emei	0.72	292	P	Pn	00 08 26.0	-0.5
LIOB				i S	Sb	00 08 34.7	-0.1
SXI1	Grass Mountain	0.72	9	eP	Pg	00 08 24.8	-0.5
NSTT	Nanjuang	0.73	290	eP	Pb	00 08 25.5	+0.2
NSTT				S	Sg	00 08 34.7	-0.4
WARBT	Fenglin Townsh	0.74	207	eP	Pg	00 08 24.3	-1.3
WHP	Taichung City	0.74	262	P	Pb	00 08 25.8	+0.2
WHP				S	Sb	00 08 35.3	-0.2
EGFH	Guangfu	0.77	203	eP	Pg	00 08 25.0	-1.2
TNOU	National Taiwa	0.77	2	eP	Pg	00 08 26.8	+0.6
TNOU				eS	Sg	00 08 35.2	-1.2
TWS1	Kuangyinshan	0.78	337	eP	Pb	00 08 25.7	-0.5
TWS1				i S	Sb	00 08 36.8	+0.3
NCUH	Zhongli	0.78	319	eP	Pg	00 08 26.8	+0.4
NCUH				eS	Sn	00 08 38.4	-0.1
YM01	YM01	0.78	348	P	Pg	00 08 26.4	0.0
YM01				eS	Sg	00 08 36.1	-0.7
ZUZH	Zhuzihu	0.80	347	P	Pg	00 08 26.8	0.0
ZUZH				i S	Sb	00 08 36.9	-0.3
SBCB	Hsinchu	0.81	301	eP	Pg	00 08 27.2	+0.2
SBCB				eS	Sn	00 08 39.4	+0.1
YM08	YM08	0.82	350	eP	Pb	00 08 26.7	-0.2
YM08				eS	Sb	00 08 37.4	-0.2
HSN	Hsinchu	0.83	301	eP	Pb	00 08 26.9	-0.1
HSN				S	Sn	00 08 38.9	-0.8
NTST	Danshui	0.83	341	eP	Pb	00 08 26.5	-0.5
NTST				eS	Sn	00 08 39.1	-0.6
WCS	Beigang Elemen	0.83	248	eP	Pg	00 08 27.1	-0.2
ANP	Anpu	0.83	345	eP	Pb	00 08 27.1	0.0
ANP				eS	Sg	00 08 38.3	-0.1
VWDT	VWDT	0.83	222	eP	Pb	00 08 27.1	-0.1
NMLH	Miaoli	0.89	280	eP	Pn	00 08 29.3	+0.5
TWQ1	Liyutan	0.89	268	eP

WTP	Ta-pu	1.53	223	eP	Pb	00 08 39.4 +0.2
LONT	Longtian	1.57	201	eP	Pb	00 08 39.6 -0.1
TWK	Hsinying	1.60	227	eP	Pb	00 08 40.3 +0.1
SNST	Tainan City	1.63	225	eP	Pb	00 08 41.2 +0.5
SNST				eS	Sg	00 09 04.4 +0.7
CHN1	Nanshi	1.63	224	eP	Pb	00 08 40.8 0.0
CHN1				eS	Sg	00 09 04.6 +0.7
WSL	Shuilin Townsh	1.63	239	eP	Pb	00 08 40.7 -0.1
WSL				eS	Sg	00 09 04.4 +0.5
TWG	Pinlang	1.67	202	eP	Pb	00 08 40.6 -0.8
TWGBT	Beinan	1.67	202	P	Pb	00 08 41.9 +0.5
TWGBT	Beinan	1.67	202	eP	Pb	00 08 40.5 -0.9
SGST	Jiashian	1.68	220	eP	Pn	00 08 40.0 +0.4
ICHU	Yijhu	1.69	233	eP	Pb	00 08 42.1 +0.5
LDUT	Ludao	1.72	189	eP	Pn	00 08 40.0 -0.2
IRIF	Iriomote-Funau	1.81	91	eP	Pn	00 08 41.8 +0.4
ECL	Taimali	1.92	203	eP	Pn	00 08 42.9 0.0
MASBT	Mashibuluo	2.04	210	eP	Pn	00 08 46.0 +1.4
JISG	Ishigakijimahi	2.34	84	eP	Pn	00 08 48.5 -0.2
JISG				eS	Sn	00 09 17.4 +0.3

*IDC **06** 00:22:07.0±0.6, 38°.78N×144°.77E, h0km, mb4.0/23, mbtmp4.1/32, ML3.8/7, MS3.3/14, Error ellipse: s-maj=15.4km s-min=13.2km az=133.0*
*NEIC **06** 00:22:09.3±1.1, 38°.79N±0°.06×144°.66E±0°.10, h10km±1km, mb4.6/91, Error ellipse: s-maj=15.2km s-min=6.3km az=123.0*
*NIED **06** 00:22:10.8, 38°.97N×144°.56E, h53km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr-1.58; Mθθ0.34; Mφφ1.24; Mrθ-0.03; Mθφ0.30; Mφr1.72; Fault plane solution: M0 2.25000×1015 NP1:φ=24.00000°, δ21.00000°, λ-71.00000°. NP2:φ=184.00000°, δ70.00000°, λ-97.00000°.*
*JMA **06** 00:22:10.8±0.2, 39°.0N±1°.0×14°.5E±°, h53km, MV4.4/35, FAR E OFF NORTH HONSHU*
ISC 06 00:22:10.5±0.5, 38°.88N±0°.04×144°.60E±0°.05, h19km, n386, σ1§15/394, **mb4.5/76, MS3.4/10, 1C, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	2.27	289	P	Pn	00 22 46.3	-0.6
MIYJ				eS	Sn	00 23 12.2	-2.1
OFUJ	Ofunato	2.29	276	P	Pn	00 22 46.8	-0.5
OFUJ				eS	Sn	00 23 12.7	-2.2
JTH	Tanohata	2.37	297	P	Pn	00 22 47.6	-0.7
JKMT	Kesennumamotoy	2.44	269	i P	Pn	00 22 48.8	-0.4
JKMT				eS	Sn	00 23 16.0	-2.6
JMK	Ichinoseki	2.64	273	P	Pn	00 22 51.8	-0.1
JOM	Ohasama	2.64	284	P	Pn	00 22 51.9	-0.1
JOM				eS	Sn	00 23 21.7	-1.7
JANG	Nango	2.81	303	eP	Pn	00 22 53.0	-1.4
JMM	Marumori	3.16	253		Pn	00 22 58.3	-0.8
JMM					Sn	00 23 33.4	-2.8
JYK	Kaneyama	3.31	272	P	Pn	00 23 01.5	+0.3
JTM	Tenmabayashi	3.32	306		Pn	00 23 01.3	0.0
JTM				Sn	Sn	00 23 38.5	-1.7
ERM	Erimo	3.32	341	Pn	Pn	00 23 02.1	+0.7
JOTO	OTAMA OYAMA	3.61	250	P	Pn	00 23 05.3	-0.1
JOTO				eS	Sn	00 23 45.8	-1.6
JNBK	Urakawa-nobuka	3.68	338	eP	Pn	00 23 05.9	-0.4
JNBK				eS	Sn	00 23 46.2	-2.9
JOT	Ohata	3.70	314	eP	Pn	00 23 05.8	-0.7
JOT				eS	Sn	00 23 46.5	-3.1
JCH	Churui	3.85	346	eP	Pn	00 23 07.2	-1.4
JCH				eS	Sn	00 23 48.8	-4.6
JAK	Akkeshi	4.12	1	eP	Pn	00 23 10.2	-2.1
NEM2	Nemuro 2	4.57	11	eS	Sn	00 24 03.9	-7.1
JSD	Sado	5.04	262	Pn	Pn	00 23 25.3	+0.2
JTKR	Abashiri--Toko	5.12	354	P	Pn	00 23 24.3	-1.7
JTKR				S	Sn	00 24 19.2	-5.3
BSO1	Boso 1	5.12	216	eP	Pn	00 23 23.8	-1.8
BSO1				eS	Sn	00 24 20.9	-3.0
JHR	Hokuryu	5.32	337	P	Pn	00 23 29.8	+0.9
JHR				S	Sn	00 24 28.8	-0.8
JRY	Ryogami san	5.36	240	P	Pn	00 23 28.6	-0.8
JRY				eS	Sn	00 24 26.8	-3.8
JKA	Kamikawa-asahi	5.45	345	Pn	Pn	00 23 30.6	+0.1
ASAJ	Asahikawa	5.45	345	Pn	Pn	00 23 30.2	-0.4
	7.0nm,0.3s,baz=230,slow=9.9,SNR=13						
ASAJ				Sn	Sn	00 24 28.7	-4.0
	5.7nm,0.3s,baz=219,slow=33,SNR=6.8						
	11nm,0.3s						
MJAR	Matsushiro Arr	5.58	247	Pn	Pn	00 23 33.3	+0.9
	1.5nm,0.3s,baz=64,slow=12,SNR=48						
MJAR				Sn	Sn	00 24 38.4	+2.4
	0.4nm,0.3s,baz=66,slow=25,SNR=4.0						
MJAR				LR	LR	00 26 00.6	
	comp=Z,278nm,18.1s,baz=68,slow=41						
	23nm,0.6s						
MAJO	Matsushiro	5.58	247		Pn	00 23 32.7	+0.3
MJB9	Matsu-Tunnel	5.58	247		Pn	00 23 33.6	+1.1
JOD2	Odawara 2	5.69	232	eP	Pn	00 23 34.0	0.0
JOD2				eS	Sn	00 24 34.1	-4.8
JGF	Kuroka	6.64	243		Pn	00 23 46.3	-0.7
JHJ	Hachijo jima 2	6.94	216	Pn	Pn	00 23 49.5	-1.7
	14nm,0.3s,baz=336,slow=22,SNR=10						
JHJ				Sn	Sn	00 25 03.6	-6.0
	42nm,0.3s,baz=86,slow=22,SNR=7.0						
	42nm,0.3s						
INU	Inuyama	7.00	242		Pn	00 23 51.4	-0.6
USA0B	Ussuriysk Arra	10.84	303		Pn	00 24 46.0	+1.4
USRK	Ussuriysk Ar.	10.84	303		Pn	00 24 45.4	+0.8
USRK	Ussuriysk Ar.	10.84	303	Pn	Pn	00 24 46.2	+1.7
	1.9nm,0.3s,baz=101,slow=15,SNR=18						
USRK				LR	LR	00 28 45.6	
	comp=Z,122nm,19.5s,baz=118,slow=36						
	6.6nm,0.4s						
JCJ	Chichijima	11.92	190	Pn	Pn	00 24 57.2	-2.2
	115nm,0.9s,baz=317,slow=20,SNR=2.1						
JNU	Nakatsue	12.50	247	Pn	Pn	00 25 06.5	-0.8
	0.3nm,0.3s,baz=71,slow=6.5,SNR=3.8						
JNU				LR	LR	00 30 10.5	
	comp=Z,136nm,20.6s,baz=50,slow=38						
	8.9nm,0.9s						
MDJ	Mudanjiang	12.58	302	Pn	Pn	00 25 09.2	+0.8
MDJ	Mudanjiang	12.58	302	P	Pn	00 25 09.8	+1.4
MDJ				pmax	pmax		
	comp=Z,14nm,1.0s						
KSRS	Korea Array	13.20	269	Pn	Pn	00 25 17.1	+0.3
	comp=Z,0.3nm,0.3s,baz=82,slow=14,SNR=5.0						
KSRS				LR	LR	00 30 06.7	
	comp=Z,47nm,21.6s,baz=85,slow=36						
	comp=Z,1.7nm,0.6s						
KLR	Kul'dur	13.85	322	Pn	Pn	00 25 25.5	-0.2
	comp=Z,0.1nm,0.3s,baz=126,slow=16,SNR=4.7						
KLR				LR	LR	00 30 34.1	
	comp=Z,88nm,19.7s,baz=150,slow=36						
	comp=Z,1.3nm,0.7s						
BNX	BinXian	14.44	304	⇑P	Pn	00 25 32.8	-0.9
BNX				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PETK	Petropavlovsk-	16.85	28	P	Pn	00 26 05.2	+0.1
PETK	Petropavlovsk-	16.85	28	Pn	Pn	00 26 04.2	-0.9
	comp=Z,12nm,0.9s,baz=216,slow=13,SNR=12						
DL2	Dalian	17.88	277	P	P	00 26 21.0	+2.4
DL2				S	S	00 29 41.7	-1.4
DL2				pmax	pmax		
	comp=Z,34nm,1.4s						
DL2				pmax	pmax		
	comp=Z,150nm,4.5s						
DL2				LR	LR		
	comp=N,170nm,10.8s						
DL2				LR	LR		
	comp=E,200nm,12.2s						
DL2				LR	LR		
	comp=Z,410nm,15.3s						
MA2	Magadan	21.09	9	P	P	00 26 53.4	0.0
	comp=Z,3.5nm,0.4s,baz=190,slow=15,SNR=2.5						
	comp=Z,3.5nm,0.4s						
TIA	Tai'an	21.92	272	P	P	00 27 01.0	-1.6
TIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XLT	XiLinHaoTe	21.92	292	eP	P	00 27 04.3	+1.7
XLT				pP	sP	00 27 08.8	+0.6
XLT				pmax	pmax		
	comp=Z,20nm,0.5s						
XLT				pmax	pmax		
	comp=Z,98nm,4.4s						
NJ2	Nanjing	22.00	260	eP	P	00 27 04.3	+0.8
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
SHEM	Shemya Is, Ala	24.58	46	LR	LR	00 36 51.6	
	comp=Z,46nm,18.2s,baz=277,slow=36						
HHC	Hu-ho-hao-te	25.35	285	eP	P	00 27 37.3	+1.0
HHC				pmax	pmax		
	comp=Z,22nm,0.6s						
HHC				pmax	pmax		
	comp=Z,180nm,5.8s						
HHC				LR	LR		
	comp=N,110nm,14.2s						
HHC				LR	LR		
	comp=E,180nm,15.6s						
HHC				LR	LR		
	comp=Z,190nm,15.6s						
H11N2	WAKE ISLAND Hy	27.12	128	T	T	00 56 02.0	
	baz=320,slow=75,SNR=2.5						
H11N1	WAKE ISLAND Hy	27.13	128	T	T	00 56 02.8	
	baz=320,slow=75,SNR=4.2						
H11N3	WAKE ISLAND Hy	27.14	128	T	T	00 56 03.7	
	baz=320,slow=75,SNR=3.8						
SONM	Songino Array	28.93	301	P	P	00 28 08.8	+0.4
	comp=Z,0.4nm,0.6s,baz=82,slow=9.2,SNR=6.2						
SONM				LR	LR	00 39 58.8	
	comp=Z,92nm,18.7s,baz=62,slow=37						
	comp=Z,0.4nm,0.6s						
BILL	Bilibino	31.57	15	P	P	00 28 31.2	-0.1
BILL				IAmb	IAmb	00 28 32.0	
	comp=Z,5.8nm,1.0s						
LZH	Lanzhou	32.27	278	eP	P	00 28 34.0	-4.1
LZH				pP	pP	00 28 37.9	-4.0
LZH				pmax	pmax		
	comp=Z,13nm,1.2s						
P08K	Saint George I	34.77	44	P	P	00 28 59.6	+0.3
	baz=259						
GAMB	Gambell	35.83	32	P	P	00 29 09.4	+1.0
	baz=247						
M11K	Mekoryuk	37.26	38	P	P	00 29 20.5	-0.1
	baz=257						
PZH	PanZhiHua	37.80	264	P	P	00 29 26.7	+1.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.0s						
TNA	Tin City	38.01	30	P	P	00 29 27.0	+0.1
	baz=249						
K13K	Kusilvak Mount	38.34	36	P	P	00 29 30.1	+0.4
	baz=257						
F14K	Arctic Creek	38.60	30	P	P	00 29 32.7	+0.7
	baz=251						
ANM	Nome	38.71	32	P	P	00 29 32.8	0.0
	baz=253						
J14K	Nanvaranak Lak	39.02	35	P	P	00 29 36.1	+0.6
	baz=257						
L14K	Kuka Creek	39.14	37	P	P	00 29 36.4	-0.1
	baz=260						
F15K	North Star Dit	39.34	30	P	P	00 29 39.1	+1.0
	baz=252						
G15K	Niukluk	39.38	32	P	P	00 29 39.5	+1.1
	baz=254						
M14K	Bethel	39.39	38	P	P	00 29 39.1	+0.6
	baz=261						
N14K	Kuskokwak Cree	39.41	40	P	P	00 29 39.9	+1.2
	baz=262						
O14K	Tigyukauivet M	39.54	41	P	P	00 29 40.7	+0.9
	baz=264						
SDPT	Sand Point	39.71	47	P	P	00 29 41.6	+0.4
	baz=269						
L15K	Ungalak Mounta	39.77	37	P	P	00 29 42.3	+0.7
	baz=260						
K15K	Wolf Creek Mou	39.85	36	P	P	00 29 42.9	+0.5
	baz=260						
C16K	Lisburne Hills	39.94	26	P	P	00 29 42.9	-0.2
C16K	Lisburne Hills	39.94	26	P	P	00 29 43.8	+0.8
	baz=249						
M15K	Kasigluk River	40.00	39	P	P	00 29 44.4	+0.7
	baz=262						
H16K	Elim	40.03	32	P	P	00 29 44.5	+0.6
	baz=256						
CHNA	Chernabura Isl	40.22	48	P	P	00 29 45.5	0.0
	baz=270						
N15K	Kwethluk River	40.23	40	P	P	00 29 45.7	+0.1
	baz=264						
O15K	Ungalikthiuk R	40.27	41	P	P	00 29 46.4	+0.5
	baz=265						
I17K	Unalakleet	40.52	34	P	P	00 29 48.9	+0.9
	baz=258						
D17K	Noatak River	40.55	28	P	P	00 29 48.7	+0.6
	baz=252,SNR=5.5						
L16K	Owhat River	40.72	37	P	P	00 29 50.3	+0.7
	baz=262						
RDOG	Red Dog Mine	40.72	27	P	P	00 29 50.2	+0.7
	baz=252						
E17K	Hotham Inlet	40.83	29	P	P	00 29 51.2	+0.8
	baz=254						
F17K	Baldwin Pennin	40.88	30	P	P	00 29 51.9	+1.1
	baz=255						
M16K	Timber Creek	40.88	38	P	P	00 29 51.7	+0.8
	baz=264						
G17K	Kiwalik Mounta	40.89	31	P	P	00 29 52.0	+1.1
	baz=257						
N16K	Nishlik Lake	40.92	39	P	P	00 29 52.1	+0.9
	baz=264						
H17K	Granite Mounta	41.07	32	P	P	00 29 53.2	+0.8
	baz=258						
J17K	VABM Dome	41.15	35	P	P	00 29 54.1	+1.0
	baz=261						
O16K	Kokwok River B	41.18	41	P	P	00 29 54.2	+0.8
	baz=266						
P16K	Nushagak River	41.20	41	P	P	00 29 54.8	+1.2
	baz=267						
L17K	Donlin	41.33	37	P	P	00 29 55.2	+0.6
	baz=263						
R16K	Pilot Point	41.36	44	P	P	00 29 55.4	+0.5
	baz=269						
E18K	Tukpahlearik C	41.38	29	P	P	00 29 56.0	+1.0
E18K	Tukpahlearik C	41.38	29	P	P	00 29 56.1	+1.2
	baz=255						
K17K	Iditarod	41.40	36	P	P	00 29 56.2	+1.1
	baz=262						
C18K	Utukok River	41.51	27	P	P	00 29 56.2	+0.1
C18K				IAmb	IAmb	00 29 57.5	
	comp=Z,9.3nm,0.8s						
C18K	Utukok River	41.51	27	P	P	00 29 56.5	+0.4
	baz=253,SNR=8.3						
B18K	Kokolik River	41.52	25	P	P	00 29 57.2	+1.1
	baz=251,SNR=8.5						
F18K	Selawik	41.54	30	P	P	00 29 57.1	+0.9
	baz=257						
M17K	Holitna River	41.65	38	P	P	00 29 57.9	+0.7
	baz=264						
O17K	Koliganek Bris	41.70	40	P	P	00 29 58.5	+0.9
	baz=267						
N17K	Nushagak Hills	41.70	39	P	P	00 29 58.7	+1.0
	baz=266						
H18K	Honhosa River	41.76	32	P	P	00 29 58.7	+0.6
	baz=259						
G18K	Tagagawik	41.78	31	P	P	00 29 58.9	+0.7
	baz=258						
Q16K	King Salmon	41.88	42	P	P	00 29 59.4	+0.3
	baz=268						
P17K	Kvichak River	42.01	41	P	P	00 30 00.5	+0.4
	baz=268						
A19K	Wainwright	42.03	24	P	P	00 30 01.3	+1.0
	baz=251,SNR=8.3						
L18K	Granite Mounta	42.08	37	P	P	00 30 01.8	+1.0
	baz=264						
J18K	Innoko River	42.21	35	P	P	00 30 01.9	+0.1
	baz=263						
Q17K	Contact Creek	42.27	43	P	P	00 30 02.0	-0.5
	baz=269						
GCSA	Galena City Sc	42.31	33	P	P	00 30 02.5	0.0
	baz=261						
F19K	Shaleruckik Mo	42.32	30	P	P	00 30 03.0	+0.4
	baz=258						
N18K	Kilae Creek	42.35	39	P	P	00 30 03.1	+0.1
	baz=267						
M18K	Stony River	42.43	38	P	P	00 30 04.3	+0.6
	baz=266						
G19K	Purcell Mounta	42.45	31	P	P	00 30 03.8	+0.1
	baz=260						
CHIR	Chirikof Islan	42.46	46	P	P	00 30 03.4	-0.5
	baz=272						
TTA	Tatalina	42.47	36	P	P	00 30 04.0	0.0
	baz=264						
D19K	Kuna River	42.56	27	P	P	00 30 05.3	+0.7
	baz=256						
ZAA0	Zalesovo Array	42.57	311		P	00 30 06.1	+1.3
ZALV	Zalesovo Beam	42.57	311		P	00 30 05.6	+0.7
	comp=Z,0.7nm,0.4s,baz=89,slow=7.5,SNR=4.5						
ZALV				PcP	PcP	00 31 57.3	+0.3
	comp=Z,1.3nm,0.5s,baz=103,slow=4.1,SNR=5.0						
ZALV				LR	LR	00 48 21.0	
	comp=Z,38nm,18.6s,baz=74,slow=37						
	comp=Z,0.7nm,0.4s						
H19K	Roundabout Mou	42.61	32	P	P	00 30 05.3	+0.3
H19K				IAmb	IAmb	00 30 07.1	
	comp=Z,13nm,0.9s						
H19K	Roundabout Mou	42.61	32	P	P	00 30 05.6	+0.6
	baz=261,SNR=8.8						
P18K	Big Mountain,	42.63	41	P	P	00 30 06.0	+0.6
	baz=269						
E19K	Redstone River	42.65	29	P	P	00 30 05.2	-0.1
E19K				IAmb	IAmb	00 30 06.9	
	comp=Z,12nm,0.7s						
E19K	Redstone River	42.65	29	P	P	00 30 06.6	+1.2
	baz=258						
O18K	Koktuh Hills	42.65	40	P	P	00 30 06.5	+1.0
	baz=268						
NRIK	Noril'sk	42.68	334	P	P	00 30 06.5	+0.9
NRIK	Noril'sk	42.68	334	P	P	00 30 05.8	+0.2
	comp=Z,0.8nm,0.4s,baz=95,slow=14,SNR=4.2						
	comp=Z,0.8nm,0.4s						
Q18K	Katmai Hardscr	42.74	42	P	P	00 30 06.6	+0.3
	baz=270						
J19K	Poorman	42.76	34		P	00 30 06.5	+0.3
J19K	Poorman	42.76	34	P	P	00 30 06.8	+0.6
	baz=263						
L19K	White Mountain	42.94	37	P	P	00 30 08.4	+0.6
	baz=266						
D20K	Etivluk River	43.15	27	P	P	00 30 09.9	+0.5
	baz=257						
F20K	Avaraart Lake	43.15	30	P	P	00 30 09.5	+0.1
	baz=260						
E20K	Nigu River	43.20	28	P	P	00 30 10.7	+0.8
	baz=258						
SII	Sitkinak Islan	43.23	45	P	P	00 30 10.4	+0.2
	baz=273						
H20K	Anotleneega Mo	43.25	32	P	P	00 30 10.7	+0.4
	baz=262,SNR=6.4						
B20K	Meade River	43.26	25	P	P	00 30 10.5	+0.3
B20K	Meade River	43.26	25	P	P	00 30 10.8	+0.7
	baz=256						
K20K	Telida	43.38	35	P	P	00 30 11.8	+0.5
	baz=266						
L20K	Farewell, AK	43.41	36	P	P	00 30 12.1	+0.5
	baz=267						
J20K	Nowinta River	43.42	34	P	P	00 30 12.3	+0.7
	baz=265						
Q19K	Cape Douglas,	43.45	42	P	P	00 30 12.2	+0.3
	baz=271						
P19K	Oil Pt	43.65	41	P	P	00 30 13.6	0.0
	baz=270						
OHAK	Old Harbor	43.69	44	P	P	00 30 14.2	+0.4
	baz=273						
M20K	Styx River	43.73	37	P	P	00 30 13.7	-0.5
	baz=268						
A21K	Barrow	43.77	23	P	P	00 30 15.4	+1.1
	baz=255						
C21K	Knifeblade Rid	43.88	27	P	P	00 30 16.0	+0.7
	baz=259,SNR=6.7						
G21K	Allakaket	43.94	31	P	P	00 30 16.0	+0.2
G21K				IAmb	IAmb	00 30 17.3	
	comp=Z,6.6nm,0.9s						
G21K	Allakaket	43.94	31	P	P	00 30 16.4	+0.6
	baz=263						
O20K	Slope Mountain	43.96	40	P	P	00 30 15.8	-0.2
	baz=270						
B21K	Ikpikpuk River	44.03	26	P	P	00 30 16.7	+0.3
B21K				IAmb	IAmb	00 30 17.8	
	comp=Z,8.4nm,0.6s						
B21K	Ikpikpuk River	44.03	26	P	P	00 30 17.3	+0.9
	baz=258,SNR=9.8						
KDAK	Kodiak Island	44.04	43	P	P	00 30 15.8	-0.9
	baz=273						
F21K	Alatna River	44.04	30	P	P	00 30 17.1	+0.5
F21K	Alatna River	44.04	30	P	P	00 30 17.3	+0.7
	baz=262						
E21K	Killik River	44.05	28	P	P	00 30 16.6	0.0
E21K				IAmb	IAmb	00 30 17.8	
	comp=Z,6.0nm,0.8s						
E21K	Killik River	44.05	28	P	P	00 30 16.9	+0.3
	baz=260						
Q20K	Shuyak Island	44.11	42	P	P	00 30 16.4	-0.7
	baz=272						
H21K	Melozitna Rive	44.13	32	P	P	00 30 17.6	+0.3
H21K	Melozitna Rive	44.13	32	P	P	00 30 17.8	+0.5
	baz=264,SNR=6.0						
SPCR	Spurr Chakacha	44.16	38	P	P	00 30 17.4	-0.3
	baz=270						
CHUM	Lake Minchumin	44.20	34	P	P	00 30 19.0	+1.1
	baz=267						
PPLA	Purkeypile	44.21	36	P	P	00 30 17.8	-0.4
	baz=269						
A22K	Sinclair Lake	44.21	24	P	P	00 30 18.7	+0.8
	baz=257,SNR=16						
CAST	Castle Rocks	44.28	35	P	P	00 30 19.1	+0.6
	baz=267						
CMAR	Chiang Mai Arr	44.39	256	LR	LR	00 51 15.0	
	comp=Z,26nm,19.9s,baz=200,slow=39						
I21K	Tanana	44.43	33	P	P	00 30 20.6	+0.9
	baz=266						
SKT	Skwentna	44.49	37	P	P	00 30 20.6	+0.3
	baz=269						
B22K	Teshekpuk Lake	44.58	25	P	P	00 30 20.6	-0.1
B22K				IAmb	IAmb	00 30 21.9	
	comp=Z,7.0nm,0.7s						
B22K	Teshekpuk Lake	44.58	25	P	P	00 30 21.5	+0.7
	baz=259						
F22K	John River	44.58	29	P	P	00 30 21.8	+0.9
	baz=263						
D22K	Ayikyak River	44.58	27	P	P	00 30 21.3	+0.4
D22K				IAmb	IAmb	00 30 22.2	
	comp=Z,6.6nm,0.7s						
D22K	Ayikyak River	44.58	27	P	P	00 30 21.7	+0.8
	baz=261,SNR=6.2						
H22K	Ishtalitna Cre	44.74	32	P	P	00 30 22.9	+0.8
	baz=265						
G22K	Bettles	44.78	30	P	P	00 30 23.0	+0.6
	baz=264						
E22K	Anaktuvuk Pass	44.80	28	P	P	00 30 23.1	+0.5
E22K				IAmb	IAmb	00 30 24.2	
	comp=Z,9.5nm,0.9s						
E22K	Anaktuvuk Pass	44.80	28	P	P	00 30 23.3	+0.7
	baz=263,SNR=8.4						
KTH	Kantishna Hill	44.81	35	P	P	00 30 23.7	+0.9
SUA	Susitna One	44.87	38	P	P	00 30 23.3	-0.1
	baz=270						
BRSE	Bradley Lake S	44.91	40	P	P	00 30 23.7	0.0
	baz=272						
TRF	Thorofare Moun	45.09	35	P	P	00 30 25.5	+0.4
	baz=269						
MK31	Makanchi Array	45.30	301	P	P	00 30 27.7	+0.8
MKAR	Makanchi Array	45.30	301	P	P	00 30 27.9	+1.0
	comp=Z,1.3nm,0.8s,baz=84,slow=8.8,SNR=14						
MKAR				LR	LR	00 49 55.3	
	comp=Z,45nm,18.9s,baz=331,slow=37						
	comp=Z,1.3nm,0.8s						
D23K	Nanushuk River	45.31	27	P	P	00 30 27.5	+0.8
	baz=263						
COLD	Coldfoot	45.31	30	P	P	00 30 27.5	+0.8
COLD	Coldfoot	45.31	30	P	P	00 30 27.5	+0.8
	baz=265						
G23K	Bananza Creek	45.34	31	P	P	00 30 27.6	+0.6
	baz=266						
RC01	Rabbit Creek A	45.36	38	P	P	00 30 27.7	+0.5
	baz=272						
C23K	Itkillik River	45.45	26	P	P	00 30 28.1	+0.4
C23K	Itkillik River	45.45	26	P	P	00 30 28.3	+0.7
	baz=262						
H23K	Yukon River	45.48	32	P	P	00 30 28.7	+0.6
H23K				IAmb	IAmb	00 30 30.1	
	comp=Z,8.2nm,0.9s						
H23K	Yukon River	45.48	32	P	P	00 30 28.9	+0.8
	baz=267						
MAKZ	Makanchi	45.50	301	P	P	00 30 29.4	+0.8

NEA2	**Nenana**	45.65	34	P	P	00 30 29.7	+0.4
	baz=269						
TOLK	**Toolik Lake Re**	45.68	28	P	P	00 30 30.2	+0.6
TOLK				IAmb	IAmb	00 30 31.2	
	comp=Z,4.5nm,0.8s						
TOLK	**Toolik Lake Re**	45.68	28	P	P	00 30 30.0	+0.4
	baz=264						
MCK	**McKinley**	45.70	35	P	P	00 30 30.0	+0.2
MCK	**McKinley**	45.70	35	P	P	00 30 30.0	+0.2
	baz=270						
GHO	**Glory Hole Cre**	45.73	38	P	P	00 30 30.6	+0.4
RND	**Reindeer**	45.73	35	P	P	00 30 29.6	-0.6
RND				IAmb	IAmb	00 30 30.6	
	comp=Z,7.0nm,1.1s						
KNK	**Knik Glacier**	45.97	38	P	P	00 30 32.0	0.0
	baz=272						
D24K	**Happy Valley**	45.99	27	P	P	00 30 32.8	+0.7
D24K				IAmb	IAmb	00 30 33.4	
	comp=Z,12nm,1.4s						
D24K	**Happy Valley**	45.99	27	P	P	00 30 32.8	+0.7
	baz=265,SNR=5.6						
SML	**Sawmill**	46.01	37	P	P	00 30 32.7	+0.3
SML	**Sawmill**	46.01	37	P	P	00 30 32.5	+0.1
	baz=272						
E24K	**Your Creek**	46.03	29	P	P	00 30 32.9	+0.5
E24K				IAmb	IAmb	00 30 34.3	
	comp=Z,4.9nm,0.8s						
E24K	**Your Creek**	46.03	29	P	P	00 30 33.0	+0.5
	baz=266,SNR=5.8						
PWL	**Port Wells**	46.05	39	P	P	00 30 32.2	-0.5
WRH	**Wood River Hil**	46.07	34	P	P	00 30 33.3	+0.6
WRH				IAmb	IAmb	00 30 52.5	
	comp=Z,5.3nm,1.2s						
C24K	**Franklin Bluff**	46.09	26	P	P	00 30 33.5	+0.8
	baz=264						
H24K	**Noodor Dome**	46.17	32	P	P	00 30 34.4	+0.8
H24K				IAmb	IAmb	00 30 35.3	
	comp=Z,7.3nm,1.2s						
H24K	**Noodor Dome**	46.17	32	P	P	00 30 34.3	+0.8
	baz=269						
F24K	**Squaw Lake**	46.23	29	P	P	00 30 34.6	+0.6
	baz=267						
M23K	**Glacier View**	46.30	37	P	P	00 30 34.5	-0.1
	baz=273						
POKR	**Poker Plat Res**	46.35	33	P	P	00 30 35.8	+0.8
POKR	**Poker Plat Res**	46.35	33	P	P	00 30 35.7	+0.8
	baz=270						
G24K	**Hadweenzic Riv**	46.35	31	P	P	00 30 36.0	+1.0
G24K				IAmb	IAmb	00 30 37.0	
	comp=Z,9.9nm,1.1s						
G24K	**Hadweenzic Riv**	46.35	31	P	P	00 30 35.9	+0.9
	baz=268,SNR=5.8						
SCM	**Sheep Creek Mo**	46.48	37	P	P	00 30 36.7	+0.6
SCM	**Sheep Creek Mo**	46.48	37	P	P	00 30 36.5	+0.4
	baz=273						
HDA	**Harding Lake**	46.56	34	P	P	00 30 36.1	-0.5
HDA				IAmb	IAmb	00 30 36.9	
	comp=Z,3.3nm,0.7s						
HDA	**Harding Lake**	46.56	34	P	P	00 30 36.5	-0.1
	baz=271						
P23K	**Montague Islan**	46.58	40	P	P	00 30 37.3	+0.6
	baz=275						
IL31		46.58	33	P	P	00 30 35.8	-0.8
IL31				IAmb	IAmb	00 30 37.1	
	comp=Z,3.5nm,0.8s						
ILAR	**Eielson Array**	46.58	33	P	P	00 30 36.4	-0.3
	comp=Z,2.7nm,0.8s,baz=265,slow=6.6,SNR=23						
	comp=Z,2.7nm,0.8s						
GLI	**Glacier Island**	46.66	39	P	P	00 30 37.7	+0.3
	baz=274						
KURK	**Kurchatov**	46.80	307	P	P	00 30 39.8	+1.2
D25K	**Kavik River**	46.88	27	P	P	00 30 39.4	+0.4
	baz=267						
KURBB	**Kurchatov Arra**	46.88	307	P	P	00 30 40.3	+1.1
	comp=Z,1.3nm,0.5s,baz=81,slow=8.5,SNR=12						
	comp=Z,1.3nm,0.5s						
G25K	**Bearman Lake**	46.90	31	P	P	00 30 39.9	+0.8
	baz=270						
HIN	**Hinchinbrook I**	46.99	39	P	P	00 30 40.0	-0.1
M24K	**Tolsona, Glenn**	47.01	37	P	P	00 30 40.5	+0.3
	baz=274						
H25L	**Birch Creek**	47.02	31	P	P	00 30 40.6	+0.5
	baz=270						
F25K	**Christian Rive**	47.09	29	P	P	00 30 41.2	+0.4
F25K				IAmb	IAmb	00 30 42.8	
	comp=Z,4.9nm,0.8s						
F25K	**Christian Rive**	47.09	29	P	P	00 30 41.7	+0.9
	baz=269,SNR=5.9						
K24K	**Donnelly Dome**	47.10	35	P	P	00 30 41.1	+0.2
	baz=273						
E25K	**Arctic Village**	47.13	29	P	P	00 30 41.7	+0.7
	baz=269						
PRP	**Porcupine Dome**	47.15	32	P	P	00 30 41.6	+0.3
	baz=271						
KLU	**Klutina**	47.18	38	P	P	00 30 41.9	+0.3
KLU				IAmb	IAmb	00 30 45.5	
	comp=Z,6.1nm,1.0s						
KLU	**Klutina**	47.18	38	P	P	00 30 41.8	+0.3
	baz=275						
J25K	**Salcha River,**	47.24	33	P	P	00 30 42.1	+0.1
J25K				IAmb	IAmb	00 31 13.1	
	comp=Z,5.3nm,1.4s						
J25K	**Salcha River,**	47.24	33	P	P	00 30 41.5	-0.5
	baz=272						
DIV	**Divide**	47.28	38	P	P	00 30 42.2	-0.1
PAX	**Paxson**	47.28	36	P	P	00 30 42.4	0.0
	baz=274						
EYAK	**Cordova Ski Ar**	47.35	39	P	P	00 30 42.5	-0.2
	baz=276						
C26K	**Camden Bay**	47.42	26	P	P	00 30 44.2	+1.1
	baz=268,SNR=7.3						
HARP	**HAARP**	47.47	37	P	P	00 30 44.6	+0.9
	baz=274						
BMAR	**Burnt Mountain**	47.50	30	P	P	00 30 45.3	+1.4
RIDG	**Independent Ri**	47.51	35	P	P	00 30 44.2	+0.1
	baz=273						
F26K	**Sheenjek River**	47.66	29	P	P	00 30 46.5	+1.4
	baz=270						
G26K	**Porcupine Rive**	47.81	30	P	P	00 30 47.5	+1.2
	baz=271						
C27K	**Jago River**	47.83	27	P	P	00 30 47.0	+0.6
C27K				IAmb	IAmb	00 30 48.1	
	comp=Z,3.8nm,0.7s						
C27K	**Jago River**	47.83	27	P	P	00 30 47.1	+0.7
	baz=269,SNR=6.0						
DOT	**Dot Lake**	47.87	35	P	P	00 30 47.2	+0.4
SCRK	**Sand Creek**	47.88	34	P	P	00 30 46.7	-0.3
SCRK				IAmb	IAmb	00 30 47.6	
	comp=Z,3.5nm,1.0s						
SCRK	**Sand Creek**	47.88	34	P	P	00 30 46.9	-0.1
	baz=274						
J26L	**Joseph Creek**	48.02	34	P	P	00 30 47.9	-0.2
J26L	**Joseph Creek**	48.02	34	P	P	00 30 48.0	-0.1
	baz=274						
HMT	**Hamilton**	48.10	39	P	P	00 30 49.9	+1.2
L26K	**Log Cabin Wild**	48.24	36	P	P	00 30 50.6	+0.9
	baz=275						
VRDI	**Verde Repeater**	48.39	38	P	P	00 30 51.4	+0.3
VRDI				IAmb	IAmb	00 30 56.1	
	comp=Z,5.6nm,0.8s						
M26K	**Nabesna, AK**	48.47	36	P	P	00 30 52.2	+0.7
	baz=276						
E27K	**Coleen River**	48.61	29	P	P	00 30 52.9	+0.4
E27K	**Coleen River**	48.61	29	P	P	00 30 53.6	+1.1
	baz=272						
G27K	**Doyon Strip**	48.66	30	P	P	00 30 54.0	+1.1
	baz=274						
K27K	**Chicken**	48.71	34	P	P	00 30 53.9	+0.6
	baz=276						
H27K	**Steamboat Moun**	48.75	31	P	P	00 30 54.4	+0.8
H27K	**Steamboat Moun**	48.75	31	P	P	00 30 54.3	+0.8
	baz=274						
I27K	**Kandik River**	48.77	32	P	P	00 30 54.1	+0.3
	baz=275						
WAX	**Waxell Ridge**	48.78	39	P	P	00 30 54.7	+0.7
D27M	**Malcolm River**	48.80	27	P	P	00 30 54.5	+0.5
D27M				IAmb	IAmb	00 30 55.9	
	comp=Z,4.7nm,0.9s						
D27M	**Malcolm River**	48.80	27	P	P	00 30 54.7	+0.8
	baz=272						
L27K	**Beaver Creek,**	48.93	35	P	P	00 30 54.9	-0.1
L27K	**Beaver Creek,**	48.93	35	P	P	00 30 55.6	+0.6
	baz=277						
BCAR	**Beaver Creek A**	48.95	35	P	P	00 30 56.5	+1.4
M27K	**Edge Creek, AK**	48.99	36	P	P	00 30 55.7	+0.1
M27K				IAmb	IAmb	00 31 17.9	
	comp=Z,8.3nm,1.2s						
M27K	**Edge Creek, AK**	48.99	36	P	P	00 30 55.6	+0.1
	baz=277						
MESA	**MESA**	49.27	39	P	P	00 30 58.0	+0.1
	baz=279						
E28M	**Babbage River**	49.35	28	P	P	00 30 59.1	+1.0
	baz=274						
BVCY	**Beaver Creek**	49.45	36	P	P	00 30 59.5	+0.5
	baz=278						
I28M	**Miner Creek**	49.48	32	P	P	00 31 00.3	+1.1
I28M				IAmb	IAmb	00 31 19.6	
	comp=Z,7.4nm,1.4s						
I28M	**Miner Creek**	49.48	32	P	P	00 31 00.2	+0.9
	baz=276						
D28M	**Stokes Point**	49.59	27	P	P	00 31 00.7	+0.9
	baz=274						
YUK3	**Moose Creek**	49.73	37	P	P	00 31 02.0	+0.6
	baz=279						
E29M	**Blow River**	49.97	28	P	P	00 31 03.2	+0.4
E29M				IAmb	IAmb	00 31 05.1	
	comp=Z,6.6nm,0.9s						
E29M	**Blow River**	49.97	28	P	P	00 31 03.9	+1.1
	baz=276,SNR=5.8						
H29M	**Whitestone**	50.03	31	P	P	00 31 04.6	+1.3
	baz=277						
G29M	**Pine Creek**	50.08	30	P	P	00 31 04.8	+1.0
G29M				IAmb	IAmb	00 31 05.9	
	comp=Z,9.9nm,1.1s						
G29M	**Pine Creek**	50.08	30	P	P	00 31 04.9	+1.2
	baz=277						
PINM	**Pinnacle**	50.12	39	P	P	00 31 04.3	+0.2
	baz=280						
M29M	**Somme Creek**	50.55	36	P	P	00 31 08.7	+1.3
	baz=280						
L29M	**L29M**	50.59	35	P	P	00 31 09.0	+1.4
L29M				IAmb	IAmb	00 31 30.5	
	comp=Z,5.0nm,0.8s						
L29M	**L29M**	50.59	35	P	P	00 31 09.0	+1.4
	baz=280						
PNL	**Peninsula**	50.62	40	P	P	00 31 07.4	-0.5
	baz=282						
YUK4	**Talbot Arm**	50.66	37	P	P	00 31 09.2	+0.8
	baz=281						
EPYK	**Eagle Plains**	50.67	31	P	P	00 31 08.3	+0.1
EPYK	**Eagle Plains**	50.67	31	P	P	00 31 09.1	+0.9
	baz=278						
K29M	**Barlow Dome**	50.73	34	P	P	00 31 09.7	+0.9
K29M				IAmb	IAmb	00 31 10.7	
	comp=Z,5.6nm,0.9s						
K29M	**Barlow Dome**	50.73	34	P	P	00 31 09.6	+0.9
	baz=280						
G30M	**tAoh Zraii Nji**	50.78	30	P	P	00 31 09.7	+0.7
	baz=278						
F30M	**Barrier River**	50.85	29	P	P	00 31 10.5	+1.0
F30M				IAmb	IAmb	00 31 11.9	
	comp=Z,8.2nm,1.1s						
F30M	**Barrier River**	50.85	29	P	P	00 31 10.9	+1.4
	baz=278						
YUK6	**Outpost Mounta**	50.88	38	P	P	00 31 10.5	+0.4
	baz=281						
BOOM	**Boomskoye usch**	50.89	297	P	P	00 31 13.1	+2.7
I30M	**Mount Dempster**	50.99	32	P	P	00 31 11.2	+0.4
I30M				IAmb	IAmb	00 31 12.2	
	comp=Z,6.3nm,0.8s						
I30M	**Mount Dempster**	50.99	32	P	P	00 31 11.4	+0.7
	baz=280,SNR=9.2						
J30M	**Hart River**	51.12	33	P	P	00 31 12.4	+0.7
	baz=280						
BVAR	**Boroyve Array**	51.21	312	P	P	00 31 13.6	+1.2
	comp=Z,0.9nm,0.4s,baz=82,slow=9.0,SNR=10						
	comp=Z,0.9nm,0.4s						
BRVK	**Borovoye**	51.26	312	P	P	00 31 13.6	+0.8
M30M	**Minto, Yukon**	51.29	36	P	P	00 31 13.8	+0.9
M30M	**Minto, Yukon**	51.29	36	P	P	00 31 14.1	+1.2
	baz=281						
HYT	**Haines Junctio**	51.31	38	P	P	00 31 13.6	+0.4
HYT				IAmb	IAmb	00 31 16.0	
	comp=Z,9.9nm,0.9s						
HYT	**Haines Junctio**	51.31	38	P	P	00 31 14.8	+1.6
	baz=282						
P29M	**Windy Craggy**	51.46	39	P	P	00 31 15.5	+1.3
P29M	**Windy Craggy**	51.46	39	P	P	00 31 15.4	+1.2
	baz=283						
INK	**Inuvik**	51.59	28	P	P	00 31 15.3	+0.3
INK				IAmb	IAmb	00 31 15.8	
	comp=Z,3.4nm,0.6s						
INK	**Inuvik**	51.59	28	P	P	00 31 15.5	+0.5
	baz=280,SNR=6.0						
F31M	**Tsiigehtchic**	51.66	29	P	P	00 31 15.9	+0.4
F31M				IAmb	IAmb	00 31 17.2	
	comp=Z,11nm,1.5s						
F31M	**Tsiigehtchic**	51.66	29	P	P	00 31 16.0	+0.5
	baz=280						
H31M	**Peel River**	51.72	31	P	P	00 31 16.9	+0.9
H31M				IAmb	IAmb	00 31 17.7	
	comp=Z,7.6nm,0.8s						
H31M	**Peel River**	51.72	31	P	P	00 31 16.5	+0.4
	baz=281,SNR=5.1						
AAK	**Ala-Archa**	51.84	298	LR	LR	00 53 11.2	
	comp=Z,48nm,20.4s,baz=68,slow=36						
N31M	**Braeburn, Yuko**	51.98	37	P	P	00 31 19.4	+1.4
N31M	**Braeburn, Yuko**	51.98	37	P	P	00 31 18.8	+0.7
	baz=283						
M31M	**Drury Creek, Y**	52.46	36	P	P	00 31 22.3	+0.7
M31M	**Drury Creek, Y**	52.46	36	P	P	00 31 22.1	+0.4
	baz=283						
WHY	**Whitehorse**	52.60	38	P	P	00 31 23.7	+0.9
	baz=284						
FARO	**Faro, Yukon**	52.93	36	P	P	00 31 26.4	+1.3
	baz=284						
N32M	**Quiet Lake**	53.33	37	P	P	00 31 28.7	+0.6
	baz=285						
SIT	**Sitka**	53.34	42	P	P	00 31 28.1	0.0
	baz=286						
S32K	**Killisnoo**	53.61	41	P	P	00 31 31.4	+1.3
	baz=287						
P33M	**Teslin, Yukon**	53.71	38	P	P	00 31 31.4	+0.5
	baz=286						
MMPY	**Sheldon Lake,**	53.76	35	P	P	00 31 32.2	+0.9
	baz=286						
Q32M	**Nakina River**	54.34	39	P	P	00 31 36.5	+0.8
Q32M	**Nakina River**	54.34	39	P	P	00 31 34.7	-1.0
	baz=287						
C36M	**Paulatuk**	54.69	26	P	P	00 31 38.1	+0.3
C36M	**Paulatuk**	54.69	26	P	P	00 31 38.1	+0.3
	baz=287						
R33M	**Jennings River**	54.84	39	P	P	00 31 40.6	+1.4
R33M				IAmb	IAmb	00 31 54.9	
	comp=Z,14nm,1.5s						
ARTI	**Arti**	56.76	318	P	P	00 31 53.8	+1.0
ARTI				IAmb	IAmb	00 31 54.5	
	comp=Z,3.4nm,0.7s						
ARTI	**Arti**	56.76	318	LR	LR	00 57 15.6	
	comp=Z,18nm,21.0s,baz=44,slow=37						
TOAD	**Toad River Com**	57.80	38	P	P	00 32 00.8	+0.5
	baz=293						
ABKAR	**Akbulak array**	58.68	310	P	P	00 32 06.9	+0.5
ABKAR	**Akbulak array**	58.68	310	IAmb	IAmb	00 32 17.4	
	comp=Z,2.9nm,0.7s						
WB0	**Warramunga Arr**	59.11	191	P	P	00 32 08.5	-1.2
WB0				IAmb	IAmb	00 32 09.6	
	comp=Z,7.0nm,1.1s						
WR0	**Warramunga Arr**	59.28	191	P	P	00 32 10.3	-0.5
WB2	**Warramunga Arr**	59.29	191	P	P	00 32 10.2	-0.8
WRA	**Warramunga Arr**	59.29	191	P	P	00 32 09.7	-1.2
WRA	**Warramunga Arr**	59.29	191	P	P	00 32 09.6	-1.4
	comp=Z,2.2nm,0.7s,baz=9.7,slow=7.2,SNR=10.0						
	comp=Z,2.2nm,0.7s						
RES	**Resolute Bay**	60.18	15		P	00 32 16.6	+0.3
RES				IAmb	IAmb	00 32 16.9	
	comp=Z,3.2nm,0.8s						
YKA	**Yellowknife Ar**	60.94	31	P	P	00 32 21.3	-0.4
	comp=Z,1.0nm,0.9s,baz=301,slow=6.7,SNR=12						
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	63.02	191	P	P	00 32 34.4	-1.7
ASAR	**Alice Springs**	63.02	191	P	P	00 32 35.5	-0.7
	comp=Z,1.6nm,0.9s,baz=14,slow=6.2,SNR=8.5						
	comp=Z,1.6nm,0.9s						
FINES	**FINESS Array B**	68.34	333	P	P	00 33 10.4	+0.3
	comp=Z,3.2nm,0.6s,baz=67,slow=5.9,SNR=25						
	comp=Z,3.2nm,0.6s						
FFC	**Flin Flon**	70.78	34	P	P	00 33 25.5	+0.2
FFC				IAmb	IAmb	00 33 25.8	
	comp=Z,3.6nm,0.8s						
FCC	**Fort Churchill**	71.21	28	P	P	00 33 27.2	-0.5
FCC				IAmb	IAmb	00 33 44.1	
	comp=Z,5.7nm,1.4s						
KIV	**Kislovodsk**	71.58	312	P	P	00 33 31.3	+0.9
KIV				IAmb	IAmb	00 33 34.9	
	comp=Z,6.3nm,0.9s						
KBZ	**Khabaz**	71.59	312	P	P	00 33 31.9	+1.6
	comp=Z,3.7nm,0.9s,baz=94,slow=1.3,SNR=11						
	comp=Z,3.7nm,0.9s						
BOZ	**Bozeman (W)**	71.66	46	P	P	00 33 31.8	+0.8
NVAR	**Mina Array Bea**	71.87	55	P	P	00 33 32.5	0.0
	comp=Z,1.1nm,0.7s,baz=286,slow=7.3,SNR=4.4						
	comp=Z,1.1nm,0.7s						
ELK	**Elko**	72.44	52	P	P	00 33 35.4	-0.4
	comp=Z,0.8nm,0.6s,baz=312,slow=7.5,SNR=2.2						
	comp=Z,0.8nm,0.6s						
HFS	**Hagfors**	73.42	337	P	P	00 33 40.4	-0.6
	comp=Z,1.6nm,0.8s,baz=55,slow=5.5,SNR=2.5						
	comp=Z,1.6nm,0.8s						
NOA	**NORSAR Array B**	73.43	338	P	P	00 33 41.3	+0.2
	comp=Z,0.7nm,0.9s,baz=39,slow=5.8,SNR=1.6						
NOA				LR	LR	01 12 09.7	
	comp=Z,11nm,18.1s,baz=335,slow=41						
	comp=Z,0.7nm,0.9s						
AKASG	**Malin Array Be**	74.35	323	P	P	00 33 47.0	+0.4
	comp=Z,1.1nm,0.5s,baz=44,slow=6.3,SNR=10						
	comp=Z,1.1nm,0.5s						
PDAR	**Pinedale Array**	74.58	47	P	P	00 33 47.8	-0.6
	comp=Z,0.8nm,0.8s,baz=300,slow=4.3,SNR=8.1						
	comp=Z,0.8nm,0.8s						
KECS	**Kecovo**	79.90	326	*e*P	P	00 34 19.7	+1.9
CLL	**Collm**	80.71	332	*i* P	P	00 34 22.6	+0.5
MODS	**Modra-Piesok**	81.35	328	*e*P	P	00 34 28.2	+2.6
EKA	**Eskdalemuir Ar**	82.20	342	P	P	00 34 30.2	+0.3
	comp=Z,0.4nm,0.5s,baz=29,slow=5.7,SNR=3.8						
	comp=Z,0.4nm,0.5s						
GERES	**GERESS Array B**	82.43	330	P	P	00 34 31.6	+0.2
	comp=Z,0.3nm,0.5s,baz=41,slow=5.6,SNR=3.7						
	comp=Z,0.3nm,0.5s						
MMAI	**Mount Meron Ar**	82.91	307	P	P	00 34 34.7	+0.5
	comp=Z,0.3nm,0.5s,baz=51,slow=5.5,SNR=1.6						
	comp=Z,0.3nm,0.5s						
PPT	**Papeete**	83.26	119	LR	LR	01 07 28.8	
	comp=Z,84nm,20.5s,baz=14,slow=33						
PPT2	**Papeete2**	83.27	119	*e*LR	LR	01 00 32.7	
	comp=Z,49nm,22.5s						
TAOE	**Nuku Hiva Isla**	84.22	106	*e*LR	LR	01 01 02.9	
	comp=Z,63nm,22.7s						
TXAR	**Lajitas Array**	87.00	54	P	P	00 34 54.1	-0.8
	comp=Z,0.7nm,0.6s,baz=286,slow=2.1,SNR=6.9						
	comp=Z,0.7nm,0.6s						
TBI	**Tubuai**	87.36	123	*e*LR	LR	01 02 27.5	
	comp=Z,760nm,32.2s						

*MEX **06** 00:26:07.6±0.6,30°.79N×114°.11W,h10km,MD4.2*
*ECX **06** 00:26:07.0±0.4,30°.64N×114°.09W,h16km±4km,ML3.7*
ISC 06 00:26:05.4±1.6,30°.70N±0°.05×114°.07W±0°.03,
h10km±13km,n14,σ1§12/27,1C-4D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPXB	**Puerto Peasco**	0.74	30	⇓*i*P	Pn	00 26 21.2	-0.8
PPXB				*e*S	Sb	00 26 31.6	+1.0
PPXB				*e*		00 26 38.3	
PPXB				IAML		00 26 38.3	
	comp=E,3μm,0.6s						
SFX	**San Felipe**	0.75	297	*e*P	Pb	00 26 20.5	-0.1
SFX				*e*S	Sb	00 26 30.3	-0.6
SFX	**San Felipe**	0.75	297	⇓*e*P	Pb	00 26 20.5	-0.1
SFX				*e*S	Sb	00 26 31.1	+0.2
SFX				IAML		00 26 33.0	
	comp=N,3μm,0.6s						
SFX				⇓*e*		00 26 33.0	
PIX	**Pinacate**	1.01	31	⇓*e*P	Pn	00 26 25.3	-0.3
PIX				*e*S	Sn	00 26 40.0	0.0
PIX				IAML		00 26 41.2	
	comp=E,2μm,0.5s						
PIX				⇑*e*		00 26 41.2	
SQX	**San Quintin**	1.56	266	*e*P	Pn	00 26 33.1	-0.2
SQX				*e*S	Sn	00 26 52.8	-0.8
VTX	**Valle De La Tr**	1.62	296	*e*P	Pg	00 26 36.5	0.0
VTX				*e*S	Sg	00 26 57.9	+0.2
RHX	**Rio Hardy**	1.77	324	*e*P	Pn	00 26 35.9	-0.3
SV2X	**San Vicente**	1.97	290	*e*P	Pb	00 26 41.6	+0.3
SV2X				*e*S	Sb	00 27 07.2	+1.3
CBX	**Cerro Bola**	2.74	307	*e*P	Pn	00 26 49.8	+0.2
CBX				*e*S	Sb	00 27 26.6	-1.7
TJIG	**Tijuana**	2.82	309	*e*P	Pn	00 26 49.7	-0.9
TJIG				*e*S	Sb	00 27 31.9	+1.4
HSIG		3.19	121	*e*P	Pb	00 27 01.9	-0.3
HSIG				*e*S	Sb	00 27 39.7	-1.4
TUC	**Tucson**	3.24	59	*e*P	Pn	00 26 56.5	+0.1
TUC				*e*S	Sb	00 27 43.0	+0.5
NZIG	**Nacozari, Sono**	3.91	94	*e*P	Pn	00 27 07.7	+2.0
NZIG				*e*P	Pb	00 27 07.9	-6.7
NZIG				*e*S	Sn	00 27 53.0	+1.1
NZIG				*e*S	Sb	00 27 58.9	-3.2
GUYB	**Guaymas**	3.95	134	*e*P	Pn	00 27 07.1	+1.0

*NOU **06** 00:49:28.4,37°.16S×178°.75E,h11km,MLv3.6/8,Off E.*
Coast of N. Island, N.Z.
*WEL **06** 00:49:29.0±0.9,37°S±3°×17°9E±°,h12km,M3.5/20,*
ML3.7/24,MLv3.5/20,Error ellipse: s-maj=9.8km
s-min=4.3km az=88.9,confirmed
ISC 06 00:49:27.3±2.7,37°.21S±0°.08×179°.0E±0°.1,h21km±12km,
n80,σ1§17/90,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	0.65	237	P	Pb	00 49 39.7	-0.3
MXZ	**Matakaoa Point**	0.65	237	S	Sb	00 49 47.4	-1.3
MXZ	**Matakaoa Point**	0.65	237	P	Pb	00 49 39.8	-0.3
MXZ				S	Sb	00 49 46.8	-1.8
WMGZ	**Waiomatatini S**	0.76	217	P	Pn	00 49 43.9	+1.1
WMGZ				S	Sn	00 49 55.0	+1.3
PKGZ	**Pakihiroa**	0.98	228	P	Pn	00 49 46.1	+0.2
PUZ	**Puketiti**	1.04	214	P	Pn	00 49 47.7	+1.0
PUZ				S	Sn	00 50 01.6	+1.0
HAZ	**Te Kaha**	1.11	240	P	Pn	00 49 46.6	-0.9
TWGZ	**Tauwhareparae**	1.26	220	P	Pb	00 49 51.0	+0.7
TWGZ				S	Sn	00 50 08.1	+2.1
RUGZ	**Raukumara Rang**	1.29	234	P	Pn	00 49 50.8	+0.6
RUGZ				S	Sb	00 50 08.5	+1.4
CNGZ	**Carnagh Statio**	1.42	206	P	Pb	00 49 53.4	+0.5
TKGZ	**Te Karaka**	1.52	216	P	Pn	00 49 54.2	+0.9
MWZ	**Matawai**	1.61	226	P	Pn	00 49 55.6	+1

KAHZ	Kahuranaki	3.07 212	P	Pn	00 50 14.1	-0.5
WIAZ	Waiheke Island	3.12 277	P	Pn	00 50 14.8	-0.5
KATZ	Kakaramea	3.14 235	P	Pn	00 50 16.9	+1.2
KRHZ	Kereru	3.19 220	P	Pn	00 50 15.8	-0.4
TMVZ	Te Maari	3.22 233	P	Pn	00 50 17.2	+0.5
ETVZ	East Tongariro	3.22 232	P	Pn	00 50 17.2	+0.4
NTVZ	North Tongarir	3.22 233	P	Pn	00 50 16.7	-0.1
OTVZ	Oturere	3.27 232	P	Pn	00 50 17.9	+0.4
NNVZ	North Ngauruho	3.28 233	P	Pn	00 50 18.4	+0.8
WTVZ	West Tongariro	3.29 234	P	Pn	00 50 18.8	+1.1
SNVZ	South Ngauruho	3.30 232	P	Pn	00 50 18.3	+0.5
MBAZ	Motutapu North	3.31 276	P	Pn	00 50 18.1	+0.2
NGZ	Ngauruhoe	3.32 233	P	Pn	00 50 18.6	+0.5
TUVZ	Tukino	3.34 231	P	Pn	00 50 18.8	+0.5
MOVZ	Moawhango	3.36 228	P	Pn	00 50 18.7	+0.1
ABAZ	Army Bay	3.39 279	P	Pn	00 50 19.2	+0.2
FWVZ	Far West T-bar	3.39 232	P	Pn	00 50 20.2	+1.0
WNVZ	Wahianoa	3.41 231	P	Pn	00 50 19.6	+0.2
PNHZ	Pukenui	3.48 218	P	Pn	00 50 19.0	-1.2
PNHZ			S	Sn	00 50 57.8	-2.9
AWAZ	Awhitu Peninsu	3.48 271	P	Pn	00 50 20.5	+0.3
RVAZ	Riverhead Bore	3.56 276	P	Pn	00 50 21.7	+0.3
PRHZ	Porangahau	3.56 210	P	Pn	00 50 19.9	-1.5
PRHZ			S	Sn	00 51 00.5	-2.4
DVHZ	Dannevirke	3.79 215	P	Pn	00 50 23.1	-1.4
DVHZ			S	Sn	00 51 04.8	-3.7
VRZ	Vera Road	3.85 239	P	Pn	00 50 26.8	+1.6
WCZ	Waipu Caves	3.95 287	P	Pn	00 50 27.2	+0.5
WAZ	Wanganui	4.04 230	P	Pn	00 50 29.0	+1.1
LREZ	Lake Rotokare	4.25 237	P	Pn	00 50 32.5	+1.7
OUZ	Omahuta	4.80 293	P	Pn	00 50 39.5	+1.2
BSWZ	Blackbirch Sta	5.99 220	P	Pn	00 50 53.4	-1.3
TKNZ	Takaka Hill	6.05 229	P	Pn	00 50 54.4	-1.1
CTZ	Chatham Island	7.32 154	P	Pn	00 51 15.1	+2.1

*KRNET **06** 00:56:27.9±0.1, 41°.61N×78°.12E, h18km, mb3.1*
*NNC **06** 00:56:28.8±0.8, 41°.58N×78°.05E, h0km, mb3.6, mpv3.4,*
Error ellipse: s-maj=5.5km s-min=3.2km az=172.0
*SOME **06** 00:56:28.2, 41°.57N×78°.03E, h15km*

ISC 06 00:56:28.2±1.5, 41°.58N±0°.05×77°.99E±0°.03, h4km±10km, n57, σ1=53/95, 20C-28D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	0.21	318	⇑iP	Pg	00 56 33.5	+1.1
TARG				⇑iS	Sg	00 56 37.4	+2.3
KDJ	Kajisay	0.82	313	⇓iP	Pg	00 56 44.3	+0.3
KDJ				⇓iS	Sb	00 56 56.2	-0.4
PRZ	Przheval'sk	0.96	19	⇓iP	Pb	00 56 45.1	-2.4
PRZ				⇓iS	Sb	00 56 57.8	-2.8
ANVS	Anan'yevo	1.23	349	⇑iP	Pn	00 56 50.7	-1.7
ANVS				⇑iS	Sb	00 57 07.2	-1.3
ULHL	Ulahol	1.47	298	⇓iP	Pb	00 56 56.1	-0.1
ULHL				⇓iS	Sg	00 57 16.8	+1.5
NRN	Naryn	1.50	265	⇓eP	Pb	00 56 57.1	+0.2
NRN				⇓eS	Sg	00 57 19.2	+2.7
SATY	Saty	1.51	12	P	Pb	00 56 56.1	-0.9
SATY	8.2nm,0.2s			S	Sg	00 57 16.3	-0.6
	44nm,0.2s						
ZHN	Zhinishke	1.62	12	P	Pb	00 56 58.4	-0.5
ZHN	16nm,0.2s			S	Sg	00 57 20.2	-0.2
	77nm,0.2s						
ZHN	Zhinishke	1.62	12	eP	Pb	00 56 58.4	-0.5
ZHN	14nm,0.1s			eS	Sg	00 57 20.2	-0.2
	77nm,0.2s						
TNSS	Tian-Shan	1.65	332	P	Pb	00 56 59.5	0.0
TNSS	7.4nm,0.2s			S	Sg	00 57 22.1	+0.8
	33nm,0.4s						
TNSS	Tian-Shan	1.65	332	eP	Pb	00 56 59.5	0.0
TNSS	7.4nm,0.2s			eS	Sg	00 57 22.1	+0.8
	32nm,0.2s						
MDOK	Medeo	1.73	337	P	Pb	00 57 01.0	+0.3
MDOK	8.8nm,0.4s			Pg	Pg	00 57 01.1	-0.3
	18nm,0.2s						
MDOK				⇑S	Sg	00 57 23.7	-0.3
	19nm,0.4s						
MDOK				Lg	Lg	00 57 24.8	
	34nm,0.2s						
UZB	Uzynbulak	1.75	26	P	Pb	00 57 00.2	-0.8
UZB	3.1nm,0.2s			S	Sg	00 57 23.4	-1.0
	19nm,0.2s						
UZB	Uzynbulak	1.75	26	eP	Pb	00 57 00.1	-0.8
UZB	3.9nm,0.2s			eS	Sg	00 57 23.4	-1.0
	20nm,0.2s						
BOOM	Boomskoye usch	1.78	302	⇑iP	Pb	00 57 01.6	+0.1
BOOM				⇑iS	Sg	00 57 26.0	+0.6
KOTS	Kotyrbulak	1.78	339	P	Pg	00 57 01.9	-0.4
KOTS	37nm,0.1s			S	Sg	00 57 26.3	+0.9
	90nm,0.2s						
KOTS	Kotyrbulak	1.78	339	eP	Pg	00 57 01.9	-0.4
KOTS	35nm,0.1s			eS	Sg	00 57 26.3	+0.9
	90nm,0.2s						
KNDC	Almaty	1.81	336	⇑Pn	Pb	00 57 00.5	-1.4
KNDC	18nm,0.6s			⇑Sn	Sg	00 57 27.6	+1.3
	72nm,0.5s						
AAA	Alma-Ata	1.81	334	eP	Pg	00 57 03.0	0.0
AAA	29nm,0.1s			eS	Sg	00 57 27.8	+1.2
	39nm,0.2s						
KURS	Kuram	1.92	4	P	Pb	00 57 03.7	-0.1
KURS	7.2nm,0.2s			S	Sg	00 57 28.8	-1.0
	12nm,0.4s						
SHLS	Shalkode	1.92	34	Pg	Pg	00 57 06.8	+1.8
SHLS	16nm,0.3s			Lg	Lg	00 57 34.9	
	41nm,0.4s						
SHLS	Shalkode	1.92	34	eP	Pg	00 57 06.8	+1.8
SHLS	16nm,0.3s			eS	Sg	00 57 34.9	+5.0
	41nm,0.4s						
MTBS	Maitube	1.94	324	Pg	Pb	00 57 04.8	+0.7
MTBS	5.7nm,0.2s			Lg	Lg	00 57 30.9	
	52nm,0.2s						
MTBS	Maitube	1.94	324	eP	Pb	00 57 04.8	+0.7
MTBS	5.7nm,0.2s			eS	Sg	00 57 30.9	+0.5
	52nm,0.2s						
PDGK	Podgornoye	2.07	32	⇓Pn	Pb	00 57 05.2	-1.4
PDGK	7.5nm,0.5s			⇓Sn	Sb	00 57 32.0	-0.7
	39nm,0.6s						
KST	Kastek	2.10	315	Pg	Pg	00 57 07.8	-0.7
KST	9.7nm,0.2s			Lg	Lg	00 57 36.1	
	96nm,0.6s						
KST	Kastek	2.10	315	eP	Pg	00 57 07.8	-0.7
KST	9.7nm,0.2s			eS	Sg	00 57 36.1	+0.5
	96nm,0.6s						
TKM2	Tokmak 2	2.23	308	P	Pb	00 57 10.1	+0.9
TKM2	SNR=16						
	Tokmak 2	2.23	308	⇑Pg	Pb	00 57 09.9	+0.7
TKM2	5.9nm,0.5s			⇓Lg	Lg	00 57 40.8	
	23nm,0.3s						
TKM2	Tokmak 2	2.23	308	⇓iP	Pb	00 57 07.7	-1.5
TKM2				⇓iS	Sb	00 57 36.7	-0.5
DGS	Degeres	2.34	316	Pg	Pb	00 57 12.0	+1.0
DGS	3.0nm,0.3s			Lg	Lg	00 57 43.5	
	78nm,0.4s						
KTBS	Karatobe	2.34	336	Pg	Pb	00 57 11.8	+0.8
KTBS	15nm,0.2s			Lg	Lg	00 57 43.0	
	113nm,0.2s						
CHKK	Chushkaly	2.39	342	eP	Pb	00 57 12.4	+0.5
CHKK	15nm,0.3s			eS	Sg	00 57 43.9	-1.2
	121nm,0.2s						
KBK	Karagaybulak	2.51	297	P	Pg	00 57 15.3	-1.0
	SNR=7.8						
KBK	Karagaybulak	2.51	297	⇓iP	Pb	00 57 11.7	-2.2
KBK				⇓iS	Sb	00 57 43.5	-1.7
BLB	Baldybastay	2.54	8	Pg	Pb	00 57 14.2	-0.4
BLB	50nm,0.3s			Lg	Lg	00 57 47.5	
	66nm,0.2s						
ARXS	Arharly	2.64	357	Pg	Pb	00 57 16.0	-0.1
ARXS	24nm,0.3s			Lg	Lg	00 57 50.4	
	104nm,0.5s						
UCH	Uchtor	2.67	285	⇓iP	Pb	00 57 14.3	-2.6
UCH				⇓iS	Sb	00 57 48.4	-1.9
KRBS	Karabastau	2.72	322	Pg	Pb	00 57 18.2	+0.7
KRBS	5.1nm,0.4s			Lg	Lg	00 57 54.7	
	48nm,0.6s						
ARLS	Aral	2.76	277	⇑eP	Pb	00 57 15.5	-2.7
ARLS				⇑eS	Sb	00 57 50.0	-2.4
CHMS	Chumysh	2.79	302	⇑Pg	Pb	00 57 18.7	+0.1
CHMS	3.7nm,0.7s			⇓Lg	Lg	00 57 57.5	
	38nm,0.7s						
CHMS	Chumysh	2.79	302	⇓iP	Pn	00 57 15.4	+1.7
CHMS				⇓iS	Sb	00 57 50.0	-3.2
AAK	Ala-Archa	2.81	293	P	Pg	00 57 21.4	-0.7
AAK	SNR=13						
	Ala-Archa	2.81	293	⇑Pg	Pb	00 57 19.9	+0.9
AAK	4.4nm,0.5s			⇓Lg	Lg	00 57 58.9	
	9.5nm,0.5s						
AAK	Ala-Archa	2.81	293	⇓iP	Pb	00 57 16.0	-3.0
AAK				⇓iS	Sb	00 57 51.0	-2.8
KNOS	Konyrlen	2.92	17	Pg	Pb	00 57 20.4	-0.5
KNOS	8.8nm,0.4s			Lg	Lg	00 57 57.6	
	20nm,0.5s						
DJR	Jarkent	3.06	25	Pg	Pb	00 57 22.7	-0.5
DJR	6.6nm,0.3s			Lg	Lg	00 58 01.7	
	39nm,0.3s						
DJR	Jarkent	3.06	25	eP	Pb	00 57 23.6	+0.4
DJR	3.6nm,0.1s			eS	Sg	00 58 03.2	-3.1
	39nm,0.3s						
USP	Ospenovka	3.09	304	P	Sg	00 58 05.6	-1.8
USP	SNR=10						
	Ospenovka	3.09	304	⇑iP	Pn	00 57 19.5	+1.7
USP				⇑iS	Sn	00 57 57.2	+2.0
AML	Almayashu	3.26	281	P	Pg	00 57 30.6	0.0
AML	SNR=22						
	Almayashu	3.26	281	⇑iP	Pn	00 57 22.4	+2.0
AML				⇑iS	Sn	00 58 02.3	+2.5
EKS2	Erkin-Say	3.31	290	P	Pg	00 57 30.4	-1.3
EKS2	SNR=7.9						
	Erkin-Say	3.31	290	⇓iP	Pn	00 57 23.0	+2.0
EKS2				⇓iS	Sn	00 58 03.3	+2.4
MRKS	Merke	3.73	290	eP	Pg	00 57 37.6	-2.1
MRKS	2.5nm,0.3s			eS	Sg	00 58 27.7	-0.2
	11nm,0.3s						
KK31	Karatay Array	5.75	288	⇑Pg	Pg	00 58 15.6	-2.7
KK31	0.5nm,0.3s,baz=96,slow=16,SNR=5.4			⇑Lg	Lg	00 59 34.5	
	0.6nm,0.3s,baz=98,slow=25,SNR=4.3						
MK31	Makanchi Array	6.06	29	⇓Pn	Pn	00 57 59.0	+0.3
MK31	0.1nm,0.2s,baz=206,slow=11,SNR=6.1			⇓Sn	Sn	00 59 10.1	+1.6
	0.4nm,0.5s,baz=208,slow=25,SNR=4.4						
MK31				⇓Lg	Lg	00 59 41.4	
	0.8nm,0.5s,baz=210,slow=26,SNR=3.9						

IDC 06 01:01:55.0±3.0, 16°.32N×122°.89E, h0km, mb3.5/4, mbtmp3.5/4, MS2.2/1, Error ellipse: s-maj=307.4km s-min=28.3km az=64.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	2.90	221	LR	LR	01 03 29.3	
	comp=Z,40nm,19.2s,baz=198,slow=32						
WRA	Warramunga Arr	37.75	162	P	P	01 09 12.7	-0.2
	0.5nm,0.6s,baz=343,slow=8.0,SNR=2.0						
	0.5nm,0.6s						
MKAR	Makanchi Array	45.26	321	P	P	01 10 14.2	-0.1
	0.2nm,0.6s,baz=119,slow=7.9,SNR=3.8						
	0.2nm,0.6s						
ZALV	Zalesovo Beam	47.77	331	P	P	01 10 33.8	0.0
	0.3nm,0.4s,baz=138,slow=8.8,SNR=2.0						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	49.26	324	P	P	01 10 45.3	-0.1
	0.8nm,0.5s,baz=119,slow=8.2,SNR=10						
	0.8nm,0.5s						

*AEIC **06** 01:02:58.7±2.0, 63°.29N±0°.02×151°.23W±0°.09, h5km±6km, ML4.0, ML4.2/256(NEIC), Mwr3.9/161(NEIC), Error ellipse: s-maj=6.1km s-min=2.7km az=89.0*
*NEIC **06** 01:02:58.8±1.3, 63°.28N±0°.02×151°.16W±0°.05, h10km±2km, Error ellipse: s-maj=4.7km s-min=3.0km az=299.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}8.76; $M_{\theta\theta}$-1.59; $M_{\phi\phi}$-7.17; $M_{r\theta}$-1.93; $M_{\theta\phi}$-5.12; $M_{\phi r}$1.86; Fault plane solution: $M_0$9.94000×10^{14} NP1:ϕ_s13.81000°, δ49.50000°, λ66.39000°. NP2:ϕ_s227.75000°, δ45.83000°, λ115.12000°. Principal axes: T 9.6160, Plg72.0000°, Azm216.0000°; N 0.6186, Plg18.0000°, Azm30.0000°; P -10.2346, Plg2.0000°, Azm120.0000°;*
*NEIC **06** 01:02:58.7, 63°.29N×151°.23W, h5km*
*IDC **06** 01:02:58.7±0.7, 63°.06N×151°.11W, h0km, mb3.9/19, mbtmp3.9/22, ML3.4/3, Error ellipse: s-maj=17.2km s-min=12.2km az=33.0*

ISC 06 01:03:00.2±0.4, 63°.27N±0°.02×151°.16W±0°.02, h10km, n159, σ1=51/113, mb4.0/22, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	Kantishna Hill	0.30	20	Pg	Pg	01 03 04.9	-1.5
KTH				Sg	Sg	01 03 09.0	-1.5
TRF	Thorofare Moun	0.43	65	Pg	Pg	01 03 07.3	-1.5
TRF				Sg	Sg	01 03 13.2	-1.2
CAST	Castle Rocks	0.44	290	Pg	Pg	01 03 07.3	-1.6
CAST				Sg	Sg	01 03 13.0	-1.7
PPLA	Purkeypile	0.60	232	Pg	Pg	01 03 10.2	-1.7
PPLA				Sg	Sg	01 03 18.4	-1.4
PPLA				IAML		01 03 20.0	
	comp=E,17μm,0.5s						
CHUM	Lake Minchumin	0.81	321		Pg	01 03 14.2	-1.5
BPAW	Bear Paw Mtn.	0.84	5	Pg	Pg	01 03 14.3	-2.0
BPAW	Bear Paw Mtn.	0.84	5		Sg	01 03 25.4	-1.9
CUT	Chulitna	0.96	154		Pg	01 03 17.2	-1.4
CUT				IAML		01 03 30.4	
	comp=E,10μm,0.9s						
CUT	Chulitna	0.96	154		Sg	01 03 30.1	-1.0
RND	Reindeer	1.05	81		Pg	01 03 18.0	-2.4
MCK	McKinley	1.10	64		Pg	01 03 19.0	-2.4
BWN	Browne	1.18	39		Pg	01 03 21.5	-1.4
BWN				IAML		01 03 45.9	
	comp=N,3μm,0.9s						
BWN				IAML		01 03 47.8	
	comp=E,4μm,0.9s						
SKT	Skwentna	1.30	188		Pn	01 03 23.0	-1.6
SKT				IAML		01 03 43.1	
	comp=N,3μm,0.3s						
SKT				IAML		01 03 44.1	
	comp=E,4μm,0.4s						
SKT	Skwentna	1.30	188		Sb	01 03 40.0	-1.6
K20K	Telida	1.32	275		Pn	01 03 22.6	-2.1
K20K				IAML		01 03 43.0	
	comp=E,5μm,0.8s						
K20K	Telida	1.32	275		Sb	01 03 40.0	-2.0
L20K	Farewell, AK	1.48	239		Pn	01 03 24.8	-2.2
L20K					Sb	01 03 45.5	-1.1
M22K	Willow	1.60	162		Pn	01 03 27.2	-1.2
M22K	Willow	1.60	162		Sb	01 03 49.5	-0.5
J20K	Nowinta River	1.61	306	Pn	Pn	01 03 26.9	-1.8
J20K				IAML		01 03 54.0	
	comp=N,4μm,0.6s						
J20K	Nowinta River	1.61	306		Sg	01 03 49.7	-2.3
NEA2	Nenana	1.62	34		Pn	01 03 26.2	-2.6
M20K	Styx River	1.67	214		Pn	01 03 28.4	-1.1
STLK	Strandline Lak	1.80	190	IAML		01 03 56.5	
	comp=N,2μm,0.5s						
STLK				IAML		01 03 56.8	
	comp=E,3μm,0.6s						
WRH	Wood River Hil	1.82	47	Pn	Pn	01 03 29.2	-2.4
SUA	Susitna One	1.82	174		Pn	01 03 30.8	-0.9
SUA	Susitna One	1.82	174		Sb	01 03 56.0	-0.6
GHO	Glory Hole Cre	1.82	144		Pn	01 03 30.3	-1.4
GHO				IAML		01 03 58.4	
	comp=E,3μm,0.7s						
GHO				IAML		01 03 59.8	
	comp=N,2μm,0.7s						
PMR	Palmer	1.93	150		Pn	01 03 32.2	-0.8
PMR				IAML		01 04 03.0	
	comp=N,2μm,0.6s						
PMR	Palmer	1.93	150	P	Pn	01 03 32.2	-0.8
I21K	Tanana	1.95	350		Pn	01 03 31.7	-1.7
I21K				IAML		01 04 00.5	
	comp=E,1μm,0.7s						
I21K				IAML		01 04 02.4	
	comp=N,1μm,0.5s						
SML	Sawmill	1.97	137	Pn	Pn	01 03 32.0	-1.6
SML				IAML		01 04 02.2	
	comp=E,3μm,0.9s						
SML				IAML		01 04 08.7	
	comp=N,2μm,0.7s						
I23K	Minto, Yukon-K	2.04	22	IAML		01 04 03.0	
	comp=N,1μm,0.8s						
I23K				IAML		01 04 07.1	
	comp=E,1μm,0.7s						
I20K	Naaghedeneel	2.12	318		Pn	01 03 34.3	-1.3
J19K	Poorman	2.12	292		Pn	01 03 34.0	-1.7
J19K				IAML		01 04 14.4	
	comp=N,2μm,0.7s						
J19K				IAML		01 04 14.6	
	comp=E,2μm,0.7s						
SPCR	Spurr Chakacha	2.13	194		Pn	01 03 35.6	-0.3
I53US	FAIRBANKS INFR	2.17	40	I	I	01 16 40.0	
	baz=215,slow=338,SNR=1.8						
COLA	College	2.17	41		Pn	01 03 34.6	-1.8
COLA				IAML		01 04 12.8	
	comp=E,2μm,0.5s						
COLA	College	2.17	41	P	Pn	01 03 34.8	-1.6
FIS	Fire Island	2.18	168		Pb	01 03 38.2	-1.5
HDA	Harding Lake	2.19	57		Pn	01 03 34.7	-2.0
HDA				IAML		01 04 14.0	
	comp=N,1μm,0.9s						
TTA	Tatalina	2.23	263	IAML		01 04 09.3	
TTA	comp=N,2μm,0.8s						
				IAML		01 04 09.9	
	comp=E,1μm,0.5s						
KNK	Knik Glacier	2.25	145	IAML		01 04 16.2	
	comp=N,1μm,0.6s						
SCM	Sheep Creek Mo	2.29	127		Pn	01 03 36.5	-1.5
RC01	Rabbit Creek A	2.29	162		Pn	01 03 38.1	+0.1
RC01				IAML		01 04 09.5	
	comp=N,1μm,0.4s						
RC01				IAML		01 04 10.3	
	comp=E,1μm,0.4s						
ILAR	Eielson Array	2.41	49		Pn	01 03 37.3	-2.4
ILAR	Eielson Array	2.41	49	Pn	Pn	01 03 37.5	-2.2
	comp=E,2.5nm,0.3s,baz=233,slow=14,SNR=58						
ILAR				Sn	Sg	01 04 14.7	-2.9
	comp=E,33nm,0.3s,baz=45,slow=9.6,SNR=5.9						
	comp=E,18nm,0.6s						
K24K	Donnelly Dome	2.47	75	IAML		01 04 21.6	
	comp=E,1μm,0.8s						
POKR	Poker Plat Res	2.47	40		Pn	01 03 39.2	-1.3
H21K	Melozitna Rive	2.50	344	IAML		01 04 18.1	
	comp=N,1μm,0.8s						
J18K	Innoko River	2.51	277	IAML		01 04 19.9	
	comp=N,2μm,0.8s						
J18K				IAML		01 04 23.6	
	comp=E,1μm,0.8s						
M24K	Tolsona, Glenn	2.58	115	IAML		01 04 24.0	
	comp=N,1μm,1.1s						
L18K	Granite Mounta	2.75	250	IAML		01 04 28.6	
	comp=N,1μm,0.5s						
L18K				IAML		01 04 35.3	
	comp=E,1μm,0.4s						
PWL	Port Wells	2.76	150		Pn	01 03 44.7	+0.2
PWL				IAML		01 04 29.9	
	comp=E,1μm,0.7s						
SLKM	Skilak Lake	2.81	170	IAML		01 04 24.5	
	comp=N,1μm,0.5s						
SLKM				IAML		01 04 26.4	
	comp=E,840nm,0.5s						
RIDG	Independent Ri	2.87	78	IAML		01 04 31.8	
	comp=N,781nm,0.8s						
RIDG				IAML		01 04 40.8	
	comp=E,844nm,0.8s						
N19K	Bonanza Creek	2.92	214	IAML		01 04 37.2	
	comp=N,919nm,0.8s						
N19K				IAML		01 04 38.1	
	comp=E,929nm,0.8s						
GCSA	Galena City Sc	2.92	303		Pn	01 03 46.0	-0.6
KLU	Klutina	3.02	124	IAML		01 04 31.7	
	comp=E,547nm,0.9s						
GLI	Glacier Island	3.07	140	IAML		01 04 28.9	
	comp=N,959nm,0.9s						
DOT	Dot Lake	3.21	80	IAML		01 04 43.8	
	comp=N,504nm,1.0s						
DOT				IAML		01 04 53.8	
	comp=E,456nm,0.9s						
H19K	Roundabout Mou	3.23	317	IAML		01 04 44.6	
	comp=E,526nm,0.7s						
H19K				IAML		01 04 47.9	
	comp=N,713nm,0.9s						
SEW	Seward	3.28	165		Pn	01 03 53.0	+1.5
SEW				IAML		01 04 40.0	
	comp=E,484nm,0.6s						
SEW				IAML		01 04 42.7	
	comp=N,392nm,0.6s						
SCRK	Sand Creek	3.28	74		Pn	01 03 50.4	-1.4
K17K	Iditarod	3.31	264		Pn	01 03 50.0	-2.0
DIV	Divide	3.31	128	IAML		01 04 42.3	
	comp=N,469nm,0.7s						
FID	Port Fidalgo	3.35	137	IAML		01 04 36.2	
	comp=N,670nm,0.6s						
G21K	Allakaket	3.41	344	IAML		01 04 47.0	
	comp=N,434nm,0.7s						
G21K				IAML		01 04 53.4	
	comp=E,671nm,0.8s						
N18K	Kilae Creek	3.42	223		Pn	01 03 52.2	-1.4
N18K				IAML		01 04 51.6	
	comp=E,724nm,1.2s						
N25K	Chitina, Valde	3.48	116	IAML		01 04 47.3	
	comp=E,288nm,1.0s						
N25K				IAML		01 04 55.4	
	comp=N,296nm,0.7s						
BRLK	Bradley Lake	3.52	178	IAML		01 04 44.1	
	comp=E,320nm,0.6s						
BRLK				IAML		01 04 58.1	
	comp=N,303nm,0.8s						
L26K	Log Cabin Wild	3.55	90	IAML		01 04 56.4	
	comp=N,381nm,0.8s						
L26K				IAML		01 04 58.7	
	comp=E,522nm,0.5s						
J17K	VABM Dome	3.57	276	IAML		01 04 55.9	
	comp=N,598nm,1.1s						
J17K				IAML		01 04 59.2	
	comp=E,674nm,0.5s						
J26L	Joseph Creek	3.58	66	IAML		01 04 54.9	
	comp=N,280nm,0.9s						
H18K	Honhosa River	3.67	304	IAML		01 05 03.1	
	comp=N,264nm,0.8s						
P23K	Montague Islan	3.74	150	IAML		01 04 57.9	
	comp=N,385nm,0.9s						
EYAK	Cordova Ski Ar	3.74	134	IAML		01 04 56.8	
	comp=E,279nm,0.6s						
EYAK				IAML		01 05 07.8	
	comp=N,235nm,0.8s						
CNPM	China Poot	3.76	181		Pn	01 03 58.5	+0.3
CNPM				IAML		01 04 59.7	
	comp=N,265nm,0.6s						
CNPM				IAML		01 05 14.6	
	comp=E,295nm,1.0s						
P19K	Oil Pt	3.76	196	IAML		01 05 17.9	
	comp=E,475nm,0.6s						
P19K				IAML		01 05 29.1	
	comp=N,421nm,1.0s						
M26K	Nabesna, AK	3.84	99	IAML		01 05 00.9	
	comp=N,363nm,0.7s						
G19K	Purcell Mounta	3.85	321	IAML		01 05 10.5	
	comp=E,266nm,1.3s						
G19K				IAML		01 05 12.0	
	comp=N,264nm,0.8s						
BMRM	Bremner River	3.85	124	IAML		01 05 02.3	
	comp=E,402nm,1.1s						
GLB	Gilahina Butte	3.88	115	IAML		01 04 50.0	
	comp=N,296nm,0.7s						

GLB IAML 01 04 58.6
comp=E,277nm,1.0s
O18K Koktuh Hills 3.94 211 Pn 01 04 00.4 -0.3
O18K IAML 01 05 07.6
comp=E,389nm,0.8s
O18K IAML 01 05 19.1
comp=N,338nm,1.0s
COLD Coldfoot 4.00 5 Pn 01 04 00.7 -0.8
COLD IAML 01 05 14.3
comp=N,230nm,1.4s
I26K Coal Creek Min 4.04 56 IAML 01 05 12.6
comp=N,309nm,0.8s
I26K IAML 01 05 17.6
comp=E,299nm,1.2s
K27K Chicken 4.12 75 IAML 01 05 22.2
comp=N,223nm,1.4s
VRDI Verde Repeater 4.14 116 IAML 01 05 11.2
comp=N,244nm,1.1s
VRDI IAML 01 05 14.4
comp=E,216nm,1.1s
FYU Fort Yukon 4.16 35 IAML 01 05 28.0
comp=N,210nm,1.4s
L16K Owhat River 4.16 252 IAML 01 05 11.1
comp=E,299nm,1.0s
L16K IAML 01 05 11.8
comp=N,434nm,0.5s
H17K Granite Mounta 4.19 297 Pn 01 04 03.1 -1.0
H17K IAML 01 05 18.1
comp=N,256nm,1.2s
L27K Beaver Creek, 4.24 89 Pn 01 04 04.2 -0.6
L27K IAML 01 05 20.4
comp=N,182nm,1.4s
BCAR Beaver Creek A 4.25 89 Pn 01 04 04.5 -0.6
F20K Avaraart Lake 4.26 335 IAML 01 05 20.0
comp=E,204nm,1.0s
F20K IAML 01 05 20.1
comp=N,189nm,1.0s
J16K Anvik River 4.27 274 Pn 01 04 03.0 -2.2
J16K IAML 01 05 15.4
comp=E,280nm,0.9s
J16K IAML 01 05 18.4
comp=N,318nm,0.8s
I17K Unalakleet 4.31 283 Pn 01 04 05.0 -0.7
I17K IAML 01 05 21.1
comp=N,190nm,0.8s
I17K IAML 01 05 22.5
comp=E,176nm,1.1s
M27K Edge Creek, AK 4.36 98 IAML 01 05 27.6
comp=N,247nm,1.1s
M27K IAML 01 05 34.3
comp=E,182nm,1.3s
P18K Big Mountain, 4.36 209 IAML 01 05 24.1
comp=E,207nm,1.2s
F24K Squaw Lake 4.48 16 Pn 01 04 07.0 -1.2
F19K Shaleruckik Mo 4.54 325 IAML 01 05 33.1
comp=N,147nm,1.2s
F19K IAML 01 05 33.7
comp=E,179nm,1.0s
G26K Porcupine Rive 4.83 37 IAML 01 05 36.6
comp=N,162nm,0.9s
G26K IAML 01 05 46.0
comp=E,228nm,1.5s
WAX Waxell Ridge 4.84 122 IAML 01 05 31.4
comp=E,232nm,0.6s
E23K Chandalar 4.85 7 IAML 01 05 34.0
comp=N,158nm,1.4s
E23K IAML 01 05 34.1
comp=E,148nm,0.9s
K15K Wolf Creek Mou 4.86 263 IAML 01 05 32.1
comp=E,146nm,0.8s
K15K IAML 01 05 35.3
comp=N,195nm,0.5s
E22K Anaktuvuk Pass 4.89 357 Pn 01 04 13.9 +0.1
E19K Redstone River 4.91 332 IAML 01 05 39.2
comp=N,198nm,0.9s
E19K IAML 01 05 41.7
comp=E,162nm,0.9s
E24K Your Creek 4.95 12 IAML 01 05 42.6
comp=E,103nm,1.2s
E24K IAML 01 05 46.5
comp=N,116nm,1.1s
O16K Kokwok River B 4.97 225 Pn 01 04 13.1 -1.6
BMAR Burnt Mountain 5.00 30 Pn 01 04 13.3 -1.9
SNH Sunshine Point 5.02 124 IAML 01 05 37.1
comp=N,91nm,0.8s
SNH IAML 01 05 47.2
comp=E,144nm,1.4s
H27K Steamboat Moun 5.08 50 IAML 01 06 03.0
comp=E,138nm,1.1s
DAWY Dawson 5.30 76 IAML 01 05 54.3
comp=N,147nm,0.8s
DAWY IAML 01 05 54.6
comp=E,141nm,1.0s
G16K Koyuk River 5.31 299 IAML 01 06 00.7
comp=N,116nm,1.4s
G16K IAML 01 06 01.7
comp=E,86nm,1.5s
E21K Killik River 5.32 349 IAML 01 05 47.2
comp=N,98nm,1.2s
E21K IAML 01 05 50.4
comp=E,126nm,0.8s
YAH Yahtse 5.33 119 IAML 01 05 51.8
comp=E,99nm,1.1s
YAH IAML 01 05 52.1
comp=N,108nm,0.9s
I28M Miner Creek 5.34 61 IAML 01 06 00.9
comp=E,129nm,1.1s
I28M IAML 01 06 10.6
comp=N,96nm,1.1s
F17K Baldwin Pennin 5.35 311 IAML 01 06 06.3
comp=N,111nm,0.8s
F17K IAML 01 06 14.2
comp=E,108nm,1.2s
KDAK Kodiak Island 5.55 188 Pn 01 04 22.8 0.0
KDAK Kodiak Island 5.55 188 Pn Pn 01 04 21.6 -1.1
comp=E,2.1nm,0.3s,baz=241,slow=6.8,SNR=18
KDAK Lg Lg 01 05 38.6
comp=E,2.8nm,0.3s,baz=189,slow=22,SNR=1.7
D22K Ayikyak River 5.67 354 Pn 01 04 24.4 0.0
J14K Nanvaranak Lak 5.67 270 Pn 01 04 22.9 -1.5
YUK8 Steele Glacier 5.68 105 Pn 01 04 25.4 +0.6
L14K Kuka Creek 5.71 255 Pn 01 04 24.1 -0.9
D20K Etivluk River 5.90 340 Pn 01 04 27.1 -0.5
L29M L29M 5.90 86 Pn 01 04 27.4 -0.3
D19K Kuna River 5.97 335 Pn 01 04 28.4 -0.1
PCA Pinnacle 6.08 117 Pn 01 04 30.5 +0.3
PNL Peninsula 6.69 117 P Pn 01 04 39.2 +0.8
SKAG Skagway 8.50 110 P Pn 01 05 03.6 +0.4
INK Inuvik 8.81 47 Pn Pn 01 05 06.5 -0.9
comp=E,0.6nm,0.3s,baz=239,slow=16,SNR=44
INK Sn Sn 01 06 47.0 +0.4
comp=E,0.2nm,0.3s,baz=162,slow=22,SNR=3.0
INK Lg Lg 01 07 36.4
comp=E,0.2nm,0.3s,baz=190,slow=18,SNR=3.1
JIS Juneau Island 9.60 114 P Pn 01 05 18.0 -0.2
SIT Sitka 10.03 121 P Pn 01 05 23.0 -1.2
DLBC Dease Lake 11.36 106 Pn Pn 01 05 42.5 +0.2
comp=E,0.3nm,0.3s,baz=302,slow=12,SNR=4.0
DLBC Lg Lg 01 08 59.8
comp=E,0.1nm,0.3s,baz=119,slow=25,SNR=3.8
comp=E,2.6nm,1.0s
C36M Paulatuk 12.38 49 Pn 01 05 53.7 -2.5
A36M Sachs Harbour 13.04 37 Pn 01 06 04.6 -0.6
YKA Yellowknife Ar 16.54 76 Pn Pn 01 06 50.0 -2.0
comp=E,0.1nm,0.3s,baz=294,slow=11,SNR=15
comp=E,0.4nm,0.8s
RES Resolute Bay 22.09 36 P P 01 07 56.4 +1.4
comp=E,1.2nm,0.6s,baz=256,slow=10,SNR=9.8
comp=E,1.2nm,0.6s
PDAR Pinedale Array 31.52 111 P P 01 09 22.4 0.0
comp=E,0.4nm,0.5s,baz=318,slow=2.1,SNR=6.0
PDAR PcP PcP 01 12 13.1 -1.8
comp=E,0.6nm,0.5s,baz=311,slow=1.9,SNR=5.1
comp=E,0.4nm,0.5s
NVAR Mina Array Bea 31.74 126 P P 01 09 24.1 -0.3
comp=E,0.7nm,0.7s,baz=318,slow=8.5,SNR=5.4
NVAR PcP PcP 01 12 14.5 -1.0
comp=E,0.8nm,0.9s,baz=291,slow=3.2,SNR=4.3
comp=E,0.7nm,0.7s
ULM Lac du Bonnet 31.88 88 P P 01 09 25.5 +0.3
comp=E,1.2nm,0.6s,baz=333,slow=5.0,SNR=3.1
comp=E,1.2nm,0.6s
SPITS Spitsbergen Ar 38.58 4 P P 01 10 24.6 +2.1
comp=E,11nm,1.0s,baz=4.6,slow=4.2,SNR=5.5
comp=E,11nm,1.0s
NRIK Noril'sk 41.37 333 P P 01 10 47.3 +1.6
comp=E,1.7nm,0.5s,baz=74,slow=4.4,SNR=6.0
comp=E,1.7nm,0.5s
TXAR Lajitas Array 45.45 115 P P 01 11 19.1 -0.2
comp=E,0.8nm,0.6s,baz=328,slow=6.4,SNR=16
TXAR PcP PcP 01 12 56.8 -1.3
comp=E,1.1nm,1.0s,baz=282,slow=2.4,SNR=4.5
comp=E,0.8nm,0.6s
ARCES ARCESS Array B 47.46 2 P P 01 11 36.8 +2.4
comp=E,3.7nm,0.9s,baz=358,slow=6.3,SNR=1.7
comp=E,3.7nm,0.9s
SONM Songino Array 53.60 305 P P 01 12 21.3 +0.1
comp=E,2.9nm,0.8s,baz=27,slow=6.4,SNR=9.3
comp=E,2.9nm,0.8s
ZALV Zalesovo Beam 55.26 323 P P 01 12 34.3 +1.3
comp=E,0.9nm,0.7s,baz=19,slow=6.3,SNR=5.1
comp=E,0.9nm,0.7s
NOA NORSAR Array B 55.29 10 P P 01 12 35.4 +2.1
comp=E,0.9nm,0.8s,baz=351,slow=6.9,SNR=1.7
comp=E,0.9nm,0.8s
FINES FINESS Array B 55.59 2 P P 01 12 37.4 +2.1
comp=E,2.1nm,0.9s,baz=359,slow=8.2,SNR=5.7
comp=E,2.1nm,0.9s
HFS Hagfors 56.38 9 P P 01 12 42.7 +1.8
comp=E,1.0nm,0.7s,baz=357,slow=6.3,SNR=4.1
comp=E,1.0nm,0.7s
HHC Hu-ho-hao-te 57.48 297 *e*P P 01 12 46.4 -2.7
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,83nm,4.8s
EKA Eskdalemuir Ar 59.15 21 P P 01 13 02.2 +1.8
comp=Z,1.7nm,0.5s,baz=334,slow=5.5,SNR=12
comp=Z,1.7nm,0.5s
BVAR Borovoye Array 59.58 332 P P 01 13 04.8 +1.3
comp=Z,0.8nm,0.6s,baz=20,slow=6.5,SNR=4.8
comp=Z,0.8nm,0.6s
KURBB Kurchatov Arra 59.92 326 P P 01 13 07.2 +1.4
comp=Z,0.3nm,0.3s,baz=25,slow=6.7,SNR=4.7
comp=Z,0.3nm,0.3s
MKAR Makanchi Array 62.42 321 P P 01 13 24.2 +1.3
comp=Z,0.3nm,0.6s,baz=46,slow=8.3,SNR=3.8
comp=Z,0.3nm,0.6s
WMQ Urumqi 63.51 316 *e*P P 01 13 32.9 +2.7
WMQ pmax pmax
comp=Z,25nm,0.9s
AKASG Malin Array Be 66.37 360 P P 01 13 50.3 +1.7
comp=Z,0.8nm,0.5s,baz=4.0,slow=6.4,SNR=5.3
comp=Z,0.8nm,0.5s
PZH PanZhiHua 73.94 297 P P 01 14 34.5 -1.0
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,80nm,5.0s
ESDC Sonseca Array 74.11 26 P P 01 14 38.1 +1.9
comp=Z,1.0nm,0.9s,baz=347,slow=6.0,SNR=2.9
comp=Z,1.0nm,0.9s
QSPA South Pole Qui 153.08 180 PKPbc PKPbc 01 22 54.2 -2.1
comp=Z,1.2nm,0.7s,baz=238,slow=2.8,SNR=10

*IDC **06** 01:24:49.5±0.9, 7°.08S×155°.00E, h0km, mb4.0/12, mbtmp4.0/13, ML2.0/1, MS3.1/3, Error ellipse: s-maj=30.8km s-min=18.5km az=124.0*
ISC 06 01:24:55.9±0.7, 7°.0S±0°.1×154°.92E±0°.08, h41km, n14, σ1§18/15, mb4.0/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.52**	**116**	Sn	**Sn**	**01 27 19.1**	**+1.3**
	6.3nm,0.3s,baz=101,slow=1.7,SNR=1.3						
HNR				LR	LR	01 28 35.2	
	comp=Z,222nm,19.8s,baz=207,slow=42						
PMG	**Port Moresby**	**8.04**	**252**	Pn	**Pn**	**01 26 48.9**	**-1.4**
	1.2nm,0.3s,baz=231,slow=19,SNR=1.3						
PMG				Sn	**Sn**	**01 28 22.6**	**+2.7**
	1.8nm,0.3s,baz=102,slow=13,SNR=5.8						
PMG				LR	LR	01 29 52.0	
	comp=Z,84nm,18.9s,baz=330,slow=37						
	3.2nm,0.3s						
WRA	**Warramunga Arr**	**23.74**	**235**	P	**P**	**01 30 03.4**	**-1.2**
	3.5nm,0.9s,baz=61,slow=9.7,SNR=7.1						
	3.5nm,0.9s						
ASAR	**Alice Springs**	**26.10**	**228**	P	**P**	**01 30 24.9**	**-1.2**
	1.6nm,0.9s,baz=58,slow=8.4,SNR=11						
	1.6nm,0.9s						
STKA	**Stephens Creek**	**27.67**	**205**	P	**P**	**01 30 39.9**	**-0.3**
	4.9nm,0.9s,baz=17,slow=13,SNR=6.7						
STKA				LR	LR	01 40 57.7	
	comp=Z,45nm,20.5s,baz=24,slow=35						
	4.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**60.73**	**296**	P	**P**	**01 35 04.7**	**+0.8**
	0.7nm,0.3s,baz=109,slow=4.4,SNR=6.6						
	0.7nm,0.3s						
SONM	**Songino Array**	**69.33**	**327**	P	**P**	**01 35 59.8**	**+0.5**
	1.3nm,0.8s,baz=116,slow=6.8,SNR=6.3						
	1.3nm,0.8s						
QSPA	**South Pole Qui**	**82.95**	**180**	P	**P**	**01 37 16.3**	**-0.2**
	1.9nm,0.9s,baz=147,slow=11,SNR=3.5						
	1.9nm,0.9s						
MKAR	**Makanchi Array**	**83.38**	**319**	P	**P**	**01 37 19.6**	**+0.6**
	0.6nm,0.8s,baz=116,slow=5.5,SNR=6.1						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**83.43**	**22**	P	**P**	**01 37 18.1**	**-0.6**
	1.0nm,0.8s,baz=240,slow=5.7,SNR=9.4						
	1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**84.17**	**326**	P	**P**	**01 37 22.1**	**-0.6**
	0.5nm,0.5s,baz=109,slow=6.0,SNR=2.6						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**86.84**	**322**	P	**P**	**01 37 36.3**	**+0.2**
	0.1nm,0.6s,baz=104,slow=3.5,SNR=1.5						
	0.1nm,0.6s						
NVAR	**Mina Array Bea**	**91.80**	**52**	P	**P**	**01 37 59.5**	**-0.5**
	0.5nm,0.7s,baz=245,slow=6.4,SNR=3.5						
	0.5nm,0.7s						
YKA	**Yellowknife Ar**	**96.40**	**28**	P	**P**	**01 38 21.0**	**+0.7**
	1.1nm,1.0s,baz=268,slow=4.4,SNR=8.8						
	1.1nm,1.0s						

*IDC **06** 01:30:09.4±8.1, 23°.86S×179°.77W, h470km±80km, mb3.4/4, mbtmp4.2/5, Error ellipse: s-maj=57.1km s-min=27.6km az=49.0*
*NEIC **06** 01:30:13.4±0.9, 24°.1S±0°.1×179°.9W±0°.1, h506km±11km, mb4.4/10, Error ellipse: s-maj=22.3km s-min=13.7km az=136.0*
ISC 06 01:30:13.2±0.7, 23°.99S±0°.08×179°.9W±0°.1, h518km, n27, σ0§98/29, mb4.3/9, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.51**	**342**	P	**P**	**01 31 55.7**	**+0.2**
MSVF				S	**S**	**01 33 16.6**	**-2.3**
NIUE	**Niue**	**10.48**	**64**	P	**P**	**01 32 35.4**	**-0.5**
URZ	**Urewera**	**14.46**	**189**	P	**P**	**01 33 16.1**	**-1.2**
	3.2nm,0.4s,baz=38,slow=12,SNR=1.3						
URZ				S	**S**	**01 35 48.1**	**-1.0**
	6.3nm,0.8s,baz=263,slow=16,SNR=2.4						
QRZ	**Quartz Range**	**17.95**	**199**	P	**P**	**01 33 52.9**	**+0.8**
BBOO	**Buckleboo**	**39.50**	**247**	P	**P**	**01 36 58.9**	**0.0**
BBOO				IAmb	IAmb	01 37 05.3	
	comp=Z,36nm,1.4s						
AS31	**Alice Springs**	**42.11**	**261**	P	**P**	**01 37 20.2**	**+0.2**
ASAR	**Alice Springs**	**42.11**	**261**	P	**P**	**01 37 20.4**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=99,slow=7.1,SNR=32						
	comp=Z,3.6nm,0.8s						
WB2	**Warramunga Arr**	**42.48**	**266**	P	**P**	**01 37 22.9**	**+0.1**
WB2				IAmb	IAmb	01 37 23.5	
	comp=Z,7.1nm,0.7s						
WB0	**Warramunga Arr**	**42.49**	**266**	P	**P**	**01 37 22.7**	**-0.2**
WB0				IAmb	IAmb	01 37 23.5	
	comp=Z,9.0nm,0.6s						
WRA	**Warramunga Arr**	**42.49**	**266**	P	**P**	**01 37 23.0**	**0.0**
	comp=Z,6.4nm,0.6s,baz=96,slow=8.3,SNR=46						
	comp=Z,6.4nm,0.6s						
FORT	**Forrest**	**46.37**	**250**	P	**P**	**01 37 52.5**	**-0.2**
KNRA	**Kununurra**	**48.78**	**270**	P	**P**	**01 38 11.0**	**0.0**
KNRA				IAmb	IAmb	01 38 17.6	
	comp=Z,50nm,1.5s						
FITZ	**Fitzroy Crossi**	**50.92**	**266**	P	**P**	**01 38 26.0**	**-0.7**
TOLI2	**Tolitoli**	**62.69**	**285**	P	**P**	**01 39 47.8**	**+0.1**
TOLI2				IAmb	IAmb	01 39 49.5	
	comp=Z,6.1nm,0.6s						
QSPA	**South Pole Qui**	**66.10**	**180**	P	**P**	**01 40 08.8**	**+0.2**
QSPA				IAmb	IAmb	01 40 33.8	
	comp=Z,3.9nm,1.3s						
QSPA	**South Pole Qui**	**66.10**	**180**	P	**P**	**01 40 09.7**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=27,slow=4.5,SNR=2.0						
	comp=Z,1.0nm,0.8s						
KSRS Korea Array 78.37 320 P **P 01 41 21.0 +1.2**
comp=Z,0.6nm,0.3s,baz=135,slow=6.7,SNR=4.8
comp=Z,0.6nm,0.3s
KURBB Kurchatov Arra 115.37 316 PKP **PKiKP 01 47 55.2 -0.4**
comp=Z,0.1nm,0.2s,baz=114,slow=3.0,SNR=2.2
HFS Hagfors 142.65 349 PKhKP PKPpre 01 48 43.7
comp=Z,1.5nm,0.5s,baz=85,slow=3.3,SNR=11
PABE Paberze 143.93 337 PKPdf 01 48 48.2 -0.9
AKASG Malin Array Be 145.09 327 PKPbc **PKPbc 01 48 51.4 -0.6**
comp=Z,0.6nm,0.3s,baz=67,slow=1.7,SNR=9.9
BRTR Keskin Array B 147.71 307 PKPbc **PKiKP 01 49 00.1 -1.2**
BRTR Keskin Array B 147.71 307 PKPbc **PKPbc 01 48 59.9 +0.1**
comp=Z,0.8nm,0.8s,baz=84,slow=2.6,SNR=5.1
BRTR PKPab **PKPab 01 49 04.5 +0.6**
comp=Z,1.2nm,0.8s,baz=58,slow=2.7,SNR=7.0
MMAI Mount Meron Ar 147.82 294 PKPbc **PKiKP 01 49 01.4 -0.3**
comp=Z,2.4nm,0.6s,baz=76,slow=3.8,SNR=14
BURAR Bucovina Array 149.09 326 PKPbc **PKiKP 01 49 04.5 +0.7**
BORA Eskisehir 149.94 309 PKPbc **PKiKP 01 49 05.6 -0.2**
BMRD Maredsous 153.48 353 *d*PKP **PKiKP 01 49 15.6 +3.0**

*TAP **06** 01:31:14.9, 22°.97N×120°.85E, h4km, ML3.0, C*
ISC 06 01:31:15.6±0.9, 22°.98N±0°.02×120°.86E±0°.02, h8km±8km, n96, σ0§45/115, 3C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.21**	**338**	*i* P	**Pg**	**01 31 19.3**	**-0.6**
STYH				*e*S	**Sg**	**01 31 22.9**	**+0.1**
STYT	**Tauyuan**	**0.21**	**332**	*e*P	**Pg**	**01 31 20.0**	**+0.1**
TWG	**Pinlang**	**0.25**	**129**	*i* P	**Pg**	**01 31 20.8**	**+0.3**
TWG				*e*S	**Sg**	**01 31 24.5**	**+0.7**
TWGBT	**Beinan**	**0.25**	**128**	P	**Pg**	**01 31 20.6**	**-0.1**
TWGBT	**Beinan**	**0.25**	**128**	S	**Sg**	**01 31 24.6**	**+0.5**
TWGBT	**Beinan**	**0.25**	**128**	P	**Pg**	**01 31 20.8**	**+0.1**
TWGBT				*e*S	**Sg**	**01 31 24.6**	**+0.5**
LONT	**Longtian**	**0.26**	**105**	↑*i*P	**Pg**	**01 31 20.9**	**+0.2**
LONT				S	**Sg**	**01 31 24.4**	**+0.3**
ELDTW	**Lidau**	**0.26**	**34**	↑*i*P	**Pg**	**01 31 20.7**	**0.0**
SGST	**Jiashian**	**0.28**	**292**	*e*P	**Pg**	**01 31 21.1**	**-0.1**
SGST				*e*S	**Sg**	**01 31 25.9**	**+1.0**
TSMG	**Majia**	**0.34**	**217**	*e*P	**Pg**	**01 31 21.6**	**-0.6**
TTN	**Taitung**	**0.34**	**130**	*i* S	**Sb**	**01 31 29.1**	**-0.5**
ECS	**Chishang**	**0.35**	**70**	↑*i*P	**Pg**	**01 31 22.9**	**+0.4**
SCST	**Cishan**	**0.35**	**255**	P	**Pb**	**01 31 23.3**	**-0.8**
WTP	**Ta-pu**	**0.35**	**320**	P	**Pb**	**01 31 23.7**	**-0.5**
EHD	**Haiduan**	**0.36**	**61**	P	**Pg**	**01 31 22.3**	**-0.4**
EHD				*e*S	**Sg**	**01 31 27.2**	**-0.3**
CHN1	**Nanshi**	**0.37**	**304**	*e*P	**Pb**	**01 31 24.6**	**0.0**
ECL	**Taimali**	**0.39**	**167**	P	**Pg**	**01 31 22.9**	**-0.2**
ECL				*e*S	**Sg**	**01 31 27.8**	**-0.4**
TPUB	**Ta-pu**	**0.39**	**326**	P	**Pb**	**01 31 24.3**	**-0.5**
TPUB	**Ta-pu**	**0.39**	**326**	S	**Sb**	**01 31 31.3**	**+0.3**
TPUB	**Ta-pu**	**0.39**	**326**	*e*P	**Pb**	**01 31 24.4**	**-0.4**
EDH	**Donghe**	**0.41**	**90**	P	**Pg**	**01 31 24.2**	**+0.6**
EDH				*e*S	**Sb**	**01 31 31.0**	**-0.5**
SNST	**Tainan City**	**0.42**	**306**	*e*P	**Pb**	**01 31 25.6**	**+0.4**
MASBT	**Mashibuluo**	**0.42**	**211**	*i* P	**Pg**	**01 31 23.4**	**-0.4**
TWM1	**Shoushan**	**0.43**	**250**	*e*P	**Pb**	**01 31 25.4**	**-0.1**
CHN4	**Tsaushan**	**0.45**	**326**	*e*P	**Pb**	**01 31 25.8**	**-0.1**
TWK	**Hsinying**	**0.45**	**310**	*e*P	**Pb**	**01 31 26.2**	**+0.3**
FULB	**Fuli**	**0.46**	**61**	*e*P	**Pg**	**01 31 25.0**	**+0.5**
FULB				*e*S	**Sb**	**01 31 32.0**	**-0.9**
SHHT	**Tainan City**	**0.48**	**276**	*e*P	**Pn**	**01 31 27.9**	**-0.9**
CHKT	**Chengkung**	**0.48**	**75**	P	**Pb**	**01 31 26.1**	**-0.2**
CHKT				*i* S	**Sb**	**01 31 34.0**	**+0.4**
WCKO	**Fanlu**	**0.52**	**333**	*e*S	**Sb**	**01 31 35.8**	**+1.1**
ALS	**Alishan**	**0.54**	**354**	*i* P	**Pg**	**01 31 26.5**	**+0.4**
CHKH	**Chenggong**	**0.54**	**66**	P	**Pb**	**01 31 26.6**	**-0.7**
CHKH				*e*S	**Sb**	**01 31 35.1**	**-0.1**
TWF1	**Yuli**	**0.55**	**47**	*i* P	**Pg**	**01 31 26.1**	**-0.1**
TWF1				*e*S	**Sg**	**01 31 33.3**	**-0.1**
EYUL	**Yuli**	**0.56**	**48**	P	**Pg**	**01 31 26.3**	**-0.1**
EYUL				*e*S	**Sg**	**01 31 33.7**	**-0.1**
SSPT	**Xinbi**	**0.56**	**209**	*e*P	**Pb**	**01 31 27.9**	**+0.2**
YULB	**Yu-li**	**0.58**	**44**	P	**Pg**	**01 31 26.2**	**-0.6**
YULB	**Yu-li**	**0.58**	**44**	P	**Pg**	**01 31 26.3**	**-0.5**
EAST	**Anshuo**	**0.59**	**181**	*e*P	**Pg**	**01 31 27.0**	**-0.1**
TAWH	**Dawu Township**	**0.63**	**178**	*e*P	**Pg**	**01 31 27.6**	**-0.2**
TAWH				*e*S	**Sg**	**01 31 35.6**	**-0.5**
LDUT	**Ludao**	**0.64**	**118**	*e*P	**Pg**	**01 31 28.1**	**+0.3**
LDUT				*i* S	**Sb**	**01 31 38.1**	**0.0**
ECBN	**Changbin**	**0.64**	**58**	*e*P	**Pb**	**01 31 28.9**	**-0.2**
SCZT	**Fangliau**	**0.64**	**201**	P	**Pg**	**01 31 27.6**	**-0.4**
CHN5	**Tsauling**	**0.64**	**345**	*e*P	**Pb**	**01 31 29.1**	**-0.1**
CHY	**Chiayi**	**0.66**	**322**	*e*P	**Pn**	**01 31 30.4**	**-1.0**
ICHU	**Yijhu**	**0.66**	**306**	*e*P	**Pb**	**01 31 29.5**	**+0.1**
EHY	**Hungye**	**0.68**	**39**	*i* P	**Pg**	**01 31 28.4**	**-0.3**
EHY				*e*S	**Sg**	**01 31 37.7**	**+0.2**
EHYH	**Wanrong**	**0.68**	**41**	*e*P	**Pg**	**01 31 28.5**	**-0.3**
WHYT	**Xinyi Township**	**0.72**	**359**	P	**Pg**	**01 31 29.9**	**+0.4**
HGSD	**Ruisui**	**0.73**	**45**	*e*P	**Pb**	**01 31 30.3**	**-0.3**
TSCK	**Chigu Township**	**0.74**	**284**	*e*P	**Pn**	**01 31 31.7**	**-0.7**
TSCK				*e*S	**Sn**	**01 31 44.7**	**+0.9**
SLIU	**Shizi**	**0.76**	**184**	*e*P	**Pg**	**01 31 29.7**	**-0.5**
WDLH	**Douliu**	**0.77**	**337**	*e*P	**Pn**	**01 31 32.6**	**-0.2**
WSL	**Shuilin Townsh**	**0.80**	**313**	*e*P	**Pn**	**01 31 32.7**	**-0.5**
WSL				*e*S	**Sn**	**01 31 45.9**	**+0.5**
SSLB	**Suanglung**	**0.81**	**6**	P	**Pg**	**01 31 31.0**	**-0.2**
SSLB	**Suanglung**	**0.81**	**6**	*i* P	**Pg**	**01 31 31.1**	**-0.2**
VWDT	**VWDT**	**0.82**	**18**	*e*P	**Pg**	**01 31 31.1**	**-0.3**
WJS	**Zhushan**	**0.85**	**352**	*e*P	**Pn**	**01 31 33.8**	**-0.2**
EGFH	**Guangfu**	**0.86**	**37**	*e*P	**Pg**	**01 31 31.9**	**-0.4**
WARBT	**Fenglin Townsh**	**0.88**	**33**	*e*P	**Pg**	**01 31 31.7**	**-0.9**
SMLT	**Sun Moon Lake**	**0.90**	**2**	*e*P	**Pg**	**01 31 32.8**	**-0.3**
TYC	**Yuchr**	**0.93**	**360**	*e*P	**Pb**	**01 31 34.0**	**+0.1**
TYC				*e*S	**Sn**	**01 31 49.3**	**+0.9**
ESL	**Shilin**	**0.99**	**32**	*e*P	**Pg**	**01 31 34.4**	**-0.2**
OWD	**Renai**	**1.02**	**16**	*e*P	**Pg**	**01 31 35.0**	**-0.2**
TWK1	**Hengchun**	**1.03**	**183**	*e*P	**Pn**	**01 31 36.8**	**+0.4**
TWKBT	**Hengchun**	**1.03**	**183**	*e*P	**Pn**	**01 31 37.0**	**+0.6**
SHUL	**Shoufeng**	**1.03**	**38**	*e*P	**Pb**	**01 31 35.7**	**-0.1**
WUSB	**Renai**	**1.04**	**13**	*e*P	**Pg**	**01 31 35.1**	**-0.5**
WCS	**Beigang Elemen**	**1.08**	**2**	P	**Pn**	**01 31 37.3**	**+0.2**
ETM	**Tongmen**	**1.14**	**30**	*e*P	**Pb**	**01 31 37.6**	**-0.1**
WDGT	**Dungji**	**1.14**	**285**	*e*P	**Pn**	**01 31 37.8**	**-0.2**
LXIB	**Xiulin Townshi**	**1.16**	**26**	*e*P	**Pg**	**01 31 37.4**	**-0.5**
WHF	**Hehuan Shan**	**1.22**	**17**	*e*P	**Pg**	**01 31 39.0**	**-0.1**
WHP	**Taichung City**	**1.30**	**3**	*e*P	**Pg**	**01 31 41.3**	**+0.7**
PHUB	**P'eng-hu**	**1.30**	**295**	*e*P	**Pn**	**01 31 40.0**	**-0.1**
TWT	**Tachien**	**1.30**	**13**	*e*P	**Pg**	**01 31 40.8**	**+0.1**
FUSS	**Fushou**	**1.31**	**15**	*e*P	**Pn**	**01 31 40.5**	**-0.1**
VCHM	**Qimei**	**1.34**	**280**	*e*P	**Pb**	**01 31 40.9**	**-0.1**
ETLH	**Xiulin Townshi**	**1.35**	**25**	*e*P	**Pn**	**01 31 40.9**	**0.0**
NACB	**Ninganchiao**	**1.37**	**29**	P	**Pb**	**01 31 41.2**	**-0.3**
NACB	**Ninganchiao**	**1.37**	**29**	*e*P	**Pn**	**01 31 40.9**	**-0.2**
TWQ1	**Liyutan**	**1.37**	**357**	*e*P	**Pg**	**01 31 41.9**	**-0.1**
NSY	**Sanyi**	**1.44**	**356**	*e*P	**Pn**	**01 31 42.2**	**+0.2**
NNSB	**Datong**	**1.52**	**18**	*e*P	**Pb**	**01 31 43.8**	**-0.4**
NNS	**Nan Shan**	**1.53**	**18**	*e*P	**Pb**	**01 31 44.4**	**+0.1**
NSTT	**Nanjuang**	**1.65**	**4**	*e*P	**Pg**	**01 31 47.0**	**-0.3**
ENA	**Nanau**	**1.66**	**29**	*e*P	**Pb**	**01 31 45.7**	**-0.7**
NFF	**Wufeng Townshi**	**1.67**	**8**	*e*P	**Pg**	**01 31 47.0**	**-0.6**
LATG	**Datong**	**1.67**	**21**	*e*P	**Pb**	**01 31 46.5**	**-0.2**
LIOB	**Emei**	**1.67**	**5**	*e*P	**Pb**	**01 31 46.5**	**-0.2**
EWUT	**Wuta**	**1.69**	**30**	*e*P	**Pb**	**01 31 46.4**	**-0.6**
YHNB	**Yeheng**	**1.75**	**15**	*e*P	**Pb**	**01 31 48.1**	**0.0**
NSK	**

WB0 IAmb IAmb 01 39 24.1
comp=Z,12nm,1.4s
WRA Warramunga Arr 22.44 163 P P 01 39 04.5 -1.1
comp=Z,0.7nm,0.5s,baz=338,slow=10,SNR=7.3
comp=Z,0.7nm,0.5s
WB2 Warramunga Arr 22.45 163 P P 01 39 04.8 -0.9
WB2 IAmb IAmb 01 39 21.2
comp=Z,13nm,1.4s
ASAR Alice Springs 25.88 166 P P 01 39 36.2 -0.7
comp=Z,0.2nm,0.3s,baz=343,slow=7.4,SNR=4.6
comp=Z,0.2nm,0.3s
KSRS Korea Array 35.71 1 P P 01 41 02.7 -0.3
comp=Z,0.8nm,0.3s,baz=176,slow=9.8,SNR=3.3
comp=Z,0.8nm,0.3s
STKA Stephens Creek 35.89 159 P P 01 41 04.8 +0.1
comp=Z,2.3nm,0.6s,baz=342,slow=9.3,SNR=5.5
comp=Z,2.3nm,0.6s
SONM Songino Array 49.54 342 P P 01 42 54.8 +0.3
comp=Z,0.4nm,0.6s,baz=165,slow=6.0,SNR=2.4
comp=Z,0.4nm,0.6s
LBZ Lake Benmore 59.55 146 P P 01 44 06.1 -0.5
MK31 Makanchi Array 59.69 326 P P 01 44 07.7 +0.1
MKAR Makanchi Array 59.69 326 P P 01 44 07.8 +0.2
comp=Z,0.7nm,0.4s,baz=116,slow=7.7,SNR=13
comp=Z,0.7nm,0.4s
KURBB Kurchatov Arra 63.90 328 P P 01 44 35.4 -0.2
comp=Z,0.9nm,0.5s,baz=127,slow=6.3,SNR=14
comp=Z,0.9nm,0.5s
BVAR Borovoye Array 69.47 327 P P 01 45 10.5 -0.4
comp=Z,0.5nm,0.6s,baz=111,slow=8.1,SNR=4.3
comp=Z,0.5nm,0.6s
ABKAR Abkulak array 74.22 321 P P 01 45 38.4 -0.9
ABKAR Abkulak array 74.22 321 P P 01 45 38.6 -0.7
ABKAR IAmb IAmb 01 45 54.1
comp=Z,0.9nm,0.9s
H19K Roundabout Mou 82.86 24 P P 01 46 27.2 +1.0
H19K IAmb IAmb 01 46 28.1
comp=Z,3.5nm,0.7s
D19K Kuna River 82.89 21 P P 01 46 27.3 +0.8
D19K IAmb IAmb 01 46 27.9
comp=Z,2.1nm,0.7s
QSPA South Pole Qui 91.49 180 P P 01 47 08.3 +0.1

*IDC **06** 01:43:02.6±3.1, 30.°33N×114.°12W, h0km, mb3.3/1, mbtmp3.1/4, ML3.9/2, MS3.2/7, Error ellipse: s-maj=51.8km s-min=13.1km az=29.0*
*ECX **06** 01:43:03.9±0.4, 30.°67N×114.°11W, h17km±4km, ML3.8*
*MEX **06** 01:43:05.1±0.3, 30.°76N×114.°22W, h10km, MD4.1*
ISC 06 01:43:02.7±1.5, 30.°67N±0.°06×114.°12W±0.°03, h6km±10km, n26, σ1§41/33, MS3.4/3, 6C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.73**	**301**	*eP*	**Pg**	**01 43 17.0**	**+0.3**
SFX				*eS*	**Sg**	**01 43 26.3**	**+0.1**
SFX	**San Felipe**	**0.73**	**301**	⇑*eP*	**Pg**	**01 43 17.2**	**+0.4**
SFX				*eS*	**Sg**	**01 43 26.8**	**+0.6**
SFX				IAML		01 43 28.8	
	comp=N,4μm,0.6s						
PPXB	**Puerto Peasco**	**0.79**	**32**	⇓*iP*	**Pg**	**01 43 17.9**	**0.0**
PPXB				*eS*	**Sg**	**01 43 28.4**	**+0.3**
PPXB				⇑*e*		01 43 40.0	
PPXB				IAML		01 43 40.0	
	comp=E,2μm,0.5s						
PIX	**Pinacate**	**1.06**	**32**	⇓*iP*	**Pg**	**01 43 22.1**	**-0.9**
PIX				*eS*	**Sg**	**01 43 36.4**	**-0.3**
SPIG	**San Pedro Mart**	**1.22**	**288**	*eP*	**Pb**	**01 43 25.1**	**-1.2**
SPIG				*eS*	**Sb**	**01 43 40.3**	**-2.1**
SPIG	**San Pedro Mart**	**1.22**	**288**	⇑*eP*	**Pb**	**01 43 25.0**	**-1.4**
SPIG				*eS*	**Sb**	**01 43 42.0**	**-0.4**
SPIG				IAML		01 43 52.7	
	comp=N,1μm,0.4s						
SPIG				⇑*e*		01 43 52.7	
SQX	**San Quintin**	**1.52**	**267**	⇑*eP*	**Pn**	**01 43 29.9**	**-0.5**
SQX				*eS*	**Sn**	**01 43 48.9**	**-1.4**
SQX				⇑*e*		01 43 53.1	
SQX				IAML		01 43 53.1	
	comp=E,2μm,0.2s						
VTX	**Valle De La Tr**	**1.60**	**297**	*eP*	**Pb**	**01 43 33.1**	**+0.4**
VTX				*eS*	**Sb**	**01 43 54.5**	**+1.4**
RHX	**Rio Hardy**	**1.77**	**326**	*eP*	**Pn**	**01 43 33.8**	**-0.1**
SV2X	**San Vicente**	**1.94**	**291**	*eP*	**Pn**	**01 43 35.8**	**-0.3**
SV2X				*eS*	**Sn**	**01 44 01.4**	**+0.6**
MBIG	**Mexicali**	**1.96**	**332**	*eP*	**Pn**	**01 43 37.4**	**+0.9**
CBX	**Cerro Bola**	**2.72**	**308**	*eP*	**Pb**	**01 43 51.2**	**-0.6**
CBX				*eS*	**Sb**	**01 44 24.6**	**-1.0**
TJIG	**Tijuana**	**2.80**	**310**	*eP*	**Pn**	**01 43 46.2**	**-1.9**
TJIG				*eS*	**Sn**	**01 44 19.6**	**-2.6**
HSIG		**3.21**	**120**	*eP*	**Pn**	**01 43 51.5**	**-2.2**
TUC	**Tucson**	**3.29**	**59**	*eP*	**Pn**	**01 43 54.3**	**-0.6**
TUC				*eS*	**Sn**	**01 44 32.1**	**-2.2**
PFO	**Pinyon Flats O**	**3.54**	**327**	LR	LR	01 44 57.3	
	comp=E,105nm,20.4s,baz=236,slow=30						
NZIG	**Nacozari, Sono**	**3.95**	**93**	*eP*	**Pn**	**01 44 06.2**	**+2.2**
NZIG				*eS*	**Sn**	**01 44 49.8**	**-1.0**
GUYB	**Guaymas**	**3.96**	**133**	*eP*	**Pn**	**01 44 04.4**	**+0.5**
LPIG	**La Paz**	**7.36**	**152**	LR	LR	01 47 13.5	
	comp=E,43nm,21.1s,baz=345,slow=36						
NVAR	**Mina Array Bea**	**8.48**	**337**	Pn	Pn	01 45 11.9	+5.7
	comp=E,0.7nm,0.9s,baz=156,slow=13,SNR=3.1						
TXAR	**Lajitas Array**	**9.16**	**96**	Pn	**Pn**	**01 45 16.9**	**+1.3**
	comp=E,0.3nm,0.3s,baz=268,slow=14,SNR=6.4						
TXAR				Sn	**Sn**	**01 46 57.9**	**-1.2**
	comp=E,0.1nm,0.3s,baz=278,slow=24,SNR=1.6						
TXAR				Lg	Lg	01 47 51.5	
	comp=E,0.2nm,0.3s,baz=267,slow=26,SNR=5.4						
TXAR				LR	LR	01 49 09.2	
	comp=E,130nm,19.9s,baz=291,slow=40						
	comp=E,0.3nm,0.5s						
PDAR	**Pinedale Array**	**12.62**	**16**	Pn	Pn	01 46 11.6	+8.7
	comp=E,0.1nm,0.3s,baz=203,slow=12,SNR=2.6						
PDAR				LR	LR	01 51 20.3	
	comp=E,85nm,18.6s,baz=95,slow=38						
	comp=E,0.2nm,0.6s						
CMIG	**Matias Romero**	**22.14**	**123**	LR	LR	01 56 46.9	
	comp=E,77nm,18.8s,baz=180,slow=38						
TKL	**Tuckaleechee C**	**25.83**	**71**	LR	LR	01 58 48.2	
	comp=E,108nm,19.3s,baz=328,slow=36						
ILAR	**Eielson Array**	**39.73**	**339**	P	**P**	**01 50 39.1**	**+3.5**
	comp=E,0.3nm,0.6s,baz=149,slow=7.6,SNR=7.0						
	comp=E,0.3nm,0.6s						
RES	**Resolute Bay**	**45.13**	**7**	LR	LR	02 10 13.5	
	comp=E,105nm,21.2s,baz=12,slow=36						

*IDC **06** 02:21:00.8±1.1, 6.°09S×142.°62E, h0km, mb3.8/5, mbtmp3.9/8, ML2.6/2, Error ellipse: s-maj=34.1km s-min=22.0km az=80.0*
ISC 06 02:21:02.3±0.8, 6.°29S±0.°08×142.°4E±0.°1, h10km, n9, σ1§55/11, mb4.0/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.12**	**335**	Pn	**Pn**	**02 22 05.8**	**+0.3**
	2.9nm,0.3s,baz=152,slow=17,SNR=4.2						
JAY				Sn	**Sn**	**02 22 54.3**	**+0.5**
	0.9nm,0.3s,baz=270,slow=17,SNR=1.4						
	7.8nm,0.5s						
PMG	**Port Moresby**	**5.62**	**124**	Pn	**Pn**	**02 22 26.8**	**+0.8**
	2.6nm,0.3s,baz=300,slow=12,SNR=1.8						
PMG				Sn	**Sn**	**02 23 30.4**	**-0.4**
	1.5nm,0.3s,baz=252,slow=13,SNR=1.8						
	6.0nm,0.3s						
WRA	**Warramunga Arr**	**15.68**	**209**	Pn	**Pn**	**02 24 43.0**	**-0.5**
	0.2nm,0.3s,baz=28,slow=13,SNR=11						
WRA				Sn	Sn	02 27 30.9	-6.5
	0.1nm,0.3s,baz=34,slow=23,SNR=3.3						
ASAR	**Alice Springs**	**19.12**	**204**	P	**Pn**	**02 25 28.9**	**+2.4**
	3.3nm,0.7s,baz=32,slow=9.9,SNR=46						
ASAR				S	**Sn**	**02 28 58.7**	**-2.1**
	0.8nm,0.9s,baz=30,slow=23,SNR=3.6						
FITZ	**Fitzroy Crossi**	**20.14**	**233**	P	Pn	02 25 39.5	+0.8
	2.1nm,0.5s,baz=59,slow=9.8,SNR=10						
	2.1nm,0.5s						
MKAR	**Makanchi Array**	**74.87**	**322**	P	**P**	**02 32 43.7**	**+0.4**
	0.3nm,0.6s,baz=104,slow=6.1,SNR=3.7						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**02 33 32.1**	**+1.0**
	1.3nm,1.1s,baz=83,slow=8.1,SNR=2.1						
	1.3nm,1.1s						
BVAR	**Borovoye Array**	**84.35**	**325**	P	**P**	**02 33 34.5**	**-0.2**
	1.2nm,0.7s,baz=109,slow=6.9,SNR=6.2						
	1.2nm,0.7s						
ILAR	**Eielson Array**	**87.56**	**24**	P	**P**	**02 33 47.8**	**-2.6**
	0.6nm,0.8s,baz=245,slow=5.5,SNR=4.2						
	0.6nm,0.8s						

*IDC **06** 02:32:00.5±1.1, 3.°62N×126.°90E, h0km, mb3.9/7, mbtmp3.9/7, MS2.6/1, Error ellipse: s-maj=100.5km s-min=17.1km az=69.0*
*DJA **06** 02:32:04.1±0.8, 4.°N±13.°×12.°7E±.°, h15km±14km, M4.0/6, mb4.1/1, MLv4.0/6*
*NEIC **06** 02:32:07.8±1.2, 3.°57N±0.°08×126.°7E±0.°1, h48km±10km, mb4.3/12, Error ellipse: s-maj=21.0km s-min=10.8km az=100.0*
ISC 06 02:32:07.2±0.7, 3.°58N±0.°09×126.°8E±0.°1, h48km, n27, σ1§08/25, mb4.1/10, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.28**	**275**	P	**Pn**	**02 32 28.1**	**-0.6**
SGSI				S	**Sn**	**02 32 46.9**	**+2.1**
TOLI2	**Tolitoli**	**6.50**	**248**	Pn	**Pn**	**02 33 39.0**	**-1.4**
MTN	**Manton Dam**	**16.87**	**165**		**Pn**	**02 36 01.0**	**+0.9**
MTN				IAmb	IAmb	02 36 15.5	
	comp=Z,32nm,1.3s						
KNRA	**Kununurra**	**19.23**	**174**	P	**P**	**02 36 27.4**	**-0.1**
TPUB	**Ta-pu**	**20.50**	**344**	P	**P**	**02 36 40.4**	**-0.9**
TPUB				IAmb	IAmb	02 36 51.0	
	comp=Z,18nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.57**	**183**	P	**P**	**02 36 53.5**	**+0.7**
FITZ				IAmb	IAmb	02 36 54.9	
	comp=Z,8.5nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.57**	**183**	P	**P**	**02 36 53.9**	**+1.1**
	comp=Z,5.2nm,0.9s,baz=10,slow=10,SNR=1.4						
	comp=Z,5.2nm,0.9s						
JOW	**Kunigami**	**23.17**	**3**	LR	LR	02 48 57.2	
	comp=Z,14nm,19.1s,baz=114,slow=44						
WB0	**Warramunga Arr**	**24.36**	**162**	P	**P**	**02 37 20.7**	**-0.2**
WB0				IAmb	IAmb	02 37 28.8	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**24.51**	**163**	P	**P**	**02 37 22.3**	**0.0**
	comp=Z,1.0nm,0.6s,baz=340,slow=11,SNR=11						
	comp=Z,1.0nm,0.6s						
WB2	**Warramunga Arr**	**24.52**	**163**	P	**P**	**02 37 22.1**	**-0.3**
WB2				IAmb	IAmb	02 37 39.9	
	comp=Z,19nm,1.3s						
AS31	**Alice Springs**	**27.95**	**166**	P	**P**	**02 37 51.2**	**-2.0**
ASAR	**Alice Springs**	**27.95**	**166**	P	**P**	**02 37 51.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=348,slow=8.5,SNR=6.5						
ASAR				PcP	**PcP**	**02 41 09.1**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=354,slow=3.2,SNR=1.4						
	comp=Z,0.2nm,0.3s						
STKA	**Stephens Creek**	**37.96**	**159**	P	**P**	**02 39 21.0**	**+0.6**
STKA	**Stephens Creek**	**37.96**	**159**	P	**P**	**02 39 20.4**	**0.0**
	comp=Z,0.7nm,0.3s,baz=338,slow=7.0,SNR=6.4						
	comp=Z,0.7nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**41.72**	**66**	T	T	03 24 20.3	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**41.74**	**66**	T	T	03 24 20.8	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**41.74**	**66**	T	T	03 24 20.9	
	baz=252						
SONM	**Songino Array**	**47.47**	**341**	P	**P**	**02 40 36.7**	**-0.7**
MK31	**Makanchi Array**	**57.73**	**325**	P	**P**	**02 41 52.4**	**-0.7**
MKAR	**Makanchi Array**	**57.73**	**325**	P	**P**	**02 41 52.6**	**-0.5**
MKAR	**Makanchi Array**	**57.73**	**325**	P	**P**	**02 41 53.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=120,slow=7.5,SNR=10						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**61.91**	**327**	P	**P**	**02 42 21.7**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=130,slow=6.6,SNR=20						
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**61.91**	**328**	P	**P**	**02 42 21.5**	**-0.3**
ABKAR	**Abkulak array**	**72.32**	**321**	P	**P**	**02 43 27.9**	**0.0**
D19K	**Kuna River**	**81.24**	**21**	P	**P**	**02 44 19.8**	**+2.0**
D19K				IAmb	IAmb	02 44 25.8	
	comp=Z,7.7nm,1.4s						
ARCES	**ARCESS Array B**	**90.62**	**340**	P	**P**	**02 45 03.5**	**-0.7**
	comp=Z,3.4nm,0.9s,baz=75,slow=5.1,SNR=4.0						
	comp=Z,3.4nm,0.9s						

*KRNET **06** 02:45:55.5±0.1, 39.°92N×78.°60E, mb3.0*
*SOME **06** 02:45:57.2, 40.°15N×77.°60E, h5km*
NNC 06 02:45:53.1±6.4, 39.°98N×77.°75E, h0km, mb3.2, mpv2.8, 10C-10D, Error ellipse: s-maj=43.7km s-min=36.6km az=2.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.74**	**1**	⇓*iP*	Pg	02 46 26.6	+0.1
TARG				⇓*iS*	Sg	02 46 49.4	+0.3
NRN	**Naryn**	**1.96**	**318**	⇑*eP*	Pg	02 46 34.8	+4.0
NRN				⇑*eS*	Sg	02 47 03.7	+7.5
KDJ	**Kajisay**	**2.19**	**349**	⇓*iP*	Pg	02 46 34.4	-0.6
KDJ				⇓*iS*	Sg	02 47 02.5	-0.9
ULHL	**Ulahol**	**2.53**	**334**	⇑*iP*	Pg	02 46 40.9	-0.7
ULHL				⇑*iS*	Sg	02 47 14.3	-0.1
PRZ	**Przheval'sk**	**2.54**	**11**	⇓*eP*	Pn	02 46 36.0	+0.2
PRZ				⇓*eS*	Sn	02 47 05.6	-2.0
ANVS	**Anan'yevo**	**2.80**	**359**	⇑*iP*	Pn	02 46 41.5	+2.2
ANVS				⇑*iS*	Sn	02 47 14.3	+0.5
BOOM	**Boomskoye usch**	**2.85**	**332**	⇓*iP*	Pb	02 46 45.7	+0.7
BOOM				⇓*iS*	Sb	02 47 22.2	+1.7
TNSS	**Tian-Shan**	**3.11**	**349**	Pg	Pg	02 46 51.7	-1.0
	3.0nm,0.7s						
TNSS				Lg	Lg	02 47 31.5	
	4.2nm,0.5s						
TNSS	**Tian-Shan**	**3.11**	**349**	*eP*	Pg	02 46 51.9	-0.8
	2.6nm,0.2s						
TNSS				*eS*	Sg	02 47 31.4	-1.6
	4.3nm,0.3s						
SATY	**Saty**	**3.11**	**9**	Pg	Pg	02 46 52.5	-0.2
	3.4nm,0.5s						
SATY				Lg	Lg	02 47 32.9	
	3.2nm,0.4s						
KOTS	**Kotyrbulak**	**3.28**	**352**	*eP*	Pg	02 46 55.4	-0.6
	1.2nm,0.1s						
KOTS				*eS*	Sg	02 47 37.2	-1.4
	14nm,0.5s						
MTBS	**Maitube**	**3.29**	**343**	*eP*	Pg	02 46 55.1	-1.1
	1.4nm,0.1s						
MTBS				*eS*	Sg	02 47 36.8	-2.2
	2.1nm,0.1s						
TKM2	**Tokmak 2**	**3.35**	**332**	⇓Pg	Pb	02 46 51.2	-2.3
	1.4nm,0.8s						
TKM2				⇑Lg	Lg	02 47 39.3	
	2.5nm,0.7s						
TKM2	**Tokmak 2**	**3.35**	**332**	⇑*iP*	Pb	02 46 52.5	-1.0
TKM2				⇑*iS*	Sb	02 47 34.1	-0.8
PDGK	**Podgornoye**	**3.59**	**21**	⇓Pg	Pb	02 46 55.8	-1.7
	1.1nm,0.5s						
PDGK				⇑Lg	Lg	02 47 45.3	
	2.8nm,0.8s						
KTBS	**Karatobe**	**3.81**	**348**	Pg	Pg	02 47 04.4	-1.7
	1.2nm,0.3s						
KTBS				Lg	Lg	02 47 53.9	
	3.8nm,0.5s						
KRBS	**Karabastau**	**4.02**	**338**	Pg	Pg	02 47 08.5	-1.6
	1.1nm,0.5s						
KRBS				Lg	Lg	02 48 00.4	
	1.9nm,0.7s						

IDC 06 03:17:46.6±1.6, 1.°03N×124.°30E, h0km, mb3.9/4, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=116.3km s-min=23.1km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.05**	**176**	P	P	03 22 10.7	+0.1
	0.4nm,0.3s,baz=350,slow=9.5,SNR=7.7						
	7.1nm,1.0s						
WRA	**Warramunga Arr**	**23.05**	**155**	P	P	03 22 54.7	+0.9
	3.8nm,0.4s,baz=333,slow=11,SNR=36						
	3.8nm,0.4s						
ASAR	**Alice Springs**	**26.27**	**160**	P	P	03 23 23.4	-0.4
	0.4nm,0.6s,baz=335,slow=7.4,SNR=6.2						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**36.60**	**155**	P	P	03 24 53.8	-0.8
	1.5nm,0.5s,baz=324,slow=7.6,SNR=5.0						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**58.44**	**327**	P	P	03 27 44.4	+0.1
	0.3nm,0.4s,baz=125,slow=8.2,SNR=6.1						
	0.3nm,0.4s						

*IDC **06** 03:19:27.9±2.0, 17.°46S×178.°93W, h574km±20km, mb2.9/5, mbtmp3.8/7, Error ellipse: s-maj=71.7km s-min=21.9km az=152.0*
ISC 06 03:19:25.8±1.2, 17.°7S±0.°4×178.°6W±0.°3, h550km, n8, σ1§50/8, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.17**	**269**	P	**P**	**03 20 44.3**	**+2.3**
	6.2nm,0.6s,baz=132,slow=10,SNR=7.2						
DZM	**Mont Dzumac**	**14.70**	**250**	P	**P**	**03 22 32.8**	**+0.5**
	4.5nm,1.0s,baz=168,slow=21,SNR=1.4						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**03 26 01.2**	**-0.6**
	2.5nm,0.7s,baz=90,slow=11,SNR=4.2						
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**44.47**	**259**	P	**P**	**03 26 47.1**	**-1.6**
	0.3nm,0.3s,baz=98,slow=6.8,SNR=8.6						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**03 26 49.0**	**-1.1**
	6.5nm,0.6s,baz=89,slow=8.2,SNR=95						
	6.5nm,0.6s						
ILAR	**Eielson Array**	**85.75**	**13**	P	**P**	**03 31 05.5**	**-1.1**
	0.1nm,0.4s,baz=226,slow=5.3,SNR=4.1						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**03 31 09.8**	**+0.7**
	0.2nm,0.7s,baz=213,slow=9.0,SNR=4.0						
	0.2nm,0.7s						
BDFB	**Brasilia**	**121.11**	**121**	PKP	**PKPdf**	**03 37 17.4**	**0.0**
	0.9nm,0.4s,baz=191,slow=5.8,SNR=3.7						

*IDC **06** 03:20:54.9±1.4, 20.°48S×178.°20W, h540km±15km, mb3.3/9, mbtmp4.2/11, Error ellipse: s-maj=20.1km s-min=15.2km az=122.0*
*NEIC **06** 03:20:55.6±1.8, 20.°3S±0.°1×178.°2W±0.°2, h542km±5km, mb4.3/17, Error ellipse: s-maj=21.7km s-min=17.5km az=77.0*
ISC 06 03:20:54.3±0.6, 20.°45S±0.°10×178.°2W±0.°1, h534km, n41, σ1§14/41, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.50**	**306**	P	**P**	**03 22 20.4**	**+1.2**
MSVF	**Nonsavu**	**4.50**	**306**	P	**P**	**03 22 20.5**	**+1.3**
	28nm,0.5s,baz=143,slow=3.8,SNR=32						
MSVF				S	**S**	**03 23 29.8**	**+1.5**
	10nm,0.9s,baz=285,slow=19,SNR=0.8						
FUTU	**Fugatoga**	**6.11**	**0**	P	**P**	**03 22 34.0**	**+0.7**
URZ	**Urewera**	**18.21**	**192**	P	**P**	**03 24 33.1**	**-1.6**
	3.3nm,0.3s,baz=327,slow=4.8,SNR=8.3						
WHZ	**Wether Hill Ro**	**27.83**	**201**	P	**P**	**03 26 01.5**	**+0.9**
JAY	**Jayapura**	**43.90**	**289**	P	**P**	**03 28 13.3**	**-0.7**
	3.1nm,0.4s,baz=226,slow=13,SNR=1.7						
	3.1nm,0.4s						
ASAR	**Alice Springs**	**44.40**	**257**	P	**P**	**03 28 17.4**	**-0.4**
	1.4nm,0.5s,baz=93,slow=7.7,SNR=9.5						
	1.4nm,0.5s						
WB0	**Warramunga Arr**	**44.45**	**262**	P	**P**	**03 28 17.8**	**-0.4**
WB0				IAmb	IAmb	03 28 28.5	
	comp=Z,16nm,1.4s						
WB2	**Warramunga Arr**	**44.46**	**262**	P	**P**	**03 28 17.2**	**-1.1**
WB2				IAmb	IAmb	03 28 43.8	
	comp=Z,5.5nm,0.9s						
WRA	**Warramunga Arr**	**44.47**	**262**	P	**P**	**03 28 18.3**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=97,slow=7.4,SNR=12						
	comp=Z,0.7nm,0.4s						
VNDA	**Vanda**	**57.95**	**185**	P	**P**	**03 29 56.6**	**+1.6**
QSPA	**South Pole Qui**	**69.62**	**180**	P	**P**	**03 31 10.7**	**+0.9**
QSPA	**South Pole Qui**	**69.62**	**180**	P	**P**	**03 31 10.3**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=350,slow=0.9,SNR=14						
	comp=Z,2.4nm,0.7s						
PETK	**Petropavlovsk-**	**76.19**	**345**	P	**P**	**03 31 47.6**	**+0.2**
PETK	**Petropavlovsk-**	**76.19**	**345**	P	**P**	**03 31 47.0**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=100,slow=8.1,SNR=3.6						
	comp=Z,2.5nm,0.7s						
O02D	**Mt. Diablo Mer**	**79.33**	**40**	P	**P**	**03 32 05.5**	**+0.7**
O02D				IAmb	IAmb	03 32 26.8	
	comp=Z,14nm,1.4s						
YBH	**Yreka Blue Hor**	**80.34**	**39**	P	**P**	**03 32 11.2**	**+1.1**
NVAR	**Mina Array Bea**	**81.08**	**43**	P	**P**	**03 32 14.9**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=203,slow=10,SNR=14						
	comp=Z,1.5nm,0.8s						
N14K	**Kuskokwak Cree**	**81.21**	**8**	P	**P**	**03 32 13.5**	**-0.4**
J05D	**Fort Rock, OR**	**82.15**	**38**	P	**P**	**03 32 20.0**	**+0.6**
J05D				IAmb	IAmb	03 32 21.3	
	comp=Z,8.0nm,0.8s						
M16K	**Timber Creek**	**82.65**	**9**	P	**P**	**03 32 22.2**	**+0.9**
M16K				IAmb	IAmb	03 32 24.4	
	comp=Z,15nm,1.2s						
GHO	**Glory Hole Cre**	**85.21**	**13**	P	**P**	**03 32 33.8**	**-0.2**
TRF	**Thorofare Moun**	**86.43**	**12**	P	**P**	**03 32 38.7**	**-1.3**
TRF				IAmb	IAmb	03 32 44.2	
	comp=Z,9.0nm,1.2s						
RND	**Reindeer**	**86.68**	**13**	P	**P**	**03 32 40.1**	**-0.9**
RND				IAmb	IAmb	03 32 41.4	
	comp=Z,8.2nm,0.9s						
VHRN	**Van Horn**	**86.74**	**56**	P	**P**	**03 32 43.4**	**+1.2**
TXAR	**Lajitas Array**	**87.15**	**57**	P	**P**	**03 32 44.4**	**+0.4**
TXAR	**Lajitas Array**	**87.15**	**57**	P	**P**	**03 32 44.8**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=219,slow=7.5,SNR=12						
	comp=Z,1.0nm,0.9s						
CCB	**Clear Creek Bu**	**88.00**	**13**	P	**P**	**03 32 46.1**	**-0.9**
CCB				IAmb	IAmb	03 32 46.7	
	comp=Z,3.4nm,0.8s						
ILAR	**Eielson Array**	**88.30**	**13**	P	**P**	**03 32 47.6**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=227,slow=4.8,SNR=9.7						
	comp=Z,1.0nm,0.8s						
J26L	**Joseph Creek**	**88.79**	**14**	P	**P**	**03 32 51.1**	**+0.2**
J26L				IAmb	IAmb	03 32 52.1	
	comp=Z,4.4nm,0.9s						
PDAR	**Pinedale Array**	**89.02**	**43**	P	**P**	**03 32 52.9**	**+0.2**
PDAR	**Pinedale Array**	**89.02**	**43**	P	**P**	**03 32 52.7**	**0.0**
	comp=Z,0.7nm,0.6s,baz=206,slow=3.5,SNR=8.5						
	comp=Z,0.7nm,0.6s						
BVAR	**Borovoye Array**	**118.95**	**320**	PKP	**PKPdf**	**03 38 41.6

HOPEN	Hopen	1.75 108	Pn	Pb	03 27 37.0	-0.7
HOPEN			Sn	Sb	03 27 59.3	+0.1
HOPEN	Hopen	1.75 108	*e*P	Pb	03 27 37.0	-0.7
HOPEN			*e*S	Sb	03 27 59.1	-0.1
HOPEN	Hopen	1.75 108	*e*P	Pb	03 27 37.1	-0.7
HOPEN			*e*S	Sb	03 27 59.9	+0.7
HOPEN			IAML		03 28 08.6	
	comp=Z,100nm,0.3s					
KBS	Kingsbay	2.17 328	Pn	Pn	03 27 41.0	+0.5
KBS			Pg	Pb	03 27 44.8	-0.1
KBS			Lg	Lg	03 28 11.7	
KBS	Kingsbay	2.17 328	P	Pn	03 27 40.9	+0.5
KBS			S	Sn	03 28 08.2	+2.0
KBS	Kingsbay	2.17 328	Pn	Pn	03 27 41.0	+0.5
KBS			Pg	Pb	03 27 44.8	-0.1
KBS			Sg	Sb	03 28 11.7	+0.4
BJO1	Bjornoya	2.68 174	P	Pb	03 27 52.6	-0.9
BJO1			*e*S	Sb	03 28 25.1	-0.8
BJO1	Bjornoya	2.68 174	*e*Pg	Pb	03 27 56.2	+2.6
BJO1			*e*Sg	Sb	03 28 31.0	+5.1
ZFI2	Zemlya Franca-	6.69 43	*e*S	Sn	03 29 54.4	-2.9
	comp=Z,24nm,2.5s					
OMEGA	Omega	6.69 43	*e*P	Pn	03 28 45.7	+3.3
OMEGA			*e*S	Sn	03 29 55.1	-2.3
	comp=Z,22nm,2.1s					
HAMF	Hammerfest	6.74 163	Pn	Pn	03 28 44.1	+1.1
HAMF			Sn	Sn	03 29 53.9	-4.7
HAMF	Hammerfest	6.74 163	*e*P	Pn	03 28 44.3	+1.3
JETT	Jettan, Norway	7.67 173	Pn	Pn	03 28 57.4	+1.4
JETT			Sn	Sn	03 30 18.0	-3.7
JETT	Jettan, Norway	7.67 173	Pn	Pn	03 28 57.4	+1.4
JETT			Sn	Sn	03 30 18.0	-3.7
VADS	Vadso	7.75 150	Pn	Pn	03 28 58.6	+1.7
VADS			Sn	Sn	03 30 21.0	-2.5
VADS	Vadso	7.75 150	P	Pn	03 28 59.0	+2.1
VADS			S	Sn	03 30 21.1	-2.4
VADS	Vadso	7.75 150	*e*P	Pn	03 28 58.7	+1.7
KEV	Kevo	7.86 156	Pn	Pn	03 29 00.0	+1.6
KEV			Sn	Sn	03 30 21.5	-4.8
KEV	Kevo	7.86 156	Pn	Pn	03 29 00.0	+1.6
KEV			Sn	Sn	03 30 21.5	-4.8
ARA0	ARCESS Array S	7.95 160	Pn	Pn	03 29 01.9	+2.1
ARA0			Sn	Sn	03 30 23.7	-4.9
	baz=357,slow=8.6					
ARA0	ARCESS Array S	7.95 160	Pn	Pn	03 29 01.9	+2.1
ARA0			Sn	Sn	03 30 23.7	-4.9
	baz=357,slow=8.6					
ARA0			Sn	Sn	03 30 23.7	-4.9
	baz=4.7,slow=22					
ARCES	ARCESS Array B	7.95 160	P	Pn	03 29 02.8	+3.0
ARCES			S	Sn	03 30 24.5	-4.0
KIF	Kilpisjarvi	8.23 173	Pn	Pn	03 29 06.2	+2.6
KIF			Sn	Sn	03 30 32.8	-2.6
KIF	Kilpisjarvi	8.23 173	*e*P	Pn	03 29 06.4	+2.9
TERR	Teriberka	9.35 139	S	Sn	03 30 58.3	-4.5
APA0	Apatity Array	10.57 147	S	Sn	03 31 31.5	-1.1
KVDA	Kovda	11.43 149	S	Sn	03 31 50.5	-3.1

*NOU **06** 03:27:13.5, 23°.77S×179°.63E, h522km, mb4.6/11, South of Fiji Islands*
*IDC **06** 03:27:16.2±4.3, 24°.01S×179°.16E, h521km±45km, mb3.2/9, mbtmp4.2/10, Error ellipse: s-maj=26.7km s-min=19.8km az=45.0*
*NEIC **06** 03:27:17.6±1.4, 24°.0S±0°.2×179°.2E±0°.1, h533km±10km, mb4.3/8, Error ellipse: s-maj=23.5km s-min=12.9km az=163.0*

ISC 06 03:27:14.6±0.5,**23°.98S**±0°.07×**179°.26E**±0°.09,**h500**km,**n65,** σ1º**65**/64,**mb3.9**/13,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	Pines Island,	10.95	275	P	P	03 29 45.4	+3.4
NIUE	Niue	11.18	66	P	P	03 29 46.4	+1.8
OUZ	Omahuta	12.23	202	P	P	03 30 01.1	+5.7
WCZ	Waipu Caves	12.65	199	P	P	03 30 04.7	+4.9
MKAZ	Moumakai	13.54	194	P	P	03 30 14.0	+4.7
HAZ	Te Kaha	13.79	185	P	P	03 30 13.0	+1.2
HAZ				S	S	03 32 37.2	-0.8
PUZ	Puketiti	14.07	183	P	P	03 30 16.1	+1.2
URZ	Urewera	14.35	187	P	P	03 30 18.2	+0.4
	12nm,0.7s,baz=342,slow=2.0,SNR=15						
URZ				S	S	03 32 47.9	-0.9
	9.4nm,0.8s,baz=160,slow=23,SNR=6.4						
URZ	Urewera	14.35	187	P	P	03 30 19.1	+1.4
URZ	Urewera	14.35	187	P	P	03 30 17.4	-0.3
URZ				S	S	03 32 47.1	-1.7
MWZ	Matawai	14.38	185	P	P	03 30 19.2	+1.0
MTHZ	Maungataniwha	14.96	187	P	P	03 30 25.6	+1.3
NMHZ	Naumai	15.21	187	P	P	03 30 27.9	+1.1
BKZ	Black Stump Fm	15.32	188	P	P	03 30 28.9	+1.0
BKZ	Black Stump Fm	15.32	188	P	P	03 30 29.1	+1.2
BKZ				S	S	03 33 03.7	-3.8
NGZ	Ngauruhoe	15.46	191	P	P	03 30 33.3	+3.7
SNVZ	South Ngauruho	15.46	191	P	P	03 30 30.9	+1.3
MCHZ	McNeill Hill	15.57	187	P	P	03 30 30.7	+0.2
KWHZ	Kaweka Forest	15.58	188	P	P	03 30 31.8	+1.1
KRHZ	Kereru	15.80	188	P	P	03 30 33.2	+0.2
KAHZ	Kahuranaki	15.89	187	P	P	03 30 35.0	+1.1
PXZ	Pawanui	16.13	187	P	P	03 30 36.8	+0.5
BFZ	Birch Farm	16.84	188	P	P	03 30 43.7	-0.1
QRZ	Quartz Range	17.72	197	P	P	03 30 52.9	+0.7
QRZ	Quartz Range	17.72	197	P	P	03 30 53.5	+1.3
JCZ	Jackson Bay	21.80	201	P	P	03 31 29.9	+0.5
ALEG	Aligegeo Malai	23.33	307	P	P	03 31 42.2	-1.2
HNR	Honiara	23.44	305	P	P	03 31 43.0	-1.4
SAVO	Savo Central	23.72	305	P	P	03 31 45.2	-1.7
TATA	Tatamba Isabel	24.23	307	P	P	03 31 51.9	+0.5
CMSA	Cobar Meteorol	30.56	248	P	P	03 32 47.4	+0.7
QLP	Quilpie	31.72	258	P	P	03 32 57.7	+0.9
STKA	Stephens Creek	34.06	248	P	P	03 33 15.2	-1.4
	2.2nm,0.5s,baz=304,slow=3.8,SNR=2.9						
	2.2nm,0.5s						
BBOO	Buckleboo	38.79	247	P	P	03 33 55.6	-0.2
BBOO				IAmb	IAmb	03 34 00.8	
	comp=Z,31nm,1.4s						
AS31	Alice Springs	41.35	261	P	P	03 34 16.6	+0.1
ASAR	Alice Springs	41.35	261	P	P	03 34 16.6	+0.1
ASAR	Alice Springs	41.35	261	P	P	03 34 16.1	-0.4
	comp=Z,3.4nm,0.8s,baz=97,slow=8.4,SNR=16						
	comp=Z,3.4nm,0.8s						
WB2	Warramunga Arr	41.72	266	P	P	03 34 18.7	-0.7
WB2				IAmb	IAmb	03 34 19.2	
	comp=Z,5.5nm,0.6s						
WB0	Warramunga Arr	41.72	267	P	P	03 34 18.8	-0.6
WB0				IAmb	IAmb	03 34 31.6	
	comp=Z,7.8nm,1.1s						
WRA	Warramunga Arr	41.73	266	P	P	03 34 19.0	-0.5
	comp=Z,3.0nm,0.5s,baz=106,slow=7.5,SNR=104						
	comp=Z,3.0nm,0.5s						
JAY	Jayapura	42.93	294	P	P	03 34 28.6	-0.4
	comp=Z,3.2nm,0.5s,baz=274,slow=22,SNR=1.7						
	comp=Z,3.2nm,0.5s						
FORT	Forrest	45.65	250	P	P	03 34 48.7	-1.1
FORT				IAmb	IAmb	03 34 49.6	
	comp=Z,13nm,0.7s						
KNRA	Kununurra	48.01	270	P	P	03 35 07.8	-0.1
QSPA	South Pole Qui	66.10	180	P	P	03 37 12.4	+1.0
QSPA				IAmb	IAmb	03 37 38.8	
	comp=Z,3.2nm,1.1s						
QSPA	South Pole Qui	66.10	180	P	P	03 37 11.6	+0.2
	comp=Z,0.9nm,0.5s,baz=236,slow=1.5,SNR=9.5						
	comp=Z,0.9nm,0.5s						
KSRS	Korea Array	77.88	321	P	P	03 38 19.8	-0.3
	comp=Z,0.8nm,0.6s,baz=140,slow=6.0,SNR=4.2						
	comp=Z,0.8nm,0.6s						
PETK	Petropavlovsk-	79.03	347	P	P	03 38 26.0	+0.1
	comp=Z,3.2nm,0.9s,baz=174,slow=8.3,SNR=4.9						
	comp=Z,3.2nm,0.9s						
NVAR	Mina Array Bea	85.28	44	P	P	03 38 58.3	-0.2
	comp=Z,0.4nm,0.7s,baz=223,slow=4.9,SNR=3.7						
	comp=Z,0.4nm,0.7s						
TXAR	Lajitas Array	91.05	58	P	P	03 39 26.5	+1.0
	comp=Z,0.3nm,0.7s,baz=216,slow=6.3,SNR=5.5						
	comp=Z,0.3nm,0.7s						
BVAR	Borovoye Array	120.06	319	PKP	PKPdf	03 45 06.0	-1.7
	comp=Z,0.6nm,0.3s,baz=100,slow=1.5,SNR=4.8						
SPITS	Spitsbergen Ar	125.15	356	PKP	PKPdf	03 45 15.7	-1.2
	comp=Z,5.4nm,0.9s,baz=27,slow=1.8,SNR=1.4						
ARCES	ARCESS Array B	131.83	348	PKP	PKPdf	03 45 28.3	-1.5
	comp=Z,6.7nm,1.0s,baz=48,slow=1.8,SNR=8.3						
FINES	FINESS Array B	138.31	341	PKhKP	PKPpre	03 45 33.0	
	comp=Z,0.3nm,0.4s,baz=45,slow=5.7,SNR=4.0						
FINES				PKP	sPdif	03 45 40.6	+4.4
	comp=Z,0.7nm,0.4s,baz=52,slow=1.9,SNR=6.9						
NB2	NORSAR Subarra	142.06	351	PKP	PKPdf	03 45 43.6	-5.2
	comp=Z,0.3nm,0.5s,baz=15,slow=2.9						
NOA	NORSAR Array B	142.06	351	PKhKP	PKPpre	03 45 43.7	
	comp=Z,0.2nm,0.6s,baz=77,slow=1.4,SNR=4.3						
HFS	Hagfors	142.49	348	PKhKP	PKPpre	03 45 44.8	
	comp=Z,4.0nm,0.4s,baz=64,slow=3.4,SNR=56						
AKASG	Malin Array Be	144.67	327	PKP	PKPdf	03 45 52.1	-1.5
	comp=Z,1.3nm,0.4s,baz=48,slow=4.0,SNR=15						
BR131	Keskin Array S	147.09	307		PKPdf	03 46 00.1	+1.8
BRTR	Keskin Array B	147.09	307	PKPbc	PKPdf	03 45 59.3	+1.0
BRTR	Keskin Array B	147.09	307	PKPbc	PKPdf	03 45 59.8	+1.5
	comp=Z,1.0nm,0.6s,baz=80,slow=2.3,SNR=6.3						
MMAI	Mount Meron Ar	147.12	294	PKPbc	PKPdf	03 46 01.0	+2.5
	comp=Z,1.5nm,0.4s,baz=64,slow=6.6,SNR=12						
EKA	Eskdalemuir Ar	148.64	3	PKPbc	PKPdf	03 46 03.2	+3.1
	comp=Z,0.4nm,0.3s,baz=342,slow=2.8,SNR=7.8						
CLL	Collm	150.73	342		PKPbc	03 46 08.4	-1.2
ELL	Elmali	150.79	303	PKPbc	PKPbc	03 46 09.4	-1.0
GERES	GERESS Array B	152.70	339	PKPbc	PKPbc	03 46 13.1	-1.2
	comp=Z,0.2nm,0.4s,baz=1.7,slow=3.1,SNR=1.7						

*SJA **06** 03:37:20.5±0.6, 23°.22S×66°.82W, h228km±8km, ML3.5, MW3.5*
*GUC **06** 03:37:23.3±0.6, 23°.26S×67°.22W, h242km±13km, ML3.8*

ISC 06 03:37:23.1±1.3,**23°.26S**±0°.04×**66°.95W**±0°.06,**h200**km,**n24,** σ1º**14**/40,**6C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		1.11	150	*e*P	Pn	03 37 54.4	+0.1
SALTA				*e*P		03 37 54.5	
AF01	San Pedro de A	1.17	285	*e*P	Pn	03 37 56.5	+2.0
YJA	Yavi	1.71	51	*e*P	Pn	03 37 59.0	-0.4
SLA	San Lorenzo	1.96	138	*e*P	Pn	03 38 02.2	+0.7
PB06	IPOC Station P	2.48	282⇑	*e*P	Pn	03 38 07.7	+0.8
PB06				*e*S	Sn	03 38 41.2	+0.2
PB06				IAML		03 38 45.6	
	comp=N,208nm,0.2s						
PB06	IPOC Station P	2.48	282	*e*P	Pn	03 38 07.8	+0.8
PB06				IAML		03 38 45.7	
	comp=Z,98nm,0.1s						
PB09	IPOC Station P	2.57	304⇑	*e*P	Pn	03 38 09.0	+1.0
PB09				*e*S	Sn	03 38 43.8	+0.8
PB09				IAML		03 38 46.0	
	comp=N,88nm,0.2s						
PB09				IAML		03 38 46.6	
	comp=E,92nm,0.2s						
PB09	IPOC Station P	2.57	304	*e*P	Pn	03 38 09.0	+1.0
PB09				IAML		03 38 48.0	
	comp=Z,64nm,0.2s						
PB03	IPOC Station P	2.85	295⇑	*e*P	Pn	03 38 11.7	+0.4
PB03				*i* S	Sn	03 38 48.2	-0.6
PB03				IAML		03 38 48.3	
	comp=E,259nm,0.2s						
PB03	IPOC Station P	2.85	295	*e*P	Pn	03 38 11.7	+0.4
PB03				*e*S	Sn	03 38 48.3	-0.5
PB03				IAML		03 38 50.4	
	comp=Z,274nm,0.2s						
FSA	Cafayete	2.97	163	*e*P	Pn	03 38 13.8	+1.2
GO02	Mina Guanaco	3.06	231⇑	*i*P	Pn	03 38 14.6	+0.8
GO02				*i* S	Sn	03 38 54.1	+0.6
GO02				IAML		03 38 56.3	
	comp=E,263nm,0.1s						
GO02				IAML		03 38 57.2	
	comp=N,176nm,0.1s						
GO02	Mina Guanaco	3.06	231	*e*P	Pn	03 38 14.7	+0.8
GO02				IAML		03 38 58.0	
	comp=Z,104nm,0.1s						
PB01	IPOC Station P	3.23	313	*e*P	Pn	03 38 15.9	+0.3
PB01				*e*S	Sn	03 38 56.2	-0.4
PB01	IPOC Station P	3.23	313	*e*P	Pn	03 38 15.8	+0.2
PB01				*e*S	Sn	03 38 56.4	-0.2
PB01				IAML		03 38 57.2	
	comp=Z,144nm,0.2s						
PB10	IPOC Station P	3.32	265⇑	*e*P	Pn	03 38 17.3	+0.8
PB10				*e*S	Sn	03 38 56.6	-1.7
PB10	IPOC Station P	3.32	265	*e*P	Pn	03 38 17.3	+0.8
PB10				*e*S	Sn	03 38 58.8	+0.5
PB14	IPOC Station P	3.44	246	*e*P	Pn	03 38 18.8	+0.5
PB14				*e*S	Sn	03 39 02.8	+1.3
PB14				IAML		03 39 03.5	
	comp=Z,31nm,0.6s						
PB08	IPOC Station P	3.72	326	*e*P	Pn	03 38 23.0	+1.1
PB08				*e*S	Sn	03 39 08.4	+0.5
PB08				IAML		03 39 09.7	
	comp=Z,31nm,0.3s						
AC02	Maricunga	4.07	209	*e*P	Pn	03 38 26.7	+0.5
AC02				*e*S	Sn	03 39 18.2	+2.4
PB11	IPOC Station P	4.30	324	*e*P	Pn	03 38 28.1	-0.8
PB11				*e*S	Sn	03 39 18.0	-2.5
PB11				IAML		03 39 19.9	
	comp=Z,48nm,0.2s						
AC01	Pan de Azucar	4.39	228⇑	*e*P	Pn	03 38 28.8	-0.9
AC01				*e*S	Sn	03 39 20.1	-2.2
AC01	Pan de Azucar	4.39	228	*e*P	Pn	03 38 28.9	-0.9
AC01				*e*S	Sn	03 39 20.6	-1.6
AC01				IAML		03 39 28.0	
	comp=Z,17nm,1.4s						
GO03	Copiapo	5.23	214	*e*P	Pn	03 38 39.3	-1.3
GO03				*e*S	Sn	03 39 39.9	-1.9
GO03				IAML		03 39 41.5	
	comp=Z,40nm,0.2s						

*IDC **06** 03:57:03.1±33.0, 4°.35N×126°.67E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=548.0km s-min=157.2km az=160.0*
*DJA **06** 03:57:30.0±0.8, 4°N±5°×12°8E±°, h138km±8km, M4.0/7, MLv4.0/7*

ISC 06 03:57:28.3±6.0,**3°.1N**±0°.9×**128°.2E**±0°.5,**h100**km,**n4,** σ0º**19**/5,**mb3.5**/3,**North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.73	282	P	Pn	03 58 10.4	0.0
SGSI				S	Sn	03 58 42.8	0.0
WRA	Warramunga Arr	23.70	166	P	P	04 02 31.0	-0.2
	1.1nm,0.7s,baz=342,slow=10,SNR=6.4						
	1.1nm,0.7s						
ASAR	Alice Springs	27.20	168	P	P	04 03 03.0	+0.1
	0.7nm,0.4s,baz=353,slow=7.8,SNR=18						
	0.7nm,0.4s						
STKA	Stephens Creek	37.06	161	P	P	04 04 28.8	0.0
	0.9nm,0.4s,baz=343,slow=11,SNR=4.6						
	0.9nm,0.4s						

*SOME **06** 04:02:32.8, 39°.25N×73°.90E, h5km*
*KRNET **06** 04:02:32.1±0.1, 39°.01N×74°.66E, mb4.7*
*IDC **06** 04:02:35.1±0.7, 39°.02N×74°.59E, h0km, mb4.1/18, mbtmp4.1/24, ML3.4/6, MS3.3/19, Error ellipse: s-maj=13.4km s-min=12.2km az=124.0*
*MOS **06** 04:02:37.3±1.2, 39°.14N×74°.51E, h17km, mb4.4/12, Error ellipse: s-maj=6.8km s-min=3.9km az=95.2*
*NNC **06** 04:02:39.2±1.3, 39°.22N×74°.73E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=10.1km s-min=6.8km az=167.0*
*NEIC **06** 04:02:41.2±2.5, 39°.05N±0°.06×74°.59E±0°.03, h35km±2km, mb4.5/18, Error ellipse: s-maj=11.0km s-min=3.0km az=158.0*

ISC 06 04:02:36.6±1.3,**39°.18N**±0°.04×**74°.50E**±0°.02,**h3**km±8km, **n206,** σ2º**16**/241,**mb4.3**/38,**MS3.4**/18,**39C-32D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.14	318⇑	*i*P	Pn	04 02 57.9	-1.8
SFK				⇑*i*S	Sg	04 03 16.5	+3.4
SFK	Sufi-Kurgan	1.14	318	*i* PG	Pn	04 02 57.9	-1.8
SFK				S	Sg	04 03 17.8	+4.7
SALK	Salom-Alik	1.78	343	⇓*i*P	Pn	04 03 08.9	+0.4
SALK				⇓*i*S	Sg	04 03 36.1	+2.2
SALK	Salom-Alik	1.78	343	*i* PN	Pn	04 03 08.9	+0.4
SALK				S	Sg	04 03 36.4	+2.5
OHH	Osh	1.89	316	⇑*i*P	Pn	04 03 10.5	+0.7
OHH				⇑*i*S	Sg	04 03 38.8	+1.7
OHH	Osh	1.89	316	*i* PN	Pn	04 03 10.5	+0.7
OHH				S	Sg	04 03 39.2	+2.1
DRK	Karamyk	2.12	279		Pb	04 03 14.1	-1.6
DRK	Karamyk	2.12	279	⇓*i*P	Pn	04 03 12.9	-0.3
DRK				⇓*i*S	Sb	04 03 43.1	+0.5
DRK	Karamyk	2.12	279	*i* PN	Pn	04 03 12.9	-0.3
DRK				S	Sg	04 03 43.8	-0.8
ARSB	Arslanbob	2.44	332		Pb	04 03 20.7	-0.5
ARSB	Arslanbob	2.44	332	⇓*i*P	Pn	04 03 18.2	+0.7
ARSB				⇓*i*S	Sb	04 03 52.2	+0.5
ARSB	Arslanbob	2.44	332	*i* PN	Pn	04 03 18.2	+0.7
ARSB				S	Sb	04 03 52.6	+0.9
NRN	Naryn	2.53	26⇓	*e*P	Pn	04 03 18.0	-0.9
NRN				⇓*e*S	Sn	04 03 51.4	+1.0
ARLS	Aral	2.69	357⇑	*i*P	Pn	04 03 20.9	0.0
ARLS				⇑*i*S	Sb	04 03 57.0	-1.8
ARLS	Aral	2.69	357	*i* PN	Pn	04 03 20.9	0.0
ARLS				S	Sb	04 03 57.1	-1.8
BTK	Batken	2.98	288		Pb	04 03 28.2	-2.1
BTK	Batken	2.98	288⇑	*i*P	Pn	04 03 25.0	+0.2
BTK				⇑*i*S	Sb	04 04 03.5	-3.6
BTK	Batken	2.98	288	*i* PN	Pn	04 03 25.0	+0.2
BTK				S	Sb	04 04 04.8	-2.3
AML	Almayashu	3.02	349	P	Pb	04 03 29.4	-1.8
	SNR=56						
AML	Almayashu	3.02	349⇑	*i*P	Pn	04 03 26.0	+0.4
AML				⇑*i*S	Sb	04 04 06.2	-2.3
AML	Almayashu	3.02	349	*i* PN	Pn	04 03 26.0	+0.4
AML				S	Sb	04 04 06.2	-2.3
UCH	Uchtor	3.05	0	P	Pb	04 03 31.4	-0.4
	SNR=23						
UCH	Uchtor	3.05	0⇑	*i*P	Pn	04 03 25.9	-0.2
UCH				⇑*i*S	Sb	04 04 06.0	-3.5
UCH	Uchtor	3.05	0	*i* PN	Pn	04 03 25.9	-0.2
UCH				S	Sb	04 04 06.0	-3.5
ARK	Arkit	3.26	324⇑	*i*P	Pn	04 03 29.6	+0.9
ARK				⇑*i*S	Sb	04 04 11.8	-3.4
ARK	Arkit	3.26	324	*i* PN	Pn	04 03 29.6	+0.9
ARK				S	Sb	04 04 12.2	-3.0
GAR	Garm	3.26	268		Pn	04 03 30.7	+1.9
GAR	Garm	3.26	268⇑	*i*P	Pn	04 03 28.0	-0.8
GAR				⇑*i*S	Sn	04 04 09.8	+1.6
GAR	Garm	3.26	268	*i* PN	Pn	04 03 28.0	-0.8
GAR				S	Sn	04 04 09.8	+1.6
ULHL	Ulahol	3.34	23	P	Pn	04 03 32.5	+2.6
	SNR=7.5						
AAK	Ala-Archa	3.46	360		Pb	04 03 35.0	-3.6
AAK	Ala-Archa	3.46	360	Pn	Pb	04 03 36.0	-2.5
	14nm,0.3s,baz=169,slow=8.2,SNR=122						
AAK				Lg	Lg	04 04 28.7	
	8.7nm,0.3s,baz=94,slow=20,SNR=6.1						
	37nm,0.5s						
AAK	Ala-Archa	3.46	360	P	Pb	04 03 37.2	-1.3
	SNR=80						
AAK	Ala-Archa	3.46	360	⇑Pn	Pn	04 03 34.8	+3.3
	88nm,0.7s						
AAK				⇑Lg	Lg	04 04 28.0	
	314nm,1.1s						
AAK	Ala-Archa	3.46	360	⇓*i*P	Pn	04 03 31.5	0.0
AAK				⇓*i*S	Sn	04 04 15.9	+2.8
AAK	Ala-Archa	3.46	360	*i* PN	Pn	04 03 31.5	0.0
AAK				S	Sn	04 04 15.9	+2.8
TRKS	Terek-Say	3.48	314⇑	*i*P	Pn	04 03 32.0	+0.2
TRKS				⇑*i*S	Sn	04 04 15.3	+1.6
TRKS	Terek-Say	3.48	314	*i* PN	Pn	04 03 32.0	+0.2
TRKS				S	Sn	04 04 16.3	+2.6
BOOM	Boomskoye usch	3.49	18		Pn	04 03 34.7	+2.8
BOOM	Boomskoye usch	3.49	18⇑	*i*P	Pn	04 03 31.8	-0.1
BOOM				⇑*i*S	Sn	04 04 15.7	+1.9
BOOM	Boomskoye usch	3.49	18	*i* PN	Pn	04 03 31.1	-0.8
BOOM				S	Sn	04 04 15.9	+2.1
KBK	Karagaybulak	3.49	5	P	Pb	04 03 38.1	-1.1
	SNR=71						
KBK	Karagaybulak	3.49	5⇓	*i*P	Pn	04 03 31.8	-0.2
KBK				⇓*i*S	Sn	04 04 16.0	+2.0
KBK	Karagaybulak	3.49	5	*i* PN	Pn	04 03 31.8	-0.2
KBK				S	Sn	04 04 16.0	+2.0
EKS2	Erkin-Say	3.52	351	P	Pb	04 03 38.2	-1.4
	SNR=60						
TARG	Taragay, Kyrgy	3.58	44	Pn	Pn	04 03 36.1	+2.6
TARG	Taragay, Kyrgy	3.58	44	PN	Pn	04 03 36.1	+2.6
KDJ	Kajisay	3.59	34		Pb	04 03 37.1	-3.6
KDJ	Kajisay	3.59	34⇑	*e*P	Pn	04 03 32.5	-0.8
KDJ				⇑*e*S	Sn	04 04 16.5	+0.2
KDJ	Kajisay	3.59	34	PN	Pb	04 03 37.2	-3.6
FRU1	Bishkek	3.63	2		Pb	04 03 37.5	-3.9
FRU1	Bishkek	3.63	2	PN	Pb	04 03 37.6	-3.9
MNAS	Manas	3.64	336⇓	*e*P	Pn	04 03 35.3	+1.4
MNAS				⇓*e*S	Sn	04 04 20.8	+3.3
MRKS	Merke	3.69	345	*e*P	Pn	04 03 38.2	+3.6
	56nm,0.6s						
MRKS				*e*S	Sb	04 04 25.2	-2.6
	88nm,0.5s						
CHMS	Chumysh	3.82	3	P	Pb	04 03 41.4	-3.4
	SNR=16						
CHMS	Chumysh	3.82	3	⇑Pn	Pb	04 03 41.0	-3.8
	61nm,0.7s						
CHMS				⇑Lg	Lg	04 04 39.1	
	178nm,0.7s						
CHMS	Chumysh	3.82	3	PN	Pb	04 03 40.9	-3.8
TKM2	Tokmak 2	3.83	12	P	Pb	04 03 42.4	-2.6
	SNR=15						
TKM2	Tokmak 2	3.83	12	⇑Pn	Pn	04 03 39.8	+3.1
	89nm,0.7s						
TKM2				⇓Lg	Lg	04 04 37.7	
	158nm,0.8s						
TKM2	Tokmak

29nm,0.5s
KRBS Lg Lg 04 05 02.9
89nm,0.5s
KTBS Karatobe 4.82 19 Pg Pb 04 04 04.9 +3.2
81nm,0.6s
KTBS Lg Lg 04 05 10.2
141nm,0.7s
SATY Saty 4.87 36 Pg Pb 04 04 03.8 +1.2
108nm,1.0s
SATY Lg Lg 04 05 08.9
181nm,1.6s
KUU Kurty 4.91 16 Pg Pb 04 04 05.9 +2.7
5.1nm,0.4s
KUU Lg Lg 04 05 12.1
148nm,0.5s
KUU Kurty 4.91 16 *e*P **Pb 04 04 06.1 +2.9**
26nm,0.9s
KUU *e*S **Sg 04 05 12.9 -1.3**
148nm,0.3s
KK31 Karatay Array 4.95 324 Pn 04 03 54.4 +2.7
KK31 Karatay Array 4.95 324 ⇑Pn **Pn 04 03 54.5 +2.7**
4.2nm,0.3s,baz=126,slow=12,SNR=163
KK31 ⇓Pg **Pg 04 04 11.4 +0.1**
18nm,0.6s,baz=154,slow=13,SNR=4.7
KK31 ⇓Sn **Sn 04 04 53.9 +4.4**
52nm,0.8s
KK31 ⇑Lg Lg 04 05 18.9
39nm,0.6s
KK31 Karatay Array 4.95 324 PN **Pn 04 03 54.5 +2.7**
KK31 S **Sn 04 04 53.9 +4.4**
KKAR Karatay Array 4.95 324 Pn 04 03 54.4 +2.6
KKAR Karatay Array 4.95 324 Pn 04 03 54.1 +2.3
KKAR Karatay Array 4.95 324 PN **Pn 04 03 54.1 +2.3**
ZHN Zhinishke 4.97 35 Pg Pb 04 04 05.1 +0.8
24nm,0.8s
ZHN Lg Lg 04 05 11.3
46nm,0.4s
ZHN Zhinishke 4.97 35 *e*P **Pg 04 04 09.4 -2.4**
20nm,0.3s
ZHN *e*S **Sg 04 05 18.5 +2.3**
84nm,0.3s
CHKK Chushkaly 5.03 21 *e*P **Pb 04 04 09.2 +3.9**
28nm,0.4s
CHKK *e*S **Sg 04 05 17.8 -0.3**
25nm,0.1s
KURS Kuram 5.12 31 Pg Pb 04 04 09.8 +3.0
37nm,0.8s
KURS Lg Lg 04 05 19.0
74nm,0.7s
KURS Kuram 5.12 31 *e*P **Pb 04 04 09.2 +2.4**
28nm,0.4s
KURS *e*S **Sg 04 05 17.8 -3.0**
25nm,0.1s
BRLS Borolday 5.22 319 *e*P Pb 04 04 02.2 -6.3
5.1nm,0.1s
BRLS *e*S **Sb 04 05 06.1 -5.4**
35nm,0.6s
UZB Uzynbulak 5.23 39 Pg Pb 04 04 10.4 +1.6
69nm,0.8s
UZB Lg Lg 04 05 20.6
85nm,1.1s
UZB Uzynbulak 5.23 39 *e*P **Pg 04 04 15.2 -1.6**
30nm,0.4s
UZB *e*S **Sg 04 05 28.3 +3.8**
58nm,0.7s
KPKS Kokpek 5.32 35 *e*P Pn 04 03 51.9 -5.1
108nm,0.5s
KPKS *e*S Sn 04 04 48.5 -10
141nm,0.4s
SHLS Shalkode 5.46 42 Pg Pg 04 04 18.8 -2.4
64nm,0.5s
SHLS Lg Lg 04 05 34.4
91nm,0.8s
SHLS Shalkode 5.46 42 *e*P **Pg 04 04 24.1 +3.0**
86nm,0.4s
SHLS *e*S Sg 04 05 43.9 +12
96nm,0.6s
PDGK Podgornoye 5.60 41 ⇓Pn **Pn 04 04 02.2 +1.4**
18nm,0.6s
PDGK ⇑Pg **Pb 04 04 17.7 +2.7**
63nm,0.7s
PDGK ⇓Lg Lg 04 05 32.8
239nm,1.1s
PDGK Podgornoye 5.60 41 PN **Pn 04 04 02.0 +1.1**
NIL Nilore 5.61 191 Pn 04 04 02.2 +1.4
NIL Nilore 5.61 191 PN **Pn 04 04 02.3 +1.4**
BTLS Baital 5.87 357 *e*P **Pb 04 04 21.6 +2.0**
4.6nm,0.6s
BTLS *e*S **Sg 04 05 39.4 -5.7**
22nm,0.6s
KNOS Konyrlen 6.25 33 Pg Pb 04 04 29.0 +2.9
KNOS Lg Lg 04 05 52.3
KBL Kabul 6.37 225 Pn 04 04 18.4 +6.9
KBL Kabul 6.37 225 PN **Pn 04 04 18.4 +6.9**
MAKZ Makanchi 9.39 33 Pn 04 04 56.4 +3.7
MAKZ Makanchi 9.39 33 P **Pn 04 04 56.4 +3.7**
MK31 Makanchi Array 9.51 34 Pn **Pn 04 04 56.3 +1.9**
12nm,1.1s,baz=210,slow=14,SNR=30
MK31 ⇓Lg Lg 04 07 39.6
26nm,1.4s,baz=216,slow=27,SNR=4.2
MK31 Makanchi Array 9.51 34⇑*e*P **Pn 04 04 55.1 +0.7**
MKAR Makanchi Array 9.51 34 Pn 04 04 56.8 +2.4
MKAR Makanchi Array 9.51 34 Pn **Pn 04 04 56.6 +2.2**
0.3nm,0.3s,baz=207,slow=10,SNR=26
MKAR Lg Lg 04 07 40.4
0.1nm,0.3s,baz=210,slow=26,SNR=2.0
MKAR LR LR 04 09 03.4
comp=Z,131nm,21.3s,baz=212,slow=40
4.7nm,1.0s
KURBB Kurchatov Arra 11.79 13 Pn **Pn 04 05 26.1 +0.5**
baz=195,slow=14,SNR=9.6
KURBB Lg Lg 04 08 52.4
0.1nm,0.3s,baz=194,slow=33,SNR=15
KURBB LR LR 04 10 12.5
comp=Z,156nm,19.6s,baz=194,slow=38
1.3nm,0.7s
KURK Kurchatov 11.90 13⇑*e*P **Pn 04 05 30.5 +3.5**
KURK pmax pmax
comp=Z,5.0nm,1.7s
BVAR Borovoye Array 14.14 350 Pn **Pn 04 05 58.1 +0.4**
comp=Z,0.1nm,0.3s,baz=164,slow=12,SNR=14
BVAR Lg Lg 04 10 09.3
baz=167,slow=33,SNR=3.6
comp=Z,3.5nm,0.7s
BRVK Borovoye 14.19 350⇓*e*P **Pn 04 05 58.5 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
ABKAR Abkulak array 14.48 319 Pn 04 06 01.4 -0.9
ABKAR Abkulak array 14.48 319 Pn 04 06 01.2 -1.1
AKTO Aktyubinsk 16.19 319 Pn **Pn 04 06 25.2 +0.3**
comp=Z,0.6nm,0.3s,baz=119,slow=12,SNR=11
AKTO LR LR 04 13 11.9
comp=Z,52nm,21.6s,baz=202,slow=39
comp=Z,5.3nm,0.7s
ZALV Zalesovo Beam 16.36 22 Pn 04 06 26.5 -0.6
ZALV Zalesovo Beam 16.36 22 Pn **Pn 04 06 26.8 -0.3**
comp=Z,0.3nm,0.3s,baz=208,slow=13,SNR=7.7
ZALV Lg Lg 04 11 17.6
comp=Z,0.1nm,0.3s,baz=209,slow=32,SNR=1.1
ZALV LR LR 04 12 59.0
comp=Z,66nm,19.9s,baz=243,slow=38
comp=Z,1.1nm,0.3s
ZALV Zalesovo Beam 16.36 22 *i*P **Pn 04 06 26.7 -0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
SVE Sverdlovsk 19.88 337 *e*P **Pn 04 07 11.5 +1.1**
ARTI Arti 20.25 334 P Pn 04 07 14.9 +0.1
ARTI Arti 20.25 334 P Pn 04 07 14.2 -0.6
comp=Z,25nm,0.7s,baz=150,slow=6.9,SNR=40
comp=Z,25nm,0.7s
ARTI Arti 20.25 334*d i*P Pn 04 07 15.0 +0.2
ARTI 04 07 32.9
ARTI S Sn 04 11 03.3 +0.2
ARTI SS **SnSn 04 11 23.8 +6.3**
ARTI pmax pmax
comp=Z,24nm,0.7s
MAK Makhachkala 20.67 289 *e*P **P 04 07 17.1 -0.4**
MAK *e*S **S 04 11 07.5 -1.4**
MAK pmax pmax
comp=Z,90nm,1.3s
MAK MLR MLR
comp=Z,99nm,15.0s
WSAR Wadi Sarin 20.84 225 P **P 04 07 18.1 -1.5**
baz=50,slow=24,SNR=4.1
GNI Garni 22.89 282 LR LR 04 17 58.9
comp=Z,38nm,21.0s,baz=87,slow=40
KBZ Khabaz 24.04 291 P **P 04 07 54.2 +1.5**
comp=Z,1.8nm,0.9s,baz=138,slow=5.0,SNR=4.3
KBZ LR LR 04 19 04.2
comp=Z,46nm,20.6s,baz=89,slow=41
comp=Z,1.8nm,0.9s
KBZ Khabaz 24.04 291⇓*e*P **P 04 07 54.3 +1.5**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KARS Kars 24.09 284 P **P 04 07 56.8 +3.3**
KARS Kars 24.09 284 P **P 04 07 56.8 +3.3**
KARS pmax pmax
comp=Z,44nm,1.0s
KIV Kislovodsk 24.19 292 *e*P **P 04 07 53.2 -1.1**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,21nm,15.0s
SHA1 Shidzhatmaz 24.21 291⇑*e*P **P 04 07 56.9 +2.2**
SONM Songino Array 24.56 59 P **P 04 07 57.0 -0.7**
SONM Songino Array 24.56 59 P **P 04 07 57.5 -0.2**
comp=Z,2.0nm,0.7s,baz=260,slow=11,SNR=9.0
comp=Z,2.0nm,0.7s
ULN Ulaanbaatar 25.00 59 P **P 04 07 58.7 -3.0**
ULN IAmb IAmb 04 08 02.5
comp=Z,5.2nm,0.6s
ULN Ulaanbaatar 25.00 59*de*P **P 04 08 01.4 -0.3**
ULN pmax pmax
comp=Z,5.0nm,0.8s
KIRV Kirov 25.22 329 LR LR 04 18 37.8
comp=Z,129nm,20.3s,baz=122,slow=38
CMAR Chiang Mai Arr 29.58 127 LR LR 04 22 53.5
comp=Z,24nm,20.1s,baz=0.0,slow=41
NRIK Noril'sk 31.03 9⇑*e*P **P 04 08 57.1 +2.0**
NRIK pmax pmax
comp=Z,6.0nm,1.6s
BR131 Keskin Array S 31.37 284 P **P 04 09 00.9 +2.2**
BR131 IAmb IAmb 04 09 02.3
comp=Z,4.5nm,0.8s
BR131 Keskin Array S 31.37 284*d i*P **P 04 09 01.1 +2.5**
BRTR Keskin Array B 31.37 284 P **P 04 09 01.2 +2.5**
BRTR Keskin Array B 31.37 284 P **P 04 08 59.4 +0.7**
comp=Z,3.2nm,0.8s,baz=82,slow=9.0,SNR=5.6
comp=Z,3.2nm,0.8s
BRTR Keskin Array B 31.37 284 P **P 04 09 01.2 +2.5**
AKASG Malin Array Be 33.55 305 P **P 04 09 17.7 +0.2**
comp=Z,0.3nm,0.4s,baz=78,slow=7.4,SNR=6.8
AKASG LR LR 04 24 40.2
comp=Z,64nm,18.1s,baz=68,slow=39
comp=Z,0.3nm,0.4s
AKASG Malin Array Be 33.55 305 *i*P **P 04 09 19.1 +1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
EIL Elat 33.75 266 LR LR 04 24 55.9
comp=Z,49nm,20.3s,baz=72,slow=40
MLR Muntele Rosu 35.99 296 LR LR 04 26 40.4
comp=Z,59nm,19.3s,baz=31,slow=40
FINES FINESS Array B 36.91 323 P **P 04 09 46.2 0.0**
comp=Z,2.9nm,0.4s,baz=114,slow=9.7,SNR=20
comp=Z,2.9nm,0.4s
KOLS Kolonicke sedl 38.10 302 *e*P P 04 10 02.6 +6.0
KOLS Kolonicke sedl 38.10 302 *e*P P 04 10 02.6 +6.0
ARCES ARCESS Array B 39.80 336 P **P 04 10 09.7 -0.8**
comp=Z,9.0nm,0.7s,baz=108,slow=7.4,SNR=22
ARCES LR LR 04 28 49.7
comp=Z,25nm,21.8s,baz=212,slow=39
comp=Z,9.0nm,0.7s
LANS Liptovska Anna 39.91 303 P P 04 10 21.5 +10
VYHS Vyhne 40.41 302 *e*P **P 04 10 18.7 +2.8**
VYHS Vyhne 40.41 302 *e*P **P 04 10 18.7 +2.8**
SRO Srobarova 40.86 301 *e*P **P 04 10 22.9 +3.3**
SRO Srobarova 40.86 301 *e*P **P 04 10 22.9 +3.3**
KLR Kul'dur 41.34 57 P **P 04 10 22.6 -0.9**
comp=Z,1.0nm,0.6s,baz=272,slow=12,SNR=2.7
KLR LR LR 04 28 57.1
comp=Z,51nm,21.2s,baz=326,slow=38
comp=Z,1.0nm,0.6s
KSRS Korea Array 41.45 75 P **P 04 10 23.8 -0.7**
comp=Z,0.4nm,0.4s,baz=287,slow=7.3,SNR=2.1
KSRS LR LR 04 30 10.1
comp=Z,54nm,19.3s,baz=285,slow=40
comp=Z,0.4nm,0.4s
VRAC Vranov 41.76 304 LR LR 04 31 41.9
comp=Z,40nm,19.1s,baz=347,slow=42
RONA Rosalia, Austr 42.22 301 *i*P P 04 10 34.4 +3.6
comp=Z,2.2nm,1.0s
TIXI Tiksi 42.25 23⇑*e*P **P 04 10 32.1 +1.5**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
CONA Conrad Observa 42.47 302 *i*P **P 04 10 35.6 +2.7**
comp=Z,3.3nm,0.8s
HFS Hagfors 42.74 320 P **P 04 10 34.7 -0.1**
comp=Z,6.2nm,0.6s,baz=106,slow=8.4,SNR=18
comp=Z,6.2nm,0.6s
BRG Berggiesshubel 43.21 306 *e*P **P 04 10 38.9 +0.2**
BRG Amp 04 10 41.5
comp=Z,4.7nm,1.0s
BRG Berggiesshubel 43.21 306 P P 04 10 44.5 +5.8
BRG Amp 04 10 45.6
comp=Z,1.9nm,0.8s
SOKA Soboth 43.27 300 *i*P **P 04 10 41.9 +2.5**
comp=Z,4.8nm,1.0s
MOA Molln 43.54 302 *e*P **P 04 10 43.6 +2.2**
comp=Z,3.3nm,1.0s
OBKA Obir 43.63 300 *i*P **P 04 10 45.0 +2.7**
comp=Z,3.7nm,1.3s
GERES GERESS Array B 43.71 303 P **P 04 10 43.1 +0.2**
comp=Z,1.8nm,0.7s,baz=63,slow=8.5,SNR=13
comp=Z,1.8nm,0.7s
CLL Collm 43.73 307 P **P 04 10 43.3 +0.4**
CLL Collm 43.73 307 P **P 04 10 43.3 +0.4**
CLL pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 43.73 307 *e*P **P 04 10 43.0 +0.1**
comp=Z,4.0nm,0.7s
CLL *e*PP **PcP 04 12 26.0 -3.7**
CLL AMS AMS 04 29 00.0
comp=N,100nm,18.2s
CLL AMS AMS 04 29 00.0
comp=E,100nm,18.3s
KHC Kasperske Hory 43.74 304⇑*e*P **P 04 10 43.7 +0.6**
KHC pmax pmax
comp=Z,14nm,2.5s
NC303 NORSAR Array S 43.90 322 P **P 04 10 44.4 +0.3**
NC303 IAmb IAmb 04 10 48.0
comp=Z,8.8nm,0.8s
NB2 NORSAR Subarra 43.97 321 P **P 04 10 44.0 -0.8**
comp=Z,3.5nm,0.7s,baz=91,slow=8.6
NOA NORSAR Array B 43.97 321 P **P 04 10 44.4 -0.4**
comp=Z,2.9nm,0.7s,baz=91,slow=7.9,SNR=17
NOA LR LR 04 29 51.5
comp=Z,49nm,20.4s,baz=335,slow=37
comp=Z,2.9nm,0.7s
NC204 NORSAR Array S 44.19 322 P **P 04 10 46.2 -0.4**
NC204 IAmb IAmb 04 10 48.0
comp=Z,8.2nm,1.1s
LESA Schwarzleotal 44.68 302 *i*P **P 04 10 50.4 -0.3**
comp=Z,1.7nm,0.5s
ABTA Abfaltersbach 44.94 301 *i*P **P 04 10 52.8 0.0**
comp=Z,3.4nm,0.9s
JNU Nakatsue 45.30 79 LR LR 04 30 02.5
comp=Z,47nm,18.3s,baz=334,slow=36
JOW Kunigami 46.14 89 LR LR 04 31 25.1
comp=Z,57nm,18.3s,baz=110,slow=38
DAVA Damuels 46.55 302 *i*P **P 04 11 05.6 0.0**
comp=Z,2.4nm,0.5s
ASAJ Asahikawa 49.81 61 LR LR 04 33 24.2
comp=Z,44nm,19.6s,baz=122,slow=37
EKA Eskdalemuir Ar 52.32 315 P **P 04 11 49.8 +0.5**
comp=Z,2.4nm,0.7s,baz=89,slow=7.3,SNR=8.1
comp=Z,2.4nm,0.7s
ESDC Sonseca Array 58.66 298 P **P 04 12 34.6 -0.7**
comp=Z,1.3nm,0.9s,baz=58,slow=7.0,SNR=9.4
comp=Z,1.3nm,0.9s
D19K Kuna River 65.74 19 IAmb IAmb 04 13 24.3
comp=Z,3.9nm,0.8s
TOLK Toolik Lake Re 67.61 16 P **P 04 13 33.1 -1.2**
TOLK IAmb IAmb 04 13 36.2
comp=Z,3.7nm,0.7s
A36M Sachs Harbour 68.26 6 P **P 04 13 37.2 -1.0**
COLD Coldfoot 68.63 17 P **P 04 13 40.2 -0.3**
COLD IAmb IAmb 04 13 46.4
comp=Z,8.9nm,1.4s
INK Inuvik 70.79 11 P **P 04 13 53.0 -0.9**
INK IAmb IAmb 04 13 55.5
comp=Z,3.0nm,0.6s
INK Inuvik 70.79 11 P **P 04 13 53.0 -0.9**
INK pmax pmax
comp=Z,3.0nm,0.6s
ILAR Eielson Array 71.43 17 P **P 04 13 56.0 -1.8**
comp=Z,1.3nm,0.8s,baz=325,slow=5.6,SNR=14
comp=Z,1.3nm,0.8s
ILAR Eielson Array 71.43 17 P **P 04 13 56.0 -1.8**
YKA Yellowknife Ar 78.41 4 P **P 04 14 37.3 -0.9**
comp=Z,2.0nm,0.8s,baz=352,slow=5.4,SNR=34
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 81.14 125 P **P 04 14 53.2 -0.3**
comp=Z,0.9nm,0.8s,baz=319,slow=4.4,SNR=4.8
comp=Z,0.9nm,0.8s
WRA Warramunga Arr 81.14 125 *i*P **P 04 14 54.7 +1.1**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 83.59 127 P **P 04 15 03.5 -2.8**
comp=Z,0.7nm,0.9s,baz=318,slow=4.1,SNR=4.9
comp=Z,0.7nm,0.9s

KRSC 06 04:11:14.6±0.6, 55°.93N×164°.86E, h52km±13km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.96**	**139**	*e*P			Pn	04 11 34.0	+2.2
BKI				*e*S			Sn	04 11 46.6	+2.1
KBTR	**Krutoberegovo**	**1.18**	**285**	*e*P			Pn	04 11 35.4	+0.6
KBTR				*e*S			Sn	04 11 50.4	+0.7
ZLN	**Zelenaya**	**2.28**	**274**	*e*P			Pn	04 11 53.8	+3.9
BZGR	**Bezymyannyi-Gr**	**2.34**	**272**	*e*P			Pn	04 11 53.4	+2.7
KLY	**Klyuchi**	**2.39**	**281**	*e*P			Pn	04 11 53.1	+2.0
KLY				*e*S			Sn	04 12 19.5	+0.3
KRSR	**Krestovskiy**	**2.43**	**279**	*e*P			Pn	04 11 55.2	+3.4
KIRR	**Kirishev**	**2.54**	**272**	*e*P			Pn	04 11 56.6	+3.2
KIRR				*e*S			Sn	04 12 26.5	+3.3
KPT	**Kopyto**	**2.61**	**273**	*e*P			Pn	04 11 58.0	+3.6
KPT				*e*S			Sn	04 12 28.3	+3.5
KMNR	**Kamenistaya**	**2.61**	**268**	*e*P			Pn	04 11 57.8	+3.4
TUMD	**Tumrok D**	**2.64**	**256**	*e*P			Pn	04 11 57.4	+2.8
TUMD				*e*S			Sn	04 12 29.1	+3.7
OSSR	**Ossora**	**3.47**	**345**	*e*P			Pn	04 12 09.6	+3.7
OSSR				*e*S			Sn	04 12 48.4	+2.7
SDLR	**Sedlovina**	**4.37**	**235**	*e*P			Pn	04 12 21.5	+3.0
KRX	**Arik**	**4.43**	**237**	*e*P			Pn	04 12 23.4	+4.1
AVH	**Avacha**	**4.45**	**236**	*e*P			Pn	04 12 23.1	+3.6
KOK	**Koryaka**	**4.48**	**236**	*e*P			Pn	04 12 23.1	+3.2
GNL	**Ganaly**	**4.59**	**244**	*e*P			Pn	04 12 25.0	+3.6
DALK	**Dalny**	**4.59**	**233**	*e*P			Pn	04 12 24.2	+2.7
KRMR	**Karymshinskiy**	**5.01**	**234**	*e*P			Pn	04 12 31.0	+3.9

---

*IDC **06** 04:43:19.4±3.5, 24°.01S×179°.85E, h518km±27km, mb3.3/7, mbtmp4.1/9, Error ellipse: s-maj=49.4km s-min=19.9km az=143.0*

ISC 06 04:43:20.1±1.1, 23°.9S±0°.2×179°.9E±0°.2, h526km, n13, σ0§82/14, mb3.6/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.41**	**344**	P			**P**	**04 45 01.1**	**-0.6**
	7.6nm,0.4s,baz=289,slow=23,SNR=13								
MSVF				S			**S**	**04 46 24.7**	**+0.1**
	8.2nm,0.9s,baz=301,slow=23,SNR=1.7								
DZM	**Mont Dzumac**	**12.53**	**276**	P			**P**	**04 46 05.2**	**+0.9**
	8.5nm,1.0s,baz=74,slow=16,SNR=3.2								
ASAR	**Alice Springs**	**41.93**	**261**	P			**P**	**04 50 23.9**	**-0.9**
	1.1nm,0.7s,baz=98,slow=6.7,SNR=10								
	1.1nm,0.7s								
WRA	**Warramunga Arr**	**42.31**	**266**	P			**P**	**04 50 26.9**	**-0.9**
	1.9nm,0.4s,baz=97,slow=8.4,SNR=67								
	1.9nm,0.4s								
MJAR	**Matsushiro Arr**	**71.87**	**326**	P			**P**	**04 53 49.1**	**-0.6**
	1.9nm,0.7s,baz=141,slow=6.4,SNR=4.7								
	1.9nm,0.7s								
KSRS	**Korea Array**	**78.21**	**320**	P			**P**	**04 54 25.9**	**+0.7**
	0.9nm,0.6s,baz=126,slow=5.9,SNR=4.4								
	0.9nm,0.6s								
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P			**P**	**04 55 22.2**	**+0.9**
	1.0nm,0.3s,baz=120,slow=4.2,SNR=4.0								
	1.0nm,0.3s								
TXAR	**Lajitas Array**	**90.53**	**58**	P			**P**	**04 55 26.3**	**0.0**
	0.5nm,0.8s,baz=208,slow=7.2,SNR=6.4								
	0.5nm,0.8s								
ILAR	**Eielson Array**	**92.09**	**14**	P			**P**	**04 55 33.3**	**+0.9**
	0.6nm,1.0s,baz=196,slow=5.4,SNR=2.6								
	0.6nm,1.0s								
HFS	**Hagfors**	**142.56**	**349**	PKhKP			PKPpre	05 01 48.6	
	2.0nm,0.5s,baz=67,slow=5.0,SNR=13								
AKASG	**Malin Array Be**	**144.95**	**327**	PKP			**PKPdf**	**05 01 56.5**	**-0.6**
	0.5nm,0.3s,baz=49,slow=3.5,SNR=9.0								
BRTR	**Keskin Array B**	**147.52**	**307**	PKPbc			**PKPbc**	**05 02 04.2**	**-1.2**
	1.0nm,0.7s,baz=81,slow=3.4,SNR=6.2								
BRTR				PKPab			**PKPab**	**05 02 08.9**	**-0.4**
	1.0nm,0.7s,baz=70,slow=4.1,SNR=5.9								
MMAI	**Mount Meron Ar**	**147.63**	**294**	PKPbc			**PKPbc**	**05 02 06.2**	**+0.4**
	1.7nm,0.5s,baz=98,slow=3.1,SNR=5.6								

---

*NEIC **06** 04:44:25.6±1.2, 45°.34N±0°.08×0°.2W±0°.2, h8km±8km, ML3.2/8, Error ellipse: s-maj=17.3km s-min=9.5km az=113.0*

*STR **06** 04:44:26.9±0.2, 45°N±2°×±°, h3km, MLv3.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=80.4, preliminary*

*LDG **06** 04:44:27.0±0.1, 45°.36N×0°.12W, h5km, Md3.3/1, Ml3.5/50, Error ellipse: s-maj=1.3km s-min=1.0km az=96.0*

ISC 06 04:44:24.7±1.1, 45°.37N±0°.01×0°.11W±0°.02, h9km±9km, n129, σ1§48/213, 9D, France

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LRVF	**chteau la Riv**	**0.44**	**199**	Pg			**Pb**	**04 44 35.3**	**+0.6**
LRVF				Sg			**Sb**	**04 44 41.4**	**0.0**
LFF	**La Frestale**	**0.73**	**125**	*e*Pg			**Pb**	**04 44 40.2**	**+0.5**
LFF	**La Frestale**	**0.73**	**125**	*e*Pn			**Pn**	**04 44 42.0**	**+0.7**
LFF				*e*Sg			**Sb**	**04 44 50.3**	**+0.5**
LFF				*e*Sn			**Sn**	**04 44 52.9**	**+0.4**
	411nm,0.3s								
CHIF	**Chize**	**0.80**	**345**	Pg			**Pn**	**04 44 42.4**	**+0.3**
CHIF				Sg			**Sb**	**04 44 53.2**	**+1.6**
UNIO	**Chateau-d'Oler**	**0.94**	**305**	Pg			**Pn**	**04 44 44.9**	**+0.9**
UNIO				Sg			**Sn**	**04 44 59.0**	**+1.5**
SDOF	**Saint-Denis-d'**	**1.14**	**307**	Pg			**Pn**	**04 44 48.7**	**+1.9**
SDOF				Sg			**Sn**	**04 45 04.7**	**+2.2**
RJF	**Les Rejaudoux**	**1.15**	**93**	*e*Pg			**Pn**	**04 44 48.1**	**+1.2**
RJF				*e*Sg			**Sb**	**04 45 02.6**	**+1.0**
	895nm,0.3s								
MFF	**Saint Martin d**	**1.24**	**359**	*e*Pg			**Pn**	**04 44 50.1**	**+1.9**
MFF	**Saint Martin d**	**1.24**	**359**	*e*PKP1			**Pn**	**04 44 50.7**	**+2.5**
MFF				*e*Sg			**Sn**	**04 45 05.8**	**+0.9**
	940nm,0.4s								
MFF	**Saint Martin d**	**1.24**	**359**	Pg			**Pn**	**04 44 50.8**	**+2.6**
MFF	**Saint Martin d**	**1.24**	**359**	Sg			**Sn**	**04 45 07.0**	**+2.0**
MONQ	**Montcuq**	**1.36**	**137**	Pn			**Pg**	**04 44 51.1**	**+0.3**
MONQ				Sn			**Sn**	**04 45 10.2**	**+2.2**
CAF	**Calviac**	**1.60**	**105**	*e*Pn			**Pn**	**04 44 54.0**	**+0.8**
CAF	**Calviac**	**1.60**	**105**	*e*Pg			**Pg**	**04 44 56.4**	**+1.0**
CAF				*e*Sg			**Sg**	**04 45 17.6**	**+1.5**
	177nm,0.2s								
CRAS	**Crastes**	**1.75**	**160**	Pn			**Pb**	**04 44 56.6**	**-0.3**
CRAS				Sn			**Sg**	**04 45 20.5**	**-0.5**
TERF	**Tercis-les-Bai**	**1.84**	**203**	Pn			**Pb**	**04 44 58.0**	**-0.4**
TERF				Sn			**Sg**	**04 45 23.8**	**+0.1**
VERF	**Verneugheol**	**1.86**	**77**	Pn			**Pn**	**04 44 58.4**	**+1.6**
VERF				Sn			**Sb**	**04 45 22.9**	**+0.7**
TCF	**Toulx Ste Croi**	**1.86**	**60**	*e*Pn			**Pn**	**04 44 58.4**	**+1.6**
TCF	**Toulx Ste Croi**	**1.86**	**60**	*e*Pg			**Pg**	**04 45 01.4**	**+1.0**
TCF				*e*Sg			**Sg**	**04 45 25.4**	**+0.8**
	138nm,0.3s								
FRNF	**Fournols**	**1.88**	**88**	Pn			**Pn**	**04 44 58.6**	**+1.6**
FRNF				Sn			**Sn**	**04 45 22.8**	**+1.9**
LEUC	**Leucamp**	**1.98**	**107**	Pn			**Pn**	**04 45 00.1**	**+1.7**
LEUC				Sn			**Sb**	**04 45 25.9**	**+0.2**
ORDF	**Ordiarp**	**2.23**	**196**	Pn			**Pn**	**04 45 02.8**	**+1.0**
ORDF				Sn			**Sb**	**04 45 33.4**	**+0.4**
OSSF	**Osses**	**2.27**	**202**	Pn			**Pn**	**04 45 03.1**	**+0.7**
OSSF				Sn			**Sb**	**04 45 34.3**	**+0.3**
PYLO	**Lourdes**	**2.27**	**179**	Pn			**Pn**	**04 45 03.8**	**+1.5**
PYLO				Sn			**Sb**	**04 45 34.1**	**+0.1**
REYF	**Montagne du Re**	**2.31**	**185**	Pn			**Pn**	**04 45 04.8**	**+1.9**
REYF				Sn			**Sb**	**04 45 35.2**	**+0.1**
ATE	**Arette**	**2.32**	**191**	Pn			**Pn**	**04 45 03.6**	**+0.5**
LABF	**Labassere**	**2.32**	**177**	Pn			**Pn**	**04 45 03.8**	**+0.6**
EPF	**Esparros**	**2.36**	**172**	*e*Pn			**Pn**	**04 45 04.1**	**+0.5**
EPF	**Esparros**	**2.36**	**172**	*e*Pg			**Pg**	**04 45 10.3**	**+0.4**
EPF				*e*Sg			**Sg**	**04 45 41.0**	**+0.5**

90nm,0.2s
AGO Saint Aguolin 2.37 72 Pn **Pn 04 45 05.5 +1.7**
LBL Lubilhac 2.37 92 Pn **Pn 04 45 05.0 +1.2**
EALK Alkurruntz 2.37 206 Pn **Pn 04 45 05.7 +1.9**
BGF Bois d'Agland 2.38 59 *e*Pn **Pn 04 45 05.0 +1.1**
BGF Bois d'Agland 2.38 59 *e*Pg **Pg 04 45 11.6 +1.3**
BGF *e*Sg **Sg 04 45 40.7 -0.4**
369nm,0.4s
SJPF Ste Jean 2.39 200 *e*Pn **Pn 04 45 04.0 -0.1**
SJPF Ste Jean 2.39 200 *e*Pg **Pg 04 45 10.0 -0.6**
SJPF *e*Sn **Sn 04 45 31.0 -2.5**
SJPF *e*Sg **Sg 04 45 41.0 -0.6**
63nm,0.3s
TSDF Thoir-sur-Di 2.41 9 Pn **Pn 04 45 06.2 +1.9**
IRAF Chalets d'Irat 2.43 196 Pn **Pn 04 45 05.1 +0.4**
VIEF Viey 2.48 178 Pn **Pn 04 45 07.1 +1.7**
ETSF Etsaut 2.49 188 *e*Pn **Pn 04 45 05.5 0.0**
ETSF Etsaut 2.49 188 *e*Pg **Pg 04 45 12.2 -0.2**
ETSF *e*Sn **Sn 04 45 35.0 -1.0**
ETSF *e*Sg **Sg 04 45 43.1 -1.6**
76nm,0.4s
MLS Moulis 2.56 160 Pn **Pn 04 45 07.8 +1.5**
MELF Melles 2.57 166 Pn **Pn 04 45 07.4 +0.8**
CANF Canfranc 2.62 187 Pn **Pn 04 45 08.5 +1.2**
MTLF Montolieu 2.62 140 *e*Pn **Pn 04 45 08.5 +1.3**
MTLF Montolieu 2.62 140 *e*Pg **Pg 04 45 14.8 -0.2**
MTLF *e*Sn **Sn 04 45 38.5 -0.7**
MTLF *e*Sg **Sg 04 45 49.1 +0.1**
48nm,0.3s
MTLF Montolieu 2.62 140 Pn **Pn 04 45 08.6 +1.4**
PLDF La Plantade 2.68 76 Pn **Pn 04 45 09.6 +1.5**
HYF Humbligny 2.69 44 *e*Pn **Pn 04 45 09.9 +1.7**
HYF Humbligny 2.69 44 *e*Pg **Pg 04 45 16.5 +0.2**
HYF *e*Sg **Sg 04 45 52.7 +1.6**
ECHI Chisagues Biel 2.71 175 Pn **Pn 04 45 10.3 +1.7**
DUNF Dun 2.72 149 Pn **Pn 04 45 10.0 +1.5**
SALF Salau 2.77 160 Pn **Pn 04 45 10.4 +1.1**
AVF Avril sur Loir 2.80 58 *e*Pn **Pn 04 45 10.6 +1.0**
AVF Avril sur Loir 2.80 58 *e*Pg **Pg 04 45 17.6 -0.7**
AVF *e*Sn **Sn 04 45 42.8 -0.6**
AVF *e*Sg **Sg 04 45 54.0 -0.5**
69nm,0.4s
EARA Aranguren 2.80 203 Pn **Pn 04 45 10.9 +1.2**
FNEB Nbias 2.93 146 Pn **Pn 04 45 12.6 +1.1**
CEST Esterri de Car 2.94 160 Pn **Pn 04 45 12.7 +1.0**
SSF Saint Saulge 3.03 55 *e*Pn **Pn 04 45 14.0 +1.2**
SSF Saint Saulge 3.03 55 *e*Pg **Pg 04 45 23.0 +0.3**
SSF *e*Sn **Sn 04 45 47.7 -1.4**
SSF *e*Sg **Sg 04 46 01.7 -0.2**
41nm,0.3s
SMF Signal de Mont 3.03 64 *e*Pn **Pn 04 45 13.9 +1.0**
SMF Signal de Mont 3.03 64 *e*PKP1 **Pb 04 45 16.6 -2.3**
SMF Signal de Mont 3.03 64 *e*Pg **Pg 04 45 22.9 +0.1**
SMF *e*Sn **Sn 04 45 48.2 -1.1**
SMF *e*Sg **Sg 04 46 02.3 +0.2**
73nm,0.5s
GRR Gorron 3.07 351 *e*Pn **Pn 04 45 14.3 +1.0**
GRR Gorron 3.07 351 *e*PKP1 **Pn 04 45 16.4 +3.1**
GRR Gorron 3.07 351 *e*Pg **Pg 04 45 23.1 -0.4**
GRR *e*Sn **Sn 04 45 49.5 -0.6**
GRR *e*Sg **Sg 04 46 03.7 +0.5**
88nm,0.2s
PAND Andorre 3.08 157 Pn **Pn 04 45 13.8 +0.1**
CARF Carcanieres 3.09 148 Pn **Pn 04 45 14.8 +1.0**
CARF Sn **Sn 04 45 54.6 +3.7**
LASF Ste Croix 3.10 113 *e*Pn **Pn 04 45 15.6 +1.7**
LASF Ste Croix 3.10 113 *e*Pg **Pg 04 45 24.9 +0.7**
LASF *e*Sn **Sn 04 45 51.6 +0.5**
LASF *e*Sg **Sg 04 46 03.9 -0.5**
54nm,0.4s
CLF Chambon-Foret 3.12 31 Pn **Pn 04 45 15.9 +1.9**
CLF IAML 04 46 10.0
comp=N,94nm,0.6s
CLF IAML 04 46 10.7
comp=E,119nm,0.6s
LDF La Druitiere 3.23 360 *e*Pn **Pn 04 45 16.5 +1.0**
LDF La Druitiere 3.23 360 *e*Pg **Pg 04 45 26.2 -0.4**
LDF *e*Sn **Sn 04 45 53.4 -0.7**
LDF *e*Sg **Sg 04 46 08.6 +0.2**
comp=E,69nm,0.3s
SSB Saint Sauveur 3.28 90 Pn **Pn 04 45 18.1 +1.8**
SSB IAML 04 46 13.1
comp=N,45nm,0.6s
QUIF Quistinic 3.31 322 *e*Pn **Pn 04 45 18.5 +1.9**
QUIF Quistinic 3.31 322 *e*Pg **Pg 04 45 27.1 -1.0**
QUIF *e*Sg **Sg 04 46 09.5 -1.5**
comp=N,40nm,0.2s
LOR Lormes 3.34 54 *e*Pn **Pn 04 45 18.0 +0.9**
baz=237
LOR Lormes 3.34 54 *e*Pg **Pg 04 45 28.6 -0.1**
baz=235
LOR *e*Sn **Sn 04 45 56.0 -0.9**
LOR *e*Sg **Sg 04 46 11.6 -0.4**
comp=N,34nm,0.3s
SGMF Saint Gilles 3.34 331 *e*Pn **Pn 04 45 19.3 +2.2**
SGMF Saint Gilles 3.34 331 *e*Pg **Pg 04 45 28.5 -0.3**
SGMF *e*Sg **Sg 04 46 10.7 -1.4**
comp=N,61nm,0.4s
FLN La Foliniere 3.41 356 *e*Pn **Pn 04 45 19.3 +1.3**
baz=176
FLN La Foliniere 3.41 356 *e*Pg **Pg 04 45 29.2 -0.8**
baz=176
FLN *e*Sn **Sn 04 45 58.0 -0.5**
FLN *e*Sg **Sg 04 46 13.3 -0.8**
comp=N,65nm,0.3s
VIVF Saint-Julien-l 3.42 97 *e*Pn **Pn 04 45 20.3 +2.1**
VIVF Saint-Julien-l 3.42 97 *e*Pg **Pg 04 45 30.1 -0.2**
VIVF *e*Sn **Sn 04 46 00.2 +1.3**
VIVF *e*Sg **Sg 04 46 14.4 -0.2**
comp=N,25nm,0.2s
ROSF Rostrenen 3.68 325 *e*Pn **Pn 04 45 23.4 +1.6**
ROSF Rostrenen 3.68 325 *e*Pg **Pg 04 45 33.9 -1.3**
ROSF *e*Sg **Sg 04 46 21.4 -1.5**
comp=N,55nm,0.4s
ORIF Oris-en-Rattie 4.26 94 *e*Pn **Pn 04 45 31.4 +1.6**
ORIF Oris-en-Rattie 4.26 94 *e*Pg **Pg 04 45 46.6 +0.3**
ORIF *e*Sn **Sn 04 46 18.9 -0.7**
ORIF *e*Sg **Sg 04 46 39.5 -1.9**
comp=N,3.5nm,0.3s
SMRF Simiane la Rot 4.28 107 *e*Pn **Pn 04 45 30.6 +0.5**
SMRF Simiane la Rot 4.28 107 *e*Pg **Pg 04 45 45.7 -1.1**
SMRF *e*Sn **Sn 04 46 16.5 -3.7**
SMRF *e*Sg **Sg 04 46 42.8 +0.6**
comp=N,3.0nm,0.3s
CABF La Chapelle 4.49 72 *e*Pn **Pn 04 45 34.3 +1.3**
CABF La Chapelle 4.49 72 *e*Pg **Pg 04 45 51.2 +0.4**
CABF *e*Sn **Sn 04 46 22.9 -2.5**
CABF *e*Sg **Sg 04 46 49.2 +0.3**
comp=N,14nm,0.4s
SFTF Sexfontaines 4.53 49 *e*Pn **Pn 04 45 34.7 +1.2**
SFTF Sexfontaines 4.53 49 *e*Pg **Pg 04 45 50.5 -1.0**
baz=234
SFTF *e*Sn **Sn 04 46 23.8 -2.4**
SFTF *e*Sg **Sg 04 46 50.1 -0.1**
comp=N,83nm,0.3s
MEZF Maizieres J'vi 4.72 47 *e*Pn **Pn 04 45 36.8 +0.7**
MEZF Maizieres J'vi 4.72 47 *e*Pg **Pg 04 45 54.3 -0.9**
baz=233
MEZF *e*Sn **Sn 04 46 28.3 -2.6**
MEZF *e*Sg **Sg 04 46 56.0 -0.3**
comp=N,16nm,0.3s
BNI Bardonecchia 4.80 91 Pn **Pn 04 45 37.2 -0.1**
BNI IAML 04 47 22.6
comp=E,10nm,2.9s
LPL La Plagne 4.81 86 *e*Pg **Pg 04 45 55.7 -1.2**
LPL *e*Sg **Sg 04 46 58.7 -0.6**
comp=E,6.5nm,0.5s
LPG La Plagne 4.83 86 *e*Pn **Pn 04 45 40.9 +3.1**
LPG La Plagne 4.83 86 *e*Pg **Pg 04 45 57.9 +0.7**
LPG *e*Sn **Sn 04 46 33.9 0.0**
LPG *e*Sg **Sg 04 46 58.3 -1.4**
comp=E,4.6nm,0.3s
SAVF Savonnieres en 4.83 46 *e*Pn **Pn 04 45 38.6 +1.0**
SAVF Savonnieres en 4.83 46 *e*Pg **Pg 04 45 55.2 -2.1**
SAVF Savonnieres en 4.83 46 *e*Pg **Pg 04 45 56.4 -0.9**
SAVF *e*Sg **Sg 04 47 00.0 +0.2**
comp=E,34nm,0.7s
SAVF *e*Sg Sb 04 47 00.2 +13
comp=E,5.9nm,0.3s
MBDF Montbardon 4.92 95 *e*Pn **Pn 04 45 41.1 +2.2**
MBDF Montbardon 4.92 95 *e*Pg **Pg 04 46 01.9 +3.0**
MBDF *e*Sg **Sg 04 47 02.3 -0.2**
comp=E,0.8nm,0.2s
PAGF Fort de Pagny 5.11 49 *e*Pn **Pn 04 45 42.7 +1.3**
PAGF Fort de Pagny 5.11 49 *e*Pg **Pg 04 46 02.2 -0.3**
PAGF *e*Sn **Sn 04 46 37.1 -3.3**
PAGF *e*Sg **Sg 04 47 07.8 -0.9**
comp=E,14nm,0.4s
LMR La Mourre 5.16 111 *e*Pn **Pn 04 45 42.3 +0.2**
LMR *e*Sn **Sn 04 46 39.0 -2.7**
LMR *e*Sg **Sg 04 47 08.9 -1.4**
comp=E,1.7nm,0.2s
HAU Haudompre 5.17 57 *e*Pn **Pn 04 45 42.4 +0.2**
HAU Haudompre 5.17 57 *e*Pg **Pg 04 46 02.2 -1.4**
HAU *e*Sn **Sn 04 46 39.1 -2.8**
HAU *e*Sg **Sg 04 47 09.5 -1.0**
comp=E,19nm,0.4s
SENIN Lac Senin/Sane 5.27 76 Pn **Pn 04 45 45.1 +1.4**
HINF Hinterlalfeld 5.38 60 *e*Pn **Pn 04 45 46.1 +0.9**
HINF Hinterlalfeld 5.38 60 *e*Pg **Pg 04 46 06.8 -1.0**
HINF *e*Sn **Sn 04 46 44.7 -2.6**
HINF *e*Sg **Sg 04 47 14.3 -3.2**
comp=E,12nm,0.4s
BAIF Baives 5.52 30 *e*Pn **Pn 04 45 48.1 +1.1**
BAIF Baives 5.52 30 *e*Pg **Pg 04 46 10.5 0.0**
BAIF *e*Sn **Sn 04 46 47.9 -2.7**
BAIF *e*Sg **Sg 04 47 21.3 -0.6**
comp=E,5.1nm,0.5s
SBF Sospel 5.59 103 *e*Sn **Sn 04 46 49.4 -3.0**
comp=E,5.8nm,0.3s
DOU Dourbes 5.69 32 *d*P **Pn 04 45 51.1 +1.7**
ECH Echery 5.74 58 Pn **Pn 04 45 51.2 +1.1**
GIVF Givet 5.79 33 *e*Pn **Pn 04 45 52.4 +1.7**
GIVF *e*Sn **Sn 04 46 53.4 -3.7**
comp=E,6.9nm,0.5s
CDF Champ du Feu 5.90 56 *e*Pg **Pg 04 46 18.2 +0.4**
CDF *e*Sn **Sn 04 46 57.2 -3.0**
CDF *e*Sg **Sg 04 47 33.5 -0.7**
comp=E,11nm,0.5s
BMRD Maredsous 5.93 32 *d*P **Pn 04 45 54.9 +2.3**
BMRD *d*S **Sn 04 47 01.9 +1.3**
RCHB Rochefort 5.99 35 *d*P **Pn 04 45 55.0 +1.6**
RCHB *d*S **Sn 04 47 03.2 +1.2**
WLF Walferdange 6.04 42 *d*P **Pn 04 45 58.8 +4.7**
WLF *d*S **Sn 04 47 04.4 +1.2**
BCLA Clavier 6.23 34 *d*P **Pn 04 45 58.6 +2.0**
BCLA *d*S **Sn 04 47 07.9 0.0**
ESBB Sonseca Array 6.36 208 Pn **Pn 04 45 58.6 -0.1**
ESDC Sonseca Array 6.36 208 Pn **Pn 04 45 58.3 -0.3**
PAB San Pablo 6.61 210 Pn **Pn 04 46 02.3 +0.2**
TUE Stuetta 6.69 77 Pn **Pn 04 46 05.0 +1.8**
PGF Pioggiola 7.15 110 *e*Pn **Pn 04 46 10.2 +0.7**
PGF *e*Sn **Sn 04 47 26.2 -4.6**
comp=E,1.8nm,0.4s

*SEA **06** 04:55:02.9±1.2, 48°.60N±0°.01×123°.08W±0°.02, h13km±3km, ML2.9/21, ML2.6/16(NEIC), Error ellipse: s-maj=2.2km s-min=1.8km az=72.0*
*NEIC **06** 04:55:02.5±2.0, 48°.58N±0°.01×123°.11W±0°.02, h10km±1km, Error ellipse: s-maj=2.8km s-min=2.2km az=359.0*
PNSN 06 04:55:02.9, 48°.60N×123°.08W, h13km, MD2.9, Fault plane solution: NP1:ϕ_s30.00000°, δ65.00000°, λ70.00000°., **Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWFH	**University of**	**0.07**	**141**		Pg	04 55 07.0	+1.4
MCW	**Mount Constitu**	**0.18**	**64**		Pg	04 55 06.8	-0.4
SNB	**Saturna Island**	**0.18**	**341**		Pg	04 55 07.1	-0.1
SNB					Sg	04 55 10.3	+0.2
VGZ	**Gonzales**	**0.25**	**221**		Pg	04 55 07.7	-0.5
VGZ					Sg	04 55 11.3	-0.4
B011	**North Saanich**	**0.25**	**281**		Pg	04 55 07.8	-0.5
B011					Sg	04 55 11.4	-0.4
PGC	**Sidney**	**0.25**	**281**		Pg	04 55 07.8	-0.4
PGC					Sg	04 55 11.6	-0.2
PGC	**Sidney**	**0.25**	**281**	IAML		04 55 11.8	
comp=N,3μm,0.4s							
PGC				IAML		04 55 12.0	
comp=E,676nm,0.4s							
A04D	**Lummi Island**	**0.28**	**64**		Pg	04 55 08.1	-0.6
A04D	**Lummi Island**	**0.28**	**64**	IAML		04 55 13.9	
comp=E,1μm,0.3s							
A04D				IAML		04 55 14.8	
comp=N,2μm,0.3s							
ERW	**Mount Erie**	**0.34**	**116**		Pg	04 55 09.3	-0.5
SVOH	**Skagit Valley**	**0.43**	**136**		Pg	04 55 10.9	-0.6
GOBB	**Galiano Island**	**0.45**	**321**		Pg	04 55 11.2	-0.6
SYMB	**Survey Mountai**	**0.48**	**265**		Pg	04 55 11.4	-1.0
SQM	**Sequim**	**0.53**	**178**		Pg	04 55 12.8	-0.5
STW	**Striped Peak**	**0.60**	**221**		Pg	04 55 13.7	-0.9
STW					Sg	04 55 22.0	-0.5
B926	**Mesachie Lake**	**0.73**	**288**		Pg	04 55 15.4	-1.7
CLRS	**Cowichan Lake**	**0.73**	**288**		Pg	04 55 15.4	-1.7
CLRS	**Cowichan Lake**	**0.73**	**288**	IAML		04 55 25.7	
comp=N,360nm,0.4s							
B013	**Quilcene**	**0.80**	**172**		Pg	04 55 16.6	-1.7
B013					Sg	04 55 27.9	-0.9
MBW	**Mount Baker**	**0.80**	**76**		Pg	04 55 17.7	-0.9
JCW	**Jim Creek**	**0.87**	**118**		Pg	04 55 18.1	-1.6
NLLB	**Nanaimo Lost L**	**0.87**	**317**		Pg	04 55 17.7	-2.0
NLLB					Sg	04 55 29.2	-1.9
OBC	**Olympics--Boni**	**0.87**	**230**		Pg	04 55 18.4	-1.4
C04A	**Brinnon**	**0.89**	**175**		Pg	04 55 18.1	-2.0
P403	**Sandy Floe Qua**	**0.89**	**233**		Pg	04 55 18.3	-1.8
HDW	**Hoodsport**	**0.95**	**179**		Pb	04 55 19.2	-2.1
GNW	**Green Mountain**	**1.05**	**171**		Pb	04 55 20.8	-2.2
GNW	**Green Mountain**	**1.05**	**171**	IAML		04 55 35.8	
comp=E,130nm,0.2s							
GMW	**Gold Mountain**	**1.07**	**169**		Pb	04 55 21.1	-2.2
NLWA	**Neilton Lookou**	**1.32**	**204**		Pn	04 55 26.6	-0.5
NLWA				IAML		04 55 46.9	
comp=E,90nm,0.3s							
NLWA				IAML		04 55 47.1	
comp=E,113nm,0.4s							
D05A	**Enumclaw**	**1.59**	**152**		Pn	04 55 29.9	-0.8
D05A				IAML		04 55 55.0	
comp=E,66nm,0.6s							
D05A				IAML		04 55 56.4	
comp=N,86nm,0.4s							
LON	**Longmire**	**2.04**	**155**		Pn	04 55 36.8	-0.2
LTY	**Liberty**	**2.10**	**129**		Pn	04 55 38.5	+0.6
LTY				IAML		04 56 15.1	
comp=E,37nm,0.5s							
MXC	**Moxie City**	**2.77**	**136**		Pn	04 55 48.4	+1.5

*MOS **06** 05:05:00.8±1.6, 46°.09N×152°.69E, h51km, mb4.1/2, Error ellipse: s-maj=18.7km s-min=9.3km az=144.9*
*SKHL **06** 05:05:01.0±0.6, 46°.10N×152°.80E, h59km±8km, mb4.9/4*
*IDC **06** 05:05:05.1±3.5, 46°.33N×152°.50E, h71km±31km, mb3.1/7, mbtmp3.5/9, ML3.5/2, Error ellipse: s-maj=48.5km s-min=19.9km az=156.0*
ISC 06 05:05:01.6±1.0, 46°.2N±0°.1×152°.6E±0°.1, h41km, n40, σ1°.**73**/35, **mb3.5/7, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.47**	**255**	*e*PN	Pn	05 05 55.9	+2.9
KUR				*e*S	**Sn**	**05 06 36.1**	**+3.3**
KUR				pmax	pmax		
comp=Z,296nm,0.2s							
KUR				smax	smax		
comp=N,150nm,0.4s							
KUR				smax	smax		
comp=E,67nm,0.4s							
KUR	**Kuril'sk**	**3.47**	**255**	*i* P	**Pn**	**05 05 54.9**	**+1.9**
KUR				AMB	AMB	05 05 56.1	
comp=E,200nm,0.4s							
KUR				*e*S	**Sn**	**05 06 32.5**	**-0.3**
KUR				A	A	05 06 38.2	
comp=E,100nm,0.2s							
KUR				A	A	05 06 38.2	
comp=E,70nm,0.2s							
SHO	**Shikotan**	**4.73**	**242**	*e*PN	**Pn**	**05 06 10.6**	**+0.3**
SHO				*e*S	**Sn**	**05 07 04.8**	**+1.0**
SHO				pmax	pmax		
comp=Z,56nm,0.3s							
SHO				pmax	pmax		
comp=N,10.0nm,0.2s							
SHO				pmax	pmax		
comp=E,21nm,0.2s							
SHO				smax	smax		
comp=N,55nm,0.3s							
SHO				smax	smax		
comp=E,30nm,0.2s							
SHO	**Shikotan**	**4.73**	**242**	*e*P	**Pn**	**05 06 10.6**	**+0.3**
SHO				AMB	AMB	05 06 10.9	
comp=E,50nm,0.4s							
SHO				*e*S	**Sn**	**05 07 02.3**	**-1.5**
SHO				A	A	05 07 05.2	
comp=E,40nm,0.2s							
SHO				A	A	05 07 05.2	
comp=E,40nm,0.2s							
SKR	**Severo-Kuril's**	**5.02**	**26**	*e*P	**Pn**	**05 06 13.9**	**-0.4**
SKR				*e*S	**Sn**	**05 07 10.6**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**5.26**	**248**	*e*PN	**Pn**	**05 06 17.6**	**+0.1**
YUK				pmax	pmax		
comp=N,159nm,0.2s							
YUK				pmax	pmax		
comp=E,167nm,0.2s							
YUK				pmax	pmax		
comp=Z,406nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**5.26**	**248**	*e*P	**Pn**	**05 06 18.5**	**+1.0**
YUK				AMB	AMB	05 06 20.5	
comp=Z,100nm,0.5s							
YUK				*e*S	**Sn**	**05 07 17.1**	**+0.3**
YUK				A	A	05 07 17.4	
comp=Z,90nm,0.2s							
YUK				A	A	05 07 17.4	
comp=Z,70nm,0.2s							
RUSJ	**Misakicho**	**5.62**	**250**	PN	Pn	05 06 26.0	+3.4
NMR	**Nemuro--Hokkai**	**5.67**	**242**	⇓*i* PN	**Pn**	**05 06 23.0**	**-0.2**
NMR	**Nemuro--Hokkai**	**5.67**	**242**	*i* P	**Pn**	**05 06 23.1**	**-0.2**
NMR				*e*S	**Sn**	**05 07 25.0**	**-2.1**
PAU	**Pauzhetka**	**5.92**	**26**	*e*P	**Pn**	**05 06 28.5**	**+1.9**
PAU				*e*S	**Sn**	**05 07 30.4**	**-2.7**
AKK	**Akkeshi**	**6.41**	**243**	*e*P	**Pn**	**05 06 33.2**	**-0.1**
AKK				*e*S	**Sn**	**05 07 44.9**	**-0.3**
JKA	**Kamikawa-asahi**	**7.38**	**257**	*e*P	**Pn**	**05 06 49.4**	**+2.7**
ASAJ	**Asahikawa**	**7.39**	**257**	P	**Pn**	**05 06 49.4**	**+2.6**
comp=Z,2.0nm,0.3s,baz=86,slow=24,SNR=10							
comp=Z,6.6nm,0.3s							
PETK	**Petropavlovsk-**	**7.62**	**24**	P	**Pn**	**05 06 53.2**	**+3.2**
comp=Z,0.4nm,0.3s,baz=198,slow=14,SNR=1.8							
comp=Z,1.1nm,0.5s							
ERM	**Erimo**	**8.00**	**242**	*i* PN	**Pn**	**05 06 56.3**	**+1.1**
KLR	**Kul'dur**	**14.34**	**290**	*i* P	**P**	**05 08 24.4**	**-3.7**
KLR	**Kul'dur**	**14.34**	**290**	*e*P	**P**	**05 08 24.4**	**-3.7**
KSRS	**Korea Array**	**20.31**	**253**	P	Pn	05 09 34.9	-1.2
comp=Z,1.2nm,0.7s,baz=61,slow=10,SNR=5.0							
comp=Z,1.2nm,0.7s							
KSRS	**Korea Array**	**20.31**	**253**	*e*P	Pn	05 09 37.1	+1.0
KSRS	**Korea Array**	**20.31**	**253**	*e*P	Pn	05 09 37.1	+1.0
BILL	**Bilibino**	**22.97**	**13**	*i* P	**P**	**05 10 03.1**	**+1.0**
BILL				pmax	pmax		
comp=Z,3.0nm,1.5s							
BILL	**Bilibino**	**22.97**	**13**	*e*P	**P**	**05 10 03.1**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**28.93**	**151**	T	T	05 42 24.3	
baz=340,slow=76,SNR=75							
H11N1	**WAKE ISLAND Hy**	**28.95**	**151**	T	T	05 42 29.4	
baz=340,slow=76,SNR=51							
H11N3	**WAKE ISLAND Hy**	**28.95**	**151**	T	T	05 42 24.3	
baz=340,slow=76,SNR=44							
H11S1	**WAKE ISLAND Hy**	**30.01**	**152**	T	T	05 44 02.4	
baz=341,slow=76,SNR=66							
H11S3	**WAKE ISLAND Hy**	**30.02**	**153**	T	T	05 44 01.4	
baz=341,slow=76,SNR=53							
H11S2	**WAKE ISLAND Hy**	**30.03**	**152**	T	T	05 43 59.7	
baz=341,slow=76,SNR=53							
ILAR	**Eielson Array**	**37.16**	**38**	P	**P**	**05 12 07.7**	**-0.4**
comp=Z,0.2nm,0.4s,baz=262,slow=8.3,SNR=6.9							
comp=Z,0.2nm,0.4s							
ILAR	**Eielson Array**	**37.16**	**38**	*e*P	**P**	**05 12 08.6**	**+0.5**
MKAR	**Makanchi Array**	**46.87**	**298**	P	**P**	**05 13 27.1**	**-0.3**
comp=Z,0.2nm,0.7s,baz=92,slow=4.9,SNR=1.7							
comp=Z,0.2nm,0.7s							
YKA	**Yellowknife Ar**	**51.54**	**36**	P	**P**	**05 14 03.8**	**+1.0**
comp=Z,0.2nm,0.6s,baz=285,slow=7.9,SNR=3.8							
comp=Z,0.2nm,0.6s							
NVAR	**Mina Array Bea**	**62.98**	**62**	P	**P**	**05 15 23.1**	**-1.2**
comp=Z,0.2nm,0.5s,baz=316,slow=6.8,SNR=2.8							
comp=Z,0.2nm,0.5s							
FINES	**FINESS Array B**	**64.35**	**335**	P	**P**	**05 15 31.7**	**-0.8**
comp=Z,1.2nm,0.9s,baz=5.7,slow=7.7,SNR=4.2							
comp=Z,1.2nm,0.9s							
FINES	**FINESS Array B**	**64.35**	**335**	*e*P	**P**	**05 15 33.7**	**+1.2**
FINES				pmax	pmax		
comp=Z,3.0nm,1.2s							
TXAR	**Lajitas Array**	**78.05**	**60**	P	**P**	**05 16 57.2**	**+1.1**
comp=Z,0.6nm,0.6s,baz=300,slow=4.8,SNR=10							
comp=Z,0.6nm,0.6s							
H03N2	**Juan Fernandez**	**139.10**	**91**	T	T	08 00 06.6	
baz=308							
H03N3	**Juan Fernandez**	**139.11**	**91**	T	T	07 59 53.5	
baz=308,slow=74							
H03N1	**Juan Fernandez**	**139.11**	**91**	T	T	08 00 08.1	
baz=308,slow=74							

*IDC **06** 05:19:14.9±2.2, 38°.80N×75°.15E, h0km, mb3.7/5, mbtmp3.6/7, ML2.8/3, MS3.6/1, Error ellipse: s-maj=37.8km s-min=23.7km az=112.0*
*KRNET **06** 05:19:17.7±0.1, 39°.02N×74°.28E, h20km, mb3.6*
*SOME **06** 05:19:17.5, 39°.30N×73°.93E, h5km*
*NNC **06** 05:19:25.5±2.1, 39°.39N×74°.21E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=15.8km s-min=10.4km az=160.0*
ISC 06 05:19:19.5±1.0, 39°.11N±0°.05×74°.24E±0°.03, h10km, n55, σ2°.**48**/87, **mb3.8/5, 30C-23D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.06**	**328**	⇓*i* P	**Pb**	**05 19 39.9**	**-0.3**
SFK				⇓*i* S	**Sg**	**05 19 55.0**	**+1.1**
SALK	**Salom-Alik**	**1.80**	**350**	⇑*i* P	**Pb**	**05 19 52.3**	**-0.4**
SALK				⇑*i* S	**Sb**	**05 20 17.2**	**+1.9**
OHH	**Osh**	**1.80**	**322**	⇑*i* P	**Pb**	**05 19 52.3**	**-0.4**
OHH				⇑*i* S	**Sb**	**05 20 17.2**	**+1.9**
DRK	**Karamyk**	**1.93**	**282**	⇑*i* P	**Pb**	**05 19 54.2**	**-0.8**
DRK				⇑*i* S	**Sb**	**05 20 19.4**	**+0.2**
ARSB	**Arslanbob**	**2.41**	**337**	⇑*i* P	**Pb**	**05 20 01.0**	**-2.1**
ARSB				⇑*i* S	**Sb**	**05 20 31.8**	**-1.1**
NRN	**Naryn**	**2.68**	**30**	⇓*e* P	**Pn**	**05 20 04.4**	**+1.3**
NRN				⇓*e* S	**Sn**	**05 20 37.8**	**+2.0**
ARLS	**Aral**	**2.75**	**1**	⇑*i* P	**Pn**	**05 20 05.5**	**+1.7**
ARLS				⇑*i* S	**Sn**	**05 20 40.1**	**+3.0**
BTK	**Batken**	**2.81**	**291**	⇓*i* P	**Pn**	**05 20 05.9**	**+1.3**
BTK				⇓*i* S	**Sn**	**05 20 40.9**	**+2.4**
AML	**Almayashu**	**3.04**	**352**	P	**Pb**	**05 20 12.5**	**-1.5**
SNR=33							
AML	**Almayashu**	**3.04**	**352**	⇓*e* P	**Pn**	**05 20 09.6**	**+1.5**
AML				⇓*i* S	**Sn**	**05 20 47.9**	**+3.1**
GAR	**Garm**	**3.06**	**269**	⇓*i* P	**Pn**	**05 20 08.3**	**+0.3**
GAR				⇓*i* S	**Sn**	**05 20 46.1**	**+1.4**
UCH	**Uchtor**	**3.12**	**4**	⇑*i* P	**Pn**	**05 20 10.4**	**+1.2**
UCH				⇑*i* S	**Sn**	**05 20 49.3**	**+2.6**
ARK	**Arkit**	**3.19**	**328**	⇑*e* P	**Pn**	**05 20 11.6**	**+1.7**
ARK				⇑*i* S	**Sn**	**05 20 51.4**	**+3.3**
TRKS	**Terek-Say**	**3.38**	**317**	⇑*i* P	**Pn**	**05 20 13.4**	**+0.8**
TRKS				⇑*i* S	**Sn**	**05 20 53.7**	**+0.9**
ULHL	**Ulahol**	**3.48**	**25**	P	**Pb**	**05 20 20.2**	**-1.2**
SNR=10							
ULHL	**Ulahol**	**3.48**	**25**	⇓*i* P	**Pn**	**05 20 14.5**	**+0.5**
ULHL				⇓*i* S	**Sn**	**05 20 57.6**	**+2.3**
AAK	**Ala-Archa**	**3.53**	**3**	Pn	**Pb**	**05 20 19.0**	**-3.1**
1.8nm,0.3s,baz=184,slow=7.0,SNR=19							
AAK				Pg	**Pg**	**05 20 23.5**	**-3.6**
3.1nm,

MNAS					⇑iS		Sn	05 21 01.6	+3.0
MRKS	**Merke**	**3.71**	**348**		*e*P		**Pb**	**05 20 21.8**	**-3.4**
	6.4nm,0.2s								
MRKS					*e*S		**Sb**	**05 21 07.8**	**-2.5**
	14nm,0.4s								
KDJ	**Kajisay**	**3.75**	**36**		⇑*i*P		**Pn**	**05 20 19.1**	**+1.4**
KDJ					⇑*e*S		**Sn**	**05 21 03.8**	**+1.8**
TARG	**Taragay, Kyrgy**	**3.77**	**45**		⇑*i*P		**Pn**	**05 20 18.8**	**+0.6**
TARG					⇑*i*S		**Sn**	**05 21 03.8**	**+1.0**
TKM2	**Tokmak 2**	**3.94**	**15**	P			**Pn**	**05 20 24.1**	**+3.8**
	SNR=12								
TKM2	**Tokmak 2**	**3.94**	**15**	⇓Pn			**Pn**	**05 20 22.6**	**+2.3**
	7.5nm,0.3s								
TKM2					⇓Sn		**Sn**	**05 21 10.2**	**+3.6**
	13nm,0.8s								
TKM2					⇓Lg		Lg	05 21 20.2	
	30nm,1.1s								
KST	**Kastek**	**4.14**	**18**	Pg			**Pg**	**05 20 36.0**	**-2.8**
	5.1nm,0.5s								
KST				Lg			Lg	05 21 27.7	
	31nm,0.8s								
KST	**Kastek**	**4.14**	**18**	*e*P			**Pb**	**05 20 32.3**	**-0.2**
	5.5nm,0.2s								
KST				*e*S			**Sb**	**05 21 25.8**	**+3.2**
	38nm,0.7s								
DGS	**Degeres**	**4.29**	**15**	Pg			**Pg**	**05 20 39.1**	**-2.5**
	12nm,0.6s								
DGS				Lg			Lg	05 21 33.0	
	16nm,0.8s								
MTBS	**Maitube**	**4.34**	**22**	*e*P			**Pb**	**05 20 36.3**	**+0.3**
	3.3nm,0.2s								
MTBS				*e*S			**Sb**	**05 21 32.5**	**+4.1**
	20nm,0.4s								
TNSS	**Tian-Shan**	**4.42**	**27**	*e*P			**Pb**	**05 20 38.7**	**+1.2**
	8.9nm,0.4s								
TNSS				*e*S			**Sg**	**05 21 36.8**	**-4.7**
	8.1nm,0.5s								
ANVS	**Anan'yevo**	**4.49**	**34**	⇑*e*P			**Pn**	**05 20 29.2**	**+1.4**
ANVS				⇑*e*S			**Sn**	**05 21 21.5**	**+1.3**
MDOK	**Medeo**	**4.57**	**27**	Pg			**Pg**	**05 20 45.5**	**-1.5**
	7.2nm,0.8s								
MDOK				Lg			Lg	05 21 43.7	
	10nm,0.7s								
PRZ	**Przheval'sk**	**4.62**	**42**	⇑*e*P			**Pn**	**05 20 31.1**	**+1.6**
PRZ				⇑*e*S			**Sn**	**05 21 24.1**	**+0.8**
KOTS	**Kotyrbulak**	**4.65**	**27**	*e*P			**Pb**	**05 20 43.0**	**+1.6**
	6.3nm,0.2s								
KOTS				*e*S			**Sg**	**05 21 44.1**	**-4.8**
	55nm,0.4s								
KK31	**Karatay Array**	**4.88**	**326**	Pn			**Pn**	**05 20 36.9**	**+3.9**
	1.5nm,0.5s,baz=132,slow=11,SNR=14								
KK31					⇑Sn		**Sn**	**05 21 32.2**	**+2.7**
	1.4nm,0.5s								
KK31					⇓Lg		Lg	05 21 54.7	
	3.2nm,0.6s								
KTBS	**Karatobe**	**4.95**	**21**	Pg			**Pg**	**05 20 50.2**	**-4.2**
	12nm,0.4s								
KTBS				Lg			Lg	05 21 52.0	
	16nm,0.8s								
SATY	**Saty**	**5.04**	**37**	Pg			**Pb**	**05 20 47.6**	**-0.4**
	7.3nm,0.6s								
SATY				Lg			Lg	05 21 47.5	
	18nm,1.4s								
BRLS	**Borolday**	**5.14**	**321**	*e*P			**Pb**	**05 20 44.8**	**-4.6**
	1.1nm,0.1s								
BRLS				*e*S			**Sb**	**05 21 47.2**	**-4.0**
	2.4nm,0.2s								
UZB	**Uzynbulak**	**5.41**	**40**	Pg			**Pb**	**05 20 53.1**	**-1.2**
	7.7nm,0.6s								
UZB				Lg			Lg	05 21 56.6	
	4.8nm,0.4s								
UZB	**Uzynbulak**	**5.41**	**40**	*e*P			**Pg**	**05 20 58.7**	**-4.5**
	5.2nm,0.2s								
UZB				*e*S			**Sg**	**05 22 11.1**	**-2.1**
	5.6nm,0.6s								
KPKS	**Kokpek**	**5.49**	**36**	*e*P			Pn	05 20 34.8	-6.6
	12nm,0.4s								
KPKS				*e*S			Sn	05 21 30.1	-15
	16nm,0.6s								
BLB	**Baldybastay**	**5.91**	**31**	Pg			**Pb**	**05 21 05.3**	**+2.6**
	13nm,0.4s								
BLB				Lg			Lg	05 22 18.1	
	11nm,1.2s								
MKAR	**Makanchi Array**	**9.68**	**35**	Pn			**Pn**	**05 21 34.4**	**-4.4**
	0.1nm,0.3s,baz=213,slow=11,SNR=4.3								
MKAR				Lg			Lg	05 24 21.6	
	0.1nm,0.3s,baz=223,slow=25,SNR=1.6								
BVAR	**Borovoye Array**	**14.17**	**350**	Pn			**Pn**	**05 22 40.9**	**+0.7**
	baz=159,slow=8.6,SNR=2.6								
	0.4nm,0.5s								
FINES	**FINESS Array B**	**36.84**	**323**	P			**P**	**05 26 30.2**	**+2.8**
	1.2nm,0.7s,baz=122,slow=9.3,SNR=5.5								
	1.2nm,0.7s								
ARCES	**ARCESS Array B**	**39.77**	**336**	P			**P**	**05 26 53.2**	**+1.1**
	2.9nm,0.9s,baz=114,slow=8.1,SNR=6.1								
	2.9nm,0.9s								
HFS	**Hagfors**	**42.66**	**320**	P			**P**	**05 27 18.3**	**+2.3**
	1.8nm,0.8s,baz=96,slow=12,SNR=4.1								
	1.8nm,0.8s								
NOA	**NORSAR Array B**	**43.90**	**321**	P			**P**	**05 27 29.2**	**+3.2**
	0.5nm,0.8s,baz=86,slow=7.7,SNR=1.2								
	0.5nm,0.8s								
PETK	**Petropavlovsk-**	**56.31**	**46**	LR			LR	05 52 29.1	
	comp=Z,58nm,19.4s,baz=260,slow=36								
YKA	**Yellowknife Ar**	**78.49**	**4**	P			**P**	**05 31 18.4**	**-2.0**
	0.1nm,0.6s,baz=356,slow=6.4,SNR=3.2								
	0.1nm,0.6s								

*IDC **06** 05:31:35.4±3.3, 44°.75N×89°.19E, h0km, mbtmp3.3/4, ML2.8/4, Error ellipse: s-maj=42.8km s-min=20.5km az=6.0*

ISC 06 05:31:39.3±2.2, 44°.9N±0°.2×89°.34E±0°.08, h10km, n7, σ2°55/9, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.28**	**294**	⇓Pn	**Pn**	**05 32 56.5**	**-1.7**
	0.3nm,0.2s,baz=102,slow=13,SNR=29						
MK31				⇑Pg	**Pb**	**05 33 13.6**	**+2.0**
	3.9nm,0.7s,baz=112,slow=19,SNR=9.4						
MK31				⇓Lg	Lg	05 34 23.7	
	4.8nm,0.7s,baz=109,slow=28,SNR=3.7						
MKAR	**Makanchi Array**	**5.28**	**294**	Pn	**Pn**	**05 32 56.1**	**-2.0**
	0.7nm,0.3s,baz=107,slow=14,SNR=28						
MKAR				Pg	**Pb**	**05 33 08.8**	**-2.8**
	0.5nm,0.3s,baz=110,slow=15,SNR=5.5						
MKAR				Sn	**Sn**	**05 34 00.2**	**+1.1**
	0.5nm,0.3s,baz=105,slow=24,SNR=3.7						
MKAR				Lg	Lg	05 34 23.3	
	0.5nm,0.3s,baz=107,slow=29,SNR=6.2						
	0.9nm,0.3s						
MAKZ	**Makanchi**	**5.49**	**293**	⇑Pn	**Pn**	**05 32 59.3**	**-1.7**
	1.1nm,0.5s						
MAKZ				⇓Pg	**Pb**	**05 33 18.9**	**+3.7**
	7.0nm,0.9s						
MAKZ				⇑Lg	Lg	05 34 31.9	
	5.3nm,0.8s						
KURBB	**Kurchatov Arra**	**9.26**	**312**	Pn	Pn	05 33 50.0	-2.8
	0.1nm,0.3s,baz=122,slow=13,SNR=3.8						
KURBB				Lg	Lg	05 36 33.8	
	baz=111,slow=28,SNR=2.3						
	1.2nm,0.2s						
ZALV	**Zalesovo Beam**	**9.53**	**344**	Pn	**Pn**	**05 33 55.0**	**-1.4**
	0.1nm,0.3s,baz=161,slow=14,SNR=2.0						
ZALV				Lg	Lg	05 36 41.8	
	0.2nm,0.3s,baz=156,slow=23,SNR=1.8						
	0.5nm,0.5s						
SONM	**Songino Array**	**12.15**	**70**	Pn	**Pn**	**05 34 33.0**	**+0.6**
	0.1nm,0.3s,baz=282,slow=7.2,SNR=1.7						
SONM				Lg	Lg	05 38 06.4	
	0.2nm,0.3s,baz=262,slow=26,SNR=1.8						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**14.84**	**310**	Lg	Lg	05 39 24.9	
	baz=116,slow=31,SNR=1.4						

*SOME **06** 05:33:45.7, 40°.87N×73°.73E, h5km*
*KRNET **06** 05:33:45.7±0.1, 40°.77N×73°.75E, h24km, mb3.9*
*NNC **06** 05:33:46.8±1.1, 40°.83N×73°.69E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=8.9km s-min=4.9km az=165.0*
*KNET **06** 05:33:46.7±0.5, 40°.87N×73°.88E, h3km±3km, ml3.5, Error ellipse: s-maj=6.3km s-min=2.9km az=79.0*

ISC 06 05:33:44.4±1.1, 40°.72N±0°.03×73°.93E±0°.02, h18km±3km, n65, σ1°36/113, 47C-31D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.18**	**333**	⇑*i*P	**Pg**	**05 33 49.5**	**+0.1**
SALK				⇑*i*S	**Sg**	**05 33 52.2**	**-0.5**
SFK	**Sufi-Kurgan**	**0.78**	**205**	⇓*i*P	**Pg**	**05 34 00.3**	**+0.6**
SFK				⇓*i*S	**Sg**	**05 34 11.0**	**+0.9**
OHH	**Osh**	**0.90**	**258**	⇑*i*P	**Pb**	**05 34 00.1**	**-1.4**
OHH				⇑*i*S	**Sb**	**05 34 10.6**	**-2.5**
ARSB	**Arslanbob**	**0.94**	**310**	⇑*i*P	**Pb**	**05 34 01.1**	**-1.2**
ARSB				⇑*i*S	**Sb**	**05 34 12.0**	**-2.5**
ARLS	**Aral**	**1.18**	**14**	⇓*i*P	**Pg**	**05 34 07.4**	**+0.1**
ARLS				⇓*i*S	**Sg**	**05 34 23.0**	**+0.2**
AML	**Almayashu**	**1.42**	**353**	⇑P	**Pb**	**05 34 10.7**	**0.0**
	139nm,0.2s,SNR=476						
AML				⇓S	**Sg**	**05 34 29.6**	**-1.0**
	484nm,0.2s						
AML	**Almayashu**	**1.42**	**353**	⇓*i*P	**Pb**	**05 34 10.9**	**+0.2**
AML				⇓*i*S	**Sb**	**05 34 29.1**	**+0.5**
UCH	**Uchtor**	**1.57**	**16**	⇓P	**Pg**	**05 34 15.0**	**+0.3**
	36nm,0.2s,SNR=30						
UCH				⇑S	**Sg**	**05 34 36.2**	**+0.9**
	100nm,0.2s						
UCH	**Uchtor**	**1.57**	**16**	⇑*i*P	**Pg**	**05 34 14.4**	**-0.3**
UCH				⇑*i*S	**Sg**	**05 34 35.3**	**0.0**
NRN	**Naryn**	**1.72**	**65**	⇑*e*P	**Pg**	**05 34 18.1**	**+0.6**
NRN				⇑*e*S	**Sg**	**05 34 42.1**	**+2.2**
ARK	**Arkit**	**1.83**	**307**	⇑*i*P	**Pb**	**05 34 16.7**	**-0.8**
ARK				⇑*i*S	**Sb**	**05 34 39.1**	**-1.1**
EKS2	**Erkin-Say**	**1.94**	**357**	⇑P	**Pg**	**05 34 20.7**	**-1.1**
	46nm,0.2s,SNR=94						
EKS2				⇑S	**Sg**	**05 34 46.6**	**-0.5**
	128nm,0.2s						
EKS2	**Erkin-Say**	**1.94**	**357**	⇑*i*P	**Pb**	**05 34 19.4**	**0.0**
EKS2				⇑*i*S	**Sb**	**05 34 44.0**	**+0.6**
AAK	**Ala-Archa**	**1.96**	**12**	⇓P	**Pg**	**05 34 21.7**	**-0.5**
	56nm,0.2s,SNR=99						
AAK				⇓S	**Sg**	**05 34 47.5**	**-0.2**
	221nm,0.3s						
AAK	**Ala-Archa**	**1.96**	**12**	⇑Pn	**Pg**	**05 34 21.5**	**-0.7**
	30nm,0.3s						
AAK				Sn	**Sg**	**05 34 47.5**	**-0.2**
	165nm,0.4s						
AAK	**Ala-Archa**	**1.96**	**12**	⇑*i*P	**Pb**	**05 34 20.2**	**+0.5**
AAK				⇑*i*S	**Sb**	**05 34 45.3**	**+1.4**
DRK	**Karamyk**	**2.05**	**234**	⇑*i*P	**Pb**	**05 34 20.6**	**-0.7**
DRK				⇑*i*S	**Sb**	**05 34 46.1**	**-0.5**
MNAS	**Manas**	**2.07**	**329**	⇓*i*P	**Pb**	**05 34 20.5**	**-1.0**
MNAS				⇓*i*S	**Sb**	**05 34 45.6**	**-1.3**
KBK	**Karagaybulak**	**2.08**	**21**	⇓P	**Pg**	**05 34 24.1**	**-0.3**
	65nm,0.1s,SNR=72						
KBK				⇓S	**Sg**	**05 34 52.3**	**+0.9**
	570nm,0.4s						
KBK	**Karagaybulak**	**2.08**	**21**	⇑*i*P	**Pb**	**05 34 22.0**	**+0.3**
KBK				⇑*i*S	**Sb**	**05 34 48.6**	**+1.3**
MRKS	**Merke**	**2.09**	**346**	Pg	**Pb**	**05 34 22.2**	**+0.3**
	146nm,0.2s						
MRKS				Lg	Lg	05 34 49.0	
	2μm,0.4s						
MRKS	**Merke**	**2.09**	**346**	*e*P	**Pb**	**05 34 22.2**	**+0.3**
	154nm,0.2s						
MRKS				*e*S	**Sb**	**05 34 49.0**	**+1.4**
	682nm,0.3s						
FRU1	**Bishkek**	**2.15**	**14**	⇑*i*P	**Pb**	**05 34 23.1**	**+0.2**
FRU1				⇑*i*S	**Sb**	**05 34 50.3**	**+1.0**
TRKS	**Terek-Say**	**2.26**	**292**	⇑*i*P	**Pn**	**05 34 21.9**	**+0.9**
TRKS				⇑*i*S	**Sn**	**05 34 48.0**	**-0.5**
ULHL	**Ulahol**	**2.31**	**48**	⇑P	**Pb**	**05 34 27.1**	**+1.4**
	36nm,0.2s,SNR=24						
ULHL	**Ulahol**	**2.31**	**48**	⇓*i*P	**Pb**	**05 34 26.2**	**+0.5**
ULHL				⇓*i*S	**Sb**	**05 34 55.9**	**+1.9**
BOOM	**Boomskoye usch**	**2.32**	**40**	⇓*i*P	**Pb**	**05 34 26.3**	**+0.4**
BOOM				⇓*i*S	**Sb**	**05 34 55.7**	**+1.4**
CHMS	**Chumysh**	**2.36**	**15**	⇑P	**Pb**	**05 34 27.6**	**+1.2**
	19nm,0.1s,SNR=17						
CHMS				⇑S	**Sg**	**05 34 58.9**	**-1.4**
	177nm,0.4s						
CHMS	**Chumysh**	**2.36**	**15**	⇓Pg	**Pb**	**05 34 27.3**	**+0.9**
	24nm,0.5s						
CHMS				⇓Lg	Lg	05 34 59.3	
	179nm,0.6s						
CHMS	**Chumysh**	**2.36**	**15**	⇓*i*P	**Pb**	**05 34 25.8**	**-0.6**
CHMS				⇓*i*S	**Sb**	**05 34 54.8**	**-0.4**
BTK	**Batken**	**2.47**	**256**	⇑*i*P	**Pn**	**05 34 25.8**	**+2.0**
BTK				⇑*i*S	**Sn**	**05 34 54.8**	**+1.2**
TKM2	**Tokmak 2**	**2.53**	**29**	⇑P	**Pb**	**05 34 30.4**	**+1.0**
	25nm,0.2s,SNR=29						
TKM2				⇓S	**Sg**	**05 35 03.9**	**-1.8**
	45nm,0.1s						
TKM2	**Tokmak 2**	**2.53**	**29**	⇓Pn	**Pb**	**05 34 30.1**	**+0.7**
	38nm,0.7s						
TKM2				⇑Lg	Lg	05 35 05.0	
	107nm,0.7s						
TKM2	**Tokmak 2**	**2.53**	**29**	⇓*i*P	**Pb**	**05 34 28.5**	**-0.9**
TKM2				⇓*i*S	**Sb**	**05 35 00.0**	**-0.2**
USP	**Ospenovka**	**2.58**	**9**	⇓P	**Pb**	**05 34 30.1**	**-0.1**
	32nm,0.2s,SNR=19						
USP				⇑S	**Sb**	**05 35 04.1**	**+2.5**
	108nm,0.2s						
USP	**Ospenovka**	**2.58**	**9**	⇑*i*P	**Pb**	**05 34 28.5**	**-1.7**
USP				⇑*i*S	**Sb**	**05 34 59.9**	**-1.7**
KST	**Kastek**	**2.77**	**32**	*e*P	**Pg**	**05 34 36.4**	**-1.3**
	13nm,0.2s						
KST				*e*S	**Sg**	**05 35 12.7**	**-0.9**
	128nm,0.4s						
KDJ	**Kajisay**	**2.82**	**59**	⇑*i*P	**Pb**	**05 34 33.7**	**-0.6**
KDJ				⇑*i*S	**Sb**	**05 35 08.9**	**+0.3**
DGS	**Degeres**	**2.87**	**28**	Pg	**Pg**	**05 34 38.5**	**-1.0**
	36nm,0.6s						
DGS				Lg	Lg	05 35 16.3	
	108nm,0.7s						
DZA	**Taraz**	**2.92**	**319**	*e*P	**Pb**	**05 34 36.4**	**+0.5**
	117nm,0.1s						
DZA				*e*S	**Sb**	**05 35 12.4**	**+1.2**
	617nm,0.3s						
MTBS	**Maitube**	**3.04**	**37**	*e*P	**Pg**	**05 34 42.0**	**-0.8**
	5.1nm,0.1s						
MTBS				*e*S	**Sg**	**05 35 22.4**	**+0.1**
	68nm,0.2s						
TNSS	**Tian-Shan**	**3.23**	**43**	*e*P	**Pg**	**05 34 45.8**	**-0.6**
	5.1nm,0.3s						
TNSS				*e*S	**Sg**	**05 35 28.9**	**+0.7**
	99nm,0.4s						
KRBS	**Karabastau**	**3.24**	**23**	Pg	**Pg**	**05 34 45.2**	**-1.4**
KRBS				Lg	Lg	05 35 27.3	
IUG	**Iuzhnay**	**3.26**	**297**	Pg	**Pb**	**05 34 42.3**	**+0.5**
	66nm,0.4s						
IUG				Lg	Lg	05 35 23.2	
	630nm,0.6s						
AAA	**Alma-Ata**	**3.34**	**41**	Pg	**Pg**	**05 34 48.4**	**0.0**
AAA				Lg	Lg	05 35 33.7	
AAA	**Alma-Ata**	**3.34**	**41**	*e*P	**Pg**	**05 34 47.3**	**-1.1**
	16nm,0.1s						
AAA				*e*S	**Sg**	**05 35 31.4**	**-0.2**
	62nm,0.3s						
KNDC	**Almaty**	**3.37**	**41**	⇓Pg	**Pg**	**05 34 48.6**	**-0.3**
	24nm,0.4s						
KNDC				⇑Lg	Lg	05 35 34.4	
	93nm,0.5s						
MDOK	**Medeo**	**3.37**	**43**	Pn	**Pb**	**05 34 42.4**	**-1.3**
	20nm,0.7s						
MDOK				Lg	Lg	05 35 33.9	
	76nm,0.6s						
KOTS	**Kotyrbulak**	**3.45**	**42**	Pg	**Pg**	**05 34 50.1**	**-0.5**
	18nm,0.3s						
KOTS				Lg	Lg	05 35 36.7	
	272nm,0.4s						
KOTS	**Kotyrbulak**	**3.45**	**42**	*e*P	**Pg**	**05 34 50.1**	**-0.5**
	18nm,0.2s						
KOTS				*e*S	**Sg**	**05 35 36.7**	**+1.3**
	165nm,0.4s						
ANVS	**Anan'yevo**	**3.47**	**52**	⇑*e*P	**Pb**	**05 34 42.5**	**-3.0**
ANVS				⇑*e*S	**Sb**	**05 35 24.9**	**-2.5**
KK31	**Karatay Array**	**3.49**	**314**	⇓Pn	**Pn**	**05 34 39.0**	**+1.1**
	0.4nm,0.2s,baz=136,slow=13,SNR=168						
KK31				Pg	**Pb**	**05 34 45.9**	**+0.2**
	10.0nm,0.3s,baz=142,slow=16,SNR=66						
KK31				⇓Lg	Lg	05 35 29.6	
	21nm,0.3s,baz=128,slow=28,SNR=11						
KUU	**Kurty**	**3.64**	**29**	*e*P	**Pg**	**05 34 52.3**	**-1.8**
	12nm,0.4s						
KUU				*e*S	**Sg**	**05 35 39.8**	**-1.5**
	61nm,0.2s						
PRZ	**Przheval'sk**	**3.79**	**61**	⇑*e*P	**Pb**	**05 34 47.0**	**-3.8**
PRZ				⇑*e*S	**Sb**	**05 35 32.4**	**-4.0**
BRLS	**Borolday**	**3.83**	**308**	Pg	**Pb**	**05 34 52.3**	**+0.7**
	19nm,0.5s						
BRLS				Lg	Lg	05 35 40.0	
	60nm,0.3s						
BRLS	**Borolday**	**3.83**	**308**	*e*P	**Pb**	**05 34 52.2**	**+0.7**
	12nm,0.2s						
BRLS				*e*S	**Sb**	**05 35 40.0**	**+2.5**
	60nm,0.3s						
CHKK	**Chushkaly**	**3.87**	**35**	Pg	**Pg**	**05 34 57.8**	**-0.7**
	7.2nm,0.5s						
CHKK				Lg	Lg	05 35 49.4	
	65nm,0.4s						
CHKK	**Chushkaly**	**3.87**	**35**	*e*P	**Pg**	**05 34 57.6**	**-0.9**
	2.6nm,0.0s						
CHKK				*e*S	**Sg**	**05 35 49.2**	**+0.6**
	60nm,0.2s						
SATY	**Saty**	**4.08**	**54**	*e*P	Pg	05 35 09.2	+6.7
	14nm,0.2s						
SATY				*e*S	Sg	05 36 09.2	+14
	48nm,0.3s						
ZHN	**Zhinishke**	**4.16**	**52**	*e*P	**Pg**	**05 35 03.1**	**-0.9**
	3.6nm,0.1s						
ZHN				*e*S	**Sg**	**05 35 58.5**	**+0.7**
	48nm,0.2s						
KURS	**Kuram**	**4.19**	**47**	*e*P	**Pb**	**05 34 57.6**	**-0.1**
	2.6nm,0.0s						
KURS				*e*S	**Sb**	**05 35 49.2**	**+1.2**
	60nm,0.2s						
BTLS	**Baital**	**4.32**	**1**	*e*P	**Pb**	**05 35 02.7**	**+2.9**
	1.2nm,0.2s						
BTLS				*e*S	**Sg**	**05 35 58.1**	**-5.0**
	43nm,0.3s						
UZB	**Uzynbulak**	**4.50**	**56**	*e*P	**Pg**	**05 35 09.6**	**-1.1**
	1.9nm,0.1s						
UZB				*e*S	**Sg**	**05 36 09.6**	**+0.6**
	49nm,0.3s						
BLB	**Baldybastay**	**4.77**	**43**	Pg	**Pg**	**05 35 13.1**	**-2.6**
	28nm,0.4s						
BLB				Lg	Lg	05 36 15.8	
	105nm,0.6s						
PDGK	**Podgornoye**	**4.89**	**56**	⇑Pg	**Pg**	**05 35 15.9**	**-2.2**
	5.1nm,0.5s						
PDGK				⇓Lg	Lg	05 36 25.8	
	34nm,0.6s						

NEIC 06 05:53:55.1±2.1, 36°.98N±0°.02×104°.76W±0°.02, h8km±5km, mb_Lg2.3/28, ML2.7/23, Error ellipse: s-maj=3.4km s-min=2.1km az=143.0, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.32**	**60**		Pb	05 54 03.8	+0.5
T25A				Sg	Sb	05 54 09.1	+0.4
SDCO	**Great Sand Dun**	**0.97**	**322**		Pg	05 54 12.7	-1.1
SDCO				Sg	Sg	05 54 24.2	-2.1
SDCO				IAML		05 54 24.8	
	158nm,0.2s						
SDCO				IAML		05 54 24.9	
	190nm,0.1s						
RTBA	**Rita Blanca**	**1.71**	**108**	Pn	Pg	05 54 27.5	-0.4
Q24A	**Divide**	**2.01**	**351**	Pn	Pb	05 54 31.2	-0.9
Q24A				IAmb_Lg		05 55 01.7	
	comp=Z,17nm,0.7s						
ANMO	**Albuquerque**	**2.45**	**215**	Pn	Pn	05 54 36.9	+1.2
ANMO	**Albuquerque**	**2.45**	**215**	Pn	Pn	05 54 36.9	+1.3
ANMO				IAmb_Lg		05 55 12.3	
	comp=Z,5.0nm,0.8s						
ANMO	**Albuquerque**	**2.45**	**215**	IAmb_Lg		05 55 18.1	
	comp=Z,5.5nm,1.0s						
KSCO	**Kaye Shedlock'**	**2.64**	**39**	Pn	Pb	05 54 44.0	+1.3
KSCO				IAmb_Lg		05 55 17.3	
	comp=Z,9.4nm,0.8s						
ISCO	**Idaho Springs**	**2.90**	**347**	Pn	Pn	05 54 41.6	-0.3
ISCO				IAML		05 55 25.4	
	comp=Z,12nm,0.6s						
MVCO	**Mesa Verde**	**3.00**	**276**	Pn	Pn	05 54 45.4	+2.2
BNM	**Barren Site**	**3.21**	**209**	Pn	Pn	05 54 47.9	+1.8
PV15	**Paradox Valley**	**3.25**	**296**	Pn	Pn	05 54 46.5	-0.2
PV02	**Paradox Valley**	**3.39**	**292**	IAmb_Lg		05 55 51.0	
	comp=Z,7.5nm,0.8s						
MSTX	**Muleshoe**	**3.41**	**151**	IAmb_Lg		05 55 48.4	
	comp=Z,10nm,0.9s						
PV13	**Radium Mtn., P**	**3.44**	**291**	Pn	Pn	05 54 50.6	+1.4
PV12	**Saucer Basin,**	**3.48**	**294**	Pn	Pn	05 54 51.0	+1.3
PV12				IAmb_Lg		05 55 49.0	
	comp=Z,4.9nm,0.8s						
PV03	**Paradox Valley**	**3.49**	**293**	Pn	Pn	05 54 50.0	+0.1
PV18	**Skein Mesa, Pa**	**3.53**	**292**	Pn	Pn	05 54 52.2	+1.7
PV16	**Nyswonger Mesa**	**3.56**	**293**	Pn	Pn	05 54 51.9	+1.0
BRIGG	**Briggsdale**	**3.61**	**5**	Pn	Pn	05 54 55.3	+3.8
PV10	**Paradox Valley**	**3.67**	**294**	Pn	Pn	05 54 53.4	+1.0
PV10				IAML		05 55 29.1	
	comp=E,14nm,3.9s						
PV10				IAML		05 56 15.5	
	comp=N,15nm,3.8s						
PV23	**Carpenter Ridg**	**3.68**	**295**	Pn	Pn	05 54 53.5	+0.9
PV21	**Cone Mtn., Par**	**3.70**	**297**		Pn	05 54 52.6	-0.1
O20A	**White River Ci**	**4.17**	**320**	Pn	Pn	05 55 00.5	+1.2
O20A				IAML		05 57 32.3	
	comp=N,17nm,4.4s						
O20A				IAML		05 57 39.4	
	comp=N,18nm,4.5s						
HTMS	**Hat Mesa**	**4.59**	**168**	Pn	Pn	05 55 04.3	-0.7
SRU	**San Rafael Swe**	**5.02**	**297**	IAmb_Lg		05 56 35.6	
	comp=Z,3.8nm,0.8s						

*IDC **06**

EKA	Eskdalemuir Ar	125.80	344	PKP	PKiKP	06 19 12.5	+1.0
	0.3nm,0.4s,baz=27,slow=2.1,SNR=1.4						
BDFB	Brasilia	151.09	134	PKPbc	PKPbc	06 20 04.3	+0.5
	3.3nm,0.6s,baz=226,slow=1.1,SNR=9.6						
DBIC	Dimbokro	157.95	277	PKPab	PKPab	06 20 41.0	+0.4
	2.0nm,0.6s,baz=111,slow=6.0,SNR=3.6						

*IDC **06** 06:01:00.8±0.8, 26°.40N×142°.66E, h0km, mb4.0/13, mbtmp4.0/15, ML3.3/2, MS3.2/6, Error ellipse: s-maj=31.2km s-min=10.3km az=67.0*
*JMA **06** 06:01:03.4±0.3, 26°.6N±0°.8×14°.3E±°, h10km, MD4.0/10, MV4.6/10, NEAR CHICHIJIMA ISLAND*

ISC 06 06:01:05.9±0.9, 26°.58N±0°.08×142°.63E±0°.10, h31km, n32, σ1𝍠32/23, mb4.1/13, MS3.3/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	0.41	277	eP	Pb	06 01 14.7	-0.2
JHH2				eS	Sn	06 01 22.3	+0.1
JHH2	Haha-jima-NKT2	0.41	277	A	A	06 01 14.7	
	comp=N,15nm,0.4s,comp=E,14nm,2.2s						
CBIJ	Chichi jima	0.65	322	eP	Pn	06 01 18.4	-0.6
CBIJ				eS	Sb	06 01 29.6	+2.0
CBIJ	Chichi jima	0.65	322	A	A	06 01 18.4	
	comp=N,8.0nm,0.6s,comp=E,9.0nm,1.5s						
JCJ	Chichijima	0.65	322	LR	LR	06 01 08.3	
	comp=E,68nm,19.5s,baz=109,slow=9.1						
JCJ				Pg	Pn	06 01 18.1	-0.8
	comp=E,411nm,0.3s,baz=147,slow=17,SNR=63						
JCJ				Lg	Lg	06 01 28.2	
	comp=E,305nm,0.3s,baz=128,slow=19,SNR=9.6						
JHJ	Hachijo jima 2	6.97	340	Pn	Pn	06 02 45.8	0.0
	comp=E,3.1nm,0.3s,baz=72,slow=9.6,SNR=1.7						
	comp=E,103nm,0.8s						
BSO3	Boso 3	8.39	348	eP	Pn	06 03 05.8	+0.6
JHO	Hitachi	10.15	351	eP	Pn	06 03 29.4	0.0
JHO				eS	Sn	06 05 18.4	-3.9
MJAR	Matsushiro Arr	10.62	340	Pn	Pn	06 03 36.0	+0.2
	comp=E,0.1nm,0.3s,baz=159,slow=12,SNR=4.6						
MJAR				LR	LR	06 07 48.6	
	comp=E,62nm,18.9s,baz=224,slow=38						
	comp=E,0.9nm,0.3s						
JNU	Nakatsue	12.10	305	LR	LR	06 08 18.9	
	comp=E,93nm,19.0s,baz=126,slow=36						
KSRS	Korea Array	16.50	315	LR	LR	06 10 47.6	
	comp=E,102nm,20.5s,baz=130,slow=35						
H11N2	WAKE ISLAND Hy	23.31	102	T	T	06 30 27.9	
	baz=292,slow=75,SNR=5.8						
H11N1	WAKE ISLAND Hy	23.31	102	T	T	06 30 25.2	
	baz=292,slow=75,SNR=7.6						
H11N3	WAKE ISLAND Hy	23.33	102	T	T	06 30 31.3	
	baz=292,slow=75,SNR=5.6						
H11S3	WAKE ISLAND Hy	23.61	105	T	T	06 30 49.1	
	baz=294,slow=75,SNR=9.1						
H11S1	WAKE ISLAND Hy	23.61	105	T	T	06 30 46.7	
	baz=294,slow=75,SNR=12						
H11S2	WAKE ISLAND Hy	23.62	105	T	T	06 30 48.1	
	baz=294,slow=75,SNR=11						
PETK	Petropavlovsk-	28.79	19	LR	LR	06 19 04.3	
	comp=E,15nm,21.6s,baz=16,slow=37						
CMAR	Chiang Mai Arr	41.00	268	P	P	06 08 46.5	+0.2
	comp=E,1.6nm,0.3s,baz=67,slow=12,SNR=6.9						
CMAR				LR	LR	06 26 30.7	
	comp=E,37nm,18.1s,baz=85,slow=37						
	comp=E,1.6nm,0.3s						
WRA	Warramunga Arr	46.94	191	P	P	06 09 33.5	-0.4
	comp=E,5.1nm,0.9s,baz=11,slow=8.6,SNR=22						
	comp=E,5.1nm,0.9s						
ZALV	Zalesovo Beam	50.13	319	P	P	06 09 56.9	-1.2
	comp=E,0.4nm,0.3s,baz=126,slow=7.3,SNR=2.8						
	comp=E,0.4nm,0.3s						
ASAR	Alice Springs	50.66	190	P	P	06 10 00.2	-2.2
	comp=E,0.3nm,0.5s,baz=8.5,slow=6.0,SNR=4.3						
	comp=E,0.3nm,0.5s						
MKAR	Makanchi Array	51.11	310	P	P	06 10 05.9	+0.3
	comp=E,0.1nm,0.3s,baz=91,slow=6.3,SNR=2.3						
	comp=E,0.1nm,0.3s						
KURBB	Kurchatov Arra	53.68	315	P	P	06 10 24.3	-0.3
	comp=E,0.6nm,0.4s,baz=90,slow=7.7,SNR=10						
	comp=E,0.6nm,0.4s						
BVAR	Borovoye Array	58.69	318	P	P	06 11 00.6	+0.3
	comp=E,1.1nm,0.5s,baz=81,slow=9.2,SNR=5.4						
	comp=E,1.1nm,0.5s						
YKA	Yellowknife Ar	72.40	28	P	P	06 12 30.3	+1.6
	comp=E,0.3nm,0.8s,baz=292,slow=6.0,SNR=4.0						
	comp=E,0.3nm,0.8s						
ARCES	ARCESS Array B	74.15	341	P	P	06 12 40.9	+1.9
	comp=E,1.3nm,0.7s,baz=43,slow=6.6,SNR=5.6						
	comp=E,1.3nm,0.7s						
FINES	FINESS Array B	78.58	334	P	P	06 13 04.9	+0.8
	comp=E,2.2nm,0.4s,baz=70,slow=5.3,SNR=25						
	comp=E,2.2nm,0.4s						
KBZ	Khabaz	78.65	313	P	P	06 13 04.6	-0.2
	comp=E,2.7nm,0.8s,baz=92,slow=4.2,SNR=8.2						
	comp=E,2.7nm,0.8s						
JMIC	Jan Mayen	80.59	351	LR	LR	06 48 45.4	
	comp=E,39nm,20.4s,baz=256,slow=36						
HFS	Hagfors	84.05	337	P	P	06 13 33.6	+0.4
	comp=E,1.8nm,0.7s,baz=58,slow=5.4,SNR=6.5						
	comp=E,1.8nm,0.7s						
NOA	NORSAR Array B	84.23	338	P	P	06 13 34.9	+0.7
	comp=E,1.1nm,0.8s,baz=44,slow=4.8,SNR=3.8						
	comp=E,1.1nm,0.8s						

*THE **06** 06:05:37.8, 39°.31N×25°.60E, h10km±3km, ML2.4/8, Error ellipse: s-maj=3.7km s-min=0.7km az=121.0*
*ISK **06** 06:05:38.0, 39°.31N×25°.67E, h12km, ML2.6/22*
*AFAD **06** 06:05:38.6, 39°.30N×25°.71E, h6km±3km, ML2.5*
*ATH **06** 06:05:39.0, 39°.29N×25°.66E, h6km±2km, ML2.7/7, Manual Solution by S.Liakopoulos First location: 2019/04/06 06:06:50, This location: 2019/04/06 16:50:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 06 06:05:38.1±0.9, 39°.30N±0°.02×25°.64E±0°.02, h15km±6km, n61, σ0𝍠50/94, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.19	118	P	Pg	06 05 42.4	-0.1
SIGR				S	Sg	06 05 45.4	-0.1
	7μm,0.5s						
SIGR	SIGRI	0.19	118	Pg	Pg	06 05 42.3	-0.2
SIGR				Sg	Sg	06 05 45.5	-0.1
SIGR	SIGRI	0.19	118	P	Pg	06 05 42.5	-0.1
SIGR				S	Sg	06 05 45.4	-0.1
GPNR	Gulpinar-Canak	0.41	68	Pg	Pg	06 05 46.6	+0.2
GPNR				Sg	Sg	06 05 52.3	+0.3
KOCA	Canakkale, Ayv	0.43	62	P	Pg	06 05 47.1	+0.3
KOCA				S	Sg	06 05 52.5	-0.2
KOCA				i AML	AML	06 05 54.0	
	comp=N,551nm,0.2s						
KOCA				i AML	AML	06 05 55.0	
	comp=E,681nm,0.3s						
PRK	Paraskevi	0.49	96	P	Pg	06 05 48.0	+0.2
PRK				S	Sb	06 05 55.3	-0.1
	1μm,0.4s						
PRK	Paraskevi	0.49	96	P	Pg	06 05 48.0	+0.2
PRK				S	Sg	06 05 54.7	+0.3
EFSA	Agios Efstrati	0.56	295	P	Pb	06 05 50.0	+0.4
EFSA				S	Sb	06 05 58.2	+0.7
BOZC	Bozcaada	0.63	30	P	Pg	06 05 50.3	-0.1
BOZC				S	Sg	06 05 58.3	-0.4
BOZC				i AML	AML	06 06 01.0	
	comp=N,291nm,0.5s						
BOZC				i AML	AML	06 06 01.0	
	comp=E,340nm,0.2s						
EZNE	Ezine-Canakkal	0.72	51	Pg	Pg	06 05 51.9	-0.3
EZNE				Sg	Sb	06 06 02.1	+0.1
EZN	Ezine	0.74	45	P	Pg	06 05 52.3	-0.3
EZN				S	Sb	06 06 03.1	+0.4
	442nm,0.2s						
EZN	Ezine	0.74	45	Pg	Pg	06 05 52.3	-0.3
EZN				Sg	Sb	06 06 03.1	+0.4
AYVA	Ayvalik	0.81	89	P	Pg	06 05 53.7	-0.2
AYVA				S	Sg	06 06 04.5	0.0
BAYC	CANAKKALE_Bayr	0.82	57	P	Pb	06 05 53.7	-0.4
BAYC				S	Sg	06 06 04.5	-0.5
BAYC				i AML	AML	06 06 06.0	
	comp=N,128nm,0.5s						
EAG2	Marmaro, Chios	0.84	154	P	Pn	06 05 55.1	-0.3
EAG2				S	Sg	06 06 06.0	+0.6
ECEA	Canakkale, Ece	0.85	29	P	Pb	06 05 54.4	-0.1
ECEA				S	Sg	06 06 06.4	+0.7
KARB	zmir-Karabur	0.87	137	P	Pg	06 05 55.3	+0.3
KARB				S	Sb	06 06 06.3	-0.2
KARB				i AML	AML	06 06 09.0	
	comp=N,79nm,0.2s						
KARB				i AML	AML	06 06 09.0	
	comp=E,126nm,0.3s						
GOAD	anakkale-G¶	0.88	13	P	Pb	06 05 55.1	-0.1
GOAD				S	Sg	06 06 07.6	+0.7
GOAD				i AML	AML	06 06 10.0	
	comp=N,271nm,0.2s						
GOAD				i AML	AML	06 06 10.0	
	comp=E,308nm,0.3s						
GADA	Gvkgeada	0.91	12	Pg	Pb	06 05 55.2	-0.4
GADA				Sg	Sn	06 06 09.4	+0.2
CNKL	anakkale-Mer	0.96	37	P	Pb	06 05 56.4	+0.1
CNKL				S	Sg	06 06 09.6	+0.4
CNKL				i AML	AML	06 06 12.0	
	comp=N,172nm,0.4s						
CNKL				i AML	AML	06 06 14.0	
	comp=E,177nm,0.4s						
DKL	Dikili	1.01	103	Pg	Pg	06 05 57.6	0.0
COMU	Canakkale	1.02	38	Pg	Pg	06 05 57.8	-0.1
FOCM	Foa	1.03	124	Pg	Pg	06 05 58.1	+0.1
IZMD	zmir-Dikili-	1.05	107	P	Pg	06 05 59.2	+0.8
IZMD				S	Sb	06 06 11.0	-0.5
BUHA	Balikesir, Bur	1.13	79	P	Pn	06 05 59.5	+0.2
BUHA				S	Sb	06 06 12.9	-0.9
BUHA				i AML	AML	06 06 16.0	
	comp=E,123nm,0.4s						
BUHA				i AML	AML	06 06 17.0	
	comp=N,116nm,0.4s						
YAYO	Edremit-Balk	1.15	74	Pn	Pn	06 05 59.3	-0.3
YAYO				Sn	Sg	06 06 15.6	+0.3
SMTH	Samothraki Isl	1.17	356	P	Pn	06 05 59.8	-0.2
SMTH				S	Sn	06 06 15.6	-0.1
	65nm,0.4s						
SMTH	Samothraki Isl	1.17	356	P	Pb	06 06 00.4	+0.3
SMTH				S	Sg	06 06 17.4	+1.4
URLA	Izmir	1.20	141	P	Pn	06 06 00.2	-0.1
URLA				i AML	AML	06 06 20.0	
	comp=E,85nm,1.2s						
URLA				i AML	AML	06 06 21.0	
	comp=N,88nm,0.5s						
ZEYE	Izmir, Urla-Ze	1.25	147	P	Pb	06 06 01.6	+0.2
ZEYE				S	Sb	06 06 16.8	-0.6
ZEYE				i AML	AML	06 06 22.0	
	comp=N,109nm,0.3s						
ZEYE				i AML	AML	06 06 25.0	
	comp=E,72nm,0.4s						
GELI	Tayfur-Gelibol	1.27	30	Pn	Pn	06 06 01.5	+0.2
CANM	Can-anakkale	1.30	56	Pn	Pb	06 06 02.3	+0.1
LPK	Lapseki	1.37	38	Pn	Pb	06 06 03.3	-0.2
KYMI	Kymi, Euboea I	1.38	242	P	Pn	06 06 02.3	-0.5
KYMI				S	Sn	06 06 19.9	-0.8
	92nm,0.4s						
YENI	Yenice-Canakka	1.39	62	Pn	Pn	06 06 03.2	+0.2
BLCB	Balcova	1.42	129	Pn	Pb	06 06 04.4	+0.1
SOMA	Soma-Manisa	1.48	95	Pn	Pn	06 06 04.6	+0.5
ENEZ	Enez	1.49	15	P	Pn	06 06 04.2	-0.1
ENEZ				S	Sb	06 06 24.1	0.0
	158nm,0.5s						
ENEZ	Enez	1.49	15	Pn	Pn	06 06 04.6	+0.3
THAS	Thassos island	1.49	332	P	Pn	06 06 02.7	-1.6
THAS				S	Sn	06 06 22.4	-1.0
	122nm,0.4s						
THAS	Thassos island	1.49	332	P	Pg	06 06 07.1	+0.5
ERIK	Erikli-Kesan	1.52	26	Pn	Pb	06 06 05.1	+0.3
KARY	Karystos	1.58	217	P	Pb	06 06 07.7	+0.7
BALY	Balya	1.59	73	P	Pn	06 06 06.1	+0.3
BALY				S	Sn	06 06 25.6	-0.5
BALY				i AML	AML	06 06 30.0	
	comp=N,106nm,0.5s						
BALY				i AML	AML	06 06 34.0	
	comp=E,62nm,0.3s						
STEP	BALIKESIR_Sava	1.61	87	P	Pb	06 06 08.2	+0.6
STEP				S	Sb	06 06 27.4	-0.3
STEP				i AML	AML	06 06 32.0	
	comp=E,80nm,0.6s						
STEP				i AML	AML	06 06 34.0	
	comp=N,112nm,0.8s						
ALN	Alexandroupoli	1.62	11	P	Pn	06 06 06.2	0.0
ALN				S	Sn	06 06 26.9	+0.1
	45nm,0.4s						
ALN	Alexandroupoli	1.62	11	Pn	Pn	06 06 06.8	+0.6
PAIG	Paliouri	1.64	293	Pn	Pb	06 06 07.9	-0.2
OUR	Ouranopolis	1.65	309	Pn	Pb	06 06 07.8	-0.3
KRBG	Karabiga-Canak	1.68	49	Pn	Pn	06 06 07.2	+0.3
GONE	Gonen-Balikesi	1.74	64	Pn	Pn	06 06 08.7	+0.9
KNL	Balıkesir	1.74	56	P	Pn	06 06 08.5	+0.6
KNL				S	Sn	06 06 28.9	-0.9
KNL				i AML	AML	06 06 35.0	
	comp=E,73nm,0.6s						
KNL				i AML	AML	06 06 39.0	
	comp=N,53nm,0.4s						
TNSA	Tinos	1.80	192	P	Pb	06 06 10.4	-0.3
DION	Dionisos Attik	1.81	228	P	Pb	06 06 11.4	+0.5
RKY	Sarkoy-Tekirda	1.82	40	Pn	Pn	06 06 09.7	+0.8
BKES	Balkesir-Mer	1.82	76	P	Pg	06 06 12.1	-0.9
RDO	Rodhopi	1.84	357	Pn	Pn	06 06 09.4	+0.2
SUSR	Susurluk-Balik	2.00	70	Pn	Pn	06 06 12.2	+0.9
ODEM	Odemis-Izmir	2.16	118	Pn	Pn	06 06 14.5	+0.9
AYDB	Zeytinkoy-Aydi	2.22	127	Pn	Pn	06 06 15.5	+1.0
APE	Apeiranthos	2.23	182	Pn	Pn	06 06 14.7	+0.1

*WEL **06** 06:13:40.7±0.3, 40°.5N±2°.×17°.5E±°, h12km, M3.4/20, ML3.6/22, MLv3.4/20, Error ellipse: s-maj=2.9km s-min=2.7km az=60.8, confirmed*
*NOU **06** 06:13:42.0, 40°.23S×174°.89E, h29km, MLv3.4/12, Cook Strait, New Zealand*

ISC 06 06:13:41.3±0.9, 40°.21S±0°.02×174°.90E±0°.02, h22km±7km, n113, σ0𝍠79/123, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	Ohakea	0.32	90	P	Pb	06 13 48.1	-0.3
OHWZ				S	Sb	06 13 53.7	+0.5
WAZ	Wanganui	0.46	8	P	Pb	06 13 50.5	-0.2
WAZ				S	Sb	06 13 57.6	+0.5
OGWZ	Otaki Gorge	0.64	162	P	Pb	06 13 53.6	-0.4
KIW	Kapiti Island	0.65	179	P	Pb	06 13 53.4	-0.7
MRZ	Mangatainoka R	0.69	132	P	Pb	06 13 54.5	-0.1
MRZ				S	Sb	06 14 04.0	+0.3
POWZ	Post Office Ro	0.69	106	P	Pb	06 13 54.5	-0.2
POWZ				S	Sb	06 14 03.8	0.0
TSZ	Takapari Road	0.82	80	P	Pb	06 13 56.6	-0.5
TSZ				S	Sb	06 14 07.2	-0.6
HOWZ	Holdsworth Sta	0.83	146	P	Pb	06 13 57.2	+0.1
HOWZ				S	Sb	06 14 08.2	+0.3
LREZ	Lake Rotokare	0.84	333	P	Pb	06 13 57.5	+0.3
LREZ				S	Sn	06 14 10.2	+0.8
PRWZ	Pori Road	0.89	113	P	Pb	06 13 58.5	0.0
CAW	Cannon Point	0.91	172	P	Pb	06 13 58.1	-0.3
CAW				S	Sb	06 14 10.0	-0.2
MTVZ	Mangateitei	0.93	28	P	Pb	06 13 57.6	-1.2
TIWZ	Tintock	0.94	128	P	Pn	06 13 59.3	0.0
DUWZ	D'Urville Isla	0.95	231	P	Pb	06 13 58.5	-0.7
DVHZ	Dannevirke	0.97	96	P	Pn	06 13 59.6	-0.1
DVHZ				S	Sn	06 14 12.3	-0.5
PKVZ	Pokaka	0.98	21	P	Pb	06 13 58.5	-1.1
WNVZ	Wahianoa	1.03	32	P	Pb	06 13 59.3	-1.2
MOVZ	Moawhango	1.03	40	P	Pb	06 13 58.8	-1.7
TRVZ	Turoa	1.03	29	P	Pb	06 13 59.4	-1.3
PREZ	Palmer Road	1.04	326	P	Pn	06 14 00.9	+0.4
PNHZ	Pukenui	1.04	74	P	Pb	06 14 00.0	-0.6
WHVZ	Whangaehu Hut	1.06	30	P	Pb	06 13 59.8	-1.4
MAVZ	Matarangi	1.07	29	P	Pb	06 13 60.0	-1.3
FWVZ	Far West T-bar	1.07	28	P	Pb	06 13 59.9	-1.5
WEL	Wellington	1.08	185	P	Pb	06 14 00.9	-0.5
VRZ	Vera Road	1.09	354	P	Pn	06 14 01.0	-0.2
TUVZ	Tukino	1.10	32	P	Pn	06 14 00.6	-1.0
TCW	Tory Channel	1.11	205	P	Pn	06 14 00.7	-0.8
SNZO	South Karori	1.11	188	P	Pn	06 14 01.2	-0.4
SNZO	South Karori	1.11	188	S	Sb	06 14 15.6	-0.3
NMEZ	Namu Road	1.12	315	P	Pb	06 14 02.2	+0.3
COVZ	Chateau Observ	1.12	26	P	Pn	06 14 00.7	-1.1
NEZ	North Egmont	1.12	326	P	Pn	06 14 02.2	+0.4
BFZ	Birch Farm	1.13	115	P	Pn	06 14 01.7	-0.1
BFZ	Birch Farm	1.13	115	P	Pn	06 14 01.9	+0.1
KHEZ	Kahui Hut	1.14	323	P	Pb	06 14 02.7	+0.3
KHEZ	Kahui Hut	1.14	323	P	Pb	06 14 02.6	+0.2
NGZ	Ngauruhoe	1.16	28	P	Pn	06 14 01.5	-0.9
SNVZ	South Ngauruho	1.17	29	P	Pn	06 14 01.6	-0.9
TMWZ	Te Maipa	1.17	140	P	Pn	06 14 02.5	0.0
WPHZ	Waipukurau	1.19	84	P	Pb	06 14 03.5	+0.3
OTVZ	Oturere	1.20	30	P	Pn	06 14 02.1	-0.8
BHW	Baring Head	1.20	181	P	Pb	06 14 03.3	-0.1
NNVZ	North Ngauruho	1.21	27	P	Pn	06 14 02.0	-1.1
TWVZ	Taurewa	1.21	20	P	Pn	06 14 01.7	-1.3
WTVZ	West Tongariro	1.21	26	P	Pn	06 14 02.0	-1.1
CPWZ	Castlepoint	1.21	126	P	Pb	06 14 04.7	+1.1
NBEZ	Newall Road No	1.23	319	P	Pb	06 14 04.1	+0.2
MSWZ	Moikau Station	1.24	168	P	Pb	06 14 04.0	0.0
ETVZ	East Tongariro	1.24	31	P	Pn	06 14 02.7	-0.7
KRVZ	Karewarewa	1.25	27	P	Pn	06 14 02.6	-1.0
TMVZ	Te Maari	1.25	30	P	Pn	06 14 03.0	-0.6
NTVZ	North Tongarir	1.26	29	P	Pn	06 14 02.9	-0.8
KRHZ	Kereru	1.26	64	P	Pn	06 14 03.6	-0.1
PRHZ	Porangahau	1.33	93	P	Pb	06 14 05.7	+0.1
KATZ	Kakaramea	1.37	27	P	Pn	06 14 04.6	-0.7
PLWZ	Palliser	1.39	169	P	Pb	06 14 06.7	+0.1
KWHZ	Kaweka Forest	1.41	57	P	Pn	06 14 05.9	+0.2
TUWZ	Tuamarina	1.42	210	P	Pn	06 14 06.2	+0.4
RITZ	Rihia Road	1.43	31	P	Pn	06 14 04.6	-1.5
PXZ	Pawanui	1.51	84	P	Pb	06 14 09.5	+0.8
NNZ	Nelson	1.54	228	P	Pn	06 14 07.7	+0.3
KAHZ	Kahuranaki	1.57	75	P	Pn	06 14 08.6	+0.7
MCHZ	McNeill Hill	1.58	62	P	Pb	06 14 09.9	+0.1
HATZ	Hinemaiaia	1.60	35	P	Pn	06 14 08.5	+0.1
BKZ	Black Stump Fm	1.61	50	P	Pn	06 14 09.0	+0.5
BKZ	Black Stump Fm	1.61	50	S	Sb	06 14 30.2	-0.1
BKZ	Black Stump Fm	1.61	50	P	Pn	06 14 08.9	+0.5
WATZ	Wairara	1.63	24	P	Pn	06 14 08.6	-0.1
HIZ	Hauiti	1.69	359	P	Pn	06 14 09.4	-0.1
HIZ	Hauiti	1.69	359	S	Sn	06 14 31.1	+0.6
HIZ	Hauiti	1.69	359	P	Pn	06 14 09.5	0.0
TKNZ	Takaka Hill	1.69	240	P	Pn	06 14 10.7	+1.1
BSWZ	Blackbirch Sta	1.70	207	P	Pb	06 14 10.8	-1.0
MRHZ	Matea Rd	1.80	41	P	Pn	06 14 12.4	+1.2
NMHZ	Naumai	1.84	54	P	Pb	06 14 13.3	-1.0
KUTZ	Kaahu Road	1.86	23	P	Pb	06 14 14.0	-0.6
ARHZ	Aropaoanui	1.87	60	P	Pb	06 14 15.4	+0.6
QRZ	Quartz Range	1.91	250	P	Pn	06 14 12.9	+0.3
QRZ	Quartz Range	1.91	250	P	Pn	06 14 12.9	+0.3
TLZ	Tolley Road	1.94	15	P	Pn	06 14 12.5	-0.5
WPRZ	Whakapapatarin	1.95	31	P	Pn	06 14 13.5	+0.4
ALRZ	Allen Road	1.99	35	P	Pn	06 14 13.7	+0.1
MRNZ	Matariki Terra	2.02	233	P	Pn	06 14 15.2	+1.2
MRNZ				S	Sb	06 14 40.6	-1.4
MTHZ	Maungataniwha	2.02	49	P	Pn	06 14 14.4	+0.3
PRRZ	Plateau Road	2.06	35	P	Pn	06 14 14.7	+0.1
HRRZ	Handcock Road	2.11	31	P	Pn	06 14 16.1	+0.8
RAHZ	Arahi	2.12	53	P	Pn	06 14 17.5	+2.0
THZ	Tophouse	2.17	224	P	Pn	06 14 17.8	+1.7
RRRZ	Republican Roa	2.25	34	P	Pb	06 14 21.5	+0.2
RTZ	Ruatahuna	2.26	46	P	Pn	06 14 19.4	+1.9
TARZ	Mount Tarawera	2.33	33	P	Pb	06 14 23.9	+1.2
SNGZ	Shannon Statio	2.36	54	P	Pb	06 14 22.6	-0.6
KHZ	Kahutara	2.44	204	P	Pn	06 14 20.1	+0.4
KHZ	Kahutara	2.44	204	S	Sn	06 14 48.4	-0.4
KHZ	Kahutara	2.44	204	P	Pn	06 14 20.2	+0.4
TOZ	Tahuroa Road	2.52	11	P	Pn	06 14 20.2	-0.7
URZ	Urewera	2.59	42	P	Pn	06 14 21.7	-0.2
URZ	Urewera	2.59	42	P	Pn	06 14 21.7	-0.2
TGRZ	Tauranga	2.69	24	P	Pn	06 14 25.8	+2.5
MWZ	Matawai	2.77	48	P	Pn	06 14 25.1	+0.8
DSZ	Denniston Nort	2.80	236	P	Pn	06 14 26.0	+1.1
GVZ	Greta Valley S	3.09	206	P	Pn	06 14 28.5	-0.3
MAAZ	Moumakai	3.10	4	P	Pn	06 14 28.5	-0.5
RUGZ	Raukumara Rang	3.11	45	P	Pn	06 14 29.6	+0.4
AWAZ	Awhitu Peninsu	3.14	356	P	Pn	06 14 29.8	+0.2
LTZ	Lake Taylor	3.24	217	P	Pn	06 14 30.9	0.0
HAZ	Te Kaha	3.32	43	P	Pn	06 14 32.0	+0.1
PKGZ	Pakihiroa	3.40	48	P	Pn	06 14 33.1	0.0
INZ	Inchbonnie	3.62	225	P	Pn	06 14 36.3	+0.3
OKCZ	Okains Bay	3.77	201	P	Pn	06 14 36.9	-1.3
TMZ	Timaru	5.08	213	P	Pn	06 14 55.6	-0.5
JCZ	Jackson Bay	5.97	228	P	Pn	06 15 09.9	+1.5

*ISU **06** 06:29:19, 40°.25N×72°.01E, h1km*
*KRNET **06** 06:29:21.6±0.1, 40°.24N×71°.87E, h12km, mb2.5*

ISC 06 06:29:21.0±1.1, 40°.24N±0°.03×71°.93E±0°.04, h11km±9km, n13, σ1𝍠13/24, 15C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRG	Fergana	0.17	320	P	Pg	06 29 24.5	-0.3
FRG				S	Sg	06 29 28.3	+0.9
CHMI	Chimion	0.31	275	P	Pb	06 29 27.8	-0.9
CHMI				S	Sb	06 29 33.9	+0.1
OHH	Osh	0.71	67	↑eP	Pn	06 29 36.2	-1.0

COYC	Coyhaique	16.93	122	P	Pn	06 42 14.3	+1.3
ML02	Panimavida	17.20	88	P	P	06 42 18.5	+0.4
ML02				IAmb	IAmb	06 42 34.5	
	comp=Z,26nm,1.1s						
PLCA	Paso Flores	17.26	105	P	P	06 42 19.4	+0.6
PLCA	Paso Flores	17.26	105	P	P	06 42 19.6	+0.8
	baz=267,slow=10.0,SNR=5.5						
PLCA				LR	LR	06 46 22.2	
	comp=Z,148nm,20.1s,baz=272,slow=28						
	comp=Z,3.9nm,1.0s						
VA05	Santo Domingo	17.71	81	P	P	06 42 23.8	+0.2
VA05				IAmb	IAmb	06 42 26.9	
	comp=Z,26nm,0.8s						
MT01	Popeta	17.92	82	P	Pn	06 42 25.9	+0.6
MT09	Talagante	18.15	82	P	Pn	06 42 28.2	-0.2
MT09				IAmb	IAmb	06 42 33.2	
	comp=Z,28nm,0.8s						
BO04	La Punta	18.37	83	P	Pn	06 42 31.3	+0.3
MT03	Universidad Ad	18.63	82	P	Pn	06 42 34.5	+0.4
MT03				IAmb	IAmb	06 42 46.0	
	comp=Z,28nm,1.2s						
MT16	CCHEN	18.64	81	P	P	06 42 32.4	-1.6
MT16				IAmb	IAmb	06 42 36.8	
	comp=Z,23nm,1.0s						
LMEL	Las Melosas	18.74	83	P	P	06 42 33.9	-1.3
LMEL				IAmb	IAmb	06 42 39.4	
	comp=Z,31nm,1.3s						
MT08	Bocatoma Ro	19.03	82	P	P	06 42 38.0	-0.4
CO02	Combarbal	19.20	75	P	P	06 42 40.6	+0.4
CO02				IAmb	IAmb	06 42 44.1	
	comp=Z,24nm,0.8s						
GO04	Tololo Observa	19.85	72	P	P	06 42 48.2	+0.7
GO04				IAmb	IAmb	06 42 51.9	
	comp=Z,21nm,0.9s						
CO01	Juntas del Tor	20.48	73	P	Pn	06 42 55.7	-0.7
ZON	Zonda	20.82	78	P	P	06 42 58.5	+0.7
ZON				IAmb	IAmb	06 43 03.3	
	comp=Z,36nm,1.3s						
AC05	El Transito	20.94	70	P	P	06 42 58.9	-0.3
AC05				IAmb	IAmb	06 43 04.0	
	comp=Z,19nm,0.9s						
CFA	Coronel Fontan	21.14	79	P	P	06 43 01.8	+0.6
	comp=Z,6.9nm,0.7s,baz=247,slow=12,SNR=26						
	comp=Z,6.9nm,0.7s						
AC02	Maricunga	22.90	67	P	P	06 43 20.6	0.0
GO02	Mina Guanaco	23.59	63	P	P	06 43 27.0	-0.3
TRQA	Tornquist	24.11	99	P	P	06 43 32.9	+0.9
TRQA				IAmb	IAmb	06 43 51.1	
	comp=Z,16nm,1.3s						
AF01	San Pedro de A	26.00	61	P	P	06 43 49.7	+0.2
PB11	IPOC Station P	27.27	54	P	P	06 44 00.5	-0.3
PB11				IAmb	IAmb	06 44 33.8	
	comp=Z,11nm,1.1s						
NNA	Nana	29.85	33	LR	LR	06 53 08.8	
	comp=Z,280nm,19.5s,baz=212,slow=30						
LPAZ	La Paz	30.83	51	P	P	06 44 33.1	+0.2
LPAZ	La Paz	30.83	51	P	P	06 44 33.1	+0.2
	comp=Z,8.5nm,0.9s,baz=202,slow=4.6,SNR=15						
LPAZ				LR	LR	06 55 02.1	
	comp=Z,76nm,18.5s,baz=248,slow=33						
	comp=Z,8.5nm,0.9s						
LPAZ	La Paz	30.83	51	eP	P	06 44 33.2	+0.2
PMSA	Palmer Station	31.35	157	LR	LR	06 53 28.9	
	comp=Z,214nm,20.6s,baz=320,slow=29						
CPUP	Villa Florida	32.03	79	P	P	06 44 42.6	-0.3
	comp=Z,4.7nm,0.7s,baz=253,slow=8.9,SNR=11						
CPUP				LR	LR	06 55 23.0	
	comp=Z,119nm,18.6s,baz=244,slow=32						
	comp=Z,4.7nm,0.7s						
ATAH	Atahualpa	33.69	26	LR	LR	06 55 18.4	
	comp=Z,230nm,20.7s,baz=223,slow=30						
SIV	San Ignacio	35.63	60	LR	LR	06 58 03.8	
	comp=Z,144nm,20.5s,baz=288,slow=33						
AQDB	Aquidauana	36.55	71	P	P	06 45 21.3	-0.7
AQDB	Aquidauana	36.55	71	eP	P	06 45 21.6	-0.5
COHC	Cochancay	37.80	22	P	P	06 45 33.4	+0.8
VILB	Vilhena	38.39	58	P	P	06 45 37.1	-0.6
VILB				IAmb	IAmb	06 45 38.5	
	comp=Z,11nm,0.9s						
VILB	Vilhena	38.39	58	eP	P	06 45 37.7	0.0
SAML	Samuel	39.54	50	P	P	06 45 46.9	-0.4
SAML	Samuel	39.54	50	eP	P	06 45 46.9	-0.4
SLOR	San Lorenzo -	39.67	23	P	P	06 45 49.6	+0.7
SLOR				IAmb	IAmb	06 45 51.2	
	comp=Z,7.3nm,0.9s						
OTAV	Otavalo	40.60	22	P	P	06 45 56.4	-0.2
OTAV				IAmb	IAmb	06 45 58.4	
	comp=Z,9.6nm,1.0s						
OTAV	Otavalo	40.60	22	eP	P	06 45 57.4	+0.8
PDRB	Porto dos Gac	41.69	60	eP	P	06 46 05.1	0.0
ARAG	Araguaiana, MT	42.41	69	eP	P	06 46 10.6	-0.4
SNDB	Serra Nova Dou	45.24	66	eP	P	06 46 33.0	-0.8
BDFB	Brasilia	45.27	73	P	P	06 46 33.8	-0.3
	comp=Z,3.5nm,0.7s,baz=222,slow=6.3,SNR=6.3						
BDFB				LR	LR	07 04 26.7	
	comp=Z,158nm,18.3s,baz=227,slow=35						
	comp=Z,3.5nm,0.7s						
NPGB	Novo Progresso	45.94	57	eP	P	06 46 38.4	-0.9
ROSC	El Rosal	46.26	26	LR	LR	07 04 34.4	
	comp=Z,204nm,18.2s,baz=58,slow=34						
ITTB	Itaituba	47.72	54	eP	P	06 46 51.6	-1.6
JANB	Januaria	48.42	75	eP	P	06 46 57.9	-0.9
JTS	Las Juntas de	48.94	10	LR	LR	07 02 25.5	
	comp=Z,169nm,20.8s,baz=194,slow=30						
SDBA	SAO DESIDERIO	49.64	72	eP	P	06 47 07.9	-0.1
SDV	Santo Domingo	51.33	28	LR	LR	07 07 29.9	
	comp=Z,348nm,19.2s,baz=116,slow=34						
QSPA	South Pole Qui	51.86	180	P	P	06 47 24.5	+0.2
QSPA				IAmb	IAmb	06 48 01.0	
	comp=Z,5.8nm,1.4s						
QSPA	South Pole Qui	51.86	180	P	P	06 47 26.5	+2.2
	comp=Z,0.8nm,0.8s,baz=151,slow=1.5,SNR=5.8						
QSPA				LR	LR	07 05 29.3	
	comp=Z,77nm,20.9s,baz=107,slow=31						
	comp=Z,0.8nm,0.8s						
CMC01	Camacan, BA	51.91	79	eP	P	06 47 25.3	+0.2
BAUV	El Baul	52.40	31	P	P	06 47 27.9	-0.7
SNAA	Sanae	54.07	157	P	P	06 47 38.3	-2.1
SNAA				IAmb	IAmb	06 47 43.1	
	comp=Z,7.4nm,1.5s						
SNAA	Sanae	54.07	157	LR	LR	07 07 26.3	
	comp=Z,71nm,18.9s,baz=290,slow=32						
PCRV	Puerto La Cruz	54.95	34	LR	LR	07 08 51.9	
	comp=Z,120nm,20.4s,slow=34						
SBA	Scott Base	54.99	195	P	P	06 47 47.6	+0.7
CMIG	Matias Romero	55.20	357	LR	LR	07 05 26.9	
	comp=Z,47nm,21.8s,baz=182,slow=30						
VNDA	Vanda	56.09	195	P	P	06 47 54.5	-0.4
VNDA	Vanda	56.09	195	LR	LR	07 08 00.3	
	comp=Z,105nm,18.8s,baz=237,slow=32						
MDP	Montagnes des	57.01	50	LR	LR	07 09 52.7	
	comp=Z,124nm,19.6s,baz=124,slow=33						
URZ	Urewera	67.70	238	LR	LR	07 11 09.2	
	comp=Z,187nm,19.0s,baz=236,slow=29						
HNDO	Hondo	67.82	354	P	P	06 49 15.3	+1.1
TUWZ	Tuamarina	68.09	234	P	P	06 49 15.2	-0.7
TXAR	Lajitas Array	68.12	350	P	P	06 49 16.9	+0.7
TXAR	Lajitas Array	68.12	350	P	P	06 49 16.3	+0.2
	comp=Z,0.8nm,0.7s,baz=168,slow=6.4,SNR=4.6						
	comp=Z,0.8nm,0.7s						
TX31	Lajitas Ar. Si	68.12	350	P	P	06 49 16.5	+0.3
TX31				IAmb	IAmb	06 49 19.9	
	comp=Z,3.3nm,1.2s						
NIUE	Niue	68.56	262	P	P	06 49 19.1	-0.1
PRN	Pahroc Range	78.16	342	P	P	06 50 16.4	+0.9
PRN				IAmb	IAmb	06 50 20.7	
	comp=Z,4.5nm,1.1s						
DSP	Deep Springs	78.88	340	P	P	06 50 21.8	+2.7
DSP				IAmb	IAmb	06 50 23.6	
	comp=Z,7.9nm,1.4s						
NVAR	Mina Array Bea	79.96	340	P	P	06 50 24.2	-1.2
	comp=Z,2.5nm,1.0s,baz=161,slow=5.2,SNR=9.7						
	comp=Z,2.5nm,1.0s						
PDAR	Pinedale Array	82.19	348	P	P	06 50 36.2	-0.9
	comp=Z,1.2nm,0.8s,baz=180,slow=5.3,SNR=9.8						
	comp=Z,1.2nm,0.8s						
SADO	Sadowa	83.66	10	LR	LR	07 21 49.4	
	comp=Z,148nm,21.0s,baz=270,slow=31						
DZM	Mont Dzumac	84.61	246	eLR	LR	07 17 32.2	
	comp=Z,120nm,23.8s						
DZM	Mont Dzumac	84.61	246	LR	LR	07 22 05.8	
	comp=Z,32nm,18.0s,baz=216,slow=31						
SUR	Sutherland	86.34	129	LR	LR	07 27 13.2	
	comp=Z,32nm,18.8s,baz=217,slow=34						
DBIC	Dimbokro	92.43	83	LR	LR	07 28 28.9	
	comp=Z,54nm,20.0s,baz=326,slow=33						
STKA	Stephens Creek	93.74	224	LR	LR	07 26 23.3	
	comp=Z,57nm,19.1s,baz=202,slow=31						
KBZ	Khabaz	146.42	66	PKPbc	PKPab	06 57 58.7	+0.9
	comp=Z,0.5nm,0.4s,baz=216,slow=8.7,SNR=4.3						
KSRS	Korea Array	148.09	281	PKPbc	PKPbc	06 58 01.0	-0.7
	comp=Z,0.7nm,0.5s,baz=122,slow=4.5,SNR=4.9						

*IDC **06** 06:46:42.7±1.0, 10°.24N×125°.78E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=64.3km s-min=23.8km az=66.0*

ISC 06 06:46:44.4±1.0, 10°.2N±0°.2×125°.8E±0°.4, h10km, n8, σ1°46/8, mb4.1/7, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	34.61	167	P	P	06 53 34.7	+0.9
	0.2nm,0.4s,baz=340,slow=8.1,SNR=6.3						
	0.2nm,0.4s						
MKAR	Makanchi Array	51.77	323	P	P	06 55 53.3	+1.0
	1.2nm,0.6s,baz=123,slow=8.0,SNR=14						
	1.2nm,0.6s						
KURBB	Kurchatov Arra	55.83	326	P	P	06 56 21.6	-0.2
	1.5nm,0.6s,baz=124,slow=7.2,SNR=13						
	1.5nm,0.6s						
BVAR	Borovoye Array	61.42	326	P	P	06 57 01.3	+0.5
	0.7nm,0.5s,baz=136,slow=11,SNR=4.0						
	0.7nm,0.5s						
ILAR	Eielson Array	79.70	26	P	P	06 58 52.9	+0.8
	0.3nm,0.8s,baz=228,slow=3.1,SNR=5.1						
	0.3nm,0.8s						
ARCES	ARCESS Array B	84.07	340	P	P	06 59 14.3	-0.8
	1.3nm,0.7s,baz=75,slow=5.9,SNR=3.8						
	1.3nm,0.7s						
FINES	FINESS Array B	85.70	332	P	P	06 59 21.6	-1.8
	1.1nm,0.4s,baz=76,slow=5.1,SNR=14						
	1.1nm,0.4s						
PLCA	Paso Flores	146.35	157	PKPbc	PKPbc	07 06 23.9	-2.1
	1.7nm,0.9s,baz=203,slow=11,SNR=3.3						

*UCR **06** 07:24:11.5±0.9, 13°.96N×90°.59W, h34km±999km, MW3.5*
*SNET **06** 07:24:32.8±1.3, 13°.09N×89°.29W, h47km, ML3.8*

ISC 06 07:24:32.5±1.5, 13°.07N±0°.06×89°.32W±0°.06, h24km±15km, n34, σ0°68/41, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.41	360	iP	Pn	07 24 42.6	-0.4
LALI				eS	Sn	07 24 50.2	+0.3
LOMA	Loma Larga	0.59	14	eP	Pn	07 24 44.9	-0.6
LOMA				eS	Sn	07 24 55.0	+0.7
JAYA	Jayaque - finc	0.59	348	eP	Pb	07 24 44.7	+0.3
JAYA				eS	Sn	07 24 54.6	0.0
ITCA	Escuela Especi	0.60	4	eP	Pb	07 24 44.8	+0.3
LFRS	El Faro	0.60	25	iP	Pn	07 24 45.0	-0.6
AEIL	Aeropuerto Ilo	0.65	18	eP	Pn	07 24 46.1	-0.2
BOQS	Boqueron	0.66	3	eP	Pn	07 24 46.0	-0.6
COEG	Centro de Oper	0.69	38	eP	Pb	07 24 45.8	-0.2
COEG				eS	Sn	07 24 56.7	-0.2
LFU	La Fuente	0.70	17	eP	Pn	07 24 46.6	-0.4
CEDA	San Andres	0.73	354	eP	Pb	07 24 46.8	+0.1
ALJI	Alcalda de J	0.77	71	eP	Pb	07 24 46.7	-0.6
CEVE	Cerro Verde	0.81	338	eP	Pb	07 24 47.7	-0.4
NUBE	Las Nubes	0.94	332	eP	Pb	07 24 49.0	-1.3
BLLM	Bellamira	1.11	71	eP	Pn	07 24 52.1	-0.6
LLGN	La Laguna	1.14	19	eP	Pn	07 24 52.6	-0.5
LLGN				eS	Sn	07 25 09.7	+1.6
CAHU	Cacacuatique	1.28	57	eP	Pn	07 24 55.0	-0.2
MTO3	Montecristo	1.32	358	eP	Pn	07 24 55.1	-0.6
LCND	La Caada	1.41	80	eP	Pn	07 24 55.7	-1.0
LCND				eS	Sn	07 25 14.1	-0.4
CNCH	Conchagua	1.46	82	eP	Pn	07 24 56.2	-1.3
ESQI	Esquipulas	1.48	359	eP	Pn	07 24 57.5	-0.2
ALIBA	Liberia Airpor	4.44	123	eP	Pn	07 25 38.5	+0.1
CUI	Cuipilapa	4.72	120	eP	Pn	07 25 41.3	-1.0
PLVR	Palo Verde	4.74	124	eP	Pn	07 25 41.9	-0.7
PLVR				↑eS	Sb	07 26 52.7	+1.0
CMARA	Lajas Hojancha	4.88	128	eP	Pn	07 25 43.3	-1.1
JTS	Las Juntas de	5.09	122	eP	Pn	07 25 46.6	-0.8
ARE1	Arenal 1	5.20	119	eP	Pn	07 25 48.7	-0.1
VARE2	V. Arenal	5.20	119	eP	Pn	07 25 48.6	-0.2
JCR1	Jicaral	5.22	127	eP	Pn	07 25 49.0	-0.2
TRB2	Turrubares	5.71	123	eP	Pn	07 25 56.0	0.0
PICV	PH. Pirrs	6.08	124	eP	Pn	07 26 01.4	+0.4
PIEC	Cerro El Cedra	6.28	123	eP	Pn	07 26 04.5	+0.6
BUS1	Rivas	6.49	122	eP	Pn	07 26 07.5	+0.6
PIRO	Carate, Puerto	7.49	128	eP	Pn	07 26 21.2	+0.9
ALCO	Alturas Coton,	7.57	122	eP	Pn	07 26 21.5	-0.1

*BJI **06** 07:47:36.9, 11°.78S×65°.90E, h21km, mB5.5/46, mb5.0/80, Ms5.1/69, Ms7 5.0/68*
*MOS **06** 07:47:39.4±0.8, 11°.37S×66°.44E, h12km, mb5.5/86, MS4.6/6, Error ellipse: s-maj=7.3km s-min=4.1km az=102.6*
*IDC **06** 07:47:39.0±0.4, 11°.49S×66°.38E, h0km, mb4.9/44, mbtmp4.9/45, ML4.5/1, MS4.5/63, Error ellipse: s-maj=13.1km s-min=10.3km az=46.0*
*NEIC **06** 07:47:41.4, 11°.52S×66°.00E, h16km, Moment Tensor Solution. Duration: 28s Moment tensor: Scale 10^16^Nm; M_{rr}=9.00; $M_{\theta\theta}$=4.74; $M_{\phi\phi}$=4.27; $M_{r\theta}$=1.20; $M_{\theta\phi}$=-5.80; $M_{\phi r}$=1.28; Fault plane solution: M_0=9.81000×10^16^ NP1: ϕ_s=313.18000°, δ=39.86000°, λ=-90.99000°. NP2: ϕ_s=134.47000°, δ=50.15000°, λ=-89.18000°. Principal axes: T 10.4630, Plg=5.0000°, Azm=224.0000°; N -1.2998, Plg=1.0000°, Azm=314.0000°; P -9.1632, Plg=85.0000°, Azm=51.0000°;*
*NEIC **06** 07:47:41.4, 11°.52S×66°.41E, h16km*
*NEIC **06** 07:47:41.3±2.1, 11°.54S±0°.09×66°.44E±0°.08, h10km±1km, mb5.4/127, Mww5.3/24, Error ellipse: s-maj=15.0km s-min=12.7km az=157.0*
*BGR **06** 07:47:42.7, 11°.51S×66°.33E, h33km, mb5.3, Hypocentre not reviewed by the ISC*
*GCMT **06** 07:47:43.3±0.1, 11°.58S±0°.01×66°.41E±0°.01, h12km, MW5.2/148, Moment Tensor Solution. s75,c114; s148,c253; Duration: 19s Moment tensor: Scale 10^17^ Nm; M_{rr}=0.88±.01; $M_{\theta\theta}$=0.46±.01; $M_{\phi\phi}$=0.42±.01; $M_{r\theta}$=0.03±.04; $M_{\theta\phi}$=-0.54±.01; $M_{\phi r}$=0.07±.04; Best double couple: M_0=0.93200×10^17^ NP1:ϕ_s=129.00000°, δ=44.00000°, λ=-98.00000°. NP2:ϕ_s=319.00000°, δ=46.00000°, λ=-83.00000°. Principal axes: T 0.9770, Plg=1.0000°, Azm=44.0000°; N -0.0910, Plg=5.0000°, Azm=134.0000°; P -0.8860, Plg=85.0000°, Azm=304.0000°; nsta=1 refers to body waves, cutoff=40s. nsta=2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 07:47:41.1±0.4, 11°.52S±0°.04×66°.35E±0°.04, h8km±2km, h7km: pP-P, n772, σ1°53/840, mb5.3/250, MS4.7/95, 39C-53D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	7.16	58	T	T	07 56 39.3	
	baz=237,slow=75,SNR=246						
H08S2	Diego Garcia H	7.18	58	T	T	07 56 42.7	
	baz=237,slow=75,SNR=125						
H08S3	Diego Garcia H	7.18	58	T	T	07 56 36.6	
	baz=237,slow=75,SNR=302						
DGAR	Diego Garcia	7.27	56	Pn	Pn	07 49 24.2	-3.4
DGAR	Diego Garcia	7.27	56	P	Pn	07 49 24.7	-3.0
DGAR				P	Pn	07 49 24.7	-3.0
DGAR				S	Sn	07 50 42.0	-8.4
DGAR				S	Sn	07 50 42.0	-8.4
DGAR	Diego Garcia	7.27	56	ceP	Pn	07 49 25.1	-2.5
DGAR				pmax	pmax		
	comp=Z,93nm,0.8s						
MSEY	Mahe Island	12.73	301	Pn	Pn	07 50 43.9	+1.4
MSEY	Mahe Island	12.73	301	P	Pn	07 50 45.0	+2.5
MSEY	Mahe Island	12.73	301	P	Pn	07 50 43.9	+1.4
MSEY	Mahe Island	12.73	301	iP	Pn	07 50 43.6	+1.1
	SNR=18						
KAAM	Kaadhehdhoo	13.64	29	Pn	Pn	07 50 55.2	+0.3
KAAM	Kaadhehdhoo	13.64	29	P	Pn	07 50 57.4	+2.5
	SNR=6.3						
RER	Riviere de l'E	13.97	225	Pn	Pn	07 50 59.9	+0.3
SBV	Sambava	16.16	261	P	Pn	07 51 28.9	+0.3
	SNR=6.8						
HMDM	Hanimaadhoo	19.40	21	P	Pn	07 52 10.3	+1.5
OPO	Ambohidratompo	19.78	247	P	Pn	07 52 13.3	-0.2
	comp=Z,0.1nm,0.3s,baz=75,slow=8.9,SNR=9.5						
OPO				LR	LR	07 56 58.6	
	comp=Z,1μm,21.4s,baz=192,slow=28						
	comp=Z,5.8nm,0.6s						
ABPO	Ambohimpanom	19.89	246	P	P	07 52 13.6	+0.4
ABPO	Ambohimpanom	19.89	246	P	P	07 52 13.6	+0.4
ABPO				pmax	pmax		
	comp=Z,62nm,1.2s						
VOI	Vohitsoka	21.36	239	P	P	07 52 29.1	-0.1
VOI	Vohitsoka	21.36	239	P	P	07 52 31.4	+2.2
	SNR=6.7						
FOMA	Nahampoana Res	22.71	231	P	P	07 52 43.8	+0.4
PALK	Pallekele	23.50	38	P	P	07 52 52.1	+0.4
PALK				IAmb	IAmb	07 53 00.4	
	comp=Z,197nm,1.6s						
PALK	Pallekele	23.50	38	P	P	07 52 53.5	+1.9
PALK				S	S	07 57 08.3	+2.4
PALK	Pallekele	23.50	38	P	P	07 52 52.1	+0.4
PALK				pmax	pmax		
	comp=Z,197nm,1.6s						
KIBK	Kibwezi	29.51	286	P	P	07 53 46.8	+0.5
KIBK	Kibwezi	29.51	286	P	P	07 53 48.5	+2.3
	SNR=10						
COCO	West Island	29.84	94	P	P	07 53 46.3	-2.7
KMBO	Kilima Mbogo	30.67	288	P	P	07 53 57.2	+0.5
KMBO	Kilima Mbogo	30.67	288	P	P	07 53 57.4	+0.7
	comp=Z,4.6nm,0.7s,baz=111,slow=8.7,SNR=16						
KMBO				LR	LR	08 04 41.4	
	comp=Z,993nm,18.1s,baz=98,slow=33						
	comp=Z,4.6nm,0.7s						
KMBO	Kilima Mbogo	30.67	288	P	P	07 53 58.1	+1.4
KMBO				P	P	07 53 58.1	+1.4
KMBO	Kilima Mbogo	30.67	288	P	P	07 53 57.2	+0.5
KMBO				pmax	pmax		
	comp=Z,28nm,1.3s						
KMBO	Kilima Mbogo	30.67	288	iP	P	07 53 56.6	-0.1
	SNR=6.8						
DMTO	DMTO	31.16	339	P	P	07 54 01.4	+0.9
HYB	Hyderabad	31.18	23	eP	P	07 54 00.6	-0.2
HYB				IAmb	IAmb	07 54 02.9	
	comp=Z,62nm,1.4s						
HYB				e		07 54 57.8	
HYB				ePcP	PcP	07 56 53.6	-2.3
HYB				eS	S	07 59 05.5	-1.7
HYB				IVMs_BB	IVMs_BB	08 03 48.8	
	comp=Z,1μm,22.9s						
RBK	Rabkut	31.23	337	P	P	07 54 02.7	+1.3
ABTO	Aybut	31.45	336	P	P	07 54 03.1	-0.2
	SNR=6.7						
ABTO				P	P	07 54 03.1	-0.2
	SNR=6.7						
WHFO	Wadi Hawf	31.78	337	P	P	07 54 06.2	+0.1
DOK	Doka	32.28	338	P	P	07 54 10.8	+0.4
	SNR=7.6						
DQM	DQM	32.43	344	P	P	07 54 12.3	+0.6
DQM				P	P	07 54 12.3	+0.6
ATD	Arta Tunnel	32.70	314	P	P	07 54 15.0	+0.7
ATD	Arta Tunnel	32.70	314	LR	LR	08 05 36.9	
	comp=Z,7.7nm,18.0s,baz=161,slow=33						
ATD	Arta Tunnel	32.70	314	P	P	07 54 15.3	+1.0
SNSI	Sinabang, Aceh	32.86	67	P	P	07 54 18.1	+2.4
MHTO	MHTO	33.34	346	P	P	07 54 22.0	+2.4
	SNR=9.2						
MHTO				P	P	07 54 22.0	+2.4
	SNR=9.2						
GSI	Gunungsitoli	33.55	70	P	P	07 54 21.3	-0.4
GSI	Gunungsitoli	33.55	70	P	P	07 54 23.2	+1.5
GSI	Gunungsitoli	33.55	70	P	P	07 54 23.8	+2.1
	comp=Z,107nm,1.5s						
SISI	Saibi	34.03	75	P	P	07 54 28.7	+2.8
	comp=Z,50nm,1.4s						
LODK	Lodwar	34.21	294	P	P	07 54 28.3	+0.8
LODK	Lodwar	34.21	294	P	P	07 54 30.4	+2.8
	SNR=5.8						
JMDO	Jabal Madar	34.63	346	P	P	07 54 30.7	-0.3
MNSI	Mandailing Nat	35.21	72	P	P	07 54 38.6	+2.5
	comp=Z,2μmcomp=Z,47nm,1.2s						
BSY	Bisya	35.21	345	P	P	07 54 39.0	+3.0
	SNR=11						
SMDO	Samad	35.31	347	P	P	07 54 40.0	+3.0
	SNR=9.1						
SMDO				P	P	07 54 40.0	+3.0
	SNR=9.1						
RPSI	Rantau Prapat	35.34	68	P	P	07 54 36.5	-0.7
WSAR	Wadi Sarin	35.36	348	LR	LR	08 06 45.0	
	comp=Z,4.7nm,18.5s,baz=158,slow=32						
WSAR	Wadi Sarin	35.36	348	P	P	07 54 40.0	+2.8
	SNR=7.1						
PSI	Prapat	35.38	68	LR	LR	08 06 28.5	
	comp=Z,2μm,20.4s,baz=260,slow=32						
PSI	Prapat	35.38	68	P	P	07 54 38.4	+0.7
PSI	Prapat	35.38	68	P	P	07 54 36.5	-1.2
PSI				pmax	pmax		
	comp=Z,23nm,1.0s						
PPI	Padang Panjang	35.55	74	P	P	07 54 41.4	+2.4
	comp=Z,1μmcomp=Z,57nm,1.2s						
BIDO	Bidbid	35.74	347	P	P	07 54 44.0	+3.5
	SNR=8.7						
BIDO				P	P	07 54 44.0	+3.5
	SNR=8.7						
UMZA	Um Al Zommool	35.74	342	P	P	07 54 39.9	-0.7
UMZA				P	P	07 54 39.9	-0.7
ARQ	Araqi	35.95	344	P	P	07 54 45.0	+2.6
	SNR=12						
ARQ				P	P	07 54 45.0	+2.6
	SNR=12						
HOQ	Hoqain	35.99	346	P	P	07 54 45.0	+2.3
	SNR=18						
HOQ				P	P	07 54 45.0	+2.3
	SNR=18						
MZR	Muzera	36.55	340	iP	P	07 54 47.2	-0.2
	SNR=6.5						
H04N2	CROZET ISLANDS	36.68	197	T	T	08 33 45.5	
	baz=25,slow=75,SNR=22						
H04N1	CROZET ISLANDS	36.68	197	T	T	08 33 46.6	
	baz=25,slow=75,SNR=24						
H04N3	CROZET ISLANDS	36.70	197	T

SNR=12
GHWR Ruwais 37.64 340 P **P** **07 54 56.9 +0.2**
GHWR S **S** **08 00 46.6 -0.3**
NAZ Nazwa, Dubai 37.75 344 P **P** **07 54 57.5 -0.2**
NAZ P **P** **07 54 57.5 -0.2**
NAZ S **S** **08 00 51.0 +2.5**
NAZ S **S** **08 00 51.0 +2.5**
NAZ Nazwa, Dubai 37.75 344 *i* P **P** **07 54 56.8 -0.8**
SNR=8.4
MDH Madha 37.88 345 *i* P **P** **07 54 56.4 -2.4**
SNR=6.3
MSFE Esma-Masafi 37.98 345 *i* P **P** **07 54 58.5 -1.1**
SNR=15
MASF Masafi 37.99 345 P **P** **07 54 59.7 0.0**
SNR=8.1
MASF S **S** **08 00 55.3 +3.2**
KULM Kulim 37.99 66 P **P** **07 54 59.1 -0.7**
KULM IAmb IAmb 07 55 08.6
comp=Z,57nm,1.2s
KULM Kulim 37.99 66 P **P** **07 55 00.3 +0.5**
MDSI Maura Dua 38.07 83 P **P** **07 55 03.5 +2.9**
comp=Z,13nm,1.0s
SLWR Sila 38.16 338 P **P** **07 55 00.7 -0.3**
SLWR P **P** **07 55 00.7 -0.3**
SLWR S **S** **08 00 56.3 +1.7**
SLWR S **S** **08 00 56.3 +1.7**
BANOM Banah 38.48 345 *i* P **P** **07 55 01.2 -2.6**
SNR=11
SRIT Nakonsritamara 38.64 60 P **P** **07 55 04.0 -1.3**
SHME Shamm 38.64 345 P **P** **07 55 05.7 +0.6**
SHME S **S** **08 01 06.7 +4.8**
SHME Shamm 38.64 345 *i* P **P** **07 55 05.0 -0.1**
SNR=5.9
SMRA Abu-Samra 39.10 337 P **P** **07 55 09.4 +0.5**
CGJI Cibinong 39.13 86 P **P** **07 55 12.7 +3.3**
comp=Z,96nm,1.4s
MYKOM Kota Tinggi 39.55 73 P **P** **07 55 12.0 -0.9**
MYKOM Kota Tinggi 39.55 73 P **P** **07 55 12.9 -0.1**
SHMA Al-Shehemyia 40.06 338 P **P** **07 55 17.6 +0.7**
RAYN Ar Rayn 40.36 330 P **P** **07 55 19.1 -0.5**
RAYN Ar Rayn 40.36 330 P **P** **07 55 19.4 -0.2**
RAYN S **S** **08 01 31.9 +4.0**
RAYN Ar Rayn 40.36 330 P **P** **07 55 19.1 -0.5**
RAYN pmax pmax
comp=Z,28nm,1.3s
RAYN Ar Rayn 40.36 330 *i* P **P** **07 55 18.7 -0.8**
SNR=12
BBJI Bungbulang 40.91 88 P **P** **07 55 25.2 +0.9**
LEM Lembang 40.98 87 P **P** **07 55 25.8 +0.8**
comp=Z,73nm,1.0s,baz=250,slow=3.0,SNR=10
LEM LR LR 08 08 42.9
comp=Z,684nm,20.9s,baz=234,slow=31
comp=Z,73nm,1.0s
SRDT SRDT 41.42 52 P **P** **07 55 28.8 +0.4**
TPI Tanjungpandan 41.85 81 P **P** **07 55 34.2 +2.3**
comp=Z,521nmcomp=Z,34nm,2.0s
BOSA Boshof 41.93 240 P **P** **07 55 32.2 -0.4**
comp=Z,4.8nm,0.9s,baz=94,slow=8.4,SNR=4.2
BOSA LR LR 08 11 01.3
comp=Z,2μm,18.8s,baz=83,slow=33
comp=Z,4.8nm,0.9s
BRDH Bariadhala 42.06 36 LR LR 08 14 20.8
comp=Z,1μm,18.3s,baz=222,slow=38
NAYO Nakonayok 43.13 54 P **P** **07 55 42.3 0.0**
CM31 Chiang Mai Arr 43.83 48 P **P** **07 55 47.5 -0.5**
CM31 IAmb IAmb 07 55 51.3
comp=Z,112nm,1.8s
CM31 Chiang Mai Arr 43.83 48 P **P** **07 55 50.0 +2.1**
SNR=11
CM31 S **S** **08 02 20.4 +1.1**
CMAR Chiang Mai Arr 43.83 48 P **P** **07 55 47.4 -0.6**
CMAR Chiang Mai Arr 43.83 48 P **P** **07 55 48.0 +0.1**
comp=Z,3.6nm,0.6s,baz=241,slow=8.5,SNR=22
CMAR LR LR 08 11 26.1
comp=Z,725nm,21.3s,baz=235,slow=33
comp=Z,3.6nm,0.6s
CHTO Chiang Mai 44.06 47 P **P** **07 55 48.8 -1.0**
CHTO Chiang Mai 44.06 47 P **P** **07 55 49.6 -0.2**
CHTO P **P** **07 55 49.6 -0.2**
CHTO S **S** **08 02 27.2 +4.5**
CHTO S **S** **08 02 27.2 +4.5**
CHTO Chiang Mai 44.06 47 P **P** **07 55 49.6 -0.2**
CHTO Chiang Mai 44.06 47 P **P** **07 55 48.8 -1.0**
CHTO pmax pmax
comp=Z,33nm,1.2s
PCJI Pacitan 44.26 90 P **P** **07 55 54.6 +3.1**
SHL Shillong 44.47 34 P **P** **07 55 52.3 -0.9**
SHL IAmb IAmb 07 56 01.5
comp=Z,73nm,1.0s
SHL Shillong 44.47 34 P **P** **07 55 54.0 +0.9**
SNR=16
SHL Shillong 44.47 34 P **P** **07 55 52.3 -0.9**
SHL pmax pmax
comp=Z,73nm,1.0s
NIL Nilore 45.39 8 P **P** **07 56 01.1 +0.9**
NIL P **P** **07 56 01.1 +0.9**
KSM Kuching 45.55 76 P **P** **07 56 04.8 +3.0**
HRA Herat 45.82 355 P **P** **07 56 03.4 -0.4**
HRA IAmb IAmb 07 56 05.9
comp=Z,40nm,1.4s
KBL Kabul 45.88 3 P **P** **07 56 03.9 -0.3**
KBL Kabul 45.88 3 P **P** **07 56 04.8 +0.6**
SNR=38
KBL P **P** **07 56 04.8 +0.6**
SNR=38
KBL S **S** **08 02 49.2 +0.3**
KBL S **S** **08 02 49.2 +0.3**
KBL Kabul 45.88 3 P **P** **07 56 03.9 -0.3**
KBL pmax pmax
comp=Z,221nm,1.9s
SUR Sutherland 46.64 236 LR LR 08 12 11.2
comp=Z,2μm,20.7s,baz=78,slow=32
NONG Nongkai 46.72 52 P **P** **07 56 10.9 0.0**
UBPT Khong Chiam 47.01 56 P **P** **07 56 11.8 -1.4**
UBPT Khong Chiam 47.01 56 P **P** **07 56 13.1 -0.1**
JAGI Jajag, Banyuwa 47.13 91 P **P** **07 56 12.4 -1.8**
JAGI Jajag, Banyuwa 47.13 91 P **P** **07 56 14.1 -0.2**
JAGI Jajag, Banyuwa 47.13 91 P **P** **07 56 14.2 -0.1**
KMMI Kalianget 47.16 89 P P 07 56 19.8 +5.3
ABJI Asem Bagus 47.31 90 P **P** **07 56 18.0 +2.4**
LSA Lhasa 47.44 30 P **P** **07 56 17.2 +0.3**
LSA pmax pmax
comp=Z,24nm,1.0s
LSA Lhasa 47.44 30 P **P** **07 56 16.2 -0.8**
LSA P **P** **07 56 16.2 -0.8**
LSA Lhasa 47.44 30 P **P** **07 56 16.9 0.0**
TSUM Tsumeb 47.52 255 LR LR 08 15 28.9
comp=Z,720nm,19.1s,baz=144,slow=35
SBUM Sibu 47.67 76 P **P** **07 56 18.0 -0.4**
SBUM Sibu 47.67 76 P **P** **07 56 20.7 +2.3**
DLV Lat 47.90 62 P **P** **07 56 18.6 -1.8**
DLV IAmb IAmb 07 56 28.6
comp=Z,44nm,1.0s
DLV Lat 47.90 62 P **P** **07 56 19.2 -1.2**
TNCH TengChong 48.00 41 P **P** **07 56 22.2 +1.2**
TNCH pP pwP 07 56 25.3 -1.6
TNCH S **S** **08 03 20.0 +0.5**
TNCH pmax pmax
comp=Z,540nm,5.3s
TNCH LR LR
comp=Z,790nm,19.8s
TNCH LR LR
comp=Z,1μm,22.1s
TNCH LR LR
comp=Z,1μm,22.6s
SRBI Singaraja 48.23 91 P **P** **07 56 24.7 +2.0**
comp=Z,85nm,1.4s
H01W3 Cape Leeuwin H 49.13 126 T T 08 49 04.9
baz=286,slow=75,SNR=54
H01W2 Cape Leeuwin H 49.13 126 T T 08 49 03.9
baz=286,slow=75,SNR=60
H01W1 Cape Leeuwin H 49.15 126 T T 08 49 06.2
baz=286,slow=75,SNR=48
SLVN Son La 49.26 49 P **P** **07 56 30.7 +0.1**
MORW Morawa 49.38 118 P **P** **07 56 30.3 -1.2**
MORW IAmb IAmb 07 56 40.0
comp=Z,61nm,1.1s
MORW Morawa 49.38 118 P **P** **07 56 31.5 0.0**
comp=Z,53nm,1.3s
MORW Morawa 49.38 118 P **P** **07 56 32.1 +0.6**
TWSI Taliwang, Sumb 49.77 92 P **P** **07 56 36.6 +2.0**
comp=Z,956nmcomp=Z,93nm,1.3s
SIMJ Simiganj 49.98 3 P **P** **07 56 34.7 -1.2**
SIMJ IAmb IAmb 07 56 37.9
comp=Z,32nm,0.9s

MUN Mundaring 50.09 122 P **P** **07 56 36.6 -0.3**
comp=Z,22nm,1.7s
BLDU Ballidu 50.24 120 P **P** **07 56 37.4 -0.6**
comp=Z,51nm,1.2s
BLDU Ballidu 50.24 120 P **P** **07 56 37.8 -0.2**
GAR Garm 50.39 4 P **P** **07 56 37.8 -1.1**
PLAI Plampang 50.64 92 P **P** **07 56 41.5 +0.3**
PLAI Plampang 50.64 92 P **P** **07 56 43.4 +2.2**
comp=Z,51nm,1.2s
KMI Kunming 50.84 44 ⇑P **P** **07 56 43.9 +1.1**
KMI S **S** **08 03 59.6 +0.1**
KMI LR LR
comp=Z,400nm,16.8s
KMI LR LR
comp=Z,890nm,19.6s
KMI LR LR
comp=Z,920nm,25.2s
EIL Elat 50.92 324 LR LR 08 16 19.2
comp=Z,234nm,18.8s,baz=82,slow=34
PZH PanZhiHua 51.10 42 P **P** **07 56 44.0 -0.6**
PZH S **S** **08 04 02.8 0.0**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,160nm,3.5s
PZH LR LR
comp=Z,440nm,17.6s
PZH LR LR
comp=Z,520nm,18.0s
PZH LR LR
comp=Z,590nm,22.1s
NWAO Narrogin (SRO) 51.14 123 P **P** **07 56 44.3 -0.5**
NWAO IAmb IAmb 07 58 08.1
comp=Z,95nm,1.4s
NWAO Narrogin (SRO) 51.14 123 LR LR 08 13 15.0
comp=Z,202nm,19.7s,baz=266,slow=30
NWAO Narrogin (SRO) 51.14 123 P **P** **07 56 45.4 +0.7**
NWAO Narrogin (SRO) 51.14 123 P **P** **07 56 44.3 -0.5**
NWAO pmax pmax
comp=Z,95nm,1.4s
MEEK Meekatharra 51.29 115 P **P** **07 56 45.5 -0.5**
comp=Z,64nm,1.3s
MEEK Meekatharra 51.29 115 P **P** **07 56 46.0 0.0**
KLBR Kellerberrin 51.30 121 P **P** **07 56 45.4 -0.6**
comp=Z,124nm,1.1s
KLBR Kellerberrin 51.30 121 P **P** **07 56 45.5 -0.5**
KSH Kashi 51.56 10 P **P** **07 56 44.1 -3.6**
KSH sP sP 07 56 51.0 +0.9
KSH pmax pmax
comp=Z,190nm,0.9s
KSH pmax pmax
comp=Z,440nm,3.5s
KSH LR LR
comp=Z,4μm,24.9s
KSH LR LR
comp=Z,1μm,24.9s
KSH LR LR
comp=Z,1μm,30.2s
ASF Jabal al Asfar 51.78 328 LR LR 08 17 23.1
comp=Z,109nm,19.3s,baz=202,slow=34
GHAJ Ghor Haditha 51.82 326 P **P** **07 56 49.4 -0.3**
GHAJ IAmb IAmb 07 56 51.9
comp=Z,29nm,0.9s
MBWA Marble Bar 51.91 108 P **P** **07 56 50.3 -0.4**
MBWA IAmb IAmb 07 56 59.0
comp=Z,58nm,1.1s
MBWA Marble Bar 51.91 108 P **P** **07 56 50.4 -0.2**
comp=Z,46nm,1.1s
MBWA Marble Bar 51.91 108 P **P** **07 56 50.7 0.0**
PSA00 Pilbara Seismi 52.03 108 P **P** **07 56 50.9 -0.6**
PSA00 IAmb IAmb 07 56 59.9
comp=Z,72nm,1.2s
PSA00 Pilbara Seismi 52.03 108 P **P** **07 56 50.7 -0.9**
PSA00 IAmb IAmb 07 56 59.8
comp=Z,42nm,1.2s
PSA00 Pilbara Seismi 52.03 108 P **P** **07 56 51.2 -0.3**
comp=Z,58nm,1.4s
PSA00 Pilbara Seismi 52.03 108 P **P** **07 56 54.6 +3.0**
WBSI Waikabubak, Su 52.11 93 P **P** **07 56 54.6 +2.3**
comp=Z,1μmcomp=Z,92nm,1.5s
QIZ Qiongzhong 52.53 55 P **P** **07 56 55.6 +0.4**
QIZ PcP **PcP** **07 58 06.9 +1.2**
QIZ S **S** **08 04 25.3 +2.8**
QIZ pmax pmax
comp=Z,12nm,1.3s
QIZ pmax pmax
comp=Z,180nm,4.4s
QIZ LR LR
comp=Z,470nm,18.9s
QIZ LR LR
comp=Z,780nm,22.4s
QIZ LR LR
comp=Z,1μm,23.2s
QIZ Qiongzhong 52.53 55 P **P** **07 56 56.1 +0.9**
KKM Kota Kinabalu 52.59 73 P **P** **07 56 56.0 +0.1**
ARSB Arslanbob 52.93 6 P **P** **07 56 56.4 -1.6**
ARSB IAmb IAmb 07 57 05.6
comp=Z,75nm,1.2s
ARSB Arslanbob 52.93 6 P **P** **07 56 56.4 -1.6**
ARSB pmax pmax
comp=Z,75nm,1.2s
KAPI Kappang 53.17 88 P **P** **07 56 59.2 -0.9**
KAPI IAmb IAmb 07 57 08.2
comp=Z,69nm,1.2s
KAPI Kappang 53.17 88 LR LR 08 16 59.3
comp=Z,527nm,20.3s,baz=245,slow=33
KAPI Kappang 53.17 88 P **P** **07 56 59.7 -0.5**
KAPI P **P** **07 56 59.7 -0.5**
KAPI S **S** **08 04 35.1 +3.6**
KAPI S **S** **08 04 35.1 +3.6**
KAPI Kappang 53.17 88 P **P** **07 56 59.6 -0.5**
KAPI Kappang 53.17 88 *i* P **P** **07 56 58.3 -1.8**
KAPI pmax pmax
comp=Z,57nm,1.1s
MMAI Mount Meron Ar 53.23 327 P **P** **07 56 59.9 -0.3**
comp=Z,4.7nm,0.8s,baz=126,slow=8.4,SNR=8.7
MMAI PcP **PcP** **07 58 09.2 +1.0**
comp=Z,7.4nm,0.9s,baz=92,slow=6.7,SNR=5.4
MMAI LR LR 08 17 26.4
comp=Z,182nm,20.0s,baz=130,slow=34
comp=Z,4.7nm,0.8s
BKSI Bulukumba 53.48 88 P **P** **07 57 04.5 +2.1**
comp=Z,711nmcomp=Z,66nm,1.4s
IUG Iuzhnay 53.51 3 *e*P **P** **07 57 00.8 -1.3**
IUG pmax pmax
comp=Z,24nm,0.7s
IUG Iuzhnay 53.51 3 *e*P **P** **07 57 00.9 -1.3**
comp=Z,24nm,0.7s
BNSI Bone 53.64 87 P **P** **07 57 06.7 +3.2**
comp=Z,46nm,1.5s
WUS Wushi 53.78 12 P **P** **07 57 03.1 -1.2**
WUS IAmb IAmb 07 57 06.4
comp=Z,32nm,1.1s
AML Almayashu 53.81 7 P **P** **07 57 04.1 -0.6**
SNR=26
TARG Taragay, Kyrgy 54.02 11 P **P** **07 57 05.3 -0.9**
TARG Taragay, Kyrgy 54.02 11 P **P** **07 57 05.4 -0.9**
TARG pmax pmax
comp=Z,13nm,1.0s
MARD Mardin 54.19 335 P **P** **07 57 07.2 0.0**
MARD IAmb IAmb 07 57 10.7
comp=Z,114nm,1.8s
KDJ Kajisay 54.30 10 P **P** **07 57 07.0 -1.1**
KDJ IAmb IAmb 07 57 10.0
comp=Z,38nm,1.1s
KDJ Kajisay 54.30 10 P **P** **07 57 07.0 -1.1**
KDJ pmax pmax
comp=Z,38nm,1.1s
DZA Taraz 54.34 5 *e*P **P** **07 57 06.9 -1.2**
DZA pmax pmax
comp=Z,14nm,0.7s
DZA Taraz 54.34 5 *e*P **P** **07 57 06.9 -1.2**
comp=Z,14nm,0.7s
EKS2 Erkin-Say 54.34 7 P **P** **07 57 08.1 -0.2**
SNR=25
BRLS Borolday 54.38 3 *e*P **P** **07 57 05.5 -2.9**
BRLS pmax pmax
comp=Z,19nm,1.0s
BRLS Borolday 54.38 3 *e*P **P** **07 57 05.5 -2.9**
comp=Z,19nm,1.0s
AAK Ala-Archa 54.40 7 P **P** **07 57 07.6 -1.2**
AAK IAmb IAmb 07 57 16.8
comp=Z,35nm,1.1s
AAK Ala-Archa 54.40 7 P **P** **07 57 07.9 -0.9**
comp=Z,21nm,1.0s,baz=187,slow=7.2,SNR=33
comp=Z,21nm,1.0s

AAK Ala-Archa 54.40 7 P **P** **07 57 08.3 -0.5**
SNR=27
AAK Ala-Archa 54.40 7 *i* P **P** **07 57 07.8 -0.9**
AAK pmax pmax
comp=Z,31nm,1.0s
AAK Ala-Archa 54.40 7 *i* P **P** **07 57 08.4 -0.4**
SNR=32
GYA Guiyang 54.41 45 P **P** **07 57 10.7 +1.7**
GYA pmax pmax
comp=Z,56nm,0.9s
BOOM Boomskoye usch 54.46 9 P **P** **07 57 08.2 -0.9**
BOOM IAmb IAmb 07 57 11.2
comp=Z,78nm,1.9s
BOOM Boomskoye usch 54.46 9 P **P** **07 57 08.3 -0.9**
BOOM pmax pmax
comp=Z,78nm,1.9s
MPSI Mapaga 54.47 81 P **P** **07 57 12.0 +2.4**
comp=Z,2μmcomp=Z,21nm,1.2s
EDFI Ende, Flores 54.48 93 P **P** **07 57 12.6 +2.8**
comp=Z,30nm,1.1s
KK31 Karatay Array 54.49 4 P **P** **07 57 08.0 -1.2**
KK31 IAmb IAmb 07 57 11.6
comp=Z,29nm,1.1s
KK31 Karatay Array 54.49 4 P **P** **07 57 08.0 -1.2**
KK31 pmax pmax
comp=Z,29nm,1.1s
KKAR Karatay Array 54.49 4 P **P** **07 57 08.2 -1.0**
KKAR Karatay Array 54.49 4 P **P** **07 57 08.2 -1.0**
GOMU GeErMu 54.53 28 P **P** **07 57 09.8 -0.3**
GOMU sP pwP 07 57 16.3 +0.4
GOMU PcP **PcP** **07 58 13.2 -0.2**
GOMU PP **PP** **07 59 13.1 +0.6**
GOMU S **S** **08 04 52.7 +2.9**
GOMU SS **SS** **08 08 35.1 +2.4**
GOMU pmax pmax
comp=Z,36nm,1.3s
GOMU pmax pmax
comp=Z,450nm,5.1s
GOMU LR LR
comp=Z,3μm,19.7s
GOMU LR LR
comp=Z,1μm,19.6s
GOMU LR LR
comp=Z,4μm,19.4s
KMBL Kambalda 54.74 120 P **P** **07 57 10.3 -1.1**
comp=Z,64nm,1.3s
KMBL Kambalda 54.74 120 P **P** **07 57 11.2 -0.2**
GURO Guroymak-BITLI 54.75 337 P **P** **07 57 11.5 +0.2**
TKM2 Tokmak 2 54.83 8 P **P** **07 57 10.9 -1.0**
SNR=44
USP Ospenovka 55.02 7 P **P** **07 57 12.2 -0.9**
SNR=13
TNSS Tian-Shan 55.15 9 *e*P **P** **07 57 12.8 -1.7**
TNSS Tian-Shan 55.15 9 *e*P **P** **07 57 12.8 -1.7**
GNI Garni 55.18 340 P **P** **07 57 15.2 +0.8**
comp=Z,50nm,0.9s,baz=153,slow=6.8,SNR=16
GNI LR LR 08 20 29.1
comp=Z,136nm,18.1s,baz=138,slow=36
comp=Z,50nm,0.9s
SGDS Sogindy 55.22 7 *e*P **P** **07 57 13.4 -1.1**
SGDS pmax pmax
comp=Z,22nm,0.9s
SGDS Sogindy 55.22 7 *e*P **P** **07 57 13.5 -1.1**
comp=Z,22nm,0.9s
MDOK Medeo 55.29 10 *e*P **P** **07 57 13.7 -1.4**
MDOK Medeo 55.29 10 *e*P **P** **07 57 13.8 -1.4**
AAA Alma-Ata 55.31 9 *e*P **P** **07 57 13.9 -1.3**
AAA pmax pmax
comp=Z,19nm,0.8s
AAA Alma-Ata 55.31 9 *e*P **P** **07 57 14.0 -1.3**
comp=Z,19nm,0.8s
CD2 Chengdu 55.41 39 P **P** **07 57 14.8 -1.3**
CD2 S **S** **08 05 00.9 -0.3**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,330nm,2.9s
CD2 LR LR
comp=Z,340nm,15.9s
CD2 LR LR
comp=Z,310nm,15.2s
SATY Saty 55.42 11 *e*P **P** **07 57 14.6 -1.5**
SATY pmax pmax
comp=Z,19nm,0.8s
SATY Saty 55.42 11 *e*P **P** **07 57 14.7 -1.5**
comp=Z,19nm,0.8s
TOLI2 Tolitoli 55.52 81 P **P** **07 57 16.0 -1.2**
TOLI2 IAmb IAmb 07 57 25.4
comp=Z,56nm,1.3s
TOLI2 Tolitoli 55.52 81 P **P** **07 57 18.6 +1.4**
ZHN Zhinishke 55.53 11 *e*P **P** **07 57 15.4 -1.5**
ZHN Zhinishke 55.53 11 *e*P **P** **07 57 15.4 -1.5**
UZB Uzynbulak 55.62 11 *e*P **P** **07 57 16.1 -1.4**
UZB pmax pmax
comp=Z,22nm,1.2s
UZB Uzynbulak 55.62 11 *e*P **P** **07 57 16.2 -1.4**
comp=Z,22nm,1.2s
SHLS Shalkode 55.72 12 *e*P **P** **07 57 17.4 -0.8**
SHLS Shalkode 55.72 12 *e*P **P** **07 57 17.4 -0.8**
MAW Mawson 56.07 182 LR LR 08 15 30.3
comp=Z,1μm,21.1s,baz=352,slow=30
KARS Kars 56.18 339 P **P** **07 57 21.3 -0.3**
KARS Kars 56.18 339 P **P** **07 57 21.3 -0.3**
KARS pmax pmax
comp=Z,556nm,2.0s
KOPT Kop Dagi 56.61 336 P **P** **07 57 25.2 +0.3**
KOPT IAmb IAmb 07 57 28.5
comp=Z,86nm,1.6s
BTLS Baital 56.72 7 *e*P **P** **07 57 23.9 -1.2**
BTLS pmax pmax
comp=Z,11nm,0.8s
BTLS Baital 56.72 7 *e*P **P** **07 57 24.0 -1.2**
comp=Z,11nm,0.8s
MAK Makhachkala 56.89 344 *c i*P P 07 57 21.2 -5.2
MAK *e* 07 59 29.8
MAK *e*PPP PPP 08 00 45.2
MAK *e*S **S** **08 05 14.6 -5.7**
MAK *e*SSS SSS 08 11 20.9
MAK pmax pmax
comp=Z,35nm,0.3s
MAK MLR MLR
comp=Z,224nm,17.0s
FITZ Fitzroy Crossi 57.50 104 P **P** **07 57 30.2 -1.0**
FITZ Fitzroy Crossi 57.50 104 P **P** **07 57 31.0 -0.3**
comp=Z,15nm,1.4s
FITZ Fitzroy Crossi 57.50 104 P **P** **07 57 30.5 -0.7**
comp=Z,11nm,0.8s,baz=250,slow=10.0,SNR=9.3
FITZ PcP **PcP** **07 58 24.2 -0.7**
comp=Z,8.9nm,0.8s,baz=273,slow=3.8,SNR=2.4
FITZ LR LR 08 17 49.5
comp=Z,742nm,21.7s,baz=280,slow=32
comp=Z,11nm,0.8s
FITZ Fitzroy Crossi 57.50 104 P **P** **07 57 34.1 +2.9**
BNN Bunyan 57.63 332 P **P** **07 57 31.5 -0.4**
WMQ Urumqi 58.41 18 *e*P **P** **07 57 39.1 +1.9**
WMQ S **S** **08 05 44.0 +3.6**
WMQ pmax pmax
comp=Z,54nm,1.5s
WMQ pmax pmax
comp=Z,300nm,3.7s
WMQ LR LR
comp=Z,2μm,17.9s
WMQ LR LR
comp=Z,1μm,19.1s
WMQ LR LR
comp=Z,2μm,21.5s
ENH Enshi 58.72 44 P **P** **07 57 39.1 -0.5**
KIRS Kirsehir-Merke 58.76 331 ⇓P **P** **07 57 39.5 -0.3**
KBZ Khabaz 58.99 340 P **P** **07 57 40.6 -0.5**
comp=Z,14nm,0.9s,baz=166,slow=6.3,SNR=32
KBZ LR LR 08 22 16.0
comp=Z,224nm,18.6s,baz=148,slow=35
comp=Z,14nm,0.9s
KBZ Khabaz 58.99 340 *ce*P **P** **07 57 40.6 -0.5**
KBZ pmax pmax
comp=Z,15nm,0.9s
SHA1 Shidzhatmaz 59.08 340 *i* P **P** **07 57 41.4 -0.7**
LZH Lanzhou 59.10 35 *e*P **P** **07 57 41.7 -0.6**
LZH pP pwP 07 57 48.5 +0.3
LZH pmax pmax
comp=Z,18nm,1.5s
KIV Kislovodsk 59.26 340 *e*P **P** **07 57 42.6 -0.6**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV Kislovodsk 59.26 340 *i* P **P** **07 57 42.9 -0.3**
SNR=8.7

BRTR Keskin Array B 59.35 331 P **P** **07 57 43.3 -0.7**
BRTR Keskin Array B 59.35 331 P **P** **07 57 42.9 -1.1**
comp=Z,5.0nm,1.0s,baz=146,slow=9.0,SNR=21
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 59.35 331 P **P** **07 57 43.3 -0.7**
BR131 Keskin Array S 59.35 331 P **P** **07 57 43.1 -0.8**
BR131 Keskin Array S 59.35 331 P **P** **07 57 43.6 -0.3**
SNR=9.3
BR131 Keskin Array S 59.35 331 P **P** **07 57 43.1 -0.8**
BR131 pmax pmax
comp=Z,8.0nm,0.9s
GTA Gaotai 59.47 30 *e*P **P** **07 57 43.9 -0.8**
GTA pP pwP 07 57 50.8 +0.2
GTA PP **PP** **07 59 56.4 +0.1**
GTA S **S** **08 05 56.2 +1.7**
GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,170nm,7.2s
GTA LR LR
comp=Z,560nm,19.1s
GTA LR LR
comp=Z,870nm,18.7s
GTA LR LR
comp=Z,920nm,20.3s
MAKZ Makanchi 59.72 12 P **P** **07 57 44.3 -1.9**
MAKZ Makanchi 59.72 12 P **P** **07 57 44.3 -1.9**
MAKZ pmax pmax
comp=Z,18nm,1.0s
VSLR Vesyoloye 59.75 338 *i*P **P** **07 57 46.1 -0.4**
VSLR pmax pmax
comp=Z,42nm,1.1s
MK31 Makanchi Array 59.78 13 P **P** **07 57 44.4 -2.2**
MK31 IAmb IAmb 07 57 47.8
comp=Z,49nm,1.6s
MK31 Makanchi Array 59.78 13 P **P** **07 57 44.4 -2.2**
MK31 pmax pmax
comp=Z,49nm,1.6s
MKAR Makanchi Array 59.78 13 P **P** **07 57 44.7 -1.9**
MKAR Makanchi Array 59.78 13 P **P** **07 57 44.9 -1.7**
comp=Z,7.9nm,0.6s,baz=206,slow=7.8,SNR=105
comp=Z,7.9nm,0.6s
TGY Tagaytay City 59.80 66 LR LR 08 22 20.8
comp=Z,272nm,19.7s,baz=268,slow=35
SANI Sanana 59.86 86 P **P** **07 57 48.0 +0.2**
WRKA Warakurna 59.89 112 P **P** **07 57 47.3 -0.6**
comp=Z,102nm,1.2s
WRKA Warakurna 59.89 112 P **P** **07 57 47.5 -0.4**
CNSH ChangSha 59.90 48 P **P** **07 57 47.7 -0.1**
CNSH S **S** **08 05 59.9 -0.3**
CNSH pmax pmax
comp=Z,19nm,1.0s
CNSH LR LR
comp=Z,630nm,20.2s
CNSH LR LR
comp=Z,690nm,18.9s
CNSH LR LR
comp=Z,990nm,18.2s
FORT Forrest 59.95 119 P **P** **07 57 47.1 -1.0**
FORT Forrest 59.95 119 P **P** **07 57 47.5 -0.6**
comp=Z,86nm,1.0s
FORT Forrest 59.95 119 P **P** **07 57 48.3 +0.2**
SYO Syowa Base 59.97 191 ⇓*i*sP sP 07 57 53.6 +4.1
SOC Sochi 59.98 338 *e*P **P** **07 57 43.9 -4.1**
SOC *e* 07 59 54.0
SOC *e*S **S** **08 05 53.8 -6.7**
SOC *e*S S 08 05 56.1 -4.4
SOC *e*SS **SS** **08 09 56.3 -1.2**
SOC pmax pmax
comp=Z,18nm,0.8s
GOF Gofitskoye 60.13 341 *ce*P **P** **07 57 48.4 -0.6**
ILGA Ilgaz 60.37 332 P **P** **07 57 50.6 -0.4**
LABN Labinsk 60.53 339 *e*P **P** **07 57 50.3 -1.5**
LABN pmax pmax
comp=Z,45nm,1.2s
KNRA Kununurra 60.63 102 P **P** **07 57 51.8 -1.2**
KNRA Kununurra 60.63 102 P **P** **07 57 52.4 -0.6**
comp=Z,90nm,1.5s
XAN Xi'an 60.74 40 ⇓P **P** **07 57 52.0 -1.4**
XAN pP pwP 07 57 59.5 +0.2
XAN S **S** **08 06 09.6 -1.2**
XAN SS **SS** **08 10 11.8 +1.9**
XAN pmax pmax
comp=Z,33nm,0.8s
XAN pmax pmax
comp=Z,340nm,4.0s
XAN LR LR
comp=Z,380nm,15.8s
XAN LR LR
comp=Z,660nm,19.9s
XAN LR LR
comp=Z,1μm,20.6s
ABKAR Akbulak array 60.77 355 P **P** **07 57 51.9 -1.3**
ZSN Zaisan 60.98 14 *e*P **P** **07 57 53.6 -1.2**
ZSN pmax pmax
comp=Z,10.0nm,0.8s
ZSN Zaisan 60.98 14 *e*P **P** **07 57 53.7 -1.2**
comp=Z,9.7nm,0.8s
BORA Eskisehir 61.04 329 P **P** **07 57 54.9 -0.5**
BRZS Berezniki 61.49 5 *e*P **P** **07 57 57.2 -0.9**
BRZS pmax pmax
comp=Z,14nm,1.2s
BRZS Berezniki 61.49 5 *e*P **P** **07 57 57.3 -0.9**
comp=Z,14nm,1.2s
ERBR Yeremizino-Bor 61.55 340 *e*P **P** **07 57 58.4 -0.3**
ERBR pmax pmax
comp=Z,48nm,1.2s
DAV Davao City (W) 61.74 75 LR LR 08 22 33.6
comp=Z,466nm,21.7s,baz=280,slow=34
ANN Anapa 61.87 337 *e*P **P** **07 58 00.2 -0.6**
ANN pmax pmax
comp=Z,50nm,1.8s
AKTO Aktyubinsk 62.12 354 P **P** **07 58 01.2 -1.2**
comp=Z,45nm,1.0s,baz=169,slow=4.8,SNR=84
AKTO LR LR 08 24 33.8
comp=Z,279nm,20.4s,baz=237,slow=36
comp=Z,45nm,1.0s
CASY Casey 62.24 161 P **P** **07 58 03.6 +0.5**
WHN Wuhan 62.26 46 ⇑P **P** **07 58 03.8 +0.1**
WHN sP **pwP** **07 58 09.8 +0.2**
WHN S **S** **08 06 32.6 +2.5**
WHN pmax pmax
comp=Z,88nm,1.1s
WHN LR LR
comp=Z,3μm,17.2s
WHN LR LR
comp=Z,3μm,19.3s
WHN LR LR
comp=Z,4μm,18.6s
QZH Quanzhou 62.51 54 P **P** **07 58 04.1 -1.4**
QZH S **S** **08 06 32.1 -1.3**
QZH pmax pmax
comp=Z,270nm,3.0s
QZH LR LR
comp=Z,630nm,18.9s
QZH LR LR
comp=Z,650nm,18.2s
QZH LR LR
comp=Z,1μm,19.9s
KURBB Kurchatov Arra 62.79 9 P **P** **07 58 05.7 -1.2**
comp=Z,19nm,0.8s,baz=208,slow=7.1,SNR=78
KURBB LR LR 08 24 21.2
comp=Z,578nm,21.3s,baz=170,slow=35
comp=Z,19nm,0.8s
SEM Semipalatinsk 62.85 10 *e*P **P** **07 58 06.2 -1.4**
SEM pmax pmax
comp=Z,13nm,0.7s
SEM Semipalatinsk 62.85 10 *e*P **P** **07 58 06.2 -1.4**
comp=Z,13nm,0.7s
KURK Kurchatov 62.89 9 P **P** **07 58 06.1 -1.4**
KURK IAmb IAmb 07 58 09.4
comp=Z,37nm,0.9s
KURK Kurchatov 62.89 9 P **P** **07 58 07.8 +0.3**
KURK S **S** **08 06 41.4 +4.1**
KURK Kurchatov 62.89 9 *ce*P **P** **07 58 06.4 -1.1**
KURK pmax pmax
comp=Z,26nm,0.8s
SIM Simferopol' 63.32 335 *e*P **P** **07 58 10.5 0.0**
SIM 08 00 32.0
SIM pmax pmax
comp=Z,28nm,0.9s
SIM pmax pmax
comp=Z,50nm,4.5s
LYN LuoYang 63.34 42 ⇓*i*P **P** **07 58 12.7 +1.9**
LYN S **S** **08 06 45.3 +1.8**
LYN pmax pmax
comp=Z,32nm,0.7s
LYN LR LR
comp=Z,710nm,20.3s
LYN LR LR
comp=Z,980nm,17.5s
LYN LR LR
comp=Z,2μm,21.0s
TPUB Ta-pu 63.38 57 P **P** **07 58 14.3 +2.9**
TWGBT Beinan 63.53 57 P **P** **07 58 15.3 +2.9**
SSLB Suanglung 63.87 56 P **P** **07 58 14.2 -0.4**
SSLB IAmb IAmb 07 58 24.4
comp=Z,60nm,1.3s
SSLB Suanglung 63.87 56 P **P** **07 58 16.0 +1.4**
YULB Yu-li 63.97 57 P **P** **07 58 15.3 0.0**
YULB Yu-li 63.97 57 P **P** **07 58 17.1 +1.8**
ALN Alexandroupoli 64.07 327 P **P** **07 58 16.4 +0.9**
ALN Alexandroupoli 64.07 327 P **P** **07 58 16.4 +0.9**
ALN pmax pmax
comp=Z,102nm,1.6s
BVAR Borovoye Array 64.38 3 P **P** **07 58 16.0 -1.3**
comp=Z,17nm,0.7s,baz=157,slow=8.0,SNR=84
BVAR LR LR 08 25 20.1
comp=Z,506nm,21.0s,baz=190,slow=35
comp=Z,17nm,0.7s
BRVK Borovoye 64.41 3 P **P** **07 58 16.6 -0.9**
BRVK IAmb IAmb 07 58 19.3
comp=Z,32nm,1.0s
BRVK Borovoye 64.41 3 P **P** **07 58 17.2 -0.3**
BRVK P **P** **07 58 17.2 -0.3**
BRVK S **S** **08 06 59.9 +3.8**
BRVK S **S** **08 06 59.9 +3.8**
BRVK Borovoye 64.41 3 *ce*P **P** **07 58 16.2 -1.3**
BRVK pmax pmax
comp=Z,32nm,1.0s
KDU Kakadu 64.50 99 P **P** **07 58 18.7 -0.3**
comp=Z,100nm,1.3s
KDU Kakadu 64.50 99 P **P** **07 58 19.1 +0.2**
RDO Rodhopi 64.52 327 P **P** **07 58 17.8 -0.7**
RDO IAmb IAmb 07 58 26.5
comp=Z,34nm,1.4s
NACB Ninganchiao 64.56 56 P **P** **07 58 21.1 +2.0**
YHNB Yeheng 64.61 56 P **P** **07 58 18.6 -0.9**
YHNB IAmb IAmb 07 58 28.6
comp=Z,38nm,1.2s
YHNB Yeheng 64.61 56 P **P** **07 58 20.9 +1.4**
JMB Yambol 64.96 328 P **P** **07 58 21.6 +0.3**
KDZ Kurdzhali 64.97 327 P **P** **07 58 22.4 +1.0**
PSN Preselentsi 65.00 330 P **P** **07 58 22.1 +0.6**
PRD Provadia 65.00 330 P **P** **07 58 23.4 +1.8**
ASAR Alice Springs 65.02 111 P **P** **07 58 21.0 -1.3**
ASAR Alice Springs 65.02 111 P **P** **07 58 21.1 -1.1**
comp=Z,10nm,0.9s,baz=274,slow=5.9,SNR=63
ASAR LR LR 08 23 02.0
comp=Z,275nm,21.1s,baz=280,slow=33
comp=Z,10nm,0.9s
ASAR Alice Springs 65.02 111 P **P** **07 58 21.0 -1.3**
AS31 Alice Springs 65.02 111 P **P** **07 58 21.0 -1.3**
AS31 Alice Springs 65.02 111 P **P** **07 58 21.2 -1.0**
comp=Z,8.5nm,1.3s
AS01 Alice Springs 65.06 111 P **P** **07 58 21.7 -0.9**
RZN Rozhen 65.33 327 P **P** **07 58 24.5 +0.5**
TIRR Tirgusor 65.47 331 ⇑P **P** **07 58 24.3 -0.3**
TIRR Tirgusor 65.47 331 P **P** **07 58 24.3 -0.3**
JURR Jurilovca 65.49 332 ⇓P **P** **07 58 24.6 -0.1**
LIT Litokhoron 65.50 324 P **P** **07 58 25.4 +0.5**
LIT Litokhoron 65.50 324 P **P** **07 58 25.4 +0.5**
LIT pmax pmax
comp=Z,87nm,1.4s
WRA Warramunga Arr 65.62 107 P **P** **07 58 25.3 -0.8**
WRA Warramunga Arr 65.62 107 P **P** **07 58 25.6 -0.6**
comp=Z,10nm,0.7s,baz=272,slow=5.6,SNR=54
WRA LR LR 08 23 04.4
comp=Z,551nm,21.3s,baz=260,slow=32
comp=Z,10nm,0.7s
WRA Warramunga Arr 65.62 107 P **P** **07 58 25.3 -0.8**
WRA pmax pmax
comp=Z,6.0nm,1.2s
WB2 Warramunga Arr 65.63 107 P **P** **07 58 24.9 -1.3**
WB2 Warramunga Arr 65.63 107 P **P** **07 58 25.5 -0.7**
comp=Z,75nm,1.4s
PLD Plovdiv 65.64 327 P **P** **07 58 26.2 +0.4**
ELIB Princess Elisa 65.67 193 *d*P **P** **07 58 25.3 -0.4**
comp=Z,10nm,1.2s
TLBR Topalu 65.71 331 ⇓P **P** **07 58 25.9 -0.3**
BTO Baotou 65.72 35 *e*P **P** **07 58 26.5 0.0**
BTO pP **pwP** **07 58 31.3 -1.0**
BTO sP **sP** **07 58 33.6 +5.2**
BTO S **S** **08 07 12.2 -0.8**
BTO SS **SS** **08 11 25.8 -1.9**
BTO pmax pmax
comp=Z,30nm,0.9s
BTO pmax pmax
comp=Z,530nm,4.5s
BTO LR LR
comp=Z,1μm,22.2s
BTO LR LR
comp=Z,730nm,17.1s
BTO LR LR
comp=Z,1μm,21.7s
RAZG Razgrad 65.75 329 ⇓P **P** **07 58 26.2 -0.3**
MMB Musomishta 65.77 326 P **P** **07 58 26.8 +0.1**
TPGR Topolog 65.77 331 ⇓P **P** **07 58 25.5 -1.1**
SZH Strazhitsa 65.80 329 P **P** **07 58 26.8 0.0**
HARR Harsova 65.88 331 ⇑P **P** **07 58 26.7 -0.5**
HARR Harsova 65.88 331 P **P** **07 58 26.7 -0.5**
VRH Novokhopyorsk 66.03 343 ⇓*i*P **P** **07 58 26.6 -1.4**
VRH pmax pmax
comp=Z,138nm,1.6s
NJ2 Nanjing 66.31 47 *e*P **P** **07 58 29.7 -0.6**
NJ2 pmax pmax
comp=Z,27nm,0.5s
KKB Krupnik 66.31 326 P **P** **07 58 31.1 +1.0**
HNS HongShan 66.50 40 ⇓P **P** **07 58 31.2 -0.2**
HNS sP **pwP** **07 58 38.8 +1.5**
HNS S **S** **08 07 23.0 +0.6**
HNS pmax pmax
comp=Z,48nm,1.0s
HNS LR LR
comp=Z,170nm,17.9s
HNS LR LR
comp=Z,510nm,18.7s
HNS LR LR
comp=Z,530nm,19.8s
OOD Oodnadatta 66.52 115 P **P** **07 58 30.5 -1.3**
PLNA Plana 66.58 327 P **P** **07 58 32.4 +0.4**
FNA Florina 66.58 324 P **P** **07 58 30.9 -1.0**
FNA Florina 66.58 324 P **P** **07 58 31.0 -1.0**
FNA pmax pmax
comp=Z,112nm,1.8s
VLDR Vladesti 66.67 332 ⇑P **P** **07 58 32.3 0.0**
VTS Vitosha 66.78 327 P **P** **07 58 34.2 +0.9**
VSR Storozhevoye 66.79 342 *e*P **P** **07 58 30.0 -2.9**
VSR pmax pmax
comp=Z,20nm,0.9s
COPA Copaceanca 66.80 329 ⇓P **P** **07 58 33.5 +0.3**
BBOO Buckleboo 66.84 121 P **P** **07 58 32.8 -1.0**
BBOO Buckleboo 66.84 121 P **P** **07 58 32.9 -1.0**
BBOO Buckleboo 66.84 121 P **P** **07 58 33.2 -0.6**
GRER 66.84 331 ⇓P **P** **07 58 34.5 +1.0**
ISR Istrita 66.86 330 ⇑P **P** **07 58 34.1 +0.5**
ISR Istrita 66.86 330 P **P** **07 58 34.1 +0.5**
MPEP Malo Peshtene 67.02 328 P **P** **07 58 35.2 +0.6**
ZAA0 Zalesovo Array 67.08 12 P **P** **07 58 33.0 -1.7**
ZAA0 IAmb IAmb 07 58 36.0
comp=Z,46nm,1.1s
ZALV Zalesovo Beam 67.08 12 P **P** **07 58 32.8 -1.9**
ZALV Zalesovo Beam 67.08 12 P **P** **07 58 33.0 -1.7**
comp=Z,18nm,0.8s,baz=207,slow=6.2,SNR=70
ZALV PP **PP** **08 01 03.8 +1.1**
comp=Z,5.5nm,1.0s,baz=251,slow=7.2,SNR=3.5
ZALV LR LR 08 26 30.9
comp=Z,558nm,20.8s,baz=199,slow=35
comp=Z,18nm,0.8s
ZALV Zalesovo Beam 67.08 12 P **P** **07 58 33.0 -1.7**
BISRR Bisoca 67.09 331 ⇑P **P** **07 58 35.6 +0.5**
VLAD Vladila 67.12 328 ⇑P **P** **07 58 35.6 +0.4**
PANC Panciu 67.13 331 ⇓P **P** **07 58 35.2 0.0**
MILM Milestii Mici 67.15 333 ⇑*i*P **P** **07 58 35.5 +0.2**
comp=Z,400nm,2.6s
MILM Milestii Mici 67.15 333 ⇓P **P** **07 58 34.5 -0.8**
MILM Milestii Mici 67.15 333 *c i*P **P** **07 58 35.5 +0.2**
MILM pmax pmax
comp=Z,400nm,2.6s
VORR Voronezh 67.18 342 *e*P **P** **07 58 34.0 -1.4**
VORR pmax pmax
comp=Z,70nm,0.6s
NEHR Nehoiu 67.20 331 ⇓P **P** **07 58 36.4 +0.6**
SPBR Spulber 67.22 331 ⇓P **P** **07 58 36.2 +0.3**
VRI Vrincioaia 67.32 331 ⇓P **P** **07 58 36.8 +0.3**
VRI Vrincioaia 67.32 331 P **P** **07 58 36.7 +0.3**
PLOR Plostina 67.34 331 ⇓P **P** **07 58 36.7 0.0**
PLOR Plostina 67.34 331 P **P** **07 58 37.5 +0.8**
TIA Tai'an 67.38 43 P **P** **07 58 36.3 -0.8**
TIA S **S** **08 07 34.7 +1.6**
TIA pmax pmax
comp=Z,35nm,1.0s
TIA pmax pmax
comp=Z,330nm,5.7s
TIA LR LR
comp=Z,390nm,20.2s
TIA LR LR
comp=Z,460nm,21.0s
TIA LR LR
comp=Z,700nm,20.4s
VALD Valchedram 67.41 328 P **P** **07 58 36.4 -0.6**
MLR Muntele Rosu 67.42 330 P **P** **07 58 37.1 -0.2**
MLR Muntele Rosu 67.42 330 P **P** **07 58 37.0 -0.2**
comp=Z,18nm,1.0s,baz=180,slow=3.8,SNR=16
comp=Z,18nm,1.0s
MLR Muntele Rosu 67.42 330 ⇑P **P** **07 58 37.7 +0.5**
MLR Muntele Rosu 67.42 330 P **P** **07 58 37.1 -0.2**
MLR pmax pmax
comp=Z,125nm,1.7s
SSE Sheshan 67.53 49 P **P** **07 58 37.4 -0.6**
SSE S **S** **08 07 34.2 -0.8**
SSE pmax pmax
comp=Z,7.0nm,0.7s
SSE pmax pmax
comp=Z,110nm,3.4s
SSE LR LR
comp=Z,170nm,21.6s
SSE LR LR
comp=Z,180nm,21.6s
COVR Voineasa-Covas 67.55 331 ⇑P **P** **07 58 37.7 -0.2**
VOIR 67.82 330 ⇓P **P** **07 58 39.0 -0.7**
VOIR 67.82 330 P **P** **07 58 39.0 -0.7**
TIR Tirane 67.82 324 P **P** **07 58 39.5 -0.2**
TIR Tirane 67.82 324 ⇑P **P** **07 58 40.0 +0.3**
TIR Tirane 67.82 324 P **P** **07 58 39.5 -0.2**
TIR pmax pmax
comp=Z,71nm,0.9s
ONER Baraj Valea Uz 67.82 331 ⇓P **P** **07 58 38.9 -0.7**
TESR Tescani 67.83 332 ⇑P **P** **07 58 38.8 -0.9**
NVL N'lazarevskaya 67.93 197 *e*P P 07 58 45.2 +5.2
NVL *e*S **S** **08 07 43.4 +4.7**
NVL pmax pmax
comp=Z,16nm,1.0s
NVL MLR MLR
comp=Z,449nm,16.0s
OZUR 67.94 331 ⇑P **P** **07 58 39.7 -0.7**
ARR Arges 67.97 330 ⇓P **P** **07 58 40.2 -0.5**
ARTI Arti 67.98 355 P **P** **07 58 39.0 -1.3**
ARTI IAmb IAmb 07 58 42.1
comp=Z,55nm,1.3s
ARTI Arti 67.98 355 P **P** **07 58 39.2 -1.2**
comp=Z,22nm,0.9s,baz=177,slow=4.5,SNR=25
comp=Z,22nm,0.9s
ARTI Arti 67.98 355 *d i*P **P** **07 58 39.1 -1.3**
ARTI 07 59 07.3
ARTI 08 01 03.8
ARTI S **S** **08 07 41.1 +1.6**
ARTI SS **SS** **08 11 58.2 -3.7**
ARTI pmax pmax
comp=Z,44nm,1.3s
ARTI MLR MLR
comp=Z,372nm,18.0s
DOPR Dopca 68.03 330 ⇓P **P** **07 58 40.2 -0.8**
LPSR Galich'ya Gora 68.07 342 ⇓*i*P **P** **07 58 39.9 -1.1**
LPSR pmax pmax
comp=Z,121nm,1.1s
PUNG Punghina 68.08 328 ⇓P **P** **07 58 41.2 -0.1**
WHYH Whyalla 68.12 121 P **P** **07 58 41.6 -0.3**
SVE Sverdlovsk 68.26 357 *e*P **P** **07 58 41.0 -1.1**
SVE pmax pmax
comp=Z,64nm,1.5s
BOVS Bovan 68.29 327 ⇑P **P** **07 58 41.9 -0.7**
LOT Lotru 68.46 329 ⇑P **P** **07 58 43.1 -0.7**
TORD Torodi Ar. Bea 68.66 289 LR LR 08 28 34.0
comp=Z,267nm,18.1s,baz=120,slow=36
LCRK Leigh Creek 68.69 118 P **P** **07 58 48.0 +2.5**
DRME Dracevica, Mon 68.75 324 *e*P **P** **07 58 44.8 -0.7**
PDG Podgorica 68.86 324 P **P** **07 58 45.5 -0.7**
PDG IAmb IAmb 07 58 54.8
comp=Z,40nm,1.0s
PDG Podgorica 68.86 324 ⇑P **P** **07 58 45.5 -0.7**
SONM Songino Array 68.97 28 P **P** **07 58 46.0 -0.9**
SONM IAmb IAmb 07 58 49.7
comp=Z,28nm,0.9s
SONM Songino Array 68.97 28 P **P** **07 58 46.7 -0.3**
comp=Z,15nm,0.7s,baz=215,slow=7.0,SNR=89
SONM LR LR 08 28 10.7
comp=Z,1μm,21.0s,baz=225,slow=35
comp=Z,15nm,0.7s
SONM Songino Array 68.97 28 P **P** **07 58 46.0 -0.9**
SONM pmax pmax
comp=Z,28nm,0.9s
BJT Baijiatuau 68.99 39 P **P** **07 58 47.6 +0.6**
SJES Sjenica 68.99 325 *e*P **P** **07 58 46.7 -0.4**
BJI Beijing 69.00 39 P **P** **07 58 46.7 -0.4**
BJI S **S** **08 07 57.2 +4.9**
BJI pmax pmax
comp=Z,10.0nm,0.9s
BJI LR LR
comp=Z,270nm,18.3s
BJI LR LR
comp=Z,57nm,14.4s
BJI LR LR
comp=Z,290nm,18.5s
DEV Deva 69.20 329 ⇓P **P** **07 58 48.9 +0.7**
DEV Deva 69.20 329 P **P** **07 58 48.9 +0.7**
HTT Hallett 69.25 121 P **P** **07 58 51.2 +2.2**
MATE Matera 69.26 322 ⇑P **P** **07 58 48.6 -0.1**
ULN Ulaanbaatar 69.29 28 P **P** **07 58 47.8 -1.2**
ULN IAmb IAmb 07 58 51.4
comp=Z,20nm,1.1s
ULN Ulaanbaatar 69.29 28 P **P** **07 58 49.6 +0.7**
ULN P **P** **07 58 49.6 +0.7**
ULN S **S** **08 07 56.5 +0.8**
ULN S **S** **08 07 56.5 +0.8**
ULN Ulaanbaatar 69.29 28 *ce*P **P** **07 58 48.5 -0.5**
ULN pmax pmax
comp=Z,33nm,1.7s
BURAR Bucovina Array 69.31 332 P **P** **07 58 48.5 -0.5**
HCY Herceg Novi 69.31 324 *e*P **P** **07 58 47.4 -1.6**
BUR08 Bucovina Ar. S 69.34 332 P **P** **07 58 48.9 -0.3**
BUR08 IAmb IAmb 07 58 57.6
comp=Z,28nm,1.4s
CJR Cluj-Napoca 69.44 330 ⇑P **P** **07 58 49.7 -0.1**
CJR Cluj-Napoca 69.44 330 P **P** **07 58 49.6 -0.1**
SURR Surduc 69.51 329 ⇓P **P** **07 58 49.9 -0.2**
UPM Unac-Piva 69.55 325 *e*P **P** **07 58 50.4 -0.3**
RUDO Rudo 69.56 325 *e*P **P** **07 58 49.4 -1.1**
ZAK Zakamensk 69.56 24 *e*P **P** **07 58 48.2 -2.3**
ZAK pmax pmax
comp=Z,11nm,1.2s
BZS Buzias 69.67 328 ⇓P **P** **07 58 50.6 -0.6**
BZS Buzias 69.67 328 P **P** **07 58 50.6 -0.6**
MOY Mondy 69.70 22 *e*P **P** **07 58 50.8 -0.5**
MOY pmax pmax
comp=Z,31nm,2.1s
BBLS Lazi&#263i 69.70 326 *e*P **P** **07 58 50.6 -0.9**
AKASG Malin Array Be 69.89 336 P **P** **07 58 50.9 -1.5**
comp=Z,14nm,0.8s,baz=140,slow=5.4,SNR=52
AKASG LR LR 08 32 30.7
comp=Z,125nm,18.1s,baz=71,slow=38
comp=Z,14nm,0.8s
AKBB Malin Array Si 69.89 336 *ce*P **P** **07 58 51.2 -1.2**
AKBB pmax pmax
comp=Z,25nm,0.9s
KIEV Kiev 69.89 336 P **P** **07 58 51.1 -1.3**
KIEV IAmb IAmb 07 58 59.5
comp=Z,29nm,0.9s
KIEV Kiev 69.89 336 ⇓P **P** **07 58 51.1 -1.3**
KIEV Kiev 69.89 336 P **P** **07 58 51.1 -1.3**
KIEV Kiev 69.89 336 *i* P **P** **07 58 51.0 -1.3**
SNR=9.1
DRGR 69.93 330 ⇓P **P** **07 58 52.5 -0.3**

DRGR 69.93 330 P **P** 07 58 52.5 -0.3
TEKS Tekeris 70.07 326 *e*P **P** 07 58 52.9 -0.8
HAPS Han Pijesak,BI 70.09 326 *e*P **P** 07 58 53.6 -0.3
SIRR Siria 70.09 329 ⇓P **P** 07 58 53.9 +0.2
BMR Baia Mare 70.16 331 ⇓P **P** 07 58 54.3 +0.1
BMR Baia Mare 70.16 331 P **P** 07 58 54.2 +0.1
FRGS Fruska Gora 70.32 327 *e*P **P** 07 58 53.9 -1.3
QIS Mount Isa 70.50 108 P **P** 07 58 56.5 -0.4
comp=Z,50nm,1.5s
QIS Mount Isa 70.50 108 P **P** 07 58 56.2 -0.7
PAOL Paolisi 70.79 321 P **P** 07 58 57.5 -0.7
PAOL IAmb IAmb 07 59 02.1
comp=Z,71nm,1.6s
OBN Obninsk 70.95 342 P **P** 07 58 57.9 -0.8
comp=Z,19nm,0.4s,baz=109,slow=3.9,SNR=15
comp=Z,19nm,0.4s
OBN Obninsk 70.95 342*d i*P **P** 07 58 57.9 -0.8
OBN *i* *PP **sP** 07 59 01.5 +0.9
OBN *e*SP **pwP** 07 59 03.7 -0.7
OBN 07 59 19.0
OBN *i* S **S** 08 08 17.9 +3.4
OBN *e* 08 08 49.1
OBN SS **SS** 08 12 48.0 +0.3
OBN SSS SSS 08 15 49.0
OBN pmax pmax
comp=Z,56nm,1.4s
OBN MLR MLR
comp=Z,152nm,19.0s
INKA Innaminka 71.00 115 P **P** 07 59 00.2 +0.4
JOW Kunigami 71.15 56 LR LR 08 28 51.1
comp=Z,685nm,20.8s,baz=266,slow=35
JOW Kunigami 71.15 56 P **P** 07 59 01.0 +0.4
TROLL Troll, Antarti 71.16 197 ⇓P **P** 07 59 00.1 0.0
comp=Z,157nm,0.9s
TROLL ⇓sP **pwP** 07 59 07.8 +0.9
MOS Moscow 71.19 343 *e*P **P** 07 58 57.6 -2.6
MOS *e* 08 01 36.0
MOS pmax pmax
comp=Z,247nm,1.5s
MOS pmax pmax
comp=Z,600nm,2.0s
KIRV Kirov 71.21 351 P **P** 07 58 58.9 -1.3
comp=Z,21nm,0.8s,baz=168,slow=7.0,SNR=14
comp=Z,21nm,0.8s
KIRV Kirov 71.21 351*ce*P **P** 07 58 59.2 -1.0
XLT XiLinHaoTe 71.28 36 *e*P **P** 07 59 02.7 +1.5
XLT pP pwP 07 59 07.5 +0.5
XLT S **S** 08 08 20.3 +1.2
XLT SS **SS** 08 12 53.1 -0.5
XLT pmax pmax
comp=Z,24nm,1.2s
XLT pmax pmax
comp=Z,150nm,5.6s
XLT LR LR
comp=Z,370nm,17.8s
XLT LR LR
comp=Z,450nm,22.9s
IRK Irkutsk 71.40 23 *e*P **P** 07 58 57.3 -4.3
IRK pmax pmax
comp=Z,77nm,2.5s
KEST Kesra 71.40 314 P **P** 07 59 01.7 -0.4
KEST IAmb IAmb 07 59 05.7
comp=Z,30nm,1.3s
KEST Kesra 71.40 314 P **P** 07 59 02.4 +0.3
comp=Z,8.0nm,1.0s,baz=75,slow=5.8,SNR=5.4
KEST LR LR 08 31 04.5
comp=Z,124nm,18.2s,baz=288,slow=36
comp=Z,8.0nm,1.0s
KEST Kesra 71.40 314 P **P** 07 59 02.1 0.0
BLY Banja Luka 71.49 325 *e*P **P** 07 59 00.1 -2.2
STKA Stephens Creek 71.54 120 P **P** 07 59 02.1 -0.9
STKA Stephens Creek 71.54 120 P **P** 07 59 02.1 -0.9
comp=Z,98nm,1.4s
STKA Stephens Creek 71.54 120 P **P** 07 59 02.0 -0.9
comp=Z,5.4nm,0.8s,baz=286,slow=5.5,SNR=13
STKA LR LR 08 26 33.4
comp=Z,200nm,20.4s,baz=248,slow=33
comp=Z,5.4nm,0.8s
STKA Stephens Creek 71.54 120 P **P** 07 59 04.3 +1.3
STKA Stephens Creek 71.54 120 P **P** 07 59 02.1 -0.9
STKA pmax pmax
comp=Z,138nm,1.3s
ARPS Mount Arapiles 71.61 125 P **P** 07 59 02.8 -0.5
comp=Z,38nm,1.1s
MORH Mrgy, Hungar 71.63 327 ⇓P **P** 07 59 02.5 -0.6
KOLS Kolonicke sedl 71.63 331 *e*P **P** 07 59 03.0 0.0
KOLS *e* 07 59 10.9
KOLS pmax pmax
comp=Z,26nm,0.9s
KOLS Kolonicke sedl 71.63 331 *e*P **P** 07 59 03.0 0.0
KOLS *e* 07 59 10.9
A050A Klekovaca 71.69 325 *e*P **P** 07 59 01.9 -1.7
INTR Introdacqua 71.77 322 P **P** 07 59 03.4 -0.7
INTR IAmb IAmb 07 59 12.4
comp=Z,64nm,1.3s
A051A Mrakovica 71.81 325 *e*P **P** 07 59 03.7 -0.6
DL2 Dalian 71.85 42 P **P** 07 59 04.0 -0.6
DL2 S **S** 08 08 25.8 +0.2
DL2 pmax pmax
comp=Z,48nm,1.7s
DL2 pmax pmax
comp=Z,320nm,4.5s
DL2 LR LR
comp=Z,620nm,18.0s
DL2 LR LR
comp=Z,540nm,15.2s
DL2 LR LR
comp=Z,750nm,16.1s
PSZ Piszkesteto 72.10 329 P **P** 07 59 04.4 -1.6
PSZ Piszkesteto 72.10 329 P **P** 07 59 04.4 -1.6
PSZ pmax pmax
comp=Z,17nm,1.0s
PSZ Piszkesteto 72.10 329 *e*P **P** 07 59 05.1 -0.9
KECS Kecovo 72.18 330 *e*P **P** 07 59 06.2 -0.2
KECS pmax pmax
comp=Z,16nm,0.8s
KECS Kecovo 72.18 330 *e*P **P** 07 59 06.2 -0.2
KECS *e* 07 59 13.3
CAMP Campotosto 72.37 322 P **P** 07 59 07.4 -0.3
CAMP IAmb IAmb 07 59 16.4
comp=Z,79nm,1.4s
SNAA Sanae 72.64 198 P **P** 07 59 08.7 -0.2
SNAA Sanae 72.64 198 ⇓P **P** 07 59 08.0 -0.9
comp=Z,34nm,0.6s
SNAA ⇓sP **pwP** 07 59 16.4 +0.6
SNAA Sanae 72.64 198 P **P** 07 59 08.0 -0.9
comp=Z,2.8nm,0.9s,baz=91,slow=7.2,SNR=5.5
SNAA LR LR 08 23 26.0
comp=Z,822nm,21.6s,baz=88,slow=30
comp=Z,2.8nm,0.9s
SNAA Sanae 72.64 198*ce*P **P** 07 59 09.6 +0.7
SNAA pmax pmax
comp=Z,14nm,1.0s
NRCA Norcia 72.72 322 P **P** 07 59 08.7 -1.1
NRCA IAmb IAmb 07 59 17.6
comp=Z,65nm,1.2s
SRO Srobarova 72.83 328 *e*P **P** 07 59 09.8 -0.4
SRO *e* 07 59 17.7
SRO pmax pmax
comp=Z,97nm,1.8s
SRO Srobarova 72.83 328 *e*P **P** 07 59 09.8 -0.4
SRO *e* 07 59 17.7
FDMO Fiordimonte 72.85 322 P **P** 07 59 09.2 -1.3
FDMO IAmb IAmb 07 59 12.6
comp=Z,25nm,1.0s
NIE Niedzica 72.90 331 *e*P **P** 07 59 10.2 -0.5
CESX Cesi 72.91 321 P **P** 07 59 09.5 -1.3
CESX IAmb IAmb 07 59 18.9
comp=Z,27nm,1.2s
VYHS Vyhne 73.01 329 *e*P **P** 07 59 10.6 -0.7
VYHS *e* 07 59 18.2
VYHS pmax pmax
comp=Z,48nm,1.3s
VYHS Vyhne 73.01 329 *e*P **P** 07 59 10.6 -0.7
VYHS *e* 07 59 18.2
VYHS *e* 08 01 54.0
VYHS *e* 08 39 09.0
BOJS Bojanci 73.03 325 *e*P **P** 07 59 09.8 -1.7
BOJS Bojanci 73.03 325 *e*P **P** 07 59 10.8 -0.6
DBIC Dimbokro 73.10 281 P **P** 07 59 12.8 +0.2
DBIC Dimbokro 73.10 281 P **P** 07 59 10.8 -1.8
comp=Z,8.3nm,1.0s,baz=95,slow=5.7,SNR=5.1
DBIC LR LR 08 29 06.4
comp=Z,663nm,21.5s,baz=102,slow=34
comp=Z,8.3nm,1.0s

LANS Liptovska Anna 73.13 330 *e*P **P** 07 59 12.1 +0.1
LANS *e* 07 59 19.3
LANS pmax pmax
comp=Z,13nm,0.9s
LANS Liptovska Anna 73.13 330 *e*P **P** 07 59 12.1 +0.1
LANS *e* 07 59 19.3
VSL Villasalto 73.28 317 P **P** 07 59 12.6 -0.5
VSL IAmb IAmb 07 59 21.5
comp=Z,37nm,1.1s
MNK Minsk 73.36 338 *i* P **P** 07 59 12.0 -1.2
MNK *i* 07 59 28.1
MNK *i* PPP PPP 08 03 48.2
MNK *i* S **SKiKP** 08 08 44.3 -0.7
MNK pmax pmax
comp=E,20nm,0.9s
MNK pmax pmax
comp=Z,46nm,0.9s
MNK pmax pmax
comp=N,14nm,0.8s
GENI Genyem 73.63 89 P **P** 07 59 16.7 +1.0
CEY Cerknica 73.64 325 *e*P **P** 07 59 12.7 -2.4
CEY Cerknica 73.64 325 *i* P **P** 07 59 14.4 -0.7
OJC Ojcow 73.68 331 *e*P **P** 07 59 14.2 -1.1
OJC Ojcow 73.68 331 P **P** 07 59 13.8 -1.5
OJC Ojcow 73.68 331 P **P** 07 59 13.8 -1.5
OJC pmax pmax
comp=Z,25nm,1.1s
MODS Modra-Piesok 73.72 328 *e*P **P** 07 59 15.0 -0.5
MODS *e* 07 59 22.2
MODS pmax pmax
comp=Z,46nm,1.0s
MODS Modra-Piesok 73.72 328 *e*P **P** 07 59 15.0 -0.5
MODS *e* 07 59 22.2
MODS *e* 08 02 06.1
MODS *e* 08 39 23.6
SMOL Smolenice 73.74 329 *e*P **P** 07 59 15.1 -0.5
SMOL pmax pmax
comp=Z,8.0nm,1.1s
PERS Pernice 73.79 326 *e*P **P** 07 59 15.5 -0.5
RONA Rosalia, Austr 73.81 327 *i* P **P** 07 59 15.5 -0.6
comp=Z,34nm,1.2s,SNR=18
RONA *e*PP **PP** 08 02 03.1 +2.1
comp=Z,14nm,1.4s
JAVC Velka Javorina 73.83 329 *e*P **P** 07 59 16.6 +0.4
SOKA Soboth 73.86 326 *i* P **P** 07 59 16.1 -0.4
comp=Z,28nm,1.3s,SNR=9.2
VNA2 Neumayer--Watz 73.89 199 ⇓P **P** 07 59 16.9 +0.8
comp=Z,4.5nm,0.8s,baz=339,slow=7.7
VNA2 ⇑sP **pwP** 07 59 23.8 +0.8
baz=347,slow=2.6
VNA2 ⇑PP PP 08 02 10.8 +10
baz=338,slow=8.4
OBKA Obir 74.03 326 *e*P **P** 07 59 15.4 -2.1
OBKA Obir 74.03 326 *i* P **P** 07 59 17.3 -0.2
comp=Z,42nm,1.3s,SNR=9.1
CASP Castiglione de 74.07 321 P **P** 07 59 16.6 -1.0
CASP IAmb IAmb 07 59 25.8
comp=Z,48nm,1.1s
MAUC Maruska 74.08 329 *e*P **P** 07 59 17.3 -0.3
TABU Tabubil 74.17 92 P **P** 07 59 19.1 +0.1
JAY Jayapura 74.17 89 LR LR 08 29 04.3
comp=Z,84nm,21.6s,baz=242,slow=34
CONA Conrad Observa 74.18 327 *i* P **P** 07 59 17.8 -0.5
comp=Z,51nm,1.4s,SNR=32
CONA *e*PP **PP** 08 02 04.7 +0.5
comp=Z,21nm,1.9s
QLP Quilpie 74.19 114 P **P** 07 59 18.9 +0.1
comp=Z,56nm,1.5s
QLP Quilpie 74.19 114 P **P** 07 59 19.9 +1.1
SABO M.te Sabotino 74.25 325 P **P** 07 59 18.1 -0.6
IDID Didziasalis 74.40 338 *e*P **P** 07 59 18.9 -0.4
STEB Steborice 74.48 330 *e*P **P** 07 59 18.6 -1.3
MORC Moravsky Berou 74.49 330 P **P** 07 59 19.2 -0.8
MORC Moravsky Berou 74.49 330 *e*P **P** 07 59 19.2 -0.8
MORC Moravsky Berou 74.49 330 ⇓P **P** 07 59 19.4 -0.6
MORC Moravsky Berou 74.49 330 P **P** 07 59 19.2 -0.8
MORC pmax pmax
comp=Z,26nm,1.1s
TOO Toolangi 74.50 126 P **P** 07 59 20.4 0.0
comp=Z,23nm,1.2s
PRED Cave del Predi 74.54 325 P **P** 07 59 19.3 -1.1
TJN Taejon 74.56 47 P **P** 07 59 21.3 +0.6
MYKA Terra Mystica 74.61 325 *e*P **P** 07 59 20.3 -0.5
comp=Z,39nm,1.6s,SNR=6.3
KRUC Moravsky 74.61 329 *e*P **P** 07 59 19.9 -0.8
VRAC Vranov 74.67 329 P **P** 07 59 20.0 -1.0
comp=Z,7.0nm,0.9s,baz=132,slow=6.0,SNR=16
comp=Z,7.0nm,0.9s
VRAC Vranov 74.67 329 *e*P **P** 07 59 20.3 -0.7
VRAC Vranov 74.67 329 P **P** 07 59 20.0 -1.0
VNA3 Neumayer Olymp 74.67 199 ⇓P **P** 07 59 17.0 -3.7
comp=Z,4.1nm,1.0s
VNA3 ⇓sP **pwP** 07 59 28.4 +0.7
VNA3 ⇓PP **PP** 08 02 09.1 +1.6
ISAL Salakas 74.83 338 *e*P **P** 07 59 21.4 -0.3
SUW Suwalki 74.83 335 *e*P **P** 07 59 20.6 -1.1
SUW Suwalki 74.83 335 P **P** 07 59 20.5 -1.3
SUW Suwalki 74.83 335 P **P** 07 59 20.5 -1.3
SUW pmax pmax
comp=Z,264nm,1.9s
SUW Suwalki 74.83 335 *e*P **P** 07 59 21.5 -0.2
ZCCA Zocca 74.85 322 P **P** 07 59 22.8 +0.6
MOA Molln 74.99 327 *i* P **P** 07 59 22.5 -0.4
comp=Z,38nm,1.0s,SNR=19
TEOL Teolo 75.00 323 P **P** 07 59 22.2 -0.9
KBA Koelnbreinsper 75.03 326 *i* P **P** 07 59 22.5 -0.9
comp=Z,33nm,1.5s,SNR=7.4
CMSA Cobar Meteorol 75.05 120 P **P** 07 59 23.2 -0.5
comp=Z,51nm,1.2s
CIMO Cimolais 75.10 325 P **P** 07 59 22.7 -0.9
CIMO IAmb IAmb 07 59 25.8
comp=Z,72nm,1.9s
MTSU Mount Surprise 75.19 106 P **P** 07 59 24.1 -0.6
comp=Z,22nm,1.3s
MTSU Mount Surprise 75.19 106 P **P** 07 59 27.3 +2.5
CIT Chita 75.20 28 *e*P **P** 07 59 25.4 +1.3
CIT *e* 07 59 34.2
CIT pmax pmax
comp=Z,87nm,1.8s
KLMR Klimovskoe 75.22 347 *e*P P 07 59 17.5 -6.4
KLMR S **SKiKP** 08 08 53.7 +6.0
KLMR pmax pmax
comp=Z,136nm,1.4s
TREC Trest 75.22 328 *e*P **P** 07 59 23.5 -0.8
TREC Trest 75.22 328 *e*P **P** 07 59 23.5 -0.8
BIOA Bad Ischl, Aus 75.23 326 *i* P **P** 07 59 23.6 -0.7
comp=Z,28nm,1.2s,SNR=10
ABTA Abfaltersbach 75.31 325 *i* P **P** 07 59 24.6 -0.3
comp=Z,28nm,1.0s,SNR=21
CTI Castel Tesino 75.40 324 P **P** 07 59 24.9 -0.6
CTI IAmb IAmb 07 59 28.0
comp=Z,34nm,1.2s
CTI Castel Tesino 75.40 324 P **P** 07 59 24.9 -0.6
CTI pmax pmax
comp=Z,34nm,1.2s
KSAR Wonju Array Be 75.42 46 P **P** 07 59 24.6 -1.0
KSAR Wonju Array Be 75.42 46 P **P** 07 59 24.6 -1.0
KS19 Wonju Array Si 75.44 46 P **P** 07 59 24.5 -1.2
KS19 IAmb IAmb 07 59 33.1
comp=Z,32nm,1.2s
KSRS Korea Array 75.45 46 P **P** 07 59 24.6 -1.1
comp=Z,10nm,1.0s,baz=241,slow=6.3,SNR=23
KSRS LR LR 08 32 05.3
comp=Z,908nm,20.7s,baz=235,slow=35
comp=Z,10nm,1.0s
DPC Dobruska-Polom 75.46 330 *e*P **P** 07 59 24.4 -1.2
DPC Dobruska-Polom 75.46 330 *e*P **P** 07 59 24.4 -1.2
CKRC Cesky Krumlov 75.55 327 *e*P **P** 07 59 25.4 -0.7
CKRC Cesky Krumlov 75.55 327 *e*P **P** 07 59 25.4 -0.7
PABE Paberze 75.60 337 P **P** 07 59 25.2 -0.9
PABE Paberze 75.60 337 *e*P **P** 07 59 25.8 -0.4
LESA Schwarzleotal 75.61 326 *i* P **P** 07 59 25.5 -1.0
comp=Z,40nm,1.0s,SNR=17
OSTC Ostas 75.64 330 *e*P **P** 07 59 26.6 0.0
OSTC Ostas 75.64 330 *e*P **P** 07 59 26.6 0.0
CHVC Chvalec 75.74 330 *e*P **P** 07 59 26.5 -0.7
CHVC Chvalec 75.74 330 *e*P **P** 07 59 26.5 -0.7
JNU Nakatsue 75.77 51 P **P** 07 59 26.4 -1.4
JNU IAmb IAmb 07 59 36.5
comp=Z,38nm,1.1s
JNU Nakatsue 75.77 51 LR LR 08 34 36.5
comp=Z,387nm,18.0s,baz=243,slow=37
JNU Nakatsue 75.77 51 P **P** 07 59 27.0 -0.8
KSP Ksiaz 75.79 330 *e*P **P** 07 59 27.5 0.0

GERES GERESS Array B 75.88 327 P **P** 07 59 27.0 -1.2
comp=Z,5.0nm,0.9s,baz=134,slow=5.8,SNR=25
comp=Z,5.0nm,0.9s
GERES GERESS Array B 75.88 327 P **P** 07 59 27.0 -1.2
VSVD Vaisvydziai 75.96 337 *e*P **P** 07 59 27.4 -0.9
GOPC GO Pecny, Ondr 75.96 329 *e*P **P** 07 59 27.7 -0.8
GOPC GO Pecny, Ondr 75.96 329 *e*P **P** 07 59 27.7 -0.8
ZVC Zvikov 75.98 328 *e*P **P** 07 59 28.0 -0.6
ZVC *e*pP **pwP** 07 59 35.3 +1.1
WTTA Wattenberg 76.09 325 *i* P **P** 07 59 28.7 -0.8
comp=Z,58nm,1.2s,SNR=19
KHC Kasperske Hory 76.12 327 *e*P **P** 07 59 28.1 -1.3
KHC *e*pP **pwP** 07 59 34.2 -0.8
KHC Kasperske Hory 76.12 327*ce*P **P** 07 59 28.5 -0.9
KHC pmax pmax
comp=Z,88nm,1.7s
PRU Pruhonice 76.14 328 *e*P **P** 07 59 29.0 -0.4
PRU Pruhonice 76.14 328 *e*P **P** 07 59 29.0 -0.4
WATA Walderalm 76.17 325 *i* P **P** 07 59 28.8 -1.1
comp=Z,56nm,1.1s,SNR=16
SQTA Sankt Quirin 76.31 325 *i* P **P** 07 59 29.8 -0.8
comp=Z,45nm,1.6s,SNR=11
MOTA Moosalm 76.44 325 *i* P **P** 07 59 30.3 -1.1
comp=Z,42nm,1.1s
PVCC Panska Ves 76.45 329 *e*P **P** 07 59 31.5 +0.3
PVCC Panska Ves 76.45 329 *e*P **P** 07 59 31.5 +0.3
FETA Feichten 76.47 324 *i* P **P** 07 59 31.0 -0.6
comp=Z,25nm,1.1s,SNR=11
FUORN Ofenpass-Fuorn 76.52 324 P **P** 07 59 31.2 -0.7
HIA Hailar 76.53 33 P **P** 07 59 32.2 +0.5
RETA Reutte 76.71 325 *i* P **P** 07 59 32.0 -0.9
comp=Z,31nm,1.4s,SNR=5.5
VSU Vasula 76.82 340*ce*P **P** 07 59 31.8 -1.2
VSU pmax pmax
comp=Z,106nm,2.5s
VSU Vasula 76.82 340 *e*P **P** 07 59 31.8 -1.2
DAVOX Davos/Dischmat 76.82 324 P **P** 07 59 32.6 -1.0
comp=Z,10nm,0.9s,baz=143,slow=9.3,SNR=15
comp=Z,10nm,0.9s
CN2 Changchun 76.84 40 P **P** 07 59 32.2 -1.4
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,500nm,15.0s
GKP Gorka Klasztor 76.90 332 *e*P **P** 07 59 35.2 +1.6
TUE Stuetta 76.97 323 P **P** 07 59 33.1 -1.4
TUE IAmb IAmb 07 59 36.4
comp=Z,89nm,1.9s
BRG Berggiesshubel 76.98 329 *i* P **P** 07 59 34.3 +0.1
BRG Amp 07 59 38.2
comp=Z,59nm,1.5s
DAVA Damuels 77.10 324 *i* P **P** 07 59 34.4 -0.7
comp=Z,41nm,1.2s,SNR=11
CAN Canberra 77.48 124 P **P** 07 59 37.3 -0.3
comp=Z,44nm,1.9s
CAN Canberra 77.48 124 P **P** 07 59 38.6 +1.1
GRF Grafenberg Arr 77.70 327 *e*P 07 59 37.4
comp=Z,28nm,1.1s,baz=125,slow=6.6
GRA1 Grafenberg Arr 77.70 327 P **P** 07 59 37.9 -0.4
GRA1 IAmb IAmb 07 59 46.9
comp=Z,52nm,1.1s
GRF Grafenberg Arr 77.70 327 P **P** 07 59 37.9 -0.4
GRF pmax pmax
comp=Z,52nm,1.1s
GRFO Grafenberg 77.70 327 P **P** 07 59 38.0 -0.2
GRFO IAmb IAmb 07 59 46.8
comp=Z,60nm,1.2s
GRFO Grafenberg 77.70 327 P **P** 07 59 38.0 -0.2
GRFO pmax pmax
comp=Z,60nm,1.2s
CLL Collm 77.71 329 *i* P **P** 07 59 38.0 -0.3
CLL *i* 07 59 43.4
CLL pmax pmax
comp=Z,79nm,1.6s
CLL Collm 77.71 329 *i* P **P** 07 59 38.0 -0.3
comp=Z,79nm,1.6s
CLL *i* x x 07 59 43.4
comp=Z,41nm,1.3s
CLL AMS AMS 08 12 00.0
comp=Z,200nm,18.0s
CNB Canberra Magne 77.78 124 P **P** 07 59 40.2 +1.0
ARBE Arbavere 77.81 340 *e*P **P** 07 59 38.5 -0.1
BNI Bardonecchia 77.83 321 P **P** 07 59 38.2 -1.0
BNI Bardonecchia 77.83 321 P **P** 07 59 38.2 -1.0
BNI pmax pmax
comp=Z,31nm,1.6s
MTSE Matsula 78.02 339 *e*P **P** 07 59 39.2 -0.5
RUE Ruedersdorf 78.03 330 *e*P **P** 07 59 39.8 -0.2
STU Stuttgart 78.29 325 P **P** 07 59 40.9 -0.7
STU IAmb IAmb 07 59 50.2
comp=Z,48nm,1.3s
STU Stuttgart 78.29 325 P **P** 07 59 40.9 -0.7
STU pmax pmax
comp=Z,48nm,1.3s
STU Stuttgart 78.29 325 *e*P **P** 07 59 41.2 -0.3
BFO Black Forest 78.54 325 P **P** 07 59 41.9 -1.1
BFO IAmb IAmb 07 59 45.4
comp=Z,69nm,1.7s
BFO Black Forest 78.54 325 P **P** 07 59 41.9 -1.1
BFO pmax pmax
comp=Z,69nm,1.7s
QSPA South Pole Qui 78.54 180 P **P** 07 59 42.1 -0.8
comp=Z,19nm,1.2s,baz=280,slow=2.6,SNR=21
QSPA LR LR 08 29 29.0
comp=Z,806nm,21.0s,baz=278,slow=32
comp=Z,19nm,1.2s
MEF Metsahovi 78.93 340 *e*P **P** 07 59 44.3 -0.4
JOF Joensuu 79.00 344 *e*P **P** 07 59 44.4 -0.7
BNX BinXian 79.01 39 ⇓P **P** 07 59 43.5 -2.1
BNX S **S** 08 09 45.7 +0.9
BNX SS **SS** 08 14 54.7 +4.0
BNX pmax pmax
comp=Z,13nm,1.3s
BNX LR LR
comp=Z,300nm,16.8s
BNX LR LR
comp=Z,500nm,16.8s
BNX LR LR
comp=Z,430nm,17.4s
SYDH Sydney Hard Ro 79.07 122 P **P** 07 59 46.9 +0.6
ECH Echery 79.15 324 P **P** 07 59 45.5 -0.8
ECH Echery 79.15 324 P **P** 07 59 45.5 -0.8
ECH pmax pmax
comp=Z,16nm,1.3s
PMG Port Moresby 79.24 97 LR LR 08 30 29.8
comp=Z,302nm,21.2s,baz=265,slow=32
PMG Port Moresby 79.24 97 P **P** 07 59 48.4 +0.8
SSB Saint Sauveur 79.26 321 P **P** 07 59 46.5 -0.5
SSB IAmb IAmb 07 59 56.0
comp=Z,47nm,1.2s
SSB Saint Sauveur 79.26 321 P **P** 07 59 46.5 -0.5
SSB pmax pmax
comp=Z,47nm,1.2s
FINES FINESS Array B 79.32 342 P **P** 07 59 45.6 -1.3
FINES FINESS Array B 79.32 342 P **P** 07 59 45.9 -1.0
comp=Z,5.3nm,0.8s,baz=123,slow=7.0,SNR=12
comp=Z,5.3nm,0.8s
FINES FINESS Array B 79.32 342 P **P** 07 59 45.6 -1.3
MDJ Mudanjiang 79.85 40 P **P** 07 59 48.9 -1.3
MDJ pmax pmax
comp=Z,19nm,1.1s
MDJ LR LR
comp=Z,620nm,18.2s
MDJ LR LR
comp=Z,510nm,21.6s
MDJ LR LR
comp=Z,860nm,21.0s
MDJ Mudanjiang 79.85 40 P **P** 07 59 48.9 -1.3
VNDA Vanda 80.03 167 P **P** 07 59 50.1 -0.5
VNDA Vanda 80.03 167 P **P** 07 59 50.5 -0.1
comp=Z,4.8nm,1.2s,baz=271,slow=9.5,SNR=7.5
VNDA PKiKP **PKiKP** 08 05 23.7 +3.1
comp=Z,1.0nm,0.5s,baz=196,slow=7.1,SNR=7.1
VNDA LR LR 08 31 16.2
comp=Z,440nm,21.6s,baz=246,slow=33
comp=Z,4.8nm,1.2s
VNDA Vanda 80.03 167 P **P** 07 59 50.1 -0.5
VNDA pmax pmax
comp=Z,29nm,1.3s
ARMA Armidale 80.23 119 P **P** 07 59 52.3 -0.6
ARMA IAmb IAmb 08 00 02.0
comp=Z,77nm,1.4s
ARMA Armidale 80.23 119 P **P** 07 59 53.7 +0.8
ARMA Armidale 80.23 119 P **P** 07 59 53.5 +0.7
RAF Rauma 80.41 340 *e*P **P** 07 59 52.2 -0.5

EIDS Eidsvold 80.45 114 P **P 07 59 54.8 +0.9**
WLF Walferdange 80.46 325 *d*P **P 07 59 52.9 -0.5**
MDT Midelt 80.66 306 P **P 07 59 55.2 +0.3**
comp=Z,8.4nm,0.9s,baz=119,slow=5.1,SNR=4.5
MDT LR LR 08 37 49.3
comp=Z,142nm,18.1s,baz=146,slow=37
comp=Z,8.4nm,0.9s
BHOU Houvegnez 80.89 326 *d*P **P 07 59 54.6 -1.1**
SBA Scott Base 81.00 168 P **P 07 59 55.9 0.0**
SBA IAmb IAmb 08 00 04.8
comp=Z,52nm,1.4s
SBA Scott Base 81.00 168 P **P 07 59 55.9 0.0**
SBA pmax pmax
comp=Z,52nm,1.5s
MEM Membach 81.02 326 *d*P **P 07 59 56.2 -0.1**
USRK Ussuriysk Ar. 81.20 42 P **P 07 59 55.8 -1.6**
comp=Z,7.2nm,0.8s,baz=251,slow=3.0,SNR=9.0
USRK LR LR 08 35 07.1
comp=Z,376nm,21.9s,baz=245,slow=35
comp=Z,7.2nm,0.8s
HEH HeiHe 81.24 35 *e*P **P 07 59 54.8 -2.7**
HEH pmax pmax
comp=Z,8.0nm,1.1s
BCLA Clavier 81.31 326 *d*P **P 07 59 58.0 +0.1**
comp=Z,6.7nm,1.3s
INU Inuyama 81.32 51 P **P 08 00 00.1 +1.8**
BGES Gesves 81.42 325 *d*P **P 08 00 00.3 +1.8**
comp=Z,7.0nm,0.0s
DOU Dourbes 81.55 325 *d*P **P 08 00 00.5 +1.4**
comp=Z,9.9nm,1.5s
VAF Ylistaro 81.58 341 *e*P **P 07 59 59.0 0.0**
GUMO Guam 81.76 74 LR LR 08 32 16.3
comp=Z,76nm,21.6s,baz=218,slow=33
NRIK Noril'sk 82.02 7 P **P 08 00 00.3 -0.9**
NRIK IAmb IAmb 08 00 03.7
comp=Z,24nm,1.1s
NRIK Noril'sk 82.02 7 P **P 08 00 00.7 -0.6**
comp=Z,7.3nm,0.8s,baz=201,slow=4.3,SNR=14
NRIK LR LR 08 37 14.5
comp=Z,347nm,18.5s,baz=198,slow=36
comp=Z,7.3nm,0.8s
NRIK Noril'sk 82.02 7 *ce*P **P 08 00 00.9 -0.3**
NRIK pmax pmax
comp=Z,16nm,1.1s
UCC Uccle 82.02 326 *d*P **P 08 00 01.6 0.0**
APA Apatity 82.39 348 ||*i*P **P 08 00 01.5 -1.7**
APA pmax pmax
comp=Z,13nm,0.9s
APA MLR MLR
comp=Z,800nm,24.0s
LVZ Lovozero 82.42 348 *i* P **P 08 00 03.1 -0.3**
LVZ pmax pmax
comp=Z,31nm,1.0s
ESDC Sonseca Array 82.61 313 P **P 08 00 04.5 -0.5**
comp=Z,11nm,0.9s,baz=102,slow=3.6,SNR=27
ESDC LR LR 08 35 50.5
comp=Z,81nm,20.4s,baz=133,slow=35
comp=Z,11nm,0.9s
MAJO Matsushiro 82.64 51 P **P 08 00 03.3 -1.9**
MAJO IAmb IAmb 08 00 07.5
comp=Z,34nm,1.2s
MAJO Matsushiro 82.64 51 P **P 08 00 07.5 +2.3**
MAJO Matsushiro 82.64 51 P **P 08 00 03.3 -1.9**
MAJO pmax pmax
comp=Z,34nm,1.2s
MJAR Matsushiro Arr 82.64 51 P **P 08 00 04.7 -0.5**
comp=Z,16nm,1.0s,baz=249,slow=5.7,SNR=17
MJAR LR LR 08 34 47.3
comp=Z,352nm,21.8s,baz=248,slow=34
comp=Z,16nm,1.0s
JHJ Hachijo jima 2 82.72 54 LR LR 08 37 22.8
comp=Z,167nm,19.4s,baz=189,slow=36
HFS Hagfors 82.77 336 P **P 08 00 04.6 -0.7**
comp=Z,13nm,1.0s,baz=121,slow=5.7,SNR=10
comp=Z,13nm,1.0s
PAB San Pablo 82.84 313 P **P 08 00 05.8 -0.5**
PAB IAmb IAmb 08 00 17.8
comp=Z,64nm,1.5s
PAB San Pablo 82.84 313 P **P 08 00 05.8 -0.5**
PAB pmax pmax
comp=Z,64nm,1.5s
JCJ Chichijima 82.88 61 LR LR 08 37 34.9
comp=Z,128nm,18.1s,baz=134,slow=36
ZEA Zeya 82.90 32 *e*P **P 08 00 05.2 -1.0**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=E,500nm,17.0s
ZEA MLR MLR
comp=N,400nm,14.0s
ZEA MLR MLR
comp=Z,800nm,18.0s
KLR Kul'dur 83.24 37 LR LR 08 38 54.2
comp=Z,173nm,20.4s,baz=242,slow=37
KLR Kul'dur 83.24 37 *ce*P **P 08 00 06.5 -1.6**
KLR pmax pmax
comp=Z,32nm,1.7s
KONO Kongsberg 84.15 335 P **P 08 00 14.3 +1.9**
KONO Kongsberg 84.15 335 P **P 08 00 14.3 +1.9**
KONO pmax pmax
comp=Z,102nm,1.8s
NB2 NORSAR Subarra 84.30 336 P **P 08 00 12.2 -1.0**
comp=Z,75nm,2.0s,baz=118,slow=5.1
NB2 NORSAR Subarra 84.30 336 P **P 08 00 12.2 -1.0**
baz=118,slow=5.1
NOA NORSAR Array B 84.30 336 P **P 08 00 11.6 -1.7**
comp=Z,4.2nm,0.9s,baz=117,slow=4.9,SNR=9.4
comp=Z,4.2nm,0.9s
ARCES ARCESS Array B 85.70 347 P **P 08 00 19.5 -0.6**
comp=Z,12nm,0.8s,baz=149,slow=5.0,SNR=14
ARCES LR LR 08 39 19.6
comp=Z,193nm,21.3s,baz=118,slow=36
comp=Z,12nm,0.8s
BBTS Babate 86.12 286 LR LR 08 38 39.5
comp=Z,353nm,18.2s,baz=346,slow=36
EKA Eskdalemuir Ar 88.10 328 P **P 08 00 31.1 -0.9**
comp=Z,4.4nm,0.9s,baz=119,slow=6.8,SNR=4.6
comp=Z,4.4nm,0.9s
ASAJ Asahikawa 88.27 44 LR LR 08 39 29.2
comp=Z,465nm,20.1s,baz=269,slow=35
YSS Yuzhno-Sakhali 89.24 42 P **P 08 00 39.0 +1.4**
YSS Yuzhno-Sakhali 89.24 42 *ce*P **P 08 00 37.6 0.0**
YSS pmax pmax
comp=Z,66nm,2.5s
HNR Honiara 91.63 100 LR LR 08 40 11.1
comp=Z,114nm,18.1s,baz=262,slow=34
TIXI Tiksi 92.57 16 P **P 08 00 51.2 -1.4**
TIXI IAmb IAmb 08 00 59.7
comp=Z,31nm,1.1s
TIXI Tiksi 92.57 16 LR LR 08 42 40.4
comp=Z,883nm,21.0s,baz=234,slow=36
TIXI Tiksi 92.57 16 *ce*P **P 08 00 50.9 -1.7**
TIXI pmax pmax
comp=Z,26nm,1.1s
SPITS Spitsbergen Ar 93.68 351 P **P 08 00 58.4 +0.7**
comp=Z,19nm,0.9s,baz=212,slow=3.0,SNR=5.4
SPITS LR LR 08 45 37.8
comp=Z,126nm,18.0s,baz=67,slow=37
comp=Z,19nm,0.9s
DZM Mont Dzumac 94.89 114 *e*SS SS 08 18 39.2 -4.8
comp=Z,90nm,27.5s
DZM Mont Dzumac 94.89 114 *e*LR LR 08 31 39.0
comp=Z,604nm,23.8s
PMSA Palmer Station 95.33 199 LR LR 08 39 35.1
comp=Z,259nm,18.2s,baz=107,slow=33
JMIC Jan Mayen 95.94 341 LR LR 08 45 02.0
comp=Z,108nm,18.8s,baz=24,slow=36
MA2 Magadan 97.02 31 LR LR 08 45 45.5
comp=Z,396nm,19.9s,baz=274,slow=36
SEY Seymchan 98.36 27 LR LR 08 46 18.1
comp=Z,2μm,20.2s,baz=314,slow=36
SEY Seymchan 98.36 27 *ce*P **P 08 01 18.0 -1.1**
SEY pmax pmax
comp=Z,5.0nm,1.0s
URZ Urewera 98.69 132 LR LR 08 38 24.1
comp=Z,55nm,20.6s,baz=2.5,slow=31
BORG Borgarnes 99.33 334 LR LR 08 47 59.5
comp=Z,113nm,20.5s,baz=74,slow=36
ILAR Eielson Array 122.05 16 PKP **PKPdf 08 06 33.5 -2.3**
comp=Z,1.0nm,0.9s,baz=291,slow=2.8,SNR=5.9
ILAR PP **PP 08 08 08.2 -1.6**
comp=Z,4.5nm,1.3s,baz=305,slow=4.2,SNR=5.9
LPAZ La Paz 127.17 239 PKP **PKPdf 08 06 46.6 -1.3**
comp=Z,4.1nm,1.2s,baz=96,slow=3.4,SNR=4.5
YKA Yellowknife Ar 129.10 1 PKP **PKPdf 08 06 47.5 -1.9**
comp=Z,2.3nm,0.9s,baz=358,slow=2.2,SNR=22
YKA PP **PP 08 08 54.6 -2.0**
comp=Z,3.7nm,1.1s,baz=1.4,slow=6.6,SNR=13
TBI Tubuai 130.72 135 *e*LR LR 08 48 06.6
comp=Z,437nm,26.2s
PPT2 Papeete2 134.22 129 *e*LR LR 08 49 43.1
comp=Z,116nm,25.5s
PPT2 *e*LR LR 08 49 53.9
comp=Z,164nm,27.5s
ULM Lac du Bonnet 138.70 343 PKP **PKPdf 08 07 05.4 -2.4**
comp=Z,1.5nm,0.7s,baz=11,slow=2.3,SNR=4.2
ULM PP **PP 08 09 55.9 -2.0**
comp=Z,3.0nm,0.9s,baz=30,slow=2.8,SNR=4.2
RKT Rikitea 139.74 149 *e*LR LR 08 52 23.9
comp=Z,1μm,25.2s
OTAV Otavalo 143.29 255 *e*P **PKPdf 08 07 16.0 -1.7**
LAO LASA Array 144.39 351 PKPdf PKPbc 08 07 15.9 -0.5
OLIL Olney 144.61 324 PKPdf **PKPab 08 07 16.2 -0.9**
U49A Red Boiling Sp 144.64 319 **PKPab 08 07 16.2 -1.2**
Y52A Lilburn 145.01 314 **PKPbc 08 07 17.7 -1.1**
CGM3 Cape Girardeau 146.49 324 **PKPdf 08 07 21.9 0.0**
PDAR Pinedale Array 148.66 354 PKP **PKPdf 08 07 23.6 -2.1**
comp=Z,6.6nm,1.1s,baz=152,slow=1.1,SNR=9.3
PDAR PKPbc **sPKPdf 08 07 27.9 +0.3**
comp=Z,8.6nm,0.8s,baz=78,slow=1.4,SNR=41
NVAR Mina Array Bea 152.88 8 PKPbc **PKiKP 08 07 39.7 0.0**
comp=Z,7.2nm,0.8s,baz=83,slow=2.7,SNR=48
NVAR PP **PP 08 11 18.9 -3.2**
comp=Z,7.1nm,1.3s,baz=350,slow=4.0,SNR=9.9
TXAR Lajitas Array 159.98 334 PKP **PKPdf 08 07 41.2 -0.5**
comp=Z,0.8nm,0.9s,baz=11,slow=2.4,SNR=3.7
TXAR PKPab **PKPab 08 08 18.4 -2.5**
comp=Z,3.9nm,0.9s,baz=55,slow=3.8,SNR=11
TXAR PP **PP 08 12 04.6 +2.9**
comp=Z,0.9nm,0.9s,baz=15,slow=6.5,SNR=3.8

---

*IDC **06** 07:54:35.8±1.8, 37.°60N×24.°77W, h0km, mb4.1/17, mbtmp4.1/18, ML3.8/1, MS3.6/20, Error ellipse: s-maj=52.3km s-min=17.0km az=175.0*
*NEIC **06** 07:54:36.4±1.6, 37.°4N±0.°1×24.°76W±0.°10, h10km±1km, mb4.8/33, Error ellipse: s-maj=21.3km s-min=8.4km az=212.0*
*GCMT **06** 07:54:37.4±0.4, 37.°36N±0.°06×24.°60W±0.°08, h19km±1km, MW4.8/85, Moment Tensor Solution. s5,c5; s85,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.78±.20; $M_{\theta\theta}$1.02±.13; $M_{\phi\phi}$0.75±.11; $M_{r\theta}$-0.42±.33; $M_{\theta\phi}$-0.41±.07; $M_{r\phi}$0.63±.38; Best double couple: $M_0$1.72000×10^{16} NP1:ϕ_s302.00000°, δ33.00000°, λ-100.00000°. NP2: ϕ_s134.00000°, δ58.00000°, λ-84.00000°. Principal axes: T 1.4780, Plg13.0000°, Azm219.0000°; N 0.4830, Plg5.0000°, Azm311.0000°; P -1.9630, Plg76.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*INMG **06** 07:54:37.5±1.7, 37.°31N×24.°63W, h15km, ML4.3 Error ellipse: s-maj=7.8km s-min=3.4km az=77.0, #DIST_RANGE: LOCAL #IPMA_REGION: Ilhus das Formigas #FELT: II/III (MM56) at Povoacao*
*SVSA **06** 07:54:37.5±1.7, 37.°31N×24.°63W, h15km, ML4.3(INMG), Error ellipse: s-maj=7.8km s-min=3.4km az=77.0, #DIST_RANGE: LOCAL #IPMA_REGION: Ilhus das Formigas #FELT: II/III (MM56) at Povoacao*

ISC 06 07:54:36.6±1.1, 37.°39N±0.°04×24.°84W±0.°05, h13km±7km, n130, σ1.°32/148, mb4.7/35, MS3.5/19, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.43**	**205**	*e*P		**Pg**	**07 54 45.2**	**+0.1**
PSMN				*e*S		**Sg**	**07 54 51.2**	**+0.3**
PSMN				*i* AML		AML	07 55 10.9	
PSMN				*i* AML		AML	07 55 12.9	
PSMN				*i* AML		AML	07 55 16.8	
PSMN	**Pico do Norte,**	**0.43**	**205**	*e*P		**Pg**	**07 54 45.2**	**+0.1**
PSMN				*e*S		**Sg**	**07 54 51.2**	**+0.3**
PSMN				*i* AML		AML	07 55 10.9	
PSMN				*i* AML		AML	07 55 12.9	
PSMN				*i* AML		AML	07 55 16.8	
PSMA	**Santa Maria**	**0.46**	**210**	*e*P		**Pg**	**07 54 45.7**	**0.0**
PSMA				*e*S		**Sg**	**07 54 51.6**	**-0.2**
PSMA				*i* AML		AML	07 55 09.2	
PSMA				*i* AML		AML	07 55 14.3	
PSMA				*i* AML		AML	07 55 16.6	
PSMA	**Santa Maria**	**0.46**	**210**	*e*P		**Pg**	**07 54 45.7**	**0.0**
PSMA				*e*S		**Sg**	**07 54 51.6**	**-0.2**
PSMA				*i* AML		AML	07 55 09.2	
PSMA				*i* AML		AML	07 55 14.3	
PSMA				*i* AML		AML	07 55 16.6	
PPOV	**Povoa§£o**	**0.48**	**318**	*e*P		**Pb**	**07 54 46.9**	**+0.1**
PPOV				*e*S		**Sn**	**07 54 54.3**	**-3.0**
PPOV	**Povoa§£o**	**0.48**	**318**	*e*P		**Pb**	**07 54 46.9**	**+0.1**
PPOV				*e*S		**Sn**	**07 54 54.3**	**-3.0**
PNOR2	**Nordeste**	**0.50**	**331**	*e*P		**Pg**	**07 54 46.9**	**+0.4**
PNOR2				*e*S		**Sb**	**07 54 55.0**	**+0.5**
PNOR2				*i* AML		AML	07 54 56.0	
PNOR2				*i* AML		AML	07 54 57.1	
PNOR2				*i* AML		AML	07 54 59.6	
PNOR2	**Nordeste**	**0.50**	**331**	*e*P		**Pg**	**07 54 46.9**	**+0.4**
PNOR2				*e*S		**Sb**	**07 54 55.0**	**+0.5**
PNOR2				*i* AML		AML	07 54 56.0	
PNOR2				*i* AML		AML	07 54 57.1	
PNOR2				*i* AML		AML	07 54 59.6	
PGRON	**Lagoa das Cont**	**0.57**	**312**	*e*P		**Pn**	**07 54 49.6**	**-0.8**
PGRON				*e*S		**Sn**	**07 54 58.3**	**-1.3**
PGRON				*i* AML		AML	07 54 59.9	
PGRON				*i* AML		AML	07 55 00.5	
PGRON				*i* AML		AML	07 55 01.1	
PGRON	**Lagoa das Cont**	**0.57**	**312**	*e*P		**Pn**	**07 54 49.6**	**-0.8**
PGRON				*e*S		**Sn**	**07 54 58.3**	**-1.3**
PGRON				*i* AML		AML	07 54 59.9	
PGRON				*i* AML		AML	07 55 00.5	
PGRON				*i* AML		AML	07 55 01.1	
PCALD	**Caldeiras da R**	**0.65**	**308**	*e*P		**Pn**	**07 54 50.4**	**-1.1**
PCALD				*e*S		**Sn**	**07 54 60.0**	**-1.7**
PCALD	**Caldeiras da R**	**0.65**	**308**	*e*P		**Pn**	**07 54 50.4**	**-1.1**
PCALD				*e*S		**Sn**	**07 54 60.0**	**-1.7**
CMLA	**Cha da Macela**	**0.66**	**305**	Pg		**Pb**	**07 54 49.6**	**-0.3**
CMLA	**Cha da Macela**	**0.66**	**305**	*e*P		**Pb**	**07 54 49.9**	**0.0**
CMLA				*e*S		**Sn**	**07 54 59.5**	**-2.3**
CMLA				*i* AML		AML	07 55 03.4	
CMLA				*i* AML		AML	07 55 04.0	
CMLA				*i* AML		AML	07 55 13.6	
CMLA	**Cha da Macela**	**0.66**	**305**	*e*P		**Pb**	**07 54 49.9**	**0.0**
CMLA				*e*S		**Sn**	**07 54 59.5**	**-2.3**
CMLA				*i* AML		AML	07 55 03.4	
CMLA				*i* AML		AML	07 55 04.0	
CMLA				*i* AML		AML	07 55 13.6	
PDA	**Ponta Delgada**	**0.74**	**299**	*e*P		**Pb**	**07 54 50.7**	**-0.6**
PDA				*e*S		**Sn**	**07 55 01.1**	**-2.8**
PDA				*i* AML		AML	07 55 02.3	
PDA				*i* AML		AML	07 55 02.8	
PDA				*i* AML		AML	07 55 10.0	
PDA	**Ponta Delgada**	**0.74**	**299**	*e*P		**Pb**	**07 54 50.7**	**-0.6**
PDA				*e*S		**Sn**	**07 55 01.1**	**-2.8**
PDA				*i* AML		AML	07 55 02.3	
PDA				*i* AML		AML	07 55 02.8	
PDA				*i* AML		AML	07 55 10.0	
PSET	**Sete Cidades**	**0.82**	**302**	*e*P		**Pg**	**07 54 52.4**	**-0.1**
PSET				*e*S		**Sn**	**07 55 04.6**	**-1.3**
PSET				*i* AML		AML	07 55 10.6	
PSET				*i* AML		AML	07 55 12.8	
PSET				*i* AML		AML	07 55 15.3	
PSET	**Sete Cidades**	**0.82**	**302**	*e*P		**Pg**	**07 54 52.4**	**-0.1**
PSET				*e*S		**Sn**	**07 55 04.6**	**-1.3**
PSET				*i* AML		AML	07 55 10.6	
PSET				*i* AML		AML	07 55 12.8	
PSET				*i* AML		AML	07 55 15.3	
PSCM	**Serra do Cume**	**2.22**	**307**	*e*P		**Pn**	**07 55 12.3**	**-0.8**
PSCM				*e*S		**Sn**	**07 55 38.5**	**-1.9**
PSCM				*i* AML		AML	07 55 41.0	
PSCM				*i* AML		AML	07 55 41.2	
PSCM				*i* AML		AML	07 55 41.2	
PSCM	**Serra do Cume**	**2.22**	**307**	*e*P		**Pn**	**07 55 12.3**	**-0.8**
PSCM				*e*S		**Sn**	**07 55 38.5**	**-1.9**
PSCM				*i* AML		AML	07 55 41.0	
PSCM				*i* AML		AML	07 55 41.2	
PSCM				*i* AML		AML	07 55 41.2	
ADH	**Angra Heroismo**	**2.27**	**304**	*e*P		**Pn**	**07 55 13.5**	**-0.2**
ADH				*e*S		**Sn**	**07 55 40.4**	**-1.2**
ADH				*i* AML		AML	07 55 41.4	
ADH				*i* AML		AML	07 55 41.9	
ADH				*i* AML		AML	07 55 43.4	
ADH	**Angra Heroismo**	**2.27**	**304**	*e*P		**Pn**	**07 55 13.5**	**-0.2**
ADH				*e*S		**Sn**	**07 55 40.4**	**-1.2**
ADH				*i* AML		AML	07 55 41.4	
ADH				*i* AML		AML	07 55 41.9	
ADH				*i* AML		AML	07 55 43.4	
PAGU	**Agualva, Azore**	**2.30**	**307**	*e*P		**Pn**	**07 55 13.3**	**-0.8**
PAGU				*e*S		**Sn**	**07 55 40.4**	**-2.0**
PAGU				*i* AML		AML	07 55 42.8	
PAGU				*i* AML		AML	07 55 42.9	
PAGU				*i* AML		AML	07 55 43.3	
PAGU	**Agualva, Azore**	**2.30**	**307**	*e*P		**Pn**	**07 55 13.3**	**-0.8**
PAGU				*e*S		**Sn**	**07 55 40.4**	**-2.0**
PAGU				*i* AML		AML	07 55 42.8	
PAGU				*i* AML		AML	07 55 42.9	
PAGU				*i* AML		AML	07 55 43.3	
PSBA	**Serra de Santa**	**2.39**	**306**	*e*P		**Pn**	**07 55 14.6**	**-0.8**
PSBA				*e*S		**Sn**	**07 55 42.7**	**-1.9**
PSBA				*i* AML		AML	07 55 44.9	
PSBA				*i* AML		AML	07 55 46.4	
PSBA				*i* AML		AML	07 55 51.0	
PSBA	**Serra de Santa**	**2.39**	**306**	*e*P		**Pn**	**07 55 14.6**	**-0.8**
PSBA				*e*S		**Sn**	**07 55 42.7**	**-1.9**
PSBA				*i* AML		AML	07 55 44.9	
PSBA				*i* AML		AML	07 55 46.4	
PSBA				*i* AML		AML	07 55 51.0	
PID	**Ribeirinha**	**2.80**	**293**	*e*P		**Pn**	**07 55 20.3**	**-0.7**
PID				*e*S		**Sn**	**07 55 52.1**	**-2.4**
PID				*i* AML		AML	07 55 58.7	
PID				*i* AML		AML	07 56 00.5	
PID				*i* AML		AML	07 56 06.4	
PID	**Ribeirinha**	**2.80**	**293**	*e*P		**Pn**	**07 55 20.3**	**-0.7**
PID				*e*S		**Sn**	**07 55 52.1**	**-2.4**
PID				*i* AML		AML	07 55 58.7	
PID				*i* AML		AML	07 56 00.5	
PID				*i* AML		AML	07 56 06.4	
PMAN	**Manadas**	**2.85**	**297**	*e*P		**Pn**	**07 55 21.3**	**-0.4**
PMAN				*e*S		**Sn**	**07 55 53.7**	**-2.1**
PMAN				*i* AML		AML	07 55 57.3	
PMAN				*i* AML		AML	07 56 03.2	
PMAN				*i* AML		AML	07 56 03.5	
PMAN	**Manadas**	**2.85**	**297**	*e*P		**Pn**	**07 55 21.3**	**-0.4**
PMAN				*e*S		**Sn**	**07 55 53.7**	**-2.1**
PMAN				*i* AML		AML	07 55 57.3	
PMAN				*i* AML		AML	07 56 03.2	
PMAN				*i* AML		AML	07 56 03.5	
PPNO	**Prainha do Nor**	**2.91**	**293**	*e*P		**Pn**	**07 55 21.6**	**-1.1**
PPNO				*e*S		**Sn**	**07 55 55.2**	**-2.3**
PPNO				*i* AML		AML	07 55 57.5	
PPNO				*i* AML		AML	07 55 58.9	
PPNO				*i* AML		AML	07 56 00.1	
PPNO	**Prainha do Nor**	**2.91**	**293**	*e*P		**Pn**	**07 55 21.6**	**-1.1**
PPNO				*e*S		**Sn**	**07 55 55.2**	**-2.3**
PPNO				*i* AML		AML	07 55 57.5	
PPNO				*i* AML		AML	07 55 58.9	
PPNO				*i* AML		AML	07 56 00.1	
ROSA	**Rosais**	**2.99**	**297**	*e*P		**Pn**	**07 55 23.4**	**-0.3**
ROSA				*e*S		**Sn**	**07 55 57.5**	**-2.0**
ROSA				*i* AML		AML	07 55 58.9	
ROSA				*i* AML		AML	07 56 06.9	
ROSA				*i* AML		AML	07 56 09.8	
ROSA	**Rosais**	**2.99**	**297**	*e*P		**Pn**	**07 55 23.4**	**-0.3**
ROSA				*e*S		**Sn**	**07 55 57.5**	**-2.0**
ROSA				*i* AML		AML	07 55 58.9	
ROSA				*i* AML		AML	07 56 06.9	
ROSA				*i* AML		AML	07 56 09.8	
PICO	**Pico**	**3.04**	**292**	*e*P		**Pn**	**07 55 24.1**	**-0.3**
PICO				*e*S		**Sn**	**07 55 57.8**	**-2.9**
PICO				*i* AML		AML	07 56 00.5	
PICO				*i* AML		AML	07 56 00.8	
PICO				*i* AML		AML	07 56 01.1	
PICO	**Pico**	**3.04**	**292**	*e*P		**Pn**	**07 55 24.1**	**-0.3**
PICO				*e*S		**Sn**	**07 55 57.8**	**-2.9**
PICO				*i* AML		AML	07 56 00.5	
PICO				*i* AML		AML	07 56 00.8	
PICO				*i* AML		AML	07 56 01.1	
PCAN	**Candelaria**	**3.07**	**291**	*e*P		**Pn**	**07 55 23.8**	**-1.0**
PCAN				*e*S		**Sn**	**07 55 59.5**	**-1.9**
PCAN				*i* AML		AML	07 56 03.2	
PCAN				*i* AML		AML	07 56 07.0	
PCAN				*i* AML		AML	07 56 14.4	
PCAN	**Candelaria**	**3.07**	**291**	*e*P		**Pn**	**07 55 23.8**	**-1.0**
PCAN				*e*S		**Sn**	**07 55 59.5**	**-1.9**
PCAN				*i* AML		AML	07 56 03.2	
PCAN				*i* AML		AML	07 56 07.0	
PCAN				*i* AML		AML	07 56 14.4	
HOR	**Horta**	**3.20**	**292**	*e*P		**Pn**	**07 55 25.8**	**-0.8**
HOR				*e*S		**Sn**	**07 56 01.9**	**-2.6**
HOR				*i* AML		AML	07 56 03.8	
HOR				*i* AML		AML	07 56 07.3	
HOR				*i* AML		AML	07 56 08.3	
HOR	**Horta**	**3.20**	**292**	*e*P		**Pn**	**07 55 25.8**	**-0.8**
HOR				*e*S		**Sn**	**07 56 01.9**	**-2.6**
HOR				*i* AML		AML	07 56 03.8	
HOR				*i* AML		AML	07 56 07.3	
HOR				*i* AML		AML	07 56 08.3	
PFCBR	**Castelo Branco**	**3.26**	**291**	*e*P		**Pn**	**07 55 27.0**	**-0.4**
PFCBR				*e*S		**Sn**	**07 56 03.5**	**-2.6**
PFCBR				*i* AML		AML	07 56 05.5	
PFCBR				*i* AML		AML	07 56 05.5	
PFCBR				*i* AML		AML	07 56 06.4	
PFCBR				*i* AML		AML	07 56 06.9	
PFCBR	**Castelo Branco**	**3.26**	**291**	*e*P		**Pn**	**07 55 27.0**	**-0.4**
PFCBR				*e*S		**Sn**	**07 56 03.5**	**-2.6**
PFCBR				*i* AML		AML	07 56 05.5	
PFCBR				*i* AML		AML	07 56 05.5	
PFCBR				*i* AML		AML	07 56 06.4	
PFCBR				*i* AML		AML	07 56 06.9	
CALA	**Caldeira**	**3.27**	**292**	*e*P		**Pn**	**07 55 27.4**	**-0.2**
CALA				*e*S		**Sn**	**07 56 04.3**	**-2.1**
CALA				*i* AML		AML	07 56 08.5	
CALA				*i* AML		AML	07 56 09.0	
CALA				*i* AML		AML	07 56 12.1	
CALA	**Caldeira**	**3.27**	**292**	*e*P		**Pn**	**07 55 27.4**	**-0.2**
CALA				*e*S		**Sn**	**07 56 04.3**	**-2.1**
CALA				*i* AML		AML	07 56 08.5	
CALA				*i* AML		AML	07 56 09.0	
CALA				*i* AML		AML	07 56 12.1	
PMOZ	**Porto Moniz, M**	**7.75**	**124**	Pn		Pn	07 56 25.6	-3.5
MACI	**Morro de la Ar**	**11.49**	**140**	Pn		Pn	07 57 16.4	-4.1
COI	**Coimbra**	**13.12**	**73**	Pn		**Pn**	**07 57 40.8**	**-1.8**
ESDC	**Sonseca Array**	**16.49**	**76**	Pn		**Pn**	**07 58 29.0**	**+1.3**
0.1nm,0.3s,baz=274,slow=10,SNR=11
ESDC LR LR 08 03 16.6
comp=Z,207nm,21.5s,baz=270,slow=32
4.7nm,0.9s
MDT Midelt 17.17 99 LR LR 08 03 29.6
comp=Z,158nm,21.8s,baz=353,slow=31
EKA Eskdalemuir Ar 23.20 32 P **P 07 59 41.2 -1.6**
1.4nm,0.7s,baz=227,slow=8.0,SNR=5.1
1.4nm,0.7s
BFO Black Forest 26.46 55 P **P 08 00 11.6 -1.6**
DAVOX Davos/Dischmat 27.23 59 LR LR 08 10 30.9
comp=Z,166nm,18.9s,baz=254,slow=35
KEST Kesra 27.43 83 LR LR 08 10 17.8
comp=Z,64nm,18.4s,baz=272,slow=34
BORG Borgarnes 27.47 3 LR LR 08 08 11.2
comp=Z,89nm,19.0s,baz=191,slow=30
GRFO Grafenberg 28.60 53 P **P 08 00 31.5 -0.8**
GRFO IAmb IAmb 08 00 32.7
comp=Z,18nm,1.1s
GRA1 Grafenberg Arr 28.60 53 P **P 08 00 31.3 -1.1**
GRA1 IAmb IAmb 08 00 32.7
comp=Z,21nm,1.1s
GERES GERESS Array B 30.06 55 P **P 08 00 44.7 -0.7**
comp=Z,0.9nm,0.7s,baz=254,slow=7.0,SNR=1.9
comp=Z,0.9nm,0.7s
VAE Valguarnera 31.02 78 LR LR 08 12 51.1
comp=Z,109nm,18.2s,baz=306,slow=36
NBO00 NORSAR Array S 32.50 32 P **P 08 01 06.2 -0.4**
NBO00 IAmb IAmb 08 01 51.9
comp=Z,15nm,1.2s
ICQ Pointe Anglais 32.67 305 P **P 08 01 10.3 +2.1**
ICQ IAmb IAmb 08 01 12.7
comp=Z,14nm,0.9s
NOA NORSAR Array B 32.69 32 P **P 08 01 08.0 -0.3**
comp=Z,2.5nm,1.1s,baz=242,slow=9.2,SNR=3.6
NOA LR LR 08 12 43.1
comp=Z,122nm,21.4s,baz=240,slow=34

comp=Z,2.5nm,1.1s
SFJD Kangerlussuaq 33.08 342 LR LR 08 11 26.8
comp=Z,105nm,20.1s,baz=142,slow=31
HFS Hagfors 33.35 35 LR LR 08 13 33.4
comp=Z,108nm,18.5s,baz=256,slow=34
TORD Torodi Ar. Bea 33.82 129 P **P** **08 01 17.5 -1.1**
JMIC Jan Mayen 34.73 9 LR LR 08 12 38.2
comp=Z,54nm,20.7s,baz=295,slow=31
FINES FINESS Array B 39.50 36 LR LR 08 17 28.5
comp=Z,50nm,18.8s,baz=172,slow=35
AKASG Malin Array Be 40.19 53 P **P** **08 02 11.0 -1.4**
comp=Z,1.1nm,0.4s,baz=279,slow=8.0,SNR=4.9
comp=Z,1.1nm,0.4s
SJG San Juan 40.90 254 LR LR 08 15 17.1
comp=Z,64nm,20.2s,baz=54,slow=30
MDP Montagnes des 40.96 225 LR LR 08 14 44.6
comp=Z,54nm,20.3s,baz=130,slow=29
ARCES ARCESS Array B 41.86 24 P **P** **08 02 25.6 -0.3**
comp=Z,5.7nm,0.9s,baz=267,slow=4.6,SNR=3.9
comp=Z,5.7nm,0.9s
E46A Sault Ste Mari 44.24 301 P **P** **08 02 46.4 +1.0**
SPITS Spitsbergen Ar 44.34 11 LR LR 08 17 18.1
comp=Z,125nm,19.4s,baz=206,slow=31
PCRV Puerto La Cruz 44.88 243 LR LR 08 19 05.4
comp=Z,57nm,20.5s,slow=33
H10N2 ASCENSION HYDR 46.02 166 T T 08 51 46.0
baz=348,slow=75,SNR=260
H10N3 ASCENSION HYDR 46.02 166 T T 08 51 46.8
baz=348,slow=75,SNR=356
H10N1 ASCENSION HYDR 46.03 166 T T 08 51 47.3
baz=348,slow=75,SNR=312
H10S3 ASCENSION HYDR 47.08 166 T T 08 53 05.5
baz=348,slow=74,SNR=141
H10S2 ASCENSION HYDR 47.09 166 T T 08 53 06.2
baz=232,slow=74,SNR=178
FCC Fort Churchill 48.46 319 P **P** **08 03 19.7 +1.3**
FCC IAmb IAmb 08 03 20.9
comp=Z,13nm,1.2s
MMAI Mount Meron Ar 48.70 76 P **P** **08 03 21.1 +0.3**
comp=Z,1.1nm,0.6s,baz=244,slow=5.4,SNR=3.6
comp=Z,1.1nm,0.6s
RES Resolute Bay 49.07 341 P **P** **08 03 23.8 +0.9**
RES IAmb IAmb 08 03 25.2
comp=Z,12nm,1.0s
SDV Santo Domingo 50.09 247 LR LR 08 23 58.4
comp=Z,43nm,18.3s,baz=69,slow=35
ULM Lac du Bonnet 50.96 309 LR LR 08 23 13.1
comp=Z,106nm,18.3s,baz=276,slow=34
ROSC El Rosal 55.51 247 LR LR 08 24 54.5
comp=Z,120nm,21.5s,baz=48,slow=33
ARTI Arti 56.30 42 P **P** **08 04 16.8 +0.2**
comp=Z,4.8nm,1.0s,baz=247,slow=9.7,SNR=3.9
comp=Z,4.8nm,1.0s
YKA Yellowknife Ar 57.51 327 P **P** **08 04 25.4 +0.2**
comp=Z,1.6nm,1.0s,baz=74,slow=7.0,SNR=15
YKA PcP **PcP** **08 05 18.7 +0.2**
comp=Z,0.4nm,0.8s,baz=78,slow=4.9,SNR=4.8
comp=Z,1.6nm,1.0s
AKTO Aktyubinsk 58.12 48 P **P** **08 04 29.9 +0.4**
comp=Z,4.9nm,0.9s,baz=295,slow=6.7,SNR=9.2
comp=Z,4.9nm,0.9s
ABKAR Akbulak array 59.72 49 P **P** **08 04 40.4 -0.3**
ABKAR Akbulak array 59.72 49 P **P** **08 04 40.6 -0.1**
ABKAR IAmb IAmb 08 05 12.0
comp=Z,13nm,1.7s
BRDY Brady 60.09 288 P **P** **08 04 44.3 +0.7**
JTS Las Juntas de 60.14 260 LR LR 08 30 38.3
comp=Z,41nm,18.1s,baz=111,slow=36
DRIO Del Rio 62.21 287 P **P** **08 04 58.4 +0.4**
DRIO IAmb IAmb 08 05 00.1
comp=Z,9.3nm,1.2s
PDAR Pinedale Array 62.41 304 P **P** **08 04 59.8 +0.4**
comp=Z,1.3nm,0.9s,baz=76,slow=6.3,SNR=9.9
comp=Z,1.3nm,0.9s
F31M Tsiigehtchic 62.72 336 P **P** **08 05 01.3 +0.6**
SNOW Snow King Moun 62.88 305 P **P** **08 05 04.1 +1.5**
F30M Barrier River 63.29 336 P **P** **08 05 05.1 +0.5**
E29M Blow River 63.50 338 P **P** **08 05 06.0 0.0**
E29M IAmb IAmb 08 05 07.6
comp=Z,5.7nm,1.0s
E28M Babbage River 63.87 338 P **P** **08 05 08.4 0.0**
E28M IAmb IAmb 08 05 18.1
comp=Z,9.4nm,1.1s
BVAR Borovoye Array 64.02 42 P **P** **08 05 10.1 +0.5**
comp=Z,1.8nm,1.0s,baz=292,slow=7.8,SNR=4.8
comp=Z,1.8nm,1.0s
G29M Pine Creek 64.40 336 P **P** **08 05 12.2 +0.3**
TXAR Lajitas Array 64.56 288 P **P** **08 05 15.3 +1.6**
comp=Z,2.3nm,0.8s,baz=69,slow=6.4,SNR=7.6
comp=Z,2.3nm,0.8s
E27K Coleen River 64.73 338 P **P** **08 05 14.7 +0.7**
E27K IAmb IAmb 08 05 24.1
comp=Z,8.7nm,1.2s
D25K Kavik River 65.33 341 P **P** **08 05 18.5 +0.5**
D25K IAmb IAmb 08 05 19.8
comp=Z,13nm,1.6s
E25K Arctic Village 65.92 339 P **P** **08 05 22.0 +0.2**
G26K Porcupine Rive 66.17 338 P **P** **08 05 24.1 +0.9**
DAWY Dawson 66.57 334 P **P** **08 05 27.2 +1.2**
DAWY IAmb IAmb 08 05 28.4
comp=Z,6.7nm,1.1s
D23K Nanushuk River 66.70 341 P **P** **08 05 27.8 +1.1**
B21K Ikpikpuk River 67.17 343 P **P** **08 05 31.1 +1.4**
J08A Circle Bar Ran 67.86 308 P **P** **08 05 36.6 +1.9**
D20K Etivluk River 68.33 343 P **P** **08 05 38.3 +1.2**
D20K IAmb IAmb 08 05 39.3
comp=Z,6.4nm,1.0s
ILAR Eielson Array 68.58 337 P **P** **08 05 39.5 +0.8**
comp=Z,1.0nm,0.9s,baz=42,slow=5.0,SNR=8.9
comp=Z,1.0nm,0.9s
L26K Log Cabin Wild 68.60 335 P **P** **08 05 40.1 +1.2**
F21K Alatna River 68.70 341 P **P** **08 05 40.3 +0.9**
F21K IAmb IAmb 08 05 41.7
comp=Z,14nm,1.6s
F20K Avaraart Lake 69.40 342 P **P** **08 05 45.1 +1.4**
KURBB Kurchatov Arra 69.58 41 P **P** **08 05 45.2 +0.1**
comp=Z,1.8nm,0.8s,baz=309,slow=6.7,SNR=11
comp=Z,1.8nm,0.8s
ZALV Zalesovo Beam 70.77 36 P **P** **08 05 51.8 -0.5**
ZALV Zalesovo Beam 70.77 36 P **P** **08 05 52.5 +0.3**
comp=Z,3.8nm,0.8s,baz=310,slow=7.6,SNR=16
comp=Z,3.8nm,0.8s
MK31 Makanchi Array 73.85 43 **P** **08 06 10.7 -0.2**
MKAR Makanchi Array 73.85 43 P **P** **08 06 10.1 -0.8**
MKAR Makanchi Array 73.85 43 P **P** **08 06 10.9 0.0**
comp=Z,1.8nm,0.7s,baz=314,slow=5.7,SNR=15
comp=Z,1.8nm,0.7s
H09N1 TRISTAN DA CUN 74.99 170 T T 09 29 51.0
SNR=3.4
H09W1 TRISTAN DA CUN 75.02 170 T T 09 28 04.2
SNR=5.9
WMQ Urumqi 78.68 43 *e*P **P** **08 06 39.6 +1.2**
WMQ LR LR
comp=N,650nm,24.1s
SONM Songino Array 84.66 31 P **P** **08 07 10.3 +0.3**
SONM IAmb IAmb 08 07 11.4
comp=Z,5.2nm,1.0s
SONM Songino Array 84.66 31 P **P** **08 07 10.6 +0.6**
comp=Z,3.6nm,0.9s,baz=322,slow=5.7,SNR=17
comp=Z,3.6nm,0.9s
ULN Ulaanbaatar 84.90 30 P **P** **08 07 11.5 +0.3**
ULN IAmb IAmb 08 07 12.9
comp=Z,9.2nm,1.1s
PLCA Paso Flores 88.31 213 LR LR 08 46 39.6
comp=Z,238nm,19.6s,baz=142,slow=35
HHC Hu-ho-hao-te 92.50 32 *e*P **P** **08 07 46.2 -1.3**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.6s
PZH PanZhiHua 99.03 47 P **Pdif** **08 08 16.9 -0.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s

*IDC **06** 07:58:49.6±2.3, 11°.37S×66°.46E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=82.2km s-min=26.4km az=58.0*
ISC 06 07:58:52.7±2.3, 11°.2S±0°.4×66°.7E±0°.5, h10km, n13, σ1§15/10, mb4.2/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**6.69**	**59**	T	T	08 07 48.9	
	baz=237,slow=75,SNR=2.4						
H08S2	**Diego Garcia H**	**6.70**	**59**	T	T	08 07 52.7	
	baz=237,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**6.71**	**59**	T	T	08 07 50.2	
	baz=237,slow=75,SNR=3.8						
MKAR	**Makanchi Array**	**59.39**	**12**	P	**P**	**08 08 54.8**	**-0.5**
	0.5nm,0.6s,baz=206,slow=6.8,SNR=4.0						
	0.5nm,0.6s						
AKTO	**Aktyubinsk**	**61.85**	**354**	P	**P**	**08 09 11.1**	**-0.8**
	2.6nm,0.9s,baz=138,slow=12,SNR=5.3						
	2.6nm,0.9s						
KURBB	**Kurchatov Arra**	**62.42**	**8**	P	**P**	**08 09 15.9**	**+0.1**
	1.0nm,0.6s,baz=206,slow=7.2,SNR=5.8						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**64.05**	**2**	P	**P**	**08 09 25.6**	**-0.9**
	1.3nm,0.8s,baz=151,slow=9.7,SNR=4.4						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**64.79**	**111**	P	**P**	**08 09 31.5**	**-0.6**
	1.0nm,0.9s,baz=262,slow=6.4,SNR=4.8						
	1.0nm,0.9s						
WRA	**Warramunga Arr**	**65.36**	**107**	P	**P**	**08 09 35.6**	**-0.2**
	1.4nm,0.9s,baz=280,slow=6.5,SNR=5.1						
	1.4nm,0.9s						
ZALV	**Zalesovo Beam**	**66.70**	**12**	P	**P**	**08 09 43.4**	**-0.2**
	1.3nm,0.8s,baz=234,slow=5.0,SNR=5.6						
	1.3nm,0.8s						
SONM	**Songino Array**	**68.52**	**28**	P	**P**	**08 09 56.7**	**+1.2**
	0.7nm,0.7s,baz=210,slow=7.0,SNR=4.3						
	0.7nm,0.7s						
YKA	**Yellowknife Ar**	**128.79**	**1**	PKP	**PKPdf**	**08 17 59.1**	**-1.0**
	0.2nm,0.9s,baz=283,slow=5.1,SNR=4.3						
PDAR	**Pinedale Array**	**148.39**	**355**	PKPbc	**PKPdf**	**08 18 38.7**	**+2.1**
	0.1nm,0.7s,baz=304,slow=0.5,SNR=4.0						

*IDC **06** 08:00:56.4±1.2, 11°.34S×66°.37E, h0km, mb4.2/17, mbtmp4.2/17, MS3.9/4, Error ellipse: s-maj=34.9km s-min=20.6km az=38.0*
*NEIC **06** 08:01:01.3±2.3, 11°.04S±0°.04×66°.45E±0°.09, h10km±1km, mb4.6/30, Error ellipse: s-maj=15.0km s-min=6.9km az=285.0*
ISC 06 08:01:02.0±0.6, 11°.1S±0°.1×66°.43E±0°.07, h23km, n88, σ1§15/79, mb4.5/50, MS4.1/5, 1D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**6.90**	**60**	Pn	**Pn**	**08 02 39.5**	**-1.9**
H08S1				T	T	08 10 01.5	
	baz=237,slow=75,SNR=51						
H08S2	**Diego Garcia H**	**6.91**	**60**	T	T	08 10 00.4	
	baz=237,slow=75,SNR=2.5						
H08S3	**Diego Garcia H**	**6.91**	**60**	T	T	08 10 03.4	
	baz=237,slow=75,SNR=47						
DGAR	**Diego Garcia**	**7.00**	**59**	Pn	**Pn**	**08 02 44.0**	**+0.9**
MSEY	**Mahe Island**	**12.60**	**300**	Pn	**Pn**	**08 04 00.6**	**+0.6**
ABPO	**Ambohimpanom**	**20.12**	**245**	P	**P**	**08 05 35.6**	**+1.0**
VOI	**Vohitsoka**	**21.63**	**238**	P	**P**	**08 05 50.8**	**-0.2**
PALK	**Pallekele**	**23.15**	**38**	P	**P**	**08 06 06.3**	**-0.7**
PALK				IAmb	IAmb	08 06 12.2	
	comp=Z,18nm,1.4s						
KMBO	**Kilima Mbogo**	**30.63**	**287**	LR	LR	08 18 15.3	
	comp=Z,123nm,18.7s,baz=87,slow=34						
GSI	**Gunungsitoli**	**33.34**	**70**	P	**P**	**08 07 37.5**	**-1.1**
LSZ	**Lusaka**	**37.42**	**259**	P	**P**	**08 08 14.3**	**+0.4**
LSZ				IAmb	IAmb	08 08 18.3	
	comp=Z,11nm,1.1s						
RAYN	**Ar Rayn**	**40.07**	**329**	P	**P**	**08 08 35.8**	**-0.1**
BOSA	**Boshof**	**42.19**	**240**	LR	LR	08 24 16.5	
	comp=Z,234nm,18.4s,baz=36,slow=33						
CMAR	**Chiang Mai Arr**	**43.51**	**48**	P	**P**	**08 09 04.1**	**0.0**
CMAR	**Chiang Mai Arr**	**43.51**	**48**	P	**P**	**08 09 03.8**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=244,slow=9.2,SNR=7.6						
	comp=Z,1.1nm,0.4s						
CHTO	**Chiang Mai**	**43.74**	**47**	P	**P**	**08 09 06.7**	**+0.8**
SHL	**Shillong**	**44.10**	**34**	P	**P**	**08 09 09.9**	**+1.0**
SHL				IAmb	IAmb	08 09 12.4	
	comp=Z,11nm,0.7s						
KSM	**Kuching**	**45.39**	**77**	P	**P**	**08 09 19.2**	**+0.1**
KBL	**Kabul**	**45.49**	**3**	P	**P**	**08 09 20.0**	**+0.2**
KBL				IAmb	IAmb	08 09 23.1	
	comp=Z,4.1nm,0.6s						
SUR	**Sutherland**	**46.92**	**236**	LR	LR	08 24 39.8	
	comp=Z,204nm,20.1s,baz=65,slow=30						
SLVN	**Son La**	**48.95**	**49**	P	**P**	**08 09 48.0**	**+1.1**
SLVN				IAmb	IAmb	08 09 50.2	
	comp=Z,7.7nm,1.0s						
H01W3	**Cape Leeuwin H**	**49.30**	**127**	T	T	09 02 17.0	
	baz=286,slow=75,SNR=9.5						
H01W2	**Cape Leeuwin H**	**49.30**	**127**	T	T	09 02 17.1	
	baz=286,slow=75,SNR=15						
H01W1	**Cape Leeuwin H**	**49.31**	**127**	T	T	09 02 18.2	
	baz=286,slow=75,SNR=12						
GAR	**Garm**	**50.00**	**4**	P	**P**	**08 09 55.2**	**+0.5**
DRK	**Karamyk**	**50.60**	**5**	P	**P**	**08 09 59.2**	**-0.2**
PZH	**PanZhiHua**	**50.76**	**42**	P	**P**	**08 10 04.1**	**+3.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.5s						
BTK	**Batken**	**51.09**	**4**	P	**P**	**08 10 03.4**	**+0.6**
BTK				IAmb	IAmb	08 10 06.4	
	comp=Z,7.9nm,1.1s						
KSH	**Kashi**	**51.16**	**9**	P	**P**	**08 10 01.4**	**-2.0**
KSH				sP	pP	08 10 07.8	-1.7
KSH				pmax	pmax		
	comp=Z,19nm,1.0s						
PSA00	**Pilbara Seismi**	**52.08**	**109**	P	**P**	**08 10 13.3**	**+2.7**
PSA00				IAmb	IAmb	08 10 21.1	
	comp=Z,12nm,1.1s						
ARSB	**Arslanbob**	**52.54**	**6**	P	**P**	**08 10 13.7**	**0.0**
ARSB				IAmb	IAmb	08 10 17.0	
	comp=Z,7.4nm,1.0s						
AAK	**Ala-Archa**	**54.01**	**7**	P	**P**	**08 10 25.5**	**+1.0**
AAK				IAmb	IAmb	08 10 27.6	
	comp=Z,5.0nm,1.1s						
KK31	**Karatay Array**	**54.10**	**4**	P	**P**	**08 10 25.3**	**+0.4**
KKAR	**Karatay Array**	**54.10**	**4**	P	**P**	**08 10 25.3**	**+0.4**
MAW	**Mawson**	**56.46**	**182**	LR	LR	08 29 05.6	
	comp=Z,102nm,19.3s,baz=324,slow=30						
WMQ	**Urumqi**	**58.02**	**18**	*e*P	**P**	**08 10 55.9**	**+2.8**
WMQ				pP	sP	08 11 01.2	-0.4
WMQ				PcP	PcP	08 11 52.8	+7.9
WMQ				pmax	pmax		
	comp=Z,35nm,0.7s						
WMQ				LR	LR		
	comp=N,470nm,24.2s						
WMQ				LR	LR		
	comp=E,560nm,24.7s						
KBZ	**Khabaz**	**58.66**	**340**	P	**P**	**08 10 56.8**	**-0.6**
	comp=E,1.6nm,0.8s,baz=141,slow=9.8,SNR=4.3						
	comp=E,1.6nm,0.8s						
BRTR	**Keskin Array B**	**59.05**	**331**	P	**P**	**08 11 00.6**	**+0.1**
MK31	**Makanchi Array**	**59.38**	**13**	P	**P**	**08 11 01.6**	**-0.9**
MKAR	**Makanchi Array**	**59.38**	**13**	P	**P**	**08 11 01.3**	**-1.2**
MKAR	**Makanchi Array**	**59.38**	**13**	P	**P**	**08 11 01.9**	**-0.6**
	comp=E,0.6nm,0.5s,baz=211,slow=8.8,SNR=6.5						
	comp=E,0.6nm,0.5s						
XAN	**Xi'an**	**60.39**	**40**	P	**P**	**08 11 08.8**	**-0.9**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ABKAR	**Akbulak array**	**60.39**	**355**	P	**P**	**08 11 09.3**	**0.0**
ABKAR				IAmb	IAmb	08 11 10.3	
	comp=Z,7.2nm,1.1s						
ABKAR	**Akbulak array**	**60.39**	**355**	P	**P**	**08 11 09.0**	**-0.3**
AKTO	**Aktyubinsk**	**61.74**	**354**	P	**P**	**08 11 18.0**	**-0.5**
	comp=Z,3.7nm,1.0s,baz=172,slow=5.3,SNR=4.8						
	comp=Z,3.7nm,1.0s						
KURBB	**Kurchatov Arra**	**62.39**	**9**	P	**P**	**08 11 22.3**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=205,slow=6.9,SNR=12						
	comp=Z,2.8nm,0.9s						
KURK	**Kurchatov**	**62.50**	**9**	P	**P**	**08 11 23.3**	**-0.2**
KURK				IAmb	IAmb	08 11 25.7	
	comp=Z,4.9nm,0.9s						
BVAR	**Borovoye Array**	**63.99**	**3**	P	**P**	**08 11 32.4**	**-1.0**
	comp=Z,2.7nm,0.9s,baz=160,slow=4.7,SNR=8.4						
	comp=Z,2.7nm,0.9s						
BRVK	**Borovoye**	**64.02**	**3**	P	**P**	**08 11 33.4**	**-0.2**
BRVK				IAmb	IAmb	08 11 40.3	
	comp=Z,3.5nm,1.1s						
ASAR	**Alice Springs**	**65.08**	**111**	P	**P**	**08 11 38.6**	**-2.6**
	comp=Z,1.9nm,1.0s,baz=272,slow=5.9,SNR=7.9						
	comp=Z,1.9nm,1.0s						
WRA	**Warramunga Arr**	**65.65**	**107**	P	**P**	**08 11 42.8**	**-2.2**
	comp=Z,2.0nm,0.9s,baz=276,slow=5.8,SNR=6.5						
	comp=Z,2.0nm,0.9s						
WB2	**Warramunga Arr**	**65.67**	**107**	P	**P**	**08 11 44.5**	**-0.6**
WB2				IAmb	IAmb	08 11 55.0	
	comp=Z,10nm,1.1s						
NJ2	**Nanjing**	**65.99**	**47**	*e*P	**P**	**08 11 48.9**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
HNS	**HongShan**	**66.16**	**41**	⇓P	**P**	**08 11 50.0**	**+2.2**
HNS				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC	**Hu-ho-hao-te**	**66.41**	**36**	*e*P	**P**	**08 11 52.2**	**+2.7**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,5.7s						
ZAA0	**Zalesovo Array**	**66.68**	**12**	P	**P**	**08 11 49.8**	**-1.0**
ZAA0				IAmb	IAmb	08 11 51.0	
	comp=Z,4.8nm,1.1s						
ZALV	**Zalesovo Beam**	**66.68**	**12**	P	**P**	**08 11 49.8**	**-1.0**
ZALV	**Zalesovo Beam**	**66.68**	**12**	P	**P**	**08 11 49.9**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=205,slow=6.6,SNR=8.5						
	comp=Z,1.9nm,0.7s						
ARTI	**Arti**	**67.60**	**355**	P	**P**	**08 11 55.1**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=200,slow=7.4,SNR=3.2						
	comp=Z,2.1nm,0.7s						
SONM	**Songino Array**	**68.59**	**28**	P	**P**	**08 12 03.1**	**0.0**
SONM				IAmb	IAmb	08 12 06.0	
	comp=Z,3.4nm,0.9s						
SONM	**Songino Array**	**68.59**	**28**	P	**P**	**08 12 03.2**	**0.0**
	comp=Z,3.5nm,0.9s,baz=216,slow=6.0,SNR=14						
	comp=Z,3.5nm,0.9s						
BURAR	**Bucovina Array**	**69.00**	**331**	P	**P**	**08 12 05.7**	**0.0**
AKASG	**Malin Array Be**	**69.57**	**336**	P	**P**	**08 12 07.6**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=148,slow=5.2,SNR=5.8						
	comp=Z,1.8nm,0.7s						
CONA	**Conrad Observa**	**73.90**	**327**	*i* P	**P**	**08 12 35.0**	**-0.2**
	comp=Z,4.1nm,1.1s						
MYKA	**Terra Mystica**	**74.33**	**325**	*i* P	**P**	**08 12 37.5**	**-0.3**
	comp=Z,6.7nm,1.7s						
MOA	**Molln**	**74.71**	**327**	*i* P	**P**	**08 12 39.8**	**0.0**
	comp=Z,6.7nm,1.2s						
BIOA	**Bad Ischl, Aus**	**74.96**	**326**	*i* P	**P**	**08 12 40.8**	**-0.5**
	comp=Z,1.6nm,0.4s						
ABTA	**Abfaltersbach**	**75.03**	**325**	*i* P	**P**	**08 12 41.8**	**-0.1**
	comp=Z,5.0nm,1.1s						
KSRS	**Korea Array**	**75.13**	**46**	P	**P**	**08 12 41.5**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=238,slow=8.0,SNR=5.1						
	comp=Z,1.6nm,0.9s						
LESA	**Schwarzleotal**	**75.33**	**326**	*i* P	**P**	**08 12 42.9**	**-0.6**
	comp=Z,3.3nm,0.9s						
MSSA	**Maissana**	**75.46**	**322**	P	**P**	**08 12 44.7**	**+0.4**
JNU	**Nakatsue**	**75.47**	**51**	P	**P**	**08 12 43.9**	**-0.7**
	comp=Z,7.3nm,0.9s,baz=344,slow=4.5,SNR=4.3						
	comp=Z,7.3nm,0.9s						
WTTA	**Wattenberg**	**75.82**	**325**	*i* P	**P**	**08 12 45.5**	**-1.0**
	comp=Z,9.4nm,1.0s						
WATA	**Walderalm**	**75.90**	**325**	*i* P	**P**	**08 12 46.1**	**-0.8**
	comp=Z,6.1nm,1.0s						
SQTA	**Sankt Quirin**	**76.04**	**325**	*i* P	**P**	**08 12 47.1**	**-0.6**
	comp=Z,6.1nm,1.2s						
MOTA	**Moosalm**	**76.17**	**325**	*e*P	**P**	**08 12 47.6**	**-0.8**
	comp=Z,7.3nm,1.2s						
FETA	**Feichten**	**76.20**	**324**	*e*P	**P**	**08 12 48.1**	**-0.5**
	comp=Z,6.9nm,2.0s						
DAVA	**Damuels**	**76.83**	**324**	*i* P	**P**	**08 12 51.4**	**-0.8**
	comp=Z,8.0nm,1.2s						
MJAR	**Matsushiro Arr**	**82.33**	**51**	P	**P**	**08 13 22.1**	**0.0**
	comp=Z,1.0nm,0.5s,baz=222,slow=4.1,SNR=2.6						
	comp=Z,1.0nm,0.5s						
ESDC	**Sonseca Array**	**82.40**	**313**	P	**P**	**08 13 20.7**	**-1.8**
	comp=Z,1.3nm,0.8s,baz=93,slow=2.7,SNR=4.4						
	comp=Z,1.3nm,0.8s						
KLR	**Kul'dur**	**82.89**	**37**	P	**P**	**08 13 24.0**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=277,slow=4.7,SNR=5.2						
	comp=Z,1.1nm,0.7s						
PLID	**Pearl Lake**	**146.10**	**3**	PKPdf	**PKPdf**	**08 20 40.0**	**+0.2**
YNE	**Yellowstone No**	**146.10**	**355**		**PKPdf**	**08 20 39.9**	**+0.1**
YHL	**Hebgen Lake**	**146.34**	**357**	PKPdf	**PKPbc**	**08 20 41.5**	**0.0**
YHH	**Holmes Hill**	**146.38**	**357**	PKPbc	**PKPbc**	**08 20 41.4**	**-0.2**
PDAR	**Pinedale Array**	**148.29**	**354**	PKPbc	**PKPbc**	**08 20 45.5**	**-1.3**
	comp=Z,1.6nm,0.9s,baz=92,slow=3.6,SNR=8.7						
HWUT	**Hardware Ranch**	**149.59**	**357**	PKPdf	**PKPdf**	**08 20 47.4**	**+1.8**
NVAR	**Mina Array Bea**	**152.49**	**8**	PKPbc	**PKiKP**	**08 20 57.2**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=297,slow=2.0,SNR=6.8						

*IDC **06** 08:01:06.4±0.6, 44°.79N×35°.60E, h0km, mb3.5/5, mbtmp3.5/11, ML3.6/6, Error ellipse: s-maj=10.1km s-min=7.4km az=17.0*
*TIF **06** 08:01:09.2, 44°.68N×35°.68E, h33km±2km*
*MCSM **06** 08:01:09.0±0.3, 45°.N±2°.×3°.5E±°, h10km, mb4.1, mB4.4, MLv3.8, Mw(mB)3.5*
*MOS **06** 08:01:09.6, 44°.65N×35°.61E, h36km, MPVA4.5*
*CFUSG **06** 08:01:11.3, 44°.66N×35°.49E, h35km, Black Sea district 4 Magtype MSH 3.1 from 8 stations*
ISC 06 08:01:09.1±1.1, 44°.75N±0°.04×35°.64E±0°.02, h25km±10km, n120, σ1§40/171, mb3.5/6, 10C-7D, Crimea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEO	**Feodosiya**	**0.32**	**327**	⇓*i*P	**Pn**	**08 01 19.9**	**+1.7**
FEO				*e*S	**Sn**	**08 01 26.5**	**+2.4**
FEO	**Feodosiya**	**0.32**	**327**	x	x	08 01 19.9	
FEO				*e*Sg	**Sn**	**08 01 26.5**	**+2.4**
SUDU	**Sudak**	**0.47**	**288**	⇑*e*P	**Pb**	**08 01 19.9**	**+1.0**
SUDU				*e*S	**Sn**	**08 01 27.4**	**-0.4**
ALU	**Alushta**	**0.88**	**266**	*e*P	**Pb**	**08 01 25.5**	**-0.2**
ALU				*e*S	**Sb**	**08 01 36.6**	**-0.5**
ALU	**Alushta**	**0.88**	**266**	*e*Pg	**Pb**	**08 01 25.5**	**-0.2**
ALU				Pgm		08 01 26.1	
	comp=Z,312nm,0.3s						
ALU				*e*Sg	**Sb**	**08 01 36.6**	**-0.5**
TMNR	**Tamanskiy**	**0.91**	**63**	*e*Pg	**Pn**	**08 01 27.8**	**+1.5**
TMNR				*e*Sg	**Sn**	**08 01 40.9**	**+2.4**
TMNR	**Tamanskiy**	**0.91**	**63**	*e*P	**Pn**	**08 01 27.8**	**+1.5**
TMNR				*e*S	**Sn**	**08 01 40.9**	**+2.4**
YAL	**Yalta**	**1.09**	**257**	*e*P	**Pn**	**08 01 29.8**	**+1.1**
YAL				*e*S	**Sb**	**08 01 43.6**	**+0.6**
YAL	**Yalta**	**1.09**	**257**	*e*Pg	**Pn**	**08 01 29.8**	**+1.1**
YAL				Pgm		08 01 31.7	
	comp=Z,92nm,0.1s						
YAL				*e*Sg	**Sb**	**08 01 43.6**	**+0.6**
YAL				Sgm		08 01 46.6	
	comp=N,179nm,0.3s						
YAL				Sgm		08 01 46.6	
	comp=E,376nm,0.3s						
SIM	**Simferopol'**	**1.10**	**281**	*e*P	**Pb**	**08 01 30.3**	**+0.9**
SIM				*e*S	**Sn**	**08 01 44.7**	**+1.4**
SIM	**Simferopol'**	**1.10**	**281**	*e*Pg	**Pb**	**08 01 30.3**	**+0.9**
SIM				Pgm		08 01 31.6	
	comp=Z,210nm,0.3s						
SIM				*e*Sg	**Sn**	**08 01 44.7**	**+1.4**
SIM				Sgm		08 01 45.2	
	comp=N,1μm,0.5s						
SIM				Sgm		08 01 45.2	
	comp=E,1μm,0.4s						
**SUK

GELR pmax pmax
comp=Z,23nm,0.2s
GELR smax smax
comp=N,98nm,0.2s
GELR smax smax
comp=Z,219nm,0.4s
GELR smax smax
comp=N,172nm,0.2s
SPGR Shapsug 1.74 89 *i* Pg **Pn 08 01 39.5 +1.9**
SPGR *e*Sg **Sn 08 02 01.1 +2.2**
SPGR Shapsug 1.74 89 *i* P **Pn 08 01 39.5 +1.9**
SPGR *e*S **Sn 08 02 01.1 +2.2**
DNZ2 Donuzlav2 1.83 291 *e*Pn **Pb 08 01 41.2 -0.6**
DNZ2 Pnm 08 01 43.3
comp=Z,71nm,0.5s
DNZ2 *e*Sn **Sb 08 02 03.3 -0.9**
DNZ2 Snm 08 02 07.5
comp=E,149nm,0.4s
DNZ2 Snm 08 02 09.5
comp=N,170nm,0.4s
TARU Tarkhankut 2.29 287 *e*Pn **Pn 08 01 47.4 +2.2**
TARU *e*Sn **Sn 08 02 12.8 +0.3**
TARU Tarkhankut 2.29 287 *e*Pn **Pn 08 01 47.4 +2.2**
TARU Pnm 08 01 55.1
comp=Z,68nm,0.3s
TARU *e*Sn **Sn 08 02 12.8 +0.3**
TARU Snm 08 02 24.9
comp=N,159nm,0.5s
TARU Snm 08 02 30.5
comp=E,233nm,0.5s
SRGR Sergiyevskiy 2.59 74 *i* P **Pn 08 01 51.2 +1.9**
SRGR *e*S **Sn 08 01 21.6 +1.6**
GOYR Goytkh 2.72 99 *i* Pn **Pn 08 01 51.8 +0.6**
GOYR *e*Sn **Sn 08 02 23.5 +0.2**
GOYR Goytkh 2.72 99 *e*P **Pn 08 01 52.2 +1.0**
GOYR *e* 08 02 25.1
MRNR Maryino 2.87 105 *i* Pn **Pn 08 01 54.5 +1.3**
MRNR *i* Sn **Sn 08 02 27.4 +0.4**
MRNR Maryino 2.87 105 *i* P **Pn 08 01 54.5 +1.3**
MRNR *i* S **Sn 08 02 27.4 +0.4**
BZK Bozkurt 3.03 204 P **Pn 08 01 57.2 +1.8**
DIKM Dikmen 3.11 185 P **Pn 08 01 58.2 +1.7**
SOC Sochi 3.16 110 *e*Pn **Pn 08 01 58.9 +1.8**
SOC *e*Sn **Sn 08 02 34.0 0.0**
SOC Sochi 3.16 110 *e*P **Pn 08 02 00.4 +3.2**
SOC *e* 08 02 36.7
SOC pmax pmax
comp=Z,19nm,0.3s
SOC smax smax
comp=N,47nm,0.2s
VSLR Vesyoloye 3.42 111 *e*Pn **Pn 08 02 02.2 +1.5**
VSLR *e*Sn **Sn 08 02 40.2 -0.2**
VSLR Vesyoloye 3.42 111 *e*P **Pn 08 02 02.2 +1.5**
VSLR *e*S **Sn 08 02 40.2 -0.2**
RPOR Krasnaya Polya 3.49 106 *i* Pn **Pn 08 02 02.6 +0.9**
RPOR *e*Sn **Sn 08 02 41.4 -0.9**
RPOR Krasnaya Polya 3.49 106 *i* P **Pn 08 02 02.7 +0.9**
RPOR *e*S **Sn 08 02 41.4 -0.9**
ERBR Yeremizino-Bor 3.56 73 *e*Pn **Pn 08 02 05.2 +2.5**
ERBR *e*S **Sn 08 02 44.4 +0.5**
LABN Labinsk 3.63 90 *e*Pn **Pn 08 02 04.1 +0.5**
LABN *e*Sn **Sn 08 02 47.5 +1.9**
LABN Labinsk 3.63 90 *e*P **Pn 08 02 04.1 +0.5**
LABN *e*S **Sn 08 02 47.5 +1.9**
NE56 Odesa 3.84 302 P **Pn 08 02 06.4 -0.1**
GRYR Gornoye 3.96 97 *i* Pn **Pn 08 02 09.6 +1.4**
GRYR *i* Sn **Sn 08 02 53.0 -0.8**
ARXR Arkhyz 4.23 104 *e*P **Pn 08 02 14.2 +2.2**
ARXR *e*S **Sn 08 03 02.4 +1.8**
DOMR Dombai 4.56 107 *e*Pn **Pn 08 02 17.5 +1.0**
DOMR *e*Sn **Sn 08 03 09.0 +0.2**
DOMR Dombai 4.56 107 *e*P **Pn 08 02 17.5 +1.0**
DOMR *e*S **Sn 08 03 09.0 +0.2**
TLCR 4.86 278 ⇑P **Pn 08 02 21.0 +0.5**
TLCR 4.86 278 P **Pn 08 02 21.0 +0.5**
KIV Kislovodsk 5.12 96 *e*Pn **Pn 08 02 26.0 +1.8**
KIV *e*Sn **Sn 08 03 22.9 +0.4**
KIV Kislovodsk 5.12 96 *e*P **Pn 08 02 25.7 +1.5**
KIV *e*S **Sn 08 03 20.5 -2.0**
KIV0 Kislovodsk Arr 5.12 96 *e*Pn **Pn 08 02 25.7 +1.4**
KIV0 *e*Sn **Sn 08 03 20.5 -2.1**
KVAR Kislovodsk Arr 5.12 96 Pn **Pn 08 02 26.1 +1.8**
baz=270,slow=19
KVAR Sn **Sn 08 03 22.7 +0.1**
baz=261,slow=19
comp=N,3.0nm,0.3s
SHA1 Shidzhatmaz 5.14 99 *e*Pn **Pn 08 02 25.4 +0.7**
SHA1 *e*Sn **Sn 08 03 23.5 +0.2**
SHA1 Shidzhatmaz 5.14 99 *e*P **Pn 08 02 25.4 +0.7**
SHA1 *e*S **Sn 08 03 23.5 +0.2**
TIRR Tirgusor 5.17 269 ⇑P **Pn 08 02 25.1 +0.3**
TIRR Tirgusor 5.17 269 P **Pn 08 02 25.0 +0.3**
TIRR Tirgusor 5.17 269 P **Pn 08 02 25.2 +0.5**
comp=N,0.1nmcomp=N,36nm,0.9s
ALER Alexandrovskoy 5.18 87 *i* Pn **Pn 08 02 26.8 +1.8**
ALER *e*Sn **Sn 08 03 22.8 -1.2**
ALER Alexandrovskoy 5.18 87 ⇑*i* P **Pn 08 02 26.8 +1.8**
ALER *e*S **Sn 08 03 22.8 -1.2**
BEYR Belyy Ugol+ 5.20 96 *e*P **Pn 08 02 28.7 +3.4**
BEYR *e*S **Sn 08 03 24.9 +0.5**
BR106 Keskin Array S 5.23 197 P **Pn 08 02 27.8 +2.0**
comp=N,0.0nmcomp=N,90nmcomp=N,6.2nm,0.6s
BRTR Keskin Array B 5.23 197 Pn **Pn 08 02 28.1 +2.2**
comp=N,2.8nm,0.3s,baz=30,slow=9.5,SNR=55
BRTR Sn **Sn 08 03 26.6 +1.2**
comp=N,0.9nm,0.3s,baz=21,slow=19,SNR=6.2
comp=N,4.4nm,0.4s
BRTR Keskin Array B 5.23 197 *i* P **Pn 08 02 28.1 +2.2**
BRTR pmax pmax
comp=Z,5.0nm,0.3s
BR105 Keskin Array S 5.25 197 P **Pn 08 02 28.2 +2.2**
comp=Z,0.0nmcomp=Z,118nmcomp=Z,5.1nm,0.6s
BR104 Keskin Array S 5.25 197 P **Pn 08 02 28.3 +2.3**
comp=Z,0.0nmcomp=Z,143nmcomp=Z,6.6nm,0.6s
GOF Gofitskoye 5.27 84 *ce*P **Pb 08 02 38.9 -1.6**
GOF *e*S **Sn 08 03 26.4 +0.3**
KBZ Khabaz 5.32 99 Pn **Pn 08 02 28.1 +1.4**
comp=Z,0.5nm,0.3s,baz=288,slow=9.7,SNR=11
KBZ Sn **Sn 08 03 29.6 +2.4**
comp=Z,1.0nm,0.3s,baz=39,slow=14,SNR=4.8
comp=Z,1.4nm,0.4s
KBZ Khabaz 5.32 99 *e*Pn **Pn 08 02 27.8 +1.0**
KBZ *e*Sn **Sn 08 03 28.6 +1.5**
KBZ Khabaz 5.32 99 *i* P **Pn 08 02 27.7 +0.9**
HARR Harsova 5.49 272 ⇓P **Pn 08 02 30.2 +0.9**
HARR Harsova 5.49 272 P **Pn 08 02 30.1 +0.9**
NEGRR Negrea 5.55 281 ⇑P **Pn 08 02 31.2 +1.2**
SORM Soroca 6.07 307 ⇓P **Pn 08 02 36.5 -0.6**
SORM Soroca 6.07 307 P **Pn 08 02 36.5 -0.6**
SORM Soroca 6.07 307 P **Pn 08 02 36.3 -0.8**
comp=Z,0.1nmcomp=Z,1μmcomp=Z,8.2nm,0.6s
YLV Yalova 6.23 230 P **Pn 08 02 41.0 +1.6**
comp=Z,0.1nmcomp=Z,21nm,0.9s
CTYL Yalikoy Yolu 6.29 241 P **Pn 08 02 39.7 -0.5**
comp=Z,0.5nmcomp=Z,11μmcomp=Z,33nm,1.2s
VRI Vrincioaia 6.38 283 ⇑P **Pn 08 02 40.8 -0.7**
VRI Vrincioaia 6.38 283 P **Pn 08 02 40.8 -0.7**
VRI Vrincioaia 6.38 283 P **Pn 08 02 41.7 +0.2**
comp=Z,0.1nmcomp=Z,7.5nm,0.6s
PLOR5 Plostina Array 6.42 283 P **Pn 08 02 42.6 +0.5**
comp=Z,0.1nmcomp=Z,18nm,0.9s
PLOR Plostina 6.43 283 ⇑P **Pn 08 02 42.8 +0.5**
PLOR Plostina 6.43 283 P **Pn 08 02 42.7 +0.5**
TESR Tescani 6.54 289 ⇓P **Pn 08 02 44.2 +0.5**
TESR Tescani 6.54 289 P **Pn 08 02 44.1 +0.4**
comp=Z,0.1nmcomp=Z,11nm,0.6s
ONER Baraj Valea Uz 6.68 287 ⇓P **Pn 08 02 46.4 +0.8**
NDNU Novodnistrovsk 6.87 307 P **Pn 08 02 47.8 -0.3**
NDNU Novodnistrovsk 6.87 307 P **Pn 08 02 47.8 -0.3**
MLR Muntele Rosu 6.90 280 Pn **Pn 08 02 50.1 +1.4**
comp=Z,1.1nm,0.3s,baz=146,slow=14,SNR=8.7
MLR Sn **Sn 08 04 05.8 -0.6**
comp=Z,1.4nm,0.3s,baz=163,slow=19,SNR=10
comp=Z,2.4nm,0.3s
MLR Muntele Rosu 6.90 280 ⇑P **Pn 08 02 50.1 +1.4**
MLR Muntele Rosu 6.90 280 P **Pn 08 02 49.7 +1.1**
comp=Z,0.1nmcomp=Z,13nm,0.8s
AK10 Malin Array Si 7.27 326 P **Pn 08 02 52.9 -0.7**
AK02 Malin Array Si 7.33 326 P **Pn 08 02 53.4 -1.0**
AKASG Malin Array Be 7.36 326 Pn **Pn 08 02 53.8 -1.0**
comp=Z,3.7nm,0.3s,baz=133,slow=14,SNR=12
AKASG Lg Lg 08 04 56.1
comp=Z,2.9nm,0.3s,baz=146,slow=29,SNR=4.1
comp=Z,1.7nm,0.3s
AKASG Malin Array Be 7.36 326 *i* P **Pn 08 02 54.2 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.3s
AKBB Malin Array Si 7.36 326 *i* P **Pn 08 02 54.0 -0.8**
KIEV Kiev 7.36 326 ⇑P **Pn 08 02 54.2 -0.7**
KIEV Kiev 7.36 326 P **Pn 08 02 54.1 -0.7**
KIEV Kiev 7.36 326 P **Pn 08 02 53.9 -0.9**
comp=Z,0.2nmcomp=Z,22nm,0.6s
AK11 Malin Array Si 7.36 326 P **Pn 08 02 54.0 -0.9**
LUBAR Lubar, Ukraine 7.44 317 P **Pn 08 02 55.3 -0.7**
VOIR 7.53 279 ⇓P **Pn 08 02 58.2 +1.0**
VOIR 7.53 279 P **Pn 08 02 58.2 +1.0**
VOIR 7.53 279 P **Pn 08 02 57.0 -0.2**
comp=Z,0.0nmcomp=Z,9.9nm,0.6s
BURAR Bucovina Array 7.78 295 ⇓P **Pn 08 03 00.0 -0.7**
BURAR Bucovina Array 7.78 295 P **Pn 08 03 00.0 -0.7**
MI28 Mi28,Pidlybu 8.18 322 P **Pn 08 03 05.4 -0.7**
HOLU Holmets 9.87 297 P **Pn 08 03 30.0 +0.8**
FINES FINESS Array B 17.65 345 Pn **Pn 08 05 06.4 -6.5**
comp=Z,0.5nm,0.3s,baz=145,slow=14,SNR=14
comp=Z,0.6nm,0.4s
FINES FINESS Array B 17.65 345 *i* P **Pn 08 05 11.0 -1.9**
FINES pmax pmax
comp=Z,2.0nm,0.4s
ARTI Arti 18.46 43 P **P 08 05 19.7 -2.9**
comp=Z,1.1nm,0.3s,baz=275,slow=8.8,SNR=4.1
ARTI Arti 18.46 43 P **P 08 05 20.8 -1.9**
ARTI S **Sn 08 08 50.4 +2.2**
HFS Hagfors 20.25 327 P **P 08 05 40.5 -1.7**
comp=Z,2.0nm,0.8s,baz=117,slow=12,SNR=3.1
comp=Z,2.0nm,0.8s
BRVK Borovoye 24.05 57 *i* P **P 08 06 23.1 +1.2**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 24.11 57 P **P 08 06 23.7 +1.2**
comp=Z,0.4nm,0.6s,baz=258,slow=5.7,SNR=5.1
comp=Z,0.4nm,0.6s
ARCES ARCESS Array B 25.38 352 P **P 08 06 33.6 -0.3**
comp=Z,1.1nm,0.6s,baz=170,slow=11,SNR=4.9
comp=Z,1.1nm,0.6s
AAK Ala-Archa 28.00 80 *i* P **P 08 06 58.8 +0.9**
AAK pmax pmax
comp=Z,1.0nm,1.1s
MKAR Makanchi Array 32.24 69 P **P 08 07 36.7 +1.5**
comp=Z,0.2nm,0.4s,baz=285,slow=7.9,SNR=2.0
comp=Z,0.2nm,0.4s
TEY Ternei 66.51 49 *e*P P 08 11 49.7 -6.7
YKA Yellowknife Ar 70.48 346 P **P 08 12 21.2 +0.3**
comp=Z,0.3nm,0.6s,baz=68,slow=1.6,SNR=3.9
comp=Z,0.3nm,0.6s

MOS ***06*** *08:11:26.6±1.0, 48°.52N×153°.08E, h148km, mb4.2/24, Error ellipse: s-maj=8.9km s-min=4.6km az=65.7*
KRSC ***06*** *08:11:27.2±2.3, 48°.09N×154°.70E, h175km±37km, Ml4.9*
SKHL ***06*** *08:11:27.2±0.2, 48°.40N×153°.30E, h142km±5km, mb5.1/4, msha5.4/4*
IDC ***06*** *08:11:28.9±1.3, 48°.50N×152°.96E, h150km±11km, mb3.7/24, mbtmp4.2/30, Error ellipse: s-maj=14.1km s-min=8.2km az=144.0*
NEIC ***06*** *08:11:28.5±1.2, 48°.6N±0°.1×152°.9E±0°.2, h144km±10km, mb4.4/47, Error ellipse: s-maj=24.2km s-min=1.3km az=141.0*

ISC 06 08:11:27.3±0.6, 48°.49N±0°.05×153°.15E±0°.05, h141km±5km, n361, σ1°44/390, mb4.3/71, 3C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.92**	**40**	PN	**Pn**	**08 12 13.6**	**+0.3**
SKR				S	**Sn**	**08 12 48.7**	**-0.1**
SKR	**Severo-Kuril's**	**2.92**	**40**	*e*P	**Pn**	**08 12 13.6**	**+0.3**
SKR				*e*S	**Sn**	**08 12 48.7**	**-0.1**
SKR	**Severo-Kuril's**	**2.92**	**40**	*e*P	**Pn**	**08 12 13.6**	**+0.3**
SKR				AMB	AMB	08 12 15.1	
SKR	100nm,0.4s			*e*S	**Sn**	**08 12 48.6**	**-0.2**
SKR				A	A	08 12 49.0	
SKR	170nm,0.2s			A	A	08 12 49.0	
PAU	**Pauzhetka**	**3.80**	**37**	PN	**Pn**	**08 12 24.8**	**+0.1**
PAU				S	**Sn**	**08 13 08.7**	**-0.5**
PAU	**Pauzhetka**	**3.80**	**37**	*e*P	**Pn**	**08 12 24.8**	**+0.1**
PAU				*e*S	**Sn**	**08 13 08.7**	**-0.5**
PAU	**Pauzhetka**	**3.80**	**37**	*e*P	**Pn**	**08 12 25.3**	**+0.6**
PAU				*e*S	**Sn**	**08 13 08.7**	**-0.5**
PAU	1μm,0.4s			A	A	08 13 13.9	
PAU	890nm,0.4s			A	A	08 13 13.9	
KDTR	**Khodutka, Kamc**	**4.59**	**42**	PN	**Pn**	**08 12 32.9**	**-2.1**
KDTR				S	**Sn**	**08 13 22.7**	**-5.0**
KDTR	**Khodutka, Kamc**	**4.59**	**42**	*e*P	**Pn**	**08 12 33.0**	**-2.1**
KDTR				*e*S	**Sn**	**08 13 22.7**	**-5.0**
KDTR	**Khodutka, Kamc**	**4.59**	**42**	*e*P	**Pn**	**08 12 32.9**	**-2.1**
KUR	**Kuril'sk**	**4.87**	**230**	PN	**Pn**	**08 12 40.5**	**+1.7**
KUR				S	**Sn**	**08 13 37.9**	**+3.5**
KUR	**Kuril'sk**	**4.87**	**230**	*e*P	**Pn**	**08 12 39.9**	**+1.1**
KUR				AMB	AMB	08 12 40.5	
KUR	50nm,0.4s			*e*S	**Sn**	**08 13 34.1**	**-0.3**
KUR				A	A	08 13 34.7	
KUR	80nm,0.4s			A	A	08 13 34.7	
KUR	70nm,0.4s						
APC	**Apacha**	**5.12**	**28**	PN	**Pn**	**08 12 42.8**	**+0.8**
APC	**Apacha**	**5.12**	**28**	*e*P	**Pn**	**08 12 42.8**	**+0.8**
GRL	**Gorelyy**	**5.14**	**36**	PN	**Pn**	**08 12 43.3**	**+0.9**
GRL				S	**Sn**	**08 13 40.5**	**-0.5**
GRL	**Gorelyy**	**5.14**	**36**	*e*P	**Pn**	**08 12 43.4**	**+0.9**
GRL				*e*S	**Sn**	**08 13 40.6**	**-0.5**
RUS	**Russkaya**	**5.23**	**39**	*e*S	**Sn**	**08 13 37.5**	**-5.4**
KRMR	**Karymshinskiy**	**5.38**	**34**	PN	**Pn**	**08 12 45.3**	**-0.2**
KRMR	**Karymshinskiy**	**5.38**	**34**	*e*P	**Pn**	**08 12 45.3**	**-0.2**
PEA0B	**Petropavlovsk-**	**5.45**	**30**		**Pn**	**08 12 47.4**	**+1.0**
PEA0B	**Petropavlovsk-**	**5.45**	**30**	*i* PN	**Pn**	**08 12 47.0**	**+0.5**
PETK	**Petropavlovsk-**	**5.45**	**30**	P	**Pn**	**08 12 47.2**	**+0.7**
PETK	23nm,0.5s,baz=202,slow=11,SNR=41			S	**Sn**	**08 13 50.4**	**+2.2**
	7.4nm,0.5s,baz=205,slow=13,SNR=1.4						
PET	**Petropavlovsk**	**5.73**	**36**	Pn	**Pn**	**08 12 50.3**	**+0.2**
PET	**Petropavlovsk**	**5.73**	**36**	*i* PN	**Pn**	**08 12 50.6**	**+0.4**
PET	**Petropavlovsk**	**5.73**	**36**	*e*P	**Pn**	**08 12 50.5**	**+0.4**
PET				*e*S	**Sn**	**08 13 52.5**	**-2.3**
PET	70nm,0.4s			A	A	08 13 53.2	
PET	70nm,0.4s			A	A	08 13 53.2	
DALK	**Dalny**	**5.77**	**36**	PN	**Pn**	**08 12 51.0**	**+0.3**
DALK				S	**Sn**	**08 13 52.0**	**-3.9**
DALK	**Dalny**	**5.77**	**36**	*e*P	**Pn**	**08 12 51.0**	**+0.3**
DALK				*e*S	**Sn**	**08 13 52.0**	**-3.9**
AVH	**Avacha**	**5.95**	**34**	PN	**Pn**	**08 12 54.2**	**+1.0**
AVH	**Avacha**	**5.95**	**34**	*e*P	**Pn**	**08 12 54.2**	**+1.0**
SDLR	**Sedlovina**	**6.01**	**35**	PN	**Pn**	**08 12 54.2**	**+0.1**
SDLR	**Sedlovina**	**6.01**	**35**	*e*P	**Pn**	**08 12 54.2**	**+0.1**
GNL	**Ganaly**	**6.02**	**28**	PN	**Pn**	**08 12 55.4**	**+1.2**
GNL	**Ganaly**	**6.02**	**28**	*e*P	**Pn**	**08 12 55.5**	**+1.2**
SPN	**Mys Shipunski**	**6.35**	**41**	*e*S	**Sn**	**08 14 02.7**	**-7.0**
SHO	**Shikotan**	**6.37**	**226**	*e*PN	**Pn**	**08 12 56.8**	**-2.0**
SHO				*e*S	**Sn**	**08 14 06.5**	**-3.8**
SHO	comp=Z,48nm,0.3s			pmax	pmax		
SHO	comp=N,15nm,0.2s			pmax	pmax		
SHO	comp=E,20nm,0.2s			pmax	pmax		
SHO	comp=N,31nm,0.4s			smax	smax		
SHO	comp=E,71nm,0.4s			smax	smax		
SHO	**Shikotan**	**6.37**	**226**	*e*P	**Pn**	**08 12 57.3**	**-1.5**
SHO				AMB	AMB	08 12 59.9	
SHO	comp=E,50nm,0.2s			*e*S	**Sn**	**08 14 07.9**	**-2.4**
SHO				A	A	08 14 10.0	
SHO	comp=E,60nm,0.6s			A	A	08 14 10.0	
SHO	comp=E,40nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.73**	**231**	*e*PN	**Pn**	**08 13 03.4**	**-0.3**
YUK				S	**Sn**	**08 14 16.9**	**-2.2**
YUK	comp=Z,205nm,0.2s			pmax	pmax		
YUK	comp=E,67nm,0.1s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**6.73**	**231**	*e*P	**Pn**	**08 13 03.4**	**-0.3**
YUK				AMB	AMB	08 13 06.7	
RUSJ	**Misakicho**	**7.01**	**234**	*e*PN	Pn	08 13 00.7	-6.7
YSS	**Yuzhno-Sakhali**	**7.18**	**262**	*i* PN	**Pn**	**08 13 08.2**	**-1.4**
YSS	comp=Z,8.0nm,0.1s			pmax	pmax		
YSS	**Yuzhno-Sakhali**	**7.18**	**262**	*e*P	**Pn**	**08 13 10.9**	**+1.3**
YSS				*e*S	**Sn**	**08 14 28.0**	**-1.7**
TYV	**Tymovskoe**	**7.21**	**293**	*e*PN	Pn	08 13 21.2	+11
TYV	comp=Z,16nm,1.0s			pmax	pmax		
TYV	comp=Z,100nm,3.0s			pmax	pmax		
TYV	**Tymovskoe**	**7.21**	**293**	*e*P	**Pn**	**08 13 10.8**	**+0.8**
TYV				*e*S	**Sn**	**08 14 30.2**	**-0.2**
NMR	**Nemuro--Hokkai**	**7.28**	**228**	⇓*i* PN	**Pn**	**08 13 08.5**	**-2.5**
NMR				*i* S	**Sn**	**08 14 26.1**	**-6.1**
NMR	**Nemuro--Hokkai**	**7.28**	**228**	*e*P	**Pn**	**08 13 09.2**	**-1.8**
AKK	**Akkeshi**	**7.98**	**230**	*e*P	**Pn**	**08 13 19.8**	**-0.6**
TUMD	**Tumrok D**	**8.08**	**31**	PN	**Pn**	**08 13 23.6**	**+2.0**
TUMD	**Tumrok D**	**8.08**	**31**	*e*P	**Pn**	**08 13 23.7**	**+2.0**
JKA	**Kamikawa-asahi**	**8.51**	**243**	Pn	**Pn**	**08 13 28.3**	**+0.9**
JKA	**Kamikawa-asahi**	**8.51**	**243**	*e*P	**Pn**	**08 13 29.6**	**+2.1**
ASAJ	**Asahikawa**	**8.51**	**243**	P	**Pn**	**08 13 29.6**	**+2.1**
ASAJ	comp=Z,44nm,0.8s,baz=75,slow=12,SNR=21			S	**Sn**	**08 15 02.6**	**+0.7**
	comp=Z,5.5nm,0.7s,baz=34,slow=18,SNR=1.3						
ERM	**Erimo**	**9.56**	**231**	Pn	**Pn**	**08 13 41.3**	**-0.2**
ERM	**Erimo**	**9.56**	**231**	*i* PN	**Pn**	**08 13 41.4**	**-0.1**
KBTR	**Krutoberegovo**	**9.73**	**34**	PN	**Pn**	**08 13 40.6**	**-3.0**
KBTR	**Krutoberegovo**	**9.73**	**34**	*e*P	**Pn**	**08 13 40.7**	**-3.0**
BKI	**Bering**	**10.39**	**45**	PN	**Pn**	**08 13 49.7**	**-2.7**
BKI	**Bering**	**10.39**	**45**	*e*P	**Pn**	**08 13 49.7**	**-2.7**
BKI				*e*S	Sn	08 15 32.3	-15
JTM	**Tenmabayashi**	**11.54**	**233**	Pn	Pn	08 14 03.8	-3.9
SHEM	**Shemya Is, Ala**	**13.95**	**64**	S	Sn	08 17 05.8	-7.1
	comp=Z,18nm,0.4s,baz=294,slow=20,SNR=1.8						
KLR	**Kul'dur**	**14.10**	**281**	P	**Pn**	**08 14 41.7**	**+1.0**
	comp=Z,12nm,1.0s,baz=82,slow=12,SNR=22						
KLR	**Kul'dur**	**14.10**	**281**	*i* P	**Pn**	**08 14 40.8**	**+0.1**
KLR	comp=Z,10.0nm,0.7s			pmax	pmax		
KLR	**Kul'dur**	**14.10**	**281**	*e*P	**Pn**	**08 14 39.4**	**-1.3**
SEY	**Seymchan**	**14.48**	**359**	P	**Pn**	**08 14 46.5**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=177,slow=10,SNR=15						
SEY	**Seymchan**	**14.48**	**359**	*i* P	**Pn**	**08 14 45.4**	**+0.1**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SEY	**Seymchan**	**14.48**	**359**	*e*P	**Pn**	**08 14 45.4**	**+0.1**
JSD	**Sado**	**15.03**	**231**		**Pn**	**08 14 54.2**	**+1.8**
USA0B	**Ussuriysk Arra**	**15.21**	**262**		**Pn**	**08 14 55.2**	**+0.5**
USA0B				IAmb	IAmb	08 14 58.8	
	comp=Z,9.4nm,0.6s						
USA0B	**Ussuriysk Arra**	**15.21**	**262**	P	**Pn**	**08 14 55.2**	**+0.5**
USA0B				pmax	pmax		
	comp=Z,9.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**15.21**	**262**	P	**P**	**08 14 56.4**	**+0.1**
	comp=Z,9.1nm,0.6s,baz=66,slow=13,SNR=14						
MJA0	**Matsu Arr-Jizo**	**16.19**	**228**	*e*P	**P**	**08 15 09.6**	**+2.4**
MJA0				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MAJO	**Matsushiro**	**16.21**	**228**	P	**Pn**	**08 15 06.2**	**-0.7**
MAJO				IAmb	IAmb	08 15 10.4	
	comp=Z,39nm,1.4s						
MAJO	**Matsushiro**	**16.21**	**228**	P	**Pn**	**08 15 06.2**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,39nm,1.4s						
MJAR	**Matsushiro Arr**	**16.21**	**228**	P	**Pn**	**08 15 06.7**	**-0.3**
	comp=Z,7.3nm,0.9s,baz=19,slow=12,SNR=14						
MJB9	**Matsu-Tunnel**	**16.21**	**228**		**Pn**	**08 15 07.0**	**+0.1**
MJB9				IAmb	IAmb	08 15 11.4	
	comp=Z,37nm,1.4s						
MDJ	**Mudanjiang**	**16.64**	**265**	P	**Pn**	**08 15 12.7**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,16nm,1.2s						
PSTR	**Posyet**	**16.67**	**258**	*i* P	**P**	**08 15 11.1**	**-1.3**
PSTR	**Posyet**	**16.67**	**258**	*e*P	**P**	**08 15 11.1**	**-1.3**
HEH	**HeiHe**	**16.83**	**286**	*e*P	**Pn**	**08 15 15.9**	**+1.6**
HEH				pmax	pmax		
	comp=Z,31nm,1.0s						
HEH				LR	LR		
	comp=N,230nm,16.3s						
HEH				LR	LR		
	comp=E,340nm,14.3s						
HEH				LR	LR		
	comp=Z,420nm,15.5s						
ZEA	**Zeya**	**17.04**	**298**	*e*P	**Pn**	**08 15 18.0**	**+1.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZEA	**Zeya**	**17.04**	**298**	*e*P	**P**	**08 15 15.4**	**-1.0**
JGF	**Kuroka**	**17.37**	**228**	P	**P**	**08 15 20.9**	**+0.7**
JGF				IAmb	IAmb	08 15 25.7	
	comp=Z,18nm,1.0s						
BNX	**BinXian**	**17.71**	**271**	⇑P	**Pn**	**08 15 24.7**	**-0.3**
BNX				pmax	pmax		
	comp=Z,15nm,0.8s						
INU	**Inuyama**	**17.74**	**228**	P	**P**	**08 15 24.1**	**-0.1**
INU				IAmb	IAmb	08 15 27.4	
	comp=Z,11nm,0.7s						
YAK	**Yakutsk**	**18.89**	**325**	P	**P**	**08 15 35.1**	**-1.4**
YAK	**Yakutsk**	**18.89**	**325**	P	**Pn**	**08 15 37.7**	**-1.0**
	comp=Z,26nm,0.5s,baz=135,slow=2.3,SNR=7.8						
YAK	**Yakutsk**	**18.89**	**325**	*e*P	**Pn**	**08 15 37.8**	**-0.9**
YAK				*e*S	**S**	**08 19 05.1**	**+1.7**
YAK	comp=Z,33nm,1.0s			pmax	pmax		
YAK	comp=N,6.0nm,0.9s			pmax	pmax		
YAK	comp=E,14nm,1.3s			pmax	pmax		
YAK	comp=N,8.0nm,1.1s			smax	smax		
YAK	comp=E,50nm,2.8s			smax	smax		
YAK	**Yakutsk**	**18.89**	**325**	*e*P	**Pn**	**08 15 37.8**	**-0.9**
CN2	**Changchun**	**19.70**	**267**	P	**P**	**08 15 45.4**	**-0.1**
CN2				pmax	pmax		
	comp=Z,30nm,0.7s						
BILL	**Bilibino**	**20.69**	**14**	*i* P	**P**	**08 15 56.9**	**+1.0**
BILL				pmax	pmax		
	comp=Z,10.0nm,2.0s						
BILL	**Bilibino**	**20.69**	**14**	*e*P	**P**	**08 15 56.9**	**+1.0**
KSRS	**Korea Array**	**21.40**	**248**	P	**P**	**08 16 04.7**	**+0.9**
	comp=Z,5.8nm,0.6s,baz=46,slow=10,SNR=20						
	comp=Z,5.8nm,0.6s						
KS19	**Wonju Array Si**	**21.41**	**249**	P	**P**	**08 16 03.9**	**+0.1**
KS19				IAmb	IAmb	08 16 07.5	
	comp=Z,13nm,1.1s						
KSAR	**Wonju Array Be**	**21.43**	**248**	P	**P**	**08 16 04.0**	**-0.1**
KSAR	**Wonju Array Be**	**21.43**	**248**	P	**P**	**08 16 04.0**	**-0.1**
TJN	**Taejon**	**22.43**	**247**	*i* P	**P**	**08 16 15.1**	**+0.8**
JNU	**Nakatsue**	**22.68**	**236**	P	**P**	**08 16 16.9**	**+0.1**
JNU	**Nakatsue**	**22.68**	**236**	P	**P**	**08 16 15.7**	**-1.1**
	comp=Z,18nm,1.0s,baz=39,slow=4.8,SNR=6.5						
	comp=Z,18nm,1.0s						
NIKH	**Nikolski High**	**24.27**	**65**	P	**P**	**08 16 34.2**	**+3.2**
	baz=275						
GAMB	**Gambell**	**24.42**	**38**	P	**P**	**08 16 34.1**	**+1.8**
	baz=248						
TIXI	**Tiksi**	**25.81**	**343**	*i* P	**P**	**08 16 44.8**	**0.0**
TIXI				pmax	pmax		
	comp=

baz=261
RDOG Red Dog Mine 29.32 32 P P 08 17 17.0 +0.8
baz=251
E17K Hotham Inlet 29.41 34 P P 08 17 18.4 +1.4
baz=254
F17K Baldwin Pennin 29.46 36 P P 08 17 18.3 +1.0
baz=256
M16K Timber Creek 29.62 47 P P 08 17 19.9 +1.0
M16K IAmb IAmb 08 17 25.0
comp=Z,16nm,1.4s
M16K Timber Creek 29.62 47 P P 08 17 19.6 +0.8
baz=267
N16K Nishlik Lake 29.69 48 P P 08 17 20.3 +0.8
baz=268
J17K VABM Dome 29.78 42 P P 08 17 20.6 +0.3
baz=263
HNS HongShan 29.94 263 ⇑P P 08 17 22.9 +1.0
HNS pmax pmax
comp=Z,11nm,0.9s
L17K Donlin 30.01 45 P P 08 17 23.8 +1.5
baz=266
P16K Nushagak River 30.08 51 P P 08 17 24.5 +1.6
baz=272
C18K Utukok River 30.11 31 P P 08 17 23.9 +0.7
baz=252
F18K Selawik 30.12 36 P P 08 17 24.1 +0.9
baz=257
B18K Kokolik River 30.15 30 P P 08 17 24.0 +0.6
baz=250
HHC Hu-ho-hao-te 30.24 271 eP P 08 17 25.6 +1.0
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,90nm,6.0s
H18K Honhosa River 30.35 39 P P 08 17 26.1 +0.9
H18K IAmb IAmb 08 17 28.1
comp=Z,14nm,1.5s
H18K Honhosa River 30.35 39 P P 08 17 26.0 +0.8
baz=261
G18K Tagagawik 30.36 37 P P 08 17 26.4 +1.0
baz=259
M17K Holitna River 30.37 46 P P 08 17 25.9 +0.5
M17K IAmb IAmb 08 17 57.6
comp=Z,8.2nm,1.1s
M17K Holitna River 30.37 46 P P 08 17 26.8 +1.3
baz=268
ULN Ulaanbaatar 30.39 286 i P P 08 17 25.0 -0.9
ULN pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 30.39 286 eP P 08 17 25.0 -0.9
N17K Nushagak Hills 30.47 48 P P 08 17 27.2 +0.8
N17K IAmb IAmb 08 17 37.6
comp=Z,15nm,1.5s
N17K Nushagak Hills 30.47 48 P P 08 17 27.2 +0.8
baz=270
O17K Koliganek Bris 30.52 50 P P 08 17 27.8 +1.1
baz=271
A19K Wainwright 30.68 29 P P 08 17 29.1 +1.0
baz=250
H11N2 WAKE ISLAND Hy 30.77 154 T T 08 49 28.5
baz=342,slow=75,SNR=93
H11N1 WAKE ISLAND Hy 30.78 154 T T 08 49 27.8
baz=342,slow=75,SNR=112
H11N3 WAKE ISLAND Hy 30.78 154 T T 08 49 27.8
baz=342,slow=75,SNR=42
SONM Songino Array 30.81 287 P P 08 17 29.1 -0.5
SONM Songino Array 30.81 287 P P 08 17 29.2 -0.5
comp=Z,1.7nm,0.8s,baz=70,slow=8.8,SNR=7.6
SONM PcP PcP 08 20 23.4 +0.1
comp=Z,1.9nm,0.8s,baz=103,slow=2.1,SNR=6.7
SONM ScP ScP 08 23 52.4 -0.1
comp=Z,0.3nm,0.5s,baz=61,slow=1.8,SNR=3.8
comp=Z,1.7nm,0.8s
SONM Songino Array 30.81 287 eP P 08 17 30.1 +0.4
SONM pmax pmax
comp=Z,2.0nm,0.8s
F19K Shaleruckik Mo 30.90 36 P P 08 17 31.0 +1.1
baz=259
N18K Kilae Creek 31.11 48 P P 08 17 33.5 +1.5
baz=271
TTA Tatalina 31.12 43 P P 08 17 32.8 +0.7
TTA Tatalina 31.12 43 P P 08 17 32.8 +0.7
TTA pmax pmax
comp=Z,6.0nm,1.4s
TTA Tatalina 31.12 43 P P 08 17 33.2 +1.1
baz=267
D19K Kuna River 31.15 32 P P 08 17 33.2 +0.9
baz=256
H19K Roundabout Mou 31.20 38 P P 08 17 33.9 +1.2
baz=262
E19K Redstone River 31.23 35 P P 08 17 33.5 +0.5
baz=258
O18K Koktuh Hills 31.47 49 P P 08 17 36.8 +1.6
baz=273
L19K White Mountain 31.62 45 P P 08 17 38.5 +2.0
L19K IAmb IAmb 08 18 05.1
comp=Z,5.9nm,1.2s
CHIR Chirikof Islan 31.63 57 P P 08 17 37.8 +1.2
baz=279
Q18K Katmai Hardscr 31.64 52 P P 08 17 37.8 +1.0
baz=275
F20K Avaraart Lake 31.73 35 P P 08 17 38.1 +0.8
baz=260
D20K Etivluk River 31.74 32 P P 08 17 38.0 +0.5
baz=257,SNR=8.0
E20K Nigu River 31.79 33 P P 08 17 38.4 +0.5
baz=258
H20K Anotleneega Mo 31.84 39 P P 08 17 39.3 +0.9
baz=264
H11S1 WAKE ISLAND Hy 31.87 155 T T 08 50 49.6
baz=343,slow=76,SNR=194
H11S3 WAKE ISLAND Hy 31.88 155 T T 08 50 54.6
baz=343,slow=76,SNR=206
B20K Meade River 31.89 30 P P 08 17 39.8 +1.1
baz=254,SNR=5.4
H11S2 WAKE ISLAND Hy 31.89 155 T T 08 50 53.5
baz=343,slow=76,SNR=160
O19K Port Alsworth 31.90 49 P P 08 17 39.8 +0.9
baz=273
J20K Nowinta River 32.03 41 P P 08 17 41.3 +1.3
J20K IAmb IAmb 08 18 05.2
comp=Z,5.4nm,1.4s
M20K Styx River 32.44 45 P P 08 17 45.5 +1.8
M20K IAmb IAmb 08 17 57.4
comp=Z,11nm,1.5s
A21K Barrow 32.45 27 P P 08 17 43.9 +0.4
baz=253
C21K Knifeblade Rid 32.49 32 P P 08 17 44.5 +0.6
baz=258
G21K Allakaket 32.52 37 P P 08 17 44.9 +0.6
baz=264
F21K Alatna River 32.62 35 P P 08 17 45.9 +0.8
baz=262
E21K Killik River 32.63 33 P P 08 17 45.8 +0.6
baz=260
B21K Ikpikpuk River 32.65 31 P P 08 17 46.0 +0.7
baz=258,SNR=9.2
H21K Melozitna Rive 32.72 38 P P 08 17 46.2 +0.2
H21K Melozitna Rive 32.72 38 P P 08 17 46.8 +0.8
baz=266
A22K Sinclair Lake 32.87 28 P P 08 17 47.8 +0.7
baz=255
CAST Castle Rocks 32.92 43 P P 08 17 49.3 +1.5
Q20K Shuyak Island 33.01 51 P P 08 17 49.2 +0.6
baz=277
KDAK Kodiak Island 33.01 53 P P 08 17 48.7 +0.1
baz=278
F22K John River 33.16 35 P P 08 17 50.0 +0.2
baz=263
D22K Ayikyak River 33.18 32 P P 08 17 50.7 +0.8
baz=261
SKT Skwentna 33.19 45 P P 08 17 51.5 +1.3
baz=272
B22K Teshekpuk Lake 33.21 30 P P 08 17 51.1 +1.0
baz=258
HOM Homer 33.29 49 P P 08 17 52.2 +1.2
baz=276
H22K Ishtalitna Cre 33.32 38 P P 08 17 52.3 +1.0
baz=266
G22K Bettles 33.35 36 P P 08 17 52.6 +1.1
baz=265
E22K Anaktuvuk Pass 33.38 34 P P 08 17 51.9 +0.2
E22K Anaktuvuk Pass 33.38 34 P P 08 17 52.2 +0.4
baz=263
CNPM China Poot 33.51 50 P P 08 17 53.2 +0.3
TRF Thorofare Moun 33.73 42 P P 08 17 55.3 +0.4
TRF IAmb IAmb 08 18 27.7
comp=Z,6.9nm,1.2s
TRF Thorofare Moun 33.73 42 P P 08 17 56.0 +1.1
baz=271
CUT Chulitna 33.76 44 P P 08 17 56.5 +1.5
baz=273
COLD Coldfoot 33.89 36 P P 08 17 57.6 +1.4
baz=266
D23K Nanushuk River 33.90 33 P P 08 17 57.3 +1.0
D23K Nanushuk River 33.90 33 P P 08 17 57.1 +0.9
baz=263
G23K Bananza Creek 33.92 37 P P 08 17 57.4 +0.9
baz=267
C23K Itkillik River 34.06 31 P P 08 17 58.4 +0.9
baz=261,SNR=5.2
H23K Yukon River 34.07 38 P P 08 17 58.8 +1.1
baz=268
I23K Minto, Yukon-K 34.13 39 P P 08 17 59.4 +1.2
baz=270
O22K Cooper Landing 34.16 48 P P 08 17 59.8 +1.2
O22K Cooper Landing 34.16 48 P P 08 17 59.7 +1.2
baz=276
E23K Chandalar 34.19 34 P P 08 17 59.8 +1.0
baz=265
NEA2 Nenana 34.25 40 P P 08 18 00.3 +1.1
baz=271
TOLK Toolik Lake Re 34.26 33 P P 08 18 00.2 +0.9
TOLK Toolik Lake Re 34.26 33 P P 08 18 00.4 +1.1
baz=264
MCK McKinley 34.33 42 P P 08 18 00.5 +0.6
baz=272
PMR Palmer 34.35 46 P P 08 18 01.6 +1.5
baz=275
D24K Happy Valley 34.59 32 P P 08 18 02.9 +0.8
baz=264
E24K Your Creek 34.61 34 P P 08 18 03.3 +0.9
baz=266,SNR=8.0
KNK Knik Glacier 34.69 46 P P 08 18 04.7 +1.6
baz=276
C24K Franklin Bluff 34.70 31 P P 08 18 04.0 +1.0
baz=263
SML Sawmill 34.71 45 P P 08 18 04.7 +1.4
SML Sawmill 34.71 45 P P 08 18 04.5 +1.2
baz=275
H24K Noodor Dome 34.76 38 P P 08 18 05.4 +1.7
baz=270
COLA College 34.77 40 P P 08 18 04.8 +1.2
baz=271
PWL Port Wells 34.80 47 P P 08 18 05.0 +1.0
baz=277
F24K Squaw Lake 34.80 35 P P 08 18 05.1 +1.0
baz=267
G24K Hadweenzic Riv 34.94 37 P P 08 18 05.7 +0.6
baz=269
POKR Poker Plat Res 34.95 39 P P 08 18 06.1 +0.9
baz=271
M23K Glacier View 35.00 45 P P 08 18 06.8 +1.0
baz=276
HDA Harding Lake 35.17 41 P P 08 18 07.8 +0.7
HDA IAmb IAmb 08 18 08.8
comp=Z,7.3nm,1.4s
HDA Harding Lake 35.17 41 P P 08 18 08.4 +1.2
baz=273
SCM Sheep Creek Mo 35.18 45 P P 08 18 08.9 +1.5
SCM Sheep Creek Mo 35.18 45 P P 08 18 08.9 +1.5
SCM pmax pmax
comp=Z,19nm,1.4s
SCM Sheep Creek Mo 35.18 45 P P 08 18 08.9 +1.5
baz=276
ILAR Eielson Array 35.19 40 P P 08 18 08.2 +0.9
comp=Z,0.7nm,0.6s,baz=262,slow=5.1,SNR=17
comp=Z,0.7nm,0.6s
D25K Kavik River 35.48 32 P P 08 18 11.1 +1.3
baz=266
G25K Bearman Lake 35.48 37 P P 08 18 11.0 +1.3
baz=270
H25L Birch Creek 35.60 37 P P 08 18 12.2 +1.4
baz=271
F25K Christian Rive 35.67 35 P P 08 18 12.5 +1.0
baz=269
M24K Tolsona, Glenn 35.70 45 P P 08 18 13.2 +1.5
M24K Tolsona, Glenn 35.70 45 P P 08 18 12.4 +0.7
baz=277
E25K Arctic Village 35.71 34 P P 08 18 12.2 +0.5
baz=269
K24K Donnelly Dome 35.72 42 P P 08 18 12.6 +0.6
baz=275
PRP Porcupine Dome 35.74 39 P P 08 18 13.3 +1.2
baz=272
J25K Salcha River, 35.85 40 P P 08 18 13.5 +0.5
baz=274
KLU Klutina 35.89 46 P P 08 18 14.4 +1.0
baz=278
PAX Paxson 35.93 43 P P 08 18 14.0 +0.3
baz=276
C26K Camden Bay 36.02 31 P P 08 18 15.0 +0.7
baz=267
HARP HAARP 36.14 44 P P 08 18 16.5 +1.0
baz=277
F26K Sheenjek River 36.24 35 P P 08 18 17.8 +1.5
baz=271
G26K Porcupine Rive 36.40 36 P P 08 18 18.5 +1.0
baz=272
C27K Jago River 36.43 32 P P 08 18 18.6 +0.8
baz=268,SNR=6.3
SCRK Sand Creek 36.50 41 P P 08 18 19.6 +1.0
baz=276
N25K Chitina, Valde 36.50 45 P P 08 18 19.9 +1.3
baz=279
J26L Joseph Creek 36.63 40 P P 08 18 20.2 +0.5
baz=276
L26K Log Cabin Wild 36.89 43 P P 08 18 22.4 +0.6
baz=278
M26K Nabesna, AK 37.13 44 P P 08 18 24.8 +0.8
baz=279
E27K Coleen River 37.20 34 P P 08 18 25.0 +0.6
baz=272
NRIK Noril'sk 37.29 328 i P P 08 18 23.2 -1.8
NRIK pmax pmax
comp=Z,4.0nm,1.3s
K27K Chicken 37.33 41 P P 08 18 26.4 +1.0
baz=277
H27K Steamboat Moun 37.34 37 P P 08 18 26.5 +0.9
baz=275
BGLC Bering Glacier 37.39 48 P P 08 18 27.1 +1.2
baz=282
D27M Malcolm River 37.40 32 P P 08 18 27.0 +1.0
D27M IAmb IAmb 08 18 28.3
comp=Z,6.9nm,1.0s
D27M Malcolm River 37.40 32 P P 08 18 26.7 +0.7
baz=272,SNR=6.2
L27K Beaver Creek, 37.57 43 P P 08 18 28.2 +0.7
L27K Beaver Creek, 37.57 43 P P 08 18 28.5 +0.9
baz=279
M27K Edge Creek, AK 37.66 44 P P 08 18 29.8 +1.4
baz=280
LZH Lanzhou 37.89 270 eP P 08 18 31.8 +1.1
LZH pP pP 08 19 02.1 +1.6
LZH sP sP 08 19 20.3 +4.1
LZH pmax pmax
comp=Z,22nm,1.3s
E28M Babbage River 37.94 33 P P 08 18 31.2 +0.6
baz=274
I28M Miner Creek 38.07 39 P P 08 18 32.9 +1.1
baz=277
BVCY Beaver Creek 38.11 44 P P 08 18 33.4 +1.3
baz=280
D28M Stokes Point 38.19 32 P P 08 18 33.5 +1.0
baz=273
DAWY Dawson 38.49 41 P P 08 18 37.4 +2.1
baz=280
E29M Blow River 38.56 34 P P 08 18 37.2 +1.5
E29M IAmb IAmb 08 18 38.4
comp=Z,4.9nm,1.1s
E29M Blow River 38.56 34 P P 08 18 37.8 +2.1
baz=275
H29M Whitestone 38.61 37 P P 08 18 37.9 +1.7
baz=278
G29M Pine Creek 38.66 36 P P 08 18 38.0 +1.3
baz=277
I29M Ogilvie Camp, 38.75 39 P P 08 18 39.4 +2.0
baz=279
PINM Pinnacle 38.88 47 P P 08 18 40.1 +1.5
baz=284
J29N Klondike Camp 38.94 40 P P 08 18 40.7 +1.7
baz=280
M29M Somme Creek 39.20 43 P P 08 18 43.4 +2.1
baz=282
L29M L29M 39.22 42 P P 08 18 43.6 +2.2
baz=282
EPYK Eagle Plains 39.25 37 P P 08 18 43.3 +1.8
baz=279
K29M Barlow Dome 39.34 41 P P 08 18 44.3 +1.9
baz=281
G30M tAoh Zraii Nji 39.35 36 P P 08 18 44.3 +1.9
baz=279
F30M Barrier River 39.43 35 P P 08 18 45.1 +2.1
F30M IAmb IAmb 08 18 46.7
comp=Z,9.2nm,1.2s
F30M Barrier River 39.43 35 P P 08 18 45.1 +2.1
baz=278
I30M Mount Dempster 39.58 39 P P 08 18 45.3 +0.9
I30M Mount Dempster 39.58 39 P P 08 18 46.0 +1.7
baz=281,SNR=6.5
YUK6 Outpost Mounta 39.59 45 P P 08 18 46.2 +1.5
baz=284
J30M Hart River 39.72 40 P P 08 18 47.6 +2.0
baz=281
G31M Satah River 40.12 36 P P 08 18 50.1 +1.4
baz=280
INK Inuvik 40.18 34 P P 08 18 50.1 +1.0
INK IAmb IAmb 08 18 51.4
comp=Z,7.9nm,1.4s
INK Inuvik 40.18 34 P P 08 18 50.1 +1.0
INK pmax pmax
comp=Z,8.0nm,1.4s
INK Inuvik 40.18 34 P P 08 18 50.7 +1.6
baz=279
F31M Tsiigehtchic 40.24 35 P P 08 18 51.3 +1.7
baz=280
H31M Peel River 40.30 37 P P 08 18 52.0 +1.7
baz=282
O30N Mendenhall 40.70 45 P P 08 18 55.5 +1.9
baz=286
CD2 Chengdu 41.08 263 P P 08 18 58.0 +1.0
CD2 pmax pmax
comp=Z,40nm,0.7s
M31M Drury Creek, Y 41.11 43 P P 08 18 58.6 +1.7
baz=286
ZALV Zalesovo Beam 41.63 304 P P 08 18 59.6 -1.5
comp=Z,0.8nm,0.3s,baz=70,slow=6.5,SNR=5.2
ZALV PcP PcP 08 20 55.5 +0.2
comp=Z,1.7nm,0.7s,baz=98,slow=3.0,SNR=7.2
comp=Z,0.8nm,0.3s
A36M Sachs Harbour 42.29 27 P P 08 19 07.5 +1.3
A36M Sachs Harbour 42.29 27 P P 08 19 08.0 +1.7
baz=282,SNR=23
C36M Paulatuk 43.30 31 P P 08 19 14.9 +0.4
C36M IAmb IAmb 08 19 16.0
comp=Z,5.7nm,0.6s
MK31 Makanchi Array 46.18 296 P P 08 19 36.6 -1.0
MK31 Makanchi Array 46.18 296c i P P 08 19 37.1 -0.5
MKAR Makanchi Array 46.18 296 P P 08 19 36.9 -0.7
MKAR Makanchi Array 46.18 296 P P 08 19 37.0 -0.7
comp=Z,2.4nm,0.5s,baz=68,slow=8.1,SNR=30
MKAR PcP PcP 08 21 09.8 -1.2
comp=Z,1.6nm,0.8s,baz=71,slow=3.7,SNR=2.5
MKAR ScP ScP 08 24 49.9 -0.9
comp=Z,0.2nm,0.4s,baz=140,slow=1.1,SNR=2.3
comp=Z,2.4nm,0.5s
MKAR Makanchi Array 46.18 296 eP P 08 19 37.7 +0.1
KURK Kurchatov 46.43 302 P P 08 19 38.5 -1.0
KURK IAmb IAmb 08 19 39.9
comp=Z,12nm,0.8s
KURK Kurchatov 46.43 302d i P P 08 19 38.6 -0.9
KURK pmax pmax
comp=Z,12nm,0.9s
KURK Kurchatov 46.43 302 eP P 08 19 38.6 -0.9
KURBB Kurchatov Arra 46.53 302 P P 08 19 39.6 -0.6
comp=Z,7.8nm,0.7s,baz=67,slow=8.4,SNR=44
KURBB ScP ScP 08 24 51.0 -1.1
comp=Z,0.2nm,0.3s,baz=98,slow=2.1,SNR=1.2
comp=Z,7.8nm,0.7s
EUNU Eureka 47.42 12 P P 08 19 47.1 +0.2
RES Resolute Bay 49.18 19 P P 08 20 00.1 -0.2
RES IAmb IAmb 08 20 01.7
comp=Z,6.3nm,1.2s
RES Resolute Bay 49.18 19 P P 08 20 00.1 -0.2
RES pmax pmax
comp=Z,6.0nm,1.2s
YKA Yellowknife Ar 49.52 38 P P 08 20 04.3 +1.3
comp=Z,1.6nm,0.7s,baz=301,slow=7.1,SNR=24
YKA PcP PcP 08 21 21.9 -0.8
comp=Z,0.3nm,0.6s,baz=292,slow=6.7,SNR=7.5
comp=Z,1.6nm,0.7s
BVAR Borovoye Array 49.78 308 P P 08 20 04.8 -0.4
comp=Z,2.6nm,0.3s,baz=51,slow=8.5,SNR=18
BVAR PcP PcP 08 21 23.6 -0.2
comp=Z,2.0nm,0.6s,baz=66,slow=2.9,SNR=6.0
comp=Z,2.6nm,0.3s
BRVK Borovoye 49.82 308 i P P 08 20 05.1 -0.3
BRVK pmax pmax
comp=Z,8.0nm,1.8s
BRVK Borovoye 49.82 308 eP P 08 20 05.1 -0.3
SPITS Spitsbergen Ar 50.90 350 P P 08 20 12.5 -0.8
comp=Z,11nm,1.1s,baz=60,slow=8.8,SNR=1.9
comp=Z,11nm,1.1s
CHTO Chiang Mai 52.56 255 P P 08 20 26.1 -0.2
CHTO Chiang Mai 52.56 255 P P 08 20 26.1 -0.2
CHTO pmax pmax
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 52.82 255 P P 08 20 27.6 -0.6
CMAR Chiang Mai Arr 52.82 255 P P 08 20 28.7 +0.5
comp=Z,1.9nm,0.4s,baz=31,slow=7.7,SNR=17
comp=Z,1.9nm,0.4s
CMAR Chiang Mai Arr 52.82 255 eP P 08 20 29.9 +1.7
CMAR pmax pmax
comp=Z,2.0nm,0.4s
AAK Ala-Archa 53.09 295 i P P 08 20 29.8 -0.4
AAK pmax pmax
comp=Z,4.0nm,1.1s
AAK Ala-Archa 53.09 295 eP P 08 20 29.8 -0.4
ARTI Arti 53.86 317d i P P 08 20 35.4 +0.1
ARTI *PP pP 08 21 09.9 +2.6
ARTI 08 21 38.1
ARTI S S 08 28 00.0 +1.1
ARTI SS SKiKP 08 31 35.1 +2.2
ARTI pmax pmax
comp=Z,6.0nm,0.9s
PLID Pearl Lake 58.67 56 P P 08 21 11.4 +1.5
PLID IAmb IAmb 08 21 11.8
comp=Z,3.1nm,0.8s
NVAR Mina Array Bea 61.62 63 P P 08 21 31.2 +1.2
comp=Z,0.4nm,0.4s,baz=296,slow=6.3,SNR=6.2
comp=Z,0.4nm,0.4s
FINES FINESS Array B 62.48 334 P P 08 21 33.5 -1.6
comp=Z,1.5nm,0.4s,baz=35,slow=7.6,SNR=25
FINES ScP ScP 08 26 00.9 -0.6
comp=Z,1.4nm,0.8s,baz=123,slow=14,SNR=2.3
comp=Z,1.5nm,0.4s
FINES FINESS Array B 62.48 334 eP P 08 21 34.1 -1.0
FINES pmax pmax
comp=Z,2.0nm,0.4s
PDAR Pinedale Array 63.71 55 P P 08 21 44.7 +0.9
comp=Z,0.4nm,0.7s,baz=347,slow=1.9,SNR=3.8
comp=Z,0.4nm,0.7s
OBN Obninsk 63.89 325⇓ eP P 08 21 45.5 +1.1
OBN *PP PcP 08 22 16.0 -2.9
OBN 08 22 19.0
OBN PPP PPP 08 25 38.0
OBN i S S 08 30 00.4 -7.9
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN Obninsk 63.89 325 eP P 08 21 45.5 +1.1
NB2 NORSAR Subarra 66.59 341 P P 08 22 01.8 0.0
comp=Z,0.6nm,0.4s,baz=30,slow=6.5
NOA NORSAR Array B 66.59 341 P P 08 22 01.3 -0.5
comp=Z,0.7nm,0.6s,baz=27,slow=6.5,SNR=7.6
comp=Z,0.7nm,0.6s
NOA NORSAR Array B 66.59 341 eP P 08 22 01.6 -0.2
NOA pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 66.83 339 P P 08 22 02.1 -1.2
comp=Z,2.2nm,0.7s,baz=36,slow=2.8,SNR=6.7
comp=Z,2.2nm,0.7s
KIV Kislovodsk 69.60 314 eP P 08 22 21.7 +0.7
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 69.60 314 eP P 08 22 21.7 +0.7
KBZ Khabaz 69.67 314 P P 08 22 19.4 -1.9
comp=Z,1.3nm,0.7s,baz=49,slow=7.3,SNR=4.0
comp=Z,1.3nm,0.7s
KBZ Khabaz 69.67 314 i P P 08 22 21.7 +0.4
KBZ pmax pmax
comp=Z,4.0nm,1.5s
KBZ Khabaz 69.67 314 eP P 08 22 21.7 +0.4

WRA	**Warramunga Arr**	**70.17 199**	P	**P**		**08 22 24.2**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=18,slow=6.7,SNR=6.7						
	comp=Z,2.2nm,0.8s						
WRA	**Warramunga Arr**	**70.17 199**	*e*P	**P**		**08 22 25.2**	**+0.7**
WRA			pmax	pmax			
	comp=Z,2.0nm,0.7s						
SCHQ	**Schefferville**	**71.70 23**	P	**P**		**08 22 33.8**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=327,slow=5.2,SNR=15						
	comp=Z,1.8nm,0.4s						
ASAR	**Alice Springs**	**73.87 198**	P	**P**		**08 22 47.4**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=15,slow=5.0,SNR=6.4						
	comp=Z,0.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**74.65 346**	P	**P**		**08 22 50.8**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=16,slow=4.9,SNR=16						
EKA			PP	**PP**		**08 25 35.7**	**-2.9**
	comp=Z,1.9nm,0.8s,baz=72,slow=6.2,SNR=3.4						
	comp=Z,1.4nm,0.4s						
CLL	**Collm**	**74.89 335**	*i*P	**P**		**08 22 51.9**	**-0.2**
CLL			pmax	pmax			
	comp=Z,5.0nm,0.9s						
CLL	**Collm**	**74.89 335**	*i*P	**P**		**08 22 51.9**	**-0.2**
	comp=Z,5.0nm,0.9s						
TXAR	**Lajitas Array**	**76.62 61**	P	**P**		**08 23 03.4**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=303,slow=5.1,SNR=15						
	comp=Z,0.9nm,0.5s						
GERES	**GERESS Array B**	**76.90 334**	P	**P**		**08 23 03.5**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=34,slow=5.0,SNR=4.6						
	comp=Z,0.8nm,0.6s						
GERES	**GERESS Array B**	**76.90 334**	*e*P	**P**		**08 23 03.9**	**+0.2**
GERES			pmax	pmax			
	comp=Z,1.0nm,0.6s						
RONA	**Rosalia, Austr**	**77.13 332**	*e*P	**P**		**08 23 04.1**	**-0.9**
	comp=Z,1.5nm,0.6s						
BRTR	**Keskin Array B**	**77.14 316**	*i*P	**P**		**08 23 08.3**	**+3.0**
BRTR			pmax	pmax			
	comp=Z,3.0nm,0.5s						
SOKA	**Soboth**	**78.44 332**	*i*P	**P**		**08 23 11.0**	**-1.2**
	comp=Z,5.2nm,1.2s						
LESA	**Schwarzleotal**	**78.48 334**	*i*P	**P**		**08 23 13.5**	**+1.0**
	comp=Z,4.4nm,0.9s						
KBA	**Koelnbreinsper**	**78.59 333**	*i*P	**P**		**08 23 14.4**	**+1.2**
	comp=Z,4.0nm,0.6s						
OBKA	**Obir**	**78.74 332**	*i*P	**P**		**08 23 14.4**	**+0.5**
	comp=Z,4.7nm,1.5s						
WATA	**Walderalm**	**78.88 334**	*i*P	**P**		**08 23 15.7**	**+1.0**
	comp=Z,6.5nm,1.0s						
WTTA	**Wattenberg**	**78.93 334**	*i*P	**P**		**08 23 16.2**	**+1.1**
	comp=Z,5.8nm,0.6s						
RETA	**Reutte**	**78.97 335**	*i*P	**P**		**08 23 15.8**	**+0.7**
	comp=Z,9.4nm,1.4s						
MOTA	**Moosalm**	**79.00 335**	*e*P	**P**		**08 23 16.3**	**+0.8**
	comp=Z,9.6nm,1.1s						
SQTA	**Sankt Quirin**	**79.09 335**	*e*P	**P**		**08 23 16.6**	**+0.8**
	comp=Z,11nm,1.2s						
ABTA	**Abfaltersbach**	**79.14 334**	*e*P	**P**		**08 23 16.9**	**+0.9**
	comp=Z,3.8nm,1.1s						
DAVA	**Damuels**	**79.40 336**	*i*P	**P**		**08 23 18.3**	**+0.8**
	comp=Z,5.4nm,1.1s						
FETA	**Feichten**	**79.41 335**	*e*P	**P**		**08 23 18.2**	**+0.6**
	comp=Z,5.4nm,1.3s						
MMAI	**Mount Meron Ar**	**81.68 311**	P	**P**		**08 23 30.9**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=18,slow=4.7,SNR=5.8						
	comp=Z,1.6nm,0.5s						
QSPA	**South Pole Qui**	**138.23 180**	PKP	**PKPdf**		**08 30 35.6**	**+1.3**
	comp=Z,1.5nm,1.0s,baz=34,slow=2.9,SNR=2.2						
ELIB	**Princess Elisa**	**147.37 206**	*d*PKPdf	**PKPbc**		**08 30 52.8**	**-0.2**
PLCA	**Paso Flores**	**148.30 92**	PKPbc	**PKPbc**		**08 30 56.9**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=286,slow=4.0,SNR=5.3						

*BKK **06** 08:12:42.9±1.2, 7°N±5°×9°4E±°, h16km±11km, M4.7/10, mB5.4/4, mb4.5/4, Mjma4.2/10, ML4.8/7, MLv4.8/8, Mw(mB)4.9/4*

*IDC **06** 08:12:42.8±1.0, 7°42N×94°34E, h0km, mb4.2/14, mbtmp4.1/16, ML4.2/2, MS3.7/4, Error ellipse: s-maj=47.5km s-min=16.3km az=55.0*

*NEIC **06** 08:12:45.1±1.6, 7°39N±0°07×94°31E±0°09, h10km±1km, mb4.6/25, Error ellipse: s-maj=16.3km s-min=10.6km az=243.0*

*NDI **06** 08:12:50.4±0.5, 7°39N×94°31E, h10km, ML4.1, MW4.5, mb4.6(NEIC)*

*DJA **06** 08:12:50.0±1.4, 7°N±2°×9°5E±°, h23km±15km, M4.6/11, mB5.7/1, mb4.6/10, MLv4.5/11, Mw(mB)5.3/1*

ISC 06 08:12:47.0±0.5, 7°39N±0°05×94°34E±0°05, h24km, n81, σ1§22/72, mb4.5/30, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.56**	**228**	*e*P	**Pn**	**08 12 58.9**	**-0.5**
CMBY				*e*S	**Sb**	**08 13 05.3**	**-0.4**
CMBY				IAML		08 13 11.3	
	comp=N,32μm,0.2s						
CMBY				IAML		08 13 12.2	
	comp=E,30μm,0.4s						
BSI	**Banda Aceh**	**2.11**	**153**	P	**Pb**	**08 13 25.0**	**+0.5**
LHMI	**Lhok Sumawe**	**3.36**	**129**		**Pn**	**08 13 38.4**	**+0.3**
LHMI	**Lhok Sumawe**	**3.36**	**129**	P	**Pn**	**08 13 40.6**	**+2.6**
MLSI	**Meulaboh, Aceh**	**3.72**	**146**	P	**Pn**	**08 13 46.6**	**+3.7**
PBA	**Port Blair**	**4.52**	**340**	Pn	**Pn**	**08 13 53.5**	**-0.4**
PBA	**Port Blair**	**4.52**	**340**	IAML		08 14 45.0	
	comp=N,75nm,0.0s						
PBA				*e*S	**Sn**	**08 14 48.5**	**+2.6**
RNTT	**Ranong**	**4.55**	**64**	P	**Pn**	**08 13 54.9**	**+0.5**
SNSI	**Sinabang, Aceh**	**5.33**	**158**	P	**Pn**	**08 14 05.8**	**+0.7**
	comp=N,0.3nmcomp=N,64nm,0.6s						
SRIT	**Nakonsritamara**	**5.35**	**77**	Pn	**Pn**	**08 14 05.8**	**+0.4**
SRIT	**Nakonsritamara**	**5.35**	**77**	P	**Pn**	**08 14 06.3**	**+1.0**
DGPR	**DIGLIPUR**	**5.92**	**347**	*e*P	Pn	08 14 17.8	+4.6
DGPR				*e*S	**Sn**	**08 15 21.7**	**+1.4**
PSI	**Prapat**	**6.45**	**135**	Pn	**Pn**	**08 14 20.4**	**-0.2**
	comp=N,1.7nm,0.3s,baz=301,slow=7.6,SNR=7.6						
	comp=N,3.1nm,0.3s						
RPSI	**Rantau Prapat**	**6.53**	**135**	Pn	**Pn**	**08 14 21.9**	**+0.3**
KULM	**Kulim**	**6.61**	**108**	Pn	**Pn**	**08 14 22.1**	**-0.6**
GSI	**Gunungsitoli**	**6.85**	**152**	Pn	**Pn**	**08 14 25.7**	**-0.4**
GSI	**Gunungsitoli**	**6.85**	**152**	P	**Pn**	**08 14 27.9**	**+1.9**
	comp=N,0.2nmcomp=N,26nm,0.9s						
MNSI	**Mandailing Nat**	**8.38**	**141**	P	**Pn**	**08 14 48.9**	**+1.9**
	comp=N,20nm,0.4s						
KHLT	**Khaolaem Dam**	**8.46**	**29**	P	**Pn**	**08 14 47.2**	**-0.9**
	comp=N,0.3nmcomp=N,14nm,0.6s						
PPI	**Padang Panjang**	**9.86**	**142**	P	**Pn**	**08 15 10.2**	**+2.9**
MYKOM	**Kota Tinggi**	**10.99**	**120**		**Pn**	**08 15 22.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**11.88**	**22**	Pn	**Pn**	**08 15 34.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**11.88**	**22**	Pn	**Pn**	**08 15 32.0**	**-2.9**
	comp=N,1.0nm,0.3s,baz=213,slow=13,SNR=6.2						
CMAR				LR	LR	08 20 18.7	
	comp=N,199nm,18.3s,baz=210,slow=38						
	comp=N,1.0nm,0.4s						
CHTO	**Chiang Mai**	**12.21**	**21**	Pn	**Pn**	**08 15 39.6**	**+0.2**
PALK	**Pallekele**	**13.53**	**270**	LR	LR	08 20 32.3	
	comp=N,294nm,19.5s,baz=78,slow=35						
KSM	**Kuching**	**16.96**	**110**	P	**P**	**08 16 44.4**	**-0.2**
SBUM	**Sibu**	**18.47**	**105**	P	**P**	**08 16 59.7**	**-1.6**
QIZ	**Qiongzhong**	**19.00**	**51**	P	**P**	**08 17 04.5**	**-2.5**
QIZ				S	**S**	**08 20 42.3**	**+1.0**
QIZ				LR	LR		
	comp=N,810nm,12.3s						
QIZ				LR	LR		
	comp=E,270nm,13.8s						
LEM	**Lembang**	**19.36**	**137**	LR	LR	08 24 22.9	
	comp=E,241nm,18.5s,baz=288,slow=36						
PZH	**PanZhiHua**	**20.27**	**19**	P	Pn	08 17 24.3	+1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
H08S3	**Diego Garcia H**	**26.41**	**236**	T	T	08 45 13.5	
	baz=54,slow=75,SNR=150						
H08S2	**Diego Garcia H**	**26.41**	**236**	T	T	08 45 08.7	
	baz=54,slow=75,SNR=151						
H08S1	**Diego Garcia H**	**26.43**	**236**	T	T	08 45 09.7	
	baz=54,slow=75,SNR=159						
NJ2	**Nanjing**	**33.51**	**40**	*e*P	**P**	**08 19 26.1**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
HNS	**HongShan**	**35.14**	**29**	⇓P	P	08 19 45.7	+6.9
HNS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**36.69**	**22**	*e*P	**P**	**08 19 53.7**	**+1.5**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.5s						
WMQ	**Urumqi**	**36.75**	**352**	*e*P	**P**	**08 19 53.1**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				LR	LR		
	comp=N,470nm,24.0s						
WMQ				LR	LR		
	comp=E,440nm,19.1s						
TARG	**Taragay, Kyrgy**	**37.21**	**339**	P	**P**	**08 19 58.0**	**+1.1**
DRK	**Karamyk**	**37.83**	**331**	P	**P**	**08 20 02.3**	**+0.2**
DRK				IAmb	IAmb	08 20 12.0	
	comp=Z,13nm,0.6s						
SIMJ	**Simiganj**	**38.62**	**328**	P	**P**	**08 20 07.6**	**-0.9**
SIMJ				IAmb	IAmb	08 20 16.1	
	comp=Z,7.3nm,0.8s						
BTK	**Batken**	**38.75**	**331**	P	**P**	**08 20 11.0**	**+1.4**
BTK				IAmb	IAmb	08 20 20.3	
	comp=Z,5.6nm,0.8s						
ARSB	**Arslanbob**	**38.76**	**334**	P	**P**	**08 20 08.7**	**-1.1**
ARSB				IAmb	IAmb	08 20 14.9	
	comp=Z,11nm,0.9s						
AAK	**Ala-Archa**	**39.23**	**337**	P	**P**	**08 20 14.1**	**+0.5**
MK31	**Makanchi Array**	**40.60**	**347**	P	**P**	**08 20 24.1**	**-0.7**
MK31				IAmb	IAmb	08 20 29.9	
	comp=Z,5.5nm,1.0s						
MKAR	**Makanchi Array**	**40.60**	**347**	P	**P**	**08 20 23.6**	**-1.3**
MKAR	**Makanchi Array**	**40.60**	**347**	P	**P**	**08 20 24.0**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=160,slow=7.7,SNR=14						
	comp=Z,1.6nm,0.4s						
MAKZ	**Makanchi**	**40.69**	**347**	P	**P**	**08 20 24.1**	**-1.4**
MAKZ				IAmb	IAmb	08 20 30.4	
	comp=Z,4.7nm,0.7s						
KK31	**Karatay Array**	**41.28**	**333**	P	**P**	**08 20 30.5**	**0.0**
KKAR	**Karatay Array**	**41.28**	**333**	P	**P**	**08 20 31.1**	**+0.6**
KKAR	**Karatay Array**	**41.28**	**333**	P	**P**	**08 20 32.2**	**+1.7**
KKAR				IAmb	IAmb	08 20 45.6	
	comp=Z,2.7nm,0.8s						
KURBB	**Kurchatov Arra**	**45.06**	**346**	P	**P**	**08 21 00.4**	**-0.5**
	comp=Z,2.1nm,0.4s,baz=172,slow=7.0,SNR=24						
	comp=Z,2.1nm,0.4s						
KURK	**Kurchatov**	**45.13**	**346**	P	**P**	**08 21 00.5**	**-0.9**
KURK				IAmb	IAmb	08 21 06.6	
	comp=Z,9.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**45.63**	**153**	LR	LR	08 39 35.5	
	comp=Z,80nm,18.9s,baz=328,slow=35						
ZAA0	**Zalesovo Array**	**47.06**	**352**	P	**P**	**08 21 16.0**	**-0.6**
ZAA0				IAmb	IAmb	08 21 21.9	
	comp=Z,8.2nm,0.9s						
ZALV	**Zalesovo Beam**	**47.06**	**352**	P	**P**	**08 21 16.0**	**-0.6**
ZALV	**Zalesovo Beam**	**47.06**	**352**	P	**P**	**08 21 16.9**	**+0.3**
	comp=Z,6.6nm,0.7s,baz=176,slow=8.2,SNR=14						
	comp=Z,6.6nm,0.7s						
WRA	**Warramunga Arr**	**47.82**	**125**	P	**P**	**08 21 22.7**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=298,slow=8.4,SNR=11						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**49.45**	**130**	P	**P**	**08 21 35.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=302,slow=7.9,SNR=9.1						
	comp=Z,0.5nm,0.6s						
RAYN	**Ar Rayn**	**49.47**	**295**	P	**P**	**08 21 36.8**	**+1.1**
RAYN				IAmb	IAmb	08 21 37.6	
	comp=Z,5.6nm,0.5s						
BVAR	**Borovoye Array**	**49.51**	**341**	P	**P**	**08 21 34.0**	**-1.5**
	comp=Z,5.0nm,0.8s,baz=140,slow=7.6,SNR=3.2						
	comp=Z,5.0nm,0.8s						
BRVK	**Borovoye**	**49.57**	**341**	P	**P**	**08 21 35.3**	**-0.7**
BRVK				IAmb	IAmb	08 21 41.1	
	comp=Z,3.5nm,0.8s						
FORT	**Forrest**	**49.84**	**141**	P	**P**	**08 21 37.4**	**-0.9**
BNN	**Bunyan**	**61.02**	**310**	P	**P**	**08 22 57.7**	**-1.3**
NRIK	**Noril'sk**	**62.03**	**357**	P	**P**	**08 23 04.4**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=144,slow=8.7,SNR=4.5						
	comp=Z,0.9nm,0.3s						
H04N2	**CROZET ISLANDS**	**65.42**	**211**	T	T	09 34 12.8	
	baz=48,slow=74,SNR=32						
H04N1	**CROZET ISLANDS**	**65.42**	**211**	T	T	09 34 14.1	
	baz=48,slow=74,SNR=20						
H04N3	**CROZET ISLANDS**	**65.43**	**211**	T	T	09 34 06.9	
	baz=48,slow=74,SNR=19						
TIXI	**Tiksi**	**67.67**	**11**	P	**P**	**08 23 41.0**	**-0.6**
TIXI				IAmb	IAmb	08 23 46.4	
	comp=Z,5.7nm,0.7s						
FIA1	**FINESS Array S**	**73.23**	**332**	P	**P**	**08 24 15.3**	**-0.6**
FINES	**FINESS Array B**	**73.23**	**332**	P	**P**	**08 24 15.3**	**-0.6**
FINES	**FINESS Array B**	**73.23**	**332**	P	**P**	**08 24 15.1**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=103,slow=5.7,SNR=6.9						
	comp=Z,1.6nm,0.8s						
ARCES	**ARCESS Array B**	**75.79**	**340**	P	**P**	**08 24 28.8**	**-1.8**
	comp=Z,5.5nm,1.1s,baz=67,slow=3.2,SNR=5.0						
	comp=Z,5.5nm,1.1s						
GERES	**GERESS Array B**	**78.32**	**318**	P	**P**	**08 24 45.9**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=91,slow=3.9,SNR=4.8						
	comp=Z,0.8nm,0.6s						
HFS	**Hagfors**	**78.97**	**330**	P	**P**	**08 24 48.0**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=92,slow=7.4,SNR=13						
	comp=Z,1.0nm,0.4s						
NC405	**NORSAR Array S**	**80.01**	**331**	P	**P**	**08 24 53.8**	**-0.5**
NC405				IAmb	IAmb	08 25 06.4	
	comp=Z,7.1nm,1.0s						
NB2	**NORSAR Subarra**	**80.25**	**331**	P	**P**	**08 24 55.1**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=91,slow=5.9						
NOA	**NORSAR Array B**	**80.25**	**331**	P	**P**	**08 24 54.4**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=94,slow=5.4,SNR=3.9						
	comp=Z,0.8nm,0.8s						
SPITS	**Spitsbergen Ar**	**80.35**	**348**	P	**P**	**08 24 56.1**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=96,slow=8.6,SNR=4.7						
	comp=Z,3.4nm,0.7s						
ESDC	**Sonseca Array**	**91.68**	**310**	P	**P**	**08 25 52.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=73,slow=5.4,SNR=1.8						
	comp=Z,0.3nm,0.5s						
CAST	**Castle Rocks**	**93.69**	**24**	P	**P**	**08 26 02.2**	**+0.8**
M20K	**Styx River**	**93.87**	**26**	P	**P**	**08 26 01.8**	**-0.6**

*IDC **06** 08:33:44.5±1.2, 41°07N×50°60E, h0km, mb4.0/11, mbtmp4.2/19, ML4.1/8, MS3.8/2, Error ellipse: s-maj=23.2km s-min=11.4km az=173.0*

*TIF **06** 08:33:46.0, 40°88N×50°82E, h25km±4km*

*AZER **06** 08:33:49.9, 40°73N×50°67E, h62km, ml3.8*

*MOS **06** 08:33:50.3±1.2, 41°14N×50°70E, h64km, mb4.4/6, Error ellipse: s-maj=7.3km s-min=5.4km az=35.9*

*TEH **06** 08:33:50.7, 40°72N×50°70E, h60km*

*NEIC **06** 08:33:51.8±2.3, 41°2N±0°1×50°7E±0°1, h61km±7km, mb4.1/22, Error ellipse: s-maj=14.7km s-min=12.2km az=188.0*

*DRS **06** 08:33:51.9, 41°28N×50°94E, h18km*

*NNC **06** 08:33:54.6±1.8, 41°45N×51°66E, h0km, mb4.2, Error ellipse: s-maj=23.4km s-min=13.7km az=103.0*

ISC 06 08:33:49.9±0.6, 40°92N±0°03×50°80E±0°04, h64km±7km, n191, σ2§55/243, mb4.1/21, 10C-6D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**0.70**	**242**	Pg	**Pn**	**08 34 05.2**	**+0.8**
NDR	**Nardaran**	**0.70**	**242**	P	**Pn**	**08 34 05.2**	**+0.8**
NDR				S	**Sn**	**08 34 17.2**	**+2.2**
GALA	**Gala**	**0.70**	**224**	Pg	**Pn**	**08 34 06.1**	**+1.7**
GALA	**Gala**	**0.70**	**224**	P	**Pn**	**08 34 06.2**	**+1.7**
GALA				S	**Sn**	**08 34 17.5**	**+2.4**
GOBA	**Gobu**	**0.96**	**238**	Pg	**Pn**	**08 34 08.9**	**+1.3**
GOBA	**Gobu**	**0.96**	**238**	P	**Pn**	**08 34 09.0**	**+1.3**
GOBA				S	**Sn**	**08 34 21.9**	**+1.2**
ATGJ	**Altiaghaj**	**1.41**	**268**	Pg	**Pn**	**08 34 15.7**	**+2.0**
ATGJ				Sg	**Sn**	**08 34 35.1**	**+3.7**
SIZA	**Siyzn**	**1.45**	**277**	Pg	**Pn**	**08 34 15.1**	**+1.0**
SIZA	**Siyzn**	**1.45**	**277**	Pn	**Pn**	**08 34 15.1**	**+1.0**
SIZA				Sn	**Sn**	**08 34 34.5**	**+2.2**
GBS	**Qobustan**	**1.46**	**256**	Pg	**Pn**	**08 34 15.1**	**+0.8**
GBS	**Qobustan**	**1.46**	**256**	Pg	**Pn**	**08 34 15.2**	**+1.0**
GBS				Sg	**Sn**	**08 34 36.2**	**+3.6**
ALIB	**&Aumlli-Bayram**	**1.67**	**236**	Pg	**Pn**	**08 34 18.4**	**+1.4**
ALIB	**&Aumlli-Bayram**	**1.67**	**236**	Pg	**Pn**	**08 34 18.4**	**+1.4**
ALIB				Sg	**Sn**	**08 34 41.9**	**+4.5**
PQL	**Pirkuli**	**1.68**	**266**	Pn	**Pn**	**08 34 17.2**	**0.0**
PQL				Sn	**Sn**	**08 34 40.2**	**+2.3**
QUBA	**Quba, Azerbaij**	**1.80**	**285**	Pn	**Pn**	**08 34 20.5**	**+1.8**
QUBA				Sn	**Sn**	**08 34 42.8**	**+2.2**
IML	**Ismayilli**	**1.99**	**267**	Pn	**Pn**	**08 34 21.1**	**-0.3**
IML				Sn	**Sn**	**08 34 46.6**	**+1.3**
QSAR	**Qusar**	**2.01**	**288**	Pn	**Pn**	**08 34 21.7**	**+0.2**
QSAR				Sn	**Sn**	**08 34 49.8**	**+4.1**
XNQ	**Khinaliq**	**2.03**	**278**	Pn	**Pn**	**08 34 21.3**	**-0.8**
XNQ				Sg	**Sn**	**08 34 50.8**	**+4.4**
KSMR	**Kasumkent**	**2.13**	**290**	*e*Pg	**Pn**	**08 34 26.5**	**+3.2**
	323nm,0.2s						
KSMR				*e*Sg	**Sn**	**08 34 54.0**	**+5.4**
	10μm,0.3s						
DRN	**Derbent**	**2.17**	**302**	*e*Pg	**Pn**	**08 34 25.4**	**+1.7**
	304nm,0.3s						
DRN				*e*Sg	**Sn**	**08 34 52.0**	**+2.6**
	6μm,0.3s						
DRN	**Derbent**	**2.17**	**302**	*e*P	**Pn**	**08 34 25.7**	**+2.1**
DRN				pmax	pmax		
	comp=Z,297nm,0.2s						
AKT	**Akhty**	**2.38**	**285**	*e*Pn	**Pn**	**08 34 30.3**	**+3.5**
	comp=Z,198nm,0.2s						
AKT				*e*Sn	**Sn**	**08 35 00.6**	**+5.7**
	comp=Z,2μm,0.3s						
AKT	**Akhty**	**2.38**	**285**	*i*P	**Pn**	**08 34 26.0**	**-0.8**
AKT				pmax	pmax		
	comp=Z,142nm,0.2s						
GLBA	**Clilabad**	**2.49**	**229**	Pn	**Pn**	**08 34 27.9**	**-0.2**
GLBA				Sn	**Sn**	**08 34 54.8**	**-2.6**
URKR	**Urkarakh**	**2.69**	**299**	*e*Pn	**Pn**	**08 34 31.3**	**+0.5**
	comp=Z,159nm,0.3s						
LKRN	**Lenkeran, Azer**	**2.70**	**216**	Pn	**Pn**	**08 34 30.6**	**-0.3**
LKRN				Sn	**Sn**	**08 34 59.3**	**-3.1**
SEKA	**Sheki**	**2.74**	**277**	Pn	**Pn**	**08 34 31.0**	**-0.6**
SEKA				Sn	**Sn**	**08 35 02.8**	**-0.8**
BLQ	**Beylaqan**	**2.75**	**245**	Pn	**Pn**	**08 34 30.9**	**-0.8**
BLQ				Sn	**Sn**	**08 35 00.2**	**-3.6**
YRD	**Yardimli**	**2.80**	**225**	Pn	**Pn**	**08 34 30.7**	**-1.9**
YRD				Sn	**Sn**	**08 35 00.4**	**-4.9**
SGKR	**Sergokala**	**2.81**	**304**	*e*Pn	**Pn**	**08 34 33.8**	**+1.3**
	comp=Z,158nm,0.2s						
SGKR				*e*Sn	**Sn**	**08 35 07.7**	**+2.4**
	comp=Z,543nm,0.3s						
ASTR	**Astara**	**2.82**	**214**	Pn	**Pn**	**08 34 31.7**	**-0.8**
ASTR				Sn	**Sn**	**08 35 01.3**	**-4.0**
AGDM	**Agdam**	**2.93**	**255**	Pn	**Pn**	**08 34 32.6**	**-1.5**
AGDM				Sn	**Sn**	**08 35 05.2**	**-2.9**
GAS1	**Astara - Iran**	**2.94**	**212**	Pn	**Pn**	**08 34 32.8**	**-1.5**
LRK	**Lerik**	**2.96**	**221**	Pn	**Pn**	**08 34 34.4**	**-0.2**
LRK				Sn	**Sn**	**08 35 05.8**	**-3.3**
KMKR	**Kumukh**	**3.03**	**295**	*e*Pn	**Pn**	**08 34 36.5**	**+0.8**
	comp=Z,87nm,0.3s						
KMKR				*e*Sn	**Sn**	**08 35 12.1**	**+1.1**
	comp=Z,350nm,0.5s						
QRD	**Qoradiz**	**3.04**	**243**	Pn	**Pn**	**08 34 34.6**	**-0.9**
QRD				Sn	**Sn**	**08 35 06.5**	**-4.2**
GRMI	**Germi**	**3.07**	**228**	Pn	**Pn**	**08 34 34.4**	**-1.7**
MAK	**Makhachkala**	**3.20**	**311**	*e*P	**Pn**	**08 34 38.7**	**+1.0**
MAK				*e*S	**Sn**	**08 35 13.7**	**-0.9**
MAK				pmax	pmax		
	comp=Z,144nm,0.4s						
MAK				smax	smax		
	comp=E,686nm,0.4s						
MAK				smax	smax		
	comp=E,781nm,0.6s						
MAK				MLR	MLR		
	comp=Z,133nm,2.0s						
GNBR	**Gunib**	**3.23**	**298**	*e*Pn	**Pn**	**08 34 39.4**	**+1.1**
	comp=Z,133nm,0.6s						
GNBR				*e*Sn	**Sn**	**08 35 17.1**	**+1.6**
	comp=Z,217nm,0.3s						
GNBR	**Gunib**	**3.23**	**298**	*e*P	**Pn**	**08 34 38.9**	**+0.7**
GNBR				pmax	pmax		
	comp=Z,78nm,0.3s						
ZKTA	**Zakatala**	**3.23**	**284**	Pn	**Pn**	**08 34 38.0**	**-0.2**
ZKTA				Sn	**Sn**	**08 35 16.3**	**+0.8**
ARKR	**Arakani**	**3.31**	**302**	*e*Pn	**Pn**	**08 34 40.7**	**+1.4**
	comp=Z,33nm,0.5s						
ARKR				*e*Sn	**Sn**	**08 35 19.6**	**+2.1**
	comp=Z,256nm,0.4s						
VSHL	**Vashlovani**	**3.34**	**277**	P	**Pn**	**08 34 39.2**	**-0.6**
BUJR	**Buynaksk**	**3.35**	**306**	*e*Pn	**Pn**	**08 34 39.9**	**0.0**
	comp=Z,126nm,0.2s						
GANJ	**Ganja**	**3.41**	**267**	Pn	**Pn**	**08 34 41.1**	**+0.4**
GANJ				Sn	**Sn**	**08 35 14.4**	**-5.6**
KRNR	**Karanay**	**3.48**	**305**	*e*Pn	**Pn**	**08 34 42.4**	**+0.7**
	comp=Z,45nm,0.4s						
KRNR				*e*Sn	**Sn**	**08 35 23.1**	**+1.4**
	comp=Z,163nm,0.3s						
UNCR	**Uncukul**	**3.49**	**302**	*e*Pn	**Pn**	**08 34 42.5**	**+0.7**
	comp=Z,80nm,0.4s						
UNCR				*e*Sn	**Sn**	**08 35 23.3**	**+1.3**
	comp=Z,99nm,0.5s						
LGD	**Lagodekhi**	**3.55**	**286**	P	**Pn**	**08 34 42.5**	**-0.1**
LGD				S	Sn	08 35 37.0	+14
LGD	**Lagodekhi**	**3.55**	**286**	*e*P	**Pn**	**08 34 42.5**	**-0.1**
DBC	**Dubki**	**3.63**	**307**	*e*Pn	**Pn**	**08 34 43.9**	**+0.2**
	comp=Z,57nm,0.5s						
DBC

KK31 Karatay Array 14.82 75 ⇓P **Pn 08 37 16.5 +0.7**
comp=Z,2.2nm,0.6s,baz=283,slow=14,SNR=17
KK31 ⇑S **Sn 08 39 53.4 -5.3**
comp=Z,8.8nm,0.7s,baz=274,slow=21,SNR=14
KK31 Karatay Array 14.82 75 P **Pn 08 37 16.5 +0.7**
KKAR Karatay Array 14.82 75 Pn **Pn 08 37 17.1 +1.3**
KKAR Karatay Array 14.82 75 P **Pn 08 37 17.1 +1.3**
CSS Mathiatis 15.00 252 Pn **Pn 08 37 20.9 +2.7**
GAR Garm 15.09 91 **Pn 08 37 20.9 +1.5**
GAR IAmb IAmb 08 37 47.9
comp=Z,7.2nm,0.7s
BTK Batken 15.26 87 Pn **Pn 08 37 23.5 +2.0**
BTK IAmb IAmb 08 37 59.3
comp=Z,6.9nm,0.5s
BTK Batken 15.26 87 P **Pn 08 37 23.5 +2.0**
BTK pmax pmax
comp=Z,7.0nm,0.5s
ARTI Arti 16.26 15 Pn **Pn 08 37 31.2 -2.8**
ARTI IAmb IAmb 08 37 33.0
comp=Z,19nm,0.7s
ARTI Arti 16.26 15 Pn **Pn 08 37 30.5 -3.5**
comp=Z,1.9nm,0.3s,baz=208,slow=6.8,SNR=35
ARTI Sn Sn 08 40 21.4 -12
comp=Z,1.5nm,0.3s,baz=297,slow=23,SNR=4.1
comp=Z,18nm,0.6s
ARTI Arti 16.26 15 *d i*P **Pn 08 37 31.2 -2.8**
ARTI S **Sn 08 40 27.1 -6.2**
ARTI pmax pmax
comp=Z,19nm,0.7s
ARSB Arslanbob 16.72 81 P **P 08 37 42.7 +1.3**
ARSB IAmb IAmb 08 38 17.7
comp=Z,6.8nm,1.0s
ARSB Arslanbob 16.72 81 P **P 08 37 42.7 +1.3**
ARSB pmax pmax
comp=Z,7.0nm,1.0s
OBN Obninsk 17.05 331⇓*e*P **P 08 37 44.9 +0.2**
OBN S **Sn 08 40 44.0 -8.5**
OBN pmax pmax
comp=Z,2.0nm,0.6s
OBN MLR MLR
comp=Z,44nm,15.0s
SORM Soroca 17.52 302 P **Pn 08 37 48.1 -1.6**
comp=Z,812nmcomp=Z,18nm,0.6s
KIRV Kirov 17.71 358 P **Pn 08 37 49.9 -2.0**
comp=Z,3.7nm,0.3s,baz=164,slow=6.4,SNR=8.3
comp=Z,18nm,0.6s
AAK Ala-Archa 17.75 77 P **P 08 37 54.8 +2.1**
AAK Ala-Archa 17.75 77 P **P 08 37 56.5 +3.7**
comp=Z,0.2nm,0.3s,baz=265,slow=12,SNR=4.6
comp=Z,1.3nm,0.6s
AAK Ala-Archa 17.75 77 P **P 08 37 55.4 +2.7**
comp=Z,2.1nm,0.7s
AK09 Malin Array Si 17.81 310 P **Pn 08 37 51.4 -1.8**
AK10 Malin Array Si 17.83 310 P **Pn 08 37 51.9 -1.5**
AK07 Malin Array Si 17.83 310 P **Pn 08 37 51.4 -2.1**
AKASG Malin Array Be 17.89 310 P **Pn 08 37 52.2 -1.9**
AKASG Malin Array Be 17.89 310 P **Pn 08 37 51.8 -2.3**
comp=Z,4.5nm,0.3s,baz=104,slow=9.5,SNR=15
comp=Z,1.2nm,0.3s
AKASG Malin Array Be 17.89 310 *ce*P **Pn 08 37 53.0 -1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKBB Malin Array Si 17.89 310 P **Pn 08 37 51.5 -2.6**
AKBB IAmb IAmb 08 38 08.1
comp=Z,18nm,1.1s
AKBB Malin Array Si 17.89 310 *ce*P **Pn 08 37 53.3 -0.8**
AKBB pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 17.89 310 P **Pn 08 37 52.7 -1.4**
KIEV Kiev 17.89 310 P **Pn 08 37 51.6 -2.6**
KIEV IAmb IAmb 08 38 08.1
comp=Z,16nm,1.1s
KIEV Kiev 17.89 310 P **Pn 08 37 51.6 -2.6**
KIEV pmax pmax
comp=Z,17nm,1.2s
KIEV Kiev 17.89 310 P **Pn 08 37 52.7 -1.5**
comp=Z,52nm,0.6s
BRVK Borovoye 17.93 41 P **Pn 08 37 54.3 -0.3**
BRVK IAmb IAmb 08 37 57.7
comp=Z,8.3nm,0.7s
BRVK Borovoye 17.93 41 ⇑P **P 08 37 55.7 +1.2**
comp=Z,7.3nm,0.7s
BRVK ⇑S **Sn 08 41 07.2 -6.6**
comp=Z,4.1nm,0.6s
BRVK Borovoye 17.93 41 *i* P **P 08 37 55.8 +1.3**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BVA0 Borovoye Array 17.97 41 ⇓P **Pn 08 37 54.8 -0.3**
comp=Z,6.8nm,0.8s,baz=227,slow=12,SNR=38
BVA0 ⇑S **Sn 08 41 06.0 -8.6**
comp=Z,7.5nm,0.8s,baz=242,slow=27,SNR=7.3
BVA0 Borovoye Array 17.97 41 P **Pn 08 37 54.8 -0.3**
BVA0 S **Sn 08 41 06.4 -8.3**
BVAR Borovoye Array 17.97 41 P **Pn 08 37 54.8 -0.3**
comp=Z,0.2nm,0.3s,baz=239,slow=11,SNR=34
BVAR S **Sn 08 41 04.7 -10**
comp=Z,6.4nm,0.8s,baz=242,slow=27,SNR=6.5
comp=Z,8.6nm,0.7s
NDNU Novodnistrovsk 18.28 303 P **P 08 37 56.4 -2.0**
LUBAR Lubar, Ukraine 18.45 307 P **P 08 37 58.0 -2.2**
MI29 MI29, Kamyanyy 18.58 308 P **P 08 38 00.3 -1.3**
comp=Z,29μmcomp=Z,77nm,1.1s
BOOM Boomskoye usch 18.82 77 P **Pn 08 38 06.8 +1.1**
BOOM Boomskoye usch 18.82 77 P **Pn 08 38 06.8 +1.1**
BOOM pmax pmax
comp=Z,4.0nm,0.8s
KMPD K-Podol'skiy 18.85 302 P **P 08 38 04.1 -0.5**
MI28 Mi28,Pidlybu 18.88 310 P **P 08 38 03.4 -1.5**
BURAR Bucovina Array 19.46 299 P **P 08 38 10.3 -1.1**
BUR08 Bucovina Ar. S 19.47 299 P **P 08 38 10.3 -1.2**
RNPP5 Staryi Chortor 20.04 309 P **P 08 38 17.4 -0.1**
RNPP9 Sopachiv 20.10 310 P **P 08 38 17.8 -0.4**
KLMR Klimovskoe 21.14 345 *eP* **P 08 38 28.8 -0.4**
KLMR *eS* **S 08 42 17.3 -3.3**
KLMR pmax pmax
comp=Z,25nm,1.2s
NACGM Naroch 21.19 319 *eP* **P 08 38 27.7 -2.2**
comp=Z,5.0nm,0.7s,baz=121
KURBB Kurchatov Arra 21.53 54 P **P 08 38 35.7 +2.2**
comp=Z,4.4nm,0.7s,baz=256,slow=11,SNR=19
KURBB S **S 08 42 28.3 -0.3**
comp=Z,0.6nm,0.9s,baz=261,slow=24,SNR=4.5
comp=Z,4.4nm,0.7s
KURBB Kurchatov Arra 21.53 54 ⇑P **P 08 38 35.6 +2.0**
comp=Z,3.4nm,0.6s
KURBB Kurchatov Arra 21.53 54 P **P 08 38 35.5 +2.0**
KURK Kurchatov 21.61 54 P **P 08 38 36.3 +1.9**
KURK IAmb IAmb 08 38 38.2
comp=Z,6.4nm,0.6s
KURK Kurchatov 21.61 54 ⇓P **P 08 38 36.1 +1.7**
comp=Z,5.3nm,0.7s
KURK Kurchatov 21.61 54 *i* P **P 08 38 37.4 +3.0**
KURK pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 21.64 301 *eP* **P 08 38 37.0 +2.3**
KOLS Kolonicke sedl 21.64 301 *eP* **P 08 38 37.0 +2.3**
VSU Vasula 23.26 327 *ce*P **P 08 38 50.4 -1.2**
VSU pmax pmax
comp=Z,18nm,1.3s
MK31 Makanchi Array 23.36 65 P **P 08 38 54.1 +1.4**
MK31 Makanchi Array 23.36 65 P **P 08 38 54.1 +1.4**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 23.36 65 P **P 08 38 54.8 +2.1**
MKAR Makanchi Array 23.36 65 P **P 08 38 55.1 +2.4**
comp=Z,0.5nm,0.5s,baz=256,slow=9.8,SNR=6.4
MKAR S **S 08 43 05.5 +4.9**
comp=Z,0.2nm,0.4s,baz=266,slow=18,SNR=2.1
comp=Z,0.5nm,0.5s
MKAR Makanchi Array 23.36 65 *i* P **P 08 38 55.7 +3.0**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MTSE Matsula 24.64 325 *eP* **P 08 39 04.3 +0.2**
JOF Joensuu 24.90 339 *eP* **P 08 39 06.7 +0.2**
MEF Metsahovi 25.29 329 *eP* **P 08 39 09.8 -0.2**
FIA1 FINESS Array S 25.45 332 P **P 08 39 11.0 -0.5**
FINES FINESS Array B 25.45 332 P **P 08 39 10.5 -1.0**
FINES FINESS Array B 25.45 332 P **P 08 39 11.4 -0.1**
comp=Z,10nm,0.5s,baz=136,slow=10,SNR=77
comp=Z,10nm,0.5s
ZALV Zalesovo Beam 26.16 49 P **P 08 39 20.8 +2.8**
comp=Z,1.3nm,0.5s,baz=258,slow=11,SNR=7.1
comp=Z,1.3nm,0.5s
ZALV Zalesovo Beam 26.16 49 *i* P **P 08 39 23.0 +5.0**
ZALV pmax pmax
comp=Z,1.0nm,0.5s

RAF Rauma 26.81 328 *eP* **P 08 39 23.5 -0.3**
WMQ Urumqi 27.27 72 *eP* **P 08 39 32.5 +4.3**
VAF Ylistaro 27.71 332 *eP* **P 08 39 31.9 +0.1**
HFS Hagfors 29.85 323 P **P 08 39 50.5 -0.3**
comp=Z,1.5nm,0.3s,baz=99,slow=9.5,SNR=19
comp=Z,1.5nm,0.3s
NC405 NORSAR Array S 31.13 324 P **P 08 40 01.6 -0.6**
NB2 NORSAR Subarra 31.33 323 P **P 08 40 03.3 -0.7**
comp=Z,5.8nm,1.0s,baz=116,slow=8.6
NOA NORSAR Array B 31.33 323 P **P 08 40 03.6 -0.4**
comp=Z,0.4nm,0.5s,baz=126,slow=8.8,SNR=7.6
comp=Z,0.4nm,0.5s
NAO01 NORSAR Array S 31.41 323 P **P 08 40 02.6 -2.0**
ARCES ARCESS Array B 31.60 343 P **P 08 40 06.7 +0.5**
comp=Z,1.8nm,0.7s,baz=146,slow=11,SNR=19
comp=Z,1.8nm,0.7s
WLF Walferdange 32.19 301 P **P 08 40 12.0 +0.4**
WLF Walferdange 32.19 301 P **P 08 40 12.0 +0.4**
WLF pmax pmax
comp=Z,29nm,1.5s
EKA Eskdalemuir Ar 37.80 311 P **P 08 40 59.7 0.0**
comp=Z,0.5nm,0.5s,baz=96,slow=7.6,SNR=4.3
comp=Z,0.5nm,0.5s
BRDH Bariadhala 38.77 105 LR LR 08 59 03.5
comp=Z,144nm,19.6s,baz=194,slow=39
SPITS Spitsbergen Ar 39.89 350 P **P 08 41 18.6 +1.6**
comp=Z,9.0nm,0.8s,baz=134,slow=12,SNR=24
comp=Z,9.0nm,0.8s
SPITS Spitsbergen Ar 39.89 350 P **P 08 41 17.6 +0.6**
SPITS pmax pmax
comp=Z,60nm,1.5s
PZH PanZhiHua 44.15 93 P **P 08 41 56.5 +4.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
HHC Hu-ho-hao-te 45.10 69 *eP* **P 08 42 03.1 +3.3**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,89nm,4.7s
BORG Borgarnes 46.44 326 LR LR 09 02 03.7
comp=Z,91nm,19.1s,baz=58,slow=37
CMAR Chiang Mai Arr 46.74 104 P **P 08 42 16.7 +3.9**
comp=Z,1.7nm,0.3s,baz=298,slow=6.8,SNR=4.2
comp=Z,1.7nm,0.3s
EUNU Eureka 56.92 352 P **P 08 43 29.2 +1.3**
EUNU IAmb IAmb 08 43 30.9
comp=Z,2.6nm,1.2s
A36M Sachs Harbour 67.37 359 P **P 08 44 38.4 +0.7**
A36M IAmb IAmb 08 44 40.2
comp=Z,3.8nm,1.1s
YKA Yellowknife Ar 76.27 353 P **P 08 45 31.7 +0.4**
comp=Z,0.4nm,0.6s,baz=11,slow=5.7,SNR=9.3
comp=Z,0.4nm,0.6s
YKA Yellowknife Ar 76.27 353 *i* P **P 08 45 32.5 +1.2**

*ECX **06** 08:37:01.4±0.3,30.°59N×114.°07W,h13km±4km,ML3.8*
*MEX **06** 08:37:02.2±0.4,30.°83N×114.°11W,h6km±5km,MD4.2*
ISC 06 08:37:00.9±1.2,30.°69N±0.°05×114.°08W±0.°03,h13km±9km,
n15,σ2°±02°/31,2C-3D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPXB	**Puerto Pesaco**	**0.75**	**30**	*eP*	**Pg**	**08 37 16.0**	**+0.6**
PPXB				*eS*	**Sb**	**08 37 27.4**	**+1.4**
PPXB				IAML		08 37 34.6	
	comp=E,4μm,0.8s						
PPXB				⇑*e*		08 37 34.6	
SFX	**San Felipe**	**0.75**	**298**	*eP*	**Pg**	**08 37 15.7**	**+0.2**
SFX				*eS*	**Sg**	**08 37 25.7**	**+0.4**
SFX	**San Felipe**	**0.75**	**298**	*eP*	**Pg**	**08 37 15.7**	**+0.2**
SFX				*eS*	**Sb**	**08 37 26.5**	**+0.5**
SFX				IAML		08 37 28.5	
	comp=N,3μm,0.7s						
SFX				IAML		08 37 36.0	
	comp=E,3μm,0.6s						
SFX				⇑*e*		08 37 36.0	
PIX	**Pinacate**	**1.02**	**31**	⇓*eP*	**Pg**	**08 37 20.8**	**+0.2**
PIX				*eS*	**Sb**	**08 37 35.4**	**+1.7**
PIX				*e*		08 37 36.5	
PIX				IAML		08 37 36.5	
	comp=E,2μm,0.4s						
SPIG	**San Pedro Mart**	**1.25**	**287**	*eP*	**Pb**	**08 37 23.7**	**-0.8**
SPIG				*eS*	**Sg**	**08 37 40.9**	**-0.3**
SPIG	**San Pedro Mart**	**1.25**	**287**	*eP*	**Pb**	**08 37 23.6**	**-0.8**
SPIG				*eS*	**Sg**	**08 37 41.2**	**+0.1**
SPIG				⇓*e*		08 37 43.5	
SPIG				IAML		08 37 43.5	
	comp=N,1μm,0.2s						
SQX	**San Quintin**	**1.56**	**266**	*eP*	**Pn**	**08 37 27.6**	**-0.7**
SQX				*eS*	**Sn**	**08 37 48.5**	**+0.1**
SQX				IAML		08 37 54.0	
	comp=E,2μm,0.4s						
SQX				⇓*e*		08 37 54.0	
MBIG	**Mexicali**	**1.96**	**331**	*eP*	**Pn**	**08 37 33.4**	**-0.5**
MBIG				*eS*	**Sg**	**08 38 03.3**	**-0.7**
SV2X	**San Vicente**	**1.97**	**290**	*eP*	**Pn**	**08 37 35.4**	**+1.4**
SV2X				*eS*	**Sb**	**08 38 01.8**	**+0.8**
CBX	**Cerro Bola**	**2.74**	**307**	*eP*	**Pn**	**08 37 44.2**	**-0.5**
CBX				*eS*	**Sn**	**08 38 18.3**	**+0.5**
TJIG	**Tijuana**	**2.82**	**309**	*eP*	**Pn**	**08 37 46.5**	**+0.8**
TJIG				*eS*	**Sn**	**08 38 21.4**	**+1.8**
TUC	**Tucson**	**3.24**	**59**	*eP*	**Pn**	**08 37 51.1**	**-0.5**
TUC				*eP*	Pb	08 37 51.9	-6.5
TUC				*eS*	**Sn**	**08 38 29.2**	**-0.9**
TUC				*eS*	**Sb**	**08 38 31.1**	**-6.7**
NZIG	**Nacozari, Sono**	**3.91**	**93**	*eP*	**Pn**	**08 38 02.8**	**+1.9**
NZIG				*eS*	**Sn**	**08 38 52.6**	**+5.7**
GUYB	**Guaymas**	**3.94**	**134**	*eP*	**Pb**	**08 38 10.7**	**+0.4**
GUYB				*eS*	**Sb**	**08 38 54.9**	**-3.0**
MNTX	**Cornudas Mount**	**7.52**	**80**	*eP*	**Pn**	**08 38 51.2**	**+0.9**
MNTX				*eS*	**Sn**	**08 40 13.9**	**-1.4**

MEX 06 08:43:44.4±0.5,17.°04N×101.°64W,h15km±28km,MD3.9,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.59**	**17**	*eP*	Pg	08 43 54.2	-1.8
ZIIG				*eS*	Sg	08 44 01.7	-2.2
PET2	**Petatlan**	**0.61**	**36**	*eP*	Pg	08 43 53.9	-2.6
PET2				*eS*	Sg	08 44 02.1	-2.5
CAIG	**El Cayaco**	**1.31**	**89**	*eP*	Pn	08 44 04.2	-4.1
CAIG				*eS*	Sb	08 44 18.0	-7.5
ARIG	**Puente Sto Nin**	**1.75**	**45**	*eP*	Pn	08 44 11.2	-3.0
ARIG				*eS*	Sn	08 44 34.5	-1.7
DAIG	**Los Arroyos**	**1.91**	**90**	*eP*	Pn	08 44 12.8	-3.6
DAIG				*eS*	Sn	08 44 31.9	-8.3
MMIG	**Aquila**	**2.05**	**308**	*eP*	Pn	08 44 16.1	-2.2
MEIG	**Mezcala**	**2.12**	**65**	*eP*	Pn	08 44 16.1	-3.3
CRIG	**Cruz Grande**	**2.42**	**97**	*eP*	Pn	08 44 20.4	-3.1
CRIG				*eS*	Sn	08 44 43.3	-10
PLIG	**Platanillo**	**2.44**	**56**	*eP*	Pn	08 44 21.5	-2.4
PLIG				*eS*	Sb	08 44 56.6	-1.5
MGIG	**Malinaltepec**	**2.88**	**86**	*eP*	Pn	08 44 27.6	-2.4
TLIG	**Tlapa**	**2.98**	**79**	*eP*	Pn	08 44 29.3	-2.1
TLIG				*eS*	Sn	08 45 08.8	+1.9
TLIG	**Tlapa**	**2.98**	**79**	*eP*	Pn	08 44 29.2	-2.1
TLIG				*eS*	Pg	08 44 42.2	+0.6
YAIG	**Yautepec**	**3.05**	**53**	*eP*	Pn	08 44 26.4	-5.9
CEGR	**Campo Tres**	**3.15**	**318**	*eP*	Pn	08 44 34.9	+1.3
CEGR				*eS*	Sb	08 45 16.7	-1.7
PNIG	**Pinotepa**	**3.43**	**100**	*eP*	Pn	08 44 34.7	-2.7
PNIG				*eS*	Sn	08 45 08.5	-9.3
PNIG	**Pinotepa**	**3.43**	**100**	*eP*	Pn	08 44 34.8	-2.6
PNIG				*eS*	Pg	08 44 51.5	+1.4
FTIG	**Fresnillo de T**	**3.46**	**75**	*eP*	Pn	08 44 36.0	-1.9
FTIG				*eS*	Sn	08 45 19.0	+0.4
FTIG	**Fresnillo de T**	**3.46**	**75**	*eP*	Pn	08 44 36.0	-1.9
FTIG				*eS*	Pg	08 44 48.7	-2.0
TXIG	**Tlaxiaco**	**3.71**	**86**	*eP*	Pn	08 44 39.5	-2.0
TXIG	**Tlaxiaco**	**3.71**	**86**	*eP*	Pn	08 44 39.6	-1.9
TXIG				*eS*	Pg	08 44 52.3	-3.3
HLIG	**Huajuapan de L**	**3.75**	**77**	*eP*	Pn	08 44 39.9	-2.0
HLIG				*eS*	Pg	08 44 52.8	-3.5
YOIG	**Yosondua**	**3.92**	**92**	*eP*	Pn	08 44 42.8	-1.6
YOIG				*eS*	Pg	08 44 55.8	-3.9
TOIG	**Toxpalan**	**4.49**	**76**	*eP*	Pn	08 44 49.4	-2.7
TOIG				*eS*	Pg	08 45 19.8	+9.3

*MEX **06** 08:45:10.7±0.6,31.°30N×114.°08W,h5km,MD4.2*
*IDC **06** 08:45:12.0±1.5,30.°49N×113.°93W,h0km,mb3.4/2,*
mbtmp3.4/9,ML3.4/6,MS3.7/6,Error ellipse: s-maj=24.4km
s-min=10.0km az=38.0
*ECX **06** 08:45:11.0±0.4,30.°60N×114.°08W,h17km±4km,ML4.1*
*NEIC **06** 08:45:12.8±2.2,30.°79N±0.°05×114.°10W±0.°05,h10km±2km,*
mb4.1/8,Error ellipse: s-maj=9.2km s-min=6.9km
az=206.0
ISC 06 08:45:10.5±1.5,30.°64N±0.°06×114.°07W±0.°03,h3km±10km,
n90,σ1°±41°/99,mb3.4/3,3C-5D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.78**	**301**		**Pg**	**08 45 24.4**	**-1.1**
SFX				Sg	**Sg**	**08 45 35.3**	**-0.4**
SFX	**San Felipe**	**0.78**	**301**	*eP*	**Pg**	**08 45 25.1**	**-0.4**
SFX				*eS*	**Sg**	**08 45 36.1**	**+0.4**
SFX	**San Felipe**	**0.78**	**301**	*eP*	**Pg**	**08 45 25.0**	**-0.5**
SFX				*eS*	**Sg**	**08 45 36.0**	**+0.4**
SFX				⇓*e*		08 45 45.9	
SFX				IAML		08 45 45.9	
	comp=E,6μm,0.8s						
SFX				IAML		08 45 55.5	
	comp=N,4μm,0.6s						
SFX				⇓*e*		08 45 55.5	
PPXB	**Puerto Pesaco**	**0.79**	**28**	⇓*eP*	**Pg**	**08 45 25.9**	**+0.2**
PPXB				*eS*	**Sg**	**08 45 36.6**	**+0.7**
PPXB				⇓*e*		08 45 43.3	
PPXB				IAML		08 45 43.3	
	comp=N,6μm,0.4s						
PIX	**Pinacate**	**1.06**	**29**		**Pb**	**08 45 29.8**	**-1.7**
PIX				Sg	**Sb**	**08 45 42.6**	**-3.2**
PIX	**Pinacate**	**1.06**	**29**	*eP*	**Pb**	**08 45 30.0**	**-1.4**
PIX				*eS*	**Sb**	**08 45 44.6**	**-1.2**
PIX				IAML		08 45 46.1	
	comp=E,6μm,0.3s						
PIX				*e*		08 45 46.1	
SPIG	**San Pedro Mart**	**1.27**	**289**	*eP*	**Pn**	**08 45 32.5**	**-3.0**
SPIG				*eS*	**Sb**	**08 45 50.1**	**-2.0**
SPIG	**San Pedro Mart**	**1.27**	**289**	*eP*	**Pn**	**08 45 33.3**	**-2.2**
SPIG				*eS*	**Sb**	**08 45 50.6**	**-1.5**
SPIG				⇓*e*		08 46 03.4	
SPIG				IAML		08 46 03.4	
	comp=N,2μm,0.9s						
SQX	**San Quintin**	**1.56**	**268**	⇑*eP*	**Pn**	**08 45 37.3**	**-1.8**
SQX				*eS*	**Sn**	**08 45 57.1**	**-2.7**
SQX				⇑*e*		08 46 09.5	
SQX				IAML		08 46 09.5	
	comp=N,3μm,0.5s						
VTX	**Valle De La Tr**	**1.65**	**298**	Pn	**Pn**	**08 45 39.9**	**-0.6**
VTX				Sn	**Sb**	**08 46 02.9**	**-0.1**
VTX	**Valle De La Tr**	**1.65**	**298**	*eP*	**Pn**	**08 45 40.9**	**+0.4**
VTX				*eS*	**Sb**	**08 46 03.2**	**+0.3**
VTX				IAML		08 46 14.8	
	comp=N,980nm,1.1s						
VTX				⇑*e*		08 46 14.8	
SV2X	**San Vicente**	**1.99**	**291**	*eP*	**Pn**	**08 45 44.0**	**-1.1**
SV2X				*eS*	**Sn**	**08 46 10.4**	**-0.1**
MBIG	**Mexicali**	**2.01**	**332**	*eP*	Pn	08 45 40.5	-4.9
ESJX	**Sierra Juarez**	**2.11**	**311**	Pn	**Pn**	**08 45 47.1**	**+0.3**
113A	**Mohawk Valley,**	**2.14**	**7**		**Pn**	**08 45 46.0**	**-1.1**
GLA	**Glamis**	**2.49**	**345**		**Pn**	**08 45 51.3**	**-0.7**
CCX	**Cicese**	**2.54**	**300**	Pn	**Pn**	**08 45 52.0**	**-0.6**
YUH	**Yuha Desert**	**2.55**	**322**		**Pn**	**08 45 51.5**	**-1.3**
CBX	**Cerro Bola**	**2.78**	**308**	Pn	**Pn**	**08 45 53.8**	**-2.2**
CBX	**Cerro Bola**	**2.78**	**308**	*eP*	Pn	08 45 51.1	-4.9
CBX				*eS*	**Sn**	**08 46 28.9**	**-1.2**
TJIG	**Tijuana**	**2.86**	**310**	*eP*	Pn	08 45 52.5	-4.5
TJIG				*eS*	**Sn**	**08 46 28.0**	**-4.0**
BLYC	**Blythe**	**3.13**	**353**	Pn	**Pn**	**08 46 00.7**	**0.0**
HSIG		**3.15**	**120**	Pn	**Pn**	**08 46 03.8**	**+2.8**
TJX	**Tijuana**	**3.16**	**307**	Pn	**Pn**	**08 45 59.3**	**-1.8**
TUC	**Tucson**	**3.27**	**58**	Pn	**Pn**	**08 46 01.8**	**-0.9**
TUC	**Tucson**	**3.27**	**58**	*eP*	**Pn**	**08 46 01.5**	**-1.2**
Y14A	**Wickenburg**	**3.41**	**15**		**Pn**	**08 46 04.4**	**-0.3**
PFO	**Pinyon Flats O**	**3.59**	**326**	Pg	**Pb**	**08 46 16.2**	**+1.5**
	comp=N,0.4nm,0.3s,baz=141,slow=14,SNR=6.0						
NZIG	**Nacozari, Sono**	**3.91**	**93**	*eS*	**Sb**	**08 47 04.8**	**-3.1**
ELS	**Elsinore Mount**	**4.14**	**317**	Pn	**Pn**	**08 46 13.5**	**-1.2**
319A	**Douglas**	**4.18**	**79**		**Pn**	**08 46 14.9**	**-0.3**
X16A	**Lo Mia Camp, P**	**4.38**	**30**		**Pn**	**08 46 17.9**	**-0.2**
W13A	**Hualapai Mount**	**4.45**	**2**		**Pn**	**08 46 18.7**	**-0.4**
DUN6	**Lazy B Ranch**	**4.66**	**64**		**Pn**	**08 46 22.0**	**+0.1**
X18A	**Snowflake**	**5.21**	**41**		**Pn**	**08 46 29.8**	**+0.3**
WUAZ	**Wupatki**	**5.37**	**24**	Pn	**Pn**	**08 46 30.9**	**-0.8**
U15A	**North Rim**	**5.96**	**14**		**Pn**	**08 46 41.3**	**+1.4**
BCW	**Bitter Crk WRg**	**6.22**	**315**		**Pn**	**08 46 42.7**	**-0.6**
LCMT	**Little Creek M**	**6.40**	**6**		**Pn**	**08 46 45.8**	**0.0**
KNB	**Kanab**	**6.45**	**9**		**Pn**	**08 46 47.9**	**+1.4**
EPT	**El Paso**	**6.58**	**78**	Pn	**Pn**	**08 46 49.4**	**+1.1**
SBM	**South Baldy**	**6.71**	**58**		**Pn**	**08 46 50.1**	**-0.3**
PRN	**Pahroc Range**	**6.80**	**353**		**Pn**	**08 46 52.5**	**+1.2**
PKCU	**Pink Cliffs**	**6.95**	**12**		**Pn**	**08 46 54.9**	**+1.4**
Y22D	**IRIS PASSCAL I**	**6.95**	**59**	Pn	**Pn**	**08 46 54.0**	**+0.6**
CRNM	**Carthage**	**7.04**	**60**		**Pn**	**08 46 54.7**	**+0.1**
S11A	**Rachel**	**7.13**	**349**	Pn	**Pn**	**08 46 55.6**	**-0.2**
BNM	**Barren Site**	**7.20**	**59**	Pn	**Pn**	**08 46 57.0**	**+0.1**
LPIG	**La Paz**	**7.32**	**152**	Pn	**Pn**	**08 46 57.0**	**-1.3**
	comp=N,39nm,1.1s,baz=333,slow=4.5,SNR=1.1						
LPIG				LR	LR	08 49 22.3	
	comp=N,198nm,20.1s,baz=342,slow=35						
MNTX	**Cornudas Mount**	**7.52**	**80**	*eP*	**Pn**	**08 47 01.9**	**+0.8**
MNTX				*eS*	**Sn**	**08 48 24.6**	**-2.2**
MTPU	**Mount Pierson**	**7.55**	**11**		**Pn**	**08 47 02.3**	**+0.5**
ANMO	**Albuquerque**	**7.71**	**54**		**Pn**	**08 47 05.3**	**+1.4**
ANMO	**Albuquerque**	**7.71**	**54**	Pn	**Pn**	**08 47 05.5**	**+1.5**
	comp=N,0.2nm,0.3s,baz=248,slow=11,SNR=4.2						
ANMO				Lg	Lg	08 49 16.0	
	comp=N,0.3nm,0.3s,baz=156,slow=20,SNR=1.1						
ANMO				LR	LR	08 50 21.7	
	comp=N,707nm,20.7s,baz=46,slow=40						
	comp=N,0.8nm,0.5s						
HMU	**Henry Mountain**	**7.79**	**20**		**Pn**	**08 47 05.2**	**+0.2**
R11B	**Troy Canyon, C**	**7.80**	**351**		**Pn**	**08 47 05.5**	**+0.5**
VHRN	**Van Horn**	**7.82**	**87**		**Pn**	**08 47 05.6**	**+0.2**
MVCO	**Mesa Verde**	**8.03**	**34**		**Pn**	**08 47 09.9**	**+1.7**
NVAR	**Mina Array Bea**	**8.52**	**337**	Pn	Pn	08 47 22.1	+7.1
	comp=N,0.1nm,0.3s,baz=160,slow=14,SNR=10						
NVAR				Lg	Lg	08 49 44.2	
	comp=N,0.1nm,0.3s,baz=153,slow=31,SNR=1.9						
NVAR				LR	LR	08 50 52.8	
	comp=N,598nm,21.4s,baz=165,slow=39						
	comp=N,1.0nm,0.7s						
PV01	**Paradox Valley**	**8.75**	**30**	Pn	**Pn**	**08 47 18.9**	**+0.7**
PV10	**Paradox Valley**	**8.77**	**27**	Pn	**Pn**	**08 47 18.3**	**-0.1**
PECS	**Pecos**	**8.79**	**83**		**Pn**	**08 47 20.6**	**+2.1**
CLNB	**Carlsbad**	**8.86**	**77**	Pn	**Pn**	**08 47 22.5**	**+3.0**
CLN7	**Carlsbad 7**	**8.94**	**76**	Pn	**Pn**	**08 47 21.2**	**+0.6**
ALPN	**Alpine**	**9.00**	**89**		**Pn**	**08 47 22.7**	**+1.2**
TX31	**Lajitas Ar. Si**	**9.11**	**96**		**Pn**	**08 47 25.4**	**+2.3**
TXAR	**Lajitas Array**	**9.12**	**96**		**Pn**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEOK	**Depew**	**15.59**	**66**	Pn	**Pn**	**08 48 51.1**	**-0.1**
KSU1	**Kansas State U**	**16.61**	**55**	Pn	**Pn**	**08 49 05.0**	**+0.6**
KSU1				IAmb	IAmb	08 49 26.5	
	comp=Z,13nm,1.1s						
NATX	**Nacogdoches**	**16.65**	**81**	Pn	**Pn**	**08 49 06.5**	**+1.6**
NATX				IAmb	IAmb	08 49 17.7	
	comp=Z,28nm,1.4s						
LAO	**LASA Array**	**17.14**	**19**	P	**Pn**	**08 49 11.1**	**0.0**
NEW	**Newport**	**17.76**	**353**	P	**P**	**08 49 21.8**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=172,slow=15,SNR=3.6						
	comp=Z,1.7nm,0.7s						
Z41A	**Richland Creek**	**18.23**	**76**	P	**P**	**08 49 26.0**	**+1.1**
Z41A				IAmb	IAmb	08 49 52.7	
	comp=Z,8.7nm,0.7s						
N38A	**Joes South For**	**19.68**	**53**	P	**P**	**08 49 40.6**	**-0.1**
N38A				IAmb	IAmb	08 50 04.2	
	comp=Z,9.8nm,0.9s						
ILAR	**Eielson Array**	**39.77**	**339**	P	**P**	**08 52 47.6**	**+3.3**
	comp=Z,0.4nm,0.6s,baz=150,slow=8.1,SNR=6.9						
	comp=Z,0.4nm,0.6s						
NOA	**NORSAR Array B**	**78.43**	**24**	P	**P**	**08 57 12.9**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=317,slow=5.8,SNR=1.5						
	comp=Z,0.3nm,0.8s						
HHC	**Hu-ho-hao-te**	**97.29**	**327**	*eP*	**P**	**08 58 45.4**	**+0.2**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,97nm,5.1s						

ECX ***06*** *08:48:18.8±0.4, 30.°56N×114.°07W, h15km±4km, ML4.2*
IDC ***06*** *08:48:20.5±1.8, 30.°60N×113.°88W, h0km, mb3.6/2, mbtmp3.7/8, ML3.4/6, Error ellipse: s-maj=30.5km s-min=13.1km az=31.0*

ISC 06 08:48:19.5±1.0, 30.°60N±0.°07×114.°12W±0.°04, h10km, n16, σ2°02/23, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.77**	**305**	*eP*	**Pg**	**08 48 33.3**	**-1.0**
SFX				*eS*	**Sg**	**08 48 44.7**	**+0.3**
SFX				IAML		08 48 46.2	
	comp=N,7μm,0.4s						
PPXB	**Puerto Peasco**	**0.84**	**29**	*eP*	**Pg**	**08 48 34.1**	**-1.7**
PPXB				*eS*	**Sg**	**08 48 45.3**	**-1.5**
PPXB				*e*		08 48 46.5	
PPXB				IAML		08 48 46.5	
	comp=N,6μm,0.6s						
PIX	**Pinacate**	**1.11**	**30**	⇓*eP*	**Pb**	**08 48 38.5**	**-2.3**
PIX				*eS*	**Sb**	**08 48 53.6**	**-1.8**
PIX				⇑*e*		08 48 54.3	
PIX				IAML		08 48 54.3	
	comp=E,9μm,0.3s						
SPIG	**San Pedro Mart**	**1.24**	**291**	*eP*	**Pn**	**08 48 41.7**	**-1.6**
SPIG				*eS*	**Sb**	**08 48 59.0**	**-0.6**
SPIG				IAML		08 49 11.3	
	comp=N,2μm,1.2s						
SQX	**San Quintin**	**1.52**	**270**	*eP*	**Pn**	**08 48 44.9**	**-1.9**
SQX				*eS*	**Sn**	**08 49 05.5**	**-1.1**
SQX				⇓*e*		08 49 48.8	
SQX				IAML		08 49 48.8	
	comp=N,3μm,0.5s						
VTX	**Valle De La Tr**	**1.64**	**299**	*eP*	**Pn**	**08 48 46.9**	**-1.6**
VTX				*eS*	**Sn**	**08 49 09.3**	**-0.3**
RHX	**Rio Hardy**	**1.83**	**327**	*eP*	**Pn**	**08 48 50.5**	**-0.5**
SV2X	**San Vicente**	**1.97**	**293**	*eP*	**Pn**	**08 48 52.4**	**-0.6**
SV2X				*eS*	**Sn**	**08 49 19.2**	**+1.6**
PFO	**Pinyon Flats O**	**3.60**	**327**	Pn	**Pb**	**08 49 20.3**	**-3.1**
	comp=N,2.2nm,0.3s,baz=148,slow=15,SNR=0.8						
	comp=N,23nm,1.0s						
ANMO	**Albuquerque**	**7.77**	**54**	Pn	**Pn**	**08 50 12.7**	**-0.1**
	comp=N,0.3nm,0.3s,baz=174,slow=12,SNR=3.1						
ANMO				Lg	Lg	08 52 22.8	
	comp=N,0.6nm,0.3s,baz=252,slow=16,SNR=4.2						
	comp=N,16nm,1.2s						
NVAR	**Mina Array Bea**	**8.54**	**337**	Pn	**Pn**	**08 50 27.2**	**+3.7**
	comp=N,0.1nm,0.3s,baz=155,slow=15,SNR=2.7						
	comp=N,1.4nm,0.7s						
TXAR	**Lajitas Array**	**9.15**	**95**	Pn	**Pn**	**08 50 32.1**	**+0.3**
	comp=N,0.8nm,0.3s,baz=276,slow=13,SNR=4.1						
TXAR				Lg	Lg	08 53 06.2	
	comp=N,0.7nm,0.3s,baz=279,slow=31,SNR=4.0						
	comp=N,5.1nm,0.9s						
PDAR	**Pinedale Array**	**12.68**	**15**	Pn	**Pn**	**08 51 24.1**	**+4.0**
	baz=182,slow=14,SNR=2.0						
	comp=N,0.6nm,0.8s						
NEW	**Newport**	**17.79**	**353**	P	**P**	**08 52 29.8**	**+1.8**
	baz=162,slow=13,SNR=4.8						
	comp=N,3.0nm,0.8s						
CMIG	**Matias Romero**	**22.09**	**123**	P	**P**	**08 53 14.3**	**-0.8**
	comp=N,2.4nm,0.8s,baz=323,slow=14,SNR=3.6						
	comp=N,2.4nm,0.8s						
ILAR	**Eielson Array**	**39.79**	**339**	P	**P**	**08 55 55.5**	**+3.1**
	comp=N,0.7nm,0.9s,baz=143,slow=7.2,SNR=5.3						
	comp=N,0.7nm,0.9s						

IDC ***06*** *09:09:01.4±2.0, 3.°18N×125.°11E, h0km, mb3.4/4, mbtmp3.4/4, MS3.5/2, Error ellipse: s-maj=189.2km s-min=28.2km az=64.0*
DJA ***06*** *09:09:05.0±1.1, 4.°N±9.°×12.°7E±.°, h33km±4km, M3.5/4, MLv3.5/4*

ISC 06 09:09:02.6±3.2, 3.°N±1.°×12.°5E±.°, h10km, n7, σ0°36/4, mb3.4/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.48**	**30**	P	Pn	09 09 24.9	+9.3
SGSI				S		09 09 40.1	
WRA	**Warramunga Arr**	**24.72**	**159**	P	**P**	**09 14 24.7**	**+0.3**
	0.7nm,0.9s,baz=338,slow=10,SNR=5.7						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**28.06**	**163**	P	**P**	**09 14 54.5**	**0.0**
	0.1nm,0.5s,baz=340,slow=8.5,SNR=4.6						
	0.1nm,0.5s						
HNR	**Honiara**	**36.77**	**110**	LR	LR	09 32 13.3	
	comp=Z,57nm,18.7s,baz=41,slow=38						
STKA	**Stephens Creek**	**38.24**	**157**	P	**P**	**09 16 22.9**	**-0.2**
	1.5nm,0.7s,baz=310,slow=7.9,SNR=3.1						
	1.5nm,0.7s						
SONM	**Songino Array**	**47.29**	**343**	LR	LR	09 39 40.4	
	comp=Z,56nm,20.9s,baz=68,slow=39						
MKAR	**Makanchi Array**	**57.12**	**326**	P	**P**	**09 18 49.5**	**0.0**
	0.2nm,0.4s,baz=139,slow=7.8,SNR=2.3						
	0.2nm,0.4s						

NEIC ***06*** *09:33:19.2±0.9, 30.°5S±0.°1×178.°2W±0.°2, h14km±4km, mb4.8/29, Error ellipse: s-maj=19.4km s-min=15.6km az=113.0*
IDC ***06*** *09:33:24.4±4.0, 30.°36S×178.°20W, h69km±32km, mb4.1/7, mbtmp4.4/8, ML4.2/1, MS3.6/21, Error ellipse: s-maj=23.5km s-min=21.2km az=41.0*

ISC 06 09:33:21.5±0.5, 30.°59S±0.°06×178.°2W±0.°1, h46km, n121, σ2°15/109, mb4.7/21, MS3.6/18, 5D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.34**	**9**	P	**Pn**	**09 33 43.8**	**-0.1**
GLKZ				S	**Sn**	**09 33 57.9**	**-2.6**
RIZ	**Raoul Island**	**1.36**	**8**	P	**Pn**	**09 33 44.4**	**+0.4**
RIZ				S	**Sn**	**09 33 59.1**	**-1.8**
MXZ	**Matakaoa Point**	**7.54**	**202**	P	**Pn**	**09 35 07.2**	**-1.7**
MXZ				S	**Sn**	**09 36 32.7**	**-0.4**
WMGZ	**Waiomatatini S**	**7.75**	**201**	P	**Pn**	**09 35 09.9**	**-1.8**
WMGZ				S	**Sn**	**09 36 38.7**	**+0.7**
PKGZ	**Pakihiroa**	**7.89**	**202**	P	**Pn**	**09 35 10.5**	**-3.2**
PKGZ				S	**Sn**	**09 36 42.4**	**+0.7**
HAZ	**Te Kaha**	**7.90**	**204**	P	**Pn**	**09 35 13.0**	**-0.7**
HAZ				S	**Sn**	**09 36 45.5**	**+3.9**
PUZ	**Puketiti**	**8.03**	**201**	P	**Pn**	**09 35 14.4**	**-1.1**
PUZ				S	**Sn**	**09 36 44.0**	**-1.0**
RUGZ	**Raukumara Rang**	**8.12**	**204**	P	**Pn**	**09 35 15.9**	**-1.0**
RUGZ				S	**Sn**	**09 36 49.4**	**+2.0**
TWGZ	**Tauwhareparae**	**8.21**	**202**	P	**Pn**	**09 35 16.4**	**-1.6**
TWGZ				S	**Sn**	**09 36 50.7**	**+1.2**
WCZ	**Waipu Caves**	**8.23**	**228**	P	Pn	09 35 26.7	+8.3
OUZ	**Omahuta**	**8.33**	**234**	P	Pn	09 35 28.5	+8.8
CNGZ	**Carnagh Statio**	**8.42**	**200**	P	**Pn**	**09 35 19.5**	**-1.4**
TKGZ	**Te Karaka**	**8.49**	**202**	P	**Pn**	**09 35 20.2**	**-1.6**
TKGZ				S	**Sn**	**09 36 57.3**	**+1.0**
MWZ	**Matawai**	**8.50**	**204**	P	**Pn**	**09 35 19.8**	**-2.2**
MWZ				S	**Sn**	**09 36 57.0**	**+0.4**
URZ	**Urewera**	**8.59**	**206**	P	**Pn**	**09 35 19.6**	**-3.6**
	3.5nm,0.3s,baz=354,slow=3.9,SNR=27						
URZ				S	**Sn**	**09 36 57.4**	**-1.2**
	12nm,0.4s,baz=99,slow=22,SNR=10						
URZ	**Urewera**	**8.59**	**206**	P	**Pn**	**09 35 20.7**	**-2.4**
URZ				S	**Sn**	**09 36 59.2**	**+0.6**
RIGZ	**Rimuhau**	**8.76**	**201**	P	**Pn**	**09 35 23.6**	**-2.0**
MUGZ	**Murupara**	**8.91**	**207**	P	**Pn**	**09 35 26.1**	**-1.5**
RTZ	**Ruatahuna**	**8.95**	**205**	Pn	**Pn**	**09 35 27.0**	**-1.2**
RTZ	**Ruatahuna**	**8.95**	**205**	P	**Pn**	**09 35 25.6**	**-2.6**
SNGZ	**Shannon Statio**	**8.97**	**203**	P	**Pn**	**09 35 27.1**	**-1.4**
SNGZ				S	**Sn**	**09 37 07.8**	**-0.3**
RAHZ	**Arahi**	**9.18**	**204**	P	**Pn**	**09 35 28.9**	**-2.4**
MTHZ	**Maungataniwha**	**9.21**	**205**	P	**Pn**	**09 35 30.3**	**-1.5**
BKZ	**Black Stump Fm**	**9.61**	**206**	Pn	**Pn**	**09 35 34.6**	**-2.6**
BKZ	**Black Stump Fm**	**9.61**	**206**	P	**Pn**	**09 35 34.0**	**-3.3**
BKZ				S	**Sn**	**09 37 22.5**	**-1.4**
HIZ	**Hauiti**	**9.77**	**214**	P	Pn	09 35 47.0	+7.5
PXZ	**Pawanui**	**10.25**	**202**	P	**Pn**	**09 35 42.2**	**-3.8**
PXZ				S	**Sn**	**09 37 34.9**	**-4.6**
TSZ	**Takapari Road**	**10.59**	**205**	P	**Pn**	**09 35 46.8**	**-3.8**
BFZ	**Birch Farm**	**11.04**	**203**	P	**Pn**	**09 35 53.1**	**-3.7**
BFZ				S	**Sn**	**09 37 52.6**	**-6.3**
MRZ	**Mangatainoka R**	**11.26**	**205**	P	Pn	09 35 54.7	-5.1
MRZ				S	**Sn**	**09 37 57.2**	**-7.0**
NNZ	**Nelson**	**12.62**	**211**	S	**Sn**	**09 38 30.5**	**-6.8**
MSVF	**Nonsavu**	**13.26**	**344**	LR	LR	09 40 39.1	
	comp=Z,297nm,21.5s,baz=169,slow=33						
THZ	**Tophouse**	**13.27**	**210**	P	**Pn**	**09 36 26.6**	**-0.7**
DSZ	**Denniston Nort**	**13.76**	**213**	P	**Pn**	**09 36 34.0**	**+0.2**
LTZ	**Lake Taylor**	**14.37**	**210**	P	**Pn**	**09 36 40.0**	**-2.2**
INZ	**Inchbonnie**	**14.69**	**212**	P	**Pn**	**09 36 46.2**	**-0.1**
OXZ	**Oxford**	**14.91**	**209**	P	**Pn**	**09 36 45.6**	**-3.7**
RPZ	**Rata Peaks**	**15.65**	**210**	P	**P**	**09 37 04.0**	**+1.8**
	0.9nm,0.3s,baz=53,slow=22,SNR=1.9						
RPZ				S	Sn	09 39 39.7	-11
	2.0nm,0.4s,baz=5.2,slow=22,SNR=1.2						
RPZ				LR	LR	09 43 11.3	
	comp=Z,161nm,19.6s,baz=29,slow=37						
	5.7nm,0.5s						
DZM	**Mont Dumac**	**16.19**	**298**	LR	LR	09 42 03.8	
	comp=Z,412nm,20.8s,baz=150,slow=32						
TMZ	**Timaru**	**16.21**	**209**	P	**Pn**	**09 37 02.7**	**-3.3**
ODZ	**Otahua Downs**	**16.90**	**208**	P	**Pn**	**09 37 10.8**	**-3.8**
JCZ	**Jackson Bay**	**16.97**	**214**	P	**P**	**09 37 15.8**	**-1.1**
ARMA	**Armidale**	**26.00**	**263**	P	**P**	**09 38 52.0**	**+1.7**
EIDS	**Eidsvold**	**27.61**	**273**	P	**P**	**09 39 06.4**	**+1.8**
EIDS				IAmb	IAmb	09 39 16.6	
	comp=Z,22nm,1.4s						
CAN	**Canberra**	**27.88**	**252**	P	**P**	**09 39 07.8**	**+0.7**
CAN				IAmb	IAmb	09 39 10.6	
	comp=Z,29nm,1.5s						
PPT	**Papeete**	**29.04**	**70**	LR	LR	09 48 02.9	
	comp=Z,64nm,21.4s,baz=274,slow=30						
HNR	**Honiara**	**29.33**	**311**	LR	LR	09 48 49.4	
	comp=Z,72nm,21.3s,baz=138,slow=32						
TOO	**Toolangi**	**30.76**	**247**	P	**P**	**09 39 33.5**	**+0.9**
STKA	**Stephens Creek**	**34.30**	**257**	P	**P**	**09 40 06.2**	**+2.6**
STKA	**Stephens Creek**	**34.30**	**257**	P	**P**	**09 40 04.9**	**+1.3**
	comp=Z,16nm,0.7s,baz=99,slow=11,SNR=47						
STKA				LR	LR	09 52 36.6	
	comp=Z,109nm,18.2s,baz=35,slow=34						
	comp=Z,16nm,0.7s						
PMG	**Port Moresby**	**38.57**	**296**	LR	LR	09 53 07.7	
	comp=Z,216nm,22.0s,baz=89,slow=31						
BBOO	**Buckleboo**	**38.79**	**254**	P	**P**	**09 40 43.1**	**+1.3**
BBOO				IAmb	IAmb	09 40 54.4	
	comp=Z,46nm,1.5s						
COEN	**Coen**	**39.20**	**286**	P	**P**	**09 40 46.4**	**+1.0**
COEN				IAmb	IAmb	09 41 12.3	
	comp=Z,54nm,1.4s						
AS31	**Alice Springs**	**42.96**	**267**	P	**P**	**09 41 17.2**	**+0.9**
ASAR	**Alice Springs**	**42.96**	**267**	P	**P**	**09 41 17.1**	**+0.7**
ASAR	**Alice Springs**	**42.96**	**267**	P	**P**	**09 41 17.2**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=105,slow=7.3,SNR=56						
ASAR				PcP	**PcP**	**09 43 03.7**	**-2.6**
	comp=Z,0.8nm,0.6s,baz=129,slow=3.7,SNR=5.0						
ASAR				ScP	**ScP**	**09 46 53.0**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=118,slow=5.2,SNR=4.3						
ASAR				LR	LR	09 58 32.0	
	comp=Z,178nm,18.1s,baz=120,slow=35						
	comp=Z,2.8nm,0.7s						
WR0	**Warramunga Arr**	**43.79**	**273**	P	**P**	**09 41 23.7**	**+0.7**
WR8	**Warramunga Arr**	**43.83**	**273**	P	**P**	**09 41 24.1**	**+0.9**
WR8				IAmb	IAmb	09 41 25.3	
	comp=Z,7.5nm,0.8s						
WB2	**Warramunga Arr**	**43.96**	**272**	P	**P**	**09 41 25.2**	**+0.9**
WB2				IAmb	IAmb	09 41 26.2	
	comp=Z,8.9nm,0.6s						
WRAB	**Tennant Creek**	**43.97**	**272**	P	**P**	**09 41 25.3**	**+0.9**
WRAB				IAmb	IAmb	09 41 26.7	
	comp=Z,7.1nm,0.6s						
WRA	**Warramunga Arr**	**43.97**	**272**	P	**P**	**09 41 25.3**	**+0.9**
WRA	**Warramunga Arr**	**43.97**	**272**	P	**P**	**09 41 25.0**	**+0.5**
	comp=Z,8.5nm,0.6s,baz=111,slow=8.0,SNR=90						
WRA				PcP	**PP**	**09 43 06.9**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=111,slow=3.1,SNR=2.0						
WRA				LR	LR	09 59 11.2	
	comp=Z,92nm,18.1s,baz=134,slow=35						
	comp=Z,8.5nm,0.6s						
WB0	**Warramunga Arr**	**43.99**	**273**	P	**P**	**09 41 25.7**	**+1.0**
WB0				IAmb	IAmb	09 41 26.4	
	comp=Z,9.5nm,0.6s						
FORT	**Forrest**	**45.87**	**255**	P	**P**	**09 41 40.7**	**+1.3**
FORT				IAmb	IAmb	09 41 43.4	
	comp=Z,13nm,0.7s						
SBA	**Scott Base**	**47.83**	**184**	P	**P**	**09 41 56.1**	**+2.0**
JAY	**Jayapura**	**47.87**	**298**	LR	LR	10 00 00.6	
	comp=Z,63nm,18.5s,baz=110,slow=33						
VNDA	**Vanda**	**47.89**	**186**	P	P	09 41 57.3	+2.8
VNDA				IAmb	IAmb	09 41 57.7	
	comp=Z,4.9nm,0.8s						
VNDA	**Vanda**	**47.89**	**186**	P	**P**	**09 41 56.9**	**+2.4**
	comp=Z,4.6nm,0.5s,baz=288,slow=2.7,SNR=22						
VNDA				LR	LR	09 56 53.0	
	comp=Z,56nm,21.2s,baz=290,slow=29						
	comp=Z,4.6nm,0.5s						
MTN	**Manton Dam**	**49.88**	**279**	P	**P**	**09 42 11.7**	**+1.1**
KNRA	**Kununurra**	**50.59**	**275**	P	**P**	**09 42 16.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**52.23**	**270**	P	**P**	**09 42 28.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**52.23**	**270**	LR	LR	10 04 13.2	
	comp=Z,74nm,18.2s,baz=116,slow=35						
FAKI	**Fak Fak**	**54.28**	**290**	P	**P**	**09 42 43.4**	**+0.1**
MBWA	**Marble Bar**	**56.07**	**264**	P	**P**	**09 42 56.8**	**+0.6**
MBWA				IAmb	IAmb	09 43 23.3	
	comp=Z,32nm,1.5s						
MORW	**Morawa**	**56.35**	**254**	P	**P**	**09 42 59.3**	**+1.2**
MORW				IAmb	IAmb	09 43 24.7	
	comp=Z,18nm,1.3s						
SOEI	**Soe**	**57.25**	**278**	P	**P**	**09 43 05.7**	**+0.9**
QSPA	**South Pole Qui**	**59.52**	**180**	P	P	09 43 23.0	+3.1
QSPA				IAmb	IAmb	09 43 28.3	
	comp=Z,7.6nm,0.9s						
QSPA	**South Pole Qui**	**59.52**	**180**	P	**P**	**09 43 21.5**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=54,slow=14,SNR=20						
	comp=Z,1.4nm,0.6s						
KAPI	**Kappang**	**63.51**	**280**	LR	LR	10 11 54.9	
	comp=Z,45nm,18.1s,baz=136,slow=36						
SYO	**Syowa Base**	**76.89**	**193**	⇓*es*P	sP	09 45 17.1	-9.0
TROLL	**Troll, Antarti**	**77.68**	**180**	⇓P	**P**	**09 45 14.5**	**+1.6**
	comp=Z,104nm,0.6s						
SNAA	**Sanae**	**77.97**	**178**	P	**P**	**09 45 15.9**	**+1.4**
SNAA	**Sanae**	**77.97**	**178**	⇓P	**P**	**09 45 16.0**	**+1.5**
	comp=Z,40nm,0.9s						
VNA3	**Neumayer Olymp**	**78.12**	**176**	⇓P	**P**	**09 45 16.7**	**+1.4**
	comp=Z,2.8nm,0.5s						
VNA2	**Neumayer--Watz**	**78.55**	**177**	⇓P	**P**	**09 45 18.4**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=158,slow=6.8						
JNU	**Nakatsue**	**79.61**	**318**	LR	LR	10 21 41.0	
	comp=Z,19nm,18.2s,baz=95,slow=36						
H03S2	**Juan Fernandez**	**80.47**	**124**	T	T	11 14 40.0	
	baz=238,slow=74,SNR=23						
H03S1	**Juan Fernandez**	**80.48**	**124**	T	T	11 14 43.1	
	baz=238,slow=74,SNR=20						
H03S3	**Juan Fernandez**	**80.49**	**124**	T	T	11 14 38.9	
	baz=238,slow=74,SNR=22						
H03N3	**Juan Fernandez**	**80.66**	**123**	T	T	11 14 50.4	
	baz=241,slow=72,SNR=41						
H03N2	**Juan Fernandez**	**80.67**	**123**	T	T	11 14 53.1	
	baz=241,slow=72,SNR=28						
H03N1	**Juan Fernandez**	**80.68**	**123**	T	T	11 14 49.9	
	baz=241,slow=72,SNR=66						
PLCA	**Paso Flores**	**82.47**	**133**	P	P	09 45 41.4	+2.1
PLCA				IAmb	IAmb	09 45 53.4	
	comp=Z,8.1nm,1.5s						
PLCA	**Paso Flores**	**82.47**	**133**	P	P	09 45 41.3	+2.0
	comp=Z,1.1nm,0.9s,baz=210,slow=11,SNR=3.1						
PLCA				LR	LR	10 19 09.9	
	comp=Z,62nm,18.0s,baz=224,slow=33						
	comp=Z,1.1nm,0.9s						
ASAJ	**Asahikawa**	**82.55**	**333**	LR	LR	10 16 52.5	
	comp=Z,26nm,19.1s,baz=52,slow=32						
NIKH	**Nikolski High**	**83.61**	**6**	P	**P**	**09 45 45.2**	**+0.7**
BI02	**San Fabin de**	**84.28**	**129**	P	P	09 45 51.0	+2.3
KSRS	**Korea Array**	**84.41**	**320**	LR	LR	10 19 33.0	
	comp=Z,14nm,19.2s,baz=95,slow=33						
PETK	**Petropavlovsk-**	**85.97**	**346**	P	**P**	**09 45 58.2**	**+1.8**
VA03	**San Esteban**	**86.96**	**126**	P	**P**	**09 46 03.5**	**+1.4**
VA03				IAmb	IAmb	09 46 04.1	
	comp=Z,9.3nm,0.9s						
NVAR	**Mina Array Bea**	**88.47**	**43**	P	**P**	**09 46 10.9**	**+1.8**
NVAR	**Mina Array Bea**	**88.47**	**43**	P	**P**	**09 46 10.1**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=223,slow=9.0,SNR=9.9						
	comp=Z,0.8nm,0.7s						
KLR	**Kul'dur**	**91.14**	**330**	LR	LR	10 23 48.6	
	comp=Z,28nm,19.5s,baz=50,slow=33						
TXAR	**Lajitas Array**	**92.61**	**57**	LR	LR	10 20 24.8	
	comp=Z,29nm,19.4s,baz=313,slow=30						
BNM	**Barren Site**	**93.23**	**52**	P	P	09 46 33.9	+2.4
CMAR	**Chiang Mai Arr**	**93.34**	**289**	LR	LR	10 32 21.7	
	comp=Z,12nm,18.1s,baz=160,slow=38						
MA2	**Magadan**	**93.44**	**345**	LR	LR	10 24 42.4	
	comp=Z,23nm,20.8s,baz=87,slow=33						
SGCY	**Sterling City**	**95.84**	**56**	P	P	09 46 49.8	+6.6
MKAR	**Makanchi Array**	**117.79**	**310**	PKP	**PKiKP**	**09 52 01.5**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=56,slow=1.7,SNR=5.9						
KURBB	**Kurchatov Arra**	**121.12**	**314**	PKP	**PKiKP**	**09 52 07.8**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=112,slow=1.8,SNR=14						
BVAR	**Borovoye Array**	**126.45**	**316**	PKP	**PKiKP**	**09 52 18.0**	**-1.4**
	comp=Z,1.9nm,0.6s,baz=133,slow=1.5,SNR=7.0						
SPITS	**Spitsbergen Ar**	**131.89**	**356**	PKP	**PKiKP**	**09 52 27.3**	**-2.3**
	comp=Z,6.5nm,0.9s,baz=83,slow=6.1,SNR=1.7						
ARCES	**ARCESS Array B**	**138.75**	**348**	PKP	**PKiKP**	**09 52 40.7**	**-3.0**
	comp=Z,5.8nm,1.1s,baz=38,slow=1.3,SNR=6.2						
KBZ	**Khabaz**	**145.11**	**304**	PKP	**PKPbc**	**09 52 51.1**	**-2.1**
	comp=Z,2.1nm,0.7s,baz=233,slow=5.8,SNR=6.7						
FINES	**FINESS Array B**	**145.28**	**340**	PKPbc	**PKPab**	**09 52 51.9**	**-1.5**
	comp=Z,12nm,0.5s,baz=58,slow=3.3,SNR=128						
NB2	**NORSAR Subarra**	**148.92**	**351**	PKP	**PKiKP**	**09 53 03.0**	**-1.9**
	comp=Z,1.9nm,0.6s,baz=13,slow=2.7						
NOA	**NORSAR Array B**	**148.92**	**351**	PKPbc	**PKiKP**	**09 53 03.2**	**-1.7**
	comp=Z,2.3nm,0.7s,baz=15,slow=4.2,SNR=16						
HFS	**Hagfors**	**149.41**	**348**	PKPbc	**PKiKP**	**09 53 03.7**	**-2.2**
	comp=Z,4.8nm,0.7s,baz=56,slow=2.7,SNR=12						
AKASG	**Malin Array Be**	**151.37**	**322**	PKPbc	**PKiKP**	**09 53 09.0**	**-1.2**
	comp=Z,5.8nm,0.6s,baz=50,slow=3.0,SNR=14						
MMAI	**Mount Meron Ar**	**151.44**	**284**	PKPbc	**PKiKP**	**09 53 10.9**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=92,slow=4.2,SNR=9.5						
BRTR	**Keskin Array B**	**152.57**	**298**	PKPbc	**PKiKP**	**09 53 11.9**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=151,slow=2.8,SNR=8.0						

WEL 06 09:50:17.4±1.2, 32.°S±7.°×17.°8E±1.°6, h200km, M4.1/19, mB4.8/15, ML4.5/7, MLv4.3/1, Mw(mB)4.0/19, Error ellipse: s-maj=21.4km s-min=8.8km az=84.2, confirmed, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZ	**Omahuta**	**4.71**	**229**	P	Pn	09 51 27.6	-0.4
MXZ	**Matakaoa Point**	**5.37**	**177**	P	Pn	09 51 36.5	+0.1
MXZ				S	Sn	09 52 39.8	+0.8
HAZ	**Te Kaha**	**5.56**	**181**	P	Pn	09 51 39.7	+0.9
HAZ				S	Sn	09 52 45.0	+1.8
RUGZ	**Raukumara Rang**	**5.77**	**182**	P	Pn	09 51 42.4	+0.8
RUGZ				S	Sn	09 52 48.6	+0.2
PUZ	**Puketiti**	**5.88**	**178**	P	Pn	09 51 42.6	-0.3
URZ	**Urewera**	**6.09**	**186**	P	Pn	09 51 46.9	+1.2
MWZ	**Matawai**	**6.14**	**183**	P	Pn	09 51 45.9	-0.5
MWZ				S	Sn	09 52 57.7	+0.8
CNGZ	**Carnagh Statio**	**6.29**	**178**	P	Pn	09

BBOO IAmb IAmb 09 57 15.1
comp=Z,24nm,1.4s
CAN Canberra 28.46 177 P **P 09 56 57.1 +1.7**
CAN IAmb IAmb 09 57 11.9
comp=Z,10nm,1.2s
FORT Forrest 29.76 214 P **P 09 57 07.6 +0.6**
MBWA Marble Bar 30.01 239 P **P 09 57 10.1 +0.8**
TOO Toolangi 30.67 182 P **P 09 57 15.5 +0.5**
TOO IAmb IAmb 09 57 16.3
comp=Z,6.5nm,1.4s
MORW Morawa 36.66 229 P **P 09 58 08.3 +1.2**
NWAO Narrogin (SRO) 37.96 223 P **P 09 58 19.2 +1.3**
JKA Kamikawa-asahi 50.82 356 P **P 10 00 00.7 +0.6**
USRK Ussuriysk Ar. 52.53 346 P **P 10 00 12.8 0.0**
CMAR Chiang Mai Arr 53.64 299 P **P 10 00 22.7 +1.3**
CMAR Chiang Mai Arr 53.64 299 P **P 10 00 23.1 +1.7**
comp=Z,2.8nm,0.6s,baz=122,slow=5.8,SNR=18
comp=Z,2.8nm,0.6s
CHTO Chiang Mai 53.78 299 P **P 10 00 23.3 +0.9**
CHTO IAmb IAmb 10 00 24.6
comp=Z,3.8nm,0.9s
WUS Wushi 78.10 314 P **P 10 02 58.6 +0.5**
WUS IAmb IAmb 10 02 58.9
comp=Z,2.7nm,0.5s
MKAR Makanchi Array 78.11 321 P **P 10 02 58.2 +0.3**
MKAR Makanchi Array 78.11 321 P **P 10 02 57.6 -0.3**
comp=Z,0.9nm,0.9s,baz=117,slow=7.6,SNR=6.2
comp=Z,0.9nm,0.9s
ZALV Zalesovo Beam 79.68 328 P **P 10 03 04.6 -1.7**
comp=Z,1.8nm,0.8s,baz=152,slow=6.6,SNR=4.8
comp=Z,1.8nm,0.8s
C16K Lisburne Hills 81.94 16 P **P 10 03 18.8 +0.8**
C16K IAmb IAmb 10 03 26.5
comp=Z,5.7nm,1.2s
G18K Tagagawik 82.49 20 P **P 10 03 20.3 -0.7**
G18K IAmb IAmb 10 03 32.8
comp=Z,4.0nm,1.2s
QSPA South Pole Qui 83.19 180 P **P 10 03 24.7 -0.1**
QSPA IAmb IAmb 10 03 35.3
comp=Z,3.7nm,1.4s
QSPA South Pole Qui 83.19 180 P **P 10 03 24.0 -0.7**
comp=Z,0.8nm,0.6s,baz=264,slow=1.4,SNR=8.8
comp=Z,0.8nm,0.6s
E19K Redstone River 83.85 19 P **P 10 03 27.5 -0.4**
PMR Palmer 83.91 26 **P 10 03 28.3 0.0**
D19K Kuna River 84.17 18 P **P 10 03 29.0 -0.6**
D22K Ayikyak River 86.05 18 P **P 10 03 38.9 0.0**
D22K IAmb IAmb 10 03 54.5
comp=Z,3.1nm,1.3s
ILAR Eielson Array 86.19 23 P **P 10 03 37.0 -2.6**
comp=Z,1.2nm,0.7s,baz=251,slow=4.9,SNR=17
comp=Z,1.2nm,0.7s
BVAR Borovoye Array 87.41 324 P **P 10 03 44.1 -1.8**
comp=Z,0.6nm,0.5s,baz=96,slow=6.0,SNR=3.7
comp=Z,0.6nm,0.5s

---

*IDC **06** 10:30:12.8±1.1,36°.85N×140°.87E,h0km,mb3.7/5, mbtmp3.7/8,ML3.0/3,MS3.5/2,Error ellipse: s-maj=26.7km s-min=19.7km az=89.0*
*NIED **06** 10:30:15.8,36°.87N×140°.83E,h18km,MW3.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.02; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$1.17; $M_{r\theta}$0.49; $M_{\theta\phi}$-0.84; $M_{\phi r}$0.96; Fault plane solution: $M_0$1.75000×10^{14} NP1: ϕ_s303.00000°,δ42.00000°,λ-144.00000°. NP2: ϕ_s185.00000°,δ67.00000°,λ-54.00000°.*
*JMA **06** 10:30:15.8±0.1,36°.9N±0°.1×140°.8E±0°.2,h18km,MD3.7/40, MV3.8/40,NORTHERN IBARAKI PREF .*
JMA Felt II J1 at NORTHERN IBARAKI PREF .
ISC 06 10:30:13.5±3.3,36°.85N±0°.04×140°.85E±0°.06,h6km±22km, n32,σ0°76/27,mb3.8/5,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.25 350**		⇓*i*P	**Pb**	**10 30 21.1**	**+0.5**
ONAJ				⇓S	**Sb**	**10 30 24.8**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.25 350**		A	A	10 30 21.1	
	comp=N,9.0nm,0.2s,comp=E,18nm,0.4s						
JHO	**Hitachi**	**0.33 224**		P	**Pb**	**10 30 22.6**	**+0.7**
JHO				S	**Sb**	**10 30 27.6**	**+0.1**
JFFD	**Fukushimafurud**	**0.33 316**		⇓*i*P	**Pb**	**10 30 22.4**	**+0.4**
JFFD				⇓S	**Sb**	**10 30 26.8**	**-0.7**
JFFD	**Fukushimafurud**	**0.33 316**		A	A	10 30 22.4	
	comp=N,11nm,0.3s,comp=E,14nm,0.3s						
JFK	**Kawauchi**	**0.51**	**2**	⇓*i*P	**Pb**	**10 30 25.5**	**+0.5**
JFK				⇓S	**Sb**	**10 30 32.5**	**-0.3**
JSB	**Shiboa**	**0.76 279**		*i* P	**Pn**	**10 30 30.6**	**-0.2**
JSB				S	**Sb**	**10 30 40.6**	**+0.9**
JOTO	**OTAMA OYAMA**	**0.82 330**		*i* P	**Pn**	**10 30 31.0**	**-0.7**
JOTO				S	**Sb**	**10 30 41.8**	**+0.2**
JOTO	**OTAMA OYAMA**	**0.82 330**		A	A	10 30 31.0	
	comp=N,9.0nm,0.3s,comp=E,5.0nm,0.4s						
JYT	**Yasato**	**0.82 221**		P	**Pn**	**10 30 31.1**	**-0.6**
JYT	**Yasato**	**0.82 221**		A	A	10 30 31.1	
	comp=N,20nm,0.3s,comp=E,43nm,0.4s						
JMM	**Marumori**	**1.01 357**		*i* P	**Pn**	**10 30 33.9**	**-0.5**
JMM				S	**Sb**	**10 30 47.0**	**-0.1**
JFY	**Yanaizu**	**1.07 301**		P	**Pn**	**10 30 35.1**	**0.0**
JFY				S	**Sb**	**10 30 48.8**	**-0.1**
MJAR	**Matsushiro Arr**	**2.15 262**		Pn	**Pb**	**10 30 51.7**	**-1.2**
	comp=E,3.8nm,0.3s,baz=81,slow=17,SNR=242						
MJAR				Sn	**Sn**	**10 31 18.0**	**+1.1**
	comp=E,5.3nm,0.3s,baz=52,slow=28,SNR=5.2						
MJAR				LR	LR	10 31 32.0	
	comp=E,21nm,21.9s,baz=35,slow=37						
	comp=E,22nm,0.3s						
JHJ	**Hachijo jima 2**	**3.83 194**		Pn	**Pn**	**10 31 14.7**	**+1.7**
	comp=E,8.3nm,0.3s,baz=117,slow=22,SNR=6.2						
JHJ				Sn	**Sn**	**10 31 57.6**	**-0.7**
	comp=E,5.2nm,0.3s,baz=54,slow=21,SNR=1.1						
	comp=E,35nm,0.4s						
ASAJ	**Asahikawa**	**7.38**	**10**	Pn	**Pn**	**10 32 02.9**	**+1.1**
	comp=E,0.2nm,0.3s,baz=256,slow=20,SNR=2.1						
	comp=E,7.8nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**28.44 120**		T	T	11 05 56.2	
	baz=312,slow=75,SNR=329						
H11N1	**WAKE ISLAND Hy**	**28.45 120**		T	T	11 05 56.7	
	baz=312,slow=75,SNR=326						
H11N3	**WAKE ISLAND Hy**	**28.46 120**		T	T	11 05 57.5	
	baz=312,slow=75,SNR=286						
H11S1	**WAKE ISLAND Hy**	**29.14 122**		T	T	11 06 49.2	
	baz=314,slow=75,SNR=281						
H11S3	**WAKE ISLAND Hy**	**29.14 122**		T	T	11 06 49.3	
	baz=314,slow=75,SNR=208						
H11S2	**WAKE ISLAND Hy**	**29.16 122**		T	T	11 06 49.6	
	baz=314,slow=75,SNR=138						
TIXI	**Tiksi**	**35.42 353**		LR	LR	10 52 34.7	
	comp=E,51nm,18.5s,baz=24,slow=38						
KURBB	**Kurchatov Arra**	**45.76 308**		P	**P**	**10 38 35.2**	**-0.4**
	comp=E,0.6nm,0.5s,baz=82,slow=7.5,SNR=5.5						
	comp=E,0.6nm,0.5s						
WRA	**Warramunga Arr**	**56.82 187**		P	**P**	**10 39 58.4**	**-0.5**
	comp=E,0.6nm,0.5s,baz=3.9,slow=7.2,SNR=17						
	comp=E,0.6nm,0.5s						
ASAR	**Alice Springs**	**60.55 187**		P	**P**	**10 40 24.7**	**-0.1**
	comp=E,0.5nm,0.8s,baz=2.0,slow=8.6,SNR=2.9						
	comp=E,0.5nm,0.8s						
KBZ	**Khabaz**	**70.68 310**		P	**P**	**10 41 29.5**	**-0.6**
	comp=E,1.0nm,0.6s,baz=50,slow=7.9,SNR=3.7						
	comp=E,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.64 311**		LR	LR	11 23 22.0	
	comp=E,39nm,18.2s,baz=308,slow=41						
TXAR	**Lajitas Array**	**90.59 52**		P	**P**	**10 43 18.2**	**+1.1**
	comp=E,0.1nm,0.6s,baz=335,slow=7.3,SNR=1.5						
	comp=E,0.1nm,0.6s						
H03N2	**Juan Fernandez**	**147.45 96**		T	T	13 34 41.4	
	baz=291,slow=76,SNR=12						
H03N3	**Juan Fernandez**	**147.46 96**		T	T	13 34 42.9	
	baz=291,slow=76,SNR=16						
H03N1	**Juan Fernandez**	**147.47 96**		T	T	13 34 41.2	
	baz=291,slow=76,SNR=17						

---

*IDC **06** 10:35:30.7±0.9,54°.92N×164°.44E,h0km,mb3.4/9, mbtmp3.4/10,ML2.5/1,Error ellipse: s-maj=32.5km s-min=17.4km az=159.0*
*KRSC **06** 10:35:31.1±2.0,54°.82N×164°.59E,h67km±30km,Ml4.0*
ISC 06 10:35:30.8±1.6,54°.90N±0°.04×164°.39E±0°.04,h3km±11km, n47,σ1°66/64,mb3.4/9,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.96**	**71**	*e*P	**Pg**	**10 35 49.4**	**+0.3**
BKI				*e*S	**Sg**	**10 36 01.2**	**-0.4**
KBTR	**Krutoberegovo**	**1.59 326**		*e*P	**Pn**	**10 35 59.1**	**-0.7**
KBTR				*e*S	**Sn**	**10 36 18.6**	**-2.2**
TUMD	**Tumrok D**	**2.32 279**		*e*P	**Pn**	**10 36 11.5**	**+1.7**
TUMD				*e*S	**Sn**	**10 36 40.2**	**+1.3**
ZLN	**Zelenaya**	**2.33 300**		*e*P	**Pb**	**10 36 12.5**	**-1.0**
ZLN				*e*S	**Sb**	**10 36 42.2**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**2.35 298**		*e*P	**Pb**	**10 36 12.7**	**-1.1**
BZGR				*e*S	**Sb**	**10 36 42.3**	**-1.0**
SMKR	**Semkarok**	**2.36 317**		*e*P	**Pn**	**10 36 12.4**	**+1.9**
SMKR				*e*S	**Sb**	**10 36 42.5**	**-1.1**
CIRR	**Tsirk**	**2.41 302**		*e*S	**Sb**	**10 36 44.0**	**-0.8**
LGNR	**Loginova**	**2.42 301**		*e*S	**Sb**	**10 36 44.5**	**-0.9**
BZWR	**Bezymyannyi-We**	**2.46 297**		*e*P	**Pb**	**10 36 14.6**	**-1.2**
BZWR				*e*S	**Sb**	**10 36 46.2**	**-0.4**
KMNR	**Kamenistaya**	**2.52 292**		*e*P	**Pb**	**10 36 15.3**	**-1.5**
KMNR				*e*S	**Sb**	**10 36 46.4**	**-1.8**
KIRR	**Kirishev**	**2.54 296**		*e*P	**Pb**	**10 36 16.2**	**-0.9**
KIRR				*e*S	**Sb**	**10 36 47.9**	**-0.8**
KLY	**Klyuchi**	**2.55 305**		*e*P	**Pn**	**10 36 13.7**	**+0.7**
KLY				*e*S	**Sn**	**10 36 44.5**	**-0.1**
KPT	**Kopyto**	**2.61 296**		*e*P	**Pb**	**10 36 17.1**	**-1.0**
KPT				*e*S	**Sb**	**10 36 50.3**	**-0.3**
KOZ	**Kozyrevsk**	**2.82 296**		*e*P	**Pn**	**10 36 19.4**	**+2.6**
KOZ				*e*S	**Sn**	**10 36 53.6**	**+2.4**
SPN	**Mys Shipunski**	**3.15 237**		*e*S	**Sn**	**10 36 55.8**	**-3.5**
ESO	**Esso**	**3.40 290**		*e*P	**Pn**	**10 36 26.7**	**+1.9**
ESO				*e*S	**Sn**	**10 37 05.7**	**+0.1**
NLC	**Nalytchevo**	**3.44 242**		*e*S	**Sn**	**10 37 04.2**	**-2.3**
SDLR	**Sedlovina**	**3.63 246**		*e*P	**Pn**	**10 36 29.2**	**+1.2**
SDLR				*e*S	**Sn**	**10 37 10.2**	**-1.1**
KRER	**Koryakskii**	**3.69 247**		*e*S	**Sn**	**10 37 12.0**	**-0.8**
UGLR	**Uglovaya**	**3.69 245**		*e*P	**Pn**	**10 36 31.3**	**+2.5**
AVH	**Avacha**	**3.71 246**		*e*P	**Pn**	**10 36 31.5**	**+2.5**
AVH				*e*S	**Sn**	**10 37 12.7**	**-0.6**
KRX	**Arik**	**3.72 248**		*e*P	**Pn**	**10 36 31.2**	**+2.0**
KRX				*e*S	**Sn**	**10 37 11.7**	**-1.8**
KOK	**Koryaka**	**3.75 247**		*e*P	**Pn**	**10 36 31.8**	**+2.2**
KOK				*e*S	**Sn**	**10 37 13.0**	**-1.3**
DALK	**Dalny**	**3.82 243**		*e*P	**Pn**	**10 36 31.9**	**+1.5**
DALK				*e*S	**Sn**	**10 37 13.4**	**-2.4**
PET	**Petropavlovsk**	**3.88 243**		*e*S	**Sn**	**10 37 14.9**	**-2.3**
GNL	**Ganaly**	**3.97 255**		*e*P	**Pn**	**10 36 35.3**	**+2.7**
KRMR	**Karymshinskiy**	**4.25 243**		*e*P	**Pn**	**10 36 38.2**	**+1.9**
KRMR				*e*S	**Sn**	**10 37 24.4**	**-1.9**
PETK	**Petropavlovsk-**	**4.34 248**		Pn	**Pn**	**10 36 39.9**	**+2.3**
	1.3nm,0.3s,baz=77,slow=17,SNR=32						
PETK				Sn	**Sn**	**10 37 29.1**	**+0.5**
	1.4nm,0.3s,baz=89,slow=17,SNR=4.5						
	3.3nm,0.4s						
OSSR	**Ossora**	**4.42 351**		*e*P	**Pn**	**10 36 39.8**	**+1.1**
OSSR				*e*S	**Sn**	**10 37 28.8**	**-1.7**
GRL	**Gorelyy**	**4.43 240**		*e*P	**Pn**	**10 36 40.9**	**+2.0**
GRL				*e*S	**Sn**	**10 37 30.3**	**-0.8**
APC	**Apacha**	**4.71 248**		*e*P	**Pn**	**10 36 45.8**	**+3.1**
KDTR	**Khodutka, Kamc**	**4.89 233**		*e*P	**Pn**	**10 36 45.7**	**+0.6**
KDTR				*e*S	**Sn**	**10 37 38.3**	**-3.8**
ILAR	**Eielson Array**	**25.73 48**		P	**P**	**10 41 01.1**	**-0.8**
	0.5nm,0.8s,baz=268,slow=9.1,SNR=8.9						
	0.5nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.16 176**		T	T	11 20 33.9	
	baz=356,slow=74						
H11N3	**WAKE ISLAND Hy**	**35.18 176**		T	T	11 20 58.6	
	baz=356						
H11N1	**WAKE ISLAND Hy**	**35.18 176**		T	T	11 20 54.8	
	baz=356,slow=74						
H11S1	**WAKE ISLAND Hy**	**36.37 176**		T	T	11 22 19.6	
	baz=359						
H11S3	**WAKE ISLAND Hy**	**36.38 176**		T	T	11 22 06.8	
	baz=359						
H11S2	**WAKE ISLAND Hy**	**36.39 176**		T	T	11 22 31.3	
	baz=359						
YKA	**Yellowknife Ar**	**40.10 45**		P	**P**	**10 43 06.8**	**-0.2**
	0.1nm,0.5s,baz=294,slow=11,SNR=2.2						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**49.02 303**		P	**P**	**10 44 19.0**	**+0.6**
	0.2nm,0.3s,baz=55,slow=8.5,SNR=2.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**49.63 297**		P	**P**	**10 44 23.0**	**-0.3**
	0.3nm,0.6s,baz=57,slow=6.2,SNR=2.3						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**51.23 309**		P	**P**	**10 44 36.1**	**+1.0**
	0.2nm,0.4s,baz=38,slow=7.7,SNR=1.5						
	0.2nm,0.4s						
NVAR	**Mina Array Bea**	**52.77 74**		P	**P**	**10 44 48.2**	**+1.1**
	0.2nm,0.7s,baz=301,slow=5.8,SNR=3.0						
	0.2nm,0.7s						
TXAR	**Lajitas Array**	**67.61 71**		P	**P**	**10 46 29.3**	**+0.5**
	0.3nm,0.4s,baz=297,slow=5.2,SNR=11						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**78.84 209**		P	**P**	**10 47 34.7**	**-0.2**
	0.4nm,0.8s,baz=22,slow=5.9,SNR=1.3						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**82.50 208**		P	**P**	**10 47 55.0**	**+0.6**
	0.9nm,0.9s,baz=16,slow=4.2,SNR=6.5						
	0.9nm,0.9s						

---

*JMA **06** 10:42:40.2±0.1,24°.1N±0°.3×121°.8E±0°.4,h55km,MV3.0/13, TAIWAN REGION*
*TAP **06** 10:42:40.5,24°.13N×121°.84E,h55km,ML3.2,C*
ISC 06 10:42:41.3±1.2,24°.11N±0°.02×121°.87E±0°.02,h51km±5km, n142,σ1°15/271,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.23 282**		*e*P	**Pn**	**10 42 49.6**	**-0.4**
ETL				*e*S	**Sn**	**10 42 56.2**	**+0.1**
EAHA	**Aohua**	**0.24 332**		*i* P	**Pn**	**10 42 49.6**	**-0.5**
EAHA				*i* S	**Sn**	**10 42 57.0**	**+0.7**
TWD	**Chiawan**	**0.25 263**		*i* P	**Pn**	**10 42 49.7**	**-0.4**
TWD				*i* S	**Sn**	**10 42 56.6**	**+0.3**
NACB	**Ninganchiao**	**0.26 284**		P	**Pn**	**10 42 49.6**	**-0.5**
NACB	**Ninganchiao**	**0.26 284**		S	**Sn**	**10 42 56.2**	**-0.2**
NACB	**Ninganchiao**	**0.26 284**		*i* P	**Pn**	**10 42 49.6**	**-0.5**
NACB				S	**Sn**	**10 42 56.1**	**-0.3**
HWA	**Hwalien**	**0.27 241**		*e*P	**Pn**	**10 42 50.6**	**+0.3**
HWA				S	**Sn**	**10 42 58.2**	**+1.5**
ENA	**Nanau**	**0.33 340**		*i* P	**Pn**	**10 42 50.4**	**-0.4**
ENA				S	**Sn**	**10 42 57.6**	**-0.1**
EWUT	**Wuta**	**0.34 347**		*i* P	**Pn**	**10 42 50.6**	**-0.3**
EWUT				*i* S	**Sn**	**10 42 58.2**	**+0.4**
TEYL	**Yanliau Villag**	**0.34 225**		*e*P	**Pn**	**10 42 50.6**	**-0.3**
TEYL				*e*S	**Sn**	**10 42 59.0**	**+1.2**
ETLH	**Xiulin Townshi**	**0.36 285**		*e*P	**Pn**	**10 42 50.6**	**-0.6**
ETLH				*i* S	**Sn**	**10 42 57.3**	**-1.0**
ETM	**Tongmen**	**0.37 247**		*i* P	**Pn**	**10 42 50.7**	**-0.5**
ETM				*i* S	**Sn**	**10 42 57.9**	**-0.3**
EOS4	**EOS4**	**0.41 89**		*e*P	**Pn**	**10 42 51.4**	**+0.2**
EOS4				*e*S	**Sn**	**10 42 59.7**	**+1.4**
LXIB	**Xiulin Townshi**	**0.42 258**		*i* P	**Pn**	**10 42 51.1**	**-0.8**
LXIB				*i* S	**Sn**	**10 42 58.8**	**-0.6**
SHUL	**Shoufeng**	**0.42 221**		*e*P	**Pn**	**10 42 51.9**	**+0.2**
SHUL				*e*S	**Sn**	**10 43 00.2**	**+1.0**
EOS3	**EOS3**	**0.45 67**		*e*P	**Pn**	**10 42 52.5**	**+0.7**
EOS3				*e*S	**Sn**	**10 43 01.6**	**+2.2**
EOS2	**EOS2**	**0.45 48**		*e*P	**Pn**	**10 42 52.6**	**+0.7**
EOS2				*e*S	**Sn**	**10 43 01.5**	**+2.0**
ESAO	**Su ao**	**0.46 358**		*i* P	**Pn**	**10 42 51.9**	**-0.2**
ESAO				*i* S	**Sn**	**10 43 00.0**	**+0.1**
ESL	**Shilin**	**0.49 233**		*i* P	**Pn**	**10 42 51.7**	**-0.8**
ESL				*e*S	**Sn**	**10 42 59.8**	**-0.8**
TWC	**Suao**	**0.49 358**		*i* P	**Pn**	**10 42 52.4**	**-0.1**
TWC				*i* S	**Sn**	**10 43 00.9**	**+0.3**
TEGC	**Jichi Village**	**0.50 217**		*e*P	**Pn**	**10 42 53.5**	**+0.9**
TEGC				S	**Sn**	**10 43 02.1**	**+1.4**
LATG	**Datong**	**0.52 324**		P	**Pn**	**10 42 52.5**	**-0.5**
LATG				*i* S	**Sn**	**10 43 01.2**	**-0.2**
NDS	**Dongshan**	**0.54 345**		*e*P	**Pn**	**10 42 52.9**	**-0.1**
NDS				*e*S	**Sn**	**10 43 01.5**	**0.0**
NNSB	**Datong**	**0.54 306**		*i* P	**Pn**	**10 42 52.6**	**-0.6**
NNSB				S	**Sn**	**10 43 01.1**	**-0.7**
NNSH	**Datong**	**0.54 306**		*i* P	**Pn**	**10 42 52.6**	**-0.6**
NNSH				*i* S	**Sn**	**10 43 01.0**	**-0.8**
WHF	**Hehuan Shan**	**0.55 274**		*i* P	**Pn**	**10 42 52.9**	**-0.7**
WHF				*i* S	**Sn**	**10 43 01.6**	**-0.8**
NNS	**Nan Shan**	**0.56 306**		P	**Pn**	**10 42 52.7**	**-0.6**
NNS				*i* S	**Sn**	**10 43 01.4**	**-0.7**
FUSS	**Fushou**	**0.58 284**		*i* P	**Pn**	**10 42 53.4**	**-0.4**
FUSS				*i* S	**Sn**	**10 43 02.2**	**-0.6**
WARBT	**Fenglin Townsh**	**0.59 228**		*i* P	**Pn**	**10 42 52.6**	**-1.0**
WARBT				S	**Sn**	**10 43 01.4**	**-1.3**
ENTT	**Nioudou**	**0.59 333**		*i* P	**Pn**	**10 42 53.2**	**-0.5**
ENTT				*i* S	**Sn**	**10 43 02.2**	**-0.5**
EGFH	**Guangfu**	**0.60 222**		*e*P	**Pn**	**10 42 53.0**	**-0.8**
EGFH				*e*S	**Sn**	**10 43 01.6**	**-1.2**
TWE	**Neicheng**	**0.63 343**		*i* P	**Pn**	**10 42 53.9**	**-0.3**
TWE				S	**Sn**	**10 43 04.0**	**+0.5**
TWT	**Tachien**	**0.65 283**		*e*P	**Pn**	**10 42 54.4**	**-0.2**
TWT				*e*S	**Sn**	**10 43 04.2**	**+0.1**
OWD	**Renai**	**0.65 256**		*i* P	**Pn**	**10 42 54.2**	**-0.4**
OWD				*i* S	**Sn**	**10 43 03.4**	**-0.8**
ILA	**Ilan**	**0.66 351**		P	**Pn**	**10 42 54.6**	**+0.1**
ILA				*e*S	**Sn**	**10 43 05.0**	**+0.8**
FUSB	**Fushanzhiwuyua**	**0.69 339**		*e*P	**Pn**	**10 42 54.6**	**-0.4**
FUSB				*e*S	**Sn**	**10 43 04.9**	**-0.1**
WUSB	**Renai**	**0.69 260**		*i* P	**Pn**	**10 42 54.9**	**-0.2**
WUSB				*e*S	**Sn**	**10 43 04.7**	**-0.4**
YHNB	**Yeheng**	**0.71 321**		P	**Pn**	**10 42 54.7**	**-0.6**
YHNB	**Yeheng**	**0.71 321**		*i* P	**Pn**	**10 42 54.9**	**-0.4**
YHNB				*i* S	**Sn**	**10 43 04.6**	**-0.9**
NSK	**Sanguang**	**0.73 321**		*e*P	**Pn**	**10 42 55.0**	**-0.5**
NSK				*i* S	**Sn**	**10 43 04.8**	**-1.0**
EGS		**0.73 5**		*i* P	**Pn**	**10 42 55.3**	**-0.2**
EGS				*e*S	**Sn**	**10 43 06.9**	**+1.1**
HGSD	**Ruisui**	**0.74 213**		*i* P	**Pn**	**10 42 55.2**	**-0.3**
HGSD				S	**Sn**	**10 43 06.5**	**+0.6**
NWLT	**Wulai**	**0.74 334**		*e*P	**Pn**	**10 42 55.3**	**-0.3**
NWLT				S	**Sn**	**10 43 05.4**	**-0.7**
VWDT	**VWDT**	**0.75 242**		*i* P	**Pn**	**10 42 55.6**	**-0.1**
VWDT				*e*S	**Sn**	**10 43 06.1**	**-0.2**
EHYH	**Wanrong**	**0.78 218**		*e*P	**Pn**	**10 42 55.0**	**-1.1**
EHYH				S	**Sn**	**10 43 06.5**	**-0.4**
NFF	**Wufeng Townshi**	**0.86 307**		P	**Pn**	**10 42 57.2**	**+0.1**
NFF				*i* S	**Sn**	**10 43 08.2**	**-0.3**
WHP	**Taichung City**	**0.86 281**		P	**Pn**	**10 42 57.4**	**+0.2**
WHP				*e*S	**Sn**	**10 43 09.2**	**+0.4**
TIPB	**Shuangxi**	**0.86 358**		P	**Pn**	**10 42 57.4**	**+0.2**
TIPB				*i* S	**Sn**	**10 43 09.1**	**+0.4**
DPDB	**Guoxing**	**0.86 265**		*i* P	**Pn**	**10 42 57.2**	**-0.1**
DPDB				S	**Sn**	**10 43 08.9**	**-0.1**
WCS	**Beigang Elemen**	**0.87 267**		*i* P	**Pn**	**10 42 57.4**	**+0.1**
WCS				*e*S	**Sn**	**10 43 10.8**	**+1.7**
ECBN	**Changbin**	**0.88 206**		*e*P	**Pn**	**10 42 57.0**	**-0.4**
ECBN				*e*S	**Sn**	**10 43 09.1**	**-0.1**
YULB	**Yu-li**	**0.89 216**		P	**Pn**	**10 42 56.7**	**-0.8**
YULB	**Yu-li**	**0.89 216**		S	**Sn**	**10 43 07.9**	**-1.5**
YULB	**Yu-li**	**0.89 216**		*i* P	**Pn**	**10 42 56.2**	**-1.3**
YULB				*e*S	**Sn**	**10 43 08.4**	**-1.0**
SSLB	**Suanglung**	**0.89 249**		P	**Pn**	**10 42 57.1**	**-0.5**
SSLB	**Suanglung**	**0.89 249**		*e*P	**Pn**	**10 42 57.2**	**-0.5**
SSLB				S	**Sn**	**10 43 10.1**	**+0.4**
TWB1	**Santiao Chiao**	**0.90 7**		*i* P	**Pn**	**10 42 57.4**	**-0.2**
TWB1				S	**Sn**	**10 43 09.5**	**-0.2**
NHDH	**Xindian Distri**	**0.90 340**		*i* P	**Pn**	**10 42 57.7**	**0.0**
NHDH				S	**Sn**	**10 43 09.5**	**-0.2**
TWA	**Mucha**	**0.90 344**		*e*P	**Pn**	**10 42 58.4**	**+0.6**
TWA				*i* S	**Sn**	**10 43 11.1**	**+1.3**
EYUL	**Yuli**	**0.91 213**		*e*P	**Pn**	**10 42 57.9**	**0.0**
EYUL				*e*S	**Sn**	**10 43 10.8**	**+0.9**
KSHI	**Guanxi Townshi**	**0.91 317**		*e*P	**Pn**	**10 42 58.1**	**+0.3**
KSHI				*i* S	**Sn**	**10 43 10.7**	**+0.6**
SMLT	**Sun Moon Lake**	**0.91 256**		*i* P	**Pn**	**10 42 56.8**	**-1.1**
SMLT				*i* S	**Sn**	**10 43 10.3**	**+0.1**
TWF1	**Yuli**	**0.92 215**		*i* P	**Pn**	**10 42 56.9**	**-1.1**
TWF1				*e*S	**Sn**	**10 43 08.8**	**-1.4**
TATO	**Taipei**	**0.93 338**		P	**Pn**	**10 42 58.2**	**+0.2**
LIOB	**Emei**	**0.94 305**		*e*P	**Pn**	**10 42 58.7**	**+0.5**
LIOB				*i* S	**Sn**	**10 43 11.6**	**+0.9**
NSTT	**Nanjuang**	**0.94 303**		*i* P	**Pn**	**10 42 58.1**	**-0.2**
NSTT				*e*S	**Sn**	**10 43 11.2**	**+0.4**
TYC	**Yuchr**	**0.94 258**		*e*P	**Pn**	**10 42 58.4**	**+0.1**
TYC				S	**Sn**	**10 43 11.2**	**+0.4**
NWF	**Wu-fen Shan**	**0.96 355**		*i* P	**Pn**	**10 42 58.9**	**+0.3**
NWF				*i* S	**Sn**	**10 43 12.0**	**+0.7**
WFSB	**Wu-fen Shan**	**0.96 355**		*i* P	**Pn**	**10 42 59.0**	**+0.6**
WFSB				*i* S	**Sn**	**10 43 12.3**	**+1.2**
SXI1	**Grass Mountain**	**0.

WTP	Ta-pu	1.44	233	*i* P		Pn	10 43 05.0	0.0
WTP				*i* S		Sn	10 43 25.1	+2.3
CHY	Chiayi	1.46	245	P		Pn	10 43 06.0	+0.8
CHY				*i* S		Sn	10 43 25.2	+2.1
TWGBT	Beinan	1.48	209	S		Sn	10 43 21.6	-2.1
TWGBT	Beinan	1.48	209	*i* P		Pn	10 43 03.3	-2.2
TWGBT				*e*S		Sn	10 43 22.6	-1.1
TWG	Pinlang	1.48	210	*i* P		Pn	10 43 03.2	-2.3
TWG				S		Sn	10 43 22.3	-1.4
LDUT	Ludao	1.48	194	*i* P		Pn	10 43 03.5	-1.9
LDUT				*i* S		Sn	10 43 21.5	-2.2
TWK	Hsinying	1.52	237	*i* P		Pn	10 43 06.7	+0.6
TWK				*i* S		Sn	10 43 26.6	+1.9
CHN1	Nanshi	1.54	233	*e*P		Pn	10 43 07.7	+1.4
CHN1				*e*S		Sn	10 43 26.8	+1.7
SNST	Tainan City	1.54	235	P		Pn	10 43 07.5	+1.2
SNST				*i* S		Sn	10 43 26.9	+1.7
SGST	Jiashian	1.56	229	*e*P		Pn	10 43 07.7	+1.1
SGST				*e*S		Sn	10 43 27.7	+2.0
WSF	Szhu	1.58	253	*e*S		Sn	10 43 28.0	+1.9
WSL	Shuilin Townsh	1.61	249	*e*P		Pn	10 43 08.1	+0.9
WSL				S		Sn	10 43 28.4	+1.5
ICHU	Yijhu	1.63	243	*e*P		Pn	10 43 08.9	+1.3
ICHU				S		Sn	10 43 28.9	+1.4
CHN8	Yiju	1.70	244	*e*S		Sn	10 43 31.1	+2.1
IRIF	Iriomote-Funau	1.72	82	P		Pn	10 43 08.5	-0.2
ECL	Taimali	1.73	209	*e*P		Pn	10 43 08.6	-0.3
ECL				*e*S		Sn	10 43 27.6	-2.1
SCST	Cishan	1.75	226	*e*P		Pn	10 43 11.9	+2.7
SCST				S		Sn	10 43 34.7	+4.2
TSMG	Majia	1.79	219	*i* P		Pn	10 43 11.3	+1.5
TSMG				S		Sn	10 43 33.3	+1.9
MASBT	Mashibuluo	1.87	217	*e*P		Pn	10 43 12.6	+1.7
MASBT				S		Sn	10 43 35.7	+2.4
TSCK	Chigu Township	1.89	240	*i* P		Pn	10 43 10.8	-0.4
TSCK				*i* S		Sn	10 43 34.2	+0.3
JKRS	Kuro-shima	1.96	86	P		Pn	10 43 12.7	+0.6
JKRS				*e*S		Sn	10 43 36.5	+1.0
TAWH	Dawu Township	1.98	207	*i* P		Pn	10 43 12.0	-0.4
TAWH				*e*S		Sn	10 43 34.8	-1.1
SCZT	Fangliau	2.08	214	*e*P		Pn	10 43 15.4	+1.7
SCZT				*e*S		Sn	10 43 40.6	+2.3
JIJ	Ishigaki jima	2.09	83	P		Pn	10 43 13.6	-0.3
JIJ				S		Sn	10 43 38.0	-0.8
SLIU	Shizi	2.13	208	P		Pn	10 43 14.7	+0.3
SLIU				*e*S		Sn	10 43 40.6	+1.0
PHUB	P'eng-hu	2.18	255	*e*P		Pn	10 43 14.1	-1.0
PHUB				S		Sn	10 43 38.7	-2.3
WDGT	Dungji	2.19	248	*i* P		Pn	10 43 14.5	-0.8
WDGT				*i* S		Sn	10 43 40.2	-1.0
JISG	Ishigakijimahi	2.28	78	P		Pn	10 43 15.9	-0.6
JISG				S		Sn	10 43 42.4	-1.0
VWUC	VWUC	2.37	292	*i* P		Pn	10 43 15.9	-1.7
VWUC				S		Sn	10 43 42.5	-2.9
JTJ	Tarama	2.64	78	P		Pn	10 43 21.1	-0.2
JTJ				S		Sn	10 43 51.5	-0.7

*IDC **06** 10:49:17.5±0.9,50°.39N×159°.85E, h0km, mb3.8/11, mbtmp3.8/13, ML3.3/2, MS2.5/3, Error ellipse: s-maj=22.4km s-min=18.2km az=173.0*
*KRSC **06** 10:49:18.1±1.9,50°.48N×160°.10E, h42km±39km, Ml4.0*
*NEIC **06** 10:49:29.4±0.5,51°.7N±0°.1×160°.68E±0°.07, h10km±2km, mb4.1/6, Error ellipse: s-maj=25.2km s-min=4.2km az=195.0*

ISC 06 10:49:22.9±0.8, 50°.48N±0°.07×159°.98E±0°.06, h35km, n50, σ1§42/53, mb3.9/14, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	1.79	319	*e*P	Pn	10 49 49.7	-1.5
KDTR				*e*S	Sn	10 50 11.2	-1.4
RUS	Russkaya	2.16	335	*e*P	Pn	10 49 54.6	-1.7
RUS				*e*S	Sn	10 50 20.4	-1.4
GRL	Gorelyy	2.39	331	*e*P	Pn	10 49 59.2	-0.4
GRL				*e*S	Sn	10 50 28.8	+1.1
SKR	Severo-Kuril's	2.47	276	*e*P	Pn	10 49 58.7	-1.9
SKR				*e*S	Sn	10 50 26.8	-2.7
KRMR	Karymshinskiy	2.62	335	*e*P	Pn	10 50 01.3	-1.3
KRMR				*e*S	Sn	10 50 33.0	-0.1
SPN	Mys Shipunski	2.62	1	*e*P	Pn	10 50 01.4	-1.2
SPN				*e*S	Sn	10 50 31.2	-2.0
DALK	Dalny	2.66	344	*e*S	Sn	10 50 32.7	-1.6
PET	Petropavlovsk	2.67	343	Pn	Pn	10 50 00.9	-2.5
PET	Petropavlovsk	2.67	343	*e*P	Pn	10 50 02.2	-1.2
PET				*e*S	Sn	10 50 33.0	-1.5
NLC	Nalytchevo	2.72	352	*e*S	Sn	10 50 34.2	-1.4
SDLR	Sedlovina	2.88	347	*e*P	Pn	10 50 05.1	-1.2
KOK	Koryaka	2.93	344	*e*P	Pn	10 50 06.8	-0.2
KOK				*e*S	Sn	10 50 41.4	+0.3
PEA0B	Petropavlovsk-	2.99	333	Pn	Pn	10 50 07.6	-0.1
PETK	Petropavlovsk-	2.99	333	Pn	Pn	10 50 07.5	-0.2
PETK	Petropavlovsk-	2.99	333	Pn	Pn	10 50 06.8	-0.9
	2.8nm,0.3s,baz=122,slow=18,SNR=56						
PETK				Sn	Sn	10 50 45.4	+3.2
	3.8nm,0.3s,baz=123,slow=16,SNR=6.0						
PETK				LR	LR	10 51 29.2	
	comp=Z,83nm,20.0s,baz=148,slow=43						
	7.0nm,0.5s						
APC	Apacha	3.01	325	*e*P	Pn	10 50 08.3	+0.3
APC				*e*S	Sn	10 50 45.4	+2.6
GNL	Ganaly	3.45	339	*e*P	Pn	10 50 14.7	+0.5
GNL				*e*S	Sn	10 50 54.5	+0.6
TUMD	Tumrok D	4.74	3	*e*P	Pn	10 50 31.2	-0.5
TUMD				*e*S	Sn	10 51 23.6	-1.7
KMNR	Kamenistaya	5.29	2	*e*P	Pn	10 50 40.9	+1.6
BZWR	Bezymyannyi-We	5.50	3	*e*P	Pn	10 50 44.0	+1.7
BKI	Bering	5.96	35	*e*P	Pn	10 50 46.5	-2.0
KBTR	Krutoberegovo	5.98	15	*e*P	Pn	10 50 47.7	-1.1
SHEM	Shemya Is, Ala	9.07	70	Pn	Pn	10 51 29.9	-1.2
	2.6nm,0.3s,baz=37,slow=2.4,SNR=4.3						
SHEM				Sn	Sn	10 53 01.8	-10
	3.2nm,0.3s,baz=271,slow=22,SNR=0.9						
	18nm,0.4s						
SMY	Shemya	9.07	70	Pn	Pn	10 51 29.6	-1.6
MA2	Magadan	10.52	333	Pn	Pn	10 51 48.2	-2.7
MA2	Magadan	10.52	333	LR	LR	10 55 56.7	
	comp=Z,27nm,19.4s,baz=130,slow=38						
USA0B	Ussuriysk Arra	19.91	262	P	Pn	10 54 08.3	+15
USA0B				IAmb	IAmb	10 54 19.9	
	comp=Z,4.7nm,0.8s						
USRK	Ussuriysk Ar.	19.91	262	P	Pn	10 54 07.3	+14
JHJ	Hachijo jima 2	22.85	228	LR	LR	11 07 52.6	
	comp=Z,13nm,19.2s,baz=100,slow=49						
TIXI	Tiksi	25.45	338	P	P	10 54 47.3	+0.4
TIXI				IAmb	IAmb	10 54 48.9	
	comp=Z,5.2nm,0.8s						
H21K	Melozitna Rive	28.36	40	P	P	10 55 13.5	+0.3
ILAR	Eielson Array	30.75	42	P	P	10 55 34.6	+0.2
	comp=Z,0.8nm,0.7s,baz=244,slow=8.0,SNR=13						
	comp=Z,0.8nm,0.7s						
H11N2	WAKE ISLAND Hy	31.17	167	T	T	11 28 23.0	
	baz=354						
H11N3	WAKE ISLAND Hy	31.19	167	T	T	11 28 23.3	
	baz=354						
H11N1	WAKE ISLAND Hy	31.19	167	T	T	11 28 24.8	
	baz=354						
G26K	Porcupine Rive	32.11	38	P	P	10 55 45.0	-1.3
G26K				IAmb	IAmb	10 55 48.8	
	comp=Z,3.6nm,0.8s						
C27K	Jago River	32.36	33	P	P	10 55 48.6	+0.1
C27K				IAmb	IAmb	10 56 11.6	
	comp=Z,2.8nm,1.4s						
YKA	Yellowknife Ar	45.16	41	P	P	10 57 36.8	+1.2
	comp=Z,0.5nm,0.8s,baz=302,slow=8.1,SNR=5.7						
	comp=Z,0.5nm,0.8s						
KURBB	Kurchatov Arra	49.19	304	P	P	10 58 07.1	0.0
	comp=Z,0.6nm,0.2s,baz=65,slow=7.7,SNR=2.2						
	comp=Z,0.6nm,0.2s						
MKAR	Makanchi Array	49.27	298	P	P	10 58 08.2	+0.4
	comp=Z,0.4nm,0.6s,baz=49,slow=7.6,SNR=4.6						
	comp=Z,0.4nm,0.6s						
SPITS	Spitsbergen Ar	49.70	351	P	P	10 58 10.6	-0.1
	comp=Z,5.9nm,0.9s,baz=56,slow=8.8,SNR=1.1						
	comp=Z,5.9nm,0.9s						
BVAR	Borovoye Array	51.99	310	P	P	10 58 26.9	-1.3
	comp=Z,1.0nm,0.7s,baz=41,slow=8.1,SNR=5.2						
	comp=Z,1.0nm,0.7s						
NVAR	Mina Array Bea	56.73	68	P	P	10 59 04.3	+1.1
	comp=Z,0.2nm,0.5s,baz=317,slow=6.8,SNR=2.9						
	comp=Z,0.2nm,0.5s						
DCD	Diablo Creek	57.33	73	P	P	10 59 11.5	+4.3
DPD	Davis Peak	57.35	73	P	P	10 59 11.7	+4.4
RLMT	Red Lodge	57.49	57	P	P	10 59 10.1	+1.6
PDAR	Pinedale Array	58.89	59	P	P	10 59 19.6	+1.3
	comp=Z,0.8nm,0.8s,baz=303,slow=3.1,SNR=8.0						
	comp=Z,0.8nm,0.8s						
TXAR	Lajitas Array	71.74	66	P	P	11 00 42.3	+0.8
	comp=Z,1.1nm,0.6s,baz=306,slow=4.8,SNR=16						
	comp=Z,1.1nm,0.6s						
WRA	Warramunga Arr	73.68	205	P	P	11 00 51.7	-1.1
	comp=Z,0.5nm,0.8s,baz=16,slow=6.6,SNR=2.1						
	comp=Z,0.5nm,0.8s						
ASAR	Alice Springs	77.35	204	P	P	11 01 13.4	-0.3
	comp=Z,0.5nm,0.8s,baz=16,slow=5.5,SNR=4.2						
	comp=Z,0.5nm,0.8s						

*HVO **06** 10:50:30.9±1.0, 19°.410N±0°.007×155°.632W±0°.008, h-0km±8km, ML3.0/49, ML3.0/42(NEIC), Error ellipse: s-maj=1.1km s-min=1.0km az=143.0*

NEIC 06 10:50:31.5±0.8, 19°.405N±0°.008×155°.608W±0°.005, h6km±3km, Error ellipse: s-maj=1.1km s-min=0.6km az=170.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	Mokuaweoweo	0.08	7		Pg	10 50 33.5	-0.3
MLOA	Mauna Loa Obse	0.13	13		Pg	10 50 34.5	0.0
MLOA					Sg	10 50 37.0	+0.4
MLOA	Mauna Loa Obse	0.13	13	IAML		10 50 37.6	
	comp=N,171nm,1.7s						
MLOA				IAML		10 50 37.6	
	comp=E,200nm,0.9s						
ALEP	Alea Permanent	0.14	346		Pg	10 50 34.4	-0.2
ALEP					Sg	10 50 37.0	+0.3
KHU	Kahuku	0.16	182		Pg	10 50 34.8	0.0
KHU				IAML		10 50 38.1	
	comp=N,3μm,1.0s						
MLH	Mauna Loa	0.23	67		Pg	10 50 36.5	+0.4
MLH				IAML		10 50 39.4	
	comp=E,4μm,0.6s						
MLH				IAML		10 50 43.5	
	comp=N,4μm,0.5s						
HMH	Humu'ula Sheep	0.23	31		Pg	10 50 36.1	0.0
HMH				IAML		10 50 40.8	
	comp=N,2μm,0.4s						
HMH				IAML		10 50 40.9	
	comp=E,3μm,0.6s						
HTC	Hot Caves	0.26	130		Pg	10 50 36.5	-0.1
WRMHI	West Rim	0.29	90		Pg	10 50 37.3	+0.1
WRMHI					Sg	10 50 41.8	+0.7
SDHHI	Sand Hill	0.30	93		Pg	10 50 37.4	0.0
SDHHI					Sg	10 50 42.0	+0.7
UWE	Uwekahuna	0.30	87		Pg	10 50 37.6	+0.2
HLP	Hilina Pali	0.30	111		Pg	10 50 37.7	+0.2
HLP				IAML		10 50 44.9	
	comp=N,2μm,0.7s						
CPH	Captain Cook	0.30	286		Pg	10 50 37.4	0.0
UWB	Uwekahuna Bluf	0.31	86		Pg	10 50 37.6	0.0
UWB					Sg	10 50 42.2	+0.4
RIM	Rim	0.32	92		Pg	10 50 37.7	0.0
RIM					Sg	10 50 42.6	+0.7
RSD	Rainshed	0.32	79		Sg	10 50 42.8	+0.8
SBLHI	Steaming Bluff	0.32	86		Pg	10 50 37.8	-0.1
KKO	Keanakako'i	0.32	91		Pg	10 50 37.8	0.0
HATHI	Halema'uma'u T	0.33	87		Pg	10 50 38.0	+0.1
HATHI				IAML		10 50 47.7	
	comp=N,2μm,0.6s						
BYL	Byron's Ledge	0.33	89		Pg	10 50 38.2	+0.2
BYL				IAML		10 50 46.7	
	comp=N,2μm,0.5s						
BYL				IAML		10 50 49.3	
	comp=E,2μm,0.6s						
HUH	Hualalai	0.35	322		Pg	10 50 39.4	+0.9
POHA	Pohakuloa	0.36	11	Pg	Pg	10 50 38.5	-0.1
POHA				IAML		10 50 50.4	
	comp=E,2μm,0.8s						
PUH	Pauahi	0.37	95		Pg	10 50 38.4	-0.3
PUH				IAML		10 50 48.9	
	comp=N,2μm,0.5s						
PUH				IAML		10 50 51.1	
	comp=E,2μm,0.6s						
KNHH	Kane Nui o Ham	0.41	93		Pg	10 50 39.3	-0.3
STCH	Steam Cracks	0.46	92		Pg	10 50 39.7	-0.7
STCH				IAML		10 50 51.1	
	comp=N,1μm,0.4s						
STCH				IAML		10 50 52.8	
	comp=E,1μm,0.6s						
NPOC	North of Pu'u	0.47	91		Pg	10 50 40.0	-0.7
JOKA	Jonika Flow	0.57	87		Pg	10 50 41.9	-0.6
JOKA				IAML		10 51 01.7	
	comp=N,852nm,0.6s						
HPAH	Hawaii Prepara	0.63	352		Pg	10 50 42.8	-0.9

*HVO **06** 10:54:14.5±1.0, 19°.406N±0°.009×155°.63W±0°.01, h-0km±9km, ML2.6/41, ML2.6/42(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=53.0*

NEIC 06 10:54:14.8±0.7, 19°.399N±0°.010×155°.625W±0°.007, h7km±2km, Error ellipse: s-maj=1.4km s-min=0.9km az=190.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	Mokuaweoweo	0.09	17		Pg	10 54 17.1	-0.3
ALEP	Alea Permanent	0.14	353		Pg	10 54 18.2	+0.2
ALEP					Sg	10 54 20.4	+0.1
MLOA	Mauna Loa Obse	0.14	19		Pg	10 54 18.2	+0.2
MLOA					Sg	10 54 20.9	+0.6
MLOA	Mauna Loa Obse	0.14	19	IAML		10 54 21.1	
	comp=E,54nm,0.9s						
MLOA				IAML		10 54 21.1	
	comp=N,48nm,0.9s						
KHU	Kahuku	0.15	176		Pg	10 54 18.1	0.0
KHU				IAML		10 54 21.5	
	comp=E,1μm,0.5s						
HMH	Humu'ula Sheep	0.24	33		Pg	10 54 19.6	-0.2
HMH				IAML		10 54 24.2	
	comp=E,1μm,0.4s						
HMH				IAML		10 54 27.7	
	comp=N,875nm,0.6s						
MLH	Mauna Loa	0.24	67		Pg	10 54 20.1	+0.4
MLH				IAML		10 54 22.9	
	comp=E,2μm,0.4s						
MLH				IAML		10 54 25.3	
	comp=N,2μm,0.3s						
HTC	Hot Caves	0.27	127		Pg	10 54 20.3	+0.1
CPH	Captain Cook	0.29	288		Pg	10 54 21.4	+0.9
WRMHI	West Rim	0.31	89		Pg	10 54 20.9	0.0
WRMHI					Sg	10 54 25.4	+0.4
SDHHI	Sand Hill	0.31	92		Pg	10 54 21.0	-0.1
SDHHI					Sg	10 54 25.6	+0.4
UWE	Uwekahuna	0.31	86		Pg	10 54 21.1	0.0
HLP	Hilina Pali	0.32	109		Pg	10 54 21.3	+0.2
HLP				IAML		10 54 28.4	
	comp=N,749nm,0.5s						
HLP				IAML		10 54 30.8	
	comp=E,995nm,0.8s						
OBL	Observatory Le	0.32	87		Pg	10 54 21.1	-0.1
UWB	Uwekahuna Bluf	0.33	85		Pg	10 54 21.2	-0.1
UWB					Sg	10 54 25.8	+0.1
RIM	Rim	0.33	91		Pg	10 54 21.3	-0.1
RIM					Sg	10 54 26.3	+0.5
RSD	Rainshed	0.33	79		Pn	10 54 26.3	+0.1
SBLHI	Steaming Bluff	0.34	85		Pg	10 54 21.3	-0.2
SBLHI					Sg	10 54 26.6	+0.6
KKO	Keanakako'i	0.34	90		Pg	10 54 21.4	-0.1
KKO					Sg	10 54 26.8	+0.7
HATHI	Halema'uma'u T	0.34	86		Pg	10 54 21.5	-0.2
HATHI				IAML		10 54 31.2	
	comp=N,806nm,0.6s						
BYL	Byron's Ledge	0.34	88		Pg	10 54 21.6	0.0
BYL				IAML		10 54 30.2	
	comp=N,751nm,0.5s						
BYL				IAML		10 54 30.7	
	comp=E,713nm,0.4s						
HUH	Hualalai	0.35	325		Pb	10 54 23.0	-0.5
POHA	Pohakuloa	0.37	14		Sg	10 54 22.1	-4.9
POHA	Pohakuloa	0.37	14	Pg	Pg	10 54 22.0	-0.1
POHA				IAML		10 54 33.9	
	comp=E,530nm,0.8s						
POHA				IAML		10 54 34.1	
	comp=E,722nm,0.6s						
PUH	Pauahi	0.39	94		Pg	10 54 22.0	-0.4
PUH				IAML		10 54 29.5	
	comp=E,548nm,0.6s						
PUH				IAML		10 54 32.6	
	comp=N,523nm,0.7s						
KNHH	Kane Nui o Ham	0.43	92		Pg	10 54 22.6	-0.7
STCH	Steam Cracks	0.47	92		Pg	10 54 23.5	-0.5
NPOC	North of Pu'u	0.49	91		Pg	10 54 24.1	-0.2
NPOC					Sg	10 54 31.1	+0.5
JCUZ	Jacuzzi	0.49	92		Pg	10 54 24.2	-0.2
JCUZ					Sg	10 54 31.6	+0.7
JOKA	Jonika Flow	0.59	87		Pg	10 54 25.3	-0.9
JOKA				IAML		10 54 45.2	
	comp=N,294nm,0.5s						
HPAH	Hawaii Prepara	0.63	354	Pg	Pg	10 54 26.2	-0.8

IDC 06 10:55:25.8±4.2, 24°.61N×94°.84E, h99km±40km, mb3.1/3, mbtmp3.3/4, Error ellipse: s-maj=157.4km s-min=26.1km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.21	147	P	Pn	10 57 08.7	0.0
	0.7nm,0.6s,baz=322,slow=13,SNR=5.8						
MKAR	Makanchi Array	24.31	339	P	P	11 00 34.0	0.0
	0.2nm,0.4s,baz=151,slow=9.5,SNR=2.4						
	0.2nm,0.4s						
WRA	Warramunga Arr	58.65	136	P	P	11 05 12.9	-0.1
	0.3nm,0.5s,baz=323,slow=7.3,SNR=6.4						
	0.3nm,0.5s						
ASAR	Alice Springs	61.14	139	P	P	11 05 30.1	0.0
	0.2nm,0.4s,baz=321,slow=6.9,SNR=4.9						
	0.2nm,0.4s						

*IDC **06** 11:08:27.1±22.0, 21°.60N×143°.11E, h300km±229km, mb3.0/8, mbtmp3.6/8, Error ellipse: s-maj=41.3km s-min=37.0km az=92.0*

ISC 06 11:08:27.2±0.9, 21°.7N±0°.1×143°.0E±0°.3, h300km, n9, σ1§18/9, mb3.0/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.41	352	S	S	11 10 53.7	-1.9
	55nm,0.7s,baz=235,slow=21,SNR=1.3						
WRA	Warramunga Arr	42.26	192	P	P	11 15 51.0	-0.9
	0.5nm,0.5s,baz=15,slow=9.1,SNR=23						
	0.5nm,0.5s						
ASAR	Alice Springs	45.97	192	P	P	11 16 20.1	-1.0
	0.3nm,0.6s,baz=20,slow=11,SNR=5.0						
	0.3nm,0.6s						
ILAR	Eielson Array	62.10	27	P	P	11 18 16.2	-0.2
	0.1nm,0.6s,baz=272,slow=8.3,SNR=1.5						
	0.1nm,0.6s						
BVAR	Borovoye Array	62.54	319	P	P	11 18 20.7	+1.2
	0.5nm,0.3s,baz=98,slow=8.1,SNR=3.0						
	0.5nm,0.3s						
YKA	Yellowknife Ar	76.52	28	P	P	11 19 44.5	+0.3
	0.2nm,0.7s,baz=288,slow=5.8,SNR=3.5						
	0.2nm,0.7s						
ARCES	ARCESS Array B	78.85	341	P	P	11 19 58.1	+1.2
	3.3nm,0.9s,baz=63,slow=6.2,SNR=1.2						
	3.3nm,0.9s						
FINES	FINESS Array B	83.09	334	P	P	11 20 19.1	-0.2
	0.5nm,0.4s,baz=68,slow=5.9,SNR=6.2						
	0.5nm,0.4s						
NVAR	Mina Array Bea	83.27	51	P	P	11 20 21.3	+0.2
	0.2nm,0.7s,baz=305,slow=5.7,SNR=2.3						
	0.2nm,0.7s						

TAP 06 11:12:27.5, 23°.08N×120°.84E, h35km±1km, ML1.4, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	Taoyuan	0.10	326	*e*P	Pn	11 12 34.6	-0.4
STYH				S	Sn	11 12 38.2	-2.5
STYT	Tauyuan	0.11	316	*e*P	Pn	11 12 34.9	-0.1
STYT				S	Sn	11 12 38.1	-2.7
ELDTW	Lidau	0.19	57	*e*P	Pn	11 12 36.5	+1.5
ELDTW				S	Sn	11 12 40.7	+0.1
SGST	Jiashian	0.24	270	*e*P	Pn	11 12 35.9	+0.9
SGST				S	Sn	11 12 40.8	+0.3
WTP	Ta-pu	0.26	308	P	Pn	11 12 35.1	-0.2
WTP				*e*S	Sn	11 12 39.7	-1.2
TPUB	Ta-pu	0.29	318	P	Pn	11 12 35.6	+0.2
TPUB				*e*S	Sn	11 12 39.9	-1.2
LONT	Longtian	0.32	123	P	Pn	11 12 36.2	+0.6
LONT				*e*S	Sn	11 12 39.7	-1.9
TWG	Pinlang	0.34	141	*e*P	Pn	11 12 35.5	-0.4
TWGBT	Beinan	0.34	140	*i* P	Pn	11 12 36.3	+0.4
TSMG	Majia	0.42	206	P	Pn	11 12 36.9	0.0
YUS	Yu-Shan	0.42	14	P	Pn	11 12 38.1	+0.7
YUS				*e*S	Sn	11 12 44.3	-0.1
FULB	Fuli	0.43	75	*e*P	Pn	11 12 40.0	+2.8
SHHT	Tainan City	0.46	262	*e*P	Pn	11 12 39.1	+1.5
SHHT				*i* S	Sn	11 12 45.9	+1.4
WHYT	Xinyi Township	0.61	1	P	Pn	11 12 39.9	+0.1

DJA 06 11:19:32.8±0.2, 8°S±5°×117°E±°, h10km, M3.6/12, mb3.7/1, MLv3.5/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.29	113	P	Pn	11 19 55.7	-1.3
PLAI				S	Sg	11 20 14.5	-0.1
SRBI	Singaraja	1.36	280	P	Pn	11 19 57.0	-0.9
SRBI				S	Sg	11 20 16.4	-0.3
DNP	Denpasar	1.39	255	P	Pn	11 19 58.5	+0.2
DNP				S	Sg	11 20 17.3	-0.3
ABJI	Asem Bagus	2.37	283	P	Pn	11 20 12.0	+0.2
JAGI	Jajag, Banyuwa	2.40	266	P	Pn	11 20 11.9	-0.3
WBSI	Waikabubak, Su	3.08	115	P	Pn	11 20 21.2	-0.4
GMJI	Gumukmas	3.09	271	P	Pn	11 20 21.5	-0.2
WSI	Waingapu	3.92	110	P	Pn	11 20 33.3	+0.2
BSSI	Bau Bau, Buton	4.45	61	P	Pn	11 20 39.9	-0.5
BKSI	Bulukumba	4.62	50	P	Pn	11 20 42.2	-0.5
EDFI	Ende, Flores	5.08	95	P	Pn	11 20 49.7	+0.5

*IDC **06** 11:37:26.7±1.6, 17°.64S×178°.83W, h572km±17km, mb2.9/8, mbtmp3.7/9, Error ellipse: s-maj=25.5km s-min=19.6km az=131.0*

ISC 06 11:37:23.7±0.8, 17°.6S±0°.2×178°.8W±0°.2, h539km, n12, σ1§21/13, mb3.1/7, Fiji Islands region

| Code | Station Name | Δ

*TAP **06** 11:51:13.3, 22.°99N×120.°85E, h5km, ML2.5, C*
ISC 06 11:51:13.9±0.9, 22.°99N±0.°01×120.°86E±0.°01, h9km±7km, n83, σ0.°61/133, 9C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.20**	**338**	⇓P	**Pg**	**11 51 17.3**	**-0.6**
STYH				*i* S	**Sg**	**11 51 20.2**	**-0.4**
STYT	**Tauyuan**	**0.20**	**333**	⇓*i*P	**Pg**	**11 51 17.4**	**-0.5**
STYT				*i* S	**Sg**	**11 51 20.4**	**-0.3**
ELDTW	**Lidau**	**0.25**	**37**	⇑*i*P	**Pg**	**11 51 19.1**	**+0.1**
ELDTW				S	**Sg**	**11 51 22.5**	**+0.1**
TWG	**Pinlang**	**0.26**	**130**	⇓P	**Pg**	**11 51 19.5**	**+0.4**
TWG				S	**Sg**	**11 51 23.4**	**+0.8**
LONT	**Longtian**	**0.27**	**108**	⇓P	**Pg**	**11 51 19.6**	**+0.4**
LONT				S	**Sg**	**11 51 23.3**	**+0.5**
SGST	**Jiashian**	**0.27**	**290**	⇓P	**Pg**	**11 51 19.3**	**0.0**
SGST				S	**Sg**	**11 51 23.8**	**+0.9**
TWGBT	**Beinan**	**0.27**	**129**	P	**Pg**	**11 51 19.4**	**+0.1**
TWGBT	**Beinan**	**0.27**	**129**	S	**Sg**	**11 51 23.7**	**+0.8**
TWGBT	**Beinan**	**0.27**	**129**	⇓P	**Pg**	**11 51 19.5**	**+0.3**
TWGBT				S	**Sg**	**11 51 23.2**	**+0.4**
WTP	**Ta-pu**	**0.34**	**319**	⇓*i*P	**Pb**	**11 51 21.8**	**-0.4**
WTP				S	**Sb**	**11 51 27.0**	**-0.7**
TSMG	**Majia**	**0.34**	**215**	⇑*i*P	**Pg**	**11 51 20.3**	**-0.3**
TSMG				S	**Sg**	**11 51 24.3**	**-0.8**
SCST	**Cishan**	**0.35**	**253**	⇑P	**Pb**	**11 51 21.8**	**-0.5**
SCST				S	**Sb**	**11 51 27.3**	**-0.6**
ECS	**Chishang**	**0.35**	**72**	P	**Pg**	**11 51 21.4**	**+0.5**
ECS				S	**Sg**	**11 51 26.6**	**+1.1**
TTN	**Taitung**	**0.36**	**131**	*e*P	**Pb**	**11 51 22.2**	**-0.2**
TTN				*e*S	**Sb**	**11 51 27.9**	**-0.2**
CHN1	**Nanshi**	**0.36**	**303**	*e*P	**Pb**	**11 51 22.4**	**-0.1**
CHN1				*e*S	**Sb**	**11 51 29.3**	**+1.1**
EHD	**Haiduan**	**0.36**	**64**	⇑P	**Pg**	**11 51 20.8**	**-0.2**
EHD				*e*S	**Sg**	**11 51 25.4**	**-0.4**
TPUB	**Ta-pu**	**0.37**	**326**	P	**Pb**	**11 51 22.3**	**-0.4**
TPUB	**Ta-pu**	**0.37**	**326**	S	**Sb**	**11 51 28.8**	**+0.1**
TPUB	**Ta-pu**	**0.37**	**326**	⇓P	**Pb**	**11 51 22.5**	**-0.2**
TPUB				S	**Sb**	**11 51 27.7**	**-1.0**
ECL	**Taimali**	**0.40**	**167**	⇑*e*P	**Pg**	**11 51 21.8**	**+0.1**
ECL				*e*S	**Sg**	**11 51 26.9**	**-0.1**
SNST	**Tainan City**	**0.40**	**305**	*e*P	**Pb**	**11 51 23.6**	**+0.4**
SNST				*e*S	**Sb**	**11 51 31.2**	**+1.7**
EDH	**Donghe**	**0.41**	**92**	*e*P	**Pb**	**11 51 22.9**	**-0.5**
EDH				*e*S	**Sb**	**11 51 29.0**	**-0.9**
SGLT	**Jiouru**	**0.43**	**232**	*e*P	**Pb**	**11 51 23.4**	**-0.2**
MASBT	**Mashibuluo**	**0.43**	**209**	⇑*i*P	**Pg**	**11 51 22.1**	**-0.1**
MASBT				*e*S	**Sg**	**11 51 27.1**	**-0.7**
TWM1	**Shoushan**	**0.43**	**248**	*e*P	**Pb**	**11 51 24.1**	**+0.4**
TWM1				*e*S	**Sb**	**11 51 31.4**	**+1.1**
CHN4	**Tsaushan**	**0.43**	**326**	*e*P	**Pb**	**11 51 23.8**	**+0.1**
TWK	**Hsinying**	**0.44**	**309**	*e*P	**Pb**	**11 51 24.2**	**+0.4**
FULB	**Fuli**	**0.46**	**63**	*e*P	**Pb**	**11 51 23.5**	**-0.6**
FULB				*e*S	**Sb**	**11 51 30.2**	**-0.8**
CHKT	**Chengkung**	**0.48**	**77**	*e*P	**Pb**	**11 51 24.8**	**+0.2**
CHKT				*e*S	**Sb**	**11 51 32.1**	**+0.3**
WCKO	**Fanlu**	**0.50**	**333**	*e*P	**Pb**	**11 51 25.7**	**+0.8**
WCKO				*e*S	**Sb**	**11 51 33.5**	**+1.1**
ALS	**Alishan**	**0.52**	**355**	*e*P	**Pb**	**11 51 24.7**	**-0.8**
CHKH	**Chenggong**	**0.54**	**68**	*e*P	**Pb**	**11 51 25.2**	**-0.3**
CHKH				*e*S	**Sb**	**11 51 33.2**	**-0.2**
TWF1	**Yuli**	**0.55**	**48**	⇑P	**Pg**	**11 51 24.6**	**+0.1**
TWF1				*e*S	**Sg**	**11 51 31.5**	**-0.1**
EYUL	**Yuli**	**0.56**	**50**	*e*P	**Pg**	**11 51 24.7**	**0.0**
YULB	**Yu-li**	**0.57**	**45**	P	**Pg**	**11 51 24.8**	**-0.2**
YULB	**Yu-li**	**0.57**	**45**	⇑P	**Pg**	**11 51 24.8**	**-0.2**
YULB				*e*S	**Sg**	**11 51 31.7**	**-0.8**
EAST	**Anshuo**	**0.60**	**181**	*e*P	**Pg**	**11 51 25.6**	**+0.1**
EAST				*e*S	**Sg**	**11 51 33.3**	**-0.1**
CHN5	**Tsauling**	**0.63**	**345**	*e*P	**Pb**	**11 51 27.0**	**-0.1**
CHN5				*e*S	**Sb**	**11 51 36.4**	**+0.3**
ECBN	**Changbin**	**0.64**	**59**	*e*P	**Pb**	**11 51 27.4**	**+0.1**
ECBN				*e*S	**Sb**	**11 51 37.1**	**+0.8**
ICHU	**Yijhu**	**0.65**	**305**	*e*S	**Sn**	**11 51 38.5**	**-1.2**
TAWH	**Dawu Township**	**0.65**	**177**	*e*P	**Pg**	**11 51 26.1**	**-0.3**
TAWH				*e*S	**Sg**	**11 51 34.4**	**-0.4**
LDUT	**Ludao**	**0.65**	**119**	*e*P	**Pb**	**11 51 26.8**	**-0.6**
SCZT	**Fangliau**	**0.65**	**199**	*e*P	**Pg**	**11 51 26.3**	**-0.2**
SCZT				*e*S	**Sg**	**11 51 34.6**	**-0.4**
EHY	**Hungye**	**0.67**	**40**	⇓P	**Pg**	**11 51 26.7**	**-0.1**
EHY				*e*S	**Sg**	**11 51 35.5**	**-0.1**
WHYT	**Xinyi Township**	**0.70**	**360**	*e*P	**Pb**	**11 51 28.1**	**-0.3**
WHYT				*e*S	**Sb**	**11 51 38.7**	**+0.4**
HGSD	**Ruisui**	**0.72**	**46**	*e*P	**Pb**	**11 51 28.4**	**-0.3**
HGSD				*e*S	**Sb**	**11 51 39.2**	**+0.4**
TSCK	**Chigu Township**	**0.72**	**283**	*e*P	**Pb**	**11 51 29.3**	**+0.6**
TSCK				*e*S	**Sn**	**11 51 42.0**	**+0.4**
SLIU	**Shizi**	**0.77**	**184**	*e*P	**Pg**	**11 51 28.6**	**-0.2**
WSL	**Shuilin Townsh**	**0.78**	**313**	*e*P	**Pn**	**11 51 31.0**	**-0.2**
WSL				*e*S	**Sn**	**11 51 42.7**	**-0.4**
SSLB	**Suanglung**	**0.80**	**7**	P	**Pg**	**11 51 29.0**	**-0.3**
SSLB	**Suanglung**	**0.80**	**7**	*e*P	**Pg**	**11 51 29.1**	**-0.2**
VWDT	**VWDT**	**0.81**	**19**	*e*P	**Pg**	**11 51 28.8**	**-0.6**
WJS	**Zhushan**	**0.84**	**352**	*e*P	**Pn**	**11 51 31.6**	**-0.4**
EGFH	**Guangfu**	**0.86**	**38**	*e*P	**Pg**	**11 51 30.2**	**-0.2**
WARBT	**Fenglin Townsh**	**0.88**	**34**	⇑P	**Pg**	**11 51 30.1**	**-0.7**
WARBT				*e*S	**Sg**	**11 51 42.4**	**+0.3**
SMLT	**Sun Moon Lake**	**0.89**	**3**	*e*P	**Pg**	**11 51 30.6**	**-0.4**
WNT	**Mingjian**	**0.90**	**350**	*e*P	**Pn**	**11 51 32.6**	**-0.2**
TYC	**Yuchr**	**0.91**	**0**	*e*P	**Pb**	**11 51 32.2**	**+0.3**
TYC				*e*S	**Sn**	**11 51 47.4**	**+1.2**
ESL	**Shilin**	**0.98**	**33**	*e*P	**Pg**	**11 51 32.2**	**-0.5**
ESL				*e*S	**Sn**	**11 51 47.5**	**-0.4**
OWD	**Renai**	**1.01**	**17**	*e*P	**Pg**	**11 51 32.8**	**-0.4**
SHUL	**Shoufeng**	**1.03**	**39**	*e*P	**Pb**	**11 51 34.0**	**+0.1**
SHUL				*e*S	**Sn**	**11 51 50.1**	**+1.0**
WUSB	**Renai**	**1.03**	**14**	*e*P	**Pg**	**11 51 32.8**	**-0.8**
WCS	**Beigang Elemen**	**1.06**	**3**	*e*P	**Pn**	**11 51 35.0**	**-0.1**
WCS				*e*S	**Sn**	**11 51 51.1**	**+1.0**
WOGT	**Dungji**	**1.13**	**284**	*e*P	**Pn**	**11 51 35.9**	**-0.1**
ETM	**Tongmen**	**1.14**	**31**	*e*P	**Pg**	**11 51 35.1**	**-0.6**
LXIB	**Xiulin Townshi**	**1.15**	**26**	*e*P	**Pg**	**11 51 35.0**	**-1.0**
LXIB				*e*S	**Sn**	**11 51 52.9**	**+0.6**
WHF	**Hehuan Shan**	**1.21**	**18**	*e*P	**Pg**	**11 51 37.0**	**-0.2**
TWD	**Chiawan**	**1.28**	**32**	*e*P	**Pb**	**11 51 38.2**	**0.0**
WHP	**Taichung City**	**1.29**	**4**	*e*P	**Pg**	**11 51 39.6**	**+1.1**
WHP				*e*S	**Sn**	**11 51 58.5**	**+2.9**
PHUB	**P'eng-hu**	**1.29**	**294**	*e*P	**Pn**	**11 51 38.0**	**-0.2**
PHUB				*e*S	**Sb**	**11 51 55.0**	**0.0**
FUSS	**Fushou**	**1.30**	**16**	*e*P	**Pn**	**11 51 37.9**	**-0.7**
ETLH	**Xiulin Townshi**	**1.34**	**25**	*e*P	**Pb**	**11 51 39.2**	**-0.1**
ETLH				*e*S	**Sg**	**11 51 58.1**	**+1.0**
NACB	**Ninganchiao**	**1.36**	**30**	P	**Pn**	**11 51 38.4**	**-0.7**
NACB	**Ninganchiao**	**1.36**	**30**	*e*P	**Pb**	**11 51 39.3**	**-0.3**
NACB				*e*S	**Sn**	**11 51 57.4**	**0.0**
NNSB	**Datong**	**1.51**	**19**	*e*P	**Pb**	**11 51 41.9**	**-0.4**
NNSB				*e*S	**Sg**	**11 52 02.7**	**+0.1**
NFF	**Wufeng Townshi**	**1.65**	**8**	*e*P	**Pb**	**11 51 44.8**	**+0.2**
LIOB	**Emei**	**1.66**	**5**	*e*P	**Pg**	**11 51 45.1**	**-0.6**
LATG	**Datong**	**1.66**	**22**	*e*P	**Pb**	**11 51 44.3**	**-0.4**
YHNB	**Yeheng**	**1.74**	**16**	*e*P	**Pb**	**11 51 46.5**	**+0.4**
YHNB				*e*S	**Sg**	**11 52 10.2**	**+0.3**
NSK	**Sanguang**	**1.74**	**15**	*e*P	**Pg**	**11 51 46.9**	**-0.4**
NSK				*e*S	**Sg**	**11 52 09.5**	**-0.4**
ENTT	**Nioudou**	**1.77**	**21**	*e*P	**Pg**	**11 51 47.4**	**-0.4**
TWE	**Neicheng**	**1.88**	**23**	*e*P	**Pb**	**11 51 48.9**	**+0.5**
FUSB	**Fushanzhiwuyua**	**1.89**	**21**	*e*P	**Pb**	**11 51 48.8**	**+0.2**
FUSB				*e*S	**Sg**	**11 52 13.5**	**-1.1**

*IDC **06** 11:59:58.4±2.1, 11.°51S×66.°29E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=66.5km s-min=26.5km az=54.0*
ISC 06 11:59:59.7±2.1, 11.°6S±0.°3×66.°2E±0.°3, h13km, n12, σ0.°75/9, mb3.9/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.34**	**58**	T	T	12 09 08.9	
	baz=240						
H08S2	**Diego Garcia H**	**7.36**	**58**	T	T	12 09 08.8	
	baz=240						
H08S3	**Diego Garcia H**	**7.36**	**58**	T	T	12 09 03.6	
	baz=240						
CMAR	**Chiang Mai Arr**	**44.00**	**48**	P	**P**	**12 08 06.8**	**-0.4**
	0.2nm,0.3s,baz=219,slow=7.3,SNR=4.1						
	0.2nm,0.3s						
KBZ	**Khabaz**	**59.00**	**340**	P	**P**	**12 09 59.4**	**+0.3**
	0.6nm,0.4s,baz=151,slow=8.1,SNR=2.4						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**59.88**	**13**	P	**P**	**12 10 05.1**	**-0.1**
	0.2nm,0.5s,baz=211,slow=5.0,SNR=3.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.88**	**9**	P	**P**	**12 10 24.2**	**-1.1**
	0.5nm,0.3s,baz=209,slow=7.2,SNR=2.3						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**64.45**	**3**	P	**P**	**12 10 36.1**	**+0.4**
	0.6nm,0.7s,baz=182,slow=5.2,SNR=3.6						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**65.16**	**111**	P	**P**	**12 10 40.9**	**-0.2**
	0.7nm,0.8s,baz=258,slow=7.0,SNR=7.1						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**65.76**	**107**	P	**P**	**12 10 45.5**	**+0.4**
	1.0nm,0.8s,baz=267,slow=6.3,SNR=5.3						
	1.0nm,0.8s						
SONM	**Songino Array**	**69.11**	**28**	P	**P**	**12 11 06.7**	**+1.1**
	0.5nm,0.6s,baz=210,slow=7.0,SNR=4.4						
	0.5nm,0.6s						
PDAR	**Pinedale Array**	**148.71**	**354**	PKPbc	**PKiKP**	**12 19 48.3**	**-0.6**
	0.4nm,0.7s,baz=7.6,slow=4.2,SNR=4.5						

*BJI **06** 12:03:26.2, 11.°87S×65.°90E, h8km, mB5.4/41, mb4.9/69, Ms4.9/57, Ms7 4.7/59*
*IDC **06** 12:03:30.5±0.5, 11.°49S×66.°41E, h0km, mb4.5/31, mbtmp4.5/32, ML4.1/1, MS4.3/63, Error ellipse: s-maj=15.8km s-min=12.5km az=59.0*
*MOS **06** 12:03:30.9±0.8, 11.°38S×66.°43E, h10km, mb5.2/68, Error ellipse: s-maj=7.8km s-min=4.7km az=93.6*
*NEIC **06** 12:03:33.5±2.1, 11.°50S±0.°05×66.°52E±0.°07, h10km±1km, mb5.1/119, Error ellipse: s-maj=13.6km s-min=5.1km az=233.0*
*GCMT **06** 12:03:33.5±0.1, 11.°54S±0.°01×66.°34E±0.°01, h12km, MW5.2/150, Moment Tension Solution. s65,c84; s150,c247; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=6.28±.09; Mθθ=0.96±.09; Mφφ=5.33±.09; Mrθ=0.19±.34; Mφφ=2.29±.08; Mφr=2.62±.28; Best double couple: M=6.82100×1016 NP1:φs=330.00000°, δ35.00000°, λ=102.00000°. NP2:φs=164.00000°, δ56.00000°, λ=82.00000°. Principal axes: T 6.7860, Plg11.0000°, Azm248.0000°; N 0.0790, Plg7.0000°, Azm339.0000°; P =6.8560, Plg77.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **06** 12:03:40.7, 10.°30S×66.°24E, h27km, mb5.1, Hypocentre not reviewed by the ISC*
ISC 06 12:03:33.2±0.5, 11.°53S±0.°05×66.°45E±0.°04, h12km±2km, h13km: pP-P, n568, σ1$31/527, mb5.0/186, MS4.5/85, 31C-27D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.08**	**58**	T	T	12 12 32.9	
	baz=237,slow=76,SNR=89						
H08S2	**Diego Garcia H**	**7.10**	**58**	T	T	12 12 38.6	
	baz=237,slow=76,SNR=88						
H08S3	**Diego Garcia H**	**7.10**	**57**	T	T	12 12 38.4	
	baz=237,slow=76,SNR=69						
DGAR	**Diego Garcia**	**7.20**	**56**	Pn	**Pn**	**12 05 17.2**	**-1.2**
DGAR	**Diego Garcia**	**7.20**	**56**	P	**Pn**	**12 05 16.4**	**-2.0**
DGAR				S	**Sn**	**12 06 35.1**	**-5.0**
DGAR	**Diego Garcia**	**7.20**	**56**	*ce*P	**Pn**	**12 05 18.4**	**+0.1**
DGAR				pmax	pmax		
	comp=Z,112nm,1.0s						
MSEY	**Mahe Island**	**12.82**	**301**	Pn	**Pn**	**12 06 36.1**	**+0.6**
MSEY	**Mahe Island**	**12.82**	**301**	P	**Pn**	**12 06 36.6**	**+1.2**
MSEY				P	**Pn**	**12 06 36.6**	**+1.2**
MSEY				S	**Sn**	**12 09 01.7**	**+3.5**
MSEY				S	**Sn**	**12 09 01.7**	**+3.5**
MSEY	**Mahe Island**	**12.82**	**301**	P	**Pn**	**12 06 36.1**	**+0.6**
MSEY	**Mahe Island**	**12.82**	**301**	*i* P	**Pn**	**12 06 36.5**	**+1.0**
	SNR=11						
SBV	**Sambava**	**16.25**	**261**	P	**Pn**	**12 07 21.4**	**-0.2**
HMDM	**Hanimaadhoo**	**19.38**	**21**	P	**Pn**	**12 08 01.4**	**+1.2**
OPO	**Ambohidratompo**	**19.86**	**247**	Pn	**Pn**	**12 08 06.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=89,slow=12,SNR=4.5						
OPO				LR	LR	12 13 54.4	
	comp=Z,648nm,18.1s,baz=194,slow=31						
	comp=Z,2.1nm,0.5s						
ABPO	**Ambohimpanom**	**19.97**	**246**	P	**Pn**	**12 08 06.8**	**-0.7**
ABPO	**Ambohimpanom**	**19.97**	**246**	P	**Pn**	**12 08 06.8**	**-0.7**
ABPO				pmax	pmax		
	comp=Z,82nm,1.6s						
VOI	**Vohitsoka**	**21.44**	**239**	P	**P**	**12 08 25.1**	**+3.5**
FOMA	**Nahampoana Res**	**22.78**	**231**	P	**P**	**12 08 35.7**	**-0.1**
FOMA				IAmb	IAmb	12 08 57.3	
	comp=Z,119nm,1.6s						
PALK	**Pallekele**	**23.45**	**38**	P	**P**	**12 08 43.4**	**+0.6**
PALK				IAmb	IAmb	12 08 57.5	
	comp=Z,65nm,1.5s						
PALK	**Pallekele**	**23.45**	**38**	P	**P**	**12 08 43.5**	**+0.7**
PALK				P	**P**	**12 08 43.5**	**+0.7**
PALK				S	**S**	**12 12 55.8**	**-0.4**
PALK				S	**S**	**12 12 55.8**	**-0.4**
PALK	**Pallekele**	**23.45**	**38**	*d* iP	**P**	**12 08 42.2**	**-0.6**
PALK				pmax	pmax		
	comp=Z,24nm,1.6s						
KIBK	**Kibwezi**	**29.61**	**286**	P	**P**	**12 09 39.1**	**+0.4**
KIBK	**Kibwezi**	**29.61**	**286**	P	**P**	**12 09 39.7**	**+1.0**
COCO	**West Island**	**29.74**	**94**	P	**P**	**12 09 37.8**	**-1.9**
KMBO	**Kilima Mbogo**	**30.77**	**288**	P	**P**	**12 09 48.9**	**-0.2**
KMBO	**Kilima Mbogo**	**30.77**	**288**	P	**P**	**12 09 49.7**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=80,slow=11,SNR=7.9						
KMBO				LR	LR	12 20 34.2	
	comp=Z,1μm,18.2s,baz=94,slow=33						
	comp=Z,1.7nm,0.5s						
KMBO	**Kilima Mbogo**	**30.77**	**288**	P	**P**	**12 09 51.8**	**+2.6**
KMBO				P	**P**	**12 09 51.8**	**+2.6**
KMBO	**Kilima Mbogo**	**30.77**	**288**	*i* P	**P**	**12 09 48.7**	**-0.4**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HYB	**Hyderabad**	**31.15**	**23**	*e*P	**P**	**12 09 52.2**	**0.0**
HYB				IVMs_BB	IVMs_BB	12 19 19.8	
	comp=Z,536nm,20.8s						
RBK	**Rabkut**	**31.28**	**337**	P	**P**	**12 09 53.9**	**+0.6**
ABTO	**Aybut**	**31.51**	**335**	P	**P**	**12 09 56.5**	**+1.2**
WHFO	**Wadi Hawf**	**31.83**	**337**	P	**P**	**12 09 58.8**	**+0.7**
DOK	**Doka**	**32.33**	**338**	P	**P**	**12 10 03.4**	**+0.9**
ATD	**Arta Tunnel**	**32.78**	**314**	LR	LR	12 20 51.2	
	comp=Z,14nm,20.8s,baz=120,slow=32						
MHTO	**MHTO**	**33.37**	**345**	P	**P**	**12 10 11.5**	**-0.1**
GSI	**Gunungsitoli**	**33.46**	**70**	P	**P**	**12 10 12.2**	**-0.4**
GSI	**Gunungsitoli**	**33.46**	**70**	P	**P**	**12 10 15.0**	**+2.5**
GSI	**Gunungsitoli**	**33.46**	**70**	P	**P**	**12 10 15.4**	**+2.9**
JLN	**Jalan Bani Buh**	**34.18**	**348**	P	**P**	**12 10 19.4**	**+0.8**
LODK	**Lodwar**	**34.30**	**294**	P	**P**	**12 10 20.4**	**+0.4**
JMDO	**Jabal Madar**	**34.67**	**346**	P	**P**	**12 10 21.1**	**-1.7**
WBK	**Wadi Bani Khal**	**34.71**	**348**	P	**P**	**12 10 23.7**	**+0.5**
WBK				P	**P**	**12 10 23.7**	**+0.5**
MNSI	**Mandailing Nat**	**35.12**	**72**	P	**P**	**12 10 29.8**	**+2.9**
BSY	**Bisya**	**35.25**	**345**	P	**P**	**12 10 28.0**	**+0.1**
	SNR=5.2						
RPSI	**Rantau Prapat**	**35.25**	**68**	P	**P**	**12 10 27.8**	**-0.2**
PSI	**Prapat**	**35.29**	**68**	LR	LR	12 22 30.0	
	comp=Z,1μm,19.9s,baz=264,slow=32						
PSI	**Prapat**	**35.29**	**68**	P	**P**	**12 10 27.8**	**-0.8**
PSI				pmax	pmax		
	comp=Z,24nm,1.3s						
SMDO	**Samad**	**35.35**	**347**	P	**P**	**12 10 30.0**	**+1.2**
WSAR	**Wadi Sarin**	**35.39**	**348**	P	**P**	**12 10 28.6**	**-0.5**
BIDO	**Bidbid**	**35.78**	**347**	P	**P**	**12 10 35.0**	**+2.6**
	SNR=5.5						
BIDO				P	**P**	**12 10 35.0**	**+2.6**
	SNR=5.5						
UMZA	**Um Al Zommool**	**35.79**	**342**	P	**P**	**12 10 33.2**	**+0.7**
UMZA				P	**P**	**12 10 33.2**	**+0.7**
ARQ	**Araqi**	**35.99**	**344**	P	**P**	**12 10 37.0**	**+2.7**
	SNR=7.0						
ARQ				P	**P**	**12 10 37.0**	**+2.7**
	SNR=7.0						
HOQ	**Hoqain**	**36.02**	**346**	P	**P**	**12 10 37.0**	**+2.4**
	SNR=6.9						
MZR	**Muzera**	**36.60**	**340**	P	**P**	**12 10 40.5**	**+1.0**
MZR				P	**P**	**12 10 40.5**	**+1.0**
H04N2	**CROZET ISLANDS**	**36.70**	**197**	T	T	12 49 42.1	
	baz=26,slow=75,SNR=5.3						
H04N1	**CROZET ISLANDS**	**36.70**	**197**	T	T	12 49 42.4	
	baz=26,slow=75,SNR=4.6						
H04N3	**CROZET ISLANDS**	**36.71**	**197**	T	T	12 49 40.9	
	baz=26,slow=75,SNR=3.5						
SOHO	**SOHO**	**36.75**	**345**	P	**P**	**12 10 41.7**	**+1.1**
SOHO				P	**P**	**12 10 41.7**	**+1.1**
SOHO	**SOHO**	**36.75**	**345**	*i* P	**P**	**12 10 42.2**	**+1.5**
	SNR=5.1						
ALNE	**Al Ain**	**36.88**	**344**	P	**P**	**12 10 43.2**	**+1.3**
	SNR=5.1						
ALNE				P	**P**	**12 10 43.2**	**+1.3**
	SNR=5.1						
ALNE	**Al Ain**	**36.88**	**344**	*i* P	**P**	**12 10 43.6**	**+1.7**
	SNR=5.6						
MBAR	**Mbarara**	**37.08**	**285**	P	**P**	**12 10 40.8**	**-3.2**
MBAR				S	**S**	**12 16 30.7**	**+0.5**
MZWR	**Madinat Zayed**	**37.17**	**341**	P	**P**	**12 10 45.7**	**+1.5**
LSZ	**Lusaka**	**37.37**	**260**	P	**P**	**12 10 46.6**	**+0.2**
LSZ				IAmb	IAmb	12 10 48.9	
	comp=Z,42nm,1.2s						
LSZ	**Lusaka**	**37.37**	**260**	LR	LR	12 23 56.5	
	comp=Z,1μm,21.3s,baz=114,slow=33						
LSZ	**Lusaka**	**37.37**	**260**	P	**P**	**12 10 46.6**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,42nm,1.2s						
ASHO	**Ashiyiah**	**37.40**	**344**	P	**P**	**12 10 48.0**	**+1.7**
	SNR=7.3						
ASHO	**Ashiyiah**	**37.40**	**344**	*i* P	**P**	**12 10 47.1**	**+0.9**
	SNR=9.5						
MATP	**Matopo**	**37.46**	**251**	LR	LR	12 24 54.0	
	comp=Z,669nm,18.5s,baz=60,slow=34						
HATD	**Hatta, Dubai**	**37.51**	**344**	P	**P**	**12 10 47.8**	**+0.6**
HATD	**Hatta, Dubai**	**37.51**	**344**	*i* P	**P**	**12 10 47.6**	**+0.4**
	SNR=8.4						
ASUD	**Al Ashush, Dub**	**37.54**	**343**	P	**P**	**12 10 47.7**	**+0.3**
AJN	**Ajban**	**37.58**	**343**	P	**P**	**12 10 48.4**	**+0.7**
FAQ	**Al Faqa, Dubai**	**37.58**	**344**	P	**P**	**12 10 48.2**	**+0.4**
FAQ	**Al Faqa, Dubai**	**37.58**	**344**	*i* P	**P**	**12 10 47.9**	**+0.1**
	SNR=5.5						
UOSS	**Minazif**	**37.61**	**345**	P	**P**	**12 10 46.9**	**-1.1**
UOSS	**Minazif**	**37.61**	**345**	P	**P**	**12 10 48.5**	**+0.5**
UOSS	**Minazif**	**37.61**	**345**	*i* P	**P**	**12 10 48.3**	**+0.3**
	SNR=6.3						
NAZ	**Nazwa, Dubai**	**37.79**	**344**	P	**P**	**12 10 50.2**	**+0.7**
NAZ				P	**P**	**12 10 50.2**	**+0.7**
NAZ	**Nazwa, Dubai**	**37.79**	**344**	*i* P	**P**	**12 10 50.2**	**+0.7**
	SNR=7.3						
KULM	**Kulim**	**37.91**	**66**	P	**P**	**12 10 51.4**	**+0.7**
KULM				IAmb	IAmb	12 11 00.9	
	comp=Z,66nm,1.5s						
KULM	**Kulim**	**37.91**	**66**	P	**P**	**12 10 52.4**	**+1.7**
MDH	**Madha**	**37.92**	**345**	P	**P**	**12 10 50.7**	**+0.1**
MSFE	**Esma-Masafi**	**38.01**	**345**	*i* P	**P**	**12 10 52.3**	**+0.9**
	SNR=2.4						
MASF	**Masafi**	**38.02**	**345**	P	**P**	**12 10 51.7**	**+0.2**
SLWR	**Sila**	**38.21**	**338**	P	**P**	**12 10 53.5**	**+0.4**
BANOM	**Banah**	**38.52**	**345**	P	**P**	**12 10 56.1**	**+0.4**
BANOM	**Banah**	**38.52**	**345**	*i* P	**P**	**12 10 55.6**	**-0.1**
	SNR=7.5						
SHME	**Shamm**	**38.68**	**345**	P	**P**	**12 10 57.8**	**+0.8**
BLSI	**Bandar Lampung**	**38.83**	**84**	P	**P**	**12 11 00.2**	**+1.7**
MYKOM	**Kota Tinggi**	**39.46**	**73**	P	**P**	**12 11 04.0**	**+0.2**
MYKOM				IAmb	IAmb	12 11 13.6	
	comp=Z,45nm,1.5s						
MYKOM	**Kota Tinggi**	**39.46**	**73**	P	**P**	**12 11 05.0**	**+1.2**
RAYN	**Ar Rayn**	**40.42**	**330**	P	**P**	**12 11 11.1**	**-0.5**
RAYN	**Ar Rayn**	**40.42**	**330**	P	**P**	**12 11 11.5**	**-0.1**
RAYN	**Ar Rayn**	**40.42**	**330**	P	**P**	**12 11 11.1**	**-0.5**
RAYN				pmax	pmax		
	comp=Z,15nm,1.1s						
RAYN	**Ar Rayn**	**40.42**	**330**	P	**P**	**12 11 10.9**	**-0.7**
**B

SRBI	Singaraja	48.13	91	P	P	12 12 15.8	+2.2
H01W3	Cape Leeuwin H	49.04	126	T	T	13 04 54.1	
	baz=287,slow=75,SNR=32						
H01W2	Cape Leeuwin H	49.05	126	T	T	13 04 55.9	
	baz=287,slow=75,SNR=35						
H01W1	Cape Leeuwin H	49.06	126	T	T	13 04 55.4	
	baz=287,slow=75,SNR=26						
SLVN	Son La	49.19	49	P	P	12 12 21.6	0.0
SLVN				IAmb	IAmb	12 12 24.4	
	comp=Z,40nm,1.4s						
SLVN	Son La	49.19	49	P	P	12 12 22.9	+1.2
MORW	Morawa	49.29	118	P	P	12 12 32.0	+10
SIMJ	Simiganj	49.98	3	P	P	12 12 26.8	-0.6
SIMJ				IAmb	IAmb	12 12 37.0	
	comp=Z,40nm,1.6s						
BLDU	Ballidu	50.15	120	P	P	12 12 29.5	+0.7
	comp=Z,36nm,1.3s						
BLDU	Ballidu	50.15	120	P	P	12 12 37.1	+8.3
GAR	Garm	50.40	4	P	P	12 12 29.8	-0.8
EIL	Elat	50.99	324	LR	LR	12 30 45.5	
	comp=Z,213nm,22.0s,baz=110,slow=32						
PZH	PanZhiHua	51.05	42	P	P	12 12 36.7	+1.0
PZH				S	S	12 19 56.5	+3.2
PZH				pmax	pmax		
	comp=Z,30nm,1.3s						
PZH				pmax	pmax		
	comp=Z,210nm,3.8s						
PZH				LR	LR		
	comp=Z,300nm,17.2s						
PZH				LR	LR		
	comp=Z,290nm,19.6s						
PZH				LR	LR		
	comp=Z,390nm,21.1s						
NWAO	Narrogin (SRO)	51.05	123	P	P	12 12 36.0	+0.4
NWAO				IAmb	IAmb	12 12 44.5	
	comp=Z,31nm,1.1s						
NWAO	Narrogin (SRO)	51.05	123	P	P	12 12 35.7	0.0
	comp=Z,53nm,2.0s						
NWAO	Narrogin (SRO)	51.05	123	LR	LR	12 29 15.6	
	comp=Z,332nm,19.8s,baz=289,slow=30						
NWAO	Narrogin (SRO)	51.05	123	P	P	12 12 36.0	+0.4
NWAO				pmax	pmax		
	comp=Z,31nm,1.1s						
MEEK	Meekatharra	51.20	115	P	P	12 12 37.1	+0.2
	comp=Z,32nm,1.4s						
MEEK	Meekatharra	51.20	115	P	P	12 12 44.8	+7.9
KLBR	Kellerberrin	51.21	121	P	P	12 12 37.5	+0.7
	comp=Z,61nm,1.3s						
KLBR	Kellerberrin	51.21	121	P	P	12 12 45.0	+8.1
BTK	Batken	51.48	4	IAmb	IAmb	12 12 47.1	
	comp=Z,45nm,1.2s						
KSH	Kashi	51.55	9	P	P	12 12 35.6	-3.7
KSH				sP	sP	12 12 43.1	+0.2
KSH				pmax	pmax		
	comp=Z,65nm,1.2s						
KSH				LR	LR		
	comp=Z,2μm,21.0s						
KSH				LR	LR		
	comp=Z,1μm,18.2s						
KSH				LR	LR		
	comp=Z,550nm,29.5s						
MBWA	Marble Bar	51.81	108	P	P	12 12 42.1	+0.6
MBWA				IAmb	IAmb	12 12 51.0	
	comp=Z,60nm,1.6s						
MBWA	Marble Bar	51.81	108	P	P	12 12 41.9	+0.4
	comp=Z,24nm,1.3s						
MBWA	Marble Bar	51.81	108	P	P	12 12 49.8	+8.3
ASF	Jabal al Asfar	51.84	328	LR	LR	12 32 26.5	
	comp=Z,122nm,20.5s,baz=199,slow=34						
GHAJ	Ghor Haditha	51.88	326	P	P	12 12 42.4	+0.6
GHAJ				IAmb	IAmb	12 12 50.6	
	comp=Z,24nm,1.1s						
PSA00	Pilbara Seismi	51.94	108	P	P	12 12 43.1	+0.7
PSA00				IAmb	IAmb	12 12 51.9	
	comp=Z,52nm,1.5s						
PSA00	Pilbara Seismi	51.94	108	P	P	12 12 43.3	+0.9
	comp=Z,22nm,1.4s						
PSA00	Pilbara Seismi	51.94	108	P	P	12 12 49.8	+7.4
WBSI	Waikabubak, Su	52.02	93	P	P	12 12 45.7	+2.5
QIZ	Qiongzhong	52.46	55	P	P	12 12 47.5	+1.3
QIZ				S	S	12 20 16.0	+3.4
QIZ				pmax	pmax		
	comp=Z,12nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,280nm,5.3s						
QIZ				LR	LR		
	comp=Z,340nm,20.3s						
QIZ				LR	LR		
	comp=Z,520nm,22.9s						
QIZ				LR	LR		
	comp=Z,700nm,22.7s						
ARSB	Arslanbob	52.93	6	P	P	12 12 49.1	-0.5
ARSB				IAmb	IAmb	12 12 57.7	
	comp=Z,45nm,1.3s						
ARSB	Arslanbob	52.93	6	P	P	12 12 49.1	-0.5
ARSB				pmax	pmax		
	comp=Z,45nm,1.3s						
KAPI	Kappang	53.08	88	LR	LR	12 33 01.3	
	comp=Z,436nm,20.1s,baz=230,slow=33						
KAPI	Kappang	53.08	88	P	P	12 12 55.0	+4.0
MMAI	Mount Meron Ar	53.29	327	P	P	12 12 51.3	-0.9
	comp=Z,0.3nm,0.3s,baz=156,slow=7.7,SNR=7.6						
MMAI				LR	LR	12 33 10.8	
	comp=Z,143nm,19.1s,baz=154,slow=33						
	comp=Z,0.3nm,0.3s						
BKSI	Bulukumba	53.39	88	P	P	12 12 53.7	+0.5
	comp=Z,600nmcomp=Z,28nm,1.2s						
IUG	Iuzhnay	53.51	3	*e*P	P	12 12 53.0	-0.7
IUG				pmax	pmax		
	comp=Z,17nm,0.9s						
IUG	Iuzhnay	53.51	3	*e*P	P	12 12 53.0	-0.7
	comp=Z,17nm,0.9s						
TARG	Taragay, Kyrgy	54.02	10	P	P	12 12 57.2	-0.6
TARG	Taragay, Kyrgy	54.02	10	P	P	12 12 57.2	-0.6
TARG				pmax	pmax		
	comp=Z,17nm,1.5s						
MARD	Mardin	54.24	335	P	P	12 12 58.8	-0.4
MARD				IAmb	IAmb	12 13 00.6	
	comp=Z,31nm,1.5s						
DZA	Taraz	54.34	4	*e*P	P	12 12 58.7	-1.0
DZA				pmax	pmax		
	comp=Z,18nm,1.3s						
DZA	Taraz	54.34	4	*e*P	P	12 12 58.7	-1.0
	comp=Z,18nm,1.3s						
MPSI	Mapaga	54.37	81	P	P	12 13 01.4	+0.9
	comp=Z,11nm,2.2s						
EDFI	Ende, Flores	54.38	93	P	P	12 13 02.2	+1.5
	comp=Z,566nmcomp=Z,32nm,1.6s						
AAK	Ala-Archa	54.41	7	P	P	12 12 59.9	-0.4
AAK				IAmb	IAmb	12 13 01.9	
	comp=Z,34nm,1.4s						
AAK	Ala-Archa	54.41	7	P	P	12 12 59.5	-0.8
	comp=Z,8.6nm,1.1s,baz=190,slow=8.0,SNR=17						
AAK				LR	LR	12 35 23.5	
	comp=Z,249nm,18.1s,baz=178,slow=35						
	comp=Z,8.6nm,1.1s						
AAK	Ala-Archa	54.41	7	P	P	12 13 00.0	-0.3
AAK				P	P	12 13 00.0	-0.3
AAK	Ala-Archa	54.41	7	*ce*P	P	12 13 00.8	+0.5
AAK				pmax	pmax		
	comp=Z,47nm,2.5s						
AAK	Ala-Archa	54.41	7	*i* P	P	12 13 00.6	+0.3
	SNR=11						
GOMU	GeErMu	54.49	28	P	P	12 13 01.7	+0.3
GOMU				sP	pwP	12 13 08.5	+0.3
GOMU				S	S	12 20 43.8	+3.3
GOMU				SS	SS	12 24 26.4	+3.0
GOMU				pmax	pmax		
	comp=Z,22nm,1.3s						
GOMU				pmax	pmax		
	comp=Z,400nm,5.5s						
GOMU				LR	LR		
	comp=Z,1μm,18.0s						
GOMU				LR	LR		
	comp=Z,740nm,18.3s						
GOMU				LR	LR		
	comp=Z,2μm,18.6s						
KK31	Karatay Array	54.49	4	P	P	12 13 00.0	-0.8
KK31	Karatay Array	54.49	4	P	P	12 13 00.0	-0.8
KK31				pmax	pmax		
	comp=Z,17nm,1.4s						
KKAR	Karatay Array	54.49	4	P	P	12 13 00.3	-0.5
KKAR				IAmb	IAmb	12 13 09.4	
	comp=Z,18nm,1.4s						
KKAR	Karatay Array	54.49	4	P	P	12 13 00.3	-0.5
KKAR				pmax	pmax		
	comp=Z,18nm,1.4s						
KMBL	Kambalda	54.65	120	P	P	12 13 09.9	+7.6
GURO	Guroymak-BITLI	54.80	337	P	P	12 13 02.0	-1.2
GURO				IAmb	IAmb	12 13 12.2	
	comp=Z,16nm,1.1s						
TNSS	Tian-Shan	55.15	9	*e*P	P	12 13 04.5	-1.4
TNSS	Tian-Shan	55.15	9	*e*P	P	12 13 04.6	-1.4
GNI	Garni	55.22	340	LR	LR	12 36 31.1	
	comp=Z,96nm,18.5s,baz=140,slow=36						
SGDS	Sogindy	55.22	7	*e*P	P	12 13 04.8	-1.3
SGDS				pmax	pmax		
	comp=Z,11nm,1.1s						
SGDS	Sogindy	55.22	7	*e*P	P	12 13 04.9	-1.3
	comp=Z,11nm,1.1s						
MDOK	Medeo	55.28	9	*e*P	P	12 13 05.3	-1.4
MDOK	Medeo	55.28	9	*e*P	P	12 13 05.4	-1.4
AAA	Alma-Ata	55.31	9	*e*P	P	12 13 05.9	-0.8
AAA	Alma-Ata	55.31	9	*e*P	P	12 13 05.9	-0.8
CD2	Chengdu	55.35	39	P	P	12 13 07.0	-0.3
CD2				pmax	pmax		
	comp=Z,30nm,1.2s						
CD2				LR	LR		
	comp=Z,380nm,13.3s						
CD2				LR	LR		
	comp=Z,470nm,17.8s						
SATY	Saty	55.41	11	*e*P	P	12 13 06.4	-1.2
SATY				pmax	pmax		
	comp=Z,17nm,1.3s						
SATY	Saty	55.41	11	*e*P	P	12 13 06.4	-1.2
	comp=Z,16nm,1.3s						
TOLI2	Tolitoli	55.42	81	P	P	12 13 09.8	+1.7
UZB	Uzynbulak	55.61	11	*e*P	P	12 13 08.0	-1.0
UZB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
UZB	Uzynbulak	55.61	11	*e*P	P	12 13 08.1	-1.0
	comp=Z,8.1nm,1.0s						
GAZ	Gaziantep	55.69	332	P	P	12 13 09.5	-0.2
SHLS	Shalkode	55.71	12	*e*P	P	12 13 09.4	-0.3
SHLS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SHLS	Shalkode	55.71	12	*e*P	P	12 13 09.4	-0.3
	comp=Z,8.1nm,0.6s						
MAW	Mawson	56.06	182	LR	LR	12 32 29.1	
	comp=Z,368nm,18.4s,baz=350,slow=31						
KOPT	Kop Dagi	56.66	336	IAmb	IAmb	12 13 26.3	
	comp=Z,32nm,1.4s						
BTLS	Baital	56.72	6	*e*P	P	12 13 15.3	-1.4
BTLS				pmax	pmax		
	comp=Z,12nm,1.0s						
BTLS	Baital	56.72	6	*e*P	P	12 13 15.4	-1.4
	comp=Z,12nm,1.0s						
FITZ	Fitzroy Crossi	57.40	104	LR	LR	12 33 40.7	
	comp=Z,827nm,21.9s,baz=278,slow=32						
WMQ	Urumqi	58.39	18	*e*P	P	12 13 29.4	+0.8
WMQ				pmax	pmax		
	comp=Z,27nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,360nm,3.7s						
WMQ				LR	LR		
	comp=Z,1μm,22.7s						
WMQ				LR	LR		
	comp=Z,700nm,18.7s						
WMQ				LR	LR		
	comp=Z,720nm,20.1s						
ENH	Enshi	58.66	44	P	P	12 13 30.8	+0.1
KIRS	Kirsehir-Merke	58.81	331	⇑P	P	12 13 31.9	+0.2
KBZ	Khabaz	59.04	340	P	P	12 13 31.9	-1.1
	comp=Z,5.3nm,1.0s,baz=175,slow=4.4,SNR=11						
KBZ				LR	LR	12 38 26.1	
	comp=Z,60nm,18.1s,baz=150,slow=36						
	comp=Z,5.3nm,1.0s						
KBZ	Khabaz	59.04	340	*ce*P	P	12 13 32.1	-0.9
KBZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LZH	Lanzhou	59.05	35	*e*P	P	12 13 34.5	+1.0
LZH				pP	sP	12 13 37.8	+0.7
LZH				sP	pwP	12 13 43.0	+2.7
LZH				SS	SS	12 25 36.8	+2.0
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
LZH				pmax	pmax		
	comp=Z,300nm,4.8s						
LZH				LR	LR		
	comp=Z,220nm,13.7s						
LZH				LR	LR		
	comp=Z,490nm,14.8s						
LZH				LR	LR		
	comp=Z,460nm,14.8s						
SHA1	Shidzhatmaz	59.12	340	*i* P	P	12 13 32.6	-1.3
KVAR	Kislovodsk Arr	59.30	340	LR	LR	12 37 14.4	
	comp=Z,182nm,19.7s,baz=86,slow=34						
KIV	Kislovodsk	59.31	340	P	P	12 13 35.8	+0.8
KIV	Kislovodsk	59.31	340	*e*P	P	12 13 33.7	-1.3
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BR131	Keskin Array S	59.41	331	P	P	12 13 34.8	-1.1
BR131				IAmb	IAmb	12 13 43.9	
	comp=Z,16nm,1.4s						
BR131	Keskin Array S	59.41	331	P	P	12 13 35.6	-0.3
	SNR=5.3						
BR131	Keskin Array S	59.41	331	P	P	12 13 34.8	-1.1
BR131				pmax	pmax		
	comp=Z,17nm,1.4s						
BRTR	Keskin Array B	59.41	331	P	P	12 13 34.9	-1.1
BRTR	Keskin Array B	59.41	331	P	P	12 13 35.0	-0.9
	comp=Z,2.3nm,1.1s,baz=145,slow=8.8,SNR=12						
BRTR				LR	LR	12 39 02.4	
	comp=Z,105nm,18.5s,baz=137,slow=36						
	comp=Z,2.3nm,1.1s						
GTA	Gaotai	59.43	30	*e*P	P	12 13 36.4	+0.3
GTA				sP	pwP	12 13 43.7	+0.8
GTA				S	S	12 21 48.4	+3.2
GTA				pmax	pmax		
	comp=Z,16nm,1.3s						
GTA				pmax	pmax		
	comp=Z,170nm,7.6s						
GTA				LR	LR		
	comp=Z,270nm,18.3s						
GTA				LR	LR		
	comp=Z,450nm,19.5s						
GTA				LR	LR		
	comp=Z,460nm,19.5s						
TGY	Tagaytay City	59.72	66	LR	LR	12 38 01.6	
	comp=Z,227nm,20.0s,baz=232,slow=35						
MK31	Makanchi Array	59.77	13	P	P	12 13 36.2	-1.9
MK31	Makanchi Array	59.77	13	*ce*P	P	12 13 37.1	-1.0
MKAR	Makanchi Array	59.77	13	P	P	12 13 36.4	-1.7
MKAR	Makanchi Array	59.77	13	P	P	12 13 36.5	-1.6
	comp=Z,2.1nm,0.6s,baz=204,slow=8.0,SNR=21						
MKAR				LR	LR	12 38 12.2	
	comp=Z,284nm,21.9s,baz=174,slow=35						
	comp=Z,2.1nm,0.6s						
WRKA	Warakurna	59.80	112	P	P	12 13 39.0	+0.2
	comp=Z,45nm,1.2s						
FORT	Forrest	59.85	119	P	P	12 13 39.4	+0.3
FORT	Forrest	59.85	119	P	P	12 13 39.2	+0.1
	comp=Z,41nm,1.2s						
FORT	Forrest	59.85	119	P	P	12 13 46.7	+7.6
ANTO	Ankara	59.93	330	P	P	12 13 38.1	-1.3
ANTO				IAmb	IAmb	12 13 41.1	
	comp=Z,7.1nm,0.6s						
ANTO	Ankara	59.93	330	P	P	12 13 39.8	+0.4
ANTO	Ankara	59.93	330	P	P	12 13 38.1	-1.3
ANTO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SOC	Sochi	60.02	338	*e*P	P	12 13 38.8	-1.0
SOC				*e*		12 15 49.1	
SOC				*e*PPP	PPP	12 17 14.2	
SOC				*e*S	S	12 21 54.0	+1.7
SOC				*e*SS	SS	12 25 46.8	-2.7
SOC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KNRA	Kununurra	60.53	102	P	P	12 13 43.9	0.0
LABN	Labinsk	60.58	339	*e*P	P	12 13 41.2	-2.4
LABN				pmax	pmax		
	comp=Z,27nm,0.9s						
XAN	Xi'an	60.68	40	⇓P	P	12 13 44.0	-0.6
XAN				pP	pP	12 13 46.8	-0.4
XAN				S	S	12 22 01.2	-0.1
XAN				pmax	pmax		
	comp=Z,31nm,1.3s						
XAN				pmax	pmax		
	comp=Z,210nm,4.4s						
XAN				LR	LR		
	comp=Z,390nm,18.6s						
XAN				LR	LR		
	comp=Z,310nm,19.9s						
XAN				LR	LR		
	comp=Z,590nm,22.7s						
ABKAR	Akbulak array	60.79	355	P	P	12 13 43.7	-1.3
ZSN	Zaisan	60.97	14	*e*P	P	12 13 45.1	-1.2
ZSN				pmax	pmax		
	comp=Z,11nm,1.3s						
ZSN	Zaisan	60.97	14	*e*P	P	12 13 45.1	-1.2
	comp=Z,11nm,1.3s						
BORA	Eskisehir	61.10	329	P	P	12 13 47.2	-0.1
BORA				IAmb	IAmb	12 14 03.5	
	comp=Z,37nm,1.5s						
MDUB	Mudurnu	61.17	330	P	P	12 13 47.4	-0.6
BRZS	Berezniki	61.49	5	*e*P	P	12 13 48.7	-1.0
BRZS	Berezniki	61.49	5	*e*P	P	12 13 48.7	-1.0
ERBR	Yeremizino-Bor	61.60	340	*e*P	P	12 13 45.9	-4.6
ERBR				pmax	pmax		
	comp=Z,14nm,0.6s						
DAV	Davao City (W)	61.65	75	LR	LR	12 38 14.0	
	comp=Z,441nm,22.0s,baz=300,slow=34						
ANN	Anapa	61.92	337	*e*P	P	12 13 52.9	+0.2
ANN				pmax	pmax		
	comp=Z,16nm,1.2s						
AKTO	Aktyubinsk	62.14	354	LR	LR	12 40 14.2	
	comp=Z,94nm,20.4s,baz=162,slow=36						
WHN	Wuhan	62.20	46	⇑P	P	12 13 56.1	+1.2
WHN				pmax	pmax		
	comp=Z,50nm,1.0s						
WHN				LR	LR		
	comp=Z,3μm,18.0s						
KURBB	Kurchatov Arra	62.78	9	P	P	12 13 57.2	-1.1
	comp=Z,7.9nm,1.0s,baz=203,slow=7.0,SNR=34						
KURBB				LR	LR	12 40 23.7	
	comp=Z,233nm,21.3s,baz=164,slow=35						
	comp=Z,7.9nm,1.0s						
SEM	Semipalatinsk	62.85	10	*e*P	P	12 13 58.0	-1.1
SEM				pmax	pmax		
	comp=Z,11nm,1.4s						
SEM	Semipalatinsk	62.85	10	*e*P	P	12 13 58.0	-1.1
	comp=Z,11nm,1.4s						
KURK	Kurchatov	62.89	9	P	P	12 13 57.8	-1.2
KURK				IAmb	IAmb	12 14 07.0	
	comp=Z,17nm,0.8s						
KURK	Kurchatov	62.89	9	P	P	12 13 58.8	-0.2
KURK	Kurchatov	62.89	9	*ce*P	P	12 13 57.9	-1.1
KURK				pmax	pmax		
	comp=Z,48nm,2.5s						
SIM	Simferopol'	63.37	335	*e*P	P	12 14 02.5	+0.1
SIM				*e*'PP	pwP	12 14 10.0	+0.7
SIM				S	S	12 22 38.0	+3.3
SIM				pmax	pmax		
	comp=Z,34nm,1.4s						
SSLB	Suanglung	63.79	56	P	P	12 14 05.1	-0.6
SSLB				IAmb	IAmb	12 14 16.1	
	comp=Z,19nm,1.2s						
SSLB	Suanglung	63.79	56	P	P	12 14 08.4	+2.7
YULB	Yu-li	63.89	57	P	P	12 14 09.3	+3.0
BVAR	Borovoye Array	64.38	3	P	P	12 14 07.8	-1.1
	comp=Z,6.3nm,0.9s,baz=163,slow=6.0,SNR=26						
BVAR				LR	LR	12 41 12.0	
	comp=Z,201nm,21.6s,baz=177,slow=35						
	comp=Z,6.3nm,0.9s						
KDU	Kakadu	64.40	99	P	P	12 14 10.1	+0.2
	comp=Z,45nm,1.2s						
BRVK	Borovoye	64.41	3	P	P	12 14 08.0	-1.1
BRVK				IAmb	IAmb	12 14 09.9	
	comp=Z,25nm,1.4s						
BRVK	Borovoye	64.41	3	P	P	12 14 08.4	-0.7
BRVK				P	P	12 14 08.4	-0.7
BRVK	Borovoye	64.41	3	*ce*P	P	12 14 07.8	-1.3
BRVK				pmax	pmax		
	comp=Z,41nm,2.5s						
ASAR	Alice Springs	64.92	111	P	P	12 14 13.2	0.0
ASAR	Alice Springs	64.92	111	P	P	12 14 12.8	-0.4
	comp=Z,9.1nm,0.9s,baz=272,slow=6.0,SNR=51						
ASAR				LR	LR	12 38 42.8	
	comp=Z,343nm,21.3s,baz=278,slow=32						
	comp=Z,9.1nm,0.9s						
AS31	Alice Springs	64.92	111	P	P	12 14 12.8	-0.4
WRA	Warramunga Arr	65.52	107	P	P	12 14 17.4	+0.3
WRA	Warramunga Arr	65.52	107	P	P	12 14 17.0	-0.1
	comp=Z,12nm,1.0s,baz=274,slow=6.0,SNR=42						
WRA				LR	LR	12 42 38.9	
	comp=Z,476nm,18.2s,baz=276,slow=36						
	comp=Z,12nm,1.0s						
WRA	Warramunga Arr	65.52	107	P	P	12 14 17.4	+0.3
WRA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
WRAB	Tennant Creek	65.53	107	P	P	12 14 17.4	+0.2
WRAB	Tennant Creek	65.53	107	P	P	12 14 17.4	+0.2
WRAB				pmax	pmax		
	comp=Z,30nm,1.0s						
WR8	Warramunga Arr	65.67	107	P	P	12 14 17.7	-0.3
WR8				IAmb	IAmb	12 14 26.6	
	comp=Z,22nm,0.9s						
BTO	Baotou	65.68	35	*e*P	P	12 14 18.7	+1.0
BTO				pP	sP	12 14 23.4	+2.1
BTO				sP	pwP	12 14 25.7	-0.1
BTO				S	S	12 23 07.3	+3.7
BTO				pmax	pmax		
	comp=Z,22nm,1.6s						
BTO				pmax	pmax		
	comp=Z,460nm,5.7s						
BTO				LR	LR		
	comp=Z,720nm,21.8s						
BTO				LR	LR		
	comp=Z,500nm,16.5s						
BTO				LR	LR		
	comp=Z,730nm,20.6s						
ELIB	Princess Elisa	65.68	194	*d*P	P	12 14 17.2	-0.1
	comp=Z,4.5nm,1.3s						
WR0	Warramunga Arr	65.71	107	P	P	12 14 18.2	-0.1
WR0				IAmb	IAmb	12 14 26.8	
	comp=Z,26nm,1.1s						
FAKI	Fak Fak	65.71	88	P	P	12 14 20.0	+1.6
	comp=Z,23nm,1.5s						
VRH	Novokhopyorsk	66.07	343	*e*P	P	12 14 18.6	-1.2
VRH				pmax	pmax		
	comp=Z,22nm,1.1s						
NJ2	Nanjing	66.24	47	*e*P	P	12 14 22.2	+0.8
NJ2				pmax	pmax		
	comp=Z,24nm,0.5s						
HNS	HongShan	66.45	40	⇑P	P	12 14 22.9	+0.3
HNS				S	S	12 23 17.2	+4.3
HNS				pmax	pmax		
	comp=Z,28nm,1.2s						
HNS				LR	LR		
	comp=Z,170nm,16.7s						
HNS				LR	LR		
	comp=Z,330nm,17.3s						
HNS				LR	LR		
	comp=Z,380nm,19.6s						
VORD	Divnogorie	66.58	342	*e*P	P	12 14 20.9	-2.2
VORD				pmax	pmax		
	comp=Z,20nm,1.0s						
FNA	Florina	66.65	324	IAmb	IAmb	12 14 31.4	
	comp=Z,22nm,1.2s						
HHC	Hu-ho-hao-te	66.72	36	*e*P	P	12 14 23.0	-1.4
HHC				S	S	12 23 18.8	+2.5
HHC				pmax	pmax		
	comp=Z,26nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,4.8s						
HHC				LR	LR		
	comp=Z,170nm,15.3s						
HHC				LR	LR		
	comp=Z,200nm,16.0s						
HHC				LR	LR		
	comp=Z,300nm,17.6s						
BBOO	Buckleboo	66.75	121	P	P	12 14 24.7	-0.1
BBOO	Buckleboo	66.75	121	P	P	12 14 24.8	-0.1
	comp=Z,29nm,1.6s						
BBOO	Buckleboo	66.75	121	P	P	12 14 31.9	+7.1
VSR	Storozhevoye	66.83	342	*e*P	P	12 14 21.1	-3.6
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZAA0	Zalesovo Array	67.07	12	P	P	12 14 25.1	-1.1
ZALV	Zalesovo Beam	67.07	12	P	P	12 14 24.9	-1.3
ZALV	Zalesovo Beam	67.07	12	P	P	12 14 24.6	-1.6
	comp=Z,8.5nm,0.9s,baz=194,slow=4.8,SNR=36						
ZALV				PP	PP	12 16 48.4	-5.8
	comp=Z,2.3nm,1.0s,baz=203,slow=7.0,SNR=3.0						
ZALV				LR	LR	12 44 08.7	
	comp=Z,224nm,18.4s,baz=189,slow=36						
	comp=Z,8.5nm,0.9s						
ZALV	Zalesovo Beam	67.07	12	P	P	12 14 24.9	-1.3

MILM Milestii Mici 67.21 333 ⇓*i*P **P 12 14 26.0 -1.2**
comp=Z,320nm,3.4s
MILM **Milestii Mici 67.21 333***d*iP **P 12 14 26.0 -1.2**
MILM pmax pmax
comp=Z,320nm,3.4s
VORR Voronezh 67.22 342 P **P 12 14 26.0 -1.2**
VORR pmax pmax
comp=Z,44nm,1.4s
TIA Tai'an 67.33 43 P **P 12 14 28.5 +0.2**
TIA S **S 12 23 20.8 -2.8**
TIA pmax pmax
comp=Z,23nm,1.1s
TIA pmax pmax
comp=Z,230nm,5.7s
TIA LR LR
comp=Z,320nm,16.9s
TIA LR LR
comp=Z,330nm,20.0s
TIA LR LR
comp=Z,490nm,21.0s
VRI Vrincioaia 67.38 331 ⇓P **P 12 14 28.2 -0.2**
VRI Vrincioaia 67.38 331 ⇓P **P 12 14 28.2 -0.2**
PLOR Plostina 67.40 331 ⇓P **P 12 14 28.8 +0.2**
PLOR Plostina 67.40 331 ⇓P **P 12 14 28.8 +0.2**
MLR Muntele Rosu 67.48 330 ⇓P **P 12 14 29.5 +0.3**
MLR Muntele Rosu 67.48 330 ⇓P **P 12 14 29.5 +0.3**
COVR Voineasa-Covas 67.61 331 ⇓P **P 12 14 29.7 -0.2**
VOIR 67.88 330 ⇑P **P 12 14 31.4 -0.2**
VOIR 67.88 330 ⇑P **P 12 14 31.4 -0.2**
ONER Baraj Valea Uz 67.88 331 ⇓P **P 12 14 31.3 -0.2**
TESR Tescani 67.89 331 ⇑P **P 12 14 31.2 -0.4**
NVL N'lazarevskaya 67.95 197 *e*P **P 12 14 33.1 +1.5**
NVL pmax pmax
comp=Z,12nm,1.1s
ARTI Arti 68.00 355 P **P 12 14 30.9 -1.1**
ARTI Arti 68.00 355 P **P 12 14 30.7 -1.4**
comp=Z,15nm,1.2s,baz=186,slow=2.9,SNR=12
comp=Z,15nm,1.2s
ARTI Arti 68.00 355*d*iP **P 12 14 31.4 -0.6**
ARTI 12 14 58.3
ARTI S **S 12 23 30.9 0.0**
ARTI SS **SS 12 27 51.4 -2.1**
ARTI pmax pmax
comp=Z,31nm,1.5s
LPSR Galich'ya Gora 68.11 342 *e*P **P 12 14 30.8 -2.0**
LPSR pmax pmax
comp=Z,28nm,1.1s
SVE Sverdlovsk 68.28 357 *e*P **P 12 14 33.2 -0.6**
SVE pmax pmax
comp=Z,33nm,1.5s
LOT Lotru 68.52 329 ⇓P **P 12 14 35.5 -0.2**
LCRK Leigh Creek 68.59 118 P P 12 14 44.3 +7.8
TORD Torodi Ar. Bea 68.76 289 P **P 12 14 37.2 -0.4**
TORD Torodi Ar. Bea 68.76 289 P **P 12 14 36.1 -1.6**
comp=Z,51nm,0.3s,baz=99,slow=3.6,SNR=1.5
TORD LR LR 12 43 06.0
comp=Z,234nm,21.2s,baz=120,slow=35
PDG Podgorica 68.93 324 IAmb IAmb 12 14 46.4
comp=Z,18nm,1.0s
SONM Songino Array 68.93 28 P **P 12 14 38.0 -0.3**
SONM IAmb IAmb 12 14 47.4
comp=Z,11nm,0.9s
SONM Songino Array 68.93 28 P **P 12 14 38.0 -0.3**
comp=Z,5.7nm,0.9s,baz=219,slow=6.1,SNR=32
SONM LR LR 12 44 01.4
comp=Z,642nm,20.7s,baz=216,slow=35
comp=Z,5.7nm,0.9s
BJT Baijiatuau 68.94 39 P **P 12 14 37.5 -0.8**
BJT IAmb IAmb 12 14 39.6
comp=Z,15nm,1.2s
BJT Baijiatuau 68.94 39 P **P 12 14 37.5 -0.8**
BJT pmax pmax
comp=Z,15nm,1.2s
BJI Beijing 68.95 39 P **P 12 14 39.3 +1.0**
BJI S **S 12 23 49.0 +6.2**
BJI pmax pmax
comp=Z,6.0nm,1.5s
BJI LR LR
comp=Z,140nm,18.2s
BJI LR LR
comp=Z,85nm,15.9s
BJI LR LR
comp=Z,200nm,17.2s
GZR Gura Zlata 68.99 329 ⇓P **P 12 14 38.6 0.0**
GZR Gura Zlata 68.99 329 ⇓P **P 12 14 38.6 0.0**
HTT Hallett 69.16 121 P P 12 14 48.1 +8.1
ULN Ulaanbaatar 69.25 28 P **P 12 14 39.4 -0.9**
ULN Ulaanbaatar 69.25 28 P **P 12 14 40.6 +0.3**
ULN Ulaanbaatar 69.25 28*ce*P **P 12 14 39.8 -0.5**
ULN pmax pmax
comp=Z,6.0nm,1.2s
MATE Matera 69.33 322 ⇑P P 12 14 46.7 +6.0
BURAR Bucovina Array 69.36 332 P **P 12 14 40.4 -0.5**
ZAK Zakamensk 69.53 24 *e*P **P 12 14 41.3 -0.6**
ZAK pmax pmax
comp=Z,7.0nm,1.8s
MOY Mondy 69.67 22 *e*P **P 12 14 42.6 -0.1**
MOY pmax pmax
comp=Z,36nm,3.0s
MARR Marisel-Cluj 69.70 330 ⇓P **P 12 14 41.8 -1.2**
BZS Buzias 69.74 328 ⇑P **P 12 14 42.7 -0.4**
BZS Buzias 69.74 328 ⇑P **P 12 14 42.7 -0.4**
AKASG Malin Array Be 69.94 336 P **P 12 14 42.4 -1.9**
comp=Z,4.4nm,0.9s,baz=137,slow=5.4,SNR=23
AKASG LR LR 12 44 46.8
comp=Z,52nm,21.7s,baz=81,slow=35
comp=Z,4.4nm,0.9s
AKBB Malin Array Si 69.94 336 IAmb IAmb 12 14 51.7
comp=Z,18nm,0.9s
AKBB Malin Array Si 69.94 336*ce*P **P 12 14 42.7 -1.5**
AKBB pmax pmax
comp=Z,14nm,1.1s
KIEV Kiev 69.94 336 P **P 12 14 42.4 -1.8**
KIEV IAmb IAmb 12 14 51.7
comp=Z,16nm,0.9s
KIEV Kiev 69.94 336 ⇑P **P 12 14 42.9 -1.3**
KIEV Kiev 69.94 336 ⇑P **P 12 14 42.9 -1.3**
KIEV Kiev 69.94 336 *i* P **P 12 14 42.6 -1.6**
SNR=6.3
DRGR 69.99 330 ⇑P **P 12 14 44.9 +0.2**
DRGR 69.99 330 ⇑P **P 12 14 44.9 +0.2**
SIRR Siria 70.16 329 ⇑P **P 12 14 45.4 -0.3**
QIS Mount Isa 70.40 108 P **P 12 14 48.4 +0.6**
comp=Z,34nm,1.4s
PAOL Paolisi 70.86 321 IAmb IAmb 12 14 58.0
comp=Z,21nm,1.2s
INKA Innaminka 70.91 115 P P 12 14 58.7 +8.0
OBN Obninsk 70.99 342*d*iP **P 12 14 50.1 -0.4**
OBN *i* *PP **pP 12 14 53.1 -0.5**
OBN *e*SP **pwP 12 14 57.1 -0.3**
OBN 12 15 07.0
OBN 12 17 30.0
OBN *i* S **S 12 24 10.0 +3.9**
OBN *e* 12 24 38.8
OBN pmax pmax
comp=Z,27nm,1.4s
OBN MLR MLR
comp=Z,108nm,18.0s
JOW Kunigami 71.08 56 LR LR 12 45 03.2
comp=Z,452nm,20.8s,baz=280,slow=35
TROLL Troll, Antarti 71.17 197 ⇓P **P 12 14 52.5 +0.8**
comp=Z,70nm,0.8s
MOS Moscow 71.23 343 *e*P **P 12 14 50.4 -1.6**
MOS *e* 12 17 28.8
MOS pmax pmax
comp=Z,127nm,1.5s
MOS pmax pmax
comp=Z,400nm,2.2s
XLT XiLinHaoTe 71.24 36 *e*P **P 12 14 53.3 +0.9**
XLT sP pwP 12 15 00.8 +0.3
XLT S **S 12 24 14.1 +4.4**
XLT SKS **SKSac 12 24 51.5 -3.9**
XLT pmax pmax
comp=Z,16nm,1.2s
XLT LR LR
comp=Z,240nm,18.1s
XLT LR LR
comp=Z,270nm,21.8s
KIRV Kirov 71.24 351 LR LR 12 46 18.1
comp=Z,88nm,18.9s,baz=153,slow=36
KIRV Kirov 71.24 351*ce*P **P 12 14 51.4 -0.5**
IRK Irkutsk 71.37 23 *e*P **P 12 14 51.8 -1.2**
IRK pmax pmax
comp=Z,51nm,2.4s
STKA Stephens Creek 71.45 120 P **P 12 14 53.7 -0.3**
comp=Z,66nm,1.1s
STKA Stephens Creek 71.45 120 P **P 12 14 53.6 -0.3**
comp=Z,4.7nm,0.9s,baz=299,slow=9.9,SNR=7.8
STKA LR LR 12 41 12.6
comp=Z,355nm,21.8s,baz=237,slow=32
comp=Z,4.7nm,0.9s
KEST Kesra 71.48 314 P **P 12 14 53.5 -0.5**
comp=Z,2.0nm,0.6s,baz=90,slow=1.0,SNR=3.5
comp=Z,2.0nm,0.6s
ARPS Mount Arapiles 71.53 125 P **P 12 14 55.0 +0.7**
comp=Z,28nm,1.4s
KOLS Kolonicke sedl 71.69 331 *e*P **P 12 14 54.7 -0.2**
KOLS *e* 12 15 03.0
KOLS pmax pmax
comp=Z,13nm,1.2s
KOLS Kolonicke sedl 71.69 331 *e*P **P 12 14 54.7 -0.2**
KOLS *e* 12 15 03.0
KOLS *e* 12 18 57.0
MORH Mrgy, Hungar 71.69 327 ⇑P **P 12 14 54.4 -0.6**
DL2 Dalian 71.80 42 P **P 12 14 53.4 -2.4**
DL2 S **S 12 24 11.2 -4.9**
DL2 pmax pmax
comp=Z,26nm,1.3s
DL2 pmax pmax
comp=Z,250nm,5.1s
DL2 LR LR
comp=Z,390nm,18.0s
DL2 LR LR
comp=Z,300nm,23.7s
DL2 LR LR
comp=Z,540nm,15.2s
PSZ Piszkesteto 72.16 329 IAmb IAmb 12 15 05.5
comp=Z,18nm,1.3s
PSZ Piszkesteto 72.16 329 *e*P **P 12 14 57.2 -0.7**
STHS Stebnicka Huta 72.51 331 P P 12 15 06.3 +6.4
SNAA Sanae 72.66 198 P **P 12 14 59.7 -0.9**
SNAA Sanae 72.66 198 ⇓P **P 12 14 59.9 -0.6**
SNAA Sanae 72.66 198 P **P 12 14 59.5 -1.0**
comp=Z,4.7nm,1.0s,baz=67,slow=13,SNR=5.6
SNAA LR LR 12 39 18.3
comp=Z,414nm,20.9s,baz=92,slow=30
comp=Z,4.7nm,1.0s
SNAA Sanae 72.66 198*ce*P **P 12 15 00.2 -0.3**
SNAA pmax pmax
comp=Z,5.0nm,1.0s
SRO Srobarova 72.89 328 *e*P **P 12 15 02.1 0.0**
SRO pmax pmax
comp=Z,21nm,1.1s
SRO Srobarova 72.89 328 *e*P **P 12 15 02.1 0.0**
FDMO Fiordimonte 72.92 322 IAmb IAmb 12 15 10.3
comp=Z,15nm,1.0s
NIE Niedzica 72.96 330 *e*P **P 12 15 02.8 +0.2**
VYHS Vyhne 73.07 329 *e*P **P 12 15 02.8 -0.4**
VYHS *e* 12 15 10.6
VYHS pmax pmax
comp=Z,121nm,2.5s
VYHS Vyhne 73.07 329 *e*P **P 12 15 02.8 -0.4**
VYHS *e* 12 15 10.6
VYHS *e* 12 18 54.7
KOGS Kog 73.12 326 *i* P **P 12 15 03.2 -0.3**
LANS Liptovska Anna 73.19 330 *e*P **P 12 15 03.6 -0.3**
LANS *e* 12 15 12.2
LANS pmax pmax
comp=Z,6.0nm,1.1s
LANS Liptovska Anna 73.19 330 *e*P **P 12 15 03.6 -0.3**
LANS *e* 12 15 12.2
DBIC Dimbokro 73.19 281 LR LR 12 44 59.6
comp=Z,701nm,21.6s,baz=98,slow=34
MNK Minsk 73.40 338 *i* LRM MLR 12 51 11.4
comp=E,628nm,17.7s
MNK Minsk 73.40 338 *i* P **P 12 15 04.1 -0.9**
MNK *i* 12 15 21.9
MNK *i* S **S 12 24 33.9 +0.1**
MNK *i* PS PnS 12 25 22.7 +16
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=E,15nm,0.9s
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK MLR MLR
comp=N,509nm,19.0s
MNK MLR MLR
comp=Z,77nm,18.0s
MNK MLR MLR
comp=E,628nm,18.0s
MNK Minsk 73.40 338 *i* P **P 12 15 04.1 -0.9**
comp=E,15nm,0.9s
MNK Minsk 73.40 338 *i* P **P 12 15 04.1 -0.9**
comp=N,9.0nm,0.9s
MNK Minsk 73.40 338 *i* P **P 12 15 04.1 -0.9**
comp=Z,15nm,0.8s,baz=140
MNK Minsk 73.40 338 *i* PcP **PcP 12 15 22.0 +0.8**
MNK Minsk 73.40 338 *i* PP PP 12 17 33.5 -15
MNK Minsk 73.40 338 *i* PPP PPP 12 19 05.2
MNK Minsk 73.40 338 *i* S **S 12 24 33.9 +0.1**
MNK Minsk 73.40 338 *i* PS 12 25 22.8
MNK Minsk 73.40 338 *i* SS SS 12 29 22.8 +6.2
MNK Minsk 73.40 338 *i* SSS SSS 12 34 05.3
MNK Minsk 73.40 338 *i* LQ LQ 12 42 01.8
MNK Minsk 73.40 338 *i* LR LR 12 46 43.9
MNK Minsk 73.40 338 *i* LRM MLR 12 49 59.0
comp=N,509nm,18.9s
MNK Minsk 73.40 338 *i* LRM MLR 12 50 13.2
comp=Z,77nm,17.5s
GROS Grobnik 73.54 326 *e*P **P 12 15 05.9 -0.2**
OJC Ojcow 73.74 331 *e*P **P 12 15 05.9 -1.2**
OJC Ojcow 73.74 331 IAmb IAmb 12 15 14.7
comp=Z,20nm,1.2s
MODS Modra-Piesok 73.79 328 *e*P **P 12 15 06.8 -0.7**
MODS *e* 12 15 14.9
MODS pmax pmax
comp=Z,28nm,1.2s
MODS Modra-Piesok 73.79 328 *e*P **P 12 15 06.8 -0.7**
MODS *e* 12 15 14.9
MODS *e* 12 19 02.6
PERS Pernice 73.86 326 *e*P **P 12 15 07.6 -0.3**
RONA Rosalia, Austr 73.88 327 *e*P **P 12 15 07.8 -0.2**
comp=Z,14nm,1.5s
JAVC Velka Javorina 73.90 329 *e*P **P 12 15 08.4 +0.3**
SOKA Soboth 73.93 326 *i* P **P 12 15 08.2 -0.3**
comp=Z,11nm,1.5s,SNR=8.4
JAY Jayapura 74.08 89 LR LR 12 44 56.1
comp=Z,88nm,21.5s,baz=224,slow=34
QLP Quilpie 74.09 114 P **P 12 15 10.6 +0.8**
comp=Z,28nm,1.7s
OBKA Obir 74.09 326 *e*P **P 12 15 09.4 0.0**
comp=Z,17nm,1.6s
VNA1 Neumayer--Stat 74.13 200 ⇓P **P 12 15 10.9 +1.8**
CASP Castiglione de 74.14 321 IAmb IAmb 12 15 17.4
comp=Z,29nm,1.2s
MAUC Maruska 74.14 329 *e*P **P 12 15 09.6 +0.1**
MAUC *ex* x 12 15 17.1
CONA Conrad Observa 74.25 327 *i* P **P 12 15 10.0 -0.2**
comp=Z,22nm,1.3s,SNR=13
SABO M.te Sabotino 74.31 325 IAmb IAmb 12 15 18.6
comp=Z,24nm,1.3s
TOO Toolangi 74.42 126 P **P 12 15 11.7 +0.2**
TOO IAmb IAmb 12 15 21.4
comp=Z,34nm,1.6s
TOO Toolangi 74.42 126 P **P 12 15 12.1 +0.5**
comp=Z,11nm,2.5s
TOO Toolangi 74.42 126 P **P 12 15 11.7 +0.2**
TOO pmax pmax
comp=Z,34nm,1.6s
MORC Moravsky Berou 74.55 330 IAmb IAmb 12 15 20.0
comp=Z,17nm,1.1s
MORC Moravsky Berou 74.55 330 *e*P **P 12 15 10.8 -1.1**
MORC Moravsky Berou 74.55 330 ⇓P **P 12 15 10.8 -1.1**
MORC Moravsky Berou 74.55 330 ⇓P **P 12 15 10.8 -1.1**
MYKA Terra Mystica 74.67 325 *e*P **P 12 15 13.0 +0.3**
comp=Z,7.9nm,1.2s
KRUC Moravsky 74.67 328 *e*P **P 12 15 11.1 -1.5**
VRAC Vranov 74.73 329 *e*P **P 12 15 12.7 -0.2**
VRAC Vranov 74.73 329 ⇓P **P 12 15 12.5 -0.4**
VRAC Vranov 74.73 329 ⇓P **P 12 15 12.5 -0.4**
CMSA Cobar Meteorol 74.95 120 P **P 12 15 15.1 +0.4**
comp=Z,37nm,1.2s
MOA Molln 75.05 327 *i* P **P 12 15 14.9 0.0**
comp=Z,16nm,0.9s,SNR=8.3
MTSU Mount Surprise 75.09 106 P **P 12 15 16.3 +0.6**
comp=Z,11nm,1.3s
MTSU Mount Surprise 75.09 106 P P 12 15 23.0 +7.3
KBA Koelnbreinsper 75.10 326 *i* P **P 12 15 15.0 -0.3**
comp=Z,15nm,1.5s,SNR=7.1
KLMR Klimovskoe 75.25 347 *e*P **P 12 15 12.3 -3.3**
KLMR pmax pmax
comp=Z,58nm,1.3s
BIOA Bad Ischl, Aus 75.30 326 *i* P **P 12 15 15.9 -0.4**
comp=Z,8.0nm,1.1s,SNR=7.9
KSAR Wonju Array Be 75.36 46 P **P 12 15 16.3 -0.5**
KSAR Wonju Array Be 75.36 46 P **P 12 15 16.3 -0.5**
ABTA Abfaltersbach 75.37 325 *i* P **P 12 15 16.7 -0.1**
comp=Z,19nm,1.2s,SNR=16
KSRS Korea Array 75.39 46 P **P 12 15 16.1 -0.9**
comp=Z,5.3nm,1.0s,baz=239,slow=5.3,SNR=16
KSRS LR LR 12 47 56.7
comp=Z,548nm,20.7s,baz=235,slow=35
comp=Z,5.3nm,1.0s
CTI Castel Tesino 75.47 324 IAmb IAmb 12 15 25.7
comp=Z,34nm,1.6s
PABE Paberze 75.65 337 *e*P **P 12 15 17.9 -0.1**
LESA Schwarzleotal 75.67 326 *i* P **P 12 15 17.6 -0.9**
comp=Z,12nm,1.1s,SNR=11
JNU Nakatsue 75.70 51 IAmb IAmb 12 15 44.5
comp=Z,32nm,1.2s
JNU Nakatsue 75.70 51 LR LR 12 50 19.2
comp=Z,175nm,18.2s,baz=245,slow=37
KSP Ksiaz 75.85 330 *e*P **P 12 15 19.5 +0.2**
GERES GERESS Array B 75.95 327 P **P 12 15 18.5 -1.6**
comp=Z,1.6nm,0.9s,baz=104,slow=8.5,SNR=8.9
comp=Z,1.6nm,0.9s
ZVC Zvikov 76.05 328 *e*P **P 12 15 19.7 -0.8**
ZVC *ep*P **pwP 12 15 27.0 -1.3**
WTTA Wattenberg 76.16 325 *i* P **P 12 15 20.9 -0.5**
comp=Z,17nm,1.0s,SNR=7.9
KHC Kasperske Hory 76.18 327 *e*P **P 12 15 20.1 -1.2**
KHC *ep*P **sP 12 15 26.4 +1.4**
KHC Kasperske Hory 76.18 327*ce*P **P 12 15 20.5 -0.8**
KHC pmax pmax
comp=Z,71nm,2.5s
WATA Walderalm 76.23 325 *i* P **P 12 15 21.1 -0.7**
comp=Z,18nm,1.3s,SNR=9.1
SQTA Sankt Quirin 76.38 325 *i* P **P 12 15 21.8 -0.7**
comp=Z,13nm,1.2s,SNR=6.4
MOTA Moosalm 76.50 325 *e*P **P 12 15 22.7 -0.7**
comp=Z,8.4nm,1.0s
FETA Feichten 76.54 324 *e*P **P 12 15 23.2 -0.4**
comp=Z,13nm,1.4s
FUORN Ofenpass-Fuorn 76.58 324 IAmb IAmb 12 15 32.3
comp=Z,19nm,1.2s
RETA Reutte 76.78 325 *e*P **P 12 15 23.6 -1.2**
comp=Z,11nm,1.4s
CN2 Changchun 76.79 40 P **P 12 15 23.8 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
VSU Vasula 76.86 340 *e*P **P 12 15 24.5 -0.4**
DAVOX Davos/Dischmat 76.89 324 LR LR 12 51 25.7
comp=Z,25nm,18.3s,baz=40,slow=37
TUE Stuetta 77.03 323 IAmb IAmb 12 15 29.3
comp=Z,21nm,1.4s
BRG Berggiesshubel 77.04 329 Amp 12 15 36.0
comp=Z,34nm,1.4s
BRG Berggiesshubel 77.04 329 P P 12 15 34.4 +8.3
DAVA Damuels 77.17 324 *e*P **P 12 15 26.7 -0.4**
comp=Z,11nm,1.0s
GRF Grafenberg Arr 77.76 327 *e*P 12 15 29.4
comp=Z,18nm,1.1s,baz=125,slow=6.6
GRF *ep*P 12 15 37.1
GRFO Grafenberg 77.76 327 P **P 12 15 29.6 -0.5**
GRFO IAmb IAmb 12 15 38.4
comp=Z,35nm,1.1s
GRFO Grafenberg 77.76 327 P **P 12 15 29.6 -0.5**
GRFO pmax pmax
comp=Z,35nm,1.1s
CLL Collm 77.77 329 P **P 12 15 30.2 0.0**
CLL IAmb IAmb 12 15 39.2
comp=Z,15nm,1.1s
CLL Collm 77.77 329 *i* P **P 12 15 29.3 -0.8**
CLL *i* 12 15 37.4
CLL pmax pmax
comp=Z,138nm,2.4s
CLL Collm 77.77 329 *i* x x 12 15 37.4
comp=Z,22nm,1.3s
CLL Collm 77.77 329 *i* P **P 12 15 29.3 -0.8**
comp=Z,138nm,2.4s
RUE Ruedersdorf 78.09 330 *e*P **P 12 15 31.7 -0.1**
STU Stuttgart 78.36 325 *e*P **P 12 15 33.2 -0.3**
QSPA South Pole Qui 78.53 180 P **P 12 15 34.5 +0.1**
QSPA IAmb IAmb 12 15 37.8
comp=Z,44nm,1.3s
QSPA South Pole Qui 78.53 180 P **P 12 15 34.0 -0.4**
comp=Z,14nm,1.1s,baz=268,slow=4.0,SNR=14
QSPA LR LR 12 45 32.0
comp=Z,303nm,20.8s,baz=297,slow=32
comp=Z,14nm,1.1s
BFO Black Forest 78.61 325 P **P 12 15 35.2 +0.3**
BFO Black Forest 78.61 325 P **P 12 15 35.2 +0.3**
BFO pmax pmax
comp=Z,11nm,1.1s
BNX BinXian 78.96 39 ⇓P **P 12 15 35.6 -1.3**
BNX pmax pmax
comp=Z,5.0nm,1.1s
JOF Joensuu 79.03 344 *e*P **P 12 15 36.8 0.0**
PMG Port Moresby 79.14 97 LR LR 12 46 20.9
comp=Z,306nm,19.8s,baz=255,slow=32
FINES FINESS Array B 79.36 342 P **P 12 15 37.2 -1.4**
comp=Z,2.0nm,0.8s,baz=138,slow=9.1,SNR=5.5
comp=Z,2.0nm,0.8s
MDJ Mudanjiang 79.79 40 P **P 12 15 41.1 -0.3**
MDJ pmax pmax
comp=Z,15nm,1.0s
VNDA Vanda 79.99 167 P **P 12 15 42.8 +0.8**
VNDA Vanda 79.99 167 P **P 12 15 41.5 -0.5**
comp=Z,2.1nm,1.0s,baz=258,slow=5.8,SNR=5.4
comp=Z,2.1nm,1.0s
VNDA Vanda 79.99 167 P **P 12 15 42.8 +0.8**
VNDA pmax pmax
comp=Z,21nm,1.7s
ARMA Armidale 80.14 119 IAmb IAmb 12 15 53.9
comp=Z,41nm,1.4s
ARMA Armidale 80.14 119 P **P 12 15 44.9 +1.1**
comp=Z,20nm,1.3s
ARMA Armidale 80.14 119 P P 12 15 51.6 +7.7
MDT Midelt 80.75 306 LR LR 12 52 12.1
comp=Z,158nm,19.3s,baz=152,slow=36
SBA Scott Base 80.97 168 P **P 12 15 48.1 +0.9**
SBA IAmb IAmb 12 15 57.7
comp=Z,36nm,1.6s
SBA Scott Base 80.97 168 P **P 12 15 48.1 +0.9**
SBA pmax pmax
comp=Z,36nm,1.6s
USRK Ussuriysk Ar. 81.15 41 P **P 12 15 47.5 -1.1**
USRK Ussuriysk Ar. 81.15 41 P **P 12 15 47.4 -1.3**
comp=Z,5.5nm,1.0s,baz=255,slow=5.7,SNR=7.0
USRK LR LR 12 51 50.8
comp=Z,212nm,20.0s,baz=243,slow=36
comp=Z,5.5nm,1.0s
USRK Ussuriysk Ar. 81.15 41 P **P 12 15 47.6 -1.1**
VAF Yilstaro 81.62 341 *e*P **P 12 15 50.8 0.0**
GUMO Guam 81.67 74 LR LR 12 48 56.6
comp=Z,45nm,21.7s,baz=217,slow=33
NRIK Noril'sk 82.02 7 P **P 12 15 51.4 -1.4**
comp=Z,2.6nm,0.8s,baz=194,slow=4.3,SNR=9.6
NRIK LR LR 12 52 37.2
comp=Z,161nm,19.9s,baz=190,slow=36
comp=Z,2.6nm,0.8s
NRIK Noril'sk 82.02 7*ce*P **P 12 15 52.5 -0.3**
NRIK pmax pmax
comp=Z,8.0nm,1.6s
MJAR Matsushiro Arr 82.57 50 P **P 12 15 55.7 -0.7**
comp=Z,8.3nm,1.1s,baz=235,slow=5.1,SNR=12
MJAR LR LR 12 50 38.7
comp=Z,179nm,21.8s,baz=250,slow=34
comp=Z,8.3nm,1.1s
ESDC Sonseca Array 82.69 313 P **P 12 15 56.9 -0.1**
ESDC Sonseca Array 82.69 313 P **P 12 15 56.4 -0.6**
comp=Z,4.0nm,1.1s,baz=102,slow=5.4,SNR=9.7
ESDC LR LR 12 51 22.2
comp=Z,99nm,20.2s,baz=138,slow=35
comp=Z,4.0nm,1.1s
JCJ Chichijima 82.80 61 LR LR 12 45 26.1
comp=Z,104nm,21.9s,baz=265,slow=30
HFS Hagfors 82.82 336 P **P 12 15 55.8 -1.4**
comp=Z,4.9nm,1.0s,baz=114,slow=3.5,SNR=5.6
comp=Z,4.9nm,1.0s

ZEA	**Zeya**	**82.86**	**32**	*e*P		**P**	**12 15 57.5**	**0.0**
ZEA				MLR		MLR		
	comp=N,200nm,17.0s							
ZEA				MLR		MLR		
	comp=E,200nm,15.0s							
ZEA				MLR		MLR		
	comp=Z,400nm,17.0s							
KLR	**Kul'dur**	**83.20**	**37**	LR		LR	12 58 50.4	
	comp=Z,90nm,18.1s,baz=244,slow=40							
KLR	**Kul'dur**	**83.20**	**37**	*ce*P		**P**	**12 15 58.8**	**-0.5**
KLR				pmax		pmax		
	comp=Z,25nm,2.5s							
NOA	**NORSAR Array B**	**84.35**	**336**	P		**P**	**12 16 03.7**	**-1.3**
	comp=Z,3.0nm,1.1s,baz=118,slow=4.9,SNR=5.7							
	comp=Z,3.0nm,1.1s							
ARCES	**ARCESS Array B**	**85.73**	**347**	P		**P**	**12 16 10.3**	**-1.5**
	comp=Z,5.5nm,0.9s,baz=148,slow=8.1,SNR=4.0							
ARCES				LR		LR	12 55 12.2	
	comp=Z,114nm,20.0s,baz=130,slow=36							
	comp=Z,5.5nm,0.9s							
BBTS	**Babate**	**86.22**	**286**	LR		LR	12 54 33.1	
	comp=Z,240nm,18.6s,baz=353,slow=36							
GRNR	**Gornyy**	**86.58**	**37**	⅊ *i*P		**P**	**12 16 16.0**	**-0.4**
GRNR				pmax		pmax		
	comp=Z,10.0nm,1.2s							
YAK	**Yakutsk**	**88.11**	**25**	LR		LR	12 55 57.8	
	comp=Z,301nm,20.2s,baz=241,slow=36							
HNR	**Honiara**	**91.53**	**100**	LR		LR	12 56 11.8	
	comp=Z,138nm,18.1s,baz=216,slow=34							
TIXI	**Tiksi**	**92.56**	**16**	P		**P**	**12 16 43.1**	**-0.9**
TIXI	**Tiksi**	**92.56**	**16**	P		**P**	**12 16 43.1**	**-0.9**
	comp=Z,5.1nm,0.8s,baz=224,slow=1.6,SNR=14							
	comp=Z,5.1nm,0.8s							
TIXI	**Tiksi**	**92.56**	**16**	*ce*P		**P**	**12 16 43.5**	**-0.5**
TIXI				pmax		pmax		
	comp=Z,40nm,2.5s							
SPITS	**Spitsbergen Ar**	**93.71**	**351**	LR		LR	13 01 50.0	
	comp=Z,61nm,20.2s,baz=68,slow=37							
DZM	**Mont Dzumac**	**94.79**	**114**	*e*LR		LR	12 47 26.5	
	comp=Z,777nm,25.0s							
PMSA	**Palmer Station**	**95.35**	**199**	LR		LR	12 52 24.3	
	comp=Z,152nm,18.8s,baz=128,slow=31							
MA2	**Magadan**	**96.98**	**31**	LR		LR	13 01 37.0	
	comp=Z,190nm,19.6s,baz=259,slow=36							
SEY	**Seymchan**	**98.33**	**27**	LR		LR	13 02 09.6	
	comp=Z,818nm,20.1s,baz=314,slow=36							
SEY	**Seymchan**	**98.33**	**27**	*ce*P		**P**	**12 17 10.2**	**-0.3**
SEY				pmax		pmax		
	comp=Z,8.0nm,1.7s							
BORG	**Borgarnes**	**99.39**	**334**	LR		LR	13 02 01.9	
	comp=Z,60nm,21.4s,baz=64,slow=35							
BILL	**Biiibino**	**104.30**	**22**	*i* P		**Pdif**	**12 17 36.2**	**-0.8**
BILL				pmax		pmax		
	comp=Z,1.0nm,1.1s							
RES	**Resolute Bay**	**115.99**	**355**	PKP		**PKiKP**	**12 22 14.8**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=343,slow=2.6,SNR=4.0							
ILAR	**Eielson Array**	**122.03**	**16**	PKP		**PKPdf**	**12 22 24.5**	**-2.8**
	comp=Z,0.6nm,1.0s,baz=319,slow=5.2,SNR=3.5							
LPAZ	**La Paz**	**127.25**	**239**	PKP		**PKPdf**	**12 22 36.9**	**-2.6**
	comp=Z,0.6nm,0.5s,baz=73,slow=3.3,SNR=4.3							
YKA	**Yellowknife Ar**	**129.12**	**1**	PKP		**PKPdf**	**12 22 39.8**	**-1.1**
	comp=Z,1.5nm,1.0s,baz=12,slow=2.2,SNR=12							
YKA				PP		**PP**	**12 24 46.2**	**-2.1**
	comp=Z,1.3nm,1.1s,baz=10.0,slow=5.7,SNR=9.6							
TBI	**Tubuai**	**130.64**	**135**	*e*LR		LR	13 04 02.6	
	comp=Z,410nm,28.2s							
PPT2	**Papeete2**	**134.14**	**129**	*e*LR		LR	13 05 37.4	
	comp=Z,169nm,25.8s							
PPT2				*e*LR		LR	13 05 42.9	
	comp=Z,124nm,27.8s							
RKT	**Rikitea**	**139.68**	**149**	*e*LR		LR	13 08 18.4	
	comp=Z,993nm,27.0s							
CPCT	**Cooper Cave**	**144.52**	**317**	PKPdf		**PKPab**	**12 23 08.3**	**-0.2**
MSO	**Missoula**	**144.82**	**0**	PKPdf		**PKPab**	**12 23 08.9**	**-0.5**
GOGA	**Godfrey**	**144.90**	**313**			**PKPab**	**12 23 09.6**	**-0.3**
GOGA	**Godfrey**	**144.90**	**313**	PKIKP		**PKPab**	**12 23 09.6**	**-0.3**
W50A	**Signal Mountai**	**145.19**	**317**			**PKPbc**	**12 23 10.8**	**-0.1**
SWET	**Sewanee**	**145.59**	**318**			**PKPdf**	**12 23 11.8**	**-0.2**
FPAL	**Fort Paine**	**145.78**	**317**			**PKPdf**	**12 23 12.2**	**-0.1**
WVT	**Waverly**	**146.24**	**321**	PKPdf		**PKPdf**	**12 23 12.7**	**-0.4**
WVT	**Waverly**	**146.24**	**321**	PKP2		**PKPdf**	**12 23 12.7**	**-0.4**
PLID	**Pearl Lake**	**146.50**	**3**	PKPdf		**PKPdf**	**12 23 13.0**	**-0.5**
Y49A	**Blount Mountai**	**146.71**	**316**	PKPab		**PKPbc**	**12 23 14.9**	**-0.7**
X48A	**Hartselle**	**146.78**	**318**	PKPab		**PKPbc**	**12 23 15.4**	**-0.4**
PLAL	**Pickwick Lake**	**147.13**	**319**			**PKPbc**	**12 23 15.7**	**-1.1**
LRAL	**Lakeview Retre**	**147.59**	**316**			**PKPbc**	**12 23 17.7**	**-0.3**
PDAR	**Pinedale Array**	**148.69**	**354**	PKPdf		**PKPdf**	**12 23 16.8**	**-0.5**
PDAR				PKPbc		**PKPbc**	**12 23 20.9**	**-0.1**
PDAR				PKPab		**sPKPab**	**12 23 28.9**	**+0.7**
PDAR	**Pinedale Array**	**148.69**	**354**	PKPbc		**PKPbc**	**12 23 19.9**	**-1.0**
	comp=Z,3.3nm,0.8s,baz=67,slow=1.6,SNR=22							
T35A	**Sooner Cattle**	**150.43**	**332**			**PKPbc**	**12 23 25.3**	**+0.1**
ELK	**Elko**	**150.86**	**3**			**PKiKP**	**12 23 26.8**	**-0.2**
ELK				PKPab		**PKPab**	**12 23 34.4**	**+0.9**
ELK	**Elko**	**150.86**	**3**	PKIKP		**PKiKP**	**12 23 26.8**	**-0.2**
ELK							12 23 34.4	
TUL3	**Leonard**	**150.89**	**329**			**PKiKP**	**12 23 26.9**	**0.0**
NVAR	**Mina Array Bea**	**152.88**	**8**			**PKiKP**	**12 23 31.8**	**+0.5**
NVAR	**Mina Array Bea**	**152.88**	**8**	PKPbc		**PKiKP**	**12 23 31.2**	**0.0**
	comp=Z,2.8nm,0.8s,baz=341,slow=2.8,SNR=18							
HERN	**Volcan Telica**	**153.85**	**275**			**PKPbc**	**12 23 31.8**	**-1.8**
BRDY	**Brady**	**156.18**	**328**	PKPab		**PKPab**	**12 23 56.1**	**+0.2**
DRIO	**Del Rio**	**158.50**	**328**			**PKPab**	**12 24 05.1**	**-0.9**
TXAR	**Lajitas Array**	**160.03**	**334**	PKPab		**PKPab**	**12 24 11.9**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=54,slow=3.2,SNR=4.0							
TXAR	**Lajitas Array**	**160.03**	**334**	PKP2		**PKPab**	**12 24 12.0**	**-0.7**

*NEIC **06** 12:07:21.4±0.8, 11°.9S±0°.1×66°.9E±0°.1, h10km±2km, mb4.6/25, Error ellipse: s-maj=23.5km s-min=16.2km az=158.0*
*IDC **06** 12:07:22.4±0.7, 11°.46S×66°.40E, h0km, mb4.1/19, mbtmp4.1/20, ML3.8/1, Error ellipse: s-maj=22.0km s-min=18.6km az=31.0*
ISC 06 12:07:23.8±0.6, 11°.5S±0°.1×66°.54E±0°.08, h13km, n74, σ1§18/67, mb4.5/42, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**7.01**	**57**	T	T	12 16 30.1	
	baz=237,slow=75,SNR=16						
H08S2	**Diego Garcia H**	**7.03**	**57**	T	T	12 16 33.9	
	baz=237,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**7.03**	**57**	T	T	12 16 33.6	
	baz=237,slow=75,SNR=15						
DGAR	**Diego Garcia**	**7.13**	**55**	Pn	**Pn**	**12 09 04.2**	**-3.6**
MSEY	**Mahe Island**	**12.90**	**301**	Pn	**Pn**	**12 10 28.8**	**+1.8**
OPO	**Ambohidratompo**	**19.94**	**247**	Pn	**Pn**	**12 11 57.2**	**-0.4**
	baz=100,slow=19,SNR=1.7						
	2.8nm,1.0s						
VOI	**Vohitsoka**	**21.52**	**239**	P	**P**	**12 12 11.3**	**-1.6**
KMBO	**Kilima Mbogo**	**30.85**	**287**	P	**P**	**12 13 40.8**	**+0.5**
KMBO	**Kilima Mbogo**	**30.85**	**287**	P	**P**	**12 13 39.7**	**-0.6**
	1.0nm,0.3s,baz=82,slow=7.0,SNR=3.6						
	1.0nm,0.3s						
POGA	**Pongola**	**36.26**	**239**	P	**P**	**12 14 24.2**	**-2.8**
LSZ	**Lusaka**	**37.46**	**260**	P	**P**	**12 14 37.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**43.70**	**47**	P	**P**	**12 15 30.1**	**+1.2**
	0.7nm,0.3s,baz=220,slow=8.2,SNR=4.8						
	0.7nm,0.3s						
H01W3	**Cape Leeuwin H**	**48.97**	**126**	T	T	13 08 47.5	
	baz=287						
H01W2	**Cape Leeuwin H**	**48.97**	**126**	T	T	13 08 50.3	
	baz=287						
H01W1	**Cape Leeuwin H**	**48.98**	**126**	T	T	13 08 51.1	
	baz=287						
SIMJ	**Simiganj**	**49.99**	**3**	P	**P**	**12 16 17.5**	**-0.4**
GAR	**Garm**	**50.40**	**4**	P	**P**	**12 16 20.5**	**-0.5**
BKB	**Balikpapan**	**50.99**	**82**	P	P	12 16 20.0	-5.8
DRK	**Karamyk**	**50.99**	**5**	P	**P**	**12 16 25.4**	**-0.2**
DRK				IAmb	IAmb	12 16 34.5	
	comp=Z,9.6nm,0.8s						
BTK	**Batken**	**51.48**	**4**	P	**P**	**12 16 29.2**	**0.0**
BTK				IAmb	IAmb	12 16 33.2	
	comp=Z,8.7nm,1.0s						
AAK	**Ala-Archa**	**54.40**	**7**	P	**P**	**12 16 50.0**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=185,slow=13,SNR=3.9						
	comp=Z,1.4nm,0.7s						
KKAR	**Karatay Array**	**54.49**	**4**	P	**P**	**12 16 51.1**	**-0.1**
KKAR	**Karatay Array**	**54.49**	**4**	P	**P**	**12 16 51.3**	**+0.1**
GURO	**Guroymak-BITLI**	**54.84**	**337**	P	**P**	**12 16 54.5**	**+0.5**
GURO				IAmb	IAmb	12 16 56.7	
	comp=Z,4.0nm,0.7s						
KOPT	**Kop Dagi**	**56.70**	**336**	P	**P**	**12 17 07.4**	**-0.1**
KBZ	**Khabaz**	**59.07**	**340**	P	**P**	**12 17 23.8**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=170,slow=7.6,SNR=4.1						
	comp=Z,2.2nm,0.8s						
BRTR	**Keskin Array B**	**59.46**	**331**	P	**P**	**12 17 27.1**	**+0.5**
BRTR	**Keskin Array B**	**59.46**	**331**	P	**P**	**12 17 26.9**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=153,slow=13,SNR=3.5						
	comp=Z,0.7nm,0.8s						
MK31	**Makanchi Array**	**59.76**	**12**	P	**P**	**12 17 27.6**	**-0.8**
MK31				IAmb	IAmb	12 17 43.2	
	comp=Z,4.5nm,1.4s						
MKAR	**Makanchi Array**	**59.76**	**12**	P	**P**	**12 17 26.4**	**-2.0**
MKAR	**Makanchi Array**	**59.76**	**12**	P	**P**	**12 17 28.9**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=204,slow=7.2,SNR=8.5						
	comp=Z,1.2nm,0.6s						
AB31	**Akbulak array**	**60.81**	**355**	P	**P**	**12 17 34.9**	**-0.6**
AB31				IAmb	IAmb	12 17 37.2	
	comp=Z,9.8nm,0.9s						
ABKAR	**Akbulak array**	**60.81**	**355**	P	**P**	**12 17 35.1**	**-0.4**
ABKAR	**Akbulak array**	**60.81**	**355**	P	**P**	**12 17 34.9**	**-0.6**
KURBB	**Kurchatov Arra**	**62.78**	**9**	P	**P**	**12 17 49.1**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=207,slow=7.0,SNR=12						
	comp=Z,2.4nm,0.8s						
KURK	**Kurchatov**	**62.88**	**9**	P	**P**	**12 17 48.8**	**-0.6**
KURK				IAmb	IAmb	12 17 51.2	
	comp=Z,4.3nm,0.8s						
BVAR	**Borovoye Array**	**64.39**	**3**	P	**P**	**12 17 59.4**	**0.0**
	comp=Z,2.8nm,0.7s,baz=167,slow=7.0,SNR=12						
	comp=Z,2.8nm,0.7s						
BRVK	**Borovoye**	**64.42**	**3**	P	**P**	**12 17 59.4**	**-0.1**
BRVK				IAmb	IAmb	12 18 01.1	
	comp=Z,3.0nm,0.9s						
ASAR	**Alice Springs**	**64.84**	**111**	P	**P**	**12 18 04.2**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=270,slow=6.4,SNR=5.8						
	comp=Z,1.2nm,0.8s						
WRA	**Warramunga Arr**	**65.43**	**107**	P	**P**	**12 18 08.1**	**+1.2**
	comp=Z,1.7nm,0.9s,baz=268,slow=6.4,SNR=5.3						
	comp=Z,1.7nm,0.9s						
ZAA0	**Zalesovo Array**	**67.06**	**12**	P	**P**	**12 18 16.0**	**-0.5**
ZAA0				IAmb	IAmb	12 18 17.5	
	comp=Z,5.3nm,1.1s						
ZALV	**Zalesovo Beam**	**67.06**	**12**	P	**P**	**12 18 15.4**	**-1.2**
ZALV	**Zalesovo Beam**	**67.06**	**12**	P	**P**	**12 18 16.4**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=198,slow=4.2,SNR=7.1						
	comp=Z,2.3nm,0.8s						
MLR	**Muntele Rosu**	**67.53**	**330**	P	**P**	**12 18 21.1**	**+1.2**
MLR				IAmb	IAmb	12 18 31.9	
	comp=Z,4.6nm,1.0s						
ARTI	**Arti**	**68.01**	**355**	P	**P**	**12 18 22.6**	**0.0**
	comp=Z,2.9nm,0.7s,baz=164,slow=12,SNR=4.2						
	comp=Z,2.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**68.85**	**289**	P	**P**	**12 18 28.2**	**-0.5**
	comp=Z,62nm,0.3s,baz=122,slow=2.9,SNR=1.6						
SONM	**Songino Array**	**68.89**	**28**	P	**P**	**12 18 26.8**	**-1.7**
SONM				IAmb	IAmb	12 18 32.5	
	comp=Z,3.4nm,0.9s						
SONM	**Songino Array**	**68.89**	**28**	P	**P**	**12 18 29.8**	**+1.4**
	comp=Z,2.5nm,0.8s,baz=218,slow=6.2,SNR=10						
	comp=Z,2.5nm,0.8s						
BURAR	**Bucovina Array**	**69.41**	**331**	P	**P**	**12 18 31.9**	**+0.3**
AKASG	**Malin Array Be**	**69.98**	**336**	P	**P**	**12 18 34.2**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=137,slow=5.5,SNR=7.7						
	comp=Z,1.5nm,0.6s						
AKBB	**Malin Array Si**	**69.98**	**336**	P	**P**	**12 18 34.9**	**0.0**
AKBB				IAmb	IAmb	12 18 42.6	
	comp=Z,9.5nm,1.1s						
INTR	**Introdacqua**	**71.90**	**321**	P	**P**	**12 18 46.8**	**-0.1**
INTR				IAmb	IAmb	12 18 48.2	
	comp=Z,12nm,1.2s						
SOKA	**Soboth**	**73.98**	**326**	*i* P	**P**	**12 19 01.7**	**+2.5**
	comp=Z,5.9nm,1.5s						
OBKA	**Obir**	**74.15**	**326**	*e*P	**P**	**12 19 02.7**	**+2.6**
	comp=Z,8.3nm,1.6s						
CONA	**Conrad Observa**	**74.30**	**327**	*i* P	**P**	**12 19 02.0**	**+1.1**
	comp=Z,6.9nm,1.1s						
MOA	**Molln**	**75.11**	**327**	*i* P	**P**	**12 19 06.8**	**+1.2**
	comp=Z,1.1nm,1.3s						
KBA	**Koelnbreinsper**	**75.16**	**326**	*i* P	**P**	**12 19 05.7**	**-0.3**
	comp=Z,7.0nm,1.8s						
ABTA	**Abfaltersbach**	**75.43**	**325**	*i* P	**P**	**12 19 08.9**	**+1.4**
	comp=Z,7.0nm,0.9s						
LESA	**Schwarzleotal**	**75.73**	**326**	*i* P	**P**	**12 19 09.8**	**+0.5**
	comp=Z,6.8nm,1.0s						
GERES	**GERESS Array B**	**76.00**	**327**	P	**P**	**12 19 10.5**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=134,slow=4.2,SNR=5.4						
	comp=Z,0.5nm,0.7s						
WTTA	**Wattenberg**	**76.22**	**325**	*i* P	**P**	**12 19 12.8**	**+0.7**
	comp=Z,8.7nm,1.1s						
WATA	**Walderalm**	**76.29**	**325**	*i* P	**P**	**12 19 13.1**	**+0.6**
	comp=Z,6.1nm,0.9s						
SQTA	**Sankt Quirin**	**76.43**	**325**	*i* P	**P**	**12 19 13.9**	**+0.6**
	comp=Z,5.7nm,1.0s						
MOTA	**Moosalm**	**76.56**	**325**	*i* P	**P**	**12 19 13.7**	**-0.3**
	comp=Z,5.1nm,1.0s						
FETA	**Feichten**	**76.59**	**324**	*e*P	**P**	**12 19 12.5**	**-1.8**
	comp=Z,5.0nm,1.1s						
BRG	**Berggiesshubel**	**77.09**	**329**	P	**P**	**12 19 19.4**	**+2.6**
BRG				Amp		12 19 21.1	
	comp=Z,5.2nm,1.3s						
QSPA	**South Pole Qui**	**78.52**	**180**	P	**P**	**12 19 26.4**	**+1.7**
	comp=Z,1.6nm,1.1s,baz=270,slow=3.9,SNR=3.2						
	comp=Z,1.6nm,1.1s						
MJAR	**Matsushiro Arr**	**82.50**	**50**	P	**P**	**12 19 48.9**	**+2.4**
	comp=Z,1.4nm,0.9s,baz=237,slow=5.6,SNR=2.6						
	comp=Z,1.4nm,0.9s						
ESDC	**Sonseca Array**	**82.76**	**313**	P	**P**	**12 19 47.8**	**0.0**
	comp=Z,2.0nm,1.0s,baz=112,slow=5.1,SNR=4.3						
	comp=Z,2.0nm,1.0s						
NOA	**NORSAR Array B**	**84.39**	**336**	P	**P**	**12 19 56.0**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=118,slow=5.0,SNR=3.4						
	comp=Z,0.6nm,0.8s						
YKA	**Yellowknife Ar**	**129.12**	**1**	PKP	**PKPdf**	**12 26 31.4**	**0.0**
	comp=Z,0.8nm,1.0s,baz=8.9,slow=1.6,SNR=6.0						
PDAR	**Pinedale Array**	**148.70**	**354**	PKPbc	**PKPbc**	**12 27 11.7**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=351,slow=3.3,SNR=12						
NVAR	**Mina Array Bea**	**152.87**	**8**	PKPbc	**PKiKP**	**12 27 23.3**	**+1.7**
	comp=Z,1.3nm,0.8s,baz=350,slow=4.3,SNR=5.9						
TXAR	**Lajitas Array**	**160.08**	**334**	PKPab	**PKPab**	**12 28 03.0**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=30,slow=4.5,SNR=4.6						

ATH 06 12:12:13.9, 38°.18N×22°.06E, h16km, ML1.6/6, Manual Solution by A.Agalos First location: 2019/04/06 12:13:08, This location: 2019/04/06 12:32:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.15**	**151**	P	Pg	12 12 18.2	+0.2
KALE	**Kalithea**	**0.22**	**18**	P	Pg	12 12 19.3	+0.2
KALE				S	Sg	12 12 22.7	+0.2
SERG	**Sergoula**	**0.23**	**0**	P	Pg	12 12 19.3	0.0
SERG				S	Sg	12 12 23.0	+0.2
UPR	**University Cam**	**0.23**	**296**	P	Pg	12 12 19.2	0.0
UPR				S	Sg	12 12 22.6	-0.2
PATC	**Patra C**	**0.25**	**291**	P	Pg	12 12 19.5	+0.1
PATG	**Patra B**	**0.27**	**283**	P	Pg	12 12 19.7	0.0
EFP	**Efpalio**	**0.27**	**335**	P	Pg	12 12 19.8	0.0
EFP				S	Sg	12 12 24.2	+0.3
GUR	**Goura**	**0.33**	**137**	P	Pg	12 12 21.1	+0.2
GUR				S	Sg	12 12 26.0	+0.3
ANX	**Ano Chora**	**0.43**	**346**	P	Pg	12 12 22.4	-0.2
ANX				S	Sg	12 12 28.9	+0.4
AXS	**Araxos**	**0.54**	**272**	P	Pg	12 12 24.6	+0.1
YRMI	**Loutra Irminis**	**0.56**	**262**	P	Pb	12 12 25.4	0.0
YRMI				S	Sb	12 12 33.8	+0.7
PVO	**Paravola**	**0.60**	**317**	P	Pb	12 12 25.9	-0.1
AMT	**Artemida-Makis**	**0.70**	**203**	P	Pg	12 12 27.6	0.0
LTK	**Loutraki**	**0.74**	**102**	P	Pb	12 12 28.4	+0.1
EVR	**Evrytania**	**0.76**	**345**	P	Pb	12 12 29.0	+0.2
LKR	**Lokris**	**0.88**	**57**	P	Pb	12 12 30.9	+0.1
ITM	**Ithomi**	**1.00**	**186**	P	Pb	12 12 33.0	0.0
FSK	**Fiskardo**	**1.21**	**284**	P	Pn	12 12 36.1	0.0
LKD2	**Lefkada island**	**1.25**	**299**	P	Pn	12 12 36.7	-0.1

*UPP **06** 12:12:49.6±0.1, 58°.99N×18°.21E, h0km, ML2.1, Unknown*
*DNK **06** 12:12:50.0±0.5, 58°.99N×18°.21E, h0km, ML2.1(UPP), Explosion*
HEL 06 12:12:50.1±0.2, 59°.00N×18°.12E, h0km, ML1.9, Explosion, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.06**	**279**	P	Pg	12 12 52.0	+0.7
NYNU				S	Sg	12 12 53.4	+1.4
NRTU	**Norrtaelje**	**0.73**	**21**	P	Pg	12 13 03.2	-0.9
NRTU				S	Sg	12 13 13.3	-0.3
NRTU	**Norrtaelje**	**0.73**	**21**	P	Pg	12 13 03.2	-0.9
NRTU				S	Sg	12 13 13.3	-0.3
NRTU	**Norrtaelje**	**0.73**	**21**	*e*P	Pg	12 13 03.2	-0.9
NRTU				*e*S	Sg	12 13 12.6	-1.0
VIKU	**Vikbolandet**	**0.89**	**237**	P	Pg	12 13 07.1	0.0
VIKU				S	Sg	12 13 19.5	+0.9
VIKU	**Vikbolandet**	**0.89**	**237**	P	Pg	12 13 07.1	0.0
VIKU				S	Sg	12 13 19.5	+0.9
UPP	**Uppsala**	**0.90**	**344**	P	Pg	12 13 06.9	-0.4
UPP	**Uppsala**	**0.90**	**344**	P	Pg	12 13 06.9	-0.4
ESKU	**Eskilstuna**	**0.92**	**286**	P	Pg	12 13 07.5	-0.2
ESKU				S	Sg	12 13 20.4	+0.7
ESKU	**Eskilstuna**	**0.92**	**286**	P	Pg	12 13 07.5	-0.2
ESKU				S	Sg	12 13 20.4	+0.7
BACU	**Backbrunna**	**1.00**	**329**	P	Pg	12 13 08.8	-0.5
BACU				S	Sg	12 13 23.2	+0.9
BACU	**Backbrunna**	**1.00**	**329**	P	Pg	12 13 08.8	-0.5
BACU				S	Sg	12 13 23.2	+0.9
FLYU	**Flymyra**	**1.14**	**354**	P	Pg	12 13 11.1	-0.8
FLYU	**Flymyra**	**1.14**	**354**	P	Pg	12 13 11.1	-0.8
GOTU	**Gotland**	**1.33**	**170**	P	Pg	12 13 13.8	-1.9
GOTU	**Gotland**	**1.33**	**170**	P	Pg	12 13 13.8	-1.9
GOTU	**Gotland**	**1.33**	**170**	*e*P	Pg	12 13 13.9	-1.7
GOTU				*e*SB	Sg	12 13 32.2	-0.7
OSTU	**Oestervaala**	**1.34**	**338**	P	Pg	12 13 14.8	-0.9
OSTU				S	Sg	12 13 32.8	-0.2
OSTU	**Oestervaala**	**1.34**	**338**	P	Pg	12 13 14.8	-0.9
OSTU				S	Sg	12 13 32.8	-0.2
GRAU	**Graesoe**	**1.36**	**9**	P	Pg	12 13 14.9	-1.3
GRAU				S	Sg	12 13 32.8	-0.9
GRAU	**Graesoe**	**1.36**	**9**	P	Pg	12 13 14.9	-1.3
GRAU				S	Sg	12 13 32.8	-0.9
FORU	**Forsmark**	**1.40**	**1**	P	Pn	12 13 15.6	-1.2
FORU	**Forsmark**	**1.40**	**1**	P	Pn	12 13 15.6	-1.2
LNKU	**Linkoeping**	**1.57**	**242**	P	Pn	12 13 19.2	0.0
LNKU	**Linkoeping**	**1.57**	**242**	P	Pn	12 13 19.2	0.0
NRAU	**Nora**	**1.68**	**291**	P	Pn	12 13 21.2	+0.5
NRAU	**Nora**	**1.68**	**291**	P	Pn	12 13 21.2	+0.5
ASKU	**Askersund**	**1.71**	**268**	P	Pn	12 13 21.5	+0.4
ASKU	**Askersund**	**1.71**	**268**	P	Pn	12 13 21.5	+0.4
SLIT	**Slitere, Latvi**	**2.59**	**120**	*e*SG	Sb	12 14 08.7	-1.0
ARNU	**Arnoeviken**	**2.73**	**353**	*e*P	Pn	12 13 34.6	-0.6
RAF	**Rauma**	**2.74**	**40**	*e*P	Pn	12 13 35.4	+0.2
RAF				MSG		12 14 24.4	
	comp=Z,4.1nm,0.1s						
MTSE	**Matsula**	**2.97**	**93**	*e*P	Pn	12 13 38.4	0.0
MEF	**Metsahovi**	**3.42**	**66**	*e*P	Pn	12 13 44.9	+0.3
MEF				MSG		12 14 43.1	
	comp=Z,2.4nm,0.1s						
KPF	**Kankaanpaa**	**3.46**	**33**	*e*P	Pn	12 13 45.4	+0.4
KPF				MSG		12 14 35.3	
	comp=Z,1.7nm,0.1s						
NUR	**Nurmijarvi**	**3.64**	**63**	*e*P	Pn	12 13 47.0	-0.5
HEMU	**Hemsoen**	**3.69**	**359**	*e*P	Pn	12 13 48.5	+0.1
NC602	**NORSAR Array S**	**3.75**	**301**	*e*P	Pn	12 13 49.7	+0.6
VAF	**Ylistaro**	**4.62**	**27**	*e*P	Pn	12 14 02.4	+1.3
VAF				*e*SG	Sb	12 15 12.8	+4.6
VAF				MSG		12 15 19.8	
	comp=Z,1.4nm,0.2s						
FIA0	**FINESS Array S**	**4.67**	**55**	*e*P	Pn	12 14 02.2	+0.5
FIA0				MSG		12 15 19.0	
	comp=Z,1.2nm,0.2s	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**0.26**	**275**	P	**Pn**	**12 34 30.5**	**-3.9**
LUES	**Luesalemba Tem**	**0.26**	**275**	S	**Sn**	**12 34 48.6**	**-6.1**
VLAKA	**Lakatoro**	**5.53**	**167**	P	**Pn**	**12 35 27.8**	**-1.3**
VLAKA	**Lakatoro**	**5.53**	**167**	S	**Sn**	**12 36 31.5**	**-1.8**
NGOA	**Tingoa Renbel**	**6.06**	**261**	P	**Pn**	**12 35 33.5**	**-2.6**
NGOA	**Tingoa Renbel**	**6.06**	**261**	S	**Sn**	**12 36 41.3**	**-4.5**
HNR	**Honiara**	**6.26**	**281**		**Pn**	**12 35 38.8**	**+0.1**
HNR	**Honiara**	**6.26**	**281**	P	**Pn**	**12 35 37.6**	**-1.0**
	77nm,0.5s,baz=24,slow=0.5,SNR=5.3						
SAVO	**Savo Central**	**6.45**	**283**	P	**Pn**	**12 35 40.7**	**-0.5**
TATA	**Tatamba Isabel**	**6.69**	**289**	P	**Pn**	**12 35 43.0**	**-1.2**
KOUNC	**Koumac, New Ca**	**9.98**	**190**	P	**Pn**	**12 36 27.0**	**0.0**
KOUNC	**Koumac, New Ca**	**9.98**	**190**	S	**S**	**12 38 18.8**	**+0.3**
DZM	**Mont Dzumac**	**11.33**	**179**		**P**	**12 36 46.9**	**-3.3**
DZM	**Mont Dzumac**	**11.33**	**179**	P	**P**	**12 36 46.5**	**-3.7**
	9.3nm,0.4s,baz=24,slow=20,SNR=6.0						
DZM				S	**Sn**	**12 38 49.9**	**-0.9**
	4.8nm,0.4s,baz=143,slow=23,SNR=3.4						
DZM	**Mont Dzumac**	**11.33**	**179**	S	**Sn**	**12 38 49.9**	**-0.9**
DZM	**Mont Dzumac**	**11.33**	**179**	P	P	12 36 45.4	-4.8
YATNC	**Mamie plateau,**	**11.33**	**177**	P	**P**	**12 36 46.0**	**-4.2**
ONTNC	**Ouen Toro**	**11.56**	**179**	Pn	**P**	**12 36 50.9**	**-1.8**
OUENC	**Ouen Island, N**	**11.69**	**177**	P	**Pn**	**12 36 48.8**	**-0.1**
OUENC	**Ouen Island, N**	**11.69**	**177**	S	**S**	**12 38 59.3**	**-0.1**
PINNC	**Pines Island,**	**11.93**	**174**	Pn	**P**	**12 36 55.5**	**-1.3**
PINNC	**Pines Island,**	**11.93**	**174**	S	**S**	**12 39 06.0**	**+0.9**
PINNC	**Pines Island,**	**11.93**	**174**	P	**P**	**12 36 52.9**	**-3.9**
MSVF	**Nonsavu**	**13.47**	**123**	P	**P**	**12 37 15.1**	**+1.0**
	5.9nm,0.6s,baz=276,slow=9.8,SNR=6.5						
MSVF	**Nonsavu**	**13.47**	**123**	P	**P**	**12 37 14.5**	**+0.4**
DGTI	**Dogotuki**	**14.32**	**114**	P	P	12 37 26.2	+2.8
EIDS	**Eidsvold**	**20.45**	**222**	P	Pn	12 38 31.4	-4.0
EIDS				IAmb	IAmb	12 38 32.2	
	comp=Z,18nm,0.7s						
EIDS	**Eidsvold**	**20.45**	**222**	P	Pn	12 38 30.7	-4.7
MTSU	**Mount Surprise**	**22.41**	**248**	P	**P**	**12 38 51.4**	**+1.1**
COEN	**Coen**	**22.70**	**259**	P	**P**	**12 38 54.4**	**+1.5**
ARMA	**Armidale**	**23.85**	**212**	P	**P**	**12 39 05.0**	**+1.8**
ARMA				IAmb	IAmb	12 39 05.8	
	comp=Z,12nm,0.7s						
ARMA	**Armidale**	**23.85**	**212**	P	**P**	**12 39 05.2**	**+2.0**
NTLH	**Newcastle Hard**	**25.81**	**209**	P	**P**	**12 39 22.4**	**+1.6**
CMSA	**Cobar Meteorol**	**28.11**	**219**	P	**P**	**12 39 42.5**	**+1.2**
TOZ	**Tahuroa Road**	**28.21**	**164**	P	**P**	**12 39 44.0**	**+1.9**
WSRZ	**White Island S**	**28.50**	**161**	P	P	12 39 50.0	+5.3
WIZ	**White Island**	**28.51**	**161**	P	P	12 39 48.9	+4.2
HIZ	**Hauiti**	**28.78**	**166**	P	P	12 39 50.2	+3.1
OMRZ	**Omania**	**28.80**	**163**	P	P	12 39 50.1	+2.7
MXZ	**Matakaoa Point**	**28.90**	**160**	P	**P**	**12 39 50.0**	**+1.7**
MXZ	**Matakaoa Point**	**28.90**	**160**	P	**P**	**12 39 49.1**	**+0.8**
HAZ	**Te Kaha**	**28.91**	**161**	P	**P**	**12 39 48.9**	**+0.7**
H11S2	**WAKE ISLAND Hy**	**28.99**	**1**	T	T	13 11 02.0	
	baz=182,slow=76,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**29.00**	**1**	T	T	13 11 01.6	
	baz=182,slow=76,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**29.01**	**1**	T	T	13 11 02.2	
	baz=182,slow=76,SNR=6.2						
RUGZ	**Raukumara Rang**	**29.06**	**161**	P	**P**	**12 39 50.3**	**+0.5**
PKGZ	**Pakihiroa**	**29.10**	**160**	P	**P**	**12 39 50.7**	**+0.6**
URZ	**Urewera**	**29.16**	**162**	P	**P**	**12 39 52.3**	**+1.8**
URZ	**Urewera**	**29.16**	**162**	P	**P**	**12 39 51.3**	**+0.8**
PRRZ	**Plateau Road**	**29.17**	**163**	P	P	12 39 53.7	+3.1
WMGZ	**Waiomatatini S**	**29.17**	**160**	P	**P**	**12 39 50.6**	**0.0**
INKA	**Innaminka**	**29.30**	**231**	P	P	12 39 54.3	+2.4
VRZ	**Vera Road**	**29.34**	**166**	P	P	12 39 59.0	+6.9
PUZ	**Puketiti**	**29.35**	**160**	P	**P**	**12 39 51.8**	**-0.5**
MWZ	**Matawai**	**29.35**	**162**	P	**P**	**12 39 52.9**	**+0.6**
TWGZ	**Tauwhareparae**	**29.35**	**161**	P	**P**	**12 39 52.7**	**+0.4**
KATZ	**Kakaramea**	**29.43**	**165**	P	P	12 39 56.2	+3.1
RTZ	**Ruatahuna**	**29.45**	**163**	P	**P**	**12 39 54.0**	**+0.8**
TWVZ	**Taurewa**	**29.45**	**165**	P	P	12 39 57.7	+4.5
MRHZ	**Matea Rd**	**29.49**	**164**	P	**P**	**12 39 55.2**	**+1.7**
WTVZ	**West Tongariro**	**29.53**	**165**	P	P	12 39 57.2	+3.3
NTVZ	**North Tongarir**	**29.54**	**165**	P	P	12 39 58.4	+4.4
NNVZ	**North Ngauruho**	**29.56**	**165**	P	P	12 39 58.3	+4.1
TMVZ	**Te Maari**	**29.56**	**165**	P	P	12 39 57.6	+3.3
ETVZ	**East Tongariro**	**29.58**	**165**	P	P	12 39 57.4	+3.0
NGZ	**Ngauruhoe**	**29.59**	**165**	P	P	12 39 58.0	+3.5
OTVZ	**Ofurere**	**29.60**	**165**	P	P	12 39 57.6	+3.1
COVZ	**Chateau Observ**	**29.60**	**165**	P	P	12 39 57.9	+3.3
SNVZ	**South Ngauruho**	**29.61**	**165**	P	P	12 39 58.0	+3.2
MTHZ	**Maungataniwha**	**29.63**	**163**	P	**P**	**12 39 55.5**	**+0.8**
TUVZ	**Tukino**	**29.69**	**165**	P	P	12 39 58.8	+3.4
CNGZ	**Carnagh Statio**	**29.71**	**161**	P	**P**	**12 39 55.4**	**0.0**
SNGZ	**Shannon Statio**	**29.71**	**162**	P	**P**	**12 39 55.8**	**+0.4**
RIGZ	**Rimuhau**	**29.77**	**162**	P	**P**	**12 39 56.6**	**+0.7**
BKZ	**Black Stump Fm**	**29.82**	**164**	P	**P**	**12 39 57.1**	**+0.6**
BKZ	**Black Stump Fm**	**29.82**	**164**	P	**P**	**12 39 56.9**	**+0.5**
BKZ	**Black Stump Fm**	**29.82**	**164**	P	**P**	**12 39 56.9**	**+0.5**
NMHZ	**Naumai**	**29.84**	**163**	P	**P**	**12 39 58.3**	**+1.6**
MOVZ	**Moawhango**	**29.85**	**165**	P	**P**	**12 39 58.8**	**+2.1**
WAZ	**Wanganui**	**29.99**	**166**	P	P	12 40 02.2	+4.3
KWHZ	**Kaweka Forest**	**30.04**	**164**	P	**P**	**12 39 59.5**	**+1.1**
MCHZ	**McNeill Hill**	**30.14**	**164**	P	**P**	**12 40 00.3**	**+1.2**
H11N1	**WAKE ISLAND Hy**	**30.21**	**1**	T	T	13 12 34.3	
	baz=182,slow=76,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**30.22**	**1**	T	T	13 12 35.9	
	baz=182,slow=76,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**30.23**	**1**	T	T	13 12 36.8	
	baz=182,slow=76,SNR=4.7						
KRHZ	**Kereru**	**30.23**	**164**	P	**P**	**12 40 01.1**	**+1.1**
PNHZ	**Pukenui**	**30.44**	**165**	P	**P**	**12 40 02.6**	**+0.8**
KAHZ	**Kahuranaki**	**30.51**	**164**	P	**P**	**12 40 03.4**	**+0.9**
TSZ	**Takapari Road**	**30.52**	**165**	P	**P**	**12 40 03.9**	**+1.4**
QRZ	**Quartz Range**	**30.54**	**170**	P	**P**	**12 40 04.7**	**+2.0**
QRZ	**Quartz Range**	**30.54**	**170**	P	P	12 40 09.4	+6.7
PXZ	**Pawanui**	**30.73**	**164**	P	**P**	**12 40 05.3**	**+1.0**
DVHZ	**Dannevirke**	**30.80**	**165**	P	**P**	**12 40 06.1**	**+1.1**
STKA	**Stephens Creek**	**30.99**	**223**	P	**P**	**12 40 08.2**	**+1.4**
STKA	**Stephens Creek**	**30.99**	**223**	P	**P**	**12 40 07.4**	**+0.6**
	comp=Z,9.1nm,0.8s,baz=48,slow=9.3,SNR=17						
	comp=Z,9.1nm,0.8s						
STKA	**Stephens Creek**	**30.99**	**223**	P	**P**	**12 40 08.6**	**+1.8**
MRZ	**Mangatainoka R**	**30.99**	**166**	P	**P**	**12 40 07.7**	**+1.0**
MRZ	**Mangatainoka R**	**30.99**	**166**	P	**P**	**12 40 07.7**	**+1.0**
NNZ	**Nelson**	**31.07**	**169**	P	P	12 40 11.1	+3.8
BFZ	**Birch Farm**	**31.18**	**165**	P	**P**	**12 40 09.1**	**+0.8**
BFZ	**Birch Farm**	**31.18**	**165**	P	**P**	**12 40 09.0**	**+0.8**
DSZ	**Denniston Nort**	**31.33**	**172**	P	P	12 40 15.1	+5.5
SNZO	**South Karori**	**31.42**	**168**	P	**P**	**12 40 12.3**	**+2.0**
THZ	**Tophouse**	**31.52**	**170**	P	**P**	**12 40 13.4**	**+2.1**
WR8	**Warramunga Arr**	**31.86**	**249**	P	**P**	**12 40 14.8**	**+0.2**
WR8				IAmb	IAmb	12 40 15.6	
	comp=Z,9.7nm,0.9s						
WB0	**Warramunga Arr**	**31.92**	**250**	P	**P**	**12 40 15.6**	**+0.5**
WB2	**Warramunga Arr**	**31.99**	**249**	P	**P**	**12 40 15.9**	**+0.2**
WB2				IAmb	IAmb	12 40 16.8	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**32.00**	**249**	P	**P**	**12 40 15.8**	**-0.1**
WRA	**Warramunga Arr**	**32.00**	**249**	P	**P**	**12 40 15.6**	**-0.2**
	comp=Z,11nm,0.7s,baz=81,slow=8.9,SNR=72						
	comp=Z,11nm,0.7s						
INZ	**Inchbonnie**	**32.25**	**173**	P	**P**	**12 40 18.4**	**+0.8**
LTZ	**Lake Taylor**	**32.42**	**172**	P	**P**	**12 40 19.6**	**+0.5**
WVZ	**Waitaha Valley**	**32.51**	**174**	P	P	12 40 24.5	+4.7
LCRK	**Leigh Creek**	**32.58**	**229**	P	**P**	**12 40 21.4**	**+0.7**
TOO	**Toolangi**	**32.60**	**211**	P	**P**	**12 40 22.5**	**+1.7**
FOZ	**Fox Glacier**	**32.88**	**175**	P	**P**	**12 40 23.9**	**+0.9**
KDU	**Kakadu**	**33.05**	**263**	P	**P**	**12 40 25.1**	**+0.2**
RPZ	**Rata Peaks**	**33.18**	**174**	P	**P**	**12 40 26.4**	**+0.7**
	comp=Z,16nm,0.8s,baz=27,slow=4.5,SNR=4.5						
	comp=Z,16nm,0.8s						
AS01	**Alice Springs**	**33.29**	**243**	P	**P**	**12 40 27.1**	**+0.1**
OOD	**Oodnadatta**	**33.30**	**235**	P	**P**	**12 40 27.5**	**+0.6**
AS31	**Alice Springs**	**33.33**	**243**	P	**P**	**12 40 27.4**	**+0.1**
ASAR	**Alice Springs**	**33.33**	**243**	P	**P**	**12 40 27.1**	**-0.2**
ASAR	**Alice Springs**	**33.33**	**243**	P	**P**	**12 40 27.1**	**-0.3**
	comp=Z,8.7nm,0.8s,baz=71,slow=9.3,SNR=82						
ASAR				ScP	**ScP**	**12 46 33.5**	**+3.3**
	comp=Z,1.0nm,0.9s,baz=66,slow=3.1,SNR=4.9						
	comp=Z,8.7nm,0.8s						
MQZ	**McQueen's Vall**	**33.38**	**171**	P	**P**	**12 40 27.7**	**+0.4**
HTT	**Hallett**	**33.73**	**224**	P	**P**	**12 40 31.8**	**+1.2**
MTN	**Manton Dam**	**34.36**	**263**	P	**P**	**12 40 36.7**	**+0.5**
ODZ	**Otahua Downs**	**34.45**	**174**	P	P	12 40 41.9	+5.3
EAZ	**Earnscleugh**	**34.53**	**176**	P	**P**	**12 40 37.7**	**+0.4**
BBOO	**Buckleboo**	**35.38**	**227**	P	**P**	**12 40 45.5**	**+0.8**
BBOO				IAmb	IAmb	12 40 46.1	
	comp=Z,12nm,0.7s						
BBOO	**Buckleboo**	**35.38**	**227**	P	**P**	**12 40 45.8**	**+1.0**
KNRA	**Kununurra**	**36.73**	**258**	P	**P**	**12 40 57.0**	**+0.6**
KNRA				IAmb	IAmb	12 41 03.2	
	comp=Z,24nm,1.2s						
WRKA	**Warakurna**	**38.62**	**243**	P	**P**	**12 41 12.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**39.88**	**255**	P	**P**	**12 41 23.6**	**+0.9**
FORT	**Forrest**	**40.59**	**235**	P	**P**	**12 41 29.6**	**+1.3**
FORT				IAmb	IAmb	12 41 30.1	
	comp=Z,14nm,0.8s						
FORT	**Forrest**	**40.59**	**235**	P	**P**	**12 41 29.3**	**+0.9**
MEEK	**Meekatharra**	**47.48**	**244**	P	**P**	**12 42 24.1**	**+0.9**
KLBR	**Kellerberrin**	**49.26**	**237**	P	**P**	**12 42 36.8**	**+0.2**
NWAO	**Narrogin (SRO)**	**50.01**	**236**	P	**P**	**12 42 42.5**	**+0.2**
NWAO				IAmb	IAmb	12 42 44.9	
	comp=Z,37nm,1.4s						
NWAO	**Narrogin (SRO)**	**50.01**	**236**	P	**P**	**12 42 43.6**	**+1.3**
JMN	**Monobe**	**53.80**	**327**	P	P	12 43 11.0	+0.8
JMN				IAmb	IAmb	12 43 20.2	
	comp=Z,33nm,1.4s						
KSRS	**Korea Array**	**59.82**	**325**	P	**P**	**12 43 52.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=127,slow=6.9,SNR=1.8						
	comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**72.36**	**293**	P	**P**	**12 45 13.1**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=116,slow=5.1,SNR=2.8						
	comp=Z,0.5nm,0.5s						
SLKM	**Skilak Lake**	**78.92**	**20**	P	**P**	**12 45 49.2**	**+0.2**
SLKM				IAmb	IAmb	12 46 17.7	
	comp=Z,15nm,1.1s						
QSPA	**South Pole Qui**	**79.32**	**180**	P	**P**	**12 45 52.1**	**+0.8**
QSPA	**South Pole Qui**	**79.32**	**180**	P	**P**	**12 45 51.9**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=68,slow=19,SNR=37						
	comp=Z,3.4nm,0.6s						
N25K	**Chitina, Valde**	**81.66**	**21**	P	P	12 46 04.4	+0.7
N25K				IAmb	IAmb	12 46 26.0	
	comp=Z,13nm,1.4s						
E19K	**Redstone River**	**82.28**	**13**	P	P	12 46 08.4	+1.7
C18K	**Utukok River**	**82.43**	**11**	P	P	12 46 08.8	+1.3
D19K	**Kuna River**	**82.93**	**13**	P	P	12 46 11.8	+1.7
D19K				IAmb	IAmb	12 46 12.5	
	comp=Z,5.3nm,0.9s						
ILAR	**Eielson Array**	**83.04**	**18**	P	P	12 46 11.3	+0.7
	comp=Z,1.1nm,0.7s,baz=238,slow=4.7,SNR=18						
	comp=Z,1.1nm,0.7s						
NVAR	**Mina Array Bea**	**85.47**	**50**	P	P	12 46 24.6	+0.9
	comp=Z,1.8nm,0.9s,baz=235,slow=8.8,SNR=10						
	comp=Z,1.8nm,0.9s						
PDAR	**Pinedale Array**	**93.00**	**47**	P	P	12 47 00.2	+1.1
	comp=Z,0.5nm,0.8s,baz=204,slow=3.3,SNR=4.5						
	comp=Z,0.5nm,0.8s						
MKAR	**Makanchi Array**	**93.55**	**317**	P	**P**	**12 47 01.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=91,slow=6.5,SNR=3.6						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**94.46**	**27**	P	**P**	**12 47 04.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=247,slow=4.6,SNR=6.2						
	comp=Z,0.1nm,0.3s						
ARCES	**ARCESS Array B**	**116.09**	**346**	PKP	**PKiKP**	**12 52 26.8**	**+0.1**
	comp=Z,4.3nm,1.1s,baz=54,slow=2.3,SNR=9.0						

*NOU **06** 12:42:48.8, 45°.32S×167°.34E, h68km, mb4.7/32, South Island, New Zealand*
*NEIC **06** 12:42:48.4±1.1, 45°.24S±0°.07×167°.17E±0°.09, h74km±6km, mb4.5/22, Error ellipse: s-maj=11.6km s-min=6.3km az=139.0*
*IDC **06** 12:42:49.6±2.5, 45°.15S×167°.35E, h86km±26km, mb3.9/8, mbtmp4.3/9, MS3.3/3, Error ellipse: s-maj=21.9km s-min=15.3km az=51.0*
*WEL **06** 12:42:50.0±0.9, 45°S±4'×16°7E±°, h64km±8km, M5.2/33, ML5.2/9, MLv5.2/33, Error ellipse: s-maj=7.2km s-min=4.7km az=126.5, confirmed*
*WEL **06** 12:42:50.4, 45°.38S×167°.19E, h76km, ML5.2, Mw4.5, Moment Tensor Solution. s6 Moment tensor: Scale 10^{15} Nm; M_{rr}0.73; $M_{\theta\theta}$7.49; $M_{\phi\phi}$-8.22; $M_{r\theta}$-2.44; $M_{\phi\phi}$1.44; $M_{\phi r}$-0.48; Fault plane solution: $M_0$8.39000×10^{15} NP1: ϕ_s218.00000°, δ79.00000°, λ166.00000°. NP2: ϕ_s311.00000°, δ76.00000°, λ12.00000°. Principal axes: T 8.4183, Plg18.0000°, Azm174.0000°; N -0.0584, Plg72.0000°, Azm1.0000°; P -8.3599, Plg2.0000°, Azm265.0000°; Stations used: WHZ PYZ WKZ EAZ JCZ ODZ STRIKE-SLIP FAULTING*

ISC 06 12:42:49.1±0.6, 45°.30S±0°.04×167°.20E±0°.04, h82km±5km, n166, σ1$40/176, mb4.5/20, 3C, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.17**	**190**		**Pn**	**12 43 00.1**	**-0.8**
DCZ				Sn	**Sn**	**12 43 07.8**	**-1.9**
DCZ	**Deep Cove**	**0.17**	**190**	P	**Pn**	**12 43 00.2**	**-0.8**
DCZ				S	**Sn**	**12 43 07.9**	**-1.8**
MLZ	**Mavora Lakes**	**0.65**	**96**		**Pn**	**12 43 04.9**	**+0.4**
MLZ				Sn	**Sn**	**12 43 16.2**	**+0.3**
MLZ	**Mavora Lakes**	**0.65**	**96**	P	**Pn**	**12 43 04.7**	**+0.2**
MLZ				S	**Sn**	**12 43 16.4**	**+0.5**
WHZ	**Wether Hill Ro**	**0.80**	**139**	Pn	**Pn**	**12 43 05.7**	**-0.2**
WHZ	**Wether Hill Ro**	**0.80**	**139**	P	**Pn**	**12 43 05.7**	**-0.2**
WHZ				S	**Sn**	**12 43 17.9**	**-0.6**
MSZ	**Milford Sound**	**0.81**	**40**	P	**Pn**	**12 43 06.8**	**+0.7**
MSZ				S	**Sn**	**12 43 20.5**	**+1.8**
MOSS	**Mossburn Schoo**	**0.82**	**117**	P	**Pn**	**12 43 06.8**	**+0.6**
MOSS				S	**Sn**	**12 43 20.2**	**+1.2**
RRKS	**Rarakau**	**0.87**	**167**	P	**Pn**	**12 43 06.7**	**-0.1**
PYZ	**Puysegur Point**	**0.94**	**202**	Pn	**Pn**	**12 43 06.6**	**-1.0**
PYZ				Sn	**Sn**	**12 43 19.4**	**-1.9**
PYZ	**Puysegur Point**	**0.94**	**202**	P	**Pn**	**12 43 06.3**	**-1.3**
PYZ	**Puysegur Point**	**0.94**	**202**	S	**Sn**	**12 43 20.0**	**-1.4**
PYZ	**Puysegur Point**	**0.94**	**202**	P	**Pn**	**12 43 06.8**	**-0.8**
PYZ				S	**Sn**	**12 43 19.8**	**-1.5**
ORPS	**Orepuki**	**1.07**	**158**	P	**Pn**	**12 43 08.8**	**-0.2**
QTPS	**Queenstown Pol**	**1.07**	**76**	P	**Pn**	**12 43 09.8**	**+0.7**
QTPS				S	**Sn**	**12 43 24.6**	**+0.6**
WKZ	**Wanaka**	**1.37**	**71**	Pn	**Pn**	**12 43 14.1**	**+1.2**
WKZ	**Wanaka**	**1.37**	**71**	P	**Pn**	**12 43 14.0**	**+1.2**
WKZ				S	**Sn**	**12 43 32.0**	**+1.2**
EAZ	**Earnscleugh**	**1.49**	**88**	P	**Pn**	**12 43 15.3**	**+0.9**
EAZ				S	**Sn**	**12 43 33.6**	**+0.2**
APZ	**The Paps**	**1.63**	**161**	P	**Pn**	**12 43 15.6**	**-0.6**
APZ				S	**Sn**	**12 43 35.7**	**-1.0**
JCZ	**Jackson Bay**	**1.67**	**43**	P	**Pn**	**12 43 15.7**	**-1.1**
JCZ	**Jackson Bay**	**1.67**	**43**	P	**Pn**	**12 43 17.4**	**+0.6**
TUZ	**Tuapeka**	**1.83**	**112**	P	**Pn**	**12 43 19.0**	**+0.2**
TUZ				S	**Sn**	**12 43 40.4**	**-0.9**
SYZ	**Scrubby Hill**	**1.84**	**133**	P	**Pn**	**12 43 17.8**	**-1.0**
SYZ	**Scrubby Hill**	**1.84**	**133**	S	**Sn**	**12 43 39.1**	**-2.4**
SYZ	**Scrubby Hill**	**1.84**	**133**	P	**Pn**	**12 43 18.8**	**-0.1**
SYZ				S	**Sn**	**12 43 40.8**	**-0.7**
LBZ	**Lake Benmore**	**2.31**	**68**	Pn	**Pn**	**12 43 24.8**	**-0.5**
LBZ	**Lake Benmore**	**2.31**	**68**	P	**Pn**	**12 43 25.0**	**-0.3**
ODZ	**Otahua Downs**	**2.45**	**85**		**Pn**	**12 43 26.9**	**-0.2**
ODZ	**Otahua Downs**	**2.45**	**85**	P	**Pn**	**12 43 25.8**	**-1.3**
ODZ	**Otahua Downs**	**2.45**	**85**	S	**Sn**	**12 43 53.6**	**-2.5**
ODZ	**Otahua Downs**	**2.45**	**85**	P	**Pn**	**12 43 26.9**	**-0.2**
HHSZ	**Highcliff Hill**	**2.46**	**105**	P	**Pn**	**12 43 27.5**	**+0.4**
FOZ	**Fox Glacier**	**2.58**	**48**		**Pn**	**12 43 28.3**	**-0.4**
FOZ	**Fox Glacier**	**2.58**	**48**	P	**Pn**	**12 43 28.3**	**-0.4**
TMZ	**Timaru**	**2.86**	**73**	P	**Pn**	**12 43 31.8**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**2.99**	**50**	P	**Pn**	**12 43 33.7**	**-0.7**
RPZ	**Rata Peaks**	**3.18**	**62**	Pn	**Pn**	**12 43 35.8**	**-1.2**
RPZ	**Rata Peaks**	**3.18**	**62**	P	**Pn**	**12 43 35.9**	**-1.0**
	1μm,0.4s,baz=226,slow=6.2,SNR=781						
RPZ				S	**Sn**	**12 44 11.1**	**-2.7**
	862nm,0.3s,baz=264,slow=7.9,SNR=4.1						
RPZ				LR	LR	12 44 16.9	
	comp=Z,122nm,21.7s,baz=220,slow=29						
RPZ	**Rata Peaks**	**3.18**	**62**	P	**Pn**	**12 43 35.6**	**-1.3**
RPZ	**Rata Peaks**	**3.18**	**62**	S	**Sn**	**12 44 11.8**	**-2.0**
RPZ	**Rata Peaks**	**3.18**	**62**	P	**Pn**	**12 43 35.9**	**-1.0**
WVZ	**Waitaha Valley**	**3.38**	**50**	P	**Pn**	**12 43 38.2**	**-1.3**
WACZ	**Wakanui South**	**3.58**	**69**	P	**Pn**	**12 43 41.2**	**-1.1**
MHCZ	**Mount Hutt**	**3.59**	**62**	P	**Pn**	**12 43 41.0**	**-1.6**
RACZ	**Rakaia**	**3.87**	**68**	P	**Pn**	**12 43 44.9**	**-1.3**
OXZ	**Oxford**	**3.99**	**62**		**Pn**	**12 43 45.6**	**-2.4**
OXZ	**Oxford**	**3.99**	**62**	P	**Pn**	**12 43 45.8**	**-2.1**
INZ	**Inchbonnie**	**4.00**	**51**		**Pn**	**12 43 47.0**	**-1.0**
INZ	**Inchbonnie**	**4.00**	**51**	P	**Pn**	**12 43 46.7**	**-1.4**
MQZ	**McQueen's Vall**	**4.21**	**70**	Pn	**Pn**	**12 43 49.4**	**-1.5**
MQZ	**McQueen's Vall**	**4.21**	**70**	P	**Pn**	**12 43 49.4**	**-1.5**
AKCZ	**Akaroa Harbour**	**4.32**	**73**	P	**Pn**	**12 43 51.1**	**-1.3**
LTZ	**Lake Taylor**	**4.44**	**57**	Pn	**Pn**	**12 43 52.0**	**-2.0**
LTZ	**Lake Taylor**	**4.44**	**57**	P	**Pn**	**12 43 51.9**	**-2.2**
AMCZ	**Amberley**	**4.46**	**64**		**Pn**	**12 43 52.7**	**-1.5**
AMCZ	**Amberley**	**4.46**	**64**	P	**Pn**	**12 43 52.8**	**-1.4**
OKCZ	**Okains Bay**	**4.48**	**72**	P	**Pn**	**12 43 53.4**	**-1.1**
GVZ	**Greta Valley S**	**4.80**	**63**		**Pn**	**12 43 57.1**	**-1.8**
GVZ	**Greta Valley S**	**4.80**	**63**	P	**Pn**	**12 43 57.3**	**-1.7**
DSZ	**Denniston Nort**	**4.88**	**45**		**Pn**	**12 43 58.5**	**-1.6**
DSZ	**Denniston Nort**	**4.88**	**45**	P	**Pn**	**12 43 58.6**	**-1.4**
KHZ	**Kahutara**	**5.41**	**60**		**Pn**	**12 44 05.7**	**-1.6**
KHZ	**Kahutara**	**5.41**	**60**	P	**Pn**	**12 44 05.7**	**-1.6**
THZ	**Tophouse**	**5.45**	**52**	Pn	**Pn**	**12 44 05.9**	**-1.9**
THZ	**Tophouse**	**5.45**	**52**	P	**Pn**	**12 44 05.6**	**-2.2**
MRNZ	**Matariki Terra**	**5.62**	**48**		**Pn**	**12 44 08.5**	**-1.7**
MRNZ	**Matariki Terra**	**5.62**	**48**	P	**Pn**	**12 44 08.2**	**-1.9**
QRZ	**Quartz Range**	**5.93**	**43**		**Pn**	**12 44 13.1**	**-1.3**
QRZ	**Quartz Range**	**5.93**	**43**	P	**Pn**	**12 44 13.0**	**-1.3**
TKNZ	**Takaka Hill**	**5.99**	**47**		**Pn**	**12 44 14.1**	**-1.1**
TKNZ	**Takaka Hill**	**5.99**	**47**	P	**Pn**	**12 44 14.3**	**-0.9**
BSWZ	**Blackbirch Sta**	**6.03**	**56**	P	**Pn**	**12 44 15.5**	**-0.2**
NNZ	**Nelson**	**6.08**	**50**		**Pn**	**12 44 14.9**	**-1.5**
NNZ	**Nelson**	**6.08**	**50**	P	**Pn**	**12 44 14.7**	**-1.7**
TUWZ	**Tuamarina**	**6.25**	**54**		**Pn**	**12 44 16.7**	**-2.1**
TUWZ	**Tuamarina**	**6.25**	**54**	P	**Pn**	**12 44 16.6**	**-2.1**
TCW	**Tory Channel**	**6.59**	**54**	P	**Pn**	**12 44 22.4**	**-0.9**
DUWZ	**D'Urville Isla**	**6.67**	**50**	P	**Pn**	**12 44 23.4**	**-1.0**
SNZO	**South Karori**	**6.77**	**57**	Pn	**Pn**	**12 44 24.2**	**-1.6**
SNZO	**South Karori**	**6.77**	**57**	P	**Pn**	**12 44 24.5**	**-1.3**
PLWZ	**Palliser**	**6.95**	**60**	Pn	**Pn**	**12 44 26.9**	**-1.4**
PLWZ	**Palliser**	**6.95**	**60**	P	**Pn**	**12 44 26.8**	**-1.5**
MSWZ	**Moikau Station**	**7.03**	**59**	Pn	**Pn**	**12 44 28.3**	**-

comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
XAN Xi'an 94.96 315 P **P** 12 56 02.1 -0.1
HHC Hu-ho-hao-te 99.17 321 *e*P **Pdif** 12 56 23.1 +2.0
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,84nm,5.0s
KSH Kashi 117.43 299 PKP **PKPdf** 13 01 20.9 -4.0
KURBB Kurchatov Arra 122.39 311 PKP **PKPdf** 13 01 32.8 -1.1
comp=Z,0.4nm,0.5s,baz=120,slow=2.0,SNR=2.7
SCHQ Schefferville 144.85 54 PKP **PKPab** 13 02 13.6 -1.4
comp=Z,1.0nm,0.3s,baz=270,slow=6.1,SNR=1.6
SPITS Spitsbergen Ar 145.11 350 PKP **PKPdf** 13 02 15.1 -0.4
comp=Z,10nm,1.0s,baz=83,slow=6.0,SNR=6.0
BRTR Keskin Array B 145.69 277 PKPbc **PKPab** 13 02 18.6 -0.2
comp=Z,2.1nm,0.6s,baz=146,slow=4.9,SNR=11
ARCES ARCESS Array B 149.08 335 PKPbc **PKPbc** 13 02 25.4 -1.1
comp=Z,1.7nm,0.7s,baz=107,slow=3.0,SNR=1.0
AKASG Malin Array Be 151.66 296 PKPbc **PKPbc** 13 02 33.0 -0.2
comp=Z,1.9nm,0.6s,baz=80,slow=2.4,SNR=7.2

*UPP **06** 12:43:09.8±0.1,59°.00N×18°.21E,h0km,ML2.2,Unknown*
*HEL **06** 12:43:10.1±0.1,59°.01N×18°.04E,h0km,ML1.8,Explosion*
*DNK **06** 12:43:10.3±0.4,59°.00N×18°.21E,h0km,ML2.2(UPP),Explosion*
*IDC **06** 12:43:12.7±2.1,59°.11N×18°.04E,h0km,mbtmp2.9/4,ML1.5/3,Error ellipse: s-maj=28.1km s-min=8.0km az=2.0*
ISC 06 12:43:09.7±0.8,58°.99N±0°.02×18°.18E±0°.02,h0km,n51,σ0s93/70,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.09**	**278**	P	**Pg**	**12 43 12.1**	**+0.7**
NYNU				S	**Sg**	**12 43 13.6**	**+0.9**
NYNU	**Nynaeshamn**	**0.09**	**278**	P	**Pg**	**12 43 12.1**	**+0.7**
NYNU				S	**Sg**	**12 43 13.6**	**+0.9**
NRTU	**Norrtaelje**	**0.72**	**19**	P	**Pg**	**12 43 23.2**	**-0.4**
NRTU	**Norrtaelje**	**0.72**	**19**	P	**Pg**	**12 43 23.2**	**-0.4**
NRTU	**Norrtaelje**	**0.72**	**19**	*e*P	**Pg**	**12 43 23.2**	**-0.4**
NRTU				*e*S	**Sg**	**12 43 32.6**	**-0.4**
UPP	**Uppsala**	**0.91**	**342**	P	**Pg**	**12 43 27.0**	**-0.2**
UPP				S	**Sg**	**12 43 39.1**	**0.0**
UPP	**Uppsala**	**0.91**	**342**	P	**Pg**	**12 43 27.0**	**-0.2**
UPP				S	**Sg**	**12 43 39.1**	**0.0**
VIKU	**Vikbolandet**	**0.92**	**238**	P	**Pg**	**12 43 27.4**	**+0.2**
VIKU				S	**Sb**	**12 43 39.8**	**-1.3**
VIKU	**Vikbolandet**	**0.92**	**238**	P	**Pg**	**12 43 27.4**	**+0.2**
VIKU				S	**Sb**	**12 43 39.8**	**-1.3**
ESKU	**Eskilstuna**	**0.95**	**285**	P	**Pg**	**12 43 27.6**	**-0.3**
ESKU				S	**Sg**	**12 43 40.9**	**+0.7**
ESKU	**Eskilstuna**	**0.95**	**285**	P	**Pg**	**12 43 27.6**	**-0.3**
ESKU				S	**Sg**	**12 43 40.9**	**+0.7**
BACU	**Backbrunna**	**1.02**	**328**	P	**Pg**	**12 43 28.7**	**-0.6**
BACU				S	**Sg**	**12 43 42.7**	**+0.2**
BACU	**Backbrunna**	**1.02**	**328**	P	**Pg**	**12 43 28.7**	**-0.6**
BACU				S	**Sg**	**12 43 42.7**	**+0.2**
FLYU	**Flymyra**	**1.15**	**353**	P	**Pg**	**12 43 31.1**	**-0.6**
FLYU				S	**Sg**	**12 43 46.6**	**-0.1**
FLYU	**Flymyra**	**1.15**	**353**	P	**Pg**	**12 43 31.1**	**-0.6**
FLYU				S	**Sg**	**12 43 46.6**	**-0.1**
GOTU	**Gotland**	**1.33**	**171**	P	**Pg**	**12 43 34.2**	**-0.9**
GOTU				S	**Sb**	**12 43 52.6**	**-0.3**
GOTU	**Gotland**	**1.33**	**171**	P	**Pg**	**12 43 34.2**	**-0.9**
GOTU				S	**Sb**	**12 43 52.6**	**-0.3**
GOTU	**Gotland**	**1.33**	**171**	*e*P	**Pg**	**12 43 34.2**	**-0.9**
GOTU				*e*SB	**Sg**	**12 43 52.2**	**-0.1**
OSTU	**Oestervaala**	**1.35**	**337**	P	**Pg**	**12 43 34.8**	**-0.8**
OSTU	**Oestervaala**	**1.35**	**337**	P	**Pg**	**12 43 34.8**	**-0.8**
GRAU	**Graesoe**	**1.36**	**8**	P	**Pg**	**12 43 34.9**	**-0.8**
GRAU	**Graesoe**	**1.36**	**8**	P	**Pg**	**12 43 34.9**	**-0.8**
FORU	**Forsmark**	**1.40**	**0**	P	**Pn**	**12 43 35.6**	**-0.9**
FORU	**Forsmark**	**1.40**	**0**	P	**Pn**	**12 43 35.6**	**-0.9**
LNKU	**Linkoeping**	**1.60**	**242**	P	**Pb**	**12 43 39.4**	**-0.6**
LNKU	**Linkoeping**	**1.60**	**242**	P	**Pb**	**12 43 39.4**	**-0.6**
NRAU	**Nora**	**1.71**	**291**	P	**Pb**	**12 43 41.4**	**-0.7**
NRAU	**Nora**	**1.71**	**291**	P	**Pb**	**12 43 41.4**	**-0.7**
ASKU	**Askersund**	**1.74**	**268**	P	**Pb**	**12 43 41.7**	**-0.8**
ASKU	**Askersund**	**1.74**	**268**	P	**Pb**	**12 43 41.7**	**-0.8**
IGGU	**Iggoen**	**1.94**	**347**	P	**Pn**	**12 43 44.4**	**+0.5**
IGGU	**Iggoen**	**1.94**	**347**	P	**Pn**	**12 43 44.4**	**+0.5**
HFS	**Hagfors**	**2.55**	**299**	Pn	**Pn**	**12 43 53.7**	**+1.3**
	0.3nm,0.3s,baz=116,slow=14,SNR=15						
HFS				Lg	Lg	12 44 27.8	
	0.8nm,0.3s,baz=114,slow=28,SNR=12						
	0.9nm,0.2s						
SLIT	**Slitere, Latvi**	**2.56**	**120**	*e*PB	**Pb**	**12 43 54.6**	**-1.9**
RAF	**Rauma**	**2.72**	**40**	*e*P	**Pn**	**12 43 55.9**	**+1.3**
RAF	**Rauma**	**2.72**	**40**	*e*P	**Pn**	**12 43 55.4**	**+0.8**
RAF				*e*S	**Sn**	**12 44 28.5**	**+0.3**
RAF				MSG		12 44 35.3	
	comp=Z,3.0nm,0.1s						
ARNU	**Arnoeviken**	**2.74**	**352**	*e*P	**Pn**	**12 43 54.9**	**0.0**
MTSE	**Matsula**	**2.94**	**93**	*e*P	**Pn**	**12 43 58.0**	**+0.4**
MTSE	**Matsula**	**2.94**	**93**	*e*P	**Pn**	**12 43 58.8**	**+1.2**
MTSE				*e*S	**Sn**	**12 44 35.2**	**+1.5**
MEF	**Metsahovi**	**3.39**	**66**	*e*P	**Pn**	**12 44 04.8**	**+1.0**
MEF	**Metsahovi**	**3.39**	**66**	*e*PG	**Pb**	**12 44 12.2**	**+1.6**
MEF				MSG		12 45 02.2	
	comp=Z,1.6nm,0.1s						
KPF	**Kankaanpaa**	**3.44**	**32**	*e*P	**Pn**	**12 44 05.4**	**+0.9**
KPF				MSG		12 45 00.8	
	comp=Z,1.4nm,0.1s						
NUR	**Nurmijarvi**	**3.61**	**62**	*e*P	**Pn**	**12 44 09.2**	**+2.3**
HEMU	**Hemsoen**	**3.70**	**359**	*e*P	**Pn**	**12 44 08.4**	**+0.4**
NOA	**NORSAR Array B**	**4.05**	**303**	Pn	**Pn**	**12 44 13.1**	**+0.1**
	baz=142,slow=10,SNR=4.8						
NOA				Lg	Lg	12 45 16.7	
	comp=Z,0.1nm,0.3s,baz=72,slow=18,SNR=2.4						
	comp=Z,0.5nm,0.9s						
HUSU	**Husum**	**4.39**	**6**	*e*P	**Pn**	**12 44 18.4**	**+0.9**
VAF	**Ylistaro**	**4.61**	**26**	*e*P	**Pn**	**12 44 23.1**	**+2.5**
VAF	**Ylistaro**	**4.61**	**26**	*e*P	**Pn**	**12 44 22.5**	**+1.9**
FIA0	**FINESS Array S**	**4.64**	**55**	*e*P	**Pn**	**12 44 22.4**	**+1.3**
FIA0				MSG		12 45 37.3	
	comp=Z,1.1nm,0.2s						
FINES	**FINESS Array B**	**4.64**	**55**	Pn	**Pn**	**12 44 22.7**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=245,slow=12,SNR=5.5						
FINES				Sn	**Sn**	**12 45 15.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=242,slow=20,SNR=5.4						
FINES				Lg	Lg	12 45 34.2	
	comp=Z,0.6nm,0.3s,baz=248,slow=22,SNR=7.7						
	comp=Z,0.8nm,0.7s						
ARCES	**ARCESS Array B**	**11.04**	**14**	Pn	**Pn**	**12 45 47.4**	**-1.3**
	comp=Z,5.3nm,1.2s,baz=190,slow=14,SNR=5.7						

*DNK **06** 12:43:16.9±0.5,59°.01N×18°.22E,h0km,ML2.1(UPP),Explosion*
UPP 06 12:43:16.5±0.1,59°.01N×18°.22E,h0km,ML2.1,Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.11**	**267**	P	Pg	12 43 18.8	+0.3
NYNU				S	Sg	12 43 20.4	+0.4
NYNU	**Nynaeshamn**	**0.11**	**267**	P	Pg	12 43 18.8	+0.3
NYNU				S	Sg	12 43 20.4	+0.4
NRTU	**Norrtaelje**	**0.70**	**17**	P	Pg	12 43 29.7	-0.3
NRTU				S	Sg	12 43 39.1	+0.1
NRTU	**Norrtaelje**	**0.70**	**17**	P	Pg	12 43 29.7	-0.3
NRTU				S	Sg	12 43 39.1	+0.1
UPP	**Uppsala**	**0.90**	**341**	P	Pg	12 43 33.5	-0.3
UPP				S	Sg	12 43 45.8	+0.3
UPP	**Uppsala**	**0.90**	**341**	P	Pg	12 43 33.5	-0.3
UPP				S	Sg	12 43 45.8	+0.3
VIKU	**Vikbolandet**	**0.94**	**238**	P	Pg	12 43 33.9	-0.6
VIKU				S	Sg	12 43 46.8	+0.1
VIKU	**Vikbolandet**	**0.94**	**238**	P	Pg	12 43 33.9	-0.6
VIKU				S	Sg	12 43 46.8	+0.1
ESKU	**Eskilstuna**	**0.96**	**284**	P	Pg	12 43 34.5	-0.5
ESKU	**Eskilstuna**	**0.96**	**284**	P	Pg	12 43 34.5	-0.5
BACU	**Backbrunna**	**1.02**	**327**	P	Pg	12 43 35.3	-0.7
BACU	**Backbrunna**	**1.02**	**327**	P	Pg	12 43 35.3	-0.7
FLYU	**Flymyra**	**1.13**	**352**	P	Pg	12 43 37.4	-0.8
FLYU	**Flymyra**	**1.13**	**352**	P	Pg	12 43 37.4	-0.8
GRAU	**Graesoe**	**1.34**	**7**	P	Pg	12 43 41.1	-1.1
GRAU	**Graesoe**	**1.34**	**7**	P	Pg	12 43 41.1	-1.1
OSTU	**Oestervaala**	**1.34**	**336**	P	Pg	12 43 41.4	-0.8
OSTU	**Oestervaala**	**1.34**	**336**	P	Pg	12 43 41.4	-0.8
GOTU	**Gotland**	**1.34**	**172**	P	Pg	12 43 41.5	-0.7
GOTU	**Gotland**	**1.34**	**172**	P	Pg	12 43 41.5	-0.7
FORU	**Forsmark**	**1.38**	**359**	P	Pg	12 43 42.3	-0.7
FORU	**Forsmark**	**1.38**	**359**	P	Pg	12 43 42.3	-0.7
LNKU	**Linkoeping**	**1.62**	**242**	P	Pn	12 43 46.3	0.0
LNKU	**Linkoeping**	**1.62**	**242**	P	Pn	12 43 46.3	0.0
NRAU	**Nora**	**1.72**	**290**	P	Pn	12 43 48.1	+0.5
NRAU	**Nora**	**1.72**	**290**	P	Pn	12 43 48.1	+0.5
ASKU	**Askersund**	**1.76**	**268**	P	Pn	12 43 48.5	+0.3
ASKU	**Askersund**	**1.76**	**268**	P	Pn	12 43 48.5	+0.3

*NEIC **06** 12:49:38.7±1.0,18°.6S±0°.1×177°.5W±0°.1,h579km±11km,mb4.5/21,Error ellipse: s-maj=21.4km s-min=9.2km az=216.0*
*IDC **06** 12:49:41.0±1.1,18°.39S×177°.91W,h600km±11km,mb3.2/11,mbtmp4.1/13,Error ellipse: s-maj=21.8km s-min=11.0km az=150.0*
ISC 06 12:49:39.7±0.5,18°.58S±0°.09×177°.65W±0°.08,h600km,n65,σ1s38/69,mb4.1/20,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.17**	**281**	P	**P**	**12 51 05.5**	**-1.0**
MSVF	**Nonsavu**	**4.17**	**281**	P	**P**	**12 51 05.0**	**-1.5**
	19nm,0.4s,baz=121,slow=12,SNR=70						
MSVF				S	**S**	**12 52 15.3**	**-1.9**
	3.4nm,0.7s,baz=210,slow=21,SNR=1.0						
FUTU	**Fugatoga**	**4.27**	**354**	P	**P**	**12 51 04.6**	**-2.6**
AFI	**Afiamalu**	**7.31**	**51**	P	**P**	**12 51 29.2**	**-3.5**
NIUE	**Niue**	**7.33**	**95**	P	**P**	**12 51 29.1**	**-3.6**
PINNC	**Pines Island,**	**14.52**	**251**	P	**P**	**12 52 43.3**	**-0.1**
DZM	**Mont Dzumac**	**15.32**	**254**	P	**P**	**12 52 50.0**	**-0.9**
	3.7nm,0.7s,baz=113,slow=15,SNR=1.6						
TOZ	**Tahuroa Road**	**20.00**	**196**	P	**P**	**12 53 35.1**	**+1.9**
TOZ				IAmb	IAmb	12 53 35.6	
	comp=Z,8.2nm,0.6s						
URZ	**Urewera**	**20.13**	**192**	P	**P**	**12 53 32.2**	**-2.3**
	comp=Z,12nm,0.4s,baz=31,slow=3.2,SNR=23						
URZ				S	**S**	**12 56 39.0**	**-5.1**
	comp=Z,5.0nm,0.9s,baz=303,slow=22,SNR=1.6						
WHZ	**Wether Hill Ro**	**29.74**	**201**	P	**P**	**12 54 59.8**	**+0.9**
ARMA	**Armidale**	**30.24**	**241**	P	**P**	**12 55 05.0**	**+1.3**
ARMA				IAmb	IAmb	12 55 05.2	
	comp=Z,9.5nm,1.1s						
CAN	**Canberra**	**33.88**	**234**	P	**P**	**12 55 34.5**	**+0.2**
PMG	**Port Moresby**	**35.28**	**280**	P	**P**	**12 55 47.2**	**+1.1**
TOO	**Toolangi**	**37.31**	**232**	P	**P**	**12 56 03.5**	**+0.9**
COEN	**Coen**	**37.83**	**271**	P	**P**	**12 56 07.6**	**+0.6**
STKA	**Stephens Creek**	**38.95**	**242**	P	**P**	**12 56 17.4**	**+1.6**
STKA				IAmb	IAmb	12 56 32.6	
	comp=Z,25nm,1.4s						
STKA	**Stephens Creek**	**38.95**	**242**	P	**P**	**12 56 16.2**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=64,slow=13,SNR=7.2						
	comp=Z,0.8nm,0.3s						
BBOO	**Buckleboo**	**43.72**	**242**	P	**P**	**12 56 54.0**	**+0.7**
BBOO				IAmb	IAmb	12 57 13.9	
	comp=Z,30nm,1.5s						
WR8	**Warramunga Arr**	**45.07**	**260**	P	**P**	**12 57 04.1**	**+0.2**
WR8				IAmb	IAmb	12 57 24.7	
	comp=Z,16nm,1.4s						
WB0	**Warramunga Arr**	**45.19**	**260**	P	**P**	**12 57 04.9**	**+0.1**
WB0				IAmb	IAmb	12 57 05.4	
	comp=Z,4.6nm,0.7s						
WRAB	**Tennant Creek**	**45.21**	**260**	P	**P**	**12 57 05.2**	**+0.2**
WRAB				IAmb	IAmb	12 57 32.0	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**45.22**	**260**	P	**P**	**12 57 05.2**	**+0.1**
WRA	**Warramunga Arr**	**45.22**	**260**	P	**P**	**12 57 04.8**	**-0.3**
	comp=Z,2.7nm,0.5s,baz=97,slow=7.6,SNR=58						
WRA				PcP	**PcP**	**12 58 32.9**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=100,slow=2.9,SNR=2.3						
WRA				S	**S**	**13 02 59.6**	**-3.1**
	comp=Z,0.5nm,0.7s,baz=102,slow=12,SNR=1.9						
	comp=Z,2.7nm,0.5s						
AS31	**Alice Springs**	**45.31**	**255**	P	**P**	**12 57 06.1**	**+0.4**
ASAR	**Alice Springs**	**45.31**	**255**	P	**P**	**12 57 05.8**	**+0.1**
ASAR	**Alice Springs**	**45.31**	**255**	P	**P**	**12 57 06.0**	**+0.3**
	comp=Z,4.2nm,0.7s,baz=89,slow=7.5,SNR=85						
ASAR				PcP	**PcP**	**12 58 32.9**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=94,slow=3.5,SNR=8.6						
ASAR				S	**S**	**13 03 02.4**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=93,slow=15,SNR=12						
	comp=Z,4.2nm,0.7s						
FORT	**Forrest**	**50.38**	**245**	P	**P**	**12 57 43.2**	**0.0**
FORT				IAmb	IAmb	12 57 54.6	
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**51.14**	**265**	P	**P**	**12 57 49.5**	**+0.6**
KNRA				IAmb	IAmb	12 58 16.3	
	comp=Z,27nm,1.2s						
FITZ	**Fitzroy Crossi**	**53.63**	**261**	P	**P**	**12 58 07.5**	**+0.8**
SOEI	**Soe**	**56.80**	**270**	P	**P**	**12 58 30.3**	**+1.5**
PSA00	**Pilbara Seismi**	**58.44**	**256**	P	**P**	**12 58 39.8**	**+0.1**
MBWA	**Marble Bar**	**58.61**	**256**	P	**P**	**12 58 41.3**	**+0.4**
SBA	**Scott Base**	**59.80**	**184**	P	**P**	**12 58 48.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**66.74**	**269**	P	**P**	**12 59 32.5**	**-0.6**
JAGI				IAmb	IAmb	12 59 50.2	
	comp=Z,28nm,1.1s						
MJAR	**Matsushiro Arr**	**68.87**	**323**	P	**P**	**12 59 45.2**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=160,slow=5.9,SNR=7.5						
	comp=Z,0.9nm,0.4s						
KKM	**Kota Kinabalu**	**69.60**	**284**	P	**P**	**12 59 51.2**	**+0.7**
KKM				IAmb	IAmb	13 00 17.7	
	comp=Z,20nm,1.1s						
QSPA	**South Pole Qui**	**71.48**	**180**	P	**P**	**13 00 02.5**	**+1.8**
QSPA	**South Pole Qui**	**71.48**	**180**	P	**P**	**13 00 02.6**	**+1.9**
	comp=Z,2.7nm,0.8s,baz=79,slow=6.0,SNR=7.6						
	comp=Z,2.7nm,0.8s						
PETK	**Petropavlovsk-**	**74.51**	**345**	P	**P**	**13 00 18.9**	**+1.0**
PETK	**Petropavlovsk-**	**74.51**	**345**	P	**P**	**13 00 17.4**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=110,slow=8.8,SNR=7.1						
	comp=Z,2.9nm,0.7s						
NVAR	**Mina Array Bea**	**79.41**	**43**	P	**P**	**13 00 46.5**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=225,slow=8.9,SNR=9.9						
	comp=Z,0.9nm,0.8s						
TXAR	**Lajitas Array**	**85.75**	**57**	P	**P**	**13 01 19.2**	**+2.3**
	comp=Z,1.3nm,0.8s,baz=214,slow=6.9,SNR=15						
	comp=Z,1.3nm,0.8s						
ILAR	**Eielson Array**	**86.38**	**13**	P	**P**	**13 01 18.8**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=205,slow=6.0,SNR=20						
	comp=Z,0.6nm,0.4s						
PDAR	**Pinedale Array**	**87.34**	**43**	P	**P**	**13 01 25.1**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=229,slow=4.3,SNR=4.0						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**94.64**	**25**	P	**P**	**13 01 57.3**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=235,slow=4.5,SNR=3.7						
	comp=Z,0.2nm,0.7s						
BVAR	**Borovoye Array**	**117.82**	**321**	PKP	**PKiKP**	**13 07 18.6**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=98,slow=2.3,SNR=4.2						
ARCES	**ARCESS Array B**	**127.10**	**350**	PKP	**PKiKP**	**13 07 36.8**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=15,slow=2.4,SNR=11						
FINES	**FINESS Array B**	**134.03**	**344**	PKP	**PKiKP**	**13 07 49.8**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=33,slow=3.3,SNR=7.1						
AKASG	**Malin Array Be**	**141.49**	**333**	PKhKP	PKPpre	13 07 58.8	
	comp=Z,0.1nm,0.2s,baz=48,slow=2.5,SNR=4.8						
EKA	**Eskdalemuir Ar**	**143.07**	**5**	PKP	PKPbc	13 08 03.9	-0.4
	comp=Z,0.5nm,0.5s,baz=348,slow=2.3,SNR=4.5						
BRTR	**Keskin Array B**	**145.76**	**315**	PKPbc	**PKPab**	**13 08 13.8**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=94,slow=1.9,SNR=4.6						
MMAI	**Mount Meron Ar**	**147.11**	**302**	PKPbc	**PKiKP**	**13 08 18.0**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=76,slow=6.1,SNR=6.0						
GERES	**GERESS Array B**	**148.44**	**346**	PKPbc	**PKiKP**	**13 08 19.9**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=20,slow=3.3,SNR=7.9						
CONA	**Conrad Observa**	**148.72**	**342**	*i* PKP	**PKiKP**	**13 08 22.0**	**+0.5**
	comp=Z,7.4nm,1.3s						
SOKA	**Soboth**	**150.09**	**342**	*i* PKP	**PKiKP**	**13 08 25.1**	**+0.8**
	comp=Z,1.9nm,1.0s						
KBA	**Koelnbreinsper**	**150.18**	**345**	*i* PKP	**PKiKP**	**13 08 25.1**	**+0.6**
	comp=Z,3.3nm,1.2s						
WATA	**Walderalm**	**150.34**	**347**	*i* PKP	**PKiKP**	**13 08 25.1**	**+0.3**
	comp=Z,2.4nm,0.5s						
RETA	**Reutte**	**150.36**	**348**	*i* PKP	**PKiKP**	**13 08 25.3**	**+0.5**
	comp=Z,4.0nm,1.1s						
OBKA	**Obir**	**150.38**	**343**	*i* PKP	**PKiKP**	**13 08 25.5**	**+0.6**
	comp=Z,2.4nm,0.9s						
WTTA	**Wattenberg**	**150.40**	**347**	*i* PKP	**PKiKP**	**13 08 25.7**	**+0.6**
	comp=Z,5.1nm,0.5s						
MYKA	**Terra Mystica**	**150.52**	**344**	*i* PKP	**PKiKP**	**13 08 25.0**	**-0.2**
	comp=Z,2.9nm,0.5s						
SQTA	**Sankt Quirin**	**150.52**	**348**	*i* PKP	**PKiKP**	**13 08 25.9**	**+0.7**
	comp=Z,2.1nm,0.6s						
ABTA	**Abfaltersbach**	**150.69**	**346**	*i* PKP	**PKiKP**	**13 08 25.7**	**+0.1**
	comp=Z,3.8nm,0.5s						
DAVA	**Damuels**	**150.71**	**349**	*i* PKP	**PKiKP**	**13 08 26.8**	**+1.1**
	comp=Z,3.9nm,0.7s						
FETA	**Feichten**	**150.81**	**348**	*i* PKP	**PKiKP**	**13 08 26.6**	**+0.8**
	comp=Z,2.2nm,0.7s						

*KOLA **06** 12:57:51.5,67°.66N×33°.74E,h0km,ML2.5,Error ellipse: s-maj=2.3km s-min=1.5km az=120.0,Khibiny, mines Kirovsk, Yukspor*
*HEL **06** 12:57:51.5±0.1,67°.69N×33°.68E,h0km,ML2.3,Suspected explosion*
*IDC **06** 12:57:52.8±1.6,67°.73N×33°.54E,h0km,mbtmp3.6/6,ML2.9/6,Error ellipse: s-maj=16.9km s-min=8.5km az=81.0*
ISC 06 12:57:49.6±0.8,67°.64N±0°.03×33°.74E±0°.03,h0km,n33,σ1s78/52,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.15**	**240**	P	**Pg**	**12 57 53.9**	**+1.5**
APA0	**Apatity Array**	**0.29**	**263**	P	**Pg**	**12 57 56.2**	**+1.1**
APA0				S	**Sg**	**12 58 00.2**	**+1.4**
LVZ	**Lovozero**	**0.43**	**53**	P	**Pg**	**12 57 58.8**	**+1.0**
LVZ				S	**Sg**	**12 58 04.6**	**+1.2**
LVZ	**Lovozero**	**0.43**	**53**	*e*P	**Pg**	**12 57 59.0**	**+1.1**
LVZ				*e*S	**Sg**	**12 58 04.7**	**+1.2**
KVDA	**Kovda**	**1.01**	**200**	P	**Pg**	**12 58 09.4**	**+0.4**
KVDA				S	**Sg**	**12 58 23.9**	**+1.8**
VRF	**Varrio**	**1.58**	**276**	*e*P	**Pn**	**12 58 19.3**	**+0.5**
VRF				MSG		12 58 38.5	
	comp=Z,35nm,0.2s						
VRF				*e*S	**Sn**	**12 58 39.9**	**0.0**
TERR	**Teriberka**	**1.65**	**17**	P	**Pn**	**12 58 20.4**	**+0.7**
TERR				S	**Sn**	**12 58 41.4**	**-0.2**
OLKF	**Oulanka, Finla**	**2.16**	**234**	*e*PB	**Pn**	**12 58 29.4**	**+2.6**
OLKF				*e*SB	**Sb**	**12 58 57.6**	**+0.8**
OLKF				MSG		12 58 59.5	
	comp=Z,19nm,0.2s						
PRVG	**Vayda Guba**	**2.19**	**346**	P	**Pb**	**12 58 29.9**	**-0.2**
PRVG				S	**Sn**	**12 58 55.7**	**+0.8**
RAJF	**Raja-Jooseppi**	**2.20**	**295**	*e*P	**Pn**	**12 58 28.5**	**+1.1**
RAJF				*e*S	**Sn**	**12 58 55.8**	**+0.5**
KU6	**Riekki**	**2.23**	**225**	*e*P	**Pn**	**12 58 29.8**	**+2.1**
KU6				*e*SG	**Sb**	**12 59 00.2**	**+1.5**
KU6				MSG		12 59 02.1	
	comp=Z,10nm,0.2s						
MSF	**Maaselka**	**2.55**	**229**	*e*P	**Pn**	**12 58 34.7**	**+2.6**
SGF	**Sodankyl**	**2.78**	**269**	*e*P	**Pn**	**12 58 36.3**	**+1.0**
KMNF	**Kaamanen**	**2.92**	**304**	*e*P	**Pn**	**12 58 38.5**	**+1.4**
KMNF				*e*S	**Sn**	**12 59 12.6**	**-0.2**
KU2	**Taivalkoski**	**2.93**	**231**	*e*P	**Pn**	**12 58 39.7**	**+2.4**
VADS	**Vadso**	**2.95**	**330**	P	**Pn**	**12 58 38.8**	**+1.2**
VADS				S	**Sn**	**12 59 14.4**	**+0.8**
VADS	**Vadso**	**2.95**	**330**	*e*P	**Pn**	**12 58 39.1**	**+1.5**
RNF	**Rovaniemi**	**3.19**	**255**	*e*P	**Pn**	**12 58 42.2**	**+1.3**
RANF	**Ranua**	**3.20**	**242**	*e*P	**Pn**	**12 58 42.6**	**+1.6**
KEV	**Kevo**	**3.25**	**314**	*e*P	**Pn**	**12 58 43.3**	**+1.6**
KEV				*e*S	**Sn**	**12 59 20.9**	**0.0**
KEV				MSG		12 59 21.5	
	comp=Z,14nm,0.2s						
ARA0	**ARCESS Array S**	**3.57**	**306**	*e*P	**Pn**	**12 58 47.5**	**+1.4**
ARA0	**ARCESS Array S**	**3.57**	**306**	*e*P	**Pn**	**12 58 47.2**	**+1.0**
ARCES	**ARCESS Array B**	**3.57**	**306**	Pn	**Pn**	**12 58 47.3**	**+1.2**
	comp=Z,2.6nm,0.3s,baz=119,slow=15,SNR=480						
ARCES				Pg	**Pb**	**12 58 55.1**	**+1.6**
	comp=Z,2.9nm,0.3s,baz=114,slow=15,SNR=22						
ARCES				Sn	**Sn**	**12 59 28.4**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=116,slow=24,SNR=10.0						
ARCES				Lg	Lg	12 59 38.8	
	comp

*IDC **06** 13:23:03.5±0.5, 7.°48N×94.°44E, h0km, mb4.1/27, mbtmp4.1/30, ML3.9/3, MS3.7/40, Error ellipse: s-maj=18.8km s-min=12.3km az=58.0*
*NEIC **06** 13:23:05.1±2.0, 7.°33N±0.°08×94.°51E±0.°05, h10km±1km, mb4.8/38, Error ellipse: s-maj=15.4km s-min=4.4km az=209.0*
*NDI **06** 13:23:06.2±0.5, 7.°39N×94.°48E, h10km, ML4.6, MW4.7, mb4.8(NEIC)*
*BJI **06** 13:23:06.2, 7.°47N×94.°10E, h11km, mB4.9/15, mb4.6/41, Ms4.4/21, Ms7 4.1/22*
*BKK **06** 13:23:08.7±1.5, 7.°N±5.°×9.°5E±1.°4, h10km, M4.7/11, mB5.5/5, mb4.6/6, Mjma4.4/11, ML4.7/8, MLv4.6/9, Mw(mB)4.9/5*
*DJA **06** 13:23:13.2±0.8, 7.°N±3.°×9.°5E±.°, h10km, M4.7/11, mB5.4/5, mb5.0/7, MLv4.6/11, Mw(mB)4.8/5*
ISC 06 13:23:07.2±0.3, 7.°38N±0.°04×94.°42E±0.°05, h24km, n164, σ1§57/129, mb4.5/64, MS3.7/42, 1C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.61**	**233**	*eP*	**Pb**	**13 23 17.8**	**-1.5**
CMBY				*eS*	**Sb**	**13 23 25.9**	**-1.5**
CMBY				IAML		13 23 26.5	
	comp=E,20μm,0.3s						
CMBY				IAML		13 23 26.6	
	comp=N,36μm,0.5s						
BSI	**Banda Aceh**	**2.07**	**155**	P	**Pb**	**13 23 42.3**	**-1.7**
BSI				S	**Sn**	**13 24 04.2**	**-1.2**
LHMI	**Lhok Sumawe**	**3.30**	**130**		**Pn**	**13 23 54.2**	**-3.1**
LHMI	**Lhok Sumawe**	**3.30**	**130**	P	**Pn**	**13 23 56.7**	**-0.7**
MLSI	**Meulaboh, Aceh**	**3.67**	**147**	P	**Pn**	**13 24 04.2**	**+1.7**
RNTT	**Ranong**	**4.48**	**63**	P	**Pn**	**13 24 15.3**	**+1.6**
PBA	**Port Blair**	**4.56**	**339**	*eP*	**Pn**	**13 24 15.3**	**+0.6**
PBA				*eS*	**Sn**	**13 25 06.4**	**-0.5**
PBA				IAML		13 25 33.0	
	comp=E,2μm,0.9s						
SRIT	**Nakonsritamara**	**5.27**	**76**	Pn	**Pn**	**13 24 22.8**	**-1.7**
SRIT	**Nakonsritamara**	**5.27**	**76**	P	**Pn**	**13 24 25.4**	**+0.9**
SNSI	**Sinabang, Aceh**	**5.29**	**159**	P	**Pn**	**13 24 28.1**	**+3.3**
TSI	**Tuntungan**	**5.65**	**133**	P	**Pn**	**13 24 29.4**	**-0.2**
	comp=E,0.7nmcomp=E,3μmcomp=E,62nm,0.5s						
DGPR	**DIGLIPUR**	**5.94**	**346**	*eP*	**Pn**	**13 24 34.3**	**+0.6**
DGPR				*eS*	**Sn**	**13 25 38.2**	**-2.9**
PSI	**Prapat**	**6.39**	**135**	Pn	**Pn**	**13 24 40.0**	**0.0**
	comp=E,3.1nm,0.3s,baz=287,slow=8.3,SNR=11						
PSI				LR	LR	13 27 18.9	
	comp=E,648nm,19.7s,baz=300,slow=39 comp=E,10nm,0.6s						
RPSI	**Rantau Prapat**	**6.46**	**136**		**Pn**	**13 24 40.0**	**-1.0**
RPSI	**Rantau Prapat**	**6.46**	**136**	Pn	**Pn**	**13 24 38.2**	**-2.7**
KULM	**Kulim**	**6.53**	**108**	Pn	**Pn**	**13 24 39.7**	**-2.1**
GSI	**Gunungsitoli**	**6.81**	**152**	Pn	**Pn**	**13 24 42.6**	**-3.0**
KHLT	**Khaolaem Dam**	**8.43**	**29**	P	**Pn**	**13 25 10.8**	**+2.9**
PPI	**Padang Panjang**	**9.81**	**142**	P	**Pn**	**13 25 27.3**	**+0.5**
	comp=E,7.1nm,1.1s						
MYKOM	**Kota Tinggi**	**10.92**	**120**	Pn	**Pn**	**13 25 40.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**11.86**	**21**	Pn	**Pn**	**13 25 51.8**	**-3.1**
	comp=E,0.3nm,0.3s,baz=213,slow=15,SNR=7.3						
CMAR				LR	LR	13 30 33.4	
	comp=E,381nm,18.7s,baz=190,slow=38 comp=E,0.3nm,0.4s						
CHTO	**Chiang Mai**	**12.19**	**21**		**Pn**	**13 25 59.2**	**-0.2**
PALK	**Pallekele**	**13.61**	**270**	Pn	**Pn**	**13 26 18.0**	**-0.8**
	comp=E,0.4nm,0.3s,baz=111,slow=20,SNR=1.8 comp=E,1.4nm,0.5s						
SLVN	**Son La**	**16.63**	**32**	P	**P**	**13 27 03.0**	**+1.9**
KSM	**Kuching**	**16.89**	**110**	P	**P**	**13 27 06.9**	**+2.9**
KSM				IAmb	IAmb	13 27 21.1	
	comp=Z,58nm,1.3s						
TNCH	**TengChong**	**17.98**	**12**	*eP*	**P**	**13 27 17.1**	**+0.9**
TNCH				pP	pP	13 27 22.5	+0.4
TNCH				S	**Sn**	**13 30 36.7**	**+0.8**
TNCH				pmax	pmax		
	comp=Z,75nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,270nm,3.9s						
TNCH				LR	LR		
	comp=Z,550nm,12.0s						
TNCH				LR	LR		
	comp=Z,540nm,9.6s						
TNCH				LR	LR		
	comp=Z,500nm,12.2s						
SHL	**Shillong**	**18.25**	**353**	P	**Pn**	**13 27 18.8**	**-0.3**
SBUM	**Sibu**	**18.39**	**105**		**P**	**13 27 18.1**	**-2.6**
QIZ	**Qiongzhong**	**18.94**	**51**	P	**Pn**	**13 27 28.7**	**+1.3**
QIZ				S	**S**	**13 31 00.0**	**-0.4**
QIZ				sS	**sS**	**13 31 09.8**	**-0.5**
QIZ				pmax	pmax		
	comp=Z,11nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,170nm,5.3s						
QIZ				LR	LR		
	comp=Z,1μm,12.9s						
QIZ				LR	LR		
	comp=Z,400nm,13.5s						
QIZ				LR	LR		
	comp=Z,410nm,12.6s						
LEM	**Lembang**	**19.30**	**137**	LR	LR	13 36 15.1	
	comp=Z,506nm,18.6s,baz=296,slow=41						
KMI	**Kunming**	**19.35**	**23**	P	**Pn**	**13 27 36.3**	**+3.8**
KMI				pmax	pmax		
	comp=Z,22nm,1.0s						
KMI				LR	LR		
	comp=Z,280nm,15.0s						
KMI				LR	LR		
	comp=Z,410nm,15.8s						
KMI				LR	LR		
	comp=Z,410nm,12.0s						
PZH	**PanZhiHua**	**20.25**	**19**	P	Pn	13 27 44.5	+1.4
PZH				S	**S**	**13 31 24.3**	**-3.1**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,60nm,3.9s						
PZH				LR	LR		
	comp=Z,250nm,11.4s						
PZH				LR	LR		
	comp=Z,290nm,13.0s						
PZH				LR	LR		
	comp=Z,270nm,17.6s						
LSA	**Lhasa**	**22.41**	**353**	P	**P**	**13 28 03.5**	**-1.2**
LSA				IAmb	IAmb	13 28 15.7	
	comp=Z,23nm,0.7s						
H08S3	**Diego Garcia H**	**26.47**	**236**	T	T	13 55 24.3	
	baz=56,slow=75,SNR=116						
H08S2	**Diego Garcia H**	**26.47**	**236**	T	T	13 55 19.7	
	baz=56,slow=75,SNR=101						
H08S1	**Diego Carcia H**	**26.49**	**236**	T	T	13 55 23.1	
	baz=56,slow=75,SNR=76						
TGY	**Tagaytay City**	**26.88**	**73**	LR	LR	13 38 10.5	
	comp=Z,158nm,20.6s,baz=324,slow=34						
KAPI	**Kappang**	**28.12**	**115**	LR	LR	13 39 53.7	
	comp=Z,174nm,19.5s,baz=286,slow=36						
GOMU	**GeErMu**	**28.68**	**1**	P	**P**	**13 29 02.9**	**+0.1**
GOMU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,250nm,5.6s						
XAN	**Xi'an**	**29.72**	**25**	P	**P**	**13 29 12.9**	**+1.3**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NIL	**Nilore**	**32.66**	**326**	P	**P**	**13 29 36.4**	**-1.2**
NJ2	**Nanjing**	**33.47**	**40**	*eP*	**P**	**13 29 44.9**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,31nm,0.5s						
HNS	**HongShan**	**35.11**	**29**	⇑P	P	13 30 07.7	+9.0
HNS				S	S	13 35 41.1	+11
HNS				pmax	pmax		
	comp=Z,28nm,0.7s						
HNS				LR	LR		
	comp=Z,220nm,12.6s						
HNS				LR	LR		
	comp=Z,270nm,13.3s						
HNS				LR	LR		
	comp=Z,260nm,17.1s						
KSH	**Kashi**	**36.03**	**335**	P	**P**	**13 30 06.1**	**-0.7**
KSH				sP	pP	13 30 12.0	-1.4
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				LR	LR		
	comp=Z,3μm,25.6s						
KSH				LR	LR		
	comp=Z,820nm,22.0s						
KSH				LR	LR		
	comp=Z,170nm,20.6s						
HHC	**Hu-ho-hao-te**	**36.67**	**22**	*eP*	**P**	**13 30 14.5**	**+2.3**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
HHC				LR	LR		
	comp=Z,150nm,12.2s						
HHC				LR	LR		
	comp=Z,360nm,12.2s						
HHC				LR	LR		
	comp=Z,220nm,13.0s						
WMQ	**Urumqi**	**36.77**	**352**	*eP*	**P**	**13 30 15.8**	**+2.8**
WMQ				LR	LR		
	comp=Z,75nm,12.3s						
JOW	**Kunigami**	**37.51**	**55**	LR	LR	13 47 34.7	
	comp=Z,37nm,18.8s,baz=298,slow=39						
GAR	**Garm**	**38.24**	**329**	P	**P**	**13 30 25.5**	**-0.1**
GAR				IAmb	IAmb	13 30 33.1	
	comp=Z,30nm,0.9s						
SIMJ	**Simiganj**	**38.67**	**327**	P	**P**	**13 30 26.2**	**-2.9**
SIMJ				IAmb	IAmb	13 30 36.4	
	comp=Z,20nm,0.8s						
BTK	**Batken**	**38.80**	**331**	IAmb	IAmb	13 30 40.0	
	comp=Z,21nm,0.9s						
ARSB	**Arslanbob**	**38.80**	**334**	IAmb	IAmb	13 30 38.1	
	comp=Z,16nm,1.0s						
AAK	**Ala-Archa**	**39.27**	**337**	P	**P**	**13 30 35.0**	**+0.8**
AAK	**Ala-Archa**	**39.27**	**337**	LR	LR	13 49 10.9	
	comp=Z,105nm,18.1s,baz=154,slow=40						
FITZ	**Fitzroy Crossi**	**39.88**	**130**	LR	LR	13 48 47.9	
	comp=Z,126nm,20.4s,baz=303,slow=39						
MK31	**Makanchi Array**	**40.63**	**347**	P	**P**	**13 30 45.4**	**+0.1**
MKAR	**Makanchi Array**	**40.63**	**347**	P	**P**	**13 30 45.0**	**-0.3**
MKAR	**Makanchi Array**	**40.63**	**347**	P	**P**	**13 30 45.3**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=165,slow=8.0,SNR=30						
MKAR				LR	LR	13 52 36.8	
	comp=Z,64nm,18.1s,baz=178,slow=44 comp=Z,5.1nm,0.7s						
MAKZ	**Makanchi**	**40.71**	**347**	P	**P**	**13 30 44.0**	**-1.9**
KK31	**Karatay Array**	**41.32**	**333**	P	**P**	**13 30 49.9**	**-1.2**
KKAR	**Karatay Array**	**41.32**	**333**	P	**P**	**13 30 50.3**	**-0.8**
KKAR	**Karatay Array**	**41.32**	**333**	P	**P**	**13 30 49.5**	**-1.6**
KKAR				IAmb	IAmb	13 30 59.4	
	comp=Z,7.8nm,1.0s						
SONM	**Songino Array**	**41.58**	**12**	P	**P**	**13 30 52.2**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=200,slow=7.8,SNR=6.8						
SONM				LR	LR	13 49 08.7	
	comp=Z,121nm,21.0s,baz=174,slow=38 comp=Z,1.5nm,0.9s						
JNU	**Nakatsue**	**42.37**	**48**	LR	LR	13 49 09.2	
	comp=Z,106nm,20.6s,baz=241,slow=37						
KSRS	**Korea Array**	**42.66**	**40**	P	**P**	**13 31 00.8**	**-1.1**
	comp=Z,1.4nm,1.1s,baz=224,slow=10,SNR=4.8						
KSRS				LR	LR	13 50 42.2	
	comp=Z,100nm,18.6s,baz=145,slow=39 comp=Z,1.4nm,1.1s						
KURBB	**Kurchatov Arra**	**45.09**	**346**	P	**P**	**13 31 21.6**	**+0.3**
	comp=Z,5.3nm,0.7s,baz=171,slow=7.2,SNR=39						
KURBB				PcP	**PcP**	**13 33 03.6**	**+1.9**
	comp=Z,1.6nm,0.7s,baz=155,slow=2.7,SNR=4.2						
KURBB				LR	LR	13 52 47.8	
	comp=Z,80nm,21.7s,baz=165,slow=40 comp=Z,5.3nm,0.7s						
KURK	**Kurchatov**	**45.15**	**346**	P	**P**	**13 31 20.4**	**-1.4**
KURK				IAmb	IAmb	13 31 28.9	
	comp=Z,15nm,0.9s						
CN2	**Changchun**	**45.30**	**32**	P	P	13 31 30.8	+7.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**45.59**	**153**	LR	LR	13 49 06.0	
	comp=Z,76nm,20.1s,baz=173,slow=34						
ZAA0	**Zalesovo Array**	**47.08**	**352**	IAmb	IAmb	13 31 45.8	
	comp=Z,10nm,0.9s						
ZALV	**Zalesovo Beam**	**47.08**	**352**	P	**P**	**13 31 36.1**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=167,slow=7.4,SNR=12						
ZALV				LR	LR	13 56 14.3	
	comp=Z,78nm,18.4s,baz=206,slow=42 comp=Z,3.3nm,0.8s						
BNX	**BinXian**	**47.64**	**31**	⇓P	P	13 31 48.3	+6.8
BNX				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**47.75**	**125**	P	**P**	**13 31 42.7**	**0.0**
	comp=Z,1.6nm,0.9s,baz=306,slow=8.4,SNR=10						
WRA				PcP	**PcP**	**13 33 12.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=301,slow=3.5,SNR=5.4 comp=Z,1.6nm,0.9s						
MJAR	**Matsushiro Arr**	**49.29**	**47**	LR	LR	13 54 55.2	
	comp=Z,62nm,18.8s,baz=246,slow=39						
ASAR	**Alice Springs**	**49.39**	**130**	P	**P**	**13 31 55.5**	**+0.3**
	comp=Z,2.0nm,1.1s,baz=300,slow=7.7,SNR=11						
ASAR				PcP	**PcP**	**13 33 18.1**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=302,slow=5.3,SNR=1.4						
ASAR				LR	LR	13 54 52.9	
	comp=Z,103nm,19.8s,baz=305,slow=39 comp=Z,2.0nm,1.1s						
AS31	**Alice Springs**	**49.39**	**130**	P	**P**	**13 31 56.3**	**+1.0**
RAYN	**Ar Rayn**	**49.54**	**295**	P	**P**	**13 31 56.8**	**+0.3**
BVAR	**Borovoye Array**	**49.54**	**341**	P	**P**	**13 31 54.9**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=125,slow=9.3,SNR=11						
BVAR				PcP	**PcP**	**13 33 17.4**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=151,slow=3.3,SNR=4.1 comp=Z,2.3nm,0.8s						
BRVK	**Borovoye**	**49.60**	**341**	P	**P**	**13 31 56.4**	**0.0**
BRVK				IAmb	IAmb	13 32 02.7	
	comp=Z,5.9nm,0.9s						
FORT	**Forrest**	**49.78**	**141**	P	**P**	**13 31 56.9**	**-1.2**
ABKAR	**Abkulak array**	**50.79**	**331**	P	**P**	**13 32 05.6**	**+0.1**
ABKAR	**Abkulak array**	**50.79**	**331**	IAmb	IAmb	13 32 14.0	
	comp=Z,15nm,1.1s						
AKTO	**Aktyubinsk**	**52.51**	**331**	P	**P**	**13 32 17.6**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=145,slow=9.1,SNR=8.5 comp=Z,1.0nm,0.4s						
GNI	**Garni**	**54.98**	**314**	LR	LR	13 57 60.0	
	comp=Z,18nm,19.8s,baz=96,slow=38						
ASAJ	**Asahikawa**	**55.60**	**41**	LR	LR	13 56 57.5	
	comp=Z,52nm,20.4s,baz=156,slow=37						
ARTI	**Arti**	**56.49**	**337**	P	**P**	**13 32 46.8**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=106,slow=2.3,SNR=3.8						
ARTI				LR	LR	13 58 54.9	
	comp=Z,91nm,19.6s,baz=151,slow=38 comp=Z,2.3nm,0.6s						
KBZ	**Khabaz**	**57.64**	**318**	P	**P**	**13 32 55.8**	**+0.4**
	comp=Z,2.2nm,1.0s,baz=106,slow=18,SNR=5.0						
KBZ				PcP	**PcP**	**13 33 47.7**	**-0.7**
	comp=Z,3.3nm,0.9s,baz=197,slow=7.5,SNR=6.0 comp=Z,2.2nm,1.0s						
KMBO	**Kilima Mbogo**	**57.65**	**264**	P	**P**	**13 32 58.0**	**+1.6**
KMBO				IAmb	IAmb	13 33 13.1	
	comp=Z,6.0nm,1.1s						
KMBO	**Kilima Mbogo**	**57.65**	**264**	P	**P**	**13 32 57.1**	**+0.8**
	comp=Z,1.4nm,0.2s,baz=53,slow=12,SNR=5.9						
KMBO				LR	LR	13 54 28.9	
	comp=Z,60nm,20.1s,baz=85,slow=33 comp=Z,1.4nm,0.2s						
STKA	**Stephens Creek**	**59.57**	**134**	P	**P**	**13 33 09.6**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=292,slow=11,SNR=1.0						
STKA				LR	LR	14 00 12.7	
	comp=Z,35nm,19.6s,baz=255,slow=37 comp=Z,0.8nm,0.3s						
EIL	**Elat**	**59.91**	**300**	LR	LR	14 00 37.5	
	comp=Z,51nm,19.5s,baz=70,slow=38						
MMAI	**Mount Meron Ar**	**60.12**	**304**	LR	LR	14 02 57.0	
	comp=Z,56nm,19.4s,baz=96,slow=40						
YAK	**Yakutsk**	**60.37**	**18**	P	**P**	**13 33 14.2**	**+0.1**
YAK	**Yakutsk**	**60.37**	**18**	LR	LR	14 01 28.9	
	comp=Z,136nm,18.5s,baz=219,slow=38						
NRIK	**Noril'sk**	**62.04**	**357**	P	**P**	**13 33 25.1**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=170,slow=6.2,SNR=4.5						
NRIK				LR	LR	14 04 35.6	
	comp=Z,64nm,20.6s,baz=200,slow=40 comp=Z,1.8nm,0.6s						
BRTR	**Keskin Array B**	**62.96**	**311**	P	**P**	**13 33 32.1**	**0.0**
	comp=Z,1.5nm,0.9s,baz=119,slow=6.4,SNR=8.7						
BRTR				LR	LR	14 04 08.7	
	comp=Z,49nm,19.6s,baz=131,slow=39 comp=Z,1.5nm,0.9s						
H04N2	**CROZET ISLANDS**	**65.45**	**211**	T	T	14 44 20.6	
	baz=48,slow=74,SNR=16						
H04N1	**CROZET ISLANDS**	**65.46**	**211**	T	T	14 44 20.4	
	baz=48,slow=74,SNR=16						
H04N3	**CROZET ISLANDS**	**65.47**	**211**	T	T	14 44 19.0	
	baz=48,slow=74,SNR=22						
OBN	**Obninsk**	**65.94**	**328**	LR	LR	14 05 51.3	
	comp=Z,60nm,19.2s,baz=121,slow=39						
MA2	**Magadan**	**67.07**	**27**	LR	LR	14 06 40.0	
	comp=Z,56nm,18.4s,baz=116,slow=39						
TIXI	**Tiksi**	**67.66**	**11**	P	**P**	**13 34 01.4**	**-0.4**
SORM	**Soroca**	**68.64**	**319**	P	**P**	**13 34 11.3**	**+2.9**
	comp=Z,4.5nm,1.0s						
AK08	**Malin Array Si**	**68.67**	**322**	P	**P**	**13 34 10.4**	**+1.8**
AKASG	**Malin Array Be**	**68.71**	**322**	P	**P**	**13 34 07.2**	**-1.6**
	comp=Z,0.1nm,0.2s,baz=91,slow=4.8,SNR=9.0 comp=Z,0.1nm,0.2s						
AKBB	**Malin Array Si**	**68.71**	**322**	P	**P**	**13 34 10.8**	**+2.0**
VRI	**Vrincioaia**	**69.25**	**316**	P	**P**	**13 34 15.6**	**+3.3**
LSZ	**Lusaka**	**69.37**	**251**	LR	LR	14 00 04.2	
	comp=Z,97nm,19.7s,baz=118,slow=32						
MLR	**Muntele Rosu**	**69.71**	**316**	P	**P**	**13 34 16.4**	**+1.1**
MLR				IAmb	IAmb	13 34 23.2	
	comp=Z,7.8nm,0.9s						
MLR	**Muntele Rosu**	**69.71**	**316**	LR	LR	14 12 30.2	
	comp=Z,69nm,18.1s,baz=60,slow=43						
KOLS	**Kolonicke sedl**	**72.75**	**319**	*eP*	P	13 34 38.5	+5.0
FIA1	**FINESS Array S**	**73.27**	**332**	P	**P**	**13 34 36.0**	**-0.3**
FINES	**FINESS Array B**	**73.27**	**332**	P	**P**	**13 34 34.8**	**-1.5**
FINES	**FINESS Array B**	**73.27**	**332**	P	**P**	**13 34 35.9**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=90,slow=4.6,SNR=8.7 comp=Z,1.3nm,0.7s						
STHS	**Stebnicka Huta**	**73.49**	**319**	*eP*	P	13 34 43.2	+5.3
VYHS	**Vyhne**	**74.96**	**318**	*eP*	P	13 34 52.1	+5.6
BOSA	**Boshof**	**75.56**	**238**	P	**P**	**13 34 50.3**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=81,slow=5.7,SNR=7.7 comp=Z,2.0nm,0.9s						
STEB	**Steborice**	**75.79**	**320**	*eP*	**P**	**13 34 54.1**	**+2.9**
ARCES	**ARCESS Array B**	**75.82**	**340**	P	**P**	**13 34 50.3**	**-0.7**
	comp=Z,4.1nm,0.9s,baz=95,slow=7.3,SNR=6.5						
ARCES				LR	LR	14 10 52.1	
	comp=Z,114nm,19.0s,baz=82,slow=38 comp=Z,4.1nm,0.9s						
MORC	**Moravsky Berou**	**75.93**	**319**	*eP*	**P**	**13 34 55.3**	**+3.3**
KRLC	**Kraliky**	**76.44**	**320**	*eP*	**P**	**13 34 57.5**	**+2.5**
VRAC	**Vranov**	**76.50**	**319**	LR	LR	14 13 24.4	
	comp=Z,28nm,18.5s,baz=20,slow=40						
RONA	**Rosalia, Austr**	**76.58**	**317**	*eP*	**P**	**13 34 57.8**	**+1.9**
	comp=Z,2.4nm,1.0s						
KRUC	**Moravsky**	**76.61**	**319**	*eP*	**P**	**13 34 57.4**	**+1.5**
DPC	**Dobruska-Polom**	**76.76**	**320**	*eP*	P	13 35 02.8	+6.0
CONA	**Conrad Observa**	**76.89**	**317**	*eP*	**P**	**13 34 58.6**	**+1.0**
	comp=Z,2.9nm,1.1s						
SOKA	**Soboth**	**77.39**	**316**	*eP*	**P**	**13 35 02.5**	**+2.1**
	comp=Z,7.2nm,1.1s						
OBKA	**Obir**	**77.72**	**316**	*i P*	**P**	**13 35 04.7**	**+2.4**
	comp=Z,5.9nm,1.2s						
MYKA	**Terra Mystica**	**78.34**	**316**	*i P*	**P**	**13 35 06.4**	**+0.7**
	comp=Z,1.3nm,0.6s						
GERES	**GERESS Array B**	**78.38**	**318**	P	**P**	**13 35 06.4**	**+0.5**
GERES	**GERESS Array B**	**78.38**	**318**	P	**P**	**13 35 05.9**	**+0.1**
	comp=Z,2.3nm,1.1s,baz=84,slow=5.9,SNR=11 comp=Z,2.3nm,1.1s						
PRED	**Cave del Predi**	**78.39**	**316**	IAmb	IAmb	13 35 13.7	
	comp=Z,9.9nm,0.9s						
KHC	**Kasperske Hory**	**78.47**	**319**	*eP*	P	13 35 12.1	+5.8
HFS	**Hagfors**	**79.02**	**330**	P	**P**	**13 35 09.0**	**0.0**
	comp=Z,1.1nm,0.7s,baz=101,slow=6.2,SNR=19						
HFS				LR	LR	14 13 06.3	
	comp=Z,25nm,21.5s,baz=59,slow=38 comp=Z,1.1nm,0.7s						
LESA	**Schwarzleotal**	**79.02**	**317**	*i P*	**P**	**13 35 10.9**	**+1.5**
	comp=Z,4.6nm,0.8s						
ABTA	**Abfaltersbach**	**79.12**	**316**	*eP*	**P**	**13 35 12.2**	**+2.2**
	comp=Z,5.5nm,1.2s						
CIMO	**Cimolais**	**79.17**	**316**	P	**P**	**13 35 11.8**	**+1.6**
CIMO				IAmb	IAmb	13 35 17.9	
	comp=Z,8.1nm,0.9s						
WTTA	**Wattenberg**	**79.73**	**317**	*i P*	**P**	**13 35 15.7**	**+2.3**
	comp=Z,8.9nm,1.1s						
SQTA	**Sankt Quirin**	**80.02**	**317**	*eP*	**P**	**13 35 16.3**	**+1.4**
	comp=Z,3.2nm,0.7s						
MOTA	**Moosalm**	**80.09**	**317**	*eP*	**P**	**13 35 17.3**	**+1.9**
	comp=Z,8.5nm,1.2s						
TSUM	**Tsumeb**	**80.11**	**249**	LR	LR	14 07 01.1	
	comp=Z,59nm,20.6s,baz=144,slow=33						
NB2	**NORSAR Subarra**	**80.29**	**331**	P	P	13 35 20.8	+4.8
	comp=Z,5.4nm,0.9s,baz=90,slow=6.2						
NOA	**NORSAR Array B**	**80.29**	**331**	P	**P**	**13 35 15.1**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=93,slow=5.5,SNR=11						
NOA				LR	LR	14 14 35.5	
	comp=Z,29nm,18.6s,baz=95,slow=38 comp=Z,0.5nm,0.8s						
RETA	**Reutte**	**80.32**	**317**	*eP*	**P**	**13 35 18.4**	**+1.9**
	comp=Z,12nm,1.5s						
FETA	**Feichten**	**80.35**	**316**	*eP*	**P**	**13 35 18.5**	**+1.7**
	comp=Z,6.8nm,1.1s						
SPITS	**Spitsbergen Ar**	**80.37**	**348**	P	**P**	**13 35 14.5**	**-1.6**
	comp=Z,7.6nm,1.0s,baz=98,slow=6.1,SNR=5.7 comp=Z,7.6nm,1.0s						
DAVA	**Damuels**	**80.92**	**317**	*i P*	**P**	**13 35 21.4**	**+1.6**
	comp=Z,7.8nm,1.2s						
DAVOX	**Davos/Dischmat**	**80.93**	**316**	LR	LR	14 15 26.1	
	comp=Z,49nm,20.9s,baz=62,slow=39						
SYO	**Syowa Base**	**85.02**	**197**	⇓P	**P**	**13 35 43.2**	**+3.0**
EKA	**Eskdalemuir Ar**	**88.28**	**325**	P	**P**	**13 35 56.6**	**0.0**
	comp=Z,2.3nm,0.9s,baz=99,slow=5.4,SNR=9.6 comp=Z,2.3nm,0.9s						
C18K	**Utukok River**	**88.37**	**21**	P	**P**	**13 35 57.5**	**+0.6**
C18K				IAmb	IAmb	13 36 04.9	
	comp=Z,6.3nm,0.8s						
E19K	**Redstone River**	**90.15**	**21**	IAmb	IAmb	13 36 13.3	
	comp=Z,7.1nm,0.8s						
F19K	**Shaleruckik Mo**	**90.16**	**22**	IAmb	IAmb	13 36 13.8	
	comp=Z,9.7nm,1.2s						
E21K	**Killik River**	**90.94**	**20**	IAmb	IAmb	13 36 16.8	
	comp=Z,6.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**90.98**	**283**	P	**P**	**13 36 10.1**	**0.0**
	comp=Z,144nm,0.5s,baz=93,slow=4.8,SNR=2.2						
ESDC	**

0.5nm,0.4s,baz=185,slow=7.4,SNR=5.8
0.5nm,0.4s
WRA Warramunga Arr 47.82 125 P **P 13 55 51.5 +0.2**
0.4nm,0.8s,baz=309,slow=7.9,SNR=1.6
0.4nm,0.8s
ASAR Alice Springs 49.44 130 P **P 13 56 03.5 -0.2**
0.1nm,0.3s,baz=305,slow=8.4,SNR=2.0
0.1nm,0.3s
BVAR Borovoye Array 49.60 341 P **P 13 56 04.1 -0.3**
0.3nm,0.6s,baz=132,slow=10,SNR=5.2
0.3nm,0.6s
IDI Anoyia 69.00 305 LR LR 14 32 59.1
comp=Z,85nm,21.2s,baz=281,slow=40
FINES FINESS Array B 73.30 332 P **P 13 58 44.9 +0.3**
0.8nm,0.8s,baz=56,slow=4.8,SNR=5.2
0.8nm,0.8s
HFS Hagfors 79.03 330 P **P 13 59 18.5 +1.2**
0.7nm,0.5s,baz=96,slow=6.1,SNR=4.8
0.7nm,0.5s
NOA NORSAR Array B 80.31 331 P **P 13 59 23.4 -0.8**
0.3nm,0.7s,baz=89,slow=6.6,SNR=2.1
0.3nm,0.7s

---

*JMA **06** 13:53:28.7±0.1,23°.2N±0°.8×12°2E±°,h42km±2km,*
MV2.7/12,TAIWAN REGION
*TAP **06** 13:53:29.8,23°.23N×121°.52E,h38km,ML3.0,C*
ISC 06 13:53:29.6±0.9,23°20N±0°.02×121°57E±0°.02,h33km±2km,
n127,σ1§01/220,4C-11D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKH	**Chenggong**	**0.16**	**269**	P	**Pb**	**13 53 36.3**	**+0.5**
CHKH				S	**Sb**	**13 53 40.8**	**+0.8**
ECBN	**Changbin**	**0.17**	**317**	⇑*i*P	**Pb**	**13 53 36.6**	**+0.8**
ECBN				S	**Sb**	**13 53 41.3**	**+1.2**
CHKT	**Chengkung**	**0.21**	**244**	⇑*i*P	**Pb**	**13 53 36.7**	**+0.4**
CHKT				S	**Sb**	**13 53 41.8**	**+1.0**
FULB	**Fuli**	**0.26**	**271**	⇑P	**Pn**	**13 53 37.1**	**+0.3**
FULB				S	**Sb**	**13 53 43.2**	**+1.4**
EYUL	**Yuli**	**0.28**	**303**	P	**Pn**	**13 53 37.9**	**+0.7**
EYUL				S	**Sb**	**13 53 43.8**	**+1.6**
TWF1	**Yuli**	**0.30**	**302**	⇓P	**Pb**	**13 53 37.4**	**0.0**
TWF1				S	**Sn**	**13 53 42.6**	**+0.2**
YULB	**Yu-li**	**0.32**	**308**	P	**Pb**	**13 53 37.4**	**-0.2**
YULB	**Yu-li**	**0.32**	**308**	⇓*i*P	**Pb**	**13 53 37.5**	**-0.2**
YULB				S	**Sn**	**13 53 42.7**	**-0.4**
HGSD	**Ruisui**	**0.33**	**335**	⇑*i*P	**Pb**	**13 53 37.6**	**-0.1**
HGSD				S	**Sb**	**13 53 45.8**	**+2.6**
EDH	**Donghe**	**0.33**	**228**	P	**Pb**	**13 53 38.3**	**+0.6**
EDH				S	**Sb**	**13 53 44.6**	**+1.3**
ECS	**Chishang**	**0.34**	**253**	P	**Pb**	**13 53 38.4**	**+0.5**
ECS				S	**Sn**	**13 53 45.0**	**+1.3**
EHD	**Haiduan**	**0.34**	**262**	P	**Pb**	**13 53 37.3**	**-0.6**
EHYH	**Wanrong**	**0.36**	**325**	P	**Pb**	**13 53 38.2**	**0.0**
EHYH				S	**Sb**	**13 53 44.2**	**+0.1**
EHY	**Hungye**	**0.39**	**323**	P	**Pb**	**13 53 38.1**	**-0.4**
EHY				S	**Sb**	**13 53 43.9**	**-0.7**
EGFH	**Guangfu**	**0.49**	**344**	P	**Pb**	**13 53 39.7**	**-0.3**
EGFH				S	**Sb**	**13 53 46.8**	**-0.4**
LONT	**Longtian**	**0.50**	**235**	*e*P	**Pb**	**13 53 39.8**	**-0.4**
ELDTW	**Lidau**	**0.51**	**269**	⇓P	**Pb**	**13 53 39.7**	**-0.8**
ELDTW				*e*S	**Sb**	**13 53 46.4**	**-1.5**
TEGC	**Jichi Village**	**0.51**	**357**	*e*P	**Pb**	**13 53 40.5**	**+0.2**
TEGC				S	**Sn**	**13 53 48.5**	**+0.3**
LDUT	**Ludao**	**0.53**	**190**	*e*P	**Pb**	**13 53 40.2**	**-0.4**
LDUT				S	**Sb**	**13 53 47.9**	**-0.2**
WARBT	**Fenglin Townsh**	**0.55**	**342**	⇓P	**Pb**	**13 53 39.9**	**-1.0**
WARBT				*e*S	**Sb**	**13 53 47.1**	**-1.7**
SHUL	**Shoufeng**	**0.59**	**359**	*e*P	**Pn**	**13 53 41.4**	**-0.2**
SHUL				*e*S	**Sb**	**13 53 50.0**	**+0.1**
TWGBT	**Beinan**	**0.59**	**231**	P	**Pn**	**13 53 40.6**	**-1.0**
TWGBT	**Beinan**	**0.59**	**231**	S	**Sb**	**13 53 48.8**	**-1.1**
TWGBT	**Beinan**	**0.59**	**231**	*e*P	**Pn**	**13 53 40.7**	**-0.9**
TWGBT				*e*S	**Sb**	**13 53 49.8**	**-0.1**
TWG	**Pinlang**	**0.59**	**231**	*e*P	**Pn**	**13 53 40.6**	**-1.0**
TWG				*e*S	**Sb**	**13 53 49.4**	**-0.6**
ESL	**Shilin**	**0.63**	**348**	*e*P	**Pn**	**13 53 41.1**	**-1.0**
ESL				*e*S	**Sb**	**13 53 50.9**	**-0.1**
TEYL	**Yanliau Villag**	**0.67**	**2**	*e*P	**Pn**	**13 53 43.0**	**+0.3**
TEYL				*e*S	**Sb**	**13 53 52.9**	**+0.8**
VWDT	**VWDT**	**0.68**	**325**	⇓P	**Pn**	**13 53 42.5**	**-0.4**
VWDT				*e*S	**Sn**	**13 53 50.9**	**-1.5**
STYH	**Taoyuan**	**0.73**	**268**	*e*P	**Pn**	**13 53 42.1**	**-1.5**
STYH				*e*S	**Sn**	**13 53 51.5**	**-2.1**
ETM	**Tongmen**	**0.77**	**355**	*e*P	**Pn**	**13 53 43.8**	**-0.3**
ALS	**Alishan**	**0.77**	**294**	⇓P	**Pn**	**13 53 44.5**	**0.0**
ALS				*e*S	**Sn**	**13 53 54.7**	**-0.3**
SSLB	**Suanglung**	**0.82**	**316**	P	**Pn**	**13 53 44.2**	**-0.6**
SSLB	**Suanglung**	**0.82**	**316**	S	**Sn**	**13 54 46.6**	**-1.2**
SSLB	**Suanglung**	**0.82**	**316**	⇓P	**Pn**	**13 53 44.4**	**-0.4**
SSLB				*e*S	**Sn**	**13 53 54.3**	**-1.5**
ECL	**Taimali**	**0.82**	**224**	*e*P	**Pn**	**13 53 43.8**	**-1.1**
ECL				*e*S	**Sn**	**13 53 54.0**	**-1.8**
WHYT	**Xinyi Township**	**0.83**	**307**	⇓P	**Pn**	**13 53 45.2**	**+0.3**
WHYT				S	**Sn**	**13 53 55.2**	**-0.9**
LXIB	**Xiulin Townshi**	**0.83**	**350**	P	**Pn**	**13 53 43.9**	**-1.3**
LXIB				S	**Sn**	**13 53 54.0**	**-2.3**
OWD	**Renai**	**0.84**	**334**	P	**Pn**	**13 53 44.6**	**-0.6**
TPUB	**Ta-pu**	**0.87**	**277**	P	**Pn**	**13 53 45.9**	**+0.4**
TPUB	**Ta-pu**	**0.87**	**277**	S	**Sn**	**13 53 57.8**	**+0.6**
TPUB	**Ta-pu**	**0.87**	**277**	⇓P	**Pn**	**13 53 45.9**	**+0.4**
TPUB				*e*S	**Sn**	**13 53 57.3**	**+0.2**
TWD	**Chiawan**	**0.88**	**1**	*e*P	**Pn**	**13 53 45.1**	**-0.5**
TWD				*e*S	**Sn**	**13 53 56.0**	**-1.3**
WTP	**Ta-pu**	**0.88**	**273**	⇓P	**Pn**	**13 53 46.2**	**+0.5**
WTP				S	**Sn**	**13 53 58.2**	**+0.8**
WUSB	**Renai**	**0.90**	**332**	*e*P	**Pn**	**13 53 45.6**	**-0.4**
WUSB				*e*S	**Sn**	**13 53 56.5**	**-1.3**
CHN4	**Tsaushan**	**0.92**	**280**	*e*P	**Pn**	**13 53 46.6**	**+0.5**
CHN4				*e*S	**Sb**	**13 53 59.3**	**+0.4**
CHN5	**Tsauling**	**0.92**	**296**	*e*P	**Pn**	**13 53 46.6**	**+0.4**
CHN5				*e*S	**Sb**	**13 53 59.7**	**+0.7**
SGST	**Jiashian**	**0.92**	**263**	*e*P	**Pn**	**13 53 46.0**	**-0.1**
SGST				*e*S	**Sn**	**13 53 58.5**	**+0.3**
SMLT	**Sun Moon Lake**	**0.92**	**318**	⇓P	**Pn**	**13 53 45.4**	**-0.9**
SMLT				*e*S	**Sn**	**13 53 56.5**	**-1.9**
WCKO	**Fanlu**	**0.92**	**285**	*e*P	**Pn**	**13 53 46.7**	**+0.5**
WCKO				*e*S	**Sb**	**13 53 59.4**	**+0.3**
ETL	**Fush Village**	**0.96**	**3**	*e*P	**Pn**	**13 53 46.4**	**-0.4**
CHN1	**Nanshi**	**0.96**	**270**	*e*P	**Pn**	**13 53 47.7**	**+0.9**
CHN1				*e*S	**Sb**	**13 54 00.6**	**+0.3**
TYC	**Yuchr**	**0.96**	**317**	P	**Pn**	**13 53 47.1**	**+0.4**
TYC				*e*S	**Sn**	**13 53 59.1**	**-0.3**
NACB	**Ninganchiao**	**0.97**	**1**	P	**Pn**	**13 53 46.3**	**-0.6**
NACB	**Ninganchiao**	**0.97**	**1**	S	**Sn**	**13 53 58.4**	**-1.2**
NACB	**Ninganchiao**	**0.97**	**1**	*e*P	**Pn**	**13 53 46.4**	**-0.6**
NACB				*e*S	**Sn**	**13 53 58.4**	**-1.2**
WHF	**Hehuan Shan**	**0.99**	**343**	*e*P	**Pn**	**13 53 46.9**	**-0.6**
WHF				*e*S	**Sn**	**13 53 58.6**	**-1.9**
SNST	**Tainan City**	**0.99**	**272**	*e*P	**Pn**	**13 53 48.0**	**+0.9**
SNST				*e*S	**Sb**	**13 54 01.7**	**+0.7**
WJS	**Zhushan**	**1.00**	**309**	*e*P	**Pn**	**13 53 47.8**	**+0.6**
WJS				*e*S	**Sb**	**13 54 01.8**	**+0.6**
TWK	**Hsinying**	**1.00**	**274**	*e*P	**Pn**	**13 53 47.8**	**+0.5**
TWK				*e*S	**Sb**	**13 54 01.5**	**+0.1**
ETLH	**Xiulin Townshi**	**1.01**	**355**	*e*P	**Pn**	**13 53 46.8**	**-0.7**
SCST	**Cishan**	**1.04**	**253**	*e*P	**Pb**	**13 53 49.3**	**+0.2**
SCST				*e*S	**Sb**	**13 54 04.1**	**+1.7**
MASBT	**Mashibuluo**	**1.04**	**236**	*e*P	**Pn**	**13 53 47.7**	**-0.1**
MASBT				*e*S	**Sn**	**13 54 01.0**	**-0.3**
EAST	**Anshuo**	**1.05**	**220**	*e*P	**Pn**	**13 53 48.4**	**+0.4**
WGK	**Gukeng**	**1.05**	**298**	*e*P	**Pn**	**13 53 48.7**	**+0.8**
WGK				*e*S	**Sb**	**13 54 03.2**	**+0.5**
WCS	**Beigang Elemen**	**1.05**	**325**	*e*P	**Pn**	**13 53 48.3**	**+0.3**
WCS				*e*S	**Sn**	**13 54 00.5**	**-1.0**
TAWH	**Dawu Township**	**1.06**	**217**	*e*P	**Pn**	**13 53 48.8**	**+0.7**
TAWH				*e*S	**Sn**	**13 54 00.5**	**-1.2**
WNT	**Mingjian**	**1.06**	**310**	*e*P	**Pn**	**13 53 49.1**	**+1.0**
WNT				*e*S	**Sn**	**13 54 02.8**	**+1.0**
WDLH	**Douliu**	**1.07**	**298**	*e*P	**Pn**	**13 53 49.4**	**+1.1**
WDLH				*e*S	**Sb**	**13 54 03.4**	**+0.1**
FUSS	**Fushou**	**1.09**	**344**	P	**Pn**	**13 53 48.8**	**0.0**
FUSS				*e*S	**Sn**	**13 54 01.2**	**-1.6**
CHY	**Chiayi**	**1.10**	**286**	*e*P	**Pn**	**13 53 49.6**	**+1.0**
CHY				*e*S	**Sn**	**13 54 03.8**	**+1.2**
CHN3	**Shinhua**	**1.12**	**264**	*e*S	**Sb**	**13 54 04.7**	**+0.1**
TWM1	**Shoushan**	**1.12**	**251**	*e*P	**Pb**	**13 53 51.5**	**+1.0**
TWM1				*e*S	**Sb**	**13 54 09.0**	**+4.2**
EAHA	**Aohua**	**1.14**	**8**	*e*S	**Sn**	**13 54 04.3**	**+0.6**
SHHT	**Tainan City**	**1.14**	**262**	*e*P	**Pn**	**13 53 50.2**	**+1.0**
SHHT				*e*S	**Sb**	**13 54 07.4**	**+2.1**
EOS4	**EOS4**	**1.15**	**36**	*e*P	**Pn**	**13 53 49.1**	**+0.1**
EOS4				*e*S	**Sn**	**13 54 03.2**	**-0.1**
LAY	**Lan-yu**	**1.15**	**181**	*e*P	**Pn**	**13 53 48.8**	**-0.6**
LAY				*e*S	**Sn**	**13 54 02.9**	**-1.1**
LYUB	**Lan-yu**	**1.19**	**180**	*e*P	**Pn**	**13 53 48.0**	**-1.8**
LYUB				*e*S	**Sn**	**13 54 01.6**	**-3.3**
WTK	**Tuku**	**1.19**	**294**	*e*P	**Pn**	**13 53 50.6**	**+0.7**
WTK				*e*S	**Sn**	**13 54 05.4**	**+0.4**
ICHU	**Yijhu**	**1.20**	**278**	*e*P	**Pn**	**13 53 50.5**	**+0.5**
ICHU				*e*S	**Sn**	**13 54 06.2**	**+1.1**
SCZT	**Fangliau**	**1.20**	**227**	*e*P	**Pn**	**13 53 50.8**	**+0.8**
SCZT				*e*S	**Sb**	**13 54 07.6**	**+0.6**
SLIU	**Shizi**	**1.21**	**216**	*e*P	**Pn**	**13 53 49.5**	**-0.6**
SLIU				*e*S	**Sn**	**13 54 06.1**	**+0.7**
WHP	**Taichung City**	**1.22**	**332**	*e*P	**Pn**	**13 53 51.6**	**+1.2**
WHP				*e*S	**Sb**	**13 54 07.8**	**0.0**
ENA	**Nanau**	**1.24**	**7**	*e*P	**Pn**	**13 53 50.3**	**-0.3**
ENA				*e*S	**Sn**	**13 54 05.8**	**-0.3**
NNSB	**Datong**	**1.24**	**352**	*e*P	**Pn**	**13 53 50.5**	**-0.2**
NNSB				*e*S	**Sn**	**13 54 04.5**	**-1.9**
EWUT	**Wuta**	**1.26**	**9**	*e*P	**Pn**	**13 53 50.5**	**-0.3**
CHN8	**Yiju**	**1.26**	**277**	*e*P	**Pn**	**13 53 51.8**	**+1.0**
CHN8				*e*S	**Sb**	**13 54 08.3**	**-0.4**
WSL	**Shuilin Townsh**	**1.28**	**285**	*e*P	**Pn**	**13 53 51.3**	**+0.2**
WSL				*e*S	**Sn**	**13 54 08.2**	**+1.1**
EOS3	**EOS3**	**1.28**	**32**	*e*S	**Sn**	**13 54 07.8**	**+0.9**
LATG	**Datong**	**1.33**	**358**	*e*P	**Pn**	**13 53 51.9**	**-0.1**
EOS2	**EOS2**	**1.36**	**26**	*e*S	**Sn**	**13 54 09.7**	**+0.8**
WTCT	**Ta-ch'eng**	**1.36**	**300**	*e*S	**Sn**	**13 54 09.8**	**+0.6**
TWQ1	**Liyutan**	**1.36**	**328**	*e*P	**Pn**	**13 53 53.2**	**+0.9**
TWQ1				*e*S	**Sn**	**13 54 10.9**	**+1.7**
TSCK	**Chigu Township**	**1.37**	**268**	*e*P	**Pn**	**13 53 52.4**	**+0.1**
TSCK				*e*S	**Sn**	**13 54 09.6**	**+0.3**
NSY	**Sanyi**	**1.43**	**329**	*e*P	**Pn**	**13 53 52.1**	**-1.1**
NSY				*e*S	**Sn**	**13 54 10.9**	**+0.1**
TWC	**Suao**	**1.43**	**10**	*e*P	**Pn**	**13 53 53.7**	**+0.5**
TWC				*e*S	**Sn**	**13 54 11.3**	**+0.4**
TSEB	**Hengchuen, Pin**	**1.43**	**206**	*e*S	**Sn**	**13 54 12.0**	**+1.1**
TWKBT	**Hengchun**	**1.43**	**210**	*e*P	**Pn**	**13 53 53.2**	**0.0**
TWKBT				*e*S	**Sn**	**13 54 10.8**	**-0.1**
TWK1	**Hengchun**	**1.43**	**210**	*e*P	**Pn**	**13 53 53.8**	**+0.5**
TWK1				*e*S	**Sn**	**13 54 11.0**	**+0.1**
ENTT	**Nioudou**	**1.44**	**360**	*e*P	**Pn**	**13 53 53.1**	**-0.2**
YHNB	**Yeheng**	**1.48**	**353**	P	**Pn**	**13 53 54.4**	**+0.5**
YHNB	**Yeheng**	**1.48**	**353**	S	**Sn**	**13 54 12.2**	**0.0**
YHNB	**Yeheng**	**1.48**	**353**	*e*P	**Pn**	**13 53 54.3**	**+0.3**
YHNB				*e*S	**Sn**	**13 54 11.4**	**-0.8**
NSK	**Sanguang**	**1.49**	**352**	*e*P	**Pn**	**13 53 54.7**	**+0.6**
NSK				*e*S	**Sn**	**13 54 12.0**	**-0.4**
NFF	**Wufeng Townshi**	**1.49**	**344**	*e*P	**Pn**	**13 53 55.6**	**+1.5**
NSTT	**Nanjuang**	**1.52**	**340**	*e*P	**Pn**	**13 53 55.6**	**+1.1**
NSTT				*e*S	**Sn**	**13 54 13.8**	**+0.7**
TWE	**Neicheng**	**1.52**	**3**	*e*P	**Pn**	**13 53 55.7**	**+1.2**
LIOB	**Emei**	**1.53**	**341**	*e*P	**Pn**	**13 53 55.9**	**+1.3**
LIOB				*e*S	**Sn**	**13 54 14.7**	**+1.3**
FUSB	**Fushanzhiwuyua**	**1.56**	**0**	*e*P	**Pn**	**13 53 55.9**	**+0.9**
FUSB				*e*S	**Sn**	**13 54 14.1**	**0.0**
NWLT	**Wulai**	**1.58**	**358**	*e*P	**Pn**	**13 53 56.1**	**+0.9**
NWLT				*e*S	**Sn**	**13 54 13.4**	**-1.1**
KSHI	**Guanxi Townshi**	**1.62**	**347**	*e*P	**Pn**	**13 53 57.7**	**+1.9**
KSHI				*e*S	**Sb**	**13 54 17.9**	**-1.0**
WDGT	**Dungji**	**1.76**	**272**	*e*P	**Pn**	**13 53 57.7**	**0.0**
WDGT				*e*S	**Sn**	**13 54 18.3**	**-0.7**
JYNG	**Yonagunijimaku**	**1.77**	**45**	*e*P	**Pn**	**13 53 58.7**	**+0.8**
JYNG				*e*S	**Sn**	**13 54 19.0**	**-0.3**
TIPB	**Shuangxi**	**1.78**	**7**	*e*P	**Pn**	**13 53 59.5**	**+1.4**
TIPB				*e*S	**Sn**	**13 54 19.9**	**+0.2**
YOJ	**Yonaguni jima**	**1.82**	**46**	*e*P	**Pn**	**13 53 59.5**	**+1.0**
YOJ				*e*S	**Sn**	**13 54 20.9**	**+0.4**
TWB1	**Santiao Chiao**	**1.84**	**12**	*e*P	**Pn**	**13 54 00.6**	**+1.7**
TWB1				*e*S	**Sn**	**13 54 21.8**	**+0.8**
PHUB	**P'eng-hu**	**1.87**	**280**	*e*P	**Pn**	**13 53 59.0**	**-0.2**
PHUB				*e*S	**Sn**	**13 54 19.9**	**-1.7**
SXI1	**Grass Mountain**	**1.91**	**8**	*e*P	**Pn**	**13 54 01.3**	**+1.4**
ZUZH	**Zhuzihu**	**1.96**	**359**	*e*P	**Pn**	**13 54 00.9**	**+0.4**
VCHM	**Qimei**	**1.97**	**271**	*e*P	**Pn**	**13 54 00.3**	**-0.3**
VCHM				*e*S	**Sn**	**13 54 22.8**	**-1.5**
HATJ	**Hateruma jima**	**2.22**	**67**	*e*S	**Sn**	**13 54 30.1**	**-0.2**
IRIF	**Iriomote-Funau**	**2.28**	**60**	P	**Pn**	**13 54 06.2**	**+1.3**
IRIF				*e*S	**Sn**	**13 54 33.3**	**+1.5**
JIJ	**Ishigaki jima**	**2.62**	**63**	P	**Pn**	**13 54 09.8**	**+0.2**
VWUC	**VWUC**	**2.64**	**313**	*e*P	**Pn**	**13 54 09.4**	**-0.4**
VWUC				*e*S	**Sn**	**13 54 38.0**	**-2.7**
JISG	**Ishigakijimahi**	**2.86**	**61**	*e*P	**Pn**	**13 54 12.9**	**0.0**
JISG				*e*S	**Sn**	**13 54 46.0**	**-0.2**
PTMZ	**Houxiangcun**	**2.90**	**310**	*e*P	**Pn**	**13 54 12.9**	**-0.5**
PTMZ				*e*S	**Sn**	**13 54 44.0**	**-3.1**
JTJ	**Tarama**	**3.20**	**63**	*e*S	**Sn**	**13 54 55.4**	**+0.7**
MATB	**Ma-tsu**	**3.29**	**334**	*e*P	**Pn**	**13 54 18.5**	**-0.4**
MATB				*e*S	**Sn**	**13 54 55.0**	**-1.9**

---

*IDC **06** 13:57:24.5±0.7,5°.35N×125°.34E,h211km±5km,mb4.0/27,*
mbtmp4.5/29,Error ellipse: s-maj=14.8km s-min=7.2km
az=77.0
*NEIC **06** 13:57:24.5±2.4,5°.35N±0°.07×125°.55E±0°.09,h206km±2km,*
mb4.5/91,Error ellipse: s-maj=13.8km s-min=9.4km
az=76.0
*DJA **06** 13:57:27.3±0.3,5°N±3°×12°6E±°,h182km±4km,M4.7/19,*
mb4.8/19,mB5.1/12,MLv5.0/13,Mw(mB)4.4/12
ISC 06 13:57:23.4±0.3,5°33N±0°04×125°49E±0°06,h200km,n346,
σ1§57/336,mb4.5/80,2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.63**	**179**	P	**Pn**	**13 57 59.9**	**+1.5**
DAV	**Davao City (W)**	**1.73**	**3**		**Pn**	**13 58 00.5**	**+1.2**
DAV	**Davao City (W)**	**1.73**	**3**	P	**Pn**	**13 58 01.0**	**+1.7**
	192nm,0.4s,baz=124,slow=2.2,SNR=9.4						
DAV				S	**Sn**	**13 58 30.1**	**+2.8**
	1μm,0.5s,baz=217,slow=20,SNR=22						
TNTI	**Ternate**	**4.90**	**157**		**Pn**	**13 58 36.7**	**+0.1**
TNTI	**Ternate**	**4.90**	**157**	P	**Pn**	**13 58 36.9**	**+0.3**
TNTI	**Ternate**	**4.90**	**157**	P	**Pn**	**13 58 36.9**	**+0.3**
TNTI				S	**Sn**	**13 59 31.8**	**-2.5**
KMSI	**Cibinong**	**4.96**	**198**	P	**Pn**	**13 58 39.4**	**+2.0**
MRSI	**Marisa**	**5.98**	**216**	P	**Pn**	**13 58 53.8**	**+3.3**
	0.5nm2μm164nm,1.0s						
TOLI2	**Tolitoli**	**6.30**	**228**		**Pn**	**13 58 55.9**	**+1.3**
TOLI2	**Tolitoli**	**6.30**	**228**	P	**Pn**	**13 58 57.0**	**+2.4**
LUWI	**Luwuk**	**6.89**	**203**		**Pn**	**13 59 04.8**	**+2.6**
LUWI	**Luwuk**	**6.89**	**203**	P	**Pn**	**13 59 06.2**	**+3.9**
	0.8nm2μm235nm,0.8s						
LUWI				S	**Sn**	**14 00 21.8**	**+1.1**
	0.8nm2μm235nm,0.8s						
MYLDM	**Lahad Datu**	**6.96**	**269**		**Pn**	**13 59 07.3**	**+4.1**
APSI	**Ampana**	**7.29**	**212**	P	**Pn**	**13 59 11.8**	**+4.3**
	0.6nm2μm182nm,1.0s						
SANI	**Sanana**	**7.35**	**176**	P	**Pn**	**13 59 06.2**	**-2.1**
SANI	**Sanana**	**7.35**	**176**	S	**Sn**	14 00 23.3	-8.3
MPSI	**Mapaga**	**7.47**	**229**	P	**Pn**	**13 59 13.6**	**+3.8**
NLAI	**Namlea**	**8.66**	**169**	P	**Pn**	**13 59 24.5**	**-0.9**
KKM	**Kota Kinabalu**	**9.26**	**275**	Pn	**Pn**	**13 59 34.5**	**+1.2**
AAI	**Ambon**	**9.36**	**163**	P	**Pn**	**13 59 34.6**	**+0.2**
	5μm245nm,0.7s						
FAKI	**Fak Fak**	**10.62**	**140**	P	**Pn**	**13 59 52.1**	**+1.4**
SPSI	**Sidrap Palu**	**10.86**	**212**	P	**Pn**	**13 59 57.1**	**+3.3**
	25nm,0.7s						
BNSI	**Bone**	**11.06**	**209**	P	**Pn**	**14 00 00.4**	**+4.0**
	2μm218nm,0.9s						
KAPI	**Kappang**	**11.77**	**209**	P	**Pn**	**14 00 07.3**	**+1.9**
	19nm,0.5s,baz=13,slow=19,SNR=7.4						
KMPI	**Kaimana, Papua**	**12.13**	**137**	P	**Pn**	**14 00 11.9**	**+1.9**
	856nm61nm,0.8s						
BAKI	**Biak**	**12.43**	**121**	P	**Pn**	**14 00 16.3**	**+2.5**
	2μm197nm,1.0s						
SBUM	**Sibu**	**13.54**	**258**		**Pn**	**14 00 28.1**	**+0.2**
SOEI	**Soe**	**15.04**	**185**	P	**Pn**	**14 00 44.1**	**-2.2**
SOEI	**Soe**	**15.04**	**185**	S	**S**	**14 03 25.4**	**-8.1**
SOEI	**Soe**	**15.04**	**185**	P	**P**	**14 00 50.4**	**+3.4**
	83nm,0.9s						
SMPI	**Sarmi**	**15.07**	**119**	P	**P**	**14 00 48.6**	**+1.3**
	93nm,1.2s						
KSM	**Kuching**	**15.63**	**256**	P	**Pn**	**14 00 57.0**	**+3.6**
KSM				IAmb	IAmb	14 00 58.8	
	comp=Z,13nm,0.5s						
PLAI	**Plampang**	**16.03**	**209**	P	**P**	**14 00 58.3**	**+0.5**
PLAI	**Plampang**	**16.03**	**209**	S	**S**	**14 03 50.1**	**-5.8**
GENI	**Genyem**	**16.64**	**118**	P	**Pn**	**14 01 07.6**	**+2.0**
JAY	**Jayapura**	**17.08**	**117**	P	**Pn**	**14 01 11.5**	**+0.7**
	comp=Z,122nm,0.7s,baz=279,slow=5.3,SNR=44						
JAY	**Jayapura**	**17.08**	**117**	P	**Pn**	**14 01 11.3**	**+0.5**
JAGI	**Jajag, Banyuwa**	**17.77**	**220**	P	**Pn**	**14 01 19.7**	**+0.8**
TWG	**Pinlang**	**17.91**	**347**	P	**P**	**14 01 16.6**	**-1.6**
YULB	**Yu-li**	**18.41**	**348**	P	**P**	**14 01 21.4**	**-2.4**
YULB				IAmb	IAmb	14 01 23.9	
	comp=Z,15nm,0.6s						
TPUB	**Ta-pu**	**18.47**	**346**	P	**P**	**14 01 23.2**	**-1.3**
SSLB	**Suanglung**	**18.86**	**347**	P	**P**	**14 01 27.5**	**-1.2**
MTN	**Manton Dam**	**18.91**	**163**		**P**	**14 01 29.7**	**+0.5**
MTN				IAmb	IAmb	14 01 35.9	
	comp=Z,28nm,1.2s						
TABU	**Tabubil**	**18.91**	**124**	P	**Pn**	**14 01 33.5**	**+1.1**
KDU	**Kakadu**	**19.20**	**159**	P	**P**	**14 01 33.7**	**+1.4**
YHNB	**Yeheng**	**19.63**	**349**	P	**P**	**14 01 34.2**	**-2.8**
YHNB				IAmb	IAmb	14 01 39.6	
	comp=Z,14nm,0.5s						
KNRA	**Kununurra**	**21.12**	**171**	P	**P**	**14 01 53.2**	**+0.3**
JOW	**Kunigami**	**21.55**	**7**	P	**P**	**14 01 57.8**	**+0.6**
JOW	**Kunigami**	**21.55**	**7**	P	**P**	**14 01 58.2**	**+1.0**
	comp=Z,67nm,0.8s,baz=198,slow=8.7,SNR=34						
	comp=Z,67nm,0.8s						
UBPT	**Khong Chiam**	**22.02**	**298**	P	**P**	**14 02 02.2**	**+0.2**
UBPT				IAmb	IAmb	14 02 03.5	
	comp=Z,17nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.28**	**180**	P	**P**	**14 02 14.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**23.28**	**180**	P	**P**	**14 02 14.2**	**+0.8**
	comp=Z,10nm,0.7s,baz=209,slow=14,SNR=2.9						
	comp=Z,10nm,0.7s						
WB0	**Warramunga Arr**	**26.43**	**161**	P	**P**	**14 02 41.9**	**0.0**
WB0				IAmb	IAmb	14 02 59.8	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**26.58**	**161**	P	**P**	**14 02 41.9**	**-1.4**
WRA	**Warramunga Arr**	**26.58**	**161**	P	**P**	**14 02 43.2**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=333,slow=11,SNR=22						
WRA				S	**S**	**14 07 00.4**	**-2.7**
	comp=Z,1.3nm,0.7s,baz=344,slow=15,SNR=6.6						
WRA				ScP	**ScP**	**14 09 22.5**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=343,slow=3.1,SNR=2.3						
	comp=Z,2.5nm,0.6s						
WB2	**Warramunga Arr**	**26.58**	**161**	P	**P**	**14 02 43.3**	**0.0**
WB2				IAmb	IAmb	14 03 26.1	
	comp=Z,17nm,1.2s						
WB1	**Warramunga Ar.**	**26.60**	**161**	P	**P**	**14 02 43.6**	**+0.2**
WR0	**Warramunga Arr**	**26.66**	**161**	P	**P**	**14 02 44.0**	**0.0**
JCJ	**Chichijima**	**26.86**	**35**	P	**P**	**14 02 43.7**	**-2.1**
NJ2	**Nanjing**	**27.30**	**348**	*e*P	**

comp=Z,0.7nm,0.5s,baz=157,slow=7.6,SNR=5.4
SONM PcP **PcP** **14 06 55.8 -2.2**
comp=Z,1.2nm,0.7s,baz=163,slow=3.3,SNR=6.5
comp=Z,0.7nm,0.5s
CAN **Canberra** **46.09 153** P **P** **14 05 29.7 +2.0**
CAN IAmb IAmb 14 05 35.0
comp=Z,33nm,1.3s
CAN PcP **PcP** **14 06 59.4 -1.1**
TOO **Toolangi** **46.57 158** P **P** **14 05 33.0 +1.6**
DZM **Mont Dzumac** **48.46 126** P **P** **14 05 45.8 -0.4**
PEA0B **Petropavlovsk-** **54.44 23** P **P** **14 06 31.5 +1.5**
PETK **Petropavlovsk-** **54.44 23** P **P** **14 06 31.0 +1.0**
comp=Z,7.2nm,0.7s,baz=192,slow=4.6,SNR=15
comp=Z,7.2nm,0.7s
MK31 **Makanchi Array** **55.55 325** P **P** **14 06 37.4 -0.6**
MKAR **Makanchi Array** **55.55 325** P **P** **14 06 37.2 -0.8**
MKAR **Makanchi Array** **55.55 325** P **P** **14 06 37.9 -0.1**
comp=Z,1.5nm,0.5s,baz=119,slow=8.1,SNR=8.4
MKAR PcP **PcP** **14 07 32.8 -2.6**
comp=Z,1.5nm,0.6s,baz=133,slow=3.7,SNR=6.2
MKAR ScP **ScP** **14 11 12.1 -3.2**
comp=Z,0.5nm,0.7s,baz=108,slow=4.0,SNR=4.3
comp=Z,1.5nm,0.5s
KSH **Kashi** **56.05 315** P **P** **14 06 45.4 +3.5**
KSH pmax pmax
comp=Z,9.0nm,1.0s
YAK **Yakutsk** **56.66 2** P **P** **14 06 45.9 +0.3**
YAK **Yakutsk** **56.66 2** P **P** **14 06 45.6 +0.1**
comp=Z,69nm,0.7s,baz=170,slow=3.0,SNR=26
AAK **Ala-Archa** **58.35 318** P **P** **14 06 57.4 -0.6**
comp=Z,1.0nm,0.4s,baz=135,slow=13,SNR=3.5
comp=Z,1.0nm,0.4s
ZALV **Zalesovo Beam** **58.61 333** P **P** **14 06 57.9 -1.4**
comp=Z,0.5nm,0.3s,baz=120,slow=7.4,SNR=4.4
comp=Z,0.5nm,0.3s
KURBB **Kurchatov Arra** **59.73 327** P **P** **14 07 06.2 -0.9**
comp=Z,1.6nm,0.4s,baz=125,slow=6.3,SNR=22
comp=Z,1.6nm,0.4s
GAR **Garm** **59.94 312** P **P** **14 07 08.2 -0.7**
GAR IAmb IAmb 14 07 09.5
comp=Z,19nm,1.1s
KKAR **Karatay Array** **61.23 317** P **P** **14 07 16.8 -0.5**
MSZ **Milford Sound** **62.63 147** P **P** **14 07 28.6 +2.0**
JCZ **Jackson Bay** **62.72 146** P **P** **14 07 29.1 +1.8**
QRZ **Quartz Range** **62.94 141** P **P** **14 07 31.0 +2.2**
LBZ **Lake Benmore** **63.69 146** P **P** **14 07 35.0 +1.3**
NNZ **Nelson** **63.70 141** P **P** **14 07 35.0 +1.3**
THZ **Tophouse** **63.71 142** P **P** **14 07 34.1 +0.2**
LTZ **Lake Taylor** **63.92 143** P **P** **14 07 35.9 +0.7**
RIZ **Raoul Island** **64.25 126** P **P** **14 07 38.5 +0.9**
BKZ **Black Stump Fm** **64.59 138** P **P** **14 07 40.1 +0.5**
RTZ **Ruatahuna** **64.64 137** P **P** **14 07 40.6 +0.6**
HAZ **Te Kaha** **64.76 136** P **P** **14 07 41.9 +1.3**
MRZ **Mangatainoka R** **64.78 140** P **P** **14 07 41.2 +0.5**
MWZ **Matawai** **64.87 137** P **P** **14 07 41.2 -0.2**
BVAR **Borovoye Array** **65.31 327** P **P** **14 07 43.2 -0.8**
comp=Z,2.8nm,0.6s,baz=143,slow=7.7,SNR=14
comp=Z,2.8nm,0.6s
BRVK **Borovoye** **65.39 327** P **P** **14 07 42.2 -2.2**
TIXI **Tiksi** **66.27 1** P **P** **14 07 47.6 -2.1**
TIXI **Tiksi** **66.27 1** P **P** **14 07 49.3 -0.5**
comp=Z,13nm,0.4s,baz=221,slow=4.8,SNR=76
comp=Z,13nm,0.4s
BILL **Bilibino** **68.34 15** P **P** **14 08 01.5 -1.3**
BILL IAmb IAmb 14 08 04.1
comp=Z,9.2nm,1.3s
NRIK **Noril'sk** **68.59 346** P **P** **14 08 04.1 -0.2**
comp=Z,2.2nm,0.5s,baz=120,slow=7.2,SNR=6.1
comp=Z,2.2nm,0.5s
AKTO **Aktyubinsk** **71.65 322** P **P** **14 08 22.6 -0.7**
comp=Z,2.3nm,0.7s,baz=104,slow=4.9,SNR=6.0
comp=Z,2.3nm,0.7s
ARTI **Arti** **73.02 328** P **P** **14 08 29.5 -1.7**
comp=Z,2.3nm,0.6s,baz=130,slow=2.6,SNR=3.7
comp=Z,2.3nm,0.6s
L14K **Kuka Creek** **76.67 28** P **P** **14 08 53.2 +1.1**
baz=256
CHNA **Chernabura Isl** **76.99 35** P **P** **14 08 54.3 +0.4**
baz=261
G15K **Niukluk** **77.00 24** P **P** **14 08 54.6 +0.7**
baz=254
S14K **Fog Glacier** **77.25 34** P **P** **14 08 56.5 +1.0**
baz=260
L15K **Ungalak Mounta** **77.30 28** P **P** **14 08 56.5 +0.9**
baz=257
K15K **Wolf Creek Mou** **77.42 27** P **P** **14 08 57.1 +0.9**
baz=257
C16K **Lisburne Hills** **77.44 21** P **P** **14 08 57.1 +1.0**
baz=252
M15K **Kasigluk River** **77.48 29** P **P** **14 08 57.5 +1.0**
baz=258
H16K **Elim** **77.65 25** P **P** **14 08 58.7 +1.3**
baz=256
G16K **Koyuk River** **77.79 24** P **P** **14 08 59.3 +1.1**
baz=256
J16K **Anvik River** **78.05 26** P **P** **14 09 01.2 +1.6**
baz=258
D17K **Noatak River** **78.09 22** P **P** **14 09 01.5 +1.7**
baz=255
L16K **Owhat River** **78.25 28** P **P** **14 09 02.1 +1.3**
baz=259
N16K **Nishlik Lake** **78.37 29** P **P** **14 09 02.9 +1.4**
baz=260
M16K **Timber Creek** **78.37 29** P **P** **14 09 02.9 +1.4**
baz=260
E17K **Hotham Inlet** **78.41 22** P **P** **14 09 02.8 +1.2**
baz=256
G17K **Kiwalik Mounta** **78.50 24** P **P** **14 09 03.5 +1.4**
baz=257
H17K **Granite Mounta** **78.69 25** P **P** **14 09 04.7 +1.6**
baz=258
J17K **VABM Dome** **78.75 26** P **P** **14 09 05.3 +1.8**
baz=259
L17K **Donlin** **78.87 28** P **P** **14 09 05.7 +1.5**
baz=260
E18K **Tukpahlearik C** **78.95 22** P **P** **14 09 06.0 +1.5**
baz=257
K17K **Iditarod** **78.97 27** P **P** **14 09 06.7 +2.0**
baz=260
B18K **Kokolik River** **78.98 20** P **P** **14 09 06.6 +1.9**
baz=256
C18K **Utukok River** **79.01 21** IAmb IAmb 14 09 06.4
comp=Z,3.9nm,0.6s
C18K **Utukok River** **79.01 21** P **P** **14 09 06.2 +1.2**
baz=256
O17K **Koliganek Bris** **79.08 30** P **P** **14 09 07.3 +1.9**
baz=262
F18K **Selawik** **79.14 23** P **P** **14 09 08.5 +3.0**
baz=258
N17K **Nushagak Hills** **79.15 29** P **P** **14 09 07.6 +1.9**
baz=262
Q16K **King Salmon** **79.16 31** P **P** **14 09 08.3 +2.6**
baz=262
M17K **Holitna River** **79.16 29** P **P** **14 09 07.4 +1.6**
baz=261
P17K **Kvichak River** **79.33 31** P **P** **14 09 07.7 +1.0**
baz=262
H18K **Honhosa River** **79.38 25** IAmb IAmb 14 09 33.2
comp=Z,7.7nm,0.8s
H18K **Honhosa River** **79.38 25** P **P** **14 09 08.1 +1.2**
baz=260
A19K **Wainwright** **79.43 19** P **P** **14 09 08.4 +1.4**
baz=256
Q17K **Contact Creek** **79.50 32** P **P** **14 09 08.3 +0.4**
baz=263
L18K **Granite Mounta** **79.63 28** P **P** **14 09 09.8 +1.5**
baz=262
J18K **Innoko River** **79.80 26** P **P** **14 09 10.3 +1.0**
baz=261
F19K **Shaleruckik Mo** **79.91 23** P **P** **14 09 11.4 +1.7**
baz=260
GCSA **Galena City Sc** **79.93 25** P **P** **14 09 11.3 +1.5**
baz=261
M18K **Stony River** **79.94 29** P **P** **14 09 11.6 +1.7**
baz=262
P18K **Big Mountain,** **79.98 31** P **P** **14 09 11.0 +0.8**
baz=263
O18K **Koktuh Hills** **80.04 30** P **P** **14 09 11.8 +1.2**
baz=263
TTA **Tatalina** **80.04 27** P **P** **14 09 11.8 +1.1**
baz=262
D19K **Kuna River** **80.09 21** P **P** **14 09 11.7 +1.0**
baz=259
R18K **Karluk** **80.19 33** P **P** **14 09 12.4 +1.0**
baz=264
H19K **Roundabout Mou** **80.23 24** P **P** **14 09 13.5 +2.0**
baz=261
E19K **Redstone River** **80.23 22** P **P** **14 09 13.5 +2.0**
baz=260
J19K **Poorman** **80.36 26** P **P** **14 09 13.5 +1.3**
baz=262
L19K **White Mountain** **80.48 28** P **P** **14 09 14.5 +1.6**
baz=263
N19K **Bonanza Creek** **80.50 29** P **P** **14 09 14.6 +1.5**
baz=264
O19K **Port Alsworth** **80.52 30** P **P** **14 09 14.7 +1.7**
baz=264
M19K **Big River Lodg** **80.67 28** P **P** **14 09 15.2 +1.3**
baz=264
D20K **Etivluk River** **80.67 21** P **P** **14 09 15.3 +1.5**
baz=261,SNR=9.4
B20K **Meade River** **80.70 20** P **P** **14 09 15.3 +1.5**
baz=260
Q19K **Cape Douglas,** **80.74 31** P **P** **14 09 15.0 +0.6**
baz=265
E20K **Nigu River** **80.75 22** P **P** **14 09 15.9 +1.6**
baz=261
L20K **Farewell, AK** **80.97 28** P **P** **14 09 17.4 +1.9**
baz=264
K20K **Telida** **80.97 27** P **P** **14 09 17.5 +2.0**
baz=264
P19K **Oil Pt** **81.02 31** P **P** **14 09 17.3 +1.5**
baz=265
J20K **Nowinta River** **81.03 26** P **P** **14 09 17.4 +1.7**
baz=264
A21K **Barrow** **81.10 19** P **P** **14 09 17.5 +1.6**
baz=260,SNR=7.3
M20K **Styx River** **81.26 28** P **P** **14 09 18.7 +1.6**
baz=265
C21K **Knifeblade Rid** **81.39 21** P **P** **14 09 19.0 +1.5**
baz=262
B21K **Ikpikpuk River** **81.51 20** P **P** **14 09 19.9 +1.8**
baz=262
G21K **Allakaket** **81.55 24** IAmb IAmb 14 09 39.1
comp=Z,8.4nm,0.9s
A22K **Sinclair Lake** **81.58 19** P **P** **14 09 20.0 +1.6**
baz=262
E21K **Killik River** **81.59 22** IAmb IAmb 14 09 20.8
comp=Z,7.4nm,1.0s
E21K **Killik River** **81.59 22** P **P** **14 09 19.9 +1.3**
baz=263
H21K **Melozitna Rive** **81.75 24** IAmb IAmb 14 09 49.3
comp=Z,11nm,0.8s
H21K **Melozitna Rive** **81.75 24** P **P** **14 09 20.9 +1.3**
baz=265,SNR=5.3
PPLA **Purkeypile** **81.78 27** P **P** **14 09 20.9 +1.0**
baz=266
CHUM **Lake Minchumin** **81.80 26** P **P** **14 09 20.9 +1.1**
baz=265
CAST **Castle Rocks** **81.87 27** IAmb IAmb 14 09 22.3
comp=Z,6.5nm,0.8s
CAST **Castle Rocks** **81.87 27** P **P** **14 09 21.5 +1.3**
baz=266,SNR=5.2
B22K **Teshekpuk Lake** **82.01 20** P **P** **14 09 22.1 +1.4**
baz=263
SKT **Skwentna** **82.02 28** P **P** **14 09 21.9 +0.9**
baz=266
I21K **Tanana** **82.05 25** IAmb IAmb 14 09 23.8
comp=Z,16nm,1.3s
I21K **Tanana** **82.05 25** P **P** **14 09 23.1 +2.0**
baz=265
D22K **Ayikyak River** **82.11 21** P **P** **14 09 23.0 +1.6**
baz=264
CAPN **Captain Cook N** **82.13 29** P **P** **14 09 22.4 +0.9**
baz=267
F22K **John River** **82.17 23** P **P** **14 09 23.4 +1.7**
baz=265
BRSE **Bradley Lake S** **82.28 31** P **P** **14 09 23.2 +0.8**
baz=267
H22K **Ishtalitna Cre** **82.35 24** P **P** **14 09 23.9 +1.2**
baz=266
E22K **Anaktuvuk Pass** **82.36 22** P **P** **14 09 24.4 +1.7**
baz=265
G22K **Bettles** **82.38 23** P **P** **14 09 24.5 +1.7**
baz=266
BPAW **Bear Paw Mtn.** **82.40 26** IAmb IAmb 14 09 25.0
comp=Z,7.8nm,0.8s
BPAW **Bear Paw Mtn.** **82.40 26** P **P** **14 09 24.3 +1.4**
baz=266
TRF **Thorofare Moun** **82.67 27** P **P** **14 09 25.3 +0.7**
baz=267
M22K **Willow** **82.67 29** P **P** **14 09 25.5 +1.2**
baz=268
O22K **Cooper Landing** **82.82 30** P **P** **14 09 25.7 +0.6**
baz=268
D23K **Nanushuk River** **82.84 21** IAmb IAmb 14 09 27.6
comp=Z,6.1nm,0.9s
D23K **Nanushuk River** **82.84 21** P **P** **14 09 26.9 +1.9**
baz=266
COLD **Coldfoot** **82.91 23** IAmb IAmb 14 09 28.3
comp=Z,5.7nm,0.6s
COLD **Coldfoot** **82.91 23** P **P** **14 09 27.7 +2.2**
baz=267,SNR=10.0
C23K **Itkillik River** **82.92 20** P **P** **14 09 27.1 +1.7**
baz=266
G23K **Bananza Creek** **82.95 24** IAmb IAmb 14 09 28.7
comp=Z,6.3nm,0.9s
G23K **Bananza Creek** **82.95 24** P **P** **14 09 28.0 +2.2**
baz=267
H23K **Yukon River** **83.10 24** P **P** **14 09 28.2 +1.6**
baz=268
PMR **Palmer** **83.14 29** P **P** **14 09 27.3 +0.6**
baz=268
I23K **Minto, Yukon-K** **83.15 25** P **P** **14 09 28.6 +1.8**
baz=268,SNR=8.8
E23K **Chandalar** **83.17 22** IAmb IAmb 14 09 29.9
comp=Z,1.1nm,1.0s
E23K **Chandalar** **83.17 22** P **P** **14 09 29.0 +2.1**
baz=267
TOLK **Toolik Lake Re** **83.22 22** IAmb IAmb 14 09 29.7
comp=Z,5.5nm,0.8s
TOLK **Toolik Lake Re** **83.22 22** P **P** **14 09 28.5 +1.4**
baz=267,SNR=5.5
NEA2 **Nenana** **83.26 26** P **P** **14 09 28.8 +1.5**
baz=268
MCK **McKinley** **83.29 27** P **P** **14 09 28.0 +0.5**
MCK IAmb IAmb 14 09 28.8
comp=Z,12nm,0.7s
MCK **McKinley** **83.29 27** P **P** **14 09 28.4 +0.8**
baz=268,SNR=7.7
RND **Reindeer** **83.32 27** IAmb IAmb 14 09 28.7
comp=Z,8.2nm,0.6s
KNK **Knik Glacier** **83.46 29** P **P** **14 09 29.0 +0.6**
baz=269
PWL **Port Wells** **83.51 29** P **P** **14 09 29.3 +0.6**
baz=269
D24K **Happy Valley** **83.51 21** P **P** **14 09 30.4 +1.9**
baz=268
SML **Sawmill** **83.53 28** P **P** **14 09 29.7 +0.9**
baz=269
C24K **Franklin Bluff** **83.58 20** P **P** **14 09 29.0 +0.2**
C24K IAmb IAmb 14 09 30.7
comp=Z,6.5nm,0.7s
C24K **Franklin Bluff** **83.58 20** P **P** **14 09 30.2 +1.4**
baz=268
E24K **Yukon Creek** **83.60 22** P **P** **14 09 30.9 +1.9**
baz=268
WRH **Wood River Hil** **83.68 26** IAmb IAmb 14 09 30.7
comp=Z,7.0nm,1.0s
COLA **College** **83.79 25** P **P** **14 09 31.2 +1.3**
baz=269
H24K **Noodor Dome** **83.79 24** IAmb IAmb 14 09 33.1
comp=Z,4.1nm,0.7s
H24K **Noodor Dome** **83.79 24** P **P** **14 09 31.3 +1.2**
baz=269,SNR=6.4
F24K **Squaw Lake** **83.81 23** P **P** **14 09 31.8 +1.6**
baz=269
M23K **Glacier View** **83.81 28** P **P** **14 09 30.9 +0.7**
baz=270
G24K **Hadweenzic Riv** **83.96 24** IAmb IAmb 14 09 33.5
comp=Z,7.3nm,0.8s
G24K **Hadweenzic Riv** **83.96 24** P **P** **14 09 33.0 +2.1**
baz=269,SNR=7.0
GLI **Glacier Island** **84.12 29** P **P** **14 09 32.6 +0.8**
baz=270
HDA **Harding Lake** **84.17 26** IAmb IAmb 14 09 32.9
comp=Z,5.8nm,0.8s
HDA **Harding Lake** **84.17 26** P **P** **14 09 32.1 +0.1**
baz=270
ILAR **Eielson Array** **84.20 25** P **P** **14 09 31.8 -0.3**
comp=Z,1.4nm,0.4s,baz=254,slow=4.7,SNR=34
comp=Z,1.4nm,0.4s
D25K **Kavik River** **84.39 21** P **P** **14 09 34.4 +1.4**
baz=270
G25K **Bearman Lake** **84.51 23** P **P** **14 09 35.6 +2.0**
baz=271
H25L **Birch Creek** **84.63 24** P **P** **14 09 35.7 +1.5**
baz=271
F25K **Christian Rive** **84.68 23** P **P** **14 09 36.1 +1.6**
baz=271
KLU **Klutina** **84.68 29** P **P** **14 09 34.8 +0.1**
baz=271
K24K **Donnelly Dome** **84.69 26** P **P** **14 09 35.0 +0.4**
baz=271
E25K **Arctic Village** **84.69 22** P **P** **14 09 36.4 +1.8**
baz=271
J25K **Salcha River,** **84.85 26** IAmb IAmb 14 09 35.9
comp=Z,3.4nm,0.5s
PAX **Paxson** **84.85 27** P **P** **14 09 36.5 +1.0**
baz=272
C26K **Camden Bay** **84.89 20** P **P** **14 09 37.4 +2.0**
baz=271
BMAR **Burnt Mountain** **85.09 23** P **P** **14 09 35.8 -0.7**
RIDG **Independent Ri** **85.11 27** P **P** **14 09 37.3 +0.6**
baz=272
F26K **Sheenjek River** **85.25 23** P **P** **14 09 38.9 +1.6**
baz=272
C27K **Jago River** **85.32 21** P **P** **14 09 39.4 +1.8**
baz=272
G26K **Porcupine Rive** **85.42 23** P **P** **14 09 39.8 +1.8**
baz=273
J26L **Joseph Creek** **85.64 26** P **P** **14 09 40.2 +0.9**
baz=273
I26K **Coal Creek Min** **85.77 25** P **P** **14 09 39.3 -0.5**
I26K IAmb IAmb 14 10 13.4
comp=Z,11nm,1.5s
I26K **Coal Creek Min** **85.77 25** P **P** **14 09 41.0 +1.1**
baz=273
M26K **Nabesna, AK** **86.02 28** P **P** **14 09 42.8 +1.5**
baz=274
BGLC **Bering Glacier** **86.03 30** P **P** **14 09 42.5 +1.3**
baz=274
E27K **Coleen River** **86.18 22** IAmb IAmb 14 09 43.9
comp=Z,5.1nm,1.0s
E27K **Coleen River** **86.18 22** P **P** **14 09 43.1 +1.2**
baz=275
G27K **Doyon Strip** **86.27 23** P **P** **14 09 43.4 +1.1**
baz=275
D27M **Malcolm River** **86.31 21** P **P** **14 09 44.0 +1.4**
baz=275
K27K **Chicken** **86.32 26** P **P** **14 09 43.6 +1.1**
baz=274
H27K **Steamboat Moun** **86.37 24** P **P** **14 09 44.0 +1.2**
baz=275
I27K **Kandik River** **86.38 25** P **P** **14 09 44.4 +1.5**
baz=275
L27K **Beaver Creek,** **86.51 27** P **P** **14 09 44.7 +1.1**
baz=275
MESA **MESA** **86.69 30** P **P** **14 09 45.0 +0.2**
baz=275
E28M **Babbage River** **86.89 21** P **P** **14 09 45.9 +0.6**
baz=276
I28M **Miner Creek** **87.10 25** P **P** **14 09 44.7 -1.7**
I28M IAmb IAmb 14 09 49.5
comp=Z,3.9nm,0.8s
I28M **Miner Creek** **87.10 25** P **P** **14 09 47.5 +1.0**
baz=276
DAWY **Dawson** **87.49 26** P **P** **14 09 49.5 +1.2**
baz=277
O28M **Mount Upton** **87.50 29** P **P** **14 09 49.6 +0.9**
baz=276
E29M **Blow River** **87.52 22** P **P** **14 09 48.9 +0.7**
baz=278
PINM **Pinnacle** **87.55 30** P **P** **14 09 49.3 +0.6**
baz=276
H29M **Whitestone** **87.64 24** P **P** **14 09 49.6 +0.7**
baz=278
YUK8 **Steele Glacier** **87.65 29** P **P** **14 09 50.0 +0.6**
baz=277
G29M **Pine Creek** **87.68 23** P **P** **14 09 49.8 +0.7**
baz=278
M29M **Somme Creek** **88.11 28** P **P** **14 09 51.8 +0.5**
M29M IAmb IAmb 14 09 53.8
comp=Z,5.9nm,1.2s
M29M **Somme Creek** **88.11 28** P **P** **14 09 51.7 +0.4**
baz=278
EPYK **Eagle Plains** **88.28 24** P **P** **14 09 52.5 +0.5**
baz=279
K29M **Barlow Dome** **88.34 26** P **P** **14 09 52.8 +0.4**
baz=279
YUK6 **Outpost Mounta** **88.37 29** P **P** **14 09 51.9 -0.9**
baz=278
G30M **tAoh Zraii Nji** **88.37 23** P **P** **14 09 52.5 +0.1**
baz=280
F30M **Barrier River** **88.43 22** P **P** **14 09 53.3 +0.7**
baz=280
ARCES **ARCESS Array B** **88.53 340** P **P** **14 09 52.3 -0.7**
comp=Z,4.5nm,0.8s,baz=62,slow=6.2,SNR=6.7
comp=Z,4.5nm,0.8s
I30M **Mount Dempster** **88.61 25** P **P** **14 09 54.5 +0.8**
baz=280
SPITS **Spitsbergen Ar** **88.68 349** P **P** **14 09 53.0 -0.6**
comp=Z,21nm,1.1s,baz=96,slow=7.6,SNR=12
comp=Z,21nm,1.1s
J30M **Hart River** **88.73 25** P **P** **14 09 55.1 +0.8**
baz=280
HYT **Haines Junctio** **88.80 29** P **P** **14 09 55.4 +0.7**
baz=279
M30M **Minto, Yukon** **88.86 27** P **P** **14 09 55.5 +0.8**
baz=279
INK **Inuvik** **89.13 21** P **P** **14 09 55.9 +0.1**
baz=282
F31M **Tsiigehtchic** **89.23 22** P **P** **14 09 56.1 -0.2**
baz=282
FINES **FINESS Array B** **89.85 332** P **P** **14 09 57.6 -1.6**
comp=Z,1.1nm,0.4s,baz=56,slow=4.8,SNR=20
comp=Z,1.1nm,0.4s
WHY **Whitehorse** **90.10 29** P **P** **14 10 00.9 +0.3**
baz=281
FARO **Faro, Yukon** **90.50 27** P **P** **14 10 02.9 +0.5**
baz=282
A36M **Sachs Harbour** **90.83 17** P **P** **14 10 04.6 +0.9**
baz=290
S32K **Kilisnoo** **90.87 32** P **P** **14 10 05.6 +1.5**
baz=281
WRAK **Wrangell Islan** **92.28 33** P **P** **14 10 11.8 +1.1**
baz=283
V35K **Ketchikan** **92.94 34** P **P** **14 10 13.6 -0.1**
baz=284
TGTN **Hyland Airport** **93.00 27** P **P** **14 10 14.7 +0.7**
baz=287
WTLY **Watson Lake, Y** **93.16 29** P **P** **14 10 15.2 +0.5**
baz=286
T35M **Bob Quinn** **93.27 32** P **P** **14 10 15.8 +0.5**
baz=285
TOAD **Toad River Com** **95.28 30** P **P** **14 10 24.7 +0.2**
baz=289
KOTAN **Kotaneelee Air** **95.41 28** P **P** **14 10 25.4 +0.4**
baz=290
NOA **NORSAR Array B** **96.81 333** P **P** **14 10 29.2 -2.2**
comp=Z,0.7nm,0.7s,baz=65,slow=4.6,SNR=3.5
comp=Z,0.7nm,0.7s
YKA **Yellowknife Ar** **98.56 24** P **P** **14 10 39.5 +0.4**
comp=Z,0.5nm,0.8s,baz=299,slow=4.7,SNR=8.3
comp=Z,0.5nm,0.8s
TXAR **Lajitas Array** **121.58 51** PKP **PKPdf** **14 15 54.4 +0.3**
comp=Z,0.1nm,0.4s,baz=323,slow=3.8,SNR=3.0

---

*IDC **06** 14:11:57.1±3.3,9.°18N×83.°84W,h0km,mb3.4/4,*
mbtmp3.5/5,ML3.4/1,MS3.0/1,Error ellipse: s-maj=92.5km
s-min=20.8km az=33.0
*UCR **06** 14:11:58.2±0.9,8.°95N×84.°20W,h0km±4km,MW4.5*
*UPA **06** 14:11:59.7±6.0,10.°01N×83.°93W,h10km±41km*
ISC 06 14:11:58.4±0.8,8.°93N±0.°04×84.°24W±0.°04,h10km,n72,
σ1§13/75,mb3.4/4,1D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUEP	**Quepos**	**0.50**	**9**	*eP*	**Pb**	**14 12 08.4**	**-0.9**
QUEP				*eS*	**Sb**	**14 12 16.5**	**-0.2**
LLNJ	**Naranjito**	**0.56**	**14**	*eP*	**Pb**	**14 12 09.4**	**-0.9**
PICV	**PH. Pirrs**	**0.69**	**4**	*eP*	**Pb**	**14 12 11.9**	**-0.7**
PISJ	**San Jernim**	**0.71**	**10**	*eP*	**Pb**	**14 12 12.4**	**-0.5**
RAZU	**San Marcos de**	**0.76**	**17**	*eP*	**Pb**	**14 12 13.3**	**-0.4**
ABE2	**San Pablo**	**0.79**	**14**	*eP*	**Pb**	**14 12 13.7**	**-0.7**
SAJE	**San Jernim**	**0.83**	**60**	*eP*	**Pg**	**14 12 13.6**	**-0.8**
LCR2	**La Lucha 2**	**0.84**	**16**	*eP*	**Pb**	**14 12 14.2**	**-1.0**
ACOS	**Acosta**	**0.86**	**5**	*eP*	**Pb**	**14 12 14.8**	**-0.7**
BURE	**Buenos Aires**	**0.92**	**75**	*eP*	**Pb**	**14 12 15.8**	**-0.7**
REPA	**Paraso**	**0.96**	**22**	*eP*	**Pb**	**14 12 16.4**	**-0.9**
AMPA	**Desamparados**	**0.98**	**10**	*eP*	**Pg**	**14 12 16.5**	**-0.7**
JIME	**Puerto Jimenez**	**0.99**	**113**	*eP*	**Pb**	**14 12 17.4**	**-0.2**

SANTA	Santa Ana	1.00	3	eP		Pg	14 12 16.9	-0.7
TRB2	Turrubares	1.00	348	eP		Pg	14 12 17.0	-0.6
TRIO	Tres Rios	1.00	14	eP		Pg	14 12 16.8	-0.9
LUJA	Lujan	1.00	10	eP		Pn	14 12 18.2	-0.5
OROT	Orotina	1.01	344	eP		Pg	14 12 17.6	-0.3
SJS3	Mercedes San J	1.02	11	eP		Pb	14 12 17.4	-0.8
SJS	Escuela Geolog	1.02	10⇊	eP		Pb	14 12 17.5	-0.7
LUPE	Guadalupe	1.03	10	eP		Pb	14 12 17.7	-0.7
PIRO	Carate, Puerto	1.04	120	eP		Pb	14 12 18.1	-0.3
DRK0	Durika	1.04	71	eP		Pg	14 12 17.3	-1.1
DRK0	Durika	1.04	71	eP		Pg	14 12 17.5	-0.9
DRK0				i Sg		Sn	14 12 34.8	+0.9
BELE	Belen	1.04	3	eP		Pg	14 12 17.8	-0.7
DOMI	Santo Domingo	1.06	8	eP		Pn	14 12 19.3	-0.1
EDP2	Potrero Grande	1.06	85	eP		Pb	14 12 18.0	-0.8
CORON	Coronado	1.06	13	eP		Pb	14 12 18.5	-0.4
CBL1	Cabuya	1.06	308	eP		Pg	14 12 18.1	-0.8
HEME	Heredia, Merce	1.06	6	eP		Pb	14 12 18.5	-0.5
PCAYA	Pacayas	1.07	23	eP		Pb	14 12 18.4	-0.7
HDC	Heredia	1.07	7	eP		Pb	14 12 18.6	-0.5
VINA	Juan Vinas	1.08	27	eP		Pb	14 12 18.4	-0.8
UELA	Alajuela	1.08	2	eP		Pn	14 12 19.9	+0.1
EDAD	Golfito	1.10	104	eP		Pg	14 12 17.8	-1.7
TCS1	Tacares	1.11	357	eP		Pg	14 12 19.1	-0.5
FITO	Golfito	1.12	106	eP		Pb	14 12 18.6	-1.2
VICA	Volcano Irazu	1.12	20	eP		Pg	14 12 19.1	-0.8
CVIMO	Finca Echandi	1.13	15	eP		Pg	14 12 19.3	-0.7
POAS	San Pedro de P	1.14	360	eP		Pn	14 12 20.1	-0.4
VERB	Verbena	1.14	28	eP		Pg	14 12 19.5	-0.9
SARCI	Sarchi	1.16	355	eP		Pn	14 12 21.3	+0.5
VTLA	Turrialba Volc	1.16	23	eP		Pg	14 12 19.9	-0.9
VTCV	VTCV, Calle Va	1.16	26	eP		Pb	14 12 20.0	-0.7
CVTQ	Turrialba Volc	1.17	24	eP		Pg	14 12 19.9	-0.9
NARAN	Naranjo de Ala	1.17	353	eP		Pn	14 12 20.8	-0.2
RAMO	San Ramon	1.17	349	eP		Pn	14 12 21.3	+0.3
SRA1	San Ramn	1.17	348	eP		Pb	14 12 20.1	-0.7
CVTV	Tajo	1.17	24	eP		Pb	14 12 20.2	-0.8
VTR0	Volcan Turrial	1.18	24	eP		Pb	14 12 20.4	-0.8
CVTR	Volcan Turrial	1.18	24	eP		Pg	14 12 20.2	-1.0
RVSTA	Santa Teresita	1.19	29	eP		Pg	14 12 20.4	-0.9
VPS8	V Poas	1.24	360	eP		Pg	14 12 21.7	-0.6
VPS5	V. Poas	1.25	0	eP		Pn	14 12 21.8	-0.4
JCR1	Jicaral	1.25	317	eP		Pn	14 12 21.4	-0.7
ZARE	Zarcero	1.25	353	eP		Pg	14 12 21.9	-0.6
CVTG	V. Turrialba,	1.29	21	eP		Pg	14 12 22.4	-0.9
NELY	Ciudad Neily	1.31	102	eP		Pn	14 12 22.0	-0.8
RVLA	Villa Bonita	1.34	29	eP		Pn	14 12 22.6	-0.6
IRES	Siquirres	1.37	32	eP		Pg	14 12 23.7	-0.9
VPL2	V. Platanar	1.37	354	eP		Pn	14 12 23.3	-0.5
ARTO	Ro Cuarto	1.40	1	eP		Pb	14 12 24.1	-0.7
JTS	Las Juntas de	1.52	333	Pg		Pn	14 12 24.4	-1.2
	30nm,0.3s,baz=108,slow=20,SNR=25							
JTS				Lg		Lg	14 12 47.3	
	103nm,0.3s,baz=90,slow=20,SNR=4.2							
JTS	Las Juntas de	1.52	333	eP		Pn	14 12 24.5	-1.2
JTS				eS		Sn	14 12 31.4	-14
BRU2	Volcan	1.54	95	eP		Pn	14 12 25.7	-0.4
BRU2				eS		Sg	14 12 53.8	+5.9
CHGR2	Aguacate	2.07	90	eP		Pn	14 12 33.7	+0.5
CHGR2				eS		Sb	14 12 59.8	-2.1
CMIG	Matias Romero	13.16	309	Pn		Pn	14 15 08.1	+2.6
	0.2nm,0.3s,baz=58,slow=21,SNR=2.3 0.7nm,0.3s							
SJG	San Juan	19.80	61	LR		LR	14 22 21.0	
	comp=Z,52nm,21.2s,baz=118,slow=32							
TXAR	Lajitas Array	27.28	321	P		P	14 17 44.3	+1.1
	0.2nm,0.8s,baz=131,slow=9.5,SNR=1.6 0.2nm,0.8s							
SCHQ	Schefferville	47.84	14	P		P	14 20 34.0	-2.2
	2.3nm,0.9s,baz=197,slow=11,SNR=2.1 2.3nm,0.9s							
YKA	Yellowknife Ar	57.83	344	P		P	14 21 48.4	-1.5
	0.3nm,0.8s,baz=145,slow=6.7,SNR=3.5 0.3nm,0.8s							
ILAR	Eielson Array	70.49	336	P		P	14 23 14.0	+1.0
	0.3nm,0.8s,baz=98,slow=6.1,SNR=2.5 0.3nm,0.8s							

*IDC **06** 14:19:34.2±2.0, 51.°59N×177.°96E, h0km, mb3.5/9, mbtmp3.6/11, ML3.6/2, Error ellipse: s-maj=60.2km s-min=18.1km az=3.0*

*NEIC **06** 14:19:37.1±1.7, 51.°7N±0.°2×177.°9E±0.°2, h10km±2km, mb4.1/23, Error ellipse: s-maj=36.8km s-min=20.3km az=166.0*

ISC 06 14:19:39.8±1.3, 51.°5N±0.°2×177.°89E±0.°07, h45km, n50, σ1§05/45, mb3.8/12, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	2.62	298	Pn	Pn	14 20 19.8	+0.2
	11nm,0.3s,baz=130,slow=2.4,SNR=8.0						
SHEM				Sn	Sn	14 20 48.9	-1.3
	6.8nm,0.3s,baz=132,slow=19,SNR=1.4 67nm,0.6s						
SMY	Shemya	2.62	298		Pn	14 20 19.8	+0.2
KIWB	Kanaga Island	3.10	82		Pn	14 20 26.2	0.0
ADK	Adak	3.39	82	Pn	Pn	14 20 30.1	-0.1
GSTR	Great Sitkin T	3.79	79	Pn	Pn	14 20 34.6	-1.2
ATKA	Atka Island	4.95	79	Pn	Pn	14 20 51.2	-0.3
UNV	Unalaska Valle	9.75	70	Pn	Pn	14 21 57.7	+0.4
CNBA	Chernabura Isl	13.88	68	Pn	Pn	14 22 52.1	-1.5
K13K	Kusilvak Mount	14.09	36	Pn	Pn	14 22 58.2	+1.8
L14K	Kuka Creek	14.49	40	Pn	Pn	14 22 59.6	-2.1
N17K	Nushagak Hills	16.48	47	Pn	Pn	14 23 26.9	-0.7
N17K				IAmb	IAmb	14 23 27.5	
	comp=Z,14nm,1.5s						
ACHA	Angle Creek He	16.72	56	Pn	Pn	14 23 30.1	-0.5
O18K	Koktuh Hills	17.19	51		P	14 23 37.4	-0.2
O18K				IAmb	IAmb	14 24 05.6	
	comp=Z,19nm,1.4s						
N19K	Bonanza Creek	17.83	48		P	14 23 44.9	+0.3
N19K				IAmb	IAmb	14 24 05.2	
	comp=Z,8.8nm,1.1s						
KDAK	Kodiak Island	18.08	58		P	14 23 46.5	-0.8
KDAK	Kodiak Island	18.08	58	P	P	14 23 45.4	-2.0
	comp=Z,0.2nm,0.3s,baz=225,slow=11,SNR=1.6 comp=Z,12nm,1.0s						
M19K	Big River Lodg	18.25	45		P	14 23 48.9	-0.3
M19K				IAmb	IAmb	14 24 22.0	
	comp=Z,12nm,1.4s						
CNPM	China Poot	19.06	53	P	P	14 23 57.0	-1.1
CNPM				IAmb	IAmb	14 23 58.2	
	comp=Z,37nm,1.2s						
STLK	Strandline Lak	19.27	47	P	P	14 23 59.5	-0.8
STLK				IAmb	IAmb	14 24 14.9	
	comp=Z,8.9nm,1.2s						
BRLK	Bradley Lake	19.29	53	P	P	14 24 00.1	-0.4
SKT	Skwentna	19.55	46	P	P	14 24 03.8	+0.4
SKT				IAmb	IAmb	14 24 17.5	
	comp=Z,7.2nm,0.9s						
CAST	Castle Rocks	19.82	42	P	P	14 24 06.5	+0.1
CAST				IAmb	IAmb	14 24 27.1	
	comp=Z,7.4nm,1.2s						
KTH	Kantishna Hill	20.35	42	P	P	14 24 12.1	-0.1
KTH				IAmb	IAmb	14 24 13.7	
	comp=Z,11nm,1.4s						
PWL	Port Wells	20.75	50	P	P	14 24 14.8	-1.6
PWL				IAmb	IAmb	14 24 29.9	
	comp=Z,23nm,1.3s						
D20K	Etivluk River	21.11	26	P	P	14 24 21.3	+1.1
SCM	Sheep Creek Mo	21.43	48	P	P	14 24 22.9	-0.8
KLU	Klutina	22.02	49	P	P	14 24 30.9	+0.8
KLU				IAmb	IAmb	14 25 03.3	
	comp=Z,14nm,1.3s						
M24K	Tolsona, Glenn	22.02	47	P	P	14 24 32.6	+2.5
H24K	Noodor Dome	22.43	37	P	P	14 24 33.9	-0.6
ILAR	Eielson Array	22.44	40	P	P	14 24 33.2	-1.3
	comp=Z,0.2nm,0.7s,baz=258,slow=10,SNR=6.0 comp=Z,0.2nm,0.7s						
D23K	Nanushuk River	22.97	29	P	P	14 24 40.6	+0.6
BCAR	Beaver Creek A	24.20	46	P	P	14 24 52.1	+0.4
E25K	Arctic Village	24.20	33	P	P	14 24 50.6	-1.1
O28M	Mount Upton	24.69	52	P	P	14 24 56.6	0.0
M29M	Somme Creek	25.63	48	P	P	14 25 06.3	+1.4
M29M				IAmb	IAmb	14 25 39.4	
	comp=Z,8.8nm,1.4s						
HYT	Haines Junctio	26.01	52	P	P	14 25 09.3	+0.9
HYT				IAmb	IAmb	14 25 30.2	
	comp=Z,9.7nm,1.2s						
H11N2	WAKE ISLAND Hy	32.90	199	T	T	15 01 29.9	
	baz=11,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy	32.91	199	T	T	15 01 27.5	
	baz=11,slow=76,SNR=12						
H11N1	WAKE ISLAND Hy	32.92	199	T	T	15 01 28.2	
	baz=11,slow=76,SNR=16						
H11S1	WAKE ISLAND Hy	34.13	199	T	T	15 03 03.8	
	baz=13						
H11S3	WAKE ISLAND Hy	34.14	199	T	T	15 03 09.2	
	baz=13						
H11S2	WAKE ISLAND Hy	34.15	199	T	T	15 03 02.8	
	baz=13						
YKA	Yellowknife Ar	36.61	46	P	P	14 26 40.7	-0.5
	comp=Z,0.3nm,0.9s,baz=285,slow=7.9,SNR=3.5 comp=Z,0.3nm,0.9s						
SONM	Songino Array	44.71	295	P	P	14 27 47.0	-1.3
	comp=Z,0.4nm,0.5s,baz=69,slow=7.2,SNR=3.3 comp=Z,0.4nm,0.5s						
NVAR	Mina Array Bea	45.58	81	P	P	14 27 55.0	-0.4
	comp=Z,0.1nm,0.3s,baz=315,slow=8.0,SNR=1.4 comp=Z,0.1nm,0.3s						
KURBB	Kurchatov Arra	57.50	312	P	P	14 29 24.9	+0.9
	comp=Z,0.8nm,0.6s,baz=41,slow=6.8,SNR=12 comp=Z,0.8nm,0.6s						
MKAR	Makanchi Array	58.29	307	P	P	14 29 30.4	+0.8
	comp=Z,0.3nm,0.7s,baz=52,slow=5.7,SNR=4.0 comp=Z,0.3nm,0.7s						
BVAR	Borovoye Array	59.41	318	P	P	14 29 37.9	+0.7
	comp=Z,1.1nm,0.6s,baz=41,slow=7.9,SNR=4.4 comp=Z,1.1nm,0.6s						
TXAR	Lajitas Array	60.66	79	P	P	14 29 47.8	+1.5
	comp=Z,0.1nm,0.5s,baz=316,slow=5.7,SNR=4.1 comp=Z,0.1nm,0.5s						
FINES	FINESS Array B	65.14	346	P	P	14 30 16.5	+1.1
	comp=Z,1.9nm,1.0s,baz=357,slow=9.7,SNR=1.6 comp=Z,1.9nm,1.0s						

IDC 06 14:38:12.0±3.0, 30.°58S×177.°95W, h0km, mb3.2/2, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=72.3km s-min=37.2km az=112.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.68	207	Pn	Pn	14 40 19.7	+1.0
	0.1nm,0.3s,baz=80,slow=21,SNR=1.8						
URZ				Sn	Sn	14 41 56.3	-1.0
	0.3nm,0.3s,baz=111,slow=16,SNR=1.5 8.8nm,1.1s						
ASAR	Alice Springs	43.14	267	P	P	14 46 14.4	-0.1
	0.2nm,0.7s,baz=108,slow=7.5,SNR=5.6 0.2nm,0.7s						
WRA	Warramunga Arr	44.15	272	P	P	14 46 22.6	-0.1
	0.4nm,0.8s,baz=111,slow=8.1,SNR=5.2 0.4nm,0.8s						
FINES	FINESS Array B	145.33	340	PKPbc	PKPbc	14 57 49.9	-1.0
	0.8nm,0.6s,baz=20,slow=4.6,SNR=6.8						

*IDC **06** 14:49:34.7±2.0, 49.°38N×151.°42E, h304km±24km, mb2.8/4, mbtmp3.5/7, Error ellipse: s-maj=33.1km s-min=23.7km az=102.0*

ISC 06 14:49:34.6±1.2, 49.°4N±0.°2×151.°4E±0.°2, h300km, n7, σ0§39/7, mb3.0/4, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.43	45	P	Pn	14 50 57.2	+0.2
	2.2nm,0.7s,baz=229,slow=11,SNR=2.3						
ASAJ	Asahikawa	8.01	232	P	Pn	14 51 28.4	+0.1
	1.7nm,0.4s,baz=94,slow=8.9,SNR=5.9						
MJAR	Matsushiro Arr	16.03	222	P	P	14 53 03.4	+0.5
	0.9nm,0.7s,baz=20,slow=12,SNR=7.2						
MKAR	Makanchi Array	44.72	294	P	P	14 57 18.2	-0.2
	0.3nm,0.6s,baz=80,slow=8.1,SNR=2.1 0.3nm,0.6s						
KURBB	Kurchatov Arra	45.05	301	P	P	14 57 21.1	+0.3
	0.4nm,0.6s,baz=67,slow=8.6,SNR=4.6 0.4nm,0.6s						
BVAR	Borovoye Array	48.29	307	P	P	14 57 45.8	0.0
	0.5nm,0.4s,baz=69,slow=7.7,SNR=3.4 0.5nm,0.4s						
ASAR	Alice Springs	74.39	197	P	P	15 00 39.4	-0.4
	0.4nm,1.0s,baz=5.2,slow=5.5,SNR=4.5 0.4nm,1.0s						

TAP 06 15:09:49.2, 23.°64N×120.°91E, h10km±1km, ML2.3, 4C-1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHYT	Xinyi Township	0.08	318	⇊iP	Pg	15 09 52.4	+0.7
WHYT				i S	Sg	15 09 54.2	+0.8
YUS	Yu-Shan	0.15	166	eP	Pg	15 09 53.4	+0.4
SSLB	Suanglung	0.16	14	P	Pg	15 09 53.7	+1.0
SSLB	Suanglung	0.16	14	⇑iP	Pg	15 09 53.5	+0.8
SSLB				i S	Sg	15 09 56.4	+1.2
ALS	Alishan	0.16	219	⇑iP	Pg	15 09 53.5	+0.6
ALS				i S	Sg	15 09 56.4	+0.8
CHN5	Tsauling	0.22	260	⇑iP	Pg	15 09 54.4	+0.5
CHN5				i S	Sg	15 09 57.9	+0.9
VWDT	VWDT	0.24	60	⇑iP	Pg	15 09 55.8	+1.7
VWDT				i S	Sg	15 09 59.5	+2.0
SMLT	Sun Moon Lake	0.25	357	i P	Pg	15 09 54.4	0.0
SMLT				i S	Sg	15 09 58.6	+0.8
WJS	Zhushan	0.25	318	P	Pg	15 09 55.1	+0.7
WJS				S	Sb	15 10 00.2	-0.2
TYC	Yuchr	0.27	349	i P	Pb	15 09 55.9	-0.4
TYC				i S	Sb	15 10 00.3	-0.7
WNT	Mingjian	0.32	319	i P	Pb	15 09 57.2	+0.1
WNT				S	Sb	15 10 02.8	+0.4
WGK	Gukeng	0.33	279	P	Pb	15 09 56.9	-0.3
WGK				S	Sb	15 10 02.1	-0.4
WCKO	Fanlu	0.34	235	eP	Pb	15 09 57.0	-0.5
WCKO				eS	Sb	15 10 03.5	+0.4
WDLH	Douliu	0.35	279	P	Pb	15 09 57.3	-0.2
WDLH				S	Sb	15 10 03.2	0.0
WDL	Douliou City	0.35	283	eP	Pb	15 09 57.5	-0.1
OWD	Renai	0.40	37	eP	Pb	15 09 58.1	-0.4
OWD				eS	Sb	15 10 03.9	-0.9
WUSB	Renai	0.40	28	P	Pb	15 09 58.0	-0.5
WUSB				eS	Sg	15 10 03.5	+1.0
CHN4	Tsaushan	0.41	226	P	Pb	15 09 58.3	-0.3
WCS	Beigang Elemen	0.42	360	eP	Pb	15 09 58.5	-0.3
TPUB	Ta-pu	0.42	218	P	Pg	15 09 57.7	+0.1
TPUB	Ta-pu	0.42	218	eP	Pb	15 09 58.3	-0.5
TWK	Hsinying	0.54	227	eP	Pg	15 10 00.1	+0.4
NACB	Ninganchiao	0.82	49	P	Pn	15 10 08.1	+1.2
YHNB	Yeheng	1.11	22	P	Pn	15 10 11.5	+0.5

*TAP **06** 15:09:51.7, 23.°16N×121.°35E, h17km, ML2.9, C*

ISC 06 15:09:51.8±0.9, 23.°15N±0.°02×121.°39E±0.°03, h20km, n75, σ0§99/131, 2C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKH	Chenggong	0.04	5	⇑iP	Pb	15 09 55.0	-0.4
CHKH				i S	Sb	15 09 57.5	-0.4
CHKT	Chengkung	0.05	207	⇑iP	Pb	15 09 55.2	-0.2
CHKT				i S	Sb	15 09 57.8	-0.1
FULB	Fuli	0.10	300	⇊iP	Pb	15 09 55.5	-0.4
FULB				i S	Sb	15 09 58.4	-0.2
ECS	Chishang	0.17	252	i P	Pb	15 09 56.7	+0.2
ECS				S	Sb	15 10 01.0	+1.2
EHD	Haiduan	0.17	271	⇊iP	Pb	15 09 55.7	-0.9
EHD				i S	Sb	15 09 59.1	-0.8
ECBN	Changbin	0.18	18	i P	Pb	15 09 56.6	-0.1
ECBN				i S	Sb	15 10 00.2	+0.2
EDH	Donghe	0.19	205	P	Pb	15 09 56.7	-0.2
EDH				S	Sb	15 10 00.2	-0.1
EYUL	Yuli	0.21	342	P	Pb	15 09 57.0	-0.2
EYUL				S	Sb	15 10 01.3	+0.5
TWF1	Yuli	0.22	337	i P	Pb	15 09 56.9	-0.4
TWF1				i S	Sb	15 10 00.8	-0.2
YULB	Yu-li	0.26	341	P	Pb	15 09 57.1	-0.8
YULB	Yu-li	0.26	341	⇊iP	Pb	15 09 57.4	-0.5
YULB				i S	Sb	15 10 01.9	-0.1
LONT	Longtian	0.34	225	P	Pb	15 09 59.0	-0.2
LONT				S	Sb	15 10 05.0	+0.8
HGSD	Ruisui	0.34	5	i P	Pb	15 09 59.7	+0.4
HGSD				S	Sn	15 10 06.7	-1.5
ELDTW	Lidau	0.35	277	⇊iP	Pb	15 09 58.3	-1.1
ELDTW				i S	Sb	15 10 02.8	-1.8
EHYH	Wanrong	0.35	353	P	Pb	15 09 58.8	-0.6
EHYH				S	Sb	15 10 04.7	+0.3
EHYH	Wanrong	0.35	353	P	Pb	15 09 59.2	-0.2
EHYH				S	Sb	15 10 04.5	0.0
EHY	Hungye	0.36	350	P	Pb	15 09 58.9	-0.7
EHY	Hungye	0.36	350	i S	Sb	15 10 04.8	-0.1
TWGBT	Beinan	0.43	221	P	Pb	15 10 00.4	-0.4
TWGBT	Beinan	0.43	221	P	Pb	15 10 00.1	-0.7
TWGBT				S	Sb	15 10 06.5	-0.5
TWG	Pinlang	0.44	222	i P	Pb	15 10 00.3	-0.6
TWG				i S	Sb	15 10 06.5	-0.5
TTN	Taitung	0.45	210	P	Pb	15 10 01.3	+0.2
TTN				S	Sn	15 10 09.2	-1.5
LDUT	Ludao	0.48	171	i P	Pb	15 10 01.4	-0.1
LDUT				i S	Sb	15 10 09.1	+1.0
EGFH	Guangfu	0.52	4	eP	Pb	15 10 01.8	-0.6
EGFH				S	Sb	15 10 09.4	-0.1
STYH	Taoyuan	0.57	273	eP	Pb	15 10 01.1	-2.0
WARBT	Fenglin Townsh	0.57	360	eP	Pb	15 10 02.2	-1.0
WARBT				eS	Sb	15 10 09.0	-1.9
TEGC	Jichi Village	0.58	14	eP	Pb	15 10 03.3	+0.1
TEGC				eS	Sb	15 10 12.6	+1.6
VWDT	VWDT	0.65	339	P	Pb	15 10 03.8	-0.6
VWDT				S	Sb	15 10 12.7	-0.4
ALS	Alishan	0.65	304	i P	Pb	15 10 04.1	-0.6
ALS				i S	Sb	15 10 13.8	+0.3
SHUL	Shoufeng	0.66	14	P	Pb	15 10 04.9	+0.2
SHUL				eS	Sn	15 10 15.2	-0.6
ESL	Shilin	0.67	3	eP	Pb	15 10 04.2	-0.6
ESL				S	Sb	15 10 13.2	-0.5
ECL	Taimali	0.68	217	P	Pb	15 10 03.8	-1.2
ECL				eS	Sb	15 10 12.6	-1.4
TPUB	Ta-pu	0.72	282	eP	Pb	15 10 05.8	+0.2
TPUB				S	Sn	15 10 15.7	-1.6
WTP	Ta-pu	0.72	278	P	Pb	15 10 05.7	-0.1
WTP				S	Sn	15 10 16.1	-1.4
WHYT	Xinyi Township	0.74	318	eP	Pb	15 10 05.9	-0.2
WHYT				eS	Sb	15 10 15.5	-0.2
TEYL	Yanliau Villag	0.74	15	eP	Pb	15 10 06.7	+0.6
TEYL				S	Sn	15 10 19.2	+1.3
SGST	Jiashian	0.75	265	P	Pb	15 10 05.3	-0.8
SGST				S	Sb	15 10 15.3	-0.6
SSLB	Suanglung	0.75	328	eP	Pb	15 10 06.2	-0.1
SSLB				eS	Sb	15 10 14.6	-1.6
CHN4	Tsaushan	0.76	286	P	Pb	15 10 06.1	-0.4
CHN4				S	Sn	15 10 17.4	-1.0
WCKO	Fanlu	0.78	292	eP	Pb	15 10 06.2	-0.6
WCKO				eS	Sn	15 10 18.6	-0.3
CHN5	Tsauling	0.79	305	P	Pb	15 10 06.5	-0.5
CHN5				eS	Sn	15 10 17.6	-1.7
CHN1	Nanshi	0.80	273	eP	Pn	15 10 07.1	-0.8
CHN1				eS	Sn	15 10 18.8	-0.5
TSMG	Majia	0.82	238	eP	Pb	15 10 07.0	-0.4
ETM	Tongmen	0.82	6	eP	Pb	15 10 06.9	-0.6
ETM				eS	Sb	15 10 17.2	-0.9
SNST	Tainan City	0.83	275	eP	Pn	15 10 07.6	-0.7
SNST				S	Sn	15 10 19.6	-0.4
OWD	Renai	0.83	346	eP	Pb	15 10 06.9	-0.7
OWD				eS	Sb	15 10 17.4	-1.0
TWK	Hsinying	0.84	278	eP	Pb	15 10 07.4	-0.4
TWK				eS	Sn	15 10 20.5	+0.1
HWA	Hwalien	0.85	13	eP	Pn	15 10 09.6	+0.9
SMLT	Sun Moon Lake	0.86	328	P	Pb	15 10 06.9	-1.3
SMLT				i S	Sn	15 10 20.6	-0.4
SCST	Cishan	0.87	253	eP	Pn	15 10 09.2	+0.3
LXIB	Xiulin Townshi	0.87	1	eP	Pb	15 10 06.8	-1.5
LXIB				S	Sb	15 10 18.8	-0.9
WUSB	Renai	0.88	343	P	Pb	15 10 08.2	-0.3
WUSB				S	Sb	15 10 19.1	-0.8
MASBT	Mashibuluo	0.88	233	eP	Pb	15 10 07.4	-1.0
TYC	Yuchr	0.90	327	P	Pb	15 10 08.2	-0.6
TYC				eS	Sn	15 10 21.9	+0.2
WJS	Zhushan	0.91	318	i P	Pn	15 10 09.8	+0.3
WJS				eS	Sn	15 10 23.7	+1.7
WGK	Gukeng	0.93	305	eP	Pn	15 10 11.4	+1.6
CHN3	Shinhua	0.95	266	eP	Pn	15 10 10.8	+0.8
CHN3				eS	Sn	15 10 26.2	+3.3
TWD	Chiawan	0.95	11	eP	Pb	15 10 09.5	-0.1
WDLH	Douliu	0.95	305	eP	Pn	15 10 10.7	+0.6
WDLH				eS	Sn	15 10 24.0	+0.9
CHY	Chiayi	0.96	292	i P	Pn	15 10 10.3	+0.2
CHY				i S	Sn	15 10 23.9	+0.7
SHHT	Tainan City	0.97	263	eP	Pn	15 10 11.8	+1.5
SHHT				S	Sn	15 10 27.5	+4.0
WNT	Mingjian	0.98	318	eP	Pn	15 10 10.9	+0.5
WNT				eS	Sn	15 10 26.3	+2.6
WHF	Hehuan Shan	1.00	353	eP	Pb	15 10 09.7	-1.1
WCS	Beigang Elemen	1.01	334	eP	Pb	15 10 10.4	-0.2
NACB	Ninganchiao	1.04	10	eP	Pb	15 10 11.0	-0.1
ICHU	Yijhu	1.04	282	eP	Pn	15 10 11.8	+0.4
ICHU				i S	Sn	15 10 26.7	+1.3
ETLH	Xiulin Townshi	1.06	4	eP	Pb	15 10 11.3	-0.2
WTK	Tuku	1.07	301	eP	Pn	15 10 12.5	+0.9
WTK				eS	Sn	15 10 27.3	+1.4
FUSS	Fushou	1.10	353	eP	Pb	15 10 12.0	-0.5
WSL	Shuilin Townsh	1.13	290	eP	Pn	15 10 12.2	-0.4
WSL				S	Sn	15 10 28.4	+0.8
WHP	Taichung City	1.20	340	eP	Pb	15 10 13.7	-0.2
TSCK	Chigu Township	1.20	270	eP

SBLS	**San Blas**	**1.42**	**342**	*eP*	**Pg**	**15 18 03.9**	**-0.5**
SBLS				*eP*	**Pb**	**15 18 04.5**	**0.0**
SNJE	**San Jose**	**1.44**	**343**	*eP*	**Pb**	**15 18 04.8**	**0.0**
LCND	**La Caada**	**1.50**	**56**	*eP*	**Pn**	**15 18 04.5**	**-0.5**
LCND	**La Caada**	**1.50**	**56**	P	**Pn**	**15 18 05.3**	**+0.3**
CNCH	**Conchagua**	**1.53**	**59**	*eP*	**Pn**	**15 18 05.7**	**+0.2**
CNCH	**Conchagua**	**1.53**	**59**	P	**Pn**	**15 18 05.6**	**+0.1**
CNCH	**Conchagua**	**1.53**	**59**	S	**Sn**	**15 18 26.1**	**+0.1**
NUBE	**Las Nubes**	**1.53**	**337**	*eP*	**Pn**	**15 18 05.3**	**-0.2**
NUBE	**Las Nubes**	**1.53**	**337**	*eP*	**Pn**	**15 18 05.4**	**-0.2**
NUBE	**Las Nubes**	**1.53**	**337**	P	**Pg**	**15 18 06.1**	**-0.5**
NUBE	**Las Nubes**	**1.53**	**337**	S	**Sg**	**15 18 26.7**	**+0.2**
CAHU	**Cacacuatique**	**1.59**	**36**	*eP*	**Pg**	**15 18 08.1**	**+0.5**
SLOZ	**Alcaldia de Sa**	**1.65**	**339**	*eP*	**Pg**	**15 18 08.6**	**-0.2**
SLOZ				*eS*	**Sg**	**15 18 29.3**	**-0.8**
SLOZ	**Alcaldia de Sa**	**1.65**	**339**	P	**Pg**	**15 18 08.9**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.65**	**339**	S	**Sg**	**15 18 31.5**	**+1.3**
CSGN	**Cosiguina Volc**	**1.65**	**72**	P	**Pn**	**15 18 07.6**	**+0.5**
CSGN				S	**Sn**	**15 18 25.6**	**-3.3**
POTN	**Potosi Cosigui**	**1.71**	**72**	P	**Pn**	**15 18 09.3**	**+1.5**
POTN				S	**Sn**	**15 18 30.0**	**-0.2**
MTO3	**Montecristo**	**1.92**	**355**	*eP*	**Pb**	**15 18 12.4**	**-0.5**
MTO3	**Montecristo**	**1.92**	**355**	*eP*	**Pn**	**15 18 11.4**	**+0.4**
MTO3	**Montecristo**	**1.92**	**355**	P	**Pb**	**15 18 12.9**	**0.0**
MTO3	**Montecristo**	**1.92**	**355**	S	**Sn**	**15 18 35.2**	**-0.6**
MARCA	**Marcala la Paz**	**2.00**	**33**	*eP*	**Pn**	**15 18 13.1**	**+1.0**
ESQI	**Esquipulas**	**2.08**	**355**	*eP*	**Pb**	**15 18 14.8**	**-0.7**
ESQI				*eS*	**Sg**	**15 18 42.9**	**-1.0**
ESQI	**Esquipulas**	**2.08**	**355**	P	**Pb**	**15 18 15.5**	**0.0**
ESQI	**Esquipulas**	**2.08**	**355**	S	**Sb**	**15 18 40.4**	**-1.4**
CRIN	**San Cristobal**	**2.08**	**84**	P	**Pn**	**15 18 15.3**	**+2.2**
QUEN	**Al S del Volca**	**2.27**	**87**	P	**Pn**	**15 18 14.2**	**-1.5**
HERN	**Volcan Telica**	**2.29**	**87**	P	**Pn**	**15 18 17.8**	**+1.8**
HERN	**Volcan Telica**	**2.29**	**87**	S	**Sn**	**15 18 46.4**	**+1.6**
POLN	**Al Sur del Vol**	**2.31**	**86**	P	**Pn**	**15 18 16.9**	**+0.7**
POLN				S	**Sn**	**15 18 45.1**	**-0.1**
PACN	**Al O del Volca**	**2.32**	**89**	P	Pn	15 18 07.8	-8.6
PLRN	**Geotermica Pol**	**2.35**	**87**	P	**Pn**	**15 18 18.0**	**+1.3**
ROCN	**Rota Cerro Neg**	**2.37**	**89**	P	**Pn**	**15 18 18.0**	**+0.9**
CNGA	**Al SSO del Vol**	**2.41**	**89**	P	**Pn**	**15 18 19.0**	**+1.3**
CNGN	**Cerro Negro**	**2.42**	**89**	P	**Pn**	**15 18 19.1**	**+1.4**
ILCN	**San Idelfonso**	**2.42**	**87**	P	**Pn**	**15 18 18.9**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.42**	**49**	P	**Pn**	**15 18 19.8**	**+1.9**
COPN	**Copaltepe**	**2.54**	**96**	P	**Pn**	**15 18 19.5**	**+0.1**
MOMN	**Momotombo**	**2.57**	**91**	P	**Pn**	**15 18 19.9**	**+0.1**
SAPS	**Ciudad Sandino**	**2.72**	**96**	P	**Pn**	**15 18 23.3**	**+1.5**
LIMN	**Finca el Limon**	**2.80**	**78**	P	**Pn**	**15 18 23.8**	**+0.8**
STG0	**El Palmar, Qui**	**2.86**	**313**	*eP*	**Pg**	**15 18 32.3**	**+0.2**
MAS3	**Al N del Volca**	**2.96**	**98**	P	**Pn**	**15 18 28.1**	**+2.9**
NANN	**Nandasmo**	**3.03**	**100**	P	**Pn**	**15 18 29.5**	**+3.3**
RCVN	**Varilla#2**	**3.10**	**69**	P	**Pn**	**15 18 29.3**	**+2.0**
RCPN	**Sur Rio San Ju**	**3.17**	**71**	P	**Pn**	**15 18 29.7**	**+1.5**
MATN	**Matagalpa**	**3.20**	**82**	P	**Pn**	**15 18 28.5**	**0.0**
NISHN	**Nisperales Com**	**3.51**	**21**	*eP*	**Pn**	**15 18 34.7**	**+2.0**
JTS	**Las Juntas de**	**4.67**	**117**	Pn	**Pn**	**15 18 47.7**	**-1.0**
JTS	4.2nm,0.3s,baz=288,slow=19,SNR=7.4						
				Sn	**Sn**	**15 19 43.1**	**-0.5**
	1.4nm,0.3s,baz=309,slow=18,SNR=1.4 6.7nm,0.3s						
CMIG	**Matias Romero**	**7.18**	**310**	Pn	**Pn**	**15 19 25.7**	**+2.6**
	0.3nm,0.3s,baz=151,slow=10,SNR=5.3						
CMIG				Sn	**Sn**	**15 20 52.8**	**+7.4**
	0.1nm,0.3s,baz=105,slow=16,SNR=1.8						
CMIG				LR	LR	15 22 28.0	
	comp=Z,109nm,21.7s,baz=334,slow=40 2.8nm,0.7s						
TXAR	**Lajitas Array**	**21.52**	**323**	P	**P**	**15 22 28.7**	**+1.1**
	0.8nm,0.6s,baz=146,slow=5.8,SNR=12 0.8nm,0.6s						
PFO	**Pinyon Flats O**	**32.58**	**315**	LR	LR	15 36 45.5	
	comp=Z,39nm,19.4s,baz=287,slow=35						
PDAR	**Pinedale Array**	**34.97**	**333**	P	**P**	**15 24 31.5**	**+0.5**
	0.1nm,0.5s,baz=148,slow=7.9,SNR=2.1 0.1nm,0.5s						
NVAR	**Mina Array Bea**	**36.59**	**320**	P	**P**	**15 24 46.0**	**+1.1**
	0.3nm,0.6s,baz=117,slow=7.0,SNR=1.7 0.3nm,0.6s						
ULM	**Lac du Bonnet**	**38.06**	**353**	P	**P**	**15 24 55.7**	**-1.3**
	1.4nm,0.5s,baz=173,slow=10,SNR=4.3 1.4nm,0.5s						
H03N2	**Juan Fernandez**	**46.69**	**168**	T	T	16 16 17.8	
	baz=347,slow=76,SNR=5.2						
H03N1	**Juan Fernandez**	**46.70**	**168**	T	T	16 16 18.8	
	baz=347,slow=76,SNR=6.7						
H03N3	**Juan Fernandez**	**46.71**	**168**	T	T	16 16 17.6	
	baz=347,slow=76,SNR=8.4						
YKA	**Yellowknife Ar**	**53.15**	**346**	P	**P**	**15 26 55.0**	**-1.2**
	0.8nm,0.8s,baz=148,slow=7.4,SNR=13 0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**148.23**	**345**	PKPbc	**PKiKP**	**15 37 27.0**	**-0.5**
	0.7nm,0.7s,baz=17,slow=3.1,SNR=4.6						

*IDC **06** 15:20:26.4±1.3, 9°.44S×159°.35E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=59.2km s-min=13.7km az=173.0*

ISC 06 15:20:27.5±1.1, 9°.34S±0°.08×159°.34E±0°.08, h10km, n16, σ1s69/10, mb3.2/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAVO	**Savo Central**	**0.50**	**68**	P	**Pb**	**15 20 38.4**	**-0.1**
SAVO	**Savo Central**	**0.50**	**68**	S	**Sn**	**15 20 49.2**	**-0.4**
HNR	**Honiara**	**0.61**	**99**	LR	LR	15 20 37.5	
	comp=Z,44nm,19.5s,baz=18,slow=19						
HNR				Pn	**Pn**	**15 20 41.8**	**-0.5**
	190nm,0.3s,baz=323,slow=5.1,SNR=99						
HNR				Sn	**Sn**	**15 20 54.0**	**+2.0**
	1μm,0.3s,baz=9.0,slow=19,SNR=34						
HNR	**Honiara**	**0.61**	**99**	P	**Pn**	**15 20 41.5**	**-0.7**
TATA	**Tatamba Isabel**	**1.05**	**26**	P	Pb	15 20 35.6	-12
NGOA	**Tingoa Renbel**	**2.31**	**162**	P	**Pg**	**15 21 09.4**	**-2.5**
NGOA	**Tingoa Renbel**	**2.31**	**162**	S	**Sg**	**15 21 44.6**	**+2.6**
WRA	**Warramunga Arr**	**26.35**	**244**	P	**P**	**15 26 03.9**	**-0.1**
	0.2nm,0.5s,baz=69,slow=9.0,SNR=5.9 0.2nm,0.5s						
ASAR	**Alice Springs**	**28.17**	**237**	P	**P**	**15 26 20.4**	**0.0**
	0.2nm,0.5s,baz=68,slow=8.8,SNR=5.4 0.2nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**28.59**	**15**	T	T	15 54 50.7	
	baz=194,slow=76,SNR=166						
H11S3	**WAKE ISLAND Hy**	**28.59**	**15**	T	T	15 54 42.8	
	baz=194,slow=76,SNR=163						
H11S1	**WAKE ISLAND Hy**	**28.61**	**15**	T	T	15 54 44.1	
	baz=194,slow=76,SNR=146						
H11N1	**WAKE ISLAND Hy**	**29.81**	**14**	T	T	15 56 18.1	
	baz=194,slow=76,SNR=136						
H11N3	**WAKE ISLAND Hy**	**29.82**	**14**	T	T	15 56 18.7	
	baz=194,slow=76,SNR=143						
H11N2	**WAKE ISLAND Hy**	**29.83**	**14**	T	T	15 56 19.5	
	baz=194,slow=76,SNR=128						
MKAR	**Makanchi Array**	**88.00**	**318**	P	**P**	**15 33 19.5**	**+1.4**
	0.2nm,0.7s,baz=95,slow=6.1,SNR=1.4 0.2nm,0.7s						

*IDC **06** 15:23:43.3±1.2, 27°.81N×142°.76E, h0km, mb3.5/5, mbtmp3.5/6, ML2.5/1, Error ellipse: s-maj=41.3km s-min=16.1km az=107.0*

ISC 06 15:23:46.7±1.2, 27°.83N±0°.10×142°.7E±0°.2, h22km, n7, σ0s57/8, mb3.6/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.86**	**212**	Pn	**Pn**	**15 24 03.9**	**+0.3**
	11nm,0.3s,baz=348,slow=20,SNR=11						
JCJ				Sn	**Sn**	**15 24 15.5**	**-0.1**
	39nm,0.3s,baz=105,slow=20,SNR=28						
MJAR	**Matsushiro Arr**	**9.48**	**337**	Pn	**Pn**	**15 26 01.5**	**-0.5**
	baz=162,slow=12,SNR=2.0 0.3nm,0.4s						
WRA	**Warramunga Arr**	**48.18**	**191**	P	**P**	**15 32 24.5**	**-1.0**
	0.3nm,0.5s,baz=9.6,slow=7.9,SNR=4.6 0.3nm,0.5s						
ASAR	**Alice Springs**	**51.90**	**190**	P	**P**	**15 32 53.8**	**0.0**
	0.2nm,0.6s,baz=17,slow=9.5,SNR=6.1 0.2nm,0.6s						
BVAR	**Borovoye Array**	**57.82**	**317**	P	**P**	**15 33 36.8**	**+0.5**
	0.5nm,0.5s,baz=88,slow=6.3,SNR=3.6 0.5nm,0.5s						
YKA	**Yellowknife Ar**	**71.28**	**29**	P	**P**	**15 35 04.4**	**+0.3**
	0.1nm,0.7s,baz=306,slow=7.2,SNR=1.8 0.1nm,0.7s						
FINES	**FINESS Array B**	**77.49**	**334**	P	**P**	**15 35 40.3**	**0.0**
	1.8nm,0.9s,baz=48,slow=4.1,SNR=3.9 1.8nm,0.9s						

*IDC **06** 15:28:39.7±4.4, 2°.25N×31°.52E, h0km, mb3.7/6, mbtmp3.7/7, ML3.4/1, MS3.1/2, Error ellipse: s-maj=111.7km s-min=20.5km az=42.0*

ISC 06 15:28:41.7±3.5, 2°.3N±0°.5×31°.5E±0°.5, h10km, n9, σ0s86/8, mb3.8/6, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**6.69**	**121**	Pn	**Pn**	**15 30 21.1**	**+0.8**
	0.9nm,0.3s,baz=286,slow=17,SNR=6.8						
KMBO				Sn	**Sn**	**15 31 36.0**	**-0.9**
	3.5nm,0.3s,baz=282,slow=18,SNR=5.0						
KMBO				Lg	Lg	15 32 08.6	
	4.1nm,0.3s,baz=255,slow=20,SNR=4.8 2.4nm,0.4s						
EIL	**Elat**	**27.40**	**7**	LR	LR	15 44 20.7	
	comp=Z,28nm,19.2s,baz=257,slow=34						
MMAI	**Mount Meron Ar**	**30.76**	**6**	LR	LR	15 47 11.1	
	comp=Z,40nm,19.7s,baz=180,slow=36						
BRTR	**Keskin Array B**	**37.28**	**3**	P	**P**	**15 35 55.1**	**+1.0**
	1.4nm,0.8s,baz=189,slow=8.6,SNR=7.2 1.4nm,0.8s						
AKASG	**Malin Array Be**	**48.25**	**358**	P	**P**	**15 37 22.1**	**-0.6**
	0.5nm,0.5s,baz=184,slow=7.0,SNR=4.9 0.5nm,0.5s						
GERES	**GERESS Array B**	**48.80**	**344**	P	**P**	**15 37 27.2**	**+0.1**
	1.0nm,0.7s,baz=158,slow=8.1,SNR=7.4 1.0nm,0.7s						
NOA	**NORSAR Array B**	**60.58**	**349**	P	**P**	**15 38 51.5**	**-0.8**
	0.8nm,0.9s,baz=158,slow=6.6,SNR=2.7 0.8nm,0.9s						
KURBB	**Kurchatov Arra**	**62.30**	**32**	P	**P**	**15 39 04.5**	**+0.4**
	0.4nm,0.7s,baz=238,slow=6.7,SNR=3.4 0.4nm,0.7s						
MKAR	**Makanchi Array**	**62.41**	**37**	P	**P**	**15 39 04.5**	**-0.4**
	0.3nm,0.5s,baz=233,slow=7.1,SNR=5.0 0.3nm,0.5s						

*IDC **06** 15:34:12.9±1.9, 50°.61N×160°.25E, h0km, mb3.7/6, mbtmp3.6/7, ML2.1/1, MS2.6/1, Error ellipse: s-maj=48.9km s-min=24.0km az=17.0*

*KRSC **06** 15:34:14.1±2.0, 50°.56N×160°.13E, h64km±35km, Ml3.8*

ISC 06 15:34:15.8±1.8, 50°.49N±0°.10×160°.15E±0°.09, h35km, n23, σ0s96/20, mb3.7/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.86**	**316**	*eP*	**Pn**	**15 34 44.8**	**-0.3**
KDTR				*eS*	**Sn**	**15 35 06.3**	**-1.0**
RUS	**Russkaya**	**2.20**	**333**	*eP*	**Pn**	**15 34 49.0**	**-0.8**
RUS				*eS*	**Sn**	**15 35 14.7**	**-1.0**
GRL	**Gorelyy**	**2.44**	**329**	*eP*	Pn	15 34 54.4	+1.2
SKR	**Severo-Kuril's**	**2.58**	**276**	*eP*	**Pn**	**15 34 54.8**	**-0.1**
SKR				*eS*	**Sn**	**15 35 23.7**	**-1.4**
SPN	**Mys Shipunski**	**2.61**	**358**	*eS*	**Sn**	**15 35 25.0**	**-1.0**
KRMR	**Karymshinskiy**	**2.66**	**333**	*eP*	Pn	15 34 57.1	+1.0
KRMR				*eS*	**Sn**	**15 35 27.8**	**+0.7**
DALK	**Dalny**	**2.69**	**342**	*eS*	**Sn**	**15 35 27.2**	**-0.6**
PET	**Petropavlovsk**	**2.70**	**340**	*eP*	**Pn**	**15 34 56.7**	**0.0**
PET				*eS*	**Sn**	**15 35 27.1**	**-1.0**
NLC	**Nalytchevo**	**2.73**	**350**	*eS*	**Sn**	**15 35 28.3**	**-0.5**
INSR	**Institute**	**2.75**	**340**	*eS*	**Sn**	**15 35 30.3**	**+0.9**
KOK	**Koryaka**	**2.96**	**342**	*eP*	Pn	15 35 01.4	+1.1
KOK				*eS*	**Sn**	**15 35 35.5**	**+0.9**
KRX	**Arik**	**3.02**	**343**	*eS*	**Sn**	**15 35 36.2**	**0.0**
PETK	**Petropavlovsk-**	**3.03**	**331**	Pn	Pn	15 35 02.5	+1.3
	1.4nm,0.3s,baz=136,slow=17,SNR=21						
PETK				Sn	**Sn**	**15 35 37.5**	**+1.2**
	3.5nm,0.3s,baz=137,slow=17,SNR=10 6.9nm,0.7s						
GNL	**Ganaly**	**3.49**	**338**	*eP*	Pn	15 35 09.8	+2.2
TUMD	**Tumrok D**	**4.72**	**2**	*eP*	Pn	15 35 25.3	+0.8
TUMD				*eS*	**Sn**	**15 36 17.0**	**-1.0**
KBTR	**Krutoberegovo**	**5.95**	**15**	*eP*	Pn	15 35 42.0	+0.8
KBTR				*eS*	**Sn**	**15 36 46.8**	**-1.2**
MA2	**Magadan**	**10.56**	**333**	LR	LR	15 42 01.0	
	comp=Z,32nm,18.4s,baz=322,slow=45						
TIXI	**Tiksi**	**25.48**	**338**	P	**P**	**15 39 41.7**	**+1.5**
	2.8nm,0.4s,baz=135,slow=12,SNR=18 2.8nm,0.4s						
YKA	**Yellowknife Ar**	**45.09**	**41**	P	**P**	**15 42 28.0**	**+0.1**
	0.4nm,1.0s,baz=295,slow=7.4,SNR=4.8 0.4nm,1.0s						
KURBB	**Kurchatov Arra**	**49.28**	**304**	P	P	15 43 02.4	+1.7
	0.4nm,0.5s,baz=57,slow=8.2,SNR=3.6 0.4nm,0.5s						
MKAR	**Makanchi Array**	**49.36**	**298**	P	P	15 43 04.0	+2.6
	0.2nm,0.5s,baz=58,slow=8.1,SNR=4.2 0.2nm,0.5s						
BVAR	**Borovoye Array**	**52.06**	**310**	P	P	15 43 23.3	+1.6
	0.8nm,0.4s,baz=61,slow=7.0,SNR=6.6 0.8nm,0.4s						
TXAR	**Lajitas Array**	**71.64**	**66**	P	P	15 45 36.5	+2.6
	0.3nm,0.5s,baz=325,slow=7.0,SNR=7.2 0.3nm,0.5s						

IDC 06 15:44:24.4±10.0, 55°.78S×101°.88E, h0km, Error ellipse: s-maj=29.3km s-min=9.0km az=149.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**22.52**	**27**	H	H	16 12 38.3	
	baz=198,slow=76,SNR=10						
H01W1	**Cape Leeuwin H**	**22.53**	**27**	H	H	16 12 39.0	
	baz=198,slow=76,SNR=11						
H01W3	**Cape Leeuwin H**	**22.53**	**27**	H	H	16 12 39.5	
	baz=198,slow=76,SNR=10.0						
H04S1	**CROZET ISLANDS**	**31.85**	**265**	H	H	16 24 44.4	
	baz=125,slow=76,SNR=28						
H04S2	**CROZET ISLANDS**	**31.85**	**265**	H	H	16 24 43.9	
	baz=125,slow=76,SNR=35						
H04S3	**CROZET ISLANDS**	**31.86**	**265**	H	H	16 24 43.1	
	baz=125,slow=76,SNR=31						
H08S2	**Diego Garcia H**	**53.34**	**323**	H	H	16 51 03.9	
	baz=161,slow=76,SNR=24						
H08S1	**Diego Garcia H**	**53.35**	**323**	H	H	16 51 04.3	
	baz=161,slow=76,SNR=28						
H08S3	**Diego Garcia H**	**53.36**	**323**	H	H	16 51 05.1	
	baz=161,slow=76,SNR=22						

IDC 06 15:58:44.8±2.3, 7°.62S×129°.68E, h0km, mb3.3/1, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=113.4km s-min=33.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.05**	**160**	Pn	Pn	16 01 51.3	-0.4
	0.2nm,0.3s,baz=339,slow=14,SNR=9.8						
WRA				Sn	Sn	16 04 10.1	-7.8
	0.2nm,0.3s,baz=338,slow=22,SNR=5.2 0.3nm,0.4s						
ASAR	**Alice Springs**	**16.46**	**166**	Pn	Pn	16 02 37.8	+0.5
	0.1nm,0.3s,baz=349,slow=9.8,SNR=9.1						
ASAR				Sn	Sn	16 05 36.9	-4.0
	baz=342,slow=30 0.2nm,0.6s						
MKAR	**Makanchi Array**	**68.57**	**327**	P	P	16 09 49.5	0.0
	0.2nm,0.7s,baz=126,slow=7.3,SNR=1.9 0.2nm,0.7s						

*NOU **06** 16:12:49.6, 38°.07S×140°.14E, h0km, MLv4.5/12, Near Coast of South Australia*

*AUST **06** 16:12:50.5±0.3, 38°.S±2°.×14°.0E±°, h10km, mb4.0/14, ML3.4/21, Error ellipse: s-maj=5.3km s-min=3.2km az=25.1*

*IDC **06** 16:12:57.2±9.9, 37°.32S×139°.58E, h0km, mbtmp3.3/3, ML3.4/3, Error ellipse: s-maj=103.7km s-min=71.1km az=155.0*

ISC 06 16:12:49.0±1.1, 38°.04S±0°.07×140°.12E±0°.06, h10km, n45, σ2s40/52, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGBR	**Mount Gambier**	**0.48**	**49**	P	**Pn**	**16 13 03.9**	**+1.9**
MGBR				S	**Sn**	**16 13 11.8**	**+7.2**
ARPS	**Mount Arapiles**	**1.87**	**48**	P	**Pn**	**16 13 22.8**	**+1.7**
ARPS				S	**Sn**	**16 13 44.7**	**0.0**
ARPS	**Mount Arapiles**	**1.87**	**48**	P	**Pn**	**16 13 23.0**	**+1.9**
KELC	**Kelly Hill Cav**	**3.29**	**308**	P	**Pn**	**16 13 42.8**	**+2.2**
KELC				S	**Sn**	**16 14 19.5**	**-0.2**
GEXS	**Deakin Univers**	**3.30**	**94**	P	**Pn**	**16 13 42.3**	**+1.6**
GEXS				S	**Sn**	**16 14 18.5**	**-1.4**
GEXS	**Deakin Univers**	**3.30**	**94**	P	**Pn**	**16 13 42.2**	**+1.5**
GHSS	**Government Hou**	**3.34**	**338**	P	**Pn**	**16 13 44.1**	**+2.7**
SDAN	**Sedan**	**3.58**	**350**	P	**Pn**	**16 13 47.0**	**+2.3**
SDAN				S	**Sn**	**16 14 27.5**	**+0.5**
GVL	**Greenvale**	**3.81**	**85**	P	**Pn**	**16 13 49.4**	**+1.6**
TOO	**Toolangi**	**4.28**	**85**	P	**Pn**	**16 13 56.2**	**+1.9**
HTT	**Hallett**	**4.70**	**348**	P	**Pn**	**16 14 03.0**	**+3.0**
HTT	**Hallett**	**4.70**	**348**	P	**Pn**	**16 14 02.6**	**+2.5**
NAPP	**Napperby**	**5.10**	**341**	P	**Pn**	**16 14 08.8**	**+3.2**
	comp=Z,0.1nmcomp=Z,31nm,0.5s						
WHYH	**Whyalla**	**5.41**	**337**	P	**Pn**	**16 14 13.0**	**+3.3**
	comp=Z,0.0nmcomp=Z,7.3nm,0.5s						
BBOO	**Buckleboo**	**6.18**	**326**	P	**Pn**	**16 14 22.9**	**+2.6**
	comp=Z,0.1nmcomp=Z,21nm,2.4s						
BBOO	**Buckleboo**	**6.18**	**326**	P	**Pn**	**16 14 22.6**	**+2.3**
STKA	**Stephens Creek**	**6.27**	**12**	P	**Pn**	**16 14 23.4**	**+1.8**
	comp=Z,0.2nmcomp=Z,14nm,0.5s						
STKA	**Stephens Creek**	**6.27**	**12**	Pn	**Pn**	**16 14 23.6**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=168,slow=18,SNR=4.0						
STKA				Sn	**Sn**	**16 15 29.8**	**-3.4**
	comp=Z,1.4nm,0.3s,baz=198,slow=20,SNR=7.4 comp=Z,1.0nm,0.3s						
YAPP	**Yappala Statio**	**6.33**	**346**	P	**Pn**	**16 14 24.5**	**+2.0**
	comp=Z,0.0nmcomp=Z,2.3nm,0.5s						
GLAD	**Gladstone**	**6.77**	**118**	P	**Pn**	**16 14 28.9**	**+0.4**
	comp=Z,0.0nmcomp=Z,13nm,1.2s						
GLAD	**Gladstone**	**6.77**	**118**	P	**Pn**	**16 14 28.5**	**0.0**
MOO	**Moorlands**	**6.97**	**131**	P	**Pn**	**16 14 32.3**	**+1.1**
	comp=Z,0.5nmcomp=Z,56nm,2.6s						
MOO	**Moorlands**	**6.97**	**131**	P	**Pn**	**16 14 33.3**	**+2.1**
TAU	**Tasmania Unive**	**7.33**	**134**	P	**Pn**	**16 14 37.3**	**+1.1**
TAU	**Tasmania Unive**	**7.33**	**134**	P	**Pn**	**16 14 37.3**	**+1.1**
CAN	**Canberra**	**7.64**	**72**	P	**Pn**	**16 14 43.0**	**+2.7**
	comp=Z,0.1nmcomp=Z,24nm,0.6s						
CAN				S	**Sn**	**16 16 04.3**	**-2.7**
LCRK	**Leigh Creek**	**7.73**	**348**	P	**Pn**	**16 14 44.1**	**+2.4**
	comp=Z,0.1nmcomp=Z,23nm,2.0s						
LCRK	**Leigh Creek**	**7.73**	**348**	P	**Pn**	**16 14 44.0**	**+2.3**
CMSA	**Cobar Meteorol**	**7.94**	**37**	P	**Pn**	**16 14 45.0**	**+0.4**
CMSA	**Cobar Meteorol**	**7.94**	**37**	P	**Pn**	**16 14 46.6**	**+2.0**
DLN	**Dalton (NSW)**	**8.02**	**68**	S	**Sn**	**16 16 14.2**	**-2.3**
MULG	**Mulgathing**	**9.22**	**325**	P	**Pn**	**16 15 03.6**	**+1.6**
	comp=Z,0.1nmcomp=Z,9.7nm,2.2s						
INKA	**Innaminka**	**10.28**	**3**	P	**Pn**	**16 15 17.2**	**+0.6**
INKA	**Innaminka**	**10.28**	**3**	S	**Sn**	**16 17 06.9**	**-5.1**
INKA	**Innaminka**	**10.28**	**3**	P	**Pn**	**16 15 18.7**	**+2.1**
OOD	**Oodnadatta**	**10.87**	**339**	P	**Pn**	**16 15 25.1**	**+0.4**
	comp=Z,0.1nmcomp=Z,9.3nm,1.9s						
OOD	**Oodnadatta**	**10.87**	**339**	S	**Sn**	**16 17 21.5**	**-4.9**
OOD	**Oodnadatta**	**10.87**	**339**	P	**Pn**	**16 15 25.7**	**+1.0**
FORT	**Forrest**	**12.30**	**302**	P	**Pn**	**16 15 46.0**	**+1.7**
	comp=Z,16nm,1.8s						
FORT	**Forrest**	**12.30**	**302**	P	**Pn**	**16 15 46.7**	**+2.4**
ASAR	**Alice Springs**	**15.28**	**338**	Pn	**Pn**	**16 16 24.0**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=162,slow=13,SNR=26						
ASAR				Sn	Sn	16 19 04.9	-9.4
	comp=Z,0.1nm,0.3s,baz=160,slow=22,SNR=5.7 comp=Z,0.6nm,0.6s						
AS31	**Alice Springs**	**15.28**	**338**	P	**Pn**	**16 16 25.6**	**+0.7**
	comp=Z,1.1nm,0.7s						
WRKA	**Warakurna**	**16.40**	**319**	P	**Pn**	**16 16 37.2**	**-2.1**
WC4	**Warramunga Arr**	**18.70**	**343**	P	**P**	**16 17 08.4**	**+0.8**
WRA	**Warramunga Arr**	**18.72**	**343**	P	**P**	**16 17 06.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=161,slow=12,SNR=7.8 comp=Z,0.4nm,0.5s						

*SVSA **06** 16:17:32.0±1.6, 37°.93N×25°.89W, h5km±5km, ML3.5(INMG), Error ellipse: s-maj=6.2km s-min=2.7km az=42.0, #DIST_RANGE: LOCAL #IPMA_REGION: Fossa de Hirondelle*

*INMG **06** 16:17:32.0±1.6, 37°.93N×25°.89W, h5km±5km, ML3.5, Error ellipse: s-maj=6.2km s-min=2.7km az=42.0, #DIST_RANGE: LOCAL #IPMA_REGION: Fossa de Hirondelle*

ISC 06 16:17:27.6±1.4, 37°.85N±0°.05×26°.04W±0°.04, h11km±12km, n42, σ0s97/80, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**0.31**	**108**	*eP*	**Pb**	**16 17 36.7**	**+1.5**
PDA				*eS*	**Sb**	**16 17 41.2**	**+0.8**
PDA				*i* AML	AML	16 17 41.6	
PDA				*i* AML	AML	16 17 42.1	
PDA	**Ponta Delgada**	**0.31**	**108**	*eP*

PSMN	**Pico do Norte,**	**1.14 137**	*eP*	**Pb**	**16 17 49.7**	**+0.3**
PSMN			*eS*	**Sb**	**16 18 02.5**	**-1.7**
PSMN			*i* AML	AML	16 18 03.4	
PSMN			*i* AML	AML	16 18 05.5	
PSMN			*i* AML	AML	16 18 06.1	
PSCM	**Serra do Cume**	**1.21 315**	*eP*	**Pn**	**16 17 50.9**	**+0.5**
PSCM			*eS*	**Sb**	**16 18 05.6**	**-0.5**
PSCM			*i* AML	AML	16 18 06.0	
PSCM			*i* AML	AML	16 18 06.8	
PSCM			*i* AML	AML	16 18 07.5	
PSCM	**Serra do Cume**	**1.21 315**	*eP*	**Pn**	**16 17 50.9**	**+0.5**
PSCM			*eS*	**Sb**	**16 18 05.6**	**-0.5**
PSCM			*i* AML	AML	16 18 06.0	
PSCM			*i* AML	AML	16 18 06.8	
PSCM			*i* AML	AML	16 18 07.5	
ADH	**Angra Heroismo**	**1.24 311**	*eP*	**Pn**	**16 17 52.1**	**+1.2**
ADH			*eS*	**Sb**	**16 18 07.2**	**0.0**
ADH	**Angra Heroismo**	**1.24 311**	*eP*	**Pn**	**16 17 52.1**	**+1.2**
ADH			*eS*	**Sb**	**16 18 07.2**	**0.0**
PAGU	**Agualva, Azore**	**1.29 316**	*eP*	**Pn**	**16 17 52.0**	**+0.4**
PAGU			*eS*	**Sb**	**16 18 07.5**	**-1.0**
PAGU			*i* AML	AML	16 18 08.3	
PAGU			*i* AML	AML	16 18 08.4	
PAGU			*i* AML	AML	16 18 08.5	
PAGU	**Agualva, Azore**	**1.29 316**	*eP*	**Pn**	**16 17 52.0**	**+0.4**
PAGU			*eS*	**Sb**	**16 18 07.5**	**-1.0**
PAGU			*i* AML	AML	16 18 08.3	
PAGU			*i* AML	AML	16 18 08.4	
PAGU			*i* AML	AML	16 18 08.5	
PSBA	**Serra de Santa**	**1.37 313**	*eP*	**Pn**	**16 17 53.5**	**+0.8**
PSBA			*eS*	**Sb**	**16 18 09.8**	**-1.0**
PSBA			*i* AML	AML	16 18 12.8	
PSBA			*i* AML	AML	16 18 14.1	
PSBA			*i* AML	AML	16 18 14.1	
PSBA	**Serra de Santa**	**1.37 313**	*eP*	**Pn**	**16 17 53.5**	**+0.8**
PSBA			*eS*	**Sb**	**16 18 09.8**	**-1.0**
PSBA			*i* AML	AML	16 18 12.8	
PSBA			*i* AML	AML	16 18 14.1	
PSBA			*i* AML	AML	16 18 14.1	
PID	**Ribeirinha**	**1.75 291**	*eP*	**Pn**	**16 17 59.3**	**+1.3**
PID			*eS*	**Sn**	**16 18 18.8**	**-1.4**
PID			*i* AML	AML	16 18 20.5	
PID			*i* AML	AML	16 18 21.5	
PID			*i* AML	AML	16 18 21.7	
PID	**Ribeirinha**	**1.75 291**	*eP*	**Pn**	**16 17 59.3**	**+1.3**
PID			*eS*	**Sn**	**16 18 18.8**	**-1.4**
PID			*i* AML	AML	16 18 20.5	
PID			*i* AML	AML	16 18 21.5	
PID			*i* AML	AML	16 18 21.7	
PMAN	**Manadas**	**1.80 297**	*eP*	**Pn**	**16 17 59.8**	**+1.2**
PMAN			*eS*	**Sn**	**16 18 20.3**	**-1.1**
PMAN			*i* AML	AML	16 18 22.6	
PMAN			*i* AML	AML	16 18 22.6	
PMAN			*i* AML	AML	16 18 23.4	
PMAN	**Manadas**	**1.80 297**	*eP*	**Pn**	**16 17 59.8**	**+1.2**
PMAN			*eS*	**Sn**	**16 18 20.3**	**-1.1**
PMAN			*i* AML	AML	16 18 22.6	
PMAN			*i* AML	AML	16 18 22.6	
PMAN			*i* AML	AML	16 18 23.4	
PPNO	**Prainha do Nor**	**1.86 290**	*eS*	**Sn**	**16 18 22.7**	**-0.5**
PPNO			*i* AML	AML	16 18 23.8	
PPNO			*i* AML	AML	16 18 26.0	
PPNO			*i* AML	AML	16 18 26.7	
PPNO	**Prainha do Nor**	**1.86 290**	*eS*	**Sn**	**16 18 22.7**	**-0.5**
PPNO			*i* AML	AML	16 18 23.8	
PPNO			*i* AML	AML	16 18 26.0	
PPNO			*i* AML	AML	16 18 26.7	
ROSA	**Rosais**	**1.94 297**	*eP*	**Pn**	**16 18 01.8**	**+1.2**
ROSA			*eS*	**Sn**	**16 18 24.5**	**-0.5**
ROSA			*i* AML	AML	16 18 25.7	
ROSA			*i* AML	AML	16 18 25.8	
ROSA			*i* AML	AML	16 18 27.1	
ROSA	**Rosais**	**1.94 297**	*eP*	**Pn**	**16 18 01.8**	**+1.2**
ROSA			*eS*	**Sn**	**16 18 24.5**	**-0.5**
ROSA			*i* AML	AML	16 18 25.7	
ROSA			*i* AML	AML	16 18 25.8	
ROSA			*i* AML	AML	16 18 27.1	
PICO	**Pico**	**1.99 290**	*eP*	**Pn**	**16 18 02.8**	**+1.4**
PICO			*eS*	**Sn**	**16 18 25.8**	**-0.5**
PICO			*i* AML	AML	16 18 26.9	
PICO			*i* AML	AML	16 18 27.4	
PICO			*i* AML	AML	16 18 28.1	
PICO	**Pico**	**1.99 290**	*eP*	**Pn**	**16 18 02.8**	**+1.4**
PICO			*eS*	**Sn**	**16 18 25.8**	**-0.5**
PICO			*i* AML	AML	16 18 26.9	
PICO			*i* AML	AML	16 18 27.4	
PICO			*i* AML	AML	16 18 28.1	
PCAN	**Candelaria**	**2.03 289**	*eP*	**Pn**	**16 18 03.2**	**+1.4**
PCAN			*eS*	**Sn**	**16 18 26.2**	**-0.9**
PCAN			*i* AML	AML	16 18 30.7	
PCAN			*i* AML	AML	16 18 31.0	
PCAN			*i* AML	AML	16 18 33.1	
PCAN	**Candelaria**	**2.03 289**	*eP*	**Pn**	**16 18 03.2**	**+1.4**
PCAN			*eS*	**Sn**	**16 18 26.2**	**-0.9**
PCAN			*i* AML	AML	16 18 30.7	
PCAN			*i* AML	AML	16 18 31.0	
PCAN			*i* AML	AML	16 18 33.1	
HOR	**Horta**	**2.15 289**	*eS*	**Sn**	**16 18 29.9**	**-0.3**
HOR	**Horta**	**2.15 289**	*eS*	**Sn**	**16 18 29.9**	**-0.3**
CALA	**Caldeira**	**2.22 290**	*eP*	**Pn**	**16 18 06.2**	**+1.6**
CALA			*eS*	**Sn**	**16 18 31.4**	**-0.7**
CALA			*i* AML	AML	16 18 33.0	
CALA			*i* AML	AML	16 18 33.4	
CALA			*i* AML	AML	16 18 34.1	
CALA	**Caldeira**	**2.22 290**	*eP*	**Pn**	**16 18 06.2**	**+1.6**
CALA			*eS*	**Sn**	**16 18 31.4**	**-0.7**
CALA			*i* AML	AML	16 18 33.0	
CALA			*i* AML	AML	16 18 33.4	
CALA			*i* AML	AML	16 18 34.1	

IDC 06 16:32:46.6±6.0, 4°.91S×133°.95E, h0km, mb3.8/1, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=341.6km s-min=30.6km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.94**	**179**	Pn	Pn	16 36 17.6	-1.7
	0.1nm,0.3s,baz=357,slow=13,SNR=5.1						
WRA				Sn	Sn	16 38 56.7	-9.1
	0.2nm,0.3s,baz=359,slow=24,SNR=4.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**18.64**	**180**	P	Pn	16 37 06.7	+0.3
	0.4nm,0.3s,baz=4.0,slow=11,SNR=21						
ASAR				S	Sn	16 40 30.6	-5.0
	0.4nm,0.7s,baz=358,slow=29,SNR=4.1						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**68.72**	**325**	P	P	16 43 52.3	0.0
	0.4nm,0.4s,baz=110,slow=8.1,SNR=10						
	0.4nm,0.4s						

WEL 06 16:34:23.6±2.4, 33°.S±28°.×17°.8E±2°.4, h422km±33km, M3.9/6, ML4.2/12, MLv3.9/6, Error ellipse: s-maj=42.9km s-min=22.2km az=38.4, confirmed, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCZ	**Waipu Caves**	**4.20**	**223**	P	P	16 35 37.2	-1.5
WIAZ	**Waiheke Island**	**4.49**	**209**	P	P	16 35 42.3	+0.9
MKAZ	**Moumakai**	**4.75**	**207**	P	P	16 35 45.1	+1.2
HAZ	**Te Kaha**	**4.86**	**181**	P	P	16 35 45.2	+0.3
HAZ				S	S	16 36 51.7	+0.2
PKGZ	**Pakihiroa**	**4.97**	**178**	P	P	16 35 45.9	-0.2
RUGZ	**Raukumara Rang**	**5.07**	**182**	P	P	16 35 47.8	+0.6
PUZ	**Puketiti**	**5.18**	**176**	P	P	16 35 48.8	+0.5
TOZ	**Tahuroa Road**	**5.20**	**201**	P	P	16 35 50.2	+1.8
TWGZ	**Tauwhareparae**	**5.28**	**179**	P	P	16 35 48.4	-0.8
URZ	**Urewera**	**5.39**	**186**	P	P	16 35 49.2	-1.1
MWZ	**Matawai**	**5.44**	**183**	P	P	16 35 50.4	-0.4
TKGZ	**Te Karaka**	**5.54**	**180**	P	P	16 35 52.4	+0.5
RAGZ	**Rawiri**	**5.61**	**184**	P	P	16 35 53.7	+1.0
SNGZ	**Shannon Statio**	**5.89**	**184**	P	P	16 35 56.8	+1.2
BKZ	**Black Stump Fm**	**6.36**	**190**	P	P	16 35 59.1	-1.4
TMVZ	**Te Maari**	**6.45**	**195**	P	P	16 36 01.8	+0.2
ETVZ	**East Tongariro**	**6.47**	**195**	P	P	16 36 02.2	+0.4
OTVZ	**Oturere**	**6.51**	**195**	P	P	16 36 01.8	-0.9

*IDC **06** 16:51:25.2±10.0, 24°.08S×179°.95E, h529km±73km, mb2.8/2, mbtmp3.8/3, Error ellipse: s-maj=185.2km s-min=28.8km az=144.0*

ISC 06 16:51:20.8±2.0, 24°.6S±0°.3×179°.6W±0°.4, h500km, n6, σ1°29/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.12**	**342**	P	**P**	**16 53 08.5**	**+0.1**
	5.4nm,0.4s,baz=187,slow=16,SNR=19						
ASAR	**Alice Springs**	**42.25**	**261**	P	**P**	**16 58 29.8**	**0.0**
	0.4nm,0.6s,baz=95,slow=6.5,SNR=24						
ASAR				PcP	**PcP**	**17 00 13.2**	**+0.8**
	0.2nm,0.7s,baz=94,slow=3.7,SNR=1.5						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**42.69**	**267**	P	**P**	**16 58 32.7**	**-0.6**
	1.1nm,0.3s,baz=103,slow=7.8,SNR=32						
	1.1nm,0.3s						
HFS	**Hagfors**	**143.24**	**349**	PKP	**PKPdf**	**17 09 55.0**	**-2.0**
	1.0nm,0.4s,baz=29,slow=3.3,SNR=13						
AKASG	**Malin Array Be**	**145.69**	**327**	PKPbc	**PKPdf**	**17 10 02.5**	**+1.0**
	0.3nm,0.4s,baz=39,slow=3.2,SNR=2.0						
MMAI	**Mount Meron Ar**	**148.26**	**293**	PKPbc	**PKPbc**	**17 10 11.4**	**+0.8**
	0.2nm,0.2s,baz=104,slow=3.0,SNR=4.9						

*IDC **06** 16:57:43.6±6.2, 20°.72S×178°.03W, h560km±41km, mb3.2/3, mbtmp4.2/4, Error ellipse: s-maj=131.4km s-min=32.6km az=139.0*

ISC 06 16:57:39.6±3.0, 20°.5S±1°.0×177°.8W±0°.7, h534km, n7, σ1°02/7, mb3.9/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.80**	**305**	P	P	16 59 12.3	+5.2
	10nm,0.4s,baz=187,slow=8.1,SNR=33						
STKA	**Stephens Creek**	**37.95**	**244**	P	**P**	**17 04 11.4**	**-0.4**
	2.0nm,0.8s,baz=78,slow=20,SNR=3.2						
	2.0nm,0.8s						
ASAR	**Alice Springs**	**44.70**	**257**	P	**P**	**17 05 05.8**	**+0.4**
	3.5nm,0.7s,baz=96,slow=7.6,SNR=113						
ASAR				PcP	**PcP**	**17 06 37.3**	**+0.9**
	0.3nm,0.5s,baz=86,slow=3.5,SNR=6.0						
	3.5nm,0.7s						
WRA	**Warramunga Arr**	**44.78**	**262**	P	**P**	**17 05 05.7**	**-0.4**
	1.7nm,0.4s,baz=99,slow=8.2,SNR=54						
	1.7nm,0.4s						
AKASG	**Malin Array Be**	**143.12**	**331**	PKP	**PKPdf**	**17 16 11.2**	**-1.4**
	0.7nm,0.4s,baz=44,slow=4.0,SNR=8.3						
BRTR	**Keskin Array B**	**146.99**	**312**	PKPbc	**PKPbc**	**17 16 23.8**	**+1.0**
	0.3nm,0.4s,baz=98,slow=2.9,SNR=2.5						
MMAI	**Mount Meron Ar**	**147.99**	**300**	PKPbc	**PKiKP**	**17 16 26.9**	**+0.1**
	0.4nm,0.3s,baz=60,slow=3.5,SNR=4.2						

*IDC **06** 17:11:21.2±0.7, 30°.94N×41°.43W, h0km, mb3.9/22, mbtmp3.9/22, MS4.0/74, Error ellipse: s-maj=18.7km s-min=14.3km az=167.0*

*NEIC **06** 17:11:22.7±1.4, 30°.9N±0°.1×41°.5W±0°.1, h10km±1km, mb4.8/101, Error ellipse: s-maj=20.6km s-min=18.4km az=135.0*

*GCMT **06** 17:11:25.7±0.2, 31°.02N±0°.02×41°.44W±0°.01, h12km, MW4.9/123, Moment Tensor Solution. s30,c35; s123,c164; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.64±.06; $M_{\theta\theta}$0.06±.07; $M_{\phi\phi}$2.58±.05; $M_{r\theta}$-0.07±.28; $M_{\theta\phi}$0.48±.05; $M_{\phi r}$-0.71±.20; Best double couple: M_0=2.75000×10^{16} NP1:ϕ_s192.00000°, δ37.00000°, λ-88.00000°. NP2:ϕ_s9.00000°, δ53.00000°, λ-92.00000°. Principal axes: T 2.7650, Plg8.0000°, Azm100.0000°; N -0.0300, Plg1.0000°, Azm10.0000°; P -2.7360, Plg82.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 17:11:22.6±0.4, 30°.92N±0°.08×41°.50W±0°.07, h13km, n171, σ1°03/94, mb4.7/71, MS4.0/77, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBN	**Guysborough**	**21.29**	**318**	P	**P**	**17 16 08.2**	**-0.5**
GBN				IAmb	IAmb	17 16 28.3	
	comp=Z,68nm,1.6s						
DRLN	**Deer Lake**	**21.95**	**331**	P	**P**	**17 16 14.9**	**-1.0**
DRLN				IAmb	IAmb	17 16 35.4	
	comp=Z,38nm,1.4s						
F64A	**Sherman**	**25.64**	**313**	P	**P**	**17 16 50.1**	**-1.7**
F64A				IAmb	IAmb	17 17 16.9	
	comp=Z,22nm,1.3s						
SJG	**San Juan**	**25.73**	**246**	LR	LR	17 24 51.9	
	comp=Z,259nm,22.0s,baz=56,slow=31						
IGPR	**InterUniversit**	**25.78**	**246**	P	**P**	**17 16 51.1**	**-2.2**
IGPR				IAmb	IAmb	17 17 19.9	
	comp=Z,46nm,1.4s						
EMPR	**Esperanza - Ma**	**25.83**	**247**	P	**P**	**17 16 49.1**	**-4.6**
CRPR	**Cabo Rojo, PR**	**26.54**	**247**	P	**P**	**17 16 59.0**	**-1.2**
MDP	**Montagnes des**	**27.74**	**204**	LR	LR	17 25 50.6	
	comp=Z,236nm,19.7s,baz=326,slow=31						
BBTS	**Babate**	**28.04**	**120**	LR	LR	17 25 36.0	
	comp=Z,708nm,21.1s,baz=186,slow=30						
LDAQ	**Lac Daran**	**28.34**	**315**	P	**P**	**17 17 13.6**	**-2.7**
LDAQ				IAmb	IAmb	17 17 53.8	
	comp=Z,14nm,1.2s						
BRNJ	**Basking Ridge**	**28.39**	**299**	P	**P**	**17 17 16.4**	**-0.2**
PCRV	**Puerto La Cruz**	**29.80**	**231**	LR	LR	17 27 53.1	
	comp=Z,91nm,22.0s,slow=33						
SCHQ	**Schefferville**	**29.95**	**330**	LR	LR	17 29 03.9	
	comp=Z,579nm,18.4s,baz=124,slow=36						
MDT	**Midelt**	**31.29**	**77**	LR	LR	17 27 16.0	
	comp=Z,504nm,21.3s,baz=340,slow=31						
ESDC	**Sonseca Array**	**31.67**	**64**	P	**P**	**17 17 47.0**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=271,slow=10,SNR=1.5						
ESDC				LR	LR	17 27 47.0	
	comp=Z,144nm,20.0s,baz=273,slow=31						
	comp=Z,0.4nm,0.7s						
SADO	**Sadowa**	**32.48**	**306**	LR	LR	17 29 32.9	
	comp=Z,380nm,19.7s,baz=98,slow=34						
BAUV	**El Baul**	**33.01**	**234**	P	**P**	**17 17 57.4**	**-0.3**
SDV	**Santo Domingo**	**34.89**	**237**	P	**P**	**17 18 13.3**	**-1.0**
SDV				IAmb	IAmb	17 18 18.0	
	comp=Z,19nm,1.1s						
SDV	**Santo Domingo**	**34.89**	**237**	LR	LR	17 30 29.2	
	comp=Z,183nm,20.5s,baz=48,slow=33						
TKL	**Tuckaleechee C**	**35.45**	**289**	LR	LR	17 31 25.1	
	comp=Z,470nm,18.0s,baz=72,slow=34						
BORG	**Borgarnes**	**36.11**	**15**	LR	LR	17 29 04.8	
	comp=Z,168nm,18.1s,baz=238,slow=30						
EKA	**Eskdalemuir Ar**	**36.41**	**37**	P	**P**	**17 18 25.6**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=256,slow=8.7,SNR=2.4						
	comp=Z,1.2nm,0.8s						
SFJD	**Kangerlussuaq**	**36.52**	**354**	LR	LR	17 29 57.7	
	comp=Z,154nm,19.7s,baz=171,slow=31						
RCBR	**Riachuelo**	**36.93**	**171**	LR	LR	17 30 14.7	
	comp=Z,61nm,19.8s,baz=36,slow=31						
FRB	**Frobisher Bay**	**37.02**	**340**	LR	LR	17 31 31.2	
	comp=Z,128nm,21.1s,baz=130,slow=33						
CLTN	**Cedars of Leba**	**37.48**	**290**	P	**P**	**17 18 38.3**	**+2.3**
WVT	**Waverly**	**38.69**	**290**		**P**	**17 18 46.3**	**+0.2**
WVT				IAmb	IAmb	17 19 18.6	
	comp=Z,33nm,1.8s						
RUSC	**La Rusia**	**38.70**	**236**	P	**P**	**17 18 47.7**	**+0.7**
RUSC				IAmb	IAmb	17 18 56.0	
	comp=Z,20nm,1.3s						
ROSC	**El Rosal**	**40.31**	**237**	LR	LR	17 37 40.6	
	comp=Z,168nm,18.1s,baz=66,slow=39						
SCO	**Scoresbysund**	**41.08**	**10**	P	**P**	**17 19 05.9**	**+0.3**
T42A	**Van Buren**	**41.20**	**292**	P	**P**	**17 19 08.0**	**+1.0**
LCAR	**Lake Charles**	**41.37**	**291**		**P**	**17 19 08.8**	**+0.4**
DBIC	**Dimbokro**	**41.93**	**117**	P	**P**	**17 19 12.8**	**-0.4**
	comp=Z,6.6nm,1.1s,baz=303,slow=4.8,SNR=3.5						
DBIC				LR	LR	17 34 02.4	
	comp=Z,513nm,21.1s,baz=306,slow=32						
	comp=Z,6.6nm,1.1s						
KEST	**Kesra**	**42.38**	**69**	LR	LR	17 33 56.3	
	comp=Z,162nm,20.7s,baz=267,slow=32						
WHAR	**Wooly Hollow**	**42.39**	**290**	P	**P**	**17 19 17.2**	**+0.4**
WHAR				IAmb	IAmb	17 19 19.3	
	comp=Z,21nm,1.2s						
UALR	**University of**	**42.52**	**289**	P	**P**	**17 19 17.9**	**0.0**
UALR				IAmb	IAmb	17 19 20.8	
	comp=Z,38nm,1.3s						
X40A	**Basin Creek Fa**	**42.97**	**289**	P	**P**	**17 19 21.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**43.46**	**104**	P	**P**	**17 19 24.2**	**-1.5**
TORD	**Torodi Ar. Bea**	**43.46**	**104**	P	**P**	**17 19 25.0**	**-0.7**
	comp=Z,56nm,0.3s,baz=310,slow=9.0,SNR=1.0						
TORD				LR	LR	17 35 56.6	
	comp=Z,150nm,18.6s,baz=312,slow=34						
MIAR	**Mount Ida**	**43.56**	**289**	P	**P**	**17 19 26.4**	**+0.1**
MIAR				IAmb	IAmb	17 19 29.7	
	comp=Z,22nm,1.5s						
HHAR	**Hobbs**	**43.57**	**292**	P	**P**	**17 19 25.8**	**-0.5**
HHAR				IAmb	IAmb	17 19 28.4	
	comp=Z,18nm,1.4s						
U38A	**Gravette**	**43.90**	**292**		**P**	**17 19 29.3**	**+0.3**
JMIC	**Jan Mayen**	**44.00**	**15**	LR	LR	17 34 42.4	
	comp=Z,80nm,18.0s,baz=42,slow=32						
ULM	**Lac du Bonnet**	**44.49**	**312**	P	**P**	**17 19 33.2**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=75,slow=9.1,SNR=5.3						
ULM				LR	LR	17 37 19.3	
	comp=Z,174nm,18.6s,baz=110,slow=35						
	comp=Z,1.7nm,0.6s						
CLL	**Collm**	**44.66**	**47**	*eP*	**P**	**17 19 36.0**	**+1.1**
CLL				*eS*	**S**	**17 26 10.0**	**-0.8**
CLL				*eSS*	**SS**	**17 29 30.0**	**-0.9**
CLL				AMS	AMS	17 34 00.0	
	comp=Z,300nm,19.6s						
GERES	**GERESS Array B**	**44.94**	**50**	P	**P**	**17 19 36.6**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=258,slow=6.4,SNR=6.5						
GERES				LR	LR	17 36 58.9	
	comp=Z,87nm,18.6s,baz=261,slow=34						
	comp=Z,0.8nm,0.6s						
TUL3	**Leonard**	**45.11**	**291**	P	**P**	**17 19 39.0**	**+0.3**
TUL3				IAmb	IAmb	17 19 41.2	
	comp=Z,17nm,1.1s						
JTS	**Las Juntas de**	**45.19**	**253**	LR	LR	17 41 38.0	
	comp=Z,148nm,18.1s,baz=104,slow=40						
BRG	**Berggiesshubel**	**45.22**	**47**	*eP*	P	17 19 45.9	+6.6
BRG				Amp		17 19 48.3	
	comp=Z,4.5nm,1.1s						
NOA	**NORSAR Array B**	**45.57**	**33**	P	**P**	**17 19 42.3**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=253,slow=8.6,SNR=2.7						
NOA				LR	LR	17 35 49.6	
	comp=Z,48nm,19.4s,baz=245,slow=32						
	comp=Z,0.8nm,0.9s						
VAE	**Valguarnera**	**46.13**	**66**	LR	LR	17 37 05.0	
	comp=Z,373nm,19.5s,baz=218,slow=34						
H10N2	**ASCENSION HYDR**	**46.42**	**142**	T	T	18 09 11.5	
	baz=327,slow=76,SNR=201						
H10N3	**ASCENSION HYDR**	**46.42**	**142**	T	T	18 09 12.4	
	baz=327,slow=76,SNR=164						
H10N1	**ASCENSION HYDR**	**46.44**	**142**	T	T	18 09 12.7	
	baz=327,slow=76,SNR=324						
OTAV	**Otavalo**	**46.46**	**236**	P	**P**	**17 19 50.5**	**+0.4**
OTAV				IAmb	IAmb	17 19 53.1	
	comp=Z,17nm,1.4s						
HFS	**Hagfors**	**46.52**	**35**	P	**P**	**17 19 48.4**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=311,slow=12,SNR=3.7						
HFS				LR	LR	17 35 41.9	
	comp=Z,151nm,20.1s,baz=242,slow=31						
	comp=Z,1.6nm,0.8s						
BDFB	**Brasilia**	**46.72**	**189**	P	**P**	**17 19 52.2**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=5.1,slow=16,SNR=2.2						
BDFB				LR	LR	17 37 02.6	
	comp=Z,135nm,18.9s,baz=355,slow=33						
	comp=Z,1.1nm,0.4s						
H10S3	**ASCENSION HYDR**	**47.27**	**143**	T	T	18 10 12.4	
	baz=326,slow=74,SNR=162						
WHTX	**Lake Whitney,**	**47.28**	**287**	P	**P**	**17 19 56.2**	**+0.4**
H10S2	**ASCENSION HYDR**	**47.28**	**143**	T	T	18 10 26.6	
	baz=254,slow=74,SNR=145						
MODS	**Modra-Piesok**	**47.31**	**51**	*eP*	**P**	**17 19 57.0**	**+1.2**
WMOK	**Wichita Mounta**	**47.73**	**291**	P	**P**	**17 19 59.7**	**+0.3**
WMOK				IAmb	IAmb	17 21 26.7	
	comp=Z,5.8nm,0.9s						
VYHS	**Vyhne**	**48.34**	**51**	*eP*	**P**	**17 20 05.4**	**+1.5**
FFC	**Flin Flon**	**48.53**	**318**	P	**P**	**17 20 04.8**	**-0.4**
BRDY	**Brady**	**48.73**	**286**	P	**P**	**17 20 07.3**	**+0.2**
BRDY				IAmb	IAmb	17 20 09.1	
	comp=Z,21nm,1.7s						
ABTX	**Abilene, Hawle**	**48.92**	**288**	P	**P**	**17 20 08.8**	**+0.3**
ABTX				IAmb	IAmb	17 20 11.5	
	comp=Z,19nm,1.3s						
APMT	**Aspermont**	**49.14**	**289**	P	**P**	**17 20 10.1**	**-0.2**
APMT				IAmb	IAmb	17 20 12.9	
	comp=Z,10nm,1.0s						
HNDO	**Hondo**	**49.45**	**284**	P	**P**	**17 20 13.1**	**+0.5**
HNDO				IAmb	IAmb	17 20 15.9	
	comp=Z,16nm,1.3s						
CMIG	**Matias Romero**	**50.24**	**267**	LR	LR	17 40 12.4	
	comp=Z,147nm,20.6s,baz=2.0,slow=34						
SIV	**San Ignacio**	**50.30**	**205**	LR	LR	17 39 38.8	
	comp=Z,221nm,18.4s,baz=314,slow=34						
POST	**Post**	**50.32**	**289**	P	**P**	**17 20 19.5**	**+0.3**
POST				IAmb	IAmb	17 20 22.5	
	comp=Z,9.3nm,1.0s						
OZNA	**Ozona**	**50.59**	**286**	P	**P**	**17 20 21.7**	**+0.3**
OZNA				IAmb	IAmb	17 20 24.2	
	comp=Z,12nm,1.2s						
DRIO	**Del Rio**	**50.60**	**284**	P	**P**	**17 20 21.6**	**+0.2**
DRIO				IAmb	IAmb	17 20 23.8	
	comp=Z,14nm,1.2s						
RES	**Resolute Bay**	**51.02**	**344**	LR	LR	17 40 15.5	
	comp=Z,141nm,21.1s,baz=31,slow=34						
MSTX	**Muleshoe**	**51.12**	**291**	P	**P**	**17 20 25.4**	**+0.1**
MSTX				IAmb	IAmb	17 20 28.0	
	comp=Z,10nm,0.9s						
ATAH	**Atahualpa**	**51.76**	**229**	LR	LR	17 42 08.6	
	comp=Z,140nm,21.3s,baz=11,slow=36						
MNHN	**Monahans**	**51.81**	**287**	IAmb	IAmb	17 20 32.1	
	comp=Z,15nm,1.5s						
FINES	**FINESS Array B**	**52.70**	**34**	P	**P**	**17 20 36.8**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=251,slow=5.8,SNR=10						
FINES				LR	LR	17 39 22.8	
	comp=Z,106nm,21.6s,baz=246,slow=32						
	comp=Z,1.9nm,0.6s						
TXAR	**Lajitas Array**	**53.16**	**285**	P	**P**	**17 20 41.9**	**+1.4**
	comp=Z,2.0nm,1.1s,baz=93,slow=6.6,SNR=9.3						
TXAR				LR	LR	17 42 24.5	
	comp=Z,89nm

comp=Z,266nm,18.1s,baz=57,slow=36
OBN Obninsk 58.63 41 LR LR 17 45 09.5
comp=Z,172nm,19.0s,baz=190,slow=35
MFID Camas Ranch 58.71 305 IAmb IAmb 17 21 22.7
comp=Z,10nm,1.2s
SPR3 Spring Creek 3 58.79 299 IAmb IAmb 17 21 25.0
comp=Z,12nm,1.3s
CPUP Villa Florida 58.91 197 LR LR 17 44 42.1
comp=Z,61nm,19.8s,baz=28,slow=34
ELK Elko 58.98 302 IAmb IAmb 17 21 26.0
comp=Z,14nm,1.9s
BRTR Keskin Array B 60.30 59 P **P 17 21 29.9 -1.3**
comp=Z,0.6nm,0.8s,baz=266,slow=4.3,SNR=2.9
BRTR LR LR 17 46 20.2
comp=Z,59nm,19.7s,baz=310,slow=35
comp=Z,0.6nm,0.8s
LPIG La Paz 60.56 282 LR LR 17 47 23.9
comp=Z,122nm,18.7s,baz=54,slow=36
TPNV Topopah Spring 60.85 298 IAmb IAmb 17 21 39.0
comp=Z,13nm,1.3s
WCT Wildcat Mounta 61.18 298 IAmb IAmb 17 21 41.1
comp=Z,8.0nm,1.3s
MZP Montezuma Peak 61.47 299 P **P 17 21 39.9 +0.5**
NVAR Mina Array Bea 61.93 300 P **P 17 21 43.0 +0.6**
comp=Z,1.2nm,0.7s,baz=74,slow=13,SNR=6.6
NVAR LR LR 17 47 33.3
comp=Z,721nm,19.4s,baz=54,slow=35
PFO Pinyon Flats O 62.10 294 LR LR 17 46 38.5
comp=Z,437nm,21.0s,baz=66,slow=34
LHV Little Huntoon 62.13 300 P **P 17 21 44.0 +0.5**
INK Inuvik 62.40 335 IAmb IAmb 17 21 47.3
comp=Z,14nm,1.5s
INK Inuvik 62.40 335 LR LR 17 48 03.7
comp=Z,290nm,18.7s,baz=34,slow=35
DLBC Dease Lake 63.48 324 LR LR 17 48 58.9
comp=Z,309nm,20.1s,baz=97,slow=36
YBH Yreka Blue Hor 64.06 305 LR LR 17 49 19.4
comp=Z,190nm,18.2s,baz=58,slow=36
BBB Bella Bella 64.27 317 LR LR 17 49 45.6
comp=Z,403nm,19.1s,baz=106,slow=36
KIRV Kirov 64.64 35 LR LR 17 48 07.1
comp=Z,89nm,18.7s,baz=298,slow=34
D27M Malcolm River 64.70 337 IAmb IAmb 17 22 20.2
comp=Z,21nm,2.0s
KBZ Khabaz 65.61 52 P **P 17 22 07.0 +0.7**
comp=Z,1.2nm,1.1s,baz=239,slow=5.4,SNR=2.2
KBZ LR LR 17 49 07.8
comp=Z,43nm,19.9s,baz=326,slow=35
comp=Z,1.2nm,1.1s
CO01 Juntas del Tor 66.39 207 P **P 17 22 12.4 +0.9**
CO01 IAmb IAmb 17 22 15.4
comp=Z,11nm,1.2s
G26K Porcupine Rive 66.55 335 IAmb IAmb 17 22 14.8
comp=Z,16nm,1.5s
C23K Itkillik River 67.54 339 IAmb IAmb 17 22 27.7
comp=Z,8.3nm,1.1s
E24K Your Creek 67.69 337 IAmb IAmb 17 22 27.2
comp=Z,20nm,1.9s
PRP Porcupine Dome 67.79 334 P **P 17 22 21.1 +1.0**
PRP IAmb IAmb 17 22 23.0
comp=Z,6.6nm,1.0s
GNI Garni 68.19 55 LR LR 17 52 09.1
comp=Z,42nm,20.4s,baz=286,slow=36
IL31 68.64 334 P **P 17 22 24.7 -0.4**
ILAR Eielson Array 68.64 334 P **P 17 22 24.2 -0.9**
ILAR Eielson Array 68.64 334 P **P 17 22 26.4 +1.2**
comp=Z,1.8nm,0.9s,baz=57,slow=4.4,SNR=15
ILAR LR LR 17 51 21.5
comp=Z,311nm,19.9s,baz=74,slow=35
comp=Z,1.8nm,0.9s
NEA2 Nenana 69.55 334 P **P 17 22 31.4 +0.6**
ARTI Arti 69.95 36 P **P 17 22 33.8 +0.4**
ARTI IAmb IAmb 17 22 40.8
comp=Z,13nm,1.3s
ARTI Arti 69.95 36 LR LR 17 52 35.0
comp=Z,70nm,18.2s,baz=287,slow=35
D20K Etivluk River 69.95 339 P **P 17 22 33.6 +0.3**
PPLA Purkeypile 71.61 333 P **P 17 22 44.1 +0.5**
AKTO Aktyubinsk 72.41 41 LR LR 17 53 15.4
comp=Z,205nm,19.7s,baz=126,slow=35
NRIK Noril'sk 73.39 17 P **P 17 22 56.1 +2.2**
comp=Z,0.5nm,0.3s,baz=33,slow=5.0,SNR=5.3
NRIK LR LR 17 55 20.9
comp=Z,25nm,19.0s,baz=340,slow=36
comp=Z,0.5nm,0.3s
K17K Iditarod 74.03 335 P **P 17 22 57.7 -0.1**
ABKAR Akbulak array 74.06 42 P **P 17 22 57.1 -1.1**
KDAK Kodiak Island 74.56 329 LR LR 17 56 52.2
comp=Z,384nm,18.5s,baz=268,slow=37
TSUM Tsumeb 75.52 123 LR LR 17 51 45.4
comp=Z,105nm,19.8s,baz=316,slow=32
PLCA Paso Flores 76.20 202 LR LR 17 58 51.6
comp=Z,81nm,18.4s,baz=332,slow=37
TIXI Tiksi 77.49 3 P **P 17 23 16.6 -0.8**
TIXI IAmb IAmb 17 23 25.4
comp=Z,6.7nm,1.1s
TIXI Tiksi 77.49 3 LR LR 17 52 33.2
comp=Z,43nm,21.2s,baz=12,slow=32
BRVK Borovoye 77.58 35 P **P 17 23 18.2 0.0**
BVAR Borovoye Array 77.65 35 LR LR 17 56 57.1
comp=Z,49nm,18.1s,baz=302,slow=35
ATD Arta Tunnel 79.37 83 LR LR 17 58 27.0
comp=Z,8.2nm,18.7s,baz=350,slow=36
KMBO Kilima Mbogo 80.93 97 LR LR 17 59 10.8
comp=Z,362nm,19.1s,baz=280,slow=36
LSZ Lusaka 81.14 114 LR LR 17 57 30.5
comp=Z,160nm,21.8s,baz=318,slow=34
KURK Kurchatov 83.08 34 P **P 17 23 46.6 -1.3**
KURK IAmb IAmb 17 23 55.5
comp=Z,7.8nm,1.2s
KURBB Kurchatov Arra 83.10 34 P **P 17 23 48.8 +0.8**
comp=Z,0.8nm,0.9s,baz=309,slow=5.0,SNR=6.6
comp=Z,0.8nm,0.9s
ZAA0 Zalesovo Array 83.60 29 P **P 17 23 50.9 +0.4**
ZAA0 IAmb IAmb 17 23 58.1
comp=Z,8.4nm,1.6s
ZALV Zalesovo Beam 83.60 29 P **P 17 23 49.9 -0.6**
ZALV Zalesovo Beam 83.60 29 P **P 17 23 51.4 +1.0**
comp=Z,0.2nm,0.3s,baz=292,slow=7.8,SNR=6.1
ZALV LR LR 18 00 36.2
comp=Z,67nm,18.5s,baz=342,slow=35
comp=Z,0.2nm,0.3s
SIMJ Simiganj 85.28 47 P **P 17 23 58.6 -0.9**
SIMJ IAmb IAmb 17 24 13.6
comp=Z,13nm,1.8s
AAK Ala-Archa 86.15 42 LR LR 18 01 50.4
comp=Z,78nm,20.2s,baz=310,slow=35
SUR Sutherland 86.25 131 LR LR 17 54 50.3
comp=Z,104nm,21.3s,baz=318,slow=30
BOSA Boshof 86.87 126 LR LR 17 56 22.3
comp=Z,105nm,20.2s,baz=328,slow=31
YAK Yakutsk 87.10 4 P **P 17 24 07.2 -0.7**
YAK IAmb IAmb 17 24 15.1
comp=Z,11nm,1.2s
YAK Yakutsk 87.10 4 LR LR 17 58 52.0
comp=Z,52nm,19.6s,baz=354,slow=33
MG04 Isla Riesco 87.45 198 P **P 17 24 09.4 +0.1**
MKAR Makanchi Array 87.53 35 P **P 17 24 10.2 -0.1**
comp=Z,0.2nm,0.8s,baz=358,slow=4.3,SNR=2.3
MKAR LR LR 18 02 21.4
comp=Z,140nm,19.8s,baz=262,slow=35
comp=Z,0.2nm,0.8s
MA2 Magadan 89.27 354 LR LR 18 01 13.3
comp=Z,30nm,20.6s,baz=45,slow=34
SHEM Shemya Is, Ala 91.09 339 LR LR 18 07 06.5
comp=Z,65nm,18.6s,baz=22,slow=37
WMQ Urumqi 92.31 34 *eP* **P 17 24 33.2 +0.4**
WMQ LR LR
comp=Z,100nm,21.3s
PETK Petropavlovsk- 94.67 349 LR LR 18 06 50.6
comp=Z,43nm,18.9s,baz=13,slow=35
TAOE Nuku Hiva Isla 101.88 267 *e*LR LR 17 58 33.5
comp=Z,208nm,25.1s
PPT2 Papeete2 114.07 263 *e*LR LR 18 04 11.8
comp=Z,127nm,25.8s
PPT2 *e*LR LR 18 04 17.4
comp=Z,90nm,24.8s
TBI Tubuai 116.43 258 *e*LR LR 18 05 18.8
comp=Z,384nm,27.0s
DZM Mont Dzumac 153.54 283 *e*LR LR 18 22 35.8
comp=Z,107nm,22.2s

*UPA **06** 17:20:04.2±0.4, 8°.13N×84°.03W, h0km±220km, MD4.1, MW4.5*
*UCR **06** 17:20:05.7±1.5, 8°.97N×84°.17W, h3km±30km, MW4.0*
ISC 06 17:20:04.3±1.1, 8°.92N±0°.05×84°.17W±0°.04, h10km, n51,
σ0°.71/54, 7C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUEP	**Quepos**	**0.51**	**0**	*e*P	**Pb**	**17 20 15.6**	**+0.2**
LLNJ	**Naranjito**	**0.56**	**7**	*e*P	**Pb**	**17 20 16.4**	**+0.3**
PICV	**PH. Pirrs**	**0.70**	**358**	*e*P	**Pb**	**17 20 18.6**	**-0.1**
PISJ	**San Jernim**	**0.71**	**3**	*e*P	**Pb**	**17 20 18.9**	**+0.1**
PIEC	**Cerro El Cedra**	**0.73**	**16**	*e*P	**Pb**	**17 20 19.3**	**0.0**
RAZU	**San Marcos de**	**0.75**	**11**	*e*P	**Pb**	**17 20 20.2**	**+0.7**
SAJE	**San Jernim**	**0.78**	**57**	*e*P	**Pb**	**17 20 20.4**	**+0.4**
ABE2	**San Pablo**	**0.79**	**8**	*e*P	**Pb**	**17 20 20.6**	**+0.3**
FIMO	**Fila Mora**	**0.81**	**85**[]	*e*P	**Pn**	**17 20 21.8**	**-0.1**
LCR2	**La Lucha 2**	**0.83**	**11**	*e*P	**Pb**	**17 20 20.9**	**-0.1**
REPA	**Paraso**	**0.95**	**18**	*e*P	**Pb**	**17 20 23.3**	**+0.3**
PIRO	**Carate, Puerto**	**0.97**	**122**	*e*P	**Pn**	**17 20 24.6**	**+0.7**
DRK0	**Durika**	**0.97**	**69**[]	*e*P	**Pn**	**17 20 24.0**	**-0.2**
AMPA	**Desamparados**	**0.98**	**6**	*e*P	**Pn**	**17 20 24.7**	**+0.5**
EDP2	**Potrero Grande**	**0.98**	**84**	*e*P	**Pn**	**17 20 24.8**	**+0.7**
TRIO	**Tres Rios**	**0.99**	**10**	*e*P	**Pb**	**17 20 23.7**	**0.0**
LUJA	**Lujan**	**1.00**	**5**	*e*P	**Pn**	**17 20 25.0**	**+0.4**
EDAD	**Golfito**	**1.02**	**105**	*e*P	**Pg**	**17 20 24.5**	**+0.5**
TRB2	**Turrubares**	**1.03**	**344**	*e*P	**Pg**	**17 20 23.7**	**-0.3**
BELE	**Belen**	**1.05**	**359**	*e*P	**Pg**	**17 20 24.4**	**-0.1**
CORON	**Coronado**	**1.06**	**9**	*e*P	**Pn**	**17 20 25.2**	**-0.1**
HEME	**Heredia, Merce**	**1.07**	**2**	*e*P	**Pb**	**17 20 25.2**	**+0.2**
HDC	**Heredia**	**1.08**	**3**[]	*e*P	**Pb**	**17 20 25.4**	**+0.3**
VICA	**Volcano Irazu**	**1.10**	**17**[]	*e*P	**Pb**	**17 20 25.9**	**+0.2**
VERB	**Verbena**	**1.12**	**24**	*e*P	**Pn**	**17 20 26.2**	**0.0**
TCS1	**Tacares**	**1.12**	**353**	*e*P	**Pg**	**17 20 25.9**	**0.0**
CBL1	**Cabuya**	**1.13**	**306**	*e*P	**Pb**	**17 20 26.7**	**+0.8**
CVTQ	**Turrialba Volc**	**1.15**	**20**	*e*P	**Pn**	**17 20 26.7**	**-0.1**
CVTV	**Tajo**	**1.15**	**21**	*e*P	**Pn**	**17 20 26.8**	**0.0**
VTR0	**Volcan Turrial**	**1.16**	**20**[]	*e*P	**Pn**	**17 20 27.1**	**+0.1**
CVTR	**Volcan Turrial**	**1.17**	**20**	*e*P	**Pn**	**17 20 27.0**	**-0.1**
RVSTA	**Santa Teresita**	**1.17**	**26**	*e*P	**Pn**	**17 20 27.2**	**+0.4**
VBV1	**V. Barva**	**1.19**	**3**	*e*P	**Pb**	**17 20 27.2**	**0.0**
VPS8	**V Poas**	**1.25**	**357**	*e*P	**Pb**	**17 20 28.4**	**+0.1**
CVTG	**V. Turrialba,**	**1.28**	**18**[]	*e*P	**Pg**	**17 20 29.1**	**+0.2**
RVLA	**Villa Bonita**	**1.31**	**26**	*e*P	**Pg**	**17 20 29.6**	**+0.1**
VPL2	**V. Platanar**	**1.40**	**351**	*e*P	**Pn**	**17 20 30.0**	**0.0**
CEUA	**Cerro Uatsi, L**	**1.40**	**60**[]	*e*P	**Pg**	**17 20 32.2**	**+1.0**
BRU2	**Volcan**	**1.46**	**95**	*e*P	**Pb**	**17 20 31.9**	**+0.2**
BRU2	**Volcan**	**1.46**	**95**	*e*P	**Pb**	**17 20 32.0**	**+0.3**
BRU2				*e*S	**Sg**	**17 20 52.7**	**+1.3**
SOCE	**Pocosol**	**1.52**	**343**	*e*P	**Pb**	**17 20 33.0**	**+0.3**
BC3P	**Paso Ancho**	**1.54**	**94**	*e*P	**Pb**	**17 20 33.0**	**0.0**
JTS	**Las Juntas de**	**1.57**	**330**	*e*P	**Pn**	**17 20 31.4**	**-0.9**
LNBQ3	**Los Naranjos,**	**1.71**	**94**	*e*P	**Pn**	**17 20 34.6**	**+0.4**
DVD	**David**	**1.76**	**106**	*e*P	**Pn**	**17 20 32.6**	**-2.3**
DVD				*e*S	**Sn**	**17 20 54.5**	**-2.9**
INVE	**Universidad In**	**1.78**	**330**	*e*P	**Pn**	**17 20 36.2**	**+1.1**
PLVR	**Palo Verde**	**1.84**	**321**	*e*P	**Pb**	**17 20 39.5**	**+1.4**
QUEB	**Quebradon, Cot**	**1.84**	**337**	*e*P	**Pb**	**17 20 37.8**	**-0.3**
CUI	**Cuipilapa**	**1.99**	**330**	*e*P	**Pn**	**17 20 38.4**	**+0.3**
CHGR2	**Aguacate**	**2.00**	**89**	*e*P	**Pn**	**17 20 39.1**	**+0.9**
CHGR2				*e*S	**Sb**	**17 21 05.6**	**-0.1**
COLC	**Colonia**	**2.01**	**330**	*e*P	**Pb**	**17 20 40.3**	**-0.8**

*IDC **06** 17:27:38.8±1.0, 30°.69N×41°.51W, h0km, mb3.8/10, mbtmp3.8/10, MS3.6/20, Error ellipse: s-maj=29.5km s-min=22.3km az=173.0*
*NEIC **06** 17:27:40.3±1.6, 31°.04N±0°.04×41°.1W±0°.2, h10km±1km, mb4.6/21, Error ellipse: s-maj=26.6km s-min=6.8km az=95.0*
ISC 06 17:27:41.0±0.7, 30°.9N±0°.1×41°.4W±0°.1, h13km, n61,
σ1°.35/38, mb4.5/20, MS3.6/20, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**25.82**	**246**	LR	LR	17 41 00.1	
	comp=Z,62nm,21.0s,baz=86,slow=31						
MDP	**Montagnes des**	**27.73**	**205**	LR	LR	17 42 00.6	
	comp=Z,97nm,21.3s,baz=112,slow=31						
BBTS	**Babate**	**27.90**	**120**	LR	LR	17 42 04.7	
	comp=Z,117nm,19.0s,baz=196,slow=31						
SCHQ	**Schefferville**	**30.07**	**330**	LR	LR	17 44 21.2	
	comp=Z,147nm,20.7s,baz=204,slow=33						
MDT	**Midelt**	**31.19**	**77**	LR	LR	17 44 15.3	
	comp=Z,73nm,21.6s,baz=157,slow=32						
ESDC	**Sonseca Array**	**31.59**	**63**	LR	LR	17 42 36.1	
	comp=Z,55nm,21.9s,baz=273,slow=28						
SADO	**Sadowa**	**32.61**	**306**	LR	LR	17 45 33.0	
	comp=Z,95nm,20.1s,baz=102,slow=33						
SDV	**Santo Domingo**	**34.96**	**237**	LR	LR	17 47 48.5	
	comp=Z,59nm,19.7s,baz=10,slow=35						
TKL	**Tuckaleechee C**	**35.59**	**289**	LR	LR	17 46 28.9	
	comp=Z,118nm,20.4s,baz=112,slow=32						
DBIC	**Dimbokro**	**41.80**	**118**	LR	LR	17 49 23.7	
	comp=Z,110nm,21.9s,baz=298,slow=31						
TORD	**Torodi Ar. Bea**	**43.33**	**104**	P	**P**	**17 35 43.9**	**+0.9**
	79nm,0.5s,baz=312,slow=8.5,SNR=1.1						
JTS	**Las Juntas de**	**45.29**	**253**	LR	LR	17 57 38.5	
	comp=Z,23nm,18.1s,baz=108,slow=40						
VAE	**Valguarnera**	**46.05**	**66**	LR	LR	17 53 35.0	
	comp=Z,77nm,20.7s,baz=134,slow=34						
H10N2	**ASCENSION HYDR**	**46.29**	**142**	T	T	18 25 33.1	
	baz=327,slow=75,SNR=40						
H10N3	**ASCENSION HYDR**	**46.30**	**142**	T	T	18 25 29.9	
	baz=327,slow=75,SNR=40						
H10N1	**ASCENSION HYDR**	**46.31**	**142**	T	T	18 25 31.8	
	baz=327,slow=75,SNR=54						
KAN13	**South Haven SW**	**46.40**	**293**	P	**P**	**17 36 07.4**	**+0.1**
CEL	**Celeste**	**47.09**	**65**	P	**P**	**17 36 09.0**	**-3.7**
H10S3	**ASCENSION HYDR**	**47.15**	**143**	T	T	18 26 33.9	
	baz=326,slow=74,SNR=25						
H10S2	**ASCENSION HYDR**	**47.16**	**143**	T	T	18 26 34.9	
	baz=254,slow=74,SNR=30						
VILB	**Vilhena**	**47.17**	**205**	P	**P**	**17 36 15.1**	**+1.6**
VILB				IAmb	IAmb	17 36 19.8	
	comp=Z,7.9nm,0.8s						
FW03	**Perrin-Whitt E**	**47.66**	**288**	P	**P**	**17 36 18.4**	**+1.1**
WMOK	**Wichita Mounta**	**47.87**	**291**	P	**P**	**17 36 20.4**	**+1.6**
WMOK				IAmb	IAmb	17 36 56.9	
	comp=Z,4.7nm,0.9s						
CMIG	**Matias Romero**	**50.36**	**267**	LR	LR	17 55 04.6	
	comp=Z,44nm,22.0s,baz=3.0,slow=33						
MSTX	**Muleshoe**	**51.26**	**291**	P	**P**	**17 36 44.7**	**-0.1**
MSTX				IAmb	IAmb	17 36 46.0	
	comp=Z,7.6nm,1.2s						
EUNU	**Eureka**	**52.54**	**351**	P	**P**	**17 36 54.3**	**+0.6**
FINES	**FINESS Array B**	**52.69**	**34**	P	**P**	**17 36 55.6**	**+0.7**
	comp=Z,2.2nm,1.0s,baz=260,slow=8.0,SNR=2.3						
	comp=Z,2.2nm,1.0s						
TXAR	**Lajitas Array**	**53.29**	**285**	P	**P**	**17 37 00.3**	**+0.3**
	comp=Z,0.6nm,1.0s,baz=82,slow=4.3,SNR=2.6						
	comp=Z,0.6nm,1.0s						
ARCES	**ARCESS Array B**	**53.37**	**24**	P	**P**	**17 37 00.5**	**+0.7**
	comp=Z,4.8nm,0.9s,baz=339,slow=9.2,SNR=2.5						
	comp=Z,4.8nm,0.9s						
LPAZ	**La Paz**	**53.48**	**213**	P	**P**	**17 36 59.3**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=333,slow=4.4,SNR=4.5						
	comp=Z,0.5nm,0.3s						
ANMO	**Albuquerque**	**53.95**	**293**	LR	LR	17 57 40.3	
	comp=Z,58nm,21.7s,baz=274,slow=33						
BNM	**Barren Site**	**54.30**	**292**	P	**P**	**17 37 07.9**	**+0.5**
CRNM	**Carthage**	**54.44**	**292**	P	**P**	**17 37 09.2**	**+0.8**
BW06	**Boulder Array**	**54.52**	**303**	P	**P**	**17 37 08.3**	**-0.6**
PD31	**Pinedale Array**	**54.52**	**303**	P	**P**	**17 37 08.6**	**-0.3**
PDAR	**Pinedale Array**	**54.52**	**303**	P	**P**	**17 37 08.3**	**-0.6**
PDAR	**Pinedale Array**	**54.52**	**303**	P	**P**	**17 37 09.2**	**+0.2**
	comp=Z,2.4nm,1.0s,baz=78,slow=6.7,SNR=11						
PDAR				LR	LR	17 59 52.5	
	comp=Z,104nm,18.2s,baz=46,slow=36						
	comp=Z,2.4nm,1.0s						
LENM	**Lemitar**	**54.57**	**292**	P	**P**	**17 37 09.5**	**+0.2**
YMP	**Mirror Lake Pl**	**54.57**	**305**	P	**P**	**17 37 09.5**	**+0.1**
AKASG	**Malin Array Be**	**54.85**	**47**	P	**P**	**17 37 12.4**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=256,slow=10.0,SNR=1.1						
AKASG				LR	LR	17 58 60.0	
	comp=Z,40nm,18.3s,baz=254,slow=34						
	comp=Z,0.2nm,0.4s						
PV17	**East Wray Mesa**	**55.06**	**297**	P	**P**	**17 37 11.8**	**-1.0**
YKA	**Yellowknife Ar**	**55.45**	**327**	P	**P**	**17 37 15.2**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=92,slow=7.9,SNR=5.7						
	comp=Z,0.4nm,0.9s						
GO01	**Chusmiza**	**56.91**	**212**	P	**P**	**17 37 27.2**	**+0.7**
GO01				IAmb	IAmb	17 37 28.3	
	comp=Z,8.7nm,1.1s						
PB11	**IPOC Station P**	**57.21**	**212**	P	**P**	**17 37 29.5**	**+1.3**
MSU	**Marysvale**	**57.44**	**298**	P	**P**	**17 37 31.6**	**+1.7**
DUG	**Dugway, Tooele**	**57.48**	**301**	P	**P**	**17 37 30.1**	**0.0**
NEW	**Newport**	**58.60**	**311**	LR	LR	18 04 30.5	
	comp=Z,104nm,18.1s,baz=238,slow=38						
SPR3	**Spring Creek 3**	**58.93**	**300**	P	**P**	**17 37 40.8**	**+0.3**
SPR3				IAmb	IAmb	17 37 49.5	
	comp=Z,7.0nm,1.5s						
TPNV	**Topopah Spring**	**60.98**	**298**	P	**P**	**17 37 54.9**	**+0.5**
TPNV				IAmb	IAmb	17 37 57.5	
	comp=Z,9.1nm,1.4s						
WCT	**Wildcat Mounta**	**61.32**	**298**	P	**P**	**17 37 55.8**	**-0.8**
WCT				IAmb	IAmb	17 38 08.5	
	comp=Z,4.9nm,1.3s						
NVAR	**Mina Array Bea**	**62.06**	**300**	P	**P**	**17 38 00.9**	**-0.8**
NVAR	**Mina Array Bea**	**62.06**	**300**	P	**P**	**17 38 01.2**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=61,slow=5.1,SNR=3.2						
	comp=Z,0.5nm,0.7s						
PFO	**Pinyon Flats O**	**62.24**	**294**	LR	LR	18 02 01.1	
	comp=Z,110nm,20.8s,baz=277,slow=33						
ILAR	**Eielson Array**	**68.75**	**334**	P	**P**	**17 38 42.0**	**-2.3**
ILAR	**Eielson Array**	**68.75**	**334**	P	**P**	**17 38 43.9**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=60,slow=4.9,SNR=7.2						
	comp=Z,1.0nm,1.0s						
CCB	**Clear Creek Bu**	**69.16**	**334**	P	**P**	**17 38 46.0**	**-0.8**
CCB				IAmb	IAmb	17 38 55.6	
	comp=Z,7.4nm,1.4s						
NEA2	**Nenana**	**69.66**	**334**	P	**P**	**17 38 47.5**	**-2.5**
NEA2				IAmb	IAmb	17 38 51.8	
	comp=Z,5.3nm,1.3s						
M19K	**Big River Lodg**	**73.13**	**333**	P	**P**	**17 39 08.6**	**-2.3**
M19K				IAmb	IAmb	17 39 22.8	
	comp=Z,12nm,1.4s						
TSUM	**Tsumeb**	**75.38**	**123**	LR	LR	18 10 32.9	
	comp=Z,39nm,19.3s,baz=294,slow=34						
KURBB	**Kurchatov Arra**	**83.08**	**34**	P	**P**	**17 40 08.3**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=322,slow=5.9,SNR=3.4						
	comp=Z,0.5nm,0.8s						
BOSA	**Boshof**	**86.74**	**126**	LR	LR	18 13 45.4	
	comp=Z,44nm,19.2s,baz=216,slow=32						

*GCG **06** 17:30:13.5±0.7, 13°.94N×91°.20W, h77km±95km, MD3.9*
*SNET **06** 17:30:14.6±1.1, 13°.67N×91°.08W, h12km±11km, ML3.3*
ISC 06 17:30:14.9±2.3, 13°.7N±0°.1×91°.00W±0°.08, h8km±12km, n15,
σ0°.77/24, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.72**	**13**	*e*P	**Pg**	**17 30 27.8**	**-1.1**
ESSG				*e*S	**Sg**	**17 30 38.8**	**+0.5**
STG0	**El Palmar, Qui**	**0.82**	**336**	*e*P	**Pb**	**17 30 31.6**	**0.0**
STG8	**El Palmar, Qui**	**0.84**	**336**	*e*P	**Pg**	**17 30 31.4**	**+0.1**
NUBE	**Las Nubes**	**1.20**	**79**	*e*P	**Pg**	**17 30 37.8**	**-0.3**
NUBE				*e*S	**Sn**	**17 30 54.8**	**0.0**
NUBE				IAML		17 30 56.9	
	comp=Z,127nm,0.3s						
LOAL	**Lomas de Alarc**	**1.22**	**75**	*e*P	**Pg**	**17 30 38.2**	**-0.2**
LOAL				*e*S	**Sn**	**17 30 55.6**	**+0.5**
SLOZ	**Alcaldia de Sa**	**1.23**	**73**	*e*P	**Pg**	**17 30 38.1**	**-0.4**
SLOZ				*e*S	**Sn**	**17 30 55.9**	**+0.6**
CEVE	**Cerro Verde**	**1.34**	**83**	*e*P	**Pb**	**17 30 40.1**	**-0.4**
CEVE				*e*S	**Sg**	**17 31 00.4**	**+2.2**
CEVE				IAML		17 31 01.6	
	comp=Z,771nm,0.2s						
SBLS	**San Blas**	**1.34**	**83**	*e*P	**Pn**	**17 30 39.8**	**-0.4**
SBLS				*e*S	**Sg**	**17 30 59.8**	**+1.6**
SNJE	**San Jose**	**1.36**	**82**	*e*P	**Pb**	**17 30 40.2**	**-0.7**
JAYA	**Jayaque - finc**	**1.50**	**91**	*e*P	**Pn**	**17 30 41.9**	**-0.4**
JAYA				*e*S	**Sg**	**17 31 02.9**	**-0.4**
JAYA				IAML		17 31 06.7	
	comp=Z,653nm,0.2s						
JAYA	**Jayaque - finc**	**1.50**	**91**	*e*P	**Pn**	**17 30 42.0**	**-0.4**
JAYA				*e*S	**Sg**	**17 31 03.4**	**+0.1**
PMON	**Piamonte**	**1.63**	**89**	*e*P	**Pn**	**17 30 43.9**	**-0.2**
PMON				*e*S	**Sg**	**17 31 07.9**	**+0.4**
MTO3	**Montecristo**	**1.74**	**65**	*e*P	**Pn**	**17 30 45.4**	**-0.4**
LFRS	**El Faro**	**1.88**	**91**	*e*P	**Pn**	**17 30 47.5**	**0.0**
PQSS	**Presa 15 de Se**	**2.37**	**91**	*e*P	**Pn**	**17 30 54.6**	**+0.5**

*IDC **06** 17:45:33.4±5.2, 7°.52S×127°.55E, h110km±48km, mb3.5/6, mbtmp4.1/9, MS3.8/2, Error ellipse: s-maj=75.8km s-min=18.9km az=62.0*
*NEIC **06** 17:45:37.4±2.0, 7°.55S±0°.09×127°.60E±0°.05, h145km±8km, mb4.3/14, Error ellipse: s-maj=12.4km s-min=6.8km az=171.0*
ISC 06 17:45:37.0±0.6, 7°.61S±0°.07×127°.58E±0°.06, h150km, n37,
σ1°.61/38, mb4.0/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.70**	**96**	Pn	**Pn**	**17 46 33.3**	**-0.1**
SAUI				Sn	**Sn**	**17 47 14.9**	**-2.2**
SOEI	**Soe**	**3.91**	**237**		**Pn**	**17 46 37.5**	**+1.2**
SOEI				Sn	**Sn**	**17 47 20.4**	**-1.8**
MMRI	**Maumere**	**5.39**	**259**	Pn	**Pn**	**17 46 55.5**	**-0.1**
MTN	**Manton Dam**	**6.26**	**146**		**Pn**	**17 47 07.1**	**-0.1**
FAKI	**Fak Fak**	**6.58**	**45**		**Pn**	**17 47 12.4**	**+1.0**
FAKI				Sn	**Sn**	**17 48 24.2**	**-1.3**
KNRA	**Kununurra**	**8.10**	**172**		**Pn**	**17 47 30.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**10.60**	**190**	Pn	**Pn**	**17 48 01.7**	**-3.2**
FITZ	**Fitzroy Crossi**	**10.60**	**190**	P	**Pn**	**17 48 02.2**	**-2.7**
	6.9nm,0.4s,baz=16,slow=12,SNR=57						
FITZ				S	Sn	17 49 53.4	-8.8
	8.3nm,0.6s,baz=342,slow=20,SNR=3.7						
WB0	**Warramunga Arr**	**13.77**	**152**		**Pn**	**17 48 43.2**	**-2.9**
WRA	**Warramunga Arr**	**13.90**	**153**	Pn	**Pn**	**17 48 44.8**	**-2.9**
WRA	**Warramunga Arr**	**13.90**	**153**	P	**Pn**	**17 48 45.3**	**-2.4**
	1.6nm,0.3s,baz=325,slow=13,SNR=49						
WRA				S	Sn	17 51 11.6	-10
	4.7nm,0.8s,baz=320,slow=25,SNR=9.4						
WB2	**Warramunga Arr**	**13.90**	**153**		**Pn**	**17 48 44.9**

comp=Z,0.8nm,0.5s,baz=300,slow=1.1,SNR=8.5
comp=Z,0.8nm,0.5s

*NEIC **06** 17:59:39.8±2.2,38°.37N±0°.01×115°.82W±0°.02,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.3km az=131.0*

REN 06 17:59:41.6±2.3,38°.37N±0°.02×115°.82W±0°.02,h6km±5km, ML3.2/23,ML2.8/122(NEIC),Error ellipse: s-maj=2.4km s-min=1.9km az=155.0,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R11B	**Troy Canyon, C**	**0.19**	**98**	Pg	Pg	17 59 45.3	-0.1
R11B				Sg	Sg	17 59 47.9	0.0
S11A	**Rachel**	**0.73**	**175**		Pg	17 59 55.0	-0.6
S11A					Sg	18 00 04.6	-0.5
S11A				IAML		18 00 06.1	
	comp=E,848nm,0.4s						
Q12A	**Willow Creek R**	**1.02**	**49**		Pg	18 00 01.1	-0.1
Q12A					Sb	18 00 15.0	-0.5
PRN	**Pahroc Range**	**1.14**	**148**		Pg	18 00 02.8	-0.6
PRN					Sg	18 00 17.4	-0.8
PRN				IAML		18 00 25.3	
	comp=E,388nm,0.5s						
Q09A	**Carvers**	**1.16**	**294**		Pg	18 00 03.3	-0.6
Q09A					Sg	18 00 18.7	-0.2
SPR3	**Spring Creek 3**	**1.32**	**61**		Pn	18 00 05.5	-1.3
SPR3				Sg	Sg	18 00 21.7	-2.4
SPR3				IAML		18 00 24.0	
	comp=N,140nm,0.7s						
SPR3				IAML		18 00 24.4	
	comp=E,153nm,0.6s						
MZP	**Montezuma Peak**	**1.41**	**242**		Pn	18 00 06.6	-1.3
MZP				Sg	Sb	18 00 25.6	-1.1
MZP				IAML		18 00 27.8	
	comp=E,96nm,0.4s						
CPY	**CP-1**	**1.45**	**187**		Pb	18 00 09.0	-0.1
TPNV	**Topopah Spring**	**1.46**	**194**		Pn	18 00 07.6	-1.0
TPNV					Sb	18 00 27.2	-1.0
PSUT	**Pine Spring**	**1.55**	**83**		Pn	18 00 09.2	-0.7
PSUT	**Pine Spring**	**1.55**	**83**		Sn	18 00 29.8	-0.7
PSUT				IAML		18 00 31.4	
	comp=N,111nm,0.3s						
PSUT				IAML		18 00 32.3	
	comp=E,110nm,0.6s						
NSP	**Numbskull Pass**	**1.67**	**191**		Pn	18 00 10.6	-0.9
SGV	**South Grapevin**	**1.69**	**215**		Pn	18 00 11.0	-0.8
WCT	**Wildcat Mounta**	**1.70**	**202**		Pn	18 00 11.2	-0.6
WCT				IAML		18 00 38.0	
	comp=N,94nm,0.5s						
WCT				IAML		18 00 38.1	
	comp=E,81nm,0.2s						
MCY	**Mercury**	**1.71**	**184**		Pn	18 00 11.1	-1.0
SDH	**Striped Hills**	**1.77**	**194**		Pn	18 00 11.9	-0.9
NV11	**Mina Array Sit**	**1.83**	**273**		Pn	18 00 12.8	-1.0
NV11	**Mina Array Sit**	**1.83**	**273**	IAML		18 00 40.8	
	comp=N,107nm,0.6s						
NV11				IAML		18 00 42.4	
	comp=E,81nm,0.3s						
GRAC	**Grapevine Rang**	**1.84**	**222**		Pn	18 00 13.2	-0.5
GRAC				IAML		18 00 41.7	
	comp=E,178nm,0.6s						
GRAC				IAML		18 00 41.7	
	comp=N,165nm,0.5s						
ICU	**Indian Springs**	**1.94**	**129**		Pn	18 00 14.9	-0.3
SHPR	**Sheep Range**	**1.94**	**164**		Pn	18 00 14.3	-0.8
AMDNV	**Amargosa**	**1.95**	**191**		Pn	18 00 14.7	-0.5
NV08	**Mina Array Sit**	**1.96**	**272**		Pn	18 00 14.4	-1.1
ARUT	**Antelope Range**	**1.97**	**107**		Pn	18 00 15.4	-0.1
DSP	**Deep Springs**	**1.97**	**240**		Pn	18 00 14.8	-0.6
DSP				IAML		18 00 45.7	
	comp=E,117nm,0.7s						
DSP				IAML		18 00 46.4	
	comp=N,64nm,0.4s						
LHV	**Little Huntoon**	**2.12**	**268**		Pn	18 00 16.7	-0.7
RYN	**Ryan**	**2.14**	**278**		Pn	18 00 16.8	-1.1
RYN				IAML		18 00 50.9	
	comp=N,135nm,0.6s						
GWY	**Greenwater Val**	**2.29**	**197**		Pn	18 00 19.1	-0.9
GWY				IAML		18 00 58.7	
	comp=E,89nm,0.5s						
GWY				IAML		18 01 03.0	
	comp=N,63nm,0.5s						
ELK	**Elko**	**2.41**	**11**		Pn	18 00 20.9	-0.9
LCMT	**Little Creek M**	**2.46**	**123**		Pn	18 00 21.7	-0.6
LCMT				IAML		18 01 00.5	
	comp=N,32nm,0.4s						
LCMT				IAML		18 01 01.2	
	comp=E,39nm,0.3s						
TCRU	**Three Creeks R**	**2.66**	**84**	Pn	Pn	18 00 24.0	-1.2
TCRU				IAML		18 01 13.6	
	comp=N,29nm,0.9s						
TCRU				IAML		18 01 18.3	
	comp=E,30nm,0.8s						
KNB	**Kanab**	**2.74**	**119**		Pn	18 00 25.2	-1.0
V12A	**Nelson**	**2.75**	**163**		Pn	18 00 25.9	-0.4
MVU	**Marysvale**	**2.84**	**86**		Pn	18 00 27.6	0.0
WAKR	**Walker**	**2.84**	**274**		Pn	18 00 26.7	-0.9
WAKR				IAML		18 01 13.5	
	comp=E,22nm,0.9s						
WAKR				IAML		18 01 13.5	
	comp=N,32nm,1.4s						
MSU	**Marysvale**	**2.86**	**86**		Pn	18 00 27.1	-0.9
MTPU	**Mount Pierson**	**2.88**	**95**		Pn	18 00 27.1	-1.3
MTPU				IAML		18 01 19.4	
	comp=E,25nm,1.2s						
MTPU				IAML		18 01 24.1	
	comp=N,28nm,1.6s						
PKCU	**Pink Cliffs**	**2.93**	**107**		Pn	18 00 27.2	-1.7
PKCU				IAML		18 01 18.8	
	comp=N,42nm,0.8s						
PKCU				IAML		18 01 29.4	
	comp=E,60nm,0.4s						
DUG	**Dugway, Tooele**	**2.96**	**51**		Pn	18 00 28.2	-1.0
PNTR	**Pine Nut**	**3.04**	**285**		Pn	18 00 28.5	-1.9
PNTR				IAML		18 01 24.1	
	comp=E,39nm,0.7s						
PNTR				IAML		18 01 27.4	
	comp=N,27nm,0.8s						
PAHR	**Pah Rah Range**	**3.08**	**297**		Pn	18 00 28.1	-2.7
BGU	**Big Grassy Mou**	**3.34**	**39**		Pn	18 00 33.0	-1.4
U15A	**North Rim**	**3.42**	**124**		Pn	18 00 33.4	-2.2
U15A				IAML		18 01 31.6	
	comp=N,24nm,0.7s						
U15A				IAML		18 01 32.6	
	comp=E,24nm,0.9s						
CMB	**Columbia Colle**	**3.61**	**266**		Pn	18 00 37.2	-0.9
W13A	**Hualapai Mount**	**3.62**	**154**		Pn	18 00 37.0	-1.3
W13A				IAML		18 01 38.3	
	comp=E,11nm,1.2s						
MPU	**Maple Canyon**	**3.64**	**62**	Pn	Pn	18 00 37.6	-1.1
Q16A	**Castle Valley**	**3.68**	**80**	Pn	Pn	18 00 36.3	-2.8
BEKR	**Beckworth**	**3.83**	**294**		Pn	18 00 40.7	-0.6
BEKR				IAML		18 01 18.5	
	comp=N,10nm,4.9s						
HMU	**Henry Mountain**	**4.03**	**95**		Pn	18 00 43.4	-0.6
HMU				IAML		18 01 55.8	
	comp=E,27nm,0.6s						
HMU				IAML		18 01 57.4	
	comp=N,26nm,1.0s						
AFDM	**Forest Hills D**	**4.07**	**280**	Pn	Pn	18 00 43.7	-0.7
AFDM				IAML		18 01 30.6	
	comp=E,12nm,4.8s						
HVU	**Hansel Valley**	**4.13**	**34**	Pn	Pn	18 00 45.2	-0.1
HVU				IAML		18 01 55.4	
	comp=E,12nm,0.8s						
HVU				IAML		18 01 59.1	
	comp=N,10nm,0.7s						
SRU	**San Rafael Swe**	**4.21**	**78**		Pn	18 00 46.2	-0.2
SRU				IAML		18 02 04.5	
	comp=E,9.3nm,1.0s						
BCW	**Bitter Crk WRg**	**4.48**	**221**	Pn	Pn	18 00 50.0	-0.1
P18A	**Preston Nutter**	**4.52**	**72**	Pn	Pn	18 00 48.6	-2.2
P18A				IAML		18 01 28.7	
	comp=N,5.9nm,4.7s						
P18A				IAML		18 01 46.1	
	comp=E,6.5nm,4.3s						
WUAZ	**Wupatki**	**4.56**	**127**		Pn	18 00 49.9	-1.4
PFO	**Pinyon Flats O**	**4.78**	**186**	Pn	Pn	18 00 50.9	-3.3
PFO				IAML		18 01 44.0	
	comp=E,5.4nm,4.5s						
PFO				IAML		18 02 17.4	
	comp=E,5.2nm,2.5s						
HLID	**Hailey**	**5.29**	**11**		Pn	18 00 58.5	-2.8
HLID				IAML		18 02 35.2	
	comp=E,6.2nm,3.8s						
PV05	**Paradox Valley**	**5.30**	**91**	Pn	Pn	18 01 00.7	-0.8
PV10	**Paradox Valley**	**5.33**	**88**		Pn	18 00 59.7	-2.1
PV14	**Lion Creek, Pa**	**5.34**	**88**	Pn	Pn	18 00 59.8	-2.3
PV23	**Carpenter Ridg**	**5.35**	**87**		Pn	18 01 00.1	-2.1
PV19	**Morning Glory**	**5.38**	**89**	Pn	Pn	18 00 59.6	-2.9
PV21	**Cone Mtn., Par**	**5.38**	**86**	Pn	Pn	18 01 00.1	-2.4
PV20	**West Nyswonger**	**5.39**	**88**	Pn	Pn	18 00 59.2	-3.4
PV17	**East Wray Mesa**	**5.40**	**89**	Pn	Pn	18 01 00.7	-2.0
PV17				IAML		18 02 37.2	
	comp=E,9.9nm,1.0s						
PV16	**Nyswonger Mesa**	**5.43**	**89**	Pn	Pn	18 01 00.2	-3.0
PV04	**Paradox Valley**	**5.43**	**88**	Pn	Pn	18 01 00.3	-2.9
PV18	**Skein Mesa, Pa**	**5.44**	**89**	Pn	Pn	18 01 00.3	-3.0
PV11	**David Mesa, Pa**	**5.46**	**89**		Pn	18 01 00.7	-3.0
PV03	**Paradox Valley**	**5.49**	**89**	Pn	Pn	18 01 01.7	-2.3
PV13	**Radium Mtn., P**	**5.51**	**90**		Pn	18 01 02.1	-2.3
PV12	**Saucer Basin,**	**5.52**	**88**	Pn	Pn	18 01 01.9	-2.5
PV22	**Blue Mesa, Par**	**5.52**	**86**	Pn	Pn	18 01 01.4	-3.1
PV02	**Paradox Valley**	**5.58**	**90**	Pn	Pn	18 01 04.4	-0.8
PV01	**Paradox Valley**	**5.71**	**90**	Pn	Pn	18 01 05.3	-1.8
MVCO	**Mesa Verde**	**5.91**	**99**		Pn	18 01 06.6	-3.3

*IDC **06** 17:59:54.9±2.1,18°.06S×178°.13W,h595km±20km, mb3.0/6, mbtmp4.0/7,Error ellipse: s-maj=31.1km s-min=22.4km az=116.0*

ISC 06 17:59:54.2±1.2,18°.1S±0°.2×178°.1W±0°.2,h590km,n9, σ0°48/11,mb3.6/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.72**	**274**	P	**P**	**18 01 17.9**	**+0.7**
	61nm,0.6s,baz=137,slow=4.1,SNR=96						
STKA	**Stephens Creek**	**38.86**	**241**	P	**P**	**18 06 30.4**	**+0.2**
	2.9nm,1.0s,baz=111,slow=14,SNR=2.8						
	2.9nm,1.0s						
WRA	**Warramunga Arr**	**44.94**	**260**	P	**P**	**18 07 17.2**	**-0.8**
	0.5nm,0.3s,baz=95,slow=7.3,SNR=21						
WRA				PcP	**PcP**	**18 08 46.8**	**+0.2**
	0.5nm,1.0s,baz=94,slow=3.2,SNR=1.3						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**45.08**	**254**	P	**P**	**18 07 18.8**	**-0.3**
	2.5nm,0.6s,baz=89,slow=8.6,SNR=69						
ASAR				PcP	**PcP**	**18 08 47.1**	**+0.1**
	0.3nm,0.4s,baz=104,slow=3.8,SNR=11						
	2.5nm,0.6s						
MJAR	**Matsushiro Arr**	**68.22**	**323**	P	**P**	**18 09 57.1**	**+0.1**
	0.6nm,0.5s,baz=163,slow=5.8,SNR=7.0						
	0.6nm,0.5s						
QSPA	**South Pole Qui**	**72.01**	**180**	P	**P**	**18 10 19.2**	**+0.1**
	2.8nm,1.2s,baz=72,slow=6.4,SNR=5.7						
	2.8nm,1.2s						
ILAR	**Eielson Array**	**85.95**	**13**	P	**P**	**18 11 32.4**	**+0.1**
	0.2nm,0.4s,baz=225,slow=5.2,SNR=5.8						
	0.2nm,0.4s						
BRTR	**Keskin Array B**	**145.12**	**315**	PKPbc	**PKPdf**	**18 18 25.2**	**-0.6**
	0.3nm,0.4s,baz=88,slow=2.7,SNR=4.2						
GERES	**GERESS Array B**	**147.83**	**345**	PKPbc	**PKPbc**	**18 18 33.5**	**-0.3**
	0.4nm,0.5s,baz=15,slow=5.5,SNR=4.2						

*DNK **06** 18:03:24.7±3.2,82°.00N×5°.95W,h22km±51km,ML2.1 BER **06** 18:03:26.1±3.9,81°.95N×6°.22W,h10km,mb(Pn)3.5, ML2.1(DNK),Confirmed Earthquake*

ISC 06 18:03:25.9±1.8,81°.6N±0°.2×6°.30W±0°.08,h10km,n10, σ1°48/11,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.53**	**276**	*i* P	**Pn**	**18 03 53.5**	**+0.3**
NOR				*i* S	**Sn**	**18 04 12.3**	**-0.7**
NOR				IAML		18 04 13.3	
	comp=Z,39nm,0.4s						
NOR	**Nord**	**1.53**	**276**	*i* P	**Pn**	**18 03 53.5**	**+0.3**
NOR				*i* S	**Sn**	**18 04 12.3**	**-0.7**
NOR				IAML		18 04 13.3	
	comp=Z,39nm,0.4s						
KBS	**Kingsbay**	**4.07**	**121**	*i* P	**Pn**	**18 04 28.0**	**0.0**
KBS	**Kingsbay**	**4.07**	**121**	*i* P	**Pn**	**18 04 28.0**	**0.0**
BRBB	**Barentsburg B**	**5.01**	**124**	*e*P	**Pn**	**18 04 43.3**	**+2.4**
SPA0	**Spitsbergen Ar**	**5.21**	**119**	*e*P	**Pn**	**18 04 45.5**	**+1.7**
SPA0				IAML		18 05 38.6	
	comp=Z,4.0nm,1.1s						
SPA0				*e*S	**Sn**	**18 05 41.1**	**-2.7**
DBG	**Daneborg**	**7.83**	**209**	*i* P	**Pn**	**18 05 20.1**	**+0.5**
DBG				*i* S	Sn	18 06 45.8	-2.3
DBG				IAML		18 06 58.8	
	comp=Z,3.6nm,0.8s						
DBG	**Daneborg**	**7.83**	**209**	*i* P	**Pn**	**18 05 20.1**	**+0.5**
DBG				*i* S	Sn	18 06 45.8	-2.3
DBG				IAML		18 06 58.8	
	comp=Z,3.6nm,0.8s						
NEEM	**North Greenlan**	**8.88**	**266**	*i* P	Pn	18 05 28.1	-6.2
NEEM				*i* S	Sn	18 07 02.8	-12
NEEM				IAML		18 07 28.2	
	comp=Z,3.3nm,1.1s						
NEEM	**North Greenlan**	**8.88**	**266**	*i* P	Pn	18 05 28.1	-6.2
NEEM				*i* S	Sn	18 07 02.8	-12
NEEM				IAML		18 07 28.2	
	comp=Z,3.3nm,1.1s						

TAP 06 18:11:07.3,22°.97N×120°.86E,h4km,ML2.8,6C-1D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.21**	**340**	*i* P	Pg	18 11 11.7	+0.1
STYH				S	Sg	18 11 15.4	+1.1
STYT	**Tauyuan**	**0.21**	**335**	P	Pg	18 11 11.9	+0.4
STYT				S	Sg	18 11 15.1	+0.7
TWG	**Pinlang**	**0.25**	**127**	*i* P	Pg	18 11 13.3	+1.1
TWG				S	Sg	18 11 16.7	+1.2
TWGBT	**Beinan**	**0.26**	**126**	P	Pg	18 11 13.1	+0.8
TWGBT	**Beinan**	**0.26**	**126**	S	Sg	18 11 17.0	+1.3
TWGBT	**Beinan**	**0.26**	**126**	⇑*i*P	Pg	18 11 13.2	+0.9
TWGBT				*e*S	Sg	18 11 16.7	+1.0
LONT	**Longtian**	**0.26**	**104**	⇑*i*P	Pg	18 11 13.4	+1.0
LONT				*i* S	Sg	18 11 17.0	+1.1
ELDTW	**Lidau**	**0.26**	**34**	⇑*i*P	Pg	18 11 13.2	+0.7
ELDTW				S	Sg	18 11 17.0	+1.0
SGST	**Jiashian**	**0.27**	**294**	*i* P	Pg	18 11 13.6	+0.9
SGST				S	Sg	18 11 17.9	+1.6
SSD	**Sandimen**	**0.30**	**223**	⇑*i*P	Pg	18 11 14.0	+0.7
SSD				S	Sg	18 11 17.6	+0.4
TSMG	**Majia**	**0.33**	**216**	*i* P	Pg	18 11 13.8	+0.1
TSMG				S	Sg	18 11 17.8	-0.2
SCST	**Cishan**	**0.34**	**256**	P	Pb	18 11 15.9	-0.1
SCST				*e*S	Sb	18 11 21.8	0.0
TTN	**Taitung**	**0.34**	**129**	P	Pb	18 11 15.9	-0.1
TTN				S	Sb	18 11 21.4	-0.4
WTP	**Ta-pu**	**0.35**	**321**	*i* P	Pb	18 11 16.2	0.0
WTP				S	Sb	18 11 21.9	-0.2
ECS	**Chishang**	**0.36**	**70**	P	Pb	18 11 15.3	-1.0
ECS				*i* S	Sb	18 11 20.7	-1.6
CHN1	**Nanshi**	**0.37**	**305**	P	Pb	18 11 16.9	+0.4
CHN1				*e*S	Sb	18 11 23.4	+0.8
EHD	**Haiduan**	**0.37**	**61**	⇑*i*P	Pg	18 11 14.8	+0.3
EHD				*e*S	Sg	18 11 19.3	0.0
ECL	**Taimali**	**0.38**	**166**	*i* P	Pg	18 11 15.5	+0.7
ECL				*e*S	Sg	18 11 20.4	+0.6
TPUB	**Ta-pu**	**0.39**	**328**	P	Pb	18 11 16.9	+0.1
TPUB	**Ta-pu**	**0.39**	**328**	S	Sb	18 11 23.6	+0.4
TPUB	**Ta-pu**	**0.39**	**328**	*e*P	Pb	18 11 16.9	+0.1
TPUB				*e*S	Sb	18 11 23.6	+0.5
MASBT	**Mashibuluo**	**0.41**	**210**	⇑*i*P	Pg	18 11 15.9	+0.6
SNST	**Tainan City**	**0.41**	**307**	*e*P	Pb	18 11 18.0	+0.8
EDH	**Donghe**	**0.41**	**90**	P	Pb	18 11 16.7	-0.5
EDH				*e*S	Sb	18 11 23.1	-0.7
SGLT	**Jiouru**	**0.41**	**234**	*i* P	Pb	18 11 17.3	+0.1
TWM1	**Shoushan**	**0.42**	**250**	*i* P	Pb	18 11 18.1	+0.7
CHN4	**Tsaushan**	**0.45**	**328**	P	Pb	18 11 18.2	+0.4
TWK	**Hsinying**	**0.45**	**311**	⇓*e*P	Pb	18 11 18.8	+0.9
TWK				*e*S	Sb	18 11 26.5	+1.6
CHN3	**Shinhua**	**0.46**	**283**	*e*P	Pn	18 11 20.4	-0.3
FULB	**Fuli**	**0.46**	**61**	*i* P	Pb	18 11 17.6	-0.5
FULB				S	Sb	18 11 24.2	-1.1
SHHT	**Tainan City**	**0.47**	**276**	*e*P	Pn	18 11 20.3	-0.5
CHKT	**Chengkung**	**0.49**	**75**	P	Pb	18 11 18.4	0.0
CHKT				*i* S	Sb	18 11 26.4	+0.4
WCKO	**Fanlu**	**0.52**	**334**	P	Pb	18 11 19.4	+0.4
WCKO				S	Sb	18 11 28.5	+1.6
ALS	**Alishan**	**0.54**	**355**	*i* P	Pb	18 11 19.0	-0.5
ALS				S	Sb	18 11 27.9	+0.2
CHKH	**Chenggong**	**0.55**	**66**	P	Pb	18 11 19.0	-0.4
CHKH				*e*S	Sb	18 11 27.7	+0.1
TWF1	**Yuli**	**0.56**	**47**	*i* P	Pg	18 11 18.6	+0.6
TWF1				S	Sg	18 11 25.6	+0.3
EYUL	**Yuli**	**0.57**	**49**	*i* P	Pg	18 11 18.9	+0.6
EYUL				S	Sg	18 11 26.1	+0.4
EAST	**Anshuo**	**0.58**	**181**	*i* P	Pb	18 11 19.4	-0.8
EAST				S	Sg	18 11 26.7	+0.5
YULB	**Yu-li**	**0.58**	**44**	P	Pg	18 11 18.8	+0.2
YULB	**Yu-li**	**0.58**	**44**	S	Sg	18 11 27.3	+1.1
YULB	**Yu-li**	**0.58**	**44**	*i* P	Pg	18 11 18.9	+0.3
YULB				*e*S	Sg	18 11 26.9	+0.7
TAW	**Tawu**	**0.61**	**176**	*e*P	Pb	18 11 19.9	-0.7
TAW				S	Sg	18 11 27.4	+0.4
TAWH	**Dawu Township**	**0.63**	**177**	*e*P	Pb	18 11 20.2	-0.7
TAWH				S	Sg	18 11 28.4	+0.8
SCZT	**Fangliau**	**0.63**	**200**	*i* P	Pg	18 11 20.1	+0.6
SCZT				S	Sg	18 11 28.2	+0.4
WSSB	**Gushan**	**0.64**	**239**	*e*P	Pn	18 11 23.6	+0.4
LDUT	**Ludao**	**0.64**	**117**	P	Pb	18 11 20.5	-0.5
LDUT				*e*S	Sb	18 11 30.3	+0.1
SCLT	**Jiali**	**0.64**	**289**	*e*P	Pn	18 11 23.6	+0.5
CHN5	**Tsauling**	**0.65**	**345**	*i* P	Pb	18 11 21.5	+0.3
CHN5				*e*S	Sn	18 11 32.9	-1.1
ECBN	**Changbin**	**0.65**	**58**	P	Pb	18 11 21.3	+0.1
ECBN				*e*S	Sb	18 11 31.1	+0.5
ICHU	**Yijhu**	**0.66**	**306**	*e*P	Pb	18 11 22.0	+0.7
ICHU				S	Sn	18 11 33.6	-0.6
CHY	**Chiayi**	**0.66**	**323**	*e*P	Pb	18 11 21.3	0.0
CHY				*e*S	Sn	18 11 33.3	-0.9
EHY	**Hungye**	**0.69**	**39**	*e*P	Pg	18 11 20.8	+0.3
EHY				*e*S	Sg	18 11 30.5	+1.1
EHYH	**Wanrong**	**0.69**	**41**	*e*P	Pg	18 11 21.0	+0.4
EHYH				S	Sg	18 11 30.5	+0.9
CHN8	**Yiju**	**0.70**	**302**	*e*P	Pn	18 11 23.7	-0.3
WHYT	**Xinyi Township**	**0.72**	**360**	P	Pb	18 11 22.4	-0.1
WHYT				*e*S	Sb	18 11 33.0	+0.2
TSCK	**Chigu Township**	**0.73**	**284**	P	Pn	18 11 23.7	-0.6
TSCK				S	Sn	18 11 37.2	+1.3
HGSD	**Ruisui**	**0.74**	**45**	P	Pb	18 11 22.5	-0.2
HGSD				S	Sb	18 11 33.4	+0.2
SLIU	**Shizi**	**0.75**	**184**	*i* P	Pb	18 11 22.4	-0.5
SLIU				S	Sg	18 11 32.0	+0.5
WGK	**Gukeng**	**0.76**	**339**	P	Pn	18 11 24.6	-0.3
WGK				*e*S	Sn	18 11 36.7	-0.1
TWP	**Hsiaoliuchiu**	**0.77**	**216**	*e*P	Pn	18 11 27.3	+2.4
WDLH	**Douliu**	**0.77**	**338**	*e*P	Pn	18 11 25.2	+0.2
WSL	**Shuilin Townsh**	**0.80**	**314**	*e*P	Pn	18 11 25.4	+0.1
WSL				S	Sn	18 11 38.3	+0.7
SSLB	**Suanglung**	**0.82**	**6**	P	Pg	18 11 23.6	+0.5
SSLB	**Suanglung**	**0.82**	**6**	P	Pg	18 11 23.6	+0.5
VWDT	**VWDT**	**0.82**	**19**	P	Pg	18 11 23.3	+0.1
WTK	**Tuku**	**0.83**	**329**	*e*P	Pn	18 11 26.0	+0.2
WJS	**Zhushan**	**0.86**	**352**	P	Pn	18 11 26.1	-0.1
WJS				*e*S	Sn	18 11 40.6	+1.5
EGFH	**Guangfu**	**0.87**	**37**	*e*P	Pg	18 11 24.3	+0.2
WSF	**Szhu**	**0.88**	**319**	*e*P	Pn	18 11 26.7	+0.2
WSF				*e*S	Sn	18 11 40.7	+1.0
WARBT	**Fenglin Townsh**	**0.89**	**33**	*e*P	Pg	18 11 24.3	-0.2
SMLT	**Sun Moon Lake**	**0.91**	**3**	P	Pg	18 11 24.9	+0.1
WNT	**Mingjian**	**0.92**	**350**	P	Pn	18 11 27.1	+0.1
WNT				*e*S	Sn	18 11 42.2	+1.6
TYC	**Yuchr**	**0.93**	**0**	*e*P	Pn	18 11 27.1	0.0
ESL	**Shilin**	**0.99**	**32**	P	Pg	18 11 26.4	-0.1
ESL				S	Sb	18 11 41.1	+0.5
OWD	**Renai**	**1.02**	**17**	*e*P	Pg	18 11 26.7	-0.3
TWK1	**Hengchun**	**1.02**	**183**	*e*P	Pn	18 11 30.0	+1.6
TWKBT	**Hengchun**	**1.02**	**182**	*e*P	Pn	18 11 29.9	+1.5
SHUL	**Shoufeng**	**1.04**	**38**	*e*P	Pb	18 11 28.1	+0.2
WUSB	**Renai**	**1.04**	**13**	*e*P	Pg	18 11 27.2	-0.2
WCS	**Beigang Elemen**	**1.08**	**3**	*e*P	Pb	18 11 28.9	+0.3
WDGT	**Dungji**	**1.14**	**285**	*e*P	Pn	18 11 30.2	+0.2
ETM	**Tongmen**	**1.15**	**30**	*e*P	Pg	18 11 29.2	-0.2
LXIB	**Xiulin Townshi**	**1.17**	**26**	*e*P	Pg	18 11 29.5	-0.3
PHUB	**P'eng-hu**	**1.30**	**295**	*e*P	Pb	18 11 32.4	+0.1
VCHM	**Qimei**	**1.33**	**281**	*e*P	Pg	18 11 32.9	0.0
ETLH	**Xiulin Townshi**	**1.36**	**25**	*e*P	Pn	18 11 33.2	+0.1
NACB	**Ninganchiao**	**1.38**	**29**	P	Pb	18 11 33.6	0.0
ENA	**Nanau**	**1.66**	**29**	*e*P	Pb	18 11 38.8	+0.3
TWE	**Neicheng**	**1.90**	**23**	*e*P	Pg	18 11 43.7	0.0
TATO	**Taipei**	**2.08**	**16**	P	Pn	18 11 42.7	-0.2
TIPB	**Shuangxi**	**2.18**	**24**	*e*P	Pn	18 11 45.7	+1.3

TAP 06 18:11:31.3,24°.22N×121°.14E,h7km,ML2.2,1C,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWT	**Tachien**	**0.04**	**46**	*i* P	Pg	18 11 33.4	+0.4
TWT				*i* S	Sg	18 11 34.3	+0.2
FUSS	**Fushou**	**0.10**	**75**	*i* P	Pg	18 11 34.3	+0.6
FUSS				S	Sg	18 11 35.8	+0.4
WHF	**Hehuan

ILA	**Ilan**	**0.15 61**	P	**Pn**	**18 23 05.8**	**+0.5**
ILA			*e*S	**Sn**	**18 23 12.9**	**+1.0**
LATG	**Datong**	**0.17 203**	⇑*i*P	**Pn**	**18 23 05.8**	**+0.3**
LATG			*i* S	**Sn**	**18 23 12.8**	**+0.5**
YHNB	**Yeheng**	**0.20 264**	P	**Pn**	**18 23 06.3**	**+0.6**
YHNB	**Yeheng**	**0.20 264**	S	**Sn**	**18 23 12.1**	**-0.4**
YHNB	**Yeheng**	**0.20 264**	⇓*i*P	**Pn**	**18 23 05.5**	**-0.2**
YHNB			S	**Sn**	**18 23 11.4**	**-1.1**
NSK	**Sanguang**	**0.22 266**	⇓*i*P	**Pn**	**18 23 05.5**	**-0.2**
NSK			*e*S	**Sn**	**18 23 11.9**	**-0.8**
TWC	**Suao**	**0.24 109**	⇑*i*P	**Pn**	**18 23 06.0**	**+0.2**
TWC			*i* S	**Sn**	**18 23 13.1**	**+0.4**
ESAO	**Su ao**	**0.25 117**	⇑*i*P	**Pn**	**18 23 05.8**	**-0.1**
ESAO			*e*S	**Sn**	**18 23 13.0**	**+0.2**
NTC	**Toucheng**	**0.27 52**	*e*P	**Pn**	**18 23 06.7**	**+0.7**
NTC			S	**Sn**	**18 23 13.8**	**+0.8**
NHDH	**Xindian Distri**	**0.28 346**	*i* P	**Pn**	**18 23 06.1**	**0.0**
NHDH			*i* S	**Sn**	**18 23 13.3**	**+0.1**
ENA	**Nanau**	**0.29 154**	⇑*i*P	**Pn**	**18 23 05.8**	**-0.4**
ENA			*e*S	**Sn**	**18 23 13.4**	**+0.1**
EWUT	**Wuta**	**0.29 146**	⇑P	**Pn**	**18 23 05.8**	**-0.4**
EWUT			S	**Sn**	**18 23 13.3**	**0.0**
TATO	**Taipei**	**0.30 340**	P	**Pn**	**18 23 06.1**	**-0.2**
TATO	**Taipei**	**0.30 340**	P	Pn	18 23 13.5	+7.2
NNS	**Nan Shan**	**0.32 220**	⇑*i*P	**Pn**	**18 23 06.8**	**+0.2**
NNS			*i* S	**Sn**	**18 23 14.1**	**+0.1**
NNSB	**Datong**	**0.33 217**	⇑*i*P	**Pn**	**18 23 06.8**	**+0.2**
NNSB			*i* S	**Sn**	**18 23 14.2**	**+0.1**
BACT	**New Taipei Cit**	**0.34 335**	*i* P	**Pn**	**18 23 05.8**	**-0.8**
BACT			*e*S	**Sn**	**18 23 13.7**	**-0.3**
EGS		**0.34 63**	⇓P	**Pn**	**18 23 07.3**	**+0.7**
EGS			*e*S	**Sn**	**18 23 15.2**	**+1.2**
TIPB	**Shuangxi**	**0.35 36**	⇓P	**Pn**	**18 23 06.8**	**+0.2**
TIPB			*e*S	**Sn**	**18 23 14.2**	**0.0**
NHY	**Taipei**	**0.35 356**	*e*P	**Pn**	**18 23 06.9**	**+0.2**
NHY			*i* S	**Sn**	**18 23 14.5**	**+0.3**
TAP	**Taipei**	**0.36 346**	*i* P	**Pn**	**18 23 06.9**	**+0.2**
TAP			*i* S	**Sn**	**18 23 14.5**	**+0.1**
EAHA	**Aohua**	**0.38 160**	*e*P	**Pn**	**18 23 06.2**	**-0.7**
EAHA			S	**Sn**	**18 23 14.3**	**-0.4**
KSHI	**Guanxi Townshi**	**0.39 283**	⇓*i*P	**Pn**	**18 23 07.4**	**+0.3**
KSHI			S	**Sn**	**18 23 15.6**	**+0.7**
NWF	**Wu-fen Shan**	**0.41 24**	*i* P	**Pn**	**18 23 07.5**	**+0.1**
NWF			*e*S	**Sn**	**18 23 15.2**	**-0.2**
WFSB	**Wu-fen Shan**	**0.41 24**	*e*P	**Pn**	**18 23 07.6**	**+0.4**
WFSB			*e*S	**Sn**	**18 23 15.1**	**-0.2**
TWS1	**Kuangyinshan**	**0.44 338**	⇓*i*P	**Pn**	**18 23 06.8**	**-0.7**
TWS1			*i* S	**Sn**	**18 23 15.2**	**-0.5**
NFF	**Wufeng Townshi**	**0.44 263**	⇓*i*P	**Pn**	**18 23 07.6**	**0.0**
NFF			*i* S	**Sn**	**18 23 15.5**	**-0.3**
YM01	**YM01**	**0.46 357**	*e*P	**Pn**	**18 23 07.7**	**0.0**
YM01			S	**Sn**	**18 23 16.0**	**0.0**
NCUH	**Zhongli**	**0.47 306**	⇓*i*P	**Pn**	**18 23 08.0**	**+0.2**
NCUH			*e*S	**Sn**	**18 23 16.7**	**+0.5**
ZUZH	**Zhuzihu**	**0.47 354**	*i* P	**Pn**	**18 23 08.0**	**+0.1**
ZUZH			*e*S	**Sn**	**18 23 16.2**	**-0.1**
SXI1	**Grass Mountain**	**0.47 32**	⇓*i*P	**Pn**	**18 23 08.0**	**+0.1**
SXI1			*i* S	**Sn**	**18 23 16.4**	**0.0**
TWB1	**Santiao Chiao**	**0.47 48**	⇓*i*P	**Pn**	**18 23 08.2**	**+0.3**
TWB1			*e*S	**Sn**	**18 23 16.2**	**-0.1**
TNOU	**National Taiwa**	**0.48 19**	*e*P	**Pn**	**18 23 09.0**	**+1.0**
TNOU			*e*S	**Sn**	**18 23 17.3**	**+0.9**
NTST	**Danshui**	**0.49 344**	⇓*e*P	**Pn**	**18 23 08.3**	**+0.3**
NTST			*e*S	**Sn**	**18 23 17.5**	**+0.9**
ETLH	**Xiulin Townshi**	**0.49 193**	⇑*i*P	**Pn**	**18 23 08.0**	**-0.1**
ETLH			S	**Sn**	**18 23 16.7**	**-0.1**
YM08	**YM08**	**0.50 359**	*e*P	**Pn**	**18 23 07.9**	**-0.2**
YM08			*e*S	**Sn**	**18 23 15.8**	**-0.9**
ANP	**Anpu**	**0.50 352**	⇓P	**Pn**	**18 23 08.0**	**-0.2**
ANP			*e*S	**Sn**	**18 23 15.4**	**-1.5**
NACB	**Ninganchiao**	**0.51 180**	P	**Pn**	**18 23 07.2**	**-1.1**
NACB	**Ninganchiao**	**0.51 180**	⇑*i*P	**Pn**	**18 23 07.3**	**-0.9**
NACB			*e*S	**Sn**	**18 23 16.3**	**-0.8**
ETL	**Fush Village**	**0.53 178**	⇓P	**Pn**	**18 23 07.5**	**-0.9**
ETL			*e*S	**Sn**	**18 23 17.9**	**+0.5**
LIOB	**Emei**	**0.53 265**	⇓*i*P	**Pn**	**18 23 08.6**	**+0.2**
LIOB			S	**Sn**	**18 23 17.5**	**+0.1**
FUSS	**Fushou**	**0.55 216**	⇑*i*P	**Pn**	**18 23 09.6**	**+0.7**
FUSS			*e*S	**Sn**	**18 23 18.6**	**+0.5**
NSTT	**Nanjuang**	**0.55 264**	⇓*i*P	**Pn**	**18 23 08.6**	**0.0**
NSTT			*e*S	**Sn**	**18 23 17.7**	**+0.1**
SBCB	**Hsinchu**	**0.57 280**	⇓*i*P	**Pn**	**18 23 09.1**	**+0.2**
SBCB			*i* S	**Sn**	**18 23 18.2**	**+0.1**
TWT	**Tachien**	**0.58 222**	⇑*i*P	**Pn**	**18 23 10.1**	**+0.9**
TWT			*i* S	**Sn**	**18 23 19.3**	**+0.7**
HSN	**Hsinchu**	**0.58 281**	⇓*i*P	**Pn**	**18 23 08.9**	**+0.1**
HSN			S	**Sn**	**18 23 18.0**	**-0.3**
TWY	**Chenhua**	**0.58 0**	⇑*i*P	**Pn**	**18 23 08.2**	**-0.8**
TWY			S	**Sn**	**18 23 18.0**	**-0.3**
TWD	**Chiawan**	**0.61 180**	⇑*i*P	**Pn**	**18 23 08.3**	**-1.0**
TWD			*e*S	**Sn**	**18 23 17.7**	**-1.1**
WHF	**Hehuan Shan**	**0.62 209**	⇓*i*P	**Pn**	**18 23 10.5**	**+0.5**
WHF			*i* S	**Sn**	**18 23 20.5**	**+0.6**
EOS2	**EOS2**	**0.64 115**	*e*P	**Pn**	**18 23 11.1**	**+1.6**
LXIB	**Xiulin Townshi**	**0.69 194**	⇑*i*P	**Pn**	**18 23 09.8**	**-0.6**
LXIB			*e*S	**Sn**	**18 23 20.4**	**-0.3**
HWA	**Hwalien**	**0.71 180**	*e*P	**Pn**	**18 23 09.8**	**-0.7**
HWA			*e*S	**Sn**	**18 23 21.9**	**+0.9**
WHP	**Taichung City**	**0.72 236**	⇓*i*P	**Pn**	**18 23 11.6**	**+0.8**
WHP			S	**Sn**	**18 23 22.0**	**+0.5**
ETM	**Tongmen**	**0.73 188**	⇑P	**Pn**	**18 23 09.6**	**-1.2**
ETM			*e*S	**Sn**	**18 23 20.4**	**-1.0**
NMLH	**Miaoli**	**0.75 258**	⇓P	**Pn**	**18 23 9.9**	**-0.1**
NMLH			*e*S	**Sn**	**18 23 22.1**	**+0.2**
EOS3	**EOS3**	**0.77 121**	*e*P	**Pn**	**18 23 12.5**	**+1.4**
TEYL	**Yanliau Villag**	**0.82 180**	*e*P	**Pn**	**18 23 10.8**	**-1.1**
TEYL			*e*S	**Sn**	**18 23 23.2**	**-0.1**
WUSB	**Renai**	**0.82 212**	⇑*i*P	**Pn**	**18 23 12.9**	**+0.8**
WUSB			*e*S	**Sn**	**18 23 24.3**	**+0.6**
TWQ1	**Liyutan**	**0.83 246**	⇓P	**Pn**	**18 23 12.2**	**+0.2**
TWQ1			S	**Sn**	**18 23 23.4**	**-0.2**
OWD	**Renai**	**0.83 208**	⇑*e*P	**Pn**	**18 23 12.7**	**+0.5**
OWD			*i* S	**Sn**	**18 23 24.5**	**+0.7**
EOS4	**EOS4**	**0.87 131**	*e*P	**Pn**	**18 23 12.6**	**+0.5**
ESL	**Shilin**	**0.89 190**	⇑P	**Pn**	**18 23 11.2**	**-1.5**
ESL			*e*S	**Sn**	**18 23 24.4**	**-0.6**
WCS	**Beigang Elemen**	**0.89 225**	*e*P	**Pn**	**18 23 13.5**	**+0.8**
WCS			*e*S	**Sn**	**18 23 25.4**	**+0.4**
SHUL	**Shoufeng**	**0.90 182**	*e*P	**Pn**	**18 23 12.2**	**-0.7**
SHUL			*e*S	**Sn**	**18 23 24.9**	**-0.3**
WDJ	**Dajia District**	**0.94 249**	⇓*i*P	**Pn**	**18 23 13.8**	**+0.4**
WDJ			*i* S	**Sn**	**18 23 26.7**	**+0.7**
TEGC	**Jichi Village**	**0.98 183**	*e*P	**Pn**	**18 23 13.1**	**-0.8**
WARBT	**Fenglin Townsh**	**0.99 191**	⇑*i*P	**Pn**	**18 23 12.4**	**-1.7**
WARBT			*e*S	**Sn**	**18 23 25.5**	**-1.7**
TCU	**Taichung**	**1.00 237**	*e*P	**Pn**	**18 23 14.7**	**+0.5**
TCU			*e*S	**Sn**	**18 23 27.8**	**+0.3**
VWDT	**VWDT**	**1.02 204**	⇑*i*P	**Pn**	**18 23 15.0**	**+0.5**
VWDT			*e*S	**Sn**	**18 23 28.3**	**+0.3**
SMLT	**Sun Moon Lake**	**1.03 219**	*e*P	**Pn**	**18 23 14.4**	**-0.2**
SMLT			*i* S	**Sn**	**18 23 29.2**	**+0.8**
PCYT	**Pengchaiyu**	**1.03 24**	*e*P	**Pn**	**18 23 14.7**	**+0.1**
PCYT			*e*S	**Sn**	**18 23 27.7**	**-0.5**
EGFH	**Guangfu**	**1.03 189**	*e*P	**Pn**	**18 23 12.9**	**-1.7**
TYC	**Yuchr**	**1.03 221**	*e*P	**Pn**	**18 23 15.3**	**+0.7**
TYC			*i* S	**Sn**	**18 23 29.5**	**+1.2**
SSLB	**Suanglung**	**1.07 213**	P	**Pn**	**18 23 16.0**	**+0.7**
SSLB	**Suanglung**	**1.07 213**	*i* P	**Pn**	**18 23 15.9**	**+0.7**
SSLB			S	**Sn**	**18 23 30.4**	**+1.1**
WCH1	**Changhua City**	**1.14 238**	*e*P	**Pn**	**18 23 16.4**	**+0.4**
WCH1			*e*S	**Sn**	**18 23 31.5**	**+0.7**
WNT	**Mingjian**	**1.16 226**	P	**Pn**	**18 23 17.0**	**+0.7**
WNT			S	**Sn**	**18 23 31.8**	**+0.5**
WJS	**Zhushan**	**1.18 223**	*i* P	**Pn**	**18 23 17.1**	**+0.6**
WJS			*i* S	**Sn**	**18 23 32.7**	**+1.1**
WHYT	**Xinyi Township**	**1.20 215**	*e*P	**Pn**	**18 23 18.8**	**+1.9**
WHYT			S	**Sn**	**18 23 33.8**	**+1.4**
HGSD	**Ruisui**	**1.20 188**	*i* P	**Pn**	**18 23 16.3**	**-0.6**
HGSD			*e*S	**Sn**	**18 23 31.5**	**-0.8**
EHY	**Hungye**	**1.21 192**	*e*P	**Pn**	**18 23 15.2**	**-1.8**
EHYH	**Wanrong**	**1.21 191**	*e*P	**Pn**	**18 23 16.4**	**-0.7**
JYNG	**Yonagunijimaku**	**1.25 101**	*i* P	**Pn**	**18 23 17.7**	**+0.3**
JYNG			*e*S	**Sn**	**18 23 34.0**	**+0.6**
YOJ	**Yonaguni jima**	**1.30 100**	P	**Pn**	**18 23 18.5**	**+0.3**
YOJ	**Yonaguni jima**	**1.30 100**	P	**Pn**	**18 23 18.6**	**+0.3**
YOJ			S	**Sn**	**18 23 35.0**	**+0.3**
YOJ	**Yonaguni jima**	**1.30 100**	⇓*i*P	**Pn**	**18 23 18.4**	**+0.1**
YOJ			*i* S	**Sn**	**18 23 35.2**	**+0.4**
YULB	**Yu-li**	**1.32 192**	P	**Pn**	**18 23 17.5**	**-1.0**
YULB	**Yu-li**	**1.32 192**	*e*P	**Pn**	**18 23 16.4**	**-2.1**
YULB			*e*S	**Sn**	**18 23 33.3**	**-1.9**
TWF1	**Yuli**	**1.36 192**	*e*P	**Pn**	**18 23 17.0**	**-2.0**
EYUL	**Yuli**	**1.36 191**	*e*P	**Pn**	**18 23 18.9**	**-0.1**
WDL	**Douliou City**	**1.37 225**	*e*P	**Pn**	**18 23 19.8**	**+0.6**
WDL			*e*S	**Sn**	**18 23 37.3**	**+1.0**
ECBN	**Changbin**	**1.37 186**	*e*P	**Pn**	**18 23 18.3**	**-0.9**
CHN5	**Tsauling**	**1.38 218**	*e*P	**Pn**	**18 23 19.9**	**+0.6**
CHN5			*i* S	**Sn**	**18 23 37.4**	**+0.8**
WGK	**Gukeng**	**1.38 224**	*e*P	**Pn**	**18 23 19.9**	**+0.7**
WGK			*e*S	**Sn**	**18 23 37.9**	**+1.5**
ALS	**Alishan**	**1.38 212**	P	**Pn**	**18 23 20.4**	**+0.9**
ALS			*i* S	**Sn**	**18 23 38.0**	**+1.0**
WDLH	**Douliu**	**1.39 224**	*e*P	**Pn**	**18 23 20.0**	**+0.6**
WDLH			*e*S	**Sn**	**18 23 38.1**	**+1.4**
WTCT	**Ta-ch'eng**	**1.46 236**	P	**Pn**	**18 23 20.2**	**0.0**
WTCT			*i* S	**Sn**	**18 23 38.2**	**-0.2**
WTK	**Tuku**	**1.49 228**	*e*P	**Pn**	**18 23 21.2**	**+0.5**
WTK			S	**Sn**	**18 23 40.0**	**+0.8**
CHKH	**Chenggong**	**1.50 187**	*e*P	**Pn**	**18 23 19.9**	**-1.0**
CHKH			*e*S	**Sn**	**18 23 38.5**	**-1.0**
FULB	**Fuli**	**1.51 191**	*e*P	**Pn**	**18 23 20.2**	**-0.9**
WCKO	**Fanlu**	**1.54 216**	*e*P	**Pn**	**18 23 22.3**	**+0.9**
WCKO			*i* S	**Sn**	**18 23 42.0**	**+1.5**
CHN2	**Minshiung**	**1.54 222**	*e*P	**Pn**	**18 23 23.3**	**+1.8**
CHN2			*e*S	**Sn**	**18 23 41.9**	**+1.4**
EHD	**Haiduan**	**1.58 193**	*e*P	**Pn**	**18 23 20.3**	**-1.6**
ELDTW	**Lidau**	**1.59 200**	*e*P	**Pn**	**18 23 21.6**	**-0.5**
ELDTW			S	**Sn**	**18 23 41.8**	**+0.1**
CHKT	**Chengkung**	**1.60 188**	*e*P	**Pn**	**18 23 20.9**	**-1.3**
CHKT			*e*S	**Sn**	**18 23 40.7**	**-1.1**
CHY	**Chiayi**	**1.60 222**	*e*P	**Pn**	**18 23 22.9**	**+0.6**
CHY			*i* S	**Sn**	**18 23 42.6**	**+1.7**
CHN4	**Tsaushan**	**1.62 215**	*e*P	**Pn**	**18 23 23.4**	**+0.9**
CHN4			*i* S	**Sn**	**18 23 44.6**	**+2.3**
ECS	**Chishang**	**1.62 192**	*e*P	**Pn**	**18 23 22.9**	**+0.3**
WSF	**Szhu**	**1.64 230**	*e*P	**Pn**	**18 23 22.9**	**+0.2**
WSF			*i* S	**Sn**	**18 23 42.8**	**0.0**
TPUB	**Ta-pu**	**1.64 213**	P	**Pn**	**18 23 23.4**	**+0.6**
TPUB	**Ta-pu**	**1.64 213**	S	**Sn**	**18 23 44.5**	**+1.5**
TPUB	**Ta-pu**	**1.64 213**	*i* P	**Pn**	**18 23 23.5**	**+0.6**
TPUB			*e*S	**Sn**	**18 23 44.2**	**+1.2**
STYH	**Taoyuan**	**1.69 207**	*e*P	**Pn**	**18 23 23.1**	**-0.4**
STYH			*e*S	**Sn**	**18 23 45.5**	**+1.5**
WTP	**Ta-pu**	**1.70 212**	*e*P	**Pn**	**18 23 24.2**	**+0.6**
WTP			*e*S	**Sn**	**18 23 44.0**	**-0.3**
WSL	**Shuilin Townsh**	**1.71 227**	P	**Pn**	**18 23 24.2**	**+0.5**
WSL			S	**Sn**	**18 23 45.4**	**+0.8**
EDH	**Donghe**	**1.73 189**	*e*P	**Pn**	**18 23 22.7**	**-1.3**
EDH			*e*S	**Sn**	**18 23 43.5**	**-1.6**
TWK	**Hsinying**	**1.74 216**	*e*P	**Pn**	**18 23 24.7**	**+0.4**
SNST	**Tainan City**	**1.78 215**	*e*P	**Pn**	**18 23 25.1**	**+0.4**
SNST			*e*S	**Sn**	**18 23 47.5**	**+1.4**
CHN1	**Nanshi**	**1.79 213**	*i* P	**Pn**	**18 23 25.4**	**+0.6**
CHN1			*e*S	**Sn**	**18 23 47.3**	**+0.8**
ICHU	**Yijhu**	**1.79 223**	*e*P	**Pn**	**18 23 25.3**	**+0.4**
ICHU			*e*S	**Sn**	**18 23 47.3**	**+0.8**
LONT	**Longtian**	**1.83 194**	*e*P	**Pn**	**18 23 23.3**	**-2.1**
LONT			*e*S	**Sn**	**18 23 46.2**	**-1.1**
CHN8	**Yiju**	**1.84 224**	*i* P	**Pn**	**18 23 25.9**	**+0.3**
CHN8			*i* S	**Sn**	**18 23 48.7**	**+0.9**
SGST	**Jiashian**	**1.85 210**	*e*P	**Pn**	**18 23 25.3**	**-0.4**
SGST			*e*S	**Sn**	**18 23 49.2**	**+1.2**
TWG	**Pinlang**	**1.92 195**	*e*P	**Pn**	**18 23 24.7**	**-1.9**
TWGBT	**Beinan**	**1.92 194**	P	**Pn**	**18 23 24.8**	**-1.8**
TWGBT	**Beinan**	**1.92 194**	*e*P	**Pn**	**18 23 24.6**	**-2.0**
CHN3	**Shinhua**	**1.96 215**	*e*P	**Pn**	**18 23 28.8**	**+1.6**
CHN3			*e*S	**Sn**	**18 23 51.8**	**+1.1**
IRIF	**Iriomote-Funau**	**1.97 100**	P	**Pn**	**18 23 27.1**	**-0.1**
IRIF			*e*S	**Sn**	**18 23 50.9**	**0.0**
VWUC	**VWUC**	**1.98 279**	⇓P	**Pn**	**18 23 26.7**	**-0.6**
SCLT	**Jiali**	**1.98 221**	*e*P	**Pn**	**18 23 26.5**	**-0.9**
SCLT			*e*S	**Sn**	**18 23 52.3**	**+1.1**
LDUT	**Ludao**	**2.01 183**	*e*P	**Pn**	**18 23 25.8**	**-2.0**
LDUT			*e*S	**Sn**	**18 23 50.0**	**-1.8**
SHHT	**Tainan City**	**2.02 215**	*e*P	**Pn**	**18 23 29.1**	**+1.2**
SHHT			*e*S	**Sn**	**18 23 53.5**	**+1.5**
SCST	**Cishan**	**2.06 210**	*e*P	**Pn**	**18 23 29.5**	**+1.0**
SCST			*e*S	**Sn**	**18 23 56.9**	**+3.8**
TSCK	**Chigu Township**	**2.07 222**	*e*P	**Pn**	**18 23 28.1**	**-0.4**
MATB	**Ma-tsu**	**2.09 315**	*e*P	**Pn**	**18 23 27.8**	**-1.0**
HATJ	**Hateruma jima**	**2.11 107**	*e*S	**Sn**	**18 23 54.4**	**+0.1**
TWM1	**Shoushan**	**2.15 210**	*e*P	**Pn**	**18 23 31.3**	**+1.6**
TSMG	**Majia**	**2.16 204**	*e*P	**Pn**	**18 23 30.8**	**+0.9**
ECL	**Taimali**	**2.17 196**	*e*P	**Pn**	**18 23 28.0**	**-1.9**
PNG	**Penghu**	**2.18 240**	*e*P	**Pn**	**18 23 42.6**	**+0.7**
PHUB	**P'eng-hu**	**2.19 238**	*e*P	**Pn**	**18 23 29.4**	**-0.9**
JKRS	**Kuro-shima**	**2.24 101**	P	**Pn**	**18 23 31.3**	**+0.3**
JKRS			S	**Sn**	**18 23 58.0**	**+0.6**
MASBT	**Mashibuluo**	**2.25 203**	*e*P	**Pn**	**18 23 31.8**	**+0.7**
WDGT	**Dungji**	**2.27 232**	*e*P	**Pn**	**18 23 30.7**	**-0.6**
PTMZ	**Houxiangcun**	**2.28 279**	*e*P	**Pn**	**18 23 30.7**	**-0.7**
JIJ	**Ishigaki jima**	**2.34 97**	P	**Pn**	**18 23 32.1**	**-0.1**
JIJ			S	**Sn**	**18 23 59.1**	**-0.7**
EAST	**Anshuo**	**2.40 197**	*e*P	**Pn**	**18 23 31.2**	**-1.9**
TAW	**Tawu**	**2.41 196**	*e*P	**Pn**	**18 23 35.6**	**+2.4**
TAWH	**Dawu Township**	**2.43 196**	*e*P	**Pn**	**18 23 33.3**	**-0.2**
JISG	**Ishigakijimahi**	**2.47 92**	P	**Pn**	**18 23 34.3**	**+0.2**
JISG			S	**Sn**	**18 24 03.9**	**+0.8**
VCHM	**Qimei**	**2.47 234**	*e*P	**Pn**	**18 23 33.2**	**-0.9**
SCZT	**Fangliau**	**2.48 201**	*e*P	**Pn**	**18 23 35.0**	**+0.8**
XPSS	**Dashiqiu**	**2.57 331**	*e*P	**Pn**	**18 23 34.4**	**-1.0**
SLIU	**Shizi**	**2.57 197**	*e*P	**Pn**	**18 23 35.9**	**+0.4**
LAY	**Lan-yu**	**2.64 181**	*e*P	**Pn**	**18 23 35.2**	**-0.2**
LYUB	**Lan-yu**	**2.68 180**	*e*P	**Pn**	**18 23 35.2**	**-1.6**
MHZQ	**Yeshan**	**2.71 302**	*e*P	**Pn**	**18 23 36.1**	**-1.2**
HEN	**Hengchun**	**2.79 197**	*e*P	**Pn**	**18 23 40.4**	**+2.0**
JTJ	**Tarama**	**2.82 90**	P	**Pn**	**18 23 39.9**	**+1.0**
TWKBT	**Hengchun**	**2.83 195**	*e*P	**Pn**	**18 23 38.1**	**-0.9**
KNM	**Kinmen**	**2.90 265**	*e*P	**Pn**	**18 23 40.3**	**+0.4**
KNMB	**Chin-men Tao**	**2.93 266**	*e*P	**Pn**	**18 23 39.2**	**-1.1**
AXDP	**Jialang**	**3.31 274**	*e*P	**Pn**	**18 23 45.0**	**-0.5**
JMJ	**Miyako jima 2**	**3.36 87**	P	**Pn**	**18 23 47.4**	**+1.2**
ZPLA	**Ao Xicun**	**3.59 259**	*e*P	**Pn**	**18 23 48.2**	**-1.2**
DSXP	**Dongshan**	**3.93 256**	*e*P	**Pn**	**18 23 53.0**	**-1.1**
SXFK	**Yanhouchang**	**3.96 296**	*e*P	**Pn**	**18 23 53.3**	**-1.2**
JOW	**Kunigami**	**6.38 69**	P	**Pn**	**18 24 28.7**	**+1.0**

*IDC **06** 18:24:53.4±2.8, 2°.58S×101°.33E, h0km, mb3.6/6, mbtmp3.6/6, MS3.6/1, Error ellipse: s-maj=135.8km s-min=19.8km az=55.0*
*DJA **06** 18:25:07.4±0.3, 3°.5±4°×10°1E±°, h71km±6km, M3.9/8, mb4.3/1, MLv3.6/8*

ISC 06 18:24:52.4±1.0, **3°.19S**±0°.09×**100°.57E**±0°.09, **h10**km, **n14,**
σ1§**56**/17, **mb3.5/6, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**2.07 103**		P	**Pg**	**18 25 34.1**	**+1.9**
KSI				S	**Sn**	**18 25 54.1**	**+0.8**
SISI	**Saibi**	**2.37 321**		P	Pg	18 25 48.7	+11
SISI				S	Sg	18 26 18.1	+9.4
MNAI	**Manna**	**2.65 116**		P	**Pg**	**18 25 44.4**	**+1.1**
MNAI				S	**Sb**	**18 26 12.6**	**-0.1**
PPI	**Padang Panjang**	**2.72 356**		P	**Pg**	**18 25 46.1**	**+1.4**
PPI				S	**Sb**	**18 26 14.4**	**-0.4**
MDSI	**Maura Dua**	**3.83 110**		P	**Pb**	**18 26 58.0**	**-2.1**
MDSI				S	**Sn**	**18 26 37.6**	**+1.1**
PBSI	**Pulau Batu**	**3.87 324**		P	**Pg**	**18 26 07.1**	**+0.5**
PBSI				S	**Sb**	**18 26 50.6**	**+2.9**
GSI	**Gunungsitoli**	**5.38 326**		P	**Pb**	**18 26 25.2**	**-1.3**
WRA	**Warramunga Arr**	**36.91 119**		**P**	**18 32 00.2**	**-1.6**
	0.5nm,0.7s,baz=300,slow=7.8,SNR=8.4						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**38.10 125**		P	**P**	**18 32 12.4**	**+0.5**
	0.3nm,0.4s,baz=302,slow=8.1,SNR=19						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**47.94 131**		P	**P**	**18 33 33.2**	**+1.8**
	1.6nm,0.9s,baz=296,slow=7.3,SNR=3.0						
	1.6nm,0.9s						
JCJ	**Chichijima**	**50.18 50**		LR	LR	18 52 58.7	
	comp=Z,61nm,20.8s,baz=142,slow=34						
SONM	**Songino Array**	**51.07 5**		P	**P**	**18 33 53.2**	**-2.0**
	0.3nm,0.4s,baz=193,slow=8.4,SNR=3.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**52.32 344**		P	**P**	**18 34 04.1**	**-0.3**
	0.2nm,0.4s,baz=157,slow=9.2,SNR=6.3						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**61.49 340**		P	**P**	**18 35 09.3**	**0.0**
	0.6nm,0.4s,baz=148,slow=8.7,SNR=4.9						
	0.6nm,0.4s						

*TEH **06** 18:39:19.9, 28°.37N×54°.07E, h10km±22km*
*OMAN **06** 18:39:25.1±0.1, 28°.07N×54°.10E, h10km, mb4.1/6, ml3.1/15, Error ellipse: s-maj=1.2km s-min=0.6km az=11.0*
*DSN **06** 18:39:31.2±2.0, 27°.52N×54°.06E, h10km, ML2.5/5, Error ellipse: s-maj=40.9km s-min=14.0km az=25.0*

ISC 06 18:39:20.5±0.9, **28°.36N**±0°.05×**54°.08E**±0°.04, **h10**km, **n70,**
σ1§**47**/94, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.47 288**		Pg	**Pg**	**18 39 29.1**	**-0.6**
LAR1	**LAR**	**0.73 159**		Pg	**Pg**	**18 39 34.7**	**-0.1**
QIR1	**Qir**	**0.92 278**		Pg	**Pg**	**18 39 37.6**	**-0.7**
LMD1	**Lamerd**	**1.30 219**		Pg	**Pn**	**18 39 44.9**	**+0.1**
SHI	**Shiraz**	**1.88 313**		Pn	**Pn**	**18 39 53.9**	**+1.1**
IBND	**Bandar-abas**	**2.36 112**		Pn	**Pn**	**18 40 00.3**	**+1.0**
DSBU	**Dashti - Bushe**	**2.48 271**		Pn	**Pn**	**18 40 02.0**	**+0.9**
NGRK	**Negar Kerman**	**2.65 60**		Pn	**Pn**	**18 40 04.9**	**+1.1**
KRBR	**Kerman**	**2.85 55**		Pn	**Pn**	**18 40 08.4**	**+2.0**
KHGB	**Koh Gabri**	**2.90 46**		Pn	**Pn**	**18 40 08.7**	**+1.7**
SHME	**Shamm**	**2.94 141**		P	**Pn**	**18 40 08.6**	**+1.3**
SHME				S	**Sn**	**18 40 42.0**	**-0.8**
SHME	**Shamm**	**2.94 141**		P	**Pn**	**18 40 11.4**	**+4.0**
IMEH	**Mehriz**	**3.06 9**		Pn	**Pn**	**18 40 10.7**	**+1.5**
BANOM	**Banah**	**3.13 140**		P	**Pn**	**18 40 11.6**	**+1.7**
BANOM				S	**Sn**	**18 40 46.3**	**-1.1**
BANOM	**Banah**	**3.13 140**		P	**Pn**	**18 40 11.8**	**+1.8**
BANOM				S	**Sn**	**18 40 44.9**	**-2.5**
ZRDN	**Zarand Kerman**	**3.37 39**		Pn	**Pn**	**18 40 14.4**	**+1.0**
CHMN	**Cheshme madani**	**3.38 63**		Pn	**Pn**	**18 40 15.1**	**+1.4**
KLNJ	**Kolanjah**	**3.42 321**		Pn	**Pn**	**18 40 15.0**	**+0.8**
MASF	**Masafi**	**3.51 148**		P	**Pn**	**18 40 17.3**	**+2.1**

baz=261,slow=75,SNR=21
H11S2 WAKE ISLAND Hy 21.02 74 T T 19 08 59.6
baz=261,slow=75,SNR=9.7
FAKI Fak Fak 21.07 219 P **P** **18 47 00.0 -1.2**
FAKI IAmb IAmb 18 47 07.2
comp=Z,61nm,1.2s
FAKI Fak Fak 21.07 219 P **P** **18 47 01.7 +0.5**
H11N1 WAKE ISLAND Hy 21.43 71 T T 19 10 04.2
baz=257,slow=75,SNR=33
H11N2 WAKE ISLAND Hy 21.44 71 T T 19 10 04.7
baz=257,slow=75,SNR=13
H11N3 WAKE ISLAND Hy 21.45 71 T T 19 10 05.5
baz=257,slow=75,SNR=34
JMN Monobe 22.45 334 P **P** **18 47 14.7 -1.2**
INU Inuyama 22.77 342 P **P** **18 47 18.9 -0.4**
INU Inuyama 22.77 342 P **P** **18 47 20.0 +0.7**
JGF Kuroka 22.91 343 P **P** **18 47 19.3 -1.4**
JGF Kuroka 22.91 343 P **P** **18 47 20.3 -0.4**
PMG Port Moresby 23.09 175 P **P** **18 47 20.7 -1.9**
PMG IAmb IAmb 18 47 23.9
comp=Z,104nm,1.8s
PMG Port Moresby 23.09 175 P **P** **18 47 21.4 -1.2**
comp=Z,10nm,0.7s,baz=342,slow=3.0,SNR=4.1
comp=Z,10nm,0.7s
JNU Nakatsue 23.36 328 P **P** **18 47 24.0 -1.2**
JNU IAmb IAmb 18 47 31.8
comp=Z,63nm,1.8s
JNU Nakatsue 23.36 328 LR LR 18 53 33.1
comp=Z,27nm,20.9s,baz=100,slow=29
MJAR Matsushiro Arr 23.57 345 P P 18 47 23.6 -3.6
comp=Z,2.3nm,0.5s,baz=170,slow=11,SNR=9.5
MJAR LR LR 18 55 42.4
comp=Z,52nm,19.9s,baz=148,slow=34
comp=Z,2.3nm,0.5s
MAJO Matsushiro 23.57 345 P **P** **18 47 25.3 -1.9**
MAJO Matsushiro 23.57 345 P **P** **18 47 25.7 -1.5**
MJB9 Matsu-Tunnel 23.58 345 P **P** **18 47 25.2 -2.0**
TGY Tagaytay City 23.71 274 LR LR 18 56 32.8
comp=Z,67nm,19.4s,baz=210,slow=36
JMM Marumori 24.35 351 P **P** **18 47 34.1 -0.1**
YULB Yu-li 24.71 296 P **P** **18 47 36.3 -1.4**
YULB IAmb IAmb 18 47 54.5
comp=Z,72nm,1.8s
NACB Ninganchiao 24.71 298 P **P** **18 47 36.2 -1.5**
NACB Ninganchiao 24.71 298 P **P** **18 47 36.6 -1.1**
TWG Pinlang 24.73 295 P **P** **18 47 37.9 0.0**
JSD Sado 24.99 347 P **P** **18 47 39.6 -0.4**
JSD IAmb IAmb 18 47 43.6
comp=Z,97nm,2.0s
SSLB Suanglung 25.14 297 P **P** **18 47 40.9 -0.7**
SSLB IAmb IAmb 18 47 45.1
comp=Z,37nm,1.3s
TPUB Ta-pu 25.27 296 P **P** **18 47 41.8 -1.0**
SAUI Saumlaki 25.73 214 P **P** **18 47 46.9 0.0**
SAUI IAmb IAmb 18 47 50.3
comp=Z,46nm,0.9s
LUWI Luwuk 26.79 238 P **P** **18 47 56.1 -0.5**
LUWI IAmb IAmb 18 48 11.4
comp=Z,41nm,0.8s
LUWI Luwuk 26.79 238 P **P** **18 47 57.0 +0.4**
HNR Honiara 27.21 147 LR LR 18 58 32.1
comp=Z,87nm,19.6s,baz=64,slow=36
COEN Coen 27.63 185 P **P** **18 48 03.0 -1.0**
COEN IAmb IAmb 18 48 24.9
comp=Z,33nm,1.2s
MYLDM Lahad Datu 27.81 255 P **P** **18 48 04.7 -1.1**
ERM Erimo 28.21 357 P **P** **18 48 08.6 -0.5**
KSRS Korea Array 28.26 330 P P 18 48 07.7 -1.8
comp=Z,1.0nm,0.6s,baz=144,slow=8.8,SNR=7.8
comp=Z,1.0nm,0.6s
MTN Manton Dam 29.96 209 P P 18 48 23.4 -1.4
MTN IAmb IAmb 18 49 13.3
comp=Z,66nm,1.8s
MTN Manton Dam 29.96 209 P **P** **18 48 25.7 +0.9**
NJ2 Nanjing 30.33 311 *e*P **P** **18 48 27.6 -0.3**
NJ2 pmax pmax
comp=Z,17nm,0.5s
JKA Kamikawa-asahi 30.34 356 P P 18 48 26.4 -1.5
JKA IAmb IAmb 18 49 35.8
comp=Z,86nm,1.9s
ASAJ Asahikawa 30.34 356 LR LR 19 02 02.8
comp=Z,12nm,18.6s,baz=182,slow=39
SOEI Soe 31.38 223 P **P** **18 48 35.9 -1.6**
USRK Ussuriysk Ar. 32.42 342 P P 18 48 45.2 -1.0
comp=Z,2.1nm,0.6s,baz=182,slow=5.3,SNR=3.3
comp=Z,2.1nm,0.6s
TV1H Townsville Har 32.85 178 P **P** **18 48 50.1 0.0**
KNRA Kununurra 33.55 210 P **P** **18 48 55.4 -0.8**
QIZ Qiongzhong 34.44 284 P **P** **18 49 03.1 -1.0**
QIZ S **S** **18 54 26.5 -2.6**
QIZ LR LR
comp=Z,94nm,11.7s
QIZ LR LR
comp=Z,100nm,10.8s
QIZ LR LR
comp=Z,110nm,18.5s
SBUM Sibu 34.63 254 P **P** **18 49 04.8 -1.0**
WB0 Warramunga Arr 35.03 198 P P 18 49 07.9 -1.2
WB0 IAmb IAmb 18 49 28.8
comp=Z,23nm,1.4s
WR0 Warramunga Arr 35.16 198 P P 18 49 09.1 -1.1
WR0 IAmb IAmb 18 49 13.8
comp=Z,40nm,1.8s
WRA Warramunga Arr 35.21 198 P P 18 49 09.0 -1.6
WRA Warramunga Arr 35.21 198 P **P** **18 49 09.7 -1.0**
comp=Z,1.6nm,0.5s,baz=20,slow=9.5,SNR=25
WRA PcP **PcP** **18 51 41.0 0.0**
comp=Z,3.2nm,0.5s,baz=14,slow=3.3,SNR=8.2
comp=Z,1.6nm,0.5s
BNX BinXian 35.31 338 ⇑P **P** **18 49 11.0 -0.2**
BNX pmax pmax
comp=Z,7.0nm,0.7s
KLR Kul'dur 37.10 345 P P 18 49 24.5 -2.0
comp=Z,2.2nm,0.7s,baz=150,slow=10,SNR=7.8
comp=Z,2.2nm,0.7s
FITZ Fitzroy Crossi 37.16 212 P **P** **18 49 26.9 -0.4**
FITZ IAmb IAmb 18 49 46.0
comp=Z,26nm,1.9s
UBPT Khong Chiam 38.62 277 P P 18 49 37.7 -2.1
UBPT IAmb IAmb 18 49 52.8
comp=Z,22nm,1.7s
XAN Xi'an 38.67 308 P P 18 49 34.4 -5.7
XAN pmax pmax
comp=Z,11nm,0.5s
AS01 Alice Springs 38.84 197 P **P** **18 49 40.9 -0.6**
AS31 Alice Springs 38.85 197 P **P** **18 49 41.2 -0.4**
ASAR Alice Springs 38.85 197 P **P** **18 49 40.5 -1.1**
ASAR Alice Springs 38.85 197 P **P** **18 49 40.9 -0.7**
comp=Z,0.8nm,0.6s,baz=17,slow=12,SNR=20
ASAR PcP **PcP** **18 51 52.0 0.0**
comp=Z,2.0nm,0.6s,baz=26,slow=3.0,SNR=6.6
comp=Z,0.8nm,0.6s
HEH HeiHe 39.23 342 *e*P P 18 49 42.7 -1.7
HEH pmax pmax
comp=Z,14nm,1.0s
EIDS Eidsvold 39.29 172 P P 18 49 43.0 -2.1
HHC Hu-ho-hao-te 39.96 319 *e*P **P** **18 49 52.1 +1.3**
HHC pmax pmax
comp=Z,32nm,0.7s
HHC pmax pmax
comp=Z,50nm,4.4s
PEA0B Petropavlovsk- 40.46 11 P P 18 49 52.4 -2.2
PETK Petropavlovsk- 40.46 11 P P 18 49 53.0 -1.6
PETK Petropavlovsk- 40.46 11 P P 18 49 54.0 -0.6
comp=Z,2.5nm,0.8s,baz=188,slow=7.7,SNR=4.4
comp=Z,2.5nm,0.8s
PET Petropavlovsk 40.57 12 P P 18 49 53.6 -1.8
UGM Wanagama 40.74 240 P P 18 49 55.4 -2.1
DZM Mont Dzumac 41.18 150 P P 18 49 59.4 -1.5
DZM IAmb IAmb 18 50 45.7
comp=Z,34nm,1.6s
DZM Mont Dzumac 41.18 150 *e*LR LR 19 01 22.8
comp=Z,104nm,24.9s
ONTNC Ouen Toro 41.38 150 P **P** **18 50 02.3 -0.2**
ONTNC IAmb IAmb 18 51 16.9
comp=Z,32nm,0.9s
INKA Innaminka 41.50 186 P **P** **18 50 03.1 -0.3**
WRKA Warakurna 42.01 203 P P 18 50 06.4 -1.3
OOD Oodnadatta 42.36 193 P **P** **18 50 09.5 -0.9**
PZH PanZhiHua 42.68 294 P **P** **18 50 13.0 -0.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,70nm,5.3s
MBWA Marble Bar 42.88 216 P P 18 50 13.0 -1.7
MBWA IAmb IAmb 18 50 18.2
comp=Z,35nm,1.5s
MBWA Marble Bar 42.88 216 P **P** **18 50 14.9 +0.2**
MBWA Marble Bar 42.88 216 P P 18 50 13.2 -1.5
MBWA pP pP 18 50 30.1 +2.6
PSA00 Pilbara Seismi 43.13 216 P 18 50 14.8 -2.1
PSA00 IAmb IAmb 18 50 40.1
comp=Z,19nm,1.2s
ARMA Armidale 44.34 172 P P 18 50 25.6 -0.9
ARMA IAmb IAmb 18 50 38.7
comp=Z,37nm,1.6s
LCRK Leigh Creek 44.49 189 P **P** **18 50 26.6 -0.9**
CMAR Chiang Mai Arr 44.75 282 P **P** **18 50 28.6 -1.4**
CMAR Chiang Mai Arr 44.75 282 P **P** **18 50 29.3 -0.7**
comp=Z,0.8nm,0.7s,baz=88,slow=5.8,SNR=8.7
CMAR PcP **PcP** **18 52 11.6 0.0**
comp=Z,1.7nm,0.6s,baz=102,slow=1.7,SNR=10
CMAR LR LR 19 09 47.0
comp=Z,24nm,18.8s,baz=100,slow=37
comp=Z,0.8nm,0.7s
MSVF Nonsavu 44.94 133 P P 18 50 30.7 -0.7
MSVF IAmb IAmb 18 50 33.8
comp=Z,14nm,0.8s
MSVF Nonsavu 44.94 133 P **P** **18 50 32.3 +0.9**
comp=Z,12nm,0.7s,baz=285,slow=20,SNR=8.8
comp=Z,12nm,0.7s
MSVF Nonsavu 44.94 133 P **P** **18 50 32.6 +1.2**
MSVF Nonsavu 44.94 133 P **P** **18 50 32.8 +1.4**
SHEM Shemya Is, Ala 45.10 24 P **P** **18 50 32.2 0.0**
comp=Z,58nm,1.0s,baz=312,slow=6.6,SNR=1.9
STKA Stephens Creek 45.52 184 P P 18 50 34.6 -1.1
MA2 Magadan 45.91 4 P P 18 50 36.3 -2.2
comp=Z,5.4nm,0.7s,baz=267,slow=3.7,SNR=3.6
comp=Z,5.4nm,0.7s
SONM Songino Array 46.87 325 P **P** **18 50 45.2 -1.2**
comp=Z,0.4nm,0.3s,baz=136,slow=7.2,SNR=4.7
comp=Z,0.4nm,0.3s
BBOO Buckleboo 47.16 191 P **P** **18 50 47.6 -0.9**
BBOO Buckleboo 47.16 191 P **P** **18 50 47.7 -0.9**
FORT Forrest 47.31 200 P **P** **18 50 48.8 -1.0**
FORT Forrest 47.31 200 P **P** **18 50 49.4 -0.4**
HTT Hallett 47.33 187 P **P** **18 50 50.6 +0.6**
GTA Gaotai 47.42 311 *e*P **P** **18 50 53.0 +2.2**
GTA sP pP 18 51 07.9 +4.1
GTA pmax pmax
comp=Z,2.0nm,1.2s
KIWB Kanaga Island 48.42 30 P **P** **18 50 58.3 +0.2**
ADK Adak 48.67 31 P **P** **18 51 00.2 +0.1**
GHSS Government Hou 48.84 187 P **P** **18 51 00.8 -0.7**
GSI Gunungsitoli 48.86 260 P P 18 50 59.6 -2.5
GSI IAmb IAmb 18 52 12.9
comp=Z,20nm,1.2s
CAN Canberra 48.94 176 P P 18 51 00.9 -1.4
SEY Seymchan 49.35 4 P P 18 51 03.4 -1.8
comp=Z,1.1nm,0.5s,baz=193,slow=7.7,SNR=9.6
comp=Z,1.1nm,0.5s
YAK Yakutsk 49.49 350 P P 18 51 03.5 -2.6
YAK Yakutsk 49.49 350 P P 18 51 03.8 -2.4
comp=Z,12nm,0.4s,baz=227,slow=1.0,SNR=6.6
comp=Z,12nm,0.4s
ATKA Atka Island 50.10 31 P P 18 51 09.9 -1.0
AFI Afiamalu 50.56 121 P P 18 51 12.6 -2.5
MORW Morawa 51.15 213 P P 18 51 17.2 -2.0
MORW Morawa 51.15 213 P **P** **18 51 18.1 -1.1**
BLDU Baliidu 52.03 212 P P 18 51 24.4 -1.3
NIKH Nikolski High 53.27 33 P P 18 51 33.8 -0.8
NIKH Nikolski High 53.27 33 P P 18 51 34.2 -0.4
NIKH Nikolski High 53.27 33 P P 18 51 33.9 -0.7
baz=240
NWAO Narrogin (SRO) 53.65 209 P **P** **18 51 36.7 -0.9**
SPIA Saint Paul Isl 54.80 28 P P 18 51 45.3 -0.4
SPIA Saint Paul Isl 54.80 28 P P 18 51 44.3 -1.3
baz=236
UNV Unalaska Valle 54.92 33 P P 18 51 45.6 -1.0
UNV Unalaska Valle 54.92 33 P P 18 51 46.0 -0.6
baz=242
LVA Lava Point 55.31 32 P P 18 51 48.4 -1.1
OUZ Omahuta 55.58 152 P **P** **18 51 52.3 +0.7**
BILL Bilibino 55.91 9 P P 18 51 51.2 -2.3
BILL IAmb IAmb 18 51 52.4
comp=Z,4.1nm,0.5s
BILL Bilibino 55.91 9 P P 18 51 51.8 -1.8
TAU Tasmania Unive 56.42 178 P P 18 51 56.3 -1.1
FALS False Pass 56.99 33 P P 18 52 00.7 -0.6
baz=245
WMQ Urumqi 57.37 313 *e*P **P** **18 52 05.3 +0.9**
WMQ LR LR
comp=Z,97nm,24.1s
GAMB Gambell 58.14 21 P P 18 52 08.0 -1.3
M11K Mekoryuk 58.30 26 P P 18 52 09.9 -0.6
baz=239
SDPT Sand Point 58.73 33 P P 18 52 12.7 -0.9
SDPT Sand Point 58.73 33 P **P** **18 52 13.7 +0.1**
SDPT Sand Point 58.73 33 P P 18 52 13.4 -0.2
baz=247
CNBA Chernabura Isl 59.00 34 P P 18 52 15.1 -0.4
CHNA Chernabura Isl 59.01 34 P P 18 52 15.0 -0.5
baz=248
M13K Dall Lake 59.55 27 P P 18 52 18.5 -0.6
baz=242
S14K Fog Glacier 59.58 32 P P 18 52 18.6 -1.0
baz=248
K13K Kusilvak Mount 59.75 25 P **P** **18 52 20.5 0.0**
K13K IAmb IAmb 18 52 22.2
comp=Z,10nm,0.7s
K13K Kusilvak Mount 59.75 25 P P 18 52 20.0 -0.5
baz=240
QRZ Quartz Range 59.86 156 P **P** **18 52 22.5 +1.0**
RTZ Ruatahuna 59.91 152 P P 18 52 21.4 -0.6
O14K Tigyukauivet M 59.95 28 P P 18 52 21.6 -0.4
O14K Tigyukauivet M 59.95 28 P P 18 52 21.0 -1.0
baz=244
N14K Kuskokwak Cree 60.06 28 P P 18 52 21.9 -0.8
baz=244
TKNZ Takaka Hill 60.21 156 P **P** **18 52 23.7 -0.3**
L14K Kuka Creek 60.28 26 P **P** **18 52 24.1 0.0**
L14K IAmb IAmb 18 52 25.4
comp=Z,8.5nm,0.8s
L14K Kuka Creek 60.28 26 P P 18 52 23.6 -0.5
baz=242
M14K Bethel 60.31 27 P **P** **18 52 24.3 -0.1**
baz=243
O15K Ungalikthiuk R 60.59 29 P **P** **18 52 26.1 -0.2**
O15K Ungalikthiuk R 60.59 29 P P 18 52 26.1 -0.3
baz=246
J14K Nanvaranak Lak 60.60 24 P P 18 52 25.9 -0.4
baz=240
M15K Kasigluk River 60.85 27 P P 18 52 27.7 -0.3
baz=244
ANM Nome 60.85 22 P P 18 52 27.6 -0.4
baz=238
N15K Kwethluk River 60.88 28 P P 18 52 28.1 -0.3
baz=245
TUWZ Tuamarina 60.93 156 P **P** **18 52 28.7 -0.1**
L15K Ungalak Mounta 60.94 26 P P 18 52 28.1 -0.6
baz=243
R16K Pilot Point 61.06 31 P P 18 52 28.7 -0.8
baz=249
K15K Wolf Creek Mou 61.21 25 P P 18 52 29.8 -0.7
K15K Wolf Creek Mou 61.21 25 P P 18 52 30.1 -0.3
baz=242
P16K Nushagak River 61.40 29 P P 18 52 31.5 -0.4
baz=248
O16K Kokwok River B 61.57 29 P P 18 52 32.2 -0.8
O16K Kokwok River B 61.57 29 P P 18 52 32.6 -0.4
baz=247
N16K Nishlik Lake 61.61 28 P **P** **18 52 33.2 -0.1**
baz=246
MK31 Makanchi Array 61.70 316 P P 18 52 32.0 -2.2
MKAR Makanchi Array 61.70 316 P P 18 52 32.1 -2.1
MKAR Makanchi Array 61.70 316 P P 18 52 32.5 -1.7
comp=Z,1.2nm,0.3s,baz=89,slow=9.4,SNR=33
comp=Z,1.2nm,0.3s
F15K North Star Dit 61.73 21 P P 18 52 33.1 -0.8
baz=238
M16K Timber Creek 61.75 27 P P 18 52 33.6 -0.6
baz=246
ZALV Zalesovo Beam 61.77 324 P **P** **18 52 33.7 -0.7**
comp=Z,0.6nm,0.5s,baz=101,slow=8.1,SNR=2.6
comp=Z,0.6nm,0.5s
L16K Owhat River 61.82 26 P P 18 52 33.4 -1.1
L16K Owhat River 61.82 26 P P 18 52 34.0 -0.6
baz=245
MAKZ Makanchi 61.92 316 P P 18 52 33.8 -1.8
MAKZ Makanchi 61.92 316 P P 18 52 34.0 -1.6
MAKZ pP pP 18 52 52.0 +3.0
J16K Anvik River 62.04 24 P P 18 52 35.4 -0.7
J16K Anvik River 62.04 24 P P 18 52 35.3 -0.8
baz=243
H16K Elim 62.05 23 P P 18 52 35.2 -0.9
baz=241
O17K Koliganek Bris 62.11 29 P P 18 52 36.1 -0.5
baz=248,SNR=7.6
Q17K Contact Creek 62.15 31 P P 18 52 36.1 -0.9
baz=250
DCZ Deep Cove 62.16 163 P **P** **18 52 36.9 -0.2**
P17K Kvichak River 62.21 30 P P 18 52 36.0 -1.2
baz=249
N17K Nushagak Hills 62.35 28 P **P** **18 52 38.0 -0.2**
N17K Nushagak Hills 62.35 28 P P 18 52 37.9 -0.3
baz=248
G16K Koyuk River 62.38 22 P **P** **18 52 38.4 +0.1**
baz=240
SII Sitkinak Islan 62.47 33 P **P** **18 52 38.9 -0.2**
SII Sitkinak Islan 62.47 33 P **P** **18 52 39.5 +0.4**
SII Sitkinak Islan 62.47 33 P **P** **18 52 39.1 -0.1**
baz=252
L17K Donlin 62.50 26 P **P** **18 52 39.1 0.0**
baz=246
M17K Holitna River 62.58 27 P **P** **18 52 39.9 +0.1**
M17K Holitna River 62.58 27 P **P** **18 52 39.5 -0.2**
baz=247
R18K Karluk 62.64 32 P P 18 52 39.9 -0.3
baz=252
J17K VABM Dome 62.71 25 P P 18 52 39.8 -0.7
baz=244
Q18K Katmai Hardscr 62.72 30 P P 18 52 39.6 -1.2
baz=251
K17K Iditarod 62.74 26 P **P** **18 52 41.1 +0.3**
K17K IAmb IAmb 18 52 42.5
comp=Z,13nm,0.8s
K17K Iditarod 62.74 26 P **P** **18 52 40.7 0.0**
baz=246
P18K Big Mountain, 62.86 30 P P 18 52 41.4 -0.3
baz=250
C16K Lisburne Hills 62.91 18 P P 18 52 40.2 -1.5
C16K IAmb IAmb 18 52 41.4
comp=Z,25nm,1.9s
C16K Lisburne Hills 62.91 18 P P 18 52 41.0 -0.7
baz=236
N18K Kilae Creek 63.00 28 P P 18 52 42.2 -0.4
baz=249
O18K Koktuh Hills 63.03 29 P P 18 52 42.4 -0.4
baz=250
G17K Kiwalik Mounta 63.05 22 P P 18 52 41.9 -0.9
baz=242
H17K Granite Mounta 63.07 23 P P 18 52 42.5 -0.4
baz=243
OHAK Old Harbor 63.14 32 P **P** **18 52 44.4 +0.9**
OHAK Old Harbor 63.14 32 P **P** **18 52 43.4 -0.1**
baz=253
L18K Granite Mounta 63.23 26 P P 18 52 43.7 -0.3
baz=247
D17K Noatak River 63.31 20 P P 18 52 43.9 -0.5
baz=238
M18K Stony River 63.33 27 P P 18 52 43.8 -0.9
baz=248
E17K Hotham Inlet 63.41 20 P **P** **18 52 44.8 -0.3**
baz=240
Q19K Cape Douglas, 63.48 30 P P 18 52 44.3 -1.5
Q19K Cape Douglas, 63.48 30 P P 18 52 44.5 -1.3
baz=252
O19K Port Alsworth 63.56 29 P **P** **18 52 46.0 -0.2**
baz=251
KDAK Kodiak Island 63.67 32 P P 18 52 46.3 -0.7
baz=253
KDAK Kodiak Island 63.67 32 P P 18 52 46.8 -0.2
N19K Bonanza Creek 63.70 28 P P 18 52 46.2 -1.0
baz=250
J18K Innoko River 63.70 25 P P 18 52 46.6 -0.6
baz=247
H18K Honhosa River 63.75 23 P P 18 52 46.8 -0.6
baz=244
TTA Tatalina 63.79 26 P P 18 52 46.8 -1.0
TTA IAmb IAmb 18 55 04.1
comp=Z,28nm,2.0s
TTA Tatalina 63.79 26 P P 18 52 47.2 -0.6
TTA Tatalina 63.79 26 P P 18 52 46.9 -0.9
baz=248
P19K Oil Pt 63.91 30 P P 18 52 47.8 -0.7
baz=252
F18K Selawik 63.93 21 P P 18 52 47.9 -0.7
baz=242
G18K Tagagawik 63.97 22 P P 18 52 48.3 -0.5
baz=244
E18K Tukpahlearik C 63.99 20 IAmb IAmb 18 53 16.7
comp=Z,18nm,1.8s
E18K Tukpahlearik C 63.99 20 P P 18 52 48.4 -0.6
baz=241
Q20K Shuyak Island 64.00 31 P P 18 52 48.7 -0.5
baz=253
L19K White Mountain 64.01 27 P P 18 52 48.5 -0.7
L19K White Mountain 64.01 27 P **P** **18 52 49.0 -0.3**
baz=249
M19K Big River Lodg 64.12 27 P **P** **18 52 49.6 -0.2**
baz=250
O20K Slope Mountain 64.33 29 P P 18 52 50.8 -0.6
baz=252
J19K Poorman 64.36 25 P P 18 52 50.3 -1.1
J19K Poorman 64.36 25 P **P** **18 52 51.3 -0.1**
baz=248,SNR=6.7
C18K Utukok River 64.41 19 IAmb IAmb 18 53 23.2
comp=Z,18nm,1.8s
C18K Utukok River 64.41 19 P P 18 52 51.2 -0.6
baz=240
L20K Farewell, AK 64.54 27 P **P** **18 52 52.5 -0.2**
baz=250
B18K Kokolik River 64.59 18 P P 18 52 51.9 -0.9
baz=239
H19K Roundabout Mou 64.64 23 P **P** **18 52 52.9 -0.2**
H19K IAmb IAmb 18 54 27.8
comp=Z,28nm,1.9s
H19K Roundabout Mou 64.64 23 P **P** **18 52 53.0 -0.2**
baz=246
G19K Purcell Mounta 64.66 22 P P 18 52 52.2 -1.1
G19K Purcell Mounta 64.66 22 P **P** **18 52 53.3 -0.1**
baz=245
M20K Styx River 64.67 27 P **P** **18 52 53.8 +0.2**
baz=251
F19K Shaleruckik Mo 64.70 21 P P 18 52 53.1 -0.5
baz=244
KURK Kurchatov 64.76 320 P P 18 52 52.8 -1.5
KURK IAmb IAmb 18 53 14.0
comp=Z,8.6nm,0.9s
KURK Kurchatov 64.76 320 P **P** **18 52 53.3 -1.0**
KURK pP **pP** **18 53 11.9 +4.1**
K20K Telida 64.77 26 IAmb IAmb 18 52 55.4
comp=Z,8.1nm,0.7s
K20K Telida 64.77 26 P **P** **18 52 54.4 +0.3**
baz=249
KURBB Kurchatov Arra 64.81 320 P P 18 52 52.3 -2.3
comp=Z,3.3nm,0.5s,baz=101,slow=6.8,SNR=18
comp=Z,3.3nm,0.5s
CNPM China Poot 64.84 30 P P 18 52 53.5 -1.1
SPCR Spurr Chakacha 64.87 28 P P 18 52 54.2 -0.7
baz=252
J20K Nowinta River 65.03 25 IAmb IAmb 18 52 57.4
comp=Z,6.7nm,0.6s
J20K Nowinta River 65.03 25 P **P** **18 52 55.8 0.0**
baz=249,SNR=6.5
BRLK Bradley Lake 65.08 30 P P 18 52 54.6 -1.6
STLK Strandline Lak 65.14 28 P P 18 52 55.7 -0.9
STLK IAmb IAmb 18 55 17.8
comp=Z,15nm,1.5s
BRSE Bradley Lake S 65.14 30 P P 18 52 55.7 -0.9
baz=254
E19K Redstone River 65.17 21 P P 18 52 56.2 -0.4
baz=244
H20K Anotleneega Mo 65.23 23 P P 18 52 56.7 -0.3
baz=248
CAPN Captain Cook N 65.23 29 P **P** **18 52 57.3 +0.2**
baz=253
A19K Wainwright 65.24 18 P P 18 52 56.2 -0.8
baz=240
D19K Kuna River 65.33 20 P P 18 52 56.9 -0.8
baz=243
PPLA Purkeypile 65.42 27 P P 18 52 57.9 -0.6
PPLA IAmb IAmb 18 52 59.8
comp=Z,8.9nm,0.8s
PPLA Purkeypile 65.42 27 P **P** **18 52 58.4 -0.1**
baz=251
SKT Skwentna 65.42 28 P P 18 52 56.8 -1.6

SKT				IAmb	IAmb	18 53 01.6	
	comp=Z,16nm,1.3s						
SKT	**Skwentna**	**65.42**	**28**	P	P	18 52 57.6	-0.8
	baz=252						
F20K	**Avaraart Lake**	**65.53**	**22**	P	P	18 52 58.3	-0.6
F20K	**Avaraart Lake**	**65.53**	**22**	P	**P**	**18 52 58.6**	**-0.3**
	baz=246						
CAST	**Castle Rocks**	**65.63**	**26**	P	P	18 52 58.8	-1.0
CAST				IAmb	IAmb	18 53 00.4	
	comp=Z,12nm,0.6s						
CAST	**Castle Rocks**	**65.63**	**26**	P	**P**	**18 52 59.5**	**-0.2**
	baz=251,SNR=9.3						
BOOM	**Boomskoye usch**	**65.69**	**311**	P	P	18 52 59.1	-1.7
SEW	**Seward**	**65.86**	**30**	P	P	18 53 00.1	-1.1
	baz=255						
E20K	**Nigu River**	**65.87**	**20**	P	P	18 53 00.5	-0.7
	baz=245						
D20K	**Etivluk River**	**65.92**	**20**	P	P	18 53 00.3	-1.3
	baz=245						
RC01	**Rabbit Creek A**	**65.99**	**29**	P	P	18 53 01.3	-0.8
	baz=254						
M22K	**Willow**	**65.99**	**28**	P	P	18 53 00.7	-1.3
	baz=254						
H21K	**Melozitna Rive**	**66.09**	**24**	IAmb	IAmb	18 54 57.6	
	comp=Z,29nm,2.0s						
H21K	**Melozitna Rive**	**66.09**	**24**	P	P	18 53 01.6	-1.0
	baz=250,SNR=5.3						
CUT	**Chulitna**	**66.11**	**27**	P	P	18 53 01.6	-1.1
	baz=253						
NRIK	**Noril'sk**	**66.13**	**341**	P	P	18 53 00.3	-2.5
	comp=Z,2.0nm,0.5s,baz=115,slow=7.8,SNR=3.6						
	comp=Z,2.0nm,0.5s						
G21K	**Allakaket**	**66.13**	**23**	P	P	18 53 02.2	-0.7
	baz=249						
I21K	**Tanana**	**66.25**	**24**	P	P	18 53 02.8	-0.8
	baz=251						
BPAW	**Bear Paw Mtn.**	**66.31**	**25**	P	P	18 53 03.4	-0.6
	baz=252						
B20K	**Meade River**	**66.32**	**18**	P	P	18 53 03.2	-0.7
	baz=244,SNR=6.5						
F21K	**Alatna River**	**66.40**	**22**	P	P	18 53 04.2	-0.4
	baz=248						
PMR	**Palmer**	**66.40**	**28**	P	P	18 53 03.2	-1.4
PMR	**Palmer**	**66.40**	**28**	P	P	18 53 04.0	-0.6
	baz=255						
TRF	**Thorofare Moun**	**66.41**	**26**	P	P	18 53 03.6	-1.3
TRF				IAmb	IAmb	18 53 05.5	
	comp=Z,10nm,1.1s						
TRF	**Thorofare Moun**	**66.41**	**26**	P	P	18 53 03.9	-0.9
	baz=253						
PWL	**Port Wells**	**66.59**	**29**	P	P	18 53 05.0	-0.9
PWL	**Port Wells**	**66.59**	**29**	P	P	18 53 05.5	-0.5
	baz=256						
KNK	**Knik Glacier**	**66.67**	**29**	P	P	18 53 05.8	-0.6
	baz=256						
E21K	**Killik River**	**66.69**	**21**	P	P	18 53 05.9	-0.6
	baz=247						
C21K	**Knifeblade Rid**	**66.71**	**20**	P	P	18 53 05.6	-0.9
	baz=246						
SML	**Sawmill**	**66.83**	**28**	P	P	18 53 06.4	-1.0
SML				IAmb	IAmb	18 53 07.8	
	comp=Z,14nm,0.9s						
SML	**Sawmill**	**66.83**	**28**	P	P	18 53 06.4	-1.1
	baz=256						
B21K	**Ikpikpuk River**	**66.95**	**19**	P	P	18 53 07.0	-1.0
	baz=246						
F22K	**John River**	**66.98**	**22**	P	**P**	**18 53 08.0**	**-0.3**
	baz=250						
RND	**Reindeer**	**67.01**	**26**	IAmb	IAmb	18 55 27.7	
	comp=Z,33nm,1.8s						
G22K	**Bettles**	**67.02**	**22**	P	P	18 53 07.5	-1.0
	baz=250						
MCK	**McKinley**	**67.07**	**26**	P	P	18 53 08.1	-0.8
	baz=254						
M23K	**Glacier View**	**67.10**	**28**	P	P	18 53 08.5	-0.7
	baz=256						
GLI	**Glacier Island**	**67.18**	**29**	P	P	18 53 09.1	-0.6
	baz=257						
NEA2	**Nenana**	**67.25**	**25**	P	P	18 53 09.7	-0.3
	baz=254						
I23K	**Minto, Yukon-K**	**67.29**	**25**	P	**P**	**18 53 10.1**	**-0.1**
	baz=253						
SCM	**Sheep Creek Mo**	**67.30**	**28**	P	**P**	**18 53 10.4**	**-0.1**
	baz=256						
D22K	**Ayikyak River**	**67.30**	**20**	P	P	18 53 09.7	-0.6
	baz=248,SNR=6.0						
E22K	**Anaktuvuk Pass**	**67.33**	**21**	P	P	18 53 10.0	-0.5
	baz=250,SNR=9.1						
A22K	**Sinclair Lake**	**67.41**	**18**	P	P	18 53 09.7	-1.2
	baz=245						
H23K	**Yukon River**	**67.42**	**24**	P	**P**	**18 53 10.9**	**-0.2**
	baz=253						
FID	**Port Fidalgo**	**67.45**	**30**	P	P	18 53 10.3	-1.0
G23K	**Bananza Creek**	**67.51**	**23**	P	**P**	**18 53 11.7**	**0.0**
	baz=252						
COLD	**Coldfoot**	**67.60**	**22**	P	P	18 53 11.8	-0.4
	baz=252,SNR=7.2						
B22K	**Teshekpuk Lake**	**67.62**	**19**	IAmb	IAmb	18 54 27.6	
	comp=Z,12nm,0.8s						
B22K	**Teshekpuk Lake**	**67.62**	**19**	P	P	18 53 11.8	-0.4
	baz=247						
WRH	**Wood River Hil**	**67.63**	**25**	P	P	18 53 11.2	-1.2
WRH				IAmb	IAmb	18 53 12.3	
	comp=Z,5.1nm,0.6s						
EYAK	**Cordova Ski Ar**	**67.76**	**30**	P	**P**	**18 53 13.1**	**-0.2**
	baz=258						
KLU	**Klutina**	**67.87**	**29**	P	P	18 53 13.8	-0.3
	baz=258						
M24K	**Tolsona, Glenn**	**67.89**	**28**	P	**P**	**18 53 14.2**	**0.0**
	baz=257						
D23K	**Nanushuk River**	**68.01**	**20**	IAmb	IAmb	18 53 55.3	
	comp=Z,27nm,1.9s						
D23K	**Nanushuk River**	**68.01**	**20**	P	**P**	**18 53 14.8**	**+0.1**
	baz=250						
POKR	**Poker Plat Res**	**68.07**	**25**	P	P	18 53 14.5	-0.7
	baz=255						
E23K	**Chandalar**	**68.08**	**22**	P	**P**	**18 53 15.1**	**-0.2**
	baz=252,SNR=7.2						
H24K	**Noodor Dome**	**68.08**	**24**	P	P	18 53 14.9	-0.4
	baz=254						
HDA	**Harding Lake**	**68.09**	**26**	IAmb	IAmb	18 54 41.8	
	comp=Z,23nm,1.7s						
HDA	**Harding Lake**	**68.09**	**26**	P	P	18 53 13.8	-1.5
	baz=256						
IL31		**68.20**	**25**	P	P	18 53 14.3	-1.7
IL31				IAmb	IAmb	18 53 15.2	
	comp=Z,6.5nm,0.5s						
ILAR	**Eielson Array**	**68.20**	**25**	P	P	18 53 13.5	-2.5
	comp=Z,4.1nm,0.4s,baz=264,slow=6.0,SNR=13						
	comp=Z,4.1nm,0.4s						
TOLK	**Toolik Lake Re**	**68.28**	**21**	P	P	18 53 15.8	-0.7
	baz=252						
C23K	**Itkillik River**	**68.33**	**20**	P	P	18 53 15.7	-1.0
C23K	**Itkillik River**	**68.33**	**20**	P	P	18 53 16.1	-0.6
	baz=250						
BMRM	**Bremner River**	**68.39**	**30**	P	P	18 53 17.0	-0.3
	baz=259						
PAX	**Paxson**	**68.39**	**27**	IAmb	IAmb	18 53 17.4	
	comp=Z,5.9nm,0.5s						
PAX	**Paxson**	**68.39**	**27**	P	P	18 53 16.9	-0.5
	baz=258						
HARP	**HAARP**	**68.42**	**28**	P	**P**	**18 53 17.6**	**+0.2**
	baz=258						
K24K	**Donnelly Dome**	**68.44**	**26**	P	P	18 53 16.8	-0.8
K24K				IAmb	IAmb	18 53 17.6	
	comp=Z,9.7nm,0.7s						
K24K	**Donnelly Dome**	**68.44**	**26**	P	P	18 53 16.7	-0.9
	baz=257						
G24K	**Hadweenzic Riv**	**68.47**	**23**	P	P	18 53 17.1	-0.6
	baz=254						
E24K	**Your Creek**	**68.49**	**22**	P	P	18 53 17.3	-0.5
	baz=253,SNR=7.1						
N25K	**Chitina, Valde**	**68.52**	**29**	P	P	18 53 17.4	-0.7
	baz=259						
F24K	**Squaw Lake**	**68.55**	**22**	P	**P**	**18 53 17.9**	**-0.2**
	baz=254						
D24K	**Happy Valley**	**68.70**	**21**	IAmb	IAmb	18 53 21.2	
	comp=Z,8.9nm,0.6s						
D24K	**Happy Valley**	**68.70**	**21**	P	P	18 53 18.6	-0.4
	baz=252						
J25K	**Salcha River,**	**68.80**	**26**	IAmb	IAmb	18 54 11.7	
	comp=Z,28nm,2.0s						
J25K	**Salcha River,**	**68.80**	**26**	P	P	18 53 18.5	-1.3
	baz=257						
RIDG	**Independent Ri**	**68.83**	**27**	P	P	18 53 19.0	-1.0
RIDG	**Independent Ri**	**68.83**	**27**	P	P	18 53 19.3	-0.8
	baz=258						
C24K	**Franklin Bluff**	**68.92**	**20**	IAmb	IAmb	18 53 50.3	
	comp=Z,22nm,1.5s						
C24K	**Franklin Bluff**	**68.92**	**20**	P	P	18 53 19.6	-0.7
	baz=252						
PRP	**Porcupine Dome**	**68.94**	**25**	P	P	18 53 20.4	-0.4
	baz=257						
H25L	**Birch Creek**	**69.00**	**24**	P	P	18 53 20.5	-0.4
	baz=256						
G25K	**Bearman Lake**	**69.02**	**23**	P	P	18 53 20.4	-0.6
	baz=256						
DOT	**Dot Lake**	**69.16**	**27**	IAmb	IAmb	18 53 23.2	
	comp=Z,6.7nm,0.6s						
SCRK	**Sand Creek**	**69.26**	**26**	P	P	18 53 22.3	-0.4
	baz=259						
L26K	**Log Cabin Wild**	**69.36**	**27**	IAmb	IAmb	18 54 04.4	
	comp=Z,14nm,1.4s						
L26K	**Log Cabin Wild**	**69.36**	**27**	P	P	18 53 22.8	-0.4
	baz=260						
F25K	**Christian Rive**	**69.40**	**22**	P	P	18 53 23.1	-0.4
F25K	**Christian Rive**	**69.40**	**22**	P	P	18 53 23.1	-0.4
	baz=256						
M26K	**Nabesna, AK**	**69.41**	**28**	P	**P**	**18 53 23.6**	**0.0**
	baz=260						
J26L	**Joseph Creek**	**69.54**	**26**	IAmb	IAmb	18 53 24.5	
	comp=Z,5.1nm,0.5s						
J26L	**Joseph Creek**	**69.54**	**26**	P	P	18 53 23.4	-1.1
	baz=259						
E25K	**Arctic Village**	**69.56**	**22**	P	P	18 53 23.7	-0.7
	baz=256						
D25K	**Kavik River**	**69.58**	**21**	P	P	18 53 23.7	-0.9
	baz=254,SNR=6.3						
KK31	**Karatay Array**	**69.70**	**311**	P	P	18 53 24.1	-1.7
KKAR	**Karatay Array**	**69.70**	**311**	P	P	18 53 23.7	-2.1
KKAR	**Karatay Array**	**69.70**	**311**	P	P	18 53 23.5	-2.3
KKAR				IAmb	IAmb	18 53 44.7	
	comp=Z,9.0nm,1.6s						
BMAR	**Burnt Mountain**	**69.75**	**23**	P	P	18 53 24.8	-0.8
I26K	**Coal Creek Min**	**69.87**	**25**	P	P	18 53 24.8	-1.5
	baz=259						
M27K	**Edge Creek, AK**	**69.91**	**28**	P	P	18 53 26.3	-0.6
	baz=261						
G26K	**Porcupine Rive**	**69.95**	**23**	P	P	18 53 26.2	-0.6
	baz=258						
F26K	**Sheenjek River**	**69.98**	**23**	P	**P**	**18 53 26.8**	**-0.2**
	baz=257						
L27K	**Beaver Creek,**	**70.05**	**28**	P	**P**	**18 53 27.3**	**-0.2**
	baz=261						
BVAR	**Borovoye Array**	**70.09**	**322**	P	P	18 53 25.7	-2.3
	comp=Z,4.1nm,0.4s,baz=105,slow=7.5,SNR=28						
	comp=Z,4.1nm,0.4s						
K27K	**Chicken**	**70.09**	**27**	P	**P**	**18 53 27.7**	**-0.1**
	baz=260						
BRVK	**Borovoye**	**70.16**	**322**		P	18 53 26.4	-1.9
BRVK	**Borovoye**	**70.16**	**322**	P	**P**	**18 53 28.1**	**-0.2**
BRVK				pP	**pP**	**18 53 46.5**	**+4.6**
C26K	**Camden Bay**	**70.23**	**20**	P	**P**	**18 53 28.4**	**-0.1**
	baz=256						
BVCY	**Beaver Creek**	**70.39**	**28**	P	P	18 53 28.9	-0.7
	baz=262						
YUK3	**Moose Creek**	**70.49**	**29**	P	**P**	**18 53 30.5**	**0.0**
	baz=263						
O28M	**Mount Upton**	**70.50**	**30**	P	P	18 53 30.2	-0.5
	baz=263						
I27K	**Kandik River**	**70.55**	**25**	P	P	18 53 29.9	-0.7
	baz=260						
C27K	**Jago River**	**70.57**	**21**	P	P	18 53 30.1	-0.5
	baz=257						
H27K	**Steamboat Moun**	**70.70**	**24**	P	P	18 53 31.1	-0.3
	baz=260						
G27K	**Doyon Strip**	**70.75**	**24**	P	**P**	**18 53 31.4**	**-0.3**
	baz=260						
YUK8	**Steele Glacier**	**70.76**	**30**	P	**P**	**18 53 32.2**	**0.0**
	baz=264						
PNL	**Peninsula**	**70.77**	**31**	P	**P**	**18 53 32.3**	**+0.3**
PNL	**Peninsula**	**70.77**	**31**	P	P	18 53 31.6	-0.4
	baz=264						
E27K	**Coleen River**	**71.02**	**22**	P	P	18 53 32.9	-0.4
	baz=259						
I28M	**Miner Creek**	**71.22**	**25**	P	P	18 53 33.8	-0.9
	baz=262						
O29M	**Mount Kennedy**	**71.24**	**31**	P	P	18 53 34.4	-0.5
	baz=265						
DAWY	**Dawson**	**71.27**	**27**	P	**P**	**18 53 34.7**	**-0.3**
	baz=263						
YUK4	**Talbot Arm**	**71.30**	**30**	P	**P**	**18 53 35.4**	**-0.1**
	baz=264						
PPT2	**Papeete2**	**71.35**	**114**	*e*LR	LR	19 15 19.6	
PPT2				*e*LR	LR	19 15 29.6	
	comp=Z,87nm,25.2s						
	comp=Z,97nm,26.2s						
YUK6	**Outpost Mounta**	**71.40**	**30**	P	P	18 53 35.6	-0.4
	baz=265						
D27M	**Malcolm River**	**71.44**	**21**	P	**P**	**18 53 35.9**	**0.0**
	baz=260						
M29M	**Somme Creek**	**71.50**	**28**	P	**P**	**18 53 36.4**	**0.0**
	baz=264						
P29M	**Windy Craggy**	**71.61**	**31**	P	**P**	**18 53 37.0**	**-0.1**
	baz=266						
L29M	**L29M**	**71.72**	**28**	P	**P**	**18 53 37.5**	**-0.2**
L29M				IAmb	IAmb	18 53 42.8	
	comp=Z,27nm,1.8s						
L29M	**L29M**	**71.72**	**28**	P	**P**	**18 53 38.0**	**+0.3**
	baz=264						
HYT	**Haines Junctio**	**71.81**	**30**	P	**P**	**18 53 38.4**	**0.0**
	baz=266						
J29N	**Klondike Camp**	**71.82**	**26**	P	P	18 53 37.5	-0.8
	baz=264						
E28M	**Babbage River**	**71.84**	**22**	IAmb	IAmb	18 54 22.0	
	comp=Z,17nm,1.8s						
E28M	**Babbage River**	**71.84**	**22**	P	P	18 53 37.8	-0.5
	baz=261						
I29M	**Ogilvie Camp,**	**71.89**	**25**	P	**P**	**18 53 38.5**	**-0.1**
	baz=264						
H29M	**Whitestone**	**71.96**	**24**	P	P	18 53 38.4	-0.7
	baz=263						
P30M	**Million Dollar**	**72.03**	**31**	P	P	18 53 39.3	-0.4
	baz=266						
N30M	**Aishikik Lake**	**72.06**	**30**	P	P	18 53 39.4	-0.4
	baz=266						
K29M	**Barlow Dome**	**72.06**	**27**	IAmb	IAmb	18 55 50.6	
	comp=Z,16nm,1.6s						
K29M	**Barlow Dome**	**72.06**	**27**	P	**P**	**18 53 39.6**	**-0.3**
	baz=265						
G29M	**Pine Creek**	**72.18**	**24**	P	**P**	**18 53 40.2**	**-0.1**
	baz=263						
D28M	**Stokes Point**	**72.24**	**21**	P	P	18 53 39.9	-0.7
	baz=262						
M30M	**Minto, Yukon**	**72.28**	**28**	P	**P**	**18 53 40.9**	**-0.2**
	baz=266						
E29M	**Blow River**	**72.41**	**22**	P	**P**	**18 53 41.8**	**+0.2**
	baz=263						
EPYK	**Eagle Plains**	**72.64**	**24**	IAmb	IAmb	18 54 58.9	
	comp=Z,24nm,1.8s						
EPYK	**Eagle Plains**	**72.64**	**24**	P	**P**	**18 53 43.1**	**-0.1**
	baz=265						
J30M	**Hart River**	**72.64**	**26**	P	**P**	**18 53 43.3**	**0.0**
	baz=266						
I30M	**Mount Dempster**	**72.68**	**26**	P	**P**	**18 53 44.1**	**+0.6**
	baz=265						
SIT	**Sitka**	**72.75**	**34**	P	**P**	**18 53 43.9**	**+0.1**
	baz=269						
SKAG	**Skagway**	**72.82**	**32**	P	**P**	**18 53 44.6**	**+0.4**
	baz=268						
G30M	**tAoh Zraii Nji**	**72.89**	**24**	P	P	18 53 44.1	-0.5
	baz=265						
F30M	**Barrier River**	**73.12**	**23**	IAmb	IAmb	18 54 13.1	
	comp=Z,26nm,1.8s						
F30M	**Barrier River**	**73.12**	**23**	P	**P**	**18 53 45.5**	**-0.3**
	baz=265						
R32K	**Eaglecrest**	**73.21**	**33**	P	**P**	**18 53 46.5**	**-0.1**
	baz=269						
M31M	**Drury Creek, Y**	**73.38**	**29**	P	**P**	**18 53 47.3**	**-0.2**
	baz=268						
H31M	**Peel River**	**73.56**	**25**	P	**P**	**18 53 48.7**	**+0.2**
	baz=267						
TBI	**Tubuai**	**73.63**	**120**	*e*LR	LR	19 16 14.7	
	comp=Z,594nm,31.5s						
P32M	**Atlin**	**73.65**	**32**	P	**P**	**18 53 49.1**	**-0.1**
	baz=269						
G31M	**Satah River**	**73.66**	**24**	P	P	18 53 47.6	-1.4
G31M	**Satah River**	**73.66**	**24**	P	P	18 53 48.2	-0.8
	baz=267						
F31M	**Tsiigehtchic**	**73.89**	**23**	P	P	18 53 49.7	-0.7
	baz=267						
INK	**Inuvik**	**74.02**	**22**	P	P	18 53 49.6	-1.5
INK	**Inuvik**	**74.02**	**22**	P	P	18 53 50.3	-0.8
	baz=267						
Q32M	**Nakina River**	**74.39**	**32**	P	**P**	**18 53 53.7**	**0.0**
	baz=271						
DIB	**Dawson Inlet,**	**74.42**	**38**	P	P	18 53 52.7	-1.0
MMPY	**Sheldon Lake,**	**74.84**	**28**	P	**P**	**18 53 56.6**	**+0.5**
MMPY				IAmb	IAmb	18 54 41.1	
	comp=Z,24nm,1.9s						
S34M	**Telegraph Cree**	**75.01**	**33**	P	**P**	**18 53 57.6**	**+0.5**
	baz=272						
R33M	**Jennings River**	**75.05**	**32**	P	**P**	**18 53 57.5**	**+0.1**
R33M				IAmb	IAmb	18 53 59.1	
	comp=Z,35nm,2.0s						
R33M	**Jennings River**	**75.05**	**32**	P	**P**	**18 53 57.9**	**+0.5**
	baz=272						
T35M	**Bob Quinn**	**75.53**	**34**	P	**P**	**18 54 00.9**	**+0.8**
T35M	**Bob Quinn**	**75.53**	**34**	P	**P**	**18 54 00.6**	**+0.5**
	baz=273						
DLBC	**Dease Lake**	**75.58**	**33**	P	**P**	**18 54 00.7**	**+0.2**
DLBC				IAmb	IAmb	18 54 21.3	
	comp=Z,16nm,1.2s						
DLBC	**Dease Lake**	**75.58**	**33**	P	**P**	**18 54 00.6**	**+0.2**
	baz=273						
GRNB	**Grenville Isla**	**75.89**	**37**		**P**	**18 54 02.6**	**+0.4**
WTLY	**Watson Lake, Y**	**76.12**	**31**	P	**P**	**18 54 03.4**	**0.0**
	baz=274						
TGTN	**Hyland Airport**	**76.29**	**29**	P	**P**	**18 54 04.5**	**+0.1**
	baz=274						
ABKAR	**Akbulak array**	**76.74**	**318**	P	P	18 54 04.6	-2.5
A36M	**Sachs Harbour**	**76.83**	**19**	P	P	18 54 04.8	-2.3
A36M				IAmb	IAmb	18 54 47.5	
	comp=Z,6.4nm,0.6s						
A36M	**Sachs Harbour**	**76.83**	**19**	P	**P**	**18 54 07.1**	**0.0**
	baz=274						
C36M	**Paulatuk**	**77.43**	**21**	P	P	18 54 08.4	-2.2
C36M	**Paulatuk**	**77.43**	**21**	P	P	18 54 10.2	-0.4
	baz=276						
LIRD	**Liard River Hi**	**77.53**	**32**	P	P	18 54 11.0	-0.3
	baz=276						
TOAD	**Toad River Com**	**78.04**	**32**	P	**P**	**18 54 14.1**	**-0.2**
	baz=277						
CLRS	**Cowichan Lake**	**80.11**	**42**	P	P	18 54 24.9	-0.8
NLWA	**Neilton Lookou**	**80.52**	**44**	P	P	18 54 27.6	-0.5
RADR	**Rader Ridge**	**80.74**	**44**	P	**P**	**18 54 29.8**	**+0.6**
GNW	**Green Mountain**	**81.19**	**43**	P	**P**	**18 54 31.5**	**0.0**
GNW				IAmb	IAmb	18 54 33.3	
	comp=Z,15nm,0.8s						
BUCK	**Buck Mountain**	**81.71**	**47**	P	**P**	**18 54 35.2**	**+0.8**
H04A	**Detroit Lake**	**82.18**	**46**	P	P	18 54 36.0	-0.9
YBH	**Yreka Blue Hor**	**82.39**	**49**	P	**P**	**18 54 38.6**	**+0.5**
YBH				IAmb	IAmb	18 54 46.2	
	comp=Z,39nm,1.7s						
YKA	**Yellowknife Ar**	**82.48**	**27**	P	P	18 54 36.6	-1.4
YKA	**Yellowknife Ar**	**82.48**	**27**	P	P	18 54 35.9	-2.1
	comp=Z,0.5nm,0.4s,baz=233,slow=13,SNR=20						
	comp=Z,0.5nm,0.4s						
L04D	**Klamath Falls**	**82.59**	**48**	P	**P**	**18 54 39.5**	**+0.3**
EUNU	**Eureka**	**82.63**	**8**	P	P	18 54 37.1	-1.5
EUNU				IAmb	IAmb	18 56 43.4	
	comp=Z,22nm,1.9s						
O02D	**Mt. Diablo Mer**	**82.65**	**51**	P	**P**	**18 54 40.3**	**+0.8**
LTY	**Liberty**	**82.68**	**43**	P	P	18 54 39.0	-0.5
LTY				IAmb	IAmb	18 55 00.7	
	comp=Z,42nm,1.7s						
J05D	**Fort Rock, OR**	**83.14**	**47**	P	P	18 54 41.4	-0.6
J05D				IAmb	IAmb	18 54 43.6	
	comp=Z,20nm,0.8s						
G06A	**Carlson Farm,**	**83.14**	**45**	P	P	18 54 41.4	-0.5
B08A	**Colville Reser**	**83.32**	**42**	P	P	18 54 42.2	-0.6
B08A				IAmb	IAmb	18 54 43.4	
	comp=Z,13nm,0.8s						
E07A	**Sunnyside**	**83.38**	**44**	P	P	18 54 42.7	-0.4
E07A				IAmb	IAmb	18 54 44.1	
	comp=Z,20nm,1.2s						
WAH2	**Wahluke Slope**	**83.53**	**44**	P	P	18 54 43.1	-0.7
WAH2				IAmb	IAmb	18 54 45.3	
	comp=Z,14nm,0.9s						
HAWA	**Hanford**	**83.64**	**44**	P	P	18 54 44.0	-0.3
HAWA				IAmb	IAmb	18 54 45.4	
	comp=Z,16nm,1.1s						
D08A	**Wollman Farm,**	**83.89**	**43**	P	**P**	**18 54 45.6**	**-0.1**
D08A				IAmb	IAmb	18 54 46.4	
	comp=Z,12nm,1.1s						
SPITS	**Spitsbergen Ar**	**83.96**	**351**	P	P	18 54 43.9	-1.5
	comp=Z,5.1nm,0.9s,baz=106,slow=5.3,SNR=9.1						
	comp=Z,5.1nm,0.9s						
C09A	**Chrisman Ranch**	**84.14**	**42**	IAmb	IAmb	18 54 47.5	
	comp=Z,6.4nm,0.6s						
RES	**Resolute Bay**	**84.27**	**13**	P	P	18 54 45.5	-1.5
RES				IAmb	IAmb	18 57 02.7	
	comp=Z,14nm,1.9s						
BEKR	**Beckworth**	**84.54**	**50**	P	P	18 54 47.3	-2.0
BEKR				IAmb	IAmb	18 54 49.9	
	comp=Z,6.2nm,0.8s						
NEW	**Newport**	**84.78**	**42**	P	P	18 54 49.6	-0.5
NEW				IAmb	IAmb	18 54 50.9	
	comp=Z,9.8nm,0.7s						
CMB	**Columbia Colle**	**84.94**	**52**	P	P	18 54 50.1	-1.0
J08A	**Circle Bar Ran**	**85.08**	**47**	IAmb	IAmb	18 54 53.5	
	comp=Z,8.4nm,0.9s						
F10A	**Beach Ranch, E**	**85.29**	**44**	IAmb	IAmb	18 57 51.5	
	comp=Z,15nm,1.4s						
BMO	**Blue Mountains**	**85.53**	**45**	P	P	18 54 53.2	-0.9
BMO				IAmb	IAmb	18 54 55.5	
	comp=Z,16nm,1.1s						
RKT	**Rikitea**	**86.08**	**115**	*e*LR	LR	19 22 20.5	
	comp=Z,402nm,29.2s						
PLID	**Pearl Lake**	**86.36**	**45**	P	P	18 54 57.3	-1.0
PLID				IAmb	IAmb	18 54 58.5	
	comp=Z,12nm,0.7s						
NVAR	**Mina Array Bea**	**86.43**	**51**	P	P	18 54 57.2	-1.6
NVAR	**Mina Array Bea**	**86.43**	**51**	P	**P**	**18 54 59.2**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=274,slow=5.2,SNR=18						
	comp=Z,2.6nm,0.6s						
NV11	**Mina Array Sit**	**86.55**	**51**	P	P	18 54 58.0	-1.3
MFID	**Camas Ranch**	**86.93**	**46**	P	P	18 55 00.5	-0.6
ARCES	**ARCESS Array B**	**87.07**	**342**	P	P	18 54 58.8	-2.2
	comp=Z,11nm,1.3s,baz=38,slow=6.1,SNR=3.6						
	comp=Z,11nm,1.3s						
MZP	**Montezuma Peak**	**87.32**	**52**	P	P	18 55 02.6	-0.6
HLID	**Hailey**	**87.88**	**46**	IAmb	IAmb	18 55 06.8	
	comp=Z,10nm,0.8s						
WCT	**Wildcat Mounta**	**88.15**	**53**	P	**P**	**18 55 07.0**	**0.0**
WCT				IAmb	IAmb	18 55 08.3	
	comp=Z,16nm,1.5s						
TPNV	**Topopah Spring**	**88.39**	**52**	P	P	18 55 07.9	-0.3
TPNV				IAmb	IAmb	18 55 29.3	
	comp=Z,8.8nm,1.0s						
R11B	**Troy Canyon, C

PDAR LR LR 19 32 08.7
comp=Z,43nm,18.9s,baz=262,slow=33
comp=Z,1.5nm,0.5s
U15A North Rim 91.59 52 P P 18 55 22.8 -0.5
U15A IAmb IAmb 18 55 25.0
comp=Z,5.5nm,0.9s
VNDA Vanda 91.61 176 P P 18 55 21.0 -1.0
comp=Z,1.3nm,0.8s,baz=324,slow=4.0,SNR=4.6
comp=Z,1.3nm,0.8s
SRU San Rafael Swe 92.05 49 IAmb IAmb 18 55 26.0
comp=Z,5.8nm,0.9s
RDMU Red Mountain 92.25 47 IAmb IAmb 18 55 46.7
comp=Z,6.1nm,0.7s
WUAZ Wupatki 92.58 53 IAmb IAmb 18 55 49.7
comp=Z,6.8nm,1.1s
PV23 Carpenter Ridg 93.38 49 P P 18 55 30.2 -1.4
PV13 Radium Mtn., P 93.63 49 P P 18 55 31.4 -1.2
ANMO Albuquerque 95.56 52 LR LR 19 37 44.9
comp=Z,57nm,18.2s,baz=102,slow=34
SNAA Sanae 119.05 191 PKP **PKPdf 19 01 02.2 -1.5**
comp=Z,1.1nm,0.8s,baz=184,slow=14,SNR=1.8
BOSA Boshof 122.77 245 PKP **PKPdf 19 01 10.9 -1.3**
comp=Z,1.0nm,0.6s,baz=160,slow=2.7,SNR=5.6
TORD Torodi Ar. Bea 135.16 305 PKP **PKPdf 19 01 33.8 -2.2**
comp=Z,64nm,0.3s,baz=36,slow=2.8,SNR=1.1
PLCA Paso Flores 138.73 137 PKP **PKPdf 19 01 41.3 -0.7**
comp=Z,1.2nm,0.8s,baz=233,slow=4.3,SNR=4.7
CO01 Juntas del Tor 143.53 122 PKPdf PKPab 19 01 48.8 +1.2
AC05 El Transito 143.73 120 PKPab 19 01 49.3 +1.0
DBIC Dimbokro 144.14 303 PKPdf **PKPab 19 01 48.8 -1.2**
DBIC Dimbokro 144.14 303 PKP **PKPab 19 01 48.7 -1.3**
comp=Z,3.5nm,0.5s,baz=49,slow=3.5,SNR=11
PB14 IPOC Station P 144.63 113 PKPdf **PKPab 19 01 51.4 -0.5**
TRQA Tornquist 145.73 140 PKPbc **PKPdf 19 01 54.4 0.0**
LPAZ La Paz 147.57 99 PKPbc **PKPdf 19 01 58.9 +0.1**
comp=Z,5.6nm,0.8s,baz=318,slow=1.4,SNR=18
BOAV Boa Vista 149.72 60 PKPbc **PKPdf 19 02 04.3 +2.6**

*NOU **06** 18:44:39.9, 10°.35S×162°.02E, h61km, MLv5.1/11, Solomon Islands*
*NEIC **06** 18:44:42.8±1.6, 10°.2S±0°.1×161°.9E±0°.1, h58km±6km, mb5.0/159, Error ellipse: s-maj=16.9km s-min=12.3km az=46.0*
*BJI **06** 18:44:42.6, 9°.82S×161°.68E, h57km, mB5.0/14, mb5.0/59, Ms4.5/2, Ms7 4.4/2*
*IDC **06** 18:44:44.4±2.3, 10°.25S×161°.86E, h79km±18km, mb4.3/26, mbtmp4.6/28, MS3.6/29, Error ellipse: s-maj=19.1km s-min=11.4km az=83.0*
ISC 06 18:44:41.4±0.3, 10°.28S±0°.04×161°.97E±0°.05, h54km, n456, σ1§29/393, mb4.9/123, MS3.5/25, 2C-3D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALEG	**Aligegeo Malai**	**1.97**	**320**	P	**Pn**	**18 45 11.6**	**-0.8**
HNR	**Honiara**	**2.16**	**293**		**Pn**	**18 45 15.4**	**+0.4**
HNR	**Honiara**	**2.16**	**293**	P	**Pn**	**18 45 15.5**	**+0.5**
	1μm,0.4s,baz=166,slow=8.3,SNR=134						
HNR				S	**Sn**	**18 45 42.8**	**+2.2**
	5μm,0.4s,baz=176,slow=22,SNR=23						
HNR				LR	LR	18 46 23.7	
	comp=Z,3μm,18.6s,baz=140,slow=48						
HNR	**Honiara**	**2.16**	**293**	P	**Pn**	**18 45 14.6**	**-0.4**
HNR	**Honiara**	**2.16**	**293**	S	**Sn**	**18 45 41.8**	**+1.1**
NGOA	**Tingoa Renbel**	**2.26**	**236**	P	**Pn**	**18 45 15.1**	**-1.2**
NGOA	**Tingoa Renbel**	**2.26**	**236**	S	**Sn**	**18 45 42.0**	**-1.0**
SAVO	**Savo Central**	**2.40**	**298**	P	**Pn**	**18 45 18.8**	**+0.5**
SAVO	**Savo Central**	**2.40**	**298**	S	**Sn**	**18 45 48.3**	**+1.7**
TATA	**Tatamba Isabel**	**2.85**	**311**	P	**Pn**	**18 45 23.7**	**-0.7**
TATA	**Tatamba Isabel**	**2.85**	**311**	S	**Sn**	**18 45 57.8**	**+0.3**
LUES	**Luesalemba Tem**	**3.90**	**96**	P	Pn	18 45 36.7	-2.1
LUES	**Luesalemba Tem**	**3.90**	**96**	S	**Sn**	**18 46 20.9**	**-2.5**
RABL	**Rabaul**	**11.45**	**301**		**Pn**	**18 47 22.8**	**+0.5**
DZM	**Mont Dzumac**	**12.48**	**160**	*e*LR	LR	18 50 36.7	
	558nm,23.8s						
DZM	**Mont Dzumac**	**12.48**	**160**	P	**Pn**	**18 47 38.1**	**+1.6**
	3.5nm,0.4s,baz=345,slow=9.6,SNR=41						
DZM				S	**Sn**	**18 49 53.4**	**-0.7**
	4.1nm,0.7s,baz=342,slow=20,SNR=2.0						
DZM				LR	LR	18 51 38.4	
	comp=Z,381nm,20.8s,baz=357,slow=33						
ONTNC	**Ouen Toro**	**12.71**	**161**	Pn	**Pn**	**18 47 40.2**	**+0.9**
PMG	**Port Moresby**	**14.62**	**272**	LR	LR	18 53 14.6	
	comp=Z,635nm,21.5s,baz=91,slow=35						
MSVF	**Nonsavu**	**17.27**	**117**	LR	LR	18 53 54.8	
	comp=Z,314nm,19.2s,baz=292,slow=32						
EIDS	**Eidsvold**	**18.21**	**213**		**Pn**	**18 48 51.2**	**+0.7**
COEN	**Coen**	**18.73**	**257**	P	**Pn**	**18 48 56.5**	**-0.3**
ARMA	**Armidale**	**22.23**	**204**	P	**P**	**18 49 34.7**	**+1.0**
JAY	**Jayapura**	**22.48**	**289**	P	**P**	**18 49 34.4**	**-2.1**
	4.7nm,0.4s,baz=158,slow=6.2,SNR=7.2						
	4.7nm,0.4s						
SMPI	**Sarmi**	**24.53**	**288**	P	**P**	**18 49 54.9**	**-1.2**
	37nm,0.8s						
OUZ	**Omahuta**	**26.99**	**159**	P	**P**	**18 50 20.7**	**+2.5**
CAN	**Canberra**	**27.58**	**203**	P	**P**	**18 50 26.1**	**+2.5**
CAN				IAmb	IAmb	18 50 54.8	
	comp=Z,112nm,2.0s						
WR0	**Warramunga Arr**	**28.13**	**247**	P	**P**	**18 50 27.9**	**-0.7**
WB0	**Warramunga Arr**	**28.21**	**247**	P	**P**	**18 50 29.4**	**+0.1**
WB0				IAmb	IAmb	18 50 30.6	
	comp=Z,17nm,0.7s						
WB2	**Warramunga Arr**	**28.30**	**247**	P	**P**	**18 50 29.8**	**-0.3**
WRA	**Warramunga Arr**	**28.31**	**247**	P	**P**	**18 50 29.4**	**-0.8**
WRA	**Warramunga Arr**	**28.31**	**247**	P	**P**	**18 50 29.9**	**-0.3**
	comp=Z,8.0nm,0.6s,baz=75,slow=9.3,SNR=24						
WRA				LR	LR	19 01 15.5	
	comp=Z,372nm,18.8s,baz=20,slow=35						
	comp=Z,8.0nm,0.6s						
STKA	**Stephens Creek**	**28.58**	**218**	P	**P**	**18 50 33.2**	**+0.8**
STKA	**Stephens Creek**	**28.58**	**218**	P	**P**	**18 50 33.3**	**+0.8**
	comp=Z,7.6nm,0.7s,baz=58,slow=13,SNR=19						
STKA				LR	LR	19 01 40.6	
	comp=Z,656nm,19.0s,baz=33,slow=36						
	comp=Z,7.6nm,0.7s						
GUMO	**Guam**	**29.16**	**324**	LR	LR	19 03 45.6	
	comp=Z,91nm,18.0s,baz=152,slow=39						
AS31	**Alice Springs**	**29.88**	**240**	P	**P**	**18 50 42.6**	**-1.6**
ASAR	**Alice Springs**	**29.88**	**240**	P	**P**	**18 50 42.6**	**-1.6**
ASAR	**Alice Springs**	**29.88**	**240**	P	**P**	**18 50 43.8**	**-0.4**
	comp=Z,8.7nm,0.9s,baz=71,slow=9.4,SNR=28						
ASAR				LR	LR	19 02 38.8	
	comp=Z,695nm,18.6s,baz=68,slow=36						
	comp=Z,8.7nm,0.9s						
MTN	**Manton Dam**	**30.30**	**262**	P	**P**	**18 50 48.1**	**+0.1**
MTN				IAmb	IAmb	18 51 52.5	
	comp=Z,60nm,1.8s						
TOO	**Toolangi**	**30.96**	**206**	P	**P**	**18 50 54.7**	**+1.2**
URZ	**Urewera**	**30.99**	**156**	P	**P**	**18 50 55.6**	**+1.9**
RTZ	**Ruatahuna**	**31.25**	**157**	P	**P**	**18 50 57.6**	**+1.5**
RTZ				IAmb	IAmb	18 50 58.2	
	comp=Z,15nm,0.7s						
PUZ	**Puketiti**	**31.30**	**155**	P	**P**	**18 50 57.9**	**+1.4**
BKZ	**Black Stump Fm**	**31.55**	**158**	P	**P**	**18 51 00.6**	**+1.9**
BKZ				IAmb	IAmb	18 51 01.7	
	comp=Z,16nm,0.6s						
BKZ	**Black Stump Fm**	**31.55**	**158**	P	**P**	**18 51 00.6**	**+1.9**
TSZ	**Takapari Road**	**32.15**	**160**	P	**P**	**18 51 05.9**	**+2.0**
NNZ	**Nelson**	**32.41**	**164**	P	**P**	**18 51 09.5**	**+3.3**
MRNZ	**Matariki Terra**	**32.42**	**165**	P	**P**	**18 51 07.7**	**+1.5**
MRZ	**Mangatainoka R**	**32.57**	**161**	P	**P**	**18 51 09.3**	**+1.8**
BBOO	**Buckleboo**	**32.74**	**223**	P	**P**	**18 51 09.7**	**+0.5**
BBOO				IAmb	IAmb	18 51 10.4	
	comp=Z,27nm,0.9s						
TUWZ	**Tuamarina**	**32.77**	**163**	P	**P**	**18 51 11.1**	**+1.8**
KNRA	**Kununurra**	**32.77**	**257**	P	**P**	**18 51 09.0**	**-0.6**
THZ	**Tophouse**	**32.80**	**165**	P	**P**	**18 51 10.3**	**+0.7**
BFZ	**Birch Farm**	**32.81**	**160**	P	**P**	**18 51 10.3**	**+0.7**
MGBR	**Mount Gambier**	**33.42**	**212**	P	**P**	**18 51 16.1**	**+1.1**
KHZ	**Kahutara**	**33.58**	**164**	P	**P**	**18 51 16.9**	**+0.7**
LTZ	**Lake Taylor**	**33.60**	**166**	P	**P**	**18 51 18.3**	**+1.7**
FOZ	**Fox Glacier**	**33.82**	**170**	P	**P**	**18 51 20.0**	**+1.6**
OXZ	**Oxford**	**34.07**	**167**	P	**P**	**18 51 21.3**	**+0.7**
OXZ	**Oxford**	**34.07**	**167**	P	**P**	**18 51 22.0**	**+1.4**
JCZ	**Jackson Bay**	**34.18**	**171**	P	**P**	**18 51 23.2**	**+1.6**
RPZ	**Rata Peaks**	**34.23**	**168**	P	**P**	**18 51 23.2**	**+1.3**
MQZ	**McQueen's Vall**	**34.57**	**166**	P	**P**	**18 51 25.9**	**+1.0**
LBZ	**Lake Benmore**	**34.71**	**170**	P	**P**	**18 51 26.6**	**+0.5**
TMZ	**Timaru**	**34.86**	**169**	P	**P**	**18 51 27.2**	**-0.2**
DCZ	**Deep Cove**	**35.34**	**174**	P	**P**	**18 51 31.9**	**+0.4**
DCZ				IAmb	IAmb	18 52 37.5	
	comp=Z,9.4nm,0.7s						
ODZ	**Otahua Downs**	**35.43**	**169**	P	**P**	**18 51 33.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**36.01**	**253**	P	**P**	**18 51 36.7**	**-1.0**
SOEI	**Soe**	**37.11**	**267**	P	**P**	**18 51 46.5**	**-0.8**
FORT	**Forrest**	**37.51**	**232**	P	**P**	**18 51 50.6**	**+0.4**
RAR	**Rarotonga**	**38.30**	**111**	LR	LR	19 03 36.5	
	comp=Z,54nm,21.7s,baz=278,slow=30						
MMRI	**Maumere**	**39.21**	**269**	P	**P**	**18 52 02.9**	**-1.8**
LUWI	**Luwuk**	**40.02**	**281**	P	**P**	**18 52 10.3**	**-1.2**
LUWI				IAmb	IAmb	18 52 52.8	
	comp=Z,28nm,0.9s						
DAV	**Davao City (W)**	**40.13**	**294**	LR	LR	19 06 56.4	
	comp=Z,35nm,19.1s,baz=139,slow=33						
JCJ	**Chichijima**	**41.82**	**333**	LR	LR	19 09 09.6	
	comp=Z,37nm,21.2s,baz=144,slow=35						
BNSI	**Bone**	**41.90**	**275**	P	**P**	**18 52 26.2**	**-0.7**
	comp=Z,27nm,1.3s						
PSA00	**Pilbara Seismi**	**41.90**	**249**	P	**P**	**18 52 25.9**	**-1.1**
PSA00	**Pilbara Seismi**	**41.90**	**249**	P	**P**	**18 52 26.1**	**-0.8**
PSA00				IAmb	IAmb	18 52 28.6	
	comp=Z,10nm,0.6s						
MBWA	**Marble Bar**	**41.95**	**250**	P	**P**	**18 52 26.1**	**-1.2**
MBWA	**Marble Bar**	**41.95**	**250**	P	**P**	**18 52 27.0**	**-0.3**
KAPI	**Kappang**	**42.14**	**274**	LR	LR	19 10 18.7	
	comp=Z,66nm,21.4s,baz=104,slow=36						
TOLI2	**Tolitoli**	**42.52**	**283**	P	**P**	**18 52 30.0**	**-2.0**
PCI	**Palu**	**42.90**	**280**	P	**P**	**18 52 35.0**	**-0.1**
	comp=Z,1μmcomp=Z,23nm,1.0s						
JMZ	**Minamidaito 2**	**46.72**	**321**	P	**P**	**18 53 04.5**	**-0.8**
MORW	**Morawa**	**46.76**	**240**	P	**P**	**18 53 05.8**	**+0.1**
MORW				IAmb	IAmb	18 53 06.9	
	comp=Z,37nm,1.2s						
NWAO	**Narrogin (SRO)**	**46.85**	**234**	P	**P**	**18 53 06.4**	**+0.2**
NWAO	**Narrogin (SRO)**	**46.85**	**234**	LR	LR	19 12 39.5	
	comp=Z,151nm,18.6s,baz=270,slow=36						
NWAO	**Narrogin (SRO)**	**46.85**	**234**	P	**P**	**18 53 06.6**	**+0.4**
JAGI	**Jajag, Banyuwa**	**47.18**	**268**	P	**P**	**18 53 06.8**	**-2.4**
JAGI	**Jajag, Banyuwa**	**47.18**	**268**	P	**P**	**18 53 06.7**	**-2.4**
GIRL	**Giralia**	**47.20**	**249**	P	**P**	**18 53 10.0**	**+0.8**
TGY	**Tagaytay City**	**47.36**	**300**	LR	LR	19 11 26.1	
	comp=Z,62nm,21.9s,baz=146,slow=34						
PPT2	**Papeete2**	**47.48**	**104**	*e*S	**S**	**18 59 59.9**	**-2.8**
	comp=Z,47nm,27.2s						
PPT2				*e*LR	LR	19 06 42.4	
	comp=Z,141nm,24.5s						
PPT2				*e*LR	LR	19 06 45.7	
	comp=Z,111nm,22.2s						
TBI	**Tubuai**	**48.06**	**112**	*e*LR	LR	19 06 52.1	
	comp=Z,394nm,24.0s						
KKM	**Kota Kinabalu**	**48.37**	**288**	P	**P**	**18 53 17.1**	**-1.3**
KKM				IAmb	IAmb	18 53 17.9	
	comp=Z,18nm,0.9s						
JOW	**Kunigami**	**49.30**	**319**	P	**P**	**18 53 24.1**	**-1.1**
	comp=Z,11nm,0.6s,baz=129,slow=8.0,SNR=4.7						
	comp=Z,11nm,0.6s						
UGM	**Wanagama**	**50.81**	**268**	P	**P**	**18 53 35.9**	**-1.1**
SMRI	**Semarang**	**51.00**	**269**	P	**P**	**18 53 37.3**	**-1.1**
INU	**Inuyama**	**51.15**	**334**	P	**P**	**18 53 37.8**	**-1.3**
INU				IAmb	IAmb	18 53 39.8	
	comp=Z,12nm,0.9s						
INU	**Inuyama**	**51.15**	**334**	P	**P**	**18 53 38.5**	**-0.5**
INU				pP	**pP**	**18 53 54.9**	**+1.8**
JGF	**Kuroka**	**51.22**	**334**	P	**P**	**18 53 38.3**	**-1.3**
JMN	**Monobe**	**51.28**	**330**	P	**P**	**18 53 39.4**	**-0.7**
YOJ	**Yonaguni jima**	**51.36**	**313**	P	**P**	**18 53 40.4**	**-0.4**
MJAR	**Matsushiro Arr**	**51.66**	**336**	P	**P**	**18 53 41.6**	**-1.3**
	comp=Z,3.0nm,0.6s,baz=169,slow=8.4,SNR=19						
MJAR				LR	LR	19 14 33.5	
	comp=Z,30nm,21.3s,baz=148,slow=35						
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**51.67**	**336**	P	**P**	**18 53 41.6**	**-1.3**
MAJO				IAmb	IAmb	18 53 42.3	
	comp=Z,8.9nm,0.7s						
MAJO	**Matsushiro**	**51.67**	**336**	P	**P**	**18 53 41.7**	**-1.3**
MAJO				pP	**pP**	**18 53 58.0**	**+1.1**
MJB9	**Matsu-Tunnel**	**51.67**	**336**	P	**P**	**18 53 41.7**	**-1.2**
MJB9				IAmb	IAmb	18 53 42.3	
	comp=Z,8.6nm,0.7s						
TWG	**Pinlang**	**51.83**	**310**	P	**P**	**18 53 41.9**	**-2.5**
TWG				IAmb	IAmb	18 53 43.8	
	comp=Z,10nm,0.7s						
JMM	**Marumori**	**51.84**	**339**	P	**P**	**18 53 43.9**	**-0.2**
YULB	**Yu-li**	**51.99**	**311**	P	**P**	**18 53 44.3**	**-1.3**
NACB	**Ninganchiao**	**52.22**	**312**	P	**P**	**18 53 46.4**	**-0.8**
JNU	**Nakatsue**	**52.35**	**327**	P	**P**	**18 53 47.6**	**-0.5**
JNU				IAmb	IAmb	18 53 48.3	
	comp=Z,13nm,0.9s						
JNU	**Nakatsue**	**52.35**	**327**	LR	LR	19 15 58.3	
	comp=Z,32nm,18.1s,baz=126,slow=36						
TPUB	**Ta-pu**	**52.44**	**310**	P	**P**	**18 53 47.8**	**-1.2**
SSLB	**Suanglung**	**52.47**	**311**	P	**P**	**18 53 48.3**	**-0.9**
YHNB	**Yeheng**	**52.68**	**312**	P	**P**	**18 53 50.4**	**-0.3**
TATO	**Taipei**	**52.78**	**312**	P	**P**	**18 53 50.9**	**-0.4**
TATO	**Taipei**	**52.78**	**312**	P	**P**	**18 53 50.9**	**-0.4**
JSD	**Sado**	**52.94**	**337**	P	**P**	**18 53 52.4**	**+0.1**
TJN	**Taejon**	**56.70**	**327**	P	**P**	**18 54 19.2**	**-0.3**
JKA	**Kamikawa-asahi**	**56.93**	**343**	P	**P**	**18 54 21.7**	**+0.7**
ASAJ	**Asahikawa**	**56.93**	**343**	P	**P**	**18 54 21.2**	**+0.2**
	comp=Z,13nm,0.6s,baz=223,slow=6.6,SNR=16						
ASAJ				LR	LR	19 15 30.2	
	comp=Z,74nm,21.7s,baz=166,slow=32						
	comp=Z,13nm,0.6s						
KSRS	**Korea Array**	**57.21**	**328**	P	**P**	**18 54 23.1**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=142,slow=7.7,SNR=12						
KSRS				LR	LR	19 19 31.7	
	comp=Z,21nm,18.2s,baz=125,slow=36						
	comp=Z,2.2nm,0.8s						
NJ2	**Nanjing**	**58.91**	**317**	*e*P	**P**	**18 54 35.6**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,21nm,0.5s						
YSS	**Yuzhno-Sakhali**	**59.51**	**345**	P	**P**	**18 54 39.6**	**+0.7**
USA0B	**Ussuriysk Arra**	**60.66**	**336**	P	**P**	**18 54 47.5**	**+0.6**
USRK	**Ussuriysk Ar.**	**60.66**	**336**	P	**P**	**18 54 47.4**	**+0.4**
	comp=Z,19nm,0.8s,baz=140,slow=5.9,SNR=18						
USRK				LR	LR	19 19 00.8	
	comp=Z,36nm,21.4s,baz=166,slow=34						
	comp=Z,19nm,0.8s						
WHN	**Wuhan**	**61.14**	**313**	P	**P**	**18 54 50.3**	**-0.2**
RKT	**Rikitea**	**61.33**	**111**	*e*LR	LR	19 13 09.9	
	comp=Z,432nm,26.0s						
MDJ	**Mudanjiang**	**62.00**	**334**	IAmb	IAmb	18 54 57.3	
	comp=Z,13nm,1.2s						
MDJ	**Mudanjiang**	**62.00**	**334**	P	**P**	**18 54 56.1**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIA	**Tai'an**	**62.61**	**320**	P	**P**	**18 54 56.9**	**-3.4**
TIA				pmax	pmax		
	comp=Z,12nm,0.8s						
PET	**Petropavlovsk**	**63.12**	**358**	P	**P**	**18 55 02.9**	**-0.4**
CN2	**Changchun**	**63.23**	**331**	P	**P**	**18 55 04.2**	**0.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PEA0B	**Petropavlovsk-**	**63.24**	**357**	P	**P**	**18 55 04.2**	**+0.1**
PETK	**Petropavlovsk-**	**63.24**	**357**	P	**P**	**18 55 03.8**	**-0.3**
PETK	**Petropavlovsk-**	**63.24**	**357**	P	**P**	**18 55 04.3**	**+0.2**
	comp=Z,12nm,0.9s,baz=179,slow=8.7,SNR=8.0						
PETK				LR	LR	19 19 25.5	
	comp=Z,36nm,19.9s,baz=206,slow=33						
	comp=Z,12nm,0.9s						
SHEM	**Shemya Is, Ala**	**63.62**	**8**	LR	LR	19 18 25.5	
	comp=Z,54nm,19.1s,baz=260,slow=32						
BNX	**BinXian**	**63.83**	**334**	⇓P	**P**	**18 55 08.0**	**-0.1**
BNX				pmax	pmax		
	comp=Z,16nm,0.6s						
ENH	**Enshi**	**64.56**	**311**	IAmb	IAmb	18 55 13.2	
	comp=Z,18nm,0.9s						
ENH	**Enshi**	**64.56**	**311**	P	**P**	**18 55 12.3**	**-1.0**
HNS	**HongShan**	**64.87**	**320**	⇑P	**P**	**18 55 15.0**	**-0.1**
HNS				pmax	pmax		
	comp=Z,29nm,0.9s						
KLR	**Kul'dur**	**64.94**	**339**	P	**P**	**18 55 15.0**	**-0.3**
	comp=Z,3.2nm,0.6s,baz=131,slow=6.9,SNR=10.0						
KLR				LR	LR	19 24 18.1	
	comp=Z,30nm,18.8s,baz=166,slow=37						
	comp=Z,3.2nm,0.6s						
XAN	**Xi'an**	**66.89**	**314**	⇑P	**P**	**18 55 27.8**	**-0.5**
XAN				pmax	pmax		
	comp=Z,75nm,0.8s						
XAN	**Xi'an**	**66.89**	**314**	P	**P**	**18 55 27.8**	**-0.5**
VNDA	**Vanda**	**67.22**	**180**	P	**P**	**18 55 30.7**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=329,slow=5.7,SNR=6.0						
	comp=Z,1.6nm,0.8s						
HEH	**HeiHe**	**67.40**	**337**	*e*P	**P**	**18 55 30.7**	**-0.3**
HEH				pmax	pmax		
	comp=Z,13nm,0.9s						
CRAI	**Chiangrai**	**67.75**	**297**	IAmb	IAmb	18 55 34.3	
	comp=Z,9.6nm,0.7s						
NIKH	**Nikolski High**	**67.77**	**19**	P	**P**	**18 55 34.1**	**+0.9**
	baz=211						
XLT	**XiLinHaoTe**	**68.12**	**326**	*e*P	**P**	**18 55 36.8**	**+1.0**
XLT				pmax	pmax		
	comp=Z,21nm,1.5s						
CMAR	**Chiang Mai Arr**	**68.41**	**295**	P	**P**	**18 55 36.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**68.41**	**295**	P	**P**	**18 55 37.4**	**-0.7**
	comp=Z,4.7nm,0.7s,baz=128,slow=5.1,SNR=43						
CMAR				LR	LR	19 23 14.6	
	comp=Z,13nm,21.6s,baz=45,slow=34						
	comp=Z,4.7nm,0.7s						
CHTO	**Chiang Mai**	**68.53**	**295**	P	**P**	**18 55 37.2**	**-1.6**
CHTO	**Chiang Mai**	**68.53**	**295**	P	**P**	**18 55 37.9**	**-1.0**
HHC	**Hu-ho-hao-te**	**68.88**	**321**	*e*P	**P**	**18 55 42.1**	**+1.4**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,73nm,4.3s						
PZH	**PanZhiHua**	**68.95**	**304**	P	**P**	**18 55 43.9**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,6.0s						
CD2	**Chengdu**	**69.21**	**309**	P	**P**	**18 55 42.6**	**-0.3**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
UNV	**Unalaska Valle**	**69.26**	**19**	P	**P**	**18 55 42.8**	**+0.3**
	baz=214						
BTO	**Baotou**	**69.70**	**320**	*e*P	**P**	**18 55 47.8**	**+2.0**
BTO				pP	**sP**	**18 56 04.3**	**-2.4**
BTO				sP	**PcP**	**18 56 11.5**	**+3.2**
BTO				pmax	pmax		
	comp=Z,30nm,1.0s						
BTO				pmax	pmax		
	comp=Z,170nm,6.9s						
HIA	**Hailar**	**69.92**	**332**	P	**P**	**18 55 47.2**	**+0.4**
TNCH	**TengChong**	**71.07**	**301**	*e*P	**P**	**18 55 54.4**	**-0.1**
TNCH				pP	PcP	18 56 14.2	-0.3
TNCH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LZH	**Lanzhou**	**71.52**	**314**	*e*P	**P**	**18 55 58.1**	**+1.1**
LZH				pmax	pmax		
	comp=Z,30nm,1.2s						
ULN	**Ulaanbaatar**	**75.53**	**325**	P	**P**	**18 56 20.4**	**+0.1**
GTA	**Gaotai**	**75.88**	**315**	P	**P**	**18 56 23.6**	**+1.1**
GTA				pP	pP	18 56 40.8	+3.2
GTA				pmax	pmax		
	comp=Z,23nm,0.9s						
SONM	**Songino Array**	**75.89**	**325**	P	**P**	**18 56 22.3**	**-0.1**
SONM				IAmb	IAmb	18 56 24.8	
	comp=Z,9.3nm,0.7s						
SONM	**Songino Array**	**75.89**	**325**	P	**P**	**18 56 22.9**	**+0.6**
	comp=Z,8.2nm,0.7s,baz=143,slow=5.6,SNR=62						
	comp=Z,8.2nm,0.7s						
P16K	**Nushagak River**	**76.24**	**20**	P	**P**	**18 56 24.8**	**+0.9**
	baz=221						
M14K	**Bethel**	**76.34**	**17**	IAmb	IAmb	18 56 26.6	
	comp=Z,33nm,1.2s						
M14K	**Bethel**	**76.34**	**17**	P	**P**	**18 56 25.9**	**+1.5**
	baz=217						
YAK	**Yakutsk**	**76.36**	**345**	P	**P**	**18 56 24.5**	**0.0**
	comp=Z,24nm,0.7s,baz=102,slow=1.6,SNR=15						
YAK				LR	LR	19 29 22.9	
	comp=Z,25nm,20.2s,baz=58,slow=35						
	comp=Z,24nm,0.7s						
Q17K	**Contact Creek**	**76.40**	**21**	P	**P**	**18 56 25.8**	**+0.8**
	baz=223						
N15K	**Kwethluk River**	**76.44**	**18**	P	**P**	**18 56 25.8**	**+0.8**
	baz=219						
GAMB	**Gambell**	**76.53**	**12**	P	**P**	**18 56 26.2**	**+0.9**
	baz=207						
K13K	**Kusilvak Mount**	**76.56**	**16**	P	**P**	**18 56 26.5**	**+0.8**
	baz=214						
L14K	**Kuka Creek**	**76.61**	**17**	P	**P**	**18 56 27.1**	**+1.2**
	baz=216						
M15K	**Kasigluk River**	**76.67**	**18**	P	**P**	**18 56 27.4**	**+1.1**
	baz=218						
P17K	**Kvichak River**	**76.90**	**21**	P	**P**	**18 56 28.2**	**+0.7**
	baz=222						
Q18K	**Katmai Hardscr**	**77.00**	**21**	P	**P**	**18 56 28.9**	**+0.6**
	baz=224						
N16K	**Nishlik Lake**	**77.09**	**19**	P	**P**	**18 56 29.7**	**+1.0**
	baz=220						
O17K	**Koliganek Bris**	**77.11**	**20**	P	**P**	**18 56 29.7**	**+1.0**
	baz=222						
L15K	**Ungalak Mounta**	**77.22**	**17**	P	**P**	**18 56 30.6**	**+1.2**
	baz=217						
KDAK	**Kodiak Island**	**77.29**	**23**	LR	LR	19 28 16.0	
	comp=Z,83nm,20.1s,baz=48,slow=34						
KDAK	**Kodiak Island**	**77.29**	**23**

J18K	Innoko River	80.01	18	P	P	18 56 45.7	+1.0
	baz=221,SNR=5.5						
L20K	Farewell, AK	80.16	19	P	P	18 56 46.6	+1.1
	baz=224						
H17K	Granite Mounta	80.25	15	P	P	18 56 47.1	+1.1
	baz=218						
SUA	Susitna One	80.50	21	P	P	18 56 48.5	+0.9
	baz=227						
G17K	Kiwalik Mounta	80.51	15	P	P	18 56 48.6	+1.2
	baz=217						
SKT	Skwentna	80.59	20	P	P	18 56 49.6	+1.7
	baz=226						
J19K	Poorman	80.73	18	P	P	18 56 50.1	+1.6
	baz=222						
K20K	Telida	80.73	18	P	P	18 56 50.1	+1.5
	baz=224						
PPLA	Purkeypile	81.00	19	P	P	18 56 51.8	+1.6
	baz=226						
PMR	Palmer	81.17	21	P	P	18 56 52.6	+1.8
	baz=229						
KNK	Knik Glacier	81.29	22	P	P	18 56 53.2	+1.6
	baz=229						
J20K	Nowinta River	81.30	18	P	P	18 56 53.2	+1.6
	baz=224,SNR=5.6						
CUT	Chulitna	81.31	20	P	P	18 56 52.7	+1.1
	baz=228						
G18K	Tagagawik	81.33	15	P	P	18 56 52.1	+0.4
	baz=219						
CAST	Castle Rocks	81.41	19	IAmb	IAmb	18 56 53.3	
	comp=Z,11nm,0.8s						
CAST	Castle Rocks	81.41	19	P	P	18 56 52.5	+0.3
	baz=226,SNR=7.3						
E17K	Hotham Inlet	81.50	14	P	P	18 56 53.8	+1.2
	baz=216						
SML	Sawmill	81.59	21	P	P	18 56 54.2	+1.0
	baz=229						
F18K	Selawik	81.63	15	P	P	18 56 54.4	+1.1
	baz=218						
H19K	Roundabout Mou	81.64	16	IAmb	IAmb	18 58 25.6	
	comp=Z,8.0nm,0.8s						
H19K	Roundabout Mou	81.64	16	P	P	18 56 54.1	+0.8
	baz=221						
I20K	Naaghedeneel	81.66	17	P	P	18 56 54.5	+1.1
	baz=223						
CHUM	Lake Minchumin	81.66	19	P	P	18 56 54.9	+1.4
	baz=226						
D17K	Noatak River	81.72	13	P	P	18 56 55.0	+1.2
	baz=215						
C16K	Lisburne Hills	81.73	12	P	P	18 56 54.7	+0.9
	baz=213						
EYAK	Cordova Ski Ar	81.76	23	P	P	18 56 54.5	+0.5
	baz=232						
M23K	Glacier View	81.80	22	P	P	18 56 55.0	+0.6
	baz=230						
KAIM	Kayak Island	81.91	24	P	P	18 56 55.4	+0.5
	baz=233						
SCM	Sheep Creek Mo	81.97	22	P	P	18 56 55.5	+0.2
	baz=230						
TRF	Thorofare Moun	82.01	20	P	P	18 56 56.4	+0.8
	baz=227						
H20K	Anotleneega Mo	82.05	17	P	P	18 56 56.0	+0.5
	baz=223,SNR=5.6						
E18K	Tukpahlearik C	82.06	14	IAmb	IAmb	18 56 57.6	
	comp=Z,8.1nm,0.8s						
E18K	Tukpahlearik C	82.06	14	P	P	18 56 56.5	+1.0
	baz=217						
BPAW	Bear Paw Mtn.	82.23	19	P	P	18 56 57.3	+0.8
	baz=227						
KLU	Klutina	82.28	22	P	P	18 56 58.0	+1.1
	baz=232						
F19K	Shaleruckik Mo	82.28	15	IAmb	IAmb	18 58 17.9	
	comp=Z,23nm,1.0s						
F19K	Shaleruckik Mo	82.28	15	P	P	18 56 57.7	+1.0
	baz=220						
RND	Reindeer	82.46	20	P	P	18 56 57.9	+0.1
RND				IAmb	IAmb	18 57 44.1	
	comp=Z,39nm,2.0s						
M24K	Tolsona, Glenn	82.57	22	P	P	18 56 59.5	+1.1
	baz=231						
MCK	McKinley	82.65	20	IAmb	IAmb	18 57 00.1	
	comp=Z,20nm,1.0s						
MCK	McKinley	82.65	20	P	P	18 56 59.5	+0.8
	baz=229,SNR=10.0						
I21K	Tanana	82.67	18	IAmb	IAmb	18 57 01.1	
	comp=Z,21nm,1.1s						
I21K	Tanana	82.67	18	P	P	18 56 59.8	+1.0
	baz=226,SNR=9.8						
H21K	Melozitna Rive	82.77	17	IAmb	IAmb	18 58 53.5	
	comp=Z,11nm,0.7s						
H21K	Melozitna Rive	82.77	17	P	P	18 57 00.2	+0.9
	baz=225,SNR=7.7						
N25K	Chitina, Valde	82.85	23	P	P	18 57 00.7	+0.9
	baz=233						
E19K	Redstone River	82.90	15	IAmb	IAmb	18 58 33.4	
	comp=Z,16nm,0.9s						
E19K	Redstone River	82.90	15	P	P	18 57 01.3	+1.4
	baz=220						
C18K	Utukok River	82.91	13	IAmb	IAmb	18 57 01.8	
	comp=Z,14nm,1.2s						
C18K	Utukok River	82.91	13	P	P	18 57 00.9	+0.9
	baz=217,SNR=7.6						
F20K	Avaraart Lake	82.98	15	IAmb	IAmb	18 58 23.5	
	comp=Z,11nm,0.5s						
F20K	Avaraart Lake	82.98	15	P	P	18 57 01.7	+1.4
	baz=222,SNR=6.4						
HARP	HAARP	83.13	22	P	P	18 57 01.9	+0.7
	baz=232						
NEA2	Nenana	83.18	19	P	P	18 57 01.1	-0.4
NEA2				IAmb	IAmb	18 57 02.5	
	comp=Z,12nm,1.0s						
NEA2	Nenana	83.18	19	P	P	18 57 01.8	+0.4
	baz=228,SNR=6.1						
G21K	Allakaket	83.18	16	P	P	18 57 02.3	+0.9
	baz=224						
H22K	Ishtalitna Cre	83.36	18	P	P	18 57 03.8	+1.5
	baz=226,SNR=6.7						
B18K	Kokolik River	83.36	12	P	P	18 57 04.0	+1.7
	baz=216						
PAX	Paxson	83.36	21	P	P	18 57 03.5	+0.9
	baz=232						
I23K	Minto, Yukon-K	83.46	19	P	P	18 57 03.7	+0.9
	baz=228						
D19K	Kuna River	83.49	14	P	P	18 57 03.7	+0.7
	baz=220						
F21K	Alatna River	83.70	16	P	P	18 57 04.8	+0.7
	baz=224						
HDA	Harding Lake	83.76	20	IAmb	IAmb	18 57 05.8	
	comp=Z,13nm,0.9s						
HDA	Harding Lake	83.76	20	P	P	18 57 05.2	+0.9
	baz=230,SNR=8.3						
E20K	Nigu River	83.77	14	P	P	18 57 05.5	+1.0
	baz=221						
K24K	Donnelly Dome	83.77	21	P	P	18 57 05.9	+1.4
	baz=232						
H23K	Yukon River	83.86	18	IAmb	IAmb	18 57 06.9	
	comp=Z,12nm,0.8s						
H23K	Yukon River	83.86	18	P	P	18 57 06.2	+1.3
	baz=228						
M26K	Nabesna, AK	83.93	23	P	P	18 57 05.8	+0.4
M26K				IAmb	IAmb	18 57 08.1	
	comp=Z,8.8nm,1.0s						
M26K	Nabesna, AK	83.93	23	P	P	18 57 06.9	+1.5
	baz=234						
D20K	Etivluk River	84.01	14	P	P	18 57 06.5	+0.8
	baz=221						
IL31		84.01	20	IAmb	IAmb	18 57 07.3	
	comp=Z,23nm,1.4s						
ILAR	Eielson Array	84.01	20	P	P	18 57 05.3	-0.3
ILAR	Eielson Array	84.01	20	P	P	18 57 05.5	-0.1
	comp=Z,5.7nm,0.8s,baz=248,slow=5.1,SNR=33						
	comp=Z,5.7nm,0.8s						
G22K	Bettles	84.03	17	P	P	18 57 07.3	+1.6
	baz=226						
POKR	Poker Plat Res	84.05	19	P	P	18 57 06.5	+0.6
	baz=230						
RIDG	Independent Ri	84.06	21	IAmb	IAmb	18 57 08.5	
	comp=Z,12nm,0.9s						
RIDG	Independent Ri	84.06	21	P	P	18 57 06.9	+0.9
	baz=232						
L26K	Log Cabin Wild	84.17	22	P	P	18 57 07.8	+1.2
	baz=234						
A19K	Wainwright	84.19	12	P	P	18 57 07.3	+0.8
	baz=217						
F22K	John River	84.26	16	P	P	18 57 08.0	+1.1
	baz=225						
DOT	Dot Lake	84.28	21	IAmb	IAmb	18 57 09.1	
	comp=Z,8.9nm,0.9s						
G23K	Bananza Creek	84.32	17	IAmb	IAmb	18 57 09.6	
	comp=Z,8.3nm,0.8s						
G23K	Bananza Creek	84.32	17	P	P	18 57 08.4	+1.1
	baz=227						
M27K	Edge Creek, AK	84.33	23	IAmb	IAmb	18 57 10.6	
	comp=Z,36nm,1.6s						
M27K	Edge Creek, AK	84.33	23	P	P	18 57 08.2	+0.7
	baz=235						
H24K	Noodor Dome	84.38	19	P	P	18 57 08.7	+1.1
	baz=230						
J25K	Salcha River,	84.42	20	P	P	18 57 08.1	+0.3
J25K				IAmb	IAmb	18 57 09.6	
	comp=Z,9.1nm,0.8s						
J25K	Salcha River,	84.42	20	P	P	18 57 08.7	+0.9
	baz=232,SNR=12						
E21K	Killik River	84.46	15	IAmb	IAmb	18 57 10.5	
	comp=Z,10nm,1.1s						
E21K	Killik River	84.46	15	P	P	18 57 08.9	+1.0
	baz=224						
SCRK	Sand Creek	84.51	21	IAmb	IAmb	18 57 10.4	
	comp=Z,7.1nm,0.8s						
SCRK	Sand Creek	84.51	21	P	P	18 57 09.0	+0.6
	baz=233,SNR=7.8						
P29M	Windy Craggy	84.55	26	P	P	18 57 10.0	+1.5
	baz=239						
YUK3	Moose Creek	84.56	24	P	P	18 57 09.9	+1.2
	baz=237						
YUK8	Steele Glacier	84.57	24	P	P	18 57 10.1	+1.2
	baz=237						
COLD	Coldfoot	84.62	17	P	P	18 57 10.2	+1.5
	baz=227						
TIXI	Tiksi	84.67	350	P	P	18 57 08.4	-0.5
TIXI				IAmb	IAmb	18 57 09.8	
	comp=Z,17nm,1.4s						
CRAG	Craig	84.73	31	P	P	18 57 10.0	+0.6
	baz=244						
L27K	Beaver Creek,	84.75	22	IAmb	IAmb	18 57 12.3	
	comp=Z,16nm,1.6s						
L27K	Beaver Creek,	84.75	22	P	P	18 57 10.1	+0.6
	baz=235						
BVCY	Beaver Creek	84.76	23	P	P	18 57 10.6	+1.1
	baz=236						
C21K	Knifeblade Rid	84.78	14	P	P	18 57 11.1	+1.6
	baz=223,SNR=13						
E22K	Anaktuvuk Pass	84.80	16	P	P	18 57 11.2	+1.6
	baz=226,SNR=5.4						
B20K	Meade River	84.87	13	P	P	18 57 10.3	+0.4
B20K				IAmb	IAmb	18 57 11.8	
	comp=Z,7.8nm,0.7s						
B20K	Meade River	84.87	13	P	P	18 57 11.0	+1.1
	baz=220						
PRP	Porcupine Dome	84.93	19	P	P	18 57 10.9	+0.4
	baz=232						
YUK6	Outpost Mounta	84.96	25	P	P	18 57 11.8	+1.0
	baz=239						
J26L	Joseph Creek	84.97	21	P	P	18 57 12.0	+1.3
	baz=234						
U33K	Whale Pass	85.02	31	P	P	18 57 12.2	+1.3
	baz=244						
YUK4	Talbot Arm	85.06	25	P	P	18 57 12.6	+1.4
	baz=238						
G24K	Hadweenzic Riv	85.07	18	IAmb	IAmb	18 57 13.2	
	comp=Z,9.5nm,0.9s						
G24K	Hadweenzic Riv	85.07	18	P	P	18 57 12.1	+1.1
	baz=230						
D22K	Ayikyak River	85.10	15	IAmb	IAmb	18 57 13.7	
	comp=Z,14nm,0.9s						
D22K	Ayikyak River	85.10	15	P	P	18 57 12.7	+1.6
	baz=225						
B21K	Ikpikpuk River	85.17	14	IAmb	IAmb	18 57 13.6	
	comp=Z,9.1nm,0.8s						
B21K	Ikpikpuk River	85.17	14	P	P	18 57 13.0	+1.7
	baz=223						
K27K	Chicken	85.22	21	P	P	18 57 13.5	+1.7
K27K				IAmb	IAmb	18 57 15.8	
	comp=Z,14nm,1.3s						
K27K	Chicken	85.22	21	P	P	18 57 13.5	+1.7
	baz=235						
HYT	Haines Junctio	85.26	25	P	P	18 57 14.1	+1.9
	baz=239						
R32K	Eaglecrest	85.33	28	P	P	18 57 13.3	+0.8
	baz=242						
E23K	Chandalar	85.35	16	P	P	18 57 13.7	+1.3
	baz=228						
V35K	Ketchikan	85.44	32	P	P	18 57 14.0	+1.0
	baz=245						
F24K	Squaw Lake	85.48	17	IAmb	IAmb	18 57 16.2	
	comp=Z,15nm,1.7s						
F24K	Squaw Lake	85.48	17	P	P	18 57 14.4	+1.3
	baz=229						
SKAG	Skagway	85.53	27	P	P	18 57 15.0	+1.6
	baz=241						
G25K	Bearman Lake	85.53	18	P	P	18 57 14.5	+1.3
	baz=231						
I26K	Coal Creek Min	85.59	20	IAmb	IAmb	18 57 16.1	
	comp=Z,30nm,1.8s						
I26K	Coal Creek Min	85.59	20	P	P	18 57 15.0	+1.5
	baz=234						
E24K	Your Creek	85.67	17	P	P	18 57 15.3	+1.3
	baz=229						
D23K	Nanushuk River	85.68	15	IAmb	IAmb	18 57 16.9	
	comp=Z,6.5nm,0.8s						
D23K	Nanushuk River	85.68	15	P	P	18 57 15.5	+1.5
	baz=227,SNR=5.9						
M29M	Somme Creek	85.71	24	P	P	18 57 15.4	+1.0
	baz=238						
TOLK	Toolik Lake Re	85.75	16	P	P	18 57 15.5	+1.1
	baz=228						
N30M	Aishikik Lake	85.76	25	P	P	18 57 15.3	+0.7
	baz=240						
O30N	Mendenhall	85.83	26	P	P	18 57 15.9	+1.0
	baz=241						
WMQ	Urumqi	85.94	316	*e*P	P	18 57 16.5	+0.6
B22K	Teshekpuk Lake	85.97	14	IAmb	IAmb	18 57 17.4	
	comp=Z,8.8nm,0.9s						
B22K	Teshekpuk Lake	85.97	14	P	P	18 57 16.2	+0.9
	baz=224						
A22K	Sinclair Lake	86.11	13	P	P	18 57 16.8	+0.9
	baz=222						
F25K	Christian Rive	86.19	18	P	P	18 57 18.0	+1.4
	baz=232						
L29M	L29M	86.19	23	P	P	18 57 17.7	+1.0
L29M				IAmb	IAmb	18 57 19.5	
	comp=Z,15nm,1.1s						
L29M	L29M	86.19	23	P	P	18 57 18.1	+1.4
	baz=239,SNR=6.1						
DAWY	Dawson	86.22	22	IAmb	IAmb	18 57 19.6	
	comp=Z,21nm,1.2s						
DAWY	Dawson	86.22	22	P	P	18 57 18.1	+1.3
	baz=238,SNR=7.6						
I27K	Kandik River	86.29	20	P	P	18 57 17.8	+0.7
	baz=235,SNR=8.9						
C23K	Itkillik River	86.30	15	P	P	18 57 17.8	+0.8
	baz=227						
D24K	Happy Valley	86.30	16	P	P	18 57 18.1	+1.1
	baz=228						
G26K	Porcupine Rive	86.37	19	IAmb	IAmb	18 57 20.4	
	comp=Z,15nm,1.0s						
G26K	Porcupine Rive	86.37	19	P	P	18 57 18.5	+1.1
	baz=233						
M30M	Minto, Yukon	86.44	24	IAmb	IAmb	18 57 20.3	
	comp=Z,4.0nm,0.7s						
M30M	Minto, Yukon	86.44	24	P	P	18 57 18.7	+0.7
	baz=240						
E25K	Arctic Village	86.54	17	P	P	18 57 19.6	+1.4
E25K	Arctic Village	86.54	17	P	P	18 57 19.7	+1.4
	baz=232						
H27K	Steamboat Moun	86.68	20	IAmb	IAmb	18 57 21.9	
	comp=Z,11nm,1.1s						
H27K	Steamboat Moun	86.68	20	P	P	18 57 20.4	+1.5
	baz=235,SNR=6.6						
Q32M	Nakina River	86.70	28	P	P	18 57 20.4	+0.9
	baz=244						
F26K	Sheenjek River	86.70	18	P	P	18 57 20.8	+1.7
	baz=233						
C24K	Franklin Bluff	86.71	15	IAmb	IAmb	18 57 21.2	
	comp=Z,6.2nm,0.8s						
C24K	Franklin Bluff	86.71	15	P	P	18 57 20.7	+1.7
	baz=228						
I28M	Miner Creek	86.78	21	P	P	18 57 20.8	+1.3
	baz=237						
K29M	Barlow Dome	86.81	23	IAmb	IAmb	18 57 22.6	
	comp=Z,9.0nm,1.1s						
K29M	Barlow Dome	86.81	23	P	P	18 57 21.1	+1.3
	baz=239,SNR=5.8						
HYB	Hyderabad	86.85	288	*e*P	P	18 57 19.9	-1.0
J29N	Klondike Camp	86.86	22	P	P	18 57 21.6	+1.6
	baz=238,SNR=12						
G27K	Doyon Strip	86.97	19	IAmb	IAmb	18 57 23.3	
	comp=Z,15nm,1.5s						
G27K	Doyon Strip	86.97	19	P	P	18 57 22.0	+1.6
	baz=235,SNR=5.5						
P33M	Teslin, Yukon	87.00	27	P	P	18 57 21.7	+1.0
	baz=244						
D25K	Kavik River	87.07	16	P	P	18 57 21.1	+0.2
D25K				IAmb	IAmb	18 57 23.0	
	comp=Z,6.3nm,0.9s						
D25K	Kavik River	87.07	16	P	P	18 57 22.5	+1.6
	baz=231						
M31M	Drury Creek, Y	87.24	25	P	P	18 57 22.8	+1.1
	baz=242						
N32M	Quiet Lake	87.31	26	P	P	18 57 24.1	+1.9
	baz=243						
I29M	Ogilvie Camp,	87.31	21	P	P	18 57 23.4	+1.4
	baz=238,SNR=16						
DLBC	Dease Lake	87.53	29	LR	LR	19 28 47.1	
	comp=Z,88nm,21.5s,baz=162,slow=30						
J30M	Hart River	87.63	22	P	P	18 57 25.1	+1.4
	baz=240						
H29M	Whitestone	87.74	21	P	P	18 57 25.6	+1.6
	baz=238						
E27K	Coleen River	87.78	18	IAmb	IAmb	18 57 27.4	
	comp=Z,14nm,1.2s						
E27K	Coleen River	87.78	18	P	P	18 57 25.8	+1.5
	baz=235						
C26K	Camden Bay	87.85	16	P	P	18 57 26.6	+2.1
	baz=232						
I30M	Mount Dempster	87.93	22	IAmb	IAmb	18 57 27.6	
	comp=Z,6.4nm,0.7s						
I30M	Mount Dempster	87.93	22	P	P	18 57 26.4	+1.2
	baz=240,SNR=10						
C27K	Jago River	88.00	17	IAmb	IAmb	18 57 28.1	
	comp=Z,7.0nm,0.8s						
C27K	Jago River	88.00	17	P	P	18 57 27.2	+1.9
	baz=233						
G29M	Pine Creek	88.22	20	IAmb	IAmb	18 57 29.0	
	comp=Z,9.7nm,1.0s						
G29M	Pine Creek	88.22	20	P	P	18 57 27.8	+1.4
	baz=239,SNR=5.7						
EPYK	Eagle Plains	88.39	21	P	P	18 57 28.7	+1.5
	baz=240,SNR=9.3						
NVAR	Mina Array Bea	88.39	51	P	P	18 57 29.1	+1.0
	comp=Z,1.6nm,0.8s,baz=235,slow=6.9,SNR=5.7						
	comp=Z,1.6nm,0.8s						
D27M	Malcolm River	88.57	17	P	P	18 57 29.1	+1.1
D27M	Malcolm River	88.57	17	P	P	18 57 29.7	+1.7
	baz=236						
E28M	Babbage River	88.64	18	IAmb	IAmb	18 57 43.1	
	comp=Z,15nm,1.8s						
E28M	Babbage River	88.64	18	P	P	18 57 30.2	+1.9
	baz=237						
WTLY	Watson Lake, Y	88.78	28	P	P	18 57 31.0	+1.9
	baz=247						
G30M	tAoh Zraii Nji	88.87	20	P	P	18 57 31.1	+1.7
	baz=240						
H31M	Peel River	88.96	22	IAmb	IAmb	18 58 03.1	
	comp=Z,13nm,1.4s						
H31M	Peel River	88.96	22	P	P	18 57 31.4	+1.5
	baz=242						
E29M	Blow River	89.04	19	P	P	18 57 31.6	+1.4
	baz=239						
D28M	Stokes Point	89.28	18	P	P	18 57 33.1	+1.9
	baz=238						
F30M	Barrier River	89.33	20	P	P	18 57 33.3	+1.8
	baz=241						
G31M	Satah River	89.51	21	P	P	18 57 33.9	+1.6
	baz=242						
TGTN	Hyland Airport	89.57	27	P	P	18 57 34.9	+2.0
	baz=248						
F31M	Tsiigehtchic	89.94	20	P	P	18 57 36.0	+1.7
	baz=243						
TOAD	Toad River Com	90.01	30	P	P	18 57 36.1	+1.1
	baz=250						
SHPR	Sheep Range	90.38	53	P	P	18 57 37.9	+0.5
INK	Inuvik	90.41	20	P	P	18 57 37.5	+1.0
	baz=243						
MKAR	Makanchi Array	90.44	317	P	P	18 57 36.2	-1.0
MKAR	Makanchi Array	90.44	317	P	P	18 57 36.8	-0.5
	comp=Z,4.6nm,0.8s,baz=100,slow=5.7,SNR=26						
	comp=Z,4.6nm,0.8s						
R11B	Troy Canyon, C	90.45	51	P	P	18 57 37.2	-0.5
MAKZ	Makanchi	90.65	317	P	P	18 57 37.4	-0.9
MAKZ				IAmb	IAmb	18 57 38.9	
	comp=Z,5.1nm,1.1s						
PRN	Pahroc Range	90.66	52	P	P	18 57 40.1	+1.5
PRN				IAmb	IAmb	18 57 41.8	
	comp=Z,14nm,1.3s						
ZALV	Zalesovo Beam	90.78	325	P	P	18 57 37.6	-1.0
	comp=Z,0.6nm,0.6s,baz=123,slow=5.5,SNR=3.9						
ZALV				LR	LR	19 41 16.3	
	comp=Z,22nm,18.0s,baz=64,slow=37						
	comp=Z,0.6nm,0.6s						
SYO	Syowa Base	91.40	198	‖ *j*PcP	PcP	18 57 44.2	+2.1
SYO	Syowa Base	91.40	198	‖ *j*pP	pP	18 57 58.2	+1.3
KURBB	Kurchatov Arra	93.73	321	P	P	18 57 50.9	-1.4
	comp=Z,0.9nm,0.3s,baz=64,slow=2.2,SNR=1.6						
	comp=Z,0.9nm,0.3s						
C36M	Paulatuk	93.98	20	P	P	18 57 52.9	-0.1
C36M				IAmb	IAmb	18 57 54.4	
	comp=Z,8.2nm,1.0s						
C36M	Paulatuk	93.98	20	P	P	18 57 53.4	+0.4
	baz=252						
NRIK	Noril'sk	94.13	340	P	P	18 57 51.5	-2.2
	comp=Z,1.6nm,0.7s,baz=70,slow=3.6,SNR=3.7						
NRIK				LR	LR	19 40 30.2	
	comp=Z,16nm,19.5s,baz=110,slow=36						
	comp=Z,1.6nm,0.7s						
A36M	Sachs Harbour	94.47	17	P	P	18 57 56.4	+1.2
	baz=251						
PDAR	Pinedale Array	95.78	48	P	P	18 58 02.7	+0.5
	comp=Z,0.2nm,0.6s,baz=233,slow=5.6,SNR=2.2						
	comp=Z,0.2nm,0.6s						
YKA	Yellowknife Ar	96.02	28	P	P	18 58 02.4	-0.1
	comp=Z,0.9nm,0.7s,baz=259,slow=4.6,SNR=9.3						
	comp=Z,0.9nm,0.7s						
Y22D	IRIS PASSCAL I	96.59	57	P	P	18 58 06.2	+0.2
	baz=262						
SNAA	Sanae	97.60	185	P	P	18 58 09.7	0.0
	comp=Z,2.2nm,1.1s,baz=180,slow=5.1,SNR=2.2						
	comp=Z,2.2nm,1.1s						
TXAR	Lajitas Array	98.74	62	LR	LR	19 34 12.6	
	comp=Z,45nm,21.8s,baz=292,slow=30						
BVAR	Borovoye Array	99.07	322	P		18 58 14.8	
	comp=Z,1.3nm,0.8s,baz=79,slow=7.9,SNR=4.0						
	comp=Z,1.3nm,0.8s						
ABM	Ambohimiarambe	109.03	245	P	Pdif	18 58 52.4	-10
ARCES	ARCESS Array B	114.64	345	PKP	PKiKP	19 03 14.8	-0.4
	comp=Z,0.9nm,0.4s,baz=79,slow=1.6,SNR=14						
FINES	FINESS Array B	119.67	337	PKP	PKPdf	19 03 24.7	-0.3
	comp=Z,2.1nm,1.0s,baz=2.7,slow=4.0,SNR=3.7						
HFS	Hagfors	124.92	341	PKP	PKPdf	19 03 34.6	-0.5
	comp=Z,1.7nm,0.8s,baz=119,slow=12,SNR=3.1						
NOA	NORSAR Array B	124.95	343	PKP	PKPdf	19 03 35.1	-0.1
	comp=Z,1.0nm,0.8s,baz=32,slow=1.8,SNR=4.7						
CPUP	Villa Florida	127.25	134	PKP	PKPdf	19 03 41.4	+0.7
	comp=Z,2.9nm,0.7s,baz=234,slow=1.3,SNR=7.6						
CLL	Collm	131.87	334	*e*PKPdf	PKPdf	19 03 48.0	-0.6
EKA	Eskdalemuir Ar	133.56	348	PKP	PKPdf	19 03 52.4	+0.7
	comp=Z,0.4nm,0.4s,baz=14,slow=2.4,SNR=4.9						
BDFB	Brasilia	140.69	131	PKP	PKPdf	19 04 07.0	+0.8
	comp=Z,3.8nm,0.7s,baz=231,slow=4.4,SNR=5.8						
KEST	Kesra	144.50	320	PKP	PKPab	19 04 11.4	+0.6
	comp=Z,5.1nm,1.0s,baz=27,slow=2.3,SNR=3.0						
ESBB	Sonseca Array	148.16	339	PKPdf	PKPdf	19 04 17.6	-0.8
ESDC	Sonseca Array	148.16	339		PKPdf	19 04 21.0	+2.6
ESDC	Sonseca Array	148.16	339	PKPbc	PKPbc	19 04 22.4	+0.7
	comp=Z,4.2nm,1.0s,baz=17,slow=2.3,SNR=12						
PAB	San Pablo	148.41	340

n86,σ1°97/131, mb3.5/7, 4C-1D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**0.46**	**227**	P	**Pn**	**19 09 41.5**	**+0.2**
GALA				S	**Sn**	**19 09 50.5**	**-0.4**
NDR	**Nardaran**	**0.49**	**253**	P	**Pn**	**19 09 40.6**	**-0.8**
NDR				S	**Sn**	**19 09 51.6**	**+0.3**
GOBA	**Gobu**	**0.73**	**244**	P	**Pn**	**19 09 44.9**	**+0.9**
GOBA				S	**Sn**	**19 09 56.4**	**+0.7**
ATGJ	**Altiaghaj**	**1.27**	**277**	P	**Pn**	**19 09 50.3**	**-0.2**
ATGJ				S	**Sn**	**19 10 08.2**	**+1.0**
GBS	**Qobustan**	**1.27**	**262**	P	**Pn**	**19 09 51.5**	**+1.0**
GBS				S	**Sn**	**19 10 07.9**	**+0.6**
SIZA	**Siyzn**	**1.33**	**286**	P	**Pn**	**19 09 51.7**	**+0.4**
SIZA				S	**Sn**	**19 10 10.0**	**+1.3**
ALIB	**&Aumlli-Bayram**	**1.44**	**238**	P	**Pn**	**19 09 54.1**	**+1.6**
ALIB				S	**Sn**	**19 10 12.2**	**+1.3**
PQL	**Pirkuli**	**1.52**	**273**	Pn	**Pn**	**19 09 54.0**	**+0.2**
PQL				Sn	**Sn**	**19 10 13.6**	**+0.4**
QUBA	**Quba, Azerbaij**	**1.71**	**292**	Pn	**Pn**	**19 09 56.8**	**+0.6**
QUBA				Sn	**Sn**	**19 10 17.5**	**+0.1**
IML	**Ismayilli**	**1.84**	**273**	Pn	**Pn**	**19 09 57.4**	**-0.4**
IML				Sn	**Sn**	**19 10 20.2**	**-0.1**
KDMR	**Kurdemir**	**1.87**	**260**	Pn	**Pn**	**19 09 57.8**	**-0.5**
KDMR				Sn	**Sn**	**19 10 21.6**	**+0.5**
XNQ	**Khinaliq**	**1.91**	**284**	Pn	**Pn**	**19 09 58.6**	**-0.5**
XNQ				Sn	**Sn**	**19 10 22.1**	**-0.4**
QSAR	**Qusar**	**1.93**	**295**	Pn	**Pn**	**19 09 59.3**	**+0.2**
QSAR				Sn	**Sn**	**19 10 22.9**	**+0.3**
KSMR	**Kasumkent** 22nm,0.5s	**2.06**	**296**	*e*Pg	**Pn**	**19 10 00.8**	**-0.1**
KSMR				*e*Sg	**Sn**	**19 10 24.9**	**-0.8**
QBL	**Gabala**	**2.11**	**277**	Pn	**Pn**	**19 10 00.9**	**-0.5**
QBL				Sn	**Sn**	**19 10 25.2**	**-1.6**
DRN	**Derbent** 76nm,0.1s	**2.15**	**308**	*e*Pg	**Pn**	**19 10 02.1**	**+0.2**
GLBA	**Ciilabad**	**2.25**	**230**	Pn	**Pn**	**19 10 03.2**	**-0.1**
GLBA				Sn	**Sn**	**19 10 28.8**	**-1.3**
ZRD	**Zardab**	**2.27**	**260**	Pn	**Pn**	**19 10 03.3**	**-0.2**
ZRD				Sn	**Sn**	**19 10 30.5**	**0.0**
AKT	**Akhty** 25nm,0.3s	**2.29**	**290**	*i* Pg	**Pn**	**19 10 03.7**	**-0.3**
AKT				*e*Sg	**Sn**	**19 10 30.1**	**-1.4**
LKRN	**Lenkeran, Azer** 78nm,0.3s	**2.45**	**215**	Pn	**Pn**	**19 10 06.5**	**+0.5**
LKRN				Sn	**Sn**	**19 10 32.9**	**-2.2**
BLQ	**Beylaqan**	**2.53**	**248**	Pn	**Pn**	**19 10 05.6**	**-1.6**
BLQ				Sn	**Sn**	**19 10 34.7**	**-2.4**
YRD	**Yardimli**	**2.56**	**226**	Pn	**Pn**	**19 10 06.0**	**-1.7**
YRD				Sn	**Sn**	**19 10 34.9**	**-3.1**
ASTR	**Astara**	**2.57**	**213**	Pn	**Pn**	**19 10 07.9**	**+0.3**
ASTR				Sn	**Sn**	**19 10 36.1**	**-1.8**
SEKA	**Sheki**	**2.62**	**282**	Pn	**Pn**	**19 10 08.0**	**-0.4**
SEKA				Sn	**Sn**	**19 10 38.9**	**-0.3**
BRDA	**Brd**	**2.65**	**261**	Pn	**Pn**	**19 10 08.3**	**-0.4**
BRDA				Sn	**Sn**	**19 10 40.2**	**+0.5**
URKR	**Urkarakh** 71nm,0.4s	**2.65**	**304**	*i* Pn	**Pn**	**19 10 09.2**	**+0.3**
MNGR	**Mingechevir, A**	**2.67**	**272**	Pn	**Pn**	**19 10 08.7**	**-0.2**
MNGR				Sn	**Sn**	**19 10 41.2**	**+0.9**
GAS1	**Astara - Iran**	**2.70**	**211**	Pn	**Pn**	**19 10 08.3**	**-1.1**
LRK	**Lerik**	**2.71**	**221**	Pn	**Pn**	**19 10 09.8**	**+0.1**
LRK				Sn	**Sn**	**19 10 40.4**	**-1.2**
AGDM	**Agdam**	**2.73**	**258**	Pn	**Pn**	**19 10 08.8**	**-1.1**
AGDM				Sn	**Sn**	**19 10 41.2**	**-0.7**
SGKR	**Sergokala** 18nm,0.1s	**2.80**	**309**	*i* Pn	**Pn**	**19 10 11.2**	**+0.4**
QRD	**Qoradiz**	**2.81**	**244**	Pn	**Pn**	**19 10 09.4**	**-1.5**
QRD				Sn	**Sn**	**19 10 41.0**	**-2.8**
GRMI	**Germi**	**2.83**	**228**	Pn	**Pn**	**19 10 09.7**	**-1.6**
KMKR	**Kumukh** 15nm,0.3s	**2.98**	**299**	*e*Pn	**Pn**	**19 10 13.6**	**+0.2**
KMKR				*e*Sn	**Sn**	**19 10 47.5**	**-0.7**
ZKTA	**Zakatala** 61nm,0.4s	**3.14**	**288**	Pn	**Pn**	**19 10 15.2**	**-0.2**
ZKTA				Sn	**Sn**	**19 10 51.1**	**-0.6**
GNBR	**Gunib** 9.0nm,0.7s	**3.19**	**303**	*e*Pn	**Pn**	**19 10 17.0**	**+0.8**
GANJ	**Ganja**	**3.25**	**270**	Pn	**Pn**	**19 10 15.1**	**-1.8**
GANJ				Sn	**Sn**	**19 10 51.2**	**-3.3**
ARKR	**Arakani** 11nm,0.1s	**3.29**	**306**	*e*Pn	**Pn**	**19 10 18.5**	**+1.1**
ARKR				*e*Sn	**Sn**	**19 10 56.4**	**+1.0**
KRNR	**Karanay** 9.0nm,0.4s	**3.47**	**308**	*e*Pn	**Pn**	**19 10 20.8**	**+0.9**
KRNR				*e*Sn	**Sn**	**19 11 00.8**	**+0.9**
UNCR	**Uncukul** 10.0nm,0.3s	**3.47**	**306**	*e*Pn	**Pn**	**19 10 20.0**	**+0.1**
LHJ2	**Lahijan - Gila**	**3.58**	**187**	Pn	**Pn**	**19 10 19.8**	**-1.5**
DBC	**Dubki** 8.0nm,0.5s	**3.63**	**310**	*e*Pn	**Pn**	**19 10 22.5**	**+0.5**
DBC				*e*Sn	**Sn**	**19 11 04.1**	**+0.3**
GDB	**GEDABAY**	**3.68**	**272**	Pn	**Pn**	**19 10 21.4**	**-1.5**
GDB				Sn	**Sn**	**19 11 01.3**	**-3.8**
ISRB	**Sarab**	**3.68**	**219**	Pn	**Pn**	**19 10 22.6**	**-0.4**
BTLR	**Botlikh** 7.0nm,0.3s	**3.81**	**302**	*e*Pn	**Pn**	**19 10 24.5**	**0.0**
ORD	**Ordubad**	**3.97**	**245**	Pn	**Pn**	**19 10 26.1**	**-0.7**
ORD				Sn	**Sn**	**19 11 10.3**	**-1.9**
QZX	**Qazax, Azerbai**	**3.97**	**277**	Pn	**Pn**	**19 10 25.6**	**-1.2**
QZX				Sn	**Sn**	**19 11 09.2**	**-3.0**
DVE	**Vedeno** 9.0nm,0.3s	**4.02**	**305**	*e*Pn	**Pn**	**19 10 27.6**	**+0.3**
JIR1	**Jirandeh**	**4.06**	**189**	Pn	**Pn**	**19 10 26.9**	**-1.2**
SBZ	**Shahbuz**	**4.09**	**253**	Pn	**Pn**	**19 10 28.6**	**+0.2**
SBZ				Sn	**Sn**	**19 11 15.1**	**-0.1**
KLST	**Kelardasht - M**	**4.22**	**175**	Pn	**Pn**	**19 10 30.1**	**-0.3**
IMRD	**Marand**	**4.28**	**244**	Pn	**Pn**	**19 10 30.8**	**-0.2**
IGZV	**Ghazvin**	**4.34**	**184**	Pn	**Pn**	**19 10 31.2**	**-0.8**
MZPU	**Pul - Mazandar**	**4.34**	**170**	Pn	**Pn**	**19 10 31.9**	**-0.1**
GNI	**Garni** 0.8nm,0.3s,baz=165,slow=1.7,SNR=4.8	**4.50**	**265**	Pn	**Pn**	**19 10 34.8**	**+0.7**
GNI	0.7nm,0.3s,baz=342,slow=5.7,SNR=4.3 4.1nm,0.6s			Sn	**Sn**	**19 11 16.5**	**-8.8**
HYR	**Heyderabad**	**4.51**	**259**	Pn	**Pn**	**19 10 36.9**	**+2.8**
HYR				Sn	**Sn**	**19 11 25.4**	**+0.1**
IPRN	**Peran**	**4.68**	**162**	Pn	**Pn**	**19 10 36.3**	**-0.2**
IGLO	**Ghaloghah**	**4.92**	**148**	Pn	**Pn**	**19 10 40.0**	**+0.2**
IALA	**Alasht**	**4.95**	**159**	Pn	**Pn**	**19 10 41.0**	**+0.7**
QABG	**Abgarm-Qazvin**	**5.07**	**189**	Pn	**Pn**	**19 10 42.1**	**+0.1**
IKIA	**Kiasar**	**5.12**	**151**	Pn	**Pn**	**19 10 43.0**	**+0.4**
MRVT	**Maraveh tapeh**	**5.25**	**124**	Pn	**Pn**	**19 10 45.2**	**+1.0**
IDMV	**Damavand**	**5.26**	**167**	Pn	**Pn**	**19 10 45.5**	**+0.9**
IRAZ	**Razeghan**	**5.34**	**186**	Pn	**Pn**	**19 10 45.3**	**-0.2**
HGHA	**Hamedan- Ghaye**	**5.41**	**195**	Pn	**Pn**	**19 10 47.0**	**+0.5**
KBZ	**Khabaz** 0.2nm,0.4s,baz=117,slow=11,SNR=1.3	**6.46**	**300**	Pn	**Pn**	**19 10 59.3**	**-1.2**
KBZ	0.5nm,0.3s,baz=316,slow=12,SNR=4.2			Sn	**Sn**	**19 12 06.1**	**-6.5**
KVAR	**Kislovodsk Arr** baz=66,slow=18	**6.69**	**301**	Pn	**Pn**	**19 11 01.0**	**-2.7**
KVAR	baz=269,slow=17 0.6nm,0.3s			Sn	**Sn**	**19 12 10.0**	**-8.5**
ISFR	**Sfrayin**	**6.84**	**120**	Pn	**Pn**	**19 11 07.2**	**+1.1**
IEMG	**Emamgholi**	**7.08**	**115**	Pn	**Pn**	**19 11 09.6**	**+0.2**
AB31	**Akbulak array** 0.4nm,0.3s,baz=210,slow=14,SNR=27	**10.79**	**35**	P	**Pn**	**19 11 58.2**	**-1.4**
AB31	1.6nm,0.4s,baz=217,slow=25,SNR=5.5			⇑S	Sn	19 13 52.4	-6.1
AB31	**Akbulak array**	**10.79**	**35**	P	**Pn**	**19 11 58.2**	**-1.4**
AB31				S	Sn	19 13 52.4	-6.1
AKTO	**Aktyubinsk** 1.3nm,0.3s,baz=207,slow=10,SNR=9.9	**11.01**	**26**	Pn	**Pn**	**19 12 00.8**	**-1.8**
AKTO	1.9nm,0.3s,baz=349,slow=22,SNR=10.0 3.4nm,0.4s			Sn	Sn	19 13 56.3	-7.5
AKTO	**Aktyubinsk** 1.1nm,0.3s	**11.01**	**26**	⇑P	**Pn**	**19 12 01.0**	**-1.6**
AKTO	4.2nm,0.5s			⇑S	**Sn**	**19 13 58.2**	**-5.6**
KK31	**Karatay Array** 1.3nm,0.7s,baz=279,slow=14,SNR=9.3	**15.02**	**74**	⇑P	**Pn**	**19 12 56.6**	**+0.6**
KK31	1.4nm,0.5s,baz=271,slow=24,SNR=6.9			⇓S	**Sn**	**19 15 35.9**	**-5.4**
KK31	**Karatay Array**	**15.02**	**74**	P	**Pn**	**19 12 56.6**	**+0.6**
KK31				S	**Sn**	**19 15 35.9**	**-5.4**
ARTI	**Arti**	**16.48**	**15**	Pn	**Pn**	**19 13 12.5**	**-1.9**
	0.3nm,0.3s,baz=205,slow=17,SNR=2.7 1.0nm,0.4s						
AKASG	**Malin Array Be** 0.8nm,0.3s,baz=121,slow=12,SNR=4.6 0.8nm,0.4s	**17.89**	**311**	P	**Pn**	**19 13 31.8**	**+0.1**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=232,slow=9.6,SNR=9.8 1.6nm,0.6s	**18.21**	**41**	P	**Pn**	**19 13 37.2**	**+1.6**
KURBB	**Kurchatov Arra** 0.6nm,0.6s,baz=256,slow=11,SNR=4.7 0.6nm,0.6s	**21.77**	**54**	P	**P**	**19 14 15.7**	**+2.4**
KURK	**Kurchatov**	**21.85**	**53**	P	**P**	**19 14 15.7**	**+1.5**
MKAR	**Makanchi Array** 1.5nm,0.6s,baz=265,slow=7.6,SNR=20 1.5nm,0.6s	**23.58**	**64**	P	**P**	**19 14 35.7**	**+3.9**
FINES	**FINESS Array B** 1.7nm,0.8s,baz=110,slow=11,SNR=5.8 1.7nm,0.8s	**25.55**	**332**	P	**P**	**19 14 51.2**	**+1.8**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=278,slow=10.0,SNR=1.8 0.2nm,0.3s	**26.41**	**48**	P	**P**	**19 15 00.2**	**+3.0**
ARCES	**ARCESS Array B** 3.9nm,1.0s,baz=134,slow=10,SNR=1.3 3.9nm,1.0s	**31.74**	**344**	P	**P**	**19 15 45.8**	**+1.4**
EKA	**Eskdalemuir Ar** 0.3nm,0.4s,baz=101,slow=8.8,SNR=4.5 0.3nm,0.4s	**37.80**	**311**	P	**P**	**19 16 39.3**	**+2.5**
SONM	**Songino Array** 0.2nm,0.4s,baz=249,slow=7.6,SNR=2.7 0.2nm,0.4s	**39.82**	**60**	P	**P**	**19 16 56.6**	**+2.7**

*ISN **06** 19:21:04.4±0.3, 33°.73N×45°.72E, h9km±5km, ML2.6*
*TEH **06** 19:21:04.8, 33°.74N×45°.71E, h15km±66km*

ISC 06 19:21:05.0±0.9, 33°.74N±0°.04×45°.71E±0°.04, h13km, n10, σ0°61/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.41**	**23**	Pg	**Pg**	**19 21 12.5**	**-0.7**
GLG1				Sg	**Sb**	**19 21 20.0**	**-0.3**
IBDR	**Badra**	**0.65**	**164**	*e*Pg	**Pg**	**19 21 17.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**19 21 26.0**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.77**	**352**	Pg	**Pb**	**19 21 20.2**	**-0.1**
IGHG	**Ghaleghazi**	**0.92**	**50**	Pg	**Pg**	**19 21 22.6**	**-0.3**
IDHR	**Dehrash**	**1.11**	**30**	Pg	**Pb**	**19 21 25.8**	**-0.4**
BHD	**Baghdad**	**1.21**	**248**	*e*Pg	**Pb**	**19 21 27.5**	**-0.2**
BHD				*e*Sg	**Sg**	**19 21 44.5**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.23**	**64**	Pg	**Pg**	**19 21 28.3**	**-0.3**
IKFM	**Kafar-mosalman**	**1.79**	**96**	Pg	**Pb**	**19 21 37.6**	**-0.1**
IKRK	**Kirkuk**	**2.01**	**326**	*e*Pn	**Pb**	**19 21 40.5**	**-0.9**
IKRK				*e*Sn	**Sb**	**19 22 07.0**	**+0.7**
HGHA	**Hamedan- Ghaye**	**3.12**	**55**	Pn	**Pn**	**19 21 55.2**	**+1.0**

*GCG **06** 19:26:08.5±1.4, 14°.37N×92°.91W, h66km±33km, MD4.3*
*MEX **06** 19:26:09.2±1.3, 14°.45N×93°.13W, h15km±18km, MD4.1*

ISC 06 19:26:04.9±2.1, 14°.36N±0°.07×93°.08W±0°.03, h26km±19km, n23, σ1°91/40, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.96**	**55**	*e*P	**Pn**	**19 26 24.2**	**+1.5**
THIG				*e*S	**Sn**	**19 26 35.6**	**+0.1**
THIG		**0.96**	**55**	*e*P	**Pn**	**19 26 24.3**	**+1.5**
THIG				*i* S	**Sn**	**19 26 36.4**	**+0.9**
PATR	**El Naranjo**	**1.11**	**47**	*e*P	**Pn**	**19 26 25.8**	**+0.7**
PATR				*e*S	**Sn**	**19 26 39.2**	**-0.5**
PAVE	**Pavencul**	**1.20**	**46**	*e*P	**Pn**	**19 26 27.2**	**+0.9**
PAVE				*e*S	**Sn**	**19 26 41.0**	**-1.0**
PCIG		**1.35**	**354**	*e*P	**Pn**	**19 26 28.6**	**+0.5**
PCIG				*e*S	**Sn**	**19 26 43.0**	**-2.1**
RTAL	**Retalhuleu**	**1.35**	**83**	*e*P	**Pn**	**19 26 30.7**	**+2.6**
RTAL				*e*S	**Sn**	**19 26 46.6**	**+1.4**
STG8	**El Palmar, Qui**	**1.68**	**87**	*e*P	**Pn**	**19 26 31.9**	**-0.9**
STG8				*e*S	**Sn**	**19 26 49.7**	**-3.9**
STG0	**El Palmar, Qui**	**1.68**	**87**	*e*P	**Pn**	**19 26 32.1**	**-0.7**
HUEH	**Huehuetenango**	**1.80**	**58**	*e*P	**Pn**	**19 26 36.0**	**+1.5**
HUEH				*e*S	**Sn**	**19 26 59.2**	**+2.6**
CCIG	**Comitan**	**2.12**	**25**	*e*P	**Pb**	**19 26 42.3**	**-0.5**
CCIG				*e*S	**Sn**	**19 27 07.1**	**+2.7**
CCIG	**Comitan**	**2.12**	**25**	*e*P	**Pb**	**19 26 42.4**	**-0.3**
TGIG		**2.41**	**359**	*e*P	**Pn**	**19 26 44.8**	**+2.0**
TGIG				*e*S	**Sn**	**19 27 11.8**	**+0.4**
TGIG		**2.41**	**359**	*e*P	**Pn**	**19 26 45.2**	**+2.5**
UXUV	**UXUV**	**3.12**	**341**	*e*P	**Pn**	**19 26 54.8**	**+2.4**
UXUV				*e*S	**Sn**	**19 27 29.8**	**+0.9**
CMIG	**Matias Romero**	**3.23**	**328**	*e*P	**Pn**	**19 26 55.5**	**+1.5**
CMIG				*e*S	**Sn**	**19 27 29.3**	**-2.3**
HUIG	**Huatulco**	**3.25**	**296**	*e*P	**Pn**	**19 26 55.4**	**+1.2**
HUIG				*e*S	**Sn**	**19 27 31.6**	**-0.5**
NEUV	**Arroyo Zacate**	**4.24**	**322**	*e*P	**Pn**	**19 27 06.9**	**-1.0**
NEUV				*e*S	**Sn**	**19 27 55.5**	**-1.2**
PEIG	**Puerto Escondi**	**4.26**	**293**	*e*P	Pn	19 27 03.9	-4.3
SCIG	**Sabancuy**	**4.93**	**21**	*e*P	**Pn**	**19 27 16.2**	**-1.2**
SCIG				*e*S	**Sn**	**19 28 09.4**	**-4.1**
YOIG	**Yosondua**	**4.97**	**301**	*e*P	**Pn**	**19 27 20.8**	**+2.5**
YOIG				*e*S	**Sn**	**19 28 15.1**	**0.0**
PNIG	**Pinotepa**	**5.28**	**293**	*e*P	**Pn**	**19 27 24.3**	**+2.1**
PNIG				*e*S	**Sn**	**19 28 18.6**	**-3.6**
TXIG	**Tlaxiaco**	**5.36**	**303**	*e*S	**Sn**	**19 28 26.4**	**+1.9**
JAUV	**Jalcomulco**	**6.13**	**325**	*e*P	**Pn**	**19 27 32.3**	**-1.5**
JAUV				*e*S	**Sn**	**19 28 42.8**	**-0.4**

ISC 06 19:36:35.4±1.9, 46°.31N±0°.04×13°.21E±0°.03, h12km±10km, n14, σ0°31/22, 2C-2D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VINO	**Villanova**	**0.07**	**137⇑**	*e*Pg	**Pg**	**19 36 38.0**	**0.0**
VINO				*e*Sg	**Sg**	**19 36 39.7**	**-0.2**
BAD	**Bernadia**	**0.08**	**163⇑**	*e*Pg	**Pg**	**19 36 38.0**	**0.0**
BAD				*e*Sg	**Sg**	**19 36 40.0**	**0.0**
BOO	**Bordano**	**0.08**	**278⇓**	*e*Pg	**Pg**	**19 36 37.8**	**-0.2**
BOO				*e*Sg	**Sg**	**19 36 39.5**	**-0.5**
MPRI	**Monte Prat**	**0.17**	**246**	*e*Pg	**Pg**	**19 36 39.3**	**0.0**
MPRI				*e*Sg	**Sg**	**19 36 42.5**	**+0.5**
FUSE	**Fusea**	**0.18**	**306**	*e*Pg	**Pg**	**19 36 39.4**	**0.0**
FUSE				*e*Sg	**Sg**	**19 36 42.2**	**-0.1**
COLI	**Coloredo**	**0.21**	**147⇓**	*e*Pg	**Pg**	**19 36 40.2**	**+0.3**
COLI				*e*Sg	**Sg**	**19 36 43.7**	**+0.6**
ROBS	**Robic**	**0.22**	**107**	*i* Pg	**Pg**	**19 36 39.9**	**-0.2**
ROBS				*i* Sg	**Sg**	**19 36 43.4**	**+0.2**
ROBS				IAML		19 36 44.2	
PLRO	**Paularo**	**0.24**	**350**	*e*Pg	**Pg**	**19 36 40.6**	**0.0**
PLRO				*e*Sg	**Sg**	**19 36 44.4**	**+0.2**
CLUD	**Cludinico**	**0.27**	**303**	*e*Pg	**Pg**	**19 36 41.0**	**0.0**
LSR	**Lussari**	**0.28**	**53**	*e*Pg	**Pg**	**19 36 41.4**	**+0.2**
PRED	**Cave del Predi**	**0.28**	**61**	*e*Pg	**Pg**	**19 36 41.3**	**+0.1**
ZOU	**Zoufplan**	**0.30**	**326**	*e*Pg	**Pg**	**19 36 41.6**	**0.0**
CADS	**Cadrg**	**0.37**	**102**	*e*Pg	**Pg**	**19 36 42.6**	**-0.2**
CADS				IAML		19 36 52.4	
VOJS	**Vojsko**	**0.54**	**120**	*i* Pg	**Pg**	**19 36 45.3**	**-0.7**
VOJS				IAML		19 36 56.4	
	comp=Z,0.2nm,0.1s						

*NEIC **06** 19:37:46.3±1.0, 23°.75S±0°.2×179°.2W±0°.1, h551km±16km, mb4.3/15, Error ellipse: s-maj=25.2km s-min=16.1km az=179.0*
*IDC **06** 19:37:46.9±3.0, 23°.54S×179°.25W, h562km±28km, mb3.4/4, mbtmp4.3/6, Error ellipse: s-maj=50.0km s-min=35.5km az=120.0*

ISC 06 19:37:45.7±1.4, 23°.8S±0°.1×179°.2W±0°.2, h550km, n25, σ1°09/26, mb4.2/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.56**	**336**	P	**P**	**19 39 29.2**	**-0.6**
MSVF	**Nonsavu**	**6.56**	**336**	P	**P**	**19 39 29.4**	**-0.3**
PINNC	**Pines Island,** 6.4nm,0.5s,baz=215,slow=10,SNR=10.0	**12.35**	**273**	P	**P**	**19 40 27.7**	**-0.2**
URZ	**Urewera** 5.1nm,0.8s,baz=40,slow=7.9,SNR=1.3	**14.76**	**192**	P	**P**	**19 40 53.8**	**+1.3**
URZ	12nm,1.1s,baz=234,slow=5.5,SNR=2.5			S	**S**	**19 43 23.2**	**-3.2**
BFZ	**Birch Farm**	**17.27**	**192**	P	**P**	**19 41 18.7**	**+2.1**
MRZ	**Mangatainoka R**	**17.38**	**193**	P	**P**	**19 41 19.3**	**+1.7**
LHI	**Lord Howe Isla**	**20.72**	**243**	P	**P**	**19 41 49.0**	**+0.7**
ARMA	**Armidale**	**26.75**	**249**	P	**P**	**19 42 42.5**	**+0.5**
ARMA				IAmb	IAmb	19 42 44.5	
CAN	**Canberra** comp=Z,14nm,1.4s	**29.84**	**240**	P	**P**	**19 43 09.7**	**+1.0**
CAN				IAmb	IAmb	19 43 12.2	
TOO	**Toolangi** comp=Z,18nm,1.4s	**33.13**	**237**	P	**P**	**19 43 37.4**	**+0.6**
TOO				IAmb	IAmb	19 43 38.7	
STKA	**Stephens Creek** comp=Z,6.3nm,1.4s	**35.45**	**248**	P	**P**	**19 43 57.3**	**+1.0**
BBOO	**Buckleboo** comp=Z,1.3nm,0.4s,baz=74,slow=9.8,SNR=9.2	**40.17**	**247**	P	**P**	**19 44 34.5**	**-0.1**
BBOO				IAmb	IAmb	19 44 35.7	
AS31	**Alice Springs** comp=Z,18nm,1.2s	**42.78**	**260**	P	**P**	**19 44 54.9**	**-0.6**
ASAR	**Alice Springs**	**42.79**	**260**	P	**P**	**19 44 55.1**	**-0.4**
ASAR	**Alice Springs** comp=Z,2.0nm,0.4s,baz=95,slow=7.4,SNR=40 comp=Z,2.0nm,0.4s	**42.79**	**260**	P	**P**	**19 44 55.6**	**+0.1**
WB0	**Warramunga Arr** comp=Z,5.0nm,0.7s	**43.15**	**266**	P	**P**	**19 44 57.5**	**-0.8**
WB0				IAmb	IAmb	19 44 58.2	
WRA	**Warramunga Arr**	**43.16**	**266**	P	**P**	**19 44 57.4**	**-1.0**
WRA	**Warramunga Arr** comp=Z,3.9nm,0.5s,baz=93,slow=8.4,SNR=80 comp=Z,3.9nm,0.5s	**43.16**	**266**	P	**P**	**19 44 57.8**	**-0.7**
FORT	**Forrest** comp=Z,16nm,0.8s	**47.04**	**249**	P	**P**	**19 45 27.4**	**-0.6**
FORT				IAmb	IAmb	19 45 29.5	
KNRA	**Kununurra** comp=Z,22nm,1.2s	**49.43**	**269**	P	**P**	**19 45 45.5**	**-0.5**
KNRA				IAmb	IAmb	19 45 55.1	
FITZ	**Fitzroy Crossi** comp=Z,4.4nm,1.4s	**51.58**	**265**	P	**P**	**19 46 01.6**	**0.0**
FITZ				IAmb	IAmb	19 46 31.2	
FITZ	**Fitzroy Crossi** comp=Z,7.9nm,1.0s,baz=95,slow=8.6,SNR=6.9 comp=Z,7.9nm,1.0s	**51.58**	**265**	P	**P**	**19 46 02.2**	**+0.6**
SBA	**Scott Base**	**54.52**	**184**	P	**P**	**19 46 21.5**	**0.0**
TOLI2	**Tolitoli**	**63.27**	**284**	P	**P**	**19 47 21.5**	**+0.2**
TOLI2	comp=Z,3.2nm,0.7s			IAmb	IAmb	19 47 23.0	
HFS	**Hagfors** comp=Z,2.4nm,1.0s,baz=64,slow=3.4,SNR=5.7	**142.59**	**349**	PKP	**PKPdf**	**19 56 14.9**	**-0.9**

*JMA **06** 19:38:54.7±0.4, 34°N±1°×13°8E±°, h352km±3km, MV3.1/29, FAR S OFF SHIZUOKA PREF*
*IDC **06** 19:38:55.6±0.7, 33°.58N×137°.60E, h338km±8km, mb2.9/10, mbtmp3.6/13, Error ellipse: s-maj=18.1km s-min=11.0km az=69.0*

ISC 06 19:38:55.9±0.8, 33°.64N±0°.07×137°.61E±0°.07, h341km±6km, n29, σ0°93/37, mb3.1/10, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.49**	**281**	*e*P	**Pn**	**19 39 39.7**	**+1.0**
TTO1	**TONANKAI O.B.S**	**0.69**	**269**	*e*P	**Pn**	**19 39 39.8**	**+0.6**
JIE	**Ise**	**1.06**	**315**	P	**Pn**	**19 39 41.2**	**+0.4**
JIE				*e*S	**S**	**19 40 16.9**	**0.0**
JTNC	**Tanabenakahech**	**1.68**	**277**	P	**Pn**	**19 39 44.1**	**-0.1**
JWY	**Kouya**	**1.77**	**290**	P	**Pn**	**19 39 45.2**	**+0.3**
JHJ	**Hachijo jima 2** 88nm,0.4s,baz=66,slow=23,SNR=7.7	**1.89**	**105**	P	**Pn**	**19 39 46.0**	**+0.4**
JHJ	56nm,0.8s,baz=279,slow=19,SNR=0.9			S	**S**	**19 40 25.3**	**-0.1**
JHJ2	**Mitsune**	**1.92**	**105**	*e*P	**Pn**	**19 39 46.2**	**+0.4**
JOD2	**Odawara 2**	**2.03**	**37**	P	**Pn**	**19 39 47.0**	**+0.5**
JYTA	**Yamagatataniai**	**2.08**	**340**	*e*P	**Pn**	**19 39 47.4**	**+0.6**
JYTA				*e*S	**S**	**19 40 27.6**	**-0.1**
JWT	**Wachi**	**2.45**	**313**	P	**Pn**	**19 39 50.0**	**+0.3**
JWT				*e*S	**S**	**19 40 32.0**	**-1.0**
JRY	**Ryogami san**	**2.60**	**24**	P	**Pn**	**19 39 51.9**	**+0.9**
JRY				*e*S	**S**	**19 40 35.5**	**+0.3**
JAI	**Aioi**	**2.64**	**274**	P	**Pn**	**19 39 51.1**	**-0.2**
JAI				*e*S	**S**	**19 40 35.0**	**-0.9**
JKG	**Kaga**	**2.83**	**339**	*e*P	**Pn**	**19 39 53.2**	**+0.3**
MJAR	**Matsushiro Arr** 3.2nm,0.8s,baz=164,slow=8.7,SNR=12	**2.94**	**9**	P	**Pn**	**19 39 54.1**	**+0.2**
MJAR	1.4nm,0.5s,baz=183,slow=18,SNR=5.8			S	**S**	**19 40 39.8**	**-0.7**
JMN	**Monobe**	**3.11**	**273**	P	**Pn**	**19 39 55.6**	**0.0**
JAG	**Ashikaga**	**3.16**	**28**	P	**Pn**	**19 39 55.1**	**-0.9**
JAG				*e*S	**S**	**19 40 40.6**	**-3.7**
JHS	**Saijyo**	**3.96**	**291**	*e*P	**Pn**	**19 40 04.2**	**+0.3**
KSRS	**Korea Array** 4.3nm,0.7s,baz=112,slow=12,SNR=26	**8.76**	**298

WB0	**Warramunga Arr**	**44.54**	**260**	P	**P**	**20 02 26.3**	**+0.3**
WB0				IAmb	IAmb	20 02 27.3	
comp=Z,4.9nm,0.6s							
WRA	**Warramunga Arr**	**44.57**	**260**	P	**P**	**20 02 26.3**	**+0.1**
WRA	**Warramunga Arr**	**44.57**	**260**	P	**P**	**20 02 26.7**	**+0.6**
comp=Z,2.8nm,0.4s,baz=97,slow=6.7,SNR=40							
comp=Z,2.8nm,0.4s							
AS31	**Alice Springs**	**44.70**	**255**		**P**	**20 02 28.1**	**+1.0**
ASAR	**Alice Springs**	**44.70**	**255**		**P**	**20 02 28.0**	**+0.8**
ASAR	**Alice Springs**	**44.70**	**255**	P	**P**	**20 02 28.2**	**+1.1**
comp=Z,16nm,0.5s,baz=88,slow=8.9,SNR=353							
comp=Z,16nm,0.5s							
MTN	**Manton Dam**	**48.78**	**269**	P	**P**	**20 02 58.3**	**+0.4**
MTN				IAmb	IAmb	20 03 05.2	
comp=Z,7.3nm,0.8s							
FORT	**Forrest**	**49.88**	**245**	P	**P**	**20 03 05.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.97**	**261**	P	**P**	**20 03 28.6**	**+0.5**
Q32M	**Nakina River**	**85.66**	**22**	P	**P**	**20 06 42.0**	**-0.5**
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**20 06 44.7**	**-0.7**
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**20 06 46.3**	**+0.9**
comp=Z,1.1nm,0.7s,baz=214,slow=5.1,SNR=12							
comp=Z,1.1nm,0.7s							
ILAR	**Eielson Array**	**86.17**	**13**	P	**P**	**20 06 44.5**	**0.0**
comp=Z,0.3nm,0.5s,baz=202,slow=4.9,SNR=2.3							
comp=Z,0.3nm,0.5s							
PDAR	**Pinedale Array**	**87.57**	**43**	P	**P**	**20 06 50.8**	**-1.1**
PDAR	**Pinedale Array**	**87.57**	**43**	P	**P**	**20 06 52.0**	**+0.1**
comp=Z,0.7nm,0.8s,baz=252,slow=3.0,SNR=5.5							
comp=Z,0.7nm,0.8s							
I30M	**Mount Dempster**	**89.09**	**16**	P	**P**	**20 06 58.1**	**-0.2**
H29M	**Whitestone**	**89.36**	**15**	P	**P**	**20 06 59.8**	**+0.5**
F31M	**Tsiigehtchic**	**91.47**	**16**	P	**P**	**20 07 08.8**	**-0.3**
F31M				IAmb	IAmb	20 07 10.2	
comp=Z,1.0nm,0.8s							
BUR08	**Bucovina Ar. S**	**144.85**	**332**	PKPbc	**PKPdf**	**20 13 37.5**	**+1.3**
BURAR	**Bucovina Array**	**144.87**	**332**	PKPbc	PKPbc	20 13 38.2	+1.3

*NEIC **06** 19:59:47.8±1.4, 61°.48N±0°.03×149°.99W±0°.05, h47km±4km, Error ellipse: s-maj=3.9km s-min=3.3km az=192.0*

AEIC 06 19:59:48.4±1.4, 61°.47N±0°.03×150°.00W±0°.05, h40km±7km, ML2.8, ML3.0/158(NEIC), Error ellipse: s-maj=3.9km s-min=3.4km az=190.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.29**	**348**		Pn	19 59 55.8	-0.7
M22K					Sn	20 00 02.8	+0.6
FIS	**Fire Island**	**0.35**	**198**		Pn	19 59 57.5	+0.3
SUA	**Susitna One**	**0.36**	**269**		Pn	19 59 57.1	-0.4
SUA	**Susitna One**	**0.36**	**269**		Sn	20 00 04.4	+0.5
RC01	**Rabbit Creek A**	**0.41**	**162**		Pn	19 59 57.3	-0.7
RC01				IAML		20 00 06.2	
comp=E,1μm,0.4s							
RC01				IAML		20 00 06.3	
comp=N,966nm,0.2s							
RC01	**Rabbit Creek A**	**0.41**	**162**		Sn	20 00 05.2	+0.6
PMR	**Palmer**	**0.43**	**73**		Pn	19 59 57.2	-1.0
PMR				IAML		20 00 05.5	
comp=N,1μm,0.3s							
PMR	**Palmer**	**0.43**	**73**		Sn	20 00 04.9	-0.3
GHO	**Glory Hole Cre**	**0.59**	**59**		Pn	19 59 59.5	-1.1
GHO					Sn	20 00 09.1	0.0
GHO				IAML		20 00 10.9	
comp=E,1μm,0.7s							
KNK	**Knik Glacier**	**0.74**	**94**		Pn	20 00 01.7	-0.8
KNK					Sn	20 00 12.7	+0.1
KNK				IAML		20 00 14.2	
comp=N,857nm,0.6s							
KNK				IAML		20 00 15.2	
comp=E,852nm,0.6s							
SML	**Sawmill**	**0.86**	**66**		Pn	20 00 02.9	-1.3
SML				IAML		20 00 17.9	
comp=E,602nm,0.8s							
SML				IAML		20 00 18.1	
comp=N,480nm,0.6s							
STLK	**Strandline Lak**	**0.88**	**273**		Pn	20 00 03.8	-0.6
STLK					Sn	20 00 16.0	0.0
STLK				IAML		20 00 17.0	
comp=E,500nm,0.6s							
SKT	**Skwentna**	**0.89**	**306**		Pn	20 00 03.3	-1.1
SKT					Sn	20 00 15.8	-0.4
SKT				IAML		20 00 16.4	
comp=N,582nm,0.3s							
SKT				IAML		20 00 17.4	
comp=E,465nm,0.2s							
CAPN	**Captain Cook N**	**0.90**	**219**	Pn	Pn	20 00 05.2	+0.6
CUT	**Chulitna**	**0.94**	**352**		Pn	20 00 04.2	-1.0
CUT					Sn	20 00 17.2	-0.2
SLKM	**Skilak Lake**	**0.97**	**186**		Pn	20 00 04.6	-1.0
SLKM				IAML		20 00 19.7	
comp=N,472nm,0.2s							
O22K	**Cooper Landing**	**1.00**	**172**		Pn	20 00 04.2	-1.8
PWL	**Port Wells**	**1.01**	**127**		Pn	20 00 05.6	-0.6
SPCR	**Spurr Chakacha**	**1.10**	**257**		Pn	20 00 06.8	-0.6
SPBG	**Spurr Blockage**	**1.16**	**260**		Pn	20 00 07.8	-0.5
SCM	**Sheep Creek Mo**	**1.32**	**73**		Pn	20 00 09.6	-0.8
SEW	**Seward**	**1.40**	**169**		Pn	20 00 10.0	-1.4
SEW				IAML		20 00 33.6	
comp=N,168nm,0.4s							
SEW				IAML		20 00 35.1	
comp=E,168nm,0.7s							
RDT	**Redoubt**	**1.48**	**233**		Pn	20 00 11.9	-0.7
GLI	**Glacier Island**	**1.53**	**112**		Pn	20 00 11.9	-1.3
GLI				IAML		20 00 37.1	
comp=N,238nm,0.4s							
GLI				IAML		20 00 37.3	
comp=E,210nm,0.4s							
M20K	**Styx River**	**1.55**	**287**		Pn	20 00 13.1	-0.4
M20K				IAML		20 00 34.9	
comp=E,158nm,0.7s							
M20K				IAML		20 00 35.7	
comp=N,171nm,0.8s							
RDJH	**Redoubt Jeurge**	**1.63**	**238**		Pn	20 00 14.2	-0.5
RDWB	**Redoubt West**	**1.70**	**236**		Pn	20 00 15.1	-0.6
PPLA	**Purkeypile**	**1.76**	**325**	Pn	Pn	20 00 15.8	-0.8
PPLA				IAML		20 00 40.2	
comp=E,96nm,0.4s							
BRLK	**Bradley Lake**	**1.77**	**195**		Pn	20 00 15.6	-0.9
BRLK				IAML		20 00 42.2	
comp=N,163nm,0.4s							
BRLK				IAML		20 00 43.3	
comp=E,191nm,0.6s							
FID	**Port Fidalgo**	**1.86**	**111**		Pn	20 00 16.1	-1.6
FID				IAML		20 00 48.9	
comp=N,167nm,0.4s							
FID				IAML		20 00 49.1	
comp=E,168nm,0.3s							
M24K	**Tolsona, Glenn**	**1.93**	**69**	Pn	Pn	20 00 18.6	-0.1
M24K				IAML		20 00 56.0	
comp=N,169nm,0.7s							
KLU	**Klutina**	**1.96**	**88**		Pn	20 00 17.8	-1.3
KLU				IAML		20 00 49.6	
comp=N,158nm,0.4s							
KLU				IAML		20 00 53.1	
comp=E,92nm,0.4s							
TRF	**Thorofare Moun**	**1.99**	**356**	Pn	Pn	20 00 19.0	-0.7
TRF				IAML		20 00 47.2	
comp=E,114nm,0.6s							
TRF				IAML		20 00 47.0	
comp=N,101nm,0.5s							
RND	**Reindeer**	**2.01**	**15**	Pn	Pn	20 00 19.2	-0.7
RND				IAML		20 00 50.4	
comp=E,77nm,1.0s							
RND				IAML		20 00 51.3	
comp=N,74nm,0.7s							
HIN	**Hinchinbrook I**	**2.02**	**121**	Pn	Pn	20 00 18.0	-2.0
HIN				IAML		20 00 53.1	
comp=N,132nm,0.7s							
HIN				IAML		20 00 54.3	
comp=E,135nm,0.7s							
CNPM	**China Poot**	**2.05**	**198**		Pn	20 00 19.2	-1.1
DIV	**Divide**	**2.07**	**98**		Pn	20 00 19.3	-1.4
KTH	**Kantishna Hill**	**2.13**	**349**	Pn	Pn	20 00 21.1	-0.5
KTH				IAML		20 00 50.7	
comp=E,65nm,0.8s							
KTH				IAML		20 00 51.4	
comp=N,70nm,0.7s							
M19K	**Big River Lodg**	**2.14**	**284**		Pn	20 00 21.0	-0.6
ILS	**Iliamna Low So**	**2.14**	**226**		Pn	20 00 21.4	-0.3
ILSW	**Iliamna Southw**	**2.15**	**227**		Pn	20 00 21.4	-0.5
ILSW				IAML		20 01 09.4	
comp=E,76nm,0.8s							
ILSW				IAML		20 01 10.1	
comp=N,68nm,1.2s							
CAST	**Castle Rocks**	**2.18**	**335**	Pn	Pn	20 00 20.8	-1.3
N19K	**Bonanza Creek**	**2.27**	**255**	Pn	Pn	20 00 23.1	-0.4
MCK	**McKinley**	**2.32**	**12**	Pn	Pn	20 00 24.1	0.0
MCK				IAML		20 01 04.7	
comp=N,53nm,0.9s							
MCK				IAML		20 01 05.8	
comp=E,60nm,0.4s							
L19K	**White Mountain**	**2.41**	**289**	Pn	Pn	20 00 24.8	-0.5
P19K	**Oil Pt**	**2.43**	**223**	Pn	Pn	20 00 25.4	-0.2
N25K	**Chitina, Valde**	**2.59**	**85**	Pn	Pn	20 00 27.3	-0.6
N25K				IAML		20 01 08.3	
comp=E,64nm,0.4s							
N25K				IAML		20 01 10.0	
comp=N,65nm,0.7s							
PAX	**Paxson**	**2.60**	**53**		Pn	20 00 27.9	-0.1
PAX				IAML		20 01 08.3	
comp=N,62nm,0.5s							
BMRM	**Bremner River**	**2.66**	**99**	Pn	Pn	20 00 28.0	-0.8
BMRM				IAML		20 01 09.5	
comp=E,99nm,0.6s							
BPAW	**Bear Paw Mtn.**	**2.68**	**351**		Pn	20 00 27.7	-1.3
K20K	**Telida**	**2.68**	**317**		Pn	20 00 27.9	-1.1
K20K				IAML		20 01 07.6	
comp=N,44nm,0.5s							
BWN	**Browne**	**2.72**	**5**	Pn	Pn	20 00 27.9	-1.7
N18K	**Kilae Creek**	**2.97**	**257**	Pn	Pn	20 00 32.3	-0.8
GLB	**Gilahina Butte**	**2.97**	**88**	Pn	Pn	20 00 33.5	+0.4
GLB				IAML		20 01 18.1	
comp=N,61nm,0.7s							
O18K	**Koktuh Hills**	**3.04**	**240**		Pn	20 00 32.8	-1.1
O18K				IAML		20 01 37.2	
comp=E,29nm,1.1s							
O18K				IAML		20 01 37.6	
comp=N,50nm,0.9s							
K24K	**Donnelly Dome**	**3.04**	**38**		Pn	20 00 35.0	+0.9
SYI	**Shuyak Island**	**3.11**	**204**	Pn	Pn	20 00 34.7	-0.2
SYI				IAML		20 01 18.8	
comp=N,49nm,1.4s							
SYI				IAML		20 01 59.9	
comp=E,47nm,1.5s							
WRH	**Wood River Hil**	**3.13**	**15**		Pn	20 00 34.5	-0.7
WRH				IAML		20 01 26.5	
comp=E,37nm,1.4s							
NEA2	**Nenana**	**3.16**	**7**		Pn	20 00 35.2	-0.4
NEA2				IAML		20 01 29.1	
comp=N,27nm,0.7s							
VRDI	**Verde Repeater**	**3.16**	**92**	Pn	Pn	20 00 36.4	+0.6
VRDI				IAML		20 01 34.9	
comp=N,24nm,0.8s							
TTA	**Tatalina**	**3.17**	**300**	Pn	Pn	20 00 34.8	-1.1
L18K	**Granite Mounta**	**3.26**	**286**		Pn	20 00 36.0	-0.9
HDA	**Harding Lake**	**3.26**	**24**		Pn	20 00 37.0	0.0
HDA				IAML		20 01 30.3	
comp=E,46nm,0.9s							
RIDG	**Independent Ri**	**3.29**	**44**	Pn	Pn	20 00 37.6	+0.1
RIDG				IAML		20 01 24.9	
comp=E,44nm,0.6s							
RIDG				IAML		20 01 37.7	
comp=N,46nm,0.8s							
J20K	**Nowinta River**	**3.31**	**327**	Pn	Pn	20 00 36.5	-1.2
J20K				IAML		20 01 40.0	
comp=N,34nm,0.8s							
J20K				IAML		20 01 40.5	
comp=E,31nm,0.5s							
CCB	**Clear Creek Bu**	**3.34**	**16**		Pn	20 00 38.0	0.0
M26K	**Nabesna, AK**	**3.44**	**71**		Pn	20 00 39.5	+0.1
M26K				IAML		20 01 35.3	
comp=N,25nm,0.5s							
M26K				IAML		20 01 41.1	
comp=E,23nm,0.4s							
DOT	**Dot Lake**	**3.51**	**49**		Pn	20 00 42.1	+1.7
DOT				IAML		20 01 35.3	
comp=N,30nm,0.7s							
DOT				IAML		20 01 37.7	
comp=E,44nm,0.8s							
M17K	**Holitna River**	**3.57**	**272**		Pn	20 00 40.4	-0.9
M17K				IAML		20 01 41.5	
comp=N,32nm,0.8s							
M17K				IAML		20 01 42.4	
comp=E,33nm,0.8s							
IL31		**3.60**	**22**		Pn	20 00 41.6	0.0
ILAR	**Eielson Array**	**3.60**	**22**	Pn	Pn	20 00 40.8	-0.9
J19K	**Poorman**	**3.62**	**317**	Pn	Pn	20 00 40.7	-1.2
J19K				IAML		20 01 36.6	
comp=N,25nm,0.8s							
J19K				IAML		20 01 41.6	
comp=E,30nm,0.9s							
N17K	**Nushagak Hills**	**3.63**	**258**	Pn	Pn	20 00 40.8	-1.2
I23K	**Minto, Yukon-K**	**3.70**	**4**		Pn	20 00 41.9	-1.1
I23K				IAML		20 01 52.3	
comp=N,22nm,1.4s							
J18K	**Innoko River**	**3.70**	**306**	Pn	Pn	20 00 42.1	-1.0
J18K				IAML		20 01 25.7	
comp=N,25nm,0.5s							
SCRK	**Sand Creek**	**3.74**	**45**	Pn	Pn	20 00 43.8	+0.2
SCRK				IAML		20 01 47.1	
comp=N,22nm,0.8s							
SCRK				IAML		20 01 49.0	
comp=E,23nm,0.8s							
J25K	**Salcha River,**	**3.79**	**32**		Pn	20 00 44.3	0.0
J25K				IAML		20 01 34.6	
comp=E,37nm,0.6s							
J25K				IAML		20 01 35.4	
comp=N,35nm,0.8s							
I21K	**Tanana**	**3.83**	**347**		Pn	20 00 44.1	-0.6
POKR	**Poker Plat Res**	**3.84**	**16**	Pn	Pn	20 00 44.6	-0.3
POKR				IAML		20 01 49.3	
comp=N,17nm,0.8s							
POKR				IAML		20 01 51.6	
comp=E,21nm,0.8s							
M27K	**Edge Creek, AK**	**3.94**	**73**	Pn	Pn	20 00 44.6	-1.9
K17K	**Iditarod**	**4.10**	**291**		Pn	20 00 47.7	-0.8
K17K				IAML		20 02 04.6	
comp=E,17nm,0.8s							
K17K				IAML		20 02 13.0	
comp=N,20nm,1.1s							
BCAR	**Beaver Creek A**	**4.16**	**64**	Pn	Pn	20 00 48.4	-1.0
J26L	**Joseph Creek**	**4.22**	**41**	Pn	Pn	20 00 51.2	+0.9
J26L				IAML		20 01 43.7	
comp=N,23nm,0.6s							
J26L				IAML		20 01 48.3	
comp=E,20nm,0.6s							
ACHA	**Angle Creek He**	**4.23**	**222**	Pn	Pn	20 00 51.0	+0.6
H21K	**Melozitna River**	**4.38**	**345**		Pn	20 00 51.6	-0.8
O16K	**Kokwok River B**	**4.42**	**248**	Pn	Pn	20 00 51.9	-0.9
O16K				IAML		20 02 12.4	
comp=N,10.0nm,1.5s							
H24K	**Noodor Dome**	**4.48**	**11**		Pn	20 00 53.5	-0.2
H24K				IAML		20 02 20.2	
comp=E,12nm,1.5s							
PRP	**Porcupine Dome**	**4.53**	**24**	Pn	Pn	20 00 54.4	0.0
PRP				IAML		20 02 10.0	
comp=E,16nm,0.8s							
PRP				IAML		20 02 17.0	
comp=N,16nm,0.5s							
I28M	**Miner Creek**	**6.02**	**44**		Pn	20 01 15.8	+0.9
F20K	**Avaraart Lake**	**6.13**	**338**		Pn	20 01 16.0	-0.2

TAP 06 20:13:23.2, 24°.06N×121°.80E, h53km, ML2.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.18**	**276**	P	Pn	20 13 31.8	+0.1
TWD				S	Sn	20 13 38.2	+0.4
ETL	**Fush Village**	**0.19**	**302**	P	Pn	20 13 31.8	0.0
ETL				S	Sn	20 13 38.5	+0.6
HWA	**Hwalien**	**0.19**	**245**	*e*P	Pn	20 13 32.1	+0.3
NACB	**Ninganchiao**	**0.22**	**302**	P	Pn	20 13 32.0	0.0
NACB				S	Sn	20 13 38.8	+0.6
TEYL	**Yanliau Villag**	**0.26**	**224**	P	Pn	20 13 32.5	+0.2
TEYL				S	Sn	20 13 40.1	+1.3
EAHA	**Aohua**	**0.27**	**349**	*i* P	Pn	20 13 32.2	-0.1
EAHA				S	Sn	20 13 39.3	+0.4
ETM	**Tongmen**	**0.29**	**251**	P	Pn	20 13 32.7	+0.1
ETM				S	Sn	20 13 39.6	+0.4
ETLH	**Xiulin Townshi**	**0.32**	**297**	*i* P	Pn	20 13 33.1	+0.2
ETLH				*i* S	Sn	20 13 40.2	+0.4
SHUL	**Shoufeng**	**0.35**	**218**	P	Pn	20 13 33.2	+0.3
SHUL				*e*S	Sn	20 13 40.8	+0.8
LXIB	**Xiulin Townshi**	**0.35**	**264**	P	Pn	20 13 33.2	0.0
LXIB				S	Sn	20 13 40.5	+0.1
ENA	**Nanau**	**0.37**	**352**	P	Pn	20 13 33.4	+0.1
ENA				S	Sn	20 13 41.1	+0.7
EWUT	**Wuta**	**0.38**	**357**	P	Pn	20 13 33.6	+0.3
EWUT				*i* S	Sn	20 13 41.4	+0.7
ESL	**Shilin**	**0.41**	**234**	*e*P	Pn	20 13 33.7	0.0
ESL				S	Sn	20 13 41.1	-0.1
EOS4	**EOS4**	**0.48**	**83**	S	Sn	20 13 42.1	+0.3
WARBT	**Fenglin Townsh**	**0.51**	**228**	*i* P	Pn	20 13 34.4	-0.3
WARBT				S	Sn	20 13 42.4	-0.6
EOS3	**EOS3**	**0.53**	**65**	*e*P	Pn	20 13 35.4	+0.6
EOS3				*e*S	Sn	20 13 44.7	+1.5
NNSB	**Datong**	**0.53**	**314**	P	Pn	20 13 35.6	+0.5
NNSB				*i* S	Sn	20 13 44.3	+0.7
EOS2	**EOS2**	**0.53**	**48**	*e*P	Pn	20 13 35.8	+0.9
EOS2				*e*S	Sn	20 13 45.2	+1.9
LATG	**Datong**	**0.53**	**332**	P	Pn	20 13 35.6	+0.5
LATG				S	Sn	20 13 44.4	+0.6
FUSS	**Fushou**	**0.54**	**290**	P	Pn	20 13 36.0	+0.7
FUSS				S	Sn	20 13 44.8	+0.8
NNS	**Nan Shan**	**0.54**	**314**	*e*P	Pn	20 13 35.5	+0.3
NNS				*e*S	Sn	20 13 44.4	+0.5
TWC	**Suao**	**0.55**	**5**	P	Pn	20 13 35.8	+0.6
TWC				*e*S	Sn	20 13 44.7	+0.9
OWD	**Renai**	**0.58**	**260**	*e*P	Pn	20 13 35.9	+0.2
OWD				*e*S	Sn	20 13 45.0	+0.2
TWT	**Tachien**	**0.60**	**289**	*e*P	Pn	20 13 37.0	+1.0
TWT				*e*S	Sn	20 13 46.5	+1.3
ENTT	**Nioudou**	**0.61**	**340**	P	Pn	20 13 36.7	+0.7
ENTT				S	Sn	20 13 46.0	+0.7
WUSB	**Renai**	**0.62**	**264**	P	Pn	20 13 37.0	+0.7
WUSB				S	Sn	20 13 46.5	+0.8
HGSD	**Ruisui**	**0.66**	**211**	*e*P	Pn	20 13 36.4	-0.1
HGSD				*e*S	Sn	20 13 47.4	+1.1
TWE	**Neicheng**	**0.67**	**350**	*e*P	Pn	20 13 36.8	+0.1
YHNB	**Yeheng**	**0.72**	**328**	P	Pn	20 13 38.1	+0.7
YHNB				*e*S	Sn	20 13 48.1	+0.4
FUSB	**Fushanzhiwuyua**	**0.72**	**345**	P	Pn	20 13 38.0	+0.5
FUSB				*e*S	Sn	20 13 48.6	+0.9
NSK	**Sanguang**	**0.73**	**327**	P	Pn	20 13 38.3	+0.7
NWLT	**Wulai**	**0.76**	**339**	P	Pn	20 13 38.5	+0.6
NWLT				S	Sn	20 13 49.2	+0.6
WCS	**Beigang Elemen**	**0.81**	**270**	*e*P	Pn	20 13 39.4	+0.9
NFF	**Wufeng Townshi**	**0.84**	**313**	*i* P	Pn	20 13 40.6	+1.7
NFF				S	Sn	20 13 52.4	+1.9
TYC	**Yuchr**	**0.87**	**260**	*e*P	Pn	20 13 40.2	+0.9
TIPB	**Shuangxi**	**0.91**	**2**	*e*P	Pn	20 13 41.1	+1.3
TIPB				*i* S	Sn	20 13 53.7	+1.7
LIOB	**Emei**	**0.92**	**309**	*e*P	Pn	20 13 41.9	+1.9
LIOB				*e*S	Sn	20 13 54.6	+2.3
WHYT	**Xinyi Township**	**0.94**	**247**	*e*P	Pn	20 13 41.4	+1.2
WHYT				*e*S	Sn	20 13 55.6	+2.9

JMA 06 20:13:53.2±0.2, 24°.3N±0°.9×123°.8E±0°.4, h27km±1km, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**302**	*e*P	Pb	20 13 58.0	0.0
IRIF				*e*S	Sb	20 14 01.1	-0.2
JKRS	**Kuro-shima**	**0.17**	**104**	*e*P	Pb	20 13 58.6	-0.2
JKRS				*e*S	Sb	20 14 02.5	0.0
JIJ	**Ishigaki jima**	**0.30**	**74**	*e*P	Pb	20 14 00.2	-0.2
JIJ				*e*S	Sb	20 14 05.4	+0.1

*SJA **06** 20:16:15.3±0.6, 28°.06S×68°.84W, h130km±5km, ML3.8, MW3.9*
*IDC **06** 20:16:16.1±1.9, 28°.08S×68°.61W, h98km±16km, mb3.7/8, mbtmp3.9/13, Error ellipse: s-maj=25.9km s-min=12.2km az=100.0*
*NEIC **06** 20:16:16.3±2.8, 28°.13S±0°.05×68°.72W±0°.08, h101km±9km, mb4.3/7, Error ellipse: s-maj=10.7km s-min=6.7km az=105.0*

ISC 06 20:16:16.5±0.7, 28°.08S±0°.03×68°.78W±0°.03, h109km±6km, n96, σ1.9/56/127, mb3.9/11, 3C-4D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.82**	**142**	*e*P	**Pn**	**20 16 32.5**	**-3.6**
VCA				*e*P		20 16 38.1	
VCA				*e*S	**Sn**	**20 16 52.9**	**+2.1**
VCA				IAML		20 16 55.4	
comp=Z,4μm,0.3s							
AC02	**Maricunga**	**1.28**	**346**		**Pn**	**20 16 43.3**	**+2.0**
AC02				Sn	**Sn**	**20 17 02.3**	**+2.4**
AC02	**Maricunga**	**1.28**	**346**	*e*P	Pn	20 16 30.2	-11
AC02				*e*S	**Sn**	**20 17 03.4**	**+3.5**
AC02				IAML		20 17 07.8	
comp=Z,465nm,0.3s							
GO03	**Copiapo**	**1.38**	**290**		**Pn**	**20 16 42.5**	**+0.6**
GO03				Sn	**Sn**	**20 17 01.2**	**0.0**
GO03	**Copiapo**	**1.38**	**290**	*e*P	**Pn**	**20 16 41.9**	**-0.1**
GO03				*e*S	**Sn**	**20 17 01.7**	**+0.5**
AGUA	**GUANDACOL**	**1.42**	**170**	*e*P	**Pn**	**20 16 44.0**	**+1.5**
AGUA				*e*S	**Sn**	**20 17 06.1**	**+3.9**
AGUA				IAML		20 17 06.5	
comp=Z,794nm,0.5s							
AC05	**El Transito**	**1.52**	**240**	Pn	**Pn**	**20 16 44.5**	**+1.0**
AC05				Sn	**Sn**	**20 17 05.0**	**+0.8**
AC05	**El Transito**	**1.52**	**240**	⇑*i* P	**Pn**	**20 16 44.6**	**+1.0**
AC05				*e*S	**Sn**	**20 17 05.1**	**+0.9**
AC05				IAML		20 17 05.7	
comp=E,2μm,0.4s							
AC05	**El Transito**	**1.52**	**240**	*e*P	**Pn**	**20 16 43.9**	**+0.3**
AC05				*e*S	**Sn**	**20 17 05.4**	**+1.2**
AC05				IAML		20 17 06.7	
comp=Z,762nm,0.3s							
AC06	**Mina Casimiro**	**1.57**	**297**		**Pn**	**20 16 44.5**	**+0.3**
AC06	**Mina Casimiro**	**1.57**	**297**	⇑*i* P	**Pn**	**20 16 44.6**	**+0.3**
AC06				*e*S	**Sn**	**20 17 04.5**	**-0.8**
AC06				IAML		20 17 07.6	
comp=N,1μm,0.2s							
LCO	**Las Campanas**	**1.93**	**241**		**Pn**	**20 16 49.1**	**+0.3**
LCO	**Las Campanas**	**1.93**	**241**	*e*P	**Pn**	**20 16 48.5**	**-0.3**
LCO				IAML		20 17 14.0	
comp=Z,2μm,0.3s							
AC04	**Llanos de Chal**	**2.03**	**266**		**Pn**	**20 16 49.7**	**-0.2**
AC04	**Llanos de Chal**	**2.03**	**266**	⇑*i* P	**Pn**	**20 16 49.5**	**-0.3**
AC04				*e*S	**Sn**	**20 17 14.1**	**-1.3**
AC04				IAML		20 17 15.9	
comp=E,700nm,0.4s							
AC04	**Llanos de Chal**	**2.03**	**266**	*e*P	**Pn**	**20 16 49.9**	**0.0**
AC04				*e*S	**Sn**

GO02	Mina Guanaco	3.00	346			Pn	20 17 04.0 +1.2
GO02	Mina Guanaco	3.00	346	eP		Pn	20 17 03.4 +0.6
APLL	PUNTA DE LOS L	3.03	140	eP		Pn	20 17 03.8 +0.9
APLL				eS		Sn	20 17 26.0 -13
FSA	Cafayete	3.17	52	eP		Pn	20 17 07.8 +2.8
CO03	El Pedregal	3.21	211	Pn		Pn	20 17 05.3 0.0
CO03	El Pedregal	3.21	211	eP		Pn	20 17 05.4 0.0
CO03				eS		Sn	20 17 43.4 +0.2
CO03				IAML			20 17 44.5
	comp=Z,207nm,0.6s						
RTLL	Cerro Villicun	3.25	175	eP		Pn	20 17 06.9 +1.1
RTLL				eS		Sn	20 17 44.5 +0.7
SJA	San Juan	3.44	177	eS		Sn	20 17 48.9 +0.4
SJA				IAML			20 17 54.0
	comp=Z,76nm,0.4s						
ZON	Zonda	3.45	179	Pn		Pn	20 17 09.3 +0.7
ZON	Zonda	3.45	179	eP		Pn	20 17 09.4 +0.8
ZON				eS		Sn	20 17 48.6 -0.2
ZON				IAML			20 17 53.2
	comp=Z,64nm,0.5s						
CFA	Coronel Fontan	3.54	173	P		Pn	20 17 10.6 +0.8
	comp=Z,18nm,0.2s,baz=38,slow=20,SNR=222						
CFA				S		Sn	20 17 50.1 -0.8
	comp=Z,54nm,0.4s,baz=352,slow=18,SNR=22						
CFA	Coronel Fontan	3.54	173	eP		Pn	20 17 10.6 +0.8
CFA				eS		Sn	20 17 50.7 -0.2
ACHE	Chepes	3.58	150	eP		Pn	20 17 11.5 +1.2
ACHE				eS		Sn	20 17 51.5 -0.4
CO06	Fray Jorge	3.59	223			Pn	20 17 08.5 -1.9
CO02	Combarbal	3.66	211			Pn	20 17 10.5 -0.9
PB14	IPOC Station P	3.74	337			Pn	20 17 13.5 +0.8
PB14	IPOC Station P	3.74	337	eS		Sn	20 17 42.8 -13
PB14				IAML			20 18 03.4
	comp=Z,171nm,0.4s						
PB10	IPOC Station P	4.82	340	Pn		Pn	20 17 27.3 +0.3
VA03	San Esteban	4.91	198			Pn	20 17 27.6 -0.6
VA03	San Esteban	4.91	198	eP		Pn	20 17 28.1 -0.1
VA03				IAML			20 18 33.8
	comp=Z,62nm,0.4s						
AAGR	Agrelo	4.99	180	eP		Pn	20 17 30.1 +0.8
AAGR				eP		Pn	20 17 30.1 +0.8
AAGR				eS		Sn	20 18 27.1 +1.3
AAGR				eS		Sn	20 18 27.1 +1.3
AAGR				eS		Sn	20 18 27.1 +1.3
PEL	Peldehue	5.30	198	Pn		Pn	20 17 31.2 -2.3
MT08	Bocatoma Ro	5.45	191			Pn	20 17 34.5 -1.1
MT02	Curacav	5.54	201			Pn	20 17 33.9 -2.8
MT13	San Alfonso	5.79	193			Pn	20 17 38.0 -2.1
BO04	La Punta	6.09	194			Pn	20 17 42.0 -2.1
PB09	IPOC Station P	6.27	356	Pn		Pn	20 17 46.0 -0.8
PB01	IPOC Station P	7.04	355	Pn		Pn	20 17 55.2 -1.9
PB08	IPOC Station P	7.91	357	Pn		Pn	20 18 07.7 -1.5
CPUP	Villa Florida	10.34	83	Pn		Pn	20 18 39.2 -2.6
CPUP	Villa Florida	10.34	83	P		Pn	20 18 39.6 -2.1
	comp=Z,4.2nm,0.7s,baz=265,slow=11,SNR=10						
ITQB	Itaqui	10.77	101			Pn	20 18 44.2 -3.3
TRQA	Tornquist	11.46	152	Pn		Pn	20 18 54.6 -2.1
LPAZ	La Paz	11.75	3	Pn		Pn	20 18 59.8 -1.6
LPAZ	La Paz	11.75	3	P		Pn	20 19 01.0 -0.4
	comp=Z,0.4nm,0.3s,baz=214,slow=7.3,SNR=1.9						
PLCA	Paso Flores	12.70	186	Pn		Pn	20 19 11.9 -1.3
PLCA	Paso Flores	12.70	186	P		Pn	20 19 12.7 -0.5
	comp=Z,1.2nm,0.9s,baz=352,slow=12,SNR=2.5						
LL04	Puerto Octay	13.14	192	Pn		Pn	20 19 18.2 -0.6
PLTB	Pedras Altas	13.66	109	Pn		Pn	20 19 23.0 -2.7
SIV	San Ignacio	13.99	32	P		Pn	20 19 27.8 -2.2
	comp=Z,0.7nm,0.4s,baz=224,slow=10,SNR=4.1						
ITAB	Concordia	14.78	91	Pn		Pn	20 19 40.2 +0.2
VAO	Valinhos	20.31	80	P		P	20 20 43.6 -0.4
VAO				IAmb		IAmb	20 20 46.9
	comp=Z,28nm,1.5s						
BDFB	Brasilia	22.86	62	P		P	20 21 09.7 -1.2
BDFB	Brasilia	22.86	62	P		P	20 21 09.5 -1.4
	comp=Z,5.3nm,0.8s,baz=228,slow=8.1,SNR=6.2						
	comp=Z,5.3nm,0.8s						
RCBR	Riachuelo	38.23	61	P		P	20 23 24.5 -1.6
VNA3	Neumayer Olymp	53.85	160	⇓P		P	20 25 28.3 +0.4
	comp=Z,4.0nm,0.7s						
VNA2	Neumayer--Watz	54.45	159	⇓P		P	20 25 32.5 +0.3
	comp=Z,3.6nm,0.6s,baz=325,slow=5.9						
SNAA	Sanae	56.07	160	P		P	20 25 44.1 +0.3
SNAA				IAmb		IAmb	20 25 46.8
	comp=Z,1.7nm,0.8s						
SNAA	Sanae	56.07	160	⇓P		P	20 25 44.3 +0.4
	comp=Z,73nm,0.5s						
SNAA	Sanae	56.07	160	P		P	20 25 44.1 +0.3
	comp=Z,2.9nm,0.6s,baz=268,slow=9.2,SNR=20						
	comp=Z,2.9nm,0.6s						
TROLL	Troll, Antarti	57.78	160	⇓P		P	20 25 56.3 +0.3
	comp=Z,119nm,0.5s						
QSPA	South Pole Qui	62.14	180	P		P	20 26 27.0 +1.1
QSPA				IAmb		IAmb	20 26 29.3
	comp=Z,5.9nm,0.9s						
QSPA	South Pole Qui	62.14	180	P		P	20 26 26.9 +1.0
	comp=Z,3.6nm,0.7s,baz=187,slow=0.9,SNR=26						
	comp=Z,3.6nm,0.7s						
TXAR	Lajitas Array	66.13	327	P		P	20 26 53.6 +1.3
	comp=Z,0.1nm,0.6s,baz=151,slow=8.4,SNR=1.7						
	comp=Z,0.1nm,0.6s						
VNDA	Vanda	70.42	190	P		P	20 27 20.0 +1.7
	comp=Z,0.6nm,0.7s,baz=104,slow=4.8,SNR=2.3						
	comp=Z,0.6nm,0.7s						
DBIC	Dimbokro	70.62	71	P		P	20 27 20.6 +0.1
DBIC				IAmb		IAmb	20 27 26.0
	comp=Z,15nm,1.3s						
DBIC	Dimbokro	70.62	71	P		P	20 27 20.2 -0.3
	comp=Z,2.2nm,0.6s,baz=199,slow=5.1,SNR=4.0						
	comp=Z,2.2nm,0.6s						
TORD	Torodi Ar. Bea	79.52	69	P		P	20 28 12.8 +1.1
TORD				IAmb		IAmb	20 28 13.6
	comp=Z,2.4nm,1.1s						
PDAR	Pinedale Array	79.87	331	P		P	20 28 14.4 +1.2
	comp=Z,0.6nm,0.9s,baz=124,slow=7.6,SNR=4.5						
	comp=Z,0.6nm,0.9s						
YKA	Yellowknife Ar	97.41	340	P		P	20 29 37.4 +0.4
	comp=Z,0.2nm,0.7s,baz=141,slow=4.1,SNR=3.2						
	comp=Z,0.2nm,0.7s						
ASAR	Alice Springs	124.09	205	PKP		PKPdf	20 35 02.5 -0.3
	comp=Z,0.5nm,0.4s,baz=138,slow=1.8,SNR=10						
WRA	Warramunga Arr	127.28	208	PKP		PKPdf	20 35 09.0 +0.1
	comp=Z,0.8nm,0.5s,baz=157,slow=1.8,SNR=25						
KURBB	Kurchatov Arra	146.58	39	PKPbc		PKPab	20 35 46.1 -0.1
	comp=Z,2.8nm,0.6s,baz=304,slow=3.3,SNR=22						
ZALV	Zalesovo Beam	147.73	29	PKPbc		PKPbc	20 35 49.2 +1.2
	comp=Z,3.3nm,0.5s,baz=295,slow=3.6,SNR=18						
MKAR	Makanchi Array	150.64	43	PKPbc		PKPbc	20 35 56.4 +0.8
	comp=Z,2.5nm,0.4s,baz=307,slow=1.9,SNR=59						
SONM	Songino Array	159.93	10	PKPab		PKPab	20 36 42.8 +0.4
	comp=Z,0.3nm,0.6s,baz=331,slow=2.5,SNR=3.9						

*KRNET **06** 20:17:51.0±0.1, 39°.43N×73°.25E, h14km, mb3.5*
*ISU **06** 20:17:53, 39°.52N×73°.26E, h9km*
*NNC **06** 20:17:59.2±1.6, 39°.75N×73°.34E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=13.2km s-min=7.3km az=179.0*
*SOME **06** 20:18:00.5, 40°.12N×72°.87E, h5km*

ISC 06 20:17:51.6±1.1, 39°.46N±0°.05×73°.27E±0°.03, h10km, n52, σ2°28/88, 46C-9D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.58	18	⇑iP	Pg	20 18 02.9	-0.1
SFK				⇑iS	Sg	20 18 11.4	+0.6
OHH	Osh	1.13	341	⇑iP	Pb	20 18 12.8	-0.5
OHH				⇑iS	Sn	20 18 28.7	-0.5
DRK	Karamyk	1.14	272	⇑iP	Pg	20 18 12.4	-1.1
DRK				⇑iS	Sb	20 18 27.8	-0.7
FRG	Fergana	1.46	309	P	Pg	20 18 20.0	+0.3
FRG				S	Sg	20 18 39.7	+1.0
SALK	Salom-Alik	1.49	16	⇑iP	Pb	20 18 19.3	-0.1
SALK				⇑iS	Sg	20 18 39.9	+0.4
CHMI	Chimion	1.57	302	P	Pg	20 18 21.5	-0.2
CHMI				S	Sg	20 18 42.8	+0.7
ARSB	Arslanbob	1.88	353	⇑iP	Pb	20 18 26.2	+0.1
ARSB				⇑iS	Sg	20 18 51.9	-0.1
NAM	Namangan	1.97	322	P	Pg	20 18 28.2	-1.1
NAM				S	Sg	20 18 54.2	-0.6
BTK	Batken	1.98	288	⇑iP	Pb	20 18 27.2	-0.7
BTK				⇑iS	Sg	20 18 53.6	-1.8
MINT	Mingtut	2.03	300	P	Pg	20 18 29.5	-1.1
MINT				S	Sg	20 18 56.5	-0.4
KSNS	Kasansay	2.16	322	P	Pb	20 18 31.2	+0.3
KSNS				S	Sg	20 19 00.0	-1.1
GAR	Garm	2.34	260	⇑eP	Pb	20 18 31.8	-2.1
GAR				⇑iS	Sb	20 19 01.8	-1.1
ARLS	Aral	2.53	18	⇑iP	Pb	20 18 35.3	-2.0
ARLS				⇑iS	Sb	20 19 07.6	-0.9
ARK	Arkit	2.54	337	⇑iP	Pb	20 18 35.4	-2.0
ARK				⇑iS	Sb	20 19 08.0	-0.7
TRKS	Terek-Say	2.63	323	⇑iP	Pn	20 18 35.6	+1.3
TRKS				⇑iS	Sn	20 19 08.4	+2.0
AML	Almayashu	2.69	7	P	Pb	20 18 39.8	-0.3
	SNR=28						
AML	Almayashu	2.69	7	⇓iP	Pb	20 18 37.8	-2.3
AML				⇓iS	Sb	20 19 11.9	-1.4
NRN	Naryn	2.87	46	⇓eP	Pn	20 18 39.9	+2.2
NRN				⇓eS	Sn	20 19 15.6	+3.1
UCH	Uchtor	2.92	18	⇑iP	Pn	20 18 41.1	+2.5
UCH				⇑iS	Sb	20 19 17.7	-2.4
MNAS	Manas	3.08	349	⇓iP	Pn	20 18 42.9	+2.4
MNAS				⇓iS	Sb	20 19 21.1	-3.2
EKS2	Erkin-Say	3.22	7	P	Pb	20 18 47.7	-1.3
	SNR=16						
EKS2	Erkin-Say	3.22	7	⇑iP	Pn	20 18 45.0	+2.6
EKS2				⇑iS	Sn	20 19 24.5	+3.5
CHMG	Chimgan	3.25	311	P	Pb	20 18 46.7	-2.7
CHMG				S	Sb	20 19 30.2	+1.1
MRKS	Merke	3.29	359	eP	Pb	20 18 50.3	+0.2
	2.5nm,0.2s						
MRKS				eS	Sn	20 19 26.0	+3.6
	21nm,0.4s						
AAK	Ala-Archa	3.31	16	P	Pb	20 18 48.9	-1.6
	SNR=29						
AAK	Ala-Archa	3.31	16	Pn	Pb	20 18 48.7	-1.8
	13nm,0.5s						
AAK				Lg	Lg	20 19 34.0	
	25nm,0.8s						
AAK	Ala-Archa	3.31	16	⇑iP	Pn	20 18 46.4	+2.8
AAK				⇑iS	Sn	20 19 26.5	+3.4
KBK	Karagaybulak	3.44	21	P	Pg	20 18 55.5	-2.0
	SNR=7.4						
KBK	Karagaybulak	3.44	21	⇑iP	Pn	20 18 48.1	+2.7
KBK				⇑iS	Sn	20 19 29.7	+3.4
ULHL	Ulahol	3.58	38	⇑iP	Pn	20 18 50.0	+2.5
ULHL				⇑iS	Sn	20 19 33.0	+3.1
IUG	Iuzhnay	3.64	319	Pg	Pb	20 18 56.8	+0.7
	9.9nm,0.3s						
IUG				Lg	Lg	20 19 38.0	
	40nm,0.5s						
BOOM	Boomskoye usch	3.64	33	⇑iP	Pn	20 18 50.8	+2.6
BOOM				⇑iS	Sn	20 19 34.5	+3.2
CHMS	Chumysh	3.71	17	P	Pb	20 18 54.3	-3.0
	SNR=7.1						
CHMS	Chumysh	3.71	17	⇑Pn	Pb	20 18 53.4	-3.9
	5.2nm,0.4s						
CHMS				⇑Lg	Lg	20 19 47.7	
	15nm,0.9s						
CHMS	Chumysh	3.71	17	⇑iP	Pn	20 18 51.7	+2.7
CHMS				⇑iS	Sn	20 19 35.9	+3.1
DZA	Taraz	3.73	338	Pg	Pb	20 18 56.6	-1.0
	70nm,0.1s						
DZA				Lg	Lg	20 19 37.0	
	44nm,0.1s						
DZA	Taraz	3.73	338	eP	Pb	20 18 56.6	-1.0
	18nm,0.1s						
DZA				eS	Sn	20 19 37.1	+3.8
	57nm,0.1s						
TKM2	Tokmak 2	3.88	26	⇑Pn	Pb	20 18 56.3	-3.9
	5.3nm,0.6s						
TKM2				⇑Lg	Lg	20 19 54.6	
	11nm,0.7s						
TKM2	Tokmak 2	3.88	26	⇑iP	Pn	20 18 54.2	+2.7
TKM2				⇑iS	Sn	20 19 40.1	+2.8
USP	Ospenovka	3.92	13	P	Pb	20 18 56.9	-4.0
	SNR=6.8						
USP	Ospenovka	3.92	13	⇑iP	Pn	20 18 54.7	+2.8
USP				⇑iS	Sn	20 19 40.9	+3.0
KDJ	Kajisay	3.99	47	⇑eP	Pn	20 18 55.3	+2.3
KDJ				⇑eS	Sn	20 19 43.4	+3.4
BXML	Bakhmal	4.05	275	P	Pb	20 19 01.7	-1.5
BXML				S	Sg	20 20 00.5	-1.3
KST	Kastek	4.12	29	Pg	Pg	20 19 09.6	-0.8
	3.3nm,0.3s						
KST				Lg	Lg	20 19 59.7	
	9.0nm,0.6s						
KST	Kastek	4.12	29	eP	Pg	20 19 09.7	-0.8
	1.2nm,0.1s						
KST				eS	Sg	20 19 59.4	-4.4
	8.7nm,0.3s						
KK31	Karatay Array	4.19	331	Pn	Pb	20 19 01.4	-4.1
	0.7nm,0.3s,baz=143,slow=12,SNR=12						
KK31				⇓Pg	Pg	20 19 10.4	-1.6
	0.9nm,0.2s,baz=147,slow=15,SNR=11						
KK31				⇓Sn	Sb	20 19 50.4	-5.8
	3.6nm,0.3s,baz=151,slow=30,SNR=4.8						
KK31				⇑Lg	Lg	20 20 02.6	
	3.5nm,0.3s,baz=144,slow=26,SNR=3.9						
MTBS	Maitube	4.37	32	Pg	Pg	20 19 15.7	+0.3
	15nm,0.6s						
MTBS				Lg	Lg	20 20 09.9	
	10nm,0.6s						
MTBS	Maitube	4.37	32	eP	Pg	20 19 15.2	-0.2
	2.6nm,0.2s						
MTBS				eS	Sg	20 20 09.0	-3.1
	5.1nm,0.2s						
TNSS	Tian-Shan	4.53	37	Pg	Pg	20 19 19.5	+1.2
	4.9nm,0.4s						
TNSS				Lg	Lg	20 20 16.3	
	5.6nm,0.6s						
TNSS	Tian-Shan	4.53	37	eP	Pg	20 19 18.7	+0.4
	3.2nm,0.2s						
TNSS				eS	Sg	20 20 14.9	-2.0
	3.6nm,0.3s						
MDOK	Medeo	4.67	36	Pg	Pg	20 19 18.8	-2.3
	9.9nm,0.8s						
MDOK				Lg	Lg	20 20 19.8	
	16nm,0.9s						
PDGK	Podgornoye	6.07	48	⇓Pg	Pb	20 19 42.4	+4.8
	5.8nm,1.1s						
PDGK				⇑Lg	Lg	20 21 04.1	
	9.4nm,1.2s						

*IDC **06** 20:38:15.8±1.2, 8°.75S×157°.35E, h0km, mb3.8/5, mbtmp3.8/6, ML4.0/1, MS2.6/1, Error ellipse: s-maj=38.4km s-min=21.8km az=168.0*

ISC 06 20:38:18.5±1.0, 8°.8S±0°.2×157°.33E±0°.10, h17km, n7, σ0°86/8, mb3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.67	105	Pn	Pn	20 39 01.0	+0.2
	29nm,0.3s,baz=292,slow=5.5,SNR=4.7						
HNR				Sn	Sn	20 39 33.1	+0.3
	32nm,0.3s,baz=116,slow=21,SNR=8.8						
HNR				LR	LR	20 39 49.5	
	comp=Z,110nm,18.1s,baz=81,slow=35						
	92nm,0.3s						
WRA	Warramunga Arr	24.85	241	P	P	20 43 40.8	+0.4
	0.8nm,0.6s,baz=68,slow=9.6,SNR=8.3						
	0.8nm,0.6s						
ASAR	Alice Springs	26.87	234	P	P	20 43 58.2	-0.4
	1.2nm,1.1s,baz=68,slow=11,SNR=4.2						
	1.2nm,1.1s						
STKA	Stephens Creek	27.25	210	P	P	20 44 02.5	+0.5
	2.0nm,0.9s,baz=38,slow=14,SNR=4.2						
	2.0nm,0.9s						
MKAR	Makanchi Array	86.25	318	P	P	20 50 59.8	+0.4
	0.2nm,0.6s,baz=88,slow=5.3,SNR=3.6						
	0.2nm,0.6s						
NVAR	Mina Array Bea	91.00	51	P	P	20 51 22.4	-0.1
	0.4nm,0.6s,baz=238,slow=5.8,SNR=3.7						
	0.4nm,0.6s						
BDFB	Brasilia	145.10	134	PKPbc	PKPbc	20 57 54.0	-1.7
	2.7nm,0.8s,baz=255,slow=5.4,SNR=4.9						

IDC 06 20:46:45.9±2.1, 4°.56N×127°.92E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=191.7km s-min=21.1km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.15	166	P	P	20 52 12.1	-0.9
	0.5nm,0.6s,baz=345,slow=9.4,SNR=2.6						
	0.5nm,0.6s						
ASAR	Alice Springs	28.65	168	P	P	20 52 46.3	+1.7
	0.3nm,0.6s,baz=349,slow=9.4,SNR=4.2						
	0.3nm,0.6s						
STKA	Stephens Creek	38.50	161	P	P	20 54 09.1	-1.0
	3.8nm,1.2s,baz=8.7,slow=13,SNR=3.4						
	3.8nm,1.2s						
MKAR	Makanchi Array	57.56	324	P	P	20 56 37.5	+0.1
	0.2nm,0.5s,baz=118,slow=7.8,SNR=4.9						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	61.69	327	P	P	20 57 05.6	-0.2
	0.4nm,0.5s,baz=127,slow=6.5,SNR=7.1						
	0.4nm,0.5s						

*ECX **06** 21:01:40.3±0.3, 30°.60N×114°.06W, h17km±4km, ML5.0, Fault plane solution: NP1:ϕs50.00000°, δ78.00000°, λ18.00000°.*
*NEIC **06** 21:01:41.9±1.3, 30°.83N±0°.04×114°.03W±0°.02, h10km±1km, mb4.8/11, Mwr5.1/95, Mww5.2/62, Error ellipse: s-maj=7.8km s-min=2.8km az=195.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr-1.50; Mθθ-3.31; Mϕϕ4.81; Mrθ2.26; Mϕθ0.01; Mϕr0.16; Fault plane solution: M0 4.83000×10^16 NP1:ϕs219.74000°, δ67.90000°, λ-26.69000°. NP2:ϕs320.45000°, δ65.40000°, λ-155.56000°. Principal axes: T 4.8185, Plg2.0000°, Azm271.0000°; N 0.0203, Plg56.0000°, Azm3.0000°; P -4.8388, Plg34.0000°, Azm179.0000°;*
*NEIC **06** 21:01:41.9, 30°.83N×114°.03W, h10km*
*IDC **06** 21:01:41.0±0.6, 30°.79N×113°.96W, h0km, mb4.2/20, mbtmp4.2/29, ML3.6/7, MS4.7/43, Error ellipse: s-maj=13.8km s-min=7.4km az=42.0*
*MEX **06** 21:01:41.5±0.7, 30°.66N×114°.08W, h5km, MD5.1*
*NEIC **06** 21:01:42.2, 30°.79N×114°.04W, h12km*
*NEIC **06** 21:01:42.2, 30°.69N×114°.00W, h12km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16Nm; Mrr-1.68; Mθθ-6.82; Mϕϕ8.50; Mrθ-3.00; Mϕθ0.69; Mϕr-1.28; Fault plane solution: M0 8.46000×10^16 NP1: ϕs139.86000°, δ66.72000°, λ-167.75000°. NP2: ϕs44.96000°, δ78.76000°, λ-23.76000°. Principal axes: T 8.7318, Plg8.0000°, Azm94.0000°; N -0.5343, Plg64.0000°, Azm201.0000°; P -8.1975, Plg25.0000°, Azm0.0000°;*
*GCMT **06** 21:01:42.9±0.1, 30°.68N±0°.01×114°.03W±0°.01, h12km, MW5.2/137, Moment Tensor Solution. s89, c126; s137, c247; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.20±.01; Mθθ-0.69±.01; Mϕϕ0.89±.01; Mrθ-0.16±.04; Mϕϕ0.07±.01; Mϕr-0.13±.03; Best double couple: M0 0.82800×10^17 NP1:ϕs138.00000°, δ73.00000°, λ-173.00000°. NP2:ϕs46.00000°, δ84.00000°, λ-17.00000°. Principal axes: T 0.9130, Plg7.0000°, Azm93.0000°; N -0.1690, Plg72.0000°, Azm207.0000°; P -0.7440, Plg16.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*CATAC **06** 21:01:44.6±0.5, 31°.N±4°.×11°.4W±°, h10km, M5.3/10, MLv5.3/10 Error ellipse: s-maj=9.4km s-min=5.7km az=176.1, confirmed*

ISC 06 21:01:40.8±1.0, 30°.74N±0°.03×114°.10W±0°.02, h6km±6km, n606, σ1°32/608, mb4.7/72, MS4.8/39, 17C-8D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPXB	Puerto Peasco	0.71	34	eP	Pg	21 01 54.8	+0.2
PPXB				eS	Sb	21 02 05.9	+0.2
PPXB				⇑e		21 02 07.4	
PPXB				IAML		21 02 07.4	
	comp=E,67μm,0.7s						
SFX	San Felipe	0.71	295		Pg	21 01 54.1	-0.4
SFX					Sb	21 02 05.7	0.0
SFX	San Felipe	0.71	295	⇑eP	Pg	21 01 54.7	+0.2
SFX				eS	Sg	21 02 04.7	+0.9
SFX	San Felipe	0.71	295	⇑eP	Pg	21 01 54.5	0.0
SFX				eS	Sb	21 02 05.5	-0.1
SFX				IAML		21 02 14.4	
	comp=E,36μm,0.6s						
SFX	San Felipe	0.71	295	P	Pg	21 01 54.7	+0.2
SFX	San Felipe	0.71	295	S	Sb	21 02 07.0	+1.3
PIX	Pinacate	0.98	34		Pg	21 01 59.0	-0.6
PIX				Sn	Sg	21 02 11.9	-0.5
PIX	Pinacate	0.98	34	⇓iP	Pg	21 01 59.1	-0.6
PIX				eS	Sb	21 02 13.5	+0.1
PIX	Pinacate	0.98	34	P	Pg	21 01 59.1	-0.6
PIX	Pinacate	0.98	34	S	Sn	21 02 15.0	-0.3
SPIG	San Pedro Mart	1.22	285	⇑eP	Pb	21 02 02.1	-2.3
SPIG				eS	Sg	21 02 19.3	-0.7
SPIG	San Pedro Mart	1.22	285	⇑iP	Pb	21 02 02.4	-2.1
EDOMX	El Doctor, EDO	1.33	336	eP	Pn	21 02 05.5	-0.4
EDOMX				eS	Sg	21 02 24.9	+1.1
SQX	San Quintin	1.54	264	eP	Pn	21 02 06.0	-2.8
SQX				eS	Sn	21 02 26.2	-3.0
SQX				⇓e		21 02 39.7	
SQX				IAML		21 02 39.7	
	comp=N,21μm,0.7s						
VTX	Valle De La Tr	1.59	295	Pn	Pn	21 02 07.5	-2.0
VTX	Valle De La Tr	1.59	295	⇑eP	Pn	21 02 07.8	-1.7
VTX	Valle De La Tr	1.59	295	P	Pn	21 02 08.9	-0.6
RHX	Rio Hardy	1.72	324	⇓eP	Pn	21 02 09.4	-1.9
RHX				eS	Sn	21 02 33.7	+0.1
GUVIX	Guadalupe Vict	1.77	332	P	Pg	21 02 15.8	+1.1
ALAMX	Rancho Alamar	1.87	313	eP	Pn	21 02 12.0	-1.4
SJX	San Joaquin	1.89	303	⇑eP	Pn	21 02 14.0	+0.4
MBIG	Mexicali	1.91	331	eP	Pn	21 02 13.2	-0.7
MBIG				eP	Pb	21 02 16.6	+0.6
SV2X	San Vicente	1.93	289	⇑eP	Pn	21 02 12.8	-1.4
SV2X				eS	Sb	21 02 41.0	+0.2
CPBX	Cerro Prieto	1.96	329		Pn	21 02 14.4	-0.3
CPBX	Cerro Prieto	1.96	329	P	Pg	21 02 25.7	+7.2
ESJX	Sierra Juarez	2.02	309	Pn	Pn	21 02 13.0	-2.6
ESJX	Sierra Juarez	2.02	309	P	Pn	21 02 15.9	+0.2
113A	Mohawk Valley,	2.04	8	Pn	Pn	21 02 14.5	-1.2
UABX	UABC, Campus M	2.21	329	P	Pg	21 02 31.7	+8.6
GLA	Glamis	2.39	345		Pn	21 02

DUN6 Lazy B Ranch 4.63 66 Pn Pn 21 02 50.3 -1.1
CDOB Cd. Obregon 4.80 133|| eP Pn 21 02 55.6 +2.1
PASC Pasadena Art C 4.86 316 Pn 21 02 54.3 -0.2
V12A Nelson 5.01 353 Pn Pn 21 02 56.3 -0.3
GSC Goldstone, Bar 5.08 334 Pn Pn 21 02 57.9 +0.3
X18A Snowflake 5.15 42 Pn Pn 21 02 58.7 +0.1
SNCC San Nicolas Is 5.25 300 Pn Pn 21 02 58.5 -1.3
CGIG 5.29 93 eP Pn 21 02 59.8 -0.7
CGIG eS Sn 21 04 01.2 -0.7
GWY Greenwater Val 5.84 339 Pn Pn 21 03 07.1 -0.9
BCW Bitter Crk WRg 6.13 314 Pn 21 03 12.2 +0.3
ISA Isabella, Lake 6.13 324 Pn 21 03 12.1 +0.1
KNB Kanab 6.35 9 Pn Pn 21 03 15.4 +0.4
CSIG Choix 6.36 126 eP Pn 21 03 13.5 -1.6
CSIG eS Sn 21 04 29.5 +1.5
WCT Wildcat Mounta 6.39 341 Pn 21 03 15.1 -0.5
TPNV Topopah Spring 6.45 344 Pn 21 03 17.6 +1.2
EPT El Paso 6.58 79 Pn Pn 21 03 17.5 -0.7
TSIG Topolobambo 6.79 138 eP Pn 21 03 22.0 +1.0
TSIG Topolobambo 6.79 138 eP Pn 21 03 25.9 +4.9
Y22D IRIS PASSCAL I 6.92 59 Pn 21 03 23.0 +0.1
Y22D IRIS PASSCAL I 6.92 59 P Pn 21 03 24.0 +1.1
baz=243
CRNM Carthage 7.00 61 Pn 21 03 23.7 -0.3
DSP Deep Springs 7.35 335 Pn Pn 21 03 29.7 +1.0
LPIG La Paz 7.42 152 Pn Pn 21 03 30.7 +1.1
comp=N,25nm,0.4s,baz=124,slow=4.3,SNR=11
LPIG La Paz 7.42 152|| eP Pn 21 03 30.9 +1.2
MNTX Cornudas Mount 7.52 80 eP Pn 21 03 30.4 -0.7
MNTX eS Sn 21 04 55.4 -1.3
ANMO Albuquerque 7.67 55 Pn Pn 21 03 33.4 +0.2
ANMO Albuquerque 7.67 55 Pn Pn 21 03 33.7 +0.4
comp=N,0.8nm,0.3s,baz=31,slow=13,SNR=19
ANMO Sn Sn 21 04 58.7 -1.9
comp=N,2.0nm,0.3s,baz=228,slow=20,SNR=4.2
ANMO Lg Lg 21 05 42.8
comp=N,1.8nm,0.3s,baz=357,slow=18,SNR=3.2
ANMO LR LR 21 06 14.7
comp=N,3µm,20.0s,baz=46,slow=36
comp=N,10nm,0.8s
ANMO Albuquerque 7.67 55 eP Pn 21 03 32.8 -0.5
ANMO eS Sn 21 05 02.2 +1.6
PSUT Pine Spring 7.78 1 Pn 21 03 34.4 -0.3
VHRN Van Horn 7.84 87 P Pn 21 03 35.2 -0.3
SLBS Sierra La Lagu 7.94 151 Pn Pn 21 03 38.1 +1.2
SLBS Sierra La Lagu 7.94 151 eP Pn 21 03 36.2 -0.7
SLBS eS Sn 21 05 09.4 +2.3
MVCO Mesa Verde 7.95 34 Pn Pn 21 03 37.6 +0.5
BCIG La Boquilla 8.23 111 eP Pn 21 03 39.9 -1.1
BCIG eS Sn 21 05 17.2 +2.8
HPIG 8.31 115 Pn 21 03 42.8 +0.7
HPIG 8.31 115 eP Pn 21 03 43.4 +1.4
HPIG eS Sn 21 05 20.3 +4.0
NVAR Mina Array Bea 8.42 337 Pn Pn 21 03 47.3 +3.8
comp=N,0.3nm,0.3s,baz=161,slow=15,SNR=16
comp=N,3.1nm,0.7s
SSIG Sanalona 8.53 132 eP Pn 21 03 47.9 +3.1
SSIG eS Sn 21 05 24.3 +2.9
PV11 David Mesa, Pa 8.68 28 Pn 21 03 46.7 -0.4
PECS Pecos 8.80 83 Pn 21 03 48.9 +0.3
PECS Pecos 8.80 83 P Pn 21 03 49.5 +0.8
PECS P Sn 21 05 27.5 -0.6
CPRX Cap Rock 8.99 73 Pn 21 03 52.2 +0.8
ALPN Alpine 9.02 90 Pn Pn 21 03 51.9 +0.1
ALPN Alpine 9.02 90 P Pn 21 03 52.0 +0.1
ALPN S Sn 21 05 34.8 +1.0
TXAR Lajitas Array 9.15 96 Pn Pn 21 03 52.0 -1.5
TXAR Lajitas Array 9.15 96 Pn Pn 21 03 53.7 +0.3
comp=N,17nm,0.8s,baz=264,slow=13,SNR=112
TXAR Sn Sn 21 05 34.2 -2.6
comp=N,1.7nm,0.3s,baz=292,slow=23,SNR=0.7
TXAR Lg Lg 21 06 22.9
comp=N,2.5nm,0.3s,baz=279,slow=30,SNR=4.1
TXAR LR LR 21 07 45.0
comp=N,10µm,18.5s,baz=278,slow=40
DUG Dugway, Tooele 9.49 6 Pn Pn 21 03 58.9 +0.8
PDIG Papasquiaro 9.56 124 eP Pn 21 04 03.1 +3.9
PDIG eS Sn 21 05 50.9 +3.8
AFDM Forest Hills D 9.94 327 Pn Pn 21 04 05.5 +1.2
SDCO Great Sand Dun 9.97 43 Pn 21 04 05.4 +0.6
ELK Elko 10.03 355 Pn Pn 21 04 06.3 +0.7
ELK Elko 10.03 355 Pn Pn 21 04 07.4 +1.9
comp=N,0.3nm,0.3s,baz=177,slow=13,SNR=14
ELK Lg Lg 21 06 53.4
comp=N,0.2nm,0.3s,baz=54,slow=5.5,SNR=1.4
ELK LR LR 21 08 14.6
comp=N,4µm,20.6s,baz=173,slow=39
comp=N,3.6nm,0.7s
MAIG Mazatlaan 10.17 136 eS Sn 21 06 06.1 +4.5
T25A Trinidad 10.26 49 Pn Pn 21 04 09.6 +0.8
SGCY Sterling City 11.15 81 Pn Pn 21 04 21.4 +0.5
MCIG Muzquiz 11.37 101 eP Pn 21 04 25.0 +1.1
MCIG eS Sn 21 06 38.0 +6.7
ISCO Idaho Springs 11.38 35 Pn 21 04 24.3 0.0
DRIO Del Rio 11.75 93 Pn Pn 21 04 28.4 -0.6
JCT Junction City 12.32 88 Pn Pn 21 04 36.5 -0.3
JCT Junction City 12.32 88 eP Pn 21 04 37.7 +0.9
JCT eS Sn 21 06 56.0 +1.6
PD31 Pinedale Array 12.54 16 Pn Pn 21 04 37.4 -2.5
PDAR Pinedale Array 12.54 16 Pn 21 04 39.9 -0.1
PDAR Pinedale Array 12.54 16 Pn Pn 21 04 42.3 +2.4
comp=N,0.2nm,0.3s,baz=199,slow=12,SNR=16
PDAR LR LR 21 09 50.5
comp=N,4µm,18.8s,baz=193,slow=39
comp=N,1.5nm,0.7s
BRDY Brady 12.96 84 Pn Pn 21 04 45.4 -0.2
YBH Yreka Blue Hor 12.98 330 Pn Pn 21 04 48.9 +3.1
comp=N,0.1nm,0.3s,baz=216,slow=10,SNR=3.6
YBH LR LR 21 09 32.5
comp=N,2µm,20.3s,baz=180,slow=36
comp=N,12nm,1.2s
ZAIG Zacatecas 13.00 125 Pn Pn 21 04 46.5 +0.1
ZAIG Zacatecas 13.00 125 eP Pn 21 04 48.4 +2.0
ZAIG eS Sn 21 07 10.7 -0.8
LOHW Long Hollow 13.14 11 Pn 21 04 47.5 -0.7
MNIG Monterrey 13.20 109 eP Pn 21 04 52.2 +3.2
MNIG eS Sn 21 07 16.4 +0.2
WMOK Wichita Mounta 13.49 69 Pn 21 04 52.9 +0.1
PLPT Palo Pinto 13.58 77 Pn Pn 21 04 53.8 -0.3
AAIG Aguscalientes 13.65 127 eP Pn 21 04 55.1 -0.1
AAIG eS Sn 21 07 25.9 -1.5
CSTR Hydro, Custer 13.79 65 Pn Pn 21 04 57.1 +0.2
I07A Izee 13.99 344 Pn Pn 21 05 00.3 +0.7
OGNE Ogallala 14.11 41 Pn Pn 21 05 01.3 +0.1
LNIG Linares 14.19 111 eP Pn 21 05 02.4 0.0
LNIG eS Sn 21 07 38.7 -1.4
YNR Norris Junctio 14.21 10 Pn Pn 21 05 00.8 -1.9
CBKS Cedar Bluff 14.27 52 Pn Pn 21 05 03.1 -0.4
CEGR Campo Tres 14.61 138 eP Pn 21 05 10.5 +2.2
SOMAC Volcano de Col 14.64 137 eP P 21 05 15.2 -0.2
DLMT Dillon 14.64 4 Pn 21 05 06.8 -1.8
INCO Volcan de Coli 14.65 137 eP P 21 05 14.5 -1.0
MNGA Volcan de Coli 14.69 137 eP P 21 05 13.2 -2.6
EZ5V 14.69 137 eP Pn 21 05 11.8 +2.4
KAN14 Manchester OK 14.76 61 Pn 21 05 09.3 -0.8
RLMT Red Lodge 14.85 13 Pn 21 05 11.1 -0.4
KAN08 Anthony NE Sta 14.85 60 Pn 21 05 10.6 -0.7
CDAR Ciudad de Arme 14.88 140 eP Pn 21 05 13.2 +1.3
KAN13 South Haven SW 15.15 61 Pn 21 05 15.9 +0.6
HKT Hockley 15.79 88 Pn Pn 21 05 22.6 -1.1
HKT lAmb lAmb 21 05 25.3
comp=Z,110nm,1.6s
JRQG Juriquilla Cam 15.83 126 Pn Pn 21 05 23.9 -0.7
T35A Sooner Cattle 15.85 62 Pn Pn 21 05 22.5 -2.0
T35A lAmb lAmb 21 05 31.8
comp=Z,82nm,1.6s
HAWA Hanford 16.19 346 Pn Pn 21 05 27.9 -0.9
Z38A Mt. Pleasant 16.41 76 Pn Pn 21 05 31.2 -0.5
KSU1 Kansas State U 16.57 55 Pn Pn 21 05 33.3 -0.4
NATX Nacogdoches 16.65 81 Pn 21 05 34.9 0.0
CTUV Llano Grande 16.87 119 eP P 21 05 39.0 -0.7
LAO LASA Array 17.05 19 Pn 21 05 40.0 +0.1
LAO lAmb lAmb 21 05 46.8
comp=Z,103nm,0.9s
LON Longmire 17.07 342 Pn 21 05 39.0 -1.0
DEIG Demacu 17.09 124 eP P 21 05 43.2 +0.7
C09A Chrisman Ranch 17.34 351 Pn 21 05 42.4 -0.9
NEW Newport 17.65 353 P P 21 05 49.9 +1.7
comp=Z,0.2nm,0.3s,baz=170,slow=13,SNR=28
NEW LR LR 21 13 31.1
comp=Z,2µm,20.5s,baz=178,slow=40
comp=Z,21nm,0.9s

HHAR Hobbs 17.68 66 Pn 21 05 46.8 -0.9
MIAR Mount Ida 17.69 72 Pn 21 05 47.3 -0.5
WLAR White Oak Lake 18.00 75 Pn 21 05 51.3 -0.3
WLAR lAmb lAmb 21 05 58.3
comp=Z,105nm,1.1s
N35A Tabor 18.02 51 P Pn 21 05 50.9 -1.0
N35A lAmb lAmb 21 05 59.4
comp=Z,96nm,1.3s
YAIG Yautepec 18.03 128 eP P 21 05 55.6 +2.8
B08A Colville Reser 18.04 349 Pn 21 05 50.9 -1.2
PLIG Platanillo 18.07 130 eP P 21 05 58.5 +5.4
PPM Popocatepetl 18.20 126 eP P 21 05 60.0 +5.0
CXUV Coxquihui 18.22 121 eP P 21 05 55.7 +1.0
Z41A Richland Creek 18.23 77 Pn 21 05 52.2 -2.3
Z41A lAmb lAmb 21 05 57.7
comp=Z,149nm,1.6s
WHAR Wooly Hollow 18.83 70 P P 21 05 59.9 -1.4
WHAR lAmb lAmb 21 06 08.2
comp=Z,98nm,1.8s
DAIG Los Arroyos 18.97 133 eP Pn 21 06 05.3 +1.7
ECSD EROS Data Cent 18.97 42 P P 21 06 01.3 -1.5
POHV Veracruz 19.15 123 eP Pn 21 06 09.2 +2.9
TLIG Tlapa 19.28 129 P 21 06 06.1 -0.4
TLIG Tlapa 19.28 129 eP Pn 21 06 10.8 +3.3
JAUV Jalcomulco 19.30 122 eP Pn 21 06 08.6 +0.9
FTIG Fresnillo de T 19.33 128 eP Pn 21 06 09.8 +1.8
MGIG Malinaltepec 19.47 130 eP Pn 21 06 11.7 +1.9
HLIG Huajuapan de L 19.61 127 e Pn 21 06 13.0 +1.5
TOIG Toxpalan 19.94 125 e Pn 21 06 16.1 +0.7
TXIG Tlaxiaco 20.04 128 e Pn 21 06 16.8 +0.2
SCIA State Center 20.12 51 P P 21 06 14.8 -0.6
SCIA lAmb lAmb 21 06 25.5
comp=Z,94nm,1.3s
MDND Maddock 20.38 29 P P 21 06 17.5 -0.6
MDND lAmb lAmb 21 06 27.7
comp=Z,76nm,1.0s
PNIG Pinotepa 20.41 131 eP Pn 21 06 27.4 +6.5
YOIG Yosondua 20.46 129 eP Pn 21 06 28.6 +7.0
F33A 5 Mile Ranch, 20.48 38 P P 21 06 16.9 -2.4
LLLB Lillooet 20.68 346 P P 21 06 21.0 -0.5
LLLB lAmb lAmb 21 06 30.1
comp=Z,79nm,1.4s
FVM French Village 20.80 63 P P 21 06 21.3 -1.5
I37A Lemond, Waseca 21.05 45 P P 21 06 24.2 -1.2
I37A lAmb lAmb 21 06 36.4
comp=Z,100nm,1.3s
NEUV Arroyo Zacate 21.09 124 e P 21 06 27.6 +1.6
346A Big Creek Wild 21.10 82 P P 21 06 25.5 -0.6
346A lAmb lAmb 21 06 36.5
comp=Z,69nm,0.8s
PEIG Puerto Escondi 21.34 130 eP P 21 06 34.5 +5.7
GLAT Glass 21.38 68 P P 21 06 28.1 -1.0
TUIG Tuzandepetl 21.89 121 eP P 21 06 42.9 +8.3
SPMN Marine on St. 22.06 43 P P 21 06 34.8 -1.5
SPMN lAmb lAmb 21 06 48.0
comp=Z,39nm,1.3s
CMIG Matias Romero 22.16 123 P P 21 06 38.5 +0.9
comp=Z,23nm,1.0s,baz=326,slow=9.9,SNR=21
CMIG LR LR 21 14 21.6
comp=Z,4µm,19.6s,baz=280,slow=34
comp=Z,23nm,1.0s
CMIG Matias Romero 22.16 123 eP P 21 06 45.6 +8.0
HUIG Huatulco 22.20 128 eP P 21 06 46.4 +8.3
AGMN Agassiz Nation 22.38 33 P P 21 06 38.7 -1.0
AGMN lAmb lAmb 21 06 59.7
comp=Z,65nm,1.3s
WVT Waverly 22.54 69 P P 21 06 40.0 -1.5
WVT lAmb lAmb 21 06 54.5
comp=Z,63nm,1.2s
JFWS Jewell Farm 22.54 51 P P 21 06 40.6 -0.8
JFWS lAmb lAmb 21 06 55.1
comp=Z,68nm,1.1s
UXUV UXUV 22.55 122 e P 21 06 42.7 +1.0
LRAL Lakeview Retre 23.10 77 P P 21 06 45.9 -1.5
LRAL lAmb lAmb 21 06 56.2
comp=Z,62nm,1.6s
BRAL Brewton 23.18 82 P P 21 06 47.5 -0.8
HQIL Hanson Quary C 23.77 55 P P 21 06 53.2 -0.8
BBB Bella Bella 23.78 338 LR LR 21 16 56.2
comp=Z,4µm,18.1s,baz=164,slow=38
ULM Lac du Bonnet 23.79 30 P P 21 06 53.3 -0.9
ULM lAmb lAmb 21 07 01.4
comp=Z,45nm,1.3s
ULM Lac du Bonnet 23.79 30 P P 21 06 54.7 +0.6
comp=Z,7.7nm,0.8s,baz=228,slow=9.7,SNR=12
ULM LR LR 21 16 31.1
comp=Z,1µm,18.0s,baz=220,slow=38
comp=Z,7.7nm,0.8s
L44A Lake County Fo 23.86 54 P P 21 06 53.2 -1.7
SWET Sewanee 24.01 72 P P 21 06 56.2 -0.2
SWET lAmb lAmb 21 06 59.2
comp=Z,21nm,0.9s
WCI Wyandotte Cave 24.04 64 P P 21 06 56.0 -0.7
WCI lAmb lAmb 21 07 20.4
comp=Z,29nm,1.1s
BLO Bloomington 24.04 62 P P 21 06 56.2 -0.4
BLO lAmb lAmb 21 07 01.3
comp=Z,34nm,0.8s
FPAL Fort Paine 24.25 73 P P 21 06 57.6 -1.1
FPAL lAmb lAmb 21 07 01.9
comp=Z,16nm,0.9s
EYMN Ely 24.37 39 P P 21 06 58.9 -0.6
EYMN lAmb lAmb 21 07 18.7
comp=Z,30nm,1.1s
CCIG Comitan 24.68 121 P P 21 07 02.5 -0.4
T50A Nancy 25.02 68 P P 21 07 05.2 -0.4
T50A lAmb lAmb 21 07 08.7
comp=Z,17nm,1.1s
CPCT Cooper Cave 25.17 71 P P 21 07 05.5 -1.4
CPCT lAmb lAmb 21 07 10.6
comp=Z,29nm,1.1s
FFC Flin Flon 25.50 16 P P 21 07 07.6 -2.1
FFC lAmb lAmb 21 07 33.1
comp=Z,48nm,1.8s
553A Crawfordville 25.54 84 P P 21 07 10.1 -0.2
TKL Tuckaleechee C 25.79 71 P P 21 07 11.7 -0.8
TKL lAmb lAmb 21 07 16.7
comp=Z,30nm,1.1s
TKL Tuckaleechee C 25.79 71 LR LR 21 16 59.5
comp=Z,2µm,21.9s,baz=266,slow=36
PETF Flores 26.01 116 P P 21 07 14.3 -0.4
GOGA Godfrey 26.05 76 P P 21 07 14.4 -0.4
GOGA lAmb lAmb 21 07 24.1
comp=Z,18nm,1.1s
Q51A Peebles 26.45 63 P P 21 07 17.7 -0.9
Q51A lAmb lAmb 21 07 24.0
comp=Z,60nm,1.7s
BG3 Lake Jocassee 26.46 72 P P 21 07 18.0 -0.6
ACSO Alum Creek Sta 26.93 61 P P 21 07 22.8 -0.1
ACSO lAmb lAmb 21 07 43.4
comp=Z,32nm,1.1s
V35K Ketchikan 27.55 338 P P 21 07 29.4 +1.3
baz=146
U35K Hyder 27.57 340 P P 21 07 29.1 +0.8
baz=149
MTO3 Montecristo 27.94 120 P P 21 07 32.1 -0.2
MTO3 lAmb lAmb 21 07 41.4
comp=Z,13nm,1.0s
CRAG Craig 28.16 337 P P 21 07 34.2 +0.6
baz=144
T35M Bob Quinn 28.55 341 P P 21 07 38.2 +1.1
baz=150
U33K Whale Pass 28.69 338 P P 21 07 39.1 +0.8
baz=144
WRAK Wrangell Islan 28.69 339 P P 21 07 40.0 +1.7
baz=146
TOAD Toad River Com 29.11 348 P P 21 07 43.2 +1.1
baz=160
ERPA Erie 29.51 58 P P 21 07 44.9 -0.9
S34M Telegraph Cree 29.60 342 P P 21 07 47.5 +1.0
baz=149
TGUH Tegucigalpa,Un 29.73 118 P P 21 07 47.3 -0.8
DLBC Dease Lake 29.77 343 P P 21 07 47.8 -0.2
DLBC lAmb lAmb 21 07 52.6
comp=Z,12nm,1.0s
DLBC Dease Lake 29.77 343 LR LR 21 21 16.6
comp=Z,4µm,18.5s,baz=169,slow=40
DLBC Dease Lake 29.77 343 P P 21 07 48.5 +0.5
baz=152
KOTAN Kotaneelee Air 30.14 350 P P 21 07 52.6 +1.3
baz=163
SIT Sitka 30.17 337 P P 21 07 53.1 +1.6
baz=142
S32K Killisnoo 30.25 338 P P 21 07 52.6 +0.4
baz=143

SADO Sadowa 30.72 53 LR LR 21 19 48.3
comp=Z,849nm,20.7s,baz=267,slow=36
Q32M Nakina River 30.81 342 P P 21 07 57.5 +0.1
baz=148
R33M Jennings River 30.84 343 P P 21 07 58.7 +1.1
baz=151
R32K Eaglecrest 30.89 339 P P 21 07 59.0 +1.1
baz=144
WTLY Watson Lake, Y 30.98 346 P P 21 07 57.6 -1.1
baz=155
FCC Fort Churchill 31.16 20 P P 21 07 59.1 -1.1
FCC lAmb lAmb 21 09 07.9
comp=Z,14nm,1.4s
S31K Pelican 31.19 337 P P 21 07 60.0 -0.5
baz=141
P32M Atlin 31.74 341 P P 21 08 06.5 +1.2
baz=147
YKA Yellowknife Ar 31.76 360 P P 21 08 06.9 +1.4
comp=Z,0.6nm,0.8s,baz=180,slow=9.5,SNR=12
YKA LR LR 21 21 37.2
comp=Z,2µm,19.9s,baz=178,slow=38
comp=Z,0.6nm,0.8s
P33M Teslin, Yukon 32.02 342 P P 21 08 08.3 +0.5
baz=149
SKAG Skagway 32.10 340 P P 21 08 08.9 +0.5
baz=144
TGTN Hyland Airport 32.17 347 P P 21 08 09.5 +0.4
baz=157
N32M Quiet Lake 32.90 343 P P 21 08 15.7 +0.2
baz=149
WHY Whitehorse 32.95 341 P P 21 08 16.9 +0.8
baz=146
P29M Windy Craggy 32.98 338 P P 21 08 16.8 +0.6
baz=141
WRGLY Wrigley 33.05 352 P P 21 08 17.9 +1.1
baz=165
P30M Million Dollar 33.12 339 P P 21 08 18.4 +0.9
baz=142
O30N Mendenhall 33.39 340 P P 21 08 19.3 -0.5
baz=144
PNL Peninsula 33.56 337 P P 21 08 20.8 -0.5
baz=138
MMPY Sheldon Lake, 33.76 346 P P 21 08 22.6 -0.5
baz=153
O29M Mount Kennedy 33.77 338 P P 21 08 23.1 -0.2
baz=140
HYT Haines Junctio 33.85 340 P P 21 08 24.3 +0.4
baz=142
JTS Las Juntas de 33.87 121 LR LR 21 21 58.1
comp=Z,3µm,21.9s,baz=302,slow=36
N31M Braeburn, Yuko 33.88 341 P P 21 08 24.2 0.0
baz=145
FARO Faro, Yukon 33.89 344 P P 21 08 24.0 -0.1
baz=149
M31M Drury Creek, Y 34.12 343 P P 21 08 25.9 -0.2
baz=148
PINM Pinnacle 34.17 337 P P 21 08 25.7 -0.9
baz=138
YUK6 Outpost Mounta 34.20 339 P P 21 08 25.6 -1.5
baz=141
TRQ Mont Tremblant 34.20 52 P P 21 08 26.5 -0.6
TRQ lAmb lAmb 21 08 34.6
comp=Z,14nm,1.2s
N30M Aishikik Lake 34.23 341 P P 21 08 26.8 -0.3
baz=143
YUK4 Talbot Arm 34.60 339 P P 21 08 30.4 -0.2
baz=141
O28M Mount Upton 34.65 338 P P 21 08 31.2 +0.2
baz=138
MESA MESA 34.81 336 P P 21 08 31.8 -0.5
baz=135
YUK8 Steele Glacier 34.90 339 P P 21 08 33.1 -0.1
baz=139
LCR2 La Lucha 2 34.93 120 P P 21 08 33.7 -0.2
LCR2 lAmb lAmb 21 08 41.5
comp=Z,16nm,1.1s
M30M Minto, Yukon 35.05 342 P P 21 08 34.1 -0.1
baz=145
M29M Somme Creek 35.41 341 P P 21 08 36.3 -1.1
baz=142
YUK3 Moose Creek 35.49 339 P P 21 08 37.2 -1.0
baz=139
KAIM Kayak Island 35.54 334 P P 21 08 38.0 -0.4
baz=132
L29M L29M 35.85 342 P P 21 08 40.3 -0.8
baz=143
BVCY Beaver Creek 36.10 339 P P 21 08 42.7 -0.5
baz=139
K29M Barlow Dome 36.28 343 P P 21 08 45.0 +0.2
K29M lAmb lAmb 21 09 15.6
comp=Z,27nm,1.6s
K29M Barlow Dome 36.28 343 P P 21 08 45.0 +0.2
baz=145,SNR=7.3
BMRM Bremner River 36.31 335 P P 21 08 44.6 -0.4
baz=132
M27K Edge Creek, AK 36.37 338 P P 21 08 46.1 +0.4
baz=137
EYAK Cordova Ski Ar 36.45 334 P P 21 08 46.7 +0.6
baz=130
J30M Hart River 36.60 344 P P 21 08 47.1 -0.4
J30M lAmb lAmb 21 08 57.1
comp=Z,13nm,1.2s
J30M Hart River 36.60 344 P P 21 08 47.8 +0.2
baz=147,SNR=6.0
N25K Chitina, Valde 36.74 336 P P 21 08 48.8 0.0
baz=133
P23K Montague Islan 36.74 333 P P 21 08 48.4 -0.2
baz=128
M26K Nabesna, AK 36.76 338 P P 21 08 48.8 -0.1
baz=136
BCAR Beaver Creek A 36.87 339 P P 21 08 49.6 -0.1
L27K Beaver Creek, 36.88 339 P P 21 08 49.8 0.0
baz=138
J29N Klondike Camp 36.96 343 P P 21 08 50.9 +0.4
baz=144
KLU Klutina 37.13 335 P P 21 08 52.1 0.0
baz=131
I30M Mount Dempster 37.16 345 P P 21 08 51.6 -0.7
baz=147,SNR=7.0
GLI Glacier Island 37.17 334 P P 21 08 51.9 -0.4
baz=129
H31M Peel River 37.22 346 P P 21 08 53.8 +1.1
baz=150
L26K Log Cabin Wild 37.32 338 P P 21 08 53.9 +0.3
baz=136
HARP HAARP 37.48 337 P P 21 08 55.2 +0.3
baz=133
SEW Seward 37.63 332 P P 21 08 55.8 -0.4
baz=125
M24K Tolsona, Glenn 37.63 336 P P 21 08 56.3 0.0
baz=132
PWL Port Wells 37.63 333 P P 21 08 55.1 -1.1
baz=128
K27K Chicken 37.68 340 P P 21 08 56.4 -0.1
baz=139
I29M Ogilvie Camp, 37.72 344 P P 21 08 57.6 +0.7
baz=145,SNR=5.2
KDAK Kodiak Island 37.77 327 P P 21 08 55.3 -2.0
baz=119
OHAK Old Harbor 37.84 326 P P 21 08 57.5 -0.4
baz=118
SCM Sheep Creek Mo 37.87 335 P P 21 08 57.8 -0.5
baz=130
O22K Cooper Landing 37.96 332 P P 21 08 58.3 -0.6
baz=125
BRSE Bradley Lake S 37.96 331 P P 21 08 58.0 -1.0
baz=123
PAX Paxson 37.97 337 P P 21 08 57.1 -2.1
baz=133
SII Sitkinak Islan 37.98 325 P P 21 08 57.5 -1.8
baz=116
M23K Glacier View 37.99 335 P P 21 08 57.4 -1.8
baz=129
KNK Knik Glacier 38.02 334 P P 21 08 60.0 +0.4
KNK Knik Glacier 38.02 334 P P 21 08 58.1 -1.5
baz=128
Q20K Shuyak Island 38.09 328 P P 21 09 00.7 +0.7
baz=120
G31M Satah River 38.19 347 P P 21 09 01.3 +0.5
baz=151
I28M Miner Creek 38.20 343 P P 21 09 01.8 +0.8
baz=143,SNR=6.3
EPYK Eagle Plains 38.20 345 P P 21 09 01.2 +0.1
EPYK lAmb lAmb 21 09 09.8
comp=Z,68nm,1.9s
EPYK Eagle Plains 38.20 345 P P 21 09 02.4 +1.4
baz=148,SNR=5.8
SCRK Sand Creek 38.21 339 P P 21 09 01.4 +0.2

SCRK	**Sand Creek**	38.21 339	P	P	21 09 02.1	+0.8
	baz=136,SNR=5.3					
SML	**Sawmill**	38.22 334	P	P	21 09 00.3	-0.9
	baz=128					
HOM	**Homer**	38.30 330	P	P	21 09 01.6	-0.2
	baz=122					
RIDG	**Independent Ri**	38.31 338	P	P	21 09 01.7	-0.3
	baz=135					
RC01	**Rabbit Creek A**	38.32 333	P	P	21 09 02.1	+0.1
	baz=126					
PMR	**Palmer**	38.39 334	P	P	21 09 02.7	+0.1
	baz=127					
CHIR	**Chirikof Islan**	38.40 323	P	P	21 09 03.4	+0.6
	baz=113					
H29M	**Whitestone**	38.45 344	P	P	21 09 03.2	+0.2
	baz=145					
J26L	**Joseph Creek**	38.47 340	P	P	21 09 03.8	+0.5
	baz=137,SNR=6.8					
F31M	**Tsiigehtchic**	38.55 348	P	P	21 09 04.2	+0.4
	baz=152					
R18K	**Karluk**	38.55 326	P	P	21 09 04.1	+0.1
	baz=116					
G30M	**tAoh Zraii Nji**	38.62 346	P	P	21 09 04.7	+0.2
	baz=149					
K24K	**Donnelly Dome**	38.65 338	P	P	21 09 04.7	-0.1
	baz=134					
I27K	**Kandik River**	38.76 342	P	P	21 09 05.8	+0.1
	baz=140					
Q19K	**Cape Douglas,**	38.81 328	P	P	21 09 05.9	-0.3
	baz=119					
SUA	**Susitna One**	38.94 333	P	P	21 09 07.2	-0.1
	baz=125					
G29M	**Pine Creek**	38.94 345	P	P	21 09 07.3	+0.1
	baz=146					
O20K	**Slope Mountain**	38.95 330	P	P	21 09 07.6	+0.2
	baz=121					
I26K	**Coal Creek Min**	38.95 341	P	P	21 09 07.9	+0.6
	baz=138					
P19K	**Oil Pt**	38.99 329	P	P	21 09 08.0	+0.3
	baz=120					
C36M	**Paulatuk**	39.07 354	P	P	21 09 08.4	+0.3
	baz=166					
F30M	**Barrier River**	39.08 347	P	P	21 09 08.3	0.0
F30M	**Barrier River**	39.08 347	P	P	21 09 08.5	+0.2
	baz=150,SNR=6.7					
J25K	**Salcha River,**	39.09 339	P	P	21 09 08.8	+0.3
	baz=135,SNR=6.1					
H27K	**Steamboat Moun**	39.22 343	P	P	21 09 09.0	-0.5
H27K	**Steamboat Moun**	39.22 343	P	P	21 09 09.8	+0.2
	baz=141,SNR=5.7					
INK	**Inuvik**	39.28 349	P	P	21 09 09.0	-1.0
INK	**Inuvik**	39.28 349	LR	LR	21 27 36.9	
	comp=Z,4µm,19.0s,baz=168,slow=40					
INK	**Inuvik**	39.28 349	P	P	21 09 10.7	+0.7
	baz=153					
CUT	**Chulitna**	39.31 334	P	P	21 09 09.9	-0.3
	baz=127					
Q18K	**Katmai Hardscr**	39.31 327	P	P	21 09 10.1	-0.4
	baz=117					
SPCR	**Spurr Chakacha**	39.37 332	P	P	21 09 09.8	-1.1
	baz=123					
RND	**Reindeer**	39.41 336	P	P	21 09 10.7	-0.6
RND			IAmb	IAmb	21 09 17.0	
	comp=Z,34nm,1.7s					
HDA	**Harding Lake**	39.44 338	P	P	21 09 10.2	-1.2
	baz=133					
SKT	**Skwentna**	39.54 333	P	P	21 09 12.1	-0.2
SKT	**Skwentna**	39.54 333	P	P	21 09 12.1	-0.2
	baz=125					
Q17K	**Contact Creek**	39.55 326	P	P	21 09 12.1	-0.4
	baz=116					
MCK	**McKinley**	39.65 337	P	P	21 09 12.4	-0.8
	baz=130					
IL31		39.67 339	P	P	21 09 13.2	-0.1
IL31			IAmb	IAmb	21 09 17.6	
	comp=Z,21nm,1.4s					
ILAR	**Eielson Array**	39.67 339	P	P	21 09 13.7	+0.5
ILAR	**Eielson Array**	39.67 339	P	P	21 09 15.4	+2.1
	comp=Z,3.0nm,0.9s,baz=149,slow=7.4,SNR=22					
ILAR			LR	LR	21 24 23.0	
	comp=Z,1µm,21.3s,baz=128,slow=34					
	comp=Z,3.0nm,0.9s					
G27K	**Doyon Strip**	39.71 343	P	P	21 09 13.4	-0.2
	baz=141					
O19K	**Port Alsworth**	39.73 330	P	P	21 09 13.3	-0.6
	baz=120					
P18K	**Big Mountain,**	39.75 328	P	P	21 09 13.1	-1.0
	baz=118					
PRP	**Porcupine Dome**	39.78 340	P	P	21 09 14.2	-0.2
PRP	**Porcupine Dome**	39.78 340	P	P	21 09 13.2	-1.2
	baz=135,SNR=5.5					
TRF	**Thorofare Moun**	39.95 336	P	P	21 09 15.8	0.0
	baz=128					
O18K	**Koktuh Hills**	39.96 329	P	P	21 09 15.2	-0.5
	baz=118					
CHGN	**Chignik**	40.03 323	P	P	21 09 17.1	+0.7
	baz=111					
COLA	**College**	40.04 338	P	P	21 09 17.0	+0.7
	baz=132					
POKR	**Poker Plat Res**	40.08 339	P	P	21 09 17.3	+0.6
	baz=133					
R16K	**Pilot Point**	40.08 325	P	P	21 09 16.6	-0.2
	baz=113					
N19K	**Bonanza Creek**	40.11 330	P	P	21 09 17.3	+0.2
	baz=120					
M20K	**Styx River**	40.11 332	P	P	21 09 17.4	+0.3
	baz=123					
E29M	**Blow River**	40.16 347	P	P	21 09 16.8	-0.5
	baz=147,SNR=8.5					
CHNA	**Chernabura Isl**	40.18 320	P	P	21 09 17.5	-0.1
	baz=108					
P17K	**Kvichak River**	40.22 328	P	P	21 09 17.9	+0.1
	baz=116					
NEA2	**Nenana**	40.25 337	P	P	21 09 18.5	+0.4
NEA2	**Nenana**	40.25 337	P	P	21 09 18.1	0.0
	baz=130					
PPLA	**Purkeypile**	40.31 334	P	P	21 09 18.7	-0.1
PPLA			IAmb	IAmb	21 09 38.5	
	comp=Z,39nm,1.2s					
PPLA	**Purkeypile**	40.31 334	P	P	21 09 19.2	+0.4
	baz=125					
G26K	**Porcupine Rive**	40.35 342	P	P	21 09 20.1	+1.2
	baz=139,SNR=21					
H25L	**Birch Creek**	40.40 341	P	P	21 09 19.9	+0.6
	baz=136					
CAST	**Castle Rocks**	40.58 335	P	P	21 09 20.2	-0.6
CAST	**Castle Rocks**	40.58 335	P	P	21 09 21.0	+0.2
	baz=125					
BPAW	**Bear Paw Mtn.**	40.59 336	P	P	21 09 21.0	+0.1
	baz=127					
S14K	**Fog Glacier**	40.63 322	P	P	21 09 21.1	-0.4
	baz=110					
M19K	**Big River Lodg**	40.63 332	P	P	21 09 21.2	-0.1
	baz=121					
N18K	**Kilae Creek**	40.65 330	P	P	21 09 21.7	+0.2
	baz=118					
E28M	**Babbage River**	40.67 346	P	P	21 09 20.9	-0.7
	baz=145,SNR=11					
H24K	**Noodor Dome**	40.70 339	P	P	21 09 21.6	-0.3
	baz=133					
I23K	**Minto, Yukon-K**	40.71 338	P	P	21 09 21.6	-0.2
	baz=130					
L20K	**Farewell, AK**	40.73 333	P	P	21 09 21.5	-0.6
	baz=122					
O17K	**Koliganek Bris**	40.77 328	P	P	21 09 22.4	0.0
	baz=116					
E27K	**Coleen River**	40.78 345	P	P	21 09 21.1	-1.4
E27K			IAmb	IAmb	21 09 47.3	
	comp=Z,24nm,1.6s					
E27K	**Coleen River**	40.78 345	P	P	21 09 22.7	+0.2
	baz=142,SNR=6.3					
SDPT	**Sand Point**	40.82 321	P	P	21 09 23.1	+0.2
	baz=108					
G25K	**Bearman Lake**	40.84 341	P	P	21 09 23.3	+0.4
	baz=136					
P16K	**Nushagak River**	40.87 327	P	P	21 09 22.7	-0.5
	baz=114					
BMAR	**Burnt Mountain**	40.92 343	P	P	21 09 24.1	+0.5
CHUM	**Lake Minchumin**	40.93 335	P	P	21 09 23.9	+0.2
	baz=126					
L19K	**White Mountain**	40.96 332	P	P	21 09 23.6	-0.4
	baz=121					
F26K	**Sheenjek River**	41.01 343	P	P	21 09 25.8	+1.4
	baz=139,SNR=15					
M18K	**Stony River**	41.01 331	P	P	21 09 24.5	+0.1
	baz=119					
D28M	**Stokes Point**	41.12 347	P	P	21 09 25.2	+0.1
	baz=147					
N17K	**Nushagak Hills**	41.15 329	P	P	21 09 24.9	-0.7
	baz=117					
O16K	**Kokwok River B**	41.15 328	P	P	21 09 25.6	0.0
	baz=115					
SCHQ	**Schefferville**	41.16 40	P	P	21 09 27.1	+1.3
	comp=Z,2.8nm,0.9s,baz=267,slow=9.4,SNR=2.5					
SCHQ			LR	LR	21 27 07.7	
	comp=Z,956nm,18.4s,baz=264,slow=37					
	comp=Z,2.8nm,0.9s					
G24K	**Hadweenzic Riv**	41.18 341	P	P	21 09 26.1	+0.3
	baz=134					
H23K	**Yukon River**	41.21 339	P	P	21 09 26.2	+0.2
	baz=131					
K20K	**Telida**	41.28 334	P	P	21 09 26.9	+0.3
	baz=123					
F25K	**Christian Rive**	41.32 342	P	P	21 09 28.0	+1.1
	baz=137,SNR=16					
D27M	**Malcolm River**	41.49 346	P	P	21 09 28.7	+0.3
D27M	**Malcolm River**	41.49 346	P	P	21 09 28.9	+0.5
	baz=144,SNR=12					
I21K	**Tanana**	41.59 337	P	P	21 09 29.3	+0.2
	baz=127					
M17K	**Holitna River**	41.65 330	P	P	21 09 28.7	-1.0
	baz=117					
E25K	**Arctic Village**	41.69 343	P	P	21 09 30.5	+0.5
	baz=137,SNR=14					
L18K	**Granite Mounta**	41.73 332	P	P	21 09 30.5	+0.3
	baz=119					
SMRC	**Santa Marta, M**	41.73 109	P	P	21 09 30.1	-0.8
A36M	**Sachs Harbour**	41.74 355	P	P	21 09 30.4	+0.2
A36M			IAmb	IAmb	21 09 34.0	
	comp=Z,14nm,0.8s					
A36M	**Sachs Harbour**	41.74 355	P	P	21 09 30.2	0.0
	baz=166,SNR=9.8					
J20K	**Nowinta River**	41.76 335	P	P	21 09 30.8	+0.3
	baz=124					
O15K	**Ungalikthiuk R**	41.80 326	P	P	21 09 31.1	+0.2
	baz=112					
TTA	**Tatalina**	41.81 333	P	P	21 09 31.5	+0.5
	baz=120					
N16K	**Nishlik Lake**	41.83 329	P	P	21 09 32.0	+0.8
	baz=115					
H22K	**Ishtalitna Cre**	41.83 338	P	P	21 09 31.3	+0.2
	baz=128,SNR=7.3					
F24K	**Squaw Lake**	41.87 341	P	P	21 09 31.4	0.0
	baz=134					
G23K	**Bananza Creek**	41.94 340	P	P	21 09 32.5	+0.6
G23K	**Bananza Creek**	41.94 340	P	P	21 09 32.2	+0.3
	baz=131,SNR=5.3					
M16K	**Timber Creek**	42.15 329	P	P	21 09 34.3	+0.5
	baz=115					
H21K	**Melozitna Rive**	42.15 337	P	P	21 09 33.9	+0.2
	baz=127,SNR=6.7					
J19K	**Poorman**	42.21 334	P	P	21 09 34.0	-0.2
	baz=122,SNR=5.4					
I20K	**Naaghedeneel**	42.23 336	P	P	21 09 34.4	+0.1
	baz=124					
N15K	**Kwethluk River**	42.31 328	P	P	21 09 34.8	-0.3
	baz=113					
COLD	**Coldfoot**	42.33 340	P	P	21 09 35.6	+0.4
COLD	**Coldfoot**	42.33 340	P	P	21 09 34.8	-0.4
	baz=131,SNR=6.3					
J18K	**Innoko River**	42.35 333	P	P	21 09 35.5	+0.1
	baz=120					
L17K	**Donlin**	42.35 331	P	P	21 09 34.8	-0.6
	baz=117					
C27K	**Jago River**	42.39 345	P	P	21 09 35.8	+0.2
	baz=141,SNR=10.0					
E24K	**Your Creek**	42.42 342	P	P	21 09 35.2	-0.8
	baz=134,SNR=10					
O14K	**Tigyukauivet M**	42.52 326	P	P	21 09 35.1	-1.6
	baz=111					
G22K	**Bettles**	42.52 339	P	P	21 09 35.2	-1.5
	baz=129					
K17K	**Iditarod**	42.62 332	P	P	21 09 36.7	-0.9
	baz=118					
L16K	**Owhat River**	42.67 330	P	P	21 09 36.8	-1.1
	baz=115					
E23K	**Chandalar**	42.72 341	P	P	21 09 36.8	-1.6
	baz=132,SNR=12					
H20K	**Anotleneega Mo**	42.76 336	P	P	21 09 36.6	-2.1
	baz=124,SNR=9.2					
D25K	**Kavik River**	42.78 344	P	P	21 09 39.4	+0.6
D25K	**Kavik River**	42.78 344	P	P	21 09 37.7	-1.1
	baz=137,SNR=7.3					
M15K	**Kasigluk River**	42.79 328	P	P	21 09 37.3	-1.6
	baz=113					
C26K	**Camden Bay**	42.88 345	P	P	21 09 39.3	-0.3
	baz=140,SNR=7.1					
G21K	**Allakaket**	42.90 338	P	P	21 09 38.7	-1.1
	baz=126					
N14K	**Kuskokwak Cree**	42.96 327	P	P	21 09 39.3	-1.0
	baz=111					
GCSA	**Galena City Sc**	43.07 335	P	P	21 09 40.3	-0.8
	baz=121					
F22K	**John River**	43.09 340	P	P	21 09 40.7	-0.7
	baz=129					
TOLK	**Toolik Lake Re**	43.10 342	P	P	21 09 40.3	-1.1
	baz=133,SNR=10					
J17K	**VABM Dome**	43.25 332	P	P	21 09 41.4	-1.3
	baz=117					
D24K	**Happy Valley**	43.26 343	P	P	21 09 41.8	-0.9
	baz=134					
F21K	**Alatna River**	43.31 339	P	P	21 09 42.2	-1.0
	baz=127					
H19K	**Roundabout Mou**	43.33 336	P	P	21 09 41.9	-1.3
	baz=122					
M14K	**Bethel**	43.39 328	P	P	21 09 42.0	-1.7
	baz=112					
E22K	**Anaktuvuk Pass**	43.39 341	P	P	21 09 42.7	-1.0
	baz=130,SNR=7.6					
L15K	**Ungalak Mounta**	43.53 329	P	P	21 09 43.9	-1.0
	baz=113					
D23K	**Nanushuk River**	43.62 342	P	P	21 09 45.0	-0.6
	baz=132					
C24K	**Franklin Bluff**	43.63 343	P	P	21 09 45.0	-0.6
	baz=135					
K15K	**Wolf Creek Mou**	43.79 330	P	P	21 09 46.6	-0.4
	baz=114					
J16K	**Anvik River**	43.82 332	P	P	21 09 46.0	-1.3
	baz=116					
H18K	**Honhosa River**	43.82 335	P	P	21 09 46.3	-0.9
	baz=120					
UNV	**Unalaska Valle**	43.87 317	P	P	21 09 47.5	-0.2
	baz=100					
G19K	**Purcell Mounta**	43.88 336	P	P	21 09 46.5	-1.2
	baz=122					
M13K	**Dall Lake**	43.91 327	P	P	21 09 46.9	-1.0
	baz=110					
F20K	**Avaraart Lake**	43.92 338	P	P	21 09 47.6	-0.4
	baz=124					
L14K	**Kuka Creek**	43.93 329	P	P	21 09 47.4	-0.7
	baz=111					
D22K	**Ayikyak River**	44.11 341	P	P	21 09 49.5	-0.1
D22K	**Ayikyak River**	44.11 341	P	P	21 09 49.3	-0.2
	baz=130,SNR=7.2					
I17K	**Unalakleet**	44.12 332	P	P	21 09 48.9	-0.7
	baz=116					
C23K	**Itkillik River**	44.19 343	P	P	21 09 49.4	-0.7
	baz=133					
E21K	**Killik River**	44.21 340	P	P	21 09 50.3	0.0
	baz=128					
H17K	**Granite Mounta**	44.29 334	P	P	21 09 50.8	-0.3
	baz=118					
G18K	**Tagagawik**	44.30 336	P	P	21 09 50.6	-0.5
	baz=120					
F19K	**Shaleruckik Mo**	44.48 337	P	P	21 09 53.0	+0.5
F19K			IAmb	IAmb	21 09 56.2	
	comp=Z,12nm,1.1s					
F19K	**Shaleruckik Mo**	44.48 337	P	P	21 09 51.5	-1.0
	baz=122					
E19K	**Redstone River**	44.64 338	P	P	21 09 53.3	-0.5
	baz=123					
E20K	**Nigu River**	44.76 339	P	P	21 09 55.0	+0.2
	baz=125					
G17K	**Kiwalik Mounta**	44.83 335	P	P	21 09 54.5	-0.8
	baz=118					
J14K	**Nanvaranak Lak**	44.83 330	P	P	21 09 54.0	-1.4
	baz=112					
C21K	**Knifeblade Rid**	44.88 341	P	P	21 09 54.3	-1.4
	baz=127					
F18K	**Selawik**	45.00 336	P	P	21 09 55.7	-0.9
	baz=120					
K13K	**Kusilvak Mount**	45.02 329	P	P	21 09 55.9	-1.0
	baz=110					
H16K	**Elim**	45.05 333	P	P	21 09 56.4	-0.7
	baz=115					
RES	**Resolute Bay**	45.05 7	LR	LR	21 29 26.6	
	comp=Z,3µm,18.3s,baz=212,slow=37					
B21K	**Ikpikpuk River**	45.12 341	P	P	21 09 57.0	-0.5
	baz=128					
D20K	**Etivluk River**	45.15 340	P	P	21 09 56.8	-1.1
	baz=125					
B22K	**Teshekpuk Lake**	45.25 342	P	P	21 09 57.3	-1.2
	baz=130,SNR=12					
ROSC	**El Rosal**	45.41 116	P	P	21 09 59.7	-1.3
ROSC	**El Rosal**	45.41 116	P	P	21 10 02.8	+1.8
	comp=Z,4.4nm,0.4s,baz=335,slow=16,SNR=4.9					
ROSC			LR	LR	21 30 36.5	
	comp=Z,1µm,19.2s,baz=338,slow=38					
	comp=Z,4.4nm,0.4s					
G16K	**Koyuk River**	45.42 334	P	P	21 09 58.6	-1.4
	baz=116					
OTAV	**Otavalo**	45.43 125	P	P	21 10 00.2	-1.1
OTAV			IAmb	IAmb	21 10 20.4	
	comp=Z,11nm,1.0s					
D19K	**Kuna River**	45.49 339	P	P	21 10 00.7	+0.2
D19K			IAmb	IAmb	21 10 10.6	
	comp=Z,9.5nm,1.1s					
D19K	**Kuna River**	45.49 339	P	P	21 09 59.4	-1.1
	baz=123					
RUSC	**La Rusia**	45.72 114	P	P	21 10 02.8	-0.8
E18K	**Tukpahlearik C**	45.73 337	P	P	21 10 01.5	-0.9
	baz=119					
G15K	**Niukluk**	45.90 333	P	P	21 10 01.8	-2.0
	baz=113					
SDV	**Santo Domingo**	45.93 109	P	P	21 10 04.3	-0.6
SDV	**Santo Domingo**	45.93 109	LR	LR	21 32 22.5	
	comp=Z,800nm,18.1s,baz=314,slow=40					
E17K	**Hotham Inlet**	45.99 336	P	P	21 10 03.4	-1.1
	baz=118					
B20K	**Meade River**	46.06 341	P	P	21 10 04.4	-0.5
	baz=125					
SLOR	**San Lorenzo -**	46.09 126	P	P	21 10 05.6	-0.8
SLOR			IAmb	IAmb	21 10 35.3	
	comp=Z,7.6nm,0.9s					
F15K	**North Star Dit**	46.42 334	P	P	21 10 07.1	-0.8
	baz=113					
FLOC	**Florencia**	46.52 121	P	P	21 10 09.5	+0.1
FLOC			IAmb	IAmb	21 10 36.9	
	comp=Z,18nm,1.1s					
C18K	**Utukok River**	46.53 338	P	P	21 10 07.4	-1.4
	baz=120					
TAOE	**Nuku Hiva Isla**	46.64 217	*e*S	S	21 16 57.4	-2.6
	comp=Z,153nm,25.1s					
TAOE			*e*LR	LR	21 23 15.5	
	comp=Z,667nm,22.0s					
A21K	**Barrow**	46.69 343	P	P	21 10 08.9	-1.0
	baz=127					
D17K	**Noatak River**	46.70 337	P	P	21 10 09.5	-0.6
	baz=117					
RDOG	**Red Dog Mine**	46.81 337	P	P	21 10 10.3	-0.6
	baz=117					
COHC	**Cochancay**	46.82 128	P	P	21 10 11.6	0.0
F14K	**Arctic Creek**	46.98 333	P	P	21 10 11.7	-0.5
	baz=111					
B18K	**Kokolik River**	47.08 339	P	P	21 10 11.9	-1.1
	baz=120,SNR=5.9					
A19K	**Wainwright**	47.29 340	P	P	21 10 13.9	-0.7
	baz=121					
TNA	**Tin City**	47.63 333	P	P	21 10 17.1	-0.2
	baz=110					
C16K	**Lisburne Hills**	47.72 337	P	P	21 10 17.5	-0.5
	baz=115					
BAUV	**El Baul**	48.02 107	P	P	21 10 19.7	-1.3
PCRV	**Puerto La Cruz**	50.19 103	LR	LR	21 35 23.5	
	comp=Z,318nm,18.9s,slow=40					
EUNU	**Eureka**	50.70 6	P	P	21 10 41.0	+0.3
EUNU			IAmb	IAmb	21 10 56.3	
	comp=Z,32nm,1.6s					
ATAH	**Atahualpa**	50.87 132	LR	LR	21 31 35.2	
	comp=Z,442nm,18.9s,baz=327,slow=35					
SFJD	**Kangerlussuaq**	51.77 27	LR	LR	21 32 46.6	
	comp=Z,2µm,19.7s,baz=252,slow=36					
NEEM	**North Greenlan**	54.43 14	*i* P	P	21 11 05.5	-3.2
NEEM			IAmb	IAmb	21 11 21.4	
	comp=Z,197nm,2.5s					
SHEM	**Shemya Is, Ala**	55.44 315	LR	LR	21 29 57.5	
	comp=Z,226nm,21.1s,baz=108,slow=31					
NNA	**Nana**	55.56 134	LR	LR	21 32 22.2	
	comp=Z,712nm,19.0s,baz=326,slow=33					
ICESG	**Greenland Ices**	56.11 25	*i* P	P	21 11 16.4	-4.5
ICESG			IAmb	IAmb	21 11 31.1	
	comp=Z,32nm,1.0s					
SUMG	**Summit**	56.68 20	P	P	21 11 25.2	+0.1
SUMG			IAmb	IAmb	21 11 44.9	
	comp=Z,31nm,1.6s					
SUMG	**Summit**	56.68 20	*i* P	P	21 11 26.0	+1.0
SUMG			IAmb	IAmb	21 11 34.3	
	comp=Z,7.2nm,0.9s					
RKT	**Rikitea**	57.18 203	*e*S	S	21 19 27.9	+3.4
RKT			*e*SS	SS	21 23 09.0	-5.0
	comp=Z,964nm,31.0s					
RKT			*e*LQ	LQ	21 25 43.8	
	comp=Z,950nm,37.2s					
RKT			*e*LR	LR	21 28 06.3	
	comp=Z,4µm,35.5s					
RKT			*e*LR	LR	21 28 06.3	
	comp=Z,4µm,29.2s					
BILL	**Bilibino**	58.02 334	P	P	21 11 34.3	+0.2
BILL			IAmb	IAmb	21 11 50.5	
	comp=Z,14nm,1.2s					
PPT	**Papeete**	58.92 220	LR	LR	21 31 08.6	
	comp=Z,496nm,18.3s,baz=5.0,slow=30					
PPT2	**Papeete2**	58.94 220	*e*P	P	21 11 41.1	0.0
PPT2			*e*S	S	21 19 47.6	-0.3
	comp=Z,24nm,22.8s					
PPT2			*e*SS	SS	21 23 39.3	-2.7
	comp=Z,79nm,23.8s					
PPT2			*e*LQ	LQ	21 26 34.2	
	comp=Z,50nm,26.5s					
PPT2			*e*LR	LR	21 28 49.2	
	comp=Z,625nm,28.0s					
PPT2			*e*LR	LR	21 28 56.7	
	comp=Z,562nm,24.0s					
PPT2			*e*LR	LR	21 28 56.7	
	comp=Z,604nm,22.0s					
NOR	**Nord**	60.87 10	*i* P	P	21 12 02.5	+8.9
DBG	**Daneborg**	61.73 18	*i* P	P	21 12 06.5	+7.1
DBG			IAmb	IAmb	21 12 10.5	
	comp=Z,3.7nm,0.8s					
MDP	**Montagnes des**	62.95 101	LR	LR	21 40 59.9	
	comp=Z,274nm,21.3s,baz=303,slow=38					
TBI	**Tubuai**	63.59 216	*e*P	P	21 12 01.7	-11
TBI			*e*S	S	21 20 46.1	-0.6
	comp=Z,464nm,39.0s					
TBI			*e*LQ	LQ	21 28 24.7	
	comp=Z,494nm,35.0s					
TBI			*e*LR	LR	21 31 08.2	
	comp=Z,2µm,36.0s					
TBI			*e*LR	LR	21 31 08.2	
	comp=Z,1µm,22.2s					
BORG	**Borgarnes**	63.79 29	LR	LR	21 39 24.7	
	comp=Z,544nm,19.6s,baz=290,slow=36					
LPAZ	**La Paz**	64.34 130	P	P	21 12 18.7	+0.4
LPAZ			IAmb	IAmb	21 13 23.1	
	comp=Z,8.3nm,1.4s					
PB16	**IPOC Station P**	64.95 133	P	P	21 12 22.2	-0.1
PETK	**Petropavlovsk-**	65.04 318	P	P	21 12 22.5	+0.8
	comp=Z,2.6nm,0.8s,baz=70,slow=11,SNR=2.4					
PETK			LR	LR	21 35 08.5	
	comp=Z,188nm,22.0s,baz=63,slow=31					
	comp=Z,2.6nm,0.8s					
MAL2	**Monte Alegre,**	65.57 108	P	P	21 12 24.9	-0.9
PB11	**IPOC Station P**	65.92 134	P	P	21 12 28.2	+0.2
JMIC	**Jan Mayen**	66.13 20	LR	LR	21 41 25.6	
	comp=Z,879nm,18.6s,baz=309,slow=36					
MA2	**Magadan**	66.51 326	LR	LR	21 40 33.8	
	comp=Z,291nm,19.3s,baz=77,slow=35					
PB08	**IPOC Station P**	66.52 134	P	P	21 12 31.2	-0.9
PB08			IAmb	IAmb	21 12 55.6	
	comp=Z,10nm,1.0s					
SPITS	**Spitsbergen Ar**	67.51 10	LR	LR	21 42 44.0	
	comp=Z,1µm,18.2s,baz=288,slow=36					
VILB	**Vilhena**	67.58 122	P	P	21 12 38.5	0.0
RAR	**Rarotonga**	67.77 226	LR	LR	21 35 27.2	
	comp=Z,370nm,20.9s,baz=59,slow=30					
SIV	**San Ignacio**	68.97 125	LR	LR	21 43 17.5	
	comp=Z,467nm,19.2s,baz=300,slow=36					
TIXI	**Tiksi**	68.99 342	P	P	21 12 46.9	+0.4
TIXI			IAmb	IAmb	21 13 17.7	
	comp=Z,13nm,1.4s					
PTLB	**Pontes e Lacer**	70.00 123	P	P	21 12 53.9	+0.4
PTLB			IAmb	IAmb	21 13 02.6	
	comp=Z,11nm,1.4s					
ZON	**Zonda**	75.45 141	P	P	21 13 26.2	+0.5
ARCES	**ARCESS Array B**	75.79 14	P	P	21 13 28.4	+1.3
	comp=Z,2.5nm,0.7s,baz=311,slow=7.0,SNR=4.0					

ARCES			LR	LR	21 48 14.9		
	comp=Z,757nm,18.8s,baz=332,slow=37						
	comp=Z,2.5nm,0.7s						
MT08	**Bocatoma Ro**	**76.22 143**	P	**P**	**21 13 30.4**	**0.0**	
MT08			IAmb	IAmb	21 15 12.1		
	comp=Z,10nm,0.7s						
BI05	**Punta Hualpn**	**77.31 147**	P	**P**	**21 13 34.8**	**-1.3**	
NOA	**NORSAR Array B**	**78.34 24**	P	**P**	**21 13 41.9**	**+0.2**	
	comp=Z,0.8nm,0.9s,baz=306,slow=5.9,SNR=1.3						
	comp=Z,0.8nm,0.9s						
BDFB	**Brasilia**	**78.46 116**	LR	LR	21 51 39.7		
	comp=Z,349nm,19.4s,baz=315,slow=38						
CPUP	**Villa Florida**	**78.52 130**	P	**P**	**21 13 43.3**	**+0.3**	
CPUP	**Villa Florida**	**78.52 130**	P	**P**	**21 13 43.5**	**+0.4**	
	comp=Z,3.1nm,0.8s,baz=310,slow=5.6,SNR=6.3						
CPUP			LR	LR	21 48 31.0		
	comp=Z,218nm,21.7s,baz=324,slow=36						
	comp=Z,3.1nm,0.8s						
NRIK	**Noril'sk**	**78.96 352**	P	**P**	**21 13 45.5**	**+0.6**	
NRIK			IAmb	IAmb	21 14 14.4		
	comp=Z,15nm,1.6s						
NRIK	**Noril'sk**	**78.96 352**	P	**P**	**21 13 46.0**	**+1.2**	
	comp=Z,0.6nm,0.3s,baz=32,slow=6.4,SNR=1.1						
	comp=Z,0.6nm,0.3s						
HFS	**Hagfors**	**79.85 24**	P	**P**	**21 13 49.5**	**-0.4**	
	comp=Z,0.9nm,0.7s,baz=298,slow=6.2,SNR=1.5						
	comp=Z,0.9nm,0.7s						
PLCA	**Paso Flores**	**81.74 148**	P	**P**	**21 14 01.1**	**+0.9**	
PLCA	**Paso Flores**	**81.74 148**	P	**P**	**21 14 00.7**	**+0.4**	
	comp=Z,2.0nm,0.9s,baz=311,slow=3.6,SNR=3.7						
	comp=Z,2.0nm,0.9s						
FIA1	**FINESS Array S**	**82.63 18**	P	**P**	**21 14 04.2**	**-0.4**	
FINES	**FINESS Array B**	**82.63 18**		**P**	**21 14 03.1**	**-1.5**	
FINES	**FINESS Array B**	**82.63 18**	P	**P**	**21 14 05.6**	**+1.0**	
	comp=Z,1.7nm,0.7s,baz=338,slow=3.3,SNR=6.7						
FINES			LR	LR	21 49 35.2		
	comp=Z,772nm,21.2s,baz=331,slow=35						
	comp=Z,1.7nm,0.7s						
RCBR	**Riachuelo**	**82.88 101**	LR	LR	21 55 13.1		
	comp=Z,116nm,18.8s,baz=290,slow=39						
USRK	**Ussuriysk Ar.**	**84.13 319**	P	**P**	**21 14 14.0**	**+1.3**	
	comp=Z,2.2nm,0.7s,baz=79,slow=7.5,SNR=2.1						
	comp=Z,2.2nm,0.7s						
ESDC	**Sonseca Array**	**84.56 47**	P	**P**	**21 14 16.5**	**+1.4**	
	comp=Z,1.0nm,1.0s,baz=277,slow=5.2,SNR=2.8						
	comp=Z,1.0nm,1.0s						
MJAR	**Matsushiro Arr**	**84.79 310**	P	**P**	**21 14 16.5**	**+0.2**	
	comp=Z,1.3nm,0.9s,baz=43,slow=5.5,SNR=3.2						
	comp=Z,1.3nm,0.9s						
BNX	**BinXian**	**85.68 322**	⇑P	**P**	**21 14 24.4**	**+3.9**	
BNX			pmax	pmax			
	comp=Z,7.0nm,1.2s						
CLL	**Collm**	**85.99 30**	*e*S	**S**	**21 25 00.0**	**+3.9**	
CLL			*e*SSSS		21 37 06.0		
CLL			AMS	AMS	21 51 00.0		
	comp=N,200nm,21.9s						
CLL			AMS	AMS	21 51 00.0		
	comp=E,600nm,20.7s						
CLL			AMS	AMS	21 51 00.0		
	comp=Z,700nm,19.3s						
MDT	**Midelt**	**88.14 53**	LR	LR	21 54 08.9		
	comp=Z,622nm,18.0s,baz=335,slow=36						
BBTS	**Babate**	**88.95 74**	LR	LR	21 52 21.9		
	comp=Z,462nm,18.8s,baz=188,slow=34						
KIRV	**Kirov**	**89.95 9**	LR	LR	21 57 41.7		
	comp=Z,859nm,18.2s,baz=28,slow=37						
MODS	**Modra-Piesok**	**90.02 30**	*e*P	**P**	**21 14 39.7**	**-1.6**	
LANS	**Liptovska Anna**	**90.34 28**	*e*P	**P**	**21 14 40.3**	**-2.5**	
VYHS	**Vyhne**	**90.59 29**	*e*P	**P**	**21 14 40.8**	**-3.2**	
VYHS			*e*PP	**PP**	**21 18 15.1**	**-2.9**	
OBN	**Obninsk**	**90.86 16**	LR	LR	21 56 57.6		
	comp=Z,830nm,18.9s,baz=4.5,slow=36						
DZM	**Mont Dzumac**	**92.52 246**	*e*LR	LR	21 44 33.2		
	comp=Z,526nm,23.4s						
AKASG	**Malin Array Be**	**92.67 22**	P	**P**	**21 14 54.1**	**+0.6**	
	comp=Z,0.3nm,0.4s,baz=292,slow=3.2,SNR=5.7						
	comp=Z,0.3nm,0.4s						
XLT	**XiLinHaoTe**	**92.70 326**	*e*P	P	21 14 45.6	-8.3	
XLT			pP	PcP	21 14 48.9	-5.7	
XLT			pmax	pmax			
	comp=Z,13nm,1.1s						
XLT			pmax	pmax			
	comp=Z,91nm,5.2s						
SONM	**Songino Array**	**93.74 334**	P	**P**	**21 15 00.3**	**+1.5**	
	comp=Z,0.8nm,1.2s,baz=83,slow=3.3,SNR=2.5						
	comp=Z,0.8nm,1.2s						
ZALV	**Zalesovo Beam**	**94.08 349**	P	**P**	**21 15 01.4**	**+1.4**	
	comp=Z,0.4nm,0.5s,baz=13,slow=3.1,SNR=3.8						
	comp=Z,0.4nm,0.5s						
HHC	**Hu-ho-hao-te**	**97.19 327**	*e*P	**P**	**21 15 14.2**	**-0.3**	
HHC			pmax	pmax			
	comp=Z,11nm,0.6s						
HHC			pmax	pmax			
	comp=Z,110nm,4.2s						
HHC			LR	LR			
	comp=N,110nm,15.3s						
HHC			LR	LR			
	comp=E,200nm,16.0s						
HHC			LR	LR			
	comp=Z,220nm,16.8s						
NJ2	**Nanjing**	**99.90 317**	*e*P	**Pdif**	**21 15 26.2**	**-0.5**	
NJ2			pmax	pmax			
	comp=Z,12nm,0.5s						
PZH	**PanZhiHua**	**113.56 325**	PKP	**PKiKP**	**21 20 20.0**	**-0.6**	
ASAR	**Alice Springs**	**119.92 259**	PKP	**PKiKP**	**21 20 33.7**	**+1.0**	
	comp=Z,0.4nm,0.9s,baz=67,slow=3.0,SNR=2.4						
QSPA	**South Pole Qui**	**120.59 180**	PKP	**PKiKP**	**21 20 34.2**	**+1.5**	
	comp=Z,0.7nm,1.0s,baz=110,slow=2.2,SNR=1.1						
CMAR	**Chiang Mai Arr**	**121.67 323**	PKPdf	**PKPdf**	**21 20 34.6**	**-1.7**	
CMAR	**Chiang Mai Arr**	**121.67 323**	PKP	**PKiKP**	**21 20 38.1**	**+1.8**	
	comp=Z,0.3nm,0.3s,baz=34,slow=2.5,SNR=2.8						
SYO	**Syowa Base**	**138.81 166**	⇑*e*pPdiff	pPdif	21 18 21.8	+1.1	
SYO	**Syowa Base**	**138.81 166**	⇑*e*sPdiff	**Pdif**	**21 18 24.0**	**+5.3**	

*IDC **06** 21:02:15.0±0.9, 30°.09N×138°.75E, h423km±15km, mb2.8/9, mbtmp3.6/12, Error ellipse: s-maj=21.7km s-min=14.7km az=63.0*

ISC 06 21:02:14.2±0.7, 30°.1N±0°.1×138°.6E±0°.1, h400km, n12, σ1§52/13, mb3.1/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.36**	**132**	P	**Pn**	**21 03 31.4**	**+1.6**
	20nm,0.3s,baz=282,slow=23,SNR=4.5						
JCJ				S	**S**	**21 04 31.9**	**+0.9**
	54nm,0.3s,baz=285,slow=23,SNR=14						
MJAR	**Matsushiro Arr**	**6.44**	**357**	P	**Pn**	**21 03 54.0**	**+2.5**
	0.7nm,0.4s,baz=196,slow=13,SNR=4.1						
KSRS	**Korea Array**	**11.50**	**312**	P	**P**	**21 04 50.4**	**+2.1**
	1.1nm,0.5s,baz=116,slow=11,SNR=6.3						
SONM	**Songino Array**	**30.36**	**315**	P	**P**	**21 07 49.8**	**-1.2**
	0.2nm,0.5s,baz=116,slow=8.2,SNR=2.3						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.77**	**261**	P	**P**	**21 08 54.5**	**+0.4**
	0.6nm,0.6s,baz=64,slow=7.5,SNR=5.1						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**46.13**	**308**	P	**P**	**21 10 00.3**	**-0.2**
	0.3nm,0.4s,baz=89,slow=9.1,SNR=7.2						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**48.68**	**313**	P	**P**	**21 10 19.3**	**-0.4**
	0.7nm,0.4s,baz=92,slow=8.3,SNR=16						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**49.92**	**185**	P	**P**	**21 10 28.4**	**-0.9**
	0.7nm,0.6s,baz=2.1,slow=7.7,SNR=6.5						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**53.69**	**316**	P	**P**	**21 10 56.3**	**-0.2**
	1.6nm,0.4s,baz=105,slow=8.4,SNR=12						
	1.6nm,0.4s						
ILAR	**Eielson Array**	**56.65**	**30**	P	**P**	**21 11 15.8**	**-1.2**
	0.4nm,0.8s,baz=282,slow=6.9,SNR=2.2						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**71.00**	**28**	P	**P**	**21 12 47.5**	**-2.0**
	0.2nm,0.7s,baz=295,slow=5.5,SNR=2.7						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**73.85**	**332**	P	**P**	**21 13 05.0**	**-1.1**
	1.0nm,0.8s,baz=38,slow=6.7,SNR=1.5						
	1.0nm,0.8s						

NOU 06 21:09:58.3, 15°.94S×168°.07E, h113km, MLv3.8/7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.65**	**255**	P	Pn	21 10 17.0	+0.5
VLAKA	**Lakatoro**	**0.65**	**255**	S	Sn	21 10 32.8	+2.6
DVP	**Devils Point**	**1.78**	**176**	P	Pn	21 10 28.4	-0.3
YATNC	**Mamie plateau,**	**6.19**	**190**	P	Pn	21 11 27.4	+0.2
DZM	**Mont Dzumac**	**6.29**	**194**	P	Pn	21 11 28.7	0.0

*OSPL **06** 21:25:49.4±1.9, 18°.62N×71°.50W, h12km±27km, ML1.5*
*SDD **06** 21:25:49.1±1.8, 18°.62N×71°.52W, h23km±24km, MD2.9, ML2.1, MW2.4*

ISC 06 21:25:48.4±1.0, 18°.62N±0°.03×71°.50W±0°.04, h15km±9km, n11, σ0§73/19, 5C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODU1	**El Espartillar**	**0.27**	**174**	*i* P	**Pg**	**21 25 53.9**	**-0.3**
LODU1				*e*S	**Sg**	**21 25 58.1**	**-0.1**
LODU1				IAML		21 25 59.4	
	comp=Z,64nm,0.3s						
JIDR	**Jimani**	**0.35**	**249**	⇓*e*Pg	**Pg**	**21 25 55.5**	**-0.2**
JIDR				⇑*e*Sg	**Sb**	**21 26 02.1**	**+0.3**
JIDR				IAML		21 26 02.5	
	comp=N,197nm,0.2s						
SDDR	**Presa de Saban**	**0.41**	**29**	⇑*e*Pg	**Pg**	**21 25 56.4**	**-0.4**
SDDR				⇑*e*Sg	**Sg**	**21 26 03.0**	**+0.5**
SDDR	**Presa de Saban**	**0.41**	**29**	*i* P	**Pg**	**21 25 56.5**	**-0.4**
SDDR				*e*S	**Sg**	**21 26 03.6**	**+1.0**
SDDR				IAML		21 26 06.4	
	comp=Z,17nm,0.3s						
PODR	**Polo**	**0.50**	**155**	⇓*e*Pg	**Pg**	**21 25 58.0**	**-0.4**
PODR				⇑*e*Sg	**Sg**	**21 26 06.2**	**+1.0**
PODR	**Polo**	**0.50**	**155**	*i* P	**Pg**	**21 25 58.1**	**-0.4**
PODR				*e*S	**Sg**	**21 26 06.1**	**+1.0**
REDR	**Restauracion**	**0.55**	**11**	⇓*e*Sg	**Sn**	**21 26 11.0**	**+0.3**
PAPH	**Port-au-Prince**	**0.76**	**263**	*e*S	**Sb**	**21 26 14.0**	**+0.4**
LOBH	**Bahia de las A**	**0.77**	**190**	*i* P	**Pb**	**21 26 02.6**	**-0.9**
LOBH				*e*S	**Sg**	**21 26 14.4**	**+0.9**
LOBH				IAML		21 26 19.5	
	comp=Z,45nm,1.3s						
LOVI	**El Cajuil, Ovi**	**0.83**	**171**	*e*S	**Sb**	**21 26 16.0**	**+0.5**
ABDR	**Alto Bandera**	**0.85**	**77**	⇓*e*Pg	**Pb**	**21 26 04.3**	**-0.8**
ABDR				⇑*e*Sg	**Sg**	**21 26 17.3**	**+1.0**

*SJA **06** 21:33:01.3±0.6, 30°.06S×71°.47W, h40km±1km, ML4.7, MW4.7*
*GUC **06** 21:33:02.6±0.7, 30°.07S×71°.27W, h63km±1km, ML4.9*
*IDC **06** 21:33:03.4±0.4, 30°.10S×71°.24W, h61km±3km, mb4.2/11, mbtmp4.4/16, MS3.7/2, Error ellipse: s-maj=15.6km s-min=9.1km az=47.0*
*NEIC **06** 21:33:03.4±1.6, 30°.06S±0°.03×71°.37W±0°.07, h62km±4km, mb4.8/29, Error ellipse: s-maj=8.9km s-min=4.5km az=106.0*
*VAO **06** 21:33:10.3±0.6, 29°.93S×70°.74W, h102km±4km, mb4.7*

ISC 06 21:33:02.8±0.3, 30°.05S±0°.02×71°.38W±0°.04, h60km±2km, h60km:pP-P, n224, σ1§38/292, mb4.8/24, 7C-18D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.18**	**43**		**Pn**	**21 33 13.1**	**+0.9**
CO05					**Sn**	**21 33 20.3**	**+1.4**
CO05	**La Serena**	**0.18**	**43**	⇓*i* P	**Pn**	**21 33 13.0**	**+0.8**
CO05				*i* S	**Sn**	**21 33 20.0**	**+1.1**
CO05				IAML		21 33 21.2	
	comp=E,145μm,0.4s						
GO04	**Tololo Observa**	**0.52**	**104**		**Pn**	**21 33 15.4**	**+0.1**
GO04	**Tololo Observa**	**0.52**	**104**	*e*P	**Pn**	**21 33 15.0**	**-0.3**
GO04				*e*S	**Sn**	**21 33 24.0**	**-0.2**
GO04	**Tololo Observa**	**0.52**	**104**	*e*P	**Pn**	**21 33 14.3**	**-0.9**
GO04				*e*S	**Sn**	**21 33 24.3**	**0.0**
GO04				IAML		21 33 25.1	
	comp=Z,77μm,0.2s						
CO06	**Fray Jorge**	**0.66**	**200**		**Pn**	**21 33 18.0**	**+1.4**
CO06					**Sn**	**21 33 28.4**	**+1.7**
CO06	**Fray Jorge**	**0.66**	**200**	⇓*i* P	**Pn**	**21 33 17.9**	**+1.3**
CO06				*i* S	**Sn**	**21 33 28.6**	**+1.9**
CO03	**El Pedregal**	**0.98**	**143**		**Pn**	**21 33 20.8**	**0.0**
CO03				Sn	**Sn**	**21 33 33.6**	**-0.4**
CO03	**El Pedregal**	**0.98**	**143**	*e*P	**Pn**	**21 33 20.6**	**-0.1**
CO03				*i* S	**Sn**	**21 33 33.7**	**-0.4**
CO03				IAML		21 33 34.0	
	comp=N,100μm,0.1s						
CO03	**El Pedregal**	**0.98**	**143**	*e*P	**Pn**	**21 33 20.6**	**-0.1**
CO03				*i* S	**Sn**	**21 33 34.4**	**+0.4**
CO03				IAML		21 33 34.5	
	comp=Z,26μm,0.1s						
CO01	**Juntas del Tor**	**1.12**	**86**		**Pn**	**21 33 23.0**	**+0.3**
CO01				Sn	**Sn**	**21 33 37.2**	**-0.1**
CO01	**Juntas del Tor**	**1.12**	**86**	⇑*i* P	**Pn**	**21 33 22.9**	**+0.3**
CO01				*i* S	**Sn**	**21 33 37.1**	**-0.3**
CO01				IAML		21 33 37.9	
	comp=N,48μm,0.4s						
CO02	**Combarbal**	**1.19**	**164**	Pn	**Pn**	**21 33 23.9**	**+0.3**
CO02				Sn	**Sn**	**21 33 39.3**	**+0.4**
CO02	**Combarbal**	**1.19**	**164**	⇑*i* P	**Pn**	**21 33 23.9**	**+0.3**
CO02				*i* S	**Sn**	**21 33 39.5**	**+0.5**
CO02				IAML		21 33 43.8	
	comp=E,63μm,0.3s						
CO02	**Combarbal**	**1.19**	**164**	*e*P	**Pn**	**21 33 23.1**	**-0.4**
CO02				*e*S	**Sn**	**21 33 39.6**	**+0.7**
CO02				IAML		21 33 43.7	
	comp=Z,20μm,0.5s						
LCO	**Las Campanas**	**1.20**	**30**		**Pn**	**21 33 24.3**	**+0.6**
LCO				Sn	**Sn**	**21 33 40.1**	**+0.9**
LCO	**Las Campanas**	**1.20**	**30**	*e*P	**Pn**	**21 33 24.0**	**+0.3**
LCO				*e*S	**Sn**	**21 33 38.6**	**-0.6**
LCO	**Las Campanas**	**1.20**	**30**	*e*P	**Pn**	**21 33 23.6**	**-0.1**
LCO				*e*S	**Sn**	**21 33 40.4**	**+1.2**
LCO				IAML		21 33 41.2	
	comp=Z,25μm,0.3s						
AC05	**El Transito**	**1.55**	**39**		**Pn**	**21 33 29.6**	**+1.3**
AC05	**El Transito**	**1.55**	**39**	⇑*i* P	**Pn**	**21 33 29.5**	**+1.3**
AC05				*i* S	**Sn**	**21 33 49.2**	**+1.8**
AC05	**El Transito**	**1.55**	**39**	*e*P	**Pn**	**21 33 28.8**	**+0.5**
AC05				*e*S	**Sn**	**21 33 51.5**	**+4.1**
AC05				IAML		21 33 53.9	
	comp=Z,4μm,0.7s						
AROD	**Rodeo**	**1.66**	**94**	*e*P	**Pn**	**21 33 31.4**	**+1.5**
AC04	**Llanos de Chal**	**1.86**	**8**		**Pn**	**21 33 33.5**	**+1.1**
AC04	**Llanos de Chal**	**1.86**	**8**	⇑*i* P	**Pn**	**21 33 33.5**	**+1.1**
AC04				*i* S	**Sn**	**21 33 57.0**	**+2.2**
AC04	**Llanos de Chal**	**1.86**	**8**	*e*P	**Pn**	**21 33 33.0**	**+0.6**
AC04				IAML		21 34 02.1	
	comp=Z,6μm,1.4s						
ACDV	**Cuesta del Vie**	**1.96**	**94**	*i* P	**Pn**	**21 33 35.5**	**+1.5**
ACDV				*e*P		21 33 36.2	
ACDV				*i* S	**Sn**	**21 34 00.6**	**+3.0**
ACDV				IAML		21 34 01.3	
	comp=Z,3μm,0.4s						
ACCO	**Cerro Coronel**	**2.07**	**105**	*e*P	**Pn**	**21 33 39.5**	**+3.9**
DOCA	**Reserva Natura**	**2.17**	**115**	*e*P	**Pn**	**21 33 38.2**	**+1.2**
DOCA				IAML		21 34 17.6	
	comp=Z,2μm,0.7s						
RTLS	**Leoncito**	**2.50**	**135**	*i* P	**Pn**	**21 33 43.0**	**+1.7**
RTLS				IAML		21 34 22.8	
	comp=Z,10μm,0.5s						
AGUA	**GUANDACOL**	**2.57**	**78**	*e*P	**Pn**	**21 33 45.5**	**+3.3**
AGUA				IAML		21 34 27.3	
	comp=Z,4μm,0.6s						
GO03	**Copiapo**	**2.65**	**23**		**Pn**	**21 33 43.8**	**+0.6**
GO03	**Copiapo**	**2.65**	**23**	*e*P	**Pn**	**21 33 44.0**	**+0.8**
GO03				*i* S	**Sn**	**21 34 16.5**	**+2.3**
GO03	**Copiapo**	**2.65**	**23**	*e*P	**Pn**	**21 33 43.5**	**+0.3**
GO03				*i* P		21 33 44.1	
GO03				IAML		21 34 45.3	
	comp=Z,3μm,0.8s						
ZON	**Zonda**	**2.76**	**123**		**Pn**	**21 33 46.1**	**+1.4**
ZON	**Zonda**	**2.76**	**123**	*e*P	**Pn**	**21 33 45.9**	**+1.2**
ZON				IAML		21 34 43.0	
	comp=Z,1μm,0.5s						
VA03	**San Esteban**	**2.79**	**166**		**Pn**	**21 33 46.3**	**+1.1**
VA03	**San Esteban**	**2.79**	**166**	*e*P	**Pn**	**21 33 46.4**	**+1.2**
VA03				*i* S	**Sn**	**21 34 19.9**	**+2.1**
VA03				IAML		21 34 28.8	
	comp=E,9μm,0.4s						
VA03	**San Esteban**	**2.79**	**166**	*e*P	**Pn**	**21 33 45.8**	**+0.6**
VA03				IAML		21 34 34.9	
	comp=Z,4μm,0.5s						
AC06	**Mina Casimiro**	**2.83**	**19**		**Pn**	**21 33 46.3**	**+0.6**
AC06	**Mina Casimiro**	**2.83**	**19**	⇑*i* P	**Pn**	**21 33 46.3**	**+0.6**
AC06				*i* S	**Sn**	**21 34 20.1**	**+1.4**
SJA	**San Juan**	**2.84**	**122**	*e*P	**Pn**	**21 33 48.4**	**+2.7**
SJA				IAML		21 34 40.9	
	comp=Z,2μm,0.6s						
ROCH	**El Roble**	**2.93**	**174**	⇓*i* P	**Pn**	**21 33 47.7**	**+0.6**
ROCH				*i* S	**Sn**	**21 34 23.4**	**+2.2**
VA01	**Torpederas**	**2.97**	**184**		**Pn**	**21 33 47.3**	**-0.2**
VA01	**Torpederas**	**2.97**	**184**	*e*P	**Pn**	**21 33 47.5**	**0.0**
VA01				*i* S	**Sn**	**21 34 21.0**	**-0.9**
CFA	**Coronel Fontan**	**3.11**	**121**	P	**Pn**	**21 33 50.1**	**+0.6**
	comp=Z,171nm,0.3s,baz=322,slow=12,SNR=398						
CFA				S	**Sn**	**21 34 24.1**	**-1.4**
	comp=Z,952nm,0.5s,baz=88,slow=21,SNR=8.3						
PEL	**Peldehue**	**3.14**	**169**	Pn	**Pn**	**21 33 50.8**	**+0.9**
PEL	**Peldehue**	**3.14**	**169**	⇓*i* P	**Pn**	**21 33 50.9**	**+1.0**
PEL				*i* S	**Sn**	**21 34 26.3**	**+0.2**
PEL				IAML		21 34 42.1	
	comp=E,3μm,0.4s						
MT02	**Curacav**	**3.20**	**176**		**Pn**	**21 33 50.7**	**0.0**
MT02	**Curacav**	**3.20**	**176**	*e*P	**Pn**	**21 33 50.7**	**0.0**
MT02				*i* S	**Sn**	**21 34 28.3**	**+0.6**
MT02	**Curacav**	**3.20**	**176**	*e*P	**Pn**	**21 33 50.1**	**-0.6**
MT02				IAML		21 34 43.6	
	comp=Z,2μm,0.5s						
MT10	**Hacienda Santa**	**3.29**	**168**	⇓*i* P	**Pn**	**21 33 53.3**	**+1.3**
MT10				*i* S	**Sn**	**21 34 30.8**	**+0.8**
ASAL	**Salagasta**	**3.34**	**140**	*i* P	**Pn**	**21 33 54.4**	**+1.8**
ASAL				IAML		21 34 57.1	
	comp=Z,1μm,0.9s						
MT05	**Renca**	**3.37**	**171**		**Pn**	**21 33 53.9**	**+0.9**
MT05	**Renca**	**3.37**	**171**	*e*P	**Pn**	**21 33 54.0**	**+0.9**
MT05				*i* S	**Sn**	**21 34 34.2**	**+2.2**
MT05	**Renca**	**3.37**	**171**	*i* P	**Pn**	**21 33 53.9**	**+0.9**
MT05				IAML		21 34 52.0	
	comp=Z,3μm,0.4s						
FCH	**Farellones**	**3.39**	**164**	*e*P	**Pn**	**21 33 55.7**	**+2.1**
FCH				*i* S	**Sn**	**21 34 35.6**	**+2.8**
MT14	**Cerro Cal¡n**	**3.41**	**168**	⇓*i* P	**Pn**	**21 33 55.0**	**+1.4**
MT14				*i* S	**Sn**	**21 34 34.7**	**+1.9**
MT16	**CCHEN**	**3.44**	**168**	Pn	**Pn**	**21 33 55.3**	**+1.2**
MT16	**CCHEN**	**3.44**	**168**	*i* P	**Pn**	**21 33 55.3**	**+1.2**
MT16				*i* S	**Sn**	**21 34 34.6**	**+0.9**
AVFE	**Valle Fertil**	**3.44**	**101**	*e*P	**Pn**	**21 33 55.4**	**+1.4**
AVFE				IAML		21 34 57.7	
	comp=Z,2μm,0.6s						
ARCO	**CERRO ARCO**	**3.48**	**144**	*e*P	**Pn**	**21 33 58.0**	**+3.4**
ARCO				IAML		21 34 54.0	
	comp=Z,1μm,0.4s						
MT04	**Ro Olivares**	**3.51**	**163**	*e*P	**Pn**	**21 33 57.3**	**+2.2**
MT04				*e*S	**Sn**	**21 34 38.0**	**+2.6**
MT04	**Ro Olivares**	**3.51**	**163**	*e*P	**Pn**	**21 33 56.8**	**+1.8**
MT04				IAML		21 34 55.9	
	comp=Z,2μm,0.7s						
MT03	**Universidad Ad**	**3.51**	**168**		**Pn**	**21 33 56.2**	**+1.2**
MT03	**Universidad Ad**	**3.51**	**168**	*e*P	**Pn**	**21 33 56.1**	**+1.0**
MT03				*i* S	**Sn**	**21 34 37.4**	**+2.1**
MT03	**Universidad Ad**	**3.51**	**168**	*e*P	**Pn**	**21 33 56.0**	**+1.0**
MT03				IAML		21 34 54.3	
	comp=Z,3μm,0.3s						
MT08	**Bocatoma Ro**	**3.58**	**161**		**Pn**	**21 33 58.2**	**+2.2**
MT08	**Bocatoma Ro**	**3.58**	**161**	*e*P	**Pn**	**21 33 58.4**	**+2.4**
MT08				*i* S	**Sn**	**21 34 42.1**	**+5.0**
MT08	**Bocatoma Ro**	**3.58**	**161**	*i* P	**Pn**	**21 33 57.3**	**+1.3**
MT08				IAML		21 34 56.2	
	comp=Z,2μm,1.1s						
VA05	**Santo Domingo**	**3.60**	**183**		**Pn**	**21 33 55.4**	**-0.7**
VA05	**Santo Domingo**	**3.60**	**183**	*e*P	**Pn**	**21 33 55.8**	**-0.3**
VA05				*i* S	**Sn**	**21 34 38.9**	**+1.6**
MT15	**Las Vizcachas**	**3.61**	**168**	*e*P	**Pn**	**21 33 57.5**	**+1.1**
MT15				*i* S	**Sn**	**21 34 39.3**	**+1.5**
AAGR	**Agrelo**	**3.73**	**145**	*e*P	**Pn**	**21 34 01.4**	**+3.4**
AAGR				IAML		21 35 02.8	
	comp=Z,1μm,0.9s						
MT09	**Talagante**	**3.73**	**175**		**Pn**	**21 33 58.6**	**+0.6**
MT09	**Talagante**	**3.73**	**175**	⇓*i* P	**Pn**	**21 33 58.6**	**+0.6**
MT09				*i* S	**Sn**	**21 34 40.8**	**+0.1**
MT12	**Pirque**	**3.74**	**169**	⇓*i* P	**Pn**	**21 33 58.9**	**+0.9**
MT12				*i* S	**Sn**	**21 34 42.3**	**+1.5**
AC02	**Maricunga**	**3.77**	**32**	Pn	**Pn**	**21 34 00.2**	**+1.3**
AC02	**Maricunga**	**3.77**	**32**	*e*P	**Pn**	**21 33 60.0**	**+1.1**
AC02				*i* S	**Sn**	**21 34 43.1**	**+0.9**
AC02	**Maricunga**	**3.77**	**32**	*e*P	**Pn**	**21 33 59.6**	**+0.7**
AC02				IAML		21 35 18.5	
	comp=Z,1μm,0.8s						
MT13	**San Alfonso**	**3.80**	**166**		**Pn**	**21 34 00.5**	**+1.6**
MT13	**San Alfonso**	**3.80**	**166**	⇓*i* P	**Pn**	**21 34 00.5**	**+1.6**
MT13				*i* S	**Sn**	**21 34 44.2**	**+1.8**
MT01	**Popeta**	**3.80**	**178**		**Pn**	**21 33 58.9**	**+0.1**
**MT01

comp=Z,19nm,0.7s
VAO Valinhos 22.92 78 *e*P **P 21 37 59.5 -2.4**
ARAG Araguaiana, MT 22.95 56 *e*P **P 21 37 58.5 -3.6**
ATAH Atahualpa 23.73 342 LR LR 21 45 18.1
comp=Z,155nm,20.0s,baz=346,slow=31
CLDB Colider 23.97 40 *e*P **P 21 38 10.4 -1.4**
IPMB Ipameri, GO 24.28 66 *e*P **P 21 38 12.9 -1.8**
BDFB Brasilia 25.80 61 P **P 21 38 27.3 -1.2**
BDFB IAmb IAmb 21 38 28.3
comp=Z,21nm,0.6s
BDFB Brasilia 25.80 61 P **P 21 38 27.5 -1.1**
comp=Z,18nm,0.6s,baz=241,slow=8.3,SNR=38
comp=Z,18nm,0.6s
SNDB Serra Nova Dou 25.91 50 *e*P **P 21 38 28.1 -1.2**
VAS01 Vassouras-RJ 26.20 79 *e*P **P 21 38 30.0 -2.0**
DIAM Diamantina, MG 27.78 71 *e*P **P 21 38 45.6 -0.7**
JANB Januaria 29.01 65 *e*P **P 21 38 56.0 -1.2**
JANB *e*pP **sP 21 39 17.7 -2.0**
SJMB Sao Joao De Ma 29.64 75 *e*P **P 21 39 01.5 -1.3**
SDBA SAO DESIDERIO 30.17 60 *e*P **P 21 39 06.2 -1.3**
SMTB Santa Maria do 30.66 51 *e*P **P 21 39 11.7 -0.1**
CMC01 Camacan, BA 32.69 71 *e*P **P 21 39 28.8 -0.8**
BOAV Boa Vista 33.89 20 P **P 21 39 39.7 -0.3**
BOAV IAmb IAmb 21 39 40.9
comp=Z,12nm,0.8s
BOAV Boa Vista 33.89 20 *e*P **P 21 39 39.7 -0.3**
RUSC La Rusia 35.78 357 P **P 21 39 57.0 +0.2**
RUSC IAmb IAmb 21 40 25.9
comp=Z,18nm,0.8s
SDV Santo Domingo 38.72 1 LR LR 21 57 57.4
comp=Z,117nm,20.7s,baz=72,slow=38
BAUV El Baul 38.90 5 P **P 21 40 22.1 -0.6**
BAUV IAmb IAmb 21 40 54.3
comp=Z,26nm,1.2s
BELA Belgrano 2 50.66 171 P **P 21 41 56.0 +0.4**
PTCN Pitcairn Islan 51.81 260 P **P 21 42 01.3 -3.6**
PTCN pP **pP 21 42 16.9 -3.4**
VNA3 Neumayer Olymp 52.81 159 ⇓P **P 21 42 11.6 0.0**
comp=Z,7.8nm,0.8s
VNA3 ⇓pP **pP 21 42 27.4 -0.1**
VNA2 Neumayer--Watz 53.45 158 ⇓P **P 21 42 16.3 0.0**
comp=Z,12nm,0.6s,baz=303,slow=8.1
VNA2 ⇑pP **pP 21 42 32.3 +0.1**
baz=299,slow=7.2
SNAA Sanae 55.04 159 P **P 21 42 27.7 -0.2**
SNAA Sanae 55.04 159 ⇓P **P 21 42 27.6 -0.3**
comp=Z,441nm,0.9s
SNAA ⇓pP **pP 21 42 43.4 -0.5**
SNAA Sanae 55.04 159 P **P 21 42 27.8 -0.2**
comp=Z,18nm,0.9s,baz=279,slow=8.1,SNR=41
SNAA pP **pP 21 42 43.1 -0.8**
comp=Z,5.8nm,0.6s,baz=273,slow=8.6,SNR=5.0
comp=Z,18nm,0.9s
TROLL Troll, Antarti 56.75 159 ⇓P **P 21 42 39.0 -1.2**
comp=Z,706nm,0.8s
TROLL ⇓pP **pP 21 42 56.8 +0.4**
TROLL ⇓sP **sP 21 43 05.3 +2.1**
QSPA South Pole Qui 60.17 180 P **P 21 43 04.6 +0.5**
QSPA South Pole Qui 60.17 180 P **P 21 43 04.7 +0.5**
comp=Z,18nm,0.9s,baz=158,slow=1.3,SNR=87
QSPA pP **pP 21 43 20.4 0.0**
comp=Z,11nm,0.8s,baz=154,slow=4.7,SNR=8.1
comp=Z,18nm,0.9s
QSPA South Pole Qui 60.17 180 P **P 21 43 04.8 +0.6**
QSPA pP **pP 21 43 21.5 +1.2**
QSPA sP **sP 21 43 28.0 +0.9**
TXAR Lajitas Array 66.60 329 P **P 21 43 48.2 +1.2**
TXAR Lajitas Array 66.60 329 P **P 21 43 48.8 +1.9**
comp=Z,0.8nm,0.8s,baz=152,slow=7.0,SNR=6.4
TXAR pP **pP 21 44 05.8 +2.7**
comp=Z,0.9nm,0.6s,baz=153,slow=8.3,SNR=7.5
comp=Z,0.8nm,0.8s
WVT Waverly 67.62 346 P **P 21 43 54.1 +0.9**
WVT Waverly 67.62 346 P **P 21 43 54.0 +0.9**
WVT pP **pP 21 44 10.2 +0.9**
VNDA Vanda 68.07 191 P **P 21 43 56.9 +1.4**
LCAR Lake Charles 68.35 343 P **P 21 43 58.2 +0.5**
LCAR IAmb IAmb 21 44 16.1
comp=Z,6.5nm,0.7s
PBMO Poplar Bluff 68.84 344 P **P 21 44 01.3 +0.6**
PBMO IAmb IAmb 21 44 26.2
comp=Z,6.0nm,0.8s
WCI Wyandotte Cave 69.34 347 P **P 21 44 04.2 +0.3**
P40A Paris 71.85 343 P **P 21 44 19.8 +0.7**
P40A IAmb IAmb 21 44 38.0
comp=Z,7.4nm,0.7s
DBIC Dimbokro 73.41 72 P **P 21 44 28.6 -0.4**
DBIC IAmb IAmb 21 44 52.8
comp=Z,17nm,0.8s
DBIC Dimbokro 73.41 72 P **P 21 44 28.2 -0.7**
comp=Z,9.7nm,0.6s,baz=220,slow=5.2,SNR=14
comp=Z,9.7nm,0.6s
SOE Somerset East 79.65 122 P **P 21 45 04.1 0.0**
TSUM Tsumeb 79.76 106 P **P 21 45 04.7 -0.4**
TSUM IAmb IAmb 21 45 06.3
comp=Z,13nm,0.8s
GRHM Grahamstown, E 79.97 123 P **P 21 45 06.0 +0.2**
TBO Thunder Bay 79.99 348 P **P 21 45 05.5 +0.3**
PDAR Pinedale Array 80.52 333 P **P 21 45 11.5 +2.9**
comp=Z,0.2nm,0.2s,baz=160,slow=4.6,SNR=1.8
PDAR pP **pP 21 45 25.7 +0.5**
comp=Z,0.9nm,0.5s,baz=147,slow=6.7,SNR=3.8
comp=Z,0.2nm,0.2s
NVAR Mina Array Bea 80.99 324 P **P 21 45 13.6 +2.5**
comp=Z,0.3nm,0.6s,baz=115,slow=5.0,SNR=2.2
NVAR pP **pP 21 45 29.4 +1.8**
comp=Z,1.7nm,0.8s,baz=134,slow=6.4,SNR=5.7
comp=Z,0.3nm,0.6s
BOSA Boshof 81.41 118 P **P 21 45 13.2 -0.5**
BOSA IAmb IAmb 21 45 14.3
comp=Z,19nm,1.1s
BOSA Boshof 81.41 118 P **P 21 45 13.4 -0.3**
comp=Z,12nm,0.8s,baz=261,slow=2.0,SNR=15
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 82.34 70 P **P 21 45 18.1 -0.4**
TORD IAmb IAmb 21 45 19.1
comp=Z,15nm,1.1s
TORD pP **pP 21 45 35.5 +0.1**
TORD sP **sP 21 45 41.6 -0.4**
ULM Lac du Bonnet 82.85 344 P **P 21 45 21.1 +0.8**
comp=Z,1.8nm,0.7s,baz=145,slow=6.4,SNR=4.4
ULM pP **pP 21 45 36.5 -0.5**
comp=Z,2.7nm,0.9s,baz=157,slow=5.0,SNR=3.8
comp=Z,1.8nm,0.7s
FCC Fort Churchill 90.48 348 P **P 21 45 58.1 +0.7**
FCC IAmb IAmb 21 46 16.8
comp=Z,9.2nm,1.4s
LSZ Lusaka 90.49 108 P **P 21 45 59.0 +0.3**
TAM Tamanrasset 90.61 64 P **P 21 45 58.7 -0.4**
TAM IAmb IAmb 21 46 00.2
comp=Z,4.1nm,0.7s
ESDC Sonseca Array 93.43 46 P **P 21 46 10.0 -1.6**
comp=Z,1.4nm,1.0s,baz=255,slow=3.9,SNR=4.3
comp=Z,1.4nm,1.0s
YKA Yellowknife Ar 98.51 341 P **P 21 46 34.5 +0.5**
comp=Z,0.2nm,0.8s,baz=141,slow=4.0,SNR=2.9
YKA pP **pP 21 46 50.8 -0.1**
comp=Z,0.2nm,0.7s,baz=142,slow=4.4,SNR=3.5
comp=Z,0.2nm,0.8s
CLL Collm 109.55 42 *e*PKiKP **PKiKP 21 51 27.0 +0.9**
MMAI Mount Meron Ar 118.72 67 PKP **PKPdf 21 51 44.4 0.0**
comp=Z,0.8nm,0.4s,baz=270,slow=0.6,SNR=2.2
AKASG Malin Array Be 119.08 46 PKP **PKPdf 21 51 43.5 -0.9**
comp=Z,0.6nm,0.6s,baz=262,slow=3.0,SNR=5.5
BRTR Keskin Array B 119.37 59 PKP **PKPdf 21 51 45.5 0.0**
comp=Z,1.1nm,0.8s,baz=180,slow=3.3,SNR=7.4
ASAR Alice Springs 121.33 207 PKP **PKPdf 21 51 49.1 -0.7**
comp=Z,1.0nm,0.8s,baz=126,slow=1.6,SNR=9.3
ASAR pPKP **pPKPdf 21 52 06.7 -0.8**
comp=Z,0.2nm,0.4s,baz=130,slow=1.7,SNR=1.7
WRA Warramunga Arr 124.47 210 PKP **PKPdf 21 51 55.2 -0.6**
comp=Z,3.0nm,0.8s,baz=160,slow=1.6,SNR=26
WRA pPKP **pPKPdf 21 52 13.2 -0.2**
comp=Z,0.6nm,0.5s,baz=156,slow=1.7,SNR=2.6
KBZ Khabaz 126.99 56 PKP **PKPdf 21 51 59.8 0.0**
comp=Z,2.5nm,0.9s,baz=83,slow=1.5,SNR=9.7
KBZ pPKP **pPKPdf 21 52 18.4 +0.9**
comp=Z,1.8nm,0.9s,baz=78,slow=3.4,SNR=3.1
BVAR Borovoye Array 143.95 39 PKP PKPbc 21 52 30.1 +1.2
comp=Z,3.6nm,0.6s,baz=329,slow=1.7,SNR=14
EKS2 Erkin-Say 149.47 56 P **PKiKP 21 52 46.1 -0.2**
SNR=18
AML Almayashu 149.52 57 P **PKiKP 21 52 47.1 +0.3**
SNR=12
KURBB Kurchatov Arra 149.54 39 PKPbc **PKPbc 21 52 45.6 +0.7**
comp=Z,11nm,0.6s,baz=303,slow=3.2,SNR=45
KURBB pPKPbc **pPKPbc 21 53 03.2 +0.7**
comp=Z,2.4nm,0.4s,baz=304,slow=3.0,SNR=4.9
USP Ospenovka 149.84 55 P **PKiKP 21 52 47.1 +0.1**
SNR=12
AAK Ala-Archa 149.99 56 P **PKiKP 21 52 47.9 +0.4**
SNR=38
CHMS Chumysh 150.08 55 P **PKiKP 21 52 47.8 +0.3**
SNR=16
KBK Karagaybulak 150.31 56 P **PKiKP 21 52 48.6 +0.4**
SNR=11
ZALV Zalesovo Beam 150.55 29 PKPbc **PKiKP 21 52 48.0 0.0**
comp=Z,42nm,0.7s,baz=263,slow=2.5,SNR=41
ZALV pPKPbc **pPKPbc 21 53 05.5 +0.6**
comp=Z,12nm,0.5s,baz=311,slow=3.3,SNR=8.3
TKM2 Tokmak 2 150.70 55 P **PKiKP 21 52 49.0 -0.1**
SNR=12
KSH Kashi 151.70 62 PKPbc **PKPbc 21 52 50.0 -0.7**
KSH pPKP PKPab 21 52 59.3 -0.4
MKAR Makanchi Array 153.63 43 PKP **PKPdf 21 52 46.9 +0.1**
comp=Z,0.9nm,0.9s,baz=266,slow=1.9,SNR=8.0
MKAR PKPbc **PKiKP 21 52 54.9 +0.2**
comp=Z,3.6nm,0.7s,baz=314,slow=2.1,SNR=32
MKAR PKPab **PKPab 21 53 08.2 +0.7**
comp=Z,5.4nm,0.8s,baz=305,slow=4.3,SNR=19
SONM Songino Array 162.16 5 PKP **PKPdf 21 52 57.1 -0.2**
comp=Z,0.6nm,1.0s,baz=270,slow=1.4,SNR=4.7
SONM PKPab **PKPab 21 53 44.2 0.0**
comp=Z,1.1nm,1.0s,baz=324,slow=2.6,SNR=5.9
CMAR Chiang Mai Arr 165.48 140 PKP **PKPdf 21 53 01.5 +0.4**
comp=Z,0.9nm,0.4s,baz=180,slow=0.2,SNR=6.0
CMAR PKPab **PKPab 21 53 58.2 -1.3**
comp=Z,0.6nm,0.3s,baz=230,slow=3.2,SNR=4.0
GOMU GeErMu 166.91 58 PKP **PKPdf 21 53 02.6 +0.4**
GTA Gaotai 168.19 35 *e*P **PKPdf 21 53 03.9 +1.2**
GTA pP pPKPdf 21 53 07.9 -13
GTA pmax pmax
comp=Z,2.0nm,1.0s
HHC Hu-ho-hao-te 168.96 348 *e*P **PKPdf 21 53 05.8 +2.7**
NJ2 Nanjing 171.00 285 *e*P **PKPdf 21 53 04.7 +0.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PZH PanZhiHua 172.98 119 PKP **PKPdf 21 53 04.8 -0.9**

---

*MOS **06** 21:54:59.2±0.8, 6°.79S×124°.96E, h526km, mb5.9/96, MS5.2/8, Error ellipse: s-maj=7.0km s-min=4.1km az=111.9*
*BJI **06** 21:55:00.2, 6°.90S×125°.10E, h540km, mB6.3/74, mb6.0/96*
*NEIC **06** 21:55:01.6, 6°.96S×125°.00E, h540km, Moment Tensor Solution. Duration: 6s9 Moment tensor: Scale 1018Nm; Mrr=0.86; Mθθ=0.40; Mφφ1.26; Mrθ=2.51; Mθφ0.92; Mφr=1.04; Fault plane solution: M0 3.07000×1018 NP1: φs170.46000°, δ24.84000°, λ=-159.59000°. NP2: φs61.81000°, δ81.58000°, λ=-66.55000°. Principal axes: T 2.9933, Plg33.0000°, Azm132.0000°; N 0.1581, Plg23.0000°, Azm238.0000°; P -3.1515, Plg48.0000°, Azm357.0000°;*
*IDC **06** 21:55:01.7±0.4, 6°.85S×125°.02E, h547km±4km, mb5.3/36, mbtmp6.2/43 Error ellipse: s-maj=8.5km s-min=5.1km az=74.0*
*IPGP **06** 21:55:01.0, 6°.85S×125°.04E, h547km, Mw6.4, Fault plane solution: NP1:φs164.00000°, δ34.00000°, λ=-165.00000°. NP2:φs62.00000°, δ82.00000°, λ=-57.00000°.*
*DJA **06** 21:55:01.5±0.1, 7°.5±1°×12°.5E±°, h545km±1km, M5.7/150, mB6.1/135, mb5.7/150, MLv6.7/28, Mw6.3/89, Mw(mB)5.7/135, MwMwp5.7/105, Mwp5.8/105*
*NEIC **06** 21:55:01.7±1.9, 6°.83S±0°.08×125°.04E±0°.08, h539km±1km, mb5.9/201, Mwb6.3/26, Mww6.3/84, Error ellipse: s-maj=13.8km s-min=13.0km az=238.0, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=0.87; Mθθ=0.88; Mφφ1.75; Mrθ=-2.87; Mθφ1.45; Mφr=1.33; Fault plane solution: M0 3.79000×1018 NP1:φs164.73000°, δ31.03000°, λ=-164.70000°. NP2:φs61.53000°, δ82.18000°, λ=-59.88000°. Principal axes: T 3.8446, Plg31.0000°, Azm127.0000°; N -0.1023, Plg30.0000°, Azm237.0000°; P -3.7424, Plg45.0000°, Azm1.0000°;*
*NEIC **06** 21:55:01.6, 6°.86S×124°.99E, h540km*
*NEIC **06** 21:55:01.5, 6°.85S×125°.04E, h536km*
*GCMT **06** 21:55:03.6±0.1, 6°.92S±0°.01×124°.86E±0°.01, h546km, MW6.3/171, Moment Tensor Solution. s171,c402; s148,c233; Duration: 3s4 Moment tensor: Scale 1018 Nm; Mrr=0.82±.01; Mθθ=0.86±.02; Mφφ1.67±.02; Mrθ=2.43±.02; Mθφ1.35±.02; Mφr=1.07±.02; Best double couple: M0 3.31100×1018 NP1:φs164.00000°, δ34.00000°, λ=-165.00000°. NP2:φs61.00000°, δ81.00000°, λ=-57.00000°. Principal axes: T 3.3450, Plg29.0000°, Azm125.0000°; N -0.0730, Plg33.0000°, Azm236.0000°; P -3.2770, Plg44.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

ISC 06 21:55:01.9±0.2, 6°.88S±0°.02×124°.98E±0°.03, h552km±1km, h554km:pP-P, n1774, σ1§51/2285, mb5.9/269, 103C-88D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**2.76**	**300**	P	**P**	**21 56 17.3**	**+1.6**
BBSI				S	**S**	**21 57 19.5**	**+3.7**
SOEI	**Soe**	**2.95**	**194**	S	**S**	**21 57 15.9**	**-2.2**
SOEI				P	**P**	**21 56 16.5**	**-0.5**
SOEI	**Soe**	**2.95**	**194**	P	**P**	**21 56 16.2**	**-0.7**
SOEI				S	**S**	**21 57 16.2**	**-1.8**
MMRI	**Maumere**	**3.23**	**237**	P	**P**	**21 56 17.6**	**-1.0**
MMRI	**Maumere**	**3.23**	**237**	P	**P**	**21 56 17.4**	**-1.1**
MMRI	**Maumere**	**3.23**	**237**	S	**S**	**21 57 20.8**	**-0.2**
MMRI	**Maumere**	**3.23**	**237**	P	**P**	**21 56 17.5**	**-1.1**
MMRI				S	**S**	**21 57 18.1**	**-2.9**
MMRI	**Maumere**	**3.23**	**237**	⇑P	**P**	**21 56 17.6**	**-1.0**
KDI	**Kendari**	**3.73**	**321**	P	**P**	**21 56 22.9**	**+0.9**
KDI				S	**S**	**21 57 27.3**	**+0.1**
EDFI	**Ende, Flores**	**3.75**	**240**	P	**P**	**21 56 20.6**	**-1.7**
EDFI				S	**S**	**21 57 24.4**	**-3.3**
NLAI	**Namlea**	**4.18**	**30**	P	**P**	**21 56 25.0**	**-0.4**
NLAI				S	**S**	**21 57 32.7**	**-0.6**
AAI	**Ambon**	**4.50**	**45**	P	**P**	**21 56 26.9**	**-1.0**
AAI				S	**S**	**21 57 34.9**	**-3.0**
BSSI	**Bau Bau, Buton**	**4.52**	**279**	P	**P**	**21 56 29.1**	**+1.1**
BSSI				S	**S**	**21 57 39.0**	**+0.9**
SANI	**Sanana**	**4.90**	**12**	S	**S**	**21 57 40.0**	**-3.8**
SANI				P	**P**	**21 56 30.0**	**-1.1**
SANI	**Sanana**	**4.90**	**12**	P	**P**	**21 56 31.4**	**+0.3**
SANI	**Sanana**	**4.90**	**12**	P	**P**	**21 56 30.6**	**-0.5**
SANI				S	**S**	**21 57 41.6**	**-2.2**
BKSI	**Bulukumba**	**5.07**	**287**	P	**P**	**21 56 33.2**	**+0.7**
BKSI				S	**S**	**21 57 48.9**	**+2.5**
MSAI	**Masohi**	**5.27**	**48**	P	**P**	**21 56 33.6**	**-0.6**
91nm17μm1μm,0.5s							
WSI	**Waingapu**	**5.40**	**239**	P	**P**	**21 56 33.3**	**-2.0**
256nm30μm9μm,1.1s							
BNDI	**Bandanaira**	**5.43**	**65**	P	**P**	**21 56 36.2**	**+0.6**
BNDI	**Bandanaira**	**5.43**	**65**	S	**S**	**21 57 51.6**	**-0.4**
BNDI	**Bandanaira**	**5.43**	**65**	P	**P**	**21 56 35.6**	**0.0**
BNDI	**Bandanaira**	**5.43**	**65**	⇑P	**P**	**21 56 35.1**	**-0.5**
BNSI	**Bone**	**5.44**	**297**	P	**P**	**21 56 36.8**	**+1.2**
BASI	**Baing, Sumba**	**5.48**	**232**	P	**P**	**21 56 34.7**	**-1.2**
KAPI	**Kappang**	**5.52**	**289**	P	**P**	**21 56 37.8**	**+1.5**
KAPI	**Kappang**	**5.52**	**289**	P	**P**	**21 56 38.1**	**+1.8**
8μm,0.5s,baz=119,slow=5.5,SNR=855							
KAPI				S	**S**	**21 57 53.2**	**-0.2**
720nm,0.9s,baz=84,slow=20,SNR=0.6							
KAPI				ScS	**ScS**	**22 08 43.5**	**+0.3**
7.0nm,0.4s,baz=29,slow=23,SNR=13							
KAPI	**Kappang**	**5.52**	**289**	P	**P**	**21 56 39.0**	**+2.7**
KAPI				P	**P**	**21 56 39.0**	**+2.7**
KAPI				S	**S**	**21 57 58.9**	**+5.4**
KAPI				S	**S**	**21 57 58.9**	**+5.4**
KAPI	**Kappang**	**5.52**	**289**	P	**P**	**21 56 37.4**	**+1.0**
KAPI	**Kappang**	**5.52**	**289** *c*	iP	**P**	**21 56 36.7**	**+0.3**
KAPI	**Kappang**	**5.52**	**289**	⇑P	**P**	**21 56 38.1**	**+1.8**
KAPI	**Kappang**	**5.52**	**289**	P	**P**	**21 56 38.1**	**+1.8**
KAPI				S	**S**	**21 57 58.2**	**+4.7**
SPSI	**Sidrap Palu**	**5.94**	**299**	P	**P**	**21 56 40.8**	**+0.7**
WBSI	**Waikabubak, Su**	**6.18**	**243**	P	**P**	**21 56 39.6**	**-2.7**
118nm16μm57μm4μm,0.6s							
LUWI	**Luwuk**	**6.20**	**339**	P	**P**	**21 56 43.5**	**+1.0**
LUWI	**Luwuk**	**6.20**	**339**	P	**P**	**21 56 41.6**	**-0.9**
LUWI				S	**S**	**21 58 05.5**	**+0.9**
LUWI	**Luwuk**	**6.20**	**339**	P	**P**	**21 56 43.8**	**+1.3**
LUWI	**Luwuk**	**6.20**	**339**	P	**P**	**21 56 44.1**	**+1.6**
31nm99μm6μm,0.8s							
LUWI	**Luwuk**	**6.20**	**339**	⇑P	**P**	**21 56 43.5**	**+1.0**
SAUI	**Saumlaki**	**6.36**	**100**	P	**P**	**21 56 42.0**	**-2.0**
SAUI	**Saumlaki**	**6.36**	**100**	P	**P**	**21 56 42.6**	**-1.4**
SAUI	**Saumlaki**	**6.36**	**100**	P	**P**	**21 56 42.6**	**-1.4**
SAUI	**Saumlaki**	**6.36**	**100**	⇓P	**P**	**21 56 42.6**	**-1.4**
APSI	**Ampana**	**6.79**	**331**	P	**P**	**21 56 49.9**	**+1.9**
31nm73μm6μm,1.0s							
PLAI	**Plampang**	**7.39**	**254**	P	**P**	**21 56 51.7**	**-2.1**
PLAI	**Plampang**	**7.39**	**254**	S	**S**	**21 58 24.3**	**-1.2**
PLAI	**Plampang**	**7.39**	**254**	P	**P**	**21 56 51.4**	**-2.4**
24nm18μm29μm3μm,1.1s							
KMSI	**Cibinong**	**7.47**	**352**	P	**P**	**21 56 55.4**	**+0.9**
PCI	**Palu**	**7.84**	**319**	P	**P**	**21 56 59.3**	**+1.1**
MRSI	**Marisa**	**7.91**	**337**	P	**P**	**21 56 59.1**	**+0.3**
16nm58μm42μm3μm,1.1s							
TNTI	**Ternate**	**7.96**	**18**	P	**P**	**21 56 58.4**	**-1.0**
TNTI	**Ternate**	**7.96**	**18**	P	**P**	**21 57 00.7**	**+1.3**
TNTI	**Ternate**	**7.96**	**18**	P	**P**	**21 56 58.5**	**-0.9**
14nm33μm3μm,1.0s							
DRS	**Darwin Rock St**	**8.03**	**134**	P	**P**	**21 56 59.6**	**-0.4**
FAKI	**Fak Fak**	**8.24**	**62**	P	**P**	**21 56 59.8**	**-2.3**
FAKI	**Fak Fak**	**8.24**	**62**	P	**P**	**21 57 00.0**	**-2.1**
FAKI	**Fak Fak**	**8.24**	**62**	S	**S**	**21 58 37.8**	**-2.9**
FAKI	**Fak Fak**	**8.24**	**62**	P	**P**	**21 56 59.8**	**-2.3**
37μm4μm,0.6s							
MTN	**Manton Dam**	**8.48**	**135**		**P**	**21 57 02.8**	**-1.7**
MTN	**Manton Dam**	**8.48**	**135**	P	**P**	**21 57 03.5**	**-1.0**
comp=Z,0.0nmcomp=Z,4μm,0.5s							
MTN	**Manton Dam**	**8.48**	**135**	P	**P**	**21 57 03.4**	**-1.0**
MTN	**Manton Dam**	**8.48**	**135**	S	**S**	**21 58 42.7**	**-2.3**
MTN	**Manton Dam**	**8.48**	**135**	⇓P	**P**	**21 57 03.4**	**-1.1**
SWI	**Sorong**	**8.65**	**47**	P	**P**	**21 57 05.8**	**-0.5**
comp=Z,12μmcomp=Z,28μmcomp=Z,2μm,1.2s							
MPSI	**Mapaga**	**8.78**	**325**	P	**P**	**21 57 08.5**	**+1.0**
comp=Z,58μmcomp=Z,36μmcomp=Z,2μm,0.8s							
TOLI2	**Tolitoli**	**8.97**	**332**	P	**P**	**21 57 09.1**	**-0.4**
TOLI2	**Tolitoli**	**8.97**	**332**	P	**P**	**21 57 09.5**	**0.0**
TOLI2	**Tolitoli**	**8.97**	**332**	S	**S**	**21 58 55.0**	**+0.9**
KMPI	**Kaimana, Papua**	**9.26**	**70**	P	**P**	**21 57 11.6**	**-0.7**
KDU	**Kakadu**	**9.37**	**129**	P	**P**	**21 57 11.8**	**-1.6**
comp=Z,0.0nmcomp=Z,2μm,1.1s							
KDU	**Kakadu**	**9.37**	**129**	P	**P**	**21 57 12.1**	**-1.4**
KNRA	**Kununurra**	**9.50**	**157**	P	**P**	**21 57 14.1**	**-0.7**
KNRA	**Kununurra**	**9.50**	**157**	P	**P**	**21 57 13.8**	**-0.9**
comp=Z,0.0nmcomp=Z,5μm,1.1s							
SRBI	**Singaraja**	**9.76**	**262**	P	**P**	**21 57 16.7**	**-0.7**
comp=Z,37μmcomp=Z,45μmcomp=Z,3μm,1.6s							
BKB	**Balikpapan**	**9.80**	**304**	P	**P**	**21 57 21.0**	**+3.1**
BKB	**Balikpapan**	**9.80**	**304**	P	**P**	**21 57 20.2**	**+2.3**
BKB	**Balikpapan**	**9.80**	**304**	P	**P**	**21 57 21.5**	**+3.6**
comp=Z,53μmcomp=Z,2μm,0.8s							
BKB	**Balikpapan**	**9.80**	**304**	⇑P	**P**	**21 57 21.7**	**+3.8**
DNP	**Denpasar**	**9.84**	**259**	P	**P**	**21 57 18.0**	**-0.3**
SMKI	**Samarinda**	**10.04**	**309**	P	**P**	**21 57 23.1**	**+2.7**
comp=Z,54μmcomp=Z,3μm,1.0s							
SGSI	**Sangihe**	**10.51**	**3**	P	**P**	**21 57 24.6**	**-0.5**
JAGI	**Jajag, Banyuwa**	**10.85**	**261**	P	**P**	**21 57 26.2**	**-2.4**
JAGI	**Jajag, Banyuwa**	**10.85**	**261**	P	**P**	**21 57 26.7**	**-1.9**
JAGI	**Jajag, Banyuwa**	**10.85**	**261**	P	**P**	**21 57 26.5**	**-2.1**
comp=Z,22μmcomp=Z,39μmcomp=Z,3μm,0.8s							
KMMI	**Kalianget**	**10.93**	**268**	P	**P**	**21 57 30.9**	**+1.4**
comp=Z,49μmcomp=Z,32μmcomp=Z,1μm,1.3s							
FITZ	**Fitzroy Crossi**	**11.17**	**177**	P	**P**	**21 57 30.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**11.17**	**177**	P	**P**	**21 57 31.2**	**-0.7**
comp=Z,636nm,1.0s							
FITZ	**Fitzroy Crossi**	**11.17**	**177**	P	**P**	**21 57 31.2**	**-0.7**
comp=Z,2μm,0.7s,baz=355,slow=8.1,SNR=2534							
FITZ				S	**S**	**21 59 32.7**	**-2.6**
comp=Z,3μm,0.6s,baz=171,slow=8.2,SNR=21							
FITZ	**Fitzroy Crossi**	**11.17**	**177**	P	**P**	**21 57 31.1**	**-0.8**
GMJI	**Gumukmas**	**11.52**	**262**	P	**P**	**21 57 33.6**	**-1.9**
comp=Z,15μmcomp=Z,416nm,1.2s							
SRPI	**Serui, Papua**	**12.28**	**67**	P	**P**	**21 57 44.1**	**+0.7**
comp=Z,11μmcomp=Z,1μm,0.8s							
BWJI	**Bawean**	**12.29**	**274**	P	**P**	**21 57 44.7**	**+1.2**
comp=Z,35μmcomp=Z,35μmcomp=Z,2μm,1.5s							
GRJI	**Gresik**	**12.41**	**269**	P	**P**	**21 57 44.6**	**-0.1**
comp=Z,27μmcomp=Z,13μmcomp=Z,649nm,1.1s							
BAKI	**Biak**	**12.45**	**64**	P	**P**	**21 57 45.5**	**+0.3**
comp=Z,14μmcomp=Z,1μm,0.8s							
TBJI	**Tambak Boyo**	**13.04**	**269**	P	**P**	**21 57 50.6**	**-0.6**
comp=Z,20μmcomp=Z,11μmcomp=Z,491nm,1.2s							
NGJI	**Ngawi**	**13.42**	**267**	P	**P**	**21 57 55.0**	**-0.2**
MYLDM	**Lahad Datu**	**13.61**	**331**	P	**P**	**21 57 57.5**	**+0.4**
MYLDM	**Lahad Datu**	**13.61**	**331**	P	**P**	**21 57 58.1**	**+1.0**
MYLDM	**Lahad Datu**	**13.61**	**331**	⇓P	**P**	**21 57 58.1**	**+1.0**
PCJI	**Pacitan**	**13.75**	**264**	P	**P**	**21 57 56.3**	**-2.2**
comp=Z,11μmcomp=Z,8μmcomp=Z,397nm,1.0s							
DAV	**Davao City (W)**	**13.87**	**2**	P	**P**	**21 57 59.5**	**-0.3**
comp=Z,1μm,0.7s,baz=139,slow=1.6,SNR=82							
DAV				S	**S**	**22 00 20.3**	**-5.9**
comp=Z,412nm,0.5s,baz=164,slow=21,SNR=1.6							
DAV	**Davao City (W)**	**13.87**	**2**	P	**P**	**21 58 00.8**	**+1.0**
DAV				P	**P**	**21 58 00.8**	**+1.0**
DAV				S	**S**	**22 00 27.2**	**+1.0**
DAV				S	**S**	**22 00 27.2**	**+1.0**
DAV	**Davao City (W)**	**13.87**	**2**	P	**P**	**21 58 00.6**	**+0.8**
DAV	**Davao City (W)**	**13.87**	**2**	⇓P	**P**	**21 57 58.0**	**-1.8**
DAV	**Davao City (W)**	**13.87**	**2**	P	**P**	**21 57 59.2**	**-0.6**
DAV				S	**S**	**22 00 26.5**	**+0.3**
UGM	**Wanagama**	**14.37**	**265**	P	**P**	**21 58 03.4**	**-1.7**
UGM	**Wanagama**	**14.37**	**265**	P	**P**	**21 58 04.5**	**-0.5**
UGM	**Wanagama**	**14.37**	**265**	P	**P**	**21 58 03.0**	**-2.0**
SMRI	**Semarang**	**14.43**	**268**	P	**P**	**21 58 04.2**	**-1.4**
SMRI	**Semarang**	**14.43**	**268**	P	**P**	**21 58 05.9**	**+0.3**
SMRI	**Semarang**	**14.43**	**268**	P	**P**	**21 58 05.1**	**-0.5**
comp=Z,262nm,0.6s							
SMRI	**Semarang**	**14.43**	**268**	⇑P	**P**	**21 58 03.7**	**-1.9**
SMPI	**Sarmi**	**14.52**	**71**	P	**P**	**21 58 05.5**	**-1.0**
comp=Z,18μmcomp=Z,26μmcomp=Z,2μm,1.5s							
YOGI	**Yogyakarta**	**14.60**	**265**	P	**P**	**21 58 05.5**	**-1.8**
comp=Z,7μmcomp=Z,522nm,1.4s							
**MBWA

comp=Z,12μmcomp=Z,17μmcomp=Z,856nm,1.4s
KSM Kuching 16.83 299 P P 21 58 28.9 -0.2
KSM Kuching 16.83 299 P P 21 58 30.5 +1.4
KSM Kuching 16.83 299 ⇑P P 21 58 29.4 +0.3
BBJI Bungbulang 17.20 267 P P 21 58 31.7 -0.9
LEM Lembang 17.24 269 P P 21 58 32.5 -0.5
comp=Z,216nm,0.6s,baz=77,slow=7.7,SNR=56
LEM S **S 22 01 22.1 -3.0**
comp=Z,124nm,0.7s,baz=334,slow=21,SNR=1.8
LEM ScP **ScP 22 05 27.5 +0.7**
comp=Z,50nm,0.7s,baz=56,slow=3.6,SNR=1.7
LEM ScS **ScS 22 09 06.3 -1.3**
comp=Z,150nm,1.1s,baz=284,slow=22,SNR=24
LEM Lembang 17.24 269 P P 21 58 33.1 +0.1
CNJI Cibinong 17.72 268 P P 21 58 36.0 -1.2
comp=Z,11μmcomp=Z,1μm,1.2s
TPI Tanjungpandan 17.74 283 P P 21 58 38.6 +1.2
comp=Z,15μmcomp=Z,16μmcomp=Z,1μm,1.3s
SKJI Sukabumi 18.29 268 P P 21 58 41.7 -0.7
comp=Z,8μmcomp=Z,15μmcomp=Z,2μm,1.0s
WRKA Warakurna 18.34 170 P P 21 58 42.6 -0.2
comp=Z,0.0nmcomp=Z,2μm,0.7s
WRKA Warakurna 18.34 170 P P 21 58 42.6 -0.2
WRKA Warakurna 18.34 170 ⇑P P 21 58 42.8 0.0
SBJI Serang 18.74 271 P P 21 58 46.3 -0.3
comp=Z,9μmcomp=Z,631nm,1.5s
AS31 Alice Springs 18.77 154 P P 21 58 46.7 0.0
AS31 Alice Springs 18.77 154 P P 21 58 46.8 0.0
comp=Z,0.0nmcomp=Z,859nm,0.6s
ASAR Alice Springs 18.77 154 P P 21 58 46.6 -0.1
comp=Z,2μm,0.6s,baz=331,slow=8.7,SNR=4934
ASAR S **S 22 01 48.9 -0.6**
comp=Z,206nm,0.9s,baz=333,slow=19,SNR=5.7
ASAR ScP **ScP 22 05 29.8 -0.1**
comp=Z,136nm,0.9s,baz=348,slow=2.0,SNR=13
ASAR ScS **ScS 22 09 08.2 -3.7**
comp=Z,13nm,0.7s,baz=341,slow=3.8,SNR=4.6
AS01 Alice Springs 18.79 154 P P 21 58 46.8 -0.1
GIRL Giralia 18.79 212 P P 21 58 47.4 +0.5
GIRL Giralia 18.79 212 P P 21 58 48.0 +1.1
comp=Z,612nm,0.7s
GIRL Giralia 18.79 212 P P 21 58 47.8 +1.0
GIRL Giralia 18.79 212 ⇓P P 21 58 48.1 +1.3
CGJI Cibinong 19.16 270 P P 21 58 49.2 -1.1
comp=Z,11μmcomp=Z,921nm,1.1s
COEN Coen 19.22 113 P P 21 58 49.9 -1.0
COEN Coen 19.22 113 P P 21 58 49.6 -1.3
comp=Z,0.0nmcomp=Z,1μm,1.3s
COEN Coen 19.22 113 P P 21 58 49.7 -1.2
COEN Coen 19.22 113 ⇑P P 21 58 49.7 -1.2
PPBI Pangkal Pinang 19.35 283 P P 21 58 54.1 +1.9
XMI Christmas Isla 19.40 258 P P 21 58 53.6 +1.1
XMI Christmas Isla 19.40 258 ⇓P P 21 58 52.7 +0.1
XMIS Christmas Isla 19.44 258 P P 21 58 52.0 -0.9
XMIS Christmas Isla 19.44 258 P P 21 58 53.2 +0.3
QIS Mount Isa 19.64 135 P P 21 58 54.0 -0.8
comp=Z,0.0nmcomp=Z,1μm,0.9s
QIS Mount Isa 19.64 135 P P 21 58 53.9 -0.8
BLSI Bandar Lampung 19.68 273 P P 21 58 55.3 +0.2
PMBI Palembang 20.51 280 P P 21 59 04.5 +1.9
PMBI Palembang 20.51 280 P P 21 59 04.9 +2.3
PMBI Palembang 20.51 280 P P 21 59 05.4 +2.8
comp=Z,6μmcomp=Z,18μmcomp=Z,2μm,1.0s
MEEK Meekatharra 20.57 196 P P 21 59 02.5 -0.5
comp=Z,0.0nmcomp=Z,1μm,0.9s
MEEK Meekatharra 20.57 196 P P 21 59 02.6 -0.4
MDSI Maura Dua 20.83 275 P P 21 59 05.1 -0.4
LWLI Liwa 20.89 274 P P 21 59 05.9 -0.3
comp=Z,224nm,1.0s
TGY Tagaytay City 21.22 349 P P 21 59 09.7 +0.6
comp=Z,2μm,0.8s,baz=280,slow=1.2,SNR=50
TGY ScP **ScP 22 05 35.9 +0.1**
comp=Z,1μm,1.1s,baz=312,slow=8.2,SNR=3.2
comp=Z,2μm,0.8s
TPRI Tanjung Pinang 21.83 290 P P 21 59 15.7 +1.2
MTSU Mount Surprise 21.92 122 P P 21 59 14.8 -0.6
comp=Z,406nm,0.8s
MTSU Mount Surprise 21.92 122 P P 21 59 14.7 -0.6
MNAI Manna 22.06 275 P P 21 59 16.8 +0.3
MNAI Manna 22.06 275 P P 21 59 18.1 +1.5
MNAI Manna 22.06 275 P P 21 59 16.6 0.0
comp=Z,447nm,1.1s
PMG Port Moresby 22.10 98 P P 21 59 16.0 -0.9
PMG Port Moresby 22.10 98 P P 21 59 16.3 -0.6
comp=Z,230nm,0.8s,baz=289,slow=5.8,SNR=59
PMG ScP **ScP 22 05 38.4 +0.4**
comp=Z,142nm,1.0s,baz=350,slow=3.7,SNR=11
comp=Z,230nm,0.8s
PMG Port Moresby 22.10 98 P P 21 59 16.6 -0.3
PMG Port Moresby 22.10 98 P P 21 59 16.3 -0.6
PMG Port Moresby 22.10 98*c iP* P 21 59 16.3 -0.6
PMG pmax pmax
comp=Z,172nm,1.4s
PMG Port Moresby 22.10 98 ⇑P P 21 59 15.8 -1.1
KSI Kapahiang 22.52 277 P P 21 59 21.9 +1.1
comp=Z,6μmcomp=Z,249nm,0.8s
MYKOM Kota Tinggi 22.78 291 P P 21 59 23.6 +0.6
MYKOM Kota Tinggi 22.78 291 P P 21 59 23.0 0.0
MYKOM Kota Tinggi 22.78 291 ⇑P P 21 59 24.9 +1.9
MANU Manus Island 22.82 79 P P 21 59 22.8 -0.6
OOD Oodnadatta 23.15 155 P P 21 59 25.8 -0.3
MORW Morawa 23.63 200 P P 21 59 29.9 -0.5
MORW Morawa 23.63 200 P P 21 59 30.1 -0.3
comp=Z,193nm,1.3s
MORW Morawa 23.63 200 P P 21 59 29.9 -0.5
MORW Morawa 23.63 200 ⇑P P 21 59 29.0 -1.4
FORT Forrest 23.95 173 P P 21 59 32.8 -0.5
FORT Forrest 23.95 173 P P 21 59 32.9 -0.3
comp=Z,0.0nmcomp=Z,2μm,0.7s
FORT Forrest 23.95 173 P P 21 59 33.0 -0.2
FORT Forrest 23.95 173 ⇓P P 21 59 32.7 -0.5
TV1H Townsville Har 24.52 122 P P 21 59 38.1 -0.3
SZP Santa 24.68 350 P P 21 59 40.3 +0.6
BLDU Ballidu 24.86 197 P P 21 59 40.6 -0.6
comp=Z,502nm,0.8s
BLDU Ballidu 24.86 197 P P 21 59 40.8 -0.4
DLV Lat 24.87 319 P P 21 59 41.9 +0.1
DLV Lat 24.87 319 P P 21 59 43.8 +2.1
DLV Lat 24.87 319 ⇑P P 21 59 42.4 +0.7
BKNI Bangkinang 24.93 286 P P 21 59 42.1 0.0
BKNI Bangkinang 24.93 286 P P 21 59 41.9 -0.2
BKNI Bangkinang 24.93 286 P P 21 59 43.2 +1.1
PPI Padang Panjang 25.34 284 P P 21 59 46.2 +0.5
comp=Z,9μmcomp=Z,105nm,0.8s
KLBR Kellerberrin 25.50 194 P P 21 59 47.2 +0.3
INKA Innaminka 25.58 146 P P 21 59 48.7 +1.1
MUN Mundaring 26.28 197 P P 21 59 53.7 -0.1
comp=Z,0.0nmcomp=Z,280nm,0.8s
MUN Mundaring 26.28 197 P P 21 59 52.9 -0.9
MTKN Mount Kenneth 26.37 198 P P 21 59 57.4 +2.9
MTKN Mount Kenneth 26.37 198 P P 21 59 54.4 -0.1
SISI Saibi 26.39 281 P P 21 59 55.1 +0.1
MNSI Mandailing Nat 26.47 286 P P 21 59 55.8 +0.2
comp=Z,11μmcomp=Z,159nm,0.9s
LCRK Leigh Creek 26.54 154 P P 21 59 55.7 -0.3
QLP Quilpie 26.83 139 P P 21 59 59.2 +0.5
comp=Z,0.0nmcomp=Z,3μm,0.7s
QLP Quilpie 26.83 139 P P 21 59 59.0 +0.3
QLP Quilpie 26.83 139 ⇑P P 21 59 58.9 +0.3
NWAO Narrogin (SRO) 26.90 195 P P 21 59 59.1 -0.1
NWAO Narrogin (SRO) 26.90 195 P P 21 59 59.4 +0.2
NWAO S **S 22 03 56.0 -1.6**
NWAO Narrogin (SRO) 26.90 195 P P 21 59 58.7 -0.5
NWAO Narrogin (SRO) 26.90 195 P P 21 59 59.1 -0.1
KULM Kulim 27.12 296 P P 22 00 01.1 -0.3
KULM Kulim 27.12 296 P P 22 00 01.2 -0.3
KULM Kulim 27.12 296 ⇓P P 22 00 01.1 -0.3
RABL Rabaul 27.18 86 P P 22 00 01.1 -0.9
RABL Rabaul 27.18 86 ⇑P P 22 00 00.9 -1.1
PBSI Pulau Batu 27.48 283 P P 22 00 04.5 -0.1
comp=Z,12μmcomp=Z,3μmcomp=Z,247nm,1.6s
RPSI Rantau Prapat 27.69 289 P P 22 00 05.9 -0.5
PSI Prapat 27.73 289 P P 22 00 06.6 -0.3
PSI Prapat 27.73 289 P P 22 00 05.9 -1.0
BBOO Buckleboo 27.79 160 P P 22 00 06.4 -0.6
BBOO Buckleboo 27.79 160 P P 22 00 06.7 -0.3
comp=Z,0.0nmcomp=Z,918nm,0.7s
BBOO Buckleboo 27.79 160 P P 22 00 06.4 -0.6
TSI Tuntungan 28.31 291 P P 22 00 12.3 +0.5
comp=Z,6μmcomp=Z,5μmcomp=Z,252nm,1.3s
GUMO Guam 28.34 44 P P 22 00 11.2 -0.8
GUMO Guam 28.34 44 P P 22 00 11.7 -0.3
comp=Z,305nm,0.4s,baz=230,slow=1.4,SNR=32
GUMO S **S 22 04 14.7 -5.7**
comp=Z,178nm,0.8s,baz=142,slow=22,SNR=8.7
comp=Z,305nm,0.4s
GUMO Guam 28.34 44 P P 22 00 12.1 +0.1
GUMO Guam 28.34 44 ⇑P P 22 00 11.4 -0.6
GSI Gunungsitoli 28.53 286 P P 22 00 13.2 -0.5
GSI Gunungsitoli 28.53 286 P P 22 00 14.4 +0.7
GSI Gunungsitoli 28.53 286 P P 22 00 13.6 -0.1
comp=Z,8μmcomp=Z,3μmcomp=Z,172nm,0.8s
WHYH Whyalla 28.54 157 P P 22 00 13.3 -0.2
RKGY Rocky Gully 28.57 194 P P 22 00 14.9 +1.2
comp=Z,394nm,0.8s
PTPS Port Pirie 28.82 157 P P 22 00 15.7 -0.2
UBPT Khong Chiam 29.30 319 P P 22 00 20.4 +0.1
UBPT Khong Chiam 29.30 319 P P 22 00 20.8 +0.5
UBPT Khong Chiam 29.30 319 ⇓P P 22 00 22.0 +1.7
STKA Stephens Creek 29.31 150 P P 22 00 20.0 -0.2
STKA Stephens Creek 29.31 150 P P 22 00 20.2 0.0
comp=Z,0.0nmcomp=Z,8μm,0.7s
STKA Stephens Creek 29.31 150 P P 22 00 20.2 0.0
comp=Z,2μm,0.7s,baz=320,slow=9.4,SNR=1128
STKA S **S 22 04 31.8 -3.3**
comp=Z,132nm,1.0s,baz=306,slow=12,SNR=3.6
STKA ScP **ScP 22 05 58.0 -0.9**
comp=Z,72nm,0.7s,baz=327,slow=10.0,SNR=3.3
comp=Z,2μm,0.7s
STKA Stephens Creek 29.31 150 P P 22 00 20.2 0.0
STKA Stephens Creek 29.31 150*c iP* P 22 00 20.0 -0.2
HTT Hallett 29.42 156 P P 22 00 21.1 -0.1
HTT Hallett 29.42 156 ⇑P P 22 00 21.4 +0.1
SRIT Nakonsritamara 29.60 301 P P 22 00 23.0 0.0
SRIT Nakonsritamara 29.60 301 P P 22 00 23.7 +0.7
QIZ Qiongzhong 29.75 330 P P 22 00 24.0 -0.2
QIZ IAmb IAmb 22 00 26.9
comp=Z,413nm,1.1s
QIZ Qiongzhong 29.75 330 ⇓*iP* P 22 00 25.5 +1.3
QIZ sP **sP 22 02 54.1 -4.9**
QIZ S **S 22 04 45.2 +3.1**
QIZ ScP **ScP 22 06 02.4 +1.9**
QIZ ScS **ScS 22 09 59.9 +2.7**
QIZ pmax pmax
comp=Z,360nm,1.0s
QIZ pmax pmax
comp=Z,3μm,3.5s
QIZ Qiongzhong 29.75 330 P P 22 00 25.3 +1.1
TWGBT Beinan 29.76 353 P P 22 00 22.5 -1.7
TWG Pinlang 29.76 353 P P 22 00 21.6 -2.6
RMQ Roma 29.88 133 P P 22 00 26.0 +0.8
comp=Z,123nm,1.8s
RMQ Roma 29.88 133 P P 22 00 25.1 -0.1
SNSI Sinabang, Aceh 30.05 287 P P 22 00 27.4 +0.5
comp=Z,6μmcomp=Z,409nm,1.4s
GD1S Gladstone Soft 30.27 127 P P 22 00 28.6 0.0
TPUB Ta-pu 30.29 352 P P 22 00 27.8 -1.0
YULB Yu-li 30.30 353 P P 22 00 25.9 -2.9
YULB IAmb IAmb 22 00 32.5
comp=Z,270nm,0.8s
YULB Yu-li 30.30 353 P P 22 00 27.1 -1.7
LHMI Lhok Sumawe 30.45 293 P P 22 00 28.9 -1.4
LHMI IAmb IAmb 22 02 08.7
comp=Z,554nm,1.3s
LHMI Lhok Sumawe 30.45 293 P P 22 00 30.8 +0.5
LHMI Lhok Sumawe 30.45 293 P P 22 00 30.0 -0.3
comp=Z,10μmcomp=Z,5μmcomp=Z,255nm,0.7s
LHMI Lhok Sumawe 30.45 293 ⇓P P 22 00 30.0 -0.3
MLSI Meulaboh, Aceh 30.59 290 P P 22 00 30.4 -1.2
comp=Z,7μmcomp=Z,5μmcomp=Z,353nm,1.2s
GHSS Government Hou 30.60 158 P P 22 00 30.9 -0.4
SSLB Suanglung 30.73 353 P P 22 00 30.4 -2.1
SSLB Suanglung 30.73 353 P P 22 00 31.5 -1.1
HKPS Hong Kong Po S 30.86 340 P P 22 00 33.1 -0.5
HKC Hong Kong Obse 30.87 340 ⇑P P 22 00 34.0 +0.3
EIDS Eidsvold 30.98 129 P P 22 00 33.5 -1.2
EIDS Eidsvold 30.98 129 P P 22 00 33.1 -1.7
EIDS Eidsvold 30.98 129 P P 22 00 33.8 -0.9
EIDS Eidsvold 30.98 129 ⇓P P 22 00 33.1 -1.7
NACB Ninganchiao 31.04 354 P P 22 00 33.6 -1.5
YOJ Yonaguni jima 31.20 357 P P 22 00 35.8 -0.7
YOJ Yonaguni jima 31.20 357 P P 22 00 37.0 +0.4
YOJ Yonaguni jima 31.20 357 P P 22 00 35.8 -0.7
YOJ pmax pmax
comp=Z,1μm,1.0s
YOJ Yonaguni jima 31.20 357 ⇓P P 22 00 36.1 -0.5
CMSA Cobar Meteorol 31.25 144 P P 22 00 37.4 +0.5
comp=Z,0.0nmcomp=Z,1μm,0.8s
CMSA Cobar Meteorol 31.25 144 P P 22 00 37.0 +0.1
JMJ Miyako jima 2 31.50 1 P P 22 00 39.5 +0.4
NAYO Nakonayok 31.53 312 P P 22 00 41.4 +1.9
YHNB Yeheng 31.55 354 P P 22 00 38.5 -1.1
TATO Taipei 31.84 354 P P 22 00 40.1 -1.9
TATO Taipei 31.84 354 P P 22 00 40.6 -1.4
TATO Taipei 31.84 354 P P 22 00 42.2 +0.2
TATO Taipei 31.84 354 P P 22 00 40.9 -1.1
TATO ScP **ScP 22 06 07.8 +0.4**
GZH Guangzhou 31.88 339 P P 22 00 46.0 +3.7
GZH pP **pP 22 02 17.9 +3.8**
GZH sP **PcP 22 03 17.2 +1.0**
GZH S **S 22 05 20.3 +5.7**
GZH ScP **ScP 22 06 10.4 +2.8**
GZH SS **SS 22 08 12.7 -12**
GZH pmax pmax
comp=Z,740nm,0.6s
GZH pmax pmax
comp=Z,8μm,3.3s
BSI Banda Aceh 32.07 292 P P 22 00 42.3 -1.9
comp=Z,3μmcomp=Z,205nm,1.6s
QZH Quanzhou 32.23 349 ⇓*iP* P 22 00 45.8 +0.5
QZH pP **pP 22 02 19.0 +2.0**
QZH sP **sP 22 03 23.9 +3.2**
QZH S **S 22 05 18.5 -1.4**
QZH ScP **ScP 22 06 09.9 +1.1**
QZH SS SS 22 08 13.4 -17
QZH pmax pmax
comp=Z,650nm,1.2s
QZH pmax pmax
comp=Z,7μm,3.2s
NONG Nongkai 32.84 319 P P 22 00 50.8 +0.2
JMZ Minamidaito 2 33.06 10 P P 22 00 52.3 0.0
JMZ Minamidaito 2 33.06 10 P P 22 00 53.2 +0.9
JMZ Minamidaito 2 33.06 10 ⇓P P 22 00 53.4 +1.0
SRDT SRDT 33.21 309 P P 22 00 55.5 +1.8
ARPS Mount Arapiles 33.50 155 P P 22 00 56.3 +0.3
comp=Z,3μm,0.7s
ARPS Mount Arapiles 33.50 155 P P 22 00 56.4 +0.5
AUWSH Wavell State H 33.55 131 P P 22 00 56.9 +0.5
JOW Kunigami 33.66 5 P P 22 00 56.9 -0.5
JOW Kunigami 33.66 5 P P 22 00 57.0 -0.4
comp=Z,569nm,0.9s,baz=195,slow=7.0,SNR=92
JOW ScP **ScP 22 06 14.4 +0.6**
comp=Z,241nm,1.3s,baz=175,slow=2.5,SNR=13
comp=Z,569nm,0.9s
JOW Kunigami 33.66 5 P P 22 00 58.6 +1.2
JOW Kunigami 33.66 5 ⇓P P 22 00 57.0 -0.4
MGBR Mount Gambier 33.82 157 P P 22 00 59.0 +0.4
ARMA Armidale 34.26 137 P P 22 01 03.2 +0.6
ARMA Armidale 34.26 137 P P 22 01 03.8 +1.2
comp=Z,0.0nmcomp=Z,1μm,0.8s
ARMA Armidale 34.26 137 P P 22 01 03.8 +1.2
ARMA Armidale 34.26 137 ⇑P P 22 01 03.5 +1.0
GC1S Gold Coast 1 S 34.31 132 P P 22 01 04.4 +1.6
TATA Tatamba Isabel 34.54 95 P P 22 01 03.4 -1.6
SAVO Savo Central 34.56 96 P P 22 01 03.6 -1.6
HNR Honiara 34.70 97 P P 22 01 04.8 -1.5
HNR Honiara 34.70 97 P P 22 01 07.0 +0.7
HNR Honiara 34.70 97 P P 22 01 04.8 -1.5
HNR pmax pmax
comp=Z,4μm,1.4s
HNR Honiara 34.70 97 ⇑P P 22 01 05.2 -1.1
HNR Honiara 34.70 97 P P 22 01 06.0 -0.3
HNR ScP **ScP 22 06 19.0 +1.1**
YNG Young 34.81 145 P P 22 01 07.3 +0.3
SLVN Son La 34.84 324 P P 22 01 07.7 +0.2
SLVN IAmb IAmb 22 01 11.2
comp=Z,362nm,1.0s
SLVN Son La 34.84 324 P P 22 01 07.8 +0.4
NGOA Tingoa Renbel 34.92 100 P P 22 01 06.9 -1.2
GULI GuiLin 34.99 337 ⇓*iP* P 22 01 09.8 +1.2
GULI pP **pP 22 02 41.5 -0.6**
GULI PP **PP 22 02 51.9 -0.2**
GULI PcP **PcP 22 03 22.7 -2.5**
GULI S **S 22 06 03.2 +1.5**
GULI sS **sS 22 08 57.2 +4.4**
GULI pmax pmax
comp=Z,1μm,1.2s
GULI pmax pmax
comp=Z,6μm,10.3s
ALEG Aligegeo Malai 35.42 95 P P 22 01 11.8 -0.5
MGCD Mangrove Creek 35.69 141 P P 22 01 15.9 +1.6
comp=Z,536nm,0.7s
MGCD Mangrove Creek 35.69 141 P P 22 01 15.1 +0.8
MLBS Spotswood, Mel 35.73 152 P P 22 01 14.6 +0.2
GEXS Deakin Univers 35.76 154 P P 22 01 14.6 -0.1
TOO Toolangi 35.80 152 P P 22 01 15.9 +0.8
TOO IAmb IAmb 22 01 19.1
comp=Z,246nm,0.9s
TOO Toolangi 35.80 152 P P 22 01 16.5 +1.4
comp=Z,0.0nmcomp=Z,377nm,1.0s
TOO Toolangi 35.80 152 P P 22 01 15.9 +0.8
TOO pmax pmax
comp=Z,246nm,1.0s
TOO Toolangi 35.80 152 ⇑P P 22 01 16.2 +1.1
SYDH Sydney Hard Ro 35.83 142 P P 22 01 16.1 +0.7
NTLH Newcastle Hard 35.87 140 P P 22 01 15.8 +0.1
CAN Canberra 35.90 145 P P 22 01 17.1 +1.1
CAN Canberra 35.90 145 P P 22 01 17.0 +1.1
comp=Z,0.0nmcomp=Z,2μm,1.0s
CAN Canberra 35.90 145 P P 22 01 16.7 +0.7
CAN Canberra 35.90 145 P P 22 01 17.1 +1.1
CAN pmax pmax
comp=Z,1μm,0.7s
CAN Canberra 35.90 145 ⇑P P 22 01 16.7 +0.7
CAN Canberra 35.90 145 P P 22 01 17.2 +1.2
CAN pP **pP 22 02 52.2 +2.0**
PATS Pohnpei 35.94 68 P P 22 01 15.6 -0.9
PATS IAmb IAmb 22 01 18.8
comp=Z,499nm,1.1s
PATS Pohnpei 35.94 68 P P 22 01 17.2 +0.6
CM31 Chiang Mai Arr 35.96 315 P P 22 01 17.2 +0.5
CM31 PcP **PcP 22 03 29.4 +1.2**
CM31 Chiang Mai Arr 35.96 315 P P 22 01 17.5 +0.8
SNR=102
CM31 P **P 22 01 17.5 +0.8**
SNR=102
CM31 S **S 22 06 17.0 +0.6**
CM31 S **S 22 06 17.0 +0.6**
CMAR Chiang Mai Arr 35.96 315 P P 22 01 17.2 +0.5
comp=Z,78nm,0.6s,baz=144,slow=6.9,SNR=236
CMAR PcP **PcP 22 03 30.1 +1.9**
comp=Z,44nm,0.9s,baz=174,slow=2.5,SNR=9.9
CMAR S **S 22 06 18.7 +2.2**
comp=Z,69nm,1.1s,baz=143,slow=15,SNR=5.1
CMAR ScP **ScP 22 06 24.5 +2.1**
comp=Z,124nm,1.1s,baz=129,slow=4.1,SNR=19
CMAR ScS **ScS 22 10 29.4 -0.7**
comp=Z,0.6nm,0.3s,baz=151,slow=4.7,SNR=4.4
comp=Z,78nm,0.6s
CMAR Chiang Mai Arr 35.96 315*ceP* P 22 01 17.2 +0.5
CMAR pmax pmax
comp=Z,96nm,0.6s
CNB Canberra Magne 36.10 145 P P 22 01 18.4 +0.7
comp=Z,0.0nmcomp=Z,860nm,0.9s
CNB Canberra Magne 36.10 145 P P 22 01 17.3 -0.4
RIV Riverview 36.13 141 P P 22 01 20.7 +2.8
RIV Riverview 36.13 141 P P 22 01 18.6 +0.7
RIV Riverview 36.13 141 ⇑P P 22 01 19.6 +1.7
CHTO Chiang Mai 36.20 315 P P 22 01 18.8 +0.1
CHTO PcP **PcP 22 03 30.2 +1.3**
CHTO Chiang Mai 36.20 315 S S 22 06 19.6 -0.5
CHTO Chiang Mai 36.20 315 P P 22 01 18.8 +0.1
CHTO Chiang Mai 36.20 315 ⇓P P 22 01 19.1 +0.4
CHTO Chiang Mai 36.20 315 P P 22 01 19.2 +0.5
CHTO PcP **PcP 22 03 30.4 +1.5**
CHTO Chiang Mai 36.20 315 P P 22 01 19.1 +0.4
CHTO S **S 22 06 21.0 +1.0**
CRAI Chiangrai 36.21 319 P P 22 01 19.0 +0.2
CRAI IAmb IAmb 22 01 22.1
comp=Z,385nm,1.0s
WOLH Wollongong Har 36.35 142 P P 22 01 20.6 +0.9
CNSH ChangSha 36.74 342 P P 22 01 23.2 +0.2
CNSH S **S 22 06 30.4 +2.6**
CNSH pmax pmax
comp=Z,840nm,1.2s
PBA Port Blair 36.98 300 P P 22 01 24.7 -0.4
PBA IAmb IAmb 22 01 26.6
comp=Z,369nm,1.4s
PBA Port Blair 36.98 300 P P 22 01 24.9 -0.2
SNR=9.8
PBA Port Blair 36.98 300 ⇑P P 22 01 24.9 -0.2
MILA Mila 37.25 147 P P 22 01 28.5 +1.4
comp=Z,115nm,1.5s
MILA Mila 37.25 147 ⇑P P 22 01 28.5 +1.4
GYA Guiyang 37.60 333 ⇑P P 22 01 32.1 +1.9
GYA S **S 22 06 40.8 0.0**
GYA pmax pmax
comp=Z,840nm,1.1s
JCJ Chichijima 37.66 26 P P 22 01 30.2 -0.3
JCJ PcP **PcP 22 03 33.9 +0.6**
JCJ Chichijima 37.66 26 P P 22 01 29.4 -1.1
comp=Z,1μm,0.5s,baz=206,slow=1.5,SNR=57
JCJ S **S 22 06 37.7 -3.7**
comp=Z,532nm,0.9s,baz=130,slow=23,SNR=18
comp=Z,1μm,0.5s
JCJ Chichijima 37.66 26 P P 22 01 30.1 -0.3
JCJ Chichijima 37.66 26 ⇑P P 22 01 29.3 -1.1
SSE Sheshan 37.93 355 P P 22 01 34.1 +1.5
SSE PP **PP 22 03 17.3 -0.1**
SSE S **S 22 06 46.2 +1.0**
SSE pmax pmax
comp=Z,500nm,0.9s
SSE pmax pmax
comp=Z,3.0nm,2.6s
SSE Sheshan 37.93 355 P P 22 01 34.0 +1.4
SSE pP **pP 22 03 10.0 +2.3**
SSE PcP **PcP 22 03 35.4 +1.4**
SSE ScP **ScP 22 06 29.9 +0.5**
KMI Kunming 38.47 327 ⇓P P 22 01 38.7 +1.3
KMI pP pP 22 03 16.9 +3.9
KMI ScP **ScP 22 06 34.4 +2.4**
KMI S **S 22 06 56.6 +2.7**
KMI SS **SS 22 10 09.2 -5.5**
KMI pmax pmax
comp=Z,650nm,1.4s
KMI pmax pmax
comp=Z,5μm,3.9s
KMI Kunming 38.47 327 P P 22 01 38.8 +1.3
KMI PcP **PcP 22 03 38.1 +1.8**
KMI ScP **ScP 22 06 34.4 +2.4**
WHN Wuhan 38.58 345 ⇓P P 22 01 38.5 +0.6
WHN pP **pP 22 03 18.1 +4.4**
WHN PP **PP 22 03 26.0 +1.8**
WHN PcP **PcP 22 03 37.2 +1.1**
WHN ScP **ScP 22 06 33.0 +1.0**
WHN S **S 22 06 55.6 +0.8**
WHN SS **SS 22 10 01.3 -14**
WHN ScS **ScS 22 10 45.7 +1.1**
WHN pmax pmax
comp=Z,4μm,1.0s
WHN pmax pmax
comp=Z,19μm,3.5s
NJ2 Nanjing 39.15 352 ⇓P P 22 01 42.7 +0.3
NJ2 pP **pP 22 03 23.8 +5.2**
NJ2 ScP **ScP 22 06 35.4 +1.2**
NJ2 S **S 22 07 04.1 +1.0**
NJ2 pmax pmax
comp=Z,3μm,0.9s
NJ2 pmax pmax
comp=Z,5μm,5.3s
CORO Coronation Par 39.68 154 P P 22 01 47.5 +0.9
GLAD Gladstone 39.69 152 P P 22 01 46.9 +0.2
ENH Enshi 39.81 339 P P 22 01 47.6 -0.2
ENH Enshi 39.81 339 P P 22 01 47.7 -0.2
ENH Enshi 39.81 339 P P 22 01 47.9 0.0
ENH ScP **ScP 22 06 37.5 +0.7**
PZH PanZhiHua 40.11 327 P P 22 01 50.5 0.0
PZH pP **pP 22 03 32.5 +5.4**
PZH PP **PcP 22 03 41.2 -0.2**
PZH sP **sP 22 04 32.2 +3.1**
PZH ScP **ScP 22 06 39.5 +1.2**
PZH S **S 22 07 17.3 -0.3**
PZH ScS **ScS 22 10 54.9 +0.6**
PZH pmax pmax
comp=Z,460nm,0.6s
PZH pmax pmax
comp=Z,4μm,3.7s
LHI Lord Howe Isla 40.17 132 P P 22 01 50.8 0.0
LHI Lord Howe Isla 40.17 132 P P 22 01 50.6 -0.1
comp=Z,0.0nmcomp=Z,920nm,1.2s

LHI	Lord Howe Isla	40.17	132	⇑P	P	22 01 50.9 +0.2
JNU	Nakatsue	40.17	8	P	P	22 01 49.9 -0.8
JNU	Nakatsue	40.17	8	P	P	22 01 49.6 -1.1
	comp=Z,443nm,1.0s,baz=225,slow=2.3,SNR=83					
JNU				ScP	ScP	22 06 38.4 +0.1
	comp=Z,49nm,1.2s,baz=63,slow=3.9,SNR=5.5					
	comp=Z,443nm,1.0s					
JNU	Nakatsue	40.17	8	P	P	22 01 50.2 -0.5
JNU	Nakatsue	40.17	8	⇓P	P	22 01 49.9 -0.8
KOUNC	Koumac, New Ca	40.41	114	P	P	22 01 52.5 -0.3
KOUNC	Koumac, New Ca	40.41	114	⇑P	P	22 01 52.2 -0.6
MOO	Moorlands	40.50	154	P	P	22 01 54.3 +1.1
	comp=Z,0.0nmcomp=Z,284nm,0.9s					
MOO	Moorlands	40.50	154	P	P	22 01 54.2 +1.0
LUES	Luesalemba Tem	40.61	98	P	P	22 01 54.3 -0.2
TNCH	TengChong	40.86	322	⇓P	P	22 01 56.9 +0.4
TNCH				pP	pP	22 03 34.3 +0.3
TNCH				PP	PP	22 03 46.0 -0.1
TNCH				sP	sP	22 04 34.2 -2.3
TNCH				ScP	ScP	22 06 43.3 +2.0
TNCH				S	S	22 07 31.1 +2.5
TNCH				sS	sS	22 10 24.4 0.0
TNCH				ScS	ScS	22 11 01.9 +2.9
TNCH				pmax	pmax	
	comp=Z,860nm,1.2s					
TNCH				pmax	pmax	
	comp=Z,5μm,3.4s					
TAU	Tasmania Unive	40.94	155	P	P	22 01 57.5 +0.9
TAU				IAmb	IAmb	22 02 00.2
	comp=Z,834nm,1.4s					
TAU	Tasmania Unive	40.94	155	P	P	22 01 57.3 +0.7
TAU	Tasmania Unive	40.94	155	P	P	22 01 57.5 +0.9
TAU				pmax	pmax	
	comp=Z,834nm,1.5s					
TAU	Tasmania Unive	40.94	155	P	P	22 01 57.6 +1.0
TAU				PcP	PP	22 03 45.0 -1.3
TAU				ScP	ScP	22 06 40.6 -0.5
JMN	Monobe	41.25	11	P	P	22 01 59.7 +0.4
JMN	Monobe	41.25	11	P	P	22 01 59.9 +0.6
JMN	Monobe	41.25	11	⇑P	P	22 02 00.0 +0.6
JTU	Tsushima	41.39	6	P	P	22 02 00.6 +0.3
JTU	Tsushima	41.39	6	⇑P	P	22 02 00.9 +0.7
JHJ2	Mitsune	42.19	19	P	P	22 02 07.2 +0.5
SANVU	Saraoutou	42.22	105	P	P	22 02 07.3 0.0
SANVU				PcP	PcP	22 03 48.9 +0.4
SANVU				ScP	ScP	22 06 48.3 +1.5
VLAKA	Lakatoro	42.51	106	P	P	22 02 09.4 -0.1
NOUC	Port Laguerre	42.61	115	P	P	22 02 09.6 -0.5
NOUC				PP	PP	22 04 03.2 +1.3
NOUC				ScP	ScP	22 06 50.8 +2.5
CD2	Chengdu	42.72	333	P	P	22 02 10.5 -0.4
CD2				pP	pP	22 03 48.7 -0.4
CD2				PP	PP	22 04 04.4 +1.5
CD2				sP	sP	22 04 54.4 +4.0
CD2				ScP	ScP	22 06 50.2 +1.7
CD2				S	S	22 07 53.2 -1.7
CD2				ScS	ScS	22 11 10.3 +0.2
CD2				pmax	pmax	
	comp=Z,100nm,0.4s					
CD2				pmax	pmax	
	comp=Z,8μm,2.9s					
DZM	Mont Dzumac	42.73	115	P	P	22 02 10.6 -0.5
DZM				IAmb	IAmb	22 02 13.9
	comp=Z,516nm,1.1s					
DZM	Mont Dzumac	42.73	115	P	P	22 02 10.7 -0.5
DZM	Mont Dzumac	42.73	115	P	P	22 02 11.0 -0.2
DZM				PP	PP	22 04 05.2 +2.2
ONTNC	Ouen Toro	42.79	115	P	P	22 02 11.9 +0.3
ONTNC	Ouen Toro	42.79	115	P	P	22 02 12.4 +0.8
ONTNC	Ouen Toro	42.79	115	⇑P	P	22 02 12.1 +0.5
LYN	LuoYang	42.87	345	⇓*i*P	P	22 02 11.3 -0.6
LYN				pP	pP	22 03 52.7 +2.1
LYN				PP	PP	22 04 04.0 -0.1
LYN				ScP	ScP	22 06 50.4 +1.4
LYN				S	S	22 07 55.8 -1.0
LYN				ScS	ScS	22 11 12.5 +1.7
LYN				pmax	pmax	
	comp=Z,2μm,1.4s					
LYN				pmax	pmax	
	comp=Z,2μm,5.8s					
TJN	Taejon	43.08	3	P	P	22 02 13.3 -0.3
TJN	Taejon	43.08	3	P	P	22 02 14.7 +1.2
TJN	Taejon	43.08	3	*d*i*P*	P	22 02 14.1 +0.6
YATNC	Mamie plateau,	43.13	115	P	P	22 02 14.5 +0.3
JSG	Sagara	43.17	16	P	P	22 02 15.4 +1.2
JSG				IAmb	IAmb	22 02 16.7
	comp=Z,436nm,1.1s					
JSG	Sagara	43.17	16	P	P	22 02 15.9 +1.6
JSG	Sagara	43.17	16	⇓P	P	22 02 15.9 +1.6
OUENC	Ouen Island, N	43.17	116	P	P	22 02 14.3 -0.2
XAN	Xi'an	43.44	340	⇓P	P	22 02 15.6 -0.9
XAN				pP	PcP	22 03 53.7 +1.4
XAN				PP	PP	22 04 13.6 +4.2
XAN				S	S	22 08 01.9 -3.2
XAN				sS	sS	22 11 02.0 -1.3
XAN				SS	SS	22 11 27.3 -7.7
XAN				pmax	pmax	
	comp=Z,2μm,1.0s					
XAN				pmax	pmax	
	comp=Z,7μm,4.4s					
XAN	Xi'an	43.44	340	P	P	22 02 15.7 -0.7
XAN				ScP	ScP	22 06 52.5 +1.1
DVP	Devils Point	43.47	108	P	P	22 02 16.6 -0.3
TIA	Tai'an	43.49	351	P	P	22 02 15.7 -1.0
TIA				pP	PcP	22 03 50.9 -1.5
TIA				PcP	pP	22 03 54.2 -1.6
TIA				PP	PP	22 04 09.4 -0.4
TIA				ScP	ScP	22 06 52.8 +1.3
TIA				PcS	PcS	22 07 47.8 +1.7
TIA				S	S	22 08 03.4 -2.2
TIA				sS	sS	22 11 05.6 +1.8
TIA				ScS	ScS	22 11 16.3 +1.6
TIA				pmax	pmax	
	comp=Z,430nm,1.1s					
TIA				pmax	pmax	
	comp=Z,5μm,5.0s					
INU	Inuyama	43.50	14	P	P	22 02 17.1 +0.3
INU				IAmb	IAmb	22 02 18.9
	comp=Z,524nm,1.5s					
INU	Inuyama	43.50	14	P	P	22 02 17.2 +0.3
INU	Inuyama	43.50	14	⇓P	P	22 02 17.6 +0.7
INU	Inuyama	43.50	14	P	P	22 02 17.7 +0.8
INU				ScP	ScP	22 06 52.3 +0.7
IMP	Imphal	43.67	317	*e*P	P	22 02 13.8 -4.6
PINNC	Pines Island,	43.76	116	P	P	22 02 19.9 +0.8
PINNC				IAmb	IAmb	22 02 23.1
	comp=Z,548nm,1.0s					
PINNC	Pines Island,	43.76	116	P	P	22 02 20.4 +1.3
JGF	Kuroka	43.83	15	P	P	22 02 19.1 -0.3
JGF	Kuroka	43.83	15	P	P	22 02 20.3 +0.9
JGF	Kuroka	43.83	15	⇑P	P	22 02 19.2 -0.3
MARNC	Mare, Loyalty	44.02	114	P	P	22 02 21.6 +0.4
MARNC	Mare, Loyalty	44.02	114	⇑P	P	22 02 22.2 +1.1
INCN	Inchon	44.15	2	P	P	22 02 21.9 0.0
INCN				IAmb	IAmb	22 02 24.9
	comp=Z,612nm,1.1s					
INCN	Inchon	44.15	2	S	S	22 08 17.8 +2.8
INCN	Inchon	44.15	2	P	P	22 02 22.6 +0.7
INCN	Inchon	44.15	2	P	P	22 02 21.9 0.0
INCN				pmax	pmax	
	comp=Z,612nm,1.1s					
INCN	Inchon	44.15	2	⇑P	P	22 02 23.0 +1.1
INCN	Inchon	44.15	2	P	P	22 02 22.6 +0.7
KSAR	Wonju Array Be	44.17	3	P	P	22 02 22.1 +0.2
KSAR	Wonju Array Be	44.17	3	P	P	22 02 22.1 +0.2
KSRS	Korea Array	44.18	3	P	P	22 02 22.4 +0.3
	comp=Z,348nm,0.9s,baz=181,slow=8.4,SNR=249					
KSRS				PcP	PcP	22 03 56.0 +1.3
	comp=Z,50nm,1.0s,baz=186,slow=3.9,SNR=7.6					
KSRS				ScP	ScP	22 06 55.3 +1.0
	comp=Z,56nm,1.1s,baz=187,slow=3.6,SNR=16					
KSRS				PKP2bc		22 34 19.4
	comp=Z,0.9nm,0.7s,baz=14,slow=5.5,SNR=5.4					
	comp=Z,348nm,0.9s					
KS19	Wonju Array Si	44.23	3	P	P	22 02 22.4 0.0
KS19				IAmb	IAmb	22 02 25.4
	comp=Z,368nm,1.0s					
INH	Isangel	44.78	111	P	P	22 02 27.4 +0.4
MAJO	Matsushiro	44.94	15	P	P	22 02 27.1 -0.8
MAJO				IAmb	IAmb	22 02 29.9
	comp=Z,614nm,1.3s					
MAJO	Matsushiro	44.94	15	P	P	22 02 28.2 +0.3
MAJO	Matsushiro	44.94	15	*i*P	P	22 02 28.4 +0.5
MAJO				pmax	pmax	
	comp=Z,297nm,0.9s					
MAJO	Matsushiro	44.94	15	⇑P	P	22 02 26.9 -1.0
MAJO	Matsushiro	44.94	15	P	P	22 02 27.1 -0.8
MAJO				PcP	PcP	22 03 57.8 +0.3
MAJO				PP	PP	22 04 21.9 -1.1
MAJO				ScP	ScP	22 06 57.9 +0.4
MAJO	Matsushiro	44.94	15	P	P	22 02 26.9 -1.0
MAJO				S	S	22 08 24.0 -2.1
MJAR	Matsushiro Arr	44.94	15	P	P	22 02 28.1 +0.1
	comp=Z,369nm,0.9s,baz=186,slow=7.8,SNR=322					
MJAR				PcP	PcP	22 03 57.5 +0.1
	comp=Z,34nm,1.0s,baz=199,slow=4.0,SNR=3.5					
MJAR				ScP	ScP	22 06 57.8 +0.3
	comp=Z,53nm,1.1s,baz=202,slow=5.3,SNR=10.0					
MJAR				S	S	22 08 25.7 -0.4
	comp=Z,4.3nm,1.0s,baz=188,slow=8.3,SNR=1.7					
MJAR				PKP2bc		22 34 15.9
	comp=Z,1.7nm,0.8s,baz=18,slow=4.6,SNR=4.9					
	comp=Z,369nm,0.9s					
HNS	HongShan	45.08	348	⇓P	P	22 02 28.3 -0.6
HNS				PcP	PcP	22 03 59.7 +1.9
HNS				PP	PP	22 04 24.4 +0.2
HNS				ScP	ScP	22 06 59.7 +1.7
HNS				S	S	22 08 25.1 -2.9
HNS				ScS	ScS	22 11 25.2 +0.3
HNS				pmax	pmax	
	comp=Z,1μm,1.2s					
HNS				pmax	pmax	
	comp=Z,6μm,5.4s					
SHL	Shillong	45.55	316	P	P	22 02 32.6 -0.4
SHL				IAmb	IAmb	22 02 35.3
	comp=Z,410nm,0.8s					
SHL	Shillong	45.55	316	P	P	22 02 33.7 +0.7
	SNR=87					
SHL	Shillong	45.55	316	P	P	22 02 32.6 -0.4
SHL				pmax	pmax	
	comp=Z,410nm,0.8s					
DL2	Dalian	45.65	356	P	P	22 02 31.8 -1.5
DL2				ScP	ScP	22 07 00.6 +0.2
DL2				S	S	22 08 34.1 -1.9
DL2				ScS	ScS	22 11 26.6 -2.0
DL2				pmax	pmax	
	comp=Z,1μm,1.1s					
DL2				pmax	pmax	
	comp=Z,6μm,5.0s					
TIY	Taiyuan	45.88	346	P	P	22 02 35.9 +0.7
TIY				pP	pP	22 04 16.5 +1.6
TIY				ScP	ScP	22 07 03.0 +1.5
TIY				S	S	22 08 36.9 -2.4
TIY				sS	sS	22 11 40.6 +0.9
TIY				pmax	pmax	
	comp=Z,370nm,0.7s					
HALK	Hakmana	46.04	285	⇑P	P	22 02 36.5 -0.3
NFK	Norfolk Island	46.08	124	⇑P	P	22 02 38.3 +1.5
PALK	Pallekele	46.35	287	P	P	22 02 39.0 -0.1
PALK				IAmb	IAmb	22 02 41.9
	comp=Z,586nm,1.8s					
PALK				PcP	PcP	22 04 04.3 +1.4
PALK	Pallekele	46.35	287	P	P	22 02 40.5 +1.4
PALK				P	P	22 02 40.5 +1.4
PALK				S	S	22 08 40.2 -6.4
PALK				S	S	22 08 40.2 -6.4
PALK	Pallekele	46.35	287	P	P	22 02 39.0 -0.1
PALK						22 04 04.3
PALK				pmax	pmax	
	comp=Z,586nm,1.8s					
PALK	Pallekele	46.35	287	⇑P	P	22 02 38.8 -0.3
PALK	Pallekele	46.35	287	P	P	22 02 38.8 -0.3
PALK				PcP	PcP	22 04 04.7 +1.8
PALK				ScP	ScP	22 07 05.5 +1.6
PALK	Pallekele	46.35	287	P	P	22 02 38.7 -0.4
PALK				S	S	22 08 43.9 -2.7
JSD	Sado	46.36	15	P	P	22 02 38.2 -0.5
JSD				IAmb	IAmb	22 02 41.4
	comp=Z,273nm,1.0s					
JSD	Sado	46.36	15	P	P	22 02 39.8 +1.1
JSD	Sado	46.36	15	⇑P	P	22 02 38.6 -0.1
MALK	Mahakanadarawa	46.83	288	P	P	22 02 41.8 -0.9
MALK	Mahakanadarawa	46.83	288	⇓P	P	22 02 42.6 -0.1
JMM	Marumori	46.89	17	P	P	22 02 42.8 +0.1
JMM	Marumori	46.89	17	P	P	22 02 43.1 +0.4
JMM	Marumori	46.89	17	⇑P	P	22 02 42.6 -0.1
LZH	Lanzhou	47.12	337	⇓P	P	22 02 45.4 +0.7
LZH				PcP	PcP	22 04 08.2 +2.8
LZH				ScP	ScP	22 07 09.0 +2.1
LZH				S	S	22 08 52.4 -4.5
LZH				ScS	ScS	22 11 39.6 +0.7
LZH				pmax	pmax	
	comp=Z,2μm,1.3s					
LZH				pmax	pmax	
	comp=Z,10μm,4.5s					
BJT	Baijiatuau	47.36	351	P	P	22 02 45.7 -0.5
BJT				IAmb	IAmb	22 02 48.6
	comp=Z,427nm,0.9s					
BJT				PcP	PcP	22 04 07.2 +1.3
BJT	Baijiatuau	47.36	351	P	P	22 02 47.7 +1.5
BJT	Baijiatuau	47.36	351	P	P	22 02 45.7 -0.5
BJT						22 04 07.2
BJT				pmax	pmax	
	comp=Z,427nm,0.9s					
BJT	Baijiatuau	47.36	351	P	P	22 02 45.9 -0.3
BJT				PcP	PcP	22 04 07.3 +1.3
BJT				ScP	ScP	22 07 09.0 +1.4
BJI	Beijing	47.38	351	P	P	22 02 45.5 -0.9
BJI				PcP	PcP	22 04 07.9 +1.9
BJI				pP	pP	22 04 27.4 +0.3
BJI				PP	PP	22 04 48.5 +3.5
BJI				ScP	ScP	22 07 09.0 +1.4
BJI				S	S	22 08 58.4 -1.6
BJI				ScS	ScS	22 11 42.2 +2.2
BJI				pmax	pmax	
	comp=Z,270nm,1.2s					
BJI				pmax	pmax	
	comp=Z,2μm,10.7s					
JPG	JALPAIGURI	48.37	315	*e*P	P	22 02 51.3 -2.8
RAGD	RAYAGADA	48.44	303	*e*P	P	22 02 52.2 -2.5
WAKE	Wake Island	48.59	57	P	P	22 02 56.4 +0.6
WAKE				IAmb	IAmb	22 02 58.2
	comp=Z,477nm,1.4s					
WAKE	Wake Island	48.59	57	P	P	22 02 57.6 +1.9
LSA	Lhasa	48.78	320	P	P	22 02 58.5 +0.9
LSA	Lhasa	48.78	320	P	P	22 02 58.5 +0.9
LSA				S	S	22 09 20.6 +0.1
LSA	Lhasa	48.78	320	P	P	22 02 58.9 +1.4
LSA				P	P	22 02 58.9 +1.4
LSA				S	S	22 09 20.7 +0.3
LSA				S	S	22 09 20.7 +0.3
LSA	Lhasa	48.78	320	P	P	22 02 58.5 +0.9
LSA				pmax	pmax	
	comp=Z,3μm,1.5s					
LSA	Lhasa	48.78	320	P	P	22 02 59.9 +2.3
LSA	Lhasa	48.78	320	P	P	22 02 58.7 +1.1
KNTI	KHUNTI	48.90	309	*e*P	P	22 02 57.3 -0.8
GTK	Tadong	48.93	316	*e*P	P	22 02 58.8 +0.4
H11N1	WAKE ISLAND Hy	48.99	57	P	P	22 02 60.0 +1.6
	baz=232,slow=8.6,SNR=4.1					
H11N2	WAKE ISLAND Hy	49.00	56	P	P	22 03 01.1 +2.6
	baz=232,slow=8.6,SNR=3.2					
H11N3	WAKE ISLAND Hy	49.00	57	P	P	22 03 01.3 +2.8
	baz=232,slow=8.6,SNR=12					
HHC	Hu-ho-hao-te	49.07	347	*e*P	P	22 02 59.9 +0.9
HHC				pP	pP	22 04 41.7 +1.6
HHC				sP	sP	22 05 39.4 -1.0
HHC				S	S	22 09 23.2 -0.1
HHC				sS	sS	22 12 28.1 +1.5
HHC				SS	SS	22 13 02.8 -1.5
HHC				pmax	pmax	
	comp=Z,420nm,1.3s					
BTO	Baotou	49.21	345	⇓*i*P	P	22 03 02.0 +1.9
BTO				pP	pP	22 04 43.6 +2.2
BTO				PP	PP	22 05 05.7 +4.1
BTO				sP	sP	22 05 42.2 +0.7
BTO				S	S	22 09 28.7 +3.4
BTO				pmax	pmax	
	comp=Z,680nm,1.2s					
BTO				pmax	pmax	
	comp=Z,10μm,8.1s					
JHSG	JHARSUGUGA	49.41	306	*e*P	P	22 03 00.6 -1.2
MSHR	Mys Shultsa	49.54	6	*ce*P	P	22 03 02.9 +0.6
MSHR				pmax	pmax	
	comp=Z,526nm,1.0s					
PSTR	Posyet	49.57	6	*i*P	P	22 03 03.4 +0.8
JTM	Tenmabayashi	49.68	16	P	P	22 03 04.1 +0.7
JTM	Tenmabayashi	49.68	16	P	P	22 03 03.7 +0.3
JTM	Tenmabayashi	49.68	16	⇑P	P	22 03 03.5 +0.1
VLA	Vladivostok	50.15	7	*c*i*P*	P	22 03 08.4 +1.6
VLA				pmax	pmax	
	comp=Z,307nm,1.0s					
KOD	Kodaikanal	50.27	289	*e*P	P	22 03 05.8 -2.8
CN2	Changchun	50.44	0	P	P	22 03 08.0 -0.9
CN2				PcP	PcP	22 04 17.4 +0.2
CN2				pP	pP	22 04 51.6 +0.4
CN2				sP	sP	22 05 52.4 +0.9
CN2				ScP	ScP	22 07 20.3 -0.3
CN2				S	S	22 09 42.5 +0.9
CN2				ScS	ScS	22 12 00.9 +0.1
CN2				pmax	pmax	
	comp=Z,140nm,0.6s					
CN2				pmax	pmax	
	comp=Z,4μm,5.0s					
BLSP	Bilaspur	50.92	306	*e*P	P	22 03 12.2 -0.7
BLSP				IAmb	IAmb	22 03 14.1
	comp=Z,164nm,0.6s					
XLT	XiLinHaoTe	51.17	352	*e*P	P	22 03 14.0 -0.4
XLT				pP	pP	22 04 55.4 -1.3
XLT				ScP	ScP	22 07 24.3 +0.3
XLT				S	S	22 09 51.3 -0.4
XLT				ScS	ScS	22 12 02.5 -3.7
XLT				sS	sS	22 12 56.0 -0.9
XLT				SS	SKiKP	22 13 42.1 +1.2
XLT				pmax	pmax	
	comp=Z,950nm,1.1s					
XLT				pmax	pmax	
	comp=Z,6μm,11.6s					
USA0B	Ussuriysk Arra	51.23	6	P	P	22 03 14.8 +0.1
USA0B				IAmb	IAmb	22 03 17.5
	comp=Z,326nm,0.8s					
USA0B	Ussuriysk Arra	51.23	6	P	P	22 03 14.8 +0.1
USA0B				pmax	pmax	
	comp=Z,326nm,0.8s					
USRK	Ussuriysk Ar.	51.23	6	P	P	22 03 14.5 -0.1
	comp=Z,213nm,0.6s,baz=186,slow=4.8,SNR=212					
USRK				ScP	ScP	22 07 24.8 +0.7
	comp=Z,100nm,1.1s,baz=209,slow=3.5,SNR=17					
USRK				PKPPKP	P'P'df	22 33 47.1 +3.9
	comp=Z,4.7nm,0.7s,baz=3.7,slow=4.2,SNR=20					
	comp=Z,213nm,0.6s					
GOMU	GeErMu	51.36	329	P	P	22 03 16.8 +0.6
GOMU				PcP	PcP	22 04 21.8 +0.4
GOMU				S	S	22 09 57.6 +2.6
GOMU				ScS	ScS	22 12 09.1 +0.7
GOMU				SS	SKiKP	22 13 43.8 +2.0
GOMU				pmax	pmax	
	comp=Z,460nm,1.6s					
GOMU				pmax	pmax	
	comp=Z,7μm,8.8s					
ERM	Erimo	51.41	17	P	P	22 03 17.2 +1.2
ERM	Erimo	51.41	17	P	P	22 03 17.6 +1.6
ERM	Erimo	51.41	17	*ce*P	P	22 03 17.7 +1.7
ERM				pmax	pmax	
	comp=Z,242nm,0.8s					
ERM	Erimo	51.41	17	P	P	22 03 17.7 +1.7
ERM				S	S	22 09 55.5 +0.8
JEM	Erimo	51.41	17	P	P	22 03 17.5 +1.5
MDJ	Mudanjiang	51.42	4	P	P	22 03 16.0 0.0
MDJ	Mudanjiang	51.42	4	P	P	22 03 16.3 +0.3
MDJ				ScP	ScP	22 07 25.1 +0.2
MDJ				S	S	22 09 54.6 -0.2
MDJ				ScS	ScS	22 12 07.6 -0.1
MDJ				pmax	pmax	
	comp=Z,93nm,0.9s					
MDJ				pmax	pmax	
	comp=Z,8μm,4.4s					
MDJ	Mudanjiang	51.42	4	P	P	22 03 17.0 +1.0
MDJ	Mudanjiang	51.42	4	P	P	22 03 16.3 +0.3
MDJ				ScP	ScP	22 07 25.8 +0.9
GTA	Gaotai	51.61	335	⇓P	P	22 03 18.7 +1.0
GTA				PcP	PcP	22 04 24.8 +2.9
GTA				sP	sP	22 06 05.9 +5.3
GTA				ScP	ScP	22 07 28.1 +2.1
GTA				S	S	22 09 58.3 +0.5
GTA				ScS	ScS	22 12 09.3 -0.3
GTA				pmax	pmax	
	comp=Z,630nm,1.3s					
GTA				pmax	pmax	
	comp=Z,4μm,10.0s					
HYB	Hyderabad	51.83	298	IVmB_BB		22 03 20.0
	comp=Z,5μm,2.2s					
HYB				⇓*e*P	P	22 03 20.0 +0.5
HYB				*e*PcP	PcP	22 04 23.9 +0.8
HYB				*e*pP	pP	22 05 02.2 -1.1
HYB				*e*PP	PP	22 05 25.1 -0.2
HYB				*e*sP	sP	22 06 01.4 -2.0
HYB				*e*ScP	ScP	22 07 28.9 +1.5
HYB				*e*PcS	PcS	22 08 23.0 +0.5
HYB				*e*		22 09 57.5
HYB				*e*ScS	ScS	22 12 10.5 -1.2
HYB				*e*sS	sS	22 13 07.3 +0.5
VAR	Varanasi	51.85	310	*e*P	P	22 03 17.9 -1.6
H08S2	Diego Garcia H	52.05	266	P	P	22 03 23.2 +2.4
	baz=61,slow=9.5,SNR=11					
H08S3	Diego Garcia H	52.05	266	P	P	22 03 23.3 +2.4
	baz=61,slow=9.5,SNR=14					
H08S1	Diego Garcia H	52.06	266	P	P	22 03 22.7 +1.7
	baz=61,slow=9.5,SNR=5.5					
DGAR	Diego Garcia	52.10	266	P	P	22 03 22.1 +0.7
DGAR	Diego Garcia	52.10	266	P	P	22 03 23.3 +1.8
DGAR				S	S	22 10 09.0 +4.1
DGAR	Diego Garcia	52.10	266	*de*P	P	22 03 23.8 +2.3
DGAR				pmax	pmax	
	comp=Z,371nm,1.0s					
DGAR	Diego Garcia	52.10	266	⇑P	P	22 03 23.2 +1.7
BNX	BinXian	52.42	2	⇓P	P	22 03 21.8 -1.4
BNX				PcP	PcP	22 04 23.8 -0.9
BNX				pP	pP	22 05 05.4 -1.2
BNX				PP	PP	22 05 31.1 +1.1
BNX				S	S	22 10 08.0 -0.1
BNX				pmax	pmax	
	comp=Z,390nm,1.2s					
BNX				pmax	pmax	
	comp=Z,4μm,3.5s					
OUZ	Omahuta	52.72	129	P	P	22 03 25.6 0.0
OUZ	Omahuta	52.72	129	P	P	22 03 26.7 +1.2
OUZ	Omahuta	52.72	129	⇑P	P	22 03 26.8 +1.2
TEY	Ternei	52.72	10	⇑*e*P	P	22 03 25.6 +0.3
TEY				*e*		22 10 12.6
TEY				pmax	pmax	
	comp=N,150nm,1.3s					
TEY				pmax	pmax	
	comp=Z,260nm,1.3s					
TEY				pmax	pmax	
	comp=Z,500nm,5.5s					
TEY				pmax	pmax	
	comp=N,300nm,5.0s					
TEY				pmax	pmax	
	comp=E,100nm,4.7s					
TEY				pmax	pmax	
	comp=E,40nm,1.5s					
ALBI	Allahabad	52.78	309	*e*P	P	22 03 24.3 -1.9
MSVF	Nonsavu	52.80	107	P	P	22 03 26.5 -0.1
MSVF				IAmb	IAmb	22 03 30.0
	comp=Z,666nm,0.9s					
MSVF	Nonsavu	52.80	107	P	P	22 03 26.5 -0.1
MSVF	Nonsavu	52.80	107	*c*i*P*	P	22 03 27.8 +1.2
MSVF				pmax	pmax	
	comp=Z,542nm,0.9s					
MSVF	Nonsavu	52.80	107	⇑P	P	22 03 27.0 +0.4
MSVF	Nonsavu	52.80	107	P	P	22 03 27.2 +0.6
MSVF				pP	pP	22 05 13.6 +2.5
DCZ	Deep Cove	52.96	144	P	P	22 03 27.3 +0.2
DCZ				IAmb	IAmb	22 03 30.0
	comp=Z,338nm,0.9s					
DCZ	Deep Cove	52.96	144	P	P	22 03 27.7 +0.6
NGP	Nagpur	52.99	303	*e*P	P	22 03 26.0 -1.7
MSZ	Milford Sound	53.00	143	P	P	22 03 28.2 +0.9
PYZ	Puysegur Point	53.08	145	P	P	22 03 28.1 +0.2
PYZ				IAmb	IAmb	22 03 30.9
	comp=Z,1μm,1.7s					
PYZ	Puysegur Point	53.08	145	P	P	22 03 28.1 +0.

JKA IAmb IAmb 22 03 31.7
comp=Z,391nm,1.0s
JCZ Jackson Bay 53.21 141 P **P** **22 03 29.4 +0.4**
JCZ Jackson Bay 53.21 141 P **P** **22 03 30.3 +1.2**
MLZ Mavora Lakes 53.48 143 P **P** **22 03 30.8 -0.1**
WCZ Waipu Caves 53.54 130 P **P** **22 03 32.2 +0.7**
MNGI Mangalore 53.58 292 *e*P **P** **22 03 30.1 -1.8**
FOZ Fox Glacier 53.58 140 P **P** **22 03 30.9 -0.6**
WHZ Wether Hill Ro 53.66 144 P **P** **22 03 31.7 -0.4**
WKZ Wanaka 53.74 142 P **P** **22 03 32.9 +0.3**
WKZ Wanaka 53.74 142 P **P** **22 03 33.2 +0.5**
WVZ Waitaha Valley 53.95 140 P **P** **22 03 33.7 -0.4**
DSZ Denniston Nort 54.04 138 P **P** **22 03 35.7 +0.9**
YUK Yuzh-Kuril'sk 54.08 19*d i*P **P** **22 03 36.1 +1.2**
YUK *e* 22 05 42.6
YUK *i* S **S** **22 10 29.7 -0.2**
YUK pmax pmax
comp=N,206nm,1.0s
YUK pmax pmax
comp=Z,1μm,1.0s
YUK pmax pmax
comp=E,184nm,0.8s
EAZ Earnscleugh 54.12 142 P **P** **22 03 34.4 -0.9**
QRZ Quartz Range 54.13 136 P **P** **22 03 35.8 +0.4**
QRZ IAmb IAmb 22 03 39.0
comp=Z,488nm,0.8s
QRZ Quartz Range 54.13 136 P **P** **22 03 36.0 +0.5**
QRZ Quartz Range 54.13 136 P **P** **22 03 36.1 +0.7**
APZ The Paps 54.20 145 P **P** **22 03 36.0 +0.1**
LBZ Lake Benmore 54.23 141 P **P** **22 03 35.3 -0.9**
INZ Inchbonnie 54.24 139 P **P** **22 03 35.7 -0.5**
LKN LUCKNOW 54.25 310 *e*P **P** **22 03 35.2 -1.3**
DGTI Dogotuki 54.31 105 P **P** **22 03 37.3 +0.1**
RPZ Rata Peaks 54.45 140 P **P** **22 03 37.6 -0.1**
comp=Z,2μm,0.7s,baz=269,slow=2.9,SNR=398
comp=Z,2μm,0.7s
RPZ Rata Peaks 54.45 140 P **P** **22 03 37.8 +0.1**
RPZ Rata Peaks 54.45 140 P **P** **22 03 37.7 -0.1**
GRZ Great Barrier 54.50 130 P **P** **22 03 38.8 +0.7**
AKL Akola 54.51 301 *e*P **P** **22 03 37.2 -1.2**
AKL IAmb IAmb 22 03 40.7
comp=Z,104nm,0.7s
KHEZ Kahui Hut 54.54 134 P **P** **22 03 39.2 +0.7**
TUZ Tuapeka 54.69 143 P **P** **22 03 38.8 -0.5**
SYZ Scrubby Hill 54.71 144 P **P** **22 03 38.8 -0.6**
SYZ Scrubby Hill 54.71 144 P **P** **22 03 38.6 -0.8**
TMZ Timaru 54.75 141 P **P** **22 03 38.7 -1.1**
THZ Tophouse 54.78 137 P **P** **22 03 40.1 0.0**
LTZ Lake Taylor 54.81 139 P **P** **22 03 40.5 +0.2**
ODZ Otahua Downs 54.84 142 P **P** **22 03 39.4 -1.0**
ODZ Otahua Downs 54.84 142 P **P** **22 03 39.7 -0.7**
ODZ Otahua Downs 54.84 142 ⇑P **P** **22 03 39.8 -0.6**
KUZ Kuaotunu 54.86 130 P **P** **22 03 41.3 +0.6**
KUZ Kuaotunu 54.86 130 P **P** **22 03 41.1 +0.5**
NNZ Nelson 54.87 136 P **P** **22 03 40.0 -0.7**
OXZ Oxford 54.91 139 P **P** **22 03 40.6 -0.3**
TOZ Tahuroa Road 55.04 132 P **P** **22 03 42.9 +1.0**
TOZ IAmb IAmb 22 03 45.6
comp=Z,651nm,1.1s
TOZ PcP **PcP** **22 04 36.6 +1.5**
TOZ Tahuroa Road 55.04 132 P **P** **22 03 43.7 +1.8**
HHSZ Highcliff Hill 55.24 143 P **P** **22 03 44.3 +1.2**
BHPL Bhopal 55.27 304 *e*P **P** **22 03 42.2 -1.6**
BHPL IAmb IAmb 22 03 44.5
comp=Z,92nm,0.8s
GVZ Greta Valley S 55.40 138 P **P** **22 03 44.4 +0.1**
JHNI Jhansi 55.41 307 *e*P **P** **22 03 43.1 -1.6**
MQZ McQueen's Vall 55.48 139 P **P** **22 03 44.6 -0.2**
KHZ Kahutara 55.49 138 P **P** **22 03 44.4 -0.5**
KHZ Kahutara 55.49 138 P **P** **22 03 44.3 -0.5**
KHZ Kahutara 55.49 138 ⇑P **P** **22 03 43.8 -1.2**
NNVZ North Ngauruho 55.63 133 P **P** **22 03 46.2 0.0**
NGZ Ngauruhoe 55.63 133 P **P** **22 03 46.9 +0.6**
KAD Karad 55.64 296 *e*P **P** **22 03 45.3 -1.2**
SNVZ South Ngauruho 55.67 133 P **P** **22 03 46.8 +0.3**
TMVZ Te Maari 55.69 133 P **P** **22 03 47.1 +0.5**
ETVZ East Tongariro 55.70 133 P **P** **22 03 46.9 +0.2**
KUR Kuril'sk 55.79 19*c i*P **P** **22 03 47.9 +1.0**
KUR pmax pmax
comp=Z,1μm,1.7s
LKBA Tubou, Lakemba 55.81 107 P **P** **22 03 47.1 -0.5**
SNZO South Karori 55.82 136 P **P** **22 03 46.8 -0.5**
SNZO IAmb IAmb 22 03 48.7
comp=Z,893nm,1.2s
SNZO South Karori 55.82 136 P **P** **22 03 47.3 +0.1**
SNZO South Karori 55.82 136 P **P** **22 03 46.3 -1.0**
SNZO pP **pP** **22 05 33.4 -0.3**
SNZO South Karori 55.82 136 P **P** **22 03 46.7 -0.5**
SNZO S **S** **22 10 51.4 -1.5**
MOVZ Moawhango 55.83 134 P **P** **22 03 46.9 -0.6**
YSS Yuzhno-Sakhali 55.87 15 P **P** **22 03 48.0 +0.6**
YSS IAmb IAmb 22 03 50.2
comp=Z,777nm,1.4s
YSS Yuzhno-Sakhali 55.87 15 P **P** **22 03 48.6 +1.2**
YSS Yuzhno-Sakhali 55.87 15 ⇓*i*P **P** **22 03 48.8 +1.4**
YSS *e* 22 04 37.6
YSS *e* 22 05 34.0
YSS *e* 22 05 56.0
YSS *e**SP **sP** **22 06 32.2 -0.7**
YSS *i* S **S** **22 10 52.7 -0.5**
YSS *e* 22 12 36.4
YSS *e*SSS SSS 22 17 39.0
YSS pmax pmax
comp=Z,350nm,0.8s
YSS pmax pmax
comp=Z,4μm,4.4s
YSS pmax pmax
comp=N,2μm,4.1s
YSS pmax pmax
comp=E,1μm,4.1s
YSS Yuzhno-Sakhali 55.87 15 ⇑P **P** **22 03 48.5 +1.2**
BHW Baring Head 55.98 136 P **P** **22 03 47.2 -1.1**
BHW IAmb IAmb 22 03 49.0
comp=Z,333nm,0.7s
HIA Hailar 56.09 356 P **P** **22 03 49.7 +0.8**
HIA IAmb IAmb 22 03 52.3
comp=Z,706nm,1.2s
HIA Hailar 56.09 356 P **P** **22 03 49.4 +0.4**
HIA Hailar 56.09 356 P **P** **22 03 49.7 +0.8**
HIA pmax pmax
comp=Z,706nm,1.2s
HIA Hailar 56.09 356 P **P** **22 03 50.1 +1.2**
HIA PcP **PcP** **22 04 40.3 +1.4**
HIA ScP **ScP** **22 07 46.5 +1.2**
LGTI Lohaghat 56.15 312 *e*P **P** **22 03 49.5 -0.2**
MRZ Mangatainoka R 56.18 135 P **P** **22 03 48.9 -0.8**
MRZ IAmb IAmb 22 03 51.3
comp=Z,942nm,1.3s
MRZ Mangatainoka R 56.18 135 P **P** **22 03 48.5 -1.2**
KLR Kul'dur 56.18 5 P **P** **22 03 49.0 -0.5**
comp=Z,77nm,0.7s,baz=192,slow=5.5,SNR=132
KLR ScP **ScP** **22 07 46.4 +0.7**
comp=Z,26nm,0.9s,baz=218,slow=6.4,SNR=4.9
comp=Z,77nm,0.7s
KLR Kul'dur 56.18 5 P **P** **22 03 49.0 -0.5**
PTH Pithoragarh 56.23 312 *e*P **P** **22 03 49.6 -0.9**
WIZ White Island 56.23 131 P **P** **22 03 51.8 +1.6**
BKZ Black Stump Fm 56.28 133 P **P** **22 03 49.9 -0.6**
FUTU Fugatoga 56.30 103 P **P** **22 03 51.8 +0.8**
FUTU IAmb IAmb 22 03 54.9
comp=Z,2μm,1.8s
FUTU Fugatoga 56.30 103 P **P** **22 03 52.4 +1.4**
PNHZ Pukenui 56.34 134 P **P** **22 03 49.9 -1.0**
URZ Urewera 56.42 132 P **P** **22 03 50.3 -1.1**
comp=Z,462nm,0.7s,baz=354,slow=4.4,SNR=158
URZ S **S** **22 11 00.6 -0.1**
comp=Z,8.0nm,0.8s,baz=105,slow=20,SNR=1.6
comp=Z,462nm,0.7s
URZ Urewera 56.42 132 P **P** **22 03 50.4 -1.0**
URZ Urewera 56.42 132 P **P** **22 03 50.3 -1.1**
URZ Urewera 56.42 132 ⇑P **P** **22 03 50.3 -1.1**
BFZ Birch Farm 56.66 135 P **P** **22 03 52.7 -0.3**
BFZ Birch Farm 56.66 135 P **P** **22 03 51.9 -1.2**
HAZ Te Kaha 56.75 131 P **P** **22 03 52.6 -1.1**
MWZ Matawai 56.75 132 P **P** **22 03 53.3 -0.4**
ULN Ulaanbaatar 56.76 346 P **P** **22 03 54.0 +0.2**
ULN IAmb IAmb 22 03 57.0
comp=Z,823nm,1.2s
ULN Ulaanbaatar 56.76 346 P **P** **22 03 55.4 +1.7**
ULN P **P** **22 03 55.4 +1.7**
ULN Ulaanbaatar 56.76 346*ce*P **P** **22 03 53.9 +0.2**
ULN pmax pmax
comp=Z,1μm,1.7s
ULN Ulaanbaatar 56.76 346 ⇓P **P** **22 03 54.1 +0.4**
ULN Ulaanbaatar 56.76 346 P **P** **22 03 54.2 +0.5**
ULN ScP **ScP** **22 07 49.6 +1.1**
PXZ Pawanui 56.85 134 P **P** **22 03 53.6 -0.8**
SONM Songino Array 56.89 345 P **P** **22 03 54.8 +0.2**
SONM IAmb IAmb 22 03 57.9
comp=Z,507nm,1.1s
SONM Songino Array 56.89 345 P **P** **22 03 54.8 +0.2**
comp=Z,245nm,1.0s,baz=163,slow=6.4,SNR=432
SONM ScP **ScP** **22 07 50.0 +1.0**
comp=Z,48nm,1.1s,baz=165,slow=5.9,SNR=7.2
SONM P4KPbc 22 41 00.5
comp=Z,2.1nm,1.0s,baz=160,slow=4.3,SNR=9.9
comp=Z,245nm,1.0s
HEH HeiHe 56.93 2 *e*P **P** **22 03 54.5 -0.1**
HEH pP **pP** **22 05 41.3 +0.9**
HEH ScP **ScP** **22 07 49.2 +0.3**
HEH S **S** **22 11 06.9 +0.2**
HEH ScS **ScS** **22 12 44.2 -3.0**
HEH sS **sS** **22 14 12.9 -4.0**
HEH pmax pmax
comp=Z,1μm,1.1s
HEH pmax pmax
comp=Z,8μm,5.7s
TKRD Thakurdwara 57.02 311 *e*P **P** **22 03 55.2 -0.5**
MXZ Matakaoa Point 57.08 131 P **P** **22 03 56.0 0.0**
MXZ Matakaoa Point 57.08 131 P **P** **22 03 55.7 -0.3**
KNZ Kokohu 57.09 132 P **P** **22 03 54.5 -1.5**
PUZ Puketiti 57.21 131 P **P** **22 03 56.0 -0.9**
JOSI Joshimath 57.25 313 *e*P **P** **22 03 56.7 -0.8**
UGON Onchagaon 57.30 310 *e*P **P** **22 03 57.0 -0.7**
UGL Uglegorsk 57.69 13 ⇓*i*P **P** **22 04 01.2 +1.4**
UGL *e*S **S** **22 11 11.2 -5.2**
UGL pmax pmax
comp=Z,5μm,4.4s
UGL pmax pmax
comp=Z,600nm,1.1s
UGL smax smax
comp=E,4μm,7.6s
UGL smax smax
comp=N,2μm,3.4s
MERT Meerut 57.77 310 *e*P **P** **22 04 00.3 -0.5**
JMIU JAMIA UNIVERSI 57.90 310 *e*P **P** **22 04 01.2 -0.5**
SONA Sohna 57.91 309 *e*P **P** **22 04 01.3 -0.4**
AYAN Aya Nagar 57.99 310 *e*P **P** **22 04 01.9 -0.4**
NDI New Delhi 58.02 310 *e*P **P** **22 04 02.1 -0.4**
NPLP NPLP New Delhi 58.03 310 *e*P **P** **22 04 00.9 -1.7**
BHGR Bahadurgarh 58.23 310 *e*P **P** **22 04 03.6 -0.3**
GRNR Gornyy 58.26 9 ⇓*i*P **P** **22 04 05.1 +1.4**
GRNR pmax pmax
comp=N,150nm,0.9s
GRNR pmax pmax
comp=Z,320nm,0.9s
GRNR MLR MLR
comp=E,270nm,16.0s
GRNR MLR MLR
comp=N,620nm,15.0s
GRNR MLR MLR
comp=Z,740nm,17.0s
KUDL Kundal 58.31 309 *e*P **P** **22 04 04.2 -0.3**
SMLA Simla 59.29 312 *e*P **P** **22 04 10.8 -0.2**
CIT Chita 59.48 352 *e*P **P** **22 04 13.6 +1.7**
CIT *e* 22 04 54.0
CIT *e* 22 06 00.4
CIT pmax pmax
comp=Z,2μm,2.7s
TYV Tymovskoe 59.50 13 *e*P **P** **22 04 14.2 +2.2**
TYV *e*S **S** **22 11 41.8 +2.6**
TYV pmax pmax
comp=Z,229nm,1.4s
TYV pmax pmax
comp=Z,5μm,4.4s
TYV smax smax
comp=N,900nm,7.3s
TYV smax smax
comp=E,3μm,7.3s
TYV smax smax
comp=N,22nm,2.2s
BHK Bhakra 59.99 312 *e*P **P** **22 04 13.0 -2.7**
ZAK Zakamensk 60.05 344 *e*P **P** **22 04 15.8 0.0**
ZAK pmax pmax
comp=Z,207nm,1.6s
CASY Casey 60.15 187 P **P** **22 04 16.2 +0.1**
CASY Casey 60.15 187 ⇑P **P** **22 04 16.7 +0.6**
CASY Casey 60.15 187 P **P** **22 04 16.5 +0.5**
CASY pP **pwP** **22 06 06.5 -0.2**
ZEA Zeya 60.41 2 *e*P **P** **22 04 18.2 +0.2**
ZEA *e* 22 06 03.8
ZEA *e*S **S** **22 11 50.7 +0.1**
ZEA *e* 22 13 13.0
ZEA pmax pmax
comp=N,2μm,6.3s
ZEA pmax pmax
comp=Z,3μm,4.7s
ZEA pmax pmax
comp=N,200nm,1.3s
ZEA pmax pmax
comp=E,50nm,1.2s
ZEA pmax pmax
comp=Z,360nm,1.2s
ZEA pmax pmax
comp=N,500nm,4.7s
ZEA pmax pmax
comp=Z,800nm,7.3s
ZEA smax smax
comp=N,1μm,8.8s
DHRM DHARAMSHALA 60.51 313 *e*P **P** **22 04 19.3 -0.1**
DRV Dumont d'Urvil 60.59 173 P **P** **22 04 19.1 +0.2**
DRV pP **pP** **22 06 09.0 +1.1**
WMQ Urumqi 60.67 330 ⇓P **P** **22 04 22.0 +2.0**
WMQ PcP **PcP** **22 04 59.3 +1.8**
WMQ pP pP 22 06 13.9 +4.7
WMQ sP sP 22 07 05.2 -2.4
WMQ ScP **ScP** **22 08 07.9 +2.1**
WMQ S **S** **22 11 55.4 +1.0**
WMQ ScS SKKSac 22 13 15.3 -0.3
WMQ sS sS 22 15 06.0 -1.6
WMQ SS **SS** **22 16 12.5 +6.3**
WMQ pmax pmax
comp=N,640nm,1.7s
WMQ pmax pmax
comp=N,3μm,3.7s
WMQ Urumqi 60.67 330 P **P** **22 04 20.4 +0.4**
WMQ PcP **PcP** **22 04 59.1 +1.7**
BKNR BIKANER 60.76 307 *e*P **P** **22 04 20.7 -0.2**
IRK Irkutsk 61.49 346 *e*P **P** **22 04 25.2 +0.1**
IRK *e*S **S** **22 12 06.7 +2.7**
IRK pmax pmax
comp=Z,1μm,2.0s
JMU Jammu 61.76 313 *e*P **P** **22 04 28.5 +1.2**
MOY Mondy 61.84 343 *e*P **P** **22 04 27.2 -0.3**
MOY *e* 22 06 16.4
MOY pmax pmax
comp=Z,1μm,3.9s
JASL Jaisalmer 62.19 305 *e*P **P** **22 04 30.7 +0.6**
PAF Port-aux-Franc 62.32 217 P **P** **22 04 31.7 +1.2**
PAF IAmb IAmb 22 05 54.7
comp=Z,1μm,1.8s
PAF Port-aux-Franc 62.32 217 P **P** **22 04 31.7 +1.2**
PAF pmax pmax
comp=Z,1μm,1.8s
AFI Afiamalu 62.45 102 P **P** **22 04 31.9 -0.3**
AFI IAmb IAmb 22 04 35.0
comp=Z,560nm,1.4s
AFI Afiamalu 62.45 102 P **P** **22 04 32.6 +0.4**
AFI Afiamalu 62.45 102 P **P** **22 04 31.9 -0.3**
AFI pmax pmax
comp=Z,560nm,1.5s
AFI Afiamalu 62.45 102 ⇑P **P** **22 04 33.1 +0.9**
AFI Afiamalu 62.45 102 P **P** **22 04 33.0 +0.8**
SRNI Srinagar 62.50 314 *e*P **P** **22 04 32.7 +0.7**
CTZ Chatham Island 62.68 136 P **P** **22 04 34.1 +1.1**
SKR Severo-Kuril's 63.33 22 *e*P **P** **22 04 37.9 +1.0**
SKR pmax pmax
comp=Z,329nm,0.7s
SKR pmax pmax
comp=Z,1μm,3.7s
NIL Nilore 63.42 313 P **P** **22 04 37.6 -0.4**
NIL IAmb IAmb 22 04 39.8
comp=Z,330nm,0.8s
NIL Nilore 63.42 313 P **P** **22 04 39.1 +1.1**
NIL Nilore 63.42 313 P **P** **22 04 37.6 -0.4**
NIL pmax pmax
comp=Z,330nm,0.8s
NIL Nilore 63.42 313 P **P** **22 04 37.9 -0.2**
NIL pP **pP** **22 06 30.6 +2.0**
WUS Wushi 63.60 323 P **P** **22 04 39.6 +0.5**
NIUE Niue 64.27 108 P **P** **22 04 44.2 +0.5**
NIUE IAmb IAmb 22 04 46.6
comp=Z,554nm,1.3s
NIUE Niue 64.27 108 P **P** **22 04 44.1 +0.4**
KSH Kashi 64.63 320 P **P** **22 04 46.3 +0.6**
KSH PcP **PcP** **22 05 15.6 +1.7**
KSH pP pP 22 06 37.5 +0.6
KSH sP sP 22 07 36.5 +1.3
KSH S **S** **22 12 42.9 0.0**
KSH ScS **ScS** **22 13 47.1 +0.8**
KSH sS sS 22 16 00.6 +1.3
KSH pmax pmax
comp=Z,320nm,1.2s
KSH pmax pmax
comp=Z,2μm,10.9s
SHLS Shalkode 64.66 325 *e*P **P** **22 04 44.7 -1.1**
SHLS *e*S **S** **22 12 41.8 -1.2**
SHLS pmax pmax
comp=Z,439nm,1.2s
SHLS Shalkode 64.66 325 *e*P **P** **22 04 44.8 -1.1**
comp=Z,439nm,1.2s
SHLS *e*S **S** **22 12 41.8 -1.2**
ZSN Zaisan 64.66 331 *e*P **P** **22 04 45.6 0.0**
ZSN *e*S **S** **22 12 43.9 +1.3**
ZSN pmax pmax
comp=Z,374nm,1.4s
ZSN Zaisan 64.66 331 *e*P **P** **22 04 45.7 +0.1**
comp=Z,374nm,1.4s
ZSN *e*S **S** **22 12 44.0 +1.3**
TARG Taragay, Kyrgy 64.76 323 P **P** **22 04 47.2 +0.3**
TARG IAmb IAmb 22 04 60.0
comp=Z,287nm,1.2s
TARG Taragay, Kyrgy 64.76 323 P **P** **22 04 47.2 +0.3**
TARG pmax pmax
comp=Z,287nm,1.2s
PRZ Przheval'sk 64.86 324 P **P** **22 04 47.9 +0.8**
PRZ Przheval'sk 64.86 324 P **P** **22 04 47.9 +0.8**
PRZ pmax pmax
comp=Z,1μm,1.4s
UZB Uzynbulak 64.90 324 *e*P **P** **22 04 47.7 +0.3**
UZB *e*S **S** **22 12 47.6 +1.6**
UZB pmax pmax
comp=Z,409nm,1.5s
UZB Uzynbulak 64.90 324 *e*P **P** **22 04 47.7 +0.3**
comp=Z,409nm,1.5s
UZB *e*S **S** **22 12 47.7 +1.6**
SATY Saty 65.21 324 *e*P **P** **22 04 49.7 +0.5**
SATY *e*S **S** **22 12 51.3 +1.7**
SATY pmax pmax
comp=Z,477nm,1.4s
SATY Saty 65.21 324 *e*P **P** **22 04 49.7 +0.5**
comp=Z,477nm,1.4s
SATY *e*S **S** **22 12 51.3 +1.7**
ZHN Zhinishke 65.25 324 *e*P **P** **22 04 49.8 +0.3**
ZHN *e*S **S** **22 12 51.6 +1.4**
ZHN pmax pmax
comp=Z,245nm,1.3s
ZHN Zhinishke 65.25 324 *e*P **P** **22 04 49.8 +0.3**
comp=Z,245nm,1.3s
ZHN *e*S **S** **22 12 51.6 +1.4**
KDJ Kajisay 65.38 323 P **P** **22 04 50.9 +0.5**
KDJ IAmb IAmb 22 04 54.0
comp=Z,770nm,1.6s
KDJ Kajisay 65.38 323 P **P** **22 04 50.9 +0.5**
KDJ pmax pmax
comp=Z,770nm,1.6s
MK31 Makanchi Array 65.48 329 P **P** **22 04 51.0 +0.2**
MK31 IAmb IAmb 22 04 53.8
comp=Z,455nm,0.9s
MK31 Makanchi Array 65.48 329*ce*P **P** **22 04 50.7 0.0**
MKAR Makanchi Array 65.48 329 P **P** **22 04 50.8 0.0**
MKAR Makanchi Array 65.48 329 P **P** **22 04 50.9 +0.2**
comp=Z,235nm,0.6s,baz=128,slow=7.0,SNR=415
MKAR S **S** **22 12 50.4 -2.1**
comp=Z,12nm,1.0s,baz=134,slow=12,SNR=10
MKAR P4KPbc 22 41 39.5
comp=Z,1.6nm,0.8s,baz=120,slow=5.1,SNR=14
comp=Z,235nm,0.6s
MKAR Makanchi Array 65.48 329*ce*P **P** **22 04 50.9 +0.2**
MKAR pmax pmax
comp=Z,236nm,0.6s
MIDW Midway 65.61 55 P **P** **22 04 51.4 -0.5**
MIDW Midway 65.61 55 P **P** **22 04 53.5 +1.6**
MAKZ Makanchi 65.65 329 P **P** **22 04 51.8 0.0**
MAKZ IAmb IAmb 22 04 54.7
comp=Z,318nm,0.9s
MAKZ Makanchi 65.65 329 P **P** **22 04 51.8 0.0**
MAKZ pmax pmax
comp=Z,318nm,0.9s
MAKZ Makanchi 65.65 329 P **P** **22 04 51.9 +0.1**
PEA0B Petropavlovsk- 65.87 21 P **P** **22 04 54.0 +0.9**
PEA0B IAmb IAmb 22 04 56.4
comp=Z,352nm,0.8s
PEA0B Petropavlovsk- 65.87 21*ce*P **P** **22 04 55.0 +2.0**
PETK Petropavlovsk- 65.87 21 P **P** **22 04 52.8 -0.2**
PETK Petropavlovsk- 65.87 21 P **P** **22 04 53.5 +0.5**
comp=Z,303nm,0.9s,baz=151,slow=2.9,SNR=116
comp=Z,303nm,0.9s
ULHL Ulahol 66.01 322 P **P** **22 04 56.4 +2.0**
SNR=6.0
TNSS Tian-Shan 66.05 323 *e*P **P** **22 04 55.0 +0.2**
TNSS Tian-Shan 66.05 323 *e*P **P** **22 04 55.0 +0.2**
MDOK Medeo 66.06 324 *e*P **P** **22 04 55.0 +0.4**
MDOK *e*S **S** **22 13 01.4 +1.6**
MDOK Medeo 66.06 324 *e*P **P** **22 04 55.1 +0.4**
MDOK *e*S **S** **22 13 01.5 +1.6**
PET Petropavlovsk 66.15 21 P **P** **22 04 55.6 +0.9**
PET Petropavlovsk 66.15 21 P **P** **22 04 55.5 +0.8**
PET Petropavlovsk 66.15 21 *e*P **P** **22 04 56.4 +1.7**
PET *e**PP **pP** **22 06 43.4 -2.3**
PET *e* 22 07 42.6
PET *i* S **S** **22 13 03.1 +3.1**
PET *e*SP **SPn** **22 13 30.9 +6.5**
PET *e* 22 13 54.8
PET pmax pmax
comp=Z,493nm,1.3s
PET pmax pmax
comp=Z,4μm,7.7s
PET pmax pmax
comp=Z,2μm,10.5s
PET pmax pmax
comp=Z,2μm,17.2s
PET pmax pmax
comp=Z,2μm,17.5s
PET MLR MLR
comp=Z,1μm,12.0s
PET MLR MLR
comp=Z,700nm,14.0s
AAA Alma-Ata 66.17 324 *e*P **P** **22 04 55.5 +0.4**
AAA pmax pmax
comp=Z,301nm,0.8s
AAA Alma-Ata 66.17 324 *e*P **P** **22 04 55.6 +0.4**
comp=Z,301nm,0.8s
ARXS Arharly 66.24 325 *e*P **P** **22 04 56.6 +1.0**
BOOM Boomskoye usch 66.33 322 P **P** **22 04 56.9 +0.6**
BOOM IAmb IAmb 22 04 59.6
comp=Z,264nm,0.9s
BOOM Boomskoye usch 66.33 322 P **P** **22 04 56.9 +0.6**
BOOM pmax pmax
comp=Z,264nm,0.9s
CHKK Chushkaly 66.51 324 *e*P **P** **22 04 57.1 -0.1**
CHKK Chushkaly 66.51 324 *e*P **P** **22 04 57.2 -0.1**
TKM2 Tokmak 2 66.79 323 P **P** **22 04 59.6 +0.4**
SNR=98
TKM2 Tokmak 2 66.79 323 *i*P **P** **22 04 59.9 +0.7**
TKM2 pmax pmax
comp=Z,420nm,1.4s
KBU Kabul Universi 66.84 312 P **P** **22 04 59.8 +0.1**
KUU Kurty 66.91 324 *e*P **P** **22 05 00.0 +0.3**
KUU Kurty 66.91 324 *e*P **P** **22 05 00.1 +0.3**
KBL Kabul 66.92 312 P **P** **22 04 59.9 -0.3**
KBL IAmb IAmb 22 05 02.8
comp=Z,514nm,1.1s
KBL Kabul 66.92 312 P **P** **22 05 00.8 +0.6**
SNR=229
KBL P **P** **22 05 00.8 +0.6**
SNR=229
KBL S **S** **22 13 08.2 -2.2**
KBL S **S** **22 13 08.2 -2.2**
KBL Kabul 66.92 312 P **P** **22 04 59.9 -0.3**

KBL pmax pmax
comp=Z,514nm,1.2s
KBK Karagaybulak 67.03 322 P P 22 05 01.4 +0.7
SNR=177
UCH Uchtor 67.06 322 P P 22 05 03.3 +2.2
SNR=23
AAK Ala-Archa 67.30 322 P P 22 05 02.6 +0.4
AAK Ala-Archa 67.30 322 P P 22 05 03.1 +0.8
SNR=261
AAK Ala-Archa 67.30 322 *ce*P **P 22 05 02.9 +0.7**
AAK pmax pmax
comp=Z,580nm,1.7s
AAK Ala-Archa 67.30 322 *i* P **P 22 05 04.2 +1.9**
SNR=322
AAK Ala-Archa 67.30 322 P P 22 05 03.0 +0.7
AAK pP **pP 22 06 56.6 +1.9**
AAK Ala-Archa 67.30 322 P P 22 05 02.9 +0.7
AAK S **S 22 13 16.1 +1.7**
FRU1 Bishkek 67.31 322 P P 22 05 03.4 +1.2
FRU1 IAmb IAmb 22 05 05.8
comp=Z,451nm,1.6s
FRU1 Bishkek 67.31 322 P P 22 05 03.4 +1.2
FRU1 pmax pmax
comp=Z,451nm,1.6s
DRK Karamyk 67.34 318 P P 22 05 03.1 +0.3
DRK Karamyk 67.34 318 P P 22 05 03.1 +0.3
DRK pmax pmax
comp=Z,2μm,1.9s
CHMS Chumysh 67.34 322 P P 22 05 02.5 +0.1
SNR=53
AML Almayashu 67.51 321 P P 22 05 05.8 +1.9
SNR=13
ARSB Arslanbob 67.53 320 P P 22 05 03.8 +0.1
ARSB Arslanbob 67.53 320 P P 22 05 03.8 +0.1
ARSB pmax pmax
comp=Z,2μm,1.6s
USP Ospenovka 67.65 322 P P 22 05 04.5 +0.2
SNR=261
SGDS Sogindy 67.67 323 *e*P **P 22 05 04.4 0.0**
SGDS *e*S **S 22 13 19.8 +1.3**
SGDS pmax pmax
comp=Z,291nm,1.6s
SGDS Sogindy 67.67 323 *e*P **P 22 05 04.5 0.0**
comp=Z,291nm,1.6s
SGDS *e*S **S 22 13 19.9 +1.3**
EKS2 Erkin-Say 67.75 322 P P 22 05 05.8 +0.8
SNR=170
GAR Garm 68.10 317 P P 22 05 06.9 -0.3
GAR IAmb IAmb 22 05 09.2
comp=Z,556nm,1.2s
CCD Concordia, Ant 68.19 180 P P 22 05 08.2 +0.8
CCD pP **pwP 22 07 02.6 +0.4**
RER Riviere de l'E 68.21 250 P P 22 05 09.0 +0.9
BTK Batken 68.29 318 P P 22 05 08.3 0.0
BTK IAmb IAmb 22 05 11.5
comp=Z,725nm,1.6s
BTK Batken 68.29 318 P P 22 05 08.3 0.0
BTK pmax pmax
comp=Z,725nm,1.7s
YAK Yakutsk 68.80 2 P P 22 05 10.5 -0.2
YAK Yakutsk 68.80 2 P P 22 05 10.5 -0.2
comp=Z,803nm,0.6s,baz=180,slow=1.4,SNR=255
comp=Z,803nm,0.6s
YAK Yakutsk 68.80 2 *e*P **P 22 05 10.4 -0.2**
YAK *e**PP **pP 22 07 01.9 -0.3**
YAK *e*S **S 22 13 30.5 -0.1**
YAK *e* 22 14 15.6
YAK *e*SS **SS 22 18 10.3 -0.2**
YAK pmax pmax
comp=Z,1μm,1.0s
YAK pmax pmax
comp=E,79nm,1.2s
YAK pmax pmax
comp=N,355nm,1.0s
YAK pmax pmax
comp=Z,449nm,2.0s
YAK pmax pmax
comp=N,327nm,2.0s
YAK pmax pmax
comp=E,88nm,1.9s
YAK smax smax
comp=N,119nm,1.4s
YAK smax smax
comp=E,202nm,1.4s
YAK Yakutsk 68.80 2 P P 22 05 10.6 -0.1
YAK pP **pP 22 07 03.0 +0.7**
SIMJ Simiganj 68.84 316 P P 22 05 11.4 -0.2
SIMJ IAmb IAmb 22 05 14.2
comp=Z,688nm,1.2s
SIMJ Simiganj 68.84 316 P P 22 05 11.3 -0.3
JOHN Johnston Islan 68.86 69 P P 22 05 11.6 -0.4
JOHN IAmb IAmb 22 05 14.9
comp=Z,395nm,1.2s
JOHN Johnston Islan 68.86 69 P P 22 05 13.3 +1.3
SEM Semipalatinsk 68.90 331 *e*P **P 22 05 11.8 -0.1**
SEM pmax pmax
comp=Z,604nm,1.5s
SEM Semipalatinsk 68.90 331 *e*P **P 22 05 11.8 -0.1**
comp=Z,604nm,1.5s
BTLS Baital 68.91 324 *e*P **P 22 05 11.8 0.0**
BTLS pmax pmax
comp=Z,369nm,1.8s
BTLS Baital 68.91 324 *e*P **P 22 05 11.8 0.0**
comp=Z,368nm,1.8s
MSEY Mahe Island 69.13 268 P P 22 05 14.6 +0.8
MSEY Mahe Island 69.13 268 P P 22 05 15.7 +1.8
MSEY S **S 22 13 38.3 +1.8**
MSEY Mahe Island 69.13 268 P P 22 05 14.6 +0.8
MSEY pmax pmax
comp=Z,163nm,1.4s
MSEY Mahe Island 69.13 268 *i* P **P 22 05 15.4 +1.5**
SNR=18
MA2 Magadan 69.35 14 P P 22 05 14.7 +0.6
MA2 Magadan 69.35 14 P P 22 05 14.8 +0.6
comp=Z,421nm,0.9s,baz=190,slow=5.5,SNR=102
MA2 S **S 22 13 39.0 +1.9**
comp=Z,4.9nm,0.7s,baz=344,slow=23,SNR=9.9
comp=Z,421nm,0.9s
MA2 Magadan 69.35 14 P P 22 05 15.4 +1.3
MA2 Magadan 69.35 14 *ce*P **P 22 05 15.8 +1.7**
MA2 pmax pmax
comp=Z,623nm,1.0s
MA2 Magadan 69.35 14 P P 22 05 14.5 +0.4
MA2 pP **pwP 22 07 10.0 -2.1**
ZAA0 Zalesovo Array 69.35 336 P P 22 05 14.0 -0.3
ZALV Zalesovo Beam 69.35 336 P P 22 05 13.9 -0.3
comp=Z,299nm,0.7s,baz=102,slow=22,SNR=154
ZALV S **S 22 13 31.3 -6.0**
comp=Z,8.1nm,0.8s,baz=150,slow=10.0,SNR=8.4
comp=Z,299nm,0.7s
DZA Taraz 69.40 321 *e*P **P 22 05 14.8 0.0**
DZA Taraz 69.40 321 *e*P **P 22 05 14.9 0.0**
NGCH Negor - Chabah 69.80 300 P P 22 05 20.8 +3.4
SNR=6.8
NGCH S **S 22 13 42.3 -1.2**
IUG Iuzhnay 69.84 320 *e*P **P 22 05 17.9 +0.3**
IUG pmax pmax
comp=Z,645nm,1.5s
IUG Iuzhnay 69.84 320 *e*P **P 22 05 17.9 +0.3**
comp=Z,645nm,1.5s
KURBB Kurchatov Arra 69.87 331 P P 22 05 17.4 0.0
comp=Z,255nm,0.9s,baz=134,slow=5.1,SNR=516
KURBB S **S 22 13 38.7 -4.7**
comp=Z,4.0nm,1.0s,baz=135,slow=9.2,SNR=5.8
KURBB P4KPbc 22 41 58.7
comp=Z,1.0nm,1.1s,baz=126,slow=4.7,SNR=6.5
comp=Z,255nm,0.9s
KURK Kurchatov 69.89 331 P P 22 05 17.2 -0.3
KURK Kurchatov 69.89 331 P P 22 05 18.5 +1.1
KURK S **S 22 13 43.3 -0.3**
KURK Kurchatov 69.89 331 *ce*P **P 22 05 17.4 -0.1**
KURK pmax pmax
comp=Z,2μm,1.7s
KURK Kurchatov 69.89 331 P P 22 05 17.7 +0.2
KK31 Karatay Array 70.02 321 P P 22 05 17.9 -0.6
KK31 IAmb IAmb 22 05 21.4
comp=Z,318nm,1.4s
KK31 Karatay Array 70.02 321 P P 22 05 17.9 -0.6
KK31 pmax pmax
comp=Z,319nm,1.4s
KKAR Karatay Array 70.02 321 P P 22 05 18.3 -0.2
KKAR Karatay Array 70.02 321 P P 22 05 18.3 -0.2
CHM Chimkent 70.21 320 *e*P **P 22 05 20.1 +0.5**
CHM pmax pmax
comp=Z,753nm,1.6s
CHM Chimkent 70.21 320 *e*P **P 22 05 20.1 +0.5**
comp=Z,753nm,1.6s
JLN Jalan Bani Buh 70.36 296 P P 22 05 21.9 +1.0
SNR=25
JLN S **S 22 13 49.6 -0.4**
WBK Wadi Bani Khal 70.88 297 P P 22 05 24.8 +0.8
SNR=28
MHTO MHTO 71.34 295 P P 22 05 27.5 +0.8
SNR=45
MHTO S **S 22 13 57.9 -3.1**
WSAR Wadi Sarin 71.35 297 P P 22 05 27.7 +0.9
SNR=53
DQM DQM 71.45 294 P P 22 05 28.2 +0.9
SNR=24
DQM S **S 22 14 01.3 -1.2**
JMDO Jabal Madar 71.58 296 P P 22 05 29.1 +1.0
SNR=42
JMDO S **S 22 13 59.8 -4.0**
SMDO Samad 71.82 297 P P 22 05 31.1 +1.5
SNR=36
SMDO S **S 22 14 06.0 -0.6**
BIDO Bidbid 71.88 297 P P 22 05 30.4 +0.6
SNR=132
BIDO S **S 22 14 04.6 -2.5**
HRA Herat 71.98 309 P P 22 05 30.3 -0.1
HRA IAmb IAmb 22 05 33.4
comp=Z,421nm,1.3s
BRZS Berezniki 72.47 328 *e*P **P 22 05 33.0 +0.3**
BRZS pmax pmax
comp=Z,363nm,1.5s
BRZS Berezniki 72.47 328 *e*P **P 22 05 33.0 +0.3**
comp=Z,363nm,1.5s
BSY Bisya 72.49 296 P P 22 05 34.7 +1.3
SNR=66
BSY S **S 22 14 12.5 -1.5**
SMY Shemya 72.49 29 P P 22 05 33.1 +0.4
SMY Shemya 72.49 29 P P 22 05 33.8 +1.1
SMY Shemya 72.49 29 P P 22 05 33.1 +0.4
SMY pmax pmax
comp=Z,841nm,1.4s
HOQ Hoqain 72.61 297 P P 22 05 35.0 +0.9
SNR=137
HOQ S **SKiKP 22 14 12.3 +2.4**
SEY Seymchan 72.69 13 P P 22 05 34.1 +0.5
comp=Z,323nm,0.7s,baz=212,slow=4.9,SNR=361
SEY S **S 22 14 13.6 -0.9**
comp=Z,0.4nm,0.3s,baz=98,slow=23,SNR=14
comp=Z,323nm,0.7s
SEY Seymchan 72.69 13 *ce*P **P 22 05 34.2 +0.6**
SEY pmax pmax
comp=Z,787nm,1.3s
VNDA Vanda 73.21 172 P P 22 05 36.8 +0.4
VNDA IAmb IAmb 22 05 38.7
comp=Z,581nm,1.7s
VNDA Vanda 73.21 172 P P 22 05 36.1 -0.3
comp=Z,77nm,0.6s,baz=318,slow=6.4,SNR=289
VNDA pP **pP 22 07 31.8 +1.1**
comp=Z,13nm,0.6s,baz=339,slow=7.1,SNR=1.6
VNDA S **S 22 14 19.9 -0.1**
comp=Z,3.8nm,1.0s,baz=55,slow=21,SNR=14
comp=Z,77nm,0.6s
VNDA Vanda 73.21 172 P P 22 05 36.8 +0.4
VNDA pmax pmax
comp=Z,581nm,1.7s
ARQ Araqi 73.25 297 P P 22 05 39.1 +1.4
SNR=63
ARQ S **SKiKP 22 14 15.9 +5.1**
MAW Mawson 73.27 201 P P 22 05 38.1 +1.3
MAW Mawson 73.27 201 P P 22 05 38.2 +1.3
DMTO DMTO 73.31 291 P P 22 05 39.0 +0.9
SNR=7.6
DMTO S **S 22 14 19.0 -4.1**
SOHO SOHO 73.45 298 P P 22 05 39.6 +0.8
SOHO S **S 22 14 22.3 -2.1**
SOHO SOHO 73.45 298 *i* P **P 22 05 39.9 +1.1**
SNR=122
RAR Rarotonga 73.82 110 P P 22 05 41.0 0.0
RAR IAmb IAmb 22 05 43.9
comp=Z,391nm,1.4s
RAR Rarotonga 73.82 110 P P 22 05 42.2 +1.2
RAR Rarotonga 73.82 110 P P 22 05 41.0 0.0
RAR pmax pmax
comp=Z,391nm,1.4s
RBK Rabkut 73.95 290 P P 22 05 43.0 +1.2
SNR=29
RBK S **S 22 14 27.4 -2.9**
UOSS Minazif 73.95 298 P P 22 05 41.1 -0.6
UOSS IAmb IAmb 22 05 43.9
comp=Z,685nm,1.6s
UOSS Minazif 73.95 298 P P 22 05 42.3 +0.6
UOSS S **S 22 14 26.1 -3.9**
UOSS Minazif 73.95 298 *i* P **P 22 05 42.1 +0.4**
SNR=71
UOSS Minazif 73.95 298 P P 22 05 40.9 -0.7
UOSS S **S 22 14 26.8 -3.2**
MDH Madha 73.97 299 P P 22 05 41.9 +0.1
SNR=45
MDH S **S 22 14 27.5 -2.6**
MDH Madha 73.97 299 *i* P **P 22 05 41.8 +0.1**
SNR=31
HATD Hatta, Dubai 73.98 298 P P 22 05 43.5 +1.6
SNR=159
HATD S **S 22 14 28.0 -2.3**
HATD Hatta, Dubai 73.98 298 *i* P **P 22 05 43.1 +1.3**
SNR=119
ASHO Ashiyiah 74.01 298 P P 22 05 43.0 +0.9
SNR=148
ASHO S **S 22 14 29.0 -1.7**
ASHO Ashiyiah 74.01 298 *i* P **P 22 05 43.2 +1.2**
SNR=134
MSFE Esma-Masafi 74.10 299 *i* P **P 22 05 43.6 +1.0**
SNR=115
MASF Masafi 74.11 299 P P 22 05 43.7 +1.1
SNR=149
MASF S **S 22 14 31.8 +0.1**
ALNE Al Ain 74.12 297 P P 22 05 43.8 +1.1
SNR=135
ALNE S **S 22 14 30.1 -1.8**
ALNE Al Ain 74.12 297 *i* P **P 22 05 43.8 +1.1**
SNR=96
BANOM Banah 74.13 299 P P 22 05 43.8 +1.1
BANOM S **S 22 14 30.6 -1.4**
BANOM Banah 74.13 299 *i* P **P 22 05 43.7 +1.0**
SNR=234
SBA Scott Base 74.15 172 P P 22 05 42.5 +0.7
SBA IAmb IAmb 22 05 45.1
comp=Z,780nm,1.9s
SBA Scott Base 74.15 172 P P 22 05 42.5 +0.7
SBA pmax pmax
comp=Z,780nm,1.9s
DOK Doka 74.27 291 P P 22 05 44.5 +0.9
SNR=28
DOK S **S 22 14 30.1 -3.5**
UMZA Um Al Zommool 74.30 296 P P 22 05 44.7 +1.0
UMZA S **S 22 14 29.8 -4.0**
SHME Shamm 74.31 299 P P 22 05 44.8 +1.2
SNR=110
SHME S **S 22 14 32.0 -1.8**
SHME Shamm 74.31 299 *i* P **P 22 05 44.0 +0.4**
SNR=178
FAQ Al Faqa, Dubai 74.44 298 P P 22 05 45.7 +1.3
SNR=124
FAQ S **S 22 14 31.9 -3.4**
FAQ Al Faqa, Dubai 74.44 298 *i* P **P 22 05 45.0 +0.6**
SNR=31
NAZ Nazwa, Dubai 74.44 298 P P 22 05 45.6 +1.2
SNR=119
NAZ S **S 22 14 33.2 -2.1**
NAZ Nazwa, Dubai 74.44 298 *i* P **P 22 05 45.0 +0.6**
SNR=146
WHFO Wadi Hawf 74.45 291 P P 22 05 45.1 +0.5
SNR=46
WHFO S **S 22 14 31.1 -4.6**
UMQ Umm Al-Quwin 74.58 299 P P 22 05 46.3 +1.2
SNR=32
UMQ S **S 22 14 37.1 +0.3**
UMQ Umm Al-Quwin 74.58 299 *i* P **P 22 05 46.9 +1.8**
SNR=34
ASUD Al Ashush, Dub 74.64 298 P P 22 05 46.9 +1.3
SNR=73
ASUD S **S 22 14 35.2 -2.2**
ASUD Al Ashush, Dub 74.64 298 *i* P **P 22 05 46.0 +0.5**
SNR=15
ABTO Aybut 74.77 290 P P 22 05 48.0 +1.5
SNR=66
ABTO S **S 22 14 34.2 -5.0**
AJN Ajban 74.92 298 P P 22 05 47.9 +0.8
SNR=62
AJN S **S 22 14 36.7 -3.8**
AJN Ajban 74.92 298 *i* P **P 22 05 48.0 +0.9**
SNR=13
BVAR Borovoye Array 75.36 329 P P 22 05 49.0 0.0
comp=Z,664nm,1.1s,baz=127,slow=6.7,SNR=376
BVAR S **S 22 14 45.1 +1.0**
comp=Z,2.3nm,0.9s,baz=127,slow=11,SNR=5.2
comp=Z,664nm,1.1s
BRVK Borovoye 75.43 329 P P 22 05 49.3 0.0
BRVK Borovoye 75.43 329 P P 22 05 50.6 +1.2
BRVK S **S 22 14 44.0 -0.9**
BRVK Borovoye 75.43 329 *ce*P **P 22 05 49.3 0.0**
BRVK pmax pmax
comp=Z,965nm,1.3s
MZWR Madinat Zayed 75.70 297 P P 22 05 52.5 +1.0
MZWR S **S 22 14 45.5 -3.4**
MZR Muzera 75.87 296 P P 22 05 53.6 +1.2
SNR=131
MZR S **S 22 14 46.9 -4.0**
MZR Muzera 75.87 296 *i* P **P 22 05 53.4 +0.9**
SNR=217
ABPO Ambohimpanom 76.24 252 P P 22 05 55.3 +0.5
ABPO Ambohimpanom 76.24 252 P P 22 05 55.3 +0.5
ABPO pmax pmax
comp=Z,109nm,1.6s
FOMA Nahampoana Res 76.27 246 P P 22 05 54.1 -0.5
KIWB Kanaga Island 76.45 33 P P 22 05 55.8 +0.8
VOI Vohitsoka 76.53 249 P P 22 05 56.0 -0.3
GHWR Ruwais 76.64 297 P P 22 05 57.5 +0.9
GHWR S **S 22 14 55.9 -3.0**
ADK Adak 76.72 33 P P 22 05 57.1 +0.7
ADK IAmb IAmb 22 06 02.1
comp=Z,632nm,1.7s
ADK Adak 76.72 33 P P 22 05 57.1 +0.7
ADK pmax pmax
comp=Z,632nm,1.7s
JRN Qarnain Island 76.90 297 P P 22 05 59.0 +1.0
SNR=33
JRN S **S 22 14 58.1 -3.4**
SLWR Sila 77.72 296 P P 22 06 03.9 +1.4
SLWR S **S 22 15 06.5 -3.8**
XMAS Kiritimati 77.92 86 P P 22 06 04.2 +0.4
ATKA Atka Island 78.22 33 P P 22 06 05.1 +0.6
ATKA IAmb IAmb 22 06 06.9
comp=Z,944nm,1.5s
ATKA Atka Island 78.22 33 P P 22 06 05.3 +0.8
TIXI Tiksi 78.41 1 P P 22 06 04.3 -0.9
TIXI Tiksi 78.41 1 P P 22 06 04.6 -0.5
comp=Z,221nm,0.6s,baz=179,slow=4.0,SNR=234
TIXI pP **pP 22 08 01.0 +0.4**
comp=Z,26nm,1.0s,baz=183,slow=3.0,SNR=2.4
comp=Z,221nm,0.6s
SMRA Abu-Samra 78.64 297 P P 22 06 08.4 +1.0
SNR=109
SMRA S **S 22 15 13.2 -6.7**
SHMA Al-Shehemyia 78.77 298 P P 22 06 10.0 +1.9
SNR=64
SHMA S **S 22 15 16.9 -4.3**
SAKB Bahrain 79.17 298 P P 22 06 11.2 +1.0
SAKB S **S 22 15 22.1 -3.2**
ABKAR Akbulak array 79.36 323 P P 22 06 10.0 -0.6
ABKAR Akbulak array 79.36 323 P P 22 06 10.4 -0.3
ABKAR IAmb IAmb 22 06 13.2
comp=Z,662nm,1.5s
BILL Bilibino 80.19 15 P P 22 06 14.2 -0.4
BILL Bilibino 80.19 15 *ce*P **P 22 06 15.5 +0.9**
BILL pmax pmax
comp=Z,213nm,2.5s
NRIK Noril'sk 80.29 347 P P 22 06 15.4 +0.3
NRIK IAmb IAmb 22 06 18.4
comp=Z,1μm,1.7s
NRIK Noril'sk 80.29 347 P P 22 06 15.4 +0.3
comp=Z,137nm,0.9s,baz=139,slow=5.2,SNR=206
NRIK S **S 22 15 34.0 -1.1**
comp=Z,6.8nm,0.8s,baz=45,slow=22,SNR=16
comp=Z,137nm,0.9s
NRIK Noril'sk 80.29 347 *ce*P **P 22 06 15.6 +0.5**
NRIK pmax pmax
comp=Z,751nm,1.8s
KIP Kipapa 80.51 67 P P 22 06 17.3 0.0
KIP Kipapa 80.51 67 P P 22 06 19.0 +1.7
KIP Kipapa 80.51 67 P P 22 06 18.1 +0.8
KIP Kipapa 80.51 67 *ce*P **P 22 06 18.6 +1.3**
KIP pmax pmax
comp=Z,53nm,1.7s
NIKH Nikolski High 81.49 34 P P 22 06 22.2 +0.5
NIKH Nikolski High 81.49 34 P P 22 06 23.3 +1.6
NIKH Nikolski High 81.49 34 P P 22 06 22.4 +0.8
baz=247
SYO Syowa Base 81.97 201⇑ *i*P **P 22 06 24.6 +0.8**
SYO Syowa Base 81.97 201⇑ *ep*P pP 22 08 20.6 -1.6
SVE Sverdlovsk 82.12 330 *c i*P **P 22 06 25.8 +1.0**
SVE *e* 22 09 17.9
SVE *i* S **SKSac 22 15 50.0 -2.6**
SVE pmax pmax
comp=Z,821nm,1.9s
KHU Kahuku 82.33 70 P P 22 06 27.5 +0.5
KHU Kahuku 82.33 70 P P 22 06 27.5 +0.5
KHU pmax pmax
comp=Z,220nm,1.3s
KBD Kabd 82.33 301 P P 22 06 27.7 +1.2
KBD S **SKSac 22 15 53.2 -1.9**
SPIA Saint Paul Isl 82.49 30 P P 22 06 27.9 +1.2
SPIA IAmb IAmb 22 06 29.5
comp=Z,791nm,1.4s
SPIA Saint Paul Isl 82.49 30 P P 22 06 27.6 +1.0
baz=245
POHA Pohakuloa 82.49 69 P P 22 06 27.8 0.0
POHA Pohakuloa 82.49 69 P P 22 06 27.9 +0.1
MLH Mauna Loa 82.58 69 P P 22 06 28.7 +0.5
MLH IAmb IAmb 22 06 32.2
comp=Z,416nm,1.1s
P08K Saint George I 82.59 30 P P 22 06 28.4 +1.3
P08K IAmb IAmb 22 06 30.9
comp=Z,535nm,1.1s
P08K Saint George I 82.59 30 P P 22 06 28.5 +1.3
baz=246
UWE Uwekahuna 82.66 69 P P 22 06 29.1 +0.6
UWE IAmb IAmb 22 06 32.9
comp=Z,667nm,1.8s
ARTI Arti 83.08 329 P P 22 06 29.0 -0.6
ARTI Arti 83.08 329 *c i*P **P 22 06 29.4 -0.2**
ARTI *PP **pP 22 08 23.5 -3.7**
ARTI 22 09 49.3
ARTI S **SKSac 22 15 58.5 -0.3**
ARTI pmax pmax
comp=Z,846nm,1.6s
QSPA South Pole Qui 83.10 180 P P 22 06 29.3 -0.5
QSPA South Pole Qui 83.10 180 P P 22 06 29.3 -0.5
comp=Z,107nm,0.6s,baz=303,slow=1.3,SNR=522
QSPA pP **pP 22 08 28.6 -0.2**
comp=Z,32nm,0.9s,baz=326,slow=6.5,SNR=3.7
QSPA S **SKSac 22 15 57.7 -1.3**
comp=Z,7.1nm,0.7s,baz=51,slow=1.2,SNR=3.1
QSPA PKKPbc **PKKPbc 22 24 46.8 -3.8**
comp=Z,8.8nm,1.1s,baz=198,slow=1.3,SNR=6.0
comp=Z,107nm,0.6s
UNV Unalaska Valle 83.13 34 P P 22 06 30.4 +0.6
UNV Unalaska Valle 83.13 34 P P 22 06 30.9 +1.0
UNV Unalaska Valle 83.13 34 P P 22 06 30.8 +0.9
baz=248,SNR=8.7
RAYN Ar Rayn 83.15 295 P P 22 06 31.0 +0.2
RAYN IAmb IAmb 22 06 33.7
comp=Z,494nm,1.2s
RAYN Ar Rayn 83.15 295 P P 22 06 32.1 +1.3
RAYN S **SKSac 22 15 51.0 -10**
RAYN Ar Rayn 83.15 295 P P 22 06 31.5 +0.7
RAYN Ar Rayn 83.15 295 *i* P **P 22 06 31.7 +0.9**
SNR=397
PPTF Pamatai, Papee 83.64 107 P P 22 06 34.3 +0.9
PPTF IAmb IAmb 22 06 38.1
comp=Z,366nm,1.5s
PPTF Pamatai, Papee 83.64 107 P P 22 06 35.2 +1.8
ATD Arta Tunnel 83.71 282 P P 22 06 34.9 +1.1
ATD Arta Tunnel 83.71 282 P P 22 06 37.2 +3.4
SNR=7.8
ATD S **SKSac 22 15 58.5 -6.2**
GAMB Gambell 84.75 23 P P 22 06 38.4 +0.7
GAMB Gambell 84.75 23 P P 22 06 38.7 +1.1
baz=243
FALS False Pass 85.17 33 P P 22 06 39.7 -0.2
FALS IAmb IAmb 22 06 41.7

comp=Z,201nm,1.1s
FALS **False Pass** **85.17** **33** P **P** **22 06 40.7 +0.8**
FALS **False Pass** **85.17** **33** P **P** **22 06 40.4 +0.5**
baz=251
MAK **Makhachkala** **85.56** **314** *d i*P **P** **22 06 44.1 +2.0**
MAK *e**PP **pP** **22 08 38.7 -3.2**
MAK *e**SP **sP** **22 09 35.9 -1.5**
MAK *e* 22 10 09.9
MAK *e*PPP PPP 22 12 09.9
MAK *e* 22 16 16.0
MAK *e*SS SS 22 22 24.1 +3.3
MAK *e*SSS SSS 22 26 01.1
MAK pmax pmax
comp=Z,342nm,1.2s
M11K **Mekoryuk** **85.70** **28** P **P** **22 06 42.8 +0.5**
baz=248
KIBK **Kibwezi** **86.68** **268** P **P** **22 06 48.9 +0.7**
KIBK **Kibwezi** **86.68** **268** P **P** **22 06 48.5 +0.3**
KIBK **Kibwezi** **86.68** **268** P **P** **22 06 50.2 +2.0**
SNR=34
SDPT **Sand Point** **86.93** **33** P **P** **22 06 48.2 0.0**
SDPT IAmb IAmb 22 06 50.2
comp=Z,197nm,0.6s
SDPT **Sand Point** **86.93** **33** P **P** **22 06 47.9 -0.4**
SDPT **Sand Point** **86.93** **33** P **P** **22 06 48.3 0.0**
baz=253,SNR=12
K13K **Kusilvak Mount** **86.96** **26** P **P** **22 06 49.2 +0.9**
baz=249,SNR=38
TNA **Tin City** **86.98** **23** P **P** **22 06 49.1 +0.8**
baz=246
M13K **Dall Lake** **87.04** **28** P **P** **22 06 49.3 +0.6**
baz=251,SNR=7.9
ELIB **Princess Elisa** **87.10** **198** *d*P **P** **22 06 49.8 +0.7**
comp=Z,54nm,0.0s
ELIB *d*pP **pP** **22 08 52.7 +3.7**
CNBA **Chernabura Isl** **87.27** **34** P **P** **22 06 49.8 -0.1**
CHNA **Chernabura Isl** **87.28** **34** P **P** **22 06 50.3 +0.4**
CHNA **Chernabura Isl** **87.28** **34** P **P** **22 06 50.3 +0.4**
baz=254
F14K **Arctic Creek** **87.56** **23** P **P** **22 06 52.1 +1.0**
baz=248
ANM **Nome** **87.60** **24** P **P** **22 06 52.2 +0.9**
baz=249
KMBO **Kilima Mbogo** **87.61** **269** P **P** **22 06 52.8 0.0**
KMBO **Kilima Mbogo** **87.61** **269** P **P** **22 06 53.2 +0.4**
comp=Z,18nm,0.8s,baz=72,slow=5.2,SNR=69
KMBO pP **pP** **22 08 53.2 +0.6**
comp=Z,10nm,1.0s,baz=58,slow=6.8,SNR=3.7
comp=Z,18nm,0.8s
KMBO **Kilima Mbogo** **87.61** **269** P **P** **22 06 54.2 +1.4**
KMBO **Kilima Mbogo** **87.61** **269** *i* P **P** **22 06 54.4 +1.6**
KMBO pmax pmax
comp=Z,18nm,0.8s
KMBO **Kilima Mbogo** **87.61** **269** *i* P **P** **22 06 53.8 +1.0**
SNR=56
L14K **Kuka Creek** **87.65** **27** P **P** **22 06 52.4 +0.9**
baz=251,SNR=19
N14K **Kuskokwak Cree** **87.67** **29** P **P** **22 06 52.5 +0.9**
baz=252,SNR=11
O14K **Tigyukauivet M** **87.67** **30** P **P** **22 06 52.6 +1.0**
baz=252,SNR=19
S14K **Fog Glacier** **87.69** **33** P **P** **22 06 52.6 +0.7**
baz=254,SNR=8.5
J14K **Nanvaranak Lak** **87.72** **26** P **P** **22 06 52.7 +0.8**
baz=250,SNR=12
M14K **Bethel** **87.79** **28** P **P** **22 06 53.3 +1.1**
baz=252,SNR=26
GEVA **Gevas** **87.92** **309** P **P** **22 06 53.6 +0.1**
GEVA IAmb IAmb 22 06 56.7
comp=Z,284nm,1.3s
G15K **Niukluk** **88.29** **24** P **P** **22 06 54.9 +0.4**
baz=250
F15K **North Star Dit** **88.30** **23** P **P** **22 06 55.5 +1.0**
baz=249,SNR=18
L15K **Ungalak Mounta** **88.30** **27** P **P** **22 06 55.1 +0.5**
baz=252,SNR=9.6
CHGN **Chignik** **88.31** **33** P **P** **22 06 54.7 0.0**
baz=255
KARS **Kars** **88.32** **311** P **P** **22 06 56.0 +0.7**
KARS **Kars** **88.32** **311** P **P** **22 06 56.0 +0.7**
KARS pmax pmax
comp=Z,2μm,1.9s
O15K **Ungalikthiuk R** **88.36** **30** P **P** **22 06 55.7 +0.8**
baz=254,SNR=20
M15K **Kasigluk River** **88.37** **28** P **P** **22 06 55.6 +0.7**
baz=253,SNR=18
KIRV **Kirov** **88.38** **330** *ce*P **P** **22 06 54.8 -0.1**
K15K **Wolf Creek Mou** **88.47** **27** P **P** **22 06 56.3 +1.0**
baz=252,SNR=7.9
NCK **Nalchik** **88.47** **314** *d i*P **P** **22 06 56.1 +0.3**
NCK pmax pmax
comp=Z,121nm,1.2s
N15K **Kwethluk River** **88.50** **29** P **P** **22 06 56.6 +1.0**
baz=254,SNR=20
GURO **Guroymak-BITLI** **88.75** **309** P **P** **22 06 57.8 +0.4**
GURO IAmb IAmb 22 07 00.7
comp=Z,278nm,1.4s
H16K **Elim** **88.90** **24** P **P** **22 06 57.8 +0.6**
baz=252,SNR=16
C16K **Lisburne Hills** **88.97** **20** P **P** **22 06 58.4 +0.8**
baz=249,SNR=35
KBZ **Khabaz** **89.01** **314** P **P** **22 06 57.9 -0.4**
comp=Z,39nm,0.9s,baz=113,slow=2.4,SNR=92
KBZ PKKPbc **PKKPbc** **22 24 33.8 -1.1**
comp=Z,1.8nm,0.7s,baz=225,slow=5.7,SNR=5.5
comp=Z,39nm,0.9s
KBZ **Khabaz** **89.01** **314** *ce*P **P** **22 06 58.3 0.0**
KBZ pmax pmax
comp=Z,60nm,1.0s
G16K **Koyuk River** **89.09** **24** P **P** **22 06 58.9 +0.7**
baz=251,SNR=37
GOF **Gofitskoye** **89.15** **315** *d i*P **P** **22 06 59.9 +1.0**
GOF *e*S **SKSac** **22 16 35.4 -0.8**
J16K **Anvik River** **89.17** **26** P **P** **22 06 59.5 +0.9**
baz=253,SNR=17
SHA1 **Shidzhatmaz** **89.19** **314** *d i*P **P** **22 07 00.0 +0.6**
KIV **Kislovodsk** **89.20** **314** P **P** **22 06 59.4 +0.1**
KIV **Kislovodsk** **89.20** **314** P **P** **22 07 00.2 +0.8**
KIV **Kislovodsk** **89.20** **314** ⇓P **P** **22 07 00.3 +1.0**
KIV **Kislovodsk** **89.20** **314** *e*P **P** **22 06 59.6 +0.3**
KIV *e**PP **pP** **22 08 58.5 -1.4**
KIV *e**SP **sP** **22 09 52.0 -3.5**
KIV *e* 22 16 37.2
KIV *e*SS SS 22 23 11.1 -2.3
KIV *e*SSS SSS 22 26 54.7
KIV pmax pmax
comp=Z,44nm,1.1s
KIV pmax pmax
comp=Z,344nm,4.3s
KIV MLR MLR
comp=Z,961nm,20.0s
KIV **Kislovodsk** **89.20** **314** *i* P **P** **22 07 00.1 +0.8**
SNR=27
KIV **Kislovodsk** **89.20** **314** P **P** **22 06 59.0 -0.3**
KIV S **S** **22 17 00.5 -1.7**
N16K **Nishlik Lake** **89.22** **29** P **P** **22 07 00.1 +1.2**
baz=255,SNR=16
L16K **Owhat River** **89.23** **27** P **P** **22 06 59.5 +0.7**
baz=254,SNR=32
P16K **Nushagak River** **89.23** **30** P **P** **22 06 59.9 +0.9**
baz=255,SNR=10
M16K **Timber Creek** **89.28** **28** P **P** **22 06 59.9 +0.8**
baz=254,SNR=9.8
I17K **Unalakleet** **89.31** **25** P **P** **22 06 59.7 +0.6**
I17K **Unalakleet** **89.31** **25** P **P** **22 07 00.3 +1.2**
baz=253,SNR=7.2
O16K **Kokwok River B** **89.32** **30** P **P** **22 06 60.0 +0.6**
baz=255,SNR=16
MARD **Mardin** **89.53** **308** P **P** **22 07 00.8 -0.3**
MARD IAmb IAmb 22 07 03.7
comp=Z,335nm,1.8s
D17K **Noatak River** **89.56** **21** P **P** **22 07 01.5 +1.2**
baz=251,SNR=113
CHIR **Chirikof Islan** **89.72** **34** P **P** **22 07 02.7 +1.4**
baz=257
RDOG **Red Dog Mine** **89.75** **21** P **P** **22 07 01.9 +0.8**
RDOG **Red Dog Mine** **89.75** **21** P **P** **22 07 02.3 +1.1**
baz=251,SNR=5.3
G17K **Kiwalik Mounta** **89.80** **24** P **P** **22 07 02.1 +0.6**
baz=253,SNR=56
Q16K **King Salmon** **89.82** **31** P **P** **22 07 02.3 +0.6**
baz=256
E17K **Hotham Inlet** **89.83** **22** P **P** **22 07 02.4 +0.9**
baz=252
F17K **Baldwin Pennin** **89.85** **23** P **P** **22 07 02.4 +0.7**
baz=252
O17K **Koliganek Bris** **89.86** **30** P **P** **22 07 02.5 +0.7**
baz=256
J17K **VABM Dome** **89.86** **26** P **P** **22 07 02.9 +1.1**
baz=254,SNR=39
L17K **Donlin** **89.88** **27** P **P** **22 07 03.0 +1.1**
baz=255,SNR=22
H17K **Granite Mounta** **89.94** **24** P **P** **22 07 02.9 +0.8**
baz=254,SNR=27
N17K **Nushagak Hills** **89.99** **29** P **P** **22 07 03.8 +1.3**
baz=256,SNR=5.5
K17K **Iditarod** **90.02** **27** P **P** **22 07 03.6 +1.0**
baz=255,SNR=42
LODK **Lodwar** **90.03** **273** P **P** **22 07 04.5 +0.7**
LODK **Lodwar** **90.03** **273** P **P** **22 07 05.8 +2.0**
SNR=13
P17K **Kvichak River** **90.05** **30** P **P** **22 07 02.8 +0.1**
baz=257
M17K **Holitna River** **90.09** **28** P **P** **22 07 04.0 +1.1**
baz=256,SNR=9.2
Q17K **Contact Creek** **90.11** **31** P **P** **22 07 02.7 -0.5**
baz=257,SNR=22
KOPT **Kop Dagi** **90.16** **310** P **P** **22 07 05.3 +1.2**
KOPT IAmb IAmb 22 07 07.7
comp=Z,277nm,1.4s
E18K **Tukpahlearik C** **90.38** **22** P **P** **22 07 05.1 +1.0**
baz=253
F18K **Selawik** **90.51** **23** P **P** **22 07 05.0 +0.3**
baz=254,SNR=14
C18K **Utukok River** **90.54** **21** P **P** **22 07 05.4 +0.5**
baz=252,SNR=42
B18K **Kokolik River** **90.55** **20** P **P** **22 07 06.1 +1.2**
baz=252
H18K **Honhosa River** **90.63** **24** P **P** **22 07 05.7 +0.3**
baz=255
L18K **Granite Mounta** **90.63** **27** P **P** **22 07 06.2 +0.9**
baz=256,SNR=18
Q18K **Katmai Hardscr** **90.65** **31** P **P** **22 07 05.3 -0.4**
baz=258,SNR=5.5
N18K **Kilae Creek** **90.65** **29** P **P** **22 07 06.5 +0.9**
baz=257
SII **Sitkinak Islan** **90.66** **33** P **P** **22 07 06.4 +0.8**
SII **Sitkinak Islan** **90.66** **33** P **P** **22 07 05.9 +0.2**
baz=259
P18K **Big Mountain,** **90.69** **30** P **P** **22 07 05.6 -0.1**
baz=258
G18K **Tagagawik** **90.70** **24** P **P** **22 07 05.9 +0.2**
baz=255,SNR=33
LABN **Labinsk** **90.71** **315** *e*P **P** **22 07 06.8 +0.7**
LABN *e* 22 10 52.4
LABN *e* 22 16 45.7
LABN *e*SP SP 22 18 30.8 +3.1
LABN pmax pmax
comp=Z,66nm,1.6s
R18K **Karluk** **90.72** **32** P **P** **22 07 05.9 +0.1**
baz=258
O18K **Koktuh Hills** **90.80** **30** P **P** **22 07 06.2 0.0**
baz=258,SNR=6.2
M18K **Stony River** **90.86** **28** P **P** **22 07 07.2 +0.7**
baz=257,SNR=15
J18K **Innoko River** **90.91** **26** P **P** **22 07 07.2 +0.5**
baz=256,SNR=33
NVL **N'lazarevskaya** **90.98** **198** ⇓*i*P **P** **22 07 07.8 +0.9**
NVL *e*S **SKSac** **22 16 44.0 -1.7**
NVL pmax pmax
comp=Z,19nm,0.9s
VSLR **Vesyoloye** **91.02** **313** *d i*P **P** **22 07 07.9 +0.3**
VSLR pmax pmax
comp=Z,151nm,1.3s
ERBR **Yeremizino-Bor** **91.04** **316** *e*P **P** **22 07 07.3 -0.3**
ERBR *e**PP **pP** **22 09 06.5 -2.1**
ERBR *e* 22 10 51.4
ERBR *e* 22 16 46.3
ERBR *e* 22 17 08.9
ERBR *e*SP SP 22 18 31.6 +0.2
ERBR pmax pmax
comp=N,11nm,0.8s
ERBR pmax pmax
comp=E,11nm,0.7s
ERBR pmax pmax
comp=Z,55nm,1.1s
A19K **Wainwright** **91.05** **19** P **P** **22 07 08.3 +1.3**
baz=253
VRH **Novokhopyorsk** **91.09** **321** *e*P **P** **22 07 06.7 -1.0**
VRH S **SKSac** **22 16 44.3 -2.6**
VRH pmax pmax
comp=Z,268nm,1.1s
TTA **Tatalina** **91.10** **27** P **P** **22 07 08.1 +0.5**
TTA **Tatalina** **91.10** **27** P **P** **22 07 08.1 +0.5**
TTA pmax pmax
comp=Z,53nm,1.1s
TTA **Tatalina** **91.10** **27** P **P** **22 07 07.8 +0.2**
baz=257,SNR=41
GCSA **Galena City Sc** **91.14** **25** P **P** **22 07 08.1 +0.5**
baz=256,SNR=5.4
SOC **Sochi** **91.27** **314** *e*P **P** **22 07 07.3 -1.4**
SOC *e**SP **sP** **22 10 00.7 -4.6**
SOC *e* 22 10 53.2
SOC *e*PPP PPP 22 12 56.3
SOC *e*S **SKSac** **22 16 46.8 -1.5**
OHAK **Old Harbor** **91.27** **33** P **P** **22 07 08.7 +0.3**
OHAK IAmb IAmb 22 07 10.3
comp=Z,122nm,1.4s
OHAK **Old Harbor** **91.27** **33** P **P** **22 07 08.9 +0.5**
OHAK **Old Harbor** **91.27** **33** P **P** **22 07 08.6 +0.3**
baz=259
F19K **Shaleruckik Mo** **91.29** **23** P **P** **22 07 08.7 +0.4**
baz=256
O19K **Port Alsworth** **91.31** **30** P **P** **22 07 08.5 0.0**
baz=258
N19K **Bonanza Creek** **91.35** **29** P **P** **22 07 09.7 +0.9**
baz=258,SNR=24
G19K **Purcell Mounta** **91.39** **23** P **P** **22 07 09.5 +0.7**
baz=256
Q19K **Cape Douglas,** **91.40** **31** P **P** **22 07 08.6 -0.5**
baz=259
L19K **White Mountain** **91.46** **28** P **P** **22 07 09.9 +0.7**
baz=258,SNR=16
H19K **Roundabout Mou** **91.50** **24** P **P** **22 07 10.1 +0.8**
baz=257,SNR=66
J19K **Poorman** **91.50** **26** P **P** **22 07 10.1 +0.7**
baz=257,SNR=32
D19K **Kuna River** **91.58** **21** P **P** **22 07 10.4 +0.7**
baz=255
M19K **Big River Lodg** **91.62** **28** P **P** **22 07 10.9 +0.9**
baz=258
E19K **Redstone River** **91.65** **22** P **P** **22 07 10.8 +0.9**
baz=256
KDAK **Kodiak Island** **91.74** **32** P **P** **22 07 10.7 +0.2**
KDAK **Kodiak Island** **91.74** **32** P **P** **22 07 10.7 +0.2**
KDAK pmax pmax
comp=Z,54nm,1.0s
KDAK **Kodiak Island** **91.74** **32** P **P** **22 07 10.9 +0.4**
baz=260
P19K **Oil Pt** **91.74** **30** P **P** **22 07 10.2 -0.4**
baz=259
L20K **Farewell, AK** **91.96** **27** P **P** **22 07 12.2 +0.7**
baz=259,SNR=14
Q20K **Shuyak Island** **91.98** **31** P **P** **22 07 11.9 +0.2**
baz=260
K20K **Telida** **92.05** **26** P **P** **22 07 12.0 +0.1**
baz=259
O20K **Slope Mountain** **92.12** **30** P **P** **22 07 12.1 -0.3**
baz=260
F20K **Avaraart Lake** **92.12** **23** P **P** **22 07 12.9 +0.8**
baz=257,SNR=82
H20K **Anotleneega Mo** **92.13** **24** P **P** **22 07 12.8 +0.6**
baz=258,SNR=26
I20K **Naaghedeneel** **92.16** **25** P **P** **22 07 12.9 +0.6**
baz=258
D20K **Etivluk River** **92.17** **21** P **P** **22 07 13.0 +0.6**
baz=257
J20K **Nowinta River** **92.17** **26** P **P** **22 07 13.1 +0.7**
baz=259,SNR=26
M20K **Styx River** **92.20** **28** P **P** **22 07 13.2 +0.5**
baz=260,SNR=14
E20K **Nigu River** **92.22** **21** P **P** **22 07 13.6 +0.9**
baz=257
B20K **Meade River** **92.28** **20** P **P** **22 07 13.7 +0.9**
baz=256
GAZ **Gaziantep** **92.33** **307** P **P** **22 07 13.9 0.0**
GAZ IAmb IAmb 22 07 16.5
comp=Z,207nm,1.7s
SPCR **Spurr Chakacha** **92.52** **29** P **P** **22 07 13.7 -0.5**
baz=260,SNR=7.4
HOM **Homer** **92.54** **30** P **P** **22 07 14.2 0.0**
baz=261
VORD **Divnogorie** **92.57** **321** *e*P **P** **22 07 11.7 -2.8**
VORD *e* 22 11 04.8
VORD *e* 22 16 51.2
VORD pmax pmax
comp=Z,120nm,1.0s
FKH **Fakeheh** **92.64** **304** *e*P **P** **22 07 16.8 +1.4**
VSR **Storozhevoye** **92.69** **321** *e*P **P** **22 07 11.5 -3.6**
VSR *e* 22 11 04.5
VSR *e* 22 16 52.3
VSR pmax pmax
comp=Z,100nm,1.0s
VORR **Voronezh** **92.72** **322** P **P** **22 07 15.0 -0.2**
VORR S **SKSac** **22 16 55.8 -0.1**
VORR pmax pmax
comp=Z,337nm,1.4s
CNPM **China Poot** **92.72** **30** P **P** **22 07 14.4 -0.7**
CNPM IAmb IAmb 22 07 16.3
comp=Z,112nm,1.4s
A21K **Barrow** **92.77** **18** P **P** **22 07 15.9 +0.9**
baz=257,SNR=6.7
PPLA **Purkeypile** **92.81** **27** P **P** **22 07 14.9 -0.7**
PPLA **Purkeypile** **92.81** **27** P **P** **22 07 15.5 0.0**
baz=260,SNR=6.2
BEIL **Beino** **92.86** **304** *e*P **P** **22 07 16.9 +0.6**
G21K **Allakaket** **92.88** **23** P **P** **22 07 16.1 +0.5**
baz=259
C21K **Knifeblade Rid** **92.91** **21** P **P** **22 07 16.6 +0.9**
baz=258,SNR=47
CHUM **Lake Minchumin** **92.91** **26** P **P** **22 07 16.4 +0.6**
baz=260,SNR=19
CAST **Castle Rocks** **92.94** **27** P **P** **22 07 15.3 -0.7**
CAST **Castle Rocks** **92.94** **27** P **P** **22 07 15.9 -0.1**
baz=261,SNR=6.4
SKT **Skwentna** **92.96** **28** P **P** **22 07 15.0 -1.1**
baz=261,SNR=18
BRSE **Bradley Lake S** **93.00** **30** P **P** **22 07 16.0 -0.4**
baz=262
H21K **Melozitna Rive** **93.01** **24** P **P** **22 07 16.8 +0.6**
baz=260,SNR=43
LPSR **Galich'ya Gora** **93.01** **322** *e*P **P** **22 07 16.1 -0.4**
LPSR *e*S **SKSac** **22 16 57.4 0.0**
LPSR pmax pmax
comp=Z,240nm,1.0s
TROLL **Troll, Antarti** **93.01** **195** ⇓P **P** **22 07 17.0 +0.6**
comp=Z,2μm,0.6s
TROLL ⇓pP **pwP** **22 09 22.6 +1.3**
TROLL ⇓sP sP 22 10 03.9 -8.2
TROLL ⇓SKSac **SKSac** **22 16 56.9 -0.3**
comp=Z,800nm,0.9s
F21K **Alatna River** **93.02** **23** P **P** **22 07 16.5 +0.2**
baz=260,SNR=20
GHAJ **Ghor Haditha** **93.03** **301** P **P** **22 07 16.8 -0.3**
HWQ **Hawqa** **93.03** **304** *e*P **P** **22 07 17.1 -0.1**
ZAHL **Zahle** **93.03** **304** *e*P **P** **22 07 18.5 +1.3**
RCY **Rachaya** **93.03** **303** *e*P **P** **22 07 18.3 +1.0**
ANN **Anapa** **93.05** **315** *e*P **P** **22 07 15.0 -1.9**
ANN *e**PP **pP** **22 09 14.6 -3.5**
ANN *e* 22 11 08.6
ANN *e* 22 16 56.0
ANN *e*SP SP 22 19 01.2 +7.7
ANN *e*SS **SS** **22 24 04.0 -3.8**
ANN pmax pmax
comp=Z,64nm,1.0s
ANN pmax pmax
comp=N,16nm,0.9s
ANN pmax pmax
comp=E,10.0nm,1.1s
ANN MLR MLR
comp=Z,799nm,17.0s
E21K **Killik River** **93.06** **21** P **P** **22 07 17.0 +0.5**
baz=259
B21K **Ikpikpuk River** **93.06** **20** P **P** **22 07 17.4 +1.0**
baz=259
SHBL **Chebaa** **93.09** **303** *e*P **P** **22 07 18.7 +1.1**
A22K **Sinclair Lake** **93.22** **19** P **P** **22 07 18.1 +1.1**
baz=258
BHL **Bhannes** **93.23** **304** *e*P **P** **22 07 17.5 -0.6**
SUA **Susitna One** **93.25** **29** P **P** **22 07 16.9 -0.7**
SUA IAmb IAmb 22 07 19.7
comp=Z,85nm,0.9s
SUA **Susitna One** **93.25** **29** P **P** **22 07 17.3 -0.3**
baz=262,SNR=5.9
TOKA **Tokat** **93.26** **310** P **P** **22 07 17.9 -0.1**
I21K **Tanana** **93.27** **25** P **P** **22 07 18.0 +0.6**
baz=261
DQRL **Deir Qamar** **93.28** **303** *e*P **P** **22 07 18.9 +0.6**
MMAI **Mount Meron Ar** **93.34** **303** P **P** **22 07 19.2 +0.6**
comp=Z,32nm,1.1s,baz=93,slow=6.0,SNR=32
MMAI pP **pP** **22 09 19.3 +0.1**
comp=Z,0.4nm,0.3s,baz=101,slow=2.9,SNR=2.0
comp=Z,32nm,1.1s
SLKM **Skilak Lake** **93.37** **30** P **P** **22 07 16.9 -1.1**
SLKM IAmb IAmb 22 07 19.4
comp=Z,131nm,1.0s
BPAW **Bear Paw Mtn.** **93.53** **26** P **P** **22 07 17.8 -0.9**
BPAW **Bear Paw Mtn.** **93.53** **26** P **P** **22 07 18.6 -0.1**
baz=262,SNR=8.2
F22K **John River** **93.56** **22** P **P** **22 07 19.9 +1.1**
baz=261,SNR=61
BNN **Bunyan** **93.59** **309** P **P** **22 07 19.6 -0.1**
M22K **Willow** **93.59** **28** P **P** **22 07 18.6 -0.4**
baz=262,SNR=8.3
B22K **Teshekpuk Lake** **93.60** **20** P **P** **22 07 19.6 +0.8**
baz=260
D22K **Ayikyak River** **93.60** **21** P **P** **22 07 19.8 +0.9**
baz=260,SNR=33
CUT **Chulitna** **93.61** **28** P **P** **22 07 18.3 -0.7**
CUT IAmb IAmb 22 10 30.8
comp=Z,101nm,1.5s
CUT **Chulitna** **93.61** **28** P **P** **22 07 18.3 -0.7**
baz=262
O22K **Cooper Landing** **93.61** **30** P **P** **22 07 19.0 -0.1**
baz=262,SNR=8.5
H22K **Ishtalitna Cre** **93.63** **24** P **P** **22 07 19.8 +0.7**
baz=261,SNR=22
RC01 **Rabbit Creek A** **93.68** **29** P **P** **22 07 18.4 -1.0**
RC01 IAmb IAmb 22 07 21.2
comp=Z,52nm,0.7s
RC01 **Rabbit Creek A** **93.68** **29** P **P** **22 07 18.8 -0.6**
baz=262,SNR=6.7
SEW **Seward** **93.70** **30** P **P** **22 07 19.2 -0.2**
baz=263
G22K **Bettles** **93.73** **23** P **P** **22 07 19.8 +0.3**
baz=261
KLMR **Klimovskoe** **93.74** **331** *e*P P 22 07 13.0 -6.6
KLMR *e* 22 11 11.4
KLMR pmax pmax
comp=Z,264nm,1.5s
TRF **Thorofare Moun** **93.74** **27** P **P** **22 07 19.6 -0.3**
baz=262,SNR=8.5
E22K **Anaktuvuk Pass** **93.80** **22** P **P** **22 07 20.9 +1.0**
baz=261,SNR=143
PMR **Palmer** **94.04** **29** P **P** **22 07 20.1 -0.9**
PMR **Palmer** **94.04** **29** P **P** **22 07 20.1 -0.9**
PMR pmax pmax
comp=Z,22nm,0.8s
PMR **Palmer** **94.04** **29** P **P** **22 07 20.6 -0.4**
baz=263,SNR=6.2
MOS **Moscow** **94.14** **325** *e*P **P** **22 07 18.4 -3.2**
MOS *e**PP **pP** **22 09 18.5 -3.8**
MOS *e* 22 11 15.1
MOS *e* 22 17 00.4
MOS *e*S **S** **22 17 40.5 -4.4**
MOS *e*SS **SS** **22 24 19.2 -3.3**
MOS pmax pmax
comp=Z,188nm,1.6s
MOS pmax pmax
comp=Z,800nm,2.8s
MBAR **Mbarara** **94.14** **269** P **P** **22 07 22.6 -0.2**
MBAR **Mbarara** **94.14** **269** *ce*P **P** **22 07 24.1 +1.3**
MBAR pmax pmax
comp=Z,23nm,1.3s
COLD **Coldfoot** **94.28** **23** P **P** **22 07 22.4 +0.3**
COLD IAmb IAmb 22 07 24.4
comp=Z,91nm,1.2s
COLD **Coldfoot** **94.28** **23** P **P** **22 07 22.9 +0.9**
baz=262,SNR=63
G23K **Bananza Creek** **94.28** **23** P **P** **22 07 23.1 +1.0**
baz=263,SNR=76
D23K **Nanushuk River** **94.33** **21** P **P** **22 07 23.4 +1.2**
baz=262,SNR=101
PWL **Port Wells** **94.34** **29** P **P** **22 07 21.4 -1.0**
PWL IAmb IAmb 22 10 48.4
comp=Z,64nm,1.0s
PWL **Port Wells** **94.34** **29** P **P** **22 07 22.3 -0.1**
baz=264
KNK **Knik Glacier** **94.34** **29** P **P** **22 07 22.5 +0.1**

baz=264,SNR=15
I23K Minto, Yukon-K 94.36 25 P P 22 07 22.9 +0.5
baz=263,SNR=98
H23K Yukon River 94.36 24 P P 22 07 23.2 +0.7
baz=263,SNR=71
MCK McKinley 94.38 26 P P 22 07 21.9 -0.7
baz=263,SNR=16
NEA2 Nenana 94.42 26 P P 22 07 22.1 -0.6
NEA2 Nenana 94.42 26 P P 22 07 22.1 -0.6
baz=263,SNR=18
SML Sawmill 94.44 28 P P 22 07 22.9 -0.1
baz=264,SNR=14
C23K Itkillik River 94.47 20 P P 22 07 23.4 +0.6
baz=262
SNAA Sanae 94.58 195 P P 22 07 23.6 +0.2
SNAA IAmb IAmb 22 09 31.9
comp=Z,140nm,1.6s
SNAA Sanae 94.58 195 ⇓P **P 22 07 23.7 +0.2**
comp=Z,665nm,0.7s
SNAA ⇓pP **pwP 22 09 30.6 +2.8**
SNAA ⇓SKSac **SKSac 22 17 04.2 -1.3**
comp=Z,291nm,0.8s
SNAA Sanae 94.58 195 P P 22 07 24.0 +0.5
comp=Z,21nm,0.6s,baz=168,slow=4.9,SNR=95
SNAA pP **pP 22 09 24.3 +0.3**
comp=Z,4.9nm,0.7s,baz=131,slow=2.7,SNR=2.9
SNAA PKKPbc **PKKPdf 22 24 18.1 -1.3**
comp=Z,6.5nm,1.1s,baz=304,slow=3.6,SNR=4.1
comp=Z,21nm,0.6s
E23K Chandalar 94.61 22 P P 22 07 24.7 +1.1
baz=263,SNR=106
BELA Belgrano 2 94.62 184 P P 22 07 23.0 -0.4
OBN Obninsk 94.67 325 P P 22 07 23.8 -0.2
OBN Obninsk 94.67 325 *d* iP **P 22 07 23.8 -0.2**
OBN *i* *PP **pP 22 09 24.4 -0.4**
OBN *i* 22 11 22.3
OBN *i* 22 17 07.0
OBN *i* S **S 22 17 44.0 -5.5**
OBN *i* 22 20 25.8
OBN *e*SS **SS 22 24 32.8 +2.8**
OBN SSS SSS 22 28 16.0
OBN pmax pmax
comp=Z,91nm,1.1s
TOLK Toolik Lake Re 94.69 21 P P 22 07 24.2 +0.3
TOLK IAmb IAmb 22 07 26.3
comp=Z,76nm,1.2s
TOLK Toolik Lake Re 94.69 21 P P 22 07 25.1 +1.1
baz=263,SNR=49
P23K Montague Islan 94.71 30 P P 22 07 24.6 +0.5
baz=264
LSZ Lusaka 94.71 254 P P 22 07 25.5 +0.2
LSZ Lusaka 94.71 254 P P 22 07 25.5 +0.2
LSZ pmax pmax
comp=Z,32nm,1.2s
M23K Glacier View 94.72 28 P P 22 07 24.2 +0.1
baz=264,SNR=11
WRH Wood River Hil 94.83 26 P P 22 07 23.6 -0.9
WRH IAmb IAmb 22 07 25.3
comp=Z,89nm,1.2s
SCM Sheep Creek Mo 94.92 28 P P 22 07 24.8 -0.3
SCM Sheep Creek Mo 94.92 28 P P 22 07 24.8 -0.3
SCM pmax pmax
comp=Z,44nm,0.9s
SCM Sheep Creek Mo 94.92 28 P P 22 07 25.1 0.0
baz=265,SNR=8.1
GLI Glacier Island 94.94 29 P P 22 07 25.2 0.0
baz=265
CCB Clear Creek Bu 94.97 26 P P 22 07 23.9 -1.2
CCB IAmb IAmb 22 07 25.7
comp=Z,129nm,1.3s
COLA College 94.97 25 P P 22 07 23.8 -1.3
COLA College 94.97 25 P P 22 07 23.8 -1.3
COLA pmax pmax
comp=Z,15nm,0.8s
COLA College 94.97 25 P P 22 07 24.3 -0.8
baz=264
D24K Happy Valley 95.02 21 P P 22 07 26.3 +1.0
baz=264
E24K Your Creek 95.03 22 P P 22 07 25.7 +0.3
baz=264,SNR=25
H24K Noodor Dome 95.05 24 P P 22 07 26.2 +0.6
baz=264,SNR=75
KIRS Kirsehir-Merke 95.11 309 ⇑P **P 22 07 26.2 -0.3**
C24K Franklin Bluff 95.12 20 P P 22 07 26.6 +0.9
baz=264,SNR=54
POKR Poker Plat Res 95.17 25 P P 22 07 27.1 +1.0
baz=265,SNR=6.5
F24K Squaw Lake 95.20 23 P P 22 07 27.5 +1.2
baz=265,SNR=65
BOSA Boshof 95.21 240 P P 22 07 26.9 -0.4
BOSA Boshof 95.21 240 P P 22 07 27.7 +0.4
comp=Z,7.8nm,0.9s,baz=147,slow=1.6,SNR=8.5
BOSA pP **pP 22 09 28.1 +0.4**
comp=Z,6.5nm,1.1s,baz=95,slow=2.0,SNR=2.8
comp=Z,7.8nm,0.9s
BOSA Boshof 95.21 240 P P 22 07 26.9 -0.4
BOSA pmax pmax
comp=Z,68nm,2.0s
CSS Mathiatis 95.24 304 P P 22 07 26.8 -0.3
CSS IAmb IAmb 22 11 15.8
comp=Z,62nm,0.9s
G24K Hadweenzic Riv 95.29 24 P P 22 07 27.5 +0.9
baz=265,SNR=37
HDA Harding Lake 95.31 26 P P 22 07 25.2 -1.5
HDA IAmb IAmb 22 07 28.0
comp=Z,47nm,1.0s
HDA Harding Lake 95.31 26 P P 22 07 25.8 -0.9
baz=265,SNR=37
ILAR Eielson Array 95.37 25 P P 22 07 25.3 -1.7
ILAR Eielson Array 95.37 25 P P 22 07 25.6 -1.4
comp=Z,23nm,1.1s,baz=278,slow=4.2,SNR=82
ILAR pP **pP 22 09 26.9 -0.7**
comp=Z,1.3nm,0.9s,baz=250,slow=4.4,SNR=1.9
ILAR PKKPbc **PKKPdf 22 24 17.2 -1.5**
comp=Z,1.7nm,0.7s,baz=45,slow=1.5,SNR=13
comp=Z,23nm,1.1s
BR131 Keskin Array S 95.37 309 P P 22 07 26.3 -1.5
BR131 Keskin Array S 95.37 309 P P 22 07 28.0 +0.2
SNR=17
BR131 S **SKSac 22 17 10.2 -0.8**
BR131 Keskin Array S 95.37 309 *i* P **P 22 07 27.4 -0.4**
BRTR Keskin Array B 95.37 309 P P 22 07 26.5 -1.3
comp=Z,41nm,1.1s,baz=129,slow=4.4,SNR=86
BRTR pP **pP 22 09 29.1 -0.3**
comp=Z,1.7nm,0.9s,baz=122,slow=4.7,SNR=2.4
BRTR PKKPbc **PKKPdf 22 24 15.6 -2.7**
comp=Z,0.9nm,0.8s,baz=129,slow=1.4,SNR=3.8
BRTR SKKPbc SKKPbc 22 27 04.8 -1.6
comp=Z,2.2nm,1.1s,baz=285,slow=1.9,SNR=4.2
comp=Z,41nm,1.1s
BRTR Keskin Array B 95.37 309 *ce*P **P 22 07 26.5 -1.3**
BRTR pmax pmax
comp=Z,44nm,1.1s
ILGA Ilgaz 95.41 311 P P 22 07 27.9 -0.2
ILGA IAmb IAmb 22 11 26.2
comp=Z,120nm,1.2s
SIM Simferopol' 95.41 315 *de*P **P 22 07 27.7 +0.1**
SIM *e* 22 11 33.0
SIM *e* 22 17 11.0
SIM pmax pmax
comp=Z,39nm,1.0s
SIM pmax pmax
comp=Z,270nm,8.8s
SIM MLR MLR
comp=Z,1μm,23.0s
M24K Tolsona, Glenn 95.48 28 P P 22 07 28.6 +0.9
baz=266,SNR=8.0
KLU Klutina 95.56 29 P P 22 07 28.4 +0.3
baz=266
EYAK Cordova Ski Ar 95.57 30 P P 22 07 27.9 0.0
baz=266
DIV Divide 95.60 29 P P 22 07 28.7 +0.5
DIV IAmb IAmb 22 07 30.1
comp=Z,100nm,1.4s
K24K Donnelly Dome 95.78 26 P P 22 07 29.0 +0.1
baz=266,SNR=14
G25K Bearman Lake 95.84 23 P P 22 07 30.1 +1.1
baz=266,SNR=9.9
PAX Paxson 95.87 27 P P 22 07 29.0 -0.4
PAX Paxson 95.87 27 P P 22 07 29.0 -0.4
PAX pmax pmax
comp=Z,32nm,1.1s
PAX Paxson 95.87 27 P P 22 07 29.7 +0.3
baz=266,SNR=16
D25K Kavik River 95.90 21 P P 22 07 29.6 +0.2
baz=266

H25L Birch Creek 95.92 24 P P 22 07 30.6 +1.2
baz=266,SNR=54
HARP HAARP 95.98 28 P P 22 07 30.2 +0.4
baz=267
PRP Porcupine Dome 96.00 25 P P 22 07 29.1 -0.9
baz=267,SNR=6.2
J25K Salcha River, 96.01 26 P P 22 07 29.4 -0.6
baz=267,SNR=20
ANTO Ankara 96.03 309 P P 22 07 30.4 -0.3
ANTO Ankara 96.03 309 P P 22 07 30.4 -0.3
ANTO pmax pmax
comp=Z,30nm,1.0s
ANTO Ankara 96.03 309 P P 22 07 30.8 +0.2
F25K Christian Rive 96.07 23 P P 22 07 31.5 +1.3
baz=267,SNR=21
E25K Arctic Village 96.12 22 P P 22 07 31.7 +1.3
baz=267,SNR=56
BMRM Bremner River 96.16 29 P P 22 07 30.5 -0.2
BMRM Bremner River 96.16 29 P P 22 07 30.7 0.0
baz=267
VNA2 Neumayer--Watz 96.18 194 ⇓P **P 22 07 31.4 +0.8**
comp=Z,18nm,0.7s,baz=136,slow=4.8
VNA2 ⇓pP **pwP 22 09 38.3 +3.1**
baz=140,slow=3.9
VNA2 ⇓SKS **SKSac 22 17 12.3 -1.4**
comp=Z,6.1nm,0.7s,baz=155,slow=5.9
RIDG Independent Ri 96.19 27 P P 22 07 30.3 -0.5
RIDG IAmb IAmb 22 10 44.5
comp=Z,60nm,1.1s
RIDG Independent Ri 96.19 27 P P 22 07 30.7 -0.1
baz=267,SNR=15
N25K Chitina, Valde 96.20 29 P P 22 07 31.3 +0.4
baz=267,SNR=6.5
KAIM Kayak Island 96.20 30 P P 22 07 31.7 +0.9
baz=267
LVZ Lovozero 96.44 338 P P 22 07 30.2 -1.6
LVZ Lovozero 96.44 338 *ce*P **P 22 07 30.9 -0.9**
LVZ pmax pmax
comp=Z,60nm,1.7s
C26K Camden Bay 96.44 20 Pdiff P 22 07 33.0 +1.3
baz=268
BMAR Burnt Mountain 96.47 23 P P 22 07 32.5 +0.5
VNA3 Neumayer Olymp 96.50 193 ⇓P **P 22 07 33.0 +0.9**
comp=Z,8.6nm,0.8s
VNA3 ⇓pP **pwP 22 09 37.1 +0.2**
VNA3 ⇓SKSac **SKSac 22 17 15.2 -0.1**
comp=Z,6.2nm,0.8s
SCRK Sand Creek 96.58 26 P P 22 07 32.1 -0.6
SCRK Sand Creek 96.58 26 Pdiff P 22 07 32.7 +0.1
baz=268
VNA1 Neumayer--Stat 96.58 194 ⇓P **P 22 07 33.5 +1.1**
comp=Z,17nm,0.8s
VNA1 ⇓pP **pwP 22 09 39.9 +2.2**
VNA1 ⇓SKSac **SKSac 22 17 17.5 +1.8**
comp=Z,12nm,1.0s
F26K Sheenjek River 96.64 23 Pdiff P 22 07 33.9 +1.2
baz=268
G26K Porcupine Rive 96.76 23 Pdiff P 22 07 34.6 +1.4
baz=268
BGLC Bering Glacier 96.78 30 Pdiff P 22 07 33.7 +0.4
baz=268
J26L Joseph Creek 96.78 26 Pdiff P 22 07 33.7 +0.2
baz=268
L26K Log Cabin Wild 96.84 27 Pdiff P 22 07 34.3 +0.6
baz=268
C27K Jago River 96.85 21 Pdiff P 22 07 34.7 +1.1
baz=269
APA Apatity 96.91 337 ⇓*i*P **P 22 07 31.5 -2.3**
APA *i* 22 11 39.0
APA *i* 22 17 16.0
APA pmax pmax
comp=Z,13nm,1.1s
APA MLR MLR
comp=Z,2μm,23.0s
I26K Coal Creek Min 96.98 25 Pdiff P 22 07 34.4 +0.2
baz=269
M26K Nabesna, AK 96.98 28 Pdiff P 22 07 35.0 +0.6
baz=269
MDUB Mudurnu 97.29 310 P Pdif 22 07 35.9 -0.4
K27K Chicken 97.42 26 Pdiff P 22 07 37.3 +1.0
baz=270
MESA MESA 97.44 30 Pdiff P 22 07 36.8 +0.1
baz=269
M27K Edge Creek, AK 97.50 28 Pdiff P 22 07 37.1 +0.3
baz=270
L27K Beaver Creek, 97.53 27 Pdiff P 22 07 37.6 +0.8
baz=270
BCAR Beaver Creek A 97.55 27 P P 22 07 37.1 +0.2
G27K Doyon Strip 97.60 24 Pdiff P 22 07 38.1 +1.0
baz=270
E27K Coleen River 97.61 22 Pdiff P 22 07 38.0 +0.9
baz=271
I27K Kandik River 97.62 25 Pdiff P 22 07 38.2 +1.1
baz=270
H27K Steamboat Moun 97.66 24 Pdiff P 22 07 38.7 +1.4
baz=270
ISP Isparta 97.69 307 *ce*P **P 22 07 38.8 +0.6**
ISP pmax pmax
comp=Z,53nm,2.5s
D27M Malcolm River 97.82 21 Pdiff P 22 07 39.1 +1.1
baz=271
BVCY Beaver Creek 97.98 28 Pdiff P 22 07 39.7 +0.9
baz=270
YUK3 Moose Creek 98.17 29 Pdiff P 22 07 40.6 +0.6
baz=271
PINM Pinnacle 98.30 30 Pdiff P 22 07 41.2 +0.9
baz=271
O28M Mount Upton 98.32 30 Pdiff P 22 07 41.4 +0.7
baz=271
I28M Miner Creek 98.33 25 Pdiff P 22 07 41.5 +1.1
baz=272
E28M Babbage River 98.36 22 Pdiff P 22 07 41.2 +0.8
baz=272
YUK8 Steele Glacier 98.51 29 Pdiff P 22 07 42.1 +0.6
baz=271
DAWY Dawson 98.61 26 Pdiff P 22 07 42.4 +0.8
baz=272
D28M Stokes Point 98.61 21 Pdiff P 22 07 42.6 +1.2
baz=273
PNL Peninsula 98.73 31 Pdiff P 22 07 43.1 +0.9
baz=271
AKASG Malin Array Be 98.92 320 Pdif Pdif 22 07 43.0 -0.2
AKASG Malin Array Be 98.92 320 P Pdif 22 07 42.4 -0.8
comp=Z,21nm,0.9s,baz=82,slow=4.0,SNR=104
AKASG pP pP 22 09 43.2 -2.0
comp=Z,3.8nm,0.9s,baz=81,slow=3.9,SNR=2.9
AKASG S **SKSac 22 17 27.4 -0.7**
comp=Z,0.6nm,0.4s,baz=74,slow=6.1,SNR=4.4
AKASG PKKPbc **PKKPbc 22 24 07.1 -2.2**
comp=Z,0.9nm,0.5s,baz=285,slow=3.7,SNR=1.5
comp=Z,21nm,0.9s
AKASG Malin Array Be 98.92 320 *ce*P Pdif 22 07 43.2 0.0
AKASG pmax pmax
comp=Z,23nm,0.9s
AKBB Malin Array Si 98.92 320 *ce*P **P 22 07 43.4 +0.2**
AKBB pmax pmax
comp=Z,48nm,1.2s
KIEV Kiev 98.93 320 *i* P Pdif 22 07 43.2 0.0
SNR=14
H29M Whitestone 98.94 24 Pdiff P 22 07 43.4 +0.4
baz=273
E29M Blow River 98.98 22 Pdiff P 22 07 43.6 +0.5
baz=274
I29M Ogilvie Camp, 99.01 25 Pdiff Pdif 22 07 44.0 +0.7
baz=273
G29M Pine Creek 99.03 23 Pdif 22 07 43.7 +0.4
G29M IAmb IAmb 22 07 45.6
comp=Z,81nm,1.2s
G29M Pine Creek 99.03 23 Pdiff Pdif 22 07 44.2 +0.9
baz=274
YUK4 Talbot Arm 99.05 29 Pdiff Pdif 22 07 44.9 +1.1
baz=272
M29M Somme Creek 99.09 28 Pdiff Pdif 22 07 44.9 +1.1
baz=273
J29N Klondike Camp 99.10 26 Pdiff Pdif 22 07 44.9 +1.1
baz=273
O29M Mount Kennedy 99.13 30 Pdiff Pdif 22 07 44.8 +0.7
baz=272
MILM Milestii Mici 99.19 316 ⇓*i*P **Pdif 22 07 44.0 -0.4**
comp=Z,200nm,2.6s
MILM *e*pP **pP 22 09 40.0 -6.3**
MILM Milestii Mici 99.19 316 *i* PP **PP 22 11 58.0 +1.8**
MILM *i* SKS **SKSac 22 17 29.0 -0.5**
comp=Z,2μm,6.8s
MILM *i* S **ScS 22 18 26.0 -2.0**
MILM *e*L L 22 52 03.0
MILM LRM MLR 22 53 35.0

comp=Z,1μm,20.0s
MILM Milestii Mici 99.19 316 *d* iP **Pdif 22 07 44.0 -0.4**
MILM *e**PP **pP 22 09 40.0 -6.3**
MILM *i* 22 11 58.0
MILM *i* 22 17 29.0
MILM *i* S **ScS 22 18 26.0 -2.0**
MILM pmax pmax
comp=Z,200nm,2.6s
MILM pmax pmax
comp=N,2μm,6.8s
MILM pmax pmax
comp=E,1μm,3.4s
MILM MLR MLR
comp=Z,1μm,20.0s
YUK6 Outpost Mounta 99.21 29 Pdiff Pdif 22 07 45.3 +0.8
baz=272
L29M L29M 99.21 27 Pdiff Pdif 22 07 45.4 +1.1
baz=273
K29M Barlow Dome 99.44 26 Pdiff Pdif 22 07 46.2 +0.8
baz=274
TIRR Tirgusor 99.46 314 Pdif Pdif 22 07 45.8 +0.1
TIRR IAmb IAmb 22 07 47.2
comp=Z,67nm,1.5s
TIRR Tirgusor 99.46 314 ⇓P **Pdif 22 07 46.0 +0.3**
TIRR Tirgusor 99.46 314 P **Pdif 22 07 46.0 +0.3**
SORM Soroca 99.50 318 ⇓P **Pdif 22 07 45.7 -0.1**
SORM Soroca 99.50 318 P **Pdif 22 07 45.7 -0.1**
P29M Windy Craggy 99.58 31 Pdiff Pdif 22 07 47.1 +1.2
baz=273
EPYK Eagle Plains 99.59 24 Pdiff Pdif 22 07 46.2 +0.3
baz=275
HYT Haines Junctio 99.63 30 Pdiff Pdif 22 07 46.9 +0.7
baz=273
MNK Minsk 99.68 324 *i* P **Pdif 22 07 47.3 +0.9**
MNK *i* *PP **pP 22 09 46.9 -0.8**
MNK *i* *SP **sP 22 10 41.2 -1.5**
MNK *i* 22 12 00.7
MNK *i* PPP PPP 22 14 13.6
MNK *i* S **SKSac 22 17 33.4 +1.8**
MNK *i* PS **PS 22 21 07.7 -8.2**
MNK *i* SS **SS 22 25 37.7 -1.8**
MNK pmax pmax
comp=E,2.0nm,0.6s
MNK pmax pmax
comp=N,19nm,1.0s
MNK pmax pmax
comp=Z,37nm,0.9s
MNK MLR MLR
comp=N,1μm,17.0s
MNK MLR MLR
comp=Z,1μm,16.0s
MNK MLR MLR
comp=E,640nm,16.0s
ARCES ARCESS Array B 99.72 339 P Pdif 22 07 45.2 -1.1
comp=E,11nm,0.7s,baz=25,slow=3.2,SNR=22
ARCES S **SKSac 22 17 30.4 -0.8**
comp=E,12nm,1.0s,baz=355,slow=12,SNR=5.2
ARCES PKKP **PKKPbc 22 24 03.6 -4.2**
comp=E,2.3nm,0.5s,baz=255,slow=2.8,SNR=18
comp=E,11nm,0.7s
G30M tAoh Zraii Nji 99.73 23 Pdiff Pdif 22 07 46.7 +0.2
baz=275
SCTR Scanteiesti 99.76 315 ⇓P **Pdif 22 07 47.8 +0.8**
N30M Aishikik Lake 99.79 29 Pdiff Pdif 22 07 47.9 +0.9
baz=274
I30M Mount Dempster 99.83 25 Pdiff Pdif 22 07 47.6 +0.5
baz=275
F30M Barrier River 99.84 23 Pdiff Pdif 22 07 47.5 +0.6
baz=276
M30M Minto, Yukon 99.86 28 Pdiff Pdif 22 07 48.0 +0.8
baz=274
J30M Hart River 99.91 26 Pdiff Pdif 22 07 48.4 +0.9
baz=275
P30M Million Dollar 99.94 30 Pdiff Pdif 22 07 48.5 +0.9
baz=274
VSU Vasula 100.14 328 *ce*P **Pdif 22 07 47.8 -0.6**
VSU pmax pmax
comp=Z,59nm,1.0s
AMRR Amara 100.23 314 ⇑P **Pdif 22 07 50.0 +0.9**
AMRR Amara 100.23 314 P **Pdif 22 07 50.0 +0.9**
FINES FINESS Array B 100.26 331 Pdif **Pdif 22 07 47.8 -1.1**
FINES FINESS Array B 100.26 331 P **Pdif 22 07 48.2 -0.7**
comp=Z,2.2nm,0.7s,baz=35,slow=7.0,SNR=14
FINES S **SKSac 22 17 32.7 -1.3**
comp=Z,10.0nm,1.1s,baz=65,slow=4.7,SNR=5.5
FINES PKKP **PKKPbc 22 24 03.7 -2.3**
comp=Z,0.7nm,0.6s,baz=175,slow=3.3,SNR=5.4
FINES FINESS Array B 100.26 331 *ce*P **Pdif 22 07 49.4 +0.5**
FINES pmax pmax
comp=Z,2.0nm,0.7s
PLBC Pleasant Camp 100.28 31 Pdiff Pdif 22 07 49.7 +0.7
baz=274
O30N Mendenhall 100.33 30 Pdiff Pdif 22 07 49.6 +0.3
baz=274
PANC Panciu 100.35 315 ⇓P **Pdif 22 07 50.9 +1.3**
N31M Braeburn, Yuko 100.42 29 Pdiff Pdif 22 07 50.7 +1.0
baz=275
S31K Pelican 100.46 32 Pdiff Pdif 22 07 51.1 +1.3
baz=274
SPITS Spitsbergen Ar 100.47 349 P Pdif 22 07 49.0 -0.5
comp=Z,66nm,1.0s,baz=108,slow=7.2,SNR=20
SPITS Spitsbergen Ar 100.47 349 P Pdif 22 07 49.0 -0.5
G31M Satah River 100.50 23 Pdiff Pdif 22 07 50.2 +0.4
baz=277
INK Inuvik 100.60 22 P Pdif 22 07 50.0 -0.2
comp=Z,5.2nm,0.7s,baz=271,slow=5.0,SNR=19
INK S **SKSac 22 17 34.2 -1.2**
comp=Z,6.7nm,1.3s,baz=279,slow=2.4,SNR=3.9
INK Inuvik 100.60 22 Pdiff Pdif 22 07 50.4 +0.2
baz=278
H31M Peel River 100.61 24 Pdiff Pdif 22 07 50.7 +0.3
baz=277
F31M Tsiigehtchic 100.64 23 Pdiff Pdif 22 07 50.9 +0.5
baz=278
VRI Vrincioaia 100.64 315 ⇓P **Pdif 22 07 51.8 +0.8**
VRI Vrincioaia 100.64 315 P **Pdif 22 07 51.8 +0.8**
TESR Tescani 100.68 316 ⇑P **Pdif 22 07 50.5 -0.6**
R31K City Hall, Gus 100.68 32 Pdiff Pdif 22 07 51.4 +0.6
baz=274
PLOR Plostina 100.69 315 ⇑P **Pdif 22 07 51.7 +0.4**
PLOR Plostina 100.69 315 P **Pdif 22 07 51.6 +0.4**
SKAG Skagway 100.81 31 Pdiff Pdif 22 07 52.1 +0.8
baz=275
ONER Baraj Valea Uz 100.86 316 ⇑P **Pdif 22 07 52.8 +0.9**
WHY Whitehorse 100.93 30 Pdiff Pdif 22 07 52.7 +0.7
baz=275
NEHR Nehoiu 100.95 315 ⇑P **Pdif 22 07 53.1 +0.7**
M31M Drury Creek, Y 101.00 28 Pdiff Pdif 22 07 52.9 +0.7
baz=276
SIT Sitka 101.01 33 Pdiff Pdif 22 07 52.8 +0.5
baz=274
MLR Muntele Rosu 101.20 315 Pdif Pdif 22 07 53.4 -0.2
MLR Muntele Rosu 101.20 315 ⇑P **Pdif 22 07 54.0 +0.3**
MLR Muntele Rosu 101.20 315 P **Pdif 22 07 53.9 +0.3**
R32K Eaglecrest 101.34 32 Pdiff Pdif 22 07 54.5 +0.8
baz=275
S32K Killisnoo 101.38 33 Pdiff Pdif 22 07 54.3 +0.4
baz=275
FARO Faro, Yukon 101.49 28 Pdif Pdif 22 07 54.6 +0.2
FARO Faro, Yukon 101.49 28 Pdiff Pdif 22 07 55.4 +1.0
baz=277
P32M Atlin 101.62 31 Pdiff Pdif 22 07 55.7 +0.7
baz=276
BURAR Bucovina Array 101.62 317 Pdif Pdif 22 07 55.6 +0.2
BURAR Bucovina Array 101.62 317 ⇓P **Pdif 22 07 55.8 +0.3**
BURAR Bucovina Array 101.62 317 P **Pdif 22 07 55.7 +0.3**
N32M Quiet Lake 101.75 29 Pdiff Pdif 22 07 56.4 +0.8
baz=277
P33M Teslin, Yukon 102.00 30 Pdiff Pdif 22 07 57.4 +0.7
baz=277
U33K Whale Pass 102.31 34 Pdiff Pdif 22 07 59.0 +1.0
baz=276
T33K Petersburg 102.33 33 Pdiff Pdif 22 07 58.8 +0.7
baz=276
CRAG Craig 102.38 35 Pdiff Pdif 22 07 58.9 +0.5
baz=276
MMPY Sheldon Lake, 102.39 27 Pdiff Pdif 22 07 59.3 +0.8
baz=279
Q32M Nakina River 102.43 31 Pdiff Pdif 22 07 59.2 +0.4
baz=277
SUW Suwalki 102.46 324 *e*P **Pdif 22 07 59.5 +0.7**
A36M Sachs Harbour 102.56 17 Pdiff Pdif 22 07 59.9 +1.0
baz=287
WRAK Wrangell Islan 102.70 34 Pdiff Pdif 22 08 00.8 +1.0
baz=277
BMR Baia Mare 102.78 317 ⇑P **Pdif 22 08 01.4 +1.0**

```
BMR  Baia Mare          102.78 317  P      Pdif   22 08 01.4 +1.0
R33M Jennings River     103.03  31  Pdiff  Pdif   22 08 02.1 +0.6
     baz=279
MARR Marisel-Cluj       103.11 316 ⇑P      Pdif   22 08 02.7 +0.7
S34M Telegraph Cree     103.17  32  Pdiff  Pdif   22 08 02.6 +0.7
     baz=278
V35K Ketchikan          103.25  35  Pdiff  Pdif   22 08 03.1 +0.8
     baz=277
KOLS Kolonicke sedl     103.50 319⇑ eP     Pdif   22 08 05.2 +1.6
KOLS                            e                 22 12 33.5
KOLS                            e                 22 17 50.9
KOLS Kolonicke sedl     103.50 319  ePDIFF Pdif   22 08 05.2 +1.6
DLBC Dease Lake         103.67  32  Pdiff  Pdif   22 08 02.3 -1.9
     comp=Z,1.8nm,0.6s,baz=40,slow=7.8,SNR=6.2
DLBC Dease Lake         103.67  32  Pdiff  Pdif   22 08 04.8 +0.6
     baz=279
C36M Paulatuk           103.72  20  Pdiff  Pdif   22 08 04.7 +0.6
     baz=287
T35M Bob Quinn          103.78  33  Pdiff  Pdif   22 08 05.6 +0.9
     baz=279
SURR Surduc             103.86 315 ⇓P      Pdif   22 08 05.9 +0.6
TGTN Hyland Airport     103.97  28  Pdiff  Pdif   22 08 06.2 +0.7
     baz=282
WTLY Watson Lake, Y     104.00  30  Pdiff  Pdif   22 08 06.6 +1.0
     baz=281
STHS Stebnicka Huta     104.12 319⇑ eP     Pdif   22 08 07.3 +0.9
STHS                            e                 22 17 53.5
STHS Stebnicka Huta     104.12 319  ePDIFF Pdif   22 08 07.3 +0.9
BEL  Belsk              104.14 322  eP     Pdif   22 08 08.1 +1.8
BOVS Bovan              104.32 313 ⇓P      Pdif   22 08 07.5 +0.2
NIE  Niedzica           104.74 319  eP     Pdif   22 08 10.8 +1.6
OJC  Ojcow              104.96 320  eP     Pdif   22 08 11.6 +1.6
LANS Liptovska Anna     105.31 319⇑ eP     Pdif   22 08 13.9 +2.2
LANS                            e                 22 12 47.6
LANS                            e                 22 17 59.3
LANS Liptovska Anna     105.31 319  ePDIFF Pdif   22 08 13.9 +2.2
VYHS Vyhne              105.81 318⇑ eP     Pdif   22 08 14.7 +0.8
VYHS                            e                 22 18 01.3
VYHS Vyhne              105.81 318  ePDIFF Pdif   22 08 14.7 +0.8
OKC  Ostrava-Krasne     106.07 320  eSKS   SKSac  22 18 03.2 +2.0
GKP  Gorka Klasztor     106.07 323  eP     Pdif   22 08 07.5 -7.4
SRO  Srobarova          106.25 318  eP     Pdif   22 08 16.7 +0.9
SRO                             e                 22 12 52.4
SRO  Srobarova          106.25 318  ePDIFF Pdif   22 08 16.7 +0.9
STEB Steborice          106.29 320  ePKKP         22 23 47.6
HFS  Hagfors            106.46 331  Pdiff  Pdif   22 08 14.7 -1.8
     comp=Z,1.7nm,0.4s,baz=117,slow=5.2,SNR=12
MORC Moravsky Berou     106.47 320  ePDIFF Pdif   22 08 18.4 +1.6
MORC                            e                 22 11 49.4
MORC                            e                 22 12 52.7
MORC                            e                 22 18 04.7
MORC                            ePKKP  PKKPbc     22 23 47.2 -0.3
MORC                            e                 22 24 05.2
JAVC Velka Javorina     106.52 319  ePDIFF Pdif   22 08 19.4 +2.3
JAVC                            e                 22 11 51.0
JAVC                            e                 22 18 05.5
JAVC                            ePKKP  PKKPbc     22 23 48.5 +1.2
MODS Modra-Piesok       106.85 318  ePP    PP     22 12 54.4 +1.9
KRLC Kraliky            106.90 320  eSKS   SKSac  22 18 06.3 +1.3
KSP  Ksiaz              107.08 321  eP     Pdif   22 08 21.4 +2.0
DPC  Dobruska-Polom     107.14 321  eSKS   SKSac  22 18 06.1 +0.1
VRAC Vranov             107.15 319  ePDIFF Pdif   22 08 21.7 +1.9
VRAC                            e                 22 11 51.9
VRAC                            e                 22 12 58.9
VRAC                            e                 22 18 07.8
VRAC                            ePKKP  PKKPbc     22 23 44.5 -0.8
VRAC                            e                 22 24 02.0
OSTC Ostas              107.18 321  eSKS   SKSac  22 18 06.3 +0.2
KRUC Moravsky           107.32 319  ePDIFF Pdif   22 08 21.9 +1.3
KRUC                            e                 22 11 52.3
KRUC                            e                 22 12 58.5
KRUC                            e                 22 18 09.0
KRUC                            ePKKP  PKKPbc     22 23 43.8 -1.0
KRUC                            e                 22 24 01.2
NB2  NORSAR Subarra107.38 332   P      Pdif   22 08 19.8 -0.8
     comp=Z,18nm,1.4s,baz=73,slow=4.3
NB2  NORSAR Subarra107.38 332   P      Pdif   22 08 19.8 -0.8
     baz=73,slow=4.3
NOA  NORSAR Array B107.38 332   Pdiff  Pdif   22 08 19.9 -0.7
     comp=Z,3.9nm,0.9s,baz=72,slow=4.6,SNR=10.0
NOA                             PKiKP  PKiKP   22 12 25.5 -0.2
     comp=Z,6.7nm,1.0s,baz=259,slow=3.3,SNR=4.3
RONA Rosalia, Austr     107.61 318  i Pdiff Pdif   22 08 22.9 +1.0
     comp=Z,2.9nm,1.2s
RONA                            ePP    PP     22 12 57.7 -0.2
     comp=Z,60nm,1.5s,SNR=6.4
RONA                            i SKS  SKSac  22 18 09.8 +1.6
     comp=Z,8.0nm,1.8s
RONA                            i PKKP PKKPbc 22 23 43.3 -0.6
     comp=Z,2.2nm,0.6s
RONA                            i PKKP PKKPab 22 23 60.0 +0.9
     comp=Z,14nm,1.4s
CONA Conrad Observa     107.86 318  ePdiff Pdif   22 08 24.5 +1.4
     comp=Z,3.1nm,1.3s
CONA                            ePP    PP     22 13 00.6 +0.8
     comp=Z,112nm,1.4s,SNR=12
CONA                            i SKS  SKSac  22 18 09.5 +0.3
     comp=Z,9.2nm,1.6s
CONA                            i PKKP PKKPbc 22 23 42.4 -0.7
     comp=Z,5.9nm,0.6s,SNR=8.1
CONA                            i PKKP PKKPab 22 23 59.1 +1.1
     comp=Z,17nm,1.3s
TREC Trest              107.87 320  ePP    PP     22 12 54.3 -5.4
TREC                            ePKKP  PKKPbc     22 23 42.3 -0.8
PVCC Panska Ves         108.21 321  ePP    PP     22 12 59.8 -2.3
PVCC                            eSKS   SKSac  22 18 09.7 -0.7
PRU  Pruhonice          108.34 320  ePKP   PKiKP  22 12 27.6 -0.1
PRU                             ePP    PP     22 12 57.7 -5.3
PRU                             eSKS   SKSac  22 18 12.0 +1.0
PRU                             AMS    AMS    22 57 10.0
     comp=Z,2μm,23.5s
PRA  Prague             108.39 321  eSKS   SKSac  22 18 13.1 +1.9
RES  Resolute Bay       108.49  10  Pdiff  Pdif   22 08 25.9 +0.6
     comp=Z,7.4nm,0.8s,baz=318,slow=5.4,SNR=27
RES                             PKiKP  PKiKP   22 12 27.1 -0.2
     comp=Z,3.1nm,0.9s,baz=219,slow=2.4,SNR=4.9
RES                             SKiKP  SKiKP   22 15 10.6  0.0
     comp=Z,12nm,1.0s,baz=298,slow=3.1,SNR=6.3
BRG  Berggiesshubel     108.53 321  PKiKP  PKiKP   22 12 28.2 +0.2
BRG  Berggiesshubel     108.53 321  Amp            22 12 30.2
     comp=Z,26nm,1.5s
BRG  Berggiesshubel     108.53 321  PP     PP     22 13 00.8 -3.6
BRG  Berggiesshubel     108.53 321  Amp            22 13 04.4
     comp=Z,26nm,1.2s
SOKA Soboth             108.63 317  i Pdiff Pdif   22 08 27.7 +1.1
     comp=Z,4.6nm,2.0s
SOKA                            ePKiKP PKiKP   22 12 29.4 +0.9
     comp=Z,14nm,1.2s
SOKA                            i PP   PP     22 13 03.2 -2.2
     comp=Z,84nm,1.4s
SOKA                            eSKS   SKSac  22 18 12.6  0.0
     comp=Z,9.9nm,1.6s
SOKA                            i PKKP PKKPbc 22 23 40.0 -0.7
     comp=Z,3.2nm,0.6s,SNR=9.0
SOKA                            i PKKP PKKPab 22 23 55.8 +1.3
     comp=Z,4.0nm,0.8s
ZVC  Zvikov             108.67 320  ePKKP          22 23 40.1
CKRC Cesky Krumlov      108.72 319  eSKS   SKSac  22 18 14.2 +1.5
CKRC                            ePKKP          22 23 39.2
PDKS Podkum             108.76 316  ePdiff Pdif   22 08 28.3 +1.2
HSKC Hora Svate Kat     108.91 321  ePP    PP     22 13 04.1 -3.0
MOA  Molln              108.93 318  i PKiKP PKiKP  22 12 31.0 +2.0
     comp=Z,20nm,1.1s
MOA                             i PP   PP     22 13 07.4  0.0
     comp=Z,32nm,1.2s
MOA                             i PKKP PKKPbc 22 23 39.7  0.0
     comp=Z,5.7nm,1.0s
MOA                             i PKKP PKKPdf 22 23 54.0 +0.6
     comp=Z,20nm,1.5s
OBKA Obir               108.99 317  ePdiff Pdif   22 08 28.9 +0.7
     comp=Z,4.2nm,1.2s
OBKA                            i PKiKP PKiKP  22 12 30.0 +0.9
     comp=Z,9.1nm,1.2s
OBKA                            ePP    PP     22 13 05.0 -2.9
     comp=Z,79nm,1.4s,SNR=6.5
OBKA                            i SKP          22 15 13.2
     comp=Z,11nm,1.3s
OBKA                            eSKS   SKSac  22 18 15.2 +1.1
     comp=Z,14nm,1.5s
OBKA                            i PKKP PKKPbc 22 23 39.3 -0.3
     comp=Z,5.0nm,0.7s,SNR=5.5
OBKA                            i PKKP PKKPdf 22 23 53.5 +0.2
     comp=Z,7.0nm,1.1s
OBKA Obir               108.99 317  eP     PP     22 13 05.0 -2.9
     comp=Z,79nm,1.4s,SNR=6.5
CLL  Collm              109.02 322  i P    Pdif   22 08 28.4 +0.4
CLL                             i              22 13 09.9
CLL                             i              22 18 12.7
CLL                             pmax   pmax
     comp=Z,23nm,1.8s
CLL                             pmax   pmax
     comp=Z,176nm,2.4s
CLL                             pmax   pmax
     comp=Z,21nm,1.7s
LJU  Ljubljana          109.09 316  ePdiff Pdif   22 08 29.5 +1.0
LJU                             e              22 12 02.8
LJU                             ePKiKP PKiKP   22 12 30.5 +1.3
GERES GERESS Array B 109.11 319     Pdiff  Pdif   22 08 28.2 -0.4
     comp=Z,0.8nm,0.8s,baz=62,slow=3.5,SNR=4.3
GERES                           PKiKP  PKiKP   22 12 29.3  0.0
     comp=Z,2.4nm,0.7s,baz=48,slow=2.0,SNR=6.6
GERES                           PKKPbc PKKPbc  22 23 38.4 -0.9
     comp=Z,0.9nm,0.7s,baz=256,slow=4.0,SNR=4.3
KHC  Kasperske Hory     109.13 320  ePKP   PKiKP  22 12 28.5 -0.8
KHC                             ePP    PP     22 13 04.0 -4.8
KHC                             eSKS   SKSac  22 18 13.1 -1.3
KHC                             AMS    AMS    22 57 20.0
     comp=Z,2μm,25.0s
CEY  Cerknica           109.21 316  ePdiff Pdif   22 08 29.4 +0.3
BIOA Bad Ischl, Aus     109.38 318  i Pdiff Pdif   22 08 30.1 +0.3
     comp=Z,1.7nm,0.7s
BIOA                            i SKS  SKSac  22 18 14.0 -1.6
     comp=Z,17nm,1.7s
BIOA                            i PKKP PKKPbc 22 23 37.7 -0.7
     comp=Z,4.8nm,0.8s
BIOA                            i PKKP PKKPdf 22 23 52.0 -0.5
     comp=Z,15nm,1.2s
MYKA Terra Mystica      109.58 317  ePP    PP     22 13 10.1 -2.0
     comp=Z,52nm,1.7s
MYKA                            ePKKP  PKKPbc 22 23 37.2 -0.6
     comp=Z,7.2nm,0.6s,SNR=5.9
MYKA                            i PKKP PKKPab 22 23 50.5 +0.2
     comp=Z,9.9nm,1.1s
KBA  Koelnbreinsper     109.69 318  i Pdiff Pdif   22 08 31.7 +0.3
     comp=Z,1.1nm,0.6s
KBA                             ePKiKP PKiKP   22 12 31.4 +0.8
     comp=Z,9.5nm,1.2s
KBA                             ePP    PP     22 13 10.8 -2.2
     comp=Z,46nm,1.6s,SNR=5.3
KBA                             eSKS   SKSac  22 18 17.1  0.0
     comp=Z,32nm,1.8s
KBA                             i PKKP PKKPbc 22 23 36.9 -0.6
     comp=Z,2.5nm,0.6s
KBA  Koelnbreinsper     109.69 318  eP     PP     22 13 10.8 -2.2
     comp=Z,46nm,1.6s,SNR=5.3
YKA  Yellowknife Ar     109.80  25  Pdiff  Pdif   22 08 32.0 +0.7
     comp=Z,0.7nm,0.8s,baz=294,slow=4.8,SNR=5.1
YKA                             PKiKP  PKiKP   22 12 30.9 +0.8
     comp=Z,0.7nm,0.4s,baz=302,slow=2.1,SNR=15
YKA                             SKiKP  SKiKP   22 15 13.1 -0.3
     comp=Z,7.1nm,1.0s,baz=294,slow=2.0,SNR=12
YKA                             S      SKSac  22 18 16.0 -0.5
     comp=Z,4.9nm,1.2s,baz=304,slow=4.5,SNR=6.1
YKA                             PKKPbc PKKPbc  22 23 35.2 -2.2
     comp=Z,1.7nm,0.7s,baz=112,slow=2.9,SNR=18
LESA Schwarzleotal      110.07 318  ePdiff Pdif   22 08 33.1 +0.1
     comp=Z,5.0nm,1.4s
LESA                            i PKiKP PKiKP   22 12 31.9 +0.7
     comp=Z,12nm,1.2s
LESA                            ePP    PP     22 13 15.0 -0.6
     comp=Z,104nm,1.4s,SNR=5.9
LESA                            i SKP          22 15 15.2
     comp=Z,8.9nm,0.9s
LESA                            i SKS  SKSac  22 18 20.0 +1.5
     comp=Z,19nm,1.5s
LESA                            i PKKP PKKPbc 22 23 36.1 -0.1
     comp=Z,5.1nm,0.6s
LESA                            i PKKP PKKPab 22 23 49.2 +1.1
     comp=Z,13nm,1.4s
ABTA Abfaltersbach      110.32 317  ePdiff Pdif   22 08 32.6 -1.5
     comp=Z,6.5nm,1.8s
ABTA                            ePKiKP PKiKP   22 12 31.5 -0.2
     comp=Z,12nm,0.9s
ABTA                            ePP    PP     22 13 18.1 +0.7
     comp=Z,46nm,1.6s,SNR=5.4
ABTA                            i SKP          22 15 15.2
     comp=Z,12nm,1.3s
ABTA                            eSKS   SKSac  22 18 18.3 -1.2
     comp=Z,25nm,1.9s
ABTA                            ePKKP  PKKPbc 22 23 35.0 -0.4
     comp=Z,7.0nm,0.8s,SNR=4.5
ABTA                            i PKKP PKKPab 22 23 48.0 +0.9
     comp=Z,15nm,0.9s
ABTA Abfaltersbach      110.32 317  eP     PP     22 13 18.1 +0.7
     comp=Z,46nm,1.6s,SNR=5.4
GRF  Grafenberg Arr     110.50 321  ePP            22 13 14.8
GRF                             ePKKP          22 23 46.8
     baz=88,slow=8.1
WTTA Wattenberg         110.80 318  ePdiff Pdif   22 08 37.0 +0.7
     comp=Z,6.6nm,1.2s
WTTA                            ePKiKP PKiKP   22 12 33.1 +0.4
     comp=Z,61nm,1.7s
WTTA                            i PP   PP     22 13 20.8  0.0
     comp=Z,110nm,1.9s
WTTA                            i SKP          22 15 16.3
     comp=Z,20nm,0.8s
WTTA                            i SKS  SKSac  22 18 22.0 +0.3
     comp=Z,37nm,1.6s
WTTA                            ePKKP  PKKPbc 22 23 34.6 +0.6
     comp=Z,6.0nm,0.7s,SNR=6.7
WTTA                            i PKKP PKKPab 22 23 45.7 +0.6
     comp=Z,34nm,1.4s
WATA Walderalm          110.82 318  ePdiff Pdif   22 08 35.4 -1.0
     comp=Z,5.9nm,0.9s
WATA                            ePKiKP PKiKP   22 12 33.3 +0.6
     comp=Z,33nm,1.3s
WATA                            ePP    PP     22 13 19.3 -1.7
     comp=Z,76nm,1.5s
WATA                            i SKP          22 15 16.5
     comp=Z,28nm,1.5s
WATA                            i SKS  SKSac  22 18 21.8 +0.1
     comp=Z,33nm,1.5s
WATA                            i PKKP PKKPbc 22 23 33.6 -0.3
     comp=Z,4.1nm,0.7s
WATA                            i PKKP PKKPab 22 23 45.4 +0.4
     comp=Z,28nm,1.6s
SQTA Sankt Quirin       111.09 318  i Pdiff Pdif   22 08 36.6 -0.9
     comp=Z,5.7nm,1.1s
SQTA                            ePKiKP PKiKP   22 12 34.4 +1.2
     comp=Z,15nm,1.1s
SQTA                            ePP    PP     22 13 21.2 -1.7
     comp=Z,52nm,1.4s
SQTA                            i SKP          22 15 17.2
     comp=Z,19nm,1.5s
SQTA                            eSKS   SKSac  22 18 20.2 -2.5
     comp=Z,32nm,1.6s
SQTA                            i PKKP PKKPbc 22 23 33.2 +0.2
     comp=Z,6.3nm,0.6s,SNR=4.3
SQTA                            i PKKP PKKPab 22 23 44.7 +1.0
     comp=Z,28nm,1.2s
MOTA Moosalm            111.13 318  ePdiff Pdif   22 08 38.0 +0.2
     comp=Z,9.0nm,1.4s
MOTA                            i PKiKP PKiKP   22 12 33.9 +0.6
     comp=Z,11nm,0.7s
MOTA                            ePP    PP     22 13 24.4 +1.3
     comp=Z,52nm,1.3s
MOTA                            i SKP          22 15 17.2
     comp=Z,13nm,0.9s
MOTA                            i SKS  SKSac  22 18 21.1 -1.9
     comp=Z,21nm,1.7s
MOTA                            i PKKP PKKPbc 22 23 32.6 -0.3
     comp=Z,6.9nm,0.8s
MOTA                            i PKKP PKKPab 22 23 44.5 +0.9
     comp=Z,32nm,1.6s
RETA Reutte             111.32 318  i PKiKP PKiKP   22 12 35.0 +1.4
     comp=Z,4.2nm,0.7s
RETA                            i PP   PP     22 13 23.6 -0.8
     comp=Z,45nm,1.4s
RETA                            eSKP           22 15 17.5
     comp=Z,11nm,1.4s
RETA                            eSKS   SKSac  22 18 22.9 -0.6
     comp=Z,15nm,1.3s
RETA                            i PKKP PKKPbc 22 23 32.8 +0.6
     comp=Z,2.5nm,0.7s
RETA                            i PKKP PKKPab 22 23 43.2 +0.7
     comp=Z,18nm,1.4s
FETA Feichten           111.45 318  ePdiff Pdif   22 08 39.6 +0.3
     comp=Z,4.7nm,1.2s
FETA                            ePKiKP PKiKP   22 12 34.9 +0.9
     comp=Z,20nm,1.6s
FETA                            ePP    PP     22 13 23.8 -1.7
     comp=Z,26nm,1.5s
FETA                            i SKP          22 15 18.3
     comp=Z,13nm,1.1s
FETA                            eSKS   SKSac  22 18 20.7 -3.6
     comp=Z,20nm,1.3s
FETA                            ePKKP  PKKPbc 22 23 32.6 +0.8
     comp=Z,11nm,1.6s
FETA                            i PKKP PKKPab 22 23 42.5 +0.4
     comp=Z,13nm,1.4s
DAVA Damuels            111.95 318  i PKiKP PKiKP   22 12 35.3 +0.4
     comp=Z,18nm,1.0s
DAVA                            i PP   PP     22 13 27.1 -1.8
     comp=Z,103nm,1.5s
DAVA                            eSKP           22 15 18.9
     comp=Z,23nm,1.4s
DAVA                            i SKS  SKSac  22 18 23.9 -2.4
     comp=Z,12nm,1.4s
DAVA                            i PKKP PKKPbc 22 23 30.9 +0.6
     comp=Z,3.7nm,1.0s
DAVA                            i PKKP PKKPab 22 23 41.0 +1.2
     comp=Z,12nm,0.9s
MEM  Membach            113.46 323  dPKiKP  PKiKP   22 12 38.3 +0.9
MEM                             dPP    PP     22 13 34.9 -4.2
NEW  Newport            113.51  40  PKiKP  PKiKP   22 12 38.8 +1.1
     comp=Z,3.4nm,0.6s,baz=320,slow=3.2,SNR=6.8
SUMG Summit             113.58 355  PP     PP     22 13 40.6 +0.9
WLF  Walferdange        113.67 322  PP     PP     22 13 40.6  0.0
WLF  Walferdange        113.67 322  dPP    PP     22 13 39.3 -1.3
BMRD Maredsous          114.31 323  dPKiKP PKiKP   22 12 39.9 +0.8
BMRD                            dPP    PP     22 13 43.6 -1.5
KEST Kesra              114.75 306         PKPdf  22 12 40.3 -0.2
KEST Kesra              114.75 306  PKP    PKiKP  22 12 41.1 +0.7
     comp=Z,13nm,1.0s,baz=310,slow=4.3,SNR=6.6
KEST                            PKKPbc PKKPbc  22 23 21.7 +1.2
     comp=Z,6.4nm,0.7s,baz=143,slow=3.2,SNR=6.5
RYN  Ryan               114.89  51         PKiKP  22 12 41.4 +0.6
LHV  Little Huntoon     114.98  51         PKiKP  22 12 41.4 +0.7
NVAR Mina Array Bea     115.10  51         PKiKP  22 12 41.7 +0.5
NVAR Mina Array Bea     115.10  51  PKP    PKiKP  22 12 41.6 +0.3
     comp=Z,4.5nm,0.8s,baz=249,slow=2.2,SNR=14
NVAR                            PKKPbc PKKPbc  22 23 19.4 -0.2
     comp=Z,1.9nm,1.1s,baz=102,slow=4.5,SNR=4.1
NV11 Mina Array Sit     115.21  51         PKiKP  22 12 41.7 +0.3
DSP  Deep Springs       115.57  52         PKiKP  22 12 42.5 +0.6
MFID Camas Ranch        115.74  45         PKPdf  22 12 42.1 -0.1
PASC Pasadena Art C     115.98  55  PKPdf  PKiKP  22 12 43.1 +0.3
MSO  Missoula           116.00  41         PKPdf  22 12 42.5 -0.1
ESY  Stoneypath         116.06 330  eP     PKPdf  22 12 41.7 -0.5
CMAH Djebel Manchou     116.12 307  P      PP     22 13 55.1 -3.1
ABSA Djebel Ababsia     116.14 307  P      PP     22 13 56.4 -2.0
EDMD Edmundbyers        116.25 329  eP     PKPdf  22 12 42.2 -0.4
HPK  Haverah Park       116.47 328  eP     PKPdf  22 12 43.5 +0.4
CAEH 'Ain El Ouahch     116.53 308  P      PP     22 13 58.0 -3.0
EKA  Eskdalemuir Ar     116.61 330  PKP    PKiKP  22 12 43.7 +0.4
     comp=Z,12nm,1.1s,baz=34,slow=3.3,SNR=11
EKA                             PKKPbc PKKPbc  22 23 12.1 -2.6
     comp=Z,1.7nm,0.7s,baz=251,slow=4.4,SNR=3.7
EKB  Eskdalemuir        116.63 330  PKPdf  PKiKP  22 12 43.8 +0.4
CKFL Kef-Lekhel         116.71 307  P      PP     22 13 59.8 -2.6
LBWR Ladybower, Pea     116.78 327  eP     PKiKP  22 12 44.0 +0.3
ELK  Elko               116.87 48   PKP    PKiKP  22 12 45.5 +0.8
     comp=Z,7.4nm,0.8s,baz=301,slow=4.0,SNR=20
CASM Ain Smara          116.92 307  P      PP     22 14 01.7 -2.0
KESW Keswick, Cumbr     116.95 329  eP     PKiKP  22 12 44.5 +0.5
TPNV Topopah Spring     117.00  52         PKiKP  22 12 45.0 +0.1
TPNV Topopah Spring     117.00  52  PKIKP  PKiKP  22 12 45.0 +0.1
NEWG New Galloway       117.25 330  eP     PKPdf  22 12 43.5 -1.0
DFRA Djebel Bou Aff     117.35 308  P      PP     22 14 05.2 -1.5
PFO  Pinyon Flats O     117.50  56  PKPdf  PKPdf  22 12 45.5 -0.4
PFO  Pinyon Flats O     117.50  56  PKP    PKiKP  22 12 46.7 +0.8
     comp=Z,11nm,0.9s,baz=285,slow=2.6,SNR=13
USHA Ushuaia            117.50 171  PKP    PKiKP  22 12 46.4 +1.3
     comp=Z,20nm,0.8s,baz=109,slow=1.7,SNR=5.3
TKX  Tecate             117.56  57  PKPdf  PKiKP  22 12 46.4 +0.4
GAL1 Galloway           117.62 330  eP     PKPdf  22 12 45.1 -0.2
HLM1 Long Mynd          117.81 327  eP     PKiKP  22 12 46.0 +0.2
BOZ  Bozeman (W)        117.93  42         PKPdf  22 12 46.3 -0.1
BOZ  Bozeman (W)        117.93  42  PKIKP  PKPdf  22 12 46.3 -0.1
WIM  Isle of Man        117.96 329  eP     PKiKP  22 12 46.8 +0.8
MG03 Isla Dawson        118.12 170  PKPdf  PKiKP  22 12 46.6 +0.3
EGMT Eagleton           118.23  38         PKPdf  22 12 45.1 -1.7
DUG  Dugway, Tooele     118.80  48         PKPdf  22 12 48.2 -0.1
DUG  Dugway, Tooele     118.80  48  PKIKP  PKPdf  22 12 48.2 -0.1
RSBS Rosebush, Pemb     119.09 327  eP     PKiKP  22 12 48.2  0.0
TPAW Teton Pass         119.10  44         PKPdf  22 12 48.8 -0.1
CEST Esterri de Car     119.16 315         PKiKP  22 12 49.4 +0.5
AHID Auburn Hatcher     119.24  44         PKiKP  22 12 49.4 +0.2
FFC  Flin Flon          119.34  29         PKPdf  22 12 48.6  0.0
FFC  Flin Flon          119.34  29  PKIKP  PKPdf  22 12 48.6  0.0
TAM  Tamanrasset        119.76 292  PKPdf  PKiKP  22 12 51.4 +0.7
TAM  Tamanrasset        119.76 292  PKIKP  PKiKP  22 12 51.4 +0.7
U15A North Rim          120.22  52         PKiKP  22 12 52.1 +0.7
PDAR Pinedale Array     120.31  44         PKiKP  22 12 51.6 +0.3
PDAR Pinedale Array     120.31  44  PKP    PKiKP  22 12 51.8 +0.5
     comp=Z,5.9nm,0.9s,baz=214,slow=1.4,SNR=31
PDAR                            PKKPbc PKKPbc  22 22 59.5 -1.9
     comp=Z,1.7nm,0.6s,baz=115,slow=6.4,SNR=11
SRU  San Rafael Swe     120.81  48         PKPdf  22 12 52.2  0.0
SRU  San Rafael Swe     120.81  48  PKIKP  PKPdf  22 12 52.2  0.0
LAO  LASA Array         120.97  39  PKPdf  PKiKP  22 12 52.9 +0.6
WUAZ Wupatki            121.17  53  PKPdf  PKiKP  22 12 53.5 +0.4
ECHE Chera              121.73 313  PKP    PKiKP  22 12 54.5 +0.5
PV13 Radium Mtn., P     122.37  49         PKiKP  22 12 55.7 +0.2
FRB  Frobisher Bay      122.40   7  PKP    PKPdf  22 12 54.3 +0.1
     comp=Z,18nm,0.9s,baz=352,slow=3.9,SNR=16
HSIG                    123.00  60         PKPdf  22 12 56.4  0.0
UCM  Universidad Co     123.12 314  PKP    PKiKP  22 12 57.7 +1.1
ENIJ Nijar              123.49 310  PKP    PKPdf  22 12 56.9 -0.3
ESDC Sonseca Array      123.87 314  PKP    PKiKP  22 12 58.4 +0.2
     comp=Z,11nm,1.0s,baz=32,slow=2.2,SNR=29
ESDC                            PKKPbc PKKPbc  22 22 49.0 +1.2
     comp=Z,3.5nm,0.7s,baz=268,slow=4.1,SNR=15
TORD Torodi Ar. Bea     123.90 281         PKPdf  22 12 58.2 -0.3
PAB  San Pablo          124.19 314         PKiKP  22 12 59.2 +0.3
PAB  San Pablo          124.19 314  PKIKP  PKiKP  22 12 59.2 +0.3
ULM  Lac du Bonnet      124.98  31         PKPdf  22 12 59.2 -0.4
ULM  Lac du Bonnet      124.98  31  PKP    PKPdf  22 12 59.6 +0.1
     comp=Z,16nm,0.8s,baz=304,slow=2.4,SNR=23
ULM  Lac du Bonnet      124.98  31  PKIKP  PKPdf  22 12 59.2 -0.4
SDCO Great Sand Dun     124.98  48         PKiKP  22 13 01.2 +0.4
ANMO Albuquerque        125.19  52  PKP    PKiKP  22 13 01.6 +0.5
     comp=Z,11nm,0.9s,baz=11,slow=3.6,SNR=26
ANMO Albuquerque        125.19  52c i PKIKP PKPdf  22 13 00.8 +0.1
ANMO                            pmax   pmax
     comp=Z,12nm,1.3s
NRS  Narsarsuaq         125.36 354         PKPdf  22 13 00.1 +0.2
NRS  Narsarsuaq         125.36 354  PKIKP  PKPdf  22 13 00.1 +0.2
T25A Trinidad           126.01  49  PKPdf  PKiKP  22 13 03.9 +1.2
OGNE Ogallala           126.19  43  PKPdf  PKiKP  22 13 03.4 +0.5
AY01 Puyuhuapi          126.52 164         PKiKP  22 13 03.5 +0.2
LL02 Futaleuf           127.88 164         PKiKP  22 13 06.1  0.0
LL06 Loncomilla         128.28 162  PKPdf  PKiKP  22 13 06.7 -0.1
ECSD EROS Data Cent     128.33  38         PKPdf  22 13 06.0 -0.2
LL01 San Ignacio de     128.48 164         PKPdf  22 13 05.9 -0.6
BGNE Belgrade           128.57  41         PKPdf  22 13 07.1 +0.3
TXAR Lajitas Array      129.11  58         PKiKP  22 13 09.5 +0.5
TXAR Lajitas Array      129.11  58  PKP    PKiKP  22 13 08.8 -0.2
     comp=Z,3.1nm,0.5s,baz=195,slow=1.9,SNR=26
DKNS Dickens            129.93  51         PKiKP  22 13 11.2 +0.7
DBIC Dimbokro           130.21 273         PKiKP  22 13 11.2 -0.3
DBIC Dimbokro           130.21 273  PKP    PKPdf  22 13 11.0 +0.4
     comp=Z,24nm,1.0s,baz=88,slow=2.1,SNR=14
DBIC Dimbokro           130.21 273  PKP    PKiKP  22 13 11.3 -0.3
PLCA Paso Flores        130.52 164         PKiKP  22 13 12.1 +0.6
PLCA Paso Flores        130.52 164  PKP    PKiKP  22 13 12.5 +1.0
     comp=Z,16nm,0.8s,baz=221,slow=0.7,SNR=27
PLCA                            SKPbc  SKPab   22 15 43.4 -0.2
     comp=Z,108nm,0.9s,baz=199,slow=4.5,SNR=65
PLCA Paso Flores        130.52 164  eP     PKiKP  22 13 11.7 +0.2
PLCA Paso Flores        130.52 164  PKP    PKiKP  22 13 11.8 +0.2
PLCA                            PKP    PKiKP  22 13 12.6 +1.0
LR05 Currie             130.58 163         PKiKP  22 13 11.7 +0.2
OK032 Salt Plains WL    130.69  46         PKiKP  22 13 11.6 -0.2
LR03 Panguipulli        131.03 162  PKPdf  PKiKP  22 13 12.7 +0.2
COWI Conover            131.10  31         PKiKP  22 13 12.2 -0.2
SCHQ Schefferville      131.25   9  PKP    PKPdf  22 13 11.8 +0.4
     comp=Z,13nm,0.9s,baz=286,slow=4.2,SNR=12
SCHQ                            PP     PP     22 15 38.0 +1.2
     comp=Z,25nm,1.0s,baz=360,slow=9.0,SNR=8.7
SCHQ                            SKPbc  SKPab   22 15 45.6 -0.4
     comp=Z,129nm,1.2s,baz=4.6,slow=5.2,SNR=38
ZAIG Zacatecas          131.63  66  PKPdf  PKiKP  22 13 14.8 +0.3
JCT  Junction City      131.95  55  PKPdf  PKiKP  22 13 14.1 -0.5
JCT  Junction City      131.95  55  PKIKP  PKiKP  22 13 14.1 -0.5
```

BI02 **San Fabin de** 134.09 162 PKPdf **PKiKP** 22 13 18.2 -0.7
HDIL **Hopedale** 134.60 37 **PKPdf** 22 13 17.5 -0.6
VLDQ **Val d'Or** 134.69 21 PKPdf **PKPdf** 22 13 17.6 -0.4
TRQA **Tornquist** 134.83 172 PKP **PKPdf** 22 13 19.2 +0.5
SADO **Sadowa** 136.80 25 SKPbc **SKPbc** 22 16 03.0 -0.3
comp=Z,55nm,0.6s,baz=330,slow=4.8,SNR=42
BART **Pico Bartolome** 139.02 323 *e*SKP 22 16 10.8
BART **Pico Bartolome** 139.02 323 *e*SKP 22 16 10.8
PGRON **Lagoa das Cont** 139.15 323 *e*SKP 22 16 12.0
PGRON **Lagoa das Cont** 139.15 323 *e*SKP 22 16 12.0
CMLA **Cha da Macela** 139.24 323 *e*SKP 22 16 10.2
CMLA **Cha da Macela** 139.24 323 *e*SKP 22 16 10.2
PSET **Sete Cidades** 139.31 324 *e*SKP 22 16 11.0
PSET **Sete Cidades** 139.31 324 *e*SKP 22 16 11.0
PSMN **Pico do Norte,** 139.46 322 *e*SKP 22 16 11.4
PSMN **Pico do Norte,** 139.46 322 *e*SKP 22 16 11.4
PSMA **Santa Maria** 139.50 322 *e*SKP 22 16 11.4
PSMA **Santa Maria** 139.50 322 *e*SKP 22 16 11.4
CMIG **Matias Romero** 139.78 72 PKhKP PKPpre 22 13 22.1
comp=Z,3.4nm,0.6s,baz=257,slow=5.9,SNR=7.5
CMIG PKP **PKPdf** 22 13 29.4 +1.1
comp=Z,16nm,0.7s,baz=3.5,slow=3.1,SNR=13
CMIG SKPbc **SKPbc** 22 16 12.7 +0.3
comp=Z,48nm,0.9s,baz=272,slow=1.5,SNR=34
SRBC **Serra Branca** 139.79 327 *e*SKP 22 16 12.0
SRBC **Serra Branca** 139.79 327 *e*SKP 22 16 12.0
PMAN **Manadas** 140.11 326 *e*SKP 22 16 11.6
PMAN **Manadas** 140.11 326 *e*SKP 22 16 11.6
PID **Ribeirinha** 140.26 326 *e*SKP 22 16 11.4
PID **Ribeirinha** 140.26 326 *e*SKP 22 16 11.4
PICO **Pico** 140.39 327 *e*SKP 22 16 11.0
PICO **Pico** 140.39 327 *e*SKP 22 16 11.0
CALA **Caldeira** 140.48 327 *e*SKP 22 16 09.1
CALA **Caldeira** 140.48 327 *e*SKP 22 16 09.1
TKL **Tuckaleechee C** 141.07 39 PKhKP PKPpre 22 13 24.1
comp=Z,10nm,0.5s,baz=148,slow=4.0,SNR=14
TKL SKPbc **SKPbc** 22 16 14.2 -1.1
comp=Z,22nm,0.6s,baz=235,slow=0.9,SNR=11
PLTB **Pedras Altas** 141.56 182 PKP **PKPdf** 22 13 27.0 -4.2
TBOT **Tacuaremb** 141.65 179 *e*P **PKPdf** 22 13 29.4 -1.9
CCIG **Comitan** 142.52 72 **PKPdf** 22 13 32.4 -1.0
AC06 **Mina Casimiro** 142.87 157 **PKPdf** 22 13 32.0 -1.6
CPSB **Cacapava Do Su** 142.90 182 *e*P **PKPdf** 22 13 32.3 -1.2
CPSB **Cacapava Do Su** 142.90 182 PKP **PKPdf** 22 13 32.2 -1.4
CPSB PKP **PKiKP** 22 13 32.9 -4.1
HUEH **Huehuetenango** 143.28 74 PKPbc 22 13 33.5 +0.3
ITQB **Itaqui** 143.63 178 PKPbc 22 13 33.6 -0.1
ITQB **Itaqui** 143.63 178 *e*P PKPab 22 13 32.7 -0.8
ITQB **Itaqui** 143.63 178 PKP PKPbc 22 13 33.8 +0.1
ITQB PKP PKPab 22 13 33.9 +0.4
CNLB **Canela** 143.80 186 *e*P **PKPdf** 22 13 35.4 +0.2
CNLB **Canela** 143.80 186 PKP PKPbc 22 13 34.3 0.0
AC02 **Maricunga** 143.81 158 PKPab 22 13 34.8 -0.1
AC01 **Pan de Azucar** 143.86 156 PKPab 22 13 34.5 0.0
TER01 **Tubaro-SC** 144.34 189 *e*P **PKPab** 22 13 36.3 0.0
TER01 **Tubaro-SC** 144.34 189 PKP **PKPab** 22 13 36.3 0.0
TER01 PKP **PKPdf** 22 13 37.0 +0.9
GO02 **Mina Guanaco** 145.14 156 **PKPbc** 22 13 38.8 -0.1
TEIG **Tepich** 145.14 64 **PKPbc** 22 13 38.2 -0.4
TEIG **Tepich** 145.14 64 PKPbc **PKPab** 22 13 40.3 +0.7
comp=Z,0.1nm,0.5s,baz=211,slow=24,SNR=7.0
MAJ01 **Sao Joao Batis** 145.44 189 *e*P **PKPbc** 22 13 39.4 +0.1
MAJ01 **Sao Joao Batis** 145.44 189 PKP **PKPab** 22 13 40.2 -0.3
ITAB **Concordia** 145.98 185 **PKPbc** 22 13 40.1 -0.7
ITAB **Concordia** 145.98 185 *e*P **PKPbc** 22 13 40.7 -0.1
ITAB **Concordia** 145.98 185 PKP **PKPbc** 22 13 41.0 +0.2
ITAB PKP **PKPab** 22 13 41.8 -0.8
PB10 **IPOC Station P** 146.20 154 **PKPdf** 22 13 39.9 +0.5
CPUP **Villa Florida** 146.92 176 **PKPdf** 22 13 41.2 +0.7
CPUP **Villa Florida** 146.92 176 PKPbc **PKPbc** 22 13 42.5 -0.9
comp=Z,84nm,0.8s,baz=178,slow=1.5,SNR=43
CPUP SKPbc **SKPbc** 22 16 27.2 -2.0
comp=Z,59nm,1.1s,baz=167,slow=1.6,SNR=6.2
CPUP **Villa Florida** 146.92 176 *e*P **PKPbc** 22 13 42.2 -1.1
CPUP **Villa Florida** 146.92 176 PKP **PKPdf** 22 13 41.7 +1.2
CPUP PKP **PKPbc** 22 13 42.2 -1.1
TIJ01 **Guaruva-PR** 147.47 190 PKP **PKPbc** 22 13 43.6 -1.4
SACV **Santiago Islan** 148.16 287 **PKPdf** 22 13 44.6 +1.8
CNGN **Cerro Negro** 148.30 77 **PKPbc** 22 13 45.6 -1.6
SJPY **San Joaquin** 148.30 178 *e*P **PKPdf** 22 13 44.2 +1.3
PTGB **Pitanga** 148.47 185 *e*P **PKPdf** 22 13 45.2 +2.0
PTGB **Pitanga** 148.47 185 PKP **PKPdf** 22 13 44.0 +0.8
MAN01 **Angra dos Reis** 148.53 200 *e*P **PKPdf** 22 13 44.2 +0.9
MAN01 **Angra dos Reis** 148.53 200 PKP **PKPdf** 22 13 45.3 +1.9
PARB **Paraibuna** 148.60 197 *e*P **PKPdf** 22 13 45.0 +1.5
PARB **Paraibuna** 148.60 197 PKP **PKiKP** 22 13 49.3 +0.3
CAM01 **Campos-RJ** 148.61 204 *e*P **PKPdf** 22 13 44.8 +1.4
CAM01 **Campos-RJ** 148.61 204 PKP **PKiKP** 22 13 48.7 -0.2
CAM01 PKP **PKPbc** 22 13 48.9 +1.1
DUB01 **Friburgo-RJ** 148.67 203 PKP **PKiKP** 22 13 48.8 -0.3
DUB01 PKP **PKiKP** 22 13 48.9 -0.3
VAS01 **Vassouras-RJ** 148.88 201 *e*P **PKPdf** 22 13 44.8 +0.9
VAS01 **Vassouras-RJ** 148.88 201 PKP **PKiKP** 22 13 49.5 0.0
VAS01 PKP **PKPbc** 22 13 49.6 +1.1
ALF01 **Guarapari-ES** 149.28 207 *e*P **PKPdf** 22 13 46.7 +2.3
ALF01 **Guarapari-ES** 149.28 207 PKP **PKPbc** 22 13 49.9 +0.4
ALF01 PKP **PKiKP** 22 13 51.3 +1.0
VAO **Valinhos** 149.28 195 *e*P **PKPdf** 22 13 46.1 +1.6
VABB **Valinhos** 149.28 195 PKP **PKiKP** 22 13 50.4 0.0
VABB PKP **PKPbc** 22 13 51.0 +1.4
BOAB **BOACO BROADBAND** 149.30 77 **PKPdf** 22 13 43.9 -0.7
FRTB **Fartura** 149.50 190 PKP **PKiKP** 22 13 51.3 +0.6
FRTB PKP **PKPbc** 22 13 51.4 +1.4
LDASE **Londrina, Braz** 149.68 187 *e*P **PKPdf** 22 13 46.5 +1.4
RIB01 **Linhares ES** 150.25 209 *e*P **PKPdf** 22 13 47.3 +1.3
RIB01 **Linhares ES** 150.25 209 PKP **PKPdf** 22 13 52.8 +0.4
RIB01 PKP **PKiKP** 22 13 52.8 +0.4
PB12 **IPOC Station P** 150.51 149 **PKPdf** 22 13 46.9 +0.3
PB12 PKPbc **PKiKP** 22 13 52.8 -0.2
HDC **Heredia** 151.06 82 *e*P **PKPdf** 22 13 49.0 +1.5
SJMB **Sao Joao De Ma** 151.15 208 *e*P **PKPdf** 22 13 49.2 +1.8
SJMB **Sao Joao De Ma** 151.15 208 PKP **PKPdf** 22 13 47.7 +0.3
SJMB PKP **PKPbc** 22 13 48.0 -5.9
LCR2 **La Lucha 2** 151.18 82 PKPdf **PKPdf** 22 13 48.3 +0.4
LCR2 PKPbc **PKiKP** 22 13 55.1 +0.4
NNA **Nana** 151.33 131 PKPdf **PKPdf** 22 13 47.2 -0.6
NNA PKPbc **PKPbc** 22 13 54.1 -0.3
NNA **Nana** 151.33 131 PKIKP **PKPdf** 22 13 47.2 -0.6
NNA 22 13 54.1
BB19B **Bebedouro** 151.51 193 *e*P **PKPdf** 22 13 49.5 +1.6
BB19B **Bebedouro** 151.51 193 PKP **PKPdf** 22 13 49.9 +2.0
GUA01 **Guaratinga, BA** 152.25 213 *e*P **PKPdf** 22 13 51.4 +2.3
GUA01 **Guaratinga, BA** 152.25 213 PKP **PKPdf** 22 13 51.0 +1.9
DIAM **Diamantina, MG** 152.59 204 *e*P **PKPdf** 22 13 51.6 +1.9
DIAM **Diamantina, MG** 152.59 204 PKP **PKPdf** 22 13 50.4 +0.7
DIAM PKP **PKPbc** 22 13 50.6 -6.7
RPRD **Ribas do Rio P** 152.78 183 *e*P **PKPdf** 22 13 51.5 +1.6
BDQN **Bodoquena, MS** 152.79 176 *e*P **PKPdf** 22 13 50.5 +0.7
AQDB **Aquidauana** 152.81 179 PKPdf **PKPdf** 22 13 50.4 +0.6
AQDB PKPbc **PKPbc** 22 13 57.3 -0.2
AQDB **Aquidauana** 152.81 179 *e*P **PKPdf** 22 13 52.0 +2.2
AQDB **Aquidauana** 152.81 179 PKP **PKPdf** 22 13 51.3 +1.4
AQDB PKP **PKPbc** 22 13 51.6 -5.9
CMC01 **Camacan, BA** 153.09 215 *e*P **PKPdf** 22 13 51.8 +1.5
CMC01 **Camacan, BA** 153.09 215 PKP **PKPdf** 22 13 52.2 +1.9
ITRB **Iturama** 153.19 190 *e*P **PKPdf** 22 13 52.2 +1.8
ITRB **Iturama** 153.19 190 PKP **PKPdf** 22 13 52.2 +1.8
PMNB **Patos De Minas** 153.37 198 *e*P **PKPdf** 22 13 53.0 +2.2
PMNB **Patos De Minas** 153.37 198 PKP **PKPdf** 22 13 52.7 +1.9
LPAZ **La Paz** 153.58 151 PKP **PKPdf** 22 13 52.5 +0.7
comp=Z,10nm,1.0s,baz=159,slow=0.6,SNR=26
LPAZ PKPbc **PKiKP** 22 14 00.8 +0.7
comp=Z,9.3nm,0.5s,baz=79,slow=1.1,SNR=17
LPAZ PKPab **PKPab** 22 14 16.2 +1.0
comp=Z,91nm,0.6s,baz=208,slow=4.2,SNR=41
LPAZ **La Paz** 153.58 151 *e*P **PKPdf** 22 13 53.2 +1.4
LPAZ **La Paz** 153.58 151 PKP **PKPdf** 22 13 51.9 +0.1
LPAZ PKP PKPbc 22 13 52.2 -7.8
LPAZ PKP **PKiKP** 22 13 54.1 -6.0
JQT1 **Jequitai-MG** 153.82 204 PKP **PKPdf** 22 13 53.2 +1.8
JQT1 PKP **PKPbc** 22 13 53.4 -6.4
IPMB **Ipameri, GO** 154.40 195 *e*P **PKPdf** 22 13 53.8 +1.6
IPMB **Ipameri, GO** 154.40 195 PKP **PKPdf** 22 13 53.5 +1.3
C2SB **Chapadao do Su** 154.43 185 *e*P **PKPdf** 22 13 52.6 +0.5
GDU01 **Guandu, BA** 154.43 217 *e*P **PKPdf** 22 13 54.1 +1.9
ANA01 **Lindo Horizont** 154.45 214 PKP **PKPdf** 22 13 53.1 +0.8
BAT3 **Ipameri** 154.77 197 PKP **PKPdf** 22 13 54.0 +1.2
BAT2 **UHE Batalha** 154.79 197 PKP **PKPdf** 22 13 54.1 +1.3
NBAN **Anadia - AL** 155.12 229 *e*P **PKPdf** 22 13 55.1 +1.9
NBAN **Anadia - AL** 155.12 229 PKP **PKPdf** 22 13 54.6 +1.4

OTAV **Otavalo** 155.72 105 PKPdf **PKPdf** 22 13 53.7 -0.9
OTAV **Otavalo** 155.72 105 PKIKP **PKPdf** 22 13 53.7 -0.9
OTAV **Otavalo** 155.72 105 *e*P **PKPdf** 22 13 56.6 +2.0
OTAV **Otavalo** 155.72 105 PKP **PKPdf** 22 13 55.1 +0.5
OTAV PKP **PKPdf** 22 13 55.5 +0.9
JANB **Januaria** 155.76 206 *e*P **PKPdf** 22 13 55.7 +1.6
JANB **Januaria** 155.76 206 PKP **PKPdf** 22 13 53.5 -0.6
JANB PKP **PKPdf** 22 13 55.0 +0.9
NBCA **Caruaru-PE** 155.83 232 *e*P **PKPdf** 22 13 55.9 +1.6
BDFB **Brasilia** 156.58 197 PKP **PKPdf** 22 13 56.8 +1.6
comp=Z,5.4nm,0.8s,baz=130,slow=2.0,SNR=8.9
BDFB PKPab **PKPab** 22 14 28.3 +0.9
comp=Z,6.3nm,0.7s,baz=207,slow=4.0,SNR=4.6
BDFB **Brasilia** 156.58 197 PKP **PKPdf** 22 13 56.8 +1.6
CZSB **Cruzeiro do Su** 157.16 129 *e*P **PKPdf** 22 13 57.6 +1.7
ARAG **Araguaiana, MT** 157.34 188 *e*P **PKPdf** 22 13 58.5 +2.6
ARAG **Araguaiana, MT** 157.34 188 PKP **PKPdf** 22 13 57.5 +1.5
ARAG PKP **PKPdf** 22 13 57.8 +1.8
SALV **Santo Antonio** 157.36 178 *e*P **PKPdf** 22 13 57.4 +1.4
SALV **Santo Antonio** 157.36 178 PKP **PKPdf** 22 13 56.9 +0.9
SALV PKP **PKPdf** 22 13 57.7 +1.7
SALV PKP **PKPdf** 22 13 57.9 +1.9
PTLB **Pontes e Lacer** 157.45 170 PKPdf **PKPdf** 22 13 56.7 +0.6
PTLB **Pontes e Lacer** 157.45 170 *e*P **PKPdf** 22 13 58.0 +1.9
PTLB **Pontes e Lacer** 157.45 170 PKP **PKPdf** 22 13 57.3 +1.2
PTLB PKP **PKPdf** 22 13 57.7 +1.6
SDBA **SAO DESIDERIO** 158.36 208 *e*P **PKPdf** 22 13 59.7 +2.4
SDBA **SAO DESIDERIO** 158.36 208 PKP **PKPdf** 22 13 58.5 +1.2
SSV2 **Sao Salvador** 159.27 199 PKP **PKPdf** 22 13 59.8 +1.5
VILB **Vilhena** 159.64 165 PKPdf **PKPdf** 22 13 59.7 +0.9
VILB **Vilhena** 159.64 165 PKP **PKPdf** 22 14 00.8 +2.1
NBCL **Cascavel-CE** 159.99 237 PKP **PKPdf** 22 14 00.8 +1.7
ROSC **El Rosal** 160.70 95 PKP **PKPdf** 22 14 01.8 +1.4
comp=Z,10nm,0.6s,baz=60,slow=5.3,SNR=5.9
ROSC PKPab **PKPab** 22 14 48.4 +2.2
comp=Z,50nm,0.9s,baz=79,slow=1.4,SNR=20
SNDB **Serra Nova Dou** 160.91 191 *e*P **PKPdf** 22 14 02.2 +2.1
SNDB **Serra Nova Dou** 160.91 191 PKP **PKPdf** 22 14 01.8 +1.6
TBTG **Tabatinga, AM** 161.52 126 *e*P **PKPdf** 22 13 59.1 -1.7
PDRB **Porto dos Gac** 161.56 175 *e*P **PKPdf** 22 14 02.3 +1.5
PDRB **Porto dos Gac** 161.56 175 PKP **PKPdf** 22 14 01.7 +0.9
PDRB PKP **PKPdf** 22 14 01.9 +1.1
SBBR **Sobral** 161.89 235 PKP **PKPdf** 22 14 01.3 +0.1
LAJE **UHE Lajeado** 161.97 202 PKP **PKPdf** 22 14 01.6 +0.4
LAJE PKP **PKPdf** 22 14 02.0 +0.8
RUSC **La Rusia** 162.02 92 **PKPdf** 22 14 00.3 -1.6
SAML **Samuel** 162.30 153 PKPdf **PKPdf** 22 14 01.6 0.0
SAML PKPab **PKPab** 22 14 52.4 0.0
SAML **Samuel** 162.30 153 PKIKP **PKPdf** 22 14 01.6 0.0
SAML 22 14 52.4
SAML **Samuel** 162.30 153 *e*P **PKPdf** 22 14 03.1 +1.6
CLDB **Colider** 162.35 177 *e*P **PKPdf** 22 14 01.6 0.0
CLDB **Colider** 162.35 177 PKP **PKPdf** 22 14 01.8 +0.1
CLDB PKP **PKPdf** 22 14 02.9 +1.2
NBPS **Pedro II - PI** 162.42 231 PKP **PKPdf** 22 14 02.2 +0.4
SMTB **Santa Maria do** 162.70 205 *e*P **PKPdf** 22 14 03.5 +1.5
SMTB **Santa Maria do** 162.70 205 PKP **PKPdf** 22 14 03.1 +1.2
SMTB PKP **PKPdf** 22 14 03.5 +1.5
NBBC **Barra do Corda** 164.31 219 PKP **PKPdf** 22 14 04.5 +1.1
SDV **Santo Domingo** 164.41 82 **PKPdf** 22 14 02.8 -0.9
SDV PKPab **PKPab** 22 15 02.9 +0.7
SDV **Santo Domingo** 164.41 82 *e*P **PKPdf** 22 14 03.9 +0.2
SDV **Santo Domingo** 164.41 82 PKP **PKPdf** 22 14 03.6 -0.2
SDV PKP **PKPdf** 22 14 03.7 0.0
PAL2 **UHE Estreito -** 164.44 210 PKP **PKPdf** 22 14 05.0 +1.4
TEFE **Tefe** 165.91 137 *e*P **PKPdf** 22 14 06.4 +1.6
TEFE **Tefe** 165.91 137 PKP **PKPdf** 22 14 06.4 +1.6
NPGB **Novo Progresso** 166.17 179 *e*P **PKPdf** 22 14 07.2 +2.2
NPGB **Novo Progresso** 166.17 179 PKP **PKPdf** 22 14 05.5 +0.5
NPGB PKP 22 14 06.1
BAUV **El Baul** 166.94 80 PKPdf **PKPdf** 22 14 04.3 -1.2
BAUV PKPab **PKPab** 22 15 11.3 -1.9
TMAB **Tom-Au,PA,Br** 168.51 217 *e*P **PKPdf** 22 14 08.5 +1.9
TMAB **Tom-Au,PA,Br** 168.51 217 PKP **PKPdf** 22 14 07.2 +0.6
TMAB PKP 22 14 07.8
MACA **Manacapuru-AM** 168.54 150 *e*P **PKPdf** 22 14 07.4 +0.7
ITTB **Itaituba** 168.81 176 *e*P **PKPdf** 22 14 07.2 +0.3
ITTB **Itaituba** 168.81 176 PKP **PKPdf** 22 14 06.7 -0.1
ITTB PKP 22 14 07.5
BMO2 **UHE Belo Monte** 169.40 197 PKP **PKPdf** 22 14 06.9 -0.3
BMO2 PKP 22 14 07.2
BMO1 **UHE Belo Monte** 169.52 198 PKP **PKPdf** 22 14 07.5 +0.2
BMO1 PKP 22 14 07.9
MAL2 **Monte Alegre,** 171.13 185 PKPdf **PKPdf** 22 14 08.2 +0.1
MAL2 **PKPab** 22 15 31.2 -0.1
MAL2 **Monte Alegre,** 171.13 185 PKP **PKPdf** 22 14 09.1 +0.9
MAL2 PKP 22 14 09.1
BOAV **Boa Vista** 172.94 129 PKPdf **PKPdf** 22 14 08.8 -0.2
BOAV **PKPab** 22 15 38.8 -0.8
BOAV **Boa Vista** 172.94 129 *e*P **PKPdf** 22 14 10.6 +1.7
BOAV **Boa Vista** 172.94 129 PKP **PKPdf** 22 14 09.6 +0.7

*MAN **06** 21:58:39.3, 11.°62N×125.°74E, h13km, mb5.9, ML4.9, MS5.4*
MAN INTENSITY IV- BALANGKAYAN AND MAYDOLONG EASTERN SAMAR; INTENSITY III - TACLOBAN CITY; BABATNGON MACARTHUR AND PALO LEYTE; SAN JULIAN EASTERN SAMAR; GAMAY LAOANG MAPANAS AND PALAPAG NORTHERN SAMAR; INTENSITY II- CATARMAN NORTHERN SAMAR.
*IDC **06** 21:58:43.2±2.7, 11.°71N×125.°66E, h58km±24km, mb4.9/28, mbtmp5.2/31, ML4.3/3, MS4.9/14, Error ellipse: s-maj=19.9km s-min=17.6km az=50.0*
ISC 06 21:58:42.4±0.6, **11.°81N**±0.°08×**125.°8E**±0.°1, **h50**km, **n90**, σ1**8**11/70, **mb5.2**/45, **MS4.8**/11, **Samar**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.71**	**182**	P		**Pn**	**21 59 49.9**	**-1.1**
	43nm,0.3s,baz=0.0,slow=6.1,SNR=0.8							
DAV				LR		LR	22 02 02.4	
	comp=Z,51μm,19.0s,baz=348,slow=43							
	199nm,0.4s							
TGY	**Tagaytay City**	**5.23**	**296**	P		**Pn**	**21 59 58.2**	**-0.1**
	96nm,0.3s,baz=115,slow=19,SNR=4.5							
TGY				LR		LR	22 02 14.7	
	comp=Z,23μm,19.8s,baz=80,slow=41							
	383nm,0.6s							
I39PW	**PALAU INFRASON**	**9.64**	**115**	T		T	22 10 55.0	
	baz=282,slow=33,SNR=0.3							
I39PW				I		I	23 01 00.0	
	baz=295,slow=310,SNR=1.9							
JOW	**Kunigami**	**15.13**	**9**	P		**Pn**	**22 02 14.4**	**+1.3**
	0.7nm,0.3s,baz=185,slow=12,SNR=0.9							
JOW				S		**Sn**	**22 04 53.7**	**-6.0**
	21nm,0.9s,baz=252,slow=19,SNR=2.0							
	28nm,0.7s							
GUMO	**Guam**	**18.72**	**83**	LR		LR	22 08 42.6	
	comp=Z,3μm,20.5s,baz=252,slow=32							
KSRS	**Korea Array**	**25.61**	**4**	P		**P**	**22 04 09.2**	**+2.0**
	40nm,1.0s,baz=188,slow=9.1,SNR=4.6							
KSRS				LR		LR	22 13 17.9	
	comp=Z,2μm,21.9s,baz=210,slow=34							
	40nm,1.0s							
CMAR	**Chiang Mai Arr**	**26.70**	**288**	P		**P**	**22 04 16.0**	**-1.3**
	15nm,0.7s,baz=97,slow=7.4,SNR=6.9							
	15nm,0.7s							
MJAR	**Matsushiro Arr**	**27.06**	**22**	P		**P**	**22 04 20.1**	**-0.2**
	61nm,1.1s,baz=188,slow=8.9,SNR=4.9							
	61nm,1.1s							
USRK	**Ussuriysk Ar.**	**32.72**	**8**	LR		LR	22 17 40.9	
	comp=Z,793nm,20.1s,baz=226,slow=35							
ASAJ	**Asahikawa**	**35.31**	**21**	LR		LR	22 18 10.2	
	comp=Z,1μm,20.1s,baz=218,slow=33							
ASAR	**Alice Springs**	**36.14**	**167**	LR		LR	22 22 10.0	
	comp=Z,2μm,20.8s,baz=16,slow=39							
SONM	**Songino Array**	**39.42**	**339**	P		**P**	**22 06 08.8**	**+1.2**
	50nm,1.1s,baz=158,slow=9.5,SNR=5.7							
	50nm,1.1s							
H11S3	**WAKE ISLAND Hy**	**39.99**	**75**	T		T	22 49 19.9	
	baz=272,slow=74,SNR=279							
H11S1	**WAKE ISLAND Hy**	**40.00**	**75**	T		T	22 49 24.4	
	baz=272,slow=74,SNR=152							
H11S2	**WAKE ISLAND Hy**	**40.00**	**75**	T		T	22 49 25.2	
	baz=272,slow=74,SNR=170							
H11N1	**WAKE ISLAND Hy**	**40.27**	**73**	T		T	22 49 42.3	
	baz=265,slow=74,SNR=713							
H11N2	**WAKE ISLAND Hy**	**40.27**	**73**	T		T	22 49 44.6	
	baz=265,slow=74,SNR=684							
H11N3	**WAKE ISLAND Hy**	**40.29**	**73**	T		T	22 49 41.7	
	baz=265,slow=74,SNR=681							

PETK **Petropavlovsk-** 48.46 25 P **P** 22 07 20.2 +0.3
23nm,0.9s,baz=224,slow=7.6,SNR=3.1
23nm,0.9s
MKAR **Makanchi Array** 50.52 322 P **P** 22 07 37.0 +1.3
73nm,0.8s,baz=121,slow=8.0,SNR=8.9
73nm,0.8s
ZALV **Zalesovo Beam** 53.05 331 P **P** 22 07 55.0 +0.6
47nm,1.0s,baz=134,slow=6.4,SNR=3.6
47nm,1.0s
KURBB **Kurchatov Arra** 54.54 325 P **P** 22 08 06.1 +0.8
94nm,0.6s,baz=125,slow=7.0,SNR=24
94nm,0.6s
TIXI **Tiksi** 59.84 1 P **P** 22 08 42.8 +0.4
22nm,0.7s,baz=171,slow=4.5,SNR=3.2
22nm,0.7s
BVAR **Borovoye Array** 60.13 325 P **P** 22 08 44.7 -0.1
51nm,0.8s,baz=117,slow=9.0,SNR=7.0
51nm,0.8s
NRIK **Noril'sk** 62.41 346 P **P** 22 09 00.1 +0.2
80nm,1.1s,baz=113,slow=4.9,SNR=4.2
80nm,1.1s
URZ **Urewera** 69.14 139 P **P** 22 09 43.8 +0.1
5.1nm,0.5s,baz=335,slow=6.1,SNR=2.5
5.1nm,0.5s
KDAK **Kodiak Island** 75.65 33 P **P** 22 10 21.6 -0.6
20nm,1.0s,baz=282,slow=8.6,SNR=5.0
20nm,1.0s
KBZ **Khabaz** 76.81 312 P **P** 22 10 27.6 -1.5
19nm,0.9s,baz=90,slow=3.0,SNR=6.0
19nm,0.9s
ILAR **Eielson Array** 78.28 26 P **P** 22 10 37.6 +0.8
3.6nm,0.9s,baz=249,slow=4.0,SNR=4.4
ILAR LR LR 22 44 00.2
comp=Z,344nm,21.5s,baz=240,slow=35
3.6nm,0.9s
OBN **Obninsk** 79.97 324 LR LR 22 48 21.2
comp=Z,2μm,20.9s,baz=136,slow=37
SPITS **Spitsbergen Ar** 82.42 349 P **P** 22 10 59.8 +0.9
19nm,0.8s,baz=95,slow=8.8,SNR=9.5
19nm,0.8s
ARA0 **ARCESS Array S** 82.59 340 *e*P **P** 22 11 00.7 +0.8
ARCES **ARCESS Array B** 82.59 340 P **P** 22 11 00.4 +0.4
36nm,0.8s,baz=78,slow=6.8,SNR=23
36nm,0.8s
HAMF **Hammerfest** 82.92 341 *e*P **P** 22 11 02.1 +0.6
HAMF *i* 22 17 31.8
HAMF *i* 22 36 06.2
HSPB **Hornsund (broa** 83.03 348 *e*P P 22 11 14.3 +12
INK **Inuvik** 83.05 22 P **P** 22 11 03.5 +1.2
11nm,0.9s,baz=281,slow=6.2,SNR=11
11nm,0.9s
KTK1 **Kautokeino** 83.51 339 *e*P **P** 22 11 05.0 +0.4
KTK1 IVmB_BB 22 11 05.3
comp=Z,597nm,2.3s
KTK1 *i* 22 17 34.2
MMAI **Mount Meron Ar** 83.97 302 P **P** 22 11 07.6 -0.3
comp=Z,7.8nm,0.8s,baz=87,slow=5.1,SNR=5.9
comp=Z,7.8nm,0.8s
BRTR **Keskin Array B** 84.18 309 P **P** 22 11 07.7 -1.2
comp=Z,7.1nm,0.7s,baz=121,slow=3.7,SNR=9.1
comp=Z,7.1nm,0.7s
JETT **Jettan, Norway** 84.31 340 *e*P **P** 22 11 09.4 +0.6
FINES **FINESS Array B** 84.31 332 P **P** 22 11 09.0 +0.1
comp=Z,66nm,0.9s,baz=72,slow=6.2,SNR=36
comp=Z,66nm,0.9s
NOR **Nord** 85.01 355 *i* P **P** 22 11 12.7 +0.6
NOR IAmb IAmb 22 11 25.0
comp=Z,11nm,0.6s
AKASG **Malin Array Be** 85.07 321 P **P** 22 11 12.3 -0.6
comp=Z,24nm,0.8s,baz=69,slow=4.6,SNR=26
comp=Z,24nm,0.8s
STEI **Steigen** 86.65 339 *e*P **P** 22 11 19.6 -0.7
FAUS **Fauske** 86.85 339 *e*P **P** 22 11 20.4 -1.0
FAUS IVmB_BB 22 11 31.0
comp=Z,557nm,2.6s
DLBC **Dease Lake** 87.33 31 P **P** 22 11 24.7 +0.7
comp=Z,2.2nm,1.1s,baz=233,slow=5.1,SNR=3.4
comp=Z,7.2nm,1.1s
MOR8 **Moi Rana** 87.64 338 *e*P **P** 22 11 23.4 -1.9
LEIR **Leirfjorden** 88.16 338 *e*P **P** 22 11 26.7 -0.9
PPT **Papeete** 88.51 108 LR LR 22 43 20.6
comp=Z,347nm,20.5s,baz=270,slow=30
KMBO **Kilima Mbogo** 88.77 269 LR LR 22 52 24.6
comp=Z,720nm,18.2s,baz=92,slow=36
KOLS **Kolonicke sedl** 89.88 320 *e*PKP **P** 22 11 35.6 -0.6
RES **Resolute Bay** 90.08 10 P **P** 22 11 36.2 -0.4
comp=Z,7.5nm,1.0s,baz=316,slow=6.4,SNR=7.7
comp=Z,7.5nm,1.0s
STHS **Stebnicka Huta** 90.37 321 *e*PKP **P** 22 11 36.6 -1.9
BBB **Bella Bella** 90.41 36 LR LR 22 49 48.2
comp=Z,447nm,19.4s,baz=266,slow=34
HFS **Hagfors** 90.47 332 P **P** 22 11 37.8 -0.9
comp=Z,11nm,0.8s,baz=79,slow=7.7,SNR=10
comp=Z,11nm,0.8s
NEEM **North Greenlan** 90.89 359 *i* P **P** 22 11 42.0 +1.3
NEEM IAmb IAmb 22 11 50.9
comp=Z,23nm,1.4s
NB2 **NORSAR Subarra** 91.17 334 P **P** 22 11 40.5 -1.5
comp=Z,21nm,1.1s,baz=63,slow=4.6
NB2 **NORSAR Subarra** 91.17 334 P **P** 22 11 40.5 -1.5
baz=63,slow=4.6
NOA **NORSAR Array B** 91.17 334 P **P** 22 11 40.0 -1.9
comp=Z,5.0nm,0.7s,baz=63,slow=4.6,SNR=19
comp=Z,5.0nm,0.7s
LANS **Liptovska Anna** 91.55 321 *e*PKP **P** 22 11 43.3 -0.7
DOMB **Dombas** 91.61 335 *e*P **P** 22 11 43.2 -0.8
AKN **Aaknes** 92.38 336 *e*P **P** 22 11 47.4 -0.1
YKA **Yellowknife Ar** 92.56 24 P **P** 22 11 48.1 -0.2
comp=Z,1.5nm,0.5s,baz=302,slow=4.6,SNR=19
comp=Z,1.5nm,0.5s
SRO **Srobarova** 92.74 320 *e*PKP **P** 22 11 49.5 +0.1
COP **Copenhagen** 92.99 329 *i* P P 22 11 44.9 -5.4
COP IAmb IAmb 22 11 45.7
comp=Z,45nm,0.9s
KULLO **Kullorsuaq** 93.77 1 *i* P **P** 22 11 54.1 +0.4
KULLO IAmb IAmb 22 11 55.5
comp=Z,15nm,0.8s
BLS5 **Blasjo** 94.03 333 *e*P **P** 22 11 55.1 -0.1
RONA **Rosalia, Austr** 94.05 320 *i* PcP **P** 22 11 55.8 +0.2
comp=Z,7.7nm,1.4s
BRG **Berggiesshubel** 94.21 324 P P 22 11 47.9 -8.2
BRG Amp 22 11 49.1
comp=Z,4.9nm,1.2s
BRG **Berggiesshubel** 94.21 324 P **P** 22 11 56.3 +0.2
BRG Amp 22 11 58.1
comp=Z,14nm,1.4s
CONA **Conrad Observa** 94.23 321 *e*PcP **P** 22 11 55.9 -0.5
comp=Z,16nm,1.7s
SCO **Scoresbysund** 94.98 350 *i* P **P** 22 11 58.8 -0.4
GERES **GERESS Array B** 95.19 322 P **P** 22 12 00.5 -0.3
comp=Z,3.2nm,0.9s,baz=32,slow=3.5,SNR=8.3
comp=Z,3.2nm,0.9s
SOKA **Soboth** 95.24 320 *i* PcP **P** 22 12 00.9 -0.1
comp=Z,7.8nm,1.1s
MOA **Molln** 95.25 321 *e*PcP **P** 22 12 00.6 -0.4
comp=Z,16nm,0.9s,SNR=8.5
OBKA **Obir** 95.

JMA 06 22:01:10.2±0.2, 37°.3N±0°.4×141°.5E±0°.9, h20km±1km, MV1.1/21, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**273**	P	Pb	22 01 19.6	-0.2
ONAJ	**Iwakimizuishiy**	**0.58**	**246**	P	Pb	22 01 21.6	-0.1
ONAJ				eS	Sb	22 01 29.2	-0.3
JMST	**Minamisoumatoc**	**0.60**	**310**	eS	Sb	22 01 29.5	-0.4
JMM	**Marumori**	**0.75**	**315**	eP	Pb	22 01 23.9	-0.5
JFFD	**Fukushimafurud**	**0.76**	**251**	eP	Pb	22 01 24.5	-0.2
JFFD				eS	Sb	22 01 34.3	-0.4
JOTO	**OTAMA OYAMA**	**0.92**	**284**	eS	Sb	22 01 39.4	0.0

*SJA **06** 22:02:00.1±0.6, 27°.30S×70°.71W, h37km±1km, ML3.5, MW3.7*
*GUC **06** 22:02:01.3±0.8, 27°.32S×70°.70W, h51km±2km, ML3.7*
ISC 06 22:02:00.7±1.3, 27°.27S±0°.02×70°.78W±0°.04, h21km±5km, n35, σ1s 42/59, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC06	**Mina Casimiro**	**0.38**	**103**	⇑iP	**Pn**	**22 02 10.5**	**-0.6**
AC06				eS	**Sn**	**22 02 16.9**	**-1.0**
AC06				IAML		22 02 18.2	
comp=N,14μm,0.1s							
GO03	**Copiapo**	**0.58**	**124**	eP	**Pb**	**22 02 12.1**	**-0.2**
GO03				eS	**Sn**	**22 02 20.4**	**-2.3**
GO03				IAML		22 02 21.3	
comp=N,5μm,0.3s							
GO03	**Copiapo**	**0.58**	**124**	eP	**Pb**	**22 02 12.2**	**-0.1**
GO03				eS	**Sn**	**22 02 20.4**	**-2.3**
AC04	**Llanos de Chal**	**0.97**	**196**	eP	**Pb**	**22 02 18.5**	**-0.2**
AC04				eS	**Sb**	**22 02 31.9**	**+0.8**
AC04				IAML		22 02 35.4	
comp=E,4μm,0.1s							
AC04	**Llanos de Chal**	**0.97**	**196**	eP	**Pb**	**22 02 18.6**	**-0.2**
AC04				eS	**Sb**	**22 02 32.3**	**+1.2**
AC04				IAML		22 02 35.7	
comp=Z,734nm,0.7s							
AC01	**Pan de Azucar**	**1.13**	**8**	⇓iP	**Pn**	**22 02 21.7**	**+0.3**
AC01				eS	**Sb**	**22 02 34.5**	**-1.3**
AC01	**Pan de Azucar**	**1.13**	**8**	eP	**Pn**	**22 02 21.6**	**+0.2**
AC01				eS	**Sn**	**22 02 37.0**	**+0.7**
AC01				IAML		22 02 39.6	
comp=Z,741nm,0.5s							
AC02	**Maricunga**	**1.53**	**74**	eP	**Pn**	**22 02 27.2**	**-0.2**
AC02				eS	**Sn**	**22 02 45.8**	**-1.1**
AC02				IAML		22 02 47.0	
comp=N,2μm,0.2s							
AC02	**Maricunga**	**1.53**	**74**	eP	**Pn**	**22 02 27.0**	**-0.3**
AC02				eS	**Sn**	**22 02 46.0**	**-0.9**
AC02				IAML		22 02 46.9	
comp=Z,2μm,0.2s							
AC05	**El Transito**	**1.62**	**164**	eP	**Pn**	**22 02 27.9**	**-0.4**
AC05				eS	**Sn**	**22 02 47.5**	**-1.1**
AC05	**El Transito**	**1.62**	**164**	eP	**Pn**	**22 02 27.7**	**-0.5**
AC05				eS	**Sn**	**22 02 48.1**	**-0.5**
AC05				IAML		22 02 54.1	
comp=Z,377nm,0.3s							
LCO	**Las Campanas**	**1.73**	**178**	eP	**Pn**	**22 02 28.5**	**-1.4**
LCO				eS	**Sn**	**22 02 50.7**	**-0.9**
LCO	**Las Campanas**	**1.73**	**178**	eP	**Pn**	**22 02 28.0**	**-1.9**
LCO				eS	**Sb**	**22 02 54.9**	**+1.5**
LCO				IAML		22 02 56.9	
comp=Z,940nm,0.2s							
GO02	**Mina Guanaco**	**2.35**	**27**	⇓eP	**Pn**	**22 02 38.6**	**+0.1**
GO02	**Mina Guanaco**	**2.35**	**27**	eP	**Pn**	**22 02 38.5**	**+0.1**
GO02				eS	**Sn**	**22 03 06.3**	**-0.7**
PB14	**IPOC Station P**	**2.66**	**7**	eP	**Pn**	**22 02 42.0**	**-0.6**
PB14	**IPOC Station P**	**2.66**	**7**	eP	**Pn**	**22 02 41.9**	**-0.8**
PB14				eS	**Sn**	**22 03 17.2**	**+2.9**
PB14				IAML		22 03 29.6	
comp=Z,182nm,0.9s							
VCA	**Vinchina**	**2.70**	**123**	eP	**Pn**	**22 02 44.9**	**+1.8**
VCA	**Vinchina**	**2.70**	**123**	eP	**Pn**	**22 02 44.2**	**+1.1**
VCA				eS	**Sb**	**22 03 17.5**	**-3.7**
VCA				eS		22 03 18.8	
VCA				IAML		22 03 28.1	
comp=Z,134nm,0.2s							
CO01	**Juntas del Tor**	**2.76**	**168**	⇑eP	**Pn**	**22 02 43.7**	**-0.3**
CO01	**Juntas del Tor**	**2.76**	**168**	eP	**Pn**	**22 02 43.9**	**-0.2**
CO01				eS	**Sb**	**22 03 20.9**	**-2.1**
GO04	**Tololo Observa**	**2.89**	**180**	⇑iP	**Pn**	**22 02 44.8**	**-1.0**
GO04	**Tololo Observa**	**2.89**	**180**	eP	**Pn**	**22 02 44.1**	**-1.7**
GO04				eS	**Sn**	**22 03 22.1**	**+2.0**
AGUA	**GUANDACOL**	**2.99**	**138**	eP	**Pn**	**22 02 48.7**	**+1.7**
AGUA				IAML		22 03 33.7	
comp=Z,116nm,0.4s							
AGUA				eS	**Sb**	**22 03 33.7**	**+4.4**
AROD	**Rodeo**	**3.10**	**159**	eP	**Pn**	**22 02 50.0**	**+1.2**
CO03	**El Pedregal**	**3.56**	**179**	eP	Pn	22 02 38.5	-16
CO03				IAML		22 03 52.2	
comp=Z,84nm,0.6s							
CO02	**Combarbal**	**3.92**	**183**	eP	**Pn**	**22 02 58.2**	**-1.7**
CO02				IAML		22 04 07.2	
comp=Z,128nm,1.0s							
DOCA	**Reserva Natura**	**3.95**	**158**	eP	**Pn**	**22 03 01.8**	**+1.3**
DOCA				eS	**Sn**	**22 03 48.0**	**+1.5**
DOCA				IAML		22 03 59.0	
comp=Z,118nm,0.8s							
ACLC	**CERRO LA CRUZ**	**4.00**	**123**	eP	**Pn**	**22 03 01.2**	**+0.3**
ACLC				eS	**Sn**	**22 03 48.0**	**+0.8**
ACLC				IAML		22 03 54.6	
comp=Z,34nm,0.4s							
AVFE	**Valle Fertil**	**4.46**	**140**	eP	**Pn**	**22 03 07.4**	**+0.3**
AVFE				eS	**Sn**	**22 03 59.9**	**+1.5**
AVFE				IAML		22 04 06.3	
comp=Z,52nm,0.3s							
CYA	**Choya**	**4.55**	**106**	eP	**Pn**	**22 03 08.9**	**+0.5**
RTLS	**Leoncito**	**4.69**	**164**	eP	**Pn**	**22 03 11.5**	**+0.9**
RTLS				IAML		22 04 28.0	
comp=Z,78nm,0.6s							
CFA	**Coronel Fontan**	**4.85**	**153**	eP	**Pn**	**22 03 12.6**	**0.0**
CFA				eS	**Sn**	**22 04 07.9**	**-0.3**
APLL	**PUNTA DE LOS L**	**4.85**	**131**	eP	**Pn**	**22 03 12.7**	**+0.1**
APLL				eS	**Sn**	**22 04 10.8**	**+2.5**
ACHE	**Chepes**	**5.29**	**138**	eP	**Pn**	**22 03 18.8**	**+0.2**
ACHE				eS	**Sn**	**22 04 18.4**	**-0.6**

ATH 06 22:11:07.9, 40°.20N×21°.68E, h7km±4km, ML1.2/3, Manual Solution by A.Moschou First location: 2019/04/06 22:12:21, This location: 2019/04/08 07:49:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.13**	**32**	P	Pg	22 11 11.0	+0.2
KZN				S	Sg	22 11 13.3	+0.6
PENT	**Pentalofos**	**0.41**	**270**	P	Pb	22 11 16.9	-0.7
PENT				S	Sg	22 11 21.8	+0.3
NEST	**Nestorio**	**0.53**	**295**	P	Pb	22 11 19.0	-0.6
NEST				S	Sg	22 11 26.3	+1.2
LIT	**Litokhoron**	**0.63**	**98**	P	Pg	22 11 20.4	+0.4
LIT				S	Sg	22 11 28.8	+0.6
FNA	**Florina**	**0.63**	**339**	P	Pg	22 11 20.6	+0.5
FNA				S	Sg	22 11 29.0	+0.6
THL	**Klokotos Trika**	**0.68**	**158**	P	Pg	22 11 20.7	-0.3
THL				S	Sg	22 11 30.5	+0.6
TETR	**Tetrakomo, Epi**	**0.91**	**200**	P	Pg	22 11 25.5	+0.2
TETR				S	Sb	22 11 38.0	-0.2

IDC 06 22:17:11.2±4.7, 11°.06N×125°.81E, h0km, mb4.1/7, mbtmp4.1/7, Error ellipse: s-maj=161.7km s-min=103.3km az=52.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.13**	**340**	P	P	22 24 48.4	-0.6
0.3nm,0.5s,baz=163,slow=10.0,SNR=3.1							
0.3nm,0.5s							
MKAR	**Makanchi Array**	**51.13**	**323**	P	P	22 26 16.2	+0.3
2.2nm,0.7s,baz=119,slow=8.1,SNR=21							
2.2nm,0.7s							
KURBB	**Kurchatov Arra**	**55.17**	**325**	P	P	22 26 45.4	-0.2
3.7nm,0.6s,baz=126,slow=7.1,SNR=25							
3.7nm,0.6s							
BVAR	**Borovoye Array**	**60.76**	**325**	P	P	22 27 24.8	-0.1
1.1nm,0.6s,baz=120,slow=8.5,SNR=6.0							
1.1nm,0.6s							
ARCES	**ARCESS Array B**	**83.30**	**340**	P	P	22 29 40.0	+0.4
2.4nm,0.8s,baz=87,slow=3.9,SNR=5.5							
2.4nm,0.8s							
FINES	**FINESS Array B**	**84.99**	**332**	P	P	22 29 48.4	+0.1
1.1nm,0.6s,baz=71,slow=5.2,SNR=13							
1.1nm,0.6s							
AKASG	**Malin Array Be**	**85.67**	**321**	P	P	22 29 51.2	-0.8
0.2nm,0.3s,baz=68,slow=3.9,SNR=2.2							
0.2nm,0.3s							

*BJI **06** 22:19:24.7, 7°.28S×125°.38E, h553km, mB5.3/5, mb4.9/69*
*NEIC **06** 22:19:30.4±1.1, 6°.81S±0°.08×125°.00E±0°.10, h549km±7km, mb4.8/97, Error ellipse: s-maj=14.9km s-min=11.2km az=65.0*
*IDC **06** 22:19:30.1±0.9, 6°.86S×125°.01E, h551km±10km, mb4.0/23, mbtmp5.0/30, Error ellipse: s-maj=12.5km s-min=6.7km az=71.0*
*DJA **06** 22:19:30.1±0.1, 7°.S±2°.×12°.5E±°, h548km±2km, M4.8/55, mb4.9/55, mB5.3/21, MLv5.4/24, Mw(mB)4.7/21*
ISC 06 22:19:30.2±0.3, 6°.87S±0°.04×124°.98E±0°.04, h553km±4km, h555km: pP-P, n332, σ0s 93/362, mb4.7/86, 2C-9D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**2.76**	**300**	P	**P**	**22 20 45.7**	**+1.6**
BBSI				S	**S**	**22 21 45.2**	**+1.0**
SOEI	**Soe**	**2.95**	**194**	P	**P**	**22 20 45.0**	**-0.3**
SOEI	**Soe**	**2.95**	**194**	P	**P**	**22 20 45.2**	**-0.1**
SOEI	**Soe**	**2.95**	**194**	P	**P**	**22 20 45.3**	**-0.1**
SOEI				S	**S**	**22 21 44.6**	**-1.9**
MMRI	**Maumere**	**3.23**	**237**	P	**P**	**22 20 46.2**	**-0.7**
MMRI	**Maumere**	**3.23**	**237**	P	**P**	**22 20 46.0**	**-1.0**
MMRI	**Maumere**	**3.23**	**237**	P	**P**	**22 20 46.3**	**-0.7**
MMRI				S	**S**	**22 21 48.0**	**-1.5**
EDFI	**Ende, Flores**	**3.76**	**240**	P	**P**	**22 20 49.4**	**-1.3**
NLAI	**Namlea**	**4.18**	**30**	P	**P**	**22 20 54.0**	**+0.3**
NLAI				S	**S**	**22 22 00.3**	**-1.4**
AAI	**Ambon**	**4.50**	**45**	P	**P**	**22 20 55.8**	**-0.4**
AAI				S	**S**	**22 22 05.2**	**-1.1**
BSSI	**Bau Bau, Buton**	**4.52**	**279**	P	**P**	**22 20 57.5**	**+1.2**
BSSI				S	**S**	**22 22 08.4**	**+1.8**
SANI	**Sanana**	**4.89**	**12**	P	**P**	**22 20 59.3**	**-0.1**
SANI	**Sanana**	**4.89**	**12**	S	**S**	**22 22 10.8**	**-1.3**
SANI	**Sanana**	**4.89**	**12**	P	**P**	**22 20 59.6**	**+0.2**
SANI				S	**S**	**22 22 11.0**	**-1.1**
BKSI	**Bulukumba**	**5.07**	**287**	P	**P**	**22 21 01.6**	**+0.8**
2.4nm7μm756nm,0.9s							
MSAI	**Masohi**	**5.26**	**48**	P	**P**	**22 21 02.4**	**-0.1**
4.1nm109nm,0.5s							
WSI	**Waingapu**	**5.40**	**239**	P	**P**	**22 21 02.1**	**-1.6**
8.7nm10μm415nm,0.6s							
BNDI	**Bandanaira**	**5.43**	**65**	P	**P**	**22 21 04.9**	**+1.0**
BNDI	**Bandanaira**	**5.43**	**65**	P	**P**	**22 21 05.2**	**+1.3**
BNDI				S	**S**	**22 22 22.1**	**+1.7**
BNSI	**Bone**	**5.44**	**297**	P	**P**	**22 21 05.4**	**+1.4**
KAPI	**Kappang**	**5.52**	**289**	P	**P**	**22 21 06.0**	**+1.3**
KAPI	**Kappang**	**5.52**	**289**	P	**P**	**22 21 06.1**	**+1.4**
480nm,0.7s,baz=120,slow=5.7,SNR=260							
KAPI	**Kappang**	**5.52**	**289**	P	**P**	**22 21 03.8**	**-0.9**
SPSI	**Sidrap Palu**	**5.94**	**299**	P	**P**	**22 21 09.3**	**+0.8**
3.2nm7μm898nm,0.9s							
SPSI				S	**S**	**22 22 30.6**	**+1.9**
3.2nm7μm898nm,0.9s							
WBSI	**Waikabubak, Su**	**6.18**	**243**	P	**P**	**22 21 08.9**	**-1.8**
2.8nm7μm651nm,0.7s							
LUWI	**Luwuk**	**6.20**	**339**	P	**P**	**22 21 11.4**	**+0.6**
LUWI	**Luwuk**	**6.20**	**339**	P	**P**	**22 21 11.8**	**+1.0**
0.9nm162nm,0.8s							
LUWI				S	**S**	**22 22 33.5**	**+0.5**
0.9nm162nm,0.8s							
SAUI	**Saumlaki**	**6.36**	**100**	P	**P**	**22 21 11.6**	**-0.8**
SAUI	**Saumlaki**	**6.36**	**100**	P	**P**	**22 21 12.2**	**-0.1**
SAUI	**Saumlaki**	**6.36**	**100**	S	**S**	**22 22 36.0**	**+0.1**
SAUI	**Saumlaki**	**6.36**	**100**	P	**P**	**22 21 12.0**	**-0.3**
251nm,1.0s							
SAUI				S	**S**	**22 22 35.8**	**-0.1**
251nm,1.0s							
APSI	**Ampana**	**6.79**	**331**	P	**P**	**22 21 17.6**	**+1.2**
0.8nm148nm,0.8s							
PLAI	**Plampang**	**7.40**	**254**	P	**P**	**22 21 20.4**	**-1.7**
PLAI	**Plampang**	**7.40**	**254**	S	**S**	**22 22 52.2**	**-1.7**
PLAI	**Plampang**	**7.40**	**254**	P	**P**	**22 21 20.5**	**-1.7**
1.3nm3μm291nm,0.9s							
KMSI	**Cibinong**	**7.46**	**352**	P	**P**	**22 21 24.1**	**+1.3**
KMSI				S	**S**	**22 22 56.3**	**+1.3**
PCI	**Palu**	**7.84**	**319**	P	**P**	**22 21 28.2**	**+1.7**
1.2nm3μm188nm,1.0s							
PCI				S	**S**	**22 23 04.2**	**+2.4**
1.2nm3μm188nm,1.0s							
MRSI	**Marisa**	**7.91**	**337**	P	**P**	**22 21 27.7**	**+0.5**
0.9nm2μm249nm,0.8s							
MRSI				S	**S**	**22 23 03.0**	**0.0**
0.9nm2μm249nm,0.8s							
TNTI	**Ternate**	**7.96**	**17**	P	**P**	**22 21 25.6**	**-2.1**
TNTI	**Ternate**	**7.96**	**17**	P	**P**	**22 21 27.4**	**-0.3**
TNTI	**Ternate**	**7.96**	**17**	S	**S**	**22 23 02.9**	**-1.0**
TNTI	**Ternate**	**7.96**	**17**	P	**P**	**22 21 26.9**	**-0.8**
0.7nm169nm,0.7s							
FAKI	**Fak Fak**	**8.24**	**62**	P	**P**	**22 21 29.4**	**-1.0**
FAKI	**Fak Fak**	**8.24**	**62**	P	**P**	**22 21 29.6**	**-0.8**
FAKI	**Fak Fak**	**8.24**	**62**	P	**P**	**22 21 29.5**	**-1.0**
MTN	**Manton Dam**	**8.48**	**135**	P	**P**	**22 21 32.8**	**0.0**
MTN	**Manton Dam**	**8.48**	**135**	P	**P**	**22 21 32.8**	**0.0**
SWI	**Sorong**	**8.65**	**47**	P	**P**	**22 21 35.1**	**+0.5**
227nm,0.8s							
TOLI2	**Tolitoli**	**8.97**	**332**	P	**P**	**22 21 37.8**	**0.0**
TOLI2	**Tolitoli**	**8.97**	**332**	P	**P**	**22 21 37.7**	**0.0**
TOLI2	**Tolitoli**	**8.97**	**332**	S	**S**	**22 23 20.9**	**-1.5**
KMPI	**Kaimana, Papua**	**9.25**	**70**	P	**P**	**22 21 41.2**	**+0.6**
KDU	**Kakadu**	**9.37**	**129**	P	**P**	**22 21 41.3**	**-0.5**
KNRA	**Kununurra**	**9.50**	**157**	P	**P**	**22 21 43.1**	**0.0**
SRBI	**Singaraja**	**9.76**	**262**	P	**P**	**22 21 45.6**	**-0.2**
142nm,1.3s							
DNP	**Denpasar**	**9.85**	**259**	P	**P**	**22 21 47.7**	**+1.1**
JAGI	**Jajag, Banyuwa**	**10.85**	**261**	P	**P**	**22 21 54.9**	**-2.1**
JAGI	**Jajag, Banyuwa**	**10.85**	**261**	P	**P**	**22 21 55.1**	**-1.9**
JAGI	**Jajag, Banyuwa**	**10.85**	**261**	P	**P**	**22 21 55.0**	**-1.9**
3μm235nm,0.7s							
KMMI	**Kalianget**	**10.94**	**268**	P	**P**	**22 21 58.8**	**+1.0**
93nm,1.1s							
FITZ	**Fitzroy Crossi**	**11.18**	**177**	P	**P**	**22 21 59.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.18**	**177**	P	**P**	**22 21 59.7**	**-0.5**
108nm,0.4s,baz=3.2,slow=6.9,SNR=580							
FITZ				S	**S**	**22 24 01.3**	**-2.3**
25nm,0.8s,baz=357,slow=20,SNR=8.9							
FITZ	**Fitzroy Crossi**	**11.18**	**177**	P	**P**	**22 21 59.9**	**-0.3**
GMJI	**Gumukmas**	**11.52**	**262**	P	**P**	**22 22 02.2**	**-1.7**
55nm,0.9s							
SRPI	**Serui, Papua**	**12.27**	**67**	P	**P**	**22 22 12.1**	**+0.4**
129nm,0.7s							
BAKI	**Biak**	**12.45**	**64**	P	**P**	**22 22 14.7**	**+1.3**
294nm,0.9s							
MYLDM	**Lahad Datu**	**13.61**	**331**	P	**P**	**22 22 25.9**	**+0.5**
DAV	**Davao City (W)**	**13.86**	**2**	P	**P**	**22 22 27.2**	**-0.8**
DAV	**Davao City (W)**	**13.86**	**2**	P	**P**	**22 22 27.7**	**-0.3**
106nm,0.4s,baz=60,slow=1.8,SNR=4.5							
DAV				S	**S**	**22 24 53.4**	**-1.0**
88nm,0.4s,baz=158,slow=19,SNR=1.3							
UGM	**Wanagama**	**14.38**	**265**	P	**P**	**22 22 31.1**	**-2.3**
UGM	**Wanagama**	**14.38**	**265**	P	**P**	**22 22 32.2**	**-1.2**
SMPI	**Sarmi**	**14.52**	**71**	P	**P**	**22 22 34.9**	**+0.1**
138nm,1.0s							
MBWA	**Marble Bar**	**15.08**	**199**	P	**P**	**22 22 39.5**	**-0.9**
MBWA	**Marble Bar**	**15.08**	**199**	P	**P**	**22 22 39.7**	**-0.7**
PSA00	**Pilbara Seismi**	**15.44**	**198**	P	**P**	**22 22 42.9**	**-1.1**
PSA00	**Pilbara Seismi**	**15.44**	**198**	P	**P**	**22 22 42.0**	**-2.0**
PSA00				IAmb	IAmb	22 23 04.3	
comp=Z,388nm,0.8s							
PSA00	**Pilbara Seismi**	**15.44**	**198**	P	**P**	**22 22 43.2**	**-0.8**
KKM	**Kota Kinabalu**	**15.53**	**326**	P	**P**	**22 22 44.3**	**-0.9**
KKM				IAmb	IAmb	22 22 53.5	
comp=Z,43nm,0.8s							
GENI	**Genyem**	**15.72**	**75**	P	**P**	**22 22 46.2**	**-0.8**
comp=Z,276nm,1.1s							
WB0	**Warramunga Arr**	**15.74**	**145**	P	**P**	**22 22 46.1**	**-1.0**
SBUM	**Sibu**	**15.75**	**306**	P	**P**	**22 22 46.8**	**-0.5**
WRA	**Warramunga Arr**	**15.85**	**146**	P	**P**	**22 22 46.4**	**-1.8**
WRA	**Warramunga Arr**	**15.85**	**146**	P	**P**	**22 22 47.2**	**-1.0**
comp=Z,31nm,0.4s,baz=327,slow=10,SNR=379							
WRA				S	**S**	**22 25 29.3**	**-0.8**
comp=Z,69nm,1.2s,baz=318,slow=19,SNR=31							
WR0	**Warramunga Arr**	**15.98**	**145**	P	**P**	**22 22 48.5**	**-0.9**
TABU	**Tabubil**	**16.23**	**85**	P	**P**	**22 22 51.5**	**-0.5**
JAY	**Jayapura**	**16.25**	**75**	P	**P**	**22 22 51.1**	**-1.1**
comp=Z,71nm,0.8s,baz=226,slow=5.4,SNR=20							
JAY	**Jayapura**	**16.25**	**75**	P	**P**	**22 22 52.1**	**-0.1**
comp=Z,88nm,1.0s							
KSM	**Kuching**	**16.83**	**299**	P	**P**	**22 22 57.3**	**0.0**
KSM				IAmb	IAmb	22 22 59.3	
comp=Z,9.1nm,0.6s							
BBJI	**Bungbulang**	**17.21**	**267**	P	**P**	**22 22 59.5**	**-1.3**
LEM	**Lembang**	**17.24**	**269**	P	**P**	**22 23 01.1**	**-0.1**
comp=Z,16nm,0.5s,baz=80,slow=9.7,SNR=3.7							
CNJI	**Cibinong**	**17.72**	**268**	P	**P**	**22 23 04.1**	**-1.4**
comp=Z,59nm,0.8s							
TPI	**Tanjungpandan**	**17.74**	**282**	P	**P**	**22 23 06.7**	**+1.0**
WRKA	**Warakurna**	**18.34**	**170**	P	**P**	**22 23 11.7**	**+0.7**
AS31	**Alice Springs**	**18.77**	**154**	P	**P**	**22 23 15.5**	**+0.5**
ASAR	**Alice Springs**	**18.77**	**154**	P	**P**	**22 23 15.6**	**+0.6**
ASAR	**Alice Springs**	**18.77**	**154**	P	**P**	**22 23 15.3**	**+0.3**
comp=Z,26nm,0.4s,baz=343,slow=13,SNR=475							
ASAR				S	**S**	**22 26 18.1**	**+0.4**
comp=Z,15nm,0.8s,baz=337,slow=20,SNR=9.1							
AS01	**Alice Springs**	**18.79**	**154**	P	**P**	**22 23 15.5**	**+0.3**
GIRL	**Giralia**	**18.79**	**212**	P	**P**	**22 23 15.8**	**+0.7**
GIRL	**Giralia**	**18.79**	**212**	P	**P**	**22 23 16.3**	**+1.2**
CGJI	**Cibinong**	**19.16**	**270**	P	**P**	**22 23 17.7**	**-0.9**
comp=Z,57nm,1.4s							
COEN	**Coen**	**19.22**	**113**	P	**P**	**22 23 18.7**	**-0.4**
COEN	**Coen**	**19.22**	**113**	P	**P**	**22 23 18.9**	**-0.3**
QIS	**Mount Isa**	**19.64**	**135**	P	**P**	**22 23 22.9**	**-0.1**
PMBI	**Palembang**	**20.51**	**280**	P	**P**	**22 23 33.4**	**+2.5**
MEEK	**Meekatharra**	**20.57**	**196**	P	**P**	**22 23 31.0**	**-0.3**
PMG	**Port Moresby**	**22.10**	**98**	P	**P**	**22 23 44.5**	**-0.7**
PMG	**Port Moresby**	**22.10**	**98**	P	**P**	**22 23 45.3**	**+0.1**
comp=Z,35nm,0.9s,baz=284,slow=3.0,SNR=8.6							
comp=Z,35nm,0.9s							
PMG	**Port Moresby**	**22.10**	**98**	P	**P**	**22 23 45.5**	**+0.4**
PMG	**Port Moresby**	**22.10**	**98**	P	**P**	**22 23 45.6**	**+0.4**
MANU	**Manus Island**	**22.82**	**79**	P	**P**	**22 23 51.0**	**-0.6**
MANU				IAmb	IAmb	22 23 53.5	
comp=Z,43nm,0.9s							
OOD	**Oodnadatta**	**23.15**	**155**	P	**P**	**22 23 54.5**	**+0.1**
MORW	**Morawa**	**23.64**	**200**	P	**P**	**22 23 58.5**	**-0.2**
FORT	**Forrest**	**23.96**	**173**	P	**P**	**22 24 01.4**	**-0.1**
FORT				IAmb	IAmb	22 24 02.6	
comp=Z,15nm,0.7s							
FORT	**Forrest**	**23.96**	**173**	P	**P**	**22 24 01.4**	**-0.1**
TV1H	**Townsville Har**	**24.52**	**122**	P	**P**	**22 24 07.0**	**+0.4**
BLDU	**Ballidu**	**24.86**	**197**	P	**P**	**22 24 09.6**	**+0.1**
INKA	**Innaminka**	**25.58**	**146**	P	**P**	**22 24 17.5**	**+1.6**
MUN	**Mundaring**	**26.29**	**197**	P	**P**	**22 24 22.2**	**+0.1**
LCRK	**Leigh Creek**	**26.54**	**154**	P	**P**	**22 24 24.6**	**+0.3**
QLP	**Quilpie**	**26.83**	**139**	P	**P**	**22 24 28.1**	**+1.1**
NWAO	**Narrogin (SRO)**	**26.91**	**195**	P	**P**	**22 24 27.0**	**-0.5**
NWAO				IAmb	IAmb	22 24 38.5	
comp=Z,74nm,1.5s							
NWAO	**Narrogin (SRO)**	**26.91**	**195**	P	**P**	**22 24 27.4**	**-0.1**
RABL	**Rabaul**	**27.18**	**86**	P	**P**	**22 24 30.1**	**-0.1**
BBOO	**Buckleboo**	**27.79**	**160**	P	**P**	**22 24 35.1**	**-0.1**
BBOO	**Buckleboo**	**27.79**	**160**	P	**P**	**22 24 35.3**	**+0.1**
UBPT	**Khong Chiam**	**29.30**	**319**	P	**P**	**22 24 48.2**	**-0.3**
UBPT				IAmb	IAmb	22 24 49.8	
comp=Z,18nm,1.0s							
STKA	**Stephens Creek**	**29.32**	**150**	P	**P**	**22 24 48.6**	**+0.1**
STKA	**Stephens Creek**	**29.32**	**150**	P	**P**	**22 24 48.6**	**+0.1**
comp=Z,36nm,0.6s,baz=325,slow=9.2,SNR=99							
comp=Z,36nm,0.6s							
STKA	**Stephens Creek**	**29.32**	**150**	P	**P**	**22 24 49.2**	**+0.7**
HTT	**Hallett**	**29.42**	**156**	P	**P**	**22 24 50.3**	**+0.8**
SRIT	**Nakonsritamara**	**29.60**	**301**	P	**P**	**22 24 51.1**	**-0.1**
SRIT				IAmb	IAmb	22 24 53.0	
comp=Z,21nm,0.9s							
TPUB	**Ta-pu**	**30.29**	**352**	P	**P**	**22 24 55.5**	**-1.6**
TPUB	**Ta-pu**	**30.29**	**352**	P	**P**	**22 24 56.2**	**-0.8**
YULB	**Yu-li**	**30.29**	**353**	P	**P**	**22 24 54.3**	**-2.7**
YULB				IAmb	IAmb	22 24 58.5	
comp=Z,25nm,0.8s							
YULB	**Yu-li**	**30.29**	**353**	P	**P**	**22 24 54.5**	**-2.5**
SSLB	**Suanglung**	**30.73**	**353**	P	**P**	**22 24 58.7**	**-2.0**
SSLB	**Suanglung**	**30.73**	**353**	P	**P**	**22 24 59.0**	**-1.8**
HKPS	**Hong Kong Po S**	**30.86**	**340**	P	**P**	**22 25 01.0**	**-0.

SANVU Saraoutou 42.22 105 P P 22 26 36.0 +0.6
NOUC Port Laguerre 42.61 115 P P 22 26 38.7 +0.3
CD2 Chengdu 42.71 333 P P 22 26 38.9 -0.2
CD2 pmax pmax
comp=Z,60nm,0.8s
DZM Mont Dzumac 42.73 115 P P 22 26 39.5 +0.1
DZM IAmb IAmb 22 26 40.9
comp=Z,23nm,1.0s
DZM Mont Dzumac 42.73 115 P P 22 26 39.9 +0.4
DZM Mont Dzumac 42.73 115 P P 22 26 39.8 +0.4
DZM pP **pP** 22 28 17.4 -0.3
ONTNC Ouen Toro 42.79 115 P P 22 26 39.2 -0.6
ONTNC IAmb IAmb 22 26 41.0
comp=Z,37nm,0.8s
TJN Taejon 43.08 3 P P 22 26 41.5 -0.2
YATNC Mamie plateau, 43.13 115 P P 22 26 43.7 +1.2
OUENC Ouen Island, N 43.17 116 P P 22 26 43.5 +0.7
XAN Xi'an 43.44 340 ⇓P P 22 26 43.8 -0.9
XAN pmax pmax
comp=Z,150nm,0.7s
XAN Xi'an 43.44 340 P P 22 26 44.0 -0.7
TIA Tai'an 43.49 351 P P 22 26 44.1 -0.9
TIA pmax pmax
comp=Z,25nm,0.9s
INU Inuyama 43.50 14 P P 22 26 44.8 -0.3
PINNC Pines Island, 43.76 116 P P 22 26 48.5 +1.2
PINNC IAmb IAmb 22 26 57.5
comp=Z,37nm,1.0s
JGF Kuroka 43.82 15 P P 22 26 47.1 -0.5
JGF Kuroka 43.82 15 P P 22 26 47.3 -0.3
KSAR Wonju Array Be 44.17 3 P P 22 26 50.4 +0.2
KSRS Korea Array 44.18 3 P P 22 26 50.4 +0.1
comp=Z,15nm,0.9s,baz=179,slow=9.4,SNR=47
comp=Z,15nm,0.9s
KS19 Wonju Array Si 44.23 3 P P 22 26 50.8 +0.2
KS19 IAmb IAmb 22 26 55.5
comp=Z,26nm,1.3s
MJAR Matsushiro Arr 44.93 15 P P 22 26 55.4 -0.7
comp=Z,14nm,0.8s,baz=192,slow=8.2,SNR=47
comp=Z,14nm,0.8s
MAJO Matsushiro 44.93 15 P P 22 26 55.3 -0.8
MAJO IAmb IAmb 22 26 56.4
comp=Z,17nm,0.8s
MAJO Matsushiro 44.93 15 P P 22 26 55.7 -0.4
MAJO Matsushiro 44.93 15 P P 22 26 55.5 -0.7
HNS HongShan 45.08 348 ⇓P P 22 26 56.5 -0.7
HNS pmax pmax
comp=Z,76nm,0.9s
SHL Shillong 45.55 316 P P 22 27 00.3 -0.9
SHL IAmb IAmb 22 27 02.6
comp=Z,17nm,0.7s
JSD Sado 46.36 15 P P 22 27 06.9 -0.1
JSD IAmb IAmb 22 27 08.0
comp=Z,26nm,1.1s
JMM Marumori 46.89 17 P P 22 27 11.3 +0.4
JMM IAmb IAmb 22 27 14.4
comp=Z,24nm,0.8s
JMM Marumori 46.89 17 P P 22 27 11.5 +0.6
LZH Lanzhou 47.12 337 ⇓P P 22 27 13.7 +0.8
LZH pP pP 22 28 52.9 -0.4
LZH sP sP 22 29 53.5 -0.3
LZH pmax pmax
comp=Z,100nm,1.2s
BJT Baijiatuan 47.36 351 P P 22 27 14.0 -0.4
BJT IAmb IAmb 22 27 15.8
comp=Z,14nm,0.7s
BJI Beijing 47.38 351 P P 22 27 14.2 -0.4
BJI pmax pmax
comp=Z,13nm,1.1s
LSA Lhasa 48.77 320 P P 22 27 26.0 +0.2
LSA Lhasa 48.77 320 P P 22 27 26.9 +1.2
HHC Hu-ho-hao-te 49.06 347 *e*P **P 22 27 27.5 +0.2**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,610nm,5.2s
BTO Baotou 49.21 345 *e*P **P 22 27 28.8 +0.5**
BTO pP **pP 22 29 10.6 +0.8**
BTO sP **sP 22 30 08.6 -1.4**
BTO pmax pmax
comp=Z,30nm,1.2s
BTO pmax pmax
comp=Z,2μm,12.1s
JTM Tenmabayashi 49.68 16 P P 22 27 30.7 -1.0
JTM IAmb IAmb 22 27 32.9
comp=Z,56nm,0.9s
JTM Tenmabayashi 49.68 16 P P 22 27 32.1 +0.5
CN2 Changchun 50.44 0 P P 22 27 36.7 -0.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s
XLT XiLinHaoTe 51.17 352 *e*P **P 22 27 42.5 -0.1**
XLT pmax pmax
comp=Z,49nm,0.9s
USA0B Ussuriysk Arra 51.23 6 P P 22 27 42.7 -0.1
USA0B IAmb IAmb 22 27 44.0
comp=Z,16nm,0.8s
USRK Ussuriysk Ar. 51.23 6 P P 22 27 42.7 -0.1
USRK Ussuriysk Ar. 51.23 6 P P 22 27 42.9 +0.1
comp=Z,15nm,0.7s,baz=192,slow=7.0,SNR=37
USRK ScP **ScP 22 31 51.1 -1.0**
comp=Z,2.6nm,0.9s,baz=178,slow=3.9,SNR=4.6
comp=Z,15nm,0.7s
GOMU GeErMu 51.36 329 P P 22 27 45.0 +0.6
GOMU pmax pmax
comp=Z,14nm,1.0s
MDJ Mudanjiang 51.42 4 P P 22 27 44.7 +0.5
MDJ IAmb IAmb 22 27 45.8
comp=Z,53nm,0.8s
MDJ Mudanjiang 51.42 4 P P 22 27 44.7 +0.5
MDJ pmax pmax
comp=Z,83nm,0.9s
MDJ Mudanjiang 51.42 4 P P 22 27 44.8 +0.6
GTA Gaotai 51.61 335 ⇓P P 22 27 46.7 +0.8
GTA pP pwP 22 29 33.6 0.0
GTA pmax pmax
comp=Z,32nm,1.0s
BNX BinXian 52.42 2 ⇓P P 22 27 50.5 -0.9
BNX pmax pmax
comp=Z,17nm,1.0s
MSVF Nonsavu 52.80 107 P P 22 27 55.7 +1.0
MSVF IAmb IAmb 22 27 56.9
comp=Z,40nm,0.8s
MSVF Nonsavu 52.80 107 P P 22 27 56.1 +1.3
MSVF Nonsavu 52.80 107 P P 22 27 55.8 +1.0
DCZ Deep Cove 52.97 144 P P 22 27 55.8 +0.5
ASAJ Asahikawa 53.19 16 P P 22 27 56.8 -0.2
comp=Z,17nm,0.9s,baz=231,slow=10,SNR=9.5
comp=Z,17nm,0.9s
JKA Kamikawa-asahi 53.19 16 P P 22 27 57.3 +0.4
JCZ Jackson Bay 53.21 141 P P 22 27 58.4 +1.1
QRZ Quartz Range 54.13 136 P P 22 28 05.1 +1.4
QRZ Quartz Range 54.13 136 P P 22 28 04.7 +1.0
RPZ Rata Peaks 54.46 140 P P 22 28 06.4 +0.5
RPZ Rata Peaks 54.46 140 P P 22 28 06.6 +0.6
ODZ Otahua Downs 54.85 142 P P 22 28 08.7 +0.1
KHZ Kahutara 55.49 138 P P 22 28 13.3 +0.1
WTVZ West Tongariro 55.61 133 P P 22 28 15.2 +1.0
NNVZ North Ngauruho 55.63 133 P P 22 28 15.6 +1.2
SNVZ South Ngauruho 55.67 133 P P 22 28 15.9 +1.2
OTVZ Oturere 55.68 133 P P 22 28 16.0 +1.2
TMVZ Te Maari 55.69 133 P P 22 28 16.1 +1.3
WNVZ Wahianoa 55.69 133 P P 22 28 15.8 +0.9
MOVZ Moawhango 55.83 134 P P 22 28 15.9 +0.2
OGWZ Otaki Gorge 55.95 135 P P 22 28 16.2 -0.2
HIA Hailar 56.09 356 P P 22 28 17.4 +0.2
MRZ Mangatainoka R 56.18 135 P P 22 28 16.5 -1.4
BKZ Black Stump Fm 56.28 133 P P 22 28 18.8 0.0
BKZ Black Stump Fm 56.28 133 P P 22 28 18.8 0.0
KWHZ Kaweka Forest 56.32 133 P P 22 28 19.5 +0.4
PRWZ Pori Road 56.41 135 P P 22 28 19.7 +0.1
URZ Urewera 56.42 132 P P 22 28 19.3 -0.4
BFZ Birch Farm 56.66 135 P P 22 28 21.5 +0.2
ULN Ulaanbaatar 56.75 346 P P 22 28 21.9 -0.1
ULN Ulaanbaatar 56.75 346 P P 22 28 22.5 +0.5
SONM Songino Array 56.89 345 P P 22 28 22.9 0.0
SONM Songino Array 56.89 345 P P 22 28 23.0 +0.2
comp=Z,14nm,1.0s,baz=163,slow=8.5,SNR=62
comp=Z,14nm,1.0s
HEH HeiHe 56.93 2 *e*P **P 22 28 22.8 0.0**
HEH pmax pmax
comp=Z,61nm,0.9s
MXZ Matakaoa Point 57.08 131 P P 22 28 24.7 +0.5
WMQ Urumqi 60.67 330 *e*P **P 22 28 49.3 +1.1**
WMQ pmax pmax
comp=Z,34nm,1.1s
NIL Nilore 63.42 313 P P 22 29 06.0 -0.2
NIL IAmb IAmb 22 29 06.9
comp=Z,21nm,0.8s
NIL Nilore 63.42 313 P P 22 29 06.2 -0.1
WUS Wushi 63.59 323 P P 22 29 07.8 +0.5
WUS IAmb IAmb 22 29 09.1
comp=Z,50nm,1.5s
KSH Kashi 64.63 320 P P 22 29 14.4 +0.5
KSH PcP **PcP 22 29 42.8 +0.7**
KSH ScP 22 32 49.8
KSH S **S 22 37 12.4 +1.4**
KSH pmax pmax
comp=Z,17nm,0.9s
MK31 Makanchi Array 65.48 329 P P 22 29 18.9 -0.1
MK31 IAmb IAmb 22 29 20.3
comp=Z,27nm,1.1s
MKAR Makanchi Array 65.48 329 P P 22 29 19.1 +0.1
comp=Z,24nm,0.9s,baz=128,slow=7.4,SNR=94
comp=Z,24nm,0.9s
MAKZ Makanchi 65.65 329 P P 22 29 19.8 -0.2
MAKZ IAmb IAmb 22 29 21.2
comp=Z,22nm,1.2s
MAKZ Makanchi 65.65 329 P P 22 29 20.2 +0.2
PEA0B Petropavlovsk- 65.87 21 P P 22 29 21.8 +0.6
PEA0B IAmb IAmb 22 30 00.3
comp=Z,46nm,1.2s
PETK Petropavlovsk- 65.87 21 P P 22 29 21.6 +0.3
comp=Z,9.9nm,0.8s,baz=219,slow=2.0,SNR=12
comp=Z,9.9nm,0.8s
KBL Kabul 66.92 312 P P 22 29 28.1 -0.3
KBL IAmb IAmb 22 29 29.4
comp=Z,16nm,0.8s
AAK Ala-Archa 67.30 322 P P 22 29 31.1 +0.7
AAK Ala-Archa 67.30 322 P P 22 29 31.0 +0.6
comp=Z,8.1nm,0.9s,baz=152,slow=5.9,SNR=16
comp=Z,8.1nm,0.9s
AAK Ala-Archa 67.30 322 P P 22 29 31.3 +0.9
DRK Karamyk 67.34 318 P P 22 29 30.9 -0.1
DRK IAmb IAmb 22 29 32.4
comp=Z,12nm,0.8s
ARSB Arslanbob 67.53 320 P P 22 29 32.2 +0.3
ARSB IAmb IAmb 22 29 33.4
comp=Z,34nm,1.2s
GAR Garm 68.10 317 P P 22 29 35.2 -0.2
GAR IAmb IAmb 22 29 36.3
comp=Z,16nm,0.9s
BTK Batken 68.28 318 P P 22 29 36.3 -0.1
YAK Yakutsk 68.80 2 P P 22 29 38.6 -0.3
YAK IAmb IAmb 22 29 39.8
comp=Z,53nm,0.9s
SIMJ Simiganj 68.83 316 P P 22 29 39.4 -0.4
SIMJ IAmb IAmb 22 29 40.7
comp=Z,20nm,1.1s
MA2 Magadan 69.35 14 P P 22 29 42.6 +0.3
MA2 IAmb IAmb 22 29 44.2
comp=Z,27nm,1.0s
ZAA0 Zalesovo Array 69.35 336 P P 22 29 41.7 -0.7
ZAA0 IAmb IAmb 22 29 42.8
comp=Z,32nm,1.1s
ZALV Zalesovo Beam 69.35 336 P P 22 29 41.8 -0.7
ZALV Zalesovo Beam 69.35 336 P P 22 29 41.6 -0.8
comp=Z,9.9nm,0.4s,baz=130,slow=4.3,SNR=56
ZALV PP **PP 22 32 24.9 -0.8**
comp=Z,1.7nm,0.8s,baz=110,slow=1.7,SNR=3.6
comp=Z,9.9nm,0.4s
KURBB Kurchatov Arra 69.87 331 P P 22 29 45.6 0.0
comp=Z,4.9nm,0.4s,baz=134,slow=5.1,SNR=42
KURBB pP **pwP 22 31 41.8 +2.7**
comp=Z,0.6nm,0.2s,baz=129,slow=5.8,SNR=4.2
comp=Z,4.9nm,0.4s
KURK Kurchatov 69.89 331 P P 22 29 45.6 -0.1
KURK IAmb IAmb 22 29 46.9
comp=Z,32nm,1.0s
KURK Kurchatov 69.89 331 P P 22 29 45.9 +0.2
KURK pP **pP 22 31 40.4 +2.3**
KK31 Karatay Array 70.02 321 P P 22 29 46.6 -0.2
KKAR Karatay Array 70.02 321 P P 22 29 46.6 -0.2
WSAR Wadi Sarin 71.35 297 P P 22 29 55.2 +0.3
baz=57,slow=24,SNR=3.4
HRA Herat 71.98 309 P P 22 29 58.2 -0.5
VNDA Vanda 73.21 172 P P 22 30 05.5 +0.8
VNDA Vanda 73.21 172 P P 22 30 04.7 0.0
comp=Z,2.6nm,0.7s,baz=317,slow=7.8,SNR=8.9
comp=Z,2.6nm,0.7s
SBA Scott Base 74.16 172 P P 22 30 11.1 +1.1
BVAR Borovoye Array 75.36 329 P P 22 30 17.4 +0.2
comp=Z,11nm,0.7s,baz=140,slow=7.2,SNR=45
comp=Z,11nm,0.7s
BRVK Borovoye 75.43 329 P P 22 30 17.4 -0.2
BRVK IAmb IAmb 22 30 18.8
comp=Z,24nm,1.1s
TIXI Tiksi 78.40 1 P P 22 30 32.7 -0.6
ABKAR Akbulak array 79.35 323 P P 22 30 38.4 -0.5
ABKAR Akbulak array 79.35 323 P P 22 30 38.4 -0.5
NRIK Noril'sk 80.29 347 P P 22 30 43.7 +0.3
NRIK Noril'sk 80.29 347 P P 22 30 43.6 +0.3
comp=Z,1.8nm,0.4s,baz=133,slow=5.1,SNR=8.4
comp=Z,1.8nm,0.4s
SYO Syowa Base 81.97 201⇑ *e*P **P 22 30 51.1 -0.9**
ARTI Arti 83.08 329 P P 22 30 57.6 -0.2
QSPA South Pole Qui 83.11 180 P P 22 30 58.0 0.0
QSPA South Pole Qui 83.11 180 P P 22 30 57.6 -0.4
comp=Z,4.4nm,0.8s,baz=272,slow=1.1,SNR=28
comp=Z,4.4nm,0.8s
RAYN Ar Rayn 83.15 295 P P 22 30 59.3 +0.3
ELIB Princess Elisa 87.11 198 *d*P **P 22 31 17.9 +0.7**
comp=Z,3.0nm,1.0s
KBZ Khabaz 89.01 314 P P 22 31 26.1 -0.4
comp=Z,1.6nm,0.8s,baz=114,slow=4.1,SNR=5.2
comp=Z,1.6nm,0.8s
D19K Kuna River 91.58 21 P P 22 31 37.5 -0.3
D19K IAmb IAmb 22 31 38.4
comp=Z,5.2nm,1.1s
E19K Redstone River 91.64 22 P P 22 31 38.2 0.0
E19K IAmb IAmb 22 31 39.5
comp=Z,6.0nm,1.1s
BRTR Keskin Array B 95.37 309 P P 22 31 54.6 -1.4
comp=Z,0.8nm,0.9s,baz=110,slow=7.1,SNR=4.8
comp=Z,0.8nm,0.9s
AKASG Malin Array Be 98.92 320 P Pdif 22 32 09.6 -1.8
comp=Z,0.4nm,0.5s,baz=78,slow=4.0,SNR=4.8
comp=Z,0.4nm,0.5s
PDAR Pinedale Array 120.31 44 PKP PKiKP 22 37 19.8 +0.3
comp=Z,0.1nm,0.5s,baz=308,slow=7.9,SNR=1.9
TXAR Lajitas Array 129.10 58 PKP PKiKP 22 37 37.0 -0.3
comp=Z,0.2nm,0.6s,baz=321,slow=3.2,SNR=2.2
TXAR SKPbc SKPab 22 40 06.3 +0.2
comp=Z,0.7nm,0.6s,baz=224,slow=2.0,SNR=11
DBIC Dimbokro 130.21 273 SKPbc SKPbc 22 40 10.1 -0.6
comp=Z,8.7nm,1.0s,baz=109,slow=6.3,SNR=4.9
PLCA Paso Flores 130.52 164 SKPbc SKPbc 22 40 11.3 +0.1
comp=Z,2.7nm,0.9s,baz=224,slow=5.4,SNR=3.5
SCHQ Schefferville 131.24 9 PKP PKPdf 22 37 39.6 0.0
comp=Z,2.9nm,0.9s,baz=297,slow=2.3,SNR=2.9
SCHQ SKPbc **SKPbc 22 40 12.3 -0.9**
comp=Z,2.3nm,0.8s,baz=20,slow=6.9,SNR=4.1
CFA Coronel Fontan 139.71 162 PKP PKPdf 22 37 55.1 -1.0
comp=Z,1.1nm,0.7s,baz=180,slow=1.0,SNR=4.5
CFA SKPbc **SKPbc 22 40 38.8 -1.3**
comp=Z,1.2nm,0.6s,baz=263,slow=2.9,SNR=4.1
ITQB Itaqui 143.63 178 PKPab 22 38 01.5 -0.2
AC01 Pan de Azucar 143.86 156 PKPbc 22 38 01.7 -1.0
GO02 Mina Guanaco 145.14 156 PKPdf 22 38 06.1 -0.1
PB14 IPOC Station P 145.29 155 PKPbc 22 38 07.5 0.0
CPUP Villa Florida 146.92 176 PKPbc PKPbc 22 38 11.6 0.0
comp=Z,8.1nm,1.0s,baz=198,slow=2.0,SNR=12
PB11 IPOC Station P 149.87 152 PKPbc 22 38 19.2 -0.1
GO01 Chusmiza 150.16 152 PKPbc 22 38 20.7 +0.3
NNA Nana 151.33 131 PKPbc PKPbc 22 38 22.6 0.0
comp=Z,4.6nm,0.4s,baz=243,slow=6.8,SNR=4.1
LPAZ La Paz 153.58 151 PKPab PKPab 22 38 44.5 +1.1
comp=Z,3.2nm,0.6s,baz=184,slow=2.1,SNR=14
LPAZ pPKPab **pPKPab 22 40 45.3 -1.3**
comp=Z,5.8nm,0.8s,baz=225,slow=7.1,SNR=4.6
SIV San Ignacio 156.51 165 PKPab PKPab 22 38 55.3 +0.1
comp=Z,3.3nm,0.7s,baz=176,slow=4.5,SNR=14

WEL 06 22:28:02.6±1.1, 42°S±5°×17°3E±°, h43km±12km, M1.8/3, ML2.2/7, MLv1.8/3, Error ellipse: s-maj=6.1km s-min=4.8km az=173.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUWZ	**Tuamarina**	**0.41**	**69**	P	Pn	22 28 14.0	+1.7
TUWZ				S	Sn	22 28 22.3	+3.2
THZ	**Tophouse**	**0.44**	**245**	P	Pn	22 28 14.5	+1.6
THZ				S	Sn	22 28 23.0	+2.9
MRNZ	**Matariki Terra**	**0.54**	**289**	P	Pn	22 28 15.2	+1.1
MRNZ				S	Sn	22 28 24.6	+2.4
MATW	**Matariki Wadsw**	**0.57**	**285**	S	Sn	22 28 25.7	+2.8
WDFS	**Ward Fire Stat**	**0.58**	**116**	S	Sn	22 28 25.8	+2.7
TKNZ	**Takaka Hill**	**0.65**	**326**	P	Pn	22 28 16.4	+0.9
TKNZ				S	Sn	22 28 26.7	+1.9
TCW	**Tory Channel**	**0.73**	**60**	P	Pn	22 28 16.9	+0.4
TCW				S	Sn	22 28 27.8	+1.2
KHZ	**Kahutara**	**0.84**	**175**	P	Pn	22 28 18.2	+0.1
KHZ				S	Sn	22 28 30.6	+1.3
DUWZ	**D'Urville Isla**	**0.85**	**25**	P	Pn	22 28 19.2	+0.9
DUWZ				S	Sn	22 28 31.2	+1.5

*IDC **06** 22:33:25.4±2.9, 31°.19N×41°.51W, h0km, mb3.8/11, mbtmp3.8/11, Error ellipse: s-maj=88.1km s-min=20.6km az=175.0*
*NEIC **06** 22:33:25.8±0.9, 31°.0N±0°.1×41°.4W±0°.1, h10km±1km, mb4.7/41, Error ellipse: s-maj=21.2km s-min=18.0km az=161.0*
ISC 06 22:33:25.8±0.5, 30°.9N±0°.1×41°.45W±0°.08, h13km, n74, σ0s69/70, mb4.4/41, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAUV	**El Baul**	**33.02**	**234**	P	P	**22 40 01.1**	**+0.2**
SDV	**Santo Domingo**	**34.90**	**237**	P	P	**22 40 17.8**	**+0.3**
SDV				IAmb	IAmb	22 40 26.8	
comp=Z,18nm,1.4s							
PLAL	**Pickwick Lake**	**39.07**	**289**	P	P	**22 40 51.5**	**-1.0**
SCO	**Scoresbysund**	**41.11**	**10**	P	P	**22 41 08.4**	**-0.6**
P40A	**Paris**	**41.77**	**296**	P	P	**22 41 14.5**	**-0.3**
DBIC	**Dimbokro**	**41.88**	**117**	P	P	**22 41 15.7**	**-0.2**
DBIC				IAmb	IAmb	22 41 50.2	
comp=Z,21nm,1.4s							
FETA	**Feichten**	**42.85**	**53**	*e*P	P	**22 41 24.8**	**+1.1**
comp=Z,4.3nm,1.5s							
RETA	**Reutte**	**42.90**	**52**	*i* P	P	**22 41 24.8**	**+0.8**
comp=Z,3.5nm,0.9s							
MOTA	**Moosalm**	**43.12**	**52**	*i* P	P	**22 41 28.4**	**+2.5**
comp=Z,6.5nm,1.6s							
SQTA	**Sankt Quirin**	**43.19**	**52**	*i* P	P	**22 41 27.6**	**+1.2**
comp=Z,2.1nm,0.7s							
WLAR	**White Oak Lake**	**43.39**	**288**	P	P	**22 41 28.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**43.41**	**104**		P	**22 41 27.5**	**-0.9**
WATA	**Walderalm**	**43.44**	**52**	*i* P	P	**22 41 29.0**	**+0.5**
comp=Z,4.2nm,1.0s							
CTI	**Castel Tesino**	**43.45**	**54**	P	P	**22 41 27.4**	**-1.1**
WTTA	**Wattenberg**	**43.48**	**52**	*i* P	P	**22 41 30.2**	**+1.4**
comp=Z,8.1nm,1.7s							
MIAR	**Mount Ida**	**43.61**	**289**	P	P	**22 41 29.6**	**-0.3**
ABTA	**Abfaltersbach**	**44.06**	**53**	*i* P	P	**22 41 32.8**	**-0.7**
comp=Z,4.7nm,1.2s							
LESA	**Schwarzleotal**	**44.19**	**52**	*e*P	P	**22 41 34.4**	**-0.1**
comp=Z,0.9nm,0.5s							
KBA	**Koelnbreinsper**	**44.64**	**53**	*i* P	P	**22 41 38.2**	**+0.1**
comp=Z,1.8nm,0.9s							
PRED	**Cave del Predi**	**44.78**	**54**	P	P	**22 41 38.4**	**-0.8**
GERES	**GERESS Array B**	**44.93**	**50**	P	P	**22 41 40.1**	**-0.3**
comp=Z,0.4nm,0.6s,baz=254,slow=7.0,SNR=4.0							
comp=Z,0.4nm,0.6s							
FCC	**Fort Churchill**	**44.94**	**324**	P	P	**22 41 40.2**	**+0.1**
BRG	**Berggiesshubel**	**45.21**	**47**	*e*P	P	22 41 49.3	+6.9
BRG				Amp		22 41 51.7	
comp=Z,2.4nm,1.0s							
OBKA	**Obir**	**45.46**	**53**	*i* P	P	**22 41 44.6**	**0.0**
comp=Z,3.6nm,0.7s							
T35A	**Sooner Cattle**	**45.56**	**293**	P	P	**22 41 44.2**	**-1.3**
T35A				IAmb	IAmb	22 41 46.3	
comp=Z,14nm,1.3s							
SOKA	**Soboth**	**45.79**	**53**	*i* P	P	**22 41 46.6**	**-0.6**
comp=Z,3.5nm,1.3s							
H10N2	**ASCENSION HYDR**	**46.36**	**142**	T	T	23 31 11.1	
baz=327,slow=75,SNR=124							
H10N3	**ASCENSION HYDR**	**46.37**	**142**	T	T	23 31 11.3	
baz=327,slow=75,SNR=107							
H10N1	**ASCENSION HYDR**	**46.38**	**142**	T	T	23 31 13.5	
baz=327,slow=75,SNR=184							
OTAV	**Otavalo**	**46.47**	**236**	P	P	**22 41 53.3**	**0.0**
OTAV				IAmb	IAmb	22 41 56.4	
comp=Z,6.7nm,1.3s							
MTO3	**Montecristo**	**46.79**	**261**	P	P	**22 41 55.8**	**+0.2**
MTO3				IAmb	IAmb	22 42 06.7	
comp=Z,8.1nm,1.1s							
WHTX	**Lake Whitney,**	**47.33**	**287**	P	P	**22 41 59.5**	**+0.1**
FFC	**Flin Flon**	**48.59**	**318**	P	P	**22 42 08.7**	**-0.1**
FFC				IAmb	IAmb	22 42 09.7	
comp=Z,12nm,1.5s							
BRDY	**Brady**	**48.78**	**286**	P	P	**22 42 10.2**	**-0.4**
BRDY				IAmb	IAmb	22 42 17.9	
comp=Z,7.6nm,1.3s							
ABTX	**Abilene, Hawle**	**48.97**	**288**	P	P	**22 42 12.2**	**+0.2**
ABTX				IAmb	IAmb	22 42 14.8	
comp=Z,13nm,1.4s							
JCT	**Junction City**	**49.67**	**285**	P	P	**22 42 17.5**	**0.0**
JCT				IAmb	IAmb	22 42 18.4	
comp=Z,8.1nm,1.2s							
BURAR	**Bucovina Array**	**52.67**	**51**	P	P	**22 42 39.9**	**+0.1**
FINES	**FINESS Array B**	**52.71**	**34**	P	P	**22 42 38.9**	**-0.8**
FINES	**FINESS Array B**	**52.71**	**34**	P	P	**22 42 39.0**	**-0.8**
comp=Z,0.6nm,0.6s,baz=264,slow=4.2,SNR=3.8							
comp=Z,0.6nm,0.6s							
TXAR	**Lajitas Array**	**53.21**	**285**	P	P	**22 42 44.3**	**+0.2**
TXAR	**Lajitas Array**	**53.21**	**285**	P	P	**22 42 45.0**	**+1.0**
comp=Z,1.8nm,1.2s,baz=98,slow=6.7,SNR=5.8							
comp=Z,1.8nm,1.2s							
LPAZ	**La Paz**	**53.46**	**212**	P	P	**22 42 47.4**	**+0.9**
BNM	**Barren Site**	**54.21**	**292**	P	P	**22 42 52.0**	**+0.5**
PD31	**Pinedale Array**	**54.43**	**303**	P	P	**22 42 52.2**	**-0.9**
PD31				IAmb	IAmb	22 42 55.1	
comp=Z,11nm,1.4s							
PDAR	**Pinedale Array**	**54.43**	**303**	P	P	**22 42 52.1**	**-0.9**
PDAR	**Pinedale Array**	**54.43**	**303**	P	P	**22 42 52.6**	**-0.4**
comp=Z,3.3nm,1.1s,baz=54,slow=6.0,SNR=14							
comp=Z,3.3nm,1.1s							
AKASG	**Malin Array Be**	**54.90**	**47**	P	P	**22 42 57.2**	**+1.3**
comp=Z,0.2nm,0.3s,baz=271,slow=6.5,SNR=4.2							
comp=Z,0.2nm,0.3s							
YMR	**Madison River**	**55.07**	**305**	P	P	**22 42 57.4**	**-0.2**
SNOW	**Snow King Moun**	**55.16**	**304**	P	P	**22 42 58.4**	**+0.1**
SNOW				IAmb	IAmb	22 42 59.4	
comp=Z,12nm,1.2s							
YKA	**Yellowknife Ar**	**55.38**	**327**	P	P	**22 42 59.1**	**-0.2**
YKA	**Yellowknife Ar**	**55.38**	**327**	P	P	**22 42 58.5**	**-0.8**
comp=Z,1.6nm,1.1s,baz=89,slow=6.9,SNR=9.0							
comp=Z,1.6nm,1.1s							
AHID	**Auburn Hatcher**	**55.55**	**303**	P	P	**22 43 01.1**	**0.0**
P18A	**Preston Nutter**	**55.62**	**299**	P	P	**22 43 01.2**	**-0.5**
P18A				IAmb	IAmb	22 43 09.2	
comp=Z,7.6nm,1.2s							
HPIG		**55.66**	**283**	P	P	**22 43 01.9**	**-0.2**
HPIG				IAmb	IAmb	22 43 19.6	
comp=Z,5.6nm,0.6s							
SRU	**San Rafael Swe**	**55.96**	**299**	P	P	**22 43 04.2**	**+0.2**
SRU				IAmb	IAmb	22 43 12.1	
comp=Z,9.2nm,1.3s							
HWUT	**Hardware Ranch**	**56.14**	**302**	P	P	**22 43 04.8**	**-0.5**
HWUT				IAmb	IAmb	22 43 11.4	
comp=Z,8.7nm,1.4s							
GO01	**Chusmiza**	**56.90**	**212**	P	P	**22 43 10.6**	**-0.5**
PB11	**IPOC Station P**	**57.19**	**212**	P	P	**22 43 12.2**	**-0.6**
DUG	**Dugway, Tooele**	**57.40**	**301**	P	P	**22 43 14.0**	**-0.2**
DUG				IAmb	IAmb	22 43 21.7	
comp=Z,12nm,1.4s							
SPR3	**Spring Creek 3**	**58.84**	**300**	P	P	**22 43 25.0**	**+0.4**
SPR3				IAmb	IAmb	22 43 26.9	
comp=Z,9.1nm,1.3s							
BRTR	**Keskin Array B**	**60.28**	**59**	P	P	**22 43 33.8**	**-0.5**
BRTR	**Keskin Array B**	**60.28**	**59**	P	P	**22 43 34.5**	**+0.2**
comp=Z,0.8nm,0.9s,baz=282,slow=6.2,SNR=3.7							
comp=Z,0.8nm,0.9s							
J08A	**Circle Bar Ran**	**60.64**	**305**	P	P	**22 43 37.3**	**+0.7**
TPNV	**Topopah Spring**	**60.90**	**298**	P	P	**22 43 39.1**	**+0.6**
TPNV				IAmb	IAmb	22 43 40.7	
comp=Z,9.9nm,1.4s							
NVAR	**Mina Array Bea**	**61.98**	**300**	P	P	**22 43 45.9**	**0.0**
comp=Z,0.5nm,0.6s,baz=88,slow=7.9,SNR=3.6							
comp=Z,0.5nm,0.6s							
INK	**Inuvik**	**62.45**	**335**		P	**22 43 47.9**	**-0.2**
G27K	**Doyon Strip**	**65.88**	**335**		P	**22 44 10.4**	**-0.4**
G27K				IAmb	IAmb	22 44 12.2	
comp=Z,5.4nm,1.4s							

PRP	Porcupine Dome	67.84	334			P	22 44 23.8	+0.3
PRP					IAmb	IAmb	22 44 25.2	
	comp=Z,7.6nm,1.3s							
ILAR	Eielson Array	68.69	334			P	22 44 28.5	-0.1
ILAR	Eielson Array	68.69	334	P		P	22 44 29.1	+0.5
	comp=Z,2.9nm,1.1s,baz=56,slow=4.6,SNR=15							
	comp=Z,2.9nm,1.1s							
CCB	Clear Creek Bu	69.10	334	P		P	22 44 30.8	-0.3
WRH	Wood River Hil	69.29	334			P	22 44 32.4	0.0
KURBB	Kurchatov Arra	83.10	34	P		P	22 45 51.9	+0.8
	comp=Z,0.2nm,0.4s,baz=310,slow=5.7,SNR=4.4							
	comp=Z,0.2nm,0.4s							
ZALV	Zalesovo Beam	83.61	29	P		P	22 45 54.9	+1.2
	comp=Z,0.2nm,0.4s,baz=292,slow=7.6,SNR=4.8							
	comp=Z,0.2nm,0.4s							

*GCG **06** 22:57:42.8±1.6, 14°.08N×91°.71W, h66km±21km, MD4.1*
*CATAC **06** 22:57:43.4±0.7, 14°.N±3°×.9°2W±°, h21km±4km, M3.9/12, MLv3.9/12, Error ellipse: s-maj=9.1km s-min=4.4km az=48.3, confirmed*
*SNET **06** 22:57:44.0±0.8, 13°.94N×91°.55W, h19km±479km, ML3.4*
ISC 06 22:57:39.7±2.3, 13°.81N±0°.08×91.75W±0°.08, h10km±11km, n37, σ1°.08/49, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.71	4	eP	Pb	22 57 55.2	+1.0
RTAL				eS	Sg	22 58 04.2	+1.3
RTAL	Retalhuleu	0.71	4	P	Pn	22 57 55.9	0.0
RTAL				S	Sb	22 58 05.5	+1.3
STG0	El Palmar, Qui	0.73	33	eP	Pn	22 57 57.2	+0.9
STG0				eS	Sn	22 58 08.0	+0.5
STG8	El Palmar, Qui	0.75	31	eP	Pn	22 57 57.6	+1.1
STG8				i S	Sn	22 58 09.2	+1.2
ESSG	Sabana Grande	1.06	57	eP	Pb	22 57 59.8	-0.3
SOKI	Kika Raxquin	1.06	18	eP	Pg	22 57 59.8	-0.4
SOKI				eS	Sg	22 58 12.7	-1.4
QUEO	Labor Ovalle	1.08	12	eP	Pb	22 58 00.4	-0.3
QUEO				eS	Sb	22 58 13.8	-1.2
THIG		1.20	335	eP	Pn	22 58 01.3	-1.3
GCG4	OSOP	1.41	57	i P	Pn	22 58 06.0	+0.4
GCG4				eS	Sn	22 58 23.9	-0.4
HUEH	Huehuetenango	1.52	9	P	Pn	22 58 06.6	-0.5
HUEH	Huehuetenango	1.52	9	S	Sn	22 58 25.4	-1.8
NUBE	Las Nubes	1.91	87	eP	Pn	22 58 12.7	+0.2
NUBE				eS	Sn	22 58 34.5	-2.2
NUBE				IAML		22 58 37.5	
	comp=Z,207nm,0.2s						
NUBE	Las Nubes	1.91	87	eP	Pn	22 58 12.7	+0.2
NUBE	Las Nubes	1.91	87	P	Pn	22 58 13.2	+0.7
NUBE	Las Nubes	1.91	87	S	Sn	22 58 36.3	-0.5
LOAL	Lomas de Alarc	1.92	84	P	Pn	22 58 13.2	+0.7
SLOZ	Alcaldia de Sa	1.92	83	eP	Pn	22 58 13.3	+0.8
SLOZ				eS	Sn	22 58 36.0	-0.7
SLOZ	Alcaldia de Sa	1.92	83	P	Pb	22 58 14.2	-0.6
SLOZ	Alcaldia de Sa	1.92	83	S	Sn	22 58 38.0	+1.3
CEVE	Cerro Verde	2.06	89	eP	Pn	22 58 15.4	+0.8
CEVE				eS	Sn	22 58 40.0	-0.5
CEVE	Cerro Verde	2.06	89	P	Pn	22 58 16.2	+1.6
SBLS	San Blas	2.06	89	eP	Pn	22 58 15.8	+1.1
SNJE	San Jose	2.08	88	eP	Pn	22 58 15.7	+0.8
JAYA	Jayaque - finc	2.24	94	eP	Pn	22 58 17.1	+0.1
JAYA				eS	Sn	22 58 43.7	-1.1
JAYA				IAML		22 58 47.1	
	comp=Z,589nm,0.2s						
JAYA	Jayaque - finc	2.24	94	eP	Pn	22 58 17.9	+0.9
JAYA	Jayaque - finc	2.24	94	P	Pn	22 58 18.1	+1.2
JAYA	Jayaque - finc	2.24	94	S	Sn	22 58 44.1	-0.7
PMON	Piamonte	2.37	92	eP	Pn	22 58 19.5	+0.8
PMON				eS	Sn	22 58 47.3	-0.6
PMON	Piamonte	2.37	92	P	Pn	22 58 20.2	+1.5
PMON	Piamonte	2.37	92	S	Sn	22 58 48.3	+0.4
MTO3	Montecristo	2.39	75	P	Pn	22 58 19.4	+0.3
MTO3	Montecristo	2.39	75	S	Sn	22 58 47.5	-1.1
BOQS	Boqueron	2.40	91	eP	Pn	22 58 20.4	+1.2
CCIG	Comitan	2.49	351	i P	Pn	22 58 22.8	+2.3
CCIG	Comitan	2.49	351	P	Pn	22 58 21.9	+1.5
CCIG	Comitan	2.49	351	S	Sn	22 58 50.2	-0.8
LFRS	El Faro	2.62	94	eP	Pn	22 58 23.3	+1.2

UPP 06 23:19:17.6±0.0, 67°.84N×20°.19E, h0km, ML2.1, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	25	P	Pg	23 19 20.4	+0.2
KUA				S	Sg	23 19 22.3	+0.5
RATU	Laukkuluspa	0.23	267	P	Pg	23 19 22.1	+0.2
RATU				S	Sg	23 19 25.4	+0.6
KOVU	Salmi	0.39	359	P	Pg	23 19 25.1	+0.1
KOVU				S	Sg	23 19 30.6	+0.5
LANU	Lannavaara	0.72	72	P	Pg	23 19 31.0	-0.3
LANU				S	Sg	23 19 40.9	+0.4
DUNU	Dundret	0.73	168	P	Pg	23 19 31.4	-0.2
KIF	Kilpisjarvi	1.20	11	eP	Pn	23 19 41.8	+0.3
HEF	Hetta	1.42	65	eP	Pn	23 19 43.8	-0.9
ERTU	Ertsjaerv	1.51	148	P	Pn	23 19 45.3	-0.5

*KRSC **06** 23:22:46.8±1.6, 53°.19N×154°.03E, h537km±16km, Ml4.8*
*MOS **06** 23:22:48.1±0.7, 53°.34N×153°.71E, h515km, mb4.1/28, Error ellipse: s-maj=8.6km s-min=5.3km az=62.0*
*NEIC **06** 23:22:49.0±1.2, 53°.34N±0°.08×153°.6E±0°.1, h509km±4km, mb4.4/116, Error ellipse: s-maj=14.1km s-min=8.9km az=141.0*
*IDC **06** 23:22:49.0±0.5, 53°.33N×153°.65E, h515km±5km, mb3.4/28, mbtmp4.4/37, Error ellipse: s-maj=8.3km s-min=6.2km az=154.0*
ISC 06 23:22:48.8±0.4, 53°.26N±0°.05×153°.76E±0°.04, h518km±4km, n549, σ1°.24/605, mb4.3/108, 11C-3D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.08	98	P	P	23 23 55.8	+0.1
APC				S	S	23 24 50.0	-0.4
APC	Apacha	2.08	98	eP	P	23 23 55.9	+0.1
APC				eS	S	23 24 50.0	-0.4
PEA0B	Petropavlovsk-	2.38	92	P	P	23 23 57.1	-0.3
PEA0B	Petropavlovsk-	2.38	92	P	P	23 23 57.3	-0.1
PEA0B				S	S	23 24 53.0	-0.3
PETK	Petropavlovsk-	2.38	92		P	23 23 56.2	-1.2
PETK	Petropavlovsk-	2.38	92	P	P	23 23 56.6	-0.8
	97nm,0.6s,baz=231,slow=1.4,SNR=95						
PETK				S	S	23 24 52.9	-0.4
	29nm,0.8s,baz=153,slow=13,SNR=5.4						
GNL	Ganaly	2.54	79	P	P	23 23 58.7	+0.4
GNL				S	S	23 24 55.8	+0.6
GNL	Ganaly	2.54	79	eP	P	23 23 58.7	+0.4
GNL				eS	S	23 24 55.9	+0.6
KRMR	Karymshinskiy	2.67	98	P	P	23 23 58.7	-0.3
KRMR				S	S	23 24 54.6	-1.7
KRMR	Karymshinskiy	2.67	98	eP	P	23 23 58.8	-0.3
KRMR				eS	S	23 24 54.7	-1.7
KOK	Koryaka	2.93	87	P	P	23 24 00.9	+0.2
KOK	Koryaka	2.93	87	eP	P	23 24 00.9	+0.2
KRX	Arik	2.94	86	P	P	23 24 00.8	0.0
KRX	Arik	2.94	86	eP	P	23 24 00.8	0.0
PET	Petropavlovsk	2.96	93	P	P	23 24 00.0	-0.8
PET	Petropavlovsk	2.96	93	P	P	23 24 00.6	-0.2
	1μm,1.1s						
PET	Petropavlovsk	2.96	93	P	P	23 24 00.3	-0.5
PET				S	S	23 24 56.7	-2.8
PET	Petropavlovsk	2.96	93	eP	P	23 24 00.3	-0.5
PET				eS	S	23 24 56.8	-2.8
AVH	Avacha	2.99	88	P	P	23 24 01.7	+0.6
AVH	Avacha	2.99	88	eP	P	23 24 01.8	+0.6
KRER	Koryakskii	3.00	87	P	P	23 24 02.0	+0.7
KRER	Koryakskii	3.00	87	eP	P	23 24 02.0	+0.7
RUS	Russkaya	3.00	104	P	P	23 24 00.0	-1.1
RUS				S	S	23 24 55.7	-4.4
RUS	Russkaya	3.00	104	eP	P	23 24 00.1	-1.1
RUS				eS	S	23 24 55.7	-4.4
DALK	Dalny	3.02	92	P	P	23 24 00.4	-0.7
DALK				S	S	23 24 58.1	-2.1
DALK	Dalny	3.02	92	eP	P	23 24 00.5	-0.7
DALK				eS	S	23 24 58.1	-2.1
UGLR	Uglovaya	3.04	89	P	P	23 24 01.8	+0.3
UGLR				S	S	23 24 58.5	-2.4
UGLR	Uglovaya	3.04	89	eP	P	23 24 01.9	+0.3
UGLR				eS	S	23 24 58.5	-2.4
NLC	Nalytchevo	3.36	89	P	P	23 24 03.1	-0.3
NLC				S	S	23 25 02.3	-2.2
NLC	Nalytchevo	3.36	89	eP	P	23 24 03.2	-0.3
NLC				eS	S	23 25 02.4	-2.2
KII	Karymskiy	3.47	75	P	P	23 24 04.4	0.0
KII	Karymskiy	3.47	75	eP	P	23 24 04.5	0.0
SPN	Mys Shipunski	3.77	90	P	P	23 24 05.2	-1.3
SPN				S	S	23 25 03.8	-6.2
SPN	Mys Shipunski	3.77	90	eP	P	23 24 05.2	-1.3
SPN				eS	S	23 25 03.9	-6.2
ESO	Esso	3.92	45	P	P	23 24 08.4	+0.8
ESO				S	S	23 25 13.2	+1.1
ESO	Esso	3.92	45	eP	P	23 24 08.5	+0.8
ESO				eS	S	23 25 13.3	+1.1
TUMD	Tumrok D	4.35	61	P	P	23 24 10.5	-0.5
TUMD				S	S	23 25 17.2	-1.2
TUMD	Tumrok D	4.35	61	eP	P	23 24 10.6	-0.5
TUMD				eS	S	23 25 17.3	-1.2
KOZ	Kozyrevsk	4.52	49	P	P	23 24 12.5	+0.1
KOZ	Kozyrevsk	4.52	49	eP	P	23 24 12.6	+0.1
KMNR	Kamenistaya	4.53	54	P	P	23 24 12.3	-0.2
KMNR	Kamenistaya	4.53	54	eP	P	23 24 12.4	-0.2
KPT	Kopyto	4.63	52	P	P	23 24 13.1	-0.3
KPT	Kopyto	4.63	52	eP	P	23 24 13.1	-0.3
KIRR	Kirishev	4.68	52	P	P	23 24 13.4	-0.5
KIRR				S	S	23 25 22.3	-1.4
KIRR	Kirishev	4.68	52	eP	P	23 24 13.5	-0.5
KIRR				eS	S	23 25 22.3	-1.4
BZWR	Bezymyannyi-We	4.76	53	P	P	23 24 14.5	-0.1
BZWR	Bezymyannyi-We	4.76	53	eP	P	23 24 14.5	-0.1
BZGR	Bezymyannyi-Gr	4.84	54	P	P	23 24 14.9	-0.4
BZGR	Bezymyannyi-Gr	4.84	54	eP	P	23 24 14.9	-0.4
LGNR	Loginova	4.92	52	P	P	23 24 16.3	+0.2
LGNR	Loginova	4.92	52	eP	P	23 24 16.3	+0.2
KRSR	Krestovskiy	4.93	50	P	P	23 24 15.4	-0.6
KRSR	Krestovskiy	4.93	50	eP	P	23 24 15.4	-0.6
ZLN	Zelenaya	4.94	53	P	P	23 24 15.9	-0.1
ZLN	Zelenaya	4.94	53	eP	P	23 24 16.0	-0.1
CIRR	Tsirk	4.96	52	P	P	23 24 16.0	-0.3
CIRR	Tsirk	4.96	52	eP	P	23 24 16.0	-0.3
KLY	Klyuchi	5.02	50	P	P	23 24 16.8	+0.1
KLY	Klyuchi	5.02	50	eP	P	23 24 16.9	+0.1
SMKR	Semkarok	5.55	50	P	P	23 24 21.3	-0.2
SMKR	Semkarok	5.55	50	eP	P	23 24 21.3	-0.2
KBTR	Krutoberegovo	6.02	57	P	P	23 24 23.3	-2.5
KBTR				S	S	23 25 39.1	-6.3
KBTR	Krutoberegovo	6.02	57	eP	P	23 24 23.4	-2.5
KBTR				eS	S	23 25 39.2	-6.3
MA2	Magadan	6.54	347	P	P	23 24 30.9	+0.2
MA2	Magadan	6.54	347	P	P	23 24 31.1	+0.3
	38nm,0.7s,baz=143,slow=6.8,SNR=23						
MA2				S	S	23 25 54.3	-0.2
	36nm,1.0s,baz=207,slow=23,SNR=8.0						
MA2	Magadan	6.54	347	i P	P	23 24 30.3	-0.5
MA2				pmax	pmax		
	comp=Z,52nm,0.9s						
PALN	Palana	6.79	28	P	P	23 24 34.0	+0.9
PALN	Palana	6.79	28	eP	P	23 24 34.0	+0.9
TYV	Tymovskoe	7.25	255	eP	P	23 24 40.5	+2.5
TYV				eS	S	23 26 10.3	+2.8
TYV				pmax	pmax		
	comp=Z,300nm,2.4s						
TYV				pmax	pmax		
	comp=Z,58nm,0.6s						
TYV				smax	smax		
	comp=N,1μm,4.3s						
TYV				smax	smax		
	comp=E,1μm,4.3s						
TYV				smax	smax		
	comp=N,24nm,1.4s						
TYV				smax	smax		
	comp=E,34nm,1.4s						
TYV	Tymovskoe	7.25	255	eP	P	23 24 39.8	+1.9
BKI	Bering	7.42	70	P	P	23 24 40.6	+1.1
BKI				S	S	23 26 08.6	-1.8
BKI	Bering	7.42	70	eP	P	23 24 40.7	+1.1
BKI				eS	S	23 26 08.6	-1.8
OSSR	Ossora	7.92	37	P	P	23 24 45.3	+0.9
OSSR	Ossora	7.92	37	eP	P	23 24 45.4	+0.9
KUR	Kuril'sk	8.91	208	i P	P	23 24 54.9	0.0
YSS	Yuzhno-Sakhali	9.47	233	P	P	23 25 01.5	+0.8
YSS	Yuzhno-Sakhali	9.47	233	eP	P	23 25 01.9	+1.2
YSS				eS	S	23 26 48.3	-0.9
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS				smax	smax		
	comp=N,20nm,1.2s						
SEY	Seymchan	9.72	356	P	P	23 25 03.5	+0.5
	comp=N,15nm,0.5s,baz=170,slow=10.0,SNR=62						
SEY				S	S	23 26 54.3	+0.7
	comp=N,20nm,1.1s,baz=233,slow=20,SNR=23						
SEY	Seymchan	9.72	356	i P	P	23 25 03.2	+0.1
SEY				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TILK	Tilichiki	9.88	38	P	P	23 25 05.6	+0.9
TILK	Tilichiki	9.88	38	eP	P	23 25 05.6	+0.9
GRNR	Gornyy	10.97	264	eP	P	23 25 13.8	-2.6
GRNR				MLR	MLR		
	comp=E,4μm,20.0s						
GRNR				MLR	MLR		
	comp=N,1μm,22.0s						
GRNR				MLR	MLR		
	comp=Z,220nm,17.0s						
KMSK	Kamenskaya	11.34	31	P	P	23 25 20.7	+0.8
KMSK	Kamenskaya	11.34	31	eP	P	23 25 20.7	+0.8
JKA	Kamikawa-asahi	11.74	223	P	P	23 25 24.3	-0.2
ASAJ	Asahikawa	11.74	223	P	P	23 25 24.9	+0.3
	comp=Z,11nm,0.4s,baz=63,slow=2.3,SNR=31						
SHEM	Shemya Is, Ala	12.27	84	P	P	23 25 30.4	+0.5
	comp=Z,50nm,0.4s,baz=281,slow=16,SNR=9.5						
JEM	Erimo	13.31	217	P	P	23 25 39.6	-1.4
	comp=Z,64nm,0.8s						
ERM	Erimo	13.31	217	P	P	23 25 39.8	-1.2
ERM	Erimo	13.31	217	P	P	23 25 39.5	-1.5
	comp=Z,128nm,1.0s						
ERM	Erimo	13.31	217	i P	P	23 25 39.6	-1.5
KLR	Kul'dur	14.35	263	P	P	23 25 51.6	-0.1
	comp=Z,20nm,0.5s,baz=73,slow=9.4,SNR=72						
KLR				S	S	23 28 23.1	+0.4
	comp=Z,1.9nm,0.8s,baz=180,slow=20,SNR=2.6						
KLR				ScP	ScP	23 33 13.8	+0.8
	comp=Z,1.4nm,0.5s,baz=103,slow=3.5,SNR=6.9						
KLR	Kul'dur	14.35	263	eP	P	23 25 51.9	+0.2
KLR				pmax	pmax		
	comp=Z,27nm,0.8s						
JTM	Tenmabayashi	15.16	220	P	P	23 25 57.4	-2.9
JTM	Tenmabayashi	15.16	220	P	P	23 25 57.6	-2.7
	comp=Z,33nm,0.5s						
YAK	Yakutsk	15.50	314	P	P	23 26 02.4	-1.2
YAK	Yakutsk	15.50	314	P	P	23 26 02.5	-1.1
	comp=Z,107nm,0.6s,baz=106,slow=21,SNR=28						
YAK				S	S	23 28 41.7	-2.4
	comp=Z,10nm,0.5s,baz=96,slow=18,SNR=5.1						
YAK	Yakutsk	15.50	314	eP	P	23 26 01.4	-2.2
YAK				eS	S	23 28 41.5	-2.5
YAK				pmax	pmax		
	comp=Z,73nm,0.8s						
YAK				pmax	pmax		
	comp=E,32nm,1.3s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.2s						
YAK				smax	smax		
	comp=N,239nm,1.5s						
YAK				smax	smax		
	comp=E,20nm,1.0s						
BILL	Bilibino	15.98	17	P	P	23 26 07.5	-0.9
BILL	Bilibino	15.98	17	ceP	P	23 26 07.3	-1.2
BILL				pmax	pmax		
	comp=Z,31nm,0.7s						
HEH	HeiHe	16.55	270	eP	P	23 26 14.6	+0.1
HEH				pmax	pmax		
	comp=Z,27nm,0.9s						
USA0B	Ussuriysk Arra	16.93	246	P	P	23 26 17.5	-0.7
USA0B				IAmb	IAmb	23 26 19.8	
	comp=Z,11nm,1.0s						
USA0B	Ussuriysk Arra	16.93	246	P	P	23 26 17.5	-0.7
USA0B				pmax	pmax		
	comp=Z,11nm,1.0s						
USRK	Ussuriysk Ar.	16.93	246	P	P	23 26 17.0	-1.3
USRK	Ussuriysk Ar.	16.93	246	P	P	23 26 17.1	-1.1
	comp=Z,3.5nm,0.4s,baz=48,slow=11,SNR=12						
KIWB	Kanaga Island	17.69	83	P	P	23 26 25.0	-0.2
JMM	Marumori	17.83	215	P	P	23 26 26.8	+0.2
JMM	Marumori	17.83	215	P	P	23 26 27.4	+0.7
	comp=Z,32nm,0.8s						
MDJ	Mudanjiang	18.01	251	P	P	23 26 27.2	-1.0
MDJ	Mudanjiang	18.01	251	P	P	23 26 27.7	-0.5
MDJ				pmax	pmax		
	comp=Z,14nm,0.8s						
PSTR	Posyet	18.60	244	i P	P	23 26 34.3	+0.7
BNX	BinXian	18.62	257	⇑P	P	23 26 34.0	+0.2
BNX				pmax	pmax		
	comp=Z,50nm,0.9s						
JSD	Sado	18.62	221	P	P	23 26 33.6	-0.3
MJB9	Matsu-Tunnel	19.95	219	P	P	23 26 46.4	+0.5
MAJO	Matsushiro	19.95	219	P	P	23 26 45.7	-0.3
MAJO	Matsushiro	19.95	219	P	P	23 26 46.7	+0.7
	comp=Z,99nm,0.8s						
MAJO	Matsushiro	19.95	219	i P	P	23 26 47.0	+1.0
MAJO				pmax	pmax		
	comp=Z,67nm,0.8s						
MJAR	Matsushiro Arr	19.95	219	P	P	23 26 46.2	+0.2
	comp=Z,41nm,0.8s,baz=10,slow=9.0,SNR=84						
MJAR				ScP	ScP	23 33 23.5	-1.3
	comp=Z,1.5nm,0.5s,baz=4.0,slow=1.5,SNR=7.6						
GAMB	Gambell	20.60	46	P	P	23 26 51.8	+0.4
	baz=256						
JGF	Kuroka	21.10	220	P	P	23 26 56.6	+0.2
JGF	Kuroka	21.10	220	P	P	23 26 57.5	+1.0
	comp=Z,35nm,0.9s						
TIXI	Tiksi	21.42	339	P	P	23 26 58.9	+0.1
TIXI				IAmb	IAmb	23 27 04.6	
	comp=Z,7.0nm,0.8s						
TIXI	Tiksi	21.42	339	P	P	23 26 58.6	-0.2
	comp=Z,2.7nm,0.3s,baz=154,slow=10,SNR=16						
TIXI				ScP	ScP	23 33 27.3	-0.4
	comp=Z,2.7nm,0.5s,baz=99,slow=5.2,SNR=15						
	comp=Z,2.7nm,0.3s						
TIXI	Tiksi	21.42	339	ceP	P	23 26 59.3	+0.5
TIXI				pmax	pmax		
	comp=Z,11nm,1.3s						
INU	Inuyama	21.45	220	P	P	23 26 59.6	0.0
INU				IAmb	IAmb	23 27 01.1	
	comp=Z,18nm,0.7s						
INU	Inuyama	21.45	220	P	P	23 27 00.7	+1.1
	comp=Z,25nm,1.4s						
HIA	Hailar	21.53	273	P	P	23 27 00.1	-0.1
HIA				IAmb	IAmb	23 27 02.3	
	comp=Z,21nm,1.2s						
HIA	Hailar	21.53	273	i P	P	23 27 00.7	+0.6
HIA				pmax	pmax		
	comp=Z,13nm,1.0s						
NIKH	Nikolski High	22.28	76	P	P	23 27 07.6	+0.8
	baz=286						
TNA	Tin City	22.62	42	P	P	23 27 10.6	+0.9
TNA	Tin City	22.62	42	P	P	23 27 10.9	+1.3
	baz=256						
F14K	Arctic Creek	23.25	43	P	P	23 27 16.5	+1.3
	baz=258						
ANM	Nome	23.47	45	P	P	23 27 18.0	+0.7
ANM	Nome	23.47	45	P	P	23 27 18.0	+0.7
ANM				pmax	pmax		
	comp=Z,43nm,1.3s						
ANM	Nome	23.47	45	P	P	23 27 18.4	+1.1
	baz=261						
K13K	Kusilvak Mount	23.52	52	P	P	23 27 18.4	+0.7
K13K				IAmb	IAmb	23 27 20.4	
	comp=Z,20nm,1.2s						
K13K	Kusilvak Mount	23.52	52	P	P	23 27 19.0	+1.2
	baz=268						
KSRS	Korea Array	23.88	239	P	P	23 27 21.9	+0.7
	comp=Z,8.5nm,0.8s,baz=40,slow=8.9,SNR=26						
KSRS				ScP	ScP	23 33 35.2	+0.4
	comp=Z,1.6nm,0.8s,baz=46,slow=3.6,SNR=5.4						
	comp=Z,8.5nm,0.8s						
KSAR	Wonju Array Be	23.91	239	P	P	23 27 21.8	+0.3
KSAR	Wonju Array Be	23.91	239	P	P	23 27 21.8	+0.3
F15K	North Star Dit	23.98	43	P	P	23 27 23.1	+1.4
	baz=259						
J14K	Nanvaranak Lak	24.08	50	P	P	23 27 23.4	+0.8
	baz=267						
G15K	Niukluk	24.11	44	P	P	23 27 23.9	+1.1
	baz=261						
M13K	Dall Lake	24.15	56	P	P	23 27 24.4	+1.2
	baz=272						
C16K	Lisburne Hills	24.35	36	P	P	23 27 25.4	+0.4
C16K				IAmb	IAmb	23 27 26.3	
	comp=Z,12nm,0.8s						
C16K	Lisburne Hills	24.35	36	P	P	23 27 25.4	+0.4
	baz=253						
L14K	Kuka Creek	24.45	53	P	P	23 27 27.3	+1.4
L14K				IAmb	IAmb	23 27 28.5	
	comp=Z,15nm,0.9s						
L14K	Kuka Creek	24.45	53	P	P	23 27 27.6	+1.6
	baz=271						
H16K	Elim	24.82	45	P	P	23 27 30.2	+1.0
	baz=264						
M14K	Bethel	24.82	55	P	P	23 27 30.5	+1.2
	baz=273						
G16K	Koyuk River	24.87	44	P	P	23 27 30.7	+1.1
	baz=262						
K15K	Wolf Creek Mou	25.00	51	P	P	23 27 32.3	+1.4
K15K				IAmb	IAmb	23 27 33.2	
	comp=Z,21nm,1.3s						
K15K	Wolf Creek Mou	25.00	51	P	P	23 27 32.4	+1.5
	baz=270						
D17K	Noatak River	25.02	38	P	P	23 27 31.8	+0.9
	baz=256,SNR=21						
L15K	Ungalak Mounta	25.02	53	P	P	23 27 32.3	+1.2
	baz=271						
RDOG	Red Dog Mine	25.17	37	P	P	23 27 33.3	+1.1
	baz=256						
O14K	Tigyukauivet M	25.28	58	P	P	23 27 34.8	+1.5
	baz=276						
E17K	Hotham Inlet	25.36	40	P	P	23 27 35.1	+1.2
	baz=259						
I17K	Unalakleet	25.43	47	P	P	23 27 35.9	+1.3
	baz=267						
J16K	Anvik River	25.45	49	P	P	23 27 35.7	+0.9
	baz=268						
M15K	Kasigluk River	25.45	55	P	P	23 27 36.0	+1.2
	baz=274						
F17K	Baldwin Pennin	25.47	41	P	P	23 27 36.2	+1.3
	baz=261						
G17K	Kiwalik Mounta	25.59	44	P	P	23 27 37.3	+1.3
	baz=264						
N15K	Kwethluk River	25.78	56	P	P	23 27 39.1	+1.3
	baz=275						
H17K	Granite Mounta	25.84	45	P	P	23 27 39.4	+1.2
	baz=266						
E18K	Tukpahlearik C	25.89	39	P	P

baz=267
L17K **Donlin** 26.52 51 P P 23 27 45.7 +1.4
baz=273,SNR=11
S14K **Fog Glacier** 26.70 65 P P 23 27 46.6 +0.6
baz=284
O16K **Kokwok River B** 26.85 57 P P 23 27 48.5 +1.3
baz=278
F19K **Shaleruckik Mo** 26.90 41 P P 23 27 48.0 +0.6
F19K **Shaleruckik Mo** 26.90 41 P P 23 27 48.1 +0.6
baz=264
M17K **Holitna River** 26.97 53 P P 23 27 49.8 +1.6
M17K **Holitna River** 26.97 53 P P 23 27 49.7 +1.4
baz=275,SNR=12
D19K **Kuna River** 27.00 37 P P 23 27 49.2 +0.8
baz=260
G19K **Purcell Mounta** 27.11 42 P P 23 27 49.8 +0.4
baz=266,SNR=8.6
GCSA **Galena City Sc** 27.13 46 P P 23 27 49.8 +0.3
baz=269
E19K **Redstone River** 27.18 40 P P 23 27 51.1 +1.1
E19K **Redstone River** 27.18 40 P P 23 27 51.2 +1.2
baz=263
N17K **Nushagak Hills** 27.18 55 P P 23 27 51.7 +1.6
baz=277
J18K **Innoko River** 27.20 48 P P 23 27 51.1 +0.9
baz=272,SNR=12
L18K **Granite Mounta** 27.27 51 P P 23 27 52.4 +1.5
baz=274
CHGN **Chignik** 27.31 64 P P 23 27 52.8 +1.6
baz=284
O17K **Koliganek Bris** 27.33 56 P P 23 27 53.0 +1.6
baz=278
H19K **Roundabout Mou** 27.33 44 P P 23 27 52.5 +1.2
baz=268,SNR=21
TTA **Tatalina** 27.54 50 P P 23 27 54.0 +0.7
TTA IAmb IAmb 23 27 55.0
comp=Z,14nm,0.7s
TTA **Tatalina** 27.54 50 P P 23 27 54.0 +0.7
TTA pmax pmax
comp=Z,14nm,0.7s
TTA **Tatalina** 27.54 50 P P 23 27 54.3 +1.0
baz=273,SNR=12
D20K **Etivluk River** 27.58 37 P P 23 27 54.4 +0.9
baz=261
B20K **Meade River** 27.62 34 P P 23 27 54.6 +0.8
B20K **Meade River** 27.62 34 P P 23 27 54.7 +0.8
baz=258
E20K **Nigu River** 27.67 38 P P 23 27 55.3 +0.9
baz=263
J19K **Poorman** 27.67 47 P P 23 27 54.9 +0.6
baz=272,SNR=9.1
F20K **Avaraart Lake** 27.72 41 P P 23 27 55.4 +0.7
baz=266,SNR=12
M18K **Stony River** 27.74 53 P P 23 27 56.5 +1.6
baz=276,SNR=7.9
N18K **Kilae Creek** 27.80 54 P P 23 27 56.8 +1.3
baz=278
H20K **Anotleneega Mo** 27.99 44 P P 23 27 57.9 +0.8
baz=269,SNR=12
A21K **Barrow** 28.09 31 P P 23 27 58.4 +0.5
baz=257,SNR=9.5
L19K **White Mountain** 28.13 51 P P 23 27 59.3 +0.9
L19K IAmb IAmb 23 28 00.2
comp=Z,7.6nm,0.7s
L19K **White Mountain** 28.13 51 P P 23 27 59.3 +0.9
baz=276,SNR=5.3
I20K **Naaghedeneel** 28.16 45 P P 23 27 59.8 +1.3
baz=271
Q17K **Contact Creek** 28.21 59 P P 23 28 00.3 +1.1
baz=282
O18K **Koktuh Hills** 28.26 56 P P 23 28 00.7 +1.2
baz=280
C21K **Knifeblade Rid** 28.30 36 P P 23 28 01.1 +1.3
baz=262,SNR=30
J20K **Nowinta River** 28.32 47 P P 23 28 01.1 +1.1
baz=272,SNR=12
P18K **Big Mountain,** 28.33 57 P P 23 28 01.4 +1.3
baz=280
M19K **Big River Lodg** 28.37 52 P P 23 28 01.9 +1.3
baz=276
K20K **Telida** 28.39 48 P P 23 28 01.9 +1.2
baz=274,SNR=5.1
B21K **Ikpikpuk River** 28.43 35 P P 23 28 01.9 +1.0
baz=262
N19K **Bonanza Creek** 28.47 54 P P 23 28 02.8 +1.4
baz=278
E21K **Killik River** 28.51 38 P P 23 28 02.2 +0.5
baz=265,SNR=13
A22K **Sinclair Lake** 28.54 32 P P 23 28 02.7 +0.9
baz=259
L20K **Farewell, AK** 28.55 50 P P 23 28 03.2 +1.1
baz=276,SNR=5.1
G21K **Allakaket** 28.57 42 P P 23 28 03.4 +1.2
baz=269
Q18K **Katmai Hardscr** 28.58 58 P P 23 28 03.1 +0.7
baz=282
F21K **Alatna River** 28.61 40 P P 23 28 03.3 +0.8
baz=267,SNR=15
O19K **Port Alsworth** 28.64 55 P P 23 28 04.1 +1.3
baz=280
BJT **Baijiatuau** 28.64 258 P P 23 28 02.9 -0.3
BJT IAmb IAmb 23 28 05.3
comp=Z,7.3nm,1.0s
BJT **Baijiatuau** 28.64 258 P P 23 28 02.9 -0.3
BJT pmax pmax
comp=Z,7.0nm,1.0s
H21K **Melozitna Rive** 28.85 44 P P 23 28 05.4 +0.8
baz=271,SNR=8.2
B22K **Teshekpuk Lake** 28.94 34 P P 23 28 06.1 +0.8
baz=262,SNR=13
M20K **Styx River** 28.97 51 P P 23 28 07.5 +1.7
baz=277
D22K **Ayikyak River** 29.02 37 P P 23 28 07.1 +1.1
baz=265
F22K **John River** 29.12 40 P P 23 28 08.1 +1.1
baz=268,SNR=19
CHUM **Lake Minchumin** 29.14 47 P P 23 28 08.5 +1.4
baz=274,SNR=7.2
I21K **Tanana** 29.21 45 P P 23 28 08.7 +1.0
I21K IAmb IAmb 23 28 10.0
comp=Z,17nm,1.2s
I21K **Tanana** 29.21 45 P P 23 28 08.7 +1.0
baz=272
Q19K **Cape Douglas,** 29.22 58 P P 23 28 09.0 +1.1
baz=282
P19K **Oil Pt** 29.28 56 P P 23 28 09.7 +1.3
baz=281
CAST **Castle Rocks** 29.28 48 P P 23 28 09.6 +1.2
CAST IAmb IAmb 23 28 10.3
comp=Z,12nm,0.6s
CAST **Castle Rocks** 29.28 48 P P 23 28 09.8 +1.4
baz=276,SNR=12
PPLA **Purkeypile** 29.29 49 P P 23 28 10.1 +1.5
baz=276
E22K **Anaktuvuk Pass** 29.29 39 P P 23 28 09.3 +0.9
E22K **Anaktuvuk Pass** 29.29 39 P P 23 28 09.4 +0.9
baz=267,SNR=31
G22K **Bettles** 29.37 41 P P 23 28 09.8 +0.7
baz=270
H22K **Ishtalitna Cre** 29.43 43 P P 23 28 10.9 +1.2
baz=272,SNR=12
SPCR **Spurr Chakacha** 29.50 53 P P 23 28 11.6 +1.1
baz=279
BPAW **Bear Paw Mtn.** 29.70 47 P P 23 28 13.0 +1.0
baz=275
SKT **Skwentna** 29.70 51 P P 23 28 13.0 +0.8
SKT IAmb IAmb 23 28 15.6
comp=Z,12nm,1.2s
SKT **Skwentna** 29.70 51 P P 23 28 12.9 +0.8
baz=278
ULN **Ulaanbaatar** 29.72 279 P P 23 28 12.8 +0.2
ULN **Ulaanbaatar** 29.72 279 *ce*P P 23 28 13.8 +1.2
ULN pmax pmax
comp=Z,5.0nm,1.2s
D23K **Nanushuk River** 29.75 37 P P 23 28 13.4 +1.1
baz=267
OHAK **Old Harbor** 29.81 61 P P 23 28 12.8 -0.1
OHAK **Old Harbor** 29.81 61 P P 23 28 14.1 +1.1
baz=286
C23K **Itkillik River** 29.84 35 P P 23 28 14.1 +1.0
baz=266,SNR=24
COLD **Coldfoot** 29.89 40 P P 23 28 14.3 +0.8
baz=270,SNR=35
Q20K **Shuyak Island** 29.92 58 P P 23 28 15.0 +1.1
baz=284
G23K **Bananza Creek** 29.96 41 P P 23 28 15.1 +0.8
baz=272,SNR=24
KDAK **Kodiak Island** 30.03 60 P P 23 28 15.1 +0.2

KDAK **Kodiak Island** 30.03 60 P P 23 28 15.3 +0.4
comp=Z,7.2nm,0.5s,baz=218,slow=1.6,SNR=25
comp=Z,7.2nm,0.5s
KDAK **Kodiak Island** 30.03 60 P P 23 28 15.1 +0.2
KDAK pmax pmax
comp=Z,41nm,1.3s
KDAK **Kodiak Island** 30.03 60 P P 23 28 15.9 +1.0
baz=285
TRF **Thorofare Moun** 30.08 48 P P 23 28 16.4 +0.9
TRF IAmb IAmb 23 28 17.9
comp=Z,14nm,0.9s
TRF **Thorofare Moun** 30.08 48 P P 23 28 16.6 +1.1
baz=277,SNR=6.9
E23K **Chandalar** 30.11 39 P P 23 28 16.5 +0.9
baz=270
SONM **Songino Array** 30.13 279 P P 23 28 16.4 +0.3
SONM **Songino Array** 30.13 279 P P 23 28 16.7 +0.7
comp=Z,1.5nm,0.6s,baz=65,slow=6.9,SNR=15
SONM S S 23 32 39.1 +1.0
comp=Z,0.3nm,0.7s,baz=70,slow=9.9,SNR=3.8
SONM ScP ScP 23 33 53.4 -0.6
comp=Z,1.9nm,1.0s,baz=72,slow=2.3,SNR=8.0
comp=Z,1.5nm,0.6s
SONM **Songino Array** 30.13 279 P P 23 28 16.4 +0.3
SONM pmax pmax
comp=Z,2.0nm,0.9s
TOLK **Toolik Lake Re** 30.14 38 P P 23 28 16.6 +0.8
baz=269,SNR=26
SUA **Susitna One** 30.16 52 P P 23 28 16.5 +0.4
SUA **Susitna One** 30.16 52 P P 23 28 17.0 +0.9
baz=280
H23K **Yukon River** 30.19 43 P P 23 28 17.7 +1.4
baz=273
CUT **Chulitna** 30.23 50 P P 23 28 16.9 +0.3
CUT **Chulitna** 30.23 50 P P 23 28 17.0 +0.5
baz=279
I23K **Minto, Yukon-K** 30.31 45 P P 23 28 18.5 +1.3
baz=275,SNR=12
D24K **Happy Valley** 30.43 37 P P 23 28 19.2 +1.0
D24K **Happy Valley** 30.43 37 P P 23 28 19.0 +0.8
baz=268
NEA2 **Nenana** 30.49 46 P P 23 28 19.8 +1.0
baz=276,SNR=12
C24K **Franklin Bluff** 30.49 35 P P 23 28 19.6 +0.8
baz=268
BRSE **Bradley Lake S** 30.50 55 P P 23 28 19.8 +0.9
baz=283
E24K **Your Creek** 30.54 39 P P 23 28 20.4 +1.1
E24K **Your Creek** 30.54 39 P P 23 28 20.3 +1.1
baz=270,SNR=62
MCK **McKinley** 30.64 47 P P 23 28 20.9 +0.7
MCK IAmb IAmb 23 28 22.0
comp=Z,11nm,0.6s
MCK **McKinley** 30.64 47 P P 23 28 20.9 +0.7
MCK pmax pmax
comp=Z,11nm,0.6s
MCK **McKinley** 30.64 47 P P 23 28 21.2 +1.1
baz=278,SNR=8.3
TIA **Tai'an** 30.68 251 P P 23 28 20.5 -0.3
TIA pmax pmax
comp=Z,20nm,0.9s
RC01 **Rabbit Creek A** 30.70 53 P P 23 28 21.9 +1.2
baz=281
RND **Reindeer** 30.73 48 P P 23 28 21.5 +0.6
RND IAmb IAmb 23 28 22.1
comp=Z,16nm,1.0s
RND **Reindeer** 30.73 48 P P 23 28 21.5 +0.6
RND pmax pmax
comp=Z,16nm,1.0s
F24K **Squaw Lake** 30.77 40 P P 23 28 22.1 +0.9
baz=272,SNR=21
HHC **Hu-ho-hao-te** 30.85 264 *e*P P 23 28 21.4 -1.0
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.9s
H24K **Noodor Dome** 30.87 43 P P 23 28 23.3 +1.1
baz=275,SNR=11
PMR **Palmer** 30.89 51 P P 23 28 23.9 +1.7
baz=281
WRH **Wood River Hil** 30.92 46 P P 23 28 23.5 +1.0
GHO **Glory Hole Cre** 30.96 51 P P 23 28 23.4 +0.4
GHO IAmb IAmb 23 28 25.2
comp=Z,16nm,0.9s
G24K **Hadweenzic Riv** 30.97 41 P P 23 28 24.3 +1.3
baz=274,SNR=32
COLA **College** 30.98 45 *i*P P 23 28 24.0 +1.1
COLA pmax pmax
comp=Z,21nm,0.7s
COLA **College** 30.98 45 P P 23 28 24.1 +1.1
baz=276
POKR **Poker Plat Res** 31.13 44 P P 23 28 25.5 +1.2
baz=276,SNR=16
SML **Sawmill** 31.23 51 P P 23 28 26.2 +1.0
baz=281,SNR=8.5
HNS **HongShan** 31.24 255 ⇓P P 23 28 27.8 +2.2
HNS pmax pmax
comp=Z,26nm,0.8s
KNK **Knik Glacier** 31.25 52 P P 23 28 26.4 +1.0
baz=282,SNR=5.4
D25K **Kavik River** 31.30 36 P P 23 28 26.4 +0.7
baz=270,SNR=134
ILAR **Eielson Array** 31.40 45 P P 23 28 27.3 +0.6
ILAR **Eielson Array** 31.40 45 P P 23 28 27.1 +0.5
comp=Z,8.0nm,0.7s,baz=252,slow=5.5,SNR=123
ILAR PcP PcP 23 31 03.1 -1.1
comp=Z,0.7nm,0.9s,baz=274,slow=5.3,SNR=1.6
ILAR S S 23 32 58.2 +1.2
comp=Z,0.2nm,0.5s,baz=274,slow=14,SNR=1.8
ILAR ScP ScP 23 33 56.2 -1.5
comp=Z,2.4nm,0.8s,baz=278,slow=3.8,SNR=17
comp=Z,8.0nm,0.7s
PWL **Port Wells** 31.42 53 P P 23 28 27.3 +0.5
baz=283
HDA **Harding Lake** 31.42 46 P P 23 28 27.0 +0.2
baz=278,SNR=9.5
G25K **Bearman Lake** 31.51 41 P P 23 28 28.7 +1.2
baz=275
MOY **Mondy** 31.59 289 *e*P P 23 28 30.0 +1.5
MOY pmax pmax
comp=Z,14nm,1.4s
E25K **Arctic Village** 31.63 39 P P 23 28 30.1 +1.6
baz=273,SNR=14
F25K **Christian Rive** 31.63 40 P P 23 28 29.8 +1.2
baz=274,SNR=13
H25L **Birch Creek** 31.67 42 P P 23 28 30.3 +1.4
baz=276
SCM **Sheep Creek Mo** 31.69 51 P P 23 28 30.3 +1.0
baz=282
C26K **Camden Bay** 31.81 35 P P 23 28 31.3 +1.3
baz=271,SNR=12
PRP **Porcupine Dome** 31.88 43 P P 23 28 32.2 +1.3
baz=277,SNR=28
K24K **Donnelly Dome** 32.02 47 P P 23 28 32.2 +0.2
baz=280,SNR=7.5
BMAR **Burnt Mountain** 32.05 40 P P 23 28 33.6 +1.4
J25K **Salcha River,** 32.07 45 P P 23 28 32.2 -0.2
baz=279,SNR=8.0
M24K **Tolsona, Glenn** 32.17 50 P P 23 28 34.3 +1.0
baz=282
F26K **Sheenjek River** 32.20 39 P P 23 28 35.0 +1.6
baz=275,SNR=22
C27K **Jago River** 32.23 36 P P 23 28 34.8 +1.1
baz=272
PAX **Paxson** 32.31 48 P P 23 28 35.8 +1.3
baz=281
G26K **Porcupine Rive** 32.41 41 P P 23 28 36.7 +1.5
baz=277,SNR=14
KLU **Klutina** 32.42 51 P P 23 28 36.8 +1.4
baz=283
RIDG **Independent Ri** 32.44 47 P P 23 28 35.9 +0.3
baz=281,SNR=6.3
JOW **Kunigami** 32.49 226 P P 23 28 36.1 -0.3
JOW IAmb IAmb 23 28 38.5
comp=Z,19nm,1.1s
JOW **Kunigami** 32.49 226 P P 23 28 36.4 0.0
comp=Z,8.8nm,0.5s,baz=48,slow=13,SNR=4.9
comp=Z,8.8nm,0.5s
HARP **HAARP** 32.57 49 P P 23 28 38.0 +1.4
baz=283
EYAK **Cordova Ski Ar** 32.73 53 P P 23 28 37.9 0.0
baz=285
SCRK **Sand Creek** 32.77 46 P P 23 28 38.4 -0.1
baz=281,SNR=26
J26L **Joseph Creek** 32.86 45 P P 23 28 39.0 -0.1
baz=280,SNR=5.4
I26K **Coal Creek Min** 32.89 44 P P 23 28 39.8 +0.5

baz=280
N25K **Chitina, Valde** 33.01 51 P P 23 28 41.5 +1.0
baz=284
E27K **Coleen River** 33.11 38 P P 23 28 42.1 +1.0
baz=276,SNR=10
BMRM **Bremner River** 33.16 52 P P 23 28 42.7 +1.0
BMRM IAmb IAmb 23 28 44.8
comp=Z,32nm,1.2s
BMRM **Bremner River** 33.16 52 P P 23 28 42.9 +1.2
baz=285
D27M **Malcolm River** 33.23 36 P P 23 28 43.2 +1.0
baz=275
G27K **Doyon Strip** 33.26 41 P P 23 28 44.2 +1.7
baz=279
H27K **Steamboat Moun** 33.40 42 P P 23 28 45.5 +1.9
baz=280,SNR=18
I27K **Kandik River** 33.47 43 P P 23 28 46.1 +1.8
baz=280,SNR=9.1
M26K **Nabesna, AK** 33.55 49 P P 23 28 46.8 +1.8
baz=284,SNR=8.1
K27K **Chicken** 33.59 46 P P 23 28 46.0 +0.8
K27K IAmb IAmb 23 28 47.0
comp=Z,14nm,0.8s
K27K **Chicken** 33.59 46 P P 23 28 46.2 +1.0
baz=282
E28M **Babbage River** 33.81 37 P P 23 28 48.0 +1.0
E28M IAmb IAmb 23 28 48.6
comp=Z,9.7nm,0.5s
E28M **Babbage River** 33.81 37 P P 23 28 48.2 +1.2
baz=278,SNR=24
L27K **Beaver Creek,** 33.91 47 P P 23 28 49.5 +1.5
baz=284,SNR=17
BCAR **Beaver Creek A** 33.93 47 P P 23 28 49.7 +1.6
D28M **Stokes Point** 34.01 36 P P 23 28 49.7 +1.1
baz=277
M27K **Edge Creek, AK** 34.06 49 P P 23 28 51.2 +1.8
baz=285,SNR=11
I28M **Miner Creek** 34.19 43 P P 23 28 51.8 +1.4
baz=282,SNR=15
E29M **Blow River** 34.44 38 P P 23 28 53.6 +1.3
baz=279,SNR=14
BVCY **Beaver Creek** 34.51 48 P P 23 28 54.6 +1.6
baz=286
G29M **Pine Creek** 34.66 40 P P 23 28 55.6 +1.4
baz=281,SNR=6.6
H29M **Whitestone** 34.66 41 P P 23 28 55.3 +1.1
baz=282,SNR=6.8
DAWY **Dawson** 34.73 45 P P 23 28 55.5 +0.7
DAWY **Dawson** 34.73 45 P P 23 28 55.6 +0.8
baz=284
YUK3 **Moose Creek** 34.87 49 P P 23 28 57.5 +1.3
baz=287
I29M **Ogilvie Camp,** 34.87 43 P P 23 28 57.3 +1.3
baz=283,SNR=12
J29N **Klondike Camp** 35.13 44 P P 23 28 59.8 +1.6
baz=285,SNR=6.4
EPYK **Eagle Plains** 35.28 41 P P 23 29 00.7 +1.4
baz=283,SNR=7.0
O28M **Mount Upton** 35.29 51 P P 23 29 00.7 +0.9
baz=288
YUK8 **Steele Glacier** 35.33 50 P P 23 29 01.6 +1.5
baz=288
G30M **tAoh Zraii Nji** 35.34 40 P P 23 29 00.9 +1.1
baz=283
F30M **Barrier River** 35.37 39 P P 23 29 01.7 +1.7
F30M **Barrier River** 35.37 39 P P 23 29 01.8 +1.8
baz=282,SNR=39
PINM **Pinnacle** 35.48 52 P P 23 29 02.7 +1.6
baz=289
L29M **L29M** 35.52 47 P P 23 29 03.5 +2.0
baz=287,SNR=16
M29M **Somme Creek** 35.57 48 P P 23 29 03.6 +1.7
baz=287,SNR=5.7
K29M **Barlow Dome** 35.58 45 P P 23 29 03.5 +1.5
baz=286,SNR=6.0
I30M **Mount Dempster** 35.69 43 P P 23 29 04.1 +1.1
baz=285,SNR=15
YUK4 **Talbot Arm** 35.82 50 P P 23 29 05.4 +1.2
baz=288
J30M **Hart River** 35.88 44 P P 23 29 05.6 +1.1
baz=286,SNR=7.4
INK **Inuvik** 36.05 37 P P 23 29 06.7 +1.0
INK **Inuvik** 36.05 37 P P 23 29 06.7 +1.0
INK pmax pmax
comp=Z,15nm,0.4s
INK **Inuvik** 36.05 37 P P 23 29 06.5 +0.9
baz=283,SNR=20
YUK6 **Outpost Mounta** 36.08 50 P P 23 29 07.5 +1.2
baz=289
G31M **Satah River** 36.10 40 P P 23 29 06.8 +0.8
baz=284,SNR=7.8
F31M **Tsiigehtchic** 36.17 39 P P 23 29 07.7 +1.0
baz=284,SNR=16
M30M **Minto, Yukon** 36.27 47 P P 23 29 09.1 +1.5
baz=288
H31M **Peel River** 36.36 41 P P 23 29 09.8 +1.5
baz=286,SNR=8.9
WHN **Wuhan** 36.42 247 P P 23 29 09.9 +0.7
N30M **Aishikik Lake** 36.50 49 P P 23 29 11.3 +1.8
baz=290
HYT **Haines Junctio** 36.52 50 P P 23 29 11.6 +1.8
HYT IAmb IAmb 23 29 13.5
comp=Z,11nm,0.8s
HYT **Haines Junctio** 36.52 50 P P 23 29 11.5 +1.6
baz=290
P29M **Windy Craggy** 36.83 52 P P 23 29 14.3 +2.0
baz=291
P30M **Million Dollar** 37.02 51 P P 23 29 15.9 +2.0
baz=291
N31M **Braeburn, Yuko** 37.08 49 P P 23 29 16.3 +2.0
baz=290,SNR=6.4
O30N **Mendenhall** 37.19 50 P P 23 29 17.5 +2.3
baz=291
M31M **Drury Creek, Y** 37.45 47 P P 23 29 19.4 +2.1
baz=290
PLBC **Pleasant Camp** 37.54 52 P P 23 29 19.8 +1.8
baz=292
WHY **Whitehorse** 37.78 50 P P 23 29 21.9 +1.7
baz=292
A36M **Sachs Harbour** 37.90 30 P P 23 29 21.7 +0.9
A36M IAmb IAmb 23 29 22.8
comp=Z,18nm,0.8s
A36M **Sachs Harbour** 37.90 30 P P 23 29 22.0 +1.2
baz=285,SNR=20
LZH **Lanzhou** 38.54 264 *e*P P 23 29 28.7 +1.9
LZH pP pP 23 31 03.1 +5.4
LZH sP sP 23 31 56.7 +0.5
LZH pmax pmax
comp=Z,21nm,1.2s
MMPY **Sheldon Lake,** 38.66 46 P P 23 29 28.9 +1.7
baz=292
GTA **Gaotai** 38.79 271 *e*P P 23 29 29.6 +0.9
GTA pmax pmax
comp=Z,14nm,0.9s
C36M **Paulatuk** 39.06 34 P P 23 29 30.8 +0.6
C36M IAmb IAmb 23 29 31.6
comp=Z,12nm,0.8s
C36M **Paulatuk** 39.06 34 P P 23 29 31.0 +0.8
baz=289,SNR=15
ENH **Enshi** 39.37 252 P P 23 29 32.9 -0.4
ZALV **Zalesovo Beam** 39.43 300 P P 23 29 32.7 -0.7
ZALV **Zalesovo Beam** 39.43 300 P P 23 29 33.2 -0.2
comp=Z,0.6nm,0.4s,baz=65,slow=7.0,SNR=6.1
comp=Z,0.6nm,0.4s
ZALV **Zalesovo Beam** 39.43 300 *i*P P 23 29 33.5 +0.1
ZALV pmax pmax
comp=Z,1.0nm,0.4s
R33M **Jennings River** 40.09 50 P P 23 29 40.7 +1.8
baz=296
TGTN **Hyland Airport** 40.39 46 P P 23 29 43.1 +2.0
baz=295,SNR=5.8
CD2 **Chengdu** 42.22 258 P P 23 29 57.3 +1.2
CD2 pmax pmax
comp=Z,10.0nm,0.6s
EUNU **Eureka** 42.66 13 P P 23 29 59.4 +0.5
EUNU IAmb IAmb 23 30 00.4
comp=Z,7.0nm,0.8s
WMQ **Urumqi** 43.28 285 *e*P P 23 30 05.8 +1.6
WMQ pmax pmax
comp=Z,12nm,0.7s
KURK **Kurchatov** 44.35 298 P P 23 30 12.0 -0.3
KURK IAmb IAmb 23 30 13.5
comp=Z,10.0nm,0.9s
KURK **Kurchatov** 44.35 298 *ce*P P 23 30 12.3 0.0
KURK pmax pmax
comp=Z,16nm,1.7s
KURBB **Kurchatov Arra** 44.45 298 P P 23 30 13.3 +0.2

comp=Z,4.8nm,0.6s,baz=62,slow=7.6,SNR=28
KURBB ScP **ScP** 23 34 47.2 -0.5
comp=Z,0.5nm,0.7s,baz=53,slow=3.4,SNR=4.3
KURBB S **S** 23 36 07.8 -1.9
comp=Z,0.3nm,0.8s,baz=58,slow=14,SNR=2.6
comp=Z,4.8nm,0.6s
RES Resolute Bay 44.55 21 P **P** 23 30 14.0 +0.5
RES Resolute Bay 44.55 21 P **P** 23 30 14.0 +0.5
RES pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 44.60 292 *ce*P **P** 23 30 14.5 +0.2
MKAR Makanchi Array 44.60 292 ScP **ScP** 23 34 47.2 -1.3
comp=Z,0.7nm,0.9s,baz=40,slow=2.5,SNR=4.2
YKA Yellowknife Ar 45.56 41 P **P** 23 30 22.3 +0.8
comp=Z,2.7nm,0.7s,baz=304,slow=7.4,SNR=48
YKA PcP **PcP** 23 31 49.8 +0.7
comp=Z,0.4nm,0.5s,baz=314,slow=3.6,SNR=6.8
YKA ScP **ScP** 23 34 51.8 -0.3
comp=Z,0.6nm,0.9s,baz=304,slow=3.6,SNR=4.4
YKA S **S** 23 36 26.3 +1.2
comp=Z,0.3nm,0.9s,baz=303,slow=13,SNR=6.2
comp=Z,2.7nm,0.7s
SPITS Spitsbergen Ar 46.28 349 P **P** 23 30 26.3 -0.5
comp=Z,12nm,1.1s,baz=44,slow=11,SNR=17
comp=Z,12nm,1.1s
SPITS Spitsbergen Ar 46.28 349 P **P** 23 30 26.1 -0.6
SPITS pmax pmax
comp=Z,56nm,1.3s
PZH PanZhiHua 46.67 256 P **P** 23 30 31.3 +0.7
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,3.8s
BVAR Borovoye Array 47.23 305 P **P** 23 30 34.0 -0.2
comp=Z,3.9nm,0.5s,baz=54,slow=7.5,SNR=35
BVAR ScP **ScP** 23 34 57.4 -2.0
comp=Z,0.6nm,0.6s,baz=64,slow=3.7,SNR=3.3
comp=Z,3.9nm,0.5s
BRVK Borovoye 47.26 305 P **P** 23 30 34.1 -0.4
BRVK Borovoye 47.26 305 *ce*P **P** 23 30 34.6 +0.1
BRVK pmax pmax
comp=Z,8.0nm,2.5s
HLK Haleakala 49.98 111 P **P** 23 30 56.2 +0.8
KDJ Kajisay 50.35 290 P **P** 23 30 57.4 -0.4
KDJ IAmb IAmb 23 31 34.3
comp=Z,26nm,1.4s
KDJ Kajisay 50.35 290 P **P** 23 30 57.4 -0.4
KDJ pmax pmax
comp=Z,26nm,1.4s
MHA Mahukona 50.62 111 P **P** 23 31 01.1 +1.3
MHA Mahukona 50.62 111 P **P** 23 31 01.1 +1.3
ARTI Arti 50.72 314 *d i*P **P** 23 30 59.6 -0.4
ARTI *PP **pP** 23 32 34.0 -4.3
ARTI 23 33 00.9
ARTI S **S** 23 37 36.7 +0.6
ARTI SS **SKiKP** 23 41 28.0 -4.1
ARTI pmax pmax
comp=Z,9.0nm,1.3s
MLH Mauna Loa 51.47 111 P **P** 23 31 07.5 +1.2
AAK Ala-Archa 51.53 292 P **P** 23 31 06.4 +0.1
AAK Ala-Archa 51.53 292 *ce*P **P** 23 31 05.9 -0.4
AAK pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 51.86 339 P **P** 23 31 07.1 -1.0
comp=Z,5.0nm,1.0s,baz=39,slow=8.0,SNR=5.7
comp=Z,5.0nm,1.0s
CRAI Chiangrai 52.32 252 P **P** 23 31 12.8 +0.7
SHL Shillong 53.21 264 P **P** 23 31 18.5 -0.1
SHL IAmb IAmb 23 31 19.7
comp=Z,7.7nm,0.6s
SHL Shillong 53.21 264 P **P** 23 31 18.5 -0.1
SHL pmax pmax
comp=Z,8.0nm,0.6s
DBO Dodson Butte 53.27 65 P **P** 23 31 20.3 +1.7
DBO IAmb IAmb 23 31 38.0
comp=Z,33nm,1.5s
KKAR Karatay Array 53.41 295 P **P** 23 31 18.7 -0.9
KKAR Karatay Array 53.41 295 P **P** 23 31 19.2 -0.4
KKAR IAmb IAmb 23 31 20.6
comp=Z,2.5nm,0.8s
KKAR Karatay Array 53.41 295 P **P** 23 31 18.7 -0.9
KKAR pmax pmax
comp=Z,3.0nm,0.9s
BBOR Butler Butte 53.73 65 P **P** 23 31 23.7 +1.6
BBOR IAmb IAmb 23 32 06.6
comp=Z,32nm,1.5s
CHTO Chiang Mai 54.26 253 P **P** 23 31 26.2 +0.3
CHTO IAmb IAmb 23 31 28.0
comp=Z,7.7nm,0.7s
CHTO Chiang Mai 54.26 253 P **P** 23 31 26.2 +0.3
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CMAR Chiang Mai Arr 54.54 252 P **P** 23 31 28.6 +0.7
comp=Z,3.3nm,0.7s,baz=24,slow=7.1,SNR=23
CMAR ScP **ScP** 23 35 32.3 +0.8
comp=Z,0.3nm,0.3s,baz=45,slow=4.4,SNR=2.6
comp=Z,3.3nm,0.7s
ABKAR Akbulak array 54.71 307 P **P** 23 31 28.5 -0.1
ABKAR Akbulak array 54.71 307 P **P** 23 31 28.6 0.0
BTK Batken 55.31 292 P **P** 23 31 33.3 +0.2
BTK Batken 55.31 292 P **P** 23 31 33.3 +0.2
BTK pmax pmax
comp=Z,7.0nm,0.9s
J08A Circle Bar Ran 55.67 62 P **P** 23 31 37.0 +1.4
J08A IAmb IAmb 23 31 38.6
comp=Z,9.0nm,0.7s
PLID Pearl Lake 55.77 59 P **P** 23 31 37.6 +1.1
PLID IAmb IAmb 23 31 38.6
comp=Z,9.0nm,0.8s
GAR Garm 56.32 292 P **P** 23 31 40.0 -0.2
GAR IAmb IAmb 23 31 41.4
comp=Z,13nm,1.1s
MFID Camas Ranch 57.02 60 P **P** 23 31 46.4 +1.5
SIMJ Simiganj 57.29 292 P **P** 23 31 46.8 -0.1
BOZ Bozeman (W) 57.63 56 P **P** 23 31 50.3 +1.2
BOZ Bozeman (W) 57.63 56 P **P** 23 31 50.3 +1.2
BOZ pmax pmax
comp=Z,7.0nm,0.7s
PNTR Pine Nut 58.03 66 P **P** 23 31 53.8 +1.8
PNTR IAmb IAmb 23 31 55.6
comp=Z,26nm,1.5s
CMB Columbia Colle 58.34 68 P **P** 23 31 55.2 +1.3
CMB IAmb IAmb 23 31 56.5
comp=Z,18nm,1.4s
CMB Columbia Colle 58.34 68 P **P** 23 31 55.2 +1.3
CMB pmax pmax
comp=Z,18nm,1.4s
FINES FINESS Array B 58.35 333 P **P** 23 31 52.7 -0.8
comp=Z,1.2nm,0.7s,baz=25,slow=6.3,SNR=8.6
comp=Z,1.2nm,0.7s
YHL Hebgen Lake 58.38 56 P **P** 23 31 56.1 +1.7
NIL Nilore 58.43 285 P **P** 23 31 54.7 +0.2
NIL IAmb IAmb 23 31 56.9
comp=Z,16nm,0.9s
NIL Nilore 58.43 285 P **P** 23 31 54.7 +0.2
NIL pmax pmax
comp=Z,16nm,0.9s
YHH Holmes Hill 58.59 56 P **P** 23 31 57.4 +1.5
NVAR Mina Array Bea 59.21 66 P **P** 23 32 01.6 +1.7
comp=Z,8.2nm,0.7s,baz=303,slow=6.8,SNR=48
comp=Z,8.2nm,0.7s
ELK Elko 59.22 62 P **P** 23 32 01.4 +1.5
ELK Elko 59.22 62 P **P** 23 32 01.5 +1.5
ELK pmax pmax
comp=Z,4.0nm,0.7s
LOHW Long Hollow 59.56 57 P **P** 23 32 04.0 +1.7
HVU Hansel Valley 59.77 60 P **P** 23 32 04.7 +1.1
HVU Hansel Valley 59.77 60 P **P** 23 32 04.7 +1.1
HVU pmax pmax
comp=Z,4.0nm,1.0s
AHID Auburn Hatcher 59.92 58 P **P** 23 32 05.9 +1.3
OBN Obninsk 60.22 324 ↑ *e*P **P** 23 32 07.2 +1.1
OBN 23 32 45.0
OBN 23 34 26.0
OBN S **S** 23 39 36.0 -3.4
OBN SSS SSS 23 46 48.0
OBN pmax pmax
comp=Z,19nm,1.8s
BGU Big Grassy Mou 60.25 61 P **P** 23 32 07.9 +1.1
HWUT Hardware Ranch 60.52 59 P **P** 23 32 10.1 +1.5
HWUT IAmb IAmb 23 32 11.2
comp=Z,9.5nm,0.7s
PD31 Pinedale Array 60.70 57 P **P** 23 32 10.7 +0.9
PDAR Pinedale Array 60.70 57 P **P** 23 32 10.8 +1.0
PDAR Pinedale Array 60.70 57 P **P** 23 32 10.7 +0.9
comp=Z,5.2nm,0.8s,baz=323,slow=2.4,SNR=50
comp=Z,5.2nm,0.8s
SBUM Sibu 61.11 229 P **P** 23 32 13.4 +0.9
ULM Lac du Bonnet 61.40 43 P **P** 23 32 13.9 0.0
comp=Z,1.6nm,0.6s,baz=298,slow=7.6,SNR=4.4
comp=Z,1.6nm,0.6s
TPNV Topopah Spring 61.41 66 P **P** 23 32 15.6 +1.1
TPNV IAmb IAmb 23 32 17.0
comp=Z,13nm,0.7s
TPNV Topopah Spring 61.41 66 P **P** 23 32 15.6 +1.1
TPNV pmax pmax
comp=Z,13nm,0.7s
NOA NORSAR Array B 62.20 340 P **P** 23 32 18.4 -0.7
comp=Z,0.7nm,0.8s,baz=24,slow=6.5,SNR=3.8
comp=Z,0.7nm,0.8s
SHPR Sheep Range 62.33 65 P **P** 23 32 21.3 +0.8
HFS Hagfors 62.51 339 P **P** 23 32 20.2 -0.8
comp=Z,0.4nm,0.3s,baz=48,slow=2.1,SNR=7.4
comp=Z,0.4nm,0.3s
PFO Pinyon Flats O 63.74 69 P **P** 23 32 30.3 +0.7
PFO Pinyon Flats O 63.74 69 P **P** 23 32 30.3 +0.7
PFO pmax pmax
comp=Z,3.0nm,0.6s
W13A Hualapai Mount 64.06 66 P **P** 23 32 33.0 +1.3
W13A IAmb IAmb 23 32 34.1
comp=Z,6.7nm,1.1s
WUAZ Wupatki 65.11 64 P **P** 23 32 39.5 +1.2
WUAZ IAmb IAmb 23 32 41.2
comp=Z,12nm,1.1s
ESJX Sierra Juarez 65.23 69 P **P** 23 32 40.7 +1.6
ESJX IAmb IAmb 23 32 41.4
comp=Z,14nm,0.9s
AKASG Malin Array Be 66.39 325 P **P** 23 32 45.1 -0.6
comp=Z,0.5nm,0.4s,baz=31,slow=6.8,SNR=4.2
comp=Z,0.5nm,0.4s
AKASG Malin Array Be 66.39 325 *i*P **P** 23 32 45.7 -0.1
KIV Kislovodsk 66.61 313 *eP* **P** 23 32 48.1 +0.7
KIV pmax pmax
comp=Z,2.0nm,1.1s
KBZ Khabaz 66.70 312 P **P** 23 32 47.4 -0.4
comp=Z,2.4nm,0.9s,baz=63,slow=6.8,SNR=6.7
comp=Z,2.4nm,0.9s
KBZ Khabaz 66.70 312 *ce*P **P** 23 32 48.1 +0.4
KBZ pmax pmax
comp=Z,3.0nm,1.0s
SCHQ Schefferville 67.16 24 P **P** 23 32 50.2 -0.3
SCHQ Schefferville 67.16 24 P **P** 23 32 50.2 -0.3
comp=Z,1.7nm,0.6s,baz=338,slow=5.3,SNR=5.6
comp=Z,1.7nm,0.6s
RTBA Rita Blanca 68.92 57 P **P** 23 33 02.1 +0.5
RTBA IAmb IAmb 23 33 02.8
comp=Z,8.8nm,0.7s
VLDQ Val d'Or 70.05 34 P **P** 23 33 07.0 -1.0
VLDQ IAmb IAmb 23 33 07.6
comp=Z,8.0nm,0.7s
EKA Eskdalemuir Ar 70.10 346 P **P** 23 33 07.6 -0.6
comp=Z,0.1nm,0.3s,baz=10,slow=5.8,SNR=3.7
comp=Z,0.1nm,0.3s
OK029 Liberty Lake 72.05 54 P **P** 23 33 20.6 +0.6
OK029 IAmb IAmb 23 33 21.3
comp=Z,17nm,0.7s
TRQ Mont Tremblant 72.66 33 P **P** 23 33 23.4 -0.1
HHAR Hobbs 73.33 51 P **P** 23 33 27.2 -0.2
HHAR IAmb IAmb 23 33 28.1
comp=Z,8.2nm,0.8s
BRTR Keskin Array B 73.95 316 P **P** 23 33 31.3 +0.2
comp=Z,0.9nm,0.9s,baz=57,slow=5.3,SNR=4.3
comp=Z,0.9nm,0.9s
BRTR Keskin Array B 73.95 316 *i*P **P** 23 33 32.5 +1.4
BRTR pmax pmax
comp=Z,1.0nm,0.7s
TX31 Lajitas Ar. Si 74.01 62 P **P** 23 33 32.8 +1.3
TX31 IAmb IAmb 23 33 33.7
comp=Z,8.6nm,0.7s
TXAR Lajitas Array 74.01 62 P **P** 23 33 33.0 +1.5
TXAR Lajitas Array 74.01 62 P **P** 23 33 32.7 +1.2
comp=Z,6.9nm,0.6s,baz=299,slow=4.4,SNR=83
comp=Z,6.9nm,0.6s
TXAR Lajitas Array 74.01 62 P **P** 23 33 33.0 +1.5
WB0 Warramunga Arr 74.64 199 P **P** 23 33 35.1 +0.3
WB0 IAmb IAmb 23 33 44.2
comp=Z,15nm,1.4s
UOSS Minazif 74.71 291 P **P** 23 33 35.1 -0.3
WRA Warramunga Arr 74.82 199 P **P** 23 33 36.7 +0.8
WRA Warramunga Arr 74.82 199 P **P** 23 33 36.5 +0.6
comp=Z,1.5nm,0.7s,baz=12,slow=5.7,SNR=9.9
comp=Z,1.5nm,0.7s
WRA Warramunga Arr 74.82 199 P **P** 23 33 36.7 +0.8
WHAR Wooly Hollow 74.91 51 P **P** 23 33 36.3 0.0
WHAR IAmb IAmb 23 33 37.2
comp=Z,10nm,0.8s
MIAR Mount Ida 74.92 52 P **P** 23 33 36.7 +0.3
MIAR IAmb IAmb 23 33 37.7
comp=Z,6.8nm,0.7s
MIAR Mount Ida 74.92 52 P **P** 23 33 36.7 +0.3
MIAR pmax pmax
comp=Z,7.0nm,0.7s
J59A Piesco 75.12 34 P **P** 23 33 37.2 -0.2
J59A IAmb IAmb 23 33 38.0
comp=Z,9.4nm,1.3s
JCT Junction City 75.12 59 P **P** 23 33 37.6 -0.1
JCT IAmb IAmb 23 33 39.4
comp=Z,7.7nm,0.9s
JCT Junction City 75.12 59 P **P** 23 33 37.6 -0.1
JCT pmax pmax
comp=Z,8.0nm,1.0s
X40A Basin Creek Fa 75.32 52 P **P** 23 33 38.2 -0.5
WVT Waverly 76.24 47 P **P** 23 33 43.6 -0.1
WVT IAmb IAmb 23 33 44.6
comp=Z,5.3nm,0.7s
WVT Waverly 76.24 47 P **P** 23 33 43.6 -0.1
WVT pmax pmax
comp=Z,5.0nm,0.7s
FDMO Fiordimonte 78.29 332 P **P** 23 33 54.5 -0.3
TKL Tuckaleechee C 78.38 45 P **P** 23 33 55.2 -0.2
TKL IAmb IAmb 23 33 56.3
comp=Z,19nm,1.4s
TKL Tuckaleechee C 78.38 45 P **P** 23 33 55.2 -0.2
TKL pmax pmax
comp=Z,19nm,1.5s
ASAR Alice Springs 78.53 199 P **P** 23 33 57.3 +1.2
ASAR Alice Springs 78.53 199 P **P** 23 33 57.0 +0.8
comp=Z,3.1nm,0.7s,baz=12,slow=5.3,SNR=40
comp=Z,3.1nm,0.7s
ASAR Alice Springs 78.53 199 P **P** 23 33 57.3 +1.2
MMAI Mount Meron Ar 78.82 311 P **P** 23 33 58.1 +0.3
comp=Z,1.1nm,0.6s,baz=48,slow=9.0,SNR=2.7
comp=Z,1.1nm,0.6s
VNDA Vanda 130.61 178 PKP **PKiKP** 23 41 00.9 +1.1
comp=Z,22nm,0.3s,baz=39,slow=3.5,SNR=221
VNDA SKPbc **SKPbc** 23 43 32.6 -1.5
comp=Z,4.8nm,1.0s,baz=331,slow=3.7,SNR=12
LPAZ La Paz 130.72 58 SKPbc **SKPbc** 23 43 36.0 -1.1
comp=Z,0.9nm,0.7s,baz=304,slow=7.0,SNR=4.5
QSPA South Pole Qui 143.01 180 PKhKP PKPpre 23 41 18.8
comp=Z,3.8nm,0.5s,baz=179,slow=0.8,SNR=89
QSPA SKPbc **SKPbc** 23 44 09.7 -1.2
comp=Z,4.7nm,0.8s,baz=260,slow=0.5,SNR=17
MT08 Bocatoma Ro 143.25 75 **PKPdf** 23 41 23.1 -0.6
BO04 La Punta 143.29 76 PKPbc 23 41 21.9 0.0
BO01 Tunca 143.30 77 PKPdf PKPbc 23 41 22.0 +0.2
CPUP Villa Florida 144.52 53 PKPdf **PKPdf** 23 41 25.8 0.0
CPUP Villa Florida 144.52 53 PKP **PKPab** 23 41 26.1 -0.2
comp=Z,4.0nm,0.5s,baz=321,slow=2.5,SNR=17
CPUP SKPbc **SKiKP** 23 44 16.2 -0.2
comp=Z,2.7nm,0.8s,baz=303,slow=3.4,SNR=5.3
BI02 San Fabin de 144.75 80 PKPdf PKPbc 23 41 26.3 -0.1
LR05 Currie 146.63 86 PKPbc **PKPbc** 23 41 32.0 +0.4
LL01 San Ignacio de 147.69 89 **PKPbc** 23 41 34.3 +0.1
PLCA Paso Flores 147.81 85 **PKPbc** 23 41 35.0 +0.2
PLCA Paso Flores 147.81 85 PKPbc **PKPbc** 23 41 35.4 +0.7
comp=Z,8.3nm,0.8s,baz=306,slow=2.8,SNR=28
PLCA Paso Flores 147.81 85 PKP2 **PKPbc** 23 41 35.0 +0.2
PLTB Pedras Altas 150.84 53 PKPbc **PKPbc** 23 41 42.3 +0.1
ELIB Princess Elisa 151.77 210 *d*PKP **PKPab** 23 41 55.7 +0.9

*NNC **06** 23:29:45.5±0.7, 45°.73N×80°.72E, h0km, mb2.8, mpv3.0, Error ellipse: s-maj=23.7km s-min=3.0km az=128.0*
*SOME **06** 23:29:47.0, 45°.67N×80°.73E, h10km*
ISC 06 23:29:45.1±1.1, 45.74N±0°.07×80°.68E±0°.08, h10km, n14, σ1§11/22, 1D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.54**	**46**	P		**Pb**	**23 30 13.9**	**+0.2**
MK31				↓S		**Sb**	**23 30 34.0**	**+0.8**
	4.0nm,0.3s,baz=226,slow=26,SNR=22							
DJR	**Jarkent**	**1.54**	**204**	P		**Pg**	**23 30 15.1**	**+0.4**
	1.1nm,0.1s							
DJR				S		**Sg**	**23 30 35.5**	**+0.8**
	16nm,0.2s							
DJR	**Jarkent**	**1.54**	**204**	*e*P		**Pg**	**23 30 15.1**	**+0.4**
	1.1nm,0.1s							
DJR				*e*S		**Sg**	**23 30 35.3**	**+0.6**
	13nm,0.1s							
KNOS	**Konyrlen**	**1.74**	**218**	P		**Pb**	**23 30 17.2**	**-0.1**
	1.2nm,0.1s							
KNOS				S		**Sb**	**23 30 39.1**	**-0.2**
	14nm,0.2s							
BLB	**Baldybastay**	**2.27**	**224**	Pg		**Pg**	**23 30 28.6**	**0.0**
	2.8nm,0.1s							
BLB				Lg		Lg	23 30 58.5	
	8.9nm,0.4s							
SHLS	**Shalkode**	**2.73**	**199**	Pg		**Pb**	**23 30 34.6**	**+0.6**
	1.9nm,0.1s							
SHLS				Lg		Lg	23 31 08.5	
	4.1nm,0.2s							
SHLS	**Shalkode**	**2.73**	**199**	*e*P		**Pb**	**23 30 35.1**	**+1.1**
	1.4nm,0.1s							
SHLS				*e*S		**Sg**	**23 31 09.8**	**-2.9**
	4.1nm,0.2s							
UZB	**Uzynbulak**	**2.85**	**205**	Pg		**Pb**	**23 30 37.4**	**+1.2**
	2.7nm,0.3s							
UZB				Lg		Lg	23 31 13.6	
	3.8nm,0.3s							
UZB	**Uzynbulak**	**2.85**	**205**	*e*P		**Pg**	**23 30 38.5**	**-1.3**
	1.1nm,0.1s							
UZB				*e*S		**Sg**	**23 31 15.3**	**-1.4**
	4.4nm,0.2s							
KURS	**Kuram**	**2.88**	**219**	*e*P		Pg	23 30 46.2	+6.0
	0.3nm,0.0s							
KURS				*e*S		Sg	23 31 28.7	+11
	3.2nm,0.1s							
ZHN	**Zhinishke**	**3.03**	**213**	*e*P		**Pg**	**23 30 42.5**	**-0.8**
	1.8nm,0.1s							
ZHN				*e*S		**Sg**	**23 31 22.1**	**-0.4**
	13nm,0.3s							
SATY	**Saty**	**3.14**	**212**	Pg		**Pb**	**23 30 43.2**	**+2.1**
	0.9nm,0.1s							
SATY				Lg		Lg	23 31 23.3	
	3.5nm,0.1s							
CHKK	**Chushkaly**	**3.23**	**236**	*e*P		**Pg**	**23 30 46.2**	**-0.9**
	0.3nm,0.0s							
CHKK				*e*S		**Sg**	**23 31 28.7**	**-0.3**
	3.2nm,0.1s							
ZSN	**Zaisan**	**3.35**	**58**	*e*P		**Pg**	**23 30 48.7**	**-0.7**
	0.3nm,0.0s							
ZSN				*e*S		**Sg**	**23 31 32.9**	**0.0**
	3.6nm,0.2s							

IDC 06 23:30:59.2±4.2, 6°.70S×148°.30E, h137km±37km, mb3.0/2, mbtmp3.3/4, Error ellipse: s-maj=118.3km s-min=35.7km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.92**	**203**	P		Pn	23 31 47.1	+2.1
	35nm,0.6s,baz=20,slow=15,SNR=11							
PMG				S		Sn	23 32 19.8	-0.6
	10nm,0.4s,baz=327,slow=20,SNR=1.4							
WRA	**Warramunga Arr**	**18.89**	**224**	P		P	23 35 09.3	0.0
	0.2nm,0.3s,baz=52,slow=11,SNR=4.8							
ASAR	**Alice Springs**	**21.82**	**218**	P		P	23 35 41.4	+0.7
	0.5nm,0.5s,baz=50,slow=8.9,SNR=9.3							
	0.5nm,0.5s							
SONM	**Songino Array**	**65.64**	**330**	P		P	23 41 28.2	-0.7
	0.3nm,0.4s,baz=130,slow=4.5,SNR=2.5							
	0.3nm,0.4s							

TAP 06 23:53:45.4, 22°.98N×120°.81E, h4km±1km, ML1.1, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.19**	**345**	↑ *e*P		Pg	23 53 48.8	-0.4
STYT				*e*S		Sg	23 53 51.4	-0.2
STYH	**Taoyuan**	**0.19**	**351**	*e*P		Pg	23 53 48.8	-0.4
STYH				*e*S		Sg	23 53 51.4	-0.3
SGST	**Jiashian**	**0.23**	**296**	*e*P		Pg	23 53 51.4	+1.5
SGST				*i*S		Sg	23 53 54.7	+1.7
ELDTW	**Lidau**	**0.28**	**43**	*i*P		Pg	23 53 51.8	+0.9
ELDTW				*e*S		Sb	23 53 56.6	-1.7
SSD	**Sandimen**	**0.28**	**215**	*e*P		Pg	23 53 51.9	+0.9
SSD				*i*S		Sg	23 53 55.5	+0.8
SCST	**Cishan**	**0.31**	**252**	P		Pb	23 53 53.1	-0.4
TSMG	**Majia**	**0.31**	**209**	P		Pg	23 53 52.0	+0.5
TSMG				S		Sg	23 53 56.0	+0.4
WTP	**Ta-pu**	**0.32**	**326**	*i*P		Pb	23 53 52.7	-1.1
CHN1	**Nanshi**	**0.33**	**308**	*e*S		Sb	23 53 59.6	0.0
MASBT	**Mashibuluo**	**0.40**	**204**	P		Pg	23 53 54.0	+0.8
MASBT				S		Sg	23 53 59.2	+0.8
TWK	**Hsinying**	**0.41**	**314**	*e*S		Sb	23 54 02.5	+0.6
YUS	**Yu-Shan**	**0.52**	**15**	*e*P		Pg	23 53 53.6	-2.0

*IDC **06** 23:57:28.8±9.4, 30°.98S×178°.68W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=411.2km s-min=60.1km az=157.0*
*WEL **06** 23:58:18.9±0.8, 31°.5S±6°.×17°.8E±1°.0, h12km, M4.4/15, mB5.0/15, ML4.9/18, MLv4.7/8, Mw(mB)4.3/15, Error ellipse: s-maj=14.1km s-min=4.8km az=114.5, confirmed*
*NOU **06** 23:58:20.8, 31°.69S×179°.09W, h413km, mb3.9/8, Kermadec Islands Region*
ISC 06 23:58:14.9±1.6, 30.8S±0°.1×179°.4E±0°.2, h350km, n49, σ1§95/66, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.76**	**57**	S		**S**	**23 59 57.4**	**-0.8**
MXZ	**Matakaoa Point**	**6.81**	**188**	P		**Pn**	**23 59 59.4**	**+4.5**
MXZ				S		**S**	**00 01 14.2**	**-2.0**
HAZ	**Te Kaha**	**7.07**	**191**	P		**Pn**	**00 00 01.2**	**+3.3**
HAZ				S		**S**	**00 01 21.1**	**-0.6**
PUZ	**Puketiti**	**7.32**	**187**	P		**Pn**	**00 00 04.5**	**+3.6**
PUZ				S		**S**	**00 01 24.2**	**-2.9**
MWZ	**Matawai**	**7.67**	**191**	P		**Pn**	**00 00 09.2**	**+4.1**
MWZ				S		**S**	**00 01 34.6**	**-0.4**
URZ	**Urewera**	**7.68**	**194**	P		**Pn**	**00 00 07.1**	**+2.0**
URZ	**Urewera**	**7.68**	**194**	S		**S**	**00 01 35.6**	**+0.6**
URZ	**Urewera**	**7.68**	**194**	P		**Pn**	**00 00 07.2**	**+2.1**
URZ				S		**S**	**00 01 35.6**	**+0.6**
CNGZ	**Carnagh Statio**	**7.73**	**187**	P		**Pn**	**00 00 08.1**	**+2.5**
TARZ	**Mount Tarawera**	**7.80**	**197**	P		Pn	00 00 12.4	+5.7
RAGZ	**Rawiri**	**7.85**	**192**	P		**Pn**	**00 00 10.6**	**+3.4**
RAGZ				S		**S**	**00 01 37.5**	**-1.3**
RTZ	**Ruatahuna**	**8.05**	**194**	P		**Pn**	**00 00 12.1**	**+2.5**
RTZ				S		**S**	**00 01 43.3**	**+0.2**
SNGZ	**Shannon Statio**	**8.14**	**192**	P		**Pn**	**00 00 14.0**	**+3.4**
SNGZ				S		**S**	**00 01 44.3**	**-0.8**
MTHZ	**Maungataniwha**	**8.31**	**194**	P		**P**	**00 00 14.9**	**-0.5**
MTHZ				S		**S**	**00 01 47.2**	**-1.4**
RAHZ	**Arahi**	**8.32**	**193**	P		**P**	**00 00 15.2**	**-0.4**
RAHZ				S		**S**	**00 01 47.7**	**-1.2**
KNZ	**Kokohu**	**8.33**	**190**	P		**Pn**	**00 00 15.5**	**+2.8**
KNZ				S		**S**	**00 01 46.8**	**-2.2**
MRHZ	**Matea Rd**	**8.39**	**196**	P		**P**	**00 00 16.9**	**+0.6**
WHHZ	**Waihua**	**8.45**	**192**	P		**P**	**00 00 17.7**	**+0.7**
NMHZ	**Naumai**	**8.55**	**194**	P		**P**	**00 00 18.9**	**+0.7**
NMHZ				S		**S**	**00 01 54.2**	**+0.1**
ARHZ	**Aropaoanui**	**8.67**	**193**	P		**P**	**00 00 19.3**	**-0.1**
ARHZ				S		**S**	**00 01 55.2**	**-1.4**
BKZ	**Black Stump Fm**	**8.69**	**195**	P		**P**	**00 00 19.5**	**-0.1**
BKZ	**Black Stump Fm**	**8.69**	**195**	S		**S**	**00 01 55.8**	**-1.1**
BKZ	**Black Stump Fm**	**8.69**	**195**	P		**Pn**	**00 00 18.7**	**+1.6**
BKZ				S		**S**	**00 01 55.8**	**-1.1**
TMVZ	**Te Maari**	**8.84**	**199**	P		**P**	**00 00 22.3**	**+0.8**
TMVZ				S		**S**	**00 02 01.6**	**+1.1**
ETVZ	**East Tongariro**	**8.86**	**199**	P		**P**	**00 00 22.5**	**+0.9**
WTVZ	**West Tongariro**	**8.87**	**200**	P		**P**	**00 00 22.5**	**+0.7**
TWVZ	**Taurewa**	**8.88**	**201**	P		**P**	**00 00 22.7**	**+0.9**
OTVZ	**Oturere**	**8.89**	**199**	P		**Pn**	**00 00 22.1**	**+2.4**
MCHZ	**McNeill Hill**	**8.91**	**194**	P		**P**	**00 00 22.5**	**+0.4**
MCHZ				S		**S**	**00 02 01.3**	**-0.5**
SNVZ	**South Ngauruho**	**8.92**	**199**	P		**P**	**00 00 23.3**	**+0.8**
KWHZ	**Kaweka Forest**	**8.95**	**195**	P		**Pn**	**00 00 22.3**	**+2.0**
KWHZ				S		**S**	**00 02 01.2**	**-1.5**

PKVZ	Pokaka	9.10	200	P		Pn	00 00 24.5 +2.4
VRZ	Vera Road	9.14	204	P		P	00 00 26.7 +2.0
KRHZ	Kereru	9.17	195	P		Pn	00 00 24.4 +1.6
KRHZ				S		S	00 02 04.6 -2.9
PXZ	Pawanui	9.44	192	P		Pn	00 00 27.4 +1.3
PXZ				S		S	00 02 10.1 -3.4
PNHZ	Pukenui	9.46	195	P		Pn	00 00 26.1 -0.3
PNHZ				S		S	00 02 11.2 -2.9
PRHZ	Porangahau	9.71	193	P		P	00 00 30.7 -0.3
DVHZ	Dannevirke	9.84	195	P		Pn	00 00 31.6 +0.7
PRWZ	Pori Road	10.13	195	P		Pn	00 00 35.7 +1.4
BFZ	Birch Farm 33nm,2.0s	10.19	194	P		Pn	00 00 35.1 +0.1
BFZ	Birch Farm 33nm,2.0s	10.19	194	S		S	00 02 26.4 -3.5
BFZ	Birch Farm	10.19	194	P		Pn	00 00 35.4 +0.4
MRZ	Mangatainoka R	10.32	197	P		Pn	00 00 36.1 -0.4
OGWZ	Otaki Gorge	10.57	198	P		Pn	00 00 39.8 +0.3
KHZ	Kahutara	12.52	201	P		P	00 01 02.3 +0.3
KHZ	Kahutara	12.52	201	S		S	00 03 16.6 -3.8
ASAR	Alice Springs 0.2nm,0.4s,baz=114,slow=7.8,SNR=2.5 0.2nm,0.4s	40.88	269	P		P	00 05 26.4 +2.0
WRA	Warramunga Arr 0.3nm,0.5s,baz=112,slow=8.3,SNR=1.4 0.3nm,0.5s	41.91	274	P		P	00 05 34.0 +1.4
FINES	FINESS Array B 1.3nm,0.9s,baz=20,slow=4.4,SNR=8.0	144.73	338	PKPbc		PKPdf	00 17 07.2 -2.3

UCR ***07*** *00:14:12.7±0.8, 8°.96N×84°.19W, h1km±5km, MW4.0*
UPA ***07*** *00:14:12.6±0.7, 9°.07N×84°.21W, h7km±999km, MD4.2*
ISC 07 00:14:12.6±1.5, 8°.96N±0°.06×84°.20W±0°.07, h13km, n52, σ0°.35/56, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUEP	Quepos	0.47	5	eP	Pb	00 14 22.5	-0.3
QUEP				eS	Sb	00 14 29.8	0.0
SVQ2	Quepos	0.47	4	eP	Pg	00 14 22.3	+0.3
LLNJ	Naranjito	0.53	11	eP	Pg	00 14 23.3	+0.3
PICV	PH. Pirrs	0.67	1	eP	Pg	00 14 25.8	+0.1
PISJ	San Jernim	0.68	7	eP	Pb	00 14 26.3	-0.1
PIEC	Cerro El Cedra	0.71	20	eP	Pg	00 14 26.5	0.0
BUS1	Rivas	0.75	37	eP	Pg	00 14 27.1	-0.1
ABE2	San Pablo	0.76	11	eP	Pb	00 14 27.8	-0.1
SAJE	San Jernim	0.79	60	eP	Pg	00 14 27.6	-0.4
LCR2	La Lucha 2	0.81	14	eP	Pg	00 14 28.2	-0.1
ACOS	Acosta	0.84	3	eP	Pg	00 14 28.7	-0.2
FIMO	Fila Mora	0.84	88	eP	Pg	00 14 28.8	-0.1
REPA	Paraso	0.93	21	eP	Pg	00 14 30.5	-0.1
AMPA	Desamparados	0.94	9	eP	Pn	00 14 31.4	-0.4
TRIO	Tres Rios	0.97	12	eP	Pb	00 14 30.8	-0.6
LUJA	Lujan	0.97	8	eP	Pn	00 14 32.0	-0.2
TRB2	Turrubares	0.98	346	eP	Pb	00 14 31.3	-0.3
SJS	Escuela Geolog	0.99	9	iP	Pb	00 14 31.6	-0.2
DRK0	Durika	0.99	72	eP	Pb	00 14 31.4	-0.5
BELE	Belen	1.01	1	eP	Pb	00 14 31.8	-0.4
EDP2	Potrero Grande	1.02	87	eP	Pb	00 14 32.3	+0.1
PIRO	Carate, Puerto	1.02	122	eP	Pb	00 14 31.6	-0.5
CORON	Coronado	1.03	11	eP	Pg	00 14 32.6	+0.1
HEME	Heredia, Merce	1.04	4	eP	Pg	00 14 32.7	0.0
HDC	Heredia	1.04	5	eP	Pb	00 14 32.5	-0.1
EDAD	Golfito	1.07	106	eP	Pb	00 14 32.3	-0.8
RAFA	San Farael, Vo	1.07	21	eP	Pb	00 14 33.0	-0.3
VICA	Volcano Irazu	1.08	19	eP	Pb	00 14 33.2	-0.4
TCS1	Tacares	1.08	355	eP	Pg	00 14 33.6	0.0
CVIMO	Finca Echandi	1.09	14	eP	Pb	00 14 33.1	-0.4
VERB	Verbena	1.10	27	eP	Pb	00 14 33.6	-0.1
VTLA	Turrialba Volc	1.12	22	eP	Pb	00 14 33.9	-0.3
VTCV	VTCV, Calle Va	1.12	25	eP	Pb	00 14 33.9	-0.2
CVTQ	Turrialba Volc	1.13	22	eP	Pb	00 14 34.0	-0.2
CVTV	Tajo	1.14	23	eP	Pb	00 14 34.2	-0.1
VTR0	Volcan Turrial	1.14	22	eP	Pb	00 14 34.4	-0.2
CVTR	Volcan Turrial	1.15	22	eP	Pb	00 14 34.0	-0.5
RVSTA	Santa Teresita	1.15	28	eP	Pn	00 14 34.3	-0.3
VBV1	V. Barva	1.16	5	eP	Pb	00 14 34.7	0.0
VPS8	V Poas	1.22	358	eP	Pb	00 14 35.7	-0.1
VPS5	V. Poas	1.23	359	eP	Pn	00 14 35.7	-0.1
CVTG	V. Turrialba,	1.26	20	eP	Pb	00 14 36.6	+0.3
NELY	Ciudad Neily	1.28	104	eP	Pn	00 14 36.5	+0.2
PILE	Guapiles	1.32	18	eP	Pg	00 14 38.5	+0.5
CEUA	Cerro Uatsi, L	1.41	62	eP	Pg	00 14 39.8	-0.1
CARI	Cariari	1.47	18	eP	Pg	00 14 41.1	+0.1
BRU2	Volcan	1.50	96	eP	Pn	00 14 39.2	-0.2
BRU2	Volcan	1.50	96	eP	Pn	00 14 39.5	+0.1
BRU2				eS	Sb	00 15 00.2	+0.6
BRIBI	Bribri	1.52	64	eP	Pg	00 14 41.2	-0.2
BC3P	Paso Ancho	1.58	95	eP	Pn	00 14 41.0	+0.4
BC3P				eS	Sb	00 15 02.8	+0.9
PTAR3	Potrerillos Ar	1.71	99	eP	Pn	00 14 43.1	+0.8
DVD	David	1.81	106	eP	Pn	00 14 44.0	+0.5
DVD				eS	Sb	00 15 08.0	-0.2

IDC ***07*** *00:45:36.2±7.0, 34°.36N×23°.71E, h0km, mb3.8/6, mbtmp3.7/7, ML2.0/1, MS2.8/2, Error ellipse: s-maj=130.5km s-min=38.6km az=23.0*
ATH ***07*** *00:45:48.4, 34°.76N×24°.16E, h24km±4km, ML2.4/3, Manual Solution by A.Plessa First location: 2019/04/07 00:47:09, This location: 2019/04/07 05:08:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 12 km; Longitude uncertainty: 9 km*
ISC 07 00:45:44.0±1.8, 34°.5N±0°.1×24°.03E±0°.08, h29km, n20, σ1°.94/20, mb3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.30	9	P	Pn	00 45 52.9	+0.4
GVD				S	Sb	00 45 56.1	-0.3
IMMV	Iera Moni Meta	0.92	358	P	Pb	00 46 03.0	+1.7
IMMV				S	Sb	00 46 11.4	-1.8
IDI	Anoyia	1.02	43	P	Pb	00 46 04.6	+1.4
ANKY	Antikythira Is	1.45	336	P	Pb	00 46 12.1	+1.8
SNT5	Nea Kammeni, S	2.16	31	P	Pn	00 46 20.1	+2.0
SAP3	Santorini-Thir	2.17	29	P	Pn	00 46 20.0	+1.8
VLI	Veliai	2.34	338	P	Pn	00 46 23.7	+3.1
KARP	Karpathos	2.76	68	P	Pn	00 46 28.6	+2.4
APE	Apeiranthos	2.80	25	P	Pn	00 46 27.6	+0.7
KRND	KRANIDI	2.92	346	P	Pn	00 46 30.3	+1.8
MET5	Makryloggos,Me	3.12	350	P	Pn	00 46 33.0	+1.8
BRTR	Keskin Array B baz=245,slow=16,SNR=3.7 0.4nm,0.9s	9.25	53	Pn	Pn	00 47 58.3	+2.7
MMAI	Mount Meron Ar comp=Z,48nm,20.8s,baz=99,slow=42	9.59	96	LR	LR	00 52 26.7	
ASF	Jabal al Asfar comp=Z,47nm,18.6s,baz=302,slow=48	11.02	99	LR	LR	00 54 32.2	
HFS	Hagfors 0.8nm,0.6s,baz=180,slow=10,SNR=2.1 0.8nm,0.6s	26.48	348	P	P	00 51 16.7	-1.7
FINES	FINESS Array B 1.4nm,1.0s,baz=189,slow=9.2,SNR=1.5 1.4nm,1.0s	26.95	2	P	P	00 51 20.4	-2.2
ARCES	ARCESS Array B 7.5nm,1.2s,baz=191,slow=9.4,SNR=2.3 7.5nm,1.2s	35.05	1	P	P	00 52 31.7	-2.2
KURBB	Kurchatov Arra 0.3nm,0.5s,baz=271,slow=8.6,SNR=4.7 0.3nm,0.5s	42.23	50	P	P	00 53 33.5	-0.8
MKAR	Makanchi Array 0.4nm,0.5s,baz=277,slow=7.5,SNR=5.4 0.4nm,0.5s	44.89	56	P	P	00 53 55.0	-0.9
ZALV	Zalesovo Beam 0.8nm,0.4s,baz=263,slow=9.4,SNR=5.1 0.8nm,0.4s	46.10	46	P	P	00 54 03.9	-1.4

NIED ***07*** *01:02:23.0, 38°.19N×141°.79E, h64km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.91; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$-0.71; $M_{r\theta}$-0.21; $M_{\theta\phi}$-0.60; $M_{\phi r}$0.42; Fault plane solution: $M_0$1.13000×10^{15} NP1: ϕ_s236.00000°, δ43.00000°, λ125.00000°. NP2: ϕ_s11.00000°, δ56.00000°, λ61.00000°.*
JMA ***07*** *01:02:23.0±0.1, 38°.2N±0°.3×141°.8E±0°.6, h64km, MD4.2/40, MV4.5/40, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
NEIC ***07*** *01:02:22.4±2.2, 38°.21N±0°.06×141°.85E±0°.09, h54km±8km, mb4.4/23, Error ellipse: s-maj=11.0km s-min=7.6km az=120.0*
IDC ***07*** *01:02:22.1±0.6, 38°.23N×141°.87E, h62km±4km, mb3.7/21, mbtmp4.0/28, MS2.7/2, Error ellipse: s-maj=12.9km s-min=11.3km az=100.0*
ISC 07 01:02:22.3±0.5, 38°.18N±0°.04×141°.85E±0°.06, h60km±4km, n114, σ1°.34/120, mb4.2/33, 16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.33	294	iP	Pn	01 02 33.5	+0.8
JIKH				S	Sn	01 02 40.9	+0.8
JIKH	Ishinomakikobu comp=N,19nm,0.2s,comp=E,43nm,0.5s	0.33	294	A	A	01 02 33.5	
JIO	Ouri	0.48	305	P	Pn	01 02 34.8	+0.7
JIO				S	Sn	01 02 43.1	+0.5
JIO	Ouri comp=N,7.0nm,0.3s,comp=E,23nm,0.3s	0.48	305	A	A	01 02 34.8	
JKMT	Kesennumamotoy	0.70	335	iP	Pn	01 02 37.2	+0.7
JKMT				S	Sn	01 02 47.3	+0.4
JKMT	Kesennumamotoy comp=N,13nm,1.1s,comp=E,18nm,0.7s	0.70	335	A	A	01 02 37.2	
JOFO	Osakifurukawao comp=N,17nm,1.2s,comp=E,25nm,0.7s	0.85	300	A	A	01 02 38.9	
JMST	Minamisoumatoc comp=N,19nm,0.3s,comp=E,12nm,0.4s	0.88	240	A	A	01 02 39.4	
JMM	Marumori	0.89	250		Pn	01 02 39.0	+0.1
JMM				Sn	Sn	01 02 50.9	-0.2
JMM	Marumori	0.89	250	P	Pn	01 02 39.1	+0.2
JMM	Marumori	0.89	250	S	Sn	01 02 51.2	+0.1
JMM	Marumori	0.89	250	⇓P	Pn	01 02 39.0	+0.1
JMM				⇓S	Sn	01 02 50.9	-0.2
JMM	Marumori comp=N,10.0nm,0.3s,comp=E,11nm,0.4s	0.89	250	A	A	01 02 39.0	
JMK	Ichinoseki	0.92	328	⇓P	Pn	01 02 40.0	+0.8
JMK				⇓S	Sn	01 02 52.3	+0.5
JMK	Ichinoseki comp=N,20nm,0.2s,comp=E,25nm,0.2s	0.92	328	A	A	01 02 40.0	
JOU	Okura	0.95	282	⇓P	Pn	01 02 40.1	+0.4
JOU				⇓S	Sn	01 02 52.8	+0.2
JOU	Okura comp=N,14nm,0.3s,comp=E,16nm,0.7s	0.95	282	A	A	01 02 40.1	
JFK	Kawauchi	1.12	224	iP	Pn	01 02 42.2	+0.4
JFK				S	Sn	01 02 56.6	+0.1
JOTO	OTAMA OYAMA	1.35	243	iP	Pn	01 02 45.6	+0.6
JOTO				S	Sn	01 03 01.8	-0.1
JOM	Ohasama	1.37	342	⇓iP	Pn	01 02 45.8	+0.6
JOM				⇓S	Sn	01 03 02.9	+0.6
JOM	Ohasama comp=N,9.0nm,0.3s,comp=E,15nm,0.2s	1.37	342	A	A	01 02 45.8	
JYK	Kaneyama	1.38	303	⇓iP	Pn	01 02 45.9	+0.5
JYK				⇓S	Sn	01 03 02.2	-0.6
JYS	Shiratake	1.41	272	⇓iP	Pn	01 02 46.3	+0.6
JYS				⇓S	Sn	01 03 04.1	+0.8
JYS	Shiratake comp=N,6.0nm,0.9s,comp=E,7.0nm,0.6s	1.41	272	A	A	01 02 46.3	
JRG	Rokugo	1.55	322	⇓iP	Pn	01 02 48.4	+0.8
JRG				⇓S	Sn	01 03 08.2	+1.6
JRG	Rokugo comp=N,11nm,0.3s,comp=E,9.0nm,1.0s	1.55	322	A	A	01 02 48.4	
JYA	Atsumi	1.73	285	⇓iP	Pn	01 02 50.5	+0.5
JYA				⇓eS	Sn	01 03 11.4	+0.3
JYA	Atsumi comp=N,4.0nm,0.5s,comp=E,6.0nm,0.7s	1.73	285	A	A	01 02 50.5	
JKEN	Kujiedanarisaw comp=N,12nm,0.5s,comp=E,13nm,2.3s	2.03	357	A	A	01 02 55.4	
JTM	Tenmabayashi	2.68	347		Pn	01 03 03.5	+0.6
JTM	Tenmabayashi	2.68	347	P	Pn	01 03 03.6	+0.6
JTM	Tenmabayashi	2.68	347	S	Sn	01 03 35.8	+1.6
JSD	Sado	2.83	268		Pn	01 03 05.0	-0.1
JSD	Sado	2.83	268	P	Pn	01 03 05.2	+0.1
MJAR	Matsushiro Arr comp=E,16nm,0.5s,baz=56,slow=11,SNR=86	3.33	242	P	Pn	01 03 13.3	+1.5
MJAR				S	Sn	01 03 59.1	+8.9
MJAR	comp=E,15nm,0.6s,baz=121,slow=16,SNR=4.5			LR	LR	01 04 41.4	
MAJO	Matsushiro	3.33	242		Pn	01 03 14.0	+2.1
MAJO	Matsushiro	3.33	242	P	Pn	01 03 13.9	+2.1
MJB9	Matsu-Tunnel	3.33	242		Pn	01 03 13.9	+2.0
ERM	Erimo	3.96	14	Pn	Pn	01 03 20.1	-0.4
JEM	Erimo	3.96	14	P	Pn	01 03 20.0	-0.5
JEM	Erimo	3.96	14	S	Sn	01 04 05.3	-0.4
JGF	Kuroka	4.42	236		Pn	01 03 28.7	+1.9
JGF	Kuroka	4.42	236	P	Pn	01 03 28.8	+1.9
JSG	Sagara	4.58	221	P	Pn	01 03 30.9	+2.0
INU	Inuyama	4.80	235		Pn	01 03 33.3	+1.4
INU	Inuyama	4.80	235	P	Pn	01 03 33.6	+1.7
JHJ2	Mitsune	5.32	199	Pn	Pn	01 03 39.0	-0.1
JHJ2	Mitsune	5.32	199	P	Pn	01 03 38.8	-0.3
JHJ	Hachijo jima 2 comp=E,70nm,0.3s,baz=334,slow=19,SNR=17	5.32	199	P	Pn	01 03 38.5	-0.6
JHJ				S	Sn	01 04 34.5	-4.5
JHJ	comp=E,212nm,0.3s,baz=4.1,slow=21,SNR=16					01 06 11.1	
ASAJ	Asahikawa comp=E,13nm,0.3s,baz=231,slow=9.9,SNR=36	5.96	5	P	Pn	01 03 47.4	-0.5
ASAJ				S	Sn	01 04 51.5	-3.2
ASAJ	comp=E,11nm,0.4s,baz=153,slow=29,SNR=7.1			LR	LR	01 06 11.1	
JKA	Kamikawa-asahi	5.96	5		Pn	01 03 47.1	-0.7
JMN	Monobe	7.84	238	Pn	Pn	01 04 14.3	+0.7
USA0B	Ussuriysk Arra	9.56	312		Pn	01 04 38.2	+1.1
USRK	Ussuriysk Ar.	9.56	312	Pn	Pn	01 04 38.3	+1.2
USRK	Ussuriysk Ar. comp=E,3.3nm,0.3s,baz=120,slow=14,SNR=26	9.56	312	P	Pn	01 04 38.1	+1.1
JNU	Nakatsue comp=E,6.1nm,0.8s,baz=161,slow=24,SNR=2.2	10.25	244	P	Pn	01 04 48.5	+1.8
KSRS	Korea Array comp=E,1.8nm,0.6s,baz=83,slow=13,SNR=6.2	11.04	271	P	Pn	01 04 57.3	-0.1
JCJ	Chichijima comp=E,23nm,0.5s,baz=307,slow=23,SNR=1.9	11.05	178	P	Pn	01 04 54.8	-2.8
JCJ				S	Sn	01 06 47.0	-13
JCJ	comp=E,31nm,0.4s,baz=298,slow=21,SNR=2.7						
KLR	Kul'dur comp=E,0.6nm,0.4s,baz=144,slow=10,SNR=3.8	13.23	330	P	Pn	01 05 25.6	-1.6
SONM	Songino Array	27.45	302	P	P	01 08 02.2	-0.4
SONM	Songino Array comp=E,1.1nm,0.5s,baz=108,slow=9.3,SNR=8.0 comp=E,1.1nm,0.5s	27.45	302	P	P	01 08 02.1	-0.5
H11N2	WAKE ISLAND Hy baz=316,slow=75,SNR=380	28.46	123	T	T	01 38 27.6	
H11N1	WAKE ISLAND Hy baz=316,slow=75,SNR=560	28.47	123	T	T	01 38 29.3	
H11N3	WAKE ISLAND Hy baz=316,slow=75,SNR=463	28.48	123	T	T	01 38 29.2	
H11S1	WAKE ISLAND Hy baz=318,slow=76,SNR=240	29.21	125	T	T	01 39 25.5	
H11S3	WAKE ISLAND Hy baz=318,slow=76,SNR=317	29.21	125	T	T	01 39 28.9	
H11S2	WAKE ISLAND Hy baz=318,slow=76,SNR=222	29.23	125	T	T	01 39 29.6	
ZAA0	Zalesovo Array	41.41	311	P	P	01 10 02.2	-0.3
ZALV	Zalesovo Beam	41.41	311	P	P	01 10 02.4	0.0
ZALV	Zalesovo Beam comp=E,1.8nm,0.5s,baz=85,slow=8.1,SNR=9.4	41.41	311	P	P	01 10 02.0	-0.4
ZALV				pP	pP	01 10 17.4	-0.3
ZALV	comp=E,1.2nm,0.7s,baz=98,slow=11,SNR=2.8 comp=E,1.8nm,0.5s						
FAKI	Fak Fak	41.84	194	P	P	01 10 06.4	0.0
FAKI				IAmb	IAmb	01 10 26.1	
FAKI	comp=Z,19nm,1.3s						
MK31	Makanchi Array	43.82	301	P	P	01 10 22.7	+0.6
MK31				IAmb	IAmb	01 10 23.2	
MK31	comp=Z,4.0nm,0.6s						
MKAR	Makanchi Array	43.82	301	P	P	01 10 22.7	+0.6
MKAR	Makanchi Array comp=Z,4.3nm,0.6s,baz=85,slow=10.0,SNR=51	43.82	301	P	P	01 10 22.5	+0.4
MKAR	comp=Z,4.3nm,0.6s						
KURK	Kurchatov	45.51	307		P	01 10 34.9	-0.6
KURK				IAmb	IAmb	01 10 36.7	
KURK	comp=Z,6.7nm,0.5s						
KURBB	Kurchatov Arra comp=Z,6.0nm,0.4s,baz=81,slow=8.0,SNR=95	45.58	307	P	P	01 10 35.4	-0.7
KURBB				pP	pP	01 10 51.0	-0.5
KURBB	comp=Z,2.4nm,0.5s,baz=80,slow=8.1,SNR=7.0						
KURBB				sP	sP	01 10 58.5	0.0
KURBB	comp=Z,3.6nm,0.6s,baz=82,slow=8.4,SNR=5.7 comp=Z,6.0nm,0.4s						
D22K	Ayikyak River	46.19	27	P	P	01 10 42.1	+1.5
D22K				IAmb	IAmb	01 10 58.8	
D22K	comp=Z,3.8nm,1.2s						
C24K	Franklin Bluff	47.67	26	P	P	01 10 53.1	+1.0
C24K				IAmb	IAmb	01 10 54.1	
C24K	comp=Z,2.9nm,0.8s						
TARG	Taragay, Kyrgy	48.22	295	P	P	01 10 59.0	+1.7
TARG				IAmb	IAmb	01 11 01.0	
TARG	comp=Z,5.5nm,0.7s						
ILAR	Eielson Array comp=Z,0.4nm,0.8s,baz=282,slow=6.4,SNR=4.6 comp=Z,0.4nm,0.8s	48.35	33	P	P	01 10 56.9	-0.5
D25K	Kavik River	48.48	27	P	P	01 10 59.9	+1.4
D25K				IAmb	IAmb	01 11 38.8	
D25K	comp=Z,3.9nm,1.4s						
KDJ	Kajisay	48.53	296	P	P	01 10 59.8	+0.4
BOOM	Boomskoye usch	49.30	297	P	P	01 11 06.7	+1.5
C27K	Jago River	49.41	26	P	P	01 11 07.6	+2.0
C27K				IAmb	IAmb	01 11 28.9	
C27K	comp=Z,3.4nm,1.0s						
BVAR	Borovoye Array comp=Z,1.4nm,0.5s,baz=86,slow=7.9,SNR=8.7 comp=Z,1.4nm,0.5s	50.07	312	P	P	01 11 10.3	-0.4
AAK	Ala-Archa	50.26	298	P	P	01 11 13.6	+1.0
AAK				IAmb	IAmb	01 11 14.0	
AAK	comp=Z,1.7nm,0.7s						
AAK	Ala-Archa comp=Z,1.5nm,0.5s,baz=138,slow=4.9,SNR=6.8 comp=Z,1.5nm,0.5s	50.26	298	P	P	01 11 11.9	-0.6
ARSB	Arslanbob comp=Z,3.7nm,0.7s	51.77	297	IAmb	IAmb	01 11 27.9	
KNRA	Kununurra	54.96	195	P	P	01 11 47.6	+0.5
ARTI	Arti	55.85	318	P	P	01 11 53.0	-0.2
ARTI	Arti comp=Z,2.8nm,0.3s,baz=62,slow=3.1,SNR=11 comp=Z,2.8nm,0.3s	55.85	318	P	P	01 11 52.4	-0.8
ABKAR	Abkulak array	57.47	310	P	P	01 12 04.2	-0.6
ABKAR				IAmb	IAmb	01 12 20.6	
ABKAR	comp=Z,1.9nm,0.6s						
ABKAR	Abkulak array	57.47	310	P	P	01 12 04.0	-0.9
WB0	Warramunga Arr	58.06	188	P	P	01 12 08.7	-0.5
WB0				IAmb	IAmb	01 12 35.3	
WB0	comp=Z,9.7nm,1.2s						
AKTO	Aktyubinsk comp=Z,0.5nm,0.3s,baz=76,slow=11,SNR=3.8 comp=Z,0.5nm,0.3s	58.17	312	P	P	01 12 09.0	-0.7
WRA	Warramunga Arr	58.24	188	P	P	01 12 10.0	-0.4
WRA	Warramunga Arr comp=Z,2.8nm,0.4s,baz=7.8,slow=7.7,SNR=27 comp=Z,2.8nm,0.4s	58.24	188	P	P	01 12 09.8	-0.6
RES	Resolute Bay	61.41	15	P	P	01 12 31.6	+0.1
RES				IAmb	IAmb	01 12 50.9	
RES	comp=Z,3.9nm,1.4s						
ASAR	Alice Springs	61.97	188	P	P	01 12 35.2	-0.7
ASAR	Alice Springs comp=Z,2.4nm,0.7s,baz=8.9,slow=4.9,SNR=25 comp=Z,2.4nm,0.7s	61.97	188	P	P	01 12 35.6	-0.3
YKA	Yellowknife Ar comp=Z,0.2nm,0.7s,baz=305,slow=6.8,SNR=4.0	62.65	31	P	P	01 12 39.7	-0.3
YKA				pP	pP	01 12 56.3	+0.2
YKA	comp=Z,0.2nm,0.7s,baz=299,slow=6.6,SNR=3.3 comp=Z,0.2nm,0.7s						
ARCES	ARCESS Array B comp=Z,2.8nm,0.9s,baz=26,slow=5.9,SNR=3.8 comp=Z,2.8nm,0.9s	63.05	339	P	P	01 12 41.8	-0.8
EIDS	Eidsvold	63.80	171	P	P	01 12 49.0	+1.0
FINES	FINESS Array B	67.97	332	P	P	01 13 14.5	+0.1
FINES	FINESS Array B comp=Z,1.8nm,0.8s,baz=46,slow=5.5,SNR=5.5	67.97	332	P	P	01 13 13.8	-0.6
FINES				pP	pP	01 13 30.4	-0.3
FINES	comp=Z,1.8nm,0.8s,baz=46,slow=8.2,SNR=2.7 comp=Z,1.8nm,0.8s						
KBZ	Khabaz comp=Z,0.2nm,0.3s,baz=2.9,slow=10,SNR=1.1 comp=Z,0.2nm,0.3s	70.42	311	P	P	01 13 30.3	+0.4
HFS	Hagfors comp=Z,1.7nm,0.8s,baz=357,slow=6.4,SNR=5.3 comp=Z,1.7nm,0.8s	73.19	336	P	P	01 13 45.5	-0.8
NOA	NORSAR Array B comp=Z,0.7nm,0.9s,baz=30,slow=3.1,SNR=1.7 comp=Z,0.7nm,0.9s	73.27	337	P	P	01 13 46.4	-0.3
AKASG	Malin Array Be comp=Z,0.2nm,0.3s,baz=48,slow=6.0,SNR=4.8	73.61	322	P	P	01 13 48.2	-0.6
AKASG				pP	PcP	01 14 04.7	+0.2
AKASG	comp=Z,0.3nm,0.4s,baz=54,slow=5.7,SNR=3.8 comp=Z,0.2nm,0.3s						
NVAR	Mina Array Bea comp=Z,0.6nm,0.8s,baz=273,slow=6.3,SNR=4.9	74.03	54	P	P	01 13 51.4	-0.4
NVAR				pP	pP	01 14 08.6	+0.2
NVAR	comp=Z,0.1nm,0.5s,baz=312,slow=7.4,SNR=1.6 comp=Z,0.6nm,0.8s						
PDAR	Pinedale Array comp=Z,0.3nm,0.4s,baz=285,slow=4.4,SNR=3.7	76.62	46	P	P	01 14 07.1	+0.4
PDAR				pP	pP	01 14 23.8	+0.6
PDAR	comp=Z,0.7nm,0.6s,baz=279,slow=6.0,SNR=2.7 comp=Z,0.3nm,0.4s						
TXAR	Lajitas Array comp=Z,0.3nm,0.5s,baz=289,slow=3.0,SNR=7.7	89.15	53	P	P	01 15 11.3	-0.3
TXAR				pP	pP	01 15 30.6	+2.2
TXAR	comp=Z,0.1nm,0.5s,baz=331,slow=5.0,SNR=1.8 comp=Z,0.3nm,0.5s						
QSPA	South Pole Qui comp=Z,1.5nm,1.0s,baz=60,slow=2.0,SNR=2.1	127.92	180	PKP	PKPdf	01 21 19.4	-0.8
LPAZ	La Paz comp=Z,1.5nm,0.6s,baz=329,slow=0.8,SNR=1.6	145.81	59	PKPbc	PKPdf	01 21 54.0	-1.2

VAO ***07*** *01:15:00.5±0.8, 15°.78S×72°.49W, h67km±6km, mb4.8*
NEIC ***07*** *01:15:01.1±2.8, 15°.84S±0°.05×72°.63W±0°.09, h82km±6km, mb4.7/96, Error ellipse: s-maj=12.2km s-min=7.6km az=74.0*
IDC ***07*** *01:15:03.6±0.5, 15°.76S×72°.68W, h110km±3km, mb4.1/16, mbtmp4.4/20, MS3.3/5, Error ellipse: s-maj=14.0km s-min=8.5km az=47.0*
ISC 07 01:15:02.3±0.3, 15°.82S±0°.05×72°.61W±0°.06, h103km, n156, σ1°.51/136, mb4.6/50, 5C, Southern Peru

| Code | Station Name |

OTAV **Otavalo** 16.96 340 P **P** **01 18 56.2 +2.0**
OTAV **Otavalo** 16.96 340 *eP* **P** **01 18 54.3 +0.1**
VA03 **San Esteban** 16.98 174 IAmb IAmb 01 18 54.1
comp=Z,29nm,0.8s
CLDB **Colider** 17.08 75 *eP* **Pn** **01 18 54.3 -0.5**
MACA **Manacapuru-AM** 17.20 44 P **Pn** **01 18 54.4 -1.9**
MACA **Manacapuru-AM** 17.20 44 *eP* **Pn** **01 18 54.6 -1.7**
MT02 **Curacav** 17.42 176 IAmb IAmb 01 19 00.8
comp=Z,59nm,1.2s
FLOC **Florencia** 17.55 350 P **P** **01 18 59.2 -1.0**
FLOC IAmb IAmb 01 19 24.5
comp=Z,25nm,0.9s
CPUP **Villa Florida** 17.67 129 P **P** **01 19 00.4 -0.9**
comp=Z,6.3nm,0.9s,baz=307,slow=9.6,SNR=12
MT08 **Bocatoma Ro** 17.71 173 IAmb IAmb 01 19 06.1
comp=Z,33nm,0.8s
MT09 **Talagante** 17.94 176 IAmb IAmb 01 19 07.8
comp=Z,37nm,0.8s
SJPY **San Joaquin** 17.95 123 *eP* **P** **01 19 05.3 +0.8**
MT01 **Popeta** 18.01 176 IAmb IAmb 01 19 07.9
comp=Z,37nm,0.8s
BO04 **La Punta** 18.18 175 IAmb IAmb 01 19 10.6
comp=Z,36nm,1.4s
BO01 **Tunca** 18.55 176 P **P** **01 19 12.0 +1.1**
RPRD **Ribas do Rio P** 18.55 107 *eP* **P** **01 19 11.7 +0.5**
NPGB **Novo Progresso** 19.01 65 *eP* **P** **01 19 15.5 -0.7**
ITTB **Itaituba** 20.11 57 *eP* **P** **01 19 27.5 -0.7**
ITQB **Itaqui** 20.15 136 P **P** **01 19 29.2 +0.8**
ITQB IAmb IAmb 01 19 30.0
comp=Z,72nm,1.2s
ITQB **Itaqui** 20.15 136 *eP* **P** **01 19 28.9 +0.5**
ROSC **El Rosal** 20.59 355 P Pn 01 19 36.2 -0.7
ROSC **El Rosal** 20.59 355 P **P** **01 19 32.5 -1.2**
comp=Z,6.7nm,0.4s,baz=226,slow=8.1,SNR=5.1
ROSC LR LR 01 28 58.1
comp=Z,104nm,20.7s,baz=207,slow=41
comp=Z,6.7nm,0.4s
SNDB **Serra Nova Dou** 21.04 82 *eP* **P** **01 19 36.9 -1.2**
PTGB **Pitanga** 21.19 118 *eP* **P** **01 19 40.8 +1.1**
ITRB **Iturama** 21.53 104 *eP* **P** **01 19 43.5 0.0**
RUSC **La Rusia** 21.57 359 P **P** **01 19 43.6 -0.7**
LDASE **Londrina, Braz** 21.59 114 *eP* **P** **01 19 44.7 +0.8**
BOAV **Boa Vista** 21.69 34 P **P** **01 19 45.6 +0.6**
BOAV IAmb IAmb 01 19 51.0
comp=Z,17nm,0.7s
BOAV **Boa Vista** 21.69 34 *eP* **P** **01 19 45.5 +0.5**
TBOT **Tacuaremb** 21.91 139 *eP* **P** **01 19 46.9 -0.4**
ITAB **Concordia** 22.14 124 P **P** **01 19 48.0 -1.8**
ITAB IAmb IAmb 01 19 55.3
comp=Z,58nm,1.4s
ITAB **Concordia** 22.14 124 *eP* **P** **01 19 50.8 +1.1**
MAL2 **Monte Alegre,** 22.75 55 P **P** **01 19 55.5 -0.7**
CPSB **Cacapava Do Su** 22.79 133 *eP* **P** **01 19 55.5 -0.8**
BB19B **Bebedouro** 23.42 107 *eP* **P** **01 20 01.4 -1.0**
IPMB **Ipameri, GO** 23.44 99 *eP* **P** **01 20 01.9 -0.8**
PLTB **Pedras Altas** 23.48 136 *eP* **P** **01 20 03.2 +0.2**
BDFB **Brasilia** 23.67 93 P **P** **01 20 05.1 +0.2**
BDFB IAmb IAmb 01 20 06.4
comp=Z,9.2nm,0.5s
BDFB **Brasilia** 23.67 93 P **P** **01 20 05.1 +0.2**
comp=Z,7.8nm,0.4s,baz=266,slow=10,SNR=27
comp=Z,7.8nm,0.4s
LR04 **Corral** 23.98 182 IAmb IAmb 01 20 08.5
comp=Z,44nm,0.9s
LR05 **Currie** 24.33 179 P **P** **01 20 10.8 +0.4**
LR05 IAmb IAmb 01 20 12.8
comp=Z,38nm,0.9s
SDV **Santo Domingo** 24.62 5 P **P** **01 20 14.9 +1.4**
SDV **Santo Domingo** 24.62 5 *eP* **P** **01 20 15.2 +1.7**
PLCA **Paso Flores** 24.89 176 P **P** **01 20 16.4 +0.7**
PLCA IAmb IAmb 01 20 19.0
comp=Z,21nm,1.0s
PLCA **Paso Flores** 24.89 176 P **P** **01 20 15.8 +0.2**
comp=Z,16nm,0.9s,baz=349,slow=12,SNR=25
PLCA PcP **PcP** **01 23 50.0 +1.1**
comp=Z,1.1nm,0.6s,baz=348,slow=4.3,SNR=4.4
comp=Z,16nm,0.9s
PLCA **Paso Flores** 24.89 176 *eP* **P** **01 20 16.6 +1.0**
BAUV **El Baul** 25.01 11 P **P** **01 20 17.0 +0.2**
BAUV IAmb IAmb 01 20 45.4
comp=Z,40nm,0.9s
PMNB **Patos De Minas** 25.14 100 *eP* **P** **01 20 19.0 +0.8**
VAO **Valinhos** 25.19 110 P **P** **01 20 19.9 +1.3**
VAO IAmb IAmb 01 20 43.2
comp=Z,31nm,1.3s
SMTB **Santa Maria do** 25.38 77 *eP* **P** **01 20 20.4 +0.1**
JANB **Januaria** 27.28 92 *eP* **P** **01 20 37.9 +0.5**
DIAM **Diamantina, MG** 27.76 99 *eP* **P** **01 20 42.0 +0.2**
MDP **Montagnes des** 28.68 45 LR LR 01 33 36.3
comp=Z,77nm,20.1s,baz=153,slow=39
COYC **Coyhaique** 29.67 179 P **P** **01 20 57.8 -0.3**
COYC IAmb IAmb 01 20 59.1
comp=Z,22nm,0.9s
RCBR **Riachuelo** 37.33 79 LR LR 01 38 41.1
comp=Z,36nm,18.0s,baz=243,slow=38
CMIG **Matias Romero** 39.39 325 LR LR 01 37 02.6
comp=Z,40nm,19.5s,baz=170,slow=34
DRIO **Del Rio** 52.48 329 IAmb IAmb 01 24 06.2
comp=Z,5.3nm,0.8s
MIAR **Mount Ida** 53.91 339 IAmb IAmb 01 24 16.0
comp=Z,5.3nm,0.8s
TXAR **Lajitas Array** 53.98 326 P **P** **01 24 16.6 +0.6**
comp=Z,1.9nm,0.7s,baz=152,slow=8.7,SNR=23
TXAR pP **pP** **01 24 44.0 +1.7**
comp=Z,0.2nm,0.4s,baz=156,slow=7.9,SNR=2.4
comp=Z,1.9nm,0.7s
TX31 **Lajitas Ar. Si** 53.98 326 IAmb IAmb 01 24 17.5
comp=Z,5.8nm,1.4s
MNHN **Monahans** 55.11 328 IAmb IAmb 01 24 25.6
comp=Z,7.5nm,0.7s
WCI **Wyandotte Cave** 55.27 347 P **P** **01 24 24.1 -0.9**
WCI IAmb IAmb 01 24 25.1
comp=Z,7.1nm,0.8s
APMT **Aspermont** 55.48 332 IAmb IAmb 01 24 28.3
comp=Z,12nm,0.9s
HHAR **Hobbs** 55.60 339 IAmb IAmb 01 24 55.1
comp=Z,3.7nm,0.8s
SN07 **Snyder 07** 55.64 331 IAmb IAmb 01 24 29.0
comp=Z,6.6nm,0.7s
MGMO **Mountain Grove** 55.85 341 IAmb IAmb 01 24 29.4
comp=Z,4.0nm,0.8s
POST **Post** 55.90 331 IAmb IAmb 01 24 31.6
comp=Z,10nm,0.9s
DKNS **Dickens** 56.13 332 IAmb IAmb 01 24 32.5
comp=Z,7.8nm,0.8s
OK029 **Liberty Lake** 56.47 336 P **P** **01 24 33.3 -0.3**
OK029 IAmb IAmb 01 24 34.5
comp=Z,12nm,0.9s
R40A **Maddies Statio** 56.90 342 IAmb IAmb 01 24 36.3
comp=Z,3.7nm,0.5s
T35A **Sooner Cattle** 57.09 337 P **P** **01 24 38.6 +0.6**
T35A IAmb IAmb 01 24 40.0
comp=Z,10nm,1.1s
MSTX **Muleshoe** 57.25 330 IAmb IAmb 01 24 41.1
comp=Z,14nm,1.1s
SDCO **Great Sand Dun** 61.60 331 IAmb IAmb 01 25 11.3
comp=Z,6.1nm,0.7s
X16A **Lo Mia Camp, P** 62.13 324 IAmb IAmb 01 25 15.3
comp=Z,3.4nm,0.7s
ECSD **EROS Data Cent** 63.20 341 P **P** **01 25 18.7 -0.8**
ECSD IAmb IAmb 01 25 21.9
comp=Z,7.1nm,1.1s
PV15 **Paradox Valley** 63.51 329 IAmb IAmb 01 25 24.4
comp=Z,7.9nm,0.9s
BELA **Belgrano 2** 64.84 172 P **P** **01 25 27.4 -2.5**
BELA IAmb IAmb 01 25 31.5
comp=Z,7.1nm,0.7s
VNA3 **Neumayer Olymp** 66.55 162 ⇑P **P** **01 25 41.4 +0.5**
comp=Z,15nm,0.8s
VNA1 **Neumayer--Stat** 66.78 161 ⇑P **P** **01 25 43.4 +1.1**
comp=Z,24nm,0.9s
DUG **Dugway, Tooele** 67.11 328 P **P** **01 25 46.6 +1.6**
AGMN **Agassiz Nation** 67.11 343 IAmb IAmb 01 25 45.6
comp=Z,7.7nm,0.9s
VNA2 **Neumayer--Watz** 67.14 161 ⇑P **P** **01 25 44.8 +0.1**
comp=Z,13nm,0.7s,baz=297,slow=6.8
PDAR **Pinedale Array** 67.47 331 P **P** **01 25 46.7 -0.7**
comp=Z,0.4nm,0.4s,baz=141,slow=3.9,SNR=1.9
comp=Z,0.4nm,0.4s
SNAA **Sanae** 68.76 161 P **P** **01 25 55.6 +0.7**
SNAA **Sanae** 68.76 161 ⇑P **P** **01 25 55.3 +0.4**
comp=Z,516nm,0.6s
SNAA **Sanae** 68.76 161 P **P** **01 25 55.6 +0.7**
comp=Z,21nm,0.6s,baz=286,slow=8.0,SNR=110
comp=Z,21nm,0.6s
NVAR **Mina Array Bea** 68.88 323 P **P** **01 25 56.9 +0.7**
comp=Z,0.7nm,0.7s,baz=150,slow=6.8,SNR=8.2
comp=Z,0.7nm,0.7s
ULM **Lac du Bonnet** 68.90 344 IAmb IAmb 01 25 56.1
comp=Z,3.9nm,0.6s
ULM **Lac du Bonnet** 68.90 344 P **P** **01 25 55.3 -0.6**
comp=Z,3.3nm,0.5s,baz=164,slow=6.6,SNR=11
ULM pP **pP** **01 26 23.2 -0.1**
comp=Z,3.0nm,0.8s,baz=133,slow=3.2,SNR=3.6
comp=Z,3.3nm,0.5s
YNE **Yellowstone No** 69.42 333 IAmb IAmb 01 26 01.6
comp=Z,13nm,0.8s
YHL **Hebgen Lake** 69.82 332 IAmb IAmb 01 26 05.8
comp=Z,10nm,1.3s
TROLL **Troll, Antarti** 70.48 161 ⇑P **P** **01 26 06.3 +0.8**
comp=Z,296nm,0.4s
SCHQ **Schefferville** 70.54 4 P **P** **01 26 05.5 -0.3**
comp=Z,1.5nm,0.6s,baz=204,slow=6.3,SNR=4.1
SCHQ pP **pP** **01 26 32.9 -0.5**
comp=Z,3.2nm,0.9s,baz=298,slow=3.1,SNR=3.0
comp=Z,1.5nm,0.6s
DBIC **Dimbokro** 70.68 77 P **P** **01 26 07.0 -0.6**
comp=Z,3.5nm,0.5s,baz=240,slow=6.6,SNR=13
comp=Z,3.5nm,0.5s
MFID **Camas Ranch** 70.99 328 IAmb IAmb 01 26 11.7
comp=Z,11nm,1.2s
QSPA **South Pole Qui** 74.34 180 P **P** **01 26 29.7 +1.2**
QSPA IAmb IAmb 01 26 30.7
comp=Z,8.9nm,0.9s
QSPA **South Pole Qui** 74.34 180 P **P** **01 26 29.5 +1.0**
comp=Z,6.3nm,0.5s,baz=329,slow=1.8,SNR=59
comp=Z,6.3nm,0.5s
TORD **Torodi Ar. Bea** 78.90 73 P **P** **01 26 54.6 -0.3**
VNDA **Vanda** 81.80 190 P **P** **01 27 11.2 +1.8**
comp=Z,1.4nm,0.7s,baz=312,slow=4.4,SNR=6.1
VNDA pP **pP** **01 27 37.3 +0.7**
comp=Z,0.9nm,0.8s,baz=317,slow=2.6,SNR=2.4
comp=Z,1.4nm,0.7s
ESDC **Sonseca Array** 84.36 46 P **P** **01 27 24.0 +0.8**
comp=Z,1.7nm,0.8s,baz=256,slow=4.9,SNR=9.9
ESDC pP **pP** **01 27 53.2 +1.7**
comp=Z,1.0nm,0.8s,baz=252,slow=5.3,SNR=2.7
comp=Z,1.7nm,0.8s
YKA **Yellowknife Ar** 84.71 342 P **P** **01 27 24.6 +0.2**
comp=Z,2.4nm,0.8s,baz=138,slow=5.1,SNR=53
YKA pP **pP** **01 27 52.9 +0.2**
comp=Z,2.0nm,0.8s,baz=137,slow=5.0,SNR=6.1
comp=Z,2.4nm,0.8s
WTLY **Watson Lake, Y** 88.06 335 IAmb IAmb 01 27 43.1
comp=Z,8.3nm,0.9s
BOSA **Boshof** 89.24 119 P **P** **01 27 47.3 -0.1**
comp=Z,1.3nm,0.6s,baz=285,slow=4.3,SNR=6.4
comp=Z,1.3nm,0.6s
SUMG **Summit** 91.05 10 P **P** **01 27 56.5 +1.5**
SUMG **Summit** 91.05 10 *i* P **P** **01 27 55.0 -0.1**
ILAR **Eielson Array** 97.64 335 P **P** **01 28 24.5 -0.4**
comp=Z,0.3nm,0.7s,baz=104,slow=9.0,SNR=4.6
comp=Z,0.3nm,0.7s
KBZ **Khabaz** 119.15 49 PKP **PKPdf** **01 33 39.5 +0.1**
comp=Z,2.0nm,0.9s,baz=108,slow=1.9,SNR=8.2
AKTO **Aktyubinsk** 127.52 38 PKP **PKiKP** **01 33 56.2 +0.5**
comp=Z,2.2nm,0.8s,baz=323,slow=2.0,SNR=9.5
ASAR **Alice Springs** 132.97 214 PKP **PKPdf** **01 34 06.3 -0.1**
comp=Z,0.6nm,0.7s,baz=140,slow=1.8,SNR=6.9
WRA **Warramunga Arr** 135.68 218 PKP **PKPdf** **01 34 11.8 +0.2**
comp=Z,1.7nm,0.8s,baz=147,slow=1.7,SNR=9.4
WRA pPKP **pPKPdf** **01 34 41.3 +0.2**
comp=Z,0.5nm,0.6s,baz=141,slow=2.0,SNR=2.2
ZALV **Zalesovo Beam** 138.06 20 PKP **PKPdf** **01 34 14.2 -0.7**
comp=Z,3.6nm,0.8s,baz=330,slow=1.2,SNR=9.7
ZALV pPKP **pPKPdf** **01 34 44.2 +0.1**
comp=Z,0.9nm,0.6s,baz=348,slow=6.5,SNR=1.9
KURBB **Kurchatov Arra** 138.23 27 PKP **PKPdf** **01 34 14.3 -1.0**
comp=Z,0.3nm,0.6s,baz=289,slow=2.5,SNR=4.4
KURBB pPKP **pPKPdf** **01 34 45.4 +0.8**
comp=Z,0.2nm,0.7s,baz=346,slow=3.2,SNR=1.5
AAK **Ala-Archa** 141.19 40 PKP **PKPdf** **01 34 21.8 +0.6**
comp=Z,0.6nm,0.4s,baz=54,slow=4.8,SNR=3.8
MKAR **Makanchi Array** 142.72 29 PKhKP PKPpre 01 34 20.1
comp=Z,0.6nm,0.5s,baz=8.5,slow=2.5,SNR=4.7
USRK **Usarlysk Ar.** 144.86 329 PKP **PKPab** **01 34 26.6 -0.1**
comp=Z,3.4nm,0.8s,baz=64,slow=3.4,SNR=4.7
MJAR **Matsushiro Arr** 145.73 313 PKPbc **PKPbc** **01 34 30.1 +0.4**
comp=Z,3.8nm,0.8s,baz=62,slow=1.8,SNR=14
SONM **Songino Array** 148.06 1 PKP **PKPdf** **01 34 33.0 +0.1**
comp=Z,4.0nm,0.7s,baz=338,slow=1.6,SNR=7.3
SONM PKPbc **PKPbc** **01 34 36.5 +0.3**
comp=Z,3.9nm,0.7s,baz=328,slow=1.6,SNR=30
SONM pPKPbc **pPKPbc** **01 35 06.0 +0.2**
comp=Z,0.9nm,0.6s,baz=352,slow=2.3,SNR=2.2
KSRS **Korea Array** 151.81 324 PKPbc **PKiKP** **01 34 46.8 +1.1**
comp=Z,4.9nm,0.8s,baz=13,slow=1.9,SNR=17
KSRS pPKPbc **pPKPbc** **01 35 15.7 +0.8**
comp=Z,2.0nm,0.7s,baz=20,slow=2.6,SNR=4.1
CMAR **Chiang Mai Arr** 171.51 71 PKPab **PKPab** **01 36 21.6 +0.5**
comp=Z,0.8nm,0.3s,baz=297,slow=6.3,SNR=4.1

*IDC **07** 01:48:51.8±1.1, 3.83N×31.68W, h0km, mb3.7/7, mbtmp3.8/8, ML4.4/1, MS3.6/25, Error ellipse: s-maj=36.4km s-min=19.3km az=124.0*
ISC 07 01:48:53.2±0.8, 3.8N±0.1×31.7W±0.2, h10km, n36, σ0s73/9, mb3.7/7, MS3.6/23, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.44**	**204**	Pn	**Pn**	**01 51 22.3**	**-0.9**
	2.8nm,0.3s,baz=23,slow=20,SNR=84						
RCBR				Sn	Sn	01 53 10.6	-10
	1.5nm,0.3s,baz=276,slow=21,SNR=5.8						
RCBR				LR	LR	01 54 26.3	
	comp=Z,155nm,21.8s,baz=44,slow=32						
	6.1nm,0.3s						
BBTS	**Babate**	**18.42**	**53**	LR	LR	01 58 38.0	
	comp=Z,109nm,21.4s,baz=116,slow=32						
H10N3	**ASCENSION HYDR**	**20.65**	**124**	T	T	02 15 12.0	
	baz=302,slow=75,SNR=139						
H10N2	**ASCENSION HYDR**	**20.65**	**124**	T	T	02 15 12.4	
	baz=302,slow=75,SNR=102						
H10N1	**ASCENSION HYDR**	**20.67**	**124**	T	T	02 15 13.6	
	baz=302,slow=75,SNR=211						
MDP	**Montagnes des**	**20.96**	**274**	LR	LR	02 00 55.9	
	comp=Z,114nm,18.7s,baz=20,slow=35						
H10S3	**ASCENSION HYDR**	**21.15**	**127**	T	T	02 16 04.8	
	baz=277,slow=74,SNR=25						
H10S2	**ASCENSION HYDR**	**21.16**	**127**	T	T	02 16 02.4	
	baz=303,slow=74,SNR=24						
BDFB	**Brasilia**	**25.19**	**220**	P	**P**	**01 54 19.9**	**+0.6**
	2.7nm,0.7s,baz=61,slow=10,SNR=4.9						
BDFB				LR	LR	02 03 05.2	
	comp=Z,158nm,20.0s,baz=13,slow=34						
	2.7nm,0.7s						
DBIC	**Dimbokro**	**26.84**	**83**	LR	LR	02 03 12.2	
	comp=Z,62nm,21.1s,baz=265,slow=32						
H05S1	**Guadeloupe/Mar**	**30.64**	**292**	T	T	02 26 42.0	
	SNR=24						
H05N1	**Guadeloupe/Mar**	**31.45**	**295**	T	T	02 27 34.5	
	SNR=8.4						
TORD	**Torodi Ar. Bea**	**34.24**	**72**	P	**P**	**01 55 40.1**	**+0.4**
	121nm,0.4s,baz=265,slow=7.8,SNR=1.5						
TORD				LR	LR	02 07 26.3	
	comp=Z,97nm,20.7s,baz=264,slow=33						
SIV	**San Ignacio**	**35.10**	**235**	LR	LR	02 09 05.0	
	comp=Z,197nm,19.9s,baz=102,slow=34						
SJG	**San Juan**	**36.63**	**296**	LR	LR	02 09 31.7	
	comp=Z,44nm,20.1s,baz=66,slow=34						
MDT	**Midett**	**38.40**	**38**	LR	LR	02 10 03.5	
	comp=Z,173nm,21.2s,baz=214,slow=33						
CPUP	**Villa Florida**	**38.90**	**218**	P	**P**	**01 56 19.7**	**+0.5**
	1.6nm,0.9s,baz=17,slow=13,SNR=2.9						
CPUP				LR	LR	02 11 40.1	
	comp=Z,165nm,19.3s,baz=70,slow=35						
	1.6nm,0.9s						
LPAZ	**La Paz**	**41.20**	**240**	P	**P**	**01 56 39.2**	**0.0**
	0.4nm,0.4s,baz=71,slow=1.1,SNR=4.6						
LPAZ				LR	LR	02 12 23.6	
	comp=Z,110nm,21.8s,baz=63,slow=34						
	0.4nm,0.4s						
ESDC	**Sonseca Array**	**43.65**	**31**	P	**P**	**01 56 57.8**	**-0.4**
	1.6nm,1.0s,baz=236,slow=6.9,SNR=4.6						
	1.6nm,1.0s						
ATAH	**Atahualpa**	**47.88**	**257**	LR	LR	02 15 37.9	
	comp=Z,54nm,21.2s,baz=87,slow=34						
KEST	**Kesra**	**49.40**	**45**	LR	LR	02 18 31.3	
	comp=Z,89nm,19.7s,baz=331,slow=36						
VAE	**Valguarnera**	**53.81**	**45**	LR	LR	02 20 59.0	
	comp=Z,110nm,19.4s,baz=301,slow=36						
DAVOX	**Davos/Dischmat**	**55.88**	**33**	LR	LR	02 20 34.0	
	comp=Z,20nm,19.5s,baz=256,slow=34						
PLCA	**Paso Flores**	**56.79**	**215**	LR	LR	02 22 10.2	
	comp=Z,87nm,20.6s,baz=85,slow=35						
SCHQ	**Schefferville**	**58.31**	**337**	P	**P**	**01 58 47.3**	**-0.9**
	1.9nm,0.6s,baz=153,slow=3.4,SNR=5.8						
	1.9nm,0.6s						
VRAC	**Vranov**	**61.03**	**34**	LR	LR	02 24 23.8	
	comp=Z,22nm,19.6s,baz=231,slow=35						
SUR	**Sutherland**	**61.35**	**130**	LR	LR	02 21 58.7	
	comp=Z,42nm,18.4s,baz=180,slow=32						
LSZ	**Lusaka**	**62.19**	**109**	LR	LR	02 23 38.3	
	comp=Z,58nm,18.0s,baz=186,slow=34						
BOSA	**Boshof**	**63.41**	**125**	LR	LR	02 23 02.8	
	comp=Z,43nm,18.3s,baz=193,slow=32						
MLR	**Muntele Rosu**	**65.00**	**41**	LR	LR	02 25 43.9	
	comp=Z,52nm,21.5s,baz=248,slow=34						
NOA	**NORSAR Array B**	**65.60**	**21**	LR	LR	02 24 44.8	
	comp=Z,25nm,20.0s,baz=220,slow=33						
FINES	**FINESS Array B**	**71.74**	**25**	LR	LR	02 29 31.3	
	comp=Z,23nm,19.2s,baz=229,slow=34						
TXAR	**Lajitas Array**	**72.48**	**299**	P	**P**	**02 00 21.5**	**+0.8**
	0.1nm,0.6s,baz=113,slow=5.4,SNR=5.1						
	0.1nm,0.6s						
ANMO	**Albuquerque**	**75.38**	**305**	LR	LR	02 31 04.0	
	comp=Z,36nm,20.3s,baz=72,slow=34						
KIRV	**Kirov**	**82.13**	**31**	LR	LR	02 35 06.7	
	comp=Z,30nm,20.7s,baz=275,slow=34						
YKA	**Yellowknife Ar**	**83.40**	**332**	P	**P**	**02 01 20.6**	**0.0**
	0.4nm,0.8s,baz=100,slow=5.4,SNR=6.9						
	0.4nm,0.8s						

*SOME **07** 01:53:49.4, 41.90N×82.47E, h15km*
*NNC **07** 01:53:52.6±0.8, 41.99N×82.30E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=6.5km s-min=3.9km az=171.0*
ISC 07 01:53:39.1±2.9, 41.7N±0.1×82.71E±0.09, h10km, n31, σ1s81/44, 4C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.82**	**303**	Pg	**Pb**	**01 54 31.8**	**+2.2**
	20nm,0.2s						
SHLS				Lg	Lg	01 55 02.5	
	93nm,0.4s						
SHLS	**Shalkode**	**2.82**	**303**	*eP*	**Pb**	**01 54 31.9**	**+2.2**
	20nm,0.2s						
SHLS				*eS*	**Sb**	**01 55 02.5**	**-1.8**
	93nm,0.4s						
PDGK	**Podgornoye**	**2.89**	**306**	⇑Pn	**Pg**	**01 54 35.3**	**+0.7**
	4.4nm,0.5s						
PDGK				⇑Lg	Lg	01 55 10.4	
	60nm,0.6s						
UZB	**Uzynbulak**	**3.10**	**299**	Pg	**Pg**	**01 54 41.6**	**+3.1**
	8.3nm,0.3s						
UZB				Lg	Lg	01 55 19.4	
	52nm,0.5s						
UZB	**Uzynbulak**	**3.10**	**299**	*eP*	**Pg**	**01 54 41.6**	**+3.1**
	8.3nm,0.3s						
UZB				*eS*	**Sg**	**01 55 19.4**	**+0.8**
	52nm,0.5s						
DJR	**Jarkent**	**3.40**	**322**	Pg	**Pg**	**01 54 46.3**	**+1.9**
	3.8nm,0.4s						
DJR				Lg	Lg	01 55 27.3	
	12nm,0.4s						
DJR	**Jarkent**	**3.40**	**322**	*eP*	**Pg**	**01 54 46.2**	**+1.9**
	3.8nm,0.4s						
DJR				*eS*	**Sg**	**01 55 27.4**	**-1.1**
	12nm,0.4s						
SATY	**Saty**	**3.47**	**295**	Pg	**Pg**	**01 54 47.8**	**+2.2**
	6.3nm,0.4s						
SATY				Lg	Lg	01 55 29.9	
	33nm,0.5s						
ZHN	**Zhinishke**	**3.50**	**297**	Pg	**Pg**	**01 54 48.3**	**+2.2**
ZHN				Lg	Lg	01 55 31.1	
ZHN	**Zhinishke**	**3.50**	**297**	*eP*	**Pg**	**01 54 48.3**	**+2.2**
	5.9nm,0.1s						
ZHN				*eS*	**Sg**	**01 55 31.1**	**-0.2**
	47nm,0.2s						
KNOS	**Konyrlen**	**3.72**	**317**	Pg	**Pg**	**01 54 52.0**	**+1.6**
	4.0nm,0.3s						
KNOS				Lg	Lg	01 55 37.1	
	14nm,0.2s						
KURS	**Kuram**	**3.81**	**300**	Pg	**Pg**	**01 54 53.8**	**+1.7**
	4.0nm,0.6s						
KURS				Lg	Lg	01 55 40.0	
	13nm,0.7s						
BLB	**Baldybastay**	**3.94**	**309**	Pg	**Pg**	**01 54 55.9**	**+1.4**
	23nm,0.3s						
BLB				Lg	Lg	01 55 43.8	
	15nm,0.5s						
KOTS	**Kotyrbulak**	**4.42**	**292**	Pg	**Pg**	**01 55 05.6**	**+1.8**
	7.8nm,0.5s						
KOTS				Lg	Lg	01 56 00.4	
	15nm,0.7s						
KOTS	**Kotyrbulak**	**4.42**	**292**	*eP*	**Pg**	**01 55 05.6**	**+1.8**
	7.8nm,0.5s						
KOTS				*eS*	**Sg**	**01 56 00.4**	**-0.7**
	15nm,0.7s						
MDOK	**Medeo**	**4.45**	**291**	Pg	**Pg**	**01 55 06.1**	**+1.8**
	4.3nm,0.5s						
MDOK				Lg	Lg	01 56 01.2	
	6.0nm,0.5s						
MDOK				⇑Lg	Lg	01 56 03.9	
	25nm,1.4s						
TNSS	**Tian-Shan**	**4.48**	**289**	Pg	**Pg**	**01 55 06.5**	**+1.5**
	3.0nm,0.5s						
TNSS				Lg	Lg	01 56 02.0	
	4.5nm,0.6s						
TNSS	**Tian-Shan**	**4.48**	**289**	*eP*	**Pg**	**01 55 06.5**	**+1.5**
	3.0nm,0.5s						
TNSS				*eS*	**Sg**	**01 56 02.0**	**-1.0**
	4.5nm,0.6s						
CHKK	**Chushkaly**	**4.74**	**299**	Pg	**Pg**	**01 55 11.3**	**+1.4**
	1.2nm,0.1s						
CHKK				Lg	Lg	01 56 10.0	
	12nm,0.3s						
CHKK	**Chushkaly**	**4.74**	**299**	*eP*	**Pg**	**01 55 11.3**	**+1.4**
	1.2nm,0.1s						
CHKK				*eS*	**Sg**	**01 56 10.1**	**-1.2**
	12nm,0.3s						
MTBS	**Maitube**	**4.87**	**289**	Pg	**Pg**	**01 55 13.8**	**+1.4**
	2.5nm,0.3s						
MTBS				Lg	Lg	01 56 14.6	
	5.4nm,0.5s						
MTBS	**Maitube**	**4.87**	**289**	*eP*	**Pg**	**01 55 13.8**	**+1.4**
	2.5nm,0.3s						
MTBS				*eS*	**Sg**	**01 56 14.6**	**-0.9**
	5.4nm,0.5s						
MK31	**Makanchi Array**	**5.12**	**357**	⇓Pn	**Pb**	**01 55 06.8**	**-1.9**
	0.1nm,0.2s,baz=184,slow=14,SNR=20						
MK31				⇓Pg	**Pg**	**01 55 19.8**	**+2.7**
	0.5nm,0.3s,baz=176,slow=16,SNR=7.9						
MK31				⇓Lg	Lg	01 56 26.0	
	7.6nm,0.7s,baz=178,slow=28,SNR=5.7						
MAKZ	**Makanchi**	**5.15**	**354**	⇓Pn	**Pb**	**01 55 06.7**	**-2.6**
	1.7nm,0.6s						
MAKZ				⇑Pg	**Pg**	**01 55 20.1**	**+2.4**
	1.9nm,0.6s						
MAKZ				⇓Lg	Lg	01 56 24.1	
	4.1nm,0.6s						
KST	**Kastek**	**5.18**	**287**	Pg	**Pg**	**01 55 19.9**	**+1.6**
	1.6nm,0.3s						
KST				Lg	Lg	01 56 25.1	
	12nm,0.6s						
KST	**Kastek**	**5.18**	**287**	*eP*	**Pg**	**01 55 19.9**	**+1.6**
	1.6nm,0.3s						
KST				*eS*	**Sg**	**01 56 25.1**	**-0.3**
	12nm,0.6s						
KUU	**Kurty**	**5.18**	**297**	Pg	**Pg**	**01 55 19.6**	**+1.2**
	2.7nm,0.1s						
KUU				Lg	Lg	01 56 24.6	
	9.0nm,0.5s						
KUU	**Kurty**	**5.18**	**297**	*eP*	**Pg**	**01 55 19.6**	**+1.2**
	2.7nm,0.1s						
KUU				*eS*	**Sg**	**01 56 24.6**	**-0.9**
	9.0nm,0.5s						
DGS	**Degeres**	**5.36**	**289**	Pg	**Pg**	**01 55 23.2**	**+1.4**
	2.8nm,0.4s						
DGS				Lg	Lg	01 56 30.7	
	6.5nm,0.6s						
TKM2	**Tokmak 2**	**5.42**	**286**	⇓Pn	**

STR 07 02:06:56.7±0.4, 48°N±2°×°±°, h0km, MLv0.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=55.5, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZELS	**Zelsheim**	**0.09**	**14**	Pg	Pg	02 06 58.9	+0.6
ZELS				Sg	Sg	02 07 00.0	+0.5
WLS	**Welschbruch**	**0.26**	**320**	Pg	Pg	02 07 01.4	-0.2
WLS				Sg	Sg	02 07 05.0	+0.1
ECH	**Echery**	**0.29**	**270**	Pg	Pg	02 07 02.5	+0.2
ECH				Sg	Sg	02 07 06.6	+0.5
ECH	**Echery**	**0.29**	**270**	Pg	Pg	02 07 02.4	+0.1
ECH				Sg	Sg	02 07 06.4	+0.3
WALT	**Westhalten**	**0.33**	**221**	Pg	Pg	02 07 03.2	+0.2
WALT				Sg	Sg	02 07 08.2	+1.0
KIZ	**Kirchzarten**	**0.34**	**141**	Sg	Sg	02 07 07.8	+0.3
KIZ	**Kirchzarten**	**0.34**	**141**	Pg	Pg	02 07 03.2	+0.1
ENDD	**Endenburg**	**0.51**	**169**	Pg	Pg	02 07 07.1	+0.6
ENDD	**Endenburg**	**0.51**	**169**	Sg	Sg	02 07 13.6	+0.5
SLE	**Schleitheim**	**0.75**	**127**	Pg	Pg	02 07 10.7	-0.3
SLE	**Schleitheim**	**0.75**	**127**	Sg	Sg	02 07 20.8	+0.1
RONF	**Ronchamp**	**0.81**	**232**	Pg	Pg	02 07 12.1	-0.2
RONF				Sg	Sg	02 07 23.1	+0.3

*NOU **07** 02:14:24.8, 36°.93S×177°.16E, h0km, MLv3.9/11, Off E. Coast of N. Island, N.Z.*
*WEL **07** 02:14:25.9±0.6, 37°.5±5°×17°7E±°, h12km, M3.7/20, ML3.9/21, MLv3.7/20, Error ellipse: s-maj=6.9km s-min=2.6km az=34.9, confirmed*
*WEL **07** 02:14:25.6, 36°.93S×177°.16E, h12km, ML3.7, Mw3.7, Moment Tensor Solution. s7 Moment tensor: Scale 10^{14} Nm; M_{rr}0.68; $M_{\theta\theta}$-3.48; $M_{\phi\phi}$2.79; $M_{r\theta}$1.69; $M_{\theta\phi}$3.82; $M_{\theta r}$0.67; Fault plane solution: $M_0$5.28000×10^{14} NP1: ϕ_s71.00000°, δ86.00000°, λ21.00000°. NP2:ϕ_s340.00000°, δ69.00000°, λ176.00000°. Principal axes: T -5.5370, Plg18.0000°, Azm298.0000°; N 5.0190, Plg69.0000°, Azm81.0000°; P 0.5180, Plg12.0000°, Azm204.0000°; Stations used: WSRZ KUZ PUZ TOZ MKAZ BKZ HIZ STRIKE-SLIP FAULTING*

ISC 07 02:14:24.8±1.3, 36°.92S±0°.05×177°.17E±0°.03, h7km±11km, n116, σ1$21/128, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSRZ	**White Island S**	**0.60**	**179**	P	**Pb**	**02 14 37.9**	**+0.3**
WSRZ				S	**Sb**	**02 14 46.6**	**+0.3**
WIZ	**White Island**	**0.61**	**178**	P	**Pb**	**02 14 38.1**	**+0.3**
WIZ				S	**Sb**	**02 14 45.9**	**-0.6**
WHRZ	**Whale Island**	**0.95**	**189**	P	**Pb**	**02 14 43.8**	**+0.2**
HAZ	**Te Kaha**	**0.97**	**150**	P	**Pg**	**02 14 43.4**	**0.0**
HAZ				S	**Sb**	**02 14 58.0**	**+1.1**
TGRZ	**Tauranga**	**1.08**	**222**	P	**Pg**	**02 14 45.7**	**+0.1**
MXZ	**Matakaoa Point**	**1.11**	**126**	P	**Pg**	**02 14 45.7**	**-0.4**
MXZ	**Matakaoa Point**	**1.11**	**126**	P	**Pg**	**02 14 45.8**	**-0.3**
MXZ				S	**Sg**	**02 15 00.0**	**-0.5**
RUGZ	**Raukumara Rang**	**1.12**	**159**	P	**Pg**	**02 14 46.2**	**0.0**
KUZ	**Kuaotunu**	**1.17**	**278**	P	**Pg**	**02 14 46.8**	**-0.5**
KUZ	**Kuaotunu**	**1.17**	**278**	P	**Pg**	**02 14 46.7**	**-0.5**
KUZ				S	**Sg**	**02 15 02.7**	**+0.2**
KARZ	**Kaharoa**	**1.32**	**214**	P	**Pn**	**02 14 49.3**	**-0.4**
URZ	**Urewera**	**1.34**	**182**	P	**Pn**	**02 14 49.3**	**-0.6**
URZ	**Urewera**	**1.34**	**182**	P	**Pn**	**02 14 49.4**	**-0.6**
OMRZ	**Omania**	**1.34**	**208**	P	**Pn**	**02 14 50.0**	**-0.1**
TWGZ	**Tauwhareparae**	**1.41**	**153**	P	**Pb**	**02 14 51.8**	**+0.3**
NGRZ	**Ngongotaha**	**1.41**	**213**	P	**Pn**	**02 14 50.8**	**-0.2**
TARZ	**Mount Tarawera**	**1.42**	**202**	P	**Pn**	**02 14 51.0**	**-0.1**
PUZ	**Puketiti**	**1.44**	**143**	P	**Pb**	**02 14 52.4**	**+0.4**
MWZ	**Matawai**	**1.44**	**169**	P	**Pn**	**02 14 50.7**	**-0.7**
UTU	**Utuhina**	**1.47**	**211**	P	**Pn**	**02 14 51.8**	**0.0**
HLRZ	**Highlands Stat**	**1.48**	**206**	P	**Pn**	**02 14 52.1**	**+0.2**
RRRZ	**Republican Roa**	**1.51**	**200**	P	**Pn**	**02 14 52.3**	**0.0**
GRZ	**Great Barrier**	**1.53**	**295**	P	**Pn**	**02 14 52.4**	**-0.2**
TOZ	**Tahuroa Road**	**1.56**	**238**	P	**Pn**	**02 14 52.5**	**-0.4**
HSRZ	**Hossack Road**	**1.57**	**208**	P	**Pn**	**02 14 53.9**	**-0.3**
RAGZ	**Rawiri**	**1.58**	**173**	P	**Pn**	**02 14 53.4**	**0.0**
RAGZ				S	**Sn**	**02 15 13.0**	**-1.3**
MUGZ	**Murupara**	**1.59**	**191**	P	**Pn**	**02 14 52.8**	**-0.6**
TKGZ	**Te Karaka**	**1.61**	**161**	P	**Pn**	**02 14 54.6**	**+0.9**
MKAZ	**Moumakai**	**1.62**	**263**	P	**Pn**	**02 14 53.6**	**-0.2**
HRRZ	**Handcock Road**	**1.63**	**205**	P	**Pn**	**02 14 54.4**	**+0.5**
WIAZ	**Waiheke Island**	**1.64**	**274**	P	**Pn**	**02 14 54.0**	**0.0**
GRRZ	**Galatos Road**	**1.66**	**210**	P	**Pn**	**02 14 54.4**	**0.0**
RTZ	**Ruatahuna**	**1.70**	**185**	P	**Pn**	**02 14 54.9**	**-0.1**
ALRZ	**Allen Road**	**1.77**	**202**	P	**Pn**	**02 14 56.0**	**+0.2**
CNGZ	**Carnagh Statio**	**1.77**	**152**	P	**Pb**	**02 14 57.8**	**+0.2**
ETAZ	**East Tamaki Re**	**1.79**	**268**	P	**Pn**	**02 14 56.7**	**+0.5**
ETAZ				S	**Sb**	**02 15 21.4**	**+0.7**
MBAZ	**Motutapu North**	**1.83**	**274**	P	**Pn**	**02 14 57.4**	**+0.7**
KBAZ	**Karaka Road Bo**	**1.83**	**264**	P	**Pb**	**02 14 59.4**	**+0.7**
RIGZ	**Rimuhau**	**1.84**	**165**	P	**Pb**	**02 14 58.6**	**-0.3**
SNGZ	**Shannon Statio**	**1.86**	**175**	P	**Pb**	**02 14 59.1**	**+0.5**
KUTZ	**Kaahu Road**	**1.90**	**214**	P	**Pn**	**02 14 57.9**	**+0.3**
ABAZ	**Army Bay**	**1.90**	**279**	P	**Pn**	**02 14 58.2**	**+0.5**
ABAZ				S	**Sg**	**02 15 25.4**	**-0.5**
TLZ	**Tolley Road**	**1.91**	**222**	P	**Pn**	**02 14 57.8**	**-0.1**
EPAZ	**Eden Park BICE**	**1.94**	**271**	P	**Pn**	**02 14 59.4**	**+1.2**
EPAZ				S	**Sn**	**02 15 21.8**	**-1.2**
MTHZ	**Maungataniwha**	**1.95**	**188**	P	**Pn**	**02 14 58.4**	**0.0**
HBAZ	**Herne Bay Bore**	**1.96**	**271**	P	**Pn**	**02 14 59.0**	**+0.6**
HBAZ				S	**Sn**	**02 15 22.0**	**-1.3**
RAHZ	**Arahi**	**1.99**	**182**	P	**Pn**	**02 14 59.3**	**+0.3**
AWAZ	**Awhitu Peninsu**	**2.03**	**265**	P	**Pn**	**02 15 00.3**	**+0.8**
AWAZ				S	**Sn**	**02 15 23.8**	**-1.2**
PRGZ	**Paritu Road**	**2.08**	**164**	P	**Pn**	**02 15 01.3**	**+1.2**
WTAZ	**Waiatarua**	**2.08**	**269**	P	**Pn**	**02 15 01.4**	**+1.2**
RVAZ	**Riverhead Bore**	**2.08**	**273**	P	**Pn**	**02 15 01.2**	**+1.1**
RVAZ				S	**Sn**	**02 15 25.3**	**-1.0**
WATZ	**Wairara**	**2.12**	**212**	P	**Pn**	**02 15 01.2**	**+0.5**
KNZ	**Kokohu**	**2.14**	**169**	P	**Pn**	**02 15 02.2**	**+1.3**
WHHZ	**Waihua**	**2.15**	**179**	P	**Pb**	**02 15 03.6**	**-0.6**
NMHZ	**Naumai**	**2.19**	**187**	P	**Pn**	**02 15 02.4**	**+0.7**
RITZ	**Rihia Road**	**2.30**	**206**	P	**Pb**	**02 15 07.2**	**+0.6**
BKZ	**Black Stump Fm**	**2.30**	**193**	P	**Pn**	**02 15 03.4**	**+0.1**
BKZ	**Black Stump Fm**	**2.30**	**193**	P	**Pn**	**02 15 03.7**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.30**	**166**	P	**Pn**	**02 15 04.3**	**+1.0**
ARHZ	**Aropaoanui**	**2.34**	**183**	P	**Pn**	**02 15 05.4**	**+1.6**
KATZ	**Kakaramea**	**2.36**	**209**	P	**Pn**	**02 15 05.0**	**+0.9**
HIZ	**Hauiti**	**2.43**	**228**	P	**Pn**	**02 15 05.4**	**+0.5**
HIZ	**Hauiti**	**2.43**	**228**	P	**Pn**	**02 15 05.5**	**+0.6**
NTVZ	**North Tongarir**	**2.47**	**208**	P	**Pb**	**02 15 09.6**	**-0.1**
TMVZ	**Te Maari**	**2.48**	**207**	P	**Pn**	**02 15 06.7**	**+0.9**
WCZ	**Waipu Caves**	**2.48**	**292**	P	**Pn**	**02 15 06.1**	**+0.5**
ETVZ	**East Tongariro**	**2.49**	**207**	P	**Pn**	**02 15 07.5**	**+1.5**
WTVZ	**West Tongariro**	**2.52**	**209**	P	**Pn**	**02 15 07.5**	**+1.2**
NNVZ	**North Ngauruho**	**2.53**	**209**	P	**Pb**	**02 15 09.4**	**-1.2**
OTTZ	**Oturere**	**2.53**	**207**	P	**Pn**	**02 15 08.2**	**+1.7**
TWVZ	**Taurewa**	**2.54**	**212**	P	**Pn**	**02 15 07.5**	**+0.8**
MCHZ	**McNeill Hill**	**2.55**	**188**	P	**Pn**	**02 15 08.6**	**+2.0**
SNVZ	**South Ngauruho**	**2.56**	**208**	P	**Pn**	**02 15 08.8**	**+1.9**
KWHZ	**Kaweka Forest**	**2.57**	**193**	P	**Pn**	**02 15 07.7**	**+0.7**
NGZ	**Ngauruhoe**	**2.57**	**208**	P	**Pb**	**02 15 11.1**	**-0.2**
COVZ	**Chateau Observ**	**2.61**	**209**	P	**Pb**	**02 15 13.3**	**+1.2**
TUVZ	**Tukino**	**2.63**	**207**	P	**Pb**	**02 15 12.6**	**+0.2**
FWVZ	**Far West T-bar**	**2.66**	**208**	P	**Pb**	**02 15 13.3**	**+0.5**
WHVZ	**Whangaehu Hut**	**2.67**	**207**	P	**Pb**	**02 15 12.4**	**-0.6**
TRVZ	**Turoa**	**2.70**	**208**	P	**Pb**	**02 15 13.6**	**+0.1**
WNVZ	**Wahianoa**	**2.70**	**207**	P	**Pb**	**02 15 13.4**	**-0.2**
MOVZ	**Moawhango**	**2.72**	**204**	P	**Pn**	**02 15 10.3**	**+1.3**
PKVZ	**Pokaka**	**2.77**	**211**	P	**Pn**	**02 15 11.1**	**+1.5**
KRHZ	**Kereru**	**2.79**	**193**	P	**Pn**	**02 15 11.8**	**+1.9**
MTVZ	**Mangateitei**	**2.80**	**208**	P	**Pb**	**02 15 14.9**	**-0.3**
KAHZ	**Kahuranaki**	**2.88**	**184**	P	**Pn**	**02 15 12.4**	**+1.2**
VRZ	**Vera Road**	**2.91**	**220**	P	**Pn**	**02 15 12.8**	**+1.2**
PNHZ	**Pukenui**	**3.08**	**194**	P	**Pn**	**02 15 15.2**	**+1.2**
PXZ	**Pawanui**	**3.12**	**184**	P	**Pn**	**02 15 14.6**	**+0.3**
TSZ	**Takapari Road**	**3.27**	**196**	P	**Pn**	**02 15 18.0**	**+1.4**
WAZ	**Wanganui**	**3.31**	**211**	P	**Pb**	**02 15 21.0**	**-2.9**
LREZ	**Lake Rotokare**	**3.34**	**220**	P	**Pn**	**02 15 20.0**	**+2.5**
OUZ	**Omahuta**	**3.35**	**299**	P	**Pn**	**02 15 18.3**	**+0.6**
OUZ	**Omahuta**	**3.35**	**299**	P	**Pn**	**02 15 18.7**	**+1.1**
NEZ	**North Egmont**	**3.37**	**225**	P	**Pn**	**02 15 20.0**	**+2.0**
PREZ	**Palmer Road**	**3.39**	**224**	P	**Pn**	**02 15 20.7**	**+2.6**
KHEZ	**Kahui Hut**	**3.44**	**225**	P	**Pn**	**02 15 20.5**	**+1.6**
KHEZ	**Kahui Hut**	**3.44**	**225**	P	**Pn**	**02 15 20.5**	**+1.6**
DVHZ	**Dannevirke**	**3.46**	**193**	P	**Pn**	**02 15 19.3**	**+0.1**
NBEZ	**Newall Road No**	**3.50**	**227**	P	**Pn**	**02 15 21.7**	**+2.0**
PRWZ	**Pori Road**	**3.75**	**194**	P	**Pn**	**02 15 25.7**	**+2.7**
BFZ	**Birch Farm**	**3.82**	**191**	P	**Pn**	**02 15 23.3**	**-0.8**
BFZ	**Birch Farm**	**3.82**	**191**	P	**Pn**	**02 15 23.5**	**-0.7**
MRZ	**Mangatainoka R**	**3.94**	**198**	P	**Pn**	**02 15 25.6**	**0.0**
HOWZ	**Holdsworth Sta**	**4.17**	**197**	P	**Pn**	**02 15 29.2**	**+0.2**
KIW	**Kapiti Island**	**4.31**	**203**	P	**Pn**	**02 15 31.5**	**+0.6**
DUWZ	**D'Urville Isla**	**4.63**	**212**	P	**Pn**	**02 15 39.7**	**+4.5**
TUWZ	**Tuamarina**	**5.15**	**208**	P	**Pn**	**02 15 43.0**	**+0.6**
NNZ	**Nelson**	**5.21**	**213**	P	**Pn**	**02 15 46.2**	**+3.2**
TKNZ	**Takaka Hill**	**5.25**	**217**	P	**Pn**	**02 15 48.3**	**+4.4**
QRZ	**Quartz Range**	**5.32**	**221**	P	**Pn**	**02 15 45.5**	**+0.8**
QRZ	**Quartz Range**	**5.32**	**221**	P	**Pn**	**02 15 45.8**	**+1.1**
MRNZ	**Matariki Terra**	**5.63**	**216**	P	**Pn**	**02 15 51.9**	**+2.9**
THZ	**Tophouse**	**5.86**	**213**	P	**Pn**	**02 15 53.0**	**+0.9**
KHZ	**Kahutara**	**6.16**	**206**	P	**Pn**	**02 15 55.8**	**-0.4**
LTZ	**Lake Taylor**	**6.96**	**211**	P	**Pn**	**02 16 10.3**	**+3.0**

*IDC **07** 02:15:55.3±3.5, 17°.03S×174°.15W, h192km±32km, mb3.7/10, mbtmp4.2/12, MS2.9/1, Error ellipse: s-maj=22.4km s-min=15.7km az=124.0*

ISC 07 02:15:56.0±0.7, 17°.0S±0°.2×174°.2W±0°.1, h200km, n17, σ0$76/17, mb4.0/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.48**	**264**	P	**Pn**	**02 17 43.5**	**+0.9**
MSVF	23nm,0.8s,baz=113,slow=15,SNR=17			LR	LR	02 19 55.4	
	comp=Z,88nm,18.1s,baz=302,slow=32						
DZM	**Mont Dzumac**	**18.96**	**252**	P	**P**	**02 20 02.0**	**-0.3**
	2.8nm,0.6s,baz=82,slow=19,SNR=7.7						
URZ	**Urewera**	**22.49**	**198**	P	**P**	**02 20 37.5**	**-1.1**
	11nm,0.4s,baz=22,slow=2.4,SNR=9.0						
	11nm,0.4s						
STKA	**Stephens Creek**	**42.61**	**241**	P	**P**	**02 23 32.5**	**-0.2**
	6.1nm,0.6s,baz=87,slow=9.7,SNR=7.3						
	6.1nm,0.6s						
ASAR	**Alice Springs**	**48.94**	**253**	P	**P**	**02 24 21.6**	**-0.7**
	38nm,0.5s,baz=89,slow=8.6,SNR=14						
MJAR	**Matsushiro Arr**	**69.73**	**321**	P	**P**	**02 26 44.0**	**-0.3**
	2.4nm,0.7s,baz=145,slow=4.9,SNR=5.9						
	2.4nm,0.7s						
QSPA	**South Pole Qui**	**73.02**	**180**	P	**P**	**02 27 04.7**	**+0.9**
	1.2nm,0.7s,baz=267,slow=0.9,SNR=10						
	1.2nm,0.7s						
PETK	**Petropavlovsk-**	**73.96**	**343**	P	**P**	**02 27 08.9**	**-0.3**
	3.2nm,0.9s,baz=160,slow=5.0,SNR=1.8						
	3.2nm,0.9s						
NVAR	**Mina Array Bea**	**76.02**	**42**	P	**P**	**02 27 21.9**	**+0.3**
	1.4nm,0.7s,baz=227,slow=9.4,SNR=17						
	1.4nm,0.7s						
TXAR	**Lajitas Array**	**82.11**	**56**	P	**P**	**02 27 55.4**	**+0.7**
	0.6nm,0.9s,baz=212,slow=8.2,SNR=6.2						
	0.6nm,0.9s						
PDAR	**Pinedale Array**	**83.96**	**42**	P	**P**	**02 28 03.7**	**-0.3**
	0.9nm,0.8s,baz=199,slow=3.4,SNR=9.8						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**84.18**	**11**	P	**P**	**02 28 03.7**	**-0.6**
	0.4nm,0.5s,baz=208,slow=5.4,SNR=8.8						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**92.44**	**288**	P	**P**	**02 28 46.1**	**+1.4**
	1.0nm,0.3s,baz=130,slow=5.0,SNR=2.2						
	1.0nm,0.3s						
KMBO	**Kilima Mbogo**	**144.16**	**243**	PKP	**PKPdf**	**02 35 08.9**	**-0.3**
	3.1nm,0.9s,baz=70,slow=6.3,SNR=9.8						
BRTR	**Keskin Array B**	**146.94**	**319**	PKPbc	**PKPab**	**02 35 16.1**	**-1.1**
	0.9nm,0.7s,baz=134,slow=3.3,SNR=6.1						
GERES	**GERESS Array B**	**147.63**	**350**	PKPbc	**PKPbc**	**02 35 16.9**	**+0.1**
	0.1nm,0.3s,baz=20,slow=5.1,SNR=1.6						
MMAI	**Mount Meron Ar**	**148.99**	**306**	PKPbc	**PKiKP**	**02 35 21.9**	**-0.1**

*BJI **07** 02:18:09.5, 10°.14S×125°.25E, h35km, mB5.0/14, mb5.0/62, Ms4.3/7, Ms7 4.0/6*
*IDC **07** 02:18:13.4±0.3, 9°.23S×124°.61E, h0km, mb4.8/28, mbtmp4.8/31, ML5.2/3, MS3.7/27, Error ellipse: s-maj=15.9km s-min=10.1km az=69.0*
*MOS **07** 02:18:17.7±0.9, 9°.11S×124°.66E, h35km, mb5.2/26, Error ellipse: s-maj=11.2km s-min=7.2km az=108.8*
*NEIC **07** 02:18:19.3±2.6, 9°.30S±0°.06×124°.80E±0°.05, h35km±1km, mb5.1/81, Error ellipse: s-maj=10.0km s-min=8.5km az=164.0*
*DJA **07** 02:18:20.7±0.2, 10°S±2°×12°5E±°, h44km±2km, M5.0/78, mb5.2/78, mB5.5/34, MLv5.2/20, Mw(mB)5.0/34, MwMwp6.2/1, Mwp6.2/1*

ISC 07 02:18:20.4±0.4, 9°.33S±0°.04×124°.74E±0°.04, h50km±3km, h50km:pP-P, n468, σ1$82/450, mb5.0/108, MS3.7/28, 15C-8D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.63**	**228**		**Pn**	**02 18 34.7**	**+1.2**
SOEI	**Soe**	**0.63**	**228**	P	**Pn**	**02 18 34.6**	**+1.2**
SOEI				S	**Sn**	**02 18 42.9**	**+0.1**
MMRI	**Maumere**	**2.57**	**285**	Pn	**Pn**	**02 19 01.9**	**+2.4**
MMRI	**Maumere**	**2.57**	**285**	P	**Pn**	**02 19 02.2**	**+2.7**
MMRI	**Maumere**	**2.57**	**285**	P	**Pn**	**02 19 01.7**	**+2.2**
BASI	**Baing, Sumba**	**4.20**	**257**	P	**Pn**	**02 19 23.0**	**+1.1**
BBSI	**Bau Bau**	**4.38**	**330**	P	**Pn**	**02 19 28.0**	**+3.6**
WSI	**Waingapu**	**4.40**	**265**	P	**Pn**	**02 19 25.2**	**+0.6**
BSSI	**Bau Bau, Buton**	**5.27**	**307**	P	**Pn**	**02 19 39.9**	**+3.3**
WBSI	**Waikabubak, Su**	**5.29**	**266**	P	**Pn**	**02 19 37.1**	**+0.2**
KDI	**Kendari**	**5.74**	**338**	P	**Pn**	**02 19 46.6**	**+3.6**
NLAI	**Namlea**	**6.49**	**21**	P	**Pn**	**02 19 57.7**	**+4.4**
	0.6nm2μm137nm,0.8s						
KAPI	**Kappang**	**6.55**	**311**	Pn	**Pn**	**02 19 58.7**	**+4.5**
KAPI	**Kappang**	**6.55**	**311**	Pn	**Pn**	**02 19 58.8**	**+4.6**
	6.8nm,0.3s,baz=141,slow=9.3,SNR=39						
KAPI				LR	LR	02 22 35.1	
	comp=Z,2μm,22.0s,baz=136,slow=41						
KAPI	**Kappang**	**6.55**	**311**	P	**Pn**	**02 19 58.6**	**+4.5**
KAPI	**Kappang**	**6.55**	**311**	P	**Pn**	**02 19 58.4**	**+4.2**
KAPI	**Kappang**	**6.55**	**311**	P	**Pn**	**02 19 58.7**	**+4.5**
AAI	**Ambon**	**6.57**	**32**	P	**Pn**	**02 19 57.6**	**+3.1**
	0.5nm171nm,0.8s						
SAUI	**Saumlaki**	**6.62**	**79**	Pn	**Pn**	**02 19 56.0**	**+0.8**
SAUI	**Saumlaki**	**6.62**	**79**	P	**Pn**	**02 19 57.5**	**+2.4**
SAUI	**Saumlaki**	**6.62**	**79**	P	**Pn**	**02 19 55.7**	**+0.6**
BNSI	**Bone**	**6.72**	**316**	P	**Pn**	**02 20 00.3**	**+3.8**
	1.1nm3μm344nm,0.8s						
DRS	**Darwin Rock St**	**6.79**	**118**	P	**Pn**	**02 19 56.8**	**-0.6**
PLAI	**Plampang**	**6.90**	**274**	P	**Pn**	**02 19 59.9**	**+1.0**
PLAI	**Plampang**	**6.90**	**274**	P	**Pn**	**02 20 00.0**	**+1.0**
BNDI	**Bandanaira**	**7.00**	**47**	P	**Pn**	**02 20 01.9**	**+1.5**
	1.1nm213nm,1.1s						
MTN	**Manton Dam**	**7.18**	**120**	Pn	**Pn**	**02 20 01.5**	**-1.3**
MTN	**Manton Dam**	**7.18**	**120**	P	**Pn**	**02 20 01.7**	**-1.1**
	comp=Z,2μm,0.4s						
MTN	**Manton Dam**	**7.18**	**120**	P	**Pn**	**02 20 01.7**	**-1.1**
MSAI	**Masohi**	**7.25**	**35**	P	**Pn**	**02 20 07.3**	**+3.5**
	comp=Z,0.4nmcomp=Z,5μmcomp=Z,136nm,1.1s						
SPSI	**Sidrap Palu**	**7.27**	**317**	P	**Pn**	**02 20 07.1**	**+3.1**
	comp=Z,0.3nmcomp=Z,2μmcomp=Z,99nm,0.9s						
SANI	**Sanana**	**7.34**	**10**	P	Pn	02 20 10.0	+5.0
SANI	**Sanana**	**7.34**	**10**	P	**Pn**	**02 20 08.3**	**+3.3**
	comp=Z,0.7nmcomp=Z,2μmcomp=Z,200nm,0.8s						
KNRA	**Kununurra**	**7.43**	**149**	Pn	**Pn**	**02 20 04.0**	**-2.3**
KNRA	**Kununurra**	**7.43**	**149**	P	**Pn**	**02 20 04.2**	**-2.1**
	comp=Z,788nm,0.4s						
TWSI	**Taliwang, Sumb**	**7.79**	**274**	P	**Pn**	**02 20 12.0**	**+0.8**
	comp=Z,1.7nmcomp=Z,3μmcomp=Z,244nm,0.6s						
KDU	**Kakadu**	**8.29**	**114**	P	**Pn**	**02 20 15.9**	**-2.2**
KDU	**Kakadu**	**8.29**	**114**	P	**Pn**	**02 20 16.1**	**-1.9**
LUWI	**Luwuk**	**8.46**	**346**	Pn	Pn	02 20 25.9	+5.4
LUWI	**Luwuk**	**8.46**	**346**	P	Pn	02 20 26.6	+6.2
	comp=Z,3μmcomp=Z,187nm,0.6s						
FITZ	**Fitzroy Crossi**	**8.76**	**174**	Pn	**Pn**	**02 20 22.0**	**-2.5**
FITZ	**Fitzroy Crossi**	**8.76**	**174**	P	**Pn**	**02 20 21.6**	**-2.9**
	comp=Z,30nm,0.4s						
FITZ	**Fitzroy Crossi**	**8.76**	**174**	Pn	**Pn**	**02 20 21.3**	**-3.2**
	comp=Z,34nm,0.3s,baz=2.9,slow=11,SNR=402						
FITZ				Sn	Sn	02 21 51.7	-10
	comp=Z,111nm,0.3s,baz=236,slow=23,SNR=13						
FITZ				LR	LR	02 24 11.4	
	comp=Z,509nm,19.0s,baz=3.0,slow=40						
	comp=Z,67nm,0.4s						
FITZ	**Fitzroy Crossi**	**8.76**	**174**	P	**Pn**	**02 20 21.1**	**-3.4**
APSI	**Ampana**	**8.91**	**340**	P	**Pn**	**02 20 30.5**	**+3.9**
	comp=Z,109μmcomp=Z,2μmcomp=Z,171nm,0.9s						
LBMI	**Labuha**	**9.06**	**18**	P	**Pn**	**02 20 32.0**	**+3.4**
DNP	**Denpasar**	**9.44**	**273**	P	**Pn**	**02 20 34.3**	**+0.5**
	comp=Z,298nm,1.1s						
SRBI	**Singaraja**	**9.50**	**277**	P	**Pn**	**02 20 34.2**	**-0.5**
	comp=Z,63nm,1.1s						
PCI	**Palu**	**9.69**	**329**	P	**Pn**	**02 20 40.4**	**+3.2**
	comp=Z,95nm,0.9s						
FAKI	**Fak Fak**	**9.81**	**50**	Pn	**Pn**	**02 20 38.8**	**-0.1**
FAKI	**Fak Fak**	**9.81**	**50**	P	**Pn**	**02 20 40.3**	**+1.4**
FAKI	**Fak Fak**	**9.81**	**50**	P	**Pn**	**02 20 39.5**	**+0.6**
	comp=Z,1μmcomp=Z,68nm,0.9s						
MRSI	**Marisa**	**10.13**	**344**	P	**Pn**	**02 20 46.4**	**+3.1**
	comp=Z,34nm,0.5s						
TNTI	**Ternate**	**10.37**	**15**	P	**Pn**	**02 20 49.7**	**+3.2**
	comp=Z,51nm,1.2s						
JAGI	**Jajag, Banyuwa**	**10.50**	**274**	Pn	**Pn**	**02 20 45.0**	**-3.4**
JAGI	**Jajag, Banyuwa**	**10.50**	**274**	P	**Pn**	**02 20 45.5**	**-2.8**
JAGI	**Jajag, Banyuwa**	**10.50**	**274**	P	**Pn**	**02 20 45.1**	**-3.2**
	comp=Z,2μmcomp=Z,117nm,0.7s						
ABJI	**Asem Bagus**	**10.50**	**278**	P	**Pn**	**02 20 48.7**	**+0.3**
	comp=Z,61nm,0.7s						
KMPI	**Kaimana, Papua**	**10.53**	**58**	P	**Pn**	**02 20 48.6**	**-0.2**
SWI	**Sorong**	**10.62**	**38**	P	**Pn**	**02 20 51.3**	**+1.3**
	comp=Z,42nm,1.1s						
MPSI	**Mapaga**	**10.75**	**333**	P	**Pn**	**02 20 54.1**	**+2.4**
	comp=Z,44nm,1.2s						
KMMI	**Kalianget**	**10.90**	**281**	P	**Pn**	**02 20 55.8**	**+1.9**
	comp=Z,87nm,0.9s						
GMJI	**Gumukmas**	**11.22**	**274**	P	**Pn**	**02 20 55.3**	**-2.8**
	comp=Z,36nm,1.0s						
GRJI	**Gresik**	**12.38**	**280**	P	**Pn**	**02 21 15.9**	**+1.9**
	comp=Z,128nm,0.8s						
MBWA	**Marble Bar**	**12.71**	**202**		**Pn**	**02 21 16.2**	**-2.4**
MBWA	**Marble Bar**	**12.71**	**202**	P	**Pn**	**02 21 16.0**	**-2.5**
	comp=Z,26nm,1.9s						
MBWA	**Marble Bar**	**12.71**	**202**	P	**Pn**	**02 21 16.0**	**-2.5**
MBWA				S	Sn	02 23 28.5	-10
MBWA	**Marble Bar**	**12.71**	**202**	P	**Pn**	**02 21 15.8**	**-2.8**
PSA00	**Pilbara Seismi**	**13.05**	**201**		**Pn**	**02 21 20.2**	**-3.0**
PSA00	**Pilbara Seismi**	**13.05**	**201**		**Pn**	**02 21 19.4**	**-3.8**
PSA00	**Pilbara Seismi**	**13.05**	**201**	P	**Pn**	**02 21 20.4**	**-2.8**
	comp=Z,32nm,0.6s						
PSA00	**Pilbara Seismi**	**13.05**	**201**	P	**Pn**	**02 21 20.4**	**-

NWAO S **S** **02 27 55.0 +3.0**
NWAO Narrogin (SRO) 24.49 195 P **P** **02 23 35.0 +0.1**
NWAO Narrogin (SRO) 24.49 195 P **P** **02 23 35.1 +0.1**
QLP Quilpie 25.20 135 P **P** **02 23 42.7 +1.2**
BBOO Buckleboo 25.60 158 P **P** **02 23 45.2 0.0**
BBOO IAmb IAmb 02 24 02.2
comp=Z,29nm,0.7s
BBOO Buckleboo 25.60 158 P **P** **02 23 45.0 0.0**
comp=Z,50nm,0.7s
BBOO Buckleboo 25.60 158 P **P** **02 23 45.1 0.0**
HTT Hallett 27.32 153 P **P** **02 24 01.1 +0.5**
STKA Stephens Creek 27.35 148 P **P** **02 24 01.7 +0.9**
comp=Z,3.2nm,0.4s,baz=317,slow=8.6,SNR=4.3
STKA S S 02 28 57.9 +21
comp=Z,18nm,0.8s,baz=215,slow=9.6,SNR=3.7
STKA LR LR 02 35 50.8
comp=Z,248nm,21.6s,baz=340,slow=38
comp=Z,3.2nm,0.4s
PSI Prapat 28.41 294 LR LR 02 35 45.9
comp=Z,301nm,18.5s,baz=126,slow=37
CMSA Cobar Meteorol 29.45 142 P **P** **02 24 20.9 +1.4**
CMSA Cobar Meteorol 29.45 142 P **P** **02 24 20.9 +1.4**
GUMO Guam 30.29 42 LR LR 02 36 50.9
comp=Z,36nm,21.3s,baz=126,slow=37
ARPS Mount Arapiles 31.41 153 P **P** **02 24 38.2 +1.5**
ARPS Mount Arapiles 31.41 153 P **P** **02 24 38.1 +1.3**
QIZ Qiongzhong 31.78 332 P **P** **02 24 41.1 +0.9**
QIZ S **S** **02 29 52.9 +5.9**
QIZ LR LR
comp=Z,97nm,13.6s
QIZ LR LR
comp=Z,82nm,13.0s
QIZ LR LR
comp=Z,180nm,15.8s
TPUB Ta-pu 32.68 353 P **P** **02 24 47.4 -0.7**
TPUB IAmb IAmb 02 24 49.2
comp=Z,22nm,0.7s
CAN Canberra 34.05 143 P **P** **02 25 02.6 +2.6**
CNB Canberra Magne 34.27 143 P **P** **02 25 03.7 +1.8**
HNR Honiara 34.73 93 LR LR 02 40 32.0
comp=Z,69nm,21.4s,baz=298,slow=38
JOW Kunigami 36.11 5 LR LR 02 40 58.0
comp=Z,30nm,21.3s,baz=149,slow=38
GULI GuiLin 37.15 338 P **P** **02 25 26.9 +0.3**
GULI pmax pmax
comp=Z,10.0nm,1.1s
CMAR Chiang Mai Arr 37.56 317 P **P** **02 25 29.4 -0.7**
CMAR Chiang Mai Arr 37.56 317 P **P** **02 25 29.5 -0.6**
comp=Z,2.0nm,0.4s,baz=143,slow=6.9,SNR=16
CMAR PcP **PcP** **02 27 48.9 +1.5**
comp=Z,3.6nm,0.8s,baz=130,slow=5.1,SNR=7.1
CMAR ScP **ScP** **02 31 32.0 +1.2**
comp=Z,1.5nm,0.4s,baz=136,slow=3.7,SNR=14
CMAR LR LR 02 42 35.4
comp=Z,98nm,20.3s,baz=140,slow=39
comp=Z,2.0nm,0.4s
CHTO Chiang Mai 37.81 318 P **P** **02 25 32.6 +0.3**
CHTO Chiang Mai 37.81 318 P **P** **02 25 32.6 +0.3**
CHTO pmax pmax
comp=Z,23nm,1.5s
CRAI Chiangrai 37.92 321 P **P** **02 25 33.9 +0.8**
JCJ Chichijima 39.97 25 LR LR 02 40 42.6
comp=Z,62nm,18.7s,baz=182,slow=34
WHN Wuhan 40.88 346 P **P** **02 25 58.3 +0.7**
WHN pmax pmax
comp=Z,70nm,0.9s
NJ2 Nanjing 41.53 352 ⇑P **P** **02 26 03.2 +0.2**
NJ2 pmax pmax
comp=Z,62nm,0.8s
DZM Mont Dzumac 41.95 113 *e*LR LR 02 37 37.1
comp=Z,201nm,28.6s
DZM Mont Dzumac 41.95 113 P **P** **02 26 07.5 +0.7**
comp=Z,8.4nm,1.0s,baz=264,slow=23,SNR=2.8
comp=Z,8.4nm,1.0s
PZH PanZhiHua 42.05 328 P **P** **02 26 10.0 +2.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.3s
JNU Nakatsue 42.62 8 LR LR 02 46 53.0
comp=Z,27nm,18.4s,baz=160,slow=40
LYN LuoYang 45.16 346 P **P** **02 26 31.7 -0.5**
LYN pmax pmax
comp=Z,24nm,0.7s
XAN Xi'an 45.67 342 ⇓P **P** **02 26 35.0 -1.3**
XAN PP **PP** **02 28 21.1 -3.1**
XAN pmax pmax
comp=Z,62nm,0.7s
XAN Xi'an 45.67 342 P **P** **02 26 34.8 -1.6**
XAN PcP **PcP** **02 28 14.7 +0.9**
JGF Kuroka 46.25 14 P **P** **02 26 41.0 +0.1**
JGF IAmb IAmb 02 28 27.7
comp=Z,42nm,1.7s
KSAR Wonju Array Be 46.62 3 P **P** **02 26 44.0 +0.4**
KSAR Wonju Array Be 46.62 3 P **P** **02 26 44.0 +0.4**
KSRS Korea Array 46.63 3 P **P** **02 26 43.6 -0.1**
comp=Z,4.1nm,0.6s,baz=181,slow=10.0,SNR=24
KSRS PcP **PcP** **02 28 17.4 +0.4**
comp=Z,3.3nm,0.6s,baz=189,slow=3.3,SNR=8.6
KSRS LR LR 02 50 24.3
comp=Z,16nm,18.2s,baz=185,slow=42
comp=Z,4.1nm,0.6s
KS19 Wonju Array Si 46.67 3 IAmb IAmb 02 28 18.5
comp=Z,21nm,1.2s
PALK Pallekele 46.88 289 LR LR 02 46 48.6
comp=Z,97nm,20.8s,baz=121,slow=37
MAJO Matsushiro 47.35 15 P **P** **02 26 48.8 -0.7**
MAJO IAmb IAmb 02 27 10.6
comp=Z,20nm,1.3s
MAJO Matsushiro 47.35 15 P **P** **02 26 48.8 -0.7**
MAJO pmax pmax
comp=Z,20nm,1.3s
MJAR Matsushiro Arr 47.35 15 P **P** **02 26 48.1 -1.3**
comp=Z,8.0nm,0.7s,baz=193,slow=9.0,SNR=30
MJAR LR LR 02 45 31.6
comp=Z,27nm,21.7s,baz=182,slow=35
comp=Z,8.0nm,0.7s
MJB9 Matsu-Tunnel 47.35 15 P **P** **02 26 48.8 -0.7**
MJB9 IAmb IAmb 02 27 10.6
comp=Z,19nm,1.3s
HNS HongShan 47.42 349 ⇑P **P** **02 26 49.3 -0.6**
HNS pmax pmax
comp=Z,29nm,1.0s
DL2 Dalian 48.07 357 P **P** **02 26 54.1 -0.8**
DL2 pmax pmax
comp=Z,49nm,0.8s
LZH Lanzhou 49.28 338 *e*P **P** **02 27 04.9 +0.4**
LZH sP pP 02 27 18.2 +0.2
LZH pmax pmax
comp=Z,66nm,1.2s
BJI Beijing 49.76 351 P **P** **02 27 06.6 -1.2**
BJI PcP **PcP** **02 28 28.6 +0.4**
BJI pmax pmax
comp=Z,10.0nm,1.0s
LSA Lhasa 50.51 321 IAmb IAmb 02 27 15.5
comp=Z,18nm,0.8s
LSA Lhasa 50.51 321 P **P** **02 27 14.9 +0.6**
HHC Hu-ho-hao-te 51.39 347 *e*P **P** **02 27 24.2 +3.9**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,4.4s
JCZ Jackson Bay 51.47 140 P **P** **02 27 22.7 +1.8**
WHZ Wether Hill Ro 51.85 143 P **P** **02 27 24.6 +1.0**
FOZ Fox Glacier 51.87 139 P **P** **02 27 24.1 +0.3**
EAZ Earnscleugh 52.35 141 P **P** **02 27 27.8 +0.4**
MSVF Nonsavu 52.35 105 LR LR 02 48 57.7
comp=Z,69nm,18.1s,baz=243,slow=35
APZ The Paps 52.36 144 P **P** **02 27 28.8 +1.4**
DSZ Denniston Nort 52.41 136 P **P** **02 27 30.1 +2.2**
LBZ Lake Benmore 52.50 140 P **P** **02 27 28.8 +0.3**
QRZ Quartz Range 52.55 135 P **P** **02 27 31.2 +2.3**
RPZ Rata Peaks 52.76 139 P **P** **02 27 31.4 +1.0**
RPZ Rata Peaks 52.76 139 P **P** **02 27 31.5 +1.1**
comp=Z,37nm,0.8s,baz=18,slow=1.9,SNR=13
comp=Z,37nm,0.8s
RPZ Rata Peaks 52.76 139 P **P** **02 27 31.5 +1.1**
HYB Hyderabad 52.81 300 *e*P **P** **02 27 31.3 +0.1**
CN2 Changchun 52.88 1 *e*P **P** **02 27 30.5 -0.7**
CN2 *e*pP pP 02 27 40.5 -4.4
CN2 *e*S **S** **02 34 57.5 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,70nm,5.0s
CN2 LR LR
comp=Z,100nm,12.0s
CN2 LR LR
comp=Z,100nm,13.0s
TUZ Tuapeka 52.90 142 P **P** **02 27 32.8 +1.4**
ODZ Otahua Downs 53.10 140 P **P** **02 27 33.3 +0.5**
THZ Tophouse 53.18 136 P **P** **02 27 35.2 +1.6**
OXZ Oxford 53.23 138 P **P** **02 27 35.1 +1.2**
NNZ Nelson 53.29 135 P **P** **02 27 35.5 +1.2**
GOMU GeErMu 53.33 330 P **P** **02 27 33.7 -1.4**
GOMU sP pP 02 27 50.1 +1.3
GOMU pmax pmax
comp=Z,10.0nm,1.0s
XLT XiLinHaoTe 53.56 352 *e*P **P** **02 27 35.3 -1.0**
XLT sP pP 02 27 49.3 -0.7
XLT pmax pmax
comp=Z,37nm,1.0s
USA0B Ussuriysk Arra 53.68 6 IAmb IAmb 02 27 39.8
comp=Z,38nm,1.6s
USRK Ussuriysk Ar. 53.68 6 P **P** **02 27 36.8 -0.2**
comp=Z,6.3nm,0.4s,baz=190,slow=7.0,SNR=28
comp=Z,6.3nm,0.4s
GTA Gaotai 53.73 336 *e*P **P** **02 27 38.0 +0.3**
GTA pP pP 02 27 51.1 -0.3
GTA pmax pmax
comp=Z,20nm,0.9s
MQZ McQueen's Vall 53.80 138 P **P** **02 27 39.2 +1.2**
KHZ Kahutara 53.87 136 P **P** **02 27 40.9 +2.4**
MDJ Mudanjiang 53.87 4 P **P** **02 27 38.8 +0.4**
MDJ pmax pmax
comp=Z,57nm,1.0s
MDJ Mudanjiang 53.87 4 P **P** **02 27 39.1 +0.7**
MDJ pP **pP** **02 27 52.9 +0.7**
NGZ Ngauruhoe 54.16 132 P **P** **02 27 43.4 +2.4**
MRZ Mangatainoka R 54.64 134 P **P** **02 27 44.8 +0.5**
BKZ Black Stump Fm 54.81 132 P **P** **02 27 46.6 +1.1**
BNX BinXian 54.87 2 ⇑P **P** **02 27 44.7 -0.9**
BNX pmax pmax
comp=Z,15nm,0.9s
URZ Urewera 54.99 130 P **P** **02 27 46.5 -0.3**
comp=Z,7.5nm,0.9s,baz=296,slow=4.9,SNR=2.5
URZ LR LR 02 52 19.1
comp=Z,206nm,18.9s,baz=5.5,slow=37
comp=Z,7.5nm,0.9s
URZ Urewera 54.99 130 P **P** **02 27 47.3 +0.6**
BFZ Birch Farm 55.13 133 P **P** **02 27 49.3 +1.6**
MWZ Matawai 55.33 130 P **P** **02 27 50.3 +1.0**
HAZ Te Kaha 55.35 130 P **P** **02 27 50.5 +1.1**
ASAJ Asahikawa 55.60 16 P **P** **02 27 50.7 -0.3**
comp=Z,4.2nm,0.5s,baz=241,slow=10,SNR=9.8
ASAJ PcP **PcP** **02 28 48.5 -1.7**
comp=Z,5.4nm,0.8s,baz=204,slow=13,SNR=6.8
ASAJ LR LR 02 50 22.8
comp=Z,25nm,21.9s,baz=166,slow=35
comp=Z,4.2nm,0.5s
YSS Yuzhno-Sakhali 58.29 14 *e*P **P** **02 28 09.3 -0.6**
YSS pmax pmax
comp=Z,10.0nm,1.4s
HIA Hailar 58.51 356 P **P** **02 28 11.8 +0.3**
HIA Hailar 58.51 356 P **P** **02 28 11.8 +0.3**
HIA pmax pmax
comp=Z,32nm,1.0s
HIA Hailar 58.51 356 P **P** **02 28 11.4 -0.1**
KLR Kul'dur 58.63 5 P **P** **02 28 11.3 -1.0**
comp=Z,5.5nm,0.8s,baz=202,slow=5.5,SNR=19
KLR PcP **PcP** **02 29 01.3 -0.6**
comp=Z,4.0nm,0.8s,baz=69,slow=2.5,SNR=4.7
comp=Z,5.5nm,0.8s
KLR Kul'dur 58.63 5 *ce*P **P** **02 28 12.0 -0.3**
KLR pmax pmax
comp=Z,22nm,2.5s
ULN Ulaanbaatar 59.06 346 P **P** **02 28 15.3 -0.2**
ULN Ulaanbaatar 59.06 346 *ce*P **P** **02 28 15.3 -0.2**
ULN pmax pmax
comp=Z,47nm,1.3s
ULN Ulaanbaatar 59.06 346 P **P** **02 28 15.4 -0.1**
SONM Songino Array 59.19 346 P **P** **02 28 16.2 -0.2**
SONM Songino Array 59.19 346 P **P** **02 28 16.1 -0.3**
comp=Z,17nm,0.7s,baz=165,slow=8.2,SNR=98
SONM PcP **PcP** **02 29 04.3 -0.1**
comp=Z,1.4nm,0.6s,baz=162,slow=4.4,SNR=3.5
comp=Z,17nm,0.7s
SONM Songino Array 59.19 346 P **P** **02 28 16.2 -0.2**
SONM pmax pmax
comp=Z,20nm,0.9s
HEH HeiHe 59.38 2 *e*P **P** **02 28 16.8 -0.6**
HEH pmax pmax
comp=Z,28nm,1.0s
ZAK Zakamensk 62.33 345 *e*P **P** **02 28 36.5 -1.2**
ZAK pmax pmax
comp=Z,13nm,1.1s
WMQ Urumqi 62.67 331 *e*P **P** **02 28 39.6 -0.4**
WMQ pP pP 02 28 53.7 -0.2
WMQ PcP **PcP** **02 29 18.2 -0.2**
WMQ pmax pmax
comp=Z,20nm,0.7s
ZEA Zeya 62.86 2 *e*P **P** **02 28 40.9 0.0**
MOY Mondy 64.11 344 *e*P **P** **02 28 49.2 -0.2**
MOY pmax pmax
comp=Z,38nm,1.5s
NIL Nilore 64.93 314 P **P** **02 28 54.2 -0.8**
NIL Nilore 64.93 314 P **P** **02 28 54.2 -0.8**
NIL pmax pmax
comp=Z,26nm,0.5s
WUS Wushi 65.41 324 IAmb IAmb 02 28 59.1
comp=Z,16nm,1.2s
CCD Concordia, Ant 65.75 180 P **P** **02 29 02.1 +2.0**
CCD pP **pP** **02 29 16.1 +1.8**
CCD PcP **PcP** **02 29 32.7 +1.7**
KSH Kashi 66.35 321 P **P** **02 29 02.8 -1.4**
KSH pmax pmax
comp=Z,16nm,0.8s
KSH LR LR
comp=Z,300nm,29.5s
KSH LR LR
comp=Z,260nm,24.0s
KSH LR LR
comp=Z,170nm,26.1s
TARG Taragay, Kyrgy 66.57 323 IAmb IAmb 02 29 14.3
comp=Z,8.8nm,0.8s
MK31 Makanchi Array 67.46 330 P **P** **02 29 10.4 -0.5**
MK31 IAmb IAmb 02 29 11.4
comp=Z,13nm,0.7s
MK31 Makanchi Array 67.46 330 *ce*P **P** **02 29 10.8 -0.2**
MKAR Makanchi Array 67.46 330 P **P** **02 29 10.3 -0.7**
MKAR Makanchi Array 67.46 330 P **P** **02 29 10.7 -0.3**
comp=Z,18nm,0.5s,baz=131,slow=7.5,SNR=242
MKAR S **S** **02 38 02.2 -1.3**
comp=Z,0.3nm,0.7s,baz=144,slow=11,SNR=2.6
comp=Z,18nm,0.5s
BOD Bodaibo 67.49 354 *e*P **P** **02 29 10.0 -0.9**
BOD pmax pmax
comp=Z,49nm,0.8s
MAKZ Makanchi 67.63 330 P **P** **02 29 11.6 -0.4**
MAKZ IAmb IAmb 02 29 12.3
comp=Z,8.4nm,0.7s
MAKZ Makanchi 67.63 330 P **P** **02 29 11.6 -0.4**
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
MAKZ Makanchi 67.63 330 P **P** **02 29 11.6 -0.4**
MAKZ pP **pP** **02 29 24.7 -1.4**
BOOM Boomskoye usch 68.13 323 IAmb IAmb 02 29 16.7
comp=Z,16nm,0.7s
PETK Petropavlovsk- 68.23 21 P **P** **02 29 15.6 -0.1**
comp=Z,14nm,0.7s,baz=193,slow=6.1,SNR=13
comp=Z,14nm,0.7s
KBL Kabul 68.39 313 P **P** **02 29 17.0 -0.3**
KBL IAmb IAmb 02 29 17.3
comp=Z,14nm,0.7s
KBL Kabul 68.39 313 P **P** **02 29 17.0 -0.3**
KBL pmax pmax
comp=Z,14nm,0.7s
TKM2 Tokmak 2 68.59 323 P **P** **02 29 18.7 +0.2**
SNR=9.8
DRK Karamyk 69.00 319 P **P** **02 29 21.2 0.0**
AAK Ala-Archa 69.08 323 P **P** **02 29 21.5 +0.1**
AAK Ala-Archa 69.08 323 LR LR 03 03 19.2
comp=Z,83nm,21.7s,baz=140,slow=39
AAK Ala-Archa 69.08 323 P **P** **02 29 21.9 +0.6**
SNR=25
AAK Ala-Archa 69.08 323 *ce*P **P** **02 29 21.8 +0.4**
AAK pmax pmax
comp=Z,17nm,0.7s
AAK Ala-Archa 69.08 323 *i* P **P** **02 29 22.0 +0.6**
SNR=31
AAK Ala-Archa 69.08 323 P **P** **02 29 21.8 +0.4**
AML Almayashu 69.27 322 P **P** **02 29 23.4 +0.5**
SNR=25
USP Ospenovka 69.45 323 P **P** **02 29 23.7 +0.2**
SNR=11
EKS2 Erkin-Say 69.53 322 P **P** **02 29 24.7 +0.6**
SNR=10
BTK Batken 69.95 319 P **P** **02 29 26.1 -0.6**
SIMJ Simiganj 70.44 317 P **P** **02 29 28.9 -0.9**
SIMJ IAmb IAmb 02 29 29.6
comp=Z,22nm,1.4s
DZET Dzherino 70.63 317 P **P** **02 29 30.2 -0.8**
VNDA Vanda 70.83 172 P **P** **02 29 32.4 +1.0**
VNDA Vanda 70.83 172 P **P** **02 29 31.6 +0.2**
comp=Z,2.3nm,0.8s,baz=316,slow=7.0,SNR=9.0
VNDA LR LR 02 59 17.0
comp=Z,110nm,19.9s,baz=287,slow=35
comp=Z,2.3nm,0.8s
VNDA Vanda 70.83 172 P **P** **02 29 32.4 +1.0**
VNDA pmax pmax
comp=Z,16nm,1.5s
VNDA Vanda 70.83 172 P **P** **02 29 32.1 +0.7**
VNDA pP **pP** **02 29 46.0 +0.4**
YAK Yakutsk 71.24 2 P **P** **02 29 33.5 -0.4**
YAK Yakutsk 71.24 2 *e*P **P** **02 29 33.6 -0.4**
YAK *e* 02 29 52.4
YAK *e**PP **sP** **02 29 54.6 +0.7**
YAK *e* 02 32 12.9
YAK *e*PPP PPP 02 33 56.8
YAK *e*S **S** **02 38 46.6 -0.7**
YAK *e**SS **SKSac** **02 39 22.9 -9.5**
YAK *e* 02 39 31.0
YAK *e*SS **SS** **02 43 24.1 +1.7**
YAK pmax pmax
comp=Z,47nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.7s
YAK pmax pmax
comp=E,2.0nm,0.6s
YAK pmax pmax
comp=Z,151nm,5.1s
YAK pmax pmax
comp=N,184nm,6.6s
YAK pmax pmax
comp=E,103nm,7.2s
YAK smax smax
comp=N,158nm,6.1s
YAK smax smax
comp=E,115nm,5.7s
JLN Jalan Bani Buh 71.25 297 P **P** **02 29 33.8 -1.1**
ZAA0 Zalesovo Array 71.49 336 IAmb IAmb 02 29 35.8
comp=Z,22nm,1.1s
ZALV Zalesovo Beam 71.49 336 P **P** **02 29 34.0 -1.7**
ZALV Zalesovo Beam 71.49 336 P **P** **02 29 34.4 -1.3**
comp=Z,9.4nm,0.5s,baz=128,slow=4.5,SNR=55
ZALV S **S** **02 38 42.5 -8.0**
comp=Z,2.0nm,0.9s,baz=139,slow=11,SNR=6.2
comp=Z,9.4nm,0.5s
MA2 Magadan 71.78 14 P **P** **02 29 37.6 +0.3**
MA2 Magadan 71.78 14 P **P** **02 29 36.8 -0.4**
comp=Z,27nm,0.7s,baz=159,slow=3.9,SNR=14
comp=Z,27nm,0.7s
MA2 Magadan 71.78 14 *ce*P **P** **02 29 37.3 0.0**
MA2 pmax pmax
comp=Z,60nm,2.5s
MA2 Magadan 71.78 14 P **P** **02 29 37.6 +0.3**
MA2 pP **pP** **02 29 52.1 +0.6**
SBA Scott Base 71.78 171 P **P** **02 29 38.9 +1.8**
WBK Wadi Bani Khal 71.78 297 P **P** **02 29 37.8 -0.3**
KURBB Kurchatov Arra 71.89 331 P **P** **02 29 37.4 -0.7**
comp=Z,8.9nm,0.8s,baz=141,slow=5.4,SNR=66
comp=Z,8.9nm,0.8s
KURK Kurchatov 71.91 331 P **P** **02 29 37.8 -0.4**
KURK IAmb IAmb 02 29 39.4
comp=Z,18nm,1.0s
KURK Kurchatov 71.91 331 *ce*P **P** **02 29 37.8 -0.4**
KURK pmax pmax
comp=Z,27nm,1.3s
KURK Kurchatov 71.91 331 P **P** **02 29 37.6 -0.6**
MHTO MHTO 72.16 296 P **P** **02 29 39.3 -1.1**
DQM DQM 72.23 294 P **P** **02 29 39.3 -1.5**
WSAR Wadi Sarin 72.28 298 P **P** **02 29 40.9 -0.2**
JMDO Jabal Madar 72.46 297 P **P** **02 29 41.8 -0.4**
SNR=5.7
SMDO Samad 72.73 298 P **P** **02 29 43.3 -0.5**
SNR=12
BIDO Bidbid 72.80 298 P **P** **02 29 44.0 -0.2**
SNR=7.0
RAR Rarotonga 73.22 109 LR LR 02 59 20.6
comp=Z,31nm,20.9s,baz=190,slow=34
BSY Bisya 73.37 297 P **P** **02 29 47.0 -0.6**
SNR=6.4
HOQ Hoqain 73.53 298 P **P** **02 29 48.3 -0.2**
DMTO DMTO 73.97 291 P **P** **02 29 50.5 -0.6**
SOHO SOHO 74.38 298 P **P** **02 29 52.7 -0.7**
UOSS Minazif 74.92 299 P **P** **02 29 56.0 -0.5**
UOSS Minazif 74.92 299 P **P** **02 29 55.9 -0.5**
UOSS Minazif 74.92 299 *i* P **P** **02 29 55.6 -0.9**
SNR=6.7
HATD Hatta, Dubai 74.94 299 P **P** **02 29 56.6 -0.1**
HATD Hatta, Dubai 74.94 299 *i* P **P** **02 29 56.2 -0.5**
SNR=9.3
MDH Madha 74.94 299 P **P** **02 29 55.0 -1.7**
MDH Madha 74.94 299 P **P** **02 29 55.0 -1.7**
DOK Doka 74.96 292 P **P** **02 29 55.9 -1.0**
SNR=10
ASHO Ashiyiah 74.96 299 P **P** **02 29 56.8 -0.1**
ASHO Ashiyiah 74.96 299 *i* P **P** **02 29 56.6 -0.2**
SNR=12
ALNE Al Ain 75.04 298 P **P** **02 29 57.3 0.0**
ALNE Al Ain 75.04 298 P **P** **02 29 57.1 -0.1**
MSFE Esma-Masafi 75.08 299 *i* P **P** **02 29 57.3 -0.2**
SNR=8.8
MASF Masafi 75.08 299 P **P** **02 29 57.7 +0.1**
WHFO Wadi Hawf 75.10 291 P **P** **02 29 56.7 -1.1**
SNR=15
SEY Seymchan 75.12 13 P **P** **02 29 56.7 -0.1**
comp=Z,25nm,0.7s,baz=217,slow=4.6,SNR=86
comp=Z,25nm,0.7s
SEY Seymchan 75.12 13 *i* P **P** **02 29 56.3 -0.5**
SEY pmax pmax
comp=Z,25nm,0.9s
BANOM Banah 75.14 300 P **P** **02 29 57.5 -0.4**
BANOM Banah 75.14 300 *i* P **P** **02 29 57.7 -0.1**
SNR=8.7
UMZA Um Al Zommool 75.16 296 P **P** **02 29 57.7 -0.2**
SHME Shamm 75.31 300 *i* P **P** **02 29 58.7 -0.1**
SNR=5.6
FAQ Al Faqa, Dubai 75.38 299 P **P** **02 29 58.8 -0.4**
FAQ Al Faqa, Dubai 75.38 299 P **P** **02 29 58.8 -0.4**
ABTO Aybut 75.39 291 P **P** **02 29 58.6 -0.9**
NAZ Nazwa, Dubai 75.40 299 P **P** **02 29 59.0 -0.3**
NAZ Nazwa, Dubai 75.40 299 *i* P **P** **02 29 58.2 -1.1**
SNR=7.6
ASUD Al Ashush, Dub 75.58 298 P **P** **02 30 00.4 0.0**
ASUD Al Ashush, Dub 75.58 298 P **P** **02 30 00.3 0.0**
MZR Muzera 76.73 296 P **P** **02 30 06.6 -0.3**
MZR Muzera 76.73 296 *i* P **P** **02 30 06.4 -0.6**
SNR=7.5
BVAR Borovoye Array 77.34 330 P **P** **02 30 09.3 -0.4**
comp=Z,3.4nm,0.6s,baz=131,slow=8.4,SNR=14
comp=Z,3.4nm,0.6s
BRVK Borovoye 77.42 330 P **P** **02 30 09.4 -0.7**
BRVK Borovoye 77.42 330 *ce*P **P** **02 30 10.3 +0.2**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
SYO Syowa Base 79.61 201 ⇑*e*P **P** **02 30 24.0 +2.0**
SYO Syowa Base 79.61 201 ⇑*es*P sP 02 30 37.2 -5.0
QSPA South Pole Qui 80.67 180 P **P** **02 30 29.0 +1.1**
QSPA IAmb IAmb 02 30 29.7
comp=Z,18nm,0.7s
QSPA South Pole Qui 80.67 180 P **P** **02 30 28.3 +0.4**
comp=Z,18nm,0.7s,baz=306,slow=1.0,SNR=116
QSPA PKKP **PKKPdf** **02 49 00.8 +1.6**
comp=Z,1.2nm,1.1s,baz=174,slow=2.8,SNR=2.1
QSPA LR LR 03 05 58.5
comp=Z,88nm,20.2s,baz=286,slow=36
comp=Z,18nm,0.7s
TIXI Tiksi 80.85 1 P **P** **02 30 27.2 -1.2**
TIXI IAmb IAmb 02 30 28.7
comp=Z,12nm,0.9s
TIXI Tiksi 80.85 1 *ce*P **P** **02 30 27.0 -1.4**
TIXI pmax pmax
comp=Z,15nm,1.0s
ABKAR Akbulak array 81.16 323 P **P** **02 30 29.2 -1.4**

ABKAR **Akbulak array** 81.16 323 IAmb IAmb 02 30 30.7
comp=Z,8.0nm,1.2s
TBI **Tubuai** 82.53 112 *e*LR LR 02 56 22.8
comp=Z,581nm,35.8s
BILL **Bilibino** 82.61 15 *i* P **P** **02 30 36.7 -1.1**
BILL pmax pmax
comp=Z,16nm,2.7s
NRIK **Noril'sk** 82.62 348 P **P** **02 30 38.0 +0.2**
comp=Z,5.0nm,0.7s,baz=143,slow=7.2,SNR=9.2
comp=Z,5.0nm,0.7s
NRIK **Noril'sk** 82.62 348 P **P** **02 30 38.0 +0.2**
AKTO **Aktyubinsk** 82.79 324 LR LR 03 12 00.9
comp=Z,40nm,18.6s,baz=255,slow=39
PPT2 **Papeete2** 83.15 107 *e*LR LR 02 56 48.5
comp=Z,94nm,33.0s
PPT2 *e*LR LR 02 56 51.0
comp=Z,104nm,27.5s
RAYN **Ar Rayn** 83.96 295 P **P** **02 30 46.0 +0.2**
RAYN **Ar Rayn** 83.96 295 P **P** **02 30 46.0 +0.2**
RAYN pmax pmax
comp=Z,18nm,0.8s
RAYN **Ar Rayn** 83.96 295 *i* P **P** **02 30 45.8 0.0**
SNR=28
ELIB **Princess Elisa** 84.71 198 *d*P **P** **02 30 50.2 +1.4**
comp=Z,8.5nm,0.9s
ARTI **Arti** 85.05 329 P **P** **02 30 48.9 -1.6**
ARTI IAmb IAmb 02 30 51.7
comp=Z,8.4nm,0.7s
ARTI **Arti** 85.05 329 *d i*P **P** **02 30 49.5 -1.0**
ARTI 02 34 03.2
ARTI S **SKSac** **02 41 10.3 -0.6**
ARTI SS **SS** **02 46 45.6 -4.7**
ARTI pmax pmax
comp=Z,8.0nm,0.7s
KIBK **Kibwezi** 86.37 268 P **P** **02 30 59.4 +1.2**
KMBO **Kilima Mbogo** 87.34 269 P **P** **02 31 04.6 +1.5**
KMBO **Kilima Mbogo** 87.34 269 P **P** **02 31 03.3 +0.2**
comp=Z,4.1nm,0.7s,baz=76,slow=7.2,SNR=16
comp=Z,4.1nm,0.7s
KMBO **Kilima Mbogo** 87.34 269 *i* P **P** **02 30 59.5 -3.6**
KMBO **Kilima Mbogo** 87.34 269 *i* P **P** **02 31 04.4 +1.3**
SNR=8.0
M14K **Bethel** 90.06 28 IAmb IAmb 02 31 15.9
comp=Z,13nm,0.9s
KBZ **Khabaz** 90.54 314 P **P** **02 31 16.6 -0.6**
comp=Z,2.9nm,0.9s,baz=192,slow=4.2,SNR=9.4
comp=Z,2.9nm,0.9s
KBZ **Khabaz** 90.54 314 *ce*P **P** **02 31 17.2 +0.1**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
TROLL **Troll, Antarti** 90.60 195 ⇓P **P** **02 31 18.7 +1.6**
comp=Z,560nm,0.8s
KIV **Kislovodsk** 90.74 314 *e*P **P** **02 31 16.8 -1.4**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR 02 31 27.2
comp=Z,25nm,20.0s
SNAA **Sanae** 92.16 195 P **P** **02 31 25.6 +1.3**
SNAA **Sanae** 92.16 195 ⇓P **P** **02 31 25.7 +1.4**
comp=Z,262nm,0.8s
SNAA **Sanae** 92.16 195 P **P** **02 31 24.9 +0.6**
comp=Z,9.7nm,0.7s,baz=197,slow=6.4,SNR=39
comp=Z,9.7nm,0.7s
SNAA **Sanae** 92.16 195 P **P** **02 31 25.6 +1.3**
SNAA pmax pmax
comp=Z,9.0nm,0.8s
E18K **Tukpahlearik C** 92.73 22 IAmb IAmb 02 31 27.2
comp=Z,9.3nm,1.0s
VNA2 **Neumayer--Watz** 93.76 194 ⇓P **P** **02 31 32.6 +1.0**
comp=Z,5.7nm,0.7s,baz=157,slow=6.1
BOSA **Boshof** 93.80 240 P **P** **02 31 32.8 0.0**
comp=Z,1.5nm,0.7s,baz=116,slow=7.9,SNR=3.7
comp=Z,1.5nm,0.7s
LSZ **Lusaka** 93.82 254 P **P** **02 31 34.3 +1.2**
LSZ IAmb IAmb 02 31 35.2
comp=Z,4.3nm,0.8s
LSZ **Lusaka** 93.82 254 P **P** **02 31 34.3 +1.2**
LSZ pmax pmax
comp=Z,4.0nm,0.9s
H19K **Roundabout Mou** 93.82 24 IAmb IAmb 02 31 32.7
comp=Z,9.1nm,1.1s
MBAR **Mbarara** 93.86 269 P **P** **02 31 33.8 +0.3**
MBAR IAmb IAmb 02 31 35.4
comp=Z,8.6nm,0.9s
MBAR **Mbarara** 93.86 269 *i* P **P** **02 31 31.8 -1.6**
MBAR pmax pmax
comp=Z,8.0nm,0.9s
D19K **Kuna River** 93.94 21 IAmb IAmb 02 31 32.5
comp=Z,7.5nm,0.8s
E19K **Redstone River** 93.99 22 IAmb IAmb 02 31 32.9
comp=Z,8.1nm,0.8s
VNA3 **Neumayer Olymp** 94.08 193 ⇓P P 02 31 27.0 -6.1
comp=Z,3.4nm,0.8s
VNA1 **Neumayer--Stat** 94.16 194 ⇓P **P** **02 31 37.0 +3.6**
comp=Z,12nm,1.0s
EIL **Elat** 94.37 299 LR LR 03 19 33.2
comp=Z,20nm,18.1s,baz=74,slow=39
MMAI **Mount Meron Ar** 94.46 303 P **P** **02 31 35.5 -0.2**
comp=Z,0.5nm,0.4s,baz=79,slow=7.5,SNR=2.1
MMAI LR LR 03 16 51.0
comp=Z,42nm,21.5s,baz=124,slow=37
comp=Z,0.5nm,0.4s
F20K **Avaraart Lake** 94.46 23 IAmb IAmb 02 31 35.1
comp=Z,5.2nm,1.0s
D20K **Etivluk River** 94.53 21 IAmb IAmb 02 31 35.2
comp=Z,7.8nm,0.9s
B21K **Ikpikpuk River** 95.43 20 IAmb IAmb 02 31 39.4
comp=Z,6.0nm,0.9s
E22K **Anaktuvuk Pass** 96.15 22 IAmb IAmb 02 31 43.0
comp=Z,4.7nm,0.8s
OBN **Obninsk** 96.53 325⇑ *e*P **P** **02 31 43.3 -1.1**
OBN *e**PP **pP** **02 31 55.7 -3.5**
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR 02 31 45.2
comp=Z,40nm,19.0s
G23K **Bananza Creek** 96.61 24 IAmb IAmb 02 31 45.2
comp=Z,5.5nm,1.0s
COLD **Coldfoot** 96.62 23 IAmb IAmb 02 31 45.2
comp=Z,5.2nm,1.1s
SUR **Sutherland** 96.62 236 LR LR 03 09 18.9
comp=Z,64nm,19.6s,baz=141,slow=32
D23K **Nanushuk River** 96.69 21 IAmb IAmb 02 31 46.3
comp=Z,5.7nm,0.9s
BRTR **Keskin Array B** 96.73 309 P **P** **02 31 44.2 -1.8**
comp=Z,0.4nm,0.6s,baz=103,slow=6.2,SNR=2.5
comp=Z,0.4nm,0.6s
C23K **Itkillik River** 96.84 20 IAmb IAmb 02 31 45.8
comp=Z,4.9nm,0.8s
E23K **Chandalar** 96.95 22 IAmb IAmb 02 31 47.3
comp=Z,6.0nm,0.9s
D24K **Happy Valley** 97.38 21 IAmb IAmb 02 31 49.0
comp=Z,5.3nm,1.1s
ILAR **Eielson Array** 97.67 26 P **P** **02 31 46.8 -2.6**
comp=Z,0.6nm,0.6s,baz=231,slow=6.0,SNR=9.6
ILAR PKiKP **PKiKP** **02 36 23.6 +0.2**
comp=Z,0.2nm,0.6s,baz=249,slow=3.3,SNR=2.6
J26L **Joseph Creek** 99.08 26 IAmb IAmb 02 31 55.6
comp=Z,4.7nm,0.8s
AKASG **Malin Array Be** 100.64 320 P **Pdif** **02 32 00.7 -2.3**
comp=Z,0.3nm,0.4s,baz=70,slow=4.9,SNR=2.2
ARCES **ARCESS Array B** 101.92 339 P **Pdif** **02 32 07.7 -0.5**
comp=Z,3.9nm,0.9s,baz=78,slow=4.9,SNR=3.9
ARCES PKiKP **PKiKP** **02 36 31.3 +0.5**
comp=Z,1.7nm,0.7s,baz=114,slow=1.5,SNR=8.8
FINES **FINESS Array B** 102.28 331 P **Pdif** **02 32 10.0 0.0**
comp=Z,2.9nm,1.1s,baz=46,slow=6.0,SNR=1.4
FINES PKiKP **PKiKP** **02 36 31.9 +0.3**
comp=Z,0.8nm,0.4s,baz=87,slow=2.0,SNR=15
SPITS **Spitsbergen Ar** 102.81 348 PKiKP **PKiKP** **02 36 32.8 +0.5**
comp=Z,14nm,1.1s,baz=97,slow=6.0,SNR=1.6
VYHS **Vyhne** 107.47 318 *e*P **Pdif** **02 32 36.4 +3.0**
VYHS **Vyhne** 107.47 318 *e*PDIFF **Pdif** **02 32 36.4 +3.0**
HFS **Hagfors** 108.47 330 PKiKP **PKiKP** **02 36 43.1 0.0**
comp=Z,1.7nm,1.0s,baz=68,slow=8.0,SNR=1.3
NOA **NORSAR Array B** 109.42 332 PKiKP **PKiKP** **02 36 44.2 -0.7**
comp=Z,0.7nm,0.8s,baz=261,slow=3.2,SNR=3.4
SOKA **Soboth** 110.24 316 *e*PKiKP **PKiKP** **02 36 47.5 +0.5**
comp=Z,0.5nm,0.4s
GERES **GERESS Array B** 110.79 319 PKiKP **PKiKP** **02 36 48.5 +0.5**
comp=Z,0.3nm,0.4s,baz=29,slow=3.0,SNR=4.0
ABTA **Abfaltersbach** 111.94 317 *i* PKiKP **PKiKP** **02 36 50.4 +0.2**
comp=Z,1.1nm,0.6s
YKA **Yellowknife Ar** 112.10 26 PKiKP **PKiKP** **02 36 50.6 +0.7**
comp=Z,2.0nm,1.0s,baz=303,slow=1.6,SNR=17
YKA PKKPbc **PKKPbc** **02 47 42.0 -1.9**
comp=Z,0.3nm,0.9s,baz=104,slow=3.9,SNR=4.6

WTTA **Wattenberg** 112.44 317 *e*PKiKP **PKiKP** **02 36 52.0 +0.7**
comp=Z,1.8nm,0.3s
WATA **Walderalm** 112.47 317 *i* PKiKP **PKiKP** **02 36 51.6 +0.3**
comp=Z,0.7nm,0.3s
SQTA **Sankt Quirin** 112.73 317 *i* PKiKP **PKiKP** **02 36 51.9 +0.1**
comp=Z,0.3nm,0.2s
MOTA **Moosalm** 112.78 317 *i* PKiKP **PKiKP** **02 36 51.9 0.0**
comp=Z,1.0nm,0.4s
FETA **Feichten** 113.09 317 *i* PKiKP **PKiKP** **02 36 53.2 +0.6**
comp=Z,0.4nm,0.3s
DAVA **Damuels** 113.61 318 *i* PKiKP **PKiKP** **02 36 54.0 +0.5**
comp=Z,1.1nm,0.3s
NVAR **Mina Array Bea** 116.81 52 **PKiKP** **02 37 02.1 +2.0**
NVAR **Mina Array Bea** 116.81 52 PKP **PKiKP** **02 37 00.1 +0.1**
comp=Z,1.5nm,0.6s,baz=248,slow=2.6,SNR=14
PLID **Pearl Lake** 117.09 44 PKPdf **PKiKP** **02 37 01.7 +1.3**
EKA **Eskdalemuir Ar** 118.59 329 PKP **PKiKP** **02 37 02.7 +0.1**
comp=Z,0.7nm,0.4s,baz=14,slow=3.7,SNR=11
PDAR **Pinedale Array** 122.21 45 PKPdf **PKiKP** **02 37 11.4 +0.9**
PDAR **Pinedale Array** 122.21 45 PKP **PKiKP** **02 37 11.2 +0.7**
comp=Z,3.8nm,0.7s,baz=251,slow=0.7,SNR=33
FCC **Fort Churchill** 122.56 23 PKPdf **PKiKP** **02 37 10.2 -0.1**
FCC **Fort Churchill** 122.56 23 PKIKP **PKiKP** **02 37 10.2 -0.1**
TORD **Torodi Ar. Bea** 124.10 280 PKP **PKiKP** **02 37 15.1 +0.4**
comp=Z,82nm,0.3s,baz=115,slow=0.9,SNR=1.4
ESDC **Sonseca Array** 125.36 312 **PKiKP** **02 37 17.8 +1.2**
ESDC **Sonseca Array** 125.36 312 PKP **PKiKP** **02 37 17.0 +0.5**
comp=Z,1.8nm,0.7s,baz=17,slow=3.2,SNR=13
ULM **Lac du Bonnet** 127.19 32 PKP **PKiKP** **02 37 19.7 -0.1**
comp=Z,6.6nm,0.9s,baz=302,slow=3.8,SNR=15
PLCA **Paso Flores** 128.23 165 PKP **PKiKP** **02 37 22.9 +0.6**
comp=Z,1.8nm,1.0s,baz=44,slow=23,SNR=2.5
DBIC **Dimbokro** 130.05 271 PKP **PKiKP** **02 37 27.5 +0.9**
comp=Z,7.2nm,0.4s,baz=85,slow=2.3,SNR=20
ECSD **EROS Data Cent** 130.39 39 PKPdf **PKiKP** **02 37 26.8 +0.3**
TXAR **Lajitas Array** 130.58 59 PKP **PKiKP** **02 37 28.2 +0.8**
comp=Z,2.6nm,0.8s,baz=208,slow=1.7,SNR=11
TXAR PKKP **PKKPdf** **02 47 28.1 +0.6**
comp=Z,0.1nm,0.6s,baz=66,slow=1.5,SNR=3.6
SCHQ **Scheefferville** 133.69 9 PKP **PKiKP** **02 37 32.0 -0.7**
comp=Z,2.7nm,0.3s,baz=18,slow=2.7,SNR=28
I42A **Draeger Farm,** 134.84 34 **PKiKP** **02 37 34.5 -0.9**
SSPA **Standing Stone** 142.91 29 PKPpre 02 37 44.5
Q56A **Snyder Ridge,** 143.47 32 PKPdf PKPbc 02 37 46.7 -0.5
GBN **Guysborough** 143.65 7 PKPdf PKPbc 02 37 47.7 +0.3
BG3 **Lake Jocassee** 144.05 41 PKPdf PKPbc 02 37 49.5 +0.4
CPUP **Villa Florida** 144.50 177 **PKPdf** **02 37 51.8 -0.3**
CPUP **Villa Florida** 144.50 177 PKP **PKPdf** **02 37 51.5 -0.5**
comp=Z,4.2nm,0.6s,baz=180,slow=2.2,SNR=19
CPUP **Villa Florida** 144.50 177 PKIKP **PKPdf** **02 37 51.8 -0.3**
GOGA **Godfrey** 144.66 43 PKPdf **PKPdf** **02 37 51.8 -0.3**
GOGA **Godfrey** 144.66 43 PKIKP **PKPdf** **02 37 51.8 -0.3**
PB16 **IPOC Station P** 149.12 153 **PKiKP** **02 38 06.4 +0.3**
PB18 **Visviri** 149.79 152 **PKiKP** **02 38 09.0 +1.6**
SOR **Soroa** 150.24 60 PKPab **PKiKP** **02 38 09.1 +1.5**
SOR **Soroa** 150.24 60 PKIKP **PKiKP** **02 38 09.1 +1.5**
LPAZ **La Paz** 151.54 153 PKPbc **PKiKP** **02 38 12.0 +0.8**
comp=Z,2.1nm,0.4s,baz=39,slow=6.7,SNR=12
LPAZ PKPab **PKPab** **02 38 19.7 +0.6**
comp=Z,12nm,0.7s,baz=175,slow=2.0,SNR=29
BDFB **Brasilia** 154.18 196 PKPbc **PKPbc** **02 38 15.6 -0.4**
comp=Z,2.4nm,0.8s,baz=162,slow=3.2,SNR=3.9

IDC 07 02:47:27.3±7.3, 30°.41S×177°.80W, h0km, mb3.4/2, mbtmp3.4/2, MS3.1/1, Error ellipse: s-maj=294.2km s-min=65.3km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	28.69	70	LR	LR	03 05 05.8	
comp=Z,37nm,18.2s,baz=236,slow=37							
ASAR	**Alice Springs**	43.28	267	P	P	02 55 30.7	-0.2
0.5nm,0.8s,baz=111,slow=8.5,SNR=4.1							
0.5nm,0.8s							
WRA	**Warramunga Arr**	44.27	272	P	P	02 55 39.0	+0.1
0.2nm,0.4s,baz=113,slow=7.9,SNR=1.6							
0.2nm,0.4s							
FINES	**FINESS Array B**	145.21	340	PKPbc	PKPbc	03 07 04.8	-1.0
1.7nm,0.9s,baz=359,slow=7.0,SNR=1.9							

*ISN **07** 02:48:42.2±0.5, 33°.76N×45°.74E, h18km±13km, ML2.5*
*TEH **07** 02:48:42.4, 33°.78N×45°.78E, h10km±244km*
ISC 07 02:48:42.3±1.0, 33°.77N±0°.04×45°.79E±0°.05, h10km, n8, σ0°55/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	0.36	17	Pg	**Pg**	02 48 49.5	0.0
IBDR	**Badra**	0.67	170	*e*Pg	**Pg**	02 48 55.0	-0.3
IBDR				*e*Sg	**Sg**	02 49 04.0	-0.1
IGHG	**Ghaleghazi**	0.85	49	Pg	**Pb**	02 48 59.4	-0.1
IDHR	**Dehrash**	1.05	28	Pg	**Pb**	02 49 02.8	+0.1
KCHF	**Cheshme Sefid,**	1.16	64	Pg	**Pb**	02 49 04.5	0.0
BHD	**Baghdad**	1.28	247	*e*Pn	**Pb**	02 49 06.5	0.0
BHD				*e*Sn	**Sg**	02 49 24.0	+0.6
IKFM	**Kafar-mosalman**	1.74	98	Pg	**Pb**	02 49 14.7	+0.4
IKRK	**Kirkuk**	2.02	324	*e*Pn	**Pn**	02 49 17.0	+0.6
IKRK				*e*Sn	**Sb**	02 49 43.0	-1.2

*BJI **07** 02:59:52.0, 56°.30N×154°.20W, h15km, mB5.1/12, mb5.0/40, Ms4.8/19, Ms7 4.7/19*
*NEIC **07** 02:59:57.0±1.6, 56°.28N±0°.04×154°.31W±0°.08, h10km±1km, Error ellipse: s-maj=9.1km s-min=4.2km az=130.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr4.93; Mθθ-0.46; Mφφ-4.48; Mrθ1.28; Mθφ-4.19; Mφr2.23; Fault plane solution: M0 6.82000×10^15 NP1: φs214.37000°, δ33.47000°, λ93.19000°. NP2: φs30.55000°, δ56.59000°, λ87.89000°. Principal axes: T 5.4620, Plg78.0000°, Azm293.0000°; N 2.1818, Plg2.0000°, Azm32.0000°; P -7.6437, Plg12.0000°, Azm122.0000°;*
*PMR **07** 02:59:58.0, 56°.30N×154°.39W, h16km*
*ANF **07** 02:59:58.9±0.3, 56°.30N×154°.33W, h27km±3km, ML5.0/43, Error ellipse: s-maj=1.9km s-min=1.1km az=177.0*
*IDC **07** 02:59:59.7±2.5, 56°.39N×154°.58W, h24km±14km, mb4.5/28, mbtmp4.7/30, ML4.8/2, MS3.9/53, Error ellipse: s-maj=14.8km s-min=10.1km az=175.0*
*AEIC **07** 03:00:01.4±1.9, 56°.25N±0°.05×154°.20W±0°.08, h15km±4km, ML4.6, mb4.7/170(NEIC), ML4.7/70(NEIC), Mwr4.5/165(NEIC), Mww4.5/19(NEIC), Error ellipse: s-maj=8.7km s-min=4.2km az=136.0*
*NEIC **07** 03:00:01.4, 56°.15N×155°.00W, h24km, Moment Tensor Solution. Duration: 1s2 Moment tensor: Scale 10^15Nm; Mrr5.09; Mθθ-1.49; Mφφ-3.60; Mrθ3.70; Mθφ-2.87; Mφr4.38; Fault plane solution: M0 7.84000×10^15 NP1: φs210.08000°, δ21.67000°, λ81.76000°. NP2: φs38.94000°, δ68.57000°, λ93.26000°. Principal axes: T 7.5991, Plg66.0000°, Azm315.0000°; N 0.4821, Plg3.0000°, Azm218.0000°; P -8.0812, Plg24.0000°, Azm126.0000°;*
*NEIC **07** 03:00:01.4, 56°.25N×154°.20W, h24km*
*NEIC **07** 03:00:01.4, 56°.25N×154°.20W, h15km*
*BGR **07** 03:00:08.9, 57°.68N×156°.97W, h33km, mb4.7, Hypocentre not reviewed by the ISC*
ISC 07 02:59:58.0±0.9, 56°.31N±0°.03×154°.32W±0°.03, h17km±5km, n667, σ1°.92/582, mb4.8/140, MS3.9/57, 17C-19D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	0.26	16		**Pb**	03 00 05.8	+1.6
SII	**Sitkinak Islan**	0.26	16		**Sn**	03 00 10.9	-1.8
SII	**Sitkinak Islan**	0.26	16	P	**Pb**	03 00 05.4	+1.2
SII	**Sitkinak Islan**	0.26	16	S	**Sg**	03 00 10.6	+2.8
SII	**Sitkinak Islan**	0.26	16	P	**Pb**	03 00 05.8	+1.6
baz=204,SNR=1000							
SII				S	**Sn**	03 00 10.9	-1.8
baz=204							
CHIR	**Chirikof Islan**	0.88	237	Pg	**Pb**	03 00 15.0	+0.2
CHIR				IAML		03 00 37.1	
comp=N,45μm,0.7s							
CHIR				IAML		03 00 39.5	
comp=E,33μm,0.9s							
CHIR	**Chirikof Islan**	0.88	237		**Sg**	03 00 27.4	+0.8
CHIR	**Chirikof Islan**	0.88	237	P	**Pb**	03 00 15.0	+0.2
CHIR	**Chirikof Islan**	0.88	237	S	**Sg**	03 00 27.5	+0.8
CHIR	**Chirikof Islan**	0.88	237	P	**Pb**	03 00 15.0	+0.2
baz=54,SNR=154							
CHIR				S	**Sg**	03 00 26.8	+0.1
baz=54							
OHAK	**Old Harbor**	1.08	31		**Sg**	03 00 34.0	+1.1
OHAK	**Old Harbor**	1.08	31		**Pb**	03 00 18.0	-0.1
OHAK	**Old Harbor**	1.08	31	P	**Pb**	03 00 17.8	-0.3
OHAK	**Old Harbor**	1.08	31	S	**Sn**	03 00 32.8	+0.1
OHAK	**Old Harbor**	1.08	31	P	**Pb**	03 00 18.0	-0.1
baz=214,SNR=279							
OHAK				S	**Sb**	03 00 32.0	+0.1
baz=214							
R18K	**Karluk**	1.26	357	P	**Pn**	03 00 21.1	+0.3
baz=178							
R18K				S	**Sg**	03 00 38.6	-0.2
baz=178							
KDAK	**Kodiak Island**	1.75	32	Pn	**Pn**	03 00 27.3	-0.2
KDAK	**Kodiak Island**	1.75	32		**Sn**	03 00 48.7	-0.7
KDAK	**Kodiak Island**	1.75	32	Pn	**Pn**	03 00 27.6	0.0
comp=E,34nm,0.3s,baz=61,slow=7.0,SNR=222							
KDAK				Sn	**Sn**	03 00 48.0	-1.5
comp=E,112nm,0.3s,baz=356,slow=15,SNR=7.1							
KDAK				Lg		03 00 57.2	
comp=E,268nm,0.3s,baz=274,slow=13,SNR=12							
KDAK				LR	LR	03 01 06.6	
comp=E,769nm,18.0s,baz=130,slow=38							
KDAK	**Kodiak Island**	1.75	32	P	**Pn**	03 00 27.4	-0.2
baz=214							
KDAK				S	**Sn**	03 00 47.9	-1.5
baz=214							
PLK1	**Peulik 1**	1.95	321		**Pn**	03 00 30.9	+0.7
PLBL	**Peulik Blue Cr**	1.95	317		**Pn**	03 00 31.0	+0.7
ACHA	**Angle Creek He**	1.98	344		**Pn**	03 00 31.1	+0.3
ANCK	**Angle Creek**	2.00	342		**Pn**	03 00 31.4	+0.4
CNTC	**Contact Creek**	2.14	337		**Pn**	03 00 33.1	+0.2
Q17K	**Contact Creek**	2.14	337	P	**Pn**	03 00 33.2	+0.3
baz=157,SNR=984							
Q17K				Sb	**Sb**	03 01 03.5	+1.1
baz=157							
R16K	**Pilot Point**	2.19	307		**Pn**	03 00 33.7	+0.2
R16K				IAML		03 01 28.9	
comp=N,8μm,1.0s							
R16K	**Pilot Point**	2.19	307	P	**Pn**	03 00 33.7	+0.2
baz=125,SNR=39							
R16K				Sb	**Sg**	03 01 07.3	-0.9
baz=125							
KAHG	**Katmai Hook Gl**	2.19	357		**Pn**	03 00 34.5	+0.8
KELA	**Mount Kelaz**	2.27	341		**Pn**	03 00 35.0	+0.3
CHGN	**Chignik**	2.28	271		**Pn**	03 00 34.6	-0.2
CHGN				IAML		03 01 14.1	
comp=N,6μm,0.7s							
CHGN				IAML		03 01 19.6	
comp=E,4μm,0.9s							
CHGN	**Chignik**	2.28	271	P	**Pn**	03 00 34.2	-0.6
baz=88,SNR=32							
CHGN				Sb	**Sb**	03 01 08.3	+1.7
baz=88							
Q18K	**Katmai Hardscr**	2.38	351	P	**Pn**	03 00 36.7	+0.5
baz=172,SNR=320							
Q18K				Sb	**Sb**	03 01 11.8	+2.4
baz=172							
Q20K	**Shuyak Island**	2.53	23	P	**Pn**	03 00 38.3	+0.1
baz=206,SNR=25							
Q20K				Sb	**Sg**	03 01 17.3	-1.9
baz=206							
SYI	**Shuyak Island**	2.53	23	Pn	**Pn**	03 00 38.4	+0.2
SYI				IAML		03 01 29.0	
comp=E,3μm,0.8s							
Q19K	**Cape Douglas,**	2.65	8		**Pn**	03 00 40.9	+1.0
Q19K	**Cape Douglas,**	2.65	8	P	**Pn**	03 00 40.8	+0.8
baz=189,SNR=33							
Q16K	**King Salmon**	2.69	333	P	**Pn**	03 00 40.0	-0.3
baz=152,SNR=66							
Q16K				S	**Sn**	03 01 12.6	+0.1
baz=152							
S14K	**Fog Glacier**	2.92	272	P	**Pn**	03 00 43.6	-0.1
baz=88,SNR=8.3							
S14K				Sb	**Sb**	03 01 27.7	+2.8
baz=88							
AUCH	**Augustine Cone**	3.10	8		**Pn**	03 00 47.2	+1.1
P17K	**Kvichak River**	3.11	339	P	**Pn**	03 00 46.1	0.0
baz=158,SNR=57							
P17K				Sb	**Sb**	03 01 34.0	+3.7
baz=158							
P18K	**Big Mountain,**	3.13	351		**Pn**	03 00 46.5	-0.1
P18K	**Big Mountain,**	3.13	351	P	**Pn**	03 00 46.4	-0.1
baz=171,SNR=54							
P18K				Sb	**Sb**	03 01 33.5	+2.5
baz=171							
CHNA	**Chernabura Isl**	3.34	246	P	**Pn**	03 00 48.7	-0.6
CHNA	**Chernabura Isl**	3.34	246	P	**Pn**	03 00 48.8	-0.5
baz=61,SNR=25							
CNBA	**Chernabura Isl**	3.35	246		**Pn**	03 00 48.6	-0.7
CNBA				IAML		03 02 05.5	
comp=N,2μm,1.2s							
P16K	**Nushagak River**	3.37	326		**Pn**	03 00 49.6	-0.1
P16K	**Nushagak River**	3.37	326	P	**Pn**	03 00 49.6	-0.1
baz=143,SNR=34							
P19K	**Oil Pt**	3.40	9		**Pn**	03 00 51.0	+0.8
P19K				IAML		03 01 58.9	
comp=E,2μm,1.3s							
P19K				IAML		03 02 00.8	
comp=N,2μm,0.8s							
P19K	**Oil Pt**	3.40	9	P	**Pn**	03 00 51.0	+0.8
baz=191,SNR=11							
P19K				S	**Sn**	03 01 31.4	+1.3
baz=191							
O18K	**Koktuh Hills**	3.59	353	Pn	**Pn**	03 00 53.0	+0.3
O18K				IAML		03 01 53.9	
comp=N,1μm,0.9s							
O18K				IAML		03 01 59.1	
comp=E,1μm,1.1s							
O18K	**Koktuh Hills**	3.59	353	P	**Pn**	03 00 53.0	+0.3
baz=173,SNR=72							
SDPT	**Sand Point**	3.61	257	Pn	**Pn**	03 00 53.0	0.0
SDPT				IAML		03 02 05.3	
comp=E,2μm,1.1s							
SDPT	**Sand Point**	3.61	257	P	**Pn**	03 00 52.8	-0.2
SDPT	**Sand Point**	3.61	257	P	**Pn**	03 00 53.0	0.0
baz=72,SNR=28							
SDPT				Sb	**Sb**	03 01 48.0	+3.4
baz=72							
CNPM	**China Poot**	3.62	26		**Pn**	03 00 53.4	+0.2
CNPM				IAML		03 02 04.7	
comp=E,2μm,1.1s							
CNPM				IAML		03 02 06.1	
comp=N,1μm,1.3s							
HOM	**Homer**	3.65	22		**Pn**	03 00 54.3	+0.8
HOM	**Homer**	3.65	22	P	**Pn**	03 00 53.6	0.0
baz=205							
ILSW	**Iliamna Southw**	3.74	9		**Pn**	03 00 55.1	+0.3
ILSW				IAML		03 02 06.9	
comp=E,1μm,1.0s							
O17K	**Koliganek Bris**	3.77	338	P	**Pn**	03 00 55.0	-0.3
baz=156,SNR=49							
O16K	**Kokwok River B**	3.86	330	IAML		03 02 02.8	
comp=N,905nm,0.8s							
O16K	**Kokwok River B**	3.86	330	P	**Pn**	03 00 56.1	-0.3
baz=148,SNR=26							
O20K	**Slope Mountain**	3.89	13	P	**Pn**	03 00 57.0	+0.1
baz=195,SNR=31							
O19K	**Port Alsworth**	3.90	360	IAML		03 02 04.9	
comp=N,1μm,0.5s							
O19K	**Port Alsworth**	3.90	360	P	**Pn**	03 00 57.3	+0.4
baz=181,SNR=54							
BRLK	**Bradley Lake**	3.91	26	Pn	**Pn**	03 00 56.7	-0.6
BRLK				IAML		03 02 15.0	
comp=N,920nm,1.0s							
BRLK				IAML		03 02 16.6	
comp=E,1μm,0.8s							
BRSE	**Bradley Lake S**	3.93	27	P	**Pn**	03 00 57.0	-0.4
baz=211,SNR=11							
O15K	**Ungalikthiuk R**	4.12	317	Pn	**Pn**	03 01 00.1	0.0
O15K				IAML		03 02 19.3	
comp=N,694nm,0.9s							
O15K				IAML		03 02 22.4	
comp=E,809nm,1.0s							
O15K	**Ungalikthiuk R**	4.12	317	P	**Pn**	03 00 60.0	0.0
baz=132,SNR=54							
N18K	**Kilae Creek**	4.46	350	IAML		03 02 31.1	
comp=E,584nm,1.1s							
N18

baz=160
N19K Bonanza Creek 4.52 359 IAML 03 02 22.1
comp=E,611nm,1.0s
N19K Bonanza Creek 4.52 359 P Pn 03 01 06.6 +1.0
baz=179,SNR=63
N19K Sb Sb 03 02 15.2 +4.3
baz=179
SEW Seward 4.59 32 P Pn 03 01 05.7 -0.8
baz=216
SLKM Skilak Lake 4.73 25 IAML 03 02 34.9
comp=N,587nm,1.4s
SLKM IAML 03 02 37.8
comp=E,595nm,1.1s
O14K Tigyukauivet M 4.75 311 Pn 03 01 08.8 +0.1
O14K IAML 03 02 40.4
comp=N,565nm,0.9s
O14K IAML 03 02 44.3
comp=E,452nm,1.4s
O14K Tigyukauivet M 4.75 311 P Pn 03 01 08.4 -0.3
baz=126,SNR=12
N16K Nishlik Lake 4.79 333 P Pn 03 01 09.1 -0.1
baz=149,SNR=36
O22K Cooper Landing 4.83 28 P Pn 03 01 09.7 -0.1
baz=212
N15K Kwethluk River 4.93 324 IAML 03 02 40.9
comp=N,649nm,1.0s
N15K IAML 03 02 53.6
comp=E,592nm,1.3s
N15K Kwethluk River 4.93 324 P Pn 03 01 11.6 +0.4
baz=140,SNR=72
SPCR Spurr Chakacha 5.03 12 P Pn 03 01 12.7 +0.2
baz=194,SNR=14
P23K Montague Islan 5.20 42 IAML 03 03 05.3
comp=N,412nm,1.5s
P23K IAML 03 03 05.6
comp=E,441nm,1.1s
P23K Montague Islan 5.20 42 P Pn 03 01 15.4 +0.5
baz=228
M18K Stony River 5.26 352 P Pn 03 01 16.2 +0.6
baz=171,SNR=138
M16K Timber Creek 5.31 335 IAML 03 03 10.6
comp=N,454nm,1.2s
M16K IAML 03 03 12.0
comp=E,429nm,1.3s
M16K Timber Creek 5.31 335 P Pn 03 01 16.6 +0.2
baz=151,SNR=51
N14K Kuskokwak Cree 5.33 316 P Pn 03 01 16.8 +0.3
baz=130,SNR=41
RC01 Rabbit Creek A 5.35 25 IAML 03 03 06.4
comp=E,332nm,1.3s
RC01 Rabbit Creek A 5.35 25 P Pn 03 01 16.9 -0.1
baz=209
M17K Holitna River 5.36 344 P Pn 03 01 17.3 +0.2
baz=162,SNR=49
FALS False Pass 5.37 258 P Pn 03 01 17.7 +0.6
FALS False Pass 5.37 258 P Pn 03 01 16.5 -0.6
baz=70
SUA Susitna One 5.49 18 P Pn 03 01 18.5 -0.4
baz=202,SNR=6.8
M15K Kasigluk River 5.52 325 P Pn 03 01 19.1 -0.1
baz=140,SNR=33
PWL Port Wells 5.53 32 P Pn 03 01 18.5 -0.9
baz=217,SNR=19
M19K Big River Lodg 5.61 360 P Pn 03 01 21.2 +0.7
baz=180
M20K Styx River 5.62 6 P Pn 03 01 21.6 +0.8
baz=187,SNR=37
SKT Skwentna 5.87 13 P Pn 03 01 25.0 +1.0
baz=196,SNR=19
M22K Willow 5.87 20 P Pn 03 01 23.9 -0.1
baz=204
L19K White Mountain 5.90 358 P Pn 03 01 25.2 +0.7
baz=178,SNR=151
GLI Glacier Island 5.93 36 P Pn 03 01 24.0 -0.9
baz=223
PMR Palmer 5.94 25 P Pn 03 01 24.4 -0.5
PMR Palmer 5.94 25 P Pn 03 01 24.7 -0.2
baz=209
KNK Knik Glacier 5.95 28 P Pn 03 01 24.4 -0.8
baz=214
M14K Bethel 5.99 321 P Pn 03 01 25.7 +0.1
baz=135,SNR=42
L16K Owhat River 6.04 336 P Pn 03 01 25.7 -0.6
baz=152,SNR=20
L18K Granite Mounta 6.05 349 P Pn 03 01 26.9 +0.3
baz=168,SNR=129
EYAK Cordova Ski Ar 6.19 43 P Pn 03 01 27.6 -0.8
EYAK Cordova Ski Ar 6.19 43 P Pn 03 01 28.2 -0.2
baz=231
L17K Donlin 6.19 342 P Pn 03 01 28.3 -0.2
baz=159,SNR=46
L20K Farewell, AK 6.19 2 P Pn 03 01 29.0 +0.5
baz=183,SNR=107
M13K Dall Lake 6.29 315 P Pn 03 01 29.9 +0.2
baz=127,SNR=37
SML Sawmill 6.32 27 P Pn 03 01 30.7 +0.5
baz=212
KAIM Kayak Island 6.37 51 P Pn 03 01 31.1 +0.1
baz=240
CUT Chulitna 6.45 17 P Pn 03 01 32.0 0.0
baz=201,SNR=7.1
M23K Glacier View 6.46 29 P Pn 03 01 32.4 +0.2
baz=215
L15K Ungalak Mounta 6.53 328 P Pn 03 01 32.7 -0.5
baz=143,SNR=28
SCM Sheep Creek Mo 6.61 30 P Pn 03 01 34.1 -0.1
baz=216,SNR=19
L14K Kuka Creek 6.66 323 P Pn 03 01 34.7 -0.1
baz=136
PPLA Purkeypile 6.70 8 P Pn 03 01 36.4 +0.9
baz=191
TTA Tatalina 6.70 353 P Pn 03 01 35.9 +0.4
TTA Tatalina 6.70 353 P Pn 03 01 35.9 +0.4
baz=172,SNR=37
K17K Iditarod 6.74 344 P Pn 03 01 36.2 +0.2
baz=161,SNR=62
KLU Klutina 6.77 36 P Pn 03 01 36.3 -0.2
baz=224,SNR=12
BMRM Bremner River 6.89 43 Pn 03 01 37.7 -0.4
BMRM Bremner River 6.89 43 P Pn 03 01 37.7 -0.4
baz=232,SNR=10
K15K Wolf Creek Mou 7.04 331 P Pn 03 01 40.3 +0.2
baz=146,SNR=32
K20K Telida 7.07 1 P Pn 03 01 40.4 -0.2
baz=182,SNR=47
M24K Tolsona, Glenn 7.16 32 P Pn 03 01 42.2 +0.5
baz=220,SNR=9.7
CAST Castle Rocks 7.22 8 P Pn 03 01 42.9 +0.3
baz=190,SNR=71
J18K Innoko River 7.28 351 P Pn 03 01 43.6 +0.2
baz=170,SNR=112
N25K Chitina, Valde 7.31 39 P Pn 03 01 43.9 +0.1
baz=228
UNV Unalaska Valle 7.42 256 P Pn 03 01 44.2 -1.1
baz=66
TRF Thorofare Moun 7.44 14 P Pn 03 01 46.5 +0.7
baz=198,SNR=10
M11K Mekoryuk 7.47 308 P Pn 03 01 45.6 -0.3
baz=118
GLB Gilahina Butte 7.49 42 Pn 03 01 46.0 -0.2
VRDI Verde Repeater 7.49 44 Pn 03 01 46.0 -0.5
J17K VABM Dome 7.50 343 P Pn 03 01 46.0 -0.4
baz=160,SNR=40
MESA MESA 7.59 54 P Pn 03 01 48.8 +1.0
baz=245
CHUM Lake Minchumin 7.66 7 P Pn 03 01 48.6 -0.1
baz=189,SNR=14
J16K Anvik River 7.68 338 P Pn 03 01 48.3 -0.5
baz=153,SNR=24
HARP HAARP 7.69 34 P Pn 03 01 49.0 0.0
baz=222
J19K Poorman 7.74 356 P Pn 03 01 49.7 +0.1
baz=175,SNR=78
K13K Kusilvak Mount 7.75 321 P Pn 03 01 49.9 +0.1
baz=132,SNR=40
J20K Nowinta River 7.89 1 P Pn 03 01 51.5 -0.3
baz=181,SNR=49
MCK McKinley 7.92 18 P Pn 03 01 52.2 +0.1
baz=203,SNR=12
J14K Nanvaranak Lak 7.98 328 P Pn 03 01 52.0 -0.9
baz=140
BPAW Bear Paw Mtn. 7.99 11 P Pn 03 01 53.1 0.0
baz=194,SNR=10
PAX Paxson 8.04 30 P Pn 03 01 54.1 +0.2
baz=218,SNR=16
I17K Unalakleet 8.24 340 P Pn 03 01 56.3 -0.2
baz=155
PINM Pinnacle 8.34 57 P Pn 03 01 58.3 +0.4
baz=249
M26K Nabesna, AK 8.40 39 P Pn 03 01 59.3 +0.5
baz=229
I20K Naaghedeneel 8.52 360 P Pn 03 02 00.4 +0.1
baz=180
GCSA Galena City Sc 8.56 353 P Pn 03 02 01.4 +0.5
baz=171,SNR=19
PNL Peninsula 8.61 61 P Pn 03 02 01.2 -0.4
PNL Peninsula 8.61 61 P Pn 03 02 01.5 -0.1
baz=254
O28M Mount Upton 8.63 53 P Pn 03 02 02.1 -0.1
baz=245
K24K Donnelly Dome 8.64 26 P Pn 03 02 02.3 +0.3
baz=214,SNR=12
NEA2 Nenana 8.70 15 P Pn 03 02 02.0 -0.9
baz=200,SNR=18
L26K Log Cabin Wild 8.72 35 P Pn 03 02 03.0 -0.1
baz=225
M27K Edge Creek, AK 8.77 41 P Pn 03 02 04.8 +0.8
baz=232
SPIA Saint Paul Isl 8.80 282 P Pn 03 02 03.9 -0.4
baz=89
RIDG Independent Ri 8.82 28 P Pn 03 02 05.1 +0.5
baz=217
HDA Harding Lake 8.90 21 P Pn 03 02 05.8 +0.2
baz=208,SNR=16
I21K Tanana 8.97 6 P Pn 03 02 06.4 -0.2
baz=189,SNR=24
YUK3 Moose Creek 8.99 47 P Pn 03 02 07.6 +0.5
baz=239
YUK8 Steele Glacier 9.04 51 P Pn 03 02 08.6 +0.8
baz=243,SNR=14
NIKH Nikolski High 9.07 254 P Pn 03 02 07.4 -0.5
NIKH Nikolski High 9.07 254 P Pn 03 02 06.9 -1.0
baz=62
H17K Granite Mounta 9.08 345 P Pn 03 02 08.8 +0.8
baz=160,SNR=23
H18K Honhosa River 9.09 349 P Pn 03 02 08.9 +0.7
baz=166,SNR=74
COLA College 9.15 18 Pn 03 02 10.1 +1.0
COLA College 9.15 18 P Pn 03 02 08.6 -0.4
COLA College 9.15 18 P Pn 03 02 09.6 +0.6
baz=203
BVCY Beaver Creek 9.19 43 P Pn 03 02 10.1 +0.5
baz=234
I23K Minto, Yukon-K 9.19 13 P Pn 03 02 08.4 -1.1
baz=198,SNR=25
O29M Mount Kennedy 9.19 58 P Pn 03 02 09.9 +0.1
baz=251,SNR=8.2
H16K Elim 9.22 338 P Pn 03 02 09.6 -0.3
baz=152
H20K Anotleneega Mo 9.22 359 P Pn 03 02 09.8 -0.1
baz=178,SNR=30
ILAR Eielson Array 9.24 20 Pn 03 02 09.0 -1.2
ILAR Eielson Array 9.24 20 Pn Pn 03 02 08.9 -1.2
comp=E,1.2nm,0.3s,baz=203,slow=14,SNR=68
ILAR Sn Sn 03 03 46.1 -7.4
comp=E,3.1nm,0.3s,baz=207,slow=24,SNR=6.7
ILAR LR LR 03 06 06.4
comp=E,814nm,18.4s,baz=213,slow=40
SCRK Sand Creek 9.24 29 P Pn 03 02 10.5 +0.1
baz=219
L27K Beaver Creek, 9.24 38 P Pn 03 02 10.7 +0.4
baz=229
H19K Roundabout Mou 9.31 354 P Pn 03 02 11.1 0.0
baz=173,SNR=14
H21K Melozitna Rive 9.41 4 P Pn 03 02 12.6 0.0
baz=185,SNR=42
P29M Windy Craggy 9.41 62 P Pn 03 02 12.9 +0.2
baz=257,SNR=6.8
J25K Salcha River, 9.42 24 P Pn 03 02 13.0 +0.2
baz=212,SNR=31
POKR Poker Plat Res 9.45 18 P Pn 03 02 12.5 -0.6
baz=204,SNR=22
YUK6 Outpost Mounta 9.52 54 P Pn 03 02 14.7 +0.4
baz=248
YUK4 Talbot Arm 9.55 52 P Pn 03 02 15.4 +0.7
baz=245
G17K Kiwalik Mounta 9.72 344 P Pn 03 02 16.4 -0.3
baz=159
H22K Ishtalitna Cre 9.72 7 P Pn 03 02 16.3 -0.6
baz=190
J26L Joseph Creek 9.77 28 P Pn 03 02 17.9 +0.3
baz=218,SNR=12
H23K Yukon River 9.82 12 P Pn 03 02 17.1 -1.1
baz=196,SNR=18
K27K Chicken 9.84 33 P Pn 03 02 18.1 -0.3
baz=224
G18K Tagagawik 9.84 350 P Pn 03 02 18.5 0.0
baz=166
HYT Haines Junctio 9.87 56 P Pn 03 02 19.5 +0.6
baz=250
ANM Nome 9.90 331 Pn 03 02 19.5 +0.2
ANM Nome 9.90 331 P Pn 03 02 19.4 +0.2
baz=142
G16K Koyuk River 9.91 340 P Pn 03 02 19.7 +0.3
baz=153
P30M Million Dollar 9.91 60 P Pn 03 02 19.8 +0.3
baz=255
G15K Niukluk 9.92 335 P Pn 03 02 18.9 -0.6
baz=147
G19K Purcell Mounta 9.96 353 P Pn 03 02 19.9 -0.1
baz=171,SNR=9.4
S31K Pelican 9.97 73 P Pn 03 02 19.3 -0.9
baz=268
H24K Noodor Dome 10.05 15 P Pn 03 02 21.0 -0.4
baz=201,SNR=17
PLBC Pleasant Camp 10.06 64 P Pn 03 02 21.6 +0.1
baz=260
M29M Somme Creek 10.14 46 P Pn 03 02 22.6 0.0
baz=240
PRP Porcupine Dome 10.17 21 Pn 03 02 24.3 +1.3
PRP Porcupine Dome 10.17 21 P Pn 03 02 23.8 +0.8
baz=209,SNR=21
G21K Allakaket 10.25 2 P Pn 03 02 23.9 -0.1
baz=183
R31K City Hall, Gus 10.25 70 P Pn 03 02 24.4 +0.4
baz=266
N30M Aishikik Lake 10.29 53 P Pn 03 02 24.6 0.0
baz=248
SIT Sitka 10.47 78 P Pn 03 02 26.1 -1.0
SIT Sitka 10.47 78 P Pn 03 02 26.2 -1.0
baz=274
O30N Mendenhall 10.51 57 P Pn 03 02 27.5 -0.2
baz=253
I26K Coal Creek Min 10.52 26 P Pn 03 02 27.9 +0.1
baz=216
SKAG Skagway 10.58 65 Pn 03 02 28.9 +0.3
SKAG Skagway 10.58 65 P Pn 03 02 29.2 +0.6
SKAG Skagway 10.58 65 P Pn 03 02 28.7 +0.1
baz=261
L29M L29M 10.62 43 Pn 03 02 29.4 +0.2
L29M L29M 10.62 43 P Pn 03 02 28.8 -0.3
baz=238
F18K Selawik 10.63 348 P Pn 03 02 29.3 +0.1
baz=164,SNR=8.6
G23K Bananza Creek 10.63 9 P Pn 03 02 29.0 -0.4
baz=193,SNR=16
F15K North Star Dit 10.66 336 Pn 03 02 30.8 +1.2
F15K North Star Dit 10.66 336 P Pn 03 02 29.7 +0.1
baz=148
F19K Shaleruckik Mo 10.69 353 P Pn 03 02 29.9 -0.1
baz=170
F17K Baldwin Pennin 10.69 345 P Pn 03 02 30.2 +0.2
baz=159
DAWY Dawson 10.73 37 Pn 03 02 31.9 +1.2
DAWY Dawson 10.73 37 P Pn 03 02 30.5 -0.1
baz=231
G22K Bettles 10.73 6 P Pn 03 02 30.0 -0.6
baz=189,SNR=22
H25L Birch Creek 10.78 19 P Pn 03 02 31.3 +0.1
baz=206
F20K Avaraart Lake 10.80 357 P Pn 03 02 31.7 +0.2
baz=176
S32K Killisnoo 10.86 76 P Pn 03 02 32.4 0.0
baz=272
F14K Arctic Creek 10.87 333 P Pn 03 02 32.2 -0.3
baz=142
N31M Braeburn, Yuko 10.88 54 P Pn 03 02 32.5 -0.2
baz=250
M30M Minto, Yukon 10.88 48 P Pn 03 02 32.8 0.0
baz=243
R32K Eaglecrest 10.89 71 P Pn 03 02 32.7 -0.1
baz=268
G24K Hadweenzic Riv 10.92 14 P Pn 03 02 31.4 -1.8
baz=201,SNR=14
JIS Juneau Island 10.96 71 P Pn 03 02 33.3 -0.4
F21K Alatna River 10.96 2 P Pn 03 02 33.0 -0.7
baz=183,SNR=18
WHY Whitehorse 11.05 59 Pn 03 02 35.2 +0.1
WHY Whitehorse 11.05 59 P Pn 03 02 34.7 -0.4
baz=255
COLD Coldfoot 11.12 8 P Pn 03 02 34.6 -1.4
baz=192,SNR=9.2
I27K Kandik River 11.15 28 P Pn 03 02 36.2 -0.2
baz=219
FYU Fort Yukon 11.15 19 Pn 03 02 36.4 0.0
G25K Bearman Lake 11.19 17 P Pn 03 02 36.4 -0.4
baz=204,SNR=7.1
K29M Barlow Dome 11.25 41 P Pn 03 02 38.2 +0.3
baz=236
E19K Redstone River 11.27 354 Pn 03 02 38.9 +0.9
E19K Redstone River 11.27 354 P Pn 03 02 37.9 -0.1
baz=172,SNR=16
F22K John River 11.28 4 P Pn 03 02 38.2 0.0
baz=186
TNA Tin City 11.37 330 P Pn 03 02 38.9 -0.3
baz=138
E17K Hotham Inlet 11.37 345 P Pn 03 02 39.5 +0.1
baz=159
J29N Klondike Camp 11.37 38 P Pn 03 02 40.0 +0.5
baz=232
P32M Atlin 11.41 65 P Pn 03 02 39.7 -0.3
baz=262
GAMB Gambell 11.44 318 P Pn 03 02 39.7 -0.5
baz=123
I28M Miner Creek 11.50 31 P Pn 03 02 41.0 -0.2
baz=224
E18K Tukpahlearik C 11.53 348 P Pn 03 02 41.2 -0.3
baz=162,SNR=27
F24K Squaw Lake 11.64 12 P Pn 03 02 40.9 -2.2
baz=198
H27K Steamboat Moun 11.67 26 P Pn 03 02 42.6 -0.9
baz=218
M31M Drury Creek, Y 11.75 52 P Pn 03 02 44.6 0.0
baz=249
G26K Porcupine Rive 11.77 21 P Pn 03 02 44.2 -0.6
baz=210
T33K Petersburg 11.79 79 P Pn 03 02 45.3 +0.2
baz=276
U33K Whale Pass 11.80 82 P Pn 03 02 44.2 -1.0
baz=280
CRAG Craig 11.92 85 P Pn 03 02 47.7 +0.8
CRAG Craig 11.92 85 P Pn 03 02 46.2 -0.7
baz=283
E22K Anaktuvuk Pass 11.92 5 P Pn 03 02 46.1 -0.9
baz=187,SNR=15
I29M Ogilvie Camp, 11.93 34 P Pn 03 02 47.1 +0.1
baz=228
P33M Teslin, Yukon 11.96 62 P Pn 03 02 46.5 -1.0
baz=260
E23K Chandalar 11.99 9 P Pn 03 02 46.3 -1.6
baz=193,SNR=12
F25K Christian Rive 12.02 16 P Pn 03 02 46.7 -1.5
baz=204,SNR=14
E20K Nigu River 12.02 357 P Pn 03 02 47.3 -1.1
baz=175
N32M Quiet Lake 12.02 57 P Pn 03 02 47.1 -1.2
baz=256
BMAR Burnt Mountain 12.04 18 Pn 03 02 46.9 -1.7
Q32M Nakina River 12.09 68 P Pn 03 02 48.7 -0.8
baz=267
J30M Hart River 12.10 39 P Pn 03 02 48.8 -0.7
baz=235
G27K Doyon Strip 12.10 24 P Pn 03 02 48.9 -0.5
baz=216
E24K Your Creek 12.11 10 P Pn 03 02 48.2 -1.3
baz=196,SNR=15
D17K Noatak River 12.13 344 P Pn 03 02 48.3 -1.4
baz=156
WRAK Wrangell Islan 12.17 80 P Pn 03 02 50.5 +0.2
baz=276
E21K Killik River 12.18 1 P Pn 03 02 49.9 -0.5
baz=181
FARO Faro, Yukon 12.22 52 P Pn 03 02 51.2 +0.2
baz=250
ATKA Atka Island 12.32 259 P Pn 03 02 52.4 +0.1
D19K Kuna River 12.35 353 Pn 03 02 54.1 +1.3
D19K Kuna River 12.35 353 P Pn 03 02 52.3 -0.5
baz=170,SNR=7.6
F26K Sheenjek River 12.36 18 P Pn 03 02 51.4 -1.5
baz=208
RDOG Red Dog Mine 12.43 345 P Pn 03 02 51.9 -1.9
baz=158
I30M Mount Dempster 12.47 37 P Pn 03 02 53.0 -1.4
baz=233
D20K Etivluk River 12.49 356 P Pn 03 02 54.2 -0.5
baz=174,SNR=11
H29M Whitestone 12.51 31 P Pn 03 02 53.7 -1.2
baz=225
E25K Arctic Village 12.52 15 P Pn 03 02 53.3 -1.8
baz=203
TOLK Toolik Lake Re 12.56 8 P Pn 03 02 55.4 -0.3
baz=192,SNR=5.9
D22K Ayikyak River 12.64 3 P Pn 03 02 56.1 -0.6
baz=184
S34M Telegraph Cree 12.69 73 P Pn 03 02 57.7 +0.4
baz=273
C18K Utukok River 12.77 349 P Pn 03 02 58.1 -0.4
baz=163
R33M Jennings River 12.79 66 P Pn 03 02 58.5 -0.4
baz=266
V35K Ketchikan 12.79 85 P Pn 03 02 58.5 -0.3
baz=284
D23K Nanushuk River 12.81 6 P Pn 03 02 57.7 -1.3
baz=189
C21K Knifeblade Rid 12.90 359 P Pn 03 02 59.6 -0.6
baz=179
C16K Lisburne Hills 13.02 342 P Pn 03 03 02.0 +0.1
baz=152
EPYK Eagle Plains 13.09 33 P Pn 03 03 02.4 -0.5
baz=228
G29M Pine Creek 13.10 29 P Pn 03 03 02.7 -0.3
baz=224
D24K Happy Valley 13.13 9 P Pn 03 03 02.2 -1.1
baz=194
T35M Bob Quinn 13.24 77 P Pn 03 03 05.2 +0.2
baz=277
DLBC Dease Lake 13.25 71 Pn Pn 03 03 05.4 +0.2
comp=E,0.6nm,0.3s,baz=234,slow=14,SNR=9.7
DLBC Sn Sn 03 05 26.9 -5.1
comp=E,0.4nm,0.3s,baz=149,slow=20,SNR=2.0
DLBC LR LR 03 08 03.7
comp=E,590nm,19.4s,baz=280,slow=36
DLBC Dease Lake 13.25 71 P Pn 03 03 05.1 -0.1
baz=271
MMPY Sheldon Lake, 13.26 52 P Pn 03 03 04.6 -0.6
baz=252
E27K Coleen River 13.27 21 P Pn 03 03 04.8 -0.5
baz=212
B21K Ikpikpuk River 13.36 360 P Pn 03 03 05.7 -0.8
baz=180
H31M Peel River 13.50 37 P Pn 03 03 06.1 -2.3
baz=235
B18K Kokolik River 13.52 349 P Pn 03 03 06.2 -2.5
baz=162
D25K Kavik River 13.54 12 P Pn 03 03 06.7 -2.3
baz=199,SNR=5.6
G30M tAoh Zraii Nji 13.65 31 P Pn 03 03 08.7 -1.9
baz=227
C23K Itkillik River 13.68 5 P Pn 03 03 08.4 -2.4
baz=189,SNR=6.0
C24K Franklin Bluff 13.69 8 P Pn 03 03 08.6 -2.4
baz=194
B20K Meade River 13.81 356 P Pn 03 03 10.4 -2.1
baz=174
WTLY Watson Lake, Y 13.94 64 P Pn 03 03 12.8 -1.6
baz=265
E28M Babbage River 14.04 23 P Pn 03 03 13.8 -2.0
baz=216,SNR=17
B22K Teshekpuk Lake 14.09 1 P Pn 03 03 13.6 -2.8
baz=182,SNR=24
KIWB Kanaga Island 14.10 261 Pn 03 03 14.0 -2.7
C27K Jago River 14.17 15 P Pn 03 03 15.6 -1.9
baz=205,SNR=9.0
G31M Satah River 14.20 33 P Pn 03 03 16.7 -1.1
baz=231
F30M Barrier River 14.21 30 P Pn 03 03 16.9 -1.3
baz=226
E29M Blow River 14.24 25 P Pn 03 03 17.2 -1.4
baz=220
A19K Wainwright 14.26 351 P Pn 03 03 17.0 -1.7
baz=165
C26K Camden Bay 14.28 13 P Pn 03 03 17.5 -1.5
baz=202,SNR=21
D27M Malcolm River 14.29 19 P Pn 03 03 17.9 -1.3

baz=212,SNR=12
TGTN Hyland Airport 14.37 58 P **Pn 03 03 19.7 -0.7**
baz=260,SNR=14
F31M Tsiigehtchic 14.69 32 P **Pn 03 03 23.3 -1.3**
baz=231,SNR=17
A22K Sinclair Lake 14.76 359 P **Pn 03 03 21.5 -4.0**
baz=179
D28M Stokes Point 14.80 22 P **Pn 03 03 24.7 -1.4**
baz=216,SNR=36
A21K Barrow 15.11 357 P **Pn 03 03 27.2 -3.0**
baz=175,SNR=16
INK Inuvik 15.31 30 IAmb IAmb 03 03 44.8
comp=Z,25nm,0.9s
INK Inuvik 15.31 30 Pn **P 03 03 35.8 -1.8**
comp=Z,1.2nm,0.3s,baz=226,slow=15,SNR=22
comp=Z,9.5nm,0.6s
INK Inuvik 15.31 30 P **Pn 03 03 31.5 -1.4**
baz=229,SNR=15
TOAD Toad River Com 15.74 69 P **Pn 03 03 38.4 -0.3**
baz=273,SNR=8.1
BBB Bella Bella 15.82 94 LR LR 03 08 44.3
comp=Z,514nm,18.8s,baz=284,slow=33
KOTAN Kotaneelee Air 16.31 64 P **Pn 03 03 46.0 +0.1**
baz=270
WRGLY Wrigley 16.87 53 P **Pn 03 03 53.3 +0.4**
baz=260
SHEM Shemya Is, Ala 18.59 272 P **P 03 04 12.7 -1.2**
comp=Z,9.1nm,0.3s,baz=80,slow=1.0,SNR=6.4
SHEM LR LR 03 11 57.1
comp=Z,364nm,19.3s,baz=90,slow=39
comp=Z,33nm,0.4s
C36M Paulatuk 18.72 34 IAmb IAmb 03 04 24.9
comp=Z,28nm,0.7s
C36M Paulatuk 18.72 34 P **P 03 04 15.5 +0.3**
baz=241,SNR=34
A36M Sachs Harbour 19.84 26 P **P 03 04 27.6 +0.1**
baz=233,SNR=153
YKA Yellowknife Ar 20.86 56 P **P 03 04 39.8 +1.1**
YKA Yellowknife Ar 20.86 56 P Pn 03 04 40.4 -0.7
comp=Z,5.0nm,0.9s,baz=274,slow=9.5,SNR=94
YKA ScP **ScP 03 12 21.9 +0.2**
comp=Z,0.8nm,0.9s,baz=276,slow=2.1,SNR=6.6
YKA LR LR 03 13 17.2
comp=Z,366nm,20.8s,baz=244,slow=38
comp=Z,5.0nm,0.9s
BILL Bilibino 21.36 319 P **P 03 04 42.9 -1.1**
BILL IAmb IAmb 03 04 43.7
comp=Z,62nm,1.2s
B08A Colville Reser 22.60 96 P **P 03 05 00.0 +2.5**
B08A IAmb IAmb 03 05 01.6
comp=Z,17nm,0.9s
HOOD Mount Hood Mea 23.16 104 IAmb IAmb 03 05 15.4
comp=Z,23nm,1.0s
H04A Detroit Lake 23.29 106 IAmb IAmb 03 05 09.7
comp=Z,43nm,1.3s
HAWA Hanford 23.64 100 P **P 03 05 11.1 +3.0**
HAWA IAmb IAmb 03 05 12.0
comp=Z,23nm,1.2s
NEW Newport 23.88 94 P **P 03 05 12.8 +2.4**
NEW Newport 23.88 94 LR LR 03 13 18.7
comp=Z,302nm,21.0s,baz=282,slow=33
E09A Wood Farm, Sta 24.33 98 IAmb IAmb 03 05 17.4
comp=Z,14nm,0.9s
PINE Pine Mountain 24.55 106 IAmb IAmb 03 05 21.4
comp=Z,32nm,1.3s
G08A Pilot Rock 24.64 102 IAmb IAmb 03 05 20.8
comp=Z,18nm,1.4s
J05D Fort Rock, OR 24.73 108 IAmb IAmb 03 05 23.0
comp=Z,23nm,0.9s
YBH Yreka Blue Hor 25.06 112 LR LR 03 13 14.1
comp=Z,303nm,18.2s,baz=327,slow=32
I07A Izee 25.12 104 IAmb IAmb 03 05 27.5
comp=Z,17nm,1.2s
WVOR Wild Horse Val 26.71 106 IAmb IAmb 03 05 43.5
comp=Z,11nm,1.0s
PETK Petropavlovsk- 27.46 284 P **P 03 05 41.3 -1.4**
PETK Petropavlovsk- 27.46 284 P **P 03 05 42.5 -0.2**
comp=Z,34nm,0.4s,baz=70,slow=12,SNR=146
PETK LR LR 03 16 27.7
comp=Z,134nm,21.6s,baz=66,slow=36
comp=Z,34nm,0.4s
MA2 Magadan 28.63 300 P **P 03 05 53.1 +0.1**
MA2 IAmb IAmb 03 05 53.4
comp=Z,22nm,1.1s
MA2 Magadan 28.63 300 LR LR 03 18 35.1
comp=Z,448nm,18.8s,baz=101,slow=39
RES Resolute Bay 28.86 28 P **P 03 05 55.2 +0.3**
RES IAmb IAmb 03 06 15.3
comp=Z,12nm,0.9s
RES Resolute Bay 28.86 28 LR LR 03 19 26.8
comp=Z,211nm,19.3s,baz=224,slow=40
YMR Madison River 29.44 95 IAmb IAmb 03 06 04.2
comp=Z,18nm,1.2s
NVAR Mina Array Bea 29.77 112 P **P 03 06 06.5 +2.8**
comp=Z,2.8nm,0.8s,baz=309,slow=8.6,SNR=19
NVAR PcP **PcP 03 09 06.3 -0.6**
comp=Z,0.1nm,0.3s,baz=335,slow=3.6,SNR=1.9
NVAR ScP **ScP 03 12 48.6 +0.8**
comp=Z,0.4nm,0.6s,baz=350,slow=4.7,SNR=3.7
NVAR LR LR 03 16 21.9
comp=Z,476nm,18.1s,baz=341,slow=33
comp=Z,2.8nm,0.8s
HWUT Hardware Ranch 31.11 100 IAmb IAmb 03 06 19.4
comp=Z,11nm,1.4s
EUNU Eureka 31.34 18 P **P 03 06 18.5 +1.6**
EUNU IAmb IAmb 03 06 20.3
comp=Z,7.0nm,0.8s
PDAR Pinedale Array 31.44 96 P **P 03 06 20.5 +2.1**
comp=Z,2.6nm,0.6s,baz=317,slow=4.3,SNR=30
PDAR LR LR 03 18 15.6
comp=Z,52nm,19.8s,baz=294,slow=35
comp=Z,2.6nm,0.6s
FCC Fort Churchill 31.48 60 P **P 03 06 19.4 +1.2**
FCC IAmb IAmb 03 06 28.0
comp=Z,4.5nm,0.7s
TPNV Topopah Spring 31.96 111 IAmb IAmb 03 07 04.5
comp=Z,16nm,1.5s
PRN Pahroc Range 32.24 109 IAmb IAmb 03 06 29.4
comp=Z,13nm,1.1s
BSUT Blindstream Ca 32.29 101 IAmb IAmb 03 06 29.3
comp=Z,7.5nm,0.8s
V12A Nelson 33.62 111 IAmb IAmb 03 06 41.6
comp=Z,5.8nm,0.9s
O20A White River Ci 33.95 99 IAmb IAmb 03 06 43.6
comp=Z,16nm,0.8s
TIXI Tiksi 34.12 327 P **P 03 06 40.4 -0.9**
TIXI Tiksi 34.12 327 LR LR 03 21 23.9
comp=Z,83nm,20.1s,baz=46,slow=38
PFO Pinyon Flats O 34.44 115 LR LR 03 18 57.5
comp=Z,263nm,18.8s,baz=300,slow=33
ULM Lac du Bonnet 34.52 75 P **P 03 06 45.1 +0.1**
comp=Z,1.8nm,0.8s,baz=302,slow=7.8,SNR=3.8
ULM LR LR 03 21 01.0
comp=Z,298nm,18.6s,baz=300,slow=36
comp=Z,1.8nm,0.8s
PV23 Carpenter Ridg 34.72 101 IAmb IAmb 03 06 50.4
comp=Z,12nm,0.7s
PV10 Paradox Valley 34.76 102 IAmb IAmb 03 06 52.0
comp=Z,6.8nm,0.8s
PV11 David Mesa, Pa 34.90 102 IAmb IAmb 03 06 52.0
comp=Z,8.5nm,0.8s
PV13 Radium Mtn., P 35.03 102 IAmb IAmb 03 06 52.5
comp=Z,6.1nm,0.7s
PV15 Paradox Valley 35.09 101 IAmb IAmb 03 06 56.6
comp=Z,10.0nm,0.8s
BLYC Blythe 35.32 113 IAmb IAmb 03 06 55.4
comp=Z,7.1nm,0.9s
AGMN Agassiz Nation 35.63 78 IAmb IAmb 03 07 04.0
comp=Z,7.2nm,0.8s
MVCO Mesa Verde 35.90 102 IAmb IAmb 03 07 00.0
comp=Z,5.5nm,0.8s
SDCO Great Sand Dun 37.15 99 IAmb IAmb 03 07 11.7
comp=Z,12nm,1.5s
YAK Yakutsk 37.27 311 LR LR 03 24 07.7
comp=Z,497nm,18.8s,baz=47,slow=39
EYMN Ely 38.20 75 P **P 03 07 17.3 +0.9**
EYMN IAmb IAmb 03 07 28.2
comp=Z,9.8nm,0.8s
NEEM North Greenlan 38.53 20 *i* P **P 03 07 19.5 +0.3**
NEEM IAmb IAmb 03 07 22.4
comp=Z,18nm,0.8s
KULLO Kullorsuaq 38.59 25 *i* P **P 03 07 20.4 +1.1**
KULLO IAmb IAmb 03 07 20.9
comp=Z,8.2nm,0.6s
ANMO Albuquerque 38.68 103 LR LR 03 22 30.9
comp=Z,134nm,19.9s,baz=107,slow=35
FRB Frobisher Bay 40.36 43 LR LR 03 25 39.8
comp=Z,189nm,18.4s,baz=294,slow=38

R32A Long Quarter, 40.43 92 IAmb IAmb 03 07 46.9
comp=Z,10nm,1.1s
NOR Nord 40.47 9 *e*P **P 03 07 34.5 -0.4**
NOR IAmb IAmb 03 07 36.4
comp=Z,3.8nm,0.6s
JKA Kamikawa-asahi 40.74 280 P **P 03 07 36.9 -0.6**
JKA IAmb IAmb 03 07 40.5
comp=Z,20nm,1.0s
ASAJ Asahikawa 40.74 280 LR LR 03 23 47.3
comp=Z,143nm,22.0s,baz=144,slow=35
I40A Norwalk 41.22 80 P **P 03 07 42.9 +1.3**
I40A IAmb IAmb 03 07 50.5
comp=Z,7.0nm,0.6s
H43A Windswept, Lux 42.40 77 IAmb IAmb 03 08 00.0
comp=Z,10nm,0.7s
P38A Dawn 42.48 87 IAmb IAmb 03 08 03.5
comp=Z,8.2nm,0.8s
E46A Sault Ste Mari 43.03 72 IAmb IAmb 03 08 34.0
comp=Z,16nm,1.3s
KLR Kul'dur 43.27 293 LR LR 03 26 09.8
comp=Z,96nm,21.5s,baz=58,slow=36
W35A Tecumseh 43.81 94 P **P 03 08 04.4 +1.8**
W35A IAmb IAmb 03 08 05.0
comp=Z,11nm,0.9s
SUMG Summit 44.07 23 P **P 03 08 05.2 +0.4**
SUMG IAmb IAmb 03 08 05.9
comp=Z,8.0nm,0.7s
SUMG Summit 44.07 23 *i* P **P 03 08 04.8 0.0**
SUMG IAmb IAmb 03 08 06.0
comp=Z,13nm,0.3s
HDIL Hopedale 44.19 82 IAmb IAmb 03 08 13.9
comp=Z,14nm,0.7s
U38A Gravette 44.26 90 P **P 03 08 07.1 +0.8**
TXAR Lajitas Array 44.50 106 P **P 03 08 10.8 +2.5**
TXAR Lajitas Array 44.50 106 P **P 03 08 10.7 +2.3**
comp=Z,1.8nm,0.7s,baz=313,slow=5.7,SNR=28
TXAR ScP **ScP 03 13 42.7 +0.2**
comp=Z,0.8nm,1.0s,baz=323,slow=6.2,SNR=3.5
comp=Z,1.8nm,0.7s
SFJD Kangerlussuaq 44.63 33 LR LR 03 27 22.8
comp=Z,179nm,18.3s,baz=310,slow=37
SFJD Kangerlussuaq 44.63 33 *e*P P 03 08 15.5 +6.7
SFJD IAmb IAmb 03 08 16.7
comp=Z,20nm,0.9s
HEH HeiHe 44.82 297 *e*P **P 03 08 07.8 -2.7**
HEH pmax pmax
comp=Z,8.0nm,0.9s
SPITS Spitsbergen Ar 45.65 3 P **P 03 08 16.9 +0.1**
comp=Z,17nm,0.8s,baz=9.9,slow=5.3,SNR=63
comp=Z,17nm,0.8s
SPB2 Spitsbergen Ar 45.65 3 P **P 03 08 16.9 +0.1**
JCT Junction City 45.70 101 IAmb IAmb 03 08 20.6
comp=Z,13nm,0.9s
N47A Urbana 45.94 79 IAmb IAmb 03 08 27.5
comp=Z,8.3nm,0.6s
DRIO Del Rio 46.08 103 IAmb IAmb 03 08 22.3
comp=Z,4.3nm,0.8s
MIAR Mount Ida 46.09 92 IAmb IAmb 03 08 43.6
comp=Z,9.1nm,1.1s
DBG Daneborg 46.10 16 *e*P **P 03 08 19.2 -1.2**
SCHQ Schefferville 46.26 53 P **P 03 08 22.9 +1.0**
comp=Z,3.1nm,0.7s,baz=312,slow=9.0,SNR=9.4
SCHQ LR LR 03 28 37.2
comp=Z,243nm,19.1s,baz=324,slow=37
comp=Z,3.1nm,0.7s
USRK Ussuriysk Ar. 46.42 288 P **P 03 08 21.4 -1.9**
comp=Z,1.4nm,0.5s,baz=52,slow=8.4,SNR=4.8
USRK LR LR 03 28 22.0
comp=Z,215nm,20.7s,baz=68,slow=37
comp=Z,1.4nm,0.5s
O48B Farmland 46.67 79 P **P 03 08 23.9 -1.4**
O48B IAmb IAmb 03 08 25.3
comp=Z,7.5nm,0.6s
N49A Columbus Grove 46.74 78 P **P 03 08 25.9 +0.1**
NRIK Noril'sk 46.92 335 P **P 03 08 26.9 +0.1**
NRIK Noril'sk 46.92 335 P **P 03 08 26.7 -0.2**
comp=Z,80nm,0.6s,baz=55,slow=6.5,SNR=82
NRIK LR LR 03 32 15.9
comp=Z,108nm,18.1s,baz=10.0,slow=41
P48A Milroy 47.08 80 IAmb IAmb 03 08 36.3
comp=Z,7.2nm,0.5s
BNX BinXian 47.78 292 ⇓P **P 03 08 33.0 -0.9**
BNX pmax pmax
comp=Z,11nm,1.3s
MJAR Matsushiro Arr 48.38 276 P **P 03 08 38.0 -0.7**
comp=Z,4.1nm,0.6s,baz=37,slow=6.4,SNR=20
MJAR LR LR 03 29 02.4
comp=Z,61nm,20.2s,baz=56,slow=36
comp=Z,4.1nm,0.6s
MJB9 Matsu-Tunnel 48.38 276 P **P 03 08 38.1 -0.5**
MJB9 IAmb IAmb 03 08 41.6
comp=Z,12nm,0.7s
MAJO Matsushiro 48.38 276 P **P 03 08 37.7 -1.0**
MAJO IAmb IAmb 03 08 40.6
comp=Z,12nm,0.8s
R50A Paris 48.52 81 IAmb IAmb 03 08 40.9
comp=Z,11nm,1.0s
CLTN Cedars of Leba 48.99 84 IAmb IAmb 03 08 45.4
comp=Z,6.6nm,0.7s
SCO Scoresbysund 49.02 19 P **P 03 08 43.8 +0.7**
SCO IAmb IAmb 03 08 44.3
comp=Z,14nm,1.4s
L56A Greenwood 49.46 72 IAmb IAmb 03 08 55.7
comp=Z,12nm,0.8s
JGF Kuroka 49.54 276 P **P 03 08 47.6 0.0**
JGF IAmb IAmb 03 08 48.8
comp=Z,11nm,0.7s
Z47A Carrollton 50.15 88 IAmb IAmb 03 09 00.9
comp=Z,12nm,0.6s
JMIC Jan Mayen 50.70 14 LR LR 03 31 49.5
comp=Z,36nm,19.1s,baz=137,slow=38
TKL Tuckaleechee C 50.72 83 LR LR 03 30 31.1
comp=Z,442nm,18.9s,baz=329,slow=36
JCJ Chichijima 53.28 264 LR LR 03 29 22.2
comp=Z,23nm,19.7s,baz=175,slow=33
KS19 Wonju Array Si 53.35 284 IAmb IAmb 03 09 17.4
comp=Z,14nm,0.8s
KSRS Koa Array 53.36 284 P **P 03 09 16.1 +0.1**
comp=Z,8.4nm,0.8s,baz=48,slow=6.5,SNR=40
KSRS LR LR 03 32 01.5
comp=Z,59nm,21.2s,baz=50,slow=36
comp=Z,8.4nm,0.8s
KSAR Wonju Array Be 53.39 284 P **P 03 09 15.7 -0.6**
BORG Borgarnes 54.05 23 LR LR 03 34 47.6
comp=Z,68nm,18.4s,baz=332,slow=39
ARCES ARCES Array B 54.46 0 P **P 03 09 23.4 -0.3**
comp=Z,7.0nm,0.8s,baz=23,slow=7.2,SNR=24
ARCES LR LR 03 34 53.1
comp=Z,49nm,18.3s,baz=200,slow=38
comp=Z,7.0nm,0.8s
XLT XiLinHaoTe 54.79 298 *e*P **P 03 09 26.4 -0.2**
XLT sP sP 03 09 35.7 +1.6
XLT pmax pmax
comp=Z,11nm,1.1s
XLT LR LR
comp=Z,17nm,16.9s
XLT LR LR
comp=Z,150nm,13.7s
XLT LR LR
comp=Z,230nm,14.6s
JNU Nakatsue 54.96 278 LR LR 03 33 48.4
comp=Z,82nm,21.0s,baz=34,slow=37
ULN Ulaanbaatar 56.11 307 P **P 03 09 35.6 -0.5**
ULN IAmb IAmb 03 09 36.9
comp=Z,10nm,0.8s
SONM Songino Array 56.43 307 P **P 03 09 38.7 +0.3**
SONM Songino Array 56.43 307 P **P 03 09 38.5 +0.1**
comp=Z,31nm,0.9s,baz=47,slow=7.4,SNR=128
SONM PcP **PcP 03 10 36.3 +1.1**
comp=Z,3.2nm,0.6s,baz=126,slow=2.0,SNR=4.8
SONM LR LR 03 35 32.6
comp=Z,401nm,19.9s,baz=46,slow=38
comp=Z,31nm,0.9s
CMIG Matias Romero 59.10 106 LR LR 03 35 14.7
comp=Z,62nm,19.5s,baz=351,slow=36
HHC Hu-ho-hao-te 59.30 298 *e*P P 03 10 04.0 +5.5
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,47nm,5.9s
ZAA0 Zalesovo Array 59.95 324 P **P 03 10 02.5 -0.2**
ZALV Zalesovo Beam 59.95 324 P **P 03 10 02.6 -0.1**
comp=Z,14nm,0.7s,baz=36,slow=7.3,SNR=66
ZALV LR LR 03 38 35.6
comp=Z,254nm,19.1s,baz=30,slow=39
comp=Z,14nm,0.7s
HNS HongShan 60.36 294 ⇑P **P 03 10 05.8 +0.1**

HNS pmax pmax
comp=Z,33nm,0.8s
HNS LR LR
comp=Z,190nm,16.5s
HNS LR LR
comp=Z,170nm,20.2s
NC204 NORSAR Array S 62.17 8 P **P 03 10 18.1 +0.4**
NJ2 Nanjing 62.31 287 *e*P **P 03 10 22.0 +3.0**
NJ2 pmax pmax
comp=Z,31nm,0.5s
NC405 NORSAR Array S 62.40 8 P **P 03 10 19.4 +0.2**
NB2 NORSAR Subarra 62.44 8 P **P 03 10 19.3 -0.2**
comp=Z,2.1nm,0.6s,baz=353,slow=6.9
NOA NORSAR Array B 62.44 8 P **P 03 10 19.7 +0.2**
comp=Z,3.5nm,0.7s,baz=352,slow=6.8,SNR=15
NOA LR LR 03 39 12.0
comp=Z,22nm,18.1s,baz=120,slow=38
comp=Z,3.5nm,0.7s
FINES FINESS Array B 62.59 360 P **P 03 10 20.4 0.0**
FINES FINESS Array B 62.59 360 P **P 03 10 20.2 -0.2**
comp=Z,7.5nm,0.7s,baz=2.8,slow=8.5,SNR=37
comp=Z,7.5nm,0.7s
HFS Hagfors 63.51 7 P **P 03 10 26.6 0.0**
comp=Z,5.7nm,0.5s,baz=39,slow=5.7,SNR=61
comp=Z,5.7nm,0.5s
LYN LuoYang 63.71 293 ⇑P **P 03 10 28.5 +0.2**
LYN pmax pmax
comp=Z,72nm,0.8s
LYN LR LR
comp=Z,160nm,10.7s
LYN LR LR
comp=Z,120nm,9.3s
LYN LR LR
comp=Z,230nm,13.4s
MEF Metsahovi 63.81 1 *e*P **P 03 10 28.1 -0.4**
SEM Semipalatinsk 64.45 325 *e*P **P 03 10 32.5 -0.7**
ARTI Arti 64.58 341 P **P 03 10 33.1 -0.6**
ARTI Arti 64.58 341 LR LR 03 44 09.4
comp=Z,117nm,18.3s,baz=26,slow=41
ARBE Arbavere 64.60 360 *e*P **P 03 10 33.0 -0.7**
KURK Kurchatov 64.70 326 P **P 03 10 33.6 -0.8**
KURK IAmb IAmb 03 10 35.3
comp=Z,7.8nm,0.8s
SNART Snartemo 64.75 11 *i* P **P 03 10 34.2 -0.4**
SNART IAmb IAmb 03 10 36.1
comp=Z,15nm,0.7s
KURBB Kurchatov Arra 64.81 326 P **P 03 10 34.9 -0.3**
comp=Z,6.7nm,0.8s,baz=27,slow=6.1,SNR=46
KURBB PP **PP 03 12 56.4 -0.7**
comp=Z,1.1nm,0.9s,baz=32,slow=8.7,SNR=2.4
KURBB LR LR 03 43 59.2
comp=Z,107nm,19.8s,baz=166,slow=41
comp=Z,6.7nm,0.8s
BRVK Borovoye 65.01 332 P **P 03 10 36.2 -0.3**
BVAR Borovoye Array 65.01 332 P **P 03 10 36.2 -0.3**
comp=Z,21nm,0.7s,baz=38,slow=7.5,SNR=89
BVAR LR LR 03 43 21.9
comp=Z,219nm,18.5s,baz=32,slow=40
comp=Z,21nm,0.7s
MTSE Matsula 65.31 1 *e*P **P 03 10 38.6 +0.2**
TJOU Tjoern 65.45 8 *i* P **P 03 10 39.3 0.0**
VSU Vasula 65.58 359 *e*P **P 03 10 39.5 -0.6**
XAN Xi'an 65.91 295 ⇑P **P 03 10 42.3 -0.4**
XAN pP pP 03 10 46.4 -1.9
XAN pmax pmax
comp=Z,29nm,0.8s
XAN pmax pmax
comp=Z,140nm,5.7s
BORU Boraas 65.93 8 *i* P **P 03 10 42.2 -0.2**
GTA Gaotai 65.98 305 *e*P **P 03 10 42.5 -0.7**
GTA sP sP 03 10 51.1 +0.3
GTA pmax pmax
comp=Z,18nm,0.9s
GTA LR LR
comp=Z,310nm,15.1s
GTA LR LR
comp=Z,290nm,16.3s
GTA LR LR
comp=Z,430nm,16.3s
ONAU Onsala 66.11 8 *i* P **P 03 10 43.0 -0.4**
EKA Eskdalemuir Ar 66.27 18 P **P 03 10 45.0 +0.5**
comp=Z,4.4nm,0.5s,baz=331,slow=5.6,SNR=43
comp=Z,4.4nm,0.5s
SLIT Slitere, Latvi 66.38 2 *e*P **P 03 10 45.3 +0.1**
FABU Falkenberg 66.56 8 *i* P **P 03 10 45.9 -0.5**
LZH Lanzhou 66.78 300 *e*P **P 03 10 47.8 -0.6**
LZH pP pP 03 10 52.2 -1.8
LZH sP sP 03 10 56.7 +0.7
LZH pmax pmax
comp=Z,21nm,1.2s
LZH LR LR
comp=Z,250nm,15.5s
LZH LR LR
comp=Z,200nm,15.8s
LZH LR LR
comp=Z,340nm,14.8s
MUD Monsted U'grnd 66.80 10 *i* P **P 03 10 48.0 +0.1**
MUD IAmb IAmb 03 10 49.9
comp=Z,8.0nm,0.5s
MK31 Makanchi Array 66.89 321 IAmb IAmb 03 10 58.6
comp=Z,4.4nm,0.7s
MKAR Makanchi Array 66.89 321 P **P 03 10 48.4 -0.4**
MKAR Makanchi Array 66.89 321 P **P 03 10 48.2 -0.6**
comp=Z,5.8nm,0.7s,baz=46,slow=7.0,SNR=57
MKAR LR LR 03 42 30.9
comp=Z,190nm,18.5s,baz=18,slow=38
comp=Z,5.8nm,0.7s
MAKZ Makanchi 66.98 322 P **P 03 10 48.5 -0.8**
MAKZ IAmb IAmb 03 10 49.3
comp=Z,6.6nm,0.8s
BRZS Berezniki 67.12 329 *e*P **P 03 10 49.5 -0.6**
DEL Delary 67.17 7 *i* P **P 03 10 49.9 -0.4**
WMQ Urumqi 67.44 316 *e*P P 03 10 58.6 +6.2
WMQ LR LR
comp=Z,150nm,15.3s
BLEU Blekinge 67.46 6 *i* P **P 03 10 51.4 -0.7**
BJUU Bjuv 67.50 8 *i* P **P 03 10 51.8 -0.6**
LUNU Lund 67.97 7 *i* P **P 03 10 54.9 -0.5**
VSVD Vaisvydziai 68.06 1 *e*P **P 03 10 56.4 +0.5**
PABE Paberze 68.53 1 *e*P **P 03 10 58.7 -0.1**
BSD Bornholm Skovb 68.59 7 *e*P **P 03 10 59.7 +0.4**
BSD Bornholm Skovb 68.59 7 *i* P **P 03 10 59.4 +0.2**
BSD IAmb IAmb 03 11 04.7
comp=Z,24nm,0.9s
SUW Suwalki 70.02 2 *e*P **P 03 11 08.5 +0.4**
JTS Las Juntas de 70.08 102 LR LR 03 45 17.2
comp=Z,38nm,18.0s,baz=310,slow=39
AKTO Aktyubinsk 70.29 339 LR LR 03 44 22.3
comp=Z,82nm,21.1s,baz=242,slow=38
GKP Gorka Klasztor 70.56 5 *e*P **P 03 11 12.4 +1.0**
GOMU GeErMu 70.87 307 P **P 03 11 13.9 -0.2**
GOMU pP pP 03 11 18.3 -1.4
GOMU pmax pmax
comp=Z,26nm,0.7s
GOMU pmax pmax
comp=Z,230nm,5.3s
GOMU LR LR
comp=Z,630nm,16.7s
GOMU LR LR
comp=Z,340nm,17.2s
GOMU LR LR
comp=Z,890nm,16.5s
ABKAR Akbulak array 71.00 337 P **P 03 11 13.9 -0.3**
ABKAR Akbulak array 71.00 337 IAmb IAmb 03 11 14.8
comp=Z,15nm,0.7s
SHLS Shalkode 71.04 321 *e*P **P 03 11 13.4 -1.3**
comp=Z,6.8nm,0.9s
UZB Uzynbulak 71.20 322 *e*P **P 03 11 15.4 -0.4**
CHKK Chushkaly 71.26 323 *e*P **P 03 11 15.5 -0.4**
ZHN Zhinishke 71.38 322 *e*P **P 03 11 16.5 -0.3**
KUU Kurty 71.44 324 *e*P **P 03 11 16.6 -0.4**
SATY Saty 71.49 322 *e*P **P 03 11 17.3 -0.2**
MDOK Medeo 71.86 323 *e*P **P 03 11 19.4 -0.3**
AAA Alma-Ata 71.86 323 *e*P **P 03 11 19.1 -0.5**
comp=Z,7.1nm,0.5s
TNSS Tian-Shan 72.00 323 *e*P **P 03 11 20.3 -0.6**
BSTI Sart Tilman 72.17 13 *d*P **P 03 11 21.9 +0.7**
MEM Membach 72.20 13 *d*P **P 03 11 19.6 -1.8**
CLL Collm 72.24 8 IAmb IAmb 03 11 22.7
comp=Z,5.0nm,0.7s
CLL Collm 72.24 8 *i* P **P 03 11 21.7 +0.1**
comp=Z,6.0nm,0.7s
CLL *i* pP **pP 03 11 25.0 -2.2**
CLL *i* x x 03 11 29.6
BCLA Clavier 72.30 14 *d*P **P 03 11 22.1 +0.1**
BGES Gesves 72.31 14 *d*P **P 03 11 22.9 +0.9**

BMRD	Maredsous	72.34	14	dP		P	03 11 22.9 +0.7
DOU	Dourbes	72.52	14	dP		P	03 11 23.9 +0.6
RCHB	Rochefort	72.55	14	dP		P	03 11 23.8 +0.3
TKM2	Tokmak 2	72.56	324	P		P	03 11 24.6 +0.7
	SNR=13						
USP	Ospenovka	72.60	325	P		P	03 11 24.5 +0.5
	SNR=7.8						
BRG	Berggiesshubel	72.74	8	eP		P	03 11 25.1 +0.5
BRG				Amp			03 11 26.2
	comp=Z,5.7nm,0.9s						
BRG	Berggiesshubel	72.74	8	P		P	03 11 29.2 +4.6
BRG				Amp			03 11 33.8
	comp=Z,2.8nm,0.7s						
CHMS	Chumysh	72.76	325	P		P	03 11 25.8 +0.9
	SNR=5.0						
HSKC	Hora Svate Kat	72.97	8	eP		P	03 11 26.8 +0.8
KBK	Karagaybulak	73.00	324	P		P	03 11 27.4 +0.9
	SNR=8.0						
PVCC	Panska Ves	73.13	7	eP		P	03 11 27.8 +0.9
AAK	Ala-Archa	73.17	325	P		P	03 11 28.2 +0.6
AAK	Ala-Archa	73.17	325	LR		LR	03 46 32.5
	comp=Z,253nm,18.7s,baz=24,slow=38						
AAK	Ala-Archa	73.17	325	P		P	03 11 28.1 +0.6
	SNR=14						
CHVC	Chvalec	73.17	6	eP		P	03 11 28.0 +0.8
OSTC	Ostas	73.21	6	eP		P	03 11 28.3 +0.8
UPC	Upice	73.25	6	eP		P	03 11 28.4 +0.8
NKC	Novy Kostel	73.26	9	eP		P	03 11 28.7 +1.0
AKASG	Malin Array Be	73.31	358	P		P	03 11 27.4 -0.7
	comp=Z,6.8nm,0.6s,baz=7.6,slow=5.8,SNR=63						
	comp=Z,6.8nm,0.6s						
KIEV	Kiev	73.32	358	P		P	03 11 27.6 -0.5
KIEV	Kiev	73.32	358	⇓P		P	03 11 27.0 -1.0
EKS2	Erkin-Say	73.38	325	P		P	03 11 29.5 +0.8
	SNR=9.4						
DPC	Dobruska-Polom	73.42	6	eP		P	03 11 29.5 +0.8
PRU	Pruhonice	73.67	7	eP		P	03 11 30.3 +0.2
GRF	Grafenberg Arr	73.68	10	eP			03 11 30.9
	comp=Z,5.2nm,0.9s,baz=348,slow=5.4						
PPT	Papeete	73.70	175	LR		LR	03 42 53.3
	comp=Z,65nm,18.2s,baz=343,slow=35						
PPT2	Papeete2	73.72	175	eLR		LR	03 34 02.8
	comp=Z,139nm,24.2s						
PPT2				eLR		LR	03 34 08.2
	comp=Z,96nm,21.2s						
KRLC	Kraliky	73.72	6	eP		P	03 11 31.2 +0.7
OJC	Ojcow	73.72	4	IAmb		IAmb	03 11 32.5
	comp=Z,5.8nm,0.8s						
GOPC	GO Pecny, Ondr	73.76	7	eP		P	03 11 31.5 +0.8
AML	Almayashu	73.88	325	P		P	03 11 33.0 +1.0
	SNR=20						
STEB	Steborice	73.92	5	eP		P	03 11 32.2 +0.6
KKAR	Karatay Array	73.99	328	P		P	03 11 32.3 +0.2
KKAR	Karatay Array	73.99	328	IAmb		IAmb	03 11 33.0
	comp=Z,16nm,0.8s						
MORC	Moravsky Berou	74.06	5	IAmb		IAmb	03 11 33.7
	comp=Z,4.1nm,0.7s						
MORC	Moravsky Berou	74.06	5	eP		P	03 11 32.6 +0.1
MORC	Moravsky Berou	74.06	5	⇓P		P	03 11 32.6 +0.1
SJG	San Juan	74.12	81	LR		LR	03 46 37.3
	comp=Z,44nm,18.1s,baz=14,slow=38						
ZVC	Zvikov	74.19	8	eP		P	03 11 34.0 +0.8
STU	Stuttgart	74.39	11	eP		P	03 11 35.4 +1.0
TREC	Trest	74.42	7	eP		P	03 11 35.1 +0.5
KHC	Kasperske Hory	74.44	8	eP		P	03 11 35.6 +0.9
VRAC	Vranov	74.48	6	eP		P	03 11 35.3 +0.4
MAUC	Maruska	74.49	5	eP		P	03 11 35.9 +0.9
ECH	Echery	74.70	13	IAmb		IAmb	03 11 37.7
	comp=Z,9.2nm,0.9s						
KRUC	Moravsky	74.71	6	eP		P	03 11 36.4 +0.2
GEC2	GERESS Array B	74.74	8	IAmb		IAmb	03 11 37.8
	comp=Z,6.4nm,0.8s						
GERES	GERESS Array B	74.74	8	P		P	03 11 37.0 +0.4
	comp=Z,4.5nm,0.7s,baz=356,slow=4.9,SNR=39						
	comp=Z,4.5nm,0.7s						
LANS	Liptovska Anna	74.78	4	eP		P	03 11 37.9 +1.2
CKRC	Cesky Krumlov	74.81	8	eP		P	03 11 37.3 +0.5
ARSB	Arslanbob	74.84	325	IAmb		IAmb	03 11 38.0
	comp=Z,7.5nm,0.7s						
JAVC	Velka Javorina	74.99	5	eP		P	03 11 39.2 +1.3
IUG	Iuzhnay	75.00	327	eP		P	03 11 37.7 -0.5
	comp=Z,5.6nm,0.6s						
KOLS	Kolonicke sedl	75.09	2	eP		P	03 11 39.1 +0.7
VYHS	Vyhne	75.41	5	eP		P	03 11 40.9 +0.6
MODS	Modra-Piesok	75.45	6	eP		P	03 11 41.6 +1.1
KSH	Kashi	75.47	322	P		P	03 11 44.3 +3.3
KSH				sP		PcP	03 11 53.8 -0.2
KSH				pmax		pmax	
	comp=Z,27nm,0.8s						
KSH				LR		LR	
	comp=Z,230nm,19.2s						
KSH				LR		LR	
	comp=Z,310nm,18.6s						
KSH				LR		LR	
	comp=Z,330nm,13.7s						
PZH	PanZhiHua	75.63	296	P		P	03 11 41.9 -0.1
PZH				pmax		pmax	
	comp=Z,20nm,0.5s						
PZH				pmax		pmax	
	comp=Z,150nm,5.8s						
MOA	Molln	75.77	8	iP		P	03 11 43.0 +0.7
	comp=Z,0.6nm,0.4s						
CONA	Conrad Observa	75.81	7	eP		P	03 11 43.3 +0.7
	comp=Z,4.0nm,0.7s,SNR=5.3						
SORM	Soroca	75.90	358	⇑P		P	03 11 42.3 -0.7
MOTA	Moosalm	76.00	10	iP		P	03 11 44.3 +0.5
	comp=Z,3.4nm,0.9s						
PSZ	Piszkesteto	76.03	4	IAmb		IAmb	03 11 45.7
	comp=Z,6.5nm,0.9s						
PSZ	Piszkesteto	76.03	4	⇑P		P	03 11 44.4 +0.5
PSZ	Piszkesteto	76.03	4	eP		P	03 11 44.0 0.0
WATA	Walderalm	76.05	10	iP		P	03 11 44.6 +0.5
	comp=Z,4.2nm,0.6s,SNR=5.4						
WTTA	Wattenberg	76.13	10	iP		P	03 11 45.3 +0.7
	comp=Z,10nm,0.8s,SNR=5.6						
SQTA	Sankt Quirin	76.13	10	iP		P	03 11 45.2 +0.7
	comp=Z,6.9nm,0.8s,SNR=5.2						
FETA	Feichten	76.28	10	iP		P	03 11 46.1 +0.7
	comp=Z,2.6nm,0.6s						
DAVOX	Davos/Dischmat	76.43	11	LR		LR	03 48 03.7
	comp=Z,37nm,19.8s,baz=35,slow=38						
BURAR	Bucovina Array	76.44	0	P		P	03 11 46.7 +0.4
BURAR	Bucovina Array	76.44	0	⇑P		P	03 11 46.3 0.0
KBA	Koelnbreinsper	76.46	9	iP		P	03 11 47.5 +1.0
	comp=Z,5.3nm,0.5s,SNR=9.2						
FUORN	Ofenpass-Fuorn	76.63	11	IAmb		IAmb	03 11 58.6
	comp=Z,5.6nm,0.9s						
BTK	Batken	76.67	326	IAmb		IAmb	03 11 48.3
	comp=Z,9.9nm,0.7s						
TUE	Stuetta	76.67	12	IAmb		IAmb	03 11 49.7
	comp=Z,5.0nm,0.8s						
ABTA	Abfaltersbach	76.72	9	iP		P	03 11 48.7 +0.8
	comp=Z,1.6nm,0.7s						
SOKA	Soboth	76.99	8	iP		P	03 11 50.0 +0.6
	comp=Z,1.9nm,0.4s						
PERS	Pernice	77.04	7	iP		P	03 11 50.0 +0.3
PRED	Cave del Predi	77.11	9	IAmb		IAmb	03 12 14.9
	comp=Z,6.5nm,1.4s						
OBKA	Obir	77.13	8	⇑iP		P	03 11 50.3 +0.1
OBKA	Obir	77.13	8	iP		P	03 11 50.7 +0.5
	comp=Z,12nm,0.6s,SNR=20						
CJR	Cluj-Napoca	77.33	1	⇑P		P	03 11 51.4 +0.2
CADS	Cadrg	77.34	8	iP		P	03 11 50.9 -0.5
RAR	Rarotonga	77.35	185	LR		LR	03 41 21.5
	comp=Z,79nm,19.4s,baz=16,slow=32						
MARR	Marisel-Cluj	77.36	2	⇓P		P	03 11 51.3 -0.2
ONER	Baraj Valea Uz	77.72	359	⇓P		P	03 11 54.0 +0.6
CEY	Cerknica	77.88	8	eP		P	03 11 53.3 -1.0
OZUR		77.97	360	⇑P		P	03 11 55.3 +0.6
DOPR	Dopca	78.09	0	⇑P		P	03 11 56.5 +1.0
BOJS	Bojanci	78.18	7	⇑iP		P	03 11 55.9 0.0
VRI	Vrincioaia	78.19	359	⇓P		P	03 11 55.8 -0.2
COVR	Voineasa-Covas	78.21	360	⇑P		P	03 11 57.4 +1.2
SURR	Surduc	78.26	3	⇑P		P	03 11 56.8 +0.4
SPBR	Spulber	78.31	359	⇓P		P	03 11 57.1 +0.4
BZS	Buzias	78.39	3	⇓P		P	03 11 56.9 -0.2
SIMJ	Simiganj	78.51	327	P		P	03 11 57.7 -0.4
MLR	Muntele Rosu	78.57	360	IAmb		IAmb	03 12 00.8
	comp=Z,4.0nm,0.9s						
MLR	Muntele Rosu	78.57	360	LR		LR	03 48 37.9
	comp=Z,33nm,18.8s,baz=13,slow=37						
MLR	Muntele Rosu	78.57	360	⇓P		P	03 11 59.3 +1.0
GZR	Gura Zlata	78.64	2	⇑P		P	03 11 58.8 +0.2
A051A	Mrakovica	78.78	6	eP		P	03 11 58.7 -0.6
SLVN	Son La	78.80	292	P		P	03 12 00.4 +0.6
SLVN				IAmb		IAmb	03 12 01.0
	comp=Z,13nm,0.8s						
BLY	Banja Luka	79.06	6	⇑iP		P	03 12 00.6 -0.2
KIV	Kislovodsk	79.08	348	P		P	03 12 01.3 +0.3
KIV	Kislovodsk	79.08	348	⇓P		P	03 12 01.2 +0.2
SDV	Santo Domingo	79.16	90	LR		LR	03 48 05.4
	comp=Z,59nm,21.7s,baz=250,slow=36						
KBZ	Khabaz	79.28	347	P		P	03 12 02.3 +0.4
	comp=Z,10nm,0.8s,baz=349,slow=4.8,SNR=38						
KBZ				LR		LR	03 51 20.5
	comp=Z,38nm,19.2s,baz=16,slow=39						
	comp=Z,10nm,0.8s						
A050A	Klekovaca	79.28	7	eP		P	03 11 59.9 -2.2
TBI	Tubuai	79.45	175	eLR		LR	03 36 48.1
	comp=Z,452nm,28.0s						
HAPS	Han Pijesak,BI	79.81	5	eP		P	03 12 03.7 -1.4
BBLS	Lazi&#263i	80.05	5	⇑iP		P	03 12 07.0 +0.7
RUDO	Rudo	80.30	5	eP		P	03 12 07.4 -0.2
FDMO	Fiordimonte	80.45	9	IAmb		IAmb	03 12 26.1
	comp=Z,8.3nm,1.1s						
NRCA	Norcia	80.66	9	IAmb		IAmb	03 12 22.3
	comp=Z,5.7nm,0.9s						
SJES	Sjenica	80.68	4	eP		P	03 12 10.2 +0.4
STON	Ston	80.96	6	eP		P	03 12 10.1 -0.9
ESDC	Sonseca Array	81.13	23			P	03 12 13.2 +1.1
ESDC				IAmb		IAmb	03 12 21.5
	comp=Z,5.7nm,0.8s						
ESDC	Sonseca Array	81.13	23	P		P	03 12 12.9 +0.8
	comp=Z,3.3nm,0.7s,baz=340,slow=4.9,SNR=23						
	comp=Z,3.3nm,0.7s						
TREB	Trebinje	81.15	5	eP		P	03 12 11.7 -0.4
SHL	Shillong	81.19	303	P		P	03 12 11.6 -1.2
SHL				IAmb		IAmb	03 12 12.6
	comp=Z,5.1nm,0.7s						
PMG	Port Moresby	81.24	238	LR		LR	03 45 13.2
	comp=Z,47nm,19.6s,baz=326,slow=33						
PDG	Podgorica	81.48	5	IAmb		IAmb	03 12 14.7
	comp=Z,11nm,0.8s						
PDG	Podgorica	81.48	5	⇑iP		P	03 12 13.4 -0.4
PDG	Podgorica	81.48	5	⇓P		P	03 12 13.9 +0.1
CRAI	Chiangrai	81.53	294	P		P	03 12 13.9 -0.6
CRAI				IAmb		IAmb	03 12 14.8
	comp=Z,6.6nm,0.8s						
NIL	Nilore	81.70	322			P	03 12 15.8 +0.5
DIKM	Dikmen	82.07	353	⇓P		P	03 12 18.1 +1.1
FNA	Florina	83.21	3	IAmb		IAmb	03 12 23.7
	comp=Z,14nm,1.2s						
CMAR	Chiang Mai Arr	83.75	294	P		P	03 12 25.6 -0.5
	comp=Z,7.9nm,0.7s,baz=9.1,slow=5.7,SNR=42						
CMAR				LR		LR	03 54 08.1
	comp=Z,46nm,18.3s,baz=45,slow=39						
	comp=Z,7.9nm,0.7s						
ANTO	Ankara	84.00	355	P		P	03 12 28.1 +1.0
BR131	Keskin Array S	84.09	354	IAmb		IAmb	03 12 28.9
	comp=Z,5.7nm,0.8s						
BRTR	Keskin Array B	84.09	354	P		P	03 12 27.8 +0.1
BRTR	Keskin Array B	84.09	354	P		P	03 12 27.9 +0.3
	comp=Z,3.8nm,0.8s,baz=13,slow=2.9,SNR=28						
	comp=Z,3.8nm,0.8s						
KEST	Kesra	87.27	13	P		P	03 12 44.0 +0.6
	comp=Z,2.9nm,1.0s,baz=302,slow=6.8,SNR=4.1						
	comp=Z,2.9nm,1.0s						
MMAI	Mount Meron Ar	90.64	352	LR		LR	04 00 22.3
	comp=Z,37nm,19.5s,baz=8.0,slow=40						
H03N2	Juan Fernandez	109.74	121	T		T	05 17 54.8
	baz=325						
H03N1	Juan Fernandez	109.75	121	T		T	05 17 57.1
	baz=325						
H03N3	Juan Fernandez	109.76	121	T		T	05 17 54.8
	baz=325						
MATP	Matopo	144.11	355	PKP		PKPbc	03 19 30.8 +0.2
	comp=Z,0.6nm,0.6s,baz=349,slow=5.1,SNR=4.7						
QSPA	South Pole Qui	146.10	180	PKPbc		PKPbc	03 19 35.9 +0.4
	comp=Z,6.6nm,0.7s,baz=98,slow=0.6,SNR=27						
BOSA	Boshof	152.32	1	PKPbc		PKPbc	03 19 52.1 -0.4
	comp=Z,2.1nm,0.7s,baz=244,slow=0.7,SNR=4.7						
MAW	Mawson	159.56	222	PKPab		PKPab	03 20 31.8 -0.6
	comp=Z,21nm,0.9s,baz=183,slow=11,SNR=2.1						

*IDC **07** 03:07:46.5±22.0, 20°.38N×144°.92E, h257km±224km, mb3.0/8, mbtmp3.6/8, Error ellipse: s-maj=41.9km s-min=28.1km az=44.0*

ISC 07 03:07:33.1±1.0, 20°.5N±0°.2×145°.0E±0°.2, h129km, n8, σ0§99/8, mb3.4/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.51	195	P	P	03 15 07.8	0.0
	0.6nm,0.9s,baz=15,slow=7.6,SNR=4.5						
	0.6nm,0.9s						
MKAR	Makanchi Array	56.76	313	P	P	03 17 04.4	+0.8
	0.3nm,0.5s,baz=91,slow=8.9,SNR=3.1						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	59.55	317	P	P	03 17 23.4	+0.5
	0.1nm,0.3s,baz=96,slow=7.7,SNR=2.6						
	0.1nm,0.3s						
ILAR	Eielson Array	62.35	27	P	P	03 17 41.4	-0.2
	0.2nm,0.9s,baz=267,slow=5.8,SNR=1.3						
	0.2nm,0.9s						
BVAR	Borovoye Array	64.68	320	P	P	03 17 57.6	+0.5
	0.7nm,0.4s,baz=105,slow=6.8,SNR=4.8						
	0.7nm,0.4s						
YKA	Yellowknife Ar	76.73	28	P	P	03 19 10.4	+0.5
	0.4nm,0.6s,baz=294,slow=5.5,SNR=9.5						
	0.4nm,0.6s						
NVAR	Mina Array Bea	82.57	52	P	P	03 19 42.5	+0.3
	0.2nm,0.4s,baz=287,slow=7.7,SNR=3.6						
	0.2nm,0.4s						
FINES	FINESS Array B	84.99	335	P	P	03 19 51.9	-1.9
	1.3nm,0.8s,baz=57,slow=7.0,SNR=5.3						
	1.3nm,0.8s						

*IDC **07** 03:17:01.4±0.8, 0°.00S×28°.19E, h0km, mb3.9/12, mbtmp3.9/14, ML4.2/2, MS3.7/1, Error ellipse: s-maj=25.6km s-min=18.2km az=98.0*

*NEIC **07** 03:17:04.1±2.1, 0°.07S±0°.10×28°.20E±0°.04, h10km±1km, mb4.3/8, Error ellipse: s-maj=16.7km s-min=6.1km az=170.0*

ISC 07 03:17:03.0±0.6, 0°.07S±0°.08×28°.22E±0°.07, h10km, n27, σ1§29/29, mb4.2/13, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	Mbarara	2.57	102		Pn	03 17 46.0	+1.0
MBAR				Sn	Sn	03 18 17.8	+1.5
LODK	Lodwar	7.94	64		Pn	03 18 58.2	-0.5
KMBO	Kilima Mbogo	9.09	97	Pn	Pn	03 19 15.9	+1.2
KMBO	Kilima Mbogo	9.09	97	Pn	Pn	03 19 15.2	+0.6
	1.1nm,0.3s,baz=268,slow=17,SNR=21						
KMBO				Sn	Sn	03 20 53.4	-3.9
	0.7nm,0.3s,baz=209,slow=23,SNR=2.0						
KMBO				Lg	Lg	03 21 42.1	
	1.5nm,0.3s,baz=191,slow=18,SNR=9.0						
	5.5nm,0.6s						
KIBK	Kibwezi	10.08	103		Pn	03 19 28.9	+0.8
LSZ	Lusaka	15.11	180	Pn	Pn	03 20 36.2	-0.6
LSZ	Lusaka	15.11	180	Pn	Pn	03 20 35.3	-1.5
	0.4nm,0.3s,baz=359,slow=15,SNR=3.7						
LSZ				Sn	Sn	03 23 13.5	-11
	0.2nm,0.3s,baz=213,slow=22,SNR=1.4						
LSZ				Lg	Lg	03 24 52.9	
	0.2nm,0.3s,baz=115,slow=14,SNR=5.2						
	1.4nm,0.5s						
MATP	Matopo	20.23	179	P	P	03 21 39.9	+1.3
	1.1nm,0.5s,baz=5.9,slow=12,SNR=9.1						
MATP				Lg	Lg	03 27 34.0	
	baz=108,slow=23,SNR=1.7						
	1.1nm,0.5s						
BOSA	Boshof	28.52	185	P	P	03 22 59.9	+0.9
BOSA				IAmb	IAmb	03 23 39.2	
	comp=Z,11nm,1.4s						
BOSA	Boshof	28.52	185	P	P	03 22 59.5	+0.4
	comp=Z,1.0nm,0.5s,baz=4.3,slow=10,SNR=5.5						
	comp=Z,1.0nm,0.5s						
TORD	Torodi Ar. Bea	29.39	298	P	P	03 23 05.7	-1.1
SUR	Sutherland	32.89	192	P	P	03 23 37.5	-0.1
DBIC	Dimbokro	33.68	282	P	P	03 23 44.4	-0.2
DBIC	Dimbokro	33.68	282	P	P	03 23 44.1	-0.5
	comp=Z,1.9nm,0.5s,baz=83,slow=7.9,SNR=9.2						
	comp=Z,1.9nm,0.5s						
BRTR	Keskin Array B	39.92	7	P	P	03 24 37.8	+0.2
	comp=Z,0.4nm,0.5s,baz=193,slow=10,SNR=5.0						
	comp=Z,0.4nm,0.5s						
BR131	Keskin Array S	39.92	7	P	P	03 24 38.7	+1.1
BR131				IAmb	IAmb	03 24 44.5	
	comp=Z,8.8nm,1.5s						
BURAR	Bucovina Array	47.57	357	P	P	03 25 41.7	+2.8
TUE	Stuetta	49.23	343	P	P	03 25 53.2	+1.3
TUE				IAmb	IAmb	03 26 24.6	
	comp=Z,5.4nm,1.2s						
ESDC	Sonseca Array	49.28	327	P	P	03 25 51.8	-0.5
	comp=Z,1.0nm,1.0s,baz=133,slow=8.2,SNR=3.2						
ESDC				LR	LR	03 46 43.2	
	comp=Z,75nm,19.4s,baz=340,slow=36						
	comp=Z,1.0nm,1.0s						
FINES	FINESS Array B	61.38	359	P	P	03 27 17.7	-1.3
	comp=Z,1.1nm,0.8s,baz=152,slow=6.3,SNR=1.7						
	comp=Z,1.1nm,0.8s						
BVAR	Borovoye Array	63.47	27	P	P	03 27 32.1	-1.1
	comp=Z,1.1nm,0.7s,baz=206,slow=6.4,SNR=6.8						
	comp=Z,1.1nm,0.7s						
KURBB	Kurchatov Arra	66.06	32	P	P	03 27 50.4	+0.3
	comp=Z,0.4nm,0.8s,baz=237,slow=6.8,SNR=3.4						
	comp=Z,0.4nm,0.8s						
MK31	Makanchi Array	66.28	37	P	P	03 27 51.4	-0.3
MK31				IAmb	IAmb	03 28 01.2	
	comp=Z,2.4nm,1.3s						
MKAR	Makanchi Array	66.28	37	P	P	03 27 51.6	-0.1
	comp=Z,0.6nm,0.5s,baz=241,slow=6.2,SNR=7.2						
	comp=Z,0.6nm,0.5s						
ARCES	ARCESS Array B	69.51	359	P	P	03 28 11.0	-0.5
	comp=Z,1.4nm,0.5s,baz=176,slow=6.9,SNR=16						
	comp=Z,1.4nm,0.5s						
ZALV	Zalesovo Beam	71.07	31	P	P	03 28 20.7	-0.6
	comp=Z,0.5nm,0.5s,baz=232,slow=8.2,SNR=3.6						
	comp=Z,0.5nm,0.5s						
SPITS	Spitsbergen Ar	78.43	358	P	P	03 29 02.9	-0.8
	comp=Z,4.0nm,0.8s,baz=146,slow=10,SNR=1.3						
	comp=Z,4.0nm,0.8s						

*NEIC **07** 03:25:24.5±1.8, 5°.9S±0°.1×148°.2E±0°.1, h62km±4km, mb4.3/10, Error ellipse: s-maj=16.9km s-min=13.7km az=136.0*

*IDC **07** 03:25:24.9±2.0, 5°.95S×148°.07E, h69km±14km, mb3.5/5, mbtmp3.9/8, Error ellipse: s-maj=29.7km s-min=12.9km az=110.0*

ISC 07 03:25:23.9±0.8, 5°.93S±0°.08×148°.2E±0°.1, h60km, n34, σ1§48/38, mb4.1/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.60	196		Pn	03 26 17.7	+0.5
PMG	Port Moresby	3.60	196	P	Pn	03 26 17.2	0.0
	35nm,0.5s,baz=31,slow=12,SNR=16						
PMG				S	Sn	03 26 58.7	+0.2
	70nm,0.3s,baz=48,slow=6.6,SNR=8.5						
PMG	Port Moresby	3.60	196	P	Pn	03 26 18.4	+1.2
PMG	Port Moresby	3.60	196	P	Pn	03 26 18.6	+1.4
RABL	Rabaul	4.32	67		Pn	03 26 28.0	+0.9
JAY	Jayapura	8.20	294	P	Pn	03 27 21.2	+0.9
	7.9nm,0.8s,baz=154,slow=11,SNR=2.0						
COEN	Coen	9.38	211	Pn	Pn	03 27 36.4	0.0
KDU	Kakadu	16.89	245	P	P	03 29 17.3	-0.3
MTN	Manton Dam	18.17	247	P	Pn	03 29 32.3	+0.2
MTN				IAmb	IAmb	03 30 07.1	
	comp=Z,40nm,1.4s						
MTN	Manton Dam	18.17	247	P	Pn	03 29 33.6	+1.5
WB0	Warramunga Arr	19.21	223	P	Pn	03 29 43.9	-0.8
WB0				IAmb	IAmb	03 29 54.9	
	comp=Z,17nm,1.4s						
WB2	Warramunga Arr	19.36	223	P	P	03 29 44.2	-0.6
WRA	Warramunga Arr	19.37	223	P	P	03 29 44.4	-0.5
	comp=Z,4.1nm,0.5s,baz=51,slow=10,SNR=46						
WRA				S	S	03 33 18.2	-2.8
	comp=Z,1.4nm,0.9s,baz=48,slow=20,SNR=3.6						
WB1	Warramunga Ar.	19.38	223	P	P	03 29 44.2	-0.8
KNRA	Kununurra	21.38	242	P	P	03 30 06.0	-0.7
KNRA				IAmb	IAmb	03 30 15.1	
	comp=Z,20nm,1.3s						
AS01	Alice Springs	22.33	216	P	P	03 30 16.3	-0.6
AS31	Alice Springs	22.36	216	P	P	03 30 17.3	+0.2
AS31				IAmb	IAmb	03 30 18.8	
	comp=Z,3.3nm,0.4s						
ASAR	Alice Springs	22.36	216	P	P	03 30 16.8	-0.3
ASAR	Alice Springs	22.36	216	P	P	03 30 17.1	-0.1
	comp=Z,3.8nm,0.5s,baz=46,slow=9.4,SNR=94						
ASAR				S	S	03 34 19.4	+0.2
	comp=Z,2.3nm,1.0s,baz=36,slow=23,SNR=6.3						
ASAR				ScP	ScP	03 37 42.0	-1.2
	comp=Z,0.2nm,0.7s,baz=31,slow=2.0,SNR=1.8						
	comp=Z,3.8nm,0.5s						
SOEI	Soe	24.00	259	P	P	03 30 31.5	-1.8
SOEI	Soe	24.00	259	P	P	03 30 40.0	+6.6
OOD	Oodnadatta	24.77	207	P	P	03 30 41.0	+0.8
FITZ	Fitzroy Crossi	25.11	239	P	P	03 30 44.1	+0.7
LCRK	Leigh Creek	26.13	200	P	P	03 30 54.0	+1.6
STKA	Stephens Creek	26.54	193	P	P	03 30 56.4	+0.2
	comp=Z,1.8nm,0.7s,baz=239,slow=8.8,SNR=2.9						
	comp=Z,1.8nm,0.7s						
WRKA	Warakurna	26.91	223	P	P	03 30 59.8	+0.2
PSA00	Pilbara Seismi	31.53	238	P	P	03 31 39.5	-1.1
PSA00				IAmb	IAmb	03 32 00.8	
	comp=Z,20nm,1.2s						
MORW	Morawa	38.10	229	P	P	03 32 37.7	+0.5
MKAR	Makanchi Array	78.20	320	P	P	03 37 16.5

σ1°19′/100, mb4.5/33, 4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.92	180	P	Pn	03 48 22.6	+0.6
VLAKA	Lakatoro	1.92	180	S	Sn	03 48 51.6	+0.1
LUES	Luesalemba Tem	3.79	337	P	Pn	03 48 44.4	+0.9
DZM	Mont Dzumac	7.91	187	Pn	Pn	03 49 38.5	+2.1
DZM	Mont Dzumac	7.91	187	P	Pn	03 49 38.9	+2.5
	5.8nm,0.9s,baz=48,slow=7.2,SNR=13						
DZM				S	Sn	03 51 07.5	+1.7
	3.6nm,0.4s,baz=300,slow=24,SNR=1.7						
ONTNC	Ouen Toro	8.14	186	Pn	Pn	03 49 43.1	+3.7
EIDS	Eidsvold	18.96	232	P	P	03 51 51.3	+0.7
EIDS				IAmb	IAmb	03 51 52.6	
	comp=Z,11nm,0.8s						
ARMA	Armidale	21.74	219	P	P	03 52 20.7	+0.6
ARMA				IAmb	IAmb	03 52 22.1	
	comp=Z,6.1nm,0.7s						
STKA	Stephens Creek	29.46	229	P	P	03 53 30.0	+0.3
STKA	Stephens Creek	29.46	229	P	P	03 53 29.9	+0.3
	comp=Z,8.9nm,0.5s,baz=46,slow=8.8,SNR=27						
	comp=Z,8.9nm,0.5s						
TOO	Toolangi	30.38	216	P	P	03 53 37.7	+0.1
TOO				IAmb	IAmb	03 53 39.4	
	comp=Z,11nm,1.4s						
WB0	Warramunga Arr	32.03	255	P	P	03 53 50.9	-1.5
WRA	Warramunga Arr	32.10	255	P	P	03 53 50.4	-2.6
WRA	Warramunga Arr	32.10	255	P	P	03 53 51.5	-1.5
	comp=Z,6.3nm,0.5s,baz=86,slow=9.4,SNR=48						
	comp=Z,6.3nm,0.5s						
AS31	Alice Springs	33.00	248	P	P	03 53 59.0	-1.8
ASAR	Alice Springs	33.00	248	P	P	03 53 58.9	-1.9
ASAR	Alice Springs	33.00	248	P	P	03 53 59.1	-1.7
	comp=Z,5.9nm,0.5s,baz=76,slow=9.3,SNR=79						
ASAR				PcP	PcP	03 56 39.0	-0.9
	comp=Z,0.6nm,0.5s,baz=77,slow=2.0,SNR=5.1						
	comp=Z,5.9nm,0.5s						
BBOO	Buckleboo	34.03	232	P	P	03 54 09.3	-0.2
BBOO				IAmb	IAmb	03 54 09.6	
	comp=Z,13nm,0.6s						
KNRA	Kununurra	37.34	263	P	P	03 54 37.0	-0.8
FORT	Forrest	39.70	239	P	P	03 54 56.5	-0.8
FITZ	Fitzroy Crossi	40.26	259	P	P	03 55 02.0	-0.1
NWAO	Narrogin (SRO)	49.15	239	P	P	03 56 10.9	-1.3
NWAO				IAmb	IAmb	03 56 19.6	
	comp=Z,26nm,1.2s						
MORW	Morawa	49.63	244	P	P	03 56 15.1	-0.7
MORW				IAmb	IAmb	03 56 48.4	
	comp=Z,36nm,1.4s						
JGF	Kuroka	57.10	331	P	P	03 57 10.3	+0.3
JGF				IAmb	IAmb	03 57 26.3	
	comp=Z,13nm,1.2s						
MJAR	Matsushiro Arr	57.48	332	P	P	03 57 12.7	+0.1
	comp=Z,2.3nm,0.6s,baz=176,slow=7.4,SNR=11						
MJAR				PcP	PcP	03 58 04.7	+0.8
	comp=Z,0.8nm,0.6s,baz=116,slow=2.8,SNR=2.1						
	comp=Z,2.3nm,0.6s						
MAJO	Matsushiro	57.48	332	P	P	03 57 13.0	+0.4
MAJO				IAmb	IAmb	03 57 26.5	
	comp=Z,7.7nm,1.1s						
MJB9	Matsu-Tunnel	57.49	332	P	P	03 57 13.8	+1.1
MJB9				IAmb	IAmb	03 57 27.5	
	comp=Z,7.1nm,1.1s						
JTM	Tenmabayashi	59.89	337	P	P	03 57 30.4	+1.3
JKA	Kamikawa-asahi	62.27	340	P	P	03 57 46.4	+1.3
JKA				IAmb	IAmb	03 57 48.0	
	comp=Z,16nm,1.2s						
ASAJ	Asahikawa	62.27	340	P	P	03 57 45.7	+0.7
	comp=Z,5.0nm,0.7s,baz=241,slow=4.7,SNR=10						
	comp=Z,5.0nm,0.7s						
KSRS	Korea Array	63.36	326	P	P	03 57 52.5	+0.2
	comp=Z,1.0nm,0.7s,baz=128,slow=7.5,SNR=3.3						
	comp=Z,1.0nm,0.7s						
VNDA	Vanda	63.41	181	P	P	03 57 52.0	-0.2
VNDA				IAmb	IAmb	03 58 18.1	
	comp=Z,6.7nm,1.5s						
VNDA	Vanda	63.41	181	P	P	03 57 51.8	-0.3
	comp=Z,1.0nm,0.7s,baz=357,slow=6.7,SNR=7.0						
	comp=Z,1.0nm,0.7s						
SBA	Scott Base	63.69	180	P	P	03 57 54.5	+0.6
PEA0B	Petropavlovsk-	67.53	354	P	P	03 58 20.8	+2.1
PETK	Petropavlovsk-	67.53	354	P	P	03 58 20.9	+2.2
PETK	Petropavlovsk-	67.53	354	P	P	03 58 19.4	+0.6
	comp=Z,5.4nm,0.8s,baz=121,slow=5.7,SNR=6.0						
	comp=Z,5.4nm,0.8s						
BNX	BinXian	69.72	331	⇓P	P	03 58 33.4	+0.9
BNX				pmax	pmax		
	comp=Z,15nm,0.6s						
CMAR	Chiang Mai Arr	74.85	294	P	P	03 59 04.8	+1.3
	comp=Z,5.8nm,0.3s,baz=109,slow=6.7,SNR=7.6						
	comp=Z,5.8nm,0.3s						
QSPA	South Pole Qui	75.85	180	P	P	03 59 08.1	-0.3
QSPA	South Pole Qui	75.85	180	P	P	03 59 07.8	-0.6
	comp=Z,4.1nm,0.9s,baz=330,slow=0.6,SNR=18						
	comp=Z,4.1nm,0.9s						
SEY	Seymchan	77.75	353	P	P	03 59 19.2	+0.5
	comp=Z,3.2nm,0.8s,baz=109,slow=8.1,SNR=7.8						
	comp=Z,3.2nm,0.8s						
SONM	Songino Array	82.14	323	P	P	03 59 42.1	-0.7
	comp=Z,1.0nm,0.4s,baz=142,slow=5.4,SNR=9.7						
	comp=Z,1.0nm,0.4s						
CAST	Castle Rocks	83.43	17	P	P	03 59 48.9	-0.1
CAST				IAmb	IAmb	03 59 49.6	
	comp=Z,3.4nm,0.8s						
KTH	Kantishna Hill	83.87	17	P	P	03 59 50.4	-0.8
KTH				IAmb	IAmb	03 59 51.1	
	comp=Z,9.3nm,1.1s						
IL31		85.96	18	P	P	04 00 01.4	-0.1
ILAR	Eielson Array	85.96	18	P	P	04 00 01.1	-0.5
	comp=Z,1.9nm,0.7s,baz=235,slow=5.1,SNR=28						
	comp=Z,1.9nm,0.7s						
NVAR	Mina Array Bea	86.81	49	P	P	04 00 07.4	+0.8
	comp=Z,0.5nm,0.7s,baz=249,slow=2.6,SNR=3.8						
	comp=Z,0.5nm,0.7s						
TROLL	Troll, Antarti	93.42	185	⇓P	P	04 00 35.4	-1.4
	comp=Z,111nm,0.5s						
SNAA	Sanae	94.11	183	P	P	04 00 38.8	-1.0
SNAA				IAmb	IAmb	04 00 51.1	
	comp=Z,10nm,1.5s						
VNA3	Neumayer Olymp	94.77	181	⇓P	P	04 00 41.1	-1.6
	comp=Z,4.6nm,0.6s						
VNA2	Neumayer–Watz	95.03	182	⇓P	P	04 00 43.1	-0.9
	comp=Z,4.0nm,0.6s,baz=191,slow=4.1						
MK31	Makanchi Array	96.90	316	P	P	04 00 53.6	+0.7
MK31				IAmb	IAmb	04 00 54.2	
	comp=Z,1.8nm,0.8s						
MKAR	Makanchi Array	96.90	316	P	P	04 00 53.3	+0.5
MKAR	Makanchi Array	96.90	316	P	P	04 00 53.2	+0.3
	comp=Z,2.4nm,0.7s,baz=91,slow=6.6,SNR=23						
MKAR				PKiKP	PKiKP	04 05 25.8	-2.3
	comp=Z,0.1nm,0.5s,baz=86,slow=2.7,SNR=2.1						
	comp=Z,2.4nm,0.7s						
YKA	Yellowknife Ar	96.99	27	P	P	04 00 52.4	-0.4
	comp=Z,0.4nm,0.8s,baz=251,slow=3.9,SNR=5.6						
YKA				PKiKP	PKiKP	04 05 27.5	-0.2
	comp=Z,0.1nm,0.5s,baz=248,slow=3.3,SNR=4.2						
	comp=Z,0.4nm,0.8s						
ZALV	Zalesovo Beam	97.03	324	P	P	04 00 52.6	-0.6
ZALV	Zalesovo Beam	97.03	324	P	P	04 00 52.9	-0.3
	comp=Z,1.9nm,0.7s,baz=110,slow=4.9,SNR=9.5						
	comp=Z,1.9nm,0.7s						
KURBB	Kurchatov Arra	100.11	320	P	Pdif	04 01 05.6	-1.4
	comp=Z,0.2nm,0.2s,baz=89,slow=4.4,SNR=1.8						
ARTI	Arti	112.22	325	PKiKP	PKiKP	04 05 56.2	+0.3
	comp=Z,1.3nm,0.6s,baz=89,slow=6.0,SNR=3.1						
SPITS	Spitsbergen Ar	114.40	354	PKP	PKiKP	04 06 00.1	+0.5
	comp=Z,5.1nm,0.8s,baz=226,slow=4.5,SNR=1.8						
ARCES	ARCESS Array B	119.75	346	PKP	PKiKP	04 06 10.3	+0.2
	comp=Z,2.7nm,0.5s,baz=92,slow=2.4,SNR=17						
KBZ	Khabaz	124.47	314	PKP	PKiKP	04 06 20.8	+0.7
	comp=Z,0.6nm,0.6s,baz=194,slow=3.7,SNR=3.9						
FINES	FINESS Array B	125.26	338	PKP	PKiKP	04 06 21.2	+0.1
	comp=Z,1.9nm,0.6s,baz=36,slow=2.3,SNR=18						
NB2	NORSAR Subarra	130.13	345	PKPdf	PKiKP	04 06 31.1	+0.1
	comp=Z,1.3nm,1.1s,baz=31,slow=1.9						
NOA	NORSAR Array B	130.13	345	PKP	PKPdf	04 06 30.6	+0.5
	comp=Z,0.6nm,0.7s,baz=49,slow=1.8,SNR=4.4						
NOA				SKPbc	SKPbc	04 09 31.5	-2.7
	comp=Z,0.6nm,0.7s,baz=338,slow=3.8,SNR=3.6						
HFS	Hagfors	130.24	343	PKP	PKPdf	04 06 29.7	-0.7
	comp=Z,1.0nm,0.7s,baz=138,slow=9.1,SNR=4.3						
HFS				SKPbc	SKPbc	04 09 31.0	-3.6
	comp=Z,0.7nm,0.5s,baz=76,slow=6.3,SNR=9.3						
AKASG	Malin Array Be	130.36	326	PKP	PKPdf	04 06 30.6	-0.2
	comp=Z,0.8nm,0.5s,baz=48,slow=2.6,SNR=8.5						
BRTR	Keskin Array B	132.25	311	PKP	PKPdf	04 06 34.6	-0.4
	comp=Z,1.0nm,0.8s,baz=154,slow=5.4,SNR=6.0						
EKA	Eskdalemuir Ar	138.28	352	SKPbc	SKPbc	04 09 57.6	-3.4
	comp=Z,0.6nm,0.7s,baz=356,slow=2.7,SNR=3.5						
RONA	Rosalia, Austr	138.86	330	*i* PKiKP	PKiKP	04 06 50.2	+1.1
	comp=Z,0.6nm,0.3s						
CONA	Conrad Observa	138.91	331	*i* PKiKP	PKiKP	04 06 49.9	+0.6
	comp=Z,1.7nm,0.5s						
GERES	GERESS Array B	139.22	333	PKP	PKPdf	04 06 47.0	-0.5
	comp=Z,1.0nm,0.6s,baz=112,slow=1.1,SNR=7.3						
GERES				SKPbc	SKPbc	04 10 01.1	-2.9
	comp=Z,0.3nm,0.5s,baz=51,slow=3.1,SNR=3.6						
MOA	Molln	139.71	332	*i* PKP	PKiKP	04 06 51.0	+0.2
	comp=Z,0.6nm,0.3s						
SOKA	Soboth	140.19	330	*i* PKP	PKiKP	04 06 52.0	0.0
	comp=Z,0.5nm,0.4s						
OBKA	Obir	140.55	330	*i* PKiKP	PKiKP	04 06 52.9	+0.2
	comp=Z,0.4nm,0.4s						
LESA	Schwarzleotal	140.74	333	*i* PKP	PKiKP	04 06 52.9	-0.1
	comp=Z,2.5nm,0.5s						
WATA	Walderalm	141.29	334	*e*PKiKP	PKiKP	04 06 54.4	+0.2
	comp=Z,1.4nm,0.4s						
WTTA	Wattenberg	141.32	333	*e*PKiKP	PKiKP	04 06 54.7	+0.3
	comp=Z,1.1nm,0.3s						
ABTA	Abfaltersbach	141.32	332	*i* PKP	PKiKP	04 06 53.9	-0.3
	comp=Z,1.2nm,0.5s						
MOTA	Moosalm	141.48	334	*i* PKiKP	PKiKP	04 06 54.8	+0.1
	comp=Z,1.4nm,0.5s						
SQTA	Sankt Quirin	141.54	334	*e*PKiKP	PKiKP	04 06 55.2	+0.5
	comp=Z,1.7nm,0.5s						
FETA	Feichten	141.90	334	*i* PKiKP	PKiKP	04 06 56.1	+0.6
	comp=Z,1.9nm,0.6s						
DAVOX	Davos/Dischmat	142.44	334	PKhKP	PKPpre	04 06 50.1	
	comp=Z,2.1nm,0.5s,baz=346,slow=6.0,SNR=6.8						
FDMO	Fiordimonte	143.75	328		PKPbc	04 06 54.3	+0.4
SENIN	Lac Senin/Sane	143.82	336	PKPdf	PKPbc	04 06 55.0	+0.7
INTR	Introdacqua	144.02	326		PKPbc	04 06 55.2	+0.4
TIP	Timpagrande	144.12	319		PKPdf	04 06 56.1	-0.5
CUC	Castrocucco	144.22	321		PKPab	04 06 54.9	-0.2
SSB	Saint Sauveur	145.77	338	PKPab	PKPab	04 07 01.6	+0.9
VAE	Valguarnera	146.61	319	PKPbc	PKPbc	04 07 03.0	+0.2
	comp=Z,7.8nm,1.1s,baz=171,slow=18,SNR=2.3						
KEST	Kesra	150.87	321		PKiKP	04 07 14.8	+0.5
KEST	Kesra	150.87	321	PKPbc	PKiKP	04 07 14.6	+0.4
	comp=Z,10nm,0.7s,baz=39,slow=0.6,SNR=21						
ESDC	Sonseca Array	153.49	345	PKPbc	PKiKP	04 07 20.0	+0.5
	comp=Z,0.7nm,0.8s,baz=26,slow=4.3,SNR=4.4						
ESDC				PKPab	PKPab	04 07 32.7	+0.2
	comp=Z,1.3nm,0.7s,baz=3.7,slow=4.1,SNR=6.9						
TORD	Torodi Ar. Bea	166.08	267	PKPab	PKPab	04 08 27.7	-0.3
	comp=Z,46nm,0.3s,baz=99,slow=5.2,SNR=1.4						

GUC 07 03:49:08.8±0.8, 20°.92S×68°.63W, h128km±7km, ML3.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.81	261	*e*P	Pn	03 49 29.2	-0.7
PB01				*e*S	Sn	03 49 45.0	-0.9
PB01				IAML		03 49 46.3	
	comp=N,575nm,0.2s						
PB08	IPOC Station P	0.92	327	*i* P	Pn	03 49 31.0	-0.3
PB08				*e*S	Sn	03 49 47.7	-0.4
PB08				IAML		03 49 48.8	
	comp=E,408nm,0.3s						
PB09	IPOC Station P	1.04	213	*e*P	Pn	03 49 32.0	-0.1
GO01	Chusmiza	1.35	337	*e*P	Pn	03 49 35.4	-0.3
GO01				IAML		03 50 00.6	
	comp=N,460nm,0.1s						
PB11	IPOC Station P	1.50	320	*e*P	Pn	03 49 36.3	-0.7
PB11				*e*S	Sn	03 49 57.8	-0.6
PB03	IPOC Station P	1.54	223	*e*P	Pn	03 49 36.8	-0.5
TA02	Huaiquique	1.55	294	*e*P	Pn	03 49 36.9	-0.4
PB16	IPOC Station P	2.70	342	*e*P	Pn	03 49 52.3	+0.2
PB16				IAML		03 50 29.8	
	comp=N,34nm,0.4s						
PB12	IPOC Station P	2.80	325	*e*P	Pn	03 49 51.1	-1.8
PB12				IAML		03 50 33.2	
	comp=E,68nm,0.2s						

*SJA **07** 03:49:06.8±0.8, 24°.98S×68°.31W, h129km±10km, ML3.8, MW3.8*
*GUC **07** 03:49:08.8±0.7, 24°.86S×68°.56W, h131km±6km, ML4.1*
*NEIC **07** 03:49:08.3±1.2, 24°.88S±0°.06×68°.5W±0°.1, h132km±9km, mb4.1/5, Error ellipse: s-maj=14.0km s-min=8.6km az=106.0*
*IDC **07** 03:49:08.2±3.6, 25°.05S×67°.89W, h93km±26km, mb3.6/3, mbtmp3.9/7, MS4.0/1, Error ellipse: s-maj=52.8km s-min=16.8km az=116.0*

ISC 07 03:49:08.4±0.7, 24°.93S±0°.04×68°.48W±0°.04, h131km±8km, n74, σ1°.26/77, mb3.9/4, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	Mina Guanaco	1.03	257	Pn	Pn	03 49 32.0	-0.1
GO02				Sn	Sn	03 49 49.3	-0.7
GO02	Mina Guanaco	1.03	257	⇓*i*P	Pn	03 49 32.0	-0.1
GO02				*e*S	Sn	03 49 49.0	-1.0
GO02	Mina Guanaco	1.03	257	*i* P	Pn	03 49 32.6	+0.5
GO02				*i* S	Sn	03 49 51.1	+1.1
GO02				IAML		03 49 51.4	
	comp=Z,2μm,0.2s						
PB14	IPOC Station P	1.78	280	Pn	Pn	03 49 39.6	-0.5
PB14	IPOC Station P	1.78	280	*i* P	Pn	03 49 39.6	-0.5
PB14				*e*S	Sn	03 50 03.1	-1.1
PB14	IPOC Station P	1.78	280	*i* P	Pn	03 49 38.5	-1.6
PB14				IAML		03 50 09.3	
	comp=Z,623nm,0.4s						
PB14				IAML		03 50 09.3	
	comp=Z,624nm,0.4s						
PB14	IPOC Station P	1.78	280	IAML		03 50 09.3	
	comp=Z,625nm,0.4s						
AC02	Maricunga	1.98	197	Pn	Pn	03 49 44.1	+1.4
AC02	Maricunga	1.98	197	⇑*i*P	Pn	03 49 44.1	+1.4
AC02	Maricunga	1.98	197	*i* P	Pn	03 49 42.4	-0.3
AC02				IAML		03 50 17.1	
	comp=Z,172nm,0.3s						
AF01	San Pedro de A	1.99	8		Pn	03 49 42.0	-0.6
AF01	San Pedro de A	1.99	8	⇑*i*P	Pn	03 49 42.1	-0.6
AF01	San Pedro de A	1.99	8	⇑*i*P	Pn	03 49 42.1	-0.6
AF01				IAML		03 50 10.5	
	comp=N,1μm,0.5s						
AF01	San Pedro de A	1.99	8	*i* P	Pn	03 49 42.1	-0.5
AF01				IAML		03 50 21.9	
	comp=Z,824nm,0.6s						
SALTA		2.07	71	*i* P	Pn	03 49 43.0	-0.8
SALTA				IAML		03 50 20.0	
	comp=Z,148nm,0.6s						
AC01	Pan de Azucar	2.27	237	Pn	Pn	03 49 45.6	-0.1
AC01	Pan de Azucar	2.27	237	⇑*i*P	Pn	03 49 45.6	-0.1
AC01				IAML		03 50 21.6	
	comp=E,1μm,0.3s						
AC01	Pan de Azucar	2.27	237	*i* P	Pn	03 49 46.0	+0.3
AC01				*i* S	Sn	03 50 15.8	+1.5
AC01				IAML		03 50 23.4	
	comp=Z,639nm,0.2s						
PB10	IPOC Station P	2.36	306	Pn	Pn	03 49 47.1	+0.2
PB10	IPOC Station P	2.36	306	*e*P	Pn	03 49 47.1	+0.2
PB10				IAML		03 50 28.5	
	comp=N,406nm,0.6s						
PB10	IPOC Station P	2.36	306	*i* P	Pn	03 49 47.2	+0.3
PB10				IAML		03 50 24.8	
	comp=Z,164nm,0.3s						
PB10	IPOC Station P	2.36	306	*i* P	Pn	03 49 48.1	+1.2
PB10				IAML		03 50 23.5	
	comp=Z,209nm,0.7s						
PB06	IPOC Station P	2.43	335	*i* P	Pn	03 49 40.8	-7.2
PB06				IAML		03 50 25.6	
	comp=Z,448nm,0.3s						
PB06				IAML		03 50 25.6	
	comp=Z,448nm,0.3s						
FSA	Cafayete	2.54	118	*i* P	Pn	03 49 49.9	+0.5
SLA	San Lorenzo	2.71	86	*i* P	Pn	03 49 51.2	-0.3
SLA				IAML		03 50 29.0	
	comp=Z,22nm,1.8s						
SLA	San Lorenzo	2.71	86	IAML		03 50 29.0	
	comp=Z,22nm,1.8s						
AC06	Mina Casimiro	2.94	215		Pn	03 49 54.4	+0.1
AC06	Mina Casimiro	2.94	215	*e*P	Pn	03 49 54.1	-0.2
AC06				IAML		03 50 47.2	
	comp=E,398nm,0.2s						
GO03	Copiapo	3.08	210		Pn	03 49 56.3	+0.2
GO03	Copiapo	3.08	210	*i* P	Pn	03 49 56.4	+0.2
GO03				IAML		03 50 44.4	
	comp=Z,258nm,0.5s						
PB03	IPOC Station P	3.10	338	*e*P	Pn	03 49 56.4	-0.2
PB03				IAML		03 50 43.2	
	comp=N,522nm,0.4s						
PB03	IPOC Station P	3.10	338	IAML		03 50 43.1	
	comp=Z,446nm,0.3s						
PB03	IPOC Station P	3.10	338	*e*S	Pn	03 49 56.3	-0.2
AZAP	Zapla	3.19	78	*i* P	Pn	03 49 57.4	-0.3
AZAP				*i* S	Sn	03 50 34.1	-1.6
AZAP				IAML		03 50 38.0	
	comp=Z,61nm,0.8s						
AZAP	Zapla	3.19	78	⇓*i*P	Pn	03 49 57.7	0.0
AZAP				IAML		03 50 38.0	
	comp=Z,60nm,0.7s						
AZAP				IAML		03 50 38.0	
	comp=Z,61nm,0.7s						
PB09	IPOC Station P	3.20	347	IAML		03 50 51.5	
	comp=Z,277nm,0.6s						
VCA	Vinchina	3.80	176	*i* P	Pn	03 50 06.6	+1.0
VCA				*i* S	Sn	03 50 51.1	+1.1
VCA				IAML		03 50 56.2	
	comp=Z,141nm,0.3s						
VCA				IAML		03 50 56.2	
	comp=Z,142nm,0.4s						
VCA	Vinchina	3.80	176	IAML		03 50 56.2	
	comp=Z,142nm,0.3s						
AC04	Llanos de Chal	4.00	215	Pn	Pn	03 50 07.0	-1.2
AC04	Llanos de Chal	4.00	215	*e*P	Pn	03 50 07.0	-1.2
AC04	Llanos de Chal	4.00	215	*i* P	Pn	03 50 08.4	+0.2
AC04				IAML		03 51 08.4	
	comp=Z,276nm,0.8s						
AC05	El Transito	4.21	202		Pn	03 50 11.1	+0.1
AC05	El Transito	4.21	202	⇑*i*P	Pn	03 50 11.1	+0.1
AC05	El Transito	4.21	202	*i* P	Pn	03 50 10.9	-0.1
AC05				IAML		03 51 25.1	
	comp=Z,131nm,0.8s						
CYA	Choya	4.24	146	*i* P	Pn	03 50 12.1	+0.7
CYA				*i* S	Sn	03 51 00.9	+0.7
CYA				IAML		03 51 01.6	
	comp=Z,17nm,1.4s						
LCO	Las Campanas	4.52	206		Pn	03 50 14.6	-0.8
LCO	Las Campanas	4.52	206	*i* P	Pn	03 50 14.3	-1.0
LCO				IAML		03 51 19.3	
	comp=Z,204nm,0.4s						
AGUA	GUANDACOL	4.54	180	*i* P	Pn	03 50 16.4	+1.0
AGUA				*i* S	Sn	03 51 08.4	+0.9
AGUA				IAML		03 51 14.5	
	comp=Z,183nm,0.3s						
AGUA				IAML		03 51 14.5	
	comp=Z,183nm,0.3s						
ACLC	CERRO LA CRUZ	4.68	163	*i* P	Pn	03 50 18.2	+0.9
ACLC				*i* S	Sn	03 51 11.7	+0.7
ACLC				IAML		03 51 14.0	
	comp=Z,19nm,0.3s						
CO01	Juntas del Tor	5.23	196	Pn	Pn	03 50 25.4	+0.6
CO05	La Serena	5.54	206		Pn	03 50 26.8	-1.9
GO04	Tololo Observa	5.61	201		Pn	03 50 28.4	-1.5
CO03	El Pedregal	6.20	198	Pn	Pn	03 50 36.3	-1.4
CO06	Fray Jorge	6.37	205		Pn	03 50 36.7	-3.1
CFA	Coronel Fontan	6.65	178	P	Pn	03 50 43.5	-0.2
	comp=Z,15nm,0.3s,baz=355,slow=16,SNR=299						
CFA				S	Sn	03 51 54.3	-3.9
	comp=Z,10nm,0.3s,baz=235,slow=20,SNR=13						
LPAZ	La Paz	8.61	2		Pn	03 51 09.5	-1.1
LPAZ	La Paz	8.61	2	S	Sn	03 52 50.0	+3.6
	comp=Z,1.4nm,0.7s,baz=170,slow=12,SNR=1.4						
CPUP	Villa Florida	10.16	100	P	Pn	03 51 23.8	-7.0
	comp=Z,1.1nm,0.8s,baz=274,slow=11,SNR=4.1						
SIV	San Ignacio	11.28	39	P	Pn	03 51 42.0	-3.9
	comp=Z,3.5nm,0.4s,baz=257,slow=10,SNR=16						
SIV				S	Sn	03 53 37.2	-13
	comp=Z,0.6nm,0.7s,baz=286,slow=20,SNR=1.4						
TRQA	Tornquist	14.20	159	Pn	Pn	03 52 24.5	+0.9
ITAB	Concordia	14.87	102	P	P	03 52 34.6	+0.1
LR05	Currie	15.54	190		Pn	03 52 39.9	-0.4
LR05				IAmb	IAmb	03 52 45.7	
	comp=Z,11nm,0.7s						
PLCA	Paso Flores	15.85	186	P	P	03 52 45.0	-0.4
PLCA	Paso Flores	15.85	186	P	P	03 52 45.0	-0.4
	comp=Z,1.9nm,1.1s,baz=11,slow=11,SNR=5.3						
VAO	Valinhos	19.75	89	P	P	03 53 28.0	-0.2
BDFB	Brasilia	21.28	68	P	P	03 53 43.4	-1.3
BDFB				IAmb	IAmb	03 53 44.9	
	comp=Z,3.9nm,0.8s						
BDFB	Brasilia	21.28	68	P	P	03 53 42.5	-2.3
	comp=Z,3.1nm,0.7s,baz=245,slow=14,SNR=6.8						
	comp=Z,3.1nm,0.7s						
MACA	Manacapuru-AM	22.91	20	P	P	03 54 01.2	+0.1
MACA				IAmb	IAmb	03 54 29.5	
	comp=Z,11nm,1.0s						
SNAA	Sanae	58.92	160	LR	LR	04 24 17.4	
	comp=Z,114nm,18.4s,baz=90,slow=36						
QSPA	South Pole Qui

comp=Z,0.3nm,0.8s,baz=250,slow=7.4,SNR=8.3
comp=Z,0.3nm,0.8s
C24K Franklin Bluff 25.10 32 P **P 03 55 13.3 +0.4**
C24K IAmb IAmb 03 55 28.0
comp=Z,6.8nm,1.2s
BMAR Burnt Mountain 25.83 38 P **P 03 55 20.0 +0.4**
INK Inuvik 30.10 37 P **P 03 55 56.3 -1.3**
H11N2 WAKE ISLAND Hy 32.95 188 T T 04 31 56.0
baz=5.6,slow=76,SNR=38
H11N3 WAKE ISLAND Hy 32.97 188 T T 04 31 56.7
baz=5.6,slow=76,SNR=45
H11N1 WAKE ISLAND Hy 32.97 188 T T 04 31 57.3
baz=5.6,slow=76,SNR=35
C36M Paulatuk 33.53 35 P **P 03 56 28.3 +0.7**
C36M IAmb IAmb 03 57 09.3
comp=Z,3.4nm,1.4s
H11S1 WAKE ISLAND Hy 34.18 188 T T 04 33 25.4
baz=5.6,slow=76,SNR=71
H11S3 WAKE ISLAND Hy 34.20 188 T T 04 33 27.4
baz=5.6,slow=76,SNR=49
H11S2 WAKE ISLAND Hy 34.20 188 T T 04 33 26.3
baz=5.6,slow=76,SNR=46
YKA Yellowknife Ar 38.78 45 P **P 03 57 12.3 -0.2**
comp=Z,0.3nm,0.8s,baz=286,slow=7.6,SNR=5.4
comp=Z,0.3nm,0.8s
SONM Songino Array 40.61 290 P **P 03 57 30.3 +2.2**
comp=Z,0.3nm,0.5s,baz=60,slow=8.5,SNR=2.3
comp=Z,0.3nm,0.5s
NVAR Mina Array Bea 49.32 77 P **P 03 58 38.0 +0.3**
comp=Z,0.4nm,0.7s,baz=298,slow=4.6,SNR=3.6
comp=Z,0.4nm,0.7s
FCC Fort Churchill 49.39 43 P **P 03 58 38.0 +0.4**
FCC IAmb IAmb 03 58 38.3
comp=Z,2.8nm,1.1s
PDAR Pinedale Array 51.60 67 P **P 03 58 53.9 -0.9**
PDAR Pinedale Array 51.60 67 P **P 03 58 55.4 +0.6**
comp=Z,0.3nm,0.6s,baz=316,slow=8.4,SNR=3.0
comp=Z,0.3nm,0.6s
KURBB Kurchatov Arra 53.76 308 P **P 03 59 10.5 +0.2**
comp=Z,0.6nm,0.9s,baz=53,slow=7.8,SNR=1.6
comp=Z,0.6nm,0.9s
MKAR Makanchi Array 54.40 302 P **P 03 59 14.4 -0.7**
MKAR Makanchi Array 54.40 302 P **P 03 59 15.0 -0.1**
comp=Z,0.1nm,0.3s,baz=59,slow=5.4,SNR=2.8
comp=Z,0.1nm,0.3s
PV13 Radium Mtn., P 55.07 71 P **P 03 59 21.4 +1.0**
PV13 IAmb IAmb 03 59 21.5
comp=Z,2.6nm,0.8s
ARCES ARCESS Array B 55.69 346 P **P 03 59 23.8 -0.2**
comp=Z,4.4nm,1.0s,baz=26,slow=8.0,SNR=1.5
comp=Z,4.4nm,1.0s
FINES FINESS Array B 63.03 342 P **P 04 00 15.8 +1.0**
comp=Z,2.4nm,1.1s,baz=27,slow=7.3,SNR=1.4
comp=Z,2.4nm,1.1s
TX31 Lajitas Ar. Si 64.34 75 P **P 04 00 24.9 +0.8**
TX31 IAmb IAmb 04 00 25.6
comp=Z,1.3nm,0.6s
TXAR Lajitas Array 64.34 75 P **P 04 00 24.9 +0.7**
TXAR Lajitas Array 64.34 75 P **P 04 00 25.0 +0.9**
comp=Z,1.1nm,0.4s,baz=308,slow=5.4,SNR=47
comp=Z,1.1nm,0.4s
NOA NORSAR Array B 65.64 350 P **P 04 00 32.5 +0.5**
comp=Z,0.5nm,0.8s,baz=3.8,slow=9.4,SNR=2.0
comp=Z,0.5nm,0.8s

HEL 07 04:00:52.9±0.2, 68°20N×33°19E, h0km, ML1.1,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.63**	**118**	PG	Pg	04 01 04.3	-0.6
LVZ				SG	Sg	04 01 11.9	-1.0
VRF	**Varrio**	**1.43**	**253**	PG	Pn	04 01 18.5	-1.5
VRF	baz=70			MSG		04 01 35.7	
VRF	comp=Z,1.7nm,0.2s			SG	Sg	04 01 36.2	-2.5
RAJF	**Raja-Jooseppi**	**1.83**	**281**	PG	Pn	04 01 25.7	+0.1
RAJF				SG	Sn	04 01 48.6	-0.9
OLKF	**Oulanka, Finla**	**2.39**	**220**	MSG		04 02 03.6	
OLKF	comp=Z,0.4nm,0.2s			SG	Sb	04 02 06.4	-0.5
KEV	**Kevo**	**2.72**	**308**	MSG		04 02 13.2	
KEV	comp=Z,0.7nm,0.2s			SB	Sb	04 02 14.5	-1.7

---

*CATAC **07** 04:01:18.2±0.9, 13°N±4°×9°0W±°, h6km±5km, M2.7/8, MLv2.7/8, Error ellipse: s-maj=9.3km s-min=7.1km az=52.8, confirmed*
*GCG **07** 04:01:18.8±0.4, 13°22N×90°13W, h4km±11km, MD3.7*
ISC 07 04:01:21.3±2.1, 13°2N±0°1×89°97W±0°06, h29km, n22,
σ1s03/23, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.63**	**356**	S	Sn	04 01 42.5	-0.9
JAYA	**Jayaque - finc**	**0.67**	**49**	*e*P	Pb	04 01 34.0	-0.6
JAYA	**Jayaque - finc**	**0.67**	**49**	P	Pn	04 01 34.2	-0.8
JAYA	**Jayaque - finc**	**0.67**	**49**	S	Sn	04 01 45.2	+0.6
LALI	**Alcalda de L**	**0.69**	**66**	S	Sn	04 01 45.5	+0.8
CEVE	**Cerro Verde**	**0.70**	**28**	P	Pn	04 01 34.5	-1.0
CEVE	**Cerro Verde**	**0.70**	**28**	S	Sn	04 01 46.4	+1.0
NUBE	**Las Nubes**	**0.71**	**15**	*e*P	Pb	04 01 34.3	-1.1
NUBE				*i* S	Sn	04 01 46.0	+0.4
NUBE	**Las Nubes**	**0.71**	**15**	P	Pb	04 01 34.4	-0.9
LOAL	**Lomas de Alarc**	**0.80**	**13**	P	Pn	04 01 36.2	-0.5
LOAL	**Lomas de Alarc**	**0.80**	**13**	S	Sn	04 01 49.3	+1.6
PMON	**Piamonte**	**0.81**	**52**	P	Pn	04 01 36.2	-0.6
PMON	**Piamonte**	**0.81**	**52**	S	Sn	04 01 49.9	+1.9
SLOZ	**Alcaldia de Sa**	**0.83**	**12**	S	Sn	04 01 49.6	+1.2
SLOZ	**Alcaldia de Sa**	**0.83**	**12**	P	Pn	04 01 36.6	-0.6
UNIC	**Universidad Ca**	**0.87**	**28**	P	Pn	04 01 37.4	-0.2
COEG	**Centro de Oper**	**1.13**	**69**	P	Pn	04 01 40.7	-0.6
SCLA	**Alcaldia de Sa**	**1.30**	**68**	P	Pb	04 01 44.8	-0.3
MTO3	**Montecristo**	**1.32**	**26**	*e*P	Pb	04 01 44.4	-1.2
MTO3	**Montecristo**	**1.32**	**26**	P	Pb	04 01 44.5	-1.1
MTO3	**Montecristo**	**1.32**	**26**	S	Sb	04 02 03.8	+1.6
STG0	**El Palmar, Qui**	**1.80**	**312**	*e*P	Pb	04 01 54.1	+0.3

---

*IDC **07** 04:01:42.1±1.4, 59°26N×154°04W, h89km±15km, mb3.2/7, mbtmp3.5/11, Error ellipse: s-maj=20.0km s-min=14.6km az=66.0*
*NEIC **07** 04:01:43.8±0.7, 59°25N±0°04×153°60W±0°10, h108km±4km, Error ellipse: s-maj=7.1km s-min=6.2km az=110.0*
*AEIC **07** 04:01:44.5±0.7, 59°24N±0°04×153°63W±0°10, h107km±4km, ML3.2, ML3.3/114(NEIC), Error ellipse: s-maj=7.0km s-min=6.2km az=104.0*
ISC 07 04:01:43.9±0.7, 59°27N±0°03×153°58W±0°04,
h109km±5km, n88, σ1s33/80, mb3.5/7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUCH	**Augustine Cone**	**0.12**	**35**		Pn	04 01 59.2	+0.1
AUL	**Augustine Lava**	**0.14**	**32**		Pn	04 01 59.0	0.0
AUL					Sn	04 02 09.9	-0.5
Q19K	**Cape Douglas,**	**0.34**	**186**		Pn	04 01 59.4	-0.3
Q19K	**Cape Douglas,**	**0.34**	**186**		Sn	04 02 10.8	-0.8
P19K	**Oil Pt**	**0.43**	**24**		Pn	04 02 00.1	0.0
ILS	**Iliamna Low So**	**0.74**	**20**		Pn	04 02 02.7	+0.1
ILSW	**Iliamna Southw**	**0.75**	**17**		Pn	04 02 02.4	-0.4
ILSW				IAML		04 02 17.1	
	comp=N,941nm,0.3s						
ILSW	**Iliamna Southw**	**0.75**	**17**		Sn	04 02 16.5	-0.5
P18K	**Big Mountain,**	**0.85**	**279**		Pn	04 02 02.5	-1.0
P18K				IAML		04 02 17.3	
	comp=N,290nm,0.8s						
SYI	**Shuyak Island**	**0.90**	**136**		Pn	04 02 03.9	-0.1
SYI				IAML		04 02 20.2	
	comp=N,572nm,0.3s						
SYI				IAML		04 02 20.8	
	comp=E,437nm,0.2s						
KAHG	**Katmai Hook Gl**	**0.92**	**213**		Pn	04 02 04.1	-0.2
KAHG					Sn	04 02 18.4	-1.2
O20K	**Slope Mountain**	**0.95**	**30**		Pn	04 02 04.7	+0.1
KAHC	**Katmai Hardscr**	**0.96**	**231**		Pn	04 02 04.0	-0.8
KAHC					Sn	04 02 18.8	-1.7
O19K	**Port Alsworth**	**1.00**	**338**		Pn	04 02 04.5	-0.5
O19K				IAML		04 02 21.4	
	comp=E,864nm,0.4s						
O18K	**Koktuh Hills**	**1.02**	**306**		Pn	04 02 04.5	-0.6
O18K				IAML		04 02 20.6	
	comp=N,306nm,0.5s						
O18K				IAML		04 02 20.8	
	comp=E,438nm,0.9s						
HOM	**Homer**	**1.06**	**67**	Pn	Pn	04 02 06.0	+0.3
RED	**Redoubt Volcan**	**1.23**	**19**		Pn	04 02 07.4	-0.1
CNPM	**China Poot**	**1.23**	**77**		Pn	04 02 07.5	0.0
CNPM				IAML		04 02 25.6	
	comp=E,653nm,0.3s						
KVTA	**Katmai Vly 10**	**1.26**	**226**		Pn	04 02 07.6	-0.2
RDWB	**Redoubt West**	**1.28**	**17**		Pn	04 02 08.0	-0.2
RDJH	**Redoubt Jeurge**	**1.39**	**16**		Pn	04 02 09.4	+0.1
ACHA	**Angle Creek He**	**1.40**	**221**		Pn	04 02 09.0	-0.5
BRLK	**Bradley Lake**	**1.46**	**69**	Pn	Pn	04 02 10.0	-0.2
P17K	**Kvichak River**	**1.47**	**268**		Pn	04 02 09.9	-0.2
CNTC	**Contact Creek**	**1.56**	**231**		Pn	04 02 11.3	-0.2
KDAK	**Kodiak Island**	**1.58**	**160**	Pn	Pn	04 02 10.9	-0.6
KDAK				IAML		04 02 32.3	
	comp=E,476nm,0.3s						
KDAK				IAML		04 02 33.0	
	comp=E,489nm,0.5s						
KDAK	**Kodiak Island**	**1.58**	**160**	P	Pn	04 02 10.8	-0.6
	comp=E,211nm,0.3s,baz=254,slow=3.9,SNR=1249						
KDAK				S	Sn	04 02 30.8	-1.7
	comp=E,132nm,0.3s,baz=158,slow=23,SNR=17						
N19K	**Bonanza Creek**	**1.62**	**344**		Pn	04 02 11.9	-0.2
N19K				IAML		04 02 33.4	
	comp=E,365nm,0.8s						
N19K				IAML		04 02 34.2	
	comp=N,144nm,0.8s						
R18K	**Karluk**	**1.76**	**195**		Pn	04 02 12.9	-0.9
N18K	**Kilae Creek**	**1.83**	**322**		Pn	04 02 14.2	-0.5
N18K				IAML		04 02 37.8	
	comp=E,115nm,0.9s						
N18K				IAML		04 02 38.1	
	comp=N,148nm,0.9s						
OHAK	**Old Harbor**	**2.06**	**176**	Pn	Pn	04 02 16.5	-1.0
OHAK	**Old Harbor**	**2.06**	**176**	P	Pn	04 02 16.1	-1.3
OHAK	**Old Harbor**	**2.06**	**176**	S	Sn	04 02 40.6	-2.5
SLKM	**Skilak Lake**	**2.10**	**52**	Pn	Pn	04 02 18.3	+0.2
SLKM				IAML		04 02 46.5	
	comp=E,185nm,0.2s						
SLKM				IAML		04 02 49.9	
	comp=N,243nm,0.3s						
N17K	**Nushagak Hills**	**2.21**	**306**		Pn	04 02 19.1	-0.4
N17K				IAML		04 02 47.2	
	comp=E,97nm,1.0s						
SEW	**Seward**	**2.26**	**66**		Pn	04 02 20.0	0.0
SEW				IAML		04 02 47.0	
	comp=N,143nm,0.5s						
SEW				IAML		04 02 56.2	
	comp=E,158nm,0.9s						
P16K	**Nushagak River**	**2.28**	**266**	Pn	Pn	04 02 20.5	+0.1
P16K				IAML		04 02 50.0	
	comp=N,187nm,1.0s						
P16K				IAML		04 02 50.1	
	comp=E,121nm,0.8s						
O16K	**Kokwok River B**	**2.33**	**280**		Pn	04 02 20.7	-0.2
STLK	**Strandline Lak**	**2.40**	**20**		Pn	04 02 22.3	+0.3
SUA	**Susitna One**	**2.62**	**31**	IAML		04 02 58.3	
	comp=N,100nm,0.5s						
SUA				IAML		04 02 59.8	
	comp=E,192nm,0.6s						
SII	**Sitkinak Islan**	**2.73**	**187**		Pn	04 02 25.5	-0.8
SII	**Sitkinak Islan**	**2.73**	**187**	P	Pn	04 02 25.2	-1.1
SII	**Sitkinak Islan**	**2.73**	**187**	S	Sn	04 02 56.0	-2.9
M17K	**Holitna River**	**2.88**	**320**	Pn	Pn	04 02 28.3	+0.2
M17K				IAML		04 03 02.7	
	comp=N,102nm,0.8s						
M17K				IAML		04 03 06.1	
	comp=E,89nm,1.3s						
SKT	**Skwentna**	**2.91**	**19**		Pn	04 02 28.8	+0.2
SKT				IAML		04 03 06.6	
	comp=N,35nm,0.3s						
L19K	**White Mountain**	**2.99**	**348**		Pn	04 02 29.6	0.0
L19K				IAML		04 03 05.3	
	comp=E,38nm,1.4s						
L19K				IAML		04 03 06.7	
	comp=N,42nm,1.2s						
PWL	**Port Wells**	**3.08**	**56**	IAML		04 03 05.8	
	comp=E,142nm,0.5s						
O15K	**Ungalikthiuk R**	**3.21**	**271**		Pn	04 02 32.8	+0.2
O15K				IAML		04 03 11.3	
	comp=N,34nm,1.0s						
O15K				IAML		04 03 11.6	
	comp=E,48nm,0.7s						
PMR	**Palmer**	**3.21**	**41**	Pn	Pn	04 02 32.1	-0.4
PMR				IAML		04 03 09.2	
	comp=N,64nm,0.5s						
PMR				IAML		04 03 10.2	
	comp=E,75nm,0.6s						
PMR	**Palmer**	**3.21**	**41**	P	Pn	04 02 32.4	-0.1
M16K	**Timber Creek**	**3.22**	**306**		Pn	04 02 32.9	+0.3
M16K				IAML		04 03 11.1	
	comp=E,33nm,0.8s						
L18K	**Granite Mounta**	**3.33**	**334**	IAML		04 03 13.8	
	comp=N,43nm,0.9s						
KNK	**Knik Glacier**	**3.33**	**48**	IAML		04 03 13.5	
	comp=N,104nm,0.4s						
GHO	**Glory Hole Cre**	**3.41**	**40**	IAML		04 03 17.2	
	comp=N,90nm,0.7s						
N15K	**Kwethluk River**	**3.42**	**288**	IAML		04 03 16.5	
	comp=N,67nm,1.2s						
N15K				IAML		04 03 17.4	
	comp=E,65nm,0.8s						
CHIR	**Chirikof Islan**	**3.62**	**199**	P	Pn	04 02 37.0	-1.1
L16K	**Owhat River**	**3.81**	**313**	Pn	Pn	04 02 40.6	+0.1
L16K				IAML		04 03 25.9	
	comp=E,20nm,1.1s						
TTA	**Tatalina**	**3.86**	**343**		Pn	04 02 40.9	-0.4
EYAK	**Cordova Ski Ar**	**4.15**	**69**	P	Pn	04 02 44.7	-0.4
K17K	**Iditarod**	**4.16**	**328**	IAML		04 03 35.9	
	comp=N,20nm,1.4s						
K17K				IAML		04 03 48.5	
	comp=E,28nm,0.9s						
CAST	**Castle Rocks**	**4.23**	**9**		Pn	04 02 47.0	+0.8
KLU	**Klutina**	**4.41**	**56**	IAML		04 03 39.5	
	comp=E,47nm,0.3s						
KTH	**Kantishna Hill**	**4.49**	**15**	IAML		04 03 43.5	
	comp=E,18nm,0.5s						
KTH				IAML		04 04 08.7	
	comp=N,14nm,0.7s						
TRF	**Thorofare Moun**	**4.49**	**19**	IAML		04 03 43.5	
	comp=N,25nm,0.8s						
TRF				IAML		04 03 43.5	
	comp=E,20nm,0.6s						
M24K	**Tolsona, Glenn**	**4.62**	**49**	IAML		04 03 45.9	
	comp=N,43nm,0.9s						
RND	**Reindeer**	**4.74**	**27**		Pn	04 02 52.8	-0.3
RND				IAML		04 03 47.4	
	comp=E,13nm,0.4s						
RND				IAML		04 03 49.2	
	comp=N,14nm,0.3s						
J17K	**VABM Dome**	**4.92**	**330**	Pn	Pn	04 02 55.6	+0.1
J17K				IAML		04 04 19.4	
	comp=E,11nm,1.1s						
J17K				IAML		04 04 35.5	
	comp=N,8.7nm,1.2s						
L14K	**Kuka Creek**	**4.98**	**299**	IAML		04 03 54.0	
	comp=N,19nm,1.1s						
L14K				IAML		04 04 36.4	
	comp=E,18nm,1.3s						
N25K	**Chitina, Valde**	**5.03**	**58**	IAML		04 03 56.2	
	comp=N,22nm,0.5s						
N25K				IAML		04 03 59.5	
	comp=E,18nm,0.9s						
J16K	**Anvik River**	**5.26**	**323**	IAML		04 04 01.6	
	comp=E,6.3nm,1.4s						
J16K				IAML		04 04 23.2	
	comp=N,8.2nm,1.4s						
COLA	**College**	**6.24**	**23**	P	Pn	04 03 12.3	-0.9
ILAR	**Eielson Array**	**6.36**	**27**	P	Pn	04 03 13.7	-1.2
	comp=N,1.3nm,0.4s,baz=216,slow=14,SNR=36						
ILAR				S	Sn	04 04 18.3	-7.6
	comp=N,1.3nm,0.4s,baz=335,slow=27,SNR=9.4						
PNL	**Peninsula**	**7.24**	**81**	P	Pn	04 03 26.6	-0.3
P29M	**Windy Craggy**	**8.08**	**81**		Pn	04 03 38.4	+0.1
SKAG	**Skagway**	**9.32**	**81**	P	Pn	04 03 56.1	+1.1
JIS	**Juneau Island**	**10.02**	**87**	P	Pn	04 04 05.5	+1.0
CRAG	**Craig**	**11.66**	**100**	P	Pn	04 04 27.0	+0.4
DLBC	**Dease Lake**	**12.21**	**84**	P	Pn	04 04 36.2	+2.3
	comp=N,1.8nm,0.3s,baz=271,slow=7.5,SNR=14						
DLBC				S	Sn	04 06 45.2	-2.8
	comp=N,1.5nm,0.6s,baz=255,slow=26,SNR=2.4						
INK	**Inuvik**	**12.61**	**36**	P	Pn	04 04 40.5	+1.6
	comp=N,0.5nm,0.5s,baz=230,slow=11,SNR=4.3						
YKA	**Yellowknife Ar**	**19.03**	**64**	P	P	04 05 57.8	+0.8
	comp=N,0.6nm,0.8s,baz=277,slow=10,SNR=11						
NVAR	**Mina Array Bea**	**30.64**	**117**	P	P	04 07 50.3	+2.5
	comp=N,0.6nm,0.9s,baz=292,slow=9.1,SNR=3.6						
	comp=N,0.6nm,0.9s						
PDAR	**Pinedale Array**	**31.52**	**102**	P	P	04 07 58.2	+2.7
	comp=N,0.4nm,0.7s,baz=310,slow=5.7,SNR=4.9						
	comp=N,0.4nm,0.7s						
TXAR	**Lajitas Array**	**45.01**	**109**	P	P	04 09 50.4	+2.0
	comp=N,0.6nm,0.8s,baz=321,slow=5.8,SNR=8.9						
	comp=N,0.6nm,0.8s						
SONM	**Songino Array**	**54.98**	**306**	P	P	04 11 02.6	-0.9
	comp=N,1.1nm,0.6s,baz=34,slow=6.1,SNR=7.6						
	comp=N,1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**57.79**	**323**	P	P	04 11 22.4	-0.7
	comp=N,0.3nm,0.3s,baz=39,slow=5.6,SNR=2.3						
	comp=N,0.3nm,0.3s						
BVAR	**Borovoye Array**	**62.58**	**332**	P	P	04 11 55.2	-0.5
	comp=N,0.3nm,0.5s,baz=23,slow=5.2,SNR=1.7						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**64.82**	**321**	P	P	04 12 10.6	-0.1
	comp=N,0.2nm,0.7s,baz=24,slow=7.9,SNR=1.7						
	comp=N,0.2nm,0.7s						
QSPA	**South Pole Qui**	**149.06**	**180**	PKPbc	**PKPbc**	04 21 16.7	-0.8
	comp=N,1.0nm,0.7s,baz=262,slow=1.6,SNR=8.7						

---

*GCG **07** 04:13:57.9±0.9, 13°18N×90°24W, h18km±14km, MD3.7*
*SNET **07** 04:13:58.7±1.1, 13°10N×90°04W, h12km±48km, ML2.8*
ISC 07 04:14:00.9±2.4, 13°2N±0°1×89°98W±0°08, h29km, n14,
σ0s85/18, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.69**	**49**	*e*P	Pb	04 14 13.9	-0.5
JAYA				IAML		04 14 28.5	
	comp=Z,425nm,0.2s						
JAYA	**Jayaque - finc**	**0.69**	**49**	*i* P	Pb	04 14 14.0	-0.5
JAYA				*e*S	Sn	04 14 26.3	+1.7
CEVE	**Cerro Verde**	**0.71**	**29**	*e*P	Pn	04 14 15.4	+0.2
CEVE				IAML		04 14 31.9	
	comp=Z,271nm,0.2s						
NUBE	**Las Nubes**	**0.72**	**15**	*e*P	Pb	04 14 14.2	-0.9
NUBE				*e*S	Sn	04 14 26.1	+0.6
NUBE	**Las Nubes**	**0.72**	**15**	*e*P	Pb	04 14 14.2	-0.9
NUBE				*e*S	Sn	04 14 26.0	+0.5
SBLS	**San Blas**	**0.72**	**28**	*e*P	Pb	04 14 14.2	-0.9
SNJE	**San Jose**	**0.76**	**29**	*e*P	Pb	04 14 14.9	-0.8
PMON	**Piamonte**	**0.82**	**52**	*e*P	Pn	04 14 16.0	-0.6
SLOZ	**Alcaldia de Sa**	**0.84**	**13**	*e*P	Pn	04 14 16.0	-0.8
SLOZ				*e*S	Sn	04 14 29.4	+1.1
COEG	**Centro de Oper**	**1.15**	**69**	*e*P	Pn	04 14 20.3	-0.7
MTO3	**Montecristo**	**1.33**	**27**	*e*P	Pn	04 14 24.3	+0.5
MTO3	**Montecristo**	**1.33**	**27**	*e*P	Pn	04 14 24.3	+0.5
PQSS	**Presa 15 de Se**	**1.44**	**73**	*e*P	Pn	04 14 25.6	+0.5
STG0	**El Palmar, Qui**	**1.80**	**313**	*e*P	Pn	04 14 30.6	+0.4

---

*KRSC **07** 04:27:02.1±2.1, 54°85N×164°72E, h60km±26km, Ml4.2*
*MOS **07** 04:27:06.9±0.8, 54°94N×164°39E, h70km, mb3.8/1, Error ellipse: s-maj=8.1km s-min=7.5km az=156.4*
*IDC **07** 04:27:06.7±4.0, 55°08N×164°57E, h40km±38km, mb3.4/14, mbtmp3.6/15, ML2.8/1, MS3.0/7, Error ellipse: s-maj=29.8km s-min=13.3km az=152.0*
ISC 07 04:27:04.2±1.6, 54°89N±0°04×164°78E±0°05, h24km±13km,
n90, σ1s75/111, mb3.6/14, MS3.1/5, Komandorsky
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.76**	**65**	PN	Pb	04 27 18.4	-0.2
BKI	**Bering**	**0.76**	**65**	*e*P	Pb	04 27 18.4	-0.2
BKI				*e*S	Sb	04 27 29.0	+0.5
KBTR	**Krutoberegovo**	**1.73**	**321**	PN	Pn	04 27 30.0	-2.8
KBTR				S	Sn	04 27 49.7	-4.3
KBTR	**Krutoberegovo**	**1.73**	**321**	*e*P	Pn	04 27 30.0	-2.8
KBTR				*e*S	Sn	04 27 49.8	-4.3
SMKR	**Semkarok**	**2.53**	**314**	PN	Pn	04 27 44.0	+0.2
SMKR	**Semkarok**	**2.53**	**314**	*e*P	Pn	04 27 44.0	+0.2
ZLN	**Zelenaya**	**2.53**	**298**	PN	Pn	04 27 44.1	+0.3
ZLN				S	Sn	04 28 14.9	+0.9
ZLN	**Zelenaya**	**2.53**	**298**	*e*P	Pn	04 27 44.2	+0.3
ZLN				*e*S	Sn	04 28 15.0	+0.9
TUMD	**Tumrok D**	**2.54**	**279**	PN	Pn	04 27 43.5	-0.4
TUMD				S	Sn	04 28 12.9	-1.2
TUMD	**Tumrok D**	**2.54**	**279**	*e*P	Pn	04 27 43.6	-0.4
TUMD				*e*S	Sn	04 28 12.9	-1.2
BZGR	**Bezymyannyi-Gr**	**2.56**	**296**	PN	Pn	04 27 44.0	-0.2
BZGR	**Bezymyannyi-Gr**	**2.56**	**296**	*e*P	Pn	04 27 44.1	-0.2
CIRR	**Tsirk**	**2.60**	**300**	PN	Pn	04 27 45.2	+0.4
CIRR	**Tsirk**	**2.60**	**300**	*e*P	Pn	04 27 45.3	+0.4
LGNR	**Loginova**	**2.62**	**299**	PN	Pn	04 27 45.5	+0.3
LGNR	**Loginova**	**2.62**	**299**	*e*P	Pn	04 27 45.6	+0.3
BZWR	**Bezymyannyi-We**	**2.67**	**296**	PN	Pn	04 27 45.9	+0.1
BZWR	**Bezymyannyi-We**	**2.67**	**296**	*e*P	Pn	04 27 46.0	+0.1
KMNR	**Kamenistaya**	**2.74**	**290**	PN	Pn	04 27 47.0	+0.3
KMNR	**Kamenistaya**	**2.74**	**290**	*e*P	Pn	04 27 47.1	+0.3
KRSR	**Krestovskiy**	**2.74**	**301**	PN	Pn	04 27 45.9	-0.8
KRSR	**Krestovskiy**	**2.74**	**301**	*e*P	Pn	04 27 45.9	-0.8
KIRR	**Kirishev**	**2.75**	**295**	PN	Pn	04 27 47.0	+0.2
KIRR				S	Sn	04 28 20.6	+1.3
KIRR	**Kirishev**	**2.75**	**295**	*e*P	Pn	04 27 47.0	+0.2
KIRR				*e*S	Sn	04 28 20.7	+1.3
KPT	**Kopyto**	**2.81**	**294**	PN	Pn	04 27 48.3	+0.6
KPT	**Kopyto**	**2.81**	**294**	*e*P	Pn	04 27 48.4	+0.6
KOZ	**Kozyrevsk**	**3.03**	**295**	PN	Pn	04 27 51.6	+1.0
KOZ	**Kozyrevsk**	**3.03**	**295**	*e*P	Pn	04 27 51.7	+1.0
KOZ				*e*S	Sn	04 28 28.4	+2.2
SPN	**Mys Shipunski**	**3.33**	**239**	PN	Pn	04 27 54.0	-0.7
SPN				S	Sn	04 28 29.5	-4.0
SPN	**Mys Shipunski**	**3.33**	**239**	*e*P	Pn	04 27 54.0	-0.7
SPN				*e*S	Sn	04 28 29.5	-4.0
ESO	**Esso**	**3.62**	**289**	PN	Pn	04 27 58.6	-0.1
ESO	**Esso**	**3.62**	**289**	*e*P	Pn	04 27 58.6	-0.1
NLC	**Nalytchevo**	**3.64**	**244**	*e*S	Sn	04 28 38.1	-2.9
SDLR	**Sedlovina**	**3.83**	**248**	PN	Pn	04 28 01.7	0.0
SDLR				S	Sn	04 28 43.4	-2.5
SDLR	**Sedlovina**	**3.83**	**248**	*e*P	Pn	04 28 01.7	0.

GRL				S	Sn	04 29 04.5	-0.9
GRL	**Gorelyy**	**4.62**	**242**	*e*P	**Pn**	**04 28 13.5**	**+1.0**
GRL				*e*S	**Sn**	**04 29 04.5**	**-0.9**
APC	**Apacha**	**4.92**	**250**	PN	**Pn**	**04 28 18.8**	**+2.3**
APC	**Apacha**	**4.92**	**250**	*e*P	**Pn**	**04 28 18.8**	**+2.3**
SHEM	**Shemya Is, Ala**	**5.93**	**108**	LR	LR	04 31 20.4	
	comp=Z,57nm,18.1s,baz=293,slow=42						
MA2	**Magadan**	**8.93**	**307**	LR	LR	04 32 59.7	
	comp=Z,67nm,18.5s,baz=98,slow=40						
KLR	**Kul'dur**	**20.95**	**268**	LR	LR	04 39 40.7	
	comp=Z,42nm,20.3s,baz=46,slow=36						
KDAK	**Kodiak Island**	**23.52**	**65**	P	**P**	**04 32 12.6**	**+0.5**
	9.2nm,1.0s,baz=259,slow=16,SNR=1.8						
	9.2nm,1.0s						
USRK	**Ussuriysk Ar.**	**23.59**	**257**	LR	LR	04 41 43.4	
	comp=Z,54nm,20.8s,baz=359,slow=37						
ILAR	**Eielson Array**	**25.57**	**48**	P	**P**	**04 32 30.9**	**0.0**
	1.1nm,0.7s,baz=259,slow=7.6,SNR=11						
	1.1nm,0.7s						
MJAR	**Matsushiro Arr**	**25.84**	**236**	P	**P**	**04 32 34.6**	**+1.0**
	3.2nm,1.1s,baz=32,slow=7.7,SNR=6.2						
	3.2nm,1.1s						
KSRS	**Korea Array**	**30.44**	**250**	P	**P**	**04 33 16.0**	**+1.4**
	1.0nm,0.7s,baz=40,slow=10,SNR=5.4						
	1.0nm,0.7s						
KSRS	**Korea Array**	**30.44**	**250**	P	**P**	**04 33 16.0**	**+1.4**
INK	**Inuvik**	**30.74**	**40**	P	**P**	**04 33 17.6**	**+0.7**
	0.3nm,0.4s,baz=209,slow=9.4,SNR=2.9						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**35.13**	**177**	T	T	05 12 25.6	
	baz=359,slow=76,SNR=93						
H11N3	**WAKE ISLAND Hy**	**35.15**	**177**	T	T	05 12 27.8	
	baz=359,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy**	**35.15**	**177**	T	T	05 12 19.1	
	baz=359,slow=76,SNR=59						
H11S1	**WAKE ISLAND Hy**	**36.34**	**177**	T	T	05 13 52.0	
	baz=353						
H11S3	**WAKE ISLAND Hy**	**36.35**	**177**	T	T	05 13 21.2	
	baz=353						
H11S2	**WAKE ISLAND Hy**	**36.36**	**177**	T	T	05 13 34.5	
	baz=353						
YKA	**Yellowknife Ar**	**39.95**	**46**	P	**P**	**04 34 36.0**	**0.0**
	0.2nm,0.6s,baz=299,slow=8.1,SNR=4.6						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**44.12**	**303**	LR	LR	04 54 42.0	
	comp=Z,24nm,18.8s,baz=68,slow=38						
KURK	**Kurchatov**	**49.11**	**303**	P	**P**	**04 35 49.1**	**-0.2**
KURBB	**Kurchatov Arra**	**49.21**	**303**	P	**P**	**04 35 49.1**	**-1.0**
	0.4nm,0.4s,baz=57,slow=7.7,SNR=3.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**49.84**	**297**	P	**P**	**04 35 53.1**	**-1.9**
	0.1nm,0.4s,baz=58,slow=8.7,SNR=1.6						
MKAR				LR	LR	04 58 54.8	
	comp=Z,24nm,19.4s,baz=350,slow=38						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**51.41**	**310**	P	**P**	**04 36 05.2**	**-1.5**
	0.4nm,0.5s,baz=64,slow=6.7,SNR=2.1						
	0.4nm,0.5s						
NVAR	**Mina Array Bea**	**52.56**	**74**	P	**P**	**04 36 16.1**	**+0.3**
	0.2nm,0.5s,baz=325,slow=9.5,SNR=1.8						
	0.2nm,0.5s						
ARTI	**Arti**	**54.01**	**319**	LR	LR	05 02 50.6	
	comp=Z,25nm,18.2s,baz=298,slow=40						
PDAR	**Pinedale Array**	**54.24**	**65**	P	**P**	**04 36 28.4**	**+0.4**
	0.1nm,0.4s,baz=306,slow=8.4,SNR=2.8						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**67.41**	**71**	P	**P**	**04 37 59.0**	**+1.4**
	0.4nm,0.6s,baz=296,slow=4.2,SNR=5.9						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**78.94**	**209**	P	**P**	**04 39 06.2**	**+0.7**
	0.5nm,0.8s,baz=25,slow=5.8,SNR=2.2						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**82.59**	**208**	P	**P**	**04 39 26.0**	**+1.0**
	1.0nm,0.9s,baz=16,slow=3.2,SNR=6.0						
	1.0nm,0.9s						
QSPA	**South Pole Qui**	**144.64**	**180**	PKP	**PKPab**	**04 46 35.3**	**-0.6**
	1.1nm,0.6s,baz=12,slow=3.7,SNR=5.8						

IDC 07 04:53:14.0±1.7, 3°.65N×125°.57E, h0km, mb3.6/4, mbtmp3.6/4, MS2.8/1, Error ellipse: s-maj=180.5km s-min=21.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**11.34**	**337**	LR	LR	04 59 56.0	
	comp=Z,53nm,20.8s,baz=332,slow=35						
WRA	**Warramunga Arr**	**24.98**	**160**	P	P	04 58 39.6	0.0
	0.7nm,0.3s,baz=338,slow=10,SNR=19						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**28.34**	**164**	P	P	04 59 09.9	0.0
	0.4nm,0.5s,baz=356,slow=8.5,SNR=9.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**56.96**	**326**	P	P	05 03 02.1	+0.7
	0.2nm,0.4s,baz=123,slow=6.9,SNR=5.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**61.18**	**328**	P	P	05 03 29.7	-0.8
	0.3nm,0.4s,baz=121,slow=6.8,SNR=4.4						
	0.3nm,0.4s						

*IDC **07** 05:21:23.1±2.0, 9°.17S×125°.34E, h0km, mb3.3/1, mbtmp3.9/4, ML4.0/3, MS2.9/1, Error ellipse: s-maj=97.9km s-min=29.0km az=67.0*
*DJA **07** 05:21:31.3±0.5, 10°S±4°.×12°.5E±°., h27km±5km, M4.1/8, mb4.3/4, MLv4.0/8*
ISC 07 05:21:29.0±1.1, 9°.65S±0°.09×125°.11E±0°.10, h35km, n21, σ2§49/21, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.84**	**263**	P	**Pn**	**05 21 45.2**	**+0.8**
SOEI	**Soe**	**0.84**	**263**	P	**Pn**	**05 21 44.8**	**+0.4**
BATI	**Baumata**	**1.53**	**249**	P	**Pn**	**05 21 55.7**	**+1.9**
MMRI	**Maumere**	**3.01**	**289**	P	**Pn**	**05 22 13.4**	**-0.8**
BASI	**Baing, Sumba**	**4.50**	**262**	P	**Pn**	**05 22 35.6**	**+0.9**
WBSI	**Waikabubak, Su**	**5.64**	**270**	P	**Pn**	**05 22 50.4**	**0.0**
	0.3nm40nm,1.0s						
BSSI	**Bau Bau, Buton**	**5.75**	**307**	P	**Pn**	**05 22 51.9**	**0.0**
	0.2nm38nm,1.0s						
MTN	**Manton Dam**	**6.71**	**119**	P	Pn	05 23 12.8	+7.8
PLAI	**Plampang**	**7.29**	**276**	P	**Pn**	**05 23 11.8**	**-1.2**
	0.1nm39nm,1.1s						
KDU	**Kakadu**	**7.83**	**113**	P	Pn	05 23 28.2	+7.8
FITZ	**Fitzroy Crossi**	**8.41**	**177**	Pn	**Pn**	**05 23 32.2**	**+3.8**
	1.8nm,0.3s,baz=354,slow=12,SNR=55						
FITZ				Sn	**Sn**	**05 25 01.7**	**-0.5**
	4.8nm,0.3s,baz=142,slow=8.4,SNR=15						
	4.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**8.41**	**177**	S	**Sn**	**05 24 57.4**	**-4.8**
JAGI	**Jajag, Banyuwa**	**10.88**	**275**	P	**Pn**	**05 24 05.1**	**+2.7**
WRA	**Warramunga Arr**	**13.57**	**140**	Pn	**Pn**	**05 24 40.1**	**+1.0**
	0.7nm,0.3s,baz=322,slow=14,SNR=18						
WRA				Sn	**Sn**	**05 27 07.2**	**-1.5**
	1.3nm,0.3s,baz=306,slow=25,SNR=11						
	0.9nm,0.3s						
WRKA	**Warakurna**	**15.60**	**169**	P	**Pn**	**05 25 08.2**	**+1.9**
ASAR	**Alice Springs**	**16.27**	**150**	Pn	**P**	**05 25 17.7**	**0.0**
	0.7nm,0.3s,baz=318,slow=12,SNR=27						
ASAR				Sn	**Sn**	**05 28 10.7**	**-3.9**
	0.4nm,0.3s,baz=312,slow=19,SNR=10						
	1.9nm,0.4s						
AS01	**Alice Springs**	**16.29**	**150**	P	**P**	**05 25 18.8**	**+0.9**
QIS	**Mount Isa**	**17.69**	**129**	P	**P**	**05 25 38.6**	**+5.3**
MEEK	**Meekatharra**	**17.98**	**199**	P	**Pn**	**05 25 34.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**38.04**	**317**	LR	LR	05 49 07.1	
	comp=Z,16nm,18.3s,baz=180,slow=44						
MKAR	**Makanchi Array**	**67.92**	**330**	P	**P**	**05 32 21.9**	**-2.2**
	0.2nm,0.5s,baz=145,slow=6.3,SNR=2.2						
	0.2nm,0.5s						

*SOME **07** 05:44:19.4, 43°.53N×82°.08E, h35km*
*NNC **07** 05:44:20.6±1.1, 43°.68N×81°.86E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=10.1km s-min=4.6km az=137.0*
ISC 07 05:44:19.6±2.9, 43°.56N±0°.09×81°.90E±0°.09, h14km±16km, n26, σ2§03/37, 3C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.71**	**297**	P	**Pb**	**05 44 51.2**	**+0.4**
	23nm,0.1s						
DJR				S	**Sg**	**05 45 14.1**	**-0.6**
	97nm,0.3s						
DJR	**Jarkent**	**1.71**	**297**	*e*P	**Pb**	**05 44 51.2**	**+0.4**
	23nm,0.1s						
DJR				*e*S	**Sg**	**05 45 14.1**	**-0.6**
	97nm,0.3s						
PDGK	**Podgornoye**	**1.77**	**263**	⇓Pn	**Pb**	**05 44 53.1**	**+1.0**
	5.9nm,0.3s						
PDGK				⇑Sn	**Sg**	**05 45 17.4**	**+0.6**
	12nm,0.3s						
SHLS	**Shalkode**	**1.83**	**258**	P	**Pn**	**05 44 49.6**	**-1.2**
	38nm,0.2s						
SHLS				S	**Sn**	**05 45 11.2**	**-2.6**
	57nm,0.3s						
SHLS	**Shalkode**	**1.83**	**258**	*e*P	**Pn**	**05 44 49.6**	**-1.2**
	38nm,0.2s						
SHLS				*e*S	**Sn**	**05 45 11.2**	**-2.6**
	57nm,0.3s						
UZB	**Uzynbulak**	**2.14**	**260**	Pg	**Pb**	**05 44 59.2**	**+0.9**
	11nm,0.3s						
UZB				Lg	Lg	05 45 27.9	
	12nm,0.2s						
UZB	**Uzynbulak**	**2.14**	**260**	*e*P	**Pb**	**05 44 59.2**	**+0.9**
	11nm,0.3s						
UZB				*e*S	**Sg**	**05 45 27.9**	**-0.6**
	12nm,0.2s						
ZHN	**Zhinishke**	**2.56**	**262**	Pg	**Pb**	**05 45 06.8**	**+1.4**
	5.8nm,0.1s						
ZHN				Lg	Lg	05 45 40.9	
	30nm,0.2s						
ZHN	**Zhinishke**	**2.56**	**262**	*e*P	**Pb**	**05 45 06.8**	**+1.4**
	5.8nm,0.1s						
ZHN				*e*S	**Sg**	**05 45 40.9**	**-1.0**
	30nm,0.2s						
SATY	**Saty**	**2.60**	**260**	Pg	**Pb**	**05 45 06.8**	**+0.7**
	6.1nm,0.1s						
SATY				Lg	Lg	05 45 40.9	
	34nm,0.1s						
KURS	**Kuram**	**2.72**	**270**	Pg	**Pb**	**05 45 08.9**	**+0.9**
	3.6nm,0.5s						
KURS				Lg	Lg	05 45 44.6	
	3.6nm,0.2s						
MK31	**Makanchi Array**	**3.24**	**5**	⇓Pn	**Pn**	**05 45 11.2**	**+1.1**
MK31				⇑Pg	**Pb**	**05 45 16.7**	**-0.3**
	0.3nm,0.2s,baz=190,slow=16,SNR=12						
MK31				⇓Lg	Lg	05 45 58.4	
	1.2nm,0.3s,baz=182,slow=28,SNR=3.4						
MAKZ	**Makanchi**	**3.25**	**1**	⇑Pg	**Pb**	**05 45 17.4**	**+0.4**
	1.7nm,0.5s						
MAKZ				⇓Lg	Lg	05 45 59.9	
	0.9nm,0.3s						
MDOK	**Medeo**	**3.56**	**265**	Pg	**Pb**	**05 45 24.1**	**+1.6**
	2.8nm,0.4s						
MDOK				Lg	Lg	05 46 10.6	
	3.0nm,0.2s						
CHKK	**Chushkaly**	**3.58**	**276**	Pg	**Pb**	**05 45 23.7**	**+1.0**
	2.3nm,0.2s						
CHKK				Lg	Lg	05 46 10.0	
	12nm,0.3s						
CHKK	**Chushkaly**	**3.58**	**276**	*e*P	**Pb**	**05 45 23.7**	**+1.0**
	2.3nm,0.2s						
CHKK				*e*S	**Sb**	**05 46 10.0**	**+4.1**
	12nm,0.3s						
TNSS	**Tian-Shan**	**3.66**	**263**	Pg	**Pb**	**05 45 26.0**	**+1.8**
	1.3nm,0.2s						
TNSS				Lg	Lg	05 46 14.0	
	1.7nm,0.3s						
TNSS	**Tian-Shan**	**3.66**	**263**	*e*P	**Pb**	**05 45 26.0**	**+1.8**
	1.3nm,0.2s						
TNSS				*e*S	**Sg**	**05 46 14.0**	**-3.1**
	1.7nm,0.3s						
KTBS	**Karatobe**	**3.79**	**274**	Pg	**Pb**	**05 45 28.2**	**+1.8**
	1.6nm,0.5s						
KTBS				Lg	Lg	05 46 17.8	
	3.8nm,0.4s						
MTBS	**Maitube**	**4.02**	**266**	Pg	**Pb**	**05 45 32.6**	**+2.3**
	1.7nm,0.2s						
MTBS				Lg	Lg	05 46 25.1	
	4.4nm,0.3s						
MTBS	**Maitube**	**4.02**	**266**	*e*P	**Pb**	**05 45 32.6**	**+2.3**
	1.7nm,0.2s						
MTBS				*e*S	**Sg**	**05 46 25.1**	**-3.5**
	4.4nm,0.3s						
KST	**Kastek**	**4.37**	**265**	Pg	**Pb**	**05 45 39.4**	**+3.2**
	1.1nm,0.2s						
KST				Lg	Lg	05 46 36.9	
	5.0nm,0.4s						
KST	**Kastek**	**4.37**	**265**	*e*P	**Pb**	**05 45 39.4**	**+3.2**
	1.1nm,0.2s						
KST				*e*S	**Sg**	**05 46 36.9**	**-2.9**
	5.0nm,0.4s						
DGS	**Degeres**	**4.48**	**268**	Pg	**Pb**	**05 45 41.0**	**+2.9**
	1.8nm,0.3s						
DGS				Lg	Lg	05 46 39.5	
	4.1nm,0.5s						
KRBS	**Karabastau**	**4.52**	**274**	Pg	**Pb**	**05 45 41.8**	**+2.9**
	1.6nm,0.3s						
KRBS				Lg	Lg	05 46 41.1	
	2.4nm,0.4s						
TKM2	**Tokmak 2**	**4.65**	**264**	⇓Lg	Lg	05 46 46.1	
	2.5nm,0.6s						

*ISN **07** 06:18:25.5±0.3, 33°.74N×45°.75E, h15km±8km, ML2.8*
*TEH **07** 06:18:25.9, 33°.75N×45°.76E, h12km±101km*
ISC 07 06:18:26.9±0.9, 33°.71N±0°.04×45°.77E±0°.06, h19km, n9, σ0§93/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.42**	**16**	Pg	**Pg**	**06 18 34.0**	**-1.7**
GLG1				Sg	**Sg**	**06 18 41.1**	**-0.4**
IBDR	**Badra**	**0.61**	**167**	*e*Pg	**Pb**	**06 18 38.0**	**-1.0**
IBDR				*e*Sg	**Sb**	**06 18 47.0**	**-0.2**
IBDR				AML	AML	06 18 51.1	
	comp=E,342nm,0.4s						
IBDR				AML	AML	06 18 54.2	
	comp=N,379nm,0.4s						
KGS1	**Ghasr-e-Shirin**	**0.81**	**349**	Pg	**Pb**	**06 18 41.9**	**-0.5**
IGHG	**Ghaleghazi**	**0.90**	**47**	Pg	**Pb**	**06 18 44.5**	**+0.3**
IDHR	**Dehrash**	**1.11**	**27**	Pg	**Pb**	**06 18 47.5**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.20**	**62**	Pg	**Pb**	**06 18 49.7**	**+0.7**
BHD	**Baghdad**	**1.24**	**250**	*e*Pn	**Pn**	**06 18 50.0**	**+0.7**
BHD				*e*Sn	**Sg**	**06 19 08.0**	**+0.8**
IKFM	**Kafar-mosalman**	**1.74**	**96**	Pg	**Pb**	**06 18 59.1**	**+0.8**
IKRK	**Kirkuk**	**2.06**	**325**	*e*Pn	**Pn**	**06 19 01.0**	**+0.5**
IKRK				*e*Sn	**Sn**	**06 19 27.0**	**+1.4**
IKRK				AML	AML	06 19 43.9	
	comp=N,136nm,0.3s						
IKRK				AML	AML	06 19 47.5	
	comp=E,72nm,0.6s						

*IDC **07** 06:23:16.6±1.6, 55°.13N×164°.81E, h0km, mb3.5/4, mbtmp3.5/6, ML3.1/2, MS2.7/3, Error ellipse: s-maj=58.8km s-min=22.1km az=163.0*
*KRSC **07** 06:23:17.4±1.6, 54°.88N×164°.68E, h51km±28km, Ml4.0*
ISC 07 06:23:19.2±1.7, 54°.90N±0°.05×164°.77E±0°.07, h24km±17km, n44, σ1§58/51, mb3.5/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.75**	**66**	*e*P	**Pb**	**06 23 33.0**	**-0.6**
BKI				*e*S	**Sb**	**06 23 44.1**	**+0.6**
KBTR	**Krutoberegovo**	**1.71**	**320**	*e*P	**Pn**	**06 23 45.3**	**-2.2**
KBTR				*e*S	**Sn**	**06 24 05.2**	**-3.5**
MKZ	**Mys Kozlova**	**1.80**	**260**	*e*P	**Pn**	**06 23 48.0**	**-0.7**
MKZ				*e*S	**Sn**	**06 24 08.0**	**-2.7**
ZLN	**Zelenaya**	**2.52**	**298**	*e*P	**Pn**	**06 23 59.2**	**+0.5**
TUMD	**Tumrok D**	**2.53**	**279**	*e*P	**Pn**	**06 23 58.6**	**-0.2**
TUMD				*e*S	**Sn**	**06 24 26.2**	**-2.7**
BZGR	**Bezymyannyi-Gr**	**2.54**	**296**	*e*P	**Pn**	**06 23 59.5**	**+0.4**
BZGR				*e*S	**Sn**	**06 24 29.9**	**+0.6**
BZWR	**Bezymyannyi-We**	**2.66**	**295**	*e*P	**Pn**	**06 24 01.3**	**+0.6**
SRKR	**Sorokina**	**2.69**	**312**	*e*S	**Sn**	**06 24 34.8**	**+2.0**
KRSR	**Krestovskiy**	**2.73**	**301**	*e*P	**Pn**	**06 24 01.2**	**-0.4**
KMNR	**Kamenistaya**	**2.73**	**290**	*e*P	**Pn**	**06 24 02.0**	**+0.4**
KMNR				*e*S	**Sn**	**06 24 34.1**	**+0.3**
KLY	**Klyuchi**	**2.73**	**303**	*e*S	**Sn**	**06 24 32.8**	**-0.9**
KIRR	**Kirishev**	**2.73**	**294**	*e*P	**Pn**	**06 24 02.2**	**+0.5**
KIRR				*e*S	**Sn**	**06 24 33.5**	**-0.6**
KPT	**Kopyto**	**2.80**	**294**	*e*P	**Pn**	**06 24 03.3**	**+0.8**
KOZ	**Kozyrevsk**	**3.02**	**295**	*e*P	**Pn**	**06 24 06.1**	**+0.6**
SPN	**Mys Shipunski**	**3.34**	**239**	*e*P	**Pn**	**06 24 08.9**	**-0.9**
SPN				*e*S	**Sn**	**06 24 44.8**	**-3.8**
ESO	**Esso**	**3.61**	**289**	*e*P	**Pn**	**06 24 14.1**	**+0.5**
SDLR	**Sedlovina**	**3.83**	**247**	*e*P	**Pn**	**06 24 17.0**	**+0.3**
SDLR				*e*S	**Sn**	**06 24 59.1**	**-2.0**
KRER	**Koryakskii**	**3.89**	**248**	*e*S	**Sn**	**06 25 01.4**	**-1.2**
UGLR	**Uglovaya**	**3.90**	**247**	*e*P	**Pn**	**06 24 19.3**	**+1.7**
UGLR				*e*S	**Sn**	**06 25 00.2**	**-2.4**
AVH	**Avacha**	**3.91**	**248**	*e*P	**Pn**	**06 24 19.4**	**+1.6**
AVH				*e*S	**Sn**	**06 25 02.3**	**-0.8**
KRX	**Arik**	**3.92**	**249**	*e*P	**Pn**	**06 24 19.2**	**+1.2**
KRX				*e*S	**Sn**	**06 25 02.0**	**-1.3**
KOK	**Koryaka**	**3.96**	**248**	*e*P	**Pn**	**06 24 19.7**	**+1.3**
DALK	**Dalny**	**4.02**	**245**	*e*P	**Pn**	**06 24 19.8**	**+0.6**
DALK				*e*S	**Sn**	**06 25 04.0**	**-1.5**
PET	**Petropavlovsk**	**4.08**	**245**	*e*S	**Sn**	**06 25 04.4**	**-2.5**
GNL	**Ganaly**	**4.18**	**256**	*e*P	**Pn**	**06 24 22.8**	**+1.2**
KRMR	**Karymshinskiy**	**4.45**	**245**	*e*P	**Pn**	**06 24 26.1**	**+1.0**
KRMR				*e*S	**Sn**	**06 25 14.1**	**-1.9**
OSSR	**Ossora**	**4.46**	**349**	*e*S	**Sn**	**06 25 14.4**	**-1.8**
RUS	**Russkaya**	**4.47**	**239**	*e*S	**Sn**	**06 25 14.0**	**-2.5**
PETK	**Petropavlovsk-**	**4.54**	**250**	Pn	**Pn**	**06 24 27.1**	**+0.6**
	0.9nm,0.3s,baz=75,slow=18,SNR=27						
PETK				Sn	**Sn**	**06 25 16.8**	**-1.7**
	1.1nm,0.3s,baz=65,slow=14,SNR=5.5						
	4.1nm,0.7s						
APC	**Apacha**	**4.92**	**249**	*e*P	**Pn**	**06 24 33.8**	**+2.3**
APC				*e*S	**Sn**	**06 25 27.3**	**-0.3**
SHEM	**Shemya Is, Ala**	**5.94**	**108**	LR	LR	06 26 50.4	
	comp=Z,96nm,20.3s,baz=292,slow=36						
MA2	**Magadan**	**8.91**	**307**	LR	LR	06 29 01.7	
	comp=Z,36nm,20.2s,baz=346,slow=39						
ASAJ	**Asahikawa**	**17.91**	**242**	P	**P**	**06 27 29.1**	**+2.1**
	0.3nm,0.3s,baz=281,slow=10,SNR=1.4						
	4.0nm,1.0s						
KLR	**Kul'dur**	**20.94**	**268**	LR	LR	06 37 32.2	
	comp=Z,23nm,18.3s,baz=66,slow=41						
ILAR	**Eielson Array**	**25.56**	**48**	P	**P**	**06 28 44.8**	**-1.0**
	0.9nm,0.8s,baz=259,slow=8.3,SNR=8.2						
	0.9nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.15**	**177**	T	T	07 08 40.4	
	baz=359,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.16**	**177**	T	T	07 08 38.2	
	baz=359,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.17**	**177**	T	T	07 08 45.6	
	baz=359,slow=76						
H11S1	**WAKE ISLAND Hy**	**36.36**	**177**	T	T	07 10 04.2	
	baz=353						
H11S3	**WAKE ISLAND Hy**	**36.37**	**177**	T	T	07 10 08.7	
	baz=353						
H11S2	**WAKE ISLAND Hy**	**36.38**	**177**	T	T	07 10 05.5	
	baz=353						
KURBB	**Kurchatov Arra**	**49.20**	**303**	P	**P**	**06 32 05.5**	**+0.5**
	0.5nm,0.6s,baz=53,slow=8.1,SNR=5.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**49.83**	**297**	P	**P**	**06 32 10.0**	**+0.1**
	0.3nm,0.6s,baz=64,slow=6.6,SNR=3.0						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**67.41**	**71**	P	**P**	**06 34 13.7**	**+1.0**
	0.2nm,0.6s,baz=311,slow=5.1,SNR=3.9						
	0.2nm,0.6s						

*NEIC **07** 06:35:08.8±1.0, 5°.2S±0°.1×151°.7E±0°.2, h79km±13km, mb4.2/11, Error ellipse: s-maj=30.1km s-min=6.3km az=133.0*
*IDC **07** 06:35:13.3±7.8, 5°.41S×151°.51E, h110km±52km, mb3.6/4, mbtmp4.1/5, Error ellipse: s-maj=85.8km s-min=55.1km az=152.0*
ISC 07 06:35:09.0±0.8, 5°.1S±0°.1×151°.6E±0°.1, h100km, n22, σ1§07/24, mb4.0/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.04**	**33**		**Pn**	**06 35 29.1**	**-0.8**
RABL				Sn	**Sn**	**06 35 45.6**	**0.0**
PMG	**Port Moresby**	**6.16**	**225**		**Pn**	**06 36 36.8**	**-0.7**
PMG	**Port Moresby**	**6.16**	**225**	P	**Pn**	**06 36 38.0**	**+0.6**
	51nm,0.4s,baz=60,slow=9.5,SNR=31						
PMG				S	**Sn**	**06 37 44.4**	**-2.1**
	26nm,0.4s,baz=139,slow=16,SNR=6.6						
COEN	**Coen**	**12.12**	**223**	Pn	**Pn**	**06 37 57.1**	**-1.3**
EIDS	**Eidsvold**	**20.20**	**181**	P	**P**	**06 39 34.9**	**-0.9**
EIDS				IAmb	IAmb	06 39 50.0	
	comp=Z,14nm,1.2s						
DZM	**Mont Dzumac**	**22.19**	**141**	P	**P**	**06 39 56.4**	**-0.9**
DZM				IAmb	IAmb	06 40 23.5	
	comp=Z,41nm,1.5s						
WB0	**Warramunga Arr**	**22.23**	**227**	P	**P**	**06 39 58.4**	**+0.8**
WB0				IAmb	IAmb	06 40 13.2	
	comp=Z,21nm,1.5s						
WR0	**Warramunga Arr**	**22.24**	**227**	P	**P**	**06 39 58.0**	**+0.3**
WR8	**Warramunga Arr**	**22.27**	**227**	P	**P**	**06 39 59.1**	**+1.0**
WR8				IAmb	IAmb	06 40 04.6	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**22.37**	**227**	P	**P**	**06 39 59.9**	**+0.8**
WB2				IAmb	IAmb	06 40 24.4	
	comp=Z,6.6nm,1.1s						
WRA	**Warramunga Arr**	**22.38**	**227**	P	**P**	**06 39 59.5**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=53,slow=10,SNR=17						
	comp=Z,2.0nm,0.5s						
KNRA	**Kununurra**	**24.78**	**243**	P	**P**	**06 40 22.5**	**+0.8**
KNRA				IAmb	IAmb	06 40 24.5	
	comp=Z,20nm,1.2s						
AS31	**Alice Springs**	**25.15**	**221**	P	**P**	**06 40 26.1**	**+1.0**
ASAR	**Alice Springs**	**25.15**	**221**	P	**P**	**06 40 26.3**	**+1.2**
ASAR	**Alice Springs**	**25.15**	**221**	P	**P**	**06 40 26.1**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=56,slow=9.0,SNR=18						
	comp=Z,1.6nm,0.7s						
STKA	**Stephens Creek**

USIM UNAN 0.99 36 Pb 06 43 42.5 -0.2
USIM UNAN 0.99 36 P Pb 06 43 43.3 +0.6
MAFN Magfor 0.99 38 P Pb 06 43 43.2 +0.4
BC86 Nagarote 0.99 17 P Pb 06 43 43.5 +0.6
ENAN Enatrel Managu 0.99 36 P Pb 06 43 43.3 +0.5
TISN Laguna Tiscapa 1.01 35 P Pb 06 43 43.5 +0.3
AMTN Mateare 1.01 25 P Pb 06 43 43.5 +0.3
ALLN Telcor Managua 1.02 34 P Pb 06 43 43.5 +0.2
ALLN Telcor Managua 1.02 34 S Sb 06 43 57.4 +1.1
ARIN Rivas 1.02 82 P Pb 06 43 43.1 -0.1
APQ2 Apoyeque 1.03 31 P Pb 06 43 43.4 0.0
MGAN Managua 1.03 36 P Pb 06 43 43.5 +0.1
R4DEC Barrio San Lui 1.03 36 P Pb 06 43 43.5 +0.1
R4DEC Barrio San Lui 1.03 36 S Sn 06 43 56.4 +0.5
APYN Apoyeque 1.04 29 P Pb 06 43 44.3 +0.5
LEVN Ruinas Leon Vi 1.11 12 P Pb 06 43 45.4 +0.6
LEVN S Sb 06 44 00.1 +1.1
BC84 Volcan Momotom 1.12 16 P Pb 06 43 45.4 +0.4
MOMN Momotombo 1.14 16 P Pb 06 43 45.8 +0.5
MOMN S Sb 06 44 00.2 +0.5
JAPN Al SSO del Vol 1.18 79 P Pn 06 43 45.3 +0.7
CNGA Al SSO del Vol 1.19 8 P Pb 06 43 46.4 +0.3
CNGN Cerro Negro 1.19 8 Pb 06 43 46.3 +0.1
CNGN Sn Sb 06 44 01.6 +0.2
CNGN Cerro Negro 1.19 8 eP Pb 06 43 46.4 +0.1
CNGN Cerro Negro 1.19 8 P Pb 06 43 46.4 +0.1
CNGN Cerro Negro 1.19 8 S Sb 06 44 01.9 +0.6
LCRUZ La Cruz 1.23 101 eP Pb 06 43 46.4 -0.5
LCRUZ eS Sn 06 44 02.0 +1.0
CONN Concepcion 1.24 78 P Pn 06 43 45.8 +0.3
CONN S Sn 06 44 01.0 -0.2
SBEN San Benito 1.27 38 P Pn 06 43 46.6 +0.7
ILCN San Idelfonso 1.27 7 P Pn 06 43 46.2 +0.3
ILCN S Sb 06 44 03.5 +0.1
QUEN Al S del Volca 1.27 0 P Pb 06 43 48.5 +0.9
HERN Volcan Telica 1.29 1 Pb 06 43 48.0 +0.1
HERN Volcan Telica 1.29 1 P Pb 06 43 48.0 +0.1
HERN Volcan Telica 1.29 1 S Sb 06 44 05.3 +1.2
BC87 San Francisco 1.31 25 P Pn 06 43 47.0 +0.5
CARN Rivas 1.32 95 P Pn 06 43 46.8 +0.2
CARN S Sn 06 44 03.5 +0.3
POLN Al Sur del Vol 1.33 2 P Pb 06 43 48.6 +0.1
CRIN San Cristobal 1.39 352 Pb 06 43 50.0 +0.3
CRIN San Cristobal 1.39 352 P Pb 06 43 49.6 0.0
CRIN S Sb 06 44 08.2 +1.1
CRIN San Cristobal 1.39 352 eP Pb 06 43 49.6 0.0
CRIN San Cristobal 1.39 352 P Pb 06 43 49.8 +0.2
ELI1 Hacienda Flor 1.45 117 eP Pn 06 43 49.0 +0.7
ALIBA Liberia Airpor 1.48 119 eP Pn 06 43 49.3 +0.6
ERIA Liberia 1.55 116 eP Pn 06 43 50.2 +0.4
VRLE La Escondida, 1.56 109 eP Pn 06 43 50.2 +0.2
VORI VORI 1.57 108 eP Pn 06 43 50.5 +0.4
GPS3 Bodega del ICE 1.57 110 eP Pb 06 43 52.0 -0.6
PEJA Penjamo Buenos 1.57 105 eP Pn 06 43 50.2 +0.1
GPS2 Hotel Rincn d 1.58 110 eP Pn 06 43 50.1 -0.2
AESN El Sauce Leon 1.60 11 P Pb 06 43 52.3 -0.8
AESN El Sauce Leon 1.60 11 S Sb 06 44 13.4 +0.5
BOAB BOACO BROADBAN 1.63 46 Pn Pn 06 43 51.5 +0.7
BOAB BOACO BROADBAN 1.63 46 S Sn 06 44 11.4 +0.6
BOAB BOACO BROADBAN 1.63 46 P Pn 06 43 51.3 +0.5
SACU Santa Cruz 1.63 130 eP Pn 06 43 51.3 +0.5
COLC Colonia 1.75 111 eP Pn 06 43 52.8 +0.3
BAGA Bagaces 1.75 116 eP Pn 06 43 54.1 +1.5
HORNC Hornillas 1.76 110 eP Pn 06 43 53.1 +0.4
PLVR Palo Verde 1.77 123 eP Pn 06 43 52.8 -0.1
ACON Acoyapa 1.78 68 Pn 06 43 53.3 +0.4
ACON Acoyapa 1.78 68 P Pn 06 43 52.9 0.0
ACON S Sn 06 44 13.7 -0.8
ACON Acoyapa 1.78 68 eP Pn 06 43 53.1 +0.2
ACON Acoyapa 1.78 68 P Pn 06 43 52.8 0.0
CUI Cuipilapa 1.79 111 eP Pn 06 43 53.6 +0.5
CSGN Cosiguina Volc 1.79 338 eP Pb 06 43 55.7 -0.7
CSGN Cosiguina Volc 1.79 338 P Pb 06 43 55.9 -0.5
CSGN S Sb 06 44 19.3 +0.8
POTN Potosi Cosigui 1.79 339 P Pb 06 43 55.6 -0.8
POTN S Sb 06 44 17.7 -0.7
LIMN Finca el Limon 1.81 15 P Pn 06 43 55.0 +1.6
NICO Nicoya 1.82 130 eP Pn 06 43 53.7 +0.2
MATN Matagalpa 1.85 30 P Pn 06 43 54.8 +0.8
MATN Matagalpa 1.85 30 S Sn 06 44 17.7 +1.3
CMARA Lajas Hojancha 1.91 132 eP Pn 06 43 54.0 -0.8
CMARA Lajas Hojancha 1.91 132 P Pn 06 43 53.9 -0.8
TENO El Achiote 1.95 108 eP Pn 06 43 55.6 +0.3
INVE Universidad In 1.95 115 eP Pn 06 43 56.1 +0.7
INDI Punta indio, G 1.96 137 P Pn 06 43 55.0 -0.4
INDI Punta indio, G 1.96 137 S Sb 06 44 26.2 +2.7
VERA Finca Concepci 2.01 103 eP Pn 06 43 56.6 +0.6
QUEB Quebradon, Cot 2.05 109 eP Pn 06 43 57.4 +0.7
LCHIL Los Chiles 2.12 97 eP Pn 06 43 57.5 -0.1
JUNT Juntas 2.13 118 eP Pn 06 43 57.7 0.0
JTS Las Juntas de 2.13 118 Pn Pn 06 43 58.2 +0.4
JTS Las Juntas de 2.13 118 Pn Pn 06 43 57.0 -0.8
64nm,0.3s,baz=307,slow=16,SNR=197
JTS Sn Sn 06 44 21.3 -2.0
231nm,0.3s,baz=330,slow=9.0,SNR=8.8
JTS LR LR 06 44 53.8
comp=Z,4µm,21.7s,baz=302,slow=46
JTS Las Juntas de 2.13 118 P Pn 06 43 56.7 -1.1
JTS S Sb 06 44 27.6 -0.7
JTS Las Juntas de 2.13 118 eP Pn 06 43 57.9 +0.1
CNCH Conchagua 2.17 334 eP Pb 06 44 01.1 -1.8
CNCH eS Sb 06 44 29.0 -0.5
CNCH Conchagua 2.17 334 P Pb 06 44 01.4 -1.5
LCND La Caada 2.23 333 eP Pb 06 44 01.9 -1.8
LCND eS Sb 06 44 29.2 -1.7
MTEVE Monteverde 2.23 116 eP Pn 06 43 58.9 -0.3
JCR1 Jicaral 2.25 130 eP Pn 06 43 60.0 +0.5
ARE1 Arenal 1 2.27 112 eP Pn 06 44 00.4 +0.7
VARE2 V. Arenal 2.27 112 eP Pn 06 44 00.3 +0.5
CEDE Laguna Cedeo 2.27 111 eP Pn 06 44 00.3 +0.6
VACR Volcan Arenal 2.30 111 eP Pn 06 44 00.7 +0.6
FORC Fortuna 2.31 111 eP Pn 06 44 00.8 +0.5
RCPN Sur Rio San Ju 2.33 19 P Pn 06 44 02.7 +2.1
TUNA La Fortuna 2.33 111 eP Pn 06 44 01.0 +0.4
RCVN Varillal2 2.35 16 P Pn 06 44 02.8 +1.9
SOCE Pocosol 2.39 112 Pn 06 44 01.9 +0.5
SOCE Pocosol 2.39 112 eP Pn 06 44 01.6 +0.2
SOCE Pocosol 2.39 112 P Pn 06 44 02.3 +1.0
ENAS Puntarenas 2.39 123 eP Pn 06 44 02.1 +0.8
CBL1 Cabuya 2.44 134 eP Pn 06 44 02.2 +0.2
COVE Coope Vega, Sa 2.48 103 P Pn 06 44 03.0 +0.4
CNRM Centro Naciona 2.50 329 P Pb 06 44 06.1 -2.3
CNRM Centro Naciona 2.50 329 S Sb 06 44 38.0 -0.8
BLLM Bellamira 2.51 328 eP Pb 06 44 06.3 -2.3
LCY Lacayo 2.52 326 eP Pb 06 44 06.4 -2.5
ALJI Alcalda de J 2.61 320 eP Pn 06 44 07.0 +2.7
ALJI Alcalda de J 2.61 320 P Pb 06 44 07.3 -3.0
ALJI Alcalda de J 2.61 320 S Sb 06 44 39.3 -2.6
ESPN Las Esperanzas 2.66 70 Pn 06 44 05.9 +0.9
ESPN Las Esperanzas 2.66 70 P Pn 06 44 04.5 -0.5
ESPN S Sn 06 44 36.1 -0.1
ESPN Las Esperanzas 2.66 70 P Pn 06 44 06.3 +1.3
VPL1 V. Platanar 2.67 113 eP Pn 06 44 07.7 +2.4
TECA Tecapa 2.70 324 eP Pb 06 44 08.8 -3.1
TRB2 Turrubares 2.75 120 eP Pn 06 44 06.8 +0.5
TGUH Tegucigalpa,Un 2.76 352 Pn Pb 06 44 09.9 -3.0
TGUH Tegucigalpa,Un 2.76 352 P Pn 06 44 09.4 +2.9
TGUH S Sn 06 44 30.9 -8.0
TGUH Tegucigalpa,Un 2.76 352 P Pn 06 44 09.5 +3.0
ARTO Ro Cuarto 2.77 110 eP Pn 06 44 07.1 +0.5
CAHU Cacacuatique 2.78 332 eP Pb 06 44 10.1 -3.2
TCS1 Tacares 2.82 116 P Pn 06 44 09.9 +2.6
PQSS Presa 15 de Se 2.83 324 eP Pb 06 44 10.8 -3.3
PQSS Presa 15 de Se 2.83 324 P Pb 06 44 11.3 -2.8
TECO Alcaldia de Te 2.90 320 eP Pn 06 44 11.0 +2.6
TECO Alcaldia de Te 2.90 320 P Pn 06 44 11.0 +2.6
BELE Belen 2.94 117 eP Pn 06 44 09.6 +0.5
VBV1 V. Barva 2.96 113 eP Pn 06 44 09.8 +0.3
UESV Universidad de 2.98 321 eP Pn 06 44 12.5 +3.0
UESV Universidad de 2.98 321 P Pb 06 44 12.9 -3.7
UESV Universidad de 2.98 321 S Sn 06 44 47.8 +3.6
SCLA Alcaldia de Sa 3.00 323 P Pb 06 44 13.6 -3.3
SCLA Alcaldia de Sa 3.00 323 S Sb 06 44 49.4 -3.6
HDC Heredia 3.00 115 Pn 06 44 12.6 +2.8
HDC Heredia 3.00 115 eP Pn 06 44 12.6 +2.8
HDC Heredia 3.00 115 eP Pn 06 44 09.9 +0.1
COEG Centro de Oper 3.03 320 eP Pn 06 44 12.9 +2.8
COEG Centro de Oper 3.03 320 P Pb 06 44 15.1 -2.4
COEG Centro de Oper 3.03 320 S Sn 06 44 49.4 +3.9

ACOS Acosta 3.05 119 eP Pn 06 44 11.2 +0.7
SJS3 Mercedes San J 3.08 116 eP Pn 06 44 10.7 -0.3
AMPA Desamparados 3.09 117 eP Pn 06 44 11.3 +0.2
BLUN Bluefields 3.10 77 P Pn 06 44 10.0 -1.1
BLUN Bluefields 3.10 77 P Pn 06 44 11.9 +0.8
PAVA Las Pavas 3.13 320 eP Pn 06 44 14.9 +3.3
PAVA Las Pavas 3.13 320 P Pn 06 44 15.2 +3.5
PAVA Las Pavas 3.13 320 S Sn 06 44 51.9 +3.7
CVIMO Finca Echandi 3.14 114 eP Pn 06 44 14.7 +2.9
LFRS El Faro 3.15 317 eP Pn 06 44 14.6 +2.8
ABE2 San Pablo 3.19 120 eP Pn 06 44 13.7 +1.1
LCR2 La Lucha 2 3.21 119 Pn 06 44 13.6 +0.8
LCR2 La Lucha 2 3.21 119 eP Pn 06 44 13.1 +0.2
LCR2 La Lucha 2 3.21 119 P Pn 06 44 14.6 +1.8
LALI Alcalda de L 3.23 312 eP Pb 06 44 16.9 -4.0
LALI Alcalda de L 3.23 312 P Pn 06 44 16.2 +3.3
LOMA Loma Larga 3.23 316 eP Pn 06 44 16.6 +3.6
LOMA Loma Larga 3.23 316 P Pb 06 44 16.9 -4.1
LOMA Loma Larga 3.23 316 S Sn 06 44 54.5 +3.8
PCAYA Pacayas 3.30 115 eP Pn 06 44 17.4 +3.3
PIEC Cerro El Cedra 3.31 120 eP Pn 06 44 15.2 +0.9
CVTV Tajo 3.32 113 eP Pn 06 44 17.9 +3.4
PMON Piamonte 3.38 315 P Pn 06 44 19.0 +3.9
RVSTA Santa Teresita 3.43 112 eP Pn 06 44 19.6 +3.9
JAYA Jayaque - finc 3.44 313 eP Pn 06 44 19.0 +3.1
JAYA Jayaque - finc 3.44 313 P Pn 06 44 19.8 +3.9
LLGN La Laguna 3.49 325 P Pb 06 44 21.1 -4.3
CEVE Cerro Verde 3.68 313 eP Pn 06 44 23.7 +4.4
CEVE Cerro Verde 3.68 313 P Pb 06 44 24.9 -3.8
CEVE Cerro Verde 3.68 313 S Sb 06 45 08.2 -4.7
UNIC Universidad Ca 3.73 316 P Pb 06 44 25.0 -4.5
SAJE San Jernim 3.83 120 eP Pn 06 44 24.0 +2.7
NUBE Las Nubes 3.84 312 P Pn 06 44 25.5 +4.1
NUBE Las Nubes 3.84 312 S Sn 06 45 07.4 +1.7
OCHAL Ojochal 3.85 124 P Pn 06 44 24.4 +3.0
MTO3 Montecristo 3.92 322 Pn 06 44 26.4 +3.8
MTO3 Montecristo 3.92 322 P Pn 06 44 26.9 +4.4
SLOZ Alcaldia de Sa 3.93 314 P Pn 06 44 27.0 +4.5
ESQI Esquipulas 4.03 323 Pn 06 44 28.2 +4.1
ESQI Esquipulas 4.03 323 P Pn 06 44 28.0 +4.0
DRK0 Durika 4.10 119 eP Pn 06 44 27.6 +2.5
DRK0 eS Sb 06 45 21.0 -4.0
ALCO Alturas Coton, 4.61 120 eP Pn 06 44 33.3 +1.3
CDITO Canoas 4.78 124 P Pn 06 44 36.5 +2.3
BRU2 Volcan 4.81 121 Pn 06 44 36.2 +1.5
BRU2 Volcan 4.81 121 eP Pn 06 44 36.4 +1.7
BRU2 eS Sb 06 46 01.9 +17
BRU2 Volcan 4.81 121 P Pn 06 44 37.0 +2.3
BC3P Paso Ancho 4.87 120 eP Pn 06 44 32.5 -3.1
SAIC Isla e San And 5.18 76 P Pb 06 44 47.6 -6.6
11µm630nm,1.2s
DVD David 5.20 123 eP Pn 06 44 42.0 +2.0
DVD eS Sb 06 45 56.7 +0.2
GUAL3 Gualaca, Chiri 5.28 121 eP Pn 06 44 34.0 -7.0
PRVC Isla de Provid 5.75 69 Pn 06 44 47.5 0.0
PRVC Isla de Provid 5.75 69 P Pb 06 45 03.0 -0.8
7µm6µm386nm,0.9s
PRVC Isla de Provid 5.75 69 eP Pn 06 44 49.9 +2.4
PRVC eS Sb 06 46 39.9 +28
PRVC Isla de Provid 5.75 69 P Pn 06 44 48.9 +1.4
PETF Flores 6.29 333 Pn 06 44 57.1 +2.2
GMAL Guarumal, Vera 6.58 122 P Pn 06 45 01.9 +3.0
1µm49nm,0.9s
CCIG Comitan 7.12 315 Pn 06 45 10.9 +4.4
CCIG Comitan 7.12 315 P Pn 06 45 12.7 +6.2
CHIT3 Chitre 7.17 117 eP Pn 06 45 02.4 -4.8
CHIT3 eS Sb 06 47 00.8 +7.6
BCIP Isla Barro Col 7.23 106 Pn Pn 06 45 07.2 -0.8
AZU Azuero 7.38 118 P Pn 06 45 06.0 -3.9
32nm,1.1s
TEIG Tepich 8.97 351 Pn Pn 06 45 33.7 +2.0
TEIG Tepich 8.97 351 Pn Pn 06 45 30.0 -1.7
baz=180,slow=20,SNR=1.7
TEIG Tepich 8.97 351 P Pn 06 45 30.7 -1.0
8µm6µm110nm,1.3s
CMIG Matias Romero 9.67 307 Pn Pn 06 45 45.2 +3.9
24nm,0.4s,baz=145,slow=6.6,SNR=26
CMIG Sn Sn 06 47 29.7 +0.7
baz=135,slow=19
CMIG LR LR 06 49 35.5
comp=Z,1µm,21.9s,baz=134,slow=38
APAC Apartado, Choc 10.69 108 P Pn 06 45 58.3 +2.9
63nm,1.1s
DBBC Dabeiba 11.35 111 P Pn 06 46 06.9 +2.4
SJCC San Jacinto, C 11.57 96 P Pn 06 46 05.5 -2.0
1µm37nm,1.1s
UREC San Jos de Ur 11.72 107 P Pn 06 46 09.8 +0.3
404nm15nm,0.8s
SOR Soroa 11.99 17 Pn Pn 06 46 13.1 -0.1
CBOC Ciudad Bolivar 12.01 116 P Pn 06 46 14.9 +1.3
347nm12nm,1.3s
PAYG Puerto Ayora 12.38 196 Pn Pn 06 46 21.9 +3.4
ZARC Zaragoza, Cauc 12.44 107 P Pn 06 46 14.9 -4.4
20nm,1.6s
ARGC Ariguani, Magd 12.49 95 P Pn 06 46 20.2 +0.2
26nm,1.9s
YOTC Yotoco, Valle 12.71 124 P Pn 06 46 19.8 -3.3
13nm,1.4s
GUY2C Guyana, Caldas 12.88 117 P Pn 06 46 28.8 +3.0
28nm,1.0s
TLIG Tlapa 12.93 300 Pn P 06 46 32.2 -4.2
PTBC PUERTO BERRIO, 13.14 110 P Pn 06 46 32.3 +3.4
140nm8.1nm,0.8s
NORC Norcasia 13.16 115 P P 06 46 36.8 -2.2
14nm,1.6s
ANIL Santa Ana 13.21 120 P P 06 46 36.8 -3.0
CHIV Chivirico 13.24 48 Pn 06 46 29.1 -1.1
BBAC Balboa, Cauca 13.27 133 P Pn 06 46 30.6 -0.3
30nm,1.1s
POPC Popayan, Colom 13.34 130 P Pn 06 46 32.9 +1.0
426nm40nm,1.1s
FLF1 Flavio Alfaro- 13.53 149 P Pn 06 46 37.6 +3.4
2µm57nm,1.1s
BRJC Barrancabermej 13.65 107 P Pn 06 46 40.0 +4.2
28nm,0.9s
ORTC Ortega, Tolima 13.65 122 P P 06 46 44.3 -0.1
46nm,0.9s
CMBC Cumbal 13.66 138 P P 06 46 47.6 +2.7
51nm,0.9s
OCAC Ocana 13.69 102 P Pn 06 46 36.8 +0.2
687nm42nm,0.7s
GCUF Volcan Galeras 13.77 136 P Pn 06 46 41.1 +3.1
36nm,1.1s
CRUC La Cruz 13.80 134 P Pn 06 46 42.0 +3.8
OTAV Otavalo 13.81 142 Pn 06 46 40.3 +1.8
OTAV Otavalo 13.81 142 P Pn 06 46 41.3 +2.8
565nm17nm,1.1s
OTAV Otavalo 13.81 142 eP P 06 46 43.6 -3.0
TULM Tulcn-Chalpat 13.86 139 P P 06 46 47.6 +0.5
39nm,0.8s
ROSC El Rosal 13.98 116 Pn P 06 46 51.0 +2.6
0.8nm,0.3s,baz=115,slow=4.2,SNR=31
ROSC LR LR 06 51 51.9
comp=Z,2µm,18.9s,baz=324,slow=37
ROSC El Rosal 13.98 116 P P 06 46 49.6 +1.2
51nm,0.8s
PRAC Prado 14.06 122 P P 06 46 49.4 +0.4
20nm,0.8s
BONI La Bonita 14.22 139 P P 06 46 50.1 -0.9
UNM Universidad Na 14.30 305 Pn Pn 06 46 46.8 +1.8
BARC Barichara 14.30 108 P P 06 46 52.5 +0.7
CVER Cruz Verde, Cu 14.35 117 P P 06 46 52.3 -0.3
200nm19nm,0.9s
GARC Garzon, Huila 14.47 128 P P 06 46 54.8 +1.1
16nm,1.3s
PAMC Pamplona, Colo 14.52 105 P Pn 06 46 50.3 +2.1
CHIC Chingaza 14.59 116 P Pn 06 46 50.3 +1.2
28nm,1.2s
RUSC La Rusia 14.64 110 Pn Pn 06 46 50.1 +0.2
RUSC La Rusia 14.64 110 P Pn 06 46 50.3 +0.4
32nm,1.0s
FLOC Florencia 14.74 130 Pn Pn 06 46 51.5 +0.8
FLOC Florencia 14.74 130 P Pn 06 46 52.3 +1.6
784nm71nm,1.2s
URMC La Uribe, Meta 14.74 122 P P 06 46 56.8 +0.3
539nm21nm,0.9s
PIAT Ana Tenorio 14.92 144 P P 06 46 58.2 -0.7
488nm19nm,1.2s
COHC Cochancay 15.64 151 P 06 47 04.5 -1.9
COHC Cochancay 15.64 151 P Pn 06 47 02.9 +0.3
597nm35nm,1.4s
TAMC Tame, Arauca 15.65 107 P Pn 06 47 02.5 -0.3
1µm86nm,1.2s
MACC Macarena, Meta 15.80 124 P P 06 47 08.7 +0.4

1µm37nm,1.1s
JRQG Juriquilla Cam 16.04 307 P P 06 47 13.2 +2.0
MOIG Morelia 16.11 303 P P 06 47 14.4 +2.5
MOIG IAmb IAmb 06 47 24.6
comp=Z,215nm,1.5s
SDV Santo Domingo 16.16 97 Pn Pn 06 47 08.8 -0.7
SDV Santo Domingo 16.16 97 Pn Pn 06 47 05.4 -4.1
comp=Z,0.4nm,0.3s,baz=266,slow=15,SNR=9.8
SDV LR LR 06 55 26.4
comp=Z,758nm,18.0s,baz=331,slow=46
comp=Z,0.8nm,0.3s
SDV Santo Domingo 16.16 97 P Pn 06 47 08.9 -0.6
comp=Z,672nmcomp=Z,47nm,1.8s
SDV Santo Domingo 16.16 97 eP Pn 06 47 09.3 -0.2
PTGC Puerto Gaitan, 16.21 115 P Pn 06 47 10.5 +0.6
comp=Z,951nmcomp=Z,66nm,1.2s
PTLC Puerto Leguiza 16.31 132 P P 06 47 13.2 -0.8
comp=Z,762nmcomp=Z,61nm,1.2s
DWPF Disney Wildern 17.47 16 P P 06 47 26.5 -0.1
656A Willston 18.41 12 IAmb IAmb 06 47 54.2
comp=Z,135nm,1.4s
BAUV El Baul 18.68 96 P P 06 47 38.6 -1.4
BAUV IAmb IAmb 06 48 03.7
comp=Z,90nm,1.3s
ZAIG Zacatecas 18.83 309 Pn 06 47 48.3 +5.7
553A Crawfordville 18.92 6 P Pn 06 47 46.2 +2.9
553A IAmb IAmb 06 48 10.2
comp=Z,57nm,1.1s
BRAL Brewton 19.76 360 P Pn 06 47 53.0 -0.4
456A Hilliard 19.83 12 P P 06 47 53.2 +0.6
456A IAmb IAmb 06 47 56.0
comp=Z,78nm,0.9s
346A Big Creek Wild 20.12 354 IAmb IAmb 06 48 15.1
comp=Z,47nm,1.0s
ATAH Atahualpa 20.17 155 P Pn 06 47 58.8 -0.1
comp=Z,8.3nm,1.0s,baz=337,slow=11,SNR=8.1
ATAH LR LR 06 54 53.9
comp=Z,2µm,19.8s,baz=337,slow=34
comp=Z,8.3nm,1.0s
HKT Hockley 20.34 337 P Pn 06 48 00.7 +0.5
UUPR Utuado, UPR, P 20.65 68 P P 06 48 01.9 +0.3
UUPR IAmb IAmb 06 48 17.8
comp=Z,55nm,1.1s
CELP Cerrillos 20.73 69 P P 06 48 02.2 -0.2
CELP IAmb IAmb 06 48 19.4
comp=Z,50nm,1.2s
SJG San Juan 21.13 69 P P 06 48 02.5 -4.3
comp=Z,5.2nm,0.6s,baz=295,slow=12,SNR=4.3
comp=Z,5.2nm,0.6s
SJG San Juan 21.13 69 P P 06 48 00.0 -6.8
comp=Z,26nm,1.5s
152A Waverly Hall 21.35 5 IAmb IAmb 06 48 25.0
comp=Z,42nm,0.9s
HNDO Hondo 21.51 329 P P 06 48 11.8 +1.1
HNDO IAmb IAmb 06 48 27.8
comp=Z,29nm,0.9s
NATX Nacogdoches 21.59 342 P P 06 48 13.6 +2.0
LRAL Lakeview Retre 21.62 360 IAmb IAmb 06 48 34.7
comp=Z,47nm,1.1s
Z47A Carrollton 21.81 357 P P 06 48 15.0 +1.1
Z47A IAmb IAmb 06 48 19.0
comp=Z,51nm,1.1s
PCRV Puerto La Cruz 21.86 91 P P 06 48 12.3 -2.4
comp=Z,23nm,0.8s,baz=241,slow=5.4,SNR=9.6
comp=Z,23nm,0.8s
DRIO Del Rio 22.12 327 P P 06 48 18.4 +1.0
DRIO IAmb IAmb 06 48 38.7
comp=Z,56nm,1.0s
GOGA Godfrey 22.22 8 P P 06 48 18.9 +0.6
GOGA IAmb IAmb 06 48 44.4
comp=Z,42nm,1.1s
Y49A Blount Mountai 22.45 1 IAmb IAmb 06 48 44.9
comp=Z,48nm,1.1s
Z41A Richland Creek 22.51 347 IAmb IAmb 06 48 23.4
comp=Z,54nm,1.0s
JCT Junction City 22.54 330 P P 06 48 23.1 +1.2
JCT IAmb IAmb 06 48 38.5
comp=Z,36nm,0.9s
Y52A Lilburn 22.59 6 IAmb IAmb 06 48 39.9
comp=Z,36nm,0.9s
WHTX Lake Whitney, 22.79 336 P P 06 48 25.6 +1.2
SGC2 Sao Gabriel da 22.80 119 P P 06 48 23.9 -0.8
comp=Z,13nm,0.9s
TBTG Tabatinga, AM 22.84 131 P P 06 48 26.3 +1.2
TBTG Tabatinga, AM 22.84 131 eP P 06 48 26.6 +1.5
CCAR Cane Creek 22.95 349 P P 06 48 27.4 +1.4
WLAR White Oak Lake 23.00 347 IAmb IAmb 06 48 29.3
comp=Z,57nm,1.0s
FW13 Cleburne 23.09 337 IAmb IAmb 06 48 29.8
comp=Z,50nm,0.9s
X51A Calhoun 23.22 4 IAmb IAmb 06 48 57.1
comp=Z,68nm,1.5s
JSC Jenkinsville 23.43 12 IAmb IAmb 06 48 33.6
comp=Z,28nm,1.0s
HPIG 23.55 314 IAmb IAmb 06 48 49.8
comp=Z,24nm,0.9s
OZNA Ozona 23.57 328 IAmb IAmb 06 48 51.4
comp=Z,44nm,1.1s
CZSB Cruzeiro do Su 23.58 143 P P 06 48 35.1 +2.5
CZSB Cruzeiro do Su 23.58 143 eP P 06 48 34.2 +1.6
CZSB Cruzeiro do Su 23.58 143 P P 06 48 34.8 +2.2
PLAL Pickwick Lake 23.59 358 IAmb IAmb 06 48 34.3
comp=Z,52nm,1.4s
X40A Basin Creek Fa 23.70 348 IAmb IAmb 06 48 34.2
comp=Z,36nm,1.2s
TX31 Lajitas Ar. Si 23.82 321 IAmb IAmb 06 48 46.6
comp=Z,30nm,0.9s
TXAR Lajitas Array 23.82 321 P P 06 48 36.6 +1.8
TXAR Lajitas Array 23.82 321 P P 06 48 36.8 +2.0
comp=Z,7.9nm,0.7s,baz=137,slow=9.8,SNR=94
TXAR PcP PcP 06 52 18.4 +0.6
comp=Z,2.3nm,1.0s,baz=101,slow=3.2,SNR=5.8
TXAR ScP ScP 06 55 55.1 +1.0
comp=Z,2.1nm,1.1s,baz=114,slow=1.5,SNR=7.3
comp=Z,7.9nm,0.7s
W50A Signal Mountai 23.82 3 IAmb IAmb 06 48 51.9
comp=Z,28nm,0.9s
PLPT Palo Pinto 23.85 336 P P 06 48 35.9 +1.0
UALR University of 23.89 349 IAmb IAmb 06 48 36.6
comp=Z,44nm,0.9s
MIAR Mount Ida 23.93 346 P P 06 48 35.9 +0.2
MIAR IAmb IAmb 06 48 37.1
comp=Z,43nm,0.9s
BIRD Birdtown, Kers 23.95 13 IAmb IAmb 06 49 04.6
comp=Z,47nm,1.5s
CPCT Cooper Cave 24.12 5 IAmb IAmb 06 48 51.5
comp=Z,29nm,0.7s
KMSC Kings Mountain 24.25 11 IAmb IAmb 06 49 03.6
comp=Z,25nm,1.0s
ABTX Abilene, Hawle 24.25 333 IAmb IAmb 06 49 02.9
comp=Z,49nm,1.0s
SGCY Sterling City 24.37 329 IAmb IAmb 06 48 58.0
comp=Z,49nm,1.1s
WHAR Wooly Hollow 24.38 349 IAmb IAmb 06 48 40.9
comp=Z,44nm,0.9s
TKL Tuckaleechee C 24.40 6 IAmb IAmb 06 49 07.0
comp=Z,65nm,1.4s
TKL Tuckaleechee C 24.40 6 LR LR 06 58 10.4
comp=Z,899nm,21.6s,baz=202,slow=37
V53A Saluda 24.53 8 IAmb IAmb 06 49 07.8
comp=Z,52nm,1.4s
ALPN Alpine 24.55 323 P P 06 48 43.0 +1.4
WVT Waverly 24.73 358 P P 06 48 42.8 -0.2
MNHN Monahans 24.77 326 IAmb IAmb 06 49 08.9
comp=Z,44nm,0.9s
SN05 Snyder 5 25.04 331 IAmb IAmb 06 48 59.9
comp=Z,22nm,0.8s
U49A Red Boiling Sp 25.11 2 IAmb IAmb 06 49 04.7
comp=Z,30nm,1.2s
NNA Nana 25.20 156 P P 06 48 48.8 +1.4
comp=Z,13nm,1.0s,baz=307,slow=5.1,SNR=2.5
NNA LR LR 06 57 42.9
comp=Z,591nm,21.8s,baz=347,slow=34
comp=Z,13nm,1.0s
SN07 Snyder 07 25.21 331 IAmb IAmb 06 49 04.4
comp=Z,44nm,1.4s
TZTN Tazewell 25.30 6 IAmb IAmb 06 49 12.5
comp=Z,27nm,1.1s
V58A Windy Hill, Pi 25.37 15 IAmb IAmb 06 48 49.6
comp=Z,20nm,0.8s
PECS Pecos 25.41 324 IAmb IAmb 06 48 59.8
comp=Z,43nm,1.4s
W35A Tecumseh 25.42 341 IAmb IAmb 06 48 52.3
comp=Z,37nm,1.0s
POST Post 25.48 330 IAmb IAmb 06 48 57.1
comp=Z,31nm,0.9s
U54A Nelsons Funny 25.51 9 IAmb IAmb 06 49 08.8

comp=Z,28nm,0.7s
PBMO **Poplar Bluff** 25.56 353 IAmb IAmb 06 48 51.4
comp=Z,30nm,0.9s
T47A **Sharon Grove** 25.57 360 IAmb IAmb 06 48 51.7
comp=Z,25nm,0.9s
U56A **King** 25.61 12 IAmb IAmb 06 48 55.2
comp=Z,38nm,1.1s
LPIG **La Paz** 25.65 303 LR LR 06 59 48.4
comp=Z,569nm,20.8s,baz=122,slow=38
HHAR **Hobbs** 25.67 347 IAmb IAmb 06 48 52.5
comp=Z,26nm,0.9s
DKNS **Dickens** 25.71 332 IAmb IAmb 06 48 55.7
comp=Z,51nm,1.1s
T42A **Van Buren** 25.89 352 IAmb IAmb 06 48 54.1
comp=Z,28nm,1.0s
U38A **Gravette** 25.93 346 IAmb IAmb 06 48 54.7
comp=Z,40nm,1.0s
DEOK **Depew** 25.94 342 IAmb IAmb 06 49 13.0
comp=Z,43nm,1.0s
CGM3 **Cape Girardeau** 26.00 355 IAmb IAmb 06 48 55.4
comp=Z,20nm,0.9s
MGMO **Mountain Grove** 26.19 350 IAmb IAmb 06 48 57.3
comp=Z,49nm,1.4s
S44A **Carbondale** 26.36 356 IAmb IAmb 06 48 58.8
comp=Z,32nm,0.9s
SIUC **Southern Illin** 26.38 356 IAmb IAmb 06 48 59.0
comp=Z,34nm,0.9s
TEFE **Tefe** 26.57 122 *e*P **P** **06 48 58.8 -1.0**
CPRX **Cap Rock** 26.67 327 P **P** **06 49 02.5 +1.8**
WCI **Wyandotte Cave** 26.81 1 P **P** **06 49 01.6 -0.2**
WCI IAmb IAmb 06 49 03.0
comp=Z,52nm,1.2s
MSTX **Muleshoe** 26.84 330 P **P** **06 49 02.7 +0.4**
R49A **Shelbyville** 26.91 3 IAmb IAmb 06 49 28.1
comp=Z,30nm,1.3s
T35A **Sooner Cattle** 26.94 343 IAmb IAmb 06 49 16.2
comp=Z,33nm,1.2s
CROK **Carrier** 27.02 340 IAmb IAmb 06 49 04.8
comp=Z,34nm,1.1s
OK038 **West end E0370** 27.26 339 IAmb IAmb 06 49 10.1
comp=Z,32nm,0.8s
R40A **Maddies Statio** 27.30 351 IAmb IAmb 06 49 06.6
comp=Z,17nm,0.9s
OLIL **Olney** 27.33 358 IAmb IAmb 06 49 07.6
comp=Z,36nm,1.1s
KAN14 **Manchester OK** 27.42 340 IAmb IAmb 06 49 34.2
comp=Z,25nm,1.1s
KAN17 **Caldwell West** 27.44 341 IAmb IAmb 06 49 11.6
comp=Z,27nm,0.8s
KAN09 **Caldwell North** 27.48 341 IAmb IAmb 06 49 08.3
comp=Z,26nm,1.0s
R55A **Marlinton** 27.53 12 IAmb IAmb 06 49 10.8
comp=Z,27nm,1.4s
KAN05 **Bluff City Nor** 27.53 341 IAmb IAmb 06 49 13.0
comp=Z,28nm,0.8s
KAN01 **Argonia South** 27.54 341 IAmb IAmb 06 49 30.5
comp=Z,29nm,0.9s
Q44A **Meyer Farm, Va** 27.55 356 IAmb IAmb 06 49 09.2
comp=Z,38nm,0.9s
KAN08 **Anthony NE Sta** 27.67 341 IAmb IAmb 06 49 31.6
comp=Z,33nm,1.0s
BLO **Bloomington** 27.75 1 IAmb IAmb 06 49 11.2
comp=Z,30nm,1.1s
P48A **Milroy** 28.06 2 IAmb IAmb 06 49 13.7
comp=Z,37nm,1.2s
CBN **Corbin Frederi** 28.09 16 IAmb IAmb 06 49 25.8
comp=Z,50nm,1.4s
P46A **Rosedale** 28.19 359 IAmb IAmb 06 49 15.0
comp=Z,23nm,1.0s
P43A **Skaggs, Pawnee** 28.31 356 IAmb IAmb 06 49 16.1
comp=Z,19nm,1.0s
Q56A **Snyder Ridge,** 28.45 13 IAmb IAmb 06 49 47.1
comp=Z,20nm,1.1s
P53A **Whipple** 28.48 9 IAmb IAmb 06 49 18.7
comp=Z,21nm,0.9s
P52A **Corning** 28.52 8 IAmb IAmb 06 49 44.0
comp=Z,34nm,1.2s
319A **Douglas** 28.78 317 IAmb IAmb 06 49 30.6
comp=Z,22nm,1.0s
O49A **Covington** 28.85 4 IAmb IAmb 06 49 21.0
comp=Z,35nm,1.3s
O48B **Farmland** 28.87 3 IAmb IAmb 06 49 20.8
comp=Z,26nm,1.1s
SFIN **Lafayette** 28.95 360 IAmb IAmb 06 49 21.4
comp=Z,28nm,1.0s
R32A **Long Quarter,** 29.00 341 IAmb IAmb 06 49 35.0
comp=Z,16nm,0.8s
BNM **Barren Site** 29.03 325 P **P** **06 49 23.9 +1.9**
P57A **Homestead Farm** 29.14 14 IAmb IAmb 06 49 45.8
comp=Z,23nm,1.2s
Y22D **IRIS PASSCAL I** 29.14 324 P **P** **06 49 22.7 -0.2**
baz=136
HDIL **Hopedale** 29.21 356 P **P** **06 49 22.7 -0.5**
O53A **New Philadelph** 29.25 9 IAmb IAmb 06 49 46.8
comp=Z,21nm,0.9s
N47A **Urbana** 29.47 2 IAmb IAmb 06 49 25.6
comp=Z,19nm,1.2s
N41A **Harden Midland** 29.49 354 IAmb IAmb 06 49 25.9
comp=Z,24nm,0.9s
ANMO **Albuquerque** 29.52 326 P **P** **06 49 28.1 +1.8**
ANMO **Albuquerque** 29.52 326 LR LR 07 05 28.3
comp=Z,205nm,18.0s,baz=292,slow=45
N49A **Columbus Grove** 29.59 4 IAmb IAmb 06 49 27.6
comp=Z,31nm,0.9s
N53A **Lisbon** 29.86 9 IAmb IAmb 06 49 30.2
comp=Z,18nm,0.9s
MVL **Millersville** 30.05 16 IAmb IAmb 06 49 43.3
comp=Z,27nm,1.2s
T25A **Trinidad** 30.18 331 IAmb IAmb 06 49 42.3
comp=Z,28nm,1.5s
SSPA **Standing Stone** 30.26 14 P **P** **06 49 32.8 +0.3**
SSPA IAmb IAmb 06 49 44.7
comp=Z,13nm,0.9s
SSPA **Standing Stone** 30.26 14 P **P** **06 49 32.9 +0.4**
SSPA pP **sP** **06 49 44.4 -0.5**
N58A **Sunbury** 30.74 15 IAmb IAmb 06 49 49.0
comp=Z,14nm,0.9s
LUPA **Lehigh Univers** 30.89 17 IAmb IAmb 06 49 58.3
comp=Z,15nm,1.1s
KSCO **Kaye Shedlock'** 30.95 336 IAmb IAmb 06 49 44.1
comp=Z,11nm,0.8s
SAML **Samuel** 30.98 130 *e*P **P** **06 49 37.8 -1.3**
KSPA **Keystone Colle** 31.66 16 IAmb IAmb 06 49 46.7
comp=Z,14nm,0.9s
L56A **Greenwood** 31.77 13 IAmb IAmb 06 50 08.9
comp=Z,16nm,0.9s
S22A **4UR Ranch, Cre** 31.84 329 IAmb IAmb 06 50 00.1
comp=Z,16nm,1.4s
J47A **Sunmer** 31.86 3 IAmb IAmb 06 49 47.7
comp=Z,19nm,0.9s
X16A **Lo Mia Camp, P** 32.11 320 IAmb IAmb 06 50 05.5
comp=Z,8.9nm,0.7s
BINY **Binghamton** 32.21 15 IAmb IAmb 06 49 51.9
comp=Z,21nm,0.8s
MVCO **Mesa Verde** 32.30 327 IAmb IAmb 06 50 14.9
comp=Z,19nm,1.1s
L59A **Walton** 32.45 16 IAmb IAmb 06 50 04.8
comp=Z,15nm,0.9s
K57A **Scipio Center** 32.58 14 IAmb IAmb 06 50 19.5
comp=Z,26nm,1.3s
WUAZ **Wupatki** 32.78 321 IAmb IAmb 06 50 11.5
comp=Z,13nm,1.1s
LPAZ **La Paz** 33.10 146 P **P** **06 49 58.7 +0.3**
LPAZ **La Paz** 33.10 146 P **P** **06 49 58.3 -0.1**
comp=Z,0.5nm,0.4s,baz=315,slow=4.3,SNR=3.3
LPAZ LR LR 07 04 24.7
comp=Z,859nm,19.8s,baz=311,slow=38
comp=Z,0.5nm,0.4s
LPAZ **La Paz** 33.10 146 *e*P **P** **06 49 58.9 +0.5**
LPAZ **La Paz** 33.10 146 P P 06 50 03.5 +5.1
LPAZ **La Paz** 33.10 146 P **P** **06 49 58.9 +0.5**
LPAZ pP **sP** **06 50 09.8 -0.9**
PV15 **Paradox Valley** 33.13 328 P **P** **06 49 59.6 +1.5**
K30B **Basset** 33.16 343 P **P** **06 49 59.1 +1.0**
PV13 **Radium Mtn., P** 33.17 327 IAmb IAmb 06 50 07.6
comp=Z,17nm,1.0s
PV07 **Paradox Valley** 33.29 328 IAmb IAmb 06 50 19.7
comp=Z,18nm,1.2s
M65A **Busby, Falmout** 33.32 22 P **P** **06 49 57.1 -2.2**
baz=209
J57A **Williamstown** 33.34 14 IAmb IAmb 06 50 21.6
comp=Z,19nm,0.9s
TRY **Troy** 33.35 18 IAmb IAmb 06 50 01.5
comp=Z,20nm,0.9s
U15A **North Rim** 33.94 322 IAmb IAmb 06 50 22.7
comp=Z,14nm,1.2s
SADO **Sadowa** 33.99 10 IAmb IAmb 06 50 26.7
comp=Z,23nm,1.2s
SADO **Sadowa** 33.99 10 LR LR 07 05 20.2
comp=Z,600nm,18.2s,baz=243,slow=39
DELO **Deloro Mine** 34.03 12 IAmb IAmb 06 50 06.1
comp=Z,14nm,1.3s
PB16 **IPOC Station P** 34.07 150 IAmb IAmb 06 50 25.6
comp=Z,13nm,0.9s
J61A **Chester** 34.25 19 IAmb IAmb 06 50 20.9
comp=Z,16nm,1.0s
NCB **Newcomb** 34.33 16 IAmb IAmb 06 50 34.2
comp=Z,15nm,1.5s
F42A **Maple Grove Fa** 34.35 358 IAmb IAmb 06 50 07.9
comp=Z,14nm,1.1s
MDP **Montagnes des** 34.40 98 LR LR 07 05 23.0
comp=Z,990nm,19.1s,baz=280,slow=39
KNB **Kanab** 34.65 322 IAmb IAmb 06 50 35.0
comp=Z,29nm,1.4s
ITTB **Itaituba** 34.67 115 *e*P **P** **06 50 09.4 -2.0**
SRU **San Rafael Swe** 34.78 327 IAmb IAmb 06 50 15.3
comp=Z,19nm,1.0s
LONY **Lake Ozonia** 34.83 15 IAmb IAmb 06 50 13.4
comp=Z,16nm,0.9s
MTPU **Mount Pierson** 34.95 324 IAmb IAmb 06 50 24.7
comp=Z,9.7nm,0.9s
Q16A **Castle Valley** 34.99 326 IAmb IAmb 06 50 33.3
comp=Z,29nm,1.5s
E46A **Sault Ste Mari** 35.01 3 IAmb IAmb 06 50 25.1
comp=Z,13nm,1.3s
PFO **Pinyon Flats O** 35.01 314 LR LR 07 06 49.2
comp=Z,458nm,18.9s,baz=127,slow=40
P18A **Preston Nutter** 35.01 328 IAmb IAmb 06 50 30.1
comp=Z,16nm,0.9s
WBO **Williamsburg** 35.01 14 IAmb IAmb 06 50 35.9
comp=Z,12nm,1.0s
V12A **Nelson** 35.11 318 P **P** **06 50 17.3 +2.2**
GO01 **Chusmiza** 35.36 150 IAmb IAmb 06 50 37.3
comp=Z,17nm,1.3s
TCRU **Three Creeks R** 35.49 324 IAmb IAmb 06 50 32.3
comp=Z,22nm,1.0s
K22A **Casper** 35.61 335 IAmb IAmb 06 50 34.9
comp=Z,21nm,1.4s
VILB **Vilhena** 35.79 132 P **P** **06 50 21.0 -0.1**
VILB **Vilhena** 35.79 132 *e*P **P** **06 50 21.2 +0.1**
MNTQ **Montreal, Queb** 35.90 16 IAmb IAmb 06 50 22.6
comp=Z,16nm,0.9s
BSUT **Blindstream Ca** 35.94 328 IAmb IAmb 06 50 46.3
comp=Z,17nm,1.1s
MPU **Maple Canyon** 36.02 327 IAmb IAmb 06 50 41.7
comp=Z,30nm,1.3s
PSUT **Pine Spring** 36.26 323 IAmb IAmb 06 50 35.9
comp=Z,8.7nm,0.8s
NPGB **Novo Progresso** 36.27 119 *e*P **P** **06 50 22.7 -2.5**
TRQ **Mont Tremblant** 36.33 14 IAmb IAmb 06 50 26.0
comp=Z,18nm,1.3s
G62A **West of Eustis** 36.57 19 IAmb IAmb 06 50 29.0
comp=Z,16nm,0.7s
TCUT **Toone Canyon** 36.70 328 IAmb IAmb 06 50 52.8
comp=Z,25nm,1.2s
S11A **Rachel** 36.85 320 IAmb IAmb 06 50 42.9
comp=Z,28nm,1.4s
PDAR **Pinedale Array** 37.04 332 P **P** **06 50 32.5 +0.7**
comp=Z,4.4nm,0.9s,baz=129,slow=10,SNR=35
PDAR PcP **PcP** **06 52 52.3 +0.1**
comp=Z,1.7nm,0.8s,baz=155,slow=1.3,SNR=6.4
PDAR ScP **ScP** **06 56 36.3 -0.9**
comp=Z,1.6nm,1.1s,baz=134,slow=4.3,SNR=5.8
PDAR LR LR 07 08 52.9
comp=Z,289nm,21.9s,baz=122,slow=41
comp=Z,4.4nm,0.9s
E28A **Huff** 37.05 344 IAmb IAmb 06 50 43.1
comp=Z,23nm,1.1s
SIV **San Ignacio** 37.25 136 P **P** **06 50 34.0 +0.5**
comp=Z,47nm,0.8s,baz=309,slow=8.5,SNR=194
SIV PcP **PcP** **06 52 53.5 +0.6**
comp=Z,6.5nm,0.7s,baz=274,slow=3.3,SNR=5.4
SIV LR LR 07 06 31.5
comp=Z,998nm,19.2s,baz=281,slow=37
BGU **Big Grassy Mou** 37.42 327 IAmb IAmb 06 50 58.3
comp=Z,19nm,1.3s
GRAC **Grapevine Rang** 37.50 318 IAmb IAmb 06 50 50.2
comp=Z,12nm,0.8s
PDRB **Porto dos Gac** 37.61 126 *e*P **P** **06 50 34.6 -1.9**
AHID **Auburn Hatcher** 37.77 330 IAmb IAmb 06 50 54.0
comp=Z,15nm,1.1s
CLDB **Colider** 37.93 124 *e*P **P** **06 50 38.0 -1.3**
DSP **Deep Springs** 38.11 318 P **P** **06 50 45.2 +4.7**
SNOW **Snow King Moun** 38.14 331 IAmb IAmb 06 50 43.5
comp=Z,24nm,0.9s
PTLB **Pontes e Lacer** 38.22 134 P **P** **06 50 42.0 +0.4**
PTLB **Pontes e Lacer** 38.22 134 *e*P **P** **06 50 41.4 -0.3**
TPAW **Teton Pass** 38.25 331 IAmb IAmb 06 51 00.0
comp=Z,37nm,1.4s
NV11 **Mina Array Sit** 38.84 319 P **P** **06 50 51.0 +4.1**
NVAR **Mina Array Bea** 38.94 319 P **P** **06 50 49.5 +1.7**
NVAR **Mina Array Bea** 38.94 319 P **P** **06 50 50.1 +2.4**
comp=Z,3.0nm,0.8s,baz=136,slow=6.6,SNR=29
NVAR PcP **PcP** **06 52 59.8 +1.7**
comp=Z,5.7nm,0.7s,baz=133,slow=4.0,SNR=19
NVAR LR LR 07 09 15.3
comp=Z,517nm,19.5s,baz=148,slow=40
comp=Z,3.0nm,0.8s
YFT **Old Faithful** 38.94 332 IAmb IAmb 06 51 06.9
comp=Z,28nm,1.4s
YMR **Madison River** 39.16 333 IAmb IAmb 06 50 52.3
comp=Z,14nm,1.0s
ULM **Lac du Bonnet** 39.53 351 IAmb IAmb 06 50 51.6
comp=Z,33nm,1.0s
ULM **Lac du Bonnet** 39.53 351 P **P** **06 50 50.6 -1.7**
comp=Z,21nm,0.9s,baz=167,slow=8.4,SNR=38
ULM PcP **PcP** **06 52 58.4 -1.0**
comp=Z,2.6nm,0.7s,baz=184,slow=4.9,SNR=2.6
comp=Z,21nm,0.9s
DGMT **Dagmar** 39.78 342 IAmb IAmb 06 50 55.7
comp=Z,25nm,0.8s
HLID **Hailey** 40.01 328 P **P** **06 50 58.1 +1.5**
BOZ **Bozeman (W)** 40.18 333 P **P** **06 50 59.0 +1.1**
TMAB **Tom-Au,PA,Br** 40.88 107 *e*P **P** **06 51 02.5 -1.5**
SALV **Santo Antonio** 41.02 131 *e*P **P** **06 51 04.2 -0.8**
BEKR **Beckworth** 41.07 320 P **P** **06 51 07.4 +2.0**
EGMT **Eagleton** 41.32 337 P **P** **06 51 07.4 +0.2**
WVOR **Wild Horse Val** 41.56 324 P **P** **06 51 07.4 -1.9**
AC02 **Maricunga** 41.65 156 P **P** **06 51 11.8 +1.2**
MSO **Missoula** 42.16 332 P **P** **06 51 14.4 +0.3**
SNDB **Serra Nova Dou** 42.22 122 *e*P **P** **06 51 13.1 -1.8**
LCO **Las Campanas** 43.02 159 P **P** **06 51 23.0 +1.6**
LCO pP **sP** **06 51 35.3 +1.4**
BDQN **Bodoquena, MS** 43.28 137 *e*P **P** **06 51 23.1 -0.3**
MURT **Porto Murtinho** 43.57 139 *e*P **P** **06 51 25.3 -0.4**
YBH **Yreka Blue Hor** 43.59 321 LR LR 07 12 04.2
comp=Z,517nm,21.4s,baz=139,slow=39
ARAG **Araguaiana, MT** 43.87 127 *e*P **P** **06 51 26.5 -1.7**
SMTB **Santa Maria do** 43.90 116 *e*P **P** **06 51 27.3 -1.2**
AQDB **Aquidauana** 44.02 136 P **P** **06 51 28.9 -0.5**
AQDB **Aquidauana** 44.02 136 *e*P **P** **06 51 29.1 -0.2**
NEW **Newport** 44.68 331 LR LR 07 13 50.2
comp=Z,312nm,18.4s,baz=141,slow=41
WAH2 **Wahluke Slope** 44.85 328 IAmb IAmb 06 51 51.3
comp=Z,26nm,1.3s
E07A **Sunnyside** 44.87 328 IAmb IAmb 06 51 38.0
comp=Z,22nm,1.0s
FFC **Flin Flon** 44.93 348 P **P** **06 51 35.6 -0.6**
FFC IAmb IAmb 06 51 36.3
comp=Z,13nm,0.9s
FFC **Flin Flon** 44.93 348 P **P** **06 51 35.8 -0.3**
FFC pP **sP** **06 51 47.2 -1.5**
MXC **Moxie City** 45.11 328 IAmb IAmb 06 51 40.5
comp=Z,26nm,1.1s
H03N2 **Juan Fernandez** 45.14 171 T T 07 39 56.3
baz=349
H03N1 **Juan Fernandez** 45.14 171 T T 07 39 50.0
baz=349,slow=74
H03N3 **Juan Fernandez** 45.15 171 T T 07 39 59.8
baz=349,slow=74
RPRD **Ribas do Rio P** 45.41 134 *e*P **P** **06 51 39.7 -0.7**
B08A **Colville Reser** 45.81 330 IAmb IAmb 06 51 57.8
comp=Z,23nm,1.5s
SCHQ **Schefferville** 46.20 16 P **P** **06 51 44.1 -2.1**
SCHQ IAmb IAmb 06 51 45.5
comp=Z,12nm,0.9s
SCHQ **Schefferville** 46.20 16 P **P** **06 51 43.5 -2.8**
comp=Z,7.5nm,0.7s,baz=229,slow=6.6,SNR=12
SCHQ PcP **PcP** **06 53 20.4 -1.3**
comp=Z,3.1nm,0.7s,baz=227,slow=3.0,SNR=4.7
SCHQ LR LR 07 11 21.2
comp=Z,841nm,21.4s,baz=226,slow=37
comp=Z,7.5nm,0.7s
BDFB **Brasilia** 46.86 124 P **P** **06 51 50.8 -1.3**
BDFB **Brasilia** 46.86 124 P **P** **06 51 50.2 -1.9**
comp=Z,16nm,0.7s,baz=289,slow=9.1,SNR=36
BDFB LR LR 07 14 11.0
comp=Z,492nm,18.1s,baz=313,slow=40
comp=Z,16nm,0.7s
SJPY **San Joaquin** 46.93 141 *e*P **P** **06 51 52.0 -0.3**
CPUP **Villa Florida** 47.16 143 P **P** **06 51 55.6 +1.4**
CPUP IAmb IAmb 06 52 05.0
comp=Z,26nm,1.4s
CPUP **Villa Florida** 47.16 143 P **P** **06 51 53.4 -0.7**
comp=Z,2.9nm,0.9s,baz=335,slow=8.2,SNR=7.1
CPUP LR LR 07 14 36.5
comp=Z,280nm,18.6s,baz=320,slow=40
comp=Z,2.9nm,0.9s
CPUP **Villa Florida** 47.16 143 *e*P **P** **06 51 54.0 -0.2**
CPUP **Villa Florida** 47.16 143 P **P** **06 51 55.4 +1.2**
MT08 **Bocatoma Ro** 47.31 161 P **P** **06 51 57.2 +1.8**
MT08 IAmb IAmb 06 52 14.8
comp=Z,13nm,0.8s
ITRB **Itumma** 47.35 130 *e*P **P** **06 51 55.2 -0.5**
SDBA **SAO DESIDERIO** 47.86 118 *e*P **P** **06 51 57.4 -2.5**
IPMB **Ipameri, GO** 47.99 127 *e*P **P** **06 51 58.9 -1.9**
LLLB **Lillooet** 48.55 331 IAmb IAmb 06 52 28.2
comp=Z,22nm,1.3s
LDASE **Londrina, Braz** 49.12 135 *e*P **P** **06 52 08.1 -1.3**
PTGB **Pitanga** 49.35 137 *e*P **P** **06 52 09.7 -1.4**
BB19B **Bebedouro** 49.54 130 *e*P **P** **06 52 11.2 -1.5**
JANB **Januaria** 49.63 121 *e*P **P** **06 52 12.6 -0.8**
PMNB **Patos De Minas** 49.70 126 *e*P **P** **06 52 12.3 -1.6**
ITAB **Concordia** 51.02 139 P **P** **06 52 23.5 -0.2**
ITAB **Concordia** 51.02 139 *e*P **P** **06 52 23.2 -0.5**
DIAM **Diamantina, MG** 51.79 124 *e*P **P** **06 52 27.8 -1.9**
VAO **Valinhos** 51.85 131 P **P** **06 52 29.1 -1.0**
VAO IAmb IAmb 06 52 30.0
comp=Z,15nm,0.8s
VAO **Valinhos** 51.85 131 *e*P **P** **06 52 28.5 -1.6**
TBOT **Tacuaremb** 52.01 146 *e*P **P** **06 52 30.8 -0.2**
CPSB **Cacapava Do Su** 52.47 143 *e*P **P** **06 52 34.2 -0.3**
BBB **Bella Bella** 52.59 329 LR LR 07 18 55.8
comp=Z,418nm,19.2s,baz=86,slow=40
PARB **Paraibuna** 53.05 131 *e*P **P** **06 52 37.9 -1.1**
MAJ01 **Sao Joao Batis** 53.17 137 *e*P **P** **06 52 37.8 -1.9**
CNLB **Canela** 53.27 140 *e*P **P** **06 52 40.1 -0.3**
PLTB **Pedras Altas** 53.38 144 P **P** **06 52 41.2 +0.1**
PLTB IAmb IAmb 06 52 50.5
comp=Z,22nm,1.2s
PLTB **Pedras Altas** 53.38 144 *e*P **P** **06 52 40.5 -0.7**
RCBR **Riachuelo** 53.49 106 LR LR 07 17 13.4
comp=Z,217nm,18.1s,baz=300,slow=38
TER01 **Tubaro-SC** 53.85 138 *e*P **P** **06 52 43.8 -0.9**
PLCA **Paso Flores** 53.94 165 LR LR 07 11 22.0
comp=Z,209nm,18.3s,baz=7.0,slow=31
FRB **Frobisher Bay** 53.94 10 LR LR 07 15 52.5
comp=Z,987nm,21.0s,baz=188,slow=36
SJMB **Sao Joao De Ma** 54.02 123 *e*P **P** **06 52 43.9 -2.2**
VAS01 **Vassouras-RJ** 54.10 128 *e*P **P** **06 52 45.7 -0.9**
NBCA **Caruaru-PE** 54.18 109 *e*P **P** **06 52 44.6 -2.8**
YKA **Yellowknife Ar** 54.86 345 P **P** **06 52 49.7 -1.8**
comp=Z,4.7nm,0.9s,baz=140,slow=7.5,SNR=81
YKA PcP **PcP** **06 53 53.2 -0.2**
comp=Z,1.1nm,0.6s,baz=146,slow=4.5,SNR=13
YKA ScP **ScP** **06 57 51.8 +1.9**
comp=Z,0.4nm,1.1s,baz=139,slow=5.7,SNR=4.0
YKA LR LR 07 18 31.8
comp=Z,299nm,22.0s,baz=138,slow=39
comp=Z,4.7nm,0.9s
TOAD **Toad River Com** 55.51 337 P **P** **06 52 54.9 -1.5**
baz=132
U35K **Hyder** 55.68 332 P **P** **06 52 56.2 -1.3**
baz=125
KOTAN **Kotaneelee Air** 55.96 339 P **P** **06 52 58.5 -1.0**
baz=134
V35K **Ketchikan** 56.09 331 P **P** **06 52 59.6 -0.9**
baz=123
LIRD **Liard River Hi** 56.22 337 P **P** **06 53 00.7 -0.7**
baz=131
T35M **Bob Quinn** 56.41 333 P **P** **06 53 01.7 -1.1**
baz=126
TAOE **Nuku Hiva Isla** 56.66 251 *e*S **S** **07 00 58.2 +2.0**
comp=Z,220nm,24.8s
TAOE *e*SS **SS** **07 04 42.8 -1.6**
comp=Z,133nm,26.1s
TAOE *e*LR LR 07 09 46.9
comp=Z,432nm,23.1s
CRAG **Craig** 56.88 331 P **P** **06 53 04.9 -1.2**
baz=122
WRAK **Wrangell Islan** 57.03 332 P **P** **06 53 06.4 -0.8**
baz=123
DLBC **Dease Lake** 57.18 335 IAmb IAmb 06 53 21.0
comp=Z,21nm,1.2s
DLBC **Dease Lake** 57.18 335 LR LR 07 23 01.6
comp=Z,291nm,18.1s,baz=118,slow=42
DLBC **Dease Lake** 57.18 335 P **P** **06 53 08.0 -0.3**
baz=127
U33K **Whale Pass** 57.23 331 P **P** **06 53 08.6 0.0**
baz=122
S34M **Telegraph Cree** 57.34 334 P **P** **06 53 08.8 -0.5**
baz=125
T33K **Petersburg** 57.53 332 P **P** **06 53 10.6 0.0**
baz=123
WTLY **Watson Lake, Y** 57.72 337 IAmb IAmb 06 53 12.5
comp=Z,12nm,1.2s
WTLY **Watson Lake, Y** 57.72 337 P **P** **06 53 11.8 -0.2**
baz=129
WRGLY **Wrigley** 57.97 341 IAmb IAmb 06 53 24.6
comp=Z,12nm,1.2s
WRGLY **Wrigley** 57.97 341 P **P** **06 53 13.1 -0.5**
baz=136
R33M **Jennings River** 58.14 335 P **P** **06 53 15.1 0.0**
baz=126
TGTN **Hyland Airport** 58.43 338 P **P** **06 53 17.1 +0.1**
baz=130
Q32M **Nakina River** 58.43 334 P **P** **06 53 17.2 0.0**
baz=125
S32K **Killisnoo** 58.63 332 P **P** **06 53 18.2 -0.1**
baz=122
SIT **Sitka** 58.76 331 P **P** **06 53 18.5 -0.8**
baz=120
R32K **Eaglecrest** 59.03 333 P **P** **06 53 20.5 -0.7**
baz=122
P33M **Teslin, Yukon** 59.38 335 P **P** **06 53 23.0 -0.7**
baz=125
P32M **Attlin** 59.40 334 P **P** **06 53 23.6 -0.2**
baz=124
S31K **Pelican** 59.65 332 P **P** **06 53 25.6 +0.2**
baz=120
R31K **City Hall, Gus** 59.66 333 P **P** **06 53 25.8 +0.4**
baz=121
SKAG **Skagway** 60.02 334 P **P** **06 53 28.5 +0.6**
baz=122
N32M **Quiet Lake** 60.03 336 P **P** **06 53 28.4 +0.4**
baz=125
PLBC **Pleasant Camp** 60.47 333 P **P** **06 53 31.7 +0.7**
baz=121
WHY **Whitehorse** 60.48 335 P **P** **06 53 31.2 -0.1**
baz=123
SFJD **Kangerlussuaq** 60.65 15 LR LR 07 20 02.9
comp=Z,701nm,19.6s,baz=220,slow=36
FARO **Faro, Yukon** 60.76 337 P **P** **06 53 32.9 -0.1**
baz=125
O30N **Mendenhall** 61.04 335 P **P** **06 53 35.3 +0.3**
baz=122
P30M **Million Dollar** 61.07 334 P **P** **06 53 35.7 +0.5**
baz=120
M31M **Drury Creek, Y** 61.14 337 IAmb IAmb 06 53 36.8
comp=Z,11nm,1.2s
M31M **Drury Creek, Y** 61.14 337 P **P** **06 53 35.7 +0.1**
baz=124
P29M **Windy Craggy** 61.16 333 P **P** **06 53 35.8 0.0**
baz=119
N31M **Braeburn, Yuko** 61.30 336 P **P** **06 53 36.7 0.0**
baz=122
HYT **Haines Junctio** 61.66 335 P **P** **06 53 39.3 0.0**
baz=120
N30M **Aishikik Lake** 61.82 335 P **P** **06 53 41.0 +0.8**
baz=121
O29M **Mount Kennedy** 61.86 334 P **P** **06 53 41.2 +0.6**
baz=119
PNL **Peninsula** 61.92 333 P **P** **06 53 39.5 -1.4**
baz=118
YUK6 **Outpost Mounta** 62.09 334 P **P** **06 53 41.3 -0.9**
baz=119
M30M **Minto, Yukon** 62.29 336 IAmb IAmb 06 53 54.8
comp=Z,14nm,1.4s
M30M **Minto, Yukon** 62.29 336 P **P** **06 53 42.4 -0.9**
baz=122
YUK4 **Talbot Arm** 62.41 335 P **P** **06 53 43.2 -1.1**
baz=120

PINM	Pinnacle baz=117	62.50 333	P	P	06 53 44.0	-0.8
C36M	Paulatuk baz=138	62.66 346	P	P	06 53 44.1	-1.5
O28M	Mount Upton baz=118	62.79 334	P	P	06 53 46.7	-0.3
YUK8	Steele Glacier baz=118	62.85 334	P	P	06 53 46.5	-0.9
M29M	Somme Creek comp=Z,13nm,1.0s	62.88 336	IAmb	IAmb	06 53 59.4	
M29M	Somme Creek baz=120	62.88 336	P	P	06 53 47.3	-0.1
L29M	L29M baz=121	63.09 337	P	P	06 53 48.9	+0.2
J30M	Hart River baz=123	63.20 338	P	P	06 53 49.0	-0.5
H31M	Peel River baz=126	63.21 340	P	P	06 53 49.1	-0.3
K29M	Barlow Dome comp=Z,11nm,1.4s	63.24 337	IAmb	IAmb	06 53 49.9	
K29M	Barlow Dome baz=122	63.24 337	P	P	06 53 49.4	-0.4
MESA	MESA baz=116	63.30 333	P	P	06 53 49.9	-0.4
YUK3	Moose Creek baz=118	63.38 335	P	P	06 53 50.1	-0.7
RES	Resolute Bay comp=Z,237nm,18.8s,baz=195,slow=39	63.52 358	LR	LR	07 24 04.0	
I30M	Mount Dempster comp=Z,11nm,1.1s	63.57 339	IAmb	IAmb	06 53 52.9	
I30M	Mount Dempster baz=123,SNR=7.7	63.57 339	P	P	06 53 51.3	-0.6
BVCY	Beaver Creek baz=118	63.84 335	P	P	06 53 53.1	-0.5
G31M	Satah River comp=Z,6.5nm,0.8s	63.85 341	IAmb	IAmb	06 54 04.7	
G31M	Satah River baz=126,SNR=5.9	63.85 341	P	P	06 53 52.8	-0.7
F31M	Tsiigehtchic comp=Z,24nm,1.5s	63.99 342	IAmb	IAmb	06 54 06.5	
F31M	Tsiigehtchic baz=127	63.99 342	P	P	06 53 54.4	0.0
DAWY	Dawson comp=Z,10nm,1.4s	64.06 337	IAmb	IAmb	06 53 55.4	
DAWY	Dawson baz=120	64.06 337	P	P	06 53 54.7	-0.4
M27K	Edge Creek, AK baz=116	64.24 335	P	P	06 53 55.3	-1.0
KAIM	Kayak Island baz=113	64.32 332	P	P	06 53 56.0	-0.8
EPYK	Eagle Plains comp=Z,8.5nm,0.8s	64.33 340	IAmb	IAmb	06 54 08.2	
EPYK	Eagle Plains baz=128	64.33 340	P	P	06 53 56.1	-0.7
I29M	Ogilvie Camp, comp=Z,14nm,1.4s	64.33 339	IAmb	IAmb	06 53 58.5	
I29M	Ogilvie Camp, baz=121	64.33 339	P	P	06 53 56.4	-0.4
INK	Inuvik comp=Z,8.9nm,1.0s	64.46 343	IAmb	IAmb	06 54 09.0	
INK	Inuvik baz=128,SNR=9.4	64.46 343	P	P	06 53 57.0	-0.5
G30M	tAoh Zraii Nji baz=124	64.51 341	P	P	06 53 57.7	-0.2
BCAR	Beaver Creek A	64.52 336	P	P	06 53 58.4	+0.3
L27K	Beaver Creek, comp=Z,8.5nm,0.9s	64.54 336	IAmb	IAmb	06 53 59.5	
L27K	Beaver Creek, baz=117,SNR=8.5	64.54 336	P	P	06 53 58.0	-0.2
M26K	Nabesna, AK baz=116	64.72 335	P	P	06 53 59.3	-0.2
F30M	Barrier River baz=125	64.73 341	P	P	06 53 59.2	-0.1
H29M	Whitestone comp=Z,9.3nm,0.9s	64.81 339	IAmb	IAmb	06 54 11.6	
H29M	Whitestone baz=122,SNR=5.1	64.81 339	P	P	06 53 59.7	-0.2
BMRM	Bremner River baz=113	64.82 333	P	P	06 53 59.9	-0.2
A36M	Sachs Harbour baz=137	64.89 348	P	P	06 53 59.9	-0.4
I28M	Miner Creek baz=120	64.96 338	P	P	06 54 01.3	+0.3
G29M	Pine Creek comp=Z,9.9nm,0.9s	65.06 340	IAmb	IAmb	06 54 13.2	
G29M	Pine Creek baz=122	65.06 340	P	P	06 54 01.5	0.0
N25K	Chitina, Valde baz=114	65.08 334	P	P	06 54 01.6	-0.2
K27K	Chicken baz=117	65.08 337	P	P	06 54 01.9	+0.2
L26K	Log Cabin Wild comp=Z,10nm,1.4s	65.14 335	IAmb	IAmb	06 54 14.8	
L26K	Log Cabin Wild baz=115	65.14 335	P	P	06 54 02.1	-0.1
EYAK	Cordova Ski Ar baz=112	65.17 332	P	P	06 54 01.2	-1.1
KLU	Klutina baz=112	65.61 333	P	P	06 54 05.4	+0.1
HARP	HAARP baz=113	65.64 334	P	P	06 54 05.0	-0.3
I27K	Kandik River baz=118,SNR=5.7	65.65 338	P	P	06 54 05.5	+0.1
DOT	Dot Lake comp=Z,8.7nm,0.8s	65.70 336	IAmb	IAmb	06 54 07.0	
P23K	Montague Islan baz=110	65.74 331	P	P	06 54 05.8	-0.2
SCRK	Sand Creek baz=115	65.81 336	P	P	06 54 05.7	-0.9
E29M	Blow River baz=123	65.83 342	P	P	06 54 05.4	-1.0
J26L	Joseph Creek baz=116,SNR=8.4	65.87 337	P	P	06 54 06.3	-0.6
GLI	Glacier Island baz=111	65.91 332	P	P	06 54 07.1	0.0
H27K	Steamboat Moun	65.92 339	P	P	06 54 07.2	+0.2
H27K	Steamboat Moun baz=118,SNR=10.0	65.92 339	P	P	06 54 06.6	-0.5
M24K	Tolsona, Glenn baz=112	65.96 334	P	P	06 54 07.1	-0.4
PAX	Paxson baz=113	66.00 335	P	P	06 54 07.1	-0.6
RIDG	Independent Ri comp=Z,12nm,1.0s	66.06 336	IAmb	IAmb	06 54 09.5	
RIDG	Independent Ri baz=114	66.06 336	P	P	06 54 07.4	-0.7
I26K	Coal Creek Min baz=116,SNR=8.3	66.08 338	P	P	06 54 08.2	+0.1
G27K	Doyon Strip baz=119	66.24 339	P	P	06 54 08.7	-0.4
SCM	Sheep Creek Mo baz=111	66.36 333	P	P	06 54 09.9	-0.1
E28M	Babbage River baz=121	66.45 341	P	P	06 54 10.1	-0.4
K24K	Donnelly Dome baz=113	66.46 336	P	P	06 54 10.2	-0.4
PWL	Port Wells baz=110	66.47 332	P	P	06 54 10.0	-0.7
M23K	Glacier View baz=111	66.52 333	P	P	06 54 11.0	-0.1
D28M	Stokes Point baz=122,SNR=5.7	66.60 342	P	P	06 54 11.6	+0.3
J25K	Salcha River, comp=Z,8.3nm,1.1s	66.63 336	IAmb	IAmb	06 54 12.5	
J25K	Salcha River, baz=114,SNR=6.7	66.63 336	P	P	06 54 11.9	+0.2
KNK	Knik Glacier baz=110	66.72 333	P	P	06 54 11.2	-1.1
SEW	Seward baz=108	66.74 331	P	P	06 54 12.1	-0.3
SML	Sawmill baz=110	66.80 333	P	P	06 54 12.3	-0.6
E27K	Coleen River comp=Z,9.4nm,1.4s	66.90 341	IAmb	IAmb	06 54 24.8	
E27K	Coleen River baz=119	66.90 341	P	P	06 54 13.1	-0.2
O22K	Cooper Landing baz=108	66.99 331	P	P	06 54 14.0	0.0
G26K	Porcupine Rive comp=Z,10nm,1.4s	67.05 339	IAmb	IAmb	06 54 14.6	
G26K	Porcupine Rive baz=116	67.05 339	P	P	06 54 13.9	-0.4
PRP	Porcupine Dome baz=114	67.06 337	P	P	06 54 14.3	-0.3
PMR	Palmer baz=109	67.08 333	P	P	06 54 14.4	-0.1
HDA	Harding Lake comp=Z,10nm,0.9s	67.17 336	IAmb	IAmb	06 54 15.8	
HDA	Harding Lake baz=112,SNR=6.3	67.17 336	P	P	06 54 15.2	+0.1
RC01	Rabbit Creek A baz=108	67.19 332	P	P	06 54 15.3	0.0
D27M	Malcolm River baz=120	67.23 342	P	P	06 54 15.3	-0.1
BRSE	Bradley Lake S baz=107	67.25 330	P	P	06 54 15.4	-0.3
IL31	comp=Z,10nm,1.2s	67.29 336	IAmb	IAmb	06 54 42.3	
ILAR	Eielson Array comp=Z,3.0nm,0.8s,baz=125,slow=4.1,SNR=28	67.29 336	P	P	06 54 15.2	-0.7
ILAR	comp=Z,348nm,22.0s,baz=96,slow=39 comp=Z,3.0nm,0.8s		LR	LR	07 26 52.3	
H25L	Birch Creek baz=114	67.49 338	P	P	06 54 16.9	-0.1
F26K	Sheenjek River baz=116	67.51 340	P	P	06 54 16.8	-0.4
BMAR	Burnt Mountain	67.54 339	P	P	06 54 17.7	+0.3
SUMG	Summit	67.54 14	*i* P	P	06 54 16.0	-1.8
M22K	Willow baz=108	67.58 333	P	P	06 54 17.9	+0.2
RND	Reindeer	67.58 335	P	P	06 54 18.2	+0.4
KDAK	Kodiak Island comp=Z,160nm,18.2s,baz=320,slow=39	67.63 328	LR	LR	07 27 47.8	
POKR	Poker Plat Res baz=112	67.64 337	P	P	06 54 17.9	-0.1
COLA	College baz=112	67.71 336	P	P	06 54 18.1	-0.3
MCK	McKinley	67.73 335	P	P	06 54 19.0	+0.3
MCK			IAmb	IAmb	06 54 30.4	
MCK	comp=Z,12nm,1.0s McKinley baz=110	67.73 335	P	P	06 54 18.6	-0.1
Q20K	Shuyak Island baz=105	67.75 329	P	P	06 54 18.8	0.0
G25K	Bearman Lake baz=114	67.80 338	P	P	06 54 18.9	-0.1
OHAK	Old Harbor baz=104	67.86 327	P	P	06 54 19.3	-0.2
F25K	Christian Rive baz=115,SNR=5.1	67.98 339	P	P	06 54 20.2	0.0
H24K	Noodor Dome baz=112	68.08 337	P	P	06 54 20.7	-0.2
NEA2	Nenana baz=110	68.09 336	P	P	06 54 20.9	0.0
SII	Sitkinak Islan baz=103	68.18 327	P	P	06 54 21.6	0.0
E25K	Arctic Village baz=115,SNR=5.8	68.18 340	P	P	06 54 20.9	-0.5
TRF	Thorofare Moun baz=109	68.21 334	P	P	06 54 21.2	-0.6
O20K	Slope Mountain baz=105	68.26 331	P	P	06 54 22.1	0.0
C27K	Jago River baz=118	68.26 342	P	P	06 54 21.7	-0.2
G24K	Hadweenzic Riv comp=Z,11nm,1.1s	68.27 338	IAmb	IAmb	06 54 22.8	
G24K	Hadweenzic Riv baz=113,SNR=6.6	68.27 338	P	P	06 54 22.2	+0.2
SKT	Skwentna baz=107	68.29 333	P	P	06 54 22.2	0.0
SPCR	Spurr Chakacha baz=106	68.37 332	P	P	06 54 22.6	-0.2
BBTS	Babate comp=Z,122nm,18.7s,baz=152,slow=34	68.37 79	LR	LR	07 21 16.9	
I23K	Minto, Yukon-K baz=110,SNR=6.1	68.41 336	P	P	06 54 22.9	+0.1
P19K	Oil Pt baz=105	68.44 330	P	P	06 54 23.0	-0.2
BPAW	Bear Paw Mtn. baz=108	68.71 335	P	P	06 54 24.7	-0.1
H23K	Yukon River baz=110	68.72 337	P	P	06 54 25.0	+0.2
F24K	Squaw Lake baz=113	68.74 339	P	P	06 54 24.6	-0.3
EUNU	Eureka	68.75 0	P	P	06 54 24.4	-0.4
C26K	Camden Bay baz=116	68.77 342	P	P	06 54 25.1	+0.1
CHIR	Chirikof Islan baz=101	68.81 326	P	P	06 54 25.8	+0.2
PPLA	Purkeypile baz=107	68.85 333	P	P	06 54 26.3	+0.4
CAST	Castle Rocks baz=107	68.96 334	P	P	06 54 26.4	0.0
D25K	Kavik River comp=Z,7.1nm,0.8s	68.97 341	IAmb	IAmb	06 54 27.2	
D25K	Kavik River baz=115	68.97 341	P	P	06 54 26.3	0.0
M20K	Styx River baz=106	68.98 332	P	P	06 54 26.4	-0.2
Q18K	Katmai Hardscr baz=103	69.08 329	P	P	06 54 27.0	-0.3
O19K	Port Alsworth baz=104	69.11 330	P	P	06 54 27.2	0.0
E24K	Your Creek baz=112	69.17 339	P	P	06 54 27.7	+0.1
CHUM	Lake Minchumin baz=107	69.20 334	P	P	06 54 27.0	-0.8
G23K	Bananza Creek baz=110	69.21 338	P	P	06 54 27.7	-0.2
N19K	Bonanza Creek baz=104	69.34 331	P	P	06 54 28.3	-0.5
P18K	Big Mountain, baz=103	69.36 329	P	P	06 54 28.3	-0.7
H22K	Ishtalitna Cre baz=109	69.45 337	P	P	06 54 28.9	-0.5
Q17K	Contact Creek baz=102	69.45 328	P	P	06 54 28.7	-0.9
O18K	Koktuh Hills baz=103	69.46 330	P	P	06 54 28.8	-0.7
COLD	Coldfoot comp=Z,9.5nm,1.0s	69.46 338	IAmb	IAmb	06 54 41.9	
COLD	Coldfoot baz=110,SNR=6.0	69.46 338	P	P	06 54 29.1	-0.3
I21K	Tanana baz=108	69.46 336	P	P	06 54 29.2	-0.2
L20K	Farewell, AK baz=105	69.48 333	P	P	06 54 28.9	-0.7
BORG	Borgarnes comp=Z,367nm,18.7s,baz=243,slow=36	69.50 25	LR	LR	07 24 24.7	
E23K	Chandalar baz=111	69.55 339	P	P	06 54 29.5	-0.6
M19K	Big River Lodg baz=104	69.57 332	P	P	06 54 29.7	-0.4
D24K	Happy Valley baz=112	69.70 340	P	P	06 54 30.0	-0.8
TOLK	Toolik Lake Re baz=111	69.75 340	P	P	06 54 30.4	-0.8
K20K	Telida comp=Z,6.9nm,0.9s	69.80 334	IAmb	IAmb	06 54 33.3	
K20K	Telida baz=105	69.80 334	P	P	06 54 31.2	-0.4
G22K	Bettles baz=109	69.84 338	P	P	06 54 31.8	+0.1
L19K	White Mountain baz=104	69.85 332	P	P	06 54 32.0	+0.1
C24K	Franklin Bluff baz=113	69.88 341	P	P	06 54 32.0	+0.1
P17K	Kvichak River baz=102	69.93 329	P	P	06 54 32.3	0.0
Q16K	King Salmon baz=101	69.93 329	P	P	06 54 32.6	+0.3
H21K	Melozitna Rive baz=107	69.94 336	P	P	06 54 32.4	+0.1
N18K	Kilae Creek baz=103	69.98 331	P	P	06 54 33.1	+0.4
J20K	Nowinta River baz=106	70.06 335	P	P	06 54 32.6	-0.5
M18K	Stony River baz=103	70.13 332	P	P	06 54 33.1	-0.4
R16K	Pilot Point baz=100	70.20 327	P	P	06 54 33.6	-0.5
D23K	Nanushuk River baz=110	70.25 340	P	P	06 54 34.2	0.0
F22K	John River baz=108	70.28 338	P	P	06 54 33.9	-0.6
E22K	Anaktuvuk Pass baz=109	70.35 339	P	P	06 54 34.1	-0.8
I20K	Naaghedeneel baz=105	70.36 335	P	P	06 54 34.0	-0.9
O17K	Koliganek Bris baz=101	70.37 330	P	P	06 54 35.0	-0.1
CHGN	Chignik baz=99	70.44 326	P	P	06 54 35.5	0.0
G21K	Allakaket comp=Z,14nm,1.0s	70.47 337	IAmb	IAmb	06 54 47.4	
G21K	Allakaket baz=107,SNR=11	70.47 337	P	P	06 54 35.4	-0.2
C23K	Itkillik River comp=Z,7.9nm,1.1s	70.54 341	IAmb	IAmb	06 54 36.4	
C23K	Itkillik River baz=111	70.54 341	P	P	06 54 35.4	-0.5
TTA	Tatalina baz=103	70.55 333	P	P	06 54 35.4	-0.8
N17K	Nushagak Hills baz=101	70.57 330	P	P	06 54 35.6	-0.7
J19K	Poorman baz=104	70.64 334	P	P	06 54 36.5	-0.1
F21K	Alatna River comp=Z,8.3nm,0.8s	70.67 338	IAmb	IAmb	06 54 38.3	
F21K	Alatna River baz=107	70.67 338	P	P	06 54 36.4	-0.4
P16K	Nushagak River baz=100	70.68 329	P	P	06 54 36.3	-0.6
L18K	Granite Mounta baz=102	70.69 332	P	P	06 54 36.9	-0.1
H20K	Anotleneega Mo baz=105	70.72 336	P	P	06 54 36.6	-0.5
O16K	Kokwok River B baz=100	70.83 329	P	P	06 54 37.5	-0.4
M17K	Holitna River baz=102	70.87 331	P	P	06 54 37.7	-0.4
CHNA	Chernabura Isl baz=97	70.89 324	P	P	06 54 37.4	-0.9
D22K	Ayikyak River baz=108	70.90 340	P	P	06 54 37.4	-0.8
J18K	Innoko River baz=103	70.98 334	P	P	06 54 38.0	-0.7
S14K	Fog Glacier baz=98	71.07 326	P	P	06 54 39.1	-0.4
E21K	Kilik River baz=107	71.21 339	P	P	06 54 39.3	-0.8
N16K	Nishlik Lake baz=100	71.33 330	P	P	06 54 40.2	-0.7
H19K	Roundabout Mou comp=Z,14nm,1.1s	71.36 336	IAmb	IAmb	06 54 41.3	
H19K	Roundabout Mou baz=104,SNR=6.8	71.36 336	P	P	06 54 40.8	-0.1
L17K	Donlin baz=101	71.41 332	P	P	06 54 41.3	0.0
SDPT	Sand Point baz=97	71.46 325	P	P	06 54 41.4	-0.3
F20K	Avaraart Lake baz=105	71.46 337	P	P	06 54 41.9	+0.4
M16K	Timber Creek baz=100	71.52 331	P	P	06 54 41.3	-0.7
K17K	Iditarod baz=101	71.53 333	P	P	06 54 41.1	-1.0
B22K	Teshekpuk Lake baz=108	71.61 341	P	P	06 54 41.6	-0.8
O15K	Ungalikthiuk R baz=99	71.64 329	P	P	06 54 42.7	-0.1
C21K	Knifeblade Rid baz=106	71.70 340	P	P	06 54 42.5	-0.5
G19K	Purcell Mounta baz=103	71.76 336	P	P	06 54 42.7	-0.7
B21K	Ikpikpuk River baz=107	71.78 340	P	P	06 54 43.5	+0.1
L16K	Owhat River baz=100	71.88 331	P	P	06 54 43.7	-0.5
N15K	Kwethluk River baz=99	71.93 330	P	P	06 54 44.2	-0.3
J17K	VABM Dome baz=101	72.01 333	P	P	06 54 44.5	-0.4
H18K	Honhosa River baz=102	72.06 335	P	P	06 54 44.7	-0.5
E19K	Redstone River baz=104	72.13 338	P	P	06 54 45.1	-0.5
F19K	Shaluckik Mo baz=103	72.19 337	P	P	06 54 45.5	-0.5
D20K	Etivluk River comp=Z,7.9nm,0.8s	72.22 339	IAmb	IAmb	06 54 47.1	
D20K	Etivluk River baz=105	72.22 339	P	P	06 54 45.6	-0.5
M15K	Kasigluk River baz=98	72.30 330	P	P	06 54 46.5	-0.2
A22K	Sinclair Lake baz=107	72.31 341	P	P	06 54 46.2	-0.3
G18K	Tagagawik comp=Z,12nm,1.1s	72.33 336	IAmb	IAmb	06 54 48.2	
G18K	Tagagawik baz=102,SNR=5.6	72.33 336	P	P	06 54 46.6	-0.2
O14K	Tigyukauivet M baz=97	72.38 329	P	P	06 54 46.6	-0.6
H17K	Granite Mounta baz=100	72.66 335	P	P	06 54 48.2	-0.6
J16K	Anvik River baz=99	72.67 333	P	P	06 54 49.0	+0.1
N14K	Kuskokwak Cree baz=97	72.68 329	P	P	06 54 49.1	+0.1
D19K	Kuna River baz=103	72.70 339	P	P	06 54 49.3	+0.3
B20K	Meade River comp=Z,11nm,1.1s	72.74 340	IAmb	IAmb	06 55 00.8	
B20K	Meade River baz=104	72.74 340	P	P	06 54 49.2	+0.1
I17K	Unalakleet baz=99	72.81 334	P	P	06 54 50.1	+0.4
L15K	Ungalak Mounta baz=98	72.82 331	P	P	06 54 50.2	+0.4
F18K	Selawik baz=101	72.87 336	P	P	06 54 49.8	-0.2
A21K	Barrow baz=105	72.91 342	P	P	06 54 49.9	-0.2
M14K	Bethel baz=97,SNR=6.1	72.92 330	P	P	06 54 51.2	+0.8
K15K	Wolf Creek Mou baz=98	72.93 332	P	P	06 54 51.1	+0.7
G17K	Kiwalik Mounta baz=100	73.06 335	P	P	06 54 51.8	+0.6
FALS	False Pass baz=94	73.09 324	P	P	06 54 52.3	+0.8
L14K	Kuka Creek baz=97	73.35 331	P	P	06 54 53.5	+0.7
E18K	Tukpahlearik C baz=100	73.39 337	P	P	06 54 53.1	0.0
F17K	Baldwin Pennin baz=100	73.47 336	P	P	06 54 54.2	+0.7
M13K	Dall Lake baz=96	73.57 330	P	P	06 54 55.4	+1.2
H16K	Elim baz=98	73.59 334	P	P	06 54 55.2	+0.9
G16K	Koyuk River baz=98	73.75 335	P	P	06 54 55.8	+0.6
E17K	Hotham Inlet baz=99	73.80 337	P	P	06 54 55.8	+0.3
C18K	Utukok River baz=100	73.84 338	P	P	06 54 56.0	+0.2
J14K	Nanvaranak Lak baz=96	73.92 332	P	P	06 54 56.5	+0.3
A19K	Wainwright baz=101	74.09 340	P	P	06 54 57.5	+0.4
B18K	Kokolik River baz=100	74.18 339	P	P	06 54 58.1	+0.4
K13K	Kusilvak Mount baz=95	74.35 331	P	P	06 54 59.4	+0.6
D17K	Noatak River baz=98	74.38 337	P	P	06 54 58.9	0.0
G15K	Niukluk baz=96	74.40 335	P	P	06 54 58.8	-0.2
F15K	North Star Dit baz=95	74.74 335	P	P	06 55 00.7	-0.3
UNV	Unalaska Valle baz=91	74.84 323	P	P	06 55 01.4	-0.3
ANM	Nome baz=95	74.92 334	P	P	06 55 01.3	-0.7
C16K	Lisburne Hills baz=96	75.30 338	P	P	06 55 03.9	-0.3
F14K	Arctic Creek baz=94	75.41 335	P	P	06 55 04.7	-0.2
JMIC	Jan Mayen comp=Z,138nm,19.7s,baz=269,slow=36	75.58 19	LR	LR	07 28 24.8	
EKA	Eskdalemuir Ar comp=Z,1.4nm,0.7s,baz=265,slow=5.8,SNR=5.7	77.21 36	P	P	06 55 11.8	-3.4
ESDC	comp=Z,1.4nm,0.7s Sonseca Array comp=Z,0.5nm,0.7s,baz=299,slow=5.4,SNR=2.9	77.44 52	P	P	06 55 12.9	-4.1
ESDC			LR	LR	07 26 39.4	
MDT	comp=Z,426nm,18.8s,baz=274,slow=34 comp=Z,0.5nm,0.7s Midelt comp=Z,570nm,21.9s,baz=339,slow=32	77.50 59	LR	LR	07 23 56.4	
DBIC	Dimbokro comp=Z,129nm,19.5s,baz=282,slow=34	80.91 85	LR	LR	07 28 21.6	
SPITS	Spitsbergen Ar	81.70 12	LR	LR	07 32 21.7	

comp=Z,510nm,20.7s,baz=231,slow=36
NOA NORSAR Array B 84.08 29 LR LR 07 30 04.5
comp=Z,251nm,20.9s,baz=275,slow=34
HFS Hagfors 85.48 30 LR LR 07 30 13.6
comp=Z,214nm,20.8s,baz=294,slow=33
BILL Bilibino 85.78 339 P **P 06 56 00.6 +0.2**
BILL IAmb IAmb 06 56 12.1
comp=Z,6.7nm,1.0s
TORD Torodi Ar. Bea 86.09 77 LR LR 07 30 51.5
comp=Z,144nm,20.1s,baz=310,slow=33
DAVOX Davos/Dischmat 86.42 43 LR LR 07 31 28.5
comp=Z,207nm,19.0s,baz=282,slow=34
ARCES ARCESS Array B 87.07 19 LR LR 07 33 55.5
comp=Z,172nm,19.1s,baz=293,slow=35
KEST Kesra 88.45 54 LR LR 07 30 21.7
comp=Z,263nm,21.8s,baz=279,slow=32
VRAC Vranov 90.12 40 LR LR 07 34 23.3
comp=Z,485nm,18.9s,baz=281,slow=34
FINES FINESS Array B 90.73 26 LR LR 07 33 44.6
comp=Z,327nm,21.1s,baz=246,slow=34
VYHS Vyhne 91.78 40 *e*P **P 06 56 34.0 +4.7**
TIXI Tiksi 93.86 349 LR LR 07 41 43.8
comp=Z,233nm,21.0s,baz=28,slow=37
MA2 Magadan 95.71 334 LR LR 07 45 13.8
comp=Z,151nm,20.2s,baz=71,slow=39
AKASG Malin Array Be 97.11 35 LR LR 07 37 58.0
comp=Z,363nm,20.5s,baz=244,slow=34
MLR Muntele Rosu 97.41 41 LR LR 07 39 42.9
comp=Z,206nm,18.7s,baz=266,slow=35
MSVF Nonsavu 98.16 254 LR LR 07 31 48.4
comp=Z,304nm,18.2s,baz=93,slow=29
NRIK Noril'sk 99.45 2 LR LR 07 43 14.3
comp=Z,236nm,20.4s,baz=4.5,slow=36
DZM Mont Dzumac 109.52 251 *e*LR LR 07 34 17.8
comp=Z,194nm,22.1s
KURBB Kurchatov Arra 117.02 10 PKP **PKPdf 07 02 05.5 -0.7**
comp=Z,0.6nm,0.6s,baz=337,slow=2.2,SNR=8.4
SONM Songino Array 119.95 350 PKP **PKPdf 07 02 11.3 -0.8**
comp=Z,1.5nm,0.7s,baz=349,slow=0.4,SNR=8.2
MKAR Makanchi Array 121.35 9 PKP **PKPdf 07 02 13.4 -1.4**
comp=Z,0.5nm,0.8s,baz=346,slow=2.5,SNR=5.3
KSRS Korea Array 121.54 328 PKP **PKPdf 07 02 15.1 -0.2**
comp=Z,4.8nm,0.8s,baz=10,slow=1.6,SNR=19
WMQ Urumqi 124.91 5 *e*PKP **PKiKP 07 02 24.3 +2.3**
WMQ LR LR
comp=N,360nm,18.9s
WMQ LR LR
comp=Z,260nm,20.5s
HHC Hu-ho-hao-te 125.38 343 *e*P **PKiKP 07 02 25.1 +2.0**
NJ2 Nanjing 130.35 331 *e*P **PKiKP 07 02 35.0 +1.9**
NJ2 pmax pmax
comp=Z,32nm,0.5s
STKA Stephens Creek 130.98 238 PKP **PKiKP 07 02 34.5 +0.2**
comp=Z,1.6nm,0.7s,baz=65,slow=3.8,SNR=4.2
XAN Xi'an 132.47 342 PKP **PKPdf 07 02 36.7 +0.3**
ASAR Alice Springs 139.37 247 PKhKP PKPpre 07 02 42.6
comp=Z,0.7nm,0.9s,baz=20,slow=32,SNR=3.7
ASAR PKP **PKPdf 07 02 49.4 0.0**
comp=Z,1.7nm,0.7s,baz=101,slow=2.4,SNR=5.6
ASAR SKPbc **SKiKP 07 06 27.4 +1.4**
comp=Z,0.4nm,0.8s,baz=120,slow=3.3,SNR=2.1
ASAR SKPab **SKPab 07 06 36.2 +3.1**
comp=Z,0.4nm,0.7s,baz=92,slow=2.6,SNR=4.6
WRA Warramunga Arr 139.49 253 PKhKP PKPpre 07 02 42.2
comp=Z,0.4nm,0.9s,baz=353,slow=28,SNR=3.1
WRA PKP **PKPdf 07 02 50.6 +0.9**
comp=Z,4.0nm,0.8s,baz=88,slow=1.9,SNR=21
PZH PanZhiHua 141.49 348 PKP **PKPdf 07 02 53.4 +0.1**
FITZ Fitzroy Crossi 147.88 254 PKPbc **PKiKP 07 03 08.6 -0.7**
comp=Z,10nm,1.1s,baz=104,slow=4.2,SNR=3.3
CMAR Chiang Mai Arr 149.87 349 PKP **PKPdf 07 03 07.2 -0.5**
CMAR comp=Z,1.4nm,0.4s,baz=358,slow=1.3,SNR=3.3 PKPbc **PKPbc 07 03 12.6 +0.1**
comp=Z,5.6nm,0.8s,baz=336,slow=2.8,SNR=21

WEL ***07*** *07:02:08.2±0.8, 32°S±4°×17°7W±1°1, h12km, M4.8/15, mB5.1/9, ML5.7/16, MLv5.4/15, Mw(mB)4.4/9, Error ellipse: s-maj=14.7km s-min=3.0km az=105.5, confirmed*
IDC ***07*** *07:02:12.4±0.5, 31°84S×177°99W, h0km, mb4.5/17, mbtmp4.5/20, ML4.7/2, MS4.3/19, Error ellipse: s-maj=17.3km s-min=14.9km az=5.0*
MOS ***07*** *07:02:13.3±1.0, 31°87S×178°07W, h10km, mb5.3/8, Error ellipse: s-maj=14.4km s-min=10.8km az=108.5*
NEIC ***07*** *07:02:14.8±1.3, 32°02S±0°09×178°0W±0°1, h10km±1km, mb5.1/72, Error ellipse: s-maj=18.7km s-min=15.1km az=100.0*
BJI ***07*** *07:02:14.0, 32°00S×178°00W, h10km, mB5.7/9, mb5.2/17, Ms4.9/7, Ms7 4.7/9*
GCMT ***07*** *07:02:17.8±0.3, 31°95S±0°03×177°55W±0°02, h14km±1km, MW4.9/92, Moment Tensor Solution. s37,c41; s92,c137; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.86±.18; Mθθ-0.21±.10; Mφφ-2.64±.12; Mrθ0.55±.29; Mφθ-0.85±.08; Mφr1.49±.23; Best double couple: M0 3.29200×10^16 NP1:φs196.00000°, δ31.00000°, λ87.00000°. NP2: φs19.00000°, δ59.00000°, λ91.00000°. Principal axes: T 3.2700, Plg76.0000°, Azm293.0000°; N 0.0500, Plg1.0000°, Azm198.0000°; P -3.3140, Plg14.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 07:02:15.6±0.3, 32°04S±0°04×177°84W±0°06, h24km, n279, σ1§82/281, mb5.0/76, MS4.5/23, 14C-6D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.77**	**359**	P	**Pn**	**07 02 54.3**	**-4.1**
GLKZ				S	**Sn**	**07 03 26.4**	**-4.7**
RIZ	**Raoul Island**	**2.79**	**358**	P	**Pn**	**07 02 54.3**	**-4.4**
RIZ				S	**Sn**	**07 03 30.0**	**-1.6**
MXZ	**Matakaoa Point**	**6.36**	**209**	Pn	**Pn**	**07 03 46.7**	**-1.1**
MXZ	**Matakaoa Point**	**6.36**	**209**	P	**Pn**	**07 03 46.2**	**-1.6**
MXZ				S	**Sn**	**07 04 57.7**	**-1.8**
WMGZ	**Waiomatatini S**	**6.53**	**207**	P	**Pn**	**07 03 47.2**	**-3.0**
WMGZ				S	**Sn**	**07 05 04.2**	**+0.3**
PKGZ	**Pakihiroa**	**6.71**	**209**	P	**Pn**	**07 03 49.2**	**-3.4**
PKGZ				S	**Sn**	**07 05 06.5**	**-1.8**
HAZ	**Te Kaha**	**6.74**	**211**	P	**Pn**	**07 03 49.4**	**-3.6**
HAZ				S	**Sn**	**07 05 10.0**	**+1.0**
PUZ	**Puketiti**	**6.81**	**207**	P	Pn	07 03 44.3	-10
PUZ				S	**Sn**	**07 05 07.5**	**-3.4**
RUGZ	**Raukumara Rang**	**6.96**	**211**	P	**Pn**	**07 03 53.3**	**-2.8**
RUGZ				S	**Sn**	**07 05 12.7**	**-1.9**
TWGZ	**Tauwhareparae**	**7.01**	**208**	P	**Pn**	**07 03 53.3**	**-3.6**
TWGZ				S	**Sn**	**07 05 14.7**	**-1.1**
CNGZ	**Carnagh Statio**	**7.20**	**206**	P	Pn	07 03 54.2	-5.1
CNGZ				S	**Sn**	**07 05 18.5**	**-1.7**
TKGZ	**Te Karaka**	**7.29**	**208**	P	**Pn**	**07 03 56.2**	**-4.4**
TKGZ				S	**Sn**	**07 05 21.2**	**-1.4**
MWZ	**Matawai**	**7.33**	**210**	P	**Pn**	**07 03 58.2**	**-3.1**
MWZ				S	**Sn**	**07 05 21.2**	**-2.5**
URZ	**Urewera**	**7.46**	**212**	Pn	**Pn**	**07 03 59.2**	**-3.6**
URZ	2.4nm,0.3s,baz=25,slow=4.3,SNR=11						
	47nm,0.3s,baz=51,slow=21,SNR=21			Sn	**Sn**	**07 05 23.8**	**-2.8**
URZ	**Urewera**	**7.46**	**212**	P	**Pn**	**07 03 59.5**	**-3.3**
URZ				S	**Sn**	**07 05 24.0**	**-2.6**
TGRZ	**Tauranga**	**7.46**	**219**	P	**Pn**	**07 04 03.4**	**+0.5**
TGRZ				S	**Sn**	**07 05 29.2**	**+2.5**
RAGZ	**Rawiri**	**7.52**	**210**	P	**Pn**	**07 04 00.9**	**-2.9**
RAGZ				S	**Sn**	**07 05 26.9**	**-1.4**
RIGZ	**Rimuhau**	**7.56**	**207**	P	Pn	07 03 59.0	-5.3
RIGZ				S	**Sn**	**07 05 25.3**	**-3.9**
WCZ	**Waipu Caves**	**7.56**	**237**	P	Pn	07 04 10.5	+6.2
PRGZ	**Paritu Road**	**7.70**	**206**	P	Pn	07 03 56.5	-10
PRGZ				S	**Sn**	**07 05 28.1**	**-4.6**
MUGZ	**Murupara**	**7.79**	**213**	S	**Sn**	**07 05 32.0**	**-2.8**
SNGZ	**Shannon Statio**	**7.79**	**209**	P	Pn	07 03 57.7	-10
SNGZ				S	**Sn**	**07 05 30.8**	**-4.1**
RTZ	**Ruatahuna**	**7.81**	**211**	Pn	**Pn**	**07 04 04.2**	**-3.5**
RTZ	**Ruatahuna**	**7.81**	**211**	P	**Pn**	**07 04 04.0**	**-3.7**
RTZ				S	**Sn**	**07 05 30.9**	**-4.5**
OUZ	**Omahuta**	**7.81**	**244**	P	**Pn**	**07 04 11.3**	**+3.5**
KNZ	**Kokohu**	**7.87**	**206**	S	**Sn**	**07 05 33.5**	**-3.2**
TOZ	**Tahuroa Road**	**7.88**	**222**	Pn	**Pn**	**07 04 09.2**	**+0.5**
TOZ	**Tahuroa Road**	**7.88**	**222**	P	**Pn**	**07 04 08.4**	**-0.3**
MHGZ	**Mahia Peninsul**	**7.90**	**205**	P	Pn	07 03 56.6	-12
MHGZ				S	**Sn**	**07 05 34.1**	**-3.3**
RAHZ	**Arahi**	**8.01**	**210**	S	**Sn**	**07 05 37.6**	**-2.7**
BKZ	**Black Stump Fm**	**8.47**	**211**	P	**Pn**	**07 04 16.0**	**-0.9**
BKZ				S	**Sn**	**07 05 47.5**	**-4.2**
RITZ	**Rihia Road**	**8.62**	**215**	S	**Sn**	**07 05 55.7**	**+0.5**
MCHZ	**McNeill Hill**	**8.62**	**209**	P	**Pn**	**07 04 16.1**	**-2.6**
MCHZ				S	**Sn**	**07 05 53.0**	**-2.2**
KATZ	**Kakaramea**	**8.70**	**215**	S	**Sn**	**07 05 56.5**	**-0.8**
HIZ	**Hauiti**	**8.79**	**221**	Pn	**Pn**	**07 04 23.0**	**+1.8**
HIZ	**Hauiti**	**8.79**	**221**	P	Pn	07 04 26.8	+5.6
TMVZ	**Te Maari**	**8.80**	**215**	P	**Pn**	**07 04 23.6**	**+2.2**
TMVZ				S	**Sn**	**07 05 56.7**	**-3.1**
OTVZ	**Oturere**	**8.86**	**215**	P	**Pn**	**07 04 23.6**	**+1.4**
OTVZ				S	**Sn**	**07 05 58.0**	**-3.3**
KRHZ	**Kereru**	**8.92**	**210**	S	**Sn**	**07 05 57.4**	**-5.4**
MOVZ	**Moawhango**	**9.01**	**214**	P	**Pn**	**07 04 27.1**	**+2.9**
MOVZ				S	**Sn**	**07 05 59.0**	**-5.9**
PNHZ	**Pukenui**	**9.22**	**210**	P	**Pn**	**07 04 23.8**	**-3.3**
PNHZ				S	**Sn**	**07 06 03.8**	**-6.2**
BFZ	**Birch Farm**	**9.85**	**207**	P	**Pn**	**07 04 31.4**	**-4.3**
MRZ	**Mangatainoka R**	**10.10**	**210**	P	**Pn**	**07 04 36.6**	**-2.5**
HOWZ	**Holdsworth Sta**	**10.33**	**209**	P	**Pn**	**07 04 41.1**	**-1.1**
THZ	**Tophouse**	**12.20**	**215**	P	**Pn**	**07 05 08.1**	**+0.2**
KHZ	**Kahutara**	**12.42**	**211**	P	**Pn**	**07 05 09.1**	**-1.7**
LTZ	**Lake Taylor**	**13.28**	**213**	Pn	**Pn**	**07 05 21.6**	**-1.1**
RPZ	**Rata Peaks**	**14.57**	**214**	Pn	**Pn**	**07 05 35.5**	**-4.7**
	1.8nm,0.3s,baz=88,slow=1.1,SNR=6.3						
RPZ				Sn	Sn	07 08 05.0	-16
	2.9nm,0.3s,baz=11,slow=14,SNR=7.8						
MSVF	**Nonsavu**	**14.72**	**344**	Pn	**Pn**	**07 05 42.3**	**-0.2**
MSVF	**Nonsavu**	**14.72**	**344**	Pn	**Pn**	**07 05 39.8**	**-2.7**
	0.4nm,0.3s,baz=145,slow=13,SNR=17						
	21nm,0.8s						
DZM	**Mont Dzumac**	**17.14**	**302**		**Pn**	**07 06 11.7**	**-2.0**
DZM	**Mont Dzumac**	**17.14**	**302**	*e*Pn	**P**	**07 06 15.5**	**+0.3**
	188nm,1.3s						
DZM				*e*LR	LR	07 10 09.3	
	3μm,25.3s						
DZM	**Mont Dzumac**	**17.14**	**302**	Pn	**Pn**	**07 06 10.2**	**-3.5**
	0.3nm,0.3s,baz=96,slow=17,SNR=10						
	4.5nm,0.9s						
AFI	**Afiamalu**	**18.88**	**18**		**P**	**07 06 33.1**	**-1.3**
AFI	**Afiamalu**	**18.88**	**18**	P	**P**	**07 06 33.1**	**-1.3**
AFI				pmax	pmax		
	comp=Z,216nm,1.3s						
RAR	**Rarotonga**	**19.39**	**61**	P	**P**	**07 06 38.5**	**-1.4**
	comp=Z,10nm,0.9s,baz=233,slow=10,SNR=2.1						
RAR				LR	LR	07 14 43.8	
	comp=Z,339nm,19.1s,baz=216,slow=39						
ARMA	**Armidale**	**26.12**	**265**	P	**P**	**07 07 47.0**	**-0.9**
ARMA	**Armidale**	**26.12**	**265**	P	**P**	**07 07 51.1**	**+3.2**
EIDS	**Eidsvold**	**27.99**	**276**	P	**P**	**07 08 04.5**	**-0.2**
EIDS	**Eidsvold**	**27.99**	**276**	P	**P**	**07 08 05.7**	**+1.0**
	comp=Z,24nm,1.8s						
TOO	**Toolangi**	**30.48**	**249**	P	**P**	**07 08 26.5**	**-0.2**
TOO	**Toolangi**	**30.48**	**249**	P	**P**	**07 08 26.5**	**-0.2**
TOO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HNR	**Honiara**	**30.49**	**313**	LR	LR	07 19 20.0	
	comp=Z,520nm,19.2s,baz=176,slow=34						
CMSA	**Cobar Meteorol**	**30.91**	**261**	P	**P**	**07 08 30.5**	**+0.1**
	comp=Z,23nm,0.9s						
QLP	**Quilpie**	**33.40**	**269**	P	**P**	**07 08 53.5**	**+1.1**
	comp=Z,47nm,1.4s						
ARPS	**Mount Arapiles**	**33.42**	**251**	P	**P**	**07 08 53.6**	**+1.2**
	comp=Z,56nm,1.0s						
STKA	**Stephens Creek**	**34.27**	**259**	P	**P**	**07 08 59.6**	**-0.3**
STKA	**Stephens Creek**	**34.27**	**259**	P	**P**	**07 09 01.9**	**+2.0**
	comp=Z,71nm,1.3s						
STKA	**Stephens Creek**	**34.27**	**259**	P	**P**	**07 09 00.4**	**+0.5**
	comp=Z,6.9nm,0.8s,baz=98,slow=12,SNR=11						
STKA				LR	LR	07 22 49.1	
	comp=Z,914nm,18.3s,baz=88,slow=36						
	comp=Z,6.9nm,0.8s						
MTSU	**Mount Surprise**	**36.76**	**283**	P	**P**	**07 09 23.2**	**+1.7**
	comp=Z,18nm,0.9s						
BBOO	**Buckleboo**	**38.68**	**256**	P	**P**	**07 09 36.7**	**-0.8**
BBOO				IAmb	IAmb	07 09 38.8	
	comp=Z,26nm,0.9s						
BBOO	**Buckleboo**	**38.68**	**256**	P	**P**	**07 09 37.0**	**-0.6**
	comp=Z,30nm,0.9s						
PMG	**Port Moresby**	**39.45**	**297**	LR	LR	07 24 46.5	
	comp=Z,288nm,18.0s,baz=118,slow=34						
PMG	**Port Moresby**	**39.45**	**297**	*i*P	**P**	**07 09 43.7**	**-0.4**
PMG				pmax	pmax		
	comp=Z,39nm,1.5s						
QIS	**Mount Isa**	**39.60**	**276**	P	**P**	**07 09 42.2**	**-3.1**
COEN	**Coen**	**39.87**	**288**	P	**P**	**07 09 47.4**	**-0.2**
COEN	**Coen**	**39.87**	**288**	P	**P**	**07 09 49.2**	**+1.6**
	comp=Z,25nm,1.0s						
TAOE	**Nuku Hiva Isla**	**41.85**	**65**	*e*LR	LR	07 21 23.4	
	comp=Z,238nm,23.9s						
AS31	**Alice Springs**	**43.18**	**269**	P	**P**	**07 10 14.3**	**-0.5**
AS31	**Alice Springs**	**43.18**	**269**	P	**P**	**07 10 14.0**	**-0.7**
	comp=Z,5.4nm,0.7s						
ASAR	**Alice Springs**	**43.18**	**269**	P	**P**	**07 10 14.3**	**-0.5**
ASAR	**Alice Springs**	**43.18**	**269**	P	**P**	**07 10 14.0**	**-0.7**
	comp=Z,12nm,0.8s,baz=106,slow=7.2,SNR=99						
ASAR				S	**S**	**07 16 38.7**	**-1.5**
	comp=Z,0.7nm,0.9s,baz=121,slow=8.2,SNR=2.5						
ASAR				LR	LR	07 28 18.3	
	comp=Z,388nm,19.4s,baz=114,slow=36						
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**44.14**	**274**	P	**P**	**07 10 22.0**	**-0.4**
WR0				IAmb	IAmb	07 10 24.8	
	comp=Z,24nm,1.0s						
WB2	**Warramunga Arr**	**44.31**	**274**	P	**P**	**07 10 23.2**	**-0.6**
WRAB	**Tennant Creek**	**44.31**	**274**	P	**P**	**07 10 23.6**	**-0.2**
WRAB				IAmb	IAmb	07 10 24.2	
	comp=Z,36nm,1.1s						
WRAB	**Tennant Creek**	**44.31**	**274**	P	**P**	**07 10 23.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,36nm,1.1s						
WRA	**Warramunga Arr**	**44.32**	**274**	P	**P**	**07 10 23.0**	**-0.9**
WRA	**Warramunga Arr**	**44.32**	**274**	P	**P**	**07 10 22.5**	**-1.4**
	comp=Z,17nm,0.5s,baz=113,slow=7.7,SNR=44						
WRA				S	**S**	**07 16 57.6**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=116,slow=14,SNR=3.1						
WRA				LR	LR	07 28 17.2	
	comp=Z,939nm,19.0s,baz=110,slow=35						
	comp=Z,17nm,0.5s						
WB0	**Warramunga Arr**	**44.35**	**274**	P	**P**	**07 10 23.8**	**-0.3**
WB0				IAmb	IAmb	07 10 24.5	
	comp=Z,40nm,1.1s						
FORT	**Forrest**	**45.78**	**257**	P	**P**	**07 10 34.6**	**-0.7**
FORT	**Forrest**	**45.78**	**257**	P	**P**	**07 10 34.3**	**-1.1**
	comp=Z,89nm,1.1s						
SBA	**Scott Base**	**46.42**	**184**	P	**P**	**07 10 41.7**	**+2.0**
SBA				IAmb	IAmb	07 10 54.2	
	comp=Z,27nm,1.3s						
SBA	**Scott Base**	**46.42**	**184**	P	**P**	**07 10 41.7**	**+2.0**
SBA				pmax	pmax		
	comp=Z,27nm,1.3s						
VNDA	**Vanda**	**46.48**	**186**	P	**P**	**07 10 42.6**	**+2.3**
	comp=Z,1.0nm,0.6s,baz=12,slow=7.0,SNR=7.1						
VNDA				LR	LR	07 27 44.3	
	comp=Z,304nm,19.7s,baz=24,slow=33						
	comp=Z,1.0nm,0.6s						
WRKA	**Warakurna**	**47.43**	**264**	P	**P**	**07 10 47.4**	**-1.1**
	comp=Z,38nm,1.3s						
KNRA	**Kununurra**	**50.98**	**276**	P	**P**	**07 11 13.5**	**-2.1**
KNRA				IAmb	IAmb	07 11 16.2	
	comp=Z,17nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.51**	**271**	P	**P**	**07 11 27.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.51**	**271**	P	**P**	**07 11 26.1**	**-0.9**
	comp=Z,18nm,0.8s,baz=136,slow=6.9,SNR=11						
FITZ				LR	LR	07 33 54.2	
	comp=Z,1μm,18.1s,baz=118,slow=36						
	comp=Z,18nm,0.8s						
NWAO	**Narrogin (SRO)**	**53.96**	**250**	LR	LR	07 32 13.6	
	comp=Z,176nm,19.5s,baz=86,slow=33						
FAKI	**Fak Fak**	**55.05**	**291**	P	**P**	**07 11 44.5**	**-1.2**
FAKI				IAmb	IAmb	07 11 45.4	
	comp=Z,20nm,1.1s						
MBWA	**Marble Bar**	**56.19**	**265**	P	**P**	**07 11 53.4**	**-0.5**
MBWA				IAmb	IAmb	07 11 54.5	
	comp=Z,28nm,1.2s						
MBWA	**Marble Bar**	**56.19**	**265**	P	**P**	**07 11 52.1**	**-1.7**
	comp=Z,24nm,1.9s						
MORW	**Morawa**	**56.21**	**254**	P	**P**	**07 11 54.3**	**+0.5**
GUMO	**Guam**	**57.74**	**316**	LR	LR	07 35 52.2	
	comp=Z,212nm,18.4s,baz=105,slow=35						
QSPA	**South Pole Qui**	**58.08**	**180**	P	**P**	**07 12 10.1**	**+3.4**
	comp=Z,5.1nm,0.8s,baz=7.1,slow=0.8,SNR=30						
QSPA				LR	LR	07 35 38.3	
	comp=Z,331nm,18.6s,baz=82,slow=34						
	comp=Z,5.1nm,0.8s						
NLAI	**Namlea**	**58.98**	**287**	P	**P**	**07 12 12.3**	**-1.2**
	comp=Z,18nm,0.6s						
SANI	**Sanana**	**60.58**	**288**	P	**P**	**07 12 22.9**	**-1.6**
	comp=Z,33nm,1.6s						
KAPI	**Kappang**	**64.04**	**281**	P	**P**	**07 12 47.2**	**-0.5**
	comp=Z,8.0nm,0.9s,baz=153,slow=11,SNR=2.1						
	comp=Z,8.0nm,0.9s						
DAV	**Davao City (W)**	**66.44**	**295**	LR	LR	07 41 55.5	
	comp=Z,123nm,19.7s,baz=340,slow=36						
MPSI	**Mapaga**	**66.91**	**286**	P	**P**	**07 13 04.7**	**-1.6**
	comp=Z,15nm,0.8s						
BELA	**Belgrano 2**	**68.15**	**172**	P	**P**	**07 13 14.2**	**+1.0**
BELA				IAmb	IAmb	07 13 27.4	
	comp=Z,16nm,1.1s						
PMSA	**Palmer Station**	**70.72**	**155**	LR	LR	07 39 26.9	
	comp=Z,192nm,20.5s,baz=244,slow=32						
STKI	**Sintang**	**73.72**	**281**	P	**P**	**07 13 49.0**	**+1.0**
SBUM	**Sibu**	**74.42**	**283**	P	**P**	**07 13 51.2**	**-0.8**
ELIB	**Princess Elisa**	**75.24**	**187**	*d*P	**P**	**07 13 57.3**	**+1.2**
	comp=Z,7.6nm,1.1s						
SYO	**Syowa Base**	**75.55**	**193**	‖*e*P	**P**	**07 13 59.2**	**+1.5**
SYO	**Syowa Base**	**75.55**	**193**	‖*e*PcP	**PcP**	**07 14 11.8**	**+1.2**
TROLL	**Troll, Antarti**	**76.24**	**180**	⇑P	**P**	**07 14 04.4**	**+2.7**
	comp=Z,144nm,0.5s						
TROLL				⇑PcP	**PcP**	**07 14 13.2**	**-0.5**
SNAA	**Sanae**	**76.52**	**178**	P	**P**	**07 14 04.6**	**+1.4**
SNAA				IAmb	IAmb	07 14 16.9	
	comp=Z,23nm,1.1s						
SNAA	**Sanae**	**76.52**	**178**	⇑P	**P**	**07 14 05.6**	**+2.3**
SNAA				‖PcP	**PcP**	**07 14 15.8**	**+1.0**
SNAA	**Sanae**	**76.52**	**178**	P	**P**	**07 14 03.8**	**+0.5**
	comp=Z,6.6nm,1.0s,baz=182,slow=15,SNR=8.8						
	comp=Z,6.6nm,1.0s						
SNAA	**Sanae**	**76.52**	**178**	*i*P	**P**	**07 14 05.4**	**+2.1**
VNA3	**Neumayer Olymp**	**76.67**	**176**	⇑P	**P**	**07 14 04.8**	**+0.8**
VNA3				‖PcP	**pwP**	**07 14 16.9**	**-0.5**
VNA2	**Neumayer--Watz**	**77.10**	**177**	⇑P	**P**	**07 14 07.7**	**+1.3**
	comp=Z,12nm,0.6s,baz=169,slow=5.1						
VNA1	**Neumayer--Stat**	**77.33**	**176**	⇑P	**P**	**07 14 06.9**	**-0.8**
	comp=Z,8.9nm,0.9s						
MDSI	**Maura Dua**	**77.45**	**273**	P	**P**	**07 14 07.9**	**-1.4**
MJAR	**Matsushiro Arr**	**79.66**	**325**	P	**P**	**07 14 21.8**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=150,slow=5.6,SNR=2.2						
	comp=Z,1.1nm,0.8s						
PLCA	**Paso Flores**	**81.30**	**133**	P	**P**	**07 14 31.3**	**+1.3**
	comp=Z,2.7nm,1.0s,baz=233,slow=6.7,SNR=6.7						
PLCA				LR	LR	07 43 30.5	
	comp=Z,265nm,18.3s,baz=226,slow=30						
	comp=Z,2.7nm,1.0s						
LPIG	**La Paz**	**85.28**	**58**	LR	LR	07 45 26.0	
	comp=Z,211nm,20.7s,baz=230,slow=30						
MT05	**Renca**	**85.40**	**127**	P	**P**	**07 14 52.3**	**+1.0**
KSRS	**Korea Array**	**85.68**	**320**	P	**P**	**07 14 51.9**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=143,slow=5.5,SNR=7.6						
	comp=Z,2.2nm,0.9s						
KSAR	**Wonju Array Be**	**85.69**	**320**	P	**P**	**07 14 53.0**	**+0.7**
KSAR	**Wonju Array Be**	**85.69**	**320**	P	**P**	**07 14 53.0**	**+0.7**
QIZ	**Qiongzhong**	**85.82**	**295**	P	**P**	**07 14 54.2**	**+0.8**
QIZ				S	**S**	**07 25 28.7**	**+3.5**
QIZ				LR	LR		
	comp=Z,87nm,15.5s						
QIZ				LR	LR		
	comp=Z,87nm,15.9s						
QIZ				LR	LR		
	comp=Z,150nm,17.6s						
YSS	**Yuzhno-Sakhali**	**86.28**	**334**	*e*P	**P**	**07 14 54.6**	**-0.3**
YSS				*e*		07 18 15.6	
YSS				*e*S	**S**	**07 25 26.2**	**-2.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS				MLR	MLR		
	comp=N,400nm,19.0s						
YSS				MLR	MLR		
	comp=E,400nm,17.0s						
PET	**Petropavlovsk**	**87.15**	**346**	P	**P**	**07 14 59.8**	**+0.8**
	comp=E,56nm,2.9s						
PFO	**Pinyon Flats O**	**87.22**	**47**	P	**P**	**07 15 00.7**	**+0.6**
PFO				IAmb	IAmb	07 15 03.6	
	comp=Z,17nm,1.3s						
PFO	**Pinyon Flats O**	**87.22**	**47**	P	**P**	**07 15 00.7**	**+0.6**
PFO				pmax	pmax		
	comp=Z,17nm,1.3s						
ISA	**Isabella, Lake**	**87.37**	**45**	IAmb	IAmb	07 15 08.8	
	comp=Z,15nm,1.4s						
NJ2	**Nanjing**	**87.41**	**311**	*e*P	**P**	**07 15 02.9**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,36nm,0.6s						
PETK	**Petropavlovsk-**	**87.43**	**346**	P	**P**	**07 15 00.3**	**-0.2**
	comp=Z,7.1nm,0.9s,baz=178,slow=6.3,SNR=4.4						
	comp=Z,7.1nm,0.9s						
GLA	**Glamis**	**87.88**	**48**	IAmb	IAmb	07 15 06.4	
	comp=Z,10nm,0.8s						
CMB	**Columbia Colle**	**87.89**	**42**	IAmb	IAmb	07 15 07.6	
	comp=Z,7.9nm,1.2s						
PSTR	**Posyet**	**88.00**	**325**	*i*P	**P**	**07 15 04.7**	**+1.3**
O02D	**Mt. Diablo Mer**	**88.08**	**39**	P	**P**	**07 15 05.3**	**+1.3**
O02D				IAmb	IAmb	07 15

comp=Z,13nm,1.4s
KNB Kanab 91.69 47 IAmb IAmb 07 15 32.4
comp=Z,10nm,1.2s
BNX BinXian 91.93 325 ⇑P **P 07 15 20.3 -1.4**
BNX pmax pmax
comp=Z,12nm,0.9s
KLR Kul'dur 92.51 330 *i* P **P 07 15 23.9 -0.4**
KLR pmax pmax
comp=Z,5.0nm,0.9s
MTPU Mount Pierson 92.73 46 IAmb IAmb 07 15 30.2
comp=Z,8.0nm,1.3s
NNA Nana 92.84 106 LR LR 07 50 21.1
comp=Z,206nm,18.1s,baz=202,slow=31
TXAR Lajitas Array 93.16 57 P **P 07 15 28.9 +1.0**
comp=Z,0.9nm,1.1s,baz=213,slow=6.0,SNR=6.4
TXAR LR LR 07 50 03.0
comp=Z,64nm,20.5s,baz=252,slow=31
comp=Z,0.9nm,1.1s
TXAR Lajitas Array 93.16 57 P **P 07 15 29.0 +1.0**
CMAR Chiang Mai Arr 94.07 289 P **P 07 15 33.1 +0.8**
comp=Z,1.0nm,0.3s,baz=141,slow=4.2,SNR=4.2
CMAR PP **PP 07 19 19.9 +0.9**
comp=Z,2.4nm,0.3s,baz=129,slow=6.7,SNR=5.1
comp=Z,1.0nm,0.3s
ANMO Albuquerque 94.49 51 *i* P **P 07 15 35.9 +1.8**
PZH PanZhiHua 96.18 297 P **P 07 15 44.0 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,6.3s
PDAR Pinedale Array 97.22 44 P Pdif 07 15 47.5 +1.1
comp=Z,0.4nm,0.8s,baz=234,slow=5.4,SNR=2.4
PDAR LR LR 07 52 26.7
comp=Z,98nm,20.4s,baz=227,slow=31
comp=Z,0.4nm,0.8s
HHC Hu-ho-hao-te 97.47 314 *e*P Pdif 07 15 50.1 +2.7
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,88nm,4.7s
G19K Purcell Mounta 99.17 8 P **Pdif 07 15 55.5 +1.3**
LZH Lanzhou 99.80 306 *e*P **Pdif 07 15 58.0 0.0**
LZH sP sP 07 16 05.2 -1.0
LZH pmax pmax
comp=Z,14nm,1.2s
YKA Yellowknife Ar 106.86 26 PKKPbc PKKPbc 07 31 55.4 -2.8
comp=Z,0.4nm,0.9s,baz=58,slow=3.6,SNR=6.0
YKA PKKPab **PKKPab 07 32 09.8 +0.6**
comp=Z,0.5nm,1.0s,baz=46,slow=4.2,SNR=5.4
WMQ Urumqi 114.34 308 PKP **PKiKP 07 20 56.9 +3.8**
WMQ PP **PP 07 21 51.5 +1.9**
WMQ SKS **SKSdf 07 28 02.5 -1.1**
WMQ LR LR
comp=Z,170nm,14.5s
MK31 Makanchi Array 118.92 309 **PKiKP 07 21 01.6 -0.3**
MK31 Makanchi Array 118.92 309*c* *i*PKIKP **PKiKP 07 21 03.4 +1.6**
MKAR Makanchi Array 118.92 309 **PKiKP 07 21 02.2 +0.3**
MKAR Makanchi Array 118.92 309 PKP **PKPdf 07 21 01.1 -0.7**
comp=Z,1.4nm,0.9s,baz=95,slow=1.4,SNR=8.6
MKAR Makanchi Array 118.92 309*c* *i*PKIKP **PKiKP 07 21 02.0 +0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
ZALV Zalesovo Beam 119.34 318 PKP **PKiKP 07 21 02.3 0.0**
comp=Z,0.5nm,0.5s,baz=85,slow=3.0,SNR=2.9
BOOM Boomskoye usch 122.06 303 PKPdf **PKiKP 07 21 08.0 -0.3**
BOOM Boomskoye usch 122.06 303 PKIKP **PKiKP 07 21 08.0 -0.3**
KURK Kurchatov 122.27 313 **PKiKP 07 21 09.1 +0.9**
KURK Kurchatov 122.27 313 *i* PKIKP **PKiKP 07 21 09.3 +1.1**
KURBB Kurchatov Arra 122.31 313 PKP **PKPdf 07 21 07.5 -0.6**
comp=Z,1.8nm,0.7s,baz=106,slow=1.8,SNR=16
AAK Ala-Archa 123.12 303 *i* PKIKP **PKiKP 07 21 11.1 +0.7**
KK31 Karatay Array 126.08 303 **PKiKP 07 21 16.0 -0.1**
KK31 Karatay Array 126.08 303 PKIKP **PKiKP 07 21 16.0 -0.1**
KKAR Karatay Array 126.08 303 **PKiKP 07 21 15.7 -0.3**
KKAR Karatay Array 126.08 303 PKIKP **PKiKP 07 21 15.7 -0.3**
BVAR Borovoye Array 127.66 315 PKP **PKiKP 07 21 18.6 -0.3**
comp=Z,2.4nm,0.7s,baz=96,slow=1.5,SNR=13
BRVK Borovoye 127.73 315 **PKiKP 07 21 19.0 +0.1**
BRVK Borovoye 127.73 315*c* *i*PKIKP **PKiKP 07 21 20.0 +1.0**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
ARTI Arti 134.53 320 *i* PKIKP **PKiKP 07 21 32.6 0.0**
ARTI 07 24 02.7
ARCES ARCESS Array B 140.22 347 PKP **PKiKP 07 21 43.2 -0.6**
comp=Z,1.8nm,0.7s,baz=51,slow=1.9,SNR=8.7
VRH Novokhopyorsk 145.31 315 *e*PKP2 **PKPbc 07 21 48.2 -2.5**
VRH pmax pmax
comp=Z,9.0nm,1.1s
MOS Moscow 145.75 324 *e*PKP2 **PKPdf 07 21 50.3 -1.1**
MOS pmax pmax
comp=Z,109nm,1.2s
GOF Gofitskoye 145.84 304*ce*PKIKP **PKPab 07 21 52.7 -0.4**
KBZ Khabaz 146.11 302 PKPbc **PKPab 07 21 53.4 -0.7**
comp=Z,15nm,1.0s,baz=98,slow=0.7,SNR=26
KBZ Khabaz 146.11 302*c* *i*PKP2 **PKPab 07 21 53.2 -0.9**
KIV Kislovodsk 146.24 302 **PKPab 07 21 54.2 -0.5**
KIV Kislovodsk 146.24 302 *e*PKP2 **PKPbc 07 21 53.0 -1.0**
KIV pmax pmax
comp=Z,17nm,1.1s
LPSR Galich'ya Gora 146.44 319 *e*PKIKP **PKPdf 07 21 51.9 -0.8**
LPSR pmax pmax
comp=Z,70nm,1.0s
OBN Obninsk 146.58 324 PKPdf **PKPab 07 21 54.4 -1.1**
OBN Obninsk 146.58 324 *e*PKIKP **PKPdf 07 21 52.7 -0.2**
OBN *e* 07 25 16.6
OBN pmax pmax
comp=Z,177nm,2.1s
VORR Voronezh 146.63 317 *e*PKIKP **PKPdf 07 21 52.4 -0.7**
VORR pmax pmax
comp=Z,40nm,1.0s
FINES FINESS Array B 146.72 339 PKPdf **PKPbc 07 21 53.5 -1.1**
FINES FINESS Array B 146.72 339 PKPbc **PKPbc 07 21 54.2 -0.5**
comp=Z,22nm,0.8s,baz=62,slow=4.5,SNR=46
VSR Storozhevoye 146.82 316 *e*PKIKP **PKPdf 07 21 51.9 -1.5**
VSR pmax pmax
comp=Z,30nm,1.0s
VORD Divnogorie 146.84 316 *e*PKIKP **PKPdf 07 21 52.6 -0.8**
VORD pmax pmax
comp=Z,20nm,0.9s
SOC Sochi 148.42 302 *e*PKHKP PKPpre 07 21 54.1
SOC *e*SS SS 07 44 29.7 -6.9
SOC *e*SSS SSS 07 50 08.3
SOC MLR MLR
comp=Z,84nm,18.0s
VSU Vasula 148.77 335*c* *i*PKP2 **PKiKP 07 22 01.9 +0.2**
VSU pmax pmax
comp=Z,37nm,1.3s
NB2 NORSAR Subarra150.39 351 PKP **PKPbc 07 22 03.9 -0.4**
comp=Z,13nm,1.1s,baz=17,slow=4.1
NOA NORSAR Array B 150.39 351 PKPbc **PKPbc 07 22 04.0 -0.2**
comp=Z,3.6nm,0.9s,baz=14,slow=4.1,SNR=9.4
HFS Hagfors 150.87 348 PKPbc **PKPbc 07 22 05.0 -0.4**
comp=Z,8.6nm,0.8s,baz=338,slow=0.8,SNR=12
HFS PKPab **PKPab 07 22 12.3 -0.3**
comp=Z,2.4nm,0.5s,baz=96,slow=3.0,SNR=9.4
BNN Bunyan 151.84 293 **PKiKP 07 22 09.2 +0.4**
MMAI Mount Meron Ar 152.02 281 PKPbc **PKiKP 07 22 09.6 +0.3**
comp=Z,5.6nm,0.6s,baz=76,slow=4.4,SNR=7.2
MMAI PKPab **PKPab 07 22 19.3 +0.8**
comp=Z,4.7nm,0.6s,baz=121,slow=3.2,SNR=5.3
SIM Simferopol' 152.06 307 *i* PKIKP **PKiKP 07 22 09.9 +1.0**
SIM pmax pmax
comp=Z,13nm,0.8s
SIM pmax pmax
comp=Z,31nm,1.5s
AKASG Malin Array Be 152.67 321 **PKiKP 07 22 10.6 +0.6**
AKASG Malin Array Be 152.67 321 PKPbc **PKiKP 07 22 09.4 -0.5**
comp=Z,7.7nm,0.9s,baz=52,slow=2.3,SNR=23
AKASG PKPab **PKPab 07 22 19.4 -1.1**
comp=Z,6.6nm,0.8s,baz=47,slow=4.2,SNR=14
AKBB Malin Array Si 152.67 321*c* *i*PKIKP **PKiKP 07 22 10.3 +0.3**
KIEV Kiev 152.68 321 **PKiKP 07 22 10.3 +0.3**
KIEV Kiev 152.68 321 PKIKP **PKiKP 07 22 10.3 +0.3**
ILGA Ilgaz 153.22 299 **PKiKP 07 22 12.9 +1.2**
BRTR Keskin Array B 153.46 296 **PKPbc 07 22 11.4 -0.7**
BRTR Keskin Array B 153.46 296 PKPbc **PKiKP 07 22 11.9 -0.3**
comp=Z,6.7nm,1.0s,baz=136,slow=3.1,SNR=16
BRTR PKPab **PKPab 07 22 24.1 -0.4**
comp=Z,4.8nm,0.9s,baz=86,slow=2.8,SNR=7.3
BRTR Keskin Array B 153.46 296 PKIKP **PKPbc 07 22 11.4 -0.7**
BUR08 Bucovina Ar. S 156.55 318 PKPab **PKPab 07 22 37.6 +0.4**
BURAR Bucovina Array 156.56 318 PKPab **PKPab 07 22 37.4 +0.1**
KOLS Kolonicke sedl 157.34 324 *e*PKP2 **PKPab 07 22 40.4 -0.1**
KOLS Kolonicke sedl 157.34 324 *e*PKP **PKPab 07 22 40.4 -0.1**
KOLS *e* 07 24 48.2
MORC Moravsky Berou 158.88 331 *e*PKP **PKPab 07 22 47.4 +0.2**
DPC Dobruska-Polom 158.89 334 *e*PKPAB **PKPab 07 22 47.5 +0.3**
DPC *ex* x 07 22 59.1
DPC Dobruska-Polom 158.89 334 *e*PKP2 **PKPab 07 22 47.5 +0.3**
CLL Collm 159.16 341 *e*PKIKP **PKPdf 07 22 15.0 +3.7**
CLL *e* 07 22 47.0
CLL pmax pmax
comp=Z,51nm,2.4s
PSZ Piszkesteto 159.19 325 PKPdf **PKPdf 07 22 12.5 +0.9**
PSZ **PKPab 07 22 48.9 +0.2**
PSZ Piszkesteto 159.19 325 PKIKP **PKPdf 07 22 12.5 +0.9**
PSZ 07 22 48.9
BRG Berggiesshubel 159.26 339 *e*PKP **PKPab 07 22 48.8 +0.1**
BRG Amp 07 22 49.9
comp=Z,8.4nm,1.2s
BRG Berggiesshubel 159.26 339 P PKPab 07 22 57.8 +9.1
BRG Amp 07 23 03.5
comp=Z,7.1nm,1.1s
VYHS Vyhne 159.29 327 *e*PKP2 **PKPab 07 22 49.0 +0.1**
VYHS Vyhne 159.29 327 *e*PKP **PKPab 07 22 49.0 +0.1**
VYHS *e* 07 24 57.3
JAVC Velka Javorina 159.53 330 *e*PKP **PKPab 07 22 51.0 +0.9**
VRAC Vranov 159.63 332 *e*PKP **PKPab 07 22 50.7 +0.3**
KRUC Moravsky 159.91 332 *e*PKP **PKPab 07 22 51.6 0.0**
MODS Modra-Piesok 160.07 329 *e*PKP2 **PKPab 07 22 52.9 +0.5**
MODS Modra-Piesok 160.07 329 *e*PKP **PKPab 07 22 52.9 +0.5**
ZVC Zvikov 160.42 336 *e*PKPAB **PKPab 07 22 54.6 +0.8**
KHC Kasperske Hory 160.89 337 *e*PKPAB **PKPab 07 22 56.2 +0.3**
KHC *ex* x 07 23 07.0
KHC Kasperske Hory 160.89 337 *e*PKP2 **PKPab 07 22 56.2 +0.3**
RONA Rosalia, Austr 161.01 330 *i* PKP **PKPab 07 22 56.6 +0.1**
comp=Z,2.1nm,0.5s
CONA Conrad Observa 161.02 331 *e*PKP **PKPab 07 22 56.8 +0.2**
comp=Z,0.7nm,0.4s
GERES GERESS Array B 161.09 336 PKPab **PKPab 07 22 55.8 -1.1**
comp=Z,1.4nm,0.9s,baz=56,slow=5.3,SNR=7.7
GRF Grafenberg Arr 161.11 342 *e*PKPab 07 22 56.3
baz=25,slow=4.0
BMRD Maredsous 161.65 355 *d*PKP **PKPab 07 22 59.1 +0.1**
MOA Molln 161.72 333 *i* PKP **PKPab 07 22 59.1 -0.5**
comp=Z,5.3nm,1.6s
BIOA Bad Ischl, Aus 162.09 334 *e*PKP **PKPab 07 23 01.1 -0.1**
comp=Z,7.6nm,1.1s
SOKA Soboth 162.35 330 *e*PKP **PKPab 07 23 01.8 -0.6**
comp=Z,1.1nm,0.5s
OBKA Obir 162.69 330 *e*PKP **PKPab 07 23 01.1 -2.8**
comp=Z,0.7nm,0.4s
KBA Koelnbreinsper 162.71 334 *i* PKP **PKPab 07 23 03.0 -1.1**
comp=Z,1.1nm,0.7s
WATA Walderalm 163.11 337 *e*PKP **PKPab 07 23 05.7 -0.1**
comp=Z,0.5nm,0.3s
WTTA Wattenberg 163.16 337 *i* PKP **PKPab 07 23 05.8 -0.3**
comp=Z,1.5nm,0.6s
MOTA Moosalm 163.25 338 *i* PKP **PKPab 07 23 06.1 -0.3**
comp=Z,3.3nm,0.9s
ABTA Abfaltersbach 163.30 335 *e*PKP **PKPab 07 23 05.8 -0.8**
comp=Z,2.1nm,0.9s
FETA Feichten 163.66 339 *i* PKP **PKPab 07 23 07.9 -0.4**
comp=Z,1.0nm,0.6s
FUORN Ofenpass-Fuorn 164.16 339 PKPab **PKPab 07 23 10.7 +0.1**
comp=Z,9.2nm,0.6s,baz=108,slow=7.0,SNR=17
comp=Z,9.2nm,0.6s
WR0 Warramunga Arr 43.93 274 P **P 07 12 28.7 -0.2**
WR8 Warramunga Arr 43.96 274 P **P 07 12 29.2 +0.1**
WB2 Warramunga Arr 44.09 274 P **P 07 12 31.3 +1.0**
WRAB Tennant Creek 44.10 274 P **P 07 12 31.3 +1.1**
WRAB IAmb IAmb 07 12 33.6
comp=Z,14nm,0.9s
WRA Warramunga Arr 44.10 274 P **P 07 12 31.3 +1.0**
WRA Warramunga Arr 44.10 274 P **P 07 12 30.7 +0.4**
comp=Z,8.5nm,0.4s,baz=112,slow=8.1,SNR=25
comp=Z,8.5nm,0.4s
WB0 Warramunga Arr 44.13 274 P **P 07 12 31.2 +0.7**
FORT Forrest 45.60 257 **P 07 12 43.0 +0.8**
SBA Scott Base 46.51 184 P **P 07 12 51.4 +2.8**
VNDA Vanda 46.57 186 P **P 07 12 52.1 +3.0**
MTN Manton Dam 50.17 280 P **P 07 13 18.0 +0.3**
MTN IAmb IAmb 07 13 20.9
comp=Z,6.3nm,0.8s
KNRA Kununurra 50.77 276 **P 07 13 22.5 +0.3**
KNRA IAmb IAmb 07 13 36.1
comp=Z,9.8nm,1.0s
FITZ Fitzroy Crossi 52.30 271 P **P 07 13 34.7 +1.1**
FITZ Fitzroy Crossi 52.30 271 P **P 07 13 33.7 +0.1**
comp=Z,9.0nm,0.7s,baz=159,slow=18,SNR=5.2
comp=Z,9.0nm,0.7s
PSA00 Pilbara Seismi 55.73 264 P **P 07 13 58.2 -0.4**
PSA00 IAmb IAmb 07 13 59.5
comp=Z,3.9nm,0.8s
MBWA Marble Bar 56.00 265 P **P 07 14 00.1 -0.5**
MBWA IAmb IAmb 07 14 08.1
comp=Z,11nm,1.1s
MORW Morawa 56.04 254 P **P 07 14 02.4 +1.6**
MORW IAmb IAmb 07 14 06.3
comp=Z,7.1nm,1.1s
QSPA South Pole Qui 58.19 180 P **P 07 14 18.8 +3.2**
QSPA South Pole Qui 58.19 180 P **P 07 14 17.8 +2.3**
comp=Z,1.8nm,0.6s,baz=78,slow=16,SNR=1.2
comp=Z,1.8nm,0.6s
BELA Belgrano 2 68.28 172 P P 07 15 27.1 +4.9
BELA IAmb IAmb 07 15 35.0
comp=Z,4.4nm,1.0s
TROLL Troll, Antarti 76.35 180 ⇑P **P 07 16 12.1 +1.5**
comp=Z,180nm,0.6s
SNAA Sanae 76.63 178 P **P 07 16 13.8 +1.8**
SNAA IAmb IAmb 07 16 27.2
comp=Z,9.0nm,1.1s
SNAA Sanae 76.63 178 ⇑P **P 07 16 13.2 +1.1**
comp=Z,82nm,0.7s
SNAA Sanae 76.63 178 P **P 07 16 12.9 +0.8**
comp=Z,4.4nm,0.9s,baz=151,slow=8.8,SNR=5.0
comp=Z,4.4nm,0.9s
VNA3 Neumayer Olymp 76.79 176 ⇑P **P 07 16 13.0 +0.1**
comp=Z,16nm,0.7s
VNA2 Neumayer--Watz 77.22 177 ⇑P **P 07 16 15.3 0.0**
comp=Z,12nm,0.6s,baz=178,slow=5.5
VNA1 Neumayer--Stat 77.45 177 ⇑P **P 07 16 18.0 +1.4**
comp=Z,8.4nm,0.6s
PLCA Paso Flores 81.52 133 P **P 07 16 39.5 +0.1**
comp=Z,2.8nm,1.1s,baz=258,slow=6.8,SNR=3.0
comp=Z,2.8nm,1.1s
KSRS Korea Array 85.46 320 P **P 07 16 59.8 +0.5**
comp=Z,1.1nm,0.8s,baz=148,slow=6.5,SNR=4.1
comp=Z,1.1nm,0.8s
PETK Petropavlovsk- 87.27 346 P **P 07 17 08.1 +0.2**
comp=Z,5.3nm,0.9s,baz=124,slow=8.0,SNR=3.9
comp=Z,5.3nm,0.9s
NVAR Mina Array Bea 89.41 43 P **P 07 17 18.5 -0.2**
comp=Z,1.4nm,0.8s,baz=219,slow=9.0,SNR=5.6
comp=Z,1.4nm,0.8s
TXAR Lajitas Array 93.27 57 P **P 07 17 36.7 +0.1**
comp=Z,0.2nm,0.8s,baz=240,slow=5.1,SNR=2.4
comp=Z,0.2nm,0.8s
MKAR Makanchi Array 118.69 309 PKP **PKPdf 07 23 08.5 -1.0**
comp=Z,0.4nm,0.5s,baz=62,slow=5.3,SNR=3.5
KURBB Kurchatov Arra 122.08 313 PKP **PKPdf 07 23 14.7 -1.1**
comp=Z,1.4nm,0.6s,baz=96,slow=1.9,SNR=5.8
BVAR Borovoye Array 127.44 315 PKP **PKPdf 07 23 26.2 +0.2**
comp=Z,1.4nm,0.6s,baz=118,slow=2.1,SNR=5.0
KBZ Khabaz 145.88 302 PKPbc **PKPbc 07 24 00.6 -0.3**
comp=Z,14nm,1.1s,baz=52,slow=2.9,SNR=4.9
FINES FINESS Array B 146.55 339 PKPbc **PKPdf 07 24 01.2 +0.5**
comp=Z,17nm,0.9s,baz=54,slow=3.4,SNR=17
NB2 NORSAR Subarra150.25 351 PKP **PKPbc 07 24 11.8 -0.3**
comp=Z,1.5nm,0.6s,baz=13,slow=4.3
NOA NORSAR Array B 150.25 351 PKPbc **PKPbc 07 24 10.9 -1.2**
comp=Z,1.8nm,0.9s,baz=38,slow=1.5,SNR=5.2
HFS Hagfors 150.72 348 PKPbc **PKPbc 07 24 11.1 -2.1**
comp=Z,4.3nm,0.7s,baz=341,slow=3.1,SNR=6.2
MMAI Mount Meron Ar 151.79 281 PKPbc **PKiKP 07 24 17.2 +0.1**
comp=Z,3.3nm,0.6s,baz=127,slow=3.8,SNR=3.8
AKASG Malin Array Be 152.45 321 PKPbc **PKPbc 07 24 17.1 -0.3**
comp=Z,3.9nm,0.8s,baz=59,slow=2.3,SNR=5.4
AKASG PKPab **sPKPbc 07 24 26.4 +0.2**
comp=Z,3.0nm,0.7s,baz=49,slow=4.5,SNR=6.0
BR104 Keskin Array S 153.23 296 PKP **PKPdf 07 24 12.7 +0.5**
BRTR Keskin Array B 153.23 296 PKPbc **PKPbc 07 24 18.9 -0.9**
comp=Z,1.9nm,0.6s,baz=136,slow=3.2,SNR=5.7
BR105 Keskin Array S 153.25 296 PKP **PKPdf 07 24 12.7 +0.4**
BRG Berggiesshubel 159.08 338 P **PKPab 07 24 56.3 +0.2**
BRG Amp 07 24 57.2
comp=Z,5.0nm,1.0s

*WEL **07** 07:04:19.3±0.9, 32°S±5°×17°8W±1°5, h12km, ML5.5/10, MLv5.3/24, Error ellipse: s-maj=20.3km s-min=3.0km az=106.0, confirmed*
*IDC **07** 07:04:19.8±0.6, 31°78S×177°96W, h0km, mb4.5/12, mbtmp4.4/14, ML4.5/2, Error ellipse: s-maj=24.4km s-min=20.2km az=15.0*
*NEIC **07** 07:04:26.5±1.6, 32°2S±0°1×178°5W±0°2, h10km±2km, mb4.6/28, Error ellipse: s-maj=24.1km s-min=20.3km az=111.0*

ISC 07 07:04:23.7±0.5, **31°93S**±0°05×**178°08W**±0°09, **h24**km, **n97**, σ1§**82**/106, **mb4.6**/27, **5C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.66**	**3**	P	**Pn**	**07 05 03.0**	**-2.1**
GLKZ				S	**Sn**	**07 05 36.2**	**-0.4**
RIZ	**Raoul Island**	**2.68**	**3**	P	**Pn**	**07 05 03.9**	**-1.5**
RIZ				S	**Sn**	**07 05 35.5**	**-1.5**
MXZ	**Matakaoa Point**	**6.36**	**207**	Pn	**Pn**	**07 05 53.1**	**-2.8**
MXZ	**Matakaoa Point**	**6.36**	**207**	S	**Sn**	**07 07 04.7**	**-3.0**
WMGZ	**Waiomatatini S**	**6.54**	**205**	S	**Sn**	**07 07 07.8**	**-4.4**
PKGZ	**Pakihiroa**	**6.71**	**207**	P	**Pn**	**07 05 58.4**	**-2.4**
PKGZ				S	**Sn**	**07 07 12.7**	**-3.7**
HAZ	**Te Kaha**	**6.73**	**209**	P	**Pn**	**07 06 02.1**	**+1.0**
HAZ				S	**Sn**	**07 07 17.3**	**+0.4**
PUZ	**Puketiti**	**6.82**	**205**	P	**Pn**	**07 05 58.9**	**-3.4**
PUZ				S	**Sn**	**07 07 15.1**	**-4.1**
RUGZ	**Raukumara Rang**	**6.95**	**209**	P	**Pn**	**07 06 03.6**	**-0.6**
RUGZ				S	**Sn**	**07 07 18.9**	**-3.7**
TWGZ	**Tauwhareparae**	**7.02**	**206**	S	**Sn**	**07 07 22.1**	**-2.0**
KUZ	**Kuaotunu**	**7.02**	**225**	P	Pn	07 06 11.6	+6.6
CNGZ	**Carnagh Statio**	**7.21**	**204**	S	**Sn**	**07 07 26.6**	**-2.1**
TKGZ	**Te Karaka**	**7.30**	**206**	P	**Pn**	**07 06 05.6**	**-3.2**
TKGZ				S	**Sn**	**07 07 28.4**	**-2.5**
MWZ	**Matawai**	**7.33**	**208**	S	**Sn**	**07 07 28.7**	**-3.1**
OPRZ	**Ohinepanea**	**7.36**	**215**	P	**Pn**	**07 06 10.0**	**+0.3**
OPRZ				S	**Sn**	**07 07 30.0**	**-2.5**
MARZ	**Manawahe**	**7.42**	**214**	S	**Sn**	**07 07 33.7**	**-0.2**
TGRZ	**Tauranga**	**7.42**	**217**	P	**Pn**	**07 06 10.9**	**+0.4**
TGRZ				S	**Sn**	**07 07 37.3**	**+3.4**
URZ	**Urewera**	**7.44**	**211**	Pn	**Pn**	**07 06 07.8**	**-2.9**
baz=37,slow=10							
URZ				Sn	**Sn**	**07 07 31.9**	**-2.5**
37nm,0.3s,baz=259,slow=19,SNR=11							
URZ	**Urewera**	**7.44**	**211**	S	**Sn**	**07 07 32.0**	**-2.5**
RAGZ	**Rawiri**	**7.51**	**208**	P	**Pn**	**07 06 11.2**	**-0.7**
RAGZ				S	**Sn**	**07 07 35.0**	**-1.4**
RIGZ	**Rimuhau**	**7.56**	**206**	S	**Sn**	**07 07 35.0**	**-2.6**
OUZ	**Omahuta**	**7.68**	**242**	P	Pn	07 06 20.3	+6.3
PRGZ	**Paritu Road**	**7.71**	**204**	S	**Sn**	**07 07 39.8**	**-1.4**
MUGZ	**Murupara**	**7.77**	**211**	S	**Sn**	**07 07 40.1**	**-2.5**
SNGZ	**Shannon Statio**	**7.79**	**207**	S	**Sn**	**07 07 40.5**	**-2.5**
RTZ	**Ruatahuna**	**7.79**	**210**	Pn	**Pn**	**07 06 14.4**	**-1.3**
RTZ	**Ruatahuna**	**7.79**	**210**	S	**Sn**	**07 07 40.4**	**-2.9**
TOZ	**Tahuroa Road**	**7.83**	**221**	Pn	**Pn**	**07 06 14.8**	**-1.2**
MHGZ	**Mahia Peninsul**	**7.91**	**203**	S	**Sn**	**07 07 42.8**	**-3.2**
MTHZ	**Maungataniwha**	**8.05**	**210**	S	**Sn**	**07 07 47.5**	**-2.0**
BKZ	**Black Stump Fm**	**8.46**	**210**	Pn	**Pn**	**07 06 23.7**	**-1.2**
NGZ	**Ngauruhoe**	**8.87**	**214**	S	**Sn**	**07 08 06.8**	**-3.0**
WAZ	**Wanganui**	**9.62**	**214**	S	**Sn**	**07 08 24.9**	**-3.1**
RPZ	**Rata Peaks**	**14.55**	**213**	Pn	**Pn**	**07 07 45.2**	**-2.9**
1.0nm,0.3s,baz=252,slow=3.2,SNR=1.9							
RPZ				Sn	Sn	07 10 13.5	-15
1.6nm,0.3s,baz=48,slow=16,SNR=3.6							
MSVF	**Nonsavu**	**14.56**	**345**	Pn	**Pn**	**07 07 45.1**	**-3.3**
0.2nm,0.3s,baz=147,slow=14,SNR=2.4							
5.0nm,0.7s							
DZM	**Mont Dzumac**	**16.91**	**302**	Pn	**Pn**	**07 08 19.9**	**+1.0**
0.3nm,0.3s,baz=103,slow=14,SNR=5.3							
12nm,1.1s							
ARMA	**Armidale**	**25.92**	**265**	P	**P**	**07 09 55.1**	**+0.9**
ARMA				IAmb	IAmb	07 10 03.1	
comp=Z,6.5nm,0.8s							
CAN	**Canberra**	**27.55**	**254**	P	**P**	**07 10 09.0**	**+0.2**
EIDS	**Eidsvold**	**27.78**	**276**	P	**P**	**07 10 12.1**	**+1.2**
EIDS				IAmb	IAmb	07 10 23.4	
comp=Z,7.3nm,0.9s							
TAU	**Tasmania Unive**	**29.39**	**238**	P	**P**	**07 10 24.0**	**-1.1**
TAU				IAmb	IAmb	07 10 30.7	
comp=Z,9.4nm,0.8s							
TOO	**Toolangi**	**30.32**	**249**	P	**P**	**07 10 32.6**	**-0.8**
STKA	**Stephens Creek**	**34.09**	**259**	P	**P**	**07 11 06.9**	**+0.4**
STKA	**Stephens Creek**	**34.09**	**259**	P	**P**	**07 11 06.4**	**-0.1**
comp=Z,4.3nm,0.7s,baz=110,slow=11,SNR=4.4							
comp=Z,4.3nm,0.7s							
MGBR	**Mount Gambier**	**34.22**	**249**	P	**P**	**07 11 07.9**	**+0.4**
BBOO	**Buckleboo**	**38.51**	**256**	P	**P**	**07 11 44.3**	**+0.1**
BBOO				IAmb	IAmb	07 11 45.7	
comp=Z,11nm,0.7s							
PMG	**Port Moresby**	**39.22**	**297**	P	**P**	**07 11 51.6**	**+1.3**
PMG				IAmb	IAmb	07 11 53.5	
comp=Z,9.9nm,0.8s							
PMG	**Port Moresby**	**39.22**	**297**	P	**P**	**07 11 51.7**	**+1.4**
comp=Z,10nm,0.8s,baz=193,slow=14,SNR=3.8							
comp=Z,10nm,0.8s							
COEN	**Coen**	**39.64**	**288**	P	**P**	**07 11 54.4**	**+0.6**
COEN				IAmb	IAmb	07 11 58.7	
comp=Z,9.0nm,0.8s							
AS31	**Alice Springs**	**42.98**	**269**	P	**P**	**07 12 21.6**	**+0.4**
ASAR	**Alice Springs**	**42.98**	**269**	P	**P**	**07 12 21.4**	**+0.2**
ASAR	**Alice Springs**	**42.98**	**269**	P	**P**	**07 12 21.9**	**+0.6**

*NEIC **07** 07:15:28.2±1.1, 8°19S±0°08×119°54E±0°05, h180km±8km, mb4.4/23, Error ellipse: s-maj=12.1km s-min=6.4km az=198.0*
*DJA **07** 07:15:28.1±0.2, 8°S±3°×12°0E±°, h172km±4km, M4.5/25, mb4.6/16, mB5.1/8, MLv4.5/25, Mw(mB)4.5/8*
*IDC **07** 07:15:31.8±1.8, 7°78S×120°20E, h219km±16km, mb3.6/7, mbtmp4.3/9, Error ellipse: s-maj=48.9km s-min=8.4km az=55.0*

ISC 07 07:15:27.6±0.4, **8°31S**±0°04×**119°58E**±0°04, **h170**km, **n115**, σ1§**59**/123, **mb4.3**/20, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.33**	**188**	P	**Pn**	**07 15 58.2**	**+1.0**
WBSI				S	**Sn**	**07 16 21.0**	**+0.8**
WSI	**Waingapu**	**1.52**	**152**	P	**Pn**	**07 16 00.1**	**+1.1**
WSI				S	**Sn**	**07 16 23.9**	**+0.7**
PLAI	**Plampang**	**1.86**	**254**	P	**Pn**	**07 16 03.2**	**+0.8**
PLAI	**Plampang**	**1.86**	**254**	P	**Pn**	**07 16 03.1**	**+0.7**
PLAI				S	**Sn**	**07 16 29.0**	**-0.4**
EDFI	**Ende, Flores**	**2.13**	**102**	P	**Pn**	**07 16 06.5**	**+0.9**
BASI	**Baing, Sumba**	**2.13**	**153**	P	**Pn**	**07 16 06.8**	**+1.3**
BASI				S	**Sn**	**07 16 36.6**	**+1.7**
BSSI	**Bau Bau, Buton**	**2.33**	**23**	P	**Pn**	**07 16 07.8**	**-0.1**
MMRI	**Maumere**	**2.65**	**97**	Pn	**Pn**	**07 16 12.9**	**+1.4**
MMRI	**Maumere**	**2.65**	**97**	P	**Pn**	**07 16 13.2**	**+1.7**
MMRI	**Maumere**	**2.65**	**97**	S	**Sn**	**07 16 46.9**	**+1.4**
MMRI	**Maumere**	**2.65**	**97**	P	**Pn**	**07 16 12.7**	**+1.2**
TWSI	**Taliwang, Sumb**	**2.71**	**261**	P	**Pn**	**07 16 12.3**	**+0.1**
BKSI	**Bulukumba**	**3.02**	**10**	P	**Pn**	**07 16 16.1**	**0.0**
KAPI	**Kappang**	**3.28**	**3**	Pn	**Pn**	**07 16 19.8**	**+0.4**
KAPI	**Kappang**	**3.28**	**3**	P	**Pn**	**07 16 19.3**	**0.0**
78nm,0.5s,baz=173,slow=8.3,SNR=70							
KAPI				S	Sn	07 16 47.7	-12
17nm,0.3s,baz=202,slow=16,SNR=1.7							
KAPI	**Kappang**	**3.28**	**3**	P	**Pn**	**07 16 19.5**

UGM	Wanagama	8.98	272	Pn	Pn	07 17 33.4	-0.5
UGM	Wanagama	8.98	272	P	Pn	07 17 34.3	+0.3
UGM	Wanagama	8.98	272	P	Pn	07 17 33.7	-0.3
69nm,1.8s							
SMRI	Semarang	9.15	277	Pn	Pn	07 17 36.5	+0.4
SMRI	Semarang	9.15	277	P	Pn	07 17 36.7	+0.5
FITZ	Fitzroy Crossi	11.37	149	P	Pn	07 18 06.7	+1.4
6.1nm,0.4s,baz=329,slow=7.2,SNR=55							
FITZ				S	Sn	07 20 04.8	-6.6
23nm,0.5s,baz=206,slow=19,SNR=10							
FITZ	Fitzroy Crossi	11.37	149	P	Pn	07 18 06.5	+1.2
KNRA	Kununurra	11.58	130		Pn	07 18 07.9	-0.1
BBJI	Bungbulang	11.85	273	P	Pn	07 18 13.2	+1.6
MTN	Manton Dam	12.21	113	Pn	Pn	07 18 16.1	0.0
MTN	Manton Dam	12.21	113	P	Pn	07 18 16.6	+0.5
MBWA	Marble Bar	12.77	179	Pn	Pn	07 18 24.8	+1.5
MBWA	Marble Bar	12.77	179	P	P	07 18 26.3	-1.5
PSA00	Pilbara Seismi	13.19	179	Pn	Pn	07 18 29.2	+0.7
PSA00	Pilbara Seismi	13.19	179	P	P	07 18 32.6	+0.2
KSM	Kuching	13.42	316	Pn	Pn	07 18 29.3	-2.2
FAKI	Fak Fak	13.69	68	Pn	Pn	07 18 33.3	-1.7
FAKI	Fak Fak	13.69	68	P	Pn	07 18 33.3	-1.7
FAKI	Fak Fak	13.69	68	P	Pn	07 18 33.4	-1.6
1um75nm,0.7s							
SWI	Sorong	13.79	58	P	Pn	07 18 36.4	+0.3
CGJI	Cibinong	13.88	276	P	Pn	07 18 38.1	+0.8
GIRL	Giralia	15.15	199	P	P	07 18 56.3	+2.2
MNAI	Manna	16.98	282	P	P	07 19 13.2	-1.3
MNAI	Manna	16.98	282	P	Pn	07 19 15.6	+0.2
BAKI	Biak	17.91	68	P	Pn	07 19 28.9	+2.5
MEEK	Meekatharra	18.25	183	P	Pn	07 19 30.8	+0.5
WB0	Warramunga Arr	18.31	130	P	P	07 19 29.5	+0.5
WB0				IAmb	IAmb	07 19 32.0	
comp=Z,21nm,0.7s							
WRA	Warramunga Arr	18.38	131	P	P	07 19 29.7	0.0
WRA	Warramunga Arr	18.38	131	P	P	07 19 30.0	+0.3
comp=Z,7.4nm,0.3s,baz=303,slow=12,SNR=205							
WRA				S	S	07 22 47.4	-3.5
comp=Z,9.5nm,0.9s,baz=305,slow=25,SNR=7.8							
WRAB	Tennant Creek	18.38	130	P	P	07 19 30.1	+0.3
WRAB				IAmb	IAmb	07 19 30.9	
comp=Z,18nm,0.7s							
WB2	Warramunga Arr	18.39	131	P	P	07 19 30.3	+0.5
WR0	Warramunga Arr	18.54	130	P	P	07 19 32.1	+0.6
WRKA	Warakurna	18.59	154	P	Pn	07 19 34.2	-0.2
AS31	Alice Springs	20.53	140	P	P	07 19 53.6	+0.7
AS31				IAmb	IAmb	07 19 56.5	
comp=Z,8.5nm,0.6s							
ASAR	Alice Springs	20.53	140	P	P	07 19 53.7	+0.8
comp=Z,14nm,0.5s,baz=315,slow=9.8,SNR=148							
ASAR				S	S	07 23 31.5	-1.8
comp=Z,5.1nm,0.8s,baz=317,slow=20,SNR=18							
comp=Z,14nm,0.5s							
AS01	Alice Springs	20.56	140	P	P	07 19 53.6	+0.4
comp=Z,22nm,0.6s							
MORW	Morawa	20.91	189	P	P	07 19 58.8	+1.9
MORW				IAmb	IAmb	07 20 16.4	
comp=Z,29nm,1.4s							
MORW	Morawa	20.91	189	P	P	07 19 59.2	+2.3
BLDU	Ballidu	22.35	187	P	P	07 20 13.5	+1.8
QIS	Mount Isa	22.86	124	P	P	07 20 17.4	+0.9
KULM	Kulim	23.22	305	P	P	07 20 17.8	-2.0
KULM				IAmb	IAmb	07 20 28.6	
comp=Z,6.7nm,0.8s							
KLBR	Kellerberrin	23.23	184	P	P	07 20 21.8	+2.1
RPSI	Rantau Prapat	23.32	297	P	P	07 20 19.4	-1.3
RPSI				IAmb	IAmb	07 20 23.4	
comp=Z,3.3nm,0.8s							
FORT	Forrest	23.71	162	P	P	07 20 25.1	+1.0
FORT				IAmb	IAmb	07 20 30.7	
comp=Z,14nm,0.7s							
FORT	Forrest	23.71	162	P	P	07 20 26.8	+2.7
COEN	Coen	23.81	106	P	P	07 20 25.2	0.0
COEN	Coen	23.81	106	P	P	07 20 25.4	+0.2
OOD	Oodnadatta	24.64	144	P	P	07 20 33.7	+1.1
INKA	Innaminka	27.81	137	P	P	07 21 02.1	+1.1
LCRK	Leigh Creek	28.09	144	P	P	07 21 04.3	+0.9
BBOO	Buckleboo	28.76	150	P	P	07 21 10.2	+0.8
BBOO				IAmb	IAmb	07 21 10.9	
comp=Z,11nm,0.6s							
BBOO	Buckleboo	28.76	150	P	P	07 21 09.8	+0.4
comp=Z,20nm,0.6s							
HTT	Hallett	30.72	147	P	P	07 21 28.2	+1.4
STKA	Stephens Creek	31.12	142	P	P	07 21 31.5	+1.2
STKA	Stephens Creek	31.12	142	P	P	07 21 31.3	+1.0
comp=Z,8.3nm,0.5s,baz=318,slow=9.2,SNR=25							
comp=Z,8.3nm,0.5s							
STKA	Stephens Creek	31.12	142	P	P	07 21 31.4	+1.1
CMSA	Cobar Meteorol	33.54	137	P	P	07 21 53.1	+1.8
ARPS	Mount Arapiles	34.81	148	P	P	07 22 03.8	+1.6
ARMA	Armidale	37.16	131	P	P	07 22 24.5	+2.1
ARMA				IAmb	IAmb	07 22 40.9	
comp=Z,6.5nm,1.0s							
PZH	PanZhiHua	38.70	334	P	P	07 22 37.5	+2.2
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,120nm,6.2s							
TATA	Tatamba Isabel	39.78	93	P	P	07 22 44.1	-0.3
NJ2	Nanjing	40.14	359	eP	P	07 22 48.8	+1.8
NJ2				pmax	pmax		
comp=Z,21nm,0.5s							
XAN	Xi'an	43.32	347	P	P	07 23 17.2	+4.4
XAN				pmax	pmax		
comp=Z,7.0nm,0.7s							
LZH	Lanzhou	46.58	342	eP	P	07 23 41.5	+2.8
LZH				pmax	pmax		
comp=Z,16nm,1.3s							
DZM	Mont Dzumac	47.05	112	P	P	07 23 42.8	+0.3
DZM				IAmb	IAmb	07 24 07.0	
comp=Z,12nm,1.1s							
HHC	Hu-ho-hao-te	49.47	352	eP	P	07 24 03.1	+2.4
HHC				pmax	pmax		
comp=Z,8.0nm,0.8s							
ULN	Ulaanbaatar	57.02	350	P	P	07 24 54.0	-1.7
ULN				IAmb	IAmb	07 24 55.1	
comp=Z,2.1nm,0.6s							
SONM	Songino Array	57.11	349	P	P	07 24 54.5	-1.9
SONM	Songino Array	57.11	349	P	P	07 24 53.7	-2.6
comp=Z,0.6nm,0.5s,baz=164,slow=8.4,SNR=5.7							
comp=Z,0.6nm,0.5s							
WMQ	Urumqi	59.40	334	eP	P	07 25 13.6	+1.4
WMQ				LR	LR		
comp=Z,130nm,22.5s							
MK31	Makanchi Array	64.11	332	P	P	07 25 41.9	-1.8
MKAR	Makanchi Array	64.11	332	P	P	07 25 41.7	-1.9
MKAR	Makanchi Array	64.11	332	P	P	07 25 41.5	-2.2
comp=Z,1.4nm,0.5s,baz=145,slow=7.5,SNR=15							
comp=Z,1.4nm,0.5s							
ZALV	Zalesovo Beam	68.61	339	P	P	07 26 09.2	-2.8
ZALV	Zalesovo Beam	68.61	339	P	P	07 26 08.2	-3.8
comp=Z,0.8nm,0.3s,baz=151,slow=9.8,SNR=3.8							
comp=Z,0.8nm,0.3s							
KURBB	Kurchatov Arra	68.61	333	P	P	07 26 09.1	-3.0
comp=Z,0.4nm,0.5s,baz=141,slow=5.5,SNR=6.4							
comp=Z,0.4nm,0.5s							
KURK	Kurchatov	68.64	333	P	P	07 26 10.2	-2.1
KURK				IAmb	IAmb	07 26 26.3	
comp=Z,4.0nm,1.3s							
MAW	Mawson	70.08	200	P	P	07 26 18.7	-2.1
MAW				IAmb	IAmb	07 26 31.4	
comp=Z,7.9nm,0.9s							
VNDA	Vanda	72.57	171	P	P	07 26 35.6	-0.1
VNDA	Vanda	72.57	171	P	P	07 26 37.1	+1.4
comp=Z,0.4nm,0.4s,baz=322,slow=8.5,SNR=5.4							
comp=Z,0.4nm,0.4s							
QSPA	South Pole Qui	81.68	180	P	P	07 27 26.6	-0.2

SJA 07 07:23:28.1±0.8, 31°81S×69°12W, h113km±2km, ML3.4, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.15	273	eP	Pn	07 23 44.3	+0.2
RTLS				eS	Sn	07 23 57.0	+0.8
RTLS				IAML		07 23 57.0	
comp=Z,4μm,0.2s							
ZON	Zonda	0.46	56	eP	Pn	07 23 45.8	+0.7
ZON				eS	Sn	07 23 59.0	+1.1
ZON				IAML		07 24 00.8	
comp=Z,1μm,0.4s							
SJA	San Juan	0.55	60	eP	Pn	07 23 46.0	+0.3
SJA				IAML		07 24 00.8	
comp=Z,490nm,0.2s							
SJA				eS	Sn	07 24 00.9	+2.0
RTLL	Cerro Villicun	0.73	49	eP	Pn	07 23 48.0	+0.9
RTLL				eS	Sn	07 24 02.7	+1.4
CFA	Coronel Fontan	0.78	75	eP	Pn	07 23 48.1	+0.6
CFA				eS	Sn	07 24 03.2	+1.1
ASAL	Salagasta	0.82	163	eP	Pn	07 23 48.9	+1.0
ASAL				IAML		07 24 05.0	
comp=Z,927nm,0.5s							
DOCA	Reserva Natura	0.86	2	eP	Pn	07 23 49.0	+0.5
DOCA				eS	Sn	07 24 02.0	-2.0
DOCA				IAML		07 24 05.8	
comp=Z,465nm,0.6s							
ARCO	CERRO ARCO	1.04	171	eP	Pn	07 23 51.1	+0.9
ARCO				eS	Sn	07 24 06.8	0.0
ACCO	Cerro Coronel	1.22	2	eP	Pn	07 23 54.7	+2.4
ACCO				eS	Sn	07 24 14.0	+3.6
AAGR	Agrelo	1.30	169	eP	Pn	07 23 53.8	+0.9
AAGR				eS	Sn	07 24 12.8	+1.1
AAGR				IAML		07 24 14.6	
comp=Z,646nm,0.4s							
VA03	San Esteban	1.54	231	eP	Pn	07 23 56.1	+0.4
VA03				eS	Sn	07 24 18.2	+1.5
VA03				IAML		07 24 22.6	
comp=Z,641nm,0.2s							
ACDV	Cuesta del Vie	1.63	0	eP	Pn	07 23 58.2	+1.3
ACDV				eS	Sn	07 24 20.8	+2.1
ACDV				IAML		07 24 21.2	
comp=Z,306nm,0.4s							
CO03	El Pedregal	1.65	305	eP	Pn	07 23 57.8	+0.8
CO03				eS	Sn	07 24 20.1	+1.1
CO03				IAML		07 24 24.0	
comp=Z,406nm,0.3s							
AROD	Rodeo	1.66	349	eP	Pn	07 23 58.8	+1.4
AROD				eS	Sn	07 24 14.8	-4.8
CO02	Combarbal	1.71	290	eP	Pn	07 23 55.4	-2.4
CO02				eS	Sn	07 24 21.5	+1.1
CO02				IAML		07 24 23.1	
comp=Z,746nm,0.2s							
AVIZ	Vizcacheras	1.74	163	eP	Pn	07 23 59.5	+1.5
MT08	Bocatoma Ro	1.80	205	eP	Pn	07 24 00.2	+1.3
MT08				eS	Sn	07 24 22.0	-0.5
MT08				IAML		07 24 29.0	
comp=Z,137nm,0.4s							
MT04	Ro Olivares	1.81	208	eP	Pn	07 24 00.2	+1.2
MT04				eS	Sn	07 24 35.3	+13
MT04				IAML		07 24 35.8	
comp=Z,104nm,0.2s							
AVFE	Valle Fertil	1.83	52	eP	Pn	07 24 00.3	+1.1
AVFE				eS	Sn	07 24 24.6	+1.7
AVFE				IAML		07 24 26.1	
comp=Z,185nm,0.3s							
PEL	Peldehue	1.88	224	eP	Pn	07 23 60.0	+0.2
PEL				eS	Sn	07 24 24.8	+0.9
ROC1	El Roble	1.98	233	eP	Pn	07 24 00.4	-0.8
ROC1				eS	Sn	07 24 25.8	-0.7
CO01	Juntas del Tor	2.01	335	eP	Pn	07 24 03.5	+1.9
CO01				eS	Sn	07 24 30.2	+3.1
CO01				IAML		07 24 31.2	
comp=Z,211nm,0.6s							
MT03	Universidad Ad	2.05	214	eP	Pn	07 24 02.7	+0.8
MT03				eS	Sn	07 24 29.4	+1.6
MT03				IAML		07 24 32.1	
comp=Z,480nm,0.2s							
MT05	Renca	2.09	220	eP	Pn	07 24 02.7	+0.3
MT05				eS	Sn	07 24 29.9	+1.3
MT05				IAML		07 24 31.4	
comp=Z,373nm,0.3s							
MT13	San Alfonso	2.17	207	eP	Pn	07 23 60.0	-3.5
MT13				eP		07 24 04.4	
MT13				eS	Sn	07 24 33.8	+3.3
MT13				IAML		07 24 36.9	
comp=Z,117nm,0.5s							
GO04	Tololo Observa	2.17	318	eP	Pn	07 24 03.7	0.0
GO04				eS	Sn	07 24 31.5	+0.6
ACHE	Chepes	2.20	74	eP	Pn	07 24 05.0	+1.2
ACHE				eS	Sn	07 24 26.3	-4.9
LMEL	Las Melosas	2.23	204	eP	Pn	07 24 05.5	+1.2
LMEL				eS	Sn	07 24 38.4	+6.4
MT02	Curacav	2.23	229	eP	Pn	07 24 03.5	-0.8
MT02				eS	Sn	07 24 31.2	-0.7
MT02				IAML		07 24 39.1	
comp=Z,145nm,0.2s							
AGUA	GUANDACOL	2.38	13	eP	Pn	07 24 07.7	+1.5
AGUA				eS	Sn	07 24 30.6	-4.7
AGUA				IAML		07 24 46.8	
comp=Z,142nm,0.3s							
VA01	Torpederas	2.46	240	eS	Sn	07 24 33.9	-3.1
VA01				IAML		07 24 43.4	
comp=Z,122nm,0.2s							
APLL	PUNTA DE LOS L	2.63	58	eP	Pn	07 24 10.3	+0.9
APLL				eS	Sn	07 24 41.9	+0.7
MT01	Popeta	2.72	221	eP	Pn	07 24 08.7	-1.9
MT01				eS	Sn	07 24 41.1	-2.1
MT01				IAML		07 24 47.9	
comp=Z,135nm,0.4s							
MRA	San Martin	2.95	103	eP	Pn	07 24 14.7	+1.1
MRA				eS	Sn	07 24 41.1	-7.6
MRA				IAML		07 25 12.1	
comp=Z,240nm,0.5s							
ACLC	CERRO LA CRUZ	3.02	39	eP	Pn	07 24 15.7	+1.1
ACLC				eS	Sn	07 24 53.2	+2.7
ACLC				IAML		07 24 54.7	
comp=Z,52nm,0.3s							
BO01	Tunca	3.06	212	eP	Pn	07 24 13.2	-1.7
BO01				eS	Sn	07 24 50.4	-0.7
BO01				IAML		07 24 51.9	
comp=Z,64nm,0.2s							
LCO	Las Campanas	3.10	334	eP	Pn	07 23 56.8	-19
LCO				eS	Sn	07 24 52.4	-0.1
AC05	El Transito	3.12	341	eP	Pn	07 24 17.4	+1.5
AC05				eS	Sn	07 24 53.7	+0.9
AC05				IAML		07 24 54.5	
comp=Z,150nm,0.3s							
VCA	Vinchina	3.16	15	eP	Pn	07 24 18.3	+1.8
VCA				eS	Sn	07 24 56.3	+2.5
VCA				IAML		07 24 57.5	
comp=Z,150nm,0.5s							
BO02	Sierra Bellavi	3.29	205	eS	Sn	07 24 58.0	+1.4
BO02				IAML		07 25 03.9	
comp=Z,86nm,0.1s							
AC04	Llanos de Chal	3.97	334	eP	Pn	07 24 27.0	-0.1
AC04				eS	Sn	07 25 11.7	-1.2
AC04				IAML		07 25 26.0	
comp=Z,42nm,0.6s							
GO03	Copiapo	4.31	347	eP	Pn	07 24 31.9	+0.1
GO03				eS	Sn	07 25 19.8	-1.3
CYA	Choya	4.42	41	eP	Pn	07 24 33.0	-0.2
CYA				eS	Sn	07 25 23.0	-0.7
CYA				IAML		07 25 23.5	
comp=Z,24nm,0.3s							
AC02	Maricunga	4.95	360	eP	Pn	07 24 41.9	+1.1
AC02				eS	Sn	07 25 36.5	-0.8
AC02				IAML		07 25 42.9	
comp=Z,18nm,0.8s							

*CATAC **07** 07:38:01.2±0.9, 10°N±3°×8°7W±°, h35km±18km, M3.4/13, MLv3.4/13, Error ellipse: s-maj=9.7km s-min=4.1km az=46.9, confirmed*
*UCR **07** 07:38:04.1±1.2, 10°68N×86°36W, h0km±214km, MW3.8*
ISC 07 07:38:00.1±1.4, 10°48N±0°05×86°65W±0°07, h23km, n29, σ0°75/33, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIBA	Liberia Airpor	1.10	84	eP	Pb	07 38 21.5	+1.1
INDI	Punta indio, G	1.29	118	S	Sb	07 38 39.9	0.0
INDI	Punta indio, G	1.29	118	P	Pb	07 38 24.3	+0.6
CMARA	Lajas Hojancha	1.30	111	S	Sb	07 38 40.5	+0.4
CMARA	Lajas Hojancha	1.30	111	P	Pn	07 38 23.0	+0.2
VRLE	La Escondida,	1.30	76	eP	Pb	07 38 24.0	0.0
CARN	Rivas	1.31	58	P	Pn	07 38 23.3	+0.2
CARN				S	Sb	07 38 41.5	+1.0
BAGA	Bagaces	1.37	88	eP	Pb	07 38 26.6	+1.5
PEJA	Penjamo Buenos	1.38	73	eP	Pb	07 38 25.8	+0.5
JAPN	Al SSO del Vol	1.41	43	P	Pn	07 38 25.0	+0.6
CONN	Concepcion	1.47	43	P	Pn	07 38 25.1	-0.2
CONN				S	Sb	07 38 45.1	0.0
CUI	Cuipilapa	1.48	83	eP	Pb	07 38 26.8	-0.1
NANN	Nandasmo	1.54	20	P	Pb	07 38 27.6	-0.4
NANN	Nandasmo	1.54	20	S	Sn	07 38 45.9	+0.5
UNAN	Cigeo UNAN	1.66	13	P	Pn	07 38 28.4	+0.6
UNAN				S	Sb	07 38 50.3	-0.2
JTS	Las Juntas de	1.69	96	eP	Pb	07 38 29.7	-0.8
COPN	Copaltepe	1.69	2	P	Pn	07 38 28.0	-0.2
TISN	Laguna Tiscapa	1.69	13	P	Pn	07 38 27.8	-0.5
QUEB	Quebradon, Cot	1.73	85	eP	Pb	07 38 31.0	-0.3
CNGN	Cerro Negro	2.00	359	P	Pn	07 38 32.2	-0.4
BOAB	BOACO BROADBAN	2.18	26	P	Pn	07 38 34.3	-0.6
ACOS	Acosta	2.54	105	eP	Pb	07 38 44.2	-1.0
CSGN	Cosiguina Volc	2.63	340	P	Pn	07 38 41.3	+0.1
CSGN				S	Sn	07 39 11.7	-0.9
ABE2	San Pablo	2.67	107	eP	Pb	07 38 45.8	-1.7
CVTG	V. Turrialba,	2.85	96	eP	Pb	07 38 49.3	-1.1
CNCH	Conchagua	3.00	338	S	Sn	07 39 21.3	-0.6
CNCH	Conchagua	3.00	338	P	Pn	07 38 47.3	+0.8
RCPN	Sur Rio San Ju	3.07	10	P	Pn	07 38 47.5	+0.1
SCLA	Alcaldia de Sa	3.79	328	P	Pn	07 38 58.5	+1.4

*UCR **07** 07:45:46.1±0.8, 11°33N×86°80W, h24km±7km, MW4.1*
*CATAC **07** 07:45:47.1±0.6, 11°N±3°×8°7W±°, h19km±4km, M3.6/30, MLv3.6/30, Error ellipse: s-maj=6.4km s-min=3.8km az=36.1, confirmed*
ISC 07 07:45:45.8±1.7, 11°33N±0°05×86°75W±0°05, h16km±11km, n49, σ0°81/57, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABN	Sabanita	0.85	43	P	Pg	07 46 01.7	-0.6
COPN	Copaltepe	0.86	11	P	Pg	07 46 02.7	+0.1
NANN	Nandasmo	0.87	46	P	Pn	07 46 04.2	+0.8
MAS3	Al N del Volca	0.90	39	P	Pb	07 46 03.1	+0.1
ABCN	Banco Central	0.90	29	P	Pn	07 46 03.9	0.0
UNAN	Cigeo UNAN	0.91	31	P	Pb	07 46 03.5	+0.3
ENAN	Enatrel Managu	0.92	32	P	Pg	07 46 04.1	+0.5
TISN	Laguna Tiscapa	0.94	30	P	Pg	07 46 04.2	+0.2
ALLN	Telcor Managua	0.95	30	P	Pg	07 46 04.5	+0.4
MGAN	Managua	0.95	31	P	Pb	07 46 04.3	+0.3
R4DEC	Barrio San Lui	0.95	31	P	Pb	07 46 04.4	+0.4
R4DEC	Barrio San Lui	0.95	31	S	Sb	07 46 15.2	-1.2
APQ2	Apoyeque	0.96	26	P	Pb	07 46 04.3	+0.2
JAPN	Al SSO del Vol	1.07	79	P	Pb	07 46 06.4	+0.4
LEVN	Ruinas Leon Vi	1.08	7	P	Pb	07 46 06.1	+0.1
LEVN				S	Sn	07 46 21.4	+0.5
MOMN	Momotombo	1.09	11	P	Pb	07 46 06.0	-0.4
MOMN				S	Sb	07 46 20.3	-0.2
LCRUZ	La Cruz	1.13	103	eP	Pb	07 46 07.2	+0.2
LCRUZ				eS	Sn	07 46 23.2	+1.0
CONN	Concepcion	1.13	78	P	Pb	07 46 06.8	-0.2
CONN				S	Sn	07 46 22.8	+0.5
CNGA	Al SSO del Vol	1.16	3	P	Pn	07 46 07.1	-0.4
CNGN	Cerro Negro	1.17	3	eP	Pn	07 46 07.0	-0.6
CNGN	Cerro Negro	1.17	3	P	Pn	07 46 07.2	-0.3
CARN	Rivas	1.22	96	P	Pn	07 46 08.3	+0.2
CARN				S	Sn	07 46 24.7	+0.4
ILCN	San Idelfonso	1.24	2	P	Pn	07 46 07.1	-1.5
ILCN				S	Sb	07 46 23.8	-1.0
PLRN	Geotermica Pol	1.25	359	P	Pn	07 46 07.6	-1.0
ALIBA	Liberia Airpor	1.39	121	eP	Pn	07 46 10.1	-0.5
CRIN	San Cristobal	1.40	348	P	Pn	07 46 10.5	-0.2
PEJA	Penjamo Buenos	1.48	107	eP	Pn	07 46 11.3	-0.5
BOAB	BOACO BROADBAN	1.54	44	P	Pn	07 46 12.1	-0.6
ACON	Acoyapa	1.67	67	eP	Pn	07 46 13.8	-0.7
ACON	Acoyapa	1.67	67	P	Pn	07 46 14.0	-0.5
PLVR	Palo Verde	1.69	125	eP	Pn	07 46 12.9	-1.9
LIMN	Finca el Limon	1.77	12	P	Pn	07 46 15.5	-0.3
MATN	Matagalpa	1.79	27	P	Pn	07 46 15.8	-0.3
CSGN	Cosiguina Volc	1.82	334	eP	Pn	07 46 15.7	-0.9
CSGN	Cosiguina Volc	1.82	334	P	Pn	07 46 16.7	+0.2
CSGN				S	Sn	07 46 39.7	+0.3
POTN	Potosi Cosigui	1.82	336	P	Pn	07 46 16.1	-0.3
POTN				S	Sn	07 46 36.5	-2.7
VERA	Finca Concepci	1.91	104	eP	Pn	07 46 18.2	+0.5
JTS	Las Juntas de	2.05	120	eP	Pn	07 46 18.5	-1.1
CNCH	Conchagua	2.21	332	P	Pn	07 46 22.0	+0.1
CNCH	Conchagua	2.21	332	S	Sn	07 46 49.2	+0.2
RCPN	Sur Rio San Ju	2.28	16	P	Pn	07 46 23.2	+0.3
SOCE	Pocosol	2.30	114	P	Pn	07 46 24.6	+1.5
RCVN	Varillal2	2.31	14	S	Sn	07 46 53.3	+1.7
RCVN	Varillal2	2.31	14	P	Pn	07 46 24.0	+0.7
TGUH	Tegucigalpa,Un	2.76	349	P	Pn	07 46 30.2	+0.7
SCLA	Alcaldia de Sa	3.05	321	P	Pn	07 46 33.7	+0.3
COEG	Centro de Oper	3.08	318	P	Pn	07 46 34.9	+0.9
PMON	Piamonte	3.44	314	P	Pn	07 46 40.3	+1.3
JAYA	Jayaque - finc	3.50	312	P	Pn	07 46 40.5	+0.7

*IDC **07** 07:46:39.8±3.6, 36°25N×70°29E, h182km±30km, mb3.6/16, mbtmp4.1/21, Error ellipse: s-maj=24.0km s-min=14.4km az=15.0*
*NEIC **07** 07:46:43.1±1.5, 36°53N±0°08×70°21E±0°09, h216km±10km, mb4.2/4, Error ellipse: s-maj=11.4km s-min=10.0km az=172.0*
*NNC **07** 07:46:48.2±1.4, 36°93N×70°39E, h208km±20km, mb3.5, mpv4.4, Error ellipse: s-maj=14.2km s-min=8.9km az=18.0*
ISC 07 07:46:43.0±0.6, 36°55N±0°06×70°46E±0°06, h204km, n73, σ1°92/83, mb3.8/18, 4C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.31	210	Pn	Pn	07 47 24.8	-0.6
SIMJ	Simiganj	2.40	332		Pn	07 47 26.4	+0.2
GAR	Garm	2.45	357		Pn	07 47 27.6	+0.9
DRK	Karamyk	3.11	20		Pn	07 47 36.4	+2.0
BTK	Batken	3.52	5	Pn	Pn	07 47 41.3	+2.2
NIL	Nilore	3.69	141		Pn	07 47 42.9	+1.7
ARSB	Arslanbob	5.16	22	Pn	Pn	07 48 00.7	+1.1
KSH	Kashi	5.27	54	Pn	Pn	07 47 58.1	-2.9
KSH				Sn	S	07 48 55.1	-7.1
KSH				smax

HNLY HANLEY 7.96 116 *e*P **Pn 07 48 37.6 +1.4**
HNLY *e*S **S 07 50 02.3 -4.0**
HNLY IAML 07 50 07.5
comp=E,22nm,0.8s
MTBS Maitube 8.02 33 Lg Lg 07 50 02.6
comp=E,13nm,0.7s
TNSS Tian-Shan 8.18 36 P **Pn 07 48 40.4 +1.5**
comp=E,15nm,0.5s
KTBS Karatobe 8.59 32 P **Pn 07 48 44.9 +1.0**
comp=E,4.7nm,0.7s
CHKK Chushkaly 8.84 32 P **Pn 07 48 47.7 +0.6**
comp=E,2.4nm,0.3s
KURS Kuram 9.11 38 P **Pn 07 48 52.7 +2.1**
comp=E,6.9nm,0.6s
MAKZ Makanchi 13.37 36 Pn 07 49 45.7 +0.8
MAKZ Makanchi 13.37 36 ⇓P **Pn 07 49 46.5 +1.6**
comp=E,16nm,1.1s
MK31 Makanchi Array 13.51 37 Pn 07 49 47.5 +0.9
MK31 Makanchi Array 13.51 37 P **Pn 07 49 47.9 +1.2**
comp=E,5.1nm,0.8s,baz=218,slow=12,SNR=28
MKAR Makanchi Array 13.51 37 Pn 07 49 47.7 +1.1
MKAR Makanchi Array 13.51 37 P **Pn 07 49 47.5 +0.9**
comp=E,9.5nm,1.1s,baz=218,slow=7.7,SNR=24
AB31 Akbulak array 14.83 332 ⇑P **P 07 50 04.6 +1.0**
comp=E,3.7nm,0.3s,baz=145,slow=11,SNR=265
ABKAR Akbulak array 14.83 332 P **Pn 07 50 01.2 -1.6**
WMQ Urumqi 15.03 56 *e*P **Pn 07 49 59.9 -5.5**
WMQ pmax pmax
comp=Z,21nm,0.6s
WMQ LR LR
comp=Z,220nm,23.9s
KURBB Kurchatov Arra 15.22 20 P **Pn 07 50 07.9 +0.4**
comp=Z,1.5nm,0.7s,baz=211,slow=10,SNR=18
KURK Kurchatov 15.33 20 P **Pn 07 50 07.2 -1.6**
BVAR Borovoye Array 16.48 360 P **P 07 50 22.5 +0.8**
comp=Z,1.6nm,0.3s,baz=166,slow=9.7,SNR=12
BVAR S **S 07 53 20.7 -2.8**
comp=Z,0.6nm,0.5s,baz=157,slow=18,SNR=1.9
BRVK Borovoye 16.51 360 P **P 07 50 20.3 -1.8**
BRVK IAmb IAmb 07 50 26.0
comp=Z,5.3nm,0.7s
AKTO Aktyubinsk 16.52 331 P **Pn 07 50 23.4 +0.2**
comp=Z,8.1nm,0.6s,baz=146,slow=8.6,SNR=36
AKTO S **S 07 53 20.8 -3.8**
comp=Z,2.5nm,0.9s,baz=311,slow=20,SNR=2.6
AKTO Aktyubinsk 16.52 331 ⇓P **Pn 07 50 23.1 -0.2**
comp=Z,11nm,0.9s
ZAA0 Zalesovo Array 20.05 25 P **P 07 51 01.9 +1.4**
ZAA0 IAmb IAmb 07 51 04.8
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 20.05 25 P **P 07 51 02.0 +1.6**
ZALV Zalesovo Beam 20.05 25 P **P 07 51 01.8 +1.4**
comp=Z,6.2nm,0.4s,baz=214,slow=10,SNR=31
ZALV S **S 07 54 30.7 -3.6**
comp=Z,0.3nm,0.3s,baz=194,slow=18,SNR=1.2
comp=Z,6.2nm,0.4s
ARTI Arti 21.45 341 P **P 07 51 16.0 +0.9**
comp=Z,6.1nm,0.5s,baz=166,slow=8.4,SNR=11
comp=Z,6.1nm,0.5s
KBZ Khabaz 22.19 297 P **P 07 51 21.9 -0.6**
comp=Z,1.0nm,0.6s,baz=168,slow=11,SNR=4.0
comp=Z,1.0nm,0.6s
PZH PanZhiHua 28.38 102 P **P 07 52 20.9 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,1μm,5.8s
SONM Songino Array 28.67 56 P **P 07 52 23.8 +3.0**
comp=Z,0.5nm,0.5s,baz=262,slow=9.8,SNR=2.8
comp=Z,0.5nm,0.5s
BRTR Keskin Array B 29.00 288 P **P 07 52 23.3 -0.6**
comp=Z,0.5nm,0.5s,baz=98,slow=9.3,SNR=2.5
comp=Z,0.5nm,0.5s
KMI Kunming 29.83 103 P **P 07 52 34.4 +2.9**
KMI pmax pmax
comp=Z,22nm,0.8s
HHC Hu-ho-hao-te 32.16 70 *e*P **P 07 52 51.0 -0.6**
HHC pmax pmax
comp=Z,12nm,0.8s
AKASG Malin Array Be 32.57 309 P **P 07 52 53.1 -1.8**
comp=Z,0.8nm,0.5s,baz=82,slow=7.2,SNR=9.6
comp=Z,0.8nm,0.5s
NRIK Noril'sk 34.16 11 P **P 07 53 11.0 +2.7**
NRIK Noril'sk 34.16 11 P **P 07 53 09.8 +1.5**
comp=Z,4.0nm,0.5s,baz=198,slow=6.1,SNR=10
comp=Z,4.0nm,0.5s
FINES FINESS Array B 37.20 326 P **P 07 53 34.6 +0.4**
comp=Z,4.2nm,0.7s,baz=119,slow=8.8,SNR=20
comp=Z,4.2nm,0.7s
ARCES ARCESS Array B 40.93 338 P **P 07 54 06.1 +1.0**
comp=Z,6.1nm,0.7s,baz=112,slow=7.6,SNR=34
comp=Z,6.1nm,0.7s
HFS Hagfors 42.76 322 P **P 07 54 19.5 -0.5**
comp=Z,4.2nm,0.8s,baz=97,slow=12,SNR=12
comp=Z,4.2nm,0.8s
NB2 NORSAR Subarra 44.08 323 P **P 07 54 30.3 -0.2**
comp=Z,2.6nm,1.0s,baz=98,slow=7.9
NOA NORSAR Array B 44.08 323 P **P 07 54 30.0 -0.6**
comp=Z,2.2nm,0.8s,baz=97,slow=7.8,SNR=9.8
comp=Z,2.2nm,0.8s
SPITS Spitsbergen Ar 47.34 347 P **P 07 54 57.6 +1.7**
comp=Z,2.3nm,0.6s,baz=119,slow=12,SNR=6.6
comp=Z,2.3nm,0.6s
ILAR Eielson Array 74.85 16 P **P 07 58 00.9 +0.2**
comp=Z,0.6nm,0.6s,baz=345,slow=2.8,SNR=4.7
comp=Z,0.6nm,0.6s
YKA Yellowknife Ar 81.22 2 P **P 07 58 36.4 +0.8**
comp=Z,0.7nm,0.8s,baz=351,slow=5.1,SNR=18
comp=Z,0.7nm,0.8s
WRA Warramunga Arr 82.39 122 P **P 07 58 41.1 -1.3**
comp=Z,0.3nm,0.5s,baz=312,slow=5.2,SNR=1.7
comp=Z,0.3nm,0.5s
ASAR Alice Springs 84.64 125 P **P 07 58 52.2 -1.6**
comp=Z,0.4nm,0.6s,baz=310,slow=4.6,SNR=7.9
comp=Z,0.4nm,0.6s
PLCA Paso Flores 149.43 250 PKPbc **PKPbc 08 06 07.0 -0.8**
comp=Z,0.7nm,0.9s,baz=105,slow=3.7,SNR=4.8

*IDC **07** 08:02:24.9±2.8, 52°.30N×177°.95E, h0km, mb3.4/5, mbtmp3.5/6, ML3.8/1, Error ellipse: s-maj=80.3km s-min=20.1km az=178.0*
*NEIC **07** 08:02:26.8±1.4, 52°.5N±0°.1×178°.15E±0°.07, h10km±2km, mb3.7/4, ML3.5/6, Error ellipse: s-maj=23.6km s-min=6.7km az=352.0*
ISC 07 08:02:26.8±1.2, 52°.4N±0°.2×178°.09E±0°.07, h10km, n27, σ1§30/22, mb3.5/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.45**	**278**	Pn	**Pn**	**08 03 05.2**	**-1.6**
	23nm,0.3s,baz=115,slow=2.7,SNR=14						
SHEM				Sn	**Sn**	**08 03 37.6**	**+0.8**
	28nm,0.3s,baz=272,slow=22,SNR=11						
	67nm,0.3s						
SMY	**Shemya**	**2.45**	**278**		**Pn**	**08 03 06.6**	**-0.2**
SMY				IAML		08 03 33.6	
	comp=N,187nm,3.7s						
SMY				IAML		08 03 46.3	
	comp=E,208nm,1.1s						
KIWB	**Kanaga Island**	**2.99**	**99**		**Pn**	**08 03 14.2**	**0.0**
ADK	**Adak**	**3.26**	**98**		**Pn**	**08 03 17.5**	**-0.4**
ADK				IAML		08 04 15.7	
	comp=E,96nm,2.7s						
GSTR	**Great Sitkin T**	**3.61**	**93**	Pn	**Pn**	**08 03 21.8**	**-0.9**
ATKA	**Atka Island**	**4.74**	**90**	Pn	**Pn**	**08 03 36.7**	**-1.4**
ATKA				IAML		08 05 26.6	
	comp=N,62nm,3.1s						
SPIA	**Saint Paul Isl**	**8.23**	**50**	Pn	**Pn**	**08 04 25.4**	**-0.8**
UNV	**Unalaska Valle**	**9.37**	**75**	Pn	**Pn**	**08 04 41.2**	**-0.4**
LVA	**Lava Point**	**9.66**	**73**	Pn	**Pn**	**08 04 44.8**	**-0.9**
CHGN	**Chignik**	**14.20**	**65**	Pn	**Pn**	**08 05 47.0**	**-0.7**
N15K	**Kwethluk River**	**14.31**	**49**	Pn	**Pn**	**08 05 50.1**	**+0.9**
O16K	**Kokwok River B**	**15.06**	**52**	Pn	**Pn**	**08 05 58.6**	**-0.7**
L16K	**Owhat River**	**15.25**	**44**	Pn	**Pn**	**08 06 00.6**	**-1.2**
N17K	**Nushagak Hills**	**15.79**	**49**	Pn	**Pn**	**08 06 07.2**	**-1.7**
N17K				IAmb	IAmb	08 06 27.4	
	comp=Z,4.1nm,1.1s						
M17K	**Holitna River**	**16.00**	**46**	Pn	**Pn**	**08 06 09.1**	**-2.5**
M17K				IAmb	IAmb	08 06 31.2	
	comp=Z,8.1nm,1.1s						
ACHA	**Angle Creek He**	**16.13**	**59**	Pn	**Pn**	**08 06 11.5**	**-1.9**
ILAR	**Eielson Array**	**21.68**	**42**	P	**P**	**08 07 19.8**	**+2.6**
	comp=Z,0.8nm,0.9s,baz=245,slow=12,SNR=4.6						
	comp=Z,0.8nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**33.79**	**199**	T	T	08 44 08.9	
	baz=11,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.80**	**199**	T	T	08 44 09.8	
	baz=11,slow=76						
H11N1	**WAKE ISLAND Hy**	**33.81**	**199**	T	T	08 44 15.2	
	baz=11,slow=76						
H11S1	**WAKE ISLAND Hy**	**35.02**	**199**	T	T	08 45 45.5	
	baz=10						
H11S3	**WAKE ISLAND Hy**	**35.03**	**199**	T	T	08 45 46.3	
	baz=10						
H11S2	**WAKE ISLAND Hy**	**35.04**	**199**	T	T	08 45 46.5	
	baz=10						
YKA	**Yellowknife Ar**	**35.90**	**47**	P	**P**	**08 09 26.3**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=285,slow=8.2,SNR=7.5						
	comp=Z,0.5nm,0.8s						
NVAR	**Mina Array Bea**	**45.31**	**82**	P	**P**	**08 10 46.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=308,slow=5.7,SNR=2.7						
	comp=Z,0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**56.99**	**311**	P	**P**	**08 12 11.5**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=43,slow=7.1,SNR=4.2						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**58.82**	**318**	P	**P**	**08 12 25.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=50,slow=7.7,SNR=1.8						
	comp=Z,0.3nm,0.3s						

IDC 07 08:07:40.6±8.1, 32°.16S×177°.70W, h0km, mb3.4/2, mbtmp3.4/2, MS4.0/1, Error ellipse: s-maj=376.2km s-min=61.4km az=159.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.30**	**269**	P	P	08 15 44.1	-0.2
	0.3nm,0.7s,baz=108,slow=7.5,SNR=4.3						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**44.45**	**274**	P	P	08 15 53.6	0.0
	0.4nm,0.5s,baz=115,slow=7.9,SNR=2.6						
	0.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.63**	**271**	LR	LR	08 38 34.6	
	comp=Z,129nm,18.3s,baz=277,slow=35						
FINES	**FINESS Array B**	**146.88**	**339**	PKPbc	PKPbc	08 27 23.2	-0.9
	0.6nm,0.6s,baz=20,slow=4.4,SNR=5.3						

*IDC **07** 08:15:55.0±3.2, 31°.31N×137°.99E, h380km±77km, mb3.0/2, mbtmp3.6/3, Error ellipse: s-maj=348.1km s-min=26.2km az=81.0*
*JMA **07** 08:16:07.1±0.5, 33°.N±3°.×13°.8E±°, h418km, MV3.1/28, FAR S OFF TOKAI DISTRICT*
ISC 07 08:16:06.1±2.3, 32°.6N±0°.2×137°.8E±0°.2, h400km, n13, σ1§69/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**2.92**	**22**	*e*P	**Pn**	**08 17 11.2**	**+2.6**
BSO3	**Boso 3**	**3.21**	**45**	*e*P	**Pn**	**08 17 11.8**	**+1.1**
BSO3				*e*S	**S**	**08 18 01.8**	**-1.4**
BSO4	**Boso 4**	**3.25**	**41**	*e*P	**Pn**	**08 17 13.1**	**+1.9**
BSO4				*e*S	**S**	**08 18 05.9**	**+1.9**
BSO1	**Boso 1**	**3.41**	**51**	*e*P	**Pn**	**08 17 13.2**	**+1.1**
BSO1				*e*S	**S**	**08 18 06.2**	**+0.5**
JRY	**Ryogami san**	**3.58**	**15**	*e*P	**Pn**	**08 17 16.4**	**+2.1**
MAT	**Matsushiro**	**3.99**	**5**	*e*P	**Pn**	**08 17 20.1**	**+2.0**
MJAR	**Matsushiro Arr**	**3.99**	**5**	P	**Pn**	**08 17 18.2**	**+0.1**
	2.0nm,0.4s,baz=180,slow=9.3,SNR=12						
MJAR				S	**S**	**08 18 19.2**	**+2.7**
	0.8nm,0.5s,baz=248,slow=26,SNR=4.3						
JAG	**Ashikaga**	**4.11**	**20**	*e*P	**Pn**	**08 17 19.4**	**+0.3**
JAG				*e*S	**S**	**08 18 17.2**	**-1.2**
JYT	**Yasato**	**4.18**	**28**	*e*P	**Pn**	**08 17 20.5**	**+0.7**
JYT				*e*S	**S**	**08 18 19.1**	**-0.7**
JHO	**Hitachi**	**4.67**	**29**	*e*P	**Pn**	**08 17 25.2**	**+0.6**
JHO				*e*S	**S**	**08 18 26.7**	**-1.8**
JFK	**Kawauchi**	**5.44**	**27**	*e*P	**Pn**	**08 17 33.5**	**+0.8**
ASAR	**Alice Springs**	**56.03**	**184**	P	P	08 24 47.0	-18
	0.3nm,0.6s,baz=346,slow=9.4,SNR=7.5						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**71.35**	**332**	P	**P**	**08 26 41.3**	**-2.2**
	1.6nm,1.0s,baz=70,slow=6.3,SNR=4.5						
	1.6nm,1.0s						

TXNET 07 08:17:47.2, 31°.5N±0°.6×103°.5W±0°.6, h6km±2km, ML1.9/14, Error ellipse: s-maj=1.0km s-min=0.9km az=151.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.13**	**201**	P	Pg	08 17 49.9	0.0
PCOS				S	Sg	08 17 53.1	+1.3
TPB07	**Mentone**	**0.19**	**285**	P	Pg	08 17 51.8	+0.8
TPB07				S	Sg	08 17 55.0	+1.5
TPB06	**Permian Basin**	**0.23**	**60**	P	Pg	08 17 52.3	+0.5
TPB06				S	Sg	08 17 56.3	+1.4
TPB10	**Southeast of T**	**0.36**	**226**	P	Pg	08 17 54.8	+0.7
TPB10				S	Sb	08 18 00.8	-1.1
TPB04	**Verhalen**	**0.38**	**155**	P	Pg	08 17 55.1	+0.6
TPB04				S	Sb	08 18 01.5	-1.0
PECS	**Pecos**	**0.39**	**246**	P	Pg	08 17 55.1	+0.4
PECS				S	Sg	08 18 01.0	+1.2
TPB16	**Coyonosa**	**0.44**	**157**	P	Pg	08 17 56.4	+0.7
TPB16				S	Sb	08 18 03.0	-1.3
TPB16	**Coyonosa**	**0.44**	**157**	P	Pg	08 17 56.5	+0.8
TPB16				S	Sb	08 18 03.0	-1.3
TPB03	**Saragosa**	**0.45**	**187**	P	Pg	08 17 56.5	+0.6
TPB03				S	Sb	08 18 03.5	-1.0
TPB12	**Southwest of T**	**0.54**	**234**	P	Pg	08 17 57.8	+0.3
TPB12				S	Sb	08 18 06.1	-0.9
TPB05	**Hovey Rd**	**0.62**	**170**	P	Pg	08 17 59.2	+0.1
TPB05				S	Sb	08 18 08.4	-1.0
MNHN	**Monahans**	**0.62**	**108**	P	Pg	08 17 59.1	-0.1
MNHN				S	Sb	08 18 08.4	-1.1
TPB11	**China Draw**	**0.64**	**309**	P	Pb	08 18 00.1	-0.7
TPB11				S	Sb	08 18 08.9	-1.1
TPB01	**Permian Basin**	**0.65**	**206**	P	Pg	08 18 00.3	+0.6
TPB01				S	Sb	08 18 09.4	-0.9
TPB08	**Permian Basin**	**0.79**	**144**	S	Sb	08 18 15.0	+0.6
CLNB	**Carlsbad**	**0.81**	**334**	S	Sg	08 18 14.0	+0.6
NM01	**Eunice**	**0.82**	**3**	P	Pg	08 18 03.4	+0.4
NM01				S	Sn	08 18 20.7	+2.7
HTMS	**Hat Mesa**	**0.95**	**351**	P	Pb	08 18 06.1	0.0
HTMS				S	Sb	08 18 18.6	-0.5
ODSA	**Odessa**	**0.97**	**52**	P	Pb	08 18 06.4	-0.1
ODSA				S	Sg	08 18 18.5	+0.1
ALPN	**Alpine**	**1.16**	**188**	P	Pg	08 18 09.7	+0.1
ALPN				S	Sb	08 18 25.5	+0.3
TMB02	**Rankin**	**1.26**	**105**	P	Pg	08 18 10.9	-0.3
TMB02				S	Sg	08 18 27.5	-0.1
TMB04	**Seminole**	**1.36**	**37**	P	Pn	08 18 11.9	-1.0
TMB04				S	Sb	08 18 30.7	-0.2
VHRN	**Van Horn**	**1.51**	**241**	P	Pn	08 18 14.9	0.0
VHRN				S	Sg	08 18 35.6	0.0
CPRX	**Cap Rock**	**1.54**	**347**	P	Pb	08 18 16.0	-0.2
MNTX	**Cornudas Mount**	**1.65**	**276**	P	Pn	08 18 17.4	+0.6
MNTX				S	Sb	08 18 39.1	-0.1
SGCY	**Sterling City**	**2.02**	**79**	P	Pb	08 18 23.4	-0.9
SGCY				S	Sb	08 18 50.2	+0.4
OZNA	**Ozona**	**2.08**	**106**	P	Pb	08 18 24.7	-0.7
OZNA				S	Sb	08 18 51.9	+0.3
TX31	**Lajitas Ar. Si**	**2.20**	**185**	P	Pn	08 18 25.6	+1.3
TX31				S	Sb	08 18 56.3	+1.3

*NEIC **07** 08:21:03.7±0.9, 51°.0N±0°.2×179°.5W±0°.2, h10km±2km, mb3.8/9, Error ellipse: s-maj=39.7km s-min=13.3km az=150.0*
*IDC **07** 08:21:03.1±3.4, 51°.32N×179°.39W, h0km, mb3.1/4, mbtmp3.2/4, Error ellipse: s-maj=83.6km s-min=31.5km az=179.0*
ISC 07 08:21:07.5±1.9, 51°.1N±0°.3×179°.5W±0°.1, h43km, n27, σ1§02/25, mb3.7/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**1.65**	**61**		**Pn**	**08 21 33.4**	**-0.5**
KIWB				Sn	**Sn**	**08 21 55.2**	**+1.3**
ADK	**Adak**	**1.92**	**64**		**Pn**	**08 21 37.6**	**0.0**
ADK				Sn	**Sn**	**08 22 01.5**	**+0.8**
GSTR	**Great Sitkin T**	**2.36**	**63**	Pn	**Pn**	**08 21 42.6**	**-1.2**
GSTR				Sn	**Sn**	**08 22 14.4**	**+2.9**
ATKA	**Atka Island**	**3.48**	**69**	Pn	**Pn**	**08 21 58.7**	**-0.3**
ATKA				Sn	**Sn**	**08 22 38.5**	**-0.3**
NIKH	**Nikolski High**	**6.82**	**70**	Pn	**Pn**	**08 22 44.4**	**-0.5**
UNV	**Unalaska Valle**	**8.39**	**66**	Pn	**Pn**	**08 23 05.9**	**-0.5**
OHAK	**Old Harbor**	**16.46**	**58**	Pn	**Pn**	**08 24 53.7**	**-1.4**
OHAK				IAmb	IAmb	08 25 12.1	
	comp=Z,24nm,1.3s						
Q19K	**Cape Douglas,**	**16.69**	**52**	Pn	**Pn**	**08 24 58.1**	**+0.2**
CNPM	**China Poot**	**18.04**	**51**	P	**P**	**08 25 14.1**	**-0.7**
J20K	**Nowinta River**	**18.69**	**36**	P	**Pn**	**08 25 22.2**	**-0.3**
CAST	**Castle Rocks**	**19.10**	**39**	P	**Pn**	**08 25 26.8**	**-0.7**
KTH	**Kantishna Hill**	**19.63**	**40**	P	**Pn**	**08 25 32.9**	**-0.9**
KTH				IAmb	IAmb	08 25 40.0	
	comp=Z,4.0nm,0.9s						
G21K	**Allakaket**	**20.26**	**30**	P	**P**	**08 25 38.1**	**-0.7**
G21K				IAmb	IAmb	08 25 40.3	
	comp=Z,5.8nm,1.4s						
ILAR	**Eielson Array**	**21.75**	**39**	P	**P**	**08 25 53.6**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=240,slow=10,SNR=1.8						
	comp=Z,0.2nm,0.6s						
H24K	**Noodor Dome**	**21.83**	**35**	P	**P**	**08 25 56.2**	**+0.4**
H24K				IAmb	IAmb	08 26 12.3	
	comp=Z,4.8nm,1.4s						
BMAR	**Burnt Mountain**	**23.72**	**33**	P	**P**	**08 26 14.7**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**33.08**	**204**	T	T	09 02 55.1	
	baz=17						
H11N3	**WAKE ISLAND Hy**	**33.09**	**204**	T	T	09 03 03.4	
	baz=17						
H11N1	**WAKE ISLAND Hy**	**33.09**	**204**	T	T	09 02 59.8	
	baz=17						
H11S1	**WAKE ISLAND Hy**	**34.30**	**204**	T	T	09 04 33.7	
	baz=16						
H11S2	**WAKE ISLAND Hy**	**34.31**	**204**	T	T	09 04 37.3	
	baz=16						
H11S3	**WAKE ISLAND Hy**	**34.31**	**204**	T	T	09 04 38.5	
	baz=16						
YKA	**Yellowknife Ar**	**35.75**	**46**	P	**P**	**08 28 00.9**	**-0.8**
	comp=Z,0.1nm,0.6s,baz=282,slow=8.7,SNR=6.8						
	comp=Z,0.1nm,0.6s						
PDAR	**Pinedale Array**	**46.81**	**72**	P	**P**	**08 29 33.9**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=304,slow=8.1,SNR=1.7						
	comp=Z,0.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**50.65**	**356**	P	**P**	**08 30 01.4**	**-0.2**
	comp=Z,8.7nm,0.9s,baz=30,slow=12,SNR=5.2						
MK31	**Makanchi Array**	**59.89**	**308**	P	**P**	**08 31 09.6**	**+1.0**
MK31				IAmb	IAmb	08 31 18.4	
	comp=Z,1.1nm,1.1s						
MKAR	**Makanchi Array**	**59.89**	**308**	P	**P**	**08 31 09.6**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=50,slow=6.7,SNR=6.4						
	comp=Z,0.4nm,0.4s						

*ISN **07** 08:23:29.5±0.4, 32°.93N×47°.22E, h7km±2km, ML2.7*
*TEH **07** 08:23:30.4, 32°.92N×47°.21E, h9km*
ISC 07 08:23:30.4±1.9, 32°.9N±0°.1×47°.28E±0°.06, h15km, n9, σ1§06/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**1.16**	**282**	*e*Pg	**Pn**	**08 23 50.5**	**-1.6**
IBDR				*e*Sg	**Sb**	**08 24 06.0**	**-1.0**
IBDR				AML	AML	08 24 12.6	
	comp=N,203nm,0.5s						
IBDR				AML	AML	08 24 14.4	
	comp=E,152nm,0.4s						
IDOB	**Doab**	**1.17**	**39**	Pg	**Pg**	**08 23 52.8**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.40**	**352**	Pg	**Pb**	**08 23 56.5**	**0.0**
IGHG	**Ghaleghazi**	**1.56**	**338**	Pg	**Pg**	**08 23 59.9**	**-0.6**
BDRS	**Dareh Seyedi**	**1.71**	**51**	Pg	**Pg**	**08 24 03.2**	**-0.2**
IDHR	**Dehrash**	**1.96**	**338**	Pn	**Pb**	**08 24 05.0**	**-0.9**
KGS1	**Ghasr-e-Shirin**	**2.15**	**319**	Pn	**Pb**	**08 24 09.7**	**+0.6**
BHD	**Baghdad**	**2.47**	**280**	*e*Pn	**Pn**	**08 24 11.0**	**+0.9**
BHD				*e*Sn	**Sn**	**08 24 41.5**	**+1.6**
IKRK	**Kirkuk**	**3.50**	**317**	*e*Pn	**Pn**	**08 24 25.5**	**+1.2**
IKRK				*e*Sn	**Sn**	**08 25 06.0**	**+0.5**

*IDC **07** 08:27:21.4±0.8, 41°.41N×46°.58E, h0km, mb4.0/18, mbtmp4.0/26, ML3.6/6, MS3.5/8, Error ellipse: s-maj=14.5km s-min=7.8km az=11.0*
*MOS **07** 08:27:24.8, 41°.31N×46°.58E, h20km, MPVA5.3*
*AZER **07** 08:27:24.1, 41°.28N×46°.60E, h4km, ml4.5, Mw3.8*
*NSSP **07** 08:27:24.4, 41°.25N×46°.43E, h20km, Ms4.3*
*NORS **07** 08:27:24.9, 41°.34N×46°.53E, h10km, MPVA5.0*
*NEIC **07** 08:27:25.2±1.7, 41°.52N±0°.07×46°.86E±0°.06, h10km±1km, mb4.2/29, Error ellipse: s-maj=12.7km s-min=7.2km az=334.0*
*TEH **07** 08:27:26.8, 41°.31N×46°.64E, h20km±90km*
*TIF **07** 08:27:26.1, 41°.26N×46°.53E, h35km±1km*
*DRS **07** 08:27:28.1, 41°.23N×46°.55E, h24km*
*AFAD **07** 08:27:32.0, 41°.17N×46°.72E, h40km, MW4.1*
*NNC **07** 08:27:38.6±2.9, 41°.77N×47°.95E, h58km±26km, mb4.0, Error ellipse: s-maj=33.7km s-min=14.3km az=121.0*
ISC 07 08:27:26.6±0.8, 41°.31N±0°.01×46°.57E±0°.01, h33km±2km, n633, σ1§57/729, mb4.0/42, MS3.5/5, 35C-16D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSHL	**Vashlovani**	**0.15**	**238**	P	**Pb**	**08 27 33.4**	**+0.5**
VSHL				S	**Sb**	**08 27 39.2**	**+2.0**
ZKTA	**Zakatala**	**0.33**	**7**	P	**Pb**	**08 27 34.4**	**-0.4**
ZKTA				S	**Sn**	**08 27 40.6**	**+0.3**
ZKT	**Zaqatala**	**0.35**	**12**	Pg	**Pb**	**08 27 34.4**	**-0.7**
SEKA	**Sheki**	**0.48**	**102**	Pg	**Pb**	**08 27 36.2**	**-0.8**
SEKA	**Sheki**	**0.48**	**102**	P	**Pb**	**08 27 36.4**	**-0.6**
SEKA				S	**Sb**	**08 27 44.4**	**+0.1**
SEKA	**Sheki**	**0.48**	**102**	PG	**Pb**	**08 27 36.2**	**-0.8**
LGD	**Lagodekhi**	**0.58**	**335**	P	**Pn**	**08 27 38.2**	**-0.3**
LGD				S	**Sb**	**08 27 47.5**	**+0.8**
LGD	**Lagodekhi**	**0.58**	**335**	*i* Pg	**Pn**	**08 27 38.2**	**-0.3**
LGD				*e*Sg	**Sb**	**08 27 47.5**	**+0.8**
LGD	**Lagodekhi**	**0.58**	**335**	*e*PG	**Pn**	**08 27 38.1**	**-0.3**
MNGR	**Mingechevir, A**	**0.66**	**144**	Pg	**Pn**	**08 27 40.0**	**+0.5**
MNGR	**Mingechevir, A**	**0.66**	**144**	P	**Pn**	**08 27 40.1**	**+0.5**
MNGR				S	**Sn**	**08 27 51.3**	**+2.5**
MNGR	**Mingechevir, A**	**0.66**	**144**	PG	**Pn**	**08 27 40.0**	**+0.5**
GANJ	**Ganja**	**0.69**	**196**	P	**Pn**	**08 27 39.3**	**-0.7**
GANJ				S	**Sn**	**08 27 48.8**	**-0.8**
GDB	**GEDABAY**	**0.85**	**227**	P	**Pn**	**08 27 41.5**	**-0.9**
GDB				S	**Sn**	**08 27 53.1**	**-0.7**
AKT	**Akhty**	**0.89**	**79**	⇑*i*PG	**Pn**	**08 27 42.8**	**-0.1**
AKT				*e*S	**Sn**	**08 27 54.9**	**+0.3**
DGRG	**David-gareji**	**0.91**	**279**	P	**Pn**	**08 27 44.1**	**+1.0**
DGRG				S	**Sb**	**08 27 58.5**	**+2.6**
DGRG	**David-gareji**	**0.91**	**279**	*i* Pg	**Pn**	**08 27 44.1**	**+1.0**
DGRG				*e*Sg	**Sb**	**08 27 58.5

AYRK	Ayrk	1.33 207	⇓iP	Pn	08 27 50.0	+1.0
AYRK			⇑iS	Sn	08 28 07.7	+1.9
ZRD	Zardab	1.33 140	Pg	Pb	08 27 51.0	0.0
ZRD	Zardab	1.33 140	Pn	Pb	08 27 51.0	0.0
ZRD			Sn	Sb	08 28 10.2	+2.4
BTLR	Botlikh	1.38 349	ePg	Pb	08 27 51.5	-0.4
BTLR			eSg	Sb	08 28 10.5	+1.3
BTLR	Botlikh	1.38 349	ePN	Pb	08 27 51.5	-0.4
BTNK	Botanikuri	1.38 286	ePg	Pn	08 27 50.3	+0.7
BTNK			eSg	Sb	08 28 09.3	+0.1
BTNK	Botanikuri	1.38 286	ePN	Pn	08 27 50.3	+0.7
BTNK			eS	Sb	08 28 09.3	+0.1
SEAG	Tbilisi Sea	1.40 290	PG	Pn	08 27 50.9	+1.1
SGKR	Sergokala	1.41 35	ePg	Pb	08 27 52.9	+0.6
SGKR			eSg	Sb	08 28 11.7	+1.7
SGKR	Sergokala	1.41 35	ePN	Pb	08 27 52.9	+0.6
UNCR	Uncukul	1.41 7	i Pg	Pb	08 27 52.3	-0.1
UNCR			eSg	Sb	08 28 11.1	+0.9
UNCR	Uncukul	1.41 7	⇓iPN	Pb	08 27 52.3	-0.1
TBLG	Delisi	1.44 288	P	Pn	08 27 51.2	+0.9
TBLG			S	Sn	08 28 10.6	+2.5
TBLG	Delisi	1.44 288	ePN	Pn	08 27 51.2	+0.9
QUBA	Quba, Azerbaij	1.45 88	Pn	Pb	08 27 53.5	+0.4
QUBA			Sn	Sb	08 28 14.0	+2.8
DRN	Derbent	1.50 61	ePg	Pb	08 27 54.2	+0.3
DRN			eSg	Sb	08 28 14.9	+2.3
DRN	Derbent	1.50 61	ePN	Pb	08 27 54.2	+0.3
DRN			eS	Sb	08 28 14.9	+2.3
KRNR	Karanay	1.54 9	i Pg	Pb	08 27 54.5	-0.1
KRNR			eSg	Sb	08 28 15.3	+1.6
KRNR	Karanay	1.54 9	⇑iPN	Pb	08 27 54.5	-0.1
KDMR	Kurdemir	1.54 127	Pn	Pb	08 27 53.6	-0.9
KDMR			Sn	Sb	08 28 14.6	+1.0
BUJR	Buynaksk	1.57 15	ePg	Pb	08 27 55.0	-0.1
BUJR			eSg	Sb	08 28 16.9	+2.4
BUJR	Buynaksk	1.57 15	ePN	Pb	08 27 55.0	-0.1
CHRG	Chargali	1.60 310	P	Pn	08 27 53.6	+1.0
CHRG			S	Sb	08 28 15.2	-0.3
PQL	Pirkuli	1.62 108	Pg	Pn	08 27 54.7	+1.8
PQL	Pirkuli	1.62 108	Pn	Pn	08 27 54.7	+1.8
PQL			Sn	Sb	08 28 17.4	+1.3
KZRT	Kazreti	1.64 273	P	Pn	08 27 53.4	+0.3
KZRT			S	Sn	08 28 14.3	+1.3
KZRT	Kazreti	1.64 273	ePN	Pn	08 27 53.4	+0.3
DVE	Vedeno	1.68 349	i Pg	Pb	08 27 56.5	-0.5
DVE			eSg	Sb	08 28 19.9	+2.2
DVE	Vedeno	1.68 349	i PN	Pb	08 27 56.5	-0.5
SHTL	Shatili	1.71 322	P	Pn	08 27 55.6	+1.5
SHTL			S	Sn	08 28 17.2	+2.2
SHTL	Shatili	1.71 322	ePg	Pn	08 27 55.6	+1.5
SHTL			eSg	Sn	08 28 17.2	+2.2
SHTL	Shatili	1.71 322	ePN	Pn	08 27 55.7	+1.5
SRTK	Saratovka	1.71 263	⇑iP	Pn	08 27 54.9	+0.6
SRTK			⇑iS	Sn	08 28 16.9	+1.8
KAPZ	Kaputan	1.73 236	⇓iP	Pn	08 27 56.2	+1.7
KAPZ			⇑iS	Sb	08 28 18.8	-0.4
BLQ	Beylaqan	1.76 154	Pn	Pn	08 27 55.9	+1.2
BLQ			Sn	Sb	08 28 19.7	-0.2
DLMR	Dylym	1.76 1	ePg	Pb	08 27 57.4	-0.9
DLMR			eSg	Sb	08 28 20.4	+0.4
DLMR	Dylym	1.76 1	ePN	Pb	08 27 57.4	-0.9
SIZA	Siyzn	1.77 97	Pn	Pb	08 27 57.5	-1.0
SIZA			Sn	Sb	08 28 21.6	+1.1
MAK	Makhachkala	1.79 23	d iPN	Pb	08 27 59.7	+0.9
MAK			eS	Sb	08 28 24.7	+3.8
MAK			pmax	pmax		
	comp=Z,967nm,0.3s					
MAK			smax	smax		
	comp=E,6µm,0.5s					
MAK			smax	smax		
	comp=E,7µm,0.4s					
MAK			MLR	MLR		
	comp=Z,1µm,2.0s					
VAYK	Vayk	1.83 209	i P	Pn	08 27 57.8	+1.9
VAYK			i S	Sb	08 28 22.2	0.0
ATGJ	Altiaghaj	1.85 103	Pn	Pb	08 27 58.4	-1.4
ATGJ			Sn	Sb	08 28 24.5	+2.0
TRLG	Trialeti	1.87 278	P	Pn	08 27 56.8	+0.4
TRLG			S	Sn	08 28 21.3	+2.3
TRLG	Trialeti	1.87 278	i Pg	Pn	08 27 56.8	+0.4
TRLG			eSg	Sn	08 28 21.3	+2.3
TRLG	Trialeti	1.87 278	⇑iPN	Pn	08 27 56.8	+0.4
QRD	Qoradiz	1.93 162	Pn	Pn	08 27 58.0	+0.9
QRD			Sn	Sb	08 28 24.1	-0.9
NRKZ	NAREK	1.95 229	⇑iP	Pb	08 28 00.9	-0.8
NRKZ			⇓iS	Sb	08 28 27.0	+1.4
GBS	Qobustan	1.96 112	Pn	Pb	08 28 01.0	-0.7
GBS	Qobustan	1.96 112	Pn	Pb	08 28 00.9	-0.8
GROC	Groznyy	1.98 343	ePg	Pb	08 28 00.9	-1.0
GROC			eSg	Sb	08 28 26.3	+0.1
GROC	Groznyy	1.98 343	ePN	Pb	08 28 00.9	-1.0
AMBZ	Amberd	1.98 243	⇓iP	Pn	08 27 59.9	+1.9
AMBZ			⇓iS	Sb	08 28 25.6	-0.9
SAAT	Saatly	2.02 135	Pn	Pn	08 27 58.4	+0.1
SAAT			Sn	Sn	08 28 24.2	+1.8
KMOZ	Kamo	2.04 257	⇑iP	Pn	08 28 01.3	+2.6
KMOZ			⇓iS	Sb	08 28 27.9	-0.3
MTEO	Meteo	2.04 313	P	Pn	08 28 01.9	+2.9
MTEO			S	Sb	08 28 30.3	+1.7
MTEO	Meteo	2.04 313	ePN	Pn	08 28 01.9	+2.9
MTEO			eS	Sb	08 28 30.3	+1.7
HYR	Heyderabad	2.06 220	Pn	Pb	08 28 02.5	-0.9
HYR	Heyderabad	2.06 220	Pn	Pb	08 28 02.5	-0.9
HYR			Sn	Sb	08 28 30.9	+2.3
SBZ	Shahbuz	2.06 202	Pn	Pn	08 28 01.1	+2.1
SBZ			Sn	Sb	08 28 30.2	+1.5
EGVZ	Egvard	2.08 181	⇑iP	Pn	08 28 00.8	+1.6
EGVZ			⇑iS	Sn	08 28 27.3	+3.2
ARUZ	Aruch	2.14 242	⇑iP	Pn	08 28 03.3	+3.2
ARUZ			⇑iS	Sb	08 28 31.3	+0.3
TASB	TASBURUN-IGDIR	2.21 234	P	Pn	08 28 03.0	+2.0
TASB			S	Sb	08 28 34.2	+1.2
VLKR	Vladikavkaz	2.23 322	ePg	Pb	08 28 05.5	-0.9
VLKR			eSg	Sb	08 28 06.0	-0.6
VLKR	Vladikavkaz	2.23 322	i PN	Pb	08 28 05.6	-0.7
VLKR			eS	Sb	08 28 34.4	+0.8
LACR	Lac	2.27 313	ePn	Pn	08 28 04.2	+2.3
LACR			eSn	Sb	08 28 34.0	-0.8
LACR	Lac	2.27 313	ePN	Pn	08 28 04.2	+2.3
LACR			eS	Sb	08 28 34.0	-0.8
NAX	Nakhchivan	2.29 201	Pn	Pb	08 28 07.0	-0.3
NAX			Sn	Sn	08 28 31.9	+2.8
NAX	Nakhchivan	2.29 201	PN	Pb	08 28 06.9	-0.3
ALIB	&Aumlli-Bayram	2.29 125	Pn	Pb	08 28 06.1	-1.2
ALIB			Sn	Sn	08 28 32.4	+3.3
EAK	Akyaka	2.33 255	P	Pb	08 28 06.6	-1.4
EAK			S	Sb	08 28 37.8	+1.4
EAK	Akyaka	2.33 255	Pn	Pb	08 28 06.6	-1.4
VNNZ	Vanand	2.41 241	⇑iP	Pb	08 28 08.3	-1.1
VNNZ			⇑iS	Sb	08 28 40.0	+1.3
ORD	Ordubad	2.42 191	Pn	Pb	08 28 06.0	+2.1
GLBA	Clilabad	2.49 145	Pn	Pn	08 28 05.8	+1.0
GLBA			Sn	Sn	08 28 36.8	+2.8
GOBA	Gobu	2.56 110	Pn	Pb	08 28 09.3	-2.7
DIGO	Kars	2.58 251	P	Pn	08 28 09.8	+3.5
DIGO			S	Sb	08 28 45.5	+1.7
DIGO	Kars	2.58 251	Pn	Pn	08 28 09.7	+3.5
GARIG	Gari	2.65 300	P	Pn	08 28 08.9	+1.9
GARIG			S	Sb	08 28 47.0	+1.5
IMRD	Marand	2.68 195	Pn	Pn	08 28 10.7	+3.2
GRMI	Germi	2.70 157	Pn	Pn	08 28 08.5	+0.8
YRD	Yardimli	2.71 151	P	Pn	08 28 09.0	+1.0
YRD			Pn	Pn	08 28 09.0	+1.0
YRD			Sn	Sn	08 28 42.3	+2.6
KARS	Kars	2.73 257	eP	Pb	08 28 14.1	-0.7
KARS	Kars	2.73 257	Pn	Pb	08 28 13.2	-1.6
KARS	Kars	2.73 257	PN	Pb	08 28 13.2	-1.6
DIGR	Digorskoe uzhe	2.73 307	ePN	Pn	08 28 11.3	+3.0
DIGR			eS	Sn	08 28 44.6	+4.3
STDR	Stavd-Durt	2.77 319	ePn	Pn	08 28 10.8	+2.1
STDR			eSn	Sn	08 28 43.2	+2.2
STDR	Stavd-Durt	2.77 319	ePN	Pn	08 28 10.8	+2.1
BOZK	Kars-Merkez-Bo	2.81 256	P	Pb	08 28 16.7	+0.4
BOZK			S	Sb	08 28 50.2	-0.2
DYDN	Diyadin	2.82 232	P	Pb	08 28 15.0	-1.4
TKB	Tkibuli	2.87 292	P	Pn	08 28 12.2	+2.1
TKB			S	Sb	08 28 51.7	0.0
TKB	Tkibuli	2.87 292	ePN	Pn	08 28 12.1	+2.1
TKB			eS	Sb	08 28 51.7	0.0
EPOS	Posof	2.90 275	P	Pb	08 28 15.7	-2.0
EPOS			S	Sb	08 28 53.2	+0.5
KOTA	Agri, Merkez-K	2.97 241	P	Pn	08 28 14.0	+2.4
AHAN	Ardahan-Merkez	2.98 269	P	Pb	08 28 18.5	-0.6
AHAN			S	Sb	08 28 56.0	+0.9
LRK	Lerik	2.99 152	Pn	Pn	08 28 13.2	+1.4
LRK			Sn	Sn	08 28 49.0	+2.4
IHRS	Heris	3.01 173	Pn	Pn	08 28 14.1	+2.0
GOLE	Ardahan-G¶le	3.04 262	P	Pb	08 28 19.0	-1.1
GOLE			S	Sb	08 28 57.9	+1.0
ITBZ	Tabriz	3.09 186	Pn	Pn	08 28 16.8	+3.6
LKRN	Lenkeran, Azer	3.10 146	Pn	Pn	08 28 14.9	+1.7
LKRN			Sn	Sn	08 28 50.4	+1.3
LKRN	Lenkeran, Azer	3.10 146	PN	Pn	08 28 14.9	+1.7
NCK	Nalchik	3.10 316	ePn	Pn	08 28 16.6	+3.4
NCK			eSn	Sn	08 28 54.5	+5.4
NCK	Nalchik	3.10 316	ePN	Pn	08 28 16.6	+3.4
NCK			eS	Sn	08 28 54.5	+5.4
ISHB	Shabestar	3.11 194	Pn	Pn	08 28 14.3	+0.8
AGRB	Hanur-Agry	3.23 239	P	Pn	08 28 17.6	+2.4
ASTR	Astara	3.23 147	Pn	Pn	08 28 16.1	+1.1
ASTR			Sn	Sn	08 28 54.2	+1.9
SENK	Senkaya-Erzuru	3.28 258	eP	Pb	08 28 22.3	-2.0
GAS1	Astara - Iran	3.40 148	Pn	Pn	08 28 18.4	+1.1
EATA	Eleskirt	3.42 246	P	Pn	08 28 20.7	+2.8
NEUR	Neytrino	3.47 306	i Pn	Pn	08 28 20.4	+2.0
NEUR			eSn	Sn	08 29 00.5	+2.1
NEUR	Neytrino	3.47 306	i PN	Pn	08 28 20.4	+2.0
DORK	Agr/Tutak/Do	3.47 238	P	Pb	08 28 25.4	-2.1
DORK			S	Sb	08 29 10.2	+0.8
DAGI	Agillar	3.52 268	P	Pb	08 28 27.7	-0.6
DAGI			S	Sb	08 29 12.3	+1.7
ISRB	Sarab	3.58 166	Pn	Pn	08 28 22.2	+2.2
KBZ	Khabaz	3.63 313	Pn	Pn	08 28 21.8	+1.3
	comp=Z,1.8nm,0.3s,baz=83,slow=2.3,SNR=13					
KBZ			Pg		08 28 28.5	
	comp=Z,3.1nm,0.3s,baz=142,slow=7.2,SNR=16					
KBZ			Sn	Sn	08 29 03.0	+0.8
	comp=Z,9.7nm,0.3s,baz=145,slow=12,SNR=4.5					
KBZ			Lg	Lg	08 29 15.6	
	comp=Z,7.6nm,0.3s,baz=112,slow=19,SNR=2.1					
	comp=Z,2.7nm,0.4s					
VANB	Van	3.65 223	eP	Pn	08 28 26.1	+5.3
IAZR	Azarshahr	3.66 187	Pn	Pn	08 28 23.5	+2.4
DDEM	Demirkent	3.67 265	P	Pb	08 28 29.1	-1.6
DDEM			S	Sb	08 29 17.4	+2.6
BATM	Batumi	3.68 276	PN	Pb	08 28 28.9	-1.9
DBAD	Bademkaya	3.69 267	P	Pb	08 28 30.2	-1.0
DBAD			S	Sb	08 29 16.0	+0.5
DBOC	Borcka	3.69 272	P	Pb	08 28 28.9	-2.3
DBOC			S	Sb	08 29 15.2	-0.3
MLAZ	Malazgirt-MUS	3.76 236	P	Pn	08 28 27.5	+5.1
HOMI	Horasan	3.76 252	P	Pb	08 28 32.1	-0.3
SHA1	Shidzhatmaz	3.77 311	ePn	Pn	08 28 24.5	+1.9
SHA1			eSn	Sn	08 29 09.6	+3.6
SHA1	Shidzhatmaz	3.77 311	ePN	Pn	08 28 24.5	+1.9
SHA1			eS	Sn	08 29 09.6	+3.6
KOPR	Koprukoy-ERZUR	3.82 251	eP	Pn	08 28 28.8	+5.6
BEYR	Belyy Ugol+	3.87 316	ePN	Pn	08 28 24.5	+0.8
BEYR			eS	Sn	08 29 11.8	+3.8
KIV0	Kislovodsk Arr	3.89 314	ePn	Pn	08 28 26.3	+2.2
KIV0			eSn	Sn	08 29 12.4	+3.6
KIV	Kislovodsk	3.90 314	eP	Pn	08 28 27.2	+3.0
KIV	Kislovodsk	3.90 314	Pn	Pn	08 28 24.9	+0.7
KIV	Kislovodsk	3.90 314	ePn	Pn	08 28 25.9	+1.7
KIV			eSn	Sn	08 29 11.5	+2.7
KIV	Kislovodsk	3.90 314	ePN	Pn	08 28 26.6	+2.4
KIV			eS	Sn	08 29 15.7	+6.8
KIV			pmax	pmax		
	comp=Z,14nm,1.0s					
KIV	Kislovodsk	3.90 314	P	Pn	08 28 25.3	+1.1
KIV	Kislovodsk	3.90 314	Pn	Pn	08 28 25.9	+1.7
GEVA	Gevas	4.03 223	Pn	Pn	08 28 32.4	+6.2
IHSH	Hashtrud	4.04 172	Pn	Pn	08 28 28.6	+2.3
DOMR	Dombai	4.17 300	ePn	Pn	08 28 29.8	+1.8
DOMR			eSn	Sn	08 29 19.7	+4.1
DOMR	Dombai	4.17 300	ePN	Pn	08 28 29.8	+1.8
DOMR			eS	Sn	08 29 19.7	+4.1
ALER	Alexandrovskoy	4.37 323	ePN	Pn	08 28 32.6	+2.0
CHOM	Cayeli-Rize	4.39 269	eP	Pn	08 28 37.5	+6.6
GURO	Guroymak-BITLI	4.44 233	eP	Pn	08 28 36.3	+4.5
GURO	Guroymak-BITLI	4.44 233	Pn	Pn	08 28 37.0	+5.2
VRTB	Varto-Mus	4.46 243	eP	Pn	08 28 37.7	+5.7
ARXR	Arkhyz	4.52 302	ePn	Pn	08 28 35.3	+2.5
ARXR			eSn	Sn	08 29 24.7	+0.5
ARXR	Arkhyz	4.52 302	ePN	Pn	08 28 35.3	+2.5
GOF	Gofitskoye	4.55 327	ePn	Pn	08 28 33.4	+0.3
GOF			eSn	Sn	08 29 27.0	+2.3
GOF	Gofitskoye	4.55 327	cePN	Pn	08 28 30.5	-2.5
CUKT	Cukurca	4.66 210	eP	Pn	08 28 39.3	+4.5
KOPT	Kop Dagi	4.79 256		Pn	08 28 40.6	+3.9
BAYT	Aydintepe-Bayb	4.96 261	eP	Pn	08 28 45.6	+6.7
RPOR	Krasnaya Polya	5.24 299	ePn	Pn	08 28 44.0	+1.4
RPOR			eSn	Sn	08 29 43.5	+1.8
RPOR	Krasnaya Polya	5.24 299	i P	Pn	08 28 46.6	+4.1
JIR1	Jirandeh	5.24 150	Pn	Pn	08 28 43.1	+0.4
VSLR	Vesyoloye	5.30 296	i P	Pn	08 28 47.4	+4.1
SOC	Sochi	5.56 296	eP	Pn	08 28 42.9	-4.0
SOC			eSS	Sn	08 29 55.0	+5.5
SOC			MLR	MLR		
	comp=Z,59nm,15.0s					
IGZV	Ghazvin	5.68 149	Pn	Pn	08 28 49.4	+0.5
MRNR	Maryino	5.85 299	ePn	Pn	08 28 53.1	+2.1
MRNR			eSn	Sn	08 29 59.7	+2.8
MRNR	Maryino	5.85 299	eP	Pn	08 28 53.1	+2.1
KLST	Kelardasht - M	5.93 142	Pn	Pn	08 28 51.9	-0.4
MARD	Mardin	6.01 230	Pn	Pn	08 28 57.9	+4.7
QABG	Abgarm-Qazvin	6.07 156	Pn	Pn	08 28 55.5	+1.3
MZPU	Pul - Mazandar	6.23 140	Pn	Pn	08 28 56.6	+0.2
IMHD	Mahdasht	6.47 149	Pn	Pn	08 29 01.8	+2.2
IPRN	Peran	6.77 136	Pn	Pn	08 29 03.5	-0.3
IALA	Alasht	7.14 135	Pn	Pn	08 29 09.2	+0.2
IDMV	Damavand	7.15 141	Pn	Pn	08 29 10.1	+1.0
IGLO	Ghaloghah	7.42 128	Pn	Pn	08 29 12.3	-0.4
IKIA	Kiasar	7.54 130	Pn	Pn	08 29 13.7	-0.6
IMND	Minoodasht	7.96 118	Pn	Pn	08 29 18.6	-1.2
MRVT	Maraveh tapeh	8.21 113	Pn	Pn	08 29 22.3	-1.1
ISFB	Sefidab	8.27 145	Pn	Pn	08 29 26.5	+2.2
BNN	Bunyan	8.58 257	Pn	Pn	08 29 32.5	+3.9
ISFR	Sfrayin	9.84 112	Pn	Pn	08 29 44.9	-1.0
ANAR	Anarak	9.91 143	Pn	Pn	08 29 48.3	+1.6
SBZV	Sabzevar	9.91 116	Pn	Pn	08 29 46.8	-0.1
BR131	Keskin Array S	9.97 265	i P	Pn	08 29 50.7	+3.1
BRTR	Keskin Array B	9.97 265	Pn	Pn	08 29 49.2	+1.6
	comp=Z,0.1nm,0.3s,baz=96,slow=13,SNR=1.4					
BR104	Keskin Array S	9.98 265	P	Pn	08 29 52.6	+4.9
	comp=Z,1.5nm,1.2s					
BR106	Keskin Array S	9.99 265	P	Pn	08 29 52.8	+5.0
	comp=Z,2.1nm,1.1s					
IEMG	Emamgholi	10.13 109	Pn	Pn	08 29 48.1	-1.9
VRH	Novokhopyorsk	10.45 343	eP	Pn	08 29 53.2	-0.7
VRH			pmax	pmax		
	comp=Z,3.0nm,0.8s					
IKRD	Kardeh	11.04 110	Pn	Pn	08 30 00.4	-1.9
VSR	Storozhevoye	11.15 335	eP	Pn	08 30 04.1	+0.6
VSR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
IMYA	Miami	11.66 111	Pn	Pn	08 30 10.4	-0.4
ASF	Jabal al Asfar	11.96 223	Sn	Sn	08 32 27.5	+0.3
	comp=Z,0.6nm,0.3s,baz=66,slow=13,SNR=3.6					
AKTO	Aktyubinsk	12.11 37	Pn	Pn	08 30 13.0	-3.6
	comp=Z,0.9nm,0.3s,baz=218,slow=8.2,SNR=14					
AKTO			Sn	Sn	08 32 21.2	-9.1
	comp=Z,2.6nm,0.3s,baz=39,slow=17,SNR=4.2					
	comp=Z,2.0nm,0.4s					
AKTO	Aktyubinsk	12.11 37	⇑Pn	Pn	08 30 14.2	-2.5
	comp=Z,13nm,1.2s					
AKTO			⇑Sn	Sn	08 32 19.9	-10
	comp=Z,7.4nm,0.5s					
AKTO	Aktyubinsk	12.11 37	P	Pn	08 30 14.1	-2.5
MMAI	Mount Meron Ar	12.15 231	Sn	Sn	08 32 31.9	+0.2
	comp=Z,1.5nm,0.3s,baz=339,slow=20,SNR=1.5					
AB31	Akbulak array	12.31 45	⇑Pn	Pn	08 30 16.8	-2.6
	comp=Z,4.7nm,0.5s,baz=232,slow=12,SNR=96					
AB31			⇑Sn	Sn	08 32 23.2	-12
	comp=Z,3.0nm,0.3s,baz=234,slow=22,SNR=6.2					
AB31	Akbulak array	12.31 45	eP	Pn	08 30 16.8	-2.6
ABKAR	Akbulak array	12.31 45		Pn	08 30 15.2	-4.2
LPSR	Galich'ya Gora	12.43 338	eP	Pn	08 30 19.4	-1.6
LPSR			pmax	pmax		
	comp=Z,10.0nm,0.9s					
GHAJ	Ghor Haditha	13.35 225	Pn	Pn	08 30 38.0	+4.4
KIS	Kishinev	13.95 300	P	Pn	08 30 44.5	+2.8
	comp=Z,37nm,0.5s					
SORM	Soroca	14.62 304	P	Pn	08 30 53.4	+2.5
PLOR5	Plostina Array	15.11 294	P	P	08 31 01.0	-1.4
	comp=Z,8.2nm,0.7s					
AK09	Malin Array Si	15.17 314	P	Pn	08 31 00.0	+1.8
AK10	Malin Array Si	15.18 314	P	Pn	08 31 00.2	+1.9
AK07	Malin Array Si	15.18 313	P	Pn	08 31 00.2	+1.9
AKASG	Malin Array Be	15.25 314	Pn	Pn	08 30 54.1	-5.1
	comp=Z,0.3nm,0.3s,baz=123,slow=14,SNR=5.2					
	comp=Z,0.9nm,0.7s					
AKASG	Malin Array Be	15.25 314	cePN	P	08 31 03.5	-0.3
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.5s					
AKBB	Malin Array Si	15.25 314	P	P	08 31 04.0	+0.3
AKBB			IAmb	IAmb	08 31 20.5	
	comp=Z,8.4nm,1.0s					
AKBB	Malin Array Si	15.25 314	i P	P	08 31 03.4	-0.4
AKBB			pmax	pmax		
	comp=Z,2.0nm,0.4s					
AKBB	Malin Array Si	15.25 314	P	Pn	08 31 01.0	+1.8
KIEV	Kiev	15.25 314	Pn	Pn	08 31 02.2	+2.9
KIEV	Kiev	15.25 314	P	Pn	08 31 02.2	+2.9
KIEV			pmax	pmax		
	comp=Z,8.0nm,1.0s					
KIEV	Kiev	15.25 314	P	Pn	08 31 01.0	+1.7
	comp=Z,28nm,0.9s					
OBN	Obninsk	15.31 338	⇓eP	Pn	08 31 02.4	+2.4
OBN			pmax	pmax		
	comp=Z,4.0nm,0.6s					
MLR	Muntele Rosu	15.55 292	Pn	Pn	08 31 02.9	-0.5
	comp=Z,0.1nm,0.3s,baz=108,slow=20,SNR=1.2					
	comp=Z,0.4nm,0.5s					
MOS	Moscow	15.59 341	eP	P	08 31 12.4	+4.9
MOS			pmax	pmax		
	comp=Z,29nm,0.9s					
LUBAR	Lubar, Ukraine	15.70 310	P	Pn	08 31 07.1	+2.0
MI30	MI30,Zelenitsa	15.84 313	P	Pn	08 31 09.1	+2.2
	comp=Z,20nm,0.8s					
MI29	MI29, Kamyanyy	15.87 311	P	Pn	08 31 08.2	+0.9
	comp=Z,112nm,1.1s					
KMPD	K-Podol'skiy	15.95 304	P	P	08 31 10.9	-0.7
VOIR		16.17 292	P	P	08 31 15.0	+0.8
	comp=Z,14nm,0.9s					
MI28	Mi28,Pidlybu	16.21 313	P	Pn	08 31 13.5	+1.8
KARP	Karpathos	16.25 256	P	P	08 31 17.5	+2.4
	comp=Z,78nm,2.1s					
BURAR	Bucovina Array	16.47 300		P	08 31 20.1	+2.6
BUR08	Bucovina Ar. S	16.49 300		P	08 31 19.2	+1.5
ARTI	Arti	16.94 23		Pn	08 31 19.0	-1.8
ARTI			IAmb	IAmb	08 31 41.0	
	comp=Z,13nm,1.0s					
ARTI	Arti	16.94 23	Pn	Pn	08 31 18.5	-2.3
	comp=Z,4.7nm,0.3s,baz=218,slow=10,SNR=13					
ARTI			Sn	Sn	08 34 15.7	-12
	comp=Z,0.5nm,0.3s,baz=342,slow=20,SNR=2.2					
ARTI			LR	LR	08 39 55.8	
	comp=Z,98nm,20.1s,baz=207,slow=45					
ARTI	Arti	16.94 23	d iP	P	08 31 24.7	+2.2
ARTI			S	S	08 34 35.7	-1.5
ARTI			pmax	pmax		
	comp=Z,8.0nm,0.7s					
DZET	Dzherino	17.22 91	P	Pn	08 31 24.5	0.0
RAKU	Rahkiv	17.26 300	P	P	08 31 28.2	+2.1
BANOM	Banah	17.33 149	P	Pn	08 31 26.3	+0.3
RNPP5	Staryi Chortor	17.35 312	P	P	08 31 28.0	+1.0
KIRV	Kirov	17.39 5	P	Pn	08 31 25.5	-0.8
	comp=Z,6.8nm,0.4s,baz=213,slow=3.6,SNR=4.1					
KIRV			S	Sn	08 34 25.7	-13
	comp=Z,3.6nm,0.5s,baz=238,slow=15,SNR=1.5					
KIRV			LR	LR	08 39 18.7	
	comp=Z,121nm,20.6s,baz=208,slow=42					
KIRV	Kirov	17.39 5	ceP	P	08 31 29.6	+2.2
SIMJ	Simiganj	17.39 91	P	Pn	08 31 25.4	-1.3
SIMJ			IAmb	IAmb	08 31 30.3	
	comp=Z,40nm,1.1s					
RAYN	Ar Rayn	17.76 183		P	08 31 34.4	+2.6
RAYN	Ar Rayn	17.76 183	P	P	08 31 34.4	+2.6
RAYN			pmax	pmax		
	comp=Z,13nm,1.5s					
MSFE	Esma-Masafi	17.79 150	P	Pn	08 31 32.3	+0.6
MEZ	Mezhgor'ye	17.81 302	P	P	08 31 33.7	+1.5
KK31	Karatay Array	17.82 76		Pn	08 31 29.1	-2.7
KK31			IAmb	IAmb	08 31 33.5	
	comp=Z,17nm,0.8s					
KK31	Karatay Array	17.82 76	⇑Pn	Pn	08 31 29.4	-2.4
	comp=Z,5.8nm,0.4s,baz=280,slow=14,SNR=97					
KK31	Karatay Array	17.82 76	i P	Pn	08 31 29.

VYHS *e* 08 32 12.9
VYHS Vyhne 20.84 300 *e*P Pn 08 32 09.2 +1.3
VYHS Vyhne 20.84 300 *e*PN Pn 08 32 12.9 +5.0
KBK Karagaybulak 21.10 77 P **P 08 32 08.8 +0.4**
SNR=10
TKM2 Tokmak 2 21.55 76 P **P 08 32 12.9 -0.3**
SNR=8.3
TKM2 Tokmak 2 21.55 76 ⇑P **P 08 32 12.5 -0.8**
comp=Z,8.3nm,0.9s
TKM2 Tokmak 2 21.55 76 *i* P **P 08 32 11.1 -2.1**
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
SMOL Smolenice 21.77 299 *e*P **P 08 32 17.6 +2.4**
MODS Modra-Piesok 21.85 299 *e*P **P 08 32 19.4 +3.3**
MODS Modra-Piesok 21.85 299 *e*P **P 08 32 19.4 +3.3**
BOOM Boomskoye usch 21.85 77 P **P 08 32 16.5 +0.1**
BOOM IAmb IAmb 08 32 21.8
comp=Z,6.5nm,0.7s
BOOM Boomskoye usch 21.85 77 P **P 08 32 16.5 +0.1**
BOOM pmax pmax
comp=Z,7.0nm,0.7s
KSH Kashi 22.41 85 P **P 08 32 20.8 -1.6**
KSH pmax pmax
comp=Z,13nm,1.0s
VRAC Vranov 22.43 301 LR LR 08 41 44.4
comp=Z,93nm,21.5s,baz=16,slow=38
NIL Nilore 22.45 101 P **P 08 32 22.4 -0.3**
NIL Nilore 22.45 101 P **P 08 32 22.5 -0.3**
NIL pmax pmax
comp=Z,31nm,0.7s
KDJ Kajisay 22.81 78 P **P 08 32 25.1 -1.5**
KDJ IAmb IAmb 08 32 28.9
comp=Z,8.2nm,1.0s
KDJ Kajisay 22.81 78 P **P 08 32 25.1 -1.5**
KDJ pmax pmax
comp=Z,8.0nm,1.0s
TARG Taragay, Kyrgy 23.33 79 P **P 08 32 30.5 -1.7**
TARG Taragay, Kyrgy 23.33 79 P **P 08 32 30.5 -1.7**
TARG pmax pmax
comp=Z,5.0nm,0.9s
FIA1 FINESS Array S 23.68 335 P **P 08 32 34.2 -0.6**
FINES FINESS Array B 23.68 335 P **P 08 32 34.4 -0.5**
comp=Z,0.9nm,0.4s,baz=138,slow=10,SNR=13
comp=Z,0.9nm,0.4s
FINES FINESS Array B 23.68 335 *i* P **P 08 32 37.0 +2.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s
MOA Molln 23.80 297 *e*P **P 08 32 38.5 +2.3**
comp=Z,6.0nm,1.5s
KURBB Kurchatov Arra 23.93 56 P **P 08 32 36.9 -0.4**
comp=Z,4.6nm,0.8s,baz=262,slow=11,SNR=29
KURBB LR LR 08 43 34.3
comp=Z,78nm,18.5s,baz=168,slow=41
comp=Z,4.6nm,0.8s
KURBB Kurchatov Arra 23.93 56 ⇓P **P 08 32 36.9 -0.4**
comp=Z,9.5nm,1.1s
KURK Kurchatov 24.00 56 P **P 08 32 36.7 -1.2**
KURK IAmb IAmb 08 32 58.1
comp=Z,9.3nm,0.8s
KURK Kurchatov 24.00 56 ⇓P **P 08 32 37.2 -0.8**
comp=Z,7.2nm,0.7s
KURK Kurchatov 24.00 56 *i* P **P 08 32 37.7 -0.3**
KURK pmax pmax
comp=Z,8.0nm,0.8s
PRED Cave del Predi 24.23 293 P **P 08 32 40.9 +0.6**
GERES GERESS Array B 24.26 299 P **P 08 32 42.0 +1.4**
GERES GERESS Array B 24.26 299 P **P 08 32 41.1 +0.5**
comp=Z,0.7nm,0.4s,baz=104,slow=8.5,SNR=7.1
comp=Z,0.7nm,0.4s
GERES GERESS Array B 24.26 299 P **P 08 32 42.0 +1.4**
PDGK Podgornoye 24.34 74 ⇑P **P 08 32 39.8 -1.7**
comp=Z,3.9nm,0.8s
PDGK Podgornoye 24.34 74 P **P 08 32 39.7 -1.7**
KBA Koelnbreinsper 24.39 295 *e*P **P 08 32 42.6 +0.8**
comp=Z,1.5nm,0.7s
LESA Schwarzleotal 24.85 296 *e*P **P 08 32 46.6 +0.7**
comp=Z,2.9nm,0.5s
ABTA Abfaltersbach 24.95 294 *e*P **P 08 32 47.3 +0.5**
comp=Z,1.7nm,0.7s
CLL Collm 25.05 305 *e*P **P 08 32 51.0 +3.5**
CLL *i* x x 08 33 00.5
CLL *i* x x 08 33 05.3
WTTA Wattenberg 25.56 295 *e*P **P 08 32 52.6 +0.2**
comp=Z,2.0nm,0.7s
WATA Walderalm 25.60 295 *e*P **P 08 32 53.5 +0.7**
comp=Z,1.9nm,0.7s
SQTA Sankt Quirin 25.85 295 *e*P **P 08 32 55.7 +0.7**
comp=Z,1.3nm,0.5s
MAKZ Makanchi 25.88 66 P **P 08 32 53.1 -2.1**
MAKZ IAmb IAmb 08 32 58.4
comp=Z,4.6nm,1.2s
MAKZ Makanchi 25.88 66 ⇑P **P 08 32 54.3 -0.9**
comp=Z,2.7nm,0.8s
MAKZ Makanchi 25.88 66 P **P 08 32 53.1 -2.1**
MAKZ pmax pmax
comp=Z,5.0nm,1.2s
MOTA Moosalm 25.92 295 *e*P **P 08 32 54.8 -0.9**
comp=Z,0.9nm,0.6s
MK31 Makanchi Array 26.10 66 P **P 08 32 56.4 -0.7**
MK31 IAmb IAmb 08 32 58.2
comp=Z,2.8nm,0.7s
MK31 Makanchi Array 26.10 66 ⇓P **P 08 32 56.8 -0.4**
comp=Z,0.9nm,0.3s,baz=274,slow=6.6,SNR=26
MK31 Makanchi Array 26.10 66 *i* P **P 08 32 56.7 -0.4**
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 26.10 66 P **P 08 32 56.2 -1.0**
MKAR Makanchi Array 26.10 66 P **P 08 32 57.0 -0.2**
comp=Z,3.0nm,0.6s,baz=277,slow=7.2,SNR=36
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 26.10 66 *i* P **P 08 32 57.2 0.0**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
FETA Feichten 26.18 295 *e*P **P 08 32 58.9 +0.9**
comp=Z,2.0nm,0.8s
HFS Hagfors 27.63 324 P **P 08 33 10.9 +0.2**
comp=Z,0.6nm,0.6s,baz=133,slow=12,SNR=1.1
comp=Z,0.6nm,0.6s
ZAA0 Zalesovo Array 28.34 50 P **P 08 33 16.1 -1.0**
ZALV Zalesovo Beam 28.34 50 P **P 08 33 15.6 -1.5**
ZALV Zalesovo Beam 28.34 50 P **P 08 33 14.6 -2.5**
comp=Z,1.1nm,0.3s,baz=246,slow=11,SNR=5.1
comp=Z,1.1nm,0.3s
ZALV Zalesovo Beam 28.34 50 *i* P **P 08 33 16.3 -0.8**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
NB2 NORSAR Subarra 29.13 325 P **P 08 33 22.7 -1.4**
comp=Z,2.9nm,1.1s,baz=117,slow=8.6
NOA NORSAR Array B 29.13 325 P **P 08 33 22.2 -1.9**
comp=Z,0.5nm,0.8s,baz=108,slow=11,SNR=1.1
comp=Z,0.5nm,0.8s
WMQ Urumqi 30.18 71 *e*P **P 08 33 35.2 +1.6**
ARCES ARCESS Array B 30.36 346 P **P 08 33 33.1 -1.8**
comp=Z,4.8nm,1.1s,baz=158,slow=9.5,SNR=1.9
comp=Z,4.8nm,1.1s
SSB Saint Sauveur 30.59 292 P **P 08 33 37.9 +0.7**
SSB Saint Sauveur 30.59 292 P **P 08 33 37.9 +0.7**
SSB pmax pmax
comp=Z,16nm,1.4s
EKA Eskdalemuir Ar 35.12 311 P **P 08 34 16.0 -0.6**
comp=Z,0.5nm,0.5s,baz=88,slow=7.7,SNR=2.3
comp=Z,0.5nm,0.5s
EKA Eskdalemuir Ar 35.12 311 P **P 08 34 16.0 -0.6**
NRIK Noril'sk 35.25 24 P **P 08 34 14.9 -2.6**
comp=Z,0.9nm,0.3s,baz=184,slow=15,SNR=2.5
NRIK LR LR 08 52 37.7
comp=Z,113nm,18.2s,baz=242,slow=43
comp=Z,0.9nm,0.3s
NRIK Noril'sk 35.25 24 *ce*P **P 08 34 18.2 +0.6**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
ESDC Sonseca Array 38.02 285 P **P 08 34 40.8 -0.9**
comp=Z,0.6nm,0.7s,baz=90,slow=9.0,SNR=2.1
comp=Z,0.6nm,0.7s
SPITS Spitsbergen Ar 38.95 351 P **P 08 34 46.6 -2.3**
comp=Z,8.8nm,1.0s,baz=142,slow=10,SNR=7.2
comp=Z,8.8nm,1.0s
SHL Shillong 40.47 98 P **P 08 35 00.9 -1.5**
SHL Shillong 40.47 98 P **P 08 35 00.9 -1.5**
SHL pmax pmax
comp=Z,12nm,1.0s
SONM Songino Array 42.18 60 P **P 08 35 15.2 -0.9**
comp=Z,0.6nm,0.3s,baz=292,slow=7.5,SNR=5.9
comp=Z,0.6nm,0.3s
ULN Ulaanbaatar 42.60 60 P **P 08 35 18.9 -0.6**
ULN Ulaanbaatar 42.60 60 *ce*P **P 08 35 19.9 +0.4**
ULN pmax pmax
comp=Z,8.0nm,2.5s
LZH Lanzhou 44.31 77 *e*P **P 08 35 32.2 -1.3**
LZH pP pP 08 35 35.2 -8.3
LZH sP sP 08 35 40.5 -7.2
LZH pmax pmax
comp=Z,18nm,1.2s
PZH PanZhiHua 47.36 90 P **P 08 35 58.1 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,4.8s
HHC Hu-ho-hao-te 47.93 68 *e*P **P 08 36 00.7 -1.1**
HHC pmax pmax
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 49.95 101 P **P 08 36 16.7 -0.7**
comp=Z,1.1nm,0.3s,baz=304,slow=8.7,SNR=9.9
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 49.95 101 *i* P **P 08 36 17.7 +0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 60.60 30 P **P 08 37 33.9 +0.4**
comp=Z,3.0nm,0.7s,baz=274,slow=10,SNR=9.9
comp=Z,3.0nm,0.7s
SEY Seymchan 60.60 30 *ce*P **P 08 37 35.6 +2.1**
SEY pmax pmax
comp=Z,7.0nm,2.5s
A21K Barrow 66.46 8 P **P 08 38 13.3 +1.3**
baz=341
A36M Sachs Harbour 66.86 357 P **P 08 38 16.0 +1.4**
baz=6.4
A22K Sinclair Lake 66.93 8 P **P 08 38 15.8 +0.7**
baz=342
A19K Wainwright 66.99 10 P **P 08 38 15.9 +0.4**
baz=337
B20K Meade River 67.65 9 P **P 08 38 20.2 +0.6**
baz=341
B18K Kokolik River 67.67 10 P **P 08 38 20.0 +0.2**
baz=337
B22K Teshekpuk Lake 67.72 7 P **P 08 38 20.5 +0.5**
baz=344,SNR=7.0
MJAR Matsushiro Arr 68.13 60 LR LR 09 10 33.6
comp=Z,31nm,20.2s,baz=325,slow=38
C16K Lisburne Hills 68.14 12 P **P 08 38 22.5 -0.3**
baz=334
B21K Ikpikpuk River 68.29 8 P **P 08 38 23.1 -0.5**
baz=343
C18K Utukok River 68.42 11 P **P 08 38 23.3 -1.3**
baz=338,SNR=5.5
C23K Itkillik River 68.45 6 P **P 08 38 24.8 +0.1**
baz=346
C24K Franklin Bluff 68.72 6 P **P 08 38 25.6 -0.7**
baz=347
C21K Knifeblade Rid 68.72 8 P **P 08 38 26.0 -0.3**
baz=343
RDOG Red Dog Mine 68.72 11 P **P 08 38 25.4 -1.0**
baz=336
C26K Camden Bay 68.77 4 P **P 08 38 26.2 -0.4**
baz=350
D20K Etivluk River 68.94 9 P **P 08 38 27.5 -0.3**
baz=341
D19K Kuna River 68.97 9 P **P 08 38 27.2 -0.8**
baz=340
D17K Noatak River 69.03 12 P **P 08 38 28.1 -0.2**
baz=336
C27K Jago River 69.12 4 P **P 08 38 28.7 -0.2**
baz=351
D22K Ayikyak River 69.20 7 P **P 08 38 29.2 -0.2**
baz=344
D24K Happy Valley 69.27 6 P **P 08 38 29.8 +0.1**
baz=347
D25K Kavik River 69.27 5 P **P 08 38 30.1 +0.3**
baz=349,SNR=11
D23K Nanushuk River 69.30 7 P **P 08 38 30.2 +0.3**
baz=346
C36M Paulatuk 69.44 356 P **P 08 38 31.0 +0.2**
baz=7.2
E21K Killik River 69.49 8 P **P 08 38 31.2 0.0**
baz=343
D28M Stokes Point 69.61 2 P **P 08 38 32.1 +0.2**
baz=355
D27M Malcolm River 69.62 3 P **P 08 38 31.8 -0.3**
baz=354
E18K Tukpahlearik C 69.65 11 P **P 08 38 31.9 -0.3**
baz=338
TOLK Toolik Lake Re 69.71 6 P **P 08 38 32.3 -0.2**
baz=347,SNR=6.0
E17K Hotham Inlet 69.78 11 P **P 08 38 32.5 -0.5**
baz=337
E22K Anaktuvuk Pass 70.00 7 P **P 08 38 34.0 -0.4**
baz=345
E19K Redstone River 70.06 10 P **P 08 38 34.8 +0.1**
baz=341
E23K Chandalar 70.28 6 P **P 08 38 36.4 +0.3**
baz=347
E28M Babbage River 70.31 2 P **P 08 38 36.3 0.0**
baz=355
E24K Your Creek 70.35 6 P **P 08 38 36.2 -0.3**
baz=348
F17K Baldwin Pennin 70.47 11 P **P 08 38 37.3 +0.2**
baz=338
E25K Arctic Village 70.51 5 P **P 08 38 37.1 -0.4**
baz=350
F18K Selawik 70.55 11 P **P 08 38 37.3 -0.3**
baz=339
E29M Blow River 70.57 2 P **P 08 38 38.2 +0.4**
baz=356,SNR=5.2
F22K John River 70.58 8 P **P 08 38 38.7 +0.8**
baz=345
F19K Shaleruckik Mo 70.59 10 P **P 08 38 38.9 +1.0**
baz=340
F15K North Star Dit 70.60 13 P **P 08 38 38.5 +0.5**
baz=335
F20K Avaraart Lake 70.64 9 P **P 08 38 37.6 -0.5**
baz=342
E27K Coleen River 70.66 3 P **P 08 38 38.4 0.0**
baz=353,SNR=7.3
INK Inuvik 70.71 0 P **P 08 38 39.0 +0.4**
baz=360
F21K Alatna River 70.72 8 P **P 08 38 38.5 -0.2**
baz=344
F24K Squaw Lake 70.94 6 P **P 08 38 39.4 -0.8**
baz=348
GAMB Gambell 70.95 17 P **P 08 38 39.2 -0.9**
baz=330
F26K Sheenjek River 71.02 4 P **P 08 38 40.5 0.0**
baz=351,SNR=6.3
F25K Christian Rive 71.03 5 P **P 08 38 40.4 -0.3**
baz=350
COLD Coldfoot 71.04 7 P **P 08 38 40.4 -0.3**
baz=346
G22K Bettles 71.21 7 P **P 08 38 41.9 +0.2**
baz=345
G16K Koyuk River 71.27 12 P **P 08 38 41.6 -0.4**
baz=337
G19K Purcell Mounta 71.33 10 P **P 08 38 42.3 -0.1**
baz=341
G18K Tagagawik 71.36 11 P **P 08 38 42.4 -0.2**
baz=340
G15K Niukluk 71.36 13 P **P 08 38 42.3 -0.3**
baz=336
F30M Barrier River 71.39 1 P **P 08 38 42.8 0.0**
baz=358
G21K Allakaket 71.40 8 P **P 08 38 42.9 0.0**
baz=344
G17K Kiwalik Mounta 71.44 12 P **P 08 38 43.0 -0.1**
baz=338
G23K Bananza Creek 71.56 7 P **P 08 38 44.5 +0.7**
baz=347
F31M Tsiigehtchic 71.58 0 P **P 08 38 44.6 +0.8**
baz=360
G26K Porcupine Rive 71.78 4 P **P 08 38 45.0 -0.1**
baz=352
G24K Hadweenzic Riv 71.78 6 P **P 08 38 44.7 -0.5**
baz=349
G25K Bearman Lake 71.82 5 P **P 08 38 46.3 +0.9**
baz=350
H16K Elim 71.99 13 P **P 08 38 47.1 +0.7**
baz=337
H19K Roundabout Mou 72.00 10 P **P 08 38 47.1 +0.7**
baz=342
G30M tAoh Zraii Nji 72.02 1 P **P 08 38 46.9 +0.3**
baz=358
G27K Doyon Strip 72.03 3 P **P 08 38 46.5 -0.1**
baz=353
G29M Pine Creek 72.05 2 P **P 08 38 47.5 +0.7**
baz=356
H17K Granite Mounta 72.08 12 P **P 08 38 47.0 +0.1**
baz=339
H18K Honhosa River 72.10 11 P **P 08 38 47.4 +0.3**
baz=340
H22K Ishtalitna Cre 72.23 8 P **P 08 38 48.4 +0.6**
baz=346
H20K Anotleneega Mo 72.23 9 P **P 08 38 48.0 +0.1**
baz=343
H21K Melozitna Rive 72.31 8 P **P 08 38 48.2 -0.1**
baz=345
H25L Birch Creek 72.33 5 P **P 08 38 48.9 +0.5**
baz=350
H23K Yukon River 72.47 7 P **P 08 38 49.7 +0.4**
baz=347
H24K Noodor Dome 72.60 6 P **P 08 38 50.9 +0.8**
baz=348
H27K Steamboat Moun 72.61 3 P **P 08 38 51.2 +1.0**
baz=353
EPYK Eagle Plains 72.62 1 P **P 08 38 50.2 -0.1**
baz=357
GCSA Galena City Sc 72.69 10 P **P 08 38 50.7 +0.1**
baz=342
H29M Whitestone 72.74 2 P **P 08 38 51.1 +0.2**
baz=356
I21K Tanana 72.86 8 P **P 08 38 51.3 -0.3**
baz=345
I20K Naaghedeneel 72.95 9 P **P 08 38 51.9 -0.2**
baz=343
PRP Porcupine Dome 73.09 5 P **P 08 38 52.4 -0.7**
baz=350
I23K Minto, Yukon-K 73.15 7 P **P 08 38 52.7 -0.6**
baz=347
H31M Peel River 73.22 0 P **P 08 38 52.8 -0.9**
baz=359
I27K Kandik River 73.23 4 P **P 08 38 53.5 -0.4**
baz=353
POKR Poker Plat Res 73.35 6 P **P 08 38 52.9 -1.6**
baz=349
I26K Coal Creek Min 73.45 4 P **P 08 38 54.9 -0.2**
baz=352
I28M Miner Creek 73.46 3 P **P 08 38 55.0 -0.3**
baz=355,SNR=7.3
J14K Nanvaranak Lak 73.51 14 P **P 08 38 54.3 -1.1**
baz=337
COLA College 73.55 6 P **P 08 38 55.3 -0.4**
baz=348
J19K Poorman 73.58 10 P **P 08 38 54.9 -0.9**
baz=342
J20K Nowinta River 73.59 9 P **P 08 38 55.7 -0.2**
baz=344
I29M Ogilvie Camp, 73.60 2 P **P 08 38 55.8 -0.2**
baz=356,SNR=5.0
J17K VABM Dome 73.65 12 P **P 08 38 55.5 -0.8**
baz=340
NEA2 Nenana 73.72 7 P **P 08 38 56.2 -0.5**
baz=348
ILAR Eielson Array 73.73 6 P **P 08 38 55.8 -0.9**
comp=Z,0.5nm,0.5s,baz=336,slow=3.2,SNR=9.4
comp=Z,0.5nm,0.5s
I30M Mount Dempster 73.78 1 P **P 08 38 57.1 0.0**
baz=357,SNR=11
J18K Innoko River 73.93 11 P **P 08 38 57.9 0.0**
baz=342
J25K Salcha River, 74.00 5 P **P 08 38 58.7 +0.3**
baz=350
BPAW Bear Paw Mtn. 74.02 8 P **P 08 38 57.8 -0.7**
baz=346
K13K Kusilvak Mount 74.06 15 P **P 08 38 58.2 -0.4**
baz=336
HDA Harding Lake 74.08 6 P **P 08 38 58.3 -0.5**
baz=349
CHUM Lake Minchumin 74.08 9 P **P 08 38 58.6 -0.2**
baz=345
J26L Joseph Creek 74.23 5 P **P 08 38 59.2 -0.5**
baz=352
K15K Wolf Creek Mou 74.29 13 P **P 08 38 58.6 -1.4**
baz=338
K20K Telida 74.39 9 P **P 08 38 59.0 -1.6**
baz=344
K17K Iditarod 74.42 12 P **P 08 38 59.9 -0.8**
baz=341
J30M Hart River 74.43 1 P **P 08 39 00.7 -0.3**
baz=357,SNR=5.8
J29N Klondike Camp 74.51 2 P **P 08 39 01.5 +0.1**
baz=356
TTA Tatalina 74.54 11 P **P 08 39 01.5 -0.1**
baz=342
CAST Castle Rocks 74.56 9 P **P 08 39 01.3 -0.3**
baz=345
MCK McKinley 74.58 7 P **P 08 39 01.4 -0.3**
baz=348
SCRK Sand Creek 74.72 5 P **P 08 39 02.6 -0.1**
baz=352
TRF Thorofare Moun 74.72 8 P **P 08 39 02.2 -0.6**
baz=347
K24K Donnelly Dome 74.77 6 P **P 08 39 02.7 -0.2**
baz=350
K27K Chicken 74.78 4 P **P 08 39 02.5 -0.4**
baz=353
DAWY Dawson 74.86 3 P **P 08 39 02.7 -0.7**
baz=355
L15K Ungalak Mounta 74.87 13 P **P 08 39 02.5 -0.9**
baz=338
RIDG Independent Ri 74.90 5 P **P 08 39 02.8 -0.8**
baz=351
L17K Donlin 74.97 12 P **P 08 39 02.9 -1.0**
baz=341
L14K Kuka Creek 74.97 14 P **P 08 39 03.7 -0.2**
baz=337
PPLA Purkeypile 75.06 9 P **P 08 39 02.9 -1.7**
baz=345
L18K Granite Mounta 75.13 11 P **P 08 39 04.0 -0.9**
baz=342
K29M Barlow Dome 75.14 2 P **P 08 39 04.3 -0.8**
baz=356
L16K Owhat River 75.18 12 P **P 08 39 04.7 -0.5**
baz=340
L20K Farewell, AK 75.26 10 P **P 08 39 04.8 -0.9**
baz=344
L19K White Mountain 75.42 10 P **P 08 39 05.5 -1.1**
baz=343
YKA Yellowknife Ar 75.44 351 P **P 08 39 05.5 -1.1**
comp=Z,0.5nm,0.9s,baz=17,slow=6.4,SNR=8.5
comp=Z,0.5nm,0.9s
YKA Yellowknife Ar 75.44 351 *i* P **P 08 39 06.9 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.9s
WRGLY Wrigley 75.50 355 P **P 08 39 07.3 +0.4**
baz=7.4
PAX Paxson 75.62 6 P **P 08 39 07.1 -0.8**
baz=350
M14K Bethel 75.65 14 P **P 08 39 06.8 -1.1**
baz=338
M13K Dall Lake 75.70 15 P **P 08 39 07.1 -1.1**
baz=337
L26K Log Cabin Wild 75.71 5 P **P 08 39 07.5 -0.8**
baz=352
M19K Big River Lodg 75.75 10 P **P 08 39 07.1 -1.4**
baz=344
CUT Chulitna 75.75 8 P **P 08 39 07.7 -0.7**
baz=347
L27K Beaver Creek, 75.76 4 P **P 08 39 08.1 -0.4**
baz=353
M17K Holitna River 75.80 12 P **P 08 39 07.8 -0.9**
baz=341
L29M L29M 75.86 2 P **P 08 39 07.7 -1.4**
baz=356
M16K Timber Creek 75.92 12 P **P 08 39 07.5 -2.0**
baz=340
M20K Styx River 75.93 9 P **P 08 39 07.8 -1.8**
baz=345
M15K Kasigluk River 75.93 13 P **P 08 39 07.6 -1.9**
baz=339
M18K Stony River 75.95 11 P **P 08 39 08.3 -1.3**
baz=343
SKT Skwentna 76.02 9 P **P 08 39 08.4 -1.7**
baz=346
HARP HAARP 76.21 6 P **P 08 39 10.5 -0.6**
baz=351
M26K Nabesna, AK 76.35 5 P **P 08 39 11.3 -0.7**
baz=352
M24K Tolsona, Glenn 76.42 6 P **P 08 39 11.2 -1.2**
baz=350
M30M Minto, Yukon 76.43 2 P **P 08 39 10.9 -1.5**
baz=357
BVCY Beaver Creek 76.45 4 P **P 08 39 10.5 -2.0**
baz=354
M27K Edge Creek, AK 76.46 4 P **P 08 39 11.4 -1.2**
baz=353
N16K Nishlik Lake 76.47 13 P **P 08 39 11.2 -1.4**
baz=340

N14K	Kuskokwak Cree baz=338	76.47	14	P	P	08 39 10.6	-1.9
M29M	Somme Creek baz=356	76.52	2	P	P	08 39 11.1	-1.8
SML	Sawmill baz=348	76.53	7	P	P	08 39 11.2	-1.8
N15K	Kwethluk River baz=340	76.53	13	P	P	08 39 11.3	-1.6
SCM	Sheep Creek Mo baz=349	76.59	7	P	P	08 39 11.7	-1.7
M23K	Glacier View baz=349	76.60	7	P	P	08 39 11.6	-1.7
SUA	Susitna One baz=346	76.62	8	P	P	08 39 12.6	-1.0
PMR	Palmer baz=348	76.66	8	P	P	08 39 12.4	-1.2
N17K	Nushagak Hills baz=342	76.67	12	P	P	08 39 12.6	-1.1
SPCR	Spurr Chakacha baz=345	76.70	9	P	P	08 39 13.4	-0.5
N18K	Kilae Creek baz=343	76.72	11	P	P	08 39 13.8	-0.2
N19K	Bonanza Creek baz=344	76.79	10	P	P	08 39 13.8	-0.7
FARO	Faro, Yukon baz=360	76.81	360	P	P	08 39 13.9	-0.7
M31M	Drury Creek, Y baz=359	76.83	0	P	P	08 39 15.7	+1.0
KNK	Knik Glacier baz=348	76.90	7	P	P	08 39 14.8	-0.3
N25K	Chitina, Valde baz=351	77.04	5	P	P	08 39 16.5	+0.6
KLU	Klutina baz=350	77.05	6	P	P	08 39 15.8	-0.2
RC01	Rabbit Creek A baz=347	77.09	8	P	P	08 39 15.4	-0.7
YUK3	Moose Creek baz=354	77.11	3	P	P	08 39 15.9	-0.5
O14K	Tigyukauivet M baz=339	77.18	14	P	P	08 39 15.5	-1.1
CAPN	Captain Cook N baz=346	77.25	9	P	P	08 39 17.3	+0.4
O17K	Koliganek Bris baz=342	77.40	12	P	P	08 39 15.9	-1.9
O19K	Port Alsworth baz=344	77.40	11	P	P	08 39 16.5	-1.3
O16K	Kokwok River B baz=341	77.41	13	P	P	08 39 17.0	-0.9
TGTN	Hyland Airport baz=3.7	77.43	357	P	P	08 39 17.3	-0.7
PWL	Port Wells baz=348	77.46	7	P	P	08 39 17.4	-0.8
O15K	Ungalikthiuk R baz=340	77.51	14	P	P	08 39 17.1	-1.4
N31M	Braeburn, Yuko baz=358	77.54	1	P	P	08 39 17.5	-1.1
N30M	Aishikik Lake baz=357	77.54	2	P	P	08 39 17.6	-1.1
GLI	Glacier Island baz=349	77.56	7	P	P	08 39 17.2	-1.5
O18K	Koktuh Hills baz=343	77.61	11	P	P	08 39 17.5	-1.5
YUK4	Talbot Arm baz=356	77.61	3	P	P	08 39 17.8	-1.4
YUK8	Steele Glacier baz=355	77.63	3	P	P	08 39 17.8	-1.6
BMRM	Bremner River baz=351	77.67	6	P	P	08 39 17.3	-2.1
O22K	Cooper Landing baz=347	77.69	8	P	P	08 39 17.6	-1.8
O20K	Slope Mountain baz=345	77.74	10	P	P	08 39 17.4	-2.4
P08K	Saint George I baz=333	77.80	19	P	P	08 39 18.7	-1.3
N32M	Quiet Lake baz=360	77.89	360	P	P	08 39 19.3	-1.3
EYAK	Cordova Ski Ar baz=350	78.00	6	P	P	08 39 19.4	-1.7
YUK6	Outpost Mounta baz=356	78.02	2	P	P	08 39 19.8	-1.8
P18K	Big Mountain, baz=343	78.05	11	P	P	08 39 19.4	-2.1
P17K	Kvichak River baz=342	78.06	12	P	P	08 39 19.0	-2.4
P19K	Oil Pt baz=345	78.08	10	P	P	08 39 19.2	-2.5
SEW	Seward baz=348	78.09	8	P	P	08 39 19.8	-1.8
O28M	Mount Upton baz=354	78.12	3	P	P	08 39 20.0	-2.2
HYT	Haines Junctio baz=357	78.17	2	P	P	08 39 20.9	-1.4
O30N	Mendenhall baz=358	78.25	1	P	P	08 39 21.2	-1.4
BRSE	Bradley Lake S baz=346	78.30	9	P	P	08 39 21.0	-1.9
WHY	Whitehorse baz=359	78.38	1	P	P	08 39 22.2	-1.2
P23K	Montague Islan baz=349	78.40	7	P	P	08 39 21.1	-2.2
KOTAN	Kotaneelee Air baz=6.9	78.62	355	P	P	08 39 24.6	0.0
MESA	MESA baz=353	78.63	4	P	P	08 39 23.4	-1.5
O29M	Mount Kennedy baz=356	78.66	3	P	P	08 39 24.7	-0.3
KAIM	Kayak Island baz=351	78.72	6	P	P	08 39 25.0	-0.2
PINM	Pinnacle baz=354	78.80	3	P	P	08 39 24.8	-0.9
Q18K	Katmai Hardscr baz=343	78.80	11	P	P	08 39 24.6	-1.2
P33M	Teslin, Yukon baz=0.2	78.83	360	P	P	08 39 25.9	0.0
WTLY	Watson Lake, Y baz=3.3	78.86	358	P	P	08 39 25.4	-0.6
P30M	Million Dollar baz=357	78.88	2	P	P	08 39 25.8	-0.4
Q17K	Contact Creek baz=343	79.03	12	P	P	08 39 26.1	-0.9
Q20K	Shuyak Island baz=345	79.20	10	P	P	08 39 26.2	-1.5
PNL	Peninsula baz=355	79.26	3	P	P	08 39 28.1	0.0
P29M	Windy Craggy baz=356	79.36	2	P	P	08 39 29.5	+0.8
R16K	Pilot Point baz=342	79.42	13	P	P	08 39 29.0	0.0
SKAG	Skagway baz=358	79.58	1	P	P	08 39 29.1	-0.7
R33M	Jennings River baz=1.6	79.64	359	P	P	08 39 29.2	-1.2
R18K	Karluk baz=344	79.92	11	P	P	08 39 30.9	-0.8
TOAD	Toad River Com baz=6.0	79.97	356	P	P	08 39 32.5	+0.5
KDAK	Kodiak Island baz=345	79.97	10	P	P	08 39 31.5	-0.4
Q32M	Nakina River baz=0.6	80.09	359	P	P	08 39 32.5	-0.4
CHGN	Chignik baz=341	80.48	14	P	P	08 39 33.9	-0.8
DLBC	Dease Lake baz=2.3	80.58	358	P	P	08 39 34.6	-0.7
R31K	City Hall, Gus baz=358	80.62	1	P	P	08 39 34.2	-1.3
FALS	False Pass baz=337	80.84	17	P	P	08 39 35.6	-1.0
SII	Sitkinak Islan baz=344	80.93	11	P	P	08 39 37.1	-0.1
S31K	Pelican baz=358	81.06	2	P	P	08 39 37.9	+0.1
CHIR	Chirikof Islan baz=343	81.42	12	P	P	08 39 39.4	-0.4
S32K	Killisnoo baz=359	81.58	1	P	P	08 39 40.4	-0.2
CHNA	Chernabura Isl baz=340	81.65	15	P	P	08 39 40.6	-0.5
SIT	Sitka baz=358	81.99	1	P	P	08 39 42.3	-0.4
WRAK	Wrangell Islan baz=0.5	82.64	359	P	P	08 39 44.9	-1.2
U33K	Whale Pass baz=360	82.94	360	P	P	08 39 46.8	-0.9
CRAG	Craig baz=360	83.59	360	P	P	08 39 50.6	-0.5
V35K	Ketchikan baz=1.1	83.72	359	P	P	08 39 51.3	-0.5
NVAR	Mina Array Bea comp=Z,71nm,18.2s,baz=214,slow=37	99.45	348	LR	LR	09 28 31.3	
Y22D	IRIS PASSCAL I baz=20	101.12	338	P	Pdif	08 41 12.8	-0.8
WRA	Warramunga Arr comp=Z,0.4nm,0.5s,baz=310,slow=4.8,SNR=2.0	101.27	107	P	Pdif	08 41 13.2	-0.9

NEIC ***07*** *08:29:37.9±1.1, 19°.85N±0°.05×73°.20W±0°.05, h10km±2km, ML3.7/14, Error ellipse: s-maj=9.1km s-min=7.0km az=49.0*
SSNC ***07*** *08:29:39.7±1.5, 19°.82N×73°.16W, h4km±6km, MD3.6, ML3.5*
OSPL ***07*** *08:29:41.4±4.2, 19°.88N×73°.15W, h25km±15km, ML3.6*
SDD ***07*** *08:29:42.0±2.1, 19°.94N×73°.16W, h63km±55km, MD3.8, ML3.7, MW3.8*

ISC 07 08:29:39.2±2.3, 19°.84N±0°.05×73°.18W±0°.03, h24km±22km, n51, σ1°.03/77, 6C-3D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.04**	**289**	*e*P	**Pn**	**08 29 58.6**	**+0.3**
MASC				*e*S	**Sn**	**08 30 12.5**	**+0.3**
MASC				IAML		08 30 16.6	
	comp=N,2μm,0.2s						
MASC				IAML		08 30 16.8	
	comp=E,3μm,0.2s						
MASC	**Masc**	**1.04**	**289**	⇑*i*P	**Pn**	**08 29 58.6**	**+0.3**
MASC				*e*S	**Sn**	**08 30 12.9**	**+0.7**
MASC				IAML		08 30 16.9	
	comp=Z,2μm,0.2s						
LODA1	**ITESIL, Dajabo**	**1.42**	**102**	⇑*i*P	**Pn**	**08 30 02.4**	**-1.0**
LODA1				*e*S	**Sn**	**08 30 18.4**	**-3.0**
LODA1				IAML		08 30 20.0	
	comp=Z,2μm,0.2s						
MCDR	**Montecristi**	**1.43**	**88**	*e*Pg	**Pn**	**08 30 04.5**	**+0.9**
MCDR				*e*Sg	**Sn**	**08 30 21.1**	**-0.6**
MCDR				IAML		08 30 24.6	
	comp=N,2μm,0.2s						
PAPH	**Port-au-Prince**	**1.55**	**148**	Pn	**Pn**	**08 30 05.7**	**+0.4**
PAPH				IAML		08 30 28.4	
	comp=E,1μm,0.2s						
PAPH				IAML		08 30 42.9	
	comp=N,1μm,0.3s						
PAPH	**Port-au-Prince**	**1.55**	**148**	*e*P	**Pn**	**08 30 05.9**	**+0.6**
PAPH				*e*S	**Sn**	**08 30 24.6**	**-0.1**
PAPH	**Port-au-Prince**	**1.55**	**148**	⇑*i*P	**Pn**	**08 30 05.9**	**+0.6**
PAPH				*e*S	**Sn**	**08 30 24.8**	**+0.1**
QMBU	**Quimbuelo**	**1.58**	**283**	*e*P	**Pn**	**08 30 05.8**	**+0.1**
GTBY	**Guantanamo Bay**	**1.82**	**273**	Pn	**Pn**	**08 30 09.3**	**+0.2**
GTBY	**Guantanamo Bay**	**1.82**	**273**	*e*P	**Pn**	**08 30 09.4**	**+0.4**
GTBY				*e*S	**Sn**	**08 30 31.1**	**-0.3**
GTBY				IAML		08 30 33.3	
	comp=N,180nm,0.3s						
GTBY				IAML		08 30 34.7	
	comp=N,156nm,0.2s						
GTBY	**Guantanamo Bay**	**1.82**	**273**	*e*Pg	**Pn**	**08 30 09.8**	**+0.8**
GTBY				*e*Sg	**Sn**	**08 30 31.7**	**+0.3**
GTBY				IAML		08 30 33.5	
	comp=N,235nm,0.3s						
GTBY	**Guantanamo Bay**	**1.82**	**273**	*i* P	**Pn**	**08 30 09.5**	**+0.4**
GTBY				*e*S	**Sn**	**08 30 31.5**	**+0.1**
GTBY				IAML		08 30 39.9	
	comp=Z,140nm,0.2s						
JIDR	**Jimani**	**1.84**	**137**	*e*Pg	**Pn**	**08 30 10.7**	**+1.4**
JIDR				*e*Sg	**Sn**	**08 30 31.7**	**-0.1**
JIDR				IAML		08 30 45.9	
	comp=N,745nm,0.7s						
MOAC	**Moa**	**1.86**	**296**	*e*P	**Pn**	**08 30 10.5**	**+1.0**
MOAC				*e*S	**Sn**	**08 30 34.2**	**+1.9**
MOAC				IAML		08 30 35.0	
	comp=E,181nm,0.2s						
MOAC				IAML		08 30 35.1	
	comp=N,90nm,0.2s						
MADR	**Mao Valverde**	**1.97**	**98**	*e*Pg	**Pn**	**08 30 12.4**	**+1.3**
MADR				*e*Sg	**Sn**	**08 30 34.4**	**-0.7**
MADR				IAML		08 30 48.9	
	comp=N,1μm,0.8s						
SDDR	**Presa de Saban**	**1.98**	**115**	Pn	**Pn**	**08 30 10.7**	**-0.5**
SDDR				IAML		08 30 34.5	
	comp=N,614nm,0.6s						
SDDR				IAML		08 30 35.2	
	comp=N,579nm,0.5s						
SDDR	**Presa de Saban**	**1.98**	**115**	*e*P	**Pn**	**08 30 10.8**	**-0.4**
SDDR				⇑*e*S	**Sn**	**08 30 33.2**	**-2.1**
SDDR				IAML		08 30 34.5	
	comp=N,435nm,0.1s						
SDDR				IAML		08 30 34.7	
	comp=N,540nm,0.3s						
SDDR	**Presa de Saban**	**1.98**	**115**	⇓*e*Pg	**Pn**	**08 30 11.5**	**+0.3**
SDDR				IAML		08 30 48.9	
	comp=N,509nm,0.8s						
SDDR	**Presa de Saban**	**1.98**	**115**	⇑*i*P	**Pn**	**08 30 11.1**	**-0.1**
SDDR				*e*S	**Sn**	**08 30 33.9**	**-1.4**
SDDR				IAML		08 30 35.5	
	comp=Z,376nm,0.5s						
NEDR	**Neiba UASD**	**2.14**	**129**	*e*Pg	**Pn**	**08 30 14.1**	**+0.7**
NEDR				*e*Sg	**Sn**	**08 30 40.8**	**+1.5**
NEDR				IAML		08 30 44.6	
	comp=N,703nm,0.5s						
SC01	**Santiago de lo**	**2.34**	**100**	Pn	**Pn**	**08 30 16.7**	**+0.4**
SC01				IAML		08 30 48.2	
	comp=N,606nm,0.8s						
SC01	**Santiago de lo**	**2.34**	**100**	*i* P	**Pn**	**08 30 17.7**	**+1.4**
SC01				*e*S	**Sn**	**08 30 43.7**	**-0.6**
SC01				IAML		08 30 49.4	
	comp=Z,327nm,1.0s						
RCC	**Rio Carpintero**	**2.38**	**274**	*e*P	**Pn**	**08 30 17.1**	**+0.4**
RCC				*e*S	**Sn**	**08 30 45.0**	**0.0**
RCC				IAML		08 30 47.0	
	comp=N,91nm,0.3s						
RCC				IAML		08 30 47.4	
	comp=E,102nm,0.1s						
PODR	**Polo**	**2.45**	**133**	*e*Pg	**Pn**	**08 30 19.3**	**+1.5**
PODR				*e*Sg	**Sn**	**08 30 47.6**	**+0.5**
PODR				IAML		08 31 14.9	
	comp=N,180nm,0.5s						
PODR	**Polo**	**2.45**	**133**	⇑*i*P	**Pn**	**08 30 18.9**	**+1.1**
PODR				*e*S	**Sb**	**08 30 53.1**	**+0.6**
LOBH	**Bahia de las A**	**2.45**	**143**	⇓*i*P	**Pn**	**08 30 19.1**	**+1.4**
GRTK	**Grand Turk**	**2.54**	**49**		**Pn**	**08 30 18.8**	**0.0**
GRTK				IAML		08 31 04.1	
	comp=N,232nm,0.4s						
GRTK	**Grand Turk**	**2.54**	**49**	*e*P	**Pn**	**08 30 19.1**	**+0.3**
GRTK	**Grand Turk**	**2.54**	**49**	*e*Pg	**Pn**	**08 30 19.5**	**+0.6**
GRTK				IAML		08 31 06.0	
	comp=N,186nm,0.3s						
GRTK	**Grand Turk**	**2.54**	**49**	⇓*i*P	**Pn**	**08 30 19.3**	**+0.4**
PINC	**Pinares de May**	**2.54**	**285**	*e*P	**Pn**	**08 30 19.4**	**+0.5**
PINC				*e*S	**Sn**	**08 30 49.7**	**+0.6**
PINC				IAML		08 30 53.1	
	comp=N,188nm,0.1s						
PINC				IAML		08 30 53.1	
	comp=E,98nm,0.2s						
MARVS	**Santiago de Cu**	**2.57**	**274**	*e*P	**Pn**	**08 30 19.6**	**+0.3**
MARVS				*e*S	**Sn**	**08 30 49.6**	**-0.1**
MARVS				IAML		08 30 51.7	
	comp=N,141nm,0.2s						
MARVS				IAML		08 30 53.1	
	comp=E,185nm,0.3s						
ABDR	**Alto Bandera**	**2.62**	**113**	*e*Pg	**Pn**	**08 30 20.9**	**+0.6**
ABDR				IAML		08 30 53.6	
	comp=N,443nm,0.3s						
HLGC	**Holguin**	**2.90**	**292**	*e*P	**Pn**	**08 30 26.3**	**+2.4**
HLGC				*e*S	**Sb**	**08 31 03.7**	**-1.6**
HLGC				IAML		08 31 05.3	
	comp=E,64nm,0.4s						
HLGC				IAML		08 31 05.5	
	comp=N,35nm,0.3s						
BANI	**BANI**	**3.03**	**118**	Pn	**Pn**	**08 30 25.9**	**+0.2**
CHIV	**Chivirico**	**3.05**	**273**	Pn	**Pn**	**08 30 25.3**	**-0.6**
CHIV	**Chivirico**	**3.05**	**273**	*e*P	**Pn**	**08 30 25.7**	**-0.2**
CHIV				*e*S	**Sn**	**08 31 01.3**	**-0.4**
CHIV				IAML		08 31 03.7	
	comp=N,37nm,0.2s						
CHIV				IAML		08 31 03.8	
	comp=E,47nm,0.2s						
SDD	**Santo Domingo**	**3.38**	**113**	Pn	**Pn**	**08 30 31.8**	**+1.3**
LMGC	**Las Mercedes**	**3.61**	**274**	*e*P	**Pn**	**08 30 34.0**	**+0.4**
LMGC				*e*S	**Sn**	**08 31 12.9**	**-2.5**
LMGC				IAML		08 31 16.0	
	comp=N,57nm,0.1s						
LMGC				IAML		08 31 16.2	
	comp=E,37nm,0.1s						
DR12	**Loma Pena Alta**	**3.73**	**106**		**Pn**	**08 30 36.2**	**+0.8**
STH	**Stony Hill**	**3.86**	**244**	*e*P	**Pn**	**08 30 37.6**	**+0.5**
STH				*e*S	**Sn**	**08 31 20.0**	**-1.8**
STH				IAML		08 31 22.8	
	comp=E,4μm,0.1s						
STH				IAML		08 31 22.9	
	comp=N,3μm,0.1s						
MTDJ	**Mount Denham**	**4.42**	**249**	Pn	**Pn**	**08 30 43.9**	**-1.0**
MTDJ				IAML		08 31 35.7	
	comp=N,50nm,2.0s						
MTDJ				IAML		08 32 11.8	
	comp=N,76nm,1.6s						
MTDJ	**Mount Denham**	**4.42**	**249**	*e*P	**Pn**	**08 30 45.8**	**+0.8**
MTDJ				*e*S	**Sn**	**08 31 33.8**	**-1.9**
MTDJ				IAML		08 31 34.7	
	comp=N,36nm,0.4s						
MTDJ				IAML		08 31 35.3	
	comp=N,20nm,0.4s						
PRSN	**Puerto Rico Se**	**5.93**	**105**	Pn	**Pn**	**08 31 06.5**	**+1.0**
AOPR	**Arecibo Observ**	**6.25**	**103**	Pn	**Pn**	**08 31 11.0**	**+1.0**
UUPR	**Utuado, UPR, P**	**6.31**	**103**	Pn	**Pn**	**08 31 11.0**	**+0.2**
OBIP	**Obispado Ponce**	**6.47**	**105**	Pn	**Pn**	**08 31 13.0**	**0.0**
CELP	**Cerrillos**	**6.49**	**105**	Pn	**Pn**	**08 31 14.7**	**+1.5**
IGPR	**InterUniversit**	**6.95**	**104**	Pn	**Pn**	**08 31 19.9**	**+0.3**
PDPR	**Patillas Dam,**	**7.01**	**104**	Pn	**Pn**	**08 31 22.3**	**+1.9**
HUMP	**Col San Antoni**	**7.14**	**102**	Pn	**Pn**	**08 31 22.8**	**+0.7**

CNRM ***07*** *09:03:14.3, 36°.44N×9°.14W, h12km, ML2.2*
MDD ***07*** *09:03:15.9±0.8, 36°.71N×9°.51W, h30km, mb_Lg2.9/11, Error ellipse: s-maj=6.5km s-min=4.5km az=65.0*
SFS ***07*** *09:03:16.5, 36°.71N×9°.52W, h39km, ML3.0/11, ML3.0/11, MLv3.0/11*
IGIL ***07*** *09:03:17.8, 36°.78N×9°.46W, h25km, ML1.9*

ISC 07 09:03:13.0±1.6, 36°.62N±0°.04×9°.56W±0°.08, h35km, n39, σ2°.02/63, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.78**	**49**	P	**Pn**	**09 03 29.4**	**+1.9**
PFVI				S	**Sn**	**09 03 38.2**	**+0.2**
PFVI	**Vila Bisbo**	**0.78**	**49**	P	**Pn**	**09 03 28.7**	**+1.2**
MORF	**Marmelete**	**0.99**	**46**	*e*P	**Pn**	**09 03 32.4**	**+1.9**
MORF				*e*S	**Sn**	**09 03 43.2**	**-0.1**
MORF				IAML		09 03 44.2	
	comp=E,62nm,0.1s						
PCVE	**Castro Verde**	**1.58**	**50**	P	**Pn**	**09 03 40.6**	**+2.1**
PCVE				S	**Sn**	**09 03 58.1**	**+0.5**
MESJ	**Messejana**	**1.62**	**41**	*e*P	**Pn**	**09 03 40.9**	**+1.8**
MESJ				*e*S	**Sn**	**09 03 57.9**	**-0.8**
MESJ				IAML		09 04 00.4	
	comp=N,8.2nm,0.1s						
PVAQ	**Vaqueiros**	**1.67**	**62**	P	**Pn**	**09 03 42.0**	**+2.3**
PVAQ				S	**Sn**	**09 04 00.1**	**+0.2**
PVAQ	**Vaqueiros**	**1.67**	**62**	P	**Pn**	**09 03 41.2**	**+1.5**
PVAQ	**Vaqueiros**	**1.67**	**62**	S	**Sn**	**09 04 01.1**	**+1.2**
EXAYA	**Ayamonte**	**1.83**	**70**	S	**Sn**	**09 04 04.1**	**+0.3**
EGRO	**El Granado**	**1.89**	**61**	P	**Pn**	**09 03 45.3**	**+2.5**
EGRO				S	**Sn**	**09 04 05.2**	**-0.2**
EGRO				*i* Vmb_Lg		09 04 07.4	
EVO	**Evora**	**2.27**	**32**	P	**Pn**	**09 03 49.4**	**+1.4**
EVO				S	**Sn**	**09 04 13.6**	**-1.1**
PMAFR	**Mafra**	**2.34**	**5**	P	**Pn**	**09 03 50.7**	**+1.7**
PMAFR				S	**Sn**	**09 04 15.4**	**-1.1**
PBAR	**Barrancos**	**2.54**	**52**	P	**Pn**	**09 03 53.8**	**+2.1**
PBAR				S	**Sn**	**09 04 21.1**	**-0.2**
EMIN	**Mina Concepcio**	**2.57**	**63**	P	**Pn**	**09 03 54.3**	**+2.2**
EMIN				S	**Sn**	**09 04 21.7**	**-0.5**
EMIN	**Mina Concepcio**	**2.57**	**63**	P	**Pn**	**09 03 53.2**	**+1.0**
EMIN				S	**Sn**	**09 04 21.9**	**-0.3**
EMIN				*i* Vmb_Lg		09 04 24.3	
EBAD	**Badajoz**	**2.93**	**43**	P	**Pn**	**09 03 59.0**	**+1.8**
EBAD				S	**Sn**	**09 04 30.7**	**-0.5**
EBAD	**Badajoz**	**2.93**	**43**	P	**Pn**	**09 03 59.2**	**+2.1**
EBAD				S	**Sn**	**09 04 29.4**	**-1.7**
EBAD				*i* Vmb_Lg		09 04 31.8	
ESPR	**Espera**	**2.98**	**84**	P	**Pn**	**09 04 00.7**	**+2.9**
ESPR				S	**Sn**	**09 04 31.6**	**-0.8**
ESPR	**Espera**	**2.98**	**84**	P	**Pn**	**09 04 00.8**	**+3.0**
ESPR				S	**Sn**	**09 04 31.9**	**-0.5**
ESPR				*i* Vmb_Lg		09 04 34.5	
ECAB	**El Cabril**	**3.60**	**65**	P	**Pn**	**09 04 08.4**	**+2.0**
ECAB				S	**Sn**	**09 04 46.6**	**-1.1**
ECAB	**El Cabril**	**3.60**	**65**	P	**Pn**	**09 04 08.5**	**+2.2**
ECAB				S	**Sn**	**09 04 45.4**	**-2.3**
ECAB				*i* Vmb_Lg		09 04 48.1	
ZHG	**ZHG**	**3.97**	**142**	P	**Pn**	**09 04 10.8**	**-0.7**
ZHG	**ZHG**	**3.97**	**142**	S	**Sn**	**09 04 55.6**	**-1.3**
EADA	**Adamuz**	**4.25**	**67**	P	**Pn**	**09 04 17.5**	**+2.2**
EADA				S	**Sn**	**09 05 02.3**	**-1.5**
EADA				*i* Vmb_Lg		09 05 06.1	
EPLA	**Plasencia**	**4.39**	**37**	P	**Pn**	**09 04 17.9**	**+0.7**
EPLA				S	**Sn**	**09 05 03.9**	**-3.2**
EPLA				*i* Vmb_Lg		09 05 07.7	
IFR	**Ifrane**	**4.77**	**129**	P	**Pn**	**09 04 25.2**	**+2.6**
E0803	**Jimena (Jaen)**	**5.00**	**74**	P	**Pn**	**09 04 26.4**	**+0.7**
E0803				S	**Sn**	**09 05 19.3**	**-3.0**
PAB	**San Pablo**	**5.04**	**53**	P	**Pn**	**09 04 27.1**	**+0.9**
PAB				S	**Sn**	**09 05 19.1**	**-4.2**
PAB				*i* Vmb_Lg		09 05 22.9	
PSIM	**Granatula de C**	**5.09**	**63**	P	**Pn**	**09 04 28.4**	**+1.5**
PSIM				S	**Sn**	**09 05 22.1**	**-2.5**
EQES	**Quesada**	**5.31**	**75**	P	**Pn**	**09 04 31.1**	**+1.2**
EQES				S	**Sn**	**09 05 26.2**	**-3.7**
EQES				*i* Vmb_Lg		09 05 31.2	
ESBB	**Sonseca Array**	**5.36**	**54**	S	**Sn**	**09 05 27.7**	**-3.4**
ELOB	**Lobios**	**5.37**	**12**	P	**Pn**	**09 04 30.7**	**+0.1**
ELOB				S	**Sn**	**09 05 25.9**	**-5.4**
ELOB				*i* Vmb_Lg		09 05 28.4	
MDT	**Midelt**	**5.57**	**132**	P	**Pn**	**09 04 32.5**	**-1.0**
MDT	**Midelt**	**5.57**	**132**	S	**Sn**	**09 05 32.9**	**-3.4**
ECAL	**Calabor**	**5.75**	**22**	S	**Sn**	**09 05 36.7**	**-3.9**
ECAL				*i* Vmb_Lg		09 05 38.9	
TTIG	**Tnine Tigouga,**	**6.13**	**171**	P	**Pn**	**09 04 41.9**	**+0.7**
TTIG	**Tnine Tigouga,**	**6.13**	**171**	S	**Sn**	**09 05 50.4**	**+0.3**
OUZM	**OUZ**	**6.16**	**157**	P	**Pn**	**09 04 43.0**	**+1.5**
OUZM	**OUZ**	**6.16**	**157**	S	**Sn**	**09 05 50.7**	**-0.1**

GCG ***07*** *09:08:35.7±1.2, 14°.58N×89°.10W, h6km±13km, MD3.4*
CATAC ***07*** *09:08:35.8±0.7, 15°.N±3°.×8°.9W±°, h5km±3km, M2.4/10, MLv2.4/10, Error ellipse: s-maj=7.1km s-min=3.7km az=16.3, confirmed*

ISC 07 09:08:35.2±1.5, 14°.56N±0°.07×89°.09W±0°.04, h10km, n28, σ0°.69/29, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.24**	**270**	P	**Pb**	**09 08 41.2**	**+1.0**
MTO3	**Montecristo**	**0.30**	**238**	*e*P	**Pb**	**09 08 42.0**	**-0.9**
MTO3	**Montecristo**	**0.30**	**238**	P	**Pb**	**09 08 41.9**	**-1.1**
LLGN	**La Laguna**	**0.42**	**160**	P	**Pb**	**09 08 44.1**	**-0.7**
LLGN	**La Laguna**	**0.42**	**160**	S	**Sg**	**09 08 49.9**	**+0.8**
UNIC	**Universidad Ca**	**0.72**	**218**	S	**Sg**	**09 08 59.4**	**+0.6**
UNIC	**Universidad Ca**	**0.72**	**218**	P	**Pb**	**09 08 49.7**	**-0.3**
SLOZ	**Alcaldia de Sa**	**0.85**	**232**	S	**Sg**	**09 09 03.6**	**+0.7**
PAVA	**Las Pavas**	**0.85**	**170**	P	**Pb**	**09 08 52.2**	**0.0**
PAVA	**Las Pavas**	**0.85**	**170**	S	**Sg**	**09 09 04.1**	**+1.1**
PMON	**Piamonte**	**0.87**	**194**	P	**Pb**	**09 08 52.4**	**-0.1**
CEVE	**Cerro Verde**	**0.89**	**215**	S	**Sb**	**09 09 05.6**	**+0.6**
SCLA	**Alcaldia de Sa**	**0.92**	**157**	P	**Pb**	**09 08 53.3**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.92**	**157**	S	**Sg**	**09 09 06.1**	**+1.0**
NUBE

mbtmp3.7/9, MS3.0/1, Error ellipse: s-maj=88.4km s-min=34.6km az=175.0

ISC 07 09:16:59.5±1.9, 36.7N±0.2×71.1E±0.2, h188km, n11, σ1§22/13, mb3.7/5, 2C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.40**	**356**	⇑Pn	**Pn**	**09 18 34.2**	**+2.4**
	0.3nm,0.3s,baz=174,slow=11,SNR=6.3						
KK31				⇑Sn	**Sn**	**09 19 43.3**	**-1.4**
	1.5nm,0.3s,baz=175,slow=23,SNR=13						
AAK	**Ala-Archa**	**6.47**	**23**	P	**Pn**	**09 18 34.6**	**+1.8**
	1.4nm,0.4s,baz=192,slow=11,SNR=3.4						
AAK				S	**Sn**	**09 19 46.2**	**-0.3**
	2.2nm,0.5s,baz=318,slow=22,SNR=13						
MKAR	**Makanchi Array**	**13.07**	**36**	P	**Pn**	**09 19 57.9**	**-0.2**
	0.3nm,0.6s,baz=212,slow=12,SNR=4.4						
KURBB	**Kurchatov Arra**	**14.90**	**19**	P	**Pn**	**09 20 19.3**	**-1.4**
	0.2nm,0.3s,baz=206,slow=11,SNR=1.9						
KURBB				LR	LR	09 25 36.2	
	comp=Z,53nm,19.8s,baz=185,slow=35						
ZALV	**Zalesovo Beam**	**19.69**	**25**	P	**P**	**09 21 14.2**	**+0.1**
	0.9nm,0.3s,baz=219,slow=9.3,SNR=4.9						
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**	**09 23 54.1**	**+0.5**
	2.2nm,1.1s,baz=116,slow=13,SNR=1.5						
	2.2nm,1.1s						
ARCES	**ARCESS Array B**	**40.99**	**337**	P	**P**	**09 24 23.0**	**-0.5**
	3.2nm,1.0s,baz=117,slow=8.6,SNR=1.3						
	3.2nm,1.0s						
HFS	**Hagfors**	**42.96**	**322**	P	**P**	**09 24 39.6**	**0.0**
	1.0nm,0.4s,baz=104,slow=10,SNR=7.6						
	1.0nm,0.4s						
NB2	**NORSAR Subarra**	**44.27**	**323**	P	**P**	**09 24 50.4**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**09 24 49.8**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=98,slow=8.1,SNR=1.3						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**81.03**	**3**	P	**P**	**09 28 51.9**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=355,slow=4.9,SNR=9.6						
	comp=Z,0.2nm,0.5s						

*IGQ **07** 09:19:26.5±0.2, 1°S±1°×7°8W±°, h5km, MLv3.5/33*
*RSNC **07** 09:19:26.3±0.5, 1°S±2°×7°8W±°, h1km±3km, M3.2, mb4.4, ML3.0*

ISC 07 09:19:26.8±0.8, 1°35S±0°03×77°95W±0°03, h17km±6km, n118, σ1§61/135, 17C-52D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APUY	**Puyo**	**0.12**	**201**	⇑P	**Pg**	**09 19 30.1**	**-0.5**
APUY				S	**Sg**	**09 19 34.0**	**+0.8**
PUYO	**Puyo, Santa Ro**	**0.16**	**207**	S	**Sg**	**09 19 34.6**	**+0.5**
PUYO				⇑P	**Pg**	**09 19 30.5**	**-0.6**
ATEN	**Tena**	**0.37**	**23**	⇑P	**Pg**	**09 19 33.1**	**-1.4**
ATEN				S	**Sg**	**09 19 39.2**	**-0.6**
ARDO	**Archidona, Ten**	**0.39**	**23**	⇑P	**Pg**	**09 19 33.7**	**-1.0**
ARDO				S	**Sg**	**09 19 39.9**	**-0.3**
BULB	**Ulba Tungurahu**	**0.46**	**259**	⇓P	**Pg**	**09 19 35.0**	**-1.3**
BULB				S	**Sg**	**09 19 42.0**	**-0.7**
PIAT	**Ana Tenorio**	**0.47**	**319**	⇓P	**Pg**	**09 19 35.5**	**-0.9**
PIAT	**Ana Tenorio**	**0.47**	**319**	P	**Pg**	**09 19 35.3**	**-1.1**
PIAT				S	**Sg**	**09 19 42.7**	**-0.1**
POND	**Pondoa**	**0.50**	**262**	⇓P	**Pg**	**09 19 35.7**	**-1.3**
POND				S	**Sg**	**09 19 42.9**	**-1.0**
JUI6	**Juive**	**0.52**	**262**	⇑P	**Pg**	**09 19 35.8**	**-1.6**
PIS1	**Pisayambo**	**0.52**	**304**	⇓P	**Pg**	**09 19 36.5**	**-0.9**
ARRY	**Arrayan**	**0.53**	**253**	⇓P	**Pg**	**09 19 35.8**	**-1.6**
ARRY				S	**Sg**	**09 19 43.4**	**-1.2**
BBIL	**Ulba Tungurahu**	**0.54**	**260**	⇓P	**Pg**	**09 19 36.3**	**-1.4**
BBIL				S	**Sg**	**09 19 44.4**	**-0.8**
BIL2	**Estacion Bilba**	**0.56**	**259**	⇓P	**Pg**	**09 19 36.6**	**-1.4**
AAM2	**Ambato 2 (Merc**	**0.66**	**277**	P	**Pg**	**09 19 38.7**	**-1.2**
IGUA	**Igualata**	**0.70**	**259**	⇓P	**Pg**	**09 19 39.7**	**-1.0**
VCES	**Cotopaxi**	**0.70**	**321**	⇓P	**Pg**	**09 19 39.6**	**-1.2**
ASLC	**Ecuador-Salced**	**0.71**	**296**	⇓P	**Pg**	**09 19 40.0**	**-0.8**
BRRN	**Barrancas-Volc**	**0.77**	**317**	⇓P	**Pg**	**09 19 40.6**	**-1.3**
TAMB	**Tambo**	**0.77**	**328**	⇓P	**Pg**	**09 19 40.9**	**-1.1**
ALAT	**Latacunga**	**0.79**	**302**	P	**Pg**	**09 19 41.7**	**-0.6**
BMOR	**Cotopaxi Volca**	**0.80**	**321**	⇓P	**Pg**	**09 19 41.3**	**-1.2**
ARIO	**Riobamba**	**0.80**	**248**	⇓P	**Pg**	**09 19 40.6**	**-1.9**
BTAM	**Cotopaxi Volca**	**0.80**	**327**	⇓P	**Pg**	**09 19 41.5**	**-1.1**
SLOR	**San Lorenzo -**	**0.82**	**319**	⇓P	**Pg**	**09 19 41.7**	**-1.2**
BVC2	**Cotopaxi Volca**	**0.83**	**326**	⇓P	**Pg**	**09 19 41.9**	**-1.1**
PORT	**Chimborazo Vol**	**0.83**	**262**	⇓P	**Pg**	**09 19 41.8**	**-1.3**
BREF	**Cotopaxi Volca**	**0.83**	**324**	⇓P	**Pg**	**09 19 42.2**	**-1.0**
VC1	**Cotopaxi 1**	**0.83**	**327**	⇓P	**Pg**	**09 19 42.1**	**-1.1**
TAMH	**Tambohuasha Ch**	**0.85**	**257**	⇓P	**Pg**	**09 19 42.0**	**-1.4**
ANTM	**Antisana-La Mi**	**0.85**	**342**	⇓P	**Pg**	**09 19 41.7**	**-1.8**
BNAS	**Cotopaxi Volca**	**0.86**	**322**	⇓P	**Pb**	**09 19 43.4**	**-0.1**
SRAM	**San Ramn-Vol**	**0.86**	**314**	⇓P	**Pg**	**09 19 42.4**	**-1.2**
CAMI	**Rancho Maria**	**0.87**	**327**	⇓P	**Pg**	**09 19 42.7**	**-1.1**
NAS2	**Nasa**	**0.87**	**324**	⇓P	**Pg**	**09 19 43.2**	**-0.7**
ANTS	**Antisana-Sarah**	**0.88**	**346**	⇓P	**Pg**	**09 19 42.2**	**-1.8**
SUCR	**Mariscal Sucre**	**0.89**	**323**	⇓P	**Pg**	**09 19 43.1**	**-1.1**
ANTG	**Antisana-Guama**	**0.89**	**340**	⇓P	**Pg**	**09 19 42.5**	**-1.8**
ANTI	**Antisana**	**0.92**	**347**	⇓P	**Pg**	**09 19 42.7**	**-2.1**
PITA	**Cotopaxi Volc**	**0.92**	**329**	⇓P	**Pg**	**09 19 43.5**	**-1.3**
CHSH	**Refugio Sur-Vo**	**0.93**	**261**	⇓P	**Pg**	**09 19 42.9**	**-2.0**
PAST	**Pastocalle**	**0.95**	**313**	⇓P	**Pg**	**09 19 44.5**	**-0.9**
TOMA	**Boca Toma-Volc**	**0.97**	**330**	⇓P	**Pg**	**09 19 44.4**	**-1.4**
ILLI	**Illinizas Sur**	**1.00**	**309**	⇓P	**Pg**	**09 19 44.8**	**-1.5**
AMAC	**Ecuador-Machac**	**1.02**	**322**	⇑P	**Pg**	**09 19 44.9**	**-1.8**
AGRD	**Ecuador-Guaran**	**1.07**	**258**	⇑P	**Pg**	**09 19 45.6**	**-2.1**
JSCH	**Cashca Tororas**	**1.09**	**250**	⇑P	**Pg**	**09 19 45.7**	**-2.2**
AV05	**Acelerografo,**	**1.17**	**13**	P	**Pg**	**09 19 47.0**	**-2.5**
TING	**Casa Alexandra**	**1.17**	**335**	P	**Pg**	**09 19 48.2**	**-1.3**
CIVI	**Edificio de In**	**1.25**	**335**	P	**Pg**	**09 19 50.1**	**-1.0**
REVS	**Reventador Sur**	**1.28**	**15**	⇑P	**Pg**	**09 19 48.7**	**-2.9**
LAV4	**Lava4-Reventad**	**1.29**	**15**	P	**Pg**	**09 19 48.7**	**-3.0**
GGPT	**Toaza - Volcan**	**1.30**	**329**	⇓P	**Pg**	**09 19 50.0**	**-2.0**
JUA2	**San Juan 2**	**1.30**	**330**	⇓P	**Pg**	**09 19 50.2**	**-1.9**
FENY	**Casa Vinicio C**	**1.31**	**336**	P	**Pg**	**09 19 51.2**	**-0.9**
HPAL	**Hacienda Las P**	**1.32**	**328**	⇑P	**Pg**	**09 19 50.7**	**-1.7**
GGPC	**Guagua Pichinc**	**1.33**	**331**	⇓P	**Pg**	**09 19 50.7**	**-1.8**
AV11	**Acelerografo,**	**1.34**	**342**	P	**Pg**	**09 19 51.5**	**-1.2**
TERV	**Terraza Guagua**	**1.34**	**331**	⇓P	**Pg**	**09 19 50.8**	**-1.9**
PINO	**Pino**	**1.35**	**331**	⇓P	**Pg**	**09 19 51.0**	**-2.0**
CAYR	**Refugio Cayamb**	**1.36**	**358**	⇓P	**Pg**	**09 19 50.5**	**-2.6**
YANA	**Yana**	**1.37**	**333**	⇓P	**Pg**	**09 19 51.3**	**-2.0**
ANGU	**Angureal**	**1.39**	**358**	⇓P	**Pg**	**09 19 51.0**	**-2.7**
CAYA	**Cayambe**	**1.41**	**359**	⇓P	**Pn**	**09 19 51.4**	**-0.8**
PULU	**Pululahua**	**1.47**	**338**	⇓P	**Pn**	**09 19 52.8**	**-0.1**
AV03	**Acelerografo,**	**1.53**	**25**	P	**Pn**	**09 19 54.2**	**+0.8**
AQUE	**Quevedo**	**1.57**	**281**	P	**Pn**	**09 19 54.7**	**+0.9**
ASDO	**Santo Domingo**	**1.59**	**313**	P	**Pn**	**09 19 53.5**	**-0.8**
CASC	**Dorado de Casc**	**1.60**	**23**	⇑P	**Pn**	**09 19 53.8**	**-0.6**
IMBA	**Imbabura, San**	**1.64**	**351**	⇑P	**Pb**	**09 19 57.5**	**+0.7**
OTAV	**Otavalo**	**1.65**	**342**	⇓P	**Pn**	**09 19 55.7**	**+0.3**
OTAV	**Otavalo**	**1.65**	**342**	P	**Pn**	**09 19 55.6**	**+0.1**
OTAV				S	**Sn**	**09 20 17.2**	**+0.6**
CUSW	**Cuicocha Oeste**	**1.67**	**346**	P	**Pg**	**09 19 59.0**	**-0.1**
AIB2	**Ibarra (Univer**	**1.69**	**355**	P	**Pn**	**09 19 57.4**	**+1.6**
CUIC	**Cuicocha-Domo**	**1.69**	**346**	⇓P	**Pn**	**09 19 56.9**	**+1.0**
CUSE	**Cuicocha Este**	**1.70**	**345**	⇑P	**Pn**	**09 19 57.2**	**+1.1**
CUSE	**Cuicocha Este**	**1.70**	**345**	P	**Pn**	**09 19 56.8**	**+0.7**
CUSE				S	**Sn**	**09 20 18.7**	**+0.9**
COHC	**Cochancay**	**1.71**	**230**	⇓P	**Pn**	**09 19 56.5**	**+0.7**
COHC	**Cochancay**	**1.71**	**230**	P	**Pn**	**09 19 56.1**	**+0.3**
COHC				S	**Sn**	**09 20 18.5**	**+1.2**
YAHU	**Yahuarcocha**	**1.71**	**356**	⇓P	**Pn**	**09 19 57.1**	**+0.9**
COTA	**Cotacachi**	**1.72**	**347**	P	**Pn**	**09 19 57.9**	**+1.5**
URCU	**Urcuqui**	**1.80**	**350**	⇑P	**Pn**	**09 19 59.6**	**+2.1**
PAC1	**Pacto, Paraso**	**1.81**	**332**	⇓P	**Pn**	**09 19 58.6**	**+1.3**
PAC1	**Pacto, Paraso**	**1.81**	**332**	P	**Pn**	**09 19 58.6**	**+1.3**
PAC1				S	**Sn**	**09 20 19.3**	**-0.7**
BONI	**La Bonita**	**1.84**	**13**	⇑P	**Pn**	**09 19 57.6**	**-0.3**
BONI	**La Bonita**	**1.84**	**13**	P	**Pn**	**09 19 57.6**	**-0.3**
BONI				S	**Sn**	**09 20 22.0**	**+1.1**
MILO	**Milagro-Astudi**	**1.85**	**240**	⇑P	**Pn**	**09 19 58.2**	**+0.4**
BOSC	**San Juan Bosco**	**1.87**	**197**	⇓P	**Pn**	**09 19 57.9**	**-0.2**
BV15	**Puerto Quito-O**	**1.96**	**320**	P	**Pb**	**09 20 01.7**	**-0.4**
TULM	**Tulcn-Chalpat**	**2.06**	**5**	P	**Pn**	**09 20 02.6**	**+1.6**
TULM	**Tulcn-Chalpat**	**2.06**	**5**	P	**Pn**	**09 20 02.5**	**+1.4**
TULM				S	**Sn**	**09 20 29.9**	**+3.3**
LNGL	**El Angel-Carch**	**2.08**	**359**	⇑P	**Pn**	**09 20 03.6**	**+2.3**
ATUL	**Tulcn**	**2.12**	**6**	P	**Pb**	**09 20 05.4**	**+0.5**
CHL1	**Volcn Chiles**	**2.13**	**0**	P	**Pn**	**09 20 04.1**	**+2.0**
FLF1	**Flavio Alfaro-**	**2.13**	**298**	⇓P	**Pb**	**09 20 04.1**	**-0.9**
FLF1	**Flavio Alfaro-**	**2.13**	**298**	P	**Pn**	**09 20 03.8**	**+2.1**
FLF1				S	**Sb**	**09 20 31.0**	**-0.2**
CHL2	**Volcn Chiles**	**2.14**	**1**	P	**Pb**	**09 20 05.6**	**+0.2**
ECEN	**Cerro Negro**	**2.16**	**360**	P	**Pn**	**09 20 04.6**	**+2.1**
LITE1	**Lita**	**2.17**	**349**	P	**Pn**	**09 20 04.1**	**+1.8**
CHMA	**Chilma**	**2.20**	**357**	P	**Pn**	**09 20 05.4**	**+2.5**
CMBC	**Cumbal**	**2.28**	**3**	P	**Pb**	**09 20 07.1**	**-0.7**
CMBC	**Cumbal**	**2.28**	**3**	P	**Pb**	**09 20 07.3**	**-0.5**
CMBC				S	**Sb**	**09 20 37.6**	**+1.7**
JAMA	**Jama**	**2.50**	**296**	P	**Pn**	**09 20 08.3**	**+1.5**
GCUF	**Volcan Galeras**	**2.63**	**13**	P	**Pn**	**09 20 11.0**	**+2.1**
GCUF				S	**Sb**	**09 20 46.9**	**+0.9**
CAB1	**Cabo Pasado-Ma**	**2.65**	**291**	P	**Pn**	**09 20 10.6**	**+1.8**
PPLP	**Puerto Lpez**	**2.83**	**266**	P	**Pn**	**09 20 10.8**	**-0.4**
ARNL	**Arenillas**	**3.04**	**224**	P	**Pn**	**09 20 15.5**	**+1.5**
CRUC	**La Cruz**	**3.07**	**19**	P	**Pn**	**09 20 18.3**	**+3.5**
ISPT	**Isla de la Pla**	**3.12**	**272**	P	**Pn**	**09 20 17.7**	**+2.5**
BBAC	**Balboa, Cauca**	**3.42**	**12**	P	**Pb**	**09 20 27.4**	**+0.3**
BBAC	**Balboa, Cauca**	**3.42**	**12**	P	**Pb**	**09 20 24.7**	**-2.4**
PTLC	**Puerto Leguiza**	**3.50**	**64**	P	**Pn**	**09 20 24.7**	**+4.2**
PTLC	**Puerto Leguiza**	**3.50**	**64**	P	**Pn**	**09 20 24.7**	**+4.2**
ZUMB	**Zumba**	**3.69**	**199**	P	**Pn**	**09 20 23.6**	**+0.4**
FLOC	**Florencia**	**3.71**	**38**	P	**Pn**	**09 20 20.5**	**-3.0**
FLOC	**Florencia**	**3.71**	**38**	P	Pn	09 20 20.0	-3.4
POPC	**Popayan, Colom**	**4.07**	**18**	P	**Pn**	**09 20 32.8**	**+4.3**
GARC	**Garzon, Huila**	**4.29**	**35**	P	**Pn**	**09 20 29.8**	**-1.8**
MACC	**Macarena, Meta**	**5.38**	**50**	P	**Pn**	**09 20 43.5**	**-2.8**

RSNC 07 09:24:44.9±0.0, 7°N±1°×7°5W±°, h46km±2km, M2.8, mb3.5, ML2.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZARC	**Zaragoza, Cauc**	**0.16**	**290**	P	Pn	09 24 51.7	-0.8
ZARC				S	Sn	09 24 58.2	+0.3
UREC	**San Jos de Ur**	**0.87**	**291**	P	Pn	09 24 59.2	-1.6
UREC				S	Sn	09 25 12.1	-0.4
PTBC	**PUERTO BERRIO,**	**0.93**	**164**	P	Pn	09 25 00.0	-1.6
PTBC				S	Sn	09 25 12.8	-1.1
BRJC	**Barrancabermej**	**1.06**	**116**	P	Pn	09 25 02.3	-1.1
BRJC				S	Sn	09 25 16.9	-0.2
MEDEC	**Medelln, Ant**	**1.45**	**217**	P	Pn	09 25 08.4	-0.5
MEDEC				S	Sn	09 25 26.4	-0.4
DBBC	**Dabeiba**	**1.55**	**254**	P	Pn	09 25 09.8	-0.3
DBBC				S	Sn	09 25 28.1	-0.9
OCAC	**Ocana**	**1.59**	**60**	P	Pn	09 25 09.2	-1.6
OCAC				S	Sn	09 25 29.2	-1.0
BARC	**Barichara**	**1.73**	**119**	P	Pn	09 25 12.3	-0.5
BARC				S	Sn	09 25 34.1	+0.2
NORC	**Norcasia**	**1.87**	**185**	P	Pn	09 25 13.0	-1.5
NORC				S	Sn	09 25 36.9	-0.1
APAC	**Apartado, Choc**	**1.91**	**284**	P	Pn	09 25 14.4	-0.6
APAC				S	Sn	09 25 38.4	+0.6
PAMC	**Pamplona, Colo**	**2.00**	**93**	P	Pn	09 25 16.1	-0.5
PAMC				S	Sn	09 25 40.0	-0.7
CBOC	**Ciudad Bolivar**	**2.03**	**220**	P	Pn	09 25 16.6	-0.2
CBOC				S	Sn	09 25 44.1	+3.0
LCBC	**Los crdobas,**	**2.16**	**311**	P	Pn	09 25 18.0	-0.5
LCBC				S	Sn	09 25 44.7	+0.6
RUSC	**La Rusia**	**2.23**	**133**	P	Pn	09 25 19.3	-0.5
RUSC				S	Sn	09 25 46.9	+0.5
GUY2C	**Guyana, Caldas**	**2.30**	**197**	P	Pn	09 25 20.2	-0.5
GUY2C				S	Sn	09 25 52.2	+4.2
ARGC	**Ariguani, Magd**	**2.45**	**11**	P	Pn	09 25 23.5	+1.1
ARGC				S	Sn	09 25 54.7	+3.6
NIZA	**Niza - Manizal**	**2.48**	**198**	P	Pn	09 25 24.5	+1.3
NIZA				S	Sn	09 25 57.3	+4.9
SJCC	**San Jacinto, C**	**2.48**	**349**	P	Pn	09 25 21.2	-1.8
SJCC				S	Sn	09 25 50.7	-1.4
ROSC	**El Rosal**	**2.61**	**171**	P	Pn	09 25 24.0	-1.0
ROSC				S	Sn	09 25 58.6	+2.9
CAPC	**Capurgana**	**2.87**	**295**	P	Pn	09 25 24.5	-3.7
CAPC				S	Sn	09 25 56.0	-5.6
CHIC	**Chingaza**	**2.96**	**161**	P	Pn	09 25 28.7	-1.1
CHIC				S	Sn	09 26 03.6	-0.6
CVER	**Cruz Verde, Cu**	**2.97**	**168**	P	Pn	09 25 29.1	-0.9
ANIL	**Santa Ana**	**3.01**	**193**	P	Pn	09 25 31.6	+1.2
ANIL				S	Sn	09 26 06.0	+0.6
TAMC	**Tame, Arauca**	**3.06**	**109**	P	Pn	09 25 30.5	-0.4
TAMC				S	Sn	09 26 07.2	+0.8
PRAC	**Prado**	**3.71**	**183**	P	Pn	09 25 38.3	-1.4
PRAC				S	Sn	09 26 21.5	-0.7
YOTC	**Yotoco, Valle**	**3.80**	**205**	P	Pn	09 25 39.8	-1.3
YOTC				S	Sn	09 26 23.0	-1.6
CRJC	**Cerrejon, Guaj**	**3.99**	**27**	P	Pn	09 25 43.2	-0.5
CRJC				S	Sn	09 26 28.1	-1.1
PTGC	**Puerto Gaitan,**	**4.12**	**141**	P	Pn	09 25 43.4	-1.9
PTGC				S	Sn	09 26 31.7	-0.5
URMC	**La Uribe, Meta**	**4.18**	**175**	P	Pn	09 25 44.8	-1.5
URMC				S	Sn	09 26 35.7	+1.8
SDV	**Santo Domingo**	**4.28**	**70**	P	Pn	09 25 47.1	-0.7
SDV				S	Sn	09 26 35.9	-0.7
URIC	**Uribia, Colomb**	**5.01**	**32**	P	Pn	09 25 55.7	-1.9
	30nm,1.2s						
URIC				S	Sn	09 26 51.8	-2.5
	30nm,1.2s						
POPC	**Popayan, Colom**	**5.25**	**202**	P	Pn	09 25 59.3	-1.8
	3.1nm,0.9s						
MACC	**Macarena, Meta**	**5.33**	**171**	P	Pn	09 25 58.2	-3.8
MACC				S	Sn	09 27 01.8	-0.4
BCIP	**Isla Barro Col**	**5.36**	**289**	P	Pn	09 25 58.6	-3.7
BCIP				S	Sn	09 27 00.4	-2.4
FLOC	**Florencia**	**5.89**	**189**	P	Pn	09 26 07.9	-1.9

IDC 07 09:45:21.0±18.0, 59°12S×145°18W, h0km, mb3.7/4, mbtmp3.7/4, MS3.5/4, Error ellipse: s-maj=593.6km s-min=35.2km az=39.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**31.02**	**180**	LR	LR	10 02 36.7	
	comp=Z,75nm,18.7s,baz=359,slow=33						
RAR	**Rarotonga**	**39.30**	**338**	LR	LR	10 03 42.7	
	comp=Z,52nm,21.1s,baz=205,slow=28						
PPT	**Papeete**	**41.62**	**354**	LR	LR	10 05 58.9	
	comp=Z,68nm,19.7s,baz=148,slow=30						
SNAA	**Sanae**	**46.88**	**165**	P	P	09 53 52.2	-0.1
	1.0nm,0.5s,baz=172,slow=21,SNR=7.1						
	1.0nm,0.5s						
H03N3	**Juan Fernandez**	**49.93**	**90**	T	T	10 45 25.1	
	baz=222,slow=72,SNR=8.9						
H03N2	**Juan Fernandez**	**49.94**	**90**	T	T	10 45 18.7	
	baz=222,slow=72,SNR=14						
H03N1	**Juan Fernandez**	**49.95**	**90**	T	T	10 45 22.1	
	baz=222,slow=72,SNR=11						
STKA	**Stephens Creek**	**54.77**	**266**	P	P	09 54 52.0	-0.1
	0.6nm,0.3s,baz=232,slow=20,SNR=4.2						
STKA				LR	LR	10 12 37.6	
	comp=Z,40nm,21.4s,baz=202,slow=30						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**65.38**	**265**	P	P	09 56 05.5	+0.3
	0.4nm,0.7s,baz=149,slow=6.3,SNR=6.1						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**68.24**	**267**	P	P	09 56 23.0	-0.4
	0.5nm,0.7s,baz=146,slow=6.0,SNR=2.1						
	0.5nm,0.7s						

*NOU **07** 09:47:15.0, 40°70S×174°00E, h107km, MLv3.6/19, Cook Strait, New Zealand*
*WEL **07** 09:47:17.4±0.6, 41°S±4°×17°4E±°, h86km±7km, M3.2/22, ML3.5/23, MLv3.2/22, Error ellipse: s-maj=5.7km s-min=3.9km az=167.0, confirmed*

ISC 07 09:47:14.2±1.4, 40°70S±0°03×173°97E±0°03, h122km±8km, n100, σ1§01/119, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.10**	**199**	P	**Pn**	**09 47 31.4**	**+0.6**
DUWZ				S	**Sn**	**09 47 42.2**	**-1.2**
TCW	**Tory Channel**	**0.56**	**155**	P	**Pn**	**09 47 34.1**	**+1.4**
TCW				S	**Sn**	**09 47 46.0**	**-0.7**
HAVS	**Havelock**	**0.59**	**194**	P	**Pn**	**09 47 33.8**	**+1.0**
NNZ	**Nelson**	**0.68**	**221**	P	**Pn**	**09 47 34.5**	**+1.0**
NNZ				S	**Sn**	**09 47 47.6**	**-0.5**
TUWZ	**Tuamarina**	**0.73**	**181**	P	**Pn**	**09 47 35.8**	**+1.9**
TUWZ				S	**Sn**	**09 47 48.8**	**0.0**
KIW	**Kapiti Island**	**0.73**	**103**	P	**Pn**	**09 47 35.0**	**+1.1**
KIW				S	**Sn**	**09 47 47.7**	**-1.2**
BWRS	**Waikakaho Road**	**0.74**	**184**	P	**Pn**	**09 47 35.6**	**+1.7**
BWRS				S	**Sn**	**09 47 48.3**	**-0.6**
MKBS	**Makara Bunker**	**0.76**	**134**	P	**Pn**	**09 47 35.3**	**+1.2**
MKBS				S	**Sn**	**09 47 48.6**	**-0.7**
NCBS	**Nelson Council**	**0.77**	**222**	P	**Pn**	**09 47 34.3**	**+0.2**
NCBS				S	**Sn**	**09 47 48.2**	**-1.2**
NLMS	**Nelson Nelmac**	**0.77**	**223**	P	**Pn**	**09 47 33.8**	**-0.4**
NLMS				S	**Sn**	**09 47 47.9**	**-1.4**
PWES	**Porirua West**	**0.78**	**123**	P	**Pn**	**09 47 35.4**	**+1.2**
PWES				S	**Sn**	**09 47 48.9**	**-0.6**
NELH	**Nelson Hospita**	**0.79**	**222**	P	**Pn**	**09 47 34.4**	**+0.1**
NELH				S	**Sn**	**09 47 48.8**	**-0.8**
POLS	**Porirua Librar**	**0.79**	**123**	P	**Pn**	**09 47 34.1**	**-0.2**
POLS				S	**Sn**	**09 47 47.8**	**-1.8**
MKVS	**Makara Village**	**0.79**	**135**	P	**Pn**	**09 47 34.3**	**0.0**
MKVS				S	**Sn**	**09 47 48.3**	**-1.5**
PFAS	**Porirua Free A**	**0.80**	**123**	P	**Pn**	**09 47 34.0**	**-0.4**
PFAS				S	**Sn**	**09 47 47.8**	**-2.0**
PAPS	**Paraparaumu Pr**	**0.82**	**105**	S	**Sn**	**09 47 49.7**	**-0.3**
SNZO	**South Karori**	**0.82**	**138**	P	**Pn**	**09 47 35.6**	**+0.9**
SNZO	**South Karori**	**0.82**	**138**	S	**Sn**	**09 47 49.7**	**-0.5**
TKNZ	**Takaka Hill**	**0.83**	**246**	P	**Pn**	**09 47 35.6**	**+0.9**
TKNZ				S	**Sn**	**09 47 49.5**	**-0.9**
WEL	**Wellington**	**0.84**	**134**	P	**Pn**	**09 47 36.1**	**+1.3**
WEL				S	**Sn**	**09 47 49.6**	**-0.9**
OGWZ	**Otaki Gorge**	**0.92**	**98**	P	**Pn**	**09 47 36.8**	**+1.2**
OGWZ				S	**Sn**	**09 47 51.0**	**-0.7**
CAW	**Cannon Point**	**0.93**	**116**	P	**Pn**	**09 47 36.8**	**+1.2**
BHW	**Baring Head**	**0.98**	**136**	P	**Pn**	**09 47 37.3**	**+1.2**
BHW				S	**Sn**	**09 47 51.8**	**-1.0**
BSWZ	**Blackbirch Sta**	**1.01**	**184**	P	**Pn**	**09 47 38.1**	**+1.7**
QRZ	**Quartz Range**	**1.10**	**263**	P	**Pn**	**09 47 37.6**	**+0.3**
QRZ	**Quartz Range**	**1.10**	**263**	S	**Sn**	**09 47 54.1**	**-0.7**
QRZ	**Quartz Range**	**1.10**	**263**	P	**Pn**	**09 47 38.0**	**+0.7**
QRZ				S	**Sn**	**09 47 53.7**	**-1.1**
OHWZ	**Ohakea**	**1.14**	**65**	P	**Pn**	**09 47 39.0**	**+1.3**
MRNZ	**Matariki Terra**	**1.15**	**232**	P	**Pn**	**09 47 39.2**	**+1.4**
HOWZ	**Holdsworth Sta**	**1.19**	**100**	P	**Pn**	**09 47 39.3**	**+1.0**
MSWZ	**Moikau Station**	**1.20**	**127**	P	**Pn**	**09 47 39.7**	**+1.3**
MRZ	**Mangatainoka R**	**1.23**	**89**	P	**Pn**	**09 47 39.5**	**+0.9**
WAZ	**Wanganui**	**1.23**	**40**	P	**Pn**	**09 47 40.2**	**+1.6**
LREZ	**Lake Rotokare**	**1.28**	**15**	P	**P

*GCG **07** 09:58:34.8±0.7, 13°.09N×90°.47W, h14km±7km, MD4.2, MW3.1*

ISC 07 09:58:34.4±1.8, 12°.88N±0°.09×90°.39W±0°.06, h24km, n52, σ0.98/55, 4C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.18**	**30**	⇑*e*P	**Pn**	**09 58 54.2**	**-1.4**
NUBE	**Las Nubes**	**1.18**	**30**	*i* P	**Pn**	**09 58 54.2**	**-1.4**
NUBE	**Las Nubes**	**1.18**	**30**	P	**Pn**	**09 58 54.2**	**-1.4**
JAYA	**Jayaque - finc**	**1.20**	**50**	*e*P	**Pn**	**09 58 54.8**	**-1.0**
JAYA				IAML		09 59 13.2	
	comp=Z,482nm,0.3s						
JAYA	**Jayaque - finc**	**1.20**	**50**	*i* P	**Pn**	**09 58 54.9**	**-1.0**
JAYA	**Jayaque - finc**	**1.20**	**50**	P	**Pn**	**09 58 54.8**	**-1.0**
JAYA	**Jayaque - finc**	**1.20**	**50**	S	**Sb**	**09 59 11.9**	**+0.2**
CEVE	**Cerro Verde**	**1.21**	**38**	*e*P	**Pn**	**09 58 55.1**	**-0.9**
CEVE				IAML		09 59 16.1	
	comp=Z,1μm,0.5s						
CEVE	**Cerro Verde**	**1.21**	**38**	P	**Pn**	**09 58 55.2**	**-0.9**
CEVE	**Cerro Verde**	**1.21**	**38**	S	**Sb**	**09 59 13.5**	**+1.5**
LALI	**Alcalda de L**	**1.21**	**59**	*i* P	**Pn**	**09 58 53.2**	**-2.6**
SBLS	**San Blas**	**1.21**	**38**	⇑*i* P	**Pn**	**09 58 55.2**	**-1.0**
SNJE	**San Jose**	**1.25**	**38**	⇑*e*P	**Pn**	**09 58 55.6**	**-1.0**
LOAL	**Lomas de Alarc**	**1.26**	**28**	*e*P	**Pn**	**09 58 55.7**	**-1.0**
LOAL	**Lomas de Alarc**	**1.26**	**28**	P	**Pn**	**09 58 55.8**	**-1.0**
LOAL	**Lomas de Alarc**	**1.26**	**28**	S	**Sb**	**09 59 14.1**	**+0.6**
SLOZ	**Alcaldia de Sa**	**1.29**	**27**	*e*P	**Pn**	**09 58 55.9**	**-1.1**
SLOZ				*e*S	**Sb**	**09 59 14.1**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.29**	**27**	P	**Pn**	**09 58 55.9**	**-1.1**
PMON	**Piamonte**	**1.34**	**51**	*e*P	**Pn**	**09 58 56.9**	**-0.8**
PMON	**Piamonte**	**1.34**	**51**	P	**Pn**	**09 58 56.7**	**-1.0**
UNIC	**Universidad Ca**	**1.37**	**37**	P	**Pn**	**09 58 57.5**	**-0.7**
UNIC	**Universidad Ca**	**1.37**	**37**	S	**Sb**	**09 59 16.5**	**-0.1**
LFRS	**El Faro**	**1.49**	**60**	*e*P	**Pn**	**09 58 59.2**	**-0.6**
ESSG	**Sabana Grande**	**1.56**	**344**	*i* P	**Pn**	**09 58 59.4**	**-1.4**
PAVA	**Las Pavas**	**1.64**	**59**	*e*P	**Pn**	**09 59 02.2**	**+0.3**
PAVA	**Las Pavas**	**1.64**	**59**	P	**Pn**	**09 59 02.4**	**+0.5**
COEG	**Centro de Oper**	**1.65**	**63**	*e*P	**Pn**	**09 59 01.2**	**-0.7**
COEG				IAML		09 59 04.3	
	comp=Z,265nm,0.3s						
COEG	**Centro de Oper**	**1.65**	**63**	P	**Pn**	**09 59 01.5**	**-0.4**
COEG	**Centro de Oper**	**1.65**	**63**	S	**Sb**	**09 59 23.6**	**-0.9**
TECO	**Alcaldia de Te**	**1.70**	**67**	*e*P	**Pn**	**09 59 01.5**	**-1.1**
TECO	**Alcaldia de Te**	**1.70**	**67**	P	**Pn**	**09 59 01.8**	**-0.8**
TECO	**Alcaldia de Te**	**1.70**	**67**	S	**Sn**	**09 59 23.9**	**+0.2**
UESV	**Universidad de**	**1.73**	**64**	S	**Sb**	**09 59 26.4**	**-0.6**
STG0	**El Palmar, Qui**	**1.80**	**329**	*i* P	**Pb**	**09 59 07.8**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.81**	**63**	⇑*e*P	**Pn**	**09 59 04.0**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.81**	**63**	P	**Pn**	**09 59 03.9**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.81**	**63**	S	**Sb**	**09 59 28.2**	**-1.1**
MTO3	**Montecristo**	**1.81**	**33**	*e*P	**Pn**	**09 59 04.0**	**-0.5**
MTO3	**Montecristo**	**1.81**	**33**	*i* P	**Pn**	**09 59 03.9**	**-0.5**
MTO3	**Montecristo**	**1.81**	**33**	P	**Pn**	**09 59 04.2**	**-0.2**
STG8	**El Palmar, Qui**	**1.82**	**329**	*i* P	**Pb**	**09 59 08.2**	**+0.9**
PQSS	**Presa 15 de Se**	**1.93**	**67**	P	**Pn**	**09 59 05.5**	**-0.3**
PQSS	**Presa 15 de Se**	**1.93**	**67**	S	**Sb**	**09 59 31.4**	**-1.2**
ESQI	**Esquipulas**	**1.96**	**31**	*e*P	**Pn**	**09 59 06.0**	**-0.2**
ESQI	**Esquipulas**	**1.96**	**31**	P	**Pn**	**09 59 06.1**	**-0.2**
BLLM	**Bellamira**	**2.17**	**75**	*e*P	**Pn**	**09 59 08.6**	**-0.6**
SOKI	**Kika Raxquin**	**2.17**	**333**	*e*P	**Pn**	**09 59 09.5**	**+0.1**
SOKI				*i* S	**Sn**	**09 59 34.7**	**-1.2**
CNCH	**Conchagua**	**2.52**	**81**	P	**Pn**	**09 59 13.5**	**-0.6**
CNCH	**Conchagua**	**2.52**	**81**	S	**Sn**	**09 59 45.2**	**+1.1**
MARCA	**Marcala la Paz**	**2.62**	**61**	*i* P	**Pn**	**09 59 17.8**	**+2.4**
CSGN	**Cosiguina Volc**	**2.76**	**88**	P	**Pn**	**09 59 17.0**	**-0.3**
CSGN				S	**Sn**	**09 59 49.9**	**0.0**
RCVN	**Varillal2**	**4.15**	**80**	P	**Pn**	**09 59 36.1**	**-0.3**

*NEIC **07** 10:16:59.8±0.8, 19°.392N±0°.008×155°.335W±0°.007, h10km±1km, Error ellipse: s-maj=2.8km s-min=1.4km az=132.0*

HVO 07 10:16:59.5±0.7, 19°.395N±0°.007×155°.328W±0°.008, h12km, ML2.7/40, ML2.8/42(NEIC), Error ellipse: s-maj=1.1km s-min=0.9km az=208.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.03**	**67**		Pg	10 17 03.9	+2.1
SDHHI	**Sand Hill**	**0.03**	**100**		Pg	10 17 03.9	+2.1
UWE	**Uwekahuna**	**0.04**	**52**		Pg	10 17 02.1	+0.3
UWE				IAML		10 17 04.5	
	comp=N,6μm,0.5s						
UWE				IAML		10 17 04.9	
	comp=E,6μm,0.4s						
OBL	**Observatory Le**	**0.05**	**62**		Pg	10 17 04.1	+2.2
RIM	**Rim**	**0.05**	**90**		Pg	10 17 04.0	+2.1
UWB	**Uwekahuna Bluf**	**0.06**	**58**		Pg	10 17 04.0	+2.0
KKO	**Keanakako'i**	**0.06**	**88**		Pg	10 17 04.2	+2.2
SBLHI	**Steaming Bluff**	**0.07**	**61**		Pg	10 17 04.2	+2.1
BYL	**Byron's Ledge**	**0.07**	**75**		Pg	10 17 02.2	+0.1
BYL				IAML		10 17 04.7	
	comp=E,3μm,0.6s						
HATHI	**Halema'uma'u T**	**0.07**	**66**		Pg	10 17 02.3	+0.2
HATHI				IAML		10 17 04.4	
	comp=N,4μm,0.3s						
HATHI				IAML		10 17 04.8	
	comp=E,2μm,0.2s						
HLP	**Hilina Pali**	**0.10**	**169**		Pg	10 17 02.6	+0.2
PUH	**Pauahi**	**0.11**	**101**		Pg	10 17 02.6	+0.1
PUH				IAML		10 17 05.3	
	comp=E,2μm,0.8s						
MLH	**Mauna Loa**	**0.11**	**331**		Pg	10 17 03.0	+0.3
KNHH	**Kane Nui o Ham**	**0.15**	**96**		Pg	10 17 03.1	0.0
HTC	**Hot Caves**	**0.17**	**203**		Pg	10 17 03.7	+0.3
STCH	**Steam Cracks**	**0.19**	**93**		Pg	10 17 03.8	+0.1
STCH				IAML		10 17 08.1	
	comp=E,1μm,0.2s						
STCH				IAML		10 17 08.1	
	comp=N,1μm,0.1s						
NPOC	**North of Pu'u**	**0.21**	**91**		Pg	10 17 04.1	+0.1
NPOC					Sg	10 17 07.5	+0.4
JCUZ	**Jacuzzi**	**0.21**	**93**		Pg	10 17 04.2	+0.1
JCUZ					Sg	10 17 07.6	+0.3
HMH	**Humu'ula Sheep**	**0.25**	**325**		Pg	10 17 05.2	+0.3
HMH				IAML		10 17 09.5	
	comp=E,2μm,0.3s						
HMH				IAML		10 17 09.9	
	comp=N,1μm,0.1s						
MWH	**Mokuaweoweo**	**0.27**	**289**		Pg	10 17 05.2	-0.1
MWH				IAML		10 17 10.0	
	comp=E,1μm,0.3s						
MWH				IAML		10 17 12.0	
	comp=N,1μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.27**	**301**		Pg	10 17 05.3	0.0
MLOA					Sg	10 17 09.5	+0.2
MLOA	**Mauna Loa Obse**	**0.27**	**301**	IAML		10 17 09.8	
	comp=N,18nm,0.7s						
MLOA				IAML		10 17 10.3	
	comp=E,15nm,0.2s						
JOKA	**Jonika Flow**	**0.31**	**83**		Pg	10 17 05.5	-0.2
KHU	**Kahuku**	**0.31**	**241**		Pg	10 17 05.6	-0.3
KHU				IAML		10 17 10.8	
	comp=E,1μm,0.1s						
ALEP	**Alea Permanent**	**0.33**	**296**		Pg	10 17 06.0	-0.3
ALEP					Sg	10 17 10.9	-0.1
HPO	**Honuapo**	**0.37**	**215**		Pg	10 17 06.8	-0.1
POHA	**Pohakuloa**	**0.41**	**332**		Pg	10 17 07.2	-0.5
POHA				IAML		10 17 13.5	
	comp=E,676nm,0.5s						
POHA				IAML		10 17 13.9	
	comp=E,448nm,0.4s						
HUH	**Hualalai**	**0.56**	**301**		Pg	10 17 10.1	-0.4
HPAH	**Hawaii Prepara**	**0.72**	**331**	Pg	Pg	10 17 11.4	-2.1
MHA	**Mahukona**	**0.96**	**326**	Pg	Pg	10 17 16.2	-1.7

*IDC **07** 10:32:29.3±0.9, 55°.30N×166°.34E, h0km, mb3.6/8, mbtmp3.6/10, ML3.2/2, MS2.9/7, Error ellipse: s-maj=31.3km s-min=16.2km az=174.0*
*KRSC **07** 10:32:30.4±1.7, 55°.44N×166°.22E, h40km±14km, Ml3.9*

ISC 07 10:32:32.2±0.7, 55°.46N±0°.06×166°.31E±0°.06, h20km, n48, σ1.50/48, mb3.6/8, MS2.9/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.32**	**217**	*e*P	**Pb**	**10 32 38.0**	**-1.2**
BKI				*e*S	**Sb**	**10 32 43.7**	**-0.2**
KBTR	**Krutoberegovo**	**2.11**	**292**	*e*P	**Pn**	**10 33 03.4**	**-2.9**
KBTR				*e*S	**Sn**	**10 33 28.9**	**-3.0**
KBG	**Krutoberegovo**	**2.18**	**293**	*e*P	**Pn**	**10 33 04.6**	**-2.8**
KBG				*e*S	**Sn**	**10 33 30.9**	**-2.8**
SMKR	**Semkarok**	**2.94**	**295**	*e*P	**Pn**	**10 33 17.2**	**-0.7**
SMKR				*e*S	**Sn**	**10 33 52.9**	**+0.3**
ZLN	**Zelenaya**	**3.16**	**282**	*e*S	**Sn**	**10 33 58.9**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**3.21**	**281**	*e*P	**Pn**	**10 33 22.2**	**+0.6**
KLY	**Klyuchi**	**3.30**	**287**	*e*S	**Sn**	**10 33 59.1**	**-2.1**
KRSR	**Krestovskiy**	**3.33**	**286**	*e*P	**Pn**	**10 33 22.8**	**-0.4**
TUMD	**Tumrok D**	**3.38**	**268**	*e*P	**Pn**	**10 33 23.8**	**-0.1**
TUMD				*e*S	**Sn**	**10 34 04.4**	**+1.0**
KIRR	**Kirishev**	**3.41**	**281**	*e*P	**Pn**	**10 33 24.1**	**-0.3**
KIRR				*e*S	**Sn**	**10 34 04.4**	**+0.1**
KMNR	**Kamenistaya**	**3.46**	**277**	*e*P	**Pn**	**10 33 26.2**	**+1.2**
KPT	**Kopyto**	**3.48**	**281**	*e*P	**Pn**	**10 33 26.8**	**+1.5**
KOZ	**Kozyrevsk**	**3.63**	**282**	*e*P	**Pn**	**10 33 28.8**	**+0.8**
OSSR	**Ossora**	**4.19**	**337**	*e*P	**Pn**	**10 33 34.5**	**-0.4**
ESO	**Esso**	**4.33**	**279**	*e*P	**Pn**	**10 33 37.7**	**+0.8**
SPN	**Mys Shipunski**	**4.38**	**240**	*e*S	**Sn**	**10 34 25.3**	**-2.5**
NLC	**Nalytchevo**	**4.68**	**244**	*e*S	**Sn**	**10 34 34.1**	**-1.1**
SDLR	**Sedlovina**	**4.86**	**246**	*e*P	**Pn**	**10 33 44.9**	**+0.7**
UGLR	**Uglovaya**	**4.92**	**246**	*e*P	**Pn**	**10 33 46.8**	**+1.6**
AVH	**Avacha**	**4.94**	**247**	*e*P	**Pn**	**10 33 47.2**	**+1.8**
KRX	**Arik**	**4.94**	**248**	*e*P	**Pn**	**10 33 46.2**	**+0.8**
KRX				*e*S	**Sn**	**10 34 41.5**	**-0.5**
KOK	**Koryaka**	**4.98**	**247**	*e*P	**Pn**	**10 33 46.9**	**+1.0**
DALK	**Dalny**	**5.05**	**244**	*e*P	**Pn**	**10 33 48.0**	**+1.2**
DALK				*e*S	**Sn**	**10 34 42.7**	**-1.7**
PET	**Petropavlovsk**	**5.11**	**245**	*e*P	**Pn**	**10 33 48.9**	**+1.4**
PET				*e*S	**Sn**	**10 34 45.0**	**-0.9**
GNL	**Ganaly**	**5.18**	**253**	*e*P	**Pn**	**10 33 49.5**	**+0.8**
SHEM	**Shemya Is, Ala**	**5.34**	**118**	Pn	**Pn**	**10 33 49.1**	**-1.5**
	2.1nm,0.3s,baz=247,slow=19,SNR=1.5						
SHEM				Sn	**Sn**	**10 34 49.3**	**-2.2**
	2.3nm,0.3s,baz=308,slow=17,SNR=1.5						
	45nm,1.0s						
KRMR	**Karymshinskiy**	**5.48**	**245**	*e*P	**Pn**	**10 33 53.5**	**+0.9**
KRMR				*e*S	**Sn**	**10 34 53.7**	**-1.3**
PETK	**Petropavlovsk-**	**5.56**	**249**	Pn	**Pn**	**10 33 54.1**	**+0.2**
	1.6nm,0.3s,baz=66,slow=16,SNR=36						
PETK				Sn	**Sn**	**10 35 00.2**	**+3.0**
	1.2nm,0.3s,baz=84,slow=28,SNR=6.4						
PETK				LR	LR	10 36 17.6	
	comp=Z,110nm,20.0s,baz=40,slow=41						
	2.8nm,0.4s						
MA2	**Magadan**	**9.32**	**303**	LR	LR	10 38 44.1	
	comp=Z,47nm,18.2s,baz=205,slow=40						
ASAJ	**Asahikawa**	**18.95**	**243**	LR	LR	10 43 42.2	
	comp=Z,40nm,21.1s,baz=31,slow=36						
KLR	**Kul'dur**	**21.84**	**268**	LR	LR	10 45 55.7	
	comp=Z,43nm,19.3s,baz=83,slow=37						
TIXI	**Tiksi**	**22.65**	**330**	LR	LR	10 47 10.9	
	comp=Z,40nm,18.1s,baz=48,slow=39						
ILAR	**Eielson Array**	**24.54**	**49**	P	**P**	**10 37 50.1**	**0.0**
	4.1nm,1.0s,baz=259,slow=8.5,SNR=21						
	4.1nm,1.0s						
USRK	**Ussuriysk Ar.**	**24.58**	**257**	LR	LR	10 48 02.3	
	comp=Z,47nm,18.6s,baz=8.3,slow=38						
KSRS	**Korea Array**	**31.46**	**251**	LR	LR	10 51 09.6	
	comp=Z,13nm,19.8s,baz=50,slow=36						
H11N2	**WAKE ISLAND Hy**	**35.67**	**179**	T	T	11 16 54.5	
	baz=360,slow=76,SNR=178						
H11N3	**WAKE ISLAND Hy**	**35.69**	**179**	T	T	11 16 53.2	
	baz=360,slow=76,SNR=108						
H11N1	**WAKE ISLAND Hy**	**35.69**	**179**	T	T	11 16 54.1	
	baz=360,slow=76,SNR=149						
H11S1	**WAKE ISLAND Hy**	**36.89**	**179**	T	T	11 18 19.9	
	baz=351,slow=74						
SONM	**Songino Array**	**36.89**	**284**	P	**P**	**10 39 39.6**	**+0.3**
	0.3nm,0.5s,baz=42,slow=6.6,SNR=2.4						
	0.3nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**36.90**	**179**	T	T	11 18 22.4	
	baz=351						
H11S2	**WAKE ISLAND Hy**	**36.91**	**179**	T	T	11 18 22.1	
	baz=351,slow=74						
YKA	**Yellowknife Ar**	**38.92**	**47**	P	**P**	**10 39 56.5**	**+0.5**
	0.4nm,0.8s,baz=302,slow=7.8,SNR=7.7						
	0.4nm,0.8s						
ZALV	**Zaliesovo Beam**	**44.54**	**304**	P	**P**	**10 40 44.0**	**+1.9**
	0.3nm,0.3s,baz=61,slow=10,SNR=1.3						
	0.3nm,0.3s						
NVAR	**Mina Array Bea**	**51.57**	**76**	P	**P**	**10 41 38.6**	**+1.7**
	1.1nm,1.1s,baz=294,slow=11,SNR=3.8						
	1.1nm,1.1s						
BVAR	**Borovoye Array**	**51.72**	**310**	P	**P**	**10 41 37.6**	**+0.1**
	0.5nm,0.7s,baz=50,slow=7.7,SNR=1.8						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**66.40**	**72**	P	**P**	**10 43 21.0**	**+1.2**
	1.2nm,0.9s,baz=294,slow=4.4,SNR=11						
	1.2nm,0.9s						
ASAR	**Alice Springs**	**83.52**	**210**	P	**P**	**10 44 56.5**	**-1.9**
	0.3nm,0.8s,baz=12,slow=6.2,SNR=2.2						
	0.3nm,0.8s						

JMA 07 10:35:10.0±0.3, 28°N±2°×14°0E±°, h387km, MV3.6/9, W OFF OGASAWARA, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.71**	**108**	*e*P	Pn	10 36 02.9	-0.1
CBIJ				*e*S	S	10 36 45.0	-0.6
JHH2	**Haha-jima-NKT2**	**1.89**	**121**	*e*P	Pn	10 36 04.5	+0.4
JHH2				*e*S	S	10 36 47.0	-0.7
JAG	**Ashikaga**	**8.81**	**355**	*e*P	P	10 37 14.9	+0.3
JHO	**Hitachi**	**8.96**	**1**	*e*P	P	10 37 17.2	+0.9

*SOME **07** 10:35:23.7, 40°.62N×79°.77E, h10km*
*NNC **07** 10:35:24.7±1.6, 40°.65N×79°.68E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=10.6km s-min=8.4km az=155.0*

ISC 07 10:35:25.9±3.5, 40°.7N±0°.1×79°.69E±0°.09, h10km, n17, σ1.65/23, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.42**	**356**	Pg	**Pg**	**10 36 11.5**	**-0.9**
	15nm,0.2s						
SHLS				Lg	Lg	10 36 46.3	
	9.2nm,0.2s						
SHLS	**Shalkode**	**2.42**	**356**	*e*P	**Pg**	**10 36 11.5**	**-0.9**
	15nm,0.2s						
SHLS				*e*S	**Sg**	**10 36 46.0**	**+2.2**
	9.2nm,0.2s						
UZB	**Uzynbulak**	**2.46**	**349**	Pg	**Pb**	**10 36 10.8**	**+0.5**
	1.4nm,0.1s						
UZB				Lg	Lg	10 36 44.9	
	5.1nm,0.6s						
UZB	**Uzynbulak**	**2.46**	**349**	*e*P	**Pb**	**10 36 10.8**	**+0.5**
	1.4nm,0.1s						
UZB				*e*S	**Sg**	**10 36 44.9**	**0.0**
	5.1nm,0.6s						
PDGK	**Podgornoye**	**2.59**	**357**	⇑Pg	**Pb**	**10 36 12.7**	**+0.1**
	5.9nm,0.4s						
PDGK				⇑Lg	Lg	10 36 50.2	
	7.0nm,0.6s						
ZHN	**Zhinishke**	**2.60**	**339**	*e*P	**Pg**	**10 36 14.3**	**-1.5**
	3.6nm,0.1s						
ZHN				*e*S	**Sg**	**10 36 50.5**	**+1.0**
	22nm,0.4s						
KURS	**Kuram**	**2.97**	**338**	Pg	**Pb**	**10 36 20.6**	**+1.6**
	3.6nm,0.4s						
KURS				Lg	Lg	10 37 01.3	
	6.3nm,0.7s						
TNSS	**Tian-Shan**	**3.08**	**319**	Pg	**Pb**	**10 36 22.5**	**+1.5**
	5.3nm,0.3s						
TNSS				Lg	Lg	10 37 05.0	
	3.6nm,0.3s						
TNSS	**Tian-Shan**	**3.08**	**319**	*e*P	**Pb**	**10 36 22.5**	**+1.5**
	5.3nm,0.3s						
TNSS				*e*S	**Sg**	**10 37 05.0**	**+0.3**
	3.6nm,0.3s						
MDOK	**Medeo**	**3.12**	**322**	Pg	**Pg**	**10 36 24.0**	**-1.7**
	1.6nm,0.2s						
MDOK				Lg	Lg	10 37 07.6	
	5.5nm,0.4s						
DJR	**Jarkent**	**3.59**	**1**	Pg	**Pb**	**10 36 31.2**	**+1.6**
	0.5nm,0.1s						
DJR				Lg	Lg	10 37 19.5	
	2.0nm,0.3s						
DJR	**Jarkent**	**3.59**	**1**	*e*P	**Pb**	**10 36 31.2**	**+1.6**
	0.5nm,0.1s						
DJR				*e*S	**Sg**	**10 37 19.5**	**-1.7**
	2.0nm,0.3s						
CHKK	**Chushkaly**	**3.70**	**328**	Pg	**Pg**	**10 36 34.2**	**-2.6**
	1.8nm,0.1s						
CHKK				Lg	Lg	10 37 24.8	
	9.2nm,0.3s						
CHKK	**Chushkaly**	**3.70**	**328**	*e*P	**Pg**	**10 36 34.2**	**-2.6**
	1.8nm,0.1s						
CHKK				*e*S	**Sg**	**10 37 24.8**	**0.0**
	9.2nm,0.3s						
KTBS	**Karatobe**	**3.72**	**324**	Pg	**Pb**	**10 36 33.5**	**+1.9**
	1.1nm,0.3s						
KTBS				Lg	Lg	10 37 24.0	
	2.7nm,0.4s						
TKM2	**Tokmak 2**	**3.75**	**307**	⇑Pg	**Pb**	**10 36 32.9**	**+0.5**
	2.0nm,1.1s						
TKM2				⇓Lg	Lg	10 37 23.9	
	2.5nm,0.8s						
KRBS	**Karabastau**	**4.20**	**316**	Pg	**Pb**	**10 36 42.8**	**+2.9**
	0.4nm,0.2s						
KRBS				Lg	Lg	10 37 39.7	
	0.9nm,0.5s						

IDC 07 10:42:54.0±1.6, 2°.37S×120°.83E, h0km, mb3.4/4, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=43.5km s-min=25.8km az=72.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.84**	**202**	Pn	Pn	10 43 40.7	0.0
	3.6nm,0.3s,baz=49,slow=11,SNR=1.9						
KAPI				Sn	Sn	10 44 16.4	+0.7
	2.1nm,0.3s,baz=24,slow=20,SNR=6.4						
	7.9nm,0.3s						
WRA	**Warramunga Arr**	**21.89**	**144**	P	P	10 47 48.4	-0.4
	0.5nm,0.7s,baz=324,slow=11,SNR=4.9						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**24.67**	**150**	P	P	10 48 16.3	-0.5
	0.3nm,0.6s,baz=329,slow=8.1,SNR=7.9						
	0.3nm,0.6s						
STKA	**Stephens Creek**	**35.27**	**149**	P	P	10 49 51.6	+0.9
	2.6nm,1.0s,baz=331,slow=10,SNR=3.2						
	2.6nm,1.0s						
MKAR	**Makanchi Array**	**59.53**	**330**	P	P	10 52 59.1	-0.1
	0.2nm,0.5s,baz=144,slow=5.4,SNR=1.4						
	0.2nm,0.5s						

*SJA **07** 10:52:36.4±0.6, 33°.67S×73°.01W, h10km, ML5.0, MW5.1*
*IDC **07** 10:52:39.7±0.4, 33°.77S×72°.36W, h0km, mb4.5/24, mbtmp4.5/28, ML4.3/4, MS5.4/40, Error ellipse: s-maj=13.9km s-min=9.8km az=94.0*
*GUC **07** 10:52:39.9±0.9, 33°.78S×72°.55W, h6km±5km, ML5.2*
*IPGP **07** 10:52:40.0, 33°.76S×72°.52W, h18km, Mw5.7, Fault plane solution: NP1:φs30.00000°, δ18.00000°, λ120.00000°. NP2:φs179.00000°, δ75.00000°, λ81.00000°.*
*MOS **07** 10:52:40.1±1.0, 33°.78S×72°.39W, h12km, mb5.3/5, MS5.5/6, Error ellipse: s-maj=11.8km s-min=7.8km az=85.0*
*NEIC **07** 10:52:41.1±1.7, 33°.76S±0°.04×72°.52W±0°.02, h10km±1km, mb5.4/55, Ms_20 5.5/758, Mww5.6/32, Error ellipse: s-maj=6.4km s-min=3.1km az=155.0*
*NEIC **07** 10:52:41.2, 33°.75S×72°.51W, h16km*
*NEIC **07** 10:52:41.2, 33°.85S×72°.00W, h16km, Moment Tensor Solution. Duration: 3s5 Moment tensor: Scale 10^17 Nm; Mrr2.88; Mθθ0.20; Mφφ-3.07; Mrθ0.21; Mθφ-0.37; Mφr-1.73; Fault plane solution: M0 3.47000×10^17 NP1:φs13.94000°, δ30.68000°, λ102.55000°. NP2:φs179.43000°, δ60.13000°, λ82.65000°. Principal axes: T 3.3703, Plg74.0000°, Azm71.0000°; N 0.1930, Plg6.0000°, Azm183.0000°; P -3.5633, Plg15.0000°, Azm275.0000°;*
*VAO **07** 10:52:42.6±0.3, 33°.80S×72°.25W, h10km, mb5.0*
*GCMT **07** 10:52:48.1±0.1, 33°.84S±0°.01×72°.63W±0°.01, h12km, MW5.7/161, Moment Tensor Solution. s138, c243; s161, c315; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr2.44±.02; Mθθ-0.04±.02; Mφφ-2.40±.02; Mrθ-0.48±.06; Mθφ-0.48±.02; Mφr-3.61±.06; Best double couple: M0 4.39900×10^17 NP1:φs14.00000°, δ17.00000°, λ96.00000°. NP2:φs188.00000°, δ73.00000°, λ88.00000°. Principal axes: T 4.3750, Plg62.0000°, Azm95.0000°; N 0.0510, Plg2.0000°, Azm189.0000°; P -4.4230, Plg28.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 10:52:41.2±0.6, 33°.80S±0°.03×72°.56W±0°.03, h13km±3km, h13km:pP-P, n738, σ1.60/398, mb5.2/55, MS5.5/421, 28C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA05	**Santo Domingo**	**0.80**	**80**		**Pg**	**10 52 55.4**	**-1.4**
VA05					**Sg**	**10 53 05.1**	**-2.1**
VA05	**Santo Domingo**	**0.80**	**80**	⇓*i* P	**Pg**	**10 52 56.5**	**-0.2**
VA05				*e*S	**Sb**	**10 53 07.6**	**-0.2**
BO03	**Pichilemu**	**0.86**	**144**	⇓*e*P	**Pg**	**10 52 57.5**	**-0.2**
BO03				*e*S	**Sb**	**10 53 09.8**	**+0.5**
VA01	**Torpederas**	**1.09**	**45**		**Pb**	**10 53 00.8**	**-1.1**
VA01				Sn	**Sg**	**10 53 16.2**	**-0.1**
VA01	**Torpederas**	**1.09**	**45**	⇑*e*P	**Pb**	**10 53 00.6**	**-1.3**
VA01				*e*S	**Sb**	**10 53 15.6**	**-0.4**
VA01	**Torpederas**	**1.09**	**45**	*i* P	**

comp=Z,18µm,0.7s
MT13 San Alfonso 1.90 89 Pn 10 53 12.4 -1.0
MT13 San Alfonso 1.90 89⇑ *e*P Pn 10 53 12.9 -0.5
MT13 IAML 10 53 44.8
comp=E,28µm,0.4s
MT13 San Alfonso 1.90 89 *i* P Pn 10 53 13.1 -0.3
MT13 *i* S **Sg 10 53 46.0 +3.8**
MT13 IAML 10 53 52.2
comp=Z,9µm,1.3s
FCH Farellones 1.96 77⇑ *i*P Pn 10 53 13.9 -0.5
LMEL Las Melosas 1.96 92 Pn 10 53 13.7 -0.7
LMEL Las Melosas 1.96 92⇑ *e*P Pn 10 53 13.9 -0.5
VA03 San Esteban 1.98 59 Pn 10 53 13.9 -0.6
VA03 San Esteban 1.98 59 *i* P Pb 10 53 16.6 -0.5
VA03 *i* S **Sg 10 53 45.5 +0.7**
VA03 IAML 10 54 01.4
comp=Z,18µm,1.1s
MT04 Ro Olivares 2.06 80⇑ *e*P Pn 10 53 15.3 -0.5
MT08 Bocatoma Ro 2.15 81 Pn 10 53 17.4 +0.4
MT08 Bocatoma Ro 2.15 81⇑ *e*P Pn 10 53 16.8 -0.2
MT08 Bocatoma Ro 2.15 81 *i* P Pb 10 53 19.8 -0.4
MT08 IAML 10 54 08.8
comp=Z,5µm,1.6s
ML02 Panimavida 2.17 155 Pn 10 53 16.9 -0.2
ML02 Panimavida 2.17 155 *i* P Pb 10 53 19.1 -1.3
ML02 *i* S **Sg 10 53 50.4 -0.7**
ML02 IAML 10 54 02.6
comp=Z,15µm,1.1s
CO02 Combarbal 2.91 27 Pn 10 53 26.6 -0.7
CO02 Combarbal 2.91 27 *i* P Pn 10 53 26.6 -0.7
CO02 *i* S **Sn 10 54 04.0 +1.9**
CO02 IAML 10 54 23.4
comp=Z,7µm,0.6s
BI05 Punta Hualpn 2.99 190 Pn 10 53 27.9 -0.4
BI02 San Fabin de 3.05 160 Pn 10 53 29.3 +0.2
ARCO CERRO ARCO 3.19 74 *i* P Pb 10 53 34.4 -3.4
ARCO IAML 10 54 43.6
comp=Z,3µm,1.3s
AAGR Agrelo 3.20 78⇓ *i*P Pb 10 53 34.8 -3.2
AAGR IAML 10 55 07.1
comp=Z,2µm,1.7s
CO06 Fray Jorge 3.21 14 Pn 10 53 29.2 -2.2
EDS3 Malargue 3.26 128 *i* P Pb 10 53 35.8 -3.2
ASAL Salagasta 3.35 70 *i* P Pn 10 53 36.4 +3.0
ASAL IAML 10 54 51.4
comp=Z,2µm,1.7s
CO03 El Pedregal 3.35 29 Pn Pn 10 53 32.4 -1.0
CO03 El Pedregal 3.35 29 *i* P Pn 10 53 32.9 -0.5
CO03 *i* S **Sn 10 54 14.3 +1.2**
CO03 IAML 10 54 42.4
comp=Z,2µm,0.8s
AVIZ Vizcacheras 3.39 86 *i* P Pb 10 53 37.6 -3.6
GO04 Tololo Observa 3.91 23 Pn 10 53 40.0 -1.3
ZON Zonda 3.97 57 Pn 10 53 41.0 -0.9
ZON Zonda 3.97 57 P Pn 10 53 41.0 -0.9
CO05 La Serena 4.03 17 Pn 10 53 40.7 -1.9
CFA Coronel Fontan 4.25 60 Pn **Pn 10 53 43.9 -1.8**
comp=Z,5.0nm,0.3s,baz=243,slow=13,SNR=46
CFA Pg **Pb 10 53 54.8 -1.1**
comp=Z,33nm,0.3s,baz=229,slow=13,SNR=27
CFA Lg Lg 10 54 51.4
comp=Z,26nm,0.3s,baz=162,slow=20,SNR=4.5
comp=Z,9.4nm,0.3s
CO01 Juntas del Tor 4.35 30 Pn **Pn 10 53 46.8 -0.5**
LC02 Puerto Saavedr 5.03 187 Pn 10 53 56.3 +0.1
LCO Las Campanas 5.03 19 Pn 10 53 54.9 -1.7
LCO Las Campanas 5.03 19 P **Pn 10 53 54.9 -1.7**
VA04 Juan Fernndez 5.22 270 Pn 10 53 59.0 0.0
H03N1 Juan Fernandez 5.31 272 T T 10 59 51.6
baz=89,slow=73,SNR=79
H03N3 Juan Fernandez 5.32 272 T T 10 59 51.3
baz=89,slow=73,SNR=77
AC05 El Transito 5.32 22 Pn 10 54 00.3 -0.2
H03N2 Juan Fernandez 5.33 272 T T 10 59 60.0
baz=89,slow=73,SNR=53
AC04 Llanos de Chal 5.72 13 Pn **Pn 10 54 03.3 -2.6**
LR03 Panguipulli 5.82 178 Pn 10 54 07.1 -0.1
LR04 Corral 6.11 186 Pn 10 54 09.7 -1.5
LR05 Currie 6.43 176 Pn 10 54 15.1 -0.5
GO03 Copiapo 6.50 19 Pn 10 54 15.0 -1.7
AC06 Mina Casimiro 6.70 17 Pn 10 54 16.8 -2.5
LL04 Puerto Octay 7.10 179 Pn 10 54 26.6 +1.8
PLCA Paso Flores 7.10 168 Pn 10 54 25.2 +0.3
PLCA Paso Flores 7.10 168 Pn **Pn 10 54 25.8 +0.9**
comp=Z,2.1nm,0.3s,baz=339,slow=11,SNR=79
PLCA Lg Lg 10 56 25.4
comp=Z,2.2nm,0.3s,baz=248,slow=19,SNR=3.0
PLCA LR LR 10 57 18.2
comp=Z,23µm,21.2s,baz=349,slow=39
comp=Z,5.6nm,0.4s
PLCA Paso Flores 7.10 168 P **Pn 10 54 25.2 +0.3**
PLCA Paso Flores 7.10 168 *e*P Pn 10 54 25.8 +0.9
AC02 Maricunga 7.55 24 Pn 10 54 30.1 -1.3
LL05 Los Muermos 7.63 185 Pn 10 54 30.8 -1.2
AC01 Pan de Azucar 7.81 13 Pn 10 54 30.9 -3.7
LL06 Loncomilla 8.44 185 Pn 10 54 42.7 -0.5
GO02 Mina Guanaco 8.99 18 Pn **Pn 10 54 48.5 -2.5**
GO07 Milladeo Hill, 9.34 185 Pn 10 54 54.7 -0.8
LL02 Futaleuf 9.39 177 Pn **Pn 10 54 57.1 +0.8**
TRQA Tornquist 9.57 119 Pn 10 54 58.9 +0.1
TRQA Tornquist 9.57 119 P **Pn 10 54 58.9 +0.1**
COYC Coyhaique 11.76 178 Pn 10 55 28.8 +0.2
LPA La Plata 12.14 99 *e*P Pn 10 55 27.5 -6.4
LPA La Plata 12.14 99 PN **Pn 10 55 33.0 -0.9**
LPA pP P 10 55 39.1 -7.5
LPA sP 10 55 46.1
LPA PP PnPn 10 55 53.5 +12
LPA pPP 10 56 07.3
LPA PPP PPP 10 56 34.3
LPA S **Sn 10 57 48.6 -0.6**
LPA La Plata 12.14 99 SN **Sn 10 57 54.7 +5.5**
LPA sS 10 58 01.1
LPA SS **SnSn 10 58 10.3 +9.2**
LPA SSS SSS 10 59 31.6
LPA PCP **PcP 11 01 14.9 -2.8**
LPA SCS **ScS 11 08 29.7 +3.4**
LPA PKIKP **PKiKP 11 09 16.7 +1.2**
LPA SKIKP 11 12 41.3
LPA PKIKS 11 12 46.8
LPA SKIKS 11 16 13.7
AY03 Cochrane 13.44 180 Pn 10 55 50.6 -0.9
PB11 IPOC Station P 14.22 11 Pn 10 56 03.0 +0.5
GO01 Chusmiza 14.39 13 Pn 10 56 05.9 +0.7
CPUP Villa Florida 15.13 65 Pn **Pn 10 56 12.6 -2.1**
comp=Z,0.2nm,0.3s,baz=243,slow=13,SNR=8.5
CPUP Sn **Sn 10 59 03.2 +0.9**
comp=Z,0.3nm,0.3s,baz=256,slow=10.0,SNR=2.8
CPUP Lg Lg 11 00 35.9
comp=Z,0.4nm,0.3s,baz=150,slow=20,SNR=2.3
CPUP LR LR 11 02 13.8
comp=Z,6µm,18.8s,baz=243,slow=38
comp=Z,1.6nm,0.6s
PLTB Pedras Altas 16.08 88 Pn 10 56 24.8 -2.2
PLTB Pedras Altas 16.08 88 *e*P Pn 10 56 25.1 -1.8
LPAZ La Paz 17.89 14 P **Pn 10 56 50.3 -0.1**
LPAZ La Paz 17.89 14 P **P 10 56 51.2 +0.1**
comp=Z,0.9nm,0.3s,baz=188,slow=7.1,SNR=32
LPAZ S **Sn 11 00 10.7 +0.6**
comp=Z,2.5nm,0.9s,baz=169,slow=10,SNR=1.1
comp=Z,17nm,0.7s
LPAZ La Paz 17.89 14 *e*P P 10 56 51.6 +0.5
MURT Porto Murtinho 17.90 51 *e*P Pn 10 56 49.5 -0.5
ITAB Concordia 18.77 75 P **P 10 56 59.7 -0.4**
AMBA Amambai (Brazi 18.85 59 *e*P Pn 10 57 02.2 +0.6
BDQN Bodoquena, MS 19.33 51 *e*P P 10 57 05.5 -0.7
AQDB Aquidauana 20.00 53 P **P 10 57 13.1 -0.4**
AQDB IAmb IAmb 10 57 24.9
comp=Z,260nm,1.6s
AQDB Aquidauana 20.00 53 *e*P P 10 57 13.6 +0.1
PTGB Pitanga 20.02 69 *e*P P 10 57 12.8 -1.1
SIV San Ignacio 20.54 33 P **P 10 57 18.6 -0.9**
comp=Z,22nm,0.8s,baz=216,slow=10.0,SNR=38
SIV LR LR 11 06 58.1
comp=Z,27µm,18.5s,baz=230,slow=42
comp=Z,22nm,0.8s
EFI East Falkland 20.73 154 *i* P P 10 57 20.8 -0.5
USHA Ushuaia 21.23 173 P **P 10 57 27.5 +0.9**
comp=Z,19nm,0.9s,baz=327,slow=7.9,SNR=3.9
USHA LR LR 11 05 23.0
comp=Z,13µm,19.9s,baz=350,slow=36
comp=Z,19nm,0.9s
RPRD Ribas do Rio P 21.35 56 *e*P P 10 57 26.8 -1.4
LDASE Londrina, Braz 21.45 67 *e*P P 10 57 27.6 -1.8

PTLB Pontes e Lacer 21.93 37 P **P 10 57 33.0 -1.4**
PTLB IAmb IAmb 10 57 45.0
comp=Z,302nm,1.7s
PTLB IAMs_20 IAMs_20 11 07 25.5
comp=Z,23µm,20.0s
PTLB Pontes e Lacer 21.93 37 *e*P P 10 57 33.7 -0.8
NNA Nana 22.06 349 IAMs_20 IAMs_20 11 04 06.6
comp=Z,12µm,19.0s
NNA Nana 22.06 349 P **P 10 57 36.8 +0.9**
comp=Z,12nm,0.9s,baz=193,slow=11,SNR=5.8
NNA LR LR 11 04 29.5
comp=Z,12µm,19.4s,baz=174,slow=32
comp=Z,12nm,0.9s
FRTB Fartura 22.68 69 *e*P P 10 57 42.0 -0.5
C2SB Chapadao do Su 23.11 55 *e*P P 10 57 47.5 +0.5
SALV Santo Antonio 23.43 45 *e*P P 10 57 49.9 -0.3
VILB Vilhena 23.61 31 P **P 10 57 51.8 -0.3**
VILB IAMs_20 IAMs_20 11 08 22.1
comp=Z,14µm,20.0s
VILB Vilhena 23.61 31 *e*P P 10 57 51.7 -0.3
ITRB Iturama 24.22 60 *e*P P 10 57 56.8 -1.1
BB19B Bebedouro 24.75 65 *e*P P 10 58 01.6 -1.0
VAO Valinhos 24.89 71 P **P 10 58 03.7 -0.2**
VAO Valinhos 24.89 71 *e*P P 10 58 04.1 +0.2
PARB Paraibuna 25.79 73 *e*P P 10 58 12.8 +0.8
CZSB Cruzeiro do Su 25.94 360 P **P 10 58 14.5 +1.1**
CZSB IAmb IAmb 10 58 39.1
comp=Z,98nm,1.0s
CZSB Cruzeiro do Su 25.94 360 *e*P P 10 58 15.7 +2.3
ARAG Araguaiana, MT 25.98 51 *e*P P 10 58 14.0 +0.3
SAML Samuel 26.20 21 IAMs_20 IAMs_20 11 10 24.7
comp=Z,12µm,20.0s
SAML Samuel 26.20 21 *e*P P 10 58 17.4 +1.7
PDRB Porto dos Gac 26.41 37 *e*P P 10 58 18.5 +0.9
IPMB Ipameri, GO 26.88 60 *e*P P 10 58 22.6 +0.6
MAN01 Ângra dos Reis 27.34 74 *e*P P 10 58 27.4 +1.3
CLDB Colider 27.51 38 *e*P P 10 58 28.6 +1.1
PMNB Patos De Minas 27.83 63 *e*P P 10 58 32.4 +1.9
BDFB Brasilia 28.59 57 P **P 10 58 35.7 -1.6**
BDFB Brasilia 28.59 57 P **P 10 58 35.6 -1.6**
comp=Z,15nm,0.7s,baz=234,slow=11,SNR=20
BDFB LR LR 11 11 24.3
comp=Z,20µm,18.0s,baz=230,slow=40
comp=Z,15nm,0.7s
SNDB Serra Nova Dou 29.14 47 *e*P P 10 58 40.2 -1.9
TBTG Tabatinga, AM 29.57 5 P **P 10 58 45.8 0.0**
TBTG IAMs_20 IAMs_20 11 12 44.2
comp=Z,12µm,18.0s
TBTG Tabatinga, AM 29.57 5 *e*P P 10 58 47.2 +1.4
DIAM Diamantina, MG 30.07 66 *e*P P 10 58 51.9 +1.4
NPGB Novo Progresso 31.02 35 *e*P P 10 58 59.2 +0.5
PMSA Palmer Station 31.44 173 LR LR 11 12 01.2
comp=Z,12µm,18.1s,baz=349,slow=37
JANB Januaria 31.61 61 *e*P P 10 59 04.7 +0.6
SJMB Sao Joao De Ma 31.75 70 *e*P P 10 59 04.5 -0.7
RIB01 Linhares ES 32.03 71 *e*P P 10 59 06.7 -0.9
RPN Rapa Nui 32.26 272 IAMs_20 IAMs_20 11 08 27.8
comp=Z,11µm,20.0s
VA02 Isla de Pascua 32.33 272 IAMs_20 IAMs_20 11 08 21.7
comp=Z,11µm,20.0s
MACA Manacapuru-AM 32.44 23 P **P 10 59 08.6 -2.6**
MACA IAmb IAmb 10 59 14.9
comp=Z,34nm,0.8s
MACA Manacapuru-AM 32.44 23 *e*P P 10 59 12.4 +1.2
HOPE Hope Point 32.52 140 IAMs_20 IAMs_20 11 12 24.1
comp=Z,12µm,20.0s
ITTB Itaituba 33.21 32 *e*P P 10 59 20.0 +2.0
SMTB Santa Maria do 33.83 49 *e*P P 10 59 23.4 0.0
GUA01 Guaratinga, BA 34.05 68 *e*P P 10 59 23.8 -1.5
OTAV Otavalo 34.31 350 *e*P P 10 59 29.2 +1.2
PRPB Parauapebas 34.65 43 *e*P P 10 59 31.5 +1.0
CMC01 Camacan, BA 35.00 67 *e*P P 10 59 32.4 -1.1
MAL2 Monte Alegre, 35.99 32 P **P 10 59 41.5 -0.5**
PAYG Puerto Ayora 36.91 330 IAMs_20 IAMs_20 11 11 30.5
comp=Z,8µm,20.0s
BOAV Boa Vista 37.75 20 P **P 10 59 56.6 -0.4**
BOAV Boa Vista 37.75 20 *e*P P 10 59 56.5 -0.4
ROSC El Rosal 38.47 357 P **P 11 00 03.4 0.0**
comp=Z,2.8nm,0.3s,baz=150,slow=20,SNR=1.3
comp=Z,2.8nm,0.3s
RUSC La Rusia 39.48 359 P **P 11 00 12.3 +0.3**
RUSC IAmb IAmb 11 00 50.1
comp=Z,188nm,1.7s
NBAN Anadia - AL 41.05 63 *e*P P 11 00 22.6 -2.0
NBPB Pedra_Branca-C 41.54 55 *e*P P 11 00 29.1 +0.4
NBCA Caruaru-PE 42.20 61 *e*P P 11 00 34.2 +0.2
SDV Santo Domingo 42.49 3 IAMs_20 IAMs_20 11 18 58.5
comp=Z,6µm,20.0s
SDV Santo Domingo 42.49 3 *e*P P 11 00 37.8 +1.3
BAUV El Baul 42.72 7 P **P 11 00 38.8 +0.7**
BAUV IAmb IAmb 11 00 53.1
comp=Z,133nm,1.6s
MDP Montagnes des 43.04 30 LR LR 11 20 01.1
comp=Z,11µm,19.6s,baz=198,slow=38
RCBR Riachuelo 43.91 59 IAMs_20 IAMs_20 11 19 34.8
comp=Z,6µm,18.0s
RCBR Riachuelo 43.91 59 LR LR 11 19 45.6
comp=Z,2µm,19.0s,baz=222,slow=37
RCBR Riachuelo 43.91 59 *e*P P 11 00 47.6 -0.3
PCRV Puerto La Cruz 44.38 11 LR LR 11 21 36.9
comp=Z,10µm,18.4s,slow=39
HDC Heredia 44.92 344 *e*P P 11 00 58.2 +2.2
GRGR Grenville 46.84 15 IAMs_20 IAMs_20 11 24 17.9
comp=Z,6µm,18.0s
BELA Belgrano 2 47.15 170 P **P 11 01 13.4 +0.6**
BOAB BOACO BROADBAND 47.65 343 IAMs_20 IAMs_20 11 25 00.1
comp=Z,6µm,19.0s
TRIS Tristan da Cun 48.48 112 IAMs_20 IAMs_20 11 20 44.8
comp=Z,4µm,20.0s
MPOM Morne Pois Mar 49.26 15 IAMs_20 IAMs_20 11 23 38.9
comp=Z,6µm,20.0s
ILAM Ilet Lapin Mar 49.57 15 IAMs_20 IAMs_20 11 23 48.2
comp=Z,6µm,20.0s
VNA3 Neumayer Olymp 49.71 158⇑P **P 11 01 33.5 +1.0**
comp=Z,7.2nm,0.7s
VNA1 Neumayer--Stat 50.03 157⇑P **P 11 01 35.6 +0.6**
comp=Z,8.8nm,0.9s
VNA2 Neumayer--Watz 50.37 157⇑P **P 11 01 37.8 +0.3**
comp=Z,6.3nm,0.7s,baz=270,slow=8.1
MAGL Barre de l'ile 50.63 14 IAMs_20 IAMs_20 11 24 29.2
comp=Z,5µm,19.0s
GDSD La Dsirade Is 51.02 14 IAMs_20 IAMs_20 11 26 01.7
comp=Z,5µm,19.0s
ABD La Loyeuse, An 51.10 14 IAMs_20 IAMs_20 11 27 09.6
comp=Z,5µm,18.0s
CRPR Cabo Rojo, PR 51.78 7 IAMs_20 IAMs_20 11 28 01.8
comp=Z,4µm,18.0s
IGPR InterUniversit 51.84 8 IAMs_20 IAMs_20 11 27 09.5
comp=Z,3µm,19.0s
OBIP Obispado Ponce 51.86 7 IAMs_20 IAMs_20 11 25 38.1
comp=Z,3µm,19.0s
PDPR Patillas Dam, 51.90 8 IAMs_20 IAMs_20 11 27 11.1
comp=Z,3µm,20.0s
SNAA Sanae 51.94 158 P **P 11 01 49.5 +0.1**
SNAA IAMs_20 IAMs_20 11 24 14.3
comp=Z,4µm,18.0s
SNAA Sanae 51.94 158⇑P **P 11 01 49.9 +0.6**
comp=Z,150nm,0.9s
SNAA Sanae 51.94 158 P **P 11 01 49.6 +0.2**
comp=Z,13nm,1.0s,baz=282,slow=7.2,SNR=11
SNAA LR LR 11 24 15.6
comp=Z,4µm,18.1s,baz=290,slow=36
comp=Z,13nm,1.0s
SNAA Sanae 51.94 158 *i* P P 11 01 49.8 +0.4
SNAA pmax pmax
comp=Z,124nm,1.4s
MTDJ Mount Denham 51.95 354 IAMs_20 IAMs_20 11 27 02.7
comp=Z,3µm,19.0s
PRSN Puerto Rico Se 51.98 7 IAMs_20 IAMs_20 11 25 41.3
comp=Z,3µm,18.0s
HUMP Col San Antoni 52.05 8 IAMs_20 IAMs_20 11 27 13.9
comp=Z,4µm,20.0s
UUPR Utuado, UPR, P 52.06 7 IAMs_20 IAMs_20 11 25 34.3
comp=Z,4µm,19.0s
HUEH Huehuetenango 52.07 337 IAMs_20 IAMs_20 11 19 09.5
comp=Z,4µm,20.0s
GCPR Guaynabo City 52.18 8 IAMs_20 IAMs_20 11 27 30.6
comp=Z,3µm,20.0s
ANWB Willy Bob 52.20 13 IAMs_20 IAMs_20 11 27 04.9
comp=Z,4µm,20.0s
AGPR Aguadilla, PR 52.23 7 IAMs_20 IAMs_20 11 28 22.9
comp=Z,3µm,19.0s
EMPR Esperanza - Ma 52.30 7 IAMs_20 IAMs_20 11 27 25.7
comp=Z,4µm,20.0s
CCIG Comitan 53.19 336 IAMs_20 IAMs_20 11 19 44.9
comp=Z,5µm,20.0s

GTBY Guantanamo Bay 53.48 357 IAMs_20 IAMs_20 11 29 12.2
comp=Z,3µm,18.0s
CHIV Chivirico 53.60 355 IAMs_20 IAMs_20 11 19 37.4
comp=Z,616nm,18.0s
TROLL Troll, Antarti 53.64 158⇑P **P 11 02 02.9 +0.8**
comp=Z,193nm,0.7s
CMIG Matias Romero 54.90 334 P **P 11 02 12.6 +1.0**
comp=Z,1.8nm,0.9s,baz=154,slow=11,SNR=4.2
CMIG LR LR 11 21 03.7
comp=Z,2µm,18.1s,baz=150,slow=31
comp=Z,1.8nm,0.9s
GRTK Grand Turk 55.02 2 IAMs_20 IAMs_20 11 28 54.8
comp=Z,3µm,18.0s
QSPA South Pole Qui 56.44 180 P **P 11 02 23.4 +1.0**
QSPA IAmb IAmb 11 02 36.0
comp=Z,30nm,1.0s
QSPA South Pole Qui 56.44 180 IAMs_20 IAMs_20 11 25 14.5
comp=Z,4µm,18.0s
QSPA South Pole Qui 56.44 180 P **P 11 02 23.6 +1.2**
comp=Z,10nm,1.0s,baz=136,slow=3.5,SNR=14
QSPA LR LR 11 25 17.5
comp=Z,4µm,19.2s,baz=168,slow=35
comp=Z,10nm,1.0s
ASCN Ascension 59.30 78 IAMs_20 IAMs_20 11 26 08.6
comp=Z,3µm,19.0s
MOIG Morelia 59.77 329 IAMs_20 IAMs_20 11 22 36.4
comp=Z,3µm,20.0s
ELIB Princess Elisa 60.04 159 *d*P P 11 02 48.0 +0.5
comp=Z,13nm,1.5s
ZAIG Zacatecas 63.09 329 IAMs_20 IAMs_20 11 25 48.7
comp=Z,2µm,19.0s
VNDA Vanda 64.21 191 P **P 11 03 17.0 +1.8**
comp=Z,0.6nm,0.9s,baz=86,slow=7.2,SNR=5.9
comp=Z,0.6nm,0.9s
456A Hilliard 64.80 351 IAMs_20 IAMs_20 11 36 15.0
comp=Z,2µm,19.0s
TIGA Tifton 65.72 350 IAMs_20 IAMs_20 11 34 11.4
comp=Z,2µm,20.0s
257A Skidaway Islan 65.91 352 IAMs_20 IAMs_20 11 35 35.4
comp=Z,3µm,20.0s
SYO Syowa Base 66.21 159⇓ *e*pP **P 11 03 29.6 +1.3**
SYO Syowa Base 66.21 159⇓ *i* PcP **PcP 11 03 56.3 -2.0**
TAOE Nuku Hiva Isla 66.52 275 *e*P P 11 03 32.7 +1.5
comp=Z,326nm,24.7s
TAOE Nuku Hiva Isla 66.52 275 *e*PP PP 11 05 54.9 -2.8
comp=Z,122nm,26.2s
TAOE *e*S **S 11 12 16.3 -5.8**
comp=Z,2µm,22.9s
TAOE *e*SS **SS 11 16 37.0 -2.1**
comp=Z,266nm,23.2s
TAOE *e*LR LR 11 23 27.0
comp=Z,4µm,22.2s
CSU Charleston Sou 66.81 353 IAMs_20 IAMs_20 11 33 29.2
comp=Z,2µm,21.0s
HKT Hockley 67.11 338 IAMs_20 IAMs_20 11 32 40.2
comp=Z,2µm,19.0s
HKT Hockley 67.11 338 *i* P **P 11 03 34.1 -0.3**
HKT pmax pmax
comp=Z,27nm,1.8s
SACV Santiago Islan 67.27 52 IAMs_20 IAMs_20 11 34 59.0
comp=Z,2µm,18.0s
LPIG La Paz 67.86 323 P **P 11 03 40.7 +1.4**
comp=Z,5.3nm,0.3s,baz=126,slow=10,SNR=1.1
LPIG LR LR 11 27 53.3
comp=Z,611nm,19.1s,baz=139,slow=31
comp=Z,5.3nm,0.3s
HPIG 68.08 328 IAMs_20 IAMs_20 11 27 57.8
comp=Z,2µm,20.0s
Y52A Lilburn 68.17 350 P **P 11 03 40.9 -0.2**
Y52A IAmb IAmb 11 04 18.8
comp=Z,47nm,1.6s
HODGE Hodges 68.28 351 IAMs_20 IAMs_20 11 37 18.3
comp=Z,2µm,19.0s
JCT Junction City 68.92 335 P **P 11 03 46.1 +0.2**
JCT Junction City 68.92 335 P **P 11 03 46.1 +0.2**
JCT pmax pmax
comp=Z,58nm,1.4s
X51A Calhoun 68.98 349 P **P 11 03 46.5 +0.4**
KMSC Kings Mountain 69.07 352 IAMs_20 IAMs_20 11 38 44.2
comp=Z,2µm,19.0s
BG3 Lake Jocassee 69.12 351 P **P 11 03 46.9 0.0**
BG3 IAmb IAmb 11 04 24.9
comp=Z,65nm,1.9s
BG3 IAMs_20 IAMs_20 11 37 56.5
comp=Z,2µm,18.0s
X48A Hartselle 69.24 347 P **P 11 03 49.2 +1.5**
X48A IAmb IAmb 11 04 38.3
comp=Z,27nm,1.2s
TXAR Lajitas Array 69.35 331 P **P 11 03 48.5 -0.1**
TXAR Lajitas Array 69.35 331 P **P 11 03 50.0 +1.4**
comp=Z,1.2nm,0.8s,baz=152,slow=7.7,SNR=11
TXAR LR LR 11 30 04.3
comp=Z,3µm,18.1s,baz=144,slow=32
comp=Z,1.2nm,0.8s
W52A Murphy 69.36 350 IAMs_20 IAMs_20 11 40 04.8
comp=Z,2µm,19.0s
BRDY Brady 69.38 336 P **P 11 03 49.2 +0.6**
BRDY IAmb IAmb 11 04 31.5
comp=Z,28nm,1.4s
W50A Signal Mountai 69.67 349 P **P 11 03 50.9 +0.5**
V55A Taylorsville 69.76 353 IAMs_20 IAMs_20 11 38 44.4
comp=Z,2µm,19.0s
SWET Sewanee 69.79 348 P **P 11 03 52.5 +1.4**
SWET IAmb IAmb 11 04 49.0
comp=Z,31nm,1.2s
OZNA Ozona 69.79 334 P **P 11 03 50.4 -0.9**
OZNA IAmb IAmb 11 04 34.3
comp=Z,29nm,1.4s
PPT Papeete 69.84 262 LR LR 11 27 33.8
comp=Z,3µm,18.4s,baz=128,slow=30
TKL Tuckaleechee C 69.89 350 P **P 11 03 51.9 +0.2**
comp=Z,5.0nm,0.8s,baz=172,slow=9.2,SNR=6.9
comp=Z,5.0nm,0.8s
ALPN Alpine 70.26 332 P **P 11 03 55.1 +0.8**
V48A Smith Brothers 70.45 348 P **P 11 03 55.4 +0.3**
U54A Nelsons Funny 70.49 352 IAMs_20 IAMs_20 11 39 37.7
comp=Z,2µm,19.0s
T59A Double "B" Far 70.56 356 P **P 11 03 56.9 +1.1**
T59A IAmb IAmb 11 04 34.1
comp=Z,39nm,1.2s
SGCY Sterling City 70.69 334 P **P 11 03 56.1 -0.7**
SGCY IAmb IAmb 11 04 39.4
comp=Z,23nm,1.1s
Z35A Perchaven, San 70.69 338 P **P 11 03 55.9 -0.8**
TZTN Tazewell 70.73 351 IAMs_20 IAMs_20 11 40 26.1
comp=Z,2µm,18.0s
ABTX Abilene, Hawle 70.82 336 P **P 11 03 56.8 -0.7**
ABTX IAmb IAmb 11 04 41.1
comp=Z,48nm,1.3s
WVT Waverly 71.02 347 P **P 11 03 58.3 -0.2**
WVT Waverly 71.02 347 P **P 11 03 58.3 -0.2**
WVT pmax pmax
comp=Z,103nm,1.5s
WVT MLR MLR
comp=Z,1µm,19.0s
WHAR Wooly Hollow 71.17 343 P **P 11 04 00.7 +1.2**
WHAR IAmb IAmb 11 04 29.5
comp=Z,40nm,1.2s
S61A Accomac 71.17 357 IAMs_20 IAMs_20 11 40 25.7
comp=Z,2µm,18.0s
MBO M'Bour 71.40 58 IAMs_20 IAMs_20 11 36 03.3
comp=Z,3µm,19.0s
ODSA Odessa 71.40 333 P **P 11 04 00.8 -0.3**
WTFS Witchita Falls 71.48 337 P **P 11 04 02.2 +0.8**
WTFS IAmb IAmb 11 04 44.2
comp=Z,37nm,1.1s
R58B Mineral 71.57 356 P **P 11 04 03.4 +1.5**
R58B IAmb IAmb 11 04 46.1
comp=Z,44nm,1.5s
CBN Corbin Frederi 71.78 356 IAMs_20 IAMs_20 11 39 03.7
comp=Z,2µm,19.0s
R61A Willards 71.81 358 IAMs_20 IAMs_20 11 40 00.5
comp=Z,2µm,20.0s
BBTS Babate 71.88 58 LR LR 11 36 11.5
comp=Z,2µm,18.7s,baz=114,slow=36
R55A Marlinton 72.06 354 P **P 11 04 05.8 +0.9**
HSIG 72.28 325 IAMs_20 IAMs_20 11 32 18.9
comp=Z,2µm,18.0s
HHAR Hobbs 72.52 342 P **P 11 04 07.6 0.0**
R50A Paris 72.55 350 IAMs_20 IAMs_20 11 41 40.2
comp=Z,2µm,18.0s
EPT El Paso 72.65 330 IAMs_20 IAMs_20 11 31 22.6
comp=Z,3µm,20.0s
TUL3 Leonard 72.67 340 P **P 11 04 08.9 +0.4**
TUL3 IAmb IAmb 11 04 40.4
comp=Z,22nm,0.9s
WCI Wyandotte Cave 72.79 349 IAMs_20 IAMs_20 11 41 10.7

comp=Z,2µm,19.0s
DEOK Depew 72.81 340 P **P 11 04 10.3 +1.0**
DEOK IAmb IAmb 11 04 52.5
comp=Z,65nm,1.4s
Q52A Bidwell 72.95 352 P **P 11 04 11.1 +1.0**
Q52A IAmb IAmb 11 05 07.7
comp=Z,41nm,1.4s
P57A Homestead Farm 73.09 356 IAMs_20 IAMs_20 11 39 55.5
comp=Z,2µm,19.0s
Q51A Peebles 73.15 351 P **P 11 04 11.0 -0.2**
Q51A IAmb IAmb 11 04 48.9
comp=Z,26nm,1.2s
FVM French Village 73.33 345 P **P 11 04 12.7 +0.3**
FVM IAmb IAmb 11 04 50.3
comp=Z,45nm,1.4s
FVM French Village 73.33 345 P **P 11 04 12.7 +0.3**
FVM pmax pmax
comp=Z,45nm,1.4s
MAW Mawson 73.50 164 LR LR 11 38 26.9
comp=Z,7µm,18.2s,baz=231,slow=37
P51A Williamsport 73.56 352 IAMs_20 IAMs_20 11 41 15.1
comp=Z,2µm,19.0s
BLO Bloomington 73.75 349 IAMs_20 IAMs_20 11 38 40.1
comp=Z,2µm,22.0s
P48A Milroy 73.86 350 P **P 11 04 15.0 -0.5**
P48A IAmb IAmb 11 04 52.5
comp=Z,37nm,1.2s
P48A IAMs_20 IAMs_20 11 40 41.1
comp=Z,2µm,19.0s
R40A Maddies Statio 74.03 344 P **P 11 04 16.0 -0.5**
LUPA Lehigh Univers 74.08 358 IAMs_20 IAMs_20 11 42 03.5
comp=Z,2µm,19.0s
BRNJ Basking Ridge 74.14 358 IAMs_20 IAMs_20 11 42 17.2
comp=Z,2µm,19.0s
ACSO Alum Creek Sta 74.29 352 P **P 11 04 18.0 +0.1**
N58A Sunbury 74.37 357 IAMs_20 IAMs_20 11 41 53.4
comp=Z,2µm,18.0s
Q49A Covington 74.42 351 P **P 11 04 18.8 +0.1**
O49A IAmb IAmb 11 05 25.2
comp=Z,39nm,1.4s
TRNY Table Rock, Ra 74.59 359 IAMs_20 IAMs_20 11 40 54.2
comp=Z,2µm,20.0s
M63A Gales Ferry 74.84 0 IAMs_20 IAMs_20 11 37 59.6
comp=Z,2µm,20.0s
N51A Ashland 74.90 352 P **P 11 04 22.0 +0.5**
SFIN Lafayette 75.02 349 IAMs_20 IAMs_20 11 43 18.8
comp=Z,2µm,19.0s
KSPA Keystone Colle 75.05 358 IAMs_20 IAMs_20 11 42 44.2
comp=Z,2µm,19.0s
N49A Columbus Grove 75.12 351 IAMs_20 IAMs_20 11 34 56.4
comp=Z,2µm,20.0s
UCCT U. Connecticut 75.22 0 IAMs_20 IAMs_20 11 38 11.9
comp=Z,2µm,19.0s
ANMO Albuquerque 75.40 332 IAMs_20 IAMs_20 11 32 53.4
comp=Z,4µm,20.0s
ANMO Albuquerque 75.40 332 IAMs_20 IAMs_20 11 32 53.4
comp=Z,4µm,20.0s
ANMO Albuquerque 75.40 332 P **P 11 04 25.3 +0.6**
comp=Z,2.5nm,1.0s,baz=215,slow=12,SNR=14
ANMO LR LR 11 33 04.2
comp=Z,3µm,20.3s,baz=314,slow=32
comp=Z,2.5nm,1.0s
ALLY Alegheny Colle 75.40 354 IAMs_20 IAMs_20 11 41 08.8
comp=Z,2µm,20.0s
DBIC Dimbokro 75.53 72 P **P 11 04 25.1 -0.6**
comp=Z,11nm,0.7s,baz=219,slow=6.1,SNR=11
DBIC LR LR 11 36 20.8
comp=Z,2µm,18.1s,baz=224,slow=35
comp=Z,11nm,0.7s
HDIL Hopedale 75.58 347 IAMs_20 IAMs_20 11 44 17.7
comp=Z,2µm,19.0s
PIX Pinacate 75.59 325 IAMs_20 IAMs_20 11 33 01.7
comp=Z,2µm,22.0s
BINY Binghamton 75.69 357 IAMs_20 IAMs_20 11 42 20.4
comp=Z,2µm,18.0s
SFX San Felipe 75.84 323 IAMs_20 IAMs_20 11 31 12.3
comp=Z,2µm,20.0s
ERPA Erie 75.86 354 IAMs_20 IAMs_20 11 41 37.7
comp=Z,2µm,19.0s
HRV Adam Dziewonsk 75.94 1 IAMs_20 IAMs_20 11 35 39.9
comp=Z,2µm,21.0s
TRY Troy 76.17 359 IAMs_20 IAMs_20 11 38 46.9
comp=Z,2µm,22.0s
K57A Scipio Center 76.25 357 IAMs_20 IAMs_20 11 43 25.0
comp=Z,2µm,18.0s
RAR Rarotonga 76.29 254 LR LR 11 29 41.7
comp=Z,2µm,18.4s,baz=142,slow=29
MMNY Mt. Morris Dam 76.32 356 P **P 11 04 29.8 +0.2**
AAM Ann Arbor 76.41 352 IAMs_20 IAMs_20 11 35 57.6
comp=Z,2µm,21.0s
X18A Snowflake 76.48 329 IAMs_20 IAMs_20 11 34 01.1
comp=Z,2µm,19.0s
T25A Trinidad 76.56 334 IAMs_20 IAMs_20 11 34 54.2
comp=Z,1µm,18.0s
VTX Valle De La Tr 76.59 323 IAMs_20 IAMs_20 11 32 05.2
comp=Z,2µm,19.0s
J61A Chester 76.78 0 IAMs_20 IAMs_20 11 37 54.0
comp=Z,2µm,21.0s
J55A Hilton 76.85 356 IAMs_20 IAMs_20 11 42 37.9
comp=Z,2µm,21.0s
J57A Williamstown 76.90 357 IAMs_20 IAMs_20 11 42 31.4
comp=Z,2µm,19.0s
L44A Lake County Fo 76.91 348 IAMs_20 IAMs_20 11 44 08.8
comp=Z,2µm,19.0s
X16A Lo Mia Camp, P 77.03 328 IAMs_20 IAMs_20 11 34 53.8
comp=Z,2µm,18.0s
L42A Oliver, Polo 77.05 347 IAMs_20 IAMs_20 11 45 12.7
comp=Z,2µm,18.0s
ESJX Sierra Juarez 77.17 323 IAMs_20 IAMs_20 11 31 33.5
comp=Z,2µm,19.0s
CPBX Cerro Prieto 77.18 324 IAMs_20 IAMs_20 11 31 40.0
comp=Z,2µm,22.0s
NCB Newcomb 77.42 359 IAMs_20 IAMs_20 11 39 36.0
comp=Z,2µm,20.0s
CCX Cicese 77.42 323 IAMs_20 IAMs_20 11 32 46.2
comp=Z,2µm,19.0s
GLA Glamis 77.47 325 IAMs_20 IAMs_20 11 32 30.4
comp=Z,2µm,19.0s
PECO Prince Edward 77.47 357 IAMs_20 IAMs_20 11 38 23.4
comp=Z,2µm,20.0s
J47A Sunmer 77.48 351 IAMs_20 IAMs_20 11 36 17.9
comp=Z,2µm,20.0s
SDCO Great Sand Dun 77.50 334 IAMs_20 IAMs_20 11 34 46.9
comp=Z,2µm,20.0s
I63A Otisfield 77.50 1 IAMs_20 IAMs_20 11 40 35.1
comp=Z,2µm,20.0s
YUH Yuha Desert 77.67 324 IAMs_20 IAMs_20 11 31 26.9
comp=Z,2µm,19.0s
CBX Cerro Bola 77.77 323 IAMs_20 IAMs_20 11 32 29.6
comp=Z,3µm,21.0s
BLYC Blythe 77.89 325 IAMs_20 IAMs_20 11 34 48.7
comp=Z,1µm,18.0s
WUAZ Wupatki 77.93 328 IAMs_20 IAMs_20 11 35 58.5
comp=Z,2µm,18.0s
TKX Tecate 77.95 323 IAMs_20 IAMs_20 11 39 52.3
comp=Z,3µm,18.0s
S22A 4UR Ranch, Cre 78.00 333 IAMs_20 IAMs_20 11 34 31.8
comp=Z,2µm,20.0s
H62A Milan 78.01 1 IAMs_20 IAMs_20 11 41 04.7
comp=Z,2µm,20.0s
WVL Waterville 78.04 2 IAMs_20 IAMs_20 11 41 16.3
comp=Z,2µm,20.0s
JFWS Jewell Farm 78.04 347 IAMs_20 IAMs_20 11 45 42.8
comp=Z,2µm,18.0s
LONY Lake Ozonia 78.07 359 P **P 11 04 39.8 +0.4**
LONY IAMs_20 IAMs_20 11 39 46.3
comp=Z,2µm,22.0s
DELO Deloro Mine 78.08 356 IAMs_20 IAMs_20 11 44 08.6
comp=Z,2µm,18.0s
TJX Tijuana 78.13 323 IAMs_20 IAMs_20 11 32 21.0
comp=Z,2µm,18.0s
SADO Sadowa 78.43 355 IAMs_20 IAMs_20 11 43 05.8
comp=Z,2µm,20.0s
SADO Sadowa 78.43 355 LR LR 11 39 53.7
comp=Z,1µm,22.0s,baz=221,slow=36
I45A Fountain 78.46 350 IAMs_20 IAMs_20 11 45 55.8
comp=Z,2µm,20.0s
HAL Halifax 78.49 7 IAMs_20 IAMs_20 11 40 50.3
comp=Z,3µm,20.0s
ACRG Accra 78.63 75 IAMs_20 IAMs_20 11 37 32.0
comp=Z,3µm,19.0s
G62A West of Eustis 78.67 1 IAMs_20 IAMs_20 11 41 30.0
comp=Z,2µm,21.0s
W13A Hualapai Mount 78.71 326 IAMs_20 IAMs_20 11 37 31.2
comp=Z,1µm,18.0s
PFO Pinyon Flats O 78.72 324 IAMs_20 IAMs_20 11 32 17.5
comp=Z,2µm,20.0s
PFO Pinyon Flats O 78.72 324 P **P 11 04 44.2 +0.8**
comp=Z,1.8nm,0.9s,baz=154,slow=5.9,SNR=7.0
PFO LR LR 11 32 21.3
comp=Z,2µm,21.4s,baz=142,slow=30
comp=Z,1.8nm,0.9s
PFO Pinyon Flats O 78.72 324 *i* P **P 11 04 43.9 +0.5**
PFO pmax pmax
comp=Z,15nm,1.1s
G65A Princeton 78.76 4 IAMs_20 IAMs_20 11 41 09.4
comp=Z,2µm,21.0s
GLMI Grayling 79.02 351 IAMs_20 IAMs_20 11 37 25.6
comp=Z,2µm,20.0s
I40A Norwalk 79.06 347 IAMs_20 IAMs_20 11 46 04.7
comp=Z,2µm,18.0s
U15A North Rim 79.10 328 IAMs_20 IAMs_20 11 36 09.4
comp=Z,1µm,18.0s
ELS Elsinore Mount 79.22 323 IAMs_20 IAMs_20 11 34 27.0
comp=Z,2µm,20.0s
GBN Gusborough 79.47 8 IAMs_20 IAMs_20 11 43 22.2
comp=Z,2µm,20.0s
TSUM Tsumeb 79.69 106 LR LR 11 35 45.3
comp=Z,3µm,19.7s,baz=238,slow=32
HMU Henry Mountain 79.71 330 IAMs_20 IAMs_20 11 37 51.7
comp=Z,2µm,18.0s
KNB Kanab 79.82 328 IAMs_20 IAMs_20 11 36 40.6
comp=Z,2µm,18.0s
PKCU Pink Cliffs 79.96 329 IAMs_20 IAMs_20 11 36 13.2
comp=Z,2µm,20.0s
LCMT Little Creek M 80.00 328 IAMs_20 IAMs_20 11 37 23.4
comp=Z,1µm,18.0s
E62A Clayton Lake 80.10 2 IAMs_20 IAMs_20 11 40 16.8
comp=Z,2µm,20.0s
GSC Goldstone, Bar 80.25 325 IAMs_20 IAMs_20 11 33 11.0
comp=Z,2µm,21.0s
G40A Rib Lake 80.31 347 IAMs_20 IAMs_20 11 42 33.8
comp=Z,2µm,21.0s
MTPU Mount Pierson 80.41 329 IAMs_20 IAMs_20 11 36 38.1
comp=Z,2µm,20.0s
F42A Maple Grove Fa 80.43 349 IAMs_20 IAMs_20 11 45 55.0
comp=Z,2µm,18.0s
E46A Sault Ste Mari 80.50 352 IAMs_20 IAMs_20 11 44 37.6
comp=Z,2µm,20.0s
BOSA Boshof 80.55 118 P **P 11 04 53.7 0.0**
comp=Z,12nm,1.2s,baz=209,slow=2.5,SNR=7.7
BOSA LR LR 11 39 33.0
comp=Z,1µm,18.3s,baz=226,slow=35
comp=Z,12nm,1.2s
D62A Allapoint, All 80.57 2 IAMs_20 IAMs_20 11 40 49.3
comp=Z,2µm,19.0s
O20A White River Ci 80.61 333 IAMs_20 IAMs_20 11 36 20.4
comp=Z,2µm,19.0s
SRU San Rafael Swe 80.62 331 IAMs_20 IAMs_20 11 36 20.8
comp=Z,2µm,20.0s
CCAC Calif City Air 80.72 324 IAMs_20 IAMs_20 11 34 32.5
comp=Z,2µm,20.0s
Q16A Castle Valley 80.72 330 IAMs_20 IAMs_20 11 36 01.4
comp=Z,3µm,20.0s
SPMN Marine on St. 80.77 346 IAMs_20 IAMs_20 11 47 52.0
comp=Z,2µm,18.0s
GWY Greenwater Val 80.89 325 IAMs_20 IAMs_20 11 37 40.2
comp=Z,2µm,19.0s
TCRU Three Creeks R 81.00 329 IAMs_20 IAMs_20 11 36 13.6
comp=Z,2µm,19.0s
PRN Pahroc Range 81.14 327 IAMs_20 IAMs_20 11 37 36.5
comp=Z,2µm,18.0s
TPNV Topopah Spring 81.32 326 IAMs_20 IAMs_20 11 36 07.3
comp=Z,2µm,19.0s
ISA Isabella, Lake 81.35 324 IAMs_20 IAMs_20 11 34 12.3
comp=Z,2µm,19.0s
WCT Wildcat Mounta 81.36 326 IAMs_20 IAMs_20 11 39 51.6
comp=Z,2µm,18.0s
LDAQ Lac Daran 81.40 1 IAMs_20 IAMs_20 11 43 24.4
comp=Z,2µm,20.0s
PSUT Pine Spring 81.54 328 IAMs_20 IAMs_20 11 37 46.0
comp=Z,2µm,18.0s
S11A Rachel 81.65 327 IAMs_20 IAMs_20 11 36 11.1
comp=Z,2µm,19.0s
VLDQ Val d'Or 81.66 357 IAMs_20 IAMs_20 11 47 14.7
comp=Z,2µm,18.0s
MPU Maple Canyon 81.84 331 IAMs_20 IAMs_20 11 36 49.0
comp=Z,3µm,20.0s
E38A The Farm, Brul 81.85 347 IAMs_20 IAMs_20 11 43 33.5
comp=Z,2µm,22.0s
GRAC Grapevine Rang 81.88 325 IAMs_20 IAMs_20 11 36 51.2
comp=Z,2µm,20.0s
SPR3 Spring Creek 3 82.13 328 IAMs_20 IAMs_20 11 38 21.7
comp=Z,2µm,19.0s
DSP Deep Springs 82.47 325 IAMs_20 IAMs_20 11 38 22.7
comp=Z,1µm,18.0s
DUG Dugway, Tooele 82.48 330 IAMs_20 IAMs_20 11 37 22.9
comp=Z,2µm,19.0s
MRZ Mangatainoka R 82.90 225 IAMs_20 IAMs_20 11 37 03.2
comp=Z,2µm,18.0s
SNZO South Karori 83.01 224 IAMs_20 IAMs_20 11 32 23.9
comp=Z,2µm,20.0s
ICQ Pointe Anglais 83.09 3 IAMs_20 IAMs_20 11 44 06.9
comp=Z,2µm,20.0s
MXZ Matakaoa Point 83.15 229 IAMs_20 IAMs_20 11 33 25.0
comp=Z,2µm,19.0s
BGU Big Grassy Mou 83.18 330 IAMs_20 IAMs_20 11 37 53.4
comp=Z,2µm,18.0s
Q09A Carvers 83.27 326 IAMs_20 IAMs_20 11 34 59.1
comp=Z,2µm,21.0s
PDAR Pinedale Array 83.39 334 P **P 11 05 08.8 +0.6**
comp=Z,2.8nm,1.0s,baz=158,slow=4.3,SNR=13
PDAR LR LR 11 38 44.7
comp=Z,2µm,18.9s,baz=134,slow=33
comp=Z,2.8nm,1.0s
LHV Little Huntoon 83.42 325 IAMs_20 IAMs_20 11 36 35.1
comp=Z,1µm,18.0s
URZ Urewera 83.47 228 LR LR 11 33 14.7
comp=Z,3µm,21.5s,baz=224,slow=29
NVAR Mina Array Bea 83.47 326 P **P 11 05 10.8 +2.1**
comp=Z,2.5nm,0.9s,baz=147,slow=6.3,SNR=16
NVAR LR LR 11 35 32.1
comp=Z,856nm,21.4s,baz=153,slow=31
comp=Z,2.5nm,0.9s
RPZ Rata Peaks 83.51 221 LR LR 11 34 17.7
comp=Z,2µm,20.1s,baz=144,slow=30
HVU Hansel Valley 83.80 331 IAMs_20 IAMs_20 11 39 13.7
comp=Z,1µm,18.0s
ELK Elko 83.97 329 IAMs_20 IAMs_20 11 39 57.3
comp=Z,2µm,18.0s
ELK Elko 83.97 329 P **P 11 05 13.5 +2.3**
comp=Z,5.7nm,1.0s,baz=142,slow=4.6,SNR=11
ELK LR LR 11 39 42.9
comp=Z,1µm,18.6s,baz=140,slow=34
comp=Z,5.7nm,1.0s
AHID Auburn Hatcher 83.97 333 IAMs_20 IAMs_20 11 38 45.2
comp=Z,2µm,20.0s
WAKR Walker 84.07 325 IAMs_20 IAMs_20 11 36 07.2
comp=Z,2µm,21.0s
PYZ Puysegur Point 84.14 217 IAMs_20 IAMs_20 11 34 35.2
comp=Z,2µm,18.0s
SNOW Snow King Moun 84.43 333 IAMs_20 IAMs_20 11 38 45.4
comp=Z,2µm,21.0s
TPAW Teton Pass 84.53 333 IAMs_20 IAMs_20 11 38 46.1
comp=Z,2µm,20.0s
TORD Torodi Ar. Bea 84.55 70 P **P 11 05 14.0 -0.5**
TORD IAmb IAmb 11 05 25.3
comp=Z,59nm,1.9s
TORD Torodi Ar. Bea 84.55 70 LR LR 11 41 48.9
comp=Z,2µm,19.0s,baz=237,slow=35
QRZ Quartz Range 84.58 224 IAMs_20 IAMs_20 11 33 23.4
comp=Z,2µm,21.0s
PNTR Pine Nut 84.61 325 IAMs_20 IAMs_20 11 36 04.5
comp=Z,2µm,20.0s
FXWY Fox Creek 84.69 333 IAMs_20 IAMs_20 11 38 21.2
comp=Z,2µm,20.0s
HIZ Hauiti 84.69 227 IAMs_20 IAMs_20 11 34 44.6
comp=Z,2µm,20.0s
MDND Maddock 84.82 342 IAMs_20 IAMs_20 11 47 47.3
comp=Z,2µm,18.0s
PAHR Pah Rah Range 85.00 326 IAMs_20 IAMs_20 11 37 35.8
comp=Z,2µm,20.0s
AFDM Forest Hills D 85.16 324 IAMs_20 IAMs_20 11 36 47.0
comp=Z,2µm,20.0s
YMP Mirror Lake Pl 85.31 334 IAMs_20 IAMs_20 11 40 05.6
comp=Z,1µm,19.0s
RLMT Red Lodge 85.32 335 IAMs_20 IAMs_20 11 41 03.8
comp=Z,1µm,18.0s
YNE Yellowstone No 85.48 334 IAMs_20 IAMs_20 11 40 20.2
comp=Z,1µm,19.0s
YMR Madison River 85.54 334 IAMs_20 IAMs_20 11 39 33.8
comp=Z,2µm,19.0s
BEKR Beckworth 85.58 325 IAMs_20 IAMs_20 11 37 17.3
comp=Z,2µm,20.0s
LAO LASA Array 85.67 338 IAMs_20 IAMs_20 11 40 58.0
comp=Z,1µm,18.0s
YHL Hebgen Lake 85.78 334 IAMs_20 IAMs_20 11 39 52.1
comp=Z,2µm,20.0s
POGA Pongola 85.96 120 IAMs_20 IAMs_20 11 43 54.1
comp=Z,2µm,20.0s
ULM Lac du Bonnet 86.19 345 P **P 11 05 21.9 +0.2**
comp=Z,7.5nm,1.0s,baz=169,slow=5.4,SNR=7.9
comp=Z,7.5nm,1.0s
ULM Lac du Bonnet 86.19 345 *i* P **P 11 05 21.3 -0.5**
BOZ Bozeman (W) 86.58 334 IAMs_20 IAMs_20 11 39 58.3
comp=Z,2µm,21.0s
XMAS Kiritimati 86.87 275 IAMs_20 IAMs_20 11 38 05.7
comp=Z,2µm,18.0s
J08A Circle Bar Ran 87.49 328 IAMs_20 IAMs_20 11 40 48.6
comp=Z,2µm,18.0s
OUZ Omahuta 87.57 229 IAMs_20 IAMs_20 11 36 12.1
comp=Z,2µm,19.0s
MATP Matopo 87.58 113 LR LR 11 42 05.3
comp=Z,877nm,18.8s,baz=240,slow=34
YBH Yreka Blue Hor 88.15 325 P **P 11 05 32.1 +0.4**
comp=Z,5.3nm,1.0s,baz=66,slow=8.0,SNR=5.9
comp=Z,5.3nm,1.0s
BMO Blue Mountains 88.19 330 IAMs_20 IAMs_20 11 40 20.2
comp=Z,1µm,20.0s
SCHQ Schefferville 88.41 3 P **P 11 05 32.5 +0.1**
comp=Z,6.2nm,1.0s,baz=100,slow=4.9,SNR=4.6
SCHQ LR LR 11 47 29.6
comp=Z,767nm,19.4s,baz=169,slow=37
comp=Z,6.2nm,1.0s
MSO Missoula 88.48 333 IAMs_20 IAMs_20 11 41 23.6
comp=Z,2µm,20.0s
I07A Izee 88.52 328 IAMs_20 IAMs_20 11 41 38.8
comp=Z,2µm,20.0s
G08A Pilot Rock 89.24 329 IAMs_20 IAMs_20 11 41 24.9
comp=Z,2µm,22.0s
G06A Carlson Farm, 89.92 328 IAMs_20 IAMs_20 11 42 22.0
comp=Z,2µm,19.0s
LSZ Lusaka 90.28 109 LR LR 11 42 35.4
comp=Z,3µm,19.6s,baz=236,slow=33
NEW Newport 90.89 332 IAMs_20 IAMs_20 11 43 11.3
comp=Z,2µm,20.0s
NEW Newport 90.89 332 P **P 11 05 45.0 +0.7**
comp=Z,0.4nm,0.3s,baz=135,slow=11,SNR=1.7
NEW LR LR 11 43 52.1
comp=Z,2µm,18.7s,baz=139,slow=34
comp=Z,0.4nm,0.3s
NEW Newport 90.89 332 P **P 11 05 45.0 +0.7**
LTY Liberty 91.53 330 IAMs_20 IAMs_20 11 42 57.2
comp=Z,2µm,20.0s
MDT Midelt 92.03 51 LR LR 11 46 57.9
comp=Z,4µm,20.1s,baz=245,slow=36
MORF Marmelete 92.42 46 *e*P **P 11 05 52.9 +1.3**
MORF IAMs_20 IAMs_20 11 47 49.8
comp=Z,4µm,16.6s
MORF Marmelete 92.42 46 *e*P **P 11 05 52.9 +1.3**
MESJ Messejana 93.03 46 *e*P **P 11 05 55.5 +1.2**
MESJ *e*SKSac **SKSac 11 16 29.3 +1.3**
MESJ IAMs_20 IAMs_20 11 48 35.4
comp=Z,3µm,22.1s
MESJ Messejana 93.03 46 *e*P **P 11 05 55.5 +1.2**
MESJ *e* 11 16 29.3
SFS San Fernando 93.35 48 IAMs_20 IAMs_20 11 48 39.8
comp=Z,2µm,20.0s
MLOA Mauna Loa Obse 95.08 290 IAMs_20 IAMs_20 11 37 23.2
comp=Z,2µm,21.0s
MSVF Nonsavu 95.50 245 LR LR 11 43 11.7
comp=Z,593nm,18.4s,baz=123,slow=32
ESDC Sonseca Array 96.75 46 P **P 11 06 12.0 +0.5**
comp=Z,1.1nm,0.9s,baz=242,slow=2.8,SNR=3.6
ESDC LR LR 11 49 55.0
comp=Z,4µm,18.4s,baz=234,slow=36
comp=Z,1.1nm,0.9s
FRB Frobisher Bay 97.27 2 LR LR 11 50 40.2
comp=Z,2µm,19.9s,baz=162,slow=36
CART Cartagena 97.30 49 IAMs_20 IAMs_20 11 49 45.3
comp=Z,1µm,20.0s
BBB Bella Bella 98.41 329 LR LR 11 44 55.6
comp=Z,510nm,20.8s,baz=126,slow=32
LHI Lord Howe Isla 98.83 223 IAMs_20 IAMs_20 11 42 16.6
comp=Z,2µm,20.0s
VOI Vohitsoka 100.00 125 IAMs_20 IAMs_20 11 50 24.9
comp=Z,2µm,19.0s
CAN Canberra 101.00 214 IAMs_20 IAMs_20 11 42 18.5
comp=Z,2µm,20.0s
DZM Mont Dzumac 101.00 234 IAMs_20 IAMs_20 11 42 16.3
comp=Z,1µm,20.0s
DZM Mont Dzumac 101.00 234 *e*PP **PP 11 10 34.8 -4.1**
comp=Z,119nm,23.1s
DZM *e*SKSac **SKSac 11 17 08.9 -1.7**
comp=Z,202nm,24.3s
DZM *e*SS **SS 11 25 06.3 -1.1**
comp=Z,1µm,24.6s
DZM Mont Dzumac 101.00 234 *e*LQ LQ 11 35 08.7
comp=Z,1µm,35.0s
DZM *e*LR LR 11 39 28.3
comp=Z,2µm,21.8s
YKA Yellowknife Ar 101.73 341 P **Pdif 11 06 35.0 +2.0**
comp=Z,0.5nm,0.9s,baz=141,slow=4.4,SNR=1.2
ABPO Ambohimpanom 102.24 123 IAMs_20 IAMs_20 11 54 42.4
comp=Z,2µm,20.0s
ARMA Armidale 103.70 218 IAMs_20 IAMs_20 11 58 31.3
comp=Z,1µm,18.0s
DSB Dublin 103.92 35 IAMs_20 IAMs_20 11 53 26.9
comp=Z,1µm,20.0s
WTLY Watson Lake, Y 104.33 335 IAMs_20 IAMs_20 11 59 44.5
comp=E,1µm,19.0s
R33M Jennings River 104.63 333 IAMs_20 IAMs_20 11 50 38.5
comp=Z,2µm,20.0s
VSL Villasalto 105.10 53 IAMs_20 IAMs_20 11 57 56.7
comp=Z,2µm,19.0s
SKAG Skagway 106.35 332 IAMs_20 IAMs_20 12 04 31.1
comp=Z,1µm,18.0s
FARO Faro, Yukon 107.39 335 IAMs_20 IAMs_20 11 54 12.4
comp=Z,1µm,19.0s
O30N Mendenhall 107.47 333 IAMs_20 IAMs_20 12 05 30.8
comp=Z,936nm,20.0s
MSSA Maissana 107.65 48 IAMs_20 IAMs_20 11 57 30.1
comp=Z,1µm,18.0s
HYT Haines Junctio 108.05 332 IAMs_20 IAMs_20 11 53 26.2
comp=Z,2µm,20.0s
OSSC Osservatorio P 108.34 50 IAMs_20 IAMs_20 11 55 24.5
comp=Z,1µm,21.0s
CESX Cesi 108.75 51 IAMs_20 IAMs_20 11 59 58.5
comp=Z,2µm,19.0s
O28M Mount Upton 109.08 331 IAMs_20 IAMs_20 12 03 23.3
comp=Z,1µm,21.0s
FUORN Ofenpass-Fuorn 109.24 46 IAMs_20 IAMs_20 11 54 28.1
comp=Z,1µm,21.0s
CAMP Campotosto 109.25 51 IAMs_20 IAMs_20 12 00 51.7
comp=Z,1µm,19.0s
FDMO Fiordimonte 109.28 51 IAMs_20 IAMs_20 12 00 15.5
comp=Z,2µm,19.0s
C36M Paulatuk 109.50 343 IAMs_20 IAMs_20 11 55 33.7
comp=Z,1µm,20.0s
L29M L29M 109.67 334 IAMs_20 IAMs_20 12 06 44.7
comp=Z,1µm,19.0s
K29M Barlow Dome 109.88 335 IAMs_20 IAMs_20 11 54 27.4
comp=Z,1µm,20.0s
J30M Hart River 109.91 336 IAMs_20 IAMs_20 12 04 51.0
comp=Z,1µm,20.0s
SCO Scoresbysund 110.12 16 IAMs_20 IAMs_20 11 54 42.3
comp=Z,1µm,20.0s
I30M Mount Dempster 110.32 336 IAMs_20 IAMs_20 11 55 53.8
comp=Z,1µm,21.0s
M27K Edge Creek, AK 110.65 332 IAMs_20 IAMs_20 11 55 40.7
comp=Z,1µm,20.0s
VRDI Verde Repeater 110.65 331 IAMs_20 IAMs_20 11 54 35.0
comp=Z,978nm,19.0s
DAWY Dawson 110.68 334 IAMs_20 IAMs_20 11 57 11.6
comp=Z,1µm,19.0s
F31M Tsiigehtchic 110.85 339 IAMs_20 IAMs_20 12 06 54.7
comp=Z,1µm,19.0s
SABO M.te Sabotino 110.98 48 IAMs_20 IAMs_20 11 58 44.9
comp=Z,2µm,20.0s
BMRM Bremner River 110.98 330 IAMs_20 IAMs_20 12 08 13.8
comp=Z,1µm,18.0s
L27K Beaver Creek, 111.02 333 IAMs_20 IAMs_20 11 55 36.5
comp=Z,1µm,20.0s
I29M Ogilvie Camp, 111.06 336 IAMs_20 IAMs_20 11 56 06.3
comp=Z,2µm,21.0s
M26K Nabesna, AK 111.11 332 IAMs_20 IAMs_20 12 07 53.9
comp=Z,1µm,20.0s
N25K Chitina, Valde 111.32 331 IAMs_20 IAMs_20 11 55 30.6
comp=Z,1µm,22.0s
INK Inuvik 111.33 340 IAMs_20 IAMs_20 11 56 38.3
comp=Z,1µm,20.0s
G30M tAoh Zraii Nji 111.33 338 IAMs_20 IAMs_20 12 08 31.5
comp=Z,1µm,19.0s
F30M Barrier River 111.58 338 IAMs_20 IAMs_20 11 57 53.0
comp=Z,1µm,20.0s

K27K	Chicken	111.64	334		IAMs_20	IAMs_20	12 06 35.0	
	comp=Z,985nm,21.0s							
G29M	Pine Creek	111.86	337		IAMs_20	IAMs_20	11 55 35.6	
	comp=Z,2µm,21.0s							
DOT	Dot Lake	112.18	333		IAMs_20	IAMs_20	11 56 41.4	
	comp=Z,1µm,19.0s							
NKC	Novy Kostel	112.21	44		AMS	AMS	11 58 40.0	
	comp=Z,3µm,18.8s							
M24K	Tolsona, Glenn	112.22	331		IAMs_20	IAMs_20	11 56 08.4	
	comp=Z,1µm,20.0s							
SCRK	Sand Creek	112.33	333		IAMs_20	IAMs_20	11 56 55.1	
	comp=Z,1µm,19.0s							
KHC	Kasperske Hory	112.38	45		*e*PS	PS	11 21 40.3	+3.9
KHC					AMS	AMS	12 00 10.0	
	comp=Z,1µm,18.6s							
PAX	Paxson	112.38	332		IAMs_20	IAMs_20	12 08 49.5	
	comp=Z,1µm,20.0s							
J26L	Joseph Creek	112.44	334		IAMs_20	IAMs_20	11 52 05.2	
	comp=Z,952nm,21.0s							
RIDG	Independent Ri	112.53	333		IAMs_20	IAMs_20	11 56 20.5	
	comp=Z,1µm,21.0s							
H27K	Steamboat Moun	112.64	336		IAMs_20	IAMs_20	11 57 15.3	
	comp=Z,1µm,19.0s							
CKRC	Cesky Krumlov	112.67	46		AMS	AMS	11 59 30.0	
	comp=Z,2µm,19.0s							
E29M	Blow River	112.68	339		IAMs_20	IAMs_20	12 07 09.0	
	comp=Z,1µm,19.0s							
I26K	Coal Creek Min	112.72	335		IAMs_20	IAMs_20	11 55 53.3	
	comp=Z,1µm,21.0s							
K24K	Donnelly Dome	112.92	333		IAMs_20	IAMs_20	12 08 40.8	
	comp=Z,1µm,19.0s							
HSKC	Hora Svate Kat	112.94	44		AMS	AMS	11 58 20.0	
	comp=Z,2µm,19.7s							
CLL	Collm	112.99	43		*e*P	Pdif	11 07 19.0	-4.4
CLL					*e*		11 18 01.0	
CLL					MLR	MLR		
	comp=Z,3µm,19.9s							
G27K	Doyon Strip	113.00	336		IAMs_20	IAMs_20	11 57 12.6	
	comp=Z,1µm,20.0s							
J25K	Salcha River,	113.17	333		IAMs_20	IAMs_20	11 57 28.4	
	comp=Z,1µm,19.0s							
PRA	Prague	113.28	44		AMS	AMS	11 58 00.0	
	comp=Z,2µm,20.5s							
RICC	Richard	113.29	44		AMS	AMS	11 57 30.0	
	comp=Z,2µm,20.4s							
E28M	Babbage River	113.30	338		IAMs_20	IAMs_20	11 59 11.4	
	comp=Z,1µm,20.0s							
PRU	Pruhonice	113.31	45		*e*SKS	SKSac	11 18 04.6	+2.0
PRU					AMS	AMS	11 58 10.0	
	comp=Z,2µm,19.1s							
BRG	Berggiesshubel	113.34	44		PP	PP	11 12 05.0	-4.6
BRG	Berggiesshubel	113.34	44		PS	PS	11 21 49.0	+3.9
BRG	Berggiesshubel	113.34	44		SS	SS	11 27 46.0	-9.3
GOPC	GO Pecny, Ondr	113.43	45		AMS	AMS	11 57 50.0	
	comp=Z,2µm,19.5s							
PVCC	Panska Ves	113.56	44		AMS	AMS	11 58 10.0	
	comp=Z,3µm,20.1s							
TREC	Trest	113.58	46		AMS	AMS	12 00 00.0	
	comp=Z,2µm,18.9s							
HDA	Harding Lake	113.67	333		IAMs_20	IAMs_20	11 58 11.5	
	comp=Z,1µm,18.0s							
PRP	Porcupine Dome	113.68	334		IAMs_20	IAMs_20	11 57 47.8	
	comp=Z,1µm,21.0s							
G26K	Porcupine Rive	113.79	336		IAMs_20	IAMs_20	12 09 34.6	
	comp=Z,1µm,19.0s							
SUA	Susitna One	113.82	329		IAMs_20	IAMs_20	12 10 04.7	
	comp=Z,1µm,20.0s							
RND	Reindeer	113.93	331		IAMs_20	IAMs_20	12 10 06.7	
	comp=Z,1µm,20.0s							
CUT	Chulitna	114.04	330		IAMs_20	IAMs_20	12 10 01.6	
	comp=Z,1µm,20.0s							
D27M	Malcolm River	114.08	339		IAMs_20	IAMs_20	11 59 45.1	
	comp=Z,1µm,22.0s							
FYU	Fort Yukon	114.10	335		IAMs_20	IAMs_20	11 57 58.7	
	comp=Z,1µm,19.0s							
CCB	Clear Creek Bu	114.11	333		IAMs_20	IAMs_20	11 58 33.1	
	comp=Z,1µm,19.0s							
MCK	McKinley	114.11	332		IAMs_20	IAMs_20	11 57 15.5	
	comp=Z,934nm,20.0s							
WRH	Wood River Hil	114.13	333		IAMs_20	IAMs_20	11 58 35.8	
	comp=Z,1µm,18.0s							
HNR	Honiara	114.20	239		IAMs_20	IAMs_20	11 57 50.2	
	comp=Z,1µm,18.0s							
COLA	College	114.23	333		IAMs_20	IAMs_20	11 58 02.5	
	comp=Z,1µm,19.0s							
F26K	Sheenjek River	114.29	337		IAMs_20	IAMs_20	11 58 11.7	
	comp=Z,1µm,18.0s							
UPC	Upice	114.39	44		AMS	AMS	11 58 40.0	
	comp=Z,2µm,19.6s							
CHVC	Chvalec	114.45	44		AMS	AMS	11 58 30.0	
	comp=Z,2µm,19.9s							
DPC	Dobruska-Polom	114.51	45		*ex*	x	11 19 53.6	
DPC					*e*PS	PS	11 21 44.0	-12
DPC					AMS	AMS	11 58 40.0	
	comp=Z,2µm,19.4s							
BWN	Browne	114.53	332		IAMs_20	IAMs_20	12 10 45.6	
	comp=Z,1µm,18.0s							
OSTC	Ostas	114.53	45		AMS	AMS	11 58 40.0	
	comp=Z,2µm,19.9s							
KRLC	Kraliky	114.67	45		AMS	AMS	12 00 20.0	
	comp=Z,2µm,18.9s							
H24K	Noodor Dome	114.69	334		IAMs_20	IAMs_20	11 58 16.5	
	comp=Z,1µm,22.0s							
F25K	Christian Rive	114.74	336		IAMs_20	IAMs_20	12 01 12.6	
	comp=Z,1µm,19.0s							
KTH	Kantishna Hill	114.83	331		IAMs_20	IAMs_20	12 10 16.3	
	comp=Z,1µm,21.0s							
O19K	Port Alsworth	114.84	327		IAMs_20	IAMs_20	12 07 22.9	
	comp=Z,1µm,21.0s							
I23K	Minto, Yukon-K	114.93	333		IAMs_20	IAMs_20	11 58 32.8	
	comp=Z,1µm,20.0s							
G24K	Hadweenzic Riv	114.95	335		IAMs_20	IAMs_20	11 58 15.2	
	comp=Z,1µm,20.0s							
E25K	Arctic Village	114.97	337		IAMs_20	IAMs_20	11 58 25.6	
	comp=Z,1µm,20.0s							
BPAW	Bear Paw Mtn.	115.09	332		IAMs_20	IAMs_20	12 11 09.2	
	comp=Z,1µm,20.0s							
C27K	Jago River	115.11	339		IAMs_20	IAMs_20	11 57 54.0	
	comp=Z,1µm,20.0s							
N19K	Bonanza Creek	115.17	328		IAMs_20	IAMs_20	12 11 17.6	
	comp=Z,1µm,20.0s							
CHGN	Chignik	115.22	322		IAMs_20	IAMs_20	11 57 40.5	
	comp=Z,1µm,20.0s							
CAST	Castle Rocks	115.24	331		IAMs_20	IAMs_20	12 11 02.2	
	comp=Z,1µm,18.0s							
H23K	Yukon River	115.30	334		IAMs_20	IAMs_20	11 59 03.3	
	comp=Z,1µm,20.0s							
OKC	Ostrava-Krasne	115.38	46		AMS	AMS	12 02 30.0	
	comp=Z,1µm,19.2s							
F24K	Squaw Lake	115.47	336		IAMs_20	IAMs_20	12 11 12.9	
	comp=Z,1µm,19.0s							
M19K	Big River Lodg	115.58	329		IAMs_20	IAMs_20	11 57 54.0	
	comp=Z,976nm,20.0s							
E24K	Your Creek	115.92	336		IAMs_20	IAMs_20	12 07 31.9	
	comp=Z,1µm,19.0s							
I21K	Tanana	115.94	333		IAMs_20	IAMs_20	11 59 49.5	
	comp=Z,1µm,18.0s							
K20K	Telida	116.03	330		IAMs_20	IAMs_20	12 11 38.1	
	comp=Z,1µm,18.0s							
P16K	Nushagak River	116.08	325		IAMs_20	IAMs_20	11 53 57.8	
	comp=Z,1µm,18.0s							
COLD	Coldfoot	116.14	335		IAMs_20	IAMs_20	12 12 12.9	
	comp=Z,1µm,18.0s							
N17K	Nushagak Hills	116.28	327		IAMs_20	IAMs_20	12 08 52.9	
	comp=Z,1µm,20.0s							
E23K	Chandalar	116.30	336		IAMs_20	IAMs_20	12 08 14.7	
	comp=Z,1µm,18.0s							
O16K	Kokwok River B	116.34	326		IAMs_20	IAMs_20	12 11 59.8	
	comp=Z,918nm,21.0s							
J20K	Nowinta River	116.39	331		IAMs_20	IAMs_20	11 59 56.5	
	comp=Z,783nm,19.0s							
H21K	Melozitna Rive	116.45	333		IAMs_20	IAMs_20	11 59 31.0	
	comp=Z,1µm,20.0s							
TOLK	Toolik Lake Re	116.53	336		IAMs_20	IAMs_20	11 59 26.9	
	comp=Z,2µm,21.0s							
C24K	Franklin Bluff	116.70	338		IAMs_20	IAMs_20	12 01 18.5	
	comp=Z,1µm,18.0s							
I20K	Naaghedeneel	116.76	332		IAMs_20	IAMs_20	12 00 10.0	
	comp=Z,1µm,18.0s							
G21K	Allakaket	117.05	334		IAMs_20	IAMs_20	12 11 20.8	
	comp=Z,802nm,20.0s							
E22K	Anaktuvuk Pass	117.08	336		IAMs_20	IAMs_20	12 08 24.5	
	comp=Z,1µm,19.0s							
J18K	Innoko River	117.17	330		IAMs_20	IAMs_20	11 53 29.3	
	comp=Z,806nm,20.0s							
F21K	Alatna River	117.31	334		IAMs_20	IAMs_20	12 12 51.7	
	comp=Z,888nm,20.0s							
C23K	Itkillik River	117.36	338		IAMs_20	IAMs_20	12 01 38.8	
	comp=Z,1µm,19.0s							
N15K	Kwethluk River	117.49	326		IAMs_20	IAMs_20	12 09 59.1	
	comp=Z,1µm,21.0s							
ASAR	Alice Springs	117.55	207		PKP	PKiKP	11 11 28.8	+1.4
	comp=Z,0.2nm,0.8s,baz=144,slow=1.8,SNR=1.4							
D22K	Ayikyak River	117.66	336		IAMs_20	IAMs_20	11 59 20.9	
	comp=Z,1µm,20.0s							
O14K	Tigyukauivet M	117.73	325		IAMs_20	IAMs_20	11 54 50.6	
	comp=Z,1µm,19.0s							
L16K	Owhat River	117.74	327		IAMs_20	IAMs_20	12 13 19.6	
	comp=Z,1µm,20.0s							
H19K	Roundabout Mou	117.80	332		IAMs_20	IAMs_20	12 00 27.9	
	comp=Z,1µm,20.0s							
E21K	Killik River	117.94	336		IAMs_20	IAMs_20	12 01 07.3	
	comp=Z,999nm,20.0s							
J17K	VABM Dome	118.14	329		IAMs_20	IAMs_20	12 09 04.0	
	comp=Z,961nm,19.0s							
N14K	Kuskokwak Cree	118.16	325		IAMs_20	IAMs_20	11 53 12.8	
	comp=Z,953nm,20.0s							
G19K	Purcell Mounta	118.26	333		IAMs_20	IAMs_20	12 00 46.0	
	comp=Z,1µm,18.0s							
H18K	Honhosa River	118.43	331		IAMs_20	IAMs_20	12 01 31.5	
	comp=Z,908nm,18.0s							
B22K	Teshekpuk Lake	118.44	338		IAMs_20	IAMs_20	12 03 33.3	
	comp=Z,1µm,22.0s							
M14K	Bethel	118.56	326		IAMs_20	IAMs_20	12 10 59.3	
	comp=Z,920nm,19.0s							
F19K	Shaleruckik Mo	118.75	333		IAMs_20	IAMs_20	12 01 10.9	
	comp=Z,819nm,21.0s							
J16K	Anvik River	118.75	329		IAMs_20	IAMs_20	12 13 53.2	
	comp=Z,802nm,19.0s							
E19K	Redstone River	118.75	334		IAMs_20	IAMs_20	12 10 11.9	
	comp=Z,909nm,19.0s							
G18K	Tagagawik	118.79	332		IAMs_20	IAMs_20	12 01 05.8	
	comp=Z,1µm,19.0s							
D20K	Etivluk River	118.94	335		IAMs_20	IAMs_20	12 11 52.8	
	comp=Z,1µm,18.0s							
I17K	Unalakleet	118.98	330		IAMs_20	IAMs_20	11 57 59.2	
	comp=Z,1µm,21.0s							
H17K	Granite Mounta	118.98	331		IAMs_20	IAMs_20	12 01 54.2	
	comp=Z,1µm,19.0s							
L14K	Kuka Creek	119.08	327		IAMs_20	IAMs_20	12 13 48.0	
	comp=Z,980nm,19.0s							
ISP	Isparta	119.17	62		IAMs_20	IAMs_20	12 04 02.7	
	comp=Z,1µm,21.0s							
D19K	Kuna River	119.40	335		IAMs_20	IAMs_20	12 12 39.8	
	comp=Z,1µm,18.0s							
NIKH	Nikolski High	119.75	316		IAMs_20	IAMs_20	11 50 09.6	
	comp=Z,983nm,20.0s							
BORA	Eskisehir	119.86	60		IAMs_20	IAMs_20	12 07 18.0	
	comp=Z,1µm,20.0s							
J14K	Nanvaranak Lak	119.88	328		IAMs_20	IAMs_20	12 14 01.1	
	comp=Z,753nm,20.0s							
F17K	Baldwin Pennin	119.96	332		IAMs_20	IAMs_20	12 12 55.8	
	comp=Z,1µm,18.0s							
TIRR	Tirgusor	120.00	54		IAMs_20	IAMs_20	12 03 36.9	
	comp=Z,870nm,20.0s							
G16K	Koyuk River	120.10	331		IAMs_20	IAMs_20	12 01 30.5	
	comp=Z,836nm,21.0s							
K13K	Kusilvak Mount	120.15	327		IAMs_20	IAMs_20	12 06 07.3	
	comp=Z,901nm,18.0s							
CSS	Mathiatis	120.21	66		IAMs_20	IAMs_20	12 03 38.4	
	comp=Z,958nm,22.0s							
M11K	Mekoryuk	120.45	325		IAMs_20	IAMs_20	11 58 39.5	
	comp=Z,1µm,18.0s							
GHAJ	Ghor Haditha	120.54	71		IAMs_20	IAMs_20	12 03 20.2	
	comp=Z,1µm,19.0s							
WRA	Warramunga Arr	120.72	210		PKP	PKPdf	11 11 33.3	-0.2
	comp=Z,0.5nm,0.7s,baz=165,slow=1.6,SNR=6.0							
RDOG	Red Dog Mine	121.00	334		IAMs_20	IAMs_20	12 14 13.1	
	comp=Z,1µm,21.0s							
F15K	North Star Dit	121.11	331		IAMs_20	IAMs_20	12 14 22.0	
	comp=Z,862nm,20.0s							
ANM	Nome	121.13	330		IAMs_20	IAMs_20	11 59 15.1	
	comp=Z,1µm,19.0s							
P08K	Saint George I	121.15	320		IAMs_20	IAMs_20	11 54 43.4	
	comp=Z,960nm,19.0s							
SPIA	Saint Paul Isl	121.67	321		IAMs_20	IAMs_20	11 53 11.1	
	comp=Z,782nm,20.0s							
KBS	Kingsbay	121.86	13		IAMs_20	IAMs_20	12 01 03.5	
	comp=Z,1µm,20.0s							
C16K	Lisburne Hills	121.93	334		IAMs_20	IAMs_20	12 11 18.0	
	comp=Z,1µm,21.0s							
BRTR	Keskin Array B	122.12	61		PKP	PKPdf	11 11 34.4	-1.3
	comp=Z,0.8nm,0.8s,baz=193,slow=4.9,SNR=4.3							
AKASG	Malin Array Be	122.38	47		PKP	PKPdf	11 11 34.3	-1.3
	comp=Z,2.1nm,0.8s,baz=266,slow=2.3,SNR=4.4							
TNA	Tin City	122.40	331		IAMs_20	IAMs_20	12 13 38.7	
	comp=Z,841nm,21.0s							
MNK	Minsk	122.54	43		*i* PKIKP	PKPdf	11 11 35.6	-0.2
MNK					*i*		11 13 11.9	
MNK					*i* PPP	PPP	11 15 48.0	
MNK					*i*		11 18 47.6	
MNK					*i* SS	SS	11 29 53.6	-0.7
MNK					*i* SSS	SSS	11 34 23.9	
MNK					pmax	pmax		
	comp=E,24nm,0.9s							
MNK					pmax	pmax		
	comp=N,7.0nm,0.8s							
MNK					pmax	pmax		
	comp=Z,13nm,0.8s							
FINES	FINESS Array B	123.07	35		PKP	PKiKP	11 11 38.9	+2.1
	comp=Z,2.1nm,1.0s,baz=291,slow=11,SNR=1.9							
GAMB	Gambell	123.70	328		IAMs_20	IAMs_20	12 03 52.0	
	comp=Z,1µm,20.0s							
GAZ	Gaziantep	123.93	65		IAMs_20	IAMs_20	12 13 01.8	
	comp=Z,796nm,19.0s							
H11S2	WAKE ISLAND Hyl	25.34	270		T	T	13 30 50.8	
	baz=118,slow=74,SNR=8.3							
H11S1	WAKE ISLAND Hyl	25.35	270		T	T	13 30 50.9	
	baz=118,slow=74,SNR=1.9							
H11S3	WAKE ISLAND Hyl	25.35	270		T	T	13 30 56.5	
	baz=118,slow=74,SNR=1.9							
SOC	Sochi	127.58	58		*e*PKIKP	PKPdf	11 11 43.7	-2.1
SOC					*e*		11 13 45.2	
SOC					*e*PPP	PPP	11 16 26.9	
SOC					*e*		11 18 46.7	
SOC					*e*PS	PS	11 23 50.7	-2.2
SOC					*e*SS	SS	11 30 52.2	-6.2
SOC					*e*SSS	SSS	11 35 34.7	
OBN	Obninsk	127.59	43		*i* PKIKP	PKPdf	11 11 45.1	-0.3
OBN					*i*		11 18 56.5	
OBN					*i* SS	SS	11 30 56.8	-1.0
OBN					*e*SSS	SSS	11 35 43.3	
OBN					pmax	pmax		
	comp=Z,5.0nm,0.7s							
OBN					MLR	MLR		
	comp=Z,1µm,18.0s							
GURO	Guroymak-BITLI	127.98	65		IAMs_20	IAMs_20	12 16 57.1	
	comp=Z,667nm,18.0s							
MOS	Moscow	128.26	43		*e*PKIKP	PKiKP	11 11 48.2	+0.9
MOS					*e*		11 13 50.3	
MOS					MLR	MLR		
	comp=E,2µm,19.0s							
MOS					MLR	MLR		
	comp=Z,2µm,19.0s							
KIV	Kislovodsk	129.76	58		*i* PKIKP	PKPdf	11 11 50.3	+0.2
KIV					*e*		11 13 59.8	
KIV					*e*PS	PS	11 24 10.4	-1.7
KIV					*e*SS	SS	11 31 25.1	-0.5
KIV					pmax	pmax		
	comp=Z,6.0nm,1.0s							
KIV					MLR	MLR		
	comp=Z,556nm,23.0s							
KBZ	Khabaz	129.86	59		PKP	PKPdf	11 11 48.9	-1.2
	comp=Z,1.4nm,0.7s,baz=143,slow=5.1,SNR=3.7							
KBZ	Khabaz	129.86	59		*i* PKIKP	PKPdf	11 11 47.7	-2.4
KBZ					*i*		11 11 50.2	
BILL	Bilibino	132.47	334		IAMs_20	IAMs_20	12 03 42.3	
	comp=Z,744nm,20.0s							
BILL	Bilibino	132.47	334		*i* PKIKP	PKPdf	11 11 53.2	-1.2
BILL					*i*		11 11 55.4	
MAK	Makhachkala	133.02	60		*i* P	Pdif	11 08 52.8	+0.1
MAK					*e*		11 19 07.9	
MAK					*e*SSS	SSS	11 36 53.0	
MAK					pmax	pmax		
	comp=Z,99nm,1.2s							
MMRI	Maumere	135.52	201		IAMs_20	IAMs_20	12 18 28.8	
	comp=Z,880nm,20.0s							
FAKI	Fak Fak	136.62	218		IAMs_20	IAMs_20	12 09 47.6	
	comp=Z,680nm,19.0s							
PET	Petropavlovsk	139.14	314		*i* PKIKP	PKiKP	11 12 14.9	+5.5
PET					*e*		11 15 08.7	
PET					*e*SS	SS	11 33 25.5	+7.8
SEY	Seymchan	139.64	330		*i* PKIKP	PKPdf	11 12 07.3	-0.5
SEY					*i*		11 12 10.2	
ARTI	Arti	139.79	41		*i* PKIKP	PKPdf	11 12 07.7	-0.6
ARTI							11 15 01.0	
ARTI					PPP	PPP	11 18 09.2	
ARTI					SS	SS	11 33 22.5	-2.6
ARTI					SSS	SSS	11 38 40.6	
ARTI					MLR	MLR		
	comp=Z,2µm,20.0s							
TIXI	Tiksi	140.42	350		IAMs_20	IAMs_20	12 15 11.6	
	comp=Z,878nm,21.0s							
TIXI	Tiksi	140.42	350		*i* PKIKP	PKiKP	11 12 10.4	-1.1
MA2	Magadan	141.71	326		IAMs_20	IAMs_20	12 29 03.5	
	comp=Z,1µm,20.0s							
LUWI	Luwuk	142.46	206		IAMs_20	IAMs_20	12 21 36.1	
	comp=Z,752nm,18.0s							
NRIK	Noril'sk	142.71	11		PKP	PKPdf	11 12 14.2	+1.0
	comp=Z,1.2nm,0.5s,baz=80,slow=2.1,SNR=1.1							
TOLI2	Tolitoli	145.16	204		PKPdf	PKPbc	11 12 18.0	-0.6
TOLI2					IAMs_20	IAMs_20	12 19 15.4	
	comp=Z,770nm,19.0s							
BRVK	Borovoye	147.36	43			PKPbc	11 12 23.0	-1.1
BRVK	Borovoye	147.36	43	*c*	*i* PKP2	PKPab	11 12 25.5	-0.5
BRVK					pmax	pmax		
	comp=Z,16nm,1.3s							
BVAR	Borovoye Array	147.43	43		PKPbc	PKPbc	11 12 25.2	+0.9
	comp=Z,4.8nm,0.6s,baz=304,slow=2.4,SNR=18							
YAK	Yakutsk	148.39	340		IAMs_20	IAMs_20	12 15 55.8	
	comp=Z,754nm,20.0s							
YAK	Yakutsk	148.39	340		*e*PKP2	PKPbc	11 12 25.9	-0.7
YAK					*e*		11 16 04.5	
YAK					pmax	pmax		
	comp=Z,19nm,0.8s							
YAK					pmax	pmax		
	comp=N,3.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,5.0nm,1.1s							
YAK					pmax	pmax		
	comp=Z,256nm,6.3s							
YAK					pmax	pmax		
	comp=N,134nm,5.6s							
YAK					pmax	pmax		
	comp=E,128nm,7.2s							
SBUM	Sibu	148.49	189		IAMs_20	IAMs_20	12 18 38.9	
	comp=Z,741nm,20.0s							
DAV	Davao City (W)	148.55	216		IAMs_20	IAMs_20	12 15 59.4	
	comp=Z,682nm,18.0s							
SIMJ	Simiganj	148.78	70		PKPdf	PKPdf	11 12 24.3	-0.4
HYB	Hyderabad	149.41	115		*e*PKPdf	PKPdf	11 12 24.4	-1.7
HYB					*ep*PKPdf	pPKPdf	11 12 28.6	-1.2
HYB					*e*PKiKP	sPKPdf	11 12 31.3	+0.2
HYB					*ep*PKiKP	PKPab	11 12 35.0	-0.3
HYB					*es*PKiKP	sPKPbc	11 12 35.9	+0.5
IUG	Iuzhnay	149.55	63		*e*PKHKP	PKPpre	11 12 24.0	
IUG	Iuzhnay	149.55	63		*e*PKP	PKPdf	11 12 24.1	-1.7
BRZS	Berezniki	149.83	47		*e*PKIKP	PKPdf	11 12 24.6	-1.2
BRZS					*e*		11 16 03.4	
BRZS	Berezniki	149.83	47		*e*PKP	PKPdf	11 12 24.6	-1.2
BRZS					*e*PP	PP	11 16 03.4	-1.3
YSS	Yuzhno-Sakhali	150.32	307		*e*PKIKP	PKPdf	11 12 15.3	-11
JKA	Kamikawa-asahi	150.98	301		IAMs_20	IAMs_20	12 18 01.4	
	comp=Z,942nm,19.0s							
JTM	Tenmabayashi	152.47	295		IAMs_20	IAMs_20	12 09 02.5	
	comp=Z,986nm,21.0s							
SGDS	Sogindy	152.77	60		*e*PKIKP	PKPdf	11 12 29.2	-1.4
SGDS	Sogindy	152.77	60		*e*PKP	PKPdf	11 12 29.3	-1.4
AAK	Ala-Archa	152.79	61	*c*	*i* PKIKP	PKPbc	11 12 36.8	-1.1
AAK					pmax	pmax		
	comp=Z,11nm,1.3s							
KURBB	Kurchatov Arra	153.02	43		PKP	PKPdf	11 12 30.5	-0.1
	comp=Z,0.4nm,0.3s,baz=336,slow=2.0,SNR=1.4							
KURBB					PKPbc	PKiKP	11 12 38.2	+0.1
	comp=Z,0.8nm,0.3s,baz=307,slow=2.6,SNR=4.9							
KURK	Kurchatov	153.03	43		PKIKP	PKPdf	11 12 30.5	-0.1
KURK							11 12 38.2	
KUU	Kurty	153.90	58		*e*PKIKP	PKPdf	11 12 30.9	-1.2
KUU	Kurty	153.90	58		*e*PKP	PKPdf	11 12 30.9	-1.2
SEM	Semipalatinsk	154.09	42		*e*PKIKP	PKPdf	11 12 31.1	-1.4
SEM	Semipalatinsk	154.09	42		*e*PKP	PKPdf	11 12 31.1	-1.4
KSH	Kashi	154.20	68		PKPbc	PKPbc	11 12 38.8	-2.3
KSH					LR	LR		
	comp=N,1µm,19.6s							
KSH					LR	LR		
	comp=E,740nm,21.0s							
KSH					LR	LR		
	comp=Z,2µm,23.4s							
ZALV	Zalesovo Beam	154.29	32		PKP	PKPdf	11 12 32.2	-0.1
	comp=Z,3.9nm,0.6s,baz=232,slow=1.7,SNR=10							
ZALV					PKPbc	PKiKP	11 12 40.9	+0.3
	comp=Z,7.0nm,0.6s,baz=311,slow=3.0,SNR=17							
CHKK	Chushkaly	154.37	58		*e*PKIKP	PKPdf	11 12 31.4	-1.4
CHKK	Chushkaly	154.37	58		*e*PKP	PKPdf	11 12 31.4	-1.4
AAA	Alma-Ata	154.45	59		*e*PKIKP

QZH LR LR
comp=Z,800nm,19.6s
QZH LR LR
comp=Z,500nm,17.2s
QZH LR LR
comp=Z,1μm,18.9s
DL2 Dalian 167.48 298 PKP **PKPdf 11 12 48.8 +1.9**
DL2 *e*PP **PP 11 17 41.4 0.0**
DL2 SKKS 11 24 25.7
DL2 *e*SS **SS 11 38 26.1 -2.3**
DL2 AMB AMB
comp=Z,190nm,3.8s
DL2 LR LR
comp=Z,430nm,19.2s
DL2 LR LR
comp=Z,1μm,18.8s
DL2 LR LR
comp=Z,1μm,20.9s
SSE Sheshan 168.08 261 PKP **PKPdf 11 12 44.6 -3.0**
SSE PP **PP 11 17 43.7 -1.1**
SSE AMB AMB
comp=Z,150nm,5.3s
SSE LR LR
comp=Z,160nm,18.7s
SSE LR LR
comp=Z,360nm,18.4s
TNCH TengChong 168.31 136 *e*PKP **PKPdf 11 12 45.6 -2.6**
TNCH pPKP pPKPdf 11 12 50.5 -1.4
TNCH PKPab **PKPab 11 13 56.4 -0.4**
TNCH PP **PP 11 17 46.5 +1.2**
TNCH AMB AMB
comp=Z,480nm,6.6s
TNCH LR LR
comp=Z,760nm,19.3s
TNCH LR LR
comp=Z,760nm,17.5s
TNCH LR LR
comp=Z,1μm,17.4s
GOMU GeErMu 169.37 73 PKP **PKPdf 11 12 48.7 -0.1**
GOMU sPKP 11 12 53.6
GOMU PP **PP 11 17 50.7 -1.1**
GOMU SKKS 11 24 38.3
GOMU SS **SS 11 38 47.2 -1.5**
GOMU AMB AMB
comp=Z,560nm,7.6s
GOMU LR LR
comp=Z,930nm,21.0s
GOMU LR LR
comp=Z,2μm,19.6s
GOMU LR LR
comp=Z,2μm,18.2s
NJ2 Nanjing 170.25 263 *e*PKP **PKPdf 11 12 47.4 -1.5**
KMI Kunming 170.44 153 PKP **PKPdf 11 12 53.7 +4.1**
KMI PP **PP 11 17 55.8 +0.2**
KMI SS SS 11 38 56.9 +0.4
KMI AMB AMB
comp=Z,280nm,6.3s
KMI LR LR
comp=Z,700nm,20.1s
KMI LR LR
comp=Z,600nm,19.1s
KMI LR LR
comp=Z,1μm,22.3s
PZH PanZhiHua 171.22 144 PKP **PKPdf 11 12 48.8 -1.0**
PZH PP **PP 11 17 58.9 -0.7**
PZH SKKS 11 24 50.0
PZH SS **SS 11 39 02.1 -2.4**
PZH AMB AMB
comp=Z,370nm,10.2s
PZH LR LR
comp=Z,830nm,21.2s
PZH LR LR
comp=Z,550nm,21.4s
PZH LR LR
comp=Z,1μm,22.6s
GTA Gaotai 171.70 45 PKP **PKPdf 11 12 54.1 +4.4**
GTA PP **PP 11 18 06.4 +4.0**
GTA SKKS 11 24 52.7
GTA AMB AMB
comp=Z,400nm,11.9s
GTA LR LR
comp=Z,490nm,21.1s
GTA LR LR
comp=Z,670nm,19.1s
GTA LR LR
comp=Z,1μm,21.1s
HHC Hu-ho-hao-te 172.23 336 *e*PKP **PKPdf 11 12 45.1 -4.7**
CNSH ChangSha 172.68 222 PKP PKPdf 11 12 36.2 -14
CNSH PP **PP 11 18 10.6 +3.7**
CD2 Chengdu 175.76 132 PKP **PKPdf 11 12 49.8 -1.5**
CD2 PP **PP 11 18 22.2 +0.1**
CD2 SKS **SKSdf 11 19 51.0 -3.2**
CD2 SS **SS 11 39 50.6 +1.5**
CD2 AMB AMB
comp=Z,670nm,6.7s
CD2 LR LR
comp=Z,1μm,18.0s
CD2 LR LR
comp=Z,2μm,17.8s
LZH Lanzhou 176.27 51 *e*PKP **PKPdf 11 12 56.7 +5.3**
LZH PKP **pPKPab 11 14 34.8 -0.6**
LZH PP PP 11 18 38.3 +13
XAN Xi'an 178.74 281 PKP **PKPdf 11 12 53.4 +1.7**
XAN PP **PP 11 18 41.2 +4.2**
XAN SKKS 11 25 24.2
XAN AMB AMB
comp=Z,2μm,15.2s
XAN LR LR
comp=Z,1μm,16.5s
XAN LR LR
comp=Z,3μm,19.2s
XAN LR LR
comp=Z,2μm,22.0s

*NOU **07** 10:56:28.7, 21°.66S×168°.95E, h0km, MLv4.5/17, Loyalty Islands*
*IDC **07** 10:56:29.2±0.7, 21°.69S×168°.93E, h0km, mb4.1/12, mbtmp4.1/15, ML4.4/3, MS3.0/2, Error ellipse: s-maj=20.9km s-min=19.0km az=140.0*
*NEIC **07** 10:56:31.6±1.0, 21°.8S±0°.1×168°.8E±0°.1, h10km±1km, mb4.6/13, Error ellipse: s-maj=19.8km s-min=17.4km az=149.0*
*BGR **07** 10:56:34.2, 21°.88S×169°.55E, h33km, Hypocentre not reviewed by the ISC*

ISC 07 10:56:33.8±0.5, 21°.62S±0°.06×168°.78E±0°.05, h29km, n82, σ1§24/81, mb4.4/19, 5D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.71**	**281**	P		**Pb**	**10 56 46.7**	**-1.0**
MARNC	**Mare, Loyalty**	**0.71**	**281**	S		**Sn**	**10 56 58.1**	**+0.2**
PINNC	**Pines Island,**	**1.59**	**231**			**Pn**	**10 56 59.7**	**-0.3**
PINNC	**Pines Island,**	**1.59**	**231**	P		**Pn**	**10 57 00.0**	**0.0**
PINNC	**Pines Island,**	**1.59**	**231**	S		**Sb**	**10 57 20.8**	**-1.4**
YATNC	**Mamie plateau,**	**1.81**	**256**	P		**Pn**	**10 57 02.3**	**-0.8**
YATNC	**Mamie plateau,**	**1.81**	**256**	S		**Sb**	**10 57 26.8**	**-1.9**
OUENC	**Ouen Island, N**	**1.97**	**246**	P		**Pn**	**10 57 05.5**	**+0.2**
OUENC	**Ouen Island, N**	**1.97**	**246**	S		**Sb**	**10 57 31.9**	**-1.3**
INH	**Isangel**	**2.11**	**13**	P		**Pn**	**10 57 06.0**	**-1.2**
INH	**Isangel**	**2.11**	**13**	S		**Sn**	**10 57 32.1**	**-0.3**
DZM	**Mont Dzumac**	**2.22**	**258**			**Pn**	**10 57 08.8**	**0.0**
DZM	**Mont Dzumac**	**2.22**	**258**	Pn		**Pn**	**10 57 09.1**	**+0.3**
	47nm,0.3s,baz=121,slow=12,SNR=439							
DZM				Sn		**Sn**	**10 57 36.0**	**+0.7**
	119nm,0.3s,baz=76,slow=20,SNR=13							
	214nm,0.5s							
DZM	**Mont Dzumac**	**2.22**	**258**	P		**Pn**	**10 57 09.6**	**+0.8**
DZM	**Mont Dzumac**	**2.22**	**258**	S		**Sb**	**10 57 38.8**	**-1.7**
ONTNC	**Ouen Toro**	**2.27**	**252**			**Pn**	**10 57 08.6**	**-0.8**
ONTNC	**Ouen Toro**	**2.27**	**252**	P		**Pn**	**10 57 09.7**	**+0.3**
ONTNC	**Ouen Toro**	**2.27**	**252**	S		**Sb**	**10 57 39.8**	**-2.0**
KOUNC	**Koumac, New Ca**	**4.33**	**283**	P		**Pn**	**10 57 38.3**	**+0.6**
VLAKA	**Lakatoro**	**5.63**	**347**	P		**Pn**	**10 57 54.4**	**-1.2**
MSVF	**Nonsavu**	**9.55**	**68**	Pn		**Pn**	**10 58 47.3**	**-2.2**
	0.4nm,0.3s,baz=294,slow=20,SNR=1.4							
MSVF				LR		LR	11 01 38.0	
	comp=Z,208nm,18.8s,baz=235,slow=33							
	0.7nm,0.2s							
HNR	**Honiara**	**14.80**	**324**	LR		LR	11 04 24.5	
	comp=Z,27nm,20.6s,baz=134,slow=32							
EIDS	**Eidsvold**	**16.66**	**254**	Pn		**Pn**	**11 00 22.6**	**-2.8**
ARMA	**Armidale**	**17.72**	**237**	P		**P**	**11 00 42.5**	**+3.2**
URZ	**Urewera**	**18.07**	**158**	P		**Pn**	**11 00 41.3**	**-1.5**
	0.3nm,0.3s,baz=306,slow=14,SNR=2.0							
	7.0nm,0.8s							
RTZ	**Ruatahuna**	**18.35**	**159**	P		**Pn**	**11 00 47.5**	**+1.2**
RTZ				IAmb		IAmb	11 01 05.0	
	comp=Z,51nm,1.4s							
STKA	**Stephens Creek**	**26.28**	**241**	P		**P**	**11 02 07.8**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=71,slow=11,SNR=3.7							
	comp=Z,1.8nm,0.8s							
AS31	**Alice Springs**	**32.21**	**260**	P		**P**	**11 02 59.5**	**-0.2**
ASAR	**Alice Springs**	**32.21**	**260**	P		**P**	**11 02 59.2**	**-0.5**
ASAR	**Alice Springs**	**32.21**	**260**	P		**P**	**11 02 59.9**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=92,slow=9.4,SNR=36							
ASAR				PcP		**PcP**	**11 05 47.6**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=99,slow=2.7,SNR=3.1							
	comp=Z,2.5nm,0.8s							
WRA	**Warramunga Arr**	**32.21**	**267**	P		**P**	**11 02 59.2**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=98,slow=8.4,SNR=16							
	comp=Z,1.0nm,0.6s							
MTN	**Manton Dam**	**36.92**	**277**	P		**P**	**11 03 40.4**	**-0.1**
NWAO	**Narrogin (SRO)**	**46.78**	**245**	P		**P**	**11 04 59.3**	**-1.6**
TOLI2	**Tolitoli**	**52.01**	**289**	P		**P**	**11 05 40.5**	**-0.6**
TOLI2				IAmb		IAmb	11 05 42.3	
	comp=Z,10.0nm,0.9s							
VNDA	**Vanda**	**56.05**	**182**	P		**P**	**11 06 08.8**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=354,slow=18,SNR=1.3							
	comp=Z,0.7nm,0.7s							
SBA	**Scott Base**	**56.30**	**181**	P		**P**	**11 06 12.7**	**+1.4**
SBA				IAmb		IAmb	11 06 21.6	
	comp=Z,8.7nm,0.9s							
KSM	**Kuching**	**61.51**	**284**	P		**P**	**11 06 48.3**	**-0.2**
MJAR	**Matsushiro Arr**	**64.65**	**333**	P		**P**	**11 07 09.0**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=159,slow=5.6,SNR=1.9							
	comp=Z,0.5nm,0.5s							
QSPA	**South Pole Qui**	**68.45**	**180**	P		**P**	**11 07 32.5**	**-0.6**
QSPA				IAmb		IAmb	11 07 46.1	
	comp=Z,9.7nm,1.2s							
QSPA	**South Pole Qui**	**68.45**	**180**	P		**P**	**11 07 32.6**	**-0.5**
	comp=Z,4.3nm,0.9s,baz=345,slow=0.7,SNR=6.0							
	comp=Z,4.3nm,0.9s							
USA0B	**Ussuriysk Arra**	**73.65**	**333**	P		**P**	**11 08 06.3**	**+1.8**
USA0B				IAmb		IAmb	11 08 11.4	
	comp=Z,4.5nm,0.8s							
USRK	**Ussuriysk Ar.**	**73.65**	**333**	P		**P**	**11 08 05.6**	**+1.0**
USRK	**Ussuriysk Ar.**	**73.65**	**333**	P		**P**	**11 08 06.1**	**+1.6**
	comp=Z,4.0nm,0.8s,baz=104,slow=6.1,SNR=4.9							
	comp=Z,4.0nm,0.8s							
PETK	**Petropavlovsk-**	**75.03**	**353**	P		**P**	**11 08 14.5**	**+2.1**
CMAR	**Chiang Mai Arr**	**79.10**	**295**	P		**P**	**11 08 37.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**79.10**	**295**	P		**P**	**11 08 37.4**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=135,slow=4.4,SNR=11							
	comp=Z,1.8nm,0.8s							
CHTO	**Chiang Mai**	**79.26**	**295**	P		**P**	**11 08 38.2**	**+1.3**
CHTO				IAmb		IAmb	11 08 39.7	
	comp=Z,4.2nm,1.1s							
TROLL	**Troll, Antarti**	**86.15**	**184**	⇓P		**P**	**11 09 11.6**	**-0.5**
	comp=Z,462nm,0.7s							
SNAA	**Sanae**	**86.78**	**183**	P		**P**	**11 09 14.8**	**-0.3**
SNAA				IAmb		IAmb	11 09 15.3	
	comp=Z,5.6nm,1.0s							
SNAA	**Sanae**	**86.78**	**183**	⇓P		**P**	**11 09 13.8**	**-1.3**
	comp=Z,75nm,0.8s							
SNAA	**Sanae**	**86.78**	**183**	P		**P**	**11 09 14.4**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=179,slow=9.6,SNR=5.1							
	comp=Z,3.1nm,0.8s							
VNA3	**Neumayer Olymp**	**87.39**	**181**	⇓P		**P**	**11 09 15.7**	**-2.3**
	comp=Z,3.3nm,0.5s							
VNA2	**Neumayer--Watz**	**87.67**	**181**	⇓P		**P**	**11 09 18.7**	**-0.6**
	comp=Z,5.2nm,0.6s,baz=172,slow=6.3							
VNA1	**Neumayer--Stat**	**87.96**	**181**	⇓P		P	11 09 09.2	-11
	comp=Z,10.0nm,0.8s							
SONM	**Songino Array**	**88.86**	**323**	P		**P**	**11 09 26.6**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=149,slow=3.1,SNR=3.5							
	comp=Z,0.7nm,0.6s							
YBH	**Yreka Blue Hor**	**89.30**	**44**	LR		LR	11 41 57.3	
	comp=Z,633nm,19.8s,baz=139,slow=31							
NVAR	**Mina Array Bea**	**90.69**	**49**	P		**P**	**11 09 32.6**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=227,slow=9.5,SNR=5.7							
	comp=Z,0.9nm,0.8s							
ILAR	**Eielson Array**	**92.61**	**17**	P		**P**	**11 09 40.4**	**-1.8**
	comp=Z,0.2nm,0.7s,baz=225,slow=5.3,SNR=4.0							
	comp=Z,0.2nm,0.7s							
ARCES	**ARCESS Array B**	**127.24**	**345**	PKP		**PKPdf**	**11 15 35.0**	**+0.2**
	comp=Z,5.8nm,1.1s,baz=49,slow=2.2,SNR=7.2							
FINES	**FINESS Array B**	**132.60**	**337**	PKP		**PKPdf**	**11 15 45.3**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=112,slow=8.1,SNR=1.5							
DPC	**Dobruska-Polom**	**144.07**	**330**	*e*PKP		**PKiKP**	**11 16 15.0**	**+4.8**
FLTG	**Flechtingen**	**144.78**	**336**	*e*PKPbc			11 16 07.4	
	baz=37,slow=2.8							
BRG	**Berggiesshubel**	**144.78**	**332**	*e*PKPbc			11 16 07.9	
	baz=37,slow=2.8							
CLL	**Collm**	**144.86**	**333**	*e*PKPbc			11 16 07.7	
	baz=37,slow=2.8							
NRDL	**Niedersach Rie**	**145.06**	**337**	*e*PKPbc			11 16 08.7	
	baz=37,slow=2.8							
GOPC	**GO Pecny, Ondr**	**145.09**	**330**	*e*PKP		**PKPdf**	**11 16 09.2**	**+0.8**
ASSE	**Asse, Remlinge**	**145.15**	**336**	*e*PKPbc			11 16 08.9	
	baz=37,slow=2.8							
PRU	**Pruhonice**	**145.15**	**331**	*e*PKP		**PKPdf**	**11 16 09.5**	**+1.1**
HSKC	**Hora Svate Kat**	**145.20**	**332**	*e*PKP		**PKPdf**	**11 16 09.7**	**+1.2**
NEUB	**Neuenburg**	**145.44**	**334**	*e*PKPbc			11 16 10.3	
	baz=37,slow=2.8							
CLZ	**Clausthal**	**145.49**	**336**	*e*PKPbc			11 16 10.3	
	baz=37,slow=2.8							
ZVC	**Zvikov**	**145.70**	**330**	*e*PKP		**PKPab**	**11 16 11.3**	**+1.2**
TANN	**Tannenbergstha**	**145.76**	**333**	*e*PKPbc			11 16 11.0	
	baz=37,slow=2.8							
EKA	**Eskdalemuir Ar**	**145.79**	**352**	PKPbc		**PKPdf**	**11 16 09.8**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=356,slow=2.4,SNR=7.6							
PLN	**Plauen**	**145.83**	**333**	*e*PKPbc			11 16 11.3	
	baz=37,slow=2.8							
RONA	**Rosalia, Austr**	**145.84**	**326**	*i* PKP		**PKPab**	**11 16 11.8**	**+1.0**
	comp=Z,3.5nm,0.7s							
GTTG	**Gottingen**	**145.88**	**336**	*e*PKPbc			11 16 11.6	
	baz=37,slow=2.8							
CONA	**Conrad Observa**	**145.92**	**327**	*e*PKP		**PKPab**	**11 16 11.9**	**+0.8**
	comp=Z,5.6nm,0.8s,SNR=5.7							
MOX	**Moxa**	**145.94**	**334**	*e*PKPbc			11 16 11.5	
	baz=37,slow=2.8							
IBBN	**Ibbenburen**	**146.03**	**339**	*e*PKPbc			11 16 11.6	
	baz=37,slow=2.8							
CKRC	**Cesky Krumlov**	**146.08**	**329**	*e*PKP		**PKPab**	**11 16 12.4**	**+0.8**
KHC	**Kasperske Hory**	**146.20**	**330**	*e*PKP		**PKPab**	**11 16 12.9**	**+0.8**
MANZ	**Manzenberg**	**146.23**	**333**	*e*PKPbc			11 16 12.2	
	baz=37,slow=2.8							
GEC2	**GERESS Array S**	**146.35**	**330**	*e*PKPbc			11 16 12.9	
	baz=37,slow=2.8							
GERES	**GERESS Array B**	**146.35**	**330**	PKPbc		**PKPab**	**11 16 13.2**	**+0.4**
	comp=Z,6.8nm,0.7s,baz=34,slow=2.8,SNR=60							
ROTZ	**Rotzenmuhle**	**146.35**	**332**	*e*PKPbc			11 16 13.0	
	baz=37,slow=2.8							
UBBA	**Unterbreizbach**	**146.44**	**335**	*e*PKPbc			11 16 13.0	
	baz=37,slow=2.8							
WET	**Wettzell**	**146.51**	**331**	*e*PKPbc			11 16 13.6	
	baz=37,slow=2.8							
MOA	**Molln**	**146.77**	**328**	*e*PKP		**PKPab**	**11 16 14.1**	**-0.2**
	comp=Z,1.7nm,0.5s							
GRF	**Grafenberg Arr**	**146.83**	**333**	*e*PKPbc			11 16 14.2	
	baz=37,slow=2.8							
OBKA	**Obir**	**147.53**	**326**	*i* PKP		**PKPbc**	**11 16 16.2**	**+0.9**
	comp=Z,1.3nm,0.5s							
RJOB	**Jochberg**	**147.56**	**329**	*e*PKPbc			11 16 16.1	
	baz=37,slow=2.8							
KBA	**Koelnbreinsper**	**147.75**	**328**	*e*PKP		**PKPbc**	**11 16 16.3**	**+0.2**
	comp=Z,1.8nm,0.5s							
LESA	**Schwarzleotal**	**147.84**	**329**	*e*PKP		**PKPbc**	**11 16 16.2**	**+0.1**
	comp=Z,4.8nm,0.5s,SNR=5.9							
MYKA	**Terra Mystica**	**147.91**	**327**	*i* PKP		**PKPbc**	**11 16 16.2**	**-0.2**
	comp=Z,2.6nm,0.4s							
ABTA	**Abfaltersbach**	**148.39**	**328**	*i* PKP		**PKPbc**	**11 16 17.7**	**+0.1**
	comp=Z,3.6nm,0.6s							
WTTA	**Wattenberg**	**148.45**	**330**	*i* PKP		**PKPbc**	**11 16 18.2**	**+0.3**
	comp=Z,4.6nm,0.9s							
MOTA	**Moosalm**	**148.64**	**330**	*i* PKP		**PKPbc**	**11 16 18.7**	**+0.3**
	comp=Z,2.7nm,0.6s							
SQTA	**Sankt Quirin**	**148.68**	**330**	*i* PKP		**PKPbc**	**11 16 18.9**	**+0.5**
	comp=Z,6.2nm,0.6s							
RETA	**Reutte**	**148.69**	**331**	*i* PKP		**PKPbc**	**11 16 18.9**	**+0.6**
	comp=Z,0.8nm,0.3s							
UBR	**Ueberruh**	**148.84**	**332**	*e*PKPbc			11 16 19.2	
	baz=37,slow=2.8							
FETA	**Feichten**	**149.05**	**330**	*e*PKP		**PKPbc**	**11 16 20.2**	**+0.8**
	comp=Z,4.7nm,0.6s,SNR=5.5							
BFO	**Black Forest**	**149.09**	**334**	*e*PKPbc			11 16 19.8	
	baz=37,slow=2.8							

IDC 07 11:22:46.4±7.2, 9°.20S×118°.21E, h0km, mb3.8/2, mbtmp3.9/5, ML3.4/3, Error ellipse: s-maj=147.6km s-min=26.9km az=86.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.43**	**20**	Pn		Pn	11 23 55.8	+1.0
	5.9nm,0.3s,baz=180,slow=7.8,SNR=5.9							
KAPI				Sn		Sn	11 24 45.8	-1.4
	4.2nm,0.3s,baz=60,slow=22,SNR=4.8							
	14nm,0.3s							
FITZ	**Fitzroy Crossi**	**11.42**	**142**	Pn		Pn	11 25 31.2	+0.4
	baz=337,slow=15,SNR=2.4							
	4.8nm,1.0s							
WRA	**Warramunga Arr**	**18.90**	**126**	P		Pn	11 27 09.4	+0.2
	0.2nm,0.3s,baz=300,slow=12,SNR=13							
	2.9nm,0.9s							
ASAR	**Alice Springs**	**20.79**	**136**	P		P	11 27 29.2	-0.1
	1.1nm,0.5s,baz=311,slow=9.7,SNR=40							
	1.1nm,0.5s							
STKA	**Stephens Creek**	**31.31**	**139**	P		P	11 29 07.8	-0.6
	2.4nm,0.8s,baz=310,slow=7.9,SNR=3.2							
	2.4nm,0.8s							

*NEIC **07** 11:24:45.8±1.7, 18°.3S±0°.1×177°.9W±0°.2, h630km±9km, mb4.4/28, Error ellipse: s-maj=23.2km s-min=17.2km az=122.0*
*NOU **07** 11:24:46.2, 18°.21S×177°.87W, h643km, mb4.8/20, Fiji Islands Region*
*IDC **07** 11:24:47.3±1.7, 18°.16S×178°.09W, h644km±18km, mb3.3/12, mbtmp4.3/13, Error ellipse: s-maj=21.2km s-min=14.6km az=138.0*

ISC 07 11:24:47.0±0.6, 18°.25±0°.1×177°.95W±0°.10, h650km, n85, σ1§01/85, mb4.3/25, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.82**	**268**	P		**P**	**11 26 01.4**	**-1.3**
TAVE	**Taveuni**	**2.39**	**308**	P		**P**	**11 26 06.4**	**-1.1**
DGT1	**Dogotuki**	**2.91**	**310**	P		**P**	**11 26 08.2**	**-1.8**
MSVF	**Nonsavu**	**3.83**	**277**	P		**P**	**11 26 13.8**	**-1.4**
MSVF	**Nonsavu**	**3.83**	**277**	P		**P**	**11 26 14.5**	**-0.7**
	51nm,0.6s,baz=130,slow=4.3,SNR=68							
MSVF	**Nonsavu**	**3.83**	**277**	P		**P**	**11 26 14.3**	**-0.9**
FUTU	**Fugatoga**	**3.89**	**358**	P		**P**	**11 26 12.4**	**-3.2**
FUTU	**Fugatoga**	**3.89**	**358**	P		**P**	**11 26 13.6**	**-1.9**
AFI	**Afiamalu**	**7.32**	**55**	P		**P**	**11 26 39.9**	**-2.2**
VLAKA	**Lakatoro**	**14.13**	**276**	P		**P**	**11 27 46.1**	**+0.7**
DZM	**Mont Dzumac**	**15.15**	**253**	P		**P**	**11 27 55.1**	**+0.3**
DZM				IAmb		IAmb	11 28 02.4	
	comp=Z,42nm,1.5s							
MRZ	**Mangatainoka R**	**23.06**	**193**	P		**P**	**11 29 03.2**	**-2.3**
MSWZ	**Moikau Station**	**23.85**	**193**	P		**P**	**11 29 11.1**	**-1.5**
QRZ	**Quartz Range**	**23.98**	**198**	P		**P**	**11 29 13.7**	**0.0**
QRZ	**Quartz Range**	**23.98**	**198**	P		**P**	**11 29 13.7**	**0.0**
ARMA	**Armidale**	**30.17**	**240**	P		**P**	**11 30 08.2**	**+0.5**
ARMA				IAmb		IAmb	11 30 09.4	
	comp=Z,10nm,0.8s							
CNB	**Canberra Magne**	**33.59**	**233**	P		**P**	**11 30 37.5**	**+1.0**
CAN	**Canberra**	**33.87**	**233**	P		**P**	**11 30 39.0**	**+0.2**
CAN				IAmb		IAmb	11 30 45.9	
	comp=Z,16nm,1.1s							
PMG	**Port Moresby**	**34.94**	**280**			**P**	**11 30 48.2**	**+0.4**
PMG	**Port Moresby**	**34.94**	**280**	P		**P**	**11 30 48.4**	**+0.6**
PMG	**Port Moresby**	**34.94**	**280**	P		**P**	**11 30 48.5**	**+0.6**
CMSA	**Cobar Meteorol**	**35.38**	**241**	P		**P**	**11 30 51.5**	**+0.3**
QLP	**Quilpie**	**35.84**	**250**	P		**P**	**11 30 55.1**	**+0.1**
COEN	**Coen**	**37.54**	**271**	P		**P**	**11 31 09.4**	**+0.4**
COEN	**Coen**	**37.54**	**271**	P		**P**	**11 31 09.5**	**+0.4**
STKA	**Stephens Creek**	**38.87**	**242**	P		**P**	**11 31 19.7**	**+0.2**
STKA	**Stephens Creek**	**38.87**	**242**	P		**P**	**11 31 20.2**	**+0.7**
	comp=Z,6.1nm,0.6s,baz=80,slow=9.7,SNR=12							
	comp=Z,6.1nm,0.6s							
STKA	**Stephens Creek**	**38.87**	**242**	P		**P**	**11 31 20.1**	**+0.6**
INKA	**Innaminka**	**39.04**	**248**	P		**P**	**11 31 21.9**	**+1.0**
BBOO	**Buckleboo**	**43.64**	**241**	P		**P**	**11 31 56.5**	**-0.4**
BBOO				IAmb		IAmb	11 31 57.9	
	comp=Z,17nm,0.8s							
WR0	**Warramunga Arr**	**44.81**	**260**	P		**P**	**11 32 05.3**	**-0.7**
WRA	**Warramunga Arr**	**45.01**	**260**	P		**P**	**11 32 06.6**	**-0.8**
WRA	**Warramunga Arr**	**45.01**	**260**	P		**P**	**11 32 06.7**	**-0.8**
	comp=Z,9.8nm,0.5s,baz=96,slow=7.1,SNR=237							
WRA				PcP		**PcP**	**11 33 34.5**	**+0.5**
	comp=Z,4.6nm,1.2s,baz=91,slow=3.8,SNR=4.8							
	comp=Z,9.8nm,0.5s							
AS01	**Alice Springs**	**45.09**	**255**	P		**P**	**11 32 07.7**	**-0.4**
AS31	**Alice Springs**	**45.13**	**255**	P		**P**	**11 32 08.2**	**-0.2**
AS31				IAmb		IAmb	11 32 08.9	
	comp=Z,5.8nm,0.6s							
ASAR	**Alice Springs**	**45.13**	**255**	P		**P**	**11 32 08.3**	**-0.1**
	comp=Z,27nm,0.7s,baz=93,slow=7.6,SNR=370							
ASAR				PcP		**PcP**	**11 33 34.6**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=102,slow=4.0,SNR=9.7							
	comp=Z,27nm,0.7s							
MTN	**Manton Dam**	**49.23**	**269**	P		**P**	**11 32 38.2**	**-0.7**
MTN				IAmb		IAmb	11 32 39.6	
	comp=Z,23nm,0.9s							
WRKA	**Warakurna**	**50.17**	**252**	P		**P**	**11 32 45.4**	**-0.3**
FORT	**Forrest**	**50.27**	**245**	P		**P**	**11 32 45.3**	**-1.0**
FORT				IAmb		IAmb	11 33 01.1	
	comp=Z,20nm,0.9s							
KNRA	**Kununurra**	**50.89**	**264**	P		**P**	**11 32 50.4**	**-0.6**
KNRA				IAmb		IAmb	11 32 51.4	
	comp=Z,20nm,0.8s							
FAKI	**Fak Fak**	**51.06**	**281**	P		**P**	**11 32 51.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**53.41**	**261**	P		**P**	**11 33 08.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.41**	**261**	P		**P**	**11 33 08.3**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=132,slow=7.8,SNR=17							
	comp=Z,2.2nm,0.3s							
SOEI	**Soe**	**56.51**	**270**	P		**P**	**11 33 31.3**	**+0.8**
SOEI	**Soe**	**56.51**	**270**	P		**P**	**11 33 31.9**	**+1.4**
PSA00	**Pilbara Seismi**	**58.25**	**256**	P		**P**	**11 33 41.1**	**-0.9**
TOLI2	**Tolitoli**	**63.20**	**281**	P		**P**	**11 34 14.8**	**+0.3**
MJAR	**Matsushiro Arr**	**68.41**	**323**	P		**P**	**11 34 46.0**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=159,slow=5.9,SNR=7.0							
	comp=Z,2.2nm,0.7s							
UGM	**Wanagama**	**70.07**	**268**	P		**P**	**11 34 56.1**	**-0.4**
JKA	**Kamikawa-asahi**	**71.75**	**331**	P		**P**	**11 35 07.5**	**+2.0**
JKA				IAmb		IAmb	11 35 39.5	
	comp=Z,15nm,1.2s							
QSPA	**South Pole Qui**	**71.84**	**180**	P		**P**	**11 35 06.8**	**+0.8**
QSPA	**South Pole Qui**	**71.84**	**180**	P		**P**	**11 35 07.0**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=228,slow=0.9,SNR=17							
	comp=Z,1.2nm,0.5s							
YULB	**Yu-li**	**72.30**	**303**	P		**P**	**11 35 08.5**	**-0.8**
YULB				IAmb		IAmb	11 35 09.0	
	comp=Z,6.9nm,0.7s							
TPUB	**Ta-pu**	**72.79**	**302**	P		**P**	**11 35 10.9**	**-1.1**
TPUB				IAmb		I

comp=Z,0.7nm,0.5s,baz=52,slow=3.7,SNR=6.9
EKA Eskdalemuir Ar 142.73 5 PKhKP PKPpre 11 43 05.1
comp=Z,0.3nm,0.4s,baz=356,slow=2.7,SNR=1.6
BRTR Keskin Array B 145.30 315 PKPbc **PKPab 11 43 14.6 -1.3**
comp=Z,2.2nm,0.7s,baz=132,slow=5.0,SNR=13
MMAI Mount Meron Ar 146.67 303 PKPbc **PKiKP 11 43 19.0 -1.1**
comp=Z,1.9nm,0.4s,baz=46,slow=4.2,SNR=2.3
BORA Eskisehir 147.33 317 PKiKP 11 43 19.8 -1.4
GERES GERESS Array B 148.01 345 PKPbc **PKiKP 11 43 21.8 -0.6**
comp=Z,1.7nm,0.7s,baz=27,slow=3.3,SNR=16
CONA Conrad Observa 148.28 342 *i* PKP **PKiKP 11 43 22.8 -0.2**
comp=Z,1.0nm,0.5s
RONA Rosalia, Austr 148.36 342 *i* PKP **PKiKP 11 43 22.9 -0.2**
comp=Z,1.5nm,0.5s
KBA Koelnbreinsper 149.75 345 *i* PKP **PKiKP 11 43 25.4 -0.7**
comp=Z,1.2nm,0.4s
WATA Walderalm 149.92 347 *i* PKP **PKiKP 11 43 26.0 -0.4**
comp=Z,0.6nm,0.3s
WTTA Wattenberg 149.97 347 *i* PKP **PKiKP 11 43 26.4 -0.2**
comp=Z,2.9nm,0.5s
MYKA Terra Mystica 150.09 344 *e*PKP **PKiKP 11 43 26.1 -0.6**
comp=Z,2.4nm,0.4s
SQTA Sankt Quirin 150.10 347 *e*PKP **PKiKP 11 43 26.7 -0.1**
comp=Z,1.7nm,0.4s
ABTA Abfaltersbach 150.26 345 *i* PKP **PKiKP 11 43 26.4 -0.7**
comp=Z,2.6nm,0.6s
FETA Feichten 150.39 348 *i* PKP **PKiKP 11 43 27.5 +0.1**
comp=Z,2.2nm,0.7s
CIMO Cimolais 150.69 345 PKiKP 11 43 27.0 -0.9
FUORN Ofenpass-Fuorn 150.87 348 PKiKP 11 43 28.2 -0.4
FNA Florina 152.03 328 PKiKP 11 43 30.0 -0.9

IDC 07 11:31:06.4±3.3, 19°.01S×177°.87W, h633km±30km, mb3.1/4, mbtmp4.1/5, Error ellipse: s-maj=122.6km s-min=26.3km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.08**	**288**	P	P	11 32 34.8	-0.1
	11nm,0.7s,baz=159,slow=20,SNR=17						
STKA	**Stephens Creek**	**38.56**	**242**	P	P	11 37 37.0	-0.3
	1.7nm,0.7s,baz=78,slow=9.3,SNR=3.7						
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**44.95**	**261**	P	P	11 38 27.2	-0.2
	1.5nm,0.3s,baz=96,slow=7.4,SNR=74						
WRA				PcP	PcP	11 39 54.4	-0.4
	0.5nm,0.9s,baz=93,slow=3.4,SNR=1.8						
	1.5nm,0.3s						
ASAR	**Alice Springs**	**44.99**	**255**	P	P	11 38 28.4	+0.5
	4.9nm,0.6s,baz=91,slow=7.9,SNR=89						
ASAR				PcP	PcP	11 39 54.8	-0.2
	0.3nm,0.4s,baz=104,slow=4.1,SNR=4.5						
	4.9nm,0.6s						
TXAR	**Lajitas Array**	**86.16**	**57**	P	P	11 42 42.6	0.0
	0.3nm,0.6s,baz=218,slow=6.8,SNR=5.0						
	0.3nm,0.6s						

---

*KRSC **07** 11:44:06.8±1.2, 56°.30N×163°.02E, h20km±7km, Mc5.2, Ml4.8, Felt [IV] at Krutoberegovo, HMS Krutoberegovo, Ust-Kamchatsk.*
*MOS **07** 11:44:09.2±1.0, 56°.33N×162°.86E, h24km, mb4.4/11, Error ellipse: s-maj=7.4km s-min=4.1km az=69.3*
*NEIC **07** 11:44:12.4±1.7, 56°.3N±0°.1×162°.7E±0°.1, h38km±10km, mb4.3/70, Error ellipse: s-maj=19.5km s-min=10.2km az=163.0*
*IDC **07** 11:44:14.2±2.1, 56°.22N×162°.61E, h54km±19km, mb3.7/24, mbtmp4.0/30, ML3.8/4, Error ellipse: s-maj=12.8km s-min=10.8km az=119.0*
ISC 07 11:44:09.0±0.8, 56°.31N±0°.03×162°.86E±0°.03, h13km±5km, n472, σ1°17/489, mb4.3/66, 6C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.10**	**236**	PN	**Pg**	**11 44 11.9**	**-0.1**
KBG	**Krutoberegovo**	**0.10**	**236**	*e*P	**Pg**	**11 44 12.0**	**-0.1**
KBG				*e*S	**Sg**	**11 44 14.5**	**+0.3**
KBTR	**Krutoberegovo**	**0.11**	**192**	PN	**Pg**	**11 44 12.1**	**0.0**
KBTR	**Krutoberegovo**	**0.11**	**192**	*e*P	**Pg**	**11 44 12.2**	**0.0**
SMKR	**Semkarok**	**0.82**	**290**	PN	**Pg**	**11 44 24.0**	**-0.9**
SMKR	**Semkarok**	**0.82**	**290**	*e*P	**Pg**	**11 44 24.0**	**-0.9**
ZLN	**Zelenaya**	**1.19**	**256**	PN	**Pn**	**11 44 30.9**	**-0.4**
ZLN	**Zelenaya**	**1.19**	**256**	*e*P	**Pn**	**11 44 31.0**	**-0.4**
CIRR	**Tsirk**	**1.20**	**261**	PN	**Pn**	**11 44 30.7**	**-0.8**
CIRR	**Tsirk**	**1.20**	**261**	*e*P	**Pn**	**11 44 30.7**	**-0.8**
KLY	**Klyuchi**	**1.23**	**271**	PN	**Pn**	**11 44 28.8**	**-3.0**
KLY				S	**Sb**	**11 44 44.7**	**-3.1**
KLY	**Klyuchi**	**1.23**	**271**	*e*P	**Pn**	**11 44 28.9**	**-3.0**
KLY				*e*S	**Sb**	**11 44 44.8**	**-3.1**
LGNR	**Loginova**	**1.23**	**260**	PN	**Pn**	**11 44 31.4**	**-0.8**
LGNR	**Loginova**	**1.23**	**260**	*e*P	**Pn**	**11 44 31.5**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**1.27**	**254**	PN	**Pn**	**11 44 31.7**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**1.27**	**254**	*e*P	**Pn**	**11 44 31.8**	**-0.8**
KRSR	**Krestovskiy**	**1.28**	**267**	PN	**Pn**	**11 44 31.5**	**-1.2**
KRSR	**Krestovskiy**	**1.28**	**267**	*e*P	**Pn**	**11 44 31.5**	**-1.2**
BZWR	**Bezymyannyi-We**	**1.37**	**256**	PN	**Pn**	**11 44 33.2**	**-0.7**
BZWR				S	**Sb**	**11 44 52.4**	**+0.4**
BZWR	**Bezymyannyi-We**	**1.37**	**256**	*e*P	**Pn**	**11 44 33.3**	**-0.7**
BZWR				*e*S	**Sb**	**11 44 52.4**	**+0.4**
KIRR	**Kirishev**	**1.46**	**257**	PN	**Pn**	**11 44 34.5**	**-0.6**
KIRR				S	**Sb**	**11 44 54.4**	**0.0**
KIRR	**Kirishev**	**1.46**	**257**	*e*P	**Pn**	**11 44 34.5**	**-0.6**
KIRR				*e*S	**Sb**	**11 44 54.5**	**0.0**
KPT	**Kopyto**	**1.52**	**258**	PN	**Pn**	**11 44 35.8**	**-0.1**
KPT	**Kopyto**	**1.52**	**258**	*e*P	**Pn**	**11 44 35.8**	**-0.1**
KMNR	**Kamenistaya**	**1.57**	**250**	PN	**Pn**	**11 44 36.9**	**+0.2**
KMNR	**Kamenistaya**	**1.57**	**250**	*e*P	**Pn**	**11 44 36.9**	**+0.2**
KOZ	**Kozyrevsk**	**1.69**	**263**	PN	**Pn**	**11 44 38.6**	**+0.4**
KOZ				S	**Sb**	**11 45 01.9**	**+0.9**
KOZ	**Kozyrevsk**	**1.69**	**263**	*e*P	**Pn**	**11 44 38.6**	**+0.4**
KOZ				*e*S	**Sb**	**11 45 01.9**	**+0.9**
SRDR	**Sredinnyy**	**1.75**	**271**	PN	**Pn**	**11 44 39.5**	**+0.4**
SRDR	**Sredinnyy**	**1.75**	**271**	*e*P	**Pn**	**11 44 39.5**	**+0.4**
TUMD	**Tumrok D**	**1.78**	**232**	PN	**Pn**	**11 44 39.5**	**+0.1**
TUMD				S	**Sb**	**11 45 03.0**	**-0.7**
TUMD	**Tumrok D**	**1.78**	**232**	*e*P	**Pn**	**11 44 39.6**	**+0.1**
TUMD				*e*S	**Sb**	**11 45 03.1**	**-0.7**
BKI	**Bering**	**2.08**	**121**	PN	**Pn**	**11 44 42.2**	**-1.3**
BKI				S	**Sn**	**11 45 08.4**	**-0.8**
BKI	**Bering**	**2.08**	**121**	*e*P	**Pn**	**11 44 42.2**	**-1.3**
BKI				*e*S	**Sn**	**11 45 08.5**	**-0.8**
ESO	**Esso**	**2.36**	**262**	PN	**Pn**	**11 44 47.7**	**+0.3**
ESO	**Esso**	**2.36**	**262**	*e*P	**Pn**	**11 44 47.8**	**+0.3**
OSSR	**Ossora**	**2.95**	**2**	PN	**Pn**	**11 44 55.2**	**-0.2**
OSSR				S	**Sn**	**11 45 29.6**	**-0.9**
OSSR	**Ossora**	**2.95**	**2**	*e*P	**Pn**	**11 44 55.3**	**-0.2**
OSSR				*e*S	**Sn**	**11 45 29.6**	**-0.9**
PALN	**Palana**	**3.19**	**332**	PN	**Pn**	**11 44 59.4**	**+0.7**
PALN	**Palana**	**3.19**	**332**	*e*P	**Pn**	**11 44 59.4**	**+0.7**
SPN	**Mys Shipunski**	**3.62**	**208**	PN	**Pn**	**11 45 04.6**	**0.0**
SPN	**Mys Shipunski**	**3.62**	**208**	*e*P	**Pn**	**11 45 04.6**	**0.0**
SPN				*e*S	**Sn**	**11 45 46.7**	**-0.5**
NLC	**Nalytchevo**	**3.75**	**214**	PN	**Pn**	**11 45 07.3**	**+0.9**
NLC				S	**Sn**	**11 45 51.2**	**+0.8**
NLC	**Nalytchevo**	**3.75**	**214**	*e*P	**Pn**	**11 45 07.3**	**+0.9**
NLC				*e*S	**Sn**	**11 45 51.3**	**+0.8**
KRX	**Arik**	**3.83**	**221**	PN	**Pn**	**11 45 09.6**	**+1.9**
KRX	**Arik**	**3.83**	**221**	*e*P	**Pn**	**11 45 09.6**	**+1.9**
GNL	**Ganaly**	**3.86**	**229**	PN	**Pn**	**11 45 09.3**	**+1.2**
GNL	**Ganaly**	**3.86**	**229**	*e*P	**Pn**	**11 45 09.3**	**+1.2**
AVH	**Avacha**	**3.88**	**220**	PN	**Pn**	**11 45 10.5**	**+2.3**
AVH	**Avacha**	**3.88**	**220**	*e*P	**Pn**	**11 45 10.6**	**+2.3**
KOK	**Koryaka**	**3.89**	**221**	PN	**Pn**	**11 45 10.6**	**+2.1**
KOK	**Koryaka**	**3.89**	**221**	*e*P	**Pn**	**11 45 10.7**	**+2.1**
UGLR	**Uglovaya**	**3.89**	**219**	PN	**Pn**	**11 45 10.6**	**+2.1**
UGLR	**Uglovaya**	**3.89**	**219**	*e*P	**Pn**	**11 45 10.6**	**+2.1**
DALK	**Dalny**	**4.06**	**218**	PN	**Pn**	**11 45 11.5**	**+0.8**
DALK				S	**Sn**	**11 46 00.0**	**+2.0**
DALK	**Dalny**	**4.06**	**218**	*e*P	**Pn**	**11 45 11.6**	**+0.8**
DALK				*e*S	**Sn**	**11 46 00.1**	**+2.0**
PET	**Petropavlovsk**	**4.10**	**218**		**Pn**	**11 45 12.1**	**+0.8**
PET	**Petropavlovsk**	**4.10**	**218**	*e*PN	**Pn**	**11 45 13.6**	**+2.3**
PET				*e*S	**Sn**	**11 46 01.7**	**+2.6**
PET				pmax	pmax		
	comp=Z,334nm,0.9s						
PET				smax	smax		
	comp=E,461nm,0.7s						
PET				MLR	MLR		
	comp=Z,300nm,5.0s						
PET	**Petropavlovsk**	**4.10**	**218**	*e*P	**Pn**	**11 45 12.6**	**+1.3**
PET				*e*S	**Sn**	**11 46 01.3**	**+2.2**
PEA0B	**Petropavlovsk-**	**4.39**	**225**		**Pn**	**11 45 16.8**	**+1.5**
PEA0B	**Petropavlovsk-**	**4.39**	**225**	PN	**Pn**	**11 45 16.8**	**+1.5**
PETK	**Petropavlovsk-**	**4.39**	**225**		**Pn**	**11 45 15.7**	**+0.5**
PETK	**Petropavlovsk-**	**4.39**	**225**	P	**Pn**	**11 45 16.5**	**+1.2**
	comp=Z,6.0nm,0.3s,baz=58,slow=15,SNR=28						
PETK				S	**Sn**	**11 46 04.2**	**-2.0**
	comp=Z,31nm,0.8s,baz=63,slow=14,SNR=1.7						
	comp=Z,29nm,0.6s						
KRMR	**Karymshinskiy**	**4.45**	**220**	PN	**Pn**	**11 45 18.2**	**+2.2**
KRMR				S	**Sb**	**11 46 15.0**	**-5.3**
KRMR	**Karymshinskiy**	**4.45**	**220**	*e*P	**Pn**	**11 45 18.3**	**+2.2**
KRMR				*e*S	**Sb**	**11 46 15.0**	**-5.3**
TILK	**Tilichiki**	**4.49**	**21**	PN	**Pn**	**11 45 17.7**	**+1.1**
TILK	**Tilichiki**	**4.49**	**21**	*e*P	**Pn**	**11 45 17.8**	**+1.1**
RUS	**Russkaya**	**4.64**	**215**	PN	**Pn**	**11 45 19.8**	**+1.1**
RUS	**Russkaya**	**4.64**	**215**	*e*P	**Pn**	**11 45 19.8**	**+1.1**
RUS				*e*S	**Sn**	**11 46 12.8**	**+0.3**
GRL	**Gorelyy**	**4.69**	**219**	PN	**Pn**	**11 45 22.9**	**+3.4**
GRL	**Gorelyy**	**4.69**	**219**	*e*P	**Pn**	**11 45 23.0**	**+3.4**
APC	**Apacha**	**4.74**	**227**	PN	**Pn**	**11 45 21.8**	**+1.7**
APC	**Apacha**	**4.74**	**227**	*e*P	**Pn**	**11 45 21.9**	**+1.7**
PAU	**Pauzhetka**	**6.03**	**219**	PN	**Pn**	**11 45 39.8**	**+2.1**
PAU	**Pauzhetka**	**6.03**	**219**	*e*P	**Pn**	**11 45 39.8**	**+2.1**
KMSK	**Kamenskaya**	**6.40**	**14**	PN	**Pn**	**11 45 44.8**	**+2.0**
KMSK	**Kamenskaya**	**6.40**	**14**	*e*P	**Pn**	**11 45 44.8**	**+2.0**
KMSK				*e*S	**Sn**	**11 46 55.7**	**0.0**
MA2	**Magadan**	**7.22**	**302**	P	**Pn**	**11 45 57.3**	**+3.3**
	comp=Z,0.3nm,0.3s,baz=135,slow=16,SNR=2.0						
MA2				S	**Sn**	**11 47 17.2**	**+1.5**
	comp=Z,11nm,0.8s,baz=188,slow=9.8,SNR=3.6						
	comp=Z,2.8nm,0.6s						
SMY	**Shemya**	**7.46**	**114**	Pn	**Pn**	**11 45 59.8**	**+2.4**
SMY	**Shemya**	**7.46**	**114**	PN	**Pn**	**11 45 59.8**	**+2.4**
SEY	**Seymchan**	**8.49**	**326**	P	**Pn**	**11 46 14.0**	**+2.6**
	comp=Z,0.3nm,0.2s,baz=66,slow=18,SNR=1.8						
SEY				S	**Sn**	**11 47 51.4**	**+4.4**
	comp=Z,2.4nm,0.7s,baz=6.4,slow=22,SNR=1.5						
BILL	**Bilibino**	**11.87**	**6**	*i* PN	**Pn**	**11 47 00.5**	**+2.8**
ATKA	**Atka Island**	**14.00**	**97**	Pn	**Pn**	**11 47 25.5**	**-1.3**
GAMB	**Gambell**	**14.65**	**49**	P	**Pn**	**11 47 35.7**	**+0.1**
	baz=251						
SPIA	**Saint Paul Isl**	**14.74**	**75**	P	**Pn**	**11 47 37.7**	**+0.7**
	baz=278						
P08K	**Saint George I**	**15.22**	**77**	P	**Pn**	**11 47 44.4**	**+1.1**
	baz=281						
YSS	**Yuzhno-Sakhali**	**15.55**	**241**	*e*P	**P**	**11 47 49.9**	**-2.1**
YSS				MLR	MLR		
	comp=Z,500nm,13.0s						
M11K	**Mekoryuk**	**16.65**	**63**	P	**Pn**	**11 48 02.3**	**+0.6**
	baz=270						
NIKH	**Nikolski High**	**16.65**	**90**	P	**Pn**	**11 48 01.6**	**-0.2**
	baz=293						
TNA	**Tin City**	**16.78**	**45**	P	**Pn**	**11 48 02.8**	**-0.5**
	baz=251						
F14K	**Arctic Creek**	**17.38**	**46**	P	**Pn**	**11 48 11.0**	**+0.1**
	baz=253						
K13K	**Kusilvak Mount**	**17.46**	**58**	Pn	**P**	**11 48 12.5**	**-0.5**
K13K	**Kusilvak Mount**	**17.46**	**58**	P	**Pn**	**11 48 12.1**	**+0.2**
	baz=266						
ANM	**Nome**	**17.54**	**49**	P	**Pn**	**11 48 13.0**	**+0.2**
	baz=257						
UNV	**Unalaska Valle**	**17.64**	**85**	P	**Pn**	**11 48 14.2**	**0.0**
	baz=290						
JKA	**Kamikawa-asahi**	**17.72**	**235**	P	**Pn**	**11 48 15.0**	**-0.3**
JKA				IAmb	IAmb	11 48 18.1	
	comp=Z,36nm,1.2s						
ASAJ	**Asahikawa**	**17.72**	**235**	P	**Pn**	**11 48 14.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=105,slow=10.0,SNR=6.1						
	comp=Z,21nm,1.1s						
ASAJ	**Asahikawa**	**17.72**	**235**	P	**Pn**	**11 48 15.0**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,36nm,1.2s						
YAK	**Yakutsk**	**17.79**	**302**	P	**Pn**	**11 48 15.8**	**-0.2**
	comp=Z,21nm,0.4s,baz=70,slow=5.0,SNR=9.6						
YAK	**Yakutsk**	**17.79**	**302**	*e*P	**Pn**	**11 48 15.5**	**-0.5**
YAK				*e*S	**Sn**	**11 51 33.2**	**-0.6**
YAK				pmax	pmax		
	comp=Z,15nm,0.6s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,15nm,1.0s						
YAK				smax	smax		
	comp=N,21nm,3.0s						
YAK				smax	smax		
	comp=E,50nm,4.2s						
J14K	**Nanvaranak Lak**	**18.04**	**55**	P	**P**	**11 48 19.4**	**0.0**
	baz=265						
M13K	**Dall Lake**	**18.06**	**63**	P	**P**	**11 48 20.4**	**+0.7**
	baz=272						
F15K	**North Star Dit**	**18.12**	**46**	P	**Pn**	**11 48 20.1**	**+0.1**
	baz=254						
G15K	**Niukluk**	**18.19**	**48**	P	**Pn**	**11 48 20.7**	**-0.1**
	baz=257						
M14K	**Bethel**	**18.74**	**62**	P	**P**	**11 48 26.4**	**-0.7**
	baz=272						
C16K	**Lisburne Hills**	**18.74**	**38**	P	**P**	**11 48 26.5**	**-0.6**
	baz=246						
H16K	**Elim**	**18.88**	**50**	P	**P**	**11 48 28.3**	**-0.3**
	baz=260						
N14K	**Kuskokwak Cree**	**18.92**	**64**	P	**Pn**	**11 48 30.2**	**+0.5**
N14K	**Kuskokwak Cree**	**18.92**	**64**	P	**P**	**11 48 29.1**	**0.0**
	baz=275						
K15K	**Wolf Creek Mou**	**18.95**	**57**	P	**Pn**	**11 48 30.5**	**+0.5**
K15K	**Wolf Creek Mou**	**18.95**	**57**	P	**Pn**	**11 48 29.8**	**-0.3**
	baz=268						
L15K	**Ungalak Mounta**	**18.95**	**59**	P	**Pn**	**11 48 30.0**	**-0.2**
	baz=270						
G16K	**Koyuk River**	**18.97**	**47**	P	**Pn**	**11 48 30.6**	**+0.3**
	baz=258						
FALS	**False Pass**	**19.01**	**80**	P	**Pn**	**11 48 30.8**	**-0.1**
	baz=288						
D17K	**Noatak River**	**19.32**	**40**	P	**Pn**	**11 48 34.3**	**-0.2**
	baz=251						
M15K	**Kasigluk River**	**19.36**	**62**	P	**Pn**	**11 48 34.8**	**-0.3**
	baz=273						
J16K	**Anvik River**	**19.43**	**54**	P	**Pn**	**11 48 36.0**	**+0.1**
J16K				IAmb	IAmb	11 49 02.1	
	comp=Z,24nm,1.4s						
J16K	**Anvik River**	**19.43**	**54**	P	**P**	**11 48 35.2**	**+0.5**
	baz=266						
I17K	**Unalakleet**	**19.44**	**52**	P	**P**	**11 48 35.2**	**+0.4**
	baz=264						
E17K	**Hotham Inlet**	**19.59**	**42**	P	**P**	**11 48 36.4**	**0.0**
	baz=254						
F17K	**Baldwin Pennin**	**19.65**	**44**	P	**P**	**11 48 37.1**	**+0.1**
	baz=256						
G17K	**Kiwalik Mounta**	**19.69**	**47**	P	**P**	**11 48 37.6**	**+0.1**
	baz=260						
N15K	**Kwethluk River**	**19.70**	**63**	P	**Pn**	**11 48 38.4**	**-0.7**
N15K				IAmb	IAmb	11 49 10.9	
	comp=Z,18nm,1.1s						
N15K	**Kwethluk River**	**19.70**	**63**	P	**P**	**11 48 37.8**	**+0.1**
	baz=275						
H17K	**Granite Mounta**	**19.91**	**49**		**P**	**11 48 39.9**	**+0.1**
H17K				IAmb	IAmb	11 48 49.5	
	comp=Z,12nm,0.9s						
H17K	**Granite Mounta**	**19.91**	**49**	P	**P**	**11 48 39.8**	**-0.1**
	baz=262						
L16K	**Owhat River**	**19.91**	**59**	P	**Pn**	**11 48 41.1**	**-0.6**
L16K				IAmb	IAmb	11 49 20.7	
	comp=Z,22nm,1.5s						
L16K	**Owhat River**	**19.91**	**59**	P	**P**	**11 48 39.4**	**-0.6**
	baz=272						
O15K	**Ungalikthiuk R**	**19.95**	**66**	P	**P**	**11 48 39.6**	**-0.8**
	baz=278						
KLR	**Kul'dur**	**19.98**	**262**	P	**P**	**11 48 40.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=63,slow=9.6,SNR=9.1						
	comp=Z,2.7nm,0.7s						
KLR	**Kul'dur**	**19.98**	**262**	*ce*P	**P**	**11 48 40.0**	**-0.8**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
J17K	**VABM Dome**	**20.12**	**54**	P	**P**	**11 48 41.3**	**-0.9**
	baz=267						
E18K	**Tukpahlearik C**	**20.14**	**42**	P	Pn	11 48 44.0	-0.3
E18K	**Tukpahlearik C**	**20.14**	**42**	P	**P**	**11 48 42.2**	**-0.2**
	baz=255						
M16K	**Timber Creek**	**20.19**	**61**	P	**P**	**11 48 42.7**	**-0.3**
	baz=274						
C18K	**Utukok River**	**20.30**	**38**	P	Pn	11 48 45.8	-0.4
C18K				IAmb	IAmb	11 48 51.5	
	comp=Z,11nm,0.8s						
C18K	**Utukok River**	**20.30**	**38**	P	**P**	**11 48 44.0**	**-0.2**
	baz=251,SNR=13						
F18K	**Selawik**	**20.31**	**44**	P	**P**	**11 48 44.7**	**+0.5**
	baz=258,SNR=5.5						
N16K	**Nishlik Lake**	**20.32**	**62**	P	**P**	**11 48 45.5**	**+1.0**
	baz=275						
B18K	**Kokolik River**	**20.35**	**36**	P	**P**	**11 48 44.3**	**-0.4**
	baz=248,SNR=7.1						
ZEA	**Zeya**	**20.43**	**278**	*e*P	Pn	11 48 48.5	+0.7
K17K	**Iditarod**	**20.45**	**56**	P	**P**	**11 48 46.8**	**+1.0**
K17K				IAmb	IAmb	11 48 54.3	
	comp=Z,17nm,0.8s						
K17K	**Iditarod**	**20.45**	**56**	P	**P**	**11 48 46.6**	**+0.7**
	baz=270,SNR=6.7						
L17K	**Donlin**	**20.46**	**57**	P	**P**	**11 48 46.4**	**+0.5**
	baz=271						
SDPT	**Sand Point**	**20.46**	**77**	P	**P**	**11 48 46.6**	**+0.7**
	baz=288						
G18K	**Tagagawik**	**20.57**	**47**	P	Pn	11 48 49.2	-0.1
G18K	**Tagagawik**	**20.57**	**47**	P	**P**	**11 48 47.2**	**+0.1**
	baz=261						
H18K	**Honhosa River**	**20.59**	**49**	P	Pn	11 48 49.0	-0.6
H18K	**Honhosa River**	**20.59**	**49**	P	**P**	**11 48 47.4**	**+0.2**
	baz=263						
S14K	**Fog Glacier**	**20.69**	**74**	P	**P**	**11 48 48.4**	**-0.2**
	baz=286						
O16K	**Kokwok River B**	**20.77**	**65**	P	**P**	**11 48 48.9**	**-0.4**
	baz=278						
M17K	**Holitna River**	**20.90**	**59**		Pn	11 48 52.7	-0.5
M17K				IAmb	IAmb	11 48 58.2	
	comp=Z,12nm,0.8s						
M17K	**Holitna River**	**20.90**	**59**	P	**P**	**11 48 50.9**	**+0.2**
	baz=274						
A19K	**Wainwright**	**20.91**	**34**	P	**P**	**11 48 50.8**	**+0.1**
	baz=247,SNR=21						
TIXI	**Tiksi**	**20.94**	**330**		**P**	**11 48 51.6**	**+0.6**
TIXI	**Tiksi**	**20.94**	**330**	P	Pn	11 48 52.4	-1.2
	comp=Z,3.2nm,0.3s,baz=124,slow=13,SNR=11						
	comp=Z,3.2nm,0.3s						
TIXI	**Tiksi**	**20.94**	**330**	*ce*P	Pn	11 48 52.8	-0.8
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
F19K	**Shaleruckik Mo**	**21.09**	**44**	P	**P**	**11 48 52.4**	**-0.2**
	baz=260						
N17K	**Nushagak Hills**	**21.10**	**62**	P	**P**	**11 48 52.8**	**-0.1**
	baz=276						
CHNA	**Chernabura Isl**	**21.11**	**78**	P	**P**	**11 48 53.8**	**+0.8**
	baz=290						
GCSA	**Galena City Sc**	**21.17**	**50**	P	**P**	**11 48 53.8**	**+0.2**
	baz=266,SNR=5.5						
J18K	**Innoko River**	**21.18**	**54**		**P**	**11 48 54.3**	**+0.5**
J18K	**Innoko River**	**21.18**	**54**	P	**P**	**11 48 53.4**	**-0.4**
	baz=269						
L18K	**Granite Mounta**	**21.21**	**57**	P	**P**	**11 48 53.7**	**-0.3**
	baz=272						
O17K	**Koliganek Bris**	**21.24**	**64**	P	**P**	**11 48 54.7**	**+0.4**
	baz=278						
G19K	**Purcell Mounta**	**21.24**	**46**	P	**P**	**11 48 56.2**	**+1.8**
G19K				IAmb	IAmb	11 49 04.0	
	comp=Z,7.9nm,0.8s						
G19K	**Purcell Mounta**	**21.24**	**46**	P	**P**	**11 48 54.0**	**-0.3**
	baz=262						
CHGN	**Chignik**	**21.30**	**74**	P	**P**	**11 48 55.7**	**+0.7**
	baz=286						
D19K	**Kuna River**	**21.33**	**40**	P	**P**	**11 48 56.0**	**+0.6**
D19K				IAmb	IAmb	11 49 04.8	
	comp=Z,10.0nm,0.8s						
D19K	**Kuna River**	**21.33**	**40**	P	**P**	**11 48 54.9**	**-0.5**
	baz=255						
E19K	**Redstone River**	**21.41**	**43**	P	**P**	**11 48 56.0**	**-0.2**
	baz=258,SNR=7.8						
H19K	**Roundabout Mou**	**21.43**	**48**		**P**	**11 48 56.3**	**+0.1**
H19K				IAmb	IAmb	11 49 05.6	
	comp=Z,12nm,0.8s						
H19K	**Roundabout Mou**	**21.43**	**48**	P	**P**	**11 48 55.9**	**-0.4**
	baz=264,SNR=13						
TTA	**Tatalina**	**21.50**	**55**	P	**P**	**11 48 57.1**	**-0.1**
	baz=271						
Q16K	**King Salmon**	**21.65**	**67**	P	**P**	**11 48 58.9**	**+0.2**
	baz=281						
P17K	**Kvichak River**	**21.66**	**65**	P	**P**	**11 48 58.8**	**0.0**
	baz=280						
M18K	**Stony River**	**21.67**	**59**	P	**P**	**11 48 59.4**	**+0.4**
	baz=275						
J19K	**Poorman**	**21.68**	**52**	P	**P**	**11 48 59.1**	**0.0**
J19K	**Poorman**	**21.68**	**52**	P	**P**	**11 48 59.7**	**+0.6**
	baz=269						
N18K	**Kilae Creek**	**21.72**	**61**	P	**P**	**11 48 59.9**	**+0.4**
	baz=277						
F20K	**Avaraart Lake**	**21.92**	**44**	P	**P**	**11 49 01.4**	**-0.2**
	baz=261						
D20K	**Etivluk River**	**21.92**	**39**	P	**P**	**11 49 01.6**	**0.0**
	baz=256,SNR=23						
L19K	**White Mountain**	**22.07**	**57**	P	**P**	**11 49 03.8**	**+0.5**
	baz=274						
H20K	**Anotleneega Mo**	**22.07**	**

baz=256
SPCR Spurr Chakacha 23.43 59 P P 11 49 17.1 -0.5
baz=278
SII Sitkinak Islan 23.47 71 P P 11 49 17.8 -0.1
baz=288
H22K Ishtalitna Cre 23.54 47 P P 11 49 18.0 -0.6
baz=268
G22K Bettles 23.55 45 P P 11 49 18.0 -0.6
baz=266
E22K Anaktuvuk Pass 23.56 42 P P 11 49 19.0 +0.3
E22K IAmb IAmb 11 49 25.1
comp=Z,12nm,0.9s
E22K Anaktuvuk Pass 23.56 42 P P 11 49 18.8 +0.1
baz=263,SNR=16
STLK Strandline Lak 23.57 59 P P 11 49 19.4 +0.4
SKT Skwentna 23.65 57 P P 11 49 20.8 +1.2
SKT Skwentna 23.65 57 P P 11 49 19.7 +0.1
baz=277
BPAW Bear Paw Mtn. 23.72 52 P P 11 49 20.2 -0.1
baz=273
OHAK Old Harbor 23.75 69 P P 11 49 20.4 -0.2
baz=287
Q20K Shuyak Island 23.84 66 P P 11 49 22.1 +0.7
baz=284
KDAK Kodiak Island 23.95 68 P P 11 49 22.3 -0.3
baz=286
HOM Homer 23.98 63 P P 11 49 21.4 -1.3
baz=282
TRF Thorofare Moun 24.07 54 P 11 49 22.6 -1.2
TRF Thorofare Moun 24.07 54 P P 11 49 23.5 -0.3
baz=275,SNR=9.6
COLD Coldfoot 24.08 44 P P 11 49 24.1 +0.4
COLD IAmb IAmb 11 49 30.6
comp=Z,12nm,0.8s
COLD Coldfoot 24.08 44 P P 11 49 23.1 -0.5
baz=266,SNR=22
D23K Nanushuk River 24.09 40 P P 11 49 23.7 0.0
D23K IAmb IAmb 11 49 31.0
comp=Z,6.5nm,0.8s
D23K Nanushuk River 24.09 40 P P 11 49 23.1 -0.6
baz=262
SUA Susitna One 24.09 58 P P 11 49 23.5 -0.4
baz=279
G23K Bananza Creek 24.12 45 P P 11 49 25.2 +1.1
G23K IAmb IAmb 11 49 31.1
comp=Z,8.2nm,0.8s
G23K Bananza Creek 24.12 45 P P 11 49 23.5 -0.6
baz=268
CUT Chulitna 24.18 56 P P 11 49 25.2 +0.5
baz=277
CNPM China Poot 24.21 63 P P 11 49 24.2 -0.7
C23K Itkillik River 24.25 38 P P 11 49 26.6 +1.4
C23K Itkillik River 24.25 38 P P 11 49 25.8 +0.7
baz=260
H23K Yukon River 24.30 48 P P 11 49 25.7 0.0
baz=270
M22K Willow 24.34 58 P P 11 49 26.5 +0.4
baz=279
E23K Chandalar 24.37 42 P P 11 49 25.7 -0.7
baz=265,SNR=27
BWN Browne 24.38 52 P P 11 49 27.3 +0.9
I23K Minto, Yukon-K 24.38 49 P P 11 49 27.2 +0.8
I23K Minto, Yukon-K 24.38 49 P P 11 49 26.9 +0.4
baz=272,SNR=10.0
BRSE Bradley Lake S 24.41 63 P P 11 49 27.4 +0.6
baz=283
BNX BinXian 24.41 259 ⇑P P 11 49 29.6 +2.7
BNX pmax pmax
comp=Z,5.0nm,0.8s
TOLK Toolik Lake Re 24.44 41 P P 11 49 28.3 +1.3
TOLK Toolik Lake Re 24.44 41 P P 11 49 26.6 -0.4
baz=264,SNR=41
NEA2 Nenana 24.53 51 P P 11 49 28.7 +0.9
baz=273
RC01 Rabbit Creek A 24.63 59 P P 11 49 29.3 +0.6
baz=280
MCK McKinley 24.65 53 P 11 49 29.8 +0.9
MCK IAmb IAmb 11 50 05.7
comp=Z,15nm,1.3s
MCK McKinley 24.65 53 P P 11 49 29.8 +0.9
MCK pmax pmax
comp=Z,15nm,1.3s
MCK McKinley 24.65 53 P P 11 49 28.7 -0.2
baz=275
RND Reindeer 24.72 53 P 11 49 29.1 -0.5
RND IAmb IAmb 11 49 36.5
comp=Z,7.1nm,0.6s
RND Reindeer 24.72 53 P P 11 49 29.1 -0.5
RND pmax pmax
comp=Z,7.0nm,0.6s
O22K Cooper Landing 24.75 61 P P 11 49 29.7 -0.2
baz=282
D24K Happy Valley 24.77 40 P P 11 49 31.1 +1.1
D24K Happy Valley 24.77 40 P P 11 49 29.6 -0.3
baz=264,SNR=20
E24K Your Creek 24.79 42 P P 11 49 31.3 +1.1
baz=266
PMR Palmer 24.83 58 P P 11 49 30.2 -0.3
baz=280
C24K Franklin Bluff 24.89 38 P P 11 49 31.1 +0.1
baz=262
WRH Wood River Hil 24.96 51 P P 11 49 31.8 +0.1
WRH IAmb IAmb 11 49 38.2
comp=Z,11nm,0.8s
SEW Seward 24.96 61 P P 11 49 31.6 -0.1
baz=283
H24K Noodor Dome 24.98 48 P P 11 49 32.8 +0.9
H24K IAmb IAmb 11 49 41.3
comp=Z,6.9nm,0.9s
H24K Noodor Dome 24.98 48 P P 11 49 31.9 0.0
baz=272
F24K Squaw Lake 24.99 44 P P 11 49 32.6 +0.7
baz=268
COLA College 25.04 50 P P 11 49 33.4 +1.1
baz=274
CCB Clear Creek Bu 25.07 50 P P 11 49 32.4 -0.3
G24K Hadweenzic Riv 25.14 46 P P 11 49 33.6 +0.4
baz=270,SNR=14
SML Sawmill 25.17 57 P 11 49 33.9 +0.2
SML Sawmill 25.17 57 P P 11 49 34.8 +1.1
baz=280
KNK Knik Glacier 25.18 58 P P 11 49 35.1 +1.4
baz=281
POKR Poker Plat Res 25.20 49 P P 11 49 34.5 +0.6
baz=274
PWL Port Wells 25.35 59 P P 11 49 34.3 -0.9
PWL Port Wells 25.35 59 P P 11 49 35.4 +0.1
baz=282
IL31 25.45 50 P P 11 49 36.3 +0.2
IL31 IAmb IAmb 11 49 45.2
comp=Z,9.9nm,0.9s
ILAR Eielson Array 25.45 50 P P 11 49 36.7 +0.6
ILAR Eielson Array 25.45 50 P P 11 49 36.4 +0.2
comp=Z,2.0nm,0.8s,baz=257,slow=7.8,SNR=25
comp=Z,2.0nm,0.8s
ILAR Eielson Array 25.45 50 P P 11 49 36.7 +0.6
HDA Harding Lake 25.46 51 P P 11 49 36.4 +0.2
baz=275,SNR=5.2
M23K Glacier View 25.46 57 P P 11 49 37.1 +0.9
baz=280
SCM Sheep Creek Mo 25.64 57 P P 11 49 38.8 +0.8
SCM Sheep Creek Mo 25.64 57 P P 11 49 38.8 +0.8
SCM pmax pmax
comp=Z,33nm,0.7s
SCM Sheep Creek Mo 25.64 57 P P 11 49 37.3 -0.7
baz=280,SNR=6.4
D25K Kavik River 25.66 39 P P 11 49 38.5 +0.5
baz=266
G25K Bearman Lake 25.68 45 P P 11 49 38.5 +0.4
baz=271
H25L Birch Creek 25.81 47 P P 11 49 40.1 +0.7
baz=272
MJB9 Matsu-Tunnel 25.83 230 P P 11 49 39.3 -0.4
MAJO Matsushiro 25.83 230 *i*P P 11 49 39.4 -0.4
MAJO pmax pmax
comp=Z,2.0nm,0.7s
MJAR Matsushiro Arr 25.83 230 P P 11 49 38.2 -1.6
comp=Z,2.7nm,0.9s,baz=25,slow=8.3,SNR=9.5
comp=Z,2.7nm,0.9s
F25K Christian Rive 25.85 43 P P 11 49 41.1 +1.3
baz=270
E25K Arctic Village 25.89 42 P P 11 49 41.5 +1.4
E25K IAmb IAmb 11 49 48.4
comp=Z,6.2nm,0.9s
E25K Arctic Village 25.89 42 P P 11 49 40.4 +0.3
baz=269
GLI Glacier Island 25.94 59 P P 11 49 39.9 -0.6
baz=283
PRP Porcupine Dome 25.97 48 P P 11 49 42.2 +1.2
PRP IAmb IAmb 11 49 47.9
comp=Z,9.0nm,0.9s
PRP Porcupine Dome 25.97 48 P P 11 49 40.7 -0.3
baz=274,SNR=11
P23K Montague Islan 25.99 61 P P 11 49 41.5 +0.5
baz=284
FYU Fort Yukon 26.03 46 P P 11 49 42.9 +1.5
K24K Donnelly Dome 26.04 52 P P 11 49 41.3 -0.2
baz=278
J25K Salcha River, 26.12 50 P P 11 49 42.1 -0.1
J25K Salcha River, 26.12 50 P P 11 49 42.5 +0.3
baz=276
C26K Camden Bay 26.21 38 P P 11 49 43.5 +0.5
baz=266
BMAR Burnt Mountain 26.26 44 P P 11 49 44.6 +1.0
PAX Paxson 26.30 54 P P 11 49 44.1 +0.2
baz=280
KLU Klutina 26.36 57 P P 11 49 44.7 +0.2
baz=282
F26K Sheenjek River 26.43 43 P P 11 49 46.0 +1.1
F26K Sheenjek River 26.43 43 P P 11 49 44.5 -0.4
baz=271,SNR=5.5
RIDG Independent Ri 26.45 52 P P 11 49 44.8 -0.5
RIDG IAmb IAmb 11 49 51.6
comp=Z,16nm,1.4s
RIDG Independent Ri 26.45 52 P P 11 49 44.9 -0.4
baz=278
HARP HAARP 26.54 55 P P 11 49 45.2 -0.8
baz=281
G26K Porcupine Rive 26.59 45 P P 11 49 45.9 -0.5
baz=273
C27K Jago River 26.61 39 P P 11 49 47.0 +0.4
baz=268
EYAK Cordova Ski Ar 26.66 59 P P 11 49 47.1 +0.1
baz=284
SCRK Sand Creek 26.80 52 P P 11 49 47.4 -1.0
SCRK IAmb IAmb 11 49 53.8
comp=Z,7.7nm,0.8s
SCRK Sand Creek 26.80 52 P P 11 49 47.8 -0.6
baz=279,SNR=9.3
DOT Dot Lake 26.81 52 P P 11 49 48.4 -0.1
DOT IAmb IAmb 11 49 54.8
comp=Z,4.6nm,0.7s
J26L Joseph Creek 26.91 50 P P 11 49 49.4 0.0
baz=278
N25K Chitina, Valde 26.96 57 P P 11 49 48.9 -1.0
baz=283
I26K Coal Creek Min 26.98 49 P P 11 49 48.9 -1.0
baz=277
BMRM Bremner River 27.10 58 P P 11 49 51.2 +0.1
baz=284
L26K Log Cabin Wild 27.24 54 P P 11 49 51.8 -0.5
baz=281
E27K Coleen River 27.38 42 P P 11 49 53.6 +0.1
baz=272
G27K Doyon Strip 27.44 45 P P 11 49 54.0 -0.1
baz=275
KAIM Kayak Island 27.46 60 P P 11 49 53.8 -0.5
baz=286
M26K Nabesna, AK 27.52 55 P P 11 49 56.7 +1.8
M26K IAmb IAmb 11 50 06.5
comp=Z,6.5nm,1.1s
M26K Nabesna, AK 27.52 55 P P 11 49 54.6 -0.3
baz=282
H27K Steamboat Moun 27.54 46 P P 11 49 55.4 +0.3
baz=276,SNR=6.3
D27M Malcolm River 27.58 40 P P 11 49 55.8 +0.5
baz=271
I27K Kandik River 27.58 48 P P 11 49 55.9 +0.5
baz=277
K27K Chicken 27.62 51 P P 11 49 56.2 +0.5
baz=280
L27K Beaver Creek, 27.91 53 P P 11 49 58.8 +0.5
baz=282
M27K Edge Creek, AK 28.04 55 P P 11 49 59.2 -0.4
baz=283
E28M Babbage River 28.12 41 P P 11 50 02.4 +2.3
E28M IAmb IAmb 11 50 08.0
comp=Z,8.8nm,1.4s
E28M Babbage River 28.12 41 P P 11 49 59.3 -0.8
baz=274
I28M Miner Creek 28.30 48 P P 11 50 02.1 +0.2
baz=279
D28M Stokes Point 28.37 40 P P 11 50 02.2 -0.1
baz=273
BVCY Beaver Creek 28.49 54 P P 11 50 03.4 -0.1
baz=284
MESA MESA 28.57 59 P P 11 50 03.8 -0.7
baz=287
E29M Blow River 28.73 41 P P 11 50 05.1 -0.5
baz=275
DAWY Dawson 28.77 51 P P 11 50 06.2 +0.2
baz=282
H29M Whitestone 28.82 46 P P 11 50 05.3 -1.1
baz=279
YUK3 Moose Creek 28.83 55 P P 11 50 05.5 -1.2
baz=285
G29M Pine Creek 28.85 45 P P 11 50 05.7 -1.0
baz=278
O28M Mount Upton 29.23 57 P P 11 50 08.9 -1.5
baz=287
YUK8 Steele Glacier 29.29 56 P P 11 50 09.5 -1.4
baz=286
PINM Pinnacle 29.41 59 P P 11 50 10.6 -1.2
baz=288
EPYK Eagle Plains 29.45 45 P P 11 50 10.9 -1.1
baz=280
L29M L29M 29.54 52 P P 11 50 12.7 -0.2
baz=284
G30M tAoh Zraii Nji 29.55 44 P P 11 50 13.4 +0.6
G30M IAmb IAmb 11 50 20.0
comp=Z,5.7nm,0.8s
G30M tAoh Zraii Nji 29.55 44 P P 11 50 12.5 -0.3
baz=279,SNR=5.3
M29M Somme Creek 29.56 54 P P 11 50 12.1 -1.0
baz=285
F30M Barrier River 29.62 43 P P 11 50 13.0 -0.4
baz=278
K29M Barlow Dome 29.63 51 P P 11 50 13.5 -0.2
baz=284
YUK4 Talbot Arm 29.79 56 P P 11 50 14.2 -1.0
baz=287
I30M Mount Dempster 29.80 48 P P 11 50 14.6 -0.7
baz=282,SNR=7.7
PNL Peninsula 29.96 59 P P 11 50 15.2 -1.4
baz=289
J30M Hart River 29.97 49 P P 11 50 15.1 -1.6
baz=283
YUK6 Outpost Mounta 30.04 57 P P 11 50 15.8 -1.6
baz=288
O29M Mount Kennedy 30.14 58 P P 11 50 16.5 -1.8
baz=289
M30M Minto, Yukon 30.27 53 P P 11 50 18.5 -0.8
baz=286
INK Inuvik 30.36 41 P P 11 50 19.8 -0.1
INK IAmb IAmb 11 50 29.9
comp=Z,6.5nm,1.2s
INK Inuvik 30.36 41 P P 11 50 19.8 -0.1
INK pmax pmax
comp=Z,7.0nm,1.3s
INK Inuvik 30.36 41 P P 11 50 18.8 -1.1
baz=279
F31M Tsiigehtchic 30.42 43 P P 11 50 18.8 -1.7
baz=280
N30M Aishikik Lake 30.47 55 P P 11 50 19.8 -1.2
baz=288
HYT Haines Junctio 30.47 56 P P 11 50 19.8 -1.4
baz=289
H31M Peel River 30.51 46 P P 11 50 19.6 -1.7
baz=283
P29M Windy Craggy 30.76 59 P P 11 50 22.0 -1.6
baz=290
P30M Million Dollar 30.96 58 P P 11 50 24.5 -1.0
baz=290
N31M Braeburn, Yuko 31.05 55 P P 11 50 25.1 -1.1
baz=289
O30N Mendenhall 31.15 56 P P 11 50 26.0 -1.0
baz=290
M31M Drury Creek, Y 31.45 53 P P 11 50 28.3 -1.4
baz=288
PLBC Pleasant Camp 31.48 59 P P 11 50 28.5 -1.4
baz=292
WHY Whitehorse 31.74 56 P P 11 50 31.2 -1.1
baz=290
FARO Faro, Yukon 31.91 53 P P 11 50 32.2 -1.5
baz=289
R31K City Hall, Gus 32.17 60 P P 11 50 34.0 -1.9
baz=293
N32M Quiet Lake 32.39 54 P P 11 50 36.7 -1.3
baz=291
A36M Sachs Harbour 32.54 33 P P 11 50 38.0 -1.1
baz=280,SNR=9.7
R32K Eaglecrest 32.82 60 P P 11 50 40.5 -1.2
baz=294
P33M Teslin, Yukon 32.86 56 P P 11 50 41.1 -1.0
baz=292
C36M Paulatuk 33.50 38 P P 11 50 48.1 +0.7
C36M Paulatuk 33.50 38 P P 11 50 46.7 -0.8
baz=285,SNR=5.0
Q32M Nakina River 33.61 58 P P 11 50 45.9 -2.9
baz=294
R33M Jennings River 34.04 57 P P 11 50 49.9 -2.6
baz=295
T33K Petersburg 34.21 62 P P 11 50 51.2 -2.6
baz=297
TGTN Hyland Airport 34.40 52 P P 11 50 52.7 -2.9
baz=293
U33K Whale Pass 34.45 63 P P 11 50 54.3 -1.6
baz=298
S34M Telegraph Cree 34.60 59 P P 11 50 55.2 -2.0
baz=296
WRAK Wrangell Islan 34.69 62 P P 11 50 55.6 -2.4
baz=298
WTLY Watson Lake, Y 34.74 55 P P 11 50 56.4 -2.0
baz=295
CRAG Craig 34.76 64 P P 11 50 57.5 -1.0
baz=299
SONM Songino Array 34.81 280 P P 11 50 58.7 -0.6
comp=Z,0.4nm,0.4s,baz=57,slow=7.7,SNR=4.8
comp=Z,0.4nm,0.4s
DLBC Dease Lake 34.90 58 P P 11 50 57.5 -2.3
baz=296
T35M Bob Quinn 35.45 60 P P 11 51 02.1 -2.5
baz=298
V35K Ketchikan 35.58 63 P P 11 51 03.1 -2.5
baz=300
WRGLY Wrigley 35.78 48 P P 11 51 04.7 -2.6
baz=294
U35K Hyder 36.07 62 P P 11 51 07.7 -2.1
baz=300
HHC Hu-ho-hao-te 36.36 267 *e*P P 11 51 13.6 +1.0
HHC pmax pmax
comp=Z,12nm,0.8s
H11N2 WAKE ISLAND Hy 36.65 174 T T 12 30 03.8
baz=357,slow=76,SNR=421
H11N3 WAKE ISLAND Hy 36.67 174 T T 12 30 05.8
baz=357,slow=76,SNR=31
H11N1 WAKE ISLAND Hy 36.67 174 T T 12 30 08.6
baz=357,slow=76,SNR=125
KOTAN Kotaneelee Air 36.87 53 P P 11 51 14.7 -1.9
baz=298
YKA Yellowknife Ar 39.73 46 P P 11 51 41.8 +1.2
comp=Z,1.0nm,0.6s,baz=302,slow=8.0,SNR=27
YKA PcP **PcP 11 53 47.4 +0.7**
comp=Z,0.4nm,0.7s,baz=312,slow=3.3,SNR=4.0
comp=Z,1.0nm,0.6s
ZAA0 Zalesovo Array 42.44 301 P P 11 52 04.1 +1.1
GTA Gaotai 43.88 275 *e*P P 11 52 14.2 -0.8
GTA pP sP 11 52 20.8 0.0
GTA pmax pmax
comp=Z,3.0nm,1.1s
SPITS Spitsbergen Ar 44.22 351 P P 11 52 17.6 +0.5
comp=Z,12nm,0.8s,baz=48,slow=6.4,SNR=9.9
comp=Z,12nm,0.8s
SPITS Spitsbergen Ar 44.22 351 P P 11 52 17.4 +0.3
SPITS pmax pmax
comp=Z,23nm,1.0s
SPB2 Spitsbergen Ar 44.22 351 P P 11 52 17.2 +0.1
KURK Kurchatov 47.43 301 P P 11 52 41.3 -1.4
KURK IAmb IAmb 11 52 48.3
comp=Z,3.1nm,0.9s
KURK Kurchatov 47.43 301 *i*P P 11 52 41.0 -1.7
KURK pmax pmax
comp=Z,1.0nm,0.4s
WMQ Urumqi 47.45 288 *e*P P 11 52 44.2 +1.1
WMQ pmax pmax
comp=Z,10.0nm,0.7s
KURBB Kurchatov Arra 47.53 301 P P 11 52 42.5 -1.1
comp=Z,0.9nm,0.4s,baz=55,slow=7.9,SNR=6.0
comp=Z,0.9nm,0.4s
MK31 Makanchi Array 48.24 295 P P 11 52 47.4 -1.7
MK31 Makanchi Array 48.24 295 P P 11 52 47.4 -1.7
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 48.24 295 P P 11 52 48.0 -1.1
MKAR Makanchi Array 48.24 295 P P 11 52 47.7 -1.4
comp=Z,0.5nm,0.5s,baz=57,slow=6.7,SNR=8.9
comp=Z,0.5nm,0.5s
MKAR Makanchi Array 48.24 295 P P 11 52 48.0 -1.1
BVAR Borovoye Array 49.67 308 P P 11 52 59.1 -0.8
comp=Z,0.8nm,0.5s,baz=54,slow=7.7,SNR=5.1
comp=Z,0.8nm,0.5s
ARCES ARCESS Array B 50.72 342 P P 11 53 08.4 +0.7
comp=Z,4.0nm,0.9s,baz=56,slow=7.7,SNR=1.9
comp=Z,4.0nm,0.9s
PZH PanZhiHua 52.43 262 P P 11 53 21.1 -0.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,7.1s
NVAR Mina Array Bea 53.22 74 P P 11 53 28.2 +1.2
comp=Z,0.5nm,0.8s,baz=298,slow=6.6,SNR=4.3
comp=Z,0.5nm,0.8s
PD31 Pinedale Array 54.61 64 P P 11 53 37.6 +0.4
PD31 IAmb IAmb 11 53 39.4
comp=Z,2.1nm,0.9s
PDAR Pinedale Array 54.61 64 P P 11 53 37.2 0.0
PDAR Pinedale Array 54.61 64 P P 11 53 38.5 +1.4
comp=Z,0.8nm,0.6s,baz=338,slow=3.4,SNR=13
comp=Z,0.8nm,0.6s
SPR3 Spring Creek 3 54.91 71 P P 11 53 41.7 +2.2
SPR3 IAmb IAmb 11 53 43.6
comp=Z,4.2nm,1.1s
AAK Ala-Archa 55.10 296 *ce*P P 11 53 39.6 -1.0
AAK pmax pmax
comp=Z,1.0nm,0.5s
ULM Lac du Bonnet 55.47 50 P P 11 53 44.9 +1.9
comp=Z,1.3nm,0.4s,baz=306,slow=6.7,SNR=6.6
comp=Z,1.3nm,0.4s
KK31 Karatay Array 56.73 299 P P 11 53 49.8 -2.3
KK31 IAmb IAmb 11 53 52.3
comp=Z,2.4nm,0.7s
KK31 Karatay Array 56.73 299 P P 11 53 49.8 -2.3
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 56.73 299 P P 11 53 50.4 -1.6
KKAR Karatay Array 56.73 299 P P 11 53 50.4 -1.6
FINES FINESS Array B 57.78 337 P P 11 53 59.1 -0.1
comp=Z,1.7nm,0.7s,baz=53,slow=6.4,SNR=7.4
comp=Z,1.7nm,0.7s
OBN Obninsk 60.65 328 *e*P P 11 54 25.0 +5.9
OBN pmax pmax
comp=Z,5.0nm,1.0s
NB2 NORSAR Subarra 60.88 345 P P 11 54 20.0 -0.6
comp=Z,3.3nm,0.9s,baz=18,slow=6.9
NOA NORSAR Array B 60.88 345 P P 11 54 20.2 -0.5
comp=Z,0.8nm,0.7s,baz=18,slow=6.9,SNR=6.1
comp=Z,0.8nm,0.7s
HFS Hagfors 61.35 343 P P 11 54 23.0 -0.8
comp=Z,2.4nm,0.9s,baz=16,slow=8.1,SNR=4.9
comp=Z,2.4nm,0.9s
HFS Hagfors 61.35 343 P P 11 54 23.0 -0.8
ANMO Albuquerque 62.09 68 *ce*P P 11 54 30.3 +0.8
ANMO pmax pmax
comp=Z,1.0nm,0.9s
AKASG Malin Array Be 66.65 330 P P 11 54 59.2 +0.4
comp=Z,1.8nm,0.6s,baz=29,slow=6.4,SNR=7.8
comp=Z,1.8nm,0.6s
AKBB Malin Array Si 66.65 330 *ce*P P 11 54 58.3 -0.5
AKBB pmax pmax
comp=Z,4.0nm,0.8s
TXAR Lajitas Array 67.96 70 P P 11 55 09.0 +1.5
comp=Z,3.1nm,0.8s,baz=297,slow=4.4,SNR=36
comp=Z,3.1nm,0.8s
EKA Eskdalemuir Ar 68.13 351 P P 11 55 08.9 +0.8
comp=Z,1.1nm,0.7s,baz=24,slow=6.2,SNR=3.5
comp=Z,1.1nm,0.7s
KBZ Khabaz 68.27 317 P P 11 55 09.3 +0.2
comp=Z,1.2nm,0.8s,baz=48,slow=3.4,SNR=7.6
comp=Z,1.2nm,0.8s
KOLS Kolonicke sedl 70.10 334 *e*P P 11 55 22.3 +1.9
KOLS Kolonicke sedl 70.10 334 *e*P P 11 55 22.3 +1.9
LANS Liptovska Anna 70.57 335 *e*P P 11 55 24.3 +0.9
LANS Liptovska Anna 70.57 335 *e*P P 11 55 24.3 +0.9

VYHS	Vyhne	71.33	336	eP	P	11 55 29.4	+1.4
VYHS	Vyhne	71.33	336	eP	P	11 55 29.4	+1.4
GERES	GERESS Array B	72.10	339	P	P	11 55 33.0	+0.3
	comp=Z,0.8nm,0.9s,baz=34,slow=5.5,SNR=5.5						
	comp=Z,0.8nm,0.9s						
CONA	Conrad Observa	72.53	337	epP	P	11 55 40.2	+5.0
	comp=Z,0.5nm,0.4s						
RONA	Rosalia, Austr	72.65	337	epP	P	11 55 41.6	+5.7
	comp=Z,0.6nm,0.3s						
KBA	Koelnbreinsper	73.86	339	eP	P	11 55 43.4	+0.1
	comp=Z,0.5nm,0.4s						
OBKA	Obir	74.16	338	eP	P	11 55 45.9	+1.1
	comp=Z,1.2nm,0.4s						
ABTA	Abfaltersbach	74.34	339	eP	P	11 55 46.9	+1.0
	comp=Z,1.6nm,0.6s						
FETA	Feichten	74.42	341	eP	P	11 55 47.6	+1.1
	comp=Z,1.5nm,0.7s						
WRA	Warramunga Arr	79.69	207	P	P	11 56 14.5	-1.5
	comp=Z,1.7nm,1.2s,baz=8.0,slow=6.0,SNR=5.0						
	comp=Z,1.7nm,1.2s						
ASAR	Alice Springs	83.36	207	P	P	11 56 35.0	-0.5
	comp=Z,1.3nm,0.9s,baz=0.9,slow=4.4,SNR=6.9						
	comp=Z,1.3nm,0.9s						
ASAR	Alice Springs	83.36	207	P	P	11 56 35.0	-0.5
ESDC	Sonseca Array	83.73	350	P	P	11 56 37.6	+0.2
	comp=Z,0.4nm,0.6s,baz=355,slow=5.7,SNR=4.4						
	comp=Z,0.4nm,0.6s						
QSPA	South Pole Qui	146.07	180	PKPbc	PKPdf	12 03 45.9	-0.3
	comp=Z,3.6nm,0.7s,baz=287,slow=3.5,SNR=18						

GCG 07 12:14:56.2±1.0, 14°.52N×90°.68W, h8km±3km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG4	OSOP	0.15	63	*i* P	Pg	12 15 00.6	+1.0
GCG4				*i* S	Sg	12 15 03.1	+1.2
ESSG	Sabana Grande	0.20	229	*i* P	Pg	12 15 01.4	+1.1
ESSG				*i* S	Sg	12 15 04.5	+1.4
PS001	Antigua, Sacat	0.31	131	eP	Pg	12 14 58.9	-3.5
PS001				eS	Sg	12 15 00.3	-6.1
STG0	El Palmar, Qui	0.65	262	*i* P	Pn	12 15 13.7	+1.8
STG0				*i* S	Sn	12 15 25.5	+3.1
STG8	El Palmar, Qui	0.66	264	*i* P	Pn	12 15 14.2	+2.1
SOKI	Kika Raxquin	0.77	293	*i* P	Pb	12 15 12.0	0.0

*NEIC **07** 12:20:45.4±1.3, 33°.74S×0°.04×72°.61W×0°.06, h10km±1km, mb4.3/7, Error ellipse: s-maj=8.5km s-min=7.0km az=130.0*
*IDC **07** 12:20:45.2±0.8, 33°.72S×72°.43W, h0km, mb4.0/8, mbtmp3.9/12, ML3.9/4, Error ellipse: s-maj=26.6km s-min=16.8km az=102.0*
*GUC **07** 12:20:47.4±0.8, 33°.79S×72°.52W, h20km, ML4.2*
ISC 07 12:20:45.3±1.5, 33°.73S±0°.04×72°.58W±0°.05, h6km±9km, n90, σ0°90/99, mb4.3/11, 13C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA05	Santo Domingo	0.81	85		Pg	12 21 01.4	+0.6
VA05	Santo Domingo	0.81	85	↓*i* P	Pb	12 21 02.3	+0.5
VA05				eS	Sg	12 21 12.5	+1.1
VA05				IAML		12 21 15.9	
	comp=N,26μm,0.3s						
BO03	Pichilemu	0.92	146	↓eP	Pg	12 21 03.2	+0.2
BO03				eS	Sg	12 21 15.1	+0.2
BO03				IAML		12 21 16.5	
	comp=E,14μm,0.4s						
VA01	Torpederas	1.05	48		Pg	12 21 05.8	+0.3
VA01	Torpederas	1.05	48	↑eP	Pb	12 21 06.3	+0.5
VA01				eS	Sg	12 21 20.1	+0.9
MT01	Popeta	1.11	97		Pg	12 21 06.2	-0.5
MT01	Popeta	1.11	97	↑eP	Pg	12 21 06.4	-0.3
MT01				eS	Sg	12 21 20.6	-0.5
MT01				IAML		12 21 25.0	
	comp=N,6μm,0.6s						
MT02	Curacav	1.29	69		Pn	12 21 09.1	-0.8
MT02	Curacav	1.29	69	↑*i* P	Pn	12 21 09.5	-0.4
MT02				eS	Sb	12 21 26.9	0.0
MT09	Talagante	1.32	92		Pn	12 21 09.0	-1.5
MT09	Talagante	1.32	92	↑eP	Pn	12 21 09.6	-0.9
MT09				eS	Sb	12 21 26.6	-1.4
MT09				IAML		12 21 33.7	
	comp=N,9μm,0.3s						
GO05	Hualane	1.38	157	↑eP	Pn	12 21 09.9	-1.2
GO05				IAML		12 21 35.5	
	comp=E,5μm,0.5s						
BO01	Tunca	1.40	118		Pn	12 21 09.8	-1.6
BO01	Tunca	1.40	118	IAML		12 21 42.1	
	comp=N,5μm,0.5s						
MT05	Renca	1.57	78		Pn	12 21 14.0	+0.2
MT05	Renca	1.57	78	eP	Pn	12 21 13.9	+0.1
MT05				eS	Sn	12 21 34.1	-0.3
MT05				IAML		12 21 46.8	
	comp=E,5μm,0.6s						
BO04	La Punta	1.66	99		Pn	12 21 14.4	-0.6
BO04	La Punta	1.66	99	↑eP	Pn	12 21 14.8	-0.1
BO04				eS	Sn	12 21 35.5	-1.0
BO04				IAML		12 21 42.8	
	comp=E,3μm,0.2s						
PEL	Peldehue	1.69	70		Pn	12 21 15.5	+0.1
PEL	Peldehue	1.69	70	↑eP	Pn	12 21 15.9	+0.6
PEL				eS	Sn	12 21 37.9	+0.6
PEL				IAML		12 21 47.6	
	comp=N,3μm,0.7s						
MT15	Las Vizcachas	1.73	86	↑eP	Pn	12 21 15.8	-0.2
MT15				eS	Sn	12 21 38.4	-0.1
MT15				IAML		12 21 43.4	
	comp=E,5μm,0.3s						
MT14	Cerro Calan	1.74	79	↑eP	Pn	12 21 16.5	+0.5
MT14				eS	Sn	12 21 38.5	0.0
MT14				IAML		12 21 50.2	
	comp=E,5μm,0.6s						
MT03	Universidad Ad	1.74	83		Pn	12 21 15.9	-0.2
MT16	CCHEN	1.74	81		Pn	12 21 15.8	-0.3
BO02	Sierra Bellavi	1.83	126		Pn	12 21 16.5	-0.7
BO02	Sierra Bellavi	1.83	126	↑eP	Pn	12 21 17.0	-0.3
BO02				eS	Sn	12 21 39.6	-1.1
BO02				IAML		12 21 52.0	
	comp=N,6μm,0.5s						
MT13	San Alfonso	1.91	91		Pn	12 21 18.1	-0.4
FCH	Farellones	1.95	79	↑eP	Pn	12 21 19.7	+0.4
FCH				IAML		12 21 56.3	
	comp=N,2μm,0.4s						
VA03	San Esteban	1.96	61		Pn	12 21 18.7	-0.3
VA03	San Esteban	1.96	61	↑eP	Pn	12 21 19.6	+0.5
VA03				IAML		12 21 58.6	
	comp=N,4μm,0.5s						
LMEL	Las Melosas	1.98	94		Pn	12 21 19.3	-0.2
LMEL	Las Melosas	1.98	94	↑eP	Pn	12 21 19.6	+0.1
LMEL				eS	Sn	12 21 45.2	+0.5
LMEL				IAML		12 21 51.7	
	comp=N,3μm,0.4s						
MT08	Bocatoma Ro	2.16	83		Pn	12 21 21.9	-0.1
ML02	Panimavida	2.24	155		Pn	12 21 22.8	-0.1
CO02	Combarbal	2.85	28		Pn	12 21 31.7	+0.2
BI05	Punta Hualpn	3.05	189		Pn	12 21 33.0	-1.0
BI02	San Fabin de	3.11	160	Pn	Pn	12 21 34.7	-0.3
CO06	Fray Jorge	3.15	15		Pn	12 21 35.2	-0.3
CO03	El Pedregal	3.30	30	Pn	Pn	12 21 38.1	+0.5
GO04	Tololo Observa	3.86	24		Pn	12 21 45.7	+0.3
ZON	Zonda	3.95	58		Pn	12 21 48.0	+1.5
CO05	La Serena	3.97	17		Pn	12 21 46.7	+0.1
CFA	Coronel Fontan	4.23	61	Pn	Pn	12 21 51.3	+0.9
	comp=N,2.8nm,0.3s,baz=248,slow=13,SNR=53						
CFA				Sn	Sn	12 22 39.5	-0.6
	comp=N,7.0nm,0.3s,baz=233,slow=22,SNR=3.7						
	comp=N,5.9nm,0.3s						
CO01	Juntas del Tor	4.30	30	Pn	Pn	12 21 52.5	+1.1
LCO	Las Campanas	4.97	19		Pn	12 22 00.4	-0.3
AC05	El Transito	5.26	23		Pn	12 22 05.2	+0.5
H03S1	Juan Fernandez	5.27	267	T	T	12 28 12.5	
	baz=94,slow=74,SNR=220						
H03S3	Juan Fernandez	5.27	267	T	T	12 28 12.0	
	baz=94,slow=74,SNR=183						
H03S2	Juan Fernandez	5.29	267	T	T	12 28 21.5	
	baz=94,slow=74,SNR=207						
H03N1	Juan Fernandez	5.29	271	T	T	12 28 03.3	
	baz=89,slow=74,SNR=31						
H03N3	Juan Fernandez	5.30	271	T	T	12 28 01.7	
	baz=89,slow=74,SNR=42						
H03N2	Juan Fernandez	5.31	271	T	T	12 28 02.9	
	baz=89,slow=74,SNR=20						
AC04	Llanos de Chal	5.66	14	Pn	Pn	12 22 09.2	-0.7
LR03	Panguipulli	5.89	178		Pn	12 22 11.9	-1.2
LR04	Corral	6.17	186		Pn	12 22 15.4	-1.5
GO03	Copiapo	6.44	19		Pn	12 22 20.6	-0.1
LR05	Currie	6.50	176		Pn	12 22 21.0	-0.4
AC06	Mina Casimiro	6.64	17		Pn	12 22 22.6	-0.8
PLCA	Paso Flores	7.17	168		Pn	12 22 30.9	+0.2
PLCA	Paso Flores	7.17	168	Pn	Pn	12 22 31.0	+0.2
	comp=N,0.6nm,0.3s,baz=339,slow=11,SNR=34						
PLCA				Sn	Sn	12 23 55.6	+3.1
	comp=N,0.2nm,0.3s,baz=305,slow=15,SNR=1.9						
	comp=N,2.2nm,0.5s						
AC02	Maricunga	7.49	24		Pn	12 22 35.4	-0.2
AC01	Pan de Azucar	7.75	13		Pn	12 22 36.4	-2.3
GO02	Mina Guanaco	8.93	18		Pn	12 22 53.0	-2.1
TRQA	Tornquist	9.62	120		Pn	12 23 04.4	+0.2
PB01	IPOC Station P	12.93	13	Pn	Pn	12 23 46.8	-2.9
CPUP	Villa Florida	15.12	65	Pn	Pn	12 24 18.9	-0.5
	comp=N,0.1nm,0.3s,baz=195,slow=17,SNR=1.5						
CPUP				Sn	Sn	12 27 08.1	+0.9
	comp=N,0.1nm,0.3s,baz=200,slow=16,SNR=1.8						
	comp=N,0.5nm,0.4s						
LPAZ	La Paz	17.83	14	P	Pn	12 24 54.9	+0.3
	comp=N,0.3nm,0.3s,baz=176,slow=7.4,SNR=12						
	comp=N,2.8nm,0.6s						
ITAB	Concordia	18.76	75	P	P	12 25 05.0	0.0
ITAB				IAmb	IAmb	12 25 37.5	
	comp=Z,37nm,1.5s						
AQDB	Aquidauana	19.96	53	P	P	12 25 18.1	-0.2
SIV	San Ignacio	20.49	33	P	P	12 25 23.6	-0.4
	comp=Z,4.4nm,0.8s,baz=218,slow=11,SNR=14						
	comp=Z,4.4nm,0.8s						
PTLB	Pontes e Lacer	21.89	37	P	P	12 25 39.1	+0.1
PTLB				IAmb	IAmb	12 25 49.5	
	comp=Z,5.4nm,0.7s						
BDFB	Brasilia	28.56	57	P	P	12 26 40.9	-1.3
BDFB				IAmb	IAmb	12 26 51.8	
	comp=Z,3.9nm,0.8s						
BDFB	Brasilia	28.56	57	P	P	12 26 41.4	-0.8
	comp=Z,3.5nm,0.6s,baz=240,slow=8.7,SNR=7.0						
	comp=Z,3.5nm,0.6s						
BOAV	Boa Vista	37.69	20	P	P	12 28 00.4	-1.1
BOAV				IAmb	IAmb	12 28 13.4	
	comp=Z,5.5nm,1.0s						
VNA3	Neumayer Olymp	49.78	158	↓P	P	12 29 39.4	+1.1
	comp=Z,3.3nm,0.6s						
VNA2	Neumayer--Watz	50.43	157	↓P	P	12 29 43.4	+0.3
	comp=Z,3.9nm,0.6s,baz=317,slow=4.0						
SNAA	Sanae	52.00	158	P	P	12 29 55.3	+0.3
SNAA				IAmb	IAmb	12 30 27.2	
	comp=Z,7.8nm,1.2s						
SNAA	Sanae	52.00	158	↓P	P	12 29 56.1	+1.0
	comp=Z,83nm,0.6s						
SNAA	Sanae	52.00	158	P	P	12 29 55.7	+0.6
	comp=Z,2.7nm,0.6s,baz=261,slow=8.6,SNR=11						
	comp=Z,2.7nm,0.6s						
TROLL	Troll, Antarti	53.71	158	↓P	P	12 30 06.6	-1.1
	comp=Z,41nm,0.3s						
QSPA	South Pole Qui	56.50	180	P	P	12 30 29.1	+1.1
	comp=Z,1.4nm,0.8s,baz=235,slow=1.3,SNR=5.9						
	comp=Z,1.4nm,0.8s						
TXAR	Lajitas Array	69.28	331	P	P	12 31 54.9	+1.5
	comp=Z,0.3nm,0.7s,baz=158,slow=4.5,SNR=1.4						
	comp=Z,0.3nm,0.7s						
DBIC	Dimbokro	75.52	72	P	P	12 32 29.8	-1.1
DBIC	Dimbokro	75.52	72	P	P	12 32 30.1	-0.7
	comp=Z,2.8nm,0.8s,baz=256,slow=8.3,SNR=3.7						
	comp=Z,2.8nm,0.8s						
BOSA	Boshof	80.59	118	P	P	12 32 59.5	+0.4
	comp=Z,1.1nm,0.5s,baz=260,slow=4.0,SNR=3.6						
	comp=Z,1.1nm,0.5s						
PDAR	Pinedale Array	83.32	334	P	P	12 33 14.3	+1.3
	comp=Z,0.2nm,0.6s,baz=176,slow=4.8,SNR=2.2						
	comp=Z,0.2nm,0.6s						
BVAR	Borovoye Array	147.39	42	PKPbc	PKPab	12 40 30.8	-0.6
	comp=Z,1.2nm,0.5s,baz=279,slow=2.5,SNR=8.5						
KURBB	Kurchatov Arra	152.98	43	PKPbc	PKPbc	12 40 42.3	-0.8
	comp=Z,0.2nm,0.3s,baz=302,slow=2.7,SNR=8.1						
ZALV	Zalesovo Beam	154.24	32	PKPbc	PKiKP	12 40 46.6	+0.9
	comp=Z,1.7nm,0.5s,baz=313,slow=3.3,SNR=11						
MKAR	Makanchi Array	156.92	48	PKPab	PKPab	12 41 12.1	+0.7
	comp=Z,0.9nm,0.6s,baz=282,slow=3.8,SNR=10						

*AZER **07** 12:34:29.3, 41°.80N×48°.84E, h55km, ml2.6*
*DRS **07** 12:34:30.4, 41°.77N×49°.10E, h33km*
ISC 07 12:34:30.9±1.6, 41°.72N±0°.04×48°.89E±0°.07, h69km±8km, n32, σ1°33/61, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUBA	Quba, Azerbaij	0.47	220	P	Pn	12 34 42.4	-1.0
QUBA				S	Sn	12 34 52.0	-0.5
QSAR	Qusar	0.51	247	P	Pn	12 34 42.7	-1.0
QSAR				S	Sn	12 34 51.3	-2.0
DRN	Derbent	0.53	307	ePg	Pn	12 34 42.0	-1.7
	192nm,0.2s						
DRN				eSg	Sn	12 34 51.9	-1.4
	712nm,0.2s						
KSMR	Kasumkent	0.58	259	ePg	Pn	12 34 44.7	+0.2
	166nm,0.2s						
KSMR				eSg	Sn	12 34 55.8	+1.2
	968nm,0.3s						
SIZA	Siyzn	0.64	180	P	Pn	12 34 44.2	-1.0
SIZA				S	Sn	12 34 56.8	+1.2
XNQ	Khinaliq	0.79	226	P	Pn	12 34 46.5	-0.4
XNQ				S	Sn	12 34 59.6	+0.8
ATGJ	Altiaghaj	0.85	178	P	Pn	12 34 48.0	+0.4
ATGJ				S	Sn	12 35 02.8	+2.8
AKT	Akhty	0.90	255	ePg	Pn	12 34 48.4	+0.1
	119nm,0.2s						
AKT				eSg	Sn	12 35 03.0	+1.9
	391nm,0.3s						
PQL	Pirkuli	0.95	194	P	Pn	12 34 49.2	+0.3
PQL				S	Sn	12 35 03.8	+1.6
URKR	Urkarakh	1.04	296	ePg	Pn	12 34 49.4	-0.6
	45nm,0.1s						
URKR				eSg	Sn	12 35 05.0	+0.8
	305nm,0.3s						
IML	Ismayilli	1.07	210	P	Pn	12 34 50.4	+0.1
IML				S	Sn	12 35 06.9	+2.3
QBL	Gabala	1.11	226	P	Pn	12 34 50.7	0.0
QBL				S	Sn	12 35 07.3	+1.8
GBS	Qobustan	1.18	178	P	Pn	12 34 52.8	+1.1
GBS				S	Sn	12 35 10.5	+3.3
SGKR	Sergokala	1.18	309	ePg	Pn	12 34 50.9	-0.8
	29nm,0.1s						
SGKR				eSg	Sn	12 35 07.4	+0.2
	149nm,0.2s						
SEKA	Sheki	1.37	249	Pg	Pn	12 34 54.9	+0.8
SEKA				Sg	Sn	12 35 13.5	+1.9
KMKR	Kumukh	1.40	288	ePg	Pn	12 34 54.9	+0.2
	20nm,0.3s						
KMKR				eSg	Sn	12 35 14.5	+1.9
	350nm,0.2s						
ARKR	Arakani	1.67	303	ePg	Pn	12 34 58.0	-0.1
	5.0nm,0.2s						
ARKR				eSg	Sn	12 35 20.5	+1.8
	55nm,0.2s						
ZRD	Zardab	1.70	213	Pn	Pn	12 34 58.0	-0.5
ZRD				Sn	Sn	12 35 20.8	+1.5
ZKTA	Zakatala	1.70	268	Pn	Pn	12 34 58.7	+0.2
ZKTA				Sn	Sn	12 35 20.6	+1.2
BUJR	Buynaksk	1.73	310	ePg	Pn	12 34 58.0	-0.8
	70nm,0.3s						
BUJR				eSg	Sn	12 35 20.8	+0.7
	148nm,0.6s						
XNZR	Khunzakh	1.82	298	ePg	Pn	12 35 00.0	-0.2
	10.0nm,0.2s						
XNZR				eSg	Sn	12 35 24.3	+1.7
	37nm,0.4s						
KRNR	Karanay	1.85	308	ePg	Pn	12 35 00.0	-0.5
	7.0nm,0.3s						
KRNR				eSg	Sn	12 35 24.3	+1.3
	70nm,0.3s						
UNCR	Uncukul	1.85	303	ePg	Pn	12 35 00.8	+0.3
	10.0nm,0.4s						
UNCR				eSg	Sn	12 35 25.0	+2.0
	39nm,0.5s						
AGDM	Agdam	2.10	221	Pn	Pn	12 35 03.2	-0.7
AGDM				Sn	Sn	12 35 30.1	+1.1
GANJ	Ganja	2.22	242	Pn	Pn	12 35 04.3	-1.1
GANJ				Sn	Sn	12 35 30.6	-1.2
QRD	Qoradiz	2.55	209	Sn	Sn	12 35 38.8	-1.1
GDB	GEDABAY	2.57	248	Pn	Pn	12 35 09.2	-1.1
GDB				Sn	Sn	12 35 39.0	-1.6
QZX	Qazax, Azerbai	2.73	257	Pn	Pn	12 35 11.3	-1.1
QZX				Sn	Sn	12 35 43.4	-0.9
YRD	Yardimli	2.84	190	Pn	Pn	12 35 12.8	-1.3
YRD				Sn	Sn	12 35 45.5	-1.7
LRK	Lerik	3.10	188	Sn	Sn	12 35 52.1	-1.4
ASTR	Astara	3.15	181	Sn	Sn	12 35 52.5	-2.1
ORD	Ordubad	3.56	219	Pn	Pn	12 35 23.4	-0.3
ORD				Sn	Sn	12 36 05.0	+0.4

*GCG **07** 13:17:39.7±3.1, 14°.41N×94°.52W, h50km±420km, MD4.6*
*IDC **07** 13:17:42.2±3.5, 14°.94N×93°.86W, h0km, mb3.6/4, mbtmp3.5/6, ML3.6/2, Error ellipse: s-maj=62.3km s-min=35.5km az=177.0*
*NEIC **07** 13:17:47.5±1.4, 14°.91N±0°.04×94°.06W±0°.04, h30km±9km, mb4.2/16, Md4.5/84(MEX), Error ellipse: s-maj=6.1km s-min=5.4km az=121.0*
*MEX **07** 13:17:49.0±1.0, 15°.03N×93°.77W, h106km±31km, MD4.5*
ISC 07 13:17:41.2±3.1, 14°.62N±0°.06×94°.15W±0°.03, h13km±20km, n95, σ2°84/132, mb4.0/9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.41	40		Pn	13 18 06.7	+0.2
PCIG					Sb	13 18 21.6	-3.6
PCIG		1.41	40	eP	Pn	13 18 06.7	+0.2
PCIG				eS	Sb	13 18 21.6	-3.6
THIG		1.85	81		Pn	13 18 13.8	+1.2
THIG					Sn	13 18 35.8	-0.1
THIG		1.85	81	eP	Pn	13 18 13.8	+1.2
THIG				eS	Sn	13 18 35.8	-0.1
THIG		1.85	81	eP	Pn	13 18 13.2	+0.6
PATR	El Naranjo	1.92	75	eP	Pn	13 18 14.2	+0.4
PATR				eS	Sn	13 18 34.9	-3.1
PAVE	Pavencul	1.99	73	eP	Pn	13 18 15.6	+0.7
PAVE				eS	Sn	13 18 34.7	-5.1
HUIG	Huatulco	2.21	301	*e*	Pn	13 18 16.0	-1.6
HUIG				*e*		13 18 38.5	
HUIG	Huatulco	2.21	301	eP	Pn	13 18 15.6	-2.0
HUIG				*i* S	Sn	13 18 38.1	-6.7
TGIG		2.37	25		Pn	13 18 21.7	+1.9
TGIG					Sn	13 18 49.4	+0.7
TGIG		2.37	25	eP	Pn	13 18 21.7	+1.9
TGIG				eS	Sn	13 18 49.4	+0.7
TGIG		2.37	25	eP	Pn	13 18 21.2	+1.4
TGIG				*i* S	Sb	13 18 52.5	-0.4
CCIG	Comitan	2.55	49		Pn	13 18 23.6	+1.1
CCIG	Comitan	2.55	49	eP	Pb	13 18 25.4	-1.6
CCIG				*e*		13 18 56.7	
CCIG	Comitan	2.55	49	eP	Pb	13 18 25.5	-1.6
CMIG	Matias Romero	2.56	344		Pn	13 18 21.9	-0.5
CMIG					Sn	13 18 49.2	-4.2
CMIG	Matias Romero	2.56	344	Pn	Pn	13 18 22.3	-0.1
	14nm,0.3s,baz=171,slow=11,SNR=76						
	55nm,0.5s						
CMIG	Matias Romero	2.56	344	eP	Pn	13 18 21.9	-0.5
CMIG				eS	Sn	13 18 49.2	-4.2
HUEH	Huehuetenango	2.65	74		Pn	13 18 26.3	+2.4
HUEH	Huehuetenango	2.65	74	eP	Pn	13 18 26.8	+2.8
HUEH				*e*		13 19 02.2	
HUEH	Huehuetenango	2.65	74	eP	Pb	13 18 27.2	-1.6
UXUV	UXUV	2.68	0	eP	Pn	13 18 25.5	+1.3
UXUV				eS	Sn	13 18 54.1	-2.4
STG8	El Palmar, Qui	2.72	93	eP	Pn	13 18 22.3	-2.6
STG0	El Palmar, Qui	2.73	94	eP	Pn	13 18 22.2	-2.8
PEIG	Puerto Escondi	3.20	296		Pn	13 18 29.8	-1.5
PEIG					Sn	13 19 02.3	-6.9
PEIG	Puerto Escondi	3.20	296	*e*	Pn	13 18 29.8	-1.5
PEIG				*e*		13 19 02.3	
TUIG	Tuzandepetl	3.41	356	eP	Pn	13 18 33.3	-0.8
TUIG				eS	Sn	13 19 11.1	-3.3
NEUV	Arroyo Zacate	3.46	333	eP	Pn	13 18 34.7	-0.1
NEUV				eS	Sn	13 19 10.8	-4.9
OXIG	Oaxaca	3.48	315		Pn	13 18 33.6	-1.8
OXIG					Sn	13 19 11.5	-5.0
VHO	Vista Hermosa	3.48	315	*e*	Pn	13 18 33.6	-1.7
VHO				*e*		13 19 11.5	
YOIG	Yosondua	3.95	305		Pn	13 18 44.5	+2.6
YOIG					Sn	13 19 24.0	-4.2
YOIG	Yosondua	3.95	305	eP	Pn	13 18 44.5	+2.6
YOIG				eS	Sn	13 19 24.0	-4.2
PMUV	Sontecomapan	4.01	347	eP	Pn	13 18 45.4	+2.9
PMUV				eS	Sn	13 19 27.1	-2.4
PNIG	Pinotepa	4.22	295		Pn	13 18 44.6	-0.7
PNIG					Sn	13 19 26.1	-8.3
PNIG	Pinotepa	4.22	295	*e*	Pn	13 18 44.6	-0.7
PNIG				*e*		13 19 26.1	
TXIG	Tlaxiaco	4.35	307		Pn	13 18 48.7	+1.3
TXIG					Sn	13 19 33.8	-4.4
TXIG	Tlaxiaco	4.35	307	eP	Pn	13 18 48.7	+1.3
TXIG				eS	Sn	13 19 33.8	-4.4
TOIG	Toxpalan	4.45	321		Pn	13 18 50.6	+2.1
TOIG					Sn	13 19 41.3	+1.1
TOIG	Toxpalan	4.45	321	eP	Pn	13 18 50.6	+2.1
TOIG				eS	Sn	13 19 41.3	+1.1
PETF	Flores	4.72	60		Pn	13 18 53.6	+1.5
PETF	Flores	4.72	60	eP	Pn	13 18 54.3	+2.2
HLIG	Huajuapan de L	4.74	313		Pn	13 18 55.2	+2.5
HLIG					Sn	13 19 43.9	-3.8
HLIG	Huajuapan de L	4.74	313	eP	Pn	13 18 55.2	+2.5
HLIG				eS	Sn	13 19 43.9	-3.8
TPIG	Tehuac#an	4.87	321		Pn	13 18 59.1	+4.7
TPIG					Sn	13 19 52.5	+1.6
TPIG	Tehuac#an	4.87	321	eP	Pn	13 18 59.1	+4.7
TPIG				eS	Sn	13 19 52.5	+1.6
FTIG	Fresnillo de T	5.03	311		Pn	13 18 59.0	+2.5
FTIG					Sn	13 19 50.5	-4.1

EZ5V		10.25	299	*e*P	Pn	13 20 11.8	+3.5
MNGA	Volcan de Coli	10.26	299	*e*P	Pn	13 20 11.4	+2.9
INCO	Volcan de Coli	10.27	300	*e*P	Pn	13 20 12.0	+3.2
SOMAC	Volcano de Col	10.29	300	*e*P	Pn	13 20 15.5	+6.5
CDAR	Ciudad de Arme	10.37	296	*e*P	Pn	13 20 14.2	+4.5
CEGR	Campo Tres	10.42	298	*e*P	Pn	13 20 15.0	+4.3
TXAR	Lajitas Array	17.08	331	Pn	P	13 21 43.5	+1.9
	0.1nm,0.3s,baz=148,slow=12,SNR=7.2						
	0.2nm,0.6s						
MNHN	Monahans	18.42	336	P	P	13 21 57.6	+1.2
ABTX	Abilene, Hawle	18.61	345	P	P	13 21 59.1	+0.6
MIAR	Mount Ida	19.85	1	P	P	13 22 11.8	-0.2
FNO	Franklin	20.76	352	P	P	13 22 22.8	+1.0
FNO				IAmb	IAmb	13 22 28.2	
	comp=Z,11nm,0.7s						
HHAR	Hobbs	21.57	0	IAmb	IAmb	13 22 33.5	
	comp=Z,3.6nm,0.5s						
CROK	Carrier	22.06	352	IAmb	IAmb	13 22 49.9	
	comp=Z,12nm,1.1s						
T47A	Sharon Grove	23.15	14	IAmb	IAmb	13 22 47.8	
	comp=Z,4.7nm,0.6s						
R40A	Maddies Statio	23.64	4	P	P	13 22 52.2	0.0
R40A				IAmb	IAmb	13 22 53.1	
	comp=Z,3.3nm,0.7s						
P40A	Paris	24.89	4	P	P	13 23 03.2	-0.5
P40A				IAmb	IAmb	13 23 04.2	
	comp=Z,6.4nm,0.7s						
TKX	Tecate	27.15	315	P	P	13 23 26.8	+2.4
SPMN	Marine on St.	30.53	2	P	P	13 23 54.0	-0.2
NVAR	Mina Array Bea	31.90	323	P	P	13 24 09.5	+2.8
	comp=Z,0.3nm,0.6s,baz=134,slow=9.2,SNR=4.4						
	comp=Z,0.3nm,0.6s						
YKA	Yellowknife Ar	49.97	348	P	P	13 26 34.9	+0.1
	comp=Z,0.4nm,0.7s,baz=155,slow=7.3,SNR=9.4						
	comp=Z,0.4nm,0.7s						
ILAR	Eielson Array	61.46	337	P	P	13 27 58.3	+1.1
	comp=Z,0.3nm,0.7s,baz=134,slow=6.2,SNR=4.2						
	comp=Z,0.3nm,0.7s						
ARCES	ARCESS Array B	86.20	18	P	P	13 30 24.3	+2.3
	comp=Z,9.9nm,0.9s,baz=296,slow=5.5,SNR=1.9						
	comp=Z,2.9nm,0.9s						

IDC 07 13:27:47.9±1.6, 17°.06S×174°.51W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=47.7km s-min=39.9km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.45	258	P	P	13 36 32.1	-0.5
	0.6nm,0.9s,baz=100,slow=5.7,SNR=1.9						
	0.6nm,0.9s						
ASAR	Alice Springs	48.60	253	P	P	13 36 33.9	+0.1
	0.8nm,0.6s,baz=86,slow=7.8,SNR=25						
	0.8nm,0.6s						
QSPA	South Pole Qui	72.99	180	P	P	13 39 19.6	+0.2
	1.6nm,0.9s,baz=141,slow=0.8,SNR=5.9						
	1.6nm,0.9s						
ILAR	Eielson Array	84.27	12	P	P	13 40 21.1	-0.1
	0.6nm,1.0s,baz=189,slow=5.7,SNR=4.1						
	0.6nm,1.0s						

*IDC **07** 13:41:21.0±1.0, 21°.92S×169°.24E, h0km, mb4.0/7, mbtmp4.0/8, ML3.8/1, MS3.0/8, Error ellipse: s-maj=34.0km s-min=31.1km az=72.0*
*NOU **07** 13:41:21.1, 21°.87S×169°.17E, h0km, MLv4.4/17, Southeast of Loyalty Islands*
*NEIC **07** 13:41:23.4±1.6, 21°.9S±0°.1×169°.09E±0°.04, h10km±1km, mb4.5/9, Error ellipse: s-maj=20.4km s-min=4.5km az=168.0*
ISC 07 13:41:25.7±0.6, 21°.86S±0°.06×169°.06E±0°.06, h31km, n52, σ1º01/46, mb4.3/12, MS3.2/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.03	291	P	Pn	13 41 43.3	-0.7
MARNC	Mare, Loyalty	1.03	291	S	Sb	13 41 58.2	+0.1
PINNC	Pines Island,	1.67	243		Pn	13 41 52.7	-0.2
PINNC	Pines Island,	1.67	243	P	Pn	13 41 52.8	-0.1
PINNC	Pines Island,	1.67	243	S	Sb	13 42 15.9	-0.7
YATNC	Mamie plateau,	2.02	264	P	Pn	13 41 57.1	-0.6
YATNC	Mamie plateau,	2.02	264	S	Sb	13 42 24.8	-1.8
OUENC	Ouen Island, N	2.13	254	P	Pn	13 41 59.2	0.0
OUENC	Ouen Island, N	2.13	254	S	Sb	13 42 27.8	-1.9
INH	Isangel	2.31	5	P	Pn	13 42 01.3	-0.3
INH	Isangel	2.31	5	S	Sn	13 42 29.7	+0.8
DZM	Mont Dzumac	2.44	264		Pn	13 42 03.6	+0.1
DZM	Mont Dzumac	2.44	264	Pn	Pn	13 42 03.7	+0.3
	18nm,0.3s,baz=301,slow=19,SNR=412						
DZM				Sn	Sn	13 42 31.2	-1.1
	52nm,0.3s,baz=80,slow=21,SNR=9.0						
DZM				LR	LR	13 42 32.7	
	comp=Z,190nm,19.5s,baz=328,slow=28						
	44nm,0.4s						
DZM	Mont Dzumac	2.44	264	P	Pn	13 42 03.8	+0.3
DZM	Mont Dzumac	2.44	264	S	Sn	13 42 34.4	+2.1
ONTNC	Ouen Toro	2.46	259		Pn	13 42 03.7	0.0
ONTNC	Ouen Toro	2.46	259	P	Pn	13 42 03.7	0.0
DVP	Devils Point	4.19	349	P	Pn	13 42 25.7	-1.8
KOUNC	Koumac, New Ca	4.64	285	P	Pn	13 42 34.7	+1.0
VLAKA	Lakatoro	5.92	345	P	Pn	13 42 50.5	-0.9
MSVF	Nonsavu	9.40	66	LR	LR	13 46 01.7	
	comp=Z,53nm,18.4s,baz=243,slow=30						
HNR	Honiara	15.14	323	LR	LR	13 50 26.7	
	comp=Z,80nm,18.6s,baz=165,slow=36						
URZ	Urewera	17.76	159	LR	LR	13 51 21.3	
	comp=Z,126nm,18.0s,baz=58,slow=34						
KRVT	Keravat (AS076	24.02	314	LR	LR	13 54 24.6	
	comp=Z,6.2nm,19.2s,baz=174,slow=32						
PMG	Port Moresby	24.41	297	P	P	13 46 41.4	-0.2
TOO	Toolangi	25.67	227	P	P	13 46 52.0	-0.9
TOO				IAmb	IAmb	13 46 58.0	
	comp=Z,14nm,1.4s						
FORT	Forrest	37.64	248	P	P	13 48 38.4	+0.4
FAKI	Fak Fak	40.40	293	P	P	13 48 59.5	-1.8
FAKI				IAmb	IAmb	13 49 01.7	
	comp=Z,6.2nm,0.8s						
FITZ	Fitzroy Crossi	40.88	267	P	P	13 49 05.7	+0.5
FITZ				IAmb	IAmb	13 49 33.0	
	comp=Z,7.8nm,1.4s						
GUMO	Guam	42.47	324	LR	LR	14 05 55.1	
	comp=Z,14nm,18.2s,baz=124,slow=35						
TOLI2	Tolitoli	52.34	289	P	P	13 50 34.5	-0.6
TOLI2				IAmb	IAmb	13 50 36.0	
	comp=Z,8.0nm,0.9s						
SBA	Scott Base	56.06	181	P	P	13 51 02.3	+1.1
MJAR	Matsushiro Arr	64.98	333	P	P	13 52 02.9	+0.3
	comp=Z,2.7nm,0.8s,baz=168,slow=7.6,SNR=7.9						
	comp=Z,2.7nm,0.8s						
QSPA	South Pole Qui	68.21	180	P	P	13 52 21.5	-1.7
QSPA	South Pole Qui	68.21	180	P	P	13 52 22.6	-0.5
	comp=Z,1.7nm,1.0s,baz=32,slow=1.1,SNR=5.3						
	comp=Z,1.7nm,1.0s						
KSRS	Korea Array	70.57	326	P	P	13 52 38.8	+1.0
	comp=Z,1.7nm,0.9s,baz=129,slow=5.0,SNR=4.9						
	comp=Z,1.7nm,0.9s						
PETK	Petropavlovsk-	75.30	353	LR	LR	14 21 07.6	
	comp=Z,28nm,20.3s,baz=126,slow=32						
CMAR	Chiang Mai Arr	79.43	295	P	P	13 53 31.6	+2.2
	comp=Z,0.5nm,0.6s,baz=136,slow=4.3,SNR=4.2						
	comp=Z,0.5nm,0.6s						
BELA	Belgrano 2	79.52	175	P	P	13 53 27.5	-1.5
BELA				IAmb	IAmb	13 53 34.7	
	comp=Z,10nm,1.5s						
L14K	Kuka Creek	85.97	13	P	P	13 54 04.1	+1.7
SONM	Songino Array	89.20	323	P	P	13 54 19.7	+1.2
	comp=Z,1.7nm,1.0s,baz=142,slow=5.3,SNR=8.7						
	comp=Z,1.7nm,1.0s						
YAK	Yakutsk	89.30	343	LR	LR	14 28 49.0	
	comp=Z,17nm,21.1s,baz=324,slow=32						
NVAR	Mina Array Bea	90.65	49	P	P	13 54 25.8	+0.1
	comp=Z,0.3nm,0.6s,baz=254,slow=6.6,SNR=2.9						
	comp=Z,0.3nm,0.6s						
ILAR	Eielson Array	92.77	17	P	P	13 54 33.8	-0.7
	comp=Z,0.3nm,0.6s,baz=255,slow=4.9,SNR=1.8						
	comp=Z,0.3nm,0.6s						
DPC	Dobruska-Polom	144.41	330	*e*PKP	PKPdf	14 00 58.3	-0.5
PVCC	Panska Ves	145.09	331	*e*PKP	PKPdf	14 01 00.5	+0.6
GOPC	GO Pecny, Ondr	145.43	330	*e*PKP	PKPab	14 01 01.5	+0.8
ZVC	Zvikov	146.03	330	*e*PKP	PKPab	14 01 03.4	+0.5
EKA	Eskdalemuir Ar	146.06	352	PKPbc	PKPbc	14 01 01.9	-0.3
	comp=Z,1.0nm,0.8s,baz=11,slow=9.3,SNR=3.5						
CKRC	Cesky Krumlov	146.42	329	*e*PKP	PKPab	14 01 04.4	-0.1
KHC	Kasperske Hory	146.54	330	*e*PKP	PKPab	14 01 05.0	+0.1
GERES	GERESS Array B	146.68	330	PKPbc	PKPab	14 01 05.3	-0.3
	comp=Z,3.3nm,0.8s,baz=31,slow=3.1,SNR=27						

*IDC **07** 13:41:32.7±0.7, 2°.55N×128°.54E, h216km±6km, mb3.9/25, mbtmp4.5/29, Error ellipse: s-maj=12.2km s-min=6.7km az=73.0*
*NEIC **07** 13:41:33.4±0.9, 2°.5N±0°.1×128°.5E±0°.1, h220km±8km, mb4.6/23, Error ellipse: s-maj=17.3km s-min=13.2km az=56.0*
*DJA **07** 13:41:35.8±0.3, 2°.N±3°×12°.8E±°, h202km±3km, M4.5/30, mb4.7/30, mB4.9/15, MLv5.0/19, Mw(mB)4.2/15*
ISC 07 13:41:31.5±0.3, 2°.57N±0°.04×128°.56E±0°.04, h200km, n164, σ1º62/173, mb4.4/37, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.14	214		Pn	13 42 15.5	+4.0
TNTI	Ternate	2.14	214	P	Pn	13 42 15.3	+3.8
TNTI	Ternate	2.14	214	P	Pn	13 42 15.6	+4.0
SGSI	Sangihe	3.22	290	P	Pn	13 42 26.9	+3.1
SGSI				S	Sn	13 43 07.4	+2.7
SWI	Sorong	4.35	142	P	Pn	13 42 42.2	+4.5
KMSI	Cibinong	4.98	247	P	Pn	13 42 48.0	+2.3
KMSI				S	Sn	13 43 45.7	+1.5
SANI	Sanana	5.25	209	P	Pn	13 42 50.5	+1.3
SANI	Sanana	5.25	209	P	Pn	13 42 50.1	+0.9
DAV	Davao City (W)	5.37	327	P	Pn	13 42 52.8	+2.1
	97nm,0.4s,baz=117,slow=6.9,SNR=4.5						
DAV				S	Sn	13 43 57.4	+4.2
	83nm,0.4s,baz=91,slow=22,SNR=1.4						
MSAI	Masohi	5.88	176	P	Pn	13 43 01.6	+4.3
	0.6nm2μm50nm,0.7s						
NLAI	Namlea	5.95	194	P	Pn	13 43 01.0	+2.9
	0.8nm3μm155nm,0.7s						
NLAI				S	Sn	13 44 08.7	+2.0
	0.8nm3μm155nm,0.7s						
AAI	Ambon	6.22	183	P	Pn	13 43 05.5	+3.8
	0.3nm80nm,0.6s						
FAKI	Fak Fak	6.58	146	Pn	Pn	13 43 07.6	+1.3
FAKI	Fak Fak	6.58	146	P	Pn	13 43 09.5	+3.2
FAKI	Fak Fak	6.58	146	P	Pn	13 43 09.6	+3.2
	0.3nm806nm92nm,0.9s						
LUWI	Luwuk	6.80	238	Pn	Pn	13 43 09.6	+0.4
LUWI	Luwuk	6.80	238	P	Pn	13 43 09.7	+0.4
LUWI	Luwuk	6.80	238	S	Sn	13 44 28.0	+1.2
LUWI	Luwuk	6.80	238	P	Pn	13 43 10.0	+0.7
RKPI	Ransiki, Papua	6.93	126	P	Pn	13 43 16.5	+5.6
	1.2nm30nm,0.6s						
MRSI	Marisa	6.93	253	P	Pn	13 43 12.7	+1.8
BNDI	Bandanaira	7.17	169	P	Pn	13 43 17.5	+3.5
	0.9nm107nm,1.3s						
APSI	Ampana	7.72	244	P	Pn	13 43 22.5	+1.3
TOLI2	Tolitoli	7.90	260	Pn	Pn	13 43 24.3	+0.7
TOLI2	Tolitoli	7.90	260	P	Pn	13 43 24.8	+1.2
TOLI2	Tolitoli	7.90	260	S	Sn	13 44 55.4	+2.6
KMPI	Kaimana, Papua	8.05	140	P	Pn	13 43 29.0	+3.6
	1μm91nm,1.0s						
BAKI	Biak	8.42	116	P	Pn	13 43 36.2	+5.9
	50nm,1.0s						
MPSI	Mapaga	8.93	256	P	Pn	13 43 39.1	+2.1
	683nm73nm,1.1s						
PCI	Palu	9.38	249	P	Pn	13 43 44.4	+1.6
	102nm,0.7s						
BBSI	Bau Bau	9.99	217	P	Pn	13 43 53.0	+2.3
	1μm100nm,1.0s						
MYLDM	Lahad Datu	10.36	285	Pn	Pn	13 43 57.5	+2.0
BNSI	Bone	10.92	231	P	Pn	13 44 04.8	+2.1
	928nm96nm,0.6s						
SPSI	Sidrap Palu	10.92	234	P	Pn	13 44 05.0	+2.3
	2μm133nm,0.8s						
SMPI	Sarmi	11.11	114	P	P	13 44 11.1	-0.2
	24nm,0.7s						
BKSI	Bulukumba	11.51	227	P	Pn	13 44 11.9	+1.7
	590nm47nm,0.5s						
KAPI	Kappang	11.58	229	Pn	Pn	13 44 11.5	+0.4
KAPI	Kappang	11.58	229	P	Pn	13 44 12.1	+1.0
	14nm,0.7s,baz=44,slow=10,SNR=15						
KAPI				S	Sn	13 46 18.8	-1.5
	4.6nm,0.4s,baz=218,slow=15,SNR=1.4						
KAPI	Kappang	11.58	229	P	Pn	13 44 12.3	+1.2
KAPI	Kappang	11.58	229	S	Sn	13 46 20.7	+0.3
BSSI	Bau Bau, Buton	11.82	223	P	Pn	13 44 16.6	+2.4
	74nm,0.7s						
GENI	Genyem	12.69	114	P	P	13 44 31.3	+2.4
	280nm,1.1s						
KKM	Kota Kinabalu	12.78	286	Pn	Pn	13 44 26.8	+0.3
KKM	Kota Kinabalu	12.78	286	P	Pn	13 44 29.0	+2.5
SOEI	Soe	12.96	199		Pn	13 44 31.4	+2.6
SOEI	Soe	12.96	199	P	Pn	13 44 29.4	+0.6
SOEI	Soe	12.96	199	P	P	13 44 31.9	-0.2
	76nm,1.3s						
JAY	Jayapura	13.15	112	P	Pn	13 44 32.2	+1.1
	63nm,0.9s,baz=292,slow=5.0,SNR=11						
JAY	Jayapura	13.15	112	P	P	13 44 36.6	+2.5
EDFI	Ende, Flores	13.16	211	P	Pn	13 44 33.4	+2.2
	21nm,0.7s						
MTN	Manton Dam	15.52	171		Pn	13 44 59.6	-0.6
MTN				IAmb	IAmb	13 45 07.4	
	comp=Z,43nm,0.5s						
MTN	Manton Dam	15.52	171	P	Pn	13 44 59.7	-0.5
PLAI	Plampang	15.61	223	P	Pn	13 45 00.8	-0.5
KDU	Kakadu	15.64	166	P	P	13 45 01.6	0.0
SBUM	Sibu	16.32	270	P	P	13 45 10.1	+1.0
JAGI	Jajag, Banyuwa	18.07	233	P	P	13 45 29.0	+0.7
KNRA	Kununurra	18.13	179	P	P	13 45 29.1	+0.3
KSM	Kuching	18.27	267	P	Pn	13 45 32.9	0.0
GUMO	Guam	19.49	55	P	P	13 45 43.6	0.0
	comp=Z,42nm,0.5s,baz=153,slow=7.2,SNR=6.6						
FITZ	Fitzroy Crossi	20.73	188	P	P	13 45 56.0	-0.8
	comp=Z,8.6nm,0.6s,baz=1.1,slow=8.6,SNR=40						
	comp=Z,8.6nm,0.6s						
COEN	Coen	21.90	139	P	P	13 46 07.7	-1.2
COEN				IAmb	IAmb	13 46 08.4	
	comp=Z,20nm,0.9s						
COEN	Coen	21.90	139	P	P	13 46 07.8	-1.2
WB0	Warramunga Arr	22.92	166	P	P	13 46 17.2	-1.1
YHNB	Yeheng	23.04	343	P	P	13 46 20.3	+0.9
WRAB	Tennant Creek	23.07	166	P	P	13 46 18.4	-1.2
WRA	Warramunga Arr	23.08	166	P	P	13 46 18.8	-1.0
	comp=Z,19nm,0.4s,baz=345,slow=10,SNR=245						
	comp=Z,19nm,0.4s						
WB2	Warramunga Arr	23.08	166	P	P	13 46 18.6	-1.1
WB2				IAmb	IAmb	13 46 21.2	
	comp=Z,44nm,0.8s						
BBJI	Bungbulang	23.12	244	P	P	13 46 20.7	+0.5
WR0	Warramunga Arr	23.14	166	P	P	13 46 19.3	-1.0
WR0				IAmb	IAmb	13 46 21.2	
	comp=Z,47nm,1.2s						
QIS	Mount Isa	25.41	155	P	P	13 46 40.5	-0.3
PSA00	Pilbara Seismi	25.46	199	P	P	13 46 40.5	-0.8
AS31	Alice Springs	26.59	169	P	P	13 46 50.5	-0.9
AS31				IAmb	IAmb	13 46 51.5	
	comp=Z,7.8nm,0.5s						
ASAR	Alice Springs	26.59	169	P	P	13 46 50.6	-0.9
ASAR	Alice Springs	26.59	169	P	P	13 46 50.8	-0.6
	comp=Z,15nm,0.5s,baz=353,slow=7.4,SNR=751						
ASAR				PcP	PcP	13 50 09.8	-0.7
	comp=Z,4.2nm,0.4s,baz=354,slow=2.1,SNR=13						
ASAR				ScP	ScP	13 53 27.5	-4.2
	comp=Z,2.3nm,0.8s,baz=347,slow=2.6,SNR=9.6						
ASAR				PKiKP	PKiKP	13 57 46.9	-2.1
	comp=Z,0.1nm,0.3s,baz=4.6,slow=1.4,SNR=7.0						
	comp=Z,15nm,0.5s						
AS01	Alice Springs	26.60	169	P	P	13 46 51.0	-0.5
WRKA	Warakurna	27.44	181	P	P	13 46 58.4	-0.6
GIRL	Giralia	28.69	208	P	P	13 47 10.5	+0.4
JNU	Nakatsue	30.47	4	P	P	13 47 25.4	-0.3
	comp=Z,4.8nm,0.8s,baz=186,slow=9.2,SNR=2.1						
	comp=Z,4.8nm,0.8s						
MEEK	Meekatharra	30.58	198	P	P	13 47 25.7	-1.1
NJ2	Nanjing	30.72	344	*e*P	P	13 47 29.0	+1.2
NJ2				pmax	pmax		
	comp=Z,31nm,0.5s						
OOD	Oodnadatta	30.96	168	P	P	13 47 29.3	-0.7
INKA	Innaminka	32.34	160	P	P	13 47 41.6	-0.4
CMAR	Chiang Mai Arr	33.03	301	P	P	13 47 49.4	+1.1
	comp=Z,1.2nm,0.8s,baz=123,slow=7.9,SNR=8.1						
CMAR				PcP	PcP	13 50 27.6	+0.3
	comp=Z,0.9nm,0.8s,baz=135,slow=1.4,SNR=5.2						
CMAR				ScP	ScP	13 53 50.0	-2.7
	comp=Z,1.2nm,0.9s,baz=151,slow=2.5,SNR=6.8						
	comp=Z,1.2nm,0.8s						
FORT	Forrest	33.16	181	P	P	13 47 48.1	-1.0
FORT				IAmb	IAmb	13 47 49.7	
	comp=Z,24nm,0.7s						
FORT	Forrest	33.16	181	P	P	13 47 48.5	-0.7
MORW	Morawa	33.67	200	P	P	13 47 52.6	-1.0
LCRK	Leigh Creek	34.10	165	P	P	13 47 56.9	-0.4
KMBL	Kambalda	34.34	190	P	P	13 47 58.9	-0.4
KSRS	Korea Array	34.72	359	P	P	13 48 02.2	-0.3
	comp=Z,1.8nm,0.7s,baz=175,slow=9.5,SNR=9.7						
	comp=Z,1.8nm,0.7s						
BLDU	Ballidu	34.88	198	P	P	13 48 02.9	-1.1
MJAR	Matsushiro Arr	34.96	14	P	P	13 48 03.3	-1.4
	comp=Z,2.2nm,0.6s,baz=185,slow=8.9,SNR=11						
	comp=Z,2.2nm,0.6s						
PZH	PanZhiHua	35.05	315	P	P	13 48 08.2	+2.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,5.1s						
KLBR	Kellerberrin	35.49	196	P	P	13 48 08.5	-0.7
BBOO	Buckleboo	35.89	169	P	P	13 48 11.8	-0.8
BBOO	Buckleboo	35.89	169	P	P	13 48 12.0	-0.6
XAN	Xi'an	36.28	332	P	P	13 48 14.8	-1.2
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MUN	Mundaring	36.30	198	P	P	13 48 14.9	-1.2
WHYH	Whyalla	36.42	167	P	P	13 48 16.8	-0.2
STKA	Stephens Creek	36.42	161	P	P	13 48 16.3	-0.8
STKA	Stephens Creek	36.42	161	P	P	13 48 16.5	-0.6
	comp=Z,20nm,0.4s,baz=339,slow=8.3,SNR=75						
STKA				PcP	PcP	13 50 36.2	-0.6
	comp=Z,4.4nm,0.6s,baz=333,slow=2.3,SNR=2.9						
	comp=Z,20nm,0.4s						
STKA	Stephens Creek	36.42	161	P	P	13 48 16.6	-0.6
NWAO	Narrogin (SRO)	36.89	196	P	P	13 48 20.5	-0.5
HTT	Hallett	37.12	166	P	P	13 48 22.7	-0.3
CMSA	Cobar Meteorol	37.63	156	P	P	13 48 26.9	-0.3
ARMA	Armidale	39.51	148	P	P	13 48 42.9	-0.2
H11S3	WAKE ISLAND Hy	40.56	64	T	T	14 32 38.2	
	baz=252,slow=75,SNR=8.9						
H11S2	WAKE ISLAND Hy	40.57	64	T	T	14 32 38.9	
	baz=252,slow=75,SNR=7.7						
H11S1	WAKE ISLAND Hy	40.57	64	T	T	14 32 39.8	
	baz=252,slow=75,SNR=7.1						
ARPS	Mount Arapiles	41.04	164	P	P	13 48 55.4	0.0
HHC	Hu-ho-hao-te	41.08	340	*e*P	P	13 48 57.3	+1.5
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
H11N1	WAKE ISLAND Hy	41.13	63	T	T	14 33 25.2	
	baz=250,slow=75,SNR=11						
H11N2	WAKE ISLAND Hy	41.15	63	T	T	14 33 25.9	
	baz=250,slow=75,SNR=7.7						
H11N3	WAKE ISLAND Hy	41.15	63	T	T	14 33 27.1	
	baz=250,slow=75,SNR=8.1						
KLR	Kul'dur	46.57	3	P	P	13 49 39.0	-0.2
	comp=Z,0.6nm,0.5s,baz=202,slow=5.4,SNR=2.1						
	comp=Z,0.6nm,0.5s						
SONM	Songino Array	48.99	340	P	P	13 49 57.4	-0.5
	comp=Z,0.6nm,0.5s,baz=148,slow=6.9,SNR=5.1						
SONM				pP	pP	13 50 44.8	+3.1
	comp=Z,1.2nm,0.9s,baz=133,slow=6.7,SNR=4.5						
SONM				PcP	PcP	13 51 18.6	-0.2
	comp=Z,0.9nm,0.6s,baz=164,slow=4.1,SNR=4.4						
	comp=Z,0.6nm,0.5s						
MSVF	Nonsavu	52.77	114	P	P	13 50 25.9	-0.7
MSVF				IAmb	IAmb	13 50 29.6	
	comp=Z,11nm,1.1s						
MSVF	Nonsavu	52.77	114	P	P	13 50 26.9	+0.3
	comp=Z,4.1nm,0.4s,baz=268,slow=9.4,SNR=16						
	comp=Z,4.1nm,0.4s						
PETK	Petropavlovsk-	55.84	21	P	P	13 50 48.4	+0.3
	comp=Z,1.9nm,0.6s,baz=200,slow=5.9,SNR=8.2						
	comp=Z,1.9nm,0.6s						
JCZ	Jackson Bay	58.74	147	P	P	13 51 08.9	+0.3
QRZ	Quartz Range	58.89	142	P	P	13 51 10.8	+1.2
FOZ	Fox Glacier	58.96	146	P	P	13 51 10.5	+0.5
TOZ	Tahuroa Road	59.09	138	P	P	13 51 12.1	+1.1
WVZ	Waitaha Valley	59.19	145	P	P	13 51 11.9	+0.4
MKAR	Makanchi Array	59.55	325	P	P	13 51 13.4	-0.7
MKAR	Makanchi Array	59.55	325	P	P	13 51 13.7	-0.3
	comp=Z,2.2nm,0.4s,baz=114,slow=7.8,SNR=39						
MKAR				PcP	pP	13 51 58.5	-0.5
	comp=Z,1.0nm,0.5s,baz=123,slow=6.0,SNR=7.5						
MKAR				ScP	ScP	13 55 36.0	-5.0
	comp=Z,0.7nm,0.8s,baz=123,slow=4.5,SNR=3.9						
	comp=Z,2.2nm,0.4s						
NNZ	Nelson	59.64	142	P	P	13 51 13.5	-1.2
THZ	Tophouse	59.67	143	P	P	13 51 14.4	-0.6
LBZ	Lake Benmore	59.71	147	P	P	13 51 15.3	+0.1
MAKZ	Makanchi	59.74	325	P	P	13 51 15.0	-0.3
MAKZ				IAmb	IAmb	13 51 15.7	
	comp=Z,3.3nm,0.5s						
LTZ	Lake Taylor	59.90	144	P	P	13 51 16.4	-0.1
KHZ	Kahutara	60.44

comp=Z,5.2nm,1.1s,baz=186,slow=6.6,SNR=6.0
LPAZ La Paz 158.66 131 PKPab **PKPab 14 01 43.5 +0.3**
comp=Z,1.4nm,0.4s,baz=212,slow=5.5,SNR=8.1

*KNET **07** 14:41:46.8±0.3,42°.91N×74°.96E,h14km±3km,ml1.0,Error ellipse: s-maj=3.0km s-min=1.5km az=179.0*
*SOME **07** 14:41:46.5,42°.97N×74°.92E,h10km*
*NNC **07** 14:41:47.2±0.4,42°.92N×74°.97E,h2km±1km,mb3.0,mpv2.6,Error ellipse: s-maj=4.4km s-min=0.9km az=10.0*
ISC 07 14:41:46.9±0.8,**42°.92N**±0°.03×**74°.96E**±0°.02,**h16**km±6km,**n28**,σ0**°45**/50,**13C-5D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.17**	**297**	⇑P	**Pg**	**14 41 51.2**	**0.0**
	5.8nm,0.1s,SNR=17						
CHMS				⇑S	**Sg**	**14 41 53.8**	**-0.3**
	105nm,0.1s						
CHMS	**Chumysh**	**0.17**	**297**	⇓P	**Pg**	**14 41 51.2**	**0.0**
	1.7nm,0.4s						
CHMS				⇑S	**Sg**	**14 41 53.7**	**-0.4**
	19nm,0.3s						
KBK	**Karagaybulak**	**0.27**	**181**	⇓P	**Pb**	**14 41 53.2**	**-0.3**
	34nm,0.1s,SNR=66						
KBK				⇓S	**Sb**	**14 41 57.7**	**-0.1**
	78nm,0.2s						
AAK	**Ala-Archa**	**0.44**	**230**	⇑P	**Pg**	**14 41 56.0**	**0.0**
	5.8nm,0.2s,SNR=5.7						
AAK				⇑S	**Sg**	**14 42 02.1**	**+0.1**
	26nm,0.3s						
TKM2	**Tokmak 2**	**0.47**	**90**	⇑P	**Pg**	**14 41 56.6**	**+0.1**
	2.5nm,0.2s,SNR=23						
TKM2				⇑S	**Sg**	**14 42 03.4**	**+0.5**
	29nm,0.2s						
TKM2	**Tokmak 2**	**0.47**	**90**	⇑S	**Sg**	**14 42 03.3**	**+0.5**
	3.0nm,0.2s						
TKM2	**Tokmak 2**	**0.47**	**90**	⇑P	**Pg**	**14 41 56.4**	**0.0**
	1.1nm,0.3s						
DGS	**Degeres**	**0.68**	**62**	P	**Pg**	**14 41 60.0**	**-0.3**
	2.3nm,0.2s						
DGS				S	**Sb**	**14 42 09.9**	**+0.3**
	5.2nm,0.1s						
UCH	**Uchtor**	**0.77**	**205**	⇓P	**Pg**	**14 42 01.9**	**-0.1**
	0.9nm,0.2s						
UCH				⇑S	**Sg**	**14 42 12.0**	**-0.3**
	1.8nm,0.1s						
EKS2	**Erkin-Say**	**0.91**	**254**	⇑P	**Pb**	**14 42 04.4**	**+0.1**
	3.7nm,0.2s,SNR=24						
EKS2				⇑S	**Sn**	**14 42 18.1**	**+0.1**
	1.2nm,0.1s						
KRBS	**Karabastau**	**0.93**	**34**	P	**Pb**	**14 42 04.5**	**-0.3**
	1.1nm,0.1s						
KRBS				S	**Sg**	**14 42 17.7**	**+0.3**
	4.7nm,0.2s						
MTBS	**Maitube**	**1.10**	**79**	P	**Pb**	**14 42 07.5**	**-0.2**
	0.5nm,0.1s						
MTBS				S	**Sn**	**14 42 23.0**	**+0.4**
	1.9nm,0.2s						
MTBS	**Maitube**	**1.10**	**79**	*e*P	**Pb**	**14 42 07.5**	**-0.2**
	0.5nm,0.1s						
MTBS				*e*S	**Sn**	**14 42 23.0**	**+0.4**
	1.9nm,0.2s						
ULHL	**Ulahol**	**1.17**	**125**	⇓P	**Pg**	**14 42 09.3**	**-0.2**
	1.4nm,0.1s,SNR=5.7						
ULHL				⇑S	**Sg**	**14 42 25.1**	**+0.3**
	2.5nm,0.2s						
MRKS	**Merke**	**1.28**	**263**	P	**Pn**	**14 42 10.3**	**0.0**
	1.6nm,0.2s						
MRKS				S	**Sn**	**14 42 27.5**	**+0.3**
	2.4nm,0.3s						
MRKS	**Merke**	**1.28**	**263**	*e*P	**Pn**	**14 42 10.3**	**0.0**
	1.6nm,0.2s						
MRKS				*e*S	**Sn**	**14 42 27.5**	**+0.3**
	2.4nm,0.3s						
KUU	**Kurty**	**1.40**	**46**	P	**Pb**	**14 42 12.7**	**0.0**
	1.0nm,0.2s						
KUU				S	**Sg**	**14 42 31.6**	**-0.4**
	18nm,0.1s						
KUU	**Kurty**	**1.40**	**46**	*e*P	**Pb**	**14 42 12.7**	**0.0**
	1.0nm,0.2s						
KUU				*e*S	**Sg**	**14 42 31.6**	**-0.4**
	18nm,0.1s						
TNSS	**Tian-Shan**	**1.47**	**85**	P	**Pg**	**14 42 14.7**	**-0.5**
	1.3nm,0.2s						
TNSS				S	**Sg**	**14 42 35.1**	**+0.8**
	1.0nm,0.2s						
TNSS	**Tian-Shan**	**1.47**	**85**	*e*P	**Pg**	**14 42 14.7**	**-0.5**
	1.3nm,0.2s						
TNSS				*e*S	**Sg**	**14 42 35.1**	**+0.8**
	1.0nm,0.2s						
KTBS	**Karatobe**	**1.49**	**57**	P	**Pb**	**14 42 14.2**	**0.0**
	1.3nm,0.2s						
KTBS				S	**Sg**	**14 42 34.3**	**-0.6**
	3.9nm,0.3s						
MDOK	**Medeo**	**1.55**	**80**	Pg	**Pg**	**14 42 16.4**	**-0.4**
	0.9nm,0.1s						
MDOK				Lg	Lg	14 42 38.1	
	1.9nm,0.3s						
CHKK	**Chushkaly**	**1.75**	**57**	P	**Pb**	**14 42 19.2**	**+0.6**
	0.5nm,0.1s						
CHKK				S	**Sg**	**14 42 43.0**	**-0.3**
	6.8nm,0.2s						
CHKK	**Chushkaly**	**1.75**	**57**	*e*P	**Pb**	**14 42 19.2**	**+0.6**
	0.5nm,0.1s						
CHKK				*e*S	**Sg**	**14 42 43.0**	**-0.3**
	6.8nm,0.2s						
ARXS	**Arharly**	**2.45**	**57**	Pg	**Pb**	**14 42 31.1**	**+0.4**
	4.9nm,0.3s						
ARXS				Lg	Lg	14 43 03.3	
	19nm,0.2s						
SATY	**Saty**	**2.54**	**86**	Pg	**Pg**	**14 42 34.3**	**-1.2**
	0.7nm,0.1s						
SATY				Lg	Lg	14 43 08.9	
	2.9nm,0.2s						
SATY	**Saty**	**2.54**	**86**	*e*P	**Pb**	**14 42 31.1**	**-1.0**
	4.9nm,0.3s						
SATY				*e*S	**Sb**	**14 43 03.3**	**+0.2**
	19nm,0.2s						
BLB	**Baldybastay**	**2.82**	**64**	Pg	**Pb**	**14 42 38.1**	**+1.1**
	1.0nm,0.1s						
BLB				Lg	Lg	14 43 15.6	
	0.2nm,0.1s						

*SJA **07** 14:57:34.8±0.8,32°.02S×71°.69W,h40km±608km,ML4.1,MW4.2*
*NEIC **07** 14:57:35.0±1.2,31°.99S±0°.05×71°.9W±0°.1,h67km±13km,mb4.5/6,Error ellipse: s-maj=12.5km s-min=6.9km az=94.0*
*GUC **07** 14:57:36.0±0.8,32°.00S×71°.59W,h48km±150km,ML4.1*
*IDC **07** 14:57:37.8±3.1,32°.01S×71°.52W,h74km±26km,mb3.8/4,mbtmp4.2/9,MS3.2/1,Error ellipse: s-maj=29.3km s-min=18.5km az=126.0*
*VAO **07** 14:57:55.8±2.2,31°.16S×70°.61W,h174km±14km,mb4.3*
ISC 07 14:57:34.8±0.9,**32°.00S**±0°.02×**71°.75W**±0°.05,**h57**km±9km,**n140**,σ1**°25**/159,**mb4.4**/6,**7C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**1.02**	**39**		**Pn**	**14 57 54.1**	**+1.1**
CO02	**Combarbal**	**1.02**	**39**	⇑*i*P	**Pn**	**14 57 54.2**	**+1.1**
CO02				*i* S	**Sn**	**14 58 07.1**	**+0.6**
CO02	**Combarbal**	**1.02**	**39**	*i* P	**Pn**	**14 57 54.3**	**+1.2**
CO02				IAML		14 58 07.6	
	comp=Z,21μm,0.2s						
CO02				*i* S	**Sn**	**14 58 07.7**	**+1.2**
VA01	**Torpederas**	**1.03**	**175**		**Pn**	**14 57 54.6**	**+1.5**
VA01	**Torpederas**	**1.03**	**175**	*e*P	**Pn**	**14 57 54.5**	**+1.5**
VA01				*i* S	**Sn**	**14 58 08.1**	**+1.5**
VA01				IAML		14 58 09.6	
	comp=N,7μm,0.1s						
VA01	**Torpederas**	**1.03**	**175**	*i* P	**Pn**	**14 57 53.7**	**+0.7**
VA01				*i* S	**Sn**	**14 58 07.5**	**+0.9**
VA01				IAML		14 58 08.7	
	comp=Z,3μm,0.7s						
ROCH	**El Roble**	**1.16**	**148**	⇑*i*P	**Pn**	**14 57 55.8**	**+0.8**
ROCH				*i* S	**Sn**	**14 58 10.1**	**+0.1**
ROCH				IAML		14 58 11.2	
	comp=N,7μm,0.4s						
ROC1	**El Roble**	**1.16**	**148**	*i* P	**Pn**	**14 57 55.5**	**+0.4**
ROC1				*i* S	**Sn**	**14 58 10.5**	**+0.4**
VA03	**San Esteban**	**1.27**	**127**		**Pn**	**14 57 57.0**	**+0.6**
VA03	**San Esteban**	**1.27**	**127**	⇓*i*P	**Pn**	**14 57 56.9**	**+0.6**
VA03				*i* S	**Sn**	**14 58 11.7**	**-0.8**
VA03				IAML		14 58 13.0	
	comp=E,11μm,0.2s						
VA03	**San Esteban**	**1.27**	**127**	*i* P	**Pn**	**14 57 57.0**	**+0.6**
VA03				*i* S	**Sn**	**14 58 12.8**	**+0.3**
VA03				IAML		14 58 15.7	
	comp=Z,4μm,0.4s						
CO06	**Fray Jorge**	**1.32**	**4**		**Pn**	**14 57 58.5**	**+1.5**
CO06	**Fray Jorge**	**1.32**	**4**	⇑*i*P	**Pn**	**14 57 58.5**	**+1.5**
CO06				*i* S	**Sn**	**14 58 14.4**	**+0.8**
CO06				IAML		14 58 15.9	
	comp=E,9μm,0.1s						
MT02	**Curacav**	**1.36**	**158**		**Pn**	**14 57 58.3**	**+0.8**
MT02	**Curacav**	**1.36**	**158**	*e*P	**Pn**	**14 57 58.3**	**+0.8**
MT02				*i* S	**Sn**	**14 58 12.4**	**-2.2**
MT02	**Curacav**	**1.36**	**158**	*i* P	**Pn**	**14 57 58.5**	**+0.9**
MT02				*i* S	**Sn**	**14 58 15.1**	**+0.5**
MT02				IAML		14 58 17.2	
	comp=Z,1μm,0.8s						
PEL	**Peldehue**	**1.46**	**142**		**Pn**	**14 57 59.4**	**+0.5**
PEL	**Peldehue**	**1.46**	**142**	*e*P	**Pn**	**14 57 59.3**	**+0.5**
PEL				*i* S	**Sn**	**14 58 16.0**	**-0.9**
PEL				IAML		14 58 18.0	
	comp=N,4μm,0.4s						
PEL	**Peldehue**	**1.46**	**142**	*i* P	**Pn**	**14 57 59.5**	**+0.7**
PEL				IAML		14 58 19.8	
	comp=Z,3μm,0.4s						
CO03	**El Pedregal**	**1.47**	**38**		**Pn**	**14 58 00.0**	**+1.0**
CO03	**El Pedregal**	**1.47**	**38**	⇑*i*P	**Pn**	**14 58 00.1**	**+1.0**
CO03				*i* S	**Sn**	**14 58 17.7**	**+0.4**
CO03	**El Pedregal**	**1.47**	**38**	*i* P	**Pn**	**14 58 00.2**	**+1.1**
CO03				*i* S	**Sn**	**14 58 18.5**	**+1.2**
CO03				IAML		14 58 19.3	
	comp=Z,4μm,0.5s						
MT05	**Renca**	**1.63**	**149**	Pn	**Pn**	**14 58 02.2**	**+1.0**
MT05	**Renca**	**1.63**	**149**	*e*P	**Pn**	**14 58 02.2**	**+1.0**
MT05				*i* S	**Sn**	**14 58 20.9**	**-0.4**
MT10	**Hacienda Santa**	**1.63**	**142**	*e*P	**Pn**	**14 58 02.3**	**+1.0**
MT10				*i* S	**Sn**	**14 58 21.8**	**+0.4**
MT10				IAML		14 58 23.6	
	comp=E,7μm,0.5s						
VA05	**Santo Domingo**	**1.66**	**176**		**Pn**	**14 58 02.8**	**+1.3**
VA05	**Santo Domingo**	**1.66**	**176**	*e*P	**Pn**	**14 58 02.8**	**+1.3**
VA05				*i* S	**Sn**	**14 58 21.9**	**+0.1**
VA05				IAML		14 58 26.8	
	comp=E,6μm,0.3s						
MT14	**Cerro Cal¡n**	**1.73**	**144**	*e*P	**Pn**	**14 58 03.7**	**+1.1**
MT14				IAML		14 58 26.1	
	comp=N,5μm,0.4s						
MT16	**CCHEN**	**1.76**	**144**	Pn	**Pn**	**14 58 04.0**	**+1.0**
MT16	**CCHEN**	**1.76**	**144**	⇓*i*P	**Pn**	**14 58 04.1**	**+1.0**
MT16				*i* S	**Sn**	**14 58 24.8**	**+0.4**
MT16				IAML		14 58 26.2	
	comp=N,2μm,0.5s						
FCH	**Farellones**	**1.81**	**138**	⇓*i*P	**Pn**	**14 58 04.7**	**+0.8**
FCH				*i* S	**Sn**	**14 58 25.3**	**-0.6**
FCH				IAML		14 58 32.3	
	comp=N,2μm,0.4s						
MT03	**Universidad Ad**	**1.82**	**145**		**Pn**	**14 58 05.0**	**+1.1**
MT03	**Universidad Ad**	**1.82**	**145**	*e*P	**Pn**	**14 58 05.0**	**+1.1**
MT03				*i* S	**Sn**	**14 58 26.2**	**+0.3**
MT03				IAML		14 58 28.2	
	comp=E,9μm,0.4s						
MT09	**Talagante**	**1.89**	**160**		**Pn**	**14 58 06.3**	**+1.5**
MT09	**Talagante**	**1.89**	**160**	*e*P	**Pn**	**14 58 06.4**	**+1.6**
MT09				*i* S	**Sn**	**14 58 28.1**	**+0.6**
MT09				IAML		14 58 31.4	
	comp=N,4μm,0.2s						
MT01	**Popeta**	**1.91**	**167**		**Pn**	**14 58 06.3**	**+1.4**
MT01	**Popeta**	**1.91**	**167**	*e*P	**Pn**	**14 58 06.4**	**+1.4**
MT01				*i* S	**Sn**	**14 58 29.0**	**+1.1**
MT01				IAML		14 58 34.5	
	comp=E,2μm,0.5s						
MT15	**Las Vizcachas**	**1.91**	**147**	*e*P	**Pn**	**14 58 06.1**	**+1.1**
MT15				*i* S	**Sn**	**14 58 28.5**	**+0.5**
MT15				IAML		14 58 29.6	
	comp=E,6μm,0.4s						
MT04	**Ro Olivares**	**1.96**	**136**	*e*P	**Pn**	**14 58 06.8**	**+1.0**
MT04				*i* S	**Sn**	**14 58 30.2**	**+0.8**
MT04				IAML		14 58 33.8	
	comp=N,2μm,0.8s						
GO04	**Tololo Observa**	**1.99**	**24**		**Pn**	**14 58 07.3**	**+0.9**
GO04	**Tololo Observa**	**1.99**	**24**	⇑*i*P	**Pn**	**14 58 07.3**	**+0.9**
GO04				*i* S	**Sn**	**14 58 28.8**	**-1.5**
GO04	**Tololo Observa**	**1.99**	**24**	*i* P	**Pn**	**14 58 07.6**	**+1.3**
GO04				IAML		14 58 38.5	
	comp=Z,3μm,0.2s						
MT12	**Pirque**	**2.00**	**150**	*e*P	**Pn**	**14 58 07.6**	**+1.3**
MT12				*i* S	**Sn**	**14 58 30.9**	**+0.6**
MT08	**Bocatoma Ro**	**2.05**	**135**		**Pn**	**14 58 08.7**	**+1.5**
MT08	**Bocatoma Ro**	**2.05**	**135**	*e*P	**Pn**	**14 58 08.8**	**+1.6**
MT08				*i* S	**Sn**	**14 58 33.9**	**+2.2**
MT08				IAML		14 58 41.3	
	comp=N,2μm,0.4s						
RTLS	**Leoncito**	**2.10**	**85**	*i* P	**Pn**	**14 58 09.7**	**+2.0**
RTLS				IAML		14 58 39.6	
	comp=Z,3μm,0.7s						
CO05	**La Serena**	**2.12**	**12**		**Pn**	**14 58 08.9**	**+1.2**
CO05	**La Serena**	**2.12**	**12**	*e*P	**Pn**	**14 58 09.0**	**+1.2**
CO05				*i* S	**Sn**	**14 58 33.1**	**+0.2**
CO05				IAML		14 58 45.6	
	comp=E,2μm,0.5s						
MT13	**San Alfonso**	**2.13**	**145**		**Pn**	**14 58 09.3**	**+1.2**
MT13	**San Alfonso**	**2.13**	**145**	*e*P	**Pn**	**14 58 09.4**	**+1.2**
MT13				*i* S	**Sn**	**14 58 34.1**	**+0.6**
MT13				IAML		14 58 35.5	
	comp=E,3μm,0.2s						
BO04	**La Punta**	**2.21**	**155**		**Pn**	**14 58 10.5**	**+1.4**
BO04	**La Punta**	**2.21**	**155**	*e*P	**Pn**	**14 58 10.4**	**+1.4**
BO04				*i* S	**Sn**	**14 58 34.9**	**-0.3**
BO04				IAML		14 58 36.8	
	comp=E,2μm,0.4s						
LMEL	**Las Melosas**	**2.26**	**145**		**Pn**	**14 58 11.4**	**+1.5**
LMEL	**Las Melosas**	**2.26**	**145**	*e*P	**Pn**	**14 58 11.4**	**+1.5**
LMEL				*i* S	**Sn**	**14 58 37.6**	**+0.9**
LMEL				IAML		14 58 39.0	
	comp=N,2μm,0.2s						
BO01	**Tunca**	**2.45**	**167**	Pn	**Pn**	**14 58 13.5**	**+1.1**
BO01	**Tunca**	**2.45**	**167**	*e*P	**Pn**	**14 58 13.7**	**+1.3**
BO01				*i* S	**Sn**	**14 58 41.1**	**-0.1**
BO01				IAML		14 59 00.8	
	comp=N,634nm,0.2s						
BO01	**Tunca**	**2.45**	**167**	*i* P	**Pn**	**14 58 13.7**	**+1.3**
BO01				IAML		14 58 58.7	
	comp=Z,500nm,0.9s						
CO01	**Juntas del Tor**	**2.46**	**36**		**Pn**	**14 58 14.2**	**+1.5**
CO01	**Juntas del Tor**	**2.46**	**36**	⇑*i*P	**Pn**	**14 58 14.3**	**+1.5**
CO01				*i* S	**Sn**	**14 58 42.0**	**+0.2**
CO01	**Juntas del Tor**	**2.46**	**36**	*i* P	**Pn**	**14 58 14.3**	**+1.5**
CO01				IAML		14 59 00.3	
	comp=Z,478nm,0.5s						
BO03	**Pichilemu**	**2.50**	**184**	⇑*i*P	**Pn**	**14 58 14.0**	**+1.0**
BO03				*i* S	**Sn**	**14 58 41.5**	**-0.8**
BO03				IAML		14 58 43.0	
	comp=E,1μm,0.7s						
ARCO	**CERRO ARCO**	**2.53**	**110**	IAML		14 58 50.0	
	comp=Z,711nm,0.4s						
ASAL	**Salagasta**	**2.54**	**104**	*i* P	**Pn**	**14 58 16.7**	**+3.1**
ASAL				IAML		14 58 54.4	
	comp=Z,359nm,0.8s						
ZON	**Zonda**	**2.65**	**81**		**Pn**	**14 58 16.8**	**+1.6**
ZON	**Zonda**	**2.65**	**81**	*i* P	**Pn**	**14 58 16.5**	**+1.3**
ZON				*e*P		14 58 17.9	
ZON				IAML		14 59 08.9	
	comp=Z,495nm,0.6s						
AROD	**Rodeo**	**2.67**	**48**	*i* P	**Pn**	**14 58 18.4**	**+2.7**
ACCO	**Cerro Coronel**	**2.69**	**59**	*i* P	**Pn**	**14 58 20.1**	**+4.1**
AAGR	**Agrelo**	**2.70**	**115**	*i* P	**Pn**	**14 58 18.9**	**+3.1**
AAGR				IAML		14 59 01.4	
	comp=Z,438nm,0.5s						
SJA	**San Juan**	**2.76**	**81**	IAML		14 58 39.8	
	comp=Z,886nm,1.1s						
ACDV	**Cuesta del Vie**	**2.90**	**52**	*i* P	**Pn**	**14 58 21.1**	**+2.5**
ACDV				IAML		14 59 23.1	
	comp=Z,313nm,0.9s						
BO02	**Sierra Bellavi**	**2.90**	**164**	Pn	**Pn**	**14 58 19.9**	**+1.3**
BO02	**Sierra Bellavi**	**2.90**	**164**	*e*P	**Pn**	**14 58 19.7**	**+1.1**
BO02				*i* S	**Sn**	**14 58 53.0**	**+0.7**
BO02	**Sierra Bellavi**	**2.90**	**164**	*i* P	**Pn**	**14 58 20.2**	**+1.6**
BO02				IAML		14 59 15.1	
	comp=Z,742nm,0.5s						
CFA	**Coronel Fontan**	**3.02**	**83**	P	**Pn**	**14 58 21.6**	**+1.5**
	comp=Z,74nm,0.4s,baz=250,slow=9.9,SNR=163						
CFA				S	**Sn**	**14 58 54.8**	**-0.3**
	comp=Z,214nm,0.7s,baz=16,slow=15,SNR=9.5						
LCO	**Las Campanas**	**3.11**	**17**		**Pn**	**14 58 22.6**	**+0.9**
LCO	**Las Campanas**	**3.11**	**17**	*e*P	**Pn**	**14 58 22.4**	**+0.8**
LCO				*i* S	**Sn**	**14 58 57.0**	**-0.7**
AC05	**El Transito**	**3.40**	**22**		**Pn**	**14 58 26.9**	**+1.4**
ML02	**Panimavida**	**3.77**	**176**		**Pn**	**14 58 30.9**	**+0.5**
AC04	**Llanos de Chal**	**3.82**	**9**	Pn	**Pn**	**14 58 31.5**	**+0.3**
AVFE	**Valle Fertil**	**3.91**	**71**	*i* P	**Pn**	**14 58 32.7**	**+0.3**
AVFE				IAML		14 59 42.2	
	comp=Z,308nm,0.4s						
VCA	**Vinchina**	**4.46**	**44**	IAML		15 00 02.9	
	comp=Z,406nm,0.9s						
GO03	**Copiapo**	**4.58**	**17**		**Pn**	**14 58 42.0**	**+0.4**
BI02	**San Fabin de**	**4.67**	**175**		**Pn**	**14 58 44.1**	**+1.3**
BI02	**San Fabin de**	**4.67**	**175**	IAML		14 59 41.1	
	comp=Z,136nm,0.5s						
AC06	**Mina Casimiro**	**4.78**	**15**		**Pn**	**14 58 44.2**	**-0.1**
ACLC	**CERRO LA CRUZ**	**4.86**	**59**	IAML		15 00 05.3	
	comp=Z,129nm,0.8s						
BI05	**Punta Hualpn**	**4.89**	**194**		**Pn**	**14 58 45.7**	**0.0**
BI05	**Punta Hualpn**	**4.89**	**194**	IAML		14 59 42.9	
	comp=Z,126nm,0.3s						
H03N1	**Juan Fernandez**	**6.21**	**255**	T	T	15 05 50.2	
	baz=80,slow=73,SNR=6.5						
H03N3	**Juan Fernandez**	**6.22**	**255**	T	T	15 05 49.6	
	baz=80,slow=73,SNR=577						
H03N2	**Juan Fernandez**	**6.22**	**255**	T	T	15 05 50.9	
	baz=80,slow=73,SNR=370						
H03S3	**Juan Fernandez**	**6.29**	**251**	T	T	15 05 46.2	
	baz=70,slow=79,SNR=6.5						
H03S1	**Juan Fernandez**	**6.29**	**251**	T	T	15 05 45.5	
	baz=70,slow=79,SNR=91						
H03S2	**Juan Fernandez**	**6.31**	**251**	T	T	15 05 45.6	
	baz=70,slow=79,SNR=17						
PLCA	**Paso Flores**	**8.77**	**174**		**Pn**	**14 59 39.7**	**+0.7**
PLCA	**Paso Flores**	**8.77**	**174**	P	**Pn**	**14 59 40.3**	**+1.3**
	comp=Z,5.5nm,0.5s,baz=339,slow=11,SNR=90						
TRQA	**Tornquist**	**10.03**	**130**		**Pn**	**14 59 56.1**	**-0.1**
ITQB	**Itaqui**	**13.20**	**84**	*e*P	**P**	**15 00 44.1**	**-3.6**
TBOT	**Tacuaremb**	**13.45**	**93**	*e*P	**P**	**15 00 48.7**	**-1.6**
CPUP	**Villa Florida**	**13.80**	**70**	P	**Pn**	**15 00 46.4**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=222,slow=14,SNR=3.8						
CPUP				S	**Sn**	**15 03 18.0**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=30,slow=15,SNR=1.4						
CPUP				LR	LR	15 05 56.2	
	comp=Z,90nm,18.8s,baz=246,slow=37						
PB18	**Visviri**	**14.49**	**9**	P	**P**	**15 01 02.9**	**+0.3**
SJPY	**San Joaquin**	**15.41**	**67**	*e*P	**Pn**	**15 01 09.3**	**+0.6**
LPAZ	**La Paz**	**15.98**	**13**	P	**Pn**	**15 01 17.4**	**+0.8**
LPAZ	**La Paz**	**15.98**	**13**	P	**P**	**15 01 18.1**	**-1.1**
	comp=Z,16nm,0.6s,baz=185,slow=6.3,SNR=70						
LPAZ	**La Paz**	**15.98**	**13**	*e*P	**Pn**	**15 01 18.0**	**+1.4**
MURT	**Porto Murtinho**	**16.27**	**54**	*e*P	**Pn**	**15 01 18.6**	**-1.0**
BDQN	**Bodoquena, MS**	**17.68**	**53**	*e*P	**Pn**	**15 01 36.1**	**-1.0**
SIV	**San Ignacio**	**18.66**	**34**	P	**P**	**15 01 47.5**	**-0.7**
	comp=Z,24nm,0.7s,baz=202,slow=9.0,SNR=108						
PTGB	**Pitanga**	**18.77**	**72**	*e*P	**P**	**15 01 48.5**	**-0.9**
RPRD	**Ribas do Rio P**	**19.81**	**59**	*e*P	**P**	**15 02 00.1**	**-0.6**
PTLB	**Pontes e Lacer**	**20.09**	**38**	P	**P**	**15 02 03.1**	**-0.6**
PTLB				IAmb	IAmb	15 02 06.2	
	comp=Z,16nm,0.9s						
PTLB	**Pontes e Lacer**	**20.09**	**38**	*e*P	**P**	**15 02 03.4**	**-0.3**
LDASE	**Londrina, Braz**	**20.16**	**70**	*e*P	**P**	**15 02 03.0**	**-1.5**
FRTB	**Fartura**	**21.43**	**72**	*e*P	**P**	**15 02 16.5**	**-1.7**
C2SB	**Chapadao do Su**	**21.53**	**57**	*e*P	**P**	**15 02 19.1**	**-0.2**
SALV	**Santo Antonio**	**21.68**	**46**	*e*P	**P**	**15 02 19.5**	**-1.4**
VILB	**Vilhena**	**21.72**	**32**	P	**P**	**15 02 20.5**	**-0.9**
VILB				IAmb	IAmb	15 02 21.6	
	comp=Z,28nm,0.8s						
ITRB	**Iturama**	**22.76**	**63**	*e*P	**P**	**15 02 30.3**	**-2.2**
VAO	**Valinhos**	**23.70**	**74**	P	**P**	**15 02 41.4**	**-0.2**
VAO				IAmb	IAmb	15 02 55.0	
	comp=Z,21nm,1.4s						
SAML	**Samuel**	**24.27**	**21**	*e*P	**P**	**15 02 47.5**	**+0.7**
ARAG	**Araguaiana, MT**	**24.33**	**53**	*e*P	**P**	**15 02 45.4**	**-2.0**
PDRB	**Porto dos Gac**	**24.56**	**38**	*e*P	**P**	**15 02 48.7**	**-0.8**
BDFB	**Brasilia**	**27.05**	**59**	P	**P**	**15 03 11.2**	**-0.9**
BDFB				IAmb	IAmb	15 03 13.6	
	comp=Z,30nm,1.4s						
BDFB	**Brasilia**	**27.05**	**59**	P	**P**	**15 03 11.0**	**-1.1**
	comp=Z,9.4nm,0.7s,baz=232,slow=11,SNR=15						
	comp=Z,9.4nm,0.7s						
SNDB	**Serra Nova Dou**	**27.41**	**48**	*e*P	**P**	**15 03 14.2**	**-1.1**
QSPA	**South Pole Qui**	**58.23**	**180**	P	**P**	**15 07 24.1**	**+1.0**
	comp=Z,2.1nm,0.9s,baz=170,slow=4.6,SNR=5.6						
	comp=Z,2.1nm,0.9s						
TXAR	**Lajitas Array**	**68.11**	**330**	P	**P**	**15 08 31.1**	**+2.2**
	comp=Z,0.1nm,0.5s,baz=168,slow=6.5,SNR=2.2						
	comp=Z,0.1nm,0.5s						
DBIC	**Dimbokro**	**74.31**	**72**	P	**P**	**15 09 04.9**	**-1.6**
	comp=Z,2.8nm,0.7s,baz=225,slow=6.3,SNR=4.3						
	comp=Z,2.8nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**26.02**	**270**	T	T	17 35 40.4	
	baz=118,slow=75,SNR=116						
H11S1	**WAKE ISLAND Hyl**	**26.03**	**270**	T	T	17 35

AKUM *i* AML AML 15 07 25.0
comp=N,1μm,0.6s
ELL Elmali 1.06 252 Pg **Pn 15 06 57.8 +1.1**
ELL Elmali 1.06 252 P **Pn 15 06 58.3 +1.6**
ELL S **Sn 15 07 13.7 -0.4**
ELL AML AML 15 07 20.9
20nm,0.6s
ELL AML AML 15 07 21.7
18nm,0.5s
HDMB Hadim 1.07 96 Pn **Pn 15 06 57.6 +0.7**
BRDR BURDUR-Merkez 1.07 305 P **Pn 15 06 56.4 -0.3**
BRDR S **Sn 15 07 12.1 -2.2**
BRDR *i* AML AML 15 07 14.0
comp=N,233nm,0.4s
BRDR *i* AML AML 15 07 14.0
comp=E,516nm,0.4s
DOGA KONYA_Doganhis 1.10 21 P **Pn 15 06 57.1 0.0**
DOGA S **Sn 15 07 12.8 -2.2**
DOGA *i* AML AML 15 07 15.0
comp=N,822nm,0.4s
DOGA *i* AML AML 15 07 15.0
comp=E,721nm,0.3s
KMER Konya-Meram 1.18 54 P **Pn 15 06 58.4 +0.5**
YVAC Isparta, Yalva 1.19 3 P **Pn 15 06 57.7 -0.3**
YVAC S **Sn 15 07 14.7 -1.9**
YVAC *i* AML AML 15 07 15.0
comp=N,342nm,0.5s
YVAC *i* AML AML 15 07 15.0
comp=E,450nm,0.5s
BASM Basmaki-Afyon 1.22 314 Pn **Pn 15 06 57.8 -0.5**
GAZI Gazipasa 1.25 132 P **Pn 15 07 00.2 +1.5**
GAZI S **Sn 15 07 18.0 +0.4**
KONT Konya--Tatoy 1.29 48 Pn **Pn 15 06 59.5 +0.6**
GOLH Golhisar 1.29 277 P **Pn 15 07 00.1 +1.1**
GOLH *i* AML AML 15 07 21.0
comp=N,631nm,0.4s
GOLH *i* AML AML 15 07 21.0
comp=E,547nm,0.5s
KNIK Mula-Seydike 1.29 260 P **Pn 15 07 00.4 +1.3**
KNIK S **Sn 15 07 20.9 +2.4**
KNIK *i* AML AML 15 07 24.0
comp=E,525nm,0.9s
AFYN Afyon-Dinar-K 1.30 336 P **Pn 15 06 58.9 -0.3**
AFYN *i* AML AML 15 07 20.0
comp=N,165nm,0.5s
AFYN *i* AML AML 15 07 27.0
comp=E,169nm,0.6s
DEMR Demre-Antalya 1.31 231 Pn **Pn 15 07 00.2 +1.0**
INCE Denizli-Bozkur 1.41 297 P **Pn 15 07 00.1 -0.2**
KZIL AFYON_Kizioren 1.43 326 P **Pn 15 06 59.1 -1.5**
KKBE Karaman, Kazim 1.43 84 P **Pn 15 07 01.6 +1.0**
KKBE S **Sn 15 07 21.8 +0.7**
KKBE *i* AML AML 15 07 23.0
comp=E,288nm,0.5s
KKBE *i* AML AML 15 07 24.0
comp=N,252nm,0.3s
CAEL Denizli, Camel 1.47 272 P **Pn 15 07 02.4 +1.3**
CAME Cameli-Denizli 1.49 265 Pn **Pn 15 07 01.9 +0.5**
APMY Acipayam-Deniz 1.53 285 Pn **Pn 15 07 02.0 +0.2**
SHUT Suhut-Afyon 1.55 342 Pn **Pn 15 07 01.8 -0.2**
UCKU Afyonkarahisar 1.57 8 P **Pn 15 07 01.3 -0.8**
UCKU S **Sn 15 07 21.5 -2.4**
KSL Kastellorizon 1.57 234 P **Pn 15 07 02.8 +0.7**
KSL S **Sn 15 07 24.0 +0.2**
KSL AML AML 15 07 32.2
2.4nm,0.4s
KSL AML AML 15 07 34.1
1.5nm,0.4s
KDHN Kadinhani 1.62 27 P **Pn 15 07 02.6 -0.2**
KDHN S **Sn 15 07 23.8 -1.3**
KDHN *i* AML AML 15 07 24.0
comp=N,186nm,0.4s
KDHN *i* AML AML 15 07 24.0
comp=E,114nm,0.4s
KURO Afyon-Bolvadin 1.66 354 P **Pn 15 07 02.7 -0.6**
KURO S **Sn 15 07 22.9 -3.0**
IZZE Mula-Seydike 1.68 248 P **Pn 15 07 03.8 +0.3**
IZZE S **Sn 15 07 25.5 -0.7**
KRMN Karaman 1.68 86 Pn **Pn 15 07 04.7 +1.2**
DNZT Denizli-Tavas- 1.72 277 P **Pn 15 07 04.2 +0.3**
DNZT P 15 07 04.4
DNZT S **Sn 15 07 26.2 -0.8**
DNZT S 15 07 26.8
FETY Fethiye 1.73 256 Pn **Pn 15 07 04.5 +0.6**
ALIN Konya, Altinte 1.83 48 P **Pn 15 07 05.4 +0.2**
KIZT Kizilcal 1.88 17 Pn **Pn 15 07 05.7 -0.3**
DALY Dalyan (Mula) 2.03 263 Pn **Pn 15 07 07.9 +0.4**
CHBY Cihanbeyli 2.03 42 Pn **Pn 15 07 08.2 +0.5**
GULN MERSIN_Gulnar 2.12 114 P **Pn 15 07 10.8 +2.1**
GULN S **Sn 15 07 37.5 +2.0**
GULN *i* AML AML 15 07 40.0
comp=E,227nm,0.6s
GULN *i* AML AML 15 07 43.0
comp=N,165nm,0.5s
ALFC Alefka 2.25 148 P **Pn 15 07 09.7 -0.7**
ALFC S **Sn 15 07 36.2 -2.4**
ALFC AML AML 15 07 38.9
0.9nm,0.6s
ALFC AML AML 15 07 42.8
1.0nm,0.4s
AKMS Akamas 2.27 155 P **Pn 15 07 10.9 +0.2**
AKMS S **Sn 15 07 37.3 -1.7**
AKMS AML AML 15 07 40.5
0.8nm,0.7s
AKMS AML AML 15 07 45.2
0.6nm,0.4s
CIFT Cifteler, Eski 2.28 358 Pn **Pn 15 07 10.6 -0.2**
YER Yerkesik 2.30 272 Pn **Pn 15 07 11.6 +0.5**
SVRH Sivrihisar-ESK 2.38 7 Pn **Pn 15 07 11.7 -0.4**
KULA Kula-Manisa 2.44 307 Pn **Pn 15 07 12.9 0.0**
NAZL Nazilli-Aydin 2.44 292 Pn **Pn 15 07 13.0 +0.1**
NATA Nata 2.57 153 P **Pn 15 07 15.7 +1.3**
NATA AML AML 15 08 03.5
1.6nm,0.6s
NATA AML AML 15 08 05.4
1.3nm,0.8s
SIMA Simav-Kutahya 2.64 320 Pn **Pn 15 07 15.6 +0.2**
ATHAL Athalassa 2.65 136 S **Sn 15 07 45.3 -2.3**
ATHAL AML AML 15 07 55.6
0.9nm,0.5s
ATHAL AML AML 15 08 00.0
0.8nm,0.5s
MLSB Milas 2.71 276 Pn **Pn 15 07 16.5 +0.2**
TVSB Tavsanli 2.72 331 Pn **Pn 15 07 16.4 0.0**
ODEM Odemis-Izmir 2.72 297 Pn **Pn 15 07 16.6 +0.1**
AYDB Zeytinkoy-Aydi 2.74 289 Pn **Pn 15 07 16.5 -0.3**
CSS Mathiatis 2.75 140 P **Pn 15 07 16.9 0.0**
CSS S **Sn 15 07 49.5 -0.5**
CSS AML AML 15 08 00.8
0.3nm,0.6s
CSS AML AML 15 08 12.9
0.2nm,0.6s
CSS Mathiatis 2.75 140 P **Pn 15 07 15.8 -1.0**
CSS Mathiatis 2.75 140 S **Sn 15 07 46.5 -3.6**
APOL The Sanctuary 2.77 150 P **Pn 15 07 18.0 +0.9**
APOL S **Sn 15 07 49.3 -1.2**
APOL AML AML 15 08 04.3
0.2nm,0.4s
APOL AML AML 15 08 07.8
0.6nm,0.8s
ASGA Asgata 2.85 143 P **Pn 15 07 19.3 +1.2**
ASGA S **Sn 15 07 51.5 -0.8**
ASGA AML AML 15 08 01.3
0.3nm,0.7s
ASGA AML AML 15 08 03.8
0.2nm,0.3s
MVOU Mavrovouni 2.87 135 P **Pn 15 07 18.1 -0.3**
MVOU S **Sn 15 07 51.3 -1.5**
MVOU AML AML 15 07 58.2
0.3nm,0.4s
MVOU AML AML 15 07 58.4
0.3nm,0.6s
BR105 Keskin Array S 3.26 35 P **Pn 15 07 22.4 -1.2**
BR104 Keskin Array S 3.27 36 P **Pn 15 07 22.5 -1.1**
BR106 Keskin Array S 3.28 35 P **Pn 15 07 22.6 -1.2**
BRTR Keskin Array B 3.28 36 P **Pn 15 07 24.1 +0.3**
18nm,0.4s,baz=222,slow=16,SNR=137
BRTR S **Sn 15 08 01.9 -0.6**
9.6nm,0.6s,baz=206,slow=25,SNR=7.3
KARP Karpathos 3.57 246 P **Pn 15 07 27.3 -0.3**
APE Apeiranthos 4.50 272 P **Pn 15 07 39.9 -0.1**
APE Apeiranthos 4.50 272 S **Sn 15 08 31.9 +0.4**
HNTI Hanita 5.17 139 P **Pn 15 07 49.3 +0.4**
HNTI Hanita 5.17 139 S **Sn 15 08 46.7 -0.8**

MMC7 Mount Meron ar 5.33 138 P **Pn 15 07 51.5 +0.3**
GEM Giv'at Ha'Em 5.34 135 P **Pn 15 07 52.1 +0.9**
GEM Giv'at Ha'Em 5.34 135 S **Sn 15 08 49.3 -2.3**
MMA0B Mount Meron ar 5.34 138 P **Pn 15 07 51.8 +0.5**
MMA0B Mount Meron ar 5.34 138 S **Sn 15 08 51.5 -0.3**
MMAI Mount Meron Ar 5.34 138 P **Pn 15 07 51.7 +0.3**
3.3nm,0.3s,baz=315,slow=13,SNR=20
MMAI S **Sn 15 08 49.7 -2.2**
4.7nm,0.3s,baz=295,slow=29,SNR=14
NATI Neve Ativ 5.34 134 P **Pn 15 07 51.9 +0.7**
NATI Neve Ativ 5.34 134 S **Sn 15 08 49.9 -1.7**
IDI Anoyia 5.38 252 P **Pn 15 07 50.0 -1.7**
9.6nm,0.4s,baz=47,slow=13,SNR=19
IDI S **Sn 15 08 48.5 -4.1**
9.8nm,0.4s,baz=224,slow=7.0,SNR=4.6
OFRI `Ofer 5.45 144 P **Pn 15 07 52.7 0.0**
OFRI `Ofer 5.45 144 S **Sn 15 08 51.7 -2.6**
KSHT Keshet 5.59 136 P **Pn 15 07 55.3 +0.7**
KSHT Keshet 5.59 136 S **Sn 15 08 57.7 -0.1**
MMLI Mount Malkishu 5.81 142 P **Pn 15 07 57.8 +0.3**
MMLI Mount Malkishu 5.81 142 S **Sn 15 09 02.1 -0.9**
SALP Salfit 6.00 145 P **Pn 15 08 00.1 -0.1**
SALP Salfit 6.00 145 S **Sn 15 09 06.9 -0.8**
HMDT Nahal Hemdat 6.01 142 P **Pn 15 08 00.3 +0.1**
HMDT Nahal Hemdat 6.01 142 S **Sn 15 09 07.1 -0.7**
DSI Dead Sea 6.51 146 P **Pn 15 08 06.6 -0.4**
DSI Dead Sea 6.51 146 S **Sn 15 09 18.7 -1.2**
YTIR Yattir 6.58 149 P **Pn 15 08 07.9 -0.1**
YTIR Yattir 6.58 149 S **Sn 15 09 20.4 -1.2**
KZIT Kziot 6.72 155 P **Pn 15 08 09.4 -0.5**
KZIT Kziot 6.72 155 S **Sn 15 09 23.1 -1.8**
MSBI Mazada 6.72 148 P **Pn 15 08 10.1 +0.3**
MSBI Mazada 6.72 148 S **Sn 15 09 23.9 -1.0**
ASF Jabal al Asfar 6.81 134 P **Pn 15 08 11.3 +0.3**
0.6nm,0.3s,baz=337,slow=23,SNR=1.7
ASF S **Sn 15 09 26.2 -0.9**
1.2nm,0.4s,baz=153,slow=23,SNR=1.1
GHAJ Ghor Haditha 6.82 146 P **Pn 15 08 11.6 +0.5**
GHAJ Ghor Haditha 6.82 146 S **Sn 15 09 26.7 -0.7**
KOT Kottamia 7.16 175 P **Pn 15 08 16.5 +0.7**
PRNI Paran 7.43 153 P **Pn 15 08 19.6 +0.1**
PRNI Paran 7.43 153 S **Sn 15 09 40.8 -1.6**
SLUM Salum 7.44 223 P **Pn 15 08 19.2 -0.2**
SLUM S **Sn 15 09 34.1 -8.2**
HRFI Mount Harif 7.73 154 P **Pn 15 08 23.4 -0.2**
HRFI Mount Harif 7.73 154 S **Sn 15 09 48.0 -1.6**
MBRI Mt Berech 7.91 156 P **Pn 15 08 26.4 +0.4**
MBRI Mt Berech 7.91 156 S **Sn 15 09 53.2 -0.9**
RYAN Fayoum 8.01 186 P **Pn 15 08 27.9 +0.6**
EIL Elat 8.04 156 P **Pn 15 08 27.9 +0.2**
2.3nm,0.4s,baz=297,slow=11,SNR=7.3
EIL S **Sn 15 09 53.5 -3.4**
8.2nm,0.4s,baz=96,slow=12,SNR=7.6
EIL Elat 8.04 156 P **Pn 15 08 27.6 0.0**
EIL Elat 8.04 156 S **Sn 15 09 55.2 -1.8**
NBNS Bani Suef 8.44 179 P **Pn 15 08 33.7 +0.7**
TIP Timpagrande 11.54 285 P **P 15 09 20.2 -2.9**
10nm,1.8s
AK10 Malin Array Si 13.58 355 P **P 15 09 47.1 +1.4**
AK09 Malin Array Si 13.60 355 P **P 15 09 47.3 +1.4**
AK05 Malin Array Si 13.61 355 P **P 15 09 47.4 +1.4**
AK13 Malin Array Si 13.61 354 P **P 15 09 47.5 +1.5**
AK08 Malin Array Si 13.62 355 P **P 15 09 47.1 +1.0**
AK14 Malin Array Si 13.63 354 P **P 15 09 47.2 +1.0**
AK12 Malin Array Si 13.63 355 P **P 15 09 47.3 +1.0**
AK02 Malin Array Si 13.64 355 P **P 15 09 47.5 +1.1**
AK16 Malin Array Si 13.66 354 P **P 15 09 47.7 +1.1**
AK11 Malin Array Si 13.67 355 P **P 15 09 47.8 +1.1**
AK01 Malin Array Si 13.68 355 P **P 15 09 47.9 +1.1**
KIEV Kiev 13.68 355 P **P 15 09 47.8 +1.0**
AK17 Malin Array Si 13.68 354 P **P 15 09 48.0 +1.2**
AKASG Malin Array Be 13.69 355 P **P 15 09 48.4 +1.5**
7.9nm,0.6s,baz=177,slow=9.0,SNR=44
AKBB Malin Array Si 13.69 355 P **P 15 09 48.0 +1.1**
AK15 Malin Array Si 13.69 355 P **P 15 09 47.8 +0.9**
AK03 Malin Array Si 13.71 355 P **P 15 09 48.1 +0.9**
AK04 Malin Array Si 13.71 355 P **P 15 09 48.0 +0.8**
AK18 Malin Array Si 13.72 354 P **P 15 09 47.7 +0.5**
AK19 Malin Array Si 13.72 354 P **P 15 09 47.8 +0.5**
AK20 Malin Array Si 13.74 354 P **P 15 09 48.1 +0.6**
AK22 Malin Array Si 13.76 354 P **P 15 09 48.2 +0.5**
AK21 Malin Array Si 13.78 354 P **P 15 09 48.5 +0.6**
DAVOX Davos/Dischmat 18.51 308 P **Pn 15 10 42.0 -0.1**
1.7nm,0.7s,baz=121,slow=17,SNR=4.1
FINES FINESS Array B 24.59 354 P **P 15 11 42.4 +0.5**
1.9nm,0.4s,baz=156,slow=11,SNR=27
1.9nm,0.4s
ARCES ARCESS Array B 32.66 356 P **P 15 12 54.0 +0.6**
1.6nm,0.5s,baz=169,slow=8.5,SNR=21
1.6nm,0.5s
KURBB Kurchatov Arra 36.12 53 P **P 15 13 25.2 +1.7**
1.6nm,0.7s,baz=275,slow=8.9,SNR=16
1.6nm,0.7s
MKAR Makanchi Array 38.64 59 P **P 15 13 46.5 +1.7**
1.7nm,0.6s,baz=281,slow=7.1,SNR=27
1.7nm,0.6s
ZALV Zalesovo Beam 40.15 48 P **P 15 13 58.3 +1.2**
0.4nm,0.4s,baz=238,slow=9.8,SNR=2.2
0.4nm,0.4s
SPITS Spitsbergen Ar 41.68 355 P **P 15 14 09.6 +0.2**
5.9nm,1.1s,baz=131,slow=6.5,SNR=1.7
5.9nm,1.1s
SONM Songino Array 54.48 53 P **P 15 15 49.1 +0.7**
0.4nm,0.5s,baz=301,slow=7.8,SNR=3.2
0.4nm,0.5s
CMAR Chiang Mai Arr 61.58 88 P **P 15 16 37.7 -0.4**
0.3nm,0.6s,baz=310,slow=8.0,SNR=1.7
0.3nm,0.6s

*UPA **07** 15:07:29.3±0.9, 10°.62N×82°.33W, h22km±42km, MD3.9, MW4.3*
*UCR **07** 15:07:35.5±0.7, 8°.94N×84°.21W, h0km±5km, MW3.8*
ISC 07 15:07:32.9±3.3, 8°.8N±0°.1×84°.3W±0°.2, h13km, n28, σ0s83/30, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	**Naranjito**	**0.73**	**19**	*eP*	**Pg**	**15 07 46.7**	**-0.4**
PICV	**PH. Pirrs**	**0.85**	**10**	*eP*	**Pg**	**15 07 49.1**	**-0.3**
PISJ	**San Jernim**	**0.87**	**14**	*eP*	**Pg**	**15 07 50.0**	**+0.1**
PIEC	**Cerro El Cedra**	**0.92**	**24**	*eP*	**Pg**	**15 07 50.0**	**-0.8**
RAZU	**San Marcos de**	**0.93**	**20**	*eP*	**Pg**	**15 07 51.3**	**+0.4**
ABE2	**San Pablo**	**0.96**	**17**	*eP*	**Pg**	**15 07 51.2**	**-0.3**
SAJE	**San Jernim**	**0.99**	**56**	*eP*	**Pg**	**15 07 51.4**	**-0.8**
FIMO	**Fila Mora**	**1.00**	**78**	*eP*	**Pg**	**15 07 52.5**	**+0.2**
LCR2	**La Lucha 2**	**1.01**	**19**	*eP*	**Pg**	**15 07 51.7**	**-0.8**
EDP2	**Potrero Grande**	**1.18**	**79**	*eP*	**Pb**	**15 07 55.8**	**+0.6**
DRK0	**Durika**	**1.18**	**66**	*eP*	**Pb**	**15 07 55.0**	**-0.4**
DRK0	**Durika**	**1.18**	**66**	*eP*	**Pb**	**15 07 55.5**	**+0.2**
VICA	**Volcano Irazu**	**1.29**	**22**	*eP*	**Pb**	**15 07 56.6**	**-0.7**
VERB	**Verbena**	**1.32**	**29**	*eP*	**Pb**	**15 07 57.0**	**-0.6**
VTLA	**Turrialba Volc**	**1.33**	**25**	*eP*	**Pb**	**15 07 57.2**	**-0.9**
VTCV	**VTCV, Calle Va**	**1.34**	**27**	*eP*	**Pb**	**15 07 57.4**	**-0.6**
CVTQ	**Turrialba Volc**	**1.34**	**25**	*eP*	**Pb**	**15 07 57.2**	**-0.9**
VBV1	**V. Barva**	**1.34**	**10**	*eP*	**Pb**	**15 07 58.2**	**0.0**
CVTV	**Tajo**	**1.35**	**26**	*eP*	**Pb**	**15 07 57.7**	**-0.5**
VTR0	**Volcan Turrial**	**1.35**	**25**	*eP*	**Pb**	**15 07 57.9**	**-0.5**
CVTR	**Volcan Turrial**	**1.36**	**25**	*eP*	**Pb**	**15 07 57.8**	**-0.7**
VPS8	**V Poas**	**1.39**	**4**	*eP*	**Pn**	**15 07 59.3**	**+0.9**
CVTG	**V. Turrialba,**	**1.47**	**22**	*eP*	**Pn**	**15 07 59.9**	**+0.7**
ALCO	**Alturas Coton,**	**1.50**	**84**	*eP*	**Pn**	**15 08 00.4**	**+0.7**
RVLA	**Villa Bonita**	**1.51**	**29**	*eP*	**Pn**	**15 08 00.3**	**+0.5**
CEUA	**Cerro Uatsi, L**	**1.62**	**59**	*eP*	**Pb**	**15 08 03.4**	**+0.7**
BRU2	**Volcan**	**1.63**	**89**	*eP*	**Pn**	**15 07 59.4**	**-2.2**
BRU2				*eS*	**Sn**	**15 08 22.4**	**-0.1**
DVD	**David**	**1.90**	**100**	*eP*	**Pn**	**15 08 04.4**	**-0.7**
DVD				*eS*	**Sn**	**15 08 30.9**	**+1.9**

*IDC **07** 15:08:30.0±2.4, 11°.17S×161°.69E, h47km±20km, mb3.5/5, mbtmp3.8/7, ML4.0/2, MS3.1/2, Error ellipse: s-maj=40.6km s-min=15.0km az=58.0*
ISC 07 15:08:28.7±1.5, 11°.25S±0°.2×161°.7E±0°.2, h28km, n8, σ1s89/9, mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.46**	**317**	P	**Pn**	**15 09 07.7**	**+0.7**
HNR				S	**Sn**	**15 09 36.4**	**+0.2**
HNR				LR	LR	15 10 22.9	

comp=Z,251nm,19.0s,baz=182,slow=46
385nm,0.6s
DZM Mont Dzumac 11.71 158 P **Pn 15 11 16.4 +2.4**
0.7nm,0.3s,baz=319,slow=19,SNR=26
DZM S **Sn 15 13 21.2 -2.7**
11nm,1.1s,baz=12,slow=17,SNR=1.6
1.2nm,0.3s
PMG Port Moresby 14.39 276 LR LR 15 16 58.5
comp=Z,97nm,21.5s,baz=88,slow=35
WRA Warramunga Arr 27.67 248 P **P 15 14 13.1 -1.5**
0.5nm,0.7s,baz=77,slow=8.8,SNR=4.9
0.5nm,0.7s
ASAR Alice Springs 29.16 241 P **P 15 14 27.2 -0.6**
0.2nm,0.8s,baz=65,slow=10,SNR=7.0
0.2nm,0.8s
FITZ Fitzroy Crossi 35.46 255 P **P 15 15 23.8 +0.8**
4.1nm,0.9s,baz=90,slow=21,SNR=2.0
4.1nm,0.9s
SONM Songino Array 76.49 325 P **P 15 20 14.2 -2.1**
0.3nm,0.3s,baz=143,slow=6.1,SNR=4.4
0.3nm,0.3s
QSPA South Pole Qui 78.77 180 P **P 15 20 29.3 +0.6**
1.1nm,1.0s,baz=295,slow=2.6,SNR=1.6
1.1nm,1.0s

*BGR **07** 15:19:23.1, 21°.36S×170°.02E, h136km±2km, Hypocentre not reviewed by the ISC*
*IDC **07** 15:19:26.6±1.4, 20°.53S×169°.62E, h142km±12km, mb4.1/12, mbtmp4.6/16, MS3.2/3, Error ellipse: s-maj=13.7km s-min=12.1km az=163.0*
*NEIC **07** 15:19:27.4±1.3, 20°.4S±0°.1×169°.69E±0°.10, h142km±6km, mb4.7/51, Error ellipse: s-maj=16.2km s-min=11.3km az=145.0*
*NOU **07** 15:19:27.4, 20°.38S×169°.58E, h136km, mb4.6/38, Vanuatu Islands*
ISC 07 15:19:26.3±0.5, 20°.43S±0°.04×169°.71E±0°.06, h140km±4km, h140km; pP-P, n178, σ0s95/183, mb4.7/45, 10C-11D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**0.97**	**335**	P	**Pn**	**15 19 50.3**	**+0.4**
INH	**Isangel**	**0.97**	**335**	S	**Sn**	**15 20 07.9**	**+0.1**
INH	**Isangel**	**0.97**	**335**	P	**Pn**	**15 19 50.2**	**+0.4**
MARNC	**Mare, Loyalty**	**1.89**	**236**	P	**Pn**	**15 19 59.1**	**-0.4**
MARNC	**Mare, Loyalty**	**1.89**	**236**	S	**Sn**	**15 20 23.7**	**-1.2**
MARNC	**Mare, Loyalty**	**1.89**	**236**	P	**Pn**	**15 19 59.0**	**-0.4**
PINNC	**Pines Island,**	**3.03**	**224**		**Pn**	**15 20 14.2**	**+0.6**
PINNC	**Pines Island,**	**3.03**	**224**	P	**Pn**	**15 20 14.4**	**+0.8**
PINNC	**Pines Island,**	**3.03**	**224**	S	**Sn**	**15 20 50.1**	**-0.1**
PINNC	**Pines Island,**	**3.03**	**224**	P	**Pn**	**15 20 14.2**	**+0.6**
DVP	**Devils Point**	**3.05**	**332**	P	**Pn**	**15 20 13.6**	**-0.4**
YATNC	**Mamie plateau,**	**3.09**	**238**	P	**Pn**	**15 20 13.8**	**-0.6**
YATNC	**Mamie plateau,**	**3.09**	**238**	P	**Pn**	**15 20 13.2**	**-1.2**
OUENC	**Ouen Island, N**	**3.32**	**233**	P	**Pn**	**15 20 18.0**	**+0.5**
OUENC	**Ouen Island, N**	**3.32**	**233**	P	**Pn**	**15 20 17.8**	**+0.3**
DZM	**Mont Dzumac**	**3.46**	**241**	Pn	**Pn**	**15 20 19.7**	**+0.4**
DZM	**Mont Dzumac**	**3.46**	**241**	P	**Pn**	**15 20 19.7**	**+0.4**
621nm,0.6s,baz=89,slow=9.8,SNR=1752							
DZM				S	**Sn**	**15 20 56.6**	**-3.6**
212nm,0.5s,baz=65,slow=21,SNR=4.0							
DZM				LR	LR	15 21 34.1	
comp=Z,354nm,20.6s,baz=348,slow=38							
DZM	**Mont Dzumac**	**3.46**	**241**	S	**Sn**	**15 21 01.2**	**+0.9**
DZM	**Mont Dzumac**	**3.46**	**241**	P	**Pn**	**15 20 19.5**	**+0.2**
ONTNC	**Ouen Toro**	**3.56**	**238**	Pn	**Pn**	**15 20 21.0**	**+0.4**
ONTNC	**Ouen Toro**	**3.56**	**238**	P	**Pn**	**15 20 20.9**	**+0.4**
ONTNC	**Ouen Toro**	**3.56**	**238**	S	**Sn**	**15 21 03.6**	**+1.0**
ONTNC	**Ouen Toro**	**3.56**	**238**	P	**Pn**	**15 20 20.8**	**+0.2**
VLAKA	**Lakatoro**	**4.82**	**333**	P	**Pn**	**15 20 36.8**	**-0.4**
KOUNC	**Koumac, New Ca**	**5.08**	**268**	P	**Pn**	**15 20 42.4**	**+1.7**
KOUNC	**Koumac, New Ca**	**5.08**	**268**	S	**Sn**	**15 21 41.4**	**+2.8**
KOUNC	**Koumac, New Ca**	**5.08**	**268**	P	**Pn**	**15 20 40.9**	**+0.2**
MSVF	**Nonsavu**	**8.33**	**73**	Pn	**Pn**	**15 21 25.8**	**+1.5**
MSVF	**Nonsavu**	**8.33**	**73**	P	**Pn**	**15 21 26.7**	**+2.4**
24nm,0.8s,baz=256,slow=12,SNR=20							
MSVF	**Nonsavu**	**8.33**	**73**	P	**Pn**	**15 21 26.9**	**+2.6**
HNR	**Honiara**	**14.43**	**318**	P	**P**	**15 22 46.3**	**-0.7**
15nm,0.3s,baz=197,slow=3.4,SNR=3.6							
OUZ	**Omahuta**	**15.13**	**168**	P	**P**	**15 22 54.8**	**+0.2**
URZ	**Urewera**	**18.89**	**162**	P	**P**	**15 23 36.7**	**+0.8**
7.7nm,0.6s,baz=88,slow=3.3,SNR=9.1							
URZ	**Urewera**	**18.89**	**162**	P	**Pn**	**15 23 38.8**	**+0.7**
ARMA	**Armidale**	**19.10**	**235**	Pn	**Pn**	**15 23 41.2**	**+0.4**
ARMA	**Armidale**	**19.10**	**235**	P	**P**	**15 23 39.4**	**+1.0**
RTZ	**Ruatahuna**	**19.18**	**162**	P	**Pn**	**15 23 40.5**	**-1.1**
RTZ				IAmb	IAmb	15 23 41.6	
comp=Z,26nm,1.0s							
BKZ	**Black Stump Fm**	**19.57**	**164**	P	**P**	**15 23 44.6**	**+1.3**
QRZ	**Quartz Range**	**20.47**	**174**	P	**P**	**15 23 54.6**	**+1.6**
PLWZ	**Palliser**	**21.59**	**169**	P	**P**	**15 24 05.7**	**+0.6**
CNB	**Canberra Magne**	**23.24**	**226**	P	**P**	**15 24 22.2**	**+0.9**
JCZ	**Jackson Bay**	**23.59**	**182**	P	**P**	**15 24 26.7**	**+2.3**
CMSA	**Cobar Meteorol**	**24.20**	**238**	P	**P**	**15 24 30.9**	**+0.9**
PMG	**Port Moresby**	**24.35**	**293**	P	**P**	**15 24 31.6**	**+0.1**
PMG				IAmb	IAmb	15 24 33.1	
comp=Z,27nm,0.8s							
PMG	**Port Moresby**	**24.35**	**293**	P	**P**	**15 24 31.5**	**+0.1**
comp=Z,24nm,0.7s,baz=105,slow=7.6,SNR=11							
comp=Z,24nm,0.7s							
PMG	**Port Moresby**	**24.35**	**293**	P	**P**	**15 24 31.6**	**+0.1**
PMG	**Port Moresby**	**24.35**	**293**	P	**P**	**15 24 31.7**	**+0.2**
STKA	**Stephens Creek**	**27.61**	**240**	P	**P**	**15 25 01.4**	**+0.7**
STKA	**Stephens Creek**	**27.61**	**240**	P	**P**	**15 25 00.1**	**-0.6**
comp=Z,3.0nm,0.7s,baz=74,slow=11,SNR=5.3							
STKA				LR	LR	15 35 51.4	
comp=Z,80nm,18.3s,baz=204,slow=36							
comp=Z,3.0nm,0.7s							
LCRK	**Leigh Creek**	**30.05**	**244**	P	**P**	**15 25 22.9**	**+0.6**
HTT	**Hallett**	**30.23**	**238**	P	**P**	**15 25 24.8**	**+0.9**
OOD	**Oodnadatta**	**31.83**	**250**	P	**P**	**15 25 38.9**	**+0.9**
BBOO	**Buckleboo**	**32.37**	**241**	P	**P**	**15 25 43.1**	**+0.4**
BBOO	**Buckleboo**	**32.37**	**241**	P	**P**	**15 25 43.2**	**+0.5**
WR0	**Warramunga Arr**	**32.97**	**265**	P	**P**	**15 25 47.4**	**-0.7**
WB0	**Warramunga Arr**	**33.13**	**265**	P	**P**	**15 25 48.7**	**-0.8**
WB0				IAmb	IAmb	15 25 49.6	
comp=Z,12nm,1.1s							
WRA	**Warramunga Arr**	**33.16**	**265**	P	**P**	**15 25 48.8**	**-0.9**
comp=Z,4.5nm,0.8s,baz=95,slow=8.3,SNR=34							
WRA				PcP	**PcP**	**15 28 28.9**	**-0.6**
comp=Z,1.1nm,0.9s,baz=92,slow=1.9,SNR=4.4							
comp=Z,4.5nm,0.8s							
AS01	**Alice Springs**	**33.25**	**258**	P	**P**	**15 25 50.4**	**-0.1**
AS31	**Alice Springs**	**33.29**	**258**	P	**P**	**15 25 50.3**	**-0.5**
ASAR	**Alice Springs**	**33.29**	**258**	P	**P**	**15 25 50.0**	**-0.9**
ASAR	**Alice Springs**	**33.29**	**258**	P	**P**	**15 25 50.6**	**-0.2**
comp=Z,9.5nm,0.7s,baz=94,slow=8.9,SNR=292							
ASAR				PcP	**PcP**	**15 28 28.9**	**-1.0**
comp=Z,1.0nm,0.8s,baz=92,slow=4.4,SNR=4.6							
ASAR				S	**S**	**15 31 00.2**	**-0.9**
comp=Z,0.6nm,0.8s,baz=84,slow=15,SNR=4.8							
comp=Z,9.5nm,0.7s							
KDU	**Kakadu**	**36.45**	**276**	P	**P**	**15 26 17.9**	**0.0**
MTN	**Manton Dam**	**37.65**	**275**	P	**P**	**15 26 27.9**	**-0.2**
MTN	**Manton Dam**	**37.65**	**275**	P	**P**	**15 26 28.3**	**+0.2**
WRKA	**Warakurna**	**38.36**	**255**	P	**P**	**15 26 34.3**	**+0.2**
FORT	**Forrest**	**38.76**	**246**	P	**P**	**15 26 37.0**	**-0.2**
FORT				IAmb	IAmb	15 26 38.3	
comp=Z,15nm,0.7s							
FORT	**Forrest**	**38.76**	**246**	P	**P**	**15 26 37.6**	**+0.4**
KNRA	**Kununurra**	**39.14**	**270**	P	**P**	**15 26 40.2**	**-0.4**
KNRA				IAmb	IAmb	15 26 41.2	
comp=Z,17nm,1.0s							
FAKI	**Fak Fak**	**40.44**	**291**	P	**P**	**15 26 50.9**	**-0.4**
FAKI	**Fak Fak**	**40.44**	**291**	P	**P**	**15 26 51.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**41.58**	**265**	P	**P**	**15 27

SBA Scott Base 57.48 181 P P 15 29 01.0 +0.8
SBA IAmb IAmb 15 29 02.1
comp=Z,8.3nm,0.8s
MJAR Matsushiro Arr 64.00 332 P P 15 29 44.2 -0.7
comp=Z,4.7nm,0.9s,baz=172,slow=6.8,SNR=13
comp=Z,4.7nm,0.9s
MAJO Matsushiro 64.01 332 P P 15 29 44.7 -0.2
MAJO IAmb IAmb 15 29 45.4
comp=Z,7.3nm,0.9s
MJB9 Matsu-Tunnel 64.01 332 P P 15 29 45.4 +0.4
MJB9 IAmb IAmb 15 29 46.4
comp=Z,7.1nm,0.9s
NACB Ninganchiao 64.49 311 P P 15 29 47.9 -0.5
NACB IAmb IAmb 15 29 50.1
comp=Z,9.3nm,0.8s
TPUB Ta-pu 64.64 310 P P 15 29 48.6 -0.7
QSPA South Pole Qui 69.63 180 P P 15 30 20.2 -0.2
comp=Z,11nm,0.7s,baz=357,slow=1.1,SNR=64
comp=Z,11nm,0.7s
KSAR Wonju Array Be 69.74 326 P P 15 30 20.9 -0.3
NJ2 Nanjing 71.37 316 *eP* **P 15 30 33.0 +1.8**
NJ2 pmax pmax
comp=Z,20nm,0.5s
KULM Kulim 72.42 283 P 15 30 37.9 0.0
KULM IAmb IAmb 15 30 38.4
comp=Z,8.6nm,0.8s
USRK Ussuriysk Ar. 72.99 333 P P 15 30 40.3 -0.2
comp=Z,2.0nm,0.7s,baz=145,slow=4.7,SNR=6.2
comp=Z,2.0nm,0.7s
GSI Gunungsitoli 73.75 278 P P 15 30 45.5 -0.3
PEA0B Petropavlovsk- 73.97 352 P P 15 30 47.1 +1.1
PETK Petropavlovsk- 73.97 352 P P 15 30 47.1 +1.1
TIA Tai'an 75.12 318 P P 15 30 52.9 -0.2
TIA pmax pmax
comp=Z,13nm,0.9s
BNX BinXian 76.23 331 ⇑P **P 15 30 58.6 -0.6**
BNX pmax pmax
comp=Z,8.0nm,0.6s
MAW Mawson 77.50 202 P P 15 31 06.0 -0.1
MAW IAmb IAmb 15 31 08.8
comp=Z,21nm,1.4s
XAN Xi'an 79.24 312 P P 15 31 16.1 -0.1
XAN pmax pmax
comp=Z,21nm,0.6s
KMI Kunming 79.27 302 P P 15 31 18.5 +1.6
KMI pmax pmax
comp=Z,15nm,0.9s
CMAR Chiang Mai Arr 79.39 294 P P 15 31 17.9 +0.5
CMAR Chiang Mai Arr 79.39 294 P P 15 31 19.0 +1.7
comp=Z,5.4nm,0.8s,baz=133,slow=4.3,SNR=37
comp=Z,5.4nm,0.8s
HEH HeiHe 79.67 334 *eP* **P 15 31 18.2 +0.1**
HEH pmax pmax
comp=Z,7.0nm,0.7s
PZH PanZhiHua 80.72 303 P P 15 31 24.9 +0.4
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,7.9s
BELA Belgrano 2 80.88 175 P P 15 31 22.9 -1.4
BELA IAmb IAmb 15 31 24.0
comp=Z,9.6nm,0.7s
HHC Hu-ho-hao-te 81.41 319 *eP* **P 15 31 30.7 +2.9**
HHC pmax pmax
comp=Z,13nm,0.8s
OHAK Old Harbor 83.33 19 P P 15 31 37.5 +0.4
OHAK IAmb IAmb 15 31 38.4
comp=Z,18nm,1.0s
SYO Syowa Base 83.92 196⇓*eP* **P 15 31 42.2 +2.0**
N15K Kwethluk River 83.99 15 P P 15 31 41.2 +0.8
N15K IAmb IAmb 15 32 16.2
comp=Z,18nm,1.4s
M16K Timber Creek 85.01 15 P P 15 31 45.4 -0.2
M16K IAmb IAmb 15 31 47.3
comp=Z,11nm,0.9s
ELIB Princess Elisa 85.05 190 *dP* **P 15 31 44.2 -1.8**
comp=Z,4.1nm,1.0s
ELIB *d*pP **pP 15 32 19.0 -1.7**
TROLL Troll, Antarti 87.39 184 ⇑P **P 15 31 56.7 -0.7**
comp=Z,420nm,0.8s
TROLL ⇑pP **pP 15 32 31.2 -1.2**
YBH Yreka Blue Hor 87.84 44 P P 15 32 00.9 +0.9
YBH IAmb IAmb 15 32 38.6
comp=Z,13nm,1.5s
SNAA Sanae 88.00 182 P P 15 31 59.1 -1.2
SNAA IAmb IAmb 15 32 01.3
comp=Z,9.3nm,1.4s
SNAA Sanae 88.00 182 ⇑P **P 15 31 58.0 -2.3**
comp=Z,83nm,0.8s
SNAA ⇑pP **pP 15 32 35.0 -0.2**
SNAA ⇑sP **sP 15 32 50.5 +0.8**
SNAA Sanae 88.00 182 P P 15 31 58.9 -1.4
comp=Z,2.8nm,0.7s,baz=225,slow=8.7,SNR=8.2
comp=Z,2.8nm,0.7s
SONM Songino Array 88.43 323 P P 15 32 02.3 -0.3
SONM Songino Array 88.43 323 P P 15 32 02.4 -0.3
comp=Z,2.5nm,0.9s,baz=142,slow=5.6,SNR=15
comp=Z,2.5nm,0.9s
VNA3 Neumayer Olymp 88.57 180 ⇑P **P 15 32 01.1 -1.9**
comp=Z,9.1nm,0.8s
VNA3 ⇓pP **pP 15 32 36.8 -1.1**
VNA3 ⇓sP **sP 15 32 52.5 +0.1**
VNA2 Neumayer--Watz 88.87 181 ⇑P **P 15 32 03.1 -1.2**
comp=Z,8.9nm,0.7s,baz=167,slow=2.7
VNA2 ⇓pP **pP 15 32 38.9 -0.4**
baz=340,slow=6.5
VNA2 ⇑sP **sP 15 32 55.2 +1.4**
baz=339,slow=5.6
DSP Deep Springs 89.02 49 P P 15 32 06.1 +0.6
DSP IAmb IAmb 15 32 07.1
comp=Z,6.3nm,1.0s
VNA1 Neumayer--Stat 89.16 181 ⇑P **P 15 32 04.0 -1.6**
comp=Z,9.8nm,0.8s
VNA1 ⇓sP **sP 15 32 53.9 -1.1**
NVAR Mina Array Bea 89.26 48 P P 15 32 07.3 +0.4
NVAR Mina Array Bea 89.26 48 P P 15 32 07.4 +0.5
comp=Z,2.3nm,0.7s,baz=229,slow=7.9,SNR=13
comp=Z,2.3nm,0.7s
GRAC Grapevine Rang 89.28 50 P P 15 32 07.3 +0.5
GRAC IAmb IAmb 15 32 08.2
comp=Z,6.5nm,0.8s
GWY Greenwater Val 89.43 51 IAmb IAmb 15 32 08.6
comp=Z,7.8nm,1.3s
WCT Wildcat Mounta 89.72 50 P P 15 32 09.3 +0.4
TPNV Topopah Spring 90.06 50 IAmb IAmb 15 32 11.9
comp=Z,4.3nm,0.9s
PRN Pahroc Range 91.12 50 IAmb IAmb 15 32 17.1
comp=Z,6.2nm,0.9s
ILAR Eielson Array 91.23 17 P P 15 32 12.8 -2.3
comp=Z,0.6nm,0.7s,baz=236,slow=4.7,SNR=11
U15A North Rim 92.75 52 IAmb IAmb 15 32 24.8
comp=Z,7.4nm,1.5s
MKAR Makanchi Array 102.89 315 P Pdif 15 33 08.4 0.0
comp=Z,0.3nm,0.6s,baz=88,slow=6.7,SNR=4.3
FINES FINESS Array B 131.85 338 PKP PKPdf 15 38 21.8 -0.6
comp=Z,1.0nm,0.6s,baz=75,slow=2.2,SNR=4.6
STEB Steborice 143.09 330 *e*PKP PKPab 15 38 39.9 +0.7
KRLC Kraliky 143.46 330 *e*PKP PKPab 15 38 40.7 -0.1
DPC Dobruska-Polom 143.48 331 *e*PKP PKPab 15 38 41.3 +0.5
FLTG Flechtingen 144.03 337 *e*PKPbc 15 38 42.1
baz=37,slow=3.0
VRAC Vranov 144.08 330 *e*PKP **PKPab 15 38 43.2 +0.1**
PVCC Panska Ves 144.12 333 *e*PKP **PKPab 15 38 43.2 0.0**
BRG Berggiesshubel 144.13 334 *i* PKP **PKPab 15 38 43.3 +0.1**
BRG Amp 15 38 44.0
comp=Z,12nm,0.7s
BRG Berggiesshubel 144.13 334 P PKiKP 15 38 48.5 -0.3
BRG Amp 15 38 48.9
comp=Z,4.2nm,0.9s
BRG Berggiesshubel 144.13 334 *e*PKPbc 15 38 42.9
baz=37,slow=3.0
CLL Collm 144.18 335 *e*PKPbc 15 38 42.6
baz=37,slow=3.0
CLL *e*pPKPbc 15 39 18.9
NRDL Niedersach Rie 144.30 339 *e*PKPbc 15 38 43.4
baz=37,slow=3.0
KRUC Moravsky 144.34 330 *e*PKP **PKPab 15 38 44.0 -0.1**
ASSE Asse, Remlinge 144.40 338 *e*PKPbc 15 38 43.5
baz=37,slow=3.0
PRU Pruhonice 144.53 332 *e*PKP **PKPab 15 38 44.5 -0.3**
HSKC Hora Svate Kat 144.54 334 *e*PKP **PKPab 15 38 44.6 -0.3**
NEUB Neuenburg 144.74 336 *e*PKPbc 15 38 45.1
baz=37,slow=3.0
EKA Eskdalemuir Ar 144.74 353 PKPab 15 38 44.2 -1.2
EKA Eskdalemuir Ar 144.74 353 PKP **PKPab 15 38 44.2 -1.2**
comp=Z,5.7nm,0.5s,baz=353,slow=2.3,SNR=28

CLZ Clausthal 144.74 338 *e*PKPbc 15 38 45.2
baz=37,slow=3.0
CLZ *e*pPKPbc 15 39 20.8
NEWG New Galloway 145.06 354 *eP* **PKPbc 15 38 45.0 -1.5**
EDMD Edmundbyers 145.08 352 *eP* **PKPbc 15 38 45.6 -0.9**
TANN Tannenbergstha 145.09 334 *e*PKPbc 15 38 46.4
baz=37,slow=3.0
TANN *e*pPKPbc 15 39 22.0
ZVC Zvikov 145.09 332 *e*PKP **PKPbc 15 38 46.3 -0.5**
GTTG Gottingen 145.13 338 *e*PKPbc 15 38 46.5
baz=37,slow=3.0
PLN Plauen 145.15 335 *e*PKPbc 15 38 46.3
baz=37,slow=3.0
PLN *e*pPKPbc 15 39 21.8
IBBN Ibbenburen 145.22 341 *e*PKPbc 15 38 46.6
baz=37,slow=3.0
MOX Moxa 145.24 335 *e*PKPbc 15 38 46.8
baz=37,slow=3.0
GDLE Glaisdale, N Y 145.30 350 *eP* **PKPdf 15 38 46.4 -0.8**
RONA Rosalia, Austr 145.32 328 *e*PKP **PKPdf 15 38 47.5 0.0**
comp=Z,2.7nm,0.7s,SNR=5.4
RONA Rosalia, Austr 145.32 328 P **PKPdf 15 38 47.5 0.0**
comp=Z,2.7nm,0.7s,SNR=5.4
GAL1 Galloway 145.36 354 *eP* **PKPdf 15 38 46.2 -1.1**
CONA Conrad Observa 145.38 329 *e*PKP **PKPdf 15 38 47.7 0.0**
comp=Z,7.9nm,0.8s
CKRC Cesky Krumlov 145.49 331 *e*PKP **PKPdf 15 38 47.8 0.0**
MANZ Manzenberg 145.56 334 *e*PKPbc 15 38 47.6
baz=37,slow=3.0
KHC Kasperske Hory 145.59 332 *e*PKP **PKPdf 15 38 47.3 -0.6**
ROTZ Rotzenmuhle 145.69 334 *e*PKPbc 15 38 48.2
baz=37,slow=3.0
ROTZ *e*pPKPbc 15 39 23.7
UBBA Unterbreizbach 145.71 337 *e*PKPbc 15 38 48.1
baz=37,slow=3.0
GEC2 GERESS Array S 145.74 331 *e*PKPbc 15 38 48.1
baz=37,slow=3.0
GERES GERESS Array B 145.74 331 PKPbc **PKPdf 15 38 48.5 +0.3**
comp=Z,3.7nm,0.6s,baz=34,slow=3.2,SNR=39
WET Wettzell 145.88 333 *e*PKPbc 15 38 48.6
baz=37,slow=3.0
IOMK Kirk Michael 145.94 354 *eP* **PKPdf 15 38 48.1 -0.2**
GRF Grafenberg Arr 146.15 335 *e*PKPbc 15 38 49.5
baz=37,slow=3.0
MOA Molln 146.21 330 *e*PKP **PKPbc 15 38 49.8 -0.5**
comp=Z,3.5nm,0.7s
SOKA Soboth 146.65 328 *i* PKP **PKPdf 15 38 50.5 +0.6**
comp=Z,1.7nm,0.6s,SNR=6.3
OBKA Obir 147.01 328 *i* PKP **PKPab 15 38 53.7 -0.8**
comp=Z,1.6nm,0.6s
KBA Koelnbreinsper 147.19 330 *i* PKP **PKPdf 15 38 51.2 +0.3**
comp=Z,2.7nm,0.7s
BTNL Ternell 147.23 341 *d*PKP **PKPdf 15 38 51.3 +0.7**
MEM Membach 147.24 341 *d*PKP **PKPbc 15 38 52.2 -0.9**
LESA Schwarzleotal 147.25 331 *e*PKP **PKPdf 15 38 51.9 +1.1**
comp=Z,5.2nm,0.6s,SNR=5.8
MYKA Terra Mystica 147.37 329 *i* PKP **PKPdf 15 38 52.0 +1.0**
comp=Z,1.7nm,0.4s
BSTI Sart Tilman 147.40 341 *d*PKP **PKPbc 15 38 52.9 -0.6**
STU Stuttgart 147.69 336 *e*PKPbc 15 38 53.9
baz=37,slow=3.0
STU *e*PKPab 15 38 56.5
ABTA Abfaltersbach 147.83 330 *e*PKP **PKPdf 15 38 52.0 +0.2**
comp=Z,5.0nm,0.8s,SNR=5.7
ABTA Abfaltersbach 147.83 330 *eP* **PKPdf 15 38 52.0 +0.2**
comp=Z,5.0nm,0.8s,SNR=5.7
WTTA Wattenberg 147.85 331 *e*PKP **PKPbc 15 38 54.0 -1.1**
comp=Z,2.9nm,0.6s
MOTA Moosalm 148.02 332 *i* PKP **PKPbc 15 38 54.3 -1.3**
comp=Z,3.2nm,0.6s
WLF Walferdange 148.02 340 *d*PKP **PKPbc 15 38 55.2 0.0**
WLF Walferdange 148.02 340 *e*PKPbc 15 38 54.9
baz=37,slow=3.0
WLF *e*PKPab 15 38 58.1
RETA Reutte 148.06 333 *i* PKP **PKPbc 15 38 54.3 -1.2**
comp=Z,5.9nm,0.9s
SQTA Sankt Quirin 148.07 332 *i* PKP **PKPbc 15 38 54.5 -1.1**
comp=Z,7.1nm,0.7s
UBR Ueberruh 148.19 333 *e*PKPbc 15 38 54.9
baz=37,slow=3.0
UBR *e*PKPab 15 38 58.4
BFO Black Forest 148.38 336 *e*PKPab 15 38 59.3
FETA Feichten 148.43 332 *e*PKP **PKPbc 15 38 55.8 -0.8**
comp=Z,2.7nm,0.6s,SNR=6.6
DAVA Damuels 148.59 333 *i* PKP **PKPbc 15 38 56.0 -1.0**
comp=Z,2.5nm,0.6s

*GUC **07** 15:30:08.8±0.8, 28°.43S×70°.12W, h88km±4km, ML3.7*
*SJA **07** 15:30:08.4±0.7, 28°.43S×70°.10W, h96km±3km, ML3.6, MW3.7*
ISC 07 15:30:08.6±1.3, 28°.39S±0°.03×70°.19W±0°.04, h104km±8km, n44, σ1°69/76, 4C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC05	**El Transito**	**0.45**	**190**	⇑*iP*	**Pn**	**15 30 24.2**	**-0.5**
AC05				*eS*	**Sn**	**15 30 35.2**	**-1.6**
AC05				IAML		15 30 35.7	
comp=E,11μm,0.1s							
AC05	**El Transito**	**0.45**	**190**	*eP*	**Pn**	**15 30 24.2**	**-0.5**
AC05				*eS*	**Sn**	**15 30 35.6**	**-1.1**
AC05				IAML		15 30 35.9	
comp=Z,4μm,0.1s							
LCO	**Las Campanas**	**0.76**	**216**	*eP*	**Pn**	**15 30 26.9**	**-0.3**
LCO				*eS*	**Sn**	**15 30 40.4**	**-0.9**
LCO	**Las Campanas**	**0.76**	**216**	*eP*	**Pn**	**15 30 27.2**	**-0.1**
LCO				*eS*	**Sn**	**15 30 41.5**	**+0.2**
GO03	**Copiapo**	**0.80**	**357**	*eP*	**Pn**	**15 30 27.8**	**+0.4**
GO03				*eS*	**Sn**	**15 30 41.8**	**+0.4**
GO03				IAML		15 30 42.7	
comp=E,4μm,0.2s							
GO03	**Copiapo**	**0.80**	**357**	*eP*	**Pn**	**15 30 27.6**	**+0.3**
GO03				*eS*	**Sn**	**15 30 42.0**	**+0.5**
AC04	**Llanos de Chal**	**0.80**	**283**	⇓*iP*	**Pn**	**15 30 28.2**	**+0.9**
AC04				*eS*	**Sn**	**15 30 42.3**	**+0.9**
AC04				IAML		15 30 46.1	
comp=E,2μm,0.2s							
AC04	**Llanos de Chal**	**0.80**	**283**	*eP*	**Pn**	**15 30 28.1**	**+0.7**
AC04				*eS*	**Sn**	**15 30 43.1**	**+1.6**
AC04				IAML		15 30 47.4	
comp=Z,596nm,0.3s							
AC06	**Mina Casimiro**	**1.04**	**352**	*i* P	**Pn**	**15 30 30.4**	**+0.6**
AC06				*eS*	**Sn**	**15 30 46.7**	**+0.9**
AC06				IAML		15 30 47.9	
comp=E,2μm,0.6s							
CO01	**Juntas del Tor**	**1.58**	**177**	*eP*	**Pn**	**15 30 37.2**	**+0.9**
CO01				*eS*	**Sn**	**15 30 58.2**	**+0.9**
CO01	**Juntas del Tor**	**1.58**	**177**	*eP*	**Pn**	**15 30 37.0**	**+0.7**
CO01				*eS*	**Sn**	**15 30 58.1**	**+0.7**
CO01				IAML		15 30 59.5	
comp=Z,210nm,0.6s							
CO05	**La Serena**	**1.78**	**211**	*eP*	**Pn**	**15 30 38.9**	**+0.4**
CO05				*eS*	**Sn**	**15 31 00.8**	**-0.4**
CO05				IAML		15 31 06.5	
comp=E,686nm,0.4s							
VCA	**Vinchina**	**1.78**	**102**	⇑*iP*	**Pn**	**15 30 39.9**	**+1.3**
VCA				⇑*eS*	**Sn**	**15 31 02.7**	**+1.2**
VCA				IAML		15 31 04.2	
comp=N,880nm,0.3s							
VCA	**Vinchina**	**1.78**	**102**	*eP*	**Pn**	**15 30 34.8**	**-3.9**
VCA				*eS*	**Sn**	**15 31 03.0**	**+1.4**
VCA				IAML		15 31 09.9	
comp=Z,378nm,0.3s							
AC02	**Maricunga**	**1.81**	**31**	*eP*	**Pn**	**15 30 40.6**	**+1.1**
AC02				*eS*	**Sn**	**15 31 03.8**	**+0.9**
AC02	**Maricunga**	**1.81**	**31**	*eP*	**Pn**	**15 30 40.6**	**+1.1**
AC02				*eS*	**Sn**	**15 31 03.5**	**+0.7**
AC02				IAML		15 31 04.3	
comp=Z,301nm,0.3s							
GO04	**Tololo Observa**	**1.85**	**197**	*eP*	**Pn**	**15 30 39.8**	**+0.1**
GO04				*eS*	**Sn**	**15 31 03.2**	**-0.2**
GO04				IAML		15 31 09.1	
comp=N,2μm,0.6s							
GO04	**Tololo Observa**	**1.85**	**197**	*eP*	**Pn**	**15 30 39.9**	**+0.2**
GO04				*eS*	**Sn**	**15 31 03.8**	**+0.4**
AROD	**Rodeo**	**1.88**	**161**	*eP*	**Pn**	**15 30 41.1**	**+1.1**
AROD				*eS*	**Sn**	**15 31 00.0**	**-4.0**
ACDV	**Cuesta del Vie**	**2.00**	**152**	*eP*	**Pn**	**15 30 42.6**	**+1.1**
ACDV				*eS*	**Sn**	**15 31 08.3**	**+1.6**
ACDV				IAML		15 31 12.8	
comp=Z,154nm,0.5s							
AC01	**Pan de Azucar**	**2.27**	**351**	⇑*iP*	**Pn**	**15 30 46.0**	**+1.3**
AC01	**Pan de Azucar**	**2.27**	**351**	*eP*	**Pn**	**15 30 46.1**	**+1.3**
AC01				*eS*	**Sn**	**15 31 04.7**	**-7.8**
AC01				IAML		15 31 22.9	
comp=Z,256nm,0.6s							
ACCO	**Cerro Coronel**	**2.40**	**156**	*eP*	**Pn**	**15 30 49.7**	**+2.9**
ACCO				*eS*	**Sn**	**15 31 13.9**	**-2.1**
CO03	**El Pedregal**	**2.48**	**190**	*eP*	**Pn**	**15 30 48.1**	**+0.5**
CO03				*eS*	**Sn**	**15 31 17.5**	**-0.1**
CO03	**El Pedregal**	**2.48**	**190**	*eP*	**Pn**	**15 30 48.2**	**+0.6**
CO03				*eS*	**Sn**	**15 31 17.6**	**+0.1**
CO03				IAML		15 31 20.3	
comp=Z,205nm,0.3s							
DOCA	**Reserva Natura**	**2.72**	**160**	*eP*	**Pn**	**15 30 52.5**	**+1.4**
DOCA				*eS*	**Sn**	**15 31 21.3**	**-2.5**
DOCA				IAML		15 31 27.6	
comp=Z,303nm,1.1s							
CO02	**Combarbal**	**2.89**	**194**⇓	*eP*	**Pn**	**15 30 52.7**	**-0.3**
CO02	**Combarbal**	**2.89**	**194**	*eP*	**Pn**	**15 30 52.8**	**-0.3**
CO02				*eS*	**Sn**	**15 31 25.1**	**-2.2**
CO02				IAML		15 31 53.6	
comp=Z,266nm,0.7s							
ACLC	**CERRO LA CRUZ**	**3.02**	**111**	*eP*	**Pn**	**15 30 55.0**	**+0.1**
ACLC				*eS*	**Sn**	**15 31 29.2**	**-1.2**
ACLC				IAML		15 31 32.6	
comp=Z,159nm,0.4s							
GO02	**Mina Guanaco**	**3.26**	**10**	*eP*	**Pn**	**15 30 59.0**	**+0.7**
AVFE	**Valle Fertil**	**3.28**	**134**	*eP*	**Pn**	**15 30 58.2**	**0.0**
AVFE				*eS*	**Sn**	**15 31 34.9**	**-1.8**
AVFE				IAML		15 31 39.1	
comp=Z,172nm,0.4s							
RTLL	**Cerro Villicun**	**3.28**	**153**	*eP*	**Pn**	**15 30 59.2**	**+1.0**
RTLL				*eS*	**Sn**	**15 31 37.2**	**+0.6**
ZON	**Zonda**	**3.41**	**158**	*eP*	**Pn**	**15 30 59.1**	**-0.7**
ZON				*eS*	Sn	15 31 27.6	-12
ZON				IAML		15 31 49.4	
comp=Z,71nm,0.6s							
SJA	**San Juan**	**3.43**	**156**	*eP*	**Pn**	**15 31 03.5**	**+3.3**
SJA				*eS*	**Sn**	**15 31 43.8**	**+3.7**
SJA				IAML		15 31 47.0	
comp=Z,63nm,0.3s							
RTLS	**Leoncito**	**3.48**	**167**	*eP*	**Pn**	**15 31 02.4**	**+1.3**
RTLS				*eS*	**Sn**	**15 31 40.7**	**-1.0**
RTLS				IAML		15 31 46.4	
comp=Z,293nm,0.7s							
CFA	**Coronel Fontan**	**3.62**	**153**	*eP*	**Pn**	**15 31 03.2**	**+0.4**
CFA				*eS*	Sn	15 31 31.4	-13
CYA	**Choya**	**3.87**	**92**	*i* P	**Pn**	**15 31 05.6**	**-0.4**
CYA	**Choya**	**3.87**	**92**	*eP*	**Pn**	**15 31 06.3**	**+0.3**
CYA				IAML		15 31 53.2	
comp=Z,46nm,0.5s							
ASAL	**Salagasta**	**4.35**	**165**	*eP*	**Pn**	**15 31 12.4**	**-0.1**
ASAL				IAML		15 32 10.6	
comp=Z,91nm,0.8s							
VA03	**San Esteban**	**4.37**	**184**	*eP*	**Pn**	**15 31 13.2**	**+0.4**
VA03				IAML		15 32 18.9	
comp=Z,97nm,0.8s							
AAGR	**Agrelo**	**4.82**	**166**	*eP*	**Pn**	**15 31 20.3**	**+1.3**
AAGR				*eS*	Sn	15 31 54.7	-19
AAGR				IAML		15 32 28.1	
comp=Z,63nm,1.6s							
PB10	**IPOC Station P**	**4.87**	**356**	*eP*	**Pn**	**15 31 18.4**	**-1.2**
PB10				IAML		15 32 36.8	
comp=Z,29nm,0.6s							
MT04	**Ro Olivares**	**5.00**	**179**	*eP*	**Pn**	**15 31 22.9**	**+1.4**
MT04				*eS*	**Sn**	**15 32 18.4**	**+0.2**
MT04				IAML		15 32 31.4	
comp=Z,28nm,0.8s							
MT08	**Bocatoma Ro**	**5.04**	**178**	*eP*	**Pn**	**15 31 18.0**	**-4.0**
MT08				*eS*	Sn	15 32 37.6	+18

*UPP **07** 15:31:11.1±0.0, 67°.84N×20°.21E, h0km, ML2.2, Confirmed Induced event*
*HEL **07** 15:31:11.3±0.2, 67°.84N×20°.17E, h0km, ML1.8, Explosion*
*IDC **07** 15:31:12.3±1.3, 67°.83N×20°.81E, h0km, mbtmp3.0/3, ML2.0/3, Error ellipse: s-maj=19.2km s-min=7.5km az=115.0*
ISC 07 15:31:11.3±0.8, 67°.84N±0°.02×20°.23E±0°.03, h0km, n33, σ0°94/54, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**21**	P	**Pg**	**15 31 13.6**	**+0.1**
KUA				S	**Sg**	**15 31 15.4**	**+0.2**
RATU	**Laukkuluspa**	**0.24**	**266**	P	**Pg**	**15 31 15.8**	**-0.1**
RATU				S	**Sg**	**15 31 19.1**	**+0.1**
KOVU	**Salmi**	**0.38**	**356**	P	**Pg**	**15 31 18.4**	**-0.2**
KOVU				S	**Sg**	**15 31 23.6**	**+0.1**
LANU	**Lannavaara**	**0.70**	**72**	P	**Pg**	**15 31 24.4**	**-0.3**
LANU				S	**Sg**	**15 31 34.0**	**+0.3**
LANU	**Lannavaara**	**0.70**	**72**	PG	**Pg**	**15 31 24.4**	**-0.3**
LANU				SG	**Sg**	**15 31 33.8**	**+0.1**
DUNU	**Dundret**	**0.74**	**169**	P	**Pg**	**15 31 24.9**	**-0.5**
DUNU				S	**Sg**	**15 31 35.1**	**+0.2**
MASU	**Masugnsbyn**	**0.78**	**119**	P	**Pg**	**15 31 25.9**	**-0.3**
MASU				S	**Sg**	**15 31 36.4**	**+0.1**
KIF	**Kilpisjarvi**	**1.19**	**10**	*eP*	**Pg**	**15 31 33.6**	**-0.4**
KIF	**Kilpisjarvi**	**1.19**	**10**	PG	**Pg**	**15 31 33.3**	**-0.7**
KIF				MSG		15 31 48.6	
comp=Z,9.3nm,0.2s							
KIF				SB	**Sg**	**15 31 49.4**	**+0.1**
HEF	**Hetta**	**1.41**	**65**	*eP*	**Pn**	**15 31 36.9**	**-1.3**
HEF	**Hetta**	**1.41**	**65**	PG	**Pn**	**15 31 36.9**	**-1.3**
baz=248							
HEF				MSG		15 31 54.3	
comp=Z,7.6nm,0.2s							
HEF				SG	**Sg**	**15 31 55.6**	**-0.8**
ERTU	**Ertsjaerv**	**1.50**	**148**	P	**Pn**	**15 31 38.6**	**-0.9**
ERTU	**Ertsjaerv**	**1.50**	**148**	PG	**Pn**	**15 31 38.4**	**-1.1**
ERTU				SN	**Sg**	**15 31 59.6**	**+0.1**
KLF	**Kolari**	**1.56**	**111**	PG	**Pn**	**15 31 39.6**	**-0.6**
KLF				MSG		15 31 58.5	
comp=Z,5.4nm,0.2s							
KLF				SN	**Sb**	**15 32 01.5**	**+0.2**
KTK1	**Kautokeino**	**1.62**	**42**	PG	**Pn**	**15 31 40.6**	**-0.5**
KTK1				SN	**Sg**	**15 32 04.4**	**+1.2**
TRO	**Tromso**	**1.86**	**346**	PG	**Pn**	**15 31 45.1**	**+0.7**
TRO				SG	**Sn**	**15 32 08.7**	**+0.2**
KALU	**Kalix**	**2.34**	**147**	PG	**Pn**	**15 31 51.9**	**+0.9**
baz=328							
KALU				SG	**Sb**	**15 32 23.4**	**-0.4**
TOF	**Tornio**	**2.40**	**136**	PG	**Pn**	**15 31 53.0**	**+1.3**
TOF				MSG		15 32 22.6	
comp=Z,3.4nm,0.2s							
TOF				SG	**Sb**	**15 32 25.4**	**+0.2**
ARA0	**ARCESS Array S**	**2.57**	**46**	PB	**Pn**	**15 31 54.6**	**+0.4**
ARA0				SB	**Sb**	**15 32 28.5**	**-1.8**
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn	**Pn**	**15 31 54.3**	**+0.2**
comp=Z,1.2nm,0.3s,baz=229,slow=14,SNR=86							
ARCES				Lg	Lg	15 32 27.7	
comp=Z,2.2nm,0.3s,baz=227,slow=25,SNR=20							
comp=Z,2.2nm,0.3s							
RNF	**Rovaniemi**	**2.57**	**116**	PB	**Pn**	**15 31 55.6**	**+1.5**
RNF				SG	**Sb**	**15 32 30.4**	**+0.1**
RAJF	**Raja-Jooseppi**	**3.09**	**74**	PN	**Pn**	**15 32 01.3**	**0.0**
RAJF				SB	**Sb**	**15 32 44.4**	**-0.8**
KEV	**Kevo**	**3.12**	**49**	PN	**Pn**	**15 32 02.0**	**+0.3**
KEV				SN	**Sn**	**15 32 40.8**	**+1.1**
KEV				MSG		15 32 43.5	
comp=Z,3.8nm,0.2s							
RANF	**Ranua**	**3.17**	**122**	PN	**Pn**	**15 32 03.6**	**+1.3**
VRF	**Varrio**	**3.56**	**87**	PB	**Pn**	**15 32 10.8**	**+3.0**
OUL	**Oulu**	**3.58**	**138**	PG	**Pb**	**15 32 16.0**	**+0.5**
OUL				SG	**Sb**	**15 33 00.6**	**+1.2**
KU2	**Taivalkoski**	**3.83**	**120**	PN	**Pn**	**15 32 12.4**	**+1.0**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PN	**Pn**	**15 32 13.2**	**+0.8**
OUF	**Merijarvi**	**3.94**	**150**	PG	**Pb**	**15 32 21.6**	**0.0**
MSF	**Maaselka**	**3.98**	**115**	PN	**Pn**	**15 32 14.5**	**+1.0**
KU6	**Riekki**	**4.22**	**111**	PN	**Pn**	**15 32 17.4**	**+0.7**
baz=302							
FINES	**FINESS Array B**	**6.90**	**156**	Pn	**Pn**	**15 32 52.9**	**-0.6**
comp=Z,0.1nm,0.3s,baz=348,slow=10.0,SNR=1.4							
FINES				Sn	**Sn**	**15 34 09.9**	**-2.6**
comp=Z,0.2nm,0.3s,baz=347,slow=24,SNR=5.2							
FINES				Lg	Lg	15 34 47.0	
comp=Z,0.3nm,0.3s,baz=341,slow=28,SNR=7.0							
comp=Z,1.4nm,0.8s							
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**15 33 07.8**	**+1.2**

MOS ***07*** *15:45:06.5±1.1, 41°.30S×87°.51W, h10km, mb5.6/30, MS5.3/13, Error ellipse: s-maj=13.0km s-min=8.7km az=71.7*

IDC ***07*** *15:45:06.3±0.4, 41°.39S×87°.53W, h0km, mb5.1/21, mbtmp5.0/23, ML3.9/2, MS5.1/49, Error ellipse: s-maj=16.6km s-min=13.2km az=89.0*

NEIC ***07*** *15:45:07.8, 41°.29S×87°.49W, h12km*

NEIC ***07*** *15:45:07.8, 41°.19S×88°.00W, h12km, Moment Tensor Solution. Duration: 3:5 Moment tensor: Scale 10^17^Nm; Mrr=3.66; Mθθ0.05; Mφφ3.61; Mrθ-0.01; Mφθ-0.65; Mφr1.42; Fault plane solution: M0 3.95000×10^17^ NP1: φs=346.46000°, δ=34.71000°, λ=-95.74000°. NP2: φs=173.44000°, δ=55.48000°, λ=-86.04000°. Principal axes: T 3.9794, Plg10.0000°, Azm261.0000°; N -0.0500, Plg3.0000°, Azm351.0000°; P -3.9295, Plg79.0000°, Azm98.0000°;*

NEIC ***07*** *15:45:08.1±1.9, 41°.29S±0°.09×87°.5W±0°.1, h7km±3km, mb5.7/536, Ms_20 5.3/375, Mww5.7/87 Error ellipse: s-maj=14.6km s-min=12.2km az=107.0*

GUC ***07*** *15:45:09.0, 40°.03S×87°.69W, h15km, MW5.7*

GCMT ***07*** *15:45:10.1±0.1, 41°.39S±0°.01×87°.65W±0°.01, h12km, MW5.6/165, Moment Tensor Solution. s136, c244; s165, c359; Duration: 1:6 Moment tensor: Scale 10^17^ Nm; Mrr=3.33±.03; Mθθ0.07±.03; Mφφ3.25±.02; Mrθ0.85±.08; Mφφ-0.77±.02; Mφr-0.74±.07; Best double couple: M0 3.56200×10^17^ NP1:φs178.00000°, δ38.00000°, λ-73.00000°. NP2:φs336.00000°, δ54.00000°, λ-103.00000°. Principal axes: T 3.5490, Plg8.0000°, Azm76.0000°; N 0.0210, Plg10.0000°, Azm344.0000°; P -3.5750, Plg77.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 15:45:07.9±0.2, 41°.33S±0°.05×87°.62W±0°.04, h12km, n809, σ1 977/416, mb5.7/260, MS5.3/254, 18C-15D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**10.17**	**45**	T	T	15 58 03.4	
	baz=218,slow=73,SNR=1188						
H03S1	**Juan Fernandez**	**10.18**	**46**	T	T	15 58 03.7	
	baz=218,slow=73,SNR=1492						
H03S3	**Juan Fernandez**	**10.19**	**45**	T	T	15 58 02.9	
	baz=218,slow=73,SNR=1535						
VA04	**Juan Fernndez**	**10.37**	**45**	Pn	**Pn**	**15 47 33.4**	**-3.1**
H03N3	**Juan Fernandez**	**10.47**	**44**	Pn	**Pn**	**15 47 35.4**	**-2.1**
	baz=179,slow=22						
H03N3				T	T	15 58 25.8	
	baz=216,slow=72,SNR=666						
H03N2	**Juan Fernandez**	**10.47**	**44**	Pn	**Pn**	**15 47 35.1**	**-2.5**
	baz=179,slow=22						
H03N2				T	T	15 58 35.8	
	baz=216,slow=72,SNR=1200						
H03N1	**Juan Fernandez**	**10.48**	**44**	Pn	**Pn**	**15 47 35.0**	**-2.7**
	baz=179,slow=22						
H03N1				T	T	15 58 18.4	
	baz=216,slow=72,SNR=812						
LL06	**Loncomilla**	**10.49**	**99**	*e*P	**Pn**	**15 47 41.8**	**+3.7**
LL07	**Hotel Espejo d**	**10.62**	**103**	⇑*i*P	**Pn**	**15 47 43.2**	**+3.4**
LL05	**Los Muermos**	**10.64**	**95**	*e*P	**Pn**	**15 47 42.6**	**+2.6**
LL01	**San Ignacio de**	**11.39**	**100**	*e*P	Pn	15 47 56.6	+6.2
AY01	**Puyuhuapi**	**11.41**	**111**	⇑*i*P	**Pn**	**15 47 54.2**	**+3.6**
LL03	**Petrohue**	**11.46**	**94**	*e*P	**Pn**	**15 47 54.1**	**+2.8**
LR03	**Panguipulli**	**11.76**	**87**		**Pn**	**15 47 55.5**	**+0.1**
LL02	**Futaleuf**	**11.84**	**104**	*e*P	Pn	15 48 01.5	+5.0
LR05	**Currie**	**11.89**	**90**	Pn	**Pn**	**15 47 56.7**	**-0.5**
COYC	**Coyhaique**	**12.06**	**116**	Pn	**Pn**	**15 48 02.7**	**+3.2**
COYC	**Coyhaique**	**12.06**	**116**	*e*P	**Pn**	**15 48 04.1**	**+4.6**
AY03	**Cochrane**	**12.28**	**124**		**Pn**	**15 48 06.2**	**+3.7**
AY03	**Cochrane**	**12.28**	**124**	⇑*i*P	**Pn**	**15 48 06.7**	**+4.2**
GO06	**Curarrehue**	**12.43**	**87**	*e*P	**Pn**	**15 48 06.1**	**+1.4**
GO08	**Villa O'Higgin**	**12.83**	**129**	*e*P	Pn	15 48 15.0	+5.0
PLCA	**Paso Flores**	**12.91**	**93**	Pn	**Pn**	**15 48 11.4**	**+0.2**
PLCA	**Paso Flores**	**12.91**	**93**	Pn	**Pn**	**15 48 14.5**	**+3.4**
	0.2nm,0.3s,baz=272,slow=12,SNR=27						
PLCA				LR	LR	15 52 09.3	
	comp=Z,31μm,19.4s,baz=286,slow=33						
PLCA	**Paso Flores**	**12.91**	**93**	P	**Pn**	**15 48 11.4**	**+0.2**
PLCA	**Paso Flores**	**12.91**	**93**	*e*P	**Pn**	**15 48 14.4**	**+3.2**
BI02	**San Fabin de**	**13.54**	**75**	Pn	**Pn**	**15 48 16.5**	**-3.3**
BI02	**San Fabin de**	**13.54**	**75**	*e*P	**Pn**	**15 48 17.0**	**-2.8**
ML02	**Panimavida**	**13.84**	**72**	*e*P	**Pn**	**15 48 23.2**	**-0.7**
GO05	**Hualane**	**13.86**	**68**	⇑*i*P	**Pn**	**15 48 24.0**	**-0.1**
MG05	**Puerto Natales**	**14.65**	**140**	Pn	**Pn**	**15 48 35.5**	**+0.7**
BO01	**Tunca**	**14.77**	**67**	Pn	**Pn**	**15 48 35.0**	**-1.6**
BO01	**Tunca**	**14.77**	**67**	⇑*i*P	**Pn**	**15 48 37.0**	**+0.4**
BO02	**Sierra Bellavi**	**14.77**	**69**	Pn	**Pn**	**15 48 35.4**	**-1.3**
MT01	**Popeta**	**14.95**	**65**	⇑*i*P	**Pn**	**15 48 37.4**	**-1.6**
MT09	**Talagante**	**15.18**	**66**		**Pn**	**15 48 40.7**	**-1.6**
BO04	**La Punta**	**15.32**	**67**		**Pn**	**15 48 41.9**	**-2.1**
MT05	**Renca**	**15.57**	**65**	Pn	**Pn**	**15 48 46.1**	**-1.1**
LMEL	**Las Melosas**	**15.68**	**67**		**Pn**	**15 48 48.0**	**-0.8**
MT13	**San Alfonso**	**15.68**	**67**		**Pn**	**15 48 47.1**	**-1.7**
MT16	**CCHEN**	**15.70**	**65**	Pn	**Pn**	**15 48 48.0**	**-0.9**
PEL	**Peldehue**	**15.75**	**64**		**Pn**	**15 48 49.0**	**-0.6**
PEL	**Peldehue**	**15.75**	**64**	P	**Pn**	**15 48 49.0**	**-0.6**
PEL				pmax	pmax		
	comp=Z,188nm,1.6s						
GO10	**Punta Arenas**	**16.28**	**142**	P	**P**	**15 48 59.7**	**+0.5**
GO10				IAmb	IAmb	15 49 04.3	
	comp=Z,776nm,1.4s						
CFA	**Coronel Fontan**	**18.33**	**64**	P	**P**	**15 49 22.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=232,slow=12,SNR=32						
CFA				LR	LR	15 54 55.4	
	comp=Z,10μm,21.2s,baz=238,slow=32						
	comp=Z,18nm,0.9s						
LCO	**Las Campanas**	**18.46**	**54**	P	**P**	**15 49 23.2**	**-0.6**
LCO	**Las Campanas**	**18.46**	**54**	P	**P**	**15 49 23.2**	**-0.6**
LCO				pmax	pmax		
	comp=Z,269nm,1.5s						
USHA	**Ushuaia**	**18.54**	**143**	P	**Pn**	**15 49 24.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=306,slow=13,SNR=6.2						
USHA				LR	LR	15 55 13.2	
	comp=Z,9μm,19.6s,baz=306,slow=33						
	comp=Z,30nm,0.9s						
TRQA	**Tornquist**	**19.98**	**89**	P	**P**	**15 49 40.5**	**+0.4**
TRQA	**Tornquist**	**19.98**	**89**	P	**P**	**15 49 40.5**	**+0.4**
TRQA				pmax	pmax		
	comp=Z,233nm,1.3s						
AC01	**Pan de Azucar**	**20.67**	**48**	P	**P**	**15 49 47.8**	**+0.1**
AC01				IAMs_20	IAMs_20	15 55 13.2	
	comp=Z,12μm,21.0s						
AC02	**Maricunga**	**21.00**	**52**	IAMs_20	IAMs_20	15 55 40.9	
	comp=Z,12μm,20.0s						
GO02	**Mina Guanaco**	**22.01**	**48**	IAMs_20	IAMs_20	15 56 14.5	
	comp=Z,9μm,19.0s						
EFI	**East Falkland**	**22.68**	**127**	*i* P	**P**	**15 50 09.0**	**+0.1**
EFI				pmax	pmax		
	comp=Z,282nm,3.2s						
RPN	**Rapa Nui**	**22.79**	**302**	IAMs_20	IAMs_20	15 56 17.4	
	comp=Z,15μm,22.0s						
PB10	**IPOC Station P**	**22.80**	**44**	IAmb	IAmb	15 50 25.8	
	comp=Z,423nm,1.5s						
PB10				IAMs_20	IAMs_20	15 56 14.6	
	comp=Z,10μm,21.0s						
VA02	**Isla de Pascua**	**22.83**	**301**	IAMs_20	IAMs_20	15 56 06.5	
	comp=Z,14μm,22.0s						
AF01	**San Pedro de A**	**24.54**	**48**	IAMs_20	IAMs_20	15 57 46.3	
	comp=Z,9μm,20.0s						
PB09	**IPOC Station P**	**24.89**	**44**	IAMs_20	IAMs_20	15 57 28.9	
	comp=Z,6μm,19.0s						
PB01	**IPOC Station P**	**25.39**	**43**	IAMs_20	IAMs_20	15 57 42.1	
	comp=Z,7μm,21.0s						
TA02	**Huaiquique**	**25.72**	**41**	IAMs_20	IAMs_20	15 57 57.8	
	comp=Z,7μm,20.0s						
PB08	**IPOC Station P**	**26.32**	**42**	IAMs_20	IAMs_20	15 58 10.3	
	comp=Z,7μm,20.0s						
PB11	**IPOC Station P**	**26.39**	**41**	IAMs_20	IAMs_20	15 58 09.4	
	comp=Z,6μm,19.0s						
GO01	**Chusmiza**	**26.69**	**42**	IAMs_20	IAMs_20	15 58 41.6	
	comp=Z,7μm,20.0s						
PB12	**IPOC Station P**	**27.05**	**38**	P	**P**	**15 50 49.1**	**-1.1**
PB12				IAmb	IAmb	15 51 05.1	
	comp=Z,238nm,1.8s						
PB12				IAMs_20	IAMs_20	15 58 27.7	
	comp=Z,7μm,20.0s						
PMSA	**Palmer Station**	**27.10**	**158**	LR	LR	15 58 34.8	
	comp=Z,2μm,18.2s,baz=306,slow=30						
PMSA	**Palmer Station**	**27.10**	**158**	*e*P	**P**	**15 50 50.6**	**+0.5**
TBOT	**Tacuaremb**	**27.10**	**79**	*e*P	**P**	**15 50 51.0**	**+0.5**
AP01	**Chacalluta**	**27.25**	**38**	IAMs_20	IAMs_20	15 58 34.2	
	comp=Z,7μm,20.0s						
ITQB	**Itaqui**	**27.64**	**75**	P	**P**	**15 50 55.3**	**-0.1**
ITQB				IAmb	IAmb	15 51 04.4	
	comp=Z,139nm,1.3s						
ITQB	**Itaqui**	**27.64**	**75**	*e*P	**P**	**15 50 56.7**	**+1.3**
PB16	**IPOC Station P**	**27.67**	**39**	IAMs_20	IAMs_20	15 58 50.4	
	comp=Z,7μm,21.0s						
PB18	**Visviri**	**28.33**	**39**	IAmb	IAmb	15 52 02.6	
	comp=Z,274nm,1.5s						
PB18				IAMs_20	IAMs_20	15 59 10.8	
	comp=Z,8μm,19.0s						
PLTB	**Pedras Altas**	**28.79**	**82**	P	**P**	**15 51 05.6**	**-0.1**
PLTB				IAMs_20	IAMs_20	16 01 32.0	
	comp=Z,12μm,20.0s						
PLTB	**Pedras Altas**	**28.79**	**82**	*e*P	**P**	**15 51 06.3**	**+0.6**
CPUP	**Villa Florida**	**29.09**	**69**	P	**P**	**15 51 08.7**	**+0.4**
	comp=Z,15nm,1.2s,baz=237,slow=8.7,SNR=11						
CPUP				LR	LR	16 02 03.3	
	comp=Z,12μm,19.0s,baz=247,slow=35						
	comp=Z,15nm,1.2s						
CPUP	**Villa Florida**	**29.09**	**69**	*e*P	**P**	**15 51 08.9**	**+0.6**
CPSB	**Cacapava Do Su**	**29.59**	**79**	*e*P	**P**	**15 51 13.4**	**+0.6**
LPAZ	**La Paz**	**30.09**	**40**	P	**P**	**15 51 18.6**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=208,slow=5.6,SNR=12						
LPAZ				LR	LR	16 00 49.9	
	comp=Z,4μm,18.4s,baz=192,slow=31						
	comp=Z,3.5nm,0.8s						
LPAZ	**La Paz**	**30.09**	**40**	*e*P	**P**	**15 51 19.3**	**+1.3**
NNA	**Nana**	**30.72**	**21**	P	**P**	**15 51 23.2**	**+0.3**
NNA	**Nana**	**30.72**	**21**	IAMs_20	IAMs_20	16 00 15.5	
	comp=Z,4μm,20.0s						
NNA	**Nana**	**30.72**	**21**	LR	LR	16 00 38.1	
	comp=Z,4μm,18.7s,baz=190,slow=30						
NNA	**Nana**	**30.72**	**21**	*ce*P	**P**	**15 51 23.1**	**+0.3**
NNA				pmax	pmax		
	comp=Z,69nm,2.5s						
SJPY	**San Joaquin**	**30.79**	**68**	*e*P	**P**	**15 51 24.3**	**+0.9**
MURT	**Porto Murtinho**	**32.00**	**61**	*e*P	**P**	**15 51 34.4**	**+0.4**
CNLB	**Canela**	**32.08**	**80**	*e*P	**P**	**15 51 35.6**	**+0.9**
ITAB	**Concordia**	**32.28**	**75**	P	**P**	**15 51 36.8**	**+0.4**
ITAB				IAmb	IAmb	15 51 45.8	
	comp=Z,149nm,1.2s						
ITAB	**Concordia**	**32.28**	**75**	*e*P	**P**	**15 51 37.1**	**+0.6**
BDQN	**Bodoquena, MS**	**33.42**	**61**	*e*P	**P**	**15 51 46.6**	**+0.1**
TER01	**Tubaro-SC**	**33.77**	**80**	*e*P	**P**	**15 51 51.1**	**+1.6**
PTGB	**Pitanga**	**33.82**	**72**	*e*P	**P**	**15 51 50.7**	**+0.6**
AQDB	**Aquidauana**	**34.09**	**62**	*e*P	**P**	**15 51 52.8**	**+0.4**
SIV	**San Ignacio**	**34.10**	**50**	LR	LR	16 04 33.1	
	comp=Z,4μm,21.2s,baz=232,slow=34						
MAJ01	**Sao Joao Batis**	**34.48**	**79**	*e*P	**P**	**15 51 57.2**	**+1.5**
ATAH	**Atahualpa**	**35.03**	**16**	LR	LR	16 02 46.8	
	comp=Z,5μm,21.5s,baz=208,slow=30						
LDASE	**Londrina, Braz**	**35.32**	**71**	*e*P	**P**	**15 52 03.7**	**+0.7**
RPRD	**Ribas do Rio P**	**35.44**	**64**	*e*P	**P**	**15 52 05.3**	**+1.3**
PTLB	**Pontes e Lacer**	**35.66**	**52**	IAMs_20	IAMs_20	16 05 19.1	
	comp=Z,7μm,22.0s						
PTLB	**Pontes e Lacer**	**35.66**	**52**	*e*P	**P**	**15 52 06.5**	**+0.6**
CZSB	**Cruzeiro do Su**	**35.99**	**26**	P	**P**	**15 52 09.4**	**+0.7**
CZSB				IAMs_20	IAMs_20	16 03 32.3	
	comp=Z,4μm,22.0s						
CZSB	**Cruzeiro do Su**	**35.99**	**26**	*e*P	**P**	**15 52 10.2**	**+1.4**
FRTB	**Fartura**	**36.46**	**72**	*e*P	**P**	**15 52 14.6**	**+1.8**
VILB	**Vilhena**	**37.04**	**48**	*e*P	**P**	**15 52 17.9**	**+0.1**
C2SB	**Chapadao do Su**	**37.21**	**63**	*e*P	**P**	**15 52 20.7**	**+1.6**
SALV	**Santo Antonio**	**37.42**	**57**	*e*P	**P**	**15 52 22.3**	**+1.3**
ITRB	**Iturama**	**38.26**	**67**	*e*P	**P**	**15 52 28.8**	**+0.7**
VAO	**Valinhos**	**38.55**	**74**	P	**P**	**15 52 30.9**	**+0.3**
VAO	**Valinhos**	**38.55**	**74**	*e*P	**P**	**15 52 31.2**	**+0.7**
PTCN	**Pitcairn Islan**	**38.65**	**281**	IAMs_20	IAMs_20	16 03 40.5	
	comp=Z,8μm,22.0s						
SAML	**Samuel**	**38.83**	**41**	P	**P**	**15 52 32.0**	**-0.8**
SAML				IAMs_20	IAMs_20	16 05 51.2	
	comp=Z,4μm,20.0s						
SAML	**Samuel**	**38.83**	**41**	P	**P**	**15 52 32.0**	**-0.8**
SAML				pmax	pmax		
	comp=Z,42nm,1.4s						
SAML	**Samuel**	**38.83**	**41**	*e*P	**P**	**15 52 33.6**	**+0.9**
ARAG	**Araguaiana, MT**	**40.07**	**61**	*e*P	**P**	**15 52 43.7**	**+0.4**
PDRB	**Porto dos Gac**	**40.11**	**51**	*e*P	**P**	**15 52 43.7**	**+0.1**
TBTG	**Tabatinga, AM**	**40.25**	**28**	IAMs_20	IAMs_20	16 06 06.2	
	comp=Z,4μm,22.0s						
TBTG	**Tabatinga, AM**	**40.25**	**28**	*e*P	**P**	**15 52 45.7**	**+1.0**
PAYG	**Puerto Ayora**	**40.54**	**356**	IAMs_20	IAMs_20	16 05 09.0	
	comp=Z,3μm,21.0s						
MAN01	**Angra dos Reis**	**40.82**	**77**	*e*P	**P**	**15 52 51.8**	**+2.3**
IPMB	**Ipameri, GO**	**40.91**	**67**	*e*P	**P**	**15 52 50.3**	**+0.1**
CLDB	**Colider**	**41.25**	**52**	*e*P	**P**	**15 52 52.8**	**-0.2**
VAS01	**Vassouras-RJ**	**41.56**	**77**	*e*P	**P**	**15 52 57.6**	**+2.1**
PMNB	**Patos De Minas**	**41.78**	**70**	*e*P	**P**	**15 52 58.0**	**+0.6**
OTAV	**Otavalo**	**42.20**	**14**	P	**P**	**15 53 02.1**	**+0.9**
OTAV	**Otavalo**	**42.20**	**14**	P	**P**	**15 53 02.1**	**+0.9**
OTAV				pmax	pmax		
	comp=Z,59nm,1.2s						
OTAV	**Otavalo**	**42.20**	**14**	*e*P	**P**	**15 53 03.3**	**+2.1**
BELA	**Belgrano 2**	**42.37**	**165**	P	**P**	**15 53 01.9**	**+0.4**
BELA				IAmb	IAmb	15 53 04.2	
	comp=Z,154nm,1.3s						
DUB01	**Friburgo-RJ**	**42.47**	**77**	*e*P	**P**	**15 53 04.9**	**+2.0**
BDFB	**Brasilia**	**42.67**	**65**	P	**P**	**15 53 04.0**	**-0.7**
BDFB	**Brasilia**	**42.67**	**65**	P	**P**	**15 53 04.4**	**-0.2**
	comp=Z,23nm,1.0s,baz=236,slow=3.3,SNR=23						
BDFB				LR	LR	16 10 19.5	
	comp=Z,9μm,19.8s,baz=223,slow=36						
	comp=Z,23nm,1.0s						
BDFB	**Brasilia**	**42.67**	**65**	P	**P**	**15 53 04.0**	**-0.7**
BDFB				pmax	pmax		
	comp=Z,99nm,1.5s						
TEFE	**Tefe**	**42.94**	**35**	*e*P	**P**	**15 53 07.7**	**+1.0**
CAM01	**Campos-RJ**	**43.15**	**78**	*e*P	**P**	**15 53 10.2**	**+1.8**
SNDB	**Serra Nova Dou**	**43.17**	**58**	*e*P	**P**	**15 53 09.4**	**+0.7**
RKT	**Rikitea**	**43.40**	**280**	*e*P	**P**	**15 53 10.3**	**-0.1**
	comp=Z,1μm,40.8s						
RKT	**Rikitea**	**43.40**	**280**	*e*PP	**PP**	**15 54 53.5**	**+2.3**
	comp=Z,1μm,39.5s						
RKT				*e*S	**S**	**15 59 36.6**	**-1.7**
	comp=Z,4μm,27.8s						
RKT				*e*SS	**SS**	**16 02 58.3**	**+6.2**
	comp=Z,5μm,29.5s						
RKT				*e*LR	LR	16 05 13.9	
	comp=Z,58μm,26.8s						
DIAM	**Diamantina, MG**	**43.91**	**72**	*e*P	**P**	**15 53 16.2**	**+1.5**
FLOC	**Florencia**	**44.08**	**17**	IAmb	IAmb	15 53 19.7	
	comp=Z,138nm,1.4s						
ALF01	**Guarapari-ES**	**44.57**	**77**	*e*P	**P**	**15 53 21.7**	**+1.9**
NPGB	**Novo Progresso**	**44.58**	**49**	*e*P	**P**	**15 53 20.1**	**+0.1**
MACA	**Manacapuru-AM**	**45.05**	**40**	IAMs_20	IAMs_20	16 09 54.3	
	comp=Z,4μm,21.0s						
SJMB	**Sao Joao De Ma**	**45.44**	**75**	*e*P	**P**	**15 53 28.4**	**+1.6**
RIB01	**Linhares ES**	**45.63**	**76**	*e*P	**P**	**15 53 29.8**	**+1.5**
JANB	**Januaria**	**45.63**	**68**	*e*P	**P**	**15 53 29.2**	**+0.8**
ITTB	**Itaituba**	**46.58**	**46**	*e*P	**P**	**15 53 35.9**	**+0.1**
SDBA	**SAO DESIDERIO**	**47.08**	**65**	*e*P	**P**	**15 53 40.3**	**+0.6**
ROSC	**El Rosal**	**47.53**	**18**	IAmb	IAmb	15 53 54.9	
	comp=Z,134nm,1.4s						
ROSC	**El Rosal**	**47.53**	**18**	P	**P**	**15 53 45.9**	**+2.3**
	comp=Z,40nm,1.2s,baz=170,slow=5.7,SNR=22						
ROSC				LR	LR	16 11 04.4	
	comp=Z,5μm,22.0s,baz=199,slow=33						
	comp=Z,40nm,1.2s						
VNA3	**Neumayer Olymp**	**47.67**	**155**	⇓*i*P	**P**	**15 53 44.3**	**+0.6**
	comp=Z,77nm,0.9s						
GUA01	**Guaratinga, BA**	**47.81**	**74**	*e*P	**P**	**15 53 46.2**	**+0.8**
SMTB	**Santa Maria do**	**47.89**	**59**	*e*P	**P**	**15 53 47.4**	**+1.4**
VNA1	**Neumayer--Stat**	**48.19**	**154**	⇓*i*P	**P**	**15 53 48.7**	**+1.1**
	comp=Z,107nm,1.0s						
VNA2	**Nemayer--Watz**	**48.45**	**154**	⇓*i*P	**P**	**15 53 50.5**	**+0.9**
	comp=Z,51nm,0.8s,baz=288,slow=7.2						
PRPB	**Parauapebas**	**48.56**	**54**	*e*P	**P**	**15 53 51.7**	**+0.5**
CMC01	**Camacan, BA**	**48.82**	**73**	*e*P	**P**	**15 53 54.1**	**+0.9**
RUSC	**La Rusia**	**48.84**	**19**	IAmb	IAmb	15 53 56.8	
	comp=Z,204nm,1.7s						
QSPA	**South Pole Qui**	**48.91**	**180**	P	**P**	**15 53 54.0**	**+0.6**
	comp=Z,24nm,0.9s,baz=133,slow=3.5,SNR=39						
QSPA				LR	LR	16 10 50.4	
	comp=Z,1μm,21.9s,baz=136,slow=32						
	comp=Z,24nm,0.9s						
MAL2	**Monte Alegre,**	**49.38**	**47**	IAMs_20	IAMs_20	16 12 49.8	
	comp=Z,3μm,21.0s						
SNAA	**Sanae**	**49.78**	**156**	P	**P**	**15 53 59.5**	**-0.3**
SNAA				IAmb	IAmb	15 54 10.8	
	comp=Z,145nm,1.2s						
SNAA	**Sanae**	**49.78**	**156**	⇓*i*P	**P**	**15 54 00.3**	**+0.4**
	comp=Z,1μm,0.9s						
SNAA	**Sanae**	**49.78**	**156**	P	**P**	**15 54 00.4**	**+0.5**
	comp=Z,57nm,1.0s,baz=259,slow=6.0,SNR=58						
SNAA				LR	LR	16 10 53.3	
	comp=Z,1μm,21.5s,baz=273,slow=31						
	comp=Z,57nm,1.0s						
SNAA	**Sanae**	**49.78**	**156**	*ce*P	**P**	**15 54 00.1**	**+0.2**
SNAA				pmax	pmax		
	comp=Z,144nm,1.3s						
BOAV	**Boa Vista**	**50.02**	**36**	IAMs_20	IAMs_20	16 12 59.9	
	comp=Z,5μm,20.0s						
BOAV	**Boa Vista**	**50.02**	**36**	*e*P	**P**	**15 54 02.2**	**-0.1**
TROLL	**Troll, Antarti**	**51.34**	**157**	⇓P	**P**	**15 54 12.6**	**+0.8**
	comp=Z,5μm,1.1s						
JTS	**Las Juntas de**	**51.42**	**3**	P	**P**	**15 54 14.5**	**+1.7**
JTS	**Las Juntas de**	**51.42**	**3**	LR	LR	16 10 52.2	
	comp=Z,1μm,19.6s,baz=117,slow=30						
JTS	**Las Juntas de**	**51.42**	**3**	P	**P**	**15 54 14.5**	**+1.7**
JTS				pmax	pmax		
	comp=Z,59nm,1.3s						
SDV	**Santo Domingo**	**52.36**	**21**	P	**P**	**15 54 19.5**	**-0.5**
SDV				IAMs_20	IAMs_20	16 14 07.0	
	comp=Z,2μm,22.0s						
SDV	**Santo Domingo**	**52.36**	**21**	LR	LR	16 14 28.0	
	comp=Z,2μm,20.6s,baz=197,slow=34						
SDV	**Santo Domingo**	**52.36**	**21**	*e*P	**P**	**15 54 20.0**	**0.0**
TMAB	**Tom-Au,PA,Br**	**52.59**	**53**	*e*P	**P**	**15 54 22.7**	**+1.1**
SBA	**Scott Base**	**53.13**	**195**	P	**P**	**15 54 26.9**	**+2.1**
SBA				IAmb	IAmb	15 54 30.5	
	comp=Z,131nm,1.6s						
SBA	**Scott Base**	**53.13**	**195**	P	**P**	**15 54 26.9**	**+2.1**
SBA				pmax	pmax		
	comp=Z,131nm,1.7s						
BOAB	**BOACO BROADBAND**	**53.54**	**2**	IAmb	IAmb	15 54 37.5	
	comp=Z,120nm,1.2s						
BOAB				IAMs_20	IAMs_20	16 11 20.1	
	comp=Z,3μm,21.0s						
HERN	**Volcan Telica**	**53.67**	**1**	IAMs_20	IAMs_20	16 12 24.7	
	comp=Z,2μm,19.0s						
TBI	**Tubuai**	**54.13**	**269**	*e*P	P	15 54 26.4	-6.5
	comp=Z,966nm,28.2s						
TBI	**Tubuai**	**54.13**	**269**	*e*PP	**PP**	**15 56 34.0**	**-0.4**
	comp=Z,959nm,36.0s						
TBI				*e*S	**S**	**16 02 11.2**	**+1.8**
	comp=Z,7μm,28.5s						
TBI				*e*SS	**SS**	**16 05 48.5**	**-2.4**
	comp=Z,2μm,29.0s						
TBI				*e*LQ	LQ	16 07 58.8	
	comp=Z,4μm,31.2s						
TBI				*e*LR	LR	16 10 04.6	
	comp=Z,10μm,30.2s						
TBI				*e*LR	LR	16 10 10.2	
	comp=Z,51μm,29.8s						
VNDA	**Vanda**	**54.22**	**195**	P	**P**	**15 54 34.8**	**+2.0**
VNDA				IAmb	IAmb	15 54 44.4	
	comp=Z,109nm,1.8s						
VNDA	**Vanda**	**54.22**	**195**	P	**P**	**15 54 34.3**	**+1.5**
	comp=Z,16nm,1.2s,baz=123,slow=5.8,SNR=20						
VNDA				LR	LR	16 12 53.1	
	comp=Z,1μm,21.8s,baz=120,slow=31						
	comp=Z,16nm,1.2s						
VNDA	**Vanda**	**54.22**	**195**	P	**P**	**15 54 34.8**	**+2.0**
VNDA				pmax	pmax		
	comp=Z,109nm,1.8s						
NVL	**N'lazarevskaya**	**54.57**	**156**	*e*P	**P**	**15 54 35.7**	**+0.3**
NVL				*e*S	**S**	**16 02 16.3**	**+2.1**
NVL				pmax	pmax		
	comp=Z,109nm,1.2s						
NVL				MLR	MLR		
	comp=Z,333nm,18.0s						
NBAN	**Anadia - AL**	**55.00**	**70**	*e*P	**P**	**15 54 39.6**	**+0.3**
TGUH	**Tegucigalpa,Un**	**55.11**	**0**	IAMs_20	IAMs_20	16 12 30.7	
	comp=Z,1μm,21.0s						
PCRV	**Puerto La Cruz**	**55.45**	**28**	LR	LR	16 16 07.4	
	comp=Z,2μm,20.9s,slow=34						
ESQI	**Esquipulas**	**55.63**	**358**	IAMs_20	IAMs_20	16 12 43.6	
	comp=Z,1μm,20.0s				

SJG	San Juan	62.40	23	P	P	15 55 29.1	-1.5	
SJG				pmax	pmax			
	comp=Z,194nm,1.7s							
GDSD	La Dsirade Is	62.40	29	IAms_20	IAms_20	16 21 48.2		
	comp=Z,2µm,22.0s							
HUMP	Col San Antoni	62.52	23	IAms_20	IAms_20	16 20 10.4		
	comp=Z,1µm,22.0s							
SEUS	St. Eustatius	62.82	27	IAms_20	IAms_20	16 21 17.4		
	comp=Z,2µm,21.0s							
SABA	Saba	62.86	26	IAms_20	IAms_20	16 21 17.2		
	comp=Z,2µm,22.0s							
RAR	Rarotonga	63.13	265	LR	LR	16 16 04.6		
	comp=Z,2µm,20.2s,baz=153,slow=29							
SYO	Syowa Base	63.28	161	*e*P	P	15 55 36.2	+0.3	
SYO	Syowa Base	63.28	161	*es*P	P	15 55 38.0	+2.1	
SMRT	St. Maarten	63.31	26	IAms_20	IAms_20	16 21 30.3		
	comp=Z,2µm,22.0s							
ANWB	Willy Bob	63.40	28	IAms_20	IAms_20	16 22 46.5		
	comp=Z,1µm,20.0s							
SOR	Soroa	63.94	5	P	P	15 55 41.1	+0.4	
SOR	Soroa	63.94	5	P	P	15 55 41.1	+0.4	
SOR				pmax	pmax			
	comp=Z,154nm,1.3s							
ZAIG	Zacatecas	65.26	345	IAmb	IAmb	15 56 00.2		
ZAIG	comp=Z,75nm,1.5s			IAms_20	IAms_20	16 18 20.5		
	comp=Z,1µm,18.0s							
SLBS	Sierra La Lagu	67.92	338	P	P	15 56 07.7	+1.3	
SLBS				IAmb	IAmb	15 56 09.7		
	comp=Z,123nm,1.6s							
LPIG	La Paz	68.42	338	P	P	15 56 10.4	+0.9	
	comp=Z,10nm,0.3s,baz=84,slow=0.4,SNR=5.2							
LPIG				LR	LR	16 19 29.1		
	comp=Z,219nm,19.1s,baz=200,slow=30							
	comp=Z,10nm,0.3s							
MXZ	Matakaoa Point	69.09	238	IAms_20	IAms_20	16 19 54.1		
	comp=Z,3µm,19.0s							
MAW	Mawson	69.11	168	LR	LR	16 26 13.3		
	comp=Z,871nm,18.1s,baz=216,slow=36							
KVTX	Kingsville	69.19	350	IAms_20	IAms_20	16 31 05.1		
	comp=Z,2µm,22.0s							
RTZ	Ruatahuna	69.31	236	P	P	15 56 15.9	+0.7	
RTZ				IAmb	IAmb	15 56 18.2		
	comp=Z,39nm,1.0s							
RTZ				IAms_20	IAms_20	16 18 29.4		
	comp=Z,3µm,22.0s							
DWPF	Disney Wildern	69.33	6	P	P	15 56 15.2	+0.2	
URZ	Urewera	69.44	237	LR	LR	16 20 43.9		
	comp=Z,2µm,18.0s,baz=232,slow=31							
RPZ	Rata Peaks	69.77	229	LR	LR	16 19 12.3		
	comp=Z,3µm,21.1s,baz=124,slow=29							
WHZ	Wether Hill Ro	70.14	226	IAmb	IAmb	15 56 22.6		
	comp=Z,180nm,1.8s							
INZ	Inchbonnie	70.16	230	P	P	15 56 22.5	+2.4	
INZ				IAmb	IAmb	15 56 24.3		
	comp=Z,135nm,1.5s							
INZ				IAms_20	IAms_20	16 21 04.5		
	comp=Z,1µm,19.0s							
656A	Willston	70.50	5	IAmb	IAmb	15 56 24.6		
	comp=Z,95nm,1.3s							
FOZ	Fox Glacier	70.59	229	P	P	15 56 23.8	+1.0	
FOZ				IAmb	IAmb	15 56 31.2		
	comp=Z,101nm,1.7s							
QRZ	Quartz Range	70.69	232	IAms_20	IAms_20	16 21 07.8		
	comp=Z,1µm,20.0s							
HIZ	Hauiti	70.69	235	IAms_20	IAms_20	16 20 05.1		
	comp=Z,2µm,20.0s							
TOZ	Tahuroa Road	70.77	236	IAms_20	IAms_20	16 20 05.1		
	comp=Z,3µm,20.0s							
545A	Edgard	71.07	357	IAms_20	IAms_20	16 22 35.3		
	comp=Z,2µm,22.0s							
HKT	Hockley	71.33	352	P	P	15 56 28.2	+1.1	
HKT				IAmb	IAmb	15 56 30.1		
	comp=Z,84nm,1.5s							
HKT	Hockley	71.33	352	P	P	15 56 28.2	+1.1	
HKT				pmax	pmax			
	comp=Z,84nm,1.5s							
TX31	Lajitas Ar. Si	71.86	345	IAmb	IAmb	15 56 40.5		
	comp=Z,86nm,1.4s							
TXAR	Lajitas Array	71.86	345	P	P	15 56 31.5	+0.9	
TXAR	Lajitas Array	71.86	345	P	P	15 56 32.0	+1.4	
	comp=Z,13nm,1.0s,baz=162,slow=5.0,SNR=61							
TXAR				LR	LR	16 23 00.5		
	comp=Z,682nm,18.8s,baz=144,slow=32							
TXAR				PKPPKP	P'P'df	16 24 21.6	+8.7	
	comp=Z,0.3nm,0.7s,baz=337,slow=2.9,SNR=3.9							
	comp=Z,13nm,1.0s							
TXAR	Lajitas Array	71.86	345	P	P	15 56 32.0	+1.4	
HNVL	Huntsville, TX	72.09	353	IAmb	IAmb	15 56 35.8		
	comp=Z,137nm,1.4s							
SAND	Sanderson	72.19	347	IAmb	IAmb	15 56 35.1		
	comp=Z,103nm,1.6s							
JCT	Junction City	72.33	349	IAmb	IAmb	15 56 36.6		
	comp=Z,101nm,1.4s							
TIGA	Tifton	72.50	4	IAmb	IAmb	15 56 36.1		
	comp=Z,123nm,1.6s							
ALPN	Alpine	72.87	346	IAmb	IAmb	15 56 40.3		
	comp=Z,112nm,1.4s							
BRDY	Brady	73.02	350	IAmb	IAmb	15 56 40.5		
	comp=Z,132nm,2.0s							
VBMS	Vicksburg	73.23	357	IAms_20	IAms_20	16 23 40.1		
	comp=Z,1µm,22.0s							
HSIG		73.25	339	IAmb	IAmb	15 56 49.5		
	comp=Z,82nm,1.6s							
OUZ	Omahuta	73.53	238	IAms_20	IAms_20	16 21 26.3		
	comp=Z,2µm,20.0s							
SHEL	Horse Pasture	73.61	97	IAms_20	IAms_20	16 23 11.4		
	comp=Z,2µm,20.0s							
MNHN	Monahans	73.65	347	IAmb	IAmb	15 56 43.7		
	comp=Z,130nm,1.5s							
152A	Waverly Hall	73.68	3	IAmb	IAmb	15 56 44.2		
	comp=Z,106nm,1.3s							
154A	Montrose	73.70	4	IAmb	IAmb	15 56 44.0		
	comp=Z,163nm,1.5s							
FW13	Cleburne	73.87	351	IAmb	IAmb	15 56 44.6		
	comp=Z,113nm,1.6s							
SGCY	Sterling City	73.94	348	IAmb	IAmb	15 56 45.1		
	comp=Z,98nm,1.4s							
LRAL	Lakeview Retre	74.00	1	IAmb	IAmb	15 56 46.2		
	comp=Z,90nm,1.2s							
TREL	Terrell	74.11	353	IAmb	IAmb	15 56 47.3		
	comp=Z,139nm,1.4s							
FW07	Weatherford	74.26	351	IAmb	IAmb	15 56 47.9		
	comp=Z,176nm,1.6s							
ODSA	Odessa	74.37	347	IAmb	IAmb	15 56 55.1		
	comp=Z,120nm,1.4s							
ABTX	Abilene, Hawle	74.42	349	IAmb	IAmb	15 56 48.6		
	comp=Z,84nm,1.3s							
GOGA	Godfrey	74.47	4	IAms_20	IAms_20	16 23 11.6		
	comp=Z,916nm,21.0s							
GOGA	Godfrey	74.47	4	IAmb	IAmb	15 56 48.0		
	comp=Z,130nm,1.5s							
FW06	Azle	74.50	351	IAmb	IAmb	15 56 48.4		
	comp=Z,92nm,1.3s							
Z38A	Mt. Pleasant	74.53	354	IAmb	IAmb	15 56 48.9		
	comp=Z,125nm,1.3s							
FW03	Perrin-Whitt E	74.63	351	IAmb	IAmb	15 56 50.0		
	comp=Z,137nm,1.4s							
EPT	El Paso	74.80	343	IAmb	IAmb	15 56 50.7		
	comp=Z,116nm,1.7s							
EPT				IAms_20	IAms_20	16 23 32.3		
	comp=Z,1µm,22.0s							
Z35A	Perchaven, San	74.82	352	IAmb	IAmb	15 56 52.2		
	comp=Z,93nm,1.1s							
Y49A	Blount Mountai	74.83	1	IAmb	IAmb	15 56 50.0		
	comp=Z,88nm,1.5s							
Y52A	Lilburn	74.90	3	IAmb	IAmb	15 56 50.7		
	comp=Z,145nm,1.5s							
SN07	Snyder 07	75.06	348	IAmb	IAmb	15 56 51.4		
	comp=Z,100nm,1.5s							
POST	Post	75.13	348	IAmb	IAmb	15 56 52.0		
	comp=Z,96nm,1.5s							
APMT	Aspermont	75.18	349	IAmb	IAmb	15 56 53.2		
	comp=Z,149nm,1.3s							
Y58A	Scranton	75.22	7	IAmb	IAmb	15 56 51.8		
	comp=Z,140nm,1.4s							
Y57A	Sumter	75.27	6	IAmb	IAmb	15 56 52.1		
	comp=Z,73nm,1.3s							
X48A	Hartselle	75.41	0	IAmb	IAmb	15 56 54.0		
	comp=Z,106nm,1.1s							
MIAR	Mount Ida	75.70	355	IAmb	IAmb	15 56 55.0		
	comp=Z,83nm,1.6s							
UALR	University of	75.86	356	IAmb	IAmb	15 56 55.7		
	comp=Z,75nm,1.5s							
X58A	Rowland	75.90	7	IAmb	IAmb	15 56 55.5		
	comp=Z,125nm,1.7s							
PLAL	Pickwick Lake	75.94	360	IAmb	IAmb	15 56 56.5		
	comp=Z,66nm,1.2s							
BG3	Lake Jocassee	76.07	4	IAMs_20	IAMs_20	16 26 34.0		
	comp=Z,720nm,18.0s							
X34A	Smith Ranch, M	76.14	351	IAmb	IAmb	15 56 58.7		
	comp=Z,95nm,1.3s							
KMSC	Kings Mountain	76.32	5	IAmb	IAmb	15 56 58.2		
	comp=Z,137nm,1.6s							
PIX	Pinacate	76.35	337	IAmb	IAmb	15 57 00.1		
	comp=Z,77nm,1.4s							
WHAR	Wooly Hollow	76.37	356	IAmb	IAmb	15 56 59.5		
	comp=Z,89nm,1.2s							
WMOK	Wichita Mounta	76.39	351	IAmb	IAmb	15 56 59.8		
	comp=Z,90nm,1.6s							
W57A	Gilead	76.43	6	IAmb	IAmb	15 56 59.1		
	comp=Z,61nm,1.1s							
W59A	Clinton	76.59	8	IAmb	IAmb	15 57 00.2		
	comp=Z,63nm,1.0s							
TKL	Tuckaleechee C	76.70	3	IAmb	IAmb	15 57 00.3		
	comp=Z,98nm,1.6s							
TKL	Tuckaleechee C	76.70	3	LR	LR	16 26 29.6		
	comp=Z,534nm,19.4s,baz=174,slow=32							
FNO	Franklin	76.74	352	IAmb	IAmb	15 57 01.8		
	comp=Z,113nm,1.2s							
V53A	Saluda	76.75	4	IAmb	IAmb	15 57 00.9		
	comp=Z,121nm,1.6s							
VTX	Valle De La Tr	76.89	336	IAmb	IAmb	15 57 03.5		
	comp=Z,73nm,1.5s							
OKCSW	OKLAHOMA CITY	76.89	352	IAMs_20	IAMs_20	16 29 05.3		
	comp=Z,2µm,22.0s							
SMWD	Samnorwood	76.94	349	IAmb	IAmb	15 57 03.2		
	comp=Z,105nm,1.3s							
V55A	Taylorsville	77.03	5	IAmb	IAmb	15 57 02.1		
	comp=Z,110nm,1.6s							
CLTN	Cedars of Leba	77.06	1	IAmb	IAmb	15 57 03.2		
	comp=Z,59nm,1.3s							
WVT	Waverly	77.09	360	P	P	15 57 00.1	-0.6	
WVT				IAmb	IAmb	15 57 02.2		
	comp=Z,147nm,1.6s							
WVT	Waverly	77.09	360	P	P	15 57 00.1	-0.6	
WVT				pmax	pmax			
	comp=Z,147nm,1.6s							
Y22D	IRIS PASSCAL I	77.11	344	IAMs_20	IAMs_20	16 26 06.5		
	comp=Z,962nm,20.0s							
V58A	Windy Hill, Pi	77.15	7	IAmb	IAmb	15 57 02.1		
	comp=Z,100nm,1.6s							
TUL3	Leonard	77.23	353	IAmb	IAmb	15 57 04.2		
	comp=Z,105nm,1.1s							
OK031	S. Brethren Rd	77.37	352	IAmb	IAmb	15 59 23.8		
	comp=Z,84nm,1.0s							
OK052	Battle Ridge R	77.41	352	IAmb	IAmb	15 57 05.4		
	comp=Z,106nm,1.2s							
V61A	Roper	77.42	9	IAmb	IAmb	15 57 06.4		
	comp=Z,134nm,1.4s							
HHAR	Hobbs	77.45	355	IAmb	IAmb	15 57 04.8		
	comp=Z,101nm,1.6s							
ESJX	Sierra Juarez	77.51	336	IAmb	IAmb	15 57 07.1		
	comp=Z,66nm,1.4s							
TZTN	Tazewell	77.59	3	IAMs_20	IAMs_20	16 24 56.7		
	comp=Z,1µm,22.0s							
U38A	Gravette	77.64	354	IAmb	IAmb	15 57 06.5		
	comp=Z,57nm,1.1s							
U54A	Nelsons Funny	77.66	5	IAmb	IAmb	15 57 05.4		
	comp=Z,96nm,1.6s							
PBMO	Poplar Bluff	77.78	358	IAmb	IAmb	15 57 06.1		
	comp=Z,162nm,1.7s							
OK048	Pawnee Station	77.84	352	IAmb	IAmb	15 57 08.0		
	comp=Z,89nm,1.2s							
ANMO	Albuquerque	77.85	344	P	P	15 57 06.5	+1.2	
ANMO				IAmb	IAmb	15 57 09.2		
	comp=Z,59nm,1.2s							
ANMO	Albuquerque	77.85	344	IAMs_20	IAMs_20	16 25 12.7		
	comp=Z,685nm,19.0s							
ANMO	Albuquerque	77.85	344	IAMs_20	IAMs_20	16 25 12.7		
	comp=Z,692nm,19.0s							
ANMO	Albuquerque	77.85	344	P	P	15 57 06.8	+1.6	
	comp=Z,28nm,1.1s,baz=326,slow=8.1,SNR=51							
ANMO				LR	LR	16 25 47.6		
	comp=Z,347nm,21.2s,baz=317,slow=31							
	comp=Z,28nm,1.1s							
ANMO	Albuquerque	77.85	344	*ce*P	P	15 57 05.2	-0.1	
ANMO				pmax	pmax			
	comp=Z,11nm,1.1s							
OK051	E0350 and S346	77.92	352	IAmb	IAmb	15 57 08.4		
	comp=Z,106nm,1.2s							
T50A	Nancy	78.02	2	IAmb	IAmb	15 57 07.8		
	comp=Z,119nm,1.5s							
CROK	Carrier	78.04	351	IAmb	IAmb	15 57 08.5		
	comp=Z,144nm,1.5s							
T42A	Van Buren	78.05	357	IAmb	IAmb	15 57 07.4		
	comp=Z,100nm,1.7s							
GLA	Glamis	78.15	337	IAmb	IAmb	15 57 18.8		
	comp=Z,125nm,1.8s							
MGMO	Mountain Grove	78.22	356	IAmb	IAmb	15 57 09.7		
	comp=Z,95nm,1.2s							
X18A	Snowflake	78.23	341	IAmb	IAmb	15 57 11.1		
	comp=Z,93nm,1.6s							
T57A	Hurt	78.33	7	IAmb	IAmb	15 57 08.8		
	comp=Z,78nm,1.5s							
Y14A	Wickenburg	78.46	339	IAmb	IAmb	15 57 12.1		
	comp=Z,74nm,1.5s							
T59A	Double "B" Far	78.47	8	IAmb	IAmb	15 57 09.7		
	comp=Z,95nm,1.6s							
KAN14	Manchester OK	78.48	352	IAmb	IAmb	15 57 11.8		
	comp=Z,121nm,1.3s							
KAN13	South Haven SW	78.49	352	IAmb	IAmb	15 57 12.0		
	comp=Z,146nm,1.3s							
RTBA	Rita Blanca	78.62	348	IAmb	IAmb	15 57 13.1		
	comp=Z,99nm,1.3s							
S44A	Carbondale	78.66	359	IAmb	IAmb	15 57 11.1		
	comp=Z,137nm,1.5s							
SIUC	Southern Illin	78.68	359	IAmb	IAmb	15 57 12.0		
	comp=Z,93nm,1.3s							
BLYC	Blythe	78.71	337	IAmb	IAmb	15 57 13.7		
	comp=Z,86nm,1.4s							
USIN	University of	78.92	360	IAmb	IAmb	15 57 13.1		
	comp=Z,145nm,1.3s							
S54A	Dingess, Beckl	78.96	5	IAmb	IAmb	15 57 12.5		
	comp=Z,119nm,1.7s							
FVM	French Village	78.98	358	IAmb	IAmb	15 57 12.9		
	comp=Z,132nm,1.6s							
CCM	Cathedral Cave	79.08	357	IAMs_20	IAMs_20	16 27 56.9		
	comp=Z,868nm,21.0s							
PFO	Pinyon Flats O	79.16	336	P	P	15 57 13.5	+1.1	
PFO	Pinyon Flats O	79.16	336	P	P	15 57 14.2	+1.7	
	comp=Z,18nm,1.2s,baz=156,slow=6.3,SNR=13							
PFO				LR	LR	16 24 25.6		
	comp=Z,439nm,19.5s,baz=140,slow=30							
	comp=Z,18nm,1.2s							
PFO	Pinyon Flats O	79.16	336	*i*P	P	15 57 13.9	+1.5	
PFO				pmax	pmax			
	comp=Z,29nm,1.3s							
WCI	Wyandotte Cave	79.19	1	P	P	15 57 11.5	-0.8	
WCI				IAmb	IAmb	15 57 13.6		
	comp=Z,186nm,1.6s							
WCI	Wyandotte Cave	79.19	1	P	P	15 57 11.5	-0.8	
WCI				pmax	pmax			
	comp=Z,186nm,1.7s							
R49A	Shelbyville	79.28	2	IAmb	IAmb	15 57 15.0		
	comp=Z,117nm,1.3s							
R50A	Paris	79.29	3	IAmb	IAmb	15 57 14.5		
	comp=Z,116nm,1.5s							
R50A				IAMs_20	IAMs_20	16 26 01.3		
	comp=Z,905nm,22.0s							
R58B	Mineral	79.42	8	IAmb	IAmb	15 57 15.2		
	comp=Z,154nm,1.6s							
WUAZ	Wupatki	79.52	340	IAmb	IAmb	15 57 19.0		
	comp=Z,105nm,1.6s							
SLM	Saint Louis	79.62	358	IAmb	IAmb	15 57 17.2		
	comp=Z,89nm,1.2s							
OLIL	Olney	79.69	360	IAmb	IAmb	15 57 17.3		
	comp=Z,117nm,1.2s							
SSFO	Shawnee State	79.75	4	IAmb	IAmb	15 57 17.9		
	comp=Z,96nm,1.4s							
R32A	Long Quarter,	80.02	351	IAmb	IAmb	15 57 27.1		
	comp=Z,92nm,1.2s							
Q52A	Bidwell	80.06	4	IAmb	IAmb	15 57 19.4		
	comp=Z,102nm,1.2s							
Q51A	Peebles	80.07	3	IAmb	IAmb	15 57 18.7		
	comp=Z,122nm,1.7s							
Q51A				IAMs_20	IAMs_20	16 27 07.9		
	comp=Z,731nm,20.0s							
Q56A	Snyder Ridge,	80.36	7	IAmb	IAmb	15 57 20.5		
	comp=Z,115nm,1.7s							
P48A	Milroy	80.44	2	IAmb	IAmb	15 57 20.2		
	comp=Z,176nm,1.5s							
MVCO	Mesa Verde	80.47	343	IAmb	IAmb	15 57 23.0		
	comp=Z,120nm,1.6s							
MVCO				IAMs_20	IAMs_20	16 27 26.1		
	comp=Z,875nm,19.0s							
KSU1	Kansas State U	80.47	353	IAmb	IAmb	15 57 22.4		
	comp=Z,106nm,1.1s							
CBKS	Cedar Bluff	80.53	350	IAmb	IAmb	15 57 23.4		
	comp=Z,133nm,1.3s							
P51A	Williamsport	80.54	4	IAmb	IAmb	15 57 21.1		
	comp=Z,156nm,1.6s							
P51A				IAMs_20	IAMs_20	16 26 37.4		
	comp=Z,842nm,21.0s							
P46A	Rosedale	80.57	0	IAmb	IAmb	15 57 21.1		
	comp=Z,211nm,1.7s							
P40A	Paris	80.58	357	IAmb	IAmb	15 57 22.5		
	comp=Z,139nm,1.3s							
P43A	Skaggs, Pawnee	80.61	359	IAmb	IAmb	15 57 22.5		
	comp=Z,126nm,1.2s							
S22A	4UR Ranch, Cre	80.64	345	IAmb	IAmb	15 57 25.1		
	comp=Z,135nm,1.4s							
P53A	Whipple	80.64	5	IAmb	IAmb	15 57 22.5		
	comp=Z,118nm,1.2s							
P52A	Corning	80.74	4	IAmb	IAmb	15 57 22.9		
	comp=Z,145nm,1.1s							
P38A	Dawn	80.75	355	IAmb	IAmb	15 57 23.1		
	comp=Z,111nm,1.1s							
P38A				IAMs_20	IAMs_20	16 27 55.3		
	comp=Z,829nm,22.0s							
CCAC	Calif City Air	81.07	335	IAmb	IAmb	15 57 34.4		
	comp=Z,105nm,1.9s							
O49A	Covington	81.19	3	IAmb	IAmb	15 57 24.3		
	comp=Z,129nm,1.6s							
O49A				IAMs_20	IAMs_20	16 27 20.6		
	comp=Z,805nm,21.0s							
ACSO	Alum Creek Sta	81.29	4	IAmb	IAmb	15 57 25.8		
	comp=Z,78nm,1.1s							
ACSO				IAMs_20	IAMs_20	16 27 57.1		
	comp=Z,836nm,19.0s							
KNB	Kanab	81.31	340	IAmb	IAmb	15 57 27.8		
	comp=Z,117nm,1.5s							
BCW	Bitter Crk WRg	81.33	334	IAmb	IAmb	15 57 36.1		
	comp=Z,153nm,1.7s							
SFIN	Lafayette	81.33	0	IAmb	IAmb	15 57 25.2		
	comp=Z,161nm,1.5s							
SUR	Sutherland	81.42	126	LR	LR	16 27 58.9		
	comp=Z,798nm,21.3s,baz=226,slow=32							
SUR	Sutherland	81.42	126	P	P	15 57 27.1	+2.0	
PV13	Radium Mtn., P	81.45	343	IAmb	IAmb	15 57 36.3		
	comp=Z,106nm,1.4s							
Q24A	Divide	81.50	346	IAmb	IAmb	15 57 29.3		
	comp=Z,129nm,1.4s							
PKCU	Pink Cliffs	81.59	340	IAmb	IAmb	15 57 29.5		
	comp=Z,103nm,1.6s							
PV11	David Mesa, Pa	81.59	343	IAmb	IAmb	15 57 29.5		
	comp=Z,89nm,1.3s							
MVL	Millersville	81.60	9	IAmb	IAmb	15 57 27.6		
	comp=Z,71nm,1.3s							
MSVF	Nonsavu	81.66	254	P	P	15 57 27.4	+1.0	
MSVF	Nonsavu	81.66	254	LR	LR	16 25 48.3		
	comp=Z,971nm,21.3s,baz=110,slow=30							
MSVF	Nonsavu	81.66	254	*i*P	P	15 57 27.0	+0.6	
MSVF				pmax	pmax			
	comp=Z,56nm,1.6s							
PV10	Paradox Valley	81.70	343	IAmb	IAmb	15 57 28.9		
	comp=Z,163nm,1.5s							
PV23	Carpenter Ridg	81.77	343	IAmb	IAmb	15 57 29.9		
	comp=Z,143nm,1.5s							
N49A	Columbus Grove	81.93	3	IAmb	IAmb	15 57 28.9		
	comp=Z,83nm,1.2s							
N51A	Ashland	82.01	4	IAMs_20	IAMs_20	16 30 08.1		
	comp=Z,786nm,18.0s							
SSPA	Standing Stone	82.06	7	P	P	15 57 27.2	-0.4	
SSPA				IAmb	IAmb	15 57 28.8		
	comp=Z,79nm,1.6s							
PRN	Pahroc Range	82.28	338	IAmb	IAmb	15 57 33.2		
	comp=Z,131nm,1.5s							
LUPA	Lehigh Univers	82.30	9	IAmb	IAmb	15 57 30.7		
	comp=Z,108nm,1.7s							
N58A	Sunbury	82.39	8	IAmb	IAmb	15 57 30.7		
	comp=Z,100nm,1.6s							
M50A	Fremont	82.46	3	IAmb	IAmb	15 57 31.5		
	comp=Z,79nm,1.2s							
M50A				IAMs_20	IAMs_20	16 28 23.1		
	comp=Z,773nm,21.0s							
GRAC	Grapevine Rang	82.57	336	IAmb	IAmb	15 57 34.3		
	comp=Z,73nm,1.4s							
M52A	Chesterland	82.68	5	IAmb	IAmb	15 57 32.8		
	comp=Z,81nm,1.2s							
S11A	Rachel	82.70	338	IAmb	IAmb	15 57 34.8		
	comp=Z,135nm,1.7s							
TCRU	Three Creeks R	82.72	341	IAmb	IAmb	15 57 35.4		
	comp=Z,111nm,1.5s							
SRU	San Rafael Swe	82.74	342	IAmb	IAmb	15 57 34.5		
	comp=Z,54nm,1.4s							
ODNJ	Ogdensburg	82.88	10	IAmb	IAmb	15 57 33.7		
	comp=Z,125nm,1.6s							
OGNE	Ogallala	82.93	349	IAmb	IAmb	15 57 35.6		
	comp=Z,106nm,1.4s							
PSUT	Pine Spring	83.01	340	IAmb	IAmb	15 57 36.6		
	comp=Z,78nm,1.5s							
L40A	Anamosa	83.08	357	IAmb	IAmb	15 57 35.0		
	comp=Z,90nm,1.1s							
DSP	Deep Springs	83.10	336	IAmb	IAmb	15 57 36.9		
	comp=Z,85nm,1.5s							
WSPT	Westport, CT	83.14	11	IAmb	IAmb	15 57 35.0		
	comp=Z,112nm,1.6s							
KSPA	Keystone Colle	83.20	9	IAmb	IAmb	15 57 35.1		
	comp=Z,77nm,1.5s							
O20A	White River Ci	83.22	344	IAmb	IAmb	15 57 37.3		
	comp=Z,89nm,1.4s							
R11B	Troy Canyon, C	83.31	338	IAmb	IAmb	15 57 38.3		
	comp=Z,60nm,1.4s							
AAM	Ann Arbor	83.33	3	IAMs_20	IAMs_20	16 29 11.1		
	comp=Z,792nm,20.0s							
ERPA	Erie	83.35	6	IAmb	IAmb	15 57 35.3		
	comp=Z,104nm,1.6s							
M63A	Gales Ferry	83.55	12	IAmb	IAmb	15 57 37.3		
	comp=Z,102nm,1.6s							
M63A				IAMs_20	IAMs_20	16 33 48.8		

comp=Z,68nm,1.4s
LHI Lord Howe Isla 84.97 232 IAMs_20 IAMs_20 16 26 38.0
comp=Z,1µm,20.0s
I49A Point Hope 85.00 3 IAMs_20 IAMs_20 16 29 39.3
comp=Z,885nm,21.0s
J59A Piesco 85.23 10 IAmb IAmb 15 57 45.2
comp=Z,68nm,1.6s
ACCN Adirondack Com 85.26 10 IAmb IAmb 15 57 46.6
comp=Z,72nm,1.4s
HWUT Hardware Ranch 85.36 342 IAmb IAmb 15 57 47.7
comp=Z,83nm,1.6s
ELK Elko 85.45 339 IAmb IAmb 15 57 48.6
comp=Z,75nm,1.5s
ELK Elko 85.45 339 P **P 15 57 47.0 +1.7**
comp=Z,14nm,1.1s,baz=168,slow=4.8,SNR=33
ELK LR LR 16 29 04.4
comp=Z,522nm,18.7s,baz=140,slow=31
comp=Z,14nm,1.1s
AFDM Forest Hills D 85.49 335 IAMs_20 IAMs_20 16 29 08.8
comp=Z,669nm,18.0s
HVU Hansel Valley 85.80 341 IAmb IAmb 15 57 49.7
comp=Z,92nm,1.5s
DELO Deloro Mine 85.94 7 IAmb IAmb 15 57 49.3
comp=Z,71nm,1.1s
BBTS Babate 85.94 67 LR LR 16 33 22.2
comp=Z,2µm,20.5s,baz=111,slow=34
PD31 Pinedale Array 86.02 344 IAmb IAmb 15 57 51.0
comp=Z,75nm,1.5s
PDAR Pinedale Array 86.02 344 P **P 15 57 48.5 +0.3**
PDAR Pinedale Array 86.02 344 P **P 15 57 49.1 +1.0**
comp=Z,14nm,1.1s,baz=158,slow=4.7,SNR=53
PDAR PKKPbc **PKKPbc 16 15 48.2 -0.8**
comp=Z,2.1nm,1.1s,baz=11,slow=1.5,SNR=8.1
PDAR PKPPKP **P'P'df 16 23 53.5 +5.4**
comp=Z,0.1nm,0.4s,baz=314,slow=3.5,SNR=4.3
PDAR LR LR 16 31 18.2
comp=Z,254nm,19.8s,baz=132,slow=32
comp=Z,14nm,1.1s
SADO Sadowa 86.05 6 IAmb IAmb 15 57 48.2
comp=Z,50nm,1.0s
SADO Sadowa 86.05 6 LR LR 16 31 19.1
comp=Z,256nm,21.9s,baz=174,slow=32
I62A Tamworth 86.08 12 IAmb IAmb 15 57 50.0
comp=Z,85nm,1.6s
SPMN Marine on St. 86.30 356 IAmb IAmb 15 57 51.0
comp=Z,68nm,1.0s
AHID Auburn Hatcher 86.35 343 IAmb IAmb 15 57 56.1
comp=Z,155nm,1.9s
LONY Lake Ozonia 86.36 9 IAmb IAmb 15 57 51.1
comp=Z,91nm,1.5s
I63A Otisfield 86.37 12 IAmb IAmb 15 57 54.8
comp=Z,59nm,1.6s
I63A IAMs_20 IAMs_20 16 33 47.6
comp=Z,863nm,22.0s
WBO Williamsburg 86.66 9 IAmb IAmb 15 57 52.5
comp=Z,72nm,1.7s
FRNY Flat Rock 86.70 10 IAmb IAmb 15 57 52.7
comp=Z,71nm,1.6s
BOSA Boshof 86.79 126 P **P 15 57 51.6 -0.8**
BOSA Boshof 86.79 126 P **P 15 57 52.2 -0.2**
comp=Z,29nm,1.2s,baz=233,slow=4.2,SNR=9.9
BOSA LR LR 16 32 56.9
comp=Z,725nm,18.4s,baz=212,slow=33
comp=Z,29nm,1.2s
DZM Mont Dzumac 86.91 243 *e*P **P 15 57 49.1 -3.9**
comp=Z,84nm,25.1s
DZM Mont Dzumac 86.91 243 *e*S **SKSac 16 08 23.8 +3.6**
comp=Z,555nm,29.9s
DZM *e*SS **SS 16 14 08.9 -4.0**
comp=Z,269nm,21.8s
DZM *e*LQ LQ 16 21 42.9
comp=Z,925nm,28.4s
DZM *e*LR LR 16 25 19.6
comp=Z,5µm,24.2s
DZM Mont Dzumac 86.91 243 LR LR 16 27 43.1
comp=Z,2µm,21.4s,baz=155,slow=29
SNOW Snow King Moun 86.94 343 IAmb IAmb 15 57 55.8
comp=Z,53nm,1.4s
TPAW Teton Pass 87.01 343 IAmb IAmb 15 57 55.8
comp=Z,51nm,1.2s
WVL Waterville 87.02 13 IAmb IAmb 15 57 54.8
comp=Z,121nm,1.5s
F33A 5 Mile Ranch, 87.13 354 IAmb IAmb 15 57 55.0
comp=Z,42nm,1.2s
FXWY Fox Creek 87.17 343 IAmb IAmb 15 57 56.8
comp=Z,51nm,1.4s
FXWY IAMs_20 IAMs_20 16 31 48.9
comp=Z,784nm,22.0s
MNTQ Montreal, Queb 87.35 10 IAmb IAmb 15 57 55.6
comp=Z,56nm,1.5s
G62A West of Eustis 87.51 12 IAmb IAmb 15 57 57.8
comp=Z,57nm,1.3s
E38A The Farm, Brul 87.62 357 IAmb IAmb 15 57 57.5
comp=Z,56nm,1.3s
H17A Grant Village 87.80 344 IAmb IAmb 15 58 14.7
comp=Z,85nm,1.7s
HLID Hailey 87.89 341 IAmb IAmb 15 58 00.7
comp=Z,79nm,1.5s
YFT Old Faithful 87.91 344 IAmb IAmb 15 58 01.9
comp=Z,77nm,1.4s
TRQ Mont Tremblant 87.95 9 IAmb IAmb 15 57 59.2
comp=Z,76nm,1.3s
G65A Princeton 88.00 14 IAmb IAmb 15 58 00.2
comp=Z,73nm,1.4s
GGN Saint George 88.06 15 IAmb IAmb 15 58 00.3
comp=Z,64nm,1.2s
MFID Camas Ranch 88.11 340 IAmb IAmb 15 58 01.2
comp=Z,49nm,1.5s
YNR Norris Junctio 88.12 344 IAmb IAmb 15 58 13.0
comp=Z,106nm,1.7s
RLMT Red Lodge 88.23 345 IAmb IAmb 15 58 02.1
comp=Z,79nm,1.2s
HAL Halifax 88.26 17 IAmb IAmb 15 58 01.1
comp=Z,64nm,1.4s
YHB Horse Butte 88.27 343 IAmb IAmb 15 58 12.4
comp=Z,86nm,1.7s
YHL Hebgen Lake 88.36 343 IAmb IAmb 15 58 03.6
comp=Z,61nm,1.4s
TSUM Tsumeb 88.37 114 P **P 15 57 59.0 -1.1**
TSUM Tsumeb 88.37 114 LR LR 16 31 11.1
comp=Z,2µm,21.7s,baz=236,slow=31
J08A Circle Bar Ran 88.77 338 IAmb IAmb 15 58 13.2
comp=Z,109nm,2.0s
DBIC Dimbokro 88.95 80 P **P 15 58 01.9 -0.7**
DBIC IAmb IAmb 15 58 03.6
comp=Z,51nm,1.5s
DBIC Dimbokro 88.95 80 P **P 15 58 01.9 -0.7**
comp=Z,9.7nm,1.0s,baz=195,slow=2.4,SNR=5.6
DBIC LR LR 16 33 44.1
comp=Z,2µm,19.3s,baz=213,slow=33
comp=Z,9.7nm,1.0s
EYMN Ely 88.96 357 IAmb IAmb 15 58 03.1
comp=Z,89nm,1.6s
E62A Clayton Lake 89.04 12 IAmb IAmb 15 58 05.0
comp=Z,84nm,1.3s
DLMT Dillon 89.16 343 IAmb IAmb 15 58 06.9
comp=Z,83nm,1.5s
LMN Caledonia Moun 89.16 16 IAMs_20 IAMs_20 16 33 50.1
comp=Z,672nm,22.0s
BOZ Bozeman (W) 89.17 343 IAmb IAmb 15 58 06.7
comp=Z,62nm,1.6s
LAO LASA Array 89.19 347 IAmb IAmb 15 58 06.0
comp=Z,75nm,1.4s
GBN Guysborough 89.46 18 IAMs_20 IAMs_20 16 40 03.8
comp=Z,624nm,19.0s
J05D Fort Rock, OR 89.51 336 IAmb IAmb 15 58 09.0
comp=Z,51nm,1.1s
AGMN Agassiz Nation 89.54 355 IAmb IAmb 15 58 06.7
comp=Z,65nm,1.2s
AGMN IAMs_20 IAMs_20 16 35 01.1
comp=Z,766nm,20.0s
D62A Allapoint, All 89.56 13 IAmb IAmb 15 58 07.2
comp=Z,76nm,1.3s
I07A Izee 89.73 338 IAmb IAmb 15 58 10.1
comp=Z,44nm,1.3s
LMQ La Malbaie 89.82 12 IAmb IAmb 15 58 08.3
comp=Z,84nm,1.2s
PINE Pine Mountain 89.88 337 IAmb IAmb 15 58 10.3
comp=Z,113nm,1.5s
LDAQ Lac Daran 90.09 11 IAmb IAmb 15 58 09.6
comp=Z,85nm,1.2s
BATG Bathurst New B 90.28 14 IAmb IAmb 15 58 17.9
comp=Z,45nm,1.2s
MSO Missoula 90.85 342 IAmb IAmb 15 58 29.8
comp=Z,53nm,1.8s
H04A Detroit Lake 91.07 336 IAmb IAmb 15 58 14.5
comp=Z,64nm,1.4s
EGMT Eagleton 91.11 345 IAmb IAmb 15 58 15.6
comp=Z,51nm,1.2s

ULM Lac du Bonnet 91.49 355 IAmb IAmb 15 58 15.1
comp=Z,58nm,1.1s
ULM Lac du Bonnet 91.49 355 P **P 15 58 13.1 -0.5**
comp=Z,31nm,1.1s,baz=196,slow=3.5,SNR=34
ULM LR LR 16 35 58.9
comp=Z,404nm,21.1s,baz=151,slow=33
comp=Z,31nm,1.1s
F07A Phinny Hill Vi 91.51 338 IAmb IAmb 15 58 18.2
comp=Z,46nm,1.4s
POGA Pongola 91.58 129 P **P 15 58 13.6 -1.2**
POGA IAMs_20 IAMs_20 16 47 18.7
comp=Z,952nm,19.0s
ACRG Accra 91.74 84 IAMs_20 IAMs_20 16 33 31.4
comp=Z,1µm,21.0s
HAWA Hanford 91.86 339 IAmb IAmb 15 58 23.6
comp=Z,48nm,1.6s
ICQ Pointe Anglais 92.23 13 IAMs_20 IAMs_20 16 35 49.2
comp=Z,697nm,22.0s
LON Longmire 92.83 337 IAmb IAmb 15 58 30.2
comp=Z,48nm,1.5s
NEW Newport 92.95 341 P **P 15 58 20.3 -0.2**
comp=Z,5.6nm,1.1s,baz=140,slow=7.3,SNR=4.6
NEW LR LR 16 36 13.9
comp=Z,303nm,18.8s,baz=132,slow=33
comp=Z,5.6nm,1.1s
STKA Stephens Creek 94.17 220 P **P 15 58 27.2 +0.5**
comp=Z,9.3nm,1.1s,baz=149,slow=4.8,SNR=5.6
STKA LR LR 16 33 10.6
comp=Z,1µm,19.6s,baz=143,slow=31
comp=Z,9.3nm,1.1s
STKA Stephens Creek 94.17 220 *i* P **P 15 58 26.4 -0.3**
MATP Matopo 94.75 122 LR LR 16 37 05.3
comp=Z,266nm,20.6s,baz=237,slow=33
OZB Mount Ozzard 95.91 336 IAMs_20 IAMs_20 16 27 44.6
comp=Z,2µm,22.0s
BBOO Bulebboo 95.96 216 IAmb IAmb 15 58 44.6
comp=Z,63nm,1.6s
FFC Flin Flon 96.47 352 P **P 15 58 35.8 -0.5**
FFC IAmb IAmb 15 58 37.2
comp=Z,36nm,1.6s
FFC Flin Flon 96.47 352 P **P 15 58 35.8 -0.5**
FFC pmax pmax
comp=Z,36nm,1.6s
SCHQ Schefferville 97.43 12 P **P 15 58 40.0 -0.7**
comp=Z,6.6nm,1.2s,baz=191,slow=5.2,SNR=4.2
SCHQ LR LR 16 39 24.2
comp=Z,351nm,22.0s,baz=189,slow=33
comp=Z,6.6nm,1.2s
TORD Torodi Ar. Bea 98.04 80 LR LR 16 38 58.7
comp=Z,1µm,19.9s,baz=220,slow=33
LSZ Lusaka 98.29 119 LR LR 16 38 56.8
comp=Z,1µm,19.9s,baz=236,slow=33
LSZ Lusaka 98.29 119 P Pdif 15 58 47.0 +1.2
NWAO Narrogin (SRO) 102.64 201 P **Pdif 15 58 53.4 -11**
ASAR Alice Springs 104.74 219 Pdiff **Pdif 15 59 13.7 -0.7**
comp=Z,0.3nm,0.7s,baz=146,slow=3.8,SNR=4.4
YKA Yellowknife Ar 105.73 347 Pdiff **Pdif 15 59 16.6 -0.8**
comp=Z,0.8nm,0.9s,baz=154,slow=4.4,SNR=6.3
YKA PP **PP 16 03 40.8 0.0**
comp=Z,3.6nm,1.4s,baz=154,slow=7.0,SNR=7.1
YKA PKKPbc **PKKPbc 16 14 53.9 -1.3**
comp=Z,0.5nm,0.9s,baz=351,slow=3.1,SNR=7.0
ABPO Ambohimpanom 106.82 136 IAMs_20 IAMs_20 16 40 26.2
comp=Z,1µm,21.0s
PVAQ Vaqueiros 107.03 55 IAMs_20 IAMs_20 16 46 36.3
comp=Z,1µm,20.0s
RABL Rabaul 109.28 246 IAMs_20 IAMs_20 16 40 57.3
comp=Z,1µm,21.0s
PAB San Pablo 110.43 55 IAMs_20 IAMs_20 16 45 50.2
comp=Z,1µm,20.0s
CART Cartagena 111.37 58 IAMs_20 IAMs_20 16 47 07.2
comp=Z,885nm,20.0s
I26K Coal Creek Min 114.71 338 IAMs_20 IAMs_20 16 50 02.2
comp=Z,414nm,20.0s
ILAR Eielson Array 115.43 336 PKP **PKPdf 16 03 46.8 -1.7**
comp=Z,0.9nm,0.9s,baz=178,slow=2.3,SNR=6.8
ILAR PP **PP 16 04 51.1 +0.3**
comp=Z,0.7nm,1.1s,baz=166,slow=5.3,SNR=4.7
ILAR PKKPbc **PKKPbc 16 14 21.9 -1.4**
comp=Z,0.7nm,0.8s,baz=310,slow=4.1,SNR=7.4
FALS False Pass 115.46 322 IAMs_20 IAMs_20 16 46 12.8
comp=Z,746nm,19.0s
RES Resolute Bay 115.83 358 IAMs_20 IAMs_20 16 50 00.8
comp=Z,768nm,21.0s
LODK Lodwar 116.63 110 IAMs_20 IAMs_20 16 52 48.2
comp=Z,1µm,19.0s
O14K Tigyukauivet M 117.09 326 IAMs_20 IAMs_20 16 44 50.5
comp=Z,798nm,18.0s
H17K Granite Mounta 119.84 332 IAMs_20 IAMs_20 16 45 23.7
comp=Z,538nm,18.0s
K13K Kusilvak Mount 119.98 328 IAMs_20 IAMs_20 16 45 11.7
comp=Z,847nm,20.0s
J14K Nanvaranak Lak 119.99 329 IAMs_20 IAMs_20 16 44 27.7
comp=Z,764nm,22.0s
G16K Koyuk River 120.96 332 IAMs_20 IAMs_20 16 45 09.9
comp=Z,520nm,19.0s
ANM Nome 121.63 330 IAMs_20 IAMs_20 16 45 33.0
comp=Z,572nm,19.0s
MSSA Maissana 121.68 57 IAMs_20 IAMs_20 16 54 04.2
comp=Z,850nm,22.0s
BFO Black Forest 122.83 52 IAMs_20 IAMs_20 16 51 35.4
comp=Z,891nm,22.0s
FAKI Fak Fak 122.95 230 IAMs_20 IAMs_20 16 54 02.1
comp=Z,850nm,19.0s
MSEY Mahe Island 123.16 134 IAMs_20 IAMs_20 16 56 55.3
comp=Z,843nm,19.0s
MMRI Maumere 123.21 216 IAMs_20 IAMs_20 16 52 02.4
comp=Z,707nm,21.0s
DAVA Damuels 123.29 54 *e*PKP **PKiKP 16 04 04.4 -0.1**
comp=Z,6.9nm,1.2s
STU Stuttgart 123.54 52 IAMs_20 IAMs_20 16 57 30.2
comp=Z,957nm,20.0s
FETA Feichten 123.69 54 *e*PKP **PKPdf 16 04 05.0 0.0**
comp=Z,6.6nm,1.5s
GAMB Gambell 123.70 328 IAMs_20 IAMs_20 16 48 43.1
comp=Z,737nm,20.0s
CTI Castel Tesino 123.82 56 IAMs_20 IAMs_20 16 54 22.8
comp=Z,1µm,21.0s
RETA Reutte 123.91 54 *e*PKP **PKiKP 16 04 05.5 -0.2**
comp=Z,5.4nm,1.3s
MOTA Moosalm 124.06 54 *e*PKP **PKPdf 16 04 05.6 -0.1**
comp=Z,8.9nm,1.3s
SQTA Sankt Quirin 124.07 54 *e*PKP **PKPdf 16 04 05.8 +0.1**
comp=Z,8.0nm,1.3s
WATA Walderalm 124.34 54 *e*PKP **PKPdf 16 04 06.3 0.0**
comp=Z,12nm,1.4s
WTTA Wattenberg 124.35 55 *e*PKP **PKPdf 16 04 06.3 0.0**
comp=Z,13nm,1.8s
CIMO Cimolais 124.43 56 IAMs_20 IAMs_20 16 55 15.0
comp=Z,776nm,21.0s
ABTA Abfaltersbach 124.67 55 *e*PKP **PKPdf 16 04 06.8 -0.1**
comp=Z,8.3nm,1.3s
SABO M.te Sabotino 125.01 57 IAMs_20 IAMs_20 17 01 20.0
comp=Z,1µm,20.0s
LESA Schwarzleotal 125.06 55 *e*PKP **PKiKP 16 04 08.3 +0.4**
comp=Z,8.2nm,1.5s
GRFO Grafenberg 125.13 52 IAMs_20 IAMs_20 17 00 00.3
comp=Z,869nm,20.0s
GRF Grafenberg Arr 125.13 52 *e*PKPdf 16 04 06.9
baz=246,slow=1.9
GRF *e*L 16 56 53.0
comp=Z,831nm,21.1s
GRA1 Grafenberg Arr 125.13 52 IAMs_20 IAMs_20 16 59 59.4
comp=Z,852nm,20.0s
MOX Moxa 125.75 51 *e*L 16 56 56.1
comp=Z,1µm,20.2s
BIOA Bad Ischl, Aus 125.76 55 *e*PKP **PKPdf 16 04 08.7 -0.1**
comp=Z,9.8nm,1.3s
OBKA Obir 125.83 56 *e*PKP **PKiKP 16 04 09.3 -0.2**
comp=Z,6.8nm,1.4s
NKC Novy Kostel 126.08 51 AMS AMS 16 53 20.0
comp=Z,1µm,23.5s
SOKA Soboth 126.21 56 *e*PKP **PKPdf 16 04 09.5 -0.3**
comp=Z,7.0nm,1.5s
MOA Molln 126.21 55 *e*PKP **PKPdf 16 04 09.7 0.0**
comp=Z,6.0nm,1.3s
GERES GERESS Array B 126.27 53 PKP **PKPdf 16 04 07.8 -2.0**
comp=Z,3.0nm,1.1s,baz=203,slow=2.0,SNR=15
KHC Kasperske Hory 126.31 53 *e*SKKS 16 13 05.4
KHC *e*SKKP 16 17 38.1
KHC AMS AMS 17 01 40.0
comp=Z,900nm,17.4s
KHC Kasperske Hory 126.31 53 *c i*PKIKP **PKPdf 16 04 08.2 -1.7**
KHC pmax pmax
comp=Z,23nm,2.5s
CKRC Cesky Krumlov 126.63 54 AMS AMS 17 02 50.0
comp=Z,800nm,18.7s
ZVC Zvikov 126.80 53 AMS AMS 17 02 10.0

comp=Z,800nm,18.1s
HSKC Hora Svate Kat 126.80 51 AMS AMS 16 53 40.0
comp=Z,1µm,23.3s
CLL Collm 126.82 50 *i* PKIKP **PKPdf 16 04 09.6 -1.1**
CLL *i* 16 04 17.1
CLL *e* 16 11 16.0
CLL pmax pmax
comp=Z,30nm,1.9s
CLL MLR MLR
comp=Z,1µm,20.4s
BRG Berggiesshubel 127.20 51 *e*PKP **PKiKP 16 04 12.1 +0.1**
BRG Amp 16 04 13.6
comp=Z,26nm,1.8s
BRG Berggiesshubel 127.20 51 P PKiKP 16 04 20.0 +8.0
BRG Amp 16 04 22.0
comp=Z,13nm,1.6s
BEHE Becsehely 127.22 57 IAMs_20 IAMs_20 16 56 33.8
comp=Z,918nm,21.0s
PRU Pruhonice 127.22 52 AMS AMS 17 02 30.0
comp=Z,800nm,18.3s
CONA Conrad Observa 127.23 55 *e*PKP **PKPdf 16 04 11.8 0.0**
comp=Z,8.1nm,1.6s
GOPC GO Pecny, Ondr 127.34 53 AMS AMS 17 01 50.0
comp=Z,600nm,21.4s
RONA Rosalia, Austr 127.41 56 *e*PKP **PKiKP 16 04 12.5 -0.1**
comp=Z,2.9nm,0.8s
KAPI Kappang 127.53 215 IAMs_20 IAMs_20 16 53 55.8
comp=Z,701nm,19.0s
TREC Trest 127.53 54 AMS AMS 16 59 20.0
comp=Z,800nm,20.4s
ATD Arta Tunnel 127.57 110 IAMs_20 IAMs_20 16 53 57.0
comp=Z,816nm,22.0s
KRUC Moravsky 127.99 54 *e*PKP **PKPdf 16 04 12.6 -0.4**
VRAC Vranov 128.20 54 *e*PKP **PKPdf 16 04 12.9 -0.5**
MODS Modra-Piesok 128.27 55 *e*PKIKP **PKiKP 16 04 14.7 +0.5**
MODS Modra-Piesok 128.27 55 *e*PKP **PKiKP 16 04 14.7 +0.5**
UPC Upice 128.29 52 AMS AMS 16 56 20.0
comp=Z,900nm,23.0s
DPC Dobruska-Polom 128.42 53 AMS AMS 17 04 10.0
comp=Z,700nm,16.7s
OSTC Ostas 128.43 52 AMS AMS 16 56 10.0
comp=Z,900nm,19.8s
KRLC Kraliky 128.60 53 AMS AMS 17 04 30.0
comp=Z,600nm,17.5s
JAVC Velka Javorina 128.70 55 *e*PKP **PKiKP 16 04 15.4 +0.3**
MORC Moravsky Berou 128.95 54 IAMs_20 IAMs_20 17 00 25.4
comp=Z,756nm,20.0s
MORC Moravsky Berou 128.95 54 *e*PKP **PKPdf 16 04 14.1 -0.8**
NOA NORSAR Array B 129.13 38 PKP **PKPdf 16 04 14.3 -0.6**
comp=Z,4.1nm,1.1s,baz=259,slow=1.2,SNR=3.3
VYHS Vyhne 129.28 56 *e*PKIKP **PKPdf 16 04 15.6 +0.1**
VYHS Vyhne 129.28 56 *e*PKP **PKPdf 16 04 15.6 +0.1**
OKC Ostrava-Krasne 129.34 54 AMS AMS 17 00 40.0
comp=Z,800nm,17.4s
LUWI Luwuk 129.62 221 IAMs_20 IAMs_20 16 56 10.4
comp=Z,481nm,19.0s
KARP Karpathos 129.66 74 IAMs_20 IAMs_20 16 58 59.8
comp=Z,1µm,22.0s
KBS Kingsbay 132.04 15 IAMs_20 IAMs_20 17 01 41.3
comp=Z,529nm,20.0s
TOLI2 Tolitoli 132.45 220 IAMs_20 IAMs_20 16 56 29.6
comp=Z,708nm,20.0s
ISP Isparta 133.08 73 *c i*PKIKP **PKiKP 16 04 25.5 +1.1**
ISP pmax pmax
comp=Z,14nm,1.7s
BILL Bilibino 133.49 330 IAMs_20 IAMs_20 16 54 41.4
comp=Z,788nm,20.0s
BILL Bilibino 133.49 330 *c i*PKIKP **PKiKP 16 04 24.7 +0.6**
BILL pmax pmax
comp=Z,20nm,1.7s
GHAJ Ghor Haditha 133.87 84 IAMs_20 IAMs_20 17 01 30.4
comp=Z,909nm,20.0s
CSS Mathiatis 133.90 78 IAMs_20 IAMs_20 17 05 14.2
comp=Z,631nm,22.0s
TIRR Tirgusor 134.10 64 IAMs_20 IAMs_20 17 01 13.0
comp=Z,904nm,22.0s
RNPP8 Varash 134.47 54 PKP **PKPdf 16 04 25.6 +0.4**
PMBI Palembang 134.53 197 IAMs_20 IAMs_20 16 53 14.3
comp=Z,459nm,20.0s
MMAI Mount Meron Ar 134.56 81 PKP **PKPdf 16 04 24.0 -2.1**
comp=Z,0.7nm,0.4s,baz=111,slow=3.2,SNR=2.1
MILM Milestii Mici 135.14 60 *e*PKP **PKPdf 16 04 27.0 +0.4**
MILM *e*L L 16 51 18.0
MILM LRM MLR 17 05 17.0
comp=Z,800nm,20.5s
MILM Milestii Mici 135.14 60 *e*PKIKP **PKPdf 16 04 27.0 +0.4**
MILM MLR MLR
comp=Z,800nm,20.5s
ANTO Ankara 135.52 71 IAMs_20 IAMs_20 17 05 10.9
comp=Z,812nm,21.0s
ANTO Ankara 135.52 71 P **PKPdf 16 04 24.7 -3.0**
BR131 Keskin Array S 136.07 72 P **PKPdf 16 04 25.5 -3.2**
BR131 Keskin Array S 136.07 72 *i* PKIKP **PKPdf 16 04 26.5 -2.3**
BRTR Keskin Array B 136.07 72 PKhKP PKPpre 16 04 17.8
comp=Z,0.5nm,0.6s,baz=4.1,slow=1.7,SNR=3.9
BRTR PKP **PKPdf 16 04 28.5 -0.3**
comp=Z,2.4nm,1.0s,baz=220,slow=3.8,SNR=10
MNK Minsk 136.35 50 *i* PKIKP **PKPdf 16 04 28.9 +0.3**
MNK *i* 16 07 10.4
MNK *i* PPP PPP 16 10 07.7
MNK *i* 16 11 40.0
MNK *i* SS SS 16 25 11.7 +0.3
MNK *i* SSS SSS 16 30 16.6
MNK pmax pmax
comp=E,11nm,0.7s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK MLR MLR
comp=E,430nm,19.0s
MNK MLR MLR
comp=Z,687nm,18.0s
MNK MLR MLR
comp=N,475nm,17.0s
AKASG Malin Array Be 136.39 55 PKP **PKPdf 16 04 27.1 -1.6**
comp=N,0.2nm,0.4s,baz=265,slow=3.3,SNR=7.2
AKBB Malin Array Si 136.39 55 *c i*PKIKP **PKPdf 16 04 29.3 +0.5**
MYLDM Lahad Datu 137.09 220 IAMs_20 IAMs_20 17 06 15.5
comp=Z,569nm,20.0s
KSM Kuching 137.15 207 IAMs_20 IAMs_20 17 02 51.6
comp=Z,498nm,19.0s
RAYN Ar Rayn 137.19 100 IAMs_20 IAMs_20 17 03 21.3
comp=Z,821nm,20.0s
RAYN Ar Rayn 137.19 100 P **PKPdf 16 04 30.7 -0.5**
RAYN Ar Rayn 137.19 100 PKPdf **PKPdf 16 04 31.4 +0.2**
GAZ Gaziantep 137.68 77 IAMs_20 IAMs_20 17 08 19.2
comp=Z,672nm,20.0s
SIM Simferopol' 138.12 65 *i* PKIKP **PKiKP 16 04 33.6 -0.6**
SIM *e* 16 07 21.6
SIM *e*PPS PPS 16 19 36.0
SIM pmax pmax
comp=Z,22nm,1.3s
SIM pmax pmax
comp=Z,23nm,14.6s
SIM pmax pmax
comp=Z,66nm,17.1s
SIM MLR MLR
comp=Z,403nm,16.4s
TOKA Tokat 138.32 72 IAMs_20 IAMs_20 17 07 60.0
comp=Z,907nm,22.0s
BKNI Bangkinang 138.44 193 IAMs_20 IAMs_20 17 02 47.6
comp=Z,505nm,21.0s
KKM Kota Kinabalu 138.93 218 IAMs_20 IAMs_20 17 03 34.0
comp=Z,526nm,21.0s
APA Apatity 139.16 30 ||*i* PKIKP **PKPdf 16 04 31.6 -1.8**
APA pmax pmax
comp=Z,9.0nm,1.0s
SEY Seymchan 139.22 323 *i* PKIKP **PKPdf 16 04 33.9 +0.3**
MYKOM Kota Tinggi 139.30 198 IAMs_20 IAMs_20 17 02 01.9
comp=Z,576nm,22.0s
LVZ Lovozero 139.56 30 *i* PKIKP **PKPdf 16 04 33.3 -0.9**
WHFO Wadi Hawf 139.60 114 P **PKPdf 16 04 32.1 -3.6**
RBK Rabkut 139.61 114 P **PKPdf 16 04 30.6 -5.2**
MA2 Magadan 140.10 317 IAMs_20 IAMs_20 16 57 59.4
comp=Z,516nm,21.0s
MA2 Magadan 140.10 317 *c i*PKIKP **PKiKP 16 04 37.0 -0.8**
MA2 pmax pmax
comp=Z,57nm,2.5s
DOK Doka 140.32 113 P **PKPdf 16 04 34.7 -2.3**
ANN Anapa 140.35 66 *i* PKIKP **PKiKP 16 04 38.8 0.0**
ANN *e* 16 04 41.5
ANN *e* 16 07 34.8
ANN pmax pmax
comp=Z,28nm,1.3s
MARD Mardin 140.36 78 IAMs_20 IAMs_20 17 03 04.1

```
     comp=Z,631nm,22.0s
RPSI Rantau Prapat   141.09 190  IAMs_20 IAMs_20  17 01 12.6
     comp=Z,854nm,22.0s
KOPT Kop Dagi        141.11  74  IAMs_20 IAMs_20  17 14 32.0
     comp=Z,790nm,20.0s
OBN  Obninsk         141.41  50⇓iPKIKP  PKiKP    16 04 40.4 -0.2
OBN                              i        16 07 47.7
OBN                              pmax     pmax
     comp=Z,27nm,1.7s
SOC  Sochi           141.62  69 ePKIKP   PKPdf    16 04 39.2 +0.6
SOC                              e        16 07 43.5
SOC                              ePPP     PPP      16 10 47.0
SOC                              eSS      SS       16 26 16.6 +2.4
SOC                              eSSS     SSS      16 31 25.8
GURO Guroymak-BITLI  141.74  77  IAMs_20 IAMs_20  17 06 18.5
     comp=Z,412nm,21.0s
SMRA Abu-Samra       141.84 103  P        PKPdf    16 04 36.1 -3.5
MOS  Moscow          142.03  49 ePKIKP   PKPdf    16 04 37.9 -1.0
MOS                              MLR      MLR
     comp=E,1µm,22.0s
MOS                              MLR      MLR
     comp=Z,1µm,22.0s
TRNA Turayna         142.12 103  P        PKPdf    16 04 38.9 -1.2
LPSR Galich'ya Gora  142.65  54 ePKIKP   PKPdf    16 04 37.9 -2.2
LPSR                             pmax     pmax
     comp=Z,10.0nm,0.8s
VSR  Storozhevoye    142.67  56 ePKHKP   PKPpre   16 04 34.7
VSR                              pmax     pmax
     comp=Z,4.0nm,1.0s
MZR  Muzera          142.72 107  P        PKPdf    16 04 38.5 -2.8
     SNR=7.4
KULM Kulim           143.36 194  IAMs_20 IAMs_20  17 02 05.1
     comp=Z,536nm,20.0s
JRN  Qarnain Island  143.44 104  P        PKPab    16 04 38.1 -0.5
JKA  Kamikawa-asahi  143.46 292           PKPpre   16 04 38.5
ASAJ Asahikawa       143.46 292  PKIKP    PKPbc    16 04 38.5 -0.6
ASAJ                             MLR      MLR
     comp=Z,900nm,20.0s
MZWR Madinat Zayed   143.48 107  P        PKPab    16 04 38.3 -0.5
DQM  DQM             143.56 115  P        PKPab    16 04 39.4 +0.2
UMZA Um Al Zommool   143.74 109  P        PKPab    16 04 40.1 +0.2
KIV  Kislovodsk      143.79  69           PKPpre   16 04 39.8
KIV                              IAMs_20 IAMs_20  17 09 31.7
     comp=Z,511nm,22.0s
KIV  Kislovodsk      143.79  69  P        PKPab    16 04 39.1 -0.4
KIV  Kislovodsk      143.79  69 iPKIKP   PKiKP    16 04 45.8 -0.2
KIV                              e        16 07 54.9
KIV                              eSS      SS       16 26 36.8 -2.8
KIV                              eSSS     SSS      16 32 02.1
KIV                              pmax     pmax
     comp=Z,34nm,1.1s
KIV                              MLR      MLR
     comp=Z,303nm,24.0s
KIV  Kislovodsk      143.79  69 iPKPdf   PKPab    16 04 39.6 +0.1
     SNR=14
KBZ  Khabaz          143.89  69  PKP     PKPbc    16 04 40.7 +0.3
     comp=Z,10nm,0.9s,baz=256,slow=3.8,SNR=24
YSS  Yuzhno-Sakhali  143.93 296 iPKIKP   PKPab    16 04 39.7 -0.1
YSS                              pmax     pmax
     comp=Z,30nm,1.0s
YSS                              MLR      MLR
     comp=Z,600nm,18.0s
YSS                              MLR      MLR
     comp=N,300nm,20.0s
YSS                              MLR      MLR
     comp=E,500nm,18.0s
VRH  Novokhopyorsk   144.27  56 ePKHKP   PKPpre   16 04 38.8
VRH                              pmax     pmax
     comp=Z,20nm,1.0s
GOF  Gofitskoye      144.28  67d iPKIKP  PKPbc    16 04 41.5 -0.1
MJAR Matsushiro Arr  144.35 278  PKhKP   PKPpre   16 04 40.6
     comp=Z,9.1nm,0.9s,baz=155,slow=4.0,SNR=15
MAJO Matsushiro      144.35 278  PKPdf    PKPdf    16 04 42.7 -1.0
MAJO Matsushiro      144.35 278  IAMs_20 IAMs_20  16 56 23.2
     comp=Z,793nm,21.0s
MAJO Matsushiro      144.35 278  PKIKP    PKPdf    16 04 42.7 -1.0
MAJO                             MLR      MLR
     comp=Z,800nm,21.0s
MJB9 Matsu-Tunnel    144.36 278           PKPdf    16 04 43.9 +0.2
PALK Pallekele       144.53 160  PKPdf    PKPab    16 04 42.4 -0.7
PALK Pallekele       144.53 160  IAMs_20 IAMs_20  17 08 24.8
     comp=Z,704nm,19.0s
PALK Pallekele       144.53 160  P        PKPab    16 04 41.7 -1.4
PALK Pallekele       144.53 160  PKIKP    PKPab    16 04 42.4 -0.7
PALK                             MLR      MLR
     comp=Z,700nm,19.0s
MHTO MHTO            144.57 114  P        PKPab    16 04 41.6 -1.4
     SNR=9.2
TIXI Tiksi           144.67 341  IAMs_20 IAMs_20  17 10 45.9
     comp=Z,400nm,22.0s
AJN  Ajban           144.76 107  P        PKPab    16 04 43.0 -0.6
     SNR=19
AJN  Ajban           144.76 107 iPKPbc   PKPab    16 04 43.4 -0.2
     SNR=20
INU  Inuyama         144.78 275  IAMs_20 IAMs_20  16 59 00.3
     comp=Z,776nm,21.0s
JSD  Sado            144.85 280  IAMs_20 IAMs_20  16 57 18.2
     comp=Z,318nm,21.0s
ALNE Al Ain          145.00 108  P        PKPbc    16 04 43.6 -0.9
     SNR=33
ALNE Al Ain          145.00 108 iPKPbc   PKPbc    16 04 43.9 -0.6
     SNR=22
ASUD Al Ashush, Dub  145.05 107  P        PKPdf    16 04 45.1 -0.1
     SNR=19
ASUD Al Ashush, Dub  145.05 107 iPKPbc   PKPbc    16 04 44.0 -0.6
     SNR=21
ARQ  Araqi           145.10 110  P        PKPbc    16 04 44.5 -0.4
     SNR=58
BSY  Bisya           145.20 111  P        PKPbc    16 04 44.2 -1.0
     SNR=43
FAQ  Al Faqa, Dubai  145.31 107  P        PKPbc    16 04 44.5 -1.0
     SNR=40
FAQ  Al Faqa, Dubai  145.31 107 iPKPbc   PKPbc    16 04 44.4 -1.1
     SNR=36
NAZ  Nazwa, Dubai    145.51 107  P        PKPdf    16 04 45.1 -0.9
     SNR=91
NAZ  Nazwa, Dubai    145.51 107 iPKPbc   PKPdf    16 04 45.1 -0.9
     SNR=30
JMDO Jabal Madar     145.59 113  P        PKPdf    16 04 44.6 -1.7
     SNR=10
ASHO Ashiyiah        145.61 107  P        PKPdf    16 04 45.0 -1.2
     SNR=53
ASHO Ashiyiah        145.61 107 iPKPdf   PKPdf    16 04 45.1 -1.2
     SNR=36
SOHO SOHO            145.61 109  P        PKPdf    16 04 44.9 -1.4
SOHO SOHO            145.61 109 iPKPdf   PKPdf    16 04 45.0 -1.2
     SNR=52
HATD Hatta, Dubai    145.75 107  P        PKPdf    16 04 45.7 -0.8
     SNR=37
HATD Hatta, Dubai    145.75 107 iPKPdf   PKPdf    16 04 45.3 -1.2
     SNR=25
HOQ  Hoqain          145.82 110  P        PKPdf    16 04 45.4 -1.3
     SNR=32
UMQ  Umm Al-Quwin    145.83 106  P        PKPdf    16 04 46.2 -0.3
     SNR=8.0
UMQ  Umm Al-Quwin    145.83 106 iPKPdf   PKPdf    16 04 46.5  0.0
     SNR=13
UOSS Minazif         145.88 107  P        PKPdf    16 04 45.2 -1.5
UOSS Minazif         145.88 107 iPKPdf   PKPdf    16 04 45.1 -1.5
     SNR=11
SMDO Samad           146.00 112  P        PKPdf    16 04 45.9 -1.2
     SNR=22
MSFE Esma-Masafi     146.09 107 iPKPdf   PKPdf    16 04 46.2 -0.8
     SNR=16
MASF Masafi          146.10 107  P        PKPdf    16 04 46.7 -0.4
     SNR=29
MDH  Madha           146.16 107  P        PKPdf    16 04 46.6 -0.5
     SNR=15
MDH  Madha           146.16 107 iPKPdf   PKPdf    16 04 45.9 -1.2
     SNR=6.6
JLN  Jalan Bani Buh  146.34 114  P        PKPdf    16 04 47.2 -0.3
     SNR=15
WBK  Wadi Bani Khal  146.35 113  P        PKPdf    16 04 47.2 -0.4
     SNR=9.4
BIDO Bidbid          146.35 111  P        PKPdf    16 04 47.8 +0.2
     SNR=20
JMN  Monobe          146.48 271  IAMs_20 IAMs_20  17 04 38.5
     comp=Z,763nm,19.0s
SHME Shamm           146.49 106  P        PKPdf    16 04 47.0 -0.7
     SNR=57
SHME Shamm           146.49 106 iPKPdf   PKPdf    16 04 47.3 -0.3
     SNR=51
WSAR Wadi Sarin      146.52 112  P        PKPdf    16 04 48.4 +0.6
     SNR=16
BANOM Banah          146.53 106  P        PKPdf    16 04 47.0 -0.8
BANOM Banah          146.53 106 iPKPdf   PKPdf    16 04 47.6 -0.2
     SNR=33
MAK  Makhachkala     146.99  72 ePKHKP   PKPpre   16 04 41.8
MAK                              e        16 11 48.6
MAK                              eSS      SS       16 27 10.4 -5.4
MAK                              eSSS     SSS      16 32 48.9
MAK                              pmax     pmax
     comp=Z,290nm,1.6s
TEY  Ternei          147.84 292⇓ePKP2    PKPbc    16 04 51.8 -0.5
KIRV Kirov           148.11  43c iPKP2   PKPbc    16 04 53.1 +0.6
GRNR Gornyy          148.43 303⇓iPKP2    PKPbc    16 04 53.1 -0.6
GRNR                             pmax     pmax
     comp=Z,8.0nm,1.0s
GRNR                             MLR      MLR
     comp=N,80nm,15.0s
GRNR                             MLR      MLR
     comp=E,150nm,15.0s
GRNR                             MLR      MLR
     comp=Z,170nm,12.0s
YOJ  Yonaguni jima   149.48 246  IAMs_20 IAMs_20  16 57 01.2
     comp=Z,518nm,19.0s
YAK  Yakutsk         149.61 326  IAMs_20 IAMs_20  17 02 19.9
     comp=Z,531nm,22.0s
YAK  Yakutsk         149.61 326 ePKHKP   PKPpre   16 04 54.3
YAK                              e        16 05 01.3
YAK                              e        16 08 32.5
YAK                              eSS      SS       16 27 48.4 +4.6
YAK                              pmax     pmax
     comp=Z,25nm,1.1s
YAK                              pmax     pmax
     comp=N,7.0nm,1.4s
YAK                              pmax     pmax
     comp=E,23nm,1.7s
YAK                              pmax     pmax
     comp=Z,106nm,3.3s
YAK                              pmax     pmax
     comp=N,80nm,3.1s
YAK                              pmax     pmax
     comp=E,74nm,3.8s
TWG  Pinlang         149.68 241  IAMs_20 IAMs_20  17 03 20.0
     comp=Z,440nm,21.0s
YULB Yu-li           149.93 242  IAMs_20 IAMs_20  16 58 50.7
     comp=Z,420nm,22.0s
NACB Ninganchiao     150.25 244  IAMs_20 IAMs_20  17 04 37.6
     comp=Z,543nm,20.0s
TPUB Ta-pu           150.31 241  IAMs_20 IAMs_20  17 01 07.8
     comp=Z,426nm,21.0s
SSLB Suanglung       150.43 243  IAMs_20 IAMs_20  17 12 07.0
     comp=Z,349nm,18.0s
PBA  Port Blair      150.44 181  P        PKPdf    16 04 48.7 -5.7
YHNB Yeheng          150.73 244  IAMs_20 IAMs_20  17 03 34.3
     comp=Z,619nm,21.0s
TATO Taipei          150.86 245  IAMs_20 IAMs_20  17 02 48.4
     comp=Z,587nm,20.0s
USRK Ussuriysk Ar.   150.97 289  PKPbc    PKPbc    16 04 59.6 -0.5
     comp=Z,16nm,1.0s,baz=101,slow=1.9,SNR=22
MSHR Mys Shultsa     151.30 286c iPKIKP  PKiKP    16 05 01.7 +0.3
MSHR                             pmax     pmax
     comp=Z,71nm,1.7s
KLR  Kul'dur         151.46 300c iPKIKP  PKPbc    16 05 00.8 -0.3
KLR                              pmax     pmax
     comp=Z,62nm,1.7s
NRIK Noril'sk        151.81   4  PKP     PKPdf    16 04 54.3 -0.5
     comp=Z,1.0nm,0.6s,baz=291,slow=3.3,SNR=7.4
NRIK                             PKPbc    PKPbc    16 05 01.1 -0.1
     comp=Z,4.6nm,0.8s,baz=22,slow=0.9,SNR=15
NRIK                             PP       PP       16 08 42.9 +0.9
     comp=Z,1.3nm,0.4s,baz=1.2,slow=4.7,SNR=3.8
KSRS Korea Array     152.38 274  PKPbc    PKPbc    16 05 03.0 -0.5
     comp=Z,4.5nm,0.9s,baz=103,slow=2.9,SNR=13
KNMB Chin-men Tao    152.59 240  IAMs_20 IAMs_20  17 12 11.0
     comp=Z,320nm,20.0s
MDJ  Mudanjiang      152.73 290  IAMs_20 IAMs_20  17 00 53.0
     comp=Z,745nm,22.0s
MDJ  Mudanjiang      152.73 290  PKPbc    PKPdf    16 04 55.3 -1.7
MDJ                              AMB      AMB
     comp=Z,370nm,4.8s
QZH  Quanzhou        152.78 241  PKPbc    PKPdf    16 04 59.2 +1.5
QZH                              PP       PP       16 08 49.3 +0.8
QZH                              SKKS     SKKS     16 15 42.1
QZH                              SS       SS       16 28 23.7 +3.7
QZH                              LR       LR
     comp=Z,310nm,17.2s
QZH                              LR       LR
     comp=Z,250nm,15.1s
QZH                              LR       LR
     comp=Z,630nm,22.0s
QIZ  Qiongzhong      153.23 219  IAMs_20 IAMs_20  17 24 16.1
     comp=Z,302nm,20.0s
QIZ  Qiongzhong      153.23 219  PKPbc    PKPdf    16 04 58.6 +0.1
QIZ                              PP       PP       16 08 52.6 +2.0
QIZ                              SS       SS       16 28 28.9 +4.9
QIZ                              AMB      AMB
     comp=Z,210nm,7.3s
QIZ                              LR       LR
     comp=Z,220nm,21.3s
QIZ                              LR       LR
     comp=Z,210nm,19.1s
QIZ                              LR       LR
     comp=Z,320nm,24.9s
INCN Inchon          153.36 273  IAMs_20 IAMs_20  17 08 33.7
     comp=Z,514nm,20.0s
HYB  Hyderabad       153.37 149 ePKPbc   PKiKP    16 05 06.8 +0.3
ARTI Arti            153.38  44 iPKIKP   PKPdf    16 04 59.9 +2.4
ARTI                             SS       SS       16 28 24.5 -1.5
ARTI                             MLR      MLR
     comp=Z,937nm,22.0s
HKPS Hong Kong Po S  153.61 231  IAMs_20 IAMs_20  17 11 29.4
     comp=Z,433nm,20.0s
ZEA  Zeya            153.67 310 ePKIKP   PKPdf    16 04 56.3 -1.7
ZEA                              pmax     pmax
     comp=Z,10.0nm,1.1s
ZEA                              MLR      MLR
     comp=E,500nm,19.0s
HEH  HeiHe           154.20 302  PKPbc    PKPdf    16 04 56.5 -2.4
HEH                              LR       LR
     comp=E,140nm,23.3s
HEH                              LR       LR
     comp=E,580nm,22.6s
HEH                              LR       LR
     comp=E,1µm,24.7s
BNX  BinXian         154.36 292⇓PKPbc    PKPdf    16 04 59.3  0.0
BNX                              PP       PP       16 09 03.4 +5.8
BNX                              AMB      AMB
     comp=E,200nm,8.9s
BNX                              LR       LR
     comp=E,340nm,16.3s
BNX                              LR       LR
     comp=E,560nm,17.4s
BNX                              LR       LR
     comp=E,720nm,17.4s
SVE  Sverdlovsk      154.38  42 ePKIKP   PKPdf    16 04 59.5 +0.6
SVE                              pmax     pmax
     comp=Z,27nm,1.7s
SSE  Sheshan         154.72 255  PKPbc    PKPdf    16 04 54.3 -5.9
SSE                              PP       PP       16 09 02.2 +2.5
CN2  Changchun       155.61 287 ePKP     PKPdf    16 04 58.1 -2.9
CMAR Chiang Mai Arr  156.52 196  PKP     PKPdf    16 05 02.9 -0.2
     comp=Z,2.9nm,1.0s,baz=242,slow=1.6,SNR=19
CMAR                             PKPab    PKPab    16 05 31.0 -0.6
     comp=Z,6.2nm,0.9s,baz=199,slow=4.5,SNR=15
CMAR                             PP       PP       16 09 06.7 -1.9
     comp=Z,1.5nm,1.0s,baz=180,slow=4.0,SNR=5.5
CHTO Chiang Mai      156.87 196  IAMs_20 IAMs_20  17 11 52.2
     comp=Z,401nm,21.0s
CHTO Chiang Mai      156.87 196  P        PKPdf    16 04 59.1 -4.3
NJ2  Nanjing         156.91 255 ePKP     PKPdf    16 05 05.7 +2.6
NJ2                              LR       LR
     comp=Z,670nm,16.9s
NJ2                              LR       LR
     comp=Z,1µm,19.7s
NJ2                              LR       LR
     comp=Z,2µm,20.6s
DL2  Dalian          157.55 273  PKP     PKPdf    16 05 01.0 -2.7
DL2                              ePP      PP       16 09 14.4 -1.1
DL2                              SS       SS       16 29 12.5 +0.2
DL2                              AMB      AMB
     comp=Z,210nm,6.0s
DL2                              LR       LR
     comp=Z,340nm,22.7s
DL2                              LR       LR
     comp=Z,730nm,24.4s
DL2                              LR       LR
     comp=Z,1µm,29.9s
SLVN Son La          157.81 210  IAMs_20 IAMs_20  17 13 48.1
     comp=Z,436nm,22.0s
CNSH ChangSha        158.68 238  PKP     PKPdf    16 05 05.7 +0.3
CNSH                             PP       PP       16 09 21.9 +0.6
CNSH                             SS       SS       16 29 21.7 -1.9
CNSH                             LR       LR
     comp=Z,310nm,19.9s
CNSH                             LR       LR
     comp=Z,350nm,21.2s
CNSH                             LR       LR
     comp=Z,550nm,21.9s
TIA  Tai'an          160.07 263  PKP     PKPdf    16 05 14.2 +7.4
TIA                              PKS      PKSdf    16 08 31.6 -8.6
TIA                              PP       PP       16 09 31.7 +2.4
TIA                              SKS      SKSdf    16 12 15.8 +3.9
KBL  Kabul           160.42 103  P        PKPdf    16 05 03.1 -4.4
BVAR Borovoye Array  161.11  44  PKP     PKPdf    16 05 07.5 +0.1
     comp=Z,1.0nm,0.9s,baz=298,slow=3.1,SNR=7.7
BVAR                             PKPab    PKPab    16 05 50.5 -0.2
     comp=Z,3.4nm,1.0s,baz=310,slow=3.3,SNR=5.6
BVAR                             PP       PP       16 09 33.9 -0.2
     comp=Z,0.1nm,0.3s,baz=298,slow=3.1,SNR=1.7
KMI  Kunming         161.68 211  PKP     PKPdf    16 05 09.4 +0.2
KMI                              AMB      AMB
     comp=Z,200nm,10.8s
KMI                              LR       LR
     comp=Z,260nm,17.4s
KMI                              LR       LR
     comp=Z,210nm,23.7s
KMI                              LR       LR
     comp=Z,590nm,29.1s
CIT  Chita           162.03 314 ePKP2    PKPab    16 05 54.2 -0.7
CIT                              e        16 09 35.0
CIT                              pmax     pmax
     comp=Z,48nm,1.9s
HNS  HongShan        162.30 264⇓PKP      PKPdf    16 05 17.2 +8.1
HNS                              PKS      PKSdf    16 08 51.4 +9.2
HNS                              PP       PP       16 09 51.2 +10
TNCH TengChong       162.96 199  PKP     PKPdf    16 05 09.1 -1.3
TNCH                             PKPab    PKPab    16 05 59.7  0.0
TNCH                             PP       PP       16 09 43.4 -0.3
TNCH                             AMB      AMB
     comp=Z,190nm,3.3s
TNCH                             LR       LR
     comp=Z,210nm,19.7s
TNCH                             LR       LR
     comp=Z,240nm,19.3s
TNCH                             LR       LR
     comp=Z,700nm,19.5s
NIL  Nilore          163.01 111  P        PKPdf    16 05 09.0 -1.0
PZH  PanZhiHua       163.31 211  PKP     PKPdf    16 05 10.2 -0.4
PZH                              SS       SS       16 30 15.3 +4.1
PZH                              AMB      AMB
     comp=Z,230nm,8.2s
PZH                              LR       LR
     comp=Z,350nm,22.5s
PZH                              LR       LR
     comp=Z,360nm,22.1s
PZH                              LR       LR
     comp=Z,440nm,22.1s
XAN  Xi'an           165.03 246⇓PKP      PKPdf    16 05 11.9  0.0
XAN                              PP       PP       16 09 58.0 +2.5
XAN                              AMB      AMB
     comp=Z,230nm,4.7s
XAN                              LR       LR
     comp=Z,510nm,23.4s
XAN                              LR       LR
     comp=Z,560nm,19.2s
XAN                              LR       LR
     comp=Z,430nm,17.2s
ARSB Arslanbob       165.42  84           PKPab    16 06 11.0 +0.7
HHC  Hu-ho-hao-te    165.52 274 ePKP     PKPdf    16 05 07.9 -4.2
CD2  Chengdu         166.13 225  PKP     PKPdf    16 05 12.5 -0.4
CD2                              LR       LR
     comp=Z,460nm,19.9s
CD2                              LR       LR
     comp=Z,490nm,19.9s
ZALV Zalesovo Beam   166.40  19  PKP     PKPdf    16 05 10.3 -1.9
     comp=Z,0.7nm,0.6s,baz=243,slow=0.6,SNR=7.8
ZALV                             PKPab    PKPab    16 06 13.8 -0.1
     comp=Z,2.4nm,0.8s,baz=318,slow=2.0,SNR=4.0
ZALV                             PP       PP       16 10 01.4  0.0
     comp=Z,0.3nm,0.3s,baz=337,slow=2.2,SNR=4.3
IRK  Irkutsk         166.40 327 ePKIKP   PKPdf    16 05 09.1 -3.2
IRK                              e        16 09 59.7
IRK                              pmax     pmax
     comp=Z,32nm,3.5s
KURK Kurchatov       166.62  41  PKIKP   PKPdf    16 05 11.5 -1.0
KURK                             16 06 15.3
AAK  Ala-Archa       166.63  78           PKPab    16 06 16.3 +0.7
AAK  Ala-Archa       166.63  78  P        PKPdf    16 05 05.3 -7.8
AAK  Ala-Archa       166.63  78  PKPdf    PKPdf    16 05 12.9 -0.2
KURBB Kurchatov Arra 166.64  41  PKP     PKPdf    16 05 11.4 -1.1
     comp=Z,3.5nm,1.1s,baz=294,slow=1.3,SNR=23
KURBB                            PKPab    PKPab    16 06 15.3 +0.2
     comp=Z,6.9nm,1.1s,baz=306,slow=4.7,SNR=9.5
KURBB                            PP       PP       16 10 02.6 -0.5
     comp=Z,2.5nm,1.1s,baz=292,slow=6.5,SNR=5.6
KSH  Kashi           167.37  93  PKP     PKPdf    16 05 14.1 +0.5
KSH                              PP       PP       16 10 06.8 -1.1
KSH                              AMB      AMB
     comp=Z,430nm,4.5s
KSH                              LR       LR
     comp=Z,910nm,23.7s
KSH                              LR       LR
     comp=Z,570nm,21.6s
KSH                              LR       LR
     comp=Z,1µm,21.3s
SONM Songino Array   168.09 308  PKP     PKPdf    16 05 12.6 -1.3
     comp=Z,0.4nm,0.5s,baz=153,slow=0.3,SNR=2.5
SONM                             PKPab    PKPab    16 06 21.6 -0.2
     comp=Z,1.8nm,0.9s,baz=19,slow=1.9,SNR=6.8
SONM                             PP       PP       16 10 10.3 -0.8
     comp=Z,0.2nm,0.4s,baz=177,slow=3.0,SNR=3.6
MOY  Mondy           168.09 333 ePKP2    PKPab    16 06 22.6 +1.0
MOY                              pmax     pmax
     comp=Z,48nm,3.2s
ZAK  Zakamensk       168.19 324 ePKP2    PKPab    16 06 22.4 +0.3
ZAK                              pmax     pmax
     comp=Z,16nm,1.4s
ZAK                              pmax     pmax
     comp=Z,7.0nm,1.9s
LZH  Lanzhou         169.63 243  PKP     PKPdf    16 05 16.0 +0.7
LZH                              LR       LR
     comp=Z,500nm,17.5s
LZH                              LR       LR
     comp=Z,330nm,19.2s
LZH                              LR       LR
     comp=Z,1µm,22.0s
MAKZ Makanchi        170.73  50           PKPab    16 06 34.1 +0.7
MK31 Makanchi Array  170.92  50           PKPab    16 06 34.9 +0.6
MKAR Makanchi Array  170.92  50           PKPab    16 06 35.2 +0.9
MKAR Makanchi Array  170.92  50  PKP     PKPdf    16 05 14.2 -1.3
     comp=Z,0.8nm,1.1s,baz=349,slow=1.5,SNR=5.6
MKAR                             PKPab    PKPab    16 06 35.0 +0.7
     comp=Z,8.0nm,1.3s,baz=310,slow=2.7,SNR=13
MKAR                             PP       PP       16 10 20.2 -4.9
     comp=Z,0.6nm,0.9s,baz=297,slow=4.0,SNR=3.6
GTA  Gaotai          174.01 254  PKP     PKPdf    16 05 17.0 -0.2
GTA                              PP       PP       16 10 39.9 -1.1
GTA                              SKKS     SKKS     16 17 27.0
GTA                              AMB      AMB
     comp=Z,290nm,10.0s
GTA                              LR       LR
     comp=Z,310nm,23.9s
GTA                              LR       LR
     comp=Z,300nm,22.7s
GTA                              LR       LR
     comp=Z,680nm,24.3s
GOMU GeErMu          174.53 201  PKP     PKPdf    16 05 17.8  0.0
GOMU                             PP       PP       16 10 41.1 -1.5
GOMU                             SKKS     SKKS     16 17 34.2
GOMU                             SS       SS       16 32 05.0 +1.6
GOMU                             AMB      AMB
     comp=Z,530nm,8.5s
GOMU                             LR       LR
     comp=Z,760nm,22.3s
GOMU                             LR       LR
     comp=Z,620nm,21.6s
GOMU                             LR       LR
     comp=Z,1µm,22.7s
WMQ  Urumqi          175.74  53  PKP     PKPdf    16 05 15.5 -2.0
WMQ                              PKPab    PKPab    16 06 56.9 +1.1
WMQ                              PP       PP       16 10 53.6 +4.8
WMQ                              AMB      AMB
     comp=Z,300nm,5.1s
WMQ                              LR       LR
     comp=Z,350nm,13.7s
WMQ                              LR       LR
```

comp=Z,440nm,18.9s
WMQ LR LR
comp=Z,320nm,20.7s

ISK 07 15:46:51.1,38.′80N×26.′44E,h11km,ML2.8/38
AFAD 07 15:46:51.4,38.′81N×26.′46E,h7km±1km,ML2.6
ATH 07 15:46:52.0,38.′80N×26.′41E,h17km±5km,ML2.6/7,
Manual Solution by D.Makaris First location: 2019/04/07 15:48:08, This location: 2019/04/07 18:56:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 9 km
THE 07 15:46:52.1,38.′79N×26.′39E,h15km±1km,ML2.5/8,Error ellipse: s-maj=1.9km s-min=0.7km az=293.0
ISC 07 15:46:51.6±0.8,38.′80N±0.′02×26.′44E±0.′02,h15km±6km, n68,σ0°60/96,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.13**	**188**	P	**Pg**	**15 46 55.3**	**0.0**
KARB				S	**Sg**	**15 46 57.9**	**+0.2**
KARB				*i* AML	AML	15 46 58.0	
	comp=N,5μm,0.1s						
KARB				*i* AML	AML	15 46 58.0	
	comp=E,2μm,0.1s						
FOCM	**Foa**	**0.24**	**109**	Pg	**Pg**	**15 46 56.2**	**-0.8**
FOCM				Sg	**Sg**	**15 47 00.1**	**-0.5**
EAG2	**Marmaro, Chios**	**0.36**	**226**	P	**Pg**	**15 46 59.5**	**+0.6**
EAG2				S	**Sg**	**15 47 04.4**	**+0.4**
IZMD	**zmir-Dikili-**	**0.43**	**64**	P	**Pg**	**15 46 59.4**	**-0.8**
IZMD				S	**Sg**	**15 47 05.5**	**-0.6**
IZMD				*i* AML	AML	15 47 06.0	
	comp=N,137nm,0.3s						
IZMD				*i* AML	AML	15 47 06.0	
	comp=E,148nm,0.4s						
URLA	**Izmir**	**0.45**	**164**	P	**Pg**	**15 47 00.4**	**-0.2**
URLA				S	**Sb**	**15 47 07.9**	**+0.1**
URLA				*i* AML	AML	15 47 09.0	
	comp=N,848nm,0.3s						
URLA				*i* AML	AML	15 47 10.0	
	comp=E,781nm,0.5s						
DKL	**Dikili**	**0.46**	**53**	Pg	**Pg**	**15 47 00.0**	**-0.8**
DKL				Sg	**Sg**	**15 47 06.8**	**-0.2**
PRK	**Paraskevi**	**0.47**	**344**	P	**Pg**	**15 47 00.6**	**-0.4**
PRK				S	**Sb**	**15 47 08.1**	**-0.2**
	2μm,0.4s						
PRK	**Paraskevi**	**0.47**	**344**	P	**Pg**	**15 47 00.7**	**-0.2**
PRK				S	**Sg**	**15 47 07.5**	**+0.2**
CESE	**eme**	**0.48**	**193**	Pg	**Pg**	**15 47 01.4**	**+0.3**
CESE				Sg	**Sg**	**15 47 07.9**	**+0.4**
ZEDA	**zmir-Bergama**	**0.53**	**71**	P	**Pg**	**15 47 01.3**	**-0.8**
ZEDA				*i* AML	AML	15 47 09.0	
	comp=E,192nm,0.4s						
ZEDA				*i* AML	AML	15 47 15.0	
	comp=N,189nm,0.5s						
AYVA	**Ayvalik**	**0.55**	**21**	P	**Pg**	**15 47 01.7**	**-0.8**
AYVA				S	**Sg**	**15 47 09.2**	**-0.6**
AYVA				*i* AML	AML	15 47 11.0	
	comp=E,312nm,0.4s						
AYVA				*i* AML	AML	15 47 14.0	
	comp=N,364nm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**0.56**	**175**	P	**Pg**	**15 47 02.3**	**-0.3**
ZEYE				*i* AML	AML	15 47 15.0	
	comp=N,923nm,0.4s						
ZEYE				*i* AML	AML	15 47 15.0	
	comp=E,881nm,0.3s						
SIGR	**SIGRI**	**0.61**	**313**	P	**Pg**	**15 47 03.8**	**+0.1**
SIGR				S	**Sb**	**15 47 12.5**	**+0.1**
	602nm,0.3s						
SIGR	**SIGRI**	**0.61**	**313**	Pg	**Pg**	**15 47 03.8**	**+0.1**
SIGR				Sg	**Sg**	**15 47 12.3**	**+0.4**
SIGR	**SIGRI**	**0.61**	**313**	P	**Pg**	**15 47 03.8**	**+0.1**
SIGR				S	**Sb**	**15 47 12.6**	**+0.1**
BLCB	**Balcova**	**0.63**	**131**	Pg	**Pg**	**15 47 03.8**	**-0.1**
BLCB				Sg	**Sb**	**15 47 13.6**	**+0.8**
KOCA	**Canakkale, Ayv**	**0.74**	**342**	P	**Pg**	**15 47 05.9**	**-0.2**
KOCA				S	**Sg**	**15 47 16.2**	**+0.3**
KOCA				*i* AML	AML	15 47 19.0	
	comp=N,636nm,0.6s						
KOCA				*i* AML	AML	15 47 19.0	
	comp=E,1μm,0.4s						
GMLD	**Gumuldur**	**0.81**	**152**	Pg	**Pg**	**15 47 06.6**	**-0.7**
GMLD				Sg	**Sg**	**15 47 18.4**	**+0.4**
DGB	**zmir**	**0.82**	**155**	P	**Pg**	**15 47 06.8**	**-0.7**
DGB				S	**Sg**	**15 47 18.4**	**+0.1**
DGB				*i* AML	AML	15 47 21.0	
	comp=N,123nm,0.2s						
DGB				*i* AML	AML	15 47 23.0	
	comp=E,94nm,0.4s						
BUHA	**Balikesir, Bur**	**0.86**	**35**	P	**Pb**	**15 47 07.5**	**-0.8**
BUHA				S	**Sg**	**15 47 19.8**	**0.0**
BUHA				*i* AML	AML	15 47 22.0	
	comp=N,399nm,0.3s						
BUHA				*i* AML	AML	15 47 22.0	
	comp=E,389nm,0.3s						
SOMA	**Soma-Manisa**	**0.93**	**67**	Pg	**Pb**	**15 47 09.6**	**+0.2**
SOMA				Sg	**Sn**	**15 47 23.3**	**+0.2**
YAYO	**Edremit-Balk**	**0.95**	**31**	Pg	**Pb**	**15 47 10.1**	**+0.3**
YAYO				Sg	**Sn**	**15 47 23.6**	**-0.1**
EZNE	**Ezine-Canakkal**	**0.96**	**357**	Pg	**Pb**	**15 47 09.9**	**0.0**
EZNE				Sg	**Sn**	**15 47 23.6**	**-0.3**
EZN	**Ezine**	**1.03**	**355**	P	**Pb**	**15 47 11.1**	**-0.1**
EZN				S	**Sg**	**15 47 25.4**	**+0.3**
	560nm,0.4s						
EZN	**Ezine**	**1.03**	**355**	Pg	**Pb**	**15 47 11.3**	**+0.1**
AKS	**Akhisar**	**1.08**	**85**	Pg	**Pb**	**15 47 12.1**	**+0.2**
YENI	**Yenice-Canakka**	**1.30**	**28**	Pn	**Pb**	**15 47 16.3**	**+0.6**
COMU	**Canakkale**	**1.30**	**1**	Pn	**Pb**	**15 47 15.9**	**+0.1**
CANM	**Can-anakkale**	**1.30**	**21**	Pn	**Pn**	**15 47 15.2**	**-0.1**
GORD	**Gordes-Manisa**	**1.36**	**85**	Pn	**Pb**	**15 47 16.9**	**+0.1**
ODEM	**Odemis-Izmir**	**1.39**	**111**	Pn	**Pn**	**15 47 17.1**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.42**	**126**	Pn	**Pn**	**15 47 17.3**	**+0.3**
GADA	**Gvkgeada**	**1.46**	**344**	Pn	**Pn**	**15 47 17.6**	**+0.3**
LPK	**Lapseki**	**1.59**	**9**	Pn	**Pn**	**15 47 20.2**	**+1.0**
GELI	**Tayfur-Gelibol**	**1.60**	**1**	Pn	**Pn**	**15 47 20.2**	**+0.9**
NAZL	**Nazilli-Aydin**	**1.68**	**119**	Pn	**Pn**	**15 47 21.2**	**+0.8**
KRBG	**Karabiga-Canak**	**1.73**	**22**	Pn	**Pn**	**15 47 22.2**	**+1.1**
SUSR	**Susurluk-Balik**	**1.73**	**47**	Pn	**Pn**	**15 47 22.2**	**+1.1**
KARY	**Karystos**	**1.75**	**245**	P	**Pn**	**15 47 19.9**	**-1.4**
KARY				S	**Sn**	**15 47 42.1**	**-1.2**
	52nm,0.3s						
KARY	**Karystos**	**1.75**	**245**	P	**Pn**	**15 47 21.4**	**+0.1**
KARY				S	**Sn**	**15 47 42.2**	**-1.0**
KULA	**Kula-Manisa**	**1.76**	**98**	Pn	**Pn**	**15 47 22.4**	**+0.8**
SMTH	**Samothraki Isl**	**1.81**	**338**	P	**Pn**	**15 47 22.2**	**0.0**
SMTH				S	**Sn**	**15 47 44.6**	**-0.4**
	72nm,0.3s						
SMTH	**Samothraki Isl**	**1.81**	**338**	P	**Pn**	**15 47 22.3**	**0.0**
ENZZ	**Sultanice-Enez**	**1.82**	**353**	Pn	**Pn**	**15 47 23.2**	**+0.8**
MLSB	**Milas**	**1.83**	**144**	Pn	**Pn**	**15 47 23.6**	**+1.1**
KYMI	**Kymi, Euboea I**	**1.83**	**266**	P	**Pn**	**15 47 22.0**	**-0.5**
KYMI				S	**Sn**	**15 47 44.8**	**-0.7**
	48nm,1.5s						
BODT	**Bodrum**	**1.86**	**158**	Pn	**Pn**	**15 47 23.1**	**+0.2**
APE	**Apeiranthos**	**1.87**	**203**	P	**Pn**	**15 47 22.8**	**-0.2**
APE				S	**Sn**	**15 47 45.3**	**-1.0**
	55nm,0.6s						
APE	**Apeiranthos**	**1.87**	**203**	Pn	**Pn**	**15 47 22.9**	**-0.1**
APE	**Apeiranthos**	**1.87**	**203**	P	**Pn**	**15 47 22.6**	**-0.4**
ERIK	**Erikli-Kesan**	**1.87**	**2**	Pn	**Pn**	**15 47 23.9**	**+0.8**
DST	**Dursunbey**	**1.88**	**64**	Pn	**Pn**	**15 47 24.1**	**+0.9**
EDC	**Edincik**	**1.90**	**35**	Pn	**Pn**	**15 47 24.3**	**+0.8**
ENEZ	**Enez**	**1.95**	**354**	P	**Pn**	**15 47 24.6**	**+0.4**
ENEZ				S	**Sn**	**15 47 47.8**	**-0.5**
	240nm,0.4s						
ENEZ	**Enez**	**1.95**	**354**	Pn	**Pn**	**15 47 24.5**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.98**	**17**	Pn	**Pn**	**15 47 25.5**	**+1.0**
SIMA	**Simav-Kutahya**	**2.01**	**81**	Pn	**Pn**	**15 47 25.7**	**+0.7**
MRMT	**Marmara Adasi**	**2.02**	**26**	Pn	**Pn**	**15 47 25.3**	**+0.2**
KCTX	**Karacabey (Bur**	**2.09**	**45**	Pn	**Pn**	**15 47 26.6**	**+0.6**
DION	**Dionisos Attik**	**2.09**	**251**	P	**Pn**	**15 47 26.3**	**+0.2**
ALN	**Alexandroupoli**	**2.12**	**352**	Pn	**Pn**	**15 47 27.6**	**+1.1**
YER	**Yerkesik**	**2.21**	**138**	Pn	**Pn**	**15 47 28.8**	**+1.1**
DAT	**Datca**	**2.25**	**156**	Pn	**Pn**	**15 47 28.9**	**+0.5**
TVSB	**Tavsanli**	**2.44**	**74**	Pn	**Pn**	**15 47 31.9**	**+0.9**
RDO	**Rodhopi**	**2.45**	**344**	P	**Pn**	**15 47 31.6**	**+0.6**
KAVA	**Kavala**	**2.65**	**327**	P	**Pn**	**15 47 34.0**	**+0.2**
KOKK	**Kokkinochori,**	**2.76**	**318**	P	**Pn**	**15 47 35.2**	**0.0**
HORT	**Hortiatis**	**3.14**	**306**	P	**Pn**	**15 47 41.5**	**+1.0**

TAP 07 16:18:51.2,22.′07N×120.′58E,h43km,ML3.0,C
ISC 07 16:18:50.2±1.8,21.′98N±0.′06×120.′50E±0.′05,h49km±8km, n61,σ1°08/85,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.23**	**82**	*i* P	**Pn**	**16 18 58.9**	**+0.2**
HEN				S	**Sn**	**16 19 05.0**	**+0.3**
SNW	**Nanwan**	**0.23**	**94**	*e*P	**Pn**	**16 18 59.1**	**+0.3**
TWK1	**Hengchun**	**0.29**	**96**	*i* P	**Pn**	**16 18 59.6**	**+0.4**
TWK1				*i* S	**Sn**	**16 19 05.8**	**+0.2**
TWKBT	**Hengchun**	**0.29**	**97**	*i* P	**Pn**	**16 18 59.4**	**+0.2**
TWKBT				*i* S	**Sn**	**16 19 05.3**	**-0.4**
SMST	**Manzhou Townsh**	**0.32**	**82**	*e*P	**Pn**	**16 18 59.6**	**+0.1**
SMST				*e*S	**Sn**	**16 19 05.7**	**-0.3**
SLIU	**Shizi**	**0.37**	**49**	P	**Pn**	**16 18 60.0**	**-0.1**
SLIU				S	**Sn**	**16 19 06.0**	**-1.0**
TSEB	**Hengchuen, Pin**	**0.38**	**101**	*i* P	**Pn**	**16 19 00.6**	**+0.5**
TSEB				S	**Sn**	**16 19 07.3**	**+0.2**
TWP	**Hsiaoliuchiu**	**0.39**	**341**	*i* P	**Pn**	**16 19 01.2**	**+0.9**
TWP				*i* S	**Sn**	**16 19 09.0**	**+1.7**
SCZT	**Fangliau**	**0.41**	**16**	*i* P	**Pn**	**16 19 00.1**	**-0.3**
SCZT				*i* S	**Sn**	**16 19 06.2**	**-1.6**
TAWH	**Dawu Township**	**0.51**	**45**	P	**Pn**	**16 19 01.4**	**-0.3**
TAWH				S	**Sn**	**16 19 08.5**	**-1.3**
EAST	**Anshuo**	**0.52**	**39**	*i* P	**Pn**	**16 19 01.5**	**-0.3**
EAST				*i* S	**Sn**	**16 19 09.0**	**-1.1**
TAW	**Tawu**	**0.53**	**44**	*i* P	**Pn**	**16 19 01.8**	**0.0**
TAW				*i* S	**Sn**	**16 19 09.0**	**-1.2**
MASBT	**Mashibuluo**	**0.65**	**11**	*e*P	**Pn**	**16 19 03.0**	**-0.3**
MASBT				*e*S	**Sn**	**16 19 11.5**	**-1.2**
TSMG	**Majia**	**0.74**	**11**	*e*S	**Sn**	**16 19 13.2**	**-1.6**
ECL	**Taimali**	**0.75**	**34**	*i* P	**Pn**	**16 19 04.7**	**+0.1**
ECL				*i* S	**Sn**	**16 19 13.2**	**-1.9**
TWM1	**Shoushan**	**0.85**	**355**	*e*P	**Pn**	**16 19 06.9**	**+1.0**
SCST	**Cishan**	**0.91**	**360**	*e*P	**Pn**	**16 19 08.8**	**+2.1**
LAY	**Lan-yu**	**0.98**	**86**	P	**Pn**	**16 19 07.5**	**-0.2**
LAY				S	**Sn**	**16 19 20.6**	**0.0**
TWG	**Pinlang**	**1.00**	**32**	*i* P	**Pn**	**16 19 08.2**	**+0.3**
TWG				S	**Sn**	**16 19 19.0**	**-1.9**
TWGBT	**Beinan**	**1.00**	**33**	P	**Pn**	**16 19 08.3**	**+0.4**
TWGBT	**Beinan**	**1.00**	**33**	P	**Pn**	**16 19 08.6**	**+0.6**
TWGBT				*e*S	**Sn**	**16 19 20.3**	**-0.6**
LYUB	**Lan-yu**	**1.01**	**88**	P	**Pn**	**16 19 06.8**	**-1.3**
LYUB				*e*S	**Sn**	**16 19 19.1**	**-2.1**
LONT	**Longtian**	**1.10**	**32**	P	**Pn**	**16 19 09.2**	**-0.1**
LONT				*e*S	**Sn**	**16 19 22.6**	**-0.8**
SGST	**Jiashian**	**1.10**	**4**	*e*P	**Pn**	**16 19 09.1**	**-0.3**
SGST				*e*S	**Sn**	**16 19 22.2**	**-1.4**
LDUT	**Ludao**	**1.14**	**52**	*e*P	**Pn**	**16 19 10.0**	**+0.2**
LDUT				*e*S	**Sn**	**16 19 23.6**	**-0.8**
STYH	**Taoyuan**	**1.22**	**12**	*e*P	**Pn**	**16 19 10.1**	**-0.8**
STYH				*e*S	**Sn**	**16 19 24.4**	**-1.8**
SNST	**Tainan City**	**1.24**	**0**	*e*P	**Pn**	**16 19 10.6**	**-0.6**
EDH	**Donghe**	**1.24**	**37**	*e*P	**Pn**	**16 19 11.8**	**+0.6**
WTP	**Ta-pu**	**1.27**	**5**	*e*P	**Pn**	**16 19 11.5**	**-0.1**
TWK	**Hsinying**	**1.28**	**360**	*e*P	**Pn**	**16 19 13.9**	**+2.0**
TPUB	**Ta-pu**	**1.32**	**5**	P	**Pn**	**16 19 12.6**	**+0.2**
TPUB	**Ta-pu**	**1.32**	**5**	*e*P	**Pn**	**16 19 12.6**	**+0.2**
CHN4	**Tsaushan**	**1.37**	**4**	*e*P	**Pn**	**16 19 12.9**	**-0.2**
FULB	**Fuli**	**1.42**	**31**	*e*P	**Pn**	**16 19 15.1**	**+1.4**
WCKO	**Fanlu**	**1.46**	**4**	*e*P	**Pn**	**16 19 15.0**	**+0.8**
WDGT	**Dungji**	**1.49**	**329**	*e*P	**Pn**	**16 19 14.5**	**-0.2**
WDGT				*e*S	**Sn**	**16 19 31.2**	**-1.8**
ALS	**Alishan**	**1.55**	**10**	*e*P	**Pn**	**16 19 16.2**	**+0.4**
TWF1	**Yuli**	**1.56**	**28**	*e*P	**Pn**	**16 19 16.8**	**+1.2**
VCHM	**Qimei**	**1.57**	**321**	*e*P	**Pn**	**16 19 15.1**	**-0.7**
VCHM				*e*S	**Sn**	**16 19 34.0**	**-1.0**
YULB	**Yu-li**	**1.59**	**28**	P	**Pn**	**16 19 16.8**	**+0.8**
YULB	**Yu-li**	**1.59**	**28**	P	**Pn**	**16 19 17.0**	**+0.9**
CHN5	**Tsauling**	**1.62**	**6**	*e*P	**Pn**	**16 19 16.9**	**+0.4**
EHY	**Hungye**	**1.70**	**26**	*e*P	**Pn**	**16 19 17.8**	**+0.3**
WTK	**Tuku**	**1.71**	**357**	*e*P	**Pn**	**16 19 17.8**	**+0.2**
HGSD	**Ruisui**	**1.73**	**29**	*e*P	**Pn**	**16 19 18.2**	**+0.3**
WHYT	**Xinyi Township**	**1.74**	**11**	*e*P	**Pn**	**16 19 18.1**	**-0.1**
SSLB	**Suanglung**	**1.85**	**13**	P	**Pn**	**16 19 20.6**	**+1.0**
SSLB	**Suanglung**	**1.85**	**13**	*e*P	**Pn**	**16 19 19.1**	**-0.5**
VWDT	**VWDT**	**1.87**	**18**	*e*P	**Pn**	**16 19 20.7**	**+0.9**
WARBT	**Fenglin Townsh**	**1.92**	**25**	*e*P	**Pn**	**16 19 21.3**	**+0.7**
SMLT	**Sun Moon Lake**	**1.94**	**11**	*e*P	**Pn**	**16 19 20.6**	**-0.2**
TYC	**Yuchr**	**1.95**	**10**	*e*P	**Pn**	**16 19 21.5**	**+0.6**
OWD	**Renai**	**2.07**	**17**	*e*P	**Pn**	**16 19 23.3**	**+0.7**
WUSB	**Renai**	**2.09**	**16**	*e*P	**Pn**	**16 19 24.1**	**+1.2**
WCS	**Beigang Elemen**	**2.11**	**10**	*e*P	**Pn**	**16 19 24.1**	**+1.0**
ETM	**Tongmen**	**2.18**	**25**	*e*P	**Pn**	**16 19 24.4**	**+0.2**
LXIB	**Xiulin Townshi**	**2.20**	**22**	*e*P	**Pn**	**16 19 26.1**	**+1.5**
LXIB				*e*S	**Sn**	**16 19 52.5**	**+1.8**
WHP	**Taichung City**	**2.33**	**10**	*e*P	**Pn**	**16 19 27.5**	**+1.3**
NACB	**Ninganchiao**	**2.41**	**25**	P	**Pn**	**16 19 29.4**	**+2.2**
YHNB	**Yeheng**	**2.80**	**17**	P	**Pn**	**16 19 35.7**	**+3.0**
YOJ	**Yonaguni jima**	**3.39**	**43**	P	**Pn**	**16 19 43.5**	**+2.9**

IDC 07 16:21:37.8±1.7,28.′74S×64.′46W,h0km,mb3.6/1, mbtmp3.5/6,ML3.7/5,Error ellipse: s-maj=34.7km s-min=14.3km az=134.0
SJA 07 16:21:37.4±0.9,28.′54S×64.′67W,h20km±4km,ML4.1, MW4.0
ISC 07 16:21:38.2±0.9,28.′52S±0.′04×64.′66W±0.′06,h10km,n26, σ1°51/36,Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**1.01**	**274**	*e*P	**Pb**	**16 21 57.1**	**-0.8**
CYA				*e*S	**Sb**	**16 22 10.5**	**-0.8**
CYA				IAML		16 22 12.6	
	comp=Z,2μm,0.7s						
CYA				IAML		16 22 12.9	
	comp=Z,2μm,0.8s						
ACLC	**CERRO LA CRUZ**	**2.21**	**245**	*e*P	**Pn**	**16 22 15.3**	**+0.2**
ACLC				*e*S	**Sg**	**16 22 49.4**	**+0.2**
ACLC				IAML		16 22 54.0	
	comp=Z,459nm,0.4s						
APLL	**PUNTA DE LOS L**	**2.48**	**221**	*e*P	**Pn**	**16 22 19.0**	**+0.2**
APLL				*e*S	**Sn**	**16 22 49.4**	**+0.2**
FSA	**Cafayete**	**2.67**	**334**	*e*P	**Pn**	**16 22 20.8**	**-0.7**
FSA				*e*S	**Sn**	**16 22 53.6**	**-0.3**
VCA	**Vinchina**	**3.13**	**265**	*e*P	**Pn**	**16 22 28.9**	**+1.1**
VCA				*e*S	**Sb**	**16 23 09.4**	**-3.0**
VCA				IAML		16 23 21.6	
	comp=Z,363nm,1.2s						
ACHE	**Chepes**	**3.16**	**213**	*e*P	**Pn**	**16 22 28.6**	**+0.4**
ACHE				*e*S	**Sn**	**16 23 06.0**	**-0.1**
ACHE				*e*Sg	**Sg**	**16 23 17.2**	**-2.6**
AVFE	**Valle Fertil**	**3.24**	**228**	*e*P	**Pn**	**16 22 29.7**	**+0.5**
AVFE				*e*S	**Sn**	**16 23 08.2**	**+0.3**
AVFE				IAML		16 23 30.2	
	comp=Z,234nm,0.7s						
SLA	**San Lorenzo**	**3.85**	**348**	*e*P	**Pn**	**16 22 36.8**	**-1.0**
SLA				IAML		16 23 49.8	
	comp=Z,234nm,0.8s						
MRA	**San Martin**	**4.00**	**193**	*e*P	**Pn**	**16 22 39.9**	**+0.2**
MRA				IAML		16 23 58.0	
	comp=Z,506nm,0.5s						
ACDV	**Cuesta del Vie**	**4.23**	**246**	*e*P	**Pn**	**16 22 44.5**	**+1.6**
ACDV				IAML		16 23 59.3	
	comp=Z,80nm,0.9s						
AZAP	**Zapla**	**4.29**	**355**	*e*P	**Pn**	**16 22 41.5**	**-2.3**
AZAP				IAML		16 24 02.2	
	comp=Z,480nm,0.8s						
AC02	**Maricunga**	**4.30**	**292**	*e*P	**Pn**	**16 22 45.1**	**+0.8**
RTLL	**Cerro Villicun**	**4.34**	**229**	*e*P	**Pn**	**16 22 45.3**	**+1.0**
ACCO	**Cerro Coronel**	**4.36**	**241**	*e*P	**Pn**	**16 22 48.3**	**+3.4**
CFA	**Coronel Fontan**	**4.37**	**224**	Pn	**Pn**	**16 22 46.0**	**+1.3**
	comp=Z,1.7nm,0.3s,baz=60,slow=17,SNR=61						
CFA				Sn	**Sn**	**16 23 35.0**	**-0.8**
	comp=Z,5.1nm,0.3s,baz=45,slow=9.7,SNR=4.3						
CFA				Lg	Lg	16 23 54.9	
	comp=Z,7.6nm,0.3s,baz=218,slow=13,SNR=6.2						
	comp=Z,4.6nm,0.3s						
AROD	**Rodeo**	**4.51**	**247**	*e*P	**Pn**	**16 22 49.2**	**+2.2**
AROD				*e*S	**Sn**	**16 23 41.1**	**+1.4**
ZON	**Zonda**	**4.61**	**228**	*e*P	**Pn**	**16 22 49.9**	**+1.8**
ZON				IAML		16 24 20.9	
	comp=Z,129nm,0.4s						
ALOL	**LOMAS DE OLMED**	**4.72**	**8**	*e*P	Pn	16 22 54.5	+4.9
RTLS	**Leoncito**	**5.18**	**230**	*e*P	**Pn**	**16 22 57.5**	**+1.4**
RTLS				*e*S	**Sn**	**16 23 57.9**	**+1.7**
RTLS				IAML		16 24 35.7	
	comp=Z,366nm,1.1s						
ASAL	**Salagasta**	**5.43**	**221**	*e*P	**Pn**	**16 23 00.6**	**+1.2**
ASAL				*e*S	**Sn**	**16 24 04.8**	**+2.9**
ASAL				IAML		16 24 40.3	
	comp=Z,82nm,0.7s						
AAGR	**Agrelo**	**5.80**	**217**	*e*P	**Pn**	**16 23 05.7**	**+1.3**
AAGR				IAML		16 25 11.8	
	comp=Z,84nm,0.8s						
CPUP	**Villa Florida**	**6.87**	**73**	Pn	**Pn**	**16 23 19.3**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=253,slow=13,SNR=7.6						
CPUP				Lg	Lg	16 25 12.7	
	comp=Z,2.0nm,0.3s,baz=311,slow=14,SNR=2.9						
	comp=Z,2.6nm,0.6s						
LPAZ	**La Paz**	**12.59**	**345**	Pn	Pn	16 24 43.7	+5.7
	comp=Z,0.1nm,0.3s,baz=176,slow=11,SNR=1.3						
	comp=Z,0.7nm,0.8s						
SIV	**San Ignacio**	**12.90**	**16**	Pn	**Pn**	**16 24 44.0**	**+2.2**
	baz=145,slow=16,SNR=3.6						
SIV				Lg	Lg	16 28 32.3	
	baz=289,slow=22,SNR=1.8						
	comp=Z,0.7nm,0.6s						
PLCA	**Paso Flores**	**13.11**	**200**	Pn	**Pn**	**16 24 44.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=15,slow=15,SNR=8.9						
PLCA				Lg	Lg	16 28 29.1	
	comp=Z,0.1nm,0.3s,baz=122,slow=5.2,SNR=4.6						
	comp=Z,0.7nm,0.5s						
BDFB	**Brasilia**	**20.02**	**54**	P	**P**	**16 26 11.4**	**0.0**
	comp=Z,2.9nm,0.9s,baz=240,slow=16,SNR=3.8						
	comp=Z,2.9nm,0.9s						

IDC 07 16:30:49.1±2.9,13.′19N×91.′54W,h0km,mb3.8/4, mbtmp3.8/6,ML3.9/2,MS4.2/1,Error ellipse: s-maj=53.7km s-min=38.9km az=6.0
GCG 07 16:30:50.0±2.9,13.′28N×91.′61W,h0km±33km,MD4.6
NEIC 07 16:30:51.8±1.4,13.′30N±0.′05×91.′65W±0.′07,h10km±1km, mb4.2/19,Error ellipse: s-maj=11.7km s-min=8.9km az=92.0
MEX 07 16:30:54.5±1.3,13.′28N×92.′11W,h10km,MD4.0
SNET 07 16:30:57.0±0.9,14.′46N×91.′12W,h107km±33km,ML4.0
ISC 07 16:30:52.7±0.9,13.′24N±0.′07×91.′66W±0.′04,h28km,n79, σ2°28/95,mb4.2/13,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**1.17**	**74**	*i* P	**Pn**	**16 31 12.3**	**-0.9**
STG0	**El Palmar, Qui**	**1.22**	**15**	*i* P	**Pb**	**16 31 16.1**	**+0.8**
STG8	**El Palmar, Qui**	**1.24**	**14**	*e*P	**Pb**	**16 31 16.5**	**+0.9**
RTAL	**Retalhuleu**	**1.28**	**358**		**Pn**	**16 31 13.6**	**-1.1**
ESSG	**Sabana Grande**	**1.39**	**35**	*e*P	**Pn**	**16 31 14.9**	**-1.5**
ESSG				*e*S	**Sn**	**16 31 32.8**	**-1.0**
ESSG	**Sabana Grande**	**1.39**	**35**	*e*P	**Pn**	**16 31 15.3**	**-1.1**
ESSG				*e*S	**Sn**	**16 31 32.8**	**-1.0**
FG8	**Yepocapa, Chim**	**1.47**	**46**	*e*P	**Pn**	**16 31 15.2**	**-2.2**
FG8	**Yepocapa, Chim**	**1.47**	**46**	*e*P	**Pn**	**16 31 15.3**	**-2.2**
SOKI	**Kika Raxquin**	**1.59**	**9**	*e*P	**Pn**	**16 31 18.6**	**-0.7**
SOKI				*e*S	Sn	16 31 29.6	-10
SOKI	**Kika Raxquin**	**1.59**	**9**	*e*P	**Pn**	**16 31 18.6**	**-0.7**
SOKI				*e*S	Sn	16 31 29.6	-10
SOKI	**Kika Raxquin**	**1.59**	**9**	*e*P	**Pn**	**16 31 18.6**	**-0.7**
SOKI				*e*S	Sn	16 31 29.6	-10
GCG4	**OSOP**	**1.73**	**39**	*e*S	**Sb**	**16 31 48.0**	**+2.7**
THIG		**1.76**	**341**		**Pn**	**16 31 19.9**	**-1.4**
THIG					**Sn**	**16 31 40.1**	**-2.7**
THIG		**1.76**	**341**	*e*P	**Pn**	**16 31 19.9**	**-1.4**
THIG				*e*S	**Sn**	**16 31 40.1**	**-2.7**
NUBE	**Las Nubes**	**1.94**	**70**	*e*P	**Pn**	**16 31 22.8**	**-1.1**
NUBE				*e*S	**Sn**	**16 31 43.0**	**-4.6**
NUBE	**Las Nubes**	**1.94**	**70**	*e*P	**Pn**	**16 31 23.8**	**-0.2**
NUBE	**Las Nubes**	**1.94**	**70**	*e*P	**Pn**	**16 31 23.3**	**-0.6**
PATR	**El Naranjo**	**1.95**	**343**	*e*P	**Pn**	**16 31 22.5**	**-1.6**
PATR				*e*S	**Sn**	**16 31 43.7**	**-4.1**
**P

comp=Z,10nm,1.5s
YKA Yellowknife Ar 51.84 347 P P 16 39 58.1 +0.1
YKA Yellowknife Ar 51.84 347 P P 16 39 58.5 +0.4
comp=Z,0.7nm,0.9s,baz=150,slow=7.9,SNR=10
YKA PcP **PcP 16 41 12.9 +2.2**
comp=Z,0.3nm,0.8s,baz=155,slow=3.8,SNR=6.8
comp=Z,0.7nm,0.9s
PLCA Paso Flores 57.15 161 LR LR 16 59 50.0
comp=Z,176nm,18.7s,baz=48,slow=30
BCAR Beaver Creek A 60.86 336 P P 16 41 04.0 +1.5
L27K Beaver Creek, 60.88 336 P P 16 41 04.3 +1.7
INK Inuvik 61.26 344 P P 16 41 06.2 +1.2
F30M Barrier River 61.45 342 P P 16 41 07.5 +1.2
F30M IAmb IAmb 16 41 08.0
comp=Z,3.8nm,1.3s
ILAR Eielson Array 63.66 337 P P 16 41 22.6 +1.4
comp=Z,2.0nm,1.1s,baz=115,slow=4.6,SNR=11
comp=Z,2.0nm,1.1s
RND Reindeer 63.85 335 P P 16 41 23.7 +1.2
BMAR Burnt Mountain 64.12 340 P P 16 41 25.7 +1.6
TRF Thorofare Moun 64.46 335 P P 16 41 28.2 +1.6
F25K Christian Rive 64.55 340 P P 16 41 28.2 +1.2
F25K IAmb IAmb 16 41 29.6
comp=Z,1.3nm,1.0s
H21K Melozitna Rive 66.31 337 P P 16 41 39.1 +0.8
H21K IAmb IAmb 16 41 40.1
comp=Z,2.9nm,1.1s
H19K Roundabout Mou 67.69 336 P P 16 41 48.5 +1.4
D20K Etivluk River 68.75 339 P P 16 41 55.2 +1.5
D20K IAmb IAmb 16 41 56.2
comp=Z,2.4nm,0.8s

---

*BJI **07** 16:38:11.8, 6°.94S×156°.29E, h47km, mB5.0/6, mb4.7/22, Ms5.1/7, Ms7 4.9/7*
*NEIC **07** 16:38:14.1±1.3, 6°.94S±0°.09×155°.69E±0°.03, h35km±2km, mb4.8/55, Error ellipse: s-maj=15.8km s-min=3.7km az=189.0*
*IDC **07** 16:38:14.7±1.9, 7°.04S×155°.68E, h48km±18km, mb4.0/18, mbtmp4.3/21, ML4.2/2, MS3.9/2, Error ellipse: s-maj=14.3km s-min=12.7km az=35.0*
ISC 07 16:38:15.3±0.4, 7°.03S±0°.06×155°.67E±0°.06, h50km, n100, σ1§22/82, mb4.7/54, MS4.8/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.49**	**309**	Pn	**Pn**	**16 39 18.4**	**-2.4**
HNR	**Honiara**	**4.86**	**120**	Pn	**Pn**	**16 39 24.4**	**-1.5**
HNR	**Honiara**	**4.86**	**120**	P	**Pn**	**16 39 25.8**	**-0.1**
11nm,0.3s,baz=238,slow=5.6,SNR=6.1							
HNR				S	**Sn**	**16 40 20.3**	**-0.7**
121nm,0.5s,baz=222,slow=20,SNR=3.6							
HNR				LR	LR	16 41 28.5	
comp=Z,1μm,18.6s,baz=228,slow=40							
32nm,0.4s							
PMG	**Port Moresby**	**8.75**	**254**	Pn	**Pn**	**16 40 18.2**	**-1.1**
PMG	**Port Moresby**	**8.75**	**254**	P	**Pn**	**16 40 20.1**	**+0.8**
30nm,0.8s,baz=43,slow=10,SNR=10							
PMG				S	**Sn**	**16 41 55.0**	**-1.6**
24nm,0.8s,baz=104,slow=16,SNR=5.1							
DZM	**Mont Dzumac**	**18.21**	**146**		**P**	**16 42 24.8**	**+0.3**
DZM	**Mont Dzumac**	**18.21**	**146**	P	**P**	**16 42 24.4**	**0.0**
0.8nm,0.3s,baz=282,slow=11,SNR=8.2							
DZM				LR	LR	16 48 18.2	
comp=Z,270nm,18.4s,baz=305,slow=33							
3.8nm,0.5s							
FAKI	**Fak Fak**	**23.68**	**279**	P	**P**	**16 43 26.1**	**+3.4**
WB0	**Warramunga Arr**	**24.23**	**236**	P	**P**	**16 43 27.6**	**0.0**
WB0				IAmb	IAmb	16 43 37.4	
comp=Z,29nm,1.2s							
MSVF	**Nonsavu**	**24.28**	**118**	P	**P**	**16 43 29.3**	**+1.1**
WB2	**Warramunga Arr**	**24.34**	**236**	P	**P**	**16 43 28.4**	**-0.4**
WRA	**Warramunga Arr**	**24.35**	**236**	P	**P**	**16 43 28.1**	**-0.7**
comp=Z,4.8nm,1.0s,baz=60,slow=9.3,SNR=13							
WRA				PcP	**PcP**	**16 47 06.5**	**-1.0**
comp=Z,0.5nm,0.5s,baz=61,slow=2.6,SNR=4.8							
comp=Z,4.8nm,1.0s							
AS31	**Alice Springs**	**26.66**	**229**	P	**P**	**16 43 48.9**	**-0.8**
ASAR	**Alice Springs**	**26.66**	**229**	P	**P**	**16 43 49.4**	**-0.3**
ASAR	**Alice Springs**	**26.66**	**229**	P	**P**	**16 43 48.8**	**-0.9**
comp=Z,1.0nm,0.8s,baz=60,slow=9.5,SNR=13							
ASAR				PcP	**PcP**	**16 47 12.6**	**-0.2**
comp=Z,0.4nm,0.8s,baz=66,slow=2.9,SNR=4.8							
comp=Z,1.0nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**27.59**	**23**	T	T	17 12 21.2	
baz=203,slow=76,SNR=258							
H11S2	**WAKE ISLAND Hy**	**27.59**	**23**	T	T	17 12 20.4	
baz=203,slow=76,SNR=273							
H11S1	**WAKE ISLAND Hy**	**27.61**	**23**	T	T	17 12 20.4	
baz=203,slow=76,SNR=68							
KNRA	**Kununurra**	**27.72**	**250**	P	**P**	**16 43 58.6**	**-0.6**
STKA	**Stephens Creek**	**28.00**	**206**	P	**P**	**16 44 01.0**	**-0.5**
comp=Z,1.8nm,0.8s,baz=22,slow=13,SNR=2.9							
comp=Z,1.8nm,0.8s							
FITZ	**Fitzroy Crossi**	**31.25**	**247**	P	**P**	**16 44 29.7**	**-0.9**
MMRI	**Maumere**	**33.16**	**265**	P	**P**	**16 44 46.5**	**-0.8**
TAU	**Tasmania Unive**	**36.49**	**190**	P	**P**	**16 45 16.1**	**+0.4**
BKZ	**Black Stump Fm**	**37.09**	**153**	P	**P**	**16 45 21.0**	**+0.1**
TUWZ	**Tuamarina**	**37.92**	**157**	P	**P**	**16 45 28.9**	**+1.0**
KKM	**Kota Kinabalu**	**41.46**	**287**	P	**P**	**16 45 57.7**	**-0.1**
KKM				IAmb	IAmb	16 46 05.9	
comp=Z,16nm,1.1s							
MJAR	**Matsushiro Arr**	**46.33**	**340**	P	**P**	**16 46 35.0**	**-1.4**
comp=Z,0.9nm,0.6s,baz=171,slow=7.7,SNR=7.5							
comp=Z,0.9nm,0.6s							
MAJO	**Matsushiro**	**46.33**	**340**	P	**P**	**16 46 35.2**	**-1.3**
MAJO	**Matsushiro**	**46.33**	**340**	P	**P**	**16 46 36.5**	**+0.1**
KSRS	**Korea Array**	**51.28**	**332**	P	**P**	**16 47 13.9**	**-0.4**
comp=Z,1.3nm,0.7s,baz=148,slow=8.5,SNR=5.0							
comp=Z,1.3nm,0.7s							
QIZ	**Qiongzhong**	**52.05**	**301**	P	**P**	**16 47 21.3**	**+0.8**
NJ2	**Nanjing**	**52.37**	**320**	*e*P	**P**	**16 47 24.7**	**+2.1**
NJ2				pmax	pmax		
comp=Z,24nm,0.5s							
YSS	**Yuzhno-Sakhali**	**54.95**	**349**	P	**P**	**16 47 42.2**	**+1.0**
USRK	**Ussuriysk Ar.**	**55.29**	**339**	P	**P**	**16 47 43.6**	**-0.1**
comp=Z,2.1nm,0.7s,baz=146,slow=8.6,SNR=8.7							
comp=Z,2.1nm,0.7s							
PET	**Petropavlovsk**	**59.87**	**2**	P	**P**	**16 48 16.2**	**+0.5**
PEA0B	**Petropavlovsk-**	**59.93**	**1**	P	**P**	**16 48 16.8**	**+0.7**
PETK	**Petropavlovsk-**	**59.93**	**1**	P	**P**	**16 48 14.9**	**-1.2**
PETK	**Petropavlovsk-**	**59.93**	**1**	P	**P**	**16 48 16.5**	**+0.4**
comp=Z,4.6nm,0.8s,baz=150,slow=7.3,SNR=11							
comp=Z,4.6nm,0.8s							
XAN	**Xi'an**	**60.20**	**316**	P	**P**	**16 48 17.6**	**-0.8**
XAN				pmax	pmax		
comp=Z,10.0nm,0.6s							
CRAI	**Chiangrai**	**60.73**	**298**	P	**P**	**16 48 22.7**	**+0.4**
CRAI				IAmb	IAmb	16 48 23.7	
comp=Z,7.5nm,0.8s							
CM31	**Chiang Mai Arr**	**61.41**	**295**	P	**P**	**16 48 27.4**	**+0.5**
CM31				IAmb	IAmb	16 48 28.4	
comp=Z,8.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**61.41**	**295**	P	**P**	**16 48 26.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**61.41**	**295**	P	**P**	**16 48 27.6**	**+0.7**
comp=Z,5.7nm,0.8s,baz=117,slow=5.3,SNR=42							
comp=Z,5.7nm,0.8s							
CHTO	**Chiang Mai**	**61.52**	**296**	P	**P**	**16 48 27.9**	**+0.2**
CHTO				IAmb	IAmb	16 48 28.8	
comp=Z,12nm,1.2s							
CHTO	**Chiang Mai**	**61.52**	**296**	P	**P**	**16 48 28.0**	**+0.3**
PZH	**PanZhiHua**	**61.98**	**305**	P	**P**	**16 48 33.7**	**+2.9**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,110nm,5.2s							
XLT	**XiLinHaoTe**	**62.03**	**329**	*e*P	**P**	**16 48 31.4**	**+0.7**
XLT				pmax	pmax		
comp=Z,8.0nm,0.9s							
XLT				LR	LR		
comp=Z,370nm,17.4s							
XLT				LR	LR		
comp=Z,340nm,18.3s							
HEH	**HeiHe**	**62.09**	**340**	*e*P	**P**	**16 48 28.4**	**-2.5**
HEH				pmax	pmax		
comp=Z,4.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**62.52**	**323**	*e*P	**P**	**16 48 37.3**	**+3.2**
HHC				pmax	pmax		
comp=Z,14nm,0.7s							
TNCH	**TengChong**	**64.07**	**302**	*e*P	**P**	**16 48 47.0**	**+2.3**
TNCH				pmax	pmax		
comp=Z,13nm,0.7s							
TNCH				pmax	pmax		
comp=Z,95nm,5.1s							

TNCH LR LR
comp=Z,220nm,18.6s
TNCH LR LR
comp=Z,220nm,15.8s
TNCH LR LR
comp=Z,710nm,21.4s
LZH Lanzhou 64.81 315 *e*P **P 16 48 53.1 +3.8**
LZH pP pP 16 49 03.6 +0.2
LZH pmax pmax
comp=Z,32nm,1.4s
GTA Gaotai 69.22 317 *e*P **P 16 49 18.3 +1.0**
GTA pmax pmax
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 69.39 327 P **P 16 49 16.8 -1.4**
SONM Songino Array 69.73 327 P **P 16 49 20.1 -0.1**
SONM Songino Array 69.73 327 P **P 16 49 20.8 +0.6**
comp=Z,4.0nm,0.8s,baz=137,slow=6.5,SNR=23
comp=Z,4.0nm,0.8s
CCD Concordia, Ant 70.47 188 P **P 16 49 24.5 -0.2**
VNDA Vanda 70.53 179 P **P 16 49 25.0 +0.5**
comp=Z,1.3nm,0.8s,baz=315,slow=5.3,SNR=6.7
comp=Z,1.3nm,0.8s
VNDA Vanda 70.53 179 P **P 16 49 24.9 +0.4**
BILL Biiibino 75.26 4 P **P 16 49 53.1 +0.5**
BILL IAmb IAmb 16 49 54.9
comp=Z,4.8nm,0.7s
WMQ Urumqi 79.31 317 *e*P **P 16 50 17.6 +1.8**
WMQ LR LR
comp=Z,720nm,22.9s
WMQ LR LR
comp=Z,730nm,18.7s
WMQ LR LR
comp=Z,700nm,22.9s
TIXI Tiksi 80.48 352 P **P 16 50 21.7 +0.2**
CAST Castle Rocks 80.51 21 P **P 16 50 21.3 -0.5**
E19K Redstone River 81.47 17 IAmb IAmb 16 50 28.6
comp=Z,5.7nm,0.8s
F20K Avaraart Lake 81.63 17 P **P 16 50 28.0 +0.4**
F20K IAmb IAmb 16 50 30.2
comp=Z,15nm,1.9s
MCK McKinley 81.84 22 P **P 16 50 28.1 -0.8**
MCK IAmb IAmb 16 50 29.6
comp=Z,6.7nm,0.8s
G21K Allakaket 81.95 18 IAmb IAmb 16 50 37.0
comp=Z,16nm,1.8s
D20K Etivluk River 82.49 16 IAmb IAmb 16 50 33.8
comp=Z,17nm,1.6s
QSPA South Pole Qui 82.95 180 P **P 16 50 34.5 -0.3**
comp=Z,4.8nm,0.7s,baz=323,slow=0.8,SNR=32
comp=Z,4.8nm,0.7s
ILAR Eielson Array 83.16 21 P **P 16 50 34.6 -1.1**
comp=Z,0.9nm,0.5s,baz=249,slow=4.8,SNR=25
comp=Z,0.9nm,0.5s
B20K Meade River 83.22 15 IAmb IAmb 16 50 37.3
comp=Z,12nm,1.3s
B21K Ikpikpuk River 83.63 16 IAmb IAmb 16 50 39.8
comp=Z,11nm,1.4s
J25K Salcha River, 83.63 22 P **P 16 50 38.0 -0.3**
J25K IAmb IAmb 16 50 39.1
comp=Z,15nm,1.4s
D22K Ayikyak River 83.69 17 IAmb IAmb 16 50 40.3
comp=Z,5.7nm,0.6s
MKAR Makanchi Array 83.87 319 P **P 16 50 39.2 -0.7**
MKAR Makanchi Array 83.87 319 P **P 16 50 39.6 -0.2**
comp=Z,1.8nm,0.7s,baz=99,slow=5.6,SNR=22
comp=Z,1.8nm,0.7s
M27K Edge Creek, AK 83.88 25 IAmb IAmb 16 50 41.5
comp=Z,8.4nm,1.1s
MAKZ Makanchi 84.08 318 P **P 16 50 40.2 -0.6**
D23K Nanushuk River 84.31 17 IAmb IAmb 16 50 43.7
comp=Z,5.9nm,0.8s
F24K Squaw Lake 84.33 19 IAmb IAmb 16 53 06.3
comp=Z,11nm,1.7s
TOLK Toolik Lake Re 84.45 17 IAmb IAmb 16 50 51.1
comp=Z,13nm,1.8s
ZALV Zalesovo Beam 84.58 326 P **P 16 50 42.4 -0.8**
comp=Z,1.4nm,0.5s,baz=123,slow=5.8,SNR=6.7
comp=Z,1.4nm,0.5s
D24K Happy Valley 84.97 17 IAmb IAmb 16 52 39.4
comp=Z,15nm,1.8s
C24K Franklin Bluff 85.33 17 IAmb IAmb 16 50 48.4
comp=Z,4.4nm,0.7s
G26K Porcupine Rive 85.38 20 IAmb IAmb 16 50 48.9
comp=Z,3.8nm,0.8s
E27K Coleen River 86.72 19 IAmb IAmb 16 50 55.5
comp=Z,3.9nm,0.8s
C27K Jago River 86.75 18 IAmb IAmb 16 50 55.6
comp=Z,4.3nm,0.8s
KURBB Kurchatov Arra 87.31 322 P **P 16 50 54.8 -1.9**
comp=Z,1.3nm,0.2s,baz=104,slow=4.6,SNR=2.3
comp=Z,1.3nm,0.2s
D27M Malcolm River 87.42 19 IAmb IAmb 16 50 59.0
comp=Z,6.3nm,0.8s
F30M Barrier River 88.46 21 IAmb IAmb 16 51 03.4
comp=Z,7.2nm,0.9s
NRIK Noril'sk 88.99 341 IAmb IAmb 16 51 04.3
comp=Z,5.6nm,0.8s
NRIK Noril'sk 88.99 341 P **P 16 51 03.0 -1.3**
comp=Z,4.8nm,0.7s,baz=114,slow=4.5,SNR=15
comp=Z,4.8nm,0.7s
BVAR Borovoye Array 92.73 323 P **P 16 51 20.9 -1.1**
comp=Z,0.6nm,0.6s,baz=103,slow=4.7,SNR=4.6
comp=Z,0.6nm,0.6s
C36M Paulatuk 93.10 20 IAmb IAmb 16 51 24.0
comp=Z,4.1nm,0.7s
YKA Yellowknife Ar 96.05 28 P **P 16 51 37.2 +0.2**
comp=Z,0.7nm,0.8s,baz=266,slow=4.6,SNR=12
comp=Z,0.7nm,0.8s
KOLS Kolonicke sedl 122.76 325 *e*PKP **PKPdf 16 57 05.6 -0.2**
VYHS Vyhne 124.91 326 *e*PKP **PKPdf 16 57 07.2 -2.8**
CLL Collm 126.16 332 *i* PKPdf **PKPdf 16 57 12.7 +0.5**
CLL AMS AMS 17 55 00.0
comp=Z,300nm,18.3s
GERES GERESS Array B 127.42 329 PKP **PKPdf 16 57 15.2 +0.3**
comp=Z,0.6nm,0.7s,baz=35,slow=3.3,SNR=6.3
LPAZ La Paz 130.85 118 PKP **PKPdf 16 57 23.0 0.0**
comp=Z,1.3nm,0.9s,baz=353,slow=1.7,SNR=3.7
BDFB Brasilia 147.48 134 PKPbc **PKPdf 16 57 52.9 +0.5**
comp=Z,7.3nm,0.9s,baz=214,slow=3.2,SNR=11

---

*NEIC **07** 16:50:13.3±1.4, 6°.78S±0°.07×103°.24E±0°.09, h10km±1km, mb4.6/27, Error ellipse: s-maj=17.3km s-min=9.9km az=238.0*
*DJA **07** 16:50:16.2±1.5, 7°.5±3°×10°3E±°, h28km±16km, M4.6/19, mB5.2/2, mb4.7/12, MLv4.5/19, Mw(mB)4.6/2*
*IDC **07** 16:50:20.3±0.8, 6°.33S×103°.62E, h45km±5km, mb4.1/19, mbtmp4.4/20, ML3.9/1, Error ellipse: s-maj=22.3km s-min=9.4km az=38.0*
ISC 07 16:50:17.4±0.5, 6°.64S±0°.06×103°.43E±0°.06, h35km, n113, σ1§41/113, mb4.6/43, MS4.5/4, 2C, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.73**	**21**	P	**Pn**	**16 50 43.5**	**-1.6**
BLSI	**Bandar Lampung**	**2.20**	**55**	P	**Pn**	**16 50 49.7**	**-1.8**
CGJI	**Cibinong**	**2.25**	**90**	P	**Pn**	**16 50 51.6**	**-0.5**
MDSI	**Maura Dua**	**2.26**	**19**	P	**Pn**	**16 50 51.2**	**-1.2**
MDSI				S	**Sn**	**16 51 19.3**	**+0.2**
MNAI	**Manna**	**2.31**	**348**	Pn	**Pn**	**16 50 52.9**	**-0.2**
MNAI	**Manna**	**2.31**	**348**	P	**Pn**	**16 50 52.7**	**-0.3**
MNAI	**Manna**	**2.31**	**348**	P	**Pn**	**16 50 52.7**	**-0.3**
SBJI	**Serang**	**2.73**	**79**	P	**Pn**	**16 50 58.1**	**-0.7**
KSI	**Kapahiang**	**3.08**	**344**	P	**Pn**	**16 51 03.8**	**+0.1**
SKJI	**Sukabumi**	**3.13**	**97**	P	**Pn**	**16 51 04.3**	**+0.1**
CNJI	**Cibinong**	**3.73**	**101**	P	**Pn**	**16 51 11.7**	**-0.9**
LEM	**Lembang**	**4.16**	**93**	P	**Pn**	**16 51 20.2**	**+1.5**
8.3nm,0.3s,baz=191,slow=9.9,SNR=14							
LEM				S	**Sn**	**16 52 06.1**	**-0.1**
91nm,0.8s,baz=2.2,slow=23,SNR=3.9							
40nm,0.5s							
LEM	**Lembang**	**4.16**	**93**	P	**Pn**	**16 51 18.4**	**-0.2**
BBJI	**Bungbulang**	**4.27**	**101**	P	**Pn**	**16 51 19.2**	**-0.8**
XMI	**Christmas Isla**	**4.40**	**150**	P	**Pn**	**16 51 20.2**	**-1.5**
XMIS	**Christmas Isla**	**4.41**	**150**	Pn	**Pn**	**16 51 20.2**	**-1.7**
XMIS	**Christmas Isla**	**4.41**	**150**	P	**Pn**	**16 51 20.1**	**-1.7**
CMJI	**Cimerak**	**5.11**	**103**	P	**Pn**	**16 51 30.8**	**-0.7**
0.5nm2μm105nm,0.9s							
PPSI	**Pulau Pagai**	**5.14**	**318**	P	**Pn**	**16 51 32.2**	**+0.2**
PPBI	**Pangkal Pinang**	**5.20**	**31**	P	**Pn**	**16 51 32.1**	**-0.7**
TPI	**Tanjungpandan**	**5.71**	**48**	P	**Pn**	**16 51 38.6**	**-1.1**
13nm,0.6s							
SISI	**Saibi**	**6.83**	**320**	P	**Pn**	**16 51 55.4**	**+0.3**
0.2nm37nm,0.7s							

YOGI Yogyakarta 6.91 100 P **Pn 16 51 55.8 -0.5**
0.4nm71nm,1.4s
UGM Wanagama 7.15 101 Pn 16 52 00.3 +0.7
UGM Wanagama 7.15 101 P **Pn 16 51 59.0 -0.6**
UGM Wanagama 7.15 101 P **Pn 16 52 00.1 +0.5**
80nm,0.9s
PCJI Pacitan 7.84 102 P **Pn 16 52 09.3 +0.3**
0.3nm74nm,1.1s
PBSI Pulau Batu 8.32 322 P **Pn 16 52 15.4 -0.2**
94nm,1.2s
MYKOM Kota Tinggi 8.38 3 Pn **Pn 16 52 16.8 +0.3**
GSI Gunungsitoli 9.82 323 Pn **Pn 16 52 34.8 -1.5**
GSI Gunungsitoli 9.82 323 P **Pn 16 52 35.3 -0.9**
GSI Gunungsitoli 9.82 323 P **Pn 16 52 34.7 -1.5**
14nm,0.5s
GMJI Gumukmas 10.06 100 P **Pn 16 52 40.4 +0.9**
29nm,1.0s
JAGI Jajag, Banyuwa 10.78 100 Pn **Pn 16 52 49.2 -0.3**
JAGI Jajag, Banyuwa 10.78 100 P **Pn 16 52 49.0 -0.4**
JAGI Jajag, Banyuwa 10.78 100 P **Pn 16 52 48.3 -1.1**
MMRI Maumere 18.75 97 P **P 16 54 32.3 -1.2**
MMRI IAmb IAmb 16 54 55.8
comp=Z,57nm,1.0s
TOLI2 Tolitoli 18.95 67 P **P 16 54 34.6 -1.1**
TOLI2 IAmb IAmb 16 54 35.8
comp=Z,15nm,0.7s
MYLDM Lahad Datu 19.08 52 P **P 16 54 36.4 -0.7**
SOEI Soe 20.85 100 P **P 16 54 55.9 -0.7**
UBPT Khong Chiam 21.87 5 P **P 16 55 03.9 -3.4**
FITZ Fitzroy Crossi 24.47 120 P **P 16 55 35.3 +2.0**
comp=Z,5.3nm,1.0s,baz=278,slow=10,SNR=2.5
comp=Z,5.3nm,1.0s
CM31 Chiang Mai Arr 25.33 350 P **P 16 55 40.7 -0.4**
CM31 IAmb IAmb 16 55 41.8
comp=Z,14nm,0.7s
CMAR Chiang Mai Arr 25.33 350 P **P 16 55 40.0 -1.1**
comp=Z,10.0nm,0.7s,baz=182,slow=9.0,SNR=78
CMAR PcP **PcP 16 59 16.3 +2.7**
comp=Z,0.1nm,0.3s,baz=185,slow=3.6,SNR=4.1
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 25.68 350 P **P 16 55 43.4 -0.9**
CHTO IAmb IAmb 16 55 45.0
comp=Z,5.4nm,0.7s
KNRA Kununurra 26.40 112 P **P 16 55 50.4 -0.5**
KNRA IAmb IAmb 16 56 16.9
comp=Z,12nm,0.9s
CRAI Chiangrai 26.87 354 P **P 16 55 53.7 -1.3**
H01W3 Cape Leeuwin H 29.79 162 T T 17 27 41.7
baz=339,slow=76,SNR=11
H01W2 Cape Leeuwin H 29.80 162 T T 17 27 42.3
baz=339,slow=76,SNR=14
H01W1 Cape Leeuwin H 29.81 162 T T 17 27 43.1
baz=339,slow=76,SNR=13
H08S2 Diego Garcia H 30.71 266 T T 17 29 00.8
baz=90,slow=75,SNR=51
H08S3 Diego Garcia H 30.72 266 T T 17 28 59.7
baz=90,slow=75,SNR=51
H08S1 Diego Carcia H 30.73 266 T T 17 29 02.3
baz=90,slow=75,SNR=43
TNCH TengChong 31.84 352 P **P 16 56 42.5 +3.2**
TNCH S **S 17 01 43.6 -4.2**
TNCH pmax pmax
comp=Z,14nm,0.5s
TNCH pmax pmax
comp=Z,73nm,3.2s
TNCH LR LR
comp=N,290nm,20.5s
TNCH LR LR
comp=E,160nm,21.2s
TNCH LR LR
comp=Z,730nm,22.5s
WRA Warramunga Arr 32.78 117 P **P 16 56 48.6 +1.1**
comp=Z,3.0nm,0.7s,baz=287,slow=12,SNR=16
WRA pP **sP 16 56 58.7 -2.5**
comp=Z,0.9nm,0.6s,baz=303,slow=9.0,SNR=3.6
comp=Z,3.0nm,0.7s
WB2 Warramunga Arr 32.79 117 P **P 16 56 48.2 +0.6**
WR0 Warramunga Arr 32.96 117 P **P 16 56 50.2 +1.1**
WR0 IAmb IAmb 16 57 32.8
comp=Z,12nm,1.4s
PZH PanZhiHua 32.98 357 P **P 16 56 52.3 +3.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.7s
ASAR Alice Springs 33.81 123 P **P 16 56 57.8 +1.3**
ASAR Alice Springs 33.81 123 P **P 16 56 58.1 +1.6**
comp=Z,2.3nm,0.8s,baz=301,slow=8.1,SNR=47
comp=Z,2.3nm,0.8s
AS31 Alice Springs 33.82 123 P **P 16 56 58.0 +1.4**
SHL Shillong 33.92 341 P **P 16 56 57.0 -0.6**
SHL IAmb IAmb 16 56 57.6
comp=Z,6.8nm,0.6s
XAN Xi'an 40.79 7 ⇑P **P 16 57 54.6 -0.9**
XAN S **S 17 04 09.3 +5.2**
XAN pmax pmax
comp=Z,12nm,0.7s
XAN pmax pmax
comp=Z,170nm,5.1s
NJ2 Nanjing 41.19 20 *e*P **P 16 58 01.4 +2.7**
NJ2 pmax pmax
comp=Z,26nm,0.5s
LZH Lanzhou 42.50 0 *e*P P 16 58 14.0 +4.4
LZH pP sP 16 58 24.2 +0.6
LZH pmax pmax
comp=Z,15nm,1.3s
PMG Port Moresby 43.37 97 P **P 16 58 16.7 -0.2**
PMG IAmb IAmb 16 58 17.8
comp=Z,11nm,0.7s
PMG Port Moresby 43.37 97 P **P 16 58 16.6 -0.2**
comp=Z,11nm,0.6s,baz=194,slow=4.1,SNR=7.3
comp=Z,11nm,0.6s
GOMU GeErMu 43.37 350 P **P 16 58 16.6 -0.3**
GOMU pmax pmax
comp=Z,6.0nm,0.6s
STKA Stephens Creek 43.55 130 P **P 16 58 20.1 +2.1**
comp=Z,4.2nm,0.5s,baz=304,slow=7.1,SNR=19
STKA pP **sP 16 58 32.8 +1.1**
comp=Z,5.3nm,0.5s,baz=296,slow=8.4,SNR=6.0
comp=Z,4.2nm,0.5s
GTA Gaotai 45.94 356 *e*P **P 16 58 38.0 +0.9**
GTA pP pP 16 58 43.9 -3.2
GTA pmax pmax
comp=Z,5.0nm,0.8s
HHC Hu-ho-hao-te 47.84 8 *e*P **P 16 58 54.9 +3.0**
HHC pmax pmax
comp=Z,18nm,0.6s
KSAR Wonju Array Be 49.44 26 P **P 16 59 04.0 -0.1**
KSRS Korea Array 49.47 26 P **P 16 59 03.5 -0.7**
comp=Z,3.4nm,0.7s,baz=222,slow=7.8,SNR=14
comp=Z,3.4nm,0.7s
XLT XiLinHaoTe 51.59 12 *e*P **P 16 59 18.9 -1.4**
XLT pmax pmax
comp=Z,10.0nm,0.9s
XLT LR LR
comp=N,22nm,17.9s
XLT LR LR
comp=E,270nm,18.9s
XLT LR LR
comp=Z,340nm,19.6s
WMQ Urumqi 52.20 346 *e*P **P 16 59 26.2 +1.3**
WMQ pP pP 16 59 31.9 -3.1
WMQ sP sP 16 59 36.4 -2.6
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ LR LR
comp=N,510nm,19.1s
WMQ LR LR
comp=E,650nm,22.5s
WMQ LR LR
comp=Z,700nm,20.1s
KSH Kashi 52.48 333 P **P 16 59 26.7 -0.4**
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH LR LR
comp=N,890nm,22.7s
KSH LR LR
comp=E,570nm,22.7s
KSH LR LR
comp=Z,900nm,26.8s
MJAR Matsushiro Arr 53.91 35 P **P 16 59 35.3 -2.2**
comp=Z,1.6nm,0.6s,baz=208,slow=7.6,SNR=8.3
comp=Z,1.6nm,0.6s
KDJ Kajisay 54.13 336 P **P 16 59 40.2 +1.0**
SONM Songino Array 54.30 2 P **P 16 59 40.4 +0.1**
SONM IAmb IAmb 16 59 41.5

comp=Z,5.7nm,0.9s
SONM Songino Array 54.30 2 P P 16 59 40.8 +0.5
comp=Z,4.4nm,0.7s,baz=181,slow=9.3,SNR=41
SONM pP sP 16 59 53.1 -1.4
comp=Z,2.6nm,0.9s,baz=183,slow=6.9,SNR=6.5
comp=Z,4.4nm,0.7s
ARSB Arslanbob 55.29 332 P P 16 59 46.4 -1.2
ARSB IAmb IAmb 17 00 04.2
comp=Z,10.0nm,1.3s
BNX BinXian 56.38 20 ⇑P P 16 59 54.8 -0.4
BNX pmax pmax
comp=Z,12nm,0.7s
MK31 Makanchi Array 56.42 343 P P 16 59 55.1 -0.3
MK31 IAmb IAmb 16 59 57.6
comp=Z,3.1nm,0.7s
MKAR Makanchi Array 56.42 343 P P 16 59 55.1 -0.3
MKAR Makanchi Array 56.42 343 P P 16 59 55.8 +0.3
comp=Z,5.6nm,0.7s,baz=149,slow=7.8,SNR=42
MKAR pP sP 17 00 09.6 +0.2
comp=Z,1.7nm,0.6s,baz=147,slow=8.3,SNR=6.9
comp=Z,5.6nm,0.7s
USA0B Ussuriysk Arra 56.78 24 P P 16 59 56.8 -1.3
USRK Ussuriysk Ar. 56.78 24 P P 16 59 57.0 -1.1
comp=Z,10.0nm,0.7s,baz=210,slow=6.1,SNR=33
USRK pP pwP 17 00 10.2 -0.2
comp=Z,3.1nm,0.7s,baz=222,slow=7.4,SNR=4.8
comp=Z,10.0nm,0.7s
H04N2 CROZET ISLANDS 59.26 219 T T 18 04 44.0
baz=64,slow=75,SNR=1274
H04N1 CROZET ISLANDS 59.27 219 T T 18 04 44.4
baz=64,slow=75,SNR=1064
H04N3 CROZET ISLANDS 59.28 219 T T 18 04 43.0
baz=64,slow=75,SNR=1501
H04S1 CROZET ISLANDS 59.48 219 T T 18 04 58.6
baz=63,slow=75,SNR=53
H04S3 CROZET ISLANDS 59.49 219 T T 18 04 57.8
baz=63,slow=75,SNR=141
H04S2 CROZET ISLANDS 59.50 219 T T 18 04 59.4
baz=63,slow=75,SNR=65
HEH HeiHe 60.36 17 *eP* **P 17 00 21.5 -1.3**
HEH pmax pmax
comp=Z,10.0nm,0.7s
KURBB Kurchatov Arra 60.96 342 P P 17 00 27.0 +0.1
comp=Z,1.4nm,0.5s,baz=160,slow=6.0,SNR=6.8
KURBB pP pwP 17 00 38.8 -0.5
comp=Z,1.3nm,0.7s,baz=159,slow=6.1,SNR=3.7
comp=Z,1.4nm,0.5s
KURK Kurchatov 61.02 342 P P 17 00 26.6 -0.7
KURK IAmb IAmb 17 00 43.4
comp=Z,4.0nm,0.9s
ZAA0 Zalesovo Array 62.36 348 P P 17 00 35.6 -0.7
ZALV Zalesovo Beam 62.36 348 P P 17 00 35.8 -0.5
ZALV Zalesovo Beam 62.36 348 P P 17 00 36.3 0.0
comp=Z,3.9nm,0.4s,baz=159,slow=4.9,SNR=25
ZALV pP pwP 17 00 48.0 -0.8
comp=Z,2.5nm,0.4s,baz=163,slow=7.1,SNR=5.5
comp=Z,3.9nm,0.4s
BVAR Borovoye Array 65.70 339 P P 17 00 58.6 +0.3
comp=Z,4.8nm,0.6s,baz=142,slow=8.8,SNR=38
BVAR pP pwP 17 01 10.8 0.0
comp=Z,1.4nm,0.6s,baz=141,slow=9.5,SNR=4.9
comp=Z,4.8nm,0.6s
BRVK Borovoye 65.77 339 P P 17 00 58.7 -0.1
BRVK IAmb IAmb 17 00 59.8
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 67.33 331 P P 17 01 08.7 -0.1
ABKAR IAmb IAmb 17 01 13.9
comp=Z,4.5nm,0.7s
ARTI Arti 72.85 336 P P 17 01 42.7 +0.2
ARTI IAmb IAmb 17 01 44.3
comp=Z,4.4nm,0.7s
KBZ Khabaz 74.03 319 P P 17 01 51.5 +1.9
comp=Z,3.0nm,0.9s,baz=167,slow=5.7,SNR=12
comp=Z,3.0nm,0.9s
NRIK Noril'sk 76.60 354 P P 17 02 03.4 -0.5
NRIK Noril'sk 76.60 354 P P 17 02 03.3 -0.6
comp=Z,1.4nm,0.3s,baz=176,slow=2.4,SNR=6.1
comp=Z,1.4nm,0.3s
BRTR Keskin Array B 78.96 312 P P 17 02 19.4 +1.5
comp=Z,0.5nm,0.6s,baz=148,slow=7.3,SNR=4.8
comp=Z,0.5nm,0.6s
TIXI Tiksi 79.91 8 P P 17 02 20.6 -1.6
ALN Alexandroupoli 84.86 312 P P 17 02 47.0 -1.7
AKASG Malin Array B 85.22 322 P P 17 02 50.5 +0.1
comp=Z,0.2nm,0.4s,baz=84,slow=5.1,SNR=7.7
comp=Z,0.2nm,0.4s
KOLS Kolonicke sedl 89.18 319 *eP* **P 17 03 13.5 +4.0**
FINES FINESS Array B 89.78 332 P P 17 03 12.2 +0.2
comp=Z,1.7nm,0.8s,baz=100,slow=7.9,SNR=5.0
comp=Z,1.7nm,0.8s
TXAR Lajitas Array 145.91 45 PKPbc **PKiKP 17 09 55.6 -2.0**
comp=Z,3.6nm,0.7s,baz=296,slow=1.4,SNR=41

*NAO **07** 17:12:21.8±1.8, 77°.55N×7°.52E, ML2.6*
*KOLA **07** 17:12:25.1, 77°.54N×9°.28E, h0km, ML2.0, Greenland sea*
BER 07 17:12:23.7±5.5, 77°.59N×8°.11E, h10km, mb(Pn)3.4, ML2.6(NAO), Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBA	**Barentsburg A**	**1.38**	**67**	*eP*	Pg	17 12 50.0	-0.2
BRBA				*eSg*	Sb	17 13 06.0	-1.1
BRBB	**Barentsburg B**	**1.39**	**65**	P	Pb	17 12 49.8	+0.1
BRBB				S	Sb	17 13 04.9	-2.5
BRBB	**Barentsburg B**	**1.39**	**65**	P	Pb	17 12 49.8	+0.1
BRBB				S	Sb	17 13 05.2	-2.3
BRBB	**Barentsburg B**	**1.39**	**65**	*eP*	Pb	17 12 49.9	+0.3
BRBB				*eSg*	Sb	17 13 06.1	-1.3
KBS	**Kingsbay**	**1.56**	**28**	Pn	Pn	17 12 51.6	+0.2
KBS				Sn	Sn	17 13 09.6	-2.1
KBS	**Kingsbay**	**1.56**	**28**	P	Pb	17 12 52.5	0.0
KBS				S	Sn	17 13 08.6	-3.0
KBS	**Kingsbay**	**1.56**	**28**	Pn	Pn	17 12 51.6	+0.2
KBS				Sn	Sn	17 13 09.6	-2.1
HSPB	**Hornsund (broa**	**1.74**	**106**	Pn	Pn	17 12 53.9	0.0
HSPB				Sn	Sn	17 13 14.4	-1.8
HSPB	**Hornsund (broa**	**1.74**	**106**	P	Pn	17 12 53.8	-0.2
HSPB				S	Sn	17 13 07.8	-8.3
HSPB	**Hornsund (broa**	**1.74**	**106**	P	Pn	17 12 54.0	0.0
HSPB				S	Sn	17 13 13.0	-3.1
HSPB	**Hornsund (broa**	**1.74**	**106**	*eP*	Pn	17 12 54.2	+0.3
HSPB				*eS*	Sn	17 13 09.4	-6.7
HSPB				*eSg*	Sb	17 13 14.4	-3.2
HSPB				IAML		17 13 16.0	
	comp=Z,14nm,0.1s						
SPA0	**Spitsbergen Ar**	**1.84**	**67**	Pn	Pb	17 12 57.3	-0.1
	baz=236,slow=14						
SPA0				Sn	Sn	17 13 19.0	+0.3
	baz=241,slow=22						
SPA0	**Spitsbergen Ar**	**1.84**	**67**	Pn	Pb	17 12 57.3	-0.1
	baz=236,slow=14						
SPA0				Sn	Sn	17 13 19.0	+0.3
	baz=241,slow=22						
SPA0				*eSg*	Sb	17 13 20.2	-0.3
SPITS	**Spitsbergen Ar**	**1.84**	**67**	P	Pb	17 12 57.3	-0.1
SPITS				S	Sn	17 13 18.7	+0.1
SPITS	**Spitsbergen Ar**	**1.84**	**67**	P	Pn	17 12 55.9	+0.6
SPITS				S	Sn	17 13 19.2	+0.6
HOPEN	**Hopen**	**3.95**	**98**	Pn	Pn	17 13 25.9	+1.7
HOPEN				Sn	Sn	17 14 08.4	-2.0
HOPEN	**Hopen**	**3.95**	**98**	*eP*	Pn	17 13 25.9	+1.7
HOPEN				*eS*	Sn	17 14 08.4	-2.0
HOPEN				IAML		17 14 25.5	
	comp=Z,7.0nm,0.4s						
NOR	**Nord**	**5.97**	**324**	Pn	Pn	17 13 50.8	-1.1
NOR				Sn	Sn	17 14 56.1	-3.9
NOR	**Nord**	**5.97**	**324**	Pn	Pn	17 13 50.8	-1.1
NOR				Sn	Sn	17 14 56.1	-3.9
DBG	**Daneborg**	**7.57**	**259**	Pn	Pn	17 14 11.3	-2.5
DBG				Sn	Sn	17 15 27.4	-12
DBG	**Daneborg**	**7.57**	**259**	Pn	Pn	17 14 11.3	-2.5
DBG				Sn	Sn	17 15 27.4	-12
KIF	**Kilpisjarvi**	**9.33**	**151**	Pn	Pn	17 14 37.4	-0.5
KIF	**Kilpisjarvi**	**9.33**	**151**	Pn	Pn	17 14 37.4	-0.5
HEF	**Hetta**	**10.22**	**146**	Pn	Pn	17 14 50.5	+0.3
HEF	**Hetta**	**10.22**	**146**	Pn	Pn	17 14 50.5	+0.3

IDC 07 17:13:31.1±4.5, 17°.30S×178°.97W, h580km±20km, mb3.1/3, mbtmp3.9/4, Error ellipse: s-maj=120.3km s-min=79.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.88**	**261**	P	P	17 14 48.0	0.0
	4.7nm,0.7s,baz=108,slow=13,SNR=5.7						
STKA	**Stephens Creek**	**38.46**	**240**	P	P	17 20 04.3	-0.2
	0.9nm,0.4s,baz=85,slow=14,SNR=5.0						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**44.22**	**259**	P	P	17 20 49.7	-0.4
	0.5nm,0.5s,baz=93,slow=7.4,SNR=16						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**44.44**	**254**	P	P	17 20 51.8	0.0
	6.3nm,0.5s,baz=92,slow=7.7,SNR=259						
ASAR				PcP	PcP	17 22 22.3	-0.4
	0.4nm,0.9s,baz=96,slow=3.6,SNR=2.0						
	6.3nm,0.5s						

*BER **07** 17:20:09.4±3.1, 78°.82N×4°.40E, h18km±11km, mb(Pn)3.7, ML1.7(DNK), Confirmed Earthquake*
*DNK **07** 17:20:09.3±1.4, 78°.74N×4°.81E, h36km±12km, ML1.7*
*FCIAR **07** 17:20:10.0, 78°.60N×5°.30E, h10km, station ZFI2 has station magnitude of 3.50*
*KOLA **07** 17:20:11.4, 78°.54N×6°.23E, h0km, ML2.0, Error ellipse: s-maj=23.4km s-min=16.5km az=130.0, Greenland sea, Knipovich ridge, middle*
ISC 07 17:20:06.0±1.0, 78°.84N±0°.07×4°.64E±0°.05, h10km, n23, σ1§90/37, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.42**	**83**	P	Pn	17 20 32.7	+0.9
KBS				S	Sn	17 20 51.7	+1.2
KBS	**Kingsbay**	**1.42**	**83**	*i* P	Pn	17 20 32.7	+0.9
KBS				*i* S	Sn	17 20 48.6	-1.9
BRBB	**Barentsburg B**	**2.06**	**107**	P	Pn	17 20 41.9	+1.3
BRBB				S	Sn	17 21 03.0	-3.3
BRBB	**Barentsburg B**	**2.06**	**107**	*eP*	Pn	17 20 42.0	+1.4
BRBB				*eS*	Sn	17 21 05.0	-1.3
BRBA	**Barentsburg A**	**2.08**	**107**	*eP*	Pn	17 20 43.2	+2.4
BRBA				*eS*	Sn	17 21 06.2	-0.5
SPA0	**Spitsbergen Ar**	**2.44**	**100**	⇑*i* P	Pn	17 20 48.3	+2.5
SPA0				*i* S	Sn	17 21 15.3	-0.3
SPA0	**Spitsbergen Ar**	**2.44**	**100**	*eP*	Pn	17 20 48.4	+2.5
SPA0				*eS*	Sn	17 21 15.4	-0.2
SPA0				IAML		17 21 20.1	
	comp=Z,24nm,0.5s						
SPITS	**Spitsbergen Ar**	**2.44**	**100**	P	Pn	17 20 47.8	+2.0
SPITS				S	Sn	17 21 15.3	-0.3
HSPB	**Hornsund (broa**	**2.94**	**123**	P	Pn	17 20 54.2	+1.6
HSPB				S	Sn	17 21 26.1	-1.8
HSPB	**Hornsund (broa**	**2.94**	**123**	*eP*	Pn	17 20 54.2	+1.6
HSPB				*eS*	Sn	17 21 26.8	-1.0
HSPB				IAML		17 21 28.9	
	comp=Z,13nm,0.4s						
NOR	**Nord**	**4.54**	**317**	*eP*	Pn	17 21 15.6	+1.0
NOR				*eS*	Sn	17 22 04.5	-2.7
NOR	**Nord**	**4.54**	**317**	*i* P	Pn	17 21 15.0	+0.4
NOR				*i* S	Sn	17 22 04.8	-2.4
NOR				IAML		17 22 11.9	
	comp=Z,2.5nm,0.4s						
HOPEN	**Hopen**	**4.93**	**108**	*eP*	Pn	17 21 20.4	+0.5
HOPEN				*eS*	Sn	17 22 12.4	-4.4
HOPEN	**Hopen**	**4.93**	**108**	*eP*	Pn	17 21 21.4	+1.4
HOPEN				*eS*	Sn	17 22 14.0	-2.9
HOPEN				IAML		17 22 17.1	
	comp=Z,9.2nm,0.4s						
DBG	**Daneborg**	**7.29**	**244**	*i* P	Pn	17 21 50.8	-1.5
DBG				*i* S	Sn	17 23 06.2	-8.7
DBG				IAML		17 23 12.8	
	comp=Z,2.7nm,0.4s						
DBG	**Daneborg**	**7.29**	**244**	*i* P	Pn	17 21 50.8	-1.5
DBG				*i* S	Sn	17 23 06.2	-8.7
DBG				IAML		17 23 12.8	
	comp=Z,2.7nm,0.4s						
ZFI2	**Zemlya Franca-**	**7.70**	**55**	*eP*	Pn	17 21 59.8	+1.9
ZFI2				*eS*	Sn	17 23 20.4	-4.6
	comp=Z,12nm,2.6s						
OMEGA	**Omega**	**7.72**	**55**	*eP*	Pn	17 21 59.7	+1.6
OMEGA				*eS*	Sn	17 23 20.1	-5.2
JNW	**Jan Mayen West**	**8.52**	**210**	*eP*	Pn	17 22 11.2	+2.1
NEEM	**North Greenlan**	**11.16**	**291**	*i* P	Pn	17 22 43.7	-1.8
NEEM				*eS*	Sn	17 24 37.4	-13
NEEM				IAML		17 24 44.0	
	comp=Z,1.9nm,0.3s						
NEEM	**North Greenlan**	**11.16**	**291**	*i* P	Pn	17 22 43.7	-1.8
NEEM				*eS*	Sn	17 24 37.4	-13
NEEM				IAML		17 24 44.0	
	comp=Z,1.9nm,0.3s						
SUMG	**Summit**	**12.01**	**262**	*e*	Pn	17 22 56.7	-0.5
SUMG	**Summit**	**12.01**	**262**	*e*	Pn	17 22 56.7	-0.5

IDC 07 17:21:32.6±4.0, 20°.96S×174°.69W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=201.1km s-min=35.2km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.43**	**257**	P	P	17 30 10.3	+1.0
	0.3nm,0.5s,baz=93,slow=7.7,SNR=14						
ASAR				PcP	PcP	17 31 38.0	-1.9
	0.3nm,0.9s,baz=101,slow=3.8,SNR=2.1						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**47.60**	**262**	P	P	17 30 09.8	-0.8
	0.3nm,0.5s,baz=97,slow=8.2,SNR=6.7						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**88.11**	**12**	P	P	17 34 24.8	+0.2
	0.2nm,0.5s,baz=206,slow=4.8,SNR=5.3						
	0.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**145.09**	**8**	PKPbc	PKPbc	17 41 10.6	-0.5
	1.3nm,1.0s,baz=351,slow=3.6,SNR=3.4						

WEL 07 17:30:56.0±1.0, 38°S±8°×17°9E±°, h33km, M3.3/13, ML3.5/16, MLv3.3/13, Error ellipse: s-maj=11.3km s-min=7.3km az=24.4, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.60**	**257**	P	Pn	17 31 07.8	-0.4
WMGZ				S	Sn	17 31 17.7	+0.9
MXZ	**Matakaoa Point**	**0.69**	**280**	P	Pn	17 31 09.3	0.0
PUZ	**Puketiti**	**0.81**	**241**	P	Pn	17 31 10.9	-0.2
PUZ				S	Sb	17 31 22.5	+0.2
PKGZ	**Pakihiroa**	**0.87**	**258**	P	Pn	17 31 11.7	-0.2
TBAS	**Tolaga Bay Are**	**0.96**	**224**	P	Pn	17 31 13.7	+0.5
TWGZ	**Tauwhareparae**	**1.05**	**242**	P	Pn	17 31 14.6	+0.2
TWGZ				S	Sb	17 31 30.1	+0.9
HAZ	**Te Kaha**	**1.09**	**266**	P	Pn	17 31 15.2	+0.3
HAZ				S	Sb	17 31 30.0	-0.3
CNGZ	**Carnagh Statio**	**1.09**	**223**	P	Pn	17 31 15.2	+0.2
RUGZ	**Raukumara Rang**	**1.20**	**256**	P	Pn	17 31 17.0	+0.4
RUGZ				S	Sb	17 31 32.8	-0.8
TKGZ	**Te Karaka**	**1.28**	**234**	P	Pn	17 31 17.5	0.0
GKBS	**Kaiti Beach**	**1.33**	**221**	P	Pn	17 31 18.7	+0.4
MWZ	**Matawai**	**1.44**	**243**	P	Pn	17 31 19.4	-0.4
RIGZ	**Rimuhau**	**1.50**	**227**	P	Pn	17 31 20.6	0.0
PRGZ	**Paritu Road**	**1.59**	**219**	P	Pn	17 31 21.5	-0.4
RAGZ	**Rawiri**	**1.59**	**239**	P	Pn	17 31 21.7	-0.2
URZ	**Urewera**	**1.71**	**250**	P	Pn	17 31 24.2	+0.7
MHGZ	**Mahia Peninsul**	**1.76**	**213**	P	Pn	17 31 23.7	-0.5
KNZ	**Kokohu**	**1.77**	**221**	P	Pn	17 31 23.8	-0.5
SNGZ	**Shannon Statio**	**1.80**	**232**	P	Pn	17 31 24.6	-0.2
RTZ	**Ruatahuna**	**1.95**	**241**	P	Pn	17 31 27.4	+0.5
RAHZ	**Arahi**	**2.04**	**232**	P	Pn	17 31 28.2	+0.2
MUGZ	**Murupara**	**2.04**	**247**	P	Pn	17 31 28.5	+0.5
MTHZ	**Maungataniwha**	**2.16**	**237**	P	Pn	17 31 29.7	0.0
TARZ	**Mount Tarawera**	**2.17**	**255**	P	Pn	17 31 30.9	+1.1
ARHZ	**Aropaoanui**	**2.31**	**226**	P	Pn	17 31 31.9	+0.1
NMHZ	**Naumai**	**2.32**	**232**	P	Pn	17 31 32.1	+0.1
MRHZ	**Matea Rd**	**2.44**	**241**	P	Pn	17 31 34.3	+0.7
BKZ	**Black Stump Fm**	**2.56**	**234**	P	Pn	17 31 35.1	-0.2
MCHZ	**McNeill Hill**	**2.61**	**227**	P	Pn	17 31 35.5	-0.3
KWHZ	**Kaweka Forest**	**2.76**	**230**	P	Pn	17 31 37.4	-0.5
KAHZ	**Kahuranaki**	**2.76**	**220**	P	Pn	17 31 36.8	-1.2
KUZ	**Kuaotunu**	**2.90**	**288**	P	Pn	17 31 40.7	+0.9
KRHZ	**Kereru**	**2.93**	**227**	P	Pn	17 31 39.4	-0.8
PXZ	**Pawanui**	**2.95**	**217**	P	Pn	17 31 38.6	-1.9
OTVZ	**Oturere**	**3.11**	**241**	P	Pn	17 31 42.6	-0.3
NNVZ	**North Ngauruho**	**3.13**	**242**	P	Pn	17 31 43.4	+0.2
MOVZ	**Moawhango**	**3.17**	**236**	P	Pn	17 31 44.0	+0.3
WPHZ	**Waipukurau**	**3.18**	**221**	P	Pn	17 31 41.9	-1.8
PNHZ	**Pukenui**	**3.21**	**225**	P	Pn	17 31 42.3	-1.7
MKAZ	**Moumakai**	**3.23**	**279**	P	Pn	17 31 45.0	+0.6
HIZ	**Hauiti**	**3.49**	**255**	P	Pn	17 31 49.0	+1.0
DVHZ	**Dannevirke**	**3.50**	**221**	P	Pn	17 31 46.0	-2.0
BFZ	**Birch Farm**	**3.75**	**216**	P	Pn	17 31 49.0	-2.5
PRWZ	**Pori Road**	**3.79**	**220**	P	Pn	17 31 50.1	-1.9
TIWZ	**Tintock**	**4.00**	**218**	P	Pn	17 31 52.6	-2.3
MRZ	**Mangatainoka R**	**4.07**	**222**	P	Pn	17 31 53.3	-2.5
TMWZ	**Te Maipa**	**4.25**	**216**	P	Pn	17 31 55.9	-2.5
HOWZ	**Holdsworth Sta**	**4.27**	**220**	P	Pn	17 31 55.7	-3.0
CTZ	**Chatham Island**	**6.84**	**153**	P	Pn	17 32 35.0	+1.1

*AFAD **07** 17:37:09.7, 42°.55N×43°.41E, h14km, ML3.6*
*MOS **07** 17:37:09.9, 42°.55N×43°.35E, h2km, MPVA4.6*
*NORS **07** 17:37:09.2, 42°.55N×43°.33E, h1km, MPVA4.7*
*TIF **07** 17:37:09.2, 42°.57N×43°.43E, h13km*
*IDC **07** 17:37:09.0±0.9, 42°.61N×43°.24E, h0km, mb3.6/7, mbtmp3.6/11, ML3.5/4, Error ellipse: s-maj=10.4km s-min=8.9km az=138.0*
*ISK **07** 17:37:10.2, 42°.61N×43°.09E, h5km, ML3.7/18*
*DRS **07** 17:37:12.3, 44°.00N×43°.20E, h86km*
ISC 07 17:37:10.3±0.9, 42°.57N±0°.01×43°.41E±0°.01, h14km±6km, n151, σ1§46/255, mb3.8/12, 3C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.35**	**21**	*i* Pg	Pg	17 37 17.0	-0.5
DIGR				*eSg*	Sg	17 37 22.3	-0.2
DIGR	**Digorskoe uzhe**	**0.35**	**21**	*i* PG	Pg	17 37 17.0	-0.5
TKB	**Tkibuli**	**0.38**	**234**	P	Pg	17 37 17.8	-0.2
TKB				S	Sb	17 37 23.9	-0.6
TKB	**Tkibuli**	**0.38**	**234**	*eP*	Pg	17 37 17.8	-0.2
TKB				*eSg*	Sb	17 37 23.9	-0.6
TKB	**Tkibuli**	**0.38**	**234**	*ePG*	Pg	17 37 17.7	-0.2
TKB				*eS*	Sb	17 37 23.8	-0.6
LACR	**Lac**	**0.70**	**69**	*i* Pg	Pg	17 37 23.0	-1.0
LACR				*eSg*	Sg	17 37 32.1	-1.1
LACR	**Lac**	**0.70**	**69**	*i* PG	Pg	17 37 23.0	-1.0
MTEO	**Meteo**	**0.84**	**82**	P	Pb	17 37 26.9	+0.1
MTEO				S	Sg	17 37 37.6	0.0
MTEO	**Meteo**	**0.84**	**82**	*ePG*	Pb	17 37 26.9	+0.1
MTEO				*eS*	Sg	17 37 37.6	0.0
NEUR	**Neytrino**	**0.86**	**323**	*i* PG	Pg	17 37 18.8	-8.2
STDR	**Stavd-Durt**	**0.93**	**31**	*i* Pg	Pn	17 37 29.3	+0.4
STDR				*eSg*	Sn	17 37 42.5	+0.6
STDR	**Stavd-Durt**	**0.93**	**31**	*i* PG	Pn	17 37 29.3	+0.4
STDR				*eS*	Sn	17 37 42.5	+0.6
NCK	**Nalchik**	**0.93**	**8**	*i* Pg	Pb	17 37 28.6	+0.5
NCK				*i* Sg	Sn	17 37 42.7	+0.7
NCK	**Nalchik**	**0.93**	**8**	⇓*i* PG	Pb	17 37 28.6	+0.5
NCK				*i* S	Sn	17 37 42.7	+0.7
VLKR	**Vladikavkaz**	**1.05**	**63**	*e*Pg	Pn	17 37 31.0	+0.5
VLKR				*eSg*	Sn	17 37 47.1	+2.2
VLKR	**Vladikavkaz**	**1.05**	**63**	*e*PG	Pn	17 37 31.0	+0.5
VLKR				*eS*	Sn	17 37 47.1	+2.2
TRLG	**Trialeti**	**1.16**	**153**	P	Pb	17 37 31.2	-0.9
TRLG				S	Sg	17 37 47.5	-0.1
TRLG	**Trialeti**	**1.16**	**153**	*e*PG	Pb	17 37 31.2	-0.9
TRLG				*eS*	Sg	17 37 47.5	-0.1
EPOS	**Posof**	**1.18**	**206**	P	Pb	17 37 32.0	-0.5
EPOS				S	Sg	17 37 48.3	-0.2
EPOS				*i* AML	AML	17 37 51.0	
	comp=E,765nm,0.4s						
EPOS				*i* AML	AML	17 38 03.0	
	comp=N,896nm,0.9s						
KBZ	**Khabaz**	**1.21**	**342**	Pg	Pn	17 37 32.8	0.0
	33nm,0.3s,baz=164,slow=13,SNR=500						
KBZ				Lg	Lg	17 37 48.7	
	64nm,0.3s,baz=225,slow=20,SNR=34						
KBZ	**Khabaz**	**1.21**	**342**	*e*PG	Pn	17 37 32.7	0.0
KBZ				*eS*	Sb	17 37 48.0	-0.4
SHA1	**Shidzhatmaz**	**1.29**	**335**	*e*Pg	Pg	17 37 34.6	-0.4
SHA1				*eSg*	Sn	17 37 52.3	+1.2
SHA1	**Shidzhatmaz**	**1.29**	**335**	*e*PG	Pg	17 37 34.7	-0.4
SHA1				*eS*	Sn	17 37 52.3	+1.2
TBLG	**Delisi**	**1.30**	**130**	P	Pn	17 37 33.8	-0.2
TBLG				S	Sn	17 37 51.7	+0.6
TBLG	**Delisi**	**1.30**	**130**	*e*PG	Pn	17 37 33.7	-0.2
TBLG				*eS*	Sn	17 37 51.6	+0.6
SEAG	**Tbilisi Sea**	**1.31**	**127**	P	Pn	17 37 34.1	-0.1
SEAG				S	Sg	17 37 53.0	+0.3
SEAG	**Tbilisi Sea**	**1.31**	**127**	*e*PG	Pn	17 37 34.1	-0.1
SEAG				*eS*	Sg	17 37 53.0	+0.3
BTNK	**Botanikuri**	**1.36**	**130**	*e*Pg	Pn	17 37 34.7	-0.1
BTNK				*eSg*	Sn	17 37 53.5	+0.8
BTNK	**Botanikuri**	**1.36**	**130**	*e*PG	Pn	17 37 34.7	-0.1
BTNK				*eS*	Sn	17 37 53.5	+0.8
KZRT	**Kazreti**	**1.40**	**148**	P	Pn	17 37 34.4	-0.9
KZRT				S	Sn	17 37 52.9	-0.7
KZRT	**Kazreti**	**1.40**	**148**	*e*Pg	Pn	17 37 34.4	-0.9
KZRT				*eSg*	Sn	17 37 52.9	-0.7
KZRT	**Kazreti**	**1.40**	**148**	*e*PG	Pn	17 37 34.4	-0.9
KZRT				*eS*	Sn	17 37 52.9	-0.7
KVAR	**Kislovodsk Arr**	**1.48**	**340**	Pn	Pb	17 37 37.6	0.0
	baz=90,slow=20						
KVAR				Sn	Sb	17 37 56.7	+0.6
	baz=221,slow=20						
KIV	**Kislovodsk**	**1.48**	**339**	Pn	Pb	17 37 37.6	+0.1
KIV				Sn	Sg	17 37 57.5	-0.4
KIV	**Kislovodsk**	**1.48**	**339**	*e*Pg	Pb	17 37 37.8	+0.3
KIV				*eSg*	Sg	17 37 57.1	-0.8
KIV	**Kislovodsk**	**1.48**	**339**	*e*PG	Pb	17 37 37.6	+0.1
KIV				*eS*	Sg	17 37 57.1	-0.8
DOMR	**Dombai**	**1.50**	**299**	*e*Pg	Pg	17 37 38.7	-0.3
DOMR				*eSg*	Sg	17 37 58.3	-0.2
DOMR	**Dombai**	**1.50**	**299**	*e*PG	Pg	17 37 38.7	-0.3
DOMR				*eS*	Sg	17 37 58.3	-0.2
BEYR	**Belyy Ugol+**	**1.50**	**343**	*e*PG	Pb	17 37 38.1	+0.2
BEYR				*eS*	Sg	17 37 57.8	-0.8

BOZK Kars-Merkez-Bo 2.01 189 P **Pb 17 37 46.0 -0.6**
BOZK S **Sg 17 38 14.3 -0.6**
BOZK *i* AML AML 17 38 20.0
comp=N,242nm,0.5s
BOZK *i* AML AML 17 38 29.0
comp=E,251nm,0.8s
DBAD Bademkaya 2.02 220 P **Pb 17 37 45.8 -0.9**
DBAD S **Sb 17 38 12.4 +0.8**
DBAD *i* AML AML 17 38 14.0
comp=N,1μm,0.8s
DBAD *i* AML AML 17 38 15.0
comp=E,1μm,0.4s
DVE Vedeno 2.04 78 *e*PN **Pb 17 37 46.7 -0.3**
DVE *e*S **Sg 17 38 15.3 -0.5**
BTLR Botlikh 2.08 87 *e*Pg **Pb 17 37 46.5 -1.2**
BTLR *e*Sg **Sb 17 38 14.1 +0.7**
BTLR Botlikh 2.08 87 *e*PN **Pb 17 37 48.4 +0.7**
DDEM Demirkent 2.09 217 P **Pb 17 37 47.1 -0.8**
DDEM S **Sb 17 38 14.9 +1.2**
DDEM *i* AML AML 17 38 18.0
comp=N,3μm,0.5s
DDEM *i* AML AML 17 38 18.0
comp=E,1μm,0.7s
DIGO Kars 2.16 181 P **Pb 17 37 47.9 -1.3**
DIGO *i* AML AML 17 38 24.0
comp=N,714nm,0.6s
DIGO *i* AML AML 17 38 27.0
comp=E,643nm,0.7s
SENK Senkaya-Erzuru 2.16 202 Pn **Pb 17 37 48.1 -1.1**
ALER Alexandrovskoy 2.22 351 *e*Pg **Pb 17 37 49.3 -0.8**
ALER *e*Sg **Sb 17 38 18.2 +0.8**
ALER Alexandrovskoy 2.22 351 *e*PN **Pb 17 37 49.3 -0.8**
ALER *e*S **Sb 17 38 18.2 +0.8**
LGD Lagodekhi 2.23 108 P **Pb 17 37 49.3 -1.0**
LGD S **Sb 17 38 19.2 +1.4**
LGD Lagodekhi 2.23 108 *e*Pn **Pb 17 37 49.3 -1.0**
LGD *e*Sn **Sb 17 38 19.2 +1.4**
LGD Lagodekhi 2.23 108 *e*PN **Pb 17 37 49.3 -1.0**
LGD *e*S **Sb 17 38 19.2 +1.4**
DLMR Dylym 2.42 77 *e*Pn **Pb 17 37 53.8 +0.3**
DLMR *e*Sn **Sb 17 38 23.7 +0.5**
DLMR Dylym 2.42 77 *e*PN **Pb 17 37 53.8 +0.3**
DLMR *e*S **Sb 17 38 23.7 +0.5**
XNZR Khunzakh 2.44 90 *e*Pn **Pb 17 37 53.8 -0.1**
XNZR *e*Sn **Sb 17 38 24.4 +0.6**
HNZR Khunzah 2.44 89 *e*PN **Pb 17 37 53.8 -0.2**
HNZR *e*S **Sb 17 38 24.4 +0.4**
CHOM Cayeli-Rize 2.47 234 Pn **Pn 17 37 50.2 +0.2**
GOF Gofitskoye 2.50 354 *e*Pn **Pb 17 37 53.8 -1.0**
GOF *e*Sn **Sb 17 38 25.2 -0.2**
GOF Gofitskoye 2.50 354 *c*e**Pn 17 37 52.7 +2.3**
GOF *e*S **Sg 17 38 31.8 +1.3**
UNCR Uncukul 2.50 86 *e*Pn **Pb 17 37 54.4 -0.6**
UNCR *e*Sn **Sb 17 38 25.2 -0.4**
UNCR Uncukul 2.50 86 *e*PN **Pb 17 37 54.3 -0.6**
UNCR *e*S **Sb 17 38 25.2 -0.4**
RPOR Krasnaya Polya 2.56 297 *e*Pn **Pn 17 37 53.5 +2.2**
RPOR *e*Sn **Sn 17 38 24.5 +2.2**
RPOR Krasnaya Polya 2.56 297 *e*PN **Pb 17 37 53.9 -2.0**
RPOR *e*S **Sn 17 38 24.0 +1.8**
KRNR Karanay 2.59 83 *e*Pn **Pb 17 37 56.8 +0.3**
KRNR *e*Sn **Sb 17 38 29.9 +1.7**
KRNR Karanay 2.59 83 *e*PN **Pb 17 37 56.8 +0.3**
KRNR *e*S **Sb 17 38 29.9 +1.7**
VSHL Vashlovani 2.60 120 P **Pn 17 37 54.3 +2.4**
VSLR Vesyoloye 2.63 291 *e*Pn **Pn 17 37 52.8 +0.6**
VSLR *e*Sn **Sn 17 38 26.5 +2.6**
VSLR Vesyoloye 2.63 291 *i* PN **Pn 17 37 53.0 +0.8**
ARKR Arakani 2.65 88 *e*Pn **Pb 17 37 56.8 -0.6**
ARKR *e*Sn **Sb 17 38 29.2 -0.6**
ARKR Arakani 2.65 88 *e*PN **Pb 17 37 56.8 -0.6**
ARKR *e*S **Sb 17 38 29.2 -0.6**
TASB TASBURUN-IGDIR 2.66 166 Pn **Pb 17 37 57.3 -0.4**
BUJR Buynaksk 2.74 83 *e*PN **Pb 17 37 59.8 +0.8**
BUJR *e*S **Sb 17 38 31.1 -1.3**
HOMI Horasan 2.77 205 P **Pn 17 37 56.4 +2.0**
HOMI *i* AML AML 17 38 56.0
comp=E,244nm,0.8s
HOMI *i* AML AML 17 38 58.0
comp=N,235nm,1.1s
KMKR Kumukh 2.77 98 *e*Pn **Pb 17 37 59.4 -0.2**
KMKR *e*Sn **Sb 17 38 34.4 +0.9**
KMKR Kumukh 2.77 98 *e*PN **Pb 17 37 59.4 -0.2**
KMKR *e*S **Sb 17 38 34.4 +0.9**
KOPR Koprukoy-ERZUR 2.83 205 Pn **Pn 17 37 57.5 +2.3**
LABN Labinsk 2.84 318 *i* Pn **Pn 17 37 56.1 +1.0**
LABN *e*Sn **Sn 17 38 31.8 +2.7**
LABN Labinsk 2.84 318 *i* PN **Pn 17 37 56.1 +1.0**
LABN *e*S **Sn 17 38 31.8 +2.7**
SOC Sochi 2.89 292 *e*Pn **Pn 17 37 58.1 +2.4**
SOC *e*Sn **Sb 17 38 34.2 -2.4**
SOC Sochi 2.89 292 *e*PN **Pn 17 37 58.1 +2.4**
SOC *e*S **Sb 17 38 34.2 -2.4**
AGRB Hanur-Agry 3.01 186 Pn **Pn 17 38 00.2 +2.5**
MAK Makhachkala 3.04 81 ⇑ *i* PN **Pn 17 38 01.1 +3.3**
MAK *e* 17 38 09.0
MAK *e*S **Sb 17 38 43.2 +2.2**
MAK *e* 17 38 57.5
MAK pmax pmax
comp=Z,102nm,0.5s
MAK smax smax
comp=N,291nm,0.5s
MAK smax smax
comp=N,310nm,0.6s
MAK MLR MLR
comp=Z,180nm,2.0s
SGKR Sergokala 3.14 91 *e*Pn **Pb 17 38 04.2 -1.6**
SGKR *e*Sn **Sb 17 38 42.0 -2.0**
SGKR Sergokala 3.14 91 *e*PN **Pb 17 38 04.2 -1.6**
SGKR *e*S **Sb 17 38 42.0 -2.0**
KTUT Trabzon 3.15 241 Pn **Pn 17 38 00.1 +0.7**
MRNR Maryino 3.18 297 *e*Pn **Pn 17 38 01.4 +1.6**
MRNR *i* Sn **Sb 17 38 42.7 -2.3**
MRNR Maryino 3.18 297 *e*PN **Pn 17 38 01.4 +1.6**
MRNR *i* S **Sb 17 38 42.7 -2.3**
BAYT Aydıntepe-Bayb 3.28 230 Pn **Pn 17 38 02.5 +1.2**
GOYR Goytkh 3.38 301 *e*Pn **Pn 17 38 03.4 +0.9**
GOYR *e*Sn **Sn 17 38 43.0 +0.6**
GOYR Goytkh 3.38 301 *e*PN **Pn 17 38 03.4 +0.9**
GOYR *e*S **Sn 17 38 43.0 +0.6**
AKT Akhty 3.40 107 *e*Pn **Pn 17 38 05.2 +2.3**
AKT *e*Sn **Sb 17 38 48.3 -3.2**
AKT Akhty 3.40 107 *e*PN **Pn 17 38 05.2 +2.3**
AKT *e*S **Sb 17 38 48.3 -3.2**
KSMR Kasumkent 3.64 104 *e*Pn **Pn 17 38 10.4 +4.2**
KSMR *e*Sn **Sb 17 38 55.9 -2.6**
KSMR Kasumkent 3.64 104 *e*PN **Pn 17 38 10.4 +4.2**
KSMR *e*S **Sb 17 38 55.9 -2.6**
DRN Derbent 3.69 97 *e*Pn **Pn 17 38 09.3 +2.5**
DRN *e*Sn **Sn 17 38 53.2 +3.2**
DRN Derbent 3.69 97 *e*PN **Pn 17 38 09.3 +2.5**
DRN *e*S **Sn 17 38 53.2 +3.2**
VRTB Varto-Mus 3.72 204 Pn **Pn 17 38 10.1 +2.8**
ERBR Yeremizino-Bor 3.78 327 *i* PN **Pn 17 38 10.7 +2.7**
ERBR *e*S **Sn 17 38 52.4 +0.1**
YEDI Yedisu-Bingol 3.81 216 Pn **Pn 17 38 10.6 +2.0**
ESPY Espiye-Giresun 3.87 246 Pn **Pn 17 38 08.6 -0.7**
SRGR Sergiyevskiy 4.18 314 *e*PN **Pn 17 38 13.5 0.0**
SRGR *e*S **Sn 17 39 03.4 +1.4**
SPGR Shapsug 4.44 301 *e*PN **Pn 17 38 16.7 -0.3**
SPGR *e*S **Sn 17 39 09.7 +1.3**
PTK Pertek 4.78 221 Pn **Pn 17 38 24.5 +2.6**
ANN Anapa 4.87 299 *e*PN **Pn 17 38 25.2 +2.2**
ANN *e* 17 39 19.5
ANN pmax pmax
comp=Z,9.0nm,0.4s
ANN smax smax
comp=E,12nm,0.6s
SUKR Sukko 4.87 299 *i* PN **Pn 17 38 23.5 +0.5**
SUKR *e*S **Sn 17 39 19.7 +0.5**
RSDY Resadiye-TOKAT 5.06 247 Pn **Pn 17 38 27.1 +1.5**
SVSK Karacayir 5.51 243 Pn **Pn 17 38 33.9 +2.1**
KVT Kavak 5.70 257 Pn **Pn 17 38 35.9 +1.5**
YAL Yalta 6.99 289 *e*P **Pn 17 38 53.4 +1.3**
YAL Yalta 6.99 289 *e*P **Pn 17 38 53.4 +1.3**
YAL Pm 17 38 53.8
comp=Z,7.0nm,0.6s
SEV Sevastopol' 7.34 289 *e*P **Pn 17 38 57.2 +0.3**
SEV *e*S **Sn 17 40 21.0 +1.0**
SEV Sevastopol' 7.34 289 *e*P **Pn 17 38 57.2 +0.3**
SEV Pm 17 39 05.2
comp=Z,2.0nm,0.4s
SEV *e*S **Sn 17 40 21.0 +1.0**
SEV Sm 17 40 22.3
comp=N,2.0nm,0.6s
SEV Sm 17 40 22.3
comp=E,2.0nm,0.4s
BRTR Keskin Array B 7.90 252 Pn **Pn 17 39 06.6 +1.8**
comp=E,0.2nm,0.3s,baz=58,slow=12,SNR=9.7
BRTR Sn **Sn 17 40 32.9 -1.1**
comp=E,0.1nm,0.3s,baz=84,slow=19,SNR=2.2
comp=E,1.4nm,0.7s
AKASG Malin Array Be 12.68 315 Pn **Pn 17 40 06.5 -3.4**
comp=E,0.2nm,0.3s,baz=123,slow=13,SNR=1.5
comp=E,0.1nm,0.4s
AKTO Aktyubinsk 12.75 47 Pn **Pn 17 40 08.9 -2.1**
comp=E,0.5nm,0.3s,baz=239,slow=10,SNR=7.9
AKTO Sn **Sn 17 42 25.0 -7.6**
comp=E,0.1nm,0.3s,baz=202,slow=19,SNR=4.2
comp=E,3.0nm,0.7s
MLR Muntele Rosu 12.90 289 Pn **Pn 17 40 14.0 +0.8**
comp=E,0.1nm,0.3s,baz=122,slow=19,SNR=2.3
MLR Sn **Sn 17 42 34.4 -2.1**
comp=E,0.1nm,0.3s,baz=120,slow=20,SNR=1.8
comp=E,1.7nm,0.9s
NACGM Naroch 16.45 324 *e*P **Pn 17 41 01.8 +1.4**
comp=Z,4.0nm,0.7s,baz=132
ARTI Arti 16.85 30 Pn **Pn 17 41 03.3 -2.1**
comp=Z,0.4nm,0.3s,baz=220,slow=7.9,SNR=3.9
SVE Sverdlovsk 18.02 32 *e*P **Pn 17 41 18.5 -1.5**
SVE pmax pmax
comp=Z,9.0nm,1.0s
BVAR Borovoye Array 20.80 51 P **P 17 41 51.8 +0.9**
comp=Z,2.1nm,0.7s,baz=256,slow=10,SNR=18
BVAR S **S 17 45 37.0 -5.4**
comp=Z,0.4nm,0.6s,baz=250,slow=20,SNR=2.8
comp=Z,2.1nm,0.7s
FINES FINESS Array B 21.57 337 P **P 17 41 59.8 +0.8**
comp=Z,1.4nm,0.8s,baz=145,slow=15,SNR=5.0
comp=Z,1.4nm,0.8s
GERES GERESS Array B 21.58 297 P **P 17 42 00.7 +1.3**
comp=Z,0.6nm,0.7s,baz=96,slow=10,SNR=7.6
comp=Z,0.6nm,0.7s
LESA Schwarzleotal 22.18 293 *e*pP **P 17 42 08.4 +2.6**
comp=Z,4.0nm,0.8s
WTTA Wattenberg 22.89 293 *e*P **P 17 42 13.4 0.0**
comp=Z,1.7nm,0.6s
WATA Walderalm 22.93 293 *e*pP **P 17 42 14.5 +0.7**
comp=Z,1.9nm,0.7s
SQTA Sankt Quirin 23.18 293 *e*P **P 17 42 16.8 +0.4**
comp=Z,2.7nm,0.7s
MOTA Moosalm 23.25 293 *e*pP **P 17 42 17.6 +0.4**
comp=Z,3.4nm,0.8s
FETA Feichten 23.51 292 *e*pP **P 17 42 20.4 +0.7**
comp=Z,3.7nm,0.8s
HFS Hagfors 25.22 324 P **P 17 42 35.2 0.0**
comp=Z,4.6nm,0.9s,baz=99,slow=8.9,SNR=3.8
comp=Z,4.6nm,0.9s
KURBB Kurchatov Arra 25.25 59 P **P 17 42 36.4 +0.8**
comp=Z,1.1nm,0.2s,baz=271,slow=11,SNR=1.4
comp=Z,1.1nm,0.2s
KURK Kurchatov 25.31 59 P **P 17 42 36.4 +0.3**
MKAR Makanchi Array 27.77 68 P **P 17 43 01.6 +3.1**
comp=Z,0.4nm,0.6s,baz=275,slow=8.9,SNR=6.8
comp=Z,0.4nm,0.6s
CMAR Chiang Mai Arr 52.49 99 P **P 17 46 26.1 +3.2**
comp=Z,0.1nm,0.3s,baz=303,slow=6.0,SNR=1.5
comp=Z,0.1nm,0.3s

HLW 07 17:38:20.8, 23°.60N×32°.80E, h6km±33km, Md1.1, Ml1.4, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAHD	**NAHD**	**0.20**	**355**	P	Pg	17 38 25.9	+1.1
NAHD	**NAHD**	**0.20**	**355**	P	Pg	17 38 25.9	+1.0
NNMR	**New North Mara**	**0.26**	**303**	P	Pg	17 38 26.5	+0.6
NNMR				S	Sg	17 38 30.6	+1.3
NNMR	**New North Mara**	**0.26**	**303**	P	Pg	17 38 26.4	+0.6
NNMR				S	Sg	17 38 30.7	+1.4
KASR	**Kasr**	**0.27**	**87**	P	Pg	17 38 26.5	+0.5
KASR	**Kasr**	**0.27**	**87**	P	Pb	17 38 27.3	-0.7
NNAL	**NNAL**	**0.33**	**202**	P	Pg	17 38 27.9	+0.7
NNAL	**NNAL**	**0.33**	**202**	P	Pg	17 38 27.9	+0.7
AWKL	**West Kalabsha**	**0.36**	**242**	P	Pg	17 38 28.6	+0.7
NGMR	**NGMR**	**0.37**	**258**	P	Pg	17 38 28.6	+0.6

*SNET **07** 17:44:00.2±1.1, 14°.52N×89°.11W, h6km±7km, ML3.6*
*CATAC **07** 17:44:01.0±0.2, 15°.N±1°×8°.9W±°, h3km±1km, M3.2/18, MLv3.2/18, Error ellipse: s-maj=3.3km s-min=2.1km az=27.3, confirmed*
*GCG **07** 17:44:00.0±1.3, 14°.53N×89°.11W, h6km±11km, MD3.9*
ISC 07 17:44:00.4±1.0, 14°.53N±0°.03×89°.10W±0°.02, h10km±8km, n78, σ0°.55/92, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.24**	**278**	*e*P	**Pg**	**17 44 05.0**	**-0.3**
ESQI				*e*S	**Sg**	**17 44 08.9**	**+0.2**
ESQI	**Esquipulas**	**0.24**	**278**	P	**Pg**	**17 44 05.3**	**0.0**
ESQI	**Esquipulas**	**0.24**	**278**	S	**Sg**	**17 44 09.2**	**+0.6**
MTO3	**Montecristo**	**0.28**	**244**	P	**Pg**	**17 44 06.2**	**-0.1**
MTO3	**Montecristo**	**0.28**	**244**	S	**Sg**	**17 44 10.5**	**+0.4**
LLGN	**La Laguna**	**0.39**	**158**	*e*P	**Pg**	**17 44 07.9**	**-0.2**
LLGN				*e*S	**Sg**	**17 44 13.9**	**+0.6**
LLGN	**La Laguna**	**0.39**	**158**	P	**Pg**	**17 44 08.0**	**-0.1**
UNIC	**Universidad Ca**	**0.70**	**219**	*e*P	**Pg**	**17 44 13.4**	**-0.4**
UNIC				*e*S	**Sg**	**17 44 23.1**	**+0.1**
UNIC	**Universidad Ca**	**0.70**	**219**	P	**Pg**	**17 44 13.9**	**+0.1**
LFU	**La Fuente**	**0.77**	**181**	*e*P	**Pg**	**17 44 14.9**	**-0.4**
CEDA	**San Andres**	**0.78**	**202**	S	**Sb**	**17 44 26.6**	**0.0**
PIC2	**El Picacho**	**0.79**	**191**	*e*P	**Pg**	**17 44 15.3**	**-0.4**
BOQS	**Boqueron**	**0.81**	**193**	*e*P	**Pg**	**17 44 15.7**	**-0.3**
BOQS				*e*S	**Sb**	**17 44 27.7**	**0.0**
UDBS	**Universidad Do**	**0.81**	**184**	S	**Sb**	**17 44 27.3**	**-0.3**
UDBS	**Universidad Do**	**0.81**	**184**	P	**Pb**	**17 44 16.6**	**+0.1**
SNJE	**San Jose**	**0.82**	**217**	*e*P	**Pg**	**17 44 16.2**	**0.0**
PAVA	**Las Pavas**	**0.82**	**169**	*e*P	**Pg**	**17 44 15.4**	**-0.8**
PAVA	**Las Pavas**	**0.82**	**169**	P	**Pg**	**17 44 15.9**	**-0.3**
PAVA	**Las Pavas**	**0.82**	**169**	S	**Sb**	**17 44 28.1**	**0.0**
UTEC	**Universidad Te**	**0.83**	**187**	S	**Sb**	**17 44 28.1**	**-0.1**
UTEC	**Universidad Te**	**0.83**	**187**	P	**Pb**	**17 44 16.9**	**0.0**
SEMO	**Seminario San**	**0.83**	**189**	S	**Sb**	**17 44 28.1**	**0.0**
SLOZ	**Alcaldia de Sa**	**0.83**	**233**	*e*P	**Pg**	**17 44 15.9**	**-0.4**
SLOZ				*e*S	**Sb**	**17 44 27.8**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.83**	**233**	P	**Pb**	**17 44 16.6**	**-0.3**
SLOZ	**Alcaldia de Sa**	**0.83**	**233**	S	**Sb**	**17 44 28.3**	**+0.1**
LOAL	**Lomas de Alarc**	**0.85**	**232**	*e*P	**Pg**	**17 44 16.3**	**-0.4**
LOAL				*e*S	**Sb**	**17 44 28.5**	**-0.2**
SBLS	**San Blas**	**0.85**	**217**	*e*P	**Pg**	**17 44 16.6**	**-0.3**
SBLS				*e*S	**Sb**	**17 44 28.7**	**-0.3**
CEVE	**Cerro Verde**	**0.86**	**216**	P	**Pb**	**17 44 17.9**	**+0.3**
CEVE	**Cerro Verde**	**0.86**	**216**	S	**Sb**	**17 44 29.7**	**+0.4**
LOMA	**Loma Larga**	**0.88**	**185**	*e*P	**Pg**	**17 44 16.8**	**-0.6**
LOMA	**Loma Larga**	**0.88**	**185**	P	**Pg**	**17 44 17.2**	**-0.1**
LOMA	**Loma Larga**	**0.88**	**185**	S	**Sb**	**17 44 29.4**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.89**	**156**	*e*P	**Pg**	**17 44 17.0**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.89**	**156**	P	**Pg**	**17 44 17.5**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.89**	**156**	S	**Sb**	**17 44 30.8**	**+0.7**
LFRS	**El Faro**	**0.90**	**178**	*e*P	**Pg**	**17 44 17.1**	**-0.6**
NUBE	**Las Nubes**	**0.91**	**227**	*e*P	**Pg**	**17 44 17.3**	**-0.6**
NUBE				*e*S	**Sb**	**17 44 30.1**	**-0.4**
NUBE	**Las Nubes**	**0.91**	**227**	*e*P	**Pg**	**17 44 17.6**	**-0.3**
NUBE				*e*S	**Sb**	**17 44 30.1**	**-0.4**
NUBE	**Las Nubes**	**0.91**	**227**	P	**Pg**	**17 44 17.8**	**0.0**
NUBE	**Las Nubes**	**0.91**	**227**	S	**Sb**	**17 44 31.1**	**+0.6**
COEG	**Centro de Oper**	**0.92**	**167**	*e*P	**Pg**	**17 44 17.4**	**-0.8**
COEG	**Centro de Oper**	**0.92**	**167**	S	**Sb**	**17 44 31.7**	**+0.8**
COEG	**Centro de Oper**	**0.92**	**167**	P	**Pg**	**17 44 18.0**	**-0.2**
JAYA	**Jayaque - finc**	**0.93**	**202**	P	**Pg**	**17 44 18.1**	**-0.2**
JAYA	**Jayaque - finc**	**0.93**	**202**	S	**Sb**	**17 44 31.5**	**+0.2**
UESV	**Universidad de**	**0.93**	**161**	P	**Pg**	**17 44 17.9**	**-0.4**
UESV	**Universidad de**	**0.93**	**161**	S	**Sb**	**17 44 31.2**	**0.0**
TECO	**Alcaldia de Te**	**1.03**	**163**	*e*P	**Pg**	**17 44 19.0**	**-1.2**
PQSS	**Presa 15 de Se**	**1.04**	**150**	*e*P	**Pg**	**17 44 19.3**	**-1.0**
PQSS				IAML		17 44 37.6	
comp=Z,370nm,0.3s							
PQSS	**Presa 15 de Se**	**1.04**	**150**	S	**Sb**	**17 44 34.9**	**+0.8**
PQSS	**Presa 15 de Se**	**1.04**	**150**	P	**Pn**	**17 44 21.0**	**+0.1**
LALI	**Alcalda de L**	**1.05**	**192**	*e*P	**Pg**	**17 44 19.4**	**-1.2**
LALI				*e*S	**Sb**	**17 44 34.4**	**-0.2**
LALI	**Alcalda de L**	**1.05**	**192**	*e*P	**Pg**	**17 44 20.3**	**-0.4**
LALI	**Alcalda de L**	**1.05**	**192**	P	**Pg**	**17 44 20.4**	**-0.2**
LALI	**Alcalda de L**	**1.05**	**192**	S	**Sn**	**17 44 35.6**	**-0.4**
MARCA	**Marcala la Paz**	**1.09**	**109**	*e*P	**Pg**	**17 44 20.6**	**-0.8**
MARCA				*i* S	**Sg**	**17 44 35.6**	**0.0**
TECA	**Tecapa**	**1.18**	**151**	*e*P	**Pg**	**17 44 21.8**	**-1.2**
TECA				*e*S	**Sb**	**17 44 38.9**	**+0.6**
PACA	**Pacayal**	**1.29**	**144**	*e*P	**Pn**	**17 44 23.6**	**-1.0**
PACA				IAML		17 44 44.9
comp=Z,4μm,0.3s							
PACA	**Pacayal**	**1.29**	**144**	P	**Pn**	**17 44 24.4**	**-0.2**
PACA	**Pacayal**	**1.29**	**144**	S	**Sb**	**17 44 42.2**	**+0.7**
IZABA	**Izabal, Puerto**	**1.29**	**22**	S	**Sn**	**17 44 42.6**	**+0.7**
ALJI	**Alcalda de J**	**1.30**	**157**	P	**Pn**	**17 44 24.3**	**-0.3**
ALJI	**Alcalda de J**	**1.30**	**157**	S	**Sn**	**17 44 42.7**	**+0.7**
RANC	**El Ranchito**	**1.34**	**144**	P	**Pn**	**17 44 25.0**	**-0.3**
RANC	**El Ranchito**	**1.34**	**144**	S	**Sn**	**17 44 44.6**	**+1.4**
LCY	**Lacayo**	**1.34**	**145**	*e*P	**Pn**	**17 44 24.8**	**-0.5**
CNRM	**Centro Naciona**	**1.38**	**139**	S	**Sn**	**17 44 44.6**	**+0.6**
COMHN	**El Horno**	**1.49**	**93**	P	**Pn**	**17 44 27.2**	**-0.3**
COMHN	**El Horno**	**1.49**	**93**	S	**Sn**	**17 44 47.8**	**+0.6**
NISHN	**Nisperales Com**	**1.71**	**43**	*e*P	**Pn**	**17 44 30.3**	**0.0**
NISHN				*e*S	**Sb**	**17 44 53.8**	**+0.3**
NISHN	**Nisperales Com**	**1.71**	**43**	P	**Pb**	**17 44 32.2**	**+0.3**
CNCH	**Conchagua**	**1.75**	**135**	P	**Pn**	**17 44 31.8**	**+0.9**
CNCH	**Conchagua**	**1.75**	**135**	S	**Sb**	**17 44 55.6**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.83**	**105**	P	**Pb**	**17 44 34.0**	**0.0**
TGUH				S	**Sg**	**17 44 58.5**	**-0.7**
CHOHN	**Orocuina**	**2.15**	**119**	S	**Sb**	**17 45 06.9**	**+0.6**
CHOHN	**Orocuina**	**2.15**	**119**	P	**Pb**	**17 44 38.7**	**-0.8**
YUSH	**Yuscaran**	**2.26**	**104**	S	**Sb**	**17 45 09.0**	**-0.4**
HUEH	**Huehuetenango**	**2.46**	**289**	S	**Sb**	**17 45 13.8**	**-1.4**

*AFAD **07** 17:47:09.3, 38°.76N×38°.15E, h7km±2km, ML3.4*
*ISK **07** 17:47:09.2, 38°.79N×38°.09E, h5km, ML3.4/34*
*IDC **07** 17:47:14.6±1.4, 39°.16N×37°.76E, h0km, mb3.6/2, mbtmp3.2/7, ML2.7/5, Error ellipse: s-maj=24.8km s-min=14.5km az=154.0*
ISC 07 17:47:09.6±1.2, 38°.76N±0°.02×38°.16E±0°.02, h2km±11km, n52, σ1°.31/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.19**	**307**	P	**Pg**	**17 47 13.7**	**+0.3**
HEKM				*i* AML	AML	17 47 17.0	
comp=N,5μm,0.2s							
HEKM				*i* AML	AML	17 47 17.0	
comp=E,6μm,0.5s							
HEKM				S	**Sg**	**17 47 17.2**	**+1.3**
ARPR	**Arapgir-MALATY**	**0.36**	**23**	Pg	**Pg**	**17 47 16.8**	**+0.2**
ARPR				Sg	**Sb**	**17 47 23.4**	**-1.6**
MAYA	**Malatya/Merkez**	**0.49**	**154**	P	**Pg**	**17 47 19.0**	**+0.1**
MAYA				*i* AML	AML	17 47 26.0	
comp=E,2μm,0.6s							
MAYA				S	**Sb**	**17 47 26.3**	**-2.3**
MAYA				*i* AML	AML	17 47 27.0	
comp=N,1μm,0.2s							
AKCD	**Akcadag**	**0.50**	**201**	P	**Pg**	**17 47 19.3**	**0.0**
AKCD				S	**Sb**	**17 47 28.0**	**-1.1**
AKCD				*i* AML	AML	17 47 29.0	
comp=N,8μm,0.2s							
AKCD				*i* AML	AML	17 47 31.0	
comp=E,6μm,0.2s							
DARE	**Darende-Malaty**	**0.56**	**250**	Pg	**Pg**	**17 47 19.9**	**-0.5**
DARE				Sg	**Sb**	**17 47 28.6**	**-2.1**
KEMA	**Kemaliye**	**0.57**	**28**	P	**Pg**	**17 47 20.1**	**-0.5**
KEMA				S	**Sb**	**17 47 29.3**	**-1.7**
KEMA				*i* AML	AML	17 47 32.0	
comp=N,2μm,0.5s							
KEMA				*i* AML	AML	17 47 33.0	
comp=E,2μm,0.5s							
CUGUR	**Gurin_SVAS**	**0.69**	**267**	P	**Pg**	**17 47 22.3**	**-0.6**
CUGUR				*i* AML	AML	17 47 33.0	
comp=N,3μm,0.3s							
CUGUR				S	**Sb**	**17 47 33.5**	**-1.0**
CUGUR				*i* AML	AML	17 47 37.0	
comp=E,3μm,0.3s							
ELZG	**Elazig**	**0.70**	**112**	P	**Pg**	**17 47 22.9**	**-0.2**
ELZG				S	**Sb**	**17 47 33.3**	**-1.5**
ELZG				*i* AML	AML	17 47 36.0	
comp=N,4μm,0.3s							
ELZG				*i* AML	AML	17 47 36.0	
comp=E,3μm,0.3s							
CUKAN	**kangal_SIVAS**	**0.77**	**316**	P	**Pg**	**17 47 23.6**	**-0.8**
CUKAN				S	**Sg**	**17 47 34.9**	**+0.5**
CUKAN				*i* AML	AML	17 47 37.0	
comp=E,558nm,0.3s							
CUKAN				*i* AML	AML	17 47 39.0	
comp=N,695nm,0.2s							
PTK	**Pertek**	**0.97**	**82**	Pg	**Pg**	**17 47 27.5**	**-0.8**
CUAYA	**Sivas-Altinyay**	**1.21**	**295**	P	**Pg**	**17 47 31.6**	**-1.2**
CUAYA				S	**Sn**	**17 47 50.1**	**-0.6**
CUAYA				*i* AML	AML	17 47 54.0	
comp=N,529nm,0.7s							
CUAYA				*i* AML	AML	17 47 54.0	
comp=E,396nm,0.5s							
SARI	**SarD1z-Kayseri**	**1.41**	**256**	Pn	**Pb**	**17 47 35.9**	**-0.8**
SARI				Sn	**Sg**	**17 47 56.3**	**+1.5**
URFA	**Urfa**	**1.42**	**158**	Pn	**Pg**	**17 47 36.8**	**-0.1**
SVSK	**Karacayir**	**1.46**	**322**	Pn	**Pg**	**17 47 37.2**	**-0.4**
SVSK				Sn	**Sg**	**17 47 57.2**	**+0.7**
KHMN	**Narli-Kahraman**	**1.58**	**210**	Pn	**Pg**	**17 47 39.5**	**-0.4**
KHMN				Sn	**Sg**	**17 48 01.7**	**+1.3**
KMRS	**Kahramanmaras**	**1.60**	**219**	Pn	**Pg**	**17 47 39.9**	**-0.4**
KMRS				Sn	**Sg**	**17 48 01.9**	**+0.9**
RSDY	**Resadiye-TOKAT**	**1.75**	**339**	Pn	**Pb**	**17 47 41.9**	**-0.6**
RSDY				Sn	**Sb**	**17 48 04.7**	**-0.3**
GAZ	**Gaziantep**	**1.75**	**205**	Pn	**Pb**	**17 47 42.1**	**-0.5**
BNN	**Bunyan**	**1.81**	**274**	Pn	**Pb**	**17 47 42.3**	**-1.2**
YEDI	**Yedisu-Bingol**	**1.98**	**69**	Pn	**Pb**	**17 47 45.9**	**-0.5**
GUMT	**Gumushane**	**1.98**	**31**	Pn	**Pb**	**17 47 45.5**	**-0.9**
BNGB	**Bingl**	**1.98**	**83**	Pn	**Pb**	**17 47 45.8**	**-0.7**
TOKT	**Tokat**	**1.99**	**322**	Pn	**Pn**	**17 47 44.6**	**+0.2**
ESPY	**Espiye-Giresun**	**2.19**	**11**	Pn	**Pb**	**17 47 48.1**	**-2.0**
MAZI	**Mazidag**	**2.23**	**125**	Pn	**Pb**	**17 47 49.5**	**-1.2**
BAYT	**Aydıntepe-Bayb**	**2.24**	**43**	Pn	**Pb**	**17 47 49.1**	**-1.8**
KOZT	**Kozan**	**2.24**	**236**	Pn	**Pb**	**17 47 48.5**	**-2.3**
KARO	**Karliova-Bingo**	**2.32**	**76**	Pn	**Pb**	**17 47 50.7**	**-1.6

*GCG **07** 17:47:53.2±1.2, 14°.55N×89°.12W, h10km±958km, MD3.5*
ISC 07 17:47:53.1±1.3, 14°.52N±0°.07×89°.13W±0°.04, h18km±7km, n9, σ0§33/17, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.21**	**280**	*eP*	**Pg**	**17 47 58.1**	**-0.2**
ESQI				*eS*	**Sg**	**17 48 02.0**	**+0.3**
LLGN	**La Laguna**	**0.40**	**153**	*eP*	**Pg**	**17 48 01.2**	**-0.3**
LLGN				*eS*	**Sg**	**17 48 07.4**	**+0.2**
PAVA	**Las Pavas**	**0.83**	**167**	*eP*	**Pb**	**17 48 09.0**	**-0.1**
PAVA				*eS*	**Sb**	**17 48 20.4**	**+0.4**
NUBE	**Las Nubes**	**0.88**	**226**	*eP*	**Pb**	**17 48 09.8**	**-0.3**
NUBE				*eS*	**Sg**	**17 48 22.3**	**+0.2**
NUBE	**Las Nubes**	**0.88**	**226**	*eP*	**Pn**	**17 48 10.9**	**0.0**
NUBE				*eS*	**Sn**	**17 48 23.2**	**-0.1**
PQSS	**Presa 15 de Se**	**1.05**	**148**	*eP*	**Pb**	**17 48 12.5**	**-0.3**
PQSS				IAML		17 48 31.1	
	comp=Z,90nm,0.2s						
MARCA	**Marcala la Paz**	**1.12**	**109**	*eP*	**Pb**	**17 48 14.3**	**+0.1**
MARCA				*eS*	**Sn**	**17 48 28.7**	**-0.5**
TECA	**Tecapa**	**1.19**	**149**	*eP*	**Pb**	**17 48 15.1**	**-0.2**
TECA				*eP*	**Pn**	**17 48 15.2**	**+0.1**
PACA	**Pacayal**	**1.31**	**143**	*eP*	**Pb**	**17 48 17.3**	**-0.1**
PACA				*eS*	**Sb**	**17 48 34.5**	**+0.6**
PACA				IAML		17 48 38.1	
	comp=Z,847nm,0.3s						

*IDC **07** 17:55:37.7±0.9, 20°.27N×122°.24E, h0km, mb3.5/10, mbtmp3.6/12, ML3.4/2, Error ellipse: s-maj=29.8km s-min=18.0km az=67.0*
ISC 07 17:55:43.0±0.9, 20°.2N±0°.1×122°.3E±0°.1, h36km, n19, σ1§27/14, mb3.5/11, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**8.55**	**39**	**Pn**	**Pn**	**17 57 44.0**	**-0.4**
	1.5nm,0.3s,baz=203,slow=9.3,SNR=6.0						
	6.0nm,0.4s						
KSRS	**Korea Array**	**17.85**	**15**	P	**P**	**17 59 49.0**	**+0.1**
	baz=193,slow=11,SNR=1.6						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**22.11**	**269**	P	**P**	**18 00 34.6**	**-0.9**
	0.3nm,0.6s,baz=69,slow=11,SNR=5.2						
	0.3nm,0.6s						
SONM	**Songino Array**	**30.41**	**339**	P	**P**	**18 01 54.3**	**+2.4**
	0.3nm,0.6s,baz=157,slow=11,SNR=1.7						
SONM				PcP	**PcP**	**18 04 51.7**	**+0.7**
	0.3nm,0.8s,baz=176,slow=2.3,SNR=2.0						
WRA	**Warramunga Arr**	**41.63**	**163**	P	**P**	**18 03 26.8**	**-1.0**
	0.7nm,0.8s,baz=342,slow=8.1,SNR=7.5						
	0.7nm,0.8s						
H11N1	**WAKE ISLAND Hy 41.81**	**83**		T	T	18 48 26.4	
	baz=278,slow=75,SNR=38						
H11N2	**WAKE ISLAND Hy 41.81**	**83**		T	T	18 48 26.5	
	baz=278,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hy 41.82**	**85**		T	T	18 48 26.8	
	baz=281,slow=74,SNR=167						
H11S1	**WAKE ISLAND Hy 41.83**	**85**		T	T	18 48 35.6	
	baz=281,slow=74,SNR=118						
H11N3	**WAKE ISLAND Hy 41.83**	**83**		T	T	18 48 27.6	
	baz=278,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy 41.84**	**85**		T	T	18 48 36.6	
	baz=281,slow=74,SNR=129						
MKAR	**Makanchi Array**	**41.94**	**319**	P	**P**	**18 03 29.6**	**-0.6**
	0.7nm,0.6s,baz=111,slow=9.2,SNR=8.2						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**44.13**	**329**	P	**P**	**18 03 46.2**	**-1.6**
	1.4nm,0.6s,baz=120,slow=7.5,SNR=7.3						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**45.07**	**165**	P	**P**	**18 03 57.5**	**+1.8**
	0.3nm,0.5s,baz=346,slow=9.4,SNR=8.2						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**45.82**	**322**	P	**P**	**18 04 00.7**	**-0.6**
	0.6nm,0.8s,baz=117,slow=8.1,SNR=5.3						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**51.41**	**323**	P	**P**	**18 04 44.5**	**+0.3**
	0.7nm,0.6s,baz=106,slow=5.2,SNR=5.8						
	0.7nm,0.6s						
KBZ	**Khabaz**	**68.78**	**310**	P	**P**	**18 06 44.2**	**+0.8**
	0.8nm,0.8s,baz=117,slow=9.0,SNR=2.6						
	0.8nm,0.8s						
AKASG	**Malin Array Be**	**76.52**	**319**	P	**P**	**18 07 28.2**	**-1.1**
	0.6nm,0.6s,baz=67,slow=5.4,SNR=2.5						
	0.6nm,0.6s						
YKA	**Yellowknife Ar**	**86.19**	**23**	P	**P**	**18 08 19.5**	**-0.9**
	0.1nm,0.5s,baz=307,slow=4.9,SNR=2.3						
	0.1nm,0.5s						

*JMA **07** 17:56:09.2±0.1, 22°.9N±0°.3×121°.5E±0°.9, h34km±1km, MV2.9/13, TAIWAN REGION*
*TAP **07** 17:56:09.1, 22°.91N×121°.36E, h29km, ML2.8, C*
ISC 07 17:56:08.0±0.9, 22°.88N±0°.02×121°.46E±0°.03, h31km±5km, n72, σ1§08/121, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.17**	**303**	*iP*	**Pb**	**17 56 14.2**	**+0.2**
EDH				*iS*	**Sb**	**17 56 18.0**	**-0.2**
LDUT	**Ludao**	**0.21**	**176**	*iP*	**Pb**	**17 56 15.5**	**+1.1**
LDUT				*iS*	**Sn**	**17 56 20.8**	**+1.5**
LONT	**Longtian**	**0.30**	**275**	P	**Pb**	**17 56 15.4**	**-0.2**
LONT				S	**Sb**	**17 56 20.4**	**-0.4**
ECS	**Chishang**	**0.30**	**315**	P	**Pb**	**17 56 15.8**	**+0.2**
ECS				S	**Sn**	**17 56 21.5**	**-0.3**
TTN	**Taitung**	**0.31**	**246**	*iP*	**Pb**	**17 56 16.6**	**+0.9**
TTN				S	**Sn**	**17 56 22.6**	**+0.7**
CHKH	**Chenggong**	**0.31**	**350**	*iP*	**Pn**	**17 56 16.4**	**-0.1**
CHKH				*iS*	**Sn**	**17 56 21.4**	**-0.6**
FULB	**Fuli**	**0.35**	**335**	P	**Pb**	**17 56 16.3**	**0.0**
FULB				S	**Sn**	**17 56 22.5**	**-0.5**
EHD	**Haiduan**	**0.35**	**319**	P	**Pb**	**17 56 15.4**	**-0.9**
EHD				S	**Sb**	**17 56 20.7**	**-1.3**
TWGBT	**Beinan**	**0.35**	**260**	P	**Pb**	**17 56 15.8**	**-0.5**
TWGBT				S	**Sb**	**17 56 21.1**	**-0.9**
TWG	**Pinlang**	**0.36**	**260**	*iP*	**Pb**	**17 56 16.1**	**-0.3**
TWG				*iS*	**Sb**	**17 56 21.2**	**-0.9**
ECBN	**Changbin**	**0.43**	**360**	*iP*	**Pn**	**17 56 18.2**	**+0.1**
ECBN				*iS*	**Sn**	**17 56 25.0**	**+0.1**
EYUL	**Yuli**	**0.48**	**345**	*eP*	**Pb**	**17 56 18.1**	**-0.1**
EYUL				S	**Sn**	**17 56 26.9**	**+0.7**
TWF1	**Yuli**	**0.49**	**343**	*eP*	**Pb**	**17 56 17.7**	**-0.7**
TWF1				S	**Sn**	**17 56 26.5**	**+0.1**
ELDTW	**Lidau**	**0.51**	**307**	*iP*	**Pb**	**17 56 17.6**	**-1.1**
ELDTW				*iS*	**Sb**	**17 56 23.8**	**-2.2**
YULB	**Yu-li**	**0.53**	**344**	*eP*	**Pb**	**17 56 18.1**	**-0.9**
YULB				*eS*	**Sn**	**17 56 26.4**	**-1.0**
ECL	**Taimali**	**0.54**	**239**	*iP*	**Pb**	**17 56 18.5**	**-0.7**
ECL				S	**Sb**	**17 56 24.4**	**-2.4**
HGSD	**Ruisui**	**0.61**	**357**	*eP*	**Pb**	**17 56 20.2**	**-0.1**
HGSD				*eS*	**Sn**	**17 56 29.3**	**0.0**
EHYH	**Wanrong**	**0.62**	**351**	*eP*	**Pb**	**17 56 19.3**	**-1.1**
EHY	**Hungye**	**0.63**	**349**	*eP*	**Pb**	**17 56 19.7**	**-1.0**
EHY				*eS*	**Sb**	**17 56 27.4**	**-2.0**
STYH	**Taoyuan**	**0.69**	**295**	*iP*	**Pb**	**17 56 19.5**	**-2.1**
STYH				*iS*	**Sb**	**17 56 28.4**	**-2.4**
TAW	**Tawu**	**0.73**	**225**	*eS*	**Sb**	**17 56 30.6**	**-1.5**
TSMG	**Majia**	**0.77**	**257**	*eP*	**Pb**	**17 56 21.3**	**-1.6**
TSMG				*eS*	**Sb**	**17 56 29.9**	**-3.1**
EGFH	**Guangfu**	**0.79**	**358**	*eP*	**Pn**	**17 56 24.1**	**+1.2**
EGFH				*iS*	**Sn**	**17 56 33.5**	**-0.1**
MASBT	**Mashibuluo**	**0.81**	**251**	P	**Pb**	**17 56 22.8**	**-0.8**
MASBT				*eS*	**Sb**	**17 56 31.8**	**-2.3**
SGST	**Jiashian**	**0.83**	**284**	*eP*	**Pb**	**17 56 22.8**	**-1.1**
TEGC	**Jichi Village**	**0.83**	**5**	*eP*	**Pn**	**17 56 24.0**	**+0.5**
TEGC				*eS*	**Sn**	**17 56 35.0**	**+0.4**
WARBT	**Fenglin Townsh**	**0.84**	**356**	*eP*	**Pb**	**17 56 22.6**	**-1.5**
LAY	**Lan-yu**	**0.84**	**174**	*eP*	**Pb**	**17 56 23.9**	**-0.3**
WTP	**Ta-pu**	**0.86**	**295**	P	**Pb**	**17 56 24.0**	**-0.4**
WTP				S	**Sn**	**17 56 35.5**	**0.0**
ALS	**Alishan**	**0.87**	**316**	*eP*	**Pn**	**17 56 24.7**	**+0.4**
ALS				S	**Sn**	**17 56 35.9**	**-0.2**
TPUB	**Ta-pu**	**0.87**	**299**	P	**Pb**	**17 56 24.0**	**-0.6**
TPUB				*iS*	**Sn**	**17 56 36.0**	**+0.3**
SCST	**Cishan**	**0.89**	**270**	*eP*	**Pn**	**17 56 25.2**	**+0.9**
CHN1	**Nanshi**	**0.91**	**290**	P	**Pb**	**17 56 24.9**	**-0.4**
CHN1				S	**Sn**	**17 56 37.7**	**+1.1**
SHUL	**Shoufeng**	**0.91**	**6**	*eP*	**Pn**	**17 56 25.3**	**+0.7**
SHUL				*eS*	**Sn**	**17 56 37.9**	**+1.3**
VWDT	**VWDT**	**0.92**	**342**	*eP*	**Pb**	**17 56 24.6**	**-0.8**
CHN4	**Tsaushan**	**0.92**	**301**	P	**Pn**	**17 56 25.3**	**+0.5**
CHN4				*iS*	**Sn**	**17 56 38.0**	**+1.0**
SCZT	**Fangliau**	**0.92**	**237**	*eP*	**Pn**	**17 56 23.9**	**-0.9**
ESL	**Shilin**	**0.93**	**359**	*eP*	**Pb**	**17 56 24.7**	**-0.9**
SNST	**Tainan City**	**0.94**	**291**	*eP*	**Pn**	**17 56 25.8**	**+0.7**
SNST				S	**Sn**	**17 56 38.6**	**+1.1**
TWM1	**Shoushan**	**0.95**	**267**	P	**Pb**	**17 56 27.2**	**+1.2**
TWM1				*iS*	**Sn**	**17 56 40.9**	**+3.1**
WCKO	**Fanlu**	**0.96**	**306**	P	**Pn**	**17 56 26.2**	**+0.9**
WCKO				S	**Sn**	**17 56 38.7**	**+0.8**
TWK	**Hsinying**	**0.97**	**294**	*eP*	**Pb**	**17 56 26.2**	**-0.1**
TWK				*eS*	**Sn**	**17 56 40.2**	**+1.9**
WHYT	**Xinyi Township**	**0.98**	**326**	P	**Pb**	**17 56 26.3**	**-0.2**
WHYT				*iS*	**Sb**	**17 56 38.3**	**-0.9**
CHN5	**Tsauling**	**1.01**	**315**	*iP*	**Pb**	**17 56 27.0**	**0.0**
CHN5				S	**Sn**	**17 56 40.2**	**+1.0**
SSLB	**Suanglung**	**1.01**	**333**	*eP*	**Pb**	**17 56 26.7**	**-0.3**
SSLB				*eS*	**Sn**	**17 56 39.2**	**-0.1**
SHHT	**Tainan City**	**1.03**	**278**	*eP*	**Pb**	**17 56 28.7**	**+1.4**
SMST	**Manzhou Townsh**	**1.03**	**214**	*eS*	**Sb**	**17 56 38.4**	**-2.0**
OWD	**Renai**	**1.10**	**347**	*eP*	**Pn**	**17 56 27.5**	**+0.1**
SMLT	**Sun Moon Lake**	**1.12**	**333**	*eP*	**Pn**	**17 56 27.4**	**-0.2**
CHY	**Chiayi**	**1.13**	**303**	P	**Pb**	**17 56 29.1**	**+0.2**
CHY				*iS*	**Sb**	**17 56 44.2**	**+0.9**
LXIB	**Xiulin Townshi**	**1.14**	**358**	*eP*	**Pn**	**17 56 27.0**	**-0.9**
WGK	**Gukeng**	**1.15**	**314**	P	**Pb**	**17 56 29.8**	**+0.5**
WGK				*iS*	**Sb**	**17 56 44.6**	**+0.7**
WUSB	**Renai**	**1.15**	**344**	*eP*	**Pn**	**17 56 28.2**	**+0.2**
WJS	**Zhushan**	**1.15**	**325**	*eP*	**Pb**	**17 56 30.0**	**+0.6**
WJS				*iS*	**Sb**	**17 56 44.4**	**+0.5**
TYC	**Yuchr**	**1.16**	**332**	*iP*	**Pb**	**17 56 29.4**	**0.0**
TYC				*eS*	**Sb**	**17 56 44.3**	**+0.1**
WDLH	**Douliu**	**1.17**	**314**	*eP*	**Pb**	**17 56 30.1**	**+0.6**
WDLH				*eS*	**Sb**	**17 56 44.9**	**+0.6**
WNT	**Mingjian**	**1.22**	**325**	*eP*	**Pb**	**17 56 32.0**	**+1.5**
WNT				*eS*	**Sb**	**17 56 47.2**	**+1.3**
CHN8	**Yiju**	**1.24**	**292**	*eP*	**Pb**	**17 56 30.3**	**-0.4**
CHN8				S	**Sb**	**17 56 47.0**	**+0.7**
WTK	**Tuku**	**1.27**	**310**	*eS*	**Sb**	**17 56 46.5**	**-0.8**
WCS	**Beigang Elemen**	**1.27**	**337**	*eP*	**Pb**	**17 56 30.8**	**-0.6**
WCS				*eS*	**Sb**	**17 56 47.4**	**0.0**
TSCK	**Chigu Township**	**1.29**	**282**	*eP*	**Pn**	**17 56 31.0**	**+1.1**
WSL	**Shuilin Townsh**	**1.30**	**300**	*eP*	**Pn**	**17 56 30.9**	**+1.0**
WSL				S	**Sn**	**17 56 46.9**	**+0.7**
ENA	**Nanau**	**1.56**	**10**	*eP*	**Pn**	**17 56 34.5**	**+0.8**
ENA				*iS*	**Sb**	**17 56 54.0**	**-1.7**
TWQ1	**Liyutan**	**1.59**	**337**	*eP*	**Pb**	**17 56 36.3**	**-0.4**
TWQ1				*eS*	**Sb**	**17 56 56.6**	**+0.1**
EOS3	**EOS3**	**1.61**	**29**	P	**Pn**	**17 56 35.5**	**+1.4**
EOS3				S	**Sn**	**17 56 54.7**	**+1.0**
JYNG	**Yonagunijimaku**	**2.08**	**41**	*eP*	**Pn**	**17 56 42.4**	**+1.7**
JYNG				*eS*	**Sn**	**17 57 07.0**	**+1.5**
YOJ	**Yonaguni jima**	**2.12**	**42**	*eP*	**Pn**	**17 56 43.0**	**+1.6**
YOJ				*eS*	**Sn**	**17 57 08.5**	**+1.9**
HATJ	**Hateruma jima**	**2.46**	**61**	*eP*	Pn	17 56 41.5	-4.3
HATJ				*eS*	**Sn**	**17 57 15.3**	**+0.5**
IRIF	**Iriomote-Funau**	**2.54**	**55**	*eP*	**Pn**	**17 56 45.1**	**-2.0**
IRIF				*eS*	**Sn**	**17 57 17.7**	**+0.8**
JKRS	**Kuro-shima**	**2.71**	**60**	*eP*	Pn	17 56 45.2	-4.1
JIJ	**Ishigaki jima**	**2.87**	**59**	*eP*	Pn	17 56 47.4	-4.3
JISG	**Ishigakijimahi**	**3.12**	**56**	*eP*	Pn	17 56 50.3	-4.7
JISG				*eS*	**Sn**	**17 57 31.1**	**-0.1**

*IDC **07** 18:00:03.8±1.5, 38°.13N×141°.72E, h50km±14km, mb3.6/22, mbtmp3.9/27, ML3.5/5, MS3.0/2, Error ellipse: s-maj=17.7km s-min=10.1km az=99.0*
*NEIC **07** 18:00:03.8±2.6, 38°.09N±0°.07×141°.6E±0°.1, h57km±8km, mb4.1/10, Error ellipse: s-maj=17.1km s-min=4.1km az=125.0*
*NIED **07** 18:00:04.5, 38°.18N×141°.68E, h51km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}8.19; $M_{\theta\theta}$-2.70; $M_{\phi\phi}$-5.49; $M_{r\theta}$1.14; $M_{\theta\phi}$-0.52; $M_{\phi r}$4.45; Fault plane solution: $M_0$8.28000×10^{14} NP1: ϕ_s190.00000°, δ28.00000°, λ88.00000°. NP2:ϕ_s12.00000°, δ62.00000°, λ91.00000°.*
*JMA **07** 18:00:04.5±0.1, 38°.2N±0°.4×141°.7E±0°.6, h51km, MD3.8/38, MV4.0/38, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
ISC 07 18:00:03.0±1.1, 38°.13N±0°.05×141°.75E±0°.07, h48km±8km, n92, σ1§70/87, mb3.9/26, 18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.29**	**309**	⇓*iP*	**Pn**	**18 00 13.0**	**+1.2**
JIKH				⇓S	**Sn**	**18 00 18.7**	**+0.6**
JIO	**Ouri**	**0.45**	**316**	⇓*iP*	**Pn**	**18 00 14.5**	**+0.9**
JIO				⇓S	**Sn**	**18 00 21.2**	**+0.2**
JIO	**Ouri**	**0.45**	**316**	A	A	18 00 14.5	
	comp=N,14nm,0.3s,comp=E,11nm,0.4s						
JKMT	**Kesennumamotoy**	**0.71**	**343**	⇓P	**Pn**	**18 00 17.5**	**+0.6**
JKMT				⇓S	**Sn**	**18 00 26.5**	**-0.4**
JMST	**Minamisoumatoc**	**0.79**	**240**	A	A	18 00 19.4	
	comp=N,10.0nm,0.2s,comp=E,8.0nm,0.3s						
JMM	**Marumori**	**0.80**	**251**		**Pn**	**18 00 18.4**	**+0.5**
JMM	**Marumori**	**0.80**	**251**	P	**Pn**	**18 00 18.5**	**+0.5**
JMM	**Marumori**	**0.80**	**251**	S	**Sn**	**18 00 28.9**	**0.0**
JMM	**Marumori**	**0.80**	**251**	⇓P	**Pn**	**18 00 18.7**	**+0.7**
JMM	**Marumori**	**0.80**	**251**	A	A	18 00 18.7	
	comp=N,4.0nm,1.0s,comp=E,4.0nm,0.9s						
JOFO	**Osakifurukawao**	**0.81**	**306**	A	A	18 00 18.8	
	comp=N,17nm,0.2s,comp=E,17nm,0.3s						
JOU	**Okura**	**0.89**	**286**	⇓*iP*	**Pn**	**18 00 20.0**	**+0.8**
JOU				⇓S	**Sn**	**18 00 31.4**	**+0.4**
JOU	**Okura**	**0.89**	**286**	A	A	18 00 20.0	
	comp=N,7.0nm,0.6s,comp=E,10.0nm,0.5s						
JMK	**Ichinoseki**	**0.92**	**333**	⇓*iP*	**Pn**	**18 00 20.4**	**+0.8**
JMK				⇓S	**Sn**	**18 00 31.5**	**-0.2**
OFUJ	**Ofunato**	**0.95**	**356**	⇓P	**Pn**	**18 00 20.7**	**+0.6**
JFK	**Kawauchi**	**1.03**	**223**	⇓*iP*	**Pn**	**18 00 22.4**	**+1.3**
JFK				⇓S	**Sn**	**18 00 35.3**	**+0.8**
JFK	**Kawauchi**	**1.03**	**223**	A	A	18 00 22.4	
	comp=N,2.0nm,0.3s,comp=E,4.0nm,0.5s						
JOTO	**OTAMA OYAMA**	**1.26**	**244**	*iP*	**Pn**	**18 00 25.5**	**+1.3**
JYS	**Shirataka**	**1.33**	**274**	⇓*iP*	**Pn**	**18 00 26.2**	**+1.0**
JYK	**Kaneyama**	**1.34**	**306**	⇓*iP*	**Pn**	**18 00 26.1**	**+0.7**
JOM	**Ohasama**	**1.39**	**345**	⇓*iP*	**Pn**	**18 00 26.9**	**+0.9**
JOM	**Ohasama**	**1.39**	**345**	A	A	18 00 26.9	
	comp=N,3.0nm,0.2s,comp=E,3.0nm,0.3s						
JRG	**Rokugo**	**1.54**	**326**	⇓*iP*	**Pn**	**18 00 29.2**	**+1.2**
JRG	**Rokugo**	**1.54**	**326**	A	A	18 00 29.2	
	comp=N,3.0nm,1.6s,comp=E,3.0nm,0.5s						
JTM	**Tenmabayashi**	**2.71**	**349**		**Pn**	**18 00 45.2**	**+1.2**
JTM	**Tenmabayashi**	**2.71**	**349**	P	**Pn**	**18 00 45.5**	**+1.5**
JSD	**Sado**	**2.75**	**269**		**Pn**	**18 00 44.8**	**+0.1**
JSD	**Sado**	**2.75**	**269**	P	**Pn**	**18 00 45.5**	**+0.8**
MJAR	**Matsushiro Arr**	**3.23**	**242**	P	**Pn**	**18 00 53.7**	**+2.3**
	comp=E,0.6nm,0.3s,baz=57,slow=11,SNR=29						
	comp=E,9.7nm,0.7s						
MAJO	**Matsushiro**	**3.24**	**242**		**Pn**	**18 00 49.6**	**-1.7**
MAJO	**Matsushiro**	**3.24**	**242**	P	**Pn**	**18 00 54.4**	**+3.1**
MJB9	**Matsu-Tunnel**	**3.24**	**242**		**Pn**	**18 00 50.6**	**-0.7**
ERM	**Erimo**	**4.03**	**15**	Pn	**Pn**	**18 01 02.9**	**+0.8**
ERM	**Erimo**	**4.03**	**15**	P	**Pn**	**18 01 02.5**	**+0.3**
JEM	**Erimo**	**4.03**	**15**	P	**Pn**	**18 01 02.7**	**+0.5**
JGF	**Kuroka**	**4.33**	**236**		**Pn**	**18 01 09.6**	**+3.2**
JGF	**Kuroka**	**4.33**	**236**	P	**Pn**	**18 01 10.7**	**+4.3**
INU	**Inuyama**	**4.70**	**235**		**Pn**	**18 01 15.2**	**+3.8**
INU	**Inuyama**	**4.70**	**235**	P	**Pn**	**18 01 15.3**	**+3.8**
JHJ2	**Mitsune**	**5.25**	**198**	P	**Pn**	**18 01 22.2**	**+3.3**
JHJ	**Hachijo jima 2**	**5.25**	**198**	P	**Pn**	**18 01 20.0**	**+1.0**
	comp=E,7.0nm,0.3s,baz=63,slow=2.3,SNR=9.5						
JHJ				S	**Sn**	**18 02 17.0**	**-1.1**
	comp=E,35nm,0.4s,baz=84,slow=17,SNR=1.7						
	comp=E,142nm,1.1s						
ASAJ	**Asahikawa**	**6.02**	**6**	P	**Pn**	**18 01 29.7**	**+0.3**
	comp=E,2.2nm,0.3s,baz=195,slow=16,SNR=26						
ASAJ				S	**Sn**	**18 02 37.2**	**+0.3**
	comp=E,5.5nm,0.5s,baz=180,slow=3.0,SNR=1.6						
	comp=E,4.7nm,0.3s						
JKA	**Kamikawa-asahi**	**6.02**	**6**	Pn	**Pn**	**18 01 29.8**	**+0.4**
JMN	**Monobe**	**7.75**	**238**	Pn	**Pn**	**18 01 53.6**	**+0.4**
USA0B	**Ussuriysk Arra**	**9.53**	**313**	Pn	**Pn**	**18 02 19.6**	**+2.0**
USRK	**Ussuriysk Ar.**	**9.53**	**313**	Pn	**Pn**	**18 02 19.3**	**+1.7**
USRK	**Ussuriysk Ar.**	**9.53**	**313**	P	**Pn**	**18 02 18.7**	**+1.2**
	comp=E,1.0nm,0.3s,baz=120,slow=14,SNR=11						
	comp=E,5.8nm,0.7s						
KSRS	**Korea Array**	**10.96**	**271**	P	**Pn**	**18 02 39.9**	**+2.8**
	comp=E,0.2nm,0.3s,baz=76,slow=14,SNR=3.2						
KSRS				LR	LR	18 06 31.1	
	comp=E,59nm,19.6s,baz=100,slow=35						
	comp=E,1.5nm,0.9s						
KLR	**Kul'dur**	**13.23**	**330**	LR	LR	18 07 26.2	
	comp=E,83nm,18.0s,baz=222,slow=33						
JOW	**Kunigami**	**15.98**	**229**	Pn	**Pn**	**18 03 39.5**	**-5.1**
JOW				IAmb	IAmb	18 04 00.7	
	comp=Z,13nm,1.0s						
PETK	**Petropavlovsk-**	**18.61**	**31**	P	**P**	**18 04 13.2**	**-3.1**
MA2	**Magadan**	**22.23**	**12**	P	**P**	**18 04 52.7**	**-2.7**
MA2				IAmb	IAmb	18 05 19.8	
	comp=Z,8.2nm,1.1s						
MA2	**Magadan**	**22.23**	**12**	P	**P**	**18 04 56.7**	**+1.3**
	comp=Z,2.6nm,0.6s,baz=188,slow=19,SNR=4.8						
	comp=Z,2.6nm,0.6s						
KNMB	**Chin-men Tao**	**24.08**	**242**	P	**P**	**18 05 08.1**	**-5.9**
YAK	**Yakutsk**	**25.06**	**347**	P	**P**	**18 05 19.6**	**-3.0**
YAK				IAmb	IAmb	18 05 41.0	
	comp=Z,3.4nm,0.7s						
SONM	**Songino Array**	**27.41**	**302**	P	**P**	**18 05 44.9**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=103,slow=8.2,SNR=4.3						
	comp=Z,0.3nm,0.5s						
HKPS	**Hong Kong Po S**	**28.47**	**244**	P	**P**	**18 05 51.3**	**-2.4**
HKPS				IAmb	IAmb	18 05 59.2	
	comp=Z,13nm,0.8s						
H11N2	**WAKE ISLAND Hy 28.50**	**123**		T	T	18 36 08.4	
	baz=316,slow=75,SNR=196						
H11N1	**WAKE ISLAND Hy 28.51**	**123**		T	T	18 36 11.2	
	baz=316,slow=75,SNR=96						
H11N3	**WAKE ISLAND Hy 28.52**	**123**		T	T	18 36 11.0	
	baz=316,slow=75,SNR=131						
H11S1	**WAKE ISLAND Hy 29.25**	**125**		T	T	18 37 04.3	
	baz=317,slow=76,SNR=53						
H11S3	**WAKE ISLAND Hy 29.25**	**125**		T	T	18 37 04.5	
	baz=317,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy 29.27**	**125**		T	T	18 37 06.1	
	baz=317,slow=76,SNR=63						
ZALV	**Zalesovo Beam**	**41.38**	**311**	P	**P**	**18 07 43.4**	**-0.8**
ZALV	**Zalesovo Beam**	**41.38**	**311**	P	**P**	**18 07 44.2**	**0.0**
	comp=Z,2.2nm,0.4s,baz=84,slow=8.3,SNR=9.3						
ZALV				PcP	**PcP**	**18 09 42.0**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=101,slow=1.5,SNR=2.1						
	comp=Z,2.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**42.04**	**254**	P	**P**	**18 07 51.6**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=48,slow=5.0,SNR=2.4						
	comp=Z,0.2nm,0.4s						
H18K	**Honhosa River**	**43.58**	**32**	P	**P**	**18 08 01.7**	**-0.3**
H18K				IAmb	IAmb	18 08 04.9	
	comp=Z,4.4nm,1.1s						
MK31	**Makanchi Array**	**43.77**	**301**	P	**P**	**18 08 02.4**	**-1.4**
MK31				IAmb	IAmb	18 08 23.3	
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**43.77**	**301**	P	**P**	**18 08 02.0**	**-1.8**
MKAR	**Makanchi Array**	**43.77**	**301**	P	**P**	**18 08 04.2**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=84,slow=9.7,SNR=14						
	comp=Z,1.1nm,0.6s						
D19K	**Kuna River**	**44.25**	**27**	P	**P**	**18 08 07.5**	**+0.1**
D20K	**Etivluk River**	**44.83**	**27**	P	**P**	**18 08 12.7**	**+0.7**
KURK	**Kurchatov**	**45.47**	**307**	P	**P**	**18 08 17.2**	**-0.1**
**KUR

JFK			⇓S		Sn	18 30 10.2	-3.0
JMST	**Minamisoumatoc**	**0.67 296**	⇓*i*P		**Pn**	18 30 02.8	-1.2
JMST			⇓*e*S		**Sn**	18 30 11.4	-2.8
ONAJ	**Iwakimizuishiy**	**0.76 244**	⇓P		**Pn**	18 30 04.2	-0.9
ONAJ			⇓*e*S		**Sn**	18 30 13.5	-2.6
JMM	**Marumori**	**0.80 302**	⇓P		**Pn**	18 30 04.8	-0.8
JMM			⇓S		**Sn**	18 30 14.7	-2.4
JIO	**Ouri**	**1.04 347**	⇓P		**Pn**	18 30 08.4	-0.3
JIO			⇓S		**Sn**	18 30 20.7	-1.8
JOTO	**OTAMA OYAMA**	**1.05 277**	/ P		**Pn**	18 30 08.9	0.0
JOTO			*e*S		**Sn**	18 30 22.0	-0.8
JHO	**Hitachi**	**1.20 227**	P		**Pn**	18 30 10.0	-0.7
JOU	**Okura**	**1.21 320**	P		**Pn**	18 30 10.8	-0.2
JOU			S		**Sn**	18 30 25.8	-0.7
JYS	**Shiratake**	**1.48 302**	P		**Pn**	18 30 14.8	+0.3
JFY	**Yanaizu**	**1.55 269**	P		**Pn**	18 30 15.8	+0.2
JMK	**Ichinoseki**	**1.55 348**	P		**Pn**	18 30 16.0	+0.5
MJAR	**Matsushiro Arr**	**2.90 253**	P		**Pn**	18 30 35.0	+1.1
	1.5nm,0.3s,baz=73,slow=15,SNR=21						
MJAR			S		**Sn**	18 31 12.0	+4.5
	3.7nm,0.6s,baz=110,slow=10,SNR=6.8						
JHJ	**Hachijo jima 2**	**4.57 200**	P		**Pn**	18 30 57.5	+0.7
	49nm,0.7s,baz=72,slow=20,SNR=6.1						
JHJ			S		**Sn**	18 31 47.2	-1.4
	89nm,0.8s,baz=47,slow=9.0,SNR=6.1						
ASAJ	**Asahikawa**	**6.71 6**	P		**Pn**	18 31 27.8	+1.8
	3.9nm,0.9s,baz=215,slow=16,SNR=1.9						
SONM	**Songino Array**	**27.72 303**	P		**P**	18 35 33.2	+0.3
	0.2nm,0.5s,baz=112,slow=8.4,SNR=3.2						
	0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy 28.20 122**		T		T	19 05 50.9	
	baz=314,slow=75,SNR=9.7						
H11N1	**WAKE ISLAND Hy 28.20 122**		T		T	19 05 55.6	
	baz=314,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy 28.21 122**		T		T	19 05 55.6	
	baz=314,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy 28.92 124**		T		T	19 06 45.7	
	baz=316,slow=76,SNR=6.8						
H11S3	**WAKE ISLAND Hy 28.93 124**		T		T	19 06 47.8	
	baz=316,slow=76,SNR=6.9						
H11S2	**WAKE ISLAND Hy 28.94 124**		T		T	19 06 19.5	
	baz=316,slow=76,SNR=5.7						
MKAR	**Makanchi Array**	**44.06 302**	P		**P**	18 37 53.1	+1.0
	0.3nm,0.6s,baz=94,slow=7.7,SNR=4.3						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**45.90 308**	P		**P**	18 38 07.2	+0.7
	0.5nm,0.6s,baz=82,slow=7.9,SNR=7.4						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**50.44 312**	P		**P**	18 38 41.0	-0.5
	0.3nm,0.5s,baz=72,slow=14,SNR=2.8						
	0.3nm,0.5s						

UCR 07 18:36:38.2±1.0, 10°.04N×83°.78W, h0km±3km, MW3.2, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVTR	**Volcan Turrial**	**0.03**	**134**	*e*P	Pg	18 36 38.9	+0.1
VTR0	**Volcan Turrial**	**0.03**	**139**	*e*P	Pg	18 36 38.9	0.0
CVTQ	**Turrialba Volc**	**0.04**	**159**	*e*P	Pg	18 36 39.2	+0.3
VTLA	**Turrialba Volc**	**0.04**	**171**	*e*P	Pg	18 36 39.9	+0.9
CVTV	**Tajo**	**0.05**	**140**	*e*P	Pg	18 36 40.1	+0.9
VTCV	**VTCV, Calle Va**	**0.08**	**137**	*e*P	Pg	18 36 41.4	+1.6

*NEIC **07** 18:44:07.1±1.5, 17°.8S±0°.1×178°.0W±0°.1, h539km±11km, mb4.5/32, Error ellipse: s-maj=20.8km s-min=19.6km az=180.0*
*NOU **07** 18:44:07.9, 17°.83S×178°.00W, h541km, mb4.5/49, Fiji Islands Region*
*IDC **07** 18:44:10.1±1.2, 17°.69S×178°.22W, h554km±12km, mb3.4/12, mbtmp4.3/14, Error ellipse: s-maj=20.3km s-min=13.0km az=128.0*
ISC 07 18:44:08.5±0.5, 17°.80S±0°.08×178°.04W±0°.08, h550km, n143, σ1§31/147, mb4.3/28, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.85**	**240**	P	**P**	18 45 13.2	-1.2
LKBA	**Tubou, Lakemba**	**0.85**	**240**	S	**S**	18 46 06.4	-1.6
TAVE	**Taveuni**	**2.09**	**301**	P	**P**	18 45 17.5	-1.1
DGTI	**Dogotuki**	**2.60**	**305**	P	**P**	18 45 19.7	-1.5
FUTU	**Fugatoga**	**3.48**	**359**		**P**	18 45 24.4	-2.4
MSVF	**Nonsavu**	**3.73**	**270**	P	**P**	18 45 27.4	-1.1
MSVF	**Nonsavu**	**3.73**	**270**	P	**P**	18 45 28.1	-0.3
	267nm,0.7s,baz=124,slow=12,SNR=212						
MSVF				S	**S**	18 46 35.0	+1.4
	4.3nm,0.5s,baz=108,slow=20,SNR=0.4						
MSVF	**Nonsavu**	**3.73**	**270**	P	**P**	18 45 27.9	-0.6
YSA	**Yasawairara**	**4.33**	**284**	P	**P**	18 45 31.6	-1.3
NIUE	**Niue**	**7.80**	**101**	P	**P**	18 46 01.3	-3.0
NIUE	**Niue**	**7.80**	**101**	P	**P**	18 46 03.6	-0.6
NIUE	**Niue**	**7.80**	**101**	P	**P**	18 46 01.9	-2.3
YATNC	**Mamie plateau,**	**14.79**	**251**	P	**P**	18 47 15.5	-0.3
DZM	**Mont Dzumac**	**15.20**	**251**	P	**P**	18 47 19.0	-1.1
DZM				IAmb	IAmb	18 47 33.1	
	comp=Z,19nm,1.1s						
DZM	**Mont Dzumac**	**15.20**	**251**	P	**P**	18 47 19.2	-0.9
	comp=Z,8.2nm,0.5s,baz=87,slow=18,SNR=15						
DZM	**Mont Dzumac**	**15.20**	**251**	P	**P**	18 47 19.5	-0.6
OUZ	**Omahuta**	**18.88**	**202**	P	**P**	18 47 55.0	+0.8
OUZ	**Omahuta**	**18.88**	**202**	P	**P**	18 47 56.1	+1.9
WCZ	**Waipu Caves**	**19.29**	**199**	P	**P**	18 47 59.5	+1.6
KUZ	**Kuaotunu**	**19.66**	**195**	P	**P**	18 48 01.1	-0.2
KUZ	**Kuaotunu**	**19.66**	**195**	P	**P**	18 48 02.7	+1.4
WIAZ	**Waiheke Island**	**19.85**	**196**	P	**P**	18 48 04.7	+1.6
MXZ	**Matakaoa Point**	**19.95**	**189**	P	**P**	18 48 03.7	-0.2
MKAZ	**Moumakai**	**20.14**	**196**	P	**P**	18 48 06.3	+0.6
HAZ	**Te Kaha**	**20.21**	**190**	P	**P**	18 48 04.9	-1.4
PKGZ	**Pakihiroa**	**20.28**	**189**	P	**P**	18 48 05.7	-1.2
RUGZ	**Raukumara Rang**	**20.44**	**190**	P	**P**	18 48 06.8	-1.7
TWGZ	**Tauwhareparae**	**20.60**	**189**	P	**P**	18 48 09.8	-0.1
URZ	**Urewera**	**20.82**	**191**	P	**P**	18 48 08.3	-3.5
	comp=Z,11nm,0.3s,baz=348,slow=2.1,SNR=28						
URZ				S	**S**	18 51 30.9	+2.4
	comp=Z,6.3nm,1.0s,baz=94,slow=21,SNR=1.7						
URZ	**Urewera**	**20.82**	**191**	P	**P**	18 48 10.5	-1.3
URZ	**Urewera**	**20.82**	**191**	P	**P**	18 48 08.8	-3.0
MWZ	**Matawai**	**20.82**	**190**	P	**P**	18 48 09.0	-2.9
RAGZ	**Rawiri**	**21.00**	**190**	P	**P**	18 48 13.3	-0.2
RTZ	**Ruatahuna**	**21.19**	**191**	P	**P**	18 48 12.9	-2.3
MTHZ	**Maungataniwha**	**21.44**	**191**	P	**P**	18 48 16.9	-0.6
BKZ	**Black Stump Fm**	**21.81**	**192**	P	**P**	18 48 19.9	-0.9
BKZ	**Black Stump Fm**	**21.81**	**192**	P	**P**	18 48 17.8	-2.9
OTVZ	**Oturere**	**21.98**	**193**	P	**P**	18 48 19.9	-2.5
SNVZ	**South Ngauruho**	**22.01**	**193**	P	**P**	18 48 20.5	-2.1
TSZ	**Takapari Road**	**22.78**	**192**	P	**P**	18 48 28.1	-1.3
BFZ	**Birch Farm**	**23.33**	**191**	P	**P**	18 48 33.9	-0.3
MRZ	**Mangatainoka R**	**23.43**	**192**	P	**P**	18 48 32.6	-2.6
QRZ	**Quartz Range**	**24.34**	**198**	P	**P**	18 48 42.2	-1.0
QRZ	**Quartz Range**	**24.34**	**198**	P	**P**	18 48 42.7	-0.5
QRZ	**Quartz Range**	**24.34**	**198**	P	**P**	18 48 42.6	-0.6
THZ	**Tophouse**	**25.11**	**196**	P	**P**	18 48 48.5	-1.6
DSZ	**Denniston Nort**	**25.40**	**198**	P	**P**	18 48 52.5	-0.1
KHZ	**Kahutara**	**25.56**	**195**	P	**P**	18 48 52.7	-1.3
KHZ	**Kahutara**	**25.56**	**195**	P	**P**	18 48 52.0	-1.9
GVZ	**Greta Valley S**	**26.21**	**195**	P	**P**	18 48 57.5	-2.2
LTZ	**Lake Taylor**	**26.23**	**196**	P	**P**	18 48 57.7	-2.2
OXZ	**Oxford**	**26.80**	**196**	P	**P**	18 49 03.1	-1.8
OXZ				IAmb	IAmb	18 49 05.0	
	comp=Z,11nm,0.5s						
OXZ	**Oxford**	**26.80**	**196**	P	**P**	18 49 03.0	-1.9
WVZ	**Waitaha Valley**	**26.93**	**198**	P	**P**	18 49 04.7	-1.3
FOZ	**Fox Glacier**	**27.63**	**199**	P	**P**	18 49 10.9	-1.2
FOZ	**Fox Glacier**	**27.63**	**199**	P	**P**	18 49 10.9	-1.2
LBZ	**Lake Benmore**	**28.29**	**198**	P	**P**	18 49 15.6	-2.3
JCZ	**Jackson Bay**	**28.45**	**200**	P	**P**	18 49 19.0	-0.4
JCZ	**Jackson Bay**	**28.45**	**200**	P	**P**	18 49 18.4	-1.0
ODZ	**Otahua Downs**	**28.77**	**197**	P	**P**	18 49 21.7	-0.3
ODZ	**Otahua Downs**	**28.77**	**197**	P	**P**	18 49 20.1	-1.9
WKZ	**Wanaka**	**29.05**	**199**	P	**P**	18 49 23.3	-1.2
MSZ	**Milford Sound**	**29.27**	**201**	P	**P**	18 49 26.0	-0.3
EAZ	**Earnscleugh**	**29.32**	**198**	P	**P**	18 49 25.9	-1.0
MLZ	**Mavora Lakes**	**29.82**	**200**	P	**P**	18 49 30.9	-0.2
TUZ	**Tuapeka**	**29.88**	**197**	P	**P**	18 49 31.1	-0.6
DCZ	**Deep Cove**	**30.22**	**201**	P	**P**	18 49 33.0	-1.6
DCZ				IAmb	IAmb	18 49 35.3	
	comp=Z,16nm,0.9s						
ARMA	**Armidale**	**30.30**	**240**	P	**P**	18 49 36.3	+0.6
WHZ	**Wether Hill Ro**	**30.34**	**200**	P	**P**	18 49 34.8	-0.8
WHZ	**Wether Hill Ro**	**30.34**	**200**	P	**P**	18 49 35.0	-0.6
SYZ	**Scrubby Hill**	**30.56**	**198**	P	**P**	18 49 36.9	-0.5
APZ	**The Paps**	**31.16**	**199**	P	**P**	18 49 42.3	-0.4
CNB	**Canberra Magne**	**33.77**	**232**	P	**P**	18 50 05.8	+0.7
CAN	**Canberra**	**34.05**	**233**	P	**P**	18 50 07.4	+0.1
CAN				IAmb	IAmb	18 50 08.6	
	comp=Z,10nm,0.7s						
CAN	**Canberra**	**34.05**	**233**	P	**P**	18 50 07.2	-0.2
CMSA	**Cobar Meteorol**	**35.51**	**240**	P	**P**	18 50 19.8	+0.3
COEN	**Coen**	**37.46**	**270**	P	**P**	18 50 33.4	-2.4
COEN				IAmb	IAmb	18 50 40.6	
	comp=Z,26nm,1.4s						
COEN	**Coen**	**37.46**	**270**	P	**P**	18 50 35.7	-0.1
TOO	**Toolangi**	**37.51**	**231**	P	**P**	18 50 35.5	-0.5
TOO				IAmb	IAmb	18 50 37.4	
	comp=Z,9.7nm,0.7s						
STKA	**Stephens Creek**	**38.99**	**241**	P	**P**	18 50 47.6	-0.4
STKA	**Stephens Creek**	**38.99**	**241**	P	**P**	18 50 48.7	+0.6
	comp=Z,14nm,0.8s,baz=85,slow=8.8,SNR=20						
	comp=Z,14nm,0.8s						
STKA	**Stephens Creek**	**38.99**	**241**	P	**P**	18 50 48.6	+0.6
INKA	**Innaminka**	**39.11**	**248**	P	**P**	18 50 49.1	+0.1
ARPS	**Mount Arapiles**	**40.00**	**234**	P	**P**	18 50 55.8	-0.2
HTT	**Hallett**	**41.50**	**239**	P	**P**	18 51 08.2	+0.1
LCRK	**Leigh Creek**	**41.62**	**244**	P	**P**	18 51 08.5	-0.5
OOD	**Oodnadatta**	**43.59**	**248**	P	**P**	18 51 24.7	+0.3
BBOO	**Buckleboo**	**43.77**	**241**	P	**P**	18 51 25.9	+0.2
BBOO	**Buckleboo**	**43.77**	**241**	P	**P**	18 51 25.5	-0.3
WR8	**Warramunga Arr**	**44.85**	**259**	P	**P**	18 51 33.5	-0.9
WB0	**Warramunga Arr**	**44.97**	**260**	P	**P**	18 51 33.4	-1.8
WB0				IAmb	IAmb	18 51 35.3	
	comp=Z,7.1nm,0.7s						
WRAB	**Tennant Creek**	**44.99**	**259**	P	**P**	18 51 34.4	-1.0
WRAB				IAmb	IAmb	18 51 35.3	
	comp=Z,6.4nm,0.6s						
WB1	**Warramunga Ar.**	**44.99**	**259**	P	**P**	18 51 34.7	-0.7
WRA	**Warramunga Arr**	**45.00**	**259**	P	**P**	18 51 34.1	-1.4
WRA	**Warramunga Arr**	**45.00**	**259**	P	**P**	18 51 34.6	-0.8
	comp=Z,4.8nm,0.5s,baz=94,slow=7.7,SNR=148						
WRA				PcP	**PcP**	18 53 05.1	+0.2
	comp=Z,1.3nm,0.8s,baz=95,slow=4.3,SNR=3.7						
	comp=Z,4.8nm,0.5s						
AS01	**Alice Springs**	**45.12**	**254**	P	**P**	18 51 36.2	-0.2
AS31	**Alice Springs**	**45.16**	**254**	P	**P**	18 51 35.4	-1.3
AS31				IAmb	IAmb	18 51 37.2	
	comp=Z,19nm,0.7s						
ASAR	**Alice Springs**	**45.16**	**254**	P	**P**	18 51 34.9	-1.8
ASAR	**Alice Springs**	**45.16**	**254**	P	**P**	18 51 36.6	-0.1
	comp=Z,72nm,0.5s,baz=94,slow=7.7,SNR=2541						
ASAR				PcP	**PcP**	18 53 06.1	+0.7
	comp=Z,1.3nm,0.6s,baz=98,slow=3.8,SNR=3.5						
KDU	**Kakadu**	**47.91**	**269**	P	**P**	18 51 57.4	-0.1
MTN	**Manton Dam**	**49.16**	**268**	P	**P**	18 52 05.0	-1.8
MTN				IAmb	IAmb	18 52 37.4	
	comp=Z,26nm,1.2s						
MTN	**Manton Dam**	**49.16**	**268**	P	**P**	18 52 06.3	-0.5
WRKA	**Warakurna**	**50.21**	**252**	P	**P**	18 52 14.3	-0.2
FORT	**Forrest**	**50.37**	**245**	P	**P**	18 52 14.3	-1.2
FORT				IAmb	IAmb	18 52 15.7	
	comp=Z,18nm,0.6s						
FORT	**Forrest**	**50.37**	**245**	P	**P**	18 52 15.2	-0.3
KNRA	**Kununurra**	**50.85**	**264**	P	**P**	18 52 16.6	-2.5
KNRA				IAmb	IAmb	18 52 26.3	
	comp=Z,17nm,1.1s						
FAKI	**Fak Fak**	**50.91**	**281**	P	**P**	18 52 20.0	+0.4
FITZ	**Fitzroy Crossi**	**53.39**	**260**	P	**P**	18 52 37.3	-0.1
FITZ	**Fitzroy Crossi**	**53.39**	**260**	P	**P**	18 52 37.5	+0.1
PSA00	**Pilbara Seismi**	**58.28**	**255**	P	**P**	18 53 09.6	-1.6
MBWA	**Marble Bar**	**58.44**	**256**	P	**P**	18 53 10.9	-1.4
MBWA				IAmb	IAmb	18 53 19.5	
	comp=Z,25nm,1.4s						
MBWA	**Marble Bar**	**58.44**	**256**	P	**P**	18 53 12.7	+0.4
MEEK	**Meekatharra**	**58.80**	**249**	P	**P**	18 53 14.3	-0.4
KLBR	**Kellerberrin**	**59.19**	**243**	P	**P**	18 53 17.1	-0.1
BLDU	**Ballidu**	**60.15**	**245**	P	**P**	18 53 23.2	-0.3
SBA	**Scott Base**	**60.55**	**184**	P	**P**	18 53 26.4	+1.2
VNDA	**Vanda**	**60.58**	**185**	P	**P**	18 53 27.4	+2.0
VNDA	**Vanda**	**60.58**	**185**	P	**P**	18 53 27.5	+2.0
	comp=Z,0.6nm,0.5s,baz=23,slow=5.5,SNR=10						
	comp=Z,0.6nm,0.5s						
MORW	**Morawa**	**60.85**	**246**	P	**P**	18 53 27.2	-1.0
MORW				IAmb	IAmb	18 53 46.6	
	comp=Z,18nm,1.1s						
MORW	**Morawa**	**60.85**	**246**	P	**P**	18 53 28.1	-0.1
PLAI	**Plampang**	**62.85**	**269**	P	**P**	18 53 41.6	+0.2
TOLI2	**Tolitoli**	**63.04**	**281**	P	**P**	18 53 43.2	+0.5
TOLI2	**Tolitoli**	**63.04**	**281**	P	**P**	18 53 43.5	+0.8
GIRL	**Giralia**	**63.26**	**253**	P	**P**	18 53 43.0	-0.9
GIRL	**Giralia**	**63.26**	**253**	P	**P**	18 53 45.0	+1.1
UGM	**Wanagama**	**70.00**	**268**	P	**P**	18 54 24.4	-1.4
UGM	**Wanagama**	**70.00**	**268**	P	**P**	18 54 26.0	+0.3
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**	18 54 37.8	-0.3
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**	18 54 39.7	+1.6
	comp=Z,1.6nm,0.6s,baz=337,slow=1.2,SNR=14						
	comp=Z,1.6nm,0.6s						
PETK	**Petropavlovsk-**	**73.67**	**345**	P	**P**	18 54 47.2	+1.1
	comp=Z,3.1nm,1.0s,baz=191,slow=6.1,SNR=1.7						
	comp=Z,3.1nm,1.0s						
KDAK	**Kodiak Island**	**78.22**	**14**	P	**P**	18 55 11.5	+0.4
	comp=Z,6.8nm,0.8s,baz=197,slow=11,SNR=1.7						
	comp=Z,6.8nm,0.8s						
NVAR	**Mina Array Bea**	**79.10**	**44**	P	**P**	18 55 18.2	+1.6
	comp=Z,2.0nm,0.6s,baz=240,slow=4.2,SNR=8.9						
	comp=Z,2.0nm,0.6s						
CAST	**Castle Rocks**	**83.45**	**11**	P	**P**	18 55 37.2	-0.8
TRF	**Thorofare Moun**	**83.83**	**12**	P	**P**	18 55 39.1	-1.0
TRF				IAmb	IAmb	18 55 40.6	
	comp=Z,6.4nm,0.8s						
RND	**Reindeer**	**84.09**	**13**	P	**P**	18 55 41.4	+0.1
RND				IAmb	IAmb	18 55 42.4	
	comp=Z,7.9nm,0.9s						
TXAR	**Lajitas Array**	**85.64**	**57**	P	**P**	18 55 51.9	+2.3
	comp=Z,2.7nm,0.8s,baz=252,slow=4.5,SNR=24						
	comp=Z,2.7nm,0.8s						
ILAR	**Eielson Array**	**85.71**	**13**	P	**P**	18 55 48.5	-0.4
	comp=Z,0.6nm,0.4s,baz=210,slow=4.8,SNR=18						
	comp=Z,0.6nm,0.4s						
PDAR	**Pinedale Array**	**87.03**	**43**	P	**P**	18 55 57.3	+1.2
	comp=Z,0.9nm,0.7s,baz=269,slow=3.2,SNR=1.8						
	comp=Z,0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.18**	**290**	P	**P**	18 56 08.3	+2.0
	comp=Z,0.4nm,0.5s,baz=116,slow=5.1,SNR=2.3						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**94.09**	**25**	P	**P**	18 56 27.9	0.0
	comp=Z,0.5nm,0.8s,baz=241,slow=4.4,SNR=10						
	comp=Z,0.5nm,0.8s						
ARCES	**ARCESS Array B**	**126.27**	**350**	PKP	**PKiKP**	19 02 09.2	+0.5
	comp=Z,2.5nm,0.9s,baz=13,slow=3.4,SNR=4.0						
BRTR	**Keskin Array B**	**144.96**	**315**	PKP	**PKPab**	19 02 44.7	-0.6
	comp=Z,0.6nm,0.9s,baz=98,slow=2.9,SNR=3.8						
GERES	**GERESS Array B**	**147.60**	**345**	PKPbc	**PKiKP**	19 02 51.7	-1.1
	comp=Z,0.7nm,0.5s,baz=20,slow=3.9,SNR=8.6						

*IDC **07** 18:51:55.2±2.8, 43°.26N×105°.16W, h0km, mbtmp3.1/2, ML2.0/1, Error ellipse: s-maj=58.7km s-min=11.2km az=154.0*
*NEIC **07** 18:52:00.1±2.8, 43°.58N±0°.04×105°.61W±0°.08, h0km±1km, ML3.3/40, Error ellipse: s-maj=10.1km s-min=6.3km az=117.0*
ISC 07 18:51:56.5±1.0, 43°.58N±0°.05×105°.21W±0°.07, h0km, n22, σ2§16/20, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.34**	**226**		**Pg**	18 52 21.8	-0.3
LAO	**LASA Array**	**3.19**	**347**	Pn	**Pb**	18 52 53.1	-0.9
LAO				IAML		18 53 43.5	
	91nm,0.7s						
LAO				IAML		18 53 55.7	
	108nm,0.8s						
BW06	**Boulder Array**	**3.28**	**257**	Pn	**Pn**	18 52 52.0	+2.6
PD31	**Pinedale Array**	**3.28**	**257**		**Pn**	18 52 49.9	+0.5
PDAR	**Pinedale Array**	**3.28**	**257**	Pn	**Pn**	18 52 51.0	+1.6
	1.6nm,0.4s,baz=77,slow=17,SNR=19						
PDAR				Lg	Lg	18 53 37.1	
	6.2nm,0.3s,baz=86,slow=29,SNR=3.2						
RLMT	**Red Lodge**	**3.29**	**299**		**Pn**	18 52 49.6	+0.1
RLMT				IAML		18 53 53.8	
	50nm,0.8s						
OGNE	**Ogallala**	**3.54**	**137**		**Pb**	18 52 58.8	-1.2
YNE	**Yellowstone No**	**3.73**	**294**		**Pn**	18 52 56.8	+1.3
YNE				IAML		18 54 03.7	
	comp=E,60nm,0.5s						
YNE				IAML		18 54 08.5	
	comp=N,79nm,0.7s						
YMP	**Mirror Lake Pl**	**3.74**	**290**		**Pn**	18 52 56.2	+0.5
YMP				IAML		18 54 13.9	
	comp=E,74nm,0.7s						
MOOW	**Moose Ponds**	**4.02**	**274**		**Pn**	18 52 58.7	-0.7
SNOW	**Snow King Moun**	**4.03**	**270**		**Pn**	18 52 57.4	-2.3
SNOW				IAML		18 54 22.1	
	comp=E,43nm,0.8s						
SNOW				IAML		18 54 25.0	
	comp=E,44nm,2.1s						
YNR	**Norris Junctio**	**4.09**	**288**		**Pn**	18 53 02.2	+1.7
O20A	**White River Ci**	**4.12**	**214**		**Pb**	18 53 07.4	-2.6
O20A				IAML		18 54 40.3	
	comp=E,45nm,2.3s						
O20A				IAML		18 55 14.6	
	comp=E,43nm,2.6s						
TPAW	**Teton Pass**	**4.17**	**271**		**Pn**	18 53 04.7	+3.1
TPAW				IAML		18 54 16.8	
	comp=E,32nm,0.8s						
TPAW				IAML		18 54 40.9	
	comp=E,27nm,3.4s						
YHH	**Holmes Hill**	**4.23**	**288**		**Pn**	18 53 04.2	+1.7
Q24A	**Divide**	**4.62**	**179**		**Pb**	18 53 16.4	-2.1
Q24A				IAML		18 54 31.3	
	comp=E,26nm,0.7s						
Q24A				IAML		18 55 40.5	
	comp=N,20nm,3.5s						
HWUT	**Hardware Ranch**	**5.09**	**249**		**Pn**	18 53 17.7	+3.6
HWUT				IAML		18 55 30.5	
	comp=N,18nm,3.1s						
TCUT	**Toone Canyon**	**5.21**	**244**		**Pn**	18 53 19.8	+4.0
P18A	**Preston Nutter**	**5.46**	**225**	IAML		18 55 10.7	
	comp=N,20nm,2.5s						
P18A				IAML		18 55 56.4	
	comp=E,18nm,2.5s						
Q16A	**Castle Valley**	**6.47**	**226**		**Pn**	18 53 35.3	+2.2
ULM	**Lac du Bonnet**	**9.23**	**40**	Pn	**Pn**	18 54 10.8	+0.1
	comp=E,0.3nm,0.3s,baz=227,slow=18,SNR=1.9						
ULM				Lg	Lg	18 56 43.4	
	comp=E,0.2nm,0.3s,baz=321,slow=20,SNR=3.1						
	comp=E,0.6nm,0.3s						
I56US	**NEWPORT INFRAS**	**9.53**	**304**	I	I	19 53 00.0	
	baz=117,slow=322,SNR=0.9						

*NEIC **07** 18:55:34.9±1.1, 17°.38N±0°.06×68°.83W±0°.04, h35km±2km, ML2.6/12, Md3.4/3(RSPR), Error ellipse: s-maj=11.5km s-min=3.1km az=151.0*
*SDD **07** 18:55:36.4±1.5, 18°.19N×68°.69W, h153km±13km, MD3.1, ML2.8, MW2.6*
*RSPR **07** 18:55:37.3, 18°.04N×68°.85W, h132km±5km, MD3.4/3*
ISC 07 18:55:37.5±1.8, 18°.0N±0°.2×68°.83W±0°.04, h118km±19km, n28, σ1§56/35, 6C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.70**	**37**		**Pn**	18 55 54.6	-2.1
PCDR					**Sn**	18 56 10.4	-0.8
PCDR				IAML		18 56 20.5	
	comp=N,197nm,1.4s						
PCDR	**Punta Cana, DR**	**0.70**	**37**	⇑*e*Pg	**Pn**	18 55 56.5	-0.2
PCDR				⇓*e*Sg	**Sn**	18 56 12.3	+1.1
PCDR				IAML		18 56 25.1	
	comp=N,140nm,1.3s						
PCDR	**Punta Cana, DR**	**0.70**	**37**	⇑*e*P	**Pn**	18 55 56.6	-0.1
PCDR	**Punta Cana, DR**	**0.70**	**37**	*e*S	**Sn**	18 56 12.6	+1.4
DR12	**Loma Pena Alta**	**0.98**	**328**	Pn	**Pn**	18 55 59.2	-0.1
HATOM	**Hato Mayor del**	**0.98**	**328**	⇑*e*Pg	**Pn**	18 55 59.2	-0.1
HATOM				⇓*e*Sg	**Sn**	18 56 16.6	+0.8
HATOM				IAML		18 56 19.7	
	comp=N,28nm,0.4s						
MIDR	**Miches**	**1.

RPZ LR LR 19 10 03.2
comp=Z,2μm,20.4s,baz=187,slow=33
comp=Z,19nm,1.0s
TOO Toolangi 23.75 343 P **P** **19 04 22.5 -2.6**
MRZ Mangatainoka R 24.05 43 P **P** **19 04 29.5 +1.6**
CAN Canberra 25.58 350 P **P** **19 04 42.5 +0.6**
CAN IAmb IAmb 19 04 48.6
comp=Z,22nm,1.1s
URZ Urewera 26.72 43 LR LR 19 16 18.3
comp=Z,860nm,18.0s,baz=298,slow=38
QSPA South Pole Qui 29.41 180 P P 19 05 09.1 -7.1
QSPA IAmb IAmb 19 05 19.6
comp=Z,7.1nm,0.8s
QSPA South Pole Qui 29.41 180 P **P** **19 05 17.3 +1.2**
comp=Z,6.7nm,0.8s,baz=354,slow=6.2,SNR=20
QSPA PcP **PcP** **19 08 21.8 +0.4**
comp=Z,1.5nm,0.8s,baz=0.0,slow=3.0,SNR=2.1
QSPA LR LR 19 16 11.0
comp=Z,1μm,21.1s,baz=11,slow=35
comp=Z,6.7nm,0.8s
STKA Stephens Creek 29.95 339 P **P** **19 05 18.0 -2.9**
STKA Stephens Creek 29.95 339 P **P** **19 05 20.5 -0.5**
comp=Z,9.3nm,1.1s,baz=163,slow=10,SNR=6.5
STKA LR LR 19 16 22.8
comp=Z,772nm,18.2s,baz=165,slow=34
comp=Z,9.3nm,1.1s
BBOO Buckleboo 30.26 329 P **P** **19 05 20.0 -3.6**
FORT Forrest 34.50 318 P **P** **19 05 57.1 -3.6**
H01W1 Cape Leeuwin H 36.26 297 T T 19 44 43.7
baz=147,slow=75,SNR=262
H01W2 Cape Leeuwin H 36.27 297 T T 19 44 39.9
baz=147,slow=75,SNR=204
H01W3 Cape Leeuwin H 36.28 297 T T 19 44 44.9
baz=147,slow=75,SNR=277
NWAO Narrogin (SRO) 36.63 302 LR LR 19 17 54.8
comp=Z,1μm,18.8s,baz=140,slow=31
MAW Mawson 36.84 220 LR LR 19 21 29.8
comp=Z,1μm,18.9s,baz=103,slow=36
ASAR Alice Springs 39.53 330 P **P** **19 06 40.3 -3.4**
ASAR Alice Springs 39.53 330 P **P** **19 06 44.8 +1.1**
comp=Z,9.7nm,1.1s,baz=168,slow=7.6,SNR=25
ASAR PcP **PcP** **19 08 51.3 +0.3**
comp=Z,2.4nm,1.0s,baz=158,slow=3.5,SNR=5.9
ASAR LR LR 19 21 03.3
comp=Z,322nm,20.0s,baz=165,slow=33
comp=Z,9.7nm,1.1s
AS31 Alice Springs 39.54 330 P **P** **19 06 43.0 -0.7**
DZM Mont Dzumac 39.55 18 P **P** **19 06 43.3 -0.6**
DZM IAmb IAmb 19 06 55.5
comp=Z,17nm,1.1s
DZM Mont Dzumac 39.55 18 *e*LR LR 19 17 43.2
comp=Z,2μm,25.2s
MORW Morawa 40.50 304 P **P** **19 06 48.0 -3.6**
MORW IAmb IAmb 19 06 52.9
comp=Z,12nm,0.9s
BELA Belgrano 2 41.59 177 P **P** **19 06 58.3 -1.7**
BELA IAmb IAmb 19 07 03.8
comp=Z,13nm,0.9s
WR8 Warramunga Arr 42.97 333 P **P** **19 07 11.1 -0.8**
WR8 IAmb IAmb 19 07 24.7
comp=Z,13nm,1.1s
WB2 Warramunga Arr 43.01 332 P **P** **19 07 11.4 -0.8**
WB2 IAmb IAmb 19 07 16.1
comp=Z,18nm,1.1s
WRA Warramunga Arr 43.02 332 P **P** **19 07 13.0 +0.7**
comp=Z,9.4nm,1.0s,baz=167,slow=7.7,SNR=24
WRA PcP **PcP** **19 09 02.6 +0.2**
comp=Z,2.5nm,1.0s,baz=166,slow=3.0,SNR=5.9
comp=Z,9.4nm,1.0s
WRAB Tennant Creek 43.02 332 P **P** **19 07 09.3 -3.0**
WRAB IAmb IAmb 19 07 14.2
comp=Z,19nm,1.1s
WB0 Warramunga Arr 43.17 332 P **P** **19 07 10.8 -2.7**
WB0 IAmb IAmb 19 07 15.8
comp=Z,13nm,1.0s
PSA00 Pilbara Seismi 45.79 313 P **P** **19 07 31.3 -3.1**
TROLL Troll, Antarti 46.13 192 ⇓P **P** **19 07 37.8 +1.0**
comp=Z,400nm,0.7s
SNAA Sanae 46.95 190 P **P** **19 07 39.0 -4.1**
SNAA IAmb IAmb 19 07 44.7
comp=Z,5.9nm,0.9s
SNAA Sanae 46.95 190 ⇓P **P** **19 07 44.1 +0.9**
comp=Z,141nm,1.1s
SNAA Sanae 46.95 190 P **P** **19 07 43.2 +0.1**
comp=Z,10nm,1.1s,baz=173,slow=7.0,SNR=8.4
SNAA LR LR 19 28 01.2
comp=Z,1μm,18.2s,baz=166,slow=37
comp=Z,10nm,1.1s
FITZ Fitzroy Crossi 47.10 322 P **P** **19 07 42.1 -2.6**
VNA3 Neumayer Olymp 47.87 187 ⇓P **P** **19 07 51.0 +0.9**
comp=Z,15nm,0.7s
VNA2 Neumayer--Watz 48.03 188 ⇓P **P** **19 07 51.6 +0.2**
comp=Z,6.0nm,0.6s,baz=161,slow=5.4
VNA1 Neumayer--Stat 48.36 188 ⇓P **P** **19 07 55.2 +1.3**
comp=Z,29nm,1.0s
KNRA Kununurra 48.50 327 P **P** **19 07 55.9 +0.3**
KNRA IAmb IAmb 19 07 58.3
comp=Z,16nm,1.1s
HNR Honiara 51.34 8 LR LR 19 27 11.2
comp=Z,934nm,18.1s,baz=186,slow=33
PMG Port Moresby 51.43 351 LR LR 19 27 58.7
comp=Z,661nm,18.1s,baz=140,slow=34
PMSA Palmer Station 51.65 160 LR LR 19 28 00.4
comp=Z,292nm,18.2s,baz=214,slow=33
EDFI Ende, Flores 57.13 321 P **P** **19 09 01.6 +2.1**
comp=Z,13nm,1.3s
FAKI Fak Fak 59.96 335 P **P** **19 09 17.9 -1.2**
FAKI Fak Fak 59.96 335 P **P** **19 09 21.0 +1.9**
GMJI Gumukmas 60.36 312 P **P** **19 09 23.3 +1.4**
comp=Z,33nm,1.3s
RKT Rikitea 60.84 86 *e*LR LR 19 27 16.4
comp=Z,2μm,25.2s
NLAI Namlea 60.85 329 P **P** **19 09 26.8 +1.6**
comp=Z,37nm,1.3s
KMMI Kalianget 61.31 313 P **P** **19 09 30.5 +2.2**
comp=Z,32nm,1.2s
SPSI Sidrap Palu 62.24 321 P **P** **19 09 35.9 +1.3**
comp=Z,11nm,1.0s
SANI Sanana 62.28 328 P **P** **19 09 35.5 +0.7**
comp=Z,15nm,1.1s
LEM Lembang 63.90 307 LR LR 19 33 19.9
comp=Z,260nm,21.6s,baz=148,slow=32
LEM Lembang 63.90 307 P **P** **19 09 47.2 +1.4**
comp=Z,25nm,1.2s
MPSI Mapaga 66.27 322 P **P** **19 10 01.7 +0.7**
PLCA Paso Flores 72.58 146 P **P** **19 10 40.7 +0.8**
comp=Z,2.3nm,1.0s,baz=180,slow=11,SNR=4.1
comp=Z,2.3nm,1.0s
H03S1 Juan Fernandez 76.38 137 T T 20 35 35.0
baz=202,slow=74,SNR=15
H03S2 Juan Fernandez 76.38 137 T T 20 35 33.6
baz=202,slow=74,SNR=13
H03S3 Juan Fernandez 76.39 137 T T 20 35 33.9
baz=202,slow=74,SNR=15
H08S2 Diego Garcia H 79.22 274 T T 20 38 33.1
baz=149,slow=76,SNR=53
H08S1 Diego Carcia H 79.23 274 T T 20 38 30.8
baz=149,slow=76,SNR=29
H08S3 Diego Garcia H 79.24 274 T T 20 38 33.6
baz=149,slow=76,SNR=71
SUR Sutherland 79.70 219 LR LR 19 43 32.8
comp=Z,218nm,21.4s,baz=158,slow=33
BOSA Boshof 81.73 224 P **P** **19 11 32.2 +0.8**
comp=Z,6.2nm,1.2s,baz=180,slow=13,SNR=3.1
BOSA LR LR 19 45 29.0
comp=Z,133nm,18.8s,baz=180,slow=34
comp=Z,6.2nm,1.2s
PALK Pallekele 88.24 288 LR LR 19 45 13.8
comp=Z,148nm,19.4s,baz=126,slow=31
CMAR Chiang Mai Arr 90.37 309 P **P** **19 12 14.8 +0.9**
comp=Z,1.2nm,0.9s,baz=151,slow=5.8,SNR=7.8
CMAR LR LR 19 50 22.7
comp=Z,146nm,20.1s,baz=180,slow=34
comp=Z,1.2nm,0.9s
LSZ Lusaka 92.87 232 LR LR 19 49 56.6
comp=Z,155nm,19.8s,baz=156,slow=33
TSUM Tsumeb 93.00 221 LR LR 19 52 25.5
comp=Z,151nm,20.2s,baz=148,slow=34
PZH PanZhiHua 96.69 314 P **P** **19 12 44.8 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,7.1s
NJ2 Nanjing 96.78 331 *e*P **P** **19 12 45.0 +2.0**
NJ2 pmax pmax
comp=Z,30nm,0.5s
WMQ Urumqi 117.23 312 *e*PKP **PKPdf** **19 17 54.8 -2.4**
WMQ sPKP 19 18 10.1
WMQ LR LR
comp=Z,120nm,24.1s
NVAR Mina Array Bea 121.55 67 PKP **PKiKP** **19 18 08.7 +2.6**
comp=Z,0.5nm,0.6s,baz=257,slow=4.5,SNR=3.2
MKAR Makanchi Array 121.76 310 PKP **PKiKP** **19 18 06.6 +0.7**
comp=Z,1.1nm,1.1s,baz=168,slow=2.8,SNR=5.1
KURBB Kurchatov Arra 126.33 310 PKP **PKiKP** **19 18 14.8 +0.1**
comp=Z,0.9nm,1.0s,baz=137,slow=1.6,SNR=4.2
PDAR Pinedale Array 129.02 70 PKP **PKiKP** **19 18 21.5 +0.7**
comp=Z,0.5nm,0.9s,baz=247,slow=4.4,SNR=4.7
ILAR Eielson Array 132.70 30 PKP **PKiKP** **19 18 27.0 -0.1**
comp=Z,0.7nm,1.0s,baz=202,slow=3.7,SNR=3.5
YKA Yellowknife Ar 140.94 47 PKhKP PKPpre 19 18 36.2
comp=Z,0.3nm,0.8s,baz=227,slow=2.1,SNR=3.0
AKASG Malin Array Be 148.25 277 PKPbc **PKiKP** **19 18 58.1 -1.2**
comp=Z,3.6nm,1.0s,baz=104,slow=2.8,SNR=7.0
KOLS Kolonicke sedl 150.51 269 *e*PKP **PKPab** **19 19 06.6 -3.6**
KOLS *e* 19 19 14.3
VYHS Vyhne 151.91 265 *e*PKP **PKiKP** **19 19 09.3 +2.3**
VYHS *e* 19 19 17.8
NACGM Naroch 151.96 282 *e*PKiKP **PKiKP** **19 19 07.9 +1.0**
comp=Z,8.0nm,1.0s,baz=124
LANS Liptovska Anna 152.04 266 *e*PKP **PKiKP** **19 19 09.5 +2.2**
SOKA Soboth 152.49 258 *e*pPKP PKPab 19 19 27.8 +9.1
comp=Z,4.1nm,1.2s
RONA Rosalia, Austr 152.60 261 *e*pPKP **PKPab** **19 19 23.4 +4.4**
comp=Z,3.5nm,1.0s
OBKA Obir 152.60 257 *e*pPKP PKPab 19 19 30.1 +11
comp=Z,6.2nm,1.4s
CONA Conrad Observa 152.97 261 *e*pPKP **PKPab** **19 19 25.1 +4.5**
comp=Z,3.3nm,1.2s
KBA Koelnbreinsper 153.59 257 *e*pPKP **PKPab** **19 19 28.6 +5.2**
comp=Z,6.0nm,1.6s
MOA Molln 153.69 259 *e*pPKP **PKPab** **19 19 30.0 +6.4**
comp=Z,3.6nm,1.0s
ABTA Abfaltersbach 153.75 255 *e*pPKP **PKPab** **19 19 29.8 +5.8**
comp=Z,2.8nm,0.9s
LESA Schwarzleotal 154.16 257 *e*pPKP **PKPab** **19 19 29.6 +4.0**
comp=Z,3.5nm,0.9s
WTTA Wattenberg 154.54 255 *e*pPKP **PKPab** **19 19 32.6 +5.2**
comp=Z,5.1nm,1.2s
WATA Walderalm 154.62 255 *e*pPKP **PKPab** **19 19 32.4 +4.7**
comp=Z,2.0nm,0.8s
GERES GERESS Array B 154.65 260 PKPbc **PKiKP** **19 19 12.5 -0.3**
comp=Z,0.5nm,0.7s,baz=157,slow=0.7,SNR=4.3
GERES PKPab **PKPab** **19 19 25.1 -2.7**
comp=Z,0.7nm,0.8s,baz=134,slow=2.8,SNR=5.6
FETA Feichten 154.79 254 *e*pPKP **PKPab** **19 19 34.1 +5.7**
comp=Z,4.0nm,1.4s
MOTA Moosalm 154.85 255 *e*pPKP **PKPab** **19 19 33.9 +5.2**
comp=Z,5.4nm,1.1s
ESDC Sonseca Array 154.91 223 PKPbc **PKiKP** **19 19 14.7 +1.1**
comp=Z,0.9nm,0.9s,baz=132,slow=1.9,SNR=2.2
DAVA Damuels 155.39 253 *e*pPKP **PKPab** **19 19 34.4 +3.4**
comp=Z,5.1nm,1.2s

DJA 07 19:02:22.6±0.5, 4°S±5°×12°8E±°, h199km±6km, M3.4/8, mB4.5/1, mb4.2/3, MLv2.9/8, Mw(mB)3.6/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.52**	**88**	P	Pn	19 02 50.2	+0.5
NLAI	**Namlea**	**0.74**	**309**	P	Pn	19 02 52.1	+1.4
MSAI	**Masohi**	**1.31**	**74**	P	Pn	19 02 54.3	-0.3
MSAI				S	Sn	19 03 19.5	+0.2
SANI	**Sanana**	**2.35**	**314**	P	Pn	19 03 04.5	-0.3
SWI	**Sorong**	**4.57**	**52**	P	Pn	19 03 31.9	+0.4
FAKI	**Fak Fak**	**4.64**	**80**	P	Pn	19 03 31.7	-0.7
BBSI	**Bau Bau**	**5.38**	**251**	P	Pn	19 03 42.1	+0.2
	28nm,0.9s						
SAUI	**Saumlaki**	**5.57**	**140**	P	Pn	19 03 44.3	-0.1
	60nm,0.8s						

DJA 07 19:05:36.4±0.9, 11°S±9°×11°8E±°, h10km, M4.0/10, mb4.2/2, MLv4.0/10, MwMwp5.6/1, Mwp5.7/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.21**	**36**	P	Pn	19 06 14.0	+0.8
WBSI				S	Sn	19 06 39.6	-1.1
PLAI	**Plampang**	**2.62**	**353**	P	Pn	19 06 19.8	+0.9
BASI	**Baing, Sumba**	**2.74**	**64**	P	Pn	19 06 18.5	-2.0
WSI	**Waingapu**	**2.81**	**51**	P	Pn	19 06 22.7	+1.3
WSI				S	Sn	19 06 56.3	+1.0
DNP	**Denpasar**	**3.95**	**314**	P	Pn	19 06 37.2	+0.1
SRBI	**Singaraja**	**4.38**	**320**	P	Pn	19 06 44.2	+1.2
EDFI	**Ende, Flores**	**4.45**	**53**	P	Pn	19 06 44.9	+0.8
JAGI	**Jajag, Banyuwa**	**4.87**	**307**	P	Pn	19 06 48.3	-1.5
GMJI	**Gumukmas**	**5.55**	**304**	P	Pn	19 06 57.6	-1.6
	0.1nm34μm23nm,1.4s						
BSSI	**Bau Bau, Buton**	**5.79**	**25**	P	Pn	19 07 03.2	+0.8

---

*BJI **07** 19:14:59.2, 18°.76S×174°.22W, h20km, mB5.2/12, mb5.0/37, Ms4.9/7, Ms7 4.5/11*
*NEIC **07** 19:15:01.8±1.4, 19°.07S±0°.10×174°.3W±0°.1, h35km±1km, mb5.3/429, Mww5.1/12, Error ellipse: s-maj=16.6km s-min=16.2km az=49.0*
*MOS **07** 19:15:04.7±2.5, 18°.97S×174°.79W, h43km, mb5.2/23, Error ellipse: s-maj=12.2km s-min=11.2km az=99.4*
*IDC **07** 19:15:04.8±2.8, 19°.07S×174°.51W, h54km±23km, mb4.7/19, mbtmp5.0/19, MS4.1/34, Error ellipse: s-maj=16.4km s-min=13.3km az=116.0*
*BGR **07** 19:15:06.0, 19°.51S×174°.13W, h68km, Hypocentre not reviewed by the ISC*
*GCMT **07** 19:15:07.6±0.2, 19°.15S±0°.02×173°.98W±0°.01, h72km±1km, MW5.1/120, Moment Tensor Solution. s71, c108; s120, c186; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.45±.18; $M_{\theta\theta}$0.57±.16; $M_{\phi\phi}$-4.02±.16; $M_{r\theta}$-0.81±.11; $M_{\theta\phi}$0.78±.14; $M_{\phi r}$-4.56±.10; Best double couple: $M_0$6.01200×10^{16} NP1:ϕ_s332.00000°, δ23.00000°, λ58.00000°. NP2:ϕ_s186.00000°, δ71.00000°, λ102.00000°. Principal axes: T 5.8250, Plg62.0000°, Azm115.0000°; N 0.3700, Plg12.0000°, Azm2.0000°; P -6.1980, Plg25.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 19:15:02.2±0.5, 19°.19S±0°.05×174°.22W±0°.04, h41km±3km, n883, σ1$41/697, mb5.3/272, MS4.3/38, 81C-22D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.06**	**89**	Pn	**Pn**	**19 16 01.5**	**-0.3**
NIUE				Sn	**Sn**	**19 16 41.6**	**-6.5**
NIUE	**Niue**	**4.06**	**89**	P	**Pn**	**19 16 01.5**	**-0.3**
NIUE				S	**Sn**	**19 16 42.1**	**-6.0**
NIUE	**Niue**	**4.06**	**89**	P	**Pn**	**19 16 01.8**	**-0.1**
NIUE				S	**Sn**	**19 16 41.7**	**-6.4**
AFI	**Afiamalu**	**5.75**	**24**	Pn	**Pn**	**19 16 23.8**	**-1.4**
AFI	**Afiamalu**	**5.75**	**24**	P	**Pn**	**19 16 23.8**	**-1.4**
MSVF	**Nonsavu**	**7.48**	**280**	P	Pn	19 16 58.0	+9.0
	546nm,1.0s,baz=118,slow=12,SNR=166						
MSVF				LR	LR	19 18 56.0	
	comp=Z,519nm,19.4s,baz=132,slow=32						
RAR	**Rarotonga**	**13.71**	**101**	P	**Pn**	**19 18 13.4**	**-0.7**
	618nm,0.5s,baz=250,slow=6.5,SNR=236						
RAR				S	Sn	19 20 33.1	-12
	43nm,0.4s,baz=116,slow=21,SNR=6.4						
RAR				LR	LR	19 23 54.4	
	comp=Z,308nm,18.4s,baz=250,slow=38						
PINNC	**Pines Island,**	**17.47**	**256**	P	**P**	**19 19 06.7**	**+3.1**
DZM	**Mont Dzumac**	**18.33**	**258**	P	**Pn**	**19 19 16.6**	**+3.1**
DZM	**Mont Dzumac**	**18.33**	**258**	*e*P	**Pn**	**19 19 15.4**	**+1.9**
	212nm,1.1s						
DZM				*e*S	**Sn**	**19 22 30.2**	**-7.2**
	770nm,24.9s						
DZM				*e*LR	LR	19 23 28.5	
	3μm,25.9s						
DZM	**Mont Dzumac**	**18.33**	**258**	P	**Pn**	**19 19 17.0**	**+3.5**
	68nm,0.8s,baz=85,slow=15,SNR=31						
DZM				LR	LR	19 23 39.9	
	comp=Z,443nm,20.3s,baz=111,slow=28						
ONTNC	**Ouen Toro**	**18.34**	**257**	P	**Pn**	**19 19 15.0**	**+1.4**
OUZ	**Omahuta**	**19.27**	**212**	P	**Pn**	**19 19 25.5**	**+0.9**
GRZ	**Great Barrier**	**19.27**	**206**	P	**Pn**	**19 19 26.1**	**+1.5**
WCZ	**Waipu Caves**	**19.49**	**209**	P	**Pn**	**19 19 29.2**	**+1.9**
KUZ	**Kuaotunu**	**19.59**	**205**	P	**Pn**	**19 19 31.0**	**+2.5**
HAZ	**Te Kaha**	**19.77**	**199**	P	**Pn**	**19 19 30.1**	**-0.4**
HAZ				S	**S**	**19 23 09.4**	**+0.1**
PKGZ	**Pakihiroa**	**19.78**	**198**	P	**Pn**	**19 19 33.0**	**+2.2**
PKGZ				S	S	19 22 59.2	-10
WIAZ	**Waiheke Island**	**19.87**	**206**	P	**Pn**	**19 19 33.6**	**+1.8**
MBAZ	**Motutapu North**	**19.95**	**206**	P	**Pn**	**19 19 34.8**	**+2.1**
RUGZ	**Raukumara Rang**	**20.00**	**199**	P	Pn	19 19 33.7	+0.4
RUGZ				S	S	19 22 57.7	-16
TWGZ	**Tauwhareparae**	**20.10**	**198**	P	Pn	19 19 36.8	+2.3
MKAZ	**Moumakai**	**20.12**	**205**	P	Pn	19 19 36.2	+1.4
CNGZ	**Carnagh Statio**	**20.32**	**197**	P	Pn	19 19 38.1	+1.0
MWZ	**Matawai**	**20.38**	**199**	P	Pn	19 19 38.2	+0.4
URZ	**Urewera**	**20.44**	**200**	P	Pn	19 19 37.8	-0.7
	130nm,0.6s,baz=104,slow=4.0,SNR=60						
URZ				S	**S**	**19 23 14.0**	**-8.7**
	14nm,0.7s,baz=220,slow=19,SNR=3.6						
	130nm,0.6s						
URZ	**Urewera**	**20.44**	**200**	P	Pn	19 19 38.0	-0.5
TOZ	**Tahuroa Road**	**20.54**	**204**	P	Pn	19 19 40.1	+0.6
TOZ	**Tahuroa Road**	**20.54**	**204**	P	Pn	19 19 41.5	+2.0
RAGZ	**Rawiri**	**20.56**	**199**	P	**P**	**19 19 39.0**	**+1.5**
RTZ	**Ruatahuna**	**20.81**	**200**	P	**P**	**19 19 41.6**	**+1.4**
RTZ				IAmb	IAmb	19 19 44.1	
	comp=Z,75nm,0.7s						
RTZ	**Ruatahuna**	**20.81**	**200**	P	Pn	19 19 42.8	0.0
SNGZ	**Shannon Statio**	**20.85**	**199**	P	Pn	19 19 43.2	-0.1
MRHZ	**Matea Rd**	**21.19**	**201**	P	**P**	**19 19 45.8**	**+1.5**
HIZ	**Hauiti**	**21.46**	**204**	P	**P**	**19 19 50.9**	**+3.7**
BKZ	**Black Stump Fm**	**21.47**	**200**	P	**P**	**19 19 48.1**	**+0.9**
BKZ				IAmb	IAmb	19 19 50.6	
	comp=Z,170nm,1.7s						
BKZ	**Black Stump Fm**	**21.47**	**200**	P	**P**	**19 19 47.9**	**+0.7**
BKZ				S	S	19 23 32.1	-11
PXZ	**Pawanui**	**22.14**	**198**	P	**P**	**19 19 56.8**	**+2.5**
BFZ	**Birch Farm**	**22.93**	**199**	P	**P**	**19 20 04.2**	**+1.5**
BFZ				S	**S**	**19 24 01.3**	**-8.4**
MRZ	**Mangatainoka R**	**23.12**	**200**	P	**P**	**19 20 04.1**	**-0.5**
MRZ				IAmb	IAmb	19 20 08.4	
	comp=Z,246nm,1.9s						
MRZ	**Mangatainoka R**	**23.12**	**200**	P	**P**	**19 20 04.1**	**-0.5**
MRZ				S	**S**	**19 24 04.9**	**-8.0**
TBI	**Tubuai**	**23.43**	**105**	*e*P	**P**	**19 20 13.0**	**+5.2**
	comp=Z,1μm,30.2s						
TBI				*e*S	**S**	**19 24 17.4**	**-0.9**
	comp=Z,4μm,43.8s						
TBI				*e*LR	LR	19 25 41.6	
	comp=Z,7μm,30.8s						
TBI				*e*LR	LR	19 25 43.9	
	comp=Z,2μm,29.2s						
PPT2	**Papeete2**	**23.43**	**90**	*e*P	**P**	**19 20 06.9**	**-1.1**
	comp=Z,412nm,29.8s						
PPT2				*e*S	**S**	**19 24 10.7**	**-7.9**
	comp=Z,647nm,34.0s						
PPT2				*e*LR	LR	19 25 44.2	
	comp=Z,2μm,29.5s						
PPT2				*e*LR	LR	19 25 50.6	
	comp=Z,3μm,27.0s						
PPT	**Papeete**	**23.43**	**90**	P	**P**	**19 20 09.3**	**+1.3**
	comp=Z,234nm,1.0s,baz=94,slow=19,SNR=11						
TUWZ	**Tuamarina**	**24.36**	**202**	P	**P**	**19 20 17.1**	**+0.8**
QRZ	**Quartz Range**	**24.37**	**205**	P	**P**	**19 20 18.0**	**+1.6**
QRZ				IAmb	IAmb	19 20 21.3	
	comp=Z,95nm,0.9s						
QRZ	**Quartz Range**	**24.37**	**205**	P	**P**	**19 20 17.0**	**+0.6**
NNZ	**Nelson**	**24.38**	**203**	P	**P**	**19 20 16.7**	**+0.2**
NNZ	**Nelson**	**24.38**	**203**	P	**P**	**19 20 16.5**	**0.0**
BSWZ	**Blackbirch Sta**	**24.63**	**202**	P	**P**	**19 20 20.0**	**+1.2**
MRNZ	**Matariki Terra**	**24.77**	**204**	P	**P**	**19 20 20.5**	**+0.4**
THZ	**Tophouse**	**25.03**	**203**	P	**P**	**19 20 24.1**	**+1.6**
THZ				IAmb	IAmb	19 20 28.1	
	comp=Z,96nm,1.5s						
THZ	**Tophouse**	**25.03**	**203**	P	**P**	**19 20 23.9**	**+1.4**
THZ				S	**S**	**19 24 45.8**	**+2.0**
KHZ	**Kahutara**	**25.37**	**202**	P	**P**	**19 20 26.8**	**+1.4**
KHZ				IAmb	IAmb	19 20 33.0	
	comp=Z,62nm,0.9s						
KHZ	**Kahutara**	**25.37**	**202**	P	**P**	**19 20 26.5**	**+1.0**
DSZ	**Denniston Nort**	**25.43**	**205**	P	**P**	**19 20 27.2**	**+1.1**
DSZ				IAmb	IAmb	19 20 31.8	
	comp=Z,89nm,0.8s						
DSZ	**Denniston Nort**	**25.43**	**205**	P	**P**	**19 20 27.3**	**+1.1**
GVZ	**Greta Valley S**	**26.03**	**202**	P	**P**	**19 20 31.7**	**+0.2**
LTZ	**Lake Taylor**	**26.14**	**203**	P	**P**	**19 20 33.0**	**+0.4**
LTZ				IAmb	IAmb	19 20 38.7	
	comp=Z,73nm,0.8s						
LTZ	**Lake Taylor**	**26.14**	**203**	P	**P**	**19 20 33.1**	**+0.5**
OXZ	**Oxford**	**26.70**	**203**	P	**P**	**19 20 38.0**	**+0.5**
OXZ				IAmb	IAmb	19 20 38.7	
	comp=Z,83nm,0.9s						
OXZ	**Oxford**	**26.70**	**203**	P	**P**	**19 20 37.6**	**+0.1**
FOZ	**Fox Glacier**	**27.73**	**205**	P	**P**	**19 20 47.3**	**+0.5**
TMZ	**Timaru**	**27.99**	**203**	P	**P**	**19 20 51.7**	**+2.6**
JCZ	**Jackson Bay**	**28.60**	**206**	P	**P**	**19 20 55.5**	**+0.8**
TUZ	**Tuapeka**	**29.84**	**203**	P	**P**	**19 21 08.4**	**+2.9**
MLZ	**Mavora Lakes**	**29.93**	**205**	P	**P**	**19 21 05.8**	**-0.5**
MLZ				IAmb	IAmb	19 21 08.1	
	comp=Z,46nm,0.9s						
MLZ	**Mavora Lakes**	**29.93**	**205**	P	**P**	**19 21 07.3**	**+0.9**
APZ	**The Paps**	**31.19**	**204**	P	**P**	**19 21 18.6**	**+1.1**
EIDS	**Eidsvold**	**32.63**	**253**	P	**P**	**19 21 28.8**	**-1.5**
EIDS	**Eidsvold**	**32.63**	**253**	P	P	19 21 25.6	-4.7
ARMA	**Armidale**	**32.84**	**243**	P	**P**	**19 21 32.1**	**-0.1**
TAOE	**Nuku Hiva Isla**	**34.55**	**77**	*e*LR	LR	19 30 53.2	
	comp=Z,1μm,26.0s						
CNB	**Canberra Magne**	**35.90**	**236**	P	**P**	**19 21 58.4**	**-0.3**
	comp=Z,48nm,1.1s						
CAN	**Canberra**	**36.19**	**236**	P	**P**	**19 21 59.3**	**-1.8**
CAN				IAmb	IAmb	19 22 02.1	
	comp=Z,52nm,1.3s						
CAN	**Canberra**	**36.19**	**236**	P	**P**	**19 21 59.7**	**-1.4**
	comp=Z,41nm,1.2s						
CAN	**Canberra**	**36.19**	**236**	P	**P**	**19 21 59.3**	**-1.8**
CAN				pmax	pmax		
	comp=Z,52nm,1.3s						
CAN	**Canberra**	**36.19**	**236**	P	**P**	**19 22 00.3**	**-0.7**
CAN				pP	**pP**	**19 22 13.0**	**+0.6**
CAN				PcP	**PcP**	**19 24 24.8**	**-1.2**
RKT	**Rikitea**	**36.73**	**103**	*e*LR	LR	19 31 57.6	
	comp=Z,5μm,26.8s						
CMSA	**Cobar Meteorol**	**38.05**	**243**	P	**P**	**19 22 15.5**	**-1.4**
	comp=Z,18nm,1.3s						
PMG	**Port Moresby**	**38.59**	**279**	P	**P**	**19 22 21.5**	**0.0**
PMG				IAmb	IAmb	19 22 23.3	
	comp=Z,47nm,0.9s						
PMG	**Port Moresby**	**38.59**	**279**	LR	LR	19 36 25.3	
	comp=Z,545nm,18.4s,baz=126,slow=33						
PMG	**Port Moresby**	**38.59**	**279**	*ce*P	**P**	**19 22 22.0**	**+0.4**
PMG				pmax	pmax		
	comp=Z,53nm,1.0s						
PMG	**Port Moresby**	**38.59**	**279**	P	**P**	**19 22 21.6**	**0.0**
QLP	**Quilpie**	**38.85**	**251**	P	**P**	**19 22 23.3**	**-0.4**
	comp=Z,25nm,0.8s						
MTSU	**Mount Surprise**	**39.23**	**265**	P	**P**	**19 22 25.8**	**-1.2**
	comp=Z,36nm,0.9s						
TOO	**Toolangi**	**39.54**	**234**	P	**P**	**19 22 28.4**	**-0.9**
TOO	**Toolangi**	**39.54**	**234**	P	**P**	**19 22 28.4**	**-0.9**
	comp=Z,10nm,1.0s						
TOO	**Toolangi**	**39.54**	**234**	P	**P**	**19 22 28.4**	**-0.9**
TOO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
COEN	**Coen**	**41.09**	**271**	P	**P**	**19 22 41.5**	**-0.9**
COEN	**Coen**	**41.09**	**271**	P	**P**	**19 22 41.5**	**-0.9**
	comp=Z,34nm,0.9s						
STKA	**Stephens Creek**	**41.56**	**243**	P	**P**	**19 22 45.4**	**-0.6**
STKA				IAmb	IAmb	19 23 27.5	
	comp=Z,46nm,1.1s						
STKA	**Stephens Creek**

BBOO	**Buckleboo**	**46.31 243**	P	**P**	**19 23 22.8**	**-1.4**
BBOO			IAmb	IAmb	19 23 24.6	
	comp=Z,112nm,1.9s					
JAY	**Jayapura**	**47.08 285**	P	**P**	**19 23 30.1**	**-0.4**
	comp=Z,20nm,1.1s					
GENI	**Genyem**	**47.54 285**	P	**P**	**19 23 33.8**	**-0.2**
	comp=Z,40nm,1.0s					
WR0	**Warramunga Arr**	**48.13 260**	P	**P**	**19 23 37.0**	**-1.5**
WR0			IAmb	IAmb	19 23 39.6	
	comp=Z,22nm,1.0s					
AS31	**Alice Springs**	**48.29 255**	P	**P**	**19 23 38.4**	**-1.3**
AS31	**Alice Springs**	**48.29 255**	P	**P**	**19 23 38.3**	**-1.5**
	comp=Z,15nm,0.8s					
ASAR	**Alice Springs**	**48.29 255**	P	**P**	**19 23 37.8**	**-2.0**
ASAR	**Alice Springs**	**48.29 255**	P	**P**	**19 23 38.2**	**-1.5**
	comp=Z,37nm,0.8s,baz=90,slow=7.4,SNR=105					
ASAR			PcP	**PcP**	**19 25 06.5**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=91,slow=4.1,SNR=5.2					
ASAR			ScP	**ScP**	**19 28 55.6**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=91,slow=2.8,SNR=2.7					
ASAR			S	**S**	**19 30 30.4**	**-6.7**
	comp=Z,1.6nm,0.8s,baz=96,slow=14,SNR=8.9					
ASAR			LR	LR	19 43 11.7	
	comp=Z,309nm,21.5s,baz=105,slow=35					
	comp=Z,37nm,0.8s					
WB0	**Warramunga Arr**	**48.30 260**	P	**P**	**19 23 37.8**	**-2.0**
WB0			IAmb	IAmb	19 23 40.1	
	comp=Z,39nm,0.8s					
WB2	**Warramunga Arr**	**48.31 260**	IAmb	IAmb	19 23 40.4	
	comp=Z,50nm,0.9s					
WRAB	**Tennant Creek**	**48.31 260**	P	**P**	**19 23 38.2**	**-1.7**
WRAB			IAmb	IAmb	19 23 40.3	
	comp=Z,43nm,0.9s					
WRAB	**Tennant Creek**	**48.31 260***c i*	P	**P**	**19 23 37.7**	**-2.2**
WRAB			pmax	pmax		
	comp=Z,53nm,1.0s					
WRA	**Warramunga Arr**	**48.32 260**	P	**P**	**19 23 37.4**	**-2.6**
WRA	**Warramunga Arr**	**48.32 260**	P	**P**	**19 23 38.1**	**-1.9**
	comp=Z,26nm,0.8s,baz=96,slow=7.7,SNR=122					
WRA			PcP	**PcP**	**19 25 06.6**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=95,slow=3.8,SNR=2.5					
WRA			ScP	**ScP**	**19 28 55.3**	**-2.6**
	comp=Z,0.7nm,0.8s,baz=103,slow=4.3,SNR=1.6					
WRA			S	S	19 30 28.8	-8.8
	comp=Z,2.9nm,0.9s,baz=97,slow=14,SNR=7.1					
WRA			LR	LR	19 43 03.9	
	comp=Z,445nm,19.3s,baz=148,slow=35					
	comp=Z,26nm,0.8s					
SMPI	**Sarmi**	**49.11 285**	P	**P**	**19 23 44.6**	**-1.5**
	comp=Z,33nm,1.4s					
KDU	**Kakadu**	**51.51 269**	P	**P**	**19 24 02.7**	**-1.5**
	comp=Z,75nm,1.2s					
BAKI	**Biak**	**51.82 284**	P	**P**	**19 24 07.8**	**+1.3**
	comp=Z,29nm,0.9s					
GUMO	**Guam**	**51.82 306**	LR	LR	19 43 00.6	
	comp=Z,154nm,21.9s,baz=160,slow=32					
GUMO	**Guam**	**51.82 306**	P	**P**	**19 24 05.2**	**-1.3**
MTN	**Manton Dam**	**52.74 268**	P	**P**	**19 24 11.7**	**-1.7**
MTN	**Manton Dam**	**52.74 268**	P	**P**	**19 24 11.9**	**-1.5**
	comp=Z,95nm,0.8s					
FORT	**Forrest**	**53.08 246**	P	**P**	**19 24 13.1**	**-2.5**
FORT			IAmb	IAmb	19 24 15.5	
	comp=Z,31nm,0.8s					
FORT	**Forrest**	**53.08 246**	P	**P**	**19 24 13.8**	**-1.9**
	comp=Z,47nm,0.8s					
WRKA	**Warakurna**	**53.25 253**	P	**P**	**19 24 15.4**	**-1.7**
	comp=Z,57nm,1.2s					
RKPI	**Ransiki, Papua**	**53.47 283**	P	**P**	**19 24 18.3**	**-0.5**
	comp=Z,1umcomp=Z,20nm,1.2s					
SAUI	**Saumlaki**	**53.92 274**	P	**P**	**19 24 21.7**	**-0.4**
KNRA	**Kununurra**	**54.32 264**	P	**P**	**19 24 23.6**	**-1.4**
KNRA			IAmb	IAmb	19 24 24.8	
	comp=Z,35nm,0.8s					
KNRA	**Kununurra**	**54.32 264**	P	**P**	**19 24 22.9**	**-2.0**
	comp=Z,52nm,0.9s					
FAKI	**Fak Fak**	**54.72 280**	P	**P**	**19 24 24.7**	**-3.2**
FAKI	**Fak Fak**	**54.72 280**	P	**P**	**19 24 26.8**	**-1.1**
	comp=Z,17nm,1.2s					
SWI	**Sorong**	**56.41 282**	P	**P**	**19 24 39.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**56.74 261**		**P**	**19 24 41.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**56.74 261**	P	**P**	**19 24 41.2**	**-1.2**
	comp=Z,5.3nm,1.1s					
FITZ	**Fitzroy Crossi**	**56.74 261**	LR	LR	19 47 46.6	
	comp=Z,406nm,20.4s,baz=114,slow=35					
AAI	**Ambon**	**58.24 278**	P	**P**	**19 24 52.3**	**-0.7**
	comp=Z,30nm,1.4s					
NLAI	**Namlea**	**59.42 278**	P	**P**	**19 24 58.1**	**-3.0**
	comp=Z,38nm,1.0s					
SBA	**Scott Base**	**59.43 185**	P	**P**	**19 25 03.7**	**+3.5**
SBA	**Scott Base**	**59.43 185**	P	**P**	**19 25 03.7**	**+3.5**
SBA			pmax	pmax		
	comp=Z,100nm,1.8s					
SBA	**Scott Base**	**59.43 185**	P	**P**	**19 25 04.3**	**+4.1**
SBA			pP	**sP**	**19 25 17.2**	**+0.4**
SBA			sP	pP	19 25 22.8	+11
SBA			PcP	**PcP**	**19 25 49.9**	**+2.3**
VNDA	**Vanda**	**59.54 186**	P	**P**	**19 25 03.7**	**+2.7**
VNDA	**Vanda**	**59.54 186**	P	**P**	**19 25 04.4**	**+3.4**
	comp=Z,8.4nm,0.8s,baz=4.9,slow=6.0,SNR=38					
VNDA			LR	LR	19 49 05.3	
	comp=Z,83nm,19.2s,baz=19,slow=34					
	comp=Z,8.4nm,0.8s					
VNDA	**Vanda**	**59.54 186**	P	**P**	**19 25 04.6**	**+3.6**
VNDA			sP	sP	19 25 24.1	+6.5
SOEI	**Soe**	**60.05 270**	P	**P**	**19 25 03.6**	**-2.0**
SOEI	**Soe**	**60.05 270**	P	**P**	**19 25 06.0**	**+0.4**
TNTI	**Ternate**	**60.62 282**	P	**P**	**19 25 08.8**	**-0.6**
	comp=Z,532nmcomp=Z,49nm,1.0s					
SANI	**Sanana**	**60.87 279**	P	**P**	**19 25 09.9**	**-1.2**
	comp=Z,37nm,1.2s					
PSA00	**Pilbara Seismi**	**61.44 255**	P	**P**	**19 25 12.6**	**-2.2**
PSA00	**Pilbara Seismi**	**61.44 255**	P	**P**	**19 25 12.8**	**-2.0**
	comp=Z,78nm,0.9s					
MBWA	**Marble Bar**	**61.62 256**	P	**P**	**19 25 13.5**	**-2.6**
MBWA			IAmb	IAmb	19 25 15.6	
	comp=Z,38nm,0.8s					
MBWA	**Marble Bar**	**61.62 256**	P	**P**	**19 25 13.7**	**-2.4**
	comp=Z,60nm,0.9s					
MBWA	**Marble Bar**	**61.62 256**	P	**P**	**19 25 14.7**	**-1.4**
MEEK	**Meekatharra**	**61.71 250**	P	**P**	**19 25 14.5**	**-2.1**
	comp=Z,25nm,1.4s					
KLBR	**Kellerberrin**	**61.83 244**	P	**P**	**19 25 16.3**	**-1.0**
	comp=Z,60nm,0.9s					
NWAO	**Narrogin (SRO)**	**62.13 242**	LR	LR	19 49 58.1	
	comp=Z,228nm,21.4s,baz=97,slow=34					
EDFI	**Ende, Flores**	**62.77 270**	P	**P**	**19 25 21.6**	**-2.4**
	comp=Z,34nm,1.2s					
MORW	**Morawa**	**63.61 246**	P	**P**	**19 25 28.4**	**-0.9**
MORW			IAmb	IAmb	19 25 45.6	
	comp=Z,41nm,1.4s					
DAV	**Davao City (W)**	**64.78 288**	LR	LR	19 49 50.2	
	comp=Z,220nm,21.6s,baz=112,slow=32					
MRSI	**Marisa**	**65.55 280**	P	**P**	**19 25 41.0**	**-1.1**
	comp=Z,14nm,1.1s					
BNSI	**Bone**	**65.60 274**	P	**P**	**19 25 41.6**	**-0.9**
	comp=Z,21nm,1.3s					
KAPI	**Kappang**	**65.74 273**	LR	LR	19 53 12.5	
	comp=Z,220nm,20.9s,baz=30,slow=35					
TOLI2	**Tolitoli**	**66.86 280**	P	**P**	**19 25 48.9**	**-1.6**
PCI	**Palu**	**67.03 277**	P	**P**	**19 25 52.4**	**+0.8**
	comp=Z,52nm,1.1s					
MPSI	**Mapaga**	**67.41 279**	P	**P**	**19 25 53.2**	**-0.8**
	comp=Z,13nm,1.0s					
JAGI	**Jajag, Banyuwa**	**69.97 268**	P	**P**	**19 26 08.0**	**-2.0**
	comp=Z,41nm,1.0s					
MYLDM	**Lahad Datu**	**70.48 283**	P	**P**	**19 26 09.3**	**-3.7**
MYLDM			IAmb	IAmb	19 26 58.2	
	comp=Z,35nm,1.3s					
QSPA	**South Pole Qui**	**70.87 180**	P	**P**	**19 26 16.9**	**+2.2**
QSPA			IAmb	IAmb	19 26 18.4	
	comp=Z,32nm,0.8s					
QSPA	**South Pole Qui**	**70.87 180**	P	**P**	**19 26 17.0**	**+2.2**
	comp=Z,28nm,0.8s,baz=37,slow=1.6,SNR=69					
	comp=Z,28nm,0.8s					
QSPA	**South Pole Qui**	**70.87 180**	P	**P**	**19 26 17.4**	**+2.6**
QSPA			pP	**sP**	**19 26 30.0**	**-1.5**
QSPA			sP	**PcP**	**19 26 35.2**	**+0.1**
MJAR	**Matsushiro Arr**	**71.35 321**	P	**P**	**19 26 17.3**	**-0.6**
	comp=Z,6.0nm,0.8s,baz=154,slow=5.9,SNR=21					
	comp=Z,6.0nm,0.8s					
MAJO	**Matsushiro**	**71.36 321**	P	**P**	**19 26 16.9**	**-1.1**
MAJO	**Matsushiro**	**71.36 321**	P	**P**	**19 26 16.9**	**-1.1**
MAJO			pmax	pmax		
	comp=Z,7.0nm,0.8s					
MAJO	**Matsushiro**	**71.36 321**	P	**P**	**19 26 17.5**	**-0.4**
MAJO			pP	**pP**	**19 26 29.9**	**-0.2**
MAJO			sP	**sP**	**19 26 36.2**	**+1.3**
NIKH	**Nikolski High**	**72.01 3**	P	**P**	**19 26 22.1**	**+0.7**
	baz=185					
SHEM	**Shemya Is, Ala**	**72.34 353**	LR	LR	19 53 25.3	
	comp=Z,114nm,18.7s,baz=142,slow=32					
PCJI	**Pacitan**	**72.86 267**	P	**P**	**19 26 26.9**	**-0.6**
UNV	**Unalaska Valle**	**73.04 5**	P	**P**	**19 26 28.1**	**+0.6**
	baz=188					
JNU	**Nakatsue**	**73.84 314**	P	**P**	**19 26 30.4**	**-2.5**
JNU			IAmb	IAmb	19 26 33.5	
	comp=Z,94nm,2.0s					
FALS	**False Pass**	**74.33 6**	P	**P**	**19 26 35.3**	**+0.3**
	baz=191					
ASAJ	**Asahikawa**	**74.36 329**	LR	LR	19 55 06.3	
	comp=Z,164nm,21.8s,baz=172,slow=32					
CHNA	**Chernabura Isl**	**74.78 9**	P	**P**	**19 26 38.9**	**+1.2**
	baz=194					
SBUM	**Sibu**	**75.33 278**	P	**P**	**19 26 40.5**	**-1.3**
KMRM	**Mail Ridge**	**75.52 38**	P	**P**	**19 26 40.6**	**-1.9**
P08K	**Saint George I**	**75.60 3**	P	**P**	**19 26 43.3**	**+0.9**
	baz=185					
LPIG	**La Paz**	**75.69 58**	LR	LR	19 51 57.4	
	comp=Z,176nm,20.2s,baz=213,slow=29					
TWG	**Pinlang**	**75.73 301**	P	**P**	**19 26 42.1**	**-1.9**
TWG			IAmb	IAmb	19 26 43.0	
	comp=Z,20nm,0.8s					
SLBS	**Sierra La Lagu**	**75.78 58**	P	**P**	**19 26 44.9**	**+0.6**
NACB	**Ninganchiao**	**75.95 302**	P	**P**	**19 26 44.2**	**-1.0**
NACB			IAmb	IAmb	19 26 46.3	
	comp=Z,55nm,1.1s					
PETK	**Petropavlovsk-**	**76.00 343**	P	**P**	**19 26 44.6**	**-0.2**
	comp=Z,4.8nm,0.9s,baz=105,slow=9.3,SNR=7.9					
	comp=Z,4.8nm,0.9s					
PFO	**Pinyon Flats O**	**76.07 47**	LR	LR	19 50 58.8	
	comp=Z,145nm,21.5s,baz=232,slow=28					
PFO	**Pinyon Flats O**	**76.07 47** *i P*	P	**P**	**19 26 47.3**	**+1.5**
PFO			pmax	pmax		
	comp=Z,26nm,1.0s					
CMB	**Columbia Colle**	**76.12 41**	P	**P**	**19 26 46.5**	**+0.6**
CMB	**Columbia Colle**	**76.12 41**	P	**P**	**19 26 46.5**	**+0.6**
CMB			pmax	pmax		
	comp=Z,24nm,1.1s					
JCJI	**Jatiwangi**	**76.13 268**	P	**P**	**19 26 46.0**	**-0.4**
SPIA	**Saint Paul Isl**	**76.15 2**	P	**P**	**19 26 45.9**	**+0.5**
	baz=184					
S14K	**Fog Glacier**	**76.20 8**	P	**P**	**19 26 45.8**	**-0.1**
	baz=194					
SSLB	**Suanglung**	**76.28 301**	P	**P**	**19 26 45.7**	**-1.4**
SSLB			IAmb	IAmb	19 26 47.5	
	comp=Z,22nm,0.9s					
TPUB	**Ta-pu**	**76.32 301**	P	**P**	**19 26 45.7**	**-1.6**
CHIR	**Chirikof Islan**	**76.36 11**	P	**P**	**19 26 46.1**	**-0.7**
	baz=198					
YSS	**Yuzhno-Sakhali**	**76.40 331** *eP*	P	**P**	**19 26 47.5**	**+0.3**
YSS			pmax	pmax		
	comp=Z,10.0nm,1.0s					
LEM	**Lembang**	**76.64 267**	LR	LR	20 00 53.1	
	comp=Z,134nm,21.0s,baz=88,slow=36					
YBH	**Yreka Blue Hor**	**77.08 37**	LR	LR	19 52 11.4	
	comp=Z,215nm,21.0s,baz=196,slow=29					
PNTR	**Pine Nut**	**77.25 41**	P	**P**	**19 26 53.3**	**+0.8**
PNTR			IAmb	IAmb	19 26 55.3	
	comp=Z,32nm,0.9s					
SII	**Sitkinak Islan**	**77.32 11**	P	**P**	**19 26 52.1**	**-0.1**
	baz=200					
HSIG		**77.61 53**	IAmb	IAmb	19 26 57.1	
	comp=Z,48nm,1.4s					
RYN	**Ryan**	**77.64 41**	IAmb	IAmb	19 26 57.4	
	comp=Z,114nm,2.0s					
NVAR	**Mina Array Bea**	**77.66 42**	P	**P**	**19 26 56.2**	**+1.4**
NVAR	**Mina Array Bea**	**77.66 42**	P	**P**	**19 26 56.4**	**+1.6**
	comp=Z,18nm,0.8s,baz=226,slow=9.1,SNR=92					
NVAR			LR	LR	19 52 32.4	
	comp=Z,140nm,21.9s,baz=224,slow=29					
	comp=Z,18nm,0.8s					
R16K	**Pilot Point**	**77.72 9**	P	**P**	**19 26 54.5**	**+0.1**
	baz=196					
NV11	**Mina Array Sit**	**77.75 42**	IAmb	IAmb	19 26 58.0	
	comp=Z,47nm,1.1s					
WCT	**Wildcat Mounta**	**77.78 44**	IAmb	IAmb	19 26 58.3	
	comp=Z,69nm,1.9s					
TPNV	**Topopah Spring**	**78.11 44**	IAmb	IAmb	19 27 00.2	
	comp=Z,28nm,0.8s					
OHAK	**Old Harbor**	**78.11 11**	P	**P**	**19 26 57.1**	**+0.6**
	baz=200					
R18K	**Karluk**	**78.23 11**	P	**P**	**19 26 57.7**	**+0.6**
	baz=199					
KSRS	**Korea Array**	**78.33 317**	P	**P**	**19 26 59.2**	**+1.0**
	comp=Z,4.5nm,0.8s,baz=136,slow=6.0,SNR=14					
KSRS			LR	LR	19 55 53.4	
	comp=Z,74nm,21.6s,baz=145,slow=31					
	comp=Z,4.5nm,0.8s					
KSAR	**Wonju Array Be**	**78.35 316**	P	**P**	**19 26 57.6**	**-0.7**
KSAR	**Wonju Array Be**	**78.35 316**	P	**P**	**19 26 57.6**	**-0.7**
Q17K	**Contact Creek**	**78.65 10**	P	**P**	**19 27 00.2**	**+0.5**
	baz=198					
Y14A	**Wickenburg**	**78.65 48**	IAmb	IAmb	19 27 03.1	
	comp=Z,28nm,0.9s					
KDAK	**Kodiak Island**	**78.78 12**	P	**P**	**19 27 00.5**	**+0.3**
	baz=201					
S11A	**Rachel**	**78.84 44**	IAmb	IAmb	19 27 03.4	
	comp=Z,36nm,1.0s					
O14K	**Tigyukauivet M**	**78.88 7**	P	**P**	**19 27 01.4**	**+0.7**
	baz=193					
J05D	**Fort Rock, OR**	**78.92 36**	IAmb	IAmb	19 27 04.4	
	comp=Z,40nm,1.0s					
Q16K	**King Salmon**	**78.93 9**	P	**P**	**19 27 01.1**	**+0.1**
	baz=197					
O15K	**Ungalikthiuk R**	**78.97 7**	P	**P**	**19 27 01.6**	**+0.3**
	baz=194					
P16K	**Nushagak River**	**79.07 8**	P	**P**	**19 27 01.2**	**-0.6**
	baz=196					
Q18K	**Katmai Hardscr**	**79.16 10**	P	**P**	**19 27 02.7**	**+0.3**
	baz=199					
TYV	**Tymovskoe**	**79.38 334** *eP*	P	**P**	**19 27 05.0**	**+1.4**
TYV			pmax	pmax		
	comp=Z,8.0nm,1.3s					
TYV			pmax	pmax		
	comp=Z,100nm,5.2s					
PINE	**Pine Mountain**	**79.40 36**	IAmb	IAmb	19 27 07.2	
	comp=Z,41nm,0.9s					
P17K	**Kvichak River**	**79.46 9**	P	**P**	**19 27 03.9**	**0.0**
	baz=197,SNR=7.2					
G04A	**Mulino**	**79.48 34**	IAmb	IAmb	19 27 10.3	
	comp=Z,44nm,0.9s					
N14K	**Kuskokwak Cree**	**79.49 6**	P	**P**	**19 27 04.0**	**0.0**
	baz=192					
M11K	**Mekoryuk**	**79.56 4**	P	**P**	**19 27 04.3**	**-0.1**
	baz=188					
Q20K	**Shuyak Island**	**79.58 11**	P	**P**	**19 27 04.3**	**-0.3**
	baz=201					
O16K	**Kokwok River B**	**79.60 8**	P	**P**	**19 27 03.0**	**-1.7**
O16K	**Kokwok River B**	**79.60 8**	P	**P**	**19 27 04.7**	**0.0**
	baz=196,SNR=5.9					
Q19K	**Cape Douglas,**	**79.66 11**	P	**P**	**19 27 05.5**	**+0.5**
	baz=200					
M13K	**Dall Lake**	**79.81 5**	P	**P**	**19 27 06.3**	**+0.6**
	baz=190					
P18K	**Big Mountain,**	**79.83 10**	IAmb	IAmb	19 27 07.0	
	comp=Z,33nm,0.8s					
P18K	**Big Mountain,**	**79.83 10**	P	**P**	**19 27 06.2**	**+0.2**
	baz=198					
WVOR	**Wild Horse Val**	**79.88 38**	IAmb	IAmb	19 27 09.4	
	comp=Z,32nm,1.1s					
N15K	**Kwethluk River**	**79.91 7**	P	**P**	**19 27 06.4**	**0.0**
	baz=194					
O17K	**Koliganek Bris**	**79.92 9**	P	**P**	**19 27 06.2**	**-0.1**
	baz=196					
USRK	**Ussuriysk Ar.**	**79.95 324**	LR	LR	19 58 37.6	
	comp=Z,130nm,20.2s,baz=139,slow=33					
X16A	**Lo Mia Camp, P**	**80.00 48**	IAmb	IAmb	19 27 11.2	
	comp=Z,29nm,1.0s					
LCMT	**Little Creek M**	**80.14 45**	IAmb	IAmb	19 27 11.5	
	comp=Z,30nm,1.2s					
M14K	**Bethel**	**80.28 6**	P	**P**	**19 27 08.0**	**-0.2**
	baz=192,SNR=5.2					
O18K	**Koktuh Hills**	**80.28 10**	IAmb	IAmb	19 27 09.8	
	comp=Z,41nm,1.1s					
O18K	**Koktuh Hills**	**80.28 10**	P	**P**	**19 27 07.4**	**-1.0**
	baz=198,SNR=5.6					
M15K	**Kasigluk River**	**80.36 7**	P	**P**	**19 27 08.7**	**0.0**
	baz=193,SNR=9.0					
N16K	**Nishlik Lake**	**80.37 8**	P	**P**	**19 27 08.1**	**-0.8**
	baz=195					
BELA	**Belgrano 2**	**80.37 172**	P	**P**	**19 27 09.3**	**+0.5**
I07A	**Izee**	**80.39 37**	IAmb	IAmb	19 27 12.2	
	comp=Z,24nm,0.9s					
P19K	**Oil Pt**	**80.41 11**	P	**P**	**19 27 09.1**	**0.0**
	baz=200					
KNB	**Kanab**	**80.43 45**	IAmb	IAmb	19 27 13.3	
	comp=Z,81nm,1.6s					
U15A	**North Rim**	**80.47 46**	IAmb	IAmb	19 27 13.8	
	comp=Z,51nm,1.0s					
J08A	**Circle Bar Ran**	**80.53 38**	IAmb	IAmb	19 27 12.9	
	comp=Z,30nm,1.1s					
MDSI	**Maura Dua**	**80.62 268**	P	**P**	**19 27 09.8**	**-1.5**
WUAZ	**Wupatki**	**80.62 47**	IAmb	IAmb	19 27 14.5	
	comp=Z,39nm,1.1s					
N17K	**Nushagak Hills**	**80.63 8**	P	**P**	**19 27 09.9**	**-0.3**
	baz=196					
HOM	**Homer**	**80.71 11**	P	**P**	**19 27 10.7**	**+0.1**
	baz=202					
O19K	**Port Alsworth**	**80.74 10**	IAmb	IAmb	19 27 12.0	
	comp=Z,36nm,1.0s					
O19K	**Port Alsworth**	**80.74 10**	P	**P**	**19 27 11.4**	**+0.6**
	baz=199,SNR=6.3					
L14K	**Kuka Creek**	**80.79 6**	P	**P**	**19 27 11.4**	**+0.4**
	baz=191					
M16K	**Timber Creek**	**80.88 7**	IAmb	IAmb	19 27 14.1	
	comp=Z,30nm,0.8s					
M16K	**Timber Creek**	**80.88 7**	P	**P**	**19 27 11.3**	**-0.2**
	baz=195,SNR=11					
O20K	**Slope Mountain**	**80.92 11**	P	**P**	**19 27 12.5**	**+0.6**
	baz=201					
ELK	**Elko**	**80.93 41**	LR	LR	19 55 41.9	
	comp=Z,159nm,20.6s,baz=223,slow=30					
BRSE	**Bradley Lake S**	**80.95 12**	P	**P**	**19 27 12.8**	**+0.8**
	baz=202					
N18K	**Kilae Creek**	**80.96 9**	P	**P**	**19 27 13.0**	**+1.0**
	baz=198					
D05A	**Enumclaw**	**81.03 33**	IAmb	IAmb	19 27 15.8	
	comp=Z,84nm,1.4s					
X18A	**Snowflake**	**81.12 49**	IAmb	IAmb	19 27 17.2	
	comp=Z,37nm,1.3s					
K13K	**Kusilvak Mount**	**81.21 5**	P	**P**	**19 27 14.2**	**+1.0**
	baz=189					
L15K	**Ungalak Mounta**	**81.23 6**	P	**P**	**19 27 14.8**	**+1.4**
	baz=192,SNR=8.5					
CBB	**Campbell River**	**81.30 29**	IAmb	IAmb	19 27 16.7	
	comp=Z,49nm,1.2s					
N19K	**Bonanza Creek**	**81.30 10**	P	**P**	**19 27 14.1**	**+0.1**
	baz=199					
MTPU	**Mount Pierson**	**81.41 45**	IAmb	IAmb	19 27 19.3	
	comp=Z,74nm,1.6s					
M17K	**Holitna River**	**81.44 8**	P	**P**	**19 27 15.7**	**+1.2**
	baz=196,SNR=6.6					
G08A	**Pilot Rock**	**81.45 36**	IAmb	IAmb	19 27 17.6	
	comp=Z,40nm,0.9s					
L16K	**Owhat River**	**81.48 7**	P	**P**	**19 27 16.0**	**+1.3**
	baz=194,SNR=8.1					
TCRU	**Three Creeks R**	**81.54 44**	IAmb	IAmb	19 27 19.4	
	comp=Z,24nm,0.9s					
SEW	**Seward**	**81.54 12**	P	**P**	**19 27 15.9**	**+0.9**
	baz=204					
MDJ	**Mudanjiang**	**81.56 323**	P	**P**	**19 27 17.0**	**+1.5**
MDJ			pP	PcP	19 27 23.1	+1.8
MDJ			S	**S**	**19 37 25.9**	**+1.5**
MDJ			pmax	pmax		
	comp=Z,9.0nm,1.5s					
MDJ			LR	LR		
	comp=Z,260nm,13.1s					
M18K	**Stony River**	**81.75 9**	P	**P**	**19 27 17.1**	**+1.0**
	baz=196					
E07A	**Sunnyside**	**81.75 35**	IAmb	IAmb	19 27 19.2	
	comp=Z,40nm,0.9s					
SLKM	**Skilak Lake**	**81.77 12**	IAmb	IAmb	19 27 17.6	
	comp=Z,26nm,0.9s					
HAWA	**Hanford**	**81.82 35**	IAmb	IAmb	19 27 19.4	
	comp=Z,28nm,0.9s					
CAPN	**Captain Cook N**	**81.83 11**	P	**P**	**19 27 17.6**	**+1.1**
	baz=202					
K15K	**Wolf Creek Mou**	**81.83 6**	P	**P**	**19 27 17.7**	**+1.2**
	baz=192,SNR=26					
O22K	**Cooper Landing**	**81.84 12**	P	**P**	**19 27 17.5**	**+1.0**
	baz=203					
NJ2	**Nanjing**	**81.84 308** *eP*	P	**P**	**19 27 18.9**	**+1.6**
NJ2			pmax	pmax		
	comp=Z,22nm,0.5s					
P23K	**Montague Islan**	**81.87 13**	P	**P**	**19 27 18.0**	**+1.2**
	baz=206					
WAH2	**Wahluke Slope**	**82.03 34**	IAmb	IAmb	19 27 20.5	
	comp=Z,80nm,1.5s					
L17K	**Donlin**	**82.04 7**	P	**P**	**19 27 18.9**	**+1.3**
	baz=195,SNR=8.4					
SPCR	**Spurr Chakacha**	**82.05 11**	P	**P**	**19 27 18.5**	**+0.7**
	baz=201					
J14K	**Nanvaranak Lak**	**82.10 5**	P	**P**	**19 27 18.4**	**+0.5**
	baz=190					
BMO	**Blue Mountains**	**82.11 37**	IAmb	IAmb	19 27 20.9	
	comp=Z,55nm,1.6s					
CRAG	**Craig**	**82.13 22**	P	**P**	**19 27 18.3**	**+0.1**
	baz=219					
E08A	**Dider Farm, El**	**82.14 35**	IAmb	IAmb	19 27 20.5	
	comp=Z,19nm,0.8s					
EPT	**El Paso**	**82.30 53**	IAmb	IAmb	19 27 23.2	
	comp=Z,32nm,1.0s					
HMU	**Henry Mountain**	**82.32 46**	IAmb	IAmb	19 27 23.0	
	comp=Z,41nm,1.3s					
L18K	**Granite Mounta**	**82.33 8**	P	**P**	**19 27 19.7**	**+0.6**
	baz=197,SNR=7.1					
M19K	**Big River Lodg**	**82.35 9**	P	**P**	**19 27 19.7**	**+0.3**
	baz=199					
RC01	**Rabbit Creek A**	**82.39 12**	P	**P**	**19 27 20.0**	**+0.5**
	baz=203					
PWL	**Port Wells**	**82.46 12**	IAmb	IAmb	19 27 21.1	
	comp=Z,24nm,1.0s					
PWL	**Port Wells**	**82.46 12**	P	**P**	**19 27 20.5**	**+0.6**
	baz=205,SNR=6.1					
KAIM	**Kayak Island**	**82.49 15**	P	**P**	**19 27 20.4**	**+0.3**
	baz=208					
M20K	**Styx River**	**82.53 10**	P	**P**	**19 27 20.8**	**+0.5**
	baz=200					
L19K	**White Mountain**	**82.55 9**	P	**P**	**19 27 21.0**	**+0.7**
	baz=198					
SUA	**Susitna One**	**82.55 11**	P	**P**	**19 27 20.5**	**0.0**
	baz

baz=197,SNR=12
B08A Colville Reser 83.16 33 IAmb IAmb 19 27 25.6
comp=Z,22nm,0.9s
J17K VABM Dome 83.17 7 P **P** **19 27 25.4 +1.9**
baz=194,SNR=5.2
GHO Glory Hole Cre 83.18 12 IAmb IAmb 19 27 25.0
comp=Z,22nm,0.8s
DIV Divide 83.25 13 IAmb IAmb 19 27 25.4
comp=Z,20nm,0.8s
KLR Kul'dur 83.28 328 LR LR 19 58 00.9
comp=Z,92nm,21.7s,baz=150,slow=31
KLR Kul'dur 83.28 328*ce*P **P** **19 27 24.3 -0.1**
KLR pmax pmax
comp=Z,1.0nm,0.8s
MESA MESA 83.32 16 P **P** **19 27 25.2 +0.6**
baz=211
SML Sawmill 83.33 12 P **P** **19 27 25.0 +0.6**
baz=205
BMRM Bremner River 83.37 14 P **P** **19 27 24.9 +0.2**
baz=208
TXAR Lajitas Array 83.37 56 P **P** **19 27 26.6 +1.1**
TXAR Lajitas Array 83.37 56 P **P** **19 27 27.8 +2.3**
comp=Z,12nm,0.9s,baz=218,slow=9.3,SNR=79
TXAR PKKPbc **PKKPbc** **19 45 46.2 +0.6**
comp=Z,0.2nm,0.3s,baz=285,slow=17,SNR=5.9
TXAR LR LR 20 00 56.9
comp=Z,109nm,18.2s,baz=193,slow=33
comp=Z,12nm,0.9s
C09A Chrisman Ranch 83.37 34 IAmb IAmb 19 27 27.2
comp=Z,74nm,1.6s
M23K Glacier View 83.43 12 P **P** **19 27 25.8 +0.9**
baz=205
BNX BinXian 83.47 323 ⇑P **P** **19 27 25.8 +0.4**
BNX pmax pmax
comp=Z,10.0nm,1.0s
I17K Unalakleet 83.48 6 P **P** **19 27 25.4 +0.4**
baz=193
MVCO Mesa Verde 83.48 47 IAmb IAmb 19 27 39.0
comp=Z,37nm,1.5s
CUT Chulitna 83.51 11 P **P** **19 27 25.4 +0.1**
baz=203
J18K Innoko River 83.52 8 IAmb IAmb 19 27 27.3
comp=Z,15nm,0.8s
J18K Innoko River 83.52 8 P **P** **19 27 25.4 +0.1**
baz=197,SNR=14
P18A Preston Nutter 83.53 44 IAmb IAmb 19 27 29.3
comp=Z,27nm,1.0s
MA2 Magadan 83.53 343 LR LR 19 58 21.2
comp=Z,95nm,21.7s,baz=158,slow=31
KLU Klutina 83.54 13 P **P** **19 27 26.2 +0.7**
baz=207
SCM Sheep Creek Mo 83.55 12 IAmb IAmb 19 27 27.0
comp=Z,30nm,0.7s
SCM Sheep Creek Mo 83.55 12 P **P** **19 27 25.8 +0.2**
baz=206,SNR=6.0
PNL Peninsula 83.56 17 P **P** **19 27 25.4 -0.2**
baz=213
QIZ Qiongzhong 83.61 293 P **P** **19 27 28.5 +1.7**
QIZ S **S** **19 37 50.4 +4.0**
QIZ LR LR
comp=Z,160nm,13.3s
QIZ LR LR
comp=Z,130nm,12.6s
QIZ LR LR
comp=Z,200nm,31.2s
PPLA Purkeypile 83.64 10 P **P** **19 27 26.5 +0.4**
baz=201
BSUT Blindstream Ca 83.67 43 IAmb IAmb 19 27 29.9
comp=Z,37nm,1.0s
PINM Pinnacle 83.69 16 P **P** **19 27 26.9 +0.5**
baz=212
HWUT Hardware Ranch 83.72 42 IAmb IAmb 19 27 29.3
comp=Z,21nm,0.8s
PV13 Radium Mtn., P 83.74 46 IAmb IAmb 19 27 30.2
comp=Z,54nm,1.2s
H03S2 Juan Fernandez 83.77 124 T T 21 00 01.6
baz=249,slow=75,SNR=287
PV03 Paradox Valley 83.77 46 IAmb IAmb 19 27 30.3
comp=Z,48nm,1.2s
H03S1 Juan Fernandez 83.78 124 T T 21 00 02.4
baz=249,slow=75,SNR=279
H03S3 Juan Fernandez 83.78 124 T T 21 00 04.7
baz=249,slow=75,SNR=257
K20K Telida 83.78 9 IAmb IAmb 19 27 28.4
comp=Z,29nm,1.5s
K20K Telida 83.78 9 P **P** **19 27 27.1 +0.4**
baz=199
ANMO Albuquerque 83.83 50 P **P** **19 27 27.7 -0.1**
ANMO Albuquerque 83.83 50 LR LR 19 57 06.5
comp=Z,98nm,19.2s,baz=14,slow=30
ANMO Albuquerque 83.83 50*ce*P **P** **19 27 29.9 +2.1**
ANMO pmax pmax
comp=Z,39nm,1.2s
VRDI Verde Repeater 83.86 14 IAmb IAmb 19 27 29.1
comp=Z,23nm,1.3s
R32K Eaglecrest 83.87 20 P **P** **19 27 28.0 +0.8**
baz=218,SNR=5.4
H03N2 Juan Fernandez 83.89 123 T T 21 00 07.5
baz=256,slow=72,SNR=94
H03N3 Juan Fernandez 83.89 123 T T 21 00 08.8
baz=256,slow=72,SNR=95
H03N1 Juan Fernandez 83.90 123 T T 21 00 08.1
baz=256,slow=72,SNR=99
N25K Chitina, Valde 83.93 14 IAmb IAmb 19 27 29.2
comp=Z,17nm,0.8s
N25K Chitina, Valde 83.93 14 P **P** **19 27 27.8 +0.2**
baz=208,SNR=5.5
P29M Windy Craggy 83.99 18 IAmb IAmb 19 27 30.3
comp=Z,19nm,0.9s
P29M Windy Craggy 83.99 18 P **P** **19 27 28.2 +0.3**
baz=214
PV07 Paradox Valley 83.99 46 IAmb IAmb 19 27 31.5
comp=Z,31nm,1.0s
M24K Tolsona, Glenn 84.04 13 IAmb IAmb 19 27 30.2
comp=Z,26nm,0.8s
M24K Tolsona, Glenn 84.04 13 P **P** **19 27 28.4 +0.3**
baz=207
PV15 Paradox Valley 84.06 46 IAmb IAmb 19 27 31.8
comp=Z,35nm,0.9s
H16K Elim 84.07 5 P **P** **19 27 28.2 +0.1**
baz=192,SNR=6.0
PECS Pecos 84.11 54 IAmb IAmb 19 27 32.6
comp=Z,32nm,1.4s
CAST Castle Rocks 84.15 10 P **P** **19 27 27.7 -0.8**
baz=201,SNR=8.2
J19K Poorman 84.17 8 P **P** **19 27 28.8 +0.2**
baz=198
PLBC Pleasant Camp 84.25 18 P **P** **19 27 29.7 +0.6**
baz=216
NEW Newport 84.27 34 LR LR 19 57 43.2
comp=Z,160nm,18.8s,baz=206,slow=30
O28M Mount Upton 84.28 16 P **P** **19 27 29.2 -0.4**
baz=212
G15K Niukluk 84.28 4 P **P** **19 27 28.9 -0.2**
baz=190
O29M Mount Kennedy 84.32 17 P **P** **19 27 29.6 0.0**
baz=214
T35M Bob Quinn 84.32 22 P **P** **19 27 30.2 +0.6**
baz=221
RDMU Red Mountain 84.46 44 IAmb IAmb 19 27 33.4
comp=Z,32nm,0.9s
TRF Thorofare Moun 84.48 11 IAmb IAmb 19 27 31.3
comp=Z,17nm,0.7s
TRF Thorofare Moun 84.48 11 P **P** **19 27 29.7 -0.7**
baz=203,SNR=13
TPB16 Coyonosa 84.48 55 P **P** **19 27 33.3 +2.3**
HARP HAARP 84.52 13 P **P** **19 27 29.7 -0.8**
baz=208
CHUM Lake Minchumin 84.55 10 P **P** **19 27 29.7 -0.8**
baz=201,SNR=12
J20K Nowinta River 84.55 9 IAmb IAmb 19 27 32.4
comp=Z,20nm,0.9s
J20K Nowinta River 84.55 9 P **P** **19 27 30.7 +0.2**
baz=199,SNR=16
SKAG Skagway 84.57 19 IAmb IAmb 19 27 33.5
comp=Z,29nm,1.1s
SKAG Skagway 84.57 19 P **P** **19 27 31.3 +0.6**
baz=217,SNR=7.6
H17K Granite Mounta 84.58 6 P **P** **19 27 30.4 -0.3**
baz=194
WHN Wuhan 84.58 305 P **P** **19 27 29.2 -2.3**
WHN pmax pmax
comp=Z,52nm,0.5s
F14K Arctic Creek 84.62 3 P **P** **19 27 31.3 +0.4**
baz=188
P30M Million Dollar 84.62 18 P **P** **19 27 31.7 +0.6**
baz=215
TNA Tin City 84.63 3 P **P** **19 27 31.0 +0.1**
baz=186
AHID Auburn Hatcher 84.63 41 IAmb IAmb 19 27 34.9
comp=Z,40nm,0.9s
RND Reindeer 84.69 11 IAmb IAmb 19 27 33.5
comp=Z,46nm,1.1s
S34M Telegraph Cree 84.72 21 IAmb IAmb 19 27 34.2
comp=Z,24nm,1.1s
S34M Telegraph Cree 84.72 21 P **P** **19 27 32.3 +0.8**
baz=220,SNR=6.3
GCSA Galena City Sc 84.73 7 P **P** **19 27 31.9 +0.5**
baz=196,SNR=7.6
HTMS Hat Mesa 84.78 53 P **P** **19 27 34.5 +1.9**
G16K Koyuk River 84.81 5 IAmb IAmb 19 27 33.9
comp=Z,15nm,0.9s
G16K Koyuk River 84.81 5 P **P** **19 27 32.7 +0.9**
baz=191
YUK8 Steele Glacier 84.82 16 P **P** **19 27 33.1 +0.7**
baz=213,SNR=5.7
SAND Sanderson 84.85 56 IAmb IAmb 19 27 35.8
comp=Z,30nm,1.0s
YUK6 Outpost Mounta 84.91 17 P **P** **19 27 32.2 -0.5**
baz=214
F15K North Star Dit 84.95 4 P **P** **19 27 33.0 +0.5**
baz=189
H18K Honhosa River 84.95 7 P **P** **19 27 32.4 -0.2**
baz=195
PAX Paxson 84.96 13 P **P** **19 27 33.3 +0.5**
baz=207,SNR=5.2
BPAW Bear Paw Mtn. 84.96 10 P **P** **19 27 32.7 0.0**
baz=202
MCK McKinley 84.97 11 P **P** **19 27 32.6 -0.1**
baz=204,SNR=30
M26K Nabesna, AK 85.00 14 IAmb IAmb 19 27 35.5
comp=Z,19nm,1.0s
M26K Nabesna, AK 85.00 14 P **P** **19 27 33.7 +0.8**
baz=210,SNR=14
HYT Haines Junctio 85.05 17 IAmb IAmb 19 27 35.6
comp=Z,23nm,1.2s
HYT Haines Junctio 85.05 17 P **P** **19 27 33.8 +0.5**
baz=215,SNR=8.3
G17K Kiwalik Mounta 85.06 6 P **P** **19 27 33.7 +0.6**
baz=193,SNR=8.3
YUK3 Moose Creek 85.06 15 P **P** **19 27 34.0 +0.6**
baz=212,SNR=9.0
TIA Tai'an 85.07 311 P **P** **19 27 34.7 +0.9**
TIA pmax pmax
comp=Z,11nm,1.0s
I20K Naaghedeneel 85.09 8 IAmb IAmb 19 27 35.3
comp=Z,27nm,0.8s
I20K Naaghedeneel 85.09 8 P **P** **19 27 34.5 +1.3**
baz=199
TPAW Teton Pass 85.11 41 IAmb IAmb 19 27 35.8
comp=Z,26nm,0.8s
O20A White River Ci 85.11 45 IAmb IAmb 19 27 36.8
comp=Z,28nm,0.8s
FXWY Fox Creek 85.14 41 IAmb IAmb 19 27 37.1
comp=Z,36nm,1.4s
Q32M Nakina River 85.14 20 IAmb IAmb 19 27 38.6
comp=Z,56nm,1.8s
Q32M Nakina River 85.14 20 P **P** **19 27 34.1 +0.2**
baz=219
P32M Atlin 85.17 19 P **P** **19 27 34.8 +1.0**
baz=218
YUK4 Talbot Arm 85.17 16 P **P** **19 27 34.4 +0.4**
baz=214
MSO Missoula 85.17 37 IAmb IAmb 19 27 36.1
comp=Z,34nm,1.5s
M27K Edge Creek, AK 85.22 14 IAmb IAmb 19 27 36.5
comp=Z,30nm,1.1s
M27K Edge Creek, AK 85.22 14 P **P** **19 27 34.7 +0.5**
baz=211,SNR=12
MOOW Moose Ponds 85.37 41 IAmb IAmb 19 27 38.0
comp=Z,22nm,1.4s
LOHW Long Hollow 85.39 41 IAmb IAmb 19 27 38.0
comp=Z,29nm,1.2s
O30N Mendenhall 85.40 18 IAmb IAmb 19 27 37.4
comp=Z,18nm,1.1s
O30N Mendenhall 85.40 18 P **P** **19 27 35.5 +0.5**
baz=216,SNR=6.0
L26K Log Cabin Wild 85.46 14 P **P** **19 27 35.7 +0.5**
baz=209,SNR=10
DLBC Dease Lake 85.50 22 P **P** **19 27 35.7 +0.2**
baz=221
BVCY Beaver Creek 85.51 15 P **P** **19 27 35.6 +0.1**
baz=212,SNR=8.8
H19K Roundabout Mou 85.54 7 IAmb IAmb 19 27 37.7
comp=Z,25nm,1.1s
H19K Roundabout Mou 85.54 7 P **P** **19 27 35.9 +0.5**
baz=197,SNR=13
BW06 Boulder Array 85.60 42 IAmb IAmb 19 27 38.6
comp=Z,17nm,0.9s
PD31 Pinedale Array 85.60 42 IAmb IAmb 19 27 38.5
comp=Z,16nm,0.9s
PDAR Pinedale Array 85.60 42 P **P** **19 27 36.5 -0.1**
PDAR Pinedale Array 85.60 42 P **P** **19 27 37.4 +0.8**
comp=Z,11nm,0.8s,baz=207,slow=3.0,SNR=81
PDAR PP **PP** **19 30 53.2 -2.9**
comp=Z,0.8nm,1.0s,baz=255,slow=8.0,SNR=3.7
PDAR LR LR 19 58 30.7
comp=Z,77nm,20.7s,baz=208,slow=30
comp=Z,11nm,0.8s
GULI GuiLin 85.61 299 P **P** **19 27 38.1 +1.3**
GULI pmax pmax
comp=Z,20nm,1.2s
K24K Donnelly Dome 85.64 12 IAmb IAmb 19 27 38.0
comp=Z,35nm,0.9s
K24K Donnelly Dome 85.64 12 P **P** **19 27 36.6 +0.6**
baz=207,SNR=15
G18K Tagagawik 85.64 6 IAmb IAmb 19 27 37.6
comp=Z,21nm,0.9s
G18K Tagagawik 85.64 6 P **P** **19 27 36.0 0.0**
baz=195
WHY Whitehorse 85.67 18 IAmb IAmb 19 27 38.6
comp=Z,34nm,1.1s
WHY Whitehorse 85.67 18 P **P** **19 27 36.8 +0.4**
baz=217,SNR=5.6
N30M Aishikik Lake 85.69 17 P **P** **19 27 37.0 +0.6**
baz=215
YFT Old Faithful 85.69 40 IAmb IAmb 19 27 40.9
comp=Z,22nm,1.0s
H20K Anotleneega Mo 85.70 8 P **P** **19 27 36.4 +0.2**
baz=198,SNR=19
LL02 Futaleuf 85.71 134 P **P** **19 27 38.3 +1.2**
YMR Madison River 85.72 40 IAmb IAmb 19 27 40.4
comp=Z,26nm,1.0s
NEA2 Nenana 85.74 11 IAmb IAmb 19 27 38.2
comp=Z,17nm,0.8s
NEA2 Nenana 85.74 11 P **P** **19 27 36.7 +0.2**
baz=204,SNR=18
RIDG Independent Ri 85.77 13 IAmb IAmb 19 27 38.4
comp=Z,19nm,1.0s
RIDG Independent Ri 85.77 13 P **P** **19 27 37.3 +0.6**
baz=208,SNR=9.2
I21K Tanana 85.81 9 IAmb IAmb 19 27 38.4
comp=Z,22nm,0.9s
I21K Tanana 85.81 9 P **P** **19 27 37.7 +0.9**
baz=201,SNR=22
H17A Gran Village 85.81 40 IAmb IAmb 19 27 41.4
comp=Z,17nm,0.9s
BOZ Bozeman (W) 85.83 39 IAmb IAmb 19 27 40.2
comp=Z,36nm,1.1s
SDCO Great Sand Dun 85.83 48 IAmb IAmb 19 27 40.8
comp=Z,38nm,1.7s
L27K Beaver Creek, 85.84 14 P **P** **19 27 37.5 +0.4**
baz=211,SNR=8.5
BCAR Beaver Creek A 85.85 14 P **P** **19 27 36.5 -0.6**
DOT Dot Lake 85.86 13 IAmb IAmb 19 27 38.8
comp=Z,23nm,0.8s
CMIG Matias Romero 85.88 70 LR LR 19 57 17.1
comp=Z,126nm,21.9s,baz=177,slow=29
R33M Jennings River 85.90 21 IAmb IAmb 19 27 41.4
comp=Z,16nm,1.1s
R33M Jennings River 85.90 21 P **P** **19 27 37.5 -0.1**
baz=221,SNR=6.5
YNR Norris Junctio 85.92 40 IAmb IAmb 19 27 46.1
comp=Z,14nm,1.0s
F17K Baldwin Pennin 85.93 5 IAmb IAmb 19 27 39.4
comp=Z,22nm,0.9s
F17K Baldwin Pennin 85.93 5 P **P** **19 27 37.7 +0.3**
baz=192
P33M Teslin, Yukon 85.94 19 P **P** **19 27 37.6 -0.1**
baz=219
HDA Harding Lake 85.96 12 P **P** **19 27 38.2 +0.6**
baz=206,SNR=41
SEY Seymchan 85.97 345*ce*P **P** **19 27 37.7 +0.1**
SEY pmax pmax
comp=Z,6.0nm,0.9s
OZNA Ozona 86.03 56 IAmb IAmb 19 27 41.0
comp=Z,23nm,0.8s
G19K Purcell Mounta 86.06 7 IAmb IAmb 19 27 40.1
comp=Z,22nm,0.8s
G19K Purcell Mounta 86.06 7 P **P** **19 27 38.2 +0.2**
baz=196
N31M Braeburn, Yuko 86.07 17 IAmb IAmb 19 27 40.6
comp=Z,17nm,1.0s
N31M Braeburn, Yuko 86.07 17 P **P** **19 27 38.3 +0.1**
baz=216
HEH HeiHe 86.12 327 *e*P **P** **19 27 40.0 +1.3**
HEH pmax pmax
comp=Z,7.0nm,1.3s
M29M Somme Creek 86.14 16 P **P** **19 27 39.1 +0.4**
baz=214,SNR=7.5
H21K Melozitna Rive 86.14 9 IAmb IAmb 19 27 41.1
comp=Z,19nm,0.9s
H21K Melozitna Rive 86.14 9 P **P** **19 27 38.6 +0.1**
baz=200,SNR=23
SCRK Sand Creek 86.16 13 IAmb IAmb 19 27 40.5
comp=Z,12nm,0.8s
SCRK Sand Creek 86.16 13 P **P** **19 27 38.6 -0.1**
baz=209,SNR=14
I23K Minto, Yukon-K 86.20 10 IAmb IAmb 19 27 40.5
comp=Z,17nm,0.9s
I23K Minto, Yukon-K 86.20 10 P **P** **19 27 39.2 +0.5**
baz=204,SNR=16
COLA College 86.21 11*c i*P **P** **19 27 38.9 +0.1**
COLA pmax pmax
comp=Z,76nm,0.8s
COLA College 86.21 11 P **P** **19 27 39.3 +0.5**
baz=205
F18K Selawik 86.23 6 P **P** **19 27 39.5 +0.7**
baz=194
IL31 86.30 11 IAmb IAmb 19 27 40.5
comp=Z,56nm,1.6s
ILAR Eielson Array 86.30 11 P **P** **19 27 38.7 -0.6**
ILAR Eielson Array 86.30 11 P **P** **19 27 39.3 +0.1**
comp=Z,9.6nm,0.7s,baz=231,slow=6.1,SNR=150
comp=Z,9.6nm,0.7s
SISI Saibi 86.44 270 P **P** **19 27 41.7 +0.5**
comp=Z,13nm,0.8s
J25K Salcha River, 86.45 12 IAmb IAmb 19 27 41.7
comp=Z,21nm,0.8s
J25K Salcha River, 86.45 12 P **P** **19 27 40.7 +0.6**
baz=207,SNR=26
YNE Yellowstone No 86.48 40 IAmb IAmb 19 30 55.6
comp=Z,17nm,0.6s
POKR Poker Plat Res 86.51 11 P **P** **19 27 40.5 +0.2**
baz=205,SNR=16
H22K Ishtalitna Cre 86.57 9 P **P** **19 27 41.4 +0.8**
baz=202,SNR=25
N32M Quiet Lake 86.59 19 IAmb IAmb 19 27 43.3
comp=Z,22nm,1.1s
N32M Quiet Lake 86.59 19 P **P** **19 27 41.4 +0.6**
baz=219
K27K Chicken 86.62 14 IAmb IAmb 19 27 43.3
comp=Z,15nm,1.1s
K27K Chicken 86.62 14 P **P** **19 27 41.6 +0.7**
baz=210
F19K Shaleruckik Mo 86.65 6 IAmb IAmb 19 27 43.2
comp=Z,26nm,0.9s
F19K Shaleruckik Mo 86.65 6 P **P** **19 27 41.6 +0.8**
baz=196
M30M Minto, Yukon 86.68 16 P **P** **19 27 41.8 +0.5**
baz=215
J26L Joseph Creek 86.71 13 IAmb IAmb 19 27 43.8
comp=Z,33nm,0.9s
J26L Joseph Creek 86.71 13 P **P** **19 27 41.8 +0.4**
baz=209,SNR=50
L29M L29M 86.78 16 IAmb IAmb 19 27 44.1
comp=Z,28nm,0.9s
L29M L29M 86.78 16 P **P** **19 27 42.4 +0.7**
baz=214,SNR=18
H23K Yukon River 86.80 10 P **P** **19 27 42.5 +0.8**
baz=203
G21K Allakaket 86.86 8 IAmb IAmb 19 27 43.9
comp=Z,21nm,0.8s
G21K Allakaket 86.86 8 P **P** **19 27 42.8 +0.8**
baz=200
E18K Tukpahlearik C 86.95 5 IAmb IAmb 19 27 44.4
comp=Z,17nm,0.9s
E18K Tukpahlearik C 86.95 5 P **P** **19 27 43.4 +1.1**
baz=193
D17K Noatak River 87.03 4 P **P** **19 27 43.8 +1.1**
baz=191
M31M Drury Creek, Y 87.04 17 P **P** **19 27 43.9 +1.0**
baz=217
F20K Avaraart Lake 87.08 7 IAmb IAmb 19 27 45.5
comp=Z,20nm,1.0s
F20K Avaraart Lake 87.08 7 P **P** **19 27 44.1 +1.1**
baz=198
H24K Noodor Dome 87.09 11 P **P** **19 27 44.1 +1.0**
baz=205
WTLY Watson Lake, Y 87.17 21 P **P** **19 27 44.6 +0.9**
baz=222,SNR=5.1
PRP Porcupine Dome 87.22 12 IAmb IAmb 19 27 46.2
comp=Z,20nm,1.0s
PRP Porcupine Dome 87.22 12 P **P** **19 27 44.5 +0.5**
baz=207,SNR=28
DAWY Dawson 87.27 15 IAmb IAmb 19 27 46.2
comp=Z,22nm,0.9s
DAWY Dawson 87.27 15 P **P** **19 27 45.3 +1.2**
baz=213,SNR=16
E19K Redstone River 87.31 6 IAmb IAmb 19 27 46.6
comp=Z,25nm,0.8s
E19K Redstone River 87.31 6 P **P** **19 27 45.0 +0.9**
baz=196
HNS HongShan 87.34 311 ⇑P **P** **19 27 46.2 +1.3**
HNS SKS **SKSac** **19 38 05.8 -3.5**
HNS pmax pmax
comp=Z,16nm,0.9s
HNS LR LR
comp=Z,150nm,19.0s
HNS LR LR
comp=Z,120nm,19.4s
HNS LR LR
comp=Z,180nm,19.0s
C16K Lisburne Hills 87.46 3 P **P** **19 27 45.8 +1.1**
baz=188
I26K Coal Creek Min 87.50 13 P **P** **19 27 45.8 +0.7**
baz=209,SNR=12
G22K Bettles 87.52 9 P **P** **19 27 46.4 +1.3**
baz=202
TOAD Toad River Com 87.52 23 P **P** **19 27 46.5 +1.1**
baz=226,SNR=8.7
F21K Alatna River 87.53 8 P **P** **19 27 46.0 +0.8**
baz=200
G23K Bananza Creek 87.54 9 P **P** **19 27 45.6 +0.3**
baz=203,SNR=14
K29M Barlow Dome 87.54 15 IAmb IAmb 19 27 48.0
comp=Z,27nm,1.3s
K29M Barlow Dome 87.54 15 P **P** **19 27 46.1 +0.6**
baz=214,SNR=17
PLCA Paso Flores 87.55 132 P **P** **19 27 45.2 -1.0**
PLCA IAmb IAmb 19 27 49.0
comp=Z,16nm,1.0s
PLCA Paso Flores 87.55 132 P **P** **19 27 48.5 +2.3**
comp=Z,9.4nm,1.0s,baz=235,slow=5.2,SNR=17
comp=Z,9.4nm,1.0s
LIRD Liard River Hi 87.60 22 P **P** **19 27 46.5 +0.8**
baz=225
H25L Birch Creek 87.84 11 P **P** **19 27 47.6 +0.9**
baz=207
J29N Klondike Camp 87.88 15 P **P** **19 27 48.3 +1.4**
baz=214,SNR=10
G24K Hadweenzic Riv 87.94 10 P **P** **19 27 48.4 +1.2**
baz=205
PSI Prapat 87.95 274 LR LR 20 07 47.4
comp=Z,68nm,19.0s,baz=104,slow=36
F22K John River 87.97 8 P **P** **19 27 47.8 +0.5**
baz=201
COLD Coldfoot 87.99 9 P **P** **19 27 48.6 +1.2**
baz=203,SNR=9.5
I27K Kandik River 88.08 13 P **P** **19 27 49.0 +1.0**
baz=211,SNR=7.4
C18K Utukok River 88.10 5 P **P** **19 27 48.9 +0.9**
baz=192
BILL Bilibino 88.15 353*ce*P **P** **19 27 48.4 +0.3**
BILL pmax pmax
comp=Z,7.0nm,1.3s
D19K Kuna River 88.22 6 P **P** **19 27 49.4 +0.8**
baz=195
G25K Bearman Lake 88.24 11 P **P** **19 27 49.6 +1.0**
baz=207
ZEA Zeya 88.27 330 *e*P **P** **19 27 50.0 +1.0**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
MMPY Sheldon Lake, 88.28 18 IAmb IAmb 19 27 51.5

comp=Z,18nm,1.4s
MMPY Sheldon Lake, 88.28 18 P P 19 27 49.8 +0.9
baz=220,SNR=5.5
ELIB Princess Elisa 88.31 185 dP P 19 27 49.1 -0.1
comp=Z,8.0nm,1.1s
I28M Miner Creek 88.32 14 P P 19 27 50.0 +0.8
baz=212,SNR=8.9
TGTN Hyland Airport 88.39 20 P P 19 27 50.3 +0.9
baz=223
KSCO Kaye Shedlock' 88.41 48 IAmb IAmb 19 27 54.7
comp=Z,25nm,1.1s
J30M Hart River 88.44 15 IAmb IAmb 19 27 52.0
comp=Z,15nm,1.3s
J30M Hart River 88.44 15 P P 19 27 51.1 +1.4
baz=216,SNR=7.0
D20K Etivluk River 88.58 6 IAmb IAmb 19 27 52.0
comp=Z,12nm,0.8s
D20K Etivluk River 88.58 6 P P 19 27 50.9 +0.7
baz=197
E22K Anaktuvuk Pass 88.61 8 IAmb IAmb 19 27 52.2
comp=Z,13nm,0.8s
E22K Anaktuvuk Pass 88.61 8 P P 19 27 51.2 +0.8
baz=201,SNR=31
I29M Ogilvie Camp, 88.61 14 P P 19 27 51.2 +0.8
baz=214,SNR=5.1
F24K Squaw Lake 88.62 10 P P 19 27 51.9 +1.5
baz=205
E21K Killik River 88.62 7 P P 19 27 51.2 +0.8
baz=199
H27K Steamboat Moun 88.64 13 P P 19 27 52.5 +2.0
baz=211,SNR=9.8
GSI Gunungsitoli 88.73 272 P P 19 27 52.2 0.0
SYO Syowa Base 88.75 192⇑eP P 19 27 51.8 +0.7
SYO Syowa Base 88.75 192⇑ePcP PcP 19 27 53.6 +0.9
B18K Kokolik River 88.76 4 P P 19 27 52.2 +1.3
baz=192,SNR=5.6
G26K Porcupine Rive 88.83 12 IAmb IAmb 19 27 54.5
comp=Z,14nm,0.8s
G26K Porcupine Rive 88.83 12 P P 19 27 53.0 +1.7
baz=209
KOTAN Kotaneelee Air 88.85 23 P P 19 27 53.0 +1.5
baz=227
E23K Chandalar 88.85 9 IAmb IAmb 19 27 53.5
comp=Z,8.4nm,0.8s
E23K Chandalar 88.85 9 P P 19 27 52.9 +1.3
baz=203
I30M Mount Dempster 88.96 15 IAmb IAmb 19 27 54.2
comp=Z,21nm,1.4s
I30M Mount Dempster 88.96 15 P P 19 27 53.1 +1.0
baz=216,SNR=9.8
TROLL Troll, Antarti 89.00 179 ⇓P P 19 27 53.4 +0.8
comp=Z,543nm,0.8s
E24K Your Creek 89.03 9 P P 19 27 53.5 +1.2
baz=204,SNR=8.6
F25K Christian Rive 89.06 11 P P 19 27 53.7 +1.1
baz=207
BMAR Burnt Mountain 89.10 11 P P 19 27 52.2 -0.5
G27K Doyon Strip 89.12 12 P P 19 27 53.9 +1.2
baz=211
GYA Guiyang 89.14 298 ⇑P P 19 27 55.2 +1.3
GYA pmax pmax
comp=Z,10.0nm,1.2s
VNA3 Neumayer Olymp 89.17 175 ⇓P P 19 27 54.2 +1.1
comp=Z,15nm,0.8s
SNAA Sanae 89.18 177 P P 19 27 52.5 -0.8
SNAA IAmb IAmb 19 27 55.0
comp=Z,12nm,1.0s
SNAA Sanae 89.18 177 ⇓P P 19 27 53.9 +0.7
comp=Z,210nm,0.9s
SNAA Sanae 89.18 177 P P 19 27 54.2 +1.0
comp=Z,9.9nm,0.9s,baz=204,slow=3.5,SNR=15
comp=Z,9.9nm,0.9s
SNAA Sanae 89.18 177ceP P 19 27 53.9 +0.7
SNAA pmax pmax
comp=Z,13nm,1.0s
D22K Ayikyak River 89.19 8 IAmb IAmb 19 27 55.2
comp=Z,17nm,0.7s
D22K Ayikyak River 89.19 8 P P 19 27 54.4 +1.3
baz=200,SNR=22
C21K Knifeblade Rid 89.21 7 P P 19 27 54.0 +0.9
baz=198
H29M Whitestone 89.32 14 IAmb IAmb 19 27 55.7
comp=Z,12nm,0.8s
H29M Whitestone 89.32 14 P P 19 27 54.8 +1.1
baz=214,SNR=8.7
WHTX Lake Whitney, 89.33 56 IAmb IAmb 19 27 57.6
comp=Z,19nm,1.1s
TOLK Toolik Lake Re 89.39 9 P P 19 27 55.0 +1.0
baz=203,SNR=8.8
F26K Sheenjek River 89.42 11 P P 19 27 56.1 +1.9
baz=208,SNR=8.1
D23K Nanushuk River 89.54 8 IAmb IAmb 19 27 56.8
comp=Z,15nm,0.9s
D23K Nanushuk River 89.54 8 P P 19 27 56.3 +1.7
baz=202,SNR=18
E25K Arctic Village 89.55 10 P P 19 27 56.6 +1.9
baz=207,SNR=12
A19K Wainwright 89.64 4 P P 19 27 56.2 +1.2
baz=192
VNA2 Neumayer--Watz 89.65 176 ⇓P P 19 27 57.1 +1.7
comp=Z,24nm,0.6s,baz=168,slow=4.0
B21K Ikpikpuk River 89.67 7 P P 19 27 56.3 +1.1
baz=199,SNR=9.0
BO02 Sierra Bellavi 89.72 127 P P 19 27 56.0 -0.6
MT01 Popeta 89.72 126 P P 19 27 56.7 +0.2
B20K Meade River 89.78 6 IAmb IAmb 19 27 57.6
comp=Z,12nm,0.8s
B20K Meade River 89.78 6 P P 19 27 57.0 +1.3
baz=196
EPYK Eagle Plains 89.82 14 P P 19 27 57.1 +1.0
baz=215
VNA1 Neumayer--Stat 89.86 175 ⇓P P 19 27 57.5 +1.2
comp=Z,24nm,0.9s
MTO3 Montecristo 89.92 75 IAmb IAmb 19 28 00.7
comp=Z,52nm,1.8s
H31M Peel River 89.93 15 P P 19 27 57.6 +1.0
baz=217
G29M Pine Creek 89.97 13 P P 19 27 57.1 +0.4
baz=214
D24K Happy Valley 89.97 9 P P 19 27 57.2 +0.5
baz=204
NOKA Waynoka 90.06 51 IAmb IAmb 19 28 01.5
comp=Z,20nm,0.8s
XAN Xi'an 90.21 306 ⇑P P 19 28 00.2 +1.5
XAN pP PcP 19 28 02.6 +2.8
XAN pmax pmax
comp=Z,15nm,0.8s
E27K Coleen River 90.32 12 P P 19 27 59.5 +1.2
baz=211,SNR=6.9
C23K Itkillik River 90.36 8 IAmb IAmb 19 28 02.0
comp=Z,17nm,1.1s
C23K Itkillik River 90.36 8 P P 19 27 59.0 +0.6
baz=202,SNR=17
G30M tAoh Zraii Nji 90.43 14 IAmb IAmb 19 28 00.8
comp=Z,22nm,1.1s
G30M tAoh Zraii Nji 90.43 14 P P 19 27 59.8 +0.8
baz=216,SNR=18
B22K Teshekpuk Lake 90.49 7 IAmb IAmb 19 28 01.3
comp=Z,18nm,1.1s
B22K Teshekpuk Lake 90.49 7 P P 19 27 59.8 +0.8
baz=200
D25K Kavik River 90.50 10 P P 19 27 60.0 +0.8
baz=206,SNR=7.2
C24K Franklin Bluff 90.51 9 IAmb IAmb 19 28 02.6
comp=Z,22nm,1.2s
C24K Franklin Bluff 90.51 9 P P 19 28 00.4 +1.2
baz=204
VA03 San Esteban 90.69 125 IAmb IAmb 19 28 04.6
comp=Z,29nm,1.1s
A22K Sinclair Lake 90.95 6 P P 19 28 02.0 +0.9
baz=198
HHC Hu-ho-hao-te 91.03 313 eP P 19 28 03.3 +0.9
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,100nm,5.7s
F30M Barrier River 91.05 14 IAmb IAmb 19 28 05.3
comp=Z,9.5nm,0.9s
F30M Barrier River 91.05 14 P P 19 28 02.6 +0.9
baz=216
E28M Babbage River 91.08 12 IAmb IAmb 19 28 04.0
comp=Z,10nm,0.9s
E28M Babbage River 91.08 12 P P 19 28 03.2 +1.4
baz=213
A21K Barrow 91.10 6 P P 19 28 02.5 +0.7
baz=197
WRGLY Wrigley 91.18 21 P P 19 28 04.1 +1.7
baz=227

C27K Jago River 91.20 10 P P 19 28 03.8 +1.4
baz=209,SNR=9.4
E29M Blow River 91.23 13 P P 19 28 03.7 +1.2
baz=214
C26K Camden Bay 91.26 10 P P 19 28 04.2 +1.6
baz=208,SNR=6.6
D27M Malcolm River 91.35 11 IAmb IAmb 19 28 05.8
comp=Z,20nm,1.6s
D27M Malcolm River 91.35 11 P P 19 28 04.1 +1.0
baz=211,SNR=12
F31M Tsiigehtchic 91.38 15 P P 19 28 04.2 +1.0
baz=218,SNR=32
HERN Volcan Telica 91.65 77 IAmb IAmb 19 30 18.2
comp=Z,324nm,1.0s
D28M Stokes Point 91.85 12 P P 19 28 06.4 +1.1
baz=213,SNR=7.9
KMI Kunming 91.96 296 P P 19 28 08.9 +1.7
KMI pP PcP 19 28 14.1 +6.1
KMI pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 92.12 14 IAmb IAmb 19 28 08.8
comp=Z,12nm,0.9s
INK Inuvik 92.12 14 P P 19 28 07.8 +1.2
baz=218,SNR=16
CO01 Juntas del Tor 92.16 123 IAmb IAmb 19 28 13.1
comp=Z,11nm,0.8s
YAK Yakutsk 92.28 337 LR LR 20 05 13.7
comp=Z,86nm,22.0s,baz=179,slow=33
YAK Yakutsk 92.28 337ceP P 19 28 07.6 +0.1
YAK pmax pmax
comp=Z,7.0nm,1.0s
JTS Las Juntas de 92.64 80 P P 19 28 08.8 -1.5
JTS IAmb IAmb 19 28 13.7
comp=Z,19nm,0.8s
JTS Las Juntas de 92.64 80 P P 19 28 08.8 -1.5
JTS pmax pmax
comp=Z,19nm,0.8s
CM31 Chiang Mai Arr 93.06 288 IAmb IAmb 19 28 15.2
comp=Z,16nm,1.1s
CMAR Chiang Mai Arr 93.06 288 P P 19 28 11.0 -1.1
CMAR Chiang Mai Arr 93.06 288 P P 19 28 12.2 0.0
comp=Z,6.2nm,1.0s,baz=109,slow=3.0,SNR=29
comp=Z,6.2nm,1.0s
CMAR Chiang Mai Arr 93.06 288ceP P 19 28 13.6 +1.4
CMAR pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 93.18 289 P P 19 28 11.5 -1.2
CHTO IAmb IAmb 19 28 49.2
comp=Z,14nm,1.4s
CHTO Chiang Mai 93.18 289 P P 19 28 11.5 -1.2
CHTO pmax pmax
comp=Z,14nm,1.4s
PZH PanZhiHua 93.28 297 P P 19 28 13.1 0.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,6.3s
U38A Gravette 93.37 53 IAmb IAmb 19 28 15.6
comp=Z,20nm,0.9s
HHAR Hobbs 93.64 53 IAmb IAmb 19 28 16.7
comp=Z,18nm,1.0s
YKA Yellowknife Ar 93.87 24 P P 19 28 14.3 -0.5
YKA Yellowknife Ar 93.87 24 P P 19 28 15.5 +0.7
comp=Z,3.3nm,0.8s,baz=237,slow=4.2,SNR=52
comp=Z,3.3nm,0.8s
WHAR Wooly Hollow 94.55 54 IAmb IAmb 19 28 20.7
comp=Z,11nm,1.0s
C36M Paulatuk 95.20 16 P P 19 28 21.6 +0.9
baz=227
F33A 5 Mile Ranch, 95.48 43 IAmb IAmb 19 28 24.4
comp=Z,19nm,1.1s
T42A Van Buren 96.05 53 IAmb IAmb 19 28 27.3
comp=Z,12nm,1.2s
P40A Paris 96.17 50 IAmb IAmb 19 28 27.8
comp=Z,9.5nm,1.0s
AGMN Agassiz Nation 96.65 41 IAmb IAmb 19 28 29.1
comp=Z,18nm,1.1s
A36M Sachs Harbour 96.75 14 P P 19 28 27.8 0.0
A36M Sachs Harbour 96.75 14 P P 19 28 29.7 +1.9
baz=226
SONM Songino Array 97.14 318 LR LR 20 07 07.4
comp=Z,109nm,21.1s,baz=142,slow=32
ULM Lac du Bonnet 97.35 39 IAmb IAmb 19 28 32.2
comp=Z,12nm,1.1s
ULM Lac du Bonnet 97.35 39 P P 19 28 31.1 0.0
comp=Z,4.9nm,0.9s,baz=230,slow=7.7,SNR=8.0
ULM LR LR 20 05 55.8
comp=Z,193nm,20.2s,baz=206,slow=31
comp=Z,4.9nm,0.9s
ULM Lac du Bonnet 97.35 39d iP P 19 28 31.4 +0.4
L40A Anamosa 97.60 48 IAmb IAmb 19 28 35.5
comp=Z,11nm,1.0s
TIXI Tiksi 98.43 344ceP Pdif 19 28 36.1 +0.7
TIXI pmax pmax
comp=Z,2.0nm,1.0s
JFWS Jewell Farm 98.56 48 IAmb IAmb 19 28 38.9
comp=Z,12nm,0.8s
I40A Norwalk 98.60 47 IAmb IAmb 19 28 39.3
comp=Z,13nm,0.9s
LPAZ La Paz 99.23 111 P Pdif 19 28 44.6 +3.6
comp=Z,1.5nm,0.8s,baz=251,slow=4.2,SNR=4.3
comp=Z,1.5nm,0.8s
WMQ Urumqi 108.77 311 Pdif Pdif 19 29 23.2 +1.1
WMQ LR LR
comp=Z,81nm,23.8s
MK31 Makanchi Array 112.89 314c iPKIKP PKiKP 19 33 34.9 +0.2
MKAR Makanchi Array 112.89 314 PKiKP PKiKP 19 33 34.5 -0.2
comp=Z,1.0nm,0.8s,baz=78,slow=3.3,SNR=9.8
MKAR PKKPbc PKKPbc 19 44 23.3 0.0
comp=Z,0.9nm,0.7s,baz=273,slow=3.5,SNR=9.0
MAKZ Makanchi 113.11 314 ⇑PKIKP PKiKP 19 33 33.9 -1.2
KURK Kurchatov 115.44 318c iPKIKP PKiKP 19 33 39.8 +0.4
KURK pmax pmax
comp=Z,5.0nm,1.7s
KURBB Kurchatov Arra 115.50 318 PKP PKiKP 19 33 38.3 -1.2
comp=Z,1.2nm,0.9s,baz=92,slow=1.9,SNR=13
KURBB PKKPbc PKKPbc 19 44 14.0 -0.4
comp=Z,0.1nm,0.3s,baz=264,slow=4.4,SNR=5.9
AAK Ala-Archa 118.28 309c iPKIKP PKiKP 19 33 46.1 +0.7
AAK pmax pmax
comp=Z,4.0nm,2.5s
BVAR Borovoye Array 120.35 321 PKP PKPdf 19 33 48.3 -0.5
comp=Z,3.6nm,0.9s,baz=93,slow=0.6,SNR=19
BVAR PKKPab PKKPab 19 43 56.9 +0.9
comp=Z,0.6nm,0.7s,baz=267,slow=2.9,SNR=3.6
BRVK Borovoye 120.41 321c iPKIKP PKPdf 19 33 49.3 +0.4
BRVK pmax pmax
comp=Z,2.0nm,0.7s
SPITS Spitsbergen Ar 120.75 357 PKP PKPdf 19 33 48.9 -0.1
comp=Z,4.0nm,0.8s,baz=69,slow=4.6,SNR=1.8
SVE Sverdlovsk 124.90 327 ePKIKP PKiKP 19 33 58.1 +0.4
SVE pmax pmax
comp=Z,7.0nm,1.0s
ARTI Arti 126.22 327 i PKIKP PKiKP 19 34 01.0 +0.6
ARTI 19 35 57.4
ARTI 19 41 12.0
ARCES ARCESS Array B 128.23 351 PKP PKPdf 19 34 03.6 +0.2
comp=Z,5.4nm,1.0s,baz=38,slow=1.9,SNR=3.8
BOSA Boshof 128.88 202 PKP PKiKP 19 34 07.3 +0.5
comp=Z,2.6nm,0.9s,baz=73,slow=21,SNR=2.9
KIRV Kirov 129.54 332c iPKIKP PKiKP 19 34 08.4 +1.5
MATP Matopo 134.77 211 PKP PKPdf 19 34 16.0 -1.5
comp=Z,0.8nm,0.7s,baz=151,slow=5.8,SNR=3.7
FINES FINESS Array B 135.44 346 PKP PKPdf 19 34 17.4 +0.2
comp=Z,2.4nm,0.8s,baz=64,slow=3.2,SNR=4.2
OBN Obninsk 137.22 334 PKP PKPdf 19 34 21.9 +1.2
comp=Z,5.3nm,0.4s,baz=215,slow=0.1,SNR=3.0
OBN Obninsk 137.22 334 i PKIKP PKiKP 19 34 22.1 -0.5
OBN pmax pmax
comp=Z,16nm,1.6s
NOA NORSAR Array B 138.02 356 PKP PKPdf 19 34 21.4 -0.7
comp=Z,0.9nm,0.9s,baz=30,slow=1.9,SNR=3.2
HFS Hagfors 138.72 354 PKP PKPdf 19 34 22.6 -0.8
comp=Z,1.2nm,0.6s,baz=56,slow=5.4,SNR=1.6
LSZ Lusaka 139.26 214 PKP PKiKP 19 34 28.3 +0.1
comp=Z,1.5nm,0.7s,baz=240,slow=1.3,SNR=4.3
KBZ Khabaz 140.49 317 PKhKP PKPpre 19 34 22.0
comp=Z,0.9nm,0.8s,baz=60,slow=4.9,SNR=4.0
KBZ PKP PKiKP 19 34 29.0 -0.6
comp=Z,1.2nm,0.8s,baz=82,slow=4.8,SNR=4.5
KBZ Khabaz 140.49 317c iPKIKP PKiKP 19 34 32.0 +2.4
KIV Kislovodsk 140.52 317 i PKIKP PKiKP 19 34 32.0 +2.1
KIV pmax pmax
comp=Z,2.0nm,1.0s
KIV MLR MLR
comp=Z,62nm,24.0s
EKA Eskdalemuir Ar 143.29 9 PKhKP PKPpre 19 34 28.1

comp=Z,1.3nm,0.7s,baz=345,slow=2.6,SNR=4.1
AKASG Malin Array Be 143.48 335 PKhKP PKPpre 19 34 28.6
comp=Z,1.9nm,0.6s,baz=42,slow=3,9,SNR=15
KIEV Kiev 143.49 335 ⇑P PKPab 19 34 28.8 +0.3
KIEV Kiev 143.49 335 ⇑PKHKP PKPpre 19 34 28.8
MARD Mardin 144.54 308 PKPab 19 34 33.6 +0.4
HPK Haverah Park 144.83 8 eP PKPab 19 34 34.0 +0.4
BSEG Bad Segeberg 145.15 355 ePKPbc 19 34 35.4
baz=9.1,slow=2.6
SIM Simferopol' 145.17 324 ePKIKP PKPdf 19 34 35.8 +0.4
SIM e 19 37 59.5
SIM pmax pmax
comp=Z,23nm,0.7s
SIM pmax pmax
comp=Z,39nm,1.4s
SIM pmax pmax
comp=Z,12nm,16.0s
BEL Belsk 145.36 344 ePKP PKPab 19 34 35.9 +0.4
LBWR Ladybower, Pea 145.37 8 eP PKPdf 19 34 35.9 +0.4
IWEX Carrickbyrne, 145.46 14 eP PKPbc 19 34 36.1 +0.5
LLW Llanuwychllyn 145.61 10 eP PKPdf 19 34 36.1 +0.2
FOEL Foel Wylfa 145.65 10 eP PKPbc 19 34 36.5 +0.3
SORM Soroca 145.82 333 ⇑P PKPdf 19 34 36.6 +0.3
SORM Soroca 145.82 333 ⇑PKP2 PKPdf 19 34 36.6 +0.3
HLM1 Long Mynd 146.06 9 eP PKPdf 19 34 37.4 +0.7
CWF Charnwood Fore 146.07 8 eP PKPdf 19 34 36.7 +0.1
PURM Purcari 146.31 329 ⇑P PKPbc 19 34 39.0 +0.6
RETH Rethem/Aller, 146.41 356 ePKPbc 19 34 39.1
baz=9.1,slow=2.6
MILM Milestii Mici 146.53 331 ⇓P PKPdf 19 34 38.5 +0.9
MILM Milestii Mici 146.53 331 ⇓PKIKP PKPdf 19 34 38.5 +0.9
MCH1 Michaelchurch 146.54 10 eP PKPbc 19 34 39.2 +0.2
NRDL Niedersach Rie 146.59 355 ePKPbc 19 34 39.6
baz=9.1,slow=2.6
FLTG Flechtingen 146.66 354 ePKPbc 19 34 39.7
baz=9.1,slow=2.6
ASSE Asse, Remlinge 146.91 354 ePKPbc 19 34 40.8
baz=9.1,slow=2.6
IBBN Ibbenburen 146.92 358 ePKPbc 19 34 40.8
baz=9.1,slow=2.6
OJC Ojcow 147.09 343 ePKP PKPbc 19 34 41.2 +0.6
OJC Ojcow 147.09 343 PKPbc 19 34 40.8 +0.2
OJC Ojcow 147.09 343 PKIKP PKPbc 19 34 40.8 +0.2
CLZ Clausthal 147.22 355 ePKPbc 19 34 41.6
baz=9.1,slow=2.6
KSP Ksiaz 147.34 348 ePKP PKPbc 19 34 42.4 +1.1
CLL Collm 147.45 352 PKPbc 19 34 41.9 +0.3
CLL Collm 147.45 352 i PKIKP PKPbc 19 34 41.9 +0.3
CLL i 19 34 46.2
CLL pmax pmax
comp=Z,29nm,1.2s
CLL Collm 147.45 352 i PKPbc PKPbc 19 34 41.4 -0.1
comp=Z,29nm,1.2s
CLL i (PKiKP) 19 34 46.2
CLL ePKPIp 19 34 56.0
comp=Z,100nm,19.3s
CLL i x x 19 35 15.0
comp=Z,39nm,1.3s
CLL eSS SS 19 57 00.0 -6.1
CLL AMS AMS 20 39 00.0
comp=Z,200nm,21.5s
CLL AMS AMS 20 40 00.0
comp=N,100nm,21.1s
CLL AMS AMS 20 40 00.0
comp=E,100nm,20.5s
CLL Collm 147.45 352 ePKPbc 19 34 42.1
baz=9.1,slow=2.6
CLL epPKPbc 19 35 01.6
KOLS Kolonicke sedl 147.49 340 ePKP2 PKPbc 19 34 43.1 +1.3
KOLS Kolonicke sedl 147.49 340 ePKP PKPbc 19 34 43.1 +1.3
BUR08 Bucovina Ar. S 147.51 335 PKPab PKPbc 19 34 43.2 +1.2
BURAR Bucovina Array 147.53 335 ⇑P PKPbc 19 34 42.9 +0.9
BURAR Bucovina Array 147.53 335 ⇑PKP2 PKPbc 19 34 42.9 +0.9
GTTG Gottingen 147.55 355 ePKPbc 19 34 42.5
baz=9.1,slow=2.6
OSTC Ostas 147.62 348⇑ePKP PKPbc 19 34 43.0 +0.9
OSTC Ostas 147.62 348 ePKP2 PKPbc 19 34 43.0 +0.9
CHVC Chvalec 147.63 348⇑ePKP PKPbc 19 34 42.5 +0.4
CHVC Chvalec 147.63 348 ePKIKP PKPbc 19 34 42.5 +0.4
NIE Niedzica 147.67 342 ePKP PKPbc 19 34 43.6 +1.3
NEUB Neuenburg 147.71 353 ePKPbc 19 34 43.2
baz=9.1,slow=2.6
BRG Berggiesshubel 147.73 350 ePKP PKPdf 19 34 41.1 +1.6
BRG Amp 19 34 46.3
comp=Z,14nm,1.2s
BRG Berggiesshubel 147.73 350 ePKPbc 19 34 43.3
baz=9.1,slow=2.6
TLCR 147.79 329 ⇑P PKPbc 19 34 43.2 +0.5
TLCR 147.79 329 ⇑PKP2 PKPbc 19 34 43.2 +0.5
DPC Dobruska-Polom 147.80 347⇑ePKP PKPbc 19 34 43.7 +1.1
DPC Dobruska-Polom 147.80 347 ePKP2 PKPbc 19 34 43.7 +1.1
OKC Ostrava-Krasne 147.86 345⇑ePKP PKPbc 19 34 43.7 +1.0
OKC Ostrava-Krasne 147.86 345 ePKP2 PKPbc 19 34 43.7 +1.0
STEB Steborice 147.87 345⇑ePKP PKPbc 19 34 43.6 +0.9
STEB ex x 19 35 04.2
KRLC Kraliky 147.96 347⇑ePKP PKPbc 19 34 43.6 +0.5
KRLC ex x 19 35 04.0
KRLC Kraliky 147.96 347 ePKIKP PKPbc 19 34 43.6 +0.5
PVCC Panska Ves 147.96 349⇑ePKP PKPbc 19 34 44.1 +1.1
PVCC ex x 19 35 04.5
PVCC Panska Ves 147.96 349 ePKP2 PKPbc 19 34 44.1 +1.1
KASTN Kahler Asten 147.99 357 ePKPbc 19 34 43.6
baz=9.1,slow=2.6
MORC Moravsky Berou 148.07 346 ePKP PKPbc 19 34 44.0 +0.7
MORC Moravsky Berou 148.07 346 ⇑P PKPbc 19 34 42.5 -0.8
MORC Moravsky Berou 148.07 346 ⇑PKIKP PKPbc 19 34 42.5 -0.8
BMR Baia Mare 148.14 337 ⇑P PKiKP 19 34 44.8 -0.5
BMR Baia Mare 148.14 337 ⇑PKP2 PKiKP 19 34 44.8 -0.5
LANS Liptovska Anna 148.15 343 ePKP2 PKiKP 19 34 45.7 +0.4
LANS Liptovska Anna 148.15 343 ePKP PKiKP 19 34 45.7 +0.4
TPGR Topolog 148.23 329 ⇑P PKPbc 19 34 44.7 +0.8
UBBA Unterbreizbach 148.27 355 ePKPbc 19 34 44.2
baz=9.1,slow=2.6
VRI Vrincioaia 148.27 332 ⇑P PKPbc 19 34 43.5 -0.5
VRI Vrincioaia 148.27 332 ⇑PKIKP PKPbc 19 34 43.5 -0.5
MOX Moxa 148.28 353 ePKPbc 19 34 44.3
baz=9.1,slow=2.6
MOX epPKPbc 19 35 03.9
ARCR ARCALIA 148.30 336 ⇑P PKPbc 19 34 45.2 +1.2
PLOR Plostina 148.32 332 ⇑P PKPbc 19 34 45.0 +0.9
PLOR Plostina 148.32 332 ⇑PKP2 PKPbc 19 34 45.0 +0.9
PLN Plauen 148.37 352 ePKPbc 19 34 45.0
baz=9.1,slow=2.6
MAUC Maruska 148.38 345⇑ePKP PKPbc 19 34 44.9 +0.7
TANN Tannenbergstha 148.40 352 ePKPbc 19 34 45.1
baz=9.1,slow=2.6
TANN epPKPbc 19 35 04.3
BRTR Keskin Array B 148.48 316 PKPbc 19 34 45.1 +0.3
BRTR Keskin Array B 148.48 316 PKPbc PKPbc 19 34 44.9 0.0
comp=Z,6.8nm,0.8s,baz=137,slow=3.4,SNR=40
BRTR Keskin Array B 148.48 316 PKP2 PKPbc 19 34 45.2 +0.3
PRU Pruhonice 148.49 349⇑ePKP PKPbc 19 34 44.7 +0.3
PRU Pruhonice 148.49 349 ePKIKP PKPbc 19 34 44.7 +0.3
NKC Novy Kostel 148.58 352⇑ePKP PKPbc 19 34 45.7 +1.1
NKC Novy Kostel 148.58 352 ePKP2 PKPbc 19 34 45.7 +1.1
HARR Harsova 148.59 329 ⇑P PKiKP 19 34 46.0 -0.3
HARR Harsova 148.59 329 ⇑PKP2 PKiKP 19 34 46.0 -0.3
KIRS Kirsehir-Merke 148.61 315 ⇑P PKPbc 19 34 46.2 +1.1
MEM Membach 148.65 360 dPKP PKPbc 19 34 45.4 +0.7
BTNL Ternell 148.68 360 dPKP PKPbc 19 34 45.6 +0.7
BSTI Sart Tilman 148.68 0 dPKP PKPbc 19 34 45.6 +0.8
VRAC Vranov 148.72 346 PKPbc PKPbc 19 34 45.2 +0.2
comp=Z,7.6nm,1.2s,baz=14,slow=3.7,SNR=5.5
VRAC Vranov 148.72 346 ePKP PKPbc 19 34 45.6 +0.6
VRAC Vranov 148.72 346 ⇑P PKPbc 19 34 45.6 +0.6
VRAC Vranov 148.72 346 ⇑PKIKP PKPbc 19 34 45.6 +0.6
DOPR Dopca 148.78 333 ⇑P PKiKP 19 34 46.6 -0.1
BCLA Clavier 148.84 1 dPKP PKPab 19 34 49.5 +0.3
MANZ Manzenberg 148.86 352 ePKPbc 19 34 46.5
baz=9.1,slow=2.6
BGES Gesves 148.87 1 dPKP PKPab 19 34 49.1 -0.2
JAVC Velka Javorina 148.89 345 ePKP PKiKP 19 34 47.1 +0.2
CJR Cluj-Napoca 148.90 336 ⇑P PKPbc 19 34 46.5 +0.9
CJR Cluj-Napoca 148.90 336 ⇑PKP2 PKPbc 19 34 46.5 +0.9
MLR Muntele Rosu 148.91 332 PKPbc PKPbc 19 34 45.7 0.0
comp=Z,13nm,1.1s,baz=16,slow=4.5,SNR=11
MLR Muntele Rosu 148.91 332 ⇑P PKPbc 19 34 46.8 +1.0
MLR Muntele Rosu 148.91 332 ⇑PKP2 PKPbc 19 34 46.8 +1.0
BHOU Houvegnez 148.91 360 dPKP PKiKP 19 34 46.6 -0.2
VYHS Vyhne 148.92 343 ePKP2 PKPbc 19 34 46.5 +1.0
VYHS Vyhne 148.92 343 ePKP PKPbc 19 34 46.5 +1.0
ANTO Ankara 148.95 317 ⇑P PKPbc 19 34 46.8 +0.8
BMRD Maredsous 148.95 1 dPKP PKiKP 19 34 47.1 +0.2

TNS	**Taunus Mts**	148.97 357	*e*PKPbc		19 34 46.4	
	baz=9.1,slow=2.6					
TREC	**Trest**	148.97 348	⇑*e*PKP	PKPbc	19 34 46.3	+0.6
TREC	**Trest**	148.97 348	*e*PKIKP	PKPbc	19 34 46.3	+0.6
KRUC	**Moravsky**	149.00 346	*e*PKP	PKPbc	19 34 46.3	+0.6
ROTZ	**Rotzenmuhle**	149.07 352	*e*PKPbc		19 34 46.6	
	baz=9.1,slow=2.6					
ZVC	**Zvikov**	149.08 349	⇑*e*PKP	PKiKP	19 34 47.1	-0.1
RCHB	**Rochefort**	149.10 1	*d*PKP	PKPbc	19 34 46.8	+0.9
MARR	**Marisel-Cluj**	149.11 336	⇑P	PKPbc	19 34 46.1	-0.1
PSZ	**Piszkesteto**	149.13 341	⇑P	PKPbc	19 34 45.6	-0.6
PSZ	**Piszkesteto**	149.13 341	⇑PKIKP	PKPbc	19 34 45.6	-0.6
DOU	**Dourbes**	149.15 1	*d*PKP	PKPbc	19 34 45.4	-0.7
ASF	**Jabal al Asfar**	149.25 301	PKPbc	PKiKP	19 34 48.4	+0.2
	comp=Z,4.1nm,0.8s,baz=90,slow=1.7,SNR=9.8					
MODS	**Modra-Piesok**	149.44 345	*e*PKP2	PKiKP	19 34 48.4	+0.4
MODS	**Modra-Piesok**	149.44 345	*e*PKP	PKiKP	19 34 48.4	+0.4
KHC	**Kasperske Hory**	149.48 350	⇑*e*PKP	PKPbc	19 34 47.7	+0.7
KHC			AMS	AMS	21 04 10.0	
	comp=Z,100nm,20.6s					
KHC	**Kasperske Hory**	149.48 350	*e*PKIKP	PKPbc	19 34 47.7	+0.7
KHC			MLR	MLR		
	comp=Z,100nm,20.6s					
ARR	**Arges**	149.57 333	⇓P	PKiKP	19 34 48.7	+0.3
WET	**Wettzell**	149.58 351	*e*PKPbc		19 34 48.6	
	baz=9.1,slow=2.6					
WLF	**Walferdange**	149.60 360	*d*PKP	PKiKP	19 34 48.4	+0.2
WLF	**Walferdange**	149.60 360	*e*PKPbc		19 34 48.7	
	baz=9.1,slow=2.6					
WLF			*ep*PKPbc		19 35 08.0	
CKRC	**Cesky Krumlov**	149.65 349	⇑*e*PKP	PKPbc	19 34 48.1	+0.7
CKRC	**Cesky Krumlov**	149.65 349	*e*PKIHKP	PKPpre	19 34 48.1	
SRO	**Srobarova**	149.68 343	*e*PKP2	PKiKP	19 34 49.3	+0.9
SRO	**Srobarova**	149.68 343	*e*PKP	PKiKP	19 34 49.3	+0.9
SRO			*e*		19 34 53.5	
GEC2	**GERESS Array S**	149.74 350	*e*PKPbc		19 34 48.2	
	baz=9.1,slow=2.6					
GEC2			*ep*PKPbc		19 35 07.7	
GERES	**GERESS Array B**	149.74 350		PKPbc	19 34 48.5	+0.8
GERES	**GERESS Array B**	149.74 350	PKPbc	PKPbc	19 34 48.3	+0.6
	comp=Z,4.8nm,0.8s,baz=17,slow=1.4,SNR=35					
GERES	**GERESS Array B**	149.74 350	PKHKP	PKPpre	19 34 48.5	
MMAI	**Mount Meron Ar**	150.17 303	PKPbc	PKiKP	19 34 50.3	+0.3
	comp=Z,6.9nm,0.7s,baz=67,slow=4.6,SNR=20					
CONA	**Conrad Observa**	150.19 346	*e*PKiKP	PKiKP	19 34 49.7	+0.1
	comp=Z,11nm,0.9s,SNR=13					
SURR	**Surduc**	150.26 337	⇑P	PKPbc	19 34 49.4	+0.5
RONA	**Rosalia, Austr**	150.30 346	*e*PKiKP	PKPbc	19 34 49.8	+0.8
	comp=Z,11nm,0.8s,SNR=8.6					
GZR	**Gura Zlata**	150.31 335	⇑P	PKPbc	19 34 49.4	+0.3
GZR	**Gura Zlata**	150.31 335	⇑PKHKP	PKPpre	19 34 49.4	
BZS	**Buzias**	150.57 337	⇑P	PKPbc	19 34 50.2	+0.5
BZS	**Buzias**	150.57 337	⇑PKIKP	PKPbc	19 34 50.2	+0.5
MOA	**Molln**	150.59 348	*e*PKiKP	PKPbc	19 34 50.2	+0.5
	comp=Z,3.8nm,0.7s					
FUR	**Furstenfeldbru**	150.76 352	*e*PKPbc		19 34 51.0	
	baz=9.1,slow=2.6					
VLAD	**Vladila**	150.76 332	⇑P	PKPbc	19 34 50.8	+0.7
BFO	**Black Forest**	150.86 357		PKPbc	19 34 51.0	+0.7
BFO	**Black Forest**	150.86 357	PKIKP	PKPbc	19 34 51.0	+0.7
BIOA	**Bad Ischl, Aus**	150.86 349	*e*PKP	PKPbc	19 34 50.4	+0.1
	comp=Z,6.1nm,0.9s					
BFO	**Black Forest**	150.86 357	*e*PKPbc		19 34 50.8	
	baz=9.1,slow=2.6					
HERR	**Herculane**	150.88 335	⇓P	PKPbc	19 34 50.7	+0.3
ARSA	**Arzberg**	150.90 346	*e*PKP	PKPbc	19 34 50.6	+0.2
	comp=Z,4.6nm,1.1s					
RJOB	**Jochberg**	150.96 350	*e*PKPbc		19 34 50.9	
	baz=9.1,slow=2.6					
MORH	**Mrgy, Hungar**	151.04 341	⇑P	PKPbc	19 34 50.9	+0.2
MDVR	**Moldovita**	151.24 336	⇑P	PKPbc	19 34 50.2	-1.1
LESA	**Schwarzleotal**	151.28 350	*ep*PKP	PKPbc	19 34 51.5	+0.1
	comp=Z,5.0nm,0.9s					
UBR	**Ueberruh**	151.37 354	*e*PKPbc		19 34 52.1	
	baz=9.1,slow=2.6					
RETA	**Reutte**	151.49 353	*ep*PKP	PKPbc	19 34 52.0	+0.2
	comp=Z,4.2nm,0.7s					
KBA	**Koelnbreinsper**	151.51 349	*e*PKP	PKPbc	19 34 51.6	-0.4
	comp=Z,5.6nm,1.1s					
BAND	**Balkesir-Ban**	151.51 323	⇓P	PKPbc	19 34 52.6	+0.6
WATA	**Walderalm**	151.53 352	*ep*PKP	PKPbc	19 34 52.3	+0.2
	comp=Z,4.4nm,0.6s					
EIL	**Elat**	151.54 297	PKPbc	PKPbc	19 34 52.8	+0.4
	comp=Z,8.8nm,0.8s,baz=351,slow=5.0,SNR=9.7					
SOKA	**Soboth**	151.55 347	*e*PKP	PKPbc	19 34 51.9	-0.1
	comp=Z,8.2nm,1.0s,SNR=6.2					
ISP	**Isparta**	151.56 316	*c i*PKIKP	PKPbc	19 34 52.6	+0.2
ISP			pmax	pmax		
	comp=Z,21nm,1.7s					
MOTA	**Moosalm**	151.59 352	*ep*PKP	PKPbc	19 34 52.4	+0.2
	comp=Z,9.5nm,0.9s					
WTTA	**Wattenberg**	151.60 352	*e*PKiKP	PKPbc	19 34 52.5	+0.3
	comp=Z,7.6nm,0.7s,SNR=11					
SQTA	**Sankt Quirin**	151.69 352	*e*PKiKP	PKPbc	19 34 52.7	+0.3
	comp=Z,4.9nm,0.8s,SNR=7.2					
DAVA	**Damuels**	151.78 354	*e*PKiKP	PKiKP	19 34 53.3	+0.3
	comp=Z,10nm,0.9s,SNR=6.8					
OBKA	**Obir**	151.82 347	*ep*PKP	PKPbc	19 34 52.0	-0.6
	comp=Z,2.3nm,0.6s					
MYKA	**Terra Mystica**	151.88 348	*ep*PKP	PKPbc	19 34 52.1	-0.7
	comp=Z,6.2nm,0.8s					
FETA	**Feichten**	151.95 353	*e*PKiKP	PKPbc	19 34 53.5	+0.5
	comp=Z,4.7nm,0.8s,SNR=5.8					
ABTA	**Abfaltersbach**	151.97 350	*ep*PKP	PKPbc	19 34 52.8	-0.2
	comp=Z,9.8nm,0.7s,SNR=8.4					
BOVS	**Bovan**	152.20 335	⇑P	PKPbc	19 34 53.6	+0.1
LJU	**Ljubljana**	152.27 347	*i* PKPbc	PKPbc	19 34 54.0	+0.4
DAVOX	**Davos/Dischmat**	152.28 354	PKPbc	PKPbc	19 34 54.1	+0.3
	comp=Z,7.3nm,0.7s,baz=186,slow=2.3,SNR=22					
CRNS	**Crni Vrh**	152.29 347	*i* PKPbc	PKPbc	19 34 53.5	-0.1
FUORN	**Ofenpass-Fuorn**	152.40 353		PKPbc	19 34 54.3	+0.1
GBRS	**Gornja Briga**	152.69 346	*i* PKPbc	PKPbc	19 34 54.6	+0.1
ESDC	**Sonseca Array**	157.92 20	PKP	PKPdf	19 34 56.4	+1.6
	comp=Z,0.6nm,1.0s,baz=88,slow=7.1,SNR=2.1					
ESDC			PKPab	PKPab	19 35 28.1	+0.3
	comp=Z,2.0nm,0.8s,baz=332,slow=3.2,SNR=9.6					
VAE	**Valguarnera**	160.28 339	PKP	PKPdf	19 34 58.5	+0.9
	comp=Z,4.1nm,0.4s,baz=32,slow=15,SNR=8.2					
MDT	**Midelt**	163.55 32	PKP	PKPdf	19 35 01.9	+0.8
	comp=Z,2.0nm,0.5s,baz=14,slow=4.4,SNR=4.7					
MDT			PKPab	PKPab	19 35 54.5	+1.9
	comp=Z,5.1nm,0.9s,baz=347,slow=5.5,SNR=4.5					
DBIC	**Dimbokro**	163.81 139	PKPab	PKPab	19 35 54.2	+0.1
	comp=Z,6.3nm,1.0s,baz=189,slow=5.9,SNR=3.3					
TORD	**Torodi Ar. Bea**	172.82 146	PKP	PKPdf	19 35 07.1	-0.6
	comp=Z,110nm,0.4s,baz=338,slow=2.2,SNR=1.4					
TORD			PKPab	PKPab	19 36 34.9	+1.1
	comp=Z,81nm,0.4s,baz=247,slow=2.7,SNR=1.4					

NEIC ***07*** *19:45:33.5±2.1, 0°.90N±0°.05×123°.23E±0°.06, h45km±7km, mb4.8/36, Error ellipse: s-maj=9.2km s-min=7.7km az=81.0*

DJA ***07*** *19:45:34.1±0.1, 1°N±1°×12°.3E±°, h55km±2km, M5.1/106, mb5.1/106, mB5.5/36, MLv5.5/29, Mw(mB)5.0/36, MwMwp4.8/5, Mwp5.1/5*

BJI ***07*** *19:45:34.0, 0°.63N×123°.46E, h82km, mB4.8/11, mb4.4/38, Ms4.3/4, Ms7 4.1/4*

IDC ***07*** *19:45:36.1±2.3, 0°.87N×123°.27E, h75km±21km, mb3.9/19, mbtmp4.3/23, MS3.5/7, Error ellipse: s-maj=19.4km s-min=10.1km az=77.0*

ISC 07 19:45:33.6±0.3, 0°.89N±0°.04×123°.20E±0°.04, h50km, n195, σ1§40/197, mb4.8/62, MS3.4/7, 1C-2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	0.84	112	P	Pn	19 45 49.8	+0.6
KMSI				S	Sn	19 46 02.4	+1.7
MRSI	**Marisa**	1.32	252	P	Pn	19 45 56.0	+0.4
MRSI				S	Sn	19 46 13.0	+0.9
LUWI	**Luwuk**	1.96	192	Pn	Pn	19 46 03.3	-1.1
LUWI				Sn	Sn	19 46 29.9	+2.0
LUWI	**Luwuk**	1.96	192	P	Pn	19 46 05.4	+1.0
APSI	**Ampana**	2.36	221	P	Pn	19 46 10.3	+0.4
TOLI2	**Tolitoli**	2.42	275	Pn	Pn	19 46 09.7	-1.1
MPSI	**Mapaga**	3.34	261	P	Pn	19 46 24.0	+0.7
SGSI	**Sangihe**	3.63	40	P	Pn	19 46 26.2	-1.1
PCI	**Palu**	3.80	242	P	Pn	19 46 29.0	-0.7
SANI	**Sanana**	4.04	136	P	Pn	19 46 33.2	+0.3
TNTI	**Ternate**	4.17	92		Pn	19 46 34.3	-0.4
TNTI	**Ternate**	4.17	92	P	Pn	19 46 35.2	+0.5
KDI	**Kendari**	4.85	187	P	Pn	19 46 46.2	+2.2
NLAI	**Namlea**	5.66	136	P	Pn	19 46 56.8	+1.6
SPSI	**Sidrap Palu**	5.91	215	P	Pn	19 47 00.1	+1.5
BNSI	**Bone**	6.09	210	P	Pn	19 47 03.0	+1.9
SMKI	**Samarinda**	6.13	258	P	Pn	19 47 02.1	+0.5
MYLDM	**Lahad Datu**	6.34	312	Pn	Pn	19 47 05.4	+1.0
BBSI	**Bau Bau**	6.36	186	P	Pn	19 47 07.2	+2.4
DAV	**Davao City (W)**	6.58	21		Pn	19 47 09.8	+2.0
DAV	**Davao City (W)**	6.58	21	P	Pn	19 47 10.9	+3.0
	510nm,0.5s,baz=172,slow=1.7,SNR=42						
BKB	**Balikpapan**	6.65	251	Pn	Pn	19 47 10.8	+2.0
BKB	**Balikpapan**	6.65	251	P	Pn	19 47 10.6	+1.8
AAI	**Ambon**	6.75	132	P	Pn	19 47 12.2	+2.0
	1.6nm4μm520nm,0.8s						
KAPI	**Kappang**	6.80	210	Pn	Pn	19 47 11.5	+0.7
KAPI	**Kappang**	6.80	210	P	Pn	19 47 13.0	+2.3
	230nm,0.6s,baz=23,slow=5.3,SNR=57						
BKSI	**Bulukumba**	6.89	206	P	Pn	19 47 14.3	+2.3
	1.1nm3μm326nm,1.1s						
MSAI	**Masohi**	7.11	126	P	Pn	19 47 16.9	+1.9
BSSI	**Bau Bau, Buton**	7.49	201	P	Pn	19 47 22.3	+2.0
SWI	**Sorong**	8.25	102	P	Pn	19 47 32.5	+1.8
	69nm,0.9s						
BNDI	**Bandanaira**	8.59	129	P	Pn	19 47 36.4	+1.0
	4μm459nm,1.1s						
KKM	**Kota Kinabalu**	8.65	306		Pn	19 47 36.3	+0.1
MMRI	**Maumere**	9.51	186	Pn	Pn	19 47 49.2	+1.2
MMRI	**Maumere**	9.51	186	P	Pn	19 47 51.6	+3.6
	2μm132nm,0.8s						
EDFI	**Ende, Flores**	9.69	189	P	Pn	19 47 53.4	+2.9
	1μm80nm,0.6s						
FAKI	**Fak Fak**	9.81	113	Pn	Pn	19 47 49.4	-2.7
FAKI	**Fak Fak**	9.81	113	P	Pn	19 47 51.7	-0.4
	36nm,0.9s						
SOEI	**Soe**	10.63	174	P	Pn	19 48 05.5	+2.1
	122nm,0.7s						
WSI	**Waingapu**	10.88	195	P	Pn	19 48 09.1	+2.4
	169nm,1.4s						
PLAI	**Plampang**	11.06	209	P	Pn	19 48 12.0	+2.8
	56nm,1.3s						
SBUM	**Sibu**	11.08	278	Pn	Pn	19 48 06.6	-2.8
WBSI	**Waikabubak, Su**	11.12	200	P	Pn	19 48 12.5	+2.4
	87nm,0.8s						
RKPI	**Ransiki, Papua**	11.24	102	P	Pn	19 48 13.0	+1.4
	38nm,0.8s						
BASI	**Baing, Sumba**	11.34	193	P	Pn	19 48 14.9	+1.9
	237nm,1.1s						
KMPI	**Kaimana, Papua**	11.43	113	P	Pn	19 48 15.5	+1.2
	103nm,0.8s						
STKI	**Sintang**	11.75	266	P	Pn	19 48 19.0	+0.4
	45nm,1.3s						
SRBI	**Singaraja**	11.95	222	P	Pn	19 48 22.7	+1.4
	46nm,1.2s						
SAUI	**Saumlaki**	11.96	138	P	Pn	19 48 23.4	+2.0
	173nm,0.9s						
KMMI	**Kalianget**	12.12	229	P	Pn	19 48 25.7	+2.0
	56nm,1.6s						
BWJI	**Bawean**	12.47	237	P	Pn	19 48 29.9	+1.4
	160nm,1.1s						
JAGI	**Jajag, Banyuwa**	12.95	224		Pn	19 48 35.1	+0.1
JAGI	**Jajag, Banyuwa**	12.95	224	P	Pn	19 48 36.7	+1.7
	3μm1μm117nm,0.8s						
BAKI	**Biak**	13.07	99	P	Pn	19 48 37.7	+1.0
	56nm,0.9s						
GMJI	**Gumukmas**	13.32	227	P	Pn	19 48 41.6	+1.6
	44nm,0.9s						
TBJI	**Tambak Boyo**	13.67	236	P	Pn	19 48 47.1	+2.3
	147nm,1.1s						
NGJI	**Ngawi**	14.29	235	P	Pn	19 48 54.6	+1.4
	49nm,0.7s						
PCJI	**Pacitan**	15.00	233	P	Pn	19 49 04.2	+1.7
	118nm,1.8s						
UGM	**Wanagama**	15.37	235	P	Pn	19 49 06.9	-0.4
	64nm,1.4s						
MTN	**Manton Dam**	15.75	150	Pn	Pn	19 49 12.7	+0.5
MTN				IAmb	IAmb	19 49 17.3	
	comp=Z,50nm,0.8s						
MTN	**Manton Dam**	15.75	150	P	Pn	19 49 13.1	+0.9
	comp=Z,67nm,0.8s						
SMPI	**Sarmi**	15.77	100	P	Pn	19 49 13.4	+0.9
TPI	**Tanjungpandan**	15.95	257	P	Pn	19 49 15.7	+0.9
KDU	**Kakadu**	16.33	146	P	Pn	19 49 18.5	-1.1
CMJI	**Cimerak**	17.04	239	P	Pn	19 49 27.8	-0.7
	comp=Z,63nm,1.3s						
GENI	**Genyem**	17.32	102	P	P	19 49 32.6	-0.2
	comp=Z,69nm,1.3s						
PPBI	**Pangkal Pinang**	17.32	260	P	Pn	19 49 31.8	-0.2
LEM	**Lembang**	17.33	244	P	P	19 49 33.3	+0.2
	comp=Z,22nm,0.6s,baz=52,slow=12,SNR=7.2						
LEM	**Lembang**	17.33	244	P	P	19 49 33.3	+0.2
	comp=Z,44nm,0.7s						
KNRA	**Kununurra**	17.36	162	P	P	19 49 34.1	+1.0
KNRA				IAmb	IAmb	19 49 37.7	
	comp=Z,59nm,0.8s						
KNRA	**Kununurra**	17.36	162	P	P	19 49 34.0	+0.9
	comp=Z,76nm,0.8s						
JAY	**Jayapura**	17.83	101	P	Pn	19 49 37.4	-0.8
	comp=Z,13nm,0.9s,baz=91,slow=16,SNR=3.6						
JAY	**Jayapura**	17.83	101	P	Pn	19 49 37.9	-0.4
CNJI	**Cibinong**	17.98	243	P	P	19 49 39.1	-0.9
	comp=Z,35nm,1.1s						
SKJI	**Sukabumi**	18.36	244	P	P	19 49 44.5	+0.2
	comp=Z,126nm,0.8s						
BLSI	**Bandar Lampung**	18.98	251	P	P	19 49 51.0	0.0
	comp=Z,3μmcomp=Z,44nm,0.7s						
CGJI	**Cibinong**	18.99	247	P	P	19 49 50.0	-1.2
	comp=Z,44nm,0.8s						
FITZ	**Fitzroy Crossi**	19.02	173	P	P	19 49 51.8	+0.3
FITZ	**Fitzroy Crossi**	19.02	173	P	Pn	19 49 52.1	-0.5
	comp=Z,8.1nm,0.4s,baz=12,slow=8.7,SNR=40						
KLI	**Kotabumi**	19.19	253	P	P	19 49 54.3	+0.9
MMPI	**Merauke**	19.49	119	P	Pn	19 49 58.3	+0.1
	comp=Z,120nm,0.6s						
MDSI	**Maura Dua**	19.74	254	P	P	19 49 59.3	-0.1
	comp=Z,57nm,0.7s						
LWLI	**Liwa**	20.00	253	P	P	19 50 03.0	+0.7
	comp=Z,2μmcomp=Z,167nm,0.7s						
MNAI	**Manna**	20.89	255	P	P	19 50 11.8	0.0
	comp=Z,141nm,0.7s						
KSI	**Kapahiang**	21.08	258	P	P	19 50 14.5	+0.5
	comp=Z,3μmcomp=Z,68nm,0.7s						
MBWA	**Marble Bar**	22.17	189	P	P	19 50 23.8	-1.7
MBWA				IAmb	IAmb	19 50 47.7	
	comp=Z,79nm,1.8s						
QIZ	**Qiongzhong**	22.28	325	P	P	19 50 27.3	+0.6
QIZ				S	S	19 54 30.3	+1.3
QIZ				pmax	pmax		
	comp=Z,11nm,1.4s						
PPI	**Padang Panjang**	22.84	267	P	P	19 50 33.0	+0.3
	comp=Z,662nmcomp=Z,55nm,0.6s						
KULM	**Kulim**	22.93	281	P	P	19 50 33.5	-0.2
KULM				IAmb	IAmb	19 50 45.6	
	comp=Z,70nm,1.5s						
WB0	**Warramunga Arr**	23.28	152	P	P	19 50 36.0	-1.0
WB0				IAmb	IAmb	19 50 57.7	
	comp=Z,48nm,0.9s						
WRAB	**Tennant Creek**	23.41	153	P	P	19 50 37.1	-1.2
WRAB				IAmb	IAmb	19 51 03.7	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	23.41	153	P	P	19 50 37.1	-1.2
WRA	**Warramunga Arr**	23.41	153	P	P	19 50 37.6	-0.7
	comp=Z,17nm,0.6s,baz=333,slow=10,SNR=180						
WB2	**Warramunga Arr**	23.41	153	IAmb	IAmb	19 50 39.8	
	comp=Z,23nm,0.7s						
PPSI	**Pulau Pagai**	23.46	261	P	P	19 50 39.4	+0.5
	comp=Z,107nm,0.6s						
WR0	**Warramunga Arr**	23.52	152	IAmb	IAmb	19 50 48.7	
	comp=Z,22nm,0.6s						
MNSI	**Mandailing Nat**	23.61	270	P	P	19 50 40.4	+0.1
	comp=Z,37nm,0.6s						
SISI	**Saibi**	24.20	265	P	P	19 50 45.7	0.0
	comp=Z,71nm,0.6s						
RPSI	**Rantau Prapat**	24.32	275	P	P	19 50 47.4	+0.5
COEN	**Coen**	24.68	127	P	P	19 50 49.7	-0.4
COEN				IAmb	IAmb	19 51 05.8	
	comp=Z,20nm,0.8s						
COEN	**Coen**	24.68	127	P	P	19 50 49.6	-0.5
	comp=Z,25nm,0.8s						
TSI	**Tuntungan**	24.75	276	P	P	19 50 51.0	+0.3
	comp=Z,3μmcomp=Z,272nm,1.1s						
PBSI	**Pulau Batu**	24.93	268	P	P	19 50 52.5	+0.1
	comp=Z,74nm,0.9s						
GSI	**Gunungsitoli**	25.62	271	P	P	19 50 55.1	-3.6
GSI	**Gunungsitoli**	25.62	271	P	P	19 50 58.0	-0.6
	comp=Z,65nm,1.1s						
PMG	**Port Moresby**	25.96	114	LR	LR	20 02 58.6	
	comp=Z,110nm,18.8s,baz=192,slow=40						
WRKA	**Warakurna**	26.24	169	P	P	19 51 03.3	-0.9
	comp=Z,18nm,0.6s						
AS31	**Alice Springs**	26.53	158	P	P	19 51 06.7	-0.1
AS31	**Alice Springs**	26.53	158	P	P	19 51 05.9	-0.9
	comp=Z,5.0nm,0.9s						
ASAR	**Alice Springs**	26.54	158	P	P	19 51 07.0	+0.2
ASAR	**Alice Springs**	26.54	158	P	P	19 51 06.5	-0.3
	comp=Z,4.6nm,0.6s,baz=331,slow=8.2,SNR=40						
ASAR				PcP	PcP	19 54 30.6	-0.1
	comp=Z,1.5nm,0.8s,baz=342,slow=2.5,SNR=3.3						
ASAR				LR	LR	20 02 58.7	
	comp=Z,88nm,18.8s,baz=346,slow=39						
	comp=Z,4.6nm,0.6s						
QIS	**Mount Isa**	26.69	144	P	P	19 51 08.5	+0.3
	comp=Z,68nm,0.9s						
SNSI	**Sinabang, Aceh**	26.90	274	P	P	19 51 10.0	-0.2
	comp=Z,61nm,1.4s						
MLSI	**Meulaboh, Aceh**	26.97	278	P	P	19 51 10.6	-0.2
	comp=Z,87nm,1.1s						
BSI	**Banda Aceh**	28.22	280	P	P	19 51 22.3	+0.2
	comp=Z,23nm,1.3s						
CMAR	**Chiang Mai Arr**	29.52	308	P	P	19 51 35.5	+2.0
	comp=Z,0.4nm,0.7s,baz=126,slow=7.9,SNR=9.0						
	comp=Z,0.4nm,0.7s						
CHTO	**Chiang Mai**	29.72	308	P	P	19 51 37.4	+2.1
KMI	**Kunming**	31.16	322	P	P	19 51 50.7	+2.5
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NJ2	**Nanjing**	31.27	353	*e*P	P	19 51 51.9	+3.2
NJ2				pmax	pmax		
	comp=Z,21nm,0.5s						
JCJ	**Chichijima**	31.80	33	LR	LR	20 02 14.7	
	comp=Z,45nm,22.0s,baz=307,slow=31						
FORT	**Forrest**	31.83	172	P	P	19 51 53.3	-0.5
FORT	**Forrest**	31.83	172	P	P	19 51 53.1	-0.6
	comp=Z,50nm,0.8s						
PZH	**PanZhiHua**	32.78	323	P	P	19 52 04.9	+2.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.3s						
XAN	**Xi'an**	35.59	339	P	P	19 52 24.3	-2.1
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BBOO	**Buckleboo**	35.65	161	P	P	19 52 27.4	+0.5
INU	**Inuyama**	36.62	19	P	P	19 52 35.0	-0.1
KSRS	**Korea Array**	36.65	6	P	P	19 52 36.0	+0.7
KSRS	**Korea Array**	36.65	6	P	P	19 52 36.0	+0.7
	comp=Z,0.9nm,0.8s,baz=192,slow=8.0,SNR=2.8						
KSRS				LR	LR	20 09 33.1	
	comp=Z,23nm,19.2s,baz=180,slow=39						
	comp=Z,0.9nm,0.8s						
STKA	**Stephens Creek**	36.96	153	P	P	19 52 37.9	-0.2
STKA	**Stephens Creek**	36.96	153	P	P	19 52 37.9	-0.2
	comp=Z,112nm,0.8s						
STKA	**Stephens Creek**	36.96	153	P	P	19 52 38.4	+0.3
	comp=Z,13nm,0.5s,baz=331,slow=8.4,SNR=36						
	comp=Z,13nm,0.5s						
BRDH	**Bariadhala**	37.55	308	LR	LR	20 11 08.1	
	comp=Z,112nm,18.1s,baz=132,slow=41						
HNR	**Honiara**	38.01	107	LR	LR	20 10 36.9	
	comp=Z,67nm,18.6s,baz=210,slow=40						
MAJO	**Matsushiro**	38.10	20	P	P	19 52 46.7	-1.0
MAJO	**Matsushiro**	38.10	20	P	P	19 52 46.8	-1.0
MJAR	**Matsushiro Arr**	38.10	20	P	P	19 52 46.9	-0.9
	comp=Z,9.5nm,0.8s,baz=193,slow=9.1,SNR=29						
	comp=Z,9.5nm,0.8s						
CMSA	**Cobar Meteorol**	38.67	148	P	P	19 52 53.1	+0.6
	comp=Z,18nm,1.1s						
LZH	**Lanzhou**	39.36	335	*e*P	P	19 52 57.9	-0.5
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
JSD	**Sado**	39.48	19	P	P	19 52 58.4	-0.9
JSD				IAmb	IAmb	19 53 13.5	
	comp=Z,63nm,2.0s						
HHC	**Hu-ho-hao-te**	41.15	347	*e*P	P	19 53 16.1	+3.0
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,66nm,5.9s						
ARMA	**Armidale**	41.26	141	P	P	19 53 13.8	-0.4
ARMA				IAmb

KBZ	Khabaz	82.37	314	P	P	19 57 56.5	+6.1
	comp=Z,2.3nm,0.9s,baz=161,slow=6.9,SNR=8.9						
B20K	Meade River	85.62	20	P	P	19 58 05.3	-1.1
B20K				IAmb	IAmb	19 58 35.6	
	comp=Z,7.9nm,0.9s						
KMBO	Kilima Mbogo	85.96	269	P	P	19 58 08.8	-0.8
	comp=Z,0.7nm,0.5s,baz=51,slow=2.6,SNR=3.0						
	comp=Z,0.7nm,0.5s						
B21K	Ikpikpuk River	86.44	20	P	P	19 58 10.4	-0.1
B21K				IAmb	IAmb	19 58 29.7	
	comp=Z,7.6nm,0.8s						
SYO	Syowa Base	88.52	201⇓	eP	P	19 58 21.9	+1.5
SYO	Syowa Base	88.52	201⇓	epP	pP	19 58 33.6	-1.6
SYO	Syowa Base	88.52	201⇑	esP	sP	19 58 41.8	+1.0
BRTR	Keskin Array B	89.10	310	P	P	19 58 23.7	-0.3
	comp=Z,0.3nm,0.8s,baz=129,slow=4.6,SNR=2.3						
	comp=Z,0.3nm,0.8s						
ILAR	Eielson Array	89.17	25	P	P	19 58 21.6	-2.0
	comp=Z,0.1nm,0.4s,baz=259,slow=5.3,SNR=1.5						
	comp=Z,0.1nm,0.4s						
BMAR	Burnt Mountain	90.04	23	P	P	19 58 27.7	0.0
QSPA	South Pole Qui	90.81	180	P	P	19 58 28.9	-2.5
QSPA	South Pole Qui	90.81	180	P	P	19 58 30.9	-0.5
	comp=Z,0.6nm,0.5s,baz=139,slow=1.3,SNR=5.7						
	comp=Z,0.6nm,0.5s						
SPITS	Spitsbergen Ar	92.56	349	P	P	19 58 39.2	0.0
	comp=Z,6.8nm,1.0s,baz=69,slow=4.6,SNR=2.3						
	comp=Z,6.8nm,1.0s						
CFA	Coronel Fontan	147.59	162	PKPbc	PKPbc	20 05 13.0	-0.1
	comp=Z,4.5nm,0.7s,baz=217,slow=4.6,SNR=17						
CPUP	Villa Florida	154.70	179	PKPbc	PKPbc	20 05 27.7	-2.3
	comp=Z,0.6nm,0.6s,baz=225,slow=5.7,SNR=1.5						
LPAZ	La Paz	161.06	144	PKP	PKPdf	20 05 28.9	-1.3
	comp=Z,0.3nm,0.4s,baz=270,slow=5.1,SNR=1.6						

*JMA **07** 19:49:11.6±0.2,23°.3N±0°.4×121°.6E±1°.0, h23km±4km, MV3.6/18, TAIWAN REGION*
*ASIES **07** 19:49:13,23°.30N×121°.57E, h40km, ML3.6, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}=9.78; $M_{\theta\theta}$=0.77; $M_{\phi\phi}$=-9.01; $M_{r\theta}$=-7.34; $M_{\theta\phi}$=-3.98; $M_{\phi r}$=-3.63; Fault plane solution: M_0=13.10200×10^{20} NP1: ϕ_s=2.05000°, δ32.99000°, λ51.96000°. NP2:ϕ_s=225.05000°, δ64.60000°, λ111.80000°. Principal axes: T Plg63.6790°, Azm171.3800°; N Plg19.6040°, Azm35.3250°; P Plg16.8500°, Azm299.1330°;*
*TAP **07** 19:49:13.0,23°.30N×121°.57E, h40km, ML3.6, B*
ISC 07 19:49:13.1±0.9, 23°.29N±0°.02×121°.62E±0°.02, h34km±1km, n180, σ0.87/293, 22C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	Changbin	0.16	280	⇑iP	Pb	19 49 20.0	+0.7
ECBN				eS	Sb	19 49 24.9	+1.2
CHKH	Chenggong	0.23	245	⇑iP	Pn	19 49 20.1	+0.8
CHKH				eS	Sb	19 49 25.3	+0.6
HGSD	Ruisui	0.27	318	⇑iP	Pn	19 49 20.5	+0.1
HGSD				eS	Sb	19 49 28.2	+2.5
EYUL	Yuli	0.28	282	⇓P	Pn	19 49 21.1	+0.5
EYUL				eS	Sb	19 49 27.4	+1.5
CHKT	Chengkung	0.30	231	⇑eP	Pb	19 49 20.8	-0.1
CHKT				S	Sb	19 49 26.6	+0.4
TWF1	Yuli	0.30	282	⇓iP	Pb	19 49 21.0	0.0
TWF1				eS	Sb	19 49 27.1	+0.8
FULB	Fuli	0.31	253	⇑iP	Pb	19 49 21.0	-0.1
FULB				eS	Sb	19 49 27.1	+0.5
YULB	Yu-li	0.31	289	⇓iP	Pb	19 49 21.0	-0.1
YULB				S	Sn	19 49 26.5	+0.4
EHYH	Wanrong	0.33	309	⇓P	Pb	19 49 21.4	+0.1
EHYH				S	Sn	19 49 27.2	+0.8
EHY	Hungye	0.35	308	⇓iP	Pb	19 49 21.4	-0.2
EHY				S	Sn	19 49 26.9	-0.3
EHD	Haiduan	0.41	250	⇓iP	Pb	19 49 21.6	-0.7
ECS	Chishang	0.42	243	⇓iP	Pb	19 49 22.7	+0.2
ECS				S	Sn	19 49 30.2	+1.0
EGFH	Guangfu	0.42	335	eP	Pb	19 49 22.3	-0.2
EGFH				eS	Sb	19 49 28.4	-0.6
TEGC	Jichi Village	0.42	350	⇑iP	Pb	19 49 22.6	0.0
TEGC				S	Sn	19 49 29.9	+0.5
EDH	Donghe	0.43	223	⇑eP	Pb	19 49 22.3	-0.4
EDH				eS	Sn	19 49 30.0	+0.5
WARBT	Fenglin Townsh	0.48	333	⇑iP	Pb	19 49 22.7	-0.8
WARBT				S	Sb	19 49 29.4	-1.2
SHUL	Shoufeng	0.50	354	⇑P	Pn	19 49 23.6	-0.2
SHUL				S	Sb	19 49 31.5	+0.4
ESL	Shilin	0.55	342	⇑iP	Pn	19 49 23.6	-0.9
ESL				eS	Sb	19 49 31.2	-1.2
ELDTW	Lidau	0.56	260	⇓iP	Pn	19 49 23.8	-1.0
ELDTW				S	Sb	19 49 31.3	-1.6
TEYL	Yanliau Villag	0.58	358	⇑iP	Pn	19 49 25.0	+0.2
TEYL				S	Sb	19 49 34.0	+0.9
LONT	Longtian	0.59	230	⇓iP	Pn	19 49 24.3	-0.7
LONT				S	Sn	19 49 32.1	-1.4
LDUT	Ludao	0.63	193	eP	Pn	19 49 24.7	-0.8
LDUT				eS	Sb	19 49 35.3	+0.8
VWDT	VWDT	0.64	317	⇑iP	Pn	19 49 25.5	-0.2
VWDT				eS	Sn	19 49 33.6	-1.0
TWGBT	Beinan	0.68	227	⇓iP	Pn	19 49 25.2	-1.2
TWGBT				eS	Sn	19 49 34.4	-1.4
ETM	Tongmen	0.68	350	eP	Pn	19 49 25.6	-0.8
HWA	Hwalien	0.69	359	P	Pn	19 49 25.9	-0.5
HWA				eS	Sn	19 49 34.7	-1.1
TWG	Pinlang	0.69	227	⇓iP	Pn	19 49 25.2	-1.2
TWG				eS	Sn	19 49 34.3	-1.6
TTN	Taitung	0.69	219	eP	Pn	19 49 26.3	-0.1
TTN				eS	Sb	19 49 36.9	+0.9
LXIB	Xiulin Townshi	0.75	345	⇑iP	Pn	19 49 26.4	-1.1
LXIB				eS	Sn	19 49 36.1	-1.7
OWD	Renai	0.78	329	⇑P	Pn	19 49 27.1	-0.7
OWD				eS	Sn	19 49 36.7	-1.6
ALS	Alishan	0.78	287	⇓iP	Pn	19 49 28.0	+0.1
ALS				eS	Sn	19 49 38.5	-0.1
STYH	Taoyuan	0.79	262	⇓eP	Pn	19 49 26.2	-1.5
STYH				eS	Sn	19 49 36.5	-1.8
SSLB	Suanglung	0.79	309	⇓iP	Pn	19 49 27.4	-0.4
SSLB				S	Sn	19 49 37.0	-1.4
TWD	Chiawan	0.79	358	eP	Pn	19 49 27.1	-0.7
TWD				eS	Sn	19 49 38.1	-0.3
STYT	Tauyuan	0.80	261	⇓iP	Pn	19 49 26.8	-1.3
WHYT	Xinyi Township	0.81	300	⇓iP	Pn	19 49 28.4	+0.3
WHYT				eS	Sn	19 49 39.0	0.0
WUSB	Renai	0.84	327	⇑iP	Pn	19 49 28.3	-0.3
WUSB				eS	Sn	19 49 38.4	-1.5
ETL	Fush Village	0.87	0	eP	Pn	19 49 28.2	-0.7
NACB	Ninganchiao	0.88	359	⇑P	Pn	19 49 28.2	-0.9
NACB				S	Sn	19 49 39.7	-1.0
SMLT	Sun Moon Lake	0.89	312	⇑iP	Pn	19 49 28.4	-0.9
SMLT				eS	Sn	19 49 39.6	-1.3
TPUB	Ta-pu	0.91	271	⇓iP	Pn	19 49 29.9	+0.3
TPUB				eS	Sn	19 49 42.3	+0.9
WHF	Hehuan Shan	0.91	339	eP	Pn	19 49 29.1	-0.8
CHN5	Tsauling	0.92	290	⇓iP	Pn	19 49 30.3	+0.6
CHN5				eS	Sb	19 49 42.9	+0.3
ECL	Taimali	0.92	222	⇓P	Pn	19 49 28.2	-1.5
ETLH	Xiulin Townshi	0.92	352	eP	Pn	19 49 28.8	-1.0
WTP	Ta-pu	0.93	268	⇓P	Pn	19 49 30.0	+0.2
WTP				S	Sn	19 49 43.0	+1.1
TYC	Yuchr	0.93	311	⇑iP	Pn	19 49 30.5	+0.4
TYC				eS	Sn	19 49 41.7	-0.2
WPL	Puli Township	0.94	320	eP	Pn	19 49 29.8	-0.1
WCKO	Fanlu	0.94	279	⇓P	Pn	19 49 30.6	+0.6
WCKO				eS	Sb	19 49 43.6	+0.3
CHN4	Tsaushan	0.95	274	⇓iP	Pn	19 49 30.6	+0.6
CHN4				S	Sn	19 49 43.3	+1.0
WJS	Zhushan	0.97	303	eP	Pn	19 49 31.3	+0.9
WJS				eS	Sb	19 49 44.3	+0.2
SGST	Jiashian	0.98	258	⇓iP	Pn	19 49 29.9	-0.5
SGST				eS	Sb	19 49 44.6	+0.4
DPDB	Guoxing	0.98	320	⇑iP	Pn	19 49 30.8	+0.3
WCS	Beigang Elemen	1.00	320	⇑P	Pn	19 49 31.0	+0.3
CHN1	Nanshi	1.01	264	⇓P	Pn	19 49 31.5	+0.6
CHN1				eS	Sb	19 49 45.6	+0.4
FUSS	Fushou	1.01	340	⇑eP	Pn	19 49 30.9	-0.3
FUSS				eS	Sn	19 49 43.0	-1.4
SNST	Tainan City	1.03	266	eP	Pn	19 49 31.8	+0.6
SNST				eS	Sb	19 49 46.0	+0.2
WNT	Mingjian	1.04	305	eP	Pn	19 49 32.0	+0.8
TWK	Hsinying	1.04	269	⇓P	Pn	19 49 31.7	+0.3
TWK				S	Sn	19 49 46.1	+1.4
EAHA	Aohua	1.04	6	eP	Pn	19 49 30.8	-0.5
EAHA				eS	Sn	19 49 45.3	+0.6
TWT	Tachien	1.04	337	⇑eP	Pn	19 49 31.6	+0.1
TWT				eS	Sn	19 49 44.0	-1.0
EOS4	EOS4	1.05	38	eP	Pn	19 49 31.1	+0.1
WGK	Gukeng	1.05	292	eP	Pn	19 49 32.1	+0.8
WGK				eS	Sb	19 49 46.5	+0.3
SSD	Sandimen	1.06	240	eP	Pn	19 49 31.2	-0.3
SSD				eS	Sn	19 49 46.0	+0.9
WNT1	Nantou City	1.06	306	eP	Pn	19 49 32.6	+1.1
WNT1				eS	Sb	19 49 46.8	+0.2
TSMG	Majia	1.07	237	eP	Pn	19 49 31.4	-0.3
WDLH	Douliu	1.07	292	eP	Pn	19 49 32.7	+1.0
WDLH				eS	Sb	19 49 47.5	+0.6
CHN2	Minshiung	1.08	283	eP	Pn	19 49 33.0	+1.2
WDL	Douliou City	1.08	293	eP	Pn	19 49 32.9	+1.1
WDL				eS	Sb	19 49 47.6	+0.5
SCST	Cishan	1.11	249	⇓P	Pn	19 49 33.4	+1.2
SCST				eS	Sb	19 49 49.0	+0.9
CHY	Chiayi	1.12	281	eP	Pn	19 49 33.1	+0.8
CHY				eS	Sn	19 49 47.4	+0.9
WWF	Wufeng	1.13	312	eP	Pn	19 49 33.8	+1.2
WWF				eS	Sb	19 49 49.0	+0.5
MASBT	Mashibuluo	1.13	234	eP	Pn	19 49 32.2	-0.4
MASBT				eS	Sb	19 49 48.5	-0.1
ENA	Nanau	1.14	6	eP	Pn	19 49 32.2	-0.5
TAW	Tawu	1.14	216	eP	Pn	19 49 31.9	-0.8
TAW				eS	Sn	19 49 45.0	-2.1
EAST	Anshuo	1.15	218	eP	Pn	19 49 31.6	-1.2
NNSB	Datong	1.16	349	eP	Pn	19 49 32.5	-0.5
NNSB				eS	Sn	19 49 46.2	-1.5
NNSH	Datong	1.16	349	eP	Pn	19 49 32.8	-0.2
EWUT	Wuta	1.16	7	eP	Pn	19 49 32.6	-0.4
TAWH	Dawu Township	1.16	216	eP	Pn	19 49 32.3	-0.6
WHP	Taichung City	1.16	328	eP	Pn	19 49 33.8	+0.7
NNS	Nan Shan	1.17	349	eP	Pn	19 49 33.1	0.0
CHN3	Shinhua	1.17	260	eP	Pb	19 49 34.9	0.0
CHN3				eS	Sb	19 49 51.5	+1.7
EOS3	EOS3	1.18	33	eP	Pn	19 49 33.3	+0.2
SGLT	Jiouru	1.18	242	eP	Pb	19 49 35.3	+0.3
SGLT				eS	Sb	19 51.8	+1.8
TWM1	Shoushan	1.20	247	eP	Pb	19 49 35.3	+0.1
TWM1				eS	Sb	19 51.9	+1.5
WTK	Tuku	1.20	290	eP	Pn	19 49 34.1	+0.7
WTK				eS	Sb	19 50.4	-0.1
SHHT	Tainan City	1.20	257	eP	Pb	19 49 35.3	0.0
TSPT	Pingtung City	1.20	240	eP	Pb	19 49 35.7	+0.4
TCU	Taichung	1.22	315	eP	Pn	19 49 34.8	+1.1
TCU				eS	Sb	19 49 50.7	-0.3
ICHU	Yijhu	1.23	274	eP	Pn	19 49 34.7	+0.7
ICHU				eS	Sn	19 49 50.7	+1.3
SSHA	Shanhua	1.23	263	eP	Pn	19 49 35.2	+1.3
SSHA				eS	Sb	19 49 52.2	+0.7
LATG	Datong	1.24	356	P	Pn	19 49 33.6	-0.6
LATG				eS	Sn	19 49 49.3	-0.5
LAY	Lan-yu	1.25	183	eP	Pn	19 49 33.4	-0.8
WCH1	Changhua City	1.25	309	eP	Pn	19 49 35.4	+1.2
WCH1				eS	Sb	19 52.3	+0.2
EOS2	EOS2	1.26	26	eP	Pn	19 49 34.6	+0.5
LYUB	Lan-yu	1.28	181	eP	Pn	19 49 33.0	-1.6
CHN8	Yiju	1.30	273	⇓P	Pn	19 49 35.3	+0.6
CHN8				S	Sn	19 52.3	+1.4
SCZT	Fangliau	1.30	226	eP	Pn	19 49 35.0	+0.1
SNJT	Kaohsiung City	1.30	246	eP	Pb	19 49 36.8	-0.1
SNJT				eS	Sb	19 54.9	+1.6
WSL	Shuilin Townsh	1.30	281	eP	Pn	19 49 35.2	+0.4
WSL				eS	Sn	19 52.6	+1.6
RLNB	Erlin	1.30	298	eP	Pn	19 49 35.6	+0.8
RLNB				eS	Sn	19 52.5	+1.3
TAI1	Yung-k'ang	1.30	259	eP	Pn	19 49 36.4	+1.5
SLIU	Shizi	1.31	216	eP	Pn	19 49 34.0	-0.9
TWQ1	Liyutan	1.31	324	eP	Pn	19 49 36.6	+1.6
TWQ1				eS	Sb	19 53.4	-0.3
SCLT	Jiali	1.32	265	eP	Pn	19 49 35.6	+0.5
SCLT				eS	Sn	19 53.1	+1.7
WSF	Szhu	1.33	285	eP	Pn	19 49 35.4	+0.2
WSF				eS	Sn	19 52.6	+0.8
TWC	Suao	1.33	9	eP	Pn	19 49 35.5	+0.3
TWC				eS	Sn	19 51.7	-0.1
NDS	Dongshan	1.34	4	eP	Pn	19 49 35.7	+0.2
ENTT	Nioudou	1.35	358	eP	Pn	19 49 35.3	-0.2
ENTT				eS	Sn	19 52.7	+0.4
WTCT	Ta-ch'eng	1.35	295	eP	Pn	19 49 36.1	+0.5
WTCT				eS	Sn	19 53.9	+1.5
NSY	Sanyi	1.37	325	eP	Pn	19 49 34.9	-0.9
NSY				eS	Sn	19 53.3	+0.5
WDJ	Dajia District	1.38	320	eP	Pn	19 49 37.7	+1.7
WDJ				eS	Sb	19 56.4	+0.6
YHNB	Yeheng	1.39	351	eP	Pn	19 49 36.4	+0.2
YHNB				eS	Sn	19 52.6	-0.9
NSK	Sanguang	1.40	350	eP	Pn	19 49 36.6	+0.3
NSK				eS	Sn	19 52.8	-0.9
WSSB	Gushan	1.41	243	eP	Pn	19 49 37.5	+1.1
WSSB				eS	Sb	19 56.5	0.0
NFF	Wufeng Townshi	1.41	341	eP	Pn	19 49 37.6	+1.1
TSCK	Chigu Township	1.42	265	eP	Pn	19 49 36.5	+0.1
TSCK				eS	Sn	19 54.2	+0.2
TWE	Neicheng	1.43	2	eP	Pn	19 49 37.0	+0.4
NSTT	Nanjuang	1.45	337	eP	Pn	19 49 37.9	+1.0
NSTT				eS	Sn	19 56.5	+1.7
NMLH	Miaoli	1.46	329	eP	Pn	19 49 37.9	+0.9
LIOB	Emei	1.46	338	eP	Pn	19 49 38.1	+1.1
FUSB	Fushanzhiwuyua	1.47	359	eP	Pn	19 49 37.5	+0.3
NWLT	Wulai	1.49	356	eP	Pn	19 49 38.1	+0.6
NWLT				eS	Sn	19 49 55.5	-0.2
TWP	Hsiaoliuchiu	1.49	231	eP	Pb	19 49 39.9	-0.3
HEN	Hengchun	1.52	213	eP	Pn	19 49 38.1	+0.3
NJD	Zhudong	1.52	341	eP	Pn	19 49 39.0	+1.1
TSEB	Hengchuen, Pin	1.53	206	eP	Pn	19 49 38.5	+0.4
TSEB				eS	Sn	19 57.1	+0.3
TWKBT	Hengchun	1.54	209	eP	Pn	19 49 37.7	-0.4
TWKBT				eS	Sn	19 56.2	-0.7
KSHI	Guanxi Townshi	1.54	345	eP	Pn	19 49 39.6	+1.4
KSHI				eS	Sb	19 59.6	-0.5
TWK1	Hengchun	1.54	209	eP	Pn	19 49 37.7	-0.4
TWK1				eS	Sn	19 56.6	-0.3
NJN	Zhunan	1.55	334	eP	Pn	19 49 39.4	+1.1
NJN				eS	Sn	19 58.4	+1.2
EGS		1.58	10	eP	Pn	19 49 39.8	+1.1
JYNG	Yonagunijimaku	1.68	46	eP	Pn	19 49 41.0	+0.9
JYNG				eS	Sn	19 50 01.3	+0.9
TATO	Taipei	1.68	356	eP	Pn	19 49 40.8	+0.6
TATO				eS	Sn	19 50 01.6	+1.1
TWA	Mucha	1.68	359	eP	Pn	19 49 40.7	+0.5
TIPB	Shuangxi	1.69	6	eP	Pn	19 49 41.2	+1.0
YOJ	Yonaguni jima	1.73	47	eS	Sn	19 50 02.5	+0.8
YOJ	Yonaguni jima	1.73	47	eP	Pn	19 49 41.5	+0.7
YOJ				eS	Sn	19 50 02.2	+0.6
TWB1	Santiao Chiao	1.75	11	eP	Pn	19 49 42.0	+1.0
NWF	Wu-fen Shan	1.78	5	eP	Pn	19 49 42.6	+1.0
WFSB	Wu-fen Shan	1.78	5	eP	Pn	19 49 42.4	+0.9
WFSB				eS	Sn	19 50 04.3	+1.4
WDGT	Dungji	1.80	269	⇓P	Pn	19 49 41.5	-0.3
WDGT				eS	Sn	19 50 02.5	-1.0
SXI1	Grass Mountain	1.81	7	⇓P	Pn	19 49 43.3	+1.3
SXI1				eS	Sn	19 50 05.2	+1.3
TWS1	Kuangyinshan	1.81	354	eP	Pn	19 49 42.4	+0.5
YM01	YM01	1.85	359	eP	Pn	19 49 43.0	+0.5
TNOU	National Taiwa	1.86	4	eP	Pn	19 49 44.0	+1.4
ZUZH	Zhuzihu	1.87	358	eP	Pn	19 49 43.0	+0.3
NTST	Danshui	1.87	355	eP	Pn	19 49 43.5	+0.7
YM08	YM08	1.89	359	eP	Pn	19 49 42.9	-0.2
ANP	Anpu	1.89	357	eP	Pn	19 49 44.0	+0.9
PHUB	P'eng-hu	1.89	277	eP	Pn	19 49 42.7	-0.3
PHUB				eS	Sn	19 50 04.6	-1.1
PNG	Penghu	1.92	279	eP	Pn	19 49 42.7	-0.6
TWY	Chenhua	1.98	359	eP	Pn	19 49 45.1	+1.0
VCHM	Qimei	2.02	268	eP	Pn	19 49 44.4	-0.3
VCHM				eS	Sn	19 50 06.7	-2.1
HATJ	Hateruma jima	2.15	69	P	Pn	19 49 46.9	+0.4
HATJ				eS	Sn	19 50 12.2	+0.3
IRIF	Iriomote-Funau	2.20	61	P	Pn	19 49 47.9	+0.7
IRIF				eS	Sn	19 50 13.2	0.0
PCYT	Pengchaiyu	2.37	10	eP	Pn	19 49 49.6	0.0
JKRS	Kuro-shima	2.38	66	P	Pn	19 49 50.6	+0.9
JKRS				eS	Sn	19 50 18.8	+0.9
JIJ	Ishigaki jima	2.55	65	P	Pn	19 49 52.1	+0.1
JIJ				eS	Sn	19 50 21.1	-0.7
VWUC	VWUC	2.61	311	eP	Pn	19 49 52.6	-0.3
VWUC				eS	Sn	19 50 21.3	-2.0
JISG	Ishigakijimahi	2.78	62	P	Pn	19 49 55.2	0.0
JISG				eS	Sn	19 50 26.5	-1.1
PTMZ	Houxiangcun	2.87	308	eP	Pn	19 49 56.2	-0.3
JTJ	Tarama	3.12	64	eP	Pn	19 50 00.3	+0.3
JTJ				eS	Sn	19 50 36.1	0.0
KNM	Kinmen	3.13	292	eP	Pn	19 50 01.1	+1.1
KNMB	Chin-men Tao	3.18	292	eP	Pn	19 49 59.9	-0.8
MATB	Ma-tsu	3.23	332	eP	Pn	19 50 00.6	-0.9
JIRB	Irabujima	3.59	64	P	Pn	19 50 06.6	+0.2
ZPLA	Ao Xicun	3.61	281	eP	Pn	19 50 06.1	-0.5
MHZQ	Yeshan	3.66	320	eP	Pn	19 50 07.2	0.0
MHZQ				eS	Sn	19 50 47.2	-2.0
JMJ	Miyako jima 2	3.69	65	eP	Pn	19 50 08.3	+0.6
JMJ				eS	Sn	19 50 49.7	-0.3
JMJ2	Miyako jima3	3.69	66	eP	Pn	19 50 08.3	+0.6
JMJ2				eS	Sn	19 50 50.1	+0.1
JIKM	Ikemajima	3.69	63	eP	Pn	19 50 07.9	+0.1
JIKM				eS	Sn	19 50 50.3	+0.2
AXDP	Jialang	3.70	296	eP	Pn	19 50 07.1	-0.7
JOGS	Gusukube	3.76	66	eP	Pn	19 50 09.5	+0.8
JOGS				eS	Sn	19 50 53.2	+1.5
XPSS	Dashiqiu	3.85	341	eP	Pn	19 50 09.4	-0.5
DSXP	Dongshan	3.87	277	eP	Pn	19 50 10.2	-0.1
SXFK	Yanhouchang	4.76	311	eP	Pn	19 50 22.3	-0.1
VDOS	Pratas Island	5.22	241	eP	Pn	19 50 29.8	+1.1
JOW	Kunigami	6.99	58	eP	Pn	19 50 51.8	-1.3

*NEIC **07** 19:53:03.4±2.6, 40°.89S±0°.09×85°.99W±0°.06, h10km±1km, mb4.7/40, Error ellipse: s-maj=16.8km s-min=4.6km az=337.0*
*IDC **07** 19:53:04.5±0.9, 41°.12S×85°.86W, h0km, mb4.1/9, mbtmp4.0/11, ML3.8/2, MS4.3/38, Error ellipse: s-maj=29.2km s-min=21.8km az=15.0*
*GCMT **07** 19:53:05.4±0.1, 41°.45S±0°.01×86°.34W±0°.01, h16km, MW5.2/147, Moment Tensor Solution. s85,c114; s147,c245; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}=1.03±.14; $M_{\theta\theta}$=2.43±.14; $M_{\phi\phi}$=-1.40±.14; $M_{r\theta}$=2.31±.36; $M_{\theta\phi}$=-8.70±.13; $M_{\phi r}$=-1.60±.35; Best double couple: M_0=9.26300×10^{16} NP1:ϕ_s=175.00000°, δ79.00000°, λ9.00000°. NP2:ϕ_s=83.00000°, δ81.00000°, λ169.00000°. Principal axes: T 10.1280, Plg14.0000°, Azm39.0000°; N -1.7280, Plg76.0000°, Azm226.0000°; P -8.3990, Plg2.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 19:53:07.4±0.7, 40°.5S±0°.1×86°.06W±0°.06, h10km, n158, σ2.95/107, mb4.5/22, MS4.4/37, 3D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	8.73	43	T	T	20 05 02.7	
	baz=213,slow=73,SNR=341						
H03S1	Juan Fernandez	8.74	43	T	T	20 05 06.6	
	baz=213,slow=73,SNR=404						
H03S3	Juan Fernandez	8.75	43	T	T	20 05 11.3	
	baz=213,slow=73,SNR=572						
VA04	Juan Fernndez	8.93	43		Pn	19 55 17.1	+0.7
H03N3	Juan Fernandez	9.03	41	T	T	20 05 47.0	
	baz=214						
H03N2	Juan Fernandez	9.04	41	T	T	20 05 32.4	
	baz=214						
H03N1	Juan Fernandez	9.05	41	T	T	20 05 37.2	
	baz=214						
LL01	San Ignacio de	10.43	105		Pn	19 55 30.6	-6.3
AY01	Puyuhuapi	10.67	116	Pn	Pn	19 55 34.9	-5.3
LL02	Futaleuf	10.95	109	Pn	Pn	19 55 38.2	-5.8
COYC	Coyhaique	11.43	121	Pn	Pn	19 55 39.8	-11
PLCA	Paso Flores	11.80	96	Pn	Pn	19 55 52.7	-3.1
	0.1nm,0.3s,baz=260,slow=12,SNR=6.7						
PLCA				Sn	Sn	19 58 08.0	+0.5
	baz=184,slow=14,SNR=2.4						
	1.9nm,0.8s						
PLCA	Paso Flores	11.80	96	eP	Pn	19 55 57.7	+2.0
AY03	Cochrane	11.85	129		Pn	19 55 48.0	-8.2
BI02	San Fabin de	12.18	77	Pn	Pn	19 55 54.4	-6.7
BO01	Tunca	13.35	68	Pn	Pn	19 56 14.9	-2.0

AQDB Aquidauana 32.65 61 P P 19 59 35.4 -4.2
AQDB IAmb IAmb 19 59 41.9
comp=Z,12nm,0.9s
AQDB Aquidauana 32.65 61 *eP* **P 19 59 39.1 -0.4**
ATAH Atahualpa 33.89 14 LR LR 20 10 34.4
comp=Z,990nm,20.5s,baz=207,slow=30
RVDE Rio Verde (Bra 34.17 61 *eP* **P 19 59 52.6 -0.3**
PTLB Pontes e Lacer 34.20 51 P **P 19 59 51.2 -1.9**
PTLB IAmb IAmb 19 59 54.7
comp=Z,14nm,1.3s
PTLB Pontes e Lacer 34.20 51 *eP* **P 19 59 53.8 +0.7**
VBST Vila Bela da S 34.41 49 *eP* **P 19 59 55.6 +0.6**
CZSB Cruzeiro do Su 34.72 24 *eP* **P 19 59 59.9 +2.3**
PCMB Pacaembu 34.95 68 *eP* **P 19 59 58.2 -1.4**
FRTB Fartura 35.08 72 *eP* **P 20 00 03.6 +2.9**
PP1B Ponte de Pedra 35.23 59 *eP* **P 20 00 02.2 +0.1**
PTET Porto Estrela 35.45 54 *eP* **P 20 00 03.8 -0.1**
VILB Vilhena 35.59 47 P **P 20 00 02.5 -2.6**
VILB Vilhena 35.59 47 *eP* **P 20 00 05.2 0.0**
SALV Santo Antonio 35.96 56 *eP* **P 20 00 08.9 +0.5**
PET01 Itanhaem-SP 36.19 76 *eP* **P 20 00 12.4 +2.2**
NBRS Nobres 37.11 54 *eP* **P 20 00 18.7 +0.5**
BB19B Bebedouro 37.24 70 *eP* **P 20 00 21.4 +2.1**
SAML Samuel 37.41 39 P P 20 00 17.0 -3.6
SAML IAmb IAmb 20 00 23.9
comp=Z,9.3nm,1.1s
SAML Samuel 37.41 39 *eP* **P 20 00 20.4 -0.2**
DVLD Doverlandia 37.72 61 *eP* **P 20 00 22.6 -0.7**
COHC Cochancay 38.33 11 P **P 20 00 26.1 -2.3**
PDRB Porto dos Gac 38.65 50 *eP* **P 20 00 30.7 -0.5**
CLDB Colider 39.79 51 *eP* **P 20 00 40.6 -0.1**
SLOR San Lorenzo - 40.15 12 P **P 20 00 42.2 -2.0**
VAS01 Vassouras-RJ 40.21 76 *eP* **P 20 00 45.1 +1.0**
OTAV Otavalo 41.10 12 P **P 20 00 50.4 -1.7**
OTAV Otavalo 41.10 12 *eP* **P 20 00 56.0 +3.9**
BDFB Brasilia 41.23 64 P **P 20 00 53.7 +0.9**
comp=Z,1.7nm,0.5s,baz=237,slow=8.8,SNR=4.5
BDFB LR LR 20 17 50.0
comp=Z,755nm,19.9s,baz=213,slow=36
comp=Z,1.7nm,0.5s
TEFE Tefe 41.57 33 *eP* **P 20 00 56.1 +0.7**
SNDB Serra Nova Dou 41.71 57 *eP* **P 20 00 56.3 -0.3**
CAM01 Campos-RJ 41.81 77 *eP* **P 20 01 00.0 +2.7**
FLOC Florencia 42.92 15 P **P 20 01 05.4 -1.0**
NPGB Novo Progresso 43.13 48 *eP* **P 20 01 07.8 -0.3**
ALF01 Guarapari-ES 43.23 77 *eP* **P 20 01 12.6 +3.8**
JANB Januaria 44.21 67 *eP* **P 20 01 15.7 -1.2**
RIB01 Linhares ES 44.27 75 *eP* **P 20 01 16.6 -0.6**
RKT Rikitea 44.44 278 *eS* **S 20 07 55.9 +2.4**
comp=Z,685nm,33.2s
RKT *e*SS **SS 20 11 12.6 +0.1**
comp=Z,3μm,28.2s
RKT *e*LR LR 20 13 44.9
comp=Z,4μm,27.5s
SDBA SAO DESIDERIO 45.64 64 *eP* **P 20 01 27.8 -0.5**
ROSC El Rosal 46.36 16 P **P 20 01 32.3 -1.9**
ROSC El Rosal 46.36 16 LR LR 20 19 02.6
comp=Z,1μm,21.5s,baz=228,slow=33
SMTB Santa Maria do 46.44 58 *eP* **P 20 01 34.9 +0.4**
RUSC La Rusia 47.66 18 P **P 20 01 42.8 -1.7**
VNA3 Neumayer Olymp 47.95 155 ⇓P P 20 01 35.1 -11
comp=Z,5.5nm,0.8s
BOAV Boa Vista 48.63 35 P **P 20 01 51.2 -0.3**
BOAV IAmb IAmb 20 02 23.0
comp=Z,13nm,1.3s
BOAV Boa Vista 48.63 35 *eP* **P 20 01 51.7 +0.2**
VNA2 Neumayer--Watz 48.71 155 ⇓P P 20 01 40.2 -11
comp=Z,1.4nm,0.3s,baz=331,slow=2.5
QSPA South Pole Qui 49.77 180 P P 20 01 50.8 -9.0
QSPA IAmb IAmb 20 01 52.3
comp=Z,14nm,1.5s
QSPA South Pole Qui 49.77 180 LR LR 20 18 35.1
comp=Z,196nm,20.8s,baz=134,slow=31
SNAA Sanae 50.07 156 P P 20 01 54.9 -7.1
SNAA IAmb IAmb 20 02 07.7
comp=Z,13nm,1.3s
SNAA Sanae 50.07 156 ⇓P P 20 01 51.3 -11
comp=Z,55nm,0.9s
SNAA Sanae 50.07 156 P P 20 01 55.3 -6.7
comp=Z,1.9nm,0.7s,baz=292,slow=5.2,SNR=3.8
SNAA LR LR 20 18 15.5
comp=Z,240nm,21.9s,baz=276,slow=31
comp=Z,1.9nm,0.7s
JTS Las Juntas de 50.51 1 LR LR 20 18 54.7
comp=Z,146nm,21.3s,baz=127,slow=30
SDV Santo Domingo 51.14 20 P **P 20 02 08.9 -1.8**
SDV IAmb IAmb 20 02 22.0
comp=Z,17nm,1.5s
PCRV Puerto La Cruz 54.15 26 LR LR 20 25 08.6
comp=Z,362nm,19.8s,slow=35
MDP Montagnes des 54.75 42 LR LR 20 24 23.4
comp=Z,432nm,21.1s,baz=206,slow=34
TBI Tubuai 55.34 268 *eS* **S 20 10 21.6 -4.1**
comp=Z,953nm,25.8s
TBI *e*SS SS 20 14 03.0 -7.0
comp=Z,581nm,34.5s
TBI *e*LQ LQ 20 16 22.6
comp=Z,3μm,31.2s
TBI *e*LR LR 20 18 36.8
comp=Z,669nm,22.2s
VNDA Vanda 55.34 194 LR LR 20 20 55.1
comp=Z,412nm,21.4s,baz=123,slow=30
TAOE Nuku Hiva Isla 57.24 288 *eS* **S 20 10 49.3 -2.1**
comp=Z,237nm,26.0s
TAOE *e*LR LR 20 19 39.5
comp=Z,507nm,26.1s
PPT2 Papeete2 58.76 273 *eS* **S 20 11 07.4 -3.7**
comp=Z,128nm,25.2s
PPT2 *e*SS **SS 20 15 05.7 +1.6**
comp=Z,64nm,23.5s
PPT2 *e*LQ LQ 20 17 49.2
comp=Z,1μm,31.8s
PPT2 *e*LR LR 20 20 08.9
comp=Z,576nm,27.0s
PPT2 *e*LR LR 20 20 17.2
comp=Z,186nm,41.8s
PPT Papeete 58.77 273 LR LR 20 21 59.5
comp=Z,101nm,20.4s,baz=131,slow=29
SJG San Juan 61.16 22 LR LR 20 27 56.9
comp=Z,281nm,21.9s,baz=187,slow=34
RAR Rarotonga 64.39 263 LR LR 20 23 28.4
comp=Z,296nm,21.5s,baz=116,slow=28
LPIG La Paz 68.09 336 LR LR 20 27 44.9
comp=Z,83nm,19.0s,baz=208,slow=30
MAW Mawson 69.71 168 LR LR 20 32 31.7
comp=Z,253nm,19.5s,baz=186,slow=34
URZ Urewera 70.90 236 LR LR 20 27 49.8
comp=Z,468nm,19.9s,baz=225,slow=30
RPZ Rata Peaks 71.22 228 LR LR 20 27 15.3
comp=Z,551nm,19.6s,baz=131,slow=29
TXAR Lajitas Array 71.35 344 P **P 20 04 27.8 +0.4**
TXAR Lajitas Array 71.35 344 P **P 20 04 28.4 +1.0**
comp=Z,0.9nm,0.7s,baz=154,slow=5.3,SNR=9.0
TXAR LR LR 20 30 55.7
comp=Z,139nm,19.2s,baz=166,slow=32
comp=Z,0.9nm,0.7s
Z47A Carrollton 73.33 358 P **P 20 04 38.4 -0.5**
TKL Tuckaleechee C 75.78 2 LR LR 20 33 18.7
comp=Z,135nm,20.1s,baz=180,slow=32
ANMO Albuquerque 77.36 343 P **P 20 05 05.6 +3.2**
comp=Z,1.2nm,1.0s,baz=133,slow=9.3,SNR=9.3
comp=Z,1.2nm,1.0s
PFO Pinyon Flats O 78.88 335 LR LR 20 32 20.3
comp=Z,112nm,19.2s,baz=136,slow=30
SUR Sutherland 80.95 125 LR LR 20 36 15.2
comp=Z,196nm,18.7s,baz=198,slow=32
MSVF Nonsavu 83.04 253 LR LR 20 35 09.0
comp=Z,76nm,21.0s,baz=125,slow=30
NVAR Mina Array Bea 83.88 335 P **P 20 05 41.0 +3.7**
comp=Z,0.3nm,0.4s,baz=196,slow=3.1,SNR=3.7
NVAR LR LR 20 36 35.8
comp=Z,66nm,21.4s,baz=160,slow=31
comp=Z,0.3nm,0.4s
BBTS Babate 84.51 66 LR LR 20 40 54.0
comp=Z,240nm,21.9s,baz=112,slow=34
ELK Elko 85.08 338 P **P 20 05 46.1 +2.8**
comp=Z,0.5nm,0.5s,baz=170,slow=3.6,SNR=5.7
comp=Z,0.5nm,0.5s
SADO Sadowa 85.08 5 LR LR 20 38 54.6
comp=Z,66nm,19.9s,baz=192,slow=32
PDAR Pinedale Array 85.54 343 P **P 20 05 49.0 +3.4**
comp=Z,1.0nm,0.8s,baz=192,slow=2.2,SNR=7.0
PDAR LR LR 20 38 45.2
comp=Z,60nm,19.5s,baz=151,slow=32
comp=Z,1.0nm,0.8s
TSUM Tsumeb 87.63 113 LR LR 20 39 28.9
comp=Z,153nm,19.3s,baz=219,slow=32
DBIC Dimbokro 87.64 79 LR LR 20 41 23.5
comp=Z,74nm,19.3s,baz=271,slow=33
YBH Yreka Blue Hor 88.32 333 LR LR 20 38 36.7
comp=Z,77nm,18.2s,baz=161,slow=31
DZM Mont Dzumac 88.35 242 *e*LR LR 20 33 56.3
comp=Z,567nm,24.3s
ULM Lac du Bonnet 90.75 354 LR LR 20 44 05.1
comp=Z,160nm,19.8s,baz=177,slow=34
NEW Newport 92.54 340 P **P 20 06 18.6 +0.2**
comp=Z,7.4nm,0.5s,baz=146,slow=7.3,SNR=15
NEW LR LR 20 42 05.9
comp=Z,137nm,20.3s,baz=158,slow=32
STKA Stephens Creek 95.59 219 LR LR 20 40 44.7
comp=Z,203nm,20.8s,baz=190,slow=30
LSZ Lusaka 97.65 117 LR LR 20 45 11.7
comp=Z,197nm,20.7s,baz=197,slow=32
ILAR Eielson Array 115.14 336 PKP **PKPdf 20 11 47.5 -0.2**
comp=Z,0.2nm,0.8s,baz=64,slow=5.2,SNR=2.2
GERES GERESS Array B 124.81 52 PKP **PKPdf 20 12 07.9 +0.9**
comp=Z,0.2nm,0.3s,baz=266,slow=5.7,SNR=4.1
KBZ Khabaz 142.47 68 PKP **PKPdf 20 12 36.9 -3.1**
comp=Z,2.0nm,1.0s,baz=263,slow=1.0,SNR=5.4
MJAR Matsushiro Arr 145.41 278 PKPbc **PKPdf 20 12 42.7 -2.7**
comp=Z,1.6nm,0.9s,baz=129,slow=3.2,SNR=4.4
ARTI Arti 151.95 43 PKPbc **PKPdf 20 12 57.9 +2.6**
comp=Z,5.5nm,1.0s,baz=307,slow=4.4,SNR=3.8
AKTO Aktyubinsk 153.14 56 PKPbc **PKPdf 20 13 03.3 +6.0**
comp=Z,0.4nm,0.4s,baz=243,slow=6.8,SNR=1.4
AKTO PKPab **PKPab 20 13 14.7 -1.7**
comp=Z,1.1nm,0.7s,baz=280,slow=2.1,SNR=3.8
KURBB Kurchatov Arra 165.21 42 PKP **PKPdf 20 13 12.0 +0.8**
comp=Z,0.7nm,1.0s,baz=27,slow=0.2,SNR=4.1
KURBB PKPab **PKPab 20 14 07.4 -1.2**
comp=Z,0.9nm,0.9s,baz=308,slow=4.6,SNR=5.7

---

*UCR **07** 19:54:03.1±1.1, 6.°59N×82.°71W, h10km, MW3.6*
*UPA **07** 19:54:05.0±0.8, 6.°57N×82.°67W, h36km±28km, MW4.4*
ISC 07 19:54:02.2±2.7, 6.°6N±0.°2×82.°67W±0.°06, h10km, n31, σ0§93/40, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**1.85**	**50**	*eP*	**Pn**	**19 54 34.4**	**+0.3**
GMAL	**Guarumal, Vera**	**1.85**	**50**	*eP*	**Pn**	**19 54 34.4**	**+0.3**
GMAL				*e*S	**Sn**	**19 54 57.1**	**-0.5**
DVD	**David**	**1.86**	**7**	*eP*	**Pn**	**19 54 34.5**	**+0.3**
DVD				*e*S	**Sn**	**19 54 56.6**	**-1.3**
PIRO	**Carate, Puerto**	**1.94**	**340**	*eP*	**Pn**	**19 54 34.9**	**-0.4**
MARI3	**Mariato, Verag**	**1.98**	**57**	*eP*	**Pn**	**19 54 36.2**	**+0.3**
BRU2	**Volcan**	**2.21**	**360**	*eP*	**Pn**	**19 54 39.5**	**+0.4**
BRU2	**Volcan**	**2.21**	**360**	*eP*	**Pn**	**19 54 39.5**	**+0.4**
BRU2				*e*S	**Sn**	**19 55 06.2**	**-0.4**
ALCO	**Alturas Coton,**	**2.37**	**356**	*eP*	**Pn**	**19 54 41.7**	**+0.3**
CHGR2	**Aguacate**	**2.41**	**13**	*eP*	**Pn**	**19 54 42.2**	**+0.4**
CHGR2				*e*S	**Sn**	**19 55 10.5**	**-0.8**
CHIT3	**Chitre**	**2.62**	**58**	*eP*	**Pn**	**19 54 45.5**	**+0.8**
CHIT3				*e*S	**Sn**	**19 55 14.8**	**-1.9**
AZU	**Azuero**	**2.67**	**63**	*eP*	**Pn**	**19 54 45.8**	**+0.5**
AZU	**Azuero**	**2.67**	**63**	⇓*i*P	**Pn**	**19 54 46.0**	**+0.7**
AZU				*e*S	**Sn**	**19 55 16.7**	**-1.1**
DRK0	**Durika**	**2.73**	**348**	*eP*	**Pn**	**19 54 46.7**	**+0.3**
DRK0	**Durika**	**2.73**	**348**	*eP*	**Pn**	**19 54 46.7**	**+0.3**
DRK0				*e*S	**Sn**	**19 55 19.4**	**-0.2**
SAJE	**San Jernim**	**2.88**	**343**	*eP*	**Pn**	**19 54 48.6**	**+0.3**
CEUA	**Cerro Uatsi, L**	**3.04**	**355**	*eP*	**Pn**	**19 54 53.4**	**+2.8**
BUS1	**Rivas**	**3.15**	**340**	*eP*	**Pn**	**19 54 52.9**	**+0.5**
LLNJ	**Naranjito**	**3.21**	**334**	*eP*	**Pn**	**19 54 53.0**	**+0.2**
PIEC	**Cerro El Cedra**	**3.29**	**337**	*eP*	**Pn**	**19 54 54.4**	**+0.3**
PISJ	**San Jernim**	**3.36**	**335**	*eP*	**Pn**	**19 54 55.5**	**+0.5**
PICV	**PH. Pirrs**	**3.39**	**334**	*eP*	**Pn**	**19 54 55.6**	**+0.3**
ABE2	**San Pablo**	**3.40**	**336**	*eP*	**Pn**	**19 54 56.2**	**+0.6**
LCR2	**La Lucha 2**	**3.41**	**337**	*eP*	**Pn**	**19 54 56.3**	**+0.5**
LCR2				*e*S	**Sn**	**19 55 36.9**	**+0.4**
HDC	**Heredia**	**3.69**	**337**	*eP*	**Pn**	**19 55 00.6**	**+1.1**
BELE	**Belen**	**3.70**	**336**	*eP*	**Pn**	**19 55 00.1**	**+0.5**
CVTG	**V. Turrialba,**	**3.71**	**343**	*eP*	**Pn**	**19 55 01.2**	**+1.4**
BCIP	**Isla Barro Col**	**3.81**	**47**	*eP*	**Pn**	**19 55 03.0**	**+1.9**
SOCE	**Pocosol**	**4.25**	**333**	*eP*	**Pn**	**19 55 07.9**	**+0.8**
JTS	**Las Juntas de**	**4.33**	**329**	*eP*	**Pn**	**19 55 08.3**	**+0.1**
JTS	**Las Juntas de**	**4.33**	**329**	*eP*	**Pn**	**19 55 08.4**	**+0.2**
JTS				*e*S	**Sn**	**19 55 57.1**	**-1.7**
ACON	**Acoyapa**	**5.90**	**335**	*eP*	**Pn**	**19 55 31.0**	**+1.2**

---

*TEH **07** 20:01:10.3, 26.°67N×53.°96E, h9km±82km*
*DSN **07** 20:01:11.2±1.4, 26.°81N×53.°91E, h10km, ML2.8/12, Error ellipse: s-maj=16.7km s-min=5.5km az=161.0*
*OMAN **07** 20:01:13.3±0.5, 26.°60N×53.°94E, h10km, mb4.0/5, ml3.0/22, Error ellipse: s-maj=5.7km s-min=2.3km az=170.0*
ISC 07 20:01:10.9±3.3, 26.°72N±0.°05×53.°93E±0.°03, h2km±25km, n54, σ0§72/70, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.92**	**313**	Pg	**Pb**	**20 01 28.6**	**-1.0**
LAR1	**LAR**	**1.03**	**23**	Pg	**Pb**	**20 01 31.4**	**-0.2**
JHRM	**Jahrom**	**1.81**	**350**	Pn	**Pn**	**20 01 44.7**	**+1.5**
QIR1	**Qir**	**1.92**	**336**	Pn	**Pn**	**20 01 46.3**	**+1.5**
UMQ	**Umm Al-Quwin**	**1.96**	**127**	P	**Pb**	**20 01 47.9**	**+0.6**
UMQ				S	**Sn**	**20 02 10.1**	**-0.3**
JRN	**Qarnain Island**	**2.02**	**209**	P	**Pn**	**20 01 47.4**	**+1.5**
JRN				S	**Sn**	**20 02 12.7**	**+0.9**
SHME	**Shamm**	**2.10**	**108**	P	**Pn**	**20 01 46.7**	**-0.4**
SHME				S	**Sn**	**20 02 14.7**	**+1.0**
SHME	**Shamm**	**2.10**	**108**	P	**Pn**	**20 01 46.0**	**-1.1**
BNDS	**Bandar-Abbas**	**2.12**	**71**	Pn	**Pn**	**20 01 47.2**	**-0.3**
BANOM	**Banah**	**2.27**	**110**	P	**Pn**	**20 01 49.5**	**-0.1**
BANOM				S	**Sn**	**20 02 18.7**	**+0.6**
BANOM	**Banah** SNR=9.5	**2.27**	**110**	*eP*	**Pn**	**20 01 49.3**	**-0.3**
BANOM				S	**Sn**	**20 02 18.4**	**+0.2**
NAZ	**Nazwa, Dubai**	**2.33**	**137**	P	**Pn**	**20 01 50.5**	**+0.2**
NAZ	**Nazwa, Dubai** SNR=5.5	**2.33**	**137**	*eP*	**Pn**	**20 01 50.5**	**+0.2**
AJN	**Ajban**	**2.35**	**156**	P	**Pn**	**20 01 51.4**	**+0.9**
MASF	**Masafi**	**2.42**	**123**	P	**Pn**	**20 01 52.3**	**+0.8**
MASF				S	**Sn**	**20 02 21.8**	**+0.1**
MSFE	**Esma-Masafi**	**2.42**	**123**	P	**Pn**	**20 01 52.2**	**+0.6**
ASUD	**Al Ashush, Dub** SNR=11	**2.44**	**148**	P	**Pn**	**20 01 52.8**	**+1.0**
ASUD	**Al Ashush, Dub** SNR=11	**2.44**	**148**	*eP*	**Pn**	**20 01 53.2**	**+1.5**
MDH	**Madha**	**2.56**	**123**	P	**Pn**	**20 01 54.1**	**+0.6**
MDH				S	**Sn**	**20 02 25.5**	**+0.3**
MDH	**Madha**	**2.56**	**123**	P	**Pn**	**20 01 54.1**	**+0.6**
UOSS	**Minazif**	**2.71**	**130**	Pn	**Pn**	**20 01 55.7**	**+0.2**
UOSS	**Minazif**	**2.71**	**130**	P	**Pn**	**20 01 55.8**	**+0.3**
UOSS				S	**Sn**	**20 02 28.7**	**-0.2**
UOSS	**Minazif** SNR=6.9	**2.71**	**130**	*eP*	**Pn**	**20 01 55.9**	**+0.3**
HATD	**Hatta, Dubai**	**2.74**	**133**	P	**Pn**	**20 01 57.0**	**+1.1**
HATD	**Hatta, Dubai** SNR=5.1	**2.74**	**133**	*eP*	**Pn**	**20 01 56.8**	**+0.8**
ASHO	**Ashiyiah** SNR=7.4	**2.79**	**136**	P	**Pn**	**20 01 57.2**	**+0.5**
ASHO	**Ashiyiah** SNR=9.4	**2.79**	**136**	*eP*	**Pn**	**20 01 57.4**	**+0.6**
SHMA	**Al-Shehemyia** SNR=11	**2.79**	**253**	P	**Pn**	**20 01 57.5**	**+0.8**
GHWR	**Ruwais**	**2.90**	**199**	P	**Pn**	**20 01 58.0**	**-0.1**
GHWR				S	**Sn**	**20 02 33.1**	**-0.6**
MZWR	**Madinat Zayed**	**2.94**	**181**	P	**Pn**	**20 01 59.2**	**+0.5**
MZWR				S	**Sn**	**20 02 34.0**	**-0.7**
ALNE	**Al Ain** SNR=5.9	**3.12**	**148**	P	**Pn**	**20 02 02.1**	**+0.9**
ALNE				S	**Sn**	**20 02 38.7**	**-0.4**
ALNE	**Al Ain** SNR=8.2	**3.12**	**148**	*i* P	**Pn**	**20 02 01.9**	**+0.7**
TRNA	**Turayna** SNR=11	**3.14**	**232**	P	**Pn**	**20 02 01.8**	**+0.3**
TRNA				S	**Sn**	**20 02 39.6**	**0.0**
SMRA	**Abu-Samra**	**3.42**	**236**	P	**Pn**	**20 02 05.7**	**+0.5**
SMRA				S	**Sn**	**20 02 46.3**	**0.0**
SOHO	**SOHO**	**3.49**	**137**	P	**Pn**	**20 02 06.6**	**+0.4**
MZR	**Muzera**	**3.72**	**186**	P	**Pn**	**20 02 09.3**	**-0.2**
MZR	**Muzera** SNR=9.3	**3.72**	**186**	*i* P	**Pn**	**20 02 09.2**	**-0.2**
ARQ	**Araqi** SNR=13	**4.11**	**144**	P	**Pn**	**20 02 15.0**	**+0.2**
UMZA	**Um Al Zommool**	**4.14**	**164**	P	**Pn**	**20 02 16.3**	**+1.1**
HOQ	**Hoqain** SNR=6.8	**4.38**	**135**	P	**Pn**	**20 02 18.8**	**+0.3**
HOQ				S	**Sn**	**20 03 09.4**	**-0.7**
CHMN	**Cheshme madani**	**4.47**	**45**	Pn	**Pn**	**20 02 20.4**	**+0.4**
BSY	**Bisya**	**4.95**	**142**	P	**Pn**	**20 02 26.6**	**+0.3**
BSY				S	**Sn**	**20 03 23.0**	**-1.2**
BIDO	**Bidbid**	**4.96**	**129**	P	**Pn**	**20 02 27.1**	**+0.6**
SMDO	**Samad**	**5.22**	**133**	P	**Pn**	**20 02 31.1**	**+0.9**
SMDO				S	**Sn**	**20 03 30.9**	**-0.2**
WSAR	**Wadi Sarin**	**5.50**	**128**	P	**Pn**	**20 02 33.9**	**0.0**
JMDO	**Jabal Madar**	**5.76**	**138**	P	**Pn**	**20 02 37.7**	**+0.2**
WBK	**Wadi Bani Khal**	**6.14**	**131**	Pn	**Pn**	**20 02 42.8**	**0.0**
WBK	**Wadi Bani Khal**	**6.14**	**131**	P	**Pn**	**20 02 42.6**	**-0.3**
MHTO	**MHTO**	**6.80**	**146**	P	**Pn**	**20 02 52.0**	**+0.2**
DQM	**DQM**	**7.53**	**153**	P	**Pn**	**20 03 01.4**	**-0.3**
DOK	**Doka**	**8.06**	**179**	P	**Pn**	**20 03 07.8**	**-1.3**
WHFO	**Wadi Hawf**	**8.76**	**181**	P	**Pn**	**20 03 17.5**	**-1.2**
DMTO	**DMTO**	**9.01**	**174**	P	**Pn**	**20 03 22.4**	**+0.3**
ABTO	**Aybut**	**9.34**	**184**	P	**Pn**	**20 03 25.2**	**-1.4**

---

*NEIC **07** 20:13:49.9±3.0, 1.°4N±0.°1×127.°2E±0.°1, h111km±7km, mb4.1/12, Error ellipse: s-maj=19.7km s-min=13.4km az=203.0*
*DJA **07** 20:13:49.7±1.0, 2.°1N±2.°×12.°7E±.°, h31km±14km, M4.3/19, mB5.0/5, mb4.4/11, MLv4.2/19, Mw(mB)4.3/5*
*IDC **07** 20:13:54.0±8.5, 1.°30N×126.°94E, h138km±87km, mb3.5/7, mbtmp3.9/9, Error ellipse: s-maj=53.2km s-min=19.0km az=76.0*
ISC 07 20:13:48.8±0.7, 1.°52N±0.°06×127.°23E±0.°06, h100km, n55, σ1§80/57, mb4.0/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.76**	**170**		**Pn**	**20 14 07.0**	**+0.2**
TNTI	**Ternate**	**0.76**	**170**	P	**Pn**	**20 14 07.2**	**+0.4**
TNTI	**Ternate**	**0.76**	**170**	P	**Pn**	**20 14 07.2**	**+0.4**
SGSI	**Sangihe**	**2.74**	**322**	P	**Pn**	**20 14 29.6**	**-1.6**
SGSI				S	**Sn**	**20 15 01.1**	**-2.6**
KMSI	**Cibinong**	**3.38**	**254**	P	**Pn**	**20 14 41.0**	**+1.3**
KMSI				S	**Sn**	**20 15 20.3**	**+1.3**
SANI	**Sanana**	**3.76**	**199**	P	**Pn**	**20 14 45.1**	**+0.3**
SANI	**Sanana**	**3.76**	**199**	S	**Sn**	**20 15 26.4**	**-1.7**
SANI	**Sanana**	**3.76**	**199**	P	**Pn**	**20 14 45.3**	**+0.5**
SWI	**Sorong**	**4.68**	**120**	P	**Pn**	**20 14 58.5**	**+1.3**
NLAI	**Namlea**	**4.73**	**182**	P	**Pn**	**20 14 59.9**	**+1.9**
LUWI	**Luwuk**	**5.13**	**240**	Pn	**Pn**	**20 15 02.3**	**-1.1**
LUWI	**Luwuk**	**5.13**	**240**	P	**Pn**	**20 15 04.9**	**+1.5**
LUWI	**Luwuk**	**5.13**	**240**	P	**Pn**	**20 15 06.3**	**+2.9**
AAI	**Ambon** 0.2nm32nm,0.7s	**5.26**	**169**	P	**Pn**	**20 15 08.5**	**+3.3**
MRSI	**Marisa**	**5.39**	**259**	P	**Pn**	**20 15 08.2**	**+1.3**
APSI	**Ampana** 0.3nm962nm42nm,0.7s	**6.08**	**247**	P	**Pn**	**20 15 18.5**	**+2.2**
TOLI2	**Tolitoli**	**6.46**	**266**		**Pn**	**20 15 21.4**	**-0.1**
TOLI2	**Tolitoli**	**6.46**	**266**	P	**Pn**	**20 15 21.6**	**+0.2**
TOLI2	**Tolitoli**	**6.46**	**266**	S	**Sn**	**20 16 33.9**	**+0.2**
FAKI	**Fak Fak**	**6.68**	**131**	Pn	**Pn**	**20 15 22.8**	**-1.7**
FAKI	**Fak Fak**	**6.68**	**131**	P	**Pn**	**20 15 26.7**	**+2.2**
FAKI	**Fak Fak**	**6.68**	**131**	P	**Pn**	**20 15 26.0**	**+1.5**
MPSI	**Mapaga** 0.0nm8.4nm,0.9s	**7.42**	**261**	P	**Pn**	**20 15 36.3**	**+1.8**
BNSI	**Bone** 12nm,1.3s	**9.23**	**230**	P	**Pn**	**20 16 01.3**	**+2.1**
SPSI	**Sidrap Palu** 596nm19nm,0.4s	**9.23**	**234**	P	**Pn**	**20 16 01.1**	**+1.9**
MYLDM	**Lahad Datu**	**9.44**	**293**		**Pn**	**20 16 04.9**	**+2.9**
KKM	**Kota Kinabalu**	**11.87**	**293**	Pn	**Pn**	**20 16 34.4**	**-0.6**
KKM	**Kota Kinabalu**	**11.87**	**293**	P	**Pn**	**20 16 37.6**	**+2.6**
JAY	**Jayapura** 2.8nm,0.6s,baz=155,slow=22,SNR=5.9	**14.06**	**107**	P	**P**	**20 17 10.5**	**+2.2**
KDU	**Kakadu**	**15.05**	**160**	P	**P**	**20 17 18.8**	**-0.4**
KNRA	**Kununurra**	**17.16**	**175**		**Pn**	**20 17 41.5**	**-1.0**
KNRA				IAmb	IAmb	20 17 44.3	
comp=Z,8.0nm,1.0s							
FITZ	**Fitzroy Crossi**	**19.56**	**185**	P	**P**	**20 18 05.2**	**-3.7**
FITZ	**Fitzroy Crossi** comp=Z,1.6nm,0.4s,baz=2.5,slow=7.7,SNR=15	**19.56**	**185**	P	**Pn**	**20 18 09.1**	**-2.1**
WB0	**Warramunga Arr**	**22.30**	**162**	P	**P**	**20 18 34.9**	**-3.2**
WB0				IAmb	IAmb	20 18 38.9	
comp=Z,7.1nm,0.8s							
WRAB	**Tennant Creek**	**22.44**	**162**	P	**P**	**20 18 36.0**	**-3.7**
WRA	**Warramunga Arr**	**22.44**	**162**	P	**P**	**20 18 37.9**	**-1.8**
WRA	**Warramunga Arr** comp=Z,2.8nm,0.7s,baz=339,slow=10,SNR=46 comp=Z,2.8nm,0.7s	**22.44**	**162**	P	**P**	**20 18 39.4**	**-0.3**
WR8	**Warramunga Arr**	**22.50**	**162**	P	**P**	**20 18 40.4**	**0.0**
QIS	**Mount Isa**	**25.07**	**152**	P	**P**	**20 19 05.7**	**+1.5**
AS31	**Alice Springs**	**25.86**	**166**	P	**P**	**20 19 09.7**	**-1.7**
AS31				IAmb	IAmb	20 19 18.3	
comp=Z,1.7nm,0.3s							
ASAR	**Alice Springs**	**25.87**	**166**	P	**P**	**20 19 10.8**	**-0.6**
ASAR	**Alice Springs** comp=Z,1.0nm,0.5s,baz=344,slow=8.1,SNR=38 comp=Z,1.0nm,0.5s	**25.87**	**166**	P	**P**	**20 19 11.7**	**+0.3**
WRKA	**Warakurna**	**26.42**	**178**	P	**P**	**20 19 18.4**	**+2.0**
GSI	**Gunungsitoli**	**29.64**	**270**	P	**P**	**20 19 42.8**	**-2.4**
GSI				IAmb	IAmb	20 20 02.0	
comp=Z,4.5nm,0.7s							
BBOO	**Buckleboo**	**35.15**	**167**	P	**P**	**20 20 32.1**	**-1.0**
STKA	**Stephens Creek**	**35.90**	**159**	P	**P**	**20 20 36.7**	**-2.9**
STKA	**Stephens Creek** comp=Z,2.0nm,0.4s,baz=339,slow=7.7,SNR=9.6 comp=Z,2.0nm,0.4s	**35.90**	**159**	P	**P**	**20 20 40.3**	**+0.8**
SONM	**Songino Array** comp=Z,0.2nm,0.5s,baz=153,slow=9.7,SNR=2.0 comp=Z,0.2nm,0.5s	**49.53**	**342**	P	**P**	**20 22 30.9**	**+1.3**
MK31	**Makanchi Array**	**59.65**	**326**	P	**P**	**20 23 43.0**	**+0.5**
MK31				IAmb	IAmb	20 23 45.8	
comp=Z,1.1nm,0.7s							
MKAR	**Makanchi Array**	**59.65**	**326**	P	**P**	**20 23 43.8**	**+1.2**
MKAR	**Makanchi Array** comp=Z,1.1nm,0.5s,baz=120,slow=8.3,SNR=26 comp=Z,1.1nm,0.5s	**59.65**	**326**	P	**P**	**20 23 44.6**	**+2.0**
MAKZ	**Makanchi**	**59.83**	**326**	P	**P**	**20 23 44.3**	**+0.5**
KURBB	**Kurchatov Arra** comp=Z,0.8nm,0.6s,baz=126,slow=6.5,

BXML					S		Sg	20 27 46.0	+3.1
DZI	**Dzhizak**	**1.95**	**277**		P		**Pn**	20 27 19.3	+0.5
DZI					S		**Sn**	20 27 44.1	+0.5
OHH	**Osh**	**1.96**	**71**	⇑	*e*P		**Pn**	20 27 20.2	+1.1
OHH				⇑	*e*S		**Sb**	20 27 45.5	-0.7
IUG	**Iuzhnay**	**2.24**	**354**		Pg		**Pb**	20 27 25.5	-0.6
	441nm,0.5s								
IUG					Lg		Lg	20 27 53.6	
	305nm,0.3s								
ARK	**Arkit**	**2.24**	**33**	⇑	*e*P		**Pn**	20 27 24.3	+1.3
ARK				⇑	*e*S		**Sn**	20 27 52.6	+1.5
SFK	**Sufi-Kurgan**	**2.43**	**87**	⇑	*e*P		**Pn**	20 27 26.8	+1.2
SFK				⇑	*e*S		**Sn**	20 27 56.8	+1.0
ARSB	**Arslanbob**	**2.45**	**54**	⇑	*e*P		**Pn**	20 27 27.0	+1.1
ARSB				⇑	*e*S		**Sn**	20 27 57.4	+1.2
SALK	**Salom-Alik**	**2.82**	**69**	⇑	*e*P		**Pn**	20 27 32.2	+1.2
SALK				⇑	*e*S		**Sn**	20 28 06.4	+0.9
BAYS	**Baysun**	**2.98**	**236**		P		**Pn**	20 27 35.3	+2.2
BAYS					S		**Sb**	20 28 14.3	-1.2
MNAS	**Manas**	**3.04**	**32**	⇓	*i*P		**Pn**	20 27 35.3	+1.3
MNAS				⇓	*e*S		**Sn**	20 28 11.6	+0.8
KK31	**Karatay Array**	**3.18**	**2**	⇓	Pn		**Pn**	20 27 38.2	+2.4
	1.2nm,0.3s,baz=168,slow=14,SNR=117								
KK31				⇑	Pg		**Pb**	20 27 43.1	+1.0
	9.3nm,0.3s,baz=180,slow=16,SNR=16								
KK31				⇓	Lg		Lg	20 28 24.5	
	5.3nm,0.2s,baz=178,slow=28,SNR=8.8								
KKAR	**Karatay Array**	**3.18**	**2**	⇑	*e*P		**Pn**	20 27 37.0	+1.2
KKAR				⇑	*e*S		**Sn**	20 28 14.7	+0.5
AML	**Almayashu**	**3.36**	**48**		P		**Pn**	20 27 40.9	+2.3
	SNR=20								
AML	**Almayashu**	**3.36**	**48**	⇓	*e*P		**Pn**	20 27 40.0	+1.4
AML				⇓	*e*S		**Sn**	20 28 19.8	+0.7
PKMR	**Pachkamar**	**3.37**	**247**		P		**Pn**	20 27 40.8	+2.5
PKMR					S		**Sb**	20 28 24.0	-2.5
MRKS	**Merke**	**3.56**	**37**		Pg		**Pg**	20 27 51.2	-2.2
	6.8nm,0.3s								
MRKS					Lg		Lg	20 28 38.0	
	67nm,0.4s								
MRKS	**Merke**	**3.56**	**37**	*e*	P		**Pg**	20 27 51.2	-2.2
	6.8nm,0.3s								
MRKS				*e*	S		**Sg**	20 28 38.0	-1.5
	67nm,0.4s								
ARLS	**Aral**	**3.59**	**56**	⇑	*e*P		**Pn**	20 27 42.9	+1.4
ARLS				⇑	*e*S		**Sn**	20 28 24.7	+0.4
NUT	**Nurota**	**3.63**	**282**		P		**Pn**	20 27 43.9	+2.0
NUT					S		**Sb**	20 28 30.4	-3.6
EKS2	**Erkin-Say**	**3.77**	**42**		P		**Pn**	20 27 46.4	+2.5
	SNR=13								
EKS2	**Erkin-Say**	**3.77**	**42**	⇓	*e*P		**Pn**	20 27 45.4	+1.5
EKS2				⇓	*e*S		**Sn**	20 28 29.1	+0.4
UCH	**Uchtor**	**3.91**	**52**	⇑	*e*P		**Pn**	20 27 47.5	+1.4
UCH				⇑	*e*S		**Sn**	20 28 32.8	+0.2
AAK	**Ala-Archa**	**4.14**	**48**		P		**Pn**	20 27 51.8	+2.6
	SNR=13								
AAK	**Ala-Archa**	**4.14**	**48**	⇑	Pn		**Pn**	20 27 51.5	+2.3
	6.2nm,0.5s								
AAK				⇑	Pg		**Pg**	20 28 03.4	-1.1
	11nm,0.6s								
AAK				⇑	Lg		Lg	20 29 01.1	
	21nm,0.8s								
AAK	**Ala-Archa**	**4.14**	**48**	⇑	*e*P		**Pn**	20 27 50.6	+1.5
AAK				⇑	*e*S		**Sn**	20 28 38.2	+0.2
FRU1	**Bishkek**	**4.33**	**47**	⇑	*e*P		**Pn**	20 27 53.3	+1.7
FRU1				⇑	*e*S		**Sn**	20 28 42.6	+0.1
KBK	**Karagaybulak**	**4.42**	**50**		P		**Pn**	20 27 56.3	+3.4
	SNR=17								
KBK	**Karagaybulak**	**4.42**	**50**	⇓	*e*P		**Pn**	20 27 54.5	+1.6
KBK				⇓	*e*S		**Sn**	20 28 44.7	-0.1
CHMS	**Chumysh**	**4.52**	**46**	⇓	*e*P		**Pn**	20 27 55.8	+1.6
CHMS				⇓	*e*S		**Sn**	20 28 46.9	-0.2
NRN	**Naryn**	**4.56**	**69**	⇑	*e*P		**Pn**	20 27 55.8	+0.8
NRN				⇑	*e*S		**Sn**	20 28 48.1	-0.4
TMD	**Tamdy-Bulak**	**4.70**	**295**		P		**Pn**	20 27 59.3	+2.7
TMD					S		**Sb**	20 29 02.3	-2.5
BOOM	**Boomskoye usch**	**4.94**	**57**	⇓	*e*P		**Pn**	20 28 01.7	+1.6
BOOM				⇓	*e*S		**Sn**	20 28 57.3	-0.4
TKM2	**Tokmak 2**	**4.96**	**51**		P		**Pn**	20 28 03.0	+2.6
	SNR=5.6								
TKM2	**Tokmak 2**	**4.96**	**51**	⇑	Pn		**Pn**	20 28 02.4	+2.0
	3.6nm,0.5s								
TKM2				⇑	Lg		Lg	20 29 25.7	
	13nm,0.5s								
TKM2	**Tokmak 2**	**4.96**	**51**	⇑	*e*P		**Pn**	20 28 01.9	+1.5
TKM2				⇑	*e*S		**Sn**	20 28 57.7	-0.5
ULHL	**Ulahol**	**5.03**	**61**	⇑	*e*P		**Pn**	20 28 02.8	+1.5
ULHL				⇑	*e*S		**Sn**	20 28 59.2	-0.7
DGS	**Degeres**	**5.25**	**49**		Pg		**Pg**	20 28 23.2	-2.5
	2.9nm,0.3s								
DGS					Lg		Lg	20 29 32.7	
	13nm,0.7s								
MTBS	**Maitube**	**5.58**	**53**		Pg		**Pg**	20 28 29.8	-2.2
	0.7nm,0.1s								
MTBS					Lg		Lg	20 29 43.7	
	7.1nm,0.5s								
MTBS	**Maitube**	**5.58**	**53**	*e*	P		**Pg**	20 28 29.8	-2.2
	0.7nm,0.1s								
MTBS				*e*	S		**Sg**	20 29 43.7	-0.6
	7.1nm,0.5s								
KDJ	**Kajisay**	**5.62**	**65**	⇑	*e*P		**Pn**	20 28 10.8	+1.3
KDJ				⇑	*e*S		**Sn**	20 29 14.6	+0.1
TNSS	**Tian-Shan**	**5.86**	**56**		Pg		**Pg**	20 28 34.8	-2.5
	1.3nm,0.3s								
TNSS					Lg		Lg	20 29 52.2	
	3.8nm,0.8s								
TNSS	**Tian-Shan**	**5.86**	**56**	*e*	P		**Pg**	20 28 34.8	-2.5
	1.3nm,0.3s								
TNSS				*e*	S		**Sg**	20 29 52.2	-1.0
	3.8nm,0.8s								
KUU	**Kurty**	**5.98**	**46**		Pg		**Pg**	20 28 37.8	-1.8
	1.9nm,0.6s								
KUU					Lg		Lg	20 29 57.1	
	7.3nm,0.2s								
KUU	**Kurty**	**5.98**	**46**	*e*	P		**Pg**	20 28 37.8	-1.8
	1.9nm,0.6s								
KUU				*e*	S		**Sg**	20 29 57.1	+0.1
	7.3nm,0.2s								
MDOK	**Medeo**	**5.98**	**55**		Pn		**Pn**	20 28 17.0	+2.6
	6.6nm,0.6s								
MDOK					Pg		**Pg**	20 28 37.9	-1.9
	1.5nm,0.4s								
MDOK					Lg		Lg	20 29 57.9	
	7.4nm,0.8s								
MDOK					Lg		Lg	20 29 58.5	
	5.5nm,0.7s								

*DNK **07** 20:47:46.6±3.9, 78°.44N×19°.44W, h9km±33km, ML2.2*
*BER **07** 20:47:48.2±3.5, 78°.40N×18°.90W, h5km±26km, mb(Pn)4.1, ML2.2(DNK), Confirmed Earthquake*

ISC 07 20:47:42.9±0.9, 78°.58N±0°.05×19.84W±0°.06, h10km, n10, σ1§77/18, Eastern Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**3.09**	**9**	*i*	P	**Pb**	**20 48 38.0**	**+0.2**
NOR				*i*	S	**Sb**	**20 49 16.0**	**+0.5**
NOR				IAML			20 49 23.5	
	comp=Z,22nm,0.3s							
NOR	**Nord**	**3.09**	**9**	*i*	P	**Pb**	**20 48 38.0**	**+0.2**
NOR				*i*	S	**Sb**	**20 49 16.0**	**+0.5**
NOR				IAML			20 49 23.5	
	comp=Z,22nm,0.3s							
DBG	**Daneborg**	**4.29**	**181**	*i*	P	**Pn**	**20 48 49.6**	**+1.5**
DBG				*i*	S	**Sn**	**20 49 36.5**	**-1.7**
DBG				IAML			20 50 05.1	
	comp=Z,22nm,0.6s							
DBG	**Daneborg**	**4.29**	**181**	*i*	P	**Pn**	**20 48 49.6**	**+1.5**
DBG				*i*	S	**Sn**	**20 49 36.5**	**-1.7**
DBG				IAML			20 50 05.1	
	comp=Z,22nm,0.6s							
KBS	**Kingsbay**	**6.17**	**71**	*i*	P	**Pn**	**20 49 15.3**	**+1.4**
KBS				*i*	S	**Sn**	**20 50 21.6**	**-2.8**
KBS	**Kingsbay**	**6.17**	**71**	*i*	P	**Pn**	**20 49 15.3**	**+1.4**
KBS				*i*	S	**Sn**	**20 50 21.6**	**-2.8**
NEEM	**North Greenlan**	**6.54**	**276**	*i*	S	**Sn**	**20 50 32.2**	**-1.7**
NEEM				IAML			20 51 14.8	
	comp=Z,4.4nm,0.4s							
NEEM	**North Greenlan**	**6.54**	**276**	*i*	S	**Sn**	**20 50 32.2**	**-1.7**
NEEM				IAML			20 51 14.8	
	comp=Z,4.4nm,0.4s							
SUMG	**Summit**	**7.55**	**227**	*i*	P	**Pn**	**20 49 34.7**	**+1.5**
SUMG				*i*	S	**Sn**	**20 50 57.2**	**-1.8**
SUMG				IAML			20 51 51.5	
	comp=Z,3.2nm,1.1s							
SUMG	**Summit**	**7.55**	**227**	*i*	P	**Pn**	**20 49 34.7**	**+1.5**
SUMG				*i*	S	**Sn**	**20 50 57.2**	**-1.8**
SUMG				IAML			20 51 51.5	
	comp=Z,3.2nm,1.1s							

*NEIC **07** 21:01:01.5±1.3, 79°.8N±0°.1×3°.4E±0°.4, h10km±1km, mb4.3/11, Error ellipse: s-maj=19.7km s-min=10.3km az=23.0*
*NAO **07** 21:01:01.9±2.0, 79°.57N×3°.37E, ML2.9*
*DNK **07** 21:01:03.9±6.8, 79°.60N×3°.42E, h20km±517km*
*BER **07** 21:01:04.8±2.9, 79°.54N×3°.52E, h10km, mb(Pn)4.0, ML2.9(NAO), Confirmed Earthquake*
*FCIAR **07** 21:01:08.0, 79°.32N×3°.99E, h10km, station ZFI2 has station magnitude of 3.40 station OMEGA has station magnitude of 3.40*
*KOLA **07** 21:01:08.2, 79°.95N×7°.79E, h0km, ML2.5, Error ellipse: s-maj=72.6km s-min=28.4km az=50.0, Greenland sea*

ISC 07 21:01:02.1±0.6, 79°.64N±0°.05×3°.52E±0°.05, h16km, n51, σ2§26/69, mb4.4/5, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.73**	**110**		Pn	**Pn**	**21 01 32.6**	**+1.1**
KBS					Sn	**Sn**	**21 01 51.5**	**-1.7**
KBS	**Kingsbay**	**1.73**	**110**		Pn	**Pn**	**21 01 32.6**	**+1.1**
KBS					Sn	**Sn**	**21 01 51.9**	**-1.2**
KBS	**Kingsbay**	**1.73**	**110**		P	**Pn**	**21 01 32.2**	**+0.8**
KBS					S	**Sn**	**21 01 49.1**	**-4.0**
KBS	**Kingsbay**	**1.73**	**110**		Pn	**Pn**	**21 01 32.6**	**+1.1**
KBS					Sn	**Sn**	**21 01 51.9**	**-1.2**
KBS	**Kingsbay**	**1.73**	**110**	*i*	P	**Pn**	**21 01 32.2**	**+0.8**
BRBB	**Barentsburg B**	**2.59**	**122**		P	**Pn**	**21 01 44.5**	**+1.4**
BRBB					S	**Sn**	**21 02 14.6**	**+0.4**
BRBB	**Barentsburg B**	**2.59**	**122**	*e*		**Pn**	**21 01 44.6**	**+1.4**
BRBB				*e*	P	Pb	21 01 45.6	-2.4
BRBB				*e*	S	**Sn**	**21 02 12.7**	**-1.6**
BRBA	**Barentsburg A**	**2.61**	**122**	*e*	P	**Pn**	**21 01 46.0**	**+2.5**
BRBA				*e*	S	**Sn**	**21 02 14.4**	**-0.5**
BRBA				IAML			21 02 21.5	
	comp=Z,32nm,0.3s							
SPA0	**Spitsbergen Ar**	**2.88**	**114**		Pn	**Pn**	**21 01 49.3**	**+2.0**
	baz=294,slow=9.3							
SPA0					Sn	**Sn**	**21 02 20.4**	**-1.2**
	baz=317,slow=16							
SPA0	**Spitsbergen Ar**	**2.88**	**114**	⇑ *i*	P	**Pn**	**21 01 49.1**	**+1.9**
SPA0				*i*	S	**Sn**	**21 02 20.3**	**-1.2**
SPA0	**Spitsbergen Ar**	**2.88**	**114**		Pn	**Pn**	**21 01 49.3**	**+2.0**
	baz=294,slow=9.3							
SPA0				*e*	S	**Sn**	**21 02 20.2**	**-1.2**
SPA0				IAML			21 02 26.4	
	comp=Z,18nm,0.5s							
SPITS	**Spitsbergen Ar**	**2.88**	**114**		P	**Pn**	**21 01 49.0**	**+1.7**
SPITS					S	**Sn**	**21 02 20.6**	**-1.0**
SPB2	**Spitsbergen Ar**	**2.88**	**114**			**Pn**	**21 01 49.3**	**+2.0**
HSPB	**Hornsund (broa**	**3.60**	**131**		Pn	**Pn**	**21 01 58.7**	**+1.6**
HSPB					Sn	**Sn**	**21 02 37.2**	**-1.9**
HSPB	**Hornsund (broa**	**3.60**	**131**	*e*	P	**Pn**	**21 01 58.5**	**+1.5**
HSPB				*e*	S	**Sn**	**21 02 36.6**	**-2.5**
HSPB				IAML			21 02 42.3	
	comp=Z,20nm,0.3s							
NOR	**Nord**	**3.83**	**310**		Pn	**Pn**	**21 02 02.8**	**+2.5**
NOR	**Nord**	**3.83**	**310**	*e*	P	**Pn**	**21 02 02.5**	**+2.3**
NOR	**Nord**	**3.83**	**310**	*e*		**Pn**	**21 02 01.5**	**+1.3**
	baz=122,slow=18							
NOR				*i*	P	Pb	21 02 02.9	-6.2
HOPEN	**Hopen**	**5.42**	**114**		Pn	**Pn**	**21 02 23.7**	**+1.7**
HOPEN					Sn	**Sn**	**21 03 20.5**	**-3.4**
HOPEN	**Hopen**	**5.42**	**114**	*e*	P	**Pn**	**21 02 23.1**	**+1.1**
HOPEN				*e*	S	**Sn**	**21 03 19.8**	**-4.1**
HOPEN	**Hopen**	**5.42**	**114**	*e*	P	**Pn**	**21 02 23.8**	**+1.7**
HOPEN				*e*	S	**Sn**	**21 03 20.8**	**-3.1**
HOPEN				IAML			21 03 25.3	
	comp=Z,6.4nm,0.2s							
ZFI2	**Zemlya Franca-**	**7.44**	**60**	*e*	P	**Pn**	**21 02 51.8**	**+2.0**
ZFI2				*e*	S	**Sn**	**21 04 10.5**	**-3.2**
	comp=Z,9.9nm,1.3s							
OMEGA	**Omega**	**7.46**	**60**	*e*	P	**Pn**	**21 02 52.3**	**+2.3**
OMEGA				*e*	S	**Sn**	**21 04 10.8**	**-3.3**
	comp=Z,11nm,1.5s							
DBG	**Daneborg**	**7.50**	**237**		Pn	**Pn**	**21 02 51.0**	**+0.4**
DBG					Sn	**Sn**	**21 04 08.8**	**-6.2**
DBG	**Daneborg**	**7.50**	**237**		Pn	**Pn**	**21 02 51.0**	**+0.4**
DBG					Sn	**Sn**	**21 04 08.8**	**-6.2**
DBG	**Daneborg**	**7.50**	**237**	*i*	P	**Pn**	**21 02 51.2**	**+0.6**
JNW	**Jan Mayen West**	**9.14**	**205**	*e*	P	**Pn**	**21 03 15.0**	**+2.0**
NEEM	**North Greenlan**	**10.70**	**286**	*i*	P	**Pn**	**21 03 35.1**	**+0.5**
NEEM	**North Greenlan**	**10.70**	**286**	*i*	P	**Pn**	**21 03 35.1**	**+0.5**
SCO	**Scoresbysund**	**11.13**	**228**		Pn	**Pn**	**21 03 41.2**	**+0.9**
ARA0	**ARCESS Array S**	**11.57**	**139**		Pn	**Pn**	**21 03 48.6**	**+2.3**
	baz=348,slow=14							
ARA0					Sn	**Sn**	**21 05 49.7**	**-5.2**
	baz=360,slow=22							
ARA0	**ARCESS Array S**	**11.57**	**139**		Pn	**Pn**	**21 03 48.6**	**+2.3**
	baz=348,slow=14							
ARA0					Sn	**Sn**	**21 05 49.7**	**-5.2**
	baz=360,slow=22							
SUMG	**Summit**	**11.95**	**257**		Pn	**Pn**	**21 03 51.6**	**-0.2**
SUMG	**Summit**	**11.95**	**257**	*i*	P	**Pn**	**21 03 51.3**	**-0.5**
SUMG	**Summit**	**11.95**	**257**	*i*	P	**Pn**	**21 03 51.3**	**-0.5**
KULLO	**Kullorsuaq**	**13.76**	**281**	*i*	P	Pn	21 04 14.5	-1.6
KULLO	**Kullorsuaq**	**13.76**	**281**	*i*	P	Pn	21 04 14.5	-1.6
EUNU	**Eureka**	**14.41**	**316**		Pn	**Pn**	**21 04 24.6**	**-0.4**
UPNV	**Upernavik**	**14.96**	**276**	*i*	P	Pn	21 04 29.5	-3.0
UPNV	**Upernavik**	**14.96**	**276**	*i*	P	Pn	21 04 29.5	-3.0
NC303	**NORSAR Array S**	**18.66**	**168**			**P**	**21 05 21.3**	**+2.5**
NC303					IAmb	IAmb	21 05 56.5	
	comp=Z,14nm,1.2s							
NC405	**NORSAR Array S**	**18.78**	**168**		Pn	**Pn**	**21 05 23.5**	**+2.7**
NC405					IAmb	IAmb	21 05 41.6	
	comp=Z,26nm,1.4s							
SFJD	**Kangerlussuaq**	**18.91**	**259**		P	**P**	**21 05 20.8**	**-0.8**
AB31	**Akbulak array**	**36.04**	**112**		P	**P**	**21 08 02.8**	**+0.6**
ABKAR	**Akbulak array**	**36.04**	**112**		P	**P**	**21 08 03.3**	**+1.2**
K20K	**Telida**	**36.64**	**343**		P	**P**	**21 08 08.3**	**+1.2**
K20K					IAmb	IAmb	21 08 42.1	
	comp=Z,4.0nm,1.2s							
J18K	**Innoko River**	**36.66**	**345**		P	**P**	**21 08 06.3**	**-1.0**
J18K					IAmb	IAmb	21 08 16.3	
	comp=Z,7.8nm,1.5s							
M24K	**Tolsona, Glenn**	**37.40**	**337**		P	**P**	**21 08 13.0**	**-0.6**
SKT	**Skwentna**	**37.87**	**341**		P	**P**	**21 08 16.6**	**-1.0**
SKT					IAmb	IAmb	21 08 44.3	
	comp=Z,11nm,1.5s							
KLU	**Klutina**	**37.99**	**337**		P	**P**	**21 08 17.9**	**-0.8**
KLU					IAmb	IAmb	21 08 36.8	
	comp=Z,12nm,1.4s							
Q16A	**Castle Valley**	**56.20**	**301**		P	**P**	**21 10 40.3**	**-0.7**
Q16A					IAmb	IAmb	21 10 53.5	
	comp=Z,2.9nm,0.7s							

*KRSC **07** 21:24:35.7±1.2, 50°.15N×157°.16E, h24km±27km, Ml4.7, Felt [III] at Severo-Kurilsk; [II-III] at cape Vasilyeva.*
*MOS **07** 21:24:38.0±0.9, 50°.33N×156°.31E, h92km, mb4.2/12, Error ellipse: s-maj=9.9km s-min=4.6km az=75.4*
MOS Felt (III) at Severo-Kuril'sk.
*NEIC **07** 21:24:39.6±0.8, 50°.4N±0°.1×156°.3E±0°.2, h87km±6km, mb4.4/30, Error ellipse: s-maj=20.5km s-min=11.1km az=137.0*
*IDC **07** 21:24:40.8±2.0, 50°.43N×156°.20E, h103km±17km, mb3.7/27, mbtmp4.0/33, MS2.8/3, Error ellipse: s-maj=15.7km s-min=9.9km az=154.0*

ISC 07 21:24:37.8±0.9, 50°.24N±0°.06×156°.54E±0°.06, h81km±7km, n148, σ1§40/159, mb4.2/48, 8C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.52**	**329**		PN	**Pn**	**21 24 51.7**	**0.0**
SKR					S	**Sn**	**21 25 02.4**	**+0.3**
SKR	**Severo-Kuril's**	**0.52**	**329**	*e*	P	**Pn**	**21 24 51.7**	**0.0**
SKR				*e*	S	**Sn**	**21 25 02.4**	**+0.3**
PAU	**Pauzhetka**	**1.24**	**8**		PN	**Pn**	**21 25 00.3**	**+0.5**
PAU					S	**Sn**	**21 25 17.7**	**+1.4**
PAU	**Pauzhetka**	**1.24**	**8**	*e*	P	**Pn**	**21 25 00.4**	**+0.5**
PAU				*e*	S	**Sn**	**21 25 17.7**	**+1.4**
GRL	**Gorelyy**	**2.51**	**22**		PN	**Pn**	**21 25 17.7**	**+1.2**
GRL					S	**Sn**	**21 25 47.8**	**+1.5**
GRL	**Gorelyy**	**2.51**	**22**	*e*	P	**Pn**	**21 25 17.8**	**+1.2**
GRL				*e*	S	**Sn**	**21 25 47.8**	**+1.5**
RUS	**Russkaya**	**2.52**	**29**		PN	**Pn**	**21 25 16.3**	**-0.3**
RUS					S	**Sn**	**21 25 45.2**	**-1.2**
RUS	**Russkaya**	**2.52**	**29**	*e*	P	**Pn**	**21 25 16.4**	**-0.3**
RUS				*e*	S	**Sn**	**21 25 45.2**	**-1.2**
APC	**Apacha**	**2.72**	**8**		PN	**Pn**	**21 25 20.6**	**+1.4**
APC	**Apacha**	**2.72**	**8**	*e*	P	**Pn**	**21 25 20.7**	**+1.4**
KRMR	**Karymshinskiy**	**2.78**	**20**		PN	**Pn**	**21 25 21.5**	**+1.4**
KRMR	**Karymshinskiy**	**2.78**	**20**	*e*	P	**Pn**	**21 25 21.5**	**+1.4**
PEA0B	**Petropavlovsk-**	**2.96**	**14**		Pn	**Pn**	**21 25 22.8**	**+0.2**
PEA0B	**Petropavlovsk-**	**2.96**	**14**	*i*	PN	**Pn**	**21 25 24.5**	**+1.9**
PETK	**Petropavlovsk-**	**2.96**	**14**		Pn	**Pn**	**21 25 23.9**	**+1.4**
PETK	**Petropavlovsk-**	**2.96**	**14**	*e*	P	**Pn**	**21 25 24.3**	**+1.7**
	22nm,0.4s,baz=186,slow=12,SNR=66							
PETK					S	Sn	21 26 11.8	+15
	15nm,0.4s,baz=294,slow=19,SNR=1.3							
PET	**Petropavlovsk**	**3.08**	**24**			**Pn**	**21 25 24.8**	**+0.6**
PET	**Petropavlovsk**	**3.08**	**24**	*e*	PN	**Pn**	**21 25 24.9**	**+0.6**
PET				*e*	S	**Sn**	**21 26 01.7**	**+1.7**
PET					pmax	pmax		
	comp=Z,68nm,0.5s							
PET					smax	smax		
	comp=E,207nm,0.5s							
PET					smax	smax		
	comp=N,497nm,0.5s							
PET	**Petropavlovsk**	**3.08**	**24**	*e*	P	**Pn**	**21 25 24.8**	**+0.6**
PET				*e*	S	**Sn**	**21 26 01.4**	**+1.4**
DALK	**Dalny**	**3.12**	**25**		PN	**Pn**	**21 25 25.5**	**+0.9**
DALK					S	**Sn**	**21 26 01.7**	**+0.9**
DALK	**Dalny**	**3.12**	**25**	*e*	P	**Pn**	**21 25 25.5**	**+0.9**
DALK				*e*	S	**Sn**	**21 26 01.8**	**+0.9**
UGLR	**Uglovaya**	**3.30**	**25**		PN	**Pn**	**21 25 28.7**	**+1.6**
UGLR	**Uglovaya**	**3.30**	**25**	*e*	P	**Pn**	**21 25 28.8**	**+1.6**
KOK	**Koryaka**	**3.32**	**22**		PN	**Pn**	**21 25 29.7**	**+2.2**
KOK	**Koryaka**	**3.32**	**22**	*e*	P	**Pn**	**21 25 29.8**	**+2.2**
AVH	**Avacha**	**3.32**	**23**		PN	**Pn**	**21 25 29.6**	**+2.1**
AVH	**Avacha**	**3.32**	**23**	*e*	P	**Pn**	**21 25 29.7**	**+2.1**
KRX	**Arik**	**3.39**	**22**		PN	**Pn**	**21 25 30.4**	**+2.0**
KRX	**Arik**	**3.39**	**22**	*e*	P	**Pn**	**21 25 30.5**	**+2.0**
GNL	**Ganaly**	**3.57**	**14**		PN	**Pn**	**21 25 33.3**	**+2.4**
GNL	**Ganaly**	**3.57**	**14**	*e*	P	**Pn**	**21 25 33.3**	**+2.4**
SPN	**Mys Shipunski**	**3.59**	**36**		PN	**Pn**	**21 25 31.0**	**-0.1**
SPN					S	**Sn**	**21 26 11.3**	**-1.0**
SPN	**Mys Shipunski**	**3.59**	**36**	*e*	P	**Pn**	**21 25 31.0**	**-0.1**
SPN				*e*	S	**Sn**	**21 26 11.3**	**-1.0**
KUR	**Kuril'sk**	**7.70**	**233**	*e*	PN	**Pn**	**21 26 26.6**	**-0.4**
KUR				*e*	S	**Sn**	**21 27 52.0**	**-0.6**
TYV	**Tymovskoe**	**8.86**	**279**	*e*	PN	**Pn**	**21 26 46.3**	**+3.4**
TYV				*e*	S	**Sn**	**21 28 23.0**	**+2.0**
TYV					pmax	pmax		
	comp=Z,8.0nm,0.9s							
TYV					pmax	pmax		
	comp=Z,200nm,2.9s							
TYV					smax	smax		
	comp=N,6.0nm,1.0s							
TYV					smax	smax		
	comp=E,5.0nm,1.0s							
TYV					smax	smax		
	comp=E,100nm,3.2s							
SHO	**Shikotan**	**9.19**	**230**	*e*	PN	Pn	21 26 43.9	-3.5
SHO					pmax	pmax		
	comp=Z,18nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**9.56**	**234**		PN	**Pn**	**21 26 52.4**	**0.0**
YSS	**Yuzhno-Sakhali**	**9.71**	**255**	*e*	PN	**Pn**	**21 26 56.2**	**+1.8**
YSS				*e*	S	**Sn**	**21 28 46.9**	**+5.3**
YSS					pmax	pmax		
	comp=Z,90nm,0.6s							
YSS					MLR	MLR		
	comp=Z,200nm,13.0s							
RUSJ	**Misakicho**	**9.83**	**236**	*e*	PN	**Pn**	**21 26 58.1**	**+1.9**
MA2	**Magadan**	**9.92**	**343**		P	**Pn**	**21 26 57.8**	**+0.5**
	comp=Z,4.1nm,0.3s,baz=144,slow=15,SNR=4.2							
MA2					LR	LR	21 30 59.7	
	comp=Z,29nm,20.1s,baz=126,slow=39							
NMR	**Nemuro--Hokkai**	**10.10**	**231**	*e*	PN	Pn	21 26 55.5	-4.3
SHEM	**Shemya Is, Ala**	**11.23**	**70**		P	**

KURK	Kurchatov	47.37	302	P	P	21 33 02.9 -0.5
KURK						21 34 32.5
MK31	Makanchi Array	47.41	296	P	P	21 33 02.9 -0.9
MK31	Makanchi Array	47.41	296	ceP	P	21 33 02.4 -1.3
MKAR	Makanchi Array	47.41	296	P	P	21 33 02.9 -0.8
	comp=Z,1.5nm,0.4s,baz=52,slow=6.3,SNR=49					
MKAR				PcP	PcP	21 34 32.3 -0.8
	comp=Z,0.2nm,0.4s,baz=58,slow=2.9,SNR=1.6					
	comp=Z,1.5nm,0.4s					
KURBB	Kurchatov Arra	47.47	302	P	P	21 33 02.9 -1.3
	comp=Z,1.5nm,0.6s,baz=63,slow=7.9,SNR=24					
KURBB				PcP	PcP	21 34 32.5 -0.6
	comp=Z,0.6nm,0.6s,baz=58,slow=3.3,SNR=6.1					
	comp=Z,1.5nm,0.6s					
MAKZ	Makanchi	47.58	296	P	P	21 33 04.0 -1.1
MAKZ				IAmb	IAmb	21 33 05.3
	comp=Z,1.9nm,0.6s					
MAKZ	Makanchi	47.58	296	P	P	21 33 04.0 -1.1
MAKZ				pmax	pmax	
	comp=Z,2.0nm,0.6s					
PZH	PanZhiHua	47.78	261	P	P	21 33 07.3 +0.3
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,80nm,5.4s					
SPITS	Spitsbergen Ar	49.57	350	P	P	21 33 19.3 -0.6
	comp=Z,8.7nm,1.1s,baz=54,slow=7.3,SNR=7.0					
	comp=Z,8.7nm,1.1s					
BVAR	Borovoye Array	50.43	309	P	P	21 33 25.7 -1.1
	comp=Z,2.9nm,0.5s,baz=59,slow=8.5,SNR=36					
BVAR				PcP	PcP	21 34 43.2 -0.7
	comp=Z,0.5nm,0.4s,baz=62,slow=3.6,SNR=2.9					
	comp=Z,2.9nm,0.5s					
BRVK	Borovoye	50.47	309	P	P	21 33 25.8 -1.2
BRVK				IAmb	IAmb	21 33 27.1
	comp=Z,2.9nm,0.7s					
BRVK	Borovoye	50.47	309	ceP	P	21 33 25.6 -1.4
BRVK				pmax	pmax	
	comp=Z,11nm,2.5s					
KDJ	Kajisay	53.09	294	P	P	21 33 46.9 0.0
KDJ				IAmb	IAmb	21 33 48.1
	comp=Z,2.7nm,0.8s					
KDJ	Kajisay	53.09	294	P	P	21 33 46.9 0.0
KDJ				pmax	pmax	
	comp=Z,3.0nm,0.8s					
CRAI	Chiangrai	53.18	257	P	P	21 33 47.7 +0.1
CRAI				IAmb	IAmb	21 33 49.5
	comp=Z,3.5nm,0.7s					
BOOM	Boomskoye usch	53.59	295	P	P	21 33 50.4 -0.2
BOOM	Boomskoye usch	53.59	295	P	P	21 33 50.4 -0.2
BOOM				pmax	pmax	
	comp=Z,2.0nm,0.8s					
AAK	Ala-Archa	54.34	296	P	P	21 33 55.1 -0.9
AAK	Ala-Archa	54.34	296	LR	LR	21 57 47.7
	comp=Z,30nm,19.4s,baz=56,slow=37					
AAK	Ala-Archa	54.34	296	ceP	P	21 33 55.1 -0.9
AAK				pmax	pmax	
	comp=Z,1.0nm,0.6s					
CHTO	Chiang Mai	55.13	257	P	P	21 34 01.9 +0.2
CHTO	Chiang Mai	55.13	257	P	P	21 34 01.9 +0.2
CHTO				pmax	pmax	
	comp=Z,7.0nm,0.8s					
ARCES	ARCESS Array B	55.29	341	P	P	21 34 00.0 -2.2
	comp=Z,2.7nm,0.9s,baz=35,slow=8.4,SNR=6.4					
	comp=Z,2.7nm,0.9s					
ARCES	ARCESS Array B	55.29	341	eP	P	21 33 58.8 -3.5
ARCES				pmax	pmax	
	comp=Z,2.0nm,0.9s					
CMAR	Chiang Mai Arr	55.40	257	P	P	21 34 05.1 +1.4
CMAR	Chiang Mai Arr	55.40	257	P	P	21 34 04.9 +1.2
	comp=Z,3.5nm,0.6s,baz=33,slow=7.5,SNR=27					
	comp=Z,3.5nm,0.6s					
CMAR	Chiang Mai Arr	55.40	257	eP	P	21 34 05.3 +1.6
CMAR				pmax	pmax	
	comp=Z,4.0nm,0.6s					
PLID	Pearl Lake	55.86	59	P	P	21 34 08.7 +1.8
ABKAR	Akbulak array	57.94	310	P	P	21 34 20.4 -0.9
ABKAR				IAmb	IAmb	21 34 20.7
	comp=Z,1.3nm,0.6s					
NVAR	Mina Array Bea	58.86	66	P	P	21 34 29.6 +1.4
	comp=Z,1.1nm,0.5s,baz=298,slow=7.9,SNR=8.3					
	comp=Z,1.1nm,0.5s					
GAR	Garm	59.10	295	P	P	21 34 28.7 -1.0
SPR3	Spring Creek 3	60.79	63	P	P	21 34 43.3 +1.8
SPR3				IAmb	IAmb	21 34 44.6
	comp=Z,2.1nm,0.7s					
PD31	Pinedale Array	60.89	57	P	P	21 34 42.6 +0.5
PD31				IAmb	IAmb	21 34 45.0
	comp=Z,3.2nm,1.0s					
PDAR	Pinedale Array	60.89	57	P	P	21 34 43.6 +1.6
	comp=Z,2.0nm,0.8s,baz=323,slow=2.7,SNR=19					
	comp=Z,2.0nm,0.8s					
FINES	FINESS Array B	61.83	335	P	P	21 34 45.6 -2.1
	comp=Z,0.6nm,0.6s,baz=42,slow=6.4,SNR=6.2					
	comp=Z,0.6nm,0.6s					
FINES	FINESS Array B	61.83	335	eP	P	21 34 46.3 -1.4
FINES				pmax	pmax	
	comp=Z,1.0nm,0.7s					
LCMT	Little Creek M	62.77	64	P	P	21 34 56.1 +1.5
LCMT				IAmb	IAmb	21 34 57.4
	comp=Z,2.4nm,0.8s					
SRU	San Rafael Swe	62.87	61	P	P	21 34 56.8 +1.5
SRU				IAmb	IAmb	21 34 57.7
	comp=Z,3.8nm,0.9s					
SRU	San Rafael Swe	62.87	61	P	P	21 34 56.8 +1.5
SRU				pmax	pmax	
	comp=Z,4.0nm,0.9s					
HMU	Henry Mountain	63.56	62	P	P	21 35 01.2 +1.2
HMU				IAmb	IAmb	21 35 02.3
	comp=Z,3.8nm,0.8s					
NOA	NORSAR Array B	65.63	342	P	P	21 35 10.9 -1.9
	comp=Z,0.6nm,0.7s,baz=10.0,slow=7.1,SNR=1.6					
	comp=Z,0.6nm,0.7s					
S22A	4UR Ranch, Cre	65.89	60	P	P	21 35 17.5 +2.4
HFS	Hagfors	65.95	341	P	P	21 35 12.7 -2.1
	comp=Z,0.5nm,0.4s,baz=28,slow=6.9,SNR=6.4					
	comp=Z,0.5nm,0.4s					
AKASG	Malin Array Be	69.87	327	P	P	21 35 36.9 -2.6
	comp=Z,0.7nm,0.4s,baz=33,slow=6.7,SNR=4.5					
	comp=Z,0.7nm,0.4s					
AKASG	Malin Array Be	69.87	327	eP	P	21 35 40.2 +0.7
KBZ	Khabaz	70.04	315	P	P	21 35 38.8 -1.9
	comp=Z,1.4nm,0.8s,baz=179,slow=4.4,SNR=5.8					
	comp=Z,1.4nm,0.8s					
KBZ	Khabaz	70.04	315	ceP	P	21 35 41.1 +0.5
KBZ				pmax	pmax	
	comp=Z,2.0nm,0.9s					
WB2	Warramunga Arr	72.58	202	P	P	21 35 57.9 +1.8
WRA	Warramunga Ar	72.58	202	P	P	21 35 56.3 +0.2
	comp=Z,0.5nm,0.6s,baz=14,slow=6.1,SNR=3.1					
	comp=Z,0.5nm,0.6s					
J47A	Sunmer	72.64	42	P	P	21 35 56.3 -0.1
EKA	Eskdalemuir Ar	73.44	348	P	P	21 36 00.2 -0.6
	comp=Z,0.3nm,0.3s,baz=20,slow=5.5,SNR=5.4					
	comp=Z,0.3nm,0.3s					
TX31	Lajitas Ar. Si	73.84	64	P	P	21 36 04.9 +1.1
TX31				IAmb	IAmb	21 36 05.5
	comp=Z,2.6nm,0.7s					
TXAR	Lajitas Array	73.84	64	P	P	21 36 05.1 +1.3
	comp=Z,2.5nm,0.6s,baz=297,slow=4.7,SNR=32					
	comp=Z,2.5nm,0.6s					
LANS	Liptovska Anna	74.36	332	eP	P	21 36 05.5 -0.9
LANS	Liptovska Anna	74.36	332	eP	P	21 36 05.5 -0.9
VYHS	Vyhne	75.14	332	eP	P	21 36 11.2 +0.3
VYHS	Vyhne	75.14	332	eP	P	21 36 11.2 +0.3
GERES	GERESS Array B	76.26	336	P	P	21 36 16.1 -1.3
	comp=Z,0.3nm,0.4s,baz=31,slow=6.6,SNR=4.0					
	comp=Z,0.3nm,0.4s					
GERES	GERESS Array B	76.26	336	eP	P	21 36 17.3 -0.1
ASAR	Alice Springs	76.27	201	P	P	21 36 17.9 +0.4
	comp=Z,0.3nm,0.5s,baz=13,slow=5.4,SNR=2.4					
	comp=Z,0.3nm,0.5s					
BRTR	Keskin Array B	77.35	318	P	P	21 36 21.1 -2.6
	comp=Z,0.3nm,0.5s,baz=4.1,slow=10,SNR=2.7					
	comp=Z,0.3nm,0.5s					
UOSS	Minazif	77.47	294	P	P	21 36 24.0 -0.4
MMAI	Mount Meron Ar	82.14	313	P	P	21 36 50.0 +0.3
	comp=Z,3.0nm,0.5s,baz=34,slow=5.2,SNR=17					
	comp=Z,3.0nm,0.5s					
RAYN	Ar Rayn	84.68	301	P	P	21 37 02.4 -0.4
RAYN				IAmb	IAmb	21 37 03.4
	comp=Z,5.6nm,0.8s					
RAYN	Ar Rayn	84.68	301	P	P	21 37 02.4 -0.4
RAYN				pmax	pmax	
	comp=Z,6.0nm,0.8s					
ESDC	Sonseca Array	88.83	345	P	P	21 37 22.8 +0.1
	comp=Z,1.0nm,0.9s,baz=348,slow=4.2,SNR=4.1					
	comp=Z,1.0nm,0.9s					
H03N2	Juan Fernandez	136.45	89	T	T	00 16 01.6
	baz=312,slow=77,SNR=37					
H03N1	Juan Fernandez	136.47	89	T	T	00 16 02.9
	baz=312,slow=77,SNR=54					
H03N3	Juan Fernandez	136.47	89	T	T	00 15 59.0
	baz=312,slow=77,SNR=48					
PLCA	Paso Flores	146.16	92	PKPbc	PKPdf	21 44 08.2 +1.2
	comp=Z,1.6nm,0.7s,baz=282,slow=3.8,SNR=12					

*IDC **07** 21:29:05.0±1.9, 1.98N×126.42E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=190.8km s-min=21.6km az=66.0*
*DJA **07** 21:29:10.1±1.4, 2.N±4.×12.7E±., h13km±13km, M3.4/6, MLv3.4/6*
ISC 07 21:29:11.4±1.2, 2.0N±0.1×126.6E±0.2, h47km, n7, σ0.70/7, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.40	148	P	Pn	21 29 35.0	+0.5
SGSI	Sangihe	2.03	327	P	Pn	21 29 43.9	+0.7
SANI	Sanana	4.04	189	P	Pn	21 30 11.1	+0.3
WRA	Warramunga Arr	23.05	161	P	P	21 34 12.8	-0.2
	0.8nm,0.6s,baz=339,slow=10,SNR=8.7						
	0.8nm,0.6s						
ASAR	Alice Springs	26.44	165	P	P	21 34 44.6	+0.5
	0.2nm,0.4s,baz=339,slow=10,SNR=5.9						
	0.2nm,0.4s						
MKAR	Makanchi Array	58.94	326	P	P	21 39 05.6	-0.4
	0.2nm,0.4s,baz=112,slow=8.2,SNR=6.7						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	63.16	328	P	P	21 39 33.6	-0.9
	0.3nm,0.5s,baz=127,slow=6.5,SNR=5.9						
	0.3nm,0.5s						

*IDC **07** 21:33:01.6±1.8, 62.04N×152.05W, h101km±28km, mb3.3/5, mbtmp3.5/8, Error ellipse: s-maj=40.9km s-min=9.9km az=111.0*
*NEIC **07** 21:33:04.0±0.9, 62.15N±0.03×152.14W±0.08, h107km±4km, Error ellipse: s-maj=5.6km s-min=3.9km az=124.0*
*AEIC **07** 21:33:04.4±1.0, 62.13N±0.04×152.1W±0.1, h104km±5km, ML2.6, ML2.9/146(NEIC), Error ellipse: s-maj=6.9km s-min=5.1km az=84.0*
ISC 07 21:33:03.3±0.8, 62.11N±0.03×152.10W±0.04, h117km, n89, σ0.84/95, mb3.7/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	Skwentna	0.30	116		Pn	21 33 19.7	-0.2
SKT				Sn	Sn	21 33 31.1	-1.2
M20K	Styx River	0.54	245		Pn	21 33 20.9	-0.3
M20K				Sn	Sn	21 33 33.0	-1.9
M20K				IAML		21 33 33.9	
	comp=E,256nm,0.7s						
STLK	Strandline Lak	0.63	168		Pn	21 33 21.8	0.0
STLK				Sn	Sn	21 33 35.2	-0.6
PPLA	Purkeypile	0.79	357		Pn	21 33 22.9	-0.3
PPLA				Sn	Sn	21 33 36.8	-1.5
PPLA				IAML		21 33 37.6	
	comp=E,133nm,0.5s						
CUT	Chulitna	0.90	70		Pn	21 33 24.1	+0.1
SUA	Susitna One	0.91	135		Pn	21 33 24.8	+0.5
SUA				IAML		21 33 43.7	
	comp=E,162nm,0.5s						
SUA				IAML		21 33 44.1	
	comp=N,139nm,0.4s						
M22K	Willow	1.00	110		Pn	21 33 25.2	+0.3
M19K	Big River Lodg	1.10	260		Pn	21 33 26.1	0.0
L19K	White Mountain	1.30	274		Pn	21 33 28.2	0.0
CAST	Castle Rocks	1.31	0		Pn	21 33 28.0	-0.3
FIS	Fire Island	1.32	137		Pn	21 33 30.3	+1.9
PMR	Palmer	1.50	109	Pn	Pn	21 33 30.3	-0.2
PMR				IAML		21 33 52.5	
	comp=N,139nm,0.2s						
PMR				IAML		21 33 54.9	
	comp=E,99nm,0.3s						
RC01	Rabbit Creek A	1.52	131	Pn	Pn	21 33 31.2	+0.4
RC01				IAML		21 33 57.1	
	comp=E,149nm,0.6s						
GHO	Glory Hole Cre	1.54	101		Pn	21 33 31.3	+0.3
GHO				IAML		21 33 53.8	
	comp=N,222nm,0.3s						
KTH	Kantishna Hill	1.54	20		Pn	21 33 30.6	-0.4
K20K	Telida	1.54	325		Pn	21 33 30.7	-0.4
K20K				IAML		21 33 50.7	
	comp=N,78nm,0.7s						
K20K				IAML		21 33 50.7	
	comp=E,120nm,0.7s						
TRF	Thorofare Moun	1.58	31	Pn	Pn	21 33 31.9	+0.3
TRF				IAML		21 33 55.9	
	comp=N,68nm,0.4s						
TRF				IAML		21 33 56.3	
	comp=E,81nm,0.6s						
N19K	Bonanza Creek	1.74	222	Pn	Pn	21 33 34.0	+0.6
SML	Sawmill	1.80	98		Pn	21 33 34.4	+0.2
SML				IAML		21 34 04.8	
	comp=N,134nm,0.8s						
SLKM	Skilak Lake	1.85	150	Pn	Pn	21 33 35.9	+1.1
SLKM				IAML		21 34 04.8	
	comp=E,79nm,0.2s						
SLKM				IAML		21 34 05.1	
	comp=N,104nm,0.3s						
KNK	Knik Glacier	1.87	110		Pn	21 33 35.0	+0.1
RND	Reindeer	1.98	48	Pn	Pn	21 33 36.5	+0.1
RND				IAML		21 34 02.1	
	comp=N,45nm,0.6s						
RND				IAML		21 34 05.2	
	comp=E,52nm,0.5s						
TTA	Tatalina	1.99	296		Pn	21 33 36.3	-0.2
O22K	Cooper Landing	2.00	144		Pn	21 33 37.6	+1.1
BPAW	Bear Paw Mtn.	2.06	14	Pn	Pn	21 33 36.9	-0.4
BPAW				IAML		21 34 04.5	
	comp=E,55nm,0.6s						
BPAW				IAML		21 34 04.9	
	comp=N,50nm,0.7s						
L18K	Granite Mounta	2.16	275		Pn	21 33 38.8	+0.3
MCK	McKinley	2.18	40	Pn	Pn	21 33 39.0	+0.2
ILSW	Iliamna Southw	2.20	194		Pn	21 33 40.3	+1.0
PWL	Port Wells	2.20	123	Pn	Pn	21 33 39.0	0.0
SCM	Sheep Creek Mo	2.27	95		Pn	21 33 40.1	+0.1
J20K	Nowinta River	2.27	337	Pn	Pn	21 33 39.8	-0.2
J20K				IAML		21 34 06.5	
	comp=E,49nm,0.6s						
J20K				IAML		21 34 08.4	
	comp=N,33nm,0.8s						
N18K	Kilae Creek	2.32	233	Pn	Pn	21 33 41.2	+0.5
SEW	Seward	2.39	146		Pn	21 33 42.3	+0.8
SEW				IAML		21 34 19.9	
	comp=N,61nm,1.0s						
SEW				IAML		21 34 21.4	
	comp=E,102nm,0.5s						
BRLK	Bradley Lake	2.43	165	Pn	Pn	21 33 42.5	+0.5
J19K	Poorman	2.48	321	Pn	Pn	21 33 42.6	0.0
J18K	Innoko River	2.52	305	Pn	Pn	21 33 43.3	+0.1
P19K	Oil Pt	2.53	193	Pn	Pn	21 33 45.2	+1.9
P19K				IAML		21 34 18.9	
	comp=N,92nm,0.5s						
P19K				IAML		21 34 21.0	
	comp=E,95nm,0.7s						
CNPM	China Poot	2.63	170	Pn	Pn	21 33 44.8	+0.2
CNPM				IAML		21 34 24.8	
	comp=E,50nm,0.4s						
CNPM				IAML		21 34 27.0	
	comp=N,54nm,0.4s						
M17K	Holitna River	2.64	257	Pn	Pn	21 33 44.9	+0.2
M17K				IAML		21 34 36.2	
	comp=E,28nm,0.8s						
GLI	Glacier Island	2.70	115		Pn	21 33 44.6	-0.9
M24K	Tolsona, Glenn	2.78	88		Pn	21 33 47.0	+0.4
NEA2	Nenana	2.84	27		Pn	21 33 47.0	-0.3
N17K	Nushagak Hills	2.93	239		Pn	21 33 49.2	+0.8
K17K	Iditarod	2.95	285	Pn	Pn	21 33 49.3	+0.5
K17K				IAML		21 34 24.6	
	comp=N,16nm,1.6s						
K17K				IAML		21 34 27.1	
	comp=E,18nm,2.8s						
WRH	Wood River Hil	2.98	36		Pn	21 33 48.9	-0.3
WRH				IAML		21 34 25.6	
	comp=E,17nm,3.5s						
KLU	Klutina	3.00	99		Pn	21 33 49.2	-0.2
KLU				IAML		21 34 29.3	
	comp=E,49nm,0.3s						
FID	Port Fidalgo	3.02	114		Pn	21 33 48.8	-0.9
I21K	Tanana	3.08	1		Pn	21 33 50.4	-0.1
I21K				IAML		21 34 26.9	
	comp=N,14nm,0.7s						
I21K				IAML		21 34 27.0	
	comp=E,19nm,1.1s						
DIV	Divide	3.18	105	Pn	Pn	21 33 51.3	-0.5
DIV				IAML		21 34 29.7	
	comp=E,36nm,0.4s						
PAX	Paxson	3.19	71		Pn	21 33 52.0	+0.1
PAX				IAML		21 34 31.9	
	comp=N,33nm,0.5s						
PAX				IAML		21 34 41.4	
	comp=E,25nm,0.5s						
CCB	Clear Creek Bu	3.19	35		Pn	21 33 51.7	-0.2
CCB				IAML		21 34 30.0	
	comp=E,15nm,0.8s						
HDA	Harding Lake	3.27	43		Pn	21 33 52.9	-0.1
HDA				IAML		21 34 34.2	
	comp=E,28nm,0.5s						
HDA				IAML		21 34 34.9	
	comp=N,25nm,0.4s						
I23K	Minto, Yukon-K	3.28	21		Pn	21 33 53.3	+0.2
I23K				IAML		21 34 31.1	
	comp=E,14nm,2.9s						
K24K	Donnelly Dome	3.35	57		Pn	21 33 56.1	+2.1
L16K	Owhat River	3.51	267	Pn	Pn	21 33 56.6	+0.4
L16K				IAML		21 34 37.2	
	comp=E,12nm,4.6s						
L16K				IAML		21 36 18.7	
	comp=N,12nm,4.3s						
IL31		3.55	39		Pn	21 33 56.8	+0.2
ILAR	Eielson Array	3.55	39	Pn	Pn	21 33 56.4	-0.3
ILAR	Eielson Array	3.55	39	P	Pn	21 33 56.6	0.0
	comp=N,3.3nm,0.3s,baz=226,slow=14,SNR=50						
ILAR				S	Sn	21 34 36.6	-1.3
	comp=N,3.4nm,0.7s,baz=220,slow=20,SNR=14						
H21K	Melozitna Rive	3.57	355	Pn	Pn	21 33 57.2	+0.2
H21K				IAML		21 34 38.6	
	comp=N,12nm,0.6s						
H21K				IAML		21 34 54.3	
	comp=E,11nm,4.4s						
RIDG	Independent Ri	3.69	61	Pn	Pn	21 33 59.4	+0.7
RIDG				IAML		21 34 55.5	
	comp=N,28nm,0.6s						
H23K	Yukon River	3.89	16		Pn	21 34 01.4	+0.1
H23K				IAML		21 34 45.0	
	comp=N,10nm,3.4s						
H23K				IAML		21 34 46.9	
	comp=E,23nm,1.1s						
J25K	Salcha River,	3.93	47	Pn	Pn	21 34 02.6	+0.8
J25K				IAML		21 34 50.9	
	comp=E,21nm,0.6s						
J25K				IAML		21 34 52.5	
	comp=N,12nm,0.5s						
SCRK	Sand Creek	4.14	60	Pn	Pn	21 34 04.4	-0.2
SCRK				IAML		21 34 51.4	
	comp=E,14nm,0.4s						
SCRK				IAML		21 34 51.4	
	comp=N,22nm,0.3s						
L26K	Log Cabin Wild	4.15	73		Pn	21 34 05.1	+0.4
H24K	Noodor Dome	4.17	25	Pn	Pn	21 34 05.7	+0.6
H24K				IAML		21 35 22.8	
	comp=E,8.3nm,4.6s						
H24K				IAML		21 35 25.7	
	comp=N,8.7nm,4.6s						
M26K	Nabesna, AK	4.26	82	Pn	Pn	21 34 06.3	+0.1
M26K				IAML		21 35 15.6	
	comp=N,18nm,0.6s						
M26K				IAML		21 35 19.1	
	comp=E,13nm,0.8s						
KDAK	Kodiak Island	4.35	183	P	Pn	21 34 06.0	-1.4
	comp=E,13nm,1.2s,baz=232,slow=2.7,SNR=11						
KDAK				S	Sn	21 34 53.1	-4.0
	comp=E,4.1nm,0.4s,baz=72,slow=20,SNR=8.0						
G21K	Allakaket	4.46	353		Pn	21 34 08.9	0.0
G21K				IAML		21 35 18.2	
	comp=N,7.7nm,4.6s						
G21K				IAML		21 35 33.5	
	comp=E,8.6nm,4.9s						
PRP	Porcupine Dome	4.49	38	Pn	Pn	21 34 10.0	+0.7
PRP				IAML		21 35 18.8	
	comp=E,6.7nm,2.6s						
PRP				IAML		21 36 02.6	
	comp=N,7.5nm,4.8s						
J26L	Joseph Creek	4.53	54	Pn	Pn	21 34 10.5	+0.6
J26L				IAML		21 35 01.5	
	comp=E,20nm,0.5s						
J26L				IAML		21 35 01.8	
	comp=N,20nm,0.4s						
G23K	Bananza Creek	4.70	10	Pn	Pn	21 34 12.5	+0.4
G23K				IAML		21 35 16.9	
	comp=E,6.8nm,1.2s						
G23K				IAML		21 36 25.3	
	comp=N,6.6nm,4.4s						
K27K	Chicken	4.94	63	Pn	Pn	21 34 15.6	+0.3
K27K				IAML		21 34 58.8	
	comp=E,9.8nm,5.0s						
K27K				IAML		21 35 45.9	
	comp=N,9.1nm,4.3s						
G24K	Hadweenzic Riv	5.02	21		Pn	21 34 16.9	+0.5
G24K				IAML		21 35 12.0	
	comp=E,8.5nm,3.6s						
G24K				IAML		21 37 12.0	
	comp=N,7.3nm,4.4s						
I26K	Coal Creek Min	5.10	47		Pn	21 34 18.4	+0.9
I26K				IAML		21 35 33.3	
	comp=E,10nm,2.5s						
I26K				IAML		21 35 59.3	
	comp=N,11nm,3.9s						
F21K	Alatna River	5.17	354	Pn	Pn	21 34 19.3	+1.0
F21K				IAML		21 36 30.7	
	comp=E,4.4nm,4.9s						
F21K				IAML		21 37 50.3	
	comp=N,5.8nm,4.8s						
F20K	Avaraart Lake	5.20	344	Pn	Pn	21 34 19.7	+1.0
F20K				IAML		21 35 21.4	
	comp=E,8.1nm,4.7s						
F20K				IAML		21 36 55.4	
	comp=N,6.3nm,4.4s						
F24K	Squaw Lake	5.72	16		Pn	21 34 26.8	+1.0
E22K	Anaktuvuk Pass	6.05	1	Pn	Pn	21 34 31.3	+1.1
E24K	Your Creek	6.18	13		Pn	21 34 32.7	+0.7
H27K	Steamboat Moun	6.19	44	Pn	Pn	21 34 32.8	+0.6
I28M	Miner Creek	6.34	53	Pn	Pn	21 34 34.5	+0.2
D22K	Ayikyak River	6.80	358	Pn	Pn	21 34 41.9	+1.6
D23K	Nanushuk River	6.91	4		Pn	21 34 43.3	+1.5
YKA	Yellowknife Ar	17.27	72	P	P	21 36 56.7	+0.1
	comp=N,0.3nm,0.8s,baz=282,slow=11,SNR=6.2						
SPITS	Spitsbergen Ar	39.77	4	P	P	21 40 24.7	+0.8
	comp=N,1.2nm,0.7s,baz=19,slow=9.4,SNR=5.6						
	comp=N,1.2nm,0.7s						
ZALV	Zalesovo Beam	55.93	323	P	P	21 42 28.5	-0.1
	comp=N,0.7nm,0.5s,baz=25,slow=7.9,SNR=3.4						
	comp=N,0.7nm,0.5s						
BVAR	Borovoye Array	60.40	332	P	P	21 43 00.4	+0.7
	comp=N,0.4nm,0.5s,baz=49,slow=8.6,SNR=2.9						
	comp=N,0.4nm,0.5s						
KURBB	Kurchatov Arra	60.64	326	P	P	21 43 01.7	+0.5
	comp=N,0.2nm,0.4s,baz=32,slow=6.9,SNR=2.7						
	comp=N,0.2nm,0.4s						
MKAR	Makanchi Array	63.05	321	P	P	21 43 17.8	+0.2
	comp=N,0.3nm,0.5s,baz=42,slow=5.7,SNR=5.0						
	comp=N,0.3nm,0.5s						

**TXNET 07 21:56:14.1,

TPB16	Coyonosa	0.39 141	S	Sb	21 56 29.2	-1.1
TPB16	Coyonosa	0.39 141	S	Sb	21 56 29.2	-1.1
TPB12	Southwest of T	0.42 239	P	Pg	21 56 23.1	+0.9
TPB12			S	Sb	21 56 29.5	-1.5
TPB05	Hovey Rd	0.54 160	P	Pg	21 56 25.3	+0.7
TPB05			S	Sb	21 56 33.5	-1.1
TPB11	China Draw	0.66 320	S	Sb	21 56 36.6	-1.2
MNHN	Monahans	0.67 98	P	Pg	21 56 27.8	+0.7
TPB08	Permian Basin	0.77 135	S	Sb	21 56 40.5	-0.5
HTMS	Hat Mesa	1.04 356	S	Sb	21 56 49.0	0.0
ALPN	Alpine	1.06 185	P	Pg	21 56 34.1	-0.3
TMB02	Rankin	1.31 100	P	Pg	21 56 38.9	-0.3
TMB02			S	Sb	21 56 56.9	+0.3
VHRN	Van Horn	1.40 243	P	Pn	21 56 40.5	-0.2
VHRN			S	Sn	21 56 59.7	0.0
MNTX	Cornudas Mount	1.59 280	S	Sg	21 57 05.8	+0.4
TMB05	Klondike	1.86 50	S	Sg	21 57 13.3	-0.5
SAND	Sanderson	1.91 140	P	Pb	21 56 49.4	-0.4
SAND			S	Sg	21 57 15.4	-0.2
TX31	Lajitas Ar. Si	2.10 183	P	Pb	21 56 52.0	-0.8
TX31			S	Sg	21 57 20.6	-0.9
SGCY	Sterling City	2.11 76	P	Pb	21 56 52.1	-1.1
OZNA	Ozona	2.13 103	P	Pn	21 56 52.0	+1.3
OZNA			S	Sb	21 57 21.0	+0.7

*DJA **07** 22:00:49.9±0.4, 2°N±3°×12°8E±°, h112km±5km, M4.2/13, mB5.3/2, mb4.3/6, MLv4.1/13, Mw(mB)4.8/2*
*NEIC **07** 22:00:52.3±1.3, 1°.9N±0°.1×128°.20E±0°.08, h140km±10km, mb4.3/14, Error ellipse: s-maj=15.3km s-min=10.6km az=154.0*
*IDC **07** 22:00:53.6±8.6, 1°.97N×128°.31E, h160km±81km, mb3.7/10, mbtmp4.1/10, Error ellipse: s-maj=131.3km s-min=16.2km az=68.0*

ISC 07 22:00:50.8±0.6, **1°.93N**±0°.07×**128°.17E**±0°.09, **h134**km, **n39**, σ0.99/42, **mb4.1**/17, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.40 215		Pn	Pn	22 01 19.5	+1.4
TNTI	Ternate	1.40 215		P	Pn	22 01 17.7	-0.4
TNTI				S	Sn	22 01 38.1	-0.8
SGSI	Sangihe	3.16 304		P	Pn	22 01 38.0	-1.6
SGSI				S	Sn	22 02 15.7	-1.7
KMSI	Cibinong	4.39 252		P	Pn	22 01 55.4	-0.5
SANI	Sanana	4.51 209		P	Pn	22 01 56.4	-1.0
NLAI	Namlea	5.24 192		P	Pn	22 02 07.6	+0.4
	0.2nm3μm23nm,0.8s						
LUWI	Luwuk	6.15 241		Pn	Pn	22 02 21.2	+1.9
LUWI	Luwuk	6.15 241		P	Pn	22 02 18.8	-0.5
	0.3nm44nm,0.8s						
FAKI	Fak Fak	6.31 140		Pn	Pn	22 02 22.2	+0.6
FAKI	Fak Fak	6.31 140		P	Pn	22 02 20.9	-0.7
APSI	Ampana	7.10 247		P	Pn	22 02 31.4	-0.8
	32nm,0.6s						
TOLI2	Tolitoli	7.43 264		Pn	Pn	22 02 37.0	+0.4
SPSI	Sidrap Palu	10.23 235		P	Pn	22 03 14.6	+0.4
BKSI	Bulukumba	10.79 228		P	Pn	22 03 22.5	+0.8
KNRA	Kununurra	17.50 178		P	P	22 04 44.7	-1.1
KNRA				IAmb	IAmb	22 05 09.2	
	comp=Z,41nm,1.5s						
TWG	Pinlang	21.88 342		P	P	22 05 33.9	+0.8
PMG	Port Moresby	22.02 121		P	P	22 05 32.8	-1.8
WB0	Warramunga Arr	22.41 164		P	P	22 05 39.5	+1.1
WB0				IAmb	IAmb	22 05 55.2	
	comp=Z,14nm,1.4s						
WRA	Warramunga Arr	22.56 165		P	P	22 05 40.6	+0.7
	comp=Z,0.6nm,0.6s,baz=342,slow=10,SNR=9.2						
	comp=Z,0.6nm,0.6s						
WR8	Warramunga Arr	22.62 164		P	P	22 05 39.5	-1.0
ASAR	Alice Springs	26.05 168		P	P	22 06 11.8	0.0
	comp=Z,0.3nm,0.7s,baz=348,slow=8.7,SNR=2.0						
ASAR				PcP	PcP	22 09 36.4	-0.1
	comp=Z,0.1nm,0.4s,baz=9.1,slow=1.0,SNR=5.8						
	comp=Z,0.3nm,0.7s						
GSI	Gunungsitoli	30.59 269		P	P	22 06 52.6	+0.4
STKA	Stephens Creek	35.95 160		P	P	22 07 38.9	+0.3
	comp=Z,1.5nm,0.4s,baz=335,slow=11,SNR=6.4						
	comp=Z,1.5nm,0.4s						
SHL	Shillong	42.10 307		P	P	22 08 30.0	-0.1
SHL				IAmb	IAmb	22 08 32.5	
	comp=Z,4.8nm,0.7s						
LSA	Lhasa	44.70 312		P	P	22 08 53.5	+2.3
LSA				IAmb	IAmb	22 08 54.5	
	comp=Z,2.6nm,0.6s						
SONM	Songino Array	49.46 341		P	P	22 09 28.2	+0.8
SONM	Songino Array	49.46 341		P	P	22 09 28.1	+0.8
	comp=Z,1.0nm,0.6s,baz=154,slow=9.2,SNR=11						
	comp=Z,1.0nm,0.6s						
MK31	Makanchi Array	59.84 325		P	P	22 10 43.0	+0.8
MK31				IAmb	IAmb	22 10 43.4	
	comp=Z,2.4nm,0.4s						
MKAR	Makanchi Array	59.84 325		P	P	22 10 43.1	+0.9
	comp=Z,3.3nm,0.4s,baz=115,slow=8.0,SNR=101						
	comp=Z,3.3nm,0.4s						
MAKZ	Makanchi	60.03 325		P	P	22 10 44.3	+0.8
MAKZ				IAmb	IAmb	22 10 44.9	
	comp=Z,3.1nm,0.5s						
KDJ	Kajisay	60.64 318		P	P	22 10 49.3	+1.4
KDJ				IAmb	IAmb	22 11 24.1	
	comp=Z,1.6nm,0.8s						
AAK	Ala-Archa	62.65 318		P	P	22 11 01.0	-0.4
AAK				IAmb	IAmb	22 11 28.4	
	comp=Z,3.7nm,1.5s						
ZALV	Zalesovo Beam	62.83 333		P	P	22 11 00.8	-1.3
	comp=Z,0.4nm,0.4s,baz=142,slow=6.7,SNR=2.5						
	comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	64.02 327		P	P	22 11 10.4	+0.4
	comp=Z,2.7nm,0.5s,baz=127,slow=5.9,SNR=26						
	comp=Z,2.7nm,0.5s						
KKAR	Karatay Array	65.52 317		P	P	22 11 19.0	-1.0
BVAR	Borovoye Array	69.60 327		P	P	22 11 45.5	+0.1
	comp=Z,1.6nm,0.7s,baz=83,slow=4.8,SNR=4.4						
	comp=Z,1.6nm,0.7s						
BRVK	Borovoye	69.67 327		P	P	22 11 46.3	+0.5
ARCES	ARCESS Array B	92.62 340		P	P	22 13 46.2	-0.7
	comp=Z,5.1nm,1.1s,baz=46,slow=6.9,SNR=5.1						
	comp=Z,5.1nm,1.1s						
FINES	FINESS Array B	94.09 332		P	P	22 13 53.2	-0.6
	comp=Z,0.9nm,0.9s,baz=143,slow=6.7,SNR=3.5						
	comp=Z,0.9nm,0.9s						

*DNK **07** 22:22:03.5±4.7, 71°.34N×12°.45W, h36km±49km, ML1.4*

BER 07 22:22:04.2±1.1, **69°.86N**×**6.99W**, **h0**km±999km, **ML2.0**,
Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	Jan Mayen East	1.22 340		eP	Pg	22 22 26.2	-1.4
JNE				eS	Sg	22 22 41.7	-1.6
JNE				IAML		22 22 47.6	
	comp=Z,27nm,0.2s						
JMI	Jan Mayen	1.23 332		eP	Pg	22 22 25.6	-2.1
JMI				eS	Sg	22 22 41.7	-1.8
JMIC	Jan Mayen	1.24 337		eP	Pg	22 22 25.4	-2.6
JMIC				eS	Sg	22 22 40.2	-3.9
JMIC				IAML		22 22 41.3	
	comp=Z,22nm,0.2s						
JMIC	Jan Mayen	1.24 337		i P	Pg	22 22 24.1	-3.9
JMIC				i S	Sg	22 22 40.1	-4.0
JNW	Jan Mayen West	1.27 338		eP	Pg	22 22 25.4	-3.1
JNW				eS	Sg	22 22 41.1	-4.0

*KRSC **07** 22:29:56.5±1.3, 49°.85N×157°.26E, h17km±26km, Ml4.8, Felt [II] at Podgornay.*
*MOS **07** 22:29:58.6±1.1, 49°.93N×156°.40E, h94km, mb4.4/13, Error ellipse: s-maj=8.7km s-min=4.7km az=78.7*
*IDC **07** 22:29:58.8±0.7, 49°.97N×156°.35E, h79km±6km, mb3.7/22, mbtmp4.0/27, MS2.8/14, Error ellipse: s-maj=17.7km s-min=10.4km az=156.0*
*NEIC **07** 22:30:00.4±1.1, 50°.0N±0°.1×156°.2E±0°.2, h84km±9km, mb4.4/64, Error ellipse: s-maj=21.9km s-min=10.9km az=142.0*

ISC 07 22:30:00.4±0.5, **49°.91N**±0°.06×**156°.51E**±0°.05, **h100**km, **n413**, σ1.32/427, **mb4.3**/63, **8C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.81 342		PN	Pn	22 30 16.3	-2.5
SKR				S	Sn	22 30 29.9	-2.7
SKR	Severo-Kuril's	0.81 342		eP	Pn	22 30 16.3	-2.5
SKR				eS	Sn	22 30 30.0	-2.7
PAU	Pauzhetka	1.57 7		PN	Pn	22 30 26.0	-1.4
PAU				S	Sn	22 30 46.9	-1.1
PAU	Pauzhetka	1.57 7		eP	Pn	22 30 26.1	-1.4
PAU				eS	Sn	22 30 47.0	-1.1
GRL	Gorelyy	2.82 20		PN	Pn	22 30 43.0	-0.8
GRL				S	Sn	22 31 16.2	-1.1
GRL	Gorelyy	2.82 20		eP	Pn	22 30 43.0	-0.8
GRL				eS	Sn	22 31 16.2	-1.1
RUS	Russkaya	2.82 26		PN	Pn	22 30 41.3	-2.4
RUS				S	Sn	22 31 13.6	-3.4
RUS	Russkaya	2.82 26		eP	Pn	22 30 41.3	-2.4
RUS				eS	Sn	22 31 13.7	-3.4
APC	Apacha	3.05 7		PN	Pn	22 30 46.5	-0.1
APC	Apacha	3.05 7		eP	Pn	22 30 46.6	-0.1
KRMR	Karymshinskiy	3.10 19		PN	Pn	22 30 47.0	-0.3
KRMR				S	Sn	22 31 24.2	+0.7
KRMR	Karymshinskiy	3.10 19		eP	Pn	22 30 47.1	-0.3
KRMR				eS	Sn	22 31 24.2	+0.7
PEA0B	Petropavlovsk-	3.29 13			Pn	22 30 49.9	-0.1
PEA0B	Petropavlovsk-	3.29 13		PN	Pn	22 30 49.9	-0.1
PETK	Petropavlovsk-	3.29 13			Pn	22 30 49.1	-0.8
PETK	Petropavlovsk-	3.29 13		P	Pn	22 30 47.8	-2.1
	7.9nm,0.4s,baz=181,slow=12,SNR=43						
PETK				LR	LR	22 31 40.3	
	comp=Z,21nm,19.6s,baz=144,slow=31						
PET	Petropavlovsk	3.40 22			Pn	22 30 50.1	-1.2
PET	Petropavlovsk	3.40 22		PN	Pn	22 30 50.3	-1.0
PET				S	Sn	22 31 29.2	-1.5
PET	Petropavlovsk	3.40 22		eP	Pn	22 30 50.3	-1.0
PET				eS	Sn	22 31 29.3	-1.5
DALK	Dalny	3.43 23		PN	Pn	22 30 50.6	-1.1
DALK				S	Sn	22 31 29.7	-1.7
DALK	Dalny	3.43 23		eP	Pn	22 30 50.6	-1.1
DALK				eS	Sn	22 31 29.8	-1.7
UGLR	Uglovaya	3.61 23		PN	Pn	22 30 53.3	-1.0
UGLR	Uglovaya	3.61 23		eP	Pn	22 30 53.4	-1.0
AVH	Avacha	3.64 22		PN	Pn	22 30 54.7	+0.1
AVH	Avacha	3.64 22		eP	Pn	22 30 54.8	+0.1
KOK	Koryaka	3.64 21		PN	Pn	22 30 55.2	+0.5
KOK				S	Sn	22 31 37.5	+0.8
KOK	Koryaka	3.64 21		eP	Pn	22 30 55.2	+0.5
KOK				eS	Sn	22 31 37.5	+0.8
KRER	Koryakskii	3.67 21		eS	Sn	22 31 38.3	+0.5
KRX	Arik	3.70 20		PN	Pn	22 30 55.6	0.0
KRX				S	Sn	22 31 37.9	-0.4
KRX	Arik	3.70 20		eP	Pn	22 30 55.7	0.0
KRX				eS	Sn	22 31 38.0	-0.4
SPN	Mys Shipunski	3.88 33		PN	Pn	22 30 56.2	-1.6
SPN				S	Sn	22 31 39.3	-3.0
SPN	Mys Shipunski	3.88 33		eP	Pn	22 30 56.2	-1.6
SPN				eS	Sn	22 31 39.3	-3.0
GNL	Ganaly	3.89 13		PN	Pn	22 30 59.0	+0.9
GNL	Ganaly	3.89 13		eP	Pn	22 30 59.1	+0.9
KUR	Kuril'sk	7.48 235		PN	Pn	22 31 47.2	+0.5
KUR				S	Sn	22 33 07.4	-2.5
KUR				smax	smax		
	comp=N,88nm,0.8s						
KUR				smax	smax		
	comp=E,45nm,0.6s						
TYV	Tymovskoe	8.90 281		ePN	Pn	22 32 07.2	+1.2
TYV				eS	Sn	22 33 44.8	+0.3
TYV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TYV				pmax	pmax		
	comp=Z,200nm,5.1s						
TYV				smax	smax		
	comp=E,6.0nm,0.8s						
TYV				smax	smax		
	comp=E,300nm,6.3s						
YSS	Yuzhno-Sakhali	9.61 257		ePN	Pn	22 32 14.7	-0.9
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,200nm,10.0s						
MA2	Magadan	10.23 343		LR	LR	22 35 35.4	
	comp=Z,26nm,20.5s,baz=54,slow=33						
MA2	Magadan	10.23 343		i PN	Pn	22 32 23.0	-1.0
JKA	Kamikawa-asahi	11.12 244		Pn	Pn	22 32 34.7	-1.4
ASAJ	Asahikawa	11.12 244		P	Pn	22 32 33.5	-2.7
	comp=Z,7.3nm,0.7s,baz=81,slow=16,SNR=9.6						
ASAJ				LR	LR	22 37 04.1	
	comp=Z,13nm,21.8s,baz=316,slow=38						
ASAJ	Asahikawa	11.12 244		PN	Pn	22 32 34.7	-1.5
SHEM	Shemya Is, Ala	11.36 69		P	Pn	22 32 36.3	-3.0
	comp=Z,24nm,0.3s,baz=111,slow=1.9,SNR=7.6						
SHEM				S	Sn	22 34 32.2	-12
	comp=Z,34nm,0.4s,baz=127,slow=24,SNR=8.8						
SHEM				LR	LR	22 36 38.7	
	comp=Z,14nm,21.2s,baz=296,slow=35						
TEY	Ternei	14.30 258		eP	Pn	22 33 16.7	-1.3
KLR	Kul'dur	16.06 277		P	Pn	22 33 36.5	-3.6
	comp=Z,0.4nm,0.3s,baz=88,slow=12,SNR=8.4						
KLR				LR	LR	22 40 51.2	
	comp=Z,27nm,19.6s,baz=69,slow=41						
KLR	Kul'dur	16.06 277		i P	P	22 33 40.6	-1.0
USRK	Ussuriysk Ar.	17.62 260		P	P	22 33 55.9	-3.0
	comp=Z,2.0nm,0.6s,baz=66,slow=13,SNR=7.6						
USRK				LR	LR	22 40 55.1	
	comp=Z,20nm,21.9s,baz=15,slow=37						
HEH	HeiHe	18.63 282		eP	Pn	22 34 09.2	-2.1
HEH				pmax	pmax		
	comp=Z,13nm,0.8s						
MJA0	Matsu Arr-Jizo	18.79 232		eP	P	22 34 11.4	-0.4
MJA0				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MJAR	Matsushiro Arr	18.81 232		P	P	22 34 10.5	-1.5
	comp=Z,9.3nm,0.7s,baz=30,slow=9.7,SNR=30						
MJAR				LR	LR	22 41 05.5	
	comp=Z,23nm,20.0s,baz=22,slow=36						
MJB9	Matsu-Tunnel	18.81 232		P	Pn	22 34 12.3	-1.3
MJB9				IAmb	IAmb	22 34 13.0	
	comp=Z,22nm,1.2s						
MAJO	Matsushiro	18.81 232		P	P	22 34 11.5	-0.5
MAJO				IAmb	IAmb	22 34 12.0	
	comp=Z,22nm,1.1s						
MAJO	Matsushiro	18.81 232		P	P	22 34 11.5	-0.5
MAJO				pmax	pmax		
	comp=Z,22nm,1.2s						
BILL	Bilibino	18.82 11		i P	Pn	22 34 13.0	-0.5
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MDJ	Mudanjiang	18.96 264		Pn	Pn	22 34 14.3	-1.1
YAK	Yakutsk	19.13 320		ceP	Pn	22 34 17.1	0.0
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
INU	Inuyama	20.34 232		P	P	22 34 27.9	-0.7
SPIA	Saint Paul Isl	20.88 57		P	P	22 34 31.6	-2.6
	baz=264						
P08K	Saint George I	21.21 59		P	P	22 34 35.7	-2.1
	baz=267						
NIKH	Nikolski High	21.68 69		P	P	22 34 42.1	-0.6
	baz=276						
GAMB	Gambell	21.93 39		P	P	22 34 41.8	-3.5
	baz=246						
UNV	Unalaska Valle	23.00 66		P	P	22 34 56.0	-0.3
	baz=276						
M11K	Mekoryuk	23.42 49		P	P	22 34 58.5	-1.7
	baz=261						
KSRS	Korea Array	23.97 250		P	P	22 35 05.3	0.0
	comp=Z,4.7nm,0.9s,baz=52,slow=9.8,SNR=13						
KSRS				LR	LR	22 43 24.0	
	comp=Z,12nm,21.6s,baz=120,slow=34						
	comp=Z,4.7nm,0.9s						
KSRS	Korea Array	23.97 250		eP	P	22 35 06.3	+1.0
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TNA	Tin City	24.14 36		P	P	22 35 04.8	-1.8
	baz=247						
K13K	Kusilvak Mount	24.45 46		P	P	22 35 08.6	-0.8
	baz=259						
FALS	False Pass	24.70 63		P	P	22 35 13.7	+1.9
	baz=276						
F14K	Arctic Creek	24.73 37		P	P	22 35 11.4	-0.5
	baz=250						
ANM	Nome	24.80 39		P	P	22 35 12.2	-0.4
	baz=253						
J14K	Nanvaranak Lak	25.12 44		P	P	22 35 15.6	+0.1
	baz=258						
TIXI	Tiksi	25.17 340		P	P	22 35 13.8	-2.1
TIXI	Tiksi	25.17 340		ceP	P	22 35 15.5	-0.4
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
L14K	Kuka Creek	25.27 48		P	P	22 35 17.6	+0.7
	baz=262						
F15K	North Star Dit	25.46 37		P	P	22 35 19.4	+0.7
	baz=251						
M14K	Bethel	25.55 49		P	P	22 35 19.9	+0.5
	baz=264						
N14K	Kuskokwak Cree	25.61 51		P	P	22 35 19.9	-0.1
	baz=266						
O14K	Tigyukauivet M	25.78 53		P	P	22 35 22.0	+0.4
	baz=268						
L15K	Ungalak Mounta	25.89 47		P	P	22 35 22.8	+0.4
	baz=263						
K15K	Wolf Creek Mou	25.96 46		P	P	22 35 23.3	+0.2
	baz=262						
H16K	Elim	26.12 40		P	P	22 35 24.9	+0.3
	baz=256						
M15K	Kasigluk River	26.16 49		P	P	22 35 25.5	+0.5
	baz=266						
C16K	Lisburne Hills	26.19 31		P	P	22 35 25.9	+0.8
	baz=245						
G16K	Koyuk River	26.28 38		P	P	22 35 26.2	+0.2
	baz=254						
SDPT	Sand Point	26.34 61		P	P	22 35 28.2	+1.6
	baz=277						
N15K	Kwethluk River	26.42 51		P	P	22 35 27.9	+0.6
	baz=267						
O15K	Ungalikthiuk R	26.52 53		P	P	22 35 28.9	+0.7
	baz=269						
J16K	Anvik River	26.54 44		P	P	22 35 28.5	+0.1
	baz=260						
I17K	Unalakleet	26.61 42		P	P	22 35 29.1	+0.2
	baz=259						
D17K	Noatak River	26.74 33		P	P	22 35 31.0	+0.9
	baz=249						
L16K	Owhat River	26.84 47		P	P	22 35 31.8	+0.7
	baz=265						
CHNA	Chernabura Isl	26.91 62		P	P	22 35 34.1	+2.4
	baz=278						
G17K	Kiwalik Mounta	26.99 39		P	P	22 35 33.2	+0.8
	baz=256						
F17K	Baldwin Pennin	27.01 37		P	P	22 35 33.1	+0.6
	baz=254						
M16K	Timber Creek	27.03 49		P	P	22 35 33.3	+0.5
	baz=267						
N16K	Nishlik Lake	27.09 50		P	P	22 35 34.4	+1.0
	baz=268						
H17K	Granite Mounta	27.16 40		P	P	22 35 34.4	+0.5
	baz=258						
J17K	VABM Dome	27.24 44		P	P	22 35 34.9	+0.3
	baz=262						
CHGN	Chignik	27.39 59		P	P	22 35 37.8	+1.8
	baz=276						
O16K	Kokwok River B	27.41 52		P	P	22 35 37.9	+1.7
	baz=270						
L17K	Donlin	27.44 46		P	P	22 35 37.7	+1.2
	baz=265						
P16K	Nushagak River	27.46 53		P	P	22 35 38.3	+1.6
	baz=271						
K17K	Iditarod	27.50 45		P	P	22 35 38.4	+1.4
	baz=264						
E18K	Tukpahlearik C	27.55 35		P	P	22 35 38.1	+0.7
	baz=253						
F18K	Selawik	27.67 37		P	P	22 35 38.8	+0.4
	baz=255						
C18K	Utukok River	27.75 32		P	P	22 35 40.3	+1.1
	baz=250						
M17K	Holitna River	27.79 48		P	P	22 35 40.4	+0.8
	baz=267						
B18K	Kokolik River	27.81 30		P	P	22 35 40.8	+1.1
	baz=248						
H18K	Honhosa River	27.85 40		P	P	22 35 40.9	+0.8
	baz=259						
N17K	Nushagak Hills	27.88 50		P	P	22 35 41.3	+0.9
	baz=269						
G18K	Tagagawik	27.89 38		P	P	22 35 41.2	+0.8
	baz=258						
O17K	Koliganek Bris	27.92 51		P	P	22 35 41.3	+0.6
	baz=271						
Q16K	King Salmon	28.17 54		P	P	22 35 44.5	+1.6
	baz=273						
L18K	Granite Mounta	28.20 46		P	P	22 35 44.2	+1.1
	baz=266						
P17K	Kvichak River	28.26 53		P	P	22 35 45.3	+1.6
	baz=272						
J18K	Innoko River	28.30 44		P	P	22 35 45.0	+0.9
	baz=264						
A19K	Wainwright	28.38 29		P	P	22 35 45.5	+0.9
	baz=247						
GCSA	Galena City Sc	28.40 41		P	P	22 35 44.9	0.0
	baz=262						
F19K	Shaleruckik Mo	28.45 36		P	P	22 35 45.6	+0.2
	baz=257						
N18K	Kilae Creek	28.52 50		P	P	22 35 47.8	+1.7
	baz=270						
TTA	Tatalina	28.57 45		P	P	22 35 47.6	+1.1
	baz=266						
G19K	Purcell Mounta	28.57 38		P	P	22 35 47.0	+0.6
	baz=259						
M18K	Stony River	28.57 48		P	P	22 35 47.1	+0.7
	baz=269						
Q17K	Contact Creek	28.60 55		P	P	22 35 47.6	+0.7
	baz=274						
H19K	Roundabout Mou	28.71 39		P	P	22 35 48.3	+0.7
H19K				IAmb	IAmb	22 35 49.8	
	comp=Z,11nm,1.2s						
H19K	Roundabout Mou	28.71 39		P	P	22 35 48.0	+0.4
	baz=261						
D19K	Kuna River	28.77 33		P	P	22 35 48.7	+0.5
D19K	Kuna River	28.77 33		P	P	22 35 49.2	+1.0
	baz=253						
E19K	Redstone River	28.81 35		P	P	22 35 49.5	+1.0
	baz=256						
J19K	Poorman	28.84 43		P	P	22 35 48.9	0.0
	baz=264						
O18K	Koktuh Hills	28.87 51		P	P	22 35 49.8	+0.6
	baz=272						
P18K	Big Mountain,	28.87 52		P	P	22 35 50.1	+0.8
	baz=273						
CHIR	Chirikof Islan	29.01 60		P	P	22 35 54.4	+3.9
CHIR	Chirikof Islan	29.01 60		P	P	22 35 51.9	+1.5
	baz=279						
Q18K	Katmai Hardscr	29.03 54		P	P	22 35 51.0	+0.3
	baz=274						
L19K	White Mountain	29.05 46		P	P	22 35 51.5	+0.7
	baz=268						
N19K	Bonanza Creek	29.21 49		P	P	22 35 53.1	+0.8
	baz=271						
M19K	Big River Lodg	29.26 47		P	P	22 35 53.1	+0.4
	baz=269						
F20K	Avaraart Lake	29.29 36		P	P	22 35 53.5	+0.8
	baz=259						
O19K	Port Alsworth	29.30 51		P	P	22 35 53.0	0.0
	baz=272						
H20K	Anotleneega Mo	29.35 40		P	P	22 35 53.4	0.0
	baz=262						
D20K	Etivluk River	29.36 33		P	P	22 35 54.4	+0.9
D20K	Etivluk River	29.36 33		P	P	22 35 55.0	+1.6
	baz=255						
R18K	Karluk	29.42 56		P	P	22 35 55.2	+1.2
	baz=277						
I20K	Naaghedeneel	29.43 41		P	P	22 35 54.4	+0.4
	baz=264						
K20K	Telida	29.48 44		P	P	22 35 55.2	+0.7
	baz=267						
J20K	Nowinta River	29.51 42		P	P	22 35 55.5	+0.7
	baz=265						
L20K	Farewell, AK	29.52 46		P	P	22 35 54.8	-0.2
	baz=268						
B20K	Meade River	29.55 30		P	P	22 35 56.4	+1.3
B20K				IAmb	IAmb	22 35 56.7	
	comp=Z,4.1nm,0.6s						
B20K	Meade River	29.55 30		P	P	22 35 56.5	+1.4
	baz=252,SNR=7.7						
SII	Sitkinak Islan	29.70 58		P	P	22 35 58.0

baz=274
A21K Barrow 30.16 28 P P 22 36 01.1 +0.7
baz=250
F21K Alatna River 30.18 36 P P 22 36 01.3 +0.6
baz=261
H21K Melozitna Rive 30.23 40 P P 22 36 01.3 +0.2
baz=264
E21K Killik River 30.23 34 P P 22 36 01.7 +0.6
baz=258
B21K Ikpikpuk River 30.29 32 P P 22 36 03.2 +1.6
B21K IAmb IAmb 22 36 04.0
comp=Z,6.4nm,0.7s
B21K Ikpikpuk River 30.29 32 P P 22 36 02.5 +1.0
baz=255,SNR=8.5
CHUM Lake Minchumin 30.29 43 P P 22 36 02.1 +0.5
baz=268
PPLA Purkeypile 30.31 45 P P 22 36 02.2 +0.1
baz=269
SPCR Spurr Chakacha 30.31 48 P P 22 36 02.9 +0.9
baz=272
CAST Castle Rocks 30.37 44 P P 22 36 03.0 +0.5
baz=268
KDAK Kodiak Island 30.39 55 P P 22 36 03.8 +1.2
baz=278
Q20K Shuyak Island 30.40 54 P P 22 36 03.5 +0.9
baz=276
I21K Tanana 30.52 41 P P 22 36 05.2 +1.6
I21K Tanana 30.52 41 P P 22 36 03.9 +0.2
baz=266
A22K Sinclair Lake 30.56 29 P P 22 36 04.6 +0.7
baz=253
SKT Skwentna 30.62 47 P P 22 36 04.8 +0.2
baz=272
HOM Homer 30.68 51 P P 22 36 05.1 0.0
baz=275
F22K John River 30.72 36 P P 22 36 05.3 -0.2
baz=262
D22K Ayikyak River 30.79 33 P P 22 36 05.7 -0.3
baz=259
H22K Ishtalitna Cre 30.84 39 P P 22 36 06.2 -0.3
baz=265
CAPN Captain Cook N 30.84 49 P P 22 36 06.3 -0.2
baz=274
B22K Teshekpuk Lake 30.87 30 P P 22 36 07.9 +1.2
B22K IAmb IAmb 22 36 08.6
comp=Z,4.9nm,0.7s
B22K Teshekpuk Lake 30.87 30 P P 22 36 06.6 0.0
baz=256,SNR=5.1
BPAW Bear Paw Mtn. 30.88 43 P P 22 36 06.1 -0.8
baz=268
G22K Bettles 30.90 37 P P 22 36 06.8 -0.2
baz=263
E22K Anaktuvuk Pass 30.96 35 P P 22 36 08.9 +1.3
E22K Anaktuvuk Pass 30.96 35 P P 22 36 07.4 -0.2
baz=261,SNR=5.8
SUA Susitna One 31.01 48 P P 22 36 07.0 -1.1
baz=273
BRSE Bradley Lake S 31.13 51 P P 22 36 09.0 -0.1
baz=276
TRF Thorofare Moun 31.18 44 P P 22 36 10.3 +0.6
baz=270
H11N2 WAKE ISLAND Hy 31.23 161 T T 23 10 00.3
baz=348,slow=76,SNR=40
H11N1 WAKE ISLAND Hy 31.25 161 T T 23 10 00.6
baz=348,slow=76,SNR=40
H11N3 WAKE ISLAND Hy 31.25 161 T T 23 10 01.5
baz=348,slow=76,SNR=69
COLD Coldfoot 31.44 37 P P 22 36 13.1 +1.4
COLD Coldfoot 31.44 37 P P 22 36 13.2 +1.4
baz=264
G23K Bananza Creek 31.46 38 P P 22 36 13.3 +1.3
baz=265
D23K Nanushuk River 31.51 33 P P 22 36 13.5 +1.1
baz=261
RC01 Rabbit Creek A 31.51 49 P P 22 36 13.0 +0.5
baz=274
H23K Yukon River 31.58 39 P P 22 36 14.1 +1.1
baz=267
I23K Minto, Yukon-K 31.62 41 P P 22 36 13.9 +0.5
baz=268
C23K Itkillik River 31.70 32 P P 22 36 15.3 +1.3
C23K IAmb IAmb 22 36 16.1
comp=Z,4.4nm,0.5s
C23K Itkillik River 31.70 32 P P 22 36 15.4 +1.5
baz=259,SNR=5.0
NEA2 Nenana 31.73 42 P P 22 36 15.2 +0.9
NEA2 Nenana 31.73 42 P P 22 36 14.7 +0.4
baz=269,SNR=8.6
SEW Seward 31.74 50 P P 22 36 15.5 +1.1
baz=276
E23K Chandalar 31.77 35 P P 22 36 16.1 +1.4
E23K IAmb IAmb 22 36 17.2
comp=Z,7.3nm,1.2s
E23K Chandalar 31.77 35 P P 22 36 16.0 +1.3
baz=263
PMR Palmer 31.77 48 P P 22 36 15.5 +0.8
baz=274
MCK McKinley 31.79 43 P P 22 36 15.9 +1.0
baz=271
RND Reindeer 31.83 44 P P 22 36 15.8 +0.5
RND IAmb IAmb 22 36 16.6
comp=Z,4.4nm,0.8s
RND Reindeer 31.83 44 P P 22 36 15.8 +0.5
RND pmax pmax
comp=Z,4.0nm,0.8s
TOLK Toolik Lake Re 31.86 34 P P 22 36 17.0 +1.6
baz=262
KNK Knik Glacier 32.11 48 P P 22 36 18.4 +0.7
baz=275
ULN Ulaanbaatar 32.11 286 *ce*P **P 22 36 17.2 -0.8**
ULN pmax pmax
comp=Z,5.0nm,2.5s
SML Sawmill 32.14 47 P P 22 36 18.8 +0.8
SML Sawmill 32.14 47 P P 22 36 18.4 +0.4
baz=274
E24K Your Creek 32.19 35 P P 22 36 20.0 +1.7
E24K IAmb IAmb 22 36 20.9
comp=Z,8.6nm,1.3s
E24K Your Creek 32.19 35 P P 22 36 19.4 +1.0
baz=264
D24K Happy Valley 32.20 33 P P 22 36 19.5 +1.2
D24K Happy Valley 32.20 33 P P 22 36 19.6 +1.2
baz=262
PWL Port Wells 32.22 49 P P 22 36 19.6 +1.0
baz=276
COLA College 32.26 41 P P 22 36 20.2 +1.3
baz=270
H24K Noodor Dome 32.27 40 P P 22 36 19.8 +0.7
baz=268
CCB Clear Creek Bu 32.28 42 P P 22 36 20.3 +1.2
C24K Franklin Bluff 32.33 32 P P 22 36 21.0 +1.5
baz=261
F24K Squaw Lake 32.36 36 P P 22 36 21.0 +1.2
F24K Squaw Lake 32.36 36 P P 22 36 21.1 +1.2
baz=266
H11S1 WAKE ISLAND Hy 32.38 162 T T 23 10 36.3
baz=347,slow=76,SNR=162
H11S3 WAKE ISLAND Hy 32.39 162 T T 23 10 34.7
baz=347,slow=76,SNR=446
H11S2 WAKE ISLAND Hy 32.40 162 T T 23 10 32.9
baz=347,slow=76,SNR=324
M23K Glacier View 32.42 47 P P 22 36 21.4 +1.0
baz=275
POKR Poker Plat Res 32.44 41 P P 22 36 21.5 +1.0
baz=270
G24K Hadweenzic Riv 32.47 38 P P 22 36 21.7 +0.9
G24K IAmb IAmb 22 36 24.0
comp=Z,4.2nm,0.7s
G24K Hadweenzic Riv 32.47 38 P P 22 36 21.7 +0.9
baz=267,SNR=5.3
SONM Songino Array 32.53 286 P P 22 36 21.2 -0.5
comp=Z,0.2nm,0.3s,baz=53,slow=7.2,SNR=3.6
comp=Z,0.2nm,0.3s
SONM Songino Array 32.53 286 *e*P **P 22 36 23.0 +1.3**
SCM Sheep Creek Mo 32.61 47 P P 22 36 22.8 +0.6
baz=275
HDA Harding Lake 32.65 42 P P 22 36 23.4 +1.1
HDA Harding Lake 32.65 42 P P 22 36 22.7 +0.3
baz=272,SNR=6.7
IL31 32.67 42 P P 22 36 23.4 +0.9
ILAR Eielson Array 32.67 42 P P 22 36 22.5 -0.1
comp=Z,2.4nm,0.9s,baz=250,slow=6.6,SNR=27
comp=Z,2.4nm,0.9s
ILAR Eielson Array 32.67 42 *e*P **P 22 36 23.3 +0.7**
ILAR pmax pmax
comp=Z,2.0nm,0.7s
P23K Montague Islan 32.77 50 P P 22 36 24.1 +0.6
baz=278
GLI Glacier Island 32.82 49 P P 22 36 24.2 +0.3
baz=277
G25K Bearman Lake 33.02 38 P P 22 36 26.3 +0.8
baz=269
D25K Kavik River 33.09 33 P P 22 36 27.5 +1.3
D25K Kavik River 33.09 33 P P 22 36 26.7 +0.5
baz=264,SNR=25
H25L Birch Creek 33.12 39 P P 22 36 27.4 +1.0
baz=270
M24K Tolsona, Glenn 33.13 46 P P 22 36 26.9 +0.2
baz=276
K24K Donnelly Dome 33.19 43 P P 22 36 27.9 +0.8
K24K Donnelly Dome 33.19 43 P P 22 36 27.9 +0.8
baz=274
F25K Christian Rive 33.23 36 P P 22 36 28.2 +0.7
baz=268
PRP Porcupine Dome 33.24 40 P P 22 36 28.7 +1.0
PRP IAmb IAmb 22 36 29.8
comp=Z,4.9nm,0.8s
PRP Porcupine Dome 33.24 40 P P 22 36 28.5 +0.8
baz=271,SNR=6.4
E25K Arctic Village 33.28 35 P P 22 36 28.1 +0.2
baz=267
J25K Salcha River, 33.33 42 P P 22 36 28.3 -0.1
J25K IAmb IAmb 22 36 28.8
comp=Z,4.1nm,0.7s
J25K Salcha River, 33.33 42 P P 22 36 27.9 -0.4
baz=273
PAX Paxson 33.38 45 P P 22 36 29.4 +0.5
baz=275
EYAK Cordova Ski Ar 33.51 49 P P 22 36 31.0 +1.1
baz=278
HARP HAARP 33.58 46 P P 22 36 31.1 +0.7
baz=276
RIDG Independent Ri 33.60 43 P P 22 36 31.0 +0.3
baz=274
C26K Camden Bay 33.66 32 P P 22 36 31.6 +0.6
baz=265
F26K Sheenjek River 33.80 36 P P 22 36 32.8 +0.4
baz=269
N25K Chitina, Valde 33.93 47 P P 22 36 33.7 +0.1
baz=278
G26K Porcupine Rive 33.94 38 P P 22 36 35.2 +1.7
G26K IAmb IAmb 22 36 36.5
comp=Z,3.9nm,0.9s
G26K Porcupine Rive 33.94 38 P P 22 36 34.0 +0.5
baz=270
SCRK Sand Creek 33.97 43 P P 22 36 34.0 +0.1
SCRK IAmb IAmb 22 36 35.1
comp=Z,5.9nm,1.1s
SCRK Sand Creek 33.97 43 P P 22 36 34.2 +0.2
baz=275
BMRM Bremner River 34.01 48 P P 22 36 35.0 +0.7
baz=279
C27K Jago River 34.05 33 P P 22 36 36.4 +1.9
C27K Jago River 34.05 33 P P 22 36 34.2 -0.3
baz=267
J26L Joseph Creek 34.11 42 P P 22 36 35.3 +0.2
baz=274
I26K Coal Creek Min 34.24 40 P P 22 36 35.6 -0.5
baz=274
KAIM Kayak Island 34.27 50 P P 22 36 37.5 +1.0
baz=280
L26K Log Cabin Wild 34.34 45 P P 22 36 38.1 +1.0
baz=277
M26K Nabesna, AK 34.57 46 P P 22 36 39.9 +0.8
baz=278
E27K Coleen River 34.77 35 P P 22 36 41.9 +1.1
baz=271
G27K Doyon Strip 34.78 38 P P 22 36 42.0 +1.2
baz=273
K27K Chicken 34.80 43 P P 22 36 42.3 +1.3
K27K IAmb IAmb 22 36 42.8
comp=Z,4.4nm,0.7s
K27K Chicken 34.80 43 P P 22 36 42.6 +1.6
baz=276
H27K Steamboat Moun 34.86 39 P P 22 36 43.2 +1.6
baz=274
I27K Kandik River 34.86 40 P P 22 36 43.0 +1.4
baz=274
D27M Malcolm River 35.01 33 P P 22 36 44.5 +1.7
D27M IAmb IAmb 22 36 45.3
comp=Z,4.2nm,0.9s
D27M Malcolm River 35.01 33 P P 22 36 44.7 +1.9
baz=270,SNR=6.6
L27K Beaver Creek, 35.02 44 P P 22 36 45.0 +2.0
L27K Beaver Creek, 35.02 44 P P 22 36 44.8 +1.8
baz=278,SNR=11
BCAR Beaver Creek A 35.04 44 P P 22 36 45.1 +2.0
M27K Edge Creek, AK 35.10 46 P P 22 36 45.3 +1.6
baz=279
MESA MESA 35.44 49 P P 22 36 48.2 +1.5
baz=282
E28M Babbage River 35.53 35 P P 22 36 49.0 +1.8
baz=272
BVCY Beaver Creek 35.56 45 P P 22 36 48.9 +1.3
baz=280
I28M Miner Creek 35.57 40 P P 22 36 49.3 +1.6
I28M IAmb IAmb 22 36 52.3
comp=Z,4.8nm,1.1s
I28M Miner Creek 35.57 40 P P 22 36 49.2 +1.5
baz=276
D28M Stokes Point 35.80 33 P P 22 36 50.9 +1.5
baz=272
YUK3 Moose Creek 35.85 46 P P 22 36 51.6 +1.3
baz=281
DAWY Dawson 35.97 42 P P 22 36 52.8 +1.8
baz=278
H29M Whitestone 36.13 39 P P 22 36 53.7 +1.3
baz=276
E29M Blow River 36.14 35 P P 22 36 54.7 +2.3
E29M IAmb IAmb 22 36 55.3
comp=Z,3.2nm,0.6s
E29M Blow River 36.14 35 P P 22 36 54.0 +1.6
baz=274,SNR=6.5
O28M Mount Upton 36.17 48 P P 22 36 54.6 +1.5
baz=282
G29M Pine Creek 36.20 37 P P 22 36 54.8 +1.8
G29M IAmb IAmb 22 36 56.0
comp=Z,4.0nm,0.8s
G29M Pine Creek 36.20 37 P P 22 36 55.3 +2.3
baz=276
I29M Ogilvie Camp, 36.26 40 P P 22 36 54.9 +1.4
baz=278
YUK8 Steele Glacier 36.27 47 P P 22 36 54.5 +0.6
baz=282
PINM Pinnacle 36.29 49 P P 22 36 54.7 +0.9
baz=283
M29M Somme Creek 36.65 45 P P 22 36 59.0 +2.0
M29M Somme Creek 36.65 45 P P 22 36 58.4 +1.5
baz=281,SNR=6.2
L29M L29M 36.68 44 P P 22 36 59.2 +2.1
L29M L29M 36.68 44 P P 22 36 59.2 +2.1
baz=281,SNR=7.4
EPYK Eagle Plains 36.78 38 P P 22 36 59.4 +1.5
baz=278
YUK4 Talbot Arm 36.79 47 P P 22 37 00.3 +2.0
baz=283
K29M Barlow Dome 36.82 42 P P 22 37 00.2 +1.9
baz=280
G30M tAoh Zraii Nji 36.90 37 P P 22 37 00.5 +1.6
baz=277
F30M Barrier River 37.00 36 P P 22 37 00.8 +1.1
baz=277
I30M Mount Dempster 37.08 40 P P 22 37 02.0 +1.4
I30M IAmb IAmb 22 37 03.0
comp=Z,6.4nm,1.0s
I30M Mount Dempster 37.08 40 P P 22 37 01.6 +1.0
baz=279,SNR=6.9
J30M Hart River 37.21 41 P P 22 37 02.9 +1.2
baz=280
M30M Minto, Yukon 37.38 44 P P 22 37 04.8 +1.7
baz=282
HYT Haines Junctio 37.44 47 P P 22 37 05.5 +1.8
baz=284
N30M Aishikik Lake 37.49 46 P P 22 37 05.2 +1.2
baz=284
P29M Windy Craggy 37.63 49 P P 22 37 07.2 +2.0
baz=286
INK Inuvik 37.76 35 P P 22 37 08.5 +2.4
baz=278
F31M Tsiigehtchic 37.80 36 P P 22 37 08.5 +2.1
F31M IAmb IAmb 22 37 08.9
comp=Z,5.8nm,1.1s
F31M Tsiigehtchic 37.80 36 P P 22 37 08.5 +2.1
baz=279
H31M Peel River 37.82 39 P P 22 37 08.5 +1.8
baz=280
P30M Million Dollar 37.88 48 P P 22 37 09.0 +1.7
baz=285
N31M Braeburn, Yuko 38.10 46 P P 22 37 10.8 +1.7
baz=285
O30N Mendenhall 38.13 47 P P 22 37 11.1 +1.8
baz=285
M31M Drury Creek, Y 38.56 45 P P 22 37 15.0 +2.1
baz=285
WHY Whitehorse 38.73 47 P P 22 37 16.9 +2.4
baz=286
SKAG Skagway 38.86 49 P P 22 37 17.9 +2.5
baz=287
FARO Faro, Yukon 39.02 44 P P 22 37 19.2 +2.4
baz=285
N32M Quiet Lake 39.44 46 P P 22 37 22.2 +1.9
baz=287
P32M Atlin 39.60 48 P P 22 37 23.6 +1.9
baz=288
SIT Sitka 39.62 53 P P 22 37 23.8 +2.1
baz=290
P33M Teslin, Yukon 39.84 47 P P 22 37 25.5 +1.8
baz=288
MMPY Sheldon Lake, 39.85 43 P P 22 37 25.7 +2.0
baz=286
A36M Sachs Harbour 40.00 28 P P 22 37 26.8 +2.1
A36M IAmb IAmb 22 37 27.6
comp=Z,4.8nm,0.8s
A36M Sachs Harbour 40.00 28 P P 22 37 27.7 +3.0
baz=280
GTA Gaotai 40.76 277 *e*P **P 22 37 31.6 0.0**
GTA pP pP 22 37 35.0 -20
GTA pmax pmax
comp=Z,5.0nm,0.9s
C36M Paulatuk 40.94 32 P P 22 37 34.2 +1.7
C36M IAmb IAmb 22 37 35.1
comp=Z,6.0nm,0.9s
C36M Paulatuk 40.94 32 P P 22 37 34.2 +1.7
baz=284,SNR=5.8
R33M Jennings River 40.99 48 P P 22 37 34.9 +1.6
baz=290
TGTN Hyland Airport 41.53 44 P P 22 37 39.9 +2.4
baz=290
V35K Ketchikan 42.19 54 P P 22 37 46.5 +3.7
baz=294
ZALV Zalesovo Beam 42.66 304 P P 22 37 46.0 -0.7
comp=Z,1.6nm,0.4s,baz=57,slow=7.4,SNR=13
comp=Z,1.6nm,0.4s
ZALV Zalesovo Beam 42.66 304 P P 22 37 46.0 -0.7
WRGLY Wrigley 43.04 41 P P 22 37 51.8 +2.2
baz=292
TOAD Toad River Com 43.94 47 P P 22 37 58.5 +1.6
baz=294
YKA Yellowknife Ar 47.04 39 P P 22 38 21.6 +0.3
comp=Z,2.8nm,0.9s,baz=299,slow=7.6,SNR=32
YKA pP **pP 22 38 41.8 -3.0**
comp=Z,0.7nm,0.6s,baz=298,slow=7.4,SNR=5.3
comp=Z,2.8nm,0.9s
KURK Kurchatov 47.53 303 P P 22 38 25.2 -0.1
KURK IAmb IAmb 22 38 25.9
comp=Z,5.7nm,1.1s
KURK Kurchatov 47.53 303 *ce*P **P 22 38 25.2 -0.1**
KURK pmax pmax
comp=Z,6.0nm,1.1s
MK31 Makanchi Array 47.53 296 P P 22 38 24.9 -0.5
MK31 Makanchi Array 47.53 296 *ce*P **P 22 38 24.6 -0.8**
MKAR Makanchi Array 47.53 296 P P 22 38 25.1 -0.2
MKAR Makanchi Array 47.53 296 P P 22 38 25.0 -0.4
comp=Z,1.5nm,0.3s,baz=60,slow=7.0,SNR=49
MKAR LR LR 23 00 18.9
comp=Z,24nm,18.7s,baz=20,slow=38
comp=Z,1.5nm,0.3s
MKAR Makanchi Array 47.53 296 *e*P **P 22 38 25.5 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.3s
KURBB Kurchatov Arra 47.63 303 P P 22 38 25.8 -0.3
comp=Z,2.2nm,0.5s,baz=60,slow=7.5,SNR=18
comp=Z,2.2nm,0.5s
MAKZ Makanchi 47.71 297 P P 22 38 26.6 -0.1
MAKZ Makanchi 47.71 297 P P 22 38 26.6 -0.1
MAKZ pmax pmax
comp=Z,2.0nm,0.7s
SPITS Spitsbergen Ar 49.90 350 P P 22 38 42.5 -0.5
comp=Z,5.7nm,0.9s,baz=61,slow=8.7,SNR=5.2
comp=Z,5.7nm,0.9s
SLVN Son La 50.06 255 P P 22 38 46.7 +1.7
SLVN IAmb IAmb 22 38 47.2
comp=Z,4.5nm,0.9s
BVAR Borovoye Array 50.62 309 P P 22 38 48.6 -0.2
comp=Z,1.8nm,0.3s,baz=60,slow=8.8,SNR=11
comp=Z,1.8nm,0.3s
BRVK Borovoye 50.66 309 *ce*P **P 22 38 49.0 0.0**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BOOM Boomskoye usch 53.72 295 P P 22 39 12.3 +0.2
BOOM IAmb IAmb 22 39 14.8
comp=Z,2.2nm,0.6s
BOOM Boomskoye usch 53.72 295 P P 22 39 12.3 +0.2
BOOM pmax pmax
comp=Z,2.0nm,0.6s
ARTI Arti 54.32 317 *c i*P **P 22 39 15.3 -0.7**
ARTI S **S 22 46 48.0 +2.1**
ARTI SS **SS 22 50 30.0 +1.5**
ARTI pmax pmax
comp=Z,21nm,5.0s
AAK Ala-Archa 54.47 296 P P 22 39 17.7 +0.2
AAK Ala-Archa 54.47 296 LR LR 23 03 05.6
comp=Z,29nm,21.2s,baz=64,slow=37
AAK Ala-Archa 54.47 296 ‖ *i*P **P 22 39 17.3 -0.2**
AAK pmax pmax
comp=Z,1.0nm,0.4s
SHL Shillong 54.71 269 P P 22 39 20.3 +0.8
SHL Shillong 54.71 269 P P 22 39 20.3 +0.8
SHL pmax pmax
comp=Z,12nm,0.5s
CHTO Chiang Mai 55.04 257 P P 22 39 23.4 +1.7
CHTO Chiang Mai 55.04 257 P P 22 39 23.4 +1.7
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CMAR Chiang Mai Arr 55.30 257 P P 22 39 25.1 +1.5
CMAR Chiang Mai Arr 55.30 257 P P 22 39 24.8 +1.2
comp=Z,3.1nm,0.7s,baz=32,slow=6.9,SNR=22
CMAR LR LR 23 05 04.1
comp=Z,13nm,18.3s,baz=170,slow=38
comp=Z,3.1nm,0.7s
CMAR Chiang Mai Arr 55.30 257 *e*P **P 22 39 26.0 +2.4**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 55.60 341 P P 22 39 24.0 -1.1
comp=Z,3.1nm,0.9s,baz=33,slow=6.4,SNR=5.6
comp=Z,3.1nm,0.9s
ARCES ARCESS Array B 55.60 341 P P 22 39 24.0 -1.1
BOZ Bozeman (W) 58.10 56 P P 22 39 44.4 +1.2
BOZ IAmb IAmb 22 39 50.1
comp=Z,4.8nm,1.0s
BOZ Bozeman (W) 58.10 56 P P 22 39 44.4 +1.2
BOZ pmax pmax
comp=Z,5.0nm,1.0s
ABKAR Akbulak array 58.13 310 P P 22 39 43.0 -0.2
ABKAR Akbulak array 58.13 310 P P 22 39 43.0 -0.2
ABKAR IAmb IAmb 22 39 44.2
comp=Z,4.8nm,1.3s
BTK Batken 58.24 296 P P 22 39 43.7 -0.5
BTK IAmb IAmb 22 39 45.5
comp=Z,2.5nm,0.6s
BTK Batken 58.24 296 P P 22 39 43.7 -0.5
BTK pmax pmax
comp=Z,3.0nm,0.6s
NVAR Mina Array Bea 59.02 66 P P 22 39 51.1 +1.3
comp=Z,0.7nm,0.4s,baz=308,slow=6.6,SNR=5.0
comp=Z,0.7nm,0.4s
GAR Garm 59.23 295 P P 22 39 50.5 -0.7
SIMJ Simiganj 60.22 296 P P 22 39 57.8 -0.1
NIL Nilore 61.05 289 P P 22 40 03.4 -0.1
NIL Nilore 61.05 289 P P 22 40 03.4 -0.1
NIL pmax pmax
comp=Z,5.0nm,0.7s
PDAR Pinedale Array 61.09 57 P P 22 40 04.9 +1.0
PDAR Pinedale Array 61.09 57 P P 22 40 04.8 +0.8
comp=Z,0.8nm,0.8s,baz=336,slow=3.3,SNR=8.3
PDAR pP **pP 22 40 25.8 -2.2**
comp=Z,2.1nm,0.8s,baz=322,slow=2.2,SNR=14
comp=Z,0.8nm,0.8s
FINES FINESS Array B 62.12 336 P P 22 40 09.3 -0.9
comp=Z,3.9nm,1.0s,baz=316,slow=8.0,SNR=3.8
comp=Z,3.9nm,1.0s

SRU	**San Rafael Swe**	**63.05**	**61**	P	**P**	**22 40 18.6**	**+1.7**
SRU				IAmb	IAmb	22 40 19.0	
comp=Z,3.3nm,0.8s							
SRU	**San Rafael Swe**	**63.05**	**61**	P	**P**	**22 40 18.7**	**+1.7**
SRU				pmax	pmax		
comp=Z,3.0nm,0.8s							
HMU	**Henry Mountain**	**63.73**	**62**	P	**P**	**22 40 23.6**	**+1.9**
NOA	**NORSAR Array B**	**65.94**	**342**	P	**P**	**22 40 33.1**	**-2.2**
comp=Z,1.3nm,0.9s,baz=23,slow=6.4,SNR=3.3							
AKASG	**Malin Array Be**	**70.14**	**327**	P	**P**	**22 41 00.5**	**-1.1**
comp=Z,0.2nm,0.3s,baz=34,slow=6.5,SNR=3.5							
comp=Z,0.2nm,0.3s							
KBZ	**Khabaz**	**70.26**	**315**	P	**P**	**22 41 03.2**	**+0.8**
comp=Z,1.1nm,0.9s,baz=56,slow=11,SNR=3.8							
comp=Z,1.1nm,0.9s							
WRA	**Warramunga Arr**	**72.27**	**202**	P	**P**	**22 41 16.5**	**+1.8**
comp=Z,0.5nm,0.9s,baz=14,slow=6.2,SNR=2.0							
WRA				pP	**PcP**	**22 41 34.5**	**+2.2**
comp=Z,0.6nm,0.5s,baz=18,slow=6.4,SNR=3.1							
WRA				LR	LR	23 17 15.6	
comp=Z,54nm,18.0s,baz=200,slow=39							
comp=Z,0.5nm,0.9s							
EKA	**Eskdalemuir Ar**	**73.76**	**348**	P	**P**	**22 41 24.1**	**+1.0**
comp=Z,0.4nm,0.3s,baz=18,slow=5.2,SNR=8.4							
comp=Z,0.4nm,0.3s							
TXAR	**Lajitas Array**	**74.01**	**64**	P	**P**	**22 41 26.3**	**+1.1**
comp=Z,1.9nm,0.6s,baz=291,slow=4.4,SNR=20							
TXAR				pP	**pP**	**22 41 47.4**	**-2.7**
comp=Z,0.7nm,0.8s,baz=309,slow=4.3,SNR=3.5							
comp=Z,1.9nm,0.6s							
LANS	**Liptovska Anna**	**74.65**	**332**	*e*P	**P**	**22 41 29.4**	**+0.9**
LANS	**Liptovska Anna**	**74.65**	**332**	*e*P	**P**	**22 41 29.3**	**+0.8**
VRAC	**Vranov**	**75.34**	**334**	LR	LR	23 16 26.3	
comp=Z,22nm,18.6s,baz=319,slow=37							
ASAR	**Alice Springs**	**75.95**	**201**	pP	pP	22 41 57.5	-3.9
comp=Z,0.5nm,0.6s,baz=15,slow=5.2,SNR=3.7							
KHC	**Kasperske Hory**	**76.33**	**336**	*c*eP	**P**	**22 41 40.1**	**+2.0**
KHC				pmax	pmax		
comp=Z,10.0nm,1.7s							
GERES	**GERESS Array B**	**76.55**	**336**	P	**P**	**22 41 40.2**	**+0.7**
comp=Z,0.4nm,0.5s,baz=28,slow=6.0,SNR=4.6							
comp=Z,0.4nm,0.5s							
BRTR	**Keskin Array B**	**77.58**	**318**	P	**P**	**22 41 46.4**	**+0.9**
comp=Z,0.6nm,0.7s,baz=48,slow=1.8,SNR=4.9							
comp=Z,0.6nm,0.7s							
MMAI	**Mount Meron Ar**	**82.35**	**313**	P	**P**	**22 42 11.9**	**+0.8**
comp=Z,0.4nm,0.4s,baz=16,slow=6.3,SNR=4.2							
comp=Z,0.4nm,0.4s							
EIL	**Elat**	**85.34**	**312**	LR	LR	23 27 20.2	
comp=Z,13nm,18.2s,baz=248,slow=40							
H03N2	**Juan Fernandez**	**136.48**	**89**	T	T	01 21 33.1	
baz=312,slow=77,SNR=13							
H03N1	**Juan Fernandez**	**136.49**	**89**	T	T	01 21 35.5	
baz=312,slow=77,SNR=22							
H03N3	**Juan Fernandez**	**136.49**	**89**	T	T	01 21 35.7	
baz=312,slow=77,SNR=21							
PLCA	**Paso Flores**	**146.16**	**93**	PKPbc	**PKPdf**	**22 49 28.2**	**+0.9**
comp=Z,1.2nm,0.8s,baz=327,slow=3.7,SNR=7.1							

*IDC **07** 22:32:10.3±15.0, 36°.98N×20°.49E, h0km, mb3.8/2, mbtmp3.6/3, ML3.1/1, MS2.7/3, Error ellipse: s-maj=392.9km s-min=100.9km az=6.0*
*THE **07** 22:32:24.9, 38°.32N×21°.44E, h26km±1km, ML3.0/15, Error ellipse: s-maj=1.2km s-min=0.5km az=105.0*
*ATH **07** 22:32:24.5, 38°.35N×21°.42E, h22km±2km, ML3.2/25, Manual Solution by A.Plessa First location: 2019/04/07 22:33:16, This location: 2019/04/08 05:32:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

ISC 07 22:32:24.8±0.8, 38°.33N±0°.02×21°.41E±0°.02, h20km±1km, n65, σ0§80/87, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXS	**Araxos**	**0.14**	**192**	P	**Pb**	**22 32 29.1**	**-1.4**
AXS				S	**Sb**	**22 32 32.9**	**-1.6**
YRMI	**Loutra Irminis**	**0.23**	**192**	P	**Pb**	**22 32 30.6**	**-0.1**
YRMI				S	**Sb**	**22 32 35.8**	**+1.1**
PATG	**Patra B**	**0.26**	**110**	P	**Pb**	**22 32 30.9**	**-0.2**
PATG				S	**Sb**	**22 32 35.8**	**+0.5**
RLS	**Riolos of Patr**	**0.28**	**171**	P	**Pb**	**22 32 31.2**	**0.0**
RLS				S	**Sb**	**22 32 36.5**	**+0.9**
3μm,0.4s							
RLS	**Riolos of Patr**	**0.28**	**171**	P	**Pb**	**22 32 31.2**	**0.0**
RLS				S	**Sb**	**22 32 36.4**	**+0.9**
PATC	**Patra C**	**0.28**	**103**	P	**Pb**	**22 32 31.1**	**-0.2**
PATC				S	**Sb**	**22 32 36.8**	**+1.1**
UPR	**University Cam**	**0.30**	**99**	P	**Pb**	**22 32 31.6**	**+0.2**
UPR				S	**Sb**	**22 32 35.9**	**-0.1**
PVO	**Paravola**	**0.30**	**17**	P	**Pb**	**22 32 31.1**	**-0.4**
AST1	**Astakos**	**0.33**	**310**	P	**Pb**	**22 32 32.2**	**+0.3**
AST1				S	**Sb**	**22 32 38.4**	**+1.6**
9μm,0.3s							
EFP	**Efpalio**	**0.40**	**76**	P	**Pb**	**22 32 32.4**	**-0.7**
EFP				S	**Sb**	**22 32 38.9**	**+0.2**
14μm,0.5s							
ANX	**Ano Chora**	**0.48**	**57**	P	**Pb**	**22 32 33.9**	**-0.7**
ANX				S	**Sb**	**22 32 41.5**	**+0.3**
9μm,0.4s							
ANX	**Ano Chora**	**0.48**	**57**	P	**Pb**	**22 32 33.8**	**-0.8**
CLEM	**Kyllini,Ilia,G**	**0.49**	**207**	P	**Pn**	**22 32 35.4**	**-1.3**
SERG	**Sergoula**	**0.51**	**81**	P	**Pb**	**22 32 34.3**	**-0.9**
ALIK	**Aliki, Aigiali**	**0.55**	**97**	P	**Pb**	**22 32 35.8**	**-0.1**
ALIK				S	**Sb**	**22 32 44.2**	**+0.8**
RTZL	**Ratzakli, Kefa**	**0.57**	**243**	P	**Pb**	**22 32 36.3**	**+0.2**
RTZL				S	**Sn**	**22 32 46.7**	**+0.3**
KALE	**Kalithea**	**0.57**	**84**	P	**Pb**	**22 32 35.3**	**-1.0**
KALE				S	**Sb**	**22 32 44.0**	**-0.1**
4μm,0.3s							
KALE	**Kalithea**	**0.57**	**84**	P	**Pb**	**22 32 35.1**	**-1.2**
SMHA	**Samh**	**0.61**	**263**	P	**Pb**	**22 32 35.5**	**-1.3**
KLV	**Kalavryta, Ach**	**0.65**	**116**	P	**Pb**	**22 32 36.7**	**-0.9**
KLV				S	**Sb**	**22 32 46.0**	**-0.2**
KLV	**Kalavryta, Ach**	**0.65**	**116**	P	**Pb**	**22 32 36.5**	**-1.1**
EVGI	**Lefkada island**	**0.66**	**296**	P	**Pb**	**22 32 37.4**	**-0.4**
EVGI				S	**Sn**	**22 32 47.7**	**-1.1**
790nm,0.1s							
EVGI	**Lefkada island**	**0.66**	**296**	P	**Pb**	**22 32 37.3**	**-0.4**
EVR	**Evrytania**	**0.66**	**28**	P	**Pb**	**22 32 38.1**	**+0.3**
EVR				S	**Sn**	**22 32 48.7**	**-0.3**
772nm,0.5s							
EVR	**Evrytania**	**0.66**	**28**	P	**Pb**	**22 32 37.8**	**0.0**
VLS	**Valsamata**	**0.67**	**257**	P	**Pb**	**22 32 37.4**	**-0.4**
VLS				S	**Sn**	**22 32 48.5**	**-0.5**
1μm,0.1s							
VLS	**Valsamata**	**0.67**	**257**	P	**Pb**	**22 32 37.3**	**-0.5**
VSK1	**VASILIKIADES**	**0.67**	**277**	P	**Pb**	**22 32 37.4**	**-0.5**
VSK1				S	**Sn**	**22 32 48.6**	**-0.5**
1μm,0.2s							
NYDR	**Nydri-Lefkada**	**0.68**	**305**	P	**Pb**	**22 32 37.8**	**-0.2**
NYDR				S	**Sn**	**22 32 48.1**	**-1.1**
765nm,0.5s							
NYDR	**Nydri-Lefkada**	**0.68**	**305**	P	**Pb**	**22 32 37.3**	**-0.7**
FSK	**Fiskardo**	**0.68**	**281**	P	**Pb**	**22 32 37.9**	**-0.1**
FSK				S	**Sn**	**22 32 49.0**	**-0.3**
2μm,0.2s							
FSK	**Fiskardo**	**0.68**	**281**	P	**Pb**	**22 32 37.7**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.69**	**252**	P	**Pb**	**22 32 37.6**	**-0.5**
PSDA				S	**Sn**	**22 32 49.0**	**-0.4**
2μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.69**	**252**	P	**Pb**	**22 32 37.7**	**-0.5**
KYPS	**Kipseli, Zakin**	**0.69**	**222**	P	**Pn**	**22 32 38.8**	**-0.6**
ORTH	**Orthonies,Zaky**	**0.74**	**230**	P	**Pb**	**22 32 39.0**	**-0.1**
LKD2	**Lefkada island**	**0.75**	**308**	P	**Pb**	**22 32 38.8**	**-0.4**
LKD2				S	**Sn**	**22 32 50.8**	**-0.2**
960nm,0.4s							
LKD2	**Lefkada island**	**0.75**	**308**	P	**Pb**	**22 32 38.8**	**-0.4**
LTHK	**Lithakia**	**0.77**	**216**	P	**Pb**	**22 32 39.5**	**0.0**
LTHK				S	**Sn**	**22 32 50.6**	**-0.8**
1μm,0.2s							
TSLK	**Tsoukalades, L**	**0.77**	**310**	P	**Pb**	**22 32 39.5**	**-0.1**
TSLK				S	**Sn**	**22 32 51.5**	**-0.1**
980nm,0.6s							
TSLK	**Tsoukalades, L**	**0.77**	**310**	P	**Pb**	**22 32 39.3**	**-0.3**
LXR1	**Lixouri, Cepha**	**0.78**	**261**	P	**Pb**	**22 32 39.4**	**-0.2**
DMLN	**Damoulianata-K**	**0.82**	**264**	P	**Pn**	**22 32 40.5**	**-0.8**
DMLN				S	**Sn**	**22 32 53.0**	**+0.2**
DMLN	**Damoulianata-K**	**0.82**	**264**	P	**Pb**	**22 32 39.9**	**-0.5**
AMT	**Artemida-Makis**	**0.83**	**164**	P	**Pb**	**22 32 40.4**	**-0.2**
GUR	**Goura**	**0.83**	**118**	P	**Pb**	**22 32 39.4**	**-1.3**
ZARO	**Zacharo**	**0.86**	**167**	P	**Pn**	**22 32 41.2**	**-0.6**
DLFA	**Delphi**	**0.86**	**80**	P	**Pb**	**22 32 40.5**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.88**	**39**	P	**Pb**	**22 32 41.1**	**-0.4**
TETR	**Tetrakomo, Epi**	**1.02**	**354**	P	**Pb**	**22 32 43.6**	**-0.2**
AXAR	**Agios Charalam**	**1.07**	**66**	P	**Pn**	**22 32 43.9**	**-0.8**
KIAA	**Kiato**	**1.10**	**106**	P	**Pb**	**22 32 45.2**	**+0.1**
ITM	**Ithomi**	**1.22**	**160**	P	**Pb**	**22 32 46.9**	**-0.3**
VLX	**Vlachokerasia**	**1.23**	**141**	P	**Pb**	**22 32 46.9**	**-0.5**
LTK	**Loutraki**	**1.26**	**104**	P	**Pb**	**22 32 47.7**	**-0.2**
LKR	**Lokris**	**1.28**	**75**	P	**Pb**	**22 32 48.1**	**-0.2**
THL	**Klokotos Trika**	**1.32**	**21**	P	**Pb**	**22 32 48.5**	**-0.3**
VIL2	**Platees**	**1.47**	**94**	P	**Pb**	**22 32 51.5**	**+0.1**
VAY	**Valandovo**	**3.12**	**16**	*i* Pn	**Pb**	**22 33 20.1**	**+0.6**
IDI	**Anoyia**	**4.12**	**136**	LR	LR	22 35 21.5	
comp=Z,77nm,19.7s,baz=302,slow=49							
BRTR	**Keskin Array B**	**9.62**	**78**	Pn	**Pn**	**22 34 46.3**	**+4.1**
0.1nm,0.3s,baz=255,slow=13,SNR=5.6							
0.4nm,0.4s							
KEST	**Kesra**	**9.99**	**259**	LR	LR	22 38 39.3	
comp=Z,46nm,19.4s,baz=321,slow=43							
ASF	**Jabal al Asfar**	**14.06**	**111**	LR	LR	22 42 32.9	
comp=Z,36nm,19.6s,baz=159,slow=43							
MKAR	**Makanchi Array**	**44.62**	**59**	P	**P**	**22 40 35.0**	**-0.6**
0.6nm,0.5s,baz=276,slow=7.3,SNR=8.4							
0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**45.07**	**48**	P	**P**	**22 40 38.7**	**-0.3**
0.7nm,0.5s,baz=281,slow=8.1,SNR=4.1							
0.7nm,0.5s							

*IDC **07** 22:44:59.3±1.6, 21°.64N×143°.20E, h289km±15km, mb3.5/22, mbtmp4.2/24, Error ellipse: s-maj=15.8km s-min=9.5km az=82.0*
*JMA **07** 22:45:01.9±0.2, 22°.N±1°.×14°.3E±°, h288km±2km, MV5.0/27, MARIANA ISLANDS REGION*
*NEIC **07** 22:45:02.5±1.2, 21°.57N±0°.09×143°.2E±0°.1, h316km±8km, mb4.2/62, Error ellipse: s-maj=17.6km s-min=6.7km az=133.0*

ISC 07 22:45:01.4±0.5, 21°.67N±0°.06×143°.2E±0°.1, h311km, n100, σ1§29/107, mb4.1/52, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**5.02**	**350**	*e*P	**Pn**	**22 46 18.9**	**-0.6**
JHH2				*e*S	**S**	**22 47 19.2**	**-3.3**
JCJ	**Chichijima**	**5.47**	**351**		**Pn**	**22 46 24.4**	**-0.4**
JCJ	**Chichijima**	**5.47**	**351**	P	**Pn**	**22 46 23.0**	**-1.8**
128nm,0.3s,baz=13,slow=23,SNR=29							
JCJ				S	**S**	**22 47 28.3**	**-3.7**
147nm,0.4s,baz=275,slow=23,SNR=12							
CBIJ	**Chichi jima**	**5.48**	**351**	*e*P	**Pn**	**22 46 24.0**	**-0.8**
CBIJ				*e*S	**S**	**22 47 28.8**	**-3.2**
BSO1	**Boso 1**	**13.08**	**352**	*e*P	**Pn**	**22 47 58.2**	**+2.1**
BSO3	**Boso 3**	**13.29**	**350**	*e*P	**Pn**	**22 47 59.7**	**+0.8**
BSO3				*e*S	**S**	**22 50 21.8**	**-3.4**
JIE	**Ise**	**13.90**	**337**	*e*P	**Pn**	**22 48 07.6**	**+1.2**
JMN	**Monobe**	**14.55**	**328**		**Pn**	**22 48 15.6**	**+1.4**
JRY	**Ryogami san**	**14.77**	**346**	*e*P	**P**	**22 48 16.6**	**+1.2**
JAG	**Ashikaga**	**15.06**	**348**	*e*P	**P**	**22 48 18.8**	**+0.3**
JHO	**Hitachi**	**15.06**	**352**	*e*P	**Pn**	**22 48 20.8**	**+0.7**
MJAR	**Matsushiro Arr**	**15.44**	**345**	P	**P**	**22 48 22.9**	**+0.3**
0.6nm,0.4s,baz=165,slow=10.0,SNR=1.5							
MJB9	**Matsu-Tunnel**	**15.44**	**345**	P	**P**	**22 48 23.9**	**+1.2**
MJB9				IAmb	IAmb	22 48 49.2	
comp=Z,12nm,1.3s							
JSJ	**Shimokoshiki**	**15.62**	**312**	*e*P	**Pn**	**22 48 28.3**	**+1.7**
JNU	**Nakatsue**	**15.78**	**319**	P	**Pn**	**22 48 28.4**	**-0.1**
JMM	**Marumori**	**16.27**	**353**	P	**Pn**	**22 48 34.0**	**-0.1**
KSRS	**Korea Array**	**20.54**	**323**	P	**P**	**22 49 18.4**	**+1.4**
comp=Z,2.0nm,0.6s,baz=143,slow=9.0,SNR=8.8							
comp=Z,2.0nm,0.6s							
MTN	**Manton Dam**	**36.29**	**200**	P	**P**	**22 51 34.5**	**-1.6**
SONM	**Songino Array**	**39.36**	**320**	P	**P**	**22 52 02.8**	**+1.2**
SONM	**Songino Array**	**39.36**	**320**	P	**P**	**22 52 02.7**	**+1.2**
comp=Z,0.6nm,0.5s,baz=130,slow=7.4,SNR=7.6							
comp=Z,0.6nm,0.5s							
KNRA	**Kununurra**	**39.72**	**202**	P	**P**	**22 52 03.6**	**-1.1**
WB0	**Warramunga Arr**	**42.07**	**192**	P	**P**	**22 52 22.6**	**-1.1**
WB0				IAmb	IAmb	22 52 24.1	
comp=Z,19nm,1.4s							
WR0	**Warramunga Arr**	**42.23**	**192**	P	**P**	**22 52 23.9**	**-1.0**
WR8	**Warramunga Arr**	**42.24**	**192**	P	**P**	**22 52 23.9**	**-1.1**
WR8				IAmb	IAmb	22 52 41.4	
comp=Z,17nm,1.4s							
WRAB	**Tennant Creek**	**42.24**	**192**	P	**P**	**22 52 24.1**	**-0.9**
WRAB				IAmb	IAmb	22 52 25.0	
comp=Z,9.0nm,0.6s							
WB2	**Warramunga Arr**	**42.25**	**192**	P	**P**	**22 52 24.1**	**-1.0**
WB2				IAmb	IAmb	22 52 25.1	
comp=Z,10nm,0.6s							
WRA	**Warramunga Arr**	**42.26**	**192**	P	**P**	**22 52 23.2**	**-2.0**
WRA	**Warramunga Arr**	**42.26**	**192**	P	**P**	**22 52 24.8**	**-0.4**
comp=Z,6.6nm,0.5s,baz=13,slow=9.2,SNR=140							
WRA				PcP	**PcP**	**22 54 12.9**	**+0.2**
comp=Z,0.2nm,0.6s,baz=7.0,slow=3.1,SNR=1.5							
comp=Z,6.6nm,0.5s							
FITZ	**Fitzroy Crossi**	**43.10**	**205**	P	**P**	**22 52 30.8**	**-1.1**
KULM	**Kulim**	**44.27**	**255**	P	**P**	**22 52 42.3**	**+1.0**
ATKA	**Atka Island**	**44.71**	**36**	P	**P**	**22 52 44.7**	**+0.5**
ASAR	**Alice Springs**	**45.96**	**192**	P	**P**	**22 52 53.5**	**-0.8**
comp=Z,1.9nm,0.6s,baz=15,slow=9.7,SNR=20							
comp=Z,1.9nm,0.6s							
BILL	**Bilibino**	**48.54**	**11**	P	**P**	**22 53 14.4**	**+0.9**
LVA	**Lava Point**	**49.99**	**36**	P	**P**	**22 53 25.4**	**+0.8**
AKUT	**Akutan**	**50.13**	**37**	P	**P**	**22 53 26.4**	**+0.8**
STKA	**Stephens Creek**	**53.27**	**182**	P	**P**	**22 53 48.1**	**-0.8**
STKA	**Stephens Creek**	**53.27**	**182**	P	**P**	**22 53 47.6**	**-1.2**
comp=Z,3.0nm,0.4s,baz=29,slow=5.9,SNR=8.4							
comp=Z,3.0nm,0.4s							
M13K	**Dall Lake**	**53.59**	**30**	P	**P**	**22 53 52.7**	**+1.9**
M13K				IAmb	IAmb	22 54 23.8	
comp=Z,16nm,1.2s							
K13K	**Kusilvak Mount**	**53.60**	**28**	P	**P**	**22 53 52.8**	**+1.9**
K13K				IAmb	IAmb	22 54 03.0	
comp=Z,11nm,1.3s							
FORT	**Forrest**	**54.14**	**196**	P	**P**	**22 53 54.6**	**-0.5**
N14K	**Kuskokwak Cree**	**54.19**	**31**	P	**P**	**22 53 56.8**	**+1.7**
N14K				IAmb	IAmb	22 54 31.8	
comp=Z,21nm,1.4s							
ZALV	**Zalesovo Beam**	**54.23**	**322**	P	**P**	**22 53 55.5**	**-0.1**
comp=Z,1.3nm,0.7s,baz=140,slow=7.8,SNR=6.2							
ZALV				PcP	**PcP**	**22 54 55.3**	**-0.2**
comp=Z,1.5nm,0.4s,baz=116,slow=4.1,SNR=6.9							
comp=Z,1.3nm,0.7s							
L14K	**Kuka Creek**	**54.24**	**29**	P	**P**	**22 53 57.1**	**+1.7**
M14K	**Bethel**	**54.35**	**30**	P	**P**	**22 53 57.5**	**+1.2**
M14K				IAmb	IAmb	22 54 20.4	
comp=Z,11nm,1.2s							
MK31	**Makanchi Array**	**54.72**	**313**	P	**P**	**22 53 59.9**	**+0.6**
MKAR	**Makanchi Array**	**54.72**	**313**	P	**P**	**22 53 59.9**	**+0.7**
MKAR	**Makanchi Array**	**54.72**	**313**	P	**P**	**22 53 59.5**	**+0.2**
comp=Z,0.4nm,0.5s,baz=88,slow=9.5,SNR=8.8							
MKAR				PcP	**PcP**	**22 54 57.9**	**+0.3**
comp=Z,0.6nm,0.4s,baz=72,slow=4.5,SNR=11							
comp=Z,0.4nm,0.5s							
O15K	**Ungalikthiuk R**	**54.85**	**32**	P	**P**	**22 54 01.4**	**+1.5**
O15K				IAmb	IAmb	22 54 13.1	
comp=Z,18nm,1.4s							
MAKZ	**Makanchi**	**54.93**	**313**	P	**P**	**22 54 01.0**	**+0.2**
N15K	**Kwethluk River**	**55.03**	**31**	P	**P**	**22 54 02.8**	**+1.6**
N15K				IAmb	IAmb	22 54 09.9	
comp=Z,14nm,1.4s							
K15K	**Wolf Creek Mou**	**55.10**	**28**	P	**P**	**22 54 02.8**	**+1.2**
K15K				IAmb	IAmb	22 54 42.3	
comp=Z,18nm,1.4s							
K17K	**Iditarod**	**56.65**	**28**	P	**P**	**22 54 14.0**	**+1.4**
K17K				IAmb	IAmb	22 54 15.3	
comp=Z,6.2nm,0.8s							
SII	**Sitkinak Islan**	**57.14**	**36**	P	**P**	**22 54 17.2**	**+1.1**
N18K	**Kilae Creek**	**57.17**	**31**	P	**P**	**22 54 17.5**	**+1.2**
N18K				IAmb	IAmb	22 54 34.1	
comp=Z,11nm,1.4s							
L18K	**Granite Mounta**	**57.22**	**29**	P	**P**	**22 54 17.9**	**+1.4**
O18K	**Koktuh Hills**	**57.30**	**32**	P	**P**	**22 54 18.8**	**+1.6**
O18K				IAmb	IAmb	22 54 53.9	
comp=Z,9.1nm,1.1s							
H18K	**Honhosa River**	**57.42**	**25**	P	**P**	**22 54 19.2**	**+1.3**
H18K				IAmb	IAmb	22 54 60.0	
comp=Z,7.7nm,1.3s							
KURK	**Kurchatov**	**57.50**	**317**	P	**P**	**22 54 19.3**	**+0.6**
KURBB	**Kurchatov Arra**	**57.54**	**317**	P	**P**	**22 54 19.3**	**+0.3**
comp=Z,1.3nm,0.4s,baz=95,slow=7.4,SNR=17							
comp=Z,1.3nm,0.4s							
G18K	**Tagagawik**	**57.57**	**24**	P	**P**	**22 54 19.7**	**+0.8**
N19K	**Bonanza Creek**	**57.88**	**31**	P	**P**	**22 54 22.9**	**+1.7**
N19K				IAmb	IAmb	22 54 25.2	
comp=Z,13nm,1.3s							
L19K	**White Mountain**	**58.03**	**29**	P	**P**	**22 54 23.3**	**+1.1**
D20K	**Etivluk River**	**59.30**	**22**	P	**P**	**22 54 31.8**	**+1.1**
D20K				IAmb	IAmb	22 54 32.9	
comp=Z,5.7nm,1.0s							
CAST	**Castle Rocks**	**59.56**	**28**	P	**P**	**22 54 33.3**	**+0.6**
B20K	**Meade River**	**59.58**	**20**	P	**P**	**22 54 34.0**	**+1.5**
B20K				IAmb	IAmb	22 54 34.8	
comp=Z,5.9nm,0.8s							
H21K	**Melozitna Rive**	**59.79**	**26**	P	**P**	**22 54 35.9**	**+1.7**
H21K				IAmb	IAmb	22 54 36.6	
comp=Z,6.4nm,1.1s							
D22K	**Ayikyak River**	**60.70**	**22**	P	**P**	**22 54 42.0**	**+1.8**
I23K	**Minto, Yukon-K**	**61.09**	**26**	P	**P**	**22 54 43.8**	**+1.0**
E23K	**Chandalar**	**61.59**	**23**	P	**P**	**22 54 47.9**	**+1.7**
E23K				IAmb	IAmb	22 54 49.3	
comp=Z,8.3nm,1.4s							
C23K	**Itkillik River**	**61.67**	**21**	P	**P**	**22 54 47.9**	**+1.3**
TOLK	**Toolik Lake Re**	**61.74**	**23**	P	**P**	**22 54 48.8**	**+1.6**
TOLK				IAmb	IAmb	22 54 49.2	
comp=Z,3.1nm,0.5s							
IL31		**62.06**	**27**	P	**P**	**22 54 48.8**	**-0.4**
ILAR	**Eielson Array**	**62.06**	**27**	P	**P**	**22 54 48.9**	**-0.4**
comp=Z,1.5nm,0.6s,baz=258,slow=5.4,SNR=27							
comp=Z,1.5nm,0.6s							
D24K	**Happy Valley**	**62.12**	**22**	P	**P**	**22 54 51.2**	**+1.7**
D24K				IAmb	IAmb	22 54 52.1	
comp=Z,4.9nm,1.0s							
BVAR	**Borovoye Array**	**62.69**	**320**	P	**P**	**22 54 54.2**	**+0.6**
comp=Z,3.4nm,0.5s,baz=97,slow=7.7,SNR=17							
comp=Z,3.4nm,0.5s							
D25K	**Kavik River**	**63.01**	**22**	P	**P**	**22 54 56.8**	**+1.3**
D25K				IAmb	IAmb	22 54 57.7	
comp=Z,4.7nm,0.8s							
DOT	**Dot Lake**	**63.15**	**29**	P	**P**	**22 54 56.1**	**-0.4**
J26L	**Joseph Creek**	**63.45**	**28**	P	**P**	**22 54 58.2**	**-0.2**
J26L				IAmb	IAmb	22 54 59.8	
comp=Z,3.2nm,0.8s							
F26K	**Sheenjek River**	**63.57**	**24**	P	**P**	**22 55 01.0**	**+1.8**
F26K				IAmb	IAmb	22 55 01.9	
comp=Z,3.3nm,0.8s							
H27K	**Steamboat Moun**	**64.44**	**26**	P	**P**	**22 55 06.4**	**+1.5**
H27K				IAmb	IAmb	22 55 06.9	
comp=Z,3.4nm,0.7s							
F30M	**Barrier River**	**66.75**	**24**	P	**P**	**22 55 20.6**	**+1.1**
F30M				IAmb	IAmb	22 55 22.2	
comp=Z,9.2nm,1.4s							
U33K	**Whale Pass**	**68.81**	**37**	P	**P**	**22 55 30.6**	**-1.7**
ABKAR	**Akbulak array**	**69.57**	**316**	P	**P**	**22 55 37.2**	**0.0**
ABKAR				IAmb	IAmb	22 55 38.1	
comp=Z,2.6nm,0.7s							
A36M	**Sachs Harbour**	**70.06**	**19**	P	**P**	**22 55 39.7**	**0.0**
A36M				IAmb	IAmb	22 55 41.1	
comp=Z,4.1nm,0.9s							
C36M	**Paulatuk**	**70.88**	**22**	P	**P**	**22 55 44.7**	**0.0**
C36M				IAmb	IAmb	22 55 45.5	
comp=Z,2.8nm,0.6s							
SPITS	**Spitsbergen Ar**	**75.86**	**350**	P	**P**	**22 56 14.0**	**+0.5**
comp=Z,1.2nm,0.5s,baz=99,slow=5.2,SNR=13							
comp=Z,1.2nm,0.5s							
YKA	**Yellowknife Ar**	**76.47**	**28**	P	**P**	**22 56 17.5**	**+0.4**
comp=Z,1.9nm,0.6s,baz=294,slow=5.8,SNR=51							
comp=Z,1.9nm,0.6s							
ARCES	**ARCESS Array B**	**78.95**	**341**	P	**P**	**22 56 31.4**	**+0.9**
comp=Z,3.0nm,0.5s,baz=75,slow=8.6,SNR=29							
comp=Z,3.0nm,0.5s							
KBZ	**Khabaz**	**82.39**	**314**	P	**P**	**22 56 49.5**	**+0.4**
comp=Z,3.2nm,0.8s,baz=105,slow=2.8,SNR=12							
comp=Z,3.2nm,0.8s							
NVAR	**Mina Array Bea**	**83.16**	**51**	P	**P**	**22

comp=Z,118nm,18.1s,baz=200,slow=35
SNAA Sanae 47.09 189 P **P** **23 01 07.5 +0.3**
SNAA IAmb IAmb 23 01 10.2
comp=Z,7.6nm,1.3s
SNAA Sanae 47.09 189 LR LR 23 19 52.0
comp=Z,116nm,18.7s,baz=132,slow=35
FITZ Fitzroy Crossi 47.53 320 P **P** **23 01 10.1 -1.1**
SMAI San Martin Ant 47.86 160 P P 23 01 10.7 -2.4
SMAI IAmb IAmb 23 01 27.9
comp=Z,26nm,1.2s
HNR Honiara 51.24 6 LR LR 23 20 18.4
comp=Z,120nm,18.2s,baz=160,slow=32
PMSA Palmer Station 51.43 160 P **P** **23 01 39.3 -1.1**
PMG Port Moresby 51.52 350 LR LR 23 20 45.5
comp=Z,110nm,18.5s,baz=150,slow=33
PPT2 Papeete2 57.93 67 *e*LR LR 23 19 58.7
comp=Z,51nm,22.5s
RKT Rikitea 60.13 84 *e*LR LR 23 21 09.5
comp=Z,1μm,33.2s
MG05 Puerto Natales 61.60 148 P **P** **23 02 54.9 +1.9**
KAPI Kappang 61.70 319 LR LR 23 26 54.1
comp=Z,56nm,21.3s,baz=170,slow=33
LL07 Hotel Espejo d 69.42 144 P **P** **23 03 43.2 -0.4**
TAOE Nuku Hiva Isla 69.92 72 *e*LR LR 23 25 32.1
comp=Z,105nm,31.3s
PLCA Paso Flores 72.20 145 P **P** **23 04 02.2 +1.5**
PLCA IAmb IAmb 23 04 05.9
comp=Z,5.8nm,0.8s
H03S2 Juan Fernandez 75.90 136 T T 00 28 51.9
baz=201,slow=74,SNR=3.2
H03S1 Juan Fernandez 75.90 136 T T 00 28 52.8
baz=201,slow=74,SNR=3.3
H03S3 Juan Fernandez 75.92 136 T T 00 28 50.9
baz=201,slow=74,SNR=2.9
BO04 La Punta 78.45 142 P **P** **23 04 35.9 -0.7**
BO04 IAmb IAmb 23 04 53.6
comp=Z,32nm,1.6s
H08S2 Diego Garcia H 79.92 272 T T 00 31 57.5
baz=149,slow=76,SNR=23
H08S1 Diego Garcia H 79.93 272 T T 00 31 58.5
baz=149,slow=76,SNR=10
H08S3 Diego Garcia H 79.94 272 T T 00 31 59.2
baz=149,slow=76,SNR=27
BOSA Boshof 82.23 223 LR LR 23 40 40.3
comp=Z,59nm,18.0s,baz=166,slow=35
PALK Pallekele 88.90 287 LR LR 23 41 25.1
comp=Z,32nm,18.2s,baz=126,slow=33
CMAR Chiang Mai Arr 90.91 308 LR LR 23 47 03.6
comp=Z,18nm,18.0s,baz=155,slow=36

*ISN **07** 23:00:16.1±0.5, 33°.65N×45°.72E, h12km±10km, ML2.7*
*TEH **07** 23:00:17.1, 33°.66N×45°.72E, h9km±58km*
ISC 07 23:00:16.3±1.4, 33°.68N±0'.04×45°.70E±0'.04, h2km±13km, n11, σ1§05/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.47**	**22**	Pg	**Pg**	**23 00 26.6**	**+1.2**
GLG1				Sg	**Sb**	**23 00 33.9**	**-0.9**
IBDR	**Badra**	**0.60**	**161**	*e*Pg	**Pg**	**23 00 27.5**	**-0.3**
IBDR				*e*Sg	**Sg**	**23 00 35.5**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.83**	**354**	Pg	**Pn**	**23 00 34.3**	**-0.8**
IGHG	**Ghaleghazi**	**0.97**	**48**	Pg	**Pn**	**23 00 36.2**	**-1.0**
IDHR	**Dehrash**	**1.17**	**29**	Pg	**Pn**	**23 00 39.8**	**-0.1**
BHD	**Baghdad**	**1.18**	**250**	*e*Pn	**Pg**	**23 00 40.0**	**+1.1**
BHD				*e*Sn	**Sn**	**23 00 58.0**	**+1.7**
BHD				AML	AML	23 01 02.7	
comp=E,364nm,0.5s							
KCHF	**Cheshme Sefid,**	**1.26**	**61**	Pg	**Pg**	**23 00 41.1**	**+0.5**
KCHF				Sg	**Sn**	**23 01 00.4**	**+1.6**
ILIN	**Lien**	**1.62**	**40**	Pg	**Pg**	**23 00 47.7**	**+0.2**
IKFM	**Kafar-mosalman**	**1.80**	**94**	Pg	**Pb**	**23 00 49.9**	**0.0**
SNQR	**Sonqor, Kerman**	**1.98**	**53**	Pn	**Pb**	**23 00 53.4**	**0.0**
IKRK	**Kirkuk**	**2.05**	**327**	*e*Pn	**Pb**	**23 00 53.0**	**-1.3**
IKRK				*e*Sn	**Sb**	**23 01 19.6**	**-0.7**
IKRK				AML	AML	23 01 28.6	
comp=N,47nm,0.2s							
IKRK				AML	AML	23 01 28.7	
comp=E,38nm,0.4s							

*TIF **07** 23:03:25.9, 41°.50N×43°.39E, h12km*
*AFAD **07** 23:03:27.0, 41°.48N×43°.34E, h7km±1km, ML2.4*
*MOS **07** 23:03:28.4, 41°.53N×43°.44E, h3km, MPVA3.6*
*ISK **07** 23:03:28.7, 41°.36N×43°.32E, h14km, ML2.4/6*
*NORS **07** 23:03:28.7, 41°.72N×43°.54E, h1km, MPVA3.6*
ISC 07 23:03:25.9±1.0, 41°.51N±0'.02×43°.38E±0'.02, h11km±10km, n51, σ1§11/95, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPOS	**Posof**	**0.49**	**270**	P	**Pb**	**23 03 36.3**	**-0.4**
EPOS				*i* AML	AML	23 03 43.0	
comp=E,285nm,0.3s							
EPOS				S	**Sb**	**23 03 43.4**	**-0.5**
EPOS				*i* AML	AML	23 03 53.0	
comp=N,246nm,0.5s							
TRLG	**Trialeti**	**0.55**	**87**	P	**Pb**	**23 03 37.3**	**-0.4**
TRLG				S	**Sb**	**23 03 44.8**	**-0.7**
TRLG	**Trialeti**	**0.55**	**87**	*e*Pg	**Pb**	**23 03 37.3**	**-0.4**
TRLG				*e*Sg	**Sb**	**23 03 44.8**	**-0.7**
AHAN	**Ardahan-Merkez**	**0.66**	**239**	P	**Pb**	**23 03 39.6**	**-0.1**
AHAN				S	**Sb**	**23 03 48.9**	**-0.1**
AHAN				*i* AML	AML	23 03 49.0	
comp=N,340nm,0.4s							
AHAN				*i* AML	AML	23 03 49.0	
comp=E,355nm,0.2s							
KZRT	**Kazreti**	**0.78**	**99**	P	**Pg**	**23 03 40.8**	**-0.2**
EAK	**Akyaka**	**0.84**	**168**	P	**Pg**	**23 03 42.0**	**-0.2**
EAK				*i* AML	AML	23 03 53.0	
comp=N,95nm,0.2s							
EAK				*i* AML	AML	23 03 53.0	
comp=E,207nm,0.6s							
EAK				S	**Sg**	**23 03 53.3**	**+0.2**
TKB	**Tkibuli**	**0.89**	**341**	P	**Pb**	**23 03 43.6**	**+0.2**
TKB				S	**Sb**	**23 03 56.2**	**+0.9**
TKB	**Tkibuli**	**0.89**	**341**	*i* Pg	**Pb**	**23 03 43.6**	**+0.2**
TKB				*e*Sg	**Sb**	**23 03 56.2**	**+0.9**
GOLE	**Ardahan-G¶le**	**0.89**	**222**	P	**Pb**	**23 03 43.7**	**+0.1**
GOLE				*i* AML	AML	23 03 56.0	
comp=N,411nm,0.2s							
GOLE				*i* AML	AML	23 03 56.0	
comp=E,245nm,0.4s							
GOLE				S	**Sb**	**23 03 56.0**	**+0.4**
KARS	**Kars**	**0.91**	**195**	Pg	**Pb**	**23 03 43.9**	**+0.1**
KARS				Sg	**Sg**	**23 03 54.9**	**-0.4**
BOZK	**Kars-Merkez-Bo**	**0.97**	**198**	P	**Pb**	**23 03 45.0**	**+0.2**
BOZK				*i* AML	AML	23 03 58.0	
comp=N,42nm,0.2s							
BOZK				S	**Sb**	**23 03 58.2**	**+0.6**
BOZK				*i* AML	AML	23 04 04.0	
comp=E,63nm,0.3s							
TBLG	**Delisi**	**1.04**	**77**	P	**Pb**	**23 03 45.9**	**-0.2**
TBLG				S	**Sb**	**23 04 00.1**	**+0.4**
DIGO	**Kars**	**1.09**	**180**	P	**Pg**	**23 03 46.6**	**-0.4**
DIGO				*i* AML	AML	23 04 05.0	
comp=N,171nm,0.4s							
DIGO				*i* AML	AML	23 04 05.0	
comp=E,188nm,0.4s							
SEAG	**Tbilisi Sea**	**1.10**	**76**	P	**Pn**	**23 03 47.1**	**-0.3**
SEAG				S	**Sn**	**23 04 02.9**	**+0.3**
SEAG	**Tbilisi Sea**	**1.10**	**76**	*e*Pg	**Pn**	**23 03 47.1**	**-0.3**
SEAG				*e*Sg	**Sn**	**23 04 02.9**	**+0.3**
DAGI	**Agillar**	**1.18**	**249**	P	**Pb**	**23 03 48.4**	**-0.1**
DAGI				S	**Sb**	**23 04 04.1**	**+0.2**
DAGI				*i* AML	AML	23 04 06.0	
comp=N,46nm,0.3s							
DAGI				*i* AML	AML	23 04 07.0	
comp=E,82nm,0.4s							
SENK	**Senkaya-Erzuru**	**1.22**	**220**	Pn	**Pg**	**23 03 49.7**	**+0.2**
SENK				Sn	**Sb**	**23 04 05.5**	**+0.4**
BATM	**Batumi**	**1.27**	**275**	P	**Pn**	**23 03 49.6**	**0.0**
BATM				S	**Sb**	**23 04 06.3**	**+0.1**
DBOC	**Borcka**	**1.30**	**263**	P	**Pn**	**23 03 50.1**	**+0.1**
DBOC				S	**Sb**	**23 04 06.9**	**-0.2**
DBOC				*i* AML	AML	23 04 10.0	
comp=E,111nm,0.5s							
DBAD	**Bademkaya**	**1.36**	**249**	P	**Pb**	**23 03 51.7**	**+0.2**
DBAD				S	**Sb**	**23 04 09.0**	**0.0**
DBAD				*i* AML	AML	23 04 10.0	
comp=E,108nm,0.5s							
DBAD				*i* AML	AML	23 04 12.0	
comp=N,162nm,0.7s							

DDEM	**Demirkent**	**1.37**	**244**	P	**Pb**	**23 03 52.0**	**+0.3**
DDEM				S	**Sg**	**23 04 10.2**	**+0.1**
DDEM				*i* AML	AML	23 04 11.0	
comp=N,465nm,0.4s							
DDEM				*i* AML	AML	23 04 13.0	
comp=E,371nm,0.3s							
DIGR	**Digorskoe uzhe**	**1.40**	**6**	*e*Pg	**Pg**	**23 03 53.1**	**+0.2**
DIGR				*e*Sg	**Sg**	**23 04 12.5**	**+1.5**
CHRG	**Chargali**	**1.42**	**54**	P	**Pg**	**23 03 52.7**	**-0.5**
CHRG				S	**Sg**	**23 04 11.8**	**+0.2**
MTEO	**Meteo**	**1.45**	**36**	P	**Pg**	**23 03 55.4**	**+1.5**
MTEO				S	**Sg**	**23 04 15.9**	**+3.2**
LACR	**Lac**	**1.48**	**27**	*e*Pg	**Pg**	**23 03 54.3**	**-0.1**
LACR				*e*Sg	**Sg**	**23 04 16.3**	**+2.6**
DGRG	**David-gareji**	**1.50**	**92**	P	**Pg**	**23 03 54.8**	**+0.1**
DGRG				S	**Sg**	**23 04 15.1**	**+0.9**
DGRG	**David-gareji**	**1.50**	**92**	*e*Pg	**Pg**	**23 03 54.8**	**+0.1**
DGRG				*e*Sg	**Sg**	**23 04 15.1**	**+0.9**
TASB	**TASBURUN-IGDIR**	**1.66**	**156**	Pn	**Pb**	**23 03 56.5**	**-0.1**
TASB				Sn	**Sb**	**23 04 17.2**	**-0.3**
VLKR	**Vladikavkaz**	**1.81**	**32**	*e*Pg	**Pg**	**23 04 00.8**	**+0.1**
VLKR				*e*Sg	**Sg**	**23 04 26.6**	**+2.3**
STDR	**Stavd-Durt**	**1.93**	**15**	*e*Pg	**Pg**	**23 04 04.5**	**+1.6**
STDR				*e*Sg	**Sg**	**23 04 29.7**	**+1.8**
AGRB	**Hanur-Agry**	**1.95**	**189**	Pn	**Pn**	**23 04 00.4**	**+1.2**
NCK	**Nalchik**	**1.99**	**5**	*e*Pg	**Pg**	**23 04 03.8**	**-0.3**
NCK				*e*Sg	**Sg**	**23 04 30.2**	**+0.2**
CHOM	**Cayeli-Rize**	**2.01**	**259**	Pn	**Pb**	**23 04 02.4**	**-0.2**
LGD	**Lagodekhi**	**2.17**	**80**	P	**Pb**	**23 04 05.1**	**-0.2**
LGD				S	**Sg**	**23 04 34.6**	**-1.1**
LGD	**Lagodekhi**	**2.17**	**80**	*e*Pg	**Pb**	**23 04 05.1**	**-0.2**
LGD				*e*Sg	**Sg**	**23 04 34.6**	**-1.1**
KRIK	**Erzurum-spir**	**2.19**	**239**	P	**Pg**	**23 04 07.5**	**-0.6**
DOMR	**Dombai**	**2.21**	**325**	*e*Pg	**Pg**	**23 04 07.7**	**-0.5**
DOMR				*i* Sg	**Sg**	**23 04 36.0**	**-0.9**
KBZ	**Khabaz**	**2.25**	**351**	*e*Pg	**Pg**	**23 04 08.4**	**-0.6**
KBZ				*e*Sg	**Sg**	**23 04 36.1**	**-2.1**
SHA1	**Shidzhatmaz**	**2.29**	**347**	*e*Pn	**Pg**	**23 04 08.7**	**-1.1**
SHA1				*e*Sn	**Sg**	**23 04 38.9**	**-0.7**
VSHL	**Vashlovani**	**2.29**	**96**	P	**Pb**	**23 04 07.8**	**+0.4**
BTLR	**Botlikh**	**2.41**	**60**	*e*Pn	**Pb**	**23 04 09.3**	**-0.1**
BTLR				*e*Sn	**Sg**	**23 04 41.1**	**-2.3**
GROC	**Groznyy**	**2.47**	**46**	*e*Pn	**Pb**	**23 04 10.5**	**+0.2**
GROC				*e*Sn	**Sb**	**23 04 42.2**	**+1.5**
DVE	**Vedeno**	**2.50**	**54**	*e*Pn	**Pb**	**23 04 12.2**	**+1.2**
DVE				*e*Sn	**Sb**	**23 04 42.4**	**+0.6**
BEYR	**Belyy Ugol+**	**2.54**	**351**	*e*Pn	**Pg**	**23 04 13.0**	**-1.6**
BEYR				*e*Sn	**Sg**	**23 04 45.4**	**-2.0**
ARXR	**Arkhyz**	**2.57**	**324**	*e*Pn	**Pg**	**23 04 13.9**	**-1.4**
ARXR				*e*Sn	**Sb**	**23 04 45.3**	**+1.3**
XNZR	**Khunzakh**	**2.69**	**66**	*e*Pn	**Pb**	**23 04 14.6**	**+0.4**
XNZR				*e*Sn	**Sb**	**23 04 48.9**	**+1.7**
BAYT	**Aydıntepe-Bayb**	**2.69**	**247**	Pn	**Pn**	**23 04 11.9**	**+2.5**
ARKR	**Arakani**	**2.91**	**67**	*e*Pn	**Pb**	**23 04 17.6**	**-0.3**
ARKR				*e*Sn	**Sb**	**23 04 51.4**	**-2.0**
KRNR	**Karanay**	**2.94**	**62**	*e*Pn	**Pb**	**23 04 16.4**	**-1.9**
KRNR				*e*Sn	**Sb**	**23 04 52.7**	**-1.7**
RPOR	**Krasnaya Polya**	**3.17**	**315**	*e*Pn	**Pb**	**23 04 21.0**	**-1.4**
RPOR				*e*Sn	**Sb**	**23 04 58.9**	**-2.2**
AKT	**Akhty**	**3.27**	**89**	*e*Pn	**Pb**	**23 04 21.2**	**-2.9**
AKT				*e*Sn	**Sb**	**23 05 01.6**	**-2.3**

*SJA **07** 23:10:52.0±0.6, 25°.18S×68°.79W, h118km±4km, ML3.6, MW3.7*
*GUC **07** 23:10:53.7±0.8, 25°.16S×69°.14W, h126km±5km, ML3.9*
ISC 07 23:10:52.8±1.3, 25°.17S±0'.03×68°.94W±0'.05, h128km±11km, n37, σ1§86/56, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.59**	**270**	*e*P	**Pn**	**23 11 13.1**	**+0.5**
GO02				*e*S	**Sn**	**23 11 26.9**	**-0.6**
GO02				IAML		23 11 28.9	
comp=E,3μm,0.1s							
GO02	**Mina Guanaco**	**0.59**	**270**	*e*P	**Pn**	**23 11 12.4**	**-0.2**
GO02				*e*S	**Sn**	**23 11 27.7**	**+0.2**
GO02				IAML		23 11 28.2	
comp=Z,1μm,0.1s							
AC02	**Maricunga**	**1.67**	**186**	*i* P	**Pn**	**23 11 25.1**	**+1.8**
AC02				IAML		23 11 51.1	
comp=E,523nm,0.2s							
AC02	**Maricunga**	**1.67**	**186**	*e*P	Pn	23 11 09.6	-14
AC02				*e*S	**Sn**	**23 11 48.6**	**+2.1**
AC02				IAML		23 11 51.4	
comp=Z,215nm,0.5s							
AC01	**Pan de Azucar**	**1.79**	**236**	⇑*i*P	**Pn**	**23 11 24.7**	**+0.6**
AC01				*e*S	**Sn**	**23 11 47.1**	**-1.0**
AC01				IAML		23 11 47.8	
comp=N,1μm,0.7s							
AC01	**Pan de Azucar**	**1.79**	**236**	*e*P	**Pn**	**23 11 24.8**	**+0.6**
AC01				*e*S	**Sn**	**23 11 47.4**	**-0.7**
AC01				IAML		23 11 48.6	
comp=Z,212nm,0.2s							
PB10	**IPOC Station P**	**2.21**	**318**	*e*P	**Pn**	**23 11 30.5**	**+1.2**
PB10				*e*S	**Sn**	**23 11 56.1**	**-1.1**
PB10				IAML		23 12 04.4	
comp=N,387nm,0.2s							
PB10	**IPOC Station P**	**2.21**	**318**	*e*P	**Pn**	**23 11 30.5**	**+1.2**
PB10				*e*S	**Sn**	**23 11 55.7**	**-1.5**
PB10				*e*S		23 11 56.0	
PB10				IAML		23 12 05.0	
comp=Z,233nm,0.3s							
AF01	**San Pedro de A**	**2.31**	**18**	*e*P	**Pn**	**23 11 33.4**	**+2.5**
AF01				IAML		23 12 05.3	
comp=N,1μm,0.5s							
AF01	**San Pedro de A**	**2.31**	**18**	*e*P	**Pn**	**23 11 27.9**	**-3.0**
AF01				*e*S	**Sn**	**23 11 58.9**	**-1.1**
AF01				IAML		23 12 15.9	
comp=Z,389nm,0.5s							
PB06	**IPOC Station P**	**2.51**	**347**	⇑*i*P	**Pn**	**23 11 34.9**	**+1.6**
PB06				*e*S	**Sn**	**23 12 04.3**	**-0.1**
PB06				IAML		23 12 06.8	
comp=E,744nm,0.4s							
PB06	**IPOC Station P**	**2.51**	**347**	*e*P	**Pn**	**23 11 35.0**	**+1.6**
PB06				*e*S	**Sn**	**23 12 05.0**	**+0.6**
PB06				IAML		23 12 07.6	
comp=Z,372nm,0.6s							
AC06	**Mina Casimiro**	**2.52**	**210**	⇑*i*P	**Pn**	**23 11 33.5**	**+0.2**
SALTA		**2.55**	**69**	*e*P	**Pn**	**23 11 32.0**	**-2.1**
SALTA				*e*P		23 11 32.2	
GO03	**Copiapo**	**2.68**	**205**	⇑*i*P	**Pn**	**23 11 35.9**	**+0.6**
GO03				*e*S	**Sn**	**23 12 03.9**	**-4.2**
GO03				IAML		23 12 10.5	
comp=E,173nm,0.5s							
GO03	**Copiapo**	**2.68**	**205**	*e*P	**Pn**	**23 11 36.0**	**+0.6**
GO03				*e*S	**Sn**	**23 12 09.6**	**+1.5**
GO03				IAML		23 12 10.6	
comp=Z,141nm,0.4s							
FSA	**Cafayete**	**2.84**	**110**	*e*P	**Pn**	**23 11 40.3**	**+2.9**
SLA	**San Lorenzo**	**3.15**	**83**	*e*P	**Pn**	**23 11 40.6**	**-0.9**
PB03	**IPOC Station P**	**3.19**	**346**	⇑*i*P	**Pn**	**23 11 42.9**	**+0.8**
PB03				*e*S	**Sn**	**23 12 19.7**	**-0.3**
PB03				IAML		23 12 20.6	
comp=N,411nm,0.2s							
PB03	**IPOC Station P**	**3.19**	**346**	*e*P	**Pn**	**23 11 42.9**	**+0.8**
PB03				*e*S	**Sn**	**23 12 20.0**	**0.0**
PB03				IAML		23 12 24.7	
comp=Z,312nm,0.3s							
PB09	**IPOC Station P**	**3.36**	**355**	*e*P	**Pn**	**23 11 46.5**	**+2.1**
PB09				*e*S	**Sn**	**23 12 17.7**	**-6.5**
PB09				IAML		23 12 26.9	
comp=N,249nm,0.4s							
PB09	**IPOC Station P**	**3.36**	**355**	*e*P	**Pn**	**23 11 46.2**	**+1.9**
PB09				*e*S	**Sn**	**23 12 26.6**	**+2.5**
PB09				IAML		23 12 26.8	
comp=Z,172nm,0.4s							
AC04	**Llanos de Chal**	**3.58**	**212**	*e*P	**Pn**	**23 11 46.3**	**-0.7**
AC04	**Llanos de Chal**	**3.58**	**212**	*e*P	**Pn**	**23 11 46.3**	**-0.7**
AC04				IAML		23 12 38.2	
comp=Z,48nm,0.7s							
VCA	**Vinchina**	**3.62**	**170**	*e*P	**Pn**	**23 11 50.6**	**+3.0**
VCA				IAML		23 12 38.2	
comp=Z,48nm,0.5s							
AC05	**El Transito**	**3.84**	**198**	*e*P	**Pn**	**23 11 51.1**	**+0.5**
AC05	**El Transito**	**3.84**	**198**	*e*P	**Pn**	**23 11 51.5**	**+0.9**
AC05				*e*S	**Sn**	**23 12 36.1**	**+0.7**
AC05				IAML		23 12 40.2	
comp=Z,48nm,0.5s							
PB01	**IPOC Station P**	**4.13**	**353**	*e*P	**Pn**	**23 11 55.2**	**+0.7**
PB01				*e*S	**Sn**	**23 12 42.8**	**+0.6**
PB01				IAML		23 12 44.7	
comp=Z,123nm,0.3s							
LCO	**Las Campanas**	**4.14**	**202**	*i* P	**Pn**	**23 11 54.1**	**-0.5**
LCO	**Las Campanas**	**4.14**	**202**	*e*P	**Pn**	**23 11 54.7**	**0.0**
LCO				*e*S	**Sn**	**23 12 41.9**	**-0.7**
LCO				IAML		23 12 44.7	
comp=Z,116nm,0.2s							
YJA	**Yavi**	**4.33**	**47**	*e*P	**Pn**	**23 12 01.0**	**+3.6**
YJA	**Yavi**	**4.33**	**47**	*e*P	**Pn**	**23 11 55.7**	**-1.7**
ACLC	**CERRO LA CRUZ**	**4.60**	**158**	*e*P	**Pn**	**23 12 00.1**	**-0.6**
ACLC				IAML		23 12 54.4	
comp=Z,30nm,0.4s							
CO01	**Juntas del Tor**	**4.90**	**192**	*e*P	Pn	23 12 00.5	-4.3
CO01				*e*S	Sn	23 13 12.1	+11
CO01				IAML		23 13 13.0	
comp=Z,74nm,0.3s							
PB08	**IPOC Station P**	**5.00**	**358**	*e*P	**Pn**	**23 12 06.8**	**+0.5**
PB08				*e*S	**Sn**	**23 13 04.1**	**+0.7**
PB08				IAML		23 13 28.6	
comp=Z,44nm,0.9s							
AROD	**Rodeo**	**5.00**	**185**	*e*P	**Pn**	**23 12 03.0**	**-3.3**
AROD				*e*S	**Sn**	**23 13 00.7**	**-2.7**
GO04	**Tololo Observa**	**5.25**	**198**	*e*P	**Pn**	**23 12 08.4**	**-1.1**
GO04				IAML		23 13 11.7	
comp=Z,85nm,0.2s							

*IDC **07** 23:17:06.5±1.7, 24°.02S×66°.92W, h175km±16km, mb3.5/5, mbtmp3.9/11, MS3.0/2, Error ellipse: s-maj=22.8km s-min=12.9km az=85.0*
*SJA **07** 23:17:07.0±0.6, 24°.14S×67°.01W, h194km±6km, ML4.1, MW3.9*
*NEIC **07** 23:17:07.0±1.5, 24°.12S±0'.03×67°.2W±0°.1, h221km±10km, mb4.6/6, Error ellipse: s-maj=17.6km s-min=2.4km az=102.0*
*GUC **07** 23:17:08.4±0.7, 24°.09S×67°.25W, h220km±11km, ML4.5*
*VAO **07** 23:17:12.8±3.4, 23°.94S×66°.63W, h223km±18km, mb4.2*
ISC 07 23:17:06.9±0.6, 24°.13S±0'.03×67°.02W±0'.04, h190km±6km, n88, σ1§58/118, mb3.8/5, 7C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.63**	**99**	*i* S	**Pn**	**23 17 35.4**	**+1.3**
SLA	**San Lorenzo**	**1.50**	**113**	*e*P	**Pn**	**23 17 41.9**	**+1.9**
AF01	**San Pedro de A**	**1.58**	**318**		**Pn**	**23 17 42.7**	**+1.8**
AF01				Sn	**Sn**	**23 18 10.5**	**+3.3**
AF01	**San Pedro de A**	**1.58**	**318**	*e*P	**Pn**	**23 17 42.8**	**+2.0**
AF01				IAML		23 18 12.2	
comp=N,914nm,0.5s							
AF01	**San Pedro de A**	**1.58**	**318**	*e*P	**Pn**	**23 17 42.5**	**+1.6**
AF01				*e*S	**Sn**	**23 18 07.5**	**+0.3**
AF01				IAML		23 18 16.9	
comp=Z,420nm,0.1s							
AZAP	**Zapla**	**1.79**	**93**	*e*P	**Pn**	**23 17 43.8**	**+1.0**
FSA	**Cafayete**	**2.19**	**155**	*e*P	**Pn**	**23 17 48.1**	**+1.3**
FSA				*e*S	**Sn**	**23 18 12.4**	**-5.7**
YJA	**Yavi**	**2.39**	**36**	*e*P	**Pn**	**23 17 50.6**	**+1.1**
YJA				*e*S	**Sn**	**23 18 23.5**	**+1.0**
GO02	**Mina Guanaco**	**2.55**	**246**	Pn	**Pn**	**23 17 52.6**	**+1.5**
GO02				Sn	**Sn**	**23 18 26.8**	**+1.3**
GO02	**Mina Guanaco**	**2.55**	**246**	⇑*i*P	**Pn**	**23 17 52.7**	**+1.5**
GO02				*i* S	**Sn**	**23 18 26.5**	**+1.0**
GO02				IAML		23 18 27.7	
comp=N,2μm,0.5s							
GO02	**Mina Guanaco**	**2.55**	**246**	*e*P	**Pn**	**23 17 51.9**	**+0.8**
PB06	**IPOC Station P**	**2.74**	**301**	⇑*i*P	**Pn**	**23 17 54.5**	**+1.4**
PB06				*i* S	**Sn**	**23 18 28.6**	**-0.5**
PB06				IAML		23 18 30.4	
comp=N,2μm,0.4s							
PB06	**IPOC Station P**	**2.74**	**301**	*e*P	**Pn**	**23 17 54.5**	**+1.4**
PB06				*e*S	**Sn**	**23 18 29.1**	**0.0**
PB06				IAML		23 18 31.4	
comp=Z,873nm,0.1s							
PB09	**IPOC Station P**	**3.10**	**318**		**Pn**	**23 17 58.8**	**+1.4**
PB09				Sn	**Sn**	**23 18 36.7**	**0.0**
PB09	**IPOC Station P**	**3.10**	**318**	⇑*i*P	**Pn**	**23 17 58.8**	**+1.4**
PB09				*i* S	**Sn**	**23 18 36.8**	**0.0**
PB09				IAML		23 18 38.3	
comp=N,491nm,0.5s							
PB09	**IPOC Station P**	**3.10**	**318**	*e*P	**Pn**	**23 17 58.8**	**+1.4**
PB09				*e*S	**Sn**	**23 18 37.0**	**+0.2**
PB09				IAML		23 18 37.8	
comp=Z,389nm,0.6s							
PB03	**IPOC Station P**	**3.26**	**309**	⇑*i*P	**Pn**	**23 18 00.1**	**+0.7**
PB03				*i* S	**Sn**	**23 18 38.9**	**-1.4**
PB03	**IPOC Station P**	**3.26**	**309**	*e*P	**Pn**	**23 17 59.6**	**+0.2**
PB03				*e*S	**Sn**	**23 18 39.0**	**-1.3**
PB03				IAML		23 18 42.5	
comp=Z,706nm,0.3s							
PB10	**IPOC Station P**	**3.29**	**280**	Pn	**Pn**	**23 18 00.3**	**+0.8**
PB10				Sn	**Sn**	**23 18 41.0**	**+0.3**
PB10	**IPOC Station P**	**3.29**	**280**	*e*P	**Pn**	**23 18 00.4**	**+0.8**
PB10				*i* S	**Sn**	**23 18 39.5**	**-1.2**
PB10	**IPOC Station P**	**3.29**	**280**	*e*P	**Pn**	**23 18 00.7**	**+1.1**
PB10				*e*S	**Sn**	**23 18 41.3**	**+0.6**
PB10				IAML		23 18 42.3	
comp=Z,304nm,0.4s							
AC02	**Maricunga**	**3.30**	**215**	Pn	**Pn**	**23 18 00.3**	**+0.2**
AC02	**Maricunga**	**3.30**	**215**	⇑*i*P	**Pn**	**23 18 01.7**	**+1.6**
AC02				*i* S	**Sn**	**23 18 44.0**	**+2.3**
AC02	**Maricunga**	**3.30**	**215**	*e*P	**Pn**	**23 18 02.0**	**+1.9**
AC02				*e*S	Sn	23 18 59.5	+18
AC02				IAML		23 19 05.1	
comp=Z,164nm,0.8s							
AC01	**Pan de Azucar**	**3.81**	**237**	Pn	**Pn**	**23 18 06.0**	**0.0**
AC01				Sn	**Sn**	**23 18 50.8**	**-1.5**
AC01	**Pan de Azucar

LPAZ S Sn 23 20 22.9 -5.3
comp=Z,2.6nm,0.7s,baz=51,slow=24,SNR=4.6
MURT Porto Murtinho 9.02 76 eP Pn 23 19 13.6 0.0
CPUP Villa Florida 9.05 106 P Pn 23 19 12.8 -1.1
comp=Z,2.8nm,1.1s,baz=284,slow=13,SNR=3.8
SIV San Ignacio 9.84 36 P Pn 23 19 22.5 -1.9
comp=Z,3.3nm,0.4s,baz=219,slow=9.5,SNR=24
SIV S Sn 23 21 03.5 -11
comp=Z,1.2nm,0.7s,baz=285,slow=21,SNR=2.2
SIV LR LR 23 23 42.9
comp=Z,34nm,20.7s,baz=264,slow=41
CPSB Cacapava Do Su 13.60 120 eP P 23 20 14.6 -0.3
PTGB Pitanga 13.64 96 eP P 23 20 14.6 -0.9
TRQA Tornquist 14.53 164 P P 23 20 24.4 -0.8
LDASE Londrina, Braz 14.58 90 eP Pn 23 20 23.6 -1.0
ITRB Iturama 16.08 77 eP P 23 20 42.3 -0.2
ARAG Araguaiana, MT 16.57 62 eP Pn 23 20 48.3 -0.3
PLCA Paso Flores 16.82 189 P Pn 23 20 53.0 +1.5
comp=Z,1.0nm,0.5s,baz=14,slow=9.9,SNR=7.9
VAO Valinhos 18.42 91 P P 23 21 07.0 -1.2
VAO IAmb IAmb 23 21 09.4
comp=Z,22nm,0.8s
VAO Valinhos 18.42 91 eP P 23 21 07.5 -0.7
IPMB Ipameri, GO 18.58 74 eP P 23 21 09.6 -0.3
LL01 San Ignacio de 18.74 193 P P 23 21 11.7 +0.4
SNDB Serra Nova Dou 19.21 54 eP P 23 21 15.9 -0.7
LL02 Futaleuf 19.42 191 P P 23 21 18.9 +0.2
LL02 IAmb IAmb 23 21 23.8
comp=Z,9.1nm,0.9s
BDFB Brasilia 19.75 68 P P 23 21 21.5 -1.1
BDFB IAmb IAmb 23 21 23.6
comp=Z,18nm,0.8s
BDFB Brasilia 19.75 68 P P 23 21 22.4 -0.2
comp=Z,15nm,0.7s,baz=240,slow=12,SNR=31
JANB Januaria 23.20 71 eP P 23 21 56.0 -1.1
SDBA SAO DESIDERIO 23.98 65 eP P 23 22 03.3 -1.0
SMTB Santa Maria do 23.99 54 eP P 23 22 03.3 -1.0
SMRC Santa Marta, M 35.78 348 P P 23 23 44.8 -3.2
TXAR Lajitas Array 63.77 324 P P 23 27 20.5 +1.6
comp=Z,0.4nm,0.8s,baz=152,slow=8.1,SNR=4.1
comp=Z,0.4nm,0.8s
QSPA South Pole Qui 66.07 180 P P 23 27 35.6 +2.3
comp=Z,2.2nm,0.6s,baz=162,slow=1.6,SNR=29
comp=Z,2.2nm,0.6s
DBIC Dimbokro 67.86 71 LR LR 23 56 49.1
comp=Z,30nm,21.7s,baz=209,slow=35
PDAR Pinedale Array 77.25 329 P P 23 28 42.1 +1.8
comp=Z,0.3nm,0.6s,baz=141,slow=7.6,SNR=4.2
comp=Z,0.3nm,0.6s
ULM Lac du Bonnet 78.34 342 P P 23 28 46.6 +0.8
comp=Z,1.4nm,0.5s,baz=152,slow=5.1,SNR=4.3
comp=Z,1.4nm,0.5s
YKA Yellowknife Ar 94.24 340 P P 23 30 04.8 +0.9
comp=Z,0.4nm,0.6s,baz=134,slow=4.5,SNR=14
comp=Z,0.4nm,0.6s
ASAR Alice Springs 128.33 205 PKP PKPdf 23 35 51.0 -0.5
comp=Z,0.2nm,0.3s,baz=144,slow=3.1,SNR=4.7
WRA Warramunga Arr 131.50 207 PKP PKiKP 23 35 58.6 0.0
comp=Z,0.5nm,0.6s,baz=171,slow=1.5,SNR=6.3
KURBB Kurchatov Arra 142.50 36 PKP PKPdf 23 36 17.4 +0.5
comp=Z,0.2nm,0.7s,baz=297,slow=4.1,SNR=2.0
ZALV Zalesovo Beam 143.52 28 PKP PKPdf 23 36 17.8 -0.8
comp=Z,0.9nm,0.6s,baz=287,slow=5.6,SNR=4.9
MKAR Makanchi Array 146.64 40 PKPbc PKPbc 23 36 25.8 -0.3
comp=Z,1.6nm,0.7s,baz=325,slow=1.8,SNR=17

MOS ***07*** *23:18:05.4,41'.96N×48'.06E,h9km,MPVA4.0*
TIF ***07*** *23:18:05.6,41'.92N×48'.17E,h26km*
AZER ***07*** *23:18:06.0,41'.87N×48'.14E,h10km,ml2.7*
NORS ***07*** *23:18:06.4,42'.25N×48'.22E,h3km,MPVA3.8*
DRS ***07*** *23:18:06.0,41'.90N×48'.09E,h15km*
ISC 07 23:18:06.9±0.9,41'.94N±0'.02×48'.14E±0'.03,h15km±7km,
n56,σ1°.9±23/110,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	Derbent	0.17	58	*i* Pg	Pg	23 18 11.3	+0.2
DRN				*e*Sg	Sg	23 18 15.3	+1.5
KSMR	Kasumkent	0.34	182	*i* Pg	Pb	23 18 13.6	-1.0
KSMR				*e*Sg	Sb	23 18 22.2	+2.4
QSAR	Qusar	0.43	168	P	Pb	23 18 15.3	-0.9
QSAR				S	Sb	23 18 22.3	-0.3
URKR	Urkarakh	0.44	301	*i* Pg	Pb	23 18 15.5	-0.9
URKR				*e*Sg	Sb	23 18 22.4	-0.4
AKT	Akhty	0.56	214	*i* Pg	Pg	23 18 17.0	-0.8
AKT				*e*Sg	Sg	23 18 24.7	-0.6
SGKR	Sergokala	0.63	325	*e*Pg	Pb	23 18 18.8	-0.8
SGKR				*e*Sg	Sb	23 18 28.0	-0.2
QUBA	Quba, Azerbaij	0.64	156	P	Pb	23 18 19.3	-0.4
QUBA				S	Sb	23 18 28.9	+0.4
XNQ	Khinaliq	0.77	180	P	Pb	23 18 21.0	-1.0
XNQ				S	Sg	23 18 31.5	-0.5
KMKR	Kumukh	0.80	284	*e*Pg	Pg	23 18 21.4	-1.0
KMKR				*e*Sg	Sb	23 18 33.4	+0.1
QBL	Gabala	1.02	193	P	Pg	23 18 24.7	-1.9
QBL				S	Sn	23 18 41.2	+0.6
SIZA	Siyzn	1.03	146	P	Pb	23 18 25.8	-0.7
SIZA				S	Sb	23 18 40.1	+0.2
ARKR	Arakani	1.08	308	*e*Pg	Pg	23 18 26.2	-1.5
ARKR				*e*Sg	Sb	23 18 41.7	+0.6
IML	Ismayilli	1.15	179	P	Pg	23 18 27.4	-1.6
IML				S	Sb	23 18 43.8	+0.7
BUJR	Buynaksk	1.17	319	*e*Pg	Pb	23 18 28.2	-0.6
BUJR				*e*Sg	Sn	23 18 44.8	+0.4
ZKTA	Zakatala	1.18	256	P	Pg	23 18 27.6	-2.0
ZKTA				S	Sb	23 18 44.5	+0.6
PQL	Pirkuli	1.20	163	P	Pn	23 18 29.0	-0.2
PQL				S	Sn	23 18 45.8	+0.5
XNZR	Khunzakh	1.23	300	*e*Pg	Pg	23 18 29.2	-1.3
XNZR				*e*Sg	Sb	23 18 45.9	+0.5
ATGJ	Altiaghaj	1.23	151	P	Pb	23 18 29.3	-0.6
ATGJ				S	Sn	23 18 47.1	+1.1
UNCR	Uncukul	1.26	308	*e*Pg	Pg	23 18 29.6	-1.6
UNCR				*e*Sg	Sn	23 18 47.3	+0.7
KRNR	Karanay	1.27	314	*e*Pg	Pg	23 18 29.8	-1.7
KRNR				*e*Sg	Sb	23 18 47.3	+0.5
MNGR	Mingechevir, A	1.41	215	P	Pn	23 18 31.8	-0.2
MNGR				S	Sb	23 18 50.8	+0.1
LGD	Lagodekhi	1.42	266	P	Pn	23 18 32.0	-0.1
LGD				S	Sb	23 18 50.7	-0.3
LGD	Lagodekhi	1.42	266	*e*Pg	Pn	23 18 32.0	-0.1
LGD				*e*Sg	Sb	23 18 50.7	-0.3
VSHL	Vashlovani	1.49	242	P	Pg	23 18 35.3	-0.2
VSHL				S	Sg	23 18 58.1	+3.3
VSHL	Vashlovani	1.49	242	*e*Pg	Pg	23 18 35.3	-0.2
VSHL				*e*Sg	Sg	23 18 58.1	+3.3
KDMR	Kurdemir	1.56	179	P	Pb	23 18 34.5	-0.9
KDMR				S	Sn	23 18 54.5	+0.6
DLMR	Dylym	1.59	316	*e*Pg	Pb	23 18 35.2	-0.7
DLMR				*e*Sg	Sg	23 18 57.9	-0.2
BTLR	Botlikh	1.60	298	*e*Pg	Pb	23 18 35.5	-0.5
BTLR				*e*Sg	Sg	23 18 57.1	-1.2
ZRD	Zardab	1.70	192	Pn	Pn	23 18 36.5	+0.7
ZRD				Sn	Sg	23 18 59.9	-1.6
DVE	Vedeno	1.81	305	*e*Pg	Pb	23 18 39.0	-0.6
DVE				*e*Sg	Sg	23 19 03.9	-1.1
BRDA	Brd	1.83	204	Pn	Pb	23 18 39.1	-0.8
BRDA				Sn	Sb	23 19 03.8	+1.2
GANJ	Ganja	1.89	227	Pn	Pn	23 18 38.9	+0.4
GANJ				Sn	Sb	23 19 04.2	-0.1
AGDM	Agdam	1.99	203	Pn	Pn	23 18 40.5	+0.6
AGDM				Sn	Sb	23 19 07.6	+0.3
DGRG	David-gareji	2.13	258	P	Pb	23 18 44.2	-0.9
DGRG				S	Sb	23 19 13.1	+1.7
DGRG	David-gareji	2.13	258	*e*Pg	Pb	23 18 44.2	-0.9
DGRG				*e*Sg	Sb	23 19 13.1	+1.7
GROC	Groznyy	2.14	307	*e*Pg	Pb	23 18 45.0	-0.3
GROC				*e*Sg	Sb	23 19 11.7	0.0
GDB	GEDABAY	2.17	237	Pn	Pn	23 18 42.7	+0.1
GDB				Sn	Sn	23 19 11.1	+1.8
QZX	Qazax, Azerbai	2.26	248	Pn	Pn	23 18 44.8	+1.1
QZX				Sn	Sn	23 19 13.9	+2.7
CHRG	Chargali	2.42	280	P	Pb	23 18 48.1	-2.1
CHRG				S	Sn	23 19 18.0	+2.6
QRD	Qoradiz	2.56	194	Sn	Sn	23 19 19.1	+0.6
GLBA	Ciilabad	2.70	176	Pn	Pn	23 18 50.5	+0.8
GLBA				Sn	Sn	23 19 23.8	+1.7
MTEO	Meteo	2.78	287	P	Pb	23 18 55.7	-0.7
LACR	Lac	2.98	289	*e*Pn	Pb	23 18 57.6	-2.1
LACR				*e*Sn	Sb	23 19 35.3	-0.7
YRD	Yardimli	3.02	179	Pn	Pn	23 18 53.5	-0.8
YRD				Sn	Sn	23 19 29.7	-0.6
TRLG	Trialeti	3.05	264	P	Pn	23 18 56.0	+1.4
TRLG				S	Sn	23 19 33.0	+2.1
TRLG	Trialeti	3.05	264	*e*Pn	Pn	23 18 56.0	+1.4
TRLG				*e*Sn	Sn	23 19 33.0	+2.1
SBZ	Shahbuz	3.21	219	Pg	Pb	23 19 01.5	-2.2
SBZ				Sn	Sn	23 19 36.2	+1.3
LRK	Lerik	3.30	177	Pn	Pn	23 18 59.2	+1.1
LRK				Sn	Sn	23 19 36.6	-0.5
ASTR	Astara	3.41	171	Pn	Pn	23 19 01.0	+1.5
ASTR				Sn	Sn	23 19 39.3	-0.4
NEUR	Neytrino	4.23	290	*e*Pn	Pn	23 19 12.3	+1.5
NEUR				*e*Sn	Sn	23 19 59.5	-0.5
KBZ	Khabaz	4.25	297	*e*Pn	Pn	23 19 11.7	+0.8
KBZ				*i* Sn	Sn	23 20 01.8	+1.5
SHA1	Shidzhatmaz	4.42	296	*e*Pn	Pn	23 19 15.3	+1.8
SHA1				*e*Sn	Sn	23 20 06.9	+2.2
BEYR	Belyy Ugol+	4.42	300	*e*Pn	Pn	23 19 11.6	-1.8
BEYR				*e*Sn	Sn	23 20 04.9	+0.4
KIV0	Kislovodsk Arr	4.48	299	*e*Pn	Pn	23 19 16.1	+1.9
KIV0				*e*Sn	Sn	23 20 07.1	+1.1
KIV	Kislovodsk	4.48	299	*e*Pn	Pn	23 19 13.6	-0.7
KIV				*e*Sn	Sn	23 20 05.9	-0.2
ALER	Alexandrovskoy	4.74	308	*e*Pn	Pn	23 19 18.7	+1.0
ALER				*i* Sn	Sn	23 20 13.5	+1.1

ASIES ***07*** *23:51:27.1,22'.98N×120'.86E,h5km,ML4.0,Mw3.6,*
Moment Tensor Solution. Moment tensor: Scale 10^21Nm;
Mrr-3.10; Mθθ0.86; Mφφ2.19; Mrθ0.62; Mθφ-2.24; Mφr1.02;
Fault plane solution: Mo3.74520×10^21 NP1:
φs302.64000°,δ45.33000°,λ-121.24000°. NP2:
φs163.43000°,δ52.55000°,λ-62.31000°. Principal axes:
T Plg3.8510°, Azm234.2050°; N Plg21.6430°,
Azm325.7350°; P Plg67.9820°, Azm134.6240°;
IDC ***07*** *23:51:27.7±0.9,22'.63N×120'.58E,h0km,mb3.5/9,*
mbtmp3.5/10,ML3.5/1,MS3.0/4 Error ellipse:
s-maj=37.0km s-min=18.2km az=67.0
TAP ***07*** *23:51:27.1,22'.98N×120'.86E,h5km,ML4.0,C*
NIED ***07*** *23:51:28.0,22'.99N×120'.90E,h4km,MW3.9,Moment*
Tensor Solution. s2 Moment tensor: Scale 10^14Nm;
Mrr-8.06; Mθθ3.78; Mφφ4.28; Mrθ2.63; Mθφ-3.70; Mφr-0.47;
Fault plane solution: Mo8.33000×10^14 NP1:
φs147.00000°,δ38.00000°,λ-74.00000°. NP2:
φs307.00000°,δ53.00000°,λ-102.00000°.
JMA ***07*** *23:51:28.0±0.1,23'.0N±0'.2×120'.9E±0'.7,h4km±3km,*
MV3.8/13,TAIWAN REGION
ISC 07 23:51:27.6±0.9,22'.94N±0'.01×120'.86E±0'.01,h7km±7km,
n188,σ0°.95/231,mb3.5/8,MS2.8/4,38C-9D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	0.23	123	⇓P	Pg	23 51 32.9	+0.8
TWG				S	Sg	23 51 36.2	+1.1
TWGBT	Beinan	0.24	122	P	Pg	23 51 32.9	+0.6
TWGBT	Beinan	0.24	122	S	Sg	23 51 36.5	+1.1
TWGBT	Beinan	0.24	122	⇓P	Pg	23 51 32.9	+0.6
TWGBT				S	Sg	23 51 36.1	+0.7
STYH	Taoyuan	0.24	340	⇓*i*P	Pg	23 51 31.4	-0.9
STYH				S	Sg	23 51 34.9	-0.7
STYT	Tauyuan	0.24	336	⇓P	Pg	23 51 31.5	-0.9
STYT				S	Sg	23 51 35.0	-0.6
LONT	Longtian	0.25	99	⇑*i*P	Pg	23 51 33.0	+0.5
LONT				*i* S	Sg	23 51 36.6	+0.7
ELDTW	Lidau	0.28	30	⇑*i*P	Pg	23 51 32.9	-0.3
ELDTW				*i* S	Sg	23 51 36.9	0.0
SSD	Sandimen	0.29	227	⇑*i*P	Pb	23 51 33.7	-1.6
SSD				*e*S	Sg	23 51 37.5	+0.3
SGST	Jiashian	0.29	298	⇑*e*P	Pg	23 51 33.2	-0.2
SGST				S	Sg	23 51 37.7	+0.4
TSMG	Majia	0.31	220	⇑*e*P	Pg	23 51 33.5	-0.2
TTN	Taitung	0.32	126	*e*P	Pb	23 51 35.4	-0.4
TTN				*e*S	Sb	23 51 41.1	0.0
SCST	Cishan	0.35	260	⇑*e*P	Pb	23 51 35.5	-0.7
SCST				*e*S	Sb	23 51 41.3	-0.6
ECL	Taimali	0.36	167	⇓P	Pb	23 51 35.1	-1.2
ECL				*e*S	Sg	23 51 40.0	+0.7
ECS	Chishang	0.36	65	P	Pg	23 51 34.9	+0.2
ECS				S	Sg	23 51 40.0	+0.5
EHD	Haiduan	0.38	57	⇑*i*P	Pg	23 51 34.5	-0.5
EHD				*i* S	Sg	23 51 39.3	-0.6
WTP	Ta-pu	0.38	323	⇓P	Pb	23 51 35.8	-0.9
CHN1	Nanshi	0.39	308	⇑*e*P	Pb	23 51 36.6	-0.3
MASBT	Mashibuluo	0.39	213	⇑*i*P	Pb	23 51 35.5	-1.4
MASBT				S	Sb	23 51 41.0	-2.3
EDH	Donghe	0.41	86	⇑*i*P	Pg	23 51 36.4	+0.9
EDH				S	Sg	23 51 42.2	+1.4
SGLT	Jiouru	0.41	238	⇑P	Pb	23 51 36.9	-0.3
SGLT				*e*S	Sb	23 51 44.3	+0.6
TPUB	Ta-pu	0.41	329	P	Pg	23 51 36.3	+0.6
TPUB	Ta-pu	0.41	329	*e*P	Pg	23 51 36.4	+0.6
TPUB				*e*S	Sb	23 51 42.8	-1.1
TWM1	Shoushan	0.42	254	⇑*i*P	Pb	23 51 37.7	+0.2
TSPT	Pingtung City	0.43	232	*e*P	Pb	23 51 37.2	-0.4
SNST	Tainan City	0.43	309	⇑*e*P	Pb	23 51 37.8	+0.1
SNST				*e*S	Sb	23 51 44.8	+0.3
FULB	Fuli	0.47	57	⇑*i*P	Pg	23 51 37.2	+0.5
FULB				*e*S	Sg	23 51 43.9	+1.0
TWK	Hsinying	0.47	313	⇑*e*P	Pb	23 51 38.4	0.0
CHN4	Tsaushan	0.47	328	⇓*e*P	Pb	23 51 37.9	-0.5
CHN3	Shinhua	0.48	286	*e*P	Pb	23 51 38.6	+0.2
CHKT	Chengkung	0.49	71	⇑*i*P	Pb	23 51 38.0	-0.5
CHKT				S	Sb	23 51 45.6	-0.4
SNJT	Kaohsiung City	0.52	249	*e*P	Pn	23 51 41.2	-0.3
SSPT	Xinbi	0.53	211	⇑P	Pn	23 51 40.0	-1.7
WCKO	Fanlu	0.55	334	⇑*e*P	Pb	23 51 39.3	-0.3
WCKO				*e*S	Sb	23 51 48.2	+0.5
CHKH	Chenggong	0.55	63	⇑P	Pg	23 51 38.6	+0.4
CHKH				*e*S	Sg	23 51 46.8	+1.4
EAST	Anshuo	0.56	182	⇑*i*P	Pb	23 51 39.1	-0.7
EAST				S	Sb	23 51 46.7	-1.4
SSHA	Shanhua	0.56	290	*e*P	Pn	23 51 41.5	-0.6
ALS	Alishan	0.57	354	⇑P	Pg	23 51 38.6	0.0
ALS				*e*S	Sg	23 51 47.0	+0.9
TWF1	Yuli	0.57	44	⇑*i*P	Pg	23 51 38.3	-0.3
TWF1				S	Sg	23 51 45.1	-0.9
EYUL	Yuli	0.58	46	⇑*e*P	Pg	23 51 38.0	-0.8
EYUL				*e*S	Sg	23 51 45.7	-0.7
TAW	Tawu	0.58	177	P	Pb	23 51 39.6	-0.6
TAW				*e*S	Sb	23 51 47.2	-1.5
YULB	Yu-li	0.60	42	P	Pg	23 51 38.5	-0.7
YULB	Yu-li	0.60	42	⇑*i*P	Pg	23 51 38.6	-0.6
YULB				*i* S	Sg	23 51 46.0	-1.0
TAWH	Dawu Township	0.60	178	⇑*i*P	Pb	23 51 39.8	-0.7
TAWH				S	Sb	23 51 47.4	-1.8
SCZT	Fangliau	0.61	202	⇑*i*P	Pb	23 51 39.8	-0.9
SCZT				S	Sb	23 51 48.0	-1.5
LDUT	Ludao	0.62	116	⇓P	Pg	23 51 40.0	+0.5
LDUT				S	Sb	23 51 49.6	-0.1
WSSB	Gushan	0.63	242	*e*P	Pn	23 51 42.9	-0.2
ECBN	Changbin	0.66	55	*e*P	Pg	23 51 40.5	+0.3
ECBN				*e*S	Sb	23 51 50.8	0.0
SCLT	Jiali	0.66	291	*e*P	Pg	23 51 40.1	-0.2
CHN5	Tsauling	0.67	345	⇑*e*P	Pg	23 51 41.1	+0.5
CHN5				*e*S	Sb	23 51 52.0	+0.6
ICHU	Yijhu	0.68	308	*e*P	Pb	23 51 41.8	-0.1
CHY	Chiayi	0.68	324	*e*P	Pb	23 51 41.1	-0.8
EHY	Hungye	0.70	37	⇑*i*P	Pg	23 51 40.4	-0.7
EHY				S	Sg	23 51 50.1	-0.2
EHYH	Wanrong	0.70	39	*e*P	Pg	23 51 40.5	-0.7
EHYH				*e*S	Sg	23 51 49.8	-0.5
CHN8	Yiju	0.72	304	*e*P	Pn	23 51 42.7	-1.6
SLIU	Shizi	0.73	185	*e*P	Pb	23 51 41.9	-0.8
TSCK	Chigu Township	0.74	286	⇑*e*P	Pn	23 51 43.1	-1.5
TSCK				*e*S	Sn	23 51 55.0	-1.2
WHYT	Xinyi Township	0.75	359	⇑*e*P	Pg	23 51 41.9	-0.1
HGSD	Ruisui	0.75	43	⇑*i*P	Pg	23 51 42.1	0.0
HGSD				*i* S	Sg	23 51 52.8	+1.0
TWP	Hsiaoliuchiu	0.76	218	*e*P	Pn	23 51 45.5	+0.7
WGK	Gukeng	0.79	339	*e*P	Pn	23 51 44.2	-1.0
WDLH	Douliu	0.80	338	⇑*e*P	Pn	23 51 44.1	-1.3
WSL	Shuilin Townsh	0.82	315	*e*P	Pn	23 51 44.3	-1.4
SSLB	Suanglung	0.84	6	P	Pg	23 51 43.2	-0.7
SSLB	Suanglung	0.84	6	⇑*i*P	Pg	23 51 43.0	-0.9
SSLB				*e*S	Sg	23 51 55.0	+0.2
VWDT	VWDT	0.84	17	⇑*i*P	Pg	23 51 42.8	-1.0
VWDT				*e*S	Sg	23 51 55.5	+0.7
WTK	Tuku	0.86	330	*e*P	Pb	23 51 44.8	-0.1
WJS	Zhushan	0.88	352	⇑P	Pb	23 51 45.2	-0.1
WJS				S	Sn	23 51 58.6	-1.1
EGFH	Guangfu	0.89	36	*e*P	Pg	23 51 43.4	-1.3
WARBT	Fenglin Townsh	0.91	32	⇑P	Pg	23 51 43.9	-1.2
WARBT				*e*S	Sg	23 51 55.2	-1.7
WSF	Szhu	0.91	320	*e*P	Pg	23 51 44.8	-0.3
SMST	Manzhou Townsh	0.92	182	*e*P	Pn	23 51 45.7	-1.3
SMLT	Sun Moon Lake	0.94	2	⇑*e*P	Pg	23 51 44.4	-1.2
SMLT				*e*S	Sn	23 52 00.2	-0.9
HEN	Hengchun	0.94	187	*e*P	Pn	23 51 46.4	-0.9
HEN				*e*S	Sn	23 52 02.0	+1.0
WNT	Mingjian	0.94	350	*e*P	Pn	23 51 46.4	-1.0
TYC	Yuchr	0.95	360	⇑*e*P	Pb	23 51 45.8	-0.7
TYC				*e*S	Sn	23 52 01.3	-0.1
WNT1	Nantou City	0.97	350	*e*P	Pg	23 51 46.8	+0.5
TEGC	Jichi Village	0.98	39	*e*P	Pb	23 51 46.4	-0.6
SNW	Nanwan	0.99	186	*e*P	Pn	23 51 48.6	+0.7
TWK1	Hengchun	1.00	183	*e*P	Pn	23 51 47.3	-0.8
TWKBT	Hengchun	1.00	183	*e*P	Pn	23 51 47.3	-0.8
ESL	Shilin	1.01	31	*e*P	Pb	23 51 46.0	-1.5
TSEB	Hengchuen, Pin	1.04	178	*e*P	Pn	23 51 48.6	-0.1
OWD	Renai	1.04	16	*e*P	Pb	23 51 46.2	-2.0
RLNB	Erlin	1.05	334	*e*P	Pg	23 51 48.0	+0.2
SHUL	Shoufeng	1.06	37	*e*P	Pb	23 51 47.2	-1.0
WPL	Puli Township	1.07	5	*e*P	Pb	23 51 47.1	-1.3
WUSB	Renai	1.07	13	*e*P	Pb	23 51 46.6	-2.0
DPDB	Guoxing	1.08	3	*e*P	Pb	23 51 48.0	-0.9
LAY	Lan-yu	1.10	145	*e*P	Pb	23 51 47.6	-1.4
WWF	Wufeng	1.10	352	*e*P	Pg	23 51 49.3	+0.4
WCS	Beigang Elemen	1.11	2	*e*P	Pb	23 51 48.7	-0.5
TEYL	Yanliau Villag	1.14	36	*e*P	Pn	23 51 49.8	-0.3
LYLB	Lan-yu	1.15	145	*e*P	Pb	23 51 46.2	-3.7
WDGT	Dungji	1.15	286	*e*P	Pg	23 51 50.0	+0.3
WCH1	Changhua City	1.16	346	*e*P	Pb	23 51 48.9	-1.2
ETM	Tongmen	1.17	29	*e*P	Pn	23 51 49.0	-1.5
LXIB	Xiulin Townshi	1.18	25	*e*P	Pn	23 51 48.7	-2.1
TCU	Taichung	1.21	352	*e*P	Pb	23 51 50.6	-0.3
HWA	Hwalien	1.23	33	*e*P	Pn	23 51 49.7	-1.7
WHF	Hehuan Shan	1.25	17	*e*P	Pn	23 51 50.8	-1.2
TWD	Chiawan	1.31	31	*e*P	Pn	23 51 51.4	-1.0
PHUB	P'eng-hu	1.32	296	*e*P	Pb	23 51 52.0	-0.7
PHUB				*e*S	Sn	23 52 09.2	-1.2
WHP	Taichung City	1.33	3	*e*P	Pb	23 51 53.0	0.0
TWT	Tachien	1.33	12	*e*P	Pb	23 51 52.8	-0.4
FUSS	Fushou	1.34	15	*e*P	Pn	23 51 52.1	-1.0
VCHM	Qimei	1.35	282	*e*P	Pb	23 51 52.1	-1.1
VCHM				*e*S	Sg	23 52 10.0	-1.0
ETLH	Xiulin Townshi	1.38	24	*e*P	Pn	23 51 52.6	-0.8
ETL	Fush Village	1.40	30	*e*P	Pn	23 51 53.1	-0.5
NACB	Ninganchiao	1.40	29	P	Pn	23 51 52.6	-1.0
NACB	Ninganchiao	1.40	29	*e*P	Pn	23 51 52.3	-1.3
TWQ1	Liyutan	1.40	357	*e*P	Pg	23 51 54.8	+0.3
WDJ	Dajia District	1.41	352	*e*P	Pb	23 51 54.0	-0.4
NSY	Sanyi	1.47	356	*e*P	Pn	23 51 53.5	-1.1
NSY				*e*S	Sg	23 52 15.1	+0.3
NNSB	Datong	1.55	18	*e*P	Pn	23 51 55.6	-0.3
NNSH	Datong	1.55	18	*e*P	Pb	23 51 56.1	-0.7
NNS	Nan Shan	1.56	17	*e*P	Pn	23 51 55.9	-0.1
NMLH	Miaoli	1.59	358	*e*P	Pn	23 51 55.8	-0.5
EAHA	Aohua	1.59	30	*e*P	Pn	23 51 55.0	-1.3
ENA	Nanau	1.68	28	*e*P	Pn	23 51 57.5	0.0
NSTT	Nanjuang	1.68	4	*e*P	Pb	23 51 59.0	+0.1
LATG	Datong	1.70	21	*e*P	Pn	23 51 58.0	+0.1
LATG				*e*S	Sn	23 52 19.6	-0.3
NFF	Wufeng Townshi	1.70	8	*e*P	Pb	23 51 58.6	-0.6
LIOB	Emei	1.70	5	*e*P	Pg	23 51 59.8	-0.4
EWUT	Wuta	1.71	29	*e*P	Pn	23 51 57.8	-0.2
EOS4	EOS4	1.77	48	*e*P	Pn	23 51 58.0	-0.4
YHNB	Yeheng	1.78	15	*e*P	Pb	23 51 59.9	-0.8
NSK	Sanguang	1.78	15	*e*P	Pb	23 52 00.6	-0.1
NSK				*e*S	Sb	23 52 23.5	+0.1
ENTT	Nioudou	1.81	21	*e*P	Pb	23 52 00.1	-1.0
KSHI	Guanxi Townshi	1.85	9	*e*P	Pb	23 52 02.1	+0.4
NDS	Dongshan	1.85	25	*e*P	Pb	23 52 01.2	-0.7
ESAO	Su ao	1.85	29	*e*P	Pb	23 52 00.7	-1.2
EOS3

0.4nm,0.7s
AKASG **Malin Array Be** 73.60 318 LR LR 00 36 57.5
comp=Z,25nm,19.2s,baz=330,slow=37
YKA **Yellowknife Ar** 84.22 23 P P 00 04 04.1 +4.4
0.2nm,0.7s,baz=318,slow=4.7,SNR=4.8
0.2nm,0.7s

*NEIC **08** 00:01:00.7±2.2, 54°.44N±0°.05×161°.07W±0°.05, h35km±2km, mb4.4/106, ML4.3/38, ML4.1(AEIC), Error ellipse: s-maj=8.1km s-min=5.0km az=170.0*
*ANF **08** 00:01:01.8±0.3, 54°.51N×161°.03W, h53km±4km, ML4.7/20, Error ellipse: s-maj=3.4km s-min=1.7km az=10.0*
*IDC **08** 00:01:01.2±2.8, 54°.73N×161°.21W, h47km±25km, mb4.0/26, mbtmp4.3/30, ML4.1/4, MS3.1/10, Error ellipse: s-maj=21.8km s-min=13.2km az=3.0*
*AEIC **08** 00:01:03.0±2.2, 54°.47N±0°.05×161°.08W±0°.04, h42km±6km, Error ellipse: s-maj=7.3km s-min=1.6km az=156.0*
ISC 08 00:01:01.9±0.8, 54°.51N±0°.05×161°.06W±0°.03, h61km±7km, n625, σ1.01/640, mb4.4/75, 13C-5D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.91**	**21**		**Pn**	**00 01 19.3**	**+0.6**
SDPT				Sn	**Sn**	**00 01 32.0**	**+0.8**
SDPT	**Sand Point**	**0.91**	**21**	P	**Pn**	**00 01 19.4**	**+0.6**
SDPT	**Sand Point**	**0.91**	**21**	P	**Pn**	**00 01 19.4**	**+0.6**
	baz=202,SNR=90						
SDPT				S	**Sn**	**00 01 32.4**	**+1.3**
	baz=202						
CNBA	**Chernabura Isl**	**0.91**	**69**		**Pn**	**00 01 19.1**	**+0.3**
CNBA				Sn	**Sn**	**00 01 31.1**	**-0.1**
CNBA				IAML		00 01 31.9	
	comp=E,8μm,0.6s						
CHNA	**Chernabura Isl**	**0.91**	**69**	P	**Pn**	**00 01 18.8**	**0.0**
CHNA	**Chernabura Isl**	**0.91**	**69**	P	**Pn**	**00 01 19.0**	**+0.2**
	baz=248,SNR=278						
CHNA				S	**Sn**	**00 01 31.2**	**-0.1**
	baz=248						
HAG	**Hague Volcano**	**0.95**	**329**		**Pn**	**00 01 19.5**	**+0.2**
HAG					**Sn**	**00 01 32.7**	**+0.5**
PS4A	**Pavlof South-4**	**0.96**	**332**		**Pn**	**00 01 19.5**	**+0.1**
PS4A					**Sn**	**00 01 32.6**	**+0.3**
PVV	**Pavlof Volcano**	**0.96**	**334**		**Pn**	**00 01 19.7**	**+0.2**
PS1A	**Pavlof South-1**	**1.00**	**337**		**Pn**	**00 01 20.1**	**+0.2**
PS1A					**Sn**	**00 01 33.9**	**+0.6**
FALS	**False Pass**	**1.41**	**285**		**Pn**	**00 01 25.4**	**0.0**
FALS				Sn	**Sn**	**00 01 41.9**	**-1.1**
FALS	**False Pass**	**1.41**	**285**	P	**Pn**	**00 01 25.4**	**0.0**
FALS	**False Pass**	**1.41**	**285**	S	**Sn**	**00 01 43.9**	**+0.9**
FALS	**False Pass**	**1.41**	**285**	P	**Pn**	**00 01 25.4**	**0.0**
	baz=105,SNR=190						
FALS				S	**Sn**	**00 01 42.4**	**-0.7**
	baz=105						
ISLZ	**Isanotski Laza**	**1.56**	**279**		**Pn**	**00 01 27.5**	**+0.1**
ISLZ					**Sn**	**00 01 46.5**	**-0.2**
S14K	**Fog Glacier**	**1.98**	**25**	P	**Pn**	**00 01 34.5**	**+1.4**
	baz=206,SNR=15						
S14K				S	**Sn**	**00 01 58.4**	**+1.6**
	baz=206						
CHGN	**Chignik**	**2.34**	**39**		**Pn**	**00 01 38.8**	**+0.8**
CHGN				Sn	**Sn**	**00 02 05.7**	**+0.1**
CHGN				IAML		00 02 07.8	
	comp=N,2μm,0.4s						
CHGN	**Chignik**	**2.34**	**39**	P	**Pn**	**00 01 38.8**	**+0.8**
	baz=221,SNR=40						
CHGN				S	**Sn**	**00 02 05.4**	**-0.2**
	baz=221						
AKUT	**Akutan**	**2.79**	**264**		**Pn**	**00 01 44.0**	**0.0**
AKUT				Sn	**Sn**	**00 02 16.0**	**-0.4**
AKUT				IAML		00 02 18.4	
	comp=E,875nm,0.4s						
AKUT	**Akutan**	**2.79**	**264**	P	**Pn**	**00 01 44.8**	**+0.8**
AKUT	**Akutan**	**2.79**	**264**	S	**Sn**	**00 02 17.3**	**+0.9**
AKMO	**Akutan Morgan**	**2.93**	**264**		**Pn**	**00 01 46.5**	**+0.5**
LVA	**Lava Point**	**2.94**	**265**		**Pn**	**00 01 46.4**	**+0.4**
LVA				IAML		00 02 34.9	
	comp=N,657nm,0.6s						
UNV	**Unalaska Valle**	**3.27**	**260**		**Pn**	**00 01 50.0**	**-0.6**
UNV	**Unalaska Valle**	**3.27**	**260**	P	**Pn**	**00 01 50.5**	**-0.2**
UNV	**Unalaska Valle**	**3.27**	**260**	P	**Pn**	**00 01 50.4**	**-0.2**
	baz=77,SNR=59						
UNV				S	**Sn**	**00 02 26.3**	**-2.0**
	baz=77						
CHIR	**Chirikof Islan**	**3.38**	**65**		**Pn**	**00 01 51.9**	**-0.3**
CHIR				IAML		00 02 31.0	
	comp=E,765nm,0.7s						
CHIR				IAML		00 02 31.1	
	comp=N,781nm,0.8s						
CHIR	**Chirikof Islan**	**3.38**	**65**	P	**Pn**	**00 01 52.0**	**-0.2**
CHIR	**Chirikof Islan**	**3.38**	**65**	P	**Pn**	**00 01 52.4**	**+0.2**
	baz=249,SNR=13						
CHIR				S	**Sn**	**00 02 28.4**	**-2.7**
	baz=249						
R16K	**Pilot Point**	**3.63**	**31**		**Pn**	**00 01 55.3**	**-0.3**
R16K				IAML		00 02 38.6	
	comp=N,806nm,0.4s						
R16K				IAML		00 02 41.0	
	comp=E,560nm,0.7s						
R16K	**Pilot Point**	**3.63**	**31**	P	**Pn**	**00 01 56.4**	**+0.8**
	baz=214						
R16K				S	**Sn**	**00 02 36.8**	**-0.4**
	baz=214						
PLBL	**Peulik Blue Cr**	**3.98**	**35**		**Pn**	**00 02 01.2**	**+0.8**
SII	**Sitkinak Islan**	**4.41**	**59**	Pn	**Pn**	**00 02 05.9**	**-0.4**
SII				IAML		00 02 58.7	
	comp=E,506nm,1.0s						
SII	**Sitkinak Islan**	**4.41**	**59**	P	**Pn**	**00 02 05.8**	**-0.4**
SII	**Sitkinak Islan**	**4.41**	**59**	P	**Pn**	**00 02 06.1**	**-0.1**
	baz=245,SNR=18						
SII				S	**Sn**	**00 02 53.4**	**-2.9**
	baz=245						
O15K	**Ungalikthiuk R**	**4.73**	**8**		**Pn**	**00 02 09.9**	**-0.7**
O15K				IAML		00 03 04.4	
	comp=N,219nm,0.5s						
O15K				IAML		00 03 04.4	
	comp=E,309nm,0.5s						
O15K	**Ungalikthiuk R**	**4.73**	**8**	P	**Pn**	**00 02 10.4**	**-0.1**
	baz=189,SNR=29						
O15K				S	**Sn**	**00 03 03.3**	**-0.7**
	baz=189						
Q17K	**Contact Creek**	**4.73**	**35**	P	**Pn**	**00 02 11.1**	**+0.3**
	baz=219,SNR=15						
Q17K				S	**Sn**	**00 03 04.0**	**-0.3**
	baz=219						
O14K	**Tigyukauivet M**	**4.76**	**359**	Pn	**Pn**	**00 02 10.9**	**0.0**
O14K				IAML		00 03 36.6	
	comp=N,210nm,0.8s						
O14K				IAML		00 03 38.8	
	comp=E,175nm,0.8s						
O14K	**Tigyukauivet M**	**4.76**	**359**	P	**Pn**	**00 02 10.9**	**0.0**
	baz=179,SNR=37						
O14K				S	**Sn**	**00 03 03.8**	**-0.9**
	baz=179						
R18K	**Karluk**	**4.81**	**48**	IAML		00 03 08.2	
	comp=N,364nm,0.4s						
R18K	**Karluk**	**4.81**	**48**	P	**Pn**	**00 02 11.8**	**+0.2**
	baz=233,SNR=6.9						
R18K				S	**Sn**	**00 03 04.5**	**-1.4**
	baz=233						
Q16K	**King Salmon**	**4.83**	**28**	P	**Pn**	**00 02 12.9**	**+1.0**
	baz=212						
Q16K				S	**Sn**	**00 03 05.3**	**-1.3**
	baz=212						
P16K	**Nushagak River**	**4.84**	**19**		**Pn**	**00 02 12.3**	**+0.3**
P16K				IAML		00 03 42.0	
	comp=E,317nm,0.8s						
P16K				IAML		00 03 51.1	
	comp=N,359nm,0.7s						
P16K	**Nushagak River**	**4.84**	**19**	P	**Pn**	**00 02 12.5**	**+0.5**
	baz=202,SNR=10.0						
NIKH	**Nikolski High**	**4.88**	**255**	Pn	**Pn**	**00 02 12.3**	**-0.3**
NIKH				IAML		00 03 08.6	
	comp=N,169nm,0.5s						
NIKH	**Nikolski High**	**4.88**	**255**	P	**Pn**	**00 02 12.1**	**-0.5**
NIKH	**Nikolski High**	**4.88**	**255**	P	**Pn**	**00 02 12.2**	**-0.3**
	baz=69,SNR=8.2						
NIKH				S	**Sn**	**00 03 05.6**	**-2.2**
	baz=69						
ACHA	**Angle Creek He**	**4.89**	**38**	Pn	**Pn**	**00 02 13.2**	**+0.3**
OHAK	**Old Harbor**	**5.15**	**55**	Pn	**Pn**	**00 02 15.5**	**-0.9**
OHAK				IAML		00 03 12.8	
	comp=N,136nm,0.5s						
OHAK	**Old Harbor**	**5.15**	**55**	P	**Pn**	**00 02 15.5**	**-0.9**
OHAK	**Old Harbor**	**5.15**	**55**	P	**Pn**	**00 02 15.4**	**-0.9**
	baz=241,SNR=13						
P08K	**Saint George I**	**5.26**	**297**	Pn	**Pn**	**00 02 17.4**	**-0.3**
P08K				IAML		00 03 10.2	
	comp=E,123nm,1.8s						
P08K				IAML		00 03 58.1	
	comp=N,152nm,1.5s						
Q18K	**Katmai Hardscr**	**5.33**	**36**	P	**Pn**	**00 02 19.1**	**+0.2**
	baz=221,SNR=7.4						
P17K	**Kvichak River**	**5.34**	**26**	P	**Pn**	**00 02 18.9**	**0.0**
	baz=210						
O16K	**Kokwok River B**	**5.35**	**16**	Pn	**Pn**	**00 02 19.3**	**+0.3**
O16K	**Kokwok River B**	**5.35**	**16**	P	**Pn**	**00 02 19.3**	**+0.3**
	baz=199,SNR=14						
O16K				S	**Sn**	**00 03 19.5**	**+0.3**
	baz=199						
N14K	**Kuskokwak Cree**	**5.44**	**357**		**Pn**	**00 02 20.6**	**+0.3**
N14K	**Kuskokwak Cree**	**5.44**	**357**	P	**Pn**	**00 02 20.4**	**+0.2**
	baz=176,SNR=77						
N14K				S	**Sn**	**00 03 20.0**	**-1.4**
	baz=176						
N15K	**Kwethluk River**	**5.70**	**5**	Pn	**Pn**	**00 02 24.1**	**+0.2**
N15K	**Kwethluk River**	**5.70**	**5**	P	**Pn**	**00 02 24.0**	**+0.2**
	baz=186,SNR=36						
N15K				S	**Sn**	**00 03 28.0**	**+0.2**
	baz=186						
O17K	**Koliganek Bris**	**5.70**	**21**	P	**Pn**	**00 02 24.2**	**+0.3**
	baz=204						
KDAK	**Kodiak Island**	**5.76**	**52**	Pn	**Pn**	**00 02 23.8**	**-0.9**
KDAK	**Kodiak Island**	**5.76**	**52**	P	**Pn**	**00 02 23.7**	**-1.0**
	comp=N,7.8nm,0.3s,baz=51,slow=5.6,SNR=113						
KDAK				S	**Sn**	**00 03 23.4**	**-5.9**
	comp=N,60nm,0.5s,baz=305,slow=1.4,SNR=11						
	comp=N,20nm,0.3s						
KDAK	**Kodiak Island**	**5.76**	**52**	P	**Pn**	**00 02 23.7**	**-1.0**
	baz=239						
SPIA	**Saint Paul Isl**	**5.83**	**301**	Pn	**Pn**	**00 02 26.1**	**+0.5**
SPIA	**Saint Paul Isl**	**5.83**	**301**	P	**Pn**	**00 02 24.9**	**-0.7**
	baz=114						
P18K	**Big Mountain,**	**5.84**	**31**	Pn	**Pn**	**00 02 26.0**	**+0.2**
P18K	**Big Mountain,**	**5.84**	**31**	P	**Pn**	**00 02 25.8**	**0.0**
	baz=216						
Q19K	**Cape Douglas,**	**6.02**	**40**		**Pn**	**00 02 28.1**	**-0.2**
Q19K	**Cape Douglas,**	**6.02**	**40**	P	**Pn**	**00 02 28.3**	**0.0**
	baz=226						
M13K	**Dall Lake**	**6.05**	**349**	Pn	**Pn**	**00 02 29.1**	**+0.6**
M13K	**Dall Lake**	**6.05**	**349**	P	**Pn**	**00 02 28.9**	**+0.4**
	baz=168,SNR=22						
N16K	**Nishlik Lake**	**6.11**	**11**	P	**Pn**	**00 02 29.9**	**+0.4**
	baz=193,SNR=149						
M15K	**Kasigluk River**	**6.21**	**2**	P	**Pn**	**00 02 30.5**	**-0.3**
	baz=182,SNR=20						
O18K	**Koktuh Hills**	**6.23**	**28**	Pn	**Pn**	**00 02 32.0**	**+0.9**
O18K	**Koktuh Hills**	**6.23**	**28**	P	**Pn**	**00 02 31.3**	**+0.2**
	baz=213						
M14K	**Bethel**	**6.28**	**356**	Pn	**Pn**	**00 02 31.6**	**-0.2**
M14K	**Bethel**	**6.28**	**356**	P	**Pn**	**00 02 31.8**	**0.0**
	baz=175,SNR=155						
Q20K	**Shuyak Island**	**6.31**	**46**	P	**Pn**	**00 02 31.7**	**-0.5**
	baz=233						
SYI	**Shuyak Island**	**6.31**	**46**	Pn	**Pn**	**00 02 32.1**	**-0.1**
N17K	**Nushagak Hills**	**6.38**	**17**	Pn	**Pn**	**00 02 32.5**	**-0.7**
N17K	**Nushagak Hills**	**6.38**	**17**	P	**Pn**	**00 02 33.5**	**+0.3**
	baz=201,SNR=14						
M11K	**Mekoryuk**	**6.51**	**337**	Pn	**Pn**	**00 02 34.9**	**0.0**
M11K	**Mekoryuk**	**6.51**	**337**	P	**Pn**	**00 02 35.2**	**+0.3**
	baz=153,SNR=6.9						
M16K	**Timber Creek**	**6.63**	**9**	Pn	**Pn**	**00 02 36.4**	**-0.1**
M16K	**Timber Creek**	**6.63**	**9**	P	**Pn**	**00 02 36.5**	**0.0**
	baz=191,SNR=41						
P19K	**Oil Pt**	**6.69**	**36**	Pn	**Pn**	**00 02 37.5**	**+0.1**
P19K	**Oil Pt**	**6.69**	**36**	P	**Pn**	**00 02 37.2**	**-0.2**
	baz=223						
O19K	**Port Alsworth**	**6.76**	**30**		**Pn**	**00 02 38.0**	**-0.3**
O19K	**Port Alsworth**	**6.76**	**30**	P	**Pn**	**00 02 38.8**	**+0.4**
	baz=215						
N18K	**Kilae Creek**	**6.78**	**22**	Pn	**Pn**	**00 02 37.5**	**-1.2**
N18K	**Kilae Creek**	**6.78**	**22**	P	**Pn**	**00 02 38.3**	**-0.4**
	baz=206,SNR=6.4						
L14K	**Kuka Creek**	**6.91**	**353**	Pn	**Pn**	**00 02 39.4**	**-0.9**
L14K	**Kuka Creek**	**6.91**	**353**	P	**Pn**	**00 02 40.3**	**0.0**
	baz=172,SNR=56						
ILSW	**Iliamna Southw**	**6.96**	**35**		**Pn**	**00 02 41.8**	**+0.6**
M17K	**Holitna River**	**7.17**	**14**	Pn	**Pn**	**00 02 44.2**	**+0.2**
M17K	**Holitna River**	**7.17**	**14**	P	**Pn**	**00 02 44.3**	**+0.3**
	baz=197,SNR=22						
L15K	**Ungalak Mounta**	**7.19**	**358**	P	**Pn**	**00 02 44.0**	**-0.2**
	baz=178						
O20K	**Slope Mountain**	**7.21**	**36**	P	**Pn**	**00 02 44.0**	**-0.6**
	baz=223						
N19K	**Bonanza Creek**	**7.23**	**26**	Pn	**Pn**	**00 02 45.9**	**+0.9**
N19K	**Bonanza Creek**	**7.23**	**26**	P	**Pn**	**00 02 44.7**	**-0.3**
	baz=212						
L16K	**Owhat River**	**7.27**	**6**	Pn	**Pn**	**00 02 45.1**	**-0.3**
L16K	**Owhat River**	**7.27**	**6**	P	**Pn**	**00 02 45.0**	**-0.3**
	baz=187,SNR=11						
HOM	**Homer**	**7.27**	**41**	Pn	**Pn**	**00 02 46.1**	**+0.7**
HOM	**Homer**	**7.27**	**41**	P	**Pn**	**00 02 45.0**	**-0.3**
	baz=229						
CNPM	**China Poot**	**7.35**	**43**	Pn	**Pn**	**00 02 46.3**	**-0.1**
M18K	**Stony River**	**7.53**	**20**	P	**Pn**	**00 02 48.9**	**0.0**
	baz=204,SNR=10.0						
BRLK	**Bradley Lake**	**7.63**	**42**	Pn	**Pn**	**00 02 49.5**	**-0.9**
BRSE	**Bradley Lake S**	**7.68**	**43**	P	**Pn**	**00 02 49.9**	**-1.1**
	baz=231						
K13K	**Kusilvak Mount**	**7.68**	**347**		**Pn**	**00 02 51.3**	**+0.3**
K13K	**Kusilvak Mount**	**7.68**	**347**	P	**Pn**	**00 02 51.2**	**+0.3**
	baz=164,SNR=98						
L17K	**Donlin**	**7.78**	**10**	P	**Pn**	**00 02 52.0**	**-0.3**
	baz=192,SNR=45						
K15K	**Wolf Creek Mou**	**7.81**	**358**	Pn	**Pn**	**00 02 52.9**	**+0.2**
K15K	**Wolf Creek Mou**	**7.81**	**358**	P	**Pn**	**00 02 52.7**	**0.0**
	baz=178,SNR=21						
L18K	**Granite Mounta**	**8.06**	**15**		**Pn**	**00 02 56.1**	**0.0**
L18K	**Granite Mounta**	**8.06**	**15**	P	**Pn**	**00 02 56.4**	**+0.2**
	baz=198,SNR=15						
ATKA	**Atka Island**	**8.19**	**259**	Pn	**Pn**	**00 02 57.6**	**-0.4**
ATKA	**Atka Island**	**8.19**	**259**	P	**Pn**	**00 02 58.0**	**0.0**
M19K	**Big River Lodg**	**8.20**	**23**	P	**Pn**	**00 02 58.7**	**+0.6**
	baz=208						
L19K	**White Mountain**	**8.35**	**20**	P	**Pn**	**00 03 00.2**	**+0.1**
	baz=206,SNR=11						
K17K	**Ididarod**	**8.36**	**9**	Pn	**Pn**	**00 03 00.0**	**-0.2**
K17K	**Ididarod**	**8.36**	**9**	P	**Pn**	**00 02 59.9**	**-0.2**
	baz=191,SNR=29						
J14K	**Nanvaranak Lak**	**8.37**	**352**	Pn	**Pn**	**00 03 00.3**	**0.0**
J14K	**Nanvaranak Lak**	**8.37**	**352**	P	**Pn**	**00 03 00.2**	**-0.1**
	baz=170,SNR=20						
SLKM	**Skilak Lake**	**8.37**	**40**	Pn	**Pn**	**00 03 01.0**	**+0.6**
SEW	**Seward**	**8.41**	**44**	Pn	**Pn**	**00 03 00.8**	**-0.2**
SEW	**Seward**	**8.41**	**44**	P	**Pn**	**00 03 00.6**	**-0.3**
	baz=233						
M20K	**Styx River**	**8.49**	**26**		**Pn**	**00 03 03.5**	**+1.4**
M20K	**Styx River**	**8.49**	**26**	P	**Pn**	**00 03 02.5**	**+0.4**
	baz=213,SNR=8.3						
O22K	**Cooper Landing**	**8.54**	**41**		**Pn**	**00 03 02.6**	**0.0**
STLK	**Strandline Lak**	**8.54**	**31**		**Pn**	**00 03 02.9**	**+0.2**
J16K	**Anvik River**	**8.80**	**1**	Pn	**Pn**	**00 03 06.0**	**-0.2**
J16K	**Anvik River**	**8.80**	**1**	P	**Pn**	**00 03 06.0**	**-0.2**
	baz=182,SNR=11						
L20K	**Farewell, AK**	**8.82**	**22**	P	**Pn**	**00 03 06.7**	**+0.1**
	baz=208,SNR=7.2						
TTA	**Tatalina**	**8.84**	**15**	Pn	**Pn**	**00 03 06.9**	**0.0**
TTA	**Tatalina**	**8.84**	**15**	P	**Pn**	**00 03 06.8**	**0.0**
	baz=200						
SUA	**Susitna One**	**8.86**	**34**		**Pn**	**00 03 06.8**	**-0.3**
SUA	**Susitna One**	**8.86**	**34**	P	**Pn**	**00 03 06.5**	**-0.6**
	baz=223						
RC01	**Rabbit Creek A**	**8.94**	**38**	Pn	**Pn**	**00 03 08.5**	**+0.4**
RC01	**Rabbit Creek A**	**8.94**	**38**	P	**Pn**	**00 03 07.7**	**-0.4**
	baz=227						
J17K	**VABM Dome**	**8.97**	**6**		**Pn**	**00 03 07.5**	**-1.1**
J17K	**VABM Dome**	**8.97**	**6**	P	**Pn**	**00 03 07.7**	**-0.9**
	baz=188,SNR=7.4						
SKT	**Skwentna**	**9.01**	**30**	Pn	**Pn**	**00 03 09.8**	**+0.6**
SKT	**Skwentna**	**9.01**	**30**	P	**Pn**	**00 03 09.1**	**0.0**
	baz=218						
P23K	**Montague Islan**	**9.21**	**48**	Pn	**Pn**	**00 03 11.2**	**-0.6**
P23K	**Montague Islan**	**9.21**	**48**	P	**Pn**	**00 03 11.3**	**-0.5**
	baz=239						
J18K	**Innoko River**	**9.26**	**12**	Pn	**Pn**	**00 03 12.5**	**+0.1**
J18K	**Innoko River**	**9.26**	**12**	P	**Pn**	**00 03 12.3**	**-0.1**
	baz=196,SNR=9.4						
M22K	**Willow**	**9.27**	**34**		**Pn**	**00 03 11.4**	**-1.2**
GSTR	**Great Sitkin T**	**9.30**	**261**	Pn	**Pn**	**00 03 13.2**	**0.0**
PWL	**Port Wells**	**9.31**	**42**	Pn	**Pn**	**00 03 12.8**	**-0.4**
PWL	**Port Wells**	**9.31**	**42**	P	**Pn**	**00 03 12.6**	**-0.7**
	baz=232,SNR=6.6						
I17K	**Unalakleet**	**9.41**	**1**	Pn	**Pn**	**00 03 14.8**	**+0.3**
I17K	**Unalakleet**	**9.41**	**1**	P	**Pn**	**00 03 14.2**	**-0.2**
	baz=181						
PMR	**Palmer**	**9.49**	**37**	Pn	**Pn**	**00 03 15.6**	**-0.1**
PMR	**Palmer**	**9.49**	**37**	P	**Pn**	**00 03 15.3**	**-0.3**
	baz=227						
K20K	**Telida**	**9.57**	**19**	Pn	**Pn**	**00 03 16.7**	**-0.1**
K20K	**Telida**	**9.57**	**19**	P	**Pn**	**00 03 16.4**	**-0.4**
	baz=205						
PPLA	**Purkeypile**	**9.58**	**25**		**Pn**	**00 03 15.3**	**-1.7**
PPLA	**Purkeypile**	**9.58**	**25**	P	**Pn**	**00 03 15.6**	**-1.5**
	baz=213						
KNK	**Knik Glacier**	**9.62**	**39**		**Pn**	**00 03 16.0**	**-1.4**
KNK	**Knik Glacier**	**9.62**	**39**	P	**Pn**	**00 03 16.2**	**-1.2**
	baz=230						
GHO	**Glory Hole Cre**	**9.69**	**36**	Pn	**Pn**	**00 03 17.1**	**-1.3**
CUT	**Chulitna**	**9.71**	**31**	Pn	**Pn**	**00 03 18.7**	**+0.1**
CUT	**Chulitna**	**9.71**	**31**	P	**Pn**	**00 03 18.2**	**-0.5**
	baz=220						
HIN	**Hinchinbrook I**	**9.80**	**47**		**Pn**	**00 03 18.8**	**-1.2**
GLI	**Glacier Island**	**9.81**	**44**	Pn	**Pn**	**00 03 19.1**	**-1.0**
GLI	**Glacier Island**	**9.81**	**44**	P	**Pn**	**00 03 18.6**	**-1.5**
	baz=236						
J19K	**Poorman**	**9.91**	**14**	Pn	**Pn**	**00 03 21.2**	**-0.2**
J19K	**Poorman**	**9.91**	**14**	P	**Pn**	**00 03 21.3**	**0.0**
	baz=199,SNR=7.9						
SML	**Sawmill**	**9.92**	**37**	Pn	**Pn**	**00 03 20.7**	**-0.8**
SML	**Sawmill**	**9.92**	**37**	P	**Pn**	**00 03 20.2**	**-1.4**
	baz=228						
FID	**Port Fidalgo**	**10.00**	**45**		**Pn**	**00 03 20.4**	**-2.2**
KIWB	**Kanaga Island**	**10.02**	**261**	Pn	**Pn**	**00 03 22.8**	**-0.1**
CAST	**Castle Rocks**	**10.05**	**24**	Pn	**Pn**	**00 03 23.2**	**-0.1**
CAST	**Castle Rocks**	**10.05**	**24**	P	**Pn**	**00 03 22.8**	**-0.5**
	baz=211						
M23K	**Glacier View**	**10.13**	**39**	P	**Pn**	**00 03 23.2**	**-1.1**
	baz=230						
H16K	**Elim**	**10.18**	**357**	P	**Pn**	**00 03 24.4**	**-0.6**
	baz=176						
EYAK	**Cordova Ski Ar**	**10.20**	**47**		**Pn**	**00 03 23.9**	**-1.4**
EYAK	**Cordova Ski Ar**	**10.20**	**47**	P	**Pn**	**00 03 24.2**	**-1.1**
	baz=240						
SCM	**Sheep Creek Mo**	**10.30**	**39**		**Pn**	**00 03 25.6**	**-1.1**
SCM	**Sheep Creek Mo**	**10.30**	**39**	P	**Pn**	**00 03 25.5**	**-1.2**
	baz=231						
J20K	**Nowinta River**	**10.31**	**17**	Pn	**Pn**	**00 03 26.8**	**0.0**
J20K	**Nowinta River**	**10.31**	**17**	P	**Pn**	**00 03 26.8**	**0.0**
	baz=203,SNR=32						
ANM	**Nome**	**10.32**	**350**	Pn	**Pn**	**00 03 26.9**	**0.0**
ANM	**Nome**	**10.32**	**350**	P	**Pn**	**00 03 26.6**	**-0.3**
	baz=166						
CHUM	**Lake Minchumin**	**10.40**	**22**	P	**Pn**	**00 03 28.0**	**-0.1**
	baz=209,SNR=8.8						
KTH	**Kantishna Hill**	**10.45**	**26**		**Pn**	**00 03 26.8**	**-2.1**
H17K	**Granite Mounta**	**10.48**	**3**		**Pn**	**00 03 28.6**	**-0.5**
H17K	**Granite Mounta**	**10.48**	**3**	P	**Pn**	**00 03 28.7**	**-0.4**
	baz=184						
GCSA	**Galena City Sc**	**10.48**	**10**	P	**Pn**	**00 03 28.7**	**-0.4**
	baz=194						
DIV	**Divide**	**10.49**	**45**		**Pn**	**00 03 28.7**	**-0.7**
KAIM	**Kayak Island**	**10.51**	**52**	Pn	**Pn**	**00 03 29.6**	**-0.1**
KAIM	**Kayak Island**	**10.51**	**52**	P	**Pn**	**00 03 28.9**	**-0.7**
	baz=246						
TRF	**Thorofare Moun**	**10.53**	**27**	Pn	**Pn**	**00 03 26.0**	**-4.0**
RAGM	**Ragged Mountai**	**10.59**	**50**		**Pn**	**00 03 30.3**	**-0.5**
G15K	**Niukluk**	**10.62**	**353**	P	**Pn**	**00 03 31.3**	**+0.2**
	baz=171						
KLU	**Klutina**	**10.63**	**43**		**Pn**	**00 03 30.3**	**-1.0**
KLU	**Klutina**	**10.63**	**43**	P	**Pn**	**00 03 30.3**	**-1.0**
	baz=236,SNR=10						
HMT	**Hamilton**	**10.76**	**50**	Pn	**Pn**	**00 03 32.4**	**-0.6**
H18K	**Honhosa River**	**10.76**	**6**	Pn	**Pn**	**00 03 32.5**	**-0.5**
H18K	**Honhosa River**	**10.76**	**6**	P	**Pn**	**00 03 32.8**	**-0.2**
	baz=188						
GAMB	**Gambell**	**10.76**	**334**	Pn	**Pn**	**00 03 33.0**	**0.0**
GAMB	**Gambell**	**10.76**	**334**	P	**Pn**	**00 03 32.5**	**-0.4**
	baz=145						
I20K	**Naaghedeneel**	**10.83**	**15**	Pn	**Pn**	**00 03 33.9**	**0.0**
I20K	**Naaghedeneel**	**10.83**	**15**	P	**Pn**	**00 03 33.7**	**-0.2**
	baz=201						
BPAW	**Bear Paw Mtn.**	**10.89**	**24**		**Pn**	**00 03 34.4**	**-0.4**
BPAW	**Bear Paw Mtn.**	**10.89**	**24**	P	**Pn**	**00 03 34.4**	**-0.4**
	baz=213						
BMRM	**Bremner River**	**10.90**	**47**		**Pn**	**00 03 34.4**	**-0.5**
BMRM	**Bremner River**	**10.90**	**47**	P	**Pn**	**00 03 34.2**	**-0.7**
	baz=241						
M24K	**Tolsona, Glenn**	**10.90**	**40**		**Pn**	**00 03 34.4**	**-0.5**
M24K	**Tolsona, Glenn**	**10.90**	**40**	P

ILAR	Eielson Array	12.50	29	P		Pn	00 03 52.8	-3.9
	comp=N,0.2nm,0.3s,baz=219,slow=13,SNR=9.8							
ILAR				S		Sn	00 06 04.3	-10
	comp=N,1.2nm,0.5s,baz=218,slow=27,SNR=5.7							
	comp=N,0.6nm,0.4s							
PINM	Pinnacle	12.53	55	P		Pn	00 03 56.2	-1.1
	baz=252							
G21K	Allakaket	12.59	14			Pn	00 03 57.7	-0.2
G21K	Allakaket	12.59	14	P		Pn	00 03 56.8	-1.2
	baz=201							
DOT	Dot Lake	12.62	37	Pn		Pn	00 03 57.1	-1.2
H23K	Yukon River	12.68	22	P		Pn	00 03 58.1	-1.1
	baz=212							
M27K	Edge Creek, AK	12.71	44	Pn		Pn	00 03 58.1	-1.7
M27K	Edge Creek, AK	12.71	44	P		Pn	00 03 58.8	-1.0
	baz=240							
O28M	Mount Upton	12.78	52	P		Pn	00 03 59.8	-1.0
	baz=250,SNR=12							
BCPM	Bancas Point	12.79	56			Pn	00 04 00.5	-0.2
J25K	Salcha River,	12.83	32	P		Pn	00 03 57.9	-3.4
	baz=225							
PNL	Peninsula	12.83	58	P		Pn	00 04 01.4	+0.1
PNL	Peninsula	12.83	58	P		Pn	00 04 00.7	-0.5
	baz=256,SNR=7.9							
F20K	Avaraart Lake	12.84	9	Pn		Pn	00 04 01.5	+0.2
F20K	Avaraart Lake	12.84	9	P		Pn	00 04 01.5	+0.2
	baz=194,SNR=16							
SCRK	Sand Creek	12.85	36	Pn		Pn	00 04 01.6	0.0
SCRK	Sand Creek	12.85	36	P		Pn	00 03 59.1	-2.4
	baz=230,SNR=6.0							
E18K	Tukpahlearik C	12.96	1			Pn	00 04 03.3	+0.4
E18K	Tukpahlearik C	12.96	1	P		Pn	00 04 02.1	-0.8
	baz=181							
YUK3	Moose Creek	13.04	48	P		Pn	00 04 03.2	-1.1
	baz=245							
H24K	Noodor Dome	13.08	25	Pn		Pn	00 04 03.3	-1.2
H24K	Noodor Dome	13.08	25	P		Pn	00 04 03.4	-1.2
	baz=216							
L27K	Beaver Creek,	13.10	41			Pn	00 04 03.0	-1.8
L27K	Beaver Creek,	13.10	41	P		Pn	00 04 03.9	-0.9
	baz=239							
BCAR	Beaver Creek A	13.11	41	Pn		Pn	00 04 03.5	-1.6
E19K	Redstone River	13.12	7	P		Pn	00 04 04.4	-0.8
	baz=190							
BVCY	Beaver Creek	13.16	45	P		Pn	00 04 06.0	+0.3
	baz=242							
YUK8	Steele Glacier	13.16	50	P		Pn	00 04 05.8	-0.1
	baz=248,SNR=9.1							
F21K	Alatna River	13.26	13	Pn		Pn	00 04 06.7	-0.4
F21K	Alatna River	13.26	13	P		Pn	00 04 07.7	+0.6
	baz=200,SNR=13							
D17K	Noatak River	13.27	357	P		Pn	00 04 08.1	+0.9
	baz=175							
G22K	Bettles	13.28	17	P		Pn	00 04 07.5	+0.4
	baz=205							
J26L	Joseph Creek	13.33	34	P		Pn	00 04 07.6	-0.5
	baz=229,SNR=6.4							
G23K	Bananza Creek	13.35	19	P		Pn	00 04 08.0	-0.3
	baz=209,SNR=11							
O29M	Mount Kennedy	13.39	55	P		Pn	00 04 08.9	-0.1
	baz=254,SNR=14							
PRP	Porcupine Dome	13.44	29	Pn		Pn	00 04 09.2	-0.4
PRP	Porcupine Dome	13.44	29	P		Pn	00 04 10.0	+0.3
	baz=222							
K27K	Chicken	13.55	38	Pn		Pn	00 04 08.6	-2.3
K27K	Chicken	13.55	38	P		Pn	00 04 11.2	+0.3
	baz=234							
RDOG	Red Dog Mine	13.62	357	P		Pn	00 04 11.6	-0.3
	baz=176							
P29M	Windy Craggy	13.64	59	Pn		Pn	00 04 12.2	0.0
P29M	Windy Craggy	13.64	59	P		Pn	00 04 12.7	+0.5
	baz=258							
YUK6	Outpost Mounta	13.68	53	P		Pn	00 04 13.0	0.0
	baz=252							
YUK4	Talbot Arm	13.68	51	P		Pn	00 04 13.8	+0.8
	baz=250							
F22K	John River	13.71	15	P		Pn	00 04 13.6	+0.5
	baz=202,SNR=12							
COLD	Coldfoot	13.78	18	P		Pn	00 04 13.6	-0.3
	baz=208,SNR=8.3							
G24K	Hadweenzic Riv	13.88	23	P		Pn	00 04 14.5	-0.8
	baz=215							
H25L	Birch Creek	13.93	26	P		Pn	00 04 15.0	-1.0
	baz=220							
C16K	Lisburne Hills	13.96	353	Pn		Pn	00 04 17.8	+1.5
C16K				P		P	00 04 23.5	+1.0
C16K	Lisburne Hills	13.96	353	P		Pn	00 04 16.8	+0.5
	baz=170,SNR=9.5							
I26K	Coal Creek Min	13.99	32			Pn	00 04 12.2	-4.7
I26K	Coal Creek Min	13.99	32	P		Pn	00 04 15.6	-1.2
	baz=228							
HYT	Haines Junctio	14.05	54	Pn		Pn	00 04 17.4	-0.3
HYT	Haines Junctio	14.05	54	P		Pn	00 04 17.6	-0.2
	baz=254							
D19K	Kuna River	14.10	4	P		Pn	00 04 18.4	0.0
	baz=187							
P30M	Million Dollar	14.13	57	P		Pn	00 04 18.8	0.0
	baz=257							
M29M	Somme Creek	14.18	47	P		Pn	00 04 18.9	-0.5
	baz=246,SNR=11							
C18K	Utukok River	14.19	360	Pn		Pn	00 04 19.9	+0.4
C18K	Utukok River	14.19	360	P		Pn	00 04 19.8	+0.3
	baz=180,SNR=70							
S31K	Pelican	14.20	66	P		Pn	00 04 19.5	-0.1
	baz=266							
G25K	Bearman Lake	14.25	25	P		Pn	00 04 20.6	+0.4
	baz=218							
PLBC	Pleasant Camp	14.30	60	P		Pn	00 04 20.6	-0.3
	baz=260							
FYU	Fort Yukon	14.31	26	Pn		Pn	00 04 20.8	-0.3
E22K	Anaktuvuk Pass	14.35	14	P		Pn	00 04 21.6	+0.1
	baz=202,SNR=17							
E21K	Killik River	14.37	11			Pn	00 04 23.1	+1.3
E21K	Killik River	14.37	11	P		Pn	00 04 21.9	+0.1
	baz=197,SNR=9.5							
D20K	Etivluk River	14.40	7			Pn	00 04 22.6	+0.3
D20K	Etivluk River	14.40	7	P		Pn	00 04 22.2	0.0
	baz=190							
N30M	Aishikik Lake	14.43	52	P		Pn	00 04 22.2	-0.5
	baz=252							
F24K	Squaw Lake	14.48	21	Pn		Pn	00 04 21.7	-1.5
F24K	Squaw Lake	14.48	21	P		Pn	00 04 21.6	-1.7
	baz=212							
R31K	City Hall, Gus	14.49	64	P		Pn	00 04 23.4	0.0
	baz=265							
DAWY	Dawson	14.55	40			Pn	00 04 23.6	-0.6
DAWY	Dawson	14.55	40	P		Pn	00 04 23.9	-0.3
	baz=239,SNR=7.7							
L29M	L29M	14.59	45	Pn		Pn	00 04 24.1	-0.7
L29M	L29M	14.59	45	P		Pn	00 04 24.5	-0.3
	baz=244							
E23K	Chandalar	14.62	17	P		Pn	00 04 24.9	-0.2
	baz=207,SNR=13							
SIT	Sitka	14.67	70	Pn		Pn	00 04 24.4	-1.3
SIT	Sitka	14.67	70	P		Pn	00 04 25.7	0.0
	baz=271							
I27K	Kandik River	14.68	33	P		Pn	00 04 25.8	-0.1
	baz=230							
O30N	Mendenhall	14.70	55			Pn	00 04 26.6	+0.3
O30N	Mendenhall	14.70	55	P		Pn	00 04 26.1	-0.1
	baz=256							
SKAG	Skagway	14.82	60			Pn	00 04 29.1	+1.4
SKAG	Skagway	14.82	60	P		Pn	00 04 27.9	+0.2
	baz=262							
SHEM	Shemya Is, Ala	14.83	273	LR		LR	00 09 10.0	
	comp=N,58nm,21.3s,baz=341,slow=33							
E24K	Your Creek	14.84	19	Pn		Pn	00 04 27.7	-0.2
E24K	Your Creek	14.84	19	P		Pn	00 04 27.8	-0.2
	baz=210,SNR=18							
B18K	Kokolik River	14.91	359	P		Pn	00 04 29.2	+0.4
	baz=178							
D22K	Ayikyak River	14.93	12			Pn	00 04 30.1	+1.0
D22K	Ayikyak River	14.93	12	P		Pn	00 04 29.3	+0.2
	baz=199,SNR=23							
M30M	Minto, Yukon	14.94	48	P		Pn	00 04 28.8	-0.5
	baz=248							
BESE	Bessie Mountai	14.97	64	Pn		Pn	00 04 31.0	+1.3
BESE				IAmb		IAmb	00 04 40.5	
	comp=Z,24nm,0.7s							
C21K	Knifeblade Rid	14.98	9	P		Pn	00 04 30.6	+0.9
	baz=194,SNR=77							
G26K	Porcupine Rive	14.98	27	P		Pn	00 04 29.8	0.0
G26K	Porcupine Rive	14.98	27	P		Pn	00 04 30.4	+0.6
	baz=222							
F25K	Christian Rive	15.03	23			Pn	00 04 30.8	+0.4
F25K	Christian Rive	15.03	23	P		Pn	00 04 30.5	+0.1
	baz=217							
N31M	Braeburn, Yuko	15.04	52	Pn		Pn	00 04 30.9	+0.4
N31M				IAmb		IAmb	00 04 38.5	
	comp=Z,8.9nm,0.7s							
N31M	Braeburn, Yuko	15.04	52	P		Pn	00 04 30.5	0.0
	baz=254							
S32K	Killisnoo	15.07	68	Pn		Pn	00 04 31.8	+0.9
S32K				IAmb		IAmb	00 05 00.4	
	comp=Z,41nm,1.2s							
S32K	Killisnoo	15.07	68	P		Pn	00 04 31.1	+0.2
	baz=270							
H27K	Steamboat Moun	15.12	31	P		Pn	00 04 32.4	+0.9
	baz=228							
R32K	Eaglecrest	15.12	65	P		Pn	00 04 32.1	+0.4
	baz=267							
I28M	Miner Creek	15.13	35	IAmb		IAmb	00 04 38.7	
	comp=Z,5.2nm,0.5s							
I28M	Miner Creek	15.13	35	P		Pn	00 04 32.2	+0.5
	baz=234							
BMAR	Burnt Mountain	15.15	25	Pn		Pn	00 04 31.7	-0.2
TOLK	Toolik Lake Re	15.15	16	IAmb		IAmb	00 04 36.7	
	comp=Z,22nm,0.7s							
TOLK	Toolik Lake Re	15.15	16	P		Pn	00 04 31.4	-0.5
	baz=206,SNR=30							
K29M	Barlow Dome	15.17	43	P		Pn	00 04 32.2	0.0
K29M				IAmb		IAmb	00 04 42.4	
	comp=Z,15nm,0.6s							
K29M	Barlow Dome	15.17	43	P		Pn	00 04 33.1	+0.9
	baz=243,SNR=21							
J29N	Klondike Camp	15.19	40			Pn	00 04 31.8	-0.7
J29N				IAmb		IAmb	00 04 42.6	
	comp=Z,14nm,0.6s							
J29N	Klondike Camp	15.19	40	P		Pn	00 04 33.0	+0.5
	baz=240,SNR=8.7							
JIS	Juneau Island	15.20	65	P		Pn	00 04 34.3	+1.8
WHY	Whitehorse	15.26	56	Pn		Pn	00 04 33.9	+0.4
WHY				IAmb		IAmb	00 04 40.5	
	comp=Z,18nm,0.8s							
WHY	Whitehorse	15.26	56	P		Pn	00 04 33.0	-0.4
	baz=258							
D23K	Nanushuk River	15.28	14	P		Pn	00 04 33.3	-0.2
D23K				IAmb		IAmb	00 04 37.9	
	comp=Z,16nm,1.2s							
D23K	Nanushuk River	15.28	14	P		Pn	00 04 33.3	-0.2
	baz=204							
B21K	Ikpikpuk River	15.45	8	Pn		Pn	00 04 35.2	-0.5
B21K				IAmb		IAmb	00 04 39.5	
	comp=Z,30nm,0.7s							
B21K	Ikpikpuk River	15.45	8	P		Pn	00 04 35.9	+0.2
	baz=194,SNR=26							
F26K	Sheenjek River	15.46	25			Pn	00 04 34.5	-1.4
F26K	Sheenjek River	15.46	25	P		Pn	00 04 35.5	-0.3
	baz=220							
E25K	Arctic Village	15.47	22	Pn		Pn	00 04 34.6	-1.4
E25K	Arctic Village	15.47	22	P		Pn	00 04 36.0	0.0
	baz=216							
G27K	Doyon Strip	15.47	30			Pn	00 04 34.7	-1.3
G27K	Doyon Strip	15.47	30	P		Pn	00 04 36.8	+0.7
	baz=226,SNR=6.7							
I29M	Ogilvie Camp,	15.64	37			Pn	00 04 38.0	-0.2
I29M				IAmb		IAmb	00 04 44.4	
	comp=Z,12nm,1.0s							
I29M	Ogilvie Camp,	15.64	37	P		Pn	00 04 38.8	+0.6
	baz=237,SNR=8.5							
B20K	Meade River	15.65	5	P		Pn	00 04 37.9	-0.4
	baz=188,SNR=66							
P32M	Atlin	15.65	60	Pn		Pn	00 04 38.1	-0.3
P32M				IAmb		IAmb	00 04 45.0	
	comp=Z,12nm,0.8s							
P32M	Atlin	15.65	60	P		Pn	00 04 38.4	-0.1
	baz=263							
D24K	Happy Valley	15.73	16	P		Pn	00 04 39.1	-0.3
	baz=207							
A19K	Wainwright	15.75	360	P		Pn	00 04 38.8	-0.7
	baz=180,SNR=66							
M31M	Drury Creek, Y	15.87	50	Pn		Pn	00 04 41.5	+0.3
M31M	Drury Creek, Y	15.87	50	P		Pn	00 04 40.8	-0.4
	baz=253							
U33K	Whale Pass	15.94	73	Pn		Pn	00 04 41.8	-0.2
U33K	Whale Pass	15.94	73	P		Pn	00 04 42.3	+0.3
	baz=276							
J30M	Hart River	15.97	41	P		Pn	00 04 42.5	0.0
J30M				IAmb		IAmb	00 04 49.9	
	comp=Z,14nm,0.7s							
J30M	Hart River	15.97	41	P		Pn	00 04 43.0	+0.5
	baz=242,SNR=16							
T33K	Petersburg	15.98	70	P		Pn	00 04 42.4	-0.1
	baz=274							
CRAG	Craig	16.02	75	Pn		Pn	00 04 43.0	0.0
CRAG				IAmb		IAmb	00 04 59.0	
	comp=Z,80nm,1.4s							
CRAG	Craig	16.02	75	P		Pn	00 04 42.6	-0.4
	baz=278							
C23K	Itkillik River	16.09	13	P		Pn	00 04 42.4	-1.5
C23K				IAmb		IAmb	00 04 46.8	
	comp=Z,30nm,1.1s							
C23K	Itkillik River	16.09	13	P		Pn	00 04 43.7	-0.2
	baz=202							
H29M	Whitestone	16.11	34			Pn	00 04 42.7	-1.4
H29M	Whitestone	16.11	34	P		Pn	00 04 44.6	+0.5
	baz=234,SNR=6.8							
P33M	Teslin, Yukon	16.18	58	P		Pn	00 04 45.4	+0.2
P33M	Teslin, Yukon	16.18	58	P		Pn	00 04 45.6	+0.4
	baz=262,SNR=5.7							
N32M	Quiet Lake	16.22	55	Pn		Pn	00 04 45.1	-0.5
N32M	Quiet Lake	16.22	55	P		Pn	00 04 45.6	+0.1
	baz=258							
B22K	Teshekpuk Lake	16.25	9	IAmb		IAmb	00 04 48.0	
	comp=Z,20nm,0.8s							
B22K	Teshekpuk Lake	16.25	9	P		Pn	00 04 45.2	-0.6
	baz=196,SNR=18							
I30M	Mount Dempster	16.26	39	Pn		Pn	00 04 44.6	-1.5
I30M				P		P	00 04 50.1	+1.9
I30M				IAmb		IAmb	00 04 52.6	
	comp=Z,18nm,0.7s							
I30M	Mount Dempster	16.26	39	P		Pn	00 04 46.1	0.0
	baz=240,SNR=23							
C24K	Franklin Bluff	16.26	15	P		Pn	00 04 44.7	-1.3
	baz=206							
D25K	Kavik River	16.31	19	Pn		Pn	00 04 44.6	-2.0
D25K	Kavik River	16.31	19	P		Pn	00 04 45.5	-1.2
	baz=212,SNR=7.4							
Q32M	Nakina River	16.34	63	Pn		Pn	00 04 48.3	+1.0
Q32M	Nakina River	16.34	63	P		Pn	00 04 46.6	-0.6
	baz=267							
WRAK	Wrangell Islan	16.34	72	P		Pn	00 04 46.5	-0.5
	baz=275							
FARO	Faro, Yukon	16.35	51	P		P	00 04 48.3	-0.8
FARO	Faro, Yukon	16.35	51	P		Pn	00 04 47.0	-0.2
	baz=254							
E27K	Coleen River	16.47	26	Pn		Pn	00 04 47.1	-1.5
E27K	Coleen River	16.47	26	P		Pn	00 04 47.8	-0.8
	baz=223							
G29M	Pine Creek	16.63	33	P		Pn	00 04 49.5	-1.2
G29M				IAmb		IAmb	00 04 52.7	
	comp=Z,18nm,1.0s							
G29M	Pine Creek	16.63	33	P		Pn	00 04 51.1	+0.4
	baz=233,SNR=10							
EPYK	Eagle Plains	16.74	35	P		Pn	00 04 52.1	+0.1
EPYK				IAmb		IAmb	00 04 54.4	
	comp=Z,16nm,0.9s							
EPYK	Eagle Plains	16.74	35	P		Pn	00 04 52.5	+0.5
	baz=236,SNR=10							
A22K	Sinclair Lake	16.77	7	P		Pn	00 04 51.9	-0.4
	baz=192							
S34M	Telegraph Cree	16.92	66			P	00 04 56.7	+1.3
S34M	Telegraph Cree	16.92	66	P		Pn	00 04 53.6	-0.7
	baz=271							
A21K	Barrow	16.99	5	P		Pn	00 04 54.4	-0.6
	baz=189,SNR=7.8							
R33M	Jennings River	17.03	61	P		P	00 04 57.0	+0.2
R33M				IAmb		IAmb	00 05 01.6	
	comp=Z,12nm,0.8s							
R33M	Jennings River	17.03	61	P		Pn	00 04 54.9	-0.9
	baz=266							
C27K	Jago River	17.09	21	P		Pn	00 04 56.0	-0.3
C27K	Jago River	17.09	21	P		Pn	00 04 55.5	-0.8
	baz=216,SNR=5.7							
C26K	Camden Bay	17.09	19	P		Pn	00 04 55.7	-0.6
	baz=214							
G30M	tAoh Zraii Nji	17.25	34	P		Pn	00 04 58.0	-0.3
	baz=236,SNR=11							
H31M	Peel River	17.28	39	P		P	00 04 59.4	0.0
H31M				IAmb		IAmb	00 05 36.3	
	comp=Z,12nm,0.8s							
H31M	Peel River	17.28	39	P		Pn	00 04 59.0	+0.2
	baz=242,SNR=13							
MMPY	Sheldon Lake,	17.39	50	P		P	00 05 00.7	0.0
MMPY	Sheldon Lake,	17.39	50	P		P	00 05 01.0	+0.3
	baz=256							
D27M	Malcolm River	17.40	24	P		Pn	00 04 59.7	-0.6
D27M	Malcolm River	17.40	24	P		Pn	00 05 00.3	0.0
	baz=222							
T35M	Bob Quinn	17.44	69			P	00 05 02.6	+1.3
DLBC	Dease Lake	17.50	64	P		Pn	00 05 01.4	-0.1
	comp=Z,0.3nm,0.3s,baz=236,slow=13,SNR=3.8							
DLBC				LR		LR	00 10 20.7	
	comp=Z,163nm,19.9s,baz=45,slow=32							
	comp=Z,4.1nm,1.0s							
E29M	Blow River	17.60	29			Pn	00 05 01.0	-1.6
E29M	Blow River	17.60	29	P		Pn	00 05 02.0	-0.6
	baz=229							
F30M	Barrier River	17.75	32			Pn	00 05 03.7	-0.7
F30M	Barrier River	17.75	32	P		Pn	00 05 03.7	-0.7
	baz=235							
D28M	Stokes Point	18.02	26	P		P	00 05 07.2	-0.2
	baz=226							
WTLY	Watson Lake, Y	18.18	59	P		P	00 05 09.0	-0.3
	baz=266							
F31M	Tsiigehtchic	18.31	34	P		P	00 05 09.8	-0.8
F31M	Tsiigehtchic	18.31	34	P		P	00 05 09.3	-1.3
	baz=238							
TGTN	Hyland Airport	18.57	55	P		P	00 05 13.6	0.0
	baz=262							
INK	Inuvik	18.85	32	P		P	00 05 15.0	-1.5
	comp=Z,0.8nm,0.3s,baz=241,slow=13,SNR=16							
	comp=Z,2.3nm,0.3s							
INK	Inuvik	18.85	32	P		P	00 05 16.8	+0.3
	baz=236							
LIRD	Liard River Hi	19.52	61	P		P	00 05 24.9	+0.9
	baz=271,SNR=5.9							
TOAD	Toad River Com	19.99	63	P		Pn	00 05 31.0	-0.3
	baz=273,SNR=7.0							
BILL	Bilibino	20.39	324	P		P	00 05 32.1	-1.2
BILL				IAmb		IAmb	00 05 36.0	
	comp=Z,8.2nm,0.8s							
KOTAN	Kotaneelee Air	20.55	59	P		P	00 05 36.0	+0.9
	baz=270							
WRGLY	Wrigley	21.01	50	P		P	00 05 41.4	+1.4
WRGLY				IAmb		IAmb	00 06 15.9	
	comp=Z,15nm,1.1s							
WRGLY	Wrigley	21.01	50	P		P	00 05 41.1	+1.1
	baz=263							
C36M	Paulatuk	22.36	34	P		P	00 05 53.0	-1.4
C36M				IAmb		IAmb	00 05 55.4	
	comp=Z,5.5nm,0.6s							
C36M	Paulatuk	22.36	34	P		P	00 05 53.0	-1.4
	baz=247,SNR=11							
A36M	Sachs Harbour	23.19	28	P		P	00 06 01.2	-1.8
A36M				IAmb		IAmb	00 06 05.0	
	comp=Z,16nm,0.8s							
A36M	Sachs Harbour	23.19	28	P		P	00 06 00.8	-2.2
	baz=240,SNR=20							
CLRS	Cowichan Lake	23.40	89	P		P	00 06 07.2	+2.1
PET	Petropavlovsk	23.64	283	P		P	00 06 06.6	-0.7
PEA0B	Petropavlovsk-	24.15	284	P		P	00 06 11.5	-0.5
PETK	Petropavlovsk-	24.15	284	P		P	00 06 11.6	-0.3
	comp=Z,6.3nm,0.5s,baz=78,slow=13,SNR=9.9							
	comp=Z,6.3nm,0.5s							
NLWA	Neilton Lookou	24.26	92	P		P	00 06 14.5	+1.5
NLWA				IAmb		IAmb	00 06 16.9	
	comp=Z,29nm,1.3s							
YKA	Yellowknife Ar	25.04	53	P		P	00 06 20.5	+0.6
	comp=Z,0.9nm,0.7s,baz=270,slow=9.9,SNR=20							
	comp=Z,0.9nm,0.7s							
LON	Longmire	25.79	91	P		P	00 06 29.4	+2.4
LON				IAmb		IAmb	00 06 31.0	
	comp=Z,4.2nm,0.8s							
B08A	Colville Reser	26.42	86	P		P	00 06 34.1	+1.5
WAH2	Wahluke Slope	27.10	89	P		P	00 06 40.6	+1.9
HAWA	Hanford	27.31	90	P		P	00 06 42.5	+1.9
HAWA				IAmb		IAmb	00 06 43.7	
	comp=Z,7.5nm,0.7s							
G08A	Pilot Rock	28.25	92	P		P	00 06 50.9	+1.8
I07A	Izee	28.64	94	P		P	00 06 55.0	+2.5
I07A				IAmb		IAmb	00 06 55.9	
	comp=Z,3.8nm,1.0s							
BMO	Blue Mountains	29.47	91	P		P	00 07 01.3	+1.4
HLID	Hailey	31.91	91	P		P	00 07 23.1	+1.5
HLID				IAmb		IAmb	00 07 24.5	
	comp=Z,2.4nm,0.8s							
NVAR	Mina Array Bea	32.95	101	P		P	00 07 33.0	+2.2
	comp=Z,1.4nm,0.8s,baz=315,slow=8.3,SNR=5.3							
	comp=Z,1.4nm,0.8s							
ELK	Elko	33.18	95	P		P	00 07 34.9	+2.2
ELK				IAmb		IAmb	00 07 35.9	
	comp=Z,4.7nm,0.8s							
YHH	Holmes Hill	33.27	86	P		P	00 07 35.2	+1.7
TIXI	Tiksi	33.54	327	P		P	00 07 34.1	-1.1
TIXI				IAmb		IAmb	00 07 34.8	
	comp=Z,12nm,1.1s							
TIXI	Tiksi	33.54	327	LR		LR	00 22 00.2	
	comp=Z,43nm,20.2s,baz=192,slow=38							
HVU	Hansel Valley	33.95	92	P		P	00 07 40.8	+1.4
HVU				IAmb		IAmb	00 07 42.3	
	comp=Z,4.0nm,0.9s							
BGU	Big Grassy Mou	34.35	93	P		P	00 07 44.4	+1.6
BGU				IAmb		IAmb	00 07 49.9	
	comp=Z,4.2nm,1.1s							
PDAR	Pinedale Array	35.22	88	P		P	00 07 51.7	+1.3
	comp=Z,0.3nm,0.5s,baz=307,slow=8.3,SNR=7.0							
	comp=Z,0.3nm,0.5s							
PRN	Pahroc Range	35.52	100	P		P	00 07 55.6	+2.7
PRN				IAmb		IAmb	00 08 20.7	
	comp=Z,7.8nm,1.4s							
YAK	Yakutsk	35.53	311	P		P	00 07 51.1	-1.4
YAK	Yakutsk	35.53	311	LR		LR	00 22 48.0	
	comp=Z,30nm,20.8s,baz=76,slow=37							
RDMU	Red Mountain	36.59	91	P		P	00 08 03.0	+1.0
RDMU				IAmb		IAmb	00 08 04.7	
	comp=Z,3.2nm,0.9s							
HMU	Henry Mountain	37.65	95	P		P	00 08 13.1	+2.0
HMU				IAmb		IAmb	00 08 13.9	
	comp=Z,5.0nm,0.8s			

comp=Z,3.4nm,0.6s
SUMG Summit 47.16 20 P **P 00 09 28.3 +0.3**
SUMG IAmb IAmb 00 09 29.1
comp=Z,5.1nm,0.8s
SPITS Spitsbergen Ar 47.56 1 P **P 00 09 29.4 -1.2**
comp=Z,1.6nm,0.4s,baz=0.0,slow=7.1,SNR=52
comp=Z,1.6nm,0.4s
TXAR Lajitas Array 47.91 98 P **P 00 09 34.9 +0.9**
comp=Z,0.6nm,0.7s,baz=303,slow=6.0,SNR=8.1
comp=Z,0.6nm,0.7s
R40A Maddies Statio 48.14 80 P **P 00 09 34.7 -0.8**
SFJD Kangerlussuaq 48.17 30 P **P 00 09 36.2 +0.8**
U38A Gravette 48.19 83 P **P 00 09 35.9 -0.1**
U38A IAmb IAmb 00 09 36.4
comp=Z,5.8nm,0.8s
HHAR Hobbs 48.56 83 P **P 00 09 38.5 -0.4**
HHAR IAmb IAmb 00 09 39.0
comp=Z,3.4nm,0.6s
FVM French Village 49.41 79 P **P 00 09 45.1 -0.2**
FVM IAmb IAmb 00 09 45.7
comp=Z,4.6nm,0.7s
KSRS Korea Array 49.99 281 P **P 00 09 49.9 +0.2**
comp=Z,2.5nm,0.6s,baz=47,slow=7.3,SNR=10
KSRS LR LR 00 28 53.9
comp=Z,4.5nm,20.8s,baz=220,slow=34
comp=Z,2.5nm,0.6s
PBMO Poplar Bluff 50.24 80 IAmb IAmb 00 09 51.8
comp=Z,3.6nm,0.8s
SCO Scoresbysund 51.91 16 P **P 00 10 04.1 +0.5**
SCO IAmb IAmb 00 10 04.7
comp=Z,3.9nm,0.7s
WVT Waverly 52.19 79 P **P 00 10 06.5 +0.4**
CLTN Cedars of Leba 53.07 78 IAmb IAmb 00 10 14.4
comp=Z,6.8nm,1.2s
TZTN Tazewell 54.33 75 P **P 00 10 21.8 -0.2**
SONM Songino Array 54.35 304 P **P 00 10 21.8 -0.3**
SONM IAmb IAmb 00 10 22.4
comp=Z,2.8nm,1.0s
SONM Songino Array 54.35 304 P **P 00 10 21.5 -0.6**
comp=Z,1.3nm,0.6s,baz=49,slow=5.9,SNR=14
SONM PcP **PcP 00 11 25.3 0.0**
comp=Z,0.9nm,0.6s,baz=55,slow=3.5,SNR=5.3
comp=Z,1.3nm,0.6s
ARCES ARCESS Array B 56.17 357 P **P 00 10 33.4 -1.3**
comp=Z,3.8nm,0.7s,baz=4.5,slow=6.8,SNR=18
comp=Z,3.8nm,0.7s
HHC Hu-ho-hao-te 56.66 295 *eP* **P 00 10 41.5 +2.7**
HHC pmax pmax
comp=Z,7.0nm,0.7s
ZAA0 Zalesovo Array 59.05 321 P **P 00 10 54.9 -0.2**
ZAA0 IAmb IAmb 00 10 55.0
comp=Z,3.4nm,0.7s
ZALV Zalesovo Beam 59.05 321 P **P 00 10 54.8 -0.3**
ZALV Zalesovo Beam 59.05 321 P **P 00 10 54.4 -0.7**
comp=Z,2.6nm,0.5s,baz=21,slow=6.3,SNR=12
comp=Z,2.6nm,0.5s
CMIG Matias Romero 62.45 99 LR LR 00 36 14.9
comp=Z,36nm,18.4s,baz=162,slow=34
GTA Gaotai 63.77 301 *eP* **P 00 11 25.8 -1.6**
GTA pP pP 00 11 31.1 -13
GTA pmax pmax
comp=Z,6.0nm,1.0s
KURK Kurchatov 63.90 322 P **P 00 11 27.5 -0.4**
KURBB Kurchatov Arra 64.01 322 P **P 00 11 28.0 -0.5**
comp=Z,1.5nm,0.5s,baz=50,slow=8.5,SNR=20
comp=Z,1.5nm,0.5s
FINES FINESS Array B 64.25 356 P **P 00 11 28.9 -1.1**
comp=Z,5.1nm,0.6s,baz=16,slow=7.3,SNR=48
comp=Z,5.1nm,0.6s
NB2 NORSAR Subarra 64.63 4 P **P 00 11 31.9 -0.6**
comp=Z,2.6nm,0.6s,baz=356,slow=6.5
NOA NORSAR Array B 64.63 4 P **P 00 11 32.2 -0.3**
comp=Z,5.4nm,0.8s,baz=356,slow=6.6,SNR=19
comp=Z,5.4nm,0.8s
BVAR Borovoye Array 64.67 328 P **P 00 11 32.5 -0.3**
comp=Z,9.6nm,0.5s,baz=40,slow=6.3,SNR=61
comp=Z,9.6nm,0.5s
HFS Hagfors 65.63 3 P **P 00 11 38.2 -0.8**
comp=Z,7.6nm,0.6s,baz=358,slow=6.5,SNR=42
comp=Z,7.6nm,0.6s
MKAR Makanchi Array 65.76 318 LR LR 00 41 40.3
comp=Z,25nm,20.3s,baz=316,slow=37
KONO Kongsberg 65.94 5 P **P 00 11 40.8 -0.2**
EKA Eskdalemuir Ar 69.03 13 P **P 00 12 00.7 +0.2**
comp=Z,2.7nm,0.6s,baz=341,slow=4.3,SNR=12
comp=Z,2.7nm,0.6s
MNK Minsk 71.10 355 *i* P **P 00 12 12.2 -1.0**
comp=E,12nm,1.0s
MNK *i* P **P 00 12 12.2 -1.0**
comp=N,15nm,1.2s
MNK *i* P **P 00 12 12.2 -1.0**
comp=Z,12nm,0.8s,baz=5.4
MNK *i* PP **PP 00 14 49.0 -1.6**
MNK *i* PPP PPP 00 16 34.2
MNK *i* S **S 00 21 25.7 +1.1**
MNK *i* SS **SS 00 26 01.1 +3.5**
MNK *i* SSS SSS 00 29 21.0
MNK *i* LQ LQ 00 38 55.6
MNK *i* LR LR 00 45 12.5
MNK *i* LRM MLR 00 48 11.8
comp=E,38nm,17.0s
MNK *i* LRM MLR 00 48 30.2
comp=Z,26nm,15.7s
MNK *i* LRM MLR 00 48 31.1
comp=N,35nm,16.4s
PZH PanZhiHua 72.84 291 P **P 00 12 26.6 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.3s
KSH Kashi 74.37 318 P **P 00 12 36.1 +3.1**
KSH pmax pmax
comp=Z,12nm,0.7s
CLL Collm 74.44 4 *e*Px Px 00 12 32.0
RNPP5 Staryi Chortor 74.47 355 P **P 00 12 32.4 -0.8**
DAV Davao City (W) 74.63 260 LR LR 00 42 48.1
comp=Z,14nm,19.9s,baz=335,slow=34
MI28 Mi28,Pidlybu 74.68 354 P **P 00 12 33.7 -0.7**
AK21 Malin Array Si 74.75 353 P **P 00 12 33.8 -1.0**
AK23 Malin Array Si 74.75 353 P **P 00 12 33.6 -1.2**
AK22 Malin Array Si 74.76 353 P **P 00 12 33.5 -1.4**
AK20 Malin Array Si 74.78 353 P **P 00 12 33.6 -1.4**
AK03 Malin Array Si 74.78 353 P **P 00 12 33.6 -1.4**
AKASG Malin Array Be 74.81 353 P **P 00 12 34.0 -1.1**
comp=Z,6.7nm,0.5s,baz=11,slow=6.0,SNR=93
comp=Z,6.7nm,0.5s
AKBB Malin Array Si 74.81 353 P **P 00 12 33.9 -1.2**
KIEV Kiev 74.81 353 ⇑P **P 00 12 34.2 -1.0**
KIEV Kiev 74.81 353 P **P 00 12 33.8 -1.4**
comp=Z,71nm,0.9s
CHVC Chvalec 75.25 2 *e*P **P 00 12 37.8 +0.1**
CHVC *ex* x 00 12 40.5
PVCC Panska Ves 75.27 3 *e*P **P 00 12 38.1 +0.3**
OSTC Ostas 75.28 2 *e*P **P 00 12 38.8 +0.9**
RAR Rarotonga 75.42 179 LR LR 00 44 14.1
comp=Z,9.7nm,18.5s,baz=40,slow=34
DPC Dobruska-Polom 75.49 2 *e*P **P 00 12 39.4 +0.2**
DPC *ep*P PcP 00 12 41.3 -11
LUBAR Lubar, Ukraine 75.68 354 P **P 00 12 38.8 -1.4**
KRLC Kraliky 75.77 1 *e*P **P 00 12 41.0 +0.2**
MORC Moravsky Berou 76.08 1 *e*P **P 00 12 42.1 -0.4**
ZVC Zvikov 76.35 3 *e*P **P 00 12 44.3 +0.3**
ZVC *ex* x 00 12 46.9
VRAC Vranov 76.54 2 P **P 00 12 45.2 +0.1**
comp=Z,3.0nm,0.6s,baz=7.1,slow=4.4,SNR=6.9
comp=Z,3.0nm,0.6s
VRAC Vranov 76.54 2 *e*P **P 00 12 44.9 -0.2**
VRAC Vranov 76.54 2 ⇑P **P 00 12 45.2 +0.1**
KHC Kasperske Hory 76.63 4 *e*P **P 00 12 46.2 +0.5**
KHC *ex* x 00 12 48.8
KHC Kasperske Hory 76.63 4 P **P 00 12 45.8 +0.1**
LANS Liptovska Anna 76.71 360 *e*P **P 00 12 46.9 +0.8**
KRUC Moravsky 76.78 2 *e*P **P 00 12 45.5 -0.9**
KOLS Kolonicke sedl 76.89 358 *e*P **P 00 12 47.8 +0.7**
GERES GERESS Array B 76.92 4 P **P 00 12 47.1 -0.3**
comp=Z,1.2nm,0.7s,baz=353,slow=4.7,SNR=12
comp=Z,1.2nm,0.7s
CKRC Cesky Krumlov 76.97 3 *e*P **P 00 12 47.5 -0.1**
JAVC Velka Javorina 77.00 1 *e*P **P 00 12 48.6 +0.8**
VYHS Vyhne 77.37 0 *e*P **P 00 12 50.0 +0.2**
SORM Soroca 77.42 354 ⇓P **P 00 12 48.8 -1.2**
MODS Modra-Piesok 77.48 1 *e*P **P 00 12 51.1 +0.7**
CONA Conrad Observa 77.90 2 *e*P **P 00 12 53.4 +0.5**
comp=Z,3.2nm,0.7s,SNR=5.8
BURAR Bucovina Array 78.11 356 ⇑P **P 00 12 53.7 -0.3**
LESA Schwarzleotal 78.30 4 *e*P **P 00 12 55.1 0.0**
comp=Z,0.7nm,0.5s
MOTA Moosalm 78.30 5 *i* P **P 00 12 55.2 +0.1**
comp=Z,1.3nm,0.7s
WATA Walderalm 78.34 5 *e*P **P 00 12 55.1 -0.3**
comp=Z,2.2nm,1.0s
WTTA Wattenberg 78.41 5 *e*P **P 00 12 55.9 +0.1**
comp=Z,2.2nm,0.7s
SQTA Sankt Quirin 78.43 5 *i* P **P 00 12 56.2 +0.3**
comp=Z,2.5nm,0.7s
MILM Milestii Mici 78.60 353 ⇓P **P 00 12 56.5 -0.1**
FETA Feichten 78.61 6 *e*P **P 00 12 56.9 +0.1**
comp=Z,1.8nm,0.8s
ARCR ARCALIA 78.67 356 ⇑P **P 00 12 57.6 +0.6**
KBA Koelnbreinsper 78.67 4 *e*P **P 00 12 57.8 +0.6**
comp=Z,2.6nm,0.5s,SNR=6.2
DAVOX Davos/Dischmat 78.79 6 P **P 00 12 58.2 +0.3**
comp=Z,1.7nm,0.7s,baz=354,slow=12,SNR=5.9
comp=Z,1.7nm,0.7s
ABTA Abfaltersbach 78.97 4 *e*P **P 00 12 59.5 +0.7**
comp=Z,1.2nm,1.0s
DRGR 79.02 357 ⇑P **P 00 12 58.6 -0.4**
MARR Marisel-Cluj 79.13 357 ⇑P **P 00 12 59.2 -0.4**
SOKA Soboth 79.13 3 *e*P **P 00 13 00.2 +0.6**
comp=Z,2.4nm,0.6s,SNR=6.2
MYKA Terra Mystica 79.14 4 *e*P **P 00 13 00.6 +0.9**
comp=Z,0.9nm,0.5s
PERS Pernice 79.18 3 *e*P **P 00 13 00.2 +0.3**
OBKA Obir 79.29 3 *e*P **P 00 13 00.6 +0.1**
comp=Z,6.1nm,0.5s,SNR=13
GROS Grobnik 79.36 2 *i* P **P 00 13 00.8 -0.1**
OZUR 79.60 355 ⇑P **P 00 13 02.6 +0.5**
DOPR Dopca 79.75 355 ⇑P **P 00 13 04.0 +1.0**
COVR Voineasa-Covas 79.83 355 ⇑P **P 00 13 03.9 +0.5**
KIV Kislovodsk 79.84 343 ⇑P **P 00 13 03.4 -0.2**
JAVS Javornik 79.89 3 *i* P **P 00 13 02.8 -1.0**
KBZ Khabaz 80.02 343 P **P 00 13 04.4 0.0**
comp=Z,4.9nm,0.9s,baz=329,slow=2.3,SNR=18
comp=Z,4.9nm,0.9s
SURR Surduc 80.08 358 ⇑P **P 00 13 02.4 -2.2**
BZS Buzias 80.22 358 ⇑P **P 00 13 02.4 -3.1**
ARR Arges 80.38 356 ⇓P **P 00 13 06.1 -0.3**
GZR Gura Zlata 80.42 357 ⇑P **P 00 13 04.0 -2.6**
CMAR Chiang Mai Arr 80.82 289 P **P 00 13 08.4 -0.7**
comp=Z,2.8nm,0.7s,baz=16,slow=5.5,SNR=15
comp=Z,2.8nm,0.7s
HERR Herculane 80.94 358 ⇓P **P 00 13 08.2 -1.1**
ESDC Sonseca Array 84.15 18 P **P 00 13 26.5 +0.3**
comp=Z,1.5nm,0.9s,baz=348,slow=5.3,SNR=6.1
comp=Z,1.5nm,0.9s
BRTR Keskin Array B 85.29 349 P **P 00 13 31.9 -0.1**
comp=Z,1.3nm,0.8s,baz=7.2,slow=1.8,SNR=12
comp=Z,1.3nm,0.8s
BOSA Boshof 153.72 347 PKPbc **PKPbc 00 20 53.6 -0.1**
comp=Z,1.3nm,0.6s,baz=33,slow=3.8,SNR=4.9

*ISN **08** 00:15:24.7±0.3, 33°.60N×45°.70E, h15km±6km, ML2.8*
*TEH **08** 00:15:25.1, 33°.61N×45°.71E, h10km±39km*
ISC 08 00:15:25.2±0.9, 33°.59N±0°.04×45°.74E±0°.04, h13km, n12, σ1§12/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.51**	**162**	*e*Pg	**Pg**	**00 15 35.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**00 15 42.5**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.54**	**15**	Pg	**Pg**	**00 15 35.6**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.92**	**352**	Pg	**Pn**	**00 15 43.2**	**-0.6**
IGHG	**Ghaleghazi**	**1.00**	**43**	Pg	**Pn**	**00 15 44.8**	**-0.4**
BHD	**Baghdad**	**1.18**	**255**	*e*Pn	**Pg**	**00 15 48.0**	**0.0**
BHD				*e*Sn	**Sg**	**00 16 05.0**	**+1.6**
BHD				AML	AML	00 16 11.7	
comp=E,480nm,0.6s							
IDHR	**Dehrash**	**1.23**	**26**	Pg	**Pg**	**00 15 48.8**	**0.0**
KCHF	**Cheshme Sefid,**	**1.27**	**57**	Pg	**Pg**	**00 15 50.0**	**+0.3**
KCHF				Sg	**Sg**	**00 16 09.1**	**+2.8**
ILIN	**Lien**	**1.66**	**37**	Pg	**Pg**	**00 15 56.9**	**-0.2**
IKFM	**Kafar-mosalman**	**1.76**	**92**	Pg	**Pg**	**00 15 58.6**	**-0.3**
SNQR	**Sonqor, Kerman**	**2.01**	**51**	Pn	**Pb**	**00 16 01.4**	**-0.3**
IDOB	**Doab**	**2.04**	**84**	Pn	**Pb**	**00 16 01.7**	**-0.5**
IKRK	**Kirkuk**	**2.14**	**328**	*e*Pn	**Pn**	**00 16 01.5**	**+0.9**
IKRK				*e*Sn	**Sb**	**00 16 28.5**	**-1.8**
IKRK				AML	AML	00 16 37.8	
comp=N,68nm,0.4s							
IKRK				AML	AML	00 16 38.6	
comp=E,70nm,0.4s							

*IDC **08** 00:52:37.5±0.9, 30°.08N×138°.85E, h400km±19km, mb3.1/10, mbtmp3.8/13, Error ellipse: s-maj=49.2km s-min=10.8km az=72.0*
ISC 08 00:52:38.3±0.8, 30°.2N±0°.1×139°.2E±0°.2, h421km, n13, σ0§97/15, mb3.4/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.00**	**9**	P	**P**	**00 53 43.4**	**+0.5**
138nm,1.0s,baz=238,slow=23,SNR=1.6							
JHJ				S	**S**	**00 54 33.7**	**-1.9**
114nm,0.8s,baz=54,slow=20,SNR=1.7							
JCJ	**Chichijima**	**4.02**	**139**	P	**P**	**00 53 51.9**	**+0.1**
42nm,0.5s,baz=3.0,slow=17,SNR=16							
JCJ				S	**S**	**00 54 50.6**	**-1.0**
96nm,0.3s,baz=296,slow=21,SNR=14							
KLR	**Kul'dur**	**19.88**	**346**	P	**P**	**00 56 41.5**	**+1.5**
0.7nm,0.6s,baz=213,slow=3.1,SNR=4.0							
SONM	**Songino Array**	**30.71**	**314**	P	**P**	**00 58 16.0**	**-0.7**
0.2nm,0.4s,baz=111,slow=7.9,SNR=2.4							
0.2nm,0.4s							
MKAR	**Makanchi Array**	**46.53**	**308**	P	**P**	**01 00 24.6**	**-1.4**
0.5nm,0.6s,baz=96,slow=9.5,SNR=6.2							
0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**49.04**	**313**	P	**P**	**01 00 44.2**	**-0.6**
0.8nm,0.5s,baz=91,slow=8.0,SNR=15							
0.8nm,0.5s							
WRA	**Warramunga Arr**	**50.02**	**186**	P	**P**	**01 00 52.8**	**+0.3**
1.5nm,0.8s,baz=2.3,slow=7.8,SNR=16							
1.5nm,0.8s							
BVAR	**Borovoye Array**	**54.03**	**316**	P	**P**	**01 01 21.0**	**-0.2**
1.0nm,0.5s,baz=95,slow=8.8,SNR=10.0							
1.0nm,0.5s							
ARCES	**ARCESS Array B**	**69.79**	**340**	P	**P**	**01 03 05.5**	**+1.2**
1.6nm,0.8s,baz=58,slow=5.6,SNR=1.2							
1.6nm,0.8s							
KBZ	**Khabaz**	**74.02**	**311**	P	**P**	**01 03 29.9**	**+0.3**
0.5nm,0.5s,baz=200,slow=14,SNR=2.6							
0.5nm,0.5s							
FINES	**FINESS Array B**	**74.05**	**333**	P	**P**	**01 03 29.8**	**+0.5**
2.6nm,1.1s,baz=60,slow=5.2,SNR=8.4							
2.6nm,1.1s							
AKASG	**Malin Array Be**	**78.61**	**322**	P	**P**	**01 03 54.7**	**-0.2**
0.2nm,0.4s,baz=50,slow=5.8,SNR=2.3							
0.2nm,0.4s							
BRTR	**Keskin Array B**	**82.02**	**311**	P	**P**	**01 04 13.5**	**+0.3**
0.5nm,0.7s,baz=73,slow=3.9,SNR=5.2							
0.5nm,0.7s							

TXNET 08 01:07:43.4, 31°.5N±0°.6×103°.2W±0°.7, h4km±1km, ML1.5/9, 1C, Error ellipse: s-maj=1.0km s-min=0.9km az=112.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB06	**Permian Basin**	**0.12**	**10**	P	Pg	01 07 46.2	+0.4
TPB06				S	Sg	01 07 48.3	+1.0
PCOS	**Crockett Middl**	**0.26**	**242**	P	Pn	01 07 54.2	+0.1
PCOS	**Crockett Middl**	**0.26**	**242**	S	Sb	01 07 54.1	-1.5
TPB04	**Verhalen**	**0.35**	**184**	P	Pb	01 07 51.3	-0.9
TPB04				S	Sb	01 07 56.4	-1.5
TPB07	**Mentone**	**0.37**	**277**	S	Sb	01 07 57.2	-1.4
TPB16	**Coyonosa**	**0.41**	**181**	P	Pb	01 07 52.3	-0.9
TPB16				S	Sb	01 07 58.6	-1.2
MNHN	**Monahans**	**0.45**	**115**	⇑P	Pg	01 07 52.9	+0.7
MNHN				S	Sb	01 07 59.7	-1.4
MNHN	**Monahans**	**0.45**	**115**	P	Pg	01 07 53.0	+0.9
TPB10	**Southeast of T**	**0.51**	**241**	S	Sb	01 08 01.3	-1.3
TPB03	**Saragosa**	**0.51**	**208**	P	Pg	01 07 53.8	+0.7
TPB03				S	Sb	01 08 01.8	-0.8
PECS	**Pecos**	**0.56**	**253**	P	Pg	01 07 54.9	+0.7
PECS				S	Sg	01 08 02.6	+1.2
PECS	**Pecos**	**0.56**	**253**	P	Pg	01 07 55.0	+0.8
TPB05	**Hovey Rd**	**0.62**	**187**	P	Pg	01 07 55.9	+0.7
TPB05				S	Sb	01 08 04.9	-0.9
TPB12	**Southwest of T**	**0.69**	**243**	S	Sb	01 08 06.9	-1.0
TPB08	**Permian Basin**	**0.70**	**156**	S	Sb	01 08 08.1	-0.1
TPB01	**Permian Basin**	**0.75**	**218**	P	Pg	01 07 58.1	+0.4
TPB01				S	Sb	01 08 09.5	-0.1
ODSA	**Odessa**	**0.83**	**45**	P	Pb	01 08 00.2	-0.1
ODSA				S	Sg	01 08 10.9	+0.9
TMB02	**Rankin**	**1.08**	**108**	P	Pg	01 08 04.1	0.0
TMB02				S	Sb	01 08 19.3	+0.2
ALPN	**Alpine**	**1.21**	**197**	P	Pg	01 08 05.5	-1.0
ALPN				S	Sn	01 08 23.6	-0.4
ALPN	**Alpine**	**1.21**	**197**	P	Pg	01 08 06.1	-0.4
TMB04	**Seminole**	**1.26**	**30**	P	Pg	01 08 07.2	-0.4
TMB04				S	Sn	01 08 24.9	-0.4
TMB05	**Klondike**	**1.60**	**47**	S	Sg	01 08 35.3	+0.5
VHRN	**Van Horn**	**1.67**	**244**	P	Pb	01 08 14.2	-0.5
VHRN				S	Sg	01 08 36.9	-0.2
VHRN	**Van Horn**	**1.67**	**244**	P	Pb	01 08 15.0	+0.2
MNTX	**Cornudas Mount**	**1.83**	**276**	P	Pb	01 08 17.0	-0.5
MNTX				S	Sg	01 08 42.0	-0.4
SGCY	**Sterling City**	**1.84**	**78**	S	Sg	01 08 42.9	+0.4
SAND	**Sanderson**	**1.84**	**148**	P	Pb	01 08 17.7	0.0
SAND				S	Sg	01 08 42.6	0.0
SAND	**Sanderson**	**1.84**	**148**	P	Pb	01 08 18.1	+0.4
OZNA	**Ozona**	**1.91**	**108**	P	Pb	01 08 18.4	-0.4
OZNA				S	Sg	01 08 45.2	+0.4
OZNA	**Ozona**	**1.91**	**108**	P	Pb	01 08 18.7	-0.1
POST	**Post**	**2.12**	**43**	S	Sb	01 08 50.3	+1.1
TX31	**Lajitas Ar. Si**	**2.22**	**190**	P	Pb	01 08 22.7	-1.5
TX31				S	Sb	01 08 53.1	+1.1

*NEIC **08** 01:21:20.9±0.7, 19°.430N±0°.009×155°.605W±0°.006, h2km±8km, Error ellipse: s-maj=1.3km s-min=0.7km az=159.0*
HVO 08 01:21:20.4±0.5, 19°.438N±0°.004×155°.61W±0°.01, h-1km±7km, ML2.3/26, ML2.2/27(NEIC), Error ellipse: s-maj=1.6km s-min=0.6km az=101.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.05**	**17**	Pg	Pg	01 21 21.8	+0.5
MWH					Sg	01 21 23.4	+1.4
MLOA	**Mauna Loa Obse**	**0.10**	**19**	Pg	Pg	01 21 23.0	+0.6
ALEP	**Alea Permanent**	**0.11**	**344**		Pg	01 21 23.5	+1.1
ALEP					Sg	01 21 25.8	+2.0
KHU	**Kahuku**	**0.19**	**181**	Pg	Pg	01 21 24.5	+0.5
KHU				Sg	Sg	01 21 27.3	+0.8
HMH	**Humu'ula Sheep**	**0.20**	**37**	Pg	Pg	01 21 25.0	+0.7
HMH				Sg	Sg	01 21 28.5	+1.5
HMH				IAML		01 21 29.1	
comp=N,368nm,0.4s							
HMH				IAML		01 21 29.3	
comp=E,453nm,0.9s							
MLH	**Mauna Loa**	**0.22**	**75**	Pg	Pg	01 21 25.4	+0.8
MLH				IAML		01 21 29.7	
comp=E,710nm,0.4s							
HTC	**Hot Caves**	**0.28**	**135**		Pg	01 21 26.2	+0.4
CPH	**Captain Cook**	**0.29**	**280**		Pb	01 21 27.4	-1.1
WRMHI	**West Rim**	**0.30**	**96**		Pg	01 21 26.6	+0.5
UWE	**Uwekahuna**	**0.30**	**93**	Pg	Pg	01 21 26.6	+0.4
UWE				IAML		01 21 36.4	
comp=N,425nm,0.8s							
SDHHI	**Sand Hill**	**0.30**	**99**		Pg	01 21 26.6	+0.4
UWB	**Uwekahuna Bluf**	**0.32**	**92**		Pg	01 21 26.8	+0.4
RSD	**Rainshed**	**0.32**	**85**		Sg	01 21 31.4	+0.9
HLP	**Hilina Pali**	**0.32**	**116**	Pg	Pg	01 21 27.0	+0.5
HLP				IAML		01 21 34.0	
comp=N,383nm,0.5s							
RIM	**Rim**	**0.32**	**98**		Pg	01 21 26.9	+0.3
RIM					Sg	01 21 31.6	+0.9
HUH	**Hualalai**	**0.32**	**319**	Pg	Pb	01 21 28.4	-0.8
HUH				IAML		01 21 38.0	
comp=E,425nm,0.4s							
SBLHI	**Steaming Bluff**	**0.33**	**92**		Pg	01 21 27.6	+1.0
SBLHI					Sg	01 21 30.8	0.0
POHA	**Pohakuloa**	**0.33**	**13**	Pg	Pg	01 21 27.2	+0.5
POHA	**Pohakuloa**	**0.33**	**13**	IAML		01 21 35.8	
comp=E,202nm,0.7s							
POHA				IAML		01 21 36.3	
comp=E,160nm,0.6s							
KKO	**Keanakako'i**	**0.33**	**97**		Pg	01 21 27.1	+0.4
HATHI	**Halema'uma'u T**	**0.33**	**93**	Pg	Pg	01 21 27.1	+0.3
HATHI				IAML		01 21 36.2	
comp=N,292nm,0.7s							
HATHI				IAML		01 21 36.8	
comp=E,382nm,0.5s							
BYL	**Byron's Ledge**	**0.33**	**94**	Pg	Pg	01 21 26.9	+0.1
BYL				IAML		01 21 34.5	
comp=N,320nm,4.3s							
BYL				IAML		01 21 34.8	
comp=E,197nm,1.0s							
PUH	**Pauahi**	**0.38**	**100**	Pg	Pg	01 21 27.7	+0.1
KNHH	**Kane Nui o Ham**	**0.42**	**98**	Pg	Pg	01 21 28.2	-0.2
STCH	**Steam Cracks**	**0.46**	**96**	Pg	Pg	01 21 29.1	-0.1
STCH				Sg	Sg	01 21 35.6	+0.3
NPOC	**North of Pu'u**	**0.48**	**95**		Pg	01 21 29.8	+0.2
NPOC					Sg	01 21 37.1	+1.4
JCUZ	**Jacuzzi**	**0.48**	**96**		Sg	01 21 37.7	+1.7
JOKA	**Jonika Flow**	**0.57**	**90**	Pg	Pg	01 21 31.1	-0.2

*ISN **08** 01:49:54.8±0.3, 33°.54N×45°.64E, h17km±8km, ML2.6*
*TEH **08** 01:49:55.0, 33°.61N×45°.66E, h10km±75km*
ISC 08 01:49:55.0±1.2, 33°.57N±0°.04×45°.67E±0°.04, h12km±13km, n10, σ1§13/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.51**	**154**	*e*Pg	**Pg**	**01 50 04.5**	**-0.4**
IBDR				*e*Sg	**Sg**	**01 50 11.5**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.58**	**20**	Pg	**Pg**	**01 50 05.8**	**-0.6**
IGHG	**Ghaleghazi**	**1.07**	**44**	Pg	**Pb**	**01 50 15.5**	**-0.1**
BHD	**Baghdad**	**1.12**	**255**	*e*Pn	**Pg**	**01 50 17.0**	**+0.5**
BHD				*e*Sn	**Sn**	**01 50 33.5**	**+1.7**
IDHR	**Dehrash**	**1.28**	**28**	Pg	**Pn**	**01 50 18.6**	**-0.3**
IDHR				Sg	**Sg**	**01 50 38.2**	**+2.0**
KCHF	**Cheshme Sefid,**	**1.34**	**58**	Pg	**Pb**	**01 50 20.0**	**-0.3**
KCHF				Sg	**Sg**	**01 50 39.8**	**+1.5**
ILIN	**Lien**	**1.72**	**38**	Pg	**Pb**	**01 50 26.7**	**-0.1**
IKFM	**Kafar-mosalman**	**1.82**	**91**	Pn	**Pg**	**01 50 29.2**	**-0.7**
SNQR	**Sonqor, Kerman**	**2.07**	**51**	Pn	**Pb**	**01 50 32.6**	**-0.2**
IKRK	**Kirkuk**	**2.13**	**329**	*e*Pn	**Pb**	**01 50 32.0**	**-1.6**
IKRK				*e*Sn	**Sb**	**01 50 59.0**	**-1.0**

*MOS **08** 01:54:49.8±1.0, 13°.01N×95°.36E, h11km, mb5.1/53, MS4.5/15, Error ellipse: s-maj=10.3km s-min=4.1km az=117.9*
*IDC **08** 01:54:49.9±0.5, 13°.02N×95°.39E, h0km, mb4.2/27, mbtmp4.2/28, ML4.7/2, MS4.3/68, Error ellipse: s-maj=16.6km s-min=12.0km az=63.0*
*BJI **08** 01:54:51.0, 12°.85N×95°.40E, h30km, mB5.2/58, mb4.5/58, Ms5.1/72, Ms7 4.9/69*
*NEIC **08** 01:54:52.3±2.0, 13°.13N±0°.06×95°.42E±0°.02, h10km±1km, mb5.2/139, Mww5.1/35, Error ellipse: s-maj=10.4km s-min=2.7km az=17.0*
*NEIC **08** 01:54:52.3, 13°.13N×95°.42E, h12km*
*DJA **08** 01:54:52.6±0.2, 13°N±2°×9°6E±°, h10km, M5.0/27, mb4.9/27, mB5.4/21, MLv5.4/6, Mw(mB)4.8/21, MwMwp5.0/7, Mwp5.3/7*
*NEIC **08** 01:54:52.3, 13°.03N×95°.00E, h12km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.89; $M_{\theta\theta}$=3.11; $M_{\phi\phi}$=1.78; $M_{r\theta}$=-3.83; $M_{\theta\phi}$=2.28; $M_{\phi r}$=-1.16; Fault plane solution: M_0=6.29000×10^{16} NP1: ϕ_s=222.27000°, δ=26.99000°, λ=-110.81000°. NP2: $\

cutoff=50s. Triangular moment-rate function
*NDI **08** 01:55:01.5±0.7, 13°.13N×95°.42E, h10km, mb5.0, ML4.8, MW4.9*
ISC 08 01:54:52.1±0.3, **13°.11N**±0°.03×**95°.38E**±0°.03, **h10**km, **n567**, σ1°.**69**/524, **mb5.0**/201, **MS4.5**/105, **26C-17D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**2.39**	**272**	*e*P		**Pg**		**01 55 42.1**	**+4.3**
DGPR				*e*S		**Sg**		**01 56 11.2**	**+2.4**
DGPR				AMP				01 56 22.5	
	comp=N,34μm,2.0s								
DGPR				AMP				01 56 39.2	
	comp=E,23μm,1.3s								
PBA	**Port Blair**	**2.95**	**241**	Pn		**Pn**		**01 55 39.8**	**+0.8**
PBA	**Port Blair**	**2.95**	**241**	P		**Pn**		**01 55 40.7**	**+1.7**
	SNR=32								
PBA	**Port Blair**	**2.95**	**241**	*e*P		**Pg**		**01 55 49.1**	**+0.4**
PBA				*e*S		**Sb**		**01 56 23.8**	**+2.7**
PBA				IAML				01 56 42.3	
	comp=E,2μm,1.1s								
PBA				IAML				01 56 43.2	
	comp=N,3μm,2.1s								
SRIT	**Nakonsritamara**	**6.11**	**137**	Pn		**Pn**		**01 56 18.9**	**-3.6**
CMAR	**Chiang Mai Arr**	**6.33**	**32**	Pn		**Pn**		**01 56 23.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**6.33**	**32**	Pn		**Pn**		**01 56 24.4**	**-1.1**
	comp=N,1.6nm,0.3s,baz=222,slow=14,SNR=15								
CMAR				Lg		Lg		01 58 11.2	
	baz=243,slow=32								
CMAR				LR		LR		01 59 13.0	
	comp=N,1μm,20.4s,baz=220,slow=41								
	comp=N,3.7nm,0.5s								
CMAR	**Chiang Mai Arr**	**6.33**	**32**	P		**Pn**		**01 56 23.5**	**-2.0**
CHTO	**Chiang Mai**	**6.63**	**31**	Pn		**Pn**		**01 56 28.1**	**-1.5**
CHTO	**Chiang Mai**	**6.63**	**31**	P		**Pn**		**01 56 28.1**	**-1.5**
BSI	**Banda Aceh**	**7.57**	**181**	P		**Pn**		**01 56 45.4**	**+2.9**
	comp=N,0.3nmcomp=N,1μmcomp=N,63nm,1.4s								
LHMI	**Lhok Sumawe**	**7.98**	**169**	Pn		**Pn**		**01 56 48.9**	**+0.7**
CRAI	**Chiangrai**	**8.54**	**33**	Pn		**Pn**		**01 56 57.6**	**+1.6**
MLSI	**Meulaboh, Aceh**	**8.85**	**173**	P		**Pn**		**01 57 02.7**	**+2.6**
KULM	**Kulim**	**9.35**	**146**	Pn		**Pn**		**01 57 07.2**	**+0.2**
UBPT	**Khong Chiam**	**10.02**	**76**	Pn		**Pn**		**01 57 14.7**	**-1.5**
BRDH	**Bariadhala**	**10.16**	**340**	Pn		**Pn**		**01 57 18.7**	**+0.7**
	comp=N,21nm,0.3s,baz=80,slow=20,SNR=1.3								
BRDH				LR		LR		02 02 13.9	
	comp=N,2μm,21.7s,baz=146,slow=43								
SNSI	**Sinabang, Aceh**	**10.68**	**175**	P		**Pn**		**01 57 27.7**	**+2.5**
	comp=N,3μmcomp=N,213nm,1.5s								
PSI	**Prapat**	**10.83**	**161**	Pn		**Pn**		**01 57 29.7**	**+2.4**
	comp=N,0.8nm,0.3s,baz=305,slow=9.0,SNR=8.8								
PSI				Lg		Lg		02 00 38.1	
	comp=N,0.3nm,0.3s,baz=132,slow=1.6,SNR=1.4								
PSI				LR		LR		02 02 02.1	
	comp=N,3μm,18.2s,baz=338,slow=40								
PSI	**Prapat**	**10.83**	**161**	P		**Pn**		**01 57 28.7**	**+1.3**
RPSI	**Rantau Prapat**	**10.93**	**161**	Pn		**Pn**		**01 57 28.7**	**+0.1**
SLVN	**Son La**	**11.54**	**44**	Pn		**Pn**		**01 57 37.6**	**+0.6**
GSI	**Gunungsitoli**	**11.93**	**169**	P		**Pn**		**01 57 46.0**	**+3.6**
	comp=N,45nm,1.5s								
TNCH	**TengChong**	**12.22**	**14**	P		**Pn**		**01 57 49.2**	**+2.7**
TNCH				PP		**PnPn**		**01 57 58.8**	**+4.3**
TNCH				S		**Sn**		**02 00 03.6**	**+0.7**
TNCH				SS		**SnSn**		**02 00 21.2**	**+5.6**
TNCH				pmax		pmax			
	comp=N,59nm,1.1s								
TNCH				pmax		pmax			
	comp=N,580nm,4.4s								
TNCH				LR		LR			
	comp=N,5μm,9.4s								
TNCH				LR		LR			
	comp=N,7μm,9.9s								
TNCH				LR		LR			
	comp=N,5μm,14.6s								
VIS	**Vishakhapatnam**	**12.49**	**293**	*e*P		Pn		01 57 58.9	+8.9
VIS				IAmb		IAmb		01 58 00.1	
	comp=Z,20nm,0.3s								
KMI	**Kunming**	**13.82**	**29**	P		**Pn**		**01 58 10.1**	**+1.7**
KMI				pmax		pmax			
	comp=Z,23nm,1.2s								
KMI				pmax		pmax			
	comp=Z,430nm,3.9s								
KMI				LR		LR			
	comp=Z,2μm,11.3s								
KMI				LR		LR			
	comp=Z,5μm,9.5s								
KMI				LR		LR			
	comp=Z,3μm,10.1s								
BKNI	**Bangkinang**	**13.89**	**156**	Pn		**Pn**		**01 58 09.2**	**+0.1**
BKNI	**Bangkinang**	**13.89**	**156**	P		P		01 58 28.2	+11
PPI	**Padang Panjang**	**14.37**	**159**	P		**P**		**01 58 26.5**	**+3.7**
PZH	**PanZhiHua**	**14.60**	**23**	P		**Pn**		**01 58 21.1**	**+2.1**
PZH				S		**Sn**		**02 01 02.6**	**+1.6**
PZH				pmax		pmax			
	comp=Z,20nm,1.9s								
PZH				pmax		pmax			
	comp=Z,330nm,5.5s								
PZH				LR		LR			
	comp=Z,2μm,10.2s								
PZH				LR		LR			
	comp=Z,3μm,8.8s								
PZH				LR		LR			
	comp=Z,3μm,10.6s								
QIZ	**Qiongzhong**	**15.09**	**65**	P		**P**		**01 58 28.2**	**-2.6**
QIZ				S		**Sn**		**02 01 15.2**	**+2.4**
QIZ				pmax		pmax			
	comp=Z,11nm,2.8s								
QIZ				pmax		pmax			
	comp=Z,520nm,6.0s								
QIZ				LR		LR			
	comp=Z,7μm,10.2s								
QIZ				LR		LR			
	comp=Z,5μm,10.8s								
QIZ				LR		LR			
	comp=Z,3μm,10.6s								
PALK	**Pallekele**	**15.56**	**250**	P		**P**		**01 58 37.5**	**+1.4**
PALK	**Pallekele**	**15.56**	**250**	Pn		**P**		**01 58 35.7**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=59,slow=11,SNR=27								
PALK				Sn		**Sn**		**02 01 26.2**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=88,slow=17,SNR=2.3								
PALK				LR		LR		02 04 31.1	
	comp=Z,542nm,18.4s,baz=57,slow=37								
PALK	**Pallekele**	**15.56**	**250**	P		**P**		**01 58 36.0**	**-0.1**
PALK	**Pallekele**	**15.56**	**250**	*i* P		**P**		**01 58 35.4**	**-0.7**
HYB	**Hyderabad**	**16.79**	**287**	*e*P		**Pn**		**01 58 47.8**	**+0.3**
HYB				*e*S		**Sn**		**02 01 56.1**	**+2.0**
HYB				IVMs_BB		IVMs_BB		02 04 52.2	
	comp=Z,620nm,23.7s								
GYA	**Guiyang**	**16.99**	**37**	⇓P		**P**		**01 58 51.4**	**-0.5**
GYA				S		**Sn**		**02 01 59.3**	**+0.3**
GYA				pmax		pmax			
	comp=Z,14nm,0.6s								
GYA				pmax		pmax			
	comp=Z,260nm,3.3s								
GYA				LR		LR			
	comp=Z,780nm,5.2s								
GYA				LR		LR			
	comp=Z,2μm,9.5s								
GYA				LR		LR			
	comp=Z,1μm,11.8s								
BNDA	**BANDA**	**18.77**	**313**	*e*P		Pn		01 59 23.2	+11
BNDA				AMP				01 59 24.4	
	comp=Z,20nm,0.2s								
BNDA				*e*S		**Sn**		**02 02 33.9**	**-8.2**
MDSI	**Maura Dua**	**19.55**	**153**	P		**Pn**		**01 59 23.2**	**+1.9**
SBUM	**Sibu**	**19.74**	**121**	P		**P**		**01 59 21.3**	**-1.0**
NRDN	**NARMADA NAGAR**	**19.77**	**301**	*e*S		**S**		**02 02 57.8**	**-7.6**
TPI	**Tanjungpandan**	**19.92**	**141**	P		**P**		**01 59 24.6**	**+0.4**
	comp=Z,3μmcomp=Z,1μmcomp=Z,43nm,1.4s								
HKPS	**Hong Kong Po S**	**20.05**	**60**	P		**P**		**01 59 25.8**	**+0.3**
STKI	**Sintang**	**20.56**	**128**	P		Pn		01 59 40.3	+7.0
KASI	**Kota Agung**	**20.61**	**153**	P		Pn		01 59 43.6	+10
KKM	**Kota Kinabalu**	**21.70**	**107**	P		**P**		**01 59 43.4**	**-0.2**
KKM				IAmb		IAmb		02 00 03.4	
	comp=Z,118nm,1.6s								
CNSH	**ChangSha**	**22.20**	**45**	P		**P**		**01 59 48.1**	**-0.5**
CNSH				S		**S**		**02 03 50.5**	**-2.7**
CNSH				pmax		pmax			
	comp=Z,13nm,1.5s								
CNSH				LR		LR			
	comp=Z,4μm,10.8s								
CNSH				LR		LR			
	comp=Z,3μm,11.0s								
CNSH				LR		LR			
	comp=Z,3μm,10.4s								
JOSI	**Joshimath**	**22.69**	**322**	*e*P		P		02 00 14.8	+21
JOSI				IAmb		IAmb		02 00 16.8	
	comp=Z,36nm,0.7s								
JOSI				*e*S		**S**		**02 04 05.0**	**+2.2**
GOMU	**GeErMu**	**23.00**	**359**	P		**P**		**01 59 58.0**	**+0.5**
GOMU				pmax		pmax			
	comp=Z,46nm,1.9s								
GOMU				pmax		pmax			
	comp=Z,1μm,7.8s								
GOMU				LR		LR			
	comp=Z,2μm,11.7s								
GOMU				LR		LR			
	comp=Z,690nm,10.5s								
GOMU				LR		LR			
	comp=Z,2μm,14.8s								
LEM	**Lembang**	**23.24**	**148**	LR		LR		02 09 33.2	
	comp=Z,3μm,18.2s,baz=302,slow=38								
LZH	**Lanzhou**	**24.11**	**17**	*e*P		**P**		**02 00 08.1**	**-0.2**
LZH				pP		pwP		02 00 14.5	+1.0
LZH				S		**S**		**02 04 27.2**	**+1.1**
LZH				SS		**SnSn**		**02 05 19.4**	**+12**
LZH				pmax		pmax			
	comp=Z,70nm,0.8s								
LZH				pmax		pmax			
	comp=Z,800nm,4.0s								
LZH				LR		LR			
	comp=Z,3μm,14.1s								
LZH				LR		LR			
	comp=Z,3μm,11.0s								
LZH				LR		LR			
	comp=Z,4μm,12.7s								
MYLDM	**Lahad Datu**	**24.13**	**107**	P		**P**		**02 00 08.3**	**-0.1**
XAN	**Xi'an**	**24.20**	**28**	⇓P		**P**		**02 00 06.8**	**-2.2**
XAN				PP		**PnPn**		**02 00 46.4**	**+7.9**
XAN				S		**S**		**02 04 25.0**	**-2.3**
XAN				pmax		pmax			
	comp=Z,17nm,1.8s								
XAN				pmax		pmax			
	comp=Z,320nm,6.0s								
XAN				LR		LR			
	comp=Z,3μm,11.3s								
XAN				LR		LR			
	comp=Z,3μm,9.8s								
XAN				LR		LR			
	comp=Z,2μm,9.6s								
WHN	**Wuhan**	**24.65**	**42**	⇓P		**P**		**02 00 11.3**	**-1.7**
WHN				pmax		pmax			
	comp=Z,1μm,5.4s								
WHN				LR		LR			
	comp=Z,7μm,9.3s								
WHN				LR		LR			
	comp=Z,5μm,12.2s								
WHN				LR		LR			
	comp=Z,10μm,9.9s								
HNLY	**HANLEY**	**24.66**	**325**	*e*S		S		02 04 49.7	+14
QZH	**Quanzhou**	**24.86**	**58**	P		**P**		**02 00 14.3**	**-0.6**
QZH				pmax		pmax			
	comp=Z,560nm,4.7s								
QZH				LR		LR			
	comp=Z,2μm,11.0s								
QZH				LR		LR			
	comp=Z,2μm,8.8s								
QZH				LR		LR			
	comp=Z,2μm,8.8s								
TGY	**Tagaytay City**	**24.86**	**85**	LR		LR		02 09 53.5	
	comp=Z,567nm,18.0s,baz=240,slow=36								
SMRI	**Semarang**	**25.00**	**142**	P		**P**		**02 00 15.4**	**-0.9**
SMRI	**Semarang**	**25.00**	**142**	P		**P**		**02 00 16.9**	**+0.6**
	comp=Z,83nm,1.0s								
COCO	**West Island**	**25.18**	**177**	P		**P**		**02 00 18.0**	**+0.2**
COCO	**West Island**	**25.18**	**177**	P		**P**		**02 00 16.7**	**-1.1**
COCO	**West Island**	**25.18**	**177**	P		**P**		**02 00 18.0**	**+0.2**
COCO				pmax		pmax			
	comp=Z,260nm,1.4s								
TBJI	**Tambak Boyo**	**25.68**	**139**	P		P		02 00 31.6	+9.1
DHRM	**DHARAMSHALA**	**25.86**	**321**	*e*P		P		02 00 59.4	+35
DHRM				IAmb		IAmb		02 01 04.2	
	comp=Z,38nm,1.2s								
DHRM				*e*S		S		02 05 18.2	+24
NGJI	**Ngawi**	**25.87**	**141**	P		**P**		**02 00 26.1**	**+1.9**
	comp=Z,67nm,1.1s								
TPUB	**Ta-pu**	**26.00**	**63**	P		**P**		**02 00 26.0**	**+0.7**
TWG	**Pinlang**	**26.24**	**65**	P		**P**		**02 00 27.0**	**-0.5**
TWG				IAmb		IAmb		02 00 50.6	
	comp=Z,81nm,1.5s								
LYN	**LuoYang**	**26.38**	**33**	P		**P**		**02 00 26.7**	**-1.9**
LYN				sP		pwP		02 00 36.1	+2.3
LYN				pmax		pmax			
	comp=Z,18nm,1.6s								
LYN				pmax		pmax			
	comp=Z,460nm,8.4s								
LYN				LR		LR			
	comp=Z,5μm,9.1s								
LYN				LR		LR			
	comp=Z,2μm,8.7s								
LYN				LR		LR			
	comp=Z,4μm,11.0s								
SSLB	**Suanglung**	**26.44**	**63**	P		**P**		**02 00 29.1**	**-0.3**
GTA	**Gaotai**	**26.49**	**8**	P		**P**		**02 00 30.9**	**+1.2**
GTA				sP		pwP		02 00 38.8	+3.8
GTA				S		**S**		**02 05 06.6**	**+2.7**
GTA				pmax		pmax			
	comp=Z,15nm,2.0s								
GTA				pmax		pmax			
	comp=Z,210nm,8.8s								
GTA				LR		LR			
	comp=Z,610nm,22.3s								
GTA				LR		LR			
	comp=Z,700nm,21.5s								
GTA				LR		LR			
	comp=Z,590nm,21.9s								
YULB	**Yu-li**	**26.61**	**64**	P		**P**		**02 00 31.0**	**+0.1**
YHNB	**Yeheng**	**27.09**	**61**	P		**P**		**02 00 34.9**	**-0.5**
KMMI	**Kalianget**	**27.24**	**136**	P		P		02 00 47.6	+11
MPSI	**Mapaga**	**27.41**	**116**	P		P		02 00 30.8	-7.4
	comp=Z,813nmcomp=Z,29nm,1.1s								
NJ2	**Nanjing**	**28.61**	**45**	*e*P		**P**		**02 00 49.5**	**+0.8**
NJ2				pmax		pmax			
	comp=Z,17nm,0.5s								
NJ2				LR		LR			
	comp=Z,5μm,11.1s								
NJ2				LR		LR			
	comp=Z,3μm,10.6s								
NJ2				LR		LR			
	comp=Z,4μm,13.7s								
APSI	**Ampana**	**29.54**	**116**	P		P		02 01 09.3	+12
SPSI	**Sidrap Palu**	**29.57**	**123**	P		P		02 01 11.1	+14
HNS	**HongShan**	**29.72**	**32**	⇓P		P		02 01 04.4	+6.0
HNS				S		**S**		**02 06 00.3**	**+5.8**
HNS				SS		**SnSn**		**02 07 28.2**	**+4.3**
HNS				LR		LR			
	comp=N,1μm,11.8s								
HNS				LR		LR			
	comp=E,2μm,10.4s								
HNS				LR		LR			
	comp=Z,2μm,10.4s								
SSE	**Sheshan**	**29.75**	**49**	P		**P**		**02 00 58.7**	**-0.1**
SSE				S		**S**		**02 05 53.5**	**-1.6**
SSE				pmax		pmax			
	comp=Z,6.0nm,0.3s								
SSE				LR		LR			
	comp=Z,1μm,10.1s								
SSE				LR		LR			
	comp=Z,740nm,9.6s								
KAPI	**Kappang**	**30.17**	**125**	LR		LR		02 13 30.4	
	comp=Z,1μm,20.3s,baz=278,slow=37								
BTO	**Baotou**	**30.25**	**22**	*e*P		**P**		**02 01 03.6**	**+0.3**
BTO				pP		**pwP**		**02 01 08.1**	**-0.4**
BTO				S		**S**		**02 06 04.1**	**+1.0**
BTO				SS		**SnSn**		**02 07 41.1**	**+4.1**
BTO				pmax		pmax			
	comp=Z,23nm,0.7s								
BTO				pmax		pmax			
	comp=Z,310nm,8.6s								
BTO				LR		LR			
	comp=Z,3μm,10.5s								
BTO				LR		LR			
	comp=Z,4μm,10.7s								
BTO				LR		LR			
	comp=Z,3μm,10.6s								
DAV	**Davao City (W)**	**30.31**	**98**	LR		LR		02 12 33.9	
	comp=Z,468nm,21.1s,baz=338,slow=35								
LUWI	**Luwuk**	**30.59**	**115**	P		**P**		**02 01 04.6**	**-1.8**
HHC	**Hu-ho-hao-te**	**31.06**	**24**	*e*P		**P**		**02 01 12.9**	**+2.5**
HHC				sP		pwP		02 01 18.9	+3.3
HHC				S		**S**		**02 06 17.6**	**+1.9**
HHC				SS		**SnSn**		**02 08 01.8**	**+5.2**
HHC				pmax		pmax			
	comp=Z,13nm,0.6s								
HHC				pmax		pmax			
	comp=Z,100nm,6.7s								
HHC				LR		LR			
	comp=Z,2μm,9.4s								
HHC				LR		LR			
	comp=Z,740nm,16.8s								
HHC				LR		LR			
	comp=Z,2μm,9.9s								
WMQ	**Urumqi**	**31.31**	**349**	*e*P		**P**		**02 01 14.0**	**+1.5**
WMQ				pmax		pmax			
	comp=Z,15nm,1.3s								
WMQ				pmax		pmax			
	comp=Z,280nm,6.3s								
WMQ				LR		LR			
	comp=Z,1μm,14.5s								
WMQ				LR		LR			
	comp=Z,630nm,19.7s								
WMQ				LR		LR			
	comp=Z,630nm,21.9s								
WUS	**Wushi**	**31.35**	**336**	IAmb		IAmb		02 01 32.6	
	comp=Z,44nm,1.1s								
KSH	**Kashi**	**31.39**	**330**	P		**P**		**02 01 11.4**	**-2.0**
KSH				pmax		pmax			
	comp=Z,8.0nm,2.0s								
KSH				pmax		pmax			
	comp=Z,200nm,8.3s								
KSH				LR		LR			
	comp=Z,660nm,19.6s								
KSH				LR		LR			
	comp=Z,1μm,21.0s								
KSH				LR		LR			
	comp=Z,1μm,23.4s								
KBL	**Kabul**	**32.01**	**316**	P		**P**		**02 01 18.8**	**-0.2**
KBL				IAmb		IAmb		02 02 27.8	
	comp=Z,50nm,1.9s								
KBL	**Kabul**	**32.01**	**316**	P		**P**		**02 01 18.8**	**-0.2**
KBL				pmax		pmax			
	comp=Z,50nm,1.9s								
SHLS	**Shalkode**	**32.94**	**338**	*e*P		**P**		**02 01 26.7**	**-0.2**
SHLS				pmax		pmax			
	comp=Z,18nm,1.3s								
SHLS	**Shalkode**	**32.94**	**338**	*e*P		**P**		**02 01 26.8**	**-0.2**
	comp=Z,18nm,1.3s								
KDJ	**Kajisay**	**32.95**	**335**	P		**P**		**02 01 27.7**	**+0.5**
KDJ				IAmb		IAmb		02 01 42.0	
	comp=Z,32nm,1.0s								
KDJ	**Kajisay**	**32.95**	**335**	P		**P**		**02 01 27.7**	**+0.5**
KDJ				pmax		pmax			
	comp=Z,32nm,1.0s								
UZB	**Uzynbulak**	**33.09**	**338**	*e*P		**P**		**02 01 29.2**	**+0.9**
UZB				pmax		pmax			
	comp=Z,26nm,1.5s								
UZB	**Uzynbulak**	**33.09**	**338**	*e*P		**P**		**02 01 29.2**	**+0.9**
	comp=Z,26nm,1.5s								
SATY	**Saty**	**33.25**	**337**	*e*P		**P**		**02 01 30.6**	**+1.0**
SATY				pmax		pmax			
	comp=Z,21nm,1.5s								
SATY	**Saty**	**33.25**	**337**	*e*P		**P**		**02 01 30.7**	**+1.0**
	comp=Z,21nm,1.5s								
ZHN	**Zhinishke**	**33.33**	**337**	*e*P		**P**		**02 01 31.1**	**+0.7**
ZHN	**Zhinishke**	**33.33**	**337**	*e*P		**P**		**02 01 31.1**	**+0.7**
JOW	**Kunigami**	**33.68**	**61**	LR		LR		02 15 30.8	
	comp=Z,298nm,19.8s,baz=294,slow=37								
BOOM	**Boomskoye usch**	**33.77**	**334**	P		**P**		**02 01 34.9**	**+0.6**
BOOM	**Boomskoye usch**	**33.77**	**334**	P		**P**		**02 01 34.9**	**+0.6**
BOOM				pmax		pmax			
	comp=Z,15nm,1.1s								
TNSS	**Tian-Shan**	**33.80**	**335**	*e*P		**P**		**02 01 35.3**	**+0.5**
TNSS	**Tian-Shan**	**33.80**	**335**	*e*P		**P**		**02 01 35.4**	**+0.5**
MDOK	**Medeo**	**33.87**	**336**	*e*P		**P**		**02 01 36.0**	**+1.0**
MDOK	**Medeo**	**33.87**	**336**	*e*P		**P**		**02 01 36.1**	**+1.0**
AAA	**Alma-Ata**	**33.96**	**336**	*e*P		**P**		**02 01 36.8**	**+1.1**
AAA				pmax		pmax			
	comp=Z,28nm,1.1s								
AAA	**Alma-Ata**	**33.96**	**336**	*e*P		**P**		**02 01 36.9**	**+1.1**
	comp=Z,28nm,1.1s								
ARLS	**Aral**	**34.00**	**331**	P		**P**		**02 01 37.8**	**+1.5**
GAR	**Garm**	**34.01**	**324**	P		**P**		**02 01 35.8**	**-0.6**
GAR				IAmb		IAmb		02 01 51.5	
	comp=Z,41nm,1.3s								
ARSB	**Arslanbob**	**34.24**	**329**	IAmb		IAmb		02 01 55.1	
	comp=Z,30nm,1.2s								
TKM2	**Tokmak 2**	**34.27**	**334**	P		**P**		**02 01 40.2**	**+1.5**
	SNR=10								
ARXS	**Arharly**	**34.45**	**337**	*e*P		**P**		**02 01 41.6**	**+1.6**
BTK	**Batken**	**34.45**	**326**	P		**P**		**02 01 41.2**	**+1.1**
BTK				IAmb		IAmb		02 01 56.7	
	comp=Z,27nm,1.0s								
BTK	**Batken**	**34.45**	**326**	P		**P**		**02 01 41.2**	**+1.1**
BTK				pmax		pmax			
	comp=Z,27nm,1.0s								
CHKK	**Chushkaly**	**34.47**	**336**	*e*P		**P**		**02 01 40.7**	**+0.6**
CHKK	**Chushkaly**	**34.47**	**336**	*e*P		**P**		**02 01 40.8**	**+0.6**
AML	**Almayashu**	**34.51**	**331**	P		**P**		**02 01 42.3**	**+1.4**
	SNR=10								
AAK	**Ala-Archa**	**34.53**	**332**	P		**P**		**02 01 41.1**	**+0.2**
AAK				IAmb		IAmb		02 01 55.6	
	comp=Z,24nm,1.1s								
AAK	**Ala-Archa**	**34.53**	**332**	LR		LR		02 17 51.7	
	comp=Z,2μm,21.4s,baz=142,slow=40								
AAK	**Ala-Archa**	**34.53**	**332**	P		**P**		**02 01 42.9**	**+2.0**
AAK				P		**P**		**02 01 42.9**	**+2.0**
AAK	**Ala-Archa**	**34.53**	**332**	P		**P**		**02 01 43.0**	**+2.2**
	SNR=6.2								
AAK	**Ala-Archa**	**34.53**	**332**	*ce*P		**P**		**02 01 42.9**	**+2.0**
AAK				pmax		pmax			
	comp=Z,28nm,1.7s								
SIMJ	**Simiganj**	**34.55**	**322**	P		**P**		**02 01 40.5**	**-0.6**
SIMJ				IAmb		IAmb		02 01 55.8	
	comp=Z,25nm,0.9s								
DZET	**Dzherino**	**34.75**	**322**	P		**P**		**02 01 43.2**	**+0.4**
KUU	**Kurty**	**34.76**	**336**	*e*P		**P**		**02 01 43.4**	**+0.7**
KUU				pmax		pmax			
	comp=Z,16nm,1.1s								
KUU	**Kurty**	**34.76**	**336**	*e*P		**P**		**02 01 43.4**	**+0.7**
	comp=Z,16nm,1.1s								
EKS2	**Erkin-Say**	**34.88**	**332**	P		**P**		**02 01 45.7**	**+1.9**
	SNR=6.2								
TDK	**Taldyqorghan**	**34.92**	**339**	*e*P		**P**		**02 01 44.7**	**+0.7**
TDK	**Taldyqorghan**	**34.92**	**339**	*e*P		**P**		**02 01 44.7**	**+0.7**
USP	**Ospenovka**	**35.03**	**333**	P		**P**		**02 01 46.4**	**+1.4**
	SNR=9.5								
MK31	**Makanchi Array**	**35.34**	**344**	P		**P**		**02 01 47.7**	**+0.1**
MK31				IAmb		IAmb		02 02 07.1	
	comp=Z,31nm,1.2s								
MK31	**Makanchi Array**	**35.34**	**344**	*ce*P		**P**		**02 01 48.5**	**+0.9**
MKAR	**Makanchi Array**	**35.34**	**344**	P		**P**		**02 01 47.7**	**+0.1**
MKAR	**Makanchi Array**	**35.34**	**344**	P		**P**		**02 01 48.5**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=153,slow=9.0,SNR=28								
MKAR				LR		LR		02 20 52.7	
	comp=Z,613nm,19.0s,baz=155,slow=44								
	comp=Z,1.8nm,0.5s								
MAKZ	**Makanchi**	**35.

MHTO MHTO 36.54 288 P **P 02 01 59.9 +1.7**
SNR=6.6
MHTO P **P 02 01 59.9 +1.7**
SNR=6.6
JMDO Jabal Madar 36.59 290 P **P 02 02 01.2 +2.5**
SNR=6.0
JMDO P **P 02 02 01.2 +2.5**
SNR=6.0
SMDO Samad 36.74 291 P **P 02 02 02.2 +2.2**
SNR=5.7
SMDO P **P 02 02 02.2 +2.2**
SNR=5.7
BIDO Bidbid 36.75 292 P **P 02 02 02.4 +2.4**
SNR=5.5
KK31 Karatay Array 36.79 329 P **P 02 01 59.9 -0.2**
KK31 Karatay Array 36.79 329 P **P 02 01 59.9 -0.2**
KK31 pmax pmax
comp=Z,32nm,1.5s
KKAR Karatay Array 36.79 329 P **P 02 01 59.9 -0.2**
KKAR Karatay Array 36.79 329 P **P 02 01 59.9 -0.2**
KKAR pmax pmax
comp=Z,34nm,1.5s
BSY Bisya 37.47 290 P **P 02 02 08.5 +2.3**
SNR=8.8
BSY P **P 02 02 08.5 +2.3**
SNR=8.8
HOQ Hoqain 37.50 292 P **P 02 02 08.7 +2.4**
SNR=6.4
ZAK Zakamensk 37.73 8 *e*P **P 02 02 08.1 +0.1**
ZAK pmax pmax
comp=Z,12nm,1.8s
KSRS Korea Array 37.81 44 P **P 02 02 08.7 -0.1**
comp=Z,1.3nm,0.7s,baz=236,slow=8.4,SNR=5.6
comp=Z,1.3nm,0.7s
JNU Nakatsue 37.98 52 LR LR 02 20 12.2
comp=Z,349nm,19.6s,baz=250,slow=40
ARQ Araqi 38.18 291 P **P 02 02 13.9 +1.8**
ARQ P **P 02 02 13.9 +1.8**
SOHO SOHO 38.29 292 P **P 02 02 14.8 +1.8**
SOHO P **P 02 02 14.8 +1.8**
MOY Mondy 38.72 6 *e*P **P 02 02 16.8 +0.4**
MOY pmax pmax
comp=Z,29nm,3.1s
UOSS Minazif 38.72 294 P **P 02 02 16.9 +0.2**
HATD Hatta, Dubai 38.77 293 P **P 02 02 18.9 +1.8**
SNR=8.3
HATD P **P 02 02 18.9 +1.8**
SNR=8.3
ASHO Ashiyiah 38.81 293 P **P 02 02 19.5 +2.1**
SNR=9.4
ASHO P **P 02 02 19.5 +2.1**
SNR=9.4
ALNE Al Ain 38.98 292 P **P 02 02 21.0 +2.2**
SNR=6.7
ALNE P **P 02 02 21.0 +2.2**
SNR=6.7
UMZA Um Al Zommool 39.33 290 P **P 02 02 22.8 +1.0**
UMZA P **P 02 02 22.8 +1.0**
ASUD Al Ashush, Dub 39.45 293 P **P 02 02 24.5 +1.8**
ASUD P **P 02 02 24.5 +1.8**
IRK Irkutsk 39.68 9 *e*P **P 02 02 25.1 +0.8**
IRK pmax pmax
comp=Z,68nm,0.7s
KURBB Kurchatov Arra 39.85 343 P **P 02 02 26.0 +0.3**
comp=Z,3.5nm,0.6s,baz=158,slow=7.6,SNR=36
KURBB LR LR 02 23 56.6
comp=Z,967nm,18.3s,baz=174,slow=44
comp=Z,3.5nm,0.6s
KURK Kurchatov 39.91 343 P **P 02 02 26.3 +0.1**
KURK IAmb IAmb 02 02 45.7
comp=Z,72nm,1.4s
KURK Kurchatov 39.91 343 P **P 02 02 27.0 +0.9**
KURK P **P 02 02 27.0 +0.9**
KURK Kurchatov 39.91 343 *ce*P **P 02 02 27.1 +0.9**
KURK pmax pmax
comp=Z,35nm,1.7s
FAKI Fak Fak 39.91 111 P **P 02 02 24.8 -1.9**
FAKI IAmb IAmb 02 02 32.4
comp=Z,48nm,1.3s
FAKI Fak Fak 39.91 111 P **P 02 02 31.2 +4.5**
comp=Z,28nm,1.1s
DOK Doka 39.99 283 P **P 02 02 29.0 +1.7**
DOK P **P 02 02 29.0 +1.7**
CN2 Changchun 40.01 34 *e*P **P 02 02 26.1 -1.0**
CN2 *e*PP **PnPn 02 04 02.3 -0.2**
CN2 *e*S **S 02 08 30.9 -1.9**
CN2 SS **SS 02 11 21.4 -8.4**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,240nm,5.0s
CN2 LR LR
comp=Z,290nm,13.0s
CN2 LR LR
comp=Z,980nm,13.0s
WHFO Wadi Hawf 40.32 282 P **P 02 02 31.6 +1.5**
SNR=5.9
WHFO P **P 02 02 31.6 +1.5**
SNR=5.9
ABTO Aybut 40.77 281 P **P 02 02 35.3 +1.5**
SNR=6.6
ABTO P **P 02 02 35.3 +1.5**
SNR=6.6
BRZS Berezniki 41.20 338 *e*P **P 02 02 37.7 +0.8**
BRZS Berezniki 41.20 338 *e*P **P 02 02 37.8 +0.8**
ZAA0 Zalesovo Array 41.59 351 P **P 02 02 40.0 +0.1**
ZALV Zalesovo Beam 41.59 351 P **P 02 02 39.6 -0.3**
ZALV Zalesovo Beam 41.59 351 P **P 02 02 40.6 +0.7**
comp=Z,2.3nm,0.5s,baz=171,slow=8.5,SNR=12
ZALV LR LR 02 23 10.0
comp=Z,205nm,21.6s,baz=170,slow=41
comp=Z,2.3nm,0.5s
ZALV Zalesovo Beam 41.59 351 *i*P **P 02 02 44.2 +4.2**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
BNX BinXian 42.32 33 ⇓P **P 02 02 45.8 -0.3**
BNX pmax pmax
comp=Z,6.0nm,1.7s
FITZ Fitzroy Crossi 43.05 135 LR LR 02 23 26.3
comp=Z,588nm,18.2s,baz=308,slow=40
USRK Ussuriysk Ar. 44.02 38 LR LR 02 23 06.1
comp=Z,254nm,21.8s,baz=226,slow=38
BVAR Borovoye Array 44.52 339 P **P 02 03 03.9 +0.2**
comp=Z,1.0nm,0.7s,baz=144,slow=9.0,SNR=3.3
BVAR LR LR 02 24 38.9
comp=Z,564nm,21.8s,baz=141,slow=40
comp=Z,1.0nm,0.7s
BRVK Borovoye 44.58 339 P **P 02 03 04.5 +0.3**
BRVK Borovoye 44.58 339 P **P 02 03 04.5 +0.3**
BRVK pmax pmax
comp=Z,31nm,1.7s
MJAR Matsushiro Arr 44.84 51 P **P 02 03 06.3 -0.4**
comp=Z,1.3nm,0.7s,baz=262,slow=6.2,SNR=5.1
MJAR LR LR 02 23 29.9
comp=Z,233nm,18.3s,baz=256,slow=38
comp=Z,1.3nm,0.7s
JCJ Chichijima 45.84 65 LR LR 02 22 27.0
comp=Z,76nm,21.8s,baz=200,slow=36
ABKAR Akbulak array 46.34 328 P **P 02 03 17.9 -0.4**
ABKAR IAmb IAmb 02 03 27.3
comp=Z,37nm,1.4s
BOD Bodaibo 46.80 14 *e*P **P 02 03 21.1 -0.6**
BOD pmax pmax
comp=Z,38nm,1.6s
KLR Kul'dur 46.81 32 LR LR 02 24 28.6
comp=Z,297nm,19.1s,baz=238,slow=38
ZEA Zeya 47.71 25 *e*P **P 02 03 32.4 +3.5**
ZEA MLR MLR
comp=N,300nm,14.0s
ZEA MLR MLR
comp=Z,400nm,14.0s
GUMO Guam 48.09 83 LR LR 02 23 13.2
comp=Z,142nm,19.6s,baz=262,slow=35
RAYN Ar Rayn 48.26 290 P **P 02 03 32.2 -1.5**
RAYN Ar Rayn 48.26 290 P **P 02 03 33.3 -0.4**
RAYN Ar Rayn 48.26 290 P **P 02 03 32.2 -1.5**
RAYN pmax pmax
comp=Z,12nm,1.2s
NWAO Narrogin (SRO) 50.32 156 LR LR 02 25 35.6
comp=Z,509nm,19.9s,baz=303,slow=37
WB0 Warramunga Arr 50.42 130 P **P 02 03 48.0 -2.1**
WRA Warramunga Arr 50.48 130 P **P 02 03 48.4 -2.3**
comp=Z,3.5nm,0.9s,baz=314,slow=8.3,SNR=13
WRA PcP **PcP 02 05 09.6 +0.8**
comp=Z,4.2nm,1.0s,baz=313,slow=3.7,SNR=4.5
WRA LR LR 02 29 40.3
comp=Z,436nm,18.2s,baz=279,slow=42
comp=Z,3.5nm,0.9s
WRAB Tennant Creek 50.49 130 *i*P **P 02 03 54.8 +4.2**
WRAB pmax pmax
comp=Z,10.0nm,0.9s
WB2 Warramunga Arr 50.49 130 P **P 02 03 48.7 -2.0**
WB2 IAmb IAmb 02 03 56.5
comp=Z,22nm,1.1s
WR0 Warramunga Arr 50.65 130 P **P 02 03 49.6 -2.3**
ASAJ Asahikawa 50.73 43 LR LR 02 28 26.5
comp=Z,242nm,18.5s,baz=296,slow=40
MAK Makhachkala 50.74 315 *e*P P 02 03 46.0 -6.3
MAK *e* 02 05 42.8
MAK *e*PPP PPP 02 06 44.8
MAK *e*S S 02 10 58.8 -9.0
MAK *e*SS **SS 02 14 34.1 -8.2**
MAK pmax pmax
comp=Z,76nm,1.7s
SVE Sverdlovsk 51.07 336 *e*P **P 02 03 55.5 +1.0**
SVE *e*S **S 02 11 10.9 -1.0**
SVE pmax pmax
comp=Z,81nm,1.8s
SVE MLR MLR
comp=Z,682nm,18.0s
ATD Arta Tunnel 51.27 274 LR LR 02 23 38.7
comp=Z,7.8nm,19.6s,baz=41,slow=34
ARTI Arti 51.68 335 P **P 02 03 57.9 -1.2**
ARTI IAmb IAmb 02 04 33.7
comp=Z,46nm,1.4s
ARTI Arti 51.68 335 LR LR 02 28 06.5
comp=Z,574nm,22.0s,baz=136,slow=39
ARTI Arti 51.68 335 *d i*P **P 02 03 59.3 +0.2**
ARTI 02 05 10.1
ARTI 02 05 56.7
ARTI S **S 02 11 23.0 +2.6**
ARTI pmax pmax
comp=Z,40nm,2.4s
ARTI MLR MLR
comp=Z,569nm,21.0s
YSS Yuzhno-Sakhali 51.96 40 *e*P **P 02 04 02.7 +1.4**
YSS pmax pmax
comp=Z,10.0nm,0.8s
AS31 Alice Springs 52.49 134 P **P 02 04 04.4 -1.2**
ASAR Alice Springs 52.49 134 P **P 02 04 03.8 -1.8**
ASAR Alice Springs 52.49 134 P **P 02 04 04.2 -1.5**
comp=Z,2.4nm,0.8s,baz=313,slow=6.6,SNR=16
ASAR PcP **PcP 02 05 16.7 +0.5**
comp=Z,2.9nm,0.9s,baz=313,slow=5.0,SNR=4.2
ASAR LR LR 02 29 23.6
comp=Z,433nm,18.6s,baz=308,slow=40
comp=Z,2.4nm,0.8s
GEVA Gevas 52.58 308 P **P 02 04 06.0 -0.4**
MARD Mardin 54.12 307 IAmb IAmb 02 04 41.6
comp=Z,31nm,1.5s
KBZ Khabaz 54.17 315 P **P 02 04 17.7 0.0**
comp=Z,2.5nm,1.0s,baz=89,slow=8.5,SNR=10
comp=Z,2.5nm,1.0s
KBZ Khabaz 54.17 315 *ce*P **P 02 04 17.9 +0.2**
KBZ pmax pmax
comp=Z,18nm,1.9s
SHA1 Shidzhatmaz 54.34 315 ⇑ *i*P **P 02 04 20.9 +1.7**
KVAR Kislovodsk Arr 54.38 315 LR LR 02 29 54.5
comp=Z,143nm,20.1s,baz=341,slow=39
KIV Kislovodsk 54.38 315 P **P 02 04 19.0 -0.4**
KIV Kislovodsk 54.38 315 P **P 02 04 20.2 +0.9**
KIV P **P 02 04 20.2 +0.9**
KIV Kislovodsk 54.38 315 ⇓P **P 02 04 19.8 +0.5**
KIV Kislovodsk 54.38 315 *e*P **P 02 04 19.3 -0.1**
KIV *e*S **S 02 11 57.4 -0.4**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV Kislovodsk 54.38 315 P **P 02 04 19.2 -0.1**
comp=Z,488nmcomp=Z,30nm,1.1s
GOF Gofitskoye 54.48 316 *ce*P **P 02 04 20.5 +0.5**
YAK Yakutsk 54.67 19 LR LR 02 31 26.7
comp=Z,267nm,18.3s,baz=224,slow=40
KOPT Kop Dagi 54.92 310 P **P 02 04 23.1 -0.4**
KOPT IAmb IAmb 02 04 50.4
comp=Z,31nm,1.5s
PMG Port Moresby 56.07 111 LR LR 02 32 21.0
comp=Z,136nm,21.9s,baz=245,slow=40
VSLR Vesyoloye 56.09 314 *i*P **P 02 04 32.1 +0.5**
VSLR pmax pmax
comp=Z,16nm,1.2s
SOC Sochi 56.34 314 *e*P **P 02 04 31.1 -2.3**
SOC *e* 02 06 36.1
SOC *e*PPP PPP 02 07 50.1
SOC *e*S **S 02 12 21.5 -2.4**
SOC *e*SS **SS 02 16 09.7 -1.1**
SOC pmax pmax
comp=Z,16nm,1.2s
SOC MLR MLR
comp=Z,274nm,21.0s
NRIK Noril'sk 56.41 357 P **P 02 04 32.7 -0.7**
comp=Z,1.2nm,0.4s,baz=171,slow=6.4,SNR=8.0
NRIK LR LR 02 31 20.6
comp=Z,174nm,18.9s,baz=174,slow=39
comp=Z,1.2nm,0.4s
NRIK Noril'sk 56.41 357 *ce*P **P 02 04 33.4 0.0**
NRIK pmax pmax
comp=Z,6.0nm,1.1s
ASF Jabal al Asfar 56.54 300 LR LR 02 32 53.7
comp=Z,209nm,18.9s,baz=123,slow=40
KIRV Kirov 56.86 333 LR LR 02 31 24.9
comp=Z,942nm,21.0s,baz=126,slow=38
KIRV Kirov 56.86 333 *ce*P **P 02 04 37.5 +0.8**
VRH Novokhopyorsk 57.42 323 *e*P **P 02 04 40.1 -0.8**
VRH pmax pmax
comp=Z,53nm,1.6s
GHAJ Ghor Haditha 57.60 299 P **P 02 04 40.8 -1.6**
GHAJ IAmb IAmb 02 05 04.7
comp=Z,23nm,1.1s
MMAI Mount Meron Ar 57.87 301 P **P 02 04 44.4 -0.1**
comp=Z,1.0nm,0.8s,baz=102,slow=8.4,SNR=3.8
MMAI LR LR 02 33 15.3
comp=Z,387nm,19.5s,baz=92,slow=40
comp=Z,1.0nm,0.8s
TOKA Tokat 57.99 309 IAmb IAmb 02 05 08.7
comp=Z,35nm,1.6s
EIL Elat 58.03 297 LR LR 02 31 55.7
comp=Z,412nm,20.8s,baz=106,slow=38
BNN Bunyan 58.23 308 IAmb IAmb 02 05 09.8
comp=Z,32nm,1.0s
ANN Anapa 58.24 315 P P 02 04 42.0 -4.7
ANN pmax pmax
comp=Z,41nm,1.5s
ANN MLR MLR
comp=Z,412nm,20.0s
VORD Divnogorie 58.78 322 *e*P **P 02 04 48.8 -1.6**
VORD pmax pmax
comp=Z,6.0nm,1.0s
VSR Storozhevoye 58.94 322 *e*P **P 02 04 48.7 -2.8**
VSR pmax pmax
comp=Z,6.0nm,1.1s
VOI Vohitsoka 59.01 234 P **P 02 04 51.6 -1.0**
VOI IAmb IAmb 02 04 53.6
comp=Z,32nm,1.4s
VOI Vohitsoka 59.01 234 P **P 02 04 52.7 +0.1**
DIKM Dikmen 59.14 311 P **P 02 04 53.0 -0.1**
comp=Z,8.8nm,1.4s
KMBO Kilima Mbogo 59.34 261 P **P 02 04 54.5 -0.7**
comp=Z,0.7nm,0.6s,baz=9.4,slow=6.7,SNR=3.2
KMBO LR LR 02 27 20.3
comp=Z,174nm,21.6s,baz=94,slow=33
comp=Z,0.7nm,0.6s
KMBO Kilima Mbogo 59.34 261 *i*P **P 02 04 55.5 +0.3**
LPSR Galich'ya Gora 59.53 324 *e*P **P 02 04 54.6 -1.0**
LPSR pmax pmax
comp=Z,40nm,1.7s
CSS Mathiatis 59.76 303 P **P 02 04 56.5 -1.0**
comp=Z,9.3nm,1.2s
BR104 Keskin Array S 60.05 308 P **P 02 04 58.5 -1.1**
comp=Z,66nmcomp=Z,7.0nm,1.0s
BR131 Keskin Array S 60.05 308 P **P 02 04 58.2 -1.4**
BR131 IAmb IAmb 02 05 21.2
comp=Z,18nm,1.2s
BR131 Keskin Array S 60.05 308 P **P 02 04 59.0 -0.7**
SNR=5.6
BR131 P **P 02 04 59.0 -0.7**
SNR=5.6
BR131 Keskin Array S 60.05 308 P **P 02 04 58.2 -1.4**
BR131 pmax pmax
comp=Z,18nm,1.3s
BRTR Keskin Array B 60.05 308 P **P 02 04 58.0 -1.7**
BRTR Keskin Array B 60.05 308 P **P 02 04 58.9 -0.7**
comp=Z,1.3nm,0.5s,baz=100,slow=7.4,SNR=19
BRTR LR LR 02 34 40.4
comp=Z,357nm,20.1s,baz=108,slow=40
comp=Z,1.3nm,0.5s
BR105 Keskin Array S 60.07 308 P **P 02 04 58.7 -1.0**
comp=Z,83nmcomp=Z,7.3nm,0.9s
BR106 Keskin Array S 60.07 308 P **P 02 04 58.7 -1.0**
comp=Z,68nmcomp=Z,7.5nm,0.9s
BZK Bozkurt 60.12 311 P **P 02 04 59.0 -0.8**
comp=Z,515nmcomp=Z,37nm,1.0s
SIM Simferopol' 60.57 314 *e*P **P 02 05 03.2 +0.3**
SIM *e*S **S 02 13 17.0 -2.0**
SIM pmax pmax
comp=Z,120nm,2.2s
SIM smax smax
comp=N,32nm,14.0s
SIM MLR MLR
comp=Z,150nm,19.0s
ANTO Ankara 60.72 308 P **P 02 05 02.9 -1.2**
ANTO Ankara 60.72 308 P **P 02 05 02.9 -1.2**
ANTO pmax pmax
comp=Z,43nm,1.5s
ANTO Ankara 60.72 308 P **P 02 05 03.7 -0.4**
comp=Z,160nmcomp=Z,9.1nm,1.3s
MOS Moscow 61.32 327 *e*P **P 02 05 06.9 -0.9**
MOS *e* 02 07 24.2
MOS *e* 02 08 59.5
MOS pmax pmax
comp=Z,58nm,1.3s
OBN Obninsk 61.68 326 P **P 02 05 09.3 -0.9**
OBN Obninsk 61.68 326 LR LR 02 36 38.8
comp=Z,377nm,18.7s,baz=310,slow=41
OBN Obninsk 61.68 326 *c i*P **P 02 05 11.1 +0.9**
OBN *i* *PP **sP 02 05 13.6 -0.1**
OBN *i* *SP **pwP 02 05 16.2 +0.7**
OBN 02 05 54.0
OBN *i* S **S 02 13 27.8 -4.9**
OBN *i* SS **SS 02 17 33.3 -0.7**
OBN pmax pmax
comp=Z,73nm,1.7s
OBN MLR MLR
comp=Z,392nm,19.0s
OBN Obninsk 61.68 326 P **P 02 05 10.0 -0.2**
comp=Z,39nm,1.4s
TIXI Tiksi 61.89 11 P **P 02 05 09.0 -2.3**
TIXI Tiksi 61.89 11 LR LR 02 34 10.8
comp=Z,218nm,19.7s,baz=226,slow=38
TIXI Tiksi 61.89 11 *i*P **P 02 05 09.9 -1.4**
TIXI pmax pmax
comp=Z,23nm,1.5s
MDUB Mudurnu 62.00 309 P **P 02 05 11.1 -1.8**
ISP Isparta 62.26 306 IAmb IAmb 02 05 37.5
comp=Z,24nm,1.4s
ISP Isparta 62.26 306 *ce*P **P 02 05 13.4 -1.2**
ISP pmax pmax
comp=Z,17nm,1.7s
BORA Eskisehir 62.51 308 P **P 02 05 14.6 -1.6**
STKA Stephens Creek 62.93 136 P **P 02 05 17.7 -1.2**
comp=Z,3.1nm,0.8s,baz=282,slow=18,SNR=3.8
STKA LR LR 02 34 27.1
comp=Z,940nm,19.9s,baz=299,slow=38
comp=Z,3.1nm,0.8s
PETK Petropavlovsk- 63.08 37 LR LR 02 34 55.5
comp=Z,206nm,19.0s,baz=245,slow=38
YLV Yalova 63.40 309 P **P 02 05 20.9 -1.2**
comp=Z,16nm,1.4s
KLYT Kilyos 63.71 310 P **P 02 05 23.5 -0.5**
comp=Z,26nm,1.2s
PURM Purcari 63.77 316 P **P 02 05 24.0 -0.3**
comp=Z,45nm,1.1s
TIRR Tirgusor 64.51 313 P **P 02 05 28.6 -0.6**
comp=Z,17nm,1.4s
MILM Milestii Mici 64.55 316 ⇓ *i*P **P 02 05 28.3 -1.1**
comp=Z,140nm,2.3s
MILM Milestii Mici 64.55 316 *d i*P **P 02 05 28.3 -1.1**
MILM pmax pmax
comp=Z,140nm,2.3s
KIS Kishinev 64.56 316 P **P 02 05 28.9 -0.6**
comp=Z,20nm,0.7s
AK09 Malin Array Si 64.83 320 P **P 02 05 30.2 -1.0**
AK10 Malin Array Si 64.85 320 P **P 02 05 30.7 -0.6**
AK08 Malin Array Si 64.86 320 P **P 02 05 30.7 -0.6**
AKASG Malin Array Be 64.89 320 P **P 02 05 30.4 -1.1**
AKASG IAmb IAmb 02 05 32.3
comp=Z,36nm,1.6s
AKASG Malin Array Be 64.89 320 P **P 02 05 30.8 -0.7**
comp=Z,0.9nm,0.4s,baz=86,slow=4.8,SNR=29
AKASG LR LR 02 38 05.0
comp=Z,528nm,21.5s,baz=100,slow=40
comp=Z,0.9nm,0.4s
AKBB Malin Array Si 64.89 320 P **P 02 05 30.2 -1.4**
AKBB Malin Array Si 64.89 320 *ce*P **P 02 05 31.1 -0.4**
AKBB pmax pmax
comp=Z,25nm,1.5s
AKBB Malin Array Si 64.89 320 P **P 02 05 30.5 -1.0**
KIEV Kiev 64.89 320 P **P 02 05 29.9 -1.7**
KIEV IAmb IAmb 02 05 32.1
comp=Z,29nm,1.4s
KIEV Kiev 64.89 320 ⇑P **P 02 05 30.2 -1.4**
KIEV Kiev 64.89 320 P **P 02 05 29.9 -1.7**
KIEV pmax pmax
comp=Z,29nm,1.5s
KIEV Kiev 64.89 320 P **P 02 05 30.5 -1.1**
comp=Z,65nm,1.1s
SORM Soroca 65.03 317 ⇑P **P 02 05 31.7 -0.8**
SORM Soroca 65.03 317 P **P 02 05 31.7 -0.8**
MBAR Mbarara 65.49 263 P **P 02 05 34.1 -2.2**
MBAR Mbarara 65.49 263 *ce*P **P 02 05 37.7 +1.4**
MBAR pmax pmax
comp=Z,8.0nm,1.7s
ODBI Odobesti 65.61 314 P **P 02 05 36.0 -0.4**
comp=Z,332nmcomp=Z,7.5nm,1.0s
EZN Ezine 65.67 308 P **P 02 05 36.3 -0.5**
comp=Z,8.5nm,1.0s
LUBAR Lubar, Ukraine 65.69 319 P **P 02 05 36.1 -0.7**
MI29 MI29, Kamyanyy 65.70 320 P **P 02 05 35.4 -1.5**
comp=Z,174nm,1.0s
NDNU Novodnistrovsk 65.75 318 P **P 02 05 36.8 -0.4**
NDNU Novodnistrovsk 65.75 318 P **P 02 05 36.8 -0.4**
BISRR Bisoca 65.83 314 P **P 02 05 37.4 -0.5**
comp=Z,3μmcomp=Z,55nm,1.5s
VRI Vrincioaia 65.85 315 ⇑P **P 02 05 38.7 +0.8**
VRI Vrincioaia 65.85 315 P **P 02 05 38.7 +0.8**
VRI Vrincioaia 65.85 315 P **P 02 05 37.5 -0.5**
comp=Z,29nm,1.4s
PLOR5 Plostina Array 65.90 314 P **P 02 05 37.8 -0.5**
comp=Z,742nmcomp=Z,29nm,1.0s
PLOR Plostina 65.91 314 ⇑P **P 02 05 38.3 -0.1**
PLOR Plostina 65.91 314 P **P 02 05 38.2 -0.1**
ISR Istrita 65.91 314 P **P 02 05 38.0 -0.4**
comp=Z,24nm,1.2s
TESR Tescani 65.98 315 ⇓P **P 02 05 39.5 +0.7**
TESR Tescani 65.98 315 P **P 02 05 38.4 -0.3**
comp=Z,25nm,2.0s
NEHR Nehoiu 66.11 314 ⇑P **P 02 05 39.6 0.0**
COVR Voineasa-Covas 66.22 314 ⇓P **P 02 05 41.1 +0.8**
KMPD K-Podol'skiy 66.34 317 P **P 02 05 40.5 -0.5**
PRAR RASCA 66.36 316 ⇑P **P 02 05 41.0 -0.1**
MLR Muntele Rosu 66.36 314 LR LR 02 39 48.9
comp=Z,279nm,19.8s,baz=100,slow=41
MLR Muntele Rosu 66.36 314 ⇑P **P 02 05 40.9 -0.6**
MLR Muntele Rosu 66.36 314 P **P 02 05 40.8 -0.6**
MLR Muntele Rosu 66.36 314 P **P 02 05 40.7 -0.7**
comp=Z,426nmcomp=Z,26nm,1.4s
MNK Minsk 66.39 324 *i*P **P 02 05 39.7 -1.5**
MNK *i* 02 08 06.7
MNK *i* PPP PPP 02 09 41.9
MNK *i* S **S 02 14 28.6 -2.5**
MNK *i* SS **SS 02 18 48.0 +0.6**
MNK pmax pmax
comp=E,7.0nm,1.0s
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.9s
MNK MLR MLR
comp=E,374nm,21.0s
MNK MLR MLR
comp=Z,292nm,20.0s
MNK MLR MLR
comp=N,293nm,20.0s
HORU Horodok 66.45 318 P **P 02 05 41.3 -0.4**
HORU Horodok 66.45 318 P **P 02 05 41.3 -0.4**
IDI Anoyia 66.68 303 LR LR 02 39 53.6
comp=N,80nm,19.7s,baz=96,slow=40
JOF Joensuu 66.71 333 *e*P **P 02 05 43.6 +0.5**

VOIR 66.99 314 P P 02 05 44.7 -0.6
comp=N,5.2nm,2.8s
RNPP5 Staryi Chortor 67.05 320 P P 02 05 45.0 -0.5
BURAR Bucovina Array 67.07 316 P P 02 05 45.5 -0.3
BURAR Bucovina Array 67.07 316 ⇓P P 02 05 45.9 +0.1
BURAR Bucovina Array 67.07 316 P P 02 05 45.9 +0.1
RNPP9 Sopachiv 67.08 320 P P 02 05 45.3 -0.3
BUR08 Bucovina Ar. S 67.08 316 P P 02 05 45.3 -0.6
RNPP8 Varash 67.09 320 P P 02 05 45.4 -0.3
IDID Didziasalis 67.18 325 *eP* P 02 05 44.6 -1.6
ARR Arges 67.27 314 ⇑P P 02 05 46.6 -0.6
IIGN Ignalina 67.48 325 *eP* P 02 05 47.5 -0.6
STNU Starunia 67.65 317 P P 02 05 49.2 -0.2
LOT Lotru 67.89 314 ⇑P P 02 05 51.0 -0.1
HNR Honiara 67.91 106 LR LR 02 36 58.2
comp=N,81nm,18.8s,baz=266,slow=37
MEZ Mezhgor'ye 68.28 317 P P 02 05 53.2 -0.2
ARBE Arbavere 68.35 329 *eP* P 02 05 54.4 +0.9
MARR Marisel-Cluj 68.42 315 ⇓P P 02 05 54.5 +0.2
KORU Korolevo 68.51 317 P P 02 05 54.6 -0.1
BRIU Brid 68.60 317 P P 02 05 55.2 -0.1
FINES FINESS Array B 68.71 331 P P 02 05 55.6 -0.1
comp=N,2.0nm,0.7s,baz=104,slow=6.3,SNR=14
FINES LR LR 02 38 47.3
comp=N,567nm,22.0s,baz=108,slow=38
comp=N,2.0nm,0.7s
PABE Paberze 68.77 325 P P 02 05 56.0 -0.3
PABE Paberze 68.77 325 *eP* P 02 05 56.4 +0.1
HERR Herculane 68.81 313 ⇑P P 02 05 56.6 -0.1
MUKU Mukachevo 68.83 317 P P 02 05 56.6 -0.1
BERU Beregovo 68.84 317 P P 02 05 56.7 -0.1
HOLU Holmets 69.03 317 P P 02 05 57.9 -0.1
SUW Suwalki 69.04 323 *eP* P 02 05 55.5 -2.4
SUW Suwalki 69.04 323 *eP* P 02 05 57.9 0.0
SURR Surduc 69.06 314 ⇑P P 02 05 58.7 +0.5
UZHM Uzhgorod 69.10 317 P P 02 05 58.3 -0.1
KOLS Kolonicke sedl 69.14 318 *eP* P 02 05 59.3 +0.6
KOLS pmax pmax
comp=Z,11nm,1.6s
KOLS Kolonicke sedl 69.14 318 *eP* P 02 05 59.3 +0.6
SIRR Siria 69.40 315 ⇓P P 02 05 59.8 -0.6
KEF Keuruu 69.42 332 *eP* P 02 05 60.0 -0.1
FNA Florina 69.48 309 P P 02 05 59.0 -2.0
FNA Florina 69.48 309 P P 02 05 59.0 -2.0
FNA pmax pmax
comp=Z,8.0nm,1.1s
NIE Niedzica 70.46 318 *eP* P 02 06 08.0 +1.1
NIE Niedzica 70.46 318 P P 02 06 06.6 -0.2
comp=Z,11nm,1.1s
PSZ Piszkesteto 70.67 316 *eP* P 02 06 08.2 0.0
ARCES ARCESS Array B 70.80 340 P P 02 06 08.5 0.0
comp=Z,2.6nm,0.8s,baz=91,slow=6.3,SNR=11
ARCES LR LR 02 41 24.7
comp=Z,571nm,19.0s,baz=102,slow=39
comp=Z,2.6nm,0.8s
BILL Bilibino 70.80 22 *ceP* P 02 06 11.1 +2.6
BILL pmax pmax
comp=Z,7.0nm,1.7s
OJC Ojcow 70.82 319 *eP* P 02 06 09.5 +0.6
OJC Ojcow 70.82 319 P P 02 06 08.6 -0.4
OJC IAmb IAmb 02 06 15.9
comp=Z,26nm,1.1s
OJC Ojcow 70.82 319 P P 02 06 08.6 -0.4
OJC pmax pmax
comp=Z,26nm,1.1s
OJC Ojcow 70.82 319 P P 02 06 08.8 -0.2
comp=Z,22nm,1.1s
LANS Liptovska Anna 70.99 318 *eP* P 02 06 10.7 +0.6
LANS pmax pmax
comp=Z,5.0nm,1.3s
LANS Liptovska Anna 70.99 318 *eP* P 02 06 10.7 +0.6
VYHS Vyhne 71.39 317 *eP* P 02 06 12.6 +0.1
VYHS pmax pmax
comp=Z,25nm,1.7s
VYHS Vyhne 71.39 317 *eP* P 02 06 12.6 +0.1
MORH Mrgy, Hungar 71.49 315 ⇑P P 02 06 12.9 -0.1
MORH Mrgy, Hungar 71.49 315 P P 02 06 13.0 -0.1
comp=Z,14nm,1.8s
SRO Srobarova 71.73 316 *eP* P 02 06 15.2 +0.7
SRO pmax pmax
comp=Z,51nm,1.8s
SRO Srobarova 71.73 316 *eP* P 02 06 15.2 +0.7
OKC Ostrava-Krasne 71.87 318 *eP* P 02 06 17.1 +1.8
OKC AMS AMS 02 43 00.0
comp=Z,200nm,14.8s
OKC Ostrava-Krasne 71.87 318 *eP* P 02 06 17.1 +1.8
OKC MLR MLR
comp=Z,200nm,14.8s
JAVC Velka Javorina 72.17 317 *eP* P 02 06 18.3 +1.1
LSZ Lusaka 72.21 249 P P 02 06 17.5 -0.6
LSZ IAmb IAmb 02 06 19.6
comp=Z,27nm,1.4s
LSZ Lusaka 72.21 249 LR LR 02 36 19.1
comp=Z,157nm,18.0s,baz=104,slow=34
LSZ Lusaka 72.21 249 P P 02 06 18.9 +0.8
LSZ Lusaka 72.21 249 P P 02 06 17.5 -0.6
LSZ pmax pmax
comp=Z,27nm,1.4s
MPLH Magyarpolny 72.25 316 P P 02 06 17.6 -0.1
comp=Z,1μmcomp=Z,73nm,1.4s
MORC Moravsky Berou 72.26 318 IAmb IAmb 02 06 41.9
comp=Z,32nm,1.3s
MORC Moravsky Berou 72.26 318 *eP* P 02 06 17.9 +0.2
SMOL Smolenice 72.33 317 *eP* P 02 06 18.8 +0.7
MODS Modra-Piesok 72.43 317 *eP* P 02 06 19.2 +0.5
MODS pmax pmax
comp=Z,41nm,1.6s
MODS Modra-Piesok 72.43 317 *eP* P 02 06 19.2 +0.5
KRLC Kraliky 72.75 319 *eP* P 02 06 21.2 +0.5
KRLC AMS AMS 02 44 10.0
comp=Z,300nm,24.4s
KRLC Kraliky 72.75 319 *eP* P 02 06 21.2 +0.5
KRLC MLR MLR
comp=Z,300nm,24.4s
BEHE Becsehely 72.79 315 P P 02 06 20.8 0.0
SHEM Shemya Is, Ala 72.85 39 LR LR 02 39 48.6
comp=Z,90nm,20.5s,baz=317,slow=37
VRAC Vranov 72.88 318 LR LR 02 44 25.1
comp=Z,119nm,20.6s,baz=94,slow=41
VRAC Vranov 72.88 318 *eP* P 02 06 21.6 +0.2
KRUC Moravsky 73.01 318 *eP* P 02 06 21.6 -0.5
DPC Dobruska-Polom 73.05 319 *eP* P 02 06 23.3 +0.9
DPC AMS AMS 02 42 50.0
comp=Z,300nm,23.0s
DPC Dobruska-Polom 73.05 319 *eP* P 02 06 23.3 +0.9
DPC MLR MLR
comp=Z,300nm,23.0s
KSP Ksiaz 73.07 319 *eP* P 02 06 23.3 +0.8
KSP Ksiaz 73.07 319 P P 02 06 22.3 -0.1
comp=Z,17nm,1.2s
RONA Rosalia, Austr 73.09 316 *i* P P 02 06 22.9 +0.2
comp=Z,5.2nm,0.8s
OSTC Ostas 73.12 319 *eP* P 02 06 23.5 +0.7
OSTC AMS AMS 02 43 00.0
comp=Z,300nm,17.1s
OSTC Ostas 73.12 319 *eP* P 02 06 23.5 +0.7
OSTC MLR MLR
comp=Z,300nm,17.1s
KOGS Kog 73.15 315 *eP* P 02 06 22.8 -0.2
CHVC Chvalec 73.22 319 *eP* P 02 06 27.8 +4.4
CHVC AMS AMS 02 42 40.0
comp=Z,400nm,26.7s
CHVC Chvalec 73.22 319 *eP* P 02 06 27.8 +4.4
CHVC MLR MLR
comp=Z,400nm,26.7s
UPC Upice 73.25 319 AMS AMS 02 43 20.0
comp=Z,400nm,19.8s
CONA Conrad Observa 73.38 316 *eP* P 02 06 24.6 +0.2
comp=Z,15nm,1.5s,SNR=7.4
TREC Trest 73.60 318 AMS AMS 02 46 30.0
comp=Z,200nm,20.4s
POGA Pongola 73.66 236 P P 02 06 26.5 +0.2
POGA IAmb IAmb 02 06 27.9
comp=Z,34nm,1.2s
CRES Cresnjevec Ost 73.72 314 *eP* P 02 06 23.1 -3.4
SOKA Soboth 73.98 315 *eP* P 02 06 28.5 +0.5
comp=Z,19nm,1.4s,SNR=11
GOPC GO Pecny, Ondr 74.04 318 AMS AMS 02 43 10.0
comp=Z,400nm,25.4s
PVCC Panska Ves 74.17 319 AMS AMS 02 42 40.0
comp=Z,300nm,27.0s
PRU Pruhonice 74.20 319 *eP* P 02 06 29.9 +0.8
PRU AMS AMS 02 43 00.0
comp=Z,300nm,17.6s

PRU Pruhonice 74.20 319 *eP* P 02 06 29.9 +0.8
PRU MLR MLR
comp=Z,300nm,17.6s
PRA Prague 74.27 319 AMS AMS 02 43 20.0
comp=Z,300nm,18.8s
OBKA Obir 74.32 315 *i* P P 02 06 30.4 +0.4
comp=Z,18nm,1.4s,SNR=5.8
CKRC Cesky Krumlov 74.39 317 AMS AMS 02 44 40.0
comp=Z,200nm,21.1s
ZVC Zvikov 74.44 318 *eP* P 02 06 31.1 +0.5
ZVC AMS AMS 02 45 20.0
comp=Z,200nm,23.4s
MOA Molln 74.46 316 *eP* P 02 06 30.7 0.0
comp=Z,12nm,1.5s,SNR=5.6
BRG Berggiesshubel 74.56 319 *eP* P 02 06 31.9 +0.7
BRG Amp 02 06 33.7
comp=Z,11nm,1.1s
HFS Hagfors 74.59 329 P P 02 06 31.4 +0.2
comp=Z,1.3nm,0.5s,baz=105,slow=5.2,SNR=5.5
HFS LR LR 02 43 45.0
comp=Z,358nm,21.3s,baz=101,slow=39
comp=Z,1.3nm,0.5s
GEC2 GERESS Array S 74.79 317 IAmb IAmb 02 06 56.0
comp=Z,18nm,1.0s
GERES GERESS Array B 74.79 317 P P 02 06 32.0 -0.7
GERES GERESS Array B 74.79 317 P P 02 06 33.1 +0.4
comp=Z,3.5nm,0.7s,baz=89,slow=6.0,SNR=27
comp=Z,3.5nm,0.7s
VOJS Vojsko 74.81 314 *eP* P 02 06 32.2 -0.7
KHC Kasperske Hory 74.86 318 *eP* P 02 06 33.6 +0.6
KHC AMS AMS 02 44 20.0
comp=Z,200nm,16.6s
KHC Kasperske Hory 74.86 318 *eP* P 02 06 33.6 +0.6
KHC MLR MLR
comp=Z,200nm,16.6s
KHC Kasperske Hory 74.86 318 P P 02 06 32.7 -0.3
comp=Z,6.8nm,1.7s
BIOA Bad Ischl, Aus 74.89 316 *eP* P 02 06 33.0 -0.2
comp=Z,9.5nm,1.4s,SNR=5.8
HSKC Hora Svate Kat 74.89 319 *eP* P 02 06 37.1 +3.9
HSKC AMS AMS 02 42 50.0
comp=Z,300nm,25.1s
SPITS Spitsbergen Ar 75.00 348 P P 02 06 33.0 -0.3
comp=Z,6.1nm,0.8s,baz=105,slow=9.6,SNR=14
SPITS LR LR 02 46 53.2
comp=Z,325nm,19.7s,baz=62,slow=42
comp=Z,6.1nm,0.8s
SPITS Spitsbergen Ar 75.00 348 P P 02 06 33.0 -0.3
PRED Cave del Predi 75.00 315 IAmb IAmb 02 06 41.2
comp=Z,12nm,0.7s
KBA Koelnbreinsper 75.12 316 *eP* P 02 06 34.3 -0.4
comp=Z,7.9nm,1.4s
CLL Collm 75.13 320 P P 02 06 34.2 -0.2
CLL IAmb IAmb 02 06 54.0
comp=Z,30nm,1.5s
CLL Collm 75.13 320 *i* P P 02 06 34.9 +0.4
CLL *i* 02 06 40.0
CLL *eS* S 02 16 09.0 -4.0
CLL pmax pmax
comp=Z,44nm,2.0s
CLL Collm 75.13 320 P P 02 06 34.1 -0.4
comp=Z,12nm,1.1s
NKC Novy Kostel 75.54 319 AMS AMS 02 44 00.0
comp=Z,500nm,26.4s
LESA Schwarzleotal 75.55 316 *eP* P 02 06 36.6 -0.5
comp=Z,10nm,1.0s,SNR=7.1
ABTA Abfaltersbach 75.71 315 *eP* P 02 06 37.0 -1.0
comp=Z,8.6nm,1.2s
KSANE Kasane 75.78 248 *i* P P 02 06 39.9 +1.0
CIMO Cimolais 75.79 315 IAmb IAmb 02 06 44.8
comp=Z,22nm,1.0s
NB2 NORSAR Subarra 75.81 330 P P 02 06 37.5 -0.8
comp=Z,59nm,2.0s,baz=89,slow=5.9
NB2 NORSAR Subarra 75.81 330 P P 02 06 37.5 -0.8
baz=89,slow=5.9
NOA NORSAR Array B 75.81 330 P P 02 06 38.1 -0.1
comp=Z,0.7nm,0.7s,baz=85,slow=6.5,SNR=2.6
NOA LR LR 02 44 12.8
comp=Z,401nm,20.3s,baz=95,slow=39
comp=Z,0.7nm,0.7s
MOX Moxa 76.04 319 *eL* 02 45 40.2
comp=Z,223nm,21.0s
WTTA Wattenberg 76.27 316 *eP* P 02 06 40.5 -0.9
comp=Z,18nm,1.6s,SNR=6.2
WATA Walderalm 76.30 316 *i* P P 02 06 40.7 -0.8
comp=Z,14nm,1.5s
CTI Castel Tesino 76.36 315 P P 02 06 41.4 -0.4
CTI IAmb IAmb 02 07 06.2
comp=Z,24nm,1.1s
CTI Castel Tesino 76.36 315 P P 02 06 41.4 -0.4
CTI pmax pmax
comp=Z,24nm,1.1s
GRF Grafenberg Arr 76.36 318 *eP* 02 06 42.0
comp=Z,39nm,1.7s,baz=86,slow=4.9
GRF *eL* 02 44 41.1
comp=Z,203nm,21.1s
GRFO Grafenberg 76.36 318 P P 02 06 41.4 -0.2
GRFO Grafenberg 76.36 318 P P 02 06 41.4 -0.2
GRFO pmax pmax
comp=Z,81nm,1.8s
TEOL Teolo 76.40 314 P P 02 06 41.1 -0.8
TEOL IAmb IAmb 02 06 42.9
comp=Z,19nm,1.2s
SQTA Sankt Quirin 76.56 316 *i* P P 02 06 42.3 -0.6
comp=Z,9.2nm,0.9s
MOTA Moosalm 76.62 316 *i* P P 02 06 42.4 -0.9
comp=Z,18nm,1.5s
RETA Reute 76.84 316 *i* P P 02 06 44.0 -0.4
comp=Z,21nm,1.5s,SNR=7.3
OSSC Osservatorio P 76.87 312 P P 02 06 42.2 -2.5
OSSC IAmb IAmb 02 06 51.5
comp=Z,17nm,1.2s
KHWEE KHWEE 76.90 244 *i* P P 02 06 45.6 +0.4
FETA Feichten 76.91 316 *eP* P 02 06 44.5 -0.4
comp=Z,12nm,1.5s,SNR=6.1
LPHEP Lephephe 77.03 242 *i* P P 02 06 46.6 +0.7
FUORN Ofenpass-Fuorn 77.26 315 IAmb IAmb 02 07 11.1
comp=Z,46nm,1.9s
DAVA Danuels 77.46 316 *i* P P 02 06 47.8 -0.2
comp=Z,13nm,1.6s
DAVOX Davos/Dischmat 77.51 315 LR LR 02 47 45.5
comp=Z,195nm,21.3s,baz=74,slow=41
TUE Stuetta 77.91 315 P P 02 06 49.9 -0.7
TUE IAmb IAmb 02 07 14.3
comp=Z,24nm,1.2s
TUE Stuetta 77.91 315 P P 02 06 50.1 -0.5
comp=Z,73nm,1.2s
DZM Mont Dzumac 77.93 116 *eL* LR 02 30 58.0
comp=Z,660nm,37.8s
DZM Mont Dzumac 77.93 116 LR LR 02 45 08.8
comp=Z,147nm,19.2s,baz=260,slow=39
MAKGR Makgori 78.79 240 *i* P P 02 06 56.9 +1.2
KEST Kesra 79.29 304 IAmb IAmb 02 07 01.1
comp=Z,49nm,1.5s
KEST Kesra 79.29 304 P P 02 06 57.8 -0.5
comp=Z,9.4nm,1.1s,baz=4.4,slow=14,SNR=4.1
KEST LR LR 02 48 56.4
comp=Z,114nm,18.9s,baz=89,slow=41
comp=Z,9.4nm,1.1s
BOSA Boshof 79.41 237 P P 02 06 58.5 -0.5
BOSA Boshof 79.41 237 P P 02 06 58.6 -0.4
comp=Z,16nm,1.0s,baz=74,slow=7.2,SNR=12
BOSA LR LR 02 38 13.6
comp=Z,137nm,18.2s,baz=40,slow=33
comp=Z,16nm,1.0s
BOSA Boshof 79.41 237 P P 02 06 58.5 -0.5
BOSA pmax pmax
comp=Z,53nm,1.3s
WLF Walferdange 79.64 319 *dP* P 02 07 00.5 +0.7
QNGWA Qangwa 79.91 247 *i* P P 02 07 02.4 +0.5
KGCAE Kacgae 80.03 244 *i* P P 02 07 03.0 +0.4
GRTLG Ghanzi 80.43 245 *i* P P 02 07 05.5 +0.7
JMIC Jan Mayen 82.17 341 LR LR 02 50 31.1
comp=Z,112nm,18.9s,baz=78,slow=41
MAW Mawson 83.88 192 P P 02 07 20.1 -1.4
comp=Z,31nm,1.0s,baz=352,slow=9.0,SNR=2.8
EKA Eskdalemuir Ar 84.13 325 P P 02 07 22.9 -0.4
comp=Z,0.7nm,0.7s,baz=74,slow=5.3,SNR=4.9
comp=Z,0.7nm,0.7s
D20K Etivluk River 84.27 20 IAmb IAmb 02 07 30.6
comp=Z,22nm,1.4s
E19K Redstone River 84.51 22 IAmb IAmb 02 07 59.6
comp=Z,17nm,1.4s
B22K Teshekpuk Lake 84.67 18 IAmb IAmb 02 08 01.0
comp=Z,28nm,1.5s
TAM Tamanrasset 84.89 292 P P 02 07 27.6 -0.4
TAM IAmb IAmb 02 07 30.0
comp=Z,25nm,1.6s
TAM Tamanrasset 84.89 292 P P 02 07 27.6 -0.4
TAM pmax pmax
comp=Z,25nm,1.6s
F20K Avaraart Lake 85.20 22 IAmb IAmb 02 08 03.0
comp=Z,17nm,1.4s
E21K Killik River 85.27 20 IAmb IAmb 02 07 36.8
comp=Z,21nm,1.3s
D22K Ayrikyak River 85.52 20 IAmb IAmb 02 08 05.7
comp=Z,22nm,1.3s
C23K Itkillik River 85.76 19 IAmb IAmb 02 08 06.6
comp=Z,30nm,1.5s
D23K Nanushuk River 86.13 19 IAmb IAmb 02 08 08.8
comp=Z,34nm,1.6s
G21K Allakaket 86.22 22 IAmb IAmb 02 07 41.4
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 86.64 19 P P 02 07 35.0 -0.7
TOLK IAmb IAmb 02 07 43.8
comp=Z,39nm,1.9s
H21K Melozitna Rive 86.84 23 IAmb IAmb 02 08 12.5
comp=Z,23nm,1.3s
E23K Chandalar 86.90 20 IAmb IAmb 02 08 11.8
comp=Z,18nm,1.5s
E24K Your Creek 87.26 20 IAmb IAmb 02 07 41.0
comp=Z,20nm,1.8s
D25K Kavik River 87.31 18 IAmb IAmb 02 07 46.9
comp=Z,11nm,1.0s
I21K Tanana 87.36 23 IAmb IAmb 02 07 47.6
comp=Z,13nm,1.1s
G23K Bananza Creek 87.39 21 IAmb IAmb 02 07 47.7
comp=Z,19nm,1.5s
C27K Jago River 87.94 17 IAmb IAmb 02 08 15.2
comp=Z,34nm,2.0s
H23K Yukon River 87.97 22 IAmb IAmb 02 08 16.5
comp=Z,15nm,1.4s
CAST Castle Rocks 88.09 25 IAmb IAmb 02 08 02.9
comp=Z,12nm,1.0s
I23K Minto, Yukon-K 88.36 22 P P 02 07 44.1 +0.1
I23K IAmb IAmb 02 07 59.0
comp=Z,11nm,1.2s
H24K Noodor Dome 88.57 22 IAmb IAmb 02 08 36.3
comp=Z,19nm,1.7s
ESDC Sonseca Array 88.78 310 P P 02 07 46.5 -0.1
ESDC Sonseca Array 88.78 310 P P 02 07 46.2 -0.3
comp=Z,0.3nm,0.7s,baz=58,slow=4.4,SNR=5.5
ESDC LR LR 02 53 21.8
comp=Z,104nm,19.4s,baz=64,slow=40
comp=Z,0.3nm,0.7s
BMAR Burnt Mountain 88.87 20 P P 02 07 44.7 -1.7
RPZ Rata Peaks 88.88 135 LR LR 02 46 52.4
comp=Z,711nm,21.9s,baz=318,slow=35
BORG Borgarnes 89.09 337 LR LR 02 50 31.8
comp=Z,204nm,18.8s,baz=67,slow=38
MCK McKinley 89.20 24 P P 02 07 45.8 -2.2
MCK IAmb IAmb 02 07 55.5
comp=Z,16nm,1.1s
MCK McKinley 89.20 24 P P 02 07 45.8 -2.2
MCK pmax pmax
comp=Z,16nm,1.1s
SUMG Summit 89.33 347 *i* P P 02 07 50.3 +1.4
SUMG *i* 02 08 06.8
G26K Porcupine Rive 89.40 20 IAmb IAmb 02 08 24.5
comp=Z,19nm,1.5s
ILAR Eielson Array 89.47 22 P P 02 07 48.0 -1.2
comp=Z,0.7nm,0.9s,baz=293,slow=4.8,SNR=8.2
ILAR LR LR 02 53 57.4
comp=Z,151nm,19.6s,baz=269,slow=40
comp=Z,0.7nm,0.9s
ILAR Eielson Array 89.47 22 P P 02 07 48.0 -1.2
PRP Porcupine Dome 89.57 21 P P 02 07 48.5 -1.4
PRP IAmb IAmb 02 08 24.7
comp=Z,31nm,1.9s
KDAK Kodiak Island 90.31 30 LR LR 02 50 28.7
comp=Z,131nm,20.9s,baz=147,slow=37
E29M Blow River 90.37 17 IAmb IAmb 02 08 01.2
comp=Z,24nm,1.9s
TORD Torodi Ar. Bea 90.58 284 P P 02 07 54.3 -1.1
SYO Syowa Base 90.74 197 ‖ *eP* P 02 07 56.0 +1.2
A36M Sachs Harbour 90.91 12 IAmb IAmb 02 08 15.4
comp=Z,11nm,0.8s
MDT Midelt 91.19 304 LR LR 02 54 46.4
comp=Z,233nm,18.4s,baz=88,slow=39
URZ Urewera 91.64 129 LR LR 02 52 47.6
comp=Z,382nm,18.8s,baz=7.5,slow=38
I30M Mount Dempster 92.85 19 IAmb IAmb 02 08 37.7
comp=Z,19nm,1.8s
C36M Paulatuk 93.22 13 IAmb IAmb 02 08 07.6
comp=Z,19nm,1.7s
SFJD Kangerlussuaq 96.33 347 LR LR 02 58 15.0
comp=Z,175nm,21.1s,baz=35,slow=40
ELIB Princess Elisa 96.92 197 *dP* P 02 08 24.1 +0.7
VNDA Vanda 97.78 168 LR LR 02 48 34.1
comp=Z,128nm,21.0s,baz=299,slow=33
DBIC Dimbokro 98.39 279 LR LR 02 53 59.7
comp=Z,72nm,18.4s,baz=66,slow=36
YKA Yellowknife Ar 101.08 14 P Pdif 02 08 41.8 -0.3
comp=Z,0.1nm,0.5s,baz=338,slow=4.8,SNR=3.7
PPT2 Papeete2 117.46 103 *e*SS SS 02 30 56.3 -6.5
comp=Z,125nm,24.2s
PPT2 Papeete2 117.46 103 *e*LR LR 02 49 18.2
comp=Z,145nm,26.2s
PPT2 *e*LR LR 02 49 21.6
comp=Z,172nm,23.5s
NVAR Mina Array Bea 119.82 30 PKP PKPdf 02 13 42.8 -0.6
comp=Z,0.6nm,0.7s,baz=346,slow=0.9,SNR=4.1
PDAR Pinedale Array 119.87 21 PKP PKPdf 02 13 42.5 -0.9
comp=Z,0.9nm,0.7s,baz=337,slow=1.4,SNR=7.6
TAOE Nuku Hiva Isla 125.41 92 *e*LR LR 02 52 56.1
comp=Z,178nm,30.0s
Q52A Bidwell 128.15 358 PKPdf 02 13 56.7 -2.3
WCI Wyandotte Cave 128.91 2 PKPdf PKPdf 02 13 58.4 -2.1
WCI Wyandotte Cave 128.91 2 PKIKP PKPdf 02 13 58.4 -2.1
USIN University of 129.12 3 PKPdf PKPdf 02 14 00.7 -0.2
TXAR Lajitas Array 133.97 23 PKP PKPdf 02 14 10.7 +0.2
comp=Z,0.1nm,0.5s,baz=346,slow=1.5,SNR=5.4
OBIP Obispado Ponce 144.30 300 PKPdf PKPab 02 14 26.9 -0.4
BDFB Brasilia 144.48 261 PKP PKPab 02 14 27.8 -0.4
comp=Z,1.7nm,0.4s,baz=75,slow=6.4,SNR=5.2
COYC Coyhaique 145.94 196 PKPdf PKPdf 02 14 31.0 -0.5
TRQA Tornquist 148.01 215 PKPdf 02 14 35.9 +0.7
TRQA Tornquist 148.01 215 PKP2 PKPdf 02 14 35.9 +0.7
LL02 Futaleuf 148.06 198 PKPbc 02 14 37.3 -0.9
LL01 San Ignacio de 148.97 198 PKPbc PKPbc 02 14 39.3 -1.2
PLCA Paso Flores 149.84 202 PKPbc PKPbc 02 14 42.8 -0.1
PLCA Paso Flores 149.84 202 PKPbc PKPbc 02 14 43.0 +0.1
comp=Z,9.7nm,1.2s,baz=161,slow=6.5,SNR=7.3
PLCA Paso Flores 149.84 202 PKP2 PKPbc 02 14 43.0 +0.1
LR05 Currie 150.79 200 PKPbc PKPbc 02 14 44.2 -0.9
CPUP Villa Florida 151.22 239 PKPbc PKPbc 02 14 45.9 -0.6
comp=Z,7.4nm,0.9s,baz=164,slow=6.0,SNR=6.8
AQDB Aquidauana 151.39 251 PKPbc PKPbc 02 14 45.9 -1.2
AQDB PKPab sPKPbc 02 14 51.4 +0.7
LPAZ La Paz 163.74 257 PKPab PKPab 02 15 47.8 -1.6
LPAZ La Paz 163.74 257 PKPab PKPab 02 15 48.3 -1.0
comp=Z,4.9nm,1.1s,baz=53,slow=6.3,SNR=5.2

---

*IDC **08** 02:07:34.4±0.6, 6°.81N×73°.00W, h156km±6km, mb3.8/16, mbtmp4.3/21, Error ellipse: s-maj=11.7km s-min=6.9km az=132.0*
*VAO **08** 02:07:34.4±0.4, 6°.75N×73°.00W, h153km±3km, mb4.5*
*NEIC **08** 02:07:34.6±2.1, 6°.81N±0°.06×73°.04W±0°.04, h152km±5km, mb4.4/164, Error ellipse: s-maj=10.0km s-min=1.6km az=147.0*
*RSNC **08** 02:07:35.1±0.0, 7°N±1°×7°3W±°, h151km±2km, M4.4, mB5.1, mb4.8, ML4.2, Mw(mB)4.4*
ISC 08 02:07:34.2±0.5, **6°.84N**±0°.03×**73°.08W**±0°.03, **h154**km±5km, **n280**, σ1°**28**/288, **mb4.4**/85, **2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**203**	P	**Pn**	**02 07 55.6**	**+0.2**
BARC				S	**Sn**	**02 08 10.9**	**-0.6**
PAMC	**Pamplona, Colo**	**0.62**	**37**	P	**Pn**	**02 07 58.4**	**+1.2**
PAMC				S	**Sn**	**02 08 15.5**	**+0.8**
BRJC	**Barrancabermej**	**0.68**	**281**	P	**Pn**	**02 07 57.2**	**+0.3**
BRJC				S	**Sn**	**02 08 14.2**	**0.0**
RUSC	**La Rusia**	**0.94**	**180**		**Pn**	**02 07 59.4**	**+0.1**
RUSC				Sn	**Sn**	**02 08 17.6**	**-1.1**
RUSC	**La Rusia**	**0.94**	**180**	P	**Pn**	**02 07 59.5**	**+0.1**
RUSC				S	**Sn**	**02 08 18.1**	**-0.5**
TAMC	**Tame, Arauca**	**1.34**	**107**	P	**Pn**	**02 08 04.0**	**+1.6**
TAMC				S	**Sn**	**02 08 24.1**	**+0.1**
PTBC	**PUERTO BERRIO,**	**1.40**	**258**	P	**Pn**	**02 08 02.0**	**-1.0**
PTBC				S	**Sn**	**02 08 22.7**	**-2.4**

OCAC Ocana 1.41 350 P **Pn 02 08 03.6 +0.3**
OCAC S **Sn 02 08 25.1 -0.6**
ZARC Zaragoza, Cauc 1.88 290 P **Pn 02 08 07.7 -0.5**
ZARC S **Sn 02 08 33.5 -0.8**
NORC Norcasia 2.19 235 P **Pn 02 08 10.9 -0.9**
NORC S **Sn 02 08 38.9 -1.8**
CHIC Chingaza 2.29 197 P **Pn 02 08 13.5 +0.1**
CHIC S **Sn 02 08 43.4 -0.1**
ROSC El Rosal 2.34 212 Pn **Pn 02 08 15.1 +1.2**
ROSC Sn **Sn 02 08 44.5 -0.1**
ROSC El Rosal 2.34 212 P **Pn 02 08 15.4 +1.5**
2µm,0.3s,baz=307,slow=14,SNR=2318
ROSC S **Sn 02 08 45.3 +0.7**
3µm,0.4s,baz=39,slow=20,SNR=13
CVER Cruz Verde, Cu 2.51 203 P **Pn 02 08 17.1 +1.0**
CVER S **Sn 02 08 48.7 +0.4**
MEDEC Medelln, Ant 2.56 258 P **Pn 02 08 17.0 +0.6**
MEDEC S **Sn 02 08 49.8 +0.9**
UREC San Jos de Ur 2.60 291 P **Pn 02 08 15.0 -1.7**
UREC S **Sn 02 08 45.9 -3.7**
VILC Villavicencio, 2.78 193 P **Pn 02 08 18.8 -0.3**
VILC S **Sn 02 08 52.8 -1.0**
GUY2C Guyana, Caldas 2.78 235 P **Pn 02 08 19.3 -0.2**
GUY2C S **Sn 02 08 56.3 +1.9**
PTGC Puerto Gaitan, 2.78 160 P **Pn 02 08 18.9 -0.1**
PTGC S **Sn 02 08 52.1 -1.6**
NIZA Niza - Manizal 2.97 234 P **Pn 02 08 22.8 +1.2**
NIZA S **Sn 02 08 59.3 +1.1**
CBOC Ciudad Bolivar 3.07 252 P **Pn 02 08 22.8 0.0**
CBOC S **Sn 02 08 59.1 -1.3**
DBBC Dabeiba 3.12 273 P **Pn 02 08 22.8 -0.4**
DBBC S **Sn 02 08 58.6 -2.6**
SDV Santo Domingo 3.16 50 Pn **Pn 02 08 25.1 +1.1**
SDV Santo Domingo 3.16 50 P **Pn 02 08 25.2 +1.3**
238nm,0.3s,baz=179,slow=3.5,SNR=567
SDV S **Sn 02 09 02.3 -0.1**
418nm,0.4s,baz=58,slow=21,SNR=32
SDV Santo Domingo 3.16 50 P **Pn 02 08 25.0 +1.1**
SDV S **Sn 02 09 02.7 +0.2**
SDV Santo Domingo 3.16 50 *eP* **Pn 02 08 25.1 +1.1**
SDV *eS* **Sn 02 09 01.6 -0.8**
ARGC Ariguani, Magd 3.22 339 P **Pn 02 08 25.6 +1.1**
ARGC S **Sn 02 09 04.0 +0.5**
ANIL Santa Ana 3.29 225 P **Pn 02 08 26.9 +1.3**
ANIL S **Sn 02 09 07.0 +1.6**
PRAC Prado 3.59 210 P **Pn 02 08 28.7 -0.6**
PRAC S **Sn 02 09 11.1 -1.0**
ORTC Ortega, Tolima 3.62 217 P **Pn 02 08 29.7 0.0**
ORTC S **Sn 02 09 14.1 +1.2**
APAC Apartado, Choc 3.63 287 P **Pn 02 08 29.3 -0.5**
APAC S **Sn 02 09 11.2 -1.7**
SJCC San Jacinto, C 3.68 326 P **Pn 02 08 29.2 -1.3**
SJCC S **Sn 02 09 10.6 -3.7**
URMC La Uribe, Meta 3.80 200 P **Pn 02 08 32.4 +0.4**
URMC S **Sn 02 09 16.5 -0.4**
LCBC Los crdobas, 3.83 302 P **Pn 02 08 31.6 -0.7**
LCBC S **Sn 02 09 14.9 -2.6**
CRJC Cerrejon, Guaj 4.16 3 P **Pn 02 08 35.8 -0.9**
GUVC San Jose del G 4.29 174 P **Pn 02 08 37.6 -0.8**
YOTC Yotoco, Valle 4.32 229 P **Pn 02 08 38.1 -0.7**
SOLC Bahia Solano 4.35 262 P **Pn 02 08 39.1 0.0**
SMRC Santa Marta, M 4.45 345 Pn **Pn 02 08 40.0 -0.4**
SMRC Santa Marta, M 4.45 345 P **Pn 02 08 40.7 +0.3**
CAPC Capurgana 4.60 293 P **Pn 02 08 40.2 -2.2**
PIZC Pizarro, Choco 4.65 247 P **Pn 02 08 43.8 +0.7**
PTAC Punta Ardita, 4.71 274 P **Pn 02 08 42.0 -1.8**
MACC Macarena, Meta 4.72 189 P **Pn 02 08 42.5 -1.6**
BETC Betania 4.75 210 P **Pn 02 08 43.4 -1.1**
URIC Uribia, Colomb 4.95 12 P **Pn 02 08 45.9 -1.1**
MALC Bahia Malaga 5.08 237 P **Pn 02 08 49.7 +0.9**
MALC S **Sn 02 09 49.0 +1.9**
GARC Garzon, Huila 5.21 208 P **Pn 02 08 49.7 -1.0**
GARC S **Sn 02 09 46.6 -3.9**
BAUV El Baul 5.41 67 Pn **Pn 02 08 51.5 -1.6**
POPC Popayan, Colom 5.58 220 P **Pn 02 08 55.3 -0.3**
891nm81nun,0.7s
POPC S **Sn 02 09 56.6 -2.5**
891nm81nun,0.7s
FLOC Florencia 5.82 206 Pn **Pn 02 08 57.5 -1.1**
FLOC Florencia 5.82 206 P **Pn 02 08 57.8 -0.8**
5µm183nm,1.1s
BBAC Balboa, Cauca 6.34 221 P **Pn 02 09 05.2 -0.5**
GR1C Gorgona, Isla 6.34 233 P **Pn 02 09 03.4 -2.1**
GR1C S **Sn 02 10 12.9 -4.2**
PTLC Puerto Leguiza 6.84 195 P **Pn 02 09 14.8 +2.6**
2µm99nm,0.6s
BCIP Isla Barro Col 7.08 290 Pn **Pn 02 09 12.5 -2.9**
BCIP Isla Barro Col 7.08 290 P **Pn 02 09 13.0 -2.4**
59nm,0.7s
AZU Azuero 7.20 278 P **Pn 02 09 15.5 -1.5**
775nm52nm,0.5s
OTAV Otavalo 8.47 219 Pn **Pn 02 09 34.7 +0.4**
OTAV Otavalo 8.47 219 *eP* **Pn 02 09 35.5 +1.2**
OTAV *eS* **Sn 02 11 07.7 -1.1**
PCRV Puerto La Cruz 8.98 68 P **Pn 02 09 40.7 -0.1**
14nm,0.5s,baz=317,slow=5.1,SNR=15
SGC2 Sao Gabriel da 9.23 139 P **Pn 02 09 41.5 -2.5**
BRU2 Volcan 9.72 282 Pn **Pn 02 09 50.3 -0.4**
LCR2 La Lucha 2 11.19 286 Pn **Pn 02 10 10.2 0.0**
HDC Heredia 11.36 287 *eP* **Pn 02 10 12.8 +0.5**
TBTG Tabatinga, AM 11.40 164 Pn **Pn 02 10 11.6 -1.0**
TBTG Tabatinga, AM 11.40 164 *eP* **Pn 02 10 10.5 -2.2**
STH Stony Hill 11.75 342 *i* P **Pn 02 10 19.6 +2.4**
STH IAmb IAmb 02 10 31.7
comp=E,220nm,0.9s
STH Stony Hill 11.75 342 ‖ *i* P **Pn 02 10 19.4 +2.2**
STH *i* S Sn 02 12 18.8 -8.4
MTDJ Mount Denham 12.12 339 Pn **Pn 02 10 25.0 +2.9**
MTDJ Mount Denham 12.12 339 *i* P **Pn 02 10 25.2 +3.1**
MTDJ IAmb IAmb 02 10 27.6
comp=Z,67nm,0.7s
MTDJ Mount Denham 12.12 339 ‖ *i* P **Pn 02 10 25.2 +3.1**
SDDR Presa de Saban 12.20 8 Pn **Pn 02 10 25.3 +2.3**
JTS Las Juntas de 12.23 287 P **Pn 02 10 25.2 +1.7**
comp=Z,6.0nm,0.6s,baz=80,slow=3.7,SNR=5.9
ESPN Las Esperanzas 12.28 297 Pn **Pn 02 10 23.6 -0.4**
CELP Cerrillos 12.84 29 Pn **Pn 02 10 29.2 -2.0**
UUPR Utuado, UPR, P 12.93 28 Pn **Pn 02 10 30.9 -1.5**
AOPR Arecibo Observ 12.99 28 Pn **Pn 02 10 32.3 -0.9**
PDPR Patillas Dam, 13.07 31 Pn **Pn 02 10 32.9 -1.3**
SJG San Juan 13.08 30 P **Pn 02 10 33.3 -1.1**
comp=Z,9.9nm,0.4s,baz=202,slow=14,SNR=9.1
GTBY Guantanamo Bay 13.16 352 P **P 02 10 38.7 -1.1**
GTBY Guantanamo Bay 13.16 352 *i* P **P 02 10 38.6 -1.1**
GTBY IAmb IAmb 02 10 39.8
comp=Z,79nm,0.9s
HUMP Col San Antoni 13.26 31 Pn **Pn 02 10 36.9 +0.3**
BOAV Boa Vista 13.27 109 Pn **Pn 02 10 34.5 -2.2**
BOAV Boa Vista 13.27 109 *eP* **Pn 02 10 35.8 -1.0**
GCPR Guaynabo City 13.28 30 Pn **Pn 02 10 36.3 -0.6**
TEFE Tefe 13.29 140 *eP* **Pn 02 10 36.6 -0.5**
MASC Masc 13.30 355 *i* P **Pn 02 10 39.8 +2.6**
MASC IAmb IAmb 02 10 57.3
comp=Z,54nm,2.0s
RCC Rio Carpintero 13.32 349 *i* P **P 02 10 41.2 -0.4**
RCC IVmB_BB 02 10 42.2
comp=Z,2µm,1.0s
RCC IAmb IAmb 02 10 42.3
comp=Z,65nm,0.6s
MARVS Santiago de Cu 13.37 348 *i* P **P 02 10 41.6 -0.5**
MARVS IAmb IAmb 02 10 42.9
comp=Z,32nm,0.7s
MARVS IVmB_BB 02 11 40.2
comp=Z,1µm,1.0s
QMBU Quimbuelo 13.39 353 *i* P **P 02 10 41.4 -0.9**
QMBU IAmb IAmb 02 10 44.6
comp=Z,26nm,0.8s
CHIV Chivirico 13.46 346 *i* P **Pn 02 10 42.0 +2.9**
CHIV IAmb IAmb 02 10 44.3
comp=Z,14nm,0.7s
PILO Pilon 13.65 342 *i* P **Pn 02 10 43.8 +2.1**
PILO IAmb IAmb 02 10 47.2
comp=Z,34nm,1.2s
PILO IVmB_BB 02 11 00.8
comp=Z,3µm,1.0s
LMGC Las Mercedes 13.69 344 *i* P **Pn 02 10 44.5 +2.5**
LMGC IAmb IAmb 02 10 47.2
comp=Z,18nm,0.9s
PINC Pinares de May 13.82 349 *i* P **Pn 02 10 46.0 +2.3**
PINC IAmb IAmb 02 10 49.0
comp=Z,39nm,0.5s
PINC IVmB_BB 02 10 49.3
comp=Z,510nm,1.0s
MOAC Moa 13.86 353 *i* P **P 02 10 48.4 +0.9**
MOAC IVmB_BB 02 10 51.0
comp=Z,560nm,1.0s
MOAC IAmb IAmb 02 10 51.3
comp=Z,30nm,0.4s
HLGC Holguin 14.27 349 *i* P **P 02 10 55.4 +3.3**
HLGC IAmb IAmb 02 10 57.5
comp=Z,35nm,1.0s
CBCY The Bluff, Cay 14.37 334 *i* P **P 02 10 54.6 +1.4**
CBCY IAmb IAmb 02 11 07.0
comp=Z,94nm,0.9s
CZSB Cruzeiro do Su 14.48 179 P **Pn 02 10 53.0 +1.0**
CZSB Cruzeiro do Su 14.48 179 *eP* **Pn 02 10 53.1 +1.0**
MACA Manacapuru-AM 15.87 128 **Pn 02 11 08.2 -1.1**
MACA IAmb IAmb 02 11 13.3
comp=Z,12nm,0.8s
MACA Manacapuru-AM 15.87 128 *eP* **P 02 11 09.3 -0.5**
SAML Samuel 18.52 148 P **P 02 11 38.1 -0.9**
SAML IAmb IAmb 02 11 39.7
comp=Z,13nm,0.6s
SAML Samuel 18.52 148 *eP* **P 02 11 38.0 -1.1**
TEIG Tepich 19.86 314 P **P 02 11 54.0 +0.5**
MDP Montagnes des 20.40 94 P **P 02 11 58.7 -0.6**
comp=Z,11nm,0.8s,baz=280,slow=4.1,SNR=1.5
comp=Z,11nm,0.8s
ITTB Itaituba 20.58 122 *eP* **P 02 12 01.0 -0.2**
MAL2 Monte Alegre, 20.81 114 P **P 02 12 05.0 +1.2**
MAL2 IAmb IAmb 02 12 38.5
comp=Z,22nm,0.9s
NPGB Novo Progresso 22.42 128 *eP* **P 02 12 19.5 -0.9**
VILB Vilhena 23.46 147 P **P 02 12 29.7 -0.3**
VILB Vilhena 23.46 147 *eP* **P 02 12 29.2 -0.7**
LPAZ La Paz 23.49 168 P **P 02 12 30.4 -0.5**
LPAZ La Paz 23.49 168 P **P 02 12 30.7 -0.3**
comp=Z,2.2nm,0.5s,baz=334,slow=6.3,SNR=8.7
comp=Z,2.2nm,0.5s
LPAZ La Paz 23.49 168 *eP* **P 02 12 29.6 -1.3**
656A Willston 24.12 339 P **P 02 12 38.0 +2.1**
PDRB Porto dos Gac 24.50 138 *eP* **P 02 12 38.5 -1.0**
CLDB Colider 24.61 136 *eP* **P 02 12 39.6 -0.9**
PTLB Pontes e Lacer 26.10 148 P **P 02 12 52.9 -0.9**
PTLB Pontes e Lacer 26.10 148 *eP* **P 02 12 52.5 -1.4**
TMAB Tom-Au,PA,Br 26.56 109 *eP* **P 02 12 57.3 -0.8**
PRPB Parauapebas 26.57 119 *eP* **P 02 12 57.4 -0.8**
352A Blakely 26.90 337 P **P 02 13 02.6 +1.7**
352A IAmb IAmb 02 13 23.8
comp=Z,26nm,1.4s
GOGA Godfrey 28.14 341 P **P 02 13 13.9 +2.0**
GOGA IAmb IAmb 02 13 14.6
comp=Z,5.0nm,0.8s
JSC Jenkinsville 28.34 346 IAmb IAmb 02 13 16.1
comp=Z,6.7nm,0.8s
SALV Santo Antonio 28.40 143 *eP* **P 02 13 13.5 -1.0**
SNDB Serra Nova Dou 28.61 131 *eP* **P 02 13 15.8 -0.6**
LRAL Lakeview Retre 29.10 335 IAmb IAmb 02 13 23.1
comp=Z,9.1nm,1.1s
SMTB Santa Maria do 29.81 121 *eP* **P 02 13 27.0 0.0**
FPAL Fort Paine 29.90 339 P **P 02 13 28.6 +1.1**
X48A Hartselle 30.36 337 IAmb IAmb 02 13 34.0
comp=Z,9.3nm,0.7s
CPCT Cooper Cave 30.36 341 IAmb IAmb 02 13 34.4
comp=Z,7.8nm,0.9s
ARAG Araguaiana, MT 30.75 137 *eP* **P 02 13 33.8 -1.3**
PLAL Pickwick Lake 31.23 336 P **P 02 13 39.6 +0.4**
PLAL IAmb IAmb 02 13 41.6
comp=Z,9.7nm,0.8s
S57A Dark Hollow, R 31.24 351 IAmb IAmb 02 13 41.4
comp=Z,5.2nm,0.6s
BDQN Bodoquena, MS 31.51 150 *eP* **P 02 13 40.4 -1.4**
CLTN Cedars of Leba 31.55 339 IAmb IAmb 02 13 44.4
comp=Z,7.5nm,1.3s
T50A Nancy 31.90 342 IAmb IAmb 02 13 47.8
comp=Z,7.4nm,1.1s
AQDB Aquidauana 32.07 148 P **P 02 13 45.4 -1.3**
AQDB IAmb IAmb 02 13 46.2
comp=Z,5.5nm,0.7s
AQDB Aquidauana 32.07 148 *eP* **P 02 13 45.4 -1.3**
MURT Porto Murtinho 32.13 152 *eP* **P 02 13 45.1 -2.1**
WVT Waverly 32.13 337 P **P 02 13 47.9 +0.8**
T47A Sharon Grove 32.62 339 P **P 02 13 52.6 +1.2**
X40A Basin Creek Fa 33.01 329 IAmb IAmb 02 13 56.0
comp=Z,5.0nm,0.7s
RPRD Ribas do Rio P 33.16 145 *eP* **P 02 13 55.5 -0.7**
Q51A Peebles 33.36 345 IAmb IAmb 02 14 00.5
comp=Z,9.0nm,0.7s
WHAR Wooly Hollow 33.37 331 IAmb IAmb 02 13 59.4
comp=Z,8.3nm,0.9s
BDFB Brasilia 33.39 132 P **P 02 13 58.0 -0.4**
BDFB IAmb IAmb 02 14 35.0
comp=Z,13nm,0.9s
BDFB Brasilia 33.39 132 P **P 02 13 58.4 0.0**
comp=Z,7.1nm,0.6s,baz=290,slow=9.4,SNR=21
comp=Z,7.1nm,0.6s
PBMO Poplar Bluff 33.75 334 P **P 02 14 02.1 +0.9**
CGM3 Cape Girardeau 33.87 336 P **P 02 14 02.6 +0.4**
SDBA SAO DESIDERIO 33.91 124 *eP* **P 02 14 02.1 -0.8**
O52A Adamsville 34.05 348 P **P 02 14 05.1 +1.4**
O52A IAmb IAmb 02 14 06.4
comp=Z,12nm,0.8s
O53A New Philadelph 34.06 349 P **P 02 14 05.5 +1.7**
O53A IAmb IAmb 02 14 06.4
comp=Z,6.2nm,0.7s
T42A Van Buren 34.25 334 IAmb IAmb 02 14 07.0
comp=Z,8.4nm,0.7s
BRDY Brady 34.34 318 P **P 02 14 06.0 -0.3**
BRDY IAmb IAmb 02 14 07.5
comp=Z,11nm,1.3s
BRDY PcP **PcP 02 16 38.6 -0.3**
ITRB Iturama 34.58 140 *eP* **P 02 14 07.7 -0.8**
KSPA Keystone Colle 34.66 356 P **P 02 14 10.4 +1.5**
KSPA IAmb IAmb 02 14 11.4
comp=Z,8.6nm,0.6s
IPMB Ipameri, GO 34.80 135 *eP* **P 02 14 09.8 -0.6**
MGMO Mountain Grove 34.88 333 IAmb IAmb 02 14 12.4
comp=Z,7.1nm,0.9s
FW03 Perrin-Whitt E 34.90 322 IAmb IAmb 02 14 12.7
comp=Z,9.6nm,0.9s
HHAR Hobbs 34.97 330 P **P 02 14 11.1 -0.6**
HHAR IAmb IAmb 02 14 12.2
comp=Z,4.7nm,0.7s
BINY Binghamton 35.31 356 P **P 02 14 16.0 +1.5**
BINY IAmb IAmb 02 14 21.0
comp=Z,20nm,1.4s
U38A Gravette 35.32 330 IAmb IAmb 02 14 15.3
comp=Z,5.5nm,1.0s
ABTX Abilene, Hawle 35.62 320 P **P 02 14 17.5 +0.2**
ABTX IAmb IAmb 02 14 19.2
comp=Z,8.1nm,1.1s
ABTX PcP **PcP 02 16 43.6 +0.9**
NBPB Pedra_Branca-C 35.62 109 *eP* **P 02 14 17.1 -0.5**
SJPY San Joaquin 35.70 153 *eP* **P 02 14 17.0 -1.0**
JANB Januaria 35.87 127 *eP* **P 02 14 18.5 -1.1**
K57A Scipio Center 35.88 356 P **P 02 14 20.7 +1.4**
K57A IAmb IAmb 02 14 23.7
comp=Z,19nm,1.4s
CPUP Villa Florida 36.34 156 *eP* **P 02 14 24.7 +1.2**
PMNB Patos De Minas 36.42 134 *eP* **P 02 14 23.9 -0.4**
TXAR Lajitas Array 36.48 312 P **P 02 14 25.6 +0.8**
TXAR PcP **PcP 02 16 46.1 +0.6**
TXAR Lajitas Array 36.48 312 P **P 02 14 25.6 +0.8**
comp=Z,2.3nm,0.6s,baz=126,slow=9.3,SNR=28
TXAR PcP **PcP 02 16 46.6 +1.2**
comp=Z,0.4nm,0.6s,baz=134,slow=5.3,SNR=3.7
comp=Z,2.3nm,0.6s
SN07 Snyder 07 36.72 319 IAmb IAmb 02 14 27.8
comp=Z,5.2nm,0.6s
LDASE Londrina, Braz 36.92 145 *eP* **P 02 14 28.8 +0.3**
MNHN Monahans 36.93 315 IAmb IAmb 02 14 34.5
comp=Z,8.0nm,1.4s
POST Post 37.11 319 IAmb IAmb 02 14 31.3
comp=Z,8.9nm,0.8s
PTGB Pitanga 37.45 148 *eP* **P 02 14 32.6 -0.4**
SMWD Samnorwood 37.62 322 IAmb IAmb 02 14 35.2
comp=Z,10nm,0.7s
DELO Deloro Mine 37.74 355 P **P 02 14 36.2 +1.2**
DELO IAmb IAmb 02 14 37.7
comp=Z,4.3nm,0.8s
FRTB Fartura 37.79 143 *eP* **P 02 14 31.8 -4.0**
WBO Williamsburg 38.06 357 P **P 02 14 38.3 +0.6**
WBO IAmb IAmb 02 14 39.9
comp=Z,16nm,1.4s
VHRN Van Horn 38.22 313 P **P 02 14 39.8 +0.3**
VHRN IAmb IAmb 02 14 40.8
comp=Z,6.1nm,1.1s
DIAM Diamantina, MG 38.28 131 *eP* **P 02 14 38.4 -1.7**
GGN Saint George 38.52 7 P **P 02 14 43.0 +1.5**
L40A Anamosa 38.59 338 IAmb IAmb 02 14 42.6
comp=Z,7.4nm,0.7s
I42A Draeger Farm, 39.43 342 P **P 02 14 49.6 +0.4**
ITAB Concordia 39.48 150 *eP* **P 02 14 47.9 -1.9**
I40A Norwalk 39.98 340 IAmb IAmb 02 14 54.6
comp=Z,8.8nm,0.9s
RTBA Rita Blanca 40.02 322 IAmb IAmb 02 14 55.8
comp=Z,8.8nm,1.2s
NBAN Anadia - AL 40.16 114 *eP* **P 02 14 54.5 -1.2**
GUA01 Guaratinga, BA 40.31 126 *eP* **P 02 14 56.1 -0.7**
E46A Sault Ste Mari 40.56 348 P **P 02 14 59.7 +1.4**
VLDQ Val d'Or 41.30 356 P **P 02 15 05.6 +1.2**
VLDQ IAmb IAmb 02 15 13.2
comp=Z,4.5nm,0.6s
ECSD EROS Data Cent 42.15 334 P **P 02 15 10.8 -0.7**
ECSD IAmb IAmb 02 15 11.9
comp=Z,8.5nm,1.1s
SDCO Great Sand Dun 42.56 321 P **P 02 15 16.4 +1.1**
EYMN Ely 43.87 342 P **P 02 15 24.8 -0.4**
MVCO Mesa Verde 44.17 318 IAmb IAmb 02 15 30.2
comp=Z,11nm,1.4s
PV15 Paradox Valley 44.80 320 IAmb IAmb 02 15 35.6
comp=Z,16nm,1.1s
PV02 Paradox Valley 44.89 319 IAmb IAmb 02 15 36.0
comp=Z,8.7nm,0.7s
PV13 Radium Mtn., P 44.92 319 P **P 02 15 35.0 +1.0**
PV13 IAmb IAmb 02 15 36.1
comp=Z,7.7nm,0.8s
PV18 Skein Mesa, Pa 45.03 319 IAmb IAmb 02 15 38.8
comp=Z,8.1nm,0.7s
WUAZ Wupatki 45.24 315 IAmb IAmb 02 15 39.3
comp=Z,10nm,0.9s
AGMN Agassiz Nation 45.62 339 IAmb IAmb 02 15 40.0
comp=Z,8.0nm,0.7s
KNB Kanab 47.00 316 P **P 02 15 51.5 +1.2**
KNB IAmb IAmb 02 15 52.8
comp=Z,8.2nm,1.1s
BSUT Blindstream Ca 47.51 321 P **P 02 15 55.0 +0.6**
BSUT IAmb IAmb 02 15 56.3
comp=Z,5.6nm,0.9s
V12A Nelson 47.83 313 P **P 02 15 57.1 +0.5**
PD31 Pinedale Array 48.09 324 IAmb IAmb 02 15 59.9
comp=Z,7.7nm,1.3s
PDAR Pinedale Array 48.09 324 P **P 02 15 58.7 +0.1**
PDAR PcP **PcP 02 17 23.9 -0.1**
PDAR Pinedale Array 48.09 324 P **P 02 15 59.0 +0.3**
comp=Z,1.4nm,0.5s,baz=124,slow=9.3,SNR=20
comp=Z,1.4nm,0.5s
TCUT Toone Canyon 48.24 321 IAmb IAmb 02 16 01.6
comp=Z,9.2nm,0.6s
DUG Dugway, Tooele 48.63 319 P **P 02 16 04.0 +1.3**
BGU Big Grassy Mou 49.16 320 IAmb IAmb 02 16 08.2
comp=Z,5.5nm,0.7s
SNOW Snow King Moun 49.21 324 IAmb IAmb 02 16 09.9
comp=Z,4.8nm,0.7s
LOHW Long Hollow 49.21 324 IAmb IAmb 02 16 08.8
comp=Z,3.5nm,0.6s
TPAW Teton Pass 49.34 324 P **P 02 16 07.9 -0.3**
TPAW IAmb IAmb 02 16 08.7
comp=Z,6.5nm,1.1s
YMP Mirror Lake Pl 49.64 326 P **P 02 16 11.8 +1.3**
DSP Deep Springs 50.81 313 P **P 02 16 19.5 +0.5**
HLID Hailey 51.45 322 P **P 02 16 24.4 +0.5**
NVAR Mina Array Bea 51.50 315 P **P 02 16 25.4 +0.9**
comp=Z,0.8nm,0.6s,baz=132,slow=6.2,SNR=6.8
comp=Z,0.8nm,0.6s
MFID Camas Ranch 52.24 321 IAmb IAmb 02 16 32.1
comp=Z,4.9nm,0.6s
FFC Flin Flon 53.09 339 P **P 02 16 35.1 -0.4**
FFC IAmb IAmb 02 16 35.9
comp=Z,3.9nm,0.5s
LNOR Lincton Mounta 55.01 323 P **P 02 16 49.9 +0.1**
LNOR IAmb IAmb 02 16 50.8
comp=Z,3.3nm,0.6s
G08A Pilot Rock 55.13 322 IAmb IAmb 02 16 52.1
comp=Z,6.0nm,0.7s
G06A Carlson Farm, 56.14 321 P **P 02 16 58.7 +0.9**
G06A IAmb IAmb 02 16 59.6
comp=Z,2.7nm,0.7s
LTY Liberty 57.13 323 P **P 02 17 05.1 +0.3**
LTY IAmb IAmb 02 17 06.0
comp=Z,6.4nm,1.1s
YKA Yellowknife Ar 63.26 340 P **P 02 17 45.8 -0.3**
YKA Yellowknife Ar 63.26 340 P **P 02 17 46.2 +0.1**
comp=Z,4.4nm,0.6s,baz=136,slow=6.6,SNR=168
comp=Z,4.4nm,0.6s
ICESG Greenland Ices 65.93 13 *i* P **P 02 18 04.0 +0.3**
WRGLY Wrigley 66.91 338 P **P 02 18 10.0 +0.4**
WRGLY IAmb IAmb 02 18 10.6
comp=Z,5.6nm,0.6s
DBIC Dimbokro 67.69 86 P **P 02 18 14.5 -1.0**
comp=Z,2.1nm,0.4s,baz=270,slow=4.9,SNR=11
comp=Z,2.1nm,0.4s
SUMG Summit 68.96 11 P **P 02 18 22.7 -0.1**
SUMG IAmb IAmb 02 18 23.9
comp=Z,7.6nm,0.8s
SUMG Summit 68.96 11 *i* P **P 02 18 22.8 0.0**
SUMG *e* 02 20 21.9
ESDC Sonseca Array 69.61 50 P **P 02 18 26.5 -0.5**
comp=Z,0.2nm,0.3s,baz=263,slow=5.9,SNR=1.3
comp=Z,0.2nm,0.3s
MMPY Sheldon Lake, 69.70 335 P **P 02 18 28.0 +0.9**
N31M Braeburn, Yuko 71.20 333 P **P 02 18 37.5 +1.3**
M30M Minto, Yukon 72.04 334 IAmb IAmb 02 18 42.8
comp=Z,5.2nm,0.8s
A36M Sachs Harbour 72.43 345 P **P 02 18 43.2 -0.1**
I30M Mount Dempster 72.83 337 P **P 02 18 46.0 0.0**
F30M Barrier River 73.52 339 P **P 02 18 50.2 +0.4**
F30M IAmb IAmb 02 18 51.3
comp=Z,9.4nm,1.2s
E29M Blow River 74.55 340 P **P 02 18 55.6 -0.2**
E29M IAmb IAmb 02 18 57.1
comp=Z,4.0nm,0.8s
BMRM Bremner River 75.12 331 P **P 02 19 00.1 +0.9**
BMRM IAmb IAmb 02 19 19.1
comp=Z,20nm,1.4s
RIDG Independent Ri 75.87 334 P **P 02 19 03.1 -0.3**
F26K Sheenjek River 76.57 338 P **P 02 19 07.6 +0.3**
BMAR Burnt Mountain 76.66 338 P **P 02 19 08.2 +0.4**
ILAR Eielson Array 76.97 335 P **P 02 19 09.6 +0.1**
comp=Z,0.7nm,0.6s,baz=101,slow=4.7,SNR=9.9
comp=Z,0.7nm,0.6s
F25K Christian Rive 77.10 338 P **P 02 19 10.8 +0.5**
RND Reindeer 77.56 333 P **P 02 19 13.6 +0.6**
RND IAmb IAmb 02 19 14.9
comp=Z,6.0nm,0.7s
D25K Kavik River 77.77 340 P **P 02 19 14.1 +0.1**
F24K Squaw Lake 77.92 338 P **P 02 19 15.8 +0.9**
E24K Your Creek 78.25 338 P **P 02 19 17.8 +1.1**
G23K Bananza Creek 78.60 337 P **P 02 19 19.1 +0.5**
PPLA Purkeypile 78.99 333 P **P 02 19 20.8 -0.1**
PPLA IAmb IAmb 02 19 21.9
comp=Z,18nm,1.4s
M20K Styx River 79.31 332 P **P 02 19 22.8 +0.1**
M20K IAmb IAmb 02 19 23.6
comp=Z,7.1nm,1.2s
J20K Nowinta River 79.99 334 P **P 02 19 26.1 0.0**
J20K IAmb IAmb 02 19 28.6
comp=Z,8.3nm,1.4s
N18K Kilae Creek 80.56 330 P **P 02 19 28.8 -0.5**
N18K IAmb IAmb 02 19 49.1
comp=Z,8.2nm,1.3s
L18K Granite Mounta 81.01 332 P **P 02 19 30.9 -0.7**
NOA NORSAR Array B 81.29 29 P **P 02 19 33.6 +0.5**
comp=Z,1.1nm,0.7s,baz=259,slow=5.9,SNR=1.6
comp=Z,1.1nm,0.7s
E19K Redstone River 81.48 337 P **P 02 19 34.2 +0.2**
HFS Hagfors 82.51 30 P **P 02 19 38.9 -0.6**
comp=Z,0.8nm,0.6s,baz=264,slow=5.1,SNR=0.9
comp=Z,0.8nm,0.6s
C18K Utukok River 82.99 338 P **P 02 19 42.3 +0.4**
SPITS Spitsbergen Ar 83.24 12 P **P 02 19 43.3 +0.3**
comp=Z,0.6nm,0.4s,baz=268,slow=4.7,SNR=6.5
comp=Z,0.6nm,0.4s
K15K Wolf Creek Mou 83.28 332 P **P 02 19 44.6 +1.2**
K15K IAmb IAmb 02 19 54.6
comp=Z,14nm,1.4s
ARCES ARCESS Array B 86.64 20 P **P 02 19 59.9 -0.2**
comp=Z,3.6nm,0.9s,baz=274,slow=4.1,SNR=14
comp=Z,3.6nm,0.9s
FINES FINESS Array B 88.41 28 P **P 02 20 08.4 -0.2**
comp=Z,1.6nm,0.9s,baz=220,slow=8.2,SNR=1.7
comp=Z,1.6nm,0.9s
QSPA South Pole Qui 96.85 180 P **P 02 20 47.1 -0.4**

comp=Z,0.8nm,0.8s,baz=115,slow=21,SNR=12
comp=Z,0.8nm,0.8s
ZALV Zalesovo Beam 116.64 14 PKPdf **PKPdf 02 25 59.8 -0.2**
ZALV Zalesovo Beam 116.64 14 PKP **PKPdf 02 26 00.2 +0.2**
comp=Z,0.9nm,0.4s,baz=346,slow=1.7,SNR=4.4
KURBB Kurchatov Arra 117.72 20 PKP **PKPdf 02 26 02.3 +0.1**
comp=Z,0.1nm,0.4s,baz=317,slow=2.4,SNR=1.5
MK31 Makanchi Array 122.29 20 PKPdf **PKPdf 02 26 09.7 -1.5**
MKAR Makanchi Array 122.29 20 PKPdf **PKPdf 02 26 09.9 -1.3**
MKAR Makanchi Array 122.29 20 PKP **PKPdf 02 26 10.5 -0.7**
comp=Z,0.6nm,0.3s,baz=329,slow=1.2,SNR=15
SONM Songino Array 125.56 0 PKPdf **PKPdf 02 26 17.4 -0.2**
SONM Songino Array 125.56 0 PKP **PKPdf 02 26 18.1 +0.5**
comp=Z,0.7nm,0.5s,baz=343,slow=2.6,SNR=4.9
SHL Shillong 144.62 24 PKPdf **PKPab 02 26 52.0 -0.5**
YULB Yu-li 146.83 335 PKPdf **PKPdf 02 26 55.5 -1.6**
ASAR Alice Springs 149.16 234 PKPbc **PKPbc 02 27 04.7 -0.7**
comp=Z,0.8nm,0.4s,baz=117,slow=3.3,SNR=4.1
WB2 Warramunga Arr 150.37 241 PKPbc **PKPdf 02 27 04.5 +1.5**
WRA Warramunga Arr 150.38 241 PKPbc **PKPdf 02 27 04.7 +1.7**
WRA Warramunga Arr 150.38 241 PKPbc **PKPbc 02 27 07.8 -0.6**
comp=Z,0.6nm,0.4s,baz=106,slow=2.8,SNR=5.7
WB0 Warramunga Arr 150.40 242 PKPbc **PKPdf 02 27 05.8 +2.7**

*IDC **08** 02:16:45.0±1.1, 17°.40S×167°.36E, h0km, mb4.1/8, mbtmp4.0/10, ML5.1/1, MS3.8/4, Error ellipse: s-maj=26.9km s-min=20.8km az=71.0*
*NOU **08** 02:16:45.3, 17°.40S×167°.62E, h0km, mb3.7/9, Vanuatu Islands*
ISC 08 02:16:48.0±0.9, 17°.40S±0°.09×167°.4E±0°.1, h19km, n17, σ0s87/15, mb4.1/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**2.77**	**141**	P	**Pn**	**02 17 29.6**	**-1.8**
YATNC	**Mamie plateau,**	**4.66**	**186**	P	**Pn**	**02 17 56.7**	**-0.7**
DZM	**Mont Dzumac**	**4.73**	**191**	Pn	**Pn**	**02 17 58.0**	**-0.5**
	4.9nm,0.6s,baz=77,slow=14,SNR=9.3						
DZM				Sn	**Sn**	**02 18 52.8**	**-0.1**
	4.0nm,0.3s,baz=333,slow=22,SNR=4.4						
DZM	**Mont Dzumac**	**4.73**	**191**	P	**Pn**	**02 17 58.1**	**-0.4**
OUENC	**Ouen Island, N**	**5.02**	**186**	P	**Pn**	**02 18 03.6**	**+1.3**
MSVF	**Nonsavu**	**10.16**	**93**	Pn	**Pn**	**02 19 13.6**	**+0.6**
	0.6nm,0.3s,baz=275,slow=19,SNR=5.7						
MSVF				LR	LR	02 22 14.7	
	comp=Z,760nm,18.9s,baz=223,slow=32						
	4.3nm,0.7s						
HNR	**Honiara**	**10.74**	**317**	LR	LR	02 23 09.7	
	comp=Z,259nm,18.0s,baz=129,slow=36						
URZ	**Urewera**	**22.45**	**160**	P	**P**	**02 21 46.4**	**+0.4**
	5.6nm,0.7s,baz=92,slow=7.8,SNR=5.1						
	5.6nm,0.7s						
STKA	**Stephens Creek**	**27.44**	**233**	P	**P**	**02 22 32.8**	**0.0**
	2.1nm,0.7s,baz=57,slow=9.2,SNR=4.3						
	2.1nm,0.7s						
RAR	**Rarotonga**	**31.18**	**102**	LR	LR	02 35 01.2	
	comp=Z,48nm,19.5s,baz=236,slow=35						
WRA	**Warramunga Arr**	**31.40**	**260**	P	**P**	**02 23 07.6**	**-0.6**
	0.9nm,0.9s,baz=93,slow=8.9,SNR=3.3						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**31.93**	**253**	P	**P**	**02 23 12.6**	**-0.2**
	2.0nm,0.8s,baz=76,slow=9.0,SNR=13						
	2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**60.33**	**333**	P	**P**	**02 26 54.5**	**-1.2**
	0.6nm,0.3s,baz=148,slow=7.3,SNR=4.3						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	**72.64**	**180**	P	**P**	**02 28 13.8**	**-0.5**
	4.1nm,1.0s,baz=344,slow=2.3,SNR=9.6						
	4.1nm,1.0s						
SONM	**Songino Array**	**84.71**	**324**	P	**P**	**02 29 21.4**	**+0.5**
	1.3nm,1.0s,baz=122,slow=5.7,SNR=5.9						
	1.3nm,1.0s						
PMSA	**Palmer Station**	**89.22**	**160**	LR	LR	03 05 17.6	
	comp=Z,131nm,20.9s,baz=130,slow=33						
MKAR	**Makanchi Array**	**99.21**	**316**	P	**Pdif**	**02 30 29.0**	**+0.6**
	0.2nm,0.6s,baz=106,slow=5.0,SNR=2.4						
	0.2nm,0.6s						

TAP 08 02:26:35.4, 23°.62N×120°.71E, h15km, ML1.5, 2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN5	**Tsauling**	**0.04**	**237**	⇓*i*P	Pg	02 26 38.6	+0.4
CHN5				*i* S	Sg	02 26 40.7	+0.6
ALS	**Alishan**	**0.14**	**142**	⇓*i*P	Pb	02 26 40.1	+0.3
ALS				*i* S	Sg	02 26 42.1	+0.1
WHYT	**Xinyi Township**	**0.15**	**59**	P	Pb	02 26 39.9	-0.1
WHYT				S	Sb	02 26 42.9	-0.1
WGK	**Gukeng**	**0.15**	**296**	P	Pb	02 26 40.0	0.0
WGK				*i* S	Sb	02 26 43.6	+0.5
WDLH	**Douliu**	**0.17**	**294**	P	Pb	02 26 40.5	+0.1
WDLH				*e*S	Sb	02 26 44.2	+0.5
WJS	**Zhushan**	**0.20**	**4**	*e*P	Pb	02 26 41.0	+0.1
WJS				*e*S	Sb	02 26 44.7	+0.2
WCKO	**Fanlu**	**0.20**	**209**	*e*P	Pb	02 26 41.0	+0.1
WCKO				S	Sb	02 26 44.5	0.0
WNT	**Mingjian**	**0.26**	**354**	*i* P	Pb	02 26 41.9	+0.1
WNT				S	Sb	02 26 45.8	-0.4
SSLB	**Suanglung**	**0.28**	**53**	P	Pb	02 26 41.9	-0.3
SSLB				S	Sb	02 26 46.6	0.0
CHN4	**Tsaushan**	**0.29**	**203**	P	Pg	02 26 41.8	+0.4
CHN4				S	Sb	02 26 47.6	+0.7
TYC	**Yuchr**	**0.31**	**25**	*i* P	Pb	02 26 42.9	+0.2
TYC				*i* S	Sb	02 26 48.3	+0.7
SMLT	**Sun Moon Lake**	**0.32**	**33**	*e*P	Pb	02 26 43.2	+0.4
SMLT				S	Sb	02 26 47.8	-0.1
TWK	**Hsinying**	**0.41**	**211**	P	Pb	02 26 45.4	+1.0
TWK				S	Sb	02 26 50.4	+0.1
VWDT	**VWDT**	**0.41**	**71**	*e*P	Pb	02 26 45.2	+0.7
VWDT				*e*S	Sb	02 26 50.8	+0.2
STYH	**Taoyuan**	**0.45**	**173**	*e*P	Pg	02 26 43.6	-0.8
STYH				*e*S	Sg	02 26 50.2	-0.2
CHN1	**Nanshi**	**0.46**	**202**	P	Pb	02 26 45.0	-0.3
CHN1				S	Sb	02 26 52.1	+0.1
WCS	**Beigang Elemen**	**0.47**	**23**	*e*P	Pg	02 26 44.9	+0.1
WCS				*e*S	Sb	02 26 52.6	+0.3
WUSB	**Renai**	**0.53**	**45**	*e*P	Pb	02 26 46.5	+0.1
WUSB				*i* S	Sb	02 26 53.6	-0.3
YULB	**Yu-li**	**0.58**	**113**	*e*P	Pb	02 26 47.6	+0.4

GCG 08 02:27:40.1±0.9, 14°.14N×91°.56W, h37km±73km, MD3.8, MW3.1, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.35**	**36**	*e*P	Pn	02 27 52.3	+3.5
STG0				*i* S	Sn	02 28 01.8	+6.0
STG8	**El Palmar, Qui**	**0.37**	**33**	*e*P	Pn	02 27 52.7	+3.7
STG8				*e*S	Sn	02 28 02.6	+6.6
SOKI	**Kika Raxquin**	**0.69**	**12**	*e*P	Pn	02 27 54.3	+0.5
SOKI				*i* S	Sn	02 28 05.4	+2.0
ESSG	**Sabana Grande**	**0.74**	**71**	*e*P	Pn	02 27 54.1	0.0
ESSG				*i* S	Sn	02 28 05.2	+0.9
FG8	**Yepocapa, Chim**	**0.97**	**83**	*e*P	Pn	02 27 53.5	-3.8
FG8				*i* S	Sn	02 28 04.3	-5.7
THIG		**1.03**	**318**	*e*P	Pn	02 27 58.1	+0.2
NUBE	**Las Nubes**	**1.74**	**98**	*i* P	Pn	02 28 08.0	+0.1
JAYA	**Jayaque - finc**	**2.10**	**103**	*e*P	Pn	02 28 13.0	+0.1
JAYA				*i* S	Sn	02 28 38.2	+0.3
CCIG	**Comitan**	**2.20**	**345**	*i* P	Pn	02 28 15.7	+1.4

IDC 08 02:34:25.9±1.8, 36°.17S×53°.02E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=64.2km s-min=42.2km az=89.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**10.02**	**185**	T	T	02 47 24.5	
	baz=9.6,slow=75,SNR=390						
H04N2	**CROZET ISLANDS**	**10.03**	**185**	T	T	02 47 22.4	
	baz=9.6,slow=75,SNR=354						
H04N3	**CROZET ISLANDS**	**10.04**	**185**	T	T	02 47 23.5	
	baz=9.6,slow=75,SNR=634						
H08S1	**Diego Carcia H**	**33.50**	**37**	T	T	03 15 57.7	
	baz=208,slow=75,SNR=5.4						
H08S2	**Diego Garcia H**	**33.51**	**37**	T	T	03 16 00.2	
	baz=208,slow=75,SNR=4.3						
H08S3	**Diego Garcia H**	**33.52**	**37**	T	T	03 16 01.6	
	baz=208,slow=75,SNR=7.2						
H01W2	**Cape Leeuwin H**	**49.01**	**108**	T	T	03 35 10.0	
	baz=250,slow=75,SNR=24						
H01W3	**Cape Leeuwin H**	**49.02**	**108**	T	T	03 35 09.3	
	baz=250,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**49.03**	**108**	T	T	03 35 11.3	
	baz=250,slow=75,SNR=19						
QSPA	**South Pole Qui**	**54.02**	**180**	P	P	02 43 51.6	-0.1
	1.4nm,0.9s,baz=147,slow=1.9,SNR=2.6						
	1.4nm,0.9s						
ASAR	**Alice Springs**	**69.39**	**105**	P	P	02 45 36.5	+0.6
	0.2nm,0.8s,baz=235,slow=6.6,SNR=2.4						
	0.2nm,0.8s						
WRA	**Warramunga Arr**	**71.70**	**102**	P	P	02 45 49.6	-0.4
	0.8nm,1.0s,baz=240,slow=6.3,SNR=3.3						
	0.8nm,1.0s						
MKAR	**Makanchi Array**	**86.68**	**20**	P	P	02 47 11.3	+0.2
	0.2nm,0.7s,baz=203,slow=5.7,SNR=2.0						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**148.98**	**16**	PKPbc	PKPbc	02 54 14.2	-0.8
	0.3nm,0.8s,baz=341,slow=3.5,SNR=4.9						

*IDC **08** 02:52:34.4±4.5, 20°.23S×65°.82E, h0km, mb3.9/7, mbtmp3.9/7, MS3.9/1, Error ellipse: s-maj=136.1km s-min=30.6km az=57.0*
ISC 08 02:52:36.1±4.3, 20°.2S±0°.5×65°.8E±0°.7, h10km, n14, σ0s66/7, mb4.0/7, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**14.06**	**28**	T	T	03 09 51.4	
	baz=205,slow=76,SNR=137						
H08S2	**Diego Garcia H**	**14.07**	**28**	T	T	03 09 58.8	
	baz=205,slow=76,SNR=110						
H08S3	**Diego Garcia H**	**14.08**	**28**	T	T	03 09 54.2	
	baz=205,slow=76,SNR=149						
H04N2	**CROZET ISLANDS**	**28.33**	**201**	T	T	03 28 39.4	
	baz=30,slow=75						
H04N1	**CROZET ISLANDS**	**28.33**	**201**	T	T	03 28 42.2	
	baz=30,slow=75						
H04N3	**CROZET ISLANDS**	**28.34**	**201**	T	T	03 28 49.9	
	baz=30,slow=75						
PALK	**Pallekele**	**30.99**	**30**	LR	LR	03 08 12.8	
	comp=Z,189nm,19.3s,baz=218,slow=30						
CMAR	**Chiang Mai Arr**	**50.32**	**42**	P	**P**	**03 01 33.3**	**0.0**
	2.7nm,0.3s,baz=215,slow=7.1,SNR=2.5						
	2.7nm,0.3s						
ASAR	**Alice Springs**	**62.71**	**107**	P	**P**	**03 03 01.5**	**-0.2**
	1.3nm,0.7s,baz=260,slow=6.6,SNR=6.8						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**63.89**	**103**	P	**P**	**03 03 09.8**	**+0.2**
	2.4nm,0.9s,baz=256,slow=6.3,SNR=7.7						
	2.4nm,0.9s						
MKAR	**Makanchi Array**	**68.33**	**12**	P	**P**	**03 03 37.6**	**+0.1**
	0.2nm,0.4s,baz=190,slow=6.3,SNR=4.0						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**71.41**	**9**	P	**P**	**03 03 55.5**	**-0.7**
	0.3nm,0.8s,baz=196,slow=6.5,SNR=2.7						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**75.65**	**11**	P	**P**	**03 04 22.2**	**+1.0**
	1.0nm,0.7s,baz=195,slow=6.5,SNR=4.5						
	1.0nm,0.7s						
SONM	**Songino Array**	**76.89**	**27**	P	**P**	**03 04 28.3**	**-0.2**
	0.4nm,0.3s,baz=207,slow=6.0,SNR=3.8						
	0.4nm,0.3s						

IDC 08 02:55:04.0±34.0, 19°.82S×67°.36E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=1173.0km s-min=35.1km az=54.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**29.23**	**202**	T	T	03 31 05.3	
	baz=30,slow=75,SNR=63						
H04N1	**CROZET ISLANDS**	**29.23**	**202**	T	T	03 31 03.6	
	baz=30,slow=75,SNR=58						
H04N3	**CROZET ISLANDS**	**29.25**	**202**	T	T	03 31 05.2	
	baz=30,slow=75,SNR=52						
ASAR	**Alice Springs**	**61.44**	**107**	P	P	03 05 22.8	0.0
	1.5nm,0.7s,baz=265,slow=6.0,SNR=13						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**62.57**	**103**	P	P	03 05 30.3	-0.1
	1.9nm,1.0s,baz=261,slow=5.3,SNR=7.8						
	1.9nm,1.0s						
KURBB	**Kurchatov Arra**	**70.82**	**8**	P	P	03 06 22.2	0.0
	0.5nm,1.0s,baz=190,slow=5.6,SNR=2.2						
	0.5nm,1.0s						
ZALV	**Zalesovo Beam**	**74.99**	**11**	P	P	03 06 47.1	+0.1
	0.7nm,0.5s,baz=181,slow=4.4,SNR=2.5						
	0.7nm,0.5s						

*NEIC **08** 02:59:50.6±2.0, 20°.48N±0°.05×122°.09E±0°.08, h25km±4km, mb4.7/146, Error ellipse: s-maj=11.2km s-min=7.1km az=78.0*
*IDC **08** 02:59:54.5±2.4, 20°.42N×122°.13E, h66km±22km, mb4.1/30, mbtmp4.4/31, MS3.6/20, Error ellipse: s-maj=15.1km s-min=9.5km az=81.0*
ISC 08 02:59:51.5±0.3, 20°.41N±0°.04×122°.09E±0°.05, h40km, n293, σ1s72/261, mb4.6/117, MS3.8/25, 33C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.58**	**339**	P	**Pn**	**03 00 26.7**	**-4.0**
TWG	**Pinlang**	**2.58**	**339**	Pn	**Pn**	**03 00 30.0**	**-0.8**
YULB	**Yu-li**	**3.06**	**346**	Pn	**Pn**	**03 00 37.3**	**-0.1**
YULB	**Yu-li**	**3.06**	**346**	P	**Pn**	**03 00 34.7**	**-2.7**
TPUB	**Ta-pu**	**3.19**	**335**	Pn	**Pn**	**03 00 40.9**	**+1.8**
TPUB	**Ta-pu**	**3.19**	**335**	P	**Pn**	**03 00 38.1**	**-1.0**
SSLB	**Suanglung**	**3.53**	**343**	P	**Pn**	**03 00 43.3**	**-0.5**
NACB	**Ninganchiao**	**3.78**	**353**	Pn	**Pn**	**03 00 45.2**	**-2.0**
NACB	**Ninganchiao**	**3.78**	**353**	P	**Pn**	**03 00 45.3**	**-1.9**
YOJ	**Yonaguni jima**	**4.12**	**12**	Pn	**Pn**	**03 00 51.1**	**-0.8**
YHNB	**Yeheng**	**4.29**	**351**	Pn	**Pn**	**03 00 53.3**	**-1.1**
YHNB	**Yeheng**	**4.29**	**351**	P	**Pn**	**03 00 53.6**	**-0.8**
TATO	**Taipei**	**4.58**	**353**	Pn	**Pn**	**03 00 58.4**	**+0.2**
TATO	**Taipei**	**4.58**	**353**	P	**Pn**	**03 00 58.8**	**+0.5**
KNMB	**Chin-men Tao**	**5.30**	**320**	Pn	**Pn**	**03 01 11.3**	**+3.2**
TGY	**Tagaytay City**	**6.37**	**190**	P	**Pn**	**03 01 25.7**	**+2.8**
	235nm,0.3s,baz=92,slow=6.7,SNR=5.4						
TGY				S	**Sn**	**03 02 39.2**	**+4.9**
	235nm,0.3s,baz=118,slow=24,SNR=1.5						
TGY				LR	LR	03 04 03.2	
	comp=Z,403nm,19.5s,baz=54,slow=39						
JOW	**Kunigami**	**8.54**	**40**	Pn	**Pn**	**03 01 52.3**	**-0.3**
JOW	**Kunigami**	**8.54**	**40**	P	**Pn**	**03 01 52.0**	**-0.7**
	49nm,0.3s,baz=238,slow=12,SNR=10.0						
SSE	**Sheshan**	**10.68**	**356**	P	**Pn**	**03 02 19.9**	**-1.9**
SSE				S	**Sn**	**03 04 19.9**	**-0.2**
SSE				pmax	pmax		
	comp=Z,7.0nm,0.5s						
SSE				pmax	pmax		
	comp=Z,57nm,3.0s						
SSE				LR	LR		
	comp=N,120nm,13.2s						
SSE				LR	LR		
	comp=E,220nm,11.4s						
QIZ	**Qiongzhong**	**11.62**	**265**	P	**Pn**	**03 02 32.5**	**-2.3**
QIZ				S	**Sn**	**03 04 40.0**	**-3.3**
QIZ				LR	LR		
	comp=N,410nm,13.1s						
QIZ				LR	LR		
	comp=E,290nm,10.6s						
QIZ				LR	LR		
	comp=Z,450nm,12.6s						
NJ2	**Nanjing**	**11.96**	**347**	*e*P	**Pn**	**03 02 36.4**	**-2.9**
NJ2				pmax	pmax		
	comp=Z,30nm,0.5s						
DAV	**Davao City (W)**	**13.68**	**165**	LR	LR	03 08 26.9	
	comp=Z,436nm,21.2s,baz=339,slow=37						
JNU	**Nakatsue**	**14.89**	**30**	P	**P**	**03 03 22.9**	**-1.5**
JNU	**Nakatsue**	**14.89**	**30**	P	**Pn**	**03 03 18.6**	**-0.6**
	2.9nm,0.4s,baz=220,slow=6.9,SNR=5.5						
JNU				LR	LR	03 09 00.2	
	comp=Z,69nm,22.0s,baz=184,slow=37						
ENH	**Enshi**	**15.03**	**313**	P	**P**	**03 03 24.6**	**-1.4**
KKM	**Kota Kinabalu**	**15.38**	**203**		**P**	**03 03 30.6**	**+0.6**
LYN	**LuoYang**	**16.46**	**331**	*e*P	**Pn**	**03 03 40.6**	**+1.1**
LYN				sP	pP	03 03 47.2	-4.2
LYN				sS	S	03 06 51.9	0.0
LYN				pmax	pmax		
	comp=Z,31nm,0.7s						
LYN				pmax	pmax		
	comp=Z,290nm,4.3s						
LYN				LR	LR		
	comp=N,650nm,16.2s						
LYN				LR	LR		
	comp=E,850nm,15.5s						
LYN				LR	LR		
	comp=Z,990nm,11.5s						
UBPT	**Khong Chiam**	**16.62**	**255**	Pn	**Pn**	**03 03 42.2**	**+0.5**
SLVN	**Son La**	**17.03**	**276**	Pn	**Pn**	**03 03 46.3**	**-0.4**
KSAR	**Wonju Array Be**	**17.71**	**15**	Pn	**Pn**	**03 03 52.9**	**-2.1**
KSRS	**Korea Array**	**17.73**	**15**	P	**P**	**03 03 57.0**	**+1.3**
	4.8nm,0.6s,baz=198,slow=11,SNR=12						
KSRS				LR	LR	03 11 12.0	
	comp=Z,83nm,18.7s,baz=200,slow=38						
KS19	**Wonju Array Si**	**17.76**	**15**		**Pn**	**03 03 54.7**	**-1.0**
XAN	**Xi'an**	**17.91**	**322**	P	Pn	03 03 47.3	-10
XAN				PP	**P**	**03 03 56.0**	**-1.8**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
XAN				LR	LR		
	comp=N,440nm,10.2s						
XAN				LR	LR		
	comp=E,370nm,14.7s						
XAN				LR	LR		
	comp=Z,410nm,14.4s						
HNS	**HongShan**	**18.11**	**341**	⇓P	**P**	**03 04 00.5**	**+0.5**
HNS				pmax	pmax		
	comp=Z,20nm,0.8s						
HNS				pmax	pmax		
	comp=Z,150nm,7.9s						
HNS				LR	LR		
	comp=Z,270nm,12.7s						
HNS				LR	LR		
	comp=Z,200nm,11.2s						
HNS				LR	LR		
	comp=Z,230nm,12.7s						
KMI	**Kunming**	**18.45**	**288**	P	**Pn**	**03 04 08.3**	**+3.9**
KMI				pmax	pmax		
	comp=Z,21nm,1.0s						
KMI				pmax	pmax		
	comp=Z,150nm,12.0s						
KMI				LR	LR		
	comp=Z,250nm,13.1s						
KMI				LR	LR		
	comp=Z,210nm,13.9s						
KMI				LR	LR		
	comp=Z,250nm,11.1s						
TIY	**Taiyuan**	**19.18**	**336**	*e*P	Pn	03 04 21.7	+8.7
TIY				S	**S**	**03 07 54.1**	**+7.0**
TIY				pmax	pmax		
	comp=Z,23nm,0.6s						
TIY				pmax	pmax		
	comp=Z,120nm,6.4s						
TIY				LR	LR		
	comp=N,560nm,12.3s						
TIY				LR	LR		
	comp=E,280nm,10.2s						
TIY				LR	LR		
	comp=Z,470nm,12.6s						
TOLI2	**Tolitoli**	**19.22**	**184**	P	**P**	**03 04 10.9**	**-1.4**
PZH	**PanZhiHua**	**19.62**	**292**	P	**Pn**	**03 04 18.2**	**-0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,210nm,9.6s						
PZH				LR	LR		
	comp=Z,280nm,12.7s						
PZH				LR	LR		
	comp=Z,240nm,14.3s						
PZH				LR	LR		
	comp=Z,290nm,13.7s						
MRSI	**Marisa**	**19.81**	**180**	P	**P**	**03 04 15.7**	**-3.0**
	comp=Z,30nm,0.8s						
MPSI	**Mapaga**	**20.06**	**186**	P	**P**	**03 04 22.9**	**+1.4**
	comp=Z,19nm,0.8s						
BJT	**Baijiatuau**	**20.20**	**347**	P	**P**	**03 04 21.5**	**-1.2**
BJT				IAmb	IAmb	03 04 35.0	
	comp=Z,22nm,0.8s						
BJI	**Beijing**	**20.22**	**347**	P	**P**	**03 04 22.4**	**-0.6**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JGF	**Kuroka**	**20.23**	**38**	P	**P**	**03 04 24.0**	**+0.8**
JGF				IAmb	IAmb	03 04 33.9	
	comp=Z,27nm,0.7s						
SBUM	**Sibu**	**20.28**	**210**	P	**P**	**03 04 25.1**	**+1.2**
MJAR	**Matsushiro Arr**	**21.38**	**38**	P	**P**	**03 04 36.8**	**+1.2**
	comp=Z,2.1nm,0.9s,baz=230,slow=8.9,SNR=6.0						
	comp=Z,2.1nm,0.9s						
CHTO	**Chiang Mai**	**21.86**	**270**	P	**P**	**03 04 41.3**	**+0.4**
CM31	**Chiang Mai Arr**	**21.92**	**269**	P	**P**	**03 04 42.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**21.92**	**269**	P	**P**	**03 04 42.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**21.92**	**269**	P	**P**	**03 04 43.0**	**+1.5**
	comp=Z,3.5nm,0.4s,baz=71,slow=8.8,SNR=30						
CMAR				PcP	**PcP**	**03 08 39.7**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=112,slow=0.4,SNR=6.7						
CMAR				LR	LR	03 13 10.5	
	comp=Z,112nm,19.4s,baz=225,slow=36						
	comp=Z,3.5nm,0.4s						
KSM	**Kuching**	**22.06**	**213**	P	**P**	**03 04 43.1**	**+0.1**
KSM				IAmb	IAmb	03 04 45.4	
	comp=Z,37nm,1.2s						
BKB	**Balikpapan**	**22.13**	**194**	P	**P**	**03 04 43.1**	**-0.7**
TNCH	**TengChong**	**22.22**	**286**	*e*P	**P**	**03 04 43.9**	**-1.0**
TNCH				S	**S**	**03 08 39.7**	**-7.7**
TNCH				pmax	pmax		
	comp=Z,64nm,0.7s						
TNCH				LR	LR		
	comp=Z,430nm,10.7s						
TNCH				LR	LR		
	comp=Z,290nm,12.7s						
TNCH				LR	LR		
	comp=Z,290nm,16.3s						
HHC	**Hu-ho-hao-te**	**22.27**	**339**	*e*P	**P**	**03 04 45.4**	**+0.2**
HHC				sP	pP	03 04 55.2	0.0
HHC				S	**S**	**03 08 48.4**	**+0.5**
HHC				SS	**SnSn**	**03 09 25.4**	**+8.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,65nm,5.9s						
HHC				LR	LR		
	comp=Z,210nm,13.9s						
HHC				LR	LR		
	comp=Z,190nm,12.0s						
HHC				LR	LR		
	comp=Z,200nm,12.6s						
LZH	**Lanzhou**	**22.36**	**318**	*e*P	**P**	**03 04 42.8**	**-3.5**
LZH				pP	pP	03 04 48.0	-8.1
LZH				S	**S**	**03 08 51.3**	**+1.6**
LZH				SS	**SnSn**	**03 09 28.6**	**+9.1**
LZH				pmax	pmax		
	comp=Z,25nm,1.4s						
LZH				LR	LR		
	comp=Z,350nm,14.1s						
LZH				LR	LR		
	comp=Z,330nm,13.4s						
LZH				LR	LR		
	comp=Z,340nm,14.7s						
BTO	**Baotou**	**22.62**	**336**	*e*P	**P**	**03 04 51.2**	**+2.3**
BTO				pP	**pP**	**03 04 55.4**	**-3.5**
BTO				sP	**sP**	**03 04 58.6**	**-5.3**
BTO				PP	**PnPn**

BNX BinXian 25.64 9 ⇓P **P 03 05 20.8 +3.5**
BNX pmax pmax
comp=Z,7.0nm,0.9s
MYKOM Kota Tinggi 25.69 226 P **P 03 05 19.4 +1.4**
MYKOM IAmb IAmb 03 05 21.4
comp=Z,28nm,1.1s
KULM Kulim 25.69 237 P **P 03 05 17.7 -0.4**
KULM IAmb IAmb 03 05 21.9
comp=Z,16nm,0.8s
GTA Gaotai 26.92 320 *e*P **P 03 05 32.0 +2.9**
GTA sP pP 03 05 39.4 -0.6
GTA pmax pmax
comp=Z,3.0nm,1.3s
SHL Shillong 28.25 286 P **P 03 05 39.6 -1.6**
GOMU GeErMu 28.58 309 P **P 03 05 43.5 -0.8**
GOMU S **S 03 10 30.3 +0.1**
GOMU pmax pmax
comp=Z,6.0nm,0.7s
GOMU LR LR
comp=Z,320nm,12.1s
GOMU LR LR
comp=Z,410nm,13.9s
GOMU LR LR
comp=Z,590nm,13.4s
RPSI Rantau Prapat 28.65 235 P **P 03 05 43.6 -1.0**
ASAJ Asahikawa 29.16 31 LR LR 03 17 50.5
comp=Z,57nm,19.8s,baz=230,slow=37
MNSI Mandailing Nat 29.40 231 P **P 03 05 49.8 -1.5**
PPI Padang Panjang 29.68 228 P **P 03 05 55.5 +1.7**
comp=Z,3µmcomp=Z,29nm,1.0s
KLR Kul'dur 29.78 13 P **P 03 05 54.7 +0.4**
comp=Z,2.2nm,0.6s,baz=205,slow=6.9,SNR=10
comp=Z,2.2nm,0.6s
ULN Ulaanbaatar 29.98 340 P **P 03 05 54.4 -1.9**
SONM Songino Array 30.17 339 P **P 03 05 56.9 -1.0**
SONM Songino Array 30.17 339 P **P 03 05 58.1 +0.1**
comp=Z,2.1nm,0.6s,baz=156,slow=9.2,SNR=12
SONM PcP **PcP 03 08 57.9 -0.5**
comp=Z,0.6nm,0.8s,baz=147,slow=2.9,SNR=1.8
SONM LR LR 03 19 02.3
comp=Z,190nm,20.6s,baz=172,slow=38
comp=Z,2.1nm,0.6s
MDSI Maura Dua 30.36 217 P P 03 06 04.9 +5.2
comp=Z,6.7nm,0.4s
GSI Gunungsitoli 30.57 235 P **P 03 05 59.8 -1.8**
GSI IAmb IAmb 03 06 22.0
comp=Z,15nm,0.8s
YSS Yuzhno-Sakhali 31.38 28 P **P 03 06 08.8 +0.5**
KNRA Kununurra 36.45 169 P **P 03 06 52.1 -0.5**
KNRA IAmb IAmb 03 06 52.4
comp=Z,22nm,1.2s
WMQ Urumqi 36.93 317 *e*P **P 03 06 58.0 +1.3**
WMQ LR LR
comp=Z,110nm,19.3s
FITZ Fitzroy Crossi 38.42 175 P **P 03 07 07.8 -1.6**
FITZ Fitzroy Crossi 38.42 175 P **P 03 07 09.3 -0.1**
comp=Z,1.3nm,0.5s,baz=156,slow=5.0,SNR=8.2
comp=Z,1.3nm,0.5s
MBWA Marble Bar 41.38 183 P **P 03 07 33.8 -0.1**
MBWA IAmb IAmb 03 07 36.3
comp=Z,30nm,1.4s
MK31 Makanchi Array 41.67 319 P **P 03 07 36.7 +0.6**
MKAR Makanchi Array 41.67 319 P **P 03 07 35.8 -0.4**
MKAR Makanchi Array 41.67 319 P **P 03 07 36.7 +0.5**
comp=Z,4.7nm,0.5s,baz=114,slow=9.0,SNR=47
MKAR PcP **PcP 03 09 31.9 -0.4**
comp=Z,1.4nm,0.7s,baz=123,slow=4.1,SNR=3.2
MKAR LR LR 03 26 28.8
comp=Z,107nm,18.6s,baz=136,slow=38
comp=Z,4.7nm,0.5s
WB0 Warramunga Arr 41.70 162 P **P 03 07 35.7 -0.9**
PSA00 Pilbara Seismi 41.78 183 P **P 03 07 36.3 -0.9**
PSA00 IAmb IAmb 03 07 43.0
comp=Z,13nm,0.9s
WRA Warramunga Arr 41.85 163 P **P 03 07 37.2 -0.6**
WRA Warramunga Arr 41.85 163 P **P 03 07 37.3 -0.6**
comp=Z,3.3nm,0.5s,baz=343,slow=9.0,SNR=29
WRA PcP **PcP 03 09 33.6 +0.3**
comp=Z,0.9nm,0.6s,baz=340,slow=2.9,SNR=2.9
WRA LR LR 03 27 42.6
comp=Z,116nm,18.6s,baz=213,slow=40
comp=Z,3.3nm,0.5s
WB2 Warramunga Arr 41.86 163 P **P 03 07 36.8 -1.1**
WB2 IAmb IAmb 03 07 44.3
comp=Z,12nm,0.8s
MAKZ Makanchi 41.87 318 P **P 03 07 38.0 +0.2**
YAK Yakutsk 41.92 5 LR LR 03 27 57.5
comp=Z,55nm,18.5s,baz=216,slow=40
H11N1 WAKE ISLAND Hy 41.99 83 T T 03 52 48.2
baz=279,slow=75,SNR=296
H11N2 WAKE ISLAND Hy 41.99 83 T T 03 52 45.2
baz=279,slow=75,SNR=237
H11S3 WAKE ISLAND Hy 42.00 85 T T 03 52 38.9
baz=280,slow=75,SNR=638
H11N3 WAKE ISLAND Hy 42.00 83 T T 03 52 44.6
baz=279,slow=75,SNR=281
H11S1 WAKE ISLAND Hy 42.01 85 T T 03 52 40.3
baz=280,slow=75,SNR=792
H11S2 WAKE ISLAND Hy 42.02 85 T T 03 52 40.9
baz=280,slow=75,SNR=857
PALK Pallekele 42.12 258 P **P 03 07 40.9 +0.6**
PEA0B Petropavlovsk- 42.58 31 P **P 03 07 44.0 +0.5**
PEA0B IAmb IAmb 03 07 58.2
comp=Z,20nm,1.1s
PETK Petropavlovsk- 42.58 31 P **P 03 07 44.1 +0.7**
comp=Z,2.8nm,0.6s,baz=235,slow=6.2,SNR=8.9
comp=Z,2.8nm,0.6s
GIRL Giralia 43.47 191 P **P 03 07 51.8 +0.9**
KSH Kashi 43.73 306 P **P 03 07 57.5 +4.4**
KSH pP pP 03 08 01.8 -2.4
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH LR LR
comp=Z,240nm,24.8s
KSH LR LR
comp=Z,170nm,21.3s
KSH LR LR
comp=Z,220nm,22.7s
ZAA0 Zalesovo Array 43.88 329 P **P 03 07 53.3 -0.6**
ZAA0 IAmb IAmb 03 08 01.2
comp=Z,14nm,0.7s
ZALV Zalesovo Beam 43.88 329 P **P 03 07 53.3 -0.6**
ZALV Zalesovo Beam 43.88 329 P **P 03 07 53.6 -0.3**
comp=Z,10nm,0.5s,baz=118,slow=7.8,SNR=32
ZALV PcP **PcP 03 09 38.4 -1.2**
comp=Z,0.8nm,0.5s,baz=112,slow=3.9,SNR=1.5
ZALV LR LR 03 27 39.1
comp=Z,102nm,20.0s,baz=124,slow=38
comp=Z,10nm,0.5s
MA2 Magadan 44.17 21 LR LR 03 27 57.6
comp=Z,47nm,19.3s,baz=161,slow=38
NIL Nilore 45.08 298 P **P 03 08 03.8 0.0**
AS31 Alice Springs 45.29 165 P **P 03 08 06.4 +0.9**
ASAR Alice Springs 45.29 165 P **P 03 08 05.7 +0.1**
ASAR Alice Springs 45.29 165 P **P 03 08 06.0 +0.4**
comp=Z,3.1nm,0.4s,baz=341,slow=6.9,SNR=19
ASAR PcP **PcP 03 09 44.4 -0.5**
comp=Z,0.4nm,0.4s,baz=347,slow=3.7,SNR=1.4
ASAR LR LR 03 28 03.5
comp=Z,144nm,20.4s,baz=270,slow=37
comp=Z,3.1nm,0.4s
AAK Ala-Archa 45.52 310 P **P 03 08 05.9 -1.5**
AAK Ala-Archa 45.52 310 LR LR 03 28 29.2
comp=Z,83nm,20.8s,baz=122,slow=38
KURK Kurchatov 45.55 322 P **P 03 08 06.6 -0.6**
KURK IAmb IAmb 03 08 14.0
comp=Z,7.7nm,0.8s
KURBB Kurchatov Arra 45.56 322 P **P 03 08 07.7 +0.4**
comp=Z,5.1nm,0.6s,baz=121,slow=7.4,SNR=50
KURBB PcP **PcP 03 09 44.6 -0.7**
comp=Z,1.0nm,0.5s,baz=122,slow=3.5,SNR=4.7
comp=Z,5.1nm,0.6s
DRK Karamyk 46.90 305 P **P 03 08 19.3 +0.9**
HNR Honiara 47.60 125 LR LR 03 25 30.1
comp=Z,33nm,21.3s,baz=326,slow=32
BTK Batken 47.73 306 P **P 03 08 24.4 -0.3**
BTK IAmb IAmb 03 08 27.8
comp=Z,6.4nm,0.9s
GAR Garm 47.97 305 P **P 03 08 26.6 0.0**
KK31 Karatay Array 48.48 310 P **P 03 08 30.3 0.0**
KK31 IAmb IAmb 03 08 33.1
comp=Z,8.6nm,1.1s
KKAR Karatay Array 48.48 310 P **P 03 08 30.5 +0.3**
KKAR IAmb IAmb 03 08 33.1
comp=Z,9.1nm,1.1s
KBL Kabul 48.62 298 P **P 03 08 32.0 +0.3**
KBL IAmb IAmb 03 08 34.6
comp=Z,15nm,1.1s
CHGR Chuyangaron 48.83 304 P **P 03 08 32.8 -0.3**
SIMJ Simiganj 48.95 304 P **P 03 08 34.1 0.0**
BVAR Borovoye Array 51.14 322 P **P 03 08 51.0 +0.6**
comp=Z,6.7nm,0.5s,baz=108,slow=8.4,SNR=39
BVAR PcP **PcP 03 10 05.1 -0.4**
comp=Z,3.8nm,0.5s,baz=116,slow=3.4,SNR=6.5
comp=Z,6.7nm,0.5s
BRVK Borovoye 51.22 323 P **P 03 08 50.5 -0.3**
BRVK IAmb IAmb 03 08 53.2
comp=Z,9.1nm,0.8s
TIXI Tiksi 51.41 3 P **P 03 08 50.5 -1.5**
TIXI IAmb IAmb 03 08 57.2
comp=Z,5.8nm,0.6s
NRIK Noril'sk 53.25 345 P **P 03 09 04.7 -1.0**
NRIK IAmb IAmb 03 09 13.3
comp=Z,6.4nm,0.8s
NRIK Noril'sk 53.25 345 P **P 03 09 05.1 -0.6**
comp=Z,3.3nm,0.6s,baz=110,slow=5.3,SNR=5.9
NRIK LR LR 03 33 05.5
comp=Z,74nm,20.2s,baz=164,slow=37
comp=Z,3.3nm,0.6s
BILL Bilibino 54.95 19 P **P 03 09 18.0 -0.2**
BILL IAmb IAmb 03 09 32.9
comp=Z,4.4nm,0.7s
STKA Stephens Creek 55.24 160 P **P 03 09 21.2 +0.5**
comp=Z,2.3nm,0.5s,baz=332,slow=7.6,SNR=10
comp=Z,2.3nm,0.5s
ABKAR Akbulak array 56.70 316 P **P 03 09 30.7 -0.3**
ARTI Arti 58.73 324 P **P 03 09 44.1 -1.0**
C18K Utukok River 66.33 23 IAmb IAmb 03 10 39.7
comp=Z,4.9nm,0.8s
N15K Kwethluk River 66.47 32 P **P 03 10 38.4 +1.7**
N15K IAmb IAmb 03 10 52.0
comp=Z,7.4nm,0.9s
MSVF Nonsavu 66.70 121 LR LR 03 34 53.8
comp=Z,57nm,21.5s,baz=316,slow=32
J17K VABM Dome 66.96 29 P **P 03 10 41.6 +1.9**
J17K IAmb IAmb 03 10 53.2
comp=Z,5.0nm,0.8s
K17K Iditarod 67.32 29 P **P 03 10 44.3 +2.3**
K17K IAmb IAmb 03 11 22.0
comp=Z,8.3nm,1.1s
D19K Kuna River 67.45 23 IAmb IAmb 03 10 47.0
comp=Z,7.4nm,0.9s
P16K Nushagak River 67.57 33 P **P 03 10 46.4 +2.7**
KBZ Khabaz 68.52 310 P **P 03 10 51.1 +1.3**
comp=Z,7.6nm,0.9s,baz=95,slow=4.5,SNR=20
comp=Z,7.6nm,0.9s
KIV Kislovodsk 68.64 310 P **P 03 10 51.5 +0.7**
KIV Kislovodsk 68.64 310 ⇑P **P 03 10 52.3 +1.5**
B21K Ikpikpuk River 68.71 22 IAmb IAmb 03 10 54.8
comp=Z,8.1nm,0.9s
O18K Koktuh Hills 68.94 32 P **P 03 10 52.9 +0.7**
O18K IAmb IAmb 03 11 06.3
comp=Z,9.6nm,1.0s
L19K White Mountain 68.94 30 P **P 03 10 52.3 0.0**
L19K IAmb IAmb 03 11 24.6
comp=Z,7.9nm,1.2s
E21K Killik River 68.98 23 IAmb IAmb 03 10 56.2
comp=Z,5.1nm,0.8s
B22K Teshekpuk Lake 69.10 21 IAmb IAmb 03 10 56.9
comp=Z,6.2nm,0.9s
G21K Allakaket 69.25 25 IAmb IAmb 03 10 58.8
comp=Z,6.3nm,1.0s
D22K Ayikyak River 69.43 23 IAmb IAmb 03 10 59.3
comp=Z,7.4nm,1.1s
E22K Anaktuvuk Pass 69.80 23 P **P 03 10 58.6 +1.1**
E22K IAmb IAmb 03 11 02.1
comp=Z,8.0nm,1.1s
CAST Castle Rocks 70.10 28 IAmb IAmb 03 11 09.1
comp=Z,5.9nm,0.7s
PPLA Purkeypile 70.11 29 P **P 03 11 01.0 +1.4**
RAYN Ar Rayn 70.29 288 P **P 03 11 02.2 +0.9**
BPAW Bear Paw Mtn. 70.52 28 IAmb IAmb 03 11 06.1
comp=Z,6.0nm,1.1s
TOLK Toolik Lake Re 70.58 23 IAmb IAmb 03 11 06.0
comp=Z,5.7nm,0.9s
KTH Kantishna Hill 70.61 28 P **P 03 11 03.2 +0.7**
KTH IAmb IAmb 03 11 14.9
comp=Z,7.6nm,1.0s
E23K Chandalar 70.63 23 IAmb IAmb 03 11 06.7
comp=Z,7.0nm,1.1s
D24K Happy Valley 70.79 22 IAmb IAmb 03 11 07.8
comp=Z,5.6nm,0.8s
TRF Thorofare Moun 70.90 28 P **P 03 11 06.0 +1.5**
NEA2 Nenana 71.28 27 IAmb IAmb 03 11 16.9
comp=Z,5.9nm,0.8s
F24K Squaw Lake 71.35 24 P **P 03 11 08.3 +1.4**
F24K IAmb IAmb 03 11 19.0
comp=Z,5.0nm,0.8s
MCK McKinley 71.46 28 IAmb IAmb 03 11 20.3
comp=Z,12nm,1.2s
RND Reindeer 71.55 28 IAmb IAmb 03 11 17.5
comp=Z,8.3nm,0.7s
D25K Kavik River 71.63 22 IAmb IAmb 03 11 12.6
comp=Z,4.5nm,0.8s
WRH Wood River Hil 71.72 27 P **P 03 11 10.1 +0.9**
WRH IAmb IAmb 03 11 21.8
comp=Z,4.9nm,0.9s
ILAR Eielson Array 72.18 27 P **P 03 11 11.6 -0.3**
comp=Z,1.0nm,0.6s,baz=268,slow=4.6,SNR=24
comp=Z,1.0nm,0.6s
BMAR Burnt Mountain 72.62 24 P **P 03 11 16.0 +1.4**
K24K Donnelly Dome 72.83 28 IAmb IAmb 03 11 36.7
comp=Z,7.7nm,0.8s
RIDG Independent Ri 73.25 28 IAmb IAmb 03 11 39.6
comp=Z,18nm,1.4s
SPITS Spitsbergen Ar 73.34 348 P **P 03 11 18.7 +0.1**
comp=Z,2.3nm,0.7s,baz=68,slow=5.5,SNR=12
comp=Z,2.3nm,0.7s
ARCES ARCESS Array B 73.34 339 P **P 03 11 19.4 +0.6**
comp=Z,0.9nm,0.4s,baz=68,slow=5.8,SNR=15
comp=Z,0.9nm,0.4s
E27K Coleen River 73.56 23 P **P 03 11 20.7 +0.6**
E27K IAmb IAmb 03 11 24.5
comp=Z,10nm,1.5s
J26L Joseph Creek 73.64 27 IAmb IAmb 03 11 25.3
comp=Z,7.0nm,1.1s
M26K Nabesna, AK 74.37 29 IAmb IAmb 03 11 27.0
comp=Z,6.2nm,0.7s
DIKM Dikmen 74.44 309 ⇑P **P 03 11 26.8 +1.2**
BCAR Beaver Creek A 74.75 28 P **P 03 11 29.1 +2.0**
I28M Miner Creek 74.90 25 IAmb IAmb 03 11 37.8
comp=Z,6.6nm,1.0s
FINES FINESS Array B 75.12 330 P **P 03 11 29.1 -0.1**
comp=Z,1.7nm,0.5s,baz=81,slow=5.7,SNR=15
comp=Z,1.7nm,0.5s
G29M Pine Creek 75.22 24 IAmb IAmb 03 11 31.6
comp=Z,6.6nm,0.9s
BZK Bozkurt 75.27 310 ⇑P **P 03 11 31.2 +0.8**
DAWY Dawson 75.51 27 IAmb IAmb 03 11 40.9
comp=Z,4.9nm,0.8s
F30M Barrier River 75.83 23 IAmb IAmb 03 11 44.7
comp=Z,12nm,0.9s
G30M tAoh Zrali Nji 75.88 23 IAmb IAmb 03 11 36.5
comp=Z,6.2nm,0.9s
J29N Klondike Camp 75.88 26 IAmb IAmb 03 11 36.0
comp=Z,5.8nm,0.6s
EPYK Eagle Plains 75.89 24 IAmb IAmb 03 11 36.4
comp=Z,7.3nm,1.0s
KIRS Kirsehir-Merke 76.05 307 ⇑P **P 03 11 35.3 +0.2**
BR131 Keskin Array S 76.10 307 IAmb IAmb 03 11 37.9
comp=Z,5.6nm,0.8s
BRTR Keskin Array B 76.10 307 P **P 03 11 35.5 +0.1**
BRTR Keskin Array B 76.10 307 P **P 03 11 35.8 +0.3**
comp=Z,5.4nm,0.9s,baz=82,slow=5.9,SNR=24
comp=Z,5.4nm,0.9s
AKASG Malin Array Be 76.25 319 P **P 03 11 35.2 -0.7**
comp=Z,8.9nm,0.7s,baz=63,slow=6.1,SNR=35
comp=Z,8.9nm,0.7s
KIEV Kiev 76.26 319 P **P 03 11 34.5 -1.4**
KIEV Kiev 76.26 319 ⇑P **P 03 11 35.3 -0.7**
K29M Barlow Dome 76.36 27 IAmb IAmb 03 11 40.3
comp=Z,6.5nm,1.1s
I30M Mount Dempster 76.39 25 P **P 03 11 37.0 +0.4**
I30M IAmb IAmb 03 11 49.1
comp=Z,7.8nm,1.1s
MMAI Mount Meron Ar 76.50 300 P **P 03 11 38.5 +0.8**
comp=Z,0.6nm,0.3s,baz=94,slow=5.7,SNR=7.9
comp=Z,0.6nm,0.3s
F31M Tsiigehtchic 76.63 23 IAmb IAmb 03 11 40.6
comp=Z,5.6nm,0.8s
ANTO Ankara 76.69 308 P **P 03 11 38.6 -0.1**
ANTO Ankara 76.69 308 ⇑P **P 03 11 39.2 +0.5**
PURM Purcari 76.96 315 ⇑P **P 03 11 40.4 +0.5**
H31M Peel River 76.99 24 IAmb IAmb 03 11 45.2
comp=Z,7.2nm,1.1s
M30M Minto, Yukon 77.08 28 P **P 03 11 40.9 +0.5**
N30M Aishikik Lake 77.32 29 P **P 03 11 43.5 +1.7**
N30M IAmb IAmb 03 11 52.0
comp=Z,5.9nm,0.8s
A36M Sachs Harbour 77.47 17 IAmb IAmb 03 11 44.7
comp=Z,5.8nm,0.8s
SORM Soroca 77.50 317 ⇑P **P 03 11 42.4 -0.5**
PABE Paberze 77.90 325 P **P 03 11 44.0 -1.0**
TLCR 78.05 314 ⇑P **P 03 11 46.3 +0.2**
JURR Jurilovca 78.12 313 ⇑P **P 03 11 46.6 +0.2**
M31M Drury Creek, Y 78.26 28 P **P 03 11 47.8 +0.8**
VLDR Vladesti 78.35 315 ⇑P **P 03 11 48.2 +0.5**
TPGR Topolog 78.41 314 ⇑P **P 03 11 48.5 +0.3**
BORA Eskisehir 78.42 308 IAmb IAmb 03 11 49.8
comp=Z,8.5nm,0.9s
HARR Harsova 78.79 314 ⇑P **P 03 11 50.6 +0.4**
SUW Suwalki 78.81 324 *e*P **P 03 11 50.0 0.0**
ICOR Ion Corvin 79.05 313 ⇑P **P 03 11 52.0 +0.3**
TESR Tescani 79.09 316 ⇑P **P 03 11 52.0 +0.2**
VRI Vrincioaia 79.24 315 ⇑P **P 03 11 53.8 +1.1**
PLOR Plostina 79.30 315 ⇑P **P 03 11 54.0 +1.0**
BISRR Bisoca 79.35 315 ⇑P **P 03 11 54.6 +1.3**
BURAR Bucovina Array 79.67 317 P **P 03 11 54.8 -0.4**
BURAR Bucovina Array 79.67 317 ⇑P **P 03 11 55.2 +0.1**
BUR08 Bucovina Ar. S 79.67 317 IAmb IAmb 03 11 57.0
comp=Z,8.9nm,0.9s
OZUR 79.79 315 ⇑P **P 03 11 56.9 +1.2**
MLR Muntele Rosu 79.88 315 IAmb IAmb 03 11 58.4
comp=Z,10nm,0.8s
MLR Muntele Rosu 79.88 315 ⇑P **P 03 11 57.3 +1.0**
BAND Balkesir-Ban 80.00 309 ⇑P **P 03 11 57.1 +0.2**
DOPR Dopca 80.10 315 ⇑P **P 03 11 57.9 +0.5**
VOIR 80.49 315 ⇑P **P 03 11 59.9 +0.3**
ARR Arges 80.79 315 ⇑P **P 03 12 01.5 +0.3**
KOLS Kolonicke sedl 81.08 319 *e*P **P 03 12 03.0 +0.5**
HFS Hagfors 81.26 331 P **P 03 12 02.4 -0.8**
comp=Z,4.2nm,0.8s,baz=69,slow=5.6,SNR=12
HFS LR LR 03 51 17.7
comp=Z,132nm,21.3s,baz=104,slow=38
comp=Z,4.2nm,0.8s
MARR Marisel-Cluj 81.34 317 ⇑P **P 03 12 04.5 +0.4**
LOT Lotru 81.34 315 ⇓P **P 03 12 04.3 +0.2**
RDO Rodhopi 81.59 311 IAmb IAmb 03 12 09.1
comp=Z,10nm,1.0s
NB2 NORSAR Subarra 81.95 333 P **P 03 12 05.6 -1.3**
comp=Z,7.8nm,1.2s,baz=58,slow=5.3
NOA NORSAR Array B 81.95 333 P **P 03 12 06.5 -0.4**
comp=Z,0.8nm,0.5s,baz=78,slow=6.0,SNR=5.6
NOA LR LR 03 51 48.5
comp=Z,83nm,20.5s,baz=105,slow=38
comp=Z,0.8nm,0.5s
GZR Gura Zlata 82.01 315 ⇓P **P 03 12 08.2 +0.6**
OJC Ojcow 82.11 321 *e*P **P 03 12 08.1 +0.2**
OJC Ojcow 82.11 321 P **P 03 12 08.0 +0.1**
NIE Niedzica 82.11 320 *e*P **P 03 12 09.0 +1.0**
SURR Surduc 82.31 316 ⇓P **P 03 12 08.9 -0.2**
GKP Gorka Klasztor 82.38 324 *e*P P 03 12 17.9 +8.7
SIRR Siria 82.43 317 ⇑P **P 03 12 10.1 +0.4**
HERR Herculane 82.43 315 ⇑P **P 03 12 09.9 +0.2**
BZS Buzias 82.69 316 ⇑P **P 03 12 11.1 +0.1**
LANS Liptovska Anna 82.71 320 *e*P **P 03 12 09.3 -1.9**
MDVR Moldovita 82.94 315 ⇑P **P 03 12 12.3 -0.1**
VYHS Vyhne 83.36 319 *e*P **P 03 12 15.8 +1.4**
BOVS Bovan 83.36 314 ⇑P **P 03 12 14.4 -0.2**
MORC Moravsky Berou 83.62 321 P **P 03 12 15.8 -0.1**
MORC IAmb IAmb 03 12 18.0
comp=Z,5.3nm,1.0s
MORC Moravsky Berou 83.62 321 *e*P **P 03 12 16.2 +0.4**
MORC Moravsky Berou 83.62 321 ⇑P **P 03 12 15.9 +0.1**
VAY Valandovo 83.62 312 *i* P **P 03 12 15.4 -0.5**
KSP Ksiaz 83.91 322 *e*P **P 03 12 17.9 +0.7**
JAVC Velka Javorina 83.92 320 *e*P **P 03 12 18.3 +0.9**
KRLC Kraliky 83.94 321 *e*P **P 03 12 17.8 +0.3**
SRO Srobarova 83.95 319 *e*P **P 03 12 18.3 +0.9**
OSTC Ostas 84.07 322 *e*P **P 03 12 19.4 +1.3**
DPC Dobruska-Polom 84.10 322 *e*P **P 03 12 18.9 +0.6**
CHVC Chvalec 84.15 322 *e*P **P 03 12 19.0 +0.5**
UPC Upice 84.21 322 *e*P **P 03 12 19.2 +0.4**
VRAC Vranov 84.38 321 *e*P **P 03 12 20.8 +1.2**
MORH Mrgy, Hungar 84.38 317 ⇑P **P 03 12 19.2 -0.5**
KRUC Moravsky 84.60 321 *e*P **P 03 12 20.6 -0.1**
OHR Ohrid 84.94 312 *i* P **P 03 12 21.9 -0.8**
KIBK Kibwezi 85.23 266 P **P 03 12 25.8 +1.2**
RONA Rosalia, Austr 85.23 319 *i* P **P 03 12 24.8 +0.8**
comp=Z,4.5nm,1.1s
BRG Berggiesshubel 85.24 323 *e*P **P 03 12 24.2 +0.3**
BRG Amp 03 12 32.7
comp=Z,4.2nm,0.9s
PRU Pruhonice 85.29 322 *e*P **P 03 12 25.0 +0.8**
CONA Conrad Observa 85.40 320 *e*P **P 03 12 24.8 -0.1**
comp=Z,11nm,1.5s
KMBO Kilima Mbogo 85.55 267 P **P 03 12 26.8 +0.3**
KMBO Kilima Mbogo 85.55 267 P **P 03 12 27.9 +1.4**
comp=Z,6.5nm,0.8s,baz=49,slow=6.6,SNR=21
comp=Z,6.5nm,0.8s
CLL Collm 85.57 323 IAmb IAmb 03 12 30.2
comp=Z,6.7nm,1.1s
CLL Collm 85.57 323 *e*P **P 03 12 25.0 -0.5**
CLL *e*S **S 03 23 00.0 +5.6**
CLL AMS AMS 03 53 00.0
comp=Z,100nm,22.0s
ZVC Zvikov 85.73 321 *e*P **P 03 12 26.7 +0.3**
LODK Lodwar 85.76 272 P **P 03 12 26.7 -0.6**
LODK IAmb IAmb 03 12 29.9
comp=Z,6.4nm,1.3s
CKRC Cesky Krumlov 85.94 321 *e*P **P 03 12 28.3 +0.8**
YKA Yellowknife Ar 86.11 23 P P **03 12 27.8 -0.2**
YKA Yellowknife Ar 86.11 23 P P **03 12 28.4 +0.5**
comp=Z,1.6nm,0.7s,baz=310,slow=4.8,SNR=58
comp=Z,1.6nm,0.7s
GERES GERESS Array B 86.29 321 P **P 03 12 28.7 -0.6**
GERES GERESS Array B 86.29 321 P **P 03 12 29.5 +0.2**
comp=Z,0.9nm,0.4s,baz=55,slow=3.7,SNR=11
comp=Z,0.9nm,0.4s
MOA Molln 86.40 320 *i* P **P 03 12 30.4 +0.6**
comp=Z,2.1nm,0.5s
SOKA Soboth 86.45 319 *i* P **P 03 12 30.8 +0.7**
comp=Z,4.6nm,1.0s
OBKA Obir 86.83 319 *e*P **P 03 12 32.0 0.0**
comp=Z,6.0nm,1.2s
KBA Koelnbreinsper 87.31 320 *i* P **P 03 12 33.9 -0.5**
comp=Z,7.4nm,1.7s
WTTA Wattenberg 88.25 320 *e*PcP **P 03 12 39.8 +0.9**
comp=Z,6.1nm,0.9s
FUORN Ofenpass-Fuorn 89.39 320 IAmb IAmb 03 12 48.6
comp=Z,8.1nm,1.2s
EKA Eskdalemuir Ar 91.43 332 P **P 03 12 53.7 +0.3**
comp=Z,0.6nm,0.5s,baz=46,slow=4.8,SNR=4.0
comp=Z,0.6nm,0.5s
NVAR Mina Array Bea 98.59 44 P **P 03 13 26.9 +0.2**
comp=Z,0.5nm,0.7s,baz=289,slow=5.3,SNR=4.8
comp=Z,0.5nm,0.7s
TXAR Lajitas Array 113.73 43 PKiKP **PKiKP 03 18 26.8 +0.3**
comp=Z,0.3nm,0.4s,baz=195,slow=1.5,SNR=9.6
SDV Santo Domingo 148.31 24 PKPdf **PKPdf 03 19 29.5 -1.7**
BAUV El Baul 149.18 20 PKPbc **PKPbc 03 19 35.2 -1.4**
RUSC La Rusia 149.91 31 PKPbc **PKPdf 03 19 35.5 +1.3**
ROSC El Rosal 150.18 34 PKPbc **PKPbc 03 19 38.8 -0.8**
comp=Z,6.6nm,0.4s,baz=90,slow=21,SNR=2.1

UCR ***08*** *03:01:33.1±0.8,8°.95N×84°.21W,h20km±3km,MW3.5*
UPA ***08*** *03:01:37.4±1.2,9°.37N×83°.77W,h0km±39km*
ISC 08 03:01:32.4±1.3,**8°.98N**±0°.06×**84°.18W**±0°.06,**h13**^{km},**n54,**
σ0°60/56,7C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	**Naranjito**	**0.50**	**9**	*e*P	**Pb**	**03 01 43.0**	**0.0**
PICV	**PH. Pirrs**	**0.64**	**359**	*e*P	**Pg**	**03 01 45.6**	**+0.6**
RAZU	**San Marcos de**	**0.69**	**13**	*e*P	**Pb**	**03 01 47.0**	**+0.6**
ABE2	**San Pablo**	**0.73**	**10**	*e*P	**Pb**	**03 01 47.5**	**+0.4**
SAJE	**San Jernim**	**0.76**	**61**	*e*P	**Pb**	**03 01 47.3**	**-0.2**
LCR2	**La Lucha 2**	**0.78**	**13**	*e*P	**Pb**	**03 01 47.9**	**0.0**
ACOS	**Acosta**	**0.81**	**1**	*e*P	**Pg**	**03 01 48.4**	**+0.2**
FIMO	**Fila Mora**	**0.82**	**89**	*e*P	**Pg**	**03 01 48.4**	**+0.1**
BURE	**Buenos Aires**	**0.85**	**77**	*e*P	**Pb**	**03 01 49.4**	**+0.3**
REPA	**Paraso**	**0.90**	**20**	*e*P	**Pb**	**03 01 49.8**	**-0.1**
AMPA	**Desamparados**	**0.92**	**7**	*e*P	**Pb**	**03 01 51.0**	**+0.7**
LUJA	**Lujan**	**0.95**	**6**	*e*P	**Pn**	**03 01 51.9**	**+0.3**
TRB2	**Turrubares**	**0.96**	**344**	*e*P	**Pg**	**03 01 51.1**	**0.0**
DRK0	**Durika**	**0.97**	**73**	⇑*i*P	**Pb**	**03 01 50.8**	**-0.3**

BELE	Belen	0.99	360	↓	eP	Pg	03 01 51.6	+0.1
EDP2	Potrero Grande	0.99	88		eP	Pb	03 01 51.5	0.0
PCAYA	Pacayas	1.00	21		eP	Pn	03 01 52.3	0.0
CORON	Coronado	1.00	10		eP	Pn	03 01 52.4	0.0
VINA	Juan Vinas	1.01	25		eP	Pn	03 01 52.0	-0.4
HEME	Heredia, Merce	1.01	2		eP	Pg	03 01 52.0	+0.1
PIRO	Carate, Puerto	1.01	124		eP	Pb	03 01 51.6	-0.2
HDC	Heredia	1.02	4		eP	Pb	03 01 52.5	+0.5
VICA	Volcano Irazu	1.05	18		eP	Pb	03 01 52.5	-0.2
EDAD	Golfito	1.05	108		eP	Pb	03 01 51.8	-0.8
TCS1	Tacares	1.06	354		eP	Pg	03 01 53.0	+0.1
CVIMO	Finca Echandi	1.06	13	↑	iP	Pb	03 01 52.9	+0.1
VERB	Verbena	1.07	27	↑	eP	Pn	03 01 53.1	-0.1
CBL1	Cabuya	1.08	304		eP	Pn	03 01 51.8	-1.4
VTCV	VTCV, Calle Va	1.09	24	↑	eP	Pn	03 01 53.5	-0.1
VTLA	Turrialba Volc	1.09	21	↑	iP	Pn	03 01 53.4	-0.3
CVTQ	Turrialba Volc	1.10	22		eP	Pn	03 01 53.4	-0.5
CVTV	Tajo	1.10	23	↑	iP	Pn	03 01 53.8	0.0
VTR0	Volcan Turrial	1.11	22		eP	Pn	03 01 53.8	-0.3
CVTR	Volcan Turrial	1.11	22		eP	Pn	03 01 53.5	-0.5
RVSTA	Santa Teresita	1.12	28		eP	Pn	03 01 54.1	+0.2
VBV1	V. Barva	1.13	4		eP	Pb	03 01 54.1	+0.2
SRA1	San Ramn	1.14	345		eP	Pb	03 01 54.1	+0.1
VPS8	V Poas	1.19	357	↑	iP	Pb	03 01 55.4	+0.3
CVTG	V. Turrialba,	1.23	19	↓	eP	Pn	03 01 55.9	+0.5
NELY	Ciudad Neily	1.26	105	↓	iP	Pb	03 01 55.7	-0.3
RVLA	Villa Bonita	1.27	27		eP	Pn	03 01 56.6	+0.8
VPL1	V. Platanar	1.28	352		eP	Pb	03 01 56.1	-0.4
PILE	Guapiles	1.29	17		eP	Pn	03 01 58.0	+1.9
IRES	Siquirres	1.29	31		eP	Pn	03 01 57.0	+0.8
ALCO	Alturas Coton,	1.33	91		eP	Pb	03 01 56.5	-0.8
VPL2	V. Platanar	1.33	351		eP	Pn	03 01 57.1	+0.2
CEUA	Cerro Uatsi, L	1.38	62		eP	Pg	03 01 59.3	+0.3
BRU2	Volcan	1.48	97		eP	Pn	03 01 58.9	0.0
BRU2	Volcan	1.48	97		eP	Pb	03 02 00.6	+0.6
BRU2					eS	Sg	03 02 18.5	-1.7
JTS	Las Juntas de	1.51	330		eP	Pn	03 01 58.7	-0.5
BC3P	Paso Ancho	1.56	96		eP	Pn	03 02 01.2	+1.1
DVD	David	1.79	107		eP	Pg	03 02 07.2	+0.4
DVD					eS	Sb	03 02 28.4	+0.8
LOMA3	Las Lomas, Chi	1.85	107		eP	Pb	03 02 07.2	+1.1
CHGR2	Aguacate	2.01	91		eP	Pn	03 02 07.0	+1.0
CHGR2					eS	Sn	03 02 30.1	-1.1

IDC ***08*** *03:13:55.5±0.7, 19°.64S×66°.62E, h0km, mb4.2/19, mbtmp4.2/19, MS4.4/35, Error ellipse: s-maj=24.1km s-min=17.0km az=52.0*

GCMT ***08*** *03:13:56.7±0.2, 19°.99S±0°.01×66°.13E±0°.01, h12km, MW5.1/125, Moment Tensor Solution. s53,c66; s125,c198; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-4.90±.09; $M_{\theta\theta}$1.57±.08; $M_{\phi\phi}$3.32±.09; $M_{r\theta}$0.17±.27; $M_{\theta\phi}$-1.96±.07; $M_{\phi r}$3.38±.29; Best double couple: $M_0$5.79200×10^16^ NP1:ϕ_s313.00000°, δ32.00000°, λ-118.00000°. NP2:ϕ_s165.00000°, δ62.00000°, λ-74.00000°. Principal axes: T 5.3840, Plg16.0000°, Azm243.0000°; N 0.8070, Plg14.0000°, Azm338.0000°; P -6.2010, Plg68.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***08*** *03:13:57.7±2.2, 19°.6S±0°.2×66°.22E±0°.03, h10km±1km, mb4.8/53 Error ellipse: s-maj=25.5km s-min=4.8km az=178.0*

BGR ***08*** *03:14:11.3, 17°.91S×66°.08E, h33km, mb4.6, Hypocentre not reviewed by the ISC*

ISC 08 03:13:57.7±0.6, 19°.74S±0°.09×66°.19E±0°.08, h14km±3km, h13km:pP-P, n165, σ1$52/146, mb4.8/67, MS4.4/44, 9C-8D, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	13.48	28	T	T	03 31 06.3	
baz=205,slow=76,SNR=473							
H08S2	Diego Garcia H	13.49	28	T	T	03 31 06.1	
baz=205,slow=76,SNR=260							
H08S3	Diego Garcia H	13.50	28	T	T	03 31 06.8	
baz=205,slow=76,SNR=454							
FOMA	Nahampoana Res	18.51	250	P	Pn	03 18 14.4	+0.6
H04N2	CROZET ISLANDS	28.89	201	T	T	03 50 03.9	
baz=30,slow=75,SNR=767							
H04N1	CROZET ISLANDS	28.89	201	T	T	03 50 04.9	
baz=30,slow=75,SNR=66							
H04N3	CROZET ISLANDS	28.91	201	T	T	03 50 01.6	
baz=30,slow=75,SNR=499							
PALK	Pallekele	30.41	29	LR	LR	03 29 40.0	
comp=Z,957nm,19.3s,baz=208,slow=31							
KIBK	Kibwezi	32.48	299	P	P	03 20 27.1	-1.1
KIBK				IAmb	IAmb	03 20 51.7	
comp=Z,20nm,1.8s							
KMBO	Kilima Mbogo	33.82	300		P	03 20 38.8	-1.3
KMBO	Kilima Mbogo	33.82	300	P	P	03 20 38.4	-1.8
KMBO				IAmb	IAmb	03 20 48.1	
comp=Z,22nm,1.8s							
KMBO	Kilima Mbogo	33.82	300	LR	LR	03 32 02.4	
comp=Z,379nm,20.0s,baz=130,slow=32							
MATP	Matopo	35.35	262	LR	LR	03 33 11.2	
comp=Z,374nm,21.8s,baz=62,slow=32							
LSZ	Lusaka	36.46	271	P	P	03 21 02.0	-0.7
LSZ				IAmb	IAmb	03 21 08.3	
comp=Z,30nm,2.0s							
LSZ	Lusaka	36.46	271	LR	LR	03 34 10.9	
comp=Z,831nm,21.6s,baz=121,slow=33							
GSI	Gunungsitoli	37.22	59	P	P	03 21 08.0	-1.1
GSI				IAmb	IAmb	03 21 16.5	
comp=Z,48nm,1.5s							
LODK	Lodwar	38.04	304	P	P	03 21 15.8	-0.3
BOSA	Boshof	38.22	249	LR	LR	03 34 22.9	
comp=Z,538nm,20.0s,baz=87,slow=32							
ATD	Arta Tunnel	38.65	322	LR	LR	03 36 26.1	
comp=Z,7.1nm,18.1s,baz=170,slow=35							
PSI	Prapat	39.19	59	LR	LR	03 34 03.5	
comp=Z,1μm,21.3s,baz=222,slow=31							
MBAR	Mbarara	39.57	294	P	P	03 21 28.7	-0.4
LEM	Lembang	42.19	78	LR	LR	03 35 21.4	
comp=Z,601nm,21.9s,baz=202,slow=31							
SUR	Sutherland	42.37	243	LR	LR	03 36 08.9	
comp=Z,981nm,19.7s,baz=98,slow=31							
TSUM	Tsumeb	45.70	262	LR	LR	03 39 52.3	
comp=Z,1μm,19.0s,baz=98,slow=34							
NWAO	Narrogin (SRO)	47.18	117	LR	LR	03 37 52.7	
comp=Z,437nm,20.7s,baz=289,slow=31							
RAYN	Ar Rayn	47.50	334	P	P	03 22 32.2	-0.4
RAYN				IAmb	IAmb	03 22 38.7	
comp=Z,18nm,1.8s							
MAW	Mawson	47.90	182	LR	LR	03 37 28.7	
comp=Z,498nm,21.0s,baz=12,slow=29							
CM31	Chiang Mai Arr	49.74	42	P	P	03 22 50.1	+0.1
CM31				IAmb	IAmb	03 22 57.6	
comp=Z,11nm,1.1s							
CMAR	Chiang Mai Arr	49.74	42	P	P	03 22 49.3	-0.6
CMAR	Chiang Mai Arr	49.74	42	P	P	03 22 48.7	-1.2
comp=Z,2.7nm,0.9s,baz=237,slow=8.5,SNR=12							
CMAR				LR	LR	03 40 48.6	
comp=Z,717nm,20.9s,baz=225,slow=33							
comp=Z,2.7nm,0.9s							
SHL	Shillong	51.50	30	P	P	03 23 02.8	-0.5
SYO	Syowa Base	51.92	192	↓	eP	pP	03 23 11.4	+2.2
NIL	Nilore	53.52	7	P	P	03 23 16.9	-1.1
NIL				IAmb	IAmb	03 23 25.0	
comp=Z,7.0nm,0.7s							
KBL	Kabul	54.05	3	P	P	03 23 21.9	-0.2
KBL				IAmb	IAmb	03 23 29.2	
comp=Z,14nm,1.3s							
KAPI	Kappang	54.09	82	LR	LR	03 45 04.2	
comp=Z,160nm,18.3s,baz=252,slow=35							
TNCH	TengChong	54.50	37	P	P	03 23 24.8	-0.7
TNCH				S	S	03 31 06.6	+2.2
TNCH				pmax	pmax		
comp=Z,58nm,0.5s							
TNCH				pmax	pmax		
comp=Z,280nm,4.2s							
TNCH				LR	LR		
comp=Z,690nm,19.1s							
TNCH				LR	LR		
comp=Z,680nm,17.5s							
TNCH				LR	LR		
comp=Z,630nm,21.2s							
SLVN	Son La	55.02	44	P	P	03 23 28.9	-0.3
SLVN				IAmb	IAmb	03 23 37.1	
comp=Z,12nm,1.0s							
FITZ	Fitzroy Crossi	56.01	99	LR	LR	03 43 04.9	
comp=Z,246nm,21.2s,baz=270,slow=32							
BATI	Baumata	56.11	89	LR	LR	03 43 05.8	
comp=Z,354nm,21.7s,baz=252,slow=31							
TOLI2	Tolitoli	57.38	75	P	P	03 23 45.1	-1.0
PZH	PanZhiHua	57.48	38	P	P	03 23 47.1	+0.4
PZH				S	S	03 31 48.0	+4.1
PZH				pmax	pmax		
comp=Z,10.0nm,0.6s							
PZH				pmax	pmax		
comp=Z,150nm,6.5s							
PZH				LR	LR		
comp=Z,290nm,21.4s							
PZH				LR	LR		
comp=Z,280nm,18.6s							
PZH				LR	LR		
comp=Z,400nm,18.1s							
QIZ	Qiongzhong	57.60	51	P	P	03 23 48.2	+0.7
QIZ				S	S	03 31 48.5	+3.0
QIZ				LR	LR		
comp=Z,260nm,18.2s							
QIZ				LR	LR		
comp=Z,290nm,23.7s							
QIZ				LR	LR		
comp=Z,410nm,22.3s							
EIL	Elat	57.62	328	LR	LR	03 44 32.5	
comp=Z,202nm,21.9s,baz=154,slow=32							
ELIB	Princess Elisa	57.70	195	dP	P	03 23 47.0	-0.7
ELIB				dPcP	PcP	03 24 47.9	+7.4
GAR	Garm	58.56	4	P	P	03 23 52.4	-1.7
GAR				IAmb	IAmb	03 24 00.6	
comp=Z,9.0nm,1.0s							
ASF	Jabal al Asfar	58.75	331	LR	LR	03 46 50.1	
comp=Z,157nm,19.7s,baz=159,slow=34							
DRK	Karamyk	59.14	5	P	P	03 23 57.6	-0.7
BTK	Batken	59.64	4	P	P	03 23 59.4	-2.1
BTK				IAmb	IAmb	03 24 12.2	
comp=Z,8.7nm,1.2s							
KSH	Kashi	59.65	9	P	P	03 23 58.2	-3.4
KSH				sP	pP	03 24 04.9	-0.4
KSH				pmax	pmax		
comp=Z,20nm,1.0s							
KSH				LR	LR		
comp=Z,400nm,18.5s							
KSH				LR	LR		
comp=Z,230nm,22.0s							
KSH				LR	LR		
comp=Z,650nm,24.0s							
MMAI	Mount Meron Ar	60.14	330	P	P	03 24 04.5	-0.6
comp=Z,0.2nm,0.3s,baz=92,slow=13,SNR=1.7							
MMAI				LR	LR	03 48 26.4	
comp=Z,58nm,18.7s,baz=138,slow=34							
comp=Z,0.2nm,0.3s							
MARD	Mardin	61.59	337	P	P	03 24 15.2	+0.3
MARD				IAmb	IAmb	03 24 27.0	
comp=Z,24nm,1.9s							
WUS	Wushi	61.82	11	P	P	03 24 15.9	-0.5
WUS				IAmb	IAmb	03 24 23.2	
comp=Z,8.5nm,1.2s							
GURO	Guroymak-BITLI	62.26	339	P	P	03 24 19.5	+0.1
KDJ	Kajisay	62.39	9	P	P	03 24 20.2	0.0
ASAR	Alice Springs	62.52	107	P	P	03 24 17.4	-4.0
comp=Z,2.9nm,0.9s,baz=260,slow=6.6,SNR=12							
ASAR				LR	LR	03 47 21.0	
comp=Z,736nm,21.4s,baz=272,slow=32							
comp=Z,2.9nm,0.9s							
AAK	Ala-Archa	62.54	7	P	P	03 24 20.8	-0.4
AAK				IAmb	IAmb	03 24 27.9	
comp=Z,8.4nm,1.1s							
AAK	Ala-Archa	62.54	7	LR	LR	03 50 00.1	
comp=Z,263nm,19.1s,baz=196,slow=35							
BOOM	Boomskoye usch	62.57	8	P	P	03 24 21.6	+0.1
KK31	Karatay Array	62.66	4	P	P	03 24 19.4	-2.4
KKAR	Karatay Array	62.66	4	P	P	03 24 19.8	-2.0
KKAR	Karatay Array	62.66	4	P	P	03 24 20.4	-1.5
KKAR				IAmb	IAmb	03 24 32.8	
comp=Z,6.3nm,1.1s							
PRZ	Przheval'sk	62.93	10	P	P	03 24 24.5	+0.6
TGY	Tagaytay City	63.50	62	LR	LR	03 48 38.9	
comp=Z,319nm,20.9s,baz=137,slow=33							
WRA	Warramunga Arr	63.67	103	P	P	03 24 24.7	-4.4
comp=Z,4.3nm,1.0s,baz=262,slow=5.7,SNR=10							
WRA				LR	LR	03 48 30.1	
comp=Z,421nm,20.4s,baz=248,slow=33							
comp=Z,4.3nm,1.0s							
DAV	Davao City (W)	64.22	72	LR	LR	03 49 44.9	
comp=Z,201nm,21.0s,baz=240,slow=34							
SNAA	Sanae	64.84	199	LR	LR	03 48 54.9	
comp=Z,228nm,19.3s,baz=80,slow=32							
BNN	Bunyan	64.85	334	P	P	03 24 37.2	+0.7
ENH	Enshi	64.87	41	P	P	03 24 35.4	-1.4
TOKA	Tokat	65.85	335	P	P	03 24 42.2	-0.7
KIRS	Kirsehir-Merke	65.89	333	↑P	P	03 24 43.0	-0.2
LZH	Lanzhou	65.97	33	eP	P	03 24 43.8	-0.1
LZH				pP	sP	03 24 48.4	-0.6
LZH				pmax	pmax		
comp=Z,31nm,1.5s							
WMQ	Urumqi	66.26	17	eP	P	03 24 46.8	+1.4
WMQ				pP	pwP	03 24 51.7	-0.3
WMQ				pmax	pmax		
comp=Z,15nm,0.7s							
WMQ				LR	LR		
comp=Z,160nm,23.1s							
BR131	Keskin Array S	66.51	333	P	P	03 24 47.3	+0.1
BRTR	Keskin Array B	66.51	333	P	P	03 24 46.0	-1.3
BRTR	Keskin Array B	66.51	333	P	P	03 24 47.1	-0.1
comp=Z,1.5nm,0.8s,baz=156,slow=8.2,SNR=14							
comp=Z,1.5nm,0.8s							
KBZ	Khabaz	66.67	342	P	P	03 24 48.5	+0.6
comp=Z,2.3nm,0.9s,baz=216,slow=5.7,SNR=6.0							
KBZ				LR	LR	03 54 16.4	
comp=Z,136nm,18.2s,baz=140,slow=36							
comp=Z,2.3nm,0.9s							
GTA	Gaotai	66.72	28	eP	P	03 24 48.8	+0.3
GTA				pP	sP	03 24 53.3	-0.4
GTA				pmax	pmax		
comp=Z,6.0nm,0.9s							
GTA				LR	LR		
comp=Z,190nm,19.9s							
GTA				LR	LR		
comp=Z,150nm,20.3s							
GTA				LR	LR		
comp=Z,290nm,20.3s							
XAN	Xi'an	67.20	38	P	P	03 24 49.8	-1.9
XAN				S	S	03 33 45.3	-0.8
XAN				pmax	pmax		
comp=Z,10.0nm,0.9s							
XAN				pmax	pmax		
comp=Z,160nm,5.9s							
ILGA	Ilgaz	67.58	334	P	P	03 24 54.4	+0.3
MAKZ	Makanchi	67.75	12	P	P	03 24 53.5	-1.3
STKA	Stephens Creek	67.77	117	LR	LR	03 49 51.0	
comp=Z,303nm,21.6s,baz=224,slow=32							
MK31	Makanchi Array	67.80	12	P	P	03 24 53.6	-1.5
MK31				IAmb	IAmb	03 25 02.5	
comp=Z,6.2nm,1.1s							
MKAR	Makanchi Array	67.80	12	P	P	03 24 54.3	-0.9
comp=Z,2.4nm,0.9s,baz=193,slow=5.0,SNR=13							
MKAR				LR	LR	03 53 39.3	
comp=Z,248nm,20.0s,baz=188,slow=35							
comp=Z,2.4nm,0.9s							
MANT	Manisa	67.83	329	P	P	03 24 56.2	+0.4
BORA	Eskisehir	68.04	331	P	P	03 24 56.6	-0.3
WHN	Wuhan	68.15	44	P	P	03 24 58.5	+0.9
WHN				LR	LR		
comp=Z,690nm,16.0s							
WHN				LR	LR		
comp=Z,770nm,16.8s							
WHN				LR	LR		
comp=Z,1μm,21.3s							
MDUB	Mudurnu	68.18	332	P	P	03 24 57.6	-0.2
ABKAR	Akbulak array	68.91	356	P	P	03 25 00.6	-1.3
ABKAR				IAmb	IAmb	03 25 08.0	
comp=Z,7.2nm,1.1s							
QSPA	South Pole Qui	70.37	180	P	P	03 25 13.3	+2.2
comp=Z,10.0nm,1.1s,baz=294,slow=6.9,SNR=3.9							
QSPA				LR	LR	03 51 18.2	
comp=Z,156nm,21.6s,baz=274,slow=32							
comp=Z,10.0nm,1.1s							
KURBB	Kurchatov Arra	70.90	8	P	P	03 25 13.4	-0.7
comp=Z,1.5nm,0.8s,baz=205,slow=6.6,SNR=13							
KURBB				LR	LR	03 53 34.2	
comp=Z,322nm,21.6s,baz=152,slow=34							
comp=Z,1.5nm,0.8s							
KURK	Kurchatov	71.00	8	P	P	03 25 13.4	-1.4
KURK				IAmb	IAmb	03 25 21.3	
comp=Z,6.7nm,1.1s							
TORD	Torodi Ar. Bea	71.38	292	P	P	03 25 20.8	+2.9
comp=Z,55nm,0.3s,baz=101,slow=3.6,SNR=1.5							
NJ2	Nanjing	72.08	45	eP	P	03 25 22.9	+1.2
NJ2				pmax	pmax		
comp=Z,24nm,0.5s							
VNDA	Vanda	72.09	167	P	P	03 25 22.8	+1.7
comp=Z,0.8nm,0.8s,baz=276,slow=10,SNR=3.6							
comp=Z,0.8nm,0.8s							
BVAR	Borovoye Array	72.55	3	P	P	03 25 23.5	-0.6
comp=Z,2.3nm,0.8s,baz=168,slow=7.6,SNR=9.0							
BVAR				LR	LR	03 56 40.8	
comp=Z,217nm,19.9s,baz=184,slow=35							
comp=Z,2.3nm,0.8s							
BTO	Baotou	72.56	34	eP	P	03 25 26.1	+1.5
BTO				pP	pwP	03 25 30.8	-0.4
BTO				sP	sP	03 25 33.0	+3.3
BTO				S	S	03 34 51.7	+2.8
BTO				sS	SKiKP	03 34 58.1	-1.2
BTO				SS	SS	03 39 32.2	+3.6
BTO				pmax	pmax		
comp=Z,21nm,0.8s							
BTO				pmax	pmax		
comp=Z,120nm,6.4s							
BTO				LR	LR		
comp=Z,510nm,21.5s							
BTO				LR	LR		
comp=Z,640nm,18.6s							
BTO				LR	LR		
comp=Z,610nm,19.6s							
BRVK	Borovoye	72.58	3	P	P	03 25 23.0	-1.2
HHC	Hu-ho-hao-te	73.55	34	eP	P	03 25 32.5	+2.1
HHC				pmax	pmax		
comp=Z,8.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,110nm,5.9s							
VRI	Vrincioaia	74.45	333	↓	P	P	03 25 35.1	-0.3
PLOR	Plostina	74.48	332	↑	P	P	03 25 36.3	+0.7
MLR	Muntele Rosu	74.51	332		P	P	03 25 36.7	+0.7
MLR				IAmb	IAmb	03 25 42.8	
comp=Z,12nm,1.0s							
MLR	Muntele Rosu	74.51	332	LR	LR	03 57 14.7	
comp=Z,49nm,21.3s,baz=106,slow=35							
MLR	Muntele Rosu	74.51	332	↑	P	P	03 25 35.4	-0.5
DBIC	Dimbokro	74.62	283	LR	LR	03 56 38.9	
comp=Z,290nm,19.6s,baz=127,slow=34							
COVR	Voineasa-Covas	74.67	332	↓	P	P	03 25 37.1	+0.4
VOIR		74.87	331	↑	P	P	03 25 38.4	+0.5
ARR	Arges	75.00	331	↑	P	P	03 25 38.4	-0.3
BOVS	Bovan	75.10	328	↓	P	P	03 25 44.6	+5.4
ZAA0	Zalesovo Array	75.12	11		P	P	03 25 37.2	-1.9
ZAA0				IAmb	IAmb	03 25 44.7	
comp=Z,13nm,1.1s							
ZALV	Zalesovo Beam	75.12	11	P	P	03 25 37.2	-1.9
ZALV	Zalesovo Beam	75.12	11	P	P	03 25 38.5	-0.6
comp=Z,2.8nm,0.7s,baz=208,slow=5.9,SNR=12							
ZALV				LR	LR	03 58 11.7	
comp=Z,141nm,18.3s,baz=204,slow=35							
comp=Z,2.8nm,0.7s							
SORM	Soroca	75.58	335	↑	P	P	03 25 42.9	+1.0
GZR	Gura Zlata	75.88	330	↓	P	P	03 25 43.9	+0.1
ARTI	Arti	76.11	356		P	P	03 25 43.6	-1.1
ARTI				IAmb	IAmb	03 25 50.6	
comp=Z,9.5nm,1.0s							
SONM	Songino Array	76.32	27	P	P	03 25 45.5	-0.7
SONM	Songino Array	76.32	27	P	P	03 25 46.1	-0.2
comp=Z,2.2nm,0.9s,baz=218,slow=4.5,SNR=12							
comp=Z,2.2nm,0.9s							
SURR	Surduc	76.46	330	↑	P	P	03 25 45.6	-1.3
BURAR	Bucovina Array	76.47	333		P	P	03 25 47.4	+0.3
ULN	Ulaanbaatar	76.62	27		P	P	03 25 46.6	-1.4
MARR	Marisel-Cluj	76.68	331	↑	P	P	03 25 47.9	-0.4
AKASG	Malin Array Be	77.32	337		P	P	03 25 51.6	0.0
comp=Z,1.4nm,0.7s,baz=144,slow=4.8,SNR=9.0							
comp=Z,1.4nm,0.7s							
AKBB	Malin Array Si	77.32	337	P	P	03 25 50.6	-1.0
AKBB				IAmb	IAmb	03 25 57.5	
comp=Z,11nm,0.9s							
KIEV	Kiev	77.32	337	P	P	03 25 51.2	-0.5
KIEV				IAmb	IAmb	03 25 57.5	
comp=Z,8.9nm,0.9s							
KIEV	Kiev	77.32	337	↓	P	P	03 25 50.5	-1.2
PMG	Port Moresby	78.44	96	LR	LR	03 57 04.0	
comp=Z,278nm,21.1s,baz=258,slow=33							
MORH	Mrgy, Hungar	78.47	328	↑	P	P	03 25 59.0	+0.8
KOLS	Kolonicke sedl	78.75	332	eP	P	P	03 26 05.9	+6.2
VYHS	Vyhne	79.99	330	eP	P	P	03 26 12.1	+5.6
LANS	Ljotovska Anna	80.17	331	eP	P	P	03 26 13.5	+6.0
CASP	Castiglione de	80.37	322	P	P	03 26 08.4	-0.2
CASP				IAmb	IAmb	03 26 14.3	
comp=Z,13nm,1.0s							
SOKA	Soboth	80.60	327	epP	pP	03 26 15.7	+2.0
comp=Z,4.6nm,1.2s							
RONA	Rosalia, Austr	80.66	328	iP	P	03 26 10.9	+0.8
comp=Z,4.5nm,1.2s							
RONA				iP	pwP	03 26 16.0	-0.7
comp=Z,8.5nm,1.0s							
OBKA	Obir	80.74	327	eP	P	03 26 11.4	+0.7
comp=Z,4.4nm,1.5s							
OBKA				iP	pwP	03 26 16.3	-0.9
comp=Z,7.3nm,1.3s							
CONA	Conrad Observa	81.03	328	iP	P	03 26 12.8	+0.7
comp=Z,7.4nm,1.4s							
CONA				iP	PcP	03 26 17.9	-0.6
comp=Z,12nm,1.2s							
KSAR	Wonju Array Be	81.25	45	P	P	03 26 12.6	-0.9
KSRS	Korea Array	81.28	45	P	P	03 26 12.7	-0.9
comp=Z,0.8nm,0.4s,baz=239,slow=4.9,SNR=6.0							
comp=Z,0.8nm,0.4s							
MORC	Moravsky Berou	81.50	331	eP	P	03 26 14.4	-0.2
KRUC	Moravsky	81.54	329	eP	P	03 26 14.9	+0.1
VRAC	Vranov	81.62	330	eP	P	03 26 15.5	+0.3
KBA	Koelnbreinsper	81.73	327	iP	P	03 26 16.2	+0.2
comp=Z,3.9nm,1.2s							
KBA				iP	PcP	03 26 21.3	-0.5
comp=Z,2.7nm,0.9s							
MOA	Molln	81.77	328	eP	P	03 26 16.6	+0.6
comp=Z,4.4nm,1.1s							
MOA				iP	PcP	03 26 21.4	-0.3
comp=Z,9.9nm,1.2s							
ABTA	Abfaltersbach	81.96	326	eP	P	03 26 17.8	+0.7
comp=Z,9.2nm,1.0s							
ABTA				iPcP	PcP	03 26 22.9	+0.3
comp=Z,9.2nm,1.0s							
KRLC	Kraliky	82.06	330	eP	P	03 26 19.2	+1.7
LESA	Schwarzleotal	82.31	327	iP	pP	03 26 24.0	+1.2

comp=Z,0.8nm,0.6s,baz=265,slow=5.2,SNR=4.0
comp=Z,0.8nm,0.6s
YKA Yellowknife Ar 137.28 1 PKP **PKPdf 03 33 20.4 +0.2**
comp=Z,0.9nm,1.0s,baz=350,slow=2.5,SNR=6.4
W59A Clinton 145.26 304 PKPbc 03 33 33.6 -1.5
O53A New Philadelph 145.43 313 PKPbc 03 33 35.0 -0.5
V58A Windy Hill, Pi 145.60 305 PKPdf **PKPdf 03 33 33.9 -2.1**
P51A Williamsport 147.04 313 PKPdf **PKPdf 03 33 38.2 -0.1**
TXAR Lajitas Array 166.72 318 PKPab **PKPab 03 35 06.3 0.0**
comp=Z,1.7nm,1.1s,baz=79,slow=2.7,SNR=4.0

---

*GCG **08** 03:17:33.6±3.1, 14°.95N×94°.43W, h50km±325km, MD4.2*
*MEX **08** 03:17:35.5±1.0, 15°.11N×94°.34W, h16km±13km, MD3.9*
ISC 08 03:17:30.6±1.9, 15°.09N±0°.09×94°.39W±0°.04, h25km±18km, n13, σ1§22/24, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.29**	**61**	*eP*	**Pb**	**03 17 54.3**	**+0.1**
PCIG				*eS*	**Sn**	03 18 09.1	-0.5
HUIG	**Huatulco**	**1.79**	**293**	*eP*	**Pb**	03 18 03.8	+1.1
HUIG				*eS*	**Sn**	03 18 23.2	+1.3
CMIG	**Matias Romero**	**2.05**	**347**	*eP*	**Pb**	03 18 07.6	+0.4
CMIG				*eS*	**Sb**	03 18 31.9	-0.3
TGIG		**2.08**	**36**	*eP*	**Pb**	03 18 07.8	+0.1
TGIG				*eS*	**Sb**	03 18 32.9	-0.3
TGIG		**2.08**	**36**	*i P*	**Pb**	03 18 08.4	+0.6
TGIG				*i S*	**Sb**	03 18 34.3	+1.1
PATR	**El Naranjo**	**2.09**	**89**	*eP*	**Pn**	03 18 06.0	+1.7
PATR				*eS*	**Sn**	03 18 29.7	0.0
PAVE	**Pavencul**	**2.14**	**87**	*eP*	**Pn**	03 18 06.5	+1.5
PAVE				*eS*	**Sn**	03 18 29.7	-1.3
UXUV	**UXUV**	**2.23**	**6**	*eP*	**Pb**	03 18 11.2	+0.8
UXUV				*eS*	**Sb**	03 18 38.2	+0.7
CCIG	**Comitan**	**2.48**	**61**	*eP*	**Pb**	03 18 15.2	+0.6
CCIG				*eS*	**Sb**	03 18 43.7	-1.1
CCIG	**Comitan**	**2.48**	**61**	*i P*	**Pb**	03 18 15.1	+0.5
CCIG				*i S*	**Sb**	03 18 44.6	-0.2
NEUV	**Arroyo Zacate**	**2.94**	**333**	*eP*	**Pb**	03 18 20.9	-1.5
NEUV				*eS*	**Sb**	03 18 54.8	-3.1
STG8	**El Palmar, Qui**	**3.01**	**102**	*i P*	**Pn**	03 18 15.5	-1.5
STG0	**El Palmar, Qui**	**3.02**	**102**	*i P*	**Pn**	03 18 16.2	-1.0

---

*IDC **08** 03:20:43.1±2.1, 32°.42S×178°.29W, h0km, mb3.8/2, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=60.3km s-min=32.7km az=128.0*
ISC 08 03:20:47.0±2.3, 32°.5S±0°.2×178°.1W±0°.4, h35km, n6, σ0§96/6, mb3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.94**	**213**	Pn	**Pn**	**03 22 26.2**	**0.0**
0.8nm,0.3s,baz=360,slow=14,SNR=1.6							
URZ				Sn	**Sn**	**03 23 43.6**	**-0.2**
1.1nm,0.3s,baz=303,slow=23,SNR=6.9							
2.8nm,0.5s							
ASAR	**Alice Springs**	**42.92**	**269**	P	**P**	**03 28 43.0**	**+0.5**
0.6nm,0.4s,baz=108,slow=7.6,SNR=9.6							
0.6nm,0.4s							
WRA	**Warramunga Arr**	**44.09**	**274**	P	**P**	**03 28 51.9**	**-0.1**
0.7nm,0.4s,baz=114,slow=7.9,SNR=12							
0.7nm,0.4s							
QSPA	**South Pole Qui**	**57.63**	**180**	P	P	03 30 42.0	+8.6
0.6nm,0.6s,baz=23,slow=12,SNR=5.8							
FINES	**FINESS Array B**	**147.05**	**339**	PKPbc	**PKPab**	**03 40 25.7**	**-1.2**
1.7nm,0.6s,baz=32,slow=3.8,SNR=17							
HFS	**Hagfors**	**151.26**	**348**	PKPbc	**PKiKP**	**03 40 37.5**	**+1.0**
4.0nm,0.9s,baz=27,slow=1.6,SNR=3.6							

---

*IDC **08** 03:23:10.2±1.8, 17°.59S×178°.45W, h591km±13km, mb3.0/5, mbtmp4.0/7, Error ellipse: s-maj=39.1km s-min=22.7km az=135.0*
ISC 08 03:23:10.8±1.3, 17°.5S±0°.2×178°.5W±0°.2, h600km, n9, σ1§14/9, mb3.6/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.27**	**266**	P	**P**	**03 24 29.6**	**-2.0**
22nm,0.7s,baz=100,slow=4.5,SNR=36							
MSVF				S	**S**	**03 25 37.3**	**-0.2**
2.2nm,0.6s,baz=63,slow=11,SNR=2.0							
DZM	**Mont Dzumac**	**14.85**	**250**	P	**P**	**03 26 19.3**	**+1.6**
5.3nm,0.8s,baz=93,slow=19,SNR=2.0							
STKA	**Stephens Creek**	**38.72**	**241**	P	**P**	**03 29 44.7**	**-0.4**
1.7nm,0.4s,baz=50,slow=8.9,SNR=5.5							
1.7nm,0.4s							
WRA	**Warramunga Arr**	**44.59**	**259**	P	**P**	**03 30 31.4**	**+0.1**
0.6nm,0.3s,baz=91,slow=7.8,SNR=19							
0.6nm,0.3s							
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**03 30 33.4**	**+0.6**
5.9nm,0.5s,baz=88,slow=8.6,SNR=70							
5.9nm,0.5s							
VNDA	**Vanda**	**60.82**	**185**	P	**P**	**03 32 25.4**	**-0.1**
0.4nm,0.8s,baz=352,slow=7.1,SNR=1.5							
0.4nm,0.8s							
ILAR	**Eielson Array**	**85.53**	**13**	P	**P**	**03 34 46.9**	**+0.8**
0.3nm,0.4s,baz=202,slow=4.8,SNR=13							
0.3nm,0.4s							
BRTR	**Keskin Array B**	**144.43**	**315**	PKP	PKPbc	03 41 40.2	-0.1
0.2nm,0.4s,baz=57,slow=4.6,SNR=3.9							
GERES	**GERESS Array B**	**147.21**	**345**	PKPbc	**PKPbc**	**03 41 47.2**	**-0.5**
0.4nm,0.5s,baz=37,slow=3.3,SNR=5.7							

---

*VAO **08** 03:23:43.7±0.3, 2°.27S×80°.48W, h10km, mb5.1*
*IGQ **08** 03:23:47.1±0.3, 2°.5±1°.8×8°.0W±°, h7km±1km, MLv5.4/26*
*NEIC **08** 03:23:49.2±1.7, 2°.12S±0°.06×80°.36W±0°.07, h47km±4km, mb4.9/477, Error ellipse: s-maj=10.1km s-min=8.3km az=57.0*
*GCMT **08** 03:23:49.2±0.3, 2°.30S±0°.02×80°.61W±0°.02, h39km±1km, MW5.0/85, Moment Tensor Solution. s52,c59; s85,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.29±.19; $M_{\theta\theta}$0.61±.12; $M_{\phi\phi}$-3.90±.13; $M_{r\theta}$0.15±.11; $M_{\theta\phi}$1.40±.09; $M_{\phi r}$~2.09±.15; Best double couple: M_0=4.34500×10^{16} NP1:ϕ_s334.00000°, δ31.00000°, λ75.00000°. NP2: ϕ_s172.00000°, δ60.00000°, λ99.00000°. Principal axes: T 3.8690, Plg74.0000°, Azm105.0000°; N 0.9510, Plg8.0000°, Azm347.0000°; P -4.8200, Plg14.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **08** 03:23:50.0±2.0, 2°.14S×80°.38W, h60km±17km, mb4.3/16, mbtmp4.6/22, MS4.2/27 Error ellipse: s-maj=18.7km s-min=10.2km az=71.0*
*UCR **08** 03:24:40.5±0.7, 1°.66N×80°.85W, h20km, MW4.4*
ISC 08 03:23:48.5±0.4, 2°.23S±0°.03×80°.47W±0°.04, h51km±3km, h52km:pP-P, n887, σ1§13/796, mb4.9/250, MS4.1/24, 14C-64D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIBE	**La Libertad**	**0.38**	**268**	⇓P	**Pn**	**03 23 56.2**	**-2.3**
AGUAY	**Guayaquil**	**0.54**	**72**	⇓P	**Pn**	**03 23 57.9**	**-2.5**
AGUAY				S	**Sn**	**03 24 04.2**	**-4.6**
GYE3	**Ecuador-Guayaq**	**0.57**	**83**	⇓P	**Pn**	**03 23 58.6**	**-2.1**
PU06	**PU06**	**0.86**	**103**	⇓P	**Pn**	**03 24 03.2**	**-1.2**
PU06				S	**Sn**	**03 24 15.0**	**-1.0**
MILO	**Milagro-Astudi**	**0.91**	**93**	⇓P	**Pn**	**03 24 03.6**	**-1.5**
PU04	**PU04**	**0.99**	**117**	⇓P	**Pn**	**03 24 05.3**	**-0.8**
PU04				S	**Sn**	**03 24 19.1**	**0.0**
PU05	**PU05**	**1.01**	**107**	⇓P	**Pn**	**03 24 05.9**	**-0.5**
ACH2	**Ecuador-Machal**	**1.22**	**148**	P	**Pn**	**03 24 08.8**	**-0.4**
COHC	**Cochancay**	**1.23**	**101**	Pn	**Pn**	**03 24 08.2**	**-1.2**
COHC				Sn	**Sn**	**03 24 24.6**	**-0.4**
COHC	**Cochancay**	**1.23**	**101**	⇓P	**Pn**	**03 24 08.3**	**-1.2**
COHC				S	**Sn**	**03 24 24.9**	**-0.1**
COHC	**Cochancay**	**1.23**	**101**	P	**Pn**	**03 24 08.2**	**-1.2**
COHC				S	**Sn**	**03 24 24.8**	**-0.2**
AMNT	**Manta-Manabi**	**1.31**	**348**	P	**Pn**	**03 24 10.3**	**-0.1**
ARNL	**Arenillas**	**1.37**	**163**	⇑P	**Pn**	**03 24 11.2**	**-0.1**
AQUE	**Quevedo**	**1.52**	**40**	⇓P	**Pn**	**03 24 12.0**	**-1.3**
AQUE				S	**Sn**	**03 24 31.1**	**-1.0**
JSCH	**Cashca Tororas**	**1.57**	**71**	⇓P	**Pn**	**03 24 13.2**	**-1.1**
JSCH				S	**Sn**	**03 24 33.0**	**-0.7**
AGRD	**Ecuador-Guaran**	**1.60**	**66**	⇓P	**Pn**	**03 24 13.4**	**-1.3**
ACUE	**Ecuador-Cuenca**	**1.65**	**114**	P	**Pn**	**03 24 15.2**	**-0.2**
AZOG	**Ecuador-Azogue**	**1.70**	**108**	P	**Pn**	**03 24 15.5**	**-0.6**
CHSH	**Refugio Sur-Vo**	**1.75**	**65**	⇓P	**Pn**	**03 24 16.8**	**-0.2**
TAMH	**Tambohuasha Ch**	**1.82**	**68**	⇓P	**Pn**	**03 24 17.7**	**-0.1**
LAMO	**ALAMOR**	**1.83**	**166**	P	**Pn**	**03 24 18.0**	**+0.3**
LAMO				S	**Sn**	**03 24 39.6**	**-0.2**
PORT	**Chimborazo Vol**	**1.85**	**66**	⇓P	**Pn**	**03 24 18.6**	**+0.2**
ARIO	**Riobamba**	**1.86**	**72**	P	**Pn**	**03 24 18.9**	**+0.7**
IGUA	**Igualata**	**1.97**	**68**	⇓P	**Pn**	**03 24 20.3**	**+0.4**
AAM2	**Ambato 2 (Merc**	**2.08**	**63**	P	**Pn**	**03 24 22.6**	**+1.3**
BIL2	**Estacion Bilba**	**2.11**	**69**	⇓P	**Pn**	**03 24 23.0**	**+1.4**
BBIL	**Ulba Tungurahu**	**2.12**	**69**	⇓P	**Pn**	**03 24 22.8**	**+0.9**
BBIL				S	**Sn**	**03 24 49.6**	**+2.4**
ARRY	**Arrayan**	**2.13**	**70**	⇓P	**Pn**	**03 24 22.3**	**+0.2**
JUI6	**Juive**	**2.15**	**68**	⇓P	**Pn**	**03 24 23.1**	**+0.9**
POND	**Pondoa**	**2.17**	**68**	⇓P	**Pn**	**03 24 23.4**	**+0.9**
BULB	**Ulba Tungurahu**	**2.20**	**69**	⇓P	**Pn**	**03 24 24.0**	**+1.1**
ASLC	**Ecuador-Salced**	**2.21**	**58**	⇓P	**Pn**	**03 24 24.1**	**+1.0**
ALAT	**Latacunga**	**2.25**	**55**	P	**Pn**	**03 24 25.0**	**+1.4**
GONZ	**Gonzanam**	**2.27**	**152**	⇑P	**Pn**	**03 24 25.0**	**+1.1**
GONZ				S	**Sn**	**03 24 52.1**	**+1.2**
ILLI	**Illinizas Sur**	**2.30**	**49**	⇓P	**Pn**	**03 24 24.3**	**-0.1**
PAST	**Pastocalle**	**2.38**	**50**	P	**Pn**	**03 24 26.0**	**+0.6**
PIS1	**Pisayambo**	**2.38**	**61**	⇓P	**Pn**	**03 24 27.2**	**+1.6**
PIS1				S	**Sn**	**03 24 57.5**	**+3.7**
SRAM	**San Ramn-Vol**	**2.40**	**52**	⇓P	**Pn**	**03 24 26.6**	**+0.9**
BRRN	**Barrancas-Volc**	**2.45**	**54**	⇓P	**Pn**	**03 24 27.6**	**+1.0**
SLOR	**San Lorenzo -**	**2.47**	**53**	Pn	**Pn**	**03 24 28.0**	**+1.3**
SLOR	**San Lorenzo -**	**2.47**	**53**	⇓P	**Pn**	**03 24 28.0**	**+1.3**
CAMI	**Rancho Maria**	**2.49**	**52**	⇓P	**Pn**	**03 24 28.5**	**+1.4**
BMOR	**Cotopaxi Volca**	**2.50**	**54**	⇓P	**Pn**	**03 24 28.5**	**+1.3**
VCES	**Cotopaxi**	**2.51**	**56**	⇓P	**Pn**	**03 24 28.6**	**+1.3**
VCES				S	**Sn**	**03 25 00.4**	**+3.3**
BNAS	**Cotopaxi Volca**	**2.52**	**52**	⇓P	**Pn**	**03 24 29.9**	**+2.5**
SUCR	**Mariscal Sucre**	**2.52**	**51**	⇓P	**Pn**	**03 24 28.9**	**+1.4**
PUYO	**Puyo, Santa Ro**	**2.55**	**73**	⇓P	**Pn**	**03 24 30.4**	**+2.5**
BREF	**Cotopaxi Volca**	**2.55**	**53**	⇓P	**Pn**	**03 24 29.8**	**+1.8**
BVC2	**Cotopaxi Volca**	**2.58**	**53**	⇓P	**Pn**	**03 24 30.0**	**+1.7**
BTAM	**Cotopaxi Volca**	**2.58**	**53**	⇓P	**Pn**	**03 24 29.9**	**+1.6**
TAMB	**Tambo**	**2.59**	**54**	⇓P	**Pn**	**03 24 30.1**	**+1.6**
VC1	**Cotopaxi 1**	**2.59**	**53**	⇓P	**Pn**	**03 24 30.3**	**+1.8**
PITA	**Cotopaxi Volc**	**2.62**	**51**	⇓P	**Pn**	**03 24 30.3**	**+1.5**
TOMA	**Boca Toma-Volc**	**2.66**	**50**	⇓P	**Pn**	**03 24 30.8**	**+1.5**
HPAL	**Hacienda Las P**	**2.70**	**42**	⇓P	**Pn**	**03 24 29.2**	**-0.5**
GGPT	**Toaza - Volcan**	**2.71**	**43**	⇓P	**Pn**	**03 24 29.5**	**-0.5**
JUA2	**San Juan 2**	**2.73**	**43**	⇓P	**Pn**	**03 24 30.1**	**-0.2**
TERV	**Terraza Guagua**	**2.76**	**42**	P	**Pn**	**03 24 30.9**	**+0.1**
GGPC	**Guagua Pichinc**	**2.76**	**43**	P	**Pn**	**03 24 31.0**	**+0.1**
PINO	**Pino**	**2.77**	**42**	⇓P	**Pn**	**03 24 30.5**	**-0.4**
TING	**Casa Alexandra**	**2.79**	**46**	P	**Pn**	**03 24 32.8**	**+1.8**
ANTG	**Antisana-Guama**	**2.80**	**52**	⇓P	**Pn**	**03 24 33.1**	**+1.8**
ANTM	**Antisana-La Mi**	**2.80**	**53**	⇓P	**Pn**	**03 24 33.5**	**+2.1**
YANA	**Yana**	**2.83**	**42**	P	**Pn**	**03 24 31.5**	**-0.2**
FENY	**Casa Vinicio C**	**2.87**	**44**	P	**Pn**	**03 24 33.7**	**+1.7**
ANTS	**Antisana-Sarah**	**2.87**	**53**	⇓P	**Pn**	**03 24 34.5**	**+2.2**
ANTI	**Antisana**	**2.90**	**53**	⇓P	**Pn**	**03 24 34.8**	**+2.0**
ATEN	**Tena**	**2.92**	**65**	P	**Pn**	**03 24 34.2**	**+1.7**
ARDO	**Archidona, Ten**	**2.93**	**65**	⇓P	**Pn**	**03 24 35.0**	**+2.2**
PULU	**Pululahua**	**2.98**	**41**	⇓P	**Pn**	**03 24 33.7**	**+0.1**
PAC1	**Pacto, Paraso**	**2.99**	**34**	P	**Pn**	**03 24 32.1**	**-1.5**
PAC1				S	**Sn**	**03 25 10.4**	**+2.1**
AV11	**Acelerografo,**	**3.00**	**44**	P	**Pn**	**03 24 36.1**	**+2.3**
AV21	**Acelerografo,**	**3.01**	**18**	P	**Pn**	**03 24 35.5**	**+1.7**
OTAV	**Otavalo**	**3.17**	**39**		**Pn**	**03 24 35.9**	**-0.4**
OTAV	**Otavalo**	**3.17**	**39**	⇓P	**Pn**	**03 24 35.9**	**-0.4**
OTAV	**Otavalo**	**3.17**	**39**	*eP*	**Pn**	**03 24 35.3**	**-1.0**
OTAV	**Otavalo**	**3.17**	**39**	P	**Pn**	**03 24 35.9**	**-0.4**
CUSE	**Cuicocha Este**	**3.26**	**39**	P	**Pn**	**03 24 38.2**	**+0.7**
CUSE	**Cuicocha Este**	**3.26**	**39**	P	**Pn**	**03 24 38.1**	**+0.6**
CUSW	**Cuicocha Oeste**	**3.27**	**40**	P	**Pn**	**03 24 40.4**	**+2.7**
CUIC	**Cuicocha-Domo**	**3.28**	**40**	P	**Pn**	**03 24 38.4**	**+0.6**
CAYR	**Reventador Cayamb**	**3.32**	**48**	⇓P	**Pn**	**03 24 40.9**	**+2.4**
COTA	**Cotacachi**	**3.32**	**40**	P	**Pn**	**03 24 39.4**	**+1.0**
ACOT	**Cotacachi (Cas**	**3.33**	**41**	P	**Pn**	**03 24 40.1**	**+1.7**
ANGU	**Angureal**	**3.34**	**47**	⇑P	**Pn**	**03 24 41.0**	**+2.2**
IMBA	**Imbabura, San**	**3.37**	**42**	⇓P	**Pn**	**03 24 41.0**	**+2.0**
CAYA	**Cayambe**	**3.37**	**47**	P	**Pn**	**03 24 41.9**	**+2.7**
URCU	**Urcuqui**	**3.45**	**40**	⇓P	**Pn**	**03 24 41.2**	**+1.0**
AIB2	**Ibarra (Univer**	**3.48**	**43**	P	**Pn**	**03 24 42.8**	**+2.4**
YAHU	**Yahuarcocha**	**3.52**	**43**	⇑P	**Pn**	**03 24 42.8**	**+1.7**
SNLR	**San Lorenzo-Es**	**3.85**	**25**	P	**Pn**	**03 24 45.0**	**-0.2**
CHMA	**Chilma**	**3.90**	**38**	P	**Pn**	**03 24 47.0**	**+0.8**
CASC	**Dorado de Casc**	**3.91**	**53**	⇑P	**Pn**	**03 24 48.2**	**+2.0**
CHL1	**Volcɨn Chiles**	**3.92**	**40**	⇑P	**Pn**	**03 24 47.9**	**+1.3**
ECEN	**Cerro Negro**	**3.92**	**39**	⇑P	**Pn**	**03 24 49.0**	**+2.2**
CHL2	**Volcɨn Chiles**	**3.94**	**40**	⇑P	**Pn**	**03 24 48.6**	**+1.6**
TULM	**Tulcn-Chalpat**	**3.97**	**43**	⇑P	**Pn**	**03 24 48.6**	**+1.3**
TULM	**Tulcn-Chalpat**	**3.97**	**43**	P	**Pn**	**03 24 48.9**	**+1.6**
CMBC	**Cumbal**	**4.11**	**40**	P	**Pn**	**03 24 51.4**	**+2.2**
TUMC	**Tumaco**	**4.38**	**23**	Pn	**Pn**	**03 24 52.1**	**-0.5**
TUMC	**Tumaco**	**4.38**	**23**	⇑P	**Pn**	**03 24 51.5**	**-1.1**
TUMC				S	**Sn**	**03 25 47.3**	**+4.9**
TUMC	**Tumaco**	**4.38**	**23**	P	**Pn**	**03 24 51.9**	**-0.7**
GCUF	**Volcan Galeras**	**4.64**	**42**	P	**Pn**	**03 24 59.1**	**+2.6**
CRUC	**La Cruz**	**5.15**	**43**	P	**Pn**	**03 25 06.1**	**+2.6**
ATAH	**Atahualpa**	**5.29**	**157**	P	**Pn**	**03 25 07.9**	**+2.4**
30nm,0.3s,baz=9.5,slow=8.7,SNR=17							
ATAH				S	**Sn**	**03 26 08.2**	**+2.8**
318nm,0.8s,baz=7.6,slow=15,SNR=4.2							
ATAH				LR	LR	03 27 41.6	
comp=Z,4μm,19.6s,baz=326,slow=43							
BBAC	**Balboa, Cauca**	**5.31**	**37**	P	**Pn**	**03 25 06.3**	**+0.8**
12μm733nm,0.4s							
BBAC	**Balboa, Cauca**	**5.31**	**37**	P	**Pn**	**03 25 05.9**	**+0.5**
GR1C	**Gorgona, Isla**	**5.68**	**24**	P	**Pn**	**03 25 07.0**	**-3.4**
POPC	**Popayan, Colom**	**6.07**	**39**	P	**Pn**	**03 25 15.5**	**-0.4**
4μm335nm,0.7s							
FLOC	**Florencia**	**6.12**	**52**	Pn	**Pn**	**03 25 15.1**	**-1.4**
FLOC	**Florencia**	**6.12**	**52**	P	**Pn**	**03 25 16.4**	**-0.1**
5μm5μm238nm,1.2s							
FLOC	**Florencia**	**6.12**	**52**	P	**Pn**	**03 25 17.2**	**+0.7**
PTLC	**Puerto Leguiza**	**6.15**	**67**	P	**Pn**	**03 25 15.2**	**-1.6**
5μm466nm,0.7s							
PTLC	**Puerto Leguiza**	**6.15**	**67**	P	**Pn**	**03 25 15.3**	**-1.6**
GARC	**Garzon, Huila**	**6.63**	**49**	P	**Pn**	**03 25 23.9**	**+0.3**
7μm535nm,0.7s							
MALC	**Bahia Malaga**	**6.94**	**27**	P	**Pn**	**03 25 25.4**	**-2.3**
BETC	**Betania**	**7.00**	**46**	P	**Pn**	**03 25 30.5**	**+2.0**
YOTC	**Yotoco, Valle**	**7.42**	**34**	P	**Pn**	**03 25 30.8**	**-3.5**
961nm94nm,0.6s							
PIZC	**Pizarro, Choco**	**7.79**	**23**	P	Pn	03 25 47.1	+7.8
3μm169nm,0.7s							
MACC	**Macarena, Meta**	**7.92**	**57**	P	**Pn**	**03 25 41.7**	**+0.6**
3μm309nm,0.6s							
ORTC	**Ortega, Tolima**	**8.02**	**41**	P	**Pn**	**03 25 42.8**	**+0.2**
3μm3μm231nm,0.6s							
PRAC	**Prado**	**8.12**	**43**	P	**Pn**	**03 25 43.4**	**-0.5**
2μm113nm,0.6s							
URMC	**La Uribe, Meta**	**8.16**	**48**	P	**Pn**	**03 25 43.8**	**-0.7**
2μm219nm,0.9s							
ANIL	**Santa Ana**	**8.38**	**37**	P	**Pn**	**03 25 45.6**	**-2.0**
4μm266nm,0.5s							
GUY2C	**Guyana, Caldas**	**8.99**	**35**	P	**Pn**	**03 25 53.9**	**-2.2**
786nm89nm,0.7s							
GUVC	**San Jose del G**	**9.16**	**59**	P	**Pn**	**03 25 59.8**	**+1.7**
CBOC	**Ciudad Bolivar**	**9.19**	**29**	P	**Pn**	**03 25 55.1**	**-3.5**
1μm81nm,0.7s							
VILC	**Villavicencio,**	**9.24**	**47**	P	**Pn**	**03 26 01.8**	**+2.4**
3μm259nm,0.6s							
ROSC	**El Rosal**	**9.33**	**41**	Pn	**Pn**	**03 25 59.9**	**-0.9**
ROSC	**El Rosal**	**9.33**	**41**	P	**Pn**	**03 26 01.4**	**+0.6**
22nm,0.5s,baz=129,slow=5.5,SNR=12							
ROSC				S	**Sn**	**03 27 50.7**	**+6.2**
26nm,0.6s,baz=307,slow=21,SNR=1.3							
ROSC	**El Rosal**	**9.33**	**41**	P	**Pn**	**03 26 00.7**	**0.0**
842nm74nm,0.6s							
CZSB	**Cruzeiro do Su**	**9.47**	**126**	Pn	**Pn**	**03 26 00.7**	**-1.6**
CZSB	**Cruzeiro do Su**	**9.47**	**126**	P	**Pn**	**03 26 01.7**	**-0.6**
4μm416nm,0.5s							
CZSB	**Cruzeiro do Su**	**9.47**	**126**	*eP*	**Pn**	**03 26 00.1**	**-2.3**
CACAO	**El Cacao, Vera**	**9.52**	**358**	P	**Pn**	**03 26 03.1**	**+0.1**
23nm0.7nm,0.7s							
NORC	**Norcasia**	**9.55**	**36**	P	**Pn**	**03 26 02.7**	**-0.7**
628nm53nm,0.7s							
CHIC	**Chingaza**	**9.57**	**45**	P	**Pn**	**03 26 03.3**	**-0.8**
3μm2μm81nm,0.6s							
PTAC	**Punta Ardita,**	**9.68**	**16**	P	**Pn**	**03 26 04.3**	**-0.9**
978nm47nm,0.5s							
PAYG	**Puerto Ayora**	**9.94**	**279**	Pn	**Pn**	**03 26 09.8**	**+1.0**
AZU	**Azuero**	**9.95**	**1**	P	**Pn**	**03 26 09.0**	**0.0**
892nm48nm,0.5s							
AZU	**Azuero**	**9.95**	**1**	*eP*	**Pn**	**03 26 09.4**	**+0.4**
DBBC	**Dabeiba**	**10.12**	**25**	P	**Pn**	**03 26 11.9**	**+0.6**
PTBC	**PUERTO BERRIO,**	**10.57**	**35**	P	**Pn**	**03 26 14.7**	**-2.8**
281nm30nm,0.7s							
TBTG	**Tabatinga, AM**	**10.72**	**101**	Pn	**Pn**	**03 26 17.3**	**-2.1**
TBTG	**Tabatinga, AM**	**10.72**	**101**	P	**Pn**	**03 26 17.3**	**-2.1**
5μm334nm,0.9s							
TBTG	**Tabatinga, AM**	**10.72**	**101**	*eP*	**Pn**	**03 26 18.4**	**-1.0**
APAC	**Apartado, Choc**	**10.78**	**21**	P	**Pn**	**03 26 20.4**	**+0.1**
83nm,1.1s							
RUSC	**La Rusia**	**10.93**	**42**	Pn	**Pn**	**03 26 24.2**	**+1.5**
RUSC	**La Rusia**	**10.93**	**42**	P	**Pn**	**03 26 22.5**	**-0.2**
628nm31nm,0.8s							
UREC	**San Jos de Ur**	**11.07**	**26**	P	**Pn**	**03 26 22.6**	**-1.6**
434nm37nm,0.9s							
NELY	**Ciudad Neily**	**11.09**	**347**	*eP*	**Pn**	**03 26 26.5**	**+2.1**
ZANG	**Zanguenga, Cho**	**11.13**	**3**	*eP*	**Pn**	**03 26 27.3**	**+2.3**
ZARC	**Zaragoza, Cauc**	**11.16**	**30**	P	**Pn**	**03 26 25.3**	**-0.2**
40nm,1.0s							
BRU2	**Volcan**	**11.17**	**349**	Pn	**Pn**	**03 26 28.1**	**+2.4**
BRU2	**Volcan**	**11.17**	**349**	*eP*	**Pn**	**03 26 27.9**	**+2.1**
BCIP	**Isla Barro Col**	**11.34**	**3**	Pn	**Pn**	**03 26 29.6**	**+1.7**
BCIP	**Isla Barro Col**	**11.34**	**3**	P	**Pn**	**03 26 28.8**	**+0.9**
68nm,1.3s							
BCIP	**Isla Barro Col**	**11.34**	**3**	*eP*	**Pn**	**03 26 30.2**	**+2.3**
BARC	**Barichara**	**11.39**	**40**	P	**Pn**	**03 26 28.9**	**+0.1**
TAMC	**Tame, Arauca**	**12.21**	**45**	P	**Pn**	**03 26 39.6**	**-0.2**
36nm,1.1s							
PAMC	**Pamplona, Colo**	**12.26**	**39**	P	**Pn**	**03 26 40.9**	**-0.1**
PISJ	**San Jernim**	**12.33**	**343**	*eP*	**Pn**	**03 26 44.3**	**+2.7**
ABE2	**San Pablo**	**12.38**	**343**	*eP*	**Pn**	**03 26 45.3**	**+3.0**
LCR2	**La Lucha 2**	**12.40**	**344**	Pn	**Pn**	**03 26 44.3**	**+1.7**
LCR2	**La Lucha 2**	**12.40**	**344**	*eP*	**Pn**	**03 26 45.3**	**+2.7**
OCAC	**Ocana**	**12.61**	**34**	P	**Pn**	**03 26 44.0**	**-1.3**
758nm76nm,0.6s							
HDC	**Heredia**	**12.68**	**343**	Pn	**Pn**	**03 26 47.3**	**+0.9**
HDC	**Heredia**	**12.68**	**343**	*eP*	**Pn**	**03 26 46.1**	**-0.2**
JTS	**Las Juntas de**	**13.21**	**340**	Pn	**Pn**	**03 26 53.6**	**+0.1**
JTS	**Las Juntas de**	**13.21**	**340**	P	**Pn**	**03 26 54.1**	**+0.5**
8.2nm,0.9s,baz=125,slow=5.7,SNR=6.6							
JTS				LR	LR	03 31 10.4	
comp=Z,960nm,20.7s,baz=140,slow=33							
JTS	**Las Juntas de**	**13.21**	**340**	P	**Pn**	**03

AQDB Aquidauana 30.22 129 IAmb IAmb 03 29 56.1
comp=Z,32nm,0.9s
AQDB Aquidauana 30.22 129 *eP* **P 03 29 54.8 +0.4**
SNDB Serra Nova Dou 30.49 110 *eP* **P 03 29 57.2 +0.3**
PRPB Parauapebas 30.81 98 *eP* **P 03 29 59.6 -0.2**
ZON Zonda 31.21 160 IAmb IAmb 03 30 20.8
comp=Z,33nm,1.4s
ARAG Araguaiana, MT 31.25 117 *eP* **P 03 30 03.7 +0.1**
C2SB Chapadao do Su 31.66 123 *eP* **P 03 30 08.8 +1.6**
VA03 San Esteban 31.77 164 IAmb IAmb 03 30 11.5
comp=Z,33nm,1.1s
RPRD Ribas do Rio P 31.80 127 *eP* **P 03 30 09.3 +0.9**
AMBA Amambai (Brazi 32.15 132 *eP* **P 03 30 11.8 +0.3**
TMAB Tom-Au,PÀ,Br 32.34 91 *eP* **P 03 30 13.9 +0.6**
SJPY San Joaquin 32.62 136 *eP* **P 03 30 16.1 +0.5**
CPUP Villa Florida 32.68 139 P **P 03 30 16.0 -0.1**
comp=Z,2.3nm,0.8s,baz=299,slow=8.5,SNR=5.4
CPUP LR LR 03 46 44.3
comp=Z,825nm,18.0s,baz=324,slow=42
comp=Z,2.3nm,0.8s
CPUP Villa Florida 32.68 139 *eP* **P 03 30 16.3 +0.2**
CPUP Villa Florida 32.68 139 P **P 03 30 16.3 +0.2**
CPUP sP **sP 03 30 34.5 -0.9**
CPUP PcP **PcP 03 33 01.4 +0.3**
MT13 San Alfonso 32.77 164 P **P 03 30 18.3 +1.5**
MT13 IAmb IAmb 03 30 20.6
comp=Z,16nm,0.8s
MT13 PcP **PcP 03 33 02.5 +1.2**
LMEL Las Melosas 32.89 164 IAmb IAmb 03 30 36.0
comp=Z,17nm,0.9s
BO04 La Punta 32.91 165 IAmb IAmb 03 30 26.7
comp=Z,16nm,0.9s
BO01 Tunca 33.18 166 IAmb IAmb 03 30 23.1
comp=Z,28nm,1.4s
SMTB Santa Maria do 33.36 103 *eP* **P 03 30 22.5 +0.3**
250A Grady 34.46 351 P **P 03 30 31.7 +0.2**
BDFB Brasília 34.64 115 P **P 03 30 32.9 -0.5**
BDFB IAmb IAmb 03 30 34.9
comp=Z,16nm,0.9s
BDFB Brasília 34.64 115 P **P 03 30 33.4 0.0**
comp=Z,14nm,1.0s,baz=284,slow=11,SNR=17
BDFB LR LR 03 46 52.7
comp=Z,902nm,18.8s,baz=305,slow=40
comp=Z,14nm,1.0s
152A Waverly Hall 34.94 354 IAmb IAmb 03 30 50.9
comp=Z,8.9nm,0.8s
HKT Hockley 35.21 336 P **P 03 30 40.2 +2.4**
HKT pP **pP 03 30 51.8 +0.6**
HKT sP **sP 03 30 58.6 +1.3**
HKT PcP **PcP 03 33 09.4 +1.4**
IPMB Ipameri, GO 35.30 118 *eP* **P 03 30 39.0 0.0**
BI02 San Fabin de 35.30 167 IAmb IAmb 03 31 00.5
comp=Z,10nm,0.9s
LDASE Londrina, Braz 35.36 129 *eP* **P 03 30 39.1 -0.3**
PTGB Pitanga 35.37 132 *eP* **P 03 30 39.8 +0.3**
ITQB Itaqui 35.47 143 *eP* **P 03 30 41.2 +1.0**
LRAL Lakeview Retre 35.61 351 IAmb IAmb 03 30 56.9
comp=Z,12nm,0.7s
HODGE Hodges 36.30 357 IAmb IAmb 03 30 47.8
comp=Z,17nm,1.3s
JSC Jenkinsville 36.32 359 P **P 03 30 46.0 -1.4**
JSC PcP **PcP 03 33 09.0 -2.3**
Y49A Blount Mountai 36.33 352 P **P 03 30 45.6 -1.8**
HNDO Hondo 36.35 332 IAmb IAmb 03 30 51.9
comp=Z,27nm,1.5s
FRTB Fartura 36.56 128 *eP* **P 03 30 49.7 0.0**
SDBA SAO DESIDERIO 36.64 108 *eP* **P 03 30 49.7 -0.8**
ITAB Concordia 36.80 135 *eP* **P 03 30 51.3 -0.3**
PAULI Pauline 36.88 358 IAmb IAmb 03 30 52.8
comp=Z,16nm,1.4s
DRIO Del Rio 36.91 330 P **P 03 30 53.0 +0.5**
DRIO IAmb IAmb 03 30 54.3
comp=Z,15nm,0.9s
PMNB Patos De Minas 37.07 118 *eP* **P 03 30 54.1 0.0**
KMSC Kings Mountain 37.18 359 IAmb IAmb 03 30 55.3
comp=Z,32nm,1.5s
TBOT Tacuaremb 37.33 144 *eP* **P 03 30 57.3 +1.4**
JCT Junction City 37.39 332 P **P 03 30 57.6 +1.0**
BBSR BB Station 37.52 22 P **P 03 30 58.2 +0.7**
WLAR White Oak Lake 37.66 343 IAmb IAmb 03 31 00.7
comp=Z,28nm,1.1s
BRDY Brady 37.70 334 P **P 03 30 58.6 -0.7**
BRDY PcP **PcP 03 33 15.9 +0.2**
TKL Tuckaleechee C 37.81 356 LR LR 03 45 37.2
comp=Z,359nm,21.5s,baz=164,slow=35
V58A Windy Hill, Pi 37.84 2 IAmb IAmb 03 31 00.5
comp=Z,15nm,1.2s
JANB Januaria 37.87 112 *eP* **P 03 31 00.2 -0.7**
CPSB Cacapava Do Su 37.96 140 *eP* **P 03 31 01.9 +0.5**
FW13 Cleburne 37.96 336 P **P 03 31 01.1 -0.3**
FW13 IAmb IAmb 03 31 03.2
comp=Z,27nm,1.2s
V48A Smith Brothers 38.23 352 IAmb IAmb 03 31 03.9
comp=Z,13nm,1.0s
FW07 Weatherford 38.41 336 P **P 03 31 05.3 +0.1**
FW07 IAmb IAmb 03 31 23.3
comp=Z,17nm,0.6s
TXAR Lajitas Array 38.45 326 P **P 03 31 05.7 0.0**
TXAR PcP **PcP 03 33 19.0 +0.9**
TXAR Lajitas Array 38.45 326 P **P 03 31 06.3 +0.7**
comp=Z,1.6nm,1.1s,baz=141,slow=12,SNR=8.9
TXAR PcP **PcP 03 33 19.1 +1.0**
comp=Z,4.1nm,0.8s,baz=157,slow=6.9,SNR=17
TXAR LR LR 03 45 43.8
comp=Z,81nm,21.1s,baz=122,slow=34
comp=Z,1.6nm,1.1s
UALR University of 38.46 344 IAmb IAmb 03 31 06.4
comp=Z,21nm,1.2s
VAO Valinhos 38.48 125 IAmb IAmb 03 31 06.4
comp=Z,31nm,1.2s
VAO Valinhos 38.48 125 *eP* **P 03 31 05.3 -0.7**
SLBS Sierra La Lagu 38.55 314 P **P 03 31 08.3 +1.8**
SLBS pP **pP 03 31 21.6 +1.6**
FW06 Azle 38.56 337 P **P 03 31 06.5 +0.1**
FW06 IAmb IAmb 03 31 08.5
comp=Z,19nm,0.8s
LR05 Currie 38.60 170 P **P 03 31 06.5 -0.1**
LR05 IAmb IAmb 03 31 52.2
comp=Z,17nm,1.0s
TZTN Tazewell 38.68 356 IAmb IAmb 03 31 22.5
comp=Z,30nm,1.4s
PLPT Palo Pinto 38.73 336 P **P 03 31 08.2 +0.4**
PLPT IAmb IAmb 03 31 09.9
comp=Z,26nm,1.0s
PLPT PcP **PcP 03 33 19.3 +0.5**
Z35A Perchaven, San 38.76 337 P **P 03 31 06.9 -1.1**
Z35A IAmb IAmb 03 31 10.2
comp=Z,32nm,1.2s
WVT Waverly 38.77 350 P **P 03 31 06.0 -2.1**
WVT pP **pP 03 31 19.1 -2.5**
WVT PcP **PcP 03 33 17.0 -1.8**
PLTB Pedras Altas 38.78 142 P **P 03 31 08.6 +0.3**
PLTB IAmb IAmb 03 31 10.3
comp=Z,28nm,1.3s
PLTB PcP **PcP 03 33 19.5 +0.5**
PLTB Pedras Altas 38.78 142 *eP* **P 03 31 09.3 +1.0**
FW03 Perrin-Whitt E 38.82 336 P **P 03 31 08.4 -0.1**
FW03 IAmb IAmb 03 31 10.6
comp=Z,25nm,0.8s
PET01 Itanhaem-SP 38.84 127 *eP* **P 03 31 08.3 -0.6**
LPIG La Paz 39.07 314 LR LR 03 44 36.1
comp=Z,68nm,21.9s,baz=114,slow=32
ABTX Abilene, Hawle 39.13 334 P **P 03 31 10.4 -0.8**
ABTX IAmb IAmb 03 31 13.1
comp=Z,17nm,1.0s
MAJ01 Sao Joao Batis 39.15 133 *eP* **P 03 31 11.2 -0.2**
SGCY Sterling City 39.21 332 IAmb IAmb 03 31 13.5
comp=Z,18nm,1.0s
PLCA Paso Flores 39.37 168 P **P 03 31 13.6 +0.4**
PLCA PcP **PcP 03 33 20.2 -0.6**
PLCA Paso Flores 39.37 168 P **P 03 31 14.5 +1.4**
comp=Z,11nm,1.1s,baz=340,slow=8.6,SNR=23
PLCA PcP **PcP 03 33 21.5 +0.7**
comp=Z,3.5nm,0.8s,baz=12,slow=4.5,SNR=3.8
PLCA LR LR 03 44 52.8
comp=Z,244nm,21.9s,baz=12,slow=32
comp=Z,11nm,1.1s
PLCA Paso Flores 39.37 168 *eP* **P 03 31 14.7 +1.6**
PLCA Paso Flores 39.37 168 P **P 03 31 14.3 +1.2**
PLCA pP **pP 03 31 27.2 +0.5**
PLCA PcP **PcP 03 33 21.9 +1.1**
DIAM Diamantina, MG 39.44 116 *eP* **P 03 31 14.2 0.0**
TRQA Tornquist 39.48 157 P **P 03 31 14.2 +0.1**
TRQA IAmb IAmb 03 31 16.2
comp=Z,26nm,1.1s
TRQA PcP **PcP 03 33 21.2 +0.1**
MNHN Monahans 39.55 329 P **P 03 31 15.5 +0.7**
MNHN IAmb IAmb 03 31 16.7
comp=Z,15nm,0.7s
WTFS Witchita Falls 39.62 336 P **P 03 31 15.1 -0.1**
WTFS IAmb IAmb 03 31 17.2
comp=Z,42nm,1.4s
WTFS PcP **PcP 03 33 22.1 +0.5**
PARB Paraibuna 39.74 125 *eP* **P 03 31 16.3 -0.2**
S51A Beattyville 39.77 356 IAmb IAmb 03 31 15.9
comp=Z,22nm,1.3s
S54A Dinges, Beckl 39.83 359 IAmb IAmb 03 31 17.3
comp=Z,44nm,1.6s
PBMO Poplar Bluff 39.90 347 IAmb IAmb 03 32 42.1
comp=Z,43nm,1.9s
SN05 Snyder 5 39.90 333 P **P 03 31 17.1 -0.5**
SN05 IAmb IAmb 03 31 30.8
comp=Z,16nm,1.1s
SN05 PcP **PcP 03 33 22.4 -0.2**
X34A Smith Ranch, M 40.10 338 IAmb IAmb 03 31 21.6
comp=Z,28nm,1.0s
PECS Pecos 40.14 328 IAmb IAmb 03 31 32.5
comp=Z,24nm,1.6s
W35A Tecumseh 40.24 339 P **P 03 31 18.8 -1.5**
CGM3 Cape Girardeau 40.24 349 IAmb IAmb 03 31 20.4
comp=Z,24nm,1.3s
VHRN Van Horn 40.29 326 IAmb IAmb 03 31 23.2
comp=Z,40nm,1.7s
POST Post 40.34 332 IAmb IAmb 03 31 22.9
comp=Z,18nm,1.0s
TUL3 Leonard 40.55 341 IAmb IAmb 03 31 24.3
comp=Z,42nm,1.1s
DKNS Dickens 40.58 333 IAmb IAmb 03 31 25.7
comp=Z,42nm,1.8s
U38A Gravette 40.60 343 P **P 03 31 22.6 -0.7**
WCI Wyandotte Cave 40.61 353 P **P 03 31 20.8 -2.6**
WCI IAmb IAmb 03 31 22.9
comp=Z,37nm,1.6s
WCI Wyandotte Cave 40.61 353 P **P 03 31 22.0 -1.4**
WCI pP **pP 03 31 34.5 -2.5**
WCI PcP **PcP 03 33 24.4 -0.3**
LL01 San Ignacio de 40.62 171 P **P 03 31 23.8 +0.4**
MAN01 Angra dos Reis 40.91 123 *eP* **P 03 31 25.9 -0.3**
NBPB Pedra_Branca-C 40.91 96 *eP* **P 03 31 25.9 -0.4**
CLN7 Carlsbad 7 40.94 329 P **P 03 31 26.6 +0.3**
OK031 S. Brethren Rd 40.95 340 IAmb IAmb 03 31 27.2
comp=Z,31nm,0.9s
OK052 Battle Ridge R 40.97 340 IAmb IAmb 03 31 27.5
comp=Z,30nm,0.9s
Q52A Bidwell 41.02 358 IAmb IAmb 03 31 26.8
comp=Z,23nm,1.3s
OK029 Liberty Lake 41.02 339 P **P 03 31 25.7 -1.1**
OK029 IAmb IAmb 03 31 27.9
comp=Z,40nm,0.9s
QUOK Quay 41.10 340 IAmb IAmb 03 31 28.8
comp=Z,28nm,1.0s
VAS01 Vassouras-RJ 41.11 122 *eP* **P 03 31 28.0 +0.3**
OK048 Pawnee Station 41.40 340 P **P 03 31 29.6 -0.3**
OK051 E0350 and S346 41.44 340 IAmb IAmb 03 31 31.9
comp=Z,15nm,0.6s
LL02 Futaleuf 41.51 170 P **P 03 31 31.4 +0.7**
LL02 IAmb IAmb 03 31 32.9
comp=Z,16nm,0.9s
SMWD Samnorwood 41.51 335 IAmb IAmb 03 31 32.8
comp=Z,29nm,0.9s
P53A Whipple 41.52 359 IAmb IAmb 03 31 31.0
comp=Z,26nm,1.4s
MSTX Muleshoe 41.68 332 IAmb IAmb 03 31 34.1
comp=Z,30nm,1.1s
P48A Milroy 41.73 354 IAmb IAmb 03 31 43.2
comp=Z,35nm,1.6s
R40A Maddies Statio 41.77 346 P **P 03 31 31.6 -1.2**
SJMB Sao Joao De Ma 41.80 116 *eP* **P 03 31 33.0 -0.5**
CROK Carrier 41.85 339 IAmb IAmb 03 31 34.8
comp=Z,34nm,0.9s
DUB01 Friburgo-RJ 41.94 121 *eP* **P 03 31 35.0 +0.4**
GDU01 Guandu, BA 41.99 108 *eP* **P 03 31 33.6 -1.5**
ELIS Ellis County 42.00 337 P **P 03 31 35.0 +0.1**
OK038 West end E0370 42.11 338 IAmb IAmb 03 31 37.3
comp=Z,18nm,0.9s
KAN13 South Haven SW 42.12 340 IAmb IAmb 03 31 37.4
comp=Z,21nm,0.9s
OK032 Salt Plains WL 42.20 339 IAmb IAmb 03 31 37.9
comp=Z,60nm,1.5s
KAN17 Caldwell West 42.25 339 P **P 03 31 37.2 +0.4**
KAN17 IAmb IAmb 03 31 38.3
comp=Z,37nm,1.4s
O53A New Philadelph 42.28 359 IAmb IAmb 03 31 37.7
comp=Z,34nm,1.4s
KAN09 Caldwell North 42.28 339 IAmb IAmb 03 31 38.6
comp=Z,27nm,1.1s
ACSO Alum Creek Sta 42.32 357 P **P 03 31 35.6 -1.7**
KAN01 Argonia South 42.35 339 P **P 03 31 37.1 -0.6**
KAN01 IAmb IAmb 03 31 39.2
comp=Z,29nm,1.1s
KAN05 Bluff City Nor 42.35 339 IAmb IAmb 03 31 39.2
comp=Z,24nm,1.1s
CMC01 Camacan, BA 42.41 110 *eP* **P 03 31 38.5 0.0**
GUA01 Guaratinga, BA 42.45 112 *eP* **P 03 31 38.5 -0.3**
CAM01 Campos-RJ 42.46 120 *eP* **P 03 31 38.7 -0.1**
O48B Farmland 42.50 355 IAmb IAmb 03 31 38.0
comp=Z,14nm,0.8s
AY01 Puyuhuapi 42.58 172 P **P 03 31 40.3 +0.9**
AY01 IAmb IAmb 03 31 41.6
comp=Z,29nm,1.2s
RIB01 Linhares ES 42.71 116 *eP* **P 03 31 40.7 -0.1**
SSPA Standing Stone 42.72 3 P **P 03 31 39.7 -0.9**
SSPA Standing Stone 42.72 3 P **P 03 31 39.9 -0.7**
N58A Sunbury 43.00 4 P **P 03 31 41.4 -1.4**
N47A Urbana 43.17 354 IAmb IAmb 03 31 43.2
comp=Z,28nm,1.2s
319A Douglas 43.21 323 IAmb IAmb 03 31 47.5
comp=Z,19nm,1.1s
RTBA Rita Blanca 43.71 334 P **P 03 31 48.9 +0.1**
RTBA IAmb IAmb 03 31 50.8
comp=Z,42nm,1.7s
RTBA PcP **PcP 03 33 35.1 -0.1**
KSPA Keystone Colle 43.79 5 P **P 03 31 48.7 -0.5**
KSPA IAmb IAmb 03 31 50.4
comp=Z,39nm,1.8s
COYC Coyhaique 43.79 171 P **P 03 31 50.5 +1.4**
COYC pP **pP 03 32 04.0 +1.2**
R32A Long Quarter, 43.82 339 P **P 03 31 49.5 -0.1**
R32A IAmb IAmb 03 31 54.1
comp=Z,26nm,1.0s
SBM South Baldy 43.92 327 P **P 03 31 49.9 -1.0**
DUN6 Lazy B Ranch 43.94 324 IAmb IAmb 03 31 53.4
comp=Z,27nm,0.9s
M63A Gales Ferry 44.10 9 P **P 03 31 51.1 -0.6**
M63A IAmb IAmb 03 31 52.5
comp=Z,21nm,1.0s
ANMO Albuquerque 44.29 329 P **P 03 31 54.4 +0.9**
ANMO IAmb IAmb 03 31 55.9
comp=Z,16nm,1.0s
ANMO Albuquerque 44.29 329 P **P 03 31 54.5 +1.0**
ANMO pP **pP 03 32 07.7 +0.4**
N38A Joes South For 44.37 346 P **P 03 31 52.4 -1.5**
N38A IAmb IAmb 03 31 54.3
comp=Z,21nm,1.2s
BINY Binghamton 44.41 5 IAmb IAmb 03 31 54.4
comp=Z,17nm,0.8s
NBAN Anadia - AL 44.53 101 *eP* **P 03 31 55.7 0.0**
CBKS Cedar Bluff 44.54 338 IAmb IAmb 03 31 56.9
comp=Z,14nm,0.8s
TUC Tucson 44.77 323 P **P 03 31 58.6 +1.3**
TUC Tucson 44.77 323 P **P 03 31 58.4 +1.0**
TUC pP **pP 03 32 11.5 +0.4**
TUC PcP **PcP 03 33 39.2 +0.4**
L42A Oliver, Polo 44.81 350 IAmb IAmb 03 31 56.8
comp=Z,19nm,1.2s
K50A Casco 44.84 358 IAmb IAmb 03 31 57.6
comp=Z,42nm,1.3s
K57A Scipio Center 44.89 4 P **P 03 31 56.7 -1.3**
K57A IAmb IAmb 03 31 58.2
comp=Z,42nm,1.4s
T25A Trinidad 45.04 333 P **P 03 32 00.3 +0.8**
T25A IAmb IAmb 03 32 13.5
comp=Z,17nm,1.3s
N35A Tabor 45.06 344 IAmb IAmb 03 32 19.7
comp=Z,21nm,1.1s
J47A Sunmer 45.43 356 IAmb IAmb 03 32 01.6
comp=Z,30nm,1.0s
JFWS Jewell Farm 45.79 350 IAmb IAmb 03 32 04.8
comp=Z,11nm,0.8s
ACCN Adirondack Com 45.81 7 IAmb IAmb 03 32 06.2
comp=Z,27nm,1.4s
KSCO Kaye Shedlock' 45.83 336 P **P 03 32 06.4 +0.7**
KSCO IAmb IAmb 03 32 07.8
comp=Z,17nm,1.0s
BGNE Belgrade 46.31 342 IAmb IAmb 03 33 01.3
comp=Z,27nm,1.1s
SFX San Felipe 46.52 318 P **P 03 32 11.5 +0.4**
SFX IAmb IAmb 03 32 16.4
comp=Z,21nm,1.3s
I42A Draeger Farm, 46.53 352 IAmb IAmb 03 32 10.7
comp=Z,25nm,1.4s
I40A Norwalk 46.81 350 IAmb IAmb 03 32 12.8
comp=Z,19nm,1.1s
VT1 Waterbury 46.86 8 IAmb IAmb 03 32 14.6
comp=Z,20nm,1.2s
I63A Otisfield 46.92 10 IAmb IAmb 03 32 15.3
comp=Z,21nm,1.1s
113A Mohawk Valley, 46.93 321 P **P 03 32 14.1 -0.1**
LONY Lake Ozonia 46.94 6 IAmb IAmb 03 32 14.3
comp=Z,22nm,1.6s
WUAZ Wupatki 47.38 325 P **P 03 32 17.7 -0.2**
WUAZ IAmb IAmb 03 32 20.7
comp=Z,24nm,1.1s
WUAZ PcP **PcP 03 33 49.2 +1.2**
I37A Lemond, Waseca 47.47 347 IAmb IAmb 03 32 18.1
comp=Z,17nm,1.2s
ISCO Idaho Springs 47.76 334 P **P 03 32 21.2 +0.3**
PV15 Paradox Valley 47.95 330 P **P 03 32 23.0 +0.6**
PV15 IAmb IAmb 03 32 24.7
comp=Z,18nm,1.1s
PV13 Radium Mtn., P 47.97 330 IAmb IAmb 03 32 24.6
comp=Z,14nm,0.9s
ECSD EROS Data Cent 48.00 344 IAmb IAmb 03 32 22.3
comp=Z,15nm,1.0s
BLYC Blythe 48.05 321 P **P 03 32 23.8 +0.8**
BLYC IAmb IAmb 03 32 49.2
comp=Z,14nm,1.2s
PV07 Paradox Valley 48.10 330 P **P 03 32 23.8 +0.3**
PV11 David Mesa, Pa 48.11 330 IAmb IAmb 03 32 27.3
comp=Z,10nm,0.8s
PV23 Carpenter Ridg 48.30 330 IAmb IAmb 03 33 53.0
comp=Z,14nm,1.1s
TRQ Mont Tremblant 48.52 5 IAmb IAmb 03 34 06.5
comp=Z,24nm,1.5s
U15A North Rim 48.55 325 P **P 03 32 27.5 +0.4**
U15A PcP **PcP 03 33 52.3 -0.1**
W13A Hualapai Mount 48.56 323 P **P 03 32 27.8 +0.7**
HMU Henry Mountain 48.80 328 IAmb IAmb 03 33 54.8
comp=Z,15nm,1.1s
PFO Pinyon Flats O 49.20 320 P **P 03 32 33.1 +1.2**
PFO IAmb IAmb 03 32 48.8
comp=Z,20nm,1.5s
PFO Pinyon Flats O 49.20 320 LR LR 03 51 15.9
comp=Z,143nm,21.5s,baz=132,slow=34
O20A White River Ci 49.23 332 P **P 03 32 32.7 +0.6**
O20A IAmb IAmb 03 32 34.3
comp=Z,23nm,1.6s
PKCU Pink Cliffs 49.29 326 IAmb IAmb 03 32 47.0
comp=Z,16nm,1.2s
SRU San Rafael Swe 49.56 329 IAmb IAmb 03 32 36.6
comp=Z,13nm,1.3s
V12A Nelson 49.57 323 P **P 03 32 34.6 0.0**
P18A Preston Nutter 49.81 330 P **P 03 32 37.2 +0.4**
P18A PcP **PcP 03 33 57.1 +0.2**
P18A IAmb IAmb 03 33 58.5
comp=Z,9.7nm,0.9s
F33A 5 Mile Ranch, 49.87 346 IAmb IAmb 03 33 54.2
comp=Z,14nm,0.9s
MSU Marysvale 49.99 327 P **P 03 32 37.8 -0.2**
MSU PcP **PcP 03 33 57.9 +0.4**
RDMU Red Mountain 50.20 331 IAmb IAmb 03 32 41.2
comp=Z,9.2nm,0.9s
TCRU Three Creeks R 50.20 327 P **P 03 32 39.8 +0.1**
GSC Goldstone, Bar 50.49 321 P **P 03 32 42.8 +1.1**
GSC IAmb IAmb 03 33 08.1
comp=Z,16nm,1.2s
BSUT Blindstream Ca 50.76 330 P **P 03 32 45.1 +1.2**
BSUT IAmb IAmb 03 33 02.3
comp=Z,10.0nm,1.1s
BSUT PcP **PcP 03 34 00.7 +0.3**
PSUT Pine Spring 50.92 326 P **P 03 32 45.5 +0.5**
GWY Greenwater Val 50.98 322 IAmb IAmb 03 33 01.3
comp=Z,14nm,1.5s
SPR3 Spring Creek 3 51.51 326 P **P 03 32 49.5 0.0**
SPR3 PcP **PcP 03 34 03.1 -0.1**
TCUT Toone Canyon 51.52 330 IAmb IAmb 03 32 51.9
comp=Z,35nm,1.6s
PDAR Pinedale Array 51.91 333 P **P 03 32 51.5 -0.8**
PDAR PcP **PcP 03 34 04.0 -0.5**
PDAR Pinedale Array 51.91 333 P **P 03 32 52.5 +0.1**
comp=Z,2.8nm,0.9s,baz=134,slow=8.5,SNR=21
PDAR PcP **PcP 03 34 04.1 -0.4**
comp=Z,1.6nm,0.6s,baz=132,slow=6.7,SNR=6.5
PDAR LR LR 03 56 20.5
comp=Z,120nm,18.9s,baz=140,slow=38
comp=Z,2.8nm,0.9s
GRAC Grapevine Rang 51.93 322 IAmb IAmb 03 33 09.7
comp=Z,36nm,1.9s
HWUT Hardware Ranch 51.97 331 IAmb IAmb 03 32 54.4
comp=Z,10nm,0.9s
BGU Big Grassy Mou 52.20 329 P **P 03 32 54.0 -0.5**
DSP Deep Springs 52.54 322 P **P 03 32 57.6 +0.8**
SNOW Snow King Moun 53.00 333 IAmb IAmb 03 33 04.2
comp=Z,19nm,1.5s
LOHW Long Hollow 53.05 333 P **P 03 33 00.8 0.0**
TPAW Teton Pass 53.11 333 IAmb IAmb 03 33 05.9
comp=Z,11nm,1.1s
ELK Elko 53.23 327 P **P 03 33 02.4 +0.2**
ELK Elko 53.23 327 LR LR 03 55 12.1
comp=Z,237nm,19.1s,baz=95,slow=35
NVAR Mina Array Bea 53.42 323 P **P 03 33 04.0 +0.4**
NVAR PcP **PcP 03 34 10.1 -0.2**
NVAR Mina Array Bea 53.42 323 P **P 03 33 05.0 +1.4**
comp=Z,6.3nm,0.9s,baz=136,slow=7.0,SNR=33
NVAR PcP **PcP 03 34 10.6 +0.3**
comp=Z,3.7nm,0.7s,baz=142,slow=4.9,SNR=7.7
NVAR LR LR 03 53 13.4
comp=Z,108nm,21.4s,baz=186,slow=33
comp=Z,6.3nm,0.9s
LHV Little Huntoon 53.43 323 IAmb IAmb 03 33 06.3
comp=Z,9.8nm,0.9s
YFT Old Faithful 53.81 333 P **P 03 33 06.4 +0.1**
YFT IAmb IAmb 03 33 11.4
comp=Z,16nm,1.2s
WAKR Walker 54.15 323 P **P 03 33 09.3 +0.4**
WAKR IAmb IAmb 03 33 12.8
comp=Z,22nm,1.6s
BOZ Bozeman (W) 55.05 334 IAmb IAmb 03 33 17.1
comp=Z,18nm,1.1s
DLMT Dillon 55.30 333 P **P 03 33 16.9 -0.2**
DLMT IAmb IAmb 03 33 21.3
comp=Z,12nm,1.1s
MFID Camas Ranch 55.43 329 IAmb IAmb 03 33 20.4
comp=Z,26nm,1.2s
BEKR Beckworth 55.57 323 IAmb IAmb 03 33 20.9
comp=Z,8.3nm,1.0s
WVOR Wild Horse Val 56.25 327 IAmb IAmb 03 33 25.7
comp=Z,12nm,1.1s
RKT Rikitea 56.69 244 *e*P **P 03 33 27.0 -0.2**
RKT comp=Z,274nm,30.8s *e*S **S 03 41 14.3 -2.0**
RKT comp=Z,360nm,32.0s *e*SS **SS 03 45 08.6 +3.8**
RKT comp=Z,865nm,47.8s *e*LR LR 03 50 11.0
comp=Z,2μm,26.5s
PLID Pearl Lake 56.72 330 P **P 03 33 26.9 -0.4**
PLID PcP **PcP 03 34 23.0 +0.1**
PLID IAmb IAmb 03 34 24.7
comp=Z,29nm,1.6s
MSO Missoula 57.03 333 P **P 03 33 29.0 -0.2**
MSO IAmb IAmb 03 33 31.2
comp=Z,20nm,1.2s
I07A Izee 57.82 328 IAmb IAmb 03 33 38.0
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 58.12 324 LR LR 03 57 20.1
comp=Z,103nm,18.2s,baz=140,slow=35
J05D Fort Rock, OR 58.25 326 P **P 03 33 37.9 -0.1**
LNOR Lincton Mounta 58.41 330 IAmb IAmb 03 33 42.1
comp=Z,22nm,1.4s
PINE Pine Mountain 58.41 327 P **P 03 33 39.9 +0.8**
FFC Flin Flon 59.48 346 P **P 03 33 45.5 -0.6**
FFC IAmb IAmb 03 33 48.1
comp=Z,20nm,1.2s
FFC Flin Flon 59.48 346 P **P 03 33 46.0 -0.1**
NEW Newport 59.54 332 LR LR 04 01 02.5

comp=Z,61nm,18.3s,baz=138,slow=38
TAOE Nuku Hiva Isla 59.71 261 *e*P **P 03 33 52.0 +3.4**
comp=Z,48nm,25.1s
TAOE *e*S **S 03 41 54.5 -1.7**
comp=Z,52nm,25.3s
TAOE *e*SS **SS 03 45 50.9 -1.9**
comp=Z,84nm,28.8s
TAOE *e*LR LR 03 51 27.1
comp=Z,301nm,26.5s
B08A Colville Reser 60.65 331 P **P 03 33 54.2 -0.1**
B08A IAmb IAmb 03 33 56.0
comp=Z,7.6nm,1.0s
LON Longmire 60.80 329 IAmb IAmb 03 33 57.0
comp=Z,8.3nm,0.8s
GNW Green Mountain 61.86 329 P **P 03 34 02.5 +0.1**
BBTS Babate 65.46 73 LR LR 03 59 30.0
comp=Z,264nm,22.0s,baz=92,slow=33
MACI Morro de la Ar 68.36 59 P **P 03 34 44.7 -0.5**
PPT Papeete 69.42 252 LR LR 03 57 40.7
comp=Z,104nm,21.2s,baz=98,slow=29
PPT2 Papeete2 69.42 252 *e*S **S 03 43 55.7 -0.2**
comp=Z,126nm,25.2s
PPT2 Papeete2 69.42 252 *e*LR LR 03 56 02.5
comp=Z,488nm,26.0s
PPT2 *e*LR LR 03 56 03.4
comp=Z,321nm,28.0s
YKA Yellowknife Ar 69.52 344 P **P 03 34 50.3 -1.2**
YKA Yellowknife Ar 69.52 344 P **P 03 34 51.0 -0.5**
comp=Z,8.4nm,0.8s,baz=140,slow=5.8,SNR=133
comp=Z,8.4nm,0.8s
TBI Tubuai 69.85 246 *e*LR LR 03 56 14.4
comp=Z,2μm,26.8s
TBI *e*LR LR 03 56 16.3
comp=Z,862nm,26.2s
TOAD Toad River Com 70.38 337 P **P 03 34 57.2 +0.3**
baz=132,SNR=6.7
KOTAN Kotaneelee Air 70.80 339 P **P 03 34 59.7 +0.3**
baz=133
LIRD Liard River Hi 71.08 337 P **P 03 35 01.9 +0.8**
baz=131,SNR=5.4
T35M Bob Quinn 71.28 334 P **P 03 35 02.8 +0.4**
baz=126
U33K Whale Pass 72.09 332 P **P 03 35 07.9 +0.7**
baz=123
S34M Telegraph Cree 72.22 334 P **P 03 35 08.5 +0.6**
baz=126
WTLY Watson Lake, Y 72.58 337 P **P 03 35 10.8 +0.6**
baz=128
WRGLY Wrigley 72.75 341 P **P 03 35 10.8 -0.2**
WRGLY Wrigley 72.75 341 P **P 03 35 11.6 +0.6**
baz=134
R33M Jennings River 73.02 336 P **P 03 35 13.5 +0.6**
baz=126
TGTN Hyland Airport 73.28 338 P **P 03 35 15.0 +0.7**
baz=129
Q32M Nakina River 73.31 335 P **P 03 35 15.0 +0.3**
baz=125
R32K Eaglecrest 73.91 334 P **P 03 35 17.9 0.0**
baz=122
P33M Teslin, Yukon 74.26 336 P **P 03 35 20.4 +0.3**
P33M IAmb IAmb 03 35 22.3
comp=Z,16nm,1.1s
P33M Teslin, Yukon 74.26 336 P **P 03 35 20.3 +0.2**
baz=125
SKAG Skagway 74.90 334 P **P 03 35 24.1 +0.4**
baz=122
N32M Quiet Lake 74.90 336 P **P 03 35 24.2 +0.5**
baz=124
MMPY Sheldon Lake, 75.06 338 P **P 03 35 24.8 +0.1**
MMPY IAmb IAmb 03 35 26.7
comp=Z,24nm,1.3s
MMPY Sheldon Lake, 75.06 338 P **P 03 35 25.5 +0.8**
baz=127
WHY Whitehorse 75.36 336 P **P 03 35 26.6 +0.2**
baz=123
FARO Faro, Yukon 75.62 337 IAmb IAmb 03 35 30.3
comp=Z,14nm,1.2s
FARO Faro, Yukon 75.62 337 P **P 03 35 28.3 +0.5**
baz=124
O30N Mendenhall 75.92 335 IAmb IAmb 03 35 31.6
comp=Z,14nm,1.1s
O30N Mendenhall 75.92 335 P **P 03 35 29.8 +0.2**
baz=122
DBIC Dimbokro 75.98 83 P **P 03 35 30.7 -0.1**
DBIC Dimbokro 75.98 83 P **P 03 35 31.2 +0.4**
comp=Z,22nm,0.9s,baz=257,slow=4.2,SNR=13
comp=Z,22nm,0.9s
M31M Drury Creek, Y 76.01 337 P **P 03 35 30.5 +0.5**
baz=124
P29M Windy Craggy 76.04 334 P **P 03 35 30.7 +0.4**
baz=120
N31M Braeburn, Yuko 76.17 336 P **P 03 35 31.5 +0.5**
baz=122
ICESG Greenland Ices 76.38 14 *i* P **P 03 35 31.1 -1.4**
ICESG IAmb IAmb 03 35 33.1
comp=Z,111nm,1.7s
HYT Haines Junctio 76.54 335 IAmb IAmb 03 35 35.6
comp=Z,18nm,1.4s
HYT Haines Junctio 76.54 335 P **P 03 35 33.8 +0.5**
baz=120
N30M Aishikik Lake 76.69 336 IAmb IAmb 03 35 36.3
comp=Z,17nm,1.1s
N30M Aishikik Lake 76.69 336 P **P 03 35 35.0 +1.0**
baz=121
O29M Mount Kennedy 76.74 334 P **P 03 35 35.0 +0.6**
baz=119
PNL Peninsula 76.79 333 P **P 03 35 35.3 +0.8**
baz=118
YUK6 Outpost Mounta 76.97 335 P **P 03 35 36.3 +0.5**
baz=120
M30M Minto, Yukon 77.16 337 P **P 03 35 36.1 -0.4**
M30M IAmb IAmb 03 35 38.1
comp=Z,12nm,1.1s
M30M Minto, Yukon 77.16 337 P **P 03 35 37.2 +0.6**
baz=121,SNR=6.7
C36M Paulatuk 77.25 345 P **P 03 35 37.4 +0.5**
baz=135
YUK4 Talbot Arm 77.28 335 P **P 03 35 38.1 +0.6**
baz=120
YUK8 Steele Glacier 77.73 335 P **P 03 35 40.4 +0.3**
baz=118
M29M Somme Creek 77.75 336 P **P 03 35 40.6 +0.6**
M29M Somme Creek 77.75 336 P **P 03 35 40.6 +0.6**
baz=120,SNR=13
L29M L29M 77.96 337 P **P 03 35 41.7 +0.7**
baz=120,SNR=13
KULLO Kullorsuaq 77.97 6 *i* P P 03 35 35.4 -5.4
KULLO IAmb IAmb 03 35 41.0
comp=Z,21nm,0.9s
H31M Peel River 78.02 340 IAmb IAmb 03 35 43.0
comp=Z,24nm,1.1s
H31M Peel River 78.02 340 P **P 03 35 42.0 +0.7**
baz=124,SNR=12
J30M Hart River 78.04 339 P **P 03 35 42.5 +1.0**
J30M IAmb IAmb 03 35 43.4
comp=Z,13nm,0.9s
J30M Hart River 78.04 339 P **P 03 35 42.1 +0.5**
baz=122
K29M Barlow Dome 78.10 338 IAmb IAmb 03 35 43.3
comp=Z,18nm,0.9s
K29M Barlow Dome 78.10 338 P **P 03 35 42.2 +0.4**
baz=121,SNR=19
YUK3 Moose Creek 78.25 335 P **P 03 35 43.2 +0.3**
baz=118,SNR=5.6
I30M Mount Dempster 78.40 339 P **P 03 35 43.9 +0.4**
baz=122,SNR=26
J29N Klondike Camp 78.67 338 IAmb IAmb 03 35 47.4
comp=Z,21nm,1.4s
J29N Klondike Camp 78.67 338 P **P 03 35 45.5 +0.5**
baz=120,SNR=6.1
BVCY Beaver Creek 78.72 336 P **P 03 35 45.7 +0.4**
baz=118
F31M Tsiigehtchic 78.76 342 P **P 03 35 45.6 +0.4**
baz=125,SNR=20
DAWY Dawson 78.92 337 P **P 03 35 46.2 -0.1**
baz=119
M27K Edge Creek, AK 79.11 335 P **P 03 35 47.9 +0.4**
M27K IAmb IAmb 03 35 49.4
comp=Z,18nm,1.1s
M27K Edge Creek, AK 79.11 335 P **P 03 35 47.7 +0.2**
baz=116,SNR=6.5
EPYK Eagle Plains 79.14 340 IAmb IAmb 03 35 48.9
comp=Z,17nm,0.9s
EPYK Eagle Plains 79.14 340 P **P 03 35 47.7 +0.2**
baz=122
I29M Ogilvie Camp, 79.17 339 IAmb IAmb 03 35 49.1
comp=Z,16nm,1.1s
I29M Ogilvie Camp, 79.17 339 P **P 03 35 47.9 +0.3**
baz=120
RAR Rarotonga 79.23 249 LR LR 04 02 06.7
comp=Z,154nm,20.8s,baz=103,slow=29
SUMG Summit 79.23 12 P **P 03 35 47.5 -0.8**
SUMG Summit 79.23 12 *i* P **P 03 35 48.0 -0.3**
SUMG IAmb IAmb 03 35 48.6
comp=Z,23nm,0.8s
VRDI Verde Repeater 79.29 334 IAmb IAmb 03 35 51.6
comp=Z,22nm,1.2s
G30M tAoh Zraii Nji 79.30 341 P **P 03 35 48.6 +0.3**
baz=123
BORG Borgarnes 79.34 22 LR LR 04 07 42.6
comp=Z,102nm,21.6s,baz=179,slow=33
BELA Belgrano 2 79.34 171 **P 03 35 49.0 +0.7**
BELA IAmb IAmb 03 36 50.5
comp=Z,9.1nm,0.7s
BCAR Beaver Creek A 79.40 336 P **P 03 35 48.9 0.0**
A36M Sachs Harbour 79.40 347 P **P 03 35 48.5 -0.1**
baz=134,SNR=100
L27K Beaver Creek, 79.41 336 P **P 03 35 49.0 0.0**
L27K IAmb IAmb 03 35 51.1
comp=Z,45nm,1.7s
L27K Beaver Creek, 79.41 336 P **P 03 35 49.2 +0.2**
baz=117
F30M Barrier River 79.50 341 IAmb IAmb 03 35 50.7
comp=Z,17nm,0.9s
F30M Barrier River 79.50 341 P **P 03 35 49.7 +0.3**
baz=123,SNR=16
GLB Gilahina Butte 79.54 334 IAmb IAmb 03 35 51.4
comp=Z,26nm,1.2s
M26K Nabesna, AK 79.60 335 IAmb IAmb 03 35 52.2
comp=Z,21nm,1.4s
M26K Nabesna, AK 79.60 335 P **P 03 35 50.3 +0.2**
baz=116
H29M Whitestone 79.63 340 IAmb IAmb 03 35 51.7
comp=Z,20nm,1.0s
H29M Whitestone 79.63 340 P **P 03 35 50.6 +0.5**
baz=120,SNR=16
BMRM Bremner River 79.69 334 P **P 03 35 51.0 +0.4**
baz=114
I28M Miner Creek 79.80 339 IAmb IAmb 03 35 52.6
comp=Z,14nm,1.0s
I28M Miner Creek 79.80 339 P **P 03 35 51.2 +0.1**
baz=119,SNR=14
G29M Pine Creek 79.87 340 IAmb IAmb 03 35 52.6
comp=Z,20nm,0.8s
G29M Pine Creek 79.87 340 P **P 03 35 51.5 +0.2**
baz=121,SNR=16
K27K Chicken 79.95 337 P **P 03 35 52.7 +0.9**
baz=117
N25K Chitina, Valde 79.95 334 P **P 03 35 52.1 0.0**
baz=114
L26K Log Cabin Wild 80.02 336 P **P 03 35 52.0 -0.2**
L26K IAmb IAmb 03 35 53.8
comp=Z,13nm,1.1s
L26K Log Cabin Wild 80.02 336 P **P 03 35 52.3 0.0**
baz=115,SNR=5.4
EYAK Cordova Ski Ar 80.04 333 P **P 03 35 52.6 +0.2**
baz=113
KLU Klutina 80.49 334 P **P 03 35 54.9 0.0**
baz=113
I27K Kandik River 80.49 338 P **P 03 35 54.8 0.0**
baz=117,SNR=7.7
HARP HAARP 80.51 335 P **P 03 35 55.4 +0.4**
baz=114
DOT Dot Lake 80.58 336 P **P 03 35 55.0 -0.2**
E29M Blow River 80.59 342 IAmb IAmb 03 35 55.8
comp=Z,12nm,0.7s
E29M Blow River 80.59 342 P **P 03 35 55.2 -0.1**
baz=121,SNR=22
SCRK Sand Creek 80.68 336 P **P 03 35 56.2 +0.2**
baz=115,SNR=7.4
J26L Joseph Creek 80.74 337 IAmb IAmb 03 35 57.8
comp=Z,23nm,1.2s
J26L Joseph Creek 80.74 337 P **P 03 35 56.6 +0.4**
baz=115,SNR=15
H27K Steamboat Moun 80.75 339 IAmb IAmb 03 35 57.4
comp=Z,35nm,1.8s
H27K Steamboat Moun 80.75 339 P **P 03 35 56.2 0.0**
baz=118,SNR=9.5
M24K Tolsona, Glenn 80.84 334 P **P 03 35 57.1 +0.4**
baz=112
PAX Paxson 80.88 335 IAmb IAmb 03 35 57.9
comp=Z,19nm,1.0s
PAX Paxson 80.88 335 P **P 03 35 56.7 -0.3**
baz=113,SNR=14
RIDG Independent Ri 80.93 336 IAmb IAmb 03 35 58.5
comp=Z,17nm,1.0s
RIDG Independent Ri 80.93 336 P **P 03 35 57.4 +0.2**
baz=114,SNR=7.6
I26K Coal Creek Min 80.93 338 P **P 03 35 57.1 0.0**
baz=116
ESDC Sonseca Array 81.06 49 P **P 03 35 57.6 -0.8**
ESDC Sonseca Array 81.06 49 P **P 03 35 58.6 +0.2**
comp=Z,3.4nm,0.8s,baz=274,slow=5.1,SNR=12
comp=Z,3.4nm,0.8s
G27K Doyon Strip 81.07 339 P **P 03 35 57.6 -0.2**
baz=117
NEEM North Greenlan 81.21 6 *i* P **P 03 35 58.9 +0.1**
NEEM IAmb IAmb 03 35 59.9
comp=Z,39nm,1.0s
E28M Babbage River 81.22 341 IAmb IAmb 03 35 59.2
comp=Z,17nm,1.1s
E28M Babbage River 81.22 341 P **P 03 35 58.5 -0.1**
baz=120,SNR=16
SCM Sheep Creek Mo 81.24 334 P **P 03 35 59.1 +0.2**
SCM Sheep Creek Mo 81.24 334 P **P 03 35 59.0 +0.1**
baz=112,SNR=5.0
K24K Donnelly Dome 81.33 336 P **P 03 35 59.3 0.0**
baz=113
PWL Port Wells 81.34 333 P **P 03 35 59.8 +0.4**
baz=110
D28M Stokes Point 81.34 342 P **P 03 35 59.6 +0.4**
baz=121
M23K Glacier View 81.40 334 P **P 03 35 59.9 +0.2**
baz=111
J25K Salcha River, 81.50 337 IAmb IAmb 03 36 01.4
comp=Z,9.0nm,0.9s
J25K Salcha River, 81.50 337 P **P 03 36 00.2 +0.1**
baz=114,SNR=11
KNK Knik Glacier 81.59 333 P **P 03 36 00.7 0.0**
baz=110
SEW Seward 81.60 332 P **P 03 36 01.0 +0.4**
baz=109
SML Sawmill 81.67 334 P **P 03 36 01.1 0.0**
baz=110
E27K Coleen River 81.69 341 IAmb IAmb 03 36 02.3
comp=Z,22nm,1.1s
E27K Coleen River 81.69 341 P **P 03 36 01.2 +0.1**
baz=118
VNA3 Neumayer Olymp 81.79 162 ⇑P **P 03 36 02.5 +1.0**
comp=Z,19nm,0.8s
G26K Porcupine Rive 81.88 339 IAmb IAmb 03 36 02.9
comp=Z,8.8nm,0.9s
G26K Porcupine Rive 81.88 339 P **P 03 36 02.0 0.0**
baz=115,SNR=9.4
PRP Porcupine Dome 81.92 338 P **P 03 36 01.5 -1.1**
PRP IAmb IAmb 03 36 03.6
comp=Z,30nm,1.8s
PRP Porcupine Dome 81.92 338 P **P 03 36 02.9 +0.4**
baz=114,SNR=5.8
PMR Palmer 81.95 333 P **P 03 36 02.7 +0.1**
baz=110
D27M Malcolm River 81.99 342 P **P 03 36 02.9 +0.2**
baz=118,SNR=24
SCO Scoresbysund 82.01 17 *i* P **P 03 36 02.2 -0.4**
SCO IAmb IAmb 03 36 04.0
comp=Z,8.1nm,1.2s
HDA Harding Lake 82.05 336 IAmb IAmb 03 36 03.7
comp=Z,17nm,1.2s
HDA Harding Lake 82.05 336 P **P 03 36 02.9 -0.1**
baz=112,SNR=7.4
VNA1 Neumayer--Stat 82.06 161 ⇑P **P 03 36 04.3 +1.4**
comp=Z,17nm,1.0s
RC01 Rabbit Creek A 82.06 333 P **P 03 36 03.0 -0.1**
baz=109
BRSE Bradley Lake S 82.10 331 P **P 03 36 03.3 -0.1**
baz=108
IL31 82.16 337 IAmb IAmb 03 36 04.3
comp=Z,9.9nm,1.1s
ILAR Eielson Array 82.16 337 P **P 03 36 02.4 -1.2**
ILAR Eielson Array 82.16 337 P **P 03 36 03.0 -0.6**
comp=Z,4.6nm,1.0s,baz=133,slow=3.3,SNR=33
ILAR PP **PP 03 39 13.4 +1.1**
comp=Z,0.5nm,0.3s,baz=106,slow=6.4,SNR=7.6
comp=Z,4.6nm,1.0s
FYU Fort Yukon 82.24 339 IAmb IAmb 03 36 04.9
comp=Z,16nm,0.9s
F26K Sheenjek River 82.33 340 IAmb IAmb 03 36 06.0
comp=Z,17nm,1.0s
F26K Sheenjek River 82.33 340 P **P 03 36 04.8 +0.3**
baz=115,SNR=23
H25L Birch Creek 82.34 338 P **P 03 36 05.0 +0.6**
baz=113,SNR=15
BMAR Burnt Mountain 82.37 339 P **P 03 36 05.0 +0.3**
KDAK Kodiak Island 82.43 329 P **P 03 36 05.6 +0.5**
baz=106
M22K Willow 82.45 333 P **P 03 36 05.5 +0.4**
baz=109
POKR Poker Plat Res 82.50 337 P **P 03 36 05.5 +0.1**
baz=112
WRH Wood River Hil 82.53 336 IAmb IAmb 03 38 54.8
comp=Z,13nm,1.4s
MCK McKinley 82.61 335 P **P 03 36 06.0 +0.1**
baz=110,SNR=5.5
CAPN Captain Cook N 82.61 332 P **P 03 36 06.3 +0.3**
baz=108
OHAK Old Harbor 82.64 328 P **P 03 36 06.4 +0.2**
baz=106
G25K Bearman Lake 82.64 339 P **P 03 36 06.5 +0.5**
baz=113
SUA Susitna One 82.64 333 P **P 03 36 06.1 -0.2**
baz=108
CUT Chulitna 82.73 334 P **P 03 36 06.8 +0.2**
baz=109
F25K Christian Rive 82.81 339 P **P 03 36 07.0 0.0**
baz=114,SNR=10.0
TORD Torodi Ar. Bea 82.88 77 P **P 03 36 07.1 -1.2**
TORD IAmb IAmb 03 36 09.5
comp=Z,17nm,1.3s
TORD Torodi Ar. Bea 82.88 77 P **P 03 36 08.1 -0.2**
comp=Z,63nm,0.3s,baz=274,slow=6.7,SNR=1.4
H24K Noodor Dome 82.95 337 P **P 03 36 07.2 -0.5**
H24K IAmb IAmb 03 36 09.0
comp=Z,17nm,1.1s
H24K Noodor Dome 82.95 337 P **P 03 36 07.8 0.0**
baz=112,SNR=17
NEA2 Nenana 82.97 336 P **P 03 36 07.7 -0.1**
baz=110,SNR=10
E25K Arctic Village 83.00 340 P **P 03 36 07.7 -0.2**
E25K IAmb IAmb 03 36 09.7
comp=Z,17nm,1.0s
E25K Arctic Village 83.00 340 P **P 03 36 08.6 +0.7**
baz=114,SNR=20
C27K Jago River 83.03 342 P **P 03 36 08.6 +0.6**
baz=116
TRF Thorofare Moun 83.08 335 P **P 03 36 08.6 0.0**
baz=109
O20K Slope Mountain 83.10 331 P **P 03 36 08.7 +0.1**
baz=106
G24K Hadweenzic Riv 83.12 338 P **P 03 36 09.2 +0.6**
baz=112
SKT Skwentna 83.16 333 P **P 03 36 08.9 +0.1**
baz=108,SNR=12
SPCR Spurr Chakacha 83.23 332 P **P 03 36 09.0 -0.3**
baz=107
I23K Minto, Yukon-K 83.28 337 IAmb IAmb 03 36 10.5
comp=Z,19nm,0.9s
I23K Minto, Yukon-K 83.28 337 P **P 03 36 09.2 -0.1**
baz=110,SNR=15
Q19K Cape Douglas, 83.28 330 P **P 03 36 09.3 -0.3**
baz=106
C26K Camden Bay 83.53 342 P **P 03 36 10.9 +0.3**
baz=115
F24K Squaw Lake 83.57 339 IAmb IAmb 03 36 13.0
comp=Z,24nm,1.7s
F24K Squaw Lake 83.57 339 P **P 03 36 11.2 +0.2**
baz=112
H23K Yukon River 83.58 337 P **P 03 36 10.9 0.0**
baz=110
BPAW Bear Paw Mtn. 83.59 335 P **P 03 36 10.8 -0.2**
baz=108,SNR=21
PPLA Purkeyile 83.73 334 P **P 03 36 11.7 -0.3**
baz=107,SNR=5.9
D25K Kavik River 83.75 341 P **P 03 36 12.3 +0.5**
baz=113,SNR=34
CAST Castle Rocks 83.84 335 P **P 03 36 11.9 -0.4**
baz=107,SNR=14
M20K Styx River 83.86 333 P **P 03 36 12.5 0.0**
baz=106
E24K Your Creek 83.99 340 IAmb IAmb 03 36 15.4
comp=Z,17nm,1.5s
E24K Your Creek 83.99 340 P **P 03 36 13.3 +0.2**
baz=111,SNR=11
SNAA Sanae 84.01 162 P **P 03 36 13.1 -0.1**
SNAA Sanae 84.01 162 ⇑P **P 03 36 13.9 +0.7**
comp=Z,158nm,0.8s
SNAA Sanae 84.01 162 P **P 03 36 13.6 +0.5**
comp=Z,9.7nm,1.0s,baz=292,slow=5.4,SNR=11
comp=Z,9.7nm,1.0s
G23K Bananza Creek 84.07 338 P **P 03 36 14.1 +0.7**
baz=110,SNR=19
CHUM Lake Minchumin 84.08 335 P **P 03 36 13.2 -0.3**
baz=107,SNR=5.9
O18K Koktuh Hills 84.30 331 P **P 03 36 14.4 -0.3**
baz=104
COLD Coldfoot 84.31 338 IAmb IAmb 03 36 16.6
comp=Z,16nm,1.1s
COLD Coldfoot 84.31 338 P **P 03 36 15.3 +0.7**
baz=109,SNR=14
H22K Ishtalitna Cre 84.32 337 P **P 03 36 14.7 0.0**
baz=108
I21K Tanana 84.33 336 P **P 03 36 14.4 -0.4**
baz=108
L20K Farewell, AK 84.36 333 P **P 03 36 14.5 -0.5**
baz=106
E23K Chandalar 84.38 339 IAmb IAmb 03 36 17.4
comp=Z,16nm,1.2s
E23K Chandalar 84.38 339 P **P 03 36 15.5 +0.4**
baz=110,SNR=13
M19K Big River Lodg 84.43 333 P **P 03 36 14.7 -0.7**
baz=105
D24K Happy Valley 84.50 340 IAmb IAmb 03 36 21.2
comp=Z,10nm,1.4s
D24K Happy Valley 84.50 340 P **P 03 36 15.4 -0.1**
baz=111
TOLK Toolik Lake Re 84.57 340 P **P 03 36 15.6 -0.4**
TOLK IAmb IAmb 03 36 18.9
comp=Z,18nm,1.6s
TOLK Toolik Lake Re 84.57 340 P **P 03 36 16.0 0.0**
baz=110
EKA Eskdalemuir Ar 84.62 34 P **P 03 36 16.4 0.0**
comp=Z,5.9nm,0.8s,baz=250,slow=4.2,SNR=9.2
comp=Z,5.9nm,0.8s
C24K Franklin Bluff 84.66 341 P **P 03 36 16.7 +0.4**
baz=111
K20K Telida 84.68 334 P **P 03 36 16.0 -0.6**
baz=106,SNR=8.1
G22K Bettles 84.69 338 P **P 03 36 16.5 -0.1**
baz=108,SNR=7.7
L19K White Mountain 84.72 333 P **P 03 36 16.6 -0.2**
baz=105
Q16K King Salmon 84.74 329 P **P 03 36 16.2 -0.7**
baz=103
H21K Melozitna Rive 84.81 337 P **P 03 36 16.6 -0.5**
baz=107,SNR=5.1
N18K Kilae Creek 84.83 331 P **P 03 36 16.1 -1.3**
baz=104
J20K Nowinta River 84.94 335 P **P 03 36 17.4 -0.4**
baz=106
M18K Stony River 84.99 332 P **P 03 36 17.4 -0.7**
baz=104
D23K Nanushuk River 85.06 340 P **P 03 36 18.0 -0.3**
baz=109
F22K John River 85.12 338 P **P 03 36 18.5 -0.3**
baz=108,SNR=20
E22K Anaktuvuk Pass 85.19 339 P **P 03 36 18.8 -0.2**
E22K IAmb IAmb 03 36 20.3
comp=Z,18nm,1.2s
E22K Anaktuvuk Pass 85.19 339 P **P 03 36 19.2 +0.1**
baz=108,SNR=15
O17K Koliganek Bris 85.20 330 P **P 03 36 19.1 -0.1**
baz=102
I20K Naaghedeneel 85.24 336 P **P 03 36 19.0 -0.3**
baz=105
C23K Itkillik River 85.33 341 P **P 03 36 20.1 +0.5**
baz=109
G21K Allakaket 85.33 337 P **P 03 36 20.4 +0.6**
baz=106,SNR=18
N17K Nushagak Hills 85.41 331 P **P 03 36 20.2 0.0**
baz=102
TTA Tatalina 85.42 334 IAmb IAmb 03 38 25.0
comp=Z,11nm,1.2s
TTA Tatalina 85.42 334 P **P 03 36 19.9 -0.5**
baz=104
P16K Nushagak River 85.49 330 P **P 03 36 20.7 0.0**

baz=102
J19K Poorman 85.51 335 P **P** **03 36 20.8 +0.1**
baz=104
F21K Alatna River 85.52 338 IAmb IAmb 03 36 22.3
comp=Z,15nm,1.0s
F21K Alatna River 85.52 338 P **P** **03 36 21.2 +0.5**
baz=106,SNR=11
CHNA Chernabura Isl 85.55 325 P **P** **03 36 21.0 -0.1**
baz=100
H20K Anotleneega Mo 85.59 336 P **P** **03 36 21.0 -0.1**
baz=105,SNR=10
O16K Kokwok River B 85.66 330 P **P** **03 36 20.7 -0.8**
baz=102
D22K Ayikyak River 85.72 340 IAmb IAmb 03 36 25.2
comp=Z,9.9nm,1.1s
D22K Ayikyak River 85.72 340 P **P** **03 36 22.1 +0.4**
baz=107,SNR=11
M17K Holitna River 85.72 332 IAmb IAmb 03 36 22.7
comp=Z,19nm,1.4s
M17K Holitna River 85.72 332 P **P** **03 36 21.6 -0.2**
baz=102
S14K Fog Glacier 85.79 327 P **P** **03 36 22.6 +0.2**
baz=100
J18K Innoko River 85.86 334 P **P** **03 36 22.7 +0.2**
baz=103
E21K Killik River 86.04 339 P **P** **03 36 23.6 +0.3**
baz=106,SNR=9.5
SDPT Sand Point 86.14 326 P **P** **03 36 24.5 +0.5**
baz=99
N16K Nishlik Lake 86.17 331 P **P** **03 36 24.4 +0.3**
baz=101
GCSA Galena City Sc 86.23 335 P **P** **03 36 24.8 +0.6**
baz=103
H19K Roundabout Mou 86.23 336 IAmb IAmb 03 36 25.7
comp=Z,18nm,1.6s
H19K Roundabout Mou 86.23 336 P **P** **03 36 24.7 +0.5**
baz=104
L17K Donlin 86.28 333 P **P** **03 36 24.6 0.0**
baz=102
F20K Avaraart Lake 86.32 338 IAmb IAmb 03 36 29.0
comp=Z,8.8nm,1.5s
F20K Avaraart Lake 86.32 338 P **P** **03 36 25.3 +0.7**
baz=104
M16K Timber Creek 86.37 331 P **P** **03 36 26.0 +0.9**
baz=101
B22K Teshekpuk Lake 86.40 341 P **P** **03 36 25.4 +0.5**
baz=107
K17K Iditarod 86.40 333 P **P** **03 36 25.6 +0.5**
baz=102
O15K Ungalikthiuk R 86.45 330 P **P** **03 36 25.9 +0.5**
baz=100
C21K Knifeblade Rid 86.52 340 P **P** **03 36 26.4 +0.8**
baz=105,SNR=11
B21K Ikpikpuk River 86.59 340 P **P** **03 36 26.4 +0.6**
baz=106,SNR=24
G19K Purcell Mounta 86.63 337 P **P** **03 36 26.6 +0.5**
baz=103,SNR=8.4
L16K Owhat River 86.74 332 IAmb IAmb 03 36 28.7
comp=Z,11nm,1.1s
L16K Owhat River 86.74 332 P **P** **03 36 27.5 +0.7**
baz=101
H18K Honhosa River 86.93 336 P **P** **03 36 28.6 +0.9**
baz=102,SNR=5.5
E19K Redstone River 86.99 338 P **P** **03 36 27.9 0.0**
baz=103
D20K Etivluk River 87.05 339 P **P** **03 36 28.6 +0.4**
baz=104
F19K Shaleruckik Mo 87.05 337 P **P** **03 36 28.4 +0.2**
baz=102
A22K Sinclair Lake 87.08 342 P **P** **03 36 29.2 +0.9**
baz=105
M15K Kasigluk River 87.14 331 P **P** **03 36 29.7 +0.9**
baz=99
TAM Tamanrasset 87.16 67 P **P** **03 36 29.4 -0.5**
TAM IAmb IAmb 03 36 32.2
comp=Z,6.2nm,0.8s
G18K Tagagawik 87.20 336 P **P** **03 36 29.9 +0.9**
baz=102
N14K Kuskokwak Cree 87.51 330 P **P** **03 36 31.1 +0.6**
baz=98,SNR=5.2
H17K Granite Mounta 87.53 335 IAmb IAmb 03 36 32.5
comp=Z,16nm,1.2s
H17K Granite Mounta 87.53 335 P **P** **03 36 31.5 +0.9**
baz=100
J16K Anvik River 87.54 334 P **P** **03 36 31.2 +0.6**
baz=100
D19K Kuna River 87.54 339 P **P** **03 36 31.3 +0.7**
baz=102,SNR=26
B20K Meade River 87.54 340 P **P** **03 36 31.3 +0.8**
baz=103
A21K Barrow 87.68 342 P **P** **03 36 31.7 +0.6**
baz=104,SNR=10
L15K Ungalak Mounta 87.68 332 P **P** **03 36 31.9 +0.6**
baz=99
F18K Selawik 87.74 337 P **P** **03 36 32.1 +0.6**
baz=101
FALS False Pass 87.74 325 P **P** **03 36 32.1 +0.3**
baz=97
M14K Bethel 87.77 331 IAmb IAmb 03 36 33.5
comp=Z,13nm,0.9s
M14K Bethel 87.77 331 P **P** **03 36 32.3 +0.6**
baz=98
K15K Wolf Creek Mou 87.80 332 P **P** **03 36 32.9 +1.0**
baz=99
QSPA South Pole Qui 87.84 180 P **P** **03 36 33.1 +0.9**
QSPA South Pole Qui 87.84 180 P **P** **03 36 33.4 +1.2**
comp=Z,13nm,1.0s,baz=154,slow=1.7,SNR=31
comp=Z,13nm,1.0s
G17K Kiwalik Mounta 87.94 336 P **P** **03 36 33.9 +1.4**
baz=100
L14K Kuka Creek 88.20 331 P **P** **03 36 34.7 +0.9**
baz=98
E18K Tukpahlearik C 88.25 338 P **P** **03 36 34.4 +0.5**
baz=100
F17K Baldwin Pennin 88.34 337 P **P** **03 36 35.2 +0.8**
baz=99
M13K Dall Lake 88.40 330 P **P** **03 36 35.3 +0.6**
baz=97
UCC Uccle 88.43 39 *d*P **P** **03 36 35.7 +0.5**
H16K Elim 88.47 335 P **P** **03 36 35.9 +0.9**
baz=98
NOR Nord 88.47 8 *i* P **P** **03 36 34.7 -0.1**
NOR IAmb IAmb 03 36 36.0
comp=Z,30nm,1.5s
DOU Dourbes 88.52 40 *d*P **P** **03 36 36.0 +0.4**
comp=Z,9.8nm,1.2s
G16K Koyuk River 88.63 336 P **P** **03 36 36.7 +1.0**
baz=98
BMRD Maredsous 88.65 40 *d*P **P** **03 36 36.8 +0.6**
comp=Z,7.2nm,1.4s
E17K Hotham Inlet 88.67 337 P **P** **03 36 36.7 +0.8**
baz=99
C18K Utukok River 88.68 339 P **P** **03 36 36.6 +0.6**
baz=99
J14K Nanvaranak Lak 88.79 333 P **P** **03 36 37.6 +1.1**
J14K Nanvaranak Lak 88.79 333 P **P** **03 36 38.0 +1.5**
baz=97
BGES Gesves 88.86 40 *d*P **P** **03 36 37.5 +0.3**
A19K Wainwright 88.89 340 P **P** **03 36 37.9 +1.0**
baz=99
RCHB Rochefort 88.93 40 *d*P **P** **03 36 38.0 +0.5**
BCLA Clavier 89.00 40 *d*P **P** **03 36 38.2 +0.4**
B18K Kokolik River 89.01 339 P **P** **03 36 38.5 +1.0**
baz=99
K13K Kusilvak Mount 89.21 332 P **P** **03 36 39.6 +1.1**
baz=96
RDOG Red Dog Mine 89.22 338 P **P** **03 36 39.2 +0.7**
baz=98,SNR=6.1
D17K Noatak River 89.24 338 P **P** **03 36 39.6 +1.0**
baz=98,SNR=10
G15K Niukluk 89.28 335 P **P** **03 36 40.0 +1.2**
baz=97
MEM Membach 89.46 39 *d*P **P** **03 36 40.2 +0.2**
WLF Walferdange 89.49 40 *d*P **P** **03 36 40.8 +0.7**
BTNL Ternell 89.54 40 *d*P **P** **03 36 40.6 +0.2**
F15K North Star Dit 89.61 336 P **P** **03 36 41.5 +1.1**
baz=96,SNR=5.1
ECH Echery 90.06 42 IAmb IAmb 03 36 43.8
comp=Z,7.0nm,0.9s
C16K Lisburne Hills 90.15 338 P **P** **03 36 43.5 +0.7**
baz=95
F14K Arctic Creek 90.29 335 P **P** **03 36 44.4 +0.8**
baz=94
DAVA Damuels 91.86 43 *i* PcP **PcP** **03 36 52.3 0.0**
comp=Z,16nm,1.1s
FUORN Ofenpass-Fuorn 92.11 44 IAmb IAmb 03 38 45.6
comp=Z,13nm,1.9s
ELIB Princess Elisa 92.16 162 *d*P **P** **03 36 53.6 +1.3**

FETA Feichten 92.43 43 *i* PcP **PcP** **03 36 54.9 +0.1**
comp=Z,8.7nm,1.0s
RETA Reutte 92.46 43 *i* P **P** **03 36 54.3 +0.2**
comp=Z,5.2nm,1.2s
SBA Scott Base 92.53 191 P **P** **03 36 55.3 +1.5**
MOTA Moosalm 92.69 43 *i* P **P** **03 36 55.2 -0.1**
comp=Z,4.6nm,0.8s
SQTA Sankt Quirin 92.76 43 *i* P **P** **03 36 55.6 0.0**
comp=Z,10.0nm,1.3s
GRF Grafenberg Arr 92.78 41 *e*P 03 36 55.9
comp=Z,4.6nm,1.3s,baz=270,slow=5.7
WATA Walderalm 93.01 43 *i* PcP **PcP** **03 36 57.8 +0.4**
comp=Z,9.8nm,1.1s
WTTA Wattenberg 93.05 43 *i* PcP **PcP** **03 36 58.4 +0.8**
comp=Z,7.6nm,0.9s
NKC Novy Kostel 93.57 40 *e*P **P** **03 37 00.6 +1.5**
SPITS Spitsbergen Ar 93.57 12 P **P** **03 36 58.5 -0.1**
comp=Z,2.1nm,0.5s,baz=226,slow=7.8,SNR=12
comp=Z,2.1nm,0.5s
CIMO Cimolais 93.61 44 IAmb IAmb 03 37 00.7
comp=Z,5.2nm,1.1s
VNDA Vanda 93.63 191 P **P** **03 37 00.3 +1.5**
comp=Z,1.9nm,0.8s,baz=126,slow=3.1,SNR=9.3
comp=Z,1.9nm,0.8s
ABTA Abfaltersbach 93.65 43 *i* PcP **PcP** **03 37 00.3 +0.1**
comp=Z,5.5nm,1.0s
LESA Schwarzleotal 93.76 43 *e*PcP **P** **03 37 00.3 +0.2**
comp=Z,4.1nm,1.0s
CLL Collm 93.90 39 *e*P **P** **03 37 00.0 -0.5**
comp=Z,15nm,1.6s
CLL *ex* x 03 37 13.0
CLL *e*(pP) **pP** **03 37 17.0 +1.4**
CLL *ex* x 03 37 24.0
CLL *e*PP **PP** **03 40 45.0 -1.7**
HSKC Hora Svate Kat 94.19 40 *e*P **P** **03 37 03.2 +1.2**
KBA Koelnbreinsper 94.22 43 *e*PcP **PcP** **03 37 02.6 -0.2**
comp=Z,2.5nm,0.7s
KHC Kasperske Hory 94.32 41 *e*P **P** **03 37 03.9 +1.3**
BIOA Bad Ischl, Aus 94.40 43 *e*PcP **PcP** **03 37 03.5 +0.1**
comp=Z,2.3nm,0.5s
GERES GERESS Array B 94.41 41 P **P** **03 37 03.5 +0.4**
comp=Z,1.1nm,0.7s,baz=250,slow=2.7,SNR=14
comp=Z,1.1nm,0.7s
BRG Berggiesshubel 94.50 39 *e*P **P** **03 37 04.5 +1.1**
BRG Amp 03 37 05.6
comp=Z,9.4nm,1.0s
RICC Richard 94.61 40 *e*P **P** **03 37 05.8 +1.9**
ZVC Zvikov 94.72 41 *e*P **P** **03 37 05.7 +1.3**
MOA Molln 94.82 42 *i* PcP **PcP** **03 37 05.6 +0.3**
comp=Z,6.8nm,1.1s
PVCC Panska Ves 94.92 40 *e*P **P** **03 37 06.6 +1.4**
OBKA Obir 95.06 44 *e*PcP **P** **03 37 06.2 +0.1**
comp=Z,7.1nm,1.6s
SOKA Soboth 95.39 44 *e*P **P** **03 37 07.1 -0.5**
comp=Z,3.4nm,1.7s
CHVC Chvalec 95.86 40 *e*P **P** **03 37 11.1 +1.5**
CONA Conrad Observa 95.89 42 *e*PcP **PcP** **03 37 10.3 +0.2**
comp=Z,5.4nm,1.2s
OSTC Ostas 95.96 40 *e*P **P** **03 37 11.8 +1.7**
DPC Dobruska-Polom 96.05 40 *e*P **P** **03 37 12.1 +1.6**
KRUC Moravsky 96.18 41 *e*P **P** **03 37 11.7 +0.7**
VRAC Vranov 96.29 41 *e*P **P** **03 37 12.7 +1.1**
KRLC Kraliky 96.36 40 *e*P **P** **03 37 13.7 +1.8**
TSUM Tsumeb 96.87 110 P **P** **03 37 15.2 +0.2**
TSUM Tsumeb 96.87 110 LR LR 04 20 22.3
comp=Z,442nm,18.9s,baz=282,slow=35
MORC Moravsky Berou 96.87 40 *e*P **P** **03 37 14.9 +0.7**
SUR Sutherland 98.33 123 LR LR 04 18 09.8
comp=Z,254nm,21.6s,baz=258,slow=33
KBZ Khabaz 115.15 42 PKP **PKPdf** **03 42 24.7 +0.4**
comp=Z,0.7nm,0.6s,baz=197,slow=4.4,SNR=6.9
ABKAR Akbulak array 122.26 30 PKPdf **PKiKP** **03 42 38.1 +0.1**
BVAR Borovoye Array 123.91 21 PKP **PKiKP** **03 42 41.4 +0.2**
comp=Z,1.2nm,0.6s,baz=259,slow=1.5,SNR=6.7
KLR Kul'dur 125.69 335 PKP **PKPdf** **03 42 44.0 -0.5**
comp=Z,1.6nm,0.5s,baz=55,slow=3.6,SNR=6.6
ZAA0 Zalesovo Array 127.04 11 PKPdf **PKPdf** **03 42 46.0 -0.9**
ZALV Zalesovo Beam 127.04 11 PKPdf **PKPdf** **03 42 46.0 -0.9**
ZALV Zalesovo Beam 127.04 11 PKP **PKPdf** **03 42 46.7 -0.2**
comp=Z,5.1nm,0.7s,baz=305,slow=1.3,SNR=22
STKA Stephens Creek 127.65 226 PKP **PKPdf** **03 42 49.0 +0.2**
comp=Z,3.6nm,0.7s,baz=125,slow=8.9,SNR=5.2
KURK Kurchatov 128.55 17 PKPdf **PKPdf** **03 42 49.5 -0.4**
KURBB Kurchatov Arra 128.61 17 PKP **PKiKP** **03 42 50.4 -0.2**
comp=Z,5.0nm,0.8s,baz=328,slow=2.3,SNR=46
USRK Ussuriysk Ar. 129.29 330 PKP **PKPdf** **03 42 51.7 +0.2**
comp=Z,4.5nm,0.8s,baz=25,slow=3.1,SNR=8.8
BNX BinXian 130.25 335 PKP **PKPdf** **03 42 52.2 -1.1**
MJAR Matsushiro Arr 130.63 318 PKP **PKPdf** **03 42 54.0 -0.3**
comp=Z,1.5nm,0.7s,baz=60,slow=2.7,SNR=6.4
KKAR Karatay Array 131.78 28 PKPdf **PKPdf** **03 42 56.7 +0.5**
MAKZ Makanchi 133.04 16 PKPdf **PKPdf** **03 42 57.5 -1.0**
MK31 Makanchi Array 133.14 16 PKPdf **PKPdf** **03 42 57.6 -1.1**
MKAR Makanchi Array 133.14 16 PKPdf **PKPdf** **03 42 57.9 -0.9**
MKAR Makanchi Array 133.14 16 PKP **PKPdf** **03 42 58.5 -0.3**
comp=Z,0.9nm,0.6s,baz=327,slow=2.0,SNR=12
AAK Ala-Archa 133.96 26 PKPdf **PKPdf** **03 43 00.6 0.0**
AAK Ala-Archa 133.96 26 PKP **PKPdf** **03 43 00.4 -0.2**
comp=Z,0.6nm,0.3s,baz=45,slow=4.3,SNR=7.6
SONM Songino Array 134.18 354 PKPdf **PKPdf** **03 43 00.7 -0.1**
SONM Songino Array 134.18 354 PKP **PKPdf** **03 43 01.2 +0.4**
comp=Z,1.4nm,0.7s,baz=6.8,slow=1.5,SNR=11
SONM PP **PP** **03 45 23.8 -7.3**
comp=Z,1.2nm,1.0s,baz=20,slow=4.7,SNR=5.5
KSRS Korea Array 136.30 327 PKP **PKPdf** **03 43 05.5 +0.6**
comp=Z,5.2nm,0.8s,baz=35,slow=1.1,SNR=14
KSAR Wonju Array Be 136.33 327 PKPdf **PKPdf** **03 43 04.1 -0.9**
WMQ Urumqi 137.27 13 *e*PKP **PKPdf** **03 43 07.4 +0.8**
ASAR Alice Springs 137.80 230 PKPdf **PKPdf** **03 43 07.2 -0.9**
ASAR Alice Springs 137.80 230 PKhKP PKPpre 03 43 01.7
comp=Z,0.9nm,0.4s,baz=102,slow=3.6,SNR=4.7
ASAR PKP **PKPdf** **03 43 08.2 +0.1**
comp=Z,2.8nm,0.8s,baz=122,slow=2.2,SNR=14
WRA Warramunga Arr 139.36 236 PKPdf **PKPdf** **03 43 10.5 -0.6**
WRA Warramunga Arr 139.36 236 PKhKP PKPpre 03 43 03.5
comp=Z,3.3nm,0.8s,baz=111,slow=2.5,SNR=6.4
WRA PKP **PKPdf** **03 43 11.2 +0.2**
comp=Z,6.3nm,0.9s,baz=114,slow=2.0,SNR=19
HHC Hu-ho-hao-te 140.04 346 *e*PKP **PKiKP** **03 43 13.7 -0.6**
GTA Gaotai 142.99 360 PKP **PKPdf** **03 43 13.7 -3.5**
GTA PP **PP** **03 46 23.6 -1.9**
MORW Morawa 145.09 206 **PKPab** **03 43 20.7 +0.2**
NJ2 Nanjing 145.20 331 PKPbc **PKPbc** **03 43 19.7 -1.0**
MTN Manton Dam 145.24 244 **PKPbc** **03 43 20.9 -0.4**
GOMU GeErMu 145.92 7 PKPbc **PKPdf** **03 43 22.7 0.0**
GOMU pPKP pPKPdf 03 43 35.6 -2.7
LZH Lanzhou 146.07 354 *e*PKPbc **PKPab** **03 43 24.3 +0.2**
LZH LR LR
comp=Z,410nm,16.1s
LZH LR LR
comp=Z,190nm,13.7s
LZH LR LR
comp=Z,300nm,15.8s
FAKI Fak Fak 146.90 261 PKPbc **PKPbc** **03 43 27.0 +0.6**
XAN Xi'an 147.16 346 ⇑PKPbc **PKPdf** **03 43 24.4 0.0**
XAN pPKP pPKPdf 03 43 36.8 -3.2
FITZ Fitzroy Crossi 147.30 231 PKPbc **PKPbc** **03 43 27.5 +0.1**
WHN Wuhan 148.53 335 P **PKPab** **03 43 33.5 -0.2**
NACB Ninganchiao 149.49 317 PKPbc **PKPbc** **03 43 32.5 -0.4**
SSLB Suanglung 150.18 318 PKPdf **PKPdf** **03 43 28.6 -1.0**
SSLB PKPbc **PKPbc** **03 43 34.0 -0.7**
ENH Enshi 150.55 342 **PKPbc** **03 43 34.7 -0.7**
TPUB Ta-pu 150.73 317 PKPdf **PKPdf** **03 43 29.1 -1.3**
SHL Shillong 155.65 17 PKPdf **PKPdf** **03 43 37.0 -0.7**
PZH PanZhiHua 155.77 355 PKP **PKPdf** **03 43 36.9 -0.9**
CHTO Chiang Mai 163.51 2 PKPdf **PKPdf** **03 43 45.4 -1.2**
CHTO PKPab **PKPab** **03 44 34.7 -3.0**
CM31 Chiang Mai Arr 163.86 2 PKPdf **PKPdf** **03 43 45.2 -1.8**
CM31 PKPab **PKPab** **03 44 38.3 -1.0**
CMAR Chiang Mai Arr 163.86 2 **PKPdf** **03 43 46.3 -0.7**
CMAR PKPab **PKPab** **03 44 38.3 -1.0**
CMAR Chiang Mai Arr 163.86 2 PKP **PKPdf** **03 43 46.8 -0.1**
comp=Z,1.0nm,0.3s,baz=294,slow=1.5,SNR=14
CMAR PKPab **PKPab** **03 44 38.7 -0.6**
comp=Z,2.2nm,0.5s,baz=340,slow=4.6,SNR=14
CMAR PP **PP** **03 48 21.6 -1.7**
comp=Z,0.8nm,0.3s,baz=348,slow=5.8,SNR=6.3
RPSI Rantau Prapat 179.23 53 PKPdf **PKPdf** **03 43 53.0 -1.6**

AEIC ***08*** *03:37:34.4±2.0, 61°.44N±0°.01×150°.04W±0°.03, h10km±6km, Error ellipse: s-maj=1.9km s-min=1.7km az=74.0*
NEIC 08 03:37:35.7±1.3,**61°.47N**±0°.02×**149°.91W**±0°.02,**h31**km±9km,
ML2.6/166,**ML2.5**(AEIC),**Error ellipse: s-maj=3.6km**

s-min=1.0km az=165.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.30**	**341**	Pg	Pb	03 37 43.1	-0.2
M22K				Sg	Sn	03 37 49.6	+0.2
M22K				IAML		03 37 50.5	
	comp=N,814nm,0.3s						
M22K				IAML		03 37 50.6	
	comp=E,494nm,0.4s						
FIS	**Fire Island**	**0.35**	**205**	Pg	Pb	03 37 43.7	-0.3
FIS				Sg	Sb	03 37 49.6	0.0
FIS				IAML		03 37 53.1	
	comp=E,672nm,0.4s						
RC01	**Rabbit Creek A**	**0.39**	**167**	Pg	Pb	03 37 43.9	-0.5
RC01				Sg	Sn	03 37 51.2	-0.3
PMR	**Palmer**	**0.40**	**71**	Pg	Pb	03 37 44.2	-0.3
PMR				Sg	Sb	03 37 50.9	+0.2
PMR				IAML		03 37 51.8	
	comp=E,276nm,0.2s						
PMR				IAML		03 37 54.3	
	comp=N,234nm,0.2s						
SUA	**Susitna One**	**0.40**	**270**	Pg	Pb	03 37 44.7	0.0
SUA				Sg	Sn	03 37 51.7	-0.3
SUA				IAML		03 37 53.3	
	comp=N,501nm,0.7s						
GHO	**Glory Hole Cre**	**0.56**	**56**		Pb	03 37 46.6	-0.6
GHO				Sg	Sb	03 37 55.3	+0.1
GHO				IAML		03 37 56.8	
	comp=E,457nm,0.5s						
GHO				IAML		03 37 57.9	
	comp=N,185nm,0.2s						
KNK	**Knik Glacier**	**0.70**	**94**		Pn	03 37 48.6	-0.8
KNK					Sb	03 37 58.9	0.0
KNK				IAML		03 38 02.3	
	comp=N,254nm,0.3s						
KNK				IAML		03 38 02.7	
	comp=E,322nm,0.2s						
SML	**Sawmill**	**0.83**	**65**		Pn	03 37 50.2	-1.1
SML				IAML		03 38 03.3	
	comp=E,244nm,0.6s						
SML				IAML		03 38 03.3	
	comp=N,174nm,0.6s						
STLK	**Strandline Lak**	**0.92**	**273**	Pn	Pn	03 37 51.9	-0.7
CAPN	**Captain Cook N**	**0.92**	**221**	Pn	Pn	03 37 52.6	+0.1
CAPN				IAML		03 38 12.3	
	comp=E,276nm,0.3s						
SKT	**Skwentna**	**0.93**	**304**		Pn	03 37 51.6	-1.0
SKT					Sn	03 38 04.0	-0.8
SKT				IAML		03 38 05.0	
	comp=E,225nm,0.2s						
CUT	**Chulitna**	**0.96**	**350**		Pn	03 37 52.5	-0.5
SLKM	**Skilak Lake**	**0.97**	**189**	Pn	Pn	03 37 52.1	-1.2
SLKM				IAML		03 38 06.7	
	comp=N,206nm,0.2s						
SLKM				IAML		03 38 07.1	
	comp=E,141nm,0.2s						
PWL	**Port Wells**	**0.98**	**128**	Pn	Pn	03 37 52.2	-1.0
O22K	**Cooper Landing**	**0.99**	**175**	Pn	Pn	03 37 52.5	-0.9
SCM	**Sheep Creek Mo**	**1.29**	**72**	Pn	Pn	03 37 57.1	-0.4
SCM				IAML		03 38 18.5	
	comp=N,102nm,0.5s						
SEW	**Seward**	**1.39**	**170**	Pn	Pn	03 37 58.7	-0.1
SEW				IAML		03 38 21.7	
	comp=N,51nm,0.2s						
SEW				IAML		03 38 22.0	
	comp=E,65nm,0.4s						
GLI	**Glacier Island**	**1.49**	**112**	Pn	Pn	03 37 59.6	-0.6
GLI				IAML		03 38 21.7	
	comp=N,105nm,0.3s						
M20K	**Styx River**	**1.59**	**287**	Pn	Pn	03 38 01.8	0.0
BRLK	**Bradley Lake**	**1.77**	**196**	Pn	Pn	03 38 03.9	-0.3
BRLK				IAML		03 38 29.9	
	comp=N,74nm,0.1s						
BRLK				IAML		03 38 30.4	
	comp=E,73nm,0.1s						
PPLA	**Purkeypile**	**1.79**	**324**	Pn	Pn	03 38 04.7	+0.1
PPLA				IAML		03 38 27.4	
	comp=E,37nm,1.4s						
PPLA				IAML		03 38 31.5	
	comp=N,34nm,0.7s						
FID	**Port Fidalgo**	**1.81**	**112**	Pn	Pn	03 38 03.9	-0.8
FID				IAML		03 38 28.7	
	comp=E,55nm,0.5s						
FID				IAML		03 38 36.2	
	comp=N,58nm,0.5s						
M24K	**Tolsona, Glenn**	**1.89**	**68**	Pn	Pn	03 38 05.8	-0.1
KLU	**Klutina**	**1.91**	**87**	Pn	Pn	03 38 05.9	-0.3
KLU				IAML		03 38 35.9	
	comp=N,52nm,0.5s						
KLU				IAML		03 38 36.7	
	comp=E,44nm,0.4s						
P23K	**Montague Islan**	**1.92**	**139**	Pn	Pn	03 38 06.3	+0.1
HIN	**Hinchinbrook I**	**1.98**	**121**	Pn	Pn	03 38 07.7	+0.7
HIN				IAML		03 38 37.3	
	comp=N,61nm,1.3s						
HIN				IAML		03 38 38.5	
	comp=E,58nm,1.2s						
TRF	**Thorofare Moun**	**2.00**	**355**	Pn	Pn	03 38 07.4	0.0
TRF				IAML		03 38 35.9	
	comp=E,35nm,0.5s						
TRF				IAML		03 38 36.1	
	comp=N,48nm,0.5s						
HOM	**Homer**	**2.00**	**206**	Pn	Pn	03 38 08.6	+1.2
RND	**Reindeer**	**2.01**	**14**	Pn	Pn	03 38 07.8	+0.3
DIV	**Divide**	**2.03**	**98**	Pn	Pn	03 38 08.2	+0.5
DIV				IAML		03 38 34.1	
	comp=N,63nm,0.3s						
DIV				IAML		03 38 38.3	
	comp=E,34nm,0.5s						
CNPM	**China Poot**	**2.05**	**199**	Pn	Pn	03 38 08.5	+0.5
CNPM				IAML		03 38 38.3	
	comp=N,64nm,0.5s						
CNPM				IAML		03 38 38.8	
	comp=E,54nm,0.4s						
KTH	**Kantishna Hill**	**2.15**	**348**	Pn	Pn	03 38 09.8	+0.4
KTH				IAML		03 38 37.7	
	comp=N,45nm,0.6s						
ILSW	**Iliamna Southw**	**2.18**	**228**	Pn	Pn	03 38 10.0	+0.2
ILSW				IAML		03 38 40.9	
	comp=E,28nm,1.0s						
M19K	**Big River Lodg**	**2.18**	**284**	Pn	Pn	03 38 09.6	-0.2
CAST	**Castle Rocks**	**2.21**	**334**	Pn	Pn	03 38 10.3	+0.1
N19K	**Bonanza Creek**	**2.31**	**256**	Pn	Pn	03 38 11.4	-0.2
MCK	**McKinley**	**2.32**	**11**	Pn	Pn	03 38 12.3	+0.6
MCK				IAML		03 38 42.3	
	comp=E,23nm,0.6s						
MCK				IAML		03 38 42.5	
	comp=N,33nm,0.9s						
P19K	**Oil Pt**	**2.45**	**223**	Pn	Pn	03 38 14.4	+0.9
L19K	**White Mountain**	**2.45**	**289**	Pn	Pn	03 38 13.7	+0.1
L19K				IAML		03 38 58.2	
	comp=N,11nm,1.4s						
L19K				IAML		03 39 01.6	
	comp=E,13nm,1.4s						
N25K	**Chitina, Valde**	**2.55**	**85**	Pn	Pn	03 38 15.9	+1.0
N25K				IAML		03 38 53.7	
	comp=E,22nm,0.3s						
N25K				IAML		03 38 54.4	
	comp=N,31nm,0.6s						
PAX	**Paxson**	**2.57**	**52**	Pn	Pn	03 38 16.3	+1.0
PAX				IAML		03 38 51.9	
	comp=N,29nm,0.6s						
PAX				IAML		03 38 52.1	
	comp=E,23nm,0.6s						
BMRM	**Bremner River**	**2.62**	**99**	Pn	Pn	03 38 18.2	+2.4
BMRM				IAML		03 38 55.6	
	comp=N,30nm,0.5s						
BMRM				IAML		03 38 56.8	
	comp=E,31nm,0.7s						
BPAW	**Bear Paw Mtn.**	**2.69**	**350**	Pn	Pn	03 38 16.8	0.0
BPAW				IAML		03 38 49.3	
	comp=E,14nm,0.3s						
K20K	**Telida**	**2.71**	**316**	Pn	Pn	03 38 16.8	-0.3
K20K				IAML		03 38 56.9	
	comp=E,20nm,0.7s						
RAGM	**Ragged Mountai**	**2.78**	**111**	Pn	Pn	03 38 21.1	+3.1
GLB	**Gilahina Butte**	**2.93**	**88**	Pn	Pn	03 38 20.8	+0.7
GLB				IAML		03 39 04.1	
	comp=N,27nm,1.4s						
GLB				IAML		03 39 05.6	
	comp=E,18nm,0.6s						
N18K	**Kilae Creek**	**3.01**	**257**	Pn	Pn	03 38 20.4	-0.8
VRDI	**Verde Repeater**	**3.12**	**92**	Pn	Pn	03 38 23.4	+0.5
VRDI				IAML		03 39 11.0	
	comp=N,12nm,0.8s						

VRDI			IAML			03 39 16.2	
	comp=E,11nm,1.3s						
SYI	**Shuyak Island**	**3.12**	**205**	Pn	Pn	03 38 23.3	+0.6
WRH	**Wood River Hil**	**3.13**	**15**	Pn	Pn	03 38 23.5	+0.7
NEA2	**Nenana**	**3.16**	**7**	Pn	Pn	03 38 23.0	-0.3
TTA	**Tatalina**	**3.21**	**300**	Pn	Pn	03 38 23.6	-0.4
TTA			IAML			03 39 20.0	
	comp=E,4.7nm,0.9s						
TTA			IAML			03 39 23.5	
	comp=N,5.4nm,1.5s						
HDA	**Harding Lake**	**3.25**	**23**	Pn	Pn	03 38 25.3	+0.8
HDA			IAML			03 39 11.2	
	comp=N,13nm,0.4s						
HDA			IAML			03 39 20.0	
	comp=E,15nm,1.3s						
L18K	**Granite Mounta**	**3.30**	**286**	Pn	Pn	03 38 25.1	0.0
CCB	**Clear Creek Bu**	**3.33**	**16**	Pn	Pn	03 38 25.8	+0.2
J20K	**Nowinta River**	**3.34**	**326**	Pn	Pn	03 38 25.6	-0.2
J20K			IAML			03 39 07.2	
	comp=E,11nm,0.4s						
J20K			IAML			03 39 07.5	
	comp=N,11nm,0.6s						
M26K	**Nabesna, AK**	**3.40**	**71**	Pn	Pn	03 38 25.9	-0.7
M26K			IAML			03 39 24.1	
	comp=E,12nm,0.7s						
M26K			IAML			03 39 29.7	
	comp=N,10nm,0.8s						
COLA	**College**	**3.55**	**14**	Pn	Pn	03 38 28.4	-0.1
IL31		**3.59**	**21**	Pn	Pn	03 38 30.1	+1.0
ILAR	**Eielson Array**	**3.59**	**21**	Pn	Pn	03 38 27.9	-1.2
M17K	**Holitna River**	**3.62**	**272**	Pn	Pn	03 38 28.7	-0.8
M17K			IAML			03 39 33.3	
	comp=E,14nm,1.1s						
M17K			IAML			03 39 34.4	
	comp=N,12nm,0.7s						
J19K	**Poorman**	**3.65**	**316**	Pn	Pn	03 38 29.9	-0.1
J19K			IAML			03 39 24.6	
	comp=E,5.9nm,0.7s						
N17K	**Nushagak Hills**	**3.67**	**258**	Pn	Pn	03 38 29.3	-0.9
I23K	**Minto, Yukon-K**	**3.71**	**4**	Pn	Pn	03 38 30.4	-0.2
I23K			IAML			03 39 14.8	
	comp=E,6.9nm,1.2s						
I23K			IAML			03 39 15.7	
	comp=N,8.3nm,1.4s						
J18K	**Innoko River**	**3.74**	**305**	Pn	Pn	03 38 31.1	-0.1
J18K			IAML			03 39 15.4	
	comp=N,5.3nm,1.5s						
J18K			IAML			03 39 32.6	
	comp=E,3.1nm,0.7s						
J25K	**Salcha River,**	**3.77**	**31**	Pn	Pn	03 38 32.8	+1.0
J25K			IAML			03 39 22.4	
	comp=E,8.9nm,0.6s						
J25K			IAML			03 39 23.6	
	comp=N,7.1nm,0.8s						
M27K	**Edge Creek, AK**	**3.90**	**73**	Pn	Pn	03 38 33.3	-0.3
M27K			IAML			03 39 40.7	
	comp=N,6.0nm,1.0s						
M27K			IAML			03 39 42.1	
	comp=E,5.6nm,0.9s						
K17K	**Iditarod**	**4.14**	**291**	Pn	Pn	03 38 36.2	-0.4
K17K			IAML			03 39 46.0	
	comp=E,6.3nm,1.4s						
K17K			IAML			03 39 54.4	
	comp=N,6.3nm,1.3s						
J26L	**Joseph Creek**	**4.20**	**41**	Pn	Pn	03 38 40.2	+2.5
J26L			IAML			03 39 31.8	
	comp=E,10nm,0.3s						
J26L			IAML			03 39 32.3	
	comp=N,8.0nm,1.3s						
M16K	**Timber Creek**	**4.39**	**268**	Pn	Pn	03 38 39.8	-0.4
H21K	**Melozitna Rive**	**4.40**	**344**	Pn	Pn	03 38 40.2	-0.1
H24K	**Noodor Dome**	**4.48**	**11**	Pn	Pn	03 38 42.1	+0.7
H24K			IAML			03 39 35.7	
	comp=N,3.5nm,1.5s						
PRP	**Porcupine Dome**	**4.52**	**24**	Pn	Pn	03 38 42.4	+0.4
PRP			IAML			03 39 57.3	
	comp=E,3.6nm,0.5s						
PRP			IAML			03 40 04.4	
	comp=N,4.7nm,0.8s						
L16K	**Owhat River**	**4.58**	**277**	Pn	Pn	03 38 42.1	-0.5
J17K	**VABM Dome**	**4.68**	**298**	Pn	Pn	03 38 42.7	-1.4
J17K			IAML			03 40 21.3	
	comp=N,3.2nm,1.4s						
J17K			IAML			03 41 23.5	
	comp=E,2.8nm,1.5s						
H19K	**Roundabout Mou**	**5.02**	**327**	Pn	Pn	03 38 48.9	+0.2
H19K			IAML			03 40 10.1	
	comp=N,4.3nm,1.5s						
N15K	**Kwethluk River**	**5.15**	**260**	Pn	Pn	03 38 49.0	-1.6
N15K			IAML			03 39 47.8	
	comp=N,3.4nm,1.1s						
N15K			IAML			03 40 08.6	
	comp=E,5.5nm,1.4s						
J16K	**Anvik River**	**5.30**	**295**	Pn	Pn	03 38 51.9	-0.7
J16K			IAML			03 41 21.3	
	comp=E,3.7nm,1.5s						
H18K	**Honhosa River**	**5.31**	**318**	Pn	Pn	03 38 52.2	-0.5
H18K			IAML			03 40 18.4	
	comp=N,3.5nm,1.0s						
H18K			IAML			03 41 18.1	
	comp=E,2.5nm,1.4s						
G21K	**Allakaket**	**5.31**	**344**	Pn	Pn	03 38 52.8	0.0
G24K	**Hadweenzic Riv**	**5.36**	**10**	Pn	Pn	03 38 54.0	+0.6
G24K			IAML			03 40 23.3	
	comp=N,1.9nm,0.9s						
G24K			IAML			03 42 08.0	
	comp=E,1.7nm,1.4s						
I17K	**Unalakleet**	**5.53**	**301**	Pn	Pn	03 38 55.7	0.0
K15K	**Wolf Creek Mou**	**5.56**	**284**	Pn	Pn	03 38 55.9	-0.3
H17K	**Granite Mounta**	**5.71**	**312**	Pn	Pn	03 38 57.6	-0.6
H27K	**Steamboat Moun**	**6.05**	**34**	Pn	Pn	03 39 04.3	+1.4
L14K	**Kuka Creek**	**6.14**	**274**	Pn	Pn	03 39 04.4	+0.4
BMAR	**Burnt Mountain**	**6.41**	**19**	Pn	Pn	03 39 08.3	+0.4
F26K	**Sheenjek River**	**6.72**	**19**	Pn	Pn	03 39 12.8	+0.6
G16K	**Koyuk River**	**6.83**	**311**	Pn	Pn	03 39 13.0	-0.5
E25K	**Arctic Village**	**6.93**	**14**	Pn	Pn	03 39 15.2	+0.2

*SJA **08** 03:42:24.1±0.7,21.°26S×68.°75W,h136km±4km,ML3.5, MW3.6*
*GUC **08** 03:42:26.8±0.7,21.°24S×68.°76W,h118km±3km,ML3.5*
*IDC **08** 03:42:28.1±2.8,21.°17S×68.°55W,h128km±26km,mb3.3/3, mbtmp3.7/5,Error ellipse: s-maj=35.6km s-min=21.5km az=95.0*

ISC 08 03:42:26.5±0.8,21.°23S±0.°03×68.°81W±0.°08,h123km±7km, n32,σ1º00/47,7C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.66**	**287**	⇑*i*P	**Pn**	**03 42 45.4**	**-0.6**
PB01				*e*S	**Sn**	**03 43 00.3**	**-0.4**
PB01				IAML		03 43 00.8	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**0.66**	**287**	*e*P	**Pn**	**03 42 45.5**	**-0.4**
PB01				*e*S	**Sn**	**03 43 00.7**	**+0.1**
PB01				IAML		03 43 01.1	
	comp=Z,1μm,0.2s						
PB09	**IPOC Station P**	**0.69**	**215**	⇑*i*P	**Pn**	**03 42 46.2**	**-0.2**
PB09				*e*S	**Sn**	**03 43 01.0**	**-0.2**
PB09				IAML		03 43 03.3	
	comp=E,1μm,0.5s						
PB09	**IPOC Station P**	**0.69**	**215**	*e*P	**Pn**	**03 42 45.5**	**-0.8**
PB09				*e*S	**Sn**	**03 43 02.1**	**+0.8**
PB09				IAML		03 43 02.2	
	comp=Z,1μm,0.8s						
PB08	**IPOC Station P**	**1.13**	**344**	⇑*i*P	**Pn**	**03 42 50.6**	**0.0**
PB08				*e*S	**Sn**	**03 43 08.6**	**-0.1**
PB08				IAML		03 43 10.1	
	comp=N,752nm,0.2s						
PB08	**IPOC Station P**	**1.13**	**344**	*e*P	**Pn**	**03 42 50.4**	**-0.2**
PB08				*e*S	**Sn**	**03 43 09.8**	**+1.1**
PB08				IAML		03 43 09.8	
	comp=Z,351nm,0.5s						
PB03	**IPOC Station P**	**1.19**	**227**	⇑*i*P	**Pn**	**03 42 50.9**	**-0.1**
PB03				*e*S	**Sn**	**03 43 09.1**	**-0.4**
PB03				IAML		03 43 11.3	
	comp=E,629nm,0.3s						
PB03	**IPOC Station P**	**1.19**	**227**	*e*P	Pn	03 42 45.5	-5.4
PB03				*e*P		03 42 50.2	
PB03				*e*S	**Sn**	**03 43 10.1**	**+0.7**
PB03				IAML		03 43 14.2	
	comp=Z,570nm,0.5s						
TA02	**Huaiquique**	**1.56**	**308**	*e*P	**Pn**	**03 42 54.5**	**-0.4**
TA02	**Huaiquique**	**1.56**	**308**	*e*P	**Pn**	**03 42 55.0**	**+0.1**
TA02				*e*S	**Sn**	**03 43 17.4**	**+0.9**
TA02				IAML		03 43 21.2	
	comp=Z,785nm,0.1s						
GO01	**Chusmiza**	**1.60**	**347**	⇑*i*P	**Pn**	**03 42 55.6**	**-0.3**
GO01				IAML		03 43 20.6	
	comp=N,2μm,0.2s						
GO01	**Chusmiza**	**1.60**	**347**	*e*P	**Pn**	**03 42 55.5**	**-0.3**
GO01				*e*S	**Sn**	**03 43 19.6**	**+1.5**
GO01				IAML		03 43 20.6	
	comp=Z,393nm,0.1s						
PB06	**IPOC Station P**	**1.63**	**206**	⇑*i*P	**Pn**	**03 42 55.8**	**0.0**
PB06				*e*S	**Sn**	**03 43 18.1**	**0.0**
PB06				IAML		03 43 19.6	
	comp=N,314nm,0.3s						
PB06	**IPOC Station P**	**1.63**	**206**	*e*P	**Pn**	**03 42 55.1**	**-0.7**
PB06				*e*S	**Sn**	**03 43 19.3**	**+1.2**
PB06				IAML		03 43 20.4	
	comp=Z,217nm,0.3s						
PB11	**IPOC Station P**	**1.66**	**331**	⇑*i*P	**Pn**	**03 42 55.8**	**-0.4**
PB11				IAML		03 43 20.4	
	comp=N,1μm,0.2s						
PB11	**IPOC Station P**	**1.66**	**331**	*e*P	**Pn**	**03 42 55.9**	**-0.4**
PB11				*e*S	**Sn**	**03 43 19.6**	**+0.7**
PB11				IAML		03 43 19.9	
	comp=Z,574nm,0.2s						
AF01	**San Pedro de A**	**1.81**	**161**	*e*P	**Pn**	**03 42 58.1**	**0.0**
AF01				IAML		03 43 44.5	
	comp=Z,366nm,0.5s						
PB10	**IPOC Station P**	**2.78**	**215**	*e*P	**Pn**	**03 43 09.5**	**-0.6**
PB10				IAML		03 43 57.5	
	comp=E,79nm,0.4s						
PB10	**IPOC Station P**	**2.78**	**215**	*e*P	**Pn**	**03 43 09.6**	**-0.6**
PB10				*e*S	**Sn**	**03 43 46.7**	**+3.0**
PB10				IAML		03 43 48.0	
	comp=Z,79nm,0.3s						
PB12	**IPOC Station P**	**2.97**	**331**	*e*P	**Pn**	**03 43 11.1**	**-1.6**
PB12				IAML		03 43 51.9	
	comp=E,262nm,0.3s						
PB12	**IPOC Station P**	**2.97**	**331**	*e*P	**Pn**	**03 43 11.2**	**-1.4**
PB12				*e*S	**Sn**	**03 43 47.6**	**-0.6**
PB12				IAML		03 43 52.8	
	comp=Z,141nm,0.4s						
GO02	**Mina Guanaco**	**3.98**	**190**	*e*P	**Pn**	**03 43 25.2**	**-0.9**
GO02	**Mina Guanaco**	**3.98**	**190**	*e*P	**Pn**	**03 43 25.0**	**-1.1**
GO02				IAML		03 44 47.6	
	comp=Z,52nm,0.4s						
LPAZ	**La Paz**	**4.96**	**8**	P	**Pn**	**03 43 40.8**	**+1.2**
	comp=Z,8.0nm,0.3s,baz=188,slow=3.8,SNR=144						
LPAZ				S	**Sn**	**03 44 36.3**	**0.0**
	comp=Z,4.2nm,1.0s,baz=99,slow=5.2,SNR=1.4						
LPAZ	**La Paz**	**4.96**	**8**	*e*P	**Pn**	**03 43 41.0**	**+1.3**
AC01	**Pan de Azucar**	**5.16**	**198**	*e*P	**Pn**	**03 43 39.2**	**-2.5**
AC01				IAML		03 44 57.9	
	comp=Z,27nm,0.5s						
PLCA	**Paso Flores**	**19.50**	**184**	P	**Pn**	**03 46 45.9**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=336,slow=10.0,SNR=2.9						
BDFB	**Brasília**	**20.49**	**78**	P	**P**	**03 46 53.4**	**-1.6**
	comp=Z,2.3nm,0.5s,baz=255,slow=9.0,SNR=10						
	comp=Z,2.3nm,0.5s						
QSPA	**South Pole Qui**	**68.96**	**180**	P	**P**	**03 53 19.8**	**+1.6**
	comp=Z,1.0nm,1.0s,baz=124,slow=18,SNR=1.8						
	comp=Z,1.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**77.18**	**70**	P	**P**	**03 54 06.7**	**-0.7**
	comp=Z,50nm,0.3s,baz=248,slow=5.3,SNR=1.2						
YKA	**Yellowknife Ar**	**90.97**	**341**	P	**P**	**03 55 16.5**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=134,slow=4.0,SNR=5.5						
	comp=Z,0.2nm,0.7s						
MKAR	**Makanchi Array**	**145.37**	**36**	PKPbc	**PKPab**	**04 01 50.9**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=297,slow=6.3,SNR=4.2						

*SSNC **08** 03:49:43.7±0.7,18.°85N×73.°26W,h0km±4km,MD2.6, ML2.1*
*SDD **08** 03:49:44.4±2.2,18.°84N×73.°27W,h19km±79km,MD3.1, ML2.6,MW2.9*
*OSPL **08** 03:49:45.4±1.6,18.°77N×73.°22W,h0km±7km,ML2.5*

ISC 08 03:49:42.4±1.9,19.°01N±0.°08×73.°21W±0.°04,h13km±15km, n14,σ1º20/26,9C,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**0.99**	**119**	*e*P	**Pb**	**03 50 00.5**	**-0.9**
PAPH				*e*S	**Sb**	**03 50 14.0**	**-0.3**
PAPH				IAML		03 50 16.3	
	comp=N,188nm,0.2s						
PAPH				IAML		03 50 16.4	
	comp=E,156nm,0.2s						
PAPH	**Port-au-Prince**	**0.99**	**119**	*i*P	**Pb**	**03 50 00.5**	**-0.9**
PAPH				*e*S	**Sb**	**03 50 14.2**	**-0.1**
PAPH				IAML		03 50 16.6	
	comp=Z,89nm,0.1s						
JIDR	**Jimani**	**1.39**	**112**	⇑*e*Pg	**Pn**	**03 50 07.8**	**+0.4**
JIDR				⇑*e*Sg	**Sn**	**03 50 26.5**	**+0.8**
JIDR				IAML		03 50 28.9	
	comp=N,49nm,0.2s						
MASC	**Masc**	**1.51**	**320**	*e*P	**Pb**	**03 50 10.7**	**+0.4**
MASC				*e*S	**Sg**	**03 50 30.6**	**-0.4**
MASC				IAML		03 50 32.2	
	comp=Z,4.3nm,0.3s						
MASC				IAML		03 50 32.2	
	comp=N,10.0nm,0.5s						
REDR	**Restauracion**	**1.72**	**84**	⇑*e*Pg	**Pn**	**03 50 10.8**	**-1.3**
REDR				⇑*e*Sg	**Sn**	**03 50 31.3**	**-2.7**
REDR				IAML		03 50 32.2	
	comp=N,126nm,0.1s						
SDDR	**Presa de Saban**	**1.82**	**91**	⇑*e*Pg	**Pb**	**03 50 16.3**	**+0.8**
SDDR				⇑*e*Sg	**Sb**	**03 50 40.8**	**+2.5**
SDDR				IAML		03 50 41.4	
	comp=N,51nm,0.7s						
SDDR	**Presa de Saban**	**1.82**	**91**	*i*P	**Pb**	**03 50 16.1**	**+0.5**
SDDR				*e*S	**Sb**	**03 50 39.3**	**+1.0**
SDDR				IAML		03 50 48.1	
	comp=Z,30nm,2.9s						
LOBH	**Bahia de las A**	**1.88**	**127**	*i*P	**Pn**	**03 50 15.9**	**+1.7**
LOBH				*e*S	**Sn**	**03 50 37.0**	**-0.8**
LOBH				IAML		03 50 43.5	
	comp=Z,59nm,3.5s						
PODR	**Polo**	**2.01**	**114**	⇑*e*Sg	**Sb**	**03 50 45.7**	**+1.7**
PODR				IAML		03 50 57.4	
	comp=N,58nm,1.2s						
GTBY	**Guantanamo Bay**	**2.02**	**297**	*e*P	**Pn**	**03 50 17.1**	**+0.9**
GTBY				*e*S	**Sb**	**03 50 44.7**	**+0.8**
GTBY	**Guantanamo Bay**	**2.02**	**297**	⇑*e*Pg	**Pb**	**03 50 18.1**	**-0.8**
GTBY				⇑*e*Sg	**Sg**	**03 50 47.1**	**-0.1**
GTBY				IAML		03 51 28.8	
	comp=N,44nm,3.1s						
GTBY	**Guantanamo Bay**	**2.02**	**297**	*i*P	**Pb**	**03 50 19.6**	**+0.7**
GTBY				*e*S	**Sg**	**03 50 46.6**	**-0.6**
GTBY				IAML		03 50 54.1	
	comp=Z,39nm,3.4s						
LOVI	**El Cajuil, Ovi**	**2.12**	**124**	*e*S	**Sn**	**03 50 42.9**	**-1.0**
RCC	**Rio Carpintero**	**2.54**	**293**	*e*P	**Pn**	**03 50 22.2**	**-1.2**
RCC				*e*S	**Sn**	**03 50 54.2**	**-0.1**
RCC				IAML		03 51 00.4	
	comp=N,7.9nm,0.4s						
RCC				IAML		03 51 00.7	
	comp=E,5.9nm,0.3s						

*BJI **08** 04:12:37.5,26.°31N×129.°57E,h12km,mB5.6/75,mb5.2/87, Ms5.5/99,Ms7 5.3/97*
*IDC **08** 04:12:38.3±0.4,26.°33N×129.°52E,h0km,mb5.1/32, mbtmp5.2/40,ML5.1/6,MS4.9/70,Error ellipse: s-maj=10.9km s-min=8.2km az=67.0*
*NEIC **08** 04:12:40,26.°00N×130.°00E,h16km,Moment Tensor Solution. Duration: 2s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.43; $M_{\theta\theta}$1.24; $M_{\phi\phi}$1.19; $M_{r\theta}$-1.00; $M_{\theta\phi}$1.25; $M_{\phi r}$-0.19; Fault plane solution: $M_0$2.65000×10^{17} NP1: ϕ_s214.01000°,δ36.54000°,λ-109.18000°. NP2: ϕ_s57.42000°,δ55.78000°,λ-76.31000°. Principal axes: T 2.6094, Plg10.0000°, Azm138.0000°; N 0.0845, Plg11.0000°, Azm230.0000°; P -2.6939, Plg75.0000°, Azm8.0000°;*
*NIED **08** 04:12:40.7,26.°31N×129.°57E,h45km,MW5.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.88; $M_{\theta\theta}$1.36; $M_{\phi\phi}$0.53; $M_{r\theta}$1.26; $M_{\theta\phi}$0.77; $M_{\phi r}$0.54; Fault plane solution: $M_0$2.30000×10^{17} NP1: ϕ_s55.00000°, δ27.00000°,λ-98.00000°. NP2: ϕ_s244.00000°,δ63.00000°, λ-86.00000°.*
*JMA **08** 04:12:40.7±0.1,26.°3N±0.°7×129.°6E±0.°4,h45km,MD5.6/35, MW5.5/35,NEAR OKINAWAJIMA ISLAND*
JMA Felt II J1 at NEAR OKINAWAJIMA ISLAND .
*MOS **08** 04:12:40.8±1.0,26.°38N×129.°47E,h24km,mb5.8/81, MS5.6/32,Error ellipse: s-maj=6.3km s-min=3.4km az=109.0*
*NEIC **08** 04:12:40.1±2.0,26.°33N±0.°07×129.°59E±0.°07,h10km±1km, mb5.8/529,Ms_20 5.1/200,Mww5.5/77,Error ellipse: s-maj=11.7km s-min=10.6km az=158.0*
*NEIC **08** 04:12:40,26.°30N×129.°60E,h16km*
*ISC-PP **08** 04:12:40,26.°33N×129.°59E,h10km,Mwppsm6.0,Moment Tensor Solution. s47 Moment tensor: Scale 10^{18}Nm; M_{rr}0.38±.05; $M_{\theta\theta}$0.85±.15; $M_{\phi\phi}$-0.06±.12; $M_{r\theta}$-0.20±.10; $M_{\theta\phi}$-0.11±.07; $M_{\phi r}$0.11±.07; Fault plane solution: $M_0$1.12000×10^{18} NP1: ϕ_s217.10000°,δ83.40000°, λ157.00000°. NP2: ϕ_s309.90000°,δ67.20000°,λ7.20000°.*
*BGR **08** 04:12:42.3,26.°63N×130.°39E,h33km,mb5.6,Ms5.4, Hypocentre not reviewed by the ISC*
*GCMT **08** 04:12:43.1±0.1,26.°31N±0.°01×129.°51E±0.°01,h12km, MW5.6/164,Moment Tensor Solution. s119,c218; s164,c330; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}-2.21±.02; $M_{\theta\theta}$1.20±.02; $M_{\phi\phi}$1.01±.02; $M_{r\theta}$0.83±.06; $M_{\theta\phi}$1.20±.02; $M_{\phi r}$1.33±.06; Best double couple: $M_0$2.75300×10^{17} NP1: ϕ_s56.00000°,δ29.00000°, λ-74.00000°. NP2: ϕ_s219.00000°,δ62.00000°, λ-98.00000°. Principal axes: T 2.7750, Plg17.0000°, Azm315.0000°; N -0.0450, Plg7.0000°, Azm222.0000°; P -2.7300, Plg71.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 04:12:40.9±0.4,26.°34N±0.°02×129.°58E±0.°02,h16km±2km, h16km:pP-P,n1655,σ1º62/1646,mb5.7/438,MS5.1/207, 75C-50D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.22**	**304**	*i*P	**Pn**	**04 13 02.0**	**-1.2**
JYRO				*e*S	**Sb**	**04 13 16.9**	**-2.1**
JYRO	**Yoronjima**	**1.22**	**304**	A	A	04 13 02.0	
	comp=N,161nm,5.8s,comp=E,204nm,5.1s						
JOW	**Kunigami**	**1.26**	**293**	Pn	**Pn**	**04 13 02.7**	**-1.1**
	comp=E,5μm,0.3s,baz=122,slow=18,SNR=8809						
JOW				Sn	**Sb**	**04 13 17.4**	**-2.9**
	comp=E,5μm,0.3s,baz=102,slow=29,SNR=9.8						
JOW	**Kunigami**	**1.26**	**293**	P	**Pn**	**04 13 02.5**	**-1.4**
JOW	**Kunigami**	**1.26**	**293**	P	**Pn**	**04 13 02.8**	**-1.1**
JOW				*e*S	**Sb**	**04 13 17.8**	**-2.5**
JOW	**Kunigami**	**1.26**	**293**	A	A	04 13 02.8	
	comp=N,203nm,6.0s,comp=E,239nm,6.5s						
JOKE	**Okinoerabujima**	**1.36**	**319**	*i*P	**Pn**	**04 13 04.3**	**-0.9**
JOKE				*e*S	**Sb**	**04 13 20.6**	**-2.4**
JOKE	**Okinoerabujima**	**1.36**	**319**	A	A	04 13 04.3	
	comp=N,202nm,5.0s,comp=E,121nm,5.8s						
JNTH	**Nagotoyohara**	**1.40**	**278**	*i*P	**Pn**	**04 13 04.3**	**-1.4**
JNTH				*e*S	**Sn**	**04 13 20.7**	**-3.3**
JNTH	**Nagotoyohara**	**1.40**	**278**	A	A	04 13 04.3	
	comp=N,164nm,4.9s,comp=E,132nm,5.0s						
JTK	**Tokunoshima**	**1.55**	**339**	P	**Pn**	**04 13 07.0**	**-0.7**
JTK	**Tokunoshima**	**1.55**	**339**	A	A	04 13 07.0	
	comp=N,77nm,8.1s,comp=E,86nm,6.2s						
JMZ	**Minamidaito 2**	**1.57**	**109**	Pn	**Pn**	**04 13 06.0**	**-2.0**
JMZ				Sn	**Sn**	**04 13 23.5**	**-4.6**
JMZ	**Minamidaito 2**	**1.57**	**109**	P	**Pn**	**04 13 06.5**	**-1.5**
JMZ				*e*S	**Sn**	**04 13 24.7**	**-3.4**
JMZ	**Minamidaito 2**	**1.57**	**109**	A	A	04 13 06.5	
	comp=N,746nm,5.6s,comp=E,382nm,4.7s						
JKDJ	**Kitadaitoujima**	**1.59**	**104**	P	**Pn**	**04 13 07.2**	**-1.2**
JKDJ				*e*S	**Sn**	**04 13 25.6**	**-3.0**
JKDJ	**Kitadaitoujima**	**1.59**	**104**	A	A	04 13 07.2	
	comp=N,393nm,7.5s,comp=E,290nm,4.3s						
JIH	**Iheya**	**1.60**	**296**	P	**Pn**	**04 13 07.7**	**-0.8**
JIH				*e*S	**Sn**	**04 13 25.7**	**-3.0**
JIH	**Iheya**	**1.60**	**296**	A	A	04 13 07.7	
	comp=N,84nm,3.4s,comp=E,199nm,5.9s						
JJT3	**Tamagusuku3**	**1.62**	**264**	P	**Pn**	**04 13 07.9**	**-0.9**
JJT3				*e*S	**Sn**	**04 13 27.6**	**-1.7**
JJT3	**Tamagusuku3**	**1.62**	**264**	A	A	04 13 07.9	
	comp=N,409nm,6.1s,comp=E,431nm,5.2s						
JAMN	**Amaminishikomi**	**1.93**	**349**	P	**Pn**	**04 13 12.2**	**-0.8**
JAMN	**Amaminishikomi**	**1.93**	**349**	A	A	04 13 12.2	
	comp=N,55nm,5.6s,comp=E,54nm,6.6s						
JZK	**Kikaishima**	**2.00**	**10**	P	**Pn**	**04 13 13.9**	**-0.1**
JZK				S	**Sn**	**04 13 38.6**	**-0.2**
JZK	**Kikaishima**	**2.00**	**10**	A	A	04 13 13.9	
	comp=N,267nm,5.1s,comp=E,247nm,4.9s						
JAM	**Amami Oshima**	**2.06**	**1**	P	**Pn**	**04 13 14.0**	**-0.9**
JAM				S	**Sn**	**04 13 38.4**	**-1.9**
JAM	**Amami Oshima**	**2.06**	**1**	A	A	04 13 14.0	
	comp=N,49nm,6.5s,comp=E,54nm,5.9s						
JAGN	**Aguni-jima**	**2.11**	**277**	P	**Pn**	**04 13 14.6**	**-0.8**
JAGN				S	**Sn**	**04 13 38.8**	**-2.5**
JAGN	**Aguni-jima**	**2.11**	**277**	A	A	04 13 14.6	
	comp=N,179nm,5.3s,comp=E,124nm,6.0s						
JKE	**Kume jima 2**	**2.50**	**270**	P	**Pn**	**04 13 19.2**	**-1.7**
JKE				S	**Sn**	**04 13 46.9**	**-4.2**
JKE	**Kume jima 2**	**2.50**	**270**	A	A	04 13 19.2	
	comp=N,61nm,5.5s,comp=E,44nm,5.7s						
JTAJ	**Takarajima**	**2.82**	**353**	S	**Sn**	**04 13 56.5**	**-2.5**
JTAJ	**Takarajima**	**2.82**	**353**	A	A	04 13 56.5	
	comp=N,52nm,4.6s,comp=E,48nm,4.2s						
JNN	**Nakanoshima**	**3.50**	**4**	P	**Pn**	**04 13 33.8**	**-0.9**
JNN				S	**Sn**	**04 14 13.3**	**-2.4**
JNN	**Nakanoshima**	**3.50**	**4**	A	A	04 13 33.8	
	comp=N,31nm,1.2s,comp=E,47nm,1.6s						
JYAK	**Yakushimahirau**	**3.97**	**12**	P	**Pn**	**04 13 40.1**	**-1.0**
JYAK				*e*S	**Sn**	**04 14 24.2**	**-3.1**
JYAK	**Yakushimahirau**	**3.97**	**12**	A	A	04 13 40.1	
	comp=N,14nm,1.3s,comp=E,10.0nm,6.8s						
JOGS	**Gusukube**	**4.08**	**248**	P	**Pn**	**04 13 41.4**	**-1.2**
JOGS				*e*S	**Sn**	**04 14 27.6**	**-2.4**
JOGS	**Gusukube**	**4.08**	**248**	A	A	04 13 41

TATO			S	Sn	04 15 48.9	-3.5
TATO	**Taipei**	**7.42 261**	P	**Pn**	**04 14 28.7**	**+0.2**
NACB	**Ninganchiao**	**7.54 255**	Pn	**Pn**	**04 14 26.1**	**-4.1**
NACB	**Ninganchiao**	**7.54 255**	P	**Pn**	**04 14 26.6**	**-3.5**
YHNB	**Yeheng**	**7.59 259**	Pn	**Pn**	**04 14 29.3**	**-1.6**
YHNB	**Yeheng**	**7.59 259**	P	**Pn**	**04 14 29.9**	**-1.1**
YULB	**Yu-li**	**8.07 250**	Pn	Pn	04 14 31.7	-5.7
JTU	**Tsushima**	**8.16 359**	P	**Pn**	**04 14 39.6**	**+1.0**
SSLB	**Suanglung**	**8.22 254**	Pn	**Pn**	**04 14 35.2**	**-4.3**
SSLB	**Suanglung**	**8.22 254**	P	**Pn**	**04 14 35.8**	**-3.7**
JMN	**Monobe**	**8.26 26**	Pn	**Pn**	**04 14 38.9**	**-1.1**
JMN	**Monobe**	**8.26 26**	P	**Pn**	**04 14 39.4**	**-0.6**
TWG	**Pinlang**	**8.49 247**	Pn	Pn	04 14 37.3	-5.9
TPUB	**Ta-pu**	**8.67 252**	Pn	**Pn**	**04 14 41.8**	**-3.9**
TPUB	**Ta-pu**	**8.67 252**	P	**Pn**	**04 14 42.2**	**-3.5**
SSE	**Sheshan**	**8.76 305**	P	**Pn**	**04 14 47.0**	**+0.2**
SSE			S	**Sn**	**04 16 28.5**	**+3.3**
SSE			pmax	pmax		
	comp=E,97nm,1.2s					
SSE			pmax	pmax		
	comp=E,2μm,8.8s					
SSE			LR	LR		
	comp=E,7μm,11.1s					
SSE			LR	LR		
	comp=E,6μm,11.0s					
QZH	**Quanzhou**	**10.01 264**	P	**Pn**	**04 15 02.2**	**-1.8**
QZH			S	**Sn**	**04 16 55.0**	**-1.0**
QZH			LR	LR		
	comp=E,12μm,8.7s					
QZH			LR	LR		
	comp=E,7μm,7.9s					
QZH			LR	LR		
	comp=E,8μm,9.5s					
TJN	**Taejon**	**10.18 350**	Pn	**Pn**	**04 15 07.5**	**+1.2**
TJN	**Taejon**	**10.18 350**	P	**Pn**	**04 15 06.6**	**+0.2**
TJN	**Taejon**	**10.18 350** *c i*	P	**Pn**	**04 15 08.2**	**+1.8**
KNMB	**Chin-men Tao**	**10.29 262**	Pn	**Pn**	**04 15 04.0**	**-3.8**
NJ2	**Nanjing**	**10.96 304** ⇑ *i*	P	**Pn**	**04 15 17.4**	**+0.4**
NJ2			S	**Sn**	**04 17 22.2**	**+2.9**
NJ2			pmax	pmax		
	comp=E,180nm,1.0s					
NJ2			LR	LR		
	comp=E,33μm,11.1s					
NJ2			LR	LR		
	comp=E,49μm,13.2s					
NJ2			LR	LR		
	comp=E,58μm,11.8s					
INU	**Inuyama**	**11.02 34**	Pn	**Pn**	**04 15 17.7**	**-0.1**
INU	**Inuyama**	**11.02 34**	P	**Pn**	**04 15 18.5**	**+0.7**
JHJ	**Hachijo jima 2**	**11.15 50**	Pn	**Pn**	**04 15 21.1**	**+1.4**
	comp=E,129nm,0.3s,baz=232,slow=19,SNR=15					
JHJ			LR	LR	04 19 12.1	
	comp=E,5μm,18.3s,baz=280,slow=35					
	comp=E,243nm,0.3s					
KSAR	**Wonju Array Be**	**11.16 353**	Pn	**Pn**	**04 15 20.7**	**+0.9**
KSAR	**Wonju Array Be**	**11.16 353**	P	**Pn**	**04 15 20.7**	**+0.9**
JHJ2	**Mitsune**	**11.17 50**	Pn	**Pn**	**04 15 19.3**	**-0.6**
KSRS	**Korea Array**	**11.17 353**	Pn	**Pn**	**04 15 21.1**	**+1.2**
	comp=E,3.1nm,0.3s,baz=171,slow=14,SNR=80					
KSRS			LR	LR	04 20 03.1	
	comp=E,3μm,21.5s,baz=175,slow=40					
	comp=E,49nm,0.8s					
KS19	**Wonju Array Si**	**11.22 353**	Pn	**Pn**	**04 15 20.1**	**-0.5**
JCJ	**Chichijima**	**11.30 83**	Pn	**Pn**	**04 15 19.8**	**-1.9**
JCJ	**Chichijima**	**11.30 83**	Pn	**Pn**	**04 15 19.6**	**-2.1**
	comp=E,25nm,0.3s,baz=268,slow=23,SNR=6.9					
JCJ			Sn	**Sn**	**04 17 20.0**	**-7.7**
	comp=E,115nm,0.3s,baz=322,slow=22,SNR=26					
JCJ			LR	LR	04 19 12.9	
	comp=E,3μm,19.2s,baz=266,slow=35					
	comp=E,48nm,0.4s					
JCJ	**Chichijima**	**11.30 83**	P	**Pn**	**04 15 25.2**	**+3.5**
INCN	**Inchon**	**11.39 348**	Pn	**Pn**	**04 15 24.1**	**+1.2**
INCN	**Inchon**	**11.39 348**	P	**Pn**	**04 15 23.2**	**+0.3**
INCN	**Inchon**	**11.39 348**	P	**Pn**	**04 15 23.5**	**+0.6**
INCN	**Inchon**	**11.39 348**	P	**Pn**	**04 15 24.1**	**+1.2**
JGF	**Kuroka**	**11.39 34**	Pn	**Pn**	**04 15 22.3**	**-0.7**
JGF	**Kuroka**	**11.39 34**	P	**Pn**	**04 15 23.3**	**+0.4**
SZP	**Santa**	**12.16 226**	P	**Pn**	**04 15 33.5**	**0.0**
MAJO	**Matsushiro**	**12.55 34**	Pn	**Pn**	**04 15 38.4**	**-0.5**
MAJO	**Matsushiro**	**12.55 34**	P	**Pn**	**04 15 40.6**	**+1.8**
MAJO	**Matsushiro**	**12.55 34** *i*	P	**Pn**	**04 15 39.7**	**+0.9**
MJAR	**Matsushiro Arr**	**12.55 34**	Pn	**Pn**	**04 15 40.6**	**+1.7**
	comp=E,16nm,0.9s,baz=207,slow=12,SNR=16					
JSD	**Sado**	**13.78 30**	Pn	**Pn**	**04 15 53.7**	**-1.8**
JSD	**Sado**	**13.78 30**	P	**Pn**	**04 15 56.1**	**+0.6**
WHN	**Wuhan**	**14.03 291**	⇑P	**Pn**	**04 15 58.1**	**-0.9**
WHN			PP	**PnPn**	**04 16 08.3**	**+1.3**
WHN			*e*S	**Sn**	**04 18 39.2**	**+4.7**
WHN			LR	LR		
	comp=E,26μm,10.9s					
WHN			LR	LR		
	comp=E,18μm,12.1s					
WHN			LR	LR		
	comp=E,21μm,11.9s					
DL2	**Dalian**	**14.20 334**	P	**Pn**	**04 16 02.0**	**+0.7**
DL2			pmax	pmax		
	comp=E,60nm,1.1s					
DL2			pmax	pmax		
	comp=E,3μm,7.2s					
DL2			LR	LR		
	comp=E,6μm,12.5s					
DL2			LR	LR		
	comp=E,6μm,9.6s					
DL2			LR	LR		
	comp=E,7μm,13.9s					
TIA	**Tai'an**	**14.48 316**	P	**Pn**	**04 16 05.4**	**+0.2**
TIA			PP	**P**	**04 16 12.2**	**+0.3**
TIA			pmax	pmax		
	comp=E,32nm,1.4s					
TIA			pmax	pmax		
	comp=E,3μm,10.3s					
TIA			LR	LR		
	comp=E,10μm,12.7s					
TIA			LR	LR		
	comp=E,6μm,12.3s					
TIA			LR	LR		
	comp=E,14μm,20.1s					
TGY	**Tagaytay City**	**14.62 215**	Pn	**P**	**04 16 12.3**	**-1.2**
	baz=90,slow=9.1					
TGY			LR	LR	04 21 59.2	
	comp=E,2μm,19.2s,baz=350,slow=38					
JMM	**Marumori**	**14.90 37**	Pn	**Pn**	**04 16 10.1**	**-0.8**
JMM	**Marumori**	**14.90 37**	P	**Pn**	**04 16 11.7**	**+0.9**
CNSH	**ChangSha**	**14.92 281**	P	**Pn**	**04 16 09.2**	**-1.9**
CNSH			S	**Sn**	**04 18 59.5**	**+3.4**
CNSH			pmax	pmax		
	comp=E,38nm,2.0s					
CNSH			LR	LR		
	comp=E,9μm,11.7s					
CNSH			LR	LR		
	comp=E,11μm,13.4s					
CNSH			LR	LR		
	comp=E,12μm,14.4s					
SNY	**Shenyang**	**16.22 344**	⇓P	**Pn**	**04 16 29.6**	**+1.6**
SNY			S	**Sn**	**04 19 31.3**	**+3.7**
SNY			pmax	pmax		
	comp=E,34nm,0.9s					
SNY			pmax	pmax		
	comp=E,3μm,9.4s					
SNY			LR	LR		
	comp=E,8μm,10.8s					
SNY			LR	LR		
	comp=E,4μm,10.8s					
SNY			LR	LR		
	comp=E,11μm,11.4s					
MSHR	**Mys Shultsa**	**16.25 4** *d i*	P	**Pn**	**04 16 29.8**	**+1.3**
PSTR	**Posyet**	**16.30 3** *i*	P	**Pn**	**04 16 28.7**	**-0.4**
HNS	**HongShan**	**16.74 315**	⇑P	**Pn**	**04 16 34.5**	**-0.2**
HNS			pmax	pmax		
	comp=E,520nm,1.3s					
HNS			pmax	pmax		
	comp=E,5μm,10.2s					
HNS			LR	LR		
	comp=E,8μm,16.3s					
HNS			LR	LR		
	comp=E,9μm,19.9s					
VLA	**Vladivostok**	**16.85 6** *i*	P	**Pn**	**04 16 36.2**	**+0.2**
LYN	**LuoYang**	**16.86 303** ⇓ *i*	P	**Pn**	**04 16 36.2**	**0.0**
LYN			pP	P	04 16 38.6	+0.4
LYN			PP	**pwP**	**04 16 50.7**	**+2.5**
LYN			sS	Sn	04 19 47.3	+4.2
LYN			SS	**SnSn**	**04 20 05.7**	**+9.3**
LYN			pmax	pmax		
	comp=E,950nm,1.5s					
LYN			pmax	pmax		
	comp=E,7μm,9.2s					
LYN			LR	LR		
	comp=E,15μm,11.5s					
LYN			LR	LR		
	comp=E,14μm,12.2s					
LYN			LR	LR		
	comp=E,25μm,12.0s					
JTM	**Tenmabayashi**	**17.28 31**	Pn	**Pn**	**04 16 39.9**	**-1.5**
JTM	**Tenmabayashi**	**17.28 31**	P	**P**	**04 16 44.4**	**+1.6**
GULI	**GuiLin**	**17.33 271**	P	**P**	**04 16 43.7**	**+0.2**
GULI			pmax	pmax		
	comp=E,90nm,1.6s					
GULI			LR	LR		
	comp=E,10μm,20.1s					
GULI			LR	LR		
	comp=E,3μm,23.3s					
GULI			LR	LR		
	comp=E,8μm,11.9s					
BJT	**Baijiatuau**	**17.64 324**	IAmb	IAmb	04 16 50.5	
	comp=Z,478nm,1.0s					
BJI	**Beijing**	**17.65 324**	P	**Pn**	**04 16 45.6**	**-0.4**
BJI			pmax	pmax		
	comp=Z,120nm,1.2s					
BJI			pmax	pmax		
	comp=Z,2μm,4.1s					
BJI			LR	LR		
	comp=Z,2μm,16.4s					
BJI			LR	LR		
	comp=Z,3μm,16.8s					
BJI			LR	LR		
	comp=Z,3μm,19.4s					
CN2	**Changchun**	**17.74 350**	*e*P	**Pn**	**04 16 47.2**	**0.0**
CN2			*e*PP	**PnPn**	**04 17 01.9**	**+4.0**
CN2			*e*S	**Sn**	**04 20 03.2**	**-1.3**
CN2			pmax	pmax		
	comp=Z,100nm,1.7s					
CN2			pmax	pmax		
	comp=Z,2μm,5.0s					
CN2			LR	LR		
	comp=Z,3μm,12.0s					
CN2			LR	LR		
	comp=Z,11μm,12.0s					
CN2			LR	LR		
	comp=Z,9μm,13.0s					
USA0B	**Ussuriysk Arra**	**17.93 6**		**Pn**	**04 16 49.3**	**-0.2**
USA0B	**Ussuriysk Arra**	**17.93 6** *i*	P	**P**	**04 16 50.2**	**+0.2**
USRK	**Ussuriysk Ar.**	**17.93 6**	P	**Pn**	**04 16 49.4**	**-0.1**
USRK	**Ussuriysk Ar.**	**17.93 6**	P	**P**	**04 16 50.9**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=195,slow=11,SNR=32					
USRK			S	**Sn**	**04 20 10.4**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=241,slow=18,SNR=1.0					
USRK			LR	LR	04 24 10.2	
	comp=Z,732nm,19.1s,baz=185,slow=39					
	comp=Z,37nm,0.8s					
ENH	**Enshi**	**18.11 287**		**Pn**	**04 16 51.1**	**-0.8**
MDJ	**Mudanjiang**	**18.24 0**	P	**Pn**	**04 16 53.2**	**0.0**
MDJ			S	**Sn**	**04 20 15.8**	**-0.7**
MDJ			pmax	pmax		
	comp=Z,23nm,1.4s					
MDJ			pmax	pmax		
	comp=Z,1μm,8.3s					
MDJ			LR	LR		
	comp=Z,3μm,13.8s					
MDJ			LR	LR		
	comp=Z,3μm,11.5s					
MDJ			LR	LR		
	comp=Z,3μm,15.2s					
TIY	**Taiyuan**	**18.40 312**	*e*P	**Pn**	**04 16 56.1**	**+0.7**
TIY			pmax	pmax		
	comp=Z,250nm,1.4s					
TIY			pmax	pmax		
	comp=Z,3μm,5.2s					
TIY			LR	LR		
	comp=Z,10μm,15.1s					
TIY			LR	LR		
	comp=Z,7μm,16.1s					
TIY			LR	LR		
	comp=Z,6μm,18.2s					
GUMO	**Guam**	**19.14 129**	P	**Pn**	**04 17 04.2**	**-0.2**
GUMO			IAmb	IAmb	04 17 07.3	
	comp=Z,747nm,1.2s					
GUMO	**Guam**	**19.14 129**	P	**Pn**	**04 17 05.6**	**+1.1**
	comp=Z,8.4nm,0.3s,baz=248,slow=3.9,SNR=12					
GUMO			S	**S**	**04 20 39.8**	**-0.4**
	comp=Z,68nm,0.2s,baz=11,slow=16,SNR=1.8					
GUMO			LR	LR	04 22 36.9	
	comp=Z,5μm,21.8s,baz=310,slow=31					
	comp=Z,256nm,0.7s					
GUMO	**Guam**	**19.14 129**	P	**Pn**	**04 17 06.8**	**+2.4**
ERM	**Erimo**	**19.22 32**		**P**	**04 17 03.5**	**-0.6**
ERM	**Erimo**	**19.22 32**	P	**P**	**04 17 04.4**	**+0.3**
ERM	**Erimo**	**19.22 32** *ce*	P	**Pn**	**04 17 04.6**	**-0.5**
ERM			pmax	pmax		
	comp=Z,232nm,1.7s					
JEM	**Erimo**	**19.22 32**	P	**P**	**04 17 04.4**	**+0.3**
XAN	**Xi'an**	**19.41 298**	⇓P	**P**	**04 17 05.7**	**-0.7**
XAN			pP	sP	04 17 08.0	-3.0
XAN			PP	**PnPn**	**04 17 19.7**	**-1.1**
XAN			S	**Sn**	**04 20 41.8**	**-3.3**
XAN			pmax	pmax		
	comp=Z,870nm,1.5s					
XAN			pmax	pmax		
	comp=Z,3μm,3.6s					
XAN			LR	LR		
	comp=Z,12μm,17.9s					
XAN			LR	LR		
	comp=Z,14μm,19.0s					
XAN			LR	LR		
	comp=Z,14μm,20.6s					
BNX	**BinXian**	**19.44 355**	⇓P	**P**	**04 17 05.8**	**-0.8**
BNX			sP	**sP**	**04 17 11.2**	**0.0**
BNX			S	**Sn**	**04 20 36.8**	**-8.7**
BNX			pmax	pmax		
	comp=Z,180nm,1.0s					
BNX			pmax	pmax		
	comp=Z,1μm,8.9s					
BNX			LR	LR		
	comp=Z,4μm,13.1s					
BNX			LR	LR		
	comp=Z,4μm,11.6s					
BNX			LR	LR		
	comp=Z,5μm,13.1s					
TEY	**Ternei**	**19.50 15**	⇑ *e*P	**Pn**	**04 17 08.3**	**-0.1**
TEY			pmax	pmax		
	comp=N,20nm,1.1s					
TEY			pmax	pmax		
	comp=Z,20nm,1.2s					
DAV	**Davao City (W)**	**19.54 192**	P	**Pn**	**04 17 08.6**	**-0.6**
	comp=Z,249nm,0.5s,baz=87,slow=8.7,SNR=3.8					
DAV			LR	LR	04 25 34.0	
	comp=Z,3μm,18.2s,baz=4.0,slow=40					
DAV	**Davao City (W)**	**19.54 192**	P	**Pn**	**04 17 11.4**	**+2.3**
DAV	**Davao City (W)**	**19.54 192**	P	**Pn**	**04 17 10.0**	**+0.9**
QIZ	**Qiongzhong**	**19.59 252**	P	**P**	**04 17 08.3**	**-0.2**
QIZ	**Qiongzhong**	**19.59 252**	P	**Pn**	**04 17 09.9**	**+0.1**
QIZ			pmax	pmax		
	comp=Z,76nm,2.7s					
QIZ			pmax	pmax		
	comp=Z,2μm,5.8s					
QIZ			LR	LR		
	comp=Z,3μm,12.0s					
QIZ			LR	LR		
	comp=Z,3μm,12.2s					
QIZ			LR	LR		
	comp=Z,2μm,13.5s					
GYA	**Guiyang**	**20.52 275**	⇑P	**P**	**04 17 19.1**	**+0.4**
GYA			S	**S**	**04 21 05.3**	**-2.6**
GYA			pmax	pmax		
	comp=Z,130nm,1.8s					
GYA			pmax	pmax		
	comp=Z,780nm,3.1s					
GYA			LR	LR		
	comp=Z,10μm,15.9s					
GYA			LR	LR		
	comp=Z,3μm,17.3s					
GYA			LR	LR		
	comp=Z,4μm,20.4s					
ASAJ	**Asahikawa**	**20.64 27**	P	**P**	**04 17 19.5**	**-0.1**
	comp=Z,19nm,0.8s,baz=230,slow=10,SNR=13					
ASAJ			LR	LR	04 25 27.8	
	comp=Z,3μm,21.8s,baz=223,slow=37					
	comp=Z,19nm,0.8s					
JKA	**Kamikawa-asahi**	**20.64 27**	P	**P**	**04 17 17.7**	**-1.9**
XLT	**XiLinHaoTe**	**20.66 331** *e*P		**P**	**04 17 19.5**	**-0.5**
XLT			pP	Pn	04 17 24.1	+1.8
XLT			PP	**PnPn**	**04 17 41.8**	**+3.9**
XLT			S	**S**	**04 21 04.6**	**-5.7**
XLT			pmax	pmax		
	comp=Z,130nm,1.2s					
XLT			LR	LR		
	comp=Z,320nm,16.9s					
XLT			LR	LR		
	comp=Z,3μm,17.4s					
XLT			LR	LR		
	comp=Z,4μm,20.4s					
HHC	**Hu-ho-hao-te**	**20.79 319** ⇑ *i*P		**P**	**04 17 21.0**	**-0.4**
HHC			pP	Pn	04 17 25.3	+1.4
HHC			S	**S**	**04 21 07.8**	**-5.1**
HHC			sS	sS	04 21 15.9	-1.6
HHC			pmax	pmax		
	comp=Z,54nm,0.8s					
HHC			pmax	pmax		
	comp=Z,2μm,6.7s					
HHC			LR	LR		
	comp=Z,7μm,16.3s					
HHC			LR	LR		
	comp=Z,7μm,14.6s					
HHC			LR	LR		
	comp=Z,10μm,19.5s					
BTO	**Baotou**	**21.58 316** *e*P		**P**	**04 17 30.8**	**+0.9**
BTO			pP	**sP**	**04 17 35.0**	**+1.1**
BTO			sP	**pwP**	**04 17 38.1**	**-1.7**
BTO			PP	**PnPn**	**04 17 56.1**	**+5.6**
BTO			S	**S**	**04 21 27.9**	**-0.7**
BTO			sS	**pS**	**04 21 33.4**	**-2.0**
BTO			pmax	pmax		
	comp=Z,100nm,1.6s					
BTO			pmax	pmax		
	comp=Z,5μm,11.0s					
BTO			LR	LR		
	comp=Z,14μm,17.6s					
BTO			LR	LR		
	comp=Z,10μm,17.5s					
BTO			LR	LR		
	comp=Z,16μm,22.3s					
YUK	**Yuzh-Kuril'sk**	**22.04 33** *e*P		**P**	**04 17 35.3**	**+0.6**
YUK		*e*			04 18 03.3	
YUK		*e*S		**S**	**04 21 36.3**	**-0.9**
YUK		*e*SS		**SnSn**	**04 22 08.8**	**+5.2**
YUK		pmax	pmax			
	comp=Z,544nm,1.3s					
YUK		pmax	pmax			
	comp=N,103nm,0.8s					
YUK		MLR	MLR			
	comp=Z,3μm,19.0s					
SGSI	**Sangihe**	**22.86 190**	P	**P**	**04 17 42.1**	**-1.5**
KLR	**Kul'dur**	**22.92 4**	P	**P**	**04 17 43.3**	**-0.7**
	comp=Z,301nm,1.4s,baz=188,slow=8.8,SNR=47					
	comp=Z,301nm,1.4s					
KLR	**Kul'dur**	**22.92 4** *ce*P		**P**	**04 17 43.2**	**-0.8**
KLR		pmax	pmax			
	comp=Z,206nm,1.3s					
YSS	**Yuzhno-Sakhali**	**23.07 23**	P	**P**	**04 17 45.6**	**0.0**
YSS		IAmb	IAmb		04 17 48.8	
	comp=Z,548nm,1.4s					
YSS	**Yuzhno-Sakhali**	**23.07 23**	P	**P**	**04 17 47.1**	**+1.5**
YSS	**Yuzhno-Sakhali**	**23.07 23** *κ i*	P	**P**	**04 17 46.4**	**+0.8**
YSS		*e*S		**S**	**04 21 56.7**	**+0.8**
YSS		pmax	pmax			
	comp=Z,2μm,3.3s					
YSS		pmax	pmax			
	comp=N,1μm,3.2s					
YSS		pmax	pmax			
	comp=E,900nm,3.0s					
YSS		pmax	pmax			
	comp=N,170nm,0.9s					
YSS		pmax	pmax			
	comp=Z,210nm,0.9s					
YSS		smax	smax			
	comp=N,30nm,1.1s					
YSS		smax	smax			
	comp=E,20nm,1.2s					
YSS		smax	smax			
	comp=N,700nm,5.3s					
YSS		smax	smax			
	comp=E,900nm,7.0s					
YSS		MLR	MLR			
	comp=Z,2μm,21.0s					
YSS		MLR	MLR			
	comp=N,2μm,15.0s					
YSS		MLR	MLR			
	comp=E,2μm,16.0s					
CD2	**Chengdu**	**23.09 287** *e*P		**P**	**04 17 44.3**	**-1.8**
CD2		LR	LR			
	comp=E,13μm,11.1s					
CD2		LR	LR			
	comp=E,7μm,9.6s					
MYLDM	**Lahad Datu**	**23.55 209**	P	**P**	**04 17 50.2**	**-0.4**
MYLDM	**Lahad Datu**	**23.55 209**	P	**P**	**04 17 52.3**	**+1.6**
KKM	**Kota Kinabalu**	**23.87 215**	P	**P**	**04 17 52.1**	**-1.8**
KKM	**Kota Kinabalu**	**23.87 215**	P	**P**	**04 17 55.8**	**+1.9**
HEH	**HeiHe**	**23.94 357** *e*P		**P**	**04 17 53.5**	**-0.6**
HEH		sP		**sP**	**04 17 57.8**	**-0.5**
HEH		PcP		**PcP**	**04 21 34.8**	**-1.4**
HEH		SS		**SnSn**	**04 22 57.9**	**+7.9**
HEH		pmax	pmax			
	comp=E,31nm,1.0s					
HEH		pmax	pmax			
	comp=E,1μm,6.1s					
HEH		LR	LR			
	comp=E,4μm,12.3s					
HEH		LR	LR			
	comp=E,3μm,11.8s					
HEH		LR	LR			
	comp=E,6μm,15.1s					
SLVN	**Son La**	**23.98 263**	P	**P**	**04 17 54.3**	**-0.6**
SLVN		IAmb	IAmb		04 17 59.7	
	comp=Z,193nm,1.2s					
SLVN	**Son La**	**23.98 263**	P	**P**	**04 17 55.2**	**+0.3**
LZH	**Lanzhou**	**24.00 300**	⇑P	**P**	**04 17 54.4**	**-0.6**
LZH		pP		sP	04 17 58.5	-0.7
LZH		S		**S**	**04 22 07.5**	**-4.0**
LZH		sS		sS	04 22 21.7	+4.5
LZH		pmax	pmax			
	comp=Z,92nm,1.6s					
LZH		pmax	pmax			
	comp=Z,2μm,4.8s					
LZH		LR	LR			
	comp=Z,10μm,14.1s					
LZH		LR	LR			
	comp=Z,6μm,14.8s					
LZH		LR	LR			
	comp=Z,7μm,16.5s					
HIA	**Hailar**	**24.13 344**	P	**P**	**04 17 54.1**	**-1.9**
HIA	**Hailar**	**24.13 344**	P	**P**	**04 17 54.1**	**-1.9**
HIA		pmax	pmax			
	comp=Z,44nm,1.0s					
KMI	**Kunming**	**24.19 273**	⇑P	**P**	**04 17 57.9**	**+0.9**
KMI		S		**S**	**04 22 10.2**	**-4.7**
KMI		pmax	pmax			
	comp=Z,100nm,1.6s					
KMI		pmax	pmax			
	comp=Z,2μm,7.5s					
KMI		LR	LR			
	comp=Z,3μm,8.6s					
KMI		LR	LR			
	comp=Z,6μm,10.8s					
KMI		LR	LR			
	comp=Z,8μm,11.1s					
DLV	**Lat**	**24.48 238**	P	**P**	**04 17 59.3**	**-0.3**
DLV	**Lat**	**24.48 238**	P	**P**	**04 17 59.7**	**+0.1**
UGL	**Uglegorsk**	**24.69 20** *e*P		**P**	**04 18 02.8**	**+1.8**
UGL		*e*			04 18 32.1	
UGL		*e*S		**S**	**04 22 14.3**	**-7.7**
UGL		pmax	pmax			
	comp=Z,4μm,7.5s					
UGL		pmax	pmax			
	comp=Z,300nm,1.2s					
UGL		smax	smax			
	comp=E,3μm,9.3s					
UGL		smax	smax			
	comp=N,5μm,12.0s					
UGL		MLR	MLR			
	comp=N,3μm,17.0s					
UGL		MLR	MLR			
	comp=E,2μm,17.0s					
UGL		MLR	MLR			
	comp=Z,3μm,15.0s					
PZH	**PanZhiHua**	**24.91 277**	P	**P**	**04 18 03.0**	**-0.4**
PZH		S		**S**	**04 22 23.6**	**-2.7**
PZH		pmax	pmax			

comp=Z,130nm,1.7s
PZH pmax pmax
comp=Z,2μm,8.3s
PZH LR LR
comp=Z,4μm,12.3s
PZH LR LR
comp=Z,5μm,14.2s
PZH LR LR
comp=Z,6μm,15.2s
GRNR Gornyy 24.95 10 *i* P **P 04 18 04.5 +1.1**
GRNR pmax pmax
comp=N,40nm,1.2s
GRNR pmax pmax
comp=Z,60nm,1.2s
GRNR MLR MLR
comp=E,2μm,12.0s
GRNR MLR MLR
comp=N,2μm,14.0s
GRNR MLR MLR
comp=Z,2μm,14.0s
TNTI Ternate 25.51 185 P **P 04 18 12.0 +3.3**
TNTI Ternate 25.51 185 P **P 04 18 11.2 +2.5**
comp=Z,2μmcomp=Z,2μmcomp=Z,137nm,1.3s
KMSI Cibinong 26.18 193 P **P 04 18 17.9 +3.2**
TYV Tymovskoe 26.45 19 *e*P **P 04 18 21.8 +4.8**
TYV pmax pmax
comp=Z,2μm,7.5s
TYV pmax pmax
comp=Z,179nm,1.4s
TOLI2 Tolitoli 26.47 200 P **P 04 18 15.8 -1.6**
TOLI2 IAmb IAmb 04 18 30.8
comp=Z,129nm,0.9s
TOLI2 Tolitoli 26.47 200 P **P 04 18 17.4 0.0**
MRSI Marisa 26.74 197 P **P 04 18 19.8 -0.1**
comp=Z,2μmcomp=Z,57nm,1.0s
SWI Sorong 27.09 176 P **P 04 18 21.9 -1.1**
ZEA Zeya 27.42 357 *e*P **P 04 18 26.9 +1.2**
ZEA *e* 04 19 10.0
ZEA *e*S **S 04 23 03.9 -1.3**
ZEA *e*SS SS 04 24 42.1 -19
ZEA pmax pmax
comp=N,300nm,6.3s
ZEA pmax pmax
comp=Z,700nm,4.4s
ZEA pmax pmax
comp=N,50nm,1.5s
ZEA pmax pmax
comp=Z,80nm,1.2s
ZEA pmax pmax
comp=N,300nm,6.2s
ZEA pmax pmax
comp=Z,500nm,4.7s
ZEA smax smax
comp=E,500nm,4.7s
ZEA smax smax
comp=N,1μm,6.6s
ZEA MLR MLR
comp=E,1μm,12.0s
ZEA MLR MLR
comp=N,2μm,11.0s
ZEA MLR MLR
comp=Z,1μm,10.0s
MPSI Mapaga 27.48 201 P **P 04 18 25.1 -1.4**
ULN Ulaanbaatar 27.82 326 P **P 04 18 27.7 -1.8**
ULN IAmb IAmb 04 18 35.5
comp=Z,153nm,1.4s
ULN Ulaanbaatar 27.82 326 P **P 04 18 28.3 -1.2**
ULN P **P 04 18 28.3 -1.2**
ULN S **S 04 23 15.8 +3.8**
ULN S **S 04 23 15.8 +3.8**
ULN Ulaanbaatar 27.82 326 *ce*P **P 04 18 29.8 +0.3**
ULN pmax pmax
comp=Z,90nm,1.7s
TNCH TengChong 27.99 274 P **P 04 18 31.6 +0.3**
TNCH pP sP 04 18 35.1 -0.4
TNCH sP pwP 04 18 39.1 -1.9
TNCH S **S 04 23 17.3 +2.2**
TNCH pmax pmax
comp=Z,130nm,0.6s
TNCH pmax pmax
comp=Z,470nm,2.8s
TNCH LR LR
comp=Z,5μm,10.4s
TNCH LR LR
comp=Z,6μm,13.7s
TNCH LR LR
comp=Z,10μm,14.4s
NKL Nikolayevsk 28.04 14 *e*P **P 04 18 34.4 +3.3**
NKL pmax pmax
comp=E,143nm,1.2s
NKL pmax pmax
comp=N,208nm,1.3s
NKL pmax pmax
comp=Z,516nm,1.3s
NKL MLR MLR
comp=E,13μm,13.0s
NKL MLR MLR
comp=N,9μm,16.0s
NKL MLR MLR
comp=Z,16μm,18.0s
GTA Gaotai 28.05 305 P **P 04 18 30.8 -0.8**
GTA sP pwP 04 18 37.8 -5.2
GTA S **S 04 23 15.9 +0.2**
GTA pmax pmax
comp=Z,46nm,0.8s
GTA pmax pmax
comp=Z,880nm,12.0s
GTA LR LR
comp=Z,7μm,16.7s
GTA LR LR
comp=Z,5μm,17.1s
GTA LR LR
comp=Z,6μm,21.1s
BAKI Biak 28.09 166 P **P 04 18 31.2 -0.7**
comp=Z,2μmcomp=Z,93nm,1.6s
SONM Songino Array 28.13 326 P **P 04 18 30.6 -1.7**
SONM Songino Array 28.13 326 P **P 04 18 30.8 -1.4**
comp=Z,6.3nm,0.8s,baz=146,slow=3.9,SNR=23
SONM LR LR 04 31 18.5
comp=Z,3μm,18.9s,baz=130,slow=40
comp=Z,6.3nm,0.8s
SONM Songino Array 28.13 326 P **P 04 18 30.6 -1.7**
SONM pmax pmax
comp=Z,65nm,1.0s
APSI Ampana 28.15 197 P **P 04 18 34.2 +1.7**
comp=Z,2μmcomp=Z,73nm,1.0s
CIT Chita 28.37 339 *e*P **P 04 18 33.2 -1.0**
CIT *e* 04 18 46.4
CIT *e* 04 19 22.6
CIT *e* 04 21 45.6
CIT *e* 04 23 13.6
CIT *e* 04 24 56.0
CIT pmax pmax
comp=Z,142nm,2.1s
SANI Sanana 28.43 188 P **P 04 18 34.8 -0.2**
SANI Sanana 28.43 188 P **P 04 18 31.5 -3.5**
comp=Z,2μmcomp=Z,1μmcomp=Z,108nm,1.1s
PCI Palu 28.67 201 P **P 04 18 36.3 -0.8**
comp=Z,3μmcomp=Z,85nm,0.9s
NAYO Nakonayok 29.00 251 P **P 04 18 41.6 +1.5**
SBUM Sibu 29.02 218 P **P 04 18 41.4 +1.2**
FAKI Fak Fak 29.20 175 P **P 04 18 40.0 -1.8**
FAKI IAmb IAmb 04 18 55.2
comp=Z,191nm,1.1s
FAKI IAMs_20 IAMs_20 04 31 58.4
comp=Z,4μm,18.0s
FAKI Fak Fak 29.20 175 P **P 04 18 42.4 +0.6**
FAKI Fak Fak 29.20 175 P **P 04 18 40.5 -1.3**
comp=Z,2μmcomp=Z,204nm,1.2s
CHTO Chiang Mai 29.21 262 P **P 04 18 40.5 -1.4**
CHTO IAMs_20 IAMs_20 04 32 12.6
comp=Z,2μm,18.0s
CHTO Chiang Mai 29.21 262 P **P 04 18 42.5 +0.5**
CHTO P **P 04 18 42.5 +0.5**
CHTO S **S 04 23 33.9 -0.1**
CHTO S **S 04 23 33.9 -0.1**
CHTO Chiang Mai 29.21 262 P **P 04 18 42.7 +0.7**
CHTO Chiang Mai 29.21 262 P **P 04 18 40.5 -1.4**
CHTO pmax pmax
comp=Z,86nm,1.4s
CHTO MLR MLR
comp=Z,2μm,18.0s
CM31 Chiang Mai Arr 29.33 261 P **P 04 18 43.5 +0.4**
SNR=11
CM31 P **P 04 18 43.5 +0.4**
SNR=11
CM31 S **S 04 23 36.3 +0.3**
CM31 S **S 04 23 36.3 +0.3**
CMAR Chiang Mai Arr 29.33 261 P **P 04 18 43.0 -0.1**
CMAR Chiang Mai Arr 29.33 261 P **P 04 18 42.8 -0.3**
comp=Z,4.1nm,0.5s,baz=58,slow=8.1,SNR=36
CMAR PcP **PcP 04 21 50.2 +0.8**
comp=Z,2.0nm,0.5s,baz=34,slow=1.6,SNR=4.1
CMAR S **S 04 23 34.5 -1.5**
comp=Z,1.0nm,0.3s,baz=56,slow=3.2,SNR=0.9
CMAR LR LR 04 30 24.1
comp=Z,1μm,20.3s,baz=80,slow=36
comp=Z,4.1nm,0.5s
CMAR Chiang Mai Arr 29.33 261 *i* P **P 04 18 44.0 +0.9**
CMAR pmax pmax
comp=Z,3.0nm,0.3s
NLAI Namlea 29.50 185 P **P 04 18 42.6 -1.9**
comp=Z,2μmcomp=Z,107nm,1.3s
SMPI Sarmi 29.51 161 P **P 04 18 45.7 +1.1**
comp=Z,190nm,1.5s
GENI Genyem 30.53 159 P **P 04 18 55.1 +1.5**
GENI Genyem 30.53 159 P **P 04 18 54.9 +1.3**
comp=Z,3μmcomp=Z,126nm,2.2s
JAY Jayapura 30.64 158 LR LR 04 28 04.5
comp=Z,2μm,21.8s,baz=338,slow=30
JAY Jayapura 30.64 158 P **P 04 18 54.5 -0.1**
comp=Z,2μmcomp=Z,40nm,1.1s
SRDT SRDT 30.86 253 P **P 04 18 56.8 +0.2**
KSM Kuching 30.89 220 P **P 04 18 58.3 +1.4**
GOMU GeErMu 31.15 297 P **P 04 18 58.9 -0.5**
GOMU pP sP 04 19 01.3 -2.4
GOMU PcP **PcP 04 21 54.2 -0.2**
GOMU S **S 04 24 04.1 -0.9**
GOMU pmax pmax
comp=Z,170nm,0.9s
GOMU pmax pmax
comp=Z,870nm,5.9s
GOMU LR LR
comp=Z,2μm,18.2s
GOMU LR LR
comp=Z,3μm,16.8s
GOMU LR LR
comp=Z,7μm,21.8s
ZAK Zakamensk 31.34 327 *e*P **P 04 18 57.9 -2.8**
ZAK pmax pmax
comp=Z,8.0nm,1.5s
IRK Irkutsk 32.13 330 *e*P **P 04 19 06.5 -0.9**
IRK *e* 04 20 23.2
IRK pmax pmax
comp=Z,57nm,1.2s
KAPI Kappang 32.59 198 P **P 04 19 13.8 +2.1**
MOY Mondy 33.28 327 *e*P **P 04 19 15.6 -2.0**
MOY *e* 04 20 33.0
MOY pmax pmax
comp=Z,29nm,2.2s
BOD Bodaibo 33.34 345 *e*P **P 04 19 18.0 +0.1**
BOD pmax pmax
comp=Z,27nm,1.4s
BSSI Bau Bau, Buton 33.47 197 P **P 04 19 18.6 -0.8**
comp=Z,2μmcomp=Z,99nm,0.8s
PATS Pohnpei 33.54 120 P **P 04 19 19.4 -0.7**
PATS IAMs_20 IAMs_20 04 29 47.3
comp=Z,4μm,21.0s
PATS Pohnpei 33.54 120 P **P 04 19 20.5 +0.4**
comp=Z,263nm,1.5s
PATS Pohnpei 33.54 120 P **P 04 19 20.5 +0.4**
SHL Shillong 33.82 277 IAmb IAmb 04 19 26.0
comp=Z,106nm,1.0s
SHL Shillong 33.82 277 P **P 04 19 22.2 -0.5**
SNR=22
SHL S **S 04 24 43.9 -2.5**
LSA Lhasa 33.98 285 P **P 04 19 24.6 +0.2**
LSA Lhasa 33.98 285 P **P 04 19 24.7 +0.2**
LSA Lhasa 33.98 285 P **P 04 19 24.1 -0.3**
PEA0B Petropavlovsk- 33.98 31 *ce*P **P 04 19 28.5 +1.6**
comp=Z,193nm,1.4s
PEA0B Petropavlovsk- 33.98 31 *ce*P **P 04 19 25.2 +1.6**
PETK Petropavlovsk- 33.98 31 P **P 04 19 23.4 -0.2**
PETK Petropavlovsk- 33.98 31 P **P 04 19 24.4 +0.8**
comp=Z,33nm,1.0s,baz=212,slow=5.3,SNR=21
PETK LR LR 04 34 49.7
comp=Z,1μm,19.6s,baz=223,slow=39
comp=Z,33nm,1.0s
SAUI Saumlaki 34.16 177 P **P 04 19 23.0 -2.4**
PET Petropavlovsk 34.37 31 P **P 04 19 27.2 +0.4**
PET IAmb IAmb 04 19 29.0
comp=Z,99nm,1.2s
PET Petropavlovsk 34.37 31 P **P 04 19 28.5 +1.6**
PET Petropavlovsk 34.37 31 *ce*P **P 04 19 29.3 +2.4**
PET pmax pmax
comp=Z,202nm,2.5s
BRDH Bariadhala 34.63 272 LR LR 04 33 34.9
comp=Z,3μm,18.5s,baz=120,slow=36
KULM Kulim 34.66 238 P **P 04 19 31.3 +1.5**
MYKOM Kota Tinggi 34.74 230 P **P 04 19 32.1 +1.6**
WAKE Wake Island 34.80 94 P **P 04 19 29.7 -1.4**
WAKE Wake Island 34.80 94 P **P 04 19 31.9 +0.9**
H11N1 WAKE ISLAND Hy 34.88 93 T T 04 57 52.0
baz=287
H11N2 WAKE ISLAND Hy 34.88 93 T T 04 57 42.1
baz=287
H11N3 WAKE ISLAND Hy 34.90 93 T T 04 57 40.7
baz=287
TPRI Tanjung Pinang 34.93 228 P **P 04 19 32.4 +0.3**
MMRI Maumere 35.49 193 P **P 04 19 34.8 -2.1**
MMRI IAmb IAmb 04 19 49.5
comp=Z,136nm,1.3s
MMRI Maumere 35.49 193 P **P 04 19 39.2 +2.3**
MMRI Maumere 35.49 193 P **P 04 19 34.1 -2.8**
comp=Z,86nm,1.3s
YAK Yakutsk 35.69 0 P **P 04 19 37.8 -0.3**
YAK IAmb IAmb 04 19 54.7
comp=Z,122nm,0.8s
YAK Yakutsk 35.69 0 P **P 04 19 37.9 -0.3**
comp=Z,42nm,0.5s,baz=179,slow=1.8,SNR=34
YAK S **S 04 25 11.2 -2.7**
comp=Z,31nm,0.4s,baz=112,slow=2.0,SNR=2.0
YAK LR LR 04 34 07.9
comp=Z,757nm,20.8s,baz=177,slow=36
comp=Z,42nm,0.5s
YAK Yakutsk 35.69 0 *c i*P **P 04 19 37.9 -0.3**
YAK *e**PP **pwP 04 19 45.3 -4.1**
YAK *e* 04 20 57.7
YAK *e* 04 22 05.7
YAK *e*S **S 04 25 11.1 -2.7**
YAK *e*SS **SnSn 04 27 30.5 -5.1**
YAK pmax pmax
comp=Z,254nm,2.0s
YAK pmax pmax
comp=N,188nm,1.9s
YAK pmax pmax
comp=E,35nm,1.7s
YAK pmax pmax
comp=Z,883nm,8.8s
YAK pmax pmax
comp=N,92nm,2.3s
YAK pmax pmax
comp=E,159nm,6.1s
YAK smax smax
comp=N,950nm,4.4s
YAK smax smax
comp=E,663nm,5.6s
YAK MLR MLR
comp=Z,847nm,14.0s
YAK MLR MLR
comp=N,415nm,12.0s
YAK MLR MLR
comp=E,476nm,18.0s
SOEI Soe 36.25 189 P **P 04 19 41.4 -2.1**
SOEI IAmb IAmb 04 20 15.7
comp=Z,117nm,0.9s
SOEI Soe 36.25 189 P **P 04 19 45.0 +1.5**
SOEI Soe 36.25 189 P **P 04 19 45.0 +1.5**
comp=Z,2μmcomp=Z,98nm,1.1s
MA2 Magadan 36.33 18 P **P 04 19 43.6 0.0**
MA2 Magadan 36.33 18 P **P 04 19 43.5 -0.2**
comp=Z,14nm,0.7s,baz=204,slow=7.7,SNR=9.7
MA2 LR LR 04 35 09.5
comp=Z,545nm,19.2s,baz=214,slow=37
comp=Z,14nm,0.7s
MA2 Magadan 36.33 18 P **P 04 19 44.3 +0.6**
MA2 Magadan 36.33 18 *ce*P **P 04 19 44.6 +0.9**
MA2 pmax pmax
comp=Z,76nm,1.3s
MA2 Magadan 36.33 18 P **P 04 19 44.0 +0.3**
comp=Z,1μmcomp=Z,84nm,1.1s
BATI Baumata 36.78 190 LR LR 04 35 34.5
comp=Z,359nm,20.5s,baz=9.5,slow=37
PLAI Plampang 36.79 200 P **P 04 19 50.0 +2.0**
PLAI Plampang 36.79 200 P **P 04 19 49.8 +1.8**
TWSI Taliwang, Sumb 36.98 201 P **P 04 19 49.8 +0.1**
comp=Z,2μmcomp=Z,121nm,1.3s
LHMI Lhok Sumawe 37.57 242 P **P 04 19 56.3 +1.5**
PSI Prapat 37.58 237 LR LR 04 37 00.8
comp=Z,720nm,18.1s,baz=38,slow=39
PSI Prapat 37.58 237 P **P 04 19 56.1 +1.1**
PSI Prapat 37.58 237 P **P 04 19 54.9 -0.1**
PSI pmax pmax
comp=Z,74nm,1.1s
PSI MLR MLR
comp=Z,1μm,18.0s
RPSI Rantau Prapat 37.65 236 P **P 04 19 54.9 -0.5**
BKNI Bangkinang 37.74 231 P **P 04 19 56.4 +0.2**
BKNI IAmb IAmb 04 20 11.4
comp=Z,290nm,1.4s
BKNI Bangkinang 37.74 231 P **P 04 19 57.2 +1.1**
BKNI Bangkinang 37.74 231 P P 04 20 01.7 +5.6
NGJI Ngawi 37.84 210 P **P 04 19 58.7 +1.8**
comp=Z,71nm,1.1s
WMQ Urumqi 37.99 308 *e*P **P 04 19 58.7 +0.6**
WMQ pP sP 04 20 03.1 +0.7
WMQ PP **PnPn 04 21 26.0 -0.3**
WMQ pmax pmax
comp=Z,34nm,1.3s
WMQ pmax pmax
comp=Z,420nm,8.9s
WMQ LR LR
comp=Z,5μm,16.1s
WMQ LR LR
comp=Z,4μm,19.3s
WMQ LR LR
comp=Z,4μm,20.5s
MNSI Mandailing Nat 38.45 234 P **P 04 20 02.7 +0.6**
comp=Z,130nm,1.0s
BSI Banda Aceh 38.73 244 P **P 04 20 05.4 +0.9**
comp=Z,2μmcomp=Z,101nm,0.9s
PPI Padang Panjang 38.74 231 P **P 04 20 05.8 +1.2**
comp=Z,124nm,1.3s
UGM Wanagama 38.75 211 IAmb IAmb 04 20 20.1
comp=Z,207nm,1.1s
UGM Wanagama 38.75 211 P **P 04 20 06.4 +1.7**
UGM Wanagama 38.75 211 P **P 04 20 04.6 -0.1**
comp=Z,196nm,1.1s
LEM Lembang 39.25 216 LR LR 04 39 22.8
comp=Z,478nm,18.0s,baz=22,slow=41
MDSI Maura Dua 39.29 222 P **P 04 20 10.8 +1.6**
comp=Z,906nmcomp=Z,36nm,1.0s
PMG Port Moresby 39.43 152 P **P 04 20 10.5 +0.2**
PMG Port Moresby 39.43 152 IAMs_20 IAMs_20 04 33 31.1
comp=Z,3μm,21.0s
PMG Port Moresby 39.43 152 LR LR 04 34 04.0
comp=Z,2μm,21.1s,baz=324,slow=33
PMG Port Moresby 39.43 152 P **P 04 20 13.3 +3.0**
PMG Port Moresby 39.43 152 P **P 04 20 13.4 +3.1**
PMG Port Moresby 39.43 152 *ce*P **P 04 20 12.3 +2.0**
PMG pmax pmax
comp=Z,114nm,1.7s
SEY Seymchan 39.57 16 LR LR 04 37 25.7
comp=Z,1μm,18.6s,slow=38
SEY Seymchan 39.57 16 *ce*P **P 04 20 12.8 +1.8**
SEY pmax pmax
comp=Z,148nm,1.3s
GSI Gunungsitoli 39.57 236 IAmb IAmb 04 20 25.8
comp=Z,153nm,1.1s
GSI Gunungsitoli 39.57 236 P **P 04 20 11.9 +0.3**
GSI Gunungsitoli 39.57 236 P **P 04 20 11.9 +0.3**
comp=Z,132nm,1.0s
BBJI Bungbulang 39.77 215 P **P 04 20 14.5 +1.2**
SHEM Shemya Is, Ala 42.32 39 P **P 04 20 34.4 +0.6**
comp=Z,99nm,1.0s,baz=288,slow=4.2,SNR=3.8
comp=Z,99nm,1.0s
MK31 Makanchi Array 42.36 311 *i* P **P 04 20 33.0 -1.3**
MK31 pmax pmax
comp=Z,14nm,0.7s
MKAR Makanchi Array 42.36 311 P **P 04 20 32.9 -1.4**
MKAR Makanchi Array 42.36 311 P **P 04 20 33.3 -1.0**
comp=Z,13nm,0.6s,baz=98,slow=9.9,SNR=106
MKAR PP **PP 04 22 13.4 +1.0**
comp=Z,20nm,1.2s,baz=107,slow=8.1,SNR=4.4
MKAR ScP **ScP 04 26 20.7 +3.0**
comp=Z,1.8nm,1.0s,baz=96,slow=4.9,SNR=3.1
MKAR LR LR 04 40 57.8
comp=Z,2μm,18.3s,baz=90,slow=40
comp=Z,13nm,0.6s
MAKZ Makanchi 42.58 311 P **P 04 20 34.8 -1.3**
MAKZ IAMs_20 IAMs_20 04 39 24.6
comp=Z,2μm,22.0s
MAKZ Makanchi 42.58 311 P **P 04 20 35.2 -0.8**
ZALV Zalesovo Beam 42.90 322 P **P 04 20 36.6 -1.8**
ZALV Zalesovo Beam 42.90 322 P **P 04 20 37.4 -1.0**
comp=Z,8.9nm,0.5s,baz=107,slow=8.7,SNR=35
ZALV PP **PP 04 22 18.6 +0.7**
comp=Z,4.6nm,0.9s,baz=125,slow=7.6,SNR=1.5
ZALV PcP **PcP 04 22 28.4 -0.7**
comp=Z,9.5nm,0.9s,baz=134,slow=3.1,SNR=4.1
ZALV ScP **ScP 04 26 22.6 +3.0**
comp=Z,0.4nm,0.3s,baz=107,slow=3.5,SNR=2.2
ZALV LR LR 04 40 08.9
comp=Z,3μm,18.5s,baz=112,slow=38
comp=Z,8.9nm,0.5s
PDGK Podgornoye 43.79 306 P **P 04 20 44.7 -1.3**
SHLS Shalkode 43.79 306 *e*P **P 04 20 42.7 -3.3**
SHLS Shalkode 43.79 306 *e*P **P 04 20 42.8 -3.3**
WUS Wushi 43.81 303 IAMs_20 IAMs_20 04 41 31.8
comp=Z,3μm,19.0s
UZB Uzynbulak 44.11 306 *e*P **P 04 20 47.9 -0.7**
UZB *e*S **S 04 27 20.6 -0.3**
UZB Uzynbulak 44.11 306 *e*P **P 04 20 47.9 -0.7**
UZB *e*S **S 04 27 20.6 -0.3**
PRZ Przheval'sk 44.51 305 P **P 04 20 51.7 -0.2**
PRZ IAMs_20 IAMs_20 04 40 42.0
comp=Z,2μm,19.0s
PRZ Przheval'sk 44.51 305 P **P 04 20 51.7 -0.2**
PRZ pmax pmax
comp=Z,106nm,1.4s
PRZ MLR MLR
comp=Z,2μm,19.0s
ZHN Zhinishke 44.54 306 *e*P **P 04 20 51.3 -0.7**
ZHN Zhinishke 44.54 306 *e*P **P 04 20 51.4 -0.7**
SATY Saty 44.55 306 *e*P **P 04 20 51.7 -0.4**
SATY Saty 44.55 306 *e*P **P 04 20 51.7 -0.4**
TARG Taragay, Kyrgy 44.91 304 IAMs_20 IAMs_20 04 40 55.3
comp=Z,3μm,21.0s
ARXS Arharly 45.08 307 *e*P **P 04 20 55.8 -0.4**
TATA Tatamba Isabel 45.31 136 P **P 04 21 00.1 +1.8**
TIXI Tiksi 45.35 360 P **P 04 20 57.7 -0.2**
TIXI IAmb IAmb 04 21 13.1
comp=Z,253nm,1.9s
TIXI Tiksi 45.35 360 IAMs_20 IAMs_20 04 41 58.9
comp=Z,2μm,18.0s
TIXI Tiksi 45.35 360 LR LR 04 42 01.1
comp=Z,2μm,18.4s,baz=196,slow=39
TIXI Tiksi 45.35 360 *ce*P **P 04 20 58.6 +0.7**
TIXI pmax pmax
comp=Z,83nm,1.7s
MDOK Medeo 45.55 306 *e*P **P 04 20 59.6 -0.5**
MDOK *e*S **S 04 27 41.6 -0.2**
MDOK Medeo 45.55 306 *e*P **P 04 20 59.7 -0.5**
MDOK *e*S **S 04 27 41.7 -0.2**
KURK Kurchatov 45.57 316 P **P 04 20 58.7 -1.3**
KURK Kurchatov 45.57 316 IAMs_20 IAMs_20 04 41 26.8
comp=Z,4μm,19.0s
KURK Kurchatov 45.57 316 P **P 04 20 59.6 -0.3**
KURK P **P 04 20 59.6 -0.3**
KURK S **S 04 27 38.6 -2.9**
KURK S **S 04 27 38.6 -2.9**
KURK Kurchatov 45.57 316 P **P 04 20 59.6 -0.3**
KURBB Kurchatov Arra 45.61 316 P **P 04 20 59.5 -0.7**
comp=Z,12nm,0.5s,baz=102,slow=8.5,SNR=90
KURBB PP **PP 04 22 47.6 +0.6**
comp=Z,6.7nm,0.8s,baz=104,slow=10,SNR=2.1
KURBB S **S 04 27 37.4 -4.7**
comp=Z,0.3nm,0.3s,baz=106,slow=6.9,SNR=1.9
KURBB LR LR 04 42 09.8
comp=Z,4μm,18.2s,baz=136,slow=39
comp=Z,12nm,0.5s
TNSS Tian-Shan 45.62 305 *e*P **P 04 21 00.1 -0.8**
TNSS Tian-Shan 45.62 305 *e*P **P 04 21 00.2 -0.7**
CHKK Chushkaly 45.65 307 *e*P **P 04 21 00.0 -0.7**
CHKK Chushkaly 45.65 307 *e*P **P 04 21 00.1 -0.7**
AAA Alma-Ata 45.65 306 *e*P **P 04 21 00.2 -0.6**
AAA pmax pmax

comp=Z,28nm,0.5s
AAA Alma-Ata 45.65 306 *e*P **P 04 21 00.3 -0.6**
comp=Z,28nm,0.5s
SAVO Savo Central 45.91 136 P **P 04 21 04.3 +1.3**
KUU Kurty 46.12 307 *e*P **P 04 21 03.9 -0.5**
KUU pmax pmax
comp=Z,103nm,1.8s
KUU Kurty 46.12 307 *e*P **P 04 21 03.9 -0.5**
comp=Z,103nm,1.8s
HNR Honiara 46.21 136 LR LR 04 40 10.0
comp=Z,697nm,19.7s,baz=326,slow=36
WRAB Tennant Creek 46.23 174 P **P 04 21 04.8 -0.6**
WRAB IAmb IAmb 04 21 18.9
comp=Z,168nm,1.3s
WRAB Tennant Creek 46.23 174 P **P 04 21 04.8 -0.6**
WRAB pmax pmax
comp=Z,168nm,1.3s
WR1 Warramunga Arr 46.24 174 P **P 04 21 05.2 -0.3**
comp=Z,135nm,1.2s
WRA Warramunga Arr 46.24 174 P **P 04 21 04.7 -0.8**
WRA Warramunga Arr 46.24 174 P **P 04 21 05.0 -0.4**
comp=Z,49nm,1.0s,baz=354,slow=8.6,SNR=84
WRA S **S 04 27 48.5 -3.0**
comp=Z,0.3nm,0.5s,baz=29,slow=14,SNR=1.6
WRA LR LR 04 38 50.6
comp=Z,939nm,21.2s,baz=356,slow=34
comp=Z,49nm,1.0s
WRA Warramunga Arr 46.24 174 *i*P **P 04 21 05.0 -0.4**
WRA pmax pmax
comp=Z,43nm,0.9s
WB2 Warramunga Arr 46.24 174 IAmb IAmb 04 21 18.4
comp=Z,105nm,1.1s
KSH Kashi 46.25 300 P **P 04 21 09.2 +3.6**
KSH PP **PP 04 22 58.2 +4.1**
KSH S **S 04 27 57.0 +5.2**
KSH pmax pmax
comp=Z,20nm,1.8s
KSH pmax pmax
comp=Z,780nm,8.6s
KSH LR LR
comp=Z,3μm,17.9s
KSH LR LR
comp=Z,3μm,21.3s
KSH LR LR
comp=Z,3μm,17.9s
WR0 Warramunga Arr 46.27 174 IAmb IAmb 04 21 19.3
comp=Z,157nm,1.1s
TKM2 Tokmak 2 46.60 305 *i*P **P 04 21 08.2 -0.3**
TKM2 pmax pmax
comp=Z,39nm,0.8s
MIDW Midway 46.88 75 P **P 04 21 10.3 -0.3**
BILL Bilibino 47.19 18 P **P 04 21 12.3 -0.1**
BILL IAmb IAmb 04 21 28.1
comp=Z,108nm,1.0s
BILL Bilibino 47.19 18*ce*P **P 04 21 13.3 +0.9**
BILL pmax pmax
comp=Z,129nm,1.3s
FRU1 Bishkek 47.31 305 IAMs_20 IAMs_20 04 42 29.9
comp=Z,2μm,20.0s
AAK Ala-Archa 47.40 305 P **P 04 21 13.8 -0.9**
AAK Ala-Archa 47.40 305 IAMs_20 IAMs_20 04 40 23.3
comp=Z,2μm,19.0s
AAK Ala-Archa 47.40 305 LR LR 04 42 54.2
comp=Z,2μm,18.2s,baz=90,slow=38
AAK Ala-Archa 47.40 305 P **P 04 21 14.2 -0.5**
AAK S **S 04 28 09.2 +0.9**
AAK Ala-Archa 47.40 305*ce*P **P 04 21 14.9 +0.2**
AAK pmax pmax
comp=Z,30nm,2.5s
AAK Ala-Archa 47.40 305 *i*P **P 04 21 14.1 -0.5**
SNR=12
HYB Hyderabad 47.92 270 *e*P **P 04 21 18.9 0.0**
HYB IVmB_BB 04 21 31.6
comp=Z,642nm,2.0s
HYB *e*PcP **PcP 04 22 47.0 -0.2**
HYB *e*ScP **ScP 04 26 41.2 +0.1**
HYB *e*S **S 04 28 17.1 +1.2**
HYB *e*ScS **ScS 04 31 13.2 +1.0**
HYB *e*SS **SS 04 31 46.5 +1.8**
HYB IVMs_BB IVMs_BB 04 42 48.3
comp=Z,491nm,23.4s
NGOA Tingoa Renbel 47.93 138 P **P 04 21 21.9 +3.1**
MBWA Marble Bar 48.17 192 P **P 04 21 19.6 -0.9**
MBWA IAmb IAmb 04 21 33.7
comp=Z,42nm,0.7s
MBWA Marble Bar 48.17 192 P **P 04 21 20.1 -0.4**
comp=Z,58nm,0.8s
MBWA Marble Bar 48.17 192 P **P 04 21 24.4 +3.9**
MBWA Marble Bar 48.17 192 P **P 04 21 23.3 +2.8**
PSAD1 Pilbara Seismi 48.44 192 P **P 04 21 22.1 -0.5**
comp=Z,148nm,0.7s
ARSB Arslanbob 48.52 303 IAmb IAmb 04 21 26.0
comp=Z,125nm,1.5s
ARSB IAMs_20 IAMs_20 04 42 45.0
comp=Z,2μm,22.0s
PSAC1 Pilbara Seismi 48.52 192 P **P 04 21 22.9 -0.3**
comp=Z,125nm,0.7s
PSA00 Pilbara Seismi 48.55 192 P **P 04 21 22.1 -1.3**
PSA00 IAmb IAmb 04 21 36.8
comp=Z,45nm,0.8s
PSA00 Pilbara Seismi 48.55 192 P **P 04 21 23.1 -0.3**
comp=Z,123nm,0.8s
PSA00 Pilbara Seismi 48.55 192 P **P 04 21 25.7 +2.3**
NIL Nilore 48.82 293 P **P 04 21 24.8 -0.8**
NIL IAmb IAmb 04 21 53.2
comp=Z,48nm,0.8s
NIL Nilore 48.82 293 IAMs_20 IAMs_20 04 43 09.8
comp=Z,2μm,20.0s
NIL Nilore 48.82 293 P **P 04 21 26.0 +0.4**
NIL P **P 04 21 26.0 +0.4**
NIL Nilore 48.82 293 P **P 04 21 24.8 -0.8**
NIL pmax pmax
comp=Z,48nm,0.8s
NIL MLR MLR
comp=Z,2μm,20.0s
ATKA Atka Island 49.10 43 P **P 04 21 26.6 -0.7**
ATKA IAmb IAmb 04 21 28.3
comp=Z,130nm,1.2s
ATKA Atka Island 49.10 43 P **P 04 21 29.2 +1.9**
BRZS Berezniki 49.20 314 *e*P **P 04 21 27.8 -0.4**
BRZS Berezniki 49.20 314 *e*P **P 04 21 27.8 -0.4**
DRK Karamyk 49.47 301 IAMs_20 IAMs_20 04 44 49.3
comp=Z,2μm,19.0s
NRIK Noril'sk 49.52 342 IAmb IAmb 04 21 32.5
comp=Z,79nm,1.1s
NRIK Noril'sk 49.52 342 P **P 04 21 30.3 -0.1**
comp=Z,22nm,0.8s,baz=128,slow=8.0,SNR=61
NRIK PcP **PcP 04 22 51.9 -0.2**
comp=Z,17nm,0.9s,baz=76,slow=8.1,SNR=2.1
NRIK LR LR 04 44 49.4
comp=Z,2μm,18.6s,baz=129,slow=39
comp=Z,22nm,0.8s
NRIK Noril'sk 49.52 342*ce*P **P 04 21 30.2 -0.1**
NRIK pmax pmax
comp=Z,102nm,1.3s
AS15 Alice Springs 49.86 175 P **P 04 21 33.7 +0.2**
comp=Z,46nm,0.9s
AS31 Alice Springs 49.89 175 P **P 04 21 35.0 +1.3**
comp=Z,12nm,0.8s
ASAR Alice Springs 49.89 175 P **P 04 21 33.1 -0.6**
ASAR Alice Springs 49.89 175 P **P 04 21 33.6 0.0**
comp=Z,18nm,0.9s,baz=351,slow=6.1,SNR=62
ASAR LR LR 04 43 35.6
comp=Z,603nm,18.4s,baz=12,slow=37
comp=Z,18nm,0.9s
AS01 Alice Springs 49.89 175 P **P 04 21 35.8 +2.1**
PALK Pallekele 50.13 257 P **P 04 21 36.1 +0.3**
PALK Pallekele 50.13 257 LR LR 04 45 14.7
comp=Z,675nm,18.9s,baz=47,slow=39
PALK Pallekele 50.13 257 P **P 04 21 36.9 +1.1**
PALK P **P 04 21 36.9 +1.1**
PALK S **S 04 28 49.6 +2.4**
PALK S **S 04 28 49.6 +2.4**
PALK Pallekele 50.13 257 P **P 04 21 36.1 +0.3**
PALK pmax pmax
comp=Z,86nm,1.6s
PALK MLR MLR
comp=Z,1μm,19.0s
KK31 Karatay Array 50.33 305 IAmb IAmb 04 21 39.5
comp=Z,95nm,1.4s
KK31 Karatay Array 50.33 305 *i*P **P 04 21 37.4 +0.4**
KKAR Karatay Array 50.33 305 P **P 04 21 36.8 -0.2**
KKAR IAmb IAmb 04 21 39.5
comp=Z,100nm,1.4s
KKAR Karatay Array 50.33 305 P **P 04 21 36.8 -0.2**
KKAR pmax pmax
comp=Z,100nm,1.4s
IUG luzhnay 50.71 304 *e*P **P 04 21 39.3 -0.6**
IUG pmax pmax
comp=Z,100nm,1.7s
IUG luzhnay 50.71 304 *e*P **P 04 21 39.4 -0.6**
comp=Z,100nm,1.7s
BRLS Borolday 50.83 305 *e*P **P 04 21 41.4 +0.7**
BRLS *e*S **S 04 28 57.9 +1.7**
BRLS Borolday 50.83 305 *e*P **P 04 21 41.4 +0.7**
BRLS *e*S **S 04 28 58.0 +1.7**
LUES Luesalemba Tem 50.99 131 P **P 04 21 45.1 +2.9**
BVA0 Borovoye Array 51.00 318 *i*P **P 04 21 41.1 -0.7**
BVAR Borovoye Array 51.00 318 P **P 04 21 41.6 -0.2**
comp=Z,31nm,0.7s,baz=85,slow=9.1,SNR=128
BVAR PcP **PcP 04 22 57.6 -0.2**
comp=Z,23nm,0.9s,baz=92,slow=5.0,SNR=3.7
BVAR LR LR 04 45 04.9
comp=Z,8μm,20.4s,baz=94,slow=38
comp=Z,31nm,0.7s
BRVK Borovoye 51.07 318 P **P 04 21 41.5 -0.8**
BRVK IAmb IAmb 04 21 58.9
comp=Z,65nm,0.9s
BRVK Borovoye 51.07 318 P **P 04 21 42.6 +0.2**
BRVK P **P 04 21 42.6 +0.2**
BRVK S **S 04 28 56.6 -2.5**
BRVK S **S 04 28 56.6 -2.5**
BRVK Borovoye 51.07 318*ce*P **P 04 21 42.5 +0.2**
BRVK pmax pmax
comp=Z,239nm,2.5s
SIMJ Simiganj 51.70 300 P **P 04 21 47.6 +0.1**
SIMJ IAmb IAmb 04 21 49.8
comp=Z,141nm,1.4s
SIMJ IAMs_20 IAMs_20 04 44 51.3
comp=Z,2μm,21.0s
KBL Kabul 52.16 294 P **P 04 21 50.6 -0.5**
KBL Kabul 52.16 294 P **P 04 21 51.1 0.0**
SNR=102
KBL P **P 04 21 51.1 0.0**
SNR=102
KBL S **S 04 29 14.6 -0.6**
KBL S **S 04 29 14.6 -0.6**
KBL Kabul 52.16 294 P **P 04 21 50.6 -0.5**
KBL pmax pmax
comp=Z,616nm,1.9s
SPIA Saint Paul Isl 52.18 37 P **P 04 21 50.2 -0.4**
baz=260
NIKH Nikolski High 52.42 42 P **P 04 21 51.7 -0.7**
NIKH IAmb IAmb 04 22 05.5
comp=Z,87nm,0.8s
NIKH Nikolski High 52.42 42 P **P 04 21 55.0 +2.6**
NIKH Nikolski High 52.42 42 P **P 04 21 52.3 -0.1**
baz=265
P08K Saint George I 52.47 38 P **P 04 21 52.0 -0.7**
baz=261
GAMB Gambell 52.96 28 P **P 04 21 56.2 0.0**
baz=254
UNV Unalaska Valle 53.90 41 P **P 04 22 02.0 -1.3**
UNV Unalaska Valle 53.90 41 P **P 04 22 06.1 +2.8**
UNV Unalaska Valle 53.90 41 P **P 04 22 02.1 -1.2**
baz=266
M11K Mekoryuk 54.77 33 P **P 04 22 08.7 -0.8**
baz=262
TNA Tin City 54.99 27 P **P 04 22 10.9 -0.1**
baz=256
F14K Arctic Creek 55.62 27 P **P 04 22 17.2 +1.6**
baz=258
K13K Kusilvak Mount 55.74 31 P **P 04 22 17.2 +0.7**
K13K IAmb IAmb 04 22 19.6
comp=Z,90nm,1.4s
K13K Kusilvak Mount 55.74 31 P **P 04 22 17.2 +0.7**
baz=262,SNR=16
FALS False Pass 55.76 40 P **P 04 22 17.0 +0.3**
baz=268
ANM Nome 55.84 28 P **P 04 22 17.9 +0.7**
baz=260
VLAKA Lakatoro 55.98 135 P **P 04 22 21.7 +3.0**
M13K Dall Lake 56.18 33 IAmb IAmb 04 22 36.3
comp=Z,90nm,1.1s
M13K Dall Lake 56.18 33 P **P 04 22 21.0 +1.3**
baz=264,SNR=7.7
F15K North Star Dit 56.35 27 P **P 04 22 22.5 +1.6**
baz=259,SNR=12
J14K Nanvaranak Lak 56.36 31 P **P 04 22 21.9 +1.0**
J14K Nanvaranak Lak 56.36 31 P **P 04 22 21.7 +0.8**
baz=262,SNR=7.5
G15K Niukluk 56.48 28 P **P 04 22 23.0 +1.3**
baz=260
L14K Kuka Creek 56.60 32 IAmb IAmb 04 22 39.2
comp=Z,97nm,1.1s
L14K Kuka Creek 56.60 32 P **P 04 22 24.3 +1.7**
baz=264,SNR=33
C16K Lisburne Hills 56.61 24 P **P 04 22 23.3 +0.7**
baz=257,SNR=13
M14K Bethel 56.90 33 IAmb IAmb 04 22 41.0
comp=Z,140nm,1.3s
M14K Bethel 56.90 33 P **P 04 22 25.3 +0.5**
baz=265,SNR=16
SVE Sverdlovsk 56.91 322*ce*P **P 04 22 25.5 +0.6**
SVE *e*S **S 04 30 17.4 -0.6**
SVE pmax pmax
comp=Z,166nm,1.6s
SVE MLR MLR
comp=Z,3μm,14.0s
N14K Kuskokwak Cree 56.97 34 P **P 04 22 26.6 +1.3**
baz=266,SNR=6.1
O14K Tigyukauivet M 57.14 35 IAmb IAmb 04 22 29.4
comp=Z,121nm,1.8s
O14K Tigyukauivet M 57.14 35 P **P 04 22 26.6 +0.1**
baz=267,SNR=5.3
H16K Elim 57.19 28 P **P 04 22 27.7 +0.9**
baz=262,SNR=5.3
L15K Ungalak Mounta 57.20 32 P **P 04 22 28.2 +1.3**
baz=265
K15K Wolf Creek Mou 57.24 31 P **P 04 22 27.4 +0.2**
K15K Wolf Creek Mou 57.24 31 P **P 04 22 28.7 +1.5**
baz=265,SNR=10
G16K Koyuk River 57.24 28 P **P 04 22 28.3 +1.2**
baz=262
D17K Noatak River 57.33 25 P **P 04 22 29.6 +1.9**
baz=260,SNR=27
AB31 Akbulak array 57.45 313 P **P 04 22 28.7 -0.2**
ABKAR Akbulak array 57.45 313 P **P 04 22 28.2 -0.7**
SDPT Sand Point 57.46 40 P **P 04 22 29.1 +0.3**
baz=270
RDOG Red Dog Mine 57.46 24 IAmb IAmb 04 22 31.7
comp=Z,96nm,1.3s
RDOG Red Dog Mine 57.46 24 P **P 04 22 30.4 +1.7**
baz=260,SNR=6.0
KOUNC Koumac, New Ca 57.50 141 P **P 04 22 32.1 +2.6**
M15K Kasigluk River 57.52 33 P **P 04 22 30.1 +0.9**
baz=266,SNR=11
E17K Hotham Inlet 57.71 26 P **P 04 22 31.9 +1.5**
baz=261
J16K Anvik River 57.76 30 P **P 04 22 32.3 +1.5**
baz=265,SNR=6.0
I17K Unalakleet 57.77 29 P **P 04 22 32.6 +1.7**
I17K IAmb IAmb 04 22 56.3
comp=Z,91nm,1.4s
I17K Unalakleet 57.77 29 P **P 04 22 32.2 +1.4**
baz=264,SNR=5.1
N15K Kwethluk River 57.78 34 P **P 04 22 32.6 +1.6**
baz=267,SNR=12
F17K Baldwin Pennin 57.84 26 P **P 04 22 33.1 +1.8**
baz=262
O15K Ungalikthiuk R 57.88 35 IAmb IAmb 04 22 34.6
comp=Z,242nm,1.9s
O15K Ungalikthiuk R 57.88 35 P **P 04 22 32.7 +1.0**
baz=268,SNR=9.8
G17K Kiwalik Mounta 57.96 27 P **P 04 22 33.5 +1.2**
baz=263,SNR=19
CHNA Chernabura Isl 57.97 40 P **P 04 22 35.4 +3.0**
CHNA Chernabura Isl 57.97 40 P **P 04 22 32.3 -0.1**
baz=271,SNR=10.0
CNBA Chernabura Isl 57.97 40 IAmb IAmb 04 22 47.2
comp=Z,82nm,1.0s
S14K Fog Glacier 57.98 38 P **P 04 22 32.5 -0.1**
baz=270
AUWSH Wavell State H 58.01 155 P **P 04 22 34.7 +1.8**
B18K Kokolik River 58.09 23 P **P 04 22 34.1 +1.1**
baz=260,SNR=68
ARTI Arti 58.15 322 P **P 04 22 32.8 -0.9**
ARTI Arti 58.15 322 LR LR 04 49 55.6
comp=Z,3μm,19.3s,baz=90,slow=38
ARTI Arti 58.15 322*d i*P **P 04 22 33.4 -0.3**
ARTI 04 23 20.3
ARTI 04 24 38.5
ARTI S **S 04 30 35.2 +0.9**
ARTI 04 32 18.6
ARTI pmax pmax
comp=Z,183nm,1.8s
ARTI MLR MLR
comp=Z,3μm,15.0s
L16K Owhat River 58.16 32 P **P 04 22 34.6 +1.0**
baz=267
C18K Utukok River 58.19 24 IAmb IAmb 04 22 36.6
comp=Z,73nm,1.1s
C18K Utukok River 58.19 24 P **P 04 22 34.8 +1.0**
baz=261,SNR=38
H17K Granite Mounta 58.21 28 P **P 04 22 34.9 +0.9**
H17K Granite Mounta 58.21 28 P **P 04 22 35.8 +1.8**
baz=264,SNR=10.0
E18K Tukpahlearik C 58.23 25 IAmb IAmb 04 22 37.5
comp=Z,88nm,1.5s
E18K Tukpahlearik C 58.23 25 P **P 04 22 35.2 +1.2**
baz=262,SNR=13
M16K Timber Creek 58.38 33 P **P 04 22 36.1 +0.9**
baz=268,SNR=11
J17K VABM Dome 58.45 30 IAmb IAmb 04 22 52.3
comp=Z,73nm,1.1s
J17K VABM Dome 58.45 30 P **P 04 22 37.2 +1.6**
baz=266,SNR=31
N16K Nishlik Lake 58.45 33 P **P 04 22 37.2 +1.4**
baz=268,SNR=18
A19K Wainwright 58.49 22 P **P 04 22 37.3 +1.5**
baz=260
F18K Selawik 58.49 26 P **P 04 22 36.1 +0.3**
baz=264
AKTO Aktyubinsk 58.62 315 LR LR 04 50 56.9
comp=Z,2μm,18.8s,baz=48,slow=39
AKTO Aktyubinsk 58.62 315 P **P 04 22 36.4 -0.6**
L17K Donlin 58.74 32 P **P 04 22 39.6 +1.9**
baz=268,SNR=43
K17K Iditarod 58.76 31 IAmb IAmb 04 22 41.2
comp=Z,73nm,1.1s
K17K Iditarod 58.76 31 P **P 04 22 39.4 +1.5**
baz=267,SNR=22
O16K Kokwok River B 58.77 35 P **P 04 22 39.0 +1.1**
O16K Kokwok River B 58.77 35 P **P 04 22 39.2 +1.2**
baz=269,SNR=11
P16K Nushagak River 58.82 35 IAmb IAmb 04 22 53.7
comp=Z,57nm,0.8s
P16K Nushagak River 58.82 35 P **P 04 22 39.3 +1.0**
baz=270,SNR=5.8
G18K Tagagawik 58.83 27 IAmb IAmb 04 22 41.1
comp=Z,66nm,1.2s
G18K Tagagawik 58.83 27 P **P 04 22 39.2 +1.0**
baz=265
H18K Honhosa River 58.89 28 P **P 04 22 40.0 +1.3**
baz=266,SNR=16
STKA Stephens Creek 59.02 168 P **P 04 22 38.5 -1.4**
STKA Stephens Creek 59.02 168 P **P 04 22 39.7 -0.2**
comp=Z,13nm,0.6s,baz=342,slow=6.5,SNR=31
STKA LR LR 04 47 02.5
comp=Z,743nm,22.0s,baz=339,slow=35
comp=Z,13nm,0.6s
STKA Stephens Creek 59.02 168 P **P 04 22 38.5 -1.4**
STKA pmax pmax
comp=Z,135nm,0.9s
R16K Pilot Point 59.05 37 P **P 04 22 41.4 +1.6**
baz=271
M17K Holitna River 59.12 32 IAmb IAmb 04 22 57.1
comp=Z,102nm,1.2s
M17K Holitna River 59.12 32 P **P 04 22 42.2 +1.8**
baz=269,SNR=30
N17K Nushagak Hills 59.23 33 IAmb IAmb 04 22 57.9
comp=Z,93nm,1.4s
N17K Nushagak Hills 59.23 33 P **P 04 22 43.2 +2.0**
baz=270,SNR=20
F19K Shaleruckik Mo 59.26 26 IAmb IAmb 04 22 43.9
comp=Z,81nm,1.6s
F19K Shaleruckik Mo 59.26 26 P **P 04 22 42.5 +1.3**
baz=265
O17K Koliganek Bris 59.28 34 P **P 04 22 42.1 +0.7**
baz=270
D19K Kuna River 59.29 24 IAmb IAmb 04 22 44.5
comp=Z,103nm,1.1s
D19K Kuna River 59.29 24 P **P 04 22 42.8 +1.3**
baz=264,SNR=65
G19K Purcell Mounta 59.48 27 P **P 04 22 43.6 +0.8**
baz=266,SNR=20
GCSA Galena City Sc 59.49 29 P **P 04 22 43.5 +0.7**
baz=267,SNR=5.8
L18K Granite Mounta 59.50 31 P **P 04 22 43.3 +0.4**
L18K IAmb IAmb 04 22 46.4
comp=Z,66nm,1.1s
L18K Granite Mounta 59.50 31 P **P 04 22 44.8 +1.9**
baz=269,SNR=32
J18K Innoko River 59.52 30 P **P 04 22 44.1 +1.0**
baz=268,SNR=15
Q16K King Salmon 59.52 36 P **P 04 22 44.8 +1.7**
baz=271,SNR=5.0
E19K Redstone River 59.52 25 IAmb IAmb 04 22 58.8
comp=Z,54nm,0.9s
E19K Redstone River 59.52 25 P **P 04 22 44.4 +1.3**
baz=265,SNR=47
P17K Kvichak River 59.62 35 P **P 04 22 44.5 +0.7**
baz=271,SNR=11
H19K Roundabout Mou 59.71 28 IAmb IAmb 04 23 09.9
comp=Z,84nm,1.1s
H19K Roundabout Mou 59.71 28 P **P 04 22 45.6 +1.3**
baz=267,SNR=45
B20K Meade River 59.79 22 IAmb IAmb 04 22 47.9
comp=Z,87nm,1.1s
B20K Meade River 59.79 22 P **P 04 22 45.6 +0.9**
baz=264,SNR=51
TTA Tatalina 59.82 31 P **P 04 22 46.2 +0.9**
baz=269,SNR=19
D20K Etivluk River 59.86 24 P **P 04 22 46.8 +1.4**
baz=265,SNR=141
N18K Kilae Creek 59.87 33 P **P 04 22 47.1 +1.5**
baz=271,SNR=11
M18K Stony River 59.90 32 P **P 04 22 47.0 +1.3**
baz=270,SNR=18
DZM Mont Dzumac 59.93 140 P **P 04 22 45.9 -0.6**
DZM IAmb IAmb 04 22 49.3
comp=Z,104nm,1.1s
DZM IAMs_20 IAMs_20 04 44 19.6
comp=Z,2μm,22.0s
DZM Mont Dzumac 59.93 140 *e*P **P 04 22 47.1 +0.6**
comp=Z,250nm,1.4s
DZM *e*S **S 04 31 00.6 +2.3**
comp=Z,2μm,26.8s
DZM *e*SS **SS 04 34 53.6 -1.6**
comp=Z,408nm,23.7s
DZM *e*LR LR 04 40 27.5
comp=Z,2μm,22.6s
DZM Mont Dzumac 59.93 140 LR LR 04 45 03.1
comp=Z,1μm,21.4s,baz=348,slow=32
DZM Mont Dzumac 59.93 140 P **P 04 22 49.2 +2.7**
Q17K Contact Creek 59.93 36 P **P 04 22 46.0 -0.1**
baz=272,SNR=6.1
J19K Poorman 60.02 29 IAmb IAmb 04 22 49.5
comp=Z,68nm,1.1s
J19K Poorman 60.02 29 P **P 04 22 47.8 +1.3**
baz=269,SNR=37
F20K Avaraart Lake 60.08 26 P **P 04 22 48.2 +1.4**
baz=267
NWAO Narrogin (SRO) 60.10 192 LR LR 04 51 20.7
comp=Z,129nm,19.4s,baz=16,slow=39
A21K Barrow 60.11 21 P **P 04 22 48.5 +1.6**
baz=264,SNR=39
YATNC Mamie plateau, 60.18 140 P **P 04 22 51.3 +3.2**
CHIR Chirikof Islan 60.20 39 P **P 04 22 48.4 +0.6**
baz=274
O18K Koktuh Hills 60.23 34 IAmb IAmb 04 23 03.8
comp=Z,57nm,1.0s
O18K Koktuh Hills 60.23 34 P **P 04 22 49.5 +1.4**
baz=272,SNR=11
P18K Big Mountain, 60.23 35 IAmb IAmb 04 22 50.7
comp=Z,86nm,1.3s
P18K Big Mountain, 60.23 35 P **P 04 22 49.5 +1.4**
baz=272,SNR=8.3
L19K White Mountain 60.36 32 IAmb IAmb 04 22 52.1
comp=Z,66nm,1.2s
L19K White Mountain 60.36 32 P **P 04 22 50.7 +1.8**
baz=271,SNR=22
H20K Anotleneega Mo 60.36 28 P **P 04 22 50.2 +1.3**
baz=269,SNR=22
Q18K Katmai Hardscr 60.38 36 P **P 04 22 48.9 -0.3**
baz=272
OUENC Ouen Island, N 60.43 140 P **P 04 22 53.0 +3.2**
I20K Naaghedeneel 60.52 28 P **P 04 22 52.0 +2.1**
baz=270,SNR=25
C21K Knifeblade Rid 60.55 23 P **P 04 22 51.8 +1.8**

baz=267,SNR=69
N19K Bonanza Creek 60.56 33 P **P 04 22 50.5 +0.1**
N19K Bonanza Creek 60.56 33 P **P 04 22 51.8 +1.4**
baz=272,SNR=9.2
M19K Big River Lodg 60.58 32 IAmb IAmb 04 23 07.2
comp=Z,170nm,1.9s
M19K Big River Lodg 60.58 32 P **P 04 22 51.5 +1.1**
baz=271
A22K Sinclair Lake 60.61 21 P **P 04 22 51.9 +1.5**
baz=266,SNR=64
B21K Ikpikpuk River 60.64 23 P **P 04 22 52.3 +1.7**
baz=267,SNR=126
J20K Nowinta River 60.66 29 P **P 04 22 52.0 +1.1**
J20K IAmb IAmb 04 22 54.4
comp=Z,110nm,1.2s
J20K Nowinta River 60.66 29 P **P 04 22 52.7 +1.8**
baz=270,SNR=49
O19K Port Alsworth 60.66 34 IAmb IAmb 04 23 06.5
comp=Z,48nm,0.9s
O19K Port Alsworth 60.66 34 P **P 04 22 52.5 +1.6**
baz=272,SNR=11
K20K Telida 60.70 30 IAmb IAmb 04 22 54.8
comp=Z,98nm,1.1s
K20K Telida 60.70 30 P **P 04 22 53.1 +1.9**
baz=271,SNR=38
R18K Karluk 60.73 37 P **P 04 22 52.5 +1.1**
baz=274
L20K Farewell, AK 60.81 31 P **P 04 22 53.8 +1.9**
baz=271,SNR=22
E21K Killik River 60.81 24 P **P 04 22 52.2 +0.3**
E21K IAmb IAmb 04 22 54.8
comp=Z,85nm,1.1s
E21K Killik River 60.81 24 P **P 04 22 52.5 +0.6**
baz=268
NGCH Negor - Chabah 60.90 286 P **P 04 22 54.7 +1.5**
SNR=7.9
NGCH S **S 04 31 12.4 +1.7**
G21K Allakaket 60.94 27 IAmb IAmb 04 22 56.0
comp=Z,60nm,1.1s
G21K Allakaket 60.94 27 P **P 04 22 54.3 +1.5**
baz=269,SNR=40
SII Sitkinak Islan 60.95 38 P **P 04 22 53.0 0.0**
baz=274
F21K Alatna River 60.96 26 P **P 04 22 54.0 +1.1**
baz=269,SNR=12
Q19K Cape Douglas, 61.07 35 IAmb IAmb 04 22 55.2
comp=Z,84nm,1.0s
Q19K Cape Douglas, 61.07 35 P **P 04 22 53.6 -0.2**
baz=274
B22K Teshekpuk Lake 61.08 22 P **P 04 22 55.0 +1.4**
baz=267,SNR=89
M20K Styx River 61.18 32 IAmb IAmb 04 23 11.4
comp=Z,118nm,1.6s
M20K Styx River 61.18 32 P **P 04 22 55.9 +1.3**
baz=272
H21K Melozitna Rive 61.23 28 IAmb IAmb 04 22 58.2
comp=Z,96nm,1.1s
H21K Melozitna Rive 61.23 28 P **P 04 22 56.4 +1.6**
baz=270,SNR=75
P19K Oil Pt 61.24 34 IAmb IAmb 04 23 10.3
comp=Z,65nm,0.9s
P19K Oil Pt 61.24 34 P **P 04 22 55.4 +0.5**
baz=273,SNR=5.7
ILSW Iliamna Southw 61.26 34 P **P 04 22 55.0 -0.3**
D22K Ayikyak River 61.29 24 IAMs_20 IAMs_20 04 50 58.7
comp=Z,796nm,20.0s
D22K Ayikyak River 61.29 24 P **P 04 22 56.9 +1.8**
baz=269,SNR=82
OHAK Old Harbor 61.38 37 P **P 04 22 55.6 -0.3**
OHAK IAmb IAmb 04 22 57.8
comp=Z,126nm,1.7s
OHAK Old Harbor 61.38 37 P **P 04 22 58.4 +2.5**
OHAK Old Harbor 61.38 37 P **P 04 22 56.0 +0.2**
baz=275
F22K John River 61.47 25 P **P 04 22 58.1 +1.7**
baz=270,SNR=78
CHUM Lake Minchumin 61.48 30 P **P 04 22 58.1 +1.7**
baz=272,SNR=44
O20K Slope Mountain 61.52 34 P **P 04 22 57.3 +0.4**
baz=274
PPLA Purkeypile 61.57 31 IAmb IAmb 04 23 00.5
comp=Z,112nm,1.3s
PPLA Purkeypile 61.57 31 P **P 04 22 58.6 +1.3**
baz=273,SNR=18
I21K Tanana 61.58 28 IAmb IAmb 04 23 00.8
comp=Z,106nm,1.1s
I21K Tanana 61.58 28 P **P 04 22 58.5 +1.4**
baz=272
CAST Castle Rocks 61.60 30 P **P 04 22 57.0 -0.2**
CAST IAmb IAmb 04 23 00.5
comp=Z,90nm,1.0s
CAST Castle Rocks 61.60 30 P **P 04 22 58.8 +1.5**
baz=272,SNR=50
E22K Anaktuvuk Pass 61.61 25 IAmb IAmb 04 23 13.2
comp=Z,71nm,0.9s
E22K Anaktuvuk Pass 61.61 25 P **P 04 22 58.9 +1.6**
baz=270,SNR=84
SPCR Spurr Chakacha 61.65 33 P **P 04 22 58.9 +1.1**
baz=274,SNR=13
KDAK Kodiak Island 61.71 36 P **P 04 22 58.7 +0.6**
KDAK Kodiak Island 61.71 36 P **P 04 22 57.9 -0.2**
comp=Z,69nm,1.2s,baz=162,slow=2.1,SNR=9.5
comp=Z,69nm,1.2s
KDAK Kodiak Island 61.71 36 P **P 04 22 58.7 +0.6**
KDAK pmax pmax
comp=Z,211nm,1.5s
KDAK Kodiak Island 61.71 36 P **P 04 22 57.7 -0.4**
baz=275
G22K Bettles 61.74 26 P **P 04 22 58.9 +0.8**
baz=271
Q20K Shuyak Island 61.74 36 P **P 04 22 58.2 -0.1**
baz=275
SKT Skwentna 61.93 32 IAmb IAmb 04 23 14.9
comp=Z,59nm,1.1s
SKT Skwentna 61.93 32 P **P 04 23 00.0 +0.5**
baz=274,SNR=6.2
D23K Nanushuk River 62.02 24 P **P 04 23 01.9 +1.9**
baz=271,SNR=112
C23K Itkillik River 62.03 23 P **P 04 23 01.6 +1.6**
baz=270,SNR=65
HOM Homer 62.04 34 P **P 04 23 00.8 +0.5**
baz=275
BPAW Bear Paw Mtn. 62.05 29 IAmb IAmb 04 23 03.4
comp=Z,62nm,1.1s
BPAW Bear Paw Mtn. 62.05 29 P **P 04 23 01.6 +1.3**
baz=273,SNR=26
KTH Kantishna Hill 62.11 30 IAmb IAmb 04 23 26.0
comp=Z,47nm,1.1s
CAPN Captain Cook N 62.20 33 P **P 04 23 02.3 +1.0**
baz=275
COLD Coldfoot 62.24 26 P **P 04 23 01.8 +0.3**
COLD IAmb IAmb 04 23 04.9
comp=Z,79nm,1.5s
COLD Coldfoot 62.24 26 P **P 04 23 03.0 +1.5**
baz=272,SNR=30
CNPM China Poot 62.26 34 IAmb IAmb 04 23 18.9
comp=Z,42nm,1.0s
G23K Bananza Creek 62.33 26 IAmb IAmb 04 23 05.5
comp=Z,74nm,1.1s
G23K Bananza Creek 62.33 26 P **P 04 23 03.9 +1.7**
baz=272,SNR=46
SUA Susitna One 62.34 32 P **P 04 23 02.9 +0.5**
baz=275,SNR=11
TRF Thorofare Moun 62.40 30 P **P 04 23 03.4 +0.6**
baz=274,SNR=7.9
BRLK Bradley Lake 62.42 34 IAmb IAmb 04 23 18.7
comp=Z,82nm,0.9s
TOLK Toolik Lake Re 62.43 24 IAmb IAmb 04 23 06.1
comp=Z,87nm,1.2s
TOLK Toolik Lake Re 62.43 24 P **P 04 23 04.3 +1.5**
baz=272,SNR=49
E23K Chandalar 62.43 25 P **P 04 23 04.6 +1.7**
baz=272,SNR=77
CUT Chulitna 62.49 31 P **P 04 23 04.0 +0.8**
baz=274,SNR=6.6
BRSE Bradley Lake S 62.49 34 P **P 04 23 04.8 +1.5**
baz=276,SNR=7.1
H23K Yukon River 62.57 27 P **P 04 23 04.3 +0.5**
H23K Yukon River 62.57 27 P **P 04 23 05.4 +1.6**
baz=273
M22K Willow 62.61 32 P **P 04 23 04.0 0.0**
baz=275,SNR=12
SLKM Skilak Lake 62.68 33 IAmb IAmb 04 23 06.2
comp=Z,65nm,1.2s
D24K Happy Valley 62.68 23 P **P 04 23 05.4 +1.0**
baz=272
I23K Minto, Yukon-K 62.69 28 IAmb IAmb 04 23 07.7
comp=Z,52nm,1.1s
I23K Minto, Yukon-K 62.69 28 P **P 04 23 05.9 +1.4**
baz=274,SNR=29
C24K Franklin Bluff 62.70 23 P **P 04 23 05.6 +1.0**
baz=272
NEA2 Nenana 62.85 29 P **P 04 23 05.4 -0.3**
NEA2 Nenana 62.85 29 P **P 04 23 06.8 +1.2**
baz=274,SNR=38
E24K Your Creek 62.85 25 IAmb IAmb 04 23 09.2
comp=Z,62nm,1.1s
E24K Your Creek 62.85 25 P **P 04 23 07.3 +1.6**
baz=273,SNR=84
KIRV Kirov 62.85 325 LR LR 04 53 43.4
comp=Z,2μm,18.1s,baz=89,slow=39
KIRV Kirov 62.85 325 *ce*P **P 04 23 06.1 +0.4**
RC01 Rabbit Creek A 62.86 33 IAmb IAmb 04 23 21.1
comp=Z,48nm,1.0s
RC01 Rabbit Creek A 62.86 33 P **P 04 23 05.8 0.0**
baz=276
O22K Cooper Landing 62.92 33 P **P 04 23 06.0 -0.1**
baz=276
MCK McKinley 62.98 30 P **P 04 23 07.5 +1.0**
baz=275,SNR=58
PMR Palmer 63.10 32 P **P 04 23 09.6 +2.3**
PMR Palmer 63.10 32 P **P 04 23 07.4 +0.1**
baz=276,SNR=12
SEW Seward 63.10 34 IAmb IAmb 04 23 09.2
comp=Z,63nm,1.0s
SEW Seward 63.10 34 P **P 04 23 07.4 +0.1**
baz=276,SNR=5.5
F24K Squaw Lake 63.12 25 IAmb IAmb 04 23 10.8
comp=Z,58nm,0.9s
F24K Squaw Lake 63.12 25 P **P 04 23 09.2 +1.7**
baz=274,SNR=80
GHO Glory Hole Cre 63.17 32 IAmb IAmb 04 23 23.8
comp=Z,45nm,0.9s
H24K Noodor Dome 63.25 27 IAmb IAmb 04 23 29.3
comp=Z,80nm,1.1s
H24K Noodor Dome 63.25 27 P **P 04 23 10.1 +1.8**
baz=275,SNR=58
WRH Wood River Hil 63.28 29 IAmb IAmb 04 23 12.0
comp=Z,164nm,1.8s
G24K Hadweenzic Riv 63.34 26 IAmb IAmb 04 23 12.5
comp=Z,80nm,1.1s
G24K Hadweenzic Riv 63.34 26 P **P 04 23 10.8 +1.9**
baz=275,SNR=54
COLA College 63.35 28 P **P 04 23 11.3 +2.4**
COLA College 63.35 28 *i* P **P 04 23 09.5 +0.6**
COLA pmax pmax
comp=Z,28nm,0.9s
COLA College 63.35 28 P **P 04 23 09.3 +0.4**
baz=275
CCB Clear Creek Bu 63.39 29 P **P 04 23 09.0 -0.2**
CCB IAmb IAmb 04 23 25.8
comp=Z,40nm,0.9s
JLN Jalan Bani Buh 63.40 283 P **P 04 23 10.8 +0.8**
KNK Knik Glacier 63.44 32 IAmb IAmb 04 23 24.5
comp=Z,77nm,0.8s
KNK Knik Glacier 63.44 32 P **P 04 23 09.9 +0.2**
baz=277,SNR=14
SML Sawmill 63.45 32 P **P 04 23 10.6 +0.9**
baz=276,SNR=9.3
POKR Poker Plat Res 63.50 28 IAmb IAmb 04 23 25.6
comp=Z,68nm,0.8s
POKR Poker Plat Res 63.50 28 P **P 04 23 10.7 +0.8**
baz=276,SNR=23
D25K Kavik River 63.54 23 P **P 04 23 10.0 -0.3**
D25K IAmb IAmb 04 23 13.4
comp=Z,82nm,1.1s
D25K Kavik River 63.54 23 P **P 04 23 11.7 +1.4**
baz=274,SNR=62
PWL Port Wells 63.56 33 IAmb IAmb 04 23 25.1
comp=Z,62nm,0.9s
PWL Port Wells 63.56 33 P **P 04 23 10.7 +0.2**
baz=277,SNR=7.5
WBK Wadi Bani Khal 63.64 283 P **P 04 23 12.1 +0.5**
SNR=7.2
WBK P **P 04 23 12.1 +0.5**
SNR=7.2
WBK S **S 04 31 47.7 +2.3**
WBK S **S 04 31 47.7 +2.3**
WSAR Wadi Sarin 63.73 284 P **P 04 23 12.3 +0.2**
SNR=14
WSAR S **S 04 31 48.6 +2.1**
M23K Glacier View 63.74 32 P **P 04 23 12.2 +0.6**
baz=277,SNR=11
ILAR Eielson Array 63.77 28 P **P 04 23 10.8 -0.9**
ILAR Eielson Array 63.77 28 P **P 04 23 11.3 -0.4**
comp=Z,7.1nm,0.8s,baz=272,slow=5.9,SNR=75
ILAR S **S 04 31 43.3 -2.4**
comp=Z,0.1nm,0.4s,baz=242,slow=1.9,SNR=1.5
ILAR PKPPKP **P'P'df 04 52 08.1 -3.5**
comp=Z,1.5nm,1.2s,baz=55,slow=1.2,SNR=4.7
ILAR LR LR 04 52 14.6
comp=Z,357nm,21.4s,baz=276,slow=37
comp=Z,7.1nm,0.8s
HDA Harding Lake 63.78 29 IAmb IAmb 04 23 13.4
comp=Z,82nm,1.0s
HDA Harding Lake 63.78 29 P **P 04 23 12.2 +0.4**
baz=276,SNR=54
G25K Bearman Lake 63.88 26 P **P 04 23 14.5 +2.1**
baz=276,SNR=45
SCM Sheep Creek Mo 63.92 32 P **P 04 23 13.8 +1.0**
baz=277,SNR=16
E25K Arctic Village 63.94 25 IAmb IAmb 04 23 17.3
comp=Z,107nm,1.4s
E25K Arctic Village 63.94 25 P **P 04 23 14.8 +1.9**
baz=276,SNR=68
F25K Christian Rive 63.97 25 IAmb IAmb 04 23 17.1
comp=Z,76nm,1.1s
F25K Christian Rive 63.97 25 P **P 04 23 15.3 +2.2**
baz=276,SNR=64
C26K Camden Bay 64.00 23 P **P 04 23 15.3 +2.2**
baz=276,SNR=66
CAN Canberra 64.02 162 P **P 04 23 12.2 -1.5**
CAN Canberra 64.02 162 P **P 04 23 14.4 +0.7**
comp=Z,90nm,1.6s
CAN Canberra 64.02 162 P **P 04 23 16.4 +2.7**
CAN Canberra 64.02 162 P **P 04 23 12.2 -1.5**
CAN pmax pmax
comp=Z,280nm,1.7s
H25L Birch Creek 64.05 27 P **P 04 23 15.5 +2.0**
baz=276,SNR=39
BIDO Bidbid 64.08 285 P **P 04 23 14.5 +0.1**
SNR=19
BIDO P **P 04 23 14.5 +0.1**
SNR=19
P23K Montague Islan 64.13 34 P **P 04 23 15.5 +1.3**
baz=278
GLI Glacier Island 64.16 33 IAmb IAmb 04 23 16.5
comp=Z,74nm,1.0s
GLI Glacier Island 64.16 33 P **P 04 23 14.6 +0.2**
baz=278,SNR=8.6
PRP Porcupine Dome 64.25 27 IAmb IAmb 04 23 39.3
comp=Z,37nm,0.9s
PRP Porcupine Dome 64.25 27 P **P 04 23 15.2 +0.2**
baz=277,SNR=30
SMDO Samad 64.29 284 P **P 04 23 16.2 +0.2**
SNR=16
SMDO P **P 04 23 16.2 +0.2**
SNR=16
SMDO S **S 04 31 54.8 +1.2**
SMDO S **S 04 31 54.8 +1.2**
MSVF Nonsavu 64.32 128 P **P 04 23 15.8 -0.2**
MSVF Nonsavu 64.32 128 LR LR 04 49 01.1
comp=Z,762nm,19.1s,baz=327,slow=34
MSVF Nonsavu 64.32 128 P **P 04 23 19.1 +3.1**
MSVF Nonsavu 64.32 128 P **P 04 23 15.9 -0.2**
MSVF pmax pmax
comp=Z,185nm,1.4s
K24K Donnelly Dome 64.37 29 P **P 04 23 16.0 +0.2**
baz=278,SNR=18
BMAR Burnt Mountain 64.39 25 P **P 04 23 17.1 +1.2**
M24K Tolsona, Glenn 64.42 31 P **P 04 23 17.6 +1.4**
baz=278,SNR=7.3
J25K Salcha River, 64.44 28 P **P 04 23 14.9 -1.3**
baz=276,SNR=14
C27K Jago River 64.45 23 IAmb IAmb 04 23 32.7
comp=Z,47nm,0.8s
C27K IAMs_20 IAMs_20 04 53 45.0
comp=Z,809nm,21.0s
C27K Jago River 64.45 23 P **P 04 23 17.3 +1.2**
baz=277,SNR=39
JMDO Jabal Madar 64.47 283 P **P 04 23 16.6 -0.5**
SNR=7.4
JMDO P **P 04 23 16.6 -0.5**
SNR=7.4
JMDO P **P 04 23 16.6 -0.5**
SNR=7.4
JMDO S **S 04 31 57.3 +1.6**
JMDO S **S 04 31 57.3 +1.6**
JMDO S **S 04 31 57.3 +1.6**
FID Port Fidalgo 64.48 33 IAmb IAmb 04 23 18.7
comp=Z,65nm,1.1s
HIN Hinchinbrook I 64.52 33 IAmb IAmb 04 23 31.1
comp=Z,88nm,1.2s
F26K Sheenjek River 64.53 25 P **P 04 23 18.1 +1.4**
F26K Sheenjek River 64.53 25 P **P 04 23 18.5 +1.8**
baz=277,SNR=100
DGTI Dogotuki 64.60 125 P **P 04 23 20.2 +2.4**
PAX Paxson 64.62 30 IAmb IAmb 04 23 32.6
comp=Z,37nm,0.9s
PAX Paxson 64.62 30 P **P 04 23 18.3 +0.8**
baz=278,SNR=14
KLU Klutina 64.63 32 IAmb IAmb 04 23 32.8
comp=Z,72nm,1.1s
KLU Klutina 64.63 32 P **P 04 23 18.5 +0.9**
baz=279,SNR=12
DIV Divide 64.76 32 P **P 04 23 18.3 -0.1**
DIV IAmb IAmb 04 23 33.8
comp=Z,68nm,0.9s
HOQ Hoqain 64.76 285 P **P 04 23 19.1 +0.1**
SNR=25
HOQ P **P 04 23 19.1 +0.1**
SNR=25
G26K Porcupine Rive 64.77 26 IAmb IAmb 04 23 22.0
comp=Z,82nm,1.2s
G26K Porcupine Rive 64.77 26 P **P 04 23 20.2 +2.1**
baz=278,SNR=51
RIDG Independent Ri 64.79 29 IAmb IAmb 04 23 34.0
comp=Z,72nm,1.1s
RIDG Independent Ri 64.79 29 P **P 04 23 18.6 +0.1**
baz=278,SNR=26
HARP HAARP 64.85 31 P **P 04 23 20.5 +1.6**
baz=279,SNR=19
EYAK Cordova Ski Ar 64.86 33 P **P 04 23 20.6 +1.7**
EYAK Cordova Ski Ar 64.86 33 P **P 04 23 19.8 +0.9**
baz=279
BANOM Banah 64.89 288 P **P 04 23 20.6 +0.9**
BANOM P **P 04 23 20.6 +0.9**
BANOM S **S 04 32 03.4 +2.6**
BANOM S **S 04 32 03.4 +2.6**
BANOM Banah 64.89 288 *i* P **P 04 23 20.6 +0.9**
SNR=44
FUTU Fugatoga 64.94 122 P **P 04 23 23.2 +3.1**
SHME Shamm 64.98 288 P **P 04 23 21.2 +0.9**
SNR=17
SHME P **P 04 23 21.2 +0.9**
SNR=17
SHME S **S 04 32 03.7 +1.8**
SHME S **S 04 32 03.7 +1.8**
SHME Shamm 64.98 288 *i* P **P 04 23 21.4 +1.1**
SNR=21
MHTO MHTO 65.06 282 P **P 04 23 20.2 -0.7**
SNR=13
MHTO P **P 04 23 20.2 -0.7**
SNR=13
MHTO S **S 04 32 03.1 +0.2**
MHTO S **S 04 32 03.1 +0.2**
TAVE Taveuni 65.12 125 P **P 04 23 24.4 +3.2**
SCRK Sand Creek 65.13 29 IAmb IAmb 04 23 36.0
comp=Z,76nm,0.9s
SCRK Sand Creek 65.13 29 P **P 04 23 21.2 +0.4**
baz=279,SNR=36
BSY Bisya 65.14 284 P **P 04 23 21.2 -0.2**
SNR=12
BSY P **P 04 23 21.2 -0.2**
SNR=12
DOT Dot Lake 65.15 29 IAmb IAmb 04 23 36.0
comp=Z,80nm,0.9s
MASF Masafi 65.18 287 P **P 04 23 22.3 +0.7**
SNR=23
MASF S **S 04 32 05.3 +0.9**
MSFE Esma-Masafi 65.18 287 *i* P **P 04 23 22.8 +1.1**
SNR=19
J26L Joseph Creek 65.22 28 IAmb IAmb 04 23 35.8
comp=Z,55nm,0.8s
J26L Joseph Creek 65.22 28 P **P 04 23 21.5 +0.2**
baz=279,SNR=56
N25K Chitina, Valde 65.24 32 IAmb IAmb 04 23 37.9
comp=Z,42nm,1.0s
N25K Chitina, Valde 65.24 32 P **P 04 23 22.7 +1.2**
baz=280,SNR=16
SOHO SOHO 65.26 286 P **P 04 23 21.9 -0.3**
SOHO P **P 04 23 21.9 -0.3**
SOHO SOHO 65.26 286 *i* P **P 04 23 22.4 +0.3**
SNR=11
I26K Coal Creek Min 65.27 28 P **P 04 23 21.7 +0.2**
baz=279
UOSS Minazif 65.28 287 P **P 04 23 21.8 -0.5**
UOSS IAMs_20 IAMs_20 04 56 45.3
comp=Z,788nm,21.0s
UOSS Minazif 65.28 287 P **P 04 23 22.0 -0.3**
UOSS P **P 04 23 22.0 -0.3**
UOSS S **S 04 32 06.3 +0.7**
UOSS S **S 04 32 06.3 +0.7**
UOSS Minazif 65.28 287 *i* P **P 04 23 21.7 -0.5**
SNR=8.9
BMRM Bremner River 65.35 32 P **P 04 23 22.9 +0.7**
baz=280,SNR=11
HATD Hatta, Dubai 65.38 287 P **P 04 23 23.7 +0.7**
SNR=26
HATD P **P 04 23 23.7 +0.7**
SNR=26
HATD S **S 04 32 08.5 +1.7**
HATD S **S 04 32 08.5 +1.7**
HATD Hatta, Dubai 65.38 287 *i* P **P 04 23 23.2 +0.2**
SNR=12
E27K Coleen River 65.41 24 IAmb IAmb 04 23 26.0
comp=Z,73nm,1.1s
E27K Coleen River 65.41 24 P **P 04 23 24.2 +1.7**
baz=279,SNR=77
D27M Malcolm River 65.46 23 IAmb IAmb 04 23 26.3
comp=Z,65nm,1.1s
D27M Malcolm River 65.46 23 P **P 04 23 24.6 +1.8**
baz=279,SNR=58
ASHO Ashiyiah 65.49 287 P **P 04 23 24.2 +0.5**
SNR=39
ASHO P **P 04 23 24.2 +0.5**
SNR=39
ASHO S **S 04 32 09.8 +1.6**
ASHO S **S 04 32 09.8 +1.6**
ASHO Ashiyiah 65.49 287 *i* P **P 04 23 24.0 +0.3**
SNR=31
ARQ Araqi 65.53 285 P **P 04 23 23.4 -0.6**
SNR=14
ARQ P **P 04 23 23.4 -0.6**
SNR=14
ARQ S **S 04 32 10.2 +1.4**
ARQ S **S 04 32 10.2 +1.4**
L26K Log Cabin Wild 65.57 30 IAmb IAmb 04 23 26.5
comp=Z,63nm,1.1s
L26K IAMs_20 IAMs_20 04 53 16.9
comp=Z,935nm,20.0s
L26K Log Cabin Wild 65.57 30 P **P 04 23 24.8 +1.2**
baz=280,SNR=28
KIP Kipapa 65.61 77 *ce*P **P 04 23 27.3 +2.8**
KIP pmax pmax
comp=Z,78nm,2.5s
G27K Doyon Strip 65.62 26 P **P 04 23 25.6 +1.7**
baz=280,SNR=35
KAIM Kayak Island 65.62 33 P **P 04 23 25.0 +1.1**
baz=281
HMT Hamilton 65.63 33 P **P 04 23 25.0 +1.1**
HMT IAmb IAmb 04 23 39.9
comp=Z,78nm,1.0s
GLB Gilahina Butte 65.64 32 IAmb IAmb 04 23 39.5
comp=Z,81nm,0.9s
NAZ Nazwa, Dubai 65.73 287 P **P 04 23 26.1 +0.9**
SNR=25
NAZ P **P 04 23 26.1 +0.9**
SNR=25
NAZ S **S 04 32 12.7 +1.6**
NAZ S **S 04 32 12.7 +1.6**
NAZ Nazwa, Dubai 65.73 287 *i* P **P 04 23 25.5 +0.3**
SNR=13
H27K Steamboat Moun 65.77 26 IAmb IAmb 04 23 40.4
comp=Z,40nm,0.9s
H27K Steamboat Moun 65.77 26 P **P 04 23 26.7 +1.9**
baz=280,SNR=41
M26K Nabesna, AK 65.84 31 P **P 04 23 26.6 +1.2**
baz=281,SNR=62
I27K Kandik River 65.85 27 P **P 04 23 26.9 +1.6**
baz=280,SNR=96

VRDI	Verde Repeater	65.85	32	IAmb	IAmb	04 23 40.8		
	comp=Z,79nm,0.9s							
FAQ	Al Faqa, Dubai	65.87	287	P	P	04 23 26.3	+0.2	
FAQ	SNR=17			P	P	04 23 26.3	+0.2	
	SNR=17							
FAQ				S	S	04 32 13.9	+1.1	
FAQ				S	S	04 32 13.9	+1.1	
FAQ	Al Faqa, Dubai	65.87	287	*i* P	P	04 23 26.4	+0.4	
	SNR=11							
K27K	Chicken	65.95	29	IAmb	IAmb	04 23 29.0		
	comp=Z,71nm,1.1s							
K27K	Chicken	65.95	29	P	P	04 23 27.6	+1.6	
	baz=281							
ALNE	Al Ain	65.96	286	P	P	04 23 27.1	+0.5	
	SNR=27							
ALNE				S	S	04 32 14.5	+0.5	
ALNE	Al Ain	65.96	286	*i* P	P	04 23 27.2	+0.5	
	SNR=18							
E28M	Babbage River	66.08	24	IAmb	IAmb	04 23 43.0		
	comp=Z,54nm,0.8s							
E28M	Babbage River	66.08	24	P	P	04 23 28.5	+1.8	
	baz=281,SNR=56							
ASUD	Al Ashush, Dub	66.13	287	P	P	04 23 28.5	+0.7	
	SNR=10.0							
ASUD				P	P	04 23 28.5	+0.7	
	SNR=10.0							
ASUD				S	S	04 32 17.8	+1.8	
ASUD				S	S	04 32 17.8	+1.8	
ASUD	Al Ashush, Dub	66.13	287	*i* P	P	04 23 28.7	+0.9	
	SNR=12							
D28M	Stokes Point	66.23	23	P	P	04 23 29.5	+1.9	
	baz=281,SNR=32							
L27K	Beaver Creek,	66.24	30	IAmb	IAmb	04 23 44.3		
	comp=Z,93nm,1.4s							
L27K	Beaver Creek,	66.24	30	P	P	04 23 29.1	+1.1	
	baz=281,SNR=25							
BCAR	Beaver Creek A	66.26	30	P	P	04 23 28.3	+0.3	
M27K	Edge Creek, AK	66.36	31	IAmb	IAmb	04 23 44.8		
	comp=Z,85nm,1.1s							
M27K	Edge Creek, AK	66.36	31	P	P	04 23 29.8	+0.9	
	baz=282,SNR=18							
AJN	Ajban	66.45	287	P	P	04 23 30.4	+0.6	
	SNR=11							
AJN				P	P	04 23 30.4	+0.6	
	SNR=11							
AJN				P	P	04 23 30.4	+0.6	
	SNR=11							
AJN				S	S	04 32 19.8	0.0	
AJN				S	S	04 32 19.8	0.0	
AJN				S	S	04 32 19.8	0.0	
AJN	Ajban	66.45	287	*i* P	P	04 23 30.0	+0.2	
	SNR=13							
I28M	Miner Creek	66.56	27	IAmb	IAmb	04 23 33.4		
	comp=Z,93nm,1.1s							
I28M	Miner Creek	66.56	27	P	P	04 23 31.6	+1.6	
	baz=282,SNR=67							
E29M	Blow River	66.72	24	IAmb	IAmb	04 23 34.0		
	comp=Z,54nm,1.1s							
E29M	Blow River	66.72	24	P	P	04 23 32.1	+1.3	
	baz=283,SNR=36							
MESA	MESA	66.79	33	P	P	04 23 32.0	+0.4	
	baz=283							
BVCY	Beaver Creek	66.81	30	P	P	04 23 32.6	+1.1	
	baz=282,SNR=9.2							
LKBA	Tubou, Lakemba	66.90	126	P	P	04 23 35.6	+3.0	
UMZA	Um Al Zommool	66.92	285	P	P	04 23 32.7	-0.1	
UMZA				P	P	04 23 32.7	-0.1	
UMZA				S	S	04 32 24.2	-1.4	
UMZA				S	S	04 32 24.2	-1.4	
G29M	Pine Creek	67.00	25	P	P	04 23 34.2	+1.5	
	baz=283,SNR=47							
MAK	Makhachkala	67.01	308	*e*P	P	04 23 28.6	-4.5	
MAK				*e*PPP	PPP	04 27 33.0		
MAK				*e*S	S	04 32 20.1	-6.0	
MAK				*e*SS	SS	04 36 46.5	+2.1	
MAK				pmax	pmax			
	comp=Z,143nm,1.4s							
MAK				MLR	MLR			
	comp=Z,1μm,16.0s							
H29M	Whitestone	67.03	26	IAmb	IAmb	04 23 49.2		
	comp=Z,63nm,0.8s							
H29M	Whitestone	67.03	26	P	P	04 23 34.5	+1.7	
	baz=283,SNR=40							
DAWY	Dawson	67.09	29	P	P	04 23 33.9	+0.5	
	baz=283,SNR=23							
YUK3	Moose Creek	67.14	31	P	P	04 23 34.8	+1.0	
	baz=283,SNR=7.7							
I29M	Ogilvie Camp,	67.25	27	P	P	04 23 35.0	+0.8	
I29M	Ogilvie Camp,	67.25	27	P	P	04 23 35.5	+1.3	
	baz=284,SNR=32							
O28M	Mount Upton	67.50	32	IAmb	IAmb	04 23 52.0		
	comp=Z,68nm,0.8s							
O28M	Mount Upton	67.50	32	P	P	04 23 38.0	+1.7	
	baz=284,SNR=11							
J29N	Klondike Camp	67.50	28	IAmb	IAmb	04 23 51.9		
	comp=Z,62nm,0.8s							
J29N	Klondike Camp	67.50	28	P	P	04 23 37.6	+1.7	
	baz=284,SNR=34							
YUK8	Steele Glacier	67.58	31	P	P	04 23 38.6	+1.9	
	baz=284,SNR=11							
PCA	Pinnacle	67.63	33	P	P	04 23 36.5	-0.3	
PINM	Pinnacle	67.63	33	P	P	04 23 37.8	+1.0	
	baz=284							
EPYK	Eagle Plains	67.64	26	P	P	04 23 37.8	+1.1	
	baz=284,SNR=52							
MZWR	Madinat Zayed	67.67	286	P	P	04 23 37.8	+0.2	
MZWR				S	S	04 32 32.4	-2.2	
G30M	tAoh Zraii Nji	67.67	25	P	P	04 23 37.6	+0.6	
	baz=285,SNR=47							
F30M	Barrier River	67.68	24	IAmb	IAmb	04 23 40.0		
	comp=Z,82nm,1.1s							
F30M	Barrier River	67.68	24	P	P	04 23 38.2	+1.3	
	baz=285,SNR=45							
L29M	L29M	67.87	29	P	P	04 23 40.2	+2.0	
	baz=285,SNR=32							
M29M	Somme Creek	67.89	30	IAmb	IAmb	04 23 54.7		
	comp=Z,45nm,0.9s							
M29M	Somme Creek	67.89	30	P	P	04 23 40.5	+2.1	
	baz=284,SNR=21							
HOPEN	Hopen	67.92	346	*e*P	P	04 23 39.0	+0.8	
K29M	Barlow Dome	67.95	29	IAmb	IAmb	04 23 55.3		
	comp=Z,62nm,1.1s							
K29M	Barlow Dome	67.95	29	P	P	04 23 40.3	+1.4	
	baz=285,SNR=34							
BCPM	Bancas Point	67.97	33	P	P	04 23 40.2	+1.4	
I30M	Mount Dempster	68.07	27	P	P	04 23 40.8	+1.2	
	baz=285,SNR=43							
YUK4	Talbot Arm	68.09	31	P	P	04 23 41.6	+1.8	
	baz=285,SNR=11							
JRN	Qarnain Island	68.15	288	P	P	04 23 40.4	-0.2	
JRN				P	P	04 23 40.4	-0.2	
JRN				S	S	04 32 38.2	-2.1	
JRN				S	S	04 32 38.2	-2.1	
PNL	Peninsula	68.16	33	P	P	04 23 43.4	+3.3	
PNL	Peninsula	68.16	33	P	P	04 23 41.7	+1.6	
	baz=285,SNR=5.0							
J30M	Hart River	68.26	28	IAmb	IAmb	04 23 57.0		
	comp=Z,41nm,0.9s							
J30M	Hart River	68.26	28	P	P	04 23 42.1	+1.4	
	baz=286,SNR=25							
MZR	Muzera	68.28	286	P	P	04 23 41.4	0.0	
	SNR=14							
MZR				P	P	04 23 41.4	0.0	
	SNR=14							
MZR				S	S	04 32 41.3	-0.6	
MZR				S	S	04 32 41.3	-0.6	
MZR	Muzera	68.28	286	*i* P	P	04 23 41.6	+0.2	
	SNR=14							
INK	Inuvik	68.31	23	P	P	04 23 42.5	+1.7	
	baz=286							
YUK6	Outpost Mounta	68.32	32	P	P	04 23 42.2	+0.8	
	baz=285,SNR=8.6							
O29M	Mount Kennedy	68.39	32	P	P	04 23 42.5	+0.8	
O29M	Mount Kennedy	68.39	32	P	P	04 23 43.6	+2.0	
	baz=285,SNR=8.7							
GHWR	Ruwais	68.46	287	P	P	04 23 42.9	+0.3	
GHWR				P	P	04 23 42.9	+0.3	
GHWR				S	S	04 32 41.8	-2.3	
GHWR				S	S	04 32 41.8	-2.3	
HMH	Humu'ula Sheep	68.47	78	P	P	04 23 42.7	-0.4	
F31M	Tsiigehtchic	68.48	24	P	P	04 23 41.7	-0.2	
F31M				IAmb	IAmb	04 23 44.9		
	comp=Z,89nm,1.4s							
F31M	Tsiigehtchic	68.48	24	P	P	04 23 42.5	+0.6	
	baz=287,SNR=35							
KHU	Kahuku	68.49	79	P	P	04 23 42.5	-0.6	
KHU	Kahuku	68.49	79	P	P	04 23 42.5	-0.6	
KHU				pmax	pmax			
	comp=Z,222nm,1.0s							
M30M	Minto, Yukon	68.60	30	P	P	04 23 44.5	+1.6	
	baz=286,SNR=13							
VRH	Novokhopyorsk	68.64	318	*e*P	P	04 23 41.6	-1.6	
VRH				pmax	pmax			
	comp=Z,90nm,1.2s							
VRH				MLR	MLR			
	comp=Z,2μm,19.0s							
H31M	Peel River	68.72	26	IAmb	IAmb	04 23 46.1		
	comp=Z,90nm,1.1s							
H31M	Peel River	68.72	26	P	P	04 23 44.3	+0.8	
	baz=287,SNR=42							
HYT	Haines Junctio	68.76	32	IAmb	IAmb	04 23 47.3		
	comp=Z,61nm,1.1s							
HYT				IAMs_20	IAMs_20	04 53 38.2		
	comp=Z,713nm,19.0s							
HYT	Haines Junctio	68.76	32	P	P	04 23 45.9	+2.0	
	baz=286,SNR=15							
N30M	Aishikik Lake	68.78	31	IAmb	IAmb	04 24 00.6		
	comp=Z,53nm,1.2s							
N30M	Aishikik Lake	68.78	31	P	P	04 23 45.8	+1.8	
	baz=286,SNR=10							
DMTO	DMTO	68.89	280	P	P	04 23 45.8	+0.5	
DMTO				P	P	04 23 45.8	+0.5	
DMTO				S	S	04 32 49.4	+0.2	
DMTO				S	S	04 32 49.4	+0.2	
JOKA	Jonika Flow	68.95	78	P	P	04 23 45.5	-0.3	
SPA1	Spitsbergen Ar	68.97	348	P	P	04 23 44.4	-0.5	
SPA1				IAmb	IAmb	04 23 58.5		
	comp=Z,97nm,1.1s							
SPB2	Spitsbergen Ar	68.97	348	IAmb	IAmb	04 23 58.5		
	comp=Z,67nm,1.1s							
SPA0	Spitsbergen Ar	68.97	348	*e*P	P	04 23 45.1	+0.3	
SPITS	Spitsbergen Ar	68.97	348	P	P	04 23 45.2	+0.3	
	comp=Z,56nm,1.0s,baz=75,slow=7.2,SNR=18							
SPITS				LR	LR	04 56 55.4		
	comp=Z,704nm,20.2s,baz=5.5,slow=38							
	comp=Z,56nm,1.0s							
SPITS	Spitsbergen Ar	68.97	348	P	P	04 23 44.3	-0.5	
SPITS				pmax	pmax			
	comp=Z,86nm,1.1s							
P29M	Windy Craggy	68.98	33	IAmb	IAmb	04 24 01.3		
	comp=Z,56nm,0.8s							
P29M	Windy Craggy	68.98	33	P	P	04 23 47.3	+2.1	
	baz=286,SNR=9.4							
P30M	Million Dollar	69.22	32	P	P	04 23 48.2	+1.5	
	baz=287,SNR=11							
DOK	Doka	69.28	281	P	P	04 23 47.7	0.0	
DOK				P	P	04 23 47.7	0.0	
DOK				S	S	04 32 52.4	-1.4	
DOK				S	S	04 32 52.4	-1.4	
KBS	Kingsbay	69.36	349	P	P	04 23 45.5	-1.7	
KBS				IAMs_20	IAMs_20	04 52 17.9		
	comp=Z,1μm,22.0s							
KBS	Kingsbay	69.36	349	*ce*P	P	04 23 48.8	+1.6	
KBS				pmax	pmax			
	comp=Z,44nm,1.3s							
KBS	Kingsbay	69.36	349	*i* P	P	04 23 47.6	+0.3	
N31M	Braeburn, Yuko	69.37	31	IAmb	IAmb	04 24 03.7		
	comp=Z,70nm,0.9s							
N31M	Braeburn, Yuko	69.37	31	P	P	04 23 49.6	+2.0	
	baz=287,SNR=16							
O30N	Mendenhall	69.44	32	P	P	04 23 49.9	+1.8	
	baz=287,SNR=9.6							
SLWR	Sila	69.44	287	P	P	04 23 49.0	+0.3	
SLWR				P	P	04 23 49.0	+0.3	
SLWR				S	S	04 32 54.8	-0.8	
SLWR				S	S	04 32 54.8	-0.8	
SHMA	Al-Shehemyia	69.45	289	P	P	04 23 48.6	-0.1	
SHMA				S	S	04 32 54.8	-0.8	
GOF	Gofitskoye	69.53	311	*ce*P	P	04 23 49.4	+0.6	
GOF				*e*S	S	04 32 56.3	+0.3	
TRNA	Turayna	69.62	288	P	P	04 23 49.9	+0.2	
TRNA				S	S	04 32 54.7	-3.1	
RBK	Rabkut	69.62	280	P	P	04 23 49.5	-0.4	
	SNR=8.2							
RBK				P	P	04 23 49.5	-0.4	
	SNR=8.2							
RBK				S	S	04 32 55.9	-2.2	
RBK				S	S	04 32 55.9	-2.2	
HSPB	Hornsund (broa	69.69	347	*e*P	P	04 23 49.0	-0.2	
PLBC	Pleasant Camp	69.70	33	P	P	04 23 50.3	+0.6	
	baz=287							
MOS	Moscow	69.72	323	*e*P	P	04 23 48.0	-1.8	
MOS				*e*		04 24 09.2		
MOS				*e*		04 26 21.6		
MOS				*e*S	S	04 32 54.0	-3.8	
MOS				pmax	pmax			
	comp=Z,215nm,1.6s							
MOS				pmax	pmax			
	comp=Z,500nm,1.8s							
MOS				MLR	MLR			
	comp=Z,3μm,17.0s							
MOS				MLR	MLR			
	comp=E,2μm,18.0s							
A36M	Sachs Harbour	69.74	19	P	P	04 23 50.8	+1.2	
	baz=293,SNR=97							
SAKB	Bahrain	69.77	290	P	P	04 23 50.9	+0.3	
SAKB				S	S	04 32 58.7	-0.7	
KEV	Kevo	69.78	339	P	P	04 23 49.4	-0.5	
KEV				IAmb	IAmb	04 24 35.3		
	comp=Z,53nm,1.1s							
KEV	Kevo	69.78	339	P	P	04 23 49.4	-0.5	
KEV				pmax	pmax			
	comp=Z,53nm,1.1s							
M31M	Drury Creek, Y	69.78	30	P	P	04 23 51.5	+1.3	
	baz=288,SNR=21							
WHFO	Wadi Hawf	69.85	281	P	P	04 23 52.0	+0.7	
	SNR=8.8							
WHFO				P	P	04 23 52.0	+0.7	
	SNR=8.8							
WHFO				S	S	04 32 58.5	-2.2	
WHFO				S	S	04 32 58.5	-2.2	
LPSR	Galich'ya Gora	69.91	320	*e*P	P	04 23 50.0	-1.0	
LPSR				pmax	pmax			
	comp=Z,110nm,1.1s							
LPSR				MLR	MLR			
	comp=Z,4μm,19.0s							
SMRA	Abu-Samra	69.95	288	P	P	04 23 51.4	-0.3	
	SNR=8.2							
SMRA				S	S	04 33 00.8	-0.8	
KBZ	Khabaz	70.02	310	P	P	04 23 52.8	+0.9	
	comp=Z,122nm,1.0s,baz=94,slow=4.0,SNR=112							
KBZ				S	S	04 33 02.0	+0.2	
	comp=Z,0.3nm,0.4s,baz=53,slow=24,SNR=7.3							
KBZ				PKP2ab		04 51 51.7		
	comp=Z,0.5nm,0.6s,baz=236,slow=4.8,SNR=5.4							
KBZ				LR	LR	04 57 31.0		
	comp=Z,2μm,19.5s,baz=74,slow=38							
KBZ	Khabaz	70.02	310	*ce*P	P	04 23 51.3	-0.6	
KBZ				pmax	pmax			
	comp=Z,93nm,0.9s							
WHY	Whitehorse	70.04	31	P	P	04 23 53.6	+1.7	
	baz=288,SNR=15							
KVAR	Kislovodsk Arr	70.09	310	LR	LR	04 57 15.0		
	comp=Z,988nm,20.4s,baz=262,slow=38							
KIV	Kislovodsk	70.10	310	P	P	04 23 52.6	+0.1	
KIV				IAMs_20	IAMs_20	04 57 30.1		
	comp=Z,1μm,19.0s							
KIV	Kislovodsk	70.10	310	P	P	04 23 52.6	+0.1	
KIV				P	P	04 23 52.6	+0.1	
KIV				S	S	04 33 05.1	+2.1	
KIV				S	S	04 33 05.1	+2.1	
KIV	Kislovodsk	70.10	310	‖P	P	04 23 53.9	+1.4	
KIV	Kislovodsk	70.10	310	*e*P	P	04 23 52.7	+0.1	
KIV				*e*S	S	04 33 03.6	+0.6	
KIV				*e*SS	SS	04 37 34.1	+1.8	
KIV				pmax	pmax			
	comp=Z,183nm,1.1s							
KIV				pmax	pmax			
	comp=Z,56nm,3.0s							
KIV				MLR	MLR			
	comp=Z,789nm,17.0s							
KIV	Kislovodsk	70.10	310	*i* P	P	04 23 53.3	+0.8	
	SNR=38							
KIV	Kislovodsk	70.10	310	P	P	04 23 53.1	+0.6	
	comp=Z,2μmcomp=Z,168nm,1.6s							
VORD	Divnogorie	70.18	318	*e*P	P	04 23 53.1	+0.4	
VORD				pmax	pmax			
	comp=Z,50nm,1.0s							
VSR	Storozhevoye	70.18	318	*e*P	P	04 23 51.8	-0.9	
VSR				pmax	pmax			
	comp=Z,60nm,0.9s							
VSR				MLR	MLR			
	comp=Z,3μm,21.0s							
SHA1	Shidzhatmaz	70.19	310	*i* P	P	04 23 52.9	-0.3	
SKAG	Skagway	70.20	33	IAmb	IAmb	04 24 09.2		
	comp=Z,77nm,1.2s							
SKAG	Skagway	70.20	33	P	P	04 23 55.6	+2.9	
SKAG	Skagway	70.20	33	P	P	04 23 53.3	+0.7	
	baz=288,SNR=9.0							
S31K	Pelican	70.22	34	P	P	04 23 53.5	+0.6	
	baz=288							
FARO	Faro, Yukon	70.24	30	P	P	04 23 54.3	+1.3	
	baz=289,SNR=50							
R31K	City Hall, Gus	70.33	34	P	P	04 23 54.0	+0.5	
	baz=288							
ARA0	ARCESS Array S	70.34	339	*e*P	P	04 23 53.6	+0.2	
ARCES	ARCESS Array B	70.34	339	P	P	04 23 53.5	0.0	
	comp=Z,19nm,1.0s,baz=68,slow=7.1,SNR=12							
ARCES				LR	LR	05 02 32.6		
	comp=Z,718nm,18.8s,baz=59,slow=43							
	comp=Z,19nm,1.0s							
OBN	Obninsk	70.48	323	P	P	04 23 53.5	-1.0	
OBN	Obninsk	70.48	323	LR	LR	04 58 09.2		
	comp=Z,4μm,18.8s,baz=258,slow=39							
OBN	Obninsk	70.48	323	*d i* P	P	04 23 54.2	-0.2	
OBN				*e**SP	sP	04 23 59.0	0.0	
OBN				*e*		04 24 06.5		
OBN				*e*		04 24 15.0		
OBN				*i* S	S	04 33 06.9	+0.1	
OBN				pmax	pmax			
	comp=Z,135nm,1.7s							
OBN				MLR	MLR			
	comp=Z,3μm,17.0s							
OBN	Obninsk	70.48	323	P	P	04 23 54.2	-0.2	
	comp=Z,1μmcomp=Z,63nm,1.5s							
ABTO	Aybut	70.48	280	P	P	04 23 54.8	-0.4	
	SNR=20							
ABTO				P	P	04 23 54.8	-0.4	
	SNR=20							
ABTO				S	S	04 33 07.5	-0.7	
ABTO				S	S	04 33 07.5	-0.7	
HAMF	Hammerfest	70.48	340	*e*P	P	04 23 54.2	0.0	
JOF	Joensuu	70.53	331	*e*P	P	04 23 54.6	0.0	
N32M	Quiet Lake	70.71	31	IAmb	IAmb	04 24 11.6		
	comp=Z,60nm,0.9s							
N32M	Quiet Lake	70.71	31	P	P	04 23 56.8	+0.9	
	baz=290							
KARS	Kars	70.86	306	P	P	04 23 58.2	+0.9	
KARS	Kars	70.86	306	P	P	04 23 58.2	+0.9	
KARS				pmax	pmax			
	comp=Z,1μm,2.0s							
KARS				MLR	MLR			
	comp=Z,4μm,20.0s							
NOR	Nord	70.93	355	*i* P	P	04 23 56.4	-0.4	
NOR				IAmb	IAmb	04 24 10.1		
	comp=Z,39nm,1.1s							
P32M	Atlin	70.94	32	P	P	04 23 58.3	+1.0	
	baz=290							
SIT	Sitka	70.97	35	P	P	04 23 58.3	+0.9	
	baz=289							
R32K	Eaglecrest	70.98	34	P	P	04 23 58.9	+1.4	
	baz=289							
KBD	Kabd	71.04	294	P	P	04 23 58.7	+0.3	
KBD				S	S	04 33 12.7	-1.5	
ERBR	Yeremizino-Bor	71.05	312	*e*P	P	04 23 58.7	+0.6	
ERBR				*e*S	S	04 33 17.6	+3.8	
ERBR				pmax	pmax			
	comp=Z,86nm,1.1s							
ERBR				MLR	MLR			
	comp=Z,3μm,19.0s							
JIS	Juneau Island	71.05	34	P	P	04 24 01.1	+3.2	
P33M	Teslin, Yukon	71.16	32	IAmb	IAmb	04 24 01.7		
	comp=Z,66nm,1.2s							
P33M	Teslin, Yukon	71.16	32	P	P	04 23 58.8	+0.2	
	baz=290,SNR=22							
C36M	Paulatuk	71.16	21	P	P	04 23 59.2	+0.9	
	baz=294,SNR=118							
S32K	Killisnoo	71.22	35	P	P	04 24 00.2	+1.3	
	baz=290							
LABN	Labinsk	71.22	311	*e*P	P	04 23 57.1	-2.1	
LABN				*e*S	S	04 33 14.1	-1.8	
LABN				MLR	MLR			
	comp=Z,2μm,19.0s							
KTK1	Kautokeino	71.30	339	*e*P	P	04 23 59.2	0.0	
GEVA	Gevas	71.62	304	IAmb	IAmb	04 24 08.1		
	comp=Z,46nm,0.9s							
Q32M	Nakina River	71.85	33	P	P	04 24 03.7	+0.7	
	baz=291,SNR=5.7							
JETT	Jettan, Norway	71.96	340	*e*P	P	04 24 03.7	+0.4	
VSLR	Vesyoloye	72.08	310	*c i* P	P	04 24 04.8	+0.4	
VSLR				pmax	pmax			
	comp=Z,93nm,1.1s							
PUL	Pulkovo	72.08	328	*ce*P	P	04 24 05.1	+1.0	
PUL				pmax	pmax			
	comp=Z,204nm,1.3s							
SOC	Sochi	72.26	310	*e*P	P	04 24 04.4	-1.0	
SOC				*e*		04 26 44.8		
SOC				*e*PPP	PPP	04 28 28.9		
SOC				*e*S	S	04 33 27.8	0.0	
SOC				*e*SS	SS	04 38 05.8	+0.7	
SOC				pmax	pmax			
	comp=Z,40nm,0.9s							
SOC				MLR	MLR			
	comp=Z,1μm,18.0s							
T33K	Petersburg	72.28	35	P	P	04 24 05.8	+0.5	
	baz=291							
GURO	Guroymak-BITLI	72.30	305	P	P	04 24 06.7	+0.7	
GURO				IAmb	IAmb	04 24 14.2		
	comp=Z,130nm,1.8s							
GURO				IAMs_20	IAMs_20	04 59 11.6		
	comp=Z,653nm,21.0s							
R33M	Jennings River	72.32	32	P	P	04 24 07.5	+1.8	
	baz=292,SNR=14							
TRO	Tromso	72.39	340	*e*P	P	04 24 04.4	-1.3	
U33K	Whale Pass	72.44	36	P	P	04 24 06.3	0.0	
	baz=291							
CRAG	Craig	72.67	36	P	P	04 24 07.6	-0.1	
	baz=291							
WRAK	Wrangell Islan	72.73	35	P	P	04 24 08.7	+0.7	
	baz=292							
TGTN	Hyland Airport	72.74	29	P	P	04 24 09.0	+1.0	
	baz=293,SNR=39							
S34M	Telegraph Cree	72.79	33	IAmb	IAmb	04 24 24.5		
	comp=Z,46nm,0.8s							
S34M	Telegraph Cree	72.79	33	P	P	04 24 09.4	+1.0	
	baz=292,SNR=8.7							
WTLY	Watson Lake, Y	73.06	31	IAmb	IAmb	04 24 26.2		
	comp=Z,65nm,0.8s							
WTLY	Watson Lake, Y	73.06	31	P	P	04 24 10.8	+0.9	
	baz=293,SNR=31							
DLBC	Dease Lake	73.14	33	P	P	04 24 11.0	+0.5	
	baz=293							
FINES	FINESS Array B	73.36	331	P	P	04 24 11.0	-0.6	
FINES	FINESS Array B	73.36	331	P	P	04 24 11.7	+0.1	
	comp=Z,31nm,0.6s,baz=61,slow=5.8,SNR=149							
FINES				LR	LR	05 00 51.1		
	comp=Z,2μm,18.1s,baz=63,slow=39							
	comp=Z,31nm,0.6s							
FINES	FINESS Array B	73.36	331	*i* P	P	04 24 11.6	0.0	
FINES				pmax	pmax			
	comp=Z,31nm,0.6s							
ANN	Anapa	73.38	312	*e*P	P	04 24 11.9	-0.2	
ANN				*e*		04 26 52.9		
ANN				*e*S	S	04 33 39.3	-1.2	
ANN				pmax	pmax			
	comp=Z,167nm,1.6s							
ANN				MLR	MLR			
	comp=N,2μm,19.0s							
ANN				MLR	MLR			
	comp=Z,2μm,19.0s							
V35K	Ketchikan	73.53	36	P	P	04 24 13.2	+0.5	
	baz=292

ARBE Arbavere 74.24 329 *e*P **P 04 24 17.1 +0.3**
VSU Vasula 74.30 328 *c e*P **P 04 24 17.0 -0.2**
VSU pmax pmax
comp=Z,179nm,1.3s
VSU Vasula 74.30 328 *e*P **P 04 24 16.6 -0.6**
STEI Steigen 74.41 339 *e*P **P 04 24 17.6 0.0**
LIRD Liard River Hi 74.59 31 P **P 04 24 19.9 +1.0**
baz=296,SNR=44
MEF Metsahovi 74.63 330 *e*P **P 04 24 19.1 0.0**
FAUS Fauske 74.68 339 *e*P **P 04 24 19.2 -0.1**
RAYN Ar Rayn 74.92 289 P **P 04 24 21.3 -0.2**
RAYN IAmb IAmb 04 24 35.8
comp=Z,98nm,1.2s
RAYN Ar Rayn 74.92 289 IAMs_20 IAMs_20 05 00 50.8
comp=Z,846nm,22.0s
RAYN Ar Rayn 74.92 289 P **P 04 24 21.7 +0.2**
RAYN S **S 04 33 55.8 -2.8**
RAYN Ar Rayn 74.92 289 P **P 04 24 21.3 -0.2**
RAYN pmax pmax
comp=Z,98nm,1.3s
RAYN MLR MLR
comp=Z,800nm,22.0s
RAYN Ar Rayn 74.92 289 *i* P **P 04 24 22.0 +0.5**
SNR=37
KOTAN Kotaneelee Air 75.20 30 P **P 04 24 23.4 +1.0**
baz=297,SNR=8.9
TOAD Toad River Com 75.24 31 P **P 04 24 23.6 +0.8**
baz=296,SNR=18
MNK Minsk 75.38 324 *i* P **P 04 24 22.6 -0.9**
MNK *i* 04 27 10.8
MNK *i* PPP PPP 04 28 58.1
MNK *i* S **S 04 34 03.7 +1.1**
MNK *i* SS **SS 04 38 53.3 +1.2**
MNK pmax pmax
comp=Z,36nm,0.9s
MNK pmax pmax
comp=E,29nm,1.0s
MNK pmax pmax
comp=N,53nm,1.2s
MNK MLR MLR
comp=E,2μm,18.0s
MNK MLR MLR
comp=Z,4μm,17.0s
MNK MLR MLR
comp=N,2μm,17.0s
RAF Rauma 75.42 331 *e*P **P 04 24 23.8 +0.2**
SIM Simferopol' 75.52 313 *e*P **P 04 24 24.8 +0.3**
SIM *e* 04 24 37.5
SIM *e* 04 27 14.0
SIM *e*S **S 04 34 07.0 +2.5**
SIM pmax pmax
comp=Z,70nm,1.0s
SIM pmax pmax
comp=Z,73nm,1.0s
SIM pmax pmax
comp=Z,150nm,12.0s
SIM smax smax
comp=N,200nm,6.0s
SIM MLR MLR
comp=Z,900nm,20.0s
MTSE Matsula 75.57 329 *e*P **P 04 24 24.8 +0.3**
MOR8 Moi Rana 75.62 338 *e*P **P 04 24 23.4 -1.4**
IDID Didziasalis 75.64 325 *e*P **P 04 24 20.6 -4.4**
VAGH Vaagaholmen 75.70 338 *e*P **P 04 24 28.8 +3.6**
ISAL Salakas 75.84 325 *e*P **P 04 24 26.4 +0.2**
IIGN Ignalina 75.89 325 *e*P **P 04 24 24.5 -1.9**
DIKM Dikmen 76.02 310 ⇑P **P 04 24 28.3 +0.9**
DIKM Dikmen 76.02 310 P **P 04 24 27.8 +0.3**
comp=Z,27nm,0.8s
LEIR Leirfjorden 76.10 338 *e*P **P 04 24 27.0 -0.4**
AK03 Malin Array Si 76.22 320 P **P 04 24 28.0 -0.4**
AKASG Malin Array Be 76.23 320 P **P 04 24 28.0 -0.4**
AKASG IAmb IAmb 04 24 46.2
comp=Z,131nm,1.4s
AKASG Malin Array Be 76.23 320 P **P 04 24 28.2 -0.3**
comp=Z,21nm,0.7s,baz=60,slow=6.4,SNR=78
AKASG S **S 04 34 10.0 -2.2**
comp=Z,0.5nm,0.3s,baz=72,slow=0.6,SNR=2.3
AKASG LR LR 05 00 48.5
comp=Z,5μm,19.7s,baz=70,slow=38
comp=Z,21nm,0.7s
AKASG Malin Array Be 76.23 320 *i* P **P 04 24 28.2 -0.3**
AKASG pmax pmax
comp=Z,23nm,0.7s
AKBB Malin Array Si 76.23 320 IAmb IAmb 04 24 46.1
comp=Z,166nm,1.4s
AKBB Malin Array Si 76.23 320 *d i* P **P 04 24 28.2 -0.3**
AKBB pmax pmax
comp=Z,99nm,1.5s
AKBB Malin Array Si 76.23 320 P **P 04 24 28.0 -0.5**
AK09 Malin Array Si 76.23 320 P **P 04 24 28.0 -0.5**
AK01 Malin Array Si 76.24 320 P **P 04 24 28.1 -0.4**
AK08 Malin Array Si 76.24 320 P **P 04 24 28.1 -0.4**
KIEV Kiev 76.24 320 P **P 04 24 27.8 -0.7**
KIEV IAmb IAmb 04 24 46.1
comp=Z,163nm,1.5s
KIEV Kiev 76.24 320 ⇑P **P 04 24 28.6 +0.1**
KIEV Kiev 76.24 320 P **P 04 24 27.8 -0.7**
KIEV pmax pmax
comp=Z,163nm,1.5s
KIEV MLR MLR
comp=Z,5μm,20.0s
KIEV Kiev 76.24 320 *i* P **P 04 24 28.2 -0.3**
SNR=31
KIEV Kiev 76.24 320 P **P 04 24 28.0 -0.5**
comp=Z,3μmcomp=Z,213nm,0.9s
AK04 Malin Array Si 76.25 320 P **P 04 24 28.2 -0.4**
AK10 Malin Array Si 76.26 320 P **P 04 24 28.2 -0.4**
AK02 Malin Array Si 76.26 320 P **P 04 24 28.2 -0.4**
AK23 Malin Array Si 76.26 320 P **P 04 24 28.2 -0.4**
AK11 Malin Array Si 76.27 320 P **P 04 24 28.3 -0.4**
AK05 Malin Array Si 76.28 320 P **P 04 24 28.3 -0.4**
AK15 Malin Array Si 76.29 320 P **P 04 24 28.4 -0.4**
AK06 Malin Array Si 76.29 320 P **P 04 24 28.4 -0.4**
AK22 Malin Array Si 76.29 320 P **P 04 24 28.4 -0.4**
AK12 Malin Array Si 76.29 320 P **P 04 24 28.4 -0.4**
AK21 Malin Array Si 76.30 320 P **P 04 24 28.4 -0.5**
AK07 Malin Array Si 76.30 320 P **P 04 24 28.4 -0.5**
AK16 Malin Array Si 76.31 320 P **P 04 24 28.5 -0.4**
AK18 Malin Array Si 76.31 320 P **P 04 24 28.5 -0.4**
AK14 Malin Array Si 76.33 320 P **P 04 24 28.6 -0.4**
AK17 Malin Array Si 76.33 320 P **P 04 24 28.6 -0.4**
AK20 Malin Array Si 76.34 320 P **P 04 24 28.6 -0.5**
AK19 Malin Array Si 76.34 320 P **P 04 24 28.7 -0.4**
GAZ Gaziantep 76.35 305 IAmb IAmb 04 24 48.6
comp=Z,62nm,1.1s
GAZ IAMs_20 IAMs_20 05 03 16.0
comp=Z,813nm,20.0s
AK13 Malin Array Si 76.36 320 P **P 04 24 28.8 -0.4**
NEEM North Greenlan 76.45 0 *i* P **P 04 24 30.0 +0.4**
NEEM IAmb IAmb 04 24 31.6
comp=Z,73nm,1.2s
BNN Bunyan 76.70 307 IAmb IAmb 04 24 47.9
comp=Z,93nm,0.9s
TULEG Thule 76.73 4 IAMs_20 IAMs_20 05 03 04.4
comp=Z,1μm,18.0s
TULEG Thule 76.73 4 *i* P **P 04 24 32.1 +1.2**
TULEG IAmb IAmb 04 24 32.4
comp=Z,31nm,0.8s
BZK Bozkurt 76.76 310 ⇓P **P 04 24 31.9 +0.2**
BZK Bozkurt 76.76 310 P **P 04 24 31.3 -0.4**
comp=Z,714nmcomp=Z,63nm,0.9s
VSVD Vaisvydziai 76.76 326 *e*P **P 04 24 32.3 +0.9**
SLIT Slitere, Latvi 76.79 328 *e*P **P 04 24 31.5 +0.1**
TOZ Tahuroa Road 76.94 144 P **P 04 24 32.9 +0.4**
PABE Paberze 76.97 326 *e*P **P 04 24 33.2 +0.7**
MI28 Mi28,Pidlybu 77.03 321 P **P 04 24 32.6 -0.4**
ILGA Ilgaz 77.33 310 IAmb IAmb 04 24 51.3
comp=Z,46nm,0.9s
NSS Namsos 77.40 337 *e*P **P 04 24 34.0 -0.8**
LUBAR Lubar, Ukraine 77.41 320 P **P 04 24 34.3 -0.9**
PURM Purcari 77.60 316 P **P 04 24 35.8 -0.4**
comp=Z,1μmcomp=Z,86nm,0.9s
DBG Daneborg 77.67 352 *i* P **P 04 24 36.3 +0.2**
DBG IAmb IAmb 04 24 41.0
comp=Z,36nm,1.0s
RNPP9 Sopachiv 77.81 322 P **P 04 24 37.0 -0.4**
SORM Soroca 77.84 318 ⇓P **P 04 24 37.4 -0.2**
SORM Soroca 77.84 318 P **P 04 24 37.5 -0.1**
SORM Soroca 77.84 318 P **P 04 24 37.1 -0.5**
comp=Z,720nmcomp=Z,59nm,1.3s
RNPP8 Varash 77.87 321 P **P 04 24 37.3 -0.4**
RNPP5 Staryi Chortor 77.90 321 P **P 04 24 37.5 -0.4**
MSEY Mahe Island 77.91 259 IAMs_20 IAMs_20 04 56 44.0
comp=Z,728nm,21.0s
YKA Yellowknife Ar 77.92 25 P **P 04 24 37.1 -0.7**
YKA Yellowknife Ar 77.92 25 P **P 04 24 38.3 +0.6**
comp=Z,20nm,1.1s,baz=300,slow=5.4,SNR=106
YKA PKKP **PKKPdf 04 43 23.9 -1.9**
comp=Z,0.1nm,0.8s,baz=101,slow=2.6,SNR=3.7
YKA PKKPbc **PKKPbc 04 43 36.4 -3.1**
comp=Z,0.2nm,0.7s,baz=116,slow=2.7,SNR=6.0
YKA PKPPKP P'P'df 04 51 37.3 -9.5
comp=Z,0.2nm,0.8s,baz=131,slow=2.9,SNR=3.8
YKA LR LR 05 01 51.1
comp=Z,191nm,20.4s,baz=320,slow=38
comp=Z,20nm,1.1s
BR131 Keskin Array S 77.92 308 P **P 04 24 38.5 +0.1**
SNR=42
BR131 P **P 04 24 38.5 +0.1**
SNR=42
BR131 S **S 04 34 28.9 -2.4**
BR131 S **S 04 34 28.9 -2.4**
BRTR Keskin Array B 77.92 308 P **P 04 24 37.4 -1.0**
BRTR Keskin Array B 77.92 308 P **P 04 24 38.5 +0.1**
comp=Z,20nm,0.8s,baz=96,slow=5.1,SNR=132
BRTR S **S 04 34 28.1 -3.1**
comp=Z,0.2nm,0.5s,baz=76,slow=8.0,SNR=1.6
BRTR LR LR 05 03 14.1
comp=Z,960nm,21.8s,baz=57,slow=39
comp=Z,20nm,0.8s
BR104 Keskin Array S 77.92 308 P **P 04 24 37.7 -0.7**
comp=Z,306nmcomp=Z,36nm,1.0s
BR106 Keskin Array S 77.93 308 P **P 04 24 38.3 -0.1**
comp=Z,348nmcomp=Z,39nm,1.0s
BR105 Keskin Array S 77.94 308 P **P 04 24 38.3 -0.2**
comp=Z,356nmcomp=Z,49nm,0.9s
KIRS Kirsehir-Merke 77.96 308 ⇓P **P 04 24 38.7 +0.1**
KIS Kishinev 78.05 317 *e*P **P 04 24 35.0 -3.8**
KIS LQM 04 56 22.0
comp=Z,500nm,22.0s
KIS *e*L L 04 59 15.0
KIS LRM MLR 05 03 59.0
comp=Z,400nm,15.0s
KIS Kishinev 78.05 317 *e*P **P 04 24 35.0 -3.8**
KIS MLR MLR
comp=Z,400nm,15.0s
SUW Suwalki 78.07 325 *e*P **P 04 24 39.2 +0.5**
SUW Suwalki 78.07 325 *e*P **P 04 24 39.1 +0.4**
MILM Milestii Mici 78.09 317 ⇓*i*P **P 04 24 38.0 -1.0**
comp=Z,270nm,3.4s
MILM *i* S **S 04 34 27.0 -5.5**
MILM Milestii Mici 78.09 317 *d i*P **P 04 24 38.0 -1.0**
MILM *i* S **S 04 34 27.0 -5.5**
MILM *i* PS PnS 04 34 58.0 -16
MILM pmax pmax
comp=Z,270nm,3.4s
MILM MLR MLR
comp=Z,1μm,15.5s
DSZ Denniston Nort 78.20 149 IAMs_20 IAMs_20 04 59 51.9
comp=Z,1μm,19.0s
NDNU Novodnistrovsk 78.23 318 P **P 04 24 39.3 -0.4**
RTZ Ruatahuna 78.37 144 IAMs_20 IAMs_20 04 55 51.6
comp=Z,1μm,20.0s
ANTO Ankara 78.45 309 P **P 04 24 40.9 -0.4**
ANTO Ankara 78.45 309 IAMs_20 IAMs_20 05 03 46.2
comp=Z,1μm,22.0s
ANTO Ankara 78.45 309 P **P 04 24 41.4 +0.1**
ANTO P **P 04 24 41.4 +0.1**
ANTO S **S 04 34 36.0 -0.9**
ANTO S **S 04 34 36.0 -0.9**
ANTO Ankara 78.45 309 ⇑P **P 04 24 41.9 +0.7**
ANTO Ankara 78.45 309 P **P 04 24 40.9 -0.4**
ANTO pmax pmax
comp=Z,28nm,0.9s
ANTO MLR MLR
comp=Z,2μm,22.0s
ANTO Ankara 78.45 309 P **P 04 24 41.2 -0.1**
comp=Z,353nmcomp=Z,24nm,1.5s
HORU Horodok 78.50 319 P **P 04 24 41.3 0.0**
BKZ Black Stump Fm 78.53 145 P **P 04 24 41.1 -0.3**
BKZ IAmb IAmb 04 24 47.8
comp=Z,82nm,1.2s
BKZ Black Stump Fm 78.53 145 P **P 04 24 42.2 +0.8**
ASF Jabal al Asfar 78.56 300 LR LR 05 03 57.1
comp=Z,644nm,20.7s,baz=109,slow=39
JMIC Jan Mayen 78.58 347 LR LR 05 04 29.3
comp=Z,156nm,18.4s,baz=65,slow=40
FOZ Fox Glacier 78.74 151 IAmb IAmb 04 24 56.3
comp=Z,173nm,1.7s
JCZ Jackson Bay 78.74 152 P **P 04 24 45.4 +2.9**
KMPD K-Podol'skiy 78.78 319 P **P 04 24 42.2 -0.6**
TLCR 78.84 315 ⇓P **P 04 24 43.5 +0.3**
TLCR 78.84 315 P **P 04 24 43.4 +0.3**
JURR Jurilovca 78.99 315 ⇑P **P 04 24 43.9 0.0**
MRZ Mangatainoka R 79.18 146 P **P 04 24 43.7 -1.2**
LTZ Lake Taylor 79.23 149 IAMs_20 IAMs_20 04 59 44.1
comp=Z,1μm,18.0s
KULLO Kullorsuaq 79.23 2 *i* P **P 04 24 44.2 -0.5**
KULLO IAmb IAmb 04 24 47.4
comp=Z,63nm,1.3s
TPGR Topolog 79.24 315 ⇑P **P 04 24 45.7 +0.3**
HFS Hagfors 79.28 333 P **P 04 24 45.0 -0.3**
comp=Z,40nm,0.9s,baz=72,slow=6.8,SNR=23
HFS LR LR 05 04 26.0
comp=Z,1μm,18.2s,baz=50,slow=39
comp=Z,40nm,0.9s
GHRR 79.34 316 P **P 04 24 46.1 +0.2**
MMAI Mount Meron Ar 79.37 302 P **P 04 24 46.9 +0.5**
comp=Z,10.0nm,0.7s,baz=74,slow=4.7,SNR=13
MMAI S **S 04 34 46.0 -0.9**
comp=Z,0.4nm,0.3s,baz=32,slow=14,SNR=1.8
MMAI LR LR 05 04 48.7
comp=Z,884nm,20.4s,baz=66,slow=40
comp=Z,10.0nm,0.7s
RPZ Rata Peaks 79.42 151 LR LR 04 53 29.6
comp=Z,712nm,21.3s,baz=318,slow=31
TIRR Tirgusor 79.42 314 IAMs_20 IAMs_20 05 03 02.5
comp=Z,2μm,21.0s
TIRR Tirgusor 79.42 314 ⇑P **P 04 24 46.2 -0.2**
TIRR Tirgusor 79.42 314 P **P 04 24 46.1 -0.2**
TIRR Tirgusor 79.42 314 P **P 04 24 45.9 -0.4**
comp=Z,600nmcomp=Z,32nm,2.2s
NC405 NORSAR Array S 79.51 334 IAmb IAmb 04 24 60.0
comp=Z,88nm,1.1s
MFTR Murfatlar 79.54 314 ⇑P **P 04 24 47.6 +0.6**
OXZ Oxford 79.55 150 IAMs_20 IAMs_20 05 03 43.6
comp=Z,2μm,19.0s
LBZ Lake Benmore 79.58 152 P **P 04 24 47.1 +0.1**
LBZ IAmb IAmb 04 24 51.5
comp=Z,164nm,1.7s
PANC Panciu 79.58 316 ⇓P **P 04 24 48.1 +0.8**
TESR Tescani 79.60 317 ⇑P **P 04 24 47.4 +0.1**
TESR Tescani 79.60 317 P **P 04 24 46.9 -0.4**
comp=Z,1μmcomp=Z,81nm,0.9s
HARR Harsova 79.62 315 ⇓P **P 04 24 47.8 +0.3**
HARR Harsova 79.62 315 P **P 04 24 48.3 +0.8**
ODBI Odobesti 79.69 316 P **P 04 24 48.8 +1.0**
comp=Z,544nmcomp=Z,57nm,0.9s
NB201 NORSAR Array S 79.71 334 IAmb IAmb 04 25 04.6
comp=Z,234nm,1.8s
KSV Kosov 79.72 319 P **P 04 24 47.4 -0.5**
NB2 NORSAR Subarra 79.75 334 P **P 04 24 47.3 -0.6**
comp=Z,63nm,1.1s,baz=53,slow=5.9
NB2 NORSAR Subarra 79.75 334 P **P 04 24 47.3 -0.6**
baz=53,slow=5.9
NOA NORSAR Array B 79.75 334 P **P 04 24 47.4 -0.5**
comp=Z,23nm,0.8s,baz=51,slow=5.4,SNR=56
NOA LR LR 05 03 35.0
comp=Z,1μm,21.3s,baz=55,slow=38
comp=Z,23nm,0.8s
NC602 NORSAR Array S 79.80 334 *e*P **P 04 24 47.2 -0.9**
VRI Vrincioaia 79.85 316 ⇓P **P 04 24 49.5 +0.8**
VRI Vrincioaia 79.85 316 P **P 04 24 49.5 +0.8**
VRI Vrincioaia 79.85 316 P **P 04 24 49.2 +0.5**
comp=Z,1μmcomp=Z,109nm,1.4s
STNU Starunia 79.86 319 P **P 04 24 48.7 0.0**
SPBR Spulber 79.89 316 ⇓P **P 04 24 50.0 +1.1**
PLOR5 Plostina Array 79.90 316 P **P 04 24 50.1 +1.1**
comp=Z,1μmcomp=Z,93nm,1.4s
PLOR Plostina 79.90 316 ⇑P **P 04 24 49.9 +0.9**
PLOR Plostina 79.90 316 P **P 04 24 49.9 +0.9**
DOMB Dombas 79.95 336 *e*P **P 04 24 49.0 0.0**
GHAJ Ghor Haditha 79.95 300 P **P 04 24 49.0 -0.5**
GHAJ IAmb IAmb 04 24 55.1
comp=Z,256nm,1.8s
GHAJ IAMs_20 IAMs_20 05 04 16.5
comp=Z,1μm,20.0s
BURAR Bucovina Array 79.96 318 P **P 04 24 48.7 -0.7**
BURAR Bucovina Array 79.96 318 ⇑P **P 04 24 50.0 +0.6**
BURAR Bucovina Array 79.96 318 P **P 04 24 50.0 +0.6**
ICOR Ion Corvin 79.97 314 ⇑P **P 04 24 50.2 +0.9**
PSN Preselentsi 79.97 314 *i* P **P 04 24 50.7 +1.4**
BISRR Bisoca 80.00 316 ⇓P **P 04 24 50.9 +1.2**
BISRR Bisoca 80.00 316 P **P 04 24 49.9 +0.3**
comp=Z,3μmcomp=Z,199nm,1.2s
BORA Eskisehir 80.08 310 IAMs_20 IAMs_20 05 04 24.1
comp=Z,809nm,20.0s
CSS Mathiatis 80.12 304 IAmb IAmb 04 24 55.7
comp=Z,46nm,0.7s
CSS IAMs_20 IAMs_20 05 04 47.7
comp=Z,1μm,21.0s
CSS Mathiatis 80.12 304 P **P 04 24 50.2 -0.2**
comp=Z,844nmcomp=Z,66nm,1.1s
COVR Voineasa-Covas 80.18 316 ⇑P **P 04 24 50.9 +0.3**
ISR Istrita 80.31 316 ⇑P **P 04 24 52.6 +1.4**
ISR Istrita 80.31 316 P **P 04 24 52.6 +1.4**
OZUR 80.32 317 ⇑P **P 04 24 52.0 +0.7**
BEL Belsk 80.40 323 *e*P **P 04 24 52.4 +0.9**
KLYT Kilyos 80.43 311 P **P 04 24 51.4 -0.5**
comp=Z,1μmcomp=Z,49nm,1.0s
ISK Istanbul-Kandi 80.51 311 P **P 04 24 52.2 -0.1**
MLR Muntele Rosu 80.51 316 IAMs_20 IAMs_20 05 03 14.2
comp=Z,2μm,21.0s
MLR Muntele Rosu 80.51 316 LR LR 05 03 26.6
comp=Z,2μm,21.3s,baz=56,slow=38
MLR Muntele Rosu 80.51 316 ⇓P **P 04 24 52.9 +0.4**
MLR Muntele Rosu 80.51 316 P **P 04 24 52.8 +0.4**
MLR Muntele Rosu 80.51 316 P **P 04 24 52.8 +0.4**
comp=Z,526nmcomp=Z,41nm,0.9s
BLEU Blekinge 80.51 329 *i* P **P 04 24 51.4 -0.7**
YLV Yalova 80.52 311 P **P 04 24 52.1 -0.4**
comp=Z,652nmcomp=Z,42nm,1.3s
OSL Oslo 80.60 333 *e*P **P 04 24 52.6 +0.1**
AKN Aaknes 80.62 336 *e*P **P 04 24 53.0 +0.4**
DOPR Dopca 80.63 317 ⇓P **P 04 24 53.9 +0.9**
SULR 80.69 315 ⇓P **P 04 24 54.4 +1.2**
ARCR ARCALIA 80.72 318 ⇑P **P 04 24 55.0 +1.6**
CTYL Yalikoy Yolu 80.84 312 P **P 04 24 53.9 -0.2**
comp=Z,792nmcomp=Z,74nm,0.8s
LLLB Lillooet 80.89 38 P **P 04 24 55.1 +0.8**
BRIU Brid 80.90 320 P **P 04 24 54.2 -0.1**
KORU Korolevo 80.93 319 P **P 04 24 54.3 -0.1**
ISP Isparta 80.93 308 IAMs_20 IAMs_20 05 05 15.9
comp=Z,1μm,21.0s
BMR Baia Mare 80.95 319 ⇑P **P 04 24 55.2 +0.7**
BMR Baia Mare 80.95 319 P **P 04 24 55.2 +0.7**
PGC Sidney 80.99 40 IAmb IAmb 04 24 57.8
comp=Z,76nm,1.2s
SUMG Summit 81.01 356 P **P 04 24 54.5 -0.4**
SUMG IAmb IAmb 04 25 12.6
comp=Z,66nm,0.9s
SUMG Summit 81.01 356 P **P 04 24 54.5 -0.4**
SUMG pmax pmax
comp=Z,66nm,0.9s
SUMG Summit 81.01 356 *i* P **P 04 24 55.0 +0.1**
SUMG IAmb IAmb 04 25 01.3
comp=Z,61nm,0.9s
KOLS Kolonicke sedl 81.04 320 *e*P **P 04 24 55.6 +0.6**
KOLS pmax pmax
comp=Z,18nm,0.7s
KOLS Kolonicke sedl 81.04 320 *e*P **P 04 24 55.6 +0.6**
MUKU Mukachevo 81.04 320 P **P 04 24 55.0 0.0**
RAZG Razgrad 81.05 314 ⇑P **P 04 24 55.9 +0.7**
UPNV Upernavik 81.06 2 *i* P **P 04 24 54.0 -0.7**
UPNV IAmb IAmb 04 24 56.9
comp=Z,32nm,1.1s
VOIR 81.09 316 ⇑P **P 04 24 55.6 +0.1**
VOIR 81.09 316 P **P 04 24 55.5 +0.1**
VOIR 81.09 316 P **P 04 24 55.6 +0.1**
comp=Z,504nmcomp=Z,14nm,1.1s
SKAR Skarslia 81.09 335 *e*P **P 04 24 55.5 +0.4**
EIL Elat 81.12 299 LR LR 05 06 31.0
comp=Z,615nm,19.2s,baz=78,slow=40
BORU Boraas 81.12 331 *i* P **P 04 24 54.6 -0.6**
BERU Beregovo 81.17 320 P **P 04 24 56.0 +0.3**
HOLU Holmets 81.18 320 P **P 04 24 56.1 +0.4**
UZHM Uzhgorod 81.18 320 P **P 04 24 56.1 +0.3**
KONO Kongsberg 81.23 334 IAMs_20 IAMs_20 05 05 04.2
comp=Z,2μm,20.0s
DEL Delary 81.31 330 *i* P **P 04 24 56.1 -0.1**
SCO Scoresbysund 81.34 351 *i* P **P 04 24 56.6 +0.4**
SCO IAmb IAmb 04 25 02.5
comp=Z,42nm,1.0s
CJR Cluj-Napoca 81.36 318 ⇑P **P 04 24 56.5 -0.3**
CJR Cluj-Napoca 81.36 318 P **P 04 24 56.5 -0.3**
NLWA Neilton Lookou 81.37 41 IAmb IAmb 04 25 00.5
comp=Z,101nm,1.2s
ARR Arges 81.38 316 ⇓P **P 04 24 57.9 +0.9**
TJOU Tjoern 81.38 332 *i* P **P 04 24 55.2 -1.4**
A04D Lummi Island 81.39 40 IAmb IAmb 04 25 13.0
comp=Z,66nm,0.9s
BAND Balkesir-Ban 81.48 311 ⇓P **P 04 24 57.8 +0.3**
FABU Falkenberg 81.52 330 *i* P **P 04 24 56.3 -1.1**
SZH Strazhitsa 81.53 314 *i* P **P 04 24 58.3 +0.5**
HUMR Humele 81.57 316 ⇑P **P 04 24 57.4 -0.5**
BSD Bornholm Skovb 81.60 328 *e*P **P 04 24 58.2 +0.3**
BSD Bornholm Skovb 81.60 328 *i* P **P 04 24 57.9 +0.1**
BSD IAmb IAmb 04 25 03.5
comp=Z,52nm,0.8s
ONAU Onsala 81.63 331 *i* P **P 04 24 57.0 -0.9**
MARR Marisel-Cluj 81.66 318 ⇓P **P 04 24 58.9 +0.4**
EDRB Edirne 81.70 313 P **P 04 24 58.8 +0.2**
OJC Ojcow 81.77 322 *e*P **P 04 24 59.6 +0.7**
OJC Ojcow 81.77 322 IAmb IAmb 04 25 04.9
comp=Z,69nm,0.8s
OJC Ojcow 81.77 322 P **P 04 24 59.2 +0.3**
comp=Z,1μmcomp=Z,98nm,1.2s
ELL Elmali 81.84 307 IAMs_20 IAMs_20 05 08 20.2
comp=Z,2μm,20.0s
LOT Lotru 81.87 317 ⇓P **P 04 25 00.0 +0.4**
ILON Igloolik, Nuna 81.88 11 P **P 04 24 58.6 -0.4**
ILON IAmb IAmb 04 25 09.4
comp=Z,80nm,1.0s
GNW Green Mountain 81.90 41 IAmb IAmb 04 25 03.1
comp=Z,88nm,1.2s
NIE Niedzica 81.91 321 *e*P **P 04 25 00.8 +1.1**
NIE Niedzica 81.91 321 P **P 04 24 59.9 +0.2**
comp=Z,407nmcomp=Z,19nm,1.1s
BJUU Bjuv 81.92 330 *i* P **P 04 24 59.9 +0.4**
LUNU Lund 81.99 329 *i* P **P 04 25 00.0 +0.2**
ATD Arta Tunnel 82.08 279 P **P 04 25 01.4 +0.2**
ATD IAmb IAmb 04 25 16.5
comp=Z,55nm,1.1s
ATD Arta Tunnel 82.08 279 LR LR 05 00 29.6
comp=Z,12nm,19.5s,baz=52,slow=35
ATD Arta Tunnel 82.08 279 P **P 04 25 01.8 +0.7**
SNR=6.5
PVL Pavlikeni 82.12 314 *i* P **P 04 25 01.3 +0.5**
KECS Kecovo 82.29 321 *e*P **P 04 25 03.9 +2.3**
KECS pmax pmax
comp=Z,31nm,1.0s
KECS Kecovo 82.29 321 *e*P **P 04 25 03.9 +2.3**
NUUG Nuugaatsiaq 82.37 1 *i* P **P 04 25 02.7 +1.1**
NUUG IAmb IAmb 04 25 03.9
comp=Z,12nm,0.8s
OVD Ostervraa, Den 82.42 332 *i* P **P 04 24 59.9 -2.2**
OVD IAmb IAmb 04 25 01.9
comp=Z,79nm,0.5s
COP Copenhagen 82.42 329 *i* P **P 04 25 03.0 +0.9**
COP IAmb IAmb 04 25 08.5
comp=Z,108nm,0.8s
GZR Gura Zlata 82.51 317 ⇑P **P 04 25 03.2 +0.3**
GZR Gura Zlata 82.51 317 P **P 04 25 03.2 +0.3**
LANS Liptovska Anna 82.51 322 *e*P **P 04 25 04.5 +1.6**
LANS pmax pmax
comp=Z,25nm,1.6s
LANS Liptovska Anna 82.51 322 *e*P **P 04 25 04.5 +1.6**
HOMB Homborsund 82.54 333 *i* P **P 04 25 00.6 -2.0**
D05A Enumclaw 82.58 41 P **P 04 25 03.7 +0.6**
D05A IAmb IAmb 04 25 19.6
comp=Z,74nm,0.9s
ALN Alexandroupoli 82.61 312 P **P 04 25 03.2 -0.2**
ALN Alexandroupoli 82.61 312 IAmb IAmb 04 25 17.3
comp=Z,73nm,1.4s
ALN IAMs_20 IAMs_20 05 06 16.2
comp=Z,815nm,21.0s
SRE Strehaia 82.61 316 ⇑P **P 04 25 03.3 -0.1**
SRE Strehaia 82.61 316 P **P 04 25 03.3 -0.1**
RGN Rugen 82.68 328 IAMs_20 IAMs_20 05 05 29.9
comp=Z,1μm,22.0s
RGN Rugen 82.68 328 *e*P 04 25 04.3
comp=Z,106nm,1.1s,baz=51,slow=4.9
SURR Surduc 82.72 318 ⇑P **P 04 25 04.6 +0.6**

KDZ	Kurdzhali	82.72 313	*i* P		P	04 25 04.5	+0.4
LLD	Lille Linde	82.73 329	*i* P		P	04 25 05.4	+1.7
LLD			IAmb		IAmb	04 25 09.6	
comp=Z,59nm,1.0s							
SIRR	Siria	82.74 318	⇑P		P	04 25 04.8	+0.7
RDO	Rodhopi	82.83 312	P		P	04 25 04.4	-0.2
RDO	Rodhopi	82.83 312	IAmb		IAmb	04 25 10.7	
comp=Z,58nm,1.1s							
RDO			IAMs_20		IAMs_20	05 05 16.8	
comp=Z,719nm,21.0s							
OKC	Ostrava-Krasne	82.88 323	*e*P		P	04 25 05.7	+1.0
OKC			*e*PP		PP	04 28 21.7	+7.2
OKC			*e*S		S	04 35 23.9	+1.3
OKC			AMS		AMS	05 05 40.0	
comp=Z,2μm,14.9s							
OKC	Ostrava-Krasne	82.88 323	*e*P		P	04 25 05.7	+1.0
OKC			*e*			04 28 21.7	
OKC			*e*S		S	04 35 23.9	+1.3
OKC			MLR		MLR		
comp=Z,2μm,14.9s							
MPEP	Malo Peshtene	82.92 315	*i* P		P	04 25 06.0	+1.0
PSZ	Piszkesteto	82.92 320	⇑P		P	04 25 06.0	+1.0
PSZ	Piszkesteto	82.92 320	P		P	04 25 06.0	+1.0
PSZ	Piszkesteto	82.92 320	*e*P		P	04 25 05.6	+0.6
EZN	Ezine	82.93 311	P		P	04 25 05.2	+0.1
EZN	Ezine	82.93 311	P		P	04 25 05.3	+0.1
comp=Z,893nmcomp=Z,44nm,1.2s							
HERR	Herculane	82.99 317	⇑P		P	04 25 05.4	0.0
SNART	Snartemo	83.02 333	*e*P		P	04 25 05.3	+0.1
SNART	Snartemo	83.02 333	*i* P		P	04 25 04.8	-0.4
BZS	Buzias	83.10 318	⇑P		P	04 25 05.5	-0.5
BZS	Buzias	83.10 318	P		P	04 25 05.4	-0.5
RAR	Rarotonga	83.19 118	LR		LR	04 55 56.8	
comp=Z,282nm,20.8s,baz=280,slow=31							
KMY	Karmoy	83.22 335	*e*P		P	04 25 02.6	-3.6
VYHS	Vyhne	83.22 321	*e*P		P	04 25 07.6	+1.1
VYHS			pmax		pmax		
comp=Z,43nm,1.0s							
VYHS	Vyhne	83.22 321	*e*P		P	04 25 07.6	+1.1
MORC	Moravsky Berou	83.24 323	*e*P		P	04 25 07.2	+0.6
MORC	Moravsky Berou	83.24 323	⇓P		P	04 25 07.3	+0.6
MORC	Moravsky Berou	83.24 323	P		P	04 25 07.2	+0.6
PRK	Paraskevi	83.24 310	P		P	04 25 06.7	0.0
UMMG	Uummannaq	83.25 1	*i* P		P	04 25 06.4	+0.2
UMMG			IAmb		IAmb	04 25 15.4	
comp=Z,71nm,1.5s							
LTY	Liberty	83.31 40	IAmb		IAmb	04 25 23.3	
comp=Z,112nm,1.4s							
KSP	Ksiaz	83.32 324	*e*P		P	04 25 08.0	+1.1
KSP	Ksiaz	83.32 324	P		P	04 25 07.3	+0.4
comp=Z,1μcomp=Z,89nm,1.5s							
MUD	Monsted U'grnd	83.40 331	*i* P		P	04 25 07.4	+0.2
MUD			IAmb		IAmb	04 25 20.8	
comp=Z,103nm,1.1s							
MDVR	Moldovita	83.47 317	⇑P		P	04 25 07.6	-0.3
KRLC	Kraliky	83.48 323	*e*P		P	04 25 08.9	+1.0
KRLC			*e*PP		PP	04 28 23.0	+3.5
KRLC			*e*S		S	04 35 33.3	+4.4
KRLC			AMS		AMS	05 06 20.0	
comp=Z,4μm,17.3s							
KRLC	Kraliky	83.48 323	*e*P		P	04 25 08.9	+1.0
KRLC			*e*			04 28 23.0	
KRLC			*e*S		S	04 35 33.3	+4.4
KRLC			MLR		MLR		
comp=Z,4μm,17.3s							
H04D	Lebanon	83.49 43	P		P	04 25 09.1	+1.2
H04D			IAmb		IAmb	04 25 32.5	
comp=Z,81nm,1.0s							
OSTC	Ostas	83.52 324	*e*P		P	04 25 08.8	+0.8
OSTC			*e*PP		PP	04 28 20.7	+0.9
OSTC			*e*S		SKSac	04 35 32.3	+2.3
OSTC			AMS		AMS	05 06 20.0	
comp=Z,4μm,16.2s							
OSTC	Ostas	83.52 324	*e*P		P	04 25 08.8	+0.8
OSTC			*e*			04 28 20.7	
OSTC			*e*S		SKSac	04 35 32.3	+2.3
OSTC			MLR		MLR		
comp=Z,4μm,16.2s							
DPC	Dobruska-Polom	83.58 324	*e*P		P	04 25 09.7	+1.4
DPC			*e*PP		PP	04 28 22.7	+2.4
DPC			*e*S		SKSac	04 35 32.0	+1.6
DPC			AMS		AMS	05 06 20.0	
comp=Z,3μm,16.6s							
DPC	Dobruska-Polom	83.58 324	*e*P		P	04 25 09.7	+1.4
DPC			*e*			04 28 22.7	
DPC			*e*S		SKSac	04 35 32.0	+1.6
DPC			MLR		MLR		
comp=Z,3μm,16.6s							
DPC	Dobruska-Polom	83.58 324	P		P	04 25 08.6	+0.3
comp=Z,739nmcomp=Z,39nm,1.5s							
KAVA	Kavala	83.58 313	P		P	04 25 08.5	+0.1
CHVC	Chvalec	83.58 324	*e*P		P	04 25 09.5	+1.1
CHVC			*e*PP		PP	04 28 27.3	+7.0
CHVC			*e*S		S	04 35 30.6	+0.8
CHVC			AMS		AMS	05 06 30.0	
comp=Z,4μm,15.9s							
CHVC	Chvalec	83.58 324	*e*P		P	04 25 09.5	+1.1
CHVC			*e*			04 28 27.3	
CHVC			*e*S		S	04 35 30.6	+0.8
CHVC			MLR		MLR		
comp=Z,4μm,15.9s							
THAS	Thassos island	83.63 312	P		P	04 25 08.5	-0.2
UPC	Upice	83.65 324	*e*P		P	04 25 09.8	+1.1
UPC			*e*PP		PP	04 28 28.2	+7.4
UPC			*e*S		SKSac	04 35 32.5	+1.7
UPC			AMS		AMS	05 06 30.0	
comp=Z,4μm,16.4s							
UPC	Upice	83.65 324	*e*P		P	04 25 09.8	+1.1
UPC			*e*			04 28 28.2	
UPC			*e*S		SKSac	04 35 32.5	+1.7
UPC			MLR		MLR		
comp=Z,4μm,16.4s							
JAVC	Velka Javorina	83.67 322	*e*P		P	04 25 10.3	+1.4
JAVC	Velka Javorina	83.67 322	*e*S		SKSac	04 35 34.2	+3.1
RUE	Ruedersdorf	83.67 326	*e*P			04 25 08.8	
comp=Z,115nm,0.9s,baz=51,slow=4.9							
RUE			*e*S			04 35 32.5	
baz=40,slow=6.0							
SSRD	Sdr. Stenderup	83.81 330	*i* P		P	04 25 10.1	+0.7
SSRD			IAmb		IAmb	04 25 15.1	
comp=Z,139nm,0.8s							
MXC	Moxie City	83.89 41	IAmb		IAmb	04 25 26.1	
comp=Z,68nm,0.9s							
SMOL	Smolenice	83.99 322	*e*P		P	04 25 12.3	+1.9
SMOL			pmax		pmax		
comp=Z,41nm,1.6s							
KOKK	Kokkinochori,	84.00 313	P		P	04 25 10.4	-0.3
VRAC	Vranov	84.01 323	LR		LR	05 06 35.9	
comp=Z,3μm,18.4s,baz=61,slow=38							
VRAC	Vranov	84.01 323	*e*P		P	04 25 11.4	+0.9
VRAC	Vranov	84.01 323	*e*S		SKSac	04 35 34.5	+1.3
VRAC	Vranov	84.01 323	⇑P		P	04 25 11.7	+1.2
VRAC	Vranov	84.01 323	P		P	04 25 11.7	+1.2
BOVS	Bovan	84.06 316	⇓P		P	04 25 11.1	+0.3
SRS	Serrai	84.12 313	P		P	04 25 10.8	-0.5
MODS	Modra-Piesok	84.15 322	*e*P		P	04 25 13.0	+1.7
MODS			pmax		pmax		
comp=Z,150nm,1.4s							
MODS	Modra-Piesok	84.15 322	*e*P		P	04 25 13.0	+1.7
E07A	Sunnyside	84.16 40	P		P	04 25 12.3	+0.9
KRUC	Moravsky	84.26 323	*e*P		P	04 25 12.6	+0.8
KRUC	Moravsky	84.26 323	*e*S		S	04 35 37.5	+0.9
BBOR	Butler Butte	84.36 45	P		P	04 25 12.5	-0.2
BBOR			IAmb		IAmb	04 25 15.8	
comp=Z,80nm,1.3s							
KARP	Karpathos	84.37 307	*e*P		P	04 25 12.8	+0.1
KARP	Karpathos	84.37 307	P		P	04 25 12.4	-0.3
comp=Z,95nm,1.1s							
PVCC	Panska Ves	84.40 324	*e*P		P	04 25 13.8	+1.3
PVCC			*e*PP		PP	04 28 30.5	+3.6
PVCC			*e*S		S	04 35 37.9	0.0
PVCC			AMS		AMS	05 07 00.0	
comp=Z,3μm,16.8s							
PVCC	Panska Ves	84.40 324	*e*P		P	04 25 13.8	+1.3
PVCC			*e*			04 28 30.5	
PVCC			*e*S		S	04 35 37.9	0.0
PVCC			MLR		MLR		
comp=Z,3μm,16.8s							
FRGS	Fruska Gora	84.43 318	*e*P		P	04 25 12.6	-0.1
HAWA	Hanford	84.43 41	IAmb		IAmb	04 25 16.0	
comp=Z,94nm,1.2s							
BSEG	Bad Segeberg	84.46 329	*e*P			04 25 13.3	
comp=Z,59nm,0.9s,baz=51,slow=4.9							
BSEG			*e*S			04 35 39.9	
baz=40,slow=6.0							
BRG	Berggiesshubel	84.52 325	*i* P		P	04 25 14.1	+1.0
BRG			Amp			04 25 18.7	
comp=Z,24nm,1.0s							
BRG	Berggiesshubel	84.52 325	PP		PP	04 28 29.0	+1.1
BRG	Berggiesshubel	84.52 325	S		SKSac	04 35 35.0	-1.4
BRG	Berggiesshubel	84.52 325	SS		SS	04 41 12.0	+3.1
BRG	Berggiesshubel	84.52 325	*e*P			04 25 13.4	
comp=Z,32nm,1.0s,baz=51,slow=4.9							
BRG			*e*S			04 35 39.4	
baz=40,slow=6.0							
ICESG	Greenland Ices	84.53 356	*i* P		P	04 25 13.9	+0.7
ICESG			IAmb		IAmb	04 25 15.7	
comp=Z,53nm,1.1s							
J04A	Umpqua Nationa	84.54 44	P		P	04 25 13.9	+0.3
MORH	Mrgy, Hungar	84.55 319	⇓P		P	04 25 13.2	-0.1
MORH	Mrgy, Hungar	84.55 319	P		P	04 25 13.2	-0.1
comp=Z,811nmcomp=Z,33nm,1.6s							
PLG	Polygyros	84.59 313	P		P	04 25 13.2	-0.5
TREC	Trest	84.62 323	*e*P		P	04 25 14.7	+1.1
TREC			*e*PP		PP	04 28 21.9	-6.9
TREC			*e*x		x	04 35 29.0	
TREC			AMS		AMS	05 06 40.0	
comp=Z,2μm,16.7s							
TREC	Trest	84.62 323	*e*P		P	04 25 14.7	+1.1
TREC			*e*S		SKSac	04 35 29.0	-8.1
TREC			MLR		MLR		
comp=Z,2μm,16.7s							
RICC	Richard	84.64 325	*e*P		P	04 25 15.0	+1.4
RICC			*e*PP		PP	04 28 33.5	+4.7
RICC			*e*S		S	04 35 45.0	+4.7
RICC			AMS		AMS	05 07 10.0	
comp=Z,3μm,16.2s							
GOPC	GO Pecny, Ondr	84.64 324	*e*P		P	04 25 14.9	+1.2
GOPC			*e*PP		PP	04 28 32.0	+3.1
GOPC			*e*S		S	04 35 41.7	+1.3
GOPC			AMS		AMS	05 07 00.0	
comp=Z,4μm,16.2s							
GOPC	GO Pecny, Ondr	84.64 324	*e*P		P	04 25 14.9	+1.2
GOPC			*e*			04 28 32.0	
GOPC			*e*S		S	04 35 41.7	+1.3
GOPC			MLR		MLR		
comp=Z,4μm,16.2s							
E08A	Dider Farm, El	84.66 40	IAmb		IAmb	04 25 17.1	
comp=Z,103nm,1.3s							
MPLH	Magyarpolny	84.67 321	P		P	04 25 13.8	-0.1
comp=Z,3μcomp=Z,138nm,1.2s							
VAY	Valandovo	84.69 314	*i* P		P	04 25 14.2	+0.2
HORT	Hortiatis	84.71 313	P		P	04 25 13.7	-0.6
PRU	Pruhonice	84.72 324	*e*P		P	04 25 15.2	+1.1
PRU			*e*PP		PP	04 28 32.1	+2.5
PRU			*e*S		S	04 35 41.1	-0.1
PRU			AMS		AMS	05 07 10.0	
comp=Z,4μm,16.9s							
PRU	Pruhonice	84.72 324	*e*P		P	04 25 15.2	+1.1
PRU			*e*			04 28 32.1	
PRU			*e*S		S	04 35 41.1	-0.1
PRU			MLR		MLR		
comp=Z,4μm,16.9s							
ILULI	Ilulissat	84.73 0	IAmb		IAmb	04 25 39.5	
comp=Z,82nm,1.1s							
ILULI	Ilulissat	84.73 0	*i* P		P	04 25 14.6	+0.8
ILULI			IAmb		IAmb	04 25 23.4	
comp=Z,90nm,1.3s							
PRA	Prague	84.73 324	*e*P		P	04 25 15.5	+1.4
PRA			*e*PP		PP	04 28 35.4	+5.8
PRA			*e*S		S	04 35 43.3	+2.0
PRA			AMS		AMS	05 07 10.0	
comp=Z,4μm,16.9s							
PRA	Prague	84.73 324	*e*P		P	04 25 15.5	+1.4
PRA			*e*			04 28 35.4	
PRA			*e*S		S	04 35 43.3	+2.0
PRA			MLR		MLR		
comp=Z,4μm,16.9s							
CLL	Collm	84.75 326	IAmb		IAmb	04 25 29.0	
comp=Z,48nm,0.9s							
CLL			IAMs_20		IAMs_20	05 06 03.7	
comp=Z,1μm,19.0s							
CLL	Collm	84.75 326	*i* P		P	04 25 14.8	+0.6
CLL			*i*			04 25 19.3	
CLL			*e*			04 28 28.0	
CLL			*e*S		S	04 35 41.0	-0.3
CLL			pmax		pmax		
comp=Z,29nm,0.7s							
CLL	Collm	84.75 326	P		P	04 25 14.3	+0.1
comp=Z,967nmcomp=Z,56nm,1.1s							
CLL	Collm	84.75 326	*i* P		P	04 25 14.8	+0.6
comp=Z,29nm,0.7s							
CLL			*e*Pmax			04 25 17.0	
CLL			*i* sP		PcP	04 25 19.3	+1.7
comp=Z,45nm,0.9s							
CLL			*i* x		x	04 25 26.9	
comp=Z,89nm,1.2s							
CLL			*e*x		x	04 28 10.0	
CLL			*e*PP		PP	04 28 28.0	-1.7
CLL			*e*PPk			04 28 43.0	
CLL			*e*SKSac		SKSac	04 35 37.0	-0.8
CLL			*e*S		S	04 35 41.0	-0.3
CLL			*e*x		x	04 36 26.0	
CLL			*e*SS		SS	04 41 17.0	+4.9
CLL			*e*x		x	04 45 48.0	
CLL			AMS		AMS	05 08 00.0	
CLL	Collm	84.75 326	*e*P			04 25 14.1	
comp=Z,78nm,1.2s,baz=51,slow=4.9							
CLL			*e*S			04 35 42.4	
baz=40,slow=6.0							
NEW	Newport	84.77 38	IAmb		IAmb	04 25 17.4	
comp=Z,57nm,1.1s							
NEW	Newport	84.77 38	LR		LR	05 07 00.8	
comp=Z,133nm,18.7s,baz=326,slow=38							
APE	Apeiranthos	84.80 309	⇑P		P	04 25 14.3	-0.6
APE	Apeiranthos	84.80 309	P		P	04 25 14.2	-0.6
AOS	Alonnisos	84.90 311	P		P	04 25 14.1	-1.1
TEKS	Tekeris	84.92 318	*e*P		P	04 25 14.7	-0.5
YBH	Yreka Blue Hor	84.94 46	P		P	04 25 15.6	+0.1
YBH			IAmb		IAmb	04 25 18.8	
comp=Z,95nm,1.4s							
YBH	Yreka Blue Hor	84.94 46	LR		LR	04 57 30.9	
comp=Z,118nm,20.9s,baz=288,slow=32							
YBH	Yreka Blue Hor	84.94 46	P		P	04 25 15.6	+0.1
YBH			pmax		pmax		
comp=Z,95nm,1.4s							
HSKC	Hora Svate Kat	84.94 325	*e*P		P	04 25 15.9	+0.7
HSKC			*e*PP		PP	04 28 32.4	+1.0
HSKC			*e*S		SKSac	04 35 42.1	+2.9
HSKC			AMS		AMS	05 07 20.0	
comp=Z,3μm,18.0s							
GRG	Griva	84.98 313	P		P	04 25 15.2	-0.5
FLTG	Flechtingen	85.01 327	*e*P			04 25 15.4	
comp=Z,51nm,1.0s,baz=51,slow=4.9							
FLTG			*e*S			04 35 44.6	
baz=40,slow=6.0							
KYMI	Kymi, Euboea I	85.02 311	P		P	04 25 15.0	-0.8
RONA	Rosalia, Austr	85.08 321	*i* PcP		P	04 25 16.6	+0.6
comp=Z,25nm,1.5s,SNR=9.4							
K04D	Chiloquin, OR	85.08 45	P		P	04 25 16.2	0.0
CONA	Conrad Observa	85.19 322	*i* PcP		P	04 25 17.7	+1.1
comp=Z,76nm,1.4s,SNR=35							
ZVC	Zvikov	85.23 324	*e*P		P	04 25 17.5	+0.8
ZVC			*e*PP		PP	04 28 38.6	+4.9
ZVC			*e*S		S	04 35 44.9	-1.3
ZVC			AMS		AMS	05 07 20.0	
comp=Z,4μm,16.1s							
SJES	Sjenica	85.33 316	*e*P		P	04 25 18.4	+1.0
BBLS	Lazi&#263i	85.36 317	*e*P		P	04 25 16.6	-0.9
LIT	Litokhoron	85.36 313	P		P	04 25 16.7	-0.8
LIT	Litokhoron	85.36 313	IAmb		IAmb	04 25 30.6	
comp=Z,89nm,1.1s							
G08A	Pilot Rock	85.37 41	IAmb		IAmb	04 25 20.9	
comp=Z,91nm,1.4s							
ASSE	Asse, Remlinge	85.41 327	*e*P			04 25 18.4	
comp=Z,211nm,2.1s,baz=51,slow=4.9							
KCPM	Cahto Peak	85.41 48	IAmb		IAmb	04 25 21.1	
comp=Z,82nm,1.1s							
NEUB	Neuenburg	85.43 326	*e*P			04 25 18.5	
comp=Z,51nm,1.0s,baz=51,slow=4.9							
NEUB			*e*S			04 35 51.1	
baz=40,slow=6.0							
LNOR	Lincton Mounta	85.44 40	IAmb		IAmb	04 25 21.3	
comp=Z,90nm,1.4s							
NRDL	Niedersach Rie	85.45 328	*e*P			04 25 18.3	
comp=Z,186nm,1.9s,baz=51,slow=4.9							
NRDL			*e*S			04 35 50.5	
baz=40,slow=6.0							
RUDO	Rudo	85.51 317	*e*P		P	04 25 17.3	-0.9
CKRC	Cesky Krumlov	85.53 323	*e*P		P	04 25 19.0	+0.8
CKRC			*e*PP		PP	04 28 37.5	+1.4
CKRC			*e*S		SKSac	04 35 46.2	+3.3
CKRC			AMS		AMS	05 07 10.0	
comp=Z,2μm,16.8s							
CKRC	Cesky Krumlov	85.53 323	*e*P		P	04 25 19.0	+0.8
CKRC			*e*			04 28 37.5	
CKRC			*e*S		SKSac	04 35 46.2	+3.3
CKRC			MLR		MLR		
comp=Z,2μm,16.8s							
TANN	Tannenbergstha	85.56 325	*e*P			04 25 18.8	
comp=Z,33nm,1.4s,baz=51,slow=4.9							
TANN			*e*S			04 35 51.6	
baz=40,slow=6.0							
IVA	Berane	85.59 316	⇑*i* P		P	04 25 17.8	-0.9
PLE	Pljevlja	85.66 317	⇑*i* P		P	04 25 19.2	+0.1
RETH	Rethem/Aller,	85.66 328	*e*P			04 25 18.7	
comp=Z,201nm,1.2s,baz=51,slow=4.9							
PLN	Plauen	85.67 325	*e*P			04 25 19.5	
comp=Z,8.3nm,1.1s,baz=51,slow=4.9							
PLN			*e*S			04 35 55.1	
baz=40,slow=6.0							
NKC	Novy Kostel	85.67 325	*e*P		P	04 25 19.7	+0.8
NKC			*e*PP		PP	04 28 39.4	+2.1
NKC			*e*S		S	04 35 51.6	+1.0
NKC			AMS		AMS	05 07 50.0	
comp=Z,3μm,17.0s							
NKC	Novy Kostel	85.67 325	*e*P		P	04 25 19.7	+0.8
NKC			*e*			04 28 39.4	
NKC			*e*S		S	04 35 51.6	+1.0
NKC			MLR		MLR		
comp=Z,3μm,17.0s							
I07A	Izee	85.70 42	IAmb		IAmb	04 25 22.8	
comp=Z,85nm,1.3s							
KZN	Kozani	85.73 313	P		P	04 25 13.6	-5.8
CLZ	Clausthal	85.73 327	*e*P			04 25 19.9	
comp=Z,170nm,1.4s,baz=51,slow=4.9							
CLZ			*e*S			04 35 54.3	
baz=40,slow=6.0							
KHC	Kasperske Hory	85.73 324	*e*P		P	04 25 20.0	+0.7
KHC			*e*PP		PP	04 28 39.7	+1.8
KHC			*e*SKS		SKSac	04 35 45.0	+0.7
KHC			AMS		AMS	05 07 40.0	
comp=Z,4μm,15.9s							
KHC	Kasperske Hory	85.73 324	*e*P		P	04 25 20.0	+0.7
KHC			*e*			04 28 39.7	
KHC			*e*S		SKSac	04 35 45.0	+0.7
KHC			MLR		MLR		
comp=Z,4μm,15.9s							
KHC	Kasperske Hory	85.73 324	P		P	04 25 19.1	-0.2
comp=Z,513nmcomp=Z,28nm,1.6s							
FNA	Florina	85.74 314	P		P	04 25 18.1	-1.4
LKR	Lokris	85.75 311	P		P	04 25 18.0	-1.5
KOGS	Kog	85.81 320	*e*P		P	04 25 19.6	0.0
KOME	Kolasin	85.83 316	⇑*i* P		P	04 25 17.0	-2.9
GERES	GERESS Array B	85.84 323	P		P	04 25 19.0	-0.8
GERES	GERESS Array B	85.84 323	P		P	04 25 19.9	+0.1
comp=Z,9.1nm,0.7s,baz=45,slow=4.3,SNR=65							
GERES			PKKPbc		PKKPbc	04 43 20.5	-0.8
comp=Z,0.8nm,0.8s,baz=191,slow=1.4,SNR=4.9							
GERES			LR		LR	05 07 51.1	
comp=Z,2μm,18.9s,baz=8.5,slow=39							
comp=Z,9.1nm,0.7s							
GEC2	GERESS Array S	85.84 323	*e*P			04 25 20.3	
comp=Z,22nm,1.0s,baz=51,slow=4.9							
GEC2			*e*S			04 35 56.6	
baz=40,slow=6.0							
MOX	Moxa	85.85 326	*e*P			04 25 20.1	
comp=Z,23nm,1.2s,baz=51,slow=4.9							
MOX			*e*S			04 35 56.0	
baz=40,slow=6.0							
MOX			*e*L			05 10 49.4	
comp=Z,1μm,19.0s							
OHR	Ohrid	85.94 314	*i* P		P	04 25 20.1	-0.3
MANZ	Manzenberg	86.00 325	*e*P			04 25 21.0	
comp=Z,9.7nm,1.2s,baz=51,slow=4.9							
MANZ			*e*S			04 35 56.6	
baz=40,slow=6.0							
UPM	Unac-Piva	86.02 317	*e*P		P	04 25 20.2	-0.7
UPM	Unac-Piva	86.02 317	⇑*i* P		P	04 25 20.3	-0.7
ROTZ	Rotzenmuhle	86.08 325	*e*P			04 25 21.7	
comp=Z,7.8nm,0.9s,baz=51,slow=4.9							
ROTZ			*e*S			04 35 58.9	
baz=40,slow=6.0							
WET	Wettzell	86.10 324	*e*P			04 25 21.7	
comp=Z,62nm,1.8s,baz=51,slow=4.9							
WET			*e*S			04 35 59.0	
baz=40,slow=6.0							
GTTG	Gottingen	86.11 327	*e*P			04 25 22.0	
comp=Z,146nm,1.5s,baz=51,slow=4.9							
GTTG			*e*S			04 35 58.1	
baz=40,slow=6.0							
MOA	Molln	86.11 322	*i* P		P	04 25 21.0	-0.2
comp=Z,18nm,0.7s,SNR=23							
IDI	Anoyia	86.12 308	P		P	04 25 20.0	-1.4
IDI	Anoyia	86.12 308	LR		LR	05 08 30.3	
comp=Z,429nm,20.0s,baz=63,slow=39							
MAKR	Makrakomi, Fth	86.15 312	P		P	04 25 23.9	+2.4
BLY	Banja Luka	86.21 319	*e*P		P	04 25 22.0	+0.4
PDG	Podgorica	86.22 316	IAmb		IAmb	04 25 27.8	
comp=Z,50nm,0.9s							
PDG	Podgorica	86.22 316	*e*P		P	04 25 22.0	+0.3
PDG	Podgorica	86.22 316	⇓P		P	04 25 22.2	+0.5
PDG	Podgorica	86.22 316	⇑*i* P		P	04 25 19.5	-2.2
GROS	Grobnik	86.23 321	*e*P		P	04 25 21.6	-0.2
NKME	Niksic	86.23 316	⇑*i* P		P	04 25 21.0	-0.8
A051A	Mrakovica	86.23 319	*e*P		P	04 25 21.3	-0.5
SOKA	Soboth	86.37 321	*i* PcP		P	04 25 22.8	+0.3
comp=Z,12nm,0.8s,SNR=15							
CEME	Cevo	86.37 316	⇑*i* P		P	04 25 19.3	-3.2
GDXM	Geysers	86.38 48	IAmb		IAmb	04 25 26.7	
comp=Z,106nm,1.3s							
DRME	Dracevica, Mon	86.39 316	*e*P		P	04 25 22.5	-0.1
DRME	Dracevica, Mon	86.39 316	⇑*i* P		P	04 25 21.7	-0.9
TIR	Tirane	86.41 315	IAMs_20		IAMs_20	05 08 22.6	
comp=Z,1μm,22.0s							
BORG	Borgarnes	86.43 348	LR		LR	05 05 17.0	
comp=Z,291nm,21.8s,baz=35,slow=36							
ANX	Ano Chora	86.51 312	P		P	04 25 22.1	-1.3
BIOA	Bad Ischl, Aus	86.55 323	*i* PcP		P	04 25 24.1	+0.8
comp=Z,28nm,1.4s,SNR=8.1							
UBBA	Unterbreizbach	86.55 326	*e*P			04 25 23.3	
comp=Z,62nm,1.4s,baz=51,slow=4.9							
BMO	Blue Mountains	86.59 41	IAmb		IAmb	04 25 26.7	
comp=Z,79nm,1.3s							
CRES	Cresnjevec Ost	86.61 320	*e*P		P	04 25 23.1	-0.5
TREB	Trebinje	86.63 317	*e*P		P	04 25 22.1	-1.6
GRF	Grafenberg Arr	86.63 325	*e*P			04 25 23.8	
comp=Z,202nm,1.7s,baz=51,slow=

comp=Z,19nm,1.1s,baz=51,slow=4.9
KASTN eS 04 35 53.2
baz=40,slow=6.0
GBAS Gorenja Brezov 87.13 321 eP **P 04 25 26.3 +0.2**
WVOR Wild Horse Val 87.13 43 IAmb IAmb 04 25 29.7
comp=Z,104nm,1.2s
MYKA Terra Mystica 87.17 322 i PcP **P 04 25 26.4 -0.1**
comp=Z,16nm,0.8s
LESA Schwarzleotal 87.23 323 i P **P 04 25 26.3 -0.4**
comp=Z,19nm,1.0s,SNR=14
ITM Ithomi 87.23 310 P **P 04 25 25.9 -0.9**
KEK Kerkira 87.33 313 IAMs_20 IAMs_20 05 09 40.9
comp=Z,920nm,20.0s
MSO Missoula 87.36 38 IAmb IAmb 04 25 29.9
comp=Z,48nm,1.3s
JAVS Javornik 87.37 321 eP **P 04 25 27.3 -0.1**
BEKR Beckworth 87.43 46 IAmb IAmb 04 25 43.9
comp=Z,71nm,0.9s
BUG Bochum--Univer 87.48 328 eP 04 25 27.4
comp=Z,114nm,1.7s,baz=51,slow=4.9
BUG eS 04 35 55.5
baz=40,slow=6.0
AFDM Forest Hills D 87.52 47 P **P 04 25 27.8 -0.4**
AFDM IAmb IAmb 04 25 30.8
comp=Z,66nm,1.2s
FUR Furstenfeldbru 87.54 324 eP 04 25 28.0
comp=Z,70nm,1.1s,baz=51,slow=4.9
TNS Taunus Mts 87.70 327 eP 04 25 28.8
comp=Z,100nm,2.1s,baz=51,slow=4.9
TNS eS 04 35 56.0
baz=40,slow=6.0
ABTA Abfaltersbach 87.73 322 i P **P 04 25 28.7 -0.4**
comp=Z,23nm,0.9s,SNR=9.6
ANGG Ammassalik, Gr 87.81 355 i P **P 04 25 31.3 +2.4**
ANGG IAmb IAmb 04 25 32.7
comp=Z,604nm,3.0s
WATA Walderalm 87.88 323 ePcP **P 04 25 29.9 0.0**
comp=Z,6.7nm,0.5s
WTTA Wattenberg 87.89 323 i PcP **P 04 25 29.9 -0.1**
comp=Z,11nm,0.9s
FFC Flin Flon 87.95 27 P **P 04 25 29.7 -0.2**
FFC Flin Flon 87.95 27 P **P 04 25 29.7 -0.2**
FFC pmax pmax
comp=Z,65nm,0.9s
SCTE Santa Cesarea 88.00 314 IAMs_20 IAMs_20 05 09 58.4
comp=Z,1µm,19.0s
MOTA Moosalm 88.13 323 i P **P 04 25 30.5 -0.6**
comp=Z,7.7nm,0.7s
SQTA Sankt Quirin 88.15 323 i P **P 04 25 30.4 -0.7**
comp=Z,8.3nm,1.1s,SNR=5.6
PAHR Pah Rah Range 88.15 46 IAmb IAmb 04 25 34.2
comp=Z,70nm,1.2s
PNTR Pine Nut 88.35 47 P **P 04 25 32.3 -0.1**
SAO San Andreas Ge 88.36 49 IAmb IAmb 04 25 34.9
comp=Z,58nm,1.2s
CMB Columbia Colle 88.40 48 IAmb IAmb 04 25 35.2
comp=Z,74nm,1.2s
UBR Ueberruh 88.45 324 eP 04 25 33.7
comp=Z,75nm,1.6s,baz=51,slow=4.9
FETA Feichten 88.53 323 i P **P 04 25 32.3 -0.7**
comp=Z,11nm,1.4s,SNR=5.2
BTNL Ternell 88.58 328 dP **P 04 25 32.5 -0.5**
comp=Z,8.3nm,1.1s
MEM Membach 88.63 328 dP **P 04 25 33.3 +0.2**
comp=Z,10nm,1.1s
SGRT San Giovanni R 88.77 317 IAmb IAmb 04 25 48.1
comp=Z,56nm,0.9s
WAKR Walker 88.77 47 IAmb IAmb 04 25 50.4
comp=Z,33nm,0.9s
BHOU Houvegnez 88.80 328 dP **P 04 25 34.4 +0.4**
DAVA Damuels 88.82 324 i PcP **P 04 25 34.0 -0.4**
comp=Z,33nm,1.7s
BSTI Sart Tilman 88.85 328 dP **P 04 25 34.8 +0.6**
EGMT Eagleton 88.87 35 IAmb IAmb 04 25 37.3
comp=Z,64nm,1.1s
BFO Black Forest 88.97 325 P **P 04 25 34.6 -0.3**
BFO Black Forest 88.97 325 P **P 04 25 34.6 -0.3**
BFO pmax pmax
comp=Z,29nm,1.4s
BFO Black Forest 88.97 325 eP 04 25 35.3
comp=Z,27nm,1.4s,baz=51,slow=4.9
HLID Hailey 89.03 41 IAmb IAmb 04 25 39.3
comp=Z,123nm,1.6s
FUORN Ofenpass-Fuorn 89.03 323 IAmb IAmb 04 25 59.0
comp=Z,32nm,0.9s
TEOL Teolo 89.03 321 IAmb IAmb 04 25 59.5
comp=Z,31nm,0.8s
BCLA Clavier 89.09 328 dP **P 04 25 34.4 -0.9**
comp=Z,7.2nm,1.1s
PMPB Monarch Peak 89.09 50 IAmb IAmb 04 25 57.7
comp=Z,67nm,1.2s
DAVOX Davos/Dischmat 89.14 323 LR LR 05 10 00.0
comp=Z,3µm,18.3s,baz=59,slow=39
WLF Walferdange 89.18 327 IAMs_20 IAMs_20 05 10 04.9
comp=Z,1µm,20.0s
WLF Walferdange 89.18 327 dP **P 04 25 36.1 +0.3**
EKA Eskdalemuir Ar 89.19 335 P **P 04 25 35.0 -0.7**
comp=Z,5.1nm,0.8s,baz=34,slow=4.7,SNR=13
EKA PP **PP 04 29 06.0 +0.7**
comp=Z,9.8nm,1.2s,baz=38,slow=5.6,SNR=4.4
comp=Z,5.1nm,0.8s
EKA Eskdalemuir Ar 89.19 335 P **P 04 25 35.0 -0.7**
BGES Gesves 89.21 328 dP **P 04 25 35.4 -0.5**
ESK Eskdalemuir 89.22 335 IAMs_20 IAMs_20 05 09 56.2
comp=Z,2µm,22.0s
UCC Uccle 89.28 329 IAMs_20 IAMs_20 05 09 24.2
comp=Z,1µm,20.0s
UCC Uccle 89.28 329 dP **P 04 25 36.2 0.0**
RCHB Rochefort 89.30 328 dP **P 04 25 36.2 -0.1**
comp=Z,14nm,1.0s
BOZ Bozeman (W) 89.38 38 IAmb IAmb 04 25 40.1
comp=Z,110nm,1.9s
BMRD Maredsous 89.42 328 dP **P 04 25 36.7 -0.1**
comp=Z,11nm,1.1s
LHV Little Huntoon 89.52 47 IAmb IAmb 04 25 41.4
comp=Z,92nm,1.4s
LHV IAMs_20 IAMs_20 05 02 08.2
comp=Z,669nm,18.0s
NVAR Mina Array Bea 89.56 47 P **P 04 25 38.7 +0.6**
NVAR Mina Array Bea 89.56 47 P **P 04 25 39.5 +1.4**
comp=Z,10nm,0.9s,baz=275,slow=4.5,SNR=58
comp=Z,10nm,0.9s
TIP Timpagrande 89.59 314 IAMs_20 IAMs_20 05 10 56.6
comp=Z,1µm,21.0s
TIP Timpagrande 89.59 314 P **P 04 25 37.7 -0.3**
comp=Z,371nmcomp=Z,13nm,1.0s
TUE Stuetta 89.62 323 P **P 04 25 37.8 -0.4**
comp=Z,3µmcomp=Z,168nm,1.1s
FDMO Fiordimonte 89.62 319 IAmb IAmb 04 25 44.6
comp=Z,79nm,1.0s
FDMO IAMs_20 IAMs_20 05 10 11.1
comp=Z,1µm,20.0s
DOU Dourbes 89.64 328 dP **P 04 25 37.3 -0.6**
comp=Z,10.0nm,1.0s
NRCA Norcia 89.72 319 IAmb IAmb 04 25 45.0
comp=Z,66nm,1.1s
CAMP Campotosto 89.73 318 IAmb IAmb 04 25 44.8
comp=Z,56nm,1.1s
CUC Castrocucco 89.73 315 IAMs_20 IAMs_20 05 10 47.2
comp=Z,1µm,20.0s
INTR Introdacqua 89.74 318 IAmb IAmb 04 25 45.0
comp=Z,30nm,0.7s
INTR IAMs_20 IAMs_20 05 10 09.3
comp=Z,1µm,20.0s
PPT Papeete 89.78 110 LR LR 04 58 30.9
comp=Z,386nm,20.6s,baz=298,slow=31
PPT2 Papeete2 89.79 110 eP **P 04 25 34.8 -4.4**
comp=Z,61nm,21.5s
PPT2 Papeete2 89.79 110 ePP **PP 04 29 11.2 -0.7**
comp=Z,56nm,23.0s
PPT2 eS **S 04 36 32.4 +1.4**
comp=Z,228nm,26.2s
PPT2 eSS **SS 04 42 26.3 -2.4**
comp=Z,403nm,25.5s
PPT2 eLQ LQ 04 50 05.3
comp=Z,886nm,36.5s
PPT2 eLR LR 04 54 13.1
comp=Z,2µm,26.0s
PPT2 eLR LR 04 54 15.8
comp=Z,1µm,35.0s
ZCCA Zocca 90.04 321 P **P 04 25 41.2 +1.2**
ZCCA IAmb IAmb 04 26 09.4
comp=Z,36nm,0.9s
YHL Hebgen Lake 90.09 38 IAmb IAmb 04 25 44.2
comp=Z,53nm,1.3s
CESX Cesi 90.17 319 IAMs_20 IAMs_20 05 09 53.7
comp=Z,2µm,20.0s
DSP Deep Springs 90.36 47 IAmb IAmb 04 25 45.1
comp=Z,72nm,1.5s
OSSC Osservatorio P 90.40 320 P **P 04 25 40.5 -1.1**
CEL Celeste 90.67 314 IAmb IAmb 04 25 57.5
comp=Z,62nm,1.1s
CEL IAMs_20 IAMs_20 05 11 46.1
comp=Z,589nm,20.0s
CEL Celeste 90.67 314 P **P 04 25 42.7 -0.3**
comp=Z,851nmcomp=Z,57nm,1.4s
RLMT Red Lodge 90.98 37 IAmb IAmb 04 25 48.0
comp=Z,77nm,1.6s
MOOW Moose Ponds 91.03 39 P **P 04 25 44.7 -0.2**
MOOW IAmb IAmb 04 25 48.6
comp=Z,49nm,1.6s
HVU Hansel Valley 91.06 42 IAmb IAmb 04 26 01.5
comp=Z,44nm,0.9s
TPAW Teton Pass 91.07 39 IAmb IAmb 04 26 01.2
comp=Z,36nm,1.2s
DGMT Dagmar 91.35 32 IAmb IAmb 04 25 48.8
comp=Z,62nm,1.2s
R11B Troy Canyon, C 91.36 46 IAmb IAmb 04 25 49.7
comp=Z,48nm,1.2s
BGU Big Grassy Mou 91.43 42 IAmb IAmb 04 25 50.3
comp=Z,54nm,1.3s
LAO LASA Array 91.56 35 IAmb IAmb 04 25 50.2
comp=Z,66nm,1.3s
WCT Wildcat Mounta 91.58 47 IAmb IAmb 04 25 50.4
comp=Z,63nm,1.5s
S11A Rachel 91.66 46 P **P 04 25 47.8 0.0**
S11A IAmb IAmb 04 25 50.5
comp=Z,71nm,1.1s
TPNV Topopah Spring 91.74 47 IAmb IAmb 04 25 51.2
comp=Z,55nm,1.1s
SPR3 Spring Creek 3 91.78 44 IAmb IAmb 04 25 53.1
comp=Z,58nm,1.4s
HWUT Hardware Ranch 91.89 41 IAmb IAmb 04 26 05.8
comp=Z,62nm,1.0s
BNI Bardonecchia 91.96 323 P **P 04 25 48.4 -0.6**
BNI IAmb IAmb 04 26 02.2
comp=Z,60nm,1.9s
BNI Bardonecchia 91.96 323 P **P 04 25 48.4 -0.6**
BNI pmax pmax
comp=Z,60nm,1.9s
VAE Valguarnera 92.07 314 LR LR 05 12 16.2
comp=Z,639nm,18.8s,baz=24,slow=39
TCUT Toone Canyon 92.28 41 IAmb IAmb 04 25 54.1
comp=Z,64nm,1.3s
PD31 Pinedale Array 92.32 39 P **P 04 25 50.8 0.0**
PDAR Pinedale Array 92.32 39 P **P 04 25 50.7 -0.1**
PDAR Pinedale Array 92.32 39 P **P 04 25 51.4 +0.5**
comp=Z,10nm,1.1s,baz=301,slow=0.9,SNR=44
comp=Z,10nm,1.1s
PSUT Pine Spring 92.35 45 IAmb IAmb 04 26 07.5
comp=Z,53nm,0.9s
TBI Tubuai 92.54 115 ePP **PP 04 29 32.3 -1.2**
comp=Z,566nm,41.8s
TBI eS **S 04 36 52.3 -3.4**
comp=Z,1µm,35.0s
TBI eSS **SS 04 43 05.4 -2.7**
comp=Z,1µm,27.0s
TBI eLQ LQ 04 51 11.0
comp=Z,4µm,34.2s
TBI eLR LR 04 55 27.8
comp=Z,1µm,34.2s
TBI eLR LR 04 55 32.9
comp=Z,8µm,32.8s
KMBO Kilima Mbogo 92.58 270 P **P 04 25 51.9 -0.7**
KMBO Kilima Mbogo 92.58 270 P **P 04 25 52.6 0.0**
comp=Z,2.4nm,0.7s,baz=50,slow=6.1,SNR=6.2
comp=Z,2.4nm,0.7s
KMBO Kilima Mbogo 92.58 270 i P **P 04 25 53.0 +0.5**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 92.58 270 P **P 04 25 52.8 +0.3**
SHPR Sheep Range 92.71 47 IAmb IAmb 04 25 56.1
comp=Z,34nm,1.1s
MPU Maple Canyon 92.83 42 IAmb IAmb 04 26 10.1
comp=Z,37nm,1.0s
SSB Saint Sauveur 92.94 325 IAMs_20 IAMs_20 05 13 35.9
comp=Z,990nm,21.0s
BSUT Blindstream Ca 93.03 42 IAmb IAmb 04 26 11.5
comp=Z,68nm,1.6s
V12A Nelson 93.36 47 P **P 04 25 54.8 -0.8**
PFO Pinyon Flats O 93.50 50 P **P 04 25 56.4 +0.1**
PFO Pinyon Flats O 93.50 50 LR LR 05 09 47.4
comp=Z,443nm,18.1s,baz=306,slow=37
PFO Pinyon Flats O 93.50 50 P **P 04 25 56.4 +0.1**
PFO pmax pmax
comp=Z,87nm,1.1s
MTPU Mount Pierson 93.70 44 IAmb IAmb 04 26 02.1
comp=Z,68nm,1.3s
P18A Preston Nutter 93.90 42 IAmb IAmb 04 26 02.5
comp=Z,45nm,1.3s
TKX Tecate 93.99 51 IAmb IAmb 04 26 01.3
comp=Z,51nm,1.0s
TKX IAMs_20 IAMs_20 05 11 42.9
comp=Z,668nm,20.0s
VSL Villasalto 94.00 318 IAMs_20 IAMs_20 05 12 09.5
comp=Z,1µm,19.0s
SRU San Rafael Swe 94.06 43 IAmb IAmb 04 26 16.1
comp=Z,25nm,0.9s
CBX Cerro Bola 94.09 51 P **P 04 25 59.8 +0.7**
TAOE Nuku Hiva Isla 94.12 98 eS **S 04 37 09.4 -0.8**
comp=Z,192nm,30.5s
TAOE eSS **SS 04 43 28.1 -2.9**
comp=Z,215nm,25.8s
TAOE Nuku Hiva Isla 94.12 98 eLR LR 04 56 16.6
comp=Z,1µm,26.9s
W13A Hualapai Mount 94.37 47 IAmb IAmb 04 26 16.0
comp=Z,33nm,0.9s
E28A Huff 94.37 32 P **P 04 25 59.9 0.0**
E28A IAmb IAmb 04 26 17.2
comp=Z,95nm,1.8s
U15A North Rim 94.61 46 IAmb IAmb 04 26 05.2
comp=Z,55nm,1.3s
AGMN Agassiz Nation 95.28 29 P **P 04 26 04.2 +0.2**
Y14A Wickenburg 95.64 48 IAmb IAmb 04 26 09.2
comp=Z,41nm,1.1s
WUAZ Wupatki 95.75 46 P **P 04 26 07.3 +0.7**
WUAZ IAmb IAmb 04 26 10.1
comp=Z,40nm,1.2s
113A Mohawk Valley, 95.83 49 P **P 04 26 07.2 +0.4**
KEST Kesra 96.37 315 LR LR 05 14 47.1
comp=Z,938nm,20.4s,baz=33,slow=39
X16A Lo Mia Camp, P 96.38 47 IAmb IAmb 04 26 13.1
comp=Z,25nm,1.2s
SUSD Miller 96.76 33 IAmb IAmb 04 26 26.1
comp=Z,22nm,0.9s
K30B Basset 97.73 34 IAmb IAmb 04 26 33.6
comp=Z,27nm,1.3s
TUC Tucson 98.11 48 P **P 04 26 17.4 +0.1**
TUC Tucson 98.11 48 P **P 04 26 17.4 +0.1**
TUC pmax pmax
comp=Z,15nm,1.3s
ANMO Albuquerque 99.22 44 P **Pdif 04 26 21.8 -0.6**
ANMO Albuquerque 99.22 44 LR LR 05 16 45.6
comp=Z,125nm,18.1s,baz=134,slow=39
ANMO Albuquerque 99.22 44 P **Pdif 04 26 21.8 -0.6**
ANMO pmax pmax
comp=Z,7.0nm,0.9s
CBKS Cedar Bluff 100.46 37 IAMs_20 IAMs_20 05 19 47.1
comp=Z,485nm,18.0s
EPT El Paso 101.26 46 IAMs_20 IAMs_20 05 17 15.1
comp=Z,580nm,20.0s
CART Cartagena 101.28 322 IAMs_20 IAMs_20 05 13 50.1
comp=Z,370nm,20.0s
ESDC Sonseca Array 101.33 325 P **Pdif 04 26 30.9 -0.5**
comp=Z,2.0nm,0.8s,baz=46,slow=4.4,SNR=6.7
ESDC PP **PP 04 30 34.0 -6.0**
comp=Z,1.7nm,1.0s,baz=40,slow=7.7,SNR=4.9
ESDC PKKPbc **PKKPbc 04 42 40.6 -0.2**
comp=Z,1.2nm,0.9s,baz=238,slow=1.9,SNR=5.0
H43A Windswept, Lux 101.69 26 IAMs_20 IAMs_20 05 12 53.0
comp=Z,597nm,22.0s
OK051 E0350 and S346 103.72 37 IAMs_20 IAMs_20 05 16 19.3
comp=Z,572nm,18.0s
RKT Rikitea 104.52 109 eP **Pdif 04 26 45.4 -0.3**
comp=Z,472nm,25.8s
RKT Rikitea 104.52 109 eSS SS 04 45 56.4 0.0
comp=Z,2µm,28.2s
RKT Rikitea 104.52 109 eLR LR 05 01 07.0
comp=Z,5µm,29.2s
TXAR Lajitas Array 104.70 46 Pdiff **Pdif 04 26 47.3 +0.6**
comp=Z,2.8nm,1.0s,baz=304,slow=4.3,SNR=10
TXAR PP **PKiKP 04 31 01.8 -0.6**
comp=Z,2.2nm,1.1s,baz=306,slow=4.5,SNR=6.3
TXAR PKKPbc **PKKPbc 04 42 29.9 -0.8**
comp=Z,0.2nm,0.6s,baz=133,slow=3.5,SNR=2.5
TXAR PKKP **PKKPdf 04 42 40.9 +1.2**
comp=Z,0.4nm,0.7s,baz=137,slow=4.8,SNR=5.9
MESJ Messejana 104.88 327 ePP **PP 04 31 06.4 0.0**
MESJ IAMs_20 IAMs_20 05 17 34.6
comp=Z,1µm,18.4s
MESJ Messejana 104.88 327 IAMs_20 IAMs_20 05 17 30.7
comp=Z,1µm,21.0s
VNDA Vanda 105.41 173 PP **PP 04 31 07.9 -2.7**
comp=Z,3.4nm,1.2s,baz=316,slow=4.7,SNR=5.2
MORF Marmelete 105.51 327 ePP **PP 04 31 11.0 -0.1**
MORF IAMs_20 IAMs_20 05 17 18.9
comp=Z,1µm,17.6s
MORF Marmelete 105.51 327 IAMs_20 IAMs_20 05 21 46.5
comp=Z,982nm,20.0s
OLIL Olney 106.29 30 IAMs_20 IAMs_20 05 21 03.9
comp=Z,380nm,19.0s
O49A Covington 106.67 26 IAMs_20 IAMs_20 05 22 03.4
comp=Z,502nm,20.0s
TAM Tamanrasset 107.08 307 IAMs_20 IAMs_20 05 24 00.9
comp=Z,379nm,20.0s
PVMO Portageville 107.43 32 IAMs_20 IAMs_20 05 26 03.2
comp=Z,391nm,18.0s
POGA Pongola 108.11 248 IAMs_20 IAMs_20 05 18 31.8
comp=Z,556nm,18.0s
T47A Sharon Grove 108.17 30 IAMs_20 IAMs_20 05 18 16.7
comp=Z,393nm,21.0s
UCCT U. Connecticut 109.27 17 IAMs_20 IAMs_20 05 25 15.9
comp=Z,406nm,19.0s
Y45A Yeager Farm, C 109.55 34 IAMs_20 IAMs_20 05 19 54.3
comp=Z,401nm,18.0s
BRNJ Basking Ridge 109.65 19 IAMs_20 IAMs_20 05 21 20.9
comp=Z,733nm,18.0s
MVL Millersville 109.72 21 IAMs_20 IAMs_20 05 15 44.0
comp=Z,521nm,21.0s
CPNY Central Park 109.72 19 IAMs_20 IAMs_20 05 17 60.0
comp=Z,478nm,21.0s
X48A Hartselle 110.28 32 IAMs_20 IAMs_20 05 25 36.7
comp=Z,335nm,19.0s
S57A Dark Hollow, R 110.84 24 IAMs_20 IAMs_20 05 24 05.9
comp=Z,431nm,19.0s
T59A Double "B" Far 112.05 23 IAMs_20 IAMs_20 05 16 02.7
comp=Z,368nm,20.0s
KMSC Kings Mountain 112.22 27 IAMs_20 IAMs_20 05 23 00.5
comp=Z,518nm,19.0s
HODGE Hodges 112.62 28 IAMs_20 IAMs_20 05 22 28.2
comp=Z,486nm,20.0s
GOGA Godfrey 112.79 30 IAMs_20 IAMs_20 05 28 09.4
comp=Z,466nm,18.0s
BIRD Birdtown, Kers 113.00 27 IAMs_20 IAMs_20 05 22 39.3
comp=Z,422nm,19.0s
154A Montrose 113.62 30 IAMs_20 IAMs_20 05 20 40.0
comp=Z,584nm,21.0s
SYO Syowa Base 114.30 203⇓ePdiff pPdif 04 27 32.0 +0.7
SYO Syowa Base 114.30 203⇓ePKPdf PKPdf 04 31 18.2 -0.7
SYO Syowa Base 114.30 203⇓ePP **PP 04 32 16.0 +1.0**
GRHM Grahamstown, E 114.37 244 IAMs_20 IAMs_20 05 23 00.3
comp=Z,932nm,21.0s
257A Skidaway Islan 115.08 29 IAMs_20 IAMs_20 05 20 13.2
comp=Z,538nm,21.0s
TORD Torodi Ar. Bea 115.91 301 **PKPdf 04 31 22.5 -1.1**
QSPA South Pole Qui 116.11 180 PKP **PKPdf 04 31 21.9 -0.6**
comp=Z,4.6nm,0.8s,baz=299,slow=1.1,SNR=22
QSPA PKKPbc **PKKPbc 04 41 54.8 -0.3**
comp=Z,2.9nm,1.1s,baz=0.2,slow=0.5,SNR=4.0
ELIB Princess Elisa 119.83 200 dPKPdf **PKiKP 04 31 29.9 +0.2**
SOR Soroa 121.86 36 IAMs_20 IAMs_20 05 15 20.7
comp=Z,366nm,20.0s
NVL N'lazarevskaya 123.69 201 ePKIKP **PKPdf 04 31 35.9 -1.0**
NVL e 04 33 22.9
NVL eSSS SSS 04 54 37.2
NVL pmax pmax
comp=Z,17nm,1.0s
NVL MLR MLR
comp=Z,403nm,19.0s
DBIC Dimbokro 124.97 300 PKP **PKPdf 04 31 40.3 -0.8**
comp=Z,6.7nm,0.9s,baz=328,slow=5.9,SNR=3.3
TROLL Troll, Antarti 125.97 198 ⇑PKPdf **PKPdf 04 31 41.5 0.0**
comp=Z,827nm,0.9s
HERN Volcan Telica 127.54 47 PKPdf **PKPdf 04 31 45.2 -0.9**
SNAA Sanae 127.60 197 ⇑PKPdf **PKPdf 04 31 44.5 0.0**
comp=Z,108nm,1.0s
SNAA Sanae 127.60 197 PKP **PKPdf 04 31 43.5 -1.0**
comp=Z,5.7nm,1.0s,baz=210,slow=2.8,SNR=6.3
VNA2 Neumayer--Watz 129.23 197 ⇓PKPdf **PKiKP 04 31 48.1 -0.1**
comp=Z,17nm,0.8s,baz=308,slow=4.8
VNA3 Neumayer Olymp 129.60 196 ⇑PKPdf **PKPdf 04 31 48.2 0.0**
comp=Z,7.6nm,0.9s
VNA1 Neumayer--Stat 129.62 197 ⇑PKPdf **PKiKP 04 31 48.9 -0.1**
comp=Z,12nm,0.9s
SDDR Presa de Saban 130.60 26 IAMs_20 IAMs_20 05 28 42.6
comp=Z,487nm,22.0s
OBIP Obispado Ponce 133.17 21 IAMs_20 IAMs_20 05 17 15.2
comp=Z,430nm,21.0s
SDV Santo Domingo 139.86 32 PKPdf **PKPdf 04 32 06.8 -2.5**
SDV Santo Domingo 139.86 32 eP **PKPdf 04 32 09.5 +0.1**
ROSC El Rosal 141.31 40 PKP **PKPdf 04 32 10.8 -1.5**
comp=Z,5.0nm,0.3s,baz=271,slow=15,SNR=4.7
OTAV Otavalo 142.22 50 PKPdf **PKPdf 04 32 10.5 -3.5**
OTAV Otavalo 142.22 50 PKIKP **PKPdf 04 32 10.5 -3.5**
OTAV Otavalo 142.22 50 eP **PKPdf 04 32 12.3 -1.6**
MG05 Puerto Natales 149.66 152 **PKPdf 04 32 26.7 +1.9**
BOAV Boa Vista 149.81 20 **PKPdf 04 32 27.1 +0.8**
BOAV Boa Vista 149.81 20 eP **PKPdf 04 32 27.9 +1.6**
TBTG Tabatinga, AM 151.13 44 eP **PKPdf 04 32 27.1 -1.2**
CZSB Cruzeiro do Su 151.87 53 eP **PKPdf 04 32 30.0 +0.6**
AY03 Cochrane 152.77 146 PKPdf **PKPdf 04 32 32.4 +2.7**
TEFE Tefe 153.53 33 eP **PKPdf 04 32 32.1 +0.2**
COYC Coyhaique 154.15 144 PKPdf **PKPdf 04 32 30.9 -0.9**
MACA Manacapuru-AM 154.94 25 PKPdf **PKPdf 04 32 33.6 -0.3**
MACA PKPab **PKPab 04 32 55.4 -2.3**
MACA Manacapuru-AM 154.94 25 eP **PKPdf 04 32 35.8 +2.0**
LL01 San Ignacio de 155.91 137 IAMs_20 IAMs_20 05 21 35.9
comp=Z,583nm,19.0s
TMAB Tom-Au,PA,Br 156.06 354 eP **PKPdf 04 32 37.1 +1.7**
NBPB Pedra_Branca-C 156.87 332 eP **PKPdf 04 32 37.9 +1.5**
ITTB Itaituba 157.57 14 eP **PKPdf 04 32 37.9 +0.6**
PLCA Paso Flores 157.99 136 PKP **PKPdf 04 32 36.1 -1.0**
comp=Z,5.0nm,1.1s,baz=213,slow=3.8,SNR=5.9
PLCA PKPab **PKPab 04 33 10.9 +0.5**
comp=Z,10nm,1.1s,baz=216,slow=6.8,SNR=5.7
PLCA Paso Flores 157.99 136 eP **PKPdf 04 32 40.0 +2.9**
NBAN Anadia - AL 158.68 318 eP **PKPdf 04 32 41.3 +2.7**
SAML Samuel 158.89 37 eP **PKPdf 04 32 40.4 +1.6**
PRPB Paraua pebas 159.94 358 eP **PKPdf 04 32 42.5 +2.4**
NPGB Novo Progresso 160.25 15 eP **PKPdf 04 32 43.0 +2.5**
LPAZ La Paz 160.73 62 PKP **PKPdf 04 32 40.5 -1.1**
comp=Z,5.5nm,1.1s,baz=343,slow=0.7,SNR=15
LPAZ PKPab **PKPab 04 33 23.7 +0.2**
comp=Z,16nm,1.0s,baz=339,slow=4.0,SNR=11
LPAZ PP **PP 04 37 04.0 -2.1**
comp=Z,18nm,1.3s,baz=346,slow=3.4,SNR=7.0
LPAZ La Paz 160.73 62 eP **PKPdf 04 32 43.0 +1.3**
SMTB Santa Maria do 162.41 351 eP **PKPdf 04 32 44.2 +1.5**
CLDB Colider 163.80 19 eP **PKPdf 04 32 44.6 +0.6**
VILB Vilhena 163.82 36 eP **PKPdf 04 32 45.9 +1.8**
PDRB Porto dos Gac 164.19 23 eP **PKPdf 04 32 45.9 +1.5**
CMC01 Camacan, BA 165.07 315 eP **PKPdf 04 32 47.5 +2.5**
SNDB Serra Nova Dou 165.69 3 eP **PKPdf 04 32 46.7 +1.1**
GUA01 Guaratinga, BA 166.15 312 eP **PKPdf 04 32 48.4 +2.5**
PTLB Pontes e Lacer 166.46 39 eP **PKPdf 04 32 49.2 +3.1**
JANB Januaria 167.41 332 eP **PKPdf 04 32 50.1 +3.1**
SALV Santo Antonio 168.51 26 eP **PKPdf 04 32 50.5 +2.8**
BDFB Brasilia 169.12 348 PKP **PKPdf 04 32 48.4 +0.2**
comp=Z,3.9nm,0.9s,baz=28,slow=10,SNR=5.8
BDFB PKPab **PKPab 04 33 58.8 -0.8**
comp=Z,3.4nm,0.8s,baz=68,slow=6.5,SNR=3.6
ARAG Araguaiana, MT 169.34 7 eP **PKPdf 04 32 50.5 +2.3**
BDQN Bodoquena, MS 171.75 46 eP **PKPdf 04 32 50.9 +1.5**
MURT Porto Murtinho 171.95 56 eP **PKPdf 04 32 49.8 +0.3**
AQDB Aquidauana 172.42 41 eP **PKPdf 04 32 50.5 +0.8**
TBOT Tacuaremb 172.81 139 eP **PKPdf 04 32 52.1 +2.6**
RPRD Ribas do Rio P 173.44 28 eP **PKPdf 04 32 51.7 +1.6**
ITQB Itaqui 173.59 123 eP **PKPdf 04 32 53.0 +3.1**
CPUP Villa Florida 173.81 91 PKP **PKPdf 04 32 50.4 +0.3**
comp=Z,9.1nm,1.2s,baz=312,slow=1.4,SNR=7.0
CPUP PP **PP 04 38 12.6 -0.3**
comp=Z,2.6nm,1.1s,baz=340,slow=3.3,SNR=3.8
CPUP Villa Florida 173.81 91 eP **PKPdf 04 32 53.0 +2.9**
PLTB Pedras Altas 173.92 154 eP **PKPdf 04 32 51.7 +1.7**
AMBA Amambai (Brazi 174.63 52 eP **PKPdf 04 32 52.6 +2.1**
SJPY San Joaquin 174.71 77 eP **PKPdf 04 32 53.4 +2.9**
CPSB Cacapava Do Su 175.16 147 eP **PKPdf 04 32 53.4 +3.0**
PET01 Itanhaem-SP 176.50 305 eP **PKPdf 04 32 53.4 +2.5**
LDASE Londrina, Braz 177.00 12 eP **PKPdf 04 32 53.8 +2.7**

*GCG **08** 04:23:40.0±0.7, 13°.85N×91°.61W, h49km±47km, MD4.1, MW2.6*
*MEX **08** 04:23:40.4±0.8, 13°.45N×92°.37W, h10km, MD4.1*
ISC 08 04:23:33.7±2.0, 13°.4N±0°.1×91°.64W±0°.06, h28km, n12, σ3°11/18, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**1.03**	**16**	*eP*	**Pb**	**04 23 56.5**	**+3.4**
STG8	**El Palmar, Qui**	**1.05**	**16**	*eP*	**Pb**	**04 23 57.0**	**+3.5**
ESSG	**Sabana Grande**	**1.23**	**40**	*eP*	**Pn**	**04 23 56.6**	**+1.5**
FG8	**Yepocapa, Chim**	**1.33**	**52**	*i* P	**Pn**	**04 23 56.8**	**+0.2**
FG8				*eS*	**Sn**	**04 24 09.0**	**-4.5**
SOKI	**Kika Raxquin**	**1.40**	**9**	*eP*	**Pn**	**04 23 59.2**	**+1.4**
SOKI				*eS*	**Sn**	**04 24 13.3**	**-2.2**
NUBE	**Las Nubes**	**1.87**	**75**	*eP*	**Pb**	**04 24 08.4**	**+1.1**
JAYA	**Jayaque - finc**	**2.14**	**84**	*eP*	**Pb**	**04 24 13.0**	**+1.1**
MTO3	**Montecristo**	**2.42**	**66**	*eP*	**Pb**	**04 24 16.0**	**-0.6**
PCIG		**2.73**	**326**	*eP*	**Pn**	**04 24 16.6**	**+1.0**
PCIG				*eS*	**Sn**	**04 24 45.4**	**-2.3**
TGIG		**3.62**	**337**	*eP*	**Pb**	**04 24 34.6**	**-2.5**
TGIG				*eS*	**Sn**	**04 25 09.2**	**-0.7**
UXUV	**UXUV**	**4.56**	**328**	*eP*	**Pn**	**04 24 44.0**	**+3.2**
UXUV				*eS*	**Sn**	**04 25 28.5**	**-4.4**
CMIG	**Matias Romero**	**4.80**	**320**	*eP*	**Pn**	**04 24 48.2**	**+4.0**
CMIG				*eS*	**Sn**	**04 25 33.4**	**-5.4**

*IDC **08** 04:42:10.3±0.8, 41°.34S×90°.60W, h0km, mb3.9/12, mbtmp3.9/14, ML3.1/2, MS4.4/21, Error ellipse: s-maj=24.2km s-min=17.6km az=95.0*
*NEIC **08** 04:42:12.4±2.0, 41°.2S±0°.1×90°.5W±0°.2, h10km±1km, mb4.4/28, Error ellipse: s-maj=23.4km s-min=17.6km az=300.0*
*GCMT **08** 04:42:12.4±0.1, 41°.29S±0°.01×90°.99W±0°.01, h12km, MW5.2/137, Moment Tensor Solution. s76,c104; s137,c226; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=1.12±.13; $M_{\theta\theta}$=1.33±.13; $M_{\phi\phi}$=-0.21±.12; $M_{r\theta}$=1.07±.33; $M_{\theta\phi}$=-7.19±.12; $M_{\phi r}$=0.80±.31; Best double couple: M_0=7.33000×10^16^ NP1:ϕ_s=177.00000°, δ=83.00000°, λ=5.00000°. NP2:ϕ_s=87.00000°, δ=85.00000°, λ=173.00000°. Principal axes: T 7.9850, Plg=8.0000°, Azm=42.0000°; N -1.3120, Plg=82.0000°, Azm=231.0000°; P -6.6740, Plg=1.0000°, Azm=132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 04:42:11.5±0.6, 41°.19S±0°.08×90°.63W±0°.10, h10km, n78, σ1°15/56, mb4.3/21, MS4.4/20, 3C, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**11.83**	**55**	T	T	04 57 14.4	
	baz=227,slow=73,SNR=307						
H03S1	**Juan Fernandez**	**11.84**	**55**	T	T	04 57 15.7	
	baz=227,slow=73,SNR=413						
H03S3	**Juan Fernandez**	**11.85**	**55**	T	T	04 57 33.5	
	baz=227,slow=73,SNR=340						
H03N3	**Juan Fernandez**	**12.09**	**54**	T	T	04 57 50.2	
	baz=228,slow=72,SNR=2186						
H03N2	**Juan Fernandez**	**12.10**	**54**	T	T	04 57 52.4	
	baz=228,slow=72,SNR=2072						
H03N1	**Juan Fernandez**	**12.11**	**54**	T	T	04 57 48.9	
	baz=228,slow=72,SNR=2982						
AY01	**Puyuhuapi**	**13.59**	**110**		**Pn**	**04 45 26.1**	**+1.9**
LL02	**Futaleuf**	**14.07**	**104**	Pn	**Pn**	**04 45 32.7**	**+2.0**
COYC	**Coyhaique**	**14.18**	**114**	P	**P**	**04 45 39.7**	**0.0**
AY03	**Cochrane**	**14.27**	**121**	Pn	**Pn**	**04 45 32.9**	**-0.5**
PLCA	**Paso Flores**	**15.18**	**95**	P	**P**	**04 45 49.0**	**-2.0**
PLCA	**Paso Flores**	**15.18**	**95**	Pn	**Pn**	**04 45 46.7**	**+0.8**
	baz=255,slow=12,SNR=3.2						
PLCA				LR	LR	04 50 14.4	
	comp=Z,657nm,18.8s,baz=262,slow=32						
	3.5nm,1.3s						
BI02	**San Fabin de**	**15.72**	**80**	P	**P**	**04 45 56.0**	**-1.0**
BI02				IAmb	IAmb	04 46 07.5	
	comp=Z,26nm,1.1s						
ML02	**Panimavida**	**15.98**	**76**	Pn	**Pn**	**04 45 56.8**	**+0.5**
ML02				IAmb	IAmb	04 46 30.1	
	comp=Z,51nm,1.2s						
LMEL	**Las Melosas**	**17.76**	**72**	Pn	**Pn**	**04 46 17.8**	**-1.1**
PEL	**Peldehue**	**17.78**	**70**	P	**Pn**	**04 46 18.3**	**-0.9**
PEL				IAmb	IAmb	04 46 36.1	
	comp=Z,46nm,1.5s						
VA03	**San Esteban**	**18.09**	**69**		**P**	**04 46 22.6**	**-0.7**
CO02	**Combarbal**	**18.68**	**64**	P	**Pn**	**04 46 30.7**	**+0.5**
CO02				IAmb	IAmb	04 46 35.4	
	comp=Z,47nm,1.2s						
CO03	**El Pedregal**	**19.11**	**64**	P	**Pn**	**04 46 35.2**	**-0.1**
USHA	**Ushuaia**	**20.05**	**140**	P	**P**	**04 46 44.8**	**+0.3**
	baz=340,slow=7.1,SNR=1.8						
USHA				LR	LR	04 52 58.2	
	comp=Z,2μm,18.6s,baz=314,slow=32						
	comp=Z,13nm,1.1s						
CFA	**Coronel Fontan**	**20.36**	**69**	P	**P**	**04 46 47.2**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=234,slow=14,SNR=5.9						
CFA				LR	LR	04 53 07.9	
	comp=Z,485nm,18.8s,baz=202,slow=32						
	comp=Z,1.7nm,0.8s						
AC05	**El Transito**	**20.68**	**60**	P	**P**	**04 46 50.8**	**-0.9**
AC05				IAmb	IAmb	04 47 14.5	
	comp=Z,18nm,1.1s						
GO03	**Copiapo**	**21.55**	**57**	P	**P**	**04 47 01.5**	**+0.5**
GO03				IAmb	IAmb	04 47 23.0	
	comp=Z,17nm,1.1s						
AC06	**Mina Casimiro**	**21.64**	**57**	P	**P**	**04 47 01.3**	**-0.6**
AC06				IAmb	IAmb	04 47 08.6	
	comp=Z,20nm,1.0s						
TRQA	**Tornquist**	**22.25**	**91**	P	**P**	**04 47 09.2**	**+0.8**
TRQA				IAmb	IAmb	04 47 47.1	
	comp=Z,20nm,1.4s						
AC02	**Maricunga**	**22.78**	**58**	P	**P**	**04 47 14.0**	**-0.6**
AC02				IAmb	IAmb	04 47 24.2	
	comp=Z,10nm,1.1s						
PMSA	**Palmer Station**	**28.11**	**156**	LR	LR	04 56 08.1	
	comp=Z,800nm,21.1s,baz=298,slow=30						
PB16	**IPOC Station P**	**29.09**	**45**	P	**P**	**04 48 11.5**	**-1.4**
CPUP	**Villa Florida**	**31.18**	**72**	P	**P**	**04 48 31.6**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=230,slow=9.0,SNR=3.0						
CPUP				LR	LR	04 59 46.3	
	comp=Z,609nm,20.6s,baz=243,slow=34						
	comp=Z,1.2nm,0.9s						
LPAZ	**La Paz**	**31.52**	**45**	P	**P**	**04 48 34.7**	**+0.3**
LPAZ	**La Paz**	**31.52**	**45**	P	**P**	**04 48 36.4**	**+2.0**
	comp=Z,4.7nm,0.9s,baz=166,slow=6.8,SNR=11						
LPAZ				LR	LR	04 58 46.2	
	comp=Z,508nm,19.3s,baz=220,slow=32						
	comp=Z,4.7nm,0.9s						
SIV	**San Ignacio**	**35.80**	**54**	LR	LR	05 03 04.5	
	comp=Z,587nm,19.4s,baz=232,slow=35						
CZSB	**Cruzeiro do Su**	**36.94**	**30**	P	**P**	**04 49 19.8**	**-0.9**
PTLB	**Pontes e Lacer**	**37.41**	**56**	P	**P**	**04 49 24.7**	**0.0**
PTLB				IAmb	IAmb	04 49 26.6	
	comp=Z,13nm,1.4s						
COHC	**Cochancay**	**39.89**	**18**	P	**P**	**04 49 43.7**	**-1.8**
SAML	**Samuel**	**40.26**	**45**	P	**P**	**04 49 48.2**	**-0.4**
OTAV	**Otavalo**	**42.69**	**18**	P	**P**	**04 50 07.9**	**-1.2**
BDFB	**Brasilia**	**44.69**	**68**	P	**P**	**04 50 25.1**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=158,slow=6.0,SNR=3.5						
BDFB				LR	LR	05 08 39.6	
	comp=Z,729nm,18.4s,baz=213,slow=36						
	comp=Z,0.7nm,0.6s						
MACA	**Manacapuru-AM**	**46.46**	**43**	P	**P**	**04 50 38.2**	**-0.5**
ROSC	**El Rosal**	**48.18**	**22**	P	**P**	**04 50 51.8**	**-0.7**
ROSC	**El Rosal**	**48.18**	**22**	P	**P**	**04 50 53.9**	**+1.4**
	comp=Z,7.9nm,1.0s,baz=262,slow=18,SNR=4.4						
ROSC				LR	LR	05 09 10.1	
	comp=Z,436nm,18.8s,baz=180,slow=34						
	comp=Z,7.9nm,1.0s						
VNA3	**Neumayer Olymp**	**48.77**	**155**	⇑P	**P**	**04 50 55.6**	**-0.4**
	comp=Z,6.5nm,1.0s						
QSPA	**South Pole Qui**	**49.04**	**180**	P	**P**	**04 50 58.5**	**+0.1**
QSPA	**South Pole Qui**	**49.04**	**180**	P	**P**	**04 50 56.8**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=149,slow=2.3,SNR=9.4						
	comp=Z,1.7nm,0.7s						
VNA1	**Neumayer--Stat**	**49.31**	**154**	⇑P	**P**	**04 50 59.4**	**-0.7**
	comp=Z,11nm,1.0s						
SNAA	**Sanae**	**50.83**	**156**	⇑P	**P**	**04 51 10.3**	**-1.5**
	comp=Z,44nm,0.8s						
SNAA	**Sanae**	**50.83**	**156**	P	**P**	**04 51 09.5**	**-2.3**
	comp=Z,2.2nm,0.9s,baz=276,slow=10,SNR=3.9						
SNAA				LR	LR	05 09 47.2	
	comp=Z,300nm,19.0s,baz=186,slow=33						
	comp=Z,2.2nm,0.9s						
BOAV	**Boa Vista**	**51.31**	**40**	P	**P**	**04 51 16.4**	**+0.5**
JTS	**Las Juntas de**	**51.49**	**7**	LR	LR	05 07 42.7	
	comp=Z,417nm,18.6s,baz=199,slow=30						
TBI	**Tubuai**	**51.86**	**271**	*e*LR	LR	05 06 08.7	
	comp=Z,899nm,37.0s						
TBI				*e*LR	LR	05 06 16.1	
	comp=Z,3μm,25.5s						
SDV	**Santo Domingo**	**53.12**	**25**	LR	LR	05 12 07.7	
	comp=Z,526nm,20.9s,baz=186,slow=34						
VNDA	**Vanda**	**53.78**	**195**	P	**P**	**04 51 34.5**	**+1.0**
VNDA				IAmb	IAmb	04 52 06.9	
	comp=Z,5.3nm,1.4s						
VNDA	**Vanda**	**53.78**	**195**	P	**P**	**04 51 34.0**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=100,slow=9.6,SNR=6.1						
	comp=Z,1.2nm,0.8s						
TAOE	**Nuku Hiva Isla**	**54.23**	**292**	*e*LR	LR	05 07 20.7	
	comp=Z,569nm,24.4s						
PPT2	**Papeete2**	**55.36**	**277**	*e*LR	LR	05 07 47.4	
	comp=Z,557nm,35.5s						
PPT2				*e*LR	LR	05 07 52.8	
	comp=Z,166nm,33.5s						
PCRV	**Puerto La Cruz**	**56.45**	**31**	LR	LR	05 15 00.2	
	comp=Z,334nm,18.6s,slow=35						
MDP	**Montagnes des**	**57.69**	**47**	LR	LR	05 14 41.3	
	comp=Z,280nm,20.3s,baz=291,slow=34						
RAR	**Rarotonga**	**60.88**	**266**	LR	LR	05 11 53.5	
	comp=Z,166nm,21.7s,baz=164,slow=29						
URZ	**Urewera**	**67.60**	**238**	LR	LR	05 15 28.0	
	comp=Z,623nm,18.6s,baz=259,slow=30						
TXAR	**Lajitas Array**	**71.20**	**348**	P	**P**	**04 53 30.2**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=166,slow=8.6,SNR=5.9						
TXAR				LR	LR	05 18 29.9	
	comp=Z,299nm,19.9s,baz=326,slow=30						
	comp=Z,0.4nm,0.8s						
MSVF	**Nonsavu**	**79.51**	**256**	LR	LR	05 25 23.8	
	comp=Z,108nm,18.1s,baz=120,slow=33						
DSP	**Deep Springs**	**82.09**	**338**	P	**P**	**04 54 33.4**	**+1.7**
DSP				IAmb	IAmb	04 54 43.4	
	comp=Z,2.8nm,1.0s						
NVAR	**Mina Array Bea**	**83.17**	**338**	P	**P**	**04 54 39.1**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=173,slow=6.2,SNR=11						
	comp=Z,0.7nm,0.8s						
BSUT	**Blindstream Ca**	**83.38**	**345**	P	**P**	**04 54 40.3**	**+1.4**
BSUT				IAmb	IAmb	04 54 51.1	
	comp=Z,3.2nm,0.9s						
DUG	**Dugway, Tooele**	**83.48**	**343**	P	**P**	**04 54 40.8**	**+1.7**
DUG				IAmb	IAmb	04 54 57.8	
	comp=Z,3.8nm,1.0s						
ELK	**Elko**	**84.56**	**341**	P	**P**	**04 54 47.4**	**+2.6**
	comp=Z,0.6nm,0.7s,baz=207,slow=6.8,SNR=3.6						
	comp=Z,0.6nm,0.7s						
DZM	**Mont Dzumac**	**84.92**	**245**	*e*LR	LR	05 21 29.3	
	comp=Z,697nm,26.2s						
PDAR	**Pinedale Array**	**85.31**	**346**	P	**P**	**04 54 48.8**	**+0.4**
PDAR	**Pinedale Array**	**85.31**	**346**	P	**P**	**04 54 49.8**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=180,slow=4.3,SNR=4.2						
	comp=Z,0.5nm,0.8s						
YBH	**Yreka Blue Hor**	**87.50**	**337**	LR	LR	05 25 28.8	
	comp=Z,198nm,18.8s,baz=61,slow=30						
STKA	**Stephens Creek**	**92.78**	**222**	LR	LR	05 30 50.7	
	comp=Z,237nm,18.2s,baz=190,slow=32						
HNR	**Honiara**	**98.10**	**250**	LR	LR	05 31 41.2	
	comp=Z,126nm,21.2s,baz=98,slow=30						
GURO	**Guroymak-BITLI**	**143.92**	**78**	PKPdf	**PKPdf**	**05 01 45.8**	**-1.2**
GEVA	**Gevas**	**144.60**	**79**	PKPdf	**PKPdf**	**05 01 48.7**	**+0.5**
KBZ	**Khabaz**	**145.97**	**70**	PKPdf	**PKPab**	**05 01 51.1**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=333,slow=2.3,SNR=7.2						
SSLB	**Suanglung**	**148.44**	**246**	PKPbc	**PKPbc**	**05 01 57.1**	**-1.3**
USRK	**Ussuriysk Ar.**	**148.79**	**290**	PKPdf	**PKPdf**	**05 01 55.6**	**+0.9**
ABKAR	**Akbulak array**	**157.87**	**59**	PKPdf	**PKPdf**	**05 02 07.3**	**-0.4**

*NEIC **08** 04:49:04.1±1.7, 26°.15N±0°.09×129°.47E±0°.06, h10km±1km, mb4.5/9, Error ellipse: s-maj=15.0km s-min=7.8km az=196.0*
*IDC **08** 04:49:04.4±0.9, 26°.20N×129°.32E, h0km, mb3.8/11, mbtmp3.8/12, ML3.8/1, MS4.6/1, Error ellipse: s-maj=33.6km s-min=16.0km az=58.0*
*JMA **08** 04:49:05.7±0.1, 26°.3N±0°.7×129°.6E±0°.5, h45km, MV3.6/17, NEAR OKINAWAJIMA ISLAND*
ISC 08 04:49:04.0±0.5, 26°.22N±0°.04×129°.53E±0°.03, h10km, n49, σ1°83/65, mb4.0/17, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.25**	**310**	P	**Pg**	**04 49 27.2**	**-0.8**
JYRO				*e*S	**Sg**	**04 49 42.9**	**-1.4**
JOW	**Kunigami**	**1.28**	**299**		**Pg**	**04 49 27.6**	**-0.9**
JOW				Sn	**Sb**	**04 49 42.0**	**-2.6**
JOW	**Kunigami**	**1.28**	**299**	Pn	**Pg**	**04 49 27.9**	**-0.7**
	408nm,0.3s,baz=133,slow=15,SNR=556						
JOW				LR	LR	04 49 34.1	
	comp=Z,284nm,18.8s,baz=152,slow=26						
JOW				Sn	**Sb**	**04 49 42.6**	**-2.0**
	138nm,0.3s,baz=90,slow=20,SNR=11						
JOW	**Kunigami**	**1.28**	**299**	P	**Pg**	**04 49 28.0**	**-0.5**
JOW				S	**Sb**	**04 49 43.3**	**-1.3**
JNTH	**Nagotoyohara**	**1.38**	**283**	P	**Pg**	**04 49 29.5**	**-1.0**
JNTH				*e*S	**Sb**	**04 49 46.4**	**-1.2**
JOKE	**Okinoerabujima**	**1.42**	**323**	P	**Pb**	**04 49 29.6**	**-1.0**
JOKE				*e*S	**Sn**	**04 49 46.0**	**-2.8**
JJT3	**Tamagusuku3**	**1.57**	**268**	*e*P	**Pg**	**04 49 32.9**	**-1.2**
JJT3				*e*S	**Sb**	**04 49 52.4**	**-0.6**
JMZ	**Minamidaito 2**	**1.58**	**104**	Pn	**Pb**	**04 49 31.6**	**-1.7**
JMZ				Sn	**Sn**	**04 49 48.3**	**-4.2**
JMZ	**Minamidaito 2**	**1.58**	**104**	P	**Pb**	**04 49 31.4**	**-1.9**
JMZ				S	**Sn**	**04 49 48.5**	**-4.1**
JIH	**Iheya**	**1.61**	**301**	P	**Pb**	**04 49 33.0**	**-1.0**
JIH				S	**Sn**	**04 49 51.8**	**-1.6**
JKDJ	**Kitadaitoujima**	**1.62**	**99**	*e*P	**Pb**	**04 49 32.0**	**-1.9**
JKDJ				*e*S	**Sn**	**04 49 51.0**	**-2.5**
JTK	**Tokunoshima**	**1.64**	**342**	P	**Pb**	**04 49 32.5**	**-1.9**
JTK				*e*S	**Sn**	**04 49 51.2**	**-3.0**
JAMN	**Amaminishikomi**	**2.04**	**351**	P	**Pn**	**04 49 37.7**	**-0.7**
JAMN				*e*S	**Sn**	**04 50 00.7**	**-3.2**
JAGN	**Aguni-jima**	**2.08**	**281**	P	**Pb**	**04 49 40.0**	**-1.9**
JAGN				*e*S	**Sn**	**04 50 03.7**	**-1.2**
JZK	**Kikaishima**	**2.12**	**11**	P	**Pn**	**04 49 39.6**	**0.0**
JZK				*e*S	**Sn**	**04 50 04.1**	**-2.0**
JAM	**Amami Oshima**	**2.19**	**2**	P	**Pn**	**04 49 39.4**	**-1.0**
JAM				*e*S	**Sn**	**04 50 03.8**	**-3.7**
JKE	**Kume jima 2**	**2.46**	**273**	P	**Pn**	**04 49 44.4**	**+0.2**
JKE				*e*S	**Sn**	**04 50 11.8**	**-2.6**
JNU	**Nakatsue**	**6.98**	**9**	Pn	**Pn**	**04 50 46.9**	**+0.5**
	1.5nm,0.3s,baz=162,slow=18,SNR=2.5						
	5.6nm,0.5s						
NACB	**Ninganchiao**	**7.47**	**256**	Pn	**Pn**	**04 50 51.9**	**-1.2**
YULB	**Yu-li**	**7.99**	**251**	Pn	**Pn**	**04 50 57.2**	**-3.0**
SSLB	**Suanglung**	**8.14**	**255**	Pn	**Pn**	**04 51 00.2**	**-2.2**
GTA	**Gaotai**	**28.08**	**305**	*e*P	**P**	**04 54 57.1**	**+1.1**
GTA				sP	pwP	04 55 09.4	+3.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**28.20**	**326**	P	**P**	**04 55 00.0**	**+3.0**
	comp=Z,0.7nm,0.4s,baz=137,slow=9.6,SNR=5.1						
	comp=Z,0.7nm,0.4s						
CHTO	**Chiang Mai**	**29.15**	**262**	P	**P**	**04 55 04.2**	**-1.3**
CHTO				IAmb	IAmb	04 55 23.1	
	comp=Z,7.0nm,0.7s						
CM31	**Chiang Mai Arr**	**29.27**	**261**	P	**P**	**04 55 04.6**	**-2.0**
CMAR	**Chiang Mai Arr**	**29.27**	**261**	P	**P**	**04 55 04.9**	**-1.7**
MKAR	**Makanchi Array**	**42.41**	**312**	P	**P**	**04 56 59.1**	**+0.3**
MKAR	**Makanchi Array**	**42.41**	**312**	P	**P**	**04 56 58.5**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=89,slow=11,SNR=5.6						
	comp=Z,0.2nm,0.5s						
KURK	**Kurchatov**	**45.63**	**316**	P	**P**	**04 57 24.3**	**-0.2**
KURBB	**Kurchatov Arra**	**45.66**	**316**	P	**P**	**04 57 25.0**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=102,slow=8.8,SNR=5.6						
	comp=Z,0.5nm,0.4s						
WB0	**Warramunga Arr**	**45.96**	**174**	P	**P**	**04 57 26.2**	**-1.2**
WB0				IAmb	IAmb	04 57 56.6	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**46.12**	**174**	P	**P**	**04 57 28.7**	**+0.1**
WRA	**Warramunga Arr**	**46.12**	**174**	P	**P**	**04 57 30.1**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=354,slow=8.5,SNR=10.0						
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**49.77**	**175**	P	**P**	**04 57 58.8**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=351,slow=7.0,SNR=7.7						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**51.06**	**318**	P	**P**	**04 58 07.3**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=64,slow=10,SNR=4.3						
	comp=Z,0.6nm,0.4s						
ABKAR	**Akbulak array**	**57.50**	**313**	P	**P**	**04 58 54.3**	**+1.0**
G21K	**Allakaket**	**61.07**	**26**	P	**P**	**04 59 17.9**	**+0.1**
G21K				IAmb	IAmb	04 59 20.7	
	comp=Z,6.2nm,1.4s						
RIDG	**Independent Ri**	**64.91**	**29**	P	**P**	**04 59 42.6**	**-0.9**
J26L	**Joseph Creek**	**65.35**	**28**	P	**P**	**04 59 46.6**	**+0.2**
G29M	**Pine Creek**	**67.13**	**25**	P	**P**	**04 59 58.3**	**+0.7**
G29M				IAmb	IAmb	05 00 09.4	
	comp=Z,3.8nm,1.2s						
KBZ	**Khabaz**	**70.06**	**310**	P	**P**	**05 00 19.1**	**+2.9**
	comp=Z,1.2nm,0.8s,baz=69,slow=5.3,SNR=3.7						
	comp=Z,1.2nm,0.8s						
C36M	**Paulatuk**	**71.29**	**21**	P	**P**	**05 00 24.8**	**+1.5**
C36M				IAmb	IAmb	05 00 25.4	
	comp=Z,4.3nm,1.4s						
FINES	**FINESS Array B**	**73.44**	**331**	P	**P**	**05 00 37.4**	**+1.1**
FINES	**FINESS Array B**	**73.44**	**331**	P	**P**	**05 00 37.3**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=85,slow=4.0,SNR=3.6						
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**76.29**	**320**	P	**P**	**05 00 53.9**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=72,slow=5.7,SNR=1.3						
	comp=Z,0.3nm,0.4s						
BRTR	**Keskin Array B**	**77.96**	**308**	P	**P**	**05 01 04.3**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=77,slow=5.6,SNR=4.7						
	comp=Z,0.6nm,0.7s						
YKA	**Yellowknife Ar**	**78.04**	**25**	P	**P**	**05 01 05.4**	**+2.8**
	comp=Z,0.3nm,1.0s,baz=290,slow=7.3,SNR=2.7						
	comp=Z,0.3nm,1.0s						
KEST	**Kesra**	**96.43**	**315**	LR	LR	05 51 53.5	
	comp=Z,222nm,18.0s,baz=262,slow=39						
QSPA	**South Pole Qui**	**116.00**	**180**	PKPdf	**PKPdf**	**05 07 47.2**	**+0.7**

TRN 08 05:10:53.4, 16°.89N×61°.15W, h19km, MD3.6, South-east of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.61**	**285**	*e*P	Pn	05 11 08.1	+1.1
ANBD				*e*S	Sn	05 11 17.5	+1.2
ANWB	**Willy Bob**	**0.98**	**322**	*e*P	Pg	05 11 13.2	+0.6
ANWB				*e*S	Sn	05 11 28.2	+2.6
MBWH		**1.00**	**262**	*e*P	Pg	05 11 14.7	+1.7
MBWH				*e*S	Sn	05 11 29.4	+3.2
MBFL	**Flemmings, Mon**	**1.02**	**262**	*e*P	Pg	05 11 14.9	+1.6
MBFL				*e*S	Sg	05 11 30.3	+3.5
TBG	**Guadaloupe-3**	**1.13**	**205**	*e*P	Pg	05 11 16.1	+0.7
TBG				*e*S	Sg	05 11 32.2	+1.9
DSLB	**Salisbury**	**1.46**	**190**	*e*P	Pg	05 11 21.1	-0.6
DSLB				*e*S	Sg	05 11 40.4	-0.4
MDN	**Morne-Daniel**	**1.58**	**188**	*e*P	Pb	05 11 21.8	-0.2
MDN				*e*S	Sg	05 11 43.9	-0.5
SKI	**Saint Kitts**	**1.58**	**287**	*e*P	Pb	05 11 22.4	+0.4
SKI				*e*S	Sg	05 11 44.4	-0.1
BIM	**Bigot**	**2.36**	**178**	*e*P	Pb	05 11 33.5	-1.9
BIM				*e*S	Sb	05 12 02.5	-1.6
SLBI	**Saint Lucia, B**	**2.85**	**177**	*e*S	Sn	05 12 14.5	+2.7

*NIED **08** 05:23:21.9, 35°.71N×141°.00E, h36km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}1.00; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$-0.74; $M_{r\theta}$-0.16; $M_{\theta\phi}$-0.29; $M_{\phi r}$1.53; Fault plane solution: $M_0$1.79000×10^15^ NP1: ϕ_s=215.00000°, δ=18.00000°, λ=124.00000°. NP2: ϕ_s=360.00000°, δ=75.00000°, λ=80.00000°.*
*JMA **08** 05:23:21.9±0.3, 35°.7N±0°.8×14°.1E±°, h36km±1km, MV3.5/25, NEAR CHOSHI CITY*
JMA Felt I J1 at NEAR CHOSHI CITY .
*NEIC **08** 05:23:22.7±1.2, 35°.68N±0°.05×141°.04E±0°.08, h35km±2km, mb4.4/22, Error ellipse: s-maj=12.1km s-min=6.2km az=117.0*
*IDC **08** 05:23:22.7±2.9, 35°.67N×140°.99E, h43km±26km, mb3.5/13, mbtmp3.8/15, ML3.0/2, MS3.4/5, Error ellipse: s-maj=28.0km s-min=9.5km az=67.0*
ISC 08 05:23:22.5±0.8, 35°.68N±0°.05×140°.99E±0°.08, h38km±2km, n68, σ0°75/63, mb4.2/25, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.44**	**265**	⇓*i*P	**Pn**	**05 23 32.2**	**0.0**
JSMT				⇓S	**Sn**	**05 23 40.0**	**+0.8**
JIHU	**Itakohorinouch**	**0.47**	**307**	⇓*i*P	**Pn**	**05 23 32.5**	**-0.1**
JIHU				⇓*e*S	**Sn**	**05 23 40.2**	**+0.4**
JHYU	**Hitachinakay

SCM	**Sheep Creek Mo**	**50.76**	**36**	P	**P**	**05 32 18.7**	**+0.2**
SCM	comp=Z,7.7nm,0.7s			IAmb	IAmb	05 32 30.1	
ILAR	**Eielson Array**	**50.82**	**32**	P	**P**	**05 32 17.3**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=272,slow=7.2,SNR=2.0 comp=Z,0.2nm,0.6s						
BVAR	**Borovoye Array**	**51.23**	**313**	P	**P**	**05 32 21.3**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=104,slow=6.3,SNR=5.8 comp=Z,0.8nm,0.6s						
FID	**Port Fidalgo**	**51.26**	**37**	P	**P**	**05 32 22.2**	**+0.1**
KLU	**Klutina**	**51.46**	**36**	P	**P**	**05 32 23.1**	**-0.6**
H27K	**Steamboat Moun**	**52.96**	**30**	P	**P**	**05 32 34.9**	**+0.1**
H27K	comp=Z,4.1nm,1.5s			IAmb	IAmb	05 32 39.4	
G29M	**Pine Creek**	**54.27**	**29**	P	**P**	**05 32 45.5**	**+1.2**
G29M	comp=Z,2.9nm,1.1s			IAmb	IAmb	05 33 00.9	
FITZ	**Fitzroy Crossi**	**55.43**	**198**	P	**P**	**05 32 53.0**	**-0.1**
WB0	**Warramunga Arr**	**55.50**	**188**	P	**P**	**05 32 53.9**	**+0.2**
WB0	comp=Z,13nm,1.4s			IAmb	IAmb	05 33 21.9	
WR8	**Warramunga Arr**	**55.67**	**187**	P	**P**	**05 32 55.3**	**+0.4**
WRA	**Warramunga Arr**	**55.68**	**188**	P	**P**	**05 32 54.8**	**-0.1**
WRA	**Warramunga Arr**	**55.68**	**188**	P	**P**	**05 32 54.1**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=2.2,slow=7.5,SNR=4.9 comp=Z,1.2nm,0.9s						
G31M	**Satah River**	**55.73**	**28**	P	**P**	**05 32 55.8**	**+1.1**
ARTI	**Arti**	**57.25**	**319**	P	**P**	**05 33 05.7**	**-0.1**
ARTI	**Arti**	**57.25**	**319**	P	**P**	**05 33 05.7**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=355,slow=4.7,SNR=2.6 comp=Z,1.8nm,0.4s						
AB31	**Akbulak array**	**58.55**	**311**	P	**P**	**05 33 15.3**	**+0.3**
AB31	comp=Z,4.4nm,1.4s			IAmb	IAmb	05 33 15.7	
ABKAR	**Akbulak array**	**58.55**	**311**	P	**P**	**05 33 15.2**	**+0.2**
ABKAR	comp=Z,4.4nm,1.4s			IAmb	IAmb	05 33 15.7	
ASAR	**Alice Springs**	**59.41**	**188**	P	**P**	**05 33 21.0**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=17,slow=11,SNR=1.6 comp=Z,0.3nm,0.4s						
KIRV	**Kirov**	**61.12**	**323**	LR	LR	06 02 51.8	
	comp=Z,103nm,18.9s,baz=297,slow=39						
EUNU	**Eureka**	**61.57**	**8**	P	**P**	**05 33 36.3**	**+1.0**
EUNU	comp=Z,3.1nm,1.4s			IAmb	IAmb	05 33 47.2	
YKA	**Yellowknife Ar**	**65.15**	**30**	P	**P**	**05 33 59.3**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=296,slow=6.4,SNR=2.4 comp=Z,0.2nm,0.8s						
AKASG	**Malin Array Be**	**75.15**	**322**	P	**P**	**05 35 00.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=62,slow=2.8,SNR=1.6 comp=Z,0.2nm,0.3s						
NOA	**NORSAR Array B**	**75.30**	**337**	P	**P**	**05 35 01.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=29,slow=8.2,SNR=2.1 comp=Z,0.7nm,0.7s						
BRTR	**Keskin Array B**	**79.49**	**312**	P	**P**	**05 35 25.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=54,slow=7.6,SNR=2.4 comp=Z,0.4nm,0.6s						

*ASRS **08** 05:29:48.0±1.3, 54°.06N×86°.53E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 05:29:50.7±2.5, 54°.05N×86°.55E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=20.5km s-min=12.0km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**265**	I	I	05 35 33.6	
	baz=85,slow=337,SNR=4.8						
ZALV	**Zalesovo Beam**	**1.03**	**265**	Pg	Pg	05 30 09.3	-1.1
	0.9nm,0.3s,baz=80,slow=17,SNR=7.0						
ZALV				Lg	Lg	05 30 24.9	
	2.2nm,0.3s,baz=83,slow=28,SNR=12						
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	05 31 21.6	+1.0
	0.1nm,0.3s,baz=56,slow=14,SNR=6.5						
KURBB				Lg	Lg	05 33 01.0	
	baz=51,slow=31 0.8nm,0.5s						
MKAR	**Makanchi Array**	**7.75**	**202**	Pn	Pn	05 31 45.8	+1.1
	0.2nm,0.3s,baz=25,slow=13,SNR=12						
MKAR				Sn	Sn	05 33 12.6	-0.7
	0.2nm,0.3s,baz=26,slow=26,SNR=6.2						
MKAR				Lg	Lg	05 33 57.5	
	baz=25,slow=24 0.3nm,0.2s						

*GCG **08** 05:32:31.1±3.4, 16°.76N×95°.73W, h36km±999km, MD4.4*
*MEX **08** 05:32:33.5±1.1, 16°.41N×95°.28W, h5km±9km, MD4.2*

ISC 08 05:32:29.6±1.1, 16°.48N±0°.03×95°.29W±0°.02, h8km±10km, n30, σ1°48/59, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.72**	**32**	*e*P	**Pn**	**05 32 45.0**	**-1.2**
CMIG				*e*S	**Sn**	**05 32 54.8**	**-2.6**
HUIG	**Huatulco**	**1.06**	**228**	*e*P	**Pg**	**05 32 49.4**	**-0.6**
HUIG				*e*S	**Sg**	**05 33 02.4**	**-1.3**
HUIG	**Huatulco**	**1.06**	**228**	*i* P	**Pg**	**05 32 49.4**	**-0.6**
HUIG				*i* S	**Sg**	**05 33 03.2**	**-0.6**
NEUV	**Arroyo Zacate**	**1.32**	**338**	*e*P	**Pg**	**05 32 55.5**	**+0.5**
NEUV				*e*S	**Sn**	**05 33 13.6**	**+1.3**
UXUV	**UXUV**	**1.38**	**52**	*e*P	**Pg**	**05 32 56.7**	**+0.6**
UXUV				*e*S	**Sn**	**05 33 15.6**	**+2.0**
PANG	**Puerto Angel**	**1.40**	**235**	*e*P	**Pn**	**05 32 55.7**	**+0.3**
PANG				*e*S	**Sn**	**05 33 13.2**	**-0.8**
OXLC	**Oaxaca**	**1.48**	**293**	*e*P	**Pg**	**05 32 58.7**	**+0.7**
OXLC				*e*S	**Sg**	**05 33 17.6**	**+0.4**
OXBJ	**Oaxaca**	**1.50**	**293**	*e*P	**Pb**	**05 32 58.4**	**+0.6**
OXBJ				*e*S	**Sn**	**05 33 17.0**	**+0.1**
VHO	**Vista Hermosa**	**1.50**	**293**	*e*P	**Pb**	**05 32 58.5**	**+0.6**
VHO				*e*S	**Sn**	**05 33 17.2**	**+0.2**
PEIG	**Puerto Escondi**	**1.85**	**255**	*e*P	**Pn**	**05 33 01.6**	**-0.1**
PEIG				*e*S	**Sn**	**05 33 25.8**	**+0.4**
TGIG		**2.10**	**82**	*e*P	**Pg**	**05 33 09.1**	**-0.8**
TGIG				*e*S	**Sg**	**05 33 35.8**	**-1.3**
TGIG		**2.10**	**82**	*i* P	**Pg**	**05 33 09.0**	**-0.9**
TGIG				*i* S	**Sg**	**05 33 37.1**	**0.0**
PCIG		**2.13**	**111**	*e*P	**Pn**	**05 33 06.2**	**+0.6**
PCIG				*e*S	**Sn**	**05 33 32.7**	**+0.4**
YOIG	**Yosondua**	**2.20**	**280**	*e*P	**Pn**	**05 33 09.0**	**+2.3**
YOIG				*e*S	**Sb**	**05 33 37.9**	**+0.6**
TOIG	**Toxpalan**	**2.34**	**314**	*e*P	**Pb**	**05 33 12.3**	**+0.1**
TOIG				*e*S	**Sb**	**05 33 40.7**	**-0.5**
TXIG	**Tlaxiaco**	**2.50**	**288**	*e*P	**Pb**	**05 33 14.8**	**-0.1**
TXIG				*e*S	**Sb**	**05 33 44.7**	**-1.3**
PNIG	**Pinotepa**	**2.73**	**269**	*e*P	**Pn**	**05 33 12.0**	**-1.8**
PNIG				*e*S	**Sb**	**05 33 53.7**	**+1.4**
HLIG	**Huajuapan de L**	**2.75**	**300**	*e*P	**Pb**	**05 33 20.1**	**+0.8**
HLIG				*e*S	**Sb**	**05 33 54.8**	**+1.4**
TPIG	**Tehuac#an**	**2.77**	**315**	*e*P	**Pb**	**05 33 17.8**	**-1.6**
TPIG				*e*S	**Sb**	**05 33 52.3**	**-1.3**
CCIG	**Comitan**	**3.03**	**93**	*e*P	**Pn**	**05 33 19.1**	**+1.0**
CCIG				*e*S	**Sn**	**05 33 52.0**	**-2.7**
CCIG	**Comitan**	**3.03**	**93**	*i* P	**Pb**	**05 33 23.5**	**-0.5**
CCIG				*i* S	**Sg**	**05 34 09.0**	**+1.9**
FTIG	**Fresnillo de T**	**3.07**	**298**	*e*P	**Pb**	**05 33 23.3**	**-1.3**
FTIG				*e*S	**Sb**	**05 34 01.5**	**-0.8**
JAUV	**Jalcomulco**	**3.21**	**334**	*e*P	**Pn**	**05 33 20.9**	**+0.4**
JAUV				*e*S	**Sn**	**05 33 54.8**	**-4.2**
PATR	**El Naranjo**	**3.24**	**114**	*e*P	**Pn**	**05 33 22.3**	**+1.3**
PATR				*e*S	**Sn**	**05 34 00.4**	**+0.5**
PAVE	**Pavencul**	**3.26**	**113**	*e*P	**Pn**	**05 33 22.8**	**+1.6**
PAVE				*e*S	**Sn**	**05 34 01.3**	**+0.9**
MGIG	**Malinaltepec**	**3.29**	**284**	*e*P	**Pb**	**05 33 30.6**	**+2.1**
MGIG				*e*S	**Sb**	**05 34 10.8**	**+2.1**
TLIG	**Tlapa**	**3.32**	**289**	*e*P	**Pn**	**05 33 24.4**	**+2.4**
TLIG				*e*S	**Sb**	**05 34 07.5**	**-1.9**
CRIG	**Cruz Grande**	**3.69**	**275**	*e*P	**Pn**	**05 33 27.2**	**+0.1**
CRIG				*e*S	**Sn**	**05 34 07.3**	**-3.6**
DAIG	**Los Arroyos**	**4.21**	**278**	*e*P	**Pn**	**05 33 35.6**	**+1.4**
DAIG				*e*S	**Sn**	**05 34 22.2**	**-1.5**
CXUV	**Coxquihui**	**4.28**	**330**	*e*P	**Pn**	05 33 29.4	-5.7
CXUV				*e*S	**Sn**	**05 34 27.4**	**+2.1**

*ASRS **08** 05:54:53.0±1.6, 54°.32N×86°.98E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 05:54:51.7±3.8, 54°.62N×87°.25E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=33.3km s-min=23.0km az=33.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**246**	I	I	06 03 20.0	
	baz=64,slow=290,SNR=10						
ZALV	**Zalesovo Beam**	**1.57**	**246**	Pg	Pn	05 55 19.5	-1.4
	0.8nm,0.3s,baz=66,slow=17,SNR=8.2						
ZALV				Lg	Lg	05 55 42.1	
	0.8nm,0.3s,baz=62,slow=28,SNR=6.0						
KURBB	**Kurchatov Arra**	**6.65**	**237**	Pn	Pn	05 56 31.2	+0.7
	baz=54,slow=14,SNR=4.0 0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.44**	**204**	Pn	Pn	05 56 56.0	+0.8
	0.1nm,0.3s,baz=16,slow=16,SNR=2.5 0.1nm,0.3s						

TXNET 08 06:02:01.2, 31°.6N±0°.5×104°.3W±0°.6, h4km±2km, ML2.1/8, 1C-1D, Error ellipse: s-maj=1.0km s-min=0.7km az=59.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.34**	**32**	↑P	Pg	06 02 07.9	0.0
TPB11				S	Sg	06 02 12.5	+0.1
PECS	**Pecos**	**0.42**	**130**	P	Pg	06 02 09.7	+0.3
PECS				S	Sg	06 02 15.1	+0.2
TPB12	**Southwest of T**	**0.50**	**150**	P	Pg	06 02 11.0	+0.2
TPB12				S	Sg	06 02 17.6	+0.4
TPB07	**Mentone**	**0.50**	**97**	S	Sg	06 02 17.7	+0.4
TPB10	**Southeast of T**	**0.55**	**130**	P	Pg	06 02 12.0	+0.2
TPB10				S	Sg	06 02 19.8	+0.7
GDL2	**Guadalupe Moun**	**0.56**	**350**	P	Pg	06 02 12.4	+0.3
PCOS	**Crockett Middl**	**0.67**	**110**	S	Sg	06 02 23.6	+0.8
PCOS	**Crockett Middl**	**0.67**	**110**	S	Sg	06 02 23.1	+0.3
CLNB	**Carlsbad**	**0.69**	**27**	P	Pg	06 02 14.3	-0.3
CLNB				S	Sg	06 02 23.6	+0.1
TPB01	**Permian Basin**	**0.80**	**150**	P	Pg	06 02 16.1	-0.6
TPB01				S	Sg	06 02 26.5	-0.6
TPB03	**Saragosa**	**0.84**	**132**	P	Pg	06 02 17.2	-0.1
TPB03				S	Sg	06 02 28.7	+0.4
TPB04	**Verhalen**	**0.95**	**118**	P	Pg	06 02 19.3	-0.2
TPB04				S	Sg	06 02 31.7	-0.1
MNTX	**Cornudas Mount**	**0.97**	**273**	P	Pg	06 02 19.9	0.0
MNTX				S	Sg	06 02 32.9	+0.5
HTMS	**Hat Mesa**	**0.98**	**32**	S	Sg	06 02 32.2	-0.4
TPB16	**Coyonosa**	**1.00**	**121**	P	Pg	06 02 20.1	-0.3
TPB16				S	Sg	06 02 32.8	-0.4
VHRN	**Van Horn**	**1.06**	**217**	P	Pg	06 02 21.3	-0.3
VHRN				S	Sb	06 02 36.1	-0.4
TPB05	**Hovey Rd**	**1.07**	**132**	P	Pg	06 02 21.3	-0.4
TPB05				S	Sg	06 02 35.3	-0.3
MNHN	**Monahans**	**1.30**	**103**	P	Pg	06 02 24.9	-1.3
ALPN	**Alpine**	**1.37**	**157**	↓P	Pn	06 02 25.8	-1.4
ALPN				S	Sg	06 02 43.3	-1.9
CPRX	**Cap Rock**	**1.42**	**13**	P	Pn	06 02 27.4	-0.5
ODSA	**Odessa**	**1.52**	**71**	S	Sn	06 02 48.4	-1.2
TMB04	**Seminole**	**1.78**	**56**	P	Pn	06 02 33.1	+0.2
TMB04				S	Sb	06 02 57.5	+0.2
TMB02	**Rankin**	**1.94**	**103**	P	Pn	06 02 36.0	+0.9
TMB02				S	Sb	06 03 00.8	-0.9
TX31	**Lajitas Ar. Si**	**2.36**	**168**	Pg	Pb	06 02 43.4	-0.9

*GCG **08** 06:02:27.7±1.4, 14°.57N×89°.11W, h6km±22km, MD3.6*
*SNET **08** 06:02:28.4±0.8, 14°.45N×89°.13W, h1km±8km, ML2.1*
*CATAC **08** 06:02:28.7±0.3, 15°.N±2°×8°.9W±°, h2km±1km, M2.4/13, MLv2.4/13, Error ellipse: s-maj=4.2km s-min=2.7km az=28.1, confirmed*

ISC 08 06:02:27.2±1.1, 14°.57N±0°.04×89°.08W±0°.02, h10km±10km, n48, σ0°58/58, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.26**	**267**	P	**Pb**	**06 02 33.0**	**-1.0**
ESQI	**Esquipulas**	**0.26**	**267**	S	**Sg**	**06 02 36.4**	**+0.3**
MTO3	**Montecristo**	**0.33**	**238**	*e*P	**Pg**	**06 02 34.0**	**+0.2**
MTO3				*e*S	**Sg**	**06 02 38.4**	**+0.2**
MTO3	**Montecristo**	**0.33**	**238**	*e*P	**Pg**	**06 02 33.8**	**0.0**
MTO3	**Montecristo**	**0.33**	**238**	P	**Pg**	**06 02 34.0**	**+0.2**
MTO3	**Montecristo**	**0.33**	**238**	S	**Sg**	**06 02 37.9**	**-0.3**
LLGN	**La Laguna**	**0.43**	**163**	*e*P	**Pb**	**06 02 36.0**	**-0.9**
LLGN				*e*S	**Sg**	**06 02 41.9**	**+0.6**
LLGN	**La Laguna**	**0.43**	**163**	P	**Pb**	**06 02 36.2**	**-0.8**
UNIC	**Universidad Ca**	**0.75**	**218**	S	**Sg**	**06 02 51.2**	**-0.1**
UNIC	**Universidad Ca**	**0.75**	**218**	P	**Pg**	**06 02 41.7**	**+0.1**
CEDA	**San Andres**	**0.83**	**202**	S	**Sg**	**06 02 54.5**	**+0.6**
UDBS	**Universidad Do**	**0.86**	**185**	S	**Sb**	**06 02 55.6**	**-0.2**
PAVA	**Las Pavas**	**0.86**	**171**	*e*P	**Pg**	**06 02 43.7**	**-0.2**
PAVA				*e*S	**Sg**	**06 02 55.6**	**+0.5**
PAVA	**Las Pavas**	**0.86**	**171**	P	**Pb**	**06 02 44.0**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.88**	**232**	*e*P	**Pg**	**06 02 43.9**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.88**	**232**	P	**Pb**	**06 02 44.4**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.88**	**232**	S	**Sg**	**06 02 55.7**	**+0.2**
UTEC	**Universidad Te**	**0.88**	**188**	S	**Sg**	**06 02 55.9**	**+0.4**
CEVE	**Cerro Verde**	**0.91**	**216**	*e*S	**Sg**	**06 02 57.1**	**+0.4**
CEVE	**Cerro Verde**	**0.91**	**216**	P	**Pb**	**06 02 45.2**	**-0.1**
CEVE	**Cerro Verde**	**0.91**	**216**	S	**Sg**	**06 02 57.2**	**+0.4**
LOMA	**Loma Larga**	**0.93**	**186**	P	**Pb**	**06 02 45.3**	**-0.2**
LOMA	**Loma Larga**	**0.93**	**186**	S	**Sb**	**06 02 58.4**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.93**	**159**	*e*P	**Pb**	**06 02 45.1**	**-0.3**
SCLA				*e*S	**Sb**	**06 02 58.9**	**+1.0**
SCLA	**Alcaldia de Sa**	**0.93**	**159**	P	**Pb**	**06 02 45.6**	**+0.1**
NUBE	**Las Nubes**	**0.95**	**226**	*e*P	**Pg**	**06 02 44.6**	**-0.9**
NUBE				*e*S	**Sg**	**06 02 57.6**	**-0.4**
NUBE	**Las Nubes**	**0.95**	**226**	*i* P	**Pg**	**06 02 45.7**	**+0.1**
NUBE				*i* S	**Sg**	**06 02 58.1**	**+0.1**
NUBE	**Las Nubes**	**0.95**	**226**	P	**Pb**	**06 02 45.8**	**-0.1**
PANCS	**Alcalda de**	**0.96**	**186**	S	**Sb**	**06 02 58.8**	**0.0**
COEG	**Centro de Oper**	**0.97**	**169**	*e*P	**Pb**	**06 02 45.8**	**-0.3**
COEG				*e*S	**Sg**	**06 02 58.4**	**+0.1**
COEG	**Centro de Oper**	**0.97**	**169**	P	**Pb**	**06 02 45.8**	**-0.3**
UESV	**Universidad de**	**0.97**	**163**	S	**Sb**	**06 02 59.4**	**+0.2**
JAYA	**Jayaque - finc**	**0.98**	**202**	*e*S	**Sg**	**06 02 57.5**	**-1.4**
JAYA				IAML		06 03 00.0	
	comp=Z,65nm,0.2s						
JAYA	**Jayaque - finc**	**0.98**	**202**	*i* P	**Pg**	**06 02 45.8**	**-0.3**
JAYA				*i* S	**Sg**	**06 02 59.5**	**+0.6**
JAYA	**Jayaque - finc**	**0.98**	**202**	P	**Pg**	**06 02 46.1**	**-0.1**
PQSS	**Presa 15 de Se**	**1.07**	**152**	P	**Pb**	**06 02 47.5**	**-0.3**
PQSS	**Presa 15 de Se**	**1.07**	**152**	S	**Sb**	**06 03 02.2**	**+0.4**
TECO	**Alcaldia de Te**	**1.07**	**164**	S	**Sb**	**06 03 02.2**	**+0.3**
TECO	**Alcaldia de Te**	**1.07**	**164**	P	**Pn**	**06 02 48.2**	**-0.1**
MARCA	**Marcala la Paz**	**1.09**	**112**	*i* P	**Pn**	**06 02 48.5**	**-0.2**
MARCA				*i* S	**Sn**	**06 03 03.4**	**-0.5**
FAME	**Alcaldia de Sa**	**1.17**	**232**	S	**Sg**	**06 03 05.0**	**+0.2**
PACA	**Pacayal**	**1.32**	**146**	S	**Sn**	**06 03 11.2**	**+1.7**
NISHN	**Nisperales Com**	**1.66**	**44**	S	**Sg**	**06 03 21.7**	**+1.1**
CNCH	**Conchagua**	**1.76**	**137**	S	**Sg**	**06 03 24.0**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.82**	**106**	P	**Pg**	**06 03 01.4**	**-0.7**
TGUH				S	**Sg**	**06 03 26.5**	**+0.7**
CHOHN	**Orocuina**	**2.15**	**120**	P	**Pb**	**06 03 06.5**	**+0.1**
CHOHN	**Orocuina**	**2.15**	**120**	S	**Sg**	**06 03 34.8**	**-1.6**
YUSH	**Yuscaran**	**2.25**	**106**	P	**Pb**	**06 03 07.9**	**-0.1**

*IDC **08** 06:06:35.6±0.8, 26°.27N×129°.44E, h0km, mb3.8/14, mbtmp3.8/17, ML3.4/3, MS2.8/2, Error ellipse: s-maj=22.3km s-min=17.0km az=71.0*
*JMA **08** 06:06:37.5±0.1, 26°.3N±0°.5×129°.6E±0°.3, h48km, MV3.4/19, NEAR MINAMI-DAITOJIMA IS*

ISC 08 06:06:36.9±4.7, 26°.30N±0°.06×129°.57E±0°.04, h13km±29km, n35, σ1°99/32, mb3.8/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.24**	**306**	P	Pn	06 06 59.2	-0.8
JYRO				*e*S	**Sb**	**06 07 15.7**	**-0.4**
JOW	**Kunigami**	**1.28**	**295**	Pn	Pn	06 06 59.2	-1.3
	116nm,0.3s,baz=131,slow=13,SNR=116						
JOW				Sn	**Sb**	**06 07 09.7**	**-7.5**
	293nm,0.3s,baz=125,slow=13,SNR=26						
JOW				LR	LR	06 07 40.7	
	comp=Z,504nm,21.3s,baz=274,slow=55						
JOW	**Kunigami**	**1.28**	**295**	P	Pn	06 07 00.0	-0.5
JOW				*e*S	**Sb**	**06 07 16.2**	**-1.0**
JOKE	**Okinoerabujima**	**1.39**	**320**	*e*P	Pn	06 07 01.4	-0.6
JNTH	**Nagotoyohara**	**1.41**	**279**	P	Pn	06 07 01.6	-0.7
JNTH				*e*S	**Sn**	**06 07 19.6**	**-1.1**
JMZ	**Minamidaito 2**	**1.56**	**107**	P	Pn	06 07 02.7	-1.7
JMZ				S	**Sn**	**06 07 20.8**	**-3.7**
JTK	**Tokunoshima**	**1.58**	**340**	P	Pn	06 07 04.2	-0.5
JKDJ	**Kitadaitoujima**	**1.59**	**102**	P	Pn	06 07 03.4	-1.4
JKDJ				*e*S	**Sn**	**06 07 21.9**	**-3.3**
JJT3	**Tamagusuku3**	**1.61**	**265**	*e*P	**Pn**	**06 07 05.2**	**+0.1**
JJT3				*e*S	**Sn**	**06 07 25.4**	**-0.3**
JIH	**Iheya**	**1.61**	**298**	P	**Pn**	**06 07 05.0**	**-0.2**
JIH				*e*S	**Sn**	**06 07 24.5**	**-1.2**
JAMN	**Amaminishikomi**	**1.97**	**350**	*e*P	Pn	06 07 09.3	-0.7
JZK	**Kikaishima**	**2.04**	**10**	S	**Sn**	**06 07 35.9**	**-0.6**
JAGN	**Aguni-jima**	**2.11**	**278**	P	**Pn**	**06 07 12.0**	**+0.1**
JAGN				S	**Sn**	**06 07 37.1**	**-0.8**
JAM	**Amami Oshima**	**2.11**	**1**	P	Pn	06 07 11.2	-0.7
JAM				*e*S	**Sn**	**06 07 35.5**	**-2.5**
JKE	**Kume jima 2**	**2.50**	**271**	P	Pn	06 07 16.5	-0.8
JTAJ	**Takarajima**	**2.87**	**354**	*e*P	Pn	06 07 21.7	-0.6
JTAJ				S	**Sn**	**06 07 54.0**	**-2.8**
JNU	**Nakatsue**	**6.90**	**9**	Pn	**Pn**	**06 08 18.5**	**+0.7**
	1.7nm,0.3s,baz=20,slow=2.0,SNR=4.7 7.2nm,0.4s						
KSRS	**Korea Array**	**11.21**	**353**	LR	LR	06 14 03.4	
	comp=Z,44nm,19.8s,baz=220,slow=40						
MJAR	**Matsushiro Arr**	**12.59**	**34**	Pn	**Pn**	**06 09 36.6**	**+0.8**
	baz=214,slow=11,SNR=1.3 0.6nm,0.5s						
USRK	**Ussurisyk Ar.**	**17.97**	**6**	P	**Pn**	**06 10 47.0**	**+0.6**
	0.1nm,0.3s,baz=173,slow=7.1,SNR=2.1 0.8nm,0.5s						
GUMO	**Guam**	**19.12**	**128**	LR	LR	06 18 10.1	
	comp=Z,33nm,18.6s,baz=89,slow=36						
SONM	**Songino Array**	**28.16**	**326**	P	**P**	**06 12 29.3**	**+0.2**
	0.3nm,0.4s,baz=130,slow=9.0,SNR=2.2 0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**29.32**	**261**	P	**P**	**06 12 38.5**	**-1.1**
	1.2nm,0.3s,baz=77,slow=7.6,SNR=2.6 1.2nm,0.3s						
MKAR	**Makanchi Array**	**42.39**	**312**	P	**P**	**06 14 30.8**	**-0.2**
	0.3nm,0.5s,baz=90,slow=9.7,SNR=4.0 0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**42.92**	**322**	P	**P**	**06 14 36.8**	**+1.5**
	0.5nm,0.5s,baz=98,slow=8.4,SNR=1.7 0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**45.64**	**316**	P	**P**	**06 14 56.9**	**-0.2**
	0.5nm,0.8s,baz=99,slow=7.8,SNR=4.8 0.5nm,0.8s						
WRA	**Warramunga Arr**	**46.20**	**174**	P	**P**	**06 15 02.0**	**+0.3**
	3.4nm,0.9s,baz=353,slow=8.5,SNR=8.1 3.4nm,0.9s						
ASAR	**Alice Springs**	**49.84**	**175**	P	**P**	**06 15 30.8**	**+0.8**
	1.7nm,1.0s,baz=356,slow=6.1,SNR=9.1 1.7nm,1.0s						
BVAR	**Borovoye Array**	**51.03**	**318**	P	**P**	**06 15 38.8**	**+0.2**
	0.7nm,0.6s,baz=72,slow=4.8,SNR=4.6 0.7nm,0.6s						
ILAR	**Eielson Array**	**63.81**	**28**	P	**P**	**06 17 10.2**	**+1.6**
	0.3nm,0.8s,baz=280,slow=6.2,SNR=1.6 0.3nm,0.8s						
KBZ	**Khabaz**	**70.05**	**310**	P	**P**	**06 17 49.7**	**+1.1**
	1.7nm,0.8s,baz=63,slow=4.5,SNR=4.8 1.7nm,0.8s						
FINES	**FINESS Array B**	**73.39**	**331**	P	**P**	**06 18 08.8**	**+0.4**
	3.5nm,1.0s,baz=72,slow=8.2,SNR=4.8 3.5nm,1.0s						
AKASG	**Malin Array Be**	**76.26**	**320**	P	**P**	**06 18 25.5**	**+0.3**
	0.4nm,0.5s,baz=61,slow=2.9,SNR=4.8 0.4nm,0.5s						
BRTR	**Keskin Array B**	**77.94**	**308**	P	**P**	**06 18 35.2**	**0.0**
	0.3nm,0.3s,baz=79,slow=9.0,SNR=4.1 0.3nm,0.3s						
YKA	**Yellowknife Ar**	**77.95**	**25**	P	**P**	**06 18 35.5**	**+0.9**
	1.1nm,1.1s,baz=301,slow=5.1,SNR=9.5 1.1nm,1.1s						

*NEIC **08** 06:20:00.7±2.0, 26°.05N±0°.08×129°.46E±0°.05, h10km±1km, mb4.5/42, Error ellipse: s-maj=13.3km s-min=7.2km az=188.0*
*IDC **08** 06:20:00.4±0.7, 26°.29N×129°.43E, h0km, mb3.9/17, mbtmp3.9/19, ML3.6/2, MS3.3/5, Error ellipse: s-maj=19.6km s-min=15.2km az=56.0*
*JMA **08** 06:20:01.9±0.1, 26°.3N±0°.7×129°.6E±0°.4, h44km, MV3.5/19, NEAR MINAMI-DAITOJIMA IS*
*NIED **08** 06:20:01.9, 26°.29N×129°.61E, h44km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.28; $M_{\theta\theta}$0.68; $M_{

ZALV Zalesovo Beam 42.94 322 P P 06 27 58.5 -0.9
0.5nm,0.5s,baz=111,slow=8.5,SNR=2.6
0.5nm,0.5s
FITZ Fitzroy Crossi 44.24 185 P P 06 28 07.0 -3.2
KDJ Kajisay 45.41 304 P P 06 28 18.3 -1.4
KURK Kurchatov 45.61 316 P P 06 28 20.9 0.0
KURBB Kurchatov Arra 45.65 316 P P 06 28 21.1 -0.1
0.8nm,0.5s,baz=103,slow=8.7,SNR=5.6
0.8nm,0.5s
WRA Warramunga Arr 46.15 174 P P 06 28 26.5 +1.1
3.6nm,0.9s,baz=354,slow=8.5,SNR=12
3.6nm,0.9s
WR8 Warramunga Arr 46.18 174 P P 06 28 23.5 -2.1
ASAR Alice Springs 49.80 175 P P 06 28 51.3 -2.4
ASAR Alice Springs 49.80 175 P P 06 28 55.1 +1.5
1.6nm,0.8s,baz=2.5,slow=11,SNR=18
1.6nm,0.8s
PALK Pallekele 50.08 257 P P 06 28 55.3 -0.7
PALK IAmb IAmb 06 29 03.9
comp=Z,5.4nm,1.0s
BVAR Borovoye Array 51.04 318 P P 06 29 03.6 +0.8
comp=Z,1.1nm,0.7s,baz=98,slow=11,SNR=4.7
BVAR LR LR 06 52 34.3
comp=Z,83nm,19.0s,baz=100,slow=38
comp=Z,1.1nm,0.7s
AB31 Akbulak array 57.49 313 P P 06 29 50.2 +0.5
ABKAR Akbulak array 57.49 313 P P 06 29 50.1 +0.3
D19K Kuna River 59.38 24 P P 06 30 04.2 +1.4
D19K IAmb IAmb 06 30 06.8
comp=Z,4.9nm,1.1s
B20K Meade River 59.88 22 P P 06 30 08.4 +2.3
D20K Etivluk River 59.95 24 P P 06 30 09.0 +2.4
D20K IAmb IAmb 06 30 09.3
comp=Z,4.9nm,1.1s
B21K Ikpikpuk River 60.73 23 P P 06 30 13.4 +1.5
B21K IAmb IAmb 06 30 14.7
comp=Z,4.0nm,1.1s
B22K Teshekpuk Lake 61.18 22 P P 06 30 16.9 +2.0
D22K Ayikyak River 61.39 24 P P 06 30 18.1 +1.7
CAST Castle Rocks 61.69 30 P P 06 30 20.7 +2.1
CAST IAmb IAmb 06 30 42.3
comp=Z,5.3nm,1.2s
E22K Anaktuvuk Pass 61.70 25 P P 06 30 20.9 +2.3
E22K IAmb IAmb 06 30 29.1
comp=Z,6.2nm,1.4s
D23K Nanushuk River 62.11 24 P P 06 30 23.5 +2.2
C23K Itkillik River 62.13 23 P P 06 30 23.9 +2.6
C23K IAmb IAmb 06 30 43.9
comp=Z,5.3nm,1.3s
E23K Chandalar 62.53 25 P P 06 30 26.3 +2.1
E23K IAmb IAmb 06 30 27.3
comp=Z,5.2nm,1.2s
E24K Your Creek 62.95 25 P P 06 30 28.9 +1.9
MCK McKinley 63.08 30 P P 06 30 29.3 +1.4
MCK IAmb IAmb 06 30 29.8
comp=Z,4.8nm,1.1s
RND Reindeer 63.14 30 P P 06 30 29.5 +1.2
F24K Squaw Lake 63.21 25 P P 06 30 30.3 +1.6
F24K IAmb IAmb 06 30 53.3
comp=Z,3.0nm,0.9s
G24K Hadweenzic Riv 63.44 26 P P 06 30 32.5 +2.4
G24K IAmb IAmb 06 31 05.5
comp=Z,4.1nm,1.4s
D25K Kavik River 63.64 23 P P 06 30 33.6 +2.1
D25K IAmb IAmb 06 30 48.4
comp=Z,3.8nm,1.2s
ILAR Eielson Array 63.86 28 P P 06 30 34.4 +1.4
comp=Z,0.6nm,0.8s,baz=260,slow=6.3,SNR=5.1
comp=Z,0.6nm,0.8s
BMAR Burnt Mountain 64.49 25 P P 06 30 40.0 +2.9
C27K Jago River 64.54 23 P P 06 30 39.9 +2.5
C27K IAmb IAmb 06 30 42.0
comp=Z,3.6nm,1.2s
F26K Sheenjek River 64.62 25 P P 06 30 40.6 +2.7
F26K IAmb IAmb 06 30 41.4
comp=Z,3.1nm,1.1s
DOT Dot Lake 65.24 29 P P 06 30 43.2 +1.2
DOT IAmb IAmb 06 30 43.6
comp=Z,3.8nm,1.0s
BCAR Beaver Creek A 66.36 30 P P 06 30 51.6 +2.3
I28M Miner Creek 66.66 27 P P 06 30 52.6 +1.4
I28M IAmb IAmb 06 31 24.2
comp=Z,3.8nm,1.1s
E29M Blow River 66.81 24 P P 06 30 53.8 +1.7
E29M IAmb IAmb 06 31 25.1
comp=Z,5.3nm,1.5s
G29M Pine Creek 67.10 25 P P 06 30 56.0 +2.1
H29M Whitestone 67.12 26 P P 06 30 56.1 +2.0
H29M IAmb IAmb 06 31 20.0
comp=Z,3.1nm,1.1s
F30M Barrier River 67.77 24 P P 06 31 00.3 +2.1
F30M IAmb IAmb 06 31 29.9
comp=Z,7.0nm,1.5s
F31M Tsiigehtchic 68.58 24 P P 06 31 04.3 +1.2
F31M IAmb IAmb 06 31 37.3
comp=Z,6.6nm,1.4s
A36M Sachs Harbour 69.83 19 P P 06 31 12.2 +1.4
KBZ Khabaz 70.05 310 P P 06 31 15.0 +2.3
comp=Z,1.3nm,0.8s,baz=72,slow=6.4,SNR=4.1
comp=Z,1.3nm,0.8s
C36M Paulatuk 71.25 21 P P 06 31 20.8 +1.2
C36M IAmb IAmb 06 31 43.3
comp=Z,2.9nm,0.9s
EUNU Eureka 72.13 6 P P 06 31 25.8 +1.0
EUNU IAmb IAmb 06 31 36.7
comp=Z,5.0nm,1.4s
FIA1 FINESS Array S 73.42 331 P P 06 31 32.6 0.0
FINES FINESS Array B 73.42 331 P P 06 31 33.6 +0.9
FINES FINESS Array B 73.42 331 P P 06 31 33.1 +0.5
comp=Z,2.6nm,0.9s,baz=57,slow=7.7,SNR=8.2
comp=Z,2.6nm,0.9s
AKASG Malin Array Be 76.27 320 P P 06 31 49.9 +0.6
comp=Z,0.2nm,0.2s,baz=57,slow=6.8,SNR=4.4
AKASG LR LR 07 08 08.4
comp=Z,60nm,18.4s,baz=58,slow=38
comp=Z,0.2nm,0.2s
BRTR Keskin Array B 77.94 308 P P 06 32 00.7 +1.5
comp=Z,1.1nm,0.8s,baz=80,slow=7.9,SNR=6.9
comp=Z,1.1nm,0.8s
YKA Yellowknife Ar 78.01 25 P P 06 32 00.4 +1.5
comp=Z,0.5nm,1.0s,baz=296,slow=5.8,SNR=5.5
comp=Z,0.5nm,1.0s
B08A Colville Reser 83.58 39 P P 06 32 29.3 +0.3
GERES GERESS Array B 85.89 323 P P 06 32 42.4 +1.6
comp=Z,0.2nm,0.2s,baz=56,slow=6.3,SNR=3.9
comp=Z,0.2nm,0.2s
NVAR Mina Array Bea 89.64 47 P P 06 33 02.0 +2.8
comp=Z,0.3nm,0.7s,baz=299,slow=5.4,SNR=3.1
comp=Z,0.3nm,0.7s

---

*ASRS **08** 06:35:03.0±1.3,53°.48N×87°.46E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 06:35:05.7±3.5,53°.52N×87°.46E,h0km,mbtmp2.7/2, ML2.4/2,Error ellipse: s-maj=40.3km s-min=19.6km az=84.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.62**	**287**	I	I	06 46 06.3	
0.1nm,0.7s,baz=106,slow=329,SNR=5.9							
ZALV	**Zalesovo Beam**	**1.62**	**287**	Pn	Pn	06 35 33.9	-1.6
0.8nm,0.3s,baz=107,slow=15,SNR=7.1							
ZALV				Sn	Sg	06 36 00.0	+2.2
1.3nm,0.3s,baz=106,slow=24,SNR=6.6							
KURBB	**Kurchatov Arra**	**6.22**	**246**	Pn	Pn	06 36 39.2	+0.6
0.1nm,0.3s,baz=63,slow=14,SNR=3.2							
0.3nm,0.3s							
MKAR	**Makanchi Array**	**7.50**	**208**	Pn	Pn	06 36 57.8	+1.5
0.1nm,0.3s,baz=28,slow=13,SNR=5.2							
MKAR				Lg	Lg	06 39 04.7	
0.2nm,0.3s,baz=20,slow=34,SNR=7.1							
0.2nm,0.3s							

---

*VAO **08** 06:39:32.8±2.4,32°.39S×72°.12W,h0km,mb4.7*
*SJA **08** 06:39:37.6±0.9,32°.02S×71°.90W,h13km±2km,ML4.5, MW4.5*
*IDC **08** 06:39:37.8±0.8,32°.07S×71°.68W,h0km,mb4.0/4, mbtmp3.9/9,ML4.1/5,MS3.6/8,Error ellipse: s-maj=27.9km s-min=19.2km az=107.0*
*NEIC **08** 06:39:42.0±1.6,32°.01S±0°.03×71°.77W±0°.07,h31km±5km, mb4.2/10,Mwr4.2/67,Error ellipse: s-maj=8.2km s-min=3.8km az=93.0,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}1.56; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$-1.38; $M_{r\theta}$0.24; $M_{\theta\phi}$0.01; $M_{\phi r}$-2.37; Fault plane solution: $M_0$2.80000×10^15^ NP1:ϕ_s2.19000°,δ15.90000°, λ96.93000°. NP2:ϕ_s174.99000°,δ74.22000°,λ88.03000°. Principal axes: T 2.8922, Plg61.0000°, Azm82.0000°; N -0.1880, Plg2.0000°, Azm176.0000°; P -2.7042, Plg29.0000°, Azm267.0000°;*
*GUC **08** 06:39:42.9±0.8,32°.14S×71°.54W,h32km±5km,ML4.6*
*NEIC **08** 06:39:42.2,32°.02S×71°.76W,h34km*

ISC 08 06:39:41.7±0.7,32°.03S±0°.02×71°.71W±0°.04,h30km±5km, n161,σ2$09/207,mb4.2/6,MS3.7/5,4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.99**	**177**		**Pb**	**06 39 59.5**	**-0.8**
VA01				Sn	**Sb**	**06 40 13.2**	**+0.1**
VA01	**Torpederas**	**0.99**	**177**	*eP*	**Pb**	**06 39 59.5**	**-0.8**
VA01				*eS*	**Sb**	**06 40 12.9**	**-0.1**
VA01	**Torpederas**	**0.99**	**177**	*eP*	**Pb**	**06 39 59.5**	**-0.8**
VA01				*eS*	**Sb**	**06 40 13.8**	**+0.7**
VA01				IAML		06 40 16.5	
comp=Z,7μm,0.3s							
CO02	**Combarbal**	**1.02**	**37**		**Pn**	**06 39 59.6**	**-0.5**
CO02				Sn	**Sn**	**06 40 12.8**	**-0.8**
CO02	**Combarbal**	**1.02**	**37**	IAML		06 40 13.8	
comp=E,39μm,0.3s							
CO02	**Combarbal**	**1.02**	**37**	*eP*	**Pn**	**06 39 59.3**	**-0.9**
CO02				*eS*	**Sb**	**06 40 15.6**	**+1.4**
CO02				IAML		06 40 17.2	
comp=Z,13μm,0.2s							
ROCH	**El Roble**	**1.11**	**148**	↓*iP*	**Pb**	**06 40 01.1**	**-1.4**
ROCH				*eS*	**Sb**	**06 40 15.2**	**-1.5**
ROC1	**El Roble**	**1.11**	**148**	*eP*	**Pb**	**06 40 01.1**	**-1.5**
VA03	**San Esteban**	**1.23**	**127**		**Pb**	**06 40 02.7**	**-1.7**
VA03				Sn	**Sb**	**06 40 18.9**	**-0.9**
VA03	**San Esteban**	**1.23**	**127**	*eP*	**Pb**	**06 40 02.6**	**-1.7**
VA03				*eS*	**Sb**	**06 40 17.9**	**-2.0**
VA03				IAML		06 40 21.1	
comp=N,23μm,0.5s							
VA03	**San Esteban**	**1.23**	**127**	*eP*	**Pb**	**06 40 02.7**	**-1.7**
VA03				IAML		06 40 22.0	
comp=Z,16μm,0.6s							
MT02	**Curacav**	**1.32**	**159**		**Pb**	**06 40 04.4**	**-1.4**
MT02				Sn	**Sb**	**06 40 21.2**	**-1.2**
MT02	**Curacav**	**1.32**	**159**	*eP*	**Pb**	**06 40 04.5**	**-1.4**
MT02				*eS*	**Sb**	**06 40 21.2**	**-1.2**
MT02	**Curacav**	**1.32**	**159**	*eP*	**Pb**	**06 40 04.1**	**-1.8**
MT02				IAML		06 40 26.8	
comp=Z,4μm,0.5s							
CO06	**Fray Jorge**	**1.35**	**3**		**Pn**	**06 40 04.5**	**-0.1**
CO06				Sn	**Sn**	**06 40 21.9**	**+0.4**
PEL	**Peldehue**	**1.41**	**142**		**Pb**	**06 40 05.7**	**-1.8**
PEL				Sn	**Sb**	**06 40 23.5**	**-1.6**
PEL	**Peldehue**	**1.41**	**142**	*eP*	**Pb**	**06 40 05.7**	**-1.8**
PEL				*eS*	**Sb**	**06 40 22.7**	**-2.3**
PEL				IAML		06 40 26.6	
comp=E,21μm,0.3s							
PEL	**Peldehue**	**1.41**	**142**	*eP*	**Pb**	**06 40 05.8**	**-1.6**
PEL				*eS*	**Sb**	**06 40 24.8**	**-0.3**
CO03	**El Pedregal**	**1.48**	**37**	Pn	**Pn**	**06 40 06.6**	**+0.3**
CO03				Sn	**Sn**	**06 40 25.5**	**+0.9**
CO03	**El Pedregal**	**1.48**	**37**	*eP*	**Pn**	**06 40 06.6**	**+0.3**
CO03				*eS*	**Sn**	**06 40 25.8**	**+1.1**
CO03				IAML		06 40 27.9	
comp=Z,3μm,0.4s							
MT05	**Renca**	**1.59**	**149**		**Pb**	**06 40 08.4**	**-2.1**
MT05	**Renca**	**1.59**	**149**	*eP*	**Pb**	**06 40 08.7**	**-1.8**
MT05				*eS*	**Sb**	**06 40 27.3**	**-2.9**
MT05				IAML		06 40 31.3	
comp=E,15μm,0.4s							
MT05	**Renca**	**1.59**	**149**	*eP*	**Pb**	**06 40 08.7**	**-1.8**
MT05				*eS*	**Sb**	**06 40 32.2**	**+2.0**
MT05				IAML		06 40 35.9	
comp=Z,4μm,0.8s							
MT10	**Hacienda Santa**	**1.59**	**142**	*eP*	**Pb**	**06 40 08.6**	**-2.0**
MT10				*eS*	**Sb**	**06 40 28.4**	**-1.8**
MT10				IAML		06 40 32.6	
comp=E,29μm,0.3s							
VA05	**Santo Domingo**	**1.62**	**177**		**Pn**	**06 40 08.6**	**+0.3**
VA05	**Santo Domingo**	**1.62**	**177**	*eP*	**Pn**	**06 40 08.8**	**+0.5**
VA05				*eS*	**Sb**	**06 40 31.2**	**+0.1**
VA05				IAML		06 40 36.3	
comp=E,26μm,0.4s							
MT14	**Cerro Calı|n**	**1.68**	**144**	*eP*	**Pb**	**06 40 10.4**	**-1.8**
MT14				*eS*	**Sb**	**06 40 30.9**	**-2.1**
MT14				IAML		06 40 35.0	
comp=E,13μm,0.4s							
MT16	**CCHEN**	**1.72**	**145**		**Pb**	**06 40 10.5**	**-2.2**
MT03	**Universidad Ad**	**1.78**	**146**		**Pb**	**06 40 11.5**	**-2.2**
MT03	**Universidad Ad**	**1.78**	**146**	*eP*	**Pb**	**06 40 11.5**	**-2.2**
MT03				*eS*	**Sb**	**06 40 33.7**	**-2.0**
MT03				IAML		06 40 37.0	
comp=E,13μm,0.2s							
MT03	**Universidad Ad**	**1.78**	**146**	*eP*	**Pb**	**06 40 11.7**	**-2.0**
MT03				IAML		06 40 37.9	
comp=Z,7μm,0.7s							
MT09	**Talagante**	**1.84**	**161**		**Pb**	**06 40 12.7**	**-2.2**
MT09	**Talagante**	**1.84**	**161**	*eP*	**Pb**	**06 40 12.9**	**-2.0**
MT09				*eS*	**Sb**	**06 40 36.1**	**-1.5**
MT09				IAML		06 40 41.2	
comp=N,7μm,0.5s							
MT15	**Las Vizcachas**	**1.86**	**147**	*eP*	**Pb**	**06 40 12.9**	**-2.3**
MT15				*eS*	**Sb**	**06 40 35.7**	**-2.5**
MT15				IAML		06 40 46.2	
comp=E,9μm,0.2s							
MT01	**Popeta**	**1.87**	**168**		**Pn**	**06 40 12.5**	**+0.8**
MT01	**Popeta**	**1.87**	**168**	*eP*	**Pn**	**06 40 12.4**	**+0.7**
MT01				IAML		06 40 42.1	
comp=E,6μm,0.5s							
MT01	**Popeta**	**1.87**	**168**	*eP*	**Pn**	**06 40 12.5**	**+0.8**
MT01				*eS*	**Sb**	**06 40 38.0**	**-0.3**
MT01				IAML		06 40 45.1	
comp=Z,4μm,0.8s							
MT04	**Ro Olivares**	**1.91**	**136**	*eP*	**Pb**	**06 40 13.6**	**-2.5**
MT04				*eS*	**Sb**	**06 40 39.0**	**-0.5**
MT04				IAML		06 40 46.5	
comp=Z,3μm,0.4s							
MT08	**Bocatoma Ro**	**2.01**	**135**		**Pb**	**06 40 15.6**	**-2.1**
MT08	**Bocatoma Ro**	**2.01**	**135**	*eP*	**Pb**	**06 40 15.7**	**-2.0**
MT08				IAML		06 40 50.3	
comp=Z,3μm,0.5s							
GO04	**Tololo Observa**	**2.01**	**23**	Pn	**Pn**	**06 40 14.4**	**+0.6**
GO04	**Tololo Observa**	**2.01**	**23**	*eP*	**Pn**	**06 40 14.5**	**+0.6**
GO04				*eS*	**Sn**	**06 40 41.5**	**+3.4**
RTLS	**Leoncito**	**2.07**	**84**	*eP*	**Pb**	**06 40 17.6**	**-1.2**
RTLS				*eS*	**Sb**	**06 40 39.8**	**-4.4**
RTLS				IAML		06 40 50.6	
comp=Z,8μm,1.4s							
MT13	**San Alfonso**	**2.09**	**145**		**Pb**	**06 40 16.1**	**-2.9**
MT13	**San Alfonso**	**2.09**	**145**	*eP*	**Pb**	**06 40 16.1**	**-2.9**
MT13				*eS*	**Sb**	**06 40 41.5**	**-3.1**
MT13				IAML		06 40 51.0	
comp=E,8μm,0.7s							
MT13	**San Alfonso**	**2.09**	**145**	*eP*	**Pb**	**06 40 16.1**	**-2.9**
MT13				*eS*	**Sb**	**06 40 45.6**	**+1.0**
MT13				IAML		06 40 51.8	
comp=Z,5μm,0.5s							
CO05	**La Serena**	**2.14**	**11**		**Pn**	**06 40 15.9**	**+0.4**
BO04	**La Punta**	**2.16**	**155**		**Pb**	**06 40 17.0**	**-3.3**
LMEL	**Las Melosas**	**2.21**	**145**		**Pb**	**06 40 17.9**	**-3.3**
LMEL	**Las Melosas**	**2.21**	**145**	*eP*	**Pb**	**06 40 18.1**	**-3.0**
LMEL				*eS*	**Sb**	**06 40 47.9**	**-0.3**
BO01	**Tunca**	**2.41**	**168**	Pn	**Pn**	**06 40 20.0**	**+0.8**
BO01	**Tunca**	**2.41**	**168**	*eP*	**Pn**	**06 40 19.9**	**+0.8**
BO01				*eS*	**Sb**	**06 40 55.5**	**+1.6**
BO01				IAML		06 41 01.0	
comp=Z,2μm,0.5s							
CO01	**Juntas del Tor**	**2.47**	**35**	Pn	**Pn**	**06 40 21.8**	**+1.6**
CO01	**Juntas del Tor**	**2.47**	**35**	*eP*	**Pn**	**06 40 22.0**	**+1.8**
CO01				*eS*	**Sb**	**06 40 54.2**	**-1.6**
CO01				IAML		06 40 55.8	
comp=Z,2μm,0.3s							
ARCO	**CERRO ARCO**	**2.49**	**110**	*eP*	**Pb**	**06 40 25.2**	**-0.6**
ARCO				IAML		06 40 59.5	
comp=Z,2μm,2.4s							
DOCA	**Reserva Natura**	**2.49**	**65**	*eP*	**Pb**	**06 40 23.8**	**-2.3**
DOCA				*eS*	**Sb**	**06 40 56.9**	**+0.4**
DOCA				IAML		06 40 59.5	
comp=Z,1μm,1.4s							
ASAL	**Salagasta**	**2.50**	**104**	*eP*	**Pb**	**06 40 25.1**	**-0.9**
ASAL				*eS*	**Sb**	**06 40 56.2**	**-0.2**
ZON	**Zonda**	**2.63**	**80**		**Pb**	**06 40 25.7**	**-2.5**
ZON	**Zonda**	**2.63**	**80**	*eP*	**Pb**	**06 40 26.0**	**-2.2**
ZON				*eS*	**Sb**	**06 40 58.7**	**-1.4**
ZON				IAML		06 41 09.4	
comp=Z,915nm,1.3s							
AAGR	**Agrelo**	**2.65**	**114**	*eP*	**Pb**	**06 40 26.9**	**-1.8**
AAGR				*eS*	**Sb**	**06 40 59.6**	**-1.2**
AROD	**Rodeo**	**2.67**	**47**	*eP*	**Pn**	**06 40 26.3**	**+3.3**
ACCO	**Cerro Coronel**	**2.68**	**58**	*eP*	**Pb**	**06 40 28.4**	**-0.9**
ACCO				*eS*	**Sb**	**06 41 05.0**	**+3.1**
SJA	**San Juan**	**2.73**	**80**	*eP*	Pn	06 40 11.5	-12
SJA				*eS*	**Sb**	**06 41 06.4**	**+3.4**
RTLL	**Cerro Villicun**	**2.85**	**77**	*eP*	**Pb**	**06 40 28.5**	**-3.4**
RTLL				*eS*	**Sb**	**06 41 04.6**	**-1.7**
BO02	**Sierra Bellavi**	**2.86**	**164**	Pn	**Pn**	**06 40 26.4**	**+0.9**
BO02	**Sierra Bellavi**	**2.86**	**164**	*eP*	**Pn**	**06 40 26.5**	**+1.1**
BO02				*eS*	**Sb**	**06 41 01.4**	**-5.4**
BO02				IAML		06 41 12.3	
comp=Z,4μm,0.8s							
ACDV	**Cuesta del Vie**	**2.90**	**51**	*eP*	**Pn**	**06 40 29.6**	**+3.7**
ACDV				*eS*	**Sb**	**06 41 04.9**	**-2.9**
ACDV				IAML		06 41 10.9	
comp=Z,612nm,0.4s							
CFA	**Coronel Fontan**	**2.99**	**83**	Pn	**Pn**	**06 40 28.1**	**+1.0**
comp=Z,35nm,0.3s,baz=261,slow=9.4,SNR=220							
CFA				Sn	**Sb**	**06 41 06.9**	**-3.5**
comp=Z,25nm,0.3s,baz=26,slow=15,SNR=5.9							
comp=Z,52nm,0.4s							
CFA	**Coronel Fontan**	**2.99**	**83**	*eP*	**Pb**	**06 40 29.9**	**-4.4**
CFA				*eS*	**Sb**	**06 41 06.4**	**-4.0**
CFA				IAML		06 41 16.1	
comp=Z,6μm,1.2s							
AVIZ	**Vizcacheras**	**3.05**	**119**	*eP*	**Pb**	**06 40 31.8**	**-3.7**
LCO	**Las Campanas**	**3.13**	**16**		**Pn**	**06 40 29.7**	**+0.4**
LCO	**Las Campanas**	**3.13**	**16**	*eP*	**Pn**	**06 40 29.6**	**+0.3**
LCO				*eS*	**Sn**	**06 41 11.6**	**+5.7**
LCO				IAML		06 41 20.0	
comp=Z,2μm,0.8s							
AC05	**El Transito**	**3.42**	**22**	Pn	**Pn**	**06 40 34.1**	**+1.0**
AC05	**El Transito**	**3.42**	**22**	*eP*	**Pn**	**06 40 34.4**	**+1.3**
AC05				*eS*	**Sn**	**06 41 17.4**	**+4.7**
AC05				IAML		06 41 34.0	
comp=Z,724nm,0.6s							
ML02	**Panimavida**	**3.73**	**176**		**Pn**	**06 40 37.6**	**+0.4**
AGUA	**GUANDACOL**	**3.76**	**48**	*eP*	**Pn**	**06 40 41.7**	**+4.0**
AGUA				*eS*	**Sb**	**06 41 31.5**	**-1.1**
AGUA				IAML		06 41 42.2	
comp=Z,900nm,1.0s							
AC04	**Llanos de Chal**	**3.85**	**8**	Pn	**Pn**	**06 40 38.6**	**-0.4**
AC04	**Llanos de Chal**	**3.85**	**8**	*eP*	**Pn**	**06 40 38.6**	**-0.4**
AC04				*eS*	**Sn**	**06 41 29.0**	**+5.8**
AC04				IAML		06 41 39.9	
comp=Z,542nm,0.6s							
AVFE	**Valle Fertil**	**3.89**	**71**	*eP*	**Pn**	**06 40 42.3**	**+2.7**
AVFE				*eS*	**Sb**	**06 41 30.9**	**-5.4**
AVFE				IAML		06 41 36.0	
comp=Z,742nm,0.7s							
ACHE	**Chepes**	**4.39**	**80**	*eP*	**Pn**	**06 40 49.5**	**+3.0**
ACHE				*eS*	**Sb**	**06 41 45.9**	**-5.0**
VCA	**Vinchina**	**4.47**	**44**	*eP*	**Pn**	**06 40 51.1**	**+3.5**
VCA				*eS*	**Sn**	**06 41 44.3**	**+5.7**
VCA				IAML		06 41 55.3	
comp=Z,1μm,0.5s							
GO03	**Copiapo**	**4.60**	**17**		**Pn**	**06 40 49.4**	**0.0**
GO03	**Copiapo**	**4.60**	**17**	*eP*	**Pn**	**06 40 49.8**	**+0.4**
GO03				*eS*	**Sn**	**06 41 47.1**	**+5.3**
BI02	**San Fabin de**	**4.64**	**176**		**Pn**	**06 40 50.5**	**+0.6**
BI02	**San Fabin de**	**4.64**	**176**	*eP*	**Pn**	**06 40 50.8**	**+1.0**
BI02				IAML		06 42 12.2	
comp=Z,252nm,0.5s							
APLL	**PUNTA DE LOS L**	**4.73**	**71**	*eP*	**Pn**	**06 40 53.4**	**+2.3**
APLL				*eS*	**Sn**	**06 41 50.2**	**+5.2**
AC06	**Mina Casimiro**	**4.80**	**15**		**Pn**	**06 40 51.5**	**-0.6**
ACLC	**CERRO LA CRUZ**	**4.85**	**59**	*eP*	**Pn**	**06 40 55.6**	**+2.7**
ACLC				*eS*	**Sn**	**06 41 54.7**	**+6.6**
ACLC				IAML		06 42 01.1	
comp=Z,306nm,1.1s							
BI05	**Punta Hualpn**	**4.86**	**194**		**Pn**	**06 40 51.8**	**-1.0**
AC02	**Maricunga**	**5.64**	**24**		**Pn**	**06 41 04.5**	**+0.4**
AC01	**Pan de Azucar**	**5.94**	**10**	Pn	**Pn**	**06 41 06.0**	**-1.7**
H03N1	**Juan Fernandez**	**6.23**	**255**	T	T	06 47 51.4	
baz=85,slow=73,SNR=3775							
H03N3	**Juan Fernandez**	**6.24**	**255**	T	T	06 47 44.2	
baz=85,slow=73,SNR=3430							
H03N2	**Juan Fernandez**	**6.24**	**255**	T	T	06 47 45.5	
baz=85,slow=73,SNR=4204							
H03S3	**Juan Fernandez**	**6.31**	**252**	T	T	06 47 55.7	
baz=83,slow=74,SNR=36							
H03S1	**Juan Fernandez**	**6.31**	**251**	T	T	06 47 54.2	
baz=83,slow=74,SNR=40							
H03S2	**Juan Fernandez**	**6.33**	**252**	T	T	06 47 55.9	
baz=83,slow=74,SNR=85							
GO02	**Mina Guanaco**	**7.09**	**16**	Pn	**Pn**	**06 41 22.1**	**-1.6**
LR03	**Panguipulli**	**7.60**	**184**		**Pn**	**06 41 29.4**	**-1.1**
LR04	**Corral**	**7.96**	**190**		**Pn**	**06 41 33.6**	**-1.7**
LR05	**Currie**	**8.19**	**182**		**Pn**	**06 41 38.0**	**-0.5**
PB10	**IPOC Station P**	**8.55**	**7**	Pn	Pn	06 41 40.8	-2.6
PLCA	**Paso Flores**	**8.73**	**174**		**Pn**	**06 41 47.0**	**+1.0**
PLCA	**Paso Flores**	**8.73**	**174**	Pn	**Pn**	**06 41 45.8**	**-0.3**
comp=Z,0.8nm,0.3s,baz=336,slow=11,SNR=60							
PLCA				Lg	Lg	06 44 05.5	
comp=Z,0.3nm,0.3s,baz=261,slow=5.1,SNR=3.0							
PLCA				LR	LR	06 45 38.7	
comp=Z,189nm,20.0s,baz=349,slow=42							
comp=Z,2.0nm,0.4s							
LL03	**Petrohue**	**9.11**	**183**	Pn	**Pn**	**06 41 50.5**	**-0.6**
LL05	**Los Muermos**	**9.46**	**188**	Pn	**Pn**	**06 41 56.0**	**0.0**
AF01	**San Pedro de A**	**9.57**	**20**	Pn	**Pn**	**06 41 57.2**	**-0.5**
TRQA	**Tornquist**	**9.99**	**130**		**Pn**	**06 42 03.4**	**+0.2**
LL01	**San Ignacio de**	**10.35**	**183**	Pn	**Pn**	**06 42 08.2**	**+0.2**
PB09	**IPOC Station P**	**10.43**	**13**	Pn	**Pn**	**06 42 08.0**	**-1.4**
GO07	**Milladeo Hill,**	**11.17**	**187**	Pn	**Pn**	**06 42 16.5**	**-2.8**
ITQB	**Itaqui**	**13.18**	**84**		**Pn**	**06 42 46.2**	**-0.6**
ITQB	**Itaqui**	**13.18**	**84**	*eP*	**Pn**	**06 42 45.7**	**-1.1**
TBOT	**Tacuaremb**	**13.42**	**93**	*eP*	**Pn**	**06 42 47.1**	**-3.0**
CPUP	**Villa Florida**	**13.78**	**69**		**Pn**	**06 42 54.8**	**-0.3**
CPUP	**Villa Florida**	**13.78**	**69**	Pn	**Pn**	**06 42 54.2**	**-0.9**
comp=Z,0.3nm,0.3s,baz=230,slow=12,SNR=5.1							
CPUP				Sn	**Sn**	**06 45 30.1**	**+3.0**
comp=Z,0.4nm,0.3s,baz=337,slow=7.1,SNR=2.0							
CPUP				LR	LR	06 48 31.7	
comp=Z,288nm,21.9s,baz=248,slow=39							
comp=Z,

comp=Z,13nm,1.0s,baz=222,slow=8.0,SNR=14
BDFB LR LR 06 57 38.8
comp=Z,194nm,18.0s,baz=187,slow=40
comp=Z,13nm,1.0s
TMAB Tom-Au,PA,Br 36.94 42 eP **P 06 46 47.4 -0.8**
MDP Montagnes des 41.15 30 LR LR 07 06 08.6
comp=Z,119nm,18.2s,baz=178,slow=39
PCRV Puerto La Cruz 42.51 10 LR LR 07 08 44.7
comp=Z,75nm,18.0s,slow=41
BELA Belgrano 2 48.77 170 P **P 06 48 23.6 +0.3**
BELA IAmb IAmb 06 48 59.7
comp=Z,1.2nm,0.7s
SNAA Sanae 53.30 158 P **P 06 48 58.5 +0.9**
SNAA IAmb IAmb 06 49 15.2
comp=Z,5.2nm,1.0s
SNAA Sanae 53.30 158 ⇓P **P 06 48 58.2 +0.6**
comp=Z,53nm,0.7s
SNAA Sanae 53.30 158 P **P 06 48 57.0 -0.6**
comp=Z,2.2nm,0.8s,baz=196,slow=8.1,SNR=4.3
comp=Z,2.2nm,0.8s
CMIG Matias Romero 53.66 332 LR LR 07 06 00.2
comp=Z,39nm,20.8s,baz=188,slow=30
TROLL Troll, Antarti 55.02 159 ⇓P **P 06 49 11.0 +0.9**
comp=Z,218nm,0.9s
TROLL ⇓sP **sP 06 49 25.1 +2.3**
QSPA South Pole Qui 58.20 180 P **P 06 49 34.6 +1.7**
QSPA South Pole Qui 58.20 180 P **P 06 49 33.3 +0.5**
comp=Z,1.4nm,0.7s,baz=125,slow=1.9,SNR=7.7
comp=Z,1.4nm,0.7s
TXAR Lajitas Array 68.16 330 P **P 06 50 37.4 -1.8**
TXAR Lajitas Array 68.16 330 P **P 06 50 40.4 +1.2**
comp=Z,0.2nm,0.6s,baz=152,slow=8.6,SNR=5.4
comp=Z,0.2nm,0.6s
DBIC Dimbokro 74.29 72 LR LR 07 24 29.4
comp=Z,33nm,18.1s,baz=162,slow=36
BVAR Borovoye Array 145.64 41 PKPbc **PKPbc 06 59 17.9 +1.0**
comp=Z,2.9nm,0.6s,baz=310,slow=3.5,SNR=14
KURBB Kurchatov Arra 151.23 41 PKPbc **PKPbc 06 59 31.8 +0.1**
comp=Z,2.4nm,0.9s,baz=298,slow=2.9,SNR=22
KURBB PKPab **sPKPdf 06 59 40.6 +1.8**
comp=Z,1.1nm,0.7s,baz=296,slow=3.1,SNR=7.5
ZALV Zalesovo Beam 152.41 31 PKPbc **PKPbc 06 59 34.7 +0.4**
comp=Z,4.6nm,0.8s,baz=299,slow=3.1,SNR=13
ZALV PKPab **PKPab 06 59 45.5 +1.0**
comp=Z,2.9nm,0.6s,baz=306,slow=5.1,SNR=8.4
MKAR Makanchi Array 155.23 46 PKP **PKPdf 06 59 32.3 +0.5**
comp=Z,0.6nm,0.9s,baz=298,slow=2.6,SNR=4.7
MKAR PKPab **PKPab 06 59 58.1 +1.3**
comp=Z,0.9nm,0.8s,baz=301,slow=2.6,SNR=7.7
HHC Hu-ho-hao-te 170.81 344 eP **PKPdf 06 59 46.3 -0.7**
PZH PanZhiHua 172.06 132 PKP **PKPdf 06 59 47.9 -0.1**

---

*ASRS **08** 06:40:49.0±1.2,54°.16N×87°.06E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 06:40:49.7±3.3,54°.23N×87°.27E,h0km,mbtmp2.7/2, ML2.5/2,Error ellipse: s-maj=28.8km s-min=17.6km az=62.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47 260**		I	I		06 48 19.3	
	baz=80,slow=329,SNR=2.5							
ZALV	**Zalesovo Beam**	**1.47 260**		Pg		Pn	06 41 15.0	-2.5
	1.0nm,0.3s,baz=78,slow=13,SNR=9.0							
ZALV				Lg		Lg	06 41 37.2	
	0.9nm,0.3s,baz=82,slow=30,SNR=4.5							
KURBB	**Kurchatov Arra**	**6.45 240**		Pn		Pn	06 42 26.6	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=4.0							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**8.09 205**		Pn		Pn	06 42 49.8	+1.4
	0.1nm,0.3s,baz=29,slow=13,SNR=5.0							
MKAR				Sn		Sn	06 44 20.3	-0.2
	0.1nm,0.3s,baz=21,slow=25,SNR=3.3							
MKAR				Lg		Lg	06 45 06.8	
	baz=24,slow=27,SNR=2.1							
	0.2nm,0.4s							

---

*ASRS **08** 06:44:31.0±1.1,54°.30N×86°.07E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 06:44:33.2±2.5,54°.29N×86°.05E,h0km,mbtmp2.9/2, ML2.7/2,Error ellipse: s-maj=18.1km s-min=10.9km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.80 245**		I	I		06 49 11.8	
	baz=62,slow=335,SNR=2.2							
ZALV	**Zalesovo Beam**	**0.80 245**		Pg		Pg	06 44 47.3	-1.3
	1.3nm,0.3s,baz=67,slow=17,SNR=8.3							
ZALV				Lg		Lg	06 45 00.6	
	8.9nm,0.3s,baz=65,slow=30,SNR=26							
KURBB	**Kurchatov Arra**	**5.88 234**		Pn		Pn	06 46 02.7	+1.2
	0.1nm,0.3s,baz=50,slow=13,SNR=7.5							
KURBB				Sn		Sn	06 47 08.7	-1.0
	baz=46,slow=31							
KURBB				Lg		Lg	06 47 39.7	
	baz=45,slow=31,SNR=4.6							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**7.88 199**		Pn		Pn	06 46 30.0	+1.0
	0.2nm,0.3s,baz=17,slow=11,SNR=6.5							
MKAR				Sn		Sn	06 47 57.1	-1.7
	0.1nm,0.3s,baz=12,slow=22,SNR=2.2							
	0.2nm,0.3s							

IDC 08 06:46:27.5±3.2,29°.63S×178°.21W,h0km,mb3.9/4, mbtmp3.9/4,Error ellipse: s-maj=85.3km s-min=37.3km az=35.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.48 256**		P		P	06 53 16.6	-0.7
	4.2nm,0.9s,baz=71,slow=7.0,SNR=5.0							
	4.2nm,0.9s							
ASAR	**Alice Springs**	**42.97 266**		P		P	06 54 28.3	-0.3
	0.5nm,0.7s,baz=102,slow=7.3,SNR=6.3							
	0.5nm,0.7s							
WRA	**Warramunga Arr**	**43.89 271**		P		P	06 54 36.9	+0.8
	0.9nm,0.7s,baz=111,slow=8.0,SNR=4.5							
	0.9nm,0.7s							
QSPA	**South Pole Qui**	**60.48 180**		P		P	06 56 39.0	0.0
	1.5nm,0.8s,baz=16,slow=8.5,SNR=6.2							
	1.5nm,0.8s							
FINES	**FINESS Array B**	**144.36 340**		PKP		PKPbc	07 06 04.0	+0.7
	3.4nm,0.9s,baz=26,slow=3.5,SNR=3.8							

---

*ASRS **08** 06:49:37.0±1.3,53°.79N×88°.21E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 06:49:41.2±3.2,53°.75N×88°.11E,h0km,mbtmp2.8/2, ML2.6/2,Error ellipse: s-maj=25.3km s-min=16.9km az=60.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.96 277**		I	I		07 02 50.0	
	0.1nm,0.8s,baz=93,slow=332,SNR=4.1							
ZALV	**Zalesovo Beam**	**1.96 277**		Pg		Pn	06 50 16.2	+0.6
	1.1nm,0.3s,baz=90,slow=11,SNR=13							
ZALV				Lg		Lg	06 50 43.0	
	2.4nm,0.3s,baz=95,slow=26,SNR=12							
KURBB	**Kurchatov Arra**	**6.67 246**		Pn		Pn	06 51 21.1	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=7.0							
KURBB				Sn		Sn	06 52 36.8	-0.2
	baz=61,slow=30,SNR=2.4							
KURBB				Lg		Lg	06 53 13.9	
	baz=61,slow=31,SNR=5.2							
	0.6nm,0.3s							
MKAR	**Makanchi Array**	**7.90 210**		Pn		Pn	06 51 38.5	+1.3
	0.1nm,0.3s,baz=27,slow=10.0,SNR=2.3							
MKAR				Sn		Sn	06 53 06.2	-1.0
	0.1nm,0.3s,baz=30,slow=24,SNR=2.7							
MKAR				Lg		Lg	06 53 50.1	
	baz=30,slow=29,SNR=1.8							
	0.1nm,0.4s							

---

*MOS **08** 06:58:08.7±1.0,21°.92N×121°.50E,h14km,mb5.1/51, MS4.5/8,Error ellipse: s-maj=8.0km s-min=4.9km az=113.6*

*ASIES **08** 06:58:09.8,22°.00N×121°.51E,h18km,ML4.8,Mw4.9, Moment Tensor Solution. Moment tensor: Scale 10^{23}Nm; M_{rr}2.42; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-2.69; $M_{r\theta}$-0.88; $M_{\theta\phi}$-0.14; $M_{\phi r}$-0.83; Fault plane solution: $M_0$2.83952×10^{23} NP1: ϕ_s345.10000°,δ38.29000°,λ61.21000°. NP2: ϕ_s200.10000°,δ57.11000°,λ110.82000°. Principal axes: T Plg69.8830°, Azm157.0370°; N Plg17.3630°, Azm8.4310°; P Plg9.8460°, Azm275.3210°;*

*TAP **08** 06:58:09.8,22°.00N×121°.51E,h18km,ML4.8,D*

*NEIC **08** 06:58:10.6±2.2,22°.13N±0°.04×121°.52E±0°.07,h10km±1km, mb5.0/139,Mww5.0/25,Error ellipse: s-maj=10.7km s-min=7.0km az=251.0*

*GCMT **08** 06:58:10.6±0.2,21°.98N±0°.01×121°.48E±0°.02,h12km, MW5.0/129,Moment Tensor Solution. s51,c67; s129,c191; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.54±.06; $M_{\theta\theta}$2.89±.06; $M_{\phi\phi}$0.64±.07; $M_{r\theta}$-0.11±.21; $M_{\theta\phi}$-1.27±.05; $M_{\phi r}$-0.49±.25; Best double couple: $M_0$3.53500×10^{16} NP1:ϕ_s107.00000°,δ45.00000°, λ-101.00000°. NP2:ϕ_s302.00000°,δ46.00000°, λ-80.00000°. Principal axes: T 3.4650, Plg1.0000°, Azm24.0000°; N 0.1410, Plg8.0000°, Azm115.0000°; P -3.6060, Plg82.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 06:58:10.9,22°.12N×121°.53E,h12km*

*BJI **08** 06:58:10.7,22°.03N×121°.48E,h11km,mB5.0/38,mb4.5/62, ML4.3/8,Ms4.6/77,Ms7 4.6/76*

*NEIC **08** 06:58:10.9,22°.32N×121°.00E,h12km,Moment Tensor Solution. Duration: 1$\div$6 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.17; $M_{\theta\theta}$2.25; $M_{\phi\phi}$0.91; $M_{r\theta}$2.09; $M_{\theta\phi}$-1.11; $M_{\phi r}$1.02; Fault plane solution: $M_0$3.72000×10^{16} NP1: ϕ_s135.26000°,δ35.34000°,λ-53.90000°. NP2: ϕ_s273.47000°,δ62.14000°,λ-112.67000°. Principal axes: T 3.2172, Plg14.0000°, Azm20.0000°; N 1.0083, Plg20.0000°, Azm285.0000°; P -4.2255, Plg65.0000°, Azm143.0000°;*

*JMA **08** 06:58:11.7±0.1,22°.3N±0°.6×121°.7E±0°.3,h0km,MV4.9/19, TAIWAN REGION*

*NIED **08** 06:58:11.7,22°.34N×121°.69E,h0km,MW5.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.71; $M_{\theta\theta}$1.77; $M_{\phi\phi}$-0.07; $M_{r\theta}$2.14; $M_{\theta\phi}$-0.92; $M_{\phi r}$-1.40; Fault plane solution: $M_0$3.21000×10^{16} NP1:ϕ_s99.00000°, δ20.00000°,λ-112.00000°. NP2:ϕ_s302.00000°, δ72.00000°,λ-82.00000°.*

*IDC **08** 06:58:12.4±1.9,21°.96N×121°.77E,h32km±12km,mb4.4/27, mbtmp4.5/29,ML3.9/2,MS4.3/61 Error ellipse: s-maj=18.6km s-min=9.7km az=68.0*

ISC 08 06:58:11.1±0.5,22°.00N±0°.02×121°.54E±0°.02,h17km±2km, n733,σ1$\div$63/812,mb5.0/191,MS4.4/78,41C-38D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.04**	**82**	⇑*iP*		**Pg**	06 58 13.1	-1.1
LYUB				*i* S		**Sg**	06 58 15.1	-1.1
LAY	**Lan-yu**	**0.04**	**11**	⇑*iP*		**Pg**	06 58 13.5	-0.8
LAY				*i* S		**Sg**	06 58 15.7	-0.7
TSEB	**Hengchuen, Pin**	**0.60**	**261**	⇑*iP*		**Pg**	06 58 22.3	-0.7
TSEB				*i* S		**Sg**	06 58 31.8	+0.6
SMST	**Manzhou Townsh**	**0.66**	**272**	*eP*		**Pb**	06 58 22.6	-1.5
SMST				*eS*		**Sg**	06 58 31.3	-1.4
LDUT	**Ludao**	**0.68**	**354**	⇑*iP*		**Pg**	06 58 22.6	-1.9
LDUT				*i* S		**Sg**	06 58 31.8	-1.6
TWKBT	**Hengchun**	**0.68**	**265**	⇑*iP*		**Pb**	06 58 22.8	-1.8
TWKBT				S		**Sb**	06 58 30.5	-3.1
TWK1	**Hengchun**	**0.69**	**266**	⇑*iP*		**Pb**	06 58 22.8	-1.8
TWK1				*i* S		**Sb**	06 58 31.9	-2.0
TAWH	**Dawu Township**	**0.70**	**300**	⇓*eP*		**Pb**	06 58 23.0	-1.8
TAWH				*eS*		**Sb**	06 58 32.5	-1.6
TAW	**Tawu**	**0.70**	**301**	*eP*		**Pb**	06 58 23.0	-1.8
TAW				*eS*		**Sb**	06 58 32.0	-2.2
SLIU	**Shizi**	**0.72**	**288**	⇓*eP*		**Pb**	06 58 23.4	-1.9
SLIU				*eS*		**Sb**	06 58 33.1	-1.8
HEN	**Hengchun**	**0.75**	**271**	⇑*eP*		**Pb**	06 58 24.0	-1.6
HEN				*eS*		**Sb**	06 58 34.1	-1.5
EAST	**Anshuo**	**0.75**	**301**	*i P*		**Pb**	06 58 23.6	-2.1
EAST				S		**Sb**	06 58 33.0	-2.7
ECL	**Taimali**	**0.81**	**318**	*eP*		**Pb**	06 58 24.5	-2.2
ECL				*eS*		**Sb**	06 58 32.8	-4.6
TTN	**Taitung**	**0.84**	**334**	*eP*		**Pb**	06 58 26.1	-1.1
TTN				*i* S		**Sb**	06 58 37.3	-0.9
TWGBT	**Beinan**	**0.92**	**332**	P		**Pb**	06 58 27.2	-1.5
TWGBT	**Beinan**	**0.92**	**332**	⇑P		**Pb**	06 58 26.3	-2.4
TWGBT				*eS*		**Sb**	06 58 40.0	-0.7
TWG	**Pinlang**	**0.93**	**332**			**Pb**	06 58 26.4	-2.4
TWG	**Pinlang**	**0.93**	**332**	*eP*		**Pb**	06 58 26.5	-2.3
TWG				S		**Sb**	06 58 38.6	-2.2
SCZT	**Fangliau**	**0.93**	**294**	⇓*eP*		**Pb**	06 58 26.7	-2.1
LONT	**Longtian**	**0.98**	**337**	⇑*eP*		**Pb**	06 58 27.8	-1.9
LONT				*eS*		**Sg**	06 58 42.9	-0.3
EDH	**Donghe**	**1.00**	**347**	⇑*eP*		**Pb**	06 58 27.6	-2.3
EDH				*eS*		**Sb**	06 58 40.3	-2.5
MASBT	**Mashibuluo**	**1.04**	**306**	*eP*		**Pb**	06 58 28.3	-2.4
MASBT				*eS*		**Sb**	06 58 41.3	-2.8
TSMG	**Majia**	**1.09**	**311**	*eP*		**Pb**	06 58 29.6	-2.0
ECS	**Chishang**	**1.13**	**345**	*eP*		**Pn**	06 58 31.2	-1.0
TWP	**Hsiaoliuchiu**	**1.15**	**288**	⇓P		**Pb**	06 58 33.0	+0.5
EHD	**Haiduan**	**1.19**	**345**	*eP*		**Pn**	06 58 31.0	-2.0
EHD				*eS*		**Sb**	06 58 46.3	-2.0
CHKH	**Chenggong**	**1.20**	**354**	⇑*iP*		**Pn**	06 58 30.6	-2.5
CHKH				*i* S		**Sb**	06 58 45.9	-2.6
FULB	**Fuli**	**1.22**	**349**	⇑*eP*		**Pn**	06 58 31.1	-2.3
FULB				S		**Sb**	06 58 47.7	-1.5
ELDTW	**Lidau**	**1.28**	**338**	*eP*		**Pn**	06 58 32.0	-2.4
ELDTW				*eS*		**Sb**	06 58 45.6	-5.5
SCST	**Cishan**	**1.31**	**313**	*eP*		**Pn**	06 58 35.0	+0.4
ECBN	**Changbin**	**1.32**	**356**	*eP*		**Pn**	06 58 32.1	-2.7
ECBN				*eS*		**Sn**	06 58 47.5	-4.4
TWM1	**Shoushan**	**1.32**	**309**	*eP*		**Pb**	06 58 35.7	+0.1
TWM1				*eS*		**Sn**	06 58 50.0	-2.1
SNJT	**Kaohsiung City**	**1.35**	**304**	*eP*		**Pb**	06 58 36.1	+0.2
WSSB	**Gushan**	**1.35**	**299**	*eP*		**Pn**	06 58 35.1	-0.1
EYUL	**Yuli**	**1.36**	**351**	*eP*		**Pn**	06 58 33.5	-1.8
EYUL				*eS*		**Sn**	06 58 52.5	-0.5
STYH	**Taoyuan**	**1.37**	**329**	*eP*		**Pn**	06 58 33.6	-1.9
STYH				*eS*		**Sn**	06 58 49.4	-3.7
TWF1	**Yuli**	**1.37**	**351**	⇑*eP*		**Pn**	06 58 33.4	-2.1
TWF1				*eS*		**Sn**	06 58 51.0	-2.2
SGST	**Jiashian**	**1.40**	**321**	P		**Pn**	06 58 34.9	-1.0
SGST				*eS*		**Sb**	06 58 54.3	0.0
YULB	**Yu-li**	**1.41**	**351**			**Pn**	06 58 33.3	-2.8
YULB	**Yu-li**	**1.41**	**351**	P		**Pn**	06 58 34.9	-1.1
YULB	**Yu-li**	**1.41**	**351**	⇑*eP*		**Pn**	06 58 33.7	-2.3
YULB				*eS*		**Sn**	06 58 52.2	-2.0
HGSD	**Ruisui**	**1.49**	**356**	*eP*		**Pn**	06 58 35.3	-1.9
HGSD				*eS*		**Sn**	06 58 53.1	-3.2
EHYH	**Wanrong**	**1.50**	**353**	*eP*		**Pn**	06 58 35.9	-1.4
EHYH				*eS*		**Sn**	06 58 56.2	-0.3
SHHT	**Tainan City**	**1.50**	**313**	*eP*		**Pb**	06 58 38.1	-0.5
CHN1	**Nanshi**	**1.51**	**322**	*eP*		**Pn**	06 58 37.8	+0.3
CHN1				*eS*		**Sg**	06 58 58.9	-1.0
WTP	**Ta-pu**	**1.51**	**326**	*eP*		**Pn**	06 58 37.2	-0.2
WTP				*eS*		**Sn**	06 58 56.9	+0.1
EHY	**Hungye**	**1.52**	**352**	*eP*		**Pn**	06 58 35.7	-1.8
EHY				*eS*		**Sn**	06 58 55.5	-1.4
CHN3	**Shinhua**	**1.53**	**315**	*eP*		**Pb**	06 58 38.7	-0.3
TPUB	**Ta-pu**	**1.55**	**327**			**Pn**	06 58 37.5	-0.5
TPUB	**Ta-pu**	**1.55**	**327**	P		**Pb**	06 58 38.7	-0.7
TPUB	**Ta-pu**	**1.55**	**327**	*eP*		**Pn**	06 58 38.4	+0.4
TPUB				*eS*		**Sn**	06 58 56.5	-1.2
SNST	**Tainan City**	**1.55**	**322**	*eP*		**Pn**	06 58 38.1	+0.1
SNST				*eS*		**Sn**	06 58 57.9	+0.1
YUS	**Yu-Shan**	**1.58**	**340**	*eP*		**Pn**	06 58 35.9	-3.0
TWK	**Hsinying**	**1.60**	**323**	*eP*		**Pb**	06 58 39.6	-0.6
CHN4	**Tsaushan**	**1.61**	**327**	*eP*		**Pn**	06 58 39.4	+0.6
ALS	**Alishan**	**1.65**	**336**	*eP*		**Pn**	06 58 38.9	-0.8
WCKO	**Fanlu**	**1.68**	**329**	*eP*		**Pn**	06 58 39.9	+0.2
WCKO				*eS*		**Sb**	06 59 01.5	-0.9
TEGC	**Jichi Village**	**1.71**	**360**	*eP*		**Pn**	06 58 38.4	-1.7
SCLT	**Jiali**	**1.71**	**314**	*eP*		**Pn**	06 58 40.5	+0.3
SCLT				*eS*		**Sn**	06 59 01.8	+0.2
WARBT	**Fenglin Townsh**	**1.72**	**355**	*eP*		**Pn**	06 58 38.7	-1.6
TSCK	**Chigu Township**	**1.77**	**311**	*eP*		**Pn**	06 58 40.4	-0.6
TSCK				*i* S		**Sn**	06 59 03.2	+0.1
CHN5	**Tsauling**	**1.78**	**334**	*eP*		**Pn**	06 58 41.8	+0.5
CHN5				*eS*		**Sn**	06 59 02.8	-0.7
SHUL	**Shoufeng**	**1.78**	**1**	*eP*		**Pn**	06 58 40.0	-1.2
SHUL				*eS*		**Sn**	06 59 01.5	-1.9
VWDT	**VWDT**	**1.79**	**348**	*eP*		**Pn**	06 58 40.5	-0.8
VWDT				*eS*		**Sn**	06 59 02.3	-1.2
ICHU	**Yijhu**	**1.79**	**320**	*eP*		**Pn**	06 58 41.0	-0.3
WHYT	**Xinyi Township**	**1.81**	**340**	*eP*		**Pb**	06 58 42.7	-1.1
ESL	**Shilin**	**1.81**	**357**	*eP*		**Pn**	06 58 40.6	-1.0
ESL				*eS*		**Sn**	06 59 00.9	-3.3
CHY	**Chiayi**	**1.82**	**326**	*eP*		**Pn**	06 58 41.8	+0.2
CHN8	**Yiju**	**1.82**	**318**	*eP*		**Pg**	06 58 46.4	+0.3
CHN8				*eS*		**Sn**	06 59 03.6	-0.8
SSLB	**Suanglung**	**1.86**	**343**			**Pn**	06 58 41.5	-0.8
SSLB	**Suanglung**	**1.86**	**343**	P		**Pb**	06 58 43.5	-1.3
SSLB	**Suanglung**	**1.86**	**343**	S		**Sb**	06 59 08.3	+0.5
SSLB	**Suanglung**	**1.86**	**343**	*eP*		**Pn**	06 58 42.0	-0.3
SSLB				*eS*		**Sn**	06 59 04.3	-1.2
TEYL	**Yanliau Villag**	**1.86**	**2**	*eP*		**Pn**	06 58 41.3	-1.0
TEYL				*eS*		**Sn**	06 59 05.0	-0.4
WGK	**Gukeng**	**1.91**	**332**	*eP*		**Pb**	06 58 44.4	-1.1
WDLH	**Douliu**	**1.92**	**331**	*eP*		**Pn**	06 58 44.0	+1.0
WDLH				*eS*		**Sn**	06 59 07.4	+0.5
WSL	**Shuilin Townsh**	**1.94**	**322**	*eP*		**Pn**	06 58 43.6	+0.3
WSL				*eS*		**Sn**	06 59 06.2	-1.2
ETM	**Tongmen**	**1.96**	**359**	*eP*		**Pn**	06 58 42.5	-1.1
ETM				*eS*		**Sn**	06 59 06.2	-1.6
WJS	**Zhushan**	**1.97**	**338**	*eP*		**Pn**	06 58 44.1	+0.4
WJS				*eS*		**Sn**	06 59 08.7	+0.7
SMLT	**Sun Moon Lake**	**1.97**	**343**	*eP*		**Pn**	06 58 43.8	0.0
SMLT				*eS*		**Sb**	06 59 09.7	-1.2
HWA	**Hwalien**	**1.97**	**2**	*eP*		**Pn**	06 58 43.1	-0.7
OWD	**Renai**	**1.98**	**350**	P		**Pn**	06 58 43.6	-0.4
OWD				*eS*		**Sn**	06 59 07.7	-0.7
WTK	**Tuku**	**1.99**	**328**	*eP*		**Pn**	06 58 43.9	-0.1
WTK				*eS*		**Sn**	06 59 07.9	-0.7
TYC	**Yuchr**	**2.00**	**342**	*i P*		**Pn**	06 58 45.0	+0.8
TYC				*eS*		**Sb**	06 59 10.8	-0.9
LXIB	**Xiulin Townshi**	**2.02**	**357**	*i P*		**Pn**	06 58 43.1	-1.5
LXIB				S		**Sn**	06 59 07.7	-1.8
WUSB	**Renai**	**2.02**	**349**	*eP*		**Pn**	06 58 44.8	+0.1
WNT	**Mingjian**	**2.03**	**337**	*eP*		**Pn**	06 58 45.8	+1.2
TWD	**Chiawan**	**2.08**	**1**	*eP*		**Pn**	06 58 44.1	-1.1
TWD				*eS*		**Sn**	06 59 09.0	-1.6
WCS	**Beigang Elemen**	**2.13**	**344**	*eP*		**Pn**	06 58 47.4	+1.4
WCS				*eS*		**Sb**	06 59 13.7	-1.8
WDGT	**Dungji**	**2.15**	**306**	*eP*		**Pn**	06 58 44.7	-1.5
WDGT				*eS*		**Sn**	06 59 09.5	-2.9
ETL	**Fush Village**	**2.15**	**2**	*eP*		**Pn**	06 58 45.0	-1.3
WHF	**Hehuan Shan**	**2.15**	**353**	*eP*		**Pn**	06 58 46.4	-0.3
WHF				*eS*		**Sn**	06 59 12.4	-0.9
NACB	**Ninganchiao**	**2.17**	**1**			**Pn**	06 58 44.6	-1.9
NACB	**Ninganchiao**	**2.17**	**1**	P		**Pn**	06 58 45.7	-0.8
NACB	**Ninganchiao**	**2.17**	**1**	S		**Sb**	06 59 15.3	-1.2
NACB	**Ninganchiao**	**2.17**	**1**	*eP*		**Pn**	06 58 45.3	-1.2
ETLH	**Xiulin Townshi**	**2.20**	**359**	*eP*		**Pn**	06 58 46.1	-0.9
EOS4	**EOS4**	**2.23**	**19**	*eP*		**Pn**	06 58 46.3	-0.7
EOS4				*eS*		**Sn**	06 59 12.0	-2.0
FUSS	**Fushou**	**2.26**	**353**	*eP*		**Pn**	06 58 47.6	-0.3
FUSS				*eS*		**Sn**	06 59 15.2	-0.3
TWT	**Tachien**	**2.27**	**352**	*eP*		**Pn**	06 58 48.4	+0.4
TWT				*eS*		**Sn**	06 59 13.8	-2.0
TCU	**Taichung**	**2.29**	**340**	*eP*		**Pb**	06 58 50.1	-1.8
VCHM	**Qimei**	**2.29**	**302**	*i P*		**Pn**	06 58 46.7	-1.5
VCHM				*eS*		**Sn**	06 59 13.7	-2.3
EAHA	**Aohua**	**2.33**	**4**	*eP*		**Pn**	06 58 47.0	-1.7
EAHA				*eS*		**Sn**	06 59 16.5	-0.5
WHP	**Taichung City**	**2.34**	**347**	*i P*		**Pn**	06 58 50.7	+1.8
WHP				*eS*		**Sb**	06 59 19.8	-1.6
PHUB	**P'eng-hu**	**2.36**	**310**	*eP*		**Pn**	06 58 47.4	-1.7
PHUB				*i* S		**Sn**	06 59 15.7	-2.1
EOS3	**EOS3**	**2.39**	**17**	P		**Pn**	06 58 48.9	-0.5
EOS3				S		**Sn**	06 59 17.2	-0.9
PNG	**Penghu**	**2.41**	**311**	*eP*		**Pn**	06 58 48.6	-1.2
PNG				*eS*		**Sn**	06 59 16.4	-2.5
NNSB	**Datong**	**2.42**	**357**	P		**Pn**	06 58 50.1	0.0
NNSB				S		**Sn**	06 59 17.8	-1.7
ENA	**Nanau**	**2.43**	**4**	*eP*		**Pn**	06 58 48.4	-1.6
ENA				*eS*		**Sn**	06 59 18.4	-0.9
TWQ1	**Liyutan**	**2.45**	**343**	*eP*		**Pn**	06 58 51.9	+1.6
TWQ1				*eS*		**Sn**	06 59 19.4	-0.5
EWUT	**Wuta**	**2.45**	**5**	*eP*		**Pn**

comp=N,300nm,0.8s
QZH smax smax
comp=E,360nm,0.8s
QZH LR LR
comp=Z,4μm,13.1s
DSXP Dongshan 4.16 295 *e*P **Pn 06 59 12.0 -1.9**
JIRB Irabujima 4.37 49 *e*P **Pn 06 59 15.4 -1.2**
JIRB *e*S **Sn 07 00 03.5 -3.6**
AXDP Jialang 4.37 312 *e*P **Pn 06 59 15.7 -1.0**
MATB Ma-tsu 4.39 341 *e*P **Pn 06 59 16.0 -1.0**
JMJ2 Miyako jima3 4.42 51 *e*P **Pn 06 59 16.4 -1.0**
JMJ2 *e*S **Sn 07 00 05.3 -3.3**
JMJ Miyako jima 2 4.44 50 P **Pn 06 59 17.8 +0.1**
JIKM Ikemajima 4.48 49 *e*P **Pn 06 59 17.1 -1.1**
JIKM *e*S **Sn 07 00 07.1 -2.9**
JOGS Gusukube 4.49 51 *e*P **Pn 06 59 17.5 -0.9**
JOGS *e*S **Sn 07 00 07.5 -2.8**
SZP Santa 4.54 193 P **Pn 06 59 20.7 +1.6**
MHZQ Yeshan 4.69 331 *e*P **Pn 06 59 20.2 -0.9**
XPSS Dashiqiu 5.06 346 *e*P **Pn 06 59 26.6 +0.3**
SXFK Yanhouchang 5.64 322 *e*P **Pn 06 59 32.9 -1.4**
HKPS Hong Kong Po S 6.87 274 Pn 06 59 50.5 -0.6
GZH Guangzhou 7.66 280 Pn **Pn 06 59 58.4 -3.5**
GZH Sn **Sn 07 01 23.7 -4.6**
GZH smax smax
comp=N,210nm,1.2s
GZH smax smax
comp=E,140nm,1.3s
JOW Kunigami 7.80 51 Sn **Sn 07 01 25.1 -6.7**
1.3nm,0.3s,baz=310,slow=25,SNR=1.2
TGY Tagaytay City 7.87 184 Pn **Pn 07 00 09.3 +4.3**
69nm,0.3s,baz=220,slow=9.8,SNR=4.8
TGY LR LR 07 03 55.6
comp=Z,3μm,18.0s,baz=347,slow=44
SSE Sheshan 9.07 358 P **Pn 07 00 20.6 -0.7**
SSE S **Sn 07 02 04.1 +1.1**
SSE pmax pmax
comp=Z,10.0nm,0.7s
SSE LR LR
comp=N,1μm,15.2s
SSE LR LR
comp=E,1μm,8.8s
SSE LR LR
comp=Z,1μm,16.2s
CNSH ChangSha 9.94 310 P **Pn 07 00 32.0 -1.2**
CNSH S **Sn 07 02 20.4 -4.0**
CNSH smax smax
comp=N,110nm,1.4s
CNSH smax smax
comp=E,110nm,1.1s
CNSH LR LR
comp=E,2μm,7.2s
CNSH LR LR
comp=Z,3μm,13.2s
NJ2 Nanjing 10.30 347 *e*P **Pn 07 00 37.0 -1.1**
NJ2 pmax pmax
comp=Z,23nm,0.5s
NJ2 LR LR
comp=N,5μm,8.4s
NJ2 LR LR
comp=E,8μm,13.2s
NJ2 LR LR
comp=Z,12μm,19.6s
WHN Wuhan 10.68 324 P **Pn 07 00 46.0 +2.7**
WHN S **Sn 07 02 42.0 -0.5**
WHN LR LR
comp=E,4μm,8.2s
WHN LR LR
comp=Z,6μm,11.8s
QIZ Qiongzhong 11.35 257 P **Pn 07 00 52.4 -0.2**
QIZ S **Sn 07 02 59.4 +0.2**
QIZ pmax pmax
comp=Z,19nm,2.1s
QIZ LR LR
comp=N,1μm,14.6s
QIZ LR LR
comp=E,3μm,16.1s
QIZ LR LR
comp=Z,3μm,17.2s
QIZ Qiongzhong 11.35 257 P **Pn 07 00 54.9 +2.3**
JNU Nakatsue 13.82 35 Pn **Pn 07 01 23.8 -2.6**
JNU Nakatsue 13.82 35 Pn **Pn 07 01 25.9 -0.5**
0.5nm,0.3s,baz=195,slow=9.8,SNR=3.2
JNU Sn **Sn 07 03 57.5 -2.1**
1.0nm,0.3s,baz=354,slow=24,SNR=6.1
JNU LR LR 07 06 41.5
comp=Z,1μm,21.5s,baz=196,slow=37
6.7nm,0.9s
JNU Nakatsue 13.82 35 P **Pn 07 01 26.1 -0.3**
GYA Guiyang 14.28 291 ⇑P **Pn 07 01 33.9 +1.1**
GYA S **Sn 07 04 12.2 +1.3**
GYA pmax pmax
comp=Z,17nm,0.8s
GYA pmax pmax
comp=Z,100nm,3.1s
GYA LR LR
comp=N,1μm,5.0s
GYA LR LR
comp=Z,2μm,15.6s
TIA Tai'an 14.68 346 P **Pn 07 01 40.8 +2.8**
TIA pmax pmax
comp=Z,15nm,1.9s
TIA pmax pmax
comp=Z,450nm,3.5s
TIA LR LR
comp=N,2μm,14.4s
TIA LR LR
comp=Z,2μm,14.5s
LYN LuoYang 14.83 329 *e*P **Pn 07 01 41.3 +1.2**
LYN pP P 07 01 44.3 -1.6
LYN sP 07 01 47.2
LYN PP **PnPn 07 01 52.1 +3.9**
LYN S **Sn 07 04 28.7 +4.6**
LYN SS **S 07 04 45.2 +2.9**
LYN pmax pmax
comp=Z,13nm,0.7s
LYN pmax pmax
comp=Z,540nm,3.9s
LYN LR LR
comp=N,5μm,12.2s
LYN LR LR
comp=E,1μm,9.8s
LYN LR LR
comp=Z,5μm,14.9s
TJN Taejon 15.20 18⇑*e*P **Pn 07 01 47.2 +2.2**
DAV Davao City (W) 15.34 165 LR LR 07 08 05.7
comp=Z,930nm,20.4s,baz=334,slow=39
DLV Lat 15.98 233 P **Pn 07 01 57.3 +1.8**
KSAR Wonju Array Be 16.34 18 Pn **Pn 07 01 57.7 -2.0**
KSAR Wonju Array Be 16.34 18 P **Pn 07 01 57.7 -2.0**
XAN Xi'an 16.36 320 ⇑P **P 07 02 01.8 -1.1**
XAN S **Sn 07 05 05.2 +4.0**
XAN pmax pmax
comp=Z,20nm,2.4s
XAN pmax pmax
comp=Z,300nm,3.8s
XAN LR LR
comp=N,4μm,11.0s
XAN LR LR
comp=E,2μm,10.8s
XAN LR LR
comp=Z,3μm,11.7s
KSRS Korea Array 16.36 18 Pn **Pn 07 02 00.2 +0.2**
0.4nm,0.3s,baz=198,slow=13,SNR=17
KSRS LR LR 07 09 06.0
comp=Z,1μm,18.4s,baz=205,slow=40
26nm,1.0s
KS19 Wonju Array Si 16.39 18 Pn 07 01 58.3 -2.1
SLVN Son La 16.41 271 Pn 07 02 01.3 +0.5
SLVN Son La 16.41 271 P **P 07 02 03.2 -0.4**
HNS HongShan 16.45 340 ⇓P **P 07 02 03.6 -0.2**
HNS pmax pmax
comp=Z,50nm,1.4s
HNS LR LR
comp=N,3μm,13.5s
HNS LR LR
comp=E,2μm,13.5s
HNS LR LR
comp=Z,3μm,15.9s
UBPT Khong Chiam 16.62 249 Pn 07 02 04.5 +1.0
UBPT Khong Chiam 16.62 249 P **P 07 02 05.6 -0.3**
KKM Kota Kinabalu 16.68 199 P 07 02 06.5 0.0
KKM IAmb IAmb 07 02 12.7
comp=Z,357nm,1.8s
KKM Kota Kinabalu 16.68 199 P **Pn 07 02 05.5 +1.3**

DL2 Dalian 16.86 0 P **P 07 02 10.4 +2.1**
DL2 pmax pmax
comp=Z,20nm,0.7s
DL2 pmax pmax
comp=Z,270nm,4.4s
DL2 LR LR
comp=Z,2μm,19.3s
DL2 LR LR
comp=Z,1μm,12.5s
DL2 LR LR
comp=Z,2μm,17.9s
MYLDM Lahad Datu 16.98 190 P **P 07 02 10.0 +0.2**
MYLDM IAmb IAmb 07 02 15.0
comp=Z,137nm,1.3s
MYLDM Lahad Datu 16.98 190 P **P 07 02 09.6 -0.1**
KMI Kunming 17.52 284 P **P 07 02 20.2 +4.2**
KMI pmax pmax
comp=Z,170nm,5.0s
KMI LR LR
comp=Z,1μm,12.2s
KMI LR LR
comp=Z,2μm,11.3s
TIY Taiyuan 17.53 335 *e*P **P 07 02 18.2 +2.4**
TIY pmax pmax
comp=Z,590nm,3.5s
TIY LR LR
comp=Z,2μm,11.8s
TIY LR LR
comp=Z,2μm,12.9s
TIY LR LR
comp=Z,4μm,14.1s
PZH PanZhiHua 18.60 288 P **P 07 02 27.7 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,220nm,9.3s
PZH LR LR
comp=Z,1μm,9.8s
PZH LR LR
comp=Z,2μm,12.9s
PZH LR LR
comp=Z,2μm,12.7s
INU Inuyama 18.98 42 P 07 02 31.1 -0.6
INU Inuyama 18.98 42 P **Pn 07 02 32.4 0.0**
JGF Kuroka 19.35 42 P 07 02 34.7 -1.2
JGF IAmb IAmb 07 02 45.4
comp=Z,99nm,1.4s
JGF Kuroka 19.35 42 P **P 07 02 36.1 +0.2**
JCJ Chichijima 19.45 71 LR LR 07 08 24.9
comp=Z,544nm,21.4s,baz=212,slow=32
JHJ Hachijo jima 2 19.57 52 LR LR 07 09 51.1
comp=Z,839nm,19.9s,baz=257,slow=36
CRAI Chiangrai 19.83 269 P **P 07 02 40.8 -0.4**
MAJO Matsushiro 20.48 41 P 07 02 47.3 -0.9
MAJO IAmb IAmb 07 02 55.8
comp=Z,98nm,1.4s
MAJO Matsushiro 20.48 41 P **P 07 02 48.5 +0.3**
MAJO Matsushiro 20.48 41⇓*e*P Pn 07 02 50.9 +0.5
MAJO pmax pmax
comp=Z,76nm,1.4s
MJB9 Matsu-Tunnel 20.48 41 P **P 07 02 47.8 -0.4**
MJB9 IAmb IAmb 07 02 56.8
comp=Z,100nm,1.4s
MJAR Matsushiro Arr 20.48 41 P Pn 07 02 49.5 -0.9
comp=Z,27nm,0.9s,baz=232,slow=8.6,SNR=29
MJAR LR LR 07 10 54.4
comp=Z,817nm,21.5s,baz=223,slow=37
HHC Hu-ho-hao-te 20.61 338 *e*P Pn 07 02 52.0 +0.1
HHC pP sP 07 02 56.8 +0.3
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,440nm,6.7s
HHC LR LR
comp=Z,2μm,14.3s
HHC LR LR
comp=Z,3μm,18.5s
NAYO Nakonayok 20.66 252 P Pn 07 02 52.6 0.0
TOLI2 Tolitoli 20.77 182 P **P 07 02 52.0 +0.6**
TOLI2 Tolitoli 20.77 182 P **P 07 02 52.4 +1.0**
LZH Lanzhou 20.85 316 *e*P Pn 07 02 54.6 -0.2
LZH sP sP 07 03 04.6 +6.1
LZH S Sn 07 06 50.7 +0.8
LZH pmax pmax
comp=Z,40nm,1.6s
LZH pmax pmax
comp=Z,3μm,4.5s
LZH LR LR
comp=Z,2μm,10.3s
LZH LR LR
comp=Z,1μm,9.3s
LZH LR LR
comp=Z,2μm,11.0s
BTO Baotou 20.97 335 *e*P Pn 07 02 59.6 +3.5
BTO pP sP 07 03 03.8 +3.4
BTO sP pP 07 03 06.7 +8.8
BTO PP PnPn 07 03 23.2 +11
BTO sS sS 07 06 59.0 +5.8
BTO pmax pmax
comp=Z,39nm,1.3s
BTO pmax pmax
comp=Z,550nm,4.1s
BTO LR LR
comp=Z,8μm,15.2s
BTO LR LR
comp=Z,4μm,14.7s
BTO LR LR
comp=Z,10μm,14.2s
TNCH TengChong 21.32 283 *e*P **P 07 02 57.9 +0.4**
TNCH S **S 07 06 47.4 -6.6**
TNCH LR LR
comp=Z,1μm,11.0s
TNCH LR LR
comp=Z,1μm,13.1s
TNCH LR LR
comp=Z,2μm,11.3s
MRSI Marisa 21.39 179 P **P 07 03 02.2 +4.1**
comp=Z,3μmcomp=Z,146nm,1.2s
CHTO Chiang Mai 21.41 266 P **P 07 02 58.1 -0.3**
CHTO Chiang Mai 21.41 266 P **P 07 03 00.4 +2.0**
CHTO Chiang Mai 21.41 266 P **P 07 02 58.1 -0.3**
CHTO pmax pmax
comp=Z,55nm,1.5s
SBUM Sibu 21.44 206 P **P 07 03 00.5 +1.8**
SBUM Sibu 21.44 206 P **P 07 03 00.8 +2.2**
CM31 Chiang Mai Arr 21.49 265 P **P 07 02 59.1 -0.1**
CMAR Chiang Mai Arr 21.49 265 P **P 07 02 59.9 +0.7**
CMAR Chiang Mai Arr 21.49 265 P **P 07 03 00.9 +1.7**
comp=Z,1.9nm,0.3s,baz=72,slow=8.9,SNR=21
CMAR PcP **PcP 07 07 01.1 -0.9**
comp=Z,1.1nm,0.3s,baz=65,slow=2.6,SNR=4.6
CMAR LR LR 07 12 57.4
comp=Z,565nm,18.4s,baz=80,slow=41
comp=Z,1.9nm,0.3s
CMAR Chiang Mai Arr 21.49 265 *i*P **P 07 03 00.8 +1.6**
CMAR pmax pmax
comp=Z,7.0nm,0.9s
JSD Sado 21.51 38 P **P 07 02 58.5 -0.8**
JSD Sado 21.51 38 P **P 07 03 00.3 +1.1**
MPSI Mapaga 21.59 184 P **P 07 03 02.2 +2.0**
comp=Z,2μmcomp=Z,130nm,0.6s
TNTI Ternate 21.85 164 P **P 07 03 05.5 +2.5**
TNTI Ternate 21.85 164 P **P 07 03 04.9 +1.9**
TNTI Ternate 21.85 164 P **P 07 03 05.9 +2.9**
comp=Z,1μmcomp=Z,61nm,1.4s
CN2 Changchun 21.99 8 *e*P **P 07 03 03.7 -0.6**
CN2 *e*PP **PnPn 07 03 29.4 +3.2**
CN2 *e*S **S 07 07 01.0 -5.3**
CN2 SS **SnSn 07 07 39.5 +7.0**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,70nm,4.5s
CN2 LR LR
comp=Z,2μm,12.0s
CN2 LR LR
comp=Z,650nm,12.0s
CN2 LR LR
comp=Z,2μm,14.0s
PSTR Posyet 22.00 18⇓*e*P **P 07 03 05.4 +0.9**
MSHR Mys Shultsa 22.05 19*d i*P **P 07 03 05.8 +0.9**
MSHR pmax pmax
comp=Z,23nm,0.9s
XLT XiLinHaoTe 22.31 350 *e*P **P 07 03 11.9 +4.0**
XLT PP **PnPn 07 03 35.3 +4.6**
XLT S **S 07 07 14.4 +1.8**

XLT pmax pmax
comp=Z,110nm,4.7s
XLT LR LR
comp=Z,110nm,16.0s
XLT LR LR
comp=Z,540nm,14.7s
XLT LR LR
comp=Z,1μm,19.7s
SRDT SRDT 22.60 254 P **P 07 03 13.5 +2.4**
SMKI Samarinda 22.70 191 P **P 07 03 18.1 +5.9**
APSI Ampana 22.77 180 P **P 07 03 15.3 +2.5**
comp=Z,4μmcomp=Z,370nm,1.4s
PCI Palu 22.82 184 P **P 07 03 17.5 +4.1**
comp=Z,3μmcomp=Z,189nm,1.5s
JMM Marumori 22.92 42 P **P 07 03 13.4 -0.8**
JMM IAmb IAmb 07 03 26.3
comp=Z,44nm,1.1s
JMM Marumori 22.92 42 P **P 07 03 14.4 +0.2**
LUWI Luwuk 22.93 177 P **P 07 03 14.6 +0.1**
LUWI Luwuk 22.93 177 P **P 07 03 16.6 +2.1**
LUWI Luwuk 22.93 177 P **P 07 03 17.1 +2.6**
comp=Z,5μmcomp=Z,208nm,1.3s
KSM Kuching 23.15 210 P **P 07 03 17.7 +1.0**
KSM IAmb IAmb 07 03 22.4
comp=Z,54nm,1.0s
KSM Kuching 23.15 210 P **P 07 03 18.7 +1.9**
MDJ Mudanjiang 23.52 15 P **P 07 03 18.3 -1.9**
MDJ Mudanjiang 23.52 15 P **P 07 03 22.3 +2.1**
MDJ S **S 07 07 40.0 +6.6**
MDJ PcS **PcS 07 10 44.0 -0.8**
MDJ pmax pmax
comp=Z,8.0nm,1.3s
MDJ pmax pmax
comp=Z,540nm,4.2s
MDJ LR LR
comp=Z,910nm,18.0s
MDJ LR LR
comp=Z,800nm,15.1s
MDJ LR LR
comp=Z,1μm,16.6s
MDJ Mudanjiang 23.52 15 P **P 07 03 21.7 +1.5**
BKB Balikpapan 23.56 192 P **P 07 03 20.0 -0.8**
GUMO Guam 23.71 107 LR LR 07 11 57.0
comp=Z,209nm,19.3s,baz=288,slow=35
USA0B Ussuriysk Arra 23.77 19 P **P 07 03 22.9 +0.2**
USA0B Ussuriysk Arra 23.77 19⇓*e*P **P 07 03 23.2 +0.5**
USRK Ussuriysk Ar. 23.77 19 P **P 07 03 23.3 +0.6**
USRK Ussuriysk Ar. 23.77 19 P **P 07 03 22.6 -0.1**
comp=Z,4.0nm,0.7s,baz=202,slow=8.8,SNR=9.1
USRK LR LR 07 13 36.1
comp=Z,971nm,18.5s,baz=190,slow=39
comp=Z,4.0nm,0.7s
USRK Ussuriysk Ar. 23.77 19 P **P 07 03 23.3 +0.6**
BNX BinXian 24.16 10 ⇑P **P 07 03 26.4 0.0**
BNX S **S 07 07 48.7 +5.0**
BNX pmax pmax
comp=Z,7.0nm,1.1s
BNX pmax pmax
comp=Z,250nm,8.3s
BNX LR LR
comp=Z,830nm,15.5s
BNX LR LR
comp=Z,810nm,13.1s
BNX LR LR
comp=Z,1μm,16.6s
SANI Sanana 24.29 169 P **P 07 03 29.5 +1.7**
SANI Sanana 24.29 169 P **P 07 03 28.8 +1.0**
comp=Z,946nmcomp=Z,85nm,0.7s
SWI Sorong 24.62 156 P **P 07 03 31.9 +1.1**
comp=Z,983nmcomp=Z,28nm,0.9s
SRIT Nakonsritamara 24.96 241 P **P 07 03 36.3 +2.4**
JTM Tenmabayashi 24.97 37 P **P 07 03 33.9 +0.1**
JTM Tenmabayashi 24.97 37 P **P 07 03 35.1 +1.3**
GTA Gaotai 25.39 318 *e*P **P 07 03 39.2 +1.4**
GTA sP pwP 07 03 46.8 +2.0
GTA S **S 07 08 05.9 +2.0**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,140nm,8.4s
GTA LR LR
comp=Z,520nm,12.7s
GTA LR LR
comp=Z,440nm,12.3s
GTA LR LR
comp=Z,640nm,16.3s
NLAI Namlea 25.66 167 P **P 07 03 40.9 +0.7**
SPSI Sidrap Palu 25.86 184 P **P 07 03 42.6 +0.6**
comp=Z,55nm,1.1s
KULM Kulim 26.17 234 P **P 07 03 45.4 +0.5**
BNSI Bone 26.27 183 P **P 07 03 46.4 +0.7**
comp=Z,1μmcomp=Z,54nm,1.0s
MYKOM Kota Tinggi 26.45 223 P **P 07 03 46.5 -0.9**
MYKOM IAmb IAmb 07 03 58.5
comp=Z,45nm,1.2s
MYKOM Kota Tinggi 26.45 223 P **P 07 03 49.6 +2.2**
FAKI Fak Fak 26.89 156 P **P 07 03 49.8 -1.5**
FAKI IAmb IAmb 07 03 53.1
comp=Z,37nm,0.9s
FAKI Fak Fak 26.89 156 P **P 07 03 51.8 +0.5**
FAKI Fak Fak 26.89 156 P **P 07 03 50.4 -0.9**
comp=Z,559nmcomp=Z,49nm,1.8s
KAPI Kappang 26.90 184 P **P 07 03 52.1 +0.7**
KAPI Kappang 26.90 184 LR LR 07 14 38.1
comp=Z,678nm,21.4s,baz=0.5,slow=37
KAPI Kappang 26.90 184 P **P 07 03 52.3 +0.9**
KAPI Kappang 26.90 184 P **P 07 03 52.1 +0.7**
KAPI pmax pmax
comp=Z,129nm,1.4s
ERM Erimo 26.96 37 P **P 07 03 51.0 -0.8**
ERM Erimo 26.96 37 P **P 07 03 52.9 +1.1**
ERM Erimo 26.96 37⇓*e*P **P 07 03 54.7 +2.9**
ERM pmax pmax
comp=Z,90nm,1.4s
JEM Erimo 26.96 37 P **P 07 03 53.2 +1.4**
BKSI Bulukumba 27.18 183 P **P 07 03 55.5 +1.5**
comp=Z,20nm,1.0s
GOMU GeErMu 27.20 307 P **P 07 03 55.4 +1.0**
GOMU S **S 07 08 33.6 +0.7**
GOMU pmax pmax
comp=Z,10.0nm,1.0s
GOMU pmax pmax
comp=Z,200nm,6.0s
GOMU LR LR
comp=Z,2μm,13.7s
GOMU LR LR
comp=Z,2μm,12.0s
GOMU LR LR
comp=Z,3μm,12.1s
BNDI Bandanaira 27.60 162 P **P 07 03 59.5 +1.8**
BRDH Bariadhala 27.64 277 LR LR 07 17 39.7
comp=Z,393nm,18.8s,baz=108,slow=42
ASAJ Asahikawa 28.10 33 LR LR 07 16 22.8
comp=Z,684nm,19.7s,baz=246,slow=39
ASAJ Asahikawa 28.10 33 P **P 07 04 00.9 -1.0**
ASAJ pmax pmax
comp=Z,56nm,1.1s
JKA Kamikawa-asahi 28.10 33 P **P 07 04 00.9 -1.1**
TPI Tanjungpandan 28.10 211 P **P 07 04 06.6 +4.4**
comp=Z,576nmcomp=Z,53nm,1.3s
ULN Ulaanbaatar 28.31 339⇓*e*P **P 07 04 03.9 -0.1**
ULN pmax pmax
comp=Z,25nm,2.5s
LSA Lhasa 28.35 292 P **P 07 04 06.9 +2.0**
LSA S **S 07 08 50.0 -1.3**
LSA LR LR
comp=Z,490nm,14.4s
LSA LR LR
comp=Z,740nm,19.4s
KLR Kul'dur 28.36 14 LR LR 07 16 13.1
comp=Z,1μm,19.7s,baz=207,slow=38
SONM Songino Array 28.51 338 P **P 07 04 04.5 -1.2**
SONM Songino Array 28.51 338 P **P 07 04 05.8 +0.1**
comp=Z,1.5nm,0.4s,baz=153,slow=8.5,SNR=15
SONM PcP **PcP 07 07 17.1 -0.1**
comp=Z,1.0nm,0.8s,baz=126,slow=0.9,SNR=3.1
SONM ScP **ScP 07 10 56.3 -1.5**
comp=Z,0.6nm,0.4s,baz=156,slow=11,SNR=3.9
SONM LR LR 07 16 38.5
comp=Z,3μm,18.5s,baz=146,slow=39
comp=Z,1.5nm,0.4s
SONM Songino Array 28.51 338 P **P 07 04 04.5 -1.2**
SONM pmax pmax
comp=Z,14nm,1.4s
HEH HeiHe 28.58 8 *e*P P 07 04 11.9 +5.8
HEH sP sP 07 04 18.0 +4.8

HEH pmax pmax
comp=Z,12nm,0.7s
HEH pmax pmax
comp=Z,360nm,5.3s
HEH LR LR
comp=Z,460nm,12.9s
HEH LR LR
comp=Z,720nm,13.8s
HEH LR LR
comp=Z,2μm,16.1s
PSI Prapat 29.10 232 LR LR 07 15 49.1
comp=Z,755nm,18.9s,baz=52,slow=36
PSI Prapat 29.10 232 P **P** **07 04 14.4 +3.1**
PSI Prapat 29.10 232 P **P** **07 04 11.5 +0.2**
PSI pmax pmax
comp=Z,16nm,1.1s
RPSI Rantau Prapat 29.17 232 P **P** **07 04 11.5 -0.3**
MNSI Mandailing Nat 30.03 228 P **P** **07 04 21.2 +1.8**
comp=Z,24nm,0.5s
YSS Yuzhno-Sakhali 30.23 29 P **P** **07 04 20.1 -0.8**
YSS IAmb IAmb 07 04 31.8
comp=Z,34nm,1.0s
YSS Yuzhno-Sakhali 30.23 29 P **P** **07 04 22.4 +1.5**
YSS Yuzhno-Sakhali 30.23 29 *e*P **P** **07 04 23.0 +2.1**
YSS *e* 07 05 34.7
YSS *e*S **S** **07 09 21.2 +1.6**
YSS pmax pmax
comp=Z,200nm,3.0s
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,800nm,16.0s
YSS MLR MLR
comp=N,700nm,20.0s
YSS MLR MLR
comp=E,600nm,20.0s
PPI Padang Panjang 30.39 225 P **P** **07 04 25.0 +2.5**
comp=E,1μmcomp=E,59nm,1.0s
MMRI Maumere 30.45 179 P **P** **07 04 23.4 +0.3**
MMRI Maumere 30.45 179 P **P** **07 04 25.0 +2.0**
MMRI Maumere 30.45 179 P **P** **07 04 23.6 +0.6**
EDFI Ende, Flores 30.55 180 P **P** **07 04 23.5 -0.6**
JAY Jayapura 30.73 140 LR LR 07 15 32.0
comp=E,332nm,18.4s,baz=350,slow=34
NGJI Ngawi 30.81 200 P **P** **07 04 29.7 +3.5**
comp=E,74nm,0.9s
PLAI Plampang 30.85 187 P **P** **07 04 29.0 +2.4**
PLAI Plampang 30.85 187 P **P** **07 04 27.9 +1.3**
comp=E,86nm,1.1s
TWSI Taliwang, Sumb 30.88 189 P **P** **07 04 28.3 +1.4**
comp=E,63nm,1.3s
JAGI Jajag, Banyuwa 31.13 194 P **P** **07 04 30.0 +0.9**
MDSI Maura Dua 31.33 215 P **P** **07 04 33.1 +2.3**
comp=E,40nm,1.0s
WBSI Waikabubak, Su 31.51 184 P **P** **07 04 32.7 +0.2**
YOGI Yogyakarta 31.61 202 P **P** **07 04 37.9 +4.6**
comp=E,111nm,1.6s
UGM Wanagama 31.63 201 P **P** **07 04 35.5 +2.0**
UGM Wanagama 31.63 201 P **P** **07 04 35.6 +2.1**
UGM Wanagama 31.63 201 P **P** **07 04 37.0 +3.5**
comp=E,117nm,1.6s
SOEI Soe 31.67 175 P **P** **07 04 35.8 +1.9**
SOEI Soe 31.67 175 P **P** **07 04 36.0 +2.1**
comp=E,42nm,1.0s
LEM Lembang 31.73 207 LR LR 07 18 39.6
comp=E,303nm,20.2s,baz=38,slow=39
SISI Saibi 31.90 226 P P 07 04 41.9 +6.0
comp=E,42nm,1.0s
ZEA Zeya 31.99 6 *e*P P 07 04 44.5 +8.2
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=N,700nm,15.0s
ZEA MLR MLR
comp=Z,700nm,14.0s
KASI Kota Agung 32.05 213 P P 07 04 46.3 +9.2
BBJI Bungbulang 32.29 206 P **P** **07 04 41.6 +2.2**
TYV Tymovskoe 33.20 25 *e*P P 07 04 58.4 +11
TYV pmax pmax
comp=Z,8.0nm,1.1s
TYV pmax pmax
comp=Z,100nm,4.3s
MOY Mondy 33.64 337 *e*P **P** **07 04 52.2 +1.3**
MOY pmax pmax
comp=Z,17nm,2.3s
MANU Manus Island 34.75 130 **P** **07 05 02.0 +1.2**
WMQ Urumqi 35.43 316 *e*P **P** **07 05 09.1 +2.7**
WMQ PcP **PcP** **07 07 35.5 -0.5**
WMQ S **S** **07 10 44.2 +3.6**
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,170nm,5.3s
WMQ LR LR
comp=Z,740nm,13.1s
WMQ LR LR
comp=Z,640nm,13.1s
WMQ LR LR
comp=Z,320nm,14.3s
XMIS Christmas Isla 35.84 207 P **P** **07 05 11.2 +1.1**
MTN Manton Dam 35.88 164 P **P** **07 05 07.8 -2.6**
comp=Z,45nm,0.9s
KDU Kakadu 36.10 162 P **P** **07 05 09.7 -2.5**
comp=Z,46nm,1.8s
KNRA Kununurra 38.10 169 P **P** **07 05 27.6 -1.7**
comp=Z,73nm,1.3s
PATS Pohnpei 38.53 107 P **P** **07 05 34.4 +1.3**
FITZ Fitzroy Crossi 40.05 174 P **P** **07 05 44.0 -1.6**
comp=Z,13nm,1.1s
FITZ Fitzroy Crossi 40.05 174 LR LR 07 24 16.3
comp=Z,133nm,19.4s,baz=300,slow=39
FITZ Fitzroy Crossi 40.05 174 P **P** **07 05 44.4 -1.1**
PMG Port Moresby 40.07 138 LR LR 07 22 53.4
comp=Z,124nm,18.2s,baz=317,slow=37
MK31 Makanchi Array 40.15 318 P **P** **07 05 47.3 +1.0**
MK31 IAmb IAmb 07 05 50.5
comp=Z,29nm,1.2s
MK31 Makanchi Array 40.15 318*d i*P **P** **07 05 46.7 +0.4**
MKAR Makanchi Array 40.15 318 **P** **07 05 46.8 +0.5**
MKAR Makanchi Array 40.15 318 P **P** **07 05 47.3 +1.0**
comp=Z,15nm,1.0s,baz=113,slow=9.8,SNR=67
MKAR PcP **PcP** **07 07 50.4 -0.1**
comp=Z,1.1nm,0.5s,baz=98,slow=1.7,SNR=7.2
MKAR ScP **ScP** **07 11 38.5 -0.5**
comp=Z,0.8nm,0.9s,baz=105,slow=4.0,SNR=3.9
MKAR LR LR 07 23 37.2
comp=Z,386nm,19.3s,baz=105,slow=38
comp=Z,15nm,1.0s
MKAR Makanchi Array 40.15 318 *i*P **P** **07 05 47.2 +1.0**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
WUS Wushi 40.35 308 P **P** **07 05 48.1 0.0**
WUS IAmb IAmb 07 05 54.7
comp=Z,43nm,2.0s
MAKZ Makanchi 40.35 317 P **P** **07 05 47.6 -0.2**
MAKZ IAmb IAmb 07 05 52.3
comp=Z,39nm,1.2s
MAKZ Makanchi 40.35 317 P **P** **07 05 47.7 -0.2**
MAKZ pmax pmax
comp=Z,39nm,1.3s
YAK Yakutsk 40.40 6 LR LR 07 24 08.5
comp=Z,634nm,19.5s,baz=182,slow=38
SHLS Shalkode 40.72 311 *e*P **P** **07 05 48.2 -2.9**
SHLS Shalkode 40.72 311 *e*P **P** **07 05 48.3 -2.9**
UZB Uzynbulak 41.03 311 *e*P **P** **07 05 53.3 -0.4**
UZB Uzynbulak 41.03 311 *e*P **P** **07 05 53.3 -0.4**
SATY Saty 41.44 311 *e*P **P** **07 05 56.5 -0.5**
SATY Saty 41.44 311 *e*P **P** **07 05 56.5 -0.5**
PEA0B Petropavlovsk- 41.51 32⇑ *e*P **P** **07 05 57.2 -0.1**
PETK Petropavlovsk- 41.51 32 LR LR 07 22 21.9
comp=Z,346nm,20.9s,baz=223,slow=35
TARG Taragay, Kyrgy 41.51 309 P **P** **07 05 57.1 -0.9**
TARG Taragay, Kyrgy 41.51 309 P **P** **07 05 57.1 -0.9**
TARG pmax pmax
comp=Z,18nm,1.4s
PALK Pallekele 41.98 256 P **P** **07 06 00.6 -1.1**
PALK Pallekele 41.98 256 LR LR 07 24 56.0
comp=Z,341nm,18.9s,baz=68,slow=38
PALK Pallekele 41.98 256 P **P** **07 06 00.6 -1.1**
PALK pmax pmax
comp=Z,19nm,1.4s
KDJ Kajisay 42.06 309 P **P** **07 06 00.1 -2.1**
KDJ Kajisay 42.06 309 P **P** **07 06 00.1 -2.1**
KDJ pmax pmax
comp=Z,9.0nm,1.1s
ZAA0 Zalesovo Array 42.26 328 P **P** **07 06 03.1 -0.3**
ZAA0 IAmb IAmb 07 06 13.7
comp=Z,24nm,0.8s
ZALV Zalesovo Beam 42.26 328 P **P** **07 06 03.3 -0.2**
comp=Z,13nm,0.9s,baz=119,slow=7.9,SNR=20
ZALV ScP **ScP** **07 11 43.7 -3.4**
comp=Z,0.4nm,0.3s,baz=132,slow=4.1,SNR=4.6
ZALV LR LR 07 25 17.1
comp=Z,666nm,18.5s,baz=125,slow=38
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 42.26 328 *i*P **P** **07 06 03.2 -0.2**
ZALV pmax pmax
comp=Z,14nm,0.9s
H11N1 WAKE ISLAND Hy 42.32 84 T T 07 51 10.6
baz=282,slow=75,SNR=363
H11N2 WAKE ISLAND Hy 42.33 84 T T 07 51 10.7
baz=282,slow=75,SNR=769
H11N3 WAKE ISLAND Hy 42.34 84 T T 07 51 11.8
baz=282,slow=75,SNR=447
H11S3 WAKE ISLAND Hy 42.39 86 T T 07 51 12.9
baz=283,slow=75,SNR=1785
KSH Kashi 42.39 305 P **P** **07 06 08.8 +3.9**
KSH pP pP 07 06 10.7 +1.0
KSH pmax pmax
comp=Z,7.0nm,2.1s
KSH LR LR
comp=Z,590nm,19.2s
KSH LR LR
comp=Z,620nm,19.9s
KSH LR LR
comp=Z,620nm,20.6s
H11S1 WAKE ISLAND Hy 42.40 86 T T 07 51 13.9
baz=283,slow=75,SNR=1763
H11S2 WAKE ISLAND Hy 42.40 86 T T 07 51 14.2
baz=283,slow=75,SNR=1777
MDOK Medeo 42.42 311 *e*P **P** **07 06 05.0 -0.1**
MDOK *e*S **S** **07 12 27.0 +0.8**
MDOK Medeo 42.42 311 *e*P **P** **07 06 05.0 -0.1**
MDOK *e*S **S** **07 12 27.0 +0.8**
TNSS Tian-Shan 42.46 310 *e*P **P** **07 06 05.2 -0.5**
TNSS Tian-Shan 42.46 310 *e*P **P** **07 06 05.2 -0.5**
AAA Alma-Ata 42.53 311 *e*P **P** **07 06 05.8 -0.1**
AAA pmax pmax
comp=Z,16nm,0.5s
AAA Alma-Ata 42.53 311 *e*P **P** **07 06 05.8 -0.1**
comp=Z,16nm,0.5s
CHKK Chushkaly 42.65 311 *e*P **P** **07 06 06.8 0.0**
CHKK Chushkaly 42.65 311 *e*P **P** **07 06 06.9 0.0**
MA2 Magadan 42.88 21 LR LR 07 24 36.6
comp=Z,747nm,20.2s,baz=228,slow=37
MA2 Magadan 42.88 21 P **P** **07 06 10.2 +1.8**
comp=Z,11nm,1.8s
MBWA Marble Bar 42.93 182 P **P** **07 06 08.1 -1.0**
MBWA IAmb IAmb 07 06 10.3
comp=Z,94nm,2.0s
MBWA Marble Bar 42.93 182 P **P** **07 06 08.0 -1.2**
comp=Z,23nm,1.8s
BOOM Boomskoye usch 43.04 309 P **P** **07 06 08.0 -2.2**
BOOM Boomskoye usch 43.04 309 P **P** **07 06 08.0 -2.2**
BOOM pmax pmax
comp=Z,18nm,1.6s
KUU Kurty 43.11 311 *e*P **P** **07 06 10.2 -0.3**
KUU Kurty 43.11 311 *e*P **P** **07 06 10.2 -0.3**
PSAC1 Pilbara Seismi 43.30 182 P **P** **07 06 11.2 -1.0**
PSA00 Pilbara Seismi 43.34 182 P **P** **07 06 11.7 -0.8**
PSA00 Pilbara Seismi 43.34 182 P **P** **07 06 11.7 -0.8**
WB0 Warramunga Arr 43.37 162 P **P** **07 06 11.2 -1.5**
WB0 IAmb IAmb 07 06 12.0
comp=Z,39nm,1.3s
WRAB Tennant Creek 43.51 162 P **P** **07 06 12.6 -1.4**
WRAB IAmb IAmb 07 06 21.3
comp=Z,23nm,0.9s
WRAB Tennant Creek 43.51 162*ce*P **P** **07 06 12.9 -1.0**
WRAB pmax pmax
comp=Z,42nm,1.3s
WRA Warramunga Arr 43.52 162 P **P** **07 06 12.7 -1.2**
WRA Warramunga Arr 43.52 162 P **P** **07 06 12.1 -1.9**
comp=Z,6.2nm,0.4s,baz=343,slow=9.1,SNR=115
WRA PcP **PcP** **07 08 00.8 -1.0**
comp=Z,3.2nm,0.7s,baz=339,slow=3.7,SNR=5.2
WRA ScP **ScP** **07 11 49.6 -3.1**
comp=Z,1.0nm,0.9s,baz=350,slow=4.1,SNR=3.8
WRA S **S** **07 12 36.7 -5.6**
comp=Z,3.9nm,1.2s,baz=342,slow=15,SNR=6.3
comp=Z,6.2nm,0.4s
WRA Warramunga Arr 43.52 162 *i*P **P** **07 06 12.1 -1.9**
WRA pmax pmax
comp=Z,8.0nm,0.4s
WB2 Warramunga Arr 43.52 162 P **P** **07 06 12.4 -1.6**
WB2 IAmb IAmb 07 06 13.4
comp=Z,30nm,1.1s
WR8 Warramunga Arr 43.58 162 P **P** **07 06 13.2 -1.2**
WR8 IAmb IAmb 07 06 13.8
comp=Z,35nm,1.1s
WR0 Warramunga Arr 43.59 162 P **P** **07 06 13.2 -1.3**
WR0 IAmb IAmb 07 06 13.9
comp=Z,34nm,1.1s
KURK Kurchatov 43.99 321 P **P** **07 06 16.3 -1.1**
KURK IAmb IAmb 07 06 21.5
comp=Z,52nm,1.5s
KURK Kurchatov 43.99 321*d i*P **P** **07 06 17.5 +0.1**
KURK pmax pmax
comp=Z,20nm,1.4s
KURBB Kurchatov Arra 44.00 321 P **P** **07 06 17.9 +0.4**
comp=Z,20nm,1.1s,baz=118,slow=7.4,SNR=48
KURBB PcP **PcP** **07 08 01.9 -1.1**
comp=Z,1.1nm,0.8s,baz=118,slow=3.2,SNR=1.6
KURBB LR LR 07 26 50.1
comp=Z,257nm,20.6s,baz=166,slow=39
comp=Z,20nm,1.1s
AAK Ala-Archa 44.11 309 P **P** **07 06 17.3 -1.5**
AAK Ala-Archa 44.11 309 P **P** **07 06 20.5 +1.7**
comp=Z,2.4nm,0.8s,baz=139,slow=7.5,SNR=7.9
AAK LR LR 07 26 11.4
comp=Z,454nm,19.2s,baz=102,slow=38
comp=Z,2.4nm,0.8s
AAK Ala-Archa 44.11 309*d i*P **P** **07 06 22.0 +3.2**
AAK pmax pmax
comp=Z,10.0nm,1.6s
GIRL Giralia 44.94 190 P **P** **07 06 26.5 +1.2**
GIRL Giralia 44.94 190 P **P** **07 06 26.2 +0.9**
comp=Z,245nm,1.2s
GIRL Giralia 44.94 190 P **P** **07 06 27.3 +2.0**
MTSU Mount Surprise 45.69 149 P **P** **07 06 30.4 -1.0**
comp=Z,11nm,1.5s
MTSU Mount Surprise 45.69 149 P **P** **07 06 33.4 +2.0**
QIS Mount Isa 45.83 156 P **P** **07 06 30.8 -1.6**
comp=Z,21nm,1.1s
QIS Mount Isa 45.83 156 P **P** **07 06 31.8 -0.6**
SEY Seymchan 45.92 19 LR LR 07 27 41.8
comp=Z,344nm,18.5s,baz=208,slow=39
GAR Garm 46.66 303 P **P** **07 06 37.1 -2.0**
GAR IAmb IAmb 07 06 46.2
comp=Z,25nm,1.0s
AS15 Alice Springs 46.93 164 P **P** **07 06 40.1 -1.0**
comp=Z,12nm,0.8s
AS31 Alice Springs 46.95 164 P **P** **07 06 40.3 -0.9**
AS31 IAmb IAmb 07 06 43.7
comp=Z,4.4nm,0.5s
ASAR Alice Springs 46.95 164 P **P** **07 06 40.6 -0.7**
ASAR Alice Springs 46.95 164 P **P** **07 06 39.8 -1.5**
comp=Z,5.6nm,0.4s,baz=346,slow=8.2,SNR=120
ASAR PcP **PcP** **07 08 12.9 -0.8**
comp=Z,2.4nm,0.8s,baz=348,slow=3.7,SNR=4.3
ASAR ScP **ScP** **07 12 03.8 -3.1**
comp=Z,1.2nm,0.8s,baz=347,slow=4.5,SNR=6.1
ASAR S **S** **07 13 29.0 -3.0**
comp=Z,0.3nm,0.7s,baz=352,slow=18,SNR=6.0
comp=Z,5.6nm,0.4s
ASAR Alice Springs 46.95 164 P **P** **07 06 40.6 -0.7**
AS01 Alice Springs 46.97 164 P **P** **07 06 41.7 +0.4**
KKAR Karatay Array 47.08 309 P **P** **07 06 41.6 -0.5**
KKAR Karatay Array 47.08 309 P **P** **07 06 41.6 -0.5**
WRKA Warakurna 47.21 172 P **P** **07 06 42.5 -0.7**
comp=Z,43nm,1.4s
WRKA Warakurna 47.21 172 P **P** **07 06 45.2 +2.0**
BRZS Berezniki 47.27 319 *e*P **P** **07 06 43.4 -0.1**
BRZS Berezniki 47.27 319 *e*P **P** **07 06 43.5 -0.1**
IUG Iuzhnay 47.27 308 *e*P **P** **07 06 43.7 -0.1**
IUG pmax pmax
comp=Z,18nm,0.9s
IUG Iuzhnay 47.27 308 *e*P **P** **07 06 43.7 -0.1**
comp=Z,18nm,0.9s
BRLS Borolday 47.55 309 *e*P **P** **07 06 45.8 0.0**
BRLS Borolday 47.55 309 *e*P **P** **07 06 45.8 0.0**
TATA Tatamba Isabel 48.16 125 P **P** **07 06 52.1 +1.3**
MEEK Meekatharra 48.43 184 P **P** **07 06 51.5 -1.1**
comp=Z,53nm,1.8s
MEEK Meekatharra 48.43 184 P **P** **07 06 52.0 -0.6**
HNR Honiara 48.93 126 LR LR 07 24 36.2
comp=Z,108nm,21.4s,baz=336,slow=32
BVAR Borovoye Array 49.58 322 P **P** **07 07 01.8 +0.6**
comp=Z,4.5nm,0.6s,baz=111,slow=8.0,SNR=17
BVAR PcP **PcP** **07 08 22.0 -0.7**
comp=Z,5.7nm,0.7s,baz=121,slow=4.1,SNR=3.9
BVAR ScP **ScP** **07 12 16.8 -0.7**
comp=Z,0.7nm,0.6s,baz=145,slow=3.0,SNR=2.9
BVAR LR LR 07 31 43.5
comp=Z,159nm,18.1s,baz=99,slow=40
comp=Z,4.5nm,0.6s
BRVK Borovoye 49.65 322 P **P** **07 07 01.8 +0.1**
BRVK IAmb IAmb 07 07 12.2
comp=Z,18nm,1.0s
BRVK Borovoye 49.65 322*de*P **P** **07 07 02.0 +0.3**
BRVK pmax pmax
comp=Z,17nm,0.9s
SHEM Shemya Is, Ala 50.30 39 LR LR 07 27 07.1
comp=Z,196nm,21.8s,baz=252,slow=35
MORW Morawa 51.04 186 P **P** **07 07 12.3 -0.2**
MORW Morawa 51.04 186 P **P** **07 07 12.1 -0.4**
comp=Z,51nm,2.1s
MORW Morawa 51.04 186 P **P** **07 07 14.6 +2.1**
OOD Oodnadatta 51.35 164 P **P** **07 07 14.5 -0.3**
NRIK Noril'sk 51.59 345 P **P** **07 07 15.4 -0.7**
NRIK IAmb IAmb 07 07 18.7
comp=Z,24nm,1.1s
NRIK Noril'sk 51.59 345 P **P** **07 07 15.2 -1.0**
comp=Z,10nm,0.9s,baz=117,slow=6.7,SNR=19
NRIK PcP **PcP** **07 08 29.5 -0.3**
comp=Z,3.0nm,0.6s,baz=127,slow=5.2,SNR=1.6
NRIK LR LR 07 31 55.5
comp=Z,542nm,18.0s,baz=148,slow=39
comp=Z,10nm,0.9s
NRIK Noril'sk 51.59 345*de*P **P** **07 07 16.2 +0.1**
NRIK pmax pmax
comp=Z,26nm,1.2s
BLDU Ballidu 52.52 185 P **P** **07 07 22.5 -1.0**
comp=Z,31nm,1.4s
INKA Innaminka 52.81 159 P **P** **07 07 27.5 +1.8**
FORT Forrest 52.84 173 P **P** **07 07 25.7 -0.2**
FORT Forrest 52.84 173 P **P** **07 07 25.0 -0.8**
comp=Z,80nm,1.2s
FORT Forrest 52.84 173 P **P** **07 07 27.9 +2.0**
QLP Quilpie 53.06 154 P **P** **07 07 29.5 +2.0**
KMBL Kambalda 53.06 180 P **P** **07 07 26.5 -1.0**
comp=Z,75nm,1.1s
KMBL Kambalda 53.06 180 P **P** **07 07 27.8 +0.3**
KLBR Kellerberrin 53.41 184 P **P** **07 07 29.2 -0.8**
comp=Z,150nm,1.0s
KLBR Kellerberrin 53.41 184 P **P** **07 07 29.8 -0.2**
BILL Bilibino 53.63 19 P **P** **07 07 30.3 -1.0**
BILL Bilibino 53.63 19|| *e*P **P** **07 07 32.4 +1.2**
BILL pmax pmax
comp=Z,13nm,1.6s
MUN Mundaring 53.91 186 P **P** **07 07 33.5 -0.2**
comp=Z,25nm,1.0s
LUES Luesalemba Tem 54.29 122 P **P** **07 07 37.9 +1.1**
LCRK Leigh Creek 54.55 162 P **P** **07 07 38.8 +0.4**
NWAO Narrogin (SRO) 54.77 184 P **P** **07 07 39.9 0.0**
NWAO Narrogin (SRO) 54.77 184 P **P** **07 07 39.6 -0.3**
comp=Z,75nm,1.2s
NWAO Narrogin (SRO) 54.77 184 LR LR 07 32 15.4
comp=Z,109nm,19.4s,baz=84,slow=37
NWAO Narrogin (SRO) 54.77 184 P **P** **07 07 40.1 +0.2**
NWAO Narrogin (SRO) 54.77 184 P **P** **07 07 42.3 +2.4**
NWAO Narrogin (SRO) 54.77 184 P **P** **07 07 39.9 0.0**
NWAO pmax pmax
comp=Z,83nm,1.5s
EIDS Eidsvold 55.12 147 P **P** **07 07 42.2 -0.4**
EIDS IAmb IAmb 07 07 50.2
comp=Z,32nm,1.6s
AB31 Akbulak array 55.21 315 P **P** **07 07 42.0 -1.1**
AB31 IAmb IAmb 07 07 55.3
comp=Z,13nm,1.0s
ABKAR Akbulak array 55.21 315 P **P** **07 07 42.0 -1.1**
SVE Sverdlovsk 56.00 325 *e*P **P** **07 07 49.8 +1.2**
SVE pmax pmax
comp=Z,24nm,0.9s
BBOO Buckleboo 56.24 165 P **P** **07 07 50.4 -0.1**
BBOO Buckleboo 56.24 165 P **P** **07 07 49.2 -1.3**
comp=Z,60nm,1.0s
BBOO Buckleboo 56.24 165 P **P** **07 07 52.5 +2.0**
RKGY Rocky Gully 56.46 185 P **P** **07 07 52.1 +0.1**
comp=Z,19nm,1.4s
AKTO Aktyubinsk 56.57 317 P **P** **07 07 52.4 -0.4**
comp=Z,2.7nm,0.5s,baz=91,slow=6.2,SNR=11
AKTO LR LR 07 33 40.8
comp=Z,350nm,19.2s,baz=83,slow=38
comp=Z,2.7nm,0.5s
STKA Stephens Creek 56.91 160 P **P** **07 07 55.0 -0.2**
STKA Stephens Creek 56.91 160 P **P** **07 07 54.3 -1.0**
comp=Z,61nm,1.2s
STKA Stephens Creek 56.91 160 P **P** **07 07 54.3 -1.0**
comp=Z,8.5nm,0.8s,baz=331,slow=8.3,SNR=15
STKA LR LR 07 37 04.1
comp=Z,116nm,18.5s,baz=325,slow=41
comp=Z,8.5nm,0.8s
STKA Stephens Creek 56.91 160 P **P** **07 07 54.9 -0.4**
STKA Stephens Creek 56.91 160⇑ *i*P **P** **07 07 53.9 -1.4**
ARTI Arti 57.14 324 P **P** **07 07 55.2 -1.6**
ARTI IAmb IAmb 07 08 12.7
comp=Z,11nm,0.9s
ARTI Arti 57.14 324 P **P** **07 07 56.2 -0.5**
comp=Z,6.9nm,0.8s,baz=101,slow=3.8,SNR=9.0
ARTI LR LR 07 34 59.0
comp=Z,330nm,19.0s,baz=94,slow=38
comp=Z,6.9nm,0.8s
ARTI Arti 57.14 324*d i*P **P** **07 07 57.6 +0.9**
ARTI 07 08 49.3
ARTI 07 10 01.4
ARTI S **S** **07 15 53.1 +1.9**
ARTI SS **SS** **07 19 39.3 -0.5**
ARTI pmax pmax
comp=Z,14nm,1.0s
HTT Hallett 57.56 163 P **P** **07 07 58.5 -1.4**
comp=Z,6.2nm,1.9s
HTT Hallett 57.56 163 P **P** **07 08 02.0 +2.1**
CMSA Cobar Meteorol 58.04 156 P **P** **07 08 02.7 -0.6**
comp=Z,23nm,1.3s
CMSA Cobar Meteorol 58.04 156 P **P** **07 08 04.5 +1.2**
ARMA Armidale 59.60 150 P **P** **07 08 14.6 +0.3**
ARMA Armidale 59.60 150 P **P** **07 08 16.2 +1.9**
ARPS Mount Arapiles 61.51 162 P **P** **07 08 26.3 -0.8**
comp=Z,22nm,1.1s
DZM Mont Dzumac 61.92 132 *e*LR LR 07 26 52.5
comp=Z,178nm,22.1s
KIRV Kirov 62.20 326 P **P** **07 08 30.0 -1.5**
comp=Z,12nm,0.6s,baz=111,slow=5.3,SNR=6.5
KIRV LR LR 07 37 43.5
comp=Z,446nm,19.1s,baz=95,slow=38
comp=Z,12nm,0.6s
KIRV Kirov 62.20 326*de*P **P** **07 08 32.5 +1.0**
CAN Canberra 62.67 155 P **P** **07 08 35.0 0.0**
CAN Canberra 62.67 155 P **P** **07 08 33.7 -1.2**
comp=Z,24nm,1.8s
CAN Canberra 62.67 155 P **P** **07 08 35.0 0.0**
CAN pmax pmax
comp=Z,92nm,1.8s
CNB Canberra Magne 62.81 155 P **P** **07 08 37.4 +1.5**
L14K Kuka Creek 64.14 31 P **P** **07 08 43.6 -0.7**
L14K IAmb IAmb 07 08 54.6
comp=Z,16nm,1.1s
C18K Utukok River 65.07 23 P **P** **07 08 48.8 -1.7**
C18K IAmb IAmb 07 09 01.8
comp=Z,24nm,1.7s
N15K Kwethluk River 65.41 33 IAmb IAmb 07 09 04.8
comp=Z,14nm,1.2s
J17K VABM Dome 65.83 29 IAmb IAmb 07 09 06.3
comp=Z,11nm,0.9s
NCK Nalchik 66.64 309|| *e*P **P** **07 09 03.2 +2.2**
NCK pmax pmax
comp=Z,26nm,0.4s
D20K Etivluk River 66.75 23 IAmb IAmb 07 09 10.7
comp=Z,11nm,1.2s
GOF Gofitskoye 66.81 311*ce*P **P** **07 09 06.1 +4.2**
VRH Novokhopyorsk 66.88 318 *e*P **P** **07 09 02.3 +0.1**
VRH pmax pmax
comp=Z,30nm,0.9s
H19K Roundabout Mou 66.90 27 IAmb IAmb 07 09 12.7
comp=Z,16nm,1.1s
KBZ Khabaz 67.11 310 P **P** **07 09 04.4 +0.5**

comp=Z,4.6nm,0.9s,baz=87,slow=7.4,SNR=14
KBZ LR LR 07 43 06.5
comp=Z,189nm,19.1s,baz=66,slow=40
comp=Z,4.6nm,0.9s
KBZ Khabaz 67.11 310 *ce*P **P 07 09 04.8 +1.0**
KBZ pmax pmax
comp=Z,15nm,1.0s
KIV Kislovodsk 67.22 310 P **P 07 09 03.8 -0.9**
KIV Kislovodsk 67.22 310 *e*P **P 07 09 05.7 +1.0**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,89nm,17.0s
TTA Tatalina 67.23 29 P **P 07 09 06.5 +2.1**
SHA1 Shidzhatmaz 67.28 310 *ce*P **P 07 09 06.4 +1.1**
J19K Poorman 67.34 28 P **P 07 09 05.2 +0.2**
J19K IAmb IAmb 07 09 15.4
comp=Z,8.5nm,1.1s
O18K Koktuh Hills 67.88 33 P **P 07 09 08.4 -0.1**
GEVA Gevas 67.94 304 P **P 07 09 09.4 0.0**
GEVA IAmb IAmb 07 09 21.0
comp=Z,22nm,1.5s
MSVF Nonsavu 67.95 121 P **P 07 09 10.8 +1.2**
MSVF Nonsavu 67.95 121 LR LR 07 33 54.1
comp=Z,86nm,21.2s,baz=356,slow=32
MSVF Nonsavu 67.95 121 P **P 07 09 11.1 +1.5**
MSVF Nonsavu 67.95 121 P **P 07 09 10.8 +1.2**
MSVF pmax pmax
comp=Z,44nm,1.8s
J20K Nowinta River 67.97 28 P **P 07 09 08.5 -0.4**
J20K IAmb IAmb 07 09 24.2
comp=Z,8.9nm,1.1s
D22K Ayikyak River 68.17 23 IAmb IAmb 07 09 25.2
comp=Z,5.8nm,0.8s
H21K Melozitna Rive 68.40 26 P **P 07 09 12.2 +0.5**
H21K IAmb IAmb 07 09 26.8
comp=Z,10nm,1.2s
LPSR Galich'ya Gora 68.42 319 *e*P **P 07 09 11.8 -0.1**
LPSR pmax pmax
comp=Z,37nm,1.0s
VORD Divnogorie 68.43 318 *e*P **P 07 09 11.3 -0.7**
VORD pmax pmax
comp=Z,9.0nm,0.9s
VSR Storozhevoye 68.47 318 *e*P **P 07 09 10.8 -1.5**
VSR pmax pmax
comp=Z,10.0nm,1.0s
E22K Anaktuvuk Pass 68.55 24 P **P 07 09 12.9 +0.3**
E22K IAmb IAmb 07 09 35.1
comp=Z,28nm,1.8s
LVZ Lovozero 68.67 336⇓ *e*P **P 07 09 13.4 +0.1**
LVZ pmax pmax
comp=Z,31nm,1.1s
MOS Moscow 68.73 323 *e*P **P 07 09 12.9 -0.9**
MOS *e* 07 11 43.7
MOS MLR MLR
comp=Z,500nm,20.0s
D23K Nanushuk River 68.88 23 P **P 07 09 15.7 +1.1**
CAST Castle Rocks 68.96 29 P **P 07 09 15.4 +0.2**
CAST IAmb IAmb 07 09 29.9
comp=Z,9.0nm,1.2s
APA Apatity 69.18 336⇓ *i*P **P 07 09 14.2 -2.2**
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,600nm,14.0s
VSLR Vesyoloye 69.21 310⇑ *e*P **P 07 09 18.3 +1.3**
VSLR pmax pmax
comp=Z,28nm,1.2s
RAYN Ar Rayn 69.31 288 P **P 07 09 17.4 -0.7**
RAYN IAmb IAmb 07 09 28.1
comp=Z,13nm,1.1s
RAYN Ar Rayn 69.31 288 ⇑P P 07 09 23.8 +5.7
TOLK Toolik Lake Re 69.32 23 P **P 07 09 18.3 +0.9**
STLK Strandline Lak 69.33 31 P **P 07 09 17.3 -0.2**
STLK IAmb IAmb 07 11 05.5
comp=Z,23nm,2.0s
E23K Chandalar 69.38 24 IAmb IAmb 07 10 05.5
comp=Z,32nm,1.9s
OBN Obninsk 69.42 322⇓ *e*P **P 07 09 19.9 +1.8**
OBN *PP **pP 07 09 24.0 +0.5**
OBN *e*SP **sP 07 09 25.8 +0.2**
OBN *e* 07 09 37.7
OBN PPP PPP 07 13 30.0
OBN pmax pmax
comp=Z,15nm,1.2s
OBN MLR MLR
comp=Z,213nm,17.0s
H23K Yukon River 69.72 26 IAmb IAmb 07 09 30.9
comp=Z,9.1nm,1.1s
NEA2 Nenana 70.11 27 IAmb IAmb 07 09 35.1
comp=Z,18nm,1.4s
F24K Squaw Lake 70.11 24 IAmb IAmb 07 09 32.7
comp=Z,6.9nm,0.8s
H24K Noodor Dome 70.40 26 IAmb IAmb 07 09 39.1
comp=Z,9.5nm,1.2s
RND Reindeer 70.40 29 P **P 07 09 24.8 +0.7**
RND IAmb IAmb 07 09 33.6
comp=Z,16nm,1.0s
RND Reindeer 70.40 29 P **P 07 09 24.8 +0.7**
RND pmax pmax
comp=Z,16nm,1.0s
ILAR Eielson Array 71.00 27 P **P 07 09 25.6 -2.0**
comp=Z,0.4nm,0.6s,baz=278,slow=5.1,SNR=7.9
HDA Harding Lake 71.05 27 IAmb IAmb 07 09 36.7
comp=Z,18nm,1.6s
BMAR Burnt Mountain 71.38 24 P **P 07 09 28.8 -1.1**
F26K Sheenjek River 71.48 24 P **P 07 09 29.7 -0.9**
SPITS Spitsbergen Ar 71.68 348 P **P 07 09 30.4 -1.1**
comp=Z,4.9nm,0.7s,baz=87,slow=6.8,SNR=11
SPITS LR LR 07 45 24.8
comp=Z,708nm,18.1s,baz=26,slow=40
comp=Z,4.9nm,0.7s
ARCES ARCESS Array B 71.68 338 P **P 07 09 32.1 +0.4**
comp=Z,2.2nm,0.6s,baz=64,slow=11,SNR=8.1
ARCES LR LR 07 45 15.6
comp=Z,195nm,18.4s,baz=68,slow=39
comp=Z,2.2nm,0.6s
RIDG Independent Ri 72.09 28 IAmb IAmb 07 09 55.3
comp=Z,23nm,1.4s
E28M Babbage River 72.93 22 IAmb IAmb 07 09 58.0
comp=Z,23nm,1.8s
SIM Simferopol' 73.03 312 *e*P **P 07 09 42.3 +2.1**
SIM pmax pmax
comp=Z,21nm,1.0s
SIM MLR MLR
comp=Z,90nm,21.0s
K27K Chicken 73.21 27 IAmb IAmb 07 09 50.2
comp=Z,15nm,1.4s
FINES FINESS Array B 73.49 330 P **P 07 09 42.1 -0.5**
comp=Z,3.6nm,0.8s,baz=42,slow=4.8,SNR=14
FINES LR LR 07 45 07.3
comp=Z,298nm,19.4s,baz=40,slow=38
comp=Z,3.6nm,0.8s
FINES FINESS Array B 73.49 330 *i*P **P 07 09 43.4 +0.8**
FINES pmax pmax
comp=Z,3.0nm,0.6s
BCAR Beaver Creek A 73.59 28 P **P 07 09 42.7 -0.5**
ASF Jabal al Asfar 74.29 299 LR LR 07 46 28.9
comp=Z,122nm,18.8s,baz=76,slow=39
MNK Minsk 74.46 323 *i*P **P 07 09 47.0 -1.4**
MNK *i* 07 12 32.2
MNK *i*PPP PPP 07 14 18.5
MNK *i*S **S 07 19 22.8 +0.4**
MNK *i*SS **SS 07 24 09.5 +1.1**
MNK pmax pmax
comp=Z,17nm,1.1s
MNK MLR MLR
comp=E,183nm,20.0s
MNK MLR MLR
comp=N,254nm,20.0s
MNK MLR MLR
comp=Z,222nm,19.0s
KIRS Kirsehir-Merke 74.69 306 ⇑P **P 07 09 51.5 +1.3**
AK09 Malin Array Si 74.71 319 P **P 07 09 49.6 -0.3**
AK03 Malin Array Si 74.72 319 P **P 07 09 49.2 -0.7**
AKASG Malin Array Be 74.72 319 P **P 07 09 49.0 -0.9**
AKASG IAmb IAmb 07 09 53.0
comp=Z,22nm,1.4s
AKASG Malin Array Be 74.72 319 P **P 07 09 49.1 -0.8**
comp=Z,9.4nm,1.1s,baz=63,slow=5.6,SNR=22
AKASG LR LR 07 44 03.4
comp=Z,149nm,20.3s,baz=70,slow=37
comp=Z,9.4nm,1.1s
AKASG Malin Array Be 74.72 319 *i*P **P 07 09 49.4 -0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.8s

AKBB Malin Array Si 74.72 319 P **P 07 09 48.5 -1.5**
AKBB Malin Array Si 74.72 319 *i*P **P 07 09 51.1 +1.1**
AKBB pmax pmax
comp=Z,32nm,1.6s
AKBB Malin Array Si 74.72 319 P **P 07 09 49.8 -0.2**
KIEV Kiev 74.73 319 P **P 07 09 48.9 -1.1**
KIEV IAmb IAmb 07 09 52.7
comp=Z,43nm,1.6s
KIEV Kiev 74.73 319⇓P **P 07 09 49.1 -0.9**
KIEV Kiev 74.73 319⇓P **P 07 09 49.1 -0.9**
KIEV Kiev 74.73 319 P **P 07 09 50.0 0.0**
comp=Z,70nm,1.8s
BR131 Keskin Array S 74.74 307 P **P 07 09 49.4 -1.1**
BR131 IAmb IAmb 07 09 54.3
comp=Z,15nm,1.2s
BR131 Keskin Array S 74.74 307 P **P 07 09 49.4 -1.1**
BR131 pmax pmax
comp=Z,15nm,1.2s
BRTR Keskin Array B 74.74 307 P **P 07 09 49.1 -1.4**
BRTR Keskin Array B 74.74 307 P **P 07 09 51.4 +0.9**
comp=Z,4.9nm,1.0s,baz=111,slow=6.8,SNR=14
comp=Z,4.9nm,1.0s
BRTR Keskin Array B 74.74 307 P **P 07 09 49.1 -1.4**
AK02 Malin Array Si 74.74 319 P **P 07 09 49.3 -0.8**
L29M L29M 75.17 28 IAmb IAmb 07 10 14.2
comp=Z,24nm,1.6s
MMAI Mount Meron Ar 75.26 300 LR LR 07 47 37.8
comp=Z,123nm,19.0s,baz=76,slow=39
F31M Tsiigehtchic 75.37 23 IAmb IAmb 07 10 10.8
comp=Z,31nm,1.9s
MI28 Mi28,Pidlybu 75.60 319 P **P 07 09 54.7 -0.3**
SORM Soroca 76.00 316⇓P **P 07 09 57.3 -0.1**
SORM Soroca 76.00 316⇓P **P 07 09 57.3 -0.1**
SORM Soroca 76.00 316 P **P 07 09 56.5 -0.9**
PABE Paberze 76.31 325 P **P 07 09 59.1 +0.2**
CSS Mathiatis 76.34 302 P **P 07 10 00.5 +0.9**
comp=Z,14nm,1.0s
RNPP9 Sopachiv 76.52 320 P **P 07 10 00.1 -0.2**
RNPP8 Varash 76.57 320 P **P 07 10 00.3 -0.2**
EIL Elat 76.62 297 LR LR 07 49 15.2
comp=Z,110nm,18.7s,baz=72,slow=40
TPGR Topolog 76.95 313⇓P **P 07 10 03.1 +0.2**
BORA Eskisehir 77.04 308 IAmb IAmb 07 10 06.8
comp=Z,16nm,1.2s
KMPD K-Podol'skiy 77.07 317 P **P 07 10 04.4 +1.0**
SUW Suwalki 77.23 323 *e*P **P 07 10 06.4 +2.2**
HARR Harsova 77.33 313⇓P **P 07 10 04.6 -0.4**
HARR Harsova 77.33 313⇓P **P 07 10 04.6 -0.4**
TESR Tescani 77.61 315⇑P **P 07 10 06.9 +0.4**
TESR Tescani 77.61 315 P **P 07 10 06.1 -0.4**
comp=Z,26nm,1.5s
VRI Vrincioaia 77.76 315⇑P **P 07 10 08.2 +0.8**
VRI Vrincioaia 77.76 315⇑P **P 07 10 08.2 +0.8**
VRI Vrincioaia 77.76 315 P **P 07 10 08.4 +1.0**
comp=Z,391nmcomp=Z,28nm,1.6s
PLOR5 Plostina Array 77.81 315 P **P 07 10 08.8 +1.1**
comp=Z,24nm,1.4s
ONER Baraj Valea Uz 77.83 315⇑P **P 07 10 08.5 +0.8**
BUR08 Bucovina Ar. S 78.17 317 P **P 07 10 10.1 +0.4**
BUR08 IAmb IAmb 07 10 13.2
comp=Z,14nm,1.4s
BURAR Bucovina Array 78.17 317 P **P 07 10 09.8 +0.1**
BURAR Bucovina Array 78.17 317⇑P **P 07 10 09.4 -0.3**
BURAR Bucovina Array 78.17 317⇑P **P 07 10 09.4 -0.3**
OZUR 78.31 315⇑P **P 07 10 10.3 -0.1**
MLR Muntele Rosu 78.40 314 P **P 07 10 10.7 -0.4**
MLR IAmb IAmb 07 10 14.8
comp=Z,15nm,1.1s
MLR Muntele Rosu 78.40 314 LR LR 07 49 59.6
comp=Z,219nm,21.2s,baz=52,slow=40
MLR Muntele Rosu 78.40 314⇓P **P 07 10 11.4 +0.3**
MLR Muntele Rosu 78.40 314⇓P **P 07 10 11.4 +0.3**
MLR Muntele Rosu 78.40 314 P **P 07 10 11.7 +0.6**
comp=Z,15nm,1.4s
VOIR 79.02 315⇑P **P 07 10 15.0 +0.6**
VOIR 79.02 315⇑P **P 07 10 15.0 +0.6**
BRIU Brid 79.30 318 P **P 07 10 17.0 +1.2**
ARR Arges 79.31 315⇓P **P 07 10 16.1 +0.1**
URZ Urewera 79.43 139 LR LR 07 42 30.2
comp=Z,55nm,21.2s,baz=21,slow=34
RPZ Rata Peaks 79.60 146 P **P 07 10 17.4 0.0**
HFS Hagfors 79.63 331 P **P 07 10 16.2 -1.2**
comp=Z,4.9nm,0.7s,baz=100,slow=6.2,SNR=12
HFS LR LR 07 49 04.3
comp=Z,974nm,18.3s,baz=64,slow=38
comp=Z,4.9nm,0.7s
HOLU Holmets 79.63 318 P **P 07 10 18.7 +1.1**
MARR Marisel-Cluj 79.84 316⇑P **P 07 10 20.3 +1.4**
ALN Alexandroupoli 79.89 310 IAmb IAmb 07 10 22.5
comp=Z,20nm,1.2s
NC405 NORSAR Array S 80.06 332 IAmb IAmb 07 10 27.8
comp=Z,20nm,0.8s
RDO Rodhopi 80.17 310 IAmb IAmb 07 10 23.9
comp=Z,20nm,1.2s
DEV Deva 80.27 316⇑P **P 07 10 21.9 +0.8**
DEV Deva 80.27 316⇑P **P 07 10 21.9 +0.8**
NB2 NORSAR Subarra 80.31 332 P **P 07 10 20.1 -1.0**
comp=Z,17nm,1.1s,baz=62,slow=5.6
NB2 NORSAR Subarra 80.31 332 P **P 07 10 20.1 -1.0**
baz=62,slow=5.6
NOA NORSAR Array B 80.31 332 P **P 07 10 19.8 -1.3**
comp=Z,3.5nm,0.7s,baz=61,slow=5.3,SNR=6.4
NOA LR LR 07 49 25.5
comp=Z,786nm,18.4s,baz=65,slow=38
comp=Z,3.5nm,0.7s
GZR Gura Zlata 80.53 315⇑P **P 07 10 23.0 +0.4**
GZR Gura Zlata 80.53 315⇑P **P 07 10 23.0 +0.4**
OJC Ojcow 80.56 320 *e*P **P 07 10 23.2 +0.6**
OJC Ojcow 80.56 320 P **P 07 10 22.9 +0.3**
OJC Ojcow 80.56 320 P **P 07 10 22.9 +0.3**
OJC pmax pmax
comp=Z,66nm,1.5s
OJC Ojcow 80.56 320 P **P 07 10 23.2 +0.6**
comp=Z,25nm,1.2s
NIE Niedzica 80.57 320 *e*P **P 07 10 23.8 +1.1**
NIE Niedzica 80.57 320 P **P 07 10 23.4 +0.7**
comp=Z,8.5nm,1.1s
JMIC Jan Mayen 81.02 345 LR LR 07 50 21.2
comp=Z,282nm,18.6s,baz=70,slow=39
LANS Liptovska Anna 81.18 319 *e*P **P 07 10 27.2 +1.2**
LANS Liptovska Anna 81.18 319 *e*P **P 07 10 27.2 +1.2**
VYHS Vyhne 81.82 319 *e*P **P 07 10 31.9 +2.5**
VYHS pmax pmax
comp=Z,29nm,1.4s
VYHS Vyhne 81.82 319 *e*P **P 07 10 31.9 +2.5**
BOVS Bovan 81.90 314⇓P **P 07 10 31.6 +1.7**
MORC Moravsky Berou 82.07 321 P **P 07 10 30.2 -0.5**
MORC IAmb IAmb 07 10 34.5
comp=Z,12nm,1.3s
MORC Moravsky Berou 82.07 321 *e*P **P 07 10 31.8 +1.1**
MORC Moravsky Berou 82.07 321 P **P 07 10 30.2 -0.5**
MORC pmax pmax
comp=Z,13nm,1.3s
KSP Ksiaz 82.34 322 *e*P **P 07 10 32.5 +0.4**
KSP Ksiaz 82.34 322 P **P 07 10 33.1 +1.1**
comp=Z,17nm,1.5s
JAVC Velka Javorina 82.38 320 *e*P **P 07 10 33.8 +1.5**
VRAC Vranov 82.83 320 LR LR 07 50 47.8
comp=Z,205nm,21.4s,baz=54,slow=38
VRAC Vranov 82.83 320 *e*P **P 07 10 35.9 +1.3**
MORH Mrgy, Hungar 82.87 317⇓P **P 07 10 35.8 +1.0**
KRUC Moravsky 83.05 320 *e*P **P 07 10 36.1 +0.4**
BRG Berggiesshubel 83.67 323 *e*P **P 07 10 41.2 +2.3**
BRG Amp 07 10 42.5
comp=Z,14nm,1.4s
RONA Rosalia, Austr 83.70 319 *i*pP **P 07 10 40.6 +1.4**
comp=Z,7.4nm,1.0s
CONA Conrad Observa 83.86 319 *e*P **P 07 10 39.8 -0.2**
comp=Z,20nm,1.3s
CLL Collm 83.99 323 *e*P **P 07 10 40.0 -0.5**
CLL *e*S **S 07 21 05.0 +1.1**
CLL pmax pmax
comp=Z,12nm,1.0s
CLL MLR MLR
comp=Z,500nm,18.0s
KHC Kasperske Hory 84.68 321 *e*P **P 07 10 43.5 -0.6**
KHC Kasperske Hory 84.68 321⇓ *e*P **P 07 10 44.2 +0.1**
KHC pmax pmax
comp=Z,32nm,1.5s
SUMG Summit 84.70 354 IAmb IAmb 07 10 53.1
comp=Z,13nm,1.2s
GERES GERESS Array B 84.74 321 P **P 07 10 42.8 -1.7**
GERES GERESS Array B 84.74 321 P **P 07 10 44.5 0.0**
comp=Z,1.6nm,0.6s,baz=47,slow=2.9,SNR=14
comp=Z,1.6nm,0.6s

GERES GERESS Array B 84.74 321 P **P 07 10 42.8 -1.7**
KIBK Kibwezi 84.84 265 P **P 07 10 45.4 -0.2**
KIBK IAmb IAmb 07 10 51.7
comp=Z,12nm,1.2s
YKA Yellowknife Ar 84.85 23 P **P 07 10 44.1 -0.5**
YKA Yellowknife Ar 84.85 23 P **P 07 10 43.4 -1.2**
comp=Z,1.9nm,0.9s,baz=317,slow=4.4,SNR=20
comp=Z,1.9nm,0.9s
YKA Yellowknife Ar 84.85 23 P **P 07 10 44.1 -0.5**
MOA Molln 84.86 320 *e*P **P 07 10 45.4 +0.3**
comp=Z,17nm,1.3s
YKAW1 Yellowknife Wh 84.90 23 P **P 07 10 44.6 -0.3**
YKAW1 IAmb IAmb 07 11 00.3
comp=Z,4.5nm,1.1s
SOKA Soboth 84.92 318 *e*P **P 07 10 45.6 +0.1**
comp=Z,11nm,1.3s
KMBO Kilima Mbogo 85.12 267 P **P 07 10 45.6 -1.6**
KMBO IAmb IAmb 07 10 52.8
comp=Z,8.1nm,1.1s
KMBO Kilima Mbogo 85.12 267 P **P 07 10 48.2 +1.0**
comp=Z,4.4nm,0.7s,baz=55,slow=7.1,SNR=7.1
KMBO LR LR 07 48 02.8
comp=Z,122nm,20.3s,baz=94,slow=35
comp=Z,4.4nm,0.7s
KMBO Kilima Mbogo 85.12 267 P **P 07 10 45.6 -1.6**
KMBO pmax pmax
comp=Z,8.0nm,1.1s
LODK Lodwar 85.19 272 P **P 07 10 45.5 -1.8**
LODK IAmb IAmb 07 11 05.3
comp=Z,15nm,1.9s
OBKA Obir 85.30 318 *e*P **P 07 10 47.6 +0.2**
comp=Z,12nm,1.5s
BIOA Bad Ischl, Aus 85.31 320 *e*P **P 07 10 47.8 +0.5**
comp=Z,3.6nm,0.7s
KBA Koelnbreinsper 85.77 319 *e*P **P 07 10 48.9 -0.9**
comp=Z,7.8nm,1.2s
LESA Schwarzleotal 86.01 320 *e*PcP **P 07 10 51.6 +0.8**
comp=Z,5.5nm,1.2s
ABTA Abfaltersbach 86.43 319 *i*P **P 07 10 51.8 -1.2**
comp=Z,3.5nm,0.8s
WTTA Wattenberg 86.71 320 *i*P **P 07 10 53.9 -0.5**
comp=Z,7.1nm,1.1s
RAR Rarotonga 87.94 114 LR LR 07 49 20.8
comp=Z,42nm,18.1s,baz=262,slow=35
DAVOX Davos/Dischmat 87.99 320 LR LR 07 54 21.0
comp=Z,246nm,21.1s,baz=47,slow=38
BORG Borgarnes 88.91 345 LR LR 07 53 50.9
comp=Z,326nm,20.8s,baz=20,slow=38
SFJD Kangerlussuaq 91.08 357 LR LR 07 53 31.4
comp=Z,62nm,18.9s,baz=334,slow=36
PPT2 Papeete2 95.43 107 *e*LR LR 07 42 19.7
comp=Z,128nm,24.8s
PPT2 *e*LR LR 07 42 21.7
comp=Z,73nm,21.2s
NVAR Mina Array Bea 97.80 43 P Pdif 07 11 46.2 +0.1
comp=Z,0.2nm,0.4s,baz=267,slow=4.9,SNR=4.5
NVAR LR LR 07 53 28.0
comp=Z,72nm,20.2s,baz=219,slow=34
comp=Z,0.2nm,0.4s
LSZ Lusaka 98.62 257 LR LR 07 56 36.9
comp=Z,155nm,18.1s,baz=124,slow=36
MAW Mawson 99.15 199 LR LR 07 57 13.3
comp=Z,98nm,18.6s,baz=80,slow=36
TAOE Nuku Hiva Isla 100.92 95 *e*LR LR 07 44 53.2
comp=Z,104nm,28.4s
SYO Syowa Base 107.49 202⇓ *e*Pdiff **Pdif 07 12 30.2 +2.2**
SYO Syowa Base 107.49 202⇓ *e*PKiKP **PKiKP 07 16 37.4 +1.2**
MG01 Puerto William 146.40 170 PKPbc **PKPab 07 17 52.6 +0.9**
MG03 Isla Dawson 146.91 167 PKPbc **PKPab 07 17 53.8 +0.1**
SDV Santo Domingo 147.07 23 PKPbc **PKPbc 07 17 53.4 -0.9**
BAUV El Baul 147.85 18 **PKPbc 07 17 55.3 -0.8**
MG05 Puerto Natales 148.43 163 PKPbc **PKPbc 07 17 56.3 -0.2**
RUSC La Rusia 148.80 29 PKPbc **PKPbc 07 17 58.3 -1.0**
OTAV Otavalo 150.53 44 PKPbc **PKPbc 07 18 02.3 -1.2**
OTAV Otavalo 150.53 44 PKIKP **PKPbc 07 18 02.3 -1.2**
COHC Cochancay 151.97 49 PKPbc **PKiKP 07 18 06.5 -0.1**
BO02 Sierra Bellavi 163.28 142 PKPdf **PKPdf 07 18 10.1 -3.2**
BO02 PKPab **PKPab 07 19 03.5 -0.2**
MT01 Popeta 163.66 139 PKPdf **PKPdf 07 18 11.7 -1.9**
MT01 PKPab **PKPab 07 19 04.4 -1.0**
TRQA Tornquist 163.71 170 PKPdf **PKPdf 07 18 11.4 -2.0**
TRQA PKPab **PKPab 07 19 04.1 -1.3**
TRQA Tornquist 163.71 170 PKIKP **PKPdf 07 18 11.5 -2.0**
TRQA 07 19 04.1
BO04 La Punta 163.96 141 PKPdf **PKPdf 07 18 12.1 -1.8**
BO04 PKPab **PKPab 07 19 07.1 +0.4**
CO02 Combarbal 165.52 132 PKPdf **PKPdf 07 18 13.3 -2.2**
CO02 PKPab **PKPab 07 19 13.4 -0.4**
AC04 Llanos de Chal 167.01 121 PKPdf **PKPdf 07 18 14.4 -2.1**
AC04 PKPab **PKPab 07 19 17.8 -2.5**
CPUP Villa Florida 175.56 193 PKPdf **PKPdf 07 18 18.4 -2.4**
CPUP PKPab **PKPab 07 19 57.1 -0.9**
CPUP Villa Florida 175.56 193 PKIKP **PKPdf 07 18 18.4 -2.4**
CPUP 07 19 57.1

---

*ASRS **08** 07:01:06.0±1.1, 54°.14N×86°.41E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 07:01:09.0±2.5, 54°.12N×86°.40E, h0km, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=19.8km s-min=12.4km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**260**		I	I	07 06 43.9	
	baz=81,slow=335,SNR=2.5							
ZALV	**Zalesovo Beam**	**0.95**	**260**	Pg	Pg	Pg	07 01 25.9	-1.3
	1.3nm,0.3s,baz=78,slow=17,SNR=15							
ZALV				Lg	Lg	Lg	07 01 41.5	
	1.7nm,0.3s,baz=77,slow=30,SNR=7.8							
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	Pn	07 02 39.3	+1.0
	0.1nm,0.3s,baz=54,slow=13,SNR=9.1							
KURBB				Sn	Sn	Sn	07 03 45.8	-1.5
	baz=32,slow=19							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**7.79**	**201**	Pn	Pn	Pn	07 03 04.6	+1.1
	0.5nm,0.3s,baz=26,slow=13,SNR=12							
	0.4nm,0.3s							

---

*ASRS **08** 07:07:01.0±0.8, 54°.62N×83°.65E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 07:06:59.5±2.2, 54°.72N×83°.69E, h0km, mbtmp2.9/2, ML2.9/2, Error ellipse: s-maj=18.6km s-min=11.3km az=171.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**139**		I	I	07 12 31.4	
	baz=316,slow=324,SNR=3.3							
ZALV	**Zalesovo Beam**	**1.02**	**139**	Pg	Pg	Pg	07 07 19.3	+0.2
	2.5nm,0.3s,baz=323,slow=16,SNR=12							
ZALV				Lg	Lg	Lg	07 07 33.5	
	12nm,0.3s,baz=320,slow=29,SNR=42							
KURBB	**Kurchatov Arra**	**5.17**	**219**	Pn	Pn	Pn	07 08 19.0	+0.9
	0.1nm,0.3s,baz=41,slow=14,SNR=11							
KURBB				Lg	Lg	Lg	07 09 42.9	
	0.1nm,0.3s,baz=41,slow=30,SNR=4.3							
	0.8nm,0.5s							
MKAR	**Makanchi Array**	**7.99**	**187**	Pn	Pn	Pn	07 08 55.2	-1.6
	0.6nm,0.3s,baz=7.6,slow=12,SNR=14							
MKAR				Sn	Sn	Sn	07 10 29.2	+1.5
	0.1nm,0.3s,baz=16,slow=21,SNR=2.6							
MKAR				Lg	Lg	Lg	07 11 07.2	
	0.1nm,0.3s,baz=350,slow=30,SNR=2.1							
	0.4nm,0.4s							

---

*NNC **08** 07:16:16.1±0.8, 49°.98N×78°.54E, h0km, mb3.1, mpv2.6, Error ellipse: s-maj=15.9km s-min=3.0km az=80.0, Suspected Mining explosion.*

*IDC **08** 07:16:17.7±1.2, 50°.04N×78°.70E, h0km, mbtmp2.5/2, ML1.9/2, Error ellipse: s-maj=10.4km s-min=7.2km az=58.0*

ISC 08 07:16:18.2±1.1, 50°.03N±0°.06×78°.7E±0°.1, h0km, n17, σ0°.91/27, 16C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.56**	**349**	⇓P	**Pg**	**Pg**	**07 16 28.3**	**-0.7**
KUR07				⇑S	**Sg**	**Sg**	**07 16 37.5**	**+1.2**
KUR06	**Kurchatov Arra**	**0.58**	**350**	⇓P	**Pg**	**Pg**	**07 16 28.6**	**-0.7**
KUR06				⇑S	**Sg**	**Sg**	**07 16 37.7**	**+0.9**

KUR14	**Kurchatov Arra**	**0.58**	**355**	⇓P	**Pg**	**07 16 28.2**	**-1.3**
KUR14				⇓S	**Sg**	**07 16 37.2**	**+0.2**
KUR15	**Kurchatov Arra**	**0.59**	**353**	⇓P	**Pg**	**07 16 28.5**	**-1.0**
KUR15				⇑S	**Sg**	**07 16 37.5**	**+0.2**
KURBB	**Kurchatov Arra**	**0.60**	**351**	Pg	**Pg**	**07 16 29.1**	**-0.6**
	0.7nm,0.3s,baz=168,slow=18,SNR=12						
KURBB				Lg	Lg	07 16 38.0	
	1.6nm,0.3s,baz=170,slow=32,SNR=13						
KURBB	**Kurchatov Arra**	**0.60**	**351**	⇑P	**Pg**	**07 16 28.9**	**-0.8**
	11nm,0.6s						
KURBB				⇑S	**Sg**	**07 16 38.3**	**+0.9**
	52nm,0.6s						
KUR16	**Kurchatov Arra**	**0.61**	**349**	⇓P	**Pg**	**07 16 28.8**	**-1.1**
KUR16				⇑S	**Sg**	**07 16 37.8**	**+0.1**
KUR17	**Kurchatov Arra**	**0.61**	**347**	⇑P	**Pg**	**07 16 28.9**	**-1.1**
KUR17				⇑S	**Sg**	**07 16 38.0**	**0.0**
KUR05	**Kurchatov Arra**	**0.62**	**352**	⇑P	**Pg**	**07 16 29.1**	**-0.9**
KUR05				⇑S	**Sg**	**07 16 38.3**	**+0.2**
KUR04	**Kurchatov Arra**	**0.64**	**352**	⇑P	**Pg**	**07 16 29.6**	**-0.9**
KUR04				⇑S	**Sg**	**07 16 38.8**	**+0.2**
KURK	**Kurchatov**	**0.68**	**357**	⇑P	**Pg**	**07 16 30.2**	**-1.1**
	4.4nm,0.5s						
KURK				⇓S	**Sg**	**07 16 41.6**	**+1.3**
	7.3nm,0.5s						
MAKZ	**Makanchi**	**3.90**	**145**	⇑Pg	**Pb**	**07 17 29.4**	**+1.5**
	1.2nm,0.6s						
MAKZ				⇑Lg	Lg	07 18 17.2	
	4.0nm,0.5s						
MK31	**Makanchi Array**	**4.04**	**142**	⇓Pg	**Pb**	**07 17 30.9**	**+0.7**
	0.7nm,0.5s,baz=325,slow=14,SNR=14						
MK31				⇑Lg	Lg	07 18 23.2	
	5.3nm,0.6s,baz=336,slow=26,SNR=12						
MKAR	**Makanchi Array**	**4.04**	**142**	Pn	**Pn**	**07 17 21.1**	**-0.1**
	0.1nm,0.3s,baz=330,slow=11,SNR=2.4						
MKAR				Pg	**Pb**	**07 17 28.7**	**-1.5**
	0.2nm,0.3s,baz=327,slow=13,SNR=4.4						
MKAR				Lg	Lg	07 18 23.2	
	1.1nm,0.3s,baz=333,slow=31,SNR=11						
	0.2nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.45**	**42**	I	I	07 49 50.0	
	baz=226,slow=331,SNR=2.1						
ZALV	**Zalesovo Beam**	**5.45**	**42**	Pn	**Pn**	**07 17 41.0**	**+0.3**
	0.2nm,0.3s,baz=233,slow=15,SNR=4.5						
	1.0nm,0.5s						
BVAR	**Borovoye Array**	**5.98**	**303**	Sn	**Sn**	**07 18 57.4**	**+0.4**
	baz=115,slow=21,SNR=4.7						

IDC 08 07:18:06.7±4.6, 14°.23N×123°.99E, h121km±40km, mb3.5/8, mbtmp3.9/9, MS3.0/1, Error ellipse: s-maj=55.2km s-min=15.6km az=64.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.96**	**268**	P	Pn	07 18 53.0	+0.3
	391nm,0.4s,baz=46,slow=4.7,SNR=6.4						
TGY				S	Sn	07 19 34.8	+6.8
	512nm,0.5s,baz=92,slow=24,SNR=4.9						
GUMO	**Guam**	**20.28**	**89**	LR	LR	07 30 23.0	
	comp=Z,39nm,18.9s,baz=322,slow=36						
CMAR	**Chiang Mai Arr**	**24.39**	**283**	P	P	07 23 13.8	-0.2
	2.5nm,0.3s,baz=101,slow=9.0,SNR=7.6						
	2.5nm,0.3s						
WRA	**Warramunga Arr**	**35.45**	**163**	P	P	07 24 50.4	-1.1
	0.7nm,0.8s,baz=341,slow=7.7,SNR=2.7						
	0.7nm,0.8s						
SONM	**Songino Array**	**36.56**	**340**	P	P	07 25 00.6	-0.3
	2.4nm,1.1s,baz=153,slow=8.3,SNR=6.9						
	2.4nm,1.1s						
ASAR	**Alice Springs**	**38.89**	**165**	P	P	07 25 20.9	+0.3
	1.9nm,0.9s,baz=344,slow=8.4,SNR=12						
	1.9nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**41.12**	**78**	T	T	08 09 23.4	
	baz=272,slow=75,SNR=109						
H11S1	**WAKE ISLAND Hy**	**41.13**	**78**	T	T	08 09 26.5	
	baz=272,slow=75,SNR=75						
H11S2	**WAKE ISLAND Hy**	**41.14**	**78**	T	T	08 09 28.0	
	baz=272,slow=75,SNR=96						
H11N1	**WAKE ISLAND Hy**	**41.31**	**76**	T	T	08 09 48.1	
	baz=267,slow=74,SNR=56						
H11N2	**WAKE ISLAND Hy**	**41.32**	**76**	T	T	08 09 40.7	
	baz=267,slow=74,SNR=49						
H11N3	**WAKE ISLAND Hy**	**41.33**	**76**	T	T	08 09 45.8	
	baz=267,slow=74,SNR=49						
MKAR	**Makanchi Array**	**47.55**	**322**	P	P	07 26 29.2	-0.9
	0.8nm,0.7s,baz=92,slow=10,SNR=5.9						
MKAR				PcP	PcP	07 27 58.9	+0.7
	0.6nm,0.8s,baz=123,slow=5.3,SNR=2.6						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**51.58**	**325**	P	P	07 27 00.0	-0.4
	0.6nm,0.5s,baz=120,slow=7.6,SNR=6.5						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**57.17**	**325**	P	P	07 27 41.7	+0.9
	0.6nm,0.7s,baz=100,slow=3.5,SNR=4.3						
	0.6nm,0.7s						
ARTI	**Arti**	**64.81**	**326**	P	P	07 28 32.2	-0.2
	1.4nm,0.6s,baz=141,slow=1.2,SNR=3.6						
	1.4nm,0.6s						

*ASRS **08** 07:20:15.0±1.5, 53°.69N×86°.87E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 07:20:16.8±2.8, 53°.78N×87°.01E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=26.8km s-min=15.4km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**279**	I	I	07 28 18.1	
	0.1nm,0.9s,baz=96,slow=333,SNR=17						
ZALV	**Zalesovo Beam**	**1.31**	**278**	Pg	Pg	07 20 40.7	-1.2
	0.9nm,0.3s,baz=100,slow=12,SNR=13						
ZALV				Lg	Lg	07 20 58.4	
	1.1nm,0.3s,baz=100,slow=30,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.10**	**242**	Pn	Pn	07 21 50.0	+1.9
	0.1nm,0.3s,baz=58,slow=14,SNR=4.7						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.61**	**205**	Pn	Pn	07 22 09.6	+0.6
	0.1nm,0.3s,baz=25,slow=14,SNR=7.5						
MKAR				Lg	Lg	07 24 19.3	
	0.1nm,0.3s,baz=19,slow=35,SNR=2.6						
	0.1nm,0.3s						

*SJA **08** 07:25:19.6±1.6, 21°.10S×68°.82W, h123km±9km, ML3.2, MW3.5*
*GUC **08** 07:25:21.5±0.7, 21°.10S×68°.75W, h111km±4km, ML3.4*

ISC 08 07:25:21.6±1.6, 21°.10S±0°.03×68°.86W±0°.08, h115km±11km, n26, σ0s74/36, 4C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.59**	**275**	⇑*i*P	**Pn**	**07 25 39.3**	**-0.4**
PB01				*e*S	**Sn**	**07 25 53.2**	**-0.1**
PB01				IAML		07 25 55.1	
	comp=N,1μm,0.3s						
PB01	**IPOC Station P**	**0.59**	**275**	*i*P	**Pn**	**07 25 38.6**	**-1.1**
PB01				*e*P		07 25 39.3	
PB01				*e*S	**Sn**	**07 25 54.8**	**+1.5**
PB01				IAML		07 25 57.7	
	comp=Z,718nm,0.2s						
PB09	**IPOC Station P**	**0.78**	**207**	⇑*i*P	**Pn**	**07 25 41.2**	**-0.2**
PB09				*e*S	**Sn**	**07 25 56.9**	**+0.7**
PB09	**IPOC Station P**	**0.78**	**207**	*i*P	**Pn**	**07 25 40.6**	**-0.7**
PB09				IAML		07 25 57.6	
	comp=Z,484nm,0.4s						
PB08	**IPOC Station P**	**0.99**	**344**	⇓*i*P	**Pn**	**07 25 43.4**	**-0.2**
PB08				*e*S	**Sn**	**07 26 00.2**	**+0.1**
PB08				IAML		07 26 02.8	
	comp=N,655nm,0.3s						
PB08	**IPOC Station P**	**0.99**	**344**	*i*P	**Pn**	**07 25 42.7**	**-0.9**
PB08				*e*P		07 25 43.4	
PB08				*e*S	**Sn**	**07 26 00.5**	**+0.4**
PB08				IAML		07 26 03.9	
	comp=Z,358nm,0.4s						
PB03	**IPOC Station P**	**1.26**	**221**	⇑*i*P	**Pn**	**07 25 46.1**	**-0.1**
PB03				*e*S	**Sn**	**07 26 05.0**	**+0.3**
PB03				IAML		07 26 10.1	
	comp=E,581nm,0.2s						
PB03	**IPOC Station P**	**1.26**	**221**	*i*P	**Pn**	**07 25 45.5**	**-0.7**
PB03				*e*P		07 25 46.1	
PB03				*e*S	**Sn**	**07 26 05.4**	**+0.7**
PB03				IAML		07 26 10.4	
	comp=Z,388nm,0.1s						
TA02	**Huaiquique**	**1.45**	**304**	*e*P	**Pn**	**07 25 48.6**	**+0.5**
TA02	**Huaiquique**	**1.45**	**304**	*i*P	**Pn**	**07 25 48.1**	**-0.1**
TA02				*e*P		07 25 48.6	
TA02				*e*S	**Sn**	**07 26 09.1**	**+0.9**
TA02				IAML		07 26 12.7	
	comp=Z,655nm,0.1s						
GO01	**Chusmiza**	**1.46**	**348**	⇓*i*P	**Pn**	**07 25 48.4**	**-0.4**
GO01				IAML		07 26 15.2	
	comp=N,917nm,0.1s						
GO01	**Chusmiza**	**1.46**	**348**	*i*P	**Pn**	**07 25 47.8**	**-1.0**
GO01				IAML		07 26 11.7	
	comp=Z,178nm,0.4s						
PB11	**IPOC Station P**	**1.53**	**331**	⇓*i*P	**Pn**	**07 25 48.9**	**-0.4**
PB11				*e*S	**Sn**	**07 26 10.3**	**+0.2**
PB11				IAML		07 26 12.5	
	comp=E,672nm,0.2s						
PB11	**IPOC Station P**	**1.53**	**331**	*i*P	**Pn**	**07 25 48.3**	**-1.0**
PB11				IAML		07 26 13.9	
	comp=Z,303nm,0.2s						
PB06	**IPOC Station P**	**1.73**	**202**	⇑*i*P	**Pn**	**07 25 51.5**	**-0.2**
PB06				*e*S	**Sn**	**07 26 14.9**	**+0.3**
PB06				IAML		07 26 20.2	
	comp=E,471nm,0.4s						
PB06	**IPOC Station P**	**1.73**	**202**	*i*P	**Pn**	**07 25 50.9**	**-0.7**
PB06				IAML		07 26 17.8	
	comp=Z,213nm,0.2s						
AF01	**San Pedro de A**	**1.95**	**161**	*i*P	**Pn**	**07 25 54.2**	**-0.3**
AF01				IAML		07 26 41.4	
	comp=Z,152nm,1.4s						
PB16	**IPOC Station P**	**2.82**	**347**	*e*P	**Pn**	**07 26 06.0**	**0.0**
PB16	**IPOC Station P**	**2.82**	**347**	*i*P	**Pn**	**07 26 05.7**	**-0.2**
PB16				IAML		07 27 13.8	
	comp=Z,19nm,1.1s						
PB12	**IPOC Station P**	**2.83**	**331**	*e*P	**Pn**	**07 26 04.3**	**-1.4**
PB12				IAML		07 26 48.6	
	comp=E,96nm,0.3s						
PB12	**IPOC Station P**	**2.83**	**331**	*i*P	**Pn**	**07 26 03.9**	**-1.8**
PB12				IAML		07 26 49.3	
	comp=Z,64nm,0.4s						
PB10	**IPOC Station P**	**2.87**	**213**	*e*P	**Pn**	**07 26 05.8**	**-0.3**
PB10				IAML		07 26 53.9	
	comp=N,129nm,0.5s						
PB10	**IPOC Station P**	**2.87**	**213**	*i*P	**Pn**	**07 26 05.8**	**-0.3**
PB10				IAML		07 26 55.3	
	comp=Z,97nm,1.2s						
GO02	**Mina Guanaco**	**4.10**	**189**	*i*P	**Pn**	**07 26 22.2**	**-0.5**
GO02				IAML		07 27 40.8	
	comp=Z,65nm,1.1s						
AZAP	**Zapla**	**4.69**	**132**	*i*P	**Pn**	**07 26 29.9**	**-0.6**
AZAP				IAML		07 27 28.9	
	comp=Z,11nm,2.7s						
LPAZ	**La Paz**	**4.83**	**8**	*i*P	**Pn**	**07 26 33.9**	**+1.0**
LPAZ				IAML		07 27 46.9	
	comp=Z,2.7nm,3.8s						

*ASRS **08** 07:30:49.0±0.8, 53°.62N×87°.95E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 07:30:52.8±3.2, 53°.60N×87°.90E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=28.0km s-min=17.4km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**282**	I	I	07 43 16.8	
	baz=98,slow=332,SNR=9.3						
ZALV	**Zalesovo Beam**	**1.86**	**282**	Pg	Pn	07 31 25.9	0.0
	1.0nm,0.3s,baz=101,slow=15,SNR=26						
ZALV				Lg	Lg	07 31 52.1	
	1.9nm,0.3s,baz=98,slow=29,SNR=18						
KURBB	**Kurchatov Arra**	**6.49**	**246**	Pn	Pn	07 32 30.6	+1.0
	0.1nm,0.3s,baz=60,slow=14,SNR=4.5						
KURBB				Lg	Lg	07 34 18.5	
	baz=64,slow=32						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	07 32 47.3	+1.1
	0.1nm,0.3s,baz=26,slow=13,SNR=2.6						
MKAR				Lg	Lg	07 34 54.8	
	0.1nm,0.3s,baz=24,slow=25,SNR=3.5						
	0.1nm,0.4s						

RSNC 08 07:33:19.0±0.0, 7°.N±2°.×7°.3W±°, h148km±2km, M1.7, ML1.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**183**	P	Pn	07 33 39.1	-0.3
BARC				S	Sn	07 33 54.6	-0.3
BRJC	**Barrancabermej**	**0.60**	**287**	P	Pn	07 33 40.4	-0.2
BRJC				S	Sn	07 33 57.9	+0.8
PAMC	**Pamplona, Colo**	**0.71**	**41**	P	Pn	07 33 41.9	-0.1
RUSC	**La Rusia**	**0.91**	**175**	P	Pn	07 33 42.9	-0.5
RUSC				S	Sn	07 34 01.5	-0.5
PTBC	**PUERTO BERRIO,**	**1.30**	**259**	S	Sn	07 34 06.8	-0.5
OCAC	**Ocana**	**1.44**	**354**	S	Sn	07 34 09.8	-0.3

*IDC **08** 07:35:17.6±0.6, 52°.12N×169°.73W, h0km, mb4.3/31, mbtmp4.4/33, ML4.2/2, MS3.8/45, Error ellipse: s-maj=18.8km s-min=10.4km az=1.0*
*BJI **08** 07:35:17.0, 51°.90N×169°.60W, h20km, mB5.0/9, mb4.8/41, Ms4.6/15, Ms7 4.2/15*
*AEIC **08** 07:35:19.9±2.2, 51°.88N±0°.05×169°.75W±0°.09, h25km±4km, Error ellipse: s-maj=9.4km s-min=5.0km az=132.0*
*NEIC **08** 07:35:21.0±1.7, 51°.96N±0°.05×169°.67W±0°.09, h23km±5km, mb4.7/391, ML4.5/16, ML4.4(AEIC), Error ellipse: s-maj=10.1km s-min=5.0km az=128.0*

ISC 08 07:35:21.7±0.5, 51°.94N±0°.08×169°.60W±0°.05, h30km, n733, σ1s04/599, mb4.7/201, MS3.9/48, 2C-2D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.13**	**23**		**Sn**	**07 35 56.4**	**+0.4**
NIKH	**Nikolski High**	**1.13**	**23**	Pn	**Pn**	**07 35 40.6**	**-0.9**
NIKH				IAML		07 36 02.0	
	comp=N,9μm,0.7s						
NIKH				IAML		07 36 05.4	
	comp=E,8μm,0.6s						
NIKH	**Nikolski High**	**1.13**	**23**	P	**Pn**	**07 35 41.0**	**-0.5**
NIKH	**Nikolski High**	**1.13**	**23**	S	**Sn**	**07 35 56.6**	**+0.6**
NIKH	**Nikolski High**	**1.13**	**23**	P	**Pn**	**07 35 40.9**	**-0.6**
	baz=203,SNR=166						
OKSP	**Okmok Steeple**	**1.54**	**31**		**Pn**	**07 35 46.4**	**-0.7**
OKWR	**Okmok West Rim**	**1.72**	**29**		**Pn**	**07 35 49.9**	**+0.2**
OKCE	**Okmok Cone E**	**1.73**	**30**		**Pn**	**07 35 49.7**	**0.0**
OKTU	**Okmok Mt. Tuli**	**1.73**	**33**		**Pn**	**07 35 49.6**	**-0.2**
OKWE	**Okmok W'ng Wal**	**1.75**	**28**		**Pn**	**07 35 50.4**	**+0.5**
OKRE	**Okmok R'deer P**	**1.81**	**28**		**Pn**	**07 35 51.5**	**+0.7**
MREP	**Makushin Rep't**	**2.55**	**42**		**Pn**	**07 36 01.1**	**+0.1**
UNV	**Unalaska Valle**	**2.68**	**43**		**Pn**	**07 36 02.7**	**0.0**
UNV				IAML		07 36 55.4	
	comp=N,2μm,1.0s						
UNV	**Unalaska Valle**	**2.68**	**43**	P	**Pn**	**07 36 02.9**	**+0.2**
	baz=225,SNR=103						
MTBL	**Makushin Table**	**2.69**	**40**		**Pn**	**07 36 03.9**	**+0.8**
ATKA	**Atka Island**	**2.85**	**277**	Pn	**Pn**	**07 36 05.0**	**-0.1**
ATKA	**Atka Island**	**2.85**	**277**	P	**Pn**	**07 36 04.7**	**-0.4**
AKMO	**Akutan Morgan**	**3.06**	**44**		**Pn**	**07 36 09.4**	**+1.4**
LVA	**Lava Point**	**3.10**	**43**		**Pn**	**07 36 09.1**	**+0.6**
AKUT	**Akutan**	**3.19**	**45**	Pn	**Pn**	**07 36 10.5**	**+0.7**
AKUT				IAML		07 37 13.7	
	comp=N,899nm,1.1s						
AKUT	**Akutan**	**3.19**	**45**	P	**Pn**	**07 36 10.8**	**+1.0**
WEBT	**Westdahl Beart**	**3.94**	**46**		**Pn**	**07 36 21.6**	**+1.5**
GSTR	**Great Sitkin T**	**4.00**	**275**		**Pn**	**07 36 21.7**	**+0.8**
ISNN	**Isanotski Nort**	**4.53**	**48**		**Pn**	**07 36 30.2**	**+2.0**
P08K	**Saint George I**	**4.67**	**0**	Pn	**Pn**	**07 36 30.7**	**+0.5**
P08K				IAML		07 37 13.9	
	comp=N,308nm,1.1s						
P08K				IAML		07 38 15.0	
	comp=E,316nm,1.6s						
P08K	**Saint George I**	**4.67**	**0**	P	**Pn**	**07 36 30.3**	**+0.2**
	baz=180,SNR=5.5						
KIWB	**Kanaga Island**	**4.68**	**272**	Pn	**Pn**	**07 36 29.8**	**-0.4**
FALS	**False Pass**	**4.71**	**49**		**Pn**	**07 36 30.9**	**+0.2**
FALS	**False Pass**	**4.71**	**49**	P	**Pn**	**07 36 31.9**	**+1.2**
FALS	**False Pass**	**4.71**	**49**	P	**Pn**	**07 36 31.1**	**+0.4**
	baz=234,SNR=13						
SPIA	**Saint Paul Isl**	**5.26**	**356**		**Pn**	**07 36 39.3**	**+1.1**
SPIA				IAML		07 37 50.9	
	comp=E,433nm,0.6s						
SPIA				IAML		07 37 58.9	
	comp=N,467nm,0.8s						
SPIA	**Saint Paul Isl**	**5.26**	**356**	P	**Pn**	**07 36 39.9**	**+1.7**
SPIA	**Saint Paul Isl**	**5.26**	**356**	P	**Pn**	**07 36 38.9**	**+0.7**
	baz=175,SNR=22						
SDPT	**Sand Point**	**6.41**	**54**	Pn	**Pn**	**07 36 54.3**	**+0.4**
SDPT	**Sand Point**	**6.41**	**54**	P	**Pn**	**07 36 54.7**	**+0.8**
SDPT	**Sand Point**	**6.41**	**54**	P	**Pn**	**07 36 53.9**	**-0.1**
	baz=241,SNR=7.2						
CNBA	**Chernabura Isl**	**6.65**	**60**	Pn	**Pn**	**07 36 57.2**	**0.0**
CHNA	**Chernabura Isl**	**6.65**	**60**	P	**Pn**	**07 36 57.3**	**0.0**
CHNA	**Chernabura Isl**	**6.65**	**60**	P	**Pn**	**07 36 58.4**	**+1.1**
	baz=248,SNR=5.8						
S14K	**Fog Glacier**	**7.33**	**50**	P	**Pn**	**07 37 06.8**	**+0.1**
	baz=238						
CHGN	**Chignik**	**7.89**	**52**	Pn	**Pn**	**07 37 13.8**	**-0.4**
CHGN	**Chignik**	**7.89**	**52**	P	**Pn**	**07 37 14.3**	**0.0**
	baz=241						
M11K	**Mekoryuk**	**8.68**	**11**	Pn	**Pn**	**07 37 23.3**	**-1.7**
M11K	**Mekoryuk**	**8.68**	**11**	P	**Pn**	**07 37 24.7**	**-0.3**
	baz=194						
O14K	**Tigyukauivet M**	**8.71**	**29**	Pn	**Pn**	**07 37 24.3**	**-1.2**
O14K	**Tigyukauivet M**	**8.71**	**29**	P	**Pn**	**07 37 25.0**	**-0.6**
	baz=216						
R16K	**Pilot Point**	**8.95**	**46**	P	**Pn**	**07 37 28.6**	**-0.1**
	baz=236						
O15K	**Ungalikthiuk R**	**9.12**	**33**		**Pn**	**07 37 29.9**	**-1.2**
O15K	**Ungalikthiuk R**	**9.12**	**33**	P	**Pn**	**07 37 30.6**	**-0.5**
	baz=221						
CHIR	**Chirikof Islan**	**9.12**	**59**	Pn	**Pn**	**07 37 30.9**	**-0.2**
CHIR	**Chirikof Islan**	**9.12**	**59**	P	**Pn**	**07 37 31.2**	**+0.1**
CHIR	**Chirikof Islan**	**9.12**	**59**	P	**Pn**	**07 37 30.9**	**-0.2**
	baz=250						
N14K	**Kuskokwak Cree**	**9.15**	**26**		**Pn**	**07 37 31.7**	**+0.3**
N14K	**Kuskokwak Cree**	**9.15**	**26**	P	**Pn**	**07 37 31.4**	**-0.1**
	baz=212,SNR=11						
M13K	**Dall Lake**	**9.18**	**20**		**Pn**	**07 37 31.6**	**-0.2**
M13K	**Dall Lake**	**9.18**	**20**	P	**Pn**	**07 37 31.2**	**-0.7**
	baz=205,SNR=8.6						
P16K	**Nushagak River**	**9.68**	**38**		**Pn**	**07 37 39.2**	**+0.4**
P16K	**Nushagak River**	**9.68**	**38**	P	**Pn**	**07 37 38.8**	**0.0**
	baz=228,SNR=11						
M14K	**Bethel**	**9.79**	**23**	Pn	**Pn**	**07 37 40.0**	**-0.2**
M14K	**Bethel**	**9.79**	**23**	P	**Pn**	**07 37 40.7**	**+0.4**
	baz=209,SNR=11						
N15K	**Kwethluk River**	**9.80**	**29**		**Pn**	**07 37 40.5**	**0.0**
N15K	**Kwethluk River**	**9.80**	**29**	P	**Pn**	**07 37 41.7**	**+1.2**
	baz=217,SNR=13						
Q16K	**King Salmon**	**9.99**	**42**	P	**Pn**	**07 37 43.7**	**+0.7**
	baz=233						
SHEM	**Shemya Is, Ala**	**10.02**	**281**	LR	LR	07 41 45.6	
	comp=N,240nm,18.5s,baz=108,slow=39						
O16K	**Kokwok River B**	**10.03**	**36**		**Pn**	**07 37 44.7**	**+1.1**
O16K	**Kokwok River B**	**10.03**	**36**	P	**Pn**	**07 37 44.0**	**+0.5**
	baz=225,SNR=17						
M15K	**Kasigluk River**	**10.07**	**26**	P	**Pn**	**07 37 44.0**	**0.0**
	baz=213,SNR=24						
Q17K	**Contact Creek**	**10.08**	**46**	P	**Pn**	**07 37 44.2**	**-0.2**
	baz=237						
SII	**Sitkinak Islan**	**10.13**	**57**	Pn	**Pn**	**07 37 45.6**	**+0.6**
SII	**Sitkinak Islan**	**10.13**	**57**	P	**Pn**	**07 37 45.7**	**+0.7**
SII	**Sitkinak Islan**	**10.13**	**57**	P	**Pn**	**07 37 44.6**	**-0.4**
	baz=249						
L14K	**Kuka Creek**	**10.16**	**19**	Pn	**Pn**	**07 37 45.6**	**+0.3**
L14K	**Kuka Creek**	**10.16**	**19**	P	**Pn**	**07 37 45.4**	**+0.1**
	baz=205,SNR=11						
ACHA	**Angle Creek He**	**10.30**	**47**	Pn	**Pn**	**07 37 47.4**	**0.0**
K13K	**Kusilvak Mount**	**10.38**	**13**	Pn	**Pn**	**07 37 47.2**	**-1.0**
K13K	**Kusilvak Mount**	**10.38**	**13**	P	**Pn**	**07 37 48.7**	**+0.4**
	baz=197,SNR=6.3						
P17K	**Kvichak River**	**10.40**	**40**	P	**Pn**	**07 37 47.8**	**-0.7**
	baz=231,SNR=12						
N16K	**Nishlik Lake**	**10.45**	**31**	P	**Pn**	**07 37 49.2**	**-0.2**
	baz=220,SNR=14						
O17K	**Koliganek Bris**	**10.52**	**37**	P	**Pn**	**07 37 50.1**	**-0.1**
	baz=227						
Q18K	**Katmai Hardscr**	**10.68**	**45**	P	**Pn**	**07 37 52.5**	**0.0**
	baz=237,SNR=14						
L15K	**Ungalak Mounta**	**10.72**	**21**	P	**Pn**	**07 37 53.5**	**+0.6**
	baz=208						
M16K	**Timber Creek**	**10.82**	**29**	Pn	**Pn**	**07 37 54.3**	**-0.2**
M16K	**Timber Creek**	**10.82**	**29**	P	**Pn**	**07 37 54.7**	**+0.3**
	baz=217						
OHAK	**Old Harbor**	**10.83**	**54**	Pn	**Pn**	**07 37 53.2**	**-1.3**
OHAK	**Old Harbor**	**10.83**	**54**	P	**Pn**	**07 37 54.3**	**-0.2**
	baz=248						
P18K	**Big Mountain,**	**11.01**	**42**	Pn	**Pn**	**07 37 56.3**	**-0.7**
P18K	**Big Mountain,**	**11.01**	**42**	P	**Pn**	**07 37 57.6**	**+0.6**
	baz=233,SNR=14						
N17K	**Nushagak Hills**	**11.02**	**34**		**Pn**	**07 37 56.5**	**-0.5**
N17K	**Nushagak Hills**	**11.02**	**34**	P	**Pn**	**07 37 57.5**	**+0.4**
	baz=224						
L16K	**Owhat River**	**11.24**	**25**	Pn	**Pn**	**07 38 01.6**	**+1.5**
L16K	**Owhat River**	**11.24**	**25**	P	**Pn**	**07 38 00.2**	**+0.1**
	baz=214,SNR=17						
K15K	**Wolf Creek Mou**	**11.26**	**20**		**Pn**	**07 38 01.9**	**+1.6**
K15K	**Wolf Creek Mou**	**11.26**	**20**	P	**Pn**	**07 38 00.9**	**+0.6**
	baz=206,SNR=7.1						
O18K	**Koktuh Hills**	**11.30**	**40**		**Pn**	**07 38 01.6**	**+0.7**
O18K	**Koktuh Hills**	**11.30**	**40**	P	**Pn**	**07 38 01.5**	**+0.5**
	baz=232,SNR=14

baz=242
TTA Tatalina 13.19 28 Pn 07 38 27.7 +0.9
TTA Tatalina 13.19 28 P Pn 07 38 28.1 +1.3
TTA Tatalina 13.19 28 P Pn 07 38 26.5 -0.2
baz=219,SNR=11
H16K Elim 13.30 14 P Pn 07 38 27.9 -0.2
baz=200
SPCR Spurr Chakacha 13.30 39 P Pn 07 38 28.5 +0.2
baz=233
M20K Styx River 13.38 35 P Pn 07 38 29.0 -0.3
baz=229,SNR=14
G15K Niukluk 13.41 10 P Pn 07 38 28.9 -0.8
baz=195,SNR=12
J18K Innoko River 13.41 26 P Pn 07 38 29.4 -0.4
baz=216,SNR=7.1
CAPN Captain Cook N 13.47 42 P Pn 07 38 28.8 -1.8
baz=237
L20K Farewell, AK 13.52 33 P Pn 07 38 30.2 -1.1
baz=226,SNR=8.9
STLK Strandline Lak 13.62 38 Pn 07 38 33.0 +0.3
F14K Arctic Creek 13.68 6 P Pn 07 38 32.0 -1.3
baz=188
SLKM Skilak Lake 13.73 44 Pn 07 38 32.6 -1.5
SEW Seward 13.87 46 Pn 07 38 34.7 -1.3
SEW Seward 13.87 46 P Pn 07 38 34.1 -1.9
baz=243
O22K Cooper Landing 13.93 44 Pn 07 38 35.0 -1.8
O22K Cooper Landing 13.93 44 P Pn 07 38 35.1 -1.7
baz=241,SNR=8.4
H17K Granite Mounta 13.96 17 P Pn 07 38 36.3 -0.9
baz=205,SNR=5.5
G16K Koyuk River 14.00 13 P Pn 07 38 37.1 -0.6
baz=199
SUA Susitna One 14.03 40 Pn 07 38 38.3 +0.1
SUA Susitna One 14.03 40 P Pn 07 38 37.3 -0.9
baz=236,SNR=5.4
SKT Skwentna 14.03 37 P Pn 07 38 37.5 -0.7
baz=232
F15K North Star Dit 14.04 8 P Pn 07 38 37.8 -0.5
baz=193
K20K Telida 14.09 30 P Pn 07 38 38.6 -0.5
baz=223,SNR=9.6
J19K Poorman 14.13 26 Pn 07 38 42.4 +2.8
J19K Poorman 14.13 26 P Pn 07 38 39.7 +0.2
baz=218,SNR=10
RC01 Rabbit Creek A 14.23 42 P Pn 07 38 40.1 -0.9
baz=239
G17K Kiwalik Mounta 14.35 15 P Pn 07 38 41.2 -1.3
baz=203
PPLA Purkeypile 14.38 33 P Pn 07 38 42.9 -0.2
baz=228
GCSA Galena City Sc 14.43 22 P Pn 07 38 44.8 +1.2
baz=213,SNR=6.6
M22K Willow 14.44 40 P Pn 07 38 43.5 -0.2
baz=236
H18K Honhosa River 14.46 19 Pn 07 38 45.2 +1.3
H18K Honhosa River 14.46 19 P Pn 07 38 44.7 +0.8
baz=209,SNR=12
J20K Nowinta River 14.68 27 Pn 07 38 48.8 +1.7
J20K Nowinta River 14.68 27 P Pn 07 38 47.1 0.0
baz=220,SNR=11
PWL Port Wells 14.71 44 P Pn 07 38 44.9 -2.6
baz=242
PMR Palmer 14.74 41 Pn 07 38 47.6 -0.3
PMR Palmer 14.74 41 P Pn 07 38 48.9 +1.0
PMR Palmer 14.74 41 P Pn 07 38 46.7 -1.1
baz=238
CUT Chulitna 14.76 37 P Pn 07 38 47.9 -0.1
baz=233
P23K Montague Islan 14.76 48 P Pn 07 38 47.7 -0.3
baz=246
CAST Castle Rocks 14.77 32 Pn Pn 07 38 48.7 +0.5
CAST Castle Rocks 14.77 32 P Pn 07 38 48.2 -0.1
baz=227,SNR=8.4
GHO Glory Hole Cre 14.92 41 Pn 07 38 50.2 -0.1
KNK Knik Glacier 14.93 42 Pn 07 38 48.6 -1.8
KNK Knik Glacier 14.93 42 P Pn 07 38 49.1 -1.3
baz=240
CHUM Lake Minchumin 15.02 30 P Pn 07 38 51.7 +0.2
baz=225,SNR=8.2
G18K Tagagawik 15.06 17 IAmb IAmb 07 39 03.4
comp=Z,31nm,1.3s
G18K Tagagawik 15.06 17 P Pn 07 38 51.9 -0.2
baz=207
I20K Naaghedeneel 15.07 25 IAmb IAmb 07 39 25.2
comp=Z,28nm,1.0s
I20K Naaghedeneel 15.07 25 P Pn 07 38 51.8 -0.5
baz=216
F17K Baldwin Pennin 15.14 13 P Pn 07 38 52.8 -0.3
baz=200
SML Sawmill 15.18 41 Pn 07 38 53.1 -0.7
SML IAmb IAmb 07 39 06.4
comp=Z,18nm,0.8s
SML Sawmill 15.18 41 P Pn 07 38 53.5 -0.3
baz=239,SNR=5.5
H19K Roundabout Mou 15.19 21 P Pn 07 38 53.1 -0.7
baz=212,SNR=7.3
KTH Kantishna Hill 15.25 33 Pn 07 38 54.6 0.0
KTH IAmb IAmb 07 39 08.2
comp=Z,35nm,0.8s
GLI Glacier Island 15.26 45 P Pn 07 38 53.5 -1.3
baz=244
HIN Hinchinbrook I 15.33 47 Pn Pn 07 38 53.4 -2.3
TRF Thorofare Moun 15.39 34 IAmb IAmb 07 39 13.6
comp=Z,34nm,1.3s
TRF Thorofare Moun 15.39 34 P Pn 07 38 55.1 -1.6
baz=230,SNR=7.1
M23K Glacier View 15.42 42 P Pn 07 38 54.9 -2.0
baz=240,SNR=20
H20K Anotleneega Mo 15.53 23 P Pn 07 38 57.2 -1.0
baz=216
G19K Purcell Mounta 15.58 19 P Pn 07 38 58.8 -0.1
baz=210
BPAW Bear Paw Mtn. 15.59 31 Pn Pn 07 38 59.9 +0.8
BPAW IAmb IAmb 07 39 11.9
comp=Z,43nm,0.8s
BPAW Bear Paw Mtn. 15.59 31 P Pn 07 38 58.4 -0.6
baz=227,SNR=37
SCM Sheep Creek Mo 15.61 42 P Pn 07 38 57.4 -2.0
baz=241,SNR=6.3
EYAK Cordova Ski Ar 15.73 47 P Pn 07 38 58.7 -2.1
baz=247
RND Reindeer 15.88 36 Pn Pn 07 39 03.0 +0.2
DIV Divide 15.95 46 IAmb IAmb 07 39 02.0
comp=Z,27nm,0.8s
KLU Klutina 16.04 44 P Pn 07 39 02.5 -2.4
baz=244,SNR=20
MCK McKinley 16.05 35 Pn Pn 07 39 05.1 +0.2
MCK McKinley 16.05 35 P Pn 07 39 03.7 -1.2
baz=232
I21K Tanana 16.05 28 IAmb IAmb 07 39 23.8
comp=Z,37nm,1.1s
I21K Tanana 16.05 28 P Pn 07 39 04.2 -0.8
baz=222,SNR=20
F19K Shaleruckik Mo 16.06 17 P Pn 07 39 04.1 -0.9
baz=207,SNR=7.8
D17K Noatak River 16.13 9 P Pn 07 39 04.3 -1.6
baz=195,SNR=8.0
BWN Browne 16.14 33 Pn 07 39 06.3 +0.2
BWN IAmb IAmb 07 39 25.2
comp=Z,50nm,0.9s
E18K Tukpahlearik C 16.15 13 P Pn 07 39 05.4 -0.8
baz=200,SNR=6.0
H21K Melozitna Rive 16.19 25 Pn 07 39 06.7 -0.1
H21K Melozitna Rive 16.19 25 P Pn 07 39 06.1 -0.6
baz=220,SNR=21
M24K Tolsona, Glenn 16.22 42 Pn 07 39 05.4 -1.8
M24K IAmb IAmb 07 39 19.7
comp=Z,97nm,1.2s
M24K Tolsona, Glenn 16.22 42 P Pn 07 39 05.3 -1.8
baz=242,SNR=7.6
HMT Hamilton 16.34 49 Pn 07 39 07.9 -0.8
HMT IAmb IAmb 07 39 08.4
comp=Z,45nm,0.7s
BMRM Bremner River 16.41 47 Pn Pn 07 39 07.7 -1.9
BMRM IAmb IAmb 07 39 16.5
comp=Z,75nm,1.2s
BMRM Bremner River 16.41 47 P Pn 07 39 07.4 -2.2
baz=248,SNR=9.2
C16K Lisburne Hills 16.52 6 P Pn 07 39 09.6 -1.2
baz=189,SNR=8.6
NEA2 Nenana 16.54 32 Pn 07 39 10.6 -0.6
NEA2 Nenana 16.54 32 P Pn 07 39 09.7 -1.5
baz=230,SNR=10.0
F20K Avaraart Lake 16.64 19 P Pn 07 39 10.6 -1.8
baz=211
N25K Chitina, Valde 16.67 45 Pn 07 39 11.1 -1.7
comp=Z,26nm,0.8s
N25K Chitina, Valde 16.67 45 P Pn 07 39 11.0 -1.9
baz=246,SNR=11
G21K Allakaket 16.69 23 P Pn 07 39 11.3 -1.8
baz=217,SNR=10
E19K Redstone River 16.71 17 P Pn 07 39 12.6 -0.7
baz=207
HARP HAARP 16.77 42 P Pn 07 39 12.5 -1.7
baz=242
WRH Wood River Hil 16.80 33 Pn 07 39 13.2 -1.2
I23K Minto, Yukon-K 16.82 30 P Pn 07 39 13.5 -1.1
baz=228,SNR=16
PAX Paxson 16.92 40 P Pn 07 39 15.0 -1.0
baz=240,SNR=7.8
GLB Gilahina Butte 16.95 46 Pn Pn 07 39 14.8 -1.6
CCB Clear Creek Bu 17.00 33 Pn 07 39 15.1 -1.8
VRDI Verde Repeater 17.03 47 IAmb IAmb 07 39 23.3
comp=Z,28nm,0.8s
WAX Waxell Ridge 17.04 50 IAmb IAmb 07 39 22.4
comp=Z,54nm,0.7s
COLA College 17.13 32 Pn 07 39 18.2 -0.3
COLA College 17.13 32 P P 07 39 19.3 -0.6
COLA College 17.13 32 P Pn 07 39 17.9 -0.6
baz=231
HDA Harding Lake 17.15 35 P Pn 07 39 17.9 -1.0
baz=234
H23K Yukon River 17.23 28 P Pn 07 39 19.6 -0.3
baz=226,SNR=10.0
C18K Utukok River 17.24 10 P Pn 07 39 19.8 -0.2
baz=198,SNR=9.5
F21K Alatna River 17.27 21 P Pn 07 39 20.0 -0.3
baz=215
IL31 17.39 34 Pn 07 39 20.4 -1.3
ILAR Eielson Array 17.39 34 Pn Pn 07 39 21.6 -0.2
ILAR Eielson Array 17.39 34 P Pn 07 39 19.7 -2.1
comp=Z,0.6nm,0.3s,baz=226,slow=11,SNR=48
ILAR PcP PcP 07 44 01.5 -0.4
comp=Z,0.3nm,0.7s,baz=270,slow=2.0,SNR=1.6
ILAR LR LR 07 46 38.4
comp=Z,439nm,18.6s,baz=226,slow=39
comp=Z,2.8nm,0.6s
MESA MESA 17.39 51 Pn Pn 07 39 20.5 -1.6
MESA IAmb IAmb 07 39 26.4
comp=Z,99nm,1.0s
MESA MESA 17.39 51 P Pn 07 39 21.2 -0.8
baz=254
POKR Poker Plat Res 17.42 32 P Pn 07 39 21.4 -0.8
baz=231
G22K Bettles 17.50 24 P Pn 07 39 22.4 -0.7
baz=220
D19K Kuna River 17.50 14 P 07 39 24.7 +0.5
D19K Kuna River 17.50 14 P Pn 07 39 22.0 -1.3
baz=204,SNR=15
YAH Yahtse 17.54 50 IAmb IAmb 07 39 29.2
comp=Z,67nm,0.8s
RIDG Independent Ri 17.55 38 Pn Pn 07 39 23.1 -0.8
RIDG Independent Ri 17.55 38 P Pn 07 39 22.7 -1.2
baz=239
M26K Nabesna, AK 17.68 43 P Pn 07 39 24.3 -1.2
baz=246,SNR=11
G23K Bananza Creek 17.73 26 P Pn 07 39 24.2 -1.9
baz=223,SNR=23
H24K Noodor Dome 17.74 30 Pn 07 39 25.4 -0.8
H24K Noodor Dome 17.74 30 P Pn 07 39 24.3 -1.9
baz=229,SNR=15
L26K Log Cabin Wild 17.80 41 Pn 07 39 26.1 -0.9
L26K Log Cabin Wild 17.80 41 P Pn 07 39 25.3 -1.7
baz=243,SNR=17
DOT Dot Lake 17.81 39 P Pn 07 39 26.5 -0.6
J25K Salcha River, 17.83 35 P Pn 07 39 25.6 -1.7
baz=236,SNR=21
B18K Kokolik River 17.87 9 P Pn 07 39 27.4 -0.3
baz=196,SNR=19
D20K Etivluk River 17.94 15 Pn 07 39 27.7 -0.9
D20K Etivluk River 17.94 15 P Pn 07 39 27.8 -0.9
baz=207,SNR=5.2
SCRK Sand Creek 18.00 38 P Pn 07 39 27.7 -1.8
baz=240,SNR=8.6
COLD Coldfoot 18.07 25 P P 07 39 30.5 +0.1
COLD Coldfoot 18.07 25 P Pn 07 39 29.8 -0.3
baz=221,SNR=18
M27K Edge Creek, AK 18.14 44 IAmb IAmb 07 39 41.3
comp=Z,38nm,1.1s
M27K Edge Creek, AK 18.14 44 P Pn 07 39 29.1 -2.2
baz=248,SNR=6.5
E21K Killik River 18.18 19 P Pn 07 39 30.5 -1.1
baz=212
PCA Pinnacle 18.19 52 Pn 07 39 31.2 -0.5
PCA IAmb IAmb 07 39 36.3
comp=Z,52nm,0.8s
PINM Pinnacle 18.19 52 P Pn 07 39 29.8 -2.0
baz=256
PRP Porcupine Dome 18.30 33 P P 07 39 30.9 -2.1
PRP Porcupine Dome 18.30 33 P P 07 39 31.4 -1.6
baz=233
E22K Anaktuvuk Pass 18.38 21 P P 07 39 33.6 -0.2
baz=217
O28M Mount Upton 18.39 50 P P 07 39 33.3 -0.9
O28M IAmb IAmb 07 39 37.2
comp=Z,30nm,0.8s
O28M Mount Upton 18.39 50 P P 07 39 33.1 -1.2
baz=254,SNR=8.1
J26L Joseph Creek 18.43 37 IAmb IAmb 07 39 36.7
comp=Z,26nm,0.6s
J26L Joseph Creek 18.43 37 P P 07 39 33.5 -1.0
baz=239,SNR=46
G24K Hadweenzic Riv 18.44 28 P P 07 39 34.0 -0.5
baz=227
L27K Beaver Creek, 18.45 42 P P 07 39 34.0 -0.6
baz=246,SNR=6.7
BCAR Beaver Creek A 18.46 42 P P 07 39 33.3 -1.5
PNL Peninsula 18.52 53 P Pn 07 39 36.3 +0.6
PNL Peninsula 18.52 53 P P 07 39 35.1 -0.3
baz=258
YUK3 Moose Creek 18.56 47 P P 07 39 36.1 0.0
baz=251,SNR=9.6
BVCY Beaver Creek 18.61 45 P P 07 39 36.5 +0.2
baz=249
C21K Knifeblade Rid 18.65 17 P Pn 07 39 37.2 +0.1
baz=210
H25L Birch Creek 18.66 31 P P 07 39 36.6 -0.3
baz=231
YUK8 Steele Glacier 18.73 48 P P 07 39 37.0 -1.0
baz=253
A19K Wainwright 18.75 9 P P 07 39 37.7 -0.1
baz=196,SNR=5.3
K27K Chicken 18.77 39 P P 07 39 36.2 -1.8
K27K Chicken 18.77 39 P P 07 39 36.9 -1.2
baz=243
D22K Ayikyak River 18.81 19 P Pn 07 39 38.8 -0.3
D22K Ayikyak River 18.81 19 P P 07 39 38.6 +0.1
baz=214
E23K Chandalar 18.84 23 P P 07 39 38.1 -0.8
E23K Chandalar 18.84 23 P Pn 07 39 39.4 -0.2
baz=221
F24K Squaw Lake 18.89 26 P P 07 39 39.2 -0.2
F24K Squaw Lake 18.89 26 P P 07 39 39.5 0.0
baz=225,SNR=17
G25K Bearman Lake 18.89 29 P P 07 39 39.6 +0.2
baz=230
B20K Meade River 19.03 13 P P 07 39 41.1 +0.2
baz=204
FYU Fort Yukon 19.03 30 P P 07 39 41.3 +0.4
FYU IAmb IAmb 07 39 55.0
comp=Z,53nm,1.4s
O29M Mount Kennedy 19.05 52 IAmb IAmb 07 39 58.0
comp=Z,48nm,1.1s
O29M Mount Kennedy 19.05 52 P Pn 07 39 41.9 -0.4
baz=258,SNR=13
B21K Ikpikpuk River 19.08 16 P P 07 39 41.6 +0.2
baz=209,SNR=11
E24K Your Creek 19.14 24 P P 07 39 42.5 +0.4
baz=223,SNR=9.7
YUK4 Talbot Arm 19.27 49 P Pn 07 39 44.4 -0.5
baz=254,SNR=19
TOLK Toolik Lake Re 19.30 22 P P 07 39 43.9 0.0
TOLK Toolik Lake Re 19.30 22 P P 07 39 44.2 +0.3
baz=220,SNR=6.9
YUK6 Outpost Mounta 19.30 50 P P 07 39 43.7 -0.5
baz=256,SNR=8.2
D23K Nanushuk River 19.30 21 P P 07 39 44.4 +0.5
baz=217,SNR=9.8
P29M Windy Craggy 19.34 54 P P 07 39 44.2 -0.2
baz=260,SNR=10
F25K Christian Rive 19.57 28 P P 07 39 46.5 -0.4
F25K Christian Rive 19.57 28 P P 07 39 46.7 -0.2
baz=228,SNR=13
M29M Somme Creek 19.67 46 IAmb IAmb 07 39 54.7
comp=Z,26nm,0.8s
M29M Somme Creek 19.67 46 P P 07 39 48.3 +0.3
baz=252,SNR=20
HYT Haines Junctio 19.68 51 P P 07 39 47.9 -0.4
baz=258,SNR=30
I27K Kandik River 19.70 35 P P 07 39 48.1 -0.2
baz=239,SNR=12
G26K Porcupine Rive 19.72 31 P P 07 39 48.4 -0.1
baz=233,SNR=8.9
BMAR Burnt Mountain 19.78 29 P P 07 39 48.7 -0.5
P30M Million Dollar 19.81 53 P P 07 39 49.8 +0.3
baz=260
PEA0B Petropavlovsk- 19.84 286 P P 07 39 49.4 -0.5
PEA0B IAmb IAmb 07 40 06.3
comp=Z,39nm,0.8s
PETK Petropavlovsk- 19.84 286 P P 07 39 49.2 -0.7
PETK Petropavlovsk- 19.84 286 P P 07 39 48.8 -1.2
comp=Z,4.4nm,0.3s,baz=84,slow=15,SNR=82
comp=Z,15nm,0.5s
DAWY Dawson 19.85 41 P P 07 39 49.4 -0.5
DAWY IAmb IAmb 07 39 59.3
comp=Z,17nm,0.9s
DAWY Dawson 19.85 41 P P 07 39 49.5 -0.4
baz=246,SNR=11
D24K Happy Valley 19.87 22 P P 07 39 49.1 -0.9
D24K Happy Valley 19.87 22 P P 07 39 50.4 +0.3
baz=220
B22K Teshekpuk Lake 19.91 16 IAmb IAmb 07 40 00.2
comp=Z,20nm,0.9s
B22K Teshekpuk Lake 19.91 16 P P 07 39 50.7 +0.2
baz=210,SNR=5.9
BILL Bilibino 19.92 333 P P 07 39 51.0 +0.3
S31K Pelican 19.94 59 IAmb IAmb 07 39 54.3
comp=Z,56nm,0.9s
S31K Pelican 19.94 59 P P 07 39 50.6 -0.3
baz=267
E25K Arctic Village 19.95 27 P P 07 39 51.3 +0.4
baz=228,SNR=20
C23K Itkillik River 20.02 19 IAmb IAmb 07 40 00.6
comp=Z,16nm,0.8s
C23K Itkillik River 20.02 19 P P 07 39 51.5 -0.2
baz=216,SNR=21
N30M Aishikik Lake 20.02 49 P P 07 39 51.8 -0.1
baz=256,SNR=39
L29M L29M 20.02 44 IAmb IAmb 07 40 06.5
comp=Z,17nm,0.8s
L29M L29M 20.02 44 P P 07 39 51.9 0.0
baz=251,SNR=6.4
H27K Steamboat Moun 20.06 34 P P 07 39 50.9 -1.3
H27K IAmb IAmb 07 39 54.0
comp=Z,27nm,1.1s
H27K Steamboat Moun 20.06 34 P P 07 39 51.8 -0.4
baz=238,SNR=27
F26K Sheenjek River 20.08 29 P P 07 39 52.0 -0.4
baz=231,SNR=8.1
I28M Miner Creek 20.24 37 IAmb IAmb 07 40 02.3
comp=Z,22nm,0.7s
I28M Miner Creek 20.24 37 P P 07 39 52.9 -1.4
baz=242,SNR=34
A22K Sinclair Lake 20.25 14 P P 07 39 52.9 -1.3
baz=207,SNR=6.5
A21K Barrow 20.31 12 P P 07 39 53.9 -0.9
baz=204,SNR=11
G27K Doyon Strip 20.33 32 P P 07 39 54.7 -0.4
baz=236,SNR=12
O30N Mendenhall 20.35 51 P Pn 07 39 57.0 -0.5
baz=259,SNR=51
M30M Minto, Yukon 20.45 46 P P 07 39 56.6 +0.2
baz=254
J29N Klondike Camp 20.47 40 IAmb IAmb 07 40 00.4
comp=Z,33nm,1.4s
J29N Klondike Camp 20.47 40 P P 07 39 57.7 +0.9
baz=247,SNR=8.6
K29M Barlow Dome 20.53 42 IAmb IAmb 07 40 00.9
comp=Z,18nm,0.9s
K29M Barlow Dome 20.53 42 P P 07 39 57.0 -0.4
baz=250,SNR=18
SKAG Skagway 20.53 55 P Pn 07 39 58.5 -1.1
SKAG Skagway 20.53 55 P Pn 07 39 58.9 -0.7
SKAG Skagway 20.53 55 P P 07 39 58.3 +1.0
baz=264,SNR=13
D25K Kavik River 20.58 23 P P 07 39 57.2 -0.6
baz=224,SNR=12
N31M Braeburn, Yuko 20.64 49 IAmb IAmb 07 40 02.1
comp=Z,46nm,0.8s
N31M Braeburn, Yuko 20.64 49 P P 07 39 57.9 -0.6
baz=258,SNR=13
BESE Bessie Mountai 20.70 58 P P 07 39 58.2 -1.0
BESE IAmb IAmb 07 40 05.0
comp=Z,38nm,0.9s
I29M Ogilvie Camp, 20.81 38 IAmb IAmb 07 40 07.3
comp=Z,13nm,0.7s
I29M Ogilvie Camp, 20.81 38 P P 07 39 59.6 -0.7
baz=245,SNR=19
S32K Killisnoo 20.81 61 P P 07 39 59.9 -0.4
baz=270
WHY Whitehorse 20.92 52 P Pn 07 40 03.1 -1.1
WHY Whitehorse 20.92 52 P P 07 40 01.9 +0.3
baz=261,SNR=12
E27K Coleen River 21.14 29 P P 07 40 03.8 0.0
baz=234,SNR=6.9
H29M Whitestone 21.17 36 P P 07 40 03.3 -0.9
H29M Whitestone 21.17 36 P P 07 40 03.4 -0.7
baz=243,SNR=39
J30M Hart River 21.28 41 P P 07 40 05.4 -0.1
baz=249,SNR=7.8
C26K Camden Bay 21.36 23 P P 07 40 06.2 +0.1
baz=225,SNR=5.6
P32M Atlin 21.36 55 P P 07 40 06.0 -0.3
P32M IAmb IAmb 07 40 14.4
comp=Z,22nm,0.8s
P32M Atlin 21.36 55 P P 07 40 04.7 -1.6
baz=265
M31M Drury Creek, Y 21.44 48 P P 07 40 08.4 +1.3
M31M IAmb IAmb 07 40 10.7
comp=Z,19nm,0.8s
M31M Drury Creek, Y 21.44 48 P P 07 40 06.7 -0.4
baz=258,SNR=16
C27K Jago River 21.46 25 IAmb IAmb 07 40 14.4
comp=Z,11nm,0.7s
C27K Jago River 21.46 25 P P 07 40 07.3 0.0
baz=228,SNR=18
I30M Mount Dempster 21.50 39 P 07 40 05.6 -2.2
I30M IAmb IAmb 07 40 14.3
comp=Z,11nm,0.7s
I30M Mount Dempster 21.50 39 P P 07 40 05.7 -2.2
baz=248,SNR=15
G29M Pine Creek 21.61 34 P P 07 40 07.8 -1.1
baz=242,SNR=34
CRAG Craig 21.71 66 P P 07 40 09.4 -0.6
baz=276
EPYK Eagle Plains 21.83 36 P P 07 40 09.7 -1.6
EPYK IAmb IAmb 07 40 22.2
comp=Z,32nm,0.8s
EPYK Eagle Plains 21.83 36 P P 07 40 09.3 -1.9
baz=244,SNR=24
N32M Quiet Lake 21.86 51 P P 07 40 12.0 +0.4
baz=262
P33M Teslin, Yukon 21.87 53 P P 07 40 13.0 +1.2
P33M Teslin, Yukon 21.87 53 P P 07 40 13.0 +1.2
baz=264,SNR=39
FARO Faro, Yukon 21.92 48 P P 07 40 12.8 +0.5
FARO IAmb IAmb 07 40 18.1
comp=Z,18nm,0.8s
FARO Faro, Yukon 21.92 48 P P 07 40 12.9 +0.6
baz=259,SNR=21
D27M Malcolm River 21.96 27 P P 07 40 12.2 -0.4
baz=232,SNR=16
E28M Babbage River 22.00 29 P P 07 40 13.5 +0.4
baz=236,SNR=6.9
Q32M Nakina River 22.07 57 IAmb IAmb 07 40 25.9
comp=Z,27nm,0.8s
Q32M Nakina River 22.07 57 P P 07 40 12.3 -1.7
baz=268
G30M tAoh Zraii Nji 22.28 35 P P 07 40 14.5 -1.6
G30M IAmb IAmb 07 40 22.2
comp=Z,18nm,0.9s
G30M tAoh Zraii Nji 22.28 35 P P 07 40 14.6 -1.4
baz=244,SNR=17
E29M Blow River 22.40 31 P P 07 40 16.5 -0.8
baz=238,SNR=8.4
H31M Peel River 22.50 38 IAmb IAmb 07 40 51.5
comp=Z,26nm,1.1s
H31M Peel River 22.50 38 P P 07 40 16.0 -2.4
baz=249,SNR=17
D28M Stokes Point 22.65 28 P P 07 40 18.4 -1.5
baz=235

S34M	Telegraph Cree	22.66	60	IAmb	IAmb	07 40 28.8	
	comp=Z,16nm,0.8s						
S34M	Telegraph Cree	22.66	60	P	P	07 40 18.5	-1.7
	baz=271						
F30M	Barrier River	22.71	34	IAmb	IAmb	07 40 28.7	
	comp=Z,18nm,0.8s						
F30M	Barrier River	22.71	34	P	P	07 40 19.4	-1.2
	baz=243,SNR=16						
R33M	Jennings River	22.75	56	P	P	07 40 22.8	+1.5
R33M				IAmb	IAmb	07 40 41.0	
	comp=Z,36nm,0.9s						
R33M	Jennings River	22.75	56	P	P	07 40 18.8	-2.5
	baz=268,SNR=9.0						
G31M	Satah River	22.95	36	IAmb	IAmb	07 41 00.7	
	comp=Z,20nm,0.9s						
G31M	Satah River	22.95	36	P	P	07 40 21.4	-1.7
	baz=246						
T35M	Bob Quinn	23.18	62	IAmb	IAmb	07 40 30.0	
	comp=Z,35nm,1.2s						
T35M	Bob Quinn	23.18	62	P	P	07 40 23.9	-1.6
	baz=274						
MA2	Magadan	23.27	305	P	P	07 40 26.8	+0.4
MA2				IAmb	IAmb	07 40 28.9	
	comp=Z,24nm,1.1s						
MA2	Magadan	23.27	305	LR	LR	07 50 45.8	
	comp=Z,221nm,19.3s,baz=103,slow=40						
MA2	Magadan	23.27	305	P	P	07 40 26.6	+0.2
	comp=Z,17nm,0.8s						
F31M	Tsiigehtchic	23.35	35	P	P	07 40 26.2	-0.9
F31M				IAmb	IAmb	07 40 28.8	
	comp=Z,9.7nm,0.8s						
F31M	Tsiigehtchic	23.35	35	P	P	07 40 25.9	-1.2
	baz=246,SNR=5.9						
WTLY	Watson Lake, Y	23.87	54	P	P	07 40 31.8	-0.4
	baz=268,SNR=15						
TGTN	Hyland Airport	24.21	51	P	P	07 40 35.1	-0.3
	baz=266,SNR=21						
LIRD	Liard River Hi	25.24	56	P	P	07 40 44.2	-0.5
	baz=272,SNR=16						
TOAD	Toad River Com	25.72	57	P	P	07 40 48.3	-0.8
	baz=274						
KOTAN	Kotaneelee Air	26.25	54	P	P	07 40 53.1	-0.7
	baz=272,SNR=15						
WRGLY	Wrigley	26.56	47	P	P	07 40 57.7	+1.2
WRGLY				IAmb	IAmb	07 40 59.3	
	comp=Z,31nm,0.9s						
WRGLY	Wrigley	26.56	47	P	P	07 40 56.5	-0.1
	baz=266,SNR=10						
C36M	Paulatuk	27.36	33	P	P	07 41 03.5	-0.2
	baz=254,SNR=7.3						
A36M	Sachs Harbour	27.86	28	P	P	07 41 09.3	+1.2
A36M	Sachs Harbour	27.86	28	P	P	07 41 08.2	+0.1
	baz=248,SNR=9.1						
YKA	Yellowknife Ar	30.63	48	P	P	07 41 33.5	+0.7
YKA	Yellowknife Ar	30.63	48	P	P	07 41 33.1	+0.3
	comp=Z,6.6nm,0.9s,baz=276,slow=9.6,SNR=59						
YKA				LR	LR	07 55 09.8	
	comp=Z,276nm,20.2s,baz=278,slow=39						
	comp=Z,6.6nm,0.9s						
D05A	Enumclaw	30.80	80	P	P	07 41 34.1	-0.3
B08A	Colville Reser	31.89	76	IAmb	IAmb	07 41 46.9	
	comp=Z,16nm,1.1s						
JKA	Kamikawa-asahi	32.41	275	IAmb	IAmb	07 42 07.1	
	comp=Z,14nm,1.0s						
ASAJ	Asahikawa	32.41	275	P	P	07 41 48.2	-0.4
	comp=Z,7.1nm,0.8s,baz=62,slow=17,SNR=7.1						
ASAJ				LR	LR	07 53 24.5	
	comp=Z,118nm,21.4s,baz=52,slow=34						
	comp=Z,7.1nm,0.8s						
WAH2	Wahluke Slope	32.47	79	P	P	07 41 50.2	+1.1
WAH2				IAmb	IAmb	07 42 11.1	
	comp=Z,9.2nm,0.7s						
HAWA	Hanford	32.66	80	P	P	07 41 51.3	+0.5
HAWA				IAmb	IAmb	07 42 12.5	
	comp=Z,13nm,1.1s						
C09A	Chrisman Ranch	32.77	76	IAmb	IAmb	07 41 54.4	
	comp=Z,14nm,1.1s						
YBH	Yreka Blue Hor	33.12	89	LR	LR	07 53 38.6	
	comp=Z,182nm,18.2s,baz=303,slow=33						
NEW	Newport	33.25	75	IAmb	IAmb	07 41 58.5	
	comp=Z,12nm,1.0s						
NEW	Newport	33.25	75	P	P	07 41 57.1	+1.0
	comp=Z,8.3nm,0.9s,baz=299,slow=7.3,SNR=16						
	comp=Z,8.3nm,0.9s						
YAK	Yakutsk	33.35	312	LR	LR	07 57 13.2	
	comp=Z,202nm,18.1s,baz=92,slow=40						
I07A	Izee	33.83	83	IAmb	IAmb	07 42 22.8	
	comp=Z,5.6nm,0.9s						
F10A	Beach Ranch, E	34.27	79	IAmb	IAmb	07 42 24.9	
	comp=Z,12nm,1.4s						
BMO	Blue Mountains	34.78	81	IAmb	IAmb	07 42 30.4	
	comp=Z,12nm,1.4s						
J08A	Circle Bar Ran	34.85	84	P	P	07 42 10.9	+0.9
J08A				IAmb	IAmb	07 42 30.9	
	comp=Z,6.4nm,0.9s						
WVOR	Wild Horse Val	35.25	85	IAmb	IAmb	07 42 33.5	
	comp=Z,7.5nm,1.0s						
MSO	Missoula	35.83	76	IAmb	IAmb	07 42 20.5	
	comp=Z,19nm,1.4s						
PAHR	Pah Rah Range	36.36	89	IAmb	IAmb	07 42 43.2	
	comp=Z,9.0nm,1.1s						
MFID	Camas Ranch	36.44	82	P	P	07 42 24.9	+1.2
MFID				IAmb	IAmb	07 42 44.4	
	comp=Z,6.5nm,1.0s						
KLR	Kul'dur	36.47	290	LR	LR	07 58 41.5	
	comp=Z,166nm,18.8s,baz=74,slow=39						
PNTR	Pine Nut	36.59	90	P	P	07 42 26.9	+1.8
PNTR				IAmb	IAmb	07 42 54.6	
	comp=Z,8.4nm,0.9s						
H11N2	WAKE ISLAND Hy	37.03	219	T	T	08 22 17.8	
	baz=24,slow=76,SNR=7.8						
H11N3	WAKE ISLAND Hy	37.03	219	T	T	08 22 21.6	
	baz=24,slow=76,SNR=9.3						
H11N1	WAKE ISLAND Hy	37.05	219	T	T	08 22 19.4	
	baz=24,slow=76,SNR=7.5						
HLID	Hailey	37.23	81	IAmb	IAmb	07 42 51.2	
	comp=Z,8.8nm,1.1s						
RYN	Ryan	37.54	90	IAmb	IAmb	07 42 36.0	
	comp=Z,7.2nm,1.2s						
NVAR	Mina Array Bea	37.80	90	P	P	07 42 37.4	+2.0
	comp=Z,2.4nm,0.9s,baz=296,slow=8.6,SNR=17						
	comp=Z,2.4nm,0.9s						
BOZ	Bozeman (W)	37.84	76	IAmb	IAmb	07 42 37.4	
	comp=Z,5.8nm,0.8s						
H11S1	WAKE ISLAND Hy	38.21	218	T	T	08 23 52.0	
	baz=23,slow=76,SNR=218						
H11S2	WAKE ISLAND Hy	38.23	218	T	T	08 23 49.5	
	baz=23,slow=76,SNR=121						
H11S3	WAKE ISLAND Hy	38.23	218	T	T	08 23 50.9	
	baz=23,slow=76,SNR=138						
ELK	Elko	38.31	85	P	P	07 42 39.9	+0.2
ELK	Elko	38.31	85	P	P	07 42 41.0	+1.4
	comp=Z,2.4nm,0.8s,baz=302,slow=9.6,SNR=12						
ELK				LR	LR	07 57 57.8	
	comp=Z,220nm,18.6s,baz=314,slow=35						
	comp=Z,2.4nm,0.8s						
YHL	Hebgen Lake	38.50	77	IAmb	IAmb	07 42 43.3	
	comp=Z,9.8nm,0.9s						
YHB	Horse Butte	38.54	77	P	P	07 42 40.7	-0.9
YHB				IAmb	IAmb	07 42 43.6	
	comp=Z,10nm,1.0s						
USRK	Ussuriysk Ar.	38.85	282	LR	LR	07 57 52.3	
	comp=Z,142nm,21.8s,baz=58,slow=35						
YNR	Norris Junctio	38.87	77	IAmb	IAmb	07 42 47.1	
	comp=Z,14nm,1.0s						
FFC	Flin Flon	39.06	58	P	P	07 42 45.9	+0.3
FFC				IAmb	IAmb	07 42 52.6	
	comp=Z,6.8nm,0.8s						
H17A	Grant Village	39.11	77	IAmb	IAmb	07 42 49.9	
	comp=Z,12nm,1.2s						
YNE	Yellowstone No	39.12	76	P	P	07 42 47.1	+0.6
RLMT	Red Lodge	39.50	75	IAmb	IAmb	07 42 52.0	
	comp=Z,11nm,0.9s						
LOHW	Long Hollow	39.52	78	P	P	07 42 49.3	-0.5
MJAR	Matsushiro Arr	39.54	268	P	P	07 42 49.5	-0.2
	comp=Z,2.0nm,0.7s,baz=42,slow=9.1,SNR=5.8						
MJAR				LR	LR	08 00 38.5	
	comp=Z,47nm,18.8s,baz=64,slow=38						
	comp=Z,2.0nm,0.7s						
MAJO	Matsushiro	39.54	268	P	P	07 42 48.3	-1.5
MAJO				IAmb	IAmb	07 43 01.8	
	comp=Z,16nm,0.9s						
MJB9	Matsu-Tunnel	39.54	268	P	P	07 42 49.2	-0.5
MJB9				IAmb	IAmb	07 43 02.8	
	comp=Z,15nm,0.9s						
BGU	Big Grassy Mou	39.56	83	P	P	07 42 51.2	+1.1
AHID	Auburn Hatcher	39.69	79	P	P	07 42 52.8	+1.6
AHID				IAmb	IAmb	07 42 53.6	
	comp=Z,9.8nm,1.1s						
TPNV	Topopah Spring	39.99	90	IAmb	IAmb	07 42 56.3	
	comp=Z,9.0nm,0.9s						
DUG	Dugway, Tooele	40.13	84	IAmb	IAmb	07 43 14.2	
	comp=Z,11nm,1.2s						
GWY	Greenwater Val	40.22	92	P	P	07 42 55.9	+0.3
TCUT	Toone Canyon	40.45	82	P	P	07 42 57.7	+0.2
TCUT				IAmb	IAmb	07 43 16.2	
	comp=Z,9.5nm,0.8s						
PRN	Pahroc Range	40.45	89	IAmb	IAmb	07 43 00.7	
	comp=Z,16nm,1.1s						
PD31	Pinedale Array	40.62	78	P	P	07 42 58.9	-0.1
PD31				IAmb	IAmb	07 43 00.9	
	comp=Z,13nm,0.9s						
PDAR	Pinedale Array	40.62	78	P	P	07 42 59.4	+0.4
PDAR	Pinedale Array	40.62	78	P	P	07 42 59.7	+0.7
	comp=Z,8.5nm,0.8s,baz=306,slow=4.4,SNR=77						
	comp=Z,8.5nm,0.8s						
GSC	Goldstone, Bar	40.71	93	P	P	07 42 58.6	-0.9
GSC				IAmb	IAmb	07 43 02.7	
	comp=Z,9.1nm,1.1s						
DGMT	Dagmar	40.74	68	P	P	07 43 00.3	+0.7
DGMT				IAmb	IAmb	07 43 01.6	
	comp=Z,31nm,1.4s						
BNX	BinXian	40.76	287	⇑P	P	07 42 58.0	-1.7
BNX				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JHJ	Hachijo jima 2	40.83	263	LR	LR	07 57 57.8	
	comp=Z,46nm,21.9s,baz=44,slow=33						
BSUT	Blindstream Ca	41.18	82	IAmb	IAmb	07 43 24.7	
	comp=Z,12nm,1.4s						
MVU	Marysvale	41.52	86	IAmb	IAmb	07 43 08.9	
	comp=Z,15nm,0.9s						
LCMT	Little Creek M	41.82	88	P	P	07 43 10.1	+1.4
MTPU	Mount Pierson	41.83	86	P	P	07 43 09.4	+0.4
Q16A	Castle Valley	41.91	84	IAmb	IAmb	07 43 12.0	
	comp=Z,9.4nm,0.9s						
P18A	Preston Nutter	42.05	83	P	P	07 43 12.2	+1.5
P18A				IAmb	IAmb	07 43 31.6	
	comp=Z,16nm,1.1s						
KNB	Kanab	42.07	88	IAmb	IAmb	07 43 49.5	
	comp=Z,13nm,1.4s						
PKCU	Pink Cliffs	42.12	87	IAmb	IAmb	07 43 56.6	
	comp=Z,14nm,1.5s						
SRU	San Rafael Swe	42.19	84	IAmb	IAmb	07 43 14.8	
	comp=Z,10nm,0.8s						
K22A	Casper	42.52	77	P	P	07 43 14.2	-0.2
W13A	Hualapai Mount	42.65	91	P	P	07 43 16.7	+1.1
U15A	North Rim	42.78	88	P	P	07 43 17.3	+0.7
U15A				IAmb	IAmb	07 43 19.3	
	comp=Z,11nm,0.9s						
HMU	Henry Mountain	42.78	85	IAmb	IAmb	07 43 18.9	
	comp=Z,14nm,0.8s						
O20A	White River Ci	42.97	81	IAmb	IAmb	07 43 19.8	
	comp=Z,21nm,0.8s						
CN2	Changchun	42.99	286	eP	P	07 43 16.2	-1.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BLYC	Blythe	43.15	93	P	P	07 43 20.7	+1.4
BLYC				IAmb	IAmb	07 43 35.9	
	comp=Z,16nm,1.4s						
PV23	Carpenter Ridg	43.52	83	IAmb	IAmb	07 43 42.3	
	comp=Z,10nm,0.7s						
JCJ	Chichijima	43.65	254	LR	LR	07 59 49.4	
	comp=Z,49nm,20.6s,baz=300,slow=34						
PV11	David Mesa, Pa	43.71	83	IAmb	IAmb	07 43 45.4	
	comp=Z,15nm,0.7s						
E28A	Huff	43.76	69	IAmb	IAmb	07 43 25.5	
	comp=Z,19nm,1.0s						
PV07	Paradox Valley	43.76	83	P	P	07 43 24.3	-0.2
PV07				IAmb	IAmb	07 43 25.9	
	comp=Z,8.3nm,0.8s						
PV02	Paradox Valley	43.85	83	P	P	07 43 24.9	-0.4
PV15	Paradox Valley	43.92	83	IAmb	IAmb	07 43 27.3	
	comp=Z,9.6nm,0.9s						
WUAZ	Wupatki	43.93	88	P	P	07 43 27.5	+1.6
WUAZ				IAmb	IAmb	07 43 28.4	
	comp=Z,12nm,0.8s						
Y14A	Wickenburg	43.96	91	P	P	07 43 27.0	+1.0
Y14A				IAmb	IAmb	07 43 28.1	
	comp=Z,6.1nm,0.9s						
X16A	Lo Mia Camp, P	44.61	90	IAmb	IAmb	07 43 34.0	
	comp=Z,8.6nm,1.0s						
MVCO	Mesa Verde	44.62	84	P	P	07 43 31.2	-0.2
MVCO				IAmb	IAmb	07 44 10.8	
	comp=Z,4.6nm,0.8s						
S22A	4UR Ranch, Cre	45.31	83	P	P	07 43 38.7	+1.7
S22A				IAmb	IAmb	07 43 58.1	
	comp=Z,7.9nm,1.2s						
KSRS	Korea Array	45.32	277	P	P	07 43 36.4	-0.2
	comp=Z,3.9nm,0.8s,baz=52,slow=7.7,SNR=9.6						
KSRS				LR	LR	08 01 44.8	
	comp=Z,58nm,21.0s,baz=45,slow=35						
	comp=Z,3.9nm,0.8s						
NEEM	North Greenlan	45.44	16	iP	P	07 43 38.0	+0.5
NEEM				IAmb	IAmb	07 43 39.5	
	comp=Z,18nm,0.6s						
X18A	Snowflake	45.46	88	IAmb	IAmb	07 43 40.6	
	comp=Z,9.4nm,1.3s						
AGMN	Agassiz Nation	45.54	64	P	P	07 43 38.4	0.0
NOR	Nord	45.91	5	iP	P	07 43 41.0	+0.1
NOR				IAmb	IAmb	07 43 44.7	
	comp=Z,3.2nm,0.8s						
EPLO	Experimental L	45.96	61	P	P	07 43 41.5	-0.1
SUSD	Miller	45.97	70	P	P	07 43 42.3	+0.5
SDCO	Great Sand Dun	46.12	82	P	P	07 43 44.8	+1.4
SDCO				IAmb	IAmb	07 43 45.5	
	comp=Z,7.2nm,1.1s						
OGNE	Ogallala	46.24	76	P	P	07 43 43.3	-0.7
OGNE				IAmb	IAmb	07 43 45.9	
	comp=Z,11nm,0.8s						
JNU	Nakatsue	46.32	270	P	P	07 43 44.1	-0.6
	comp=Z,3.6nm,0.6s,baz=21,slow=8.6,SNR=1.8						
JNU				LR	LR	08 02 17.9	
	comp=Z,69nm,20.4s,baz=34,slow=35						
	comp=Z,3.6nm,0.6s						
TJN	Taejon	46.35	276	P	P	07 43 44.3	-0.5
TUC	Tucson	46.43	91	P	P	07 43 45.7	+0.1
TUC				IAmb	IAmb	07 43 47.9	
	comp=Z,8.3nm,1.0s						
K30B	Basset	46.63	72	P	P	07 43 47.6	+0.6
F33A	5 Mile Ranch,	46.70	67	P	P	07 43 47.4	-0.1
F33A				IAmb	IAmb	07 43 48.0	
	comp=Z,16nm,1.2s						
NRIK	Noril'sk	46.74	332	P	P	07 43 46.4	-1.0
NRIK				IAmb	IAmb	07 43 51.3	
	comp=Z,4.0nm,0.8s						
NRIK	Noril'sk	46.74	332	P	P	07 43 45.9	-1.5
	comp=Z,3.6nm,0.6s,baz=61,slow=9.6,SNR=6.8						
NRIK				LR	LR	08 06 03.6	
	comp=Z,123nm,18.2s,baz=71,slow=40						
	comp=Z,3.6nm,0.6s						
KSCO	Kaye Shedlock'	47.08	78	P	P	07 43 51.6	+0.9
ANMO	Albuquerque	47.34	85	P	P	07 43 52.4	-0.5
ANMO				IAmb	IAmb	07 43 54.9	
	comp=Z,7.1nm,1.3s						
ANMO	Albuquerque	47.34	85	P	P	07 43 53.2	+0.3
	comp=Z,3.6nm,1.1s,baz=109,slow=10,SNR=7.5						
	comp=Z,3.6nm,1.1s						
UPNV	Upernavik	47.45	22	iP	P	07 43 53.5	+0.5
UPNV				IAmb	IAmb	07 43 54.9	
	comp=Z,6.5nm,0.7s						
LENM	Lemitar	47.54	86	P	P	07 43 56.0	+1.6
Y22D	IRIS PASSCAL I	47.64	86	P	P	07 43 54.6	-0.5
	baz=312						
ECSD	EROS Data Cent	47.75	69	P	P	07 43 55.3	-0.5
ECSD				IAmb	IAmb	07 43 56.1	
	comp=Z,15nm,1.1s						
RTBA	Rita Blanca	48.65	81	IAmb	IAmb	07 44 04.3	
	comp=Z,12nm,0.9s						
L34A	Svendsen Farm,	48.97	71	P	P	07 44 05.0	-0.1
SPMN	Marine on St.	49.04	66	P	P	07 44 05.0	-0.6
R32A	Long Quarter,	49.81	76	P	P	07 44 12.1	+0.5
R32A				IAmb	IAmb	07 44 30.8	
	comp=Z,14nm,1.0s						
N35A	Tabor	50.09	72	P	P	07 44 14.0	+0.3
SPITS	Spitsbergen Ar	50.10	358	P	P	07 44 12.4	-0.8
	comp=Z,6.1nm,0.9s,baz=39,slow=5.5,SNR=13						
	comp=Z,6.1nm,0.9s						
G40A	Rib Lake	50.47	64	IAmb	IAmb	07 44 17.2	
	comp=Z,9.5nm,0.8s						
COWI	Conover	50.55	63	P	P	07 44 16.0	-1.1
COWI				IAmb	IAmb	07 44 17.6	
	comp=Z,17nm,1.2s						
KSU1	Kansas State U	50.64	74	P	P	07 44 17.7	-0.1
KSU1				IAmb	IAmb	07 44 18.3	
	comp=Z,9.4nm,0.9s						
HTMS	Hat Mesa	50.74	86	P	P	07 44 19.4	+0.6
SMWD	Samnorwood	51.06	81	IAmb	IAmb	07 44 22.6	
	comp=Z,10nm,0.7s						
OK038	West end E0370	51.06	78	P	P	07 44 21.0	0.0
OK038				IAmb	IAmb	07 44 22.6	
	comp=Z,11nm,0.9s						
VHRN	Van Horn	51.07	88	IAmb	IAmb	07 44 23.7	
	comp=Z,14nm,1.0s						
I40A	Norwalk	51.09	66	P	P	07 44 21.2	+0.1
I40A				IAmb	IAmb	07 44 21.7	
	comp=Z,15nm,1.1s						
SUMG	Summit	51.24	17	P	P	07 44 22.9	+0.5
SUMG				IAmb	IAmb	07 44 31.2	
	comp=Z,12nm,0.8s						
SUMG	Summit	51.24	17	iP	P	07 44 22.8	+0.5
SUMG				IAmb	IAmb	07 44 25.5	
	comp=Z,9.4nm,0.8s						
KAN09	Caldwell North	51.31	77	P	P	07 44 21.1	-1.8
KAN09				IAmb	IAmb	07 44 41.6	
	comp=Z,11nm,0.9s						
F42A	Maple Grove Fa	51.31	62	P	P	07 44 23.4	+0.6
PECS	Pecos	51.36	87	IAmb	IAmb	07 44 25.4	
	comp=Z,12nm,1.4s						
SONM	Songino Array	51.40	301	P	P	07 44 23.0	-0.6
SONM	Songino Array	51.40	301	P	P	07 44 23.0	-0.6
	comp=Z,2.1nm,0.6s,baz=57,slow=6.8,SNR=12						
SONM				ScP	ScP	07 49 36.6	+4.7
	comp=Z,1.0nm,1.0s,baz=68,slow=4.0,SNR=4.1						
SONM				LR	LR	08 08 10.5	
	comp=Z,316nm,18.8s,baz=57,slow=38						
	comp=Z,2.1nm,0.6s						
KAN13	South Haven SW	51.47	77	P	P	07 44 23.8	-0.3
N38A	Joes South For	51.54	70	P	P	07 44 24.4	-0.2
DKNS	Dickens	51.60	82	IAmb	IAmb	07 44 26.6	
	comp=Z,9.6nm,0.8s						
L40A	Anamosa	51.90	68	IAmb	IAmb	07 44 27.4	
	comp=Z,18nm,1.0s						
JFWS	Jewell Farm	51.91	67	P	P	07 44 25.4	-1.9
JFWS				IAmb	IAmb	07 44 27.2	
	comp=Z,13nm,0.8s						
SN07	Snyder 07	52.01	83	P	P	07 44 28.9	+0.6
SN07				IAmb	IAmb	07 44 29.0	
	comp=Z,7.0nm,0.8s						
I42A	Draeger Farm,	52.05	65	P	P	07 44 28.0	-0.3
MNHN	Monahans	52.06	86	IAmb	IAmb	07 44 29.8	
	comp=Z,9.9nm,0.8s						
T35A	Sooner Cattle	52.12	76	P	P	07 44 28.4	-0.5
T35A				IAmb	IAmb	07 44 29.4	
	comp=Z,6.5nm,0.8s						
P38A	Dawn	52.12	72	P	P	07 44 28.4	-0.5
SN05	Snyder 5	52.16	83	IAmb	IAmb	07 44 30.4	
	comp=Z,7.0nm,0.7s						
ALPN	Alpine	52.19	87	P	P	07 44 29.9	+0.3
ALPN				IAmb	IAmb	07 44 31.1	
	comp=Z,7.1nm,0.9s						
OK048	Pawnee Station	52.19	77	P	P	07 44 28.0	-1.4
OK048				IAmb	IAmb	07 44 30.1	
	comp=Z,10nm,0.8s						
WMOK	Wichita Mounta	52.19	80	IAmb	IAmb	07 44 30.9	
	comp=Z,9.4nm,0.9s						
JOW	Kunigami	52.32	266	LR	LR	08 06 20.5	
	comp=Z,45nm,20.3s,baz=75,slow=36						
APMT	Aspermont	52.33	82	IAmb	IAmb	07 44 31.7	
	comp=Z,9.6nm,1.0s						
OK052	Battle Ridge R	52.55	77	IAmb	IAmb	07 44 50.6	
	comp=Z,14nm,0.9s						
GUMO	Guam	52.77	241	LR	LR	08 05 36.2	
	comp=Z,45nm,19.9s,baz=86,slow=34						
SFJD	Kangerlussuaq	52.83	26	LR	LR	08 11 35.5	
	comp=Z,110nm,18.3s,baz=322,slow=41						
SFJD	Kangerlussuaq	52.83	26	iP	P	07 44 35.8	+2.1
SFJD				IAmb	IAmb	07 44 36.7	
	comp=Z,8.8nm,0.8s						
TX31	Lajitas Ar. Si	52.90	88	P	P	07 44 35.4	+0.5
TX31				IAmb	IAmb	07 44 36.6	
	comp=Z,11nm,0.9s						
TXAR	Lajitas Array	52.90	88	P	P	07 44 35.5	+0.5
	comp=Z,7.7nm,0.9s,baz=297,slow=5.5,SNR=81						
	comp=Z,7.7nm,0.9s						
HHC	Hu-ho-hao-te	52.95	291	eP	P	07 44 36.5	+1.4
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
W35A	Tecumseh	53.07	78	IAmb	IAmb	07 44 54.9	
	comp=Z,12nm,0.9s						
ABTX	Abilene, Hawle	53.10	82	P	P	07 44 36.1	-0.2
ABTX				IAmb	IAmb	07 44 37.6	
	comp=Z,16nm,1.2s						
K43A	Burlington	53.13	66	P	P	07 44 36.0	-0.3
TUL3	Leonard	53.22	77	P	P	07 44 37.0	-0.1
TUL3				IAmb	IAmb	07 44 37.7	
	comp=Z,5.8nm,0.8s						
OZNA	Ozona	53.36	85	IAmb	IAmb	07 44 39.3	
	comp=Z,8.1nm,0.9s						
HNS	HongShan	53.36	286	⇓P	P	07 44 38.5	+0.4
HNS				S	S	07 52 13.4	+5.5
HNS				pmax	pmax		
	comp=Z,17nm,0.7s						
HNS				LR	LR		
	comp=Z,120nm,17.5s						
HNS				LR	LR		
	comp=Z,180nm,19.0s						
HNS				LR	LR		
	comp=Z,190nm,18.3s						
HPIG		53.37	92	IAmb	IAmb	07 44 40.0	
	comp=Z,6.8nm,0.8s						
U38A	Gravette	53.71	75	IAmb	IAmb	07 44 57.9	
	comp=Z,7.2nm,1.0s						
ICESG	Greenland Ices	53.82	20	iP	P	07 44 41.7	+0.3
ICESG				IAmb	IAmb	07 44 43.3	
	comp=Z,16nm,0.7s						
BTO	Baotou	53.99	292	eP	P	07 44 42.6	-0.2
BTO				pP	pP	07 44 48.9	-1.9
BTO				sP	sP	07 44 51.5	-2.4
BTO				PP	PP	07 46 45.3	+1.3
BTO				pmax	pmax		
	comp=Z,24nm,1.0s						
BTO				pmax	pmax		
	comp=Z,160nm,8.7s						
FW06	Azle	54.14	81	P	P	07 44 44.4	+0.5
M44A	Midewin, Midew	54.15	67	P	P	07 44 43.6	-0.2
BRDY	Brady	54.42	83	IAmb	IAmb	07 44 46.9	
	comp=Z,8.4nm,0.9s						
NJ2	Nanjing	54.47	278	eP	P	07 44 45.7	-0.5
NJ2				pmax	pmax		

ZALV LR LR 08 12 28.4
comp=Z,96nm,19.0s,baz=38,slow=39
comp=Z,0.9nm,0.5s
WVT Waverly 57.81 71 P **P 07 45 09.7 -0.3**
WVT IAmb IAmb 07 45 11.3
comp=Z,3.8nm,0.8s
WHN Wuhan 58.27 280 P **P 07 45 14.2 +0.8**
WHN sP pP 07 45 19.5 -1.9
ARCES ARCESS Array B 58.34 354 P **P 07 45 12.6 -0.7**
comp=Z,2.8nm,0.8s,baz=19,slow=5.7,SNR=9.5
ARCES LR LR 08 12 52.8
comp=Z,85nm,18.0s,baz=341,slow=39
comp=Z,2.8nm,0.8s
R50A Paris 58.35 67 IAmb IAmb 07 45 14.3
comp=Z,8.6nm,0.8s
ALLY Alegheny Colle 58.37 62 P **P 07 45 12.9 -1.0**
PLAL Pickwick Lake 58.45 72 P **P 07 45 13.7 -0.9**
PLAL IAmb IAmb 07 45 32.6
comp=Z,9.2nm,0.9s
O52A Adamsville 58.49 64 P **P 07 45 14.3 -0.5**
CLTN Cedars of Leba 58.71 70 IAmb IAmb 07 45 33.4
comp=Z,7.9nm,1.4s
SSLB Suanglung 59.07 270 P **P 07 45 19.6 +0.6**
XAN Xi'an 59.09 287 ⇑P **P 07 45 20.2 +1.1**
XAN pP pP 07 45 24.9 -2.3
XAN pmax pmax
comp=Z,15nm,0.9s
XAN pmax pmax
comp=Z,230nm,5.6s
LVZ Lovozero 59.12 350 P **P 07 45 19.7 +0.9**
comp=Z,31nm,1.1s
S51A Beattyville 59.22 67 IAmb IAmb 07 45 20.1
comp=Z,6.7nm,0.8s
MCWV Mont Chateau 59.92 63 P **P 07 45 24.9 +0.2**
W50A Signal Mountai 59.92 70 P **P 07 45 24.4 -0.4**
W50A IAmb IAmb 07 45 43.9
comp=Z,12nm,1.2s
FPAL Fort Paine 60.21 71 IAmb IAmb 07 45 44.7
comp=Z,7.8nm,0.9s
SSPA Standing Stone 60.30 61 P **P 07 45 27.0 -0.3**
S54A Dingess, Beckl 60.40 66 P **P 07 45 28.2 +0.1**
TKL Tuckaleechee C 60.50 69 P **P 07 45 27.9 -0.7**
comp=Z,3.4nm,0.9s,baz=15,slow=5.8,SNR=5.9
comp=Z,3.4nm,0.9s
GTA Gaotai 60.55 297 *e*P **P 07 45 28.2 -1.0**
GTA pP sP 07 45 39.0 -1.4
GTA pmax pmax
comp=Z,5.0nm,0.6s
GTA LR LR
comp=Z,240nm,18.7s
GTA LR LR
comp=Z,230nm,22.3s
GTA LR LR
comp=Z,240nm,19.1s
LZH Lanzhou 60.62 292 *e*P **P 07 45 30.4 +0.7**
LZH pP pP 07 45 36.6 -1.2
LZH sP sP 07 45 40.8 -0.1
LZH pmax pmax
comp=Z,20nm,0.6s
LZH LR LR
comp=Z,250nm,12.4s
LZH LR LR
comp=Z,320nm,14.8s
LZH LR LR
comp=Z,260nm,15.4s
V53A Saluda 61.04 68 IAmb IAmb 07 45 33.0
comp=Z,14nm,1.4s
BORG Borgarnes 61.08 15 LR LR 08 15 29.8
comp=Z,95nm,19.1s,baz=339,slow=40
BLA Blacksburg 61.31 66 P **P 07 45 34.7 +0.4**
SDMD Soldier's Deli 61.74 61 IAmb IAmb 07 45 38.2
comp=Z,5.3nm,0.8s
KSCT Kent School, K 61.88 58 P **P 07 45 37.5 -0.4**
KMSC Kings Mountain 62.27 68 P **P 07 45 40.5 -0.1**
CBN Corbin Frederi 62.31 63 P **P 07 45 40.9 +0.1**
KURBB Kurchatov Arra 62.71 318 P **P 07 45 42.3 -1.1**
comp=Z,5.3nm,0.8s,baz=44,slow=7.3,SNR=6.4
KURBB LR LR 08 14 22.3
comp=Z,103nm,21.4s,baz=176,slow=38
comp=Z,5.3nm,0.8s
W57A Gilead 63.02 67 IAmb IAmb 07 46 06.4
comp=Z,9.8nm,0.9s
BVAR Borovoye Array 63.97 324 P **P 07 45 51.1 -0.5**
comp=Z,10nm,0.5s,baz=51,slow=8.2,SNR=38
BVAR LR LR 08 16 57.9
comp=Z,128nm,18.4s,baz=52,slow=39
comp=Z,10nm,0.5s
BRVK Borovoye 63.98 324 P **P 07 45 51.4 -0.3**
BRVK IAmb IAmb 07 45 55.2
comp=Z,5.9nm,0.8s
MKAR Makanchi Array 64.00 313 LR LR 08 14 32.2
comp=Z,98nm,19.7s,baz=26,slow=37
Y58A Scranton 64.11 68 P **P 07 45 52.3 -0.5**
ARTI Arti 65.03 333 P **P 07 45 57.7 -0.8**
ARTI IAmb IAmb 07 45 59.0
comp=Z,6.4nm,0.7s
ARTI Arti 65.03 333 LR LR 08 18 05.5
comp=Z,64nm,19.3s,baz=28,slow=40
KIRV Kirov 65.35 339 LR LR 08 17 26.2
comp=Z,62nm,20.6s,baz=30,slow=39
GOMU GeErMu 65.61 298 P **P 07 46 02.4 -0.7**
GOMU PcP **PcP 07 46 34.8 +0.3**
GOMU pmax pmax
comp=Z,11nm,0.9s
GOMU LR LR
comp=Z,320nm,15.9s
GOMU LR LR
comp=Z,250nm,14.5s
GOMU LR LR
comp=Z,430nm,15.9s
TAOE Nuku Hiva Isla 65.63 148 *e*LR LR 08 05 40.6
comp=Z,90nm,23.6s
FINES FINESS Array B 66.28 352 P **P 07 46 06.0 -0.5**
comp=Z,2.2nm,0.6s,baz=6.7,slow=6.5,SNR=10
FINES LR LR 08 17 45.3
comp=Z,44nm,19.4s,baz=18,slow=39
comp=Z,2.2nm,0.6s
HNR Honiara 66.50 213 LR LR 08 12 10.2
comp=Z,33nm,18.7s,baz=34,slow=33
NB2 NORSAR Subarra 67.37 360 P **P 07 46 13.8 +0.3**
comp=Z,4.3nm,0.9s,baz=360,slow=6.2
NOA NORSAR Array B 67.37 360 P **P 07 46 12.2 -1.4**
comp=Z,1.7nm,0.7s,baz=359,slow=6.3,SNR=7.7
comp=Z,1.7nm,0.7s
HFS Hagfors 68.25 358 P **P 07 46 18.7 -0.3**
comp=Z,4.1nm,0.5s,baz=22,slow=4.7,SNR=12
comp=Z,4.1nm,0.5s
PZH PanZhiHua 68.81 286 P **P 07 46 23.6 +0.4**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.9s
DAV Davao City (W) 69.06 254 LR LR 08 15 18.5
comp=Z,30nm,19.2s,baz=354,slow=35
WUS Wushi 69.73 311 IAmb IAmb 07 46 32.1
comp=Z,6.4nm,0.8s
KDJ Kajisay 69.92 313 IAmb IAmb 07 46 46.9
comp=Z,4.5nm,0.9s
BOOM Boomskoye usch 70.19 314 IAmb IAmb 07 46 33.6
comp=Z,5.6nm,0.8s
AAK Ala-Archa 70.71 315 P **P 07 46 34.4 -0.3**
AAK IAmb IAmb 07 46 35.2
comp=Z,4.5nm,0.7s
AAK Ala-Archa 70.71 315 LR LR 08 20 56.9
comp=Z,90nm,18.7s,baz=29,slow=39
ABKAR Akbulak array 70.73 328 P **P 07 46 34.1 -0.3**
PPT2 Papeete2 71.40 160 *e*LR LR 08 08 08.7
comp=Z,78nm,26.5s
PMG Port Moresby 71.49 225 LR LR 08 19 35.4
comp=Z,33nm,18.3s,baz=49,slow=37
KK31 Karatay Array 72.02 318 P **P 07 46 41.8 -0.6**
KK31 IAmb IAmb 07 46 42.4
comp=Z,4.3nm,0.8s
KKAR Karatay Array 72.02 318 P **P 07 46 41.7 -0.7**
EKA Eskdalemuir Ar 72.51 8 P **P 07 46 44.1 -0.9**
comp=Z,1.7nm,0.6s,baz=348,slow=4.5,SNR=8.7
comp=Z,1.7nm,0.6s
KSH Kashi 72.56 312 P **P 07 46 48.9 +3.0**
KSH pmax pmax
comp=Z,9.0nm,0.7s
RAR Rarotonga 73.34 170 LR LR 08 15 19.7
comp=Z,58nm,19.7s,baz=240,slow=33
BTK Batken 74.41 316 P **P 07 46 56.2 -0.4**
BTK IAmb IAmb 07 46 57.1
comp=Z,5.1nm,0.7s
SHL Shillong 75.27 293 IAmb IAmb 07 47 04.4
comp=Z,7.9nm,0.7s
HERN Volcan Telica 75.73 88 P **P 07 47 04.2 -0.3**
HERN IAmb IAmb 07 47 09.4
comp=Z,351nm,0.5s
CHGR Chuyangaron 76.28 316 P **P 07 47 07.4 -0.1**
SIMJ Simiganj 76.35 317 P **P 07 47 07.5 -0.4**
AK21 Malin Array Si 76.45 348 P **P 07 47 09.0 +1.0**
AK23 Malin Array Si 76.45 348 P **P 07 47 09.0 +0.9**
AK22 Malin Array Si 76.46 348 P **P 07 47 08.4 +0.3**
AK03 Malin Array Si 76.48 348 P **P 07 47 08.8 +0.6**
AKASG Malin Array Be 76.50 348 P **P 07 47 07.3 -1.1**
comp=Z,1.4nm,0.5s,baz=18,slow=5.9,SNR=6.9
AKASG LR LR 08 25 49.1
comp=Z,57nm,18.2s,baz=38,slow=40
comp=Z,1.4nm,0.5s
AKBB Malin Array Si 76.50 348 IAmb IAmb 07 47 13.5
comp=Z,4.4nm,0.7s
AKBB Malin Array Si 76.50 348 P **P 07 47 09.3 +1.0**
AK19 Malin Array Si 76.51 348 P **P 07 47 09.3 +0.9**
KIEV Kiev 76.51 348 P **P 07 47 09.1 +0.8**
KIEV IAmb IAmb 07 47 13.5
comp=Z,3.9nm,0.7s
KIEV Kiev 76.51 348 P **P 07 47 09.7 +1.3**
comp=Z,30nm,1.4s
AK16 Malin Array Si 76.55 348 P **P 07 47 09.2 +0.6**
CMAR Chiang Mai Arr 76.58 283 P **P 07 47 09.7 +0.4**
CMAR Chiang Mai Arr 76.58 283 P **P 07 47 09.6 +0.3**
comp=Z,1.5nm,0.6s,baz=39,slow=6.8,SNR=11
CMAR LR LR 08 25 00.3
comp=Z,26nm,18.5s,baz=145,slow=39
comp=Z,1.5nm,0.6s
DZM Mont Dzumac 76.62 203 *e*LR LR 08 10 36.9
comp=Z,108nm,23.4s
DZM Mont Dzumac 76.62 203 LR LR 08 18 08.2
comp=Z,61nm,18.3s,baz=232,slow=34
TBI Tubuai 77.01 161 *e*LR LR 08 10 50.5
comp=Z,681nm,45.5s
LUBAR Lubar, Ukraine 77.45 349 P **P 07 47 14.3 +0.6**
BRG Berggiesshubel 77.52 358 *e*P **P 07 47 16.1 +2.0**
BRG Amp 07 47 18.3
comp=Z,2.5nm,0.8s
BRDH Bariadhala 77.65 291 LR LR 08 26 41.9
comp=Z,61nm,18.1s,baz=143,slow=40
DPC Dobruska-Polom 77.97 356 P **P 07 47 17.5 +0.9**
BMRD Maredsous 78.02 4 *d*P **P 07 47 16.7 -0.2**
MORC Moravsky Berou 78.48 355 *e*P **P 07 47 21.3 +1.8**
LANS Liptovska Anna 78.99 354 *e*P **P 07 47 24.3 +2.0**
VRAC Vranov 78.99 356 *e*P **P 07 47 24.2 +1.9**
KRUC Moravsky 79.25 356 *e*P **P 07 47 25.2 +1.5**
KHC Kasperske Hory 79.27 358 *e*P **P 07 47 26.5 +2.6**
JAVC Velka Javorina 79.39 355 *e*P **P 07 47 27.6 +3.1**
GERES GERESS Array B 79.56 358 P **P 07 47 24.3 -1.2**
comp=Z,1.0nm,0.7s,baz=10.0,slow=5.4,SNR=6.1
comp=Z,1.0nm,0.7s
MODS Modra-Piesok 79.89 355 *e*P P 07 47 34.7 +7.5
BUR08 Bucovina Ar. S 79.99 350 P **P 07 47 28.7 +0.9**
BURAR Bucovina Array 80.02 350 P **P 07 47 28.4 +0.4**
CONA Conrad Observa 80.40 356 *i* PcP **P 07 47 32.9 +2.8**
comp=Z,7.6nm,1.4s
KBZ Khabaz 80.65 337 P **P 07 47 31.2 -0.1**
comp=Z,3.3nm,0.8s,baz=355,slow=2.2,SNR=10
KBZ LR LR 08 25 58.2
comp=Z,64nm,21.1s,baz=30,slow=38
comp=Z,3.3nm,0.8s
LESA Schwarzleotal 81.00 358 *i* PcP **P 07 47 35.5 +2.2**
comp=Z,4.6nm,1.0s
MOTA Moosalm 81.09 360 *e*P **P 07 47 35.0 +1.2**
comp=Z,5.8nm,1.1s
WATA Walderalm 81.10 359 *e*P **P 07 47 35.7 +1.8**
comp=Z,3.0nm,0.6s
DAVA Damuels 81.15 0 *i* PcP **P 07 47 37.2 +3.0**
comp=Z,4.9nm,0.8s
WTTA Wattenberg 81.17 359 *i* P **P 07 47 35.8 +1.5**
comp=Z,4.6nm,0.6s
SQTA Sankt Quirin 81.22 359 *e*PcP **P 07 47 37.3 +2.8**
comp=Z,2.7nm,0.5s
KBA Koelnbreinsper 81.33 358 *i* PcP **P 07 47 37.5 +2.4**
comp=Z,8.6nm,0.8s
FETA Feichten 81.42 360 *i* PcP **P 07 47 37.7 +2.1**
comp=Z,5.9nm,1.2s
DAVOX Davos/Dischmat 81.66 0 LR LR 08 25 50.4
comp=Z,30nm,19.4s,baz=74,slow=37
SOKA Soboth 81.68 357 *e*P **P 07 47 38.1 +1.2**
comp=Z,2.1nm,0.7s
OBKA Obir 81.87 357 *i* P **P 07 47 39.6 +1.7**
comp=Z,3.6nm,0.6s
MLR Muntele Rosu 82.03 349 LR LR 08 27 42.6
comp=Z,60nm,19.9s,baz=14,slow=38
RDO Rodhopi 86.36 349 P **P 07 48 00.9 +0.2**
WB0 Warramunga Arr 86.45 231 P **P 07 48 02.0 +0.7**
BRTR Keskin Array B 86.49 342 P **P 07 48 02.4 +0.8**
BRTR Keskin Array B 86.49 342 P **P 07 48 00.1 -1.5**
comp=Z,0.4nm,0.5s,baz=30,slow=3.4,SNR=8.1
comp=Z,0.4nm,0.5s
WRA Warramunga Arr 86.62 231 P **P 07 48 02.4 +0.3**
comp=Z,0.9nm,0.8s,baz=27,slow=5.3,SNR=5.3
comp=Z,0.9nm,0.8s
BORA Eskisehir 86.90 345 IAmb IAmb 07 48 10.9
comp=Z,7.4nm,0.9s
ESDC Sonseca Array 87.91 11 P **P 07 48 08.7 +0.4**
ESDC Sonseca Array 87.91 11 P **P 07 48 08.7 +0.4**
comp=Z,2.0nm,0.8s,baz=349,slow=4.8,SNR=10
comp=Z,2.0nm,0.8s
RPSI Rantau Prapat 88.81 273 P **P 07 48 13.4 +0.5**
ASAR Alice Springs 90.01 230 P **P 07 48 18.6 +0.5**
ASAR Alice Springs 90.01 230 P **P 07 48 18.4 +0.3**
comp=Z,2.6nm,0.8s,baz=26,slow=4.8,SNR=19
comp=Z,2.6nm,0.8s
MMAI Mount Meron Ar 92.61 339 LR LR 08 34 00.4
comp=Z,28nm,18.7s,baz=7.0,slow=38
STKA Stephens Creek 93.78 220 LR LR 08 24 37.8
comp=Z,126nm,20.8s,baz=205,slow=32
EIL Elat 95.93 339 LR LR 08 36 25.1
comp=Z,42nm,18.2s,baz=64,slow=38
RAYN Ar Rayn 98.82 328 P **P 07 48 58.1 -0.6**
RAYN IAmb IAmb 07 49 02.2
comp=Z,3.0nm,0.9s
H03N2 Juan Fernandez 115.90 112 T T 10 01 20.4
baz=315
H03N1 Juan Fernandez 115.91 112 T T 10 01 20.7
baz=315
H03N3 Juan Fernandez 115.91 112 T T 10 01 33.6
baz=315

KRNET ***08*** *07:37:04.0±0.1, 41.°03N×73.°12E, h15km, mb3.0*
KNET ***08*** *07:37:07.5±0.6, 41.°18N×73.°22E, h5km, 3km, ml2.5, Error ellipse: s-maj=6.2km s-min=3.2km az=111.0*
NNC ***08*** *07:37:07.0±1.0, 41.°12N×73.°18E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=8.3km s-min=3.9km az=174.0*
SOME ***08*** *07:37:07.2, 41.°20N×73.°15E, h5km*
ISU ***08*** *07:37:08, 40.°87N×73.°00E, h5km*
ISC 08 07:37:03.7±1.1**, 41.°02N**±0.°02×**73.°21E**±0.°02**, h4**km±10km**, n55,** σ1°**40/96, 41C-27D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.48**	**107**	⇑*e*P	**Pb**	**07 37 14.9**	**+0.1**
SALK				*e*S	**Sb**	**07 37 22.3**	**0.0**
OHH	**Osh**	**0.60**	**213**	⇓*i*P	**Pg**	**07 37 14.8**	**-0.3**
OHH				⇓*i*S	**Sg**	**07 37 22.6**	**-0.2**
SFK	**Sufi-Kurgan**	**1.03**	**168**	⇑*i*P	**Pb**	**07 37 23.8**	**-0.5**
SFK				⇑*i*S	**Sb**	**07 37 38.3**	**0.0**
AML	**Almayashu**	**1.16**	**18**	⇓P	**Pn**	**07 37 27.0**	**-0.1**
38nm,0.2s,SNR=46							
AML				⇓S	**Sn**	**07 37 42.8**	**-1.0**
104nm,0.3s							
AML	**Almayashu**	**1.16**	**18**	⇑*i*P	**Pb**	**07 37 26.4**	**-0.2**
AML				⇑*i*S	**Sn**	**07 37 42.5**	**-1.2**
ARLS	**Aral**	**1.18**	**45**	⇓*i*P	**Pn**	**07 37 26.8**	**-0.4**
ARLS				⇓*i*S	**Sn**	**07 37 43.7**	**-0.1**
ARK	**Arkit**	**1.22**	**310**	⇑*i*P	**Pb**	**07 37 25.8**	**-1.6**
ARK				⇑*i*S	**Sb**	**07 37 41.7**	**-1.8**
FRG	**Fergana**	**1.27**	**240**	P	**Pg**	**07 37 28.7**	**+0.8**
FRG				S	**Sg**	**07 37 44.1**	**-0.2**
CHMI	**Chimion**	**1.49**	**240**	P	**Pg**	**07 37 32.9**	**+0.7**
CHMI				S	**Sg**	**07 37 51.2**	**-0.4**
UCH	**Uchtor**	**1.55**	**39**	⇓P	**Pg**	**07 37 34.8**	**+1.5**
5.0nm,0.2s,SNR=5.4							
UCH				⇑S	**Sg**	**07 37 55.7**	**+2.3**
25nm,0.3s							
MNAS	**Manas**	**1.56**	**340**	⇑*e*P	**Pb**	**07 37 32.4**	**-0.7**
MNAS				⇑*i*S	**Sb**	**07 37 53.0**	**-0.3**
TRKS	**Terek-Say**	**1.64**	**289**	⇓*i*P	**Pn**	**07 37 32.3**	**-1.2**
TRKS				⇓*i*S	**Sn**	**07 37 53.1**	**-2.1**
EKS2	**Erkin-Say**	**1.69**	**14**	⇑P	**Pg**	**07 37 37.0**	**+1.0**
8.4nm,0.2s,SNR=15							
EKS2				⇓S	**Sg**	**07 37 59.1**	**+1.2**
11nm,0.1s							
EKS2	**Erkin-Say**	**1.69**	**14**	⇓*i*P	**Pb**	**07 37 35.3**	**-0.1**
EKS2				⇓*i*S	**Sg**	**07 37 58.3**	**+0.3**
MRKS	**Merke**	**1.72**	**0**	P	**Pg**	**07 37 37.3**	**+0.6**
4.4nm,0.3s							
MRKS				S	**Sg**	**07 37 59.4**	**+0.5**
48nm,0.3s							
MRKS	**Merke**	**1.72**	**0**	*e*P	**Pg**	**07 37 36.9**	**+0.2**
4.6nm,0.1s							
MRKS				*e*S	**Sg**	**07 37 58.3**	**-0.6**
56nm,0.2s							
AAK	**Ala-Archa**	**1.88**	**30**	⇓P	**Pg**	**07 37 40.5**	**+0.9**
41nm,0.3s,SNR=54							
AAK				⇓S	**Sg**	**07 38 05.2**	**+1.3**
23nm,0.2s							
AAK	**Ala-Archa**	**1.88**	**30**	⇑Pn	**Pg**	**07 37 40.7**	**+1.1**
18nm,0.3s							
AAK				⇑Sn	**Sg**	**07 38 05.1**	**+1.2**
22nm,0.5s							
AAK	**Ala-Archa**	**1.88**	**30**	⇑*i*P	**Pb**	**07 37 39.0**	**+0.4**
AAK				⇑*i*S	**Sg**	**07 38 04.5**	**+0.6**
DRK	**Karamyk**	**1.88**	**216**	⇑*i*P	**Pb**	**07 37 37.9**	**-0.9**
DRK				⇑*i*S	**Sb**	**07 38 02.7**	**-0.1**
BTK	**Batken**	**2.06**	**243**	⇑*i*P	**Pb**	**07 37 40.3**	**-1.5**
BTK				⇑*i*S	**Sb**	**07 38 06.7**	**-1.1**
KBK	**Karagaybulak**	**2.08**	**38**	⇑P	**Pg**	**07 37 44.4**	**+0.8**
34nm,0.4s,SNR=11							
KBK				⇓S	**Sg**	**07 38 13.1**	**+2.5**
39nm,0.2s							
KBK	**Karagaybulak**	**2.08**	**38**	⇑*i*P	**Pb**	**07 37 41.9**	**-0.3**
KBK				⇑*i*S	**Sg**	**07 38 09.7**	**-0.9**
NRN	**Naryn**	**2.14**	**78**	⇓*e*P	**Pb**	**07 37 43.1**	**-0.1**
NRN				⇓*e*S	**Sg**	**07 38 11.7**	**-0.8**
CHMS	**Chumysh**	**2.28**	**30**	⇓P	**Pg**	**07 37 46.8**	**-0.6**
8.1nm,0.2s							
CHMS				⇑S	**Sg**	**07 38 17.7**	**+0.8**
19nm,0.3s							
CHMS	**Chumysh**	**2.28**	**30**	⇓*i*P	**Pb**	**07 37 44.5**	**-1.0**
CHMS				⇓*i*S	**Sb**	**07 38 14.0**	**-0.1**
USP	**Ospenovka**	**2.44**	**23**	⇑*i*P	**Pb**	**07 37 46.4**	**-1.7**
USP				⇑*i*S	**Sb**	**07 38 17.4**	**-1.1**
CHMG	**Chimgan**	**2.47**	**283**	P	**Pg**	**07 37 50.9**	**-0.1**
CHMG				S	**Sg**	**07 38 24.6**	**+1.6**
BOOM	**Boomskoye usch**	**2.51**	**53**	⇓*i*P	**Pb**	**07 37 48.1**	**-1.4**
BOOM				⇓*i*S	**Sb**	**07 38 20.3**	**-0.5**
ULHL	**Ulahol**	**2.58**	**61**	⇓P	**Pb**	**07 37 51.8**	**+1.2**
3.2nm,0.2s,SNR=8.6							
ULHL	**Ulahol**	**2.58**	**61**	⇑*i*P	**Pb**	**07 37 49.2**	**-1.4**
ULHL				⇑*i*S	**Sb**	**07 38 22.0**	**-0.7**
TKM2	**Tokmak 2**	**2.60**	**42**	⇓P	**Pb**	**07 37 51.5**	**+0.5**
8.2nm,0.2s,SNR=15							
TKM2	**Tokmak 2**	**2.60**	**42**	⇑Pg	**Pb**	**07 37 51.7**	**+0.8**
4.6nm,0.3s							
TKM2				⇑Lg	Lg	07 38 27.4	
18nm,0.5s							
TKM2	**Tokmak 2**	**2.60**	**42**	⇓*i*P	**Pb**	**07 37 49.2**	**-1.8**
TKM2				⇓*i*S	**Sb**	**07 38 22.1**	**-1.2**
IUG	**Iuzhnay**	**2.64**	**296**	Pg	**Pg**	**07 37 54.2**	**0.0**
14nm,0.2s							
IUG				Lg	Lg	07 38 27.6	
25nm,0.3s							
KK31	**Karatay Array**	**2.89**	**317**	⇑Pg	**Pg**	**07 37 58.1**	**-1.0**
0.4nm,0.2s,baz=158,slow=17,SNR=5.7							
KK31				⇓Lg	Lg	07 38 34.2	
2.9nm,0.3s,baz=133,slow=28,SNR=8.3							
KKAR	**Karatay Array**	**2.89**	**317**	⇑*i*P	**Pn**	**07 37 51.7**	**+1.1**
KKAR				⇑*i*S	**Sn**	**07 38 26.7**	**+0.9**
DGS	**Degeres**	**2.92**	**40**	Pg	**Pg**	**07 37 59.4**	**-0.3**
19nm,0.5s							
DGS				Lg	Lg	07 38 38.1	
26nm,0.5s							
GAR	**Garm**	**3.01**	**229**	⇑*i*P	**Pn**	**07 37 53.4**	**+1.2**
GAR				⇑*i*S	**Sn**	**07 38 29.6**	**+0.8**
KDJ	**Kajisay**	**3.17**	**68**	⇑*i*P	**Pb**	**07 37 57.5**	**-3.3**
KDJ				⇑*i*S	**Sb**	**07 38 36.6**	**-3.3**
MTBS	**Maitube**	**3.19**	**48**	Pg	**Pg**	**07 38 04.7**	**0.0**
3.9nm,0.5s							
MTBS				Lg	Lg	07 38 46.3	
19nm,0.4s							
MTBS	**Maitube**	**3.19**	**48**	*e*P	**Pg**	**07 38 04.7**	**0.0**
3.9nm,0.5s							
MTBS				*e*S	**Sg**	**07 38 46.3**	**+0.3**
19nm,0.4s							
BRLS	**Borolday**	**3.22**	**310**	Pg	**Pb**	**07 38 03.0**	**+1.6**
1.6nm,0.4s							
BRLS				Lg	Lg	07 38 43.3	
6.7nm,0.6s							
BRLS	**Borolday**	**3.22**	**310**	*e*P	**Pb**	**07 38 03.0**	**+1.6**
1.6nm,0.4s							
BRLS				*e*S	**Sb**	**07 38 43.4**	**+2.4**
6.7nm,0.6s							
KRBS	**Karabastau**	**3.23**	**34**	Pg	**Pg**	**07 38 04.7**	**-0.9**
3.9nm,0.3s							
KRBS				Lg	Lg	07 38 46.3	
9.9nm,0.6s							
TNSS	**Tian-Shan**	**3.43**	**53**	Pg	**Pg**	**07 38 09.3**	**-0.1**
3.1nm,0.3s							
TNSS				Lg	Lg	07 38 54.8	
3.9nm,0.7s							
TNSS	**Tian-Shan**	**3.43**	**53**	*e*P	**Pg**	**07 38 09.1**	**-0.4**
3.1nm,0.2s							
TNSS				*e*S	**Sg**	**07 38 53.3**	**-0.6**
4.7nm,0.4s							
TARG	**Taragay, Kyrgy**	**3.53**	**77**	⇑*i*P	**Pn**	**07 38 02.4**	**+2.8**
TARG				⇑*i*S	**Sn**	**07 38 45.0**	**+3.0**
MDOK	**Medeo**	**3.56**	**52**	Pg	**Pg**	**07 38 11.8**	**-0.2**
2.1nm,0.3s							
MDOK				Lg	Lg	07 38 58.2	
4.2nm,0.6s							
KTBS	**Karatobe**	**3.72**	**43**	Pg	**Pg**	**07 38 13.4**	**-1.5**
2.8nm,0.7s							
KTBS				Lg	Lg	07 39 01.2	
6.9nm,0.3s							
ANVS	**Anan'yevo**	**3.76**	**61**	⇑*i*P	**Pn**	**07 38 05.5**	**+2.8**
ANVS				⇑*i*S	**Sn**	**07 38 50.4**	**+2.9**
CHKK	**Chushkaly**	**3.98**	**43**	Pg	**Pg**	**07 38 18.9**	**-0.9**
0.4nm,0.0s							
CHKK				Lg	Lg	07 39 10.6	
4.3nm,0.3s							
CHKK	**Chushkaly**	**3.98**	**43**	*e*P	**Pg**	**07 38 18.9**	**-0.9**
0.4nm,0.0s							
CHKK				*e*S	**Sg**	**07 39 10.6**	**-0.7**
4.3nm,0.3s							
SATY	**Saty**	**4.37**	**61**	Pg	**Pg**	**07 38 26.8**	**-0.6**
1.8nm,0.3s							
SATY				Lg	Lg	07 39 23.8	
5.4nm,0.3s							
KURS	**Kuram**	**4.43**	**55**	*e*P	**Pb**	**07 38 18.9**	**-3.1**
0.4nm,0.0s							
KURS				*e*S	**Sb**	**07 39 10.6**	**-5.2**
4.3nm,0.3s							

UCR ***08*** *07:39:17.2±0.4, 8.°95N×84.°21W, h21km±2km, MW3.7*
ISC 08 07:39:16.2±1.6**, 8.°94N**±0.°07×**84.°20W**±0.°08**, h13**km**, n50,** σ0°**28/50, 3C-1D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUEP	**Quepos**	**0.49**	**4**	*e*P	**Pg**	**07 39 26.3**	**+0.4**
SVQ2	**Quepos**	**0.49**	**4**	*e*P	**Pb**	**07 39 26.5**	**-0.2**
LLNJ	**Naranjito**	**0.54**	**10**	*e*P	**Pb**	**07 39 27.4**	**-0.2**
PICV	**PH. Pirrs**	**0.68**	**0**	*e*P	**Pg**	**07 39 29.8**	**+0.2**
PISJ	**San Jernim**	**0.69**	**6**	*e*P	**Pg**	**07 39 30.0**	**+0.3**
PIEC	**Cerro El Cedra**	**0.72**	**19**	*e*P	**Pg**	**07 39 30.3**	**0.0**
RAZU	**San Marcos de**	**0.74**	**14**	*e*P	**Pg**	**07 39 30.8**	**+0.2**
ABE2	**San Pablo**	**0.77**	**11**	*e*P	**Pg**	**07 39 31.5**	**+0.3**
SAJE	**San Jernim**	**0.79**	**59**	*e*P	**Pg**	**07 39 31.4**	**-0.2**
LCR2	**La Lucha 2**	**0.82**	**14**	*e*P	**Pg**	**07 39 32.0**	**-0.2**
FIMO	**Fila Mora**	**0.84**	**86**	*e*P	**Pg**	**07 39 32.9**	**+0.5**
ACOS	**Acosta**	**0.85**	**2**	*e*P	**Pg**	**07 39 32.6**	**-0.1**
BURE	**Buenos Aires**	**0.88**	**75**	*e*P	**Pg**	**07 39 33.6**	**+0.3**
REPA	**Paraso**	**0.94**	**20**	*e*P	**Pg**	**07 39 34.2**	**-0.2**
TAGO	**Cartago**	**0.96**	**16**	⇑*i*P	**Pg**	**07 39 34.7**	**-0.1**
SANTA	**Santa Ana**	**0.99**	**1**	*e*P	**Pb**	**07 39 34.9**	**-0.4**
LUJA	**Lujan**	**0.99**	**7**	*e*P	**Pn**	**07 39 36.0**	**+0.1**
CENT	**San Jose**	**0.99**	**7**	*e*P	**Pb**	**07 39 35.1**	**-0.3**
DRK0	**Durika**	**1.00**	**71**	*e*P	**Pb**	**07 39 35.1**	**-0.4**
TRB2	**Turrubares**	**1.00**	**346**	*e*P	**Pb**	**07 39 34.9**	**-0.5**
MEXI	**Barrio Mexico**	**1.00**	**6**	*e*P	**Pb**	**07 39 35.4**	**-0.1**
SJS3	**Mercedes San J**	**1.00**	**8**	*e*P	**Pb**	**07 39 35.5**	**0.0**
SJS	**Escuela Geolog**	**1.00**	**8**	*e*P	**Pb**	**07 39 35.4**	**-0.1**
PIRO	**Carate, Puerto**	**1.00**	**122**	*e*P	**Pb**	**07 39 35.5**	**+0.1**

LUPE	Guadalupe	1.01	8	eP	Pb	07 39 35.4	-0.3
BELE	Belen	1.03	1⇑	eP	Pb	07 39 35.7	-0.3
CORON	Coronado	1.04	11⇓	eP	Pb	07 39 36.4	+0.1
PCAYA	Pacayas	1.04	22	eP	Pb	07 39 35.9	-0.4
HEME	Heredia, Merce	1.05	3	eP	Pb	07 39 36.5	+0.2
HDC	Heredia	1.06	5	eP	Pb	07 39 36.2	-0.2
EDAD	Golfito	1.06	106	eP	Pb	07 39 35.9	-0.6
UELA	Alajuela	1.07	359	eP	Pn	07 39 37.7	+0.6
VICA	Volcano Irazu	1.10	19	eP	Pb	07 39 37.0	-0.3
TCS1	Tacares	1.10	355	eP	Pb	07 39 37.2	0.0
CVIMO	Finca Echandi	1.11	13	eP	Pb	07 39 37.3	-0.1
VERB	Verbena	1.12	26	eP	Pb	07 39 37.3	-0.1
VTCV	VTCV, Calle Va	1.14	24	eP	Pb	07 39 37.8	-0.1
VTLA	Turrialba Volc	1.14	22	eP	Pb	07 39 37.8	-0.1
CVTQ	Turrialba Volc	1.14	22	eP	Pb	07 39 38.0	-0.1
CVTV	Tajo	1.15	23	eP	Pb	07 39 38.1	-0.1
VTR0	Volcan Turrial	1.16	22	eP	Pb	07 39 38.2	-0.1
CVTR	Volcan Turrial	1.16	22	eP	Pb	07 39 38.2	-0.1
VBV1	V. Barva	1.17	5	eP	Pb	07 39 38.4	-0.1
SRA1	San Ramn	1.17	346	eP	Pb	07 39 37.9	-0.5
VPS8	V Poas	1.23	358	eP	Pn	07 39 39.3	-0.1
CVTG	V. Turrialba,	1.27	19⇑	iP	Pb	07 39 40.3	+0.2
NELY	Ciudad Neily	1.27	103	eP	Pn	07 39 40.0	+0.3
RVLA	Villa Bonita	1.31	27	eP	Pn	07 39 40.6	+0.4
ALCO	Alturas Coton,	1.35	89	eP	Pn	07 39 40.5	-0.4
VPL2	V. Platanar	1.37	352	eP	Pn	07 39 41.1	-0.1

*ASRS **08** 07:39:25.0±1.1, 54.°19N×87.°06E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 07:39:25.4±3.4, 54.°20N×87.°41E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=28.4km s-min=17.3km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.55	262	I	I	07 48 33.2	
	baz=80, slow=325, SNR=1.6						
ZALV	Zalesovo Beam	1.55	262	Pg	Pn	07 39 51.8	-2.5
	0.9nm, 0.3s, baz=79, slow=15, SNR=9.4						
ZALV				Lg	Lg	07 40 15.8	
	1.2nm, 0.3s, baz=82, slow=27, SNR=7.2						
KURBB	Kurchatov Arra	6.51	240	Pn	Pn	07 41 02.6	+0.3
	0.1nm, 0.3s, baz=54, slow=13, SNR=4.3						
	0.3nm, 0.4s						
MKAR	Makanchi Array	8.10	206	Pn	Pn	07 41 26.2	+2.0
	0.1nm, 0.3s, baz=25, slow=14, SNR=4.5						
MKAR				Sn	Sn	07 42 54.9	-1.5
	baz=21, slow=25, SNR=2.8						
MKAR				Lg	Lg	07 43 44.7	
	baz=35, slow=30, SNR=5.4						
	0.2nm, 0.3s						

*ASRS **08** 07:55:14.0±1.0, 54.°23N×87.°08E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 07:55:16.2±3.2, 54.°29N×87.°09E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=28.5km s-min=17.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.38	257	I	I	08 02 57.9	
	baz=77, slow=331, SNR=6.7						
ZALV	Zalesovo Beam	1.38	257	Pg	Pg	07 55 41.1	-1.6
	1.4nm, 0.3s, baz=74, slow=14, SNR=14						
ZALV				Lg	Lg	07 56 01.3	
	2.0nm, 0.3s, baz=73, slow=26, SNR=8.8						
KURBB	Kurchatov Arra	6.39	238	Pn	Pn	07 56 51.5	-0.1
	0.2nm, 0.3s, baz=54, slow=14, SNR=7.2						
	0.8nm, 0.2s						
MKAR	Makanchi Array	8.10	204	Pn	Pn	07 57 17.1	+2.0
	0.2nm, 0.3s, baz=20, slow=14, SNR=5.4						
MKAR				Sn	Sn	07 58 46.3	-1.0
	0.1nm, 0.3s, baz=20, slow=28, SNR=3.6						
MKAR				Lg	Lg	07 59 29.0	
	0.1nm, 0.3s, baz=21, slow=32, SNR=2.2						
	0.2nm, 0.3s						

*NEIC **08** 08:20:39.6±1.3, 31.°19N±0.°01×103.°291W±0.°008, h2km±4km, mb_Lg2.6/35, ML2.6/62, Error ellipse: s-maj=1.7km s-min=0.8km az=157.0*

TXNET 08 08:20:39.5, 31.°2N±0.°7×103.°3W±0.°6, h6km, ML2.5/13, 1D, Error ellipse: s-maj=1.0km s-min=0.9km az=11.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB04	Verhalen	0.06	113	⇓P	Pg	08 20 41.5	+0.3
TPB04				S	Sg	08 20 42.9	+0.6
TPB16	Coyonosa	0.11	141	P	Pg	08 20 42.6	+0.6
TPB16				S	Sg	08 20 45.2	+1.6
TPB16	Coyonosa	0.11	141	P	Pg	08 20 42.6	+0.7
TPB16				S	Sg	08 20 45.2	+1.6
TPB03	Saragosa	0.20	231	P	Pg	08 20 44.3	+0.8
TPB03				S	Sg	08 20 47.7	+1.4
PCOS	Crockett Middl	0.25	323	P	Pg	08 20 45.6	+1.1
PCOS				S	Sg	08 20 49.8	+1.9
PCOS	Crockett Middl	0.25	323	P	Pg	08 20 45.6	+1.1
PCOS				S	Sg	08 20 50.0	+2.2
TPB05	Hovey Rd	0.29	179	P	Pb	08 20 46.6	-0.6
TPB05				S	Sb	08 20 51.9	-0.4
TPB10	Southeast of T	0.37	282	P	Pg	08 20 47.3	+0.6
TPB10				S	Sb	08 20 53.3	-1.3
TPB06	Permian Basin	0.45	13	P	Pg	08 20 49.0	+0.8
TPB06				S	Sb	08 20 55.7	-1.1
TPB07	Mentone	0.47	322	S	Sb	08 20 56.3	-1.1
TPB01	Permian Basin	0.47	235	P	Pg	08 20 49.0	+0.4
TPB01				S	Sb	08 20 56.1	-1.3
PECS	Pecos	0.48	289		Pg	08 20 49.3	+0.4
PECS				Sg	Sb	08 20 59.1	+1.2
PECS				IAML		08 21 05.0	
	462nm, 0.7s						
PECS				IAML		08 21 05.6	
	435nm, 0.5s						
PECS	Pecos	0.48	289	P	Pg	08 20 49.2	+0.3
PECS				S	Sb	08 20 58.0	+0.1
TPB08	Permian Basin	0.48	131	P	Pb	08 20 50.5	0.0
TPB08				S	Sb	08 20 58.1	+0.2
MNHN	Monahans	0.51	75		Pg	08 20 49.7	+0.4
MNHN				Sg	Sg	08 20 57.1	+1.2
MNHN	Monahans	0.51	75	P	Pg	08 20 49.6	+0.3
MNHN				S	Sb	08 20 57.3	-1.3
TPB12	Southwest of T	0.54	270	P	Pg	08 20 50.0	+0.1
TPB12				S	Sg	08 20 57.9	+1.0
ALPN	Alpine	0.87	198		Pg	08 20 56.5	+0.2
ALPN				Sg	Sg	08 21 08.0	+0.3
ALPN	Alpine	0.87	198	P	Pg	08 20 56.4	0.0
ALPN				S	Sb	08 21 08.5	-0.6
TMB02	Rankin	1.11	90	P	Pb	08 21 01.0	-0.1
ODSA	Odessa	1.13	36		Pg	08 21 00.8	-0.4
ODSA	Odessa	1.13	36	P	Pg	08 21 00.7	-0.5
ODSA				S	Sn	08 21 17.4	-0.4
NM01	Eunice	1.14	357	P	Pg	08 21 01.5	0.0
NM01				S	Sb	08 21 17.2	+0.3
CLNB	Carlsbad	1.15	336		Pn	08 21 02.3	0.0
CLNB	Carlsbad	1.15	336	P	Pn	08 21 02.2	-0.1
CLNB				S	Sb	08 21 17.7	+0.6
CLN7	Carlsbad 7	1.27	341		Pn	08 21 04.2	+0.3
CLN7	Carlsbad 7	1.27	341	P	Pn	08 21 04.6	+0.7
HTMS	Hat Mesa	1.28	349		Pb	08 21 04.6	+0.4
HTMS	Hat Mesa	1.28	349	P	Pb	08 21 04.7	+0.4
GDL2	Guadalupe Moun	1.32	319	Pg	Pg	08 21 05.7	+0.8
GDL2	Guadalupe Moun	1.32	319	P	Pg	08 21 05.2	+0.2
CBET	Carlsbad E Tow	1.33	335	P	Pg	08 21 05.2	+0.1
VHRN	Van Horn	1.48	254	Pg	Pb	08 21 07.2	-0.3
VHRN				IAML		08 21 33.4	
	64nm, 0.5s						
VHRN				IAML		08 21 36.2	
	87nm, 0.9s						
VHRN	Van Horn	1.48	254	P	Pn	08 21 07.1	+0.2
VHRN				S	Sg	08 21 27.3	+0.2
TMB04	Seminole	1.58	27	P	Pn	08 21 08.6	+0.3
TMB04				S	Sg	08 21 30.4	0.0
SAND	Sanderson	1.63	140		Pb	08 21 10.2	+0.2
SAND				IAML		08 21 37.4	
	73nm, 0.5s						
SAND				IAML		08 21 38.8	
	70nm, 0.7s						
SAND	Sanderson	1.63	140	P	Pb	08 21 10.3	+0.2
SAND				S	Sg	08 21 33.5	+1.6
MNTX	Cornudas Mount	1.82	286	P	Pb	08 21 12.5	-0.7
MNTX				S	Sg	08 21 37.3	-0.7
CPRX	Cap Rock	1.87	346		Pb	08 21 13.8	-0.4
CPRX	Cap Rock	1.87	346	P	Pb	08 21 13.5	-0.7
TMB05	Klondike	1.89	41	P	Pb	08 21 13.9	-0.6
TMB05				S	Sg	08 21 40.2	-0.1
TX31	Lajitas Ar. Si	1.89	189		Pb	08 21 14.1	-0.5
TX31	Lajitas Ar. Si	1.89	189	P	Pb	08 21 14.0	-0.5
TX31				S	Sg	08 21 40.5	+0.2
TXAR	Lajitas Array	1.89	189		Pb	08 21 14.1	-0.5
OZNA	Ozona	1.92	98		Pb	08 21 14.5	-0.4
OZNA	Ozona	1.92	98	P	Pb	08 21 14.5	-0.4
OZNA				S	Sg	08 21 41.0	-0.1
SGCY	Sterling City	2.01	69		Pb	08 21 15.9	-0.6
SGCY				IAmb_Lg		08 21 45.1	
	comp=Z,28nm,1.1s						
SGCY	Sterling City	2.01	69	Pg	Pb	08 21 16.6	+0.1
SGCY				Sg	Sg	08 21 43.6	-0.6
POST	Post	2.42	40		Pn	08 21 21.1	+1.4
POST				IAmb_Lg		08 22 00.7	
	comp=Z,22nm,0.8s						
SN05	Snyder 5	2.66	51		Pn	08 21 24.9	+1.8
MSTX	Muleshoe	2.79	10		Pn	08 21 26.7	+1.8
SN07	Snyder 07	2.79	47		Pn	08 21 26.4	+1.5
DRIO	Del Rio	2.95	127	Pn	Pn	08 21 28.3	+1.4
JCT	Junction City	3.12	103		Pn	08 21 31.9	+2.5
JCT				IAmb_Lg		08 22 23.0	
	comp=Z,19nm,0.7s						
DKNS	Dickens	3.19	39		Pn	08 21 31.4	+1.1
DKNS				IAmb_Lg		08 22 26.5	
	comp=Z,14nm,0.8s						
ABTX	Abilene, Hawle	3.44	65		Pn	08 21 35.0	+1.3
ABTX				IAmb_Lg		08 22 37.1	
	comp=Z,18nm,0.8s						
APMT	Aspermont	3.44	51		Pn	08 21 35.0	+1.3
BRDY	Brady	3.71	88		Pn	08 21 39.0	+1.5
HNDO	Hondo	3.88	115		Pn	08 21 41.9	+2.1
CRNM	Carthage	3.96	315	Pn	Pn	08 21 43.1	+2.0
BNM	Barren Site	4.04	317	Pn	Pn	08 21 43.7	+1.5
PLPT	Palo Pinto	4.55	68		Pn	08 21 50.0	+1.0
PLPT				IAmb_Lg		08 23 06.9	
	comp=Z,8.5nm,1.0s						
ANMO	Albuquerque	4.55	326	IAmb_Lg		08 23 10.2	
	comp=Z,5.2nm,0.7s						
ANMO	Albuquerque	4.55	326	IAML		08 23 06.1	
	comp=Z,9.4nm,0.7s						
ANMO				IAML		08 23 06.2	
	comp=Z,9.5nm,0.7s						
ANMO				IAmb_Lg		08 23 09.1	
	comp=Z,5.6nm,0.9s						
ANMO				IAML		08 23 12.9	
	comp=Z,7.3nm,4.3s						
ANMO				IAML		08 23 12.9	
	comp=Z,7.4nm,4.3s						
SMWD	Samnorwood	4.67	33	IAmb_Lg		08 23 18.5	
	comp=Z,16nm,0.8s						
FW03	Perrin-Whitt E	4.83	66	Pn	Pn	08 21 53.1	+0.3
WTFS	Witchita Falls	4.84	57	Pn	Pn	08 21 53.4	+0.4
WTFS				IAmb_Lg		08 23 20.3	
	comp=Z,8.7nm,1.2s						
FW07	Weatherford	4.94	71	IAmb_Lg		08 23 27.3	
	comp=Z,8.6nm,0.9s						
FW13	Cleburne	5.15	76	IAmb_Lg		08 23 29.4	
	comp=Z,11nm,0.8s						
WMOK	Wichita Mounta	5.20	46		Pn	08 21 59.6	+1.8
FW06	Azle	5.21	69	IAmb_Lg		08 23 37.6	
	comp=Z,8.5nm,0.8s						
RTBA	Rita Blanca	5.24	5	IAmb_Lg		08 23 37.3	
	comp=Z,9.6nm,0.8s						
FW14	Alvarado	5.36	76	IAmb_Lg		08 23 37.9	
	comp=Z,11nm,0.8s						
T25A	Trinidad	5.98	352	IAmb_Lg		08 24 03.3	
	comp=Z,7.8nm,1.0s						
FNO	Franklin	6.40	49	IAmb_Lg		08 24 14.2	
	comp=Z,7.0nm,0.7s						

*ASRS **08** 08:39:19.0±0.9, 54.°22N×87.°08E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 08:39:20.8±2.9, 54.°24N×87.°18E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=25.1km s-min=16.2km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.42	259	I	I	08 46 50.4	
	baz=80, slow=330, SNR=3.7						
ZALV	Zalesovo Beam	1.42	259	Pg	Pn	08 39 46.2	-1.6
	0.9nm, 0.3s, baz=74, slow=15, SNR=11						
ZALV				Lg	Lg	08 40 06.0	
	1.0nm, 0.3s, baz=75, slow=28, SNR=9.1						
KURBB	Kurchatov Arra	6.41	239	Pn	Pn	08 40 57.1	+0.8
	baz=54, slow=14, SNR=6.6						
KURBB				Lg	Lg	08 42 44.1	
	baz=52, slow=33, SNR=4.2						
	0.8nm, 0.6s						
MKAR	Makanchi Array	8.08	205	Pn	Pn	08 41 20.5	+1.2
	0.1nm, 0.3s, baz=27, slow=14, SNR=5.4						
MKAR				Sn	Sn	08 42 50.8	-0.5
	0.1nm, 0.3s, baz=23, slow=28, SNR=7.6						
MKAR				Lg	Lg	08 43 38.8	
	baz=28, slow=31, SNR=3.8						
	0.3nm, 0.5s						

*NEIC **08** 08:48:36.1±1.3, 18.°4N±0.°3×69.°07W±0.°06, h135km±7km, ML2.6/10, Md2.6/5(RSPR), Error ellipse: s-maj=40.1km s-min=4.7km az=190.0*
*RSPR **08** 08:48:37.0, 18.°57N×68.°97W, h135km±3km, MD2.5/5*
*OSPL **08** 08:48:37.6±0.4, 18.°37N×68.°95W, h146km±6km, ML2.7*
*SDD **08** 08:48:39.0±1.0, 18.°31N×68.°79W, h125km±15km, MD3.0, ML2.4, MW2.1*

ISC 08 08:48:38.3±1.7, 18.°3N±0.°1×68.°96W±0.°04, h119km±14km, n27, σ1°84/34, 14C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.59	68	Pn	Pn	08 48 55.3	-1.4
PCDR					Sn	08 49 12.5	+1.9
PCDR				IAML		08 49 30.8	
	comp=N,118nm,1.3s						
PCDR				IAML		08 49 41.7	
	comp=E,62nm,1.4s						
PCDR	Punta Cana, DR	0.59	68⇑	ePg	Pn	08 48 56.7	0.0
PCDR				IAML		08 49 34.0	
	comp=N,147nm,1.6s						
PCDR	Punta Cana, DR	0.59	68⇑	eP	Pn	08 48 56.8	+0.2
PCDR	Punta Cana, DR	0.59	68	iP	Pn	08 48 57.5	+0.8
PCDR				eS	Sn	08 49 12.5	+1.9
PCDR				IAML		08 49 16.5	
	comp=Z,86nm,1.6s						
DR12	Loma Pena Alta	0.63	321	Pn	Pn	08 48 56.5	-0.5
DR12				Sn	Sn	08 49 10.6	-0.7
HATOM	Hato Mayor del	0.63	321⇑	eSg	Sn	08 49 12.1	+0.9
MIDR	Miches	0.69	353⇑	ePg	Pn	08 48 57.3	-0.2
MIDR			⇑	eSg	Sn	08 49 12.3	+0.4
MIDR				IAML		08 49 44.8	
	comp=N,26nm,2.1s						
SMDR	Samana, DR	1.01	348⇑	eP	Pn	08 48 58.6	-1.7
SMDR	Samana, DR	1.01	348	eS	Sn	08 49 13.8	-3.2
BANI	BANI	1.33	275	Pn	Pn	08 49 01.7	-2.1
AGPR	Aguadilla, PR	1.77	84	Pn	Pn	08 49 08.1	-0.7
AGPR				IAML		08 50 04.2	
	comp=E,46nm,1.5s						
CRPR	Cabo Rojo, PR	1.79	99⇑	ePg	Pn	08 49 07.3	-1.7
CRPR				IAML		08 50 11.5	
	comp=N,45nm,1.8s						
CRPR	Cabo Rojo, PR	1.79	99⇑	eP	Pn	08 49 08.4	-0.6
CRPR	Cabo Rojo, PR	1.79	99	iP	Pn	08 49 08.6	-0.4
CRPR				IAML		08 49 40.9	
	comp=Z,46nm,2.5s						
LSP	Las Mesas	1.79	93		Pn	08 49 08.7	-0.4
LSP	Las Mesas	1.79	93⇑	eP	Pn	08 49 08.7	-0.4
MLPR	Magueyes Islan	1.85	100⇑	ePg	Pn	08 49 07.4	-2.4
MLPR				IAML		08 50 15.4	
	comp=N,9.5nm,1.9s						
AOPR	Arecibo Observ	2.10	88	Pn	Pn	08 49 13.0	0.0
AOPR					Sn	08 49 40.2	+0.7
AOPR				IAML		08 49 54.6	
	comp=N,21nm,1.5s						
AOPR				IAML		08 50 22.2	
	comp=E,26nm,1.3s						
AOPR	Arecibo Observ	2.10	88	eS	Sn	08 49 40.0	+0.5
UUPR	Utuado, UPR, P	2.13	91	Pn	Pn	08 49 13.8	+0.4
UUPR					Sn	08 49 40.0	-0.2
UUPR				IAML		08 50 36.7	
	comp=N,45nm,0.2s						
UUPR	Utuado, UPR, P	2.13	91⇑	eP	Pn	08 49 13.8	+0.4
UUPR	Utuado, UPR, P	2.13	91	eS	Sn	08 49 41.2	+1.1
CELP	Cerrillos	2.28	95	Pn	Pn	08 49 15.3	+0.1
LOVI	El Cajuil, Ovi	2.34	258	iP	Pn	08 49 15.5	-0.5
LOVI				eS	Sn	08 49 43.2	-1.6
LOVI				IAML		08 49 46.1	
	comp=Z,71nm,1.6s						
REDR	Restauracion	2.46	291⇑	ePg	Pn	08 49 23.1	+5.6
REDR			⇑	eSg	Sn	08 49 55.0	+7.4
REDR				IAML		08 50 02.3	
	comp=N,17nm,2.5s						
ECPR	Experimental S	2.47	89⇑	eP	Pn	08 49 16.3	-1.3
ECPR	Experimental S	2.47	89	eS	Sn	08 49 47.9	0.0

IDC 08 08:52:12.8±18.0, 3.°75S×149.°34E, h650km±259km, mb2.7/5, mbtmp3.6/5, Error ellipse: s-maj=266.0km s-min=43.6km az=100.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.75	221	P	P	08 56 20.7	+0.5
	0.2nm, 0.4s, baz=44, slow=10, SNR=5.2						
	0.2nm, 0.4s						
ASAR	Alice Springs	24.79	216	P	P	08 56 47.0	0.0
	0.2nm, 0.4s, baz=40, slow=9.2, SNR=4.0						
	0.2nm, 0.4s						
PETK	Petropavlovsk-	57.09	6	P	P	09 00 60.0	+0.6
	2.4nm, 0.9s, baz=180, slow=6.7, SNR=5.0						
	2.4nm, 0.9s						
ILAR	Eielson Array	82.51	23	P	P	09 03 28.7	-0.4
	1.5nm, 0.6s, baz=252, slow=5.3, SNR=18						
	1.5nm, 0.6s						
YKA	Yellowknife Ar	96.11	28	P	P	09 04 33.1	+0.5
	0.2nm, 0.7s, baz=264, slow=4.3, SNR=4.9						
	0.2nm, 0.7s						

*ASRS **08** 08:55:41.0±0.9, 53.°62N×87.°89E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 08 08:55:42.2±3.4, 53.°51N×87.°90E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=31.8km s-min=16.7km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.88	285	I	I	09 07 37.1	
	baz=99, slow=329, SNR=7.1						
ZALV	Zalesovo Beam	1.88	285	Pg	Pn	08 56 15.8	+0.3
	0.9nm, 0.3s, baz=103, slow=12, SNR=12						
ZALV				Lg	Lg	08 56 41.4	
	1.4nm, 0.3s, baz=103, slow=26, SNR=9.0						
KURBB	Kurchatov Arra	6.46	247	Pn	Pn	08 57 20.1	+1.7
	0.1nm, 0.3s, baz=63, slow=14, SNR=4.3						
	0.8nm, 0.4s						
MKAR	Makanchi Array	7.63	210	Pn	Pn	08 57 35.2	+0.7
	0.1nm, 0.3s, baz=31, slow=12, SNR=6.4						
MKAR				Lg	Lg	08 59 41.2	
	0.1nm, 0.3s, baz=27, slow=29, SNR=3.5						
	0.3nm, 0.4s						

*ISK **08** 09:06:47.4, 38.°43N×39.°03E, h13km, ML2.6/5*
*AFAD **08** 09:06:47.7, 38.°39N×39.°07E, h13km±1km, ML2.2*

ISC 08 09:06:48.0±1.0, 38.°41N±0.°03×39.°06E±0.°04, h15km±7km, n15, σ1°91/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.11	325	P	Pg	09 06 51.1	-0.5
ELZG				iAML	AML	09 06 53.0	
	comp=E,2μm,0.3s						
ELZG				S	Sb	09 06 53.8	-0.8
ELZG				iAML	AML	09 06 54.0	
	comp=N,2μm,0.5s						
MAYA	Malatya/Merkez	0.51	261	P	Pb	09 06 57.9	-0.8
MAYA				S	Sb	09 07 06.0	0.0
MAYA				iAML	AML	09 07 07.0	
	comp=N,487nm,0.3s						
MAYA				iAML	AML	09 07 07.0	
	comp=E,464nm,0.1s						
PTK	Pertek	0.55	28	Pg	Pg	09 06 58.6	-0.3
PTK				Sg	Sb	09 07 06.5	-0.7
NARI	Adyaman-Kaht	0.57	205	P	Pb	09 06 59.1	-0.7
NARI				S	Sg	09 07 06.9	-0.2
TNCL	Tunceli-Merkez	0.80	28	P	Pb	09 07 03.5	-0.2
TNCL				S	Sn	09 07 16.2	-0.4
TNCL				iAML	AML	09 07 22.0	
	comp=E,60nm,0.6s						
HANM	anlurfa/Hi	0.84	190	P	Pb	09 07 04.0	-0.4
HANM				S	Sn	09 07 16.4	-1.1
HANM				iAML	AML	09 07 20.0	
	comp=N,70nm,0.2s						
AZEY	Adyaman-Merk	0.88	227	P	Pb	09 07 05.1	+0.1
AZEY				S	Sn	09 07 18.7	+0.3
AZEY				iAML	AML	09 07 23.0	
	comp=E,54nm,0.6s						
AZEY				iAML	AML	09 07 25.0	
	comp=N,48nm,0.4s						
ARPR	Arapgir-MALATY	0.89	320	Pg	Pg	09 07 04.5	-0.8
ARPR				Sg	Sb	09 07 16.8	-0.2
KEMA	Kemaliye	0.97	333	P	Pg	09 07 05.8	-1.0
KEMA				iAML	AML	09 07 21.0	
	comp=E,56nm,0.3s						
KEMA				S	S	09 07 21.0	+1.8
KEMA				iAML	AML	09 07 23.0	
	comp=N,57nm,0.5s						
URFA	Urfa	0.98	191	Pg	Pn	09 07 07.3	-0.1
URFA				Sg	Sn	09 07 21.1	0.0
ATAB	Bozova	1.12	213	P	Pg	09 07 09.7	+0.1
ATAB				S	Sn	09 07 26.1	+1.8
ATAB				iAML	AML	09 07 27.0	
	comp=N,76nm,0.3s						
ATAB				iAML	AML	09 07 29.0	
	comp=E,100nm,0.5s						
DARE	Darende-Malaty	1.25	278	Pn	Pn	09 07 10.7	-0.4
MAZI	Mazidag	1.45	130	Pn	Pb	09 07 14.4	-0.3
SURC	SANLIURFA_SURC	1.57	193	P	Pn	09 07 15.2	-0.2
SURC				S	Sg	09 07 39.5	+1.0
SURC				iAML	AML	09 07 40.0	
	comp=N,28nm,0.5s						
SURC				iAML	AML	09 07 49.0	
	comp=E,30nm,0.4s						
KELT	Kelkit	1.74	5	P	Pg	09 07 20.9	-0.7
KELT				S	Sg	09 07 46.7	+2.4

*ASRS **08** 09:15:09.0±1.1, 54.°04N×86.°50E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

**IDC 08 09:15:12.5±2.5, 54.°03N×86.°51E, h0km, mbtmp3.0/2, ML2.8/2, Error ell

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.45**	**158**	LR	LR	09 27 24.3	
	comp=Z,42nm,18.7s,baz=348,slow=38						
WRA	**Warramunga Arr**	**32.63**	**162**	P	P	09 31 12.7	+1.6
	0.8nm,1.0s,baz=343,slow=9.4,SNR=2.6						
	0.8nm,1.0s						
ASAR	**Alice Springs**	**36.03**	**164**	P	P	09 31 38.5	-2.0
	0.6nm,0.9s,baz=351,slow=6.8,SNR=5.9						
	0.6nm,0.9s						
STKA	**Stephens Creek**	**46.09**	**159**	P	P	09 33 03.8	+0.7
	2.2nm,0.8s,baz=352,slow=11,SNR=4.2						
	2.2nm,0.8s						
MKAR	**Makanchi Array**	**49.87**	**323**	P	P	09 33 32.9	+0.5
	0.7nm,0.6s,baz=112,slow=8.8,SNR=8.3						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**53.98**	**326**	P	P	09 34 02.2	-0.7
	1.1nm,0.9s,baz=123,slow=7.1,SNR=5.6						
	1.1nm,0.9s						

*SJA **08** 09:29:58.6±1.8, 34°.67S×71°.93W, h27km±7km, ML3.5, MW3.4*
*GUC **08** 09:30:02.1±0.6, 34°.71S×71°.82W, h41km±1km, ML3.7*
ISC 08 09:30:01.9±2.1, 34°.72S±0°.03×71°.91W±0°.07, h36km±2km, n52, σ1§03/67, 5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.23**	**349**	⇑*i*P	**Pn**	**09 30 09.9**	**+0.1**
BO03				*e*S	**Sn**	**09 30 15.4**	**-1.0**
GO05	**Hualane**	**0.29**	**184**	*e*P	**Pn**	**09 30 10.0**	**+0.1**
GO05				*e*S	**Sn**	**09 30 16.3**	**0.0**
BO01	**Tunca**	**0.76**	**64**	⇓*i*P	**Pn**	**09 30 15.1**	**-1.0**
BO01	**Tunca**	**0.76**	**64**	*i*P	**Pn**	**09 30 14.4**	**-1.6**
BO01				*e*S	**Sn**	**09 30 25.0**	**-1.2**
BO01				IAML		09 30 25.4	
	comp=Z,2μm,0.2s						
BO02	**Sierra Bellavi**	**0.93**	**95**	⇓*i*P	**Pn**	**09 30 17.5**	**-1.0**
BO02				*e*S	**Sn**	**09 30 29.2**	**-1.5**
BO02	**Sierra Bellavi**	**0.93**	**95**	*i*P	**Pn**	**09 30 16.8**	**-1.7**
BO02				*e*S	**Sn**	**09 30 29.8**	**-0.9**
BO02				IAML		09 30 30.0	
	comp=Z,9μm,0.2s						
MT01	**Popeta**	**1.01**	**33**	*e*P	**Pn**	**09 30 18.8**	**-0.8**
MT01				*e*S	**Sn**	**09 30 32.3**	**-0.4**
MT01	**Popeta**	**1.01**	**33**	*i*P	**Pn**	**09 30 18.1**	**-1.5**
MT01				IAML		09 30 35.9	
	comp=Z,969nm,0.4s						
VA05	**Santo Domingo**	**1.09**	**13**	*e*P	**Pn**	**09 30 19.9**	**-0.8**
VA05				IAML		09 30 35.1	
	comp=N,2μm,0.3s						
ML02	**Panimavida**	**1.11**	**159**	*e*P	**Pn**	**09 30 21.2**	**+0.3**
ML02				*e*S	**Sn**	**09 30 35.5**	**+0.5**
ML02				IAML		09 30 37.0	
	comp=E,2μm,0.4s						
ML02	**Panimavida**	**1.11**	**159**	*i*P	**Pn**	**09 30 20.7**	**-0.2**
ML02				⇓*e*S	**Sn**	**09 30 31.8**	**-3.2**
ML02				IAML		09 30 40.5	
	comp=Z,802nm,0.5s						
MT09	**Talagante**	**1.21**	**39**	*e*P	**Pn**	**09 30 22.2**	**-0.3**
MT09				*e*S	**Sn**	**09 30 37.6**	**-0.2**
MT09				IAML		09 30 39.0	
	comp=N,4μm,0.3s						
BO04	**La Punta**	**1.30**	**56**	⇓*i*P	**Pn**	**09 30 23.2**	**-0.4**
BO04				*e*S	**Sn**	**09 30 39.3**	**-0.4**
BO04				IAML		09 30 41.4	
	comp=N,4μm,0.3s						
MT12	**Pirque**	**1.50**	**49**	*e*P	**Pn**	**09 30 26.1**	**-0.2**
MT12				*e*S	**Sn**	**09 30 44.5**	**-0.2**
MT12				IAML		09 30 50.7	
	comp=E,4μm,0.3s						
MT02	**Curacav**	**1.59**	**24**	⇑*i*P	**Pn**	**09 30 27.3**	**-0.3**
MT02	**Curacav**	**1.59**	**24**	*i*P	**Pn**	**09 30 26.6**	**-1.0**
MT02				⇓*e*S	**Sn**	**09 30 46.1**	**-0.8**
MT02				IAML		09 30 55.9	
	comp=Z,530nm,0.6s						
MT15	**Las Vizcachas**	**1.61**	**46**	*e*P	**Pn**	**09 30 27.8**	**-0.2**
MT15				*e*S	**Sn**	**09 30 47.2**	**-0.4**
MT15				IAML		09 30 49.5	
	comp=E,3μm,0.2s						
MT05	**Renca**	**1.65**	**36**	*e*P	**Pn**	**09 30 28.6**	**+0.2**
MT05				IAML		09 30 59.8	
	comp=E,2μm,0.2s						
MT05	**Renca**	**1.65**	**36**	*i*P	**Pn**	**09 30 28.0**	**-0.3**
MT05				IAML		09 30 55.3	
	comp=Z,736nm,0.5s						
LMEL	**Las Melosas**	**1.66**	**59**	⇓*i*P	**Pn**	**09 30 28.5**	**-0.1**
LMEL				*e*S	**Sn**	**09 30 48.3**	**-0.5**
LMEL				IAML		09 30 53.0	
	comp=E,3μm,0.1s						
LMEL	**Las Melosas**	**1.66**	**59**	*i*P	**Pn**	**09 30 27.9**	**-0.7**
LMEL				*e*S	**Sn**	**09 30 50.5**	**+1.7**
LMEL				IAML		09 30 51.4	
	comp=Z,1μm,0.7s						
MT13	**San Alfonso**	**1.66**	**54**	*e*P	**Pn**	**09 30 28.4**	**-0.3**
MT13				*e*S	**Sn**	**09 30 48.5**	**-0.3**
MT13				IAML		09 30 52.1	
	comp=E,2μm,0.3s						
MT13	**San Alfonso**	**1.66**	**54**	*i*P	**Pn**	**09 30 28.2**	**-0.4**
MT13				IAML		09 30 52.2	
	comp=Z,612nm,0.4s						
MT03	**Universidad Ad**	**1.69**	**44**	*e*P	**Pn**	**09 30 28.6**	**-0.3**
MT03				IAML		09 30 55.2	
	comp=N,3μm,0.2s						
MT03	**Universidad Ad**	**1.69**	**44**	*i*P	**Pn**	**09 30 28.3**	**-0.7**
MT03				IAML		09 30 52.6	
	comp=Z,1μm,0.2s						
MT16	**CCHEN**	**1.73**	**42**	*e*P	**Pn**	**09 30 29.4**	**-0.1**
MT16				IAML		09 30 57.5	
	comp=N,713nm,0.3s						
MT14	**Cerro Calın**	**1.75**	**41**	*e*P	**Pn**	**09 30 29.7**	**0.0**
MT14				IAML		09 30 57.2	
	comp=N,2μm,0.6s						
MT10	**Hacienda Santa**	**1.84**	**39**	⇑*i*P	**Pn**	**09 30 31.1**	**0.0**
MT10				IAML		09 31 04.8	
	comp=N,2μm,0.3s						
PEL	**Peldehue**	**1.88**	**33**	*e*P	**Pn**	**09 30 31.8**	**+0.3**
PEL				IAML		09 31 01.0	
	comp=N,701nm,0.3s						
FCH	**Farellones**	**1.93**	**44**	⇑*i*P	**Pn**	**09 30 32.3**	**-0.3**
FCH				IAML		09 31 01.7	
	comp=N,2μm,0.2s						
MT04	**Ro Olivares**	**1.97**	**49**	⇑*i*P	**Pn**	**09 30 33.2**	**+0.2**
MT04				IAML		09 31 03.2	
	comp=N,1μm,0.1s						
MT04	**Ro Olivares**	**1.97**	**49**	*i*P	**Pn**	**09 30 32.8**	**-0.2**
MT04				IAML		09 31 02.8	
	comp=Z,398nm,0.6s						
BI02	**San Fabin de**	**2.00**	**165**	*e*P	**Pn**	**09 30 34.2**	**+1.0**
BI02	**San Fabin de**	**2.00**	**165**	*i*P	**Pn**	**09 30 33.9**	**+0.6**
BI02				IAML		09 31 12.4	
	comp=Z,159nm,0.5s						
MT08	**Bocatoma Ro**	**2.02**	**51**	*e*P	**Pn**	**09 30 34.1**	**+0.4**
MT08				IAML		09 31 04.9	
	comp=N,503nm,0.5s						
MT08	**Bocatoma Ro**	**2.02**	**51**	*i*P	**Pn**	**09 30 33.8**	**+0.1**
MT08				IAML		09 31 06.1	
	comp=Z,356nm,0.5s						
VA03	**San Esteban**	**2.26**	**30**	*e*P	**Pn**	**09 30 36.9**	**0.0**
VA03				IAML		09 31 12.3	
	comp=E,805nm,0.3s						
VA03	**San Esteban**	**2.26**	**30**	*i*P	**Pn**	**09 30 36.4**	**-0.5**
VA03				IAML		09 31 18.0	
	comp=Z,374nm,0.3s						
BI05	**Punta Hualpn**	**2.27**	**207**	IAML		09 31 19.0	
	comp=E,290nm,0.6s						
AAGR	**Agrelo**	**3.04**	**58**	*i*P	**Pn**	**09 30 50.0**	**+2.5**
AAGR				IAML		09 31 48.4	
	comp=Z,50nm,1.1s						
ASAL	**Salagasta**	**3.33**	**51**	*i*P	**Pn**	**09 30 54.3**	**+2.7**
ASAL				IAML		09 31 54.2	
	comp=Z,34nm,2.1s						
CO02	**Combarbal**	**3.59**	**12**	*i*P	**Pn**	**09 30 54.4**	**-0.8**
CO02				IAML		09 32 07.3	
	comp=Z,100nm,0.7s						
RTLS	**Leoncito**	**3.65**	**38**	*i*P	**Pn**	**09 30 58.1**	**+2.0**
RTLS				IAML		09 31 57.9	
	comp=Z,196nm,1.1s						
CO03	**El Pedregal**	**4.01**	**15**	*i*P	**Pn**	**09 31 00.4**	**-0.5**
CO03				IAML		09 32 03.7	
	comp=Z,72nm,0.7s						
ZON	**Zonda**	**4.17**	**41**	*i*P	**Pn**	**09 31 04.7**	**+1.6**
ZON				IAML		09 32 25.3	
	comp=Z,37nm,2.4s						
CFA	**Coronel Fontan**	**4.38**	**46**	*i*P	**Pn**	**09 31 06.3**	**+0.4**
CFA				IAML		09 32 08.6	
	comp=Z,24nm,0.8s						
DOCA	**Reserva Natura**	**4.45**	**33**	*i*P	**Pn**	**09 31 07.1**	**-0.2**
DOCA				IAML		09 32 17.9	
	comp=Z,30nm,0.9s						
GO04	**Tololo Observa**	**4.63**	**12**	*i*P	**Pn**	**09 31 08.7**	**-1.0**
GO04				IAML		09 32 28.2	
	comp=Z,90nm,0.3s						
ACCO	**Cerro Coronel**	**4.77**	**31**	*i*P	**Pn**	**09 31 13.8**	**+2.2**
CO01	**Juntas del Tor**	**4.97**	**18**	*i*P	**Pn**	**09 31 14.5**	**+0.1**
CO01				IAML		09 32 33.8	
	comp=Z,16nm,0.3s						
AROD	**Rodeo**	**4.99**	**25**	*i*P	**Pn**	**09 31 16.0**	**+1.5**
ACDV	**Cuesta del Vie**	**5.12**	**28**	*i*P	**Pn**	**09 31 17.0**	**+0.9**
ACDV				IAML		09 32 30.9	
	comp=Z,22nm,0.5s						

*ASRS **08** 09:39:27.0±0.8, 54°.17N×87°.08E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 08 09:39:25.1±3.3, 54°.20N×87°.57E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=26.0km s-min=16.9km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**262**	I	I	09 48 30.0	
	baz=80,slow=330,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.64**	**262**	Pg	Pn	09 39 53.9	-1.2
	1.2nm,0.3s,baz=80,slow=15,SNR=11						
ZALV				Lg	Lg	09 40 18.4	
	1.6nm,0.3s,baz=78,slow=27,SNR=8.6						
KURBB	**Kurchatov Arra**	**6.59**	**241**	Pn	Pn	09 41 03.4	+0.3
	baz=60,slow=15,SNR=1.7						
KURBB				Sn	Sn	09 42 17.3	-1.5
	0.1nm,0.3s,baz=59,slow=25,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**8.14**	**206**	Pn	Pn	09 41 26.1	+1.6
	0.1nm,0.3s,baz=26,slow=13,SNR=6.5						
MKAR				Sn	Sn	09 42 56.6	-0.6
	0.1nm,0.3s,baz=23,slow=27,SNR=5.3						
	0.2nm,0.4s						

*SDD **08** 09:41:58.6±0.5, 18°.15N×71°.54W, h42km±5km, MD2.8, ML1.8, MW2.4*
*OSPL **08** 09:42:00.9±0.3, 18°.32N×71°.42W, h42km±6km, ML1.7*
ISC 08 09:41:59.5±1.2, 18°.29N±0°.04×71°.51W±0°.07, h27km±8km, n7, σ1§41/13, 6C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PODR	**Polo**	**0.25**	**120**	⇑*e*Pg	**Pb**	**09 42 05.8**	**-0.3**
PODR				⇑*e*Sg	**Sn**	**09 42 11.8**	**+1.2**
PODR	**Polo**	**0.25**	**120**	*i*P	**Pn**	**09 42 06.0**	**-1.6**
PODR				*e*S	**Sn**	**09 42 11.3**	**+0.6**
JIDR	**Jimani**	**0.38**	**301**	⇑*e*Pg	**Pn**	**09 42 08.2**	**-1.1**
JIDR				⇑*e*Sg	**Sn**	**09 42 14.9**	**-0.8**
LOBH	**Bahia de las A**	**0.45**	**196**	*i*P	**Pn**	**09 42 11.0**	**+0.8**
LOBH				*e*S	**Sn**	**09 42 18.2**	**+0.9**
LOBH				IAML		09 42 30.3	
	comp=Z,69nm,1.6s						
SDDR	**Presa de Saban**	**0.72**	**17**	⇑*e*Sg	**Sn**	**09 42 24.3**	**+0.2**
SDDR	**Presa de Saban**	**0.72**	**17**	*i*P	**Pn**	**09 42 13.1**	**-0.8**
SDDR				*e*S	**Sb**	**09 42 22.4**	**-0.5**
SDDR				IAML		09 42 23.2	
	comp=Z,18nm,2.4s						
REDR	**Restauracion**	**0.88**	**7**	⇑*e*Pg	**Pn**	**09 42 17.2**	**+1.2**
REDR				⇓*e*Sg	**Sn**	**09 42 30.7**	**+2.8**
REDR				IAML		09 42 31.2	
	comp=N,21nm,0.1s						

*ISK **08** 09:46:32.8, 38°.38N×39°.07E, h5km, ML3.7/21*
*AFAD **08** 09:46:33.0, 38°.39N×39°.08E, h16km±7km, ML3.7*
*IDC **08** 09:46:35.8±1.0, 38°.53N×38°.92E, h0km, mb3.6/7, mbtmp3.6/11, ML3.2/4, MS2.8/3, Error ellipse: s-maj=17.0km s-min=12.3km az=151.0*
ISC 08 09:46:34.7±1.2, 38°.38N±0°.02×39°.09E±0°.02, h0km±10km, n55, σ1§34/75, mb3.7/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAYA	**Malatya/Merkez**	**0.52**	**264**	P	**Pg**	**09 46 43.9**	**-0.9**
MAYA				S	**Sg**	**09 46 52.0**	**+0.4**
MAYA				*i* AML	AML	09 46 53.0	
	comp=N,1μm,0.3s						
MAYA				*i* AML	AML	09 46 53.0	
	comp=E,9μm,0.4s						
NARI	**Adyaman-Kaht**	**0.56**	**207**	P	**Pg**	**09 46 45.2**	**-0.2**
NARI				S	**Sg**	**09 46 52.9**	**+0.2**
PTK	**Pertek**	**0.56**	**25**	Pg	**Pg**	**09 46 44.3**	**-1.2**
PTK				Sg	**Sg**	**09 46 54.3**	**+1.5**
KOVA	**Elazig, Kovanc**	**0.65**	**60**	P	**Pg**	**09 46 46.3**	**-0.9**
KOVA				S	**Sb**	**09 46 59.0**	**+0.2**
HANM	**anlurfa/Hi**	**0.82**	**192**	P	**Pg**	**09 46 49.8**	**-0.5**
HANM				S	**Sn**	**09 47 05.3**	**-0.9**
HANM				*i* AML	AML	09 47 08.0	
	comp=N,2μm,0.3s						
AZEY	**Adyaman-Merk**	**0.87**	**229**	P	**Pg**	**09 46 51.1**	**-0.3**
ARPR	**Arapgir-MALATY**	**0.92**	**321**	Pg	**Pb**	**09 46 51.3**	**-2.3**
ARPR				Sg	**Sb**	**09 47 05.5**	**-1.0**
URFA	**Urfa**	**0.96**	**193**	Pg	**Pb**	**09 46 52.6**	**-1.7**
URFA				Sg	**Sg**	**09 47 06.6**	**+1.0**
HANI	**Diyarbakir_Han**	**1.03**	**88**	P	**Pb**	**09 46 53.8**	**-1.7**
HANI				S	**Sn**	**09 47 10.8**	**-0.9**
SANL	**SANLIURFA_Merk**	**1.21**	**184**	P	**Pn**	**09 46 57.3**	**-1.6**
SANL				*i* AML	AML	09 47 15.0	
	comp=E,2μm,0.6s						
SANL				S	**Sg**	**09 47 15.7**	**+2.1**
SANL				*i* AML	AML	09 47 16.0	
	comp=N,3μm,0.5s						
AKCA	**Adyaman/G¶l**	**1.25**	**242**	P	**Pn**	**09 46 58.1**	**-1.4**
AKCA				S	**Sg**	**09 47 18.1**	**+3.2**
AKCA				*i* AML	AML	09 47 23.0	
	comp=E,1μm,0.8s						
AKCA				*i* AML	AML	09 47 24.0	
	comp=N,2μm,1.0s						
DARE	**Darende-Malaty**	**1.27**	**279**	Pn	**Pn**	**09 46 57.1**	**-2.7**
DARE				Sn	**Sg**	**09 47 16.7**	**+1.1**
BNGB	**Bingl**	**1.39**	**63**	Pn	**Pn**	**09 47 00.6**	**-0.8**
BNGB				Sn	**Sb**	**09 47 20.8**	**+1.0**
MAZI	**Mazidag**	**1.42**	**130**	Pn	**Pn**	**09 47 00.4**	**-1.4**
CUGUR	**Gurin_SVAS**	**1.46**	**284**	P	**Pn**	**09 47 00.6**	**-1.9**
CUGUR				S	**Sg**	**09 47 24.0**	**+2.3**
CUGUR				*i* AML	AML	09 47 31.0	
	comp=E,823nm,0.5s						
SURC	**SANLIURFA_SURC**	**1.55**	**194**	P	**Pb**	**09 47 03.9**	**-0.3**
SURC				S	**Sg**	**09 47 25.8**	**+1.4**
SURC				*i* AML	AML	09 47 28.0	
	comp=N,748nm,0.5s						
SURC				*i* AML	AML	09 47 35.0	
	comp=E,698nm,0.4s						
YEDI	**Yedisu-Bingol**	**1.55**	**47**	Pn	**Pn**	**09 47 02.9**	**-0.8**
GZT	**Gaziantep**	**1.58**	**230**	P	**Pn**	**09 47 02.8**	**-1.3**
GZT				S	**Sg**	**09 47 27.4**	**+1.9**
GZT				*i* AML	AML	09 47 31.0	
	comp=N,706nm,0.9s						
GZT				*i* AML	AML	09 47 40.0	
	comp=E,626nm,0.8s						
SLHN	**Bingol, Solhan**	**1.62**	**69**	P	**Pn**	**09 47 04.7**	**0.0**
SLHN				S	**Sg**	**09 47 29.2**	**+2.4**
SVAN	**Silvan-Diyarba**	**1.68**	**97**	Pn	**Pn**	**09 47 04.7**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.68**	**97**	P	**Pn**	**09 47 03.6**	**-1.7**
SVAN				S	**Sb**	**09 47 27.8**	**-0.3**
NZIP	**Nizip/Gaziante**	**1.74**	**220**	P	**Pn**	**09 47 04.8**	**-1.5**
NZIP				S	**Sg**	**09 47 30.8**	**+0.1**
NZIP				*i* AML	AML	09 47 31.0	
	comp=E,598nm,0.6s						
KHMN	**Narli-Kahraman**	**1.82**	**238**	Pn	**Pn**	**09 47 06.4**	**-0.9**
KAHM	**Kahramanmaras,**	**1.87**	**243**	P	**Pn**	**09 47 07.2**	**-0.8**
KAHM				S	**Sg**	**09 47 37.7**	**+2.9**
GAZ	**Gaziantep**	**1.92**	**231**	Pn	**Pn**	**09 47 07.8**	**-0.8**
MUSM	**Mu-Merkez**	**1.93**	**79**	P	**Pn**	**09 47 07.7**	**-1.2**
MUSM				S	**Sb**	**09 47 35.1**	**-0.4**
KMRS	**Kahramanmaras**	**1.94**	**244**	Pn	**Pn**	**09 47 08.1**	**-0.8**
VRTB	**Varto-Mus**	**2.01**	**67**	Pn	**Pn**	**09 47 09.5**	**-0.5**
MIDY	**Mardin/Midyat-**	**2.07**	**117**	P	**Pn**	**09 47 10.5**	**-0.3**
MIDY				S	**Sb**	**09 47 39.2**	**-0.4**
MIDY				*i* AML	AML	09 47 48.0	
	comp=N,559nm,0.5s						
MIDY				*i* AML	AML	09 47 49.0	
	comp=E,674nm,0.7s						
SARI	**SarD1z-Kayseri**	**2.10**	**272**	Pn	**Pn**	**09 47 10.6**	**-0.6**
BAYT	**Aydıntepe-Bayb**	**2.17**	**22**	Pn	**Pn**	**09 47 11.9**	**-0.3**
SVSK	**Karacayir**	**2.23**	**314**	Pn	**Pn**	**09 47 12.6**	**-0.3**
SRTM	**Siirt_Merkez**	**2.27**	**99**	P	**Pn**	**09 47 11.1**	**-2.4**
SRTM				S	**Sb**	**09 47 47.1**	**+1.9**
GURO	**Guroymak-BITLI**	**2.32**	**85**	Pn	**Pn**	**09 47 13.9**	**-0.3**
RSDY	**Resadiye-TOKAT**	**2.43**	**326**	Pn	**Pn**	**09 47 15.4**	**-0.3**
ESPY	**Espiye-Giresun**	**2.55**	**354**	Pn	**Pn**	**09 47 17.1**	**-0.1**
KTUT	**Trabzon**	**2.65**	**11**	Pn	**Pn**	**09 47 18.7**	**0.0**
KOPR	**Koprukoy-ERZUR**	**2.68**	**52**	Pn	**Pn**	**09 47 19.2**	**-0.1**
PERV	**Siirt/Pervari-**	**2.76**	**98**	P	**Pn**	**09 47 19.3**	**-0.9**
PERV				S	**Sg**	**09 48 03.3**	**0.0**
TOKT	**Tokat**	**2.76**	**315**	Pn	**Pn**	**09 47 19.7**	**-0.5**
BRTR	**Keskin Array B**	**4.45**	**289**	Pn	**Pn**	**09 47 44.1**	**+0.7**
	2.0nm,0.3s,baz=114,slow=13,SNR=69						
BRTR				Lg	Lg	09 48 50.7	
	baz=119,slow=28						
	8.3nm,0.5s						
BEIL	**Beino**	**4.49**	**212**	*e*P	**Pn**	**09 47 43.6**	**-0.4**
KBZ	**Khabaz**	**6.07**	**27**	Pn	**Pn**	**09 48 07.1**	**+1.5**
	0.1nm,0.3s,baz=212,slow=14,SNR=1.8						
	0.5nm,0.6s						
MMAI	**Mount Meron Ar**	**6.14**	**210**	Pn	**Pn**	**09 48 08.6**	**+1.9**
	3.0nm,0.3s,baz=21,slow=12,SNR=6.9						
MMAI				Lg	Lg	09 49 53.1	
	2.0nm,0.3s,baz=24,slow=34,SNR=1.4						
	1.9nm,0.4s						
ASF	**Jabal al Asfar**	**6.45**	**197**	Pn	**Pn**	**09 48 13.6**	**+2.6**
	0.4nm,0.3s,baz=25,slow=19,SNR=5.0						
ASF				Lg	Lg	09 50 01.5	
	1.1nm,0.3s,baz=269,slow=4.6,SNR=5.8						
	4.9nm,0.6s						
EIL	**Elat**	**9.34**	**203**	LR	LR	09 51 51.3	
	comp=Z,20nm,19.5s,baz=249,slow=34						
GERES	**GERESS Array B**	**21.05**	**308**	P	**P**	**09 51 19.8**	**-0.4**
	0.9nm,0.6s,baz=120,slow=9.5,SNR=6.3						
	0.9nm,0.6s						
ARTI	**Arti**	**22.12**	**29**	P	**P**	**09 51 31.5**	**+0.1**
	1.6nm,0.6s,baz=9.5,slow=6.1,SNR=3.2						
	1.6nm,0.6s						
FINES	**FINESS Array B**	**24.46**	**345**	P	**P**	**09 51 55.3**	**+0.3**
	2.3nm,0.9s,baz=253,slow=13,SNR=1.5						
	2.3nm,0.9s						
BVAR	**Borovoye Array**	**26.05**	**46**	P	**P**	**09 52 11.7**	**+2.2**
	0.6nm,0.6s,baz=213,slow=10,SNR=2.0						
	0.6nm,0.6s						
HFS	**Hagfors**	**27.04**	**332**	P	**P**	**09 52 18.0**	**-0.3**
	1.1nm,0.6s,baz=137,slow=13,SNR=1.1						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**30.32**	**53**	P	**P**	**09 52 49.0**	**+1.5**
	1.0nm,0.6s,baz=263,slow=9.0,SNR=9.2						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**32.55**	**61**	P	**P**	**09 53 09.0**	**+1.7**
	0.1nm,0.5s,baz=254,slow=10,SNR=1.9						
	0.1nm,0.5s						
YAK	**Yakutsk**	**57.22**	**34**	LR	LR	10 23 50.0	
	comp=Z,16nm,19.4s,baz=218,slow=39						
KSRS	**Korea Array**	**67.22**	**60**	LR	LR	10 30 00.7	
	comp=Z,7.7nm,19.5s,baz=125,slow=39						

*SDD **08** 09:55:30.2±2.1, 18°.38N×69°.68W, h89km±19km, MD2.7, ML2.4, MW2.6*
*OSPL **08** 09:55:32.6±1.8, 18°.40N×69°.75W, h85km±11km, ML2.6*
ISC 08 09:55:31.5±1.6, 18°.43N±0°.07×69°.70W±0°.04, h76km±11km, n12, σ1§60/22, 8C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDD	**Santo Domingo**	**0.21**	**279**	*i*P	**Pn**	**09 55 43.1**	**+0.3**
SDD				⇓*e*S	**Sn**	**09 55 52.9**	**+1.8**
HATOM	**Hato Mayor del**	**0.47**	**40**	⇑*e*Pg	**Pn**	**09 55 43.5**	**-1.1**
HATOM				⇑*e*Sg	**Sn**	**09 55 54.2**	**0.0**
HATOM				IAML		09 55 55.2	
	comp=N,21nm,0.4s						
DR08	**Loma La Naviza**	**0.61**	**330**	⇑*e*Pg	**Pn**	**09 55 44.8**	**-1.2**
DR08				*e*Sg	**Sn**	**09 55 56.0**	**-0.7**
DR08				IAML		09 55 57.5	
	comp=N,2μm,0.1s						
BANI	**BANI**	**0.63**	**267**	⇑*e*Pg	**Pn**	**09 55 46.5**	**+0.3**
BANI				IAML		09 56 04.8	
	comp=N,70nm,1.2s						
MIDR	**Miches**	**0.83**	**48**	⇓*e*Pg	**Pn**	**09 55 47.0**	**-1.2**
MIDR				⇓*e*Sg	**Sn**	**09 56 00.1**	**-0.5**
MIDR				IAML		09 56 42.9	
	comp=N,24nm,1.4s						
NADR	**Nagua**	**0.93**	**351**	⇑*e*Pg	**Pn**	**09 55 48.1**	**-1.4**
NADR				⇑*e*Sg	**Sn**	**09 56 04.0**	**+1.1**
NADR				IAML		09 56 05.6	
	comp=N,206nm,0.6s						
PCDR	**Punta Cana, DR**	**1.25**	**86**	*i*P	**Pn**	**09 55 53.8**	**+0.3**
PCDR				*e*S	**Sn**	**09 56 12.1**	**+2.1**
PCDR				IAML		09 56 17.5	
	comp=Z,112nm,1.7s						
SDDR	**Presa de Saban**	**1.60**	**290**	⇑*e*Pg	**Pn**	**09 55 57.7**	**-0.4**
SDDR	**Presa de Saban**	**1.60**	**290**	*i*P	**Pn**	**09 55 57.9**	**-0.2**
SDDR				*e*S	**Sn**	**09 56 17.4**	**-0.9**
SDDR				IAML		09 56 20.5	
	comp=Z,17nm,2.9s						
LOVI	**El Cajuil, Ovi**	**1.71**	**249**	*i*P	**Pn**	**09 55 58.5**	**-0.8**
LOVI				*e*S	**Sn**	**09 56 19.4**	**-1.1**
LOVI				IAML		09 56 20.9	
	comp=Z,63nm,2.9s						
REDR	**Restauracion**	**1.77**	**295**	*e*Pg	**Pn**	**09 56 02.2**

1.6nm,0.2s
BVAR Borovoye Array 68.87 327 P P 10 50 48.1 -0.5
0.6nm,0.5s,baz=124,slow=7.4,SNR=3.8
0.6nm,0.5s

---

*BJI **08** 10:41:25.0,52.70N×167.00W,h10km,mB4.9/13, mb5.0/49,Ms4.5/13,Ms7 4.3/14*
*IDC **08** 10:41:26.1±0.6,52.74N×167.08W,h0km,mb4.6/31, mbtmp4.5/32,ML3.5/1,MS3.7/48,Error ellipse: s-maj=18.1km s-min=10.9km az=170.0*
*MOS **08** 10:41:27.4±0.9,52.79N×167.10W,h18km,mb5.2/38, Error ellipse: s-maj=11.4km s-min=5.7km az=107.9*
*BGR **08** 10:41:27.7,51.64N×166.25W,h33km,mb5.0,Hypocentre not reviewed by the ISC*
*NEIC **08** 10:41:31.5±1.6,52.76N±0.09×167.0W±0.1,h35km±1km, mb4.6/104,ML4.1/18,Error ellipse: s-maj=15.3km s-min=9.5km az=157.0*
ISC 08 10:41:29.7±0.4,52.71N±0.06×166.94W±0.05,h25km, n538,σ0.99/475,mb4.8/166,MS3.8/56,21C-26D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**1.16**	**13**		**Pn**	**10 41 50.4**	**0.0**
UNV				IAML		10 42 21.0	
	comp=N,2μm,0.8s						
NIKH	**Nikolski High**	**1.19**	**283**		**Pn**	**10 41 50.2**	**-0.6**
NIKH				IAML		10 42 18.3	
	comp=N,5μm,0.6s						
NIKH				IAML		10 42 18.4	
	comp=E,4μm,0.7s						
NIKH	**Nikolski High**	**1.19**	**283**	P	**Pn**	**10 41 50.6**	**-0.2**
LVA	**Lava Point**	**1.55**	**20**		**Pn**	**10 41 56.4**	**+0.7**
LVA				IAML		10 42 31.2	
	comp=E,4μm,0.6s						
AKUT	**Akutan**	**1.59**	**26**		**Pn**	**10 41 56.5**	**+0.4**
AKUT				IAML		10 42 33.3	
	comp=E,1μm,1.5s						
AKUT				IAML		10 42 36.7	
	comp=N,2μm,0.9s						
AKUT	**Akutan**	**1.59**	**26**	P	**Pn**	**10 41 56.6**	**+0.4**
FALS	**False Pass**	**2.99**	**43**		**Pn**	**10 42 16.0**	**+0.5**
FALS	**False Pass**	**2.99**	**43**	P	**Pn**	**10 42 16.1**	**+0.5**
ATKA	**Atka Island**	**4.47**	**266**		**Pn**	**10 42 35.9**	**0.0**
ATKA				IAML		10 43 29.0	
	comp=N,122nm,0.4s						
ATKA	**Atka Island**	**4.47**	**266**	P	**Pn**	**10 42 36.6**	**+0.8**
SDPT	**Sand Point**	**4.63**	**53**	Pn	**Pn**	**10 42 38.1**	**+0.1**
SDPT				IAML		10 43 31.2	
	comp=E,238nm,0.3s						
SDPT	**Sand Point**	**4.63**	**53**	P	**Pn**	**10 42 38.2**	**+0.2**
CNBA	**Chernabura Isl**	**4.84**	**61**	Pn	**Pn**	**10 42 40.1**	**-0.8**
CHNA	**Chernabura Isl**	**4.85**	**61**	P	**Pn**	**10 42 40.6**	**-0.4**
SPIA	**Saint Paul Isl**	**4.86**	**338**		**Pn**	**10 42 43.2**	**+2.0**
SPIA				IAML		10 43 21.5	
	comp=N,228nm,1.5s						
SPIA				IAML		10 43 50.0	
	comp=E,170nm,0.8s						
S14K	**Fog Glacier**	**5.59**	**47**	P	**Pn**	**10 42 50.4**	**-0.9**
	baz=233						
KIWB	**Kanaga Island**	**6.33**	**266**	Pn	**Pn**	**10 43 02.6**	**+1.3**
O14K	**Tigyukauivet M**	**7.28**	**24**	P	**Pn**	**10 43 14.4**	**0.0**
	baz=208						
CHIR	**Chirikof Islan**	**7.32**	**60**	P	**Pn**	**10 43 15.3**	**+0.4**
O15K	**Ungalikthiuk R**	**7.61**	**29**	P	**Pn**	**10 43 18.3**	**-0.5**
	baz=215						
N14K	**Kuskokwak Cree**	**7.79**	**20**	P	**Pn**	**10 43 21.5**	**+0.1**
	baz=204						
M13K	**Dall Lake**	**7.97**	**13**	P	**Pn**	**10 43 23.4**	**-0.3**
	baz=196						
SII	**Sitkinak Islan**	**8.34**	**57**	P	**Pn**	**10 43 29.4**	**+0.5**
N15K	**Kwethluk River**	**8.38**	**24**	P	**Pn**	**10 43 29.1**	**-0.3**
	baz=210						
O16K	**Kokwok River B**	**8.47**	**32**	P	**Pn**	**10 43 30.1**	**-0.6**
	baz=219						
ACHA	**Angle Creek He**	**8.59**	**46**	Pn	**Pn**	**10 43 33.9**	**+1.5**
M15K	**Kasigluk River**	**8.70**	**21**	P	**Pn**	**10 43 33.4**	**-0.4**
	baz=206						
L14K	**Kuka Creek**	**8.95**	**13**	P	**Pn**	**10 43 36.2**	**-1.1**
	baz=197						
N16K	**Nishlik Lake**	**8.98**	**27**	P	**Pn**	**10 43 36.9**	**-0.8**
	baz=214						
K13K	**Kusilvak Mount**	**9.33**	**7**	P	**Pn**	**10 43 41.9**	**-0.5**
	baz=188						
M16K	**Timber Creek**	**9.40**	**24**	P	**Pn**	**10 43 42.8**	**-0.6**
	baz=211						
L15K	**Ungalak Mounta**	**9.46**	**16**	P	**Pn**	**10 43 43.9**	**-0.3**
	baz=200						
N17K	**Nushagak Hills**	**9.49**	**31**	P	**Pn**	**10 43 44.1**	**-0.5**
	baz=219						
KDAK	**Kodiak Island**	**9.63**	**53**	Pn	**Pn**	**10 43 45.4**	**-1.2**
	comp=E,1.0nm,0.3s,baz=59,slow=7.1,SNR=16						
KDAK				Sn	**Sn**	**10 45 27.7**	**-6.1**
	baz=201,slow=6.8						
KDAK	**Kodiak Island**	**9.63**	**53**	*eP*	**Pn**	**10 43 45.1**	**-1.5**
N18K	**Kilae Creek**	**10.02**	**33**	P	**Pn**	**10 43 50.6**	**-1.4**
	baz=222						
K15K	**Wolf Creek Mou**	**10.03**	**15**	P	**Pn**	**10 43 51.4**	**-0.7**
	baz=199						
M17K	**Holitna River**	**10.12**	**27**	P	**Pn**	**10 43 52.4**	**-0.9**
	baz=215						
J14K	**Nanvaranak Lak**	**10.22**	**9**	P	**Pn**	**10 43 53.7**	**-1.0**
	baz=192						
L17K	**Donlin**	**10.52**	**23**	P	**Pn**	**10 43 57.6**	**-1.1**
	baz=210						
N19K	**Bonanza Creek**	**10.59**	**35**	P	**Pn**	**10 43 60.0**	**+0.1**
	baz=226						
M18K	**Stony River**	**10.66**	**30**	P	**Pn**	**10 44 00.1**	**-0.5**
	baz=219,SNR=5.1						
L18K	**Granite Mounta**	**10.99**	**26**	P	**Pn**	**10 44 05.4**	**+0.2**
	baz=214						
K17K	**Iditarod**	**11.03**	**21**	P	**Pn**	**10 44 05.8**	**+0.2**
	baz=208						
J16K	**Anvik River**	**11.11**	**15**	P	**Pn**	**10 44 06.3**	**-0.5**
	baz=200						
GAMB	**Gambell**	**11.37**	**349**		**Pn**	**10 44 11.4**	**+1.1**
M19K	**Big River Lodg**	**11.42**	**31**	P	**Pn**	**10 44 10.5**	**-0.5**
	baz=222						
J17K	**VABM Dome**	**11.48**	**18**	P	**Pn**	**10 44 10.9**	**-1.0**
	baz=205						
L19K	**White Mountain**	**11.48**	**30**	P	**Pn**	**10 44 12.3**	**+0.3**
	baz=220						
SHEM	**Shemya Is, Ala**	**11.50**	**278**	LR	LR	10 48 25.1	
	comp=E,395nm,20.8s,baz=109,slow=37						
TTA	**Tatalina**	**11.76**	**25**		**Pn**	**10 44 16.2**	**+0.5**
M20K	**Styx River**	**11.81**	**34**	P	**Pn**	**10 44 15.9**	**-0.6**
	baz=225						
L20K	**Farewell, AK**	**12.01**	**30**	P	**Pn**	**10 44 18.6**	**-0.5**
	baz=221,SNR=7.7						
STLK	**Strandline Lak**	**12.01**	**37**		**Pn**	**10 44 21.9**	**+2.8**
J18K	**Innoko River**	**12.04**	**22**	P	**Pn**	**10 44 18.6**	**-0.9**
	baz=211,SNR=6.2						
SUA	**Susitna One**	**12.39**	**39**		**Pn**	**10 44 24.0**	**-0.4**
G15K	**Niukluk**	**12.41**	**6**	P	**Pn**	**10 44 24.6**	**+0.1**
	baz=188						
RC01	**Rabbit Creek A**	**12.56**	**41**	Pn	**Pn**	**10 44 25.7**	**-1.0**
K20K	**Telida**	**12.63**	**27**	P	**Pn**	**10 44 26.9**	**-0.6**
	baz=218,SNR=14						
J19K	**Poorman**	**12.75**	**23**	P	**Pn**	**10 44 28.9**	**-0.2**
	baz=213,SNR=6.1						
H17K	**Granite Mounta**	**12.78**	**14**	P	**Pn**	**10 44 28.1**	**-1.5**
	baz=200,SNR=5.7						
F14K	**Arctic Creek**	**12.80**	**1**	P	**Pn**	**10 44 30.7**	**+0.8**
	baz=182						
PPLA	**Purkeypile**	**12.84**	**32**		**Pn**	**10 44 34.4**	**+3.7**
G16K	**Koyuk River**	**12.93**	**9**	P	**Pn**	**10 44 32.0**	**+0.4**
	baz=192						
PWL	**Port Wells**	**13.02**	**44**	Pn	**Pn**	**10 44 31.3**	**-1.5**
PMR	**Palmer**	**13.09**	**40**	Pn	**Pn**	**10 44 33.7**	**-0.1**
G17K	**Kiwalik Mounta**	**13.22**	**12**	P	**Pn**	**10 44 35.4**	**-0.1**
	baz=197						
H18K	**Honhosa River**	**13.22**	**16**	P	**Pn**	**10 44 35.3**	**-0.2**
	baz=203						
CAST	**Castle Rocks**	**13.26**	**30**	Pn	**Pn**	**10 44 39.1**	**+2.9**
KNK	**Knik Glacier**	**13.26**	**42**		**Pn**	**10 44 35.0**	**-1.1**
J20K	**Nowinta River**	**13.27**	**25**	P	**Pn**	**10 44 36.3**	**+0.1**
	baz=216						
I20K	**Naaghedeneel**	**13.69**	**23**	P	**Pn**	**10 44 41.6**	**-0.4**
	baz=214,SNR=5.4						
KTH	**Kantishna Hill**	**13.72**	**31**		**Pn**	**10 44 44.2**	**+1.8**
TRF	**Thorofare Moun**	**13.85**	**33**		**Pn**	**10 44 45.1**	**+0.8**
G18K	**Tagagawik**	**13.86**	**14**	P	**Pn**	**10 44 43.7**	**-0.6**
	baz=201						
H19K	**Roundabout Mou**	**13.90**	**18**	P	**Pn**	**10 44 43.9**	**-0.9**
	baz=207,SNR=26						
SCM	**Sheep Creek Mo**	**13.94**	**41**		**Pn**	**10 44 44.2**	**-1.3**
F17K	**Baldwin Pennin**	**14.06**	**9**	P	**Pn**	**10 44 47.0**	**0.0**
	baz=194						
BPAW	**Bear Paw Mtn.**	**14.09**	**30**	Pn	**Pn**	**10 44 48.8**	**+1.4**
H20K	**Anotleneega Mo**	**14.19**	**21**	P	**Pn**	**10 44 48.1**	**-0.8**
	baz=211,SNR=26						
RND	**Reindeer**	**14.30**	**34**	Pn	**Pn**	**10 44 52.9**	**+2.4**
G19K	**Purcell Mounta**	**14.34**	**16**	P	**Pn**	**10 44 51.5**	**+0.6**
	baz=205						
KLU	**Klutina**	**14.35**	**44**		**Pn**	**10 44 48.3**	**-2.7**
BMRM	**Bremner River**	**14.69**	**47**		**Pn**	**10 44 53.0**	**-2.6**
H21K	**Melozitna Rive**	**14.80**	**23**	P	**Pn**	**10 44 57.3**	**+0.1**
	baz=216,SNR=40						
F19K	**Shaleruckik Mo**	**14.87**	**14**	P	**Pn**	**10 44 58.7**	**+0.7**
	baz=202						
E18K	**Tukpahlearik C**	**15.08**	**9**	P	**Pn**	**10 45 00.4**	**-0.3**
	baz=195						
H22K	**Ishtalitna Cre**	**15.35**	**25**	P	**Pn**	**10 45 03.8**	**-0.6**
	baz=218						
G21K	**Allakaket**	**15.36**	**21**	P	**Pn**	**10 45 04.6**	**0.0**
	baz=212						
F20K	**Avaraart Lake**	**15.40**	**17**	P	**Pn**	**10 45 05.6**	**+0.6**
	baz=206,SNR=14						
E19K	**Redstone River**	**15.53**	**14**	P	**Pn**	**10 45 06.5**	**-0.2**
	baz=202						
COLA	**College**	**15.60**	**31**		**Pn**	**10 45 09.0**	**+1.3**
COLA	**College**	**15.60**	**31**	*c iP*	**Pn**	**10 45 08.5**	**+0.8**
C16K	**Lisburne Hills**	**15.63**	**2**	P	**Pn**	**10 45 08.6**	**+0.6**
	baz=184						
ILAR	**Eielson Array**	**15.85**	**33**	Pn	**Pn**	**10 45 09.2**	**-1.6**
	comp=E,0.2nm,0.3s,baz=228,slow=12,SNR=17						
ILAR				LR	LR	10 51 40.7	
	comp=E,344nm,20.6s,baz=222,slow=39						
	comp=E,1.0nm,0.6s						
RIDG	**Independent Ri**	**15.94**	**38**	Pn	**Pn**	**10 45 12.9**	**+0.9**
F21K	**Alatna River**	**15.97**	**19**	P	**Pn**	**10 45 11.6**	**-0.9**
	baz=211						
M26K	**Nabesna, AK**	**15.99**	**43**	P	**Pn**	**10 45 12.8**	**0.0**
	baz=244						
G22K	**Bettles**	**16.14**	**22**	P	**Pn**	**10 45 14.0**	**-0.6**
	baz=216						
C18K	**Utukok River**	**16.22**	**8**	P	**Pn**	**10 45 15.5**	**-0.2**
	baz=192						
J25K	**Salcha River,**	**16.26**	**34**	P	**Pn**	**10 45 16.5**	**+0.3**
	baz=233,SNR=13						
H24K	**Noodor Dome**	**16.26**	**29**	P	**Pn**	**10 45 15.5**	**-0.7**
	baz=225,SNR=12						
G23K	**Bananza Creek**	**16.33**	**24**	P	**Pn**	**10 45 16.7**	**-0.4**
	baz=219						
D19K	**Kuna River**	**16.38**	**12**	P	**Pn**	**10 45 18.1**	**+0.4**
	baz=199						
SCRK	**Sand Creek**	**16.39**	**38**	Pn	**Pn**	**10 45 17.9**	**0.0**
SCRK				IAmb	IAmb	10 45 20.4	
	comp=Z,18nm,0.5s						
E20K	**Nigu River**	**16.42**	**14**	P	**Pn**	**10 45 18.1**	**-0.1**
	baz=204						
M27K	**Edge Creek, AK**	**16.45**	**44**	P	**Pn**	**10 45 18.6**	**0.0**
	baz=246						
F22K	**John River**	**16.48**	**20**	P	**Pn**	**10 45 19.6**	**+0.7**
	baz=213						
O28M	**Mount Upton**	**16.64**	**50**	P	**Pn**	**10 45 21.4**	**+0.1**
	baz=253						
PRP	**Porcupine Dome**	**16.77**	**32**	Pn	**Pn**	**10 45 23.3**	**+0.6**
L27K	**Beaver Creek,**	**16.77**	**42**	P	**Pn**	**10 45 22.2**	**-0.5**
	baz=243						
D20K	**Ettiviuk River**	**16.78**	**13**	P	**Pn**	**10 45 22.7**	**-0.1**
	baz=202						
BCAR	**Beaver Creek A**	**16.79**	**42**	P	**P**	**10 45 24.8**	**-0.2**
J26L	**Joseph Creek**	**16.83**	**36**	P	**Pn**	**10 45 23.6**	**+0.2**
	baz=236,SNR=26						
B18K	**Kokolik River**	**16.88**	**6**	P	**Pn**	**10 45 24.1**	**+0.2**
	baz=191						
E21K	**Killik River**	**16.95**	**17**	P	**Pn**	**10 45 24.3**	**-0.6**
	baz=208						
G24K	**Hadweenzic Riv**	**17.00**	**27**	P	**Pn**	**10 45 25.0**	**-0.4**
	baz=224						
K27K	**Chicken**	**17.13**	**39**	P	**Pn**	**10 45 27.2**	**0.0**
	baz=240						
O29M	**Mount Kennedy**	**17.29**	**53**	P	**Pn**	**10 45 29.5**	**+0.3**
	baz=257						
G25K	**Bearman Lake**	**17.43**	**28**	P	**Pn**	**10 45 31.1**	**+0.3**
	baz=226						
C21K	**Knifeblade Rid**	**17.46**	**15**	P	**Pn**	**10 45 31.6**	**+0.5**
	baz=205						
F24K	**Squaw Lake**	**17.49**	**25**	P	**P**	**10 45 32.8**	**+0.2**
	baz=221						
E23K	**Chandalar**	**17.50**	**22**	P	**P**	**10 45 32.9**	**+0.1**
	baz=217						
P29M	**Windy Craggy**	**17.56**	**55**	P	**P**	**10 45 33.4**	**0.0**
	baz=260						
D22K	**Ayikyak River**	**17.56**	**17**	P	**Pn**	**10 45 32.9**	**+0.4**
	baz=210						
A19K	**Wainwright**	**17.76**	**7**	P	**P**	**10 45 35.5**	**0.0**
	baz=192						
E24K	**Your Creek**	**17.77**	**23**	P	**Pn**	**10 45 35.4**	**+0.4**
	baz=219						
B21K	**Ikpikpuk River**	**17.91**	**14**	P	**P**	**10 45 37.8**	**+0.7**
	baz=205						
HYT	**Haines Junctio**	**17.92**	**51**	P	**P**	**10 45 41.0**	**+3.5**
HYT				IAmb	IAmb	10 45 46.4	
	comp=Z,26nm,0.7s						
B20K	**Meade River**	**17.93**	**11**	P	**P**	**10 45 38.1**	**+0.8**
	baz=200						
M29M	**Somme Creek**	**17.95**	**46**	P	**Pn**	**10 45 36.0**	**-1.4**
	baz=250,SNR=14						
D23K	**Nanushuk River**	**18.01**	**19**	P	**P**	**10 45 38.8**	**+0.5**
	baz=213						
P30M	**Million Dollar**	**18.04**	**54**	P	**Pn**	**10 45 38.0**	**-0.4**
	baz=259						
I27K	**Kandik River**	**18.13**	**35**	P	**Pn**	**10 45 39.8**	**+0.3**
	baz=237,SNR=5.5						
F25K	**Christian Rive**	**18.14**	**27**	P	**P**	**10 45 40.2**	**+0.5**
	baz=225						
DAWY	**Dawson**	**18.20**	**41**	P	**Pn**	**10 45 40.2**	**-0.1**
G26K	**Porcupine Rive**	**18.23**	**30**	P	**P**	**10 45 41.1**	**+0.3**
	baz=230						
N30M	**Aishikik Lake**	**18.28**	**50**	P	**Pn**	**10 45 41.0**	**-0.4**
	baz=255,SNR=8.8						
BMAR	**Burnt Mountain**	**18.32**	**28**	P	**P**	**10 45 41.6**	**-0.1**
L29M	**L29M**	**18.33**	**44**	P	**P**	**10 45 42.1**	**+0.2**
	baz=249,SNR=12						
H27K	**Steamboat Moun**	**18.51**	**33**	P	**P**	**10 45 42.9**	**-1.0**
	baz=235						
F26K	**Sheenjek River**	**18.62**	**28**	P	**P**	**10 45 44.5**	**-0.6**
	baz=228						
I28M	**Miner Creek**	**18.64**	**36**	P	**P**	**10 45 45.4**	**0.0**
	baz=240,SNR=16						
B22K	**Teshekpuk Lake**	**18.74**	**14**	P	**P**	**10 45 45.4**	**-0.8**
	baz=206						
SKAG	**Skagway**	**18.75**	**56**	P	**Pn**	**10 45 47.7**	**+0.8**
SKAG				IAmb	IAmb	10 45 49.8	
	comp=Z,18nm,0.7s						
C23K	**Itkillik River**	**18.76**	**18**	P	**P**	**10 45 46.8**	**+0.2**
	baz=212						
G27K	**Doyon Strip**	**18.81**	**32**	P	**P**	**10 45 46.7**	**-0.4**
	baz=234						
J29N	**Klondike Camp**	**18.83**	**40**	P	**Pn**	**10 45 48.0**	**+0.1**
	baz=245						
K29M	**Barlow Dome**	**18.86**	**42**	P	**P**	**10 45 48.2**	**+0.4**
	baz=248,SNR=21						
A22K	**Sinclair Lake**	**19.13**	**12**	P	**P**	**10 45 50.7**	**+0.2**
	baz=203						
WHY	**Whitehorse**	**19.15**	**53**	IAmb	IAmb	10 46 10.3	
	comp=Z,58nm,1.1s						
I29M	**Ogilvie Camp,**	**19.20**	**38**	P	**P**	**10 45 50.8**	**-0.5**
	baz=242						
D25K	**Kavik River**	**19.23**	**22**	P	**P**	**10 45 51.9**	**+0.2**
	baz=220						
H29M	**Whitestone**	**19.59**	**35**	P	**P**	**10 45 55.1**	**-0.5**
	baz=240,SNR=15						
J30M	**Hart River**	**19.62**	**41**	P	**P**	**10 45 55.9**	**-0.2**
	baz=247						
E27K	**Coleen River**	**19.67**	**28**	P	**P**	**10 45 56.1**	**-0.5**
	baz=231						
M31M	**Drury Creek, Y**	**19.70**	**48**	P	**P**	**10 45 56.4**	**-0.5**
	baz=256						
I30M	**Mount Dempster**	**19.86**	**39**	P	**P**	**10 45 58.1**	**-0.7**
	baz=246,SNR=15						
BILL	**Bilibino**	**20.01**	**330**		**P**	**10 46 00.8**	**+0.6**
BILL	**Bilibino**	**20.01**	**330**	*eP*	**P**	**10 46 00.3**	**+0.1**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
C26K	**Camden Bay**	**20.02**	**22**	P	**P**	**10 46 00.6**	**+0.4**
	baz=222						
G29M	**Pine Creek**	**20.06**	**34**	P	**P**	**10 46 00.6**	**-0.2**
	baz=239						
C27K	**Jago River**	**20.09**	**24**	P	**P**	**10 46 00.6**	**-0.4**
	baz=224						
N32M	**Quiet Lake**	**20.10**	**52**	P	**P**	**10 46 01.3**	**0.0**
	baz=260						
Q32M	**Nakina River**	**20.27**	**58**	P	**P**	**10 46 03.3**	**0.0**
	baz=267						
D27M	**Malcolm River**	**20.53**	**26**	P	**P**	**10 46 06.5**	**+0.6**
	baz=229						
E28M	**Babbage River**	**20.53**	**29**	P	**P**	**10 46 05.1**	**-0.7**
	baz=233						
G30M	**tAoh Zraii Nji**	**20.71**	**35**	P	**P**	**10 46 06.6**	**-1.3**
	baz=242						
H31M	**Peel River**	**20.88**	**39**	P	**P**	**10 46 08.3**	**-1.3**
	baz=247						
E29M	**Blow River**	**20.90**	**30**	P	**P**	**10 46 09.3**	**-0.5**
	baz=236						
R33M	**Jennings River**	**20.96**	**57**	P	**P**	**10 46 10.4**	**-0.3**
	baz=267,SNR=7.5						
F30M	**Barrier River**	**21.16**	**33**	P	**P**	**10 46 12.0**	**-0.6**
	baz=241						
D28M	**Stokes Point**	**21.20**	**28**	P	**P**	**10 46 13.2**	**+0.2**
	baz=233						
PEA0B	**Petropavlovsk-**	**21.20**	**285**	*eP*	**P**	**10 46 12.5**	**-0.7**
PETK	**Petropavlovsk-**	**21.20**	**285**	P	**P**	**10 46 13.8**	**+0.5**
PETK	**Petropavlovsk-**	**21.20**	**285**	P	**P**	**10 46 12.9**	**-0.4**
	comp=Z,22nm,0.5s,baz=85,slow=14,SNR=28						
PETK				LR	LR	10 55 04.0	
	comp=Z,158nm,20.2s,baz=86,slow=39						
	comp=Z,22nm,0.5s						
DLBC	**Dease Lake**	**21.43**	**60**	P	**P**	**10 46 14.3**	**-1.4**
	baz=271						
INK	**Inuvik**	**22.25**	**33**	P	**P**	**10 46 23.5**	**-0.8**
	baz=242						
SKR	**Severo-Kuril's**	**22.83**	**280**	*eP*	**P**	**10 46 30.0**	**-0.6**
SEY	**Seymchan**	**23.54**	**312**	*eP*	**P**	**10 46 36.8**	**-0.8**
SEY				pmax	pmax		
	comp=Z,28nm,1.3s						
MA2	**Magadan**	**24.19**	**303**	P	**P**	**10 46 44.0**	**+0.2**
MA2				IAmb	IAmb	10 46 45.0	
	comp=Z,21nm,0.7s						
MA2	**Magadan**	**24.19**	**303**	LR	LR	10 56 11.8	
	comp=Z,172nm,18.3s,baz=106,slow=37						
MA2	**Magadan**	**24.19**	**303**	*d iP*	**P**	**10 46 43.6**	**-0.2**
MA2				pmax	pmax		
	comp=Z,11nm,0.7s						
MA2	**Magadan**	**24.19**	**303**	P	**P**	**10 46 43.6**	**-0.2**
	comp=Z,33nm,0.8s						
YKA	**Yellowknife Ar**	**28.89**	**50**	P	**P**	**10 47 27.3**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=272,slow=8.8,SNR=28						
YKA				PcP	**PcP**	**10 50 34.9**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=288,slow=2.2,SNR=8.4						
YKA				LR	LR	11 01 10.5	
	comp=Z,161nm,19.5s,baz=312,slow=41						
	comp=Z,0.8nm,0.6s						
NEW	**Newport**	**31.48**	**78**	LR	LR	10 59 36.8	
	comp=Z,76nm,18.9s,baz=291,slow=35						
YBH	**Yreka Blue Hor**	**31.50**	**92**	LR	LR	10 57 41.1	
	comp=Z,110nm,20.8s,baz=296,slow=31						
I07A	**Izee**	**32.13**	**86**	IAmb	IAmb	10 48 10.7	
	comp=Z,6.2nm,0.9s						
YSS	**Yuzhno-Sakhali**	**32.40**	**280**	P	**P**	**10 47 58.4**	**+1.2**
YSS				IAmb	IAmb	10 48 00.1	
	comp=Z,9.9nm,0.6s						
YSS	**Yuzhno-Sakhali**	**32.40**	**280**	*eP*	**P**	**10 47 57.4**	**+0.2**
YSS				S	**S**	**10 53 07.0**	**-2.8**
YSS				pmax	pmax		
	comp=Z,100nm,0.7s						
JKA	**Kamikawa-asahi**	**33.95**	**276**	P	**P**	**10 48 10.7**	**-0.1**
ASAJ	**Asahikawa**	**33.96**	**276**	P	**P**	**10 48 10.0**	**-0.8**
	comp=Z,22nm,1.1s,baz=69,slow=5.4,SNR=8.8						
ASAJ				LR	LR	11 00 02.8	
	comp=Z,115nm,21.6s,baz=85,slow=33						
	comp=Z,22nm,1.1s						
YAK	**Yakutsk**	**34.06**	**311**	LR	LR	11 02 26.4	
	comp=Z,220nm,18.6s,baz=88,slow=37						
YAK	**Yakutsk**	**34.06**	**311**	*eP*	**P**	**10 48 10.0**	**-1.5**
YAK				pmax	pmax		
	comp=Z,21nm,0.5s						
GRNR	**Gornyy**	**34.36**	**290**	*iP*	**P**	**10 48 13.5**	**-0.7**
GRNR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,90nm,10.0s						
GRNR				MLR	MLR		
	comp=N,170nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,110nm,15.0s						
PNTR	**Pine Nut**	**34.99**	**94**	P	**P**	**10 48 23.3**	**+3.2**
PNTR				IAmb	IAmb	10 48 46.1	
	comp=Z,10nm,0.8s						
RYN	**Ryan**	**35.93**	**93**	IAmb	IAmb	10 48 36.4	
	comp=Z,5.7nm,1.1s						
EGMT	**Eagleton**	**35.94**	**74**	P	**P**	**10 48 29.2**	**+1.2**
EGMT				IAmb	IAmb	10 48 44.2	
	comp=Z,20nm,1.1s						
NVAR	**Mina Array Bea**	**36.19**	**93**	P	**P**	**10 48 31.3**	**+0.9**
NVAR	**Mina Array Bea**	**36.19**	**93**	P	**P**	**10 48 31.8**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=301,slow=8.6,SNR=12						
NVAR				PcP	**PcP**	**10 50 55.8**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=277,slow=3.0,SNR=3.8						
	comp=Z,1.8nm,0.7s						
NV11	**Mina Array Sit**	**36.28**	**93**	IAmb	IAmb	10 48 44.3	
	comp=Z,6.1nm,1.3s						
ELK	**Elko**	**36.63**	**88**	LR	LR	11 01 35.5	
	comp=Z,124nm,19.1s,baz=302,slow=33						
YHL	**Hebgen Lake**	**36.74**	**79**	P	**P**	**10 48 35.6**	**+0.6**
YHL				IAmb	IAmb	10 48 42.6	
	comp=Z,10nm,1.4s						
EUNU	**Eureka**	**36.97**	**17**	P	**P**	**10 48 36.1**	**-0.3**
YHH	**Holmes Hill**	**36.97**	**79**	P	**P**	**10 48 37.6**	**+0.5**
KLR	**Kul'dur**	**37.74**	**290**	P	**P**	**10 48 42.4**	**-0.8**
	comp=Z,2.4nm,0.4s,baz=68,slow=8.9,SNR=11						
KLR				LR	LR	11 05 21.0	
	comp=Z,165nm,18.8s,baz=68,slow=38						
	comp=Z,2

comp=Z,29nm,1.2s
MJB9 Matsu-Tunnel 41.19 269 IAmb IAmb 10 49 26.4
comp=Z,20nm,0.9s
O20A White River Ci 41.24 84 P **P** **10 49 12.6 -0.1**
O20A IAmb IAmb 10 49 31.0
comp=Z,9.7nm,0.8s
MSHR Mys Shultsa 41.70 282*c iP* **P** **10 49 15.9 -0.2**
MSHR pmax pmax
comp=Z,38nm,0.8s
PV10 Paradox Valley 41.86 86 IAmb IAmb 10 49 37.0
comp=Z,7.4nm,1.0s
PSTR Posyet 41.87 282⇓*eP* **P** **10 49 17.9 +0.4**
PV11 David Mesa, Pa 42.01 86 IAmb IAmb 10 49 31.9
comp=Z,6.2nm,0.9s
BNX BinXian 42.09 288 ⇓P **P** **10 49 18.2 -1.1**
BNX pmax pmax
comp=Z,11nm,0.8s
PV13 Radium Mtn., P 42.13 86 IAmb IAmb 10 49 39.7
comp=Z,7.1nm,0.8s
JHJ Hachijo jima 2 42.54 264 LR LR 11 04 46.5
comp=Z,45nm,21.2s,baz=106,slow=33
NEEM North Greenlan 44.25 16 *i* P **P** **10 49 36.7 0.0**
NEEM IAmb IAmb 10 49 37.6
comp=Z,37nm,0.6s
CN2 Changchun 44.34 287 *eP* **P** **10 49 36.8 -0.7**
CN2 *eS* **S** **10 56 07.9 -2.2**
CN2 pmax pmax
comp=Z,30nm,0.6s
CN2 pmax pmax
comp=Z,90nm,4.0s
CN2 LR LR
comp=Z,90nm,15.0s
CN2 LR LR
comp=Z,120nm,15.0s
CN2 LR LR
comp=Z,140nm,17.0s
KULLO Kullorsuaq 44.78 21 *i* P **P** **10 49 41.2 +0.5**
KULLO IAmb IAmb 10 49 41.7
comp=Z,10nm,0.7s
NOR Nord 44.98 6 *i* P **P** **10 49 42.1 -0.1**
NOR IAmb IAmb 10 49 43.2
comp=Z,14nm,1.2s
T25A Trinidad 45.46 84 IAmb IAmb 10 49 49.4
comp=Z,8.3nm,1.1s
ANMO Albuquerque 45.67 88 LR LR 11 07 09.2
comp=Z,95nm,18.7s,baz=98,slow=34
ANMO Albuquerque 45.67 88⇑*eP* **P** **10 49 49.6 +1.2**
ANMO pmax pmax
comp=Z,2.0nm,1.4s
UPNV Upernavik 46.11 23 *i* P **P** **10 49 51.4 +0.3**
UPNV IAmb IAmb 10 49 52.2
comp=Z,8.9nm,0.6s
NRIK Noril'sk 46.82 332 P **P** **10 49 56.2 -0.6**
NRIK IAmb IAmb 10 49 57.8
comp=Z,19nm,1.4s
NRIK Noril'sk 46.82 332 P **P** **10 49 56.9 0.0**
comp=Z,4.0nm,0.7s,baz=58,slow=6.1,SNR=8.5
NRIK LR LR 11 12 19.6
comp=Z,154nm,18.3s,baz=96,slow=40
comp=Z,4.0nm,0.7s
NRIK Noril'sk 46.82 332*c iP* **P** **10 49 56.3 -0.6**
NRIK pmax pmax
comp=Z,14nm,1.4s
KSRS Korea Array 46.83 278 P **P** **10 49 57.2 0.0**
comp=Z,9.2nm,0.8s,baz=52,slow=7.7,SNR=26
KSRS PcP **PcP** **10 51 30.9 +1.0**
comp=Z,2.5nm,0.8s,baz=64,slow=4.0,SNR=4.3
KSRS LR LR 11 10 16.3
comp=Z,43nm,19.8s,baz=65,slow=37
comp=Z,9.2nm,0.8s
KSAR Wonju Array Be 46.87 278 P **P** **10 49 56.3 -1.2**
NUUG Nuugaatsiaq 47.60 23 *i* P **P** **10 50 03.3 +0.5**
NUUG IAmb IAmb 10 50 04.0
comp=Z,10nm,0.6s
TJN Taejon 47.88 277 P **P** **10 50 06.0 +0.6**
TJN Taejon 47.88 277*d iP* **P** **10 50 06.0 +0.6**
JNU Nakatsue 47.95 272 P **P** **10 50 05.5 -0.6**
comp=Z,7.0nm,0.8s,baz=58,slow=13,SNR=5.1
comp=Z,7.0nm,0.8s
KBS Kingsbay 48.62 0 *i* P **P** **10 50 11.2 +0.6**
SMWD Samnorwood 49.33 83 IAmb IAmb 10 50 18.5
comp=Z,5.5nm,1.1s
SPITS Spitsbergen Ar 49.36 359 P **P** **10 50 15.5 -0.8**
comp=Z,9.9nm,1.0s,baz=27,slow=4.8,SNR=26
comp=Z,9.9nm,1.0s
XLT XiLinHaoTe 49.65 292 *eP* **P** **10 50 19.3 +0.2**
XLT pmax pmax
comp=Z,18nm,0.8s
XLT pmax pmax
comp=Z,57nm,3.7s
ILULI Ilulissat 49.71 25 *i* P **P** **10 50 19.4 +0.4**
ILULI IAmb IAmb 10 50 19.9
comp=Z,11nm,0.6s
DKNS Dickens 49.90 85 IAmb IAmb 10 50 23.1
comp=Z,4.5nm,1.0s
POST Post 49.96 86 IAmb IAmb 10 50 23.6
comp=Z,8.5nm,0.9s
SUMG Summit 50.01 18 P **P** **10 50 22.6 +0.9**
SUMG Summit 50.01 18 *i* P **P** **10 50 22.0 +0.3**
SUMG IAmb IAmb 10 50 24.3
comp=Z,26nm,1.1s
LPIG La Paz 51.09 101 LR LR 11 08 42.3
comp=Z,42nm,18.3s,baz=258,slow=32
P40A Paris 51.26 73 P **P** **10 50 29.8 -1.4**
TX31 Lajitas Ar. Si 51.26 91 IAmb IAmb 10 50 39.5
comp=Z,5.9nm,1.1s
TXAR Lajitas Array 51.26 91 P **P** **10 50 31.4 0.0**
TXAR Lajitas Array 51.26 91 P **P** **10 50 31.8 +0.4**
comp=Z,2.9nm,0.8s,baz=302,slow=5.4,SNR=33
TXAR LR LR 11 10 14.2
comp=Z,39nm,19.7s,baz=278,slow=34
comp=Z,2.9nm,0.8s
DBG Daneborg 51.30 11 *i* P **P** **10 50 30.5 -0.4**
DBG IAmb IAmb 10 50 31.1
comp=Z,32nm,0.6s
SFJD Kangerlussuaq 51.41 27 LR LR 11 16 45.0
comp=Z,80nm,18.5s,baz=304,slow=41
SFJD Kangerlussuaq 51.41 27 *i* P **P** **10 50 32.6 +0.8**
SFJD IAmb IAmb 10 50 33.9
comp=Z,19nm,1.0s
ULN Ulaanbaatar 52.03 302 P **P** **10 50 36.8 -0.2**
ULN IAmb IAmb 10 50 37.7
comp=Z,7.9nm,0.7s
ULN Ulaanbaatar 52.03 302*c iP* **P** **10 50 36.6 -0.4**
ULN pmax pmax
comp=Z,8.0nm,0.7s
PLPT Palo Pinto 52.06 84 P **P** **10 50 37.1 -0.1**
PLPT IAmb IAmb 10 50 38.2
comp=Z,8.8nm,1.1s
BJI Beijing 52.08 289 P **P** **10 50 38.0 +0.7**
BJI pmax pmax
comp=Z,7.0nm,0.6s
ZAK Zakamensk 52.33 306 *eP* **P** **10 50 38.1 -1.0**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
SONM Songino Array 52.39 302 P **P** **10 50 40.0 +0.4**
SONM IAmb IAmb 10 50 41.3
comp=Z,11nm,1.4s
SONM Songino Array 52.39 302 P **P** **10 50 39.7 +0.1**
comp=Z,4.1nm,0.9s,baz=62,slow=6.4,SNR=26
SONM LR LR 11 15 43.1
comp=Z,182nm,18.3s,baz=51,slow=39
comp=Z,4.1nm,0.9s
ICESG Greenland Ices 52.52 21 *i* P **P** **10 50 40.3 -0.3**
ICESG IAmb IAmb 10 50 41.7
comp=Z,11nm,0.8s
MOY Mondy 52.61 308 *eP* **P** **10 50 40.5 -0.7**
MOY pmax pmax
comp=Z,15nm,1.7s
BRDY Brady 52.72 86 IAmb IAmb 10 50 43.9
comp=Z,4.6nm,1.0s
JCT Junction City 52.80 87 IAmb IAmb 10 50 54.7
comp=Z,4.8nm,0.8s
DRIO Del Rio 53.05 89 IAmb IAmb 10 50 45.8
comp=Z,4.9nm,0.8s
NUUK Nuuk 53.13 30 *i* P P 10 50 53.0 +8.4
NUUK IAmb IAmb 10 50 53.5
comp=Z,15nm,0.8s
HHC Hu-ho-hao-te 54.17 292 *eP* **P** **10 50 54.3 +1.5**
HHC pmax pmax
comp=Z,16nm,0.7s
SCO Scoresbysund 54.55 14 P **P** **10 50 55.5 +0.5**
SCO Scoresbysund 54.55 14 *i* P **P** **10 50 55.5 +0.5**
SCO IAmb IAmb 10 50 55.9
comp=Z,9.9nm,0.8s
HNS HongShan 54.71 287 ⇑P **P** **10 50 57.6 +1.0**
HNS pmax pmax
comp=Z,76nm,0.8s
BTO Baotou 55.20 293 *e*P **P** **10 51 01.0 +0.7**
BTO pP **pP** **10 51 05.7 -1.1**
BTO sP **sP** **10 51 08.2 -1.2**
BTO PP **PP** **10 53 05.8 +2.3**
BTO pmax pmax
comp=Z,38nm,1.2s
BTO pmax pmax
comp=Z,220nm,5.5s
ISOG Isortoq, Green 55.54 23 *i* P **P** **10 51 02.2 0.0**
ISOG IAmb IAmb 10 51 02.5
comp=Z,40nm,1.0s
JMIC Jan Mayen 55.64 8 LR LR 11 17 03.4
comp=Z,98nm,18.2s,baz=9.5,slow=38
NJ2 Nanjing 55.96 280 *eP* **P** **10 51 06.2 +0.5**
NJ2 pmax pmax
comp=Z,13nm,0.5s
ARCES ARCESS Array B 57.72 355 P **P** **10 51 16.9 -0.8**
comp=Z,8.9nm,0.8s,baz=11,slow=5.8,SNR=26
ARCES PcP **PcP** **10 52 10.6 +0.3**
comp=Z,3.4nm,0.7s,baz=24,slow=7.0,SNR=4.4
ARCES LR LR 11 17 59.8
comp=Z,130nm,18.7s,baz=5.0,slow=38
comp=Z,8.9nm,0.8s
LYN LuoYang 57.99 286 P **P** **10 51 20.5 +0.5**
LYN pmax pmax
comp=Z,52nm,0.7s
LYN LR LR
comp=Z,180nm,14.5s
LYN LR LR
comp=Z,150nm,12.8s
ZALV Zalesovo Beam 58.16 319 P **P** **10 51 20.3 -0.6**
ZALV Zalesovo Beam 58.16 319 P **P** **10 51 20.1 -0.9**
comp=Z,1.9nm,0.4s,baz=33,slow=6.8,SNR=7.8
ZALV PcP **PcP** **10 52 12.7 +0.5**
comp=Z,1.4nm,0.6s,baz=29,slow=3.4,SNR=2.4
comp=Z,1.9nm,0.4s
ZALV Zalesovo Beam 58.16 319 *i* P **P** **10 51 20.7 -0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
LVZ Lovozero 58.63 351*d iP* **P** **10 51 23.8 -0.3**
LVZ pmax pmax
comp=Z,26nm,0.6s
LVZ Lovozero 58.63 351 P **P** **10 51 23.8 -0.3**
comp=Z,50nm,0.8s
TKL Tuckaleechee C 58.70 71 LR LR 11 16 39.6
comp=Z,87nm,19.1s,baz=307,slow=36
APA Apatity 59.07 351 ⇓*iP* **P** **10 51 26.2 -0.9**
APA pmax pmax
comp=Z,7.0nm,1.0s
WHN Wuhan 59.73 282 P **P** **10 51 32.2 0.0**
BORG Borgarnes 59.90 16 LR LR 11 19 55.6
comp=Z,78nm,18.0s,baz=334,slow=39
XAN Xi'an 60.41 288 ⇑P **P** **10 51 36.8 -0.1**
XAN pP pP 10 51 41.9 -1.6
XAN pmax pmax
comp=Z,36nm,0.7s
SSLB Suanglung 60.69 271 P **P** **10 51 38.5 -0.3**
GTA Gaotai 61.63 298 P **P** **10 51 44.6 -0.6**
GTA sP sP 10 51 54.9 +0.4
GTA pmax pmax
comp=Z,12nm,0.8s
GTA LR LR
comp=Z,85nm,16.3s
GTA LR LR
comp=Z,170nm,15.5s
GTA LR LR
comp=Z,160nm,16.7s
LZH Lanzhou 61.83 293 *eP* **P** **10 51 48.0 +1.4**
LZH pP sP 10 51 55.7 0.0
LZH pmax pmax
comp=Z,27nm,0.6s
LZH LR LR
comp=Z,160nm,15.1s
LZH LR LR
comp=Z,170nm,14.1s
LZH LR LR
comp=Z,160nm,12.0s
KURK Kurchatov 63.09 320*c iP* **P** **10 51 54.1 -0.5**
KURK pmax pmax
comp=Z,13nm,1.3s
KURBB Kurchatov Arra 63.20 320 P **P** **10 51 55.1 -0.2**
comp=Z,6.5nm,0.9s,baz=45,slow=6.8,SNR=20
comp=Z,6.5nm,0.9s
SVE Sverdlovsk 64.07 333 *eP* **P** **10 52 01.7 +0.8**
SVE pmax pmax
comp=Z,25nm,0.6s
BVAR Borovoye Array 64.27 326 P **P** **10 52 02.5 +0.1**
comp=Z,7.5nm,0.7s,baz=52,slow=7.3,SNR=37
BVAR PcP **PcP** **10 52 37.5 +0.6**
comp=Z,4.0nm,0.6s,baz=40,slow=3.3,SNR=7.0
comp=Z,7.5nm,0.7s
BRVK Borovoye 64.28 326*d iP* **P** **10 52 02.0 -0.4**
BRVK pmax pmax
comp=Z,12nm,1.3s
MK31 Makanchi Array 64.63 315 IAmb IAmb 10 52 04.9
comp=Z,4.8nm,0.8s
MK31 Makanchi Array 64.63 315*d iP* **P** **10 52 04.2 -0.7**
MKAR Makanchi Array 64.63 315 P **P** **10 52 04.4 -0.5**
MKAR Makanchi Array 64.63 315 P **P** **10 52 04.0 -0.8**
comp=Z,6.7nm,0.7s,baz=46,slow=6.4,SNR=55
MKAR LR LR 11 21 15.3
comp=Z,132nm,18.3s,baz=46,slow=37
comp=Z,6.7nm,0.7s
MAKZ Makanchi 64.76 315 P **P** **10 52 04.8 -0.8**
MAKZ IAmb IAmb 10 52 05.6
comp=Z,15nm,1.3s
ARTI Arti 65.06 334 LR LR 11 26 13.7
comp=Z,80nm,18.0s,baz=32,slow=41
KIRV Kirov 65.20 340 LR LR 11 24 59.5
comp=Z,135nm,18.0s,baz=42,slow=40
KIRV Kirov 65.20 340*c iP* **P** **10 52 08.1 -0.2**
TAOE Nuku Hiva Isla 65.46 151 *e*LR LR 11 11 39.7
comp=Z,114nm,29.3s
FINES FINESS Array B 65.72 353 P **P** **10 52 11.4 -0.2**
comp=Z,20nm,0.5s,baz=21,slow=8.2,SNR=120
FINES LR LR 11 24 26.9
comp=Z,65nm,18.1s,baz=9.5,slow=39
comp=Z,20nm,0.5s
FINES FINESS Array B 65.72 353 *i* P **P** **10 52 11.3 -0.3**
FINES pmax pmax
comp=Z,20nm,0.5s
BRZS Berezniki 65.95 322 *eP* **P** **10 52 12.8 -0.5**
BRZS Berezniki 65.95 322 *eP* **P** **10 52 12.9 -0.5**
NB2 NORSAR Subarra 66.59 1 P **P** **10 52 17.0 -0.3**
comp=Z,3.2nm,0.5s,baz=0.1,slow=6.2
NOA NORSAR Array B 66.59 1 P **P** **10 52 17.3 0.0**
comp=Z,6.1nm,0.7s,baz=360,slow=6.2,SNR=16
NOA LR LR 11 24 20.7
comp=Z,40nm,18.1s,baz=335,slow=39
comp=Z,6.1nm,0.7s
GOMU GeErMu 66.67 299 P **P** **10 52 18.1 -0.5**
GOMU sP sP 10 52 26.9 -1.0
GOMU pmax pmax
comp=Z,22nm,0.9s
GOMU LR LR
comp=Z,260nm,17.8s
GOMU LR LR
comp=Z,200nm,17.3s
GOMU LR LR
comp=Z,310nm,18.4s
HFS Hagfors 67.50 360 P **P** **10 52 22.7 -0.3**
comp=Z,19nm,0.5s,baz=31,slow=3.5,SNR=105
HFS LR LR 11 22 20.1
comp=Z,34nm,18.5s,baz=354,slow=36
comp=Z,19nm,0.5s
VSU Vasula 68.63 352*d iP* **P** **10 52 29.5 -0.6**
VSU pmax pmax
comp=Z,36nm,0.6s
SHLS Shalkode 68.74 314 *eP* **P** **10 52 29.6 -1.6**
SHLS pmax pmax
comp=Z,11nm,0.8s
SHLS Shalkode 68.74 314 *eP* **P** **10 52 29.7 -1.6**
comp=Z,11nm,0.8s
UZB Uzynbulak 68.94 314 *eP* **P** **10 52 32.2 -0.3**
UZB pmax pmax
comp=Z,8.0nm,1.0s
UZB Uzynbulak 68.94 314 *eP* **P** **10 52 32.2 -0.3**
comp=Z,7.9nm,1.0s
ZHN Zhinishke 69.17 315 *eP* **P** **10 52 33.7 -0.2**
ZHN Zhinishke 69.17 315 *eP* **P** **10 52 33.7 -0.2**
SATY Saty 69.28 315 *eP* **P** **10 52 34.1 -0.5**
SATY Saty 69.28 315 *eP* **P** **10 52 34.1 -0.5**
TJOU Tjoern 69.61 1 *i* P **P** **10 52 36.2 +0.1**
MDOK Medeo 69.78 316 *eP* **P** **10 52 37.2 -0.5**
MDOK Medeo 69.78 316 *eP* **P** **10 52 37.2 -0.5**
AAA Alma-Ata 69.79 316 *eP* **P** **10 52 37.4 -0.3**
AAA Alma-Ata 69.79 316 *eP* **P** **10 52 37.4 -0.3**
TNSS Tian-Shan 69.92 315 *eP* **P** **10 52 38.2 -0.7**
TNSS Tian-Shan 69.92 315 *eP* **P** **10 52 38.3 -0.7**
BORU Boraas 70.01 0 *i* P **P** **10 52 38.9 +0.2**
MOS Moscow 70.03 346 *eP* **P** **10 52 38.7 -0.1**
PZH PanZhiHua 70.14 288 P **P** **10 52 41.0 +0.9**
PZH pmax pmax
comp=Z,20nm,1.3s
PZH pmax pmax
comp=Z,80nm,5.3s
ONAU Onsala 70.25 1 *i* P **P** **10 52 39.9 -0.2**
AKTO Aktyubinsk 70.44 331 LR LR 11 27 42.9
comp=Z,62nm,18.3s,baz=188,slow=40
KDJ Kajisay 70.56 315 IAmb IAmb 10 52 43.7
comp=Z,6.6nm,0.8s
TKM2 Tokmak 2 70.59 316 P **P** **10 52 43.1 +0.4**
SNR=7.5
TARG Taragay, Kyrgy 70.61 314 P **P** **10 52 44.5 +1.3**
TARG pmax pmax
comp=Z,600nm,14.3s
USP Ospenovka 70.76 317 P **P** **10 52 44.2 +0.6**
SNR=5.3
OBN Obninsk 70.79 346*de*P **P** **10 52 43.1 -0.3**
OBN *i* 10 52 45.6
OBN *PP **pP** **10 52 51.0 +0.9**
OBN *e* 10 53 03.7
OBN S **S** **11 02 00.0 +3.8**
OBN SS **SS** **11 06 31.0 +3.7**
OBN pmax pmax
comp=Z,10.0nm,0.4s
OBN MLR MLR
comp=Z,66nm,16.0s
BOOM Boomskoye usch 70.80 316 P **P** **10 52 43.9 -0.1**
DAV Davao City (W) 70.84 256 LR LR 11 19 36.4
comp=Z,79nm,19.9s,baz=46,slow=32
ABKAR Abkulak array 70.91 330 P **P** **10 52 44.6 +0.3**
ABKAR Abkulak array 70.91 330 IAmb IAmb 10 52 45.0
comp=Z,6.4nm,0.7s
MUD Monsted U'grnd 71.15 2 *i* P **P** **10 52 46.5 +0.9**
DEL Delary 71.18 360 *i* P **P** **10 52 45.8 +0.1**
AAK Ala-Archa 71.28 317 LR LR 11 26 20.3
comp=Z,79nm,19.3s,baz=30,slow=38
AAK Ala-Archa 71.28 317 P **P** **10 52 47.5 +0.6**
SNR=11
AAK Ala-Archa 71.28 317*c iP* **P** **10 52 47.2 +0.3**
AAK pmax pmax
comp=Z,9.0nm,0.7s
BLEU Blekinge 71.32 358 *i* P **P** **10 52 46.3 -0.3**
MSVF Nonsavu 71.35 195 LR LR 11 22 35.2
comp=Z,33nm,18.3s,baz=4.9,slow=35
EKA Eskdalemuir Ar 71.48 10 P **P** **10 52 48.5 +0.8**
comp=Z,7.9nm,0.7s,baz=341,slow=4.9,SNR=23
comp=Z,7.9nm,0.7s
EKS2 Erkin-Say 71.56 317 P **P** **10 52 49.3 +0.8**
SNR=6.0
BJUU Bjuv 71.58 0 *i* P **P** **10 52 48.4 +0.2**
PPT Papeete 71.59 163 LR LR 11 16 26.6
comp=Z,60nm,20.9s,baz=292,slow=29
PPT2 Papeete2 71.61 163 *e*S **S** **11 02 06.6 0.0**
comp=Z,65nm,27.0s
PPT2 Papeete2 71.61 163 *e*LR LR 11 14 36.3
comp=Z,102nm,29.8s
PPT2 *e*LR LR 11 14 41.3
comp=Z,103nm,26.2s
LUNU Lund 72.02 360 *i* P **P** **10 52 51.3 +0.5**
AML Almayashu 72.03 317 P **P** **10 52 52.6 +0.9**
SNR=10
NACGM Naroch 72.15 352 *eP* **P** **10 52 51.7 +0.1**
comp=Z,25nm,1.0s,baz=9.0
MNK Minsk 72.44 351 *i* LRM MLR 11 29 12.8
comp=Z,59nm,16.4s
MNK Minsk 72.44 351 *i* P **P** **10 52 52.7 -0.7**
MNK *i* 10 55 36.0
MNK *i* PPP PPP 10 57 16.6
MNK *i* S **S** **11 02 15.6 +0.2**
MNK *i* SS **SS** **11 06 54.4 +1.7**
MNK pmax pmax
comp=Z,22nm,0.8s
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax
comp=N,10.0nm,1.0s
MNK MLR MLR
comp=E,179nm,25.0s
MNK MLR MLR
comp=N,110nm,22.0s
MNK MLR MLR
comp=Z,59nm,16.0s
MNK Minsk 72.44 351 *i* P **P** **10 52 52.8 -0.7**
comp=E,12nm,0.9s
MNK Minsk 72.44 351 *i* P **P** **10 52 52.8 -0.7**
comp=N,10.0nm,1.0s
MNK Minsk 72.44 351 *i* P **P** **10 52 52.8 -0.7**
comp=Z,22nm,0.8s,baz=9.5
MNK Minsk 72.44 351 *i* PP PP 10 55 36.0 +2.2
MNK Minsk 72.44 351 *i* PPP PPP 10 57 16.7
MNK Minsk 72.44 351 *i* S **S** **11 02 15.6 +0.2**
MNK Minsk 72.44 351 *i* SS SS 11 06 54.4 +1.7
MNK Minsk 72.44 351 *i* SSS SSS 11 10 14.9
MNK Minsk 72.44 351 *i* LQ LQ 11 20 23.8
MNK Minsk 72.44 351 *i* LR LR 11 25 31.9
MNK Minsk 72.44 351 *i* LRM MLR 11 27 13.8
comp=E,179nm,25.2s
MNK Minsk 72.44 351 *i* LRM MLR 11 27 48.5
comp=N,110nm,21.6s
KK31 Karatay Array 72.51 320 IAmb IAmb 10 52 55.1
comp=Z,11nm,1.1s
KKAR Karatay Array 72.51 320 P **P** **10 52 54.2 +0.2**
KKAR Karatay Array 72.51 320 IAmb IAmb 10 52 55.1
comp=Z,12nm,1.1s
BRLS Borolday 72.83 320 *eP* **P** **10 52 57.2 +1.2**
BRLS Borolday 72.83 320 *eP* **P** **10 52 57.2 +1.2**
LPSR Galich'ya Gora 72.84 344 *eP* **P** **10 52 54.9 -0.9**
LPSR pmax pmax
comp=Z,24nm,0.9s
PMG Port Moresby 73.21 228*de*P **P** **10 52 58.1 -0.3**
PMG pmax pmax
comp=Z,31nm,1.0s
KSH Kashi 73.22 314 P **P** **10 53 02.2 +3.7**
KSH pmax pmax
comp=Z,16nm,0.7s
KSH LR LR
comp=Z,960nm,33.7s
KSH LR LR
comp=Z,460nm,29.5s
KSH LR LR
comp=Z,240nm,22.7s
SUW Suwalki 73.31 354 *eP* **P** **10 52 58.8 +0.2**
IUG Iuzhnay 73.50 319 *eP* **P** **10 52 59.7 -0.3**
IUG pmax pmax
comp=Z,17nm,1.2s
IUG Iuzhnay 73.50 319 *eP* **P** **10 52 59.8 -0.3**
comp=Z,17nm,1.2s
VRH Novokhopyorsk 73.68 342 *eP* **P** **10 53 00.1 -0.7**
VRH pmax pmax
comp=Z,16nm,0.6s
VORR Voronezh 73.69 343 *eP* **P** **10 53 00.0 -0.8**
VORR pmax pmax
comp=Z,41nm,0.4s
VSR Storozhevoye 74.13 343 *eP* **P** **10 53 01.6 -1.8**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 74.35 343 *eP* **P** **10 53 03.2 -1.5**
VORD pmax pmax
comp=Z,10.0nm,1.0s
BTK Batken 74.95 318 P **P** **10 53 08.8 +0.3**
DRK Karamyk 75.04 317 P **P** **10 53 09.9 +0.6**
FAKI Fak Fak 75.16 244 P **P** **10 53 09.5 -0.4**
FAKI IAmb IAmb 10 53 28.8
comp=Z,11nm,1.0s
RNPP9 Sopachiv 75.69 352 P **P** **10 53 12.5 +0.1**
RNPP8 Varash 75.77 352 P **P** **10 53 13.1 +0.2**
RNPP5 Staryi Chortor 75.87 352 P **P** **10 53 13.4 -0.1**
MI28 Mi28,Pidlybu 76.00 351 P **P** **10 53 14.2 0.0**
AK21 Malin Array Si 76.01 350 P **P** **10 53 13.9 -0.3**
AK23 Malin Array Si 76.01 350 P **P** **10 53 14.0 -0.3**
AK22 Malin Array Si 76.02 350 P **P** **10 53 14.0 -0.3**
AK03 Malin Array Si 76.03 349 P **P** **10 53 14.1 -0.3**
AKASG Malin Array Be 76.06 349 P **P** **10 53 14.2 -0.3**
comp=Z,13nm,0.6s,baz=15,slow=5.8,SNR=50
AKASG LR LR 11 31 38.9
comp=Z,35nm,18.0s,baz=48,slow=40
comp=Z,13nm,0.6s
AKBB Malin Array Si 76.06 349*c iP* **P** **10 53 13.6 -0.9**
AKBB pmax pmax

comp=Z,21nm,0.6s
AKBB **Malin Array Si** 76.06 349 P P 10 53 14.0 -0.5
AK19 **Malin Array Si** 76.06 350 P P 10 53 14.1 -0.5
KIEV **Kiev** 76.07 350 P P 10 53 14.1 -0.5
KIEV **Kiev** 76.07 350 P P 10 53 14.2 -0.4
comp=Z,119nm,0.9s
CLL **Collm** 76.35 0⇑ *i* P P 10 53 16.3 +0.1
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL **Collm** 76.35 0 P P 10 53 16.5 +0.3
comp=Z,11nm,0.9s
CLL **Collm** 76.35 0⇑ *i* P P 10 53 16.3 +0.1
comp=Z,8.0nm,0.8s
SHL **Shillong** 76.46 294 IAmb IAmb 10 53 17.6
comp=Z,11nm,0.8s
UBPT **Khong Chiam** 76.56 278 P P 10 53 17.8 0.0
UBPT IAmb IAmb 10 53 18.8
comp=Z,6.0nm,0.7s
KSP **Ksiaz** 76.78 358 *e*P P 10 53 19.6 +0.9
KSP **Ksiaz** 76.78 358 P P 10 53 19.6 +0.9
KSP **Ksiaz** 76.78 358 P P 10 53 19.6 +0.9
comp=Z,12nm,0.9s
BRG **Berggiesshubel** 76.78 359 *e*P P 10 53 19.5 +0.9
BRG Amp 10 53 20.4
comp=Z,6.8nm,0.9s
DZET **Dzherino** 76.83 318 P P 10 53 19.7 +0.4
MEM **Membach** 76.88 5 *d*P P 10 53 19.6 +0.4
BSTI **Sart Tilman** 76.88 5 *d*P P 10 53 20.4 +1.1
BTNL **Ternell** 76.91 5 *d*P P 10 53 19.9 +0.4
LUBAR **Lubar, Ukraine** 76.99 350 P P 10 53 19.1 -0.7
MOX **Moxa** 77.01 1 P P 10 53 20.7 +0.7
BCLA **Clavier** 77.03 5 *d*P P 10 53 20.9 +0.8
BGES **Gesves** 77.06 5 *d*P P 10 53 20.8 +0.6
BMRD **Maredsous** 77.12 5 *d*P P 10 53 21.5 +0.9
TBI **Tubuai** 77.26 164 *e*S S 11 03 09.7 +0.3
comp=Z,913nm,29.2s
TBI **Tubuai** 77.26 164 *e*LR LR 11 17 04.0
comp=Z,606nm,30.8s
OJC **Ojcow** 77.28 356 *e*P P 10 53 22.3 +0.8
OJC **Ojcow** 77.28 356 P P 10 53 22.1 +0.6
comp=Z,15nm,1.0s
DOU **Dourbes** 77.31 6 *d*P P 10 53 21.9 +0.3
MORC **Moravsky Berou** 77.81 357 IAmb IAmb 10 53 26.3
comp=Z,8.1nm,0.8s
MORC **Moravsky Berou** 77.81 357 *e*P P 10 53 24.9 +0.4
GRF **Grafenberg Arr** 77.96 1 *e*P 10 53 26.7
comp=Z,14nm,0.9s,baz=356,slow=5.0
CMAR **Chiang Mai Arr** 77.98 285 P P 10 53 26.2 +0.3
comp=Z,3.1nm,0.8s,baz=22,slow=5.8,SNR=19
CMAR LR LR 11 32 05.3
comp=Z,26nm,18.1s,baz=245,slow=39
comp=Z,3.1nm,0.8s
DZM **Mont Dzumac** 77.99 205 *e*LR LR 11 17 35.3
comp=Z,57nm,25.1s
NIE **Niedzica** 78.06 355 *e*P P 10 53 25.8 -0.1
NIE **Niedzica** 78.06 355 P P 10 53 27.1 +1.2
comp=Z,7.4nm,1.0s
VRAC **Vranov** 78.31 358 LR LR 11 29 03.2
comp=Z,25nm,18.1s,baz=346,slow=36
VRAC **Vranov** 78.31 358 *e*P P 10 53 28.0 +0.8
NDNU **Novodnistrovsk** 78.34 350 P P 10 53 27.5 +0.1
NDNU **Novodnistrovsk** 78.34 350 P P 10 53 27.5 +0.1
LANS **Liptovska Anna** 78.37 356 *e*P P 10 53 29.7 +2.1
LANS pmax pmax
comp=Z,22nm,1.4s
LANS **Liptovska Anna** 78.37 356 *e*P P 10 53 29.7 +2.1
KOLS **Kolonicke sedl** 78.43 354 *e*P P 10 53 29.4 +1.5
KOLS pmax pmax
comp=Z,7.0nm,0.7s
KOLS **Kolonicke sedl** 78.43 354 *e*P P 10 53 29.4 +1.5
KMPD **K-Podol'skiy** 78.46 351 P P 10 53 27.2 -0.8
STNU **Starunia** 78.49 352 P P 10 53 28.1 -0.1
KHC **Kasperske Hory** 78.53 360 *e*P P 10 53 29.0 +0.5
KHC **Kasperske Hory** 78.53 360 *c i*P P 10 53 29.4 +0.9
KHC pmax pmax
comp=Z,26nm,1.0s
KHC **Kasperske Hory** 78.53 360 P P 10 53 29.8 +1.3
comp=Z,11nm,1.5s
KRUC **Moravsky** 78.56 358 *e*P P 10 53 29.2 +0.6
SORM **Soroca** 78.69 350 P P 10 53 28.8 -0.5
comp=Z,18nm,1.1s
JAVC **Velka Javorina** 78.73 357 *e*P P 10 53 31.5 +1.9
GEC2 **GERESS Array S** 78.82 360 IAmb IAmb 10 53 31.9
comp=Z,5.5nm,0.8s
GERES **GERESS Array B** 78.82 360 P P 10 53 30.2 0.0
GERES **GERESS Array B** 78.82 360 P P 10 53 31.1 +0.9
comp=Z,3.3nm,0.7s,baz=8.4,slow=4.6,SNR=21
comp=Z,3.3nm,0.7s
KSV **Kosov** 78.83 352 P P 10 53 29.1 -1.0
KSV **Kosov** 78.83 352 P P 10 53 29.1 -1.0
KECS **Kecovo** 78.98 355 *e*P P 10 53 32.4 +1.5
KECS **Kecovo** 78.98 355 *e*P P 10 53 32.4 +1.5
NSLU **Nyzhne Selyshc** 79.00 352 P P 10 53 32.5 +1.5
VYHS **Vyhne** 79.05 356 *e*P P 10 53 32.5 +1.2
VYHS pmax pmax
comp=Z,19nm,1.1s
VYHS **Vyhne** 79.05 356 *e*P P 10 53 32.5 +1.2
SMOL **Smolenice** 79.08 357 *e*P P 10 53 33.0 +1.5
SMOL pmax pmax
comp=Z,9.0nm,1.1s
MODS **Modra-Piesok** 79.23 357 *e*P P 10 53 34.2 +1.9
MODS pmax pmax
comp=Z,29nm,1.1s
MODS **Modra-Piesok** 79.23 357 *e*P P 10 53 34.2 +1.9
ECH **Echery** 79.32 4 IAmb IAmb 10 53 34.5
comp=Z,6.7nm,0.9s
BUR08 **Bucovina Ar. S** 79.48 352 IAmb IAmb 10 53 45.9
comp=Z,3.6nm,0.8s
BURAR **Bucovina Array** 79.51 352 P P 10 53 34.0 0.0
CONA **Conrad Observa** 79.71 358 *e*P P 10 53 36.2 +1.2
comp=Z,9.4nm,0.7s,SNR=5.3
MOA **Moln** 79.81 359 *i*P P 10 53 36.3 +0.8
comp=Z,6.1nm,0.9s
RONA **Rosalia, Austr** 79.93 358 *i*P P 10 53 37.5 +1.4
comp=Z,8.5nm,1.2s
BIOA **Bad Ischl, Aus** 79.97 360 *i*P P 10 53 37.1 +0.7
comp=Z,3.2nm,0.7s
RETA **Reutte** 80.16 2 *i*P P 10 53 38.4 +1.0
comp=Z,9.5nm,1.0s
LESA **Schwarzleotal** 80.24 0 *i*P P 10 53 39.0 +1.1
comp=Z,3.0nm,0.5s
MOTA **Moosalm** 80.31 1 *i*P P 10 53 38.8 +0.5
comp=Z,19nm,1.2s
WATA **Walderalm** 80.32 1 *i*P P 10 53 39.6 +1.2
comp=Z,19nm,1.4s
DAVA **Damuels** 80.34 2 *i*P P 10 53 40.0 +1.5
comp=Z,5.3nm,0.8s
KIV **Kislovodsk** 80.39 339 *e*P P 10 53 38.7 -0.1
KIV pmax pmax
comp=Z,14nm,1.1s
WTTA **Wattenberg** 80.39 1 *i*P P 10 53 39.9 +1.1
comp=Z,12nm,0.7s,SNR=5.4
MPLH **Magyarpolny** 80.42 357 P P 10 53 40.0 +1.2
comp=Z,54nm,1.3s
SQTA **Sankt Quirin** 80.43 1 *e*P P 10 53 39.8 +0.8
comp=Z,21nm,1.1s,SNR=6.2
RKT **Rikitea** 80.48 150 *e*LR LR 11 18 49.1
comp=Z,408nm,25.5s
KBZ **Khabaz** 80.56 339 P P 10 53 40.6 +1.1
comp=Z,4.1nm,1.0s,baz=259,slow=2.6,SNR=8.1
KBZ LR LR 11 34 03.4
comp=Z,66nm,19.3s,baz=17,slow=39
comp=Z,4.1nm,1.0s
KBA **Koelnbreinsper** 80.59 360 *e*P P 10 53 41.5 +1.6
comp=Z,33nm,1.0s,SNR=17
SHA1 **Shidzhatmaz** 80.60 339⇑ *e*P P 10 53 41.2 +1.1
FETA **Feichten** 80.62 2 *i*P P 10 53 41.4 +1.3
comp=Z,16nm,1.0s,SNR=7.1
ANN **Anapa** 80.63 343 *e*P P 10 53 38.4 -1.5
ANN *e*S S 11 03 42.8 -2.4
ANN pmax pmax
comp=Z,26nm,1.1s
DAVOX **Davos/Dischmat** 80.85 2 LR LR 11 31 10.5
comp=Z,32nm,19.9s,baz=72,slow=37
ABTA **Abfaltersbach** 80.92 0 *e*P P 10 53 42.7 +1.1
comp=Z,18nm,1.3s,SNR=6.4
SOKA **Soboth** 80.97 359 *i*P P 10 53 43.0 +1.2
comp=Z,21nm,1.1s,SNR=13
FUORN **Ofenpass-Fuorn** 81.02 2 P P 10 53 43.5 +1.2
FUORN IAmb IAmb 10 53 44.8
comp=Z,7.6nm,0.8s
TUE **Stuetta** 81.14 3 P P 10 53 44.1 +1.3
TUE IAmb IAmb 10 53 45.4
comp=Z,6.7nm,0.9s
TUE **Stuetta** 81.14 3 P P 10 53 44.2 +1.3
comp=Z,37nm,1.0s

OBKA **Obir** 81.15 359 P P 10 53 43.8 +1.0
comp=Z,15nm,0.7s
PRED **Cave del Predi** 81.22 360 IAmb IAmb 10 53 44.6
comp=Z,10nm,0.9s
SOC **Sochi** 81.37 341 *e*P P 10 53 43.8 -0.1
SOC *e* 10 56 53.8
SOC *e*PPP PPP 10 58 38.3
SOC *e*S S 11 03 54.9 +1.9
SOC *e*SSS SSS 11 12 36.1
SOC pmax pmax
comp=Z,6.0nm,0.5s
VSLR **Vesyoloye** 81.42 340⇑ *e*P P 10 53 46.4 +2.2
VSLR pmax pmax
comp=Z,19nm,0.9s
MLR **Muntele Rosu** 81.55 351 IAmb IAmb 10 53 46.9
comp=Z,4.0nm,0.9s
MLR **Muntele Rosu** 81.55 351 LR LR 11 32 39.7
comp=Z,78nm,19.2s,baz=8.5,slow=38
MLR **Muntele Rosu** 81.55 351 P P 10 53 45.8 +0.8
comp=Z,5.4nm,1.8s
GNI **Garni** 83.52 336 LR LR 11 36 02.3
comp=Z,22nm,18.4s,baz=356,slow=39
DIKM **Dikmen** 84.07 343 P P 10 53 59.8 +1.8
comp=Z,23nm,1.2s
BR106 **Keskin Array S** 86.22 344 P P 10 54 10.0 +1.1
comp=Z,46nmcomp=Z,5.2nm,0.9s
BR131 **Keskin Array S** 86.22 344 IAmb IAmb 10 54 10.9
comp=Z,7.5nm,1.0s
BR131 **Keskin Array S** 86.22 344⇑ *e*P P 10 54 09.9 +0.9
BRTR **Keskin Array B** 86.22 344 P P 10 54 09.0 +0.1
BRTR **Keskin Array B** 86.22 344 P P 10 54 09.9 +0.9
comp=Z,3.5nm,0.7s,baz=54,slow=2.0,SNR=24
comp=Z,3.5nm,0.7s
BRTR **Keskin Array B** 86.22 344 *i*P P 10 54 09.8 +0.8
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BR105 **Keskin Array S** 86.23 344 P P 10 54 09.8 +0.8
comp=Z,63nmcomp=Z,7.2nm,1.3s
BR104 **Keskin Array S** 86.24 344 P P 10 54 09.8 +0.8
comp=Z,67nmcomp=Z,6.8nm,0.9s
ESDC **Sonseca Array** 86.81 13 P P 10 54 11.8 +0.1
comp=Z,1.4nm,0.7s,baz=343,slow=4.8,SNR=11
ESDC LR LR 11 35 48.9
comp=Z,56nm,18.0s,baz=317,slow=38
comp=Z,1.4nm,0.7s
WRA **Warramunga Arr** 88.39 234 P P 10 54 18.9 -0.4
comp=Z,0.6nm,0.7s,baz=34,slow=5.5,SNR=3.7
comp=Z,0.6nm,0.7s
ASAR **Alice Springs** 91.77 232 P P 10 54 34.3 -0.8
comp=Z,0.8nm,0.8s,baz=28,slow=4.9,SNR=8.3
comp=Z,0.8nm,0.8s
MMAI **Mount Meron Ar** 92.43 341 LR LR 11 41 02.4
comp=Z,19nm,18.0s,baz=47,slow=39
MDT **Midelt** 93.44 15 LR LR 11 36 46.0
comp=Z,21nm,21.8s,baz=354,slow=36
EIL **Elat** 95.77 341 LR LR 11 43 53.4
comp=Z,24nm,18.1s,baz=68,slow=39
PALK **Pallekele** 97.46 292 LR LR 11 45 46.9
comp=Z,20nm,19.4s,baz=84,slow=40
H03N2 **Juan Fernandez** 114.68 113 T T 13 05 29.8
baz=322,slow=77,SNR=6.8
H03N1 **Juan Fernandez** 114.69 113 T T 13 05 32.2
baz=322,slow=77,SNR=12
H03N3 **Juan Fernandez** 114.70 113 T T 13 05 32.2
baz=322,slow=77,SNR=10
QSPA **South Pole Qui** 142.48 180 PKP **PKPdf** 11 00 57.4 -1.4
comp=Z,2.6nm,1.0s,baz=359,slow=1.6,SNR=6.9
BOSA **Boshof** 154.28 335 PKPab **PKPab** 11 01 42.0 +0.5
comp=Z,2.9nm,0.6s,baz=0.9,slow=3.0,SNR=9.1
BOSA **Boshof** 154.28 335 PKP2 **PKPab** 11 01 42.0 +0.5
SUR **Sutherland** 158.92 342 PKPab **PKPab** 11 02 02.1 +0.8
comp=Z,4.9nm,0.8s,baz=350,slow=6.1,SNR=2.0
ELIB **Princess Elisa** 160.17 189 *d*PKP **PKPab** 11 02 05.6 -0.1

RSNC ***08*** *10:41:44.2±0.0, 9°N±1°×7°1W±°, h50km±3km, M3.4, mB4.5, mb4.2, ML3.2, Mw(mB)3.7*
FUNV ***08*** *10:41:44.2, 8°.89N×71°.20W, h5km, MW3.9*
ISC 08 10:41:42.0±1.5, 9°.00N±0°.04×71°.20W±0°.04, h7km±12km, n27, σ1°.27/42, 2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**0.57**	**101**	P	**Pg**	**10 41 54.0**	**+1.0**
SDV				S	**Sb**	**10 42 02.5**	**-0.2**
SOCV	**Socops**	**0.78**	**155**	⇓ *i*P	**Pg**	**10 41 57.4**	**+0.2**
SOCV				*e*S	**Sg**	**10 42 07.4**	**0.0**
CAPV	**Capacho**	**1.58**	**225**	*e*P	**Pn**	**10 42 10.8**	**+0.1**
CAPV				*e*S	**Sb**	**10 42 32.4**	**+0.5**
TEPV	**Terepaima**	**2.20**	**64**	*e*P	**Pb**	**10 42 21.7**	**-0.4**
TEPV				*e*S	**Sb**	**10 42 49.7**	**+0.1**
PAMC	**Pamplona, Colo**	**2.22**	**222**	P	**Pn**	**10 42 20.2**	**+0.5**
PAMC				S	**Sn**	**10 42 48.8**	**+1.2**
OCAC	**Ocana**	**2.23**	**250**	P	**Pn**	**10 42 19.9**	**+0.3**
OCAC				S	**Sn**	**10 42 49.0**	**+1.5**
CRJC	**Cerrejon, Guaj**	**2.61**	**321**	P	**Pn**	**10 42 24.5**	**-0.2**
CRJC				S	**Sn**	**10 42 56.2**	**-0.5**
TAMC	**Tame, Arauca**	**2.61**	**193**	P	**Pn**	**10 42 25.5**	**+0.8**
URIC	**Uribia, Colomb**	**2.80**	**344**	P	**Pn**	**10 42 26.1**	**-1.2**
BARC	**Barichara**	**3.10**	**220**	P	**Pn**	**10 42 32.9**	**+1.4**
BAUV	**El Baul**	**3.12**	**91**	⇓ *i*P	**Pn**	**10 42 33.3**	**+1.7**
BAUV				*e*S	**Sn**	**10 43 09.3**	**+0.1**
ARGC	**Ariguani, Magd**	**3.13**	**286**	P	**Pn**	**10 42 32.1**	**+0.3**
BRJC	**Barrancabermej**	**3.23**	**232**	P	**Pn**	**10 42 34.0**	**+0.9**
BENV	**Beln**	**3.68**	**75**	*e*P	**Pn**	**10 42 41.9**	**+2.5**
ZARC	**Zaragoza, Cauc**	**3.92**	**248**	P	**Pn**	**10 42 42.7**	**0.0**
ZARC				S	**Sn**	**10 43 28.4**	**-0.6**
SJCC	**San Jacinto, C**	**4.03**	**283**	P	**Pn**	**10 42 45.5**	**+1.2**
SJCC				S	**Sn**	**10 43 33.5**	**+1.7**
PTBC	**PUERTO BERRIO,**	**4.05**	**233**	P	**Pn**	**10 42 43.4**	**-1.1**
PTBC				S	**Sn**	**10 43 30.9**	**-1.3**
TACV	**Tcata**	**4.26**	**74**	*e*P	**Pn**	**10 42 49.4**	**+1.9**
UREC	**San Jos de Ur**	**4.47**	**254**	P	**Pn**	**10 42 51.3**	**+1.1**
UREC				S	**Sn**	**10 43 42.6**	**+0.1**
CACV	**CAICARA DEL OR**	**4.82**	**107**	*e*P	**Pb**	**10 43 03.4**	**-3.5**
NORC	**Norcasia**	**4.99**	**227**	P	**Pn**	**10 42 58.2**	**+0.7**
NORC				S	**Sn**	**10 43 56.0**	**+0.5**
CHIC	**Chingaza**	**5.02**	**210**	P	**Pn**	**10 42 59.3**	**+1.2**
26nm,0.5s							
CHIC				S	**Sn**	**10 43 54.8**	**-1.8**
26nm,0.5s							
APAC	**Apartado, Choc**	**5.44**	**259**	P	**Pn**	**10 43 04.6**	**+1.1**
47nm,0.5s							
GUY2C	**Guana, Caldas**	**5.58**	**228**	P	**Pn**	**10 43 07.8**	**+1.8**
15nm,0.6s							
CBOC	**Ciudad Bolivar**	**5.70**	**237**	P	**Pn**	**10 43 09.8**	**+2.5**
10nm,0.8s							
PRAC	**Prado**	**6.40**	**215**	P	**Pn**	**10 43 17.0**	**+0.1**
PRAC				S	**Sn**	**10 44 29.9**	**-0.4**
PCRV	**Puerto La Cruz**	**6.57**	**79**	*e*P	**Pn**	**10 43 20.1**	**+0.8**

UCR 08 11:20:28.0±1.3, 10°.48N×86°.40W, h9km±11km, MW3.7, 6C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALIBA	**Liberia Airpor**	**0.85**	**82**	*e*P	Pb	11 20 45.2	+0.3
ALIBA				*e*S	Sn	11 20 58.0	-0.7
LCRUZ	**La Cruz**	**0.96**	**52**	⇑ *i*P	Pn	11 20 47.6	-0.2
PLVR	**Palo Verde**	**1.04**	**97**	*e*P	Pg	11 20 47.5	-0.6
GPS3	**Bodega del ICE**	**1.06**	**75**	⇑ *e*P	Pn	11 20 50.0	+1.0
GPS3				*e*S	Sg	11 21 01.3	-0.8
VRLE	**La Escondida,**	**1.06**	**73**	⇑ *i*P	Pg	11 20 47.8	-0.7
CMARA	**Lajas Hojancha**	**1.07**	**115**	*e*P	Pg	11 20 47.8	-0.7
CMARA				*e*S	Sg	11 21 00.9	-1.4
GPS2	**Hotel Rincn d**	**1.07**	**75**	*e*P	Pg	11 20 48.0	-0.6
COLC	**Colonia**	**1.19**	**81**	*e*P	Pb	11 20 50.0	-0.9
HORNC	**Hornillas**	**1.23**	**79**	⇑ *i*P	Pn	11 20 50.4	-1.0
NYURE	**Nandayure**	**1.23**	**113**	*e*P	Pn	11 20 49.4	-1.9
CUI	**Cuipilapa**	**1.23**	**82**	⇑ *i*P	Pn	11 20 50.5	-0.9
CUI				*e*S	Sn	11 21 07.9	-0.3
INVE	**Universidad In**	**1.32**	**90**	*e*P	Pn	11 20 51.7	-0.9
TENO	**El Achiote**	**1.42**	**81**	*e*P	Pn	11 20 52.8	-1.2
JTS	**Las Juntas de**	**1.44**	**97**	⇑ *e*P	Pn	11 20 53.1	-1.2
QUEB	**Quebradon, Cot**	**1.49**	**84**	*e*P	Pn	11 20 54.6	-0.3
MTEVE	**Monteverde**	**1.56**	**96**	*e*P	Pn	11 20 55.4	-0.6
ARE1	**Arenal 1**	**1.66**	**90**	*e*P	Pn	11 20 57.4	+0.1
VARE2	**V. Arenal**	**1.66**	**90**	*e*P	Pn	11 20 57.5	+0.2
CEDE	**Laguna Cedeo**	**1.67**	**90**	*e*P	Pn	11 20 57.3	-0.2
COPN	**Copaltepe**	**1.70**	**354**	*e*P	Pn	11 20 57.4	-0.5
ACON	**Acoyapa**	**1.91**	**39**	*e*P	Pn	11 20 59.8	-0.9
VPL2	**V. Platanar**	**1.99**	**95**	*e*P	Pn	11 21 02.3	+0.2
TRB2	**Turrubares**	**2.00**	**106**	*e*P	Pg	11 21 07.1	+0.6

VBV1 **V. Barva** **2.29** **99** *e*P Pb 11 21 09.4 -0.3
PICV **PH. Pirrs** **2.33** **111** *e*P Pn 11 21 07.6 +1.0
VICA **Volcano Irazu** **2.56** **101** *e*P Pn 11 21 10.7 +0.6
CVTQ **Turrialba Volc** **2.64** **100** *e*P Pn 11 21 11.6 +0.5
SAJE **San Jernim** **3.06** **111** *e*P Pb 11 21 24.1 +1.3

TRN 08 11:20:56.8, 16°.37N×61°.40W, h79km, MD3.6, 1C, Near East coast of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAGL	**Barre de l'ile**	**0.43**	**165**	*e*S	Sn	11 21 21.9	+2.4
TBG	**Guadaloupe-3**	**0.57**	**205**	*e*P	Pn	11 21 12.3	+1.2
TBG				*e*S	Sn	11 21 23.2	+1.6
ANBD	**Bethesda, Anti**	**0.76**	**332**	⇑ *i*P	Pn	11 21 14.1	+1.1
DSLB	**Salisbury**	**0.93**	**182**	*e*P	Pn	11 21 16.6	+1.7
DSLB				*e*S	Sn	11 21 29.9	+1.5
MDN	**Morne-Daniel**	**1.04**	**180**	*e*P	Pn	11 21 17.9	+1.6
MDN				*e*S	Sn	11 21 33.3	+2.4
SVN	**Savane Anatole**	**1.54**	**172**	*e*P	Pn	11 21 23.3	+0.7
SVN				*e*S	Sn	11 21 43.2	+1.2
ILAM	**Ilet Lapin Mar**	**1.66**	**162**	*e*P	Pn	11 21 25.6	+1.4
ILAM				*e*S	Sn	11 21 45.9	+1.0
BIM	**Bigot**	**1.87**	**170**	*e*P	Pn	11 21 29.2	+2.2
BIM				*e*S	Sn	11 21 51.4	+1.5
SLBI	**Saint Lucia, B**	**2.37**	**170**	*e*P	Pn	11 21 34.8	+1.2
SLBI				*e*S	Sn	11 22 04.0	+2.2
SLAC	**Saint Lucia, A**	**2.50**	**169**	*e*P	Pn	11 21 36.7	+1.2
SLAC				*e*S	Sn	11 22 07.1	+2.0

IDC ***08*** *11:24:56.5±0.8, 26°.13N×129°.21E, h0km, mb3.8/11, mbtmp3.8/13, ML3.4/2, MS3.0/9, Error ellipse: s-maj=25.5km s-min=13.8km az=65.0*
JMA ***08*** *11:24:57.4±0.1, 26°.3N±0°.7×129°.6E±0°.4, h44km, MV3.6/19, NEAR MINAMI-DAITOJIMA IS*
NIED ***08*** *11:24:57.4, 26°.32N×129°.63E, h44km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; M_{rr}=0.89; $M_{\theta\theta}$=0.71; $M_{\phi\phi}$=0.18; $M_{r\theta}$=1.16; $M_{\theta\phi}$=0.31; $M_{\phi r}$=-0.07; Fault plane solution: M_0=1.45000×10^15 NP1:ϕ_s=52.00000°, δ=21.00000°, λ=-123.00000°. NP2:ϕ_s=267.00000°, δ=72.00000°, λ=-78.00000°.*
NEIC ***08*** *11:24:57.7±1.0, 26°.24N±0°.08×129°.54E±0°.04, h10km±1km, mb4.4/13 Error ellipse: s-maj=13.4km s-min=5.9km az=188.0*
ISC 08 11:24:55.7±4.5, 26°.30N±0°.04×129°.58E±0°.04, h3km±29km, n67, σ2°.09/74, mb4.3/15, MS3.2/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYRO	**Yoronjima**	**1.24**	**306**	*i*P	**Pn**	**11 25 19.1**	**-0.8**
JYRO				S	**Sb**	**11 25 34.5**	**-1.7**
JOW	**Kunigami**	**1.28**	**295**		**Pn**	**11 25 19.9**	**-0.5**
JOW	**Kunigami**	**1.28**	**295**	Pn	**Pn**	**11 25 19.6**	**-0.9**
168nm,0.3s,baz=133,slow=14,SNR=167							
JOW				Sn	**Sb**	**11 25 35.7**	**-1.7**
127nm,0.3s,baz=109,slow=29,SNR=7.2							
JOW	**Kunigami**	**1.28**	**295**	*i*P	**Pn**	**11 25 20.0**	**-0.5**
JOW				S	**Sb**	**11 25 35.6**	**-1.7**
JOKE	**Okinoerabujima**	**1.39**	**320**	*i*P	**Pn**	**11 25 21.3**	**-0.7**
JOKE				S	**Sb**	**11 25 37.7**	**-2.8**
JNTH	**Nagotoyohara**	**1.41**	**279**	P	**Pn**	**11 25 21.7**	**-0.6**
JMZ	**Minamidaito 2**	**1.56**	**107**		**Pn**	**11 25 23.6**	**-0.6**
JMZ				Sn	**Sn**	**11 25 39.5**	**-5.4**
JMZ	**Minamidaito 2**	**1.56**	**107**	P	**Pn**	**11 25 22.7**	**-1.6**
JMZ				S	**Sn**	**11 25 40.0**	**-4.8**
JKDJ	**Kitadaitoujima**	**1.58**	**102**	P	**Pn**	**11 25 23.3**	**-1.3**
JTK	**Tokunoshima**	**1.59**	**339**	*i*P	**Pn**	**11 25 23.9**	**-0.8**
JIH	**Iheya**	**1.62**	**297**	*i*P	**Pn**	**11 25 24.9**	**-0.2**
JIH				S	**Sn**	**11 25 43.8**	**-2.7**
JJT3	**Tamagusuku3**	**1.62**	**265**	*i*P	**Pn**	**11 25 25.3**	**+0.2**
JJT3				S	**Sb**	**11 25 45.4**	**-1.6**
JAMN	**Amaminishikomi**	**1.97**	**350**	*i*P	**Pn**	**11 25 28.9**	**-1.0**
JZK	**Kikaishima**	**2.04**	**10**	P	**Pn**	**11 25 30.5**	**-0.5**
JZK				S	**Sn**	**11 25 54.7**	**-2.2**
JAM	**Amami Oshima**	**2.11**	**1**	P	**Pn**	**11 25 30.6**	**-1.3**
JAGN	**Aguni-jima**	**2.11**	**278**	*i*P	**Pn**	**11 25 32.1**	**+0.2**
JAGN				S	**Sn**	**11 25 56.3**	**-2.4**
JKE	**Kume jima 2**	**2.51**	**271**	P	**Pn**	**11 25 36.7**	**-0.6**
JKE				S	**Sn**	**11 26 05.2**	**-3.2**
JTAJ	**Takarajima**	**2.87**	**353**	*e*P	**Pn**	**11 25 40.9**	**-1.3**
JTAJ				S	**Sn**	**11 26 12.8**	**-4.5**
JMJ	**Miyako jima 2**	**4.14**	**250**	P	**Pn**	**11 25 59.6**	**-0.2**
YOJ	**Yonaguni jima**	**6.21**	**254**	Pn	**Pn**	**11 26 26.6**	**-1.7**
YOJ	**Yonaguni jima**	**6.21**	**254**	P	**Pn**	**11 26 26.7**	**-1.7**
JNU	**Nakatsue**	**6.90**	**9**	Pn	**Pn**	**11 26 38.4**	**+0.7**
JNU	**Nakatsue**	**6.90**	**9**	Pn	**Pn**	**11 26 38.3**	**+0.6**
1.3nm,0.3s,baz=189,slow=14,SNR=15							
JNU				Sn	**Sn**	**11 27 50.2**	**-6.5**
0.4nm,0.3s,baz=245,slow=21,SNR=1.0							
JNU				LR	LR	11 30 00.6	
comp=Z,29nm,19.0s,baz=235,slow=43							
NACB	**Ninganchiao**	**7.53**	**255**	Pn	**Pn**	**11 26 44.1**	**-2.3**
NACB	**Ninganchiao**	**7.53**	**255**	P	**Pn**	**11 26 44.3**	**-2.1**
YHNB	**Yeheng**	**7.59**	**259**	Pn	**Pn**	**11 26 46.7**	**-0.5**
YHNB	**Yeheng**	**7.59**	**259**	P	**Pn**	**11 26 48.8**	**+1.5**
YULB	**Yu-li**	**8.06**	**251**		**Pn**	**11 26 49.6**	**-4.0**
YULB	**Yu-li**	**8.06**	**251**	P	**Pn**	**11 26 49.9**	**-3.8**
SSLB	**Suanglung**	**8.21**	**254**		**Pn**	**11 26 52.9**	**-2.8**
SSLB	**Suanglung**	**8.21**	**254**	P	**Pn**	**11 26 53.2**	**-2.6**
TPUB	**Ta-pu**	**8.66**	**252**		**Pn**	**11 26 59.6**	**-2.3**
TPUB	**Ta-pu**	**8.66**	**252**	P	**Pn**	**11 26 59.6**	**-2.3**
KSRS	**Korea Array**	**11.21**	**353**	Pn	**Pn**	**11 27 37.9**	**+1.0**
0.2nm,0.3s,baz=169,slow=13,SNR=6.4							
KSRS				LR	LR	11 32 24.6	
comp=Z,43nm,19.5s,baz=180,slow=40							
1.7nm,0.7s							
USRK	**Ussuriysk Ar.**	**17.97**	**6**	P	**P**	**11 29 09.7**	**+2.6**
0.2nm,0.3s,baz=187,slow=12,SNR=2.9							
1.6nm,0.7s							
GUMO	**Guam**	**19.12**	**128**	LR	LR	11 34 53.1	
comp=Z,35nm,21.6s,baz=286,slow=31							
ASAJ	**Asahikawa**	**20.67**	**27**	P	Pn	11 29 41.1	+2.2
3.2nm,0.5s,baz=239,slow=9.9,SNR=8.5							
ASAJ				LR	LR	11 39 07.8	
comp=Z,26nm,18.9s,baz=111,slow=41							
3.2nm,0.5s							
JKA	**Kamikawa-asahi**	**20.67**	**27**	P	Pn	11 29 38.9	0.0
JKA				IAmb	IAmb	11 29 57.6	
comp=Z,20nm,1.5s							
KLR	**Kul'dur**	**22.96**	**4**	LR	LR	11 38 12.2	
comp=Z,23nm,18.4s,baz=182,slow=34							
SONM	**Songino Array**	**28.17**	**326**	P	**P**	**11 30 51.1**	**+1.7**
comp=Z,1.0nm,0.7s,baz=139,slow=9.8,SNR=5.2							
SONM				LR	LR	11 44 35.0	
comp=Z,22nm,18.1s,baz=168,slow=42							
comp=Z,1.0nm,0.7s							
FAKI	**Fak Fak**	**29.16**	**175**	P	**P**	**11 30 58.0**	**-0.2**
FAKI				IAmb	IAmb	11 30 59.4	
comp=Z

comp=Z,6.1nm,1.4s
D22K Ayikyak River 61.33 24 P **P 11 35 13.2 +0.9**
D22K IAmb IAmb 11 35 38.2
comp=Z,3.3nm,1.4s
KIRV Kirov 62.89 325 LR LR 12 06 07.2
comp=Z,37nm,18.2s,baz=33,slow=39
RND Reindeer 63.08 30 P **P 11 35 25.4 +1.2**
RND IAmb IAmb 11 35 36.3
comp=Z,3.8nm,1.0s
F24K Squaw Lake 63.16 25 P **P 11 35 26.6 +2.1**
ILAR Eielson Array 63.81 28 P **P 11 35 32.3 +3.4**
comp=Z,0.3nm,0.7s,baz=282,slow=7.3,SNR=2.1
comp=Z,0.3nm,0.7s
BMAR Burnt Mountain 64.43 25 P **P 11 35 34.4 +1.3**
FINES FINESS Array B 73.40 331 P **P 11 36 29.4 +0.6**
comp=Z,2.6nm,1.0s,baz=63,slow=4.7,SNR=4.5
comp=Z,2.6nm,1.0s
AKASG Malin Array Be 76.26 320 LR LR 12 12 43.3
comp=Z,34nm,18.6s,baz=58,slow=38
BRTR Keskin Array B 77.94 308 P **P 11 36 55.9 +0.4**
comp=Z,0.2nm,0.3s,baz=76,slow=3.0,SNR=2.3
comp=Z,0.2nm,0.3s
YKA Yellowknife Ar 77.95 25 P **P 11 36 58.8 +3.9**
comp=Z,0.1nm,0.6s,baz=302,slow=6.7,SNR=2.2
comp=Z,0.1nm,0.6s

---

*IDC **08** 11:46:52.5±0.9, 52°.69N×167°.07W, h0km, mb4.0/24, mbtmp4.0/25, ML3.0/1, MS3.3/11, Error ellipse: s-maj=26.2km s-min=13.7km az=177.0*
*NEIC **08** 11:46:57.4±2.8, 52°.7N±0°.2×167°.1W±0°.2, h32km±14km, mb3.7/32, ML3.5/12, Error ellipse: s-maj=25.2km s-min=10.4km az=158.0*
ISC 08 11:46:56.5±0.7, 52°.67N±0°.10×166°.94W±0°.06, h25km, n82, σ1°38/60, mb4.1/24, MS3.3/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.20**	**285**		**Pn**	**11 47 17.0**	**-0.6**
NIKH				IAML		11 47 43.8	
comp=N,826nm,0.8s							
NIKH				IAML		11 47 45.0	
comp=E,941nm,0.7s							
NIKH	**Nikolski High**	**1.20**	**285**	P	**Pn**	**11 47 17.1**	**-0.6**
UNV	**Unalaska Valle**	**1.21**	**12**		**Pn**	**11 47 17.0**	**-0.7**
LVA	**Lava Point**	**1.59**	**20**		**Pn**	**11 47 23.3**	**+0.2**
LVA				IAML		11 47 57.9	
comp=E,755nm,0.6s							
AKUT	**Akutan**	**1.63**	**25**	Pn	**Pn**	**11 47 23.0**	**-0.4**
AKUT				IAML		11 47 53.0	
comp=E,372nm,1.1s							
AKUT	**Akutan**	**1.63**	**25**	P	**Pn**	**11 47 23.1**	**-0.4**
AKUT	**Akutan**	**1.63**	**25**	S	**Sb**	**11 47 47.1**	**+1.2**
FALS	**False Pass**	**3.03**	**42**		**Pn**	**11 47 44.0**	**+1.2**
FALS	**False Pass**	**3.03**	**42**	P	**Pn**	**11 47 44.5**	**+1.7**
ATKA	**Atka Island**	**4.46**	**267**	P	**Pn**	**11 48 02.5**	**+0.1**
ATKA	**Atka Island**	**4.46**	**267**	S	**Sn**	**11 48 55.1**	**+1.6**
SDPT	**Sand Point**	**4.66**	**52**	Pn	**Pn**	**11 48 04.5**	**-0.7**
SDPT				IAML		11 49 08.3	
comp=N,68nm,2.4s							
SDPT				IAML		11 49 53.5	
comp=E,56nm,3.0s							
SDPT	**Sand Point**	**4.66**	**52**	P	**Pn**	**11 48 05.0**	**-0.2**
KIWB	**Kanaga Island**	**6.32**	**267**	Pn	**Pn**	**11 48 28.8**	**+0.8**
OHAK	**Old Harbor**	**9.08**	**54**	P	**Pn**	**11 49 04.6**	**-1.2**
KDAK	**Kodiak Island**	**9.66**	**52**	Pn	**Pn**	**11 49 11.7**	**-2.0**
comp=E,0.3nm,0.3s,baz=28,slow=6.1,SNR=4.4							
KDAK				Sn	**Sn**	**11 50 58.8**	**-2.5**
comp=E,0.1nm,0.3s,baz=141,slow=20,SNR=1.2							
CAST	**Castle Rocks**	**13.30**	**30**		**Pn**	**11 50 06.8**	**+3.3**
H21K	**Melozitna Rive**	**14.85**	**23**	P	**Pn**	**11 50 28.3**	**+3.8**
G21K	**Allakaket**	**15.41**	**21**	P	**Pn**	**11 50 35.3**	**+3.4**
F20K	**Avaraart Lake**	**15.44**	**17**	P	**P**	**11 50 36.1**	**-0.5**
F20K				IAmb	IAmb	11 50 50.3	
comp=Z,3.2nm,0.8s							
E19K	**Redstone River**	**15.57**	**14**	P	**Pn**	**11 50 35.7**	**+1.7**
E19K				IAmb	IAmb	11 50 55.1	
comp=Z,3.9nm,0.7s							
ILAR	**Eielson Array**	**15.89**	**32**	Pn	**Pn**	**11 50 36.9**	**-1.2**
comp=Z,0.1nm,0.3s,baz=228,slow=10.0,SNR=5.2							
comp=Z,0.5nm,0.8s							
J25K	**Salcha River,**	**16.30**	**34**	P	**Pn**	**11 50 43.7**	**+0.3**
G23K	**Bananza Creek**	**16.37**	**24**	P	**Pn**	**11 50 46.7**	**+2.3**
G23K				IAmb	IAmb	11 50 49.0	
comp=Z,7.8nm,1.1s							
COLD	**Coldfoot**	**16.74**	**23**		**P**	**11 50 52.4**	**+1.4**
D20K	**Etivluk River**	**16.83**	**13**	IAmb	IAmb	11 50 54.9	
comp=Z,5.2nm,0.7s							
J26L	**Joseph Creek**	**16.87**	**36**	IAmb	IAmb	11 50 53.9	
comp=Z,12nm,1.5s							
M29M	**Somme Creek**	**17.99**	**46**	P	**Pn**	**11 51 06.1**	**+1.5**
M29M				IAmb	IAmb	11 51 10.8	
comp=Z,5.6nm,0.8s							
D23K	**Nanushuk River**	**18.06**	**19**	IAmb	IAmb	11 51 15.8	
comp=Z,3.9nm,0.6s							
F25K	**Christian Rive**	**18.18**	**27**	IAmb	IAmb	11 51 09.0	
comp=Z,6.3nm,1.2s							
DAWY	**Dawson**	**18.23**	**41**	IAmb	IAmb	11 51 12.8	
comp=Z,4.9nm,0.8s							
N30M	**Aishikik Lake**	**18.31**	**50**	P	**Pn**	**11 51 10.5**	**+2.0**
N30M				IAmb	IAmb	11 51 42.4	
comp=Z,10.0nm,1.1s							
I28M	**Miner Creek**	**18.68**	**36**	IAmb	IAmb	11 51 14.8	
comp=Z,2.6nm,0.7s							
SKAG	**Skagway**	**18.77**	**56**	P	**P**	**11 51 15.6**	**+2.1**
B22K	**Teshekpuk Lake**	**18.78**	**14**	IAmb	IAmb	11 51 20.8	
comp=Z,6.8nm,0.8s							
K29M	**Barlow Dome**	**18.89**	**42**	P	**P**	**11 51 15.8**	**+0.9**
K29M				IAmb	IAmb	11 51 16.6	
comp=Z,4.3nm,0.7s							
H29M	**Whitestone**	**19.63**	**35**	IAmb	IAmb	11 51 23.6	
comp=Z,3.8nm,0.8s							
I30M	**Mount Dempster**	**19.90**	**39**	IAmb	IAmb	11 51 57.6	
comp=Z,2.6nm,0.9s							
CRAG	**Craig**	**19.93**	**68**	P	**P**	**11 51 26.6**	**+0.5**
FARO	**Faro, Yukon**	**20.22**	**49**	P	**P**	**11 51 31.1**	**+1.8**
D27M	**Malcolm River**	**20.57**	**26**	P	**P**	**11 51 34.0**	**+0.9**
D27M				IAmb	IAmb	11 51 39.9	
comp=Z,4.3nm,0.8s							
E28M	**Babbage River**	**20.57**	**29**	P	**P**	**11 51 33.5**	**+0.4**
H31M	**Peel River**	**20.91**	**38**	P	**P**	**11 51 35.7**	**-1.0**
PETK	**Petropavlovsk-**	**21.21**	**285**	P	**P**	**11 51 39.3**	**-0.8**
comp=Z,4.8nm,0.6s,baz=86,slow=15,SNR=6.3							
PETK				LR	LR	12 00 31.2	
comp=Z,34nm,20.2s,baz=139,slow=39							
comp=Z,4.8nm,0.6s							
MA2	**Magadan**	**24.21**	**303**	LR	LR	12 01 37.6	
comp=Z,40nm,18.2s,baz=86,slow=37							
YKA	**Yellowknife Ar**	**28.92**	**49**	P	**P**	**11 52 53.8**	**+0.7**
comp=Z,0.1nm,0.6s,baz=275,slow=16,SNR=6.6							
comp=Z,0.1nm,0.6s							
YAK	**Yakutsk**	**34.09**	**311**	LR	LR	12 07 53.0	
comp=Z,54nm,18.5s,baz=102,slow=37							
NVAR	**Mina Array Bea**	**36.19**	**93**	P	**P**	**11 53 57.7**	**+0.5**
comp=Z,0.3nm,0.7s,baz=307,slow=8.0,SNR=5.4							
comp=Z,0.3nm,0.7s							
KLR	**Kul'dur**	**37.76**	**290**	LR	LR	12 10 56.9	
comp=Z,40nm,18.4s,baz=63,slow=38							
H11N2	**WAKE ISLAND Hy**	**38.64**	**222**	T	T	12 35 44.9	
baz=24,slow=76,SNR=35							
H11N3	**WAKE ISLAND Hy**	**38.65**	**222**	T	T	12 35 43.6	
baz=24,slow=76,SNR=26							
H11N1	**WAKE ISLAND Hy**	**38.66**	**222**	T	T	12 35 46.1	
baz=24,slow=76,SNR=21							
PDAR	**Pinedale Array**	**38.89**	**81**	P	**P**	**11 54 19.4**	**-0.6**
comp=Z,0.5nm,0.7s,baz=290,slow=5.0,SNR=6.3							
comp=Z,0.5nm,0.7s							
H11S1	**WAKE ISLAND Hy**	**39.82**	**221**	T	T	12 37 17.6	
baz=24,slow=76,SNR=36							
H11S2	**WAKE ISLAND Hy**	**39.83**	**221**	T	T	12 37 26.0	
baz=24,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**39.84**	**221**	T	T	12 37 34.6	
baz=24,slow=76,SNR=24							
USRK	**Ussuriysk Ar.**	**40.27**	**283**	P	**P**	**11 54 28.7**	**-2.4**
comp=Z,0.8nm,0.6s,baz=86,slow=9.4,SNR=2.3							
comp=Z,0.8nm,0.6s							
MJAR	**Matsushiro Arr**	**41.19**	**269**	P	**P**	**11 54 37.7**	**-1.1**
comp=Z,1.3nm,0.7s,baz=23,slow=4.9,SNR=2.8							
comp=Z,1.3nm,0.7s							
ANMO	**Albuquerque**	**45.67**	**88**	LR	LR	12 12 46.5	
comp=Z,36nm,18.8s,baz=64,slow=34							
KSRS	**Korea Array**	**46.84**	**278**	P	**P**	**11 55 23.4**	**-0.6**
comp=Z,2.4nm,0.8s,baz=62,slow=7.8,SNR=7.9							
comp=Z,2.4nm,0.8s							
NRIK	**Noril'sk**	**46.86**	**332**	LR	LR	12 17 28.7	
comp=Z,30nm,20.4s,baz=140,slow=39							
SPITS	**Spitsbergen Ar**	**49.40**	**359**	P	**P**	**11 55 42.3**	**-1.1**
comp=Z,1.2nm,0.6s,baz=160,slow=4.6,SNR=4.0							
comp=Z,1.2nm,0.6s							
TXAR	**Lajitas Array**	**51.26**	**91**	P	**P**	**11 55 58.4**	**+0.2**
comp=Z,0.5nm,0.7s,baz=301,slow=4.3,SNR=8.4							
comp=Z,0.5nm,0.7s							
SONM	**Songino Array**	**52.41**	**302**	P	**P**	**11 56 05.0**	**-1.5**
comp=Z,1.2nm,0.9s,baz=59,slow=6.6,SNR=6.0							
comp=Z,1.2nm,0.9s							
JMIC	**Jan Mayen**	**55.69**	**8**	LR	LR	12 22 30.5	
comp=Z,29nm,18.1s,baz=68,slow=38							
ARCES	**ARCESS Array B**	**57.77**	**355**	P	**P**	**11 56 44.2**	**-0.6**
comp=Z,2.3nm,0.9s,baz=19,slow=7.9,SNR=5.5							
comp=Z,2.3nm,0.9s							
ZALV	**Zalesovo Beam**	**58.19**	**319**	LR	LR	12 22 56.2	
comp=Z,32nm,19.3s,baz=25,slow=37							
KURBB	**Kurchatov Arra**	**63.23**	**320**	P	**P**	**11 57 21.9**	**-0.3**
comp=Z,1.2nm,0.8s,baz=48,slow=7.5,SNR=9.2							
comp=Z,1.2nm,0.8s							
BVAR	**Borovoye Array**	**64.31**	**326**	P	**P**	**11 57 29.3**	**0.0**
comp=Z,1.5nm,0.7s,baz=54,slow=7.7,SNR=6.4							
BVAR				LR	LR	12 28 47.1	
comp=Z,41nm,18.6s,baz=77,slow=39							
comp=Z,1.5nm,0.7s							
MKAR	**Makanchi Array**	**64.66**	**315**	P	**P**	**11 57 30.6**	**-1.2**
comp=Z,1.5nm,0.8s,baz=48,slow=6.3,SNR=14							
comp=Z,1.5nm,0.8s							
ARTI	**Arti**	**65.10**	**334**	P	**P**	**11 57 34.2**	**-0.2**
comp=Z,6.0nm,0.6s,baz=352,slow=3.5,SNR=11							
ARTI				LR	LR	12 28 43.0	
comp=Z,25nm,18.4s,baz=32,slow=39							
comp=Z,6.0nm,0.6s							
FINES	**FINESS Array B**	**65.76**	**353**	P	**P**	**11 57 38.0**	**-0.6**
comp=Z,5.2nm,0.6s,baz=20,slow=7.2,SNR=19							
comp=Z,5.2nm,0.6s							
NB2	**NORSAR Subarra**	**66.63**	**1**	P	**P**	**11 57 43.9**	**-0.4**
comp=Z,0.8nm,0.6s,baz=359,slow=6.2							
NOA	**NORSAR Array B**	**66.63**	**1**	P	**P**	**11 57 44.1**	**-0.2**
comp=Z,1.2nm,0.7s,baz=359,slow=6.2,SNR=3.8							
comp=Z,1.2nm,0.7s							
HFS	**Hagfors**	**67.55**	**360**	P	**P**	**11 57 49.4**	**-0.7**
comp=Z,3.1nm,0.5s,baz=46,slow=4.3,SNR=17							
comp=Z,3.1nm,0.5s							
AKTO	**Aktyubinsk**	**70.48**	**331**	P	**P**	**11 58 08.9**	**+0.6**
comp=Z,1.6nm,0.6s,baz=50,slow=3.8,SNR=6.2							
comp=Z,1.6nm,0.6s							
EKA	**Eskdalemuir Ar**	**71.53**	**10**	P	**P**	**11 58 14.1**	**-0.6**
comp=Z,1.2nm,0.6s,baz=359,slow=5.0,SNR=5.0							
comp=Z,1.2nm,0.6s							
AKASG	**Malin Array Be**	**76.10**	**349**	P	**P**	**11 58 41.0**	**-0.5**
comp=Z,1.6nm,0.5s,baz=14,slow=5.5,SNR=8.8							
comp=Z,1.6nm,0.5s							
CMAR	**Chiang Mai Arr**	**77.99**	**285**	P	**P**	**11 58 53.1**	**+0.5**
comp=Z,0.4nm,0.3s,baz=18,slow=5.2,SNR=8.2							
comp=Z,0.4nm,0.3s							
GERES	**GERESS Array B**	**78.86**	**360**	P	**P**	**11 58 58.1**	**+1.0**
comp=Z,0.4nm,0.5s,baz=336,slow=2.9,SNR=4.3							
comp=Z,0.4nm,0.5s							
MLR	**Muntele Rosu**	**81.59**	**351**	LR	LR	12 38 33.9	
comp=Z,30nm,18.5s,baz=352,slow=38							
BRTR	**Keskin Array B**	**86.26**	**344**	P	**P**	**11 59 36.9**	**+0.9**
comp=Z,1.0nm,0.7s,baz=90,slow=1.2,SNR=6.9							
comp=Z,1.0nm,0.7s							

---

*NEIC **08** 11:52:42.7±1.4, 18°.8S±0°.1×177°.8W±0°.1, h471km±7km, mb4.2/23, Error ellipse: s-maj=22.3km s-min=16.1km az=140.0*
*IDC **08** 11:52:45.6±1.2, 18°.89S×177°.86W, h510km±11km, mb3.3/12, mbtmp4.1/13, Error ellipse: s-maj=18.3km s-min=12.0km az=143.0*
ISC 08 11:52:47.3±0.5, 18°.8S±0°.1×178°.00W±0°.09, h532km, n75, σ0°75/75, mb4.1/25, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.91**	**286**	P	**P**	**11 54 04.9**	**-2.4**
43nm,0.5s,baz=146,slow=5.8,SNR=89							
MSVF				S	**S**	**11 55 10.7**	**-1.8**
19nm,1.0s,baz=21,slow=22,SNR=6.8							
NIUE	**Niue**	**7.64**	**93**	P	P	11 54 32.3	-8.6
AFI	**Afiamalu**	**7.72**	**52**	P	P	11 54 32.2	-10
PINNC	**Pines Island,**	**14.13**	**252**	P	**P**	**11 55 47.0**	**-1.0**
DZM	**Mont Dzumac**	**14.93**	**255**	P	**P**	**11 55 55.0**	**-1.5**
EIDS	**Eidsvold**	**29.33**	**252**	P	**P**	**11 58 07.5**	**+0.5**
EIDS				IAmb	IAmb	11 58 07.9	
comp=Z,7.2nm,1.0s							
ARMA	**Armidale**	**29.83**	**241**	P	**P**	**11 58 12.3**	**+0.8**
ARMA				IAmb	IAmb	11 58 23.2	
comp=Z,9.4nm,1.1s							
COEN	**Coen**	**37.51**	**271**	P	**P**	**11 59 16.6**	**+0.5**
STKA	**Stephens Creek**	**38.54**	**242**	P	**P**	**11 59 24.9**	**+0.5**
STKA	**Stephens Creek**	**38.54**	**242**	P	**P**	**11 59 24.8**	**+0.4**
comp=Z,1.4nm,0.4s,baz=73,slow=11,SNR=6.7							
comp=Z,1.4nm,0.4s							
BBOO	**Buckleboo**	**43.31**	**242**	P	**P**	**12 00 02.8**	**+0.6**
WR8	**Warramunga Arr**	**44.70**	**260**	P	**P**	**12 00 13.5**	**+0.2**
WR8				IAmb	IAmb	12 00 32.8	
comp=Z,11nm,1.4s							
WB0	**Warramunga Arr**	**44.83**	**261**	P	**P**	**12 00 14.5**	**+0.3**
WB0				IAmb	IAmb	12 00 15.3	
comp=Z,5.5nm,0.5s							
WB2	**Warramunga Arr**	**44.84**	**260**	P	**P**	**12 00 14.6**	**+0.3**
WB2				IAmb	IAmb	12 00 14.8	
comp=Z,16nm,1.4s							
WRA	**Warramunga Arr**	**44.86**	**260**	P	**P**	**12 00 14.7**	**+0.3**
WRA	**Warramunga Arr**	**44.86**	**260**	P	**P**	**12 00 14.7**	**+0.3**
comp=Z,3.2nm,0.4s,baz=98,slow=6.9,SNR=157							
comp=Z,3.2nm,0.4s							
AS31	**Alice Springs**	**44.92**	**255**	P	**P**	**12 00 15.8**	**+0.8**
AS31				IAmb	IAmb	12 00 16.6	
comp=Z,4.4nm,0.7s							
ASAR	**Alice Springs**	**44.92**	**255**	P	**P**	**12 00 14.5**	**-0.5**
ASAR	**Alice Springs**	**44.92**	**255**	P	**P**	**12 00 15.6**	**+0.7**
comp=Z,12nm,0.6s,baz=88,slow=8.9,SNR=317							
ASAR				S	**S**	**12 06 17.2**	**+2.9**
comp=Z,1.3nm,0.7s,baz=90,slow=16,SNR=12							
comp=Z,12nm,0.6s							
MTN	**Manton Dam**	**49.17**	**269**	P	**P**	**12 00 47.5**	**+0.6**
MTN				IAmb	IAmb	12 01 18.0	
comp=Z,21nm,1.4s							
KNRA	**Kununurra**	**50.79**	**265**	P	**P**	**12 00 59.3**	**+0.5**
KNRA				IAmb	IAmb	12 01 40.4	
comp=Z,24nm,1.4s							
FITZ	**Fitzroy Crossi**	**53.27**	**261**	P	**P**	**12 01 17.2**	**+0.6**
VNDA	**Vanda**	**59.57**	**185**	P	**P**	**12 01 59.4**	**+0.3**
VNDA	**Vanda**	**59.57**	**185**	P	**P**	**12 01 58.6**	**-0.4**
comp=Z,0.7nm,0.7s,baz=52,slow=5.0,SNR=2.4							
comp=Z,0.7nm,0.7s							
QSPA	**South Pole Qui**	**71.23**	**180**	P	**P**	**12 03 12.3**	**-0.1**
QSPA	**South Pole Qui**	**71.23**	**180**	P	**P**	**12 03 12.5**	**0.0**
comp=Z,3.2nm,0.7s,baz=311,slow=0.7,SNR=24							
comp=Z,3.2nm,0.7s							
PEA0B	**Petropavlovsk-**	**74.66**	**345**	P	**P**	**12 03 31.7**	**-0.4**
PETK	**Petropavlovsk-**	**74.66**	**345**	P	**P**	**12 03 33.4**	**+1.3**
comp=Z,3.3nm,0.6s,baz=112,slow=7.6,SNR=15							
comp=Z,3.3nm,0.6s							
OHAK	**Old Harbor**	**78.53**	**13**	P	**P**	**12 03 52.1**	**-1.0**
OHAK				IAmb	IAmb	12 03 55.9	
comp=Z,19nm,1.3s							
PNTR	**Pine Nut**	**79.35**	**42**	P	**P**	**12 03 58.4**	**+0.2**
N14K	**Kuskokwak Cree**	**79.59**	**8**	P	**P**	**12 03 58.9**	**+0.3**
N14K				IAmb	IAmb	12 04 05.1	
comp=Z,22nm,1.5s							
NVAR	**Mina Array Bea**	**79.82**	**44**	P	**P**	**12 04 00.8**	**+0.1**
comp=Z,0.4nm,0.6s,baz=225,slow=8.6,SNR=5.9							
comp=Z,0.4nm,0.6s							
N15K	**Kwethluk River**	**80.05**	**9**	P	**P**	**12 04 02.1**	**+1.0**
N15K				IAmb	IAmb	12 04 12.0	
comp=Z,6.9nm,1.3s							
J05D	**Fort Rock, OR**	**80.80**	**38**	P	**P**	**12 04 06.0**	**+0.4**
M16K	**Timber Creek**	**81.04**	**9**	P	**P**	**12 04 07.3**	**+1.1**
M16K				IAmb	IAmb	12 04 18.0	
comp=Z,8.8nm,1.4s							
BELA	**Belgrano 2**	**81.21**	**173**	P	**P**	**12 04 05.7**	**-1.3**
BELA				IAmb	IAmb	12 04 08.7	
comp=Z,5.7nm,1.5s							
TXAR	**Lajitas Array**	**86.16**	**57**	P	**P**	**12 04 32.9**	**+0.3**
comp=Z,0.9nm,0.7s,baz=220,slow=6.5,SNR=14							
comp=Z,0.9nm,0.7s							
ILAR	**Eielson Array**	**86.69**	**13**	P	**P**	**12 04 33.4**	**-0.7**
comp=Z,0.3nm,0.4s,baz=218,slow=5.0,SNR=13							
comp=Z,0.3nm,0.4s							
PDAR	**Pinedale Array**	**87.75**	**43**	P	**P**	**12 04 39.0**	**-0.9**
comp=Z,0.4nm,0.7s,baz=224,slow=4.1,SNR=4.1							
comp=Z,0.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**89.56**	**290**	P	**P**	**12 04 48.7**	**+0.2**
comp=Z,0.3nm,0.3s,baz=108,slow=3.6,SNR=4.4							
YKA	**Yellowknife Ar**	**95.00**	**25**	P	**P**	**12 05 12.2**	**-0.3**
comp=Z,0.3nm,0.8s,baz=236,slow=4.8,SNR=3.1							
comp=Z,0.3nm,0.8s							
BVAR	**Borovoye Array**	**117.80**	**321**	PKP	**PKiKP**	**12 10 33.1**	**+0.1**
comp=Z,1.5nm,0.4s,baz=128,slow=1.8,SNR=7.8							
SPITS	**Spitsbergen Ar**	**120.20**	**357**	PKP	**PKPdf**	**12 10 36.9**	**-0.1**
comp=Z,2.4nm,0.7s,baz=20,slow=2.7,SNR=4.7							
ARCES	**ARCESS Array B**	**127.28**	**350**	PKP	**PKiKP**	**12 10 51.2**	**0.0**
comp=Z,0.9nm,0.6s,baz=66,slow=1.5,SNR=5.8							
FINES	**FINESS Array B**	**134.18**	**344**	PKP	**PKiKP**	**12 11 05.7**	**+0.3**
comp=Z,1.9nm,0.8s,baz=81,slow=2.5,SNR=4.7							
AKASG	**Malin Array Be**	**141.55**	**332**	PKhKP	PKPpre	12 11 13.3	
comp=Z,1.7nm,0.4s,baz=44,slow=4.3,SNR=11							
NDNU	**Novodnistrovsk**	**143.91**	**331**	PKP	**PKPdf**	**12 11 21.8**	**-0.2**
KMPD	**K-Podol'skiy**	**144.34**	**332**	PKP	**PKPab**	**12 11 22.9**	**0.0**
ILGA	**Ilgaz**	**145.01**	**316**		**PKPab**	**12 11 26.7**	**+0.7**
STNU	**Starunia**	**145.08**	**334**	PKP	**PKPab**	**12 11 25.9**	**+0.2**
BURAR	**Bucovina Array**	**145.60**	**332**		**PKPab**	**12 11 28.3**	**+0.3**
BRTR	**Keskin Array B**	**145.70**	**314**		**PKPbc**	**12 11 27.1**	**0.0**
BRTR	**Keskin Array B**	**145.70**	**314**	PKPbc	**PKPbc**	**12 11 27.8**	**+0.6**
comp=Z,2.8nm,0.7s,baz=132,slow=3.9,SNR=15							
NIE	**Niedzica**	**146.12**	**338**	PKP	**PKPbc**	**12 11 28.6**	**+0.8**
CLL	**Collm**	**146.44**	**347**		**PKPbc**	**12 11 27.8**	**-0.8**
MORC	**Moravsky Berou**	**146.70**	**342**	*e*PKP	**PKiKP**	**12 11 30.6**	**-0.9**
MMAI	**Mount Meron Ar**	**146.96**	**302**	PKPbc	**PKPbc**	**12 11 31.4**	**+0.7**
comp=Z,1.7nm,0.3s,baz=74,slow=6.2,SNR=4.8							
KRUC	**Moravsky**	**147.68**	**342**	*e*PKP	**PKiKP**	**12 11 32.8**	**-0.6**
GERES	**GERESS Array B**	**148.60**	**345**	PKPbc	**PKPbc**	**12 11 34.8**	**+0.4**
comp=Z,1.6nm,0.6s,baz=4.1,slow=1.9,SNR=12							
CONA	**Conrad Observa**	**148.85**	**342**	*i* PKP	**PKiKP**	**12 11 36.5**	**+0.4**
comp=Z,5.4nm,0.9s							
RONA	**Rosalia, Austr**	**148.93**	**341**	*i* PKP	**PKiKP**	**12 11 36.6**	**+0.4**
comp=Z,8.1nm,1.0s							
BIOA	**Bad Ischl, Aus**	**149.68**	**344**	*i* PKP	**PKPbc**	**12 11 37.1**	**+0.2**
comp=Z,3.5nm,0.6s							
LESA	**Schwarzleotal**	**150.17**	**345**	*i* PKP	**PKiKP**	**12 11 38.7**	**0.0**
comp=Z,3.1nm,0.5s							
SOKA	**Soboth**	**150.23**	**342**	*i* PKP	**PKiKP**	**12 11 38.8**	**-0.1**
comp=Z,4.8nm,1.0s							
KBA	**Koelnbreinsper**	**150.33**	**344**	*i* PKP	**PKPbc**	**12 11 38.8**	**+0.1**
comp=Z,4.1nm,0.5s							
WATA	**Walderalm**	**150.50**	**347**	*i* PKP	**PKiKP**	**12 11 39.6**	**+0.1**
comp=Z,3.6nm,0.5s							
WTTA	**Wattenberg**	**150.56**	**347**	*i* PKP	**PKiKP**	**12 11 40.0**	**+0.4**
comp=Z,9.6nm,0.5s							
MOTA	**Moosalm**	**150.60**	**347**	*i* PKP	**PKiKP**	**12 11 39.9**	**+0.2**
comp=Z,3.5nm,0.7s							
MYKA	**Terra Mystica**	**150.66**	**344**	*i* PKP	**PKPbc**	**12 11 39.4**	**0.0**
comp=Z,4.7nm,0.6s							
SQTA	**Sankt Quirin**	**150.69**	**347**	*i* PKP	**PKiKP**	**12 11 40.2**	**+0.3**
comp=Z,4.6nm,0.5s							
ABTA	**Abfaltersbach**	**150.84**	**345**	*i* PKP	**PKiKP**	**12 11 40.1**	**-0.1**
comp=Z,8.5nm,0.6s							
PRED	**Cave del Predi**	**150.86**	**343**	PKPbc	**PKiKP**	**12 11 41.0**	**+0.9**
PRED					**PKPab**	**12 11 49.7**	**+0.3**
FETA	**Feichten**	**150.98**	**348**	*i* PKP	**PKiKP**	**12 11 41.1**	**+0.5**
comp=Z,4.1nm,0.7s							
CIMO	**Cimolais**	**151.27**	**345**		**PKPbc**	**12 11 40.7**	**0.0**
FUORN	**Ofenpass-Fuorn**	**151.46**	**348**		**PKiKP**	**12 11 42.2**	**+0.6**

IDC 08 11:54:42.8±1.3, 13°.51N×120°.95E, h110km±10km, mb3.0/4, mbtmp3.4/4, Error ellipse: s-maj=42.3km s-min=23.9km az=49.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.58**	**358**	P	Pn	11 55 01.8	+1.3
315nm,0.4s,baz=200,slow=15,SNR=8.2							
TGY				S	Sn	11 55 14.9	+1.2
361nm,0.3s,baz=181,slow=10,SNR=5.5							
CMAR	**Chiang Mai Arr**	**21.71**

4C-2D, Error ellipse: s-maj=34.2km s-min=21.8km az=144.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.33**	**21**	⇑P	Pn	12 17 56.5	+0.3
	5.4nm,0.4s						
AAK				⇑S	Sn	12 18 59.0	+0.6
	6.4nm,0.7s						
KK31	**Karatay Array**	**5.53**	**349**	⇑P	Pn	12 17 59.7	+0.9
	0.4nm,0.2s,baz=167,slow=13,SNR=13						
KK31				⇑S	Sn	12 19 03.1	+0.1
	8.9nm,0.4s,baz=168,slow=23,SNR=4.5						
TKM2	**Tokmak 2**	**5.94**	**27**	⇓P	Pn	12 18 03.5	-1.1
	7.6nm,0.5s						
TKM2				⇓S	Sn	12 19 15.7	+2.2
	0.8nm,0.4s						

*NEIC **08** 12:32:25.1±0.5, 19°.374N±0°.007×155°.500W±0°.004, h10km±1km, Error ellipse: s-maj=2.5km s-min=1.3km az=7.0*

HVO 08 12:32:24.9±0.5, 19°.372N±0°.008×155°.498W±0°.008, h9km±3km, ML2.6/36, ML2.5/36(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=203.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.15**	**320**		Pg	12 32 28.6	+0.1
MWH					Sg	12 32 31.8	+0.7
MWH	**Mokuaweoweo**	**0.15**	**320**	IAML		12 32 32.6	
	comp=E,798nm,0.4s						
MWH				IAML		12 32 33.3	
	comp=N,709nm,0.5s						
MLH	**Mauna Loa**	**0.16**	**41**		Pg	12 32 28.7	+0.2
MLH					Sg	12 32 31.6	+0.5
MLH	**Mauna Loa**	**0.16**	**41**	IAML		12 32 34.4	
	comp=E,669nm,0.1s						
MLH				IAML		12 32 34.6	
	comp=N,652nm,0.2s						
HTC	**Hot Caves**	**0.16**	**145**		Pg	12 32 29.0	+0.5
KHU	**Kahuku**	**0.17**	**222**	Pg	Pg	12 32 28.9	+0.3
KHU				IAML		12 32 31.9	
	comp=E,813nm,0.1s						
WRMHI	**West Rim**	**0.19**	**79**		Pg	12 32 29.3	+0.3
WRMHI					Sg	12 32 32.4	+0.7
SDHHI	**Sand Hill**	**0.19**	**85**		Pg	12 32 29.3	+0.3
HLP	**Hilina Pali**	**0.19**	**113**		Pg	12 32 29.4	+0.3
HLP				IAML		12 32 35.1	
	comp=N,2μm,0.2s						
HLP	**Hilina Pali**	**0.19**	**113**		Sg	12 32 32.9	+1.1
UWE	**Uwekahuna**	**0.20**	**76**		Pg	12 32 29.5	+0.3
UWE					Sg	12 32 33.2	+1.1
UWE	**Uwekahuna**	**0.20**	**76**	IAML		12 32 35.5	
	comp=N,2μm,0.2s						
UWE				IAML		12 32 35.5	
	comp=E,2μm,0.2s						
OBL	**Observatory Le**	**0.21**	**77**		Pg	12 32 29.5	+0.2
RIM	**Rim**	**0.21**	**84**		Pg	12 32 29.6	+0.2
RIM					Sg	12 32 33.0	+0.6
UWB	**Uwekahuna Bluf**	**0.21**	**76**		Pg	12 32 29.6	+0.2
UWB					Sg	12 32 33.1	+0.6
ALEP	**Alea Permanent**	**0.22**	**321**		Pg	12 32 29.6	0.0
ALEP					Sg	12 32 33.3	+0.6
KKO	**Keanakako'i**	**0.22**	**83**		Pg	12 32 29.8	+0.2
KKO					Sg	12 32 33.1	+0.5
SBLHI	**Steaming Bluff**	**0.22**	**76**		Pg	12 32 29.7	+0.1
SBLHI					Sg	12 32 33.4	+0.7
RSD	**Rainshed**	**0.23**	**66**		Pg	12 32 29.9	+0.2
RSD					Sg	12 32 33.5	+0.6
BYL	**Byron's Ledge**	**0.23**	**80**		Pg	12 32 29.8	+0.1
BYL				IAML		12 32 34.6	
	comp=E,946nm,0.2s						
BYL				IAML		12 32 35.6	
	comp=N,607nm,0.4s						
BYL	**Byron's Ledge**	**0.23**	**80**		Sg	12 32 33.6	+0.8
HATHI	**Halema'uma'u T**	**0.23**	**77**		Pg	12 32 29.6	0.0
HATHI				IAML		12 32 34.4	
	comp=N,1μm,0.2s						
HATHI				IAML		12 32 34.9	
	comp=E,1μm,0.4s						
HATHI	**Halema'uma'u T**	**0.23**	**77**		Sg	12 32 33.5	+0.6
HMH	**Humu'ula Sheep**	**0.23**	**3**		Pg	12 32 30.1	+0.3
HMH					Sg	12 32 33.8	+0.7
HMH	**Humu'ula Sheep**	**0.23**	**3**	IAML		12 32 33.9	
	comp=N,1μm,0.3s						
HMH				IAML		12 32 34.0	
	comp=E,1μm,0.5s						
PUH	**Pauahi**	**0.27**	**89**		Pg	12 32 30.3	0.0
PUH					Sg	12 32 34.3	+0.3
PUH	**Pauahi**	**0.27**	**89**	IAML		12 32 35.2	
	comp=N,443nm,2.1s						
PUH				IAML		12 32 36.7	
	comp=E,420nm,0.6s						
HPO	**Honuapo**	**0.29**	**191**		Pg	12 32 31.0	+0.3
KNHH	**Kane Nui o Ham**	**0.31**	**88**		Pg	12 32 30.9	-0.2
STCH	**Steam Cracks**	**0.35**	**88**		Pg	12 32 31.5	-0.4
STCH					Sg	12 32 37.1	+0.5
STCH	**Steam Cracks**	**0.35**	**88**	IAML		12 32 37.5	
	comp=N,428nm,0.3s						
NPOC	**North of Pu'u**	**0.37**	**87**		Pg	12 32 31.8	-0.4
POHA	**Pohakuloa**	**0.39**	**355**		Pg	12 32 32.6	0.0
POHA				IAML		12 32 42.9	
	comp=N,293nm,0.6s						
CPH	**Captain Cook**	**0.41**	**286**		Pg	12 32 32.8	-0.2
HUH	**Hualalai**	**0.45**	**314**		Pg	12 32 34.1	+0.4

*IDC **08** 12:33:43.0±0.7, 37°.29N×142°.41E, h0km, mb3.9/14, mbtmp3.9/19, ML3.7/5, MS3.3/17, Error ellipse: s-maj=17.3km s-min=15.5km az=112.0*

*NIED **08** 12:33:46.6, 37°.32N×142°.16E, h32km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}=1.15; $M_{\theta\theta}$=1.10; $M_{\phi\phi}$=0.05; $M_{r\theta}$=0.08; $M_{r\phi}$=-0.82; $M_{\theta\phi}$=0.52; Fault plane solution: M_0=1.48000×1015 NP1: ϕ_s=274.00000°, δ=47.00000°, λ=-127.00000°. NP2: ϕ_s=142.00000°, δ=54.00000°, λ=-57.00000°.*

*JMA **08** 12:33:46.6±0.2, 37°.3N±0.5×142°.2E±0.8, h32km±3km, MD4.3/38, MV4.5/38, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 08 12:33:45.2±3.6, 37°.32N±0°.05×142°.23E±0°.06, h13km±22km, n70, σ1§71/52, mb3.8/14, MS3.4/10, 11D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.08**	**273**	⇓iP	Pb	12 34 05.0	-0.9
JFK				⇓S	Sb	12 34 17.9	-2.1
JFK	**Kawauchi**	**1.08**	**273**	A	A	12 34 05.0	
	comp=N,5.0nm,0.4s,comp=E,5.0nm,0.3s						
JMST	**Minamisoumatoc**	**1.14**	**291**	⇓P	Pn	12 34 05.9	-1.1
JMST				⇓S	Sb	12 34 19.7	-1.9
JMST	**Minamisoumatoc**	**1.14**	**291**	A	A	12 34 05.9	
	comp=N,4.0nm,0.6s,comp=E,3.0nm,0.3s						
JIKH	**Ishinomakikobu**	**1.16**	**329**	*i*P	Pn	12 34 06.4	-0.8
JIKH				*e*S	Sb	12 34 20.3	-1.9
ONAJ	**Iwakimizuishiy**	**1.16**	**260**	*i*P	Pn	12 34 05.9	-1.4
ONAJ				S	Sb	12 34 20.4	-1.9
ONAJ	**Iwakimizuishiy**	**1.16**	**260**	A	A	12 34 05.9	
	comp=N,10.0nm,0.4s,comp=E,11nm,0.4s						
JMM	**Marumori**	**1.27**	**296**	P	Pn	12 34 08.1	-0.6
JMM	**Marumori**	**1.27**	**296**	⇓iP	Pn	12 34 07.9	-0.8
JMM				⇓S	Sb	12 34 23.3	-2.0
JMM	**Marumori**	**1.27**	**296**	A	A	12 34 07.9	
	comp=N,7.0nm,0.5s,comp=E,5.0nm,3.3s						
JIO	**Ouri**	**1.33**	**329**	⇓*i*P	Pn	12 34 09.0	-0.6
JIO				⇓S	Sn	12 34 25.0	-2.2
JFFD	**Fukushimafurud**	**1.35**	**261**	A	A	12 34 09.1	
	comp=N,6.0nm,0.6s,comp=E,6.0nm,0.9s						
JOTO	**OTAMA OYAMA**	**1.53**	**280**	*i*P	Pn	12 34 12.5	+0.2
JOTO				S	Sn	12 34 31.6	-0.5
JOTO	**OTAMA OYAMA**	**1.53**	**280**	A	A	12 34 12.5	
	comp=N,20nm,0.3s,comp=E,16nm,0.4s						
JOU	**Okura**	**1.62**	**311**	⇓*i*P	Pn	12 34 13.8	+0.2
JOU				⇓S	Sn	12 34 33.9	-0.5
JOU	**Okura**	**1.62**	**311**	A	A	12 34 13.8	
	comp=N,10.0nm,0.6s,comp=E,8.0nm,0.7s						
JOFO	**Osakifurukawao**	**1.66**	**321**	A	A	12 34 13.8	
	comp=N,12nm,1.4s,comp=E,17nm,1.8s						
JYAR	**Yonezawaarcadi**	**1.76**	**290**	A	A	12 34 15.1	
	comp=N,17nm,1.2s,comp=E,16nm,1.2s						
JMK	**Ichinoseki**	**1.82**	**334**	*i*P	Pn	12 34 16.7	+0.4
JSB	**Shiboa**	**1.88**	**260**	A	A	12 34 16.8	
	comp=N,13nm,1.0s,comp=E,10.0nm,0.8s						
JYS	**Shiratake**	**1.94**	**298**	P	Pn	12 34 18.7	+0.8
JYS				S	Sn	12 34 42.8	+0.6
JFY	**Yanaizu**	**2.02**	**273**	P	Pn	12 34 19.6	+0.7
JFY				S	Sn	12 34 43.7	-0.3
JYK	**Kaneyama**	**2.18**	**318**	⇓*i*P	Pn	12 34 21.6	+0.5
JSD	**Sado**	**3.23**	**284**	P	Pn	12 34 36.6	+0.9
MJAR	**Matsushiro Arr**	**3.31**	**258**	Pn	Pn	12 34 38.7	+1.8
	comp=E,2.6nm,0.3s,baz=87,slow=15,SNR=87						
MJAR				Sn	Sn	12 35 21.2	+5.1
	comp=E,3.4nm,0.3s,baz=31,slow=47,SNR=1.9						
MJAR				LR	LR	12 36 04.8	
	comp=E,375nm,18.4s,baz=84,slow=41 comp=E,16nm,0.3s						
MAJO	**Matsushiro**	**3.32**	**258**	P	Pn	12 34 38.9	+2.0
JTM	**Tenmabayashi**	**3.58**	**346**	P	Pn	12 34 43.4	+2.9
JGF	**Kuroka**	**4.29**	**248**	P	Pn	12 34 53.3	+3.1
JHJ2	**Mitsune**	**4.64**	**206**	P	Pn	12 34 56.0	+1.0
JHJ	**Hachijo jima 2**	**4.64**	**206**	Pn	Pn	12 34 54.9	-0.2
	comp=E,29nm,0.3s,baz=334,slow=18,SNR=12						
JHJ				Sn	Sn	12 35 44.0	-4.8
	comp=E,59nm,0.3s,baz=74,slow=24,SNR=10 comp=E,76nm,0.3s						
INU	**Inuyama**	**4.64**	**247**	P	Pn	12 34 58.2	+3.1
JEM	**Erimo**	**4.75**	**8**	P	Pn	12 34 58.2	+1.7
ASAJ	**Asahikawa**	**6.80**	**2**	Pn	Pn	12 35 24.9	+0.3
	comp=E,2.1nm,0.3s,baz=217,slow=15,SNR=19						
ASAJ				Sn	Sn	12 36 33.1	-8.9
	comp=E,2.4nm,0.3s,baz=310,slow=32,SNR=1.9 comp=E,7.0nm,0.4s						
JNU	**Nakatsue**	**10.19**	**249**	LR	LR	12 40 35.3	
	comp=E,78nm,18.9s,baz=63,slow=40						
USRK	**Ussuriysk Ar.**	**10.37**	**315**	Pn	Pn	12 36 12.8	-0.8
	comp=E,0.4nm,0.3s,baz=130,slow=15,SNR=5.8						
USRK				LR	LR	12 39 52.9	
	comp=E,97nm,20.8s,baz=172,slow=35 comp=E,1.5nm,0.5s						
KSRS	**Korea Array**	**11.39**	**275**	Pn	Pn	12 36 31.0	+3.5
	comp=E,0.1nm,0.3s,baz=89,slow=13,SNR=7.3						
KSRS				LR	LR	12 40 43.2	
	comp=E,120nm,18.3s,baz=80,slow=36 comp=E,3.1nm,0.7s						
KLR	**Kul'dur**	**14.13**	**331**	LR	LR	12 42 33.7	
	comp=E,125nm,18.4s,baz=146,slow=37						
JOW	**Kunigami**	**15.77**	**232**	LR	LR	12 43 43.9	
	comp=E,33nm,18.7s,baz=80,slow=38						
PETK	**Petropavlovsk-**	**19.12**	**29**	LR	LR	12 45 21.6	
	comp=E,25nm,20.8s,baz=230,slow=37						
MA2	**Magadan**	**22.95**	**11**	LR	LR	12 49 22.6	
	comp=E,45nm,18.5s,baz=190,slow=41						
SEY	**Seymchan**	**26.39**	**10**	P	**P**	**12 39 21.6**	**+0.5**
	comp=E,1.9nm,0.7s,baz=188,slow=9.2,SNR=6.1 comp=E,1.9nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**27.74**	**122**	T	T	13 08 42.1	
	baz=315,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.75**	**122**	T	T	13 08 42.2	
	baz=315,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.76**	**122**	T	T	13 08 45.4	
	baz=315,slow=75						
SONM	**Songino Array**	**28.17**	**303**	P	**P**	**12 39 38.6**	**+1.2**
	comp=E,2.0nm,0.7s,baz=102,slow=9.0,SNR=13 comp=E,2.0nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**28.47**	**124**	T	T	13 09 39.0	
	baz=316,slow=76						
H11S3	**WAKE ISLAND Hy**	**28.47**	**125**	T	T	13 09 36.7	
	baz=316,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.49**	**124**	T	T	13 09 38.7	
	baz=316,slow=76						
CMAR	**Chiang Mai Arr**	**42.20**	**256**	P	**P**	**12 41 39.4**	**+1.4**
	comp=E,0.5nm,0.3s,baz=58,slow=8.2,SNR=1.5 comp=E,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**42.21**	**312**	P	**P**	**12 41 38.2**	**+0.5**
	comp=E,0.7nm,0.5s,baz=86,slow=6.3,SNR=4.7						
ZALV				LR	LR	12 59 53.3	
	comp=E,34nm,18.1s,baz=178,slow=37 comp=E,0.7nm,0.5s						
MKAR	**Makanchi Array**	**44.52**	**302**	P	**P**	**12 41 57.5**	**+0.9**
	comp=E,0.6nm,0.4s,baz=82,slow=9.9,SNR=14 comp=E,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**46.34**	**308**	P	**P**	**12 42 11.1**	**+0.3**
	comp=E,2.4nm,0.4s,baz=83,slow=8.4,SNR=19						
KURBB				LR	LR	13 02 24.7	
	comp=E,49nm,19.1s,baz=171,slow=37 comp=E,2.4nm,0.4s						
BVAR	**Borovoye Array**	**50.87**	**312**	P	**P**	**12 42 44.9**	**-0.7**
	comp=E,0.7nm,0.5s,baz=68,slow=7.5,SNR=5.5						
BVAR				LR	LR	13 05 13.6	
	comp=E,32nm,18.7s,baz=142,slow=37 comp=E,0.7nm,0.5s						
ARTI	**Arti**	**56.69**	**319**	LR	LR	13 09 23.5	
	comp=E,29nm,18.2s,baz=115,slow=38						
WRA	**Warramunga Arr**	**57.44**	**189**	P	**P**	**12 43 32.9**	**-0.8**
	comp=E,1.1nm,0.6s,baz=6.9,slow=8.1,SNR=12 comp=E,1.1nm,0.6s						
ASAR	**Alice Springs**	**61.16**	**189**	P	**P**	**12 43 59.1**	**-0.4**
	comp=E,0.5nm,0.6s,baz=359,slow=5.7,SNR=10.0 comp=E,0.5nm,0.6s						
YKA	**Yellowknife Ar**	**63.23**	**30**	P	**P**	**12 44 12.7**	**-0.3**
	comp=E,0.4nm,0.8s,baz=297,slow=6.5,SNR=6.5 comp=E,0.4nm,0.8s						
FINES	**FINESS Array B**	**68.87**	**332**	P	**P**	**12 44 48.6**	**-0.6**
	comp=E,2.4nm,0.9s,baz=15,slow=7.9,SNR=4.2 comp=E,2.4nm,0.9s						
HFS	**Hagfors**	**74.10**	**336**	LR	LR	13 20 39.6	
	comp=E,37nm,18.3s,baz=74,slow=38						
AKASG	**Malin Array Be**	**74.47**	**323**	P	**P**	**12 45 23.5**	**+0.3**
	comp=E,0.2nm,0.2s,baz=56,slow=1.7,SNR=2.4 comp=E,0.2nm,0.2s						
PDAR	**Pinedale Array**	**77.00**	**46**	P	**P**	**12 45 37.3**	**-0.8**
	comp=E,0.4nm,0.6s,baz=222,slow=1.0,SNR=5.9 comp=E,0.4nm,0.6s						
MLR	**Muntele Rosu**	**79.59**	**320**	LR	LR	13 22 11.8	
	comp=E,33nm,19.8s,baz=62,slow=36						
VRAC	**Vranov**	**81.24**	**327**	LR	LR	13 24 40.1	
	comp=E,16nm,19.2s,baz=354,slow=38						
EIL	**Elat**	**84.77**	**303**	LR	LR	13 29 06.6	
	comp=E,33nm,18.1s,baz=244,slow=39						
DAVOX	**Davos/Dischmat**	**86.02**	**329**	LR	LR	13 27 14.0	
	comp=E,25nm,18.0s,baz=332,slow=37						
TXAR	**Lajitas Array**	**89.43**	**53**	P	**P**	**12 46 42.1**	**-0.1**
	comp=E,0.5nm,0.8s,baz=326,slow=4.2,SNR=5.4 comp=E,0.5nm,0.8s						
LPAZ	**La Paz**	**145.99**	**60**	PKPbc	**PKPdf**	**12 53 25.2**	**0.0**
	comp=E,0.8nm,0.5s,baz=347,slow=6.8,SNR=5.5						
H03N2	**Juan Fernandez**	**146.40**	**96**	T	T	15 37 03.7	
	baz=291,slow=76						
H03N3	**Juan Fernandez**	**146.41**	**96**	T	T	15 37 04.9	
	baz=291,slow=76						
H03N1	**Juan Fernandez**	**146.42**	**96**	T	T	15 37 04.7	
	baz=291,slow=76						

*IDC **08** 12:34:04.3±1.2, 38°.45N×133°.71E, h458km±15km, mb3.0/13, mbtmp3.8/17, Error ellipse: s-maj=18.0km s-min=11.0km az=93.0*

ISC 08 12:34:03.8±0.8, 38°.5N±0°.1×133°.8E±0°.1, h450km, n17, σ0§67/17, mb3.3/13, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**4.74**	**260**	P	**P**	**12 35 26.8**	**+1.2**
	2.1nm,0.5s,baz=79,slow=9.3,SNR=12						
JNU	**Nakatsue**	**5.82**	**205**	P	**P**	**12 35 36.6**	**+0.2**
	19nm,0.4s,baz=43,slow=0.9,SNR=55						
USRK	**Ussuriysk Ar.**	**5.90**	**347**	P	**P**	**12 35 37.7**	**+0.9**
	10nm,0.6s,baz=161,slow=9.5,SNR=34						
KLR	**Kul'dur**	**10.87**	**353**	P	**P**	**12 36 29.9**	**-0.2**
	3.1nm,0.3s,baz=178,slow=8.2,SNR=20						
SONM	**Songino Array**	**21.98**	**304**	P	**P**	**12 38 23.6**	**+0.6**
	0.7nm,0.5s,baz=112,slow=10,SNR=6.5 0.7nm,0.5s						
SEY	**Seymchan**	**26.98**	**19**	P	**P**	**12 39 07.2**	**-0.1**
	0.8nm,0.5s,baz=195,slow=10.0,SNR=6.7 0.8nm,0.5s						
TIXI	**Tiksi**	**33.36**	**357**	P	**P**	**12 40 02.2**	**-0.3**
	3.2nm,0.4s,baz=166,slow=6.1,SNR=17 3.2nm,0.4s						
MKAR	**Makanchi Array**	**38.20**	**300**	P	**P**	**12 40 42.5**	**-0.8**
	0.2nm,0.5s,baz=88,slow=10,SNR=4.3 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**40.32**	**306**	P	**P**	**12 41 00.3**	**0.0**
	0.6nm,0.5s,baz=85,slow=8.3,SNR=4.2 0.6nm,0.5s						
ILAR	**Eielson Array**	**51.55**	**33**	P	**P**	**12 42 26.7**	**+0.5**
	1.0nm,0.6s,baz=288,slow=9.1,SNR=6.6 1.0nm,0.6s						
WRA	**Warramunga Arr**	**58.09**	**179**	P	**P**	**12 43 12.5**	**-0.3**
	1.2nm,0.5s,baz=354,slow=7.5,SNR=25 1.2nm,0.5s						
ASAR	**Alice Springs**	**61.79**	**180**	P	**P**	**12 43 37.5**	**0.0**
	0.7nm,0.8s,baz=12,slow=13,SNR=7.9 0.7nm,0.8s						
FINES	**FINESS Array B**	**64.63**	**330**	P	**P**	**12 43 55.0**	**-0.4**
	1.4nm,0.7s,baz=88,slow=4.4,SNR=6.9 1.4nm,0.7s						
YKA	**Yellowknife Ar**	**65.53**	**28**	P	**P**	**12 44 01.4**	**+0.4**
	0.2nm,0.6s,baz=307,slow=5.8,SNR=6.0 0.2nm,0.6s						
HFS	**Hagfors**	**70.17**	**333**	P	**P**	**12 44 28.1**	**-1.5**
	2.5nm,0.8s,baz=86,slow=6.1,SNR=5.7 2.5nm,0.8s						
NVAR	**Mina Array Bea**	**78.83**	**50**	P	**P**	**12 45 19.5**	**+0.2**
	0.3nm,0.7s,baz=297,slow=8.2,SNR=5.1 0.3nm,0.7s						
PDAR	**Pinedale Array**	**80.82**	**42**	P	**P**	**12 45 30.0**	**+0.2**
	0.1nm,0.4s,baz=341,slow=4.4,SNR=2.3 0.1nm,0.4s						

KRSC 08 12:37:45.5±1.7, 55°.41N×166°.22E, h38km±12km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.25**	**215**	*e*P	Pn	12 37 53.3	-0.6
BKI				*e*S	Sn	12 37 58.6	-3.0
KBTR	**Krutoberegovo**	**2.08**	**294**	*e*P	Pn	12 38 18.4	+0.6
KBTR				*e*S	Sn	12 38 44.7	+2.3
KLY	**Klyuchi**	**3.27**	**288**	*e*P	Pn	12 38 35.4	+1.3
KLY				*e*S	Sn	12 39 13.8	+2.2
BZWR	**Bezymyannyi-We**	**3.29**	**282**	*e*S	Sn	12 39 18.6	+6.2
KRSR	**Krestovskiy**	**3.29**	**287**	*e*P	Pn	12 38 37.3	+2.8
KRSR				*e*S	Sn	12 39 17.8	+5.4
TUMD	**Tumrok D**	**3.33**	**269**	*e*P	Pn	12 38 39.2	+4.2
TUMD				*e*S	Sn	12 39 18.1	+4.8
KIRR	**Kirishev**	**3.37**	**282**	*e*P	Pn	12 38 40.0	+4.3
KIRR				*e*S	Sn	12 39 20.1	+5.6
KMNR	**Kamenistaya**	**3.41**	**278**	*e*P	Pn	12 38 40.9	+4.8
KPT	**Kopyto**	**3.44**	**282**	*e*P	Pn	12 38 41.4	+4.8
UGLR	**Uglovaya**	**4.86**	**246**	*e*P	Pn	12 39 01.2	+5.1
AVH	**Avacha**	**4.88**	**247**	*e*P	Pn	12 39 01.6	+5.3
AVH				*e*S	Sn	12 39 57.5	+6.1
KRX	**Arik**	**4.88**	**248**	*e*P	Pn	12 39 01.3	+5.0
KOK	**Koryaka**	**4.92**	**248**	*e*P	Pn	12 39 01.8	+5.0
DALK	**Dalny**	**4.99**	**245**	*e*P	Pn	12 39 01.8	+4.2
DALK				*e*S	Sn	12 39 57.7	+3.8
PET	**Petropavlovsk**	**5.04**	**245**	*e*P	Pn	12 39 03.6	+5.2
PET				*e*S	Sn	12 39 59.1	+3.8
GNL	**Ganaly**	**5.12**	**254**	*e*P	Pn	12 39 04.9	+5.3
KRMR	**Karymshinskiy**	**5.41**	**245**	*e*P	Pn	12 39 08.7	+5.2
KRMR				*e*S	Sn	12 40 09.2	+4.7

*IDC **08** 12:43:50.6±1.1, 22°.93N×12°.33W, h0km, mb3.9/13, mbtmp3.9/16, ML3.8/3, MS3.4/1, Error ellipse: s-maj=40.1km s-min=22.8km az=118.0*

ISC 08 12:43:50.7±0.7, 22°.8N±0°.1×12°.3W±0°.2, h10km, n30, σ2§14/27, mb4.0/13, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTIG	**Tnine Tigouga,**	**8.46**	**23**	P	Pn	12 45 57.4	+3.9
TTIG	**Tnine Tigouga,**	**8.46**	**23**	S	Sn	12 47 36.2	+7.0
BBTS	**Babate**	**9.03**	**207**	Pn	**Pn**	**12 46 02.1**	**+0.9**
	2.5nm,0.3s,baz=108,slow=4.9,SNR=1.9						
BBTS				Sn	**Sn**	**12 47 39.4**	**-3.5**
	2.6nm,0.3s,baz=23,slow=3.0,SNR=1.6						
BBTS				Lg	Lg	12 48 28.2	
	2.9nm,0.3s,baz=109,slow=23,SNR=4.2 12nm,0.4s						
TIO	**Tiouine**	**9.26**	**28**	P	**Pn**	**12 46 02.7**	**-1.8**
TIO	**Tiouine**	**9.26**	**28**	S	**Sn**	**12 47 42.9**	**-6.0**
OUZM	**OUZ**	**9.47**	**30**	P	**Pn**	**12 46 05.6**	**-1.8**
OUZM	**OUZ**	**9.47**	**30**	S	**Sn**	**12 47 49.1**	**-5.0**
TZRR	**Tazzarine**	**9.97**	**35**	P	**Pn**	**12 46 14.9**	**+0.8**
TZRR	**Tazzarine**	**9.97**	**35**	S	**Sn**	**12 48 07.2**	**+1.1**
MDT	**Midelt**	**12.07**	**32**	Pn	**Pn**	**12 46 44.7**	**+1.7**
	0.3nm,0.3s,baz=241,slow=10,SNR=1.8						
MDT				Sn	**Sn**	**12 48 57.0**	**-0.7**
	0.3nm,0.3s,baz=278,slow=3.3,SNR=2.0						
MDT				Lg	Lg	12 50 06.7	
	0.5nm,0.3s,baz=322,slow=15,SNR=4.9 0.9nm,0.3s						
DBIC	**Dimbokro**	**17.53**	**155**	P	**Pn**	**12 47 52.5**	**-2.9**
	2.8nm,0.4s,baz=335,slow=13,SNR=7.1						
DBIC				S	Sn	12 50 56.7	-14
	3.8nm,0.8s,baz=136,slow=12,SNR=2.3						
ESDC	**Sonseca Array**	**18.27**	**21**	P	**P**	**12 48 03.3**	**-1.2**
	0.1nm,0.3s,baz=211,slow=12,SNR=2.2 0.5nm,0.7s						
I42PT	**GRACIOSA ISLAN**	**21.05**	**324**	I	I	14 59 20.0	
	baz=136,slow=332,SNR=1.8						
KEST	**Kesra**	**22.79**	**51**	P	**P**	**12 48 54.3**	**+0.7**
	2.3nm,0.5s,baz=279,slow=14,SNR=4.3 2.3nm,0.5s						
I48TN	**KESRA INFRASON**	**22.81**	**50**	I	I	14 54 00.0	
	baz=238,slow=323,SNR=2.6						
GERES	**GERESS Array B**	**33.16**	**32**	P	**P**	**12 50 26.7**	**-0.7**
	1.1nm,0.7s,baz=220,slow=12,SNR=7.4 1.1nm,0.7s						
HFS	**Hagfors**	**41.53**	**19**	P	**P**	**12 51 38.7**	**+0.6**
	2.0nm,0.5s,baz=200,slow=7.9,SNR=10.0 2.0nm,0.5s						
BRTR	**Keskin Array B**	**42.24**	**55**	P	**P**	**12 51 45.6**	**+1.3**

JTJ	Tarama	4.78	28	eS		Sn	12 55 30.9	+0.7
JIRB	Irabujima	5.16	31	P		Pn	12 54 41.8	+0.8
JMJ2	Miyako jima3	5.16	33	eP		Pn	12 54 42.5	+1.5
JOGS	Gusukube	5.22	33	eP		Pn	12 54 43.7	+1.9
JIKM	Ikemajima	5.27	31	P		Pn	12 54 43.8	+1.2
JIH	Iheya	8.42	37	P		Pn	12 55 25.8	0.0
JOW	Kunigami	8.44	40	Pn		Pn	12 55 26.8	+0.7
	3.4nm,0.3s,baz=222,slow=12,SNR=8.4							
JOW				Sn		Sn	12 56 57.4	-3.1
	0.2nm,0.3s,baz=243,slow=24,SNR=1.0							
	11nm,0.4s							
JOW	Kunigami	8.44	40	eP		Pn	12 55 26.8	+0.7
JTK	Tokunoshima	9.55	39	eP		Pn	12 55 40.7	-0.7
DAV	Davao City (W)	13.65	166	LR		LR	13 02 12.4	
	comp=Z,101nm,19.7s,baz=324,slow=39							
JNU	Nakatsue	14.81	30	LR		LR	13 02 32.2	
	comp=Z,53nm,19.2s,baz=211,slow=37							
KSRS	Korea Array	17.68	15	P		P	12 57 30.4	-0.1
	0.2nm,0.3s,baz=202,slow=11,SNR=4.4							
KSRS				LR		LR	13 04 57.2	
	comp=Z,34nm,18.5s,baz=185,slow=39							
	0.6nm,0.5s							
JCJ	Chichijima	19.41	66	LR		LR	13 03 32.6	
	comp=Z,56nm,21.8s,baz=120,slow=31							
MJAR	Matsushiro Arr	21.28	38	P		P	12 58 11.3	+1.4
	1.0nm,0.8s,baz=235,slow=6.2,SNR=4.3							
MJAR				LR		LR	13 05 24.2	
	comp=Z,27nm,21.4s,baz=174,slow=34							
	1.0nm,0.8s							
CMAR	Chiang Mai Arr	22.06	269	P		P	12 58 17.8	-0.7
	0.6nm,0.3s,baz=73,slow=9.5,SNR=9.2							
CMAR				LR		LR	13 07 09.8	
	comp=Z,39nm,18.0s,baz=200,slow=38							
	0.6nm,0.3s							
GUMO	Guam	22.65	104	LR		LR	13 05 15.5	
	comp=Z,18nm,20.8s,baz=264,slow=31							
KLR	Kul'dur	29.74	13	LR		LR	13 12 25.3	
	comp=Z,45nm,19.0s,baz=202,slow=38							
SONM	Songino Array	30.22	339	P		P	12 59 32.3	-1.5
	0.3nm,0.6s,baz=152,slow=9.9,SNR=5.5							
SONM				LR		LR	13 12 01.9	
	comp=Z,23nm,19.4s,baz=176,slow=37							
	0.3nm,0.6s							
MKAR	Makanchi Array	41.76	319	P		P	13 01 12.1	-0.4
	0.5nm,0.5s,baz=104,slow=10,SNR=7.7							
MKAR				LR		LR	13 19 53.9	
	comp=Z,39nm,18.3s,baz=102,slow=38							
	0.5nm,0.5s							
WRA	Warramunga Arr	41.82	163	P		P	13 01 11.8	-1.3
	0.7nm,0.6s,baz=343,slow=8.9,SNR=7.7							
	0.7nm,0.6s							
H11N1	WAKE ISLAND Hy	41.84	83	T		T	13 46 16.1	
	baz=279,slow=75,SNR=34							
H11N2	WAKE ISLAND Hy	41.84	83	T		T	13 46 18.2	
	baz=279,slow=75,SNR=39							
H11S3	WAKE ISLAND Hy	41.85	85	T		T	13 46 09.6	
	baz=280,slow=75,SNR=307							
H11N3	WAKE ISLAND Hy	41.86	83	T		T	13 46 15.0	
	baz=279,slow=75,SNR=42							
H11S1	WAKE ISLAND Hy	41.86	85	T		T	13 46 16.8	
	baz=280,slow=75,SNR=22							
H11S2	WAKE ISLAND Hy	41.87	85	T		T	13 46 18.5	
	baz=280,slow=75,SNR=18							
ZALV	Zalesovo Beam	43.95	329	P		P	13 01 29.6	-0.3
	2.4nm,0.6s,baz=109,slow=7.2,SNR=9.9							
	2.4nm,0.6s							
ASAR	Alice Springs	45.26	165	P		P	13 01 40.5	-0.2
	0.3nm,0.5s,baz=345,slow=6.8,SNR=9.9							
	0.3nm,0.5s							
AAK	Ala-Archa	45.63	310	LR		LR	13 24 01.7	
	comp=Z,41nm,18.7s,baz=88,slow=40							
KURBB	Kurchatov Arra	45.65	322	P		P	13 01 43.3	-0.2
	1.1nm,0.7s,baz=114,slow=8.1,SNR=8.3							
	1.1nm,0.7s							
BVAR	Borovoye Array	51.23	322	P		P	13 02 26.3	-0.2
	0.6nm,0.5s,baz=107,slow=9.8,SNR=5.7							
	0.6nm,0.5s							
ILAR	Eielson Array	72.11	27	P		P	13 04 49.3	+2.2
	0.2nm,0.6s,baz=278,slow=5.3,SNR=6.5							
	0.2nm,0.6s							
AKASG	Malin Array Be	76.34	319	P		P	13 05 12.9	+0.9
	1.5nm,0.7s,baz=67,slow=5.7,SNR=4.5							
	1.5nm,0.7s							
YKA	Yellowknife Ar	86.04	23	P		P	13 06 03.4	+0.2
	0.1nm,0.5s,baz=313,slow=4.8,SNR=6.4							
	0.1nm,0.5s							

*SDD **08** 13:01:00.2±2.3, 20°.20N×72°.89W, h140km±15km, MD2.8, ML3.0, MW2.7*
*SSNC **08** 13:01:02.2±1.2, 20°.71N×72°.90W, h7km±10km, MD2.9, ML2.2*

ISC 08 13:01:00.1±1.0, 20°.6N±0°.1×72°.92W±0°.04, h10km, n12, σ1§11/19, 1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.28**	**253**	*eP*	**Pn**	**13 01 24.3**	**+0.2**
MASC				*eS*	**Sb**	**13 01 41.7**	**+0.8**
MASC				IAML		13 01 42.1	
	comp=E,31nm,0.2s						
MASC				IAML		13 01 42.7	
	comp=N,32nm,0.2s						
MASC	**Masc**	**1.28**	**253**	*ePg*	**Pn**	**13 01 25.2**	**+1.1**
MASC				*eSg*	**Sb**	**13 01 41.9**	**+1.0**
MASC				IAML		13 01 42.0	
	comp=N,46nm,0.2s						
MCDR	**Montecristi**	**1.35**	**119**	*ePg*	**Pn**	**13 01 25.2**	**+0.2**
MCDR				*eSg*	**Sn**	**13 01 43.2**	**+0.1**
MCDR				IAML		13 01 44.5	
	comp=N,150nm,0.2s						
QMBU	**Quimbuelo**	**1.81**	**259**	*eP*	**Pn**	**13 01 32.3**	**+0.9**
QMBU				*eS*	**Sn**	**13 01 53.5**	**-0.9**
QMBU				*eSg*	**Sb**	**13 01 55.6**	**-0.4**
QMBU				IAML		13 01 57.9	
	comp=E,39nm,0.3s						
QMBU				IAML		13 01 58.2	
	comp=N,42nm,0.2s						
QMBU	**Quimbuelo**	**1.81**	**259**	*ePg*	**Pn**	**13 01 32.1**	**+0.8**
QMBU				*eSg*	**Sn**	**13 01 55.5**	**+1.2**
QMBU				IAML		13 01 58.1	
	comp=N,43nm,0.2s						
GRTK	**Grand Turk**	**1.93**	**60**	*ePg*	**Pb**	**13 01 35.1**	**-0.2**
GRTK				*eSg*	**Sb**	**13 01 59.4**	**0.0**
GRTK				IAML		13 02 18.8	
	comp=N,85nm,0.1s						
GTBY	**Guantanamo Bay**	**2.15**	**254**	*ePg*	**Pn**	**13 01 34.6**	**-1.4**
GTBY				*eSg*	**Sn**	**13 01 59.8**	**-2.9**
GTBY				IAML		13 02 03.5	
	comp=N,35nm,1.4s						
SDDR	**Presa de Saban**	**2.19**	**135**	*ePg*	Pn	13 01 31.4	-5.2
SDDR				*eSg*	Sn	13 01 57.1	-6.7
SDDR				IAML		13 02 16.9	
	comp=N,20nm,1.6s						
RCC	**Rio Carpintero**	**2.66**	**259⇓**	*eP*	**Pn**	**13 01 43.5**	**+0.4**
RCC				*eS*	**Sn**	**13 02 15.6**	**+0.2**
RCC				IAML		13 02 17.6	
	comp=E,5.9nm,0.4s						
RCC				IAML		13 02 17.8	
	comp=N,5.4nm,0.3s						
PINC	**Pinares de May**	**2.69**	**269**	*eP*	**Pn**	**13 01 44.4**	**+0.9**
PINC				*eS*	**Sn**	**13 02 14.8**	**-1.3**
BANI	**BANI**	**3.23**	**131**	*ePg*	Pn	13 01 46.1	-4.9
HATOM	**Hato Mayor del**	**3.77**	**117**	*ePg*	Pn	13 01 52.8	-5.5
HATOM				*eSg*	Sn	13 02 32.0	-11
HATOM				IAML		13 03 02.1	
	comp=N,20nm,1.9s						

*NEIC **08** 13:02:07.5±1.3, 47°.82N±0°.01×122°.45W±0°.06, h27km±9km, Error ellipse: s-maj=5.7km s-min=1.5km az=81.0*

SEA 08 13:02:07.7±1.7, 47°.80N±0°.03×122°.38W±0°.04, h27km±7km, ML2.6/33, ML2.5/50(NEIC), Error ellipse: s-maj=4.9km s-min=4.1km az=155.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCCW	**Shoreline CC**	**0.05**	**165**		Pb	13 02 12.4	+0.1
SCCW					Sb	13 02 16.6	+1.3
LYNC	**Lynnwood City**	**0.06**	**68**		Pb	13 02 12.2	-0.1
LYNC					Sb	13 02 16.0	+0.6
BRKS	**Brookside Elem**	**0.08**	**126**		Pb	13 02 12.5	+0.1
NIHS	**Ingelmoor High**	**0.12**	**119**		Pb	13 02 13.1	+0.3
NIHS					Sb	13 02 17.8	+1.7
FINN	**Finn Hill Juni**	**0.13**	**129**		Pb	13 02 13.2	+0.4
FINN					Sb	13 02 17.9	+1.7
BEVT	**Boeing Everett**	**0.14**	**33**		Pb	13 02 12.9	0.0
BEVT					Sb	13 02 17.2	+0.8
EVGW	**Everett Gatewa**	**0.16**	**71**		Pb	13 02 13.0	-0.1
KINR	**Kitsap County**	**0.18**	**254**		Pb	13 02 13.4	+0.1
KINR					Sb	13 02 18.2	+1.1
LEOT	**Leota Junior H**	**0.18**	**101**		Pb	13 02 13.4	+0.1
LEOT					Sb	13 02 18.2	+1.1
KDKW	**Coast Env Seat**	**0.21**	**171**		Pb	13 02 14.3	+0.7
BABE	**Bainbridge Sch**	**0.22**	**208**		Pb	13 02 14.3	+0.5
MARYW	**Marymoor Park**	**0.23**	**128**		Pb	13 02 14.2	+0.4
ALKI	**Alki Wastewate**	**0.23**	**186**		Pb	13 02 14.3	+0.5
BLH	**Bald Hill**	**0.24**	**81**		Pb	13 02 13.5	-0.5
EARN	**East Ridge Ele**	**0.24**	**105**		Pb	13 02 14.1	+0.1
SP2	**Seward Park 2**	**0.26**	**160**		Pb	13 02 14.6	+0.3
SP2					Sn	13 02 20.5	-0.4
B013	**Quilcene**	**0.36**	**272**		Pb	13 02 14.9	-0.7
B013					Sb	13 02 20.5	-0.6
B013	**Quilcene**	**0.36**	**272**		Pb	13 02 14.9	-0.7
B013					Sb	13 02 20.4	-0.6
GMW	**Gold Mountain**	**0.37**	**227**		Pb	13 02 15.2	-0.7
GMW					Sb	13 02 20.9	-0.6
GNW	**Green Mountain**	**0.38**	**232**	Pg	Pb	13 02 15.3	-0.7
GNW				Sg	Sb	13 02 20.5	-1.3
VVHS	**Vashon High Sc**	**0.38**	**187**		Pb	13 02 15.9	-0.1
KIMR	**Kitsap County**	**0.40**	**221**		Pb	13 02 15.8	-0.5
KIMR					Sb	13 02 22.1	0.0
C04A	**Brinnon**	**0.41**	**258**		Pb	13 02 15.6	-0.8
C04A					Sb	13 02 21.7	-0.7
HTW	**Haystack Looko**	**0.41**	**90**		Pb	13 02 16.0	-0.6
BLN	**Blyn Mountain**	**0.45**	**298**		Pb	13 02 16.3	-0.8
ELW	**Echo Lake**	**0.46**	**131**		Pb	13 02 16.8	-0.6
ELW					Sb	13 02 23.9	+0.1
HDW	**Hoodsport**	**0.48**	**252**		Pb	13 02 16.8	-0.8
HDW					Sb	13 02 23.8	-0.7
C05A	**Tolt Reservoir**	**0.48**	**103**		Pb	13 02 17.0	-0.6
JCW	**Jim Creek**	**0.50**	**38**		Pb	13 02 17.2	-0.7
JCW					Sb	13 02 24.2	-0.7
SVOH	**Skagit Valley**	**0.52**	**341**		Pb	13 02 17.5	-0.7
SQM	**Sequim**	**0.52**	**302**		Pb	13 02 17.9	-0.4
RATT	**Rattlesnake La**	**0.54**	**134**		Pb	13 02 17.9	-0.8
RATT					Sb	13 02 25.7	-0.5
RAW	**Raver**	**0.56**	**147**		Pb	13 02 18.4	-0.5
PAYL	**Puyallup Schoo**	**0.61**	**176**		Pb	13 02 19.4	-0.4
D05A	**Enumclaw**	**0.67**	**156**		Sb	13 02 30.0	+0.4
D05A	**Enumclaw**	**0.67**	**156**	Pn	Pb	13 02 20.2	-0.6
D05A				IAML		13 02 30.3	
	comp=N,184nm,0.4s						
GHW	**Garrison Hill**	**0.76**	**174**		Pb	13 02 21.3	-1.1
PCFR	**Pierce County**	**0.81**	**183**		Pb	13 02 22.3	-0.9
B941	**Kapowsin**	**0.82**	**172**		Pb	13 02 22.0	-1.4
B941					Sb	13 02 33.2	-0.8
UWFH	**University of**	**0.86**	**331**		Pb	13 02 22.6	-1.3
VGZ	**Gonzales**	**0.88**	**314**		Pn	13 02 22.6	-1.7
MCW	**Mount Constitu**	**0.93**	**341**		Pn	13 02 24.3	-0.7
A04D	**Lummi Island**	**0.94**	**347**		Pn	13 02 24.4	-0.8
A04D				IAML		13 02 39.0	
	comp=N,118nm,0.2s						
RCS	**Mount Rainier-**	**1.03**	**154**		Pn	13 02 25.8	-0.9
NLWA	**Neilton Lookou**	**1.09**	**248**		Pn	13 02 26.9	-0.3
PGC	**Sidney**	**1.11**	**320**	Pn	Pn	13 02 26.5	-0.9
PGC				IAML		13 02 42.0	
	comp=E,109nm,0.1s						
PGC				IAML		13 02 42.7	
	comp=N,149nm,0.4s						
LON	**Longmire**	**1.12**	**159**		Pn	13 02 26.5	-1.2
LON				IAML		13 02 43.1	
	comp=E,102nm,0.2s						
WISH	**Wishkah**	**1.16**	**234**		Pn	13 02 28.4	+0.2
WISH				IAML		13 02 51.5	
	comp=N,82nm,4.0s						
WISH				IAML		13 02 52.1	
	comp=E,99nm,3.5s						
LTY	**Liberty**	**1.28**	**114**		Pn	13 02 30.0	+0.1
LTY				IAML		13 02 47.4	
	comp=E,119nm,0.4s						
LTY				IAML		13 02 47.6	
	comp=N,130nm,0.3s						
E03A	**Lebam**	**1.49**	**213**		Pn	13 02 33.2	+0.5
E03A				IAML		13 03 06.8	
	comp=E,60nm,1.5s						
E03A				IAML		13 03 09.7	
	comp=N,67nm,3.0s						
CLRS	**Cowichan Lake**	**1.55**	**312**	Pn	Pn	13 02 33.0	-0.5
RADR	**Rader Ridge**	**1.69**	**216**		Pn	13 02 35.8	+0.3
RADR				IAML		13 03 06.2	
	comp=N,66nm,2.5s						
RADR				IAML		13 03 22.8	
	comp=E,78nm,1.8s						
F04D	**Rainier, OR**	**1.77**	**194**	Pn	Pn	13 02 36.7	+0.1
MXC	**Moxie City**	**1.88**	**130**		Pn	13 02 37.7	-0.3
MXC				IAML		13 03 06.7	
	comp=E,54nm,0.5s						
MXC				IAML		13 03 06.9	
	comp=N,41nm,0.2s						
F03A	**Seaside**	**2.04**	**204**	Pn	Pn	13 02 40.7	+0.4
B08A	**Colville Reser**	**2.12**	**74**	Pn	Pn	13 02 41.4	0.0
E07A	**Sunnyside**	**2.13**	**125**		Pn	13 02 41.9	+0.4
E07A				IAML		13 03 13.9	
	comp=E,54nm,0.4s						
E07A				IAML		13 03 14.8	
	comp=N,46nm,0.5s						
WAH2	**Wahluke Slope**	**2.19**	**118**	Pn	Pn	13 02 42.8	+0.5
D08A	**Wollman Farm,**	**2.46**	**106**	Pn	Pn	13 02 46.1	0.0
G04A	**Mulino**	**2.60**	**182**	Pn	Pn	13 02 48.2	+0.3
E08A	**Dider Farm, El**	**2.62**	**119**	Pn	Pn	13 02 48.1	-0.1
E08A				IAML		13 03 29.0	
	comp=N,15nm,0.7s						
E08A				IAML		13 03 33.8	
	comp=E,16nm,0.6s						
LLLB	**Lillooet**	**2.83**	**6**	Pn	Pn	13 02 51.9	+0.7
LLLB				IAML		13 03 49.0	
	comp=N,20nm,4.3s						
LLLB				IAML		13 04 13.6	
	comp=E,15nm,4.5s						
LNOR	**Lincton Mounta**	**3.41**	**123**	Pn	Pn	13 02 58.7	-0.5
LNOR				IAML		13 03 57.3	
	comp=N,16nm,4.9s						
LNOR				IAML		13 03 58.8	
	comp=E,14nm,3.5s						
NEW	**Newport**	**3.56**	**81**	Pn	Pn	13 03 00.9	-0.3
NEW				IAML		13 03 57.7	
	comp=E,9.1nm,4.9s						
NEW				IAML		13 03 58.7	
	comp=E,6.9nm,4.4s						
PINE	**Pine Mountain**	**4.13**	**165**	Pn	Pn	13 03 08.5	-0.7

RSPR 08 13:02:19.3, 18°.12N×66°.98W, h9km±3km, 4C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**0.11**	**297⇑**	*eP*	Pg	13 02 21.6	-0.4
LSP	**Las Mesas**	**0.11**	**297**	*eS*	Sg	13 02 24.3	+0.6
MLPR	**Magueyes Islan**	**0.17**	**201**	*ePg*	Pg	13 02 23.4	+0.6
MLPR				IAML		13 03 48.5	
	comp=N,9.5nm,2.2s						
MLPR	**Magueyes Islan**	**0.17**	**201⇑**	*eP*	Pg	13 02 23.1	+0.4
MLPR	**Magueyes Islan**	**0.17**	**201**	*eS*	Sg	13 02 25.8	+0.7
CRPR	**Cabo Rojo, PR**	**0.17**	**226**	*ePg*	Pg	13 02 23.2	+0.4
CRPR				IAML		13 04 02.5	
	comp=N,29nm,2.2s						
CRPR	**Cabo Rojo, PR**	**0.17**	**226⇓**	*eP*	Pg	13 02 23.1	+0.3
CRPR	**Cabo Rojo, PR**	**0.17**	**226**	*eS*	Sg	13 02 26.0	+0.8
GBPR	**Guanica, Bosqu**	**0.18**	**146⇑**	*eP*	Pg	13 02 23.4	+0.4
GBPR	**Guanica, Bosqu**	**0.18**	**146**	*eS*	Sg	13 02 26.4	+0.9
AOPR	**Arecibo Observ**	**0.31**	**45**	*ePg*	Pg	13 02 24.0	-1.5
AOPR	**Arecibo Observ**	**0.31**	**45⇑**	*eP*	Pg	13 02 25.6	+0.2
AOPR	**Arecibo Observ**	**0.31**	**45**	*eS*	Sg	13 02 30.3	+0.7
CELP	**Cerrillos**	**0.39**	**97**	*ePg*	Pg	13 02 26.8	-0.1
CELP				IAML		13 03 57.5	
	comp=N,14nm,2.1s						
CELP	**Cerrillos**	**0.39**	**97⇓**	*eP*	Pg	13 02 26.8	-0.1
CELP	**Cerrillos**	**0.39**	**97**	*eS*	Sg	13 02 32.6	+0.6

*BJI **08** 13:12:39.7, 7°.08S×130°.98E, h112km, mB4.9/10, mb4.9/55*
*IDC **08** 13:12:43.3±2.2, 6°.81S×130°.56E, h100km±19km, mb4.3/21, mbtmp4.6/25, MS3.0/4, Error ellipse: s-maj=18.5km s-min=10.7km az=75.0*
*NEIC **08** 13:12:44.6±1.7, 6°.82S±0°.07×130°.69E±0°.10, h118km±9km, mb4.8/24, Error ellipse: s-maj=13.9km s-min=9.9km az=79.0*
*DJA **08** 13:12:44.9±0.1, 7°.5S±1°×13°.1E±°, h119km±2km, M5.0/72, mb4.9/72, mB5.5/27, MLv5.5/17, Mw(mB)5.0/27.*

ISC 08 13:12:43.2±0.3, 6°.82S±0°.04×130°.65E±0°.04, h100km, n219, σ1§58/215, mb4.8/56, 4C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.33**	**151**		**Pn**	**13 13 11.2**	**+3.8**
SAUI				Sn	**Sn**	**13 13 28.5**	**+2.8**
SAUI	**Saumlaki**	**1.33**	**151**	P	Pn	13 13 12.0	+4.6
SAUI	**Saumlaki**	**1.33**	**151**	P	Pn	13 13 11.7	+4.3
SAUI				S	**Sn**	**13 13 30.1**	**+4.4**
BNDI	**Bandanaira**	**2.40**	**342**	P	**Pn**	**13 13 24.1**	**+3.1**
BNDI	**Bandanaira**	**2.40**	**342**	P	**Pn**	**13 13 23.8**	**+2.8**
BNDI				S	**Sn**	**13 13 53.8**	**+3.8**
MSAI	**Masohi**	**3.85**	**334**	P	**Pn**	**13 13 43.6**	**+3.2**
AAI	**Ambon**	**3.95**	**322**	P	**Pn**	**13 13 44.4**	**+2.6**
FAKI	**Fak Fak**	**4.19**	**22**	Pn	**Pn**	**13 13 45.6**	**+0.5**
FAKI	**Fak Fak**	**4.19**	**22**	P	**Pn**	**13 13 46.2**	**+1.2**
FAKI	**Fak Fak**	**4.19**	**22**	P	**Pn**	**13 13 45.5**	**+0.5**
KMPI	**Kaimana, Papua**	**4.37**	**44**	P	**Pn**	**13 13 48.8**	**+1.3**
NLAI	**Namlea**	**5.01**	**315**	P	**Pn**	**13 13 59.2**	**+3.1**
	2.4nm7μm735nm,1.0s						
SWI	**Sorong**	**5.95**	**6**	P	**Pn**	**13 14 08.6**	**-0.3**
MTN	**Manton Dam**	**6.01**	**175**	Pn	**Pn**	**13 14 10.6**	**+1.0**
MTN	**Manton Dam**	**6.01**	**175**	P	**Pn**	**13 14 11.6**	**+2.0**
KDU	**Kakadu**	**6.10**	**163**	P	**Pn**	**13 14 12.1**	**+1.2**
RKPI	**Ransiki, Papua**	**6.34**	**34**	P	**Pn**	**13 14 15.9**	**+1.7**
SANI	**Sanana**	**6.63**	**315**	P	**Pn**	**13 14 21.6**	**+3.4**
SANI	**Sanana**	**6.63**	**315**	S	**Sn**	**13 15 34.8**	**+2.5**
SANI	**Sanana**	**6.63**	**315**	P	**Pn**	**13 14 20.7**	**+2.5**
	87nm,0.9s						
SOEI	**Soe**	**6.95**	**245**	Pn	**Pn**	**13 14 23.7**	**+1.1**
SOEI	**Soe**	**6.95**	**245**	P	**Pn**	**13 14 24.9**	**+2.3**
SOEI	**Soe**	**6.95**	**245**	S	**Sn**	**13 15 40.6**	**+0.3**
SOEI	**Soe**	**6.95**	**245**	P	**Pn**	**13 14 24.6**	**+2.0**
SRPI	**Serui, Papua**	**7.43**	**49**	P	**Pn**	**13 14 30.2**	**+1.1**
	1.0nm3μm69nm,0.4s						
BAKI	**Biak**	**7.80**	**44**	P	**Pn**	**13 14 35.8**	**+1.7**
BBSI	**Bau Bau**	**8.14**	**279**	P	**Pn**	**13 14 42.8**	**+4.2**
	1μm128nm,0.9s						
TNTI	**Ternate**	**8.22**	**336**	Pn	**Pn**	**13 14 40.1**	**+0.3**
TNTI	**Ternate**	**8.22**	**336**	P	**Pn**	**13 14 41.1**	**+1.3**
	41nm,0.6s						
MMRI	**Maumere**	**8.53**	**257**	Pn	**Pn**	**13 14 45.5**	**+1.6**
MMRI	**Maumere**	**8.53**	**257**	P	**Pn**	**13 14 46.6**	**+2.7**
MMRI	**Maumere**	**8.53**	**257**	S	**Sn**	**13 16 20.0**	**+1.5**
MMRI	**Maumere**	**8.53**	**257**	P	**Pn**	**13 14 46.0**	**+2.1**
	91nm,0.6s						
WAMI	**Wamena**	**8.54**	**70**	P	Pn	13 14 48.9	+4.7
	12μm184nm,0.6s						
KNRA	**Kununurra**	**8.99**	**192**	Pn	**Pn**	**13 14 49.9**	**-0.4**
EDFI	**Ende, Flores**	**9.08**	**257**	P	**Pn**	**13 14 53.4**	**+1.9**
	32nm,0.7s						
SMPI	**Sarmi**	**9.36**	**60**	P	**Pn**	**13 14 56.7**	**+1.4**
	74nm,1.0s						
LUWI	**Luwuk**	**9.72**	**306**		**Pn**	**13 15 02.0**	**+1.8**
LUWI	**Luwuk**	**9.72**	**306**	P	**Pn**	**13 15 02.2**	**+1.9**
	1μm98nm,0.8s						
MMPI	**Merauke**	**9.79**	**100**	P	**Pn**	**13 15 02.1**	**+1.0**
KMSI	**Cibinong**	**9.91**	**318**	P	**Pn**	**13 15 05.1**	**+2.4**
	120nm,0.8s						
BSSI	**Bau Bau, Buton**	**10.11**	**273**	P	**Pn**	**13 15 07.5**	**+2.0**
	40nm,0.8s						
GENI	**Genyem**	**10.38**	**67**	P	**Pn**	**13 15 11.2**	**+2.1**
GENI	**Genyem**	**10.38**	**67**	S	**Sn**	**13 17 07.4**	**+3.8**
GENI	**Genyem**	**10.38**	**67**	P	**Pn**	**13 15 10.3**	**+1.2**
	2μm30nm,0.6s						
BASI	**Baing, Sumba**	**10.51**	**251**	P	**Pn**	**13 15 10.8**	**-0.2**
BKSI	**Bulukumba**	**10.57**	**278**	P	**Pn**	**13 15 14.0**	**+2.3**
	24nm,0.9s						
WSI	**Waingapu**	**10.62**	**254**	P	**Pn**	**13 15 11.9**	**-0.6**
APSI	**Ampana**	**10.72**	**303**	P	**Pn**	**13 15 17.4**	**+3.6**
	1μm157nm,1.1s						
BNSI	**Bone**	**10.76**	**282**	P	**Pn**	**13 15 16.7**	**+2.4**
	37nm,0.9s						
JAY	**Jayapura**	**10.90**	**67**	P	**Pn**	**13 15 17.3**	**+1.0**
	11nm,0.3s,baz=220,slow=12,SNR=25						
JAY				S	**Sn**	**13 17 10.9**	**-5.4**
	14nm,0.8s,baz=297,slow=21,SNR=4.8						
JAY				LR	LR	13 20 55.5	
	comp=Z,117nm,18.2s,baz=157,slow=45						
JAY	**Jayapura**	**10.90**	**67**	P	**Pn**	**13 15 17.7**	**+1.4**
KAPI	**Kappang**	**10.98**	**279**	P	**Pn**	**13 15 17.7**	**+0.3**
	7.8nm,0.6s,baz=128,slow=7.7,SNR=4.3						
KAPI	**Kappang**	**10.98**	**279**	P	**Pn**	**13 15 19.5**	**+2.1**
SPSI	**Sidrap Palu**	**11.19**	**284**	P	**Pn**	**13 15 22.3**	**+2.1**
	1μm45nm,0.7s						
MRSI	**Marisa**	**11.31**	**310**	P	**Pn**	**13 15 24.5**	**+2.7**
	2μm199nm,0.9s						
WBSI	**Waikabubak, Su**	**11.48**	**255**	P	**Pn**	**13 15 24.4**	**+0.2**
	2μm82nm,0.7s						
PCI	**Palu**	**12.28**	**298**	P	**Pn**	**13 15 36.6**	**+1.9**
	126nm,1.1s						
TOLI2	**Tolitoli**	**12.61**	**308**	Pn	**Pn**	**13 15 39.7**	**+0.7**
TOLI2	**Tolitoli**	**

KMBL	**Kambalda**	25.76	197	P	P	13 18 05.9	+1.2
STKA	**Stephens Creek**	26.95	159	P	P	13 18 14.6	-0.7
STKA	**Stephens Creek**	26.95	159	P	P	13 18 14.9	-0.5
	6.4nm,0.7s,baz=331,slow=9.5,SNR=12						
	6.4nm,0.7s						
HNR	**Honiara**	29.12	97	LR	LR	13 31 52.1	
	comp=Z,24nm,19.8s,baz=223,slow=39						
SSLB	**Suanglung**	31.86	343	P	P	13 18 58.5	-0.4
CAN	**Canberra**	33.01	152	P	P	13 19 10.5	+1.6
RPSI	**Rantau Prapat**	33.04	286	P	P	13 19 07.8	-1.7
RPSI				IAmb	IAmb	13 19 11.7	
	comp=Z,24nm,1.0s						
PSI	**Prapat**	33.08	286	P	P	13 19 09.8	-0.1
UBPT	**Khong Chiam**	33.23	311	P	P	13 19 10.1	-0.9
UBPT	**Khong Chiam**	33.23	311	P	P	13 19 11.0	0.0
GSI	**Gunungsitoli**	33.98	283	P	P	13 19 17.6	0.0
	comp=Z,26nm,0.8s						
SRIT	**Nakonsritamara**	34.53	296	P	P	13 19 21.7	-0.6
JCJ	**Chichijima**	35.52	18	LR	LR	13 34 20.1	
	comp=Z,23nm,19.4s,baz=86,slow=36						
NAYO	**Nakonayok**	35.88	306	P	P	13 19 33.6	-0.3
NONG	**Nongkai**	36.72	313	P	P	13 19 40.5	-0.5
SANVU	**Saraoutou**	36.83	107	P	P	13 19 39.0	-2.9
BSI	**Banda Aceh**	37.34	288	P	P	13 19 45.6	-0.8
	comp=Z,20nm,1.0s						
SRDT	**SRDT**	37.69	304	P	P	13 19 49.2	0.0
SLVN	**Son La**	38.36	317	P	P	13 19 55.6	+0.7
CRAI	**Chiangrai**	40.11	313	IAmb	IAmb	13 20 10.0	
	comp=Z,12nm,0.9s						
CM31	**Chiang Mai Arr**	40.11	309	IAmb	IAmb	13 20 10.2	
	comp=Z,14nm,0.8s						
CMAR	**Chiang Mai Arr**	40.11	309	P	P	13 20 07.7	-1.7
CMAR	**Chiang Mai Arr**	40.11	309	P	P	13 20 08.9	-0.5
	comp=Z,12nm,0.8s,baz=137,slow=7.5,SNR=80						
CMAR				ScP	**ScP**	13 25 51.1	-1.4
	comp=Z,1.3nm,0.8s,baz=156,slow=3.6,SNR=10						
	comp=Z,12nm,0.8s						
NJ2	**Nanjing**	40.26	344	⇑P	P	13 20 11.8	+1.4
NJ2				pmax	pmax		
	comp=Z,61nm,0.5s						
WHN	**Wuhan**	40.30	338	⇓P	P	13 20 11.7	+0.9
WHN				pmax	pmax		
	comp=Z,100nm,1.0s						
CHTO	**Chiang Mai**	40.32	310	P	P	13 20 09.8	-1.3
CHTO				IAmb	IAmb	13 20 11.8	
	comp=Z,24nm,0.8s						
CHTO	**Chiang Mai**	40.32	310	P	P	13 20 10.9	-0.2
CHTO	**Chiang Mai**	40.32	310	P	P	13 20 10.5	-0.6
CHTO				pP	**pwP**	13 20 38.1	-1.8
ENH	**Enshi**	42.10	332	P	P	13 20 24.6	-1.0
ENH				IAmb	IAmb	13 20 25.6	
	comp=Z,13nm,0.7s						
ENH	**Enshi**	42.10	332	P	P	13 20 25.5	-0.1
ENH	**Enshi**	42.10	332	P	P	13 20 25.1	-0.5
PZH	**PanZhiHua**	43.39	321	P	P	13 20 38.1	+1.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.7s						
MJAR	**Matsushiro Arr**	43.71	9	P	P	13 20 37.4	-1.1
	comp=Z,3.0nm,0.6s,baz=184,slow=8.9,SNR=7.9						
	comp=Z,3.0nm,0.6s						
KSRS	**Korea Array**	44.12	357	P	P	13 20 42.1	+0.5
	comp=Z,1.6nm,0.6s,baz=175,slow=9.5,SNR=7.8						
	comp=Z,1.6nm,0.6s						
LYN	**LuoYang**	44.59	338	*e*P	P	13 20 45.2	-0.3
LYN				pmax	pmax		
	comp=Z,21nm,0.7s						
XAN	**Xi'an**	45.55	334	⇑P	P	13 20 52.1	-1.1
XAN				pmax	pmax		
	comp=Z,33nm,0.9s						
XAN	**Xi'an**	45.55	334	P	P	13 20 52.4	-0.7
HNS	**HongShan**	46.44	342	⇓P	P	13 21 00.1	+0.1
HNS				pmax	pmax		
	comp=Z,37nm,0.8s						
TIY	**Taiyuan**	47.45	340	*e*P	P	13 21 08.5	+0.5
TIY				pmax	pmax		
	comp=Z,21nm,0.5s						
BJI	**Beijing**	48.50	345	P	P	13 21 15.9	0.0
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LZH	**Lanzhou**	49.55	331	*e*P	P	13 21 24.9	+0.6
LZH				pP	pwP	13 21 50.6	-3.6
LZH				pmax	pmax		
	comp=Z,22nm,0.6s						
SHL	**Shillong**	49.55	312	P	P	13 21 23.1	-1.3
HHC	**Hu-ho-hao-te**	50.58	341	*e*P	P	13 21 33.5	+1.6
USRK	**Ussuriysk Ar.**	50.80	1	P	P	13 21 32.9	-0.4
	comp=Z,5.7nm,0.6s,baz=154,slow=5.6,SNR=11						
	comp=Z,5.7nm,0.6s						
ASAJ	**Asahikawa**	51.84	11	P	P	13 21 41.4	+0.4
	comp=Z,1.2nm,0.3s,baz=209,slow=10,SNR=7.1						
	comp=Z,1.2nm,0.3s						
XLT	**XiLinHaoTe**	52.17	347	*e*P	P	13 21 43.5	-0.2
XLT				sP	sP	13 22 22.8	+6.7
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,96nm,4.7s						
BNX	**BinXian**	52.40	357	⇓P	P	13 21 44.9	-0.3
BNX				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LSA	**Lhasa**	52.51	316	IAmb	IAmb	13 21 48.2	
	comp=Z,12nm,0.7s						
GTA	**Gaotai**	54.13	331	P	P	13 21 59.0	+0.8
GTA				sP	sP	13 22 39.0	+8.0
GTA				PcP	**PcP**	13 23 03.0	+1.3
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KLR	**Kul'dur**	55.82	1	P	P	13 22 10.3	+0.3
	comp=Z,3.7nm,0.8s,baz=216,slow=2.5,SNR=10						
	comp=Z,3.7nm,0.8s						
HEH	**HeiHe**	56.91	358	*e*P	P	13 22 16.6	-1.1
HEH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ULN	**Ulaanbaatar**	58.29	342	P	P	13 22 27.0	-0.7
ULN	**Ulaanbaatar**	58.29	342	P	P	13 22 28.5	+0.9
SONM	**Songino Array**	58.48	341	P	P	13 22 28.2	-0.7
SONM				IAmb	IAmb	13 22 30.8	
	comp=Z,14nm,1.4s						
SONM	**Songino Array**	58.48	341	P	P	13 22 29.5	+0.5
	comp=Z,4.3nm,0.5s,baz=164,slow=7.4,SNR=31						
	comp=Z,4.3nm,0.5s						
WMQ	**Urumqi**	63.59	327	*e*P	P	13 23 09.0	+5.4
WMQ				sP	PcP	13 23 46.3	+7.2
WMQ				pmax	pmax		
	comp=Z,26nm,0.7s						
PETK	**Petropavlovsk-**	63.96	18	P	P	13 23 05.9	+0.3
	comp=Z,1.3nm,0.6s,baz=174,slow=3.8,SNR=11						
	comp=Z,1.3nm,0.6s						
SHLS	**Shalkode**	67.97	322	*e*P	P	13 23 30.4	-1.4
	comp=Z,12nm,0.6s						
UZB	**Uzynbulak**	68.23	322	*e*P	P	13 23 33.5	+0.1
	comp=Z,14nm,1.7s						
KSH	**Kashi**	68.32	317	P	P	13 23 35.2	+1.2
KSH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CCD	**Concordia, Ant**	68.37	182	P	P	13 23 35.0	+1.0
CCD				pP	**sP**	13 24 05.6	-3.4
MK31	**Makanchi Array**	68.43	326	P	P	13 23 34.5	+0.1
MK31				IAmb	IAmb	13 23 35.7	
	comp=Z,21nm,1.1s						
MKAR	**Makanchi Array**	68.43	326	P	P	13 23 34.5	+0.1
MKAR	**Makanchi Array**	68.43	326	P	P	13 23 34.7	+0.3
	comp=Z,8.4nm,0.5s,baz=118,slow=8.4,SNR=157						
	comp=Z,8.4nm,0.5s						
SATY	**Saty**	68.56	322	*e*P	P	13 23 35.7	+0.2
	comp=Z,8.0nm,0.8s						
MAKZ	**Makanchi**	68.61	326	P	P	13 23 35.8	+0.3
MAKZ				IAmb	IAmb	13 23 36.6	
	comp=Z,22nm,1.1s						
MAKZ	**Makanchi**	68.61	326	P	P	13 23 35.5	0.0
YAK	**Yakutsk**	68.65	360	P	P	13 23 34.9	-0.5
YAK	**Yakutsk**	68.65	360	P	P	13 23 35.4	+0.1
	comp=Z,23nm,0.5s,baz=78,slow=1.0,SNR=14						
	comp=Z,23nm,0.5s						
YAK	**Yakutsk**	68.65	360	P	P	13 23 35.6	+0.2
TNSS	**Tian-Shan**	69.46	321	*e*P	P	13 23 41.2	-0.1
MDOK	**Medeo**	69.46	321	*e*P	P	13 23 41.2	+0.2
AAA	**Alma-Ata**	69.57	321	*e*P	P	13 23 41.9	+0.2
BOOM	**Boomskoye usch**	69.82	320	P	P	13 23 43.2	-0.1
BOOM				IAmb	IAmb	13 23 44.9	
	comp=Z,12nm,1.0s						
CHKK	**Chushkaly**	69.86	322	*e*P	P	13 23 43.3	-0.1
TKM2	**Tokmak 2**	70.25	320	P	P	13 23 46.5	+0.5
	SNR=7.8						

KUU	**Kurty**	70.28	321	*e*P	P	13 23 45.9	0.0
AAK	**Ala-Archa**	70.82	320	P	P	13 23 50.5	+1.1
	SNR=8.1						
AAK	**Ala-Archa**	70.82	320	P	P	13 23 50.1	+0.8
AML	**Almayashu**	71.09	319	P	P	13 23 52.3	+0.9
	SNR=17						
USP	**Ospenovka**	71.12	320	P	P	13 23 51.6	+0.6
	SNR=12						
ARSB	**Arslanbob**	71.19	318	P	P	13 23 51.1	-0.5
ARSB				IAmb	IAmb	13 23 53.1	
	comp=Z,17nm,1.0s						
EKS2	**Erkin-Say**	71.29	319	P	P	13 23 53.5	+1.3
	SNR=5.8						
SEY	**Seymchan**	71.51	10	P	P	13 23 53.3	+0.4
	comp=Z,3.6nm,0.8s,baz=208,slow=2.9,SNR=10						
	comp=Z,3.6nm,0.8s						
ZAA0	**Zalesovo Array**	71.71	333	IAmb	IAmb	13 23 54.4	
	comp=Z,8.4nm,0.8s						
ZALV	**Zalesovo Beam**	71.71	333	P	P	13 23 52.8	-1.4
ZALV	**Zalesovo Beam**	71.71	333	P	P	13 23 53.5	-0.8
	comp=Z,7.4nm,0.7s,baz=124,slow=5.6,SNR=30						
	comp=Z,7.4nm,0.7s						
VNDA	**Vanda**	72.55	173	P	P	13 23 59.5	+0.6
	comp=Z,1.0nm,0.5s,baz=315,slow=7.4,SNR=14						
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	72.69	328	P	P	13 23 60.0	-0.2
	comp=Z,9.9nm,0.6s,baz=128,slow=4.9,SNR=74						
	comp=Z,9.9nm,0.6s						
IUG	**Iuzhnay**	73.53	317	*e*P	P	13 24 05.6	+0.1
KKAR	**Karatay Array**	73.63	319	P	P	13 24 04.9	-1.0
BRLS	**Borolday**	74.04	318	*e*P	P	13 24 08.3	-0.1
BRZS	**Berezniki**	75.53	326	*e*P	P	13 24 16.8	0.0
BVAR	**Borovoye Array**	78.25	328	P	P	13 24 31.5	-0.4
	comp=Z,7.3nm,0.6s,baz=136,slow=7.2,SNR=40						
	comp=Z,7.3nm,0.6s						
TIXI	**Tiksi**	78.32	359	P	P	13 24 31.4	-0.5
NRIK	**Noril'sk**	81.54	346	P	P	13 24 49.5	+0.2
	comp=Z,8.0nm,0.9s,baz=124,slow=6.3,SNR=10						
	comp=Z,8.0nm,0.9s						
ABKAR	**Abkulak array**	82.77	321	P	P	13 24 55.1	-1.0
ABKAR	**Abkulak array**	82.77	321	IAmb	IAmb	13 24 57.7	
	comp=Z,6.0nm,1.1s						
QSPA	**South Pole Qui**	83.16	180	P	P	13 24 57.8	-0.2
	comp=Z,1.7nm,0.4s,baz=208,slow=0.5,SNR=40						
	comp=Z,1.7nm,0.4s						
SYO	**Syowa Base**	84.06	201	⇑*e*P	P	13 25 03.0	+0.6
SYO	**Syowa Base**	84.06	201	⇑*e*PcP	**PcP**	13 25 07.5	+1.4
ARTI	**Arti**	85.97	328	P	P	13 25 11.4	-0.8
	comp=Z,12nm,0.7s,baz=110,slow=3.0,SNR=14						
	comp=Z,12nm,0.7s						
ILAR	**Eielson Array**	92.91	25	P	P	13 25 43.0	-1.7
	comp=Z,0.5nm,1.0s,baz=206,slow=5.9,SNR=2.4						
	comp=Z,0.5nm,1.0s						
KMBO	**Kilima Mbogo**	93.24	268	P	P	13 25 47.0	-0.7
	comp=Z,0.7nm,0.3s,baz=77,slow=18,SNR=1.6						
	comp=Z,0.7nm,0.3s						
CLL	**Collm**	112.40	323	*e*PKPdf	**PKiKP**	13 31 08.0	+0.5
GERES	**GERESS Array B**	112.69	320	PKiKP	**PKiKP**	13 31 06.6	-1.7
	comp=Z,0.4nm,0.3s,baz=243,slow=0.4,SNR=4.2						
EKA	**Eskdalemuir Ar**	119.31	332	PKP	**PKPdf**	13 31 20.3	-0.4
	comp=Z,0.2nm,0.3s,baz=80,slow=6.0,SNR=1.5						
TXAR	**Lajitas Array**	124.29	59	PKP	**PKiKP**	13 31 32.1	+0.6
	comp=Z,0.5nm,0.9s,baz=288,slow=4.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	129.40	281	PKP	**PKPdf**	13 31 40.9	-0.3
	comp=Z,110nm,0.3s,baz=75,slow=2.5,SNR=2.5						
CPUP	**Villa Florida**	146.15	167	PKPbc	**PKPab**	13 32 13.2	-0.1
	comp=Z,2.1nm,0.9s,baz=135,slow=5.7,SNR=2.5						
LPAZ	**La Paz**	150.46	141	PKPbc	**PKiKP**	13 32 26.1	+0.3
	comp=Z,2.9nm,0.4s,baz=60,slow=1.6,SNR=14						

GCG ***08*** *13:14:44.6±1.3, 14°.53N×89°.11W, h6km±9km, MD3.9*
SNET ***08*** *13:14:44.7±1.4, 14°.49N×89°.12W, h1km±3km, ML3.4*
CATAC ***08*** *13:14:45.2±0.2, 15°.N±2°.×8°.9W±°, h3km±1km, M3.6/22, MLv3.6/22, Error ellipse: s-maj=3.5km s-min=2.2km az=21.0, confirmed*

ISC 08 13:14:45.0±1.1, 14°.53N±0°.03×89°.10W±0°.02, h7km±9km, n72, σ0s59/85, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	0.24	277	*e*P	**Pg**	13 14 49.8	0.0
ESQI				*e*S	**Sg**	13 14 53.7	+0.6
ESQI	**Esquipulas**	0.24	277	P	**Pg**	13 14 49.9	+0.1
MTO3	**Montecristo**	0.29	243	*e*P	**Pg**	13 14 50.7	0.0
MTO3	**Montecristo**	0.29	243	*e*P	**Pg**	13 14 50.8	0.0
MTO3	**Montecristo**	0.29	243	P	**Pg**	13 14 50.9	+0.2
LLGN	**La Laguna**	0.39	158	*e*P	**Pg**	13 14 52.6	0.0
LLGN				*e*S	**Sg**	13 14 58.9	+1.0
LLGN	**La Laguna**	0.39	158	P	**Pg**	13 14 52.7	0.0
UNIC	**Universidad Ca**	0.70	219	P	**Pg**	13 14 58.3	-0.1
UNIC	**Universidad Ca**	0.70	219	S	**Sb**	13 15 08.4	-1.1
LFU	**La Fuente**	0.78	181	*e*S	**Sb**	13 15 11.2	-0.5
CEDA	**San Andres**	0.78	202	*e*S	**Sg**	13 15 10.6	+0.5
CEDA	**San Andres**	0.78	202	S	**Sb**	13 15 11.3	-0.4
CEDA	**San Andres**	0.78	202	P	**Pb**	13 15 00.4	-0.5
BOQS	**Boqueron**	0.81	193	*e*P	**Pg**	13 15 00.6	0.0
UDBS	**Universidad Do**	0.81	184	P	**Pg**	13 15 00.9	+0.3
UDBS	**Universidad Do**	0.81	184	S	**Sb**	13 15 12.3	-0.4
PAVA	**Las Pavas**	0.83	169	P	**Pg**	13 15 00.7	-0.1
PAVA	**Las Pavas**	0.83	169	S	**Sb**	13 15 12.8	-0.3
SLOZ	**Alcaldia de Sa**	0.83	233	P	**Pg**	13 15 00.3	-0.8
SLOZ	**Alcaldia de Sa**	0.83	233	S	**Sb**	13 15 13.0	-0.3
LOAL	**Lomas de Alarc**	0.85	232	*e*P	**Pb**	13 15 01.5	-0.6
LOAL				*e*S	**Sb**	13 15 13.4	-0.3
LOAL	**Lomas de Alarc**	0.85	232	P	**Pb**	13 15 01.5	-0.6
LOAL	**Lomas de Alarc**	0.85	232	S	**Sb**	13 15 14.4	+0.7
CEVE	**Cerro Verde**	0.87	216	*e*P	**Pg**	13 15 01.8	+0.1
CEVE				*e*S	**Sb**	13 15 14.3	-0.1
CEVE				IAML		13 15 18.6	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	0.87	216	P	**Pb**	13 15 02.0	-0.5
LOMA	**Loma Larga**	0.88	185	P	**Pb**	13 15 02.6	-0.1
LOMA	**Loma Larga**	0.88	185	S	**Sb**	13 15 14.4	-0.3
SCLA	**Alcaldia de Sa**	0.90	157	P	**Pg**	13 15 02.3	0.0
SCLA	**Alcaldia de Sa**	0.90	157	S	**Sb**	13 15 15.2	+0.1
LFRS	**El Faro**	0.90	178	*e*P	**Pg**	13 15 02.0	-0.3
NUBE	**Las Nubes**	0.91	227	*e*P	**Pg**	13 15 02.4	-0.1
NUBE				*e*S	**Sb**	13 15 14.8	-0.8
NUBE	**Las Nubes**	0.91	227	*e*P	**Pg**	13 15 02.0	-0.5
NUBE				*i* S	**Sb**	13 15 14.9	-0.7
NUBE	**Las Nubes**	0.91	227	P	**Pg**	13 15 02.4	-0.1
PANCS	**Alcalda de**	0.92	185	P	**Pb**	13 15 03.0	-0.3
PANCS	**Alcalda de**	0.92	185	S	**Sg**	13 15 15.1	+0.6
COEG	**Centro de Oper**	0.93	167	*e*P	**Pg**	13 15 02.4	-0.4
COEG				*e*S	**Sb**	13 15 15.7	-0.3
COEG				IAML		13 15 19.3	
	comp=Z,1μm,0.3s						
COEG	**Centro de Oper**	0.93	167	P	**Pg**	13 15 02.5	-0.3
JAYA	**Jayaque - finc**	0.94	202	*e*P	**Pg**	13 15 02.9	-0.1
JAYA				IAML		13 15 20.3	
	comp=Z,1μm,0.1s						
JAYA	**Jayaque - finc**	0.94	202	*e*P	**Pg**	13 15 02.7	-0.3
JAYA				*i* S	**Sb**	13 15 16.2	-0.1
JAYA	**Jayaque - finc**	0.94	202	P	**Pg**	13 15 02.9	-0.1
UESV	**Universidad de**	0.94	161	P	**Pg**	13 15 03.3	+0.3
UESV	**Universidad de**	0.94	161	S	**Sb**	13 15 16.4	+0.2
TECO	**Alcaldia de Te**	1.03	163	P	**Pg**	13 15 04.3	-0.5
TECO	**Alcaldia de Te**	1.03	163	S	**Sb**	13 15 19.1	+0.2
PQSS	**Presa 15 de Se**	1.04	150	P	**Pg**	13 15 04.3	-0.7
PQSS	**Presa 15 de Se**	1.04	150	S	**Sg**	13 15 19.0	+0.5
LALI	**Alcalda de L**	1.06	192	*e*P	**Pg**	13 15 04.6	-0.7
LALI				*e*S	**Sg**	13 15 19.4	+0.3
LALI	**Alcalda de L**	1.06	192	*e*P	**Pg**	13 15 04.5	-0.7
LALI	**Alcalda de L**	1.06	192	P	**Pg**	13 15 05.2	-0.1
LALI	**Alcalda de L**	1.06	192	S	**Sb**	13 15 20.5	+0.8
MARCA	**Marcala la Paz**	1.09	110	*e*P	**Pg**	13 15 05.2	-0.8
MARCA				*e*S	**Sg**	13 15 20.3	+0.1
CAHU	**Cacacuatique**	1.14	131	*e*P	**Pg**	13 15 06.2	-0.8
IZABA	**Izabal, Puerto**	1.29	22	P	**Pg**	13 15 09.3	-0.5
PACA	**Pacayal**	1.29	144	P	**Pg**	13 15 09.2	-0.6
PACA	**Pacayal**	1.29	144	S	**Sb**	13 15 27.2	+0.6
RANC	**El Ranchito**	1.34	144	P	**Pg**	13 15 09.7	-1.0
RANC	**El Ranchito**	1.34	144	S	**Sb**	13 15 28.8	+0.8
LCY	**Lacayo**	1.35	145	*e*P	**Pn**	13 15 09.2	-1.1
BLLM	**Bellamira**	1.36	142	*e*P	**Pn**	13 15 09.5	-1.0
CNRM	**Centro Naciona**	1.38	139	S	**Sg**	13 15 29.4	-0.1
COMHN	**El Horno**	1.49	93	P	**Pn**	13 15 11.2	-1.2
COMHN	**El Horno**	1.49	93	S	**Sb**	13 15 32.8	+0.4
LCND	**La Caada**	1.69	136	*e*S	**Sb**	13 15 38.1	+0.3
NISHN	**Nisperales Com**	1.70	43	*e*P	**Pn**	13 15 14.9	-0.3
NISHN				*e*S	**Sb**	13 15 38.9	+0.5
NISHN	**Nisperales Com**	1.70	43	P	**Pn**	13 15 15.1	-0.1

CNCH	**Conchagua**	1.75	135	*e*P	**Pn**	13 15 16.2	+0.4
CNCH				*e*S	**Sg**	13 15 41.0	-0.2
CNCH	**Conchagua**	1.75	135	P	**Pn**	13 15 16.4	+0.6
TGUH	**Tegucigalpa,Un**	1.83	105	P	**Pn**	13 15 18.0	+1.0
TGUH				S	**Sn**	13 15 41.9	+1.5
CHOHN	**Orocuina**	2.15	119	S	**Sn**	13 15 50.1	+1.8
POTN	**Potosi Cosigui**	2.17	134	P	**Pb**	13 15 23.6	-1.0
YUSH	**Yuscaran**	2.26	104	P	**Pn**	13 15 22.6	-0.2
LIMN	**Finca el Limon**	3.03	118	P	**Pn**	13 15 33.2	-0.2

BJI ***08*** *13:21:59.6, 41°.89N×142°.57E, h73km, mB4.9/13, mb4.6/47*
MOS ***08*** *13:22:02.0±0.9, 41°.97N×142°.42E, h78km, mb4.9/25, Error ellipse: s-maj=6.8km s-min=4.9km az=104.5*
JMA ***08*** *13:22:02.3±0.2, 42°.0N±0°.9×142°.3E±0°.9, h71km±2km, MD4.2/39, MV4.3/39, S OFF URAKAWA*
JMA Felt II J1 at S OFF URAKAWA .
NIED ***08*** *13:22:02.3, 41°.95N×142°.34E, h71km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}1.64; $M_{\theta\theta}$0.17; $M_{\phi\phi}$-1.81; $M_{r\theta}$0.69; $M_{\theta\phi}$-0.90; $M_{\phi r}$2.92; Fault plane solution: $M_0$3.55000×10^15 NP1: ϕ_s213.00000°, δ17.00000°, λ108.00000°. NP2: ϕ_s14.00000°, δ74.00000°, λ85.00000°.*
NEIC ***08*** *13:22:03.6±1.6, 41°.96N±0°.07×142°.3E±0°.1, h68km±8km, mb4.6/44 Error ellipse: s-maj=15.2km s-min=8.2km az=116.0*
IDC ***08*** *13:22:03.4±1.2, 42°.01N×142°.33E, h69km±10km, mb4.1/33, mbtmp4.4/44, MS3.2/21, Error ellipse: s-maj=12.6km s-min=8.2km az=106.0*

ISC 08 13:22:02.9±0.5, 41°.96N±0°.03×142°.36E±0°.03, h70km±3km, n292, σ1s54/287, mb4.5/102, 19C-33D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	0.43	43	*i* P	**Pn**	13 22 14.2	-0.9
JNBK				S	**Sn**	13 22 23.8	-0.3
JNBK	**Urakawa-nobuka**	0.43	43	A	A	13 22 14.2	
	comp=N,37nm,0.8s,comp=E,47nm,0.5s						
JSHD	**Hidakashinhida**	0.45	10	*i* P	**Pn**	13 22 14.8	-0.5
JSHD				S	**Sn**	13 22 24.4	0.0
JSHD	**Hidakashinhida**	0.45	10	A	A	13 22 14.8	
	comp=N,62nm,0.7s,comp=E,79nm,0.7s						
ERM	**Erimo**	0.60	85	*c i* P	**Pn**	13 22 16.8	+0.1
JEM	**Erimo**	0.60	85	*i* P	**Pn**	13 22 16.8	+0.1
JEM				S	**Sn**	13 22 27.1	+0.2
JEM	**Erimo**	0.60	85	A	A	13 22 16.8	
	comp=N,14nm,0.7s,comp=E,16nm,1.0s						
JIAM	**Iburiatsuma**	0.73	334	⇓*i* P	**Pn**	13 22 18.5	+0.4
JIAM				⇓S	**Sn**	13 22 30.6	+1.1
JIAM	**Iburiatsuma**	0.73	334	A	A	13 22 18.5	
	comp=N,53nm,0.5s,comp=E,148nm,0.9s						
JTHR	**Tokachihiroo**	0.77	65	A	A	13 22 18.4	
	comp=N,28nm,0.4s,comp=E,42nm,0.6s						
JBT2	**Biratori 2**	0.81	0	⇓*i* P	**Pn**	13 22 18.6	-0.6
JBT2				⇓S	**Sn**	13 22 30.7	-0.5
JBT2	**Biratori 2**	0.81	0	A	A	13 22 18.6	
	comp=N,7.0nm,2.3s,comp=E,10.0nm,2.6s						
JCH	**Churui**	0.99	49	P	**Pn**	13 22 21.2	0.0
JCH				S	**Sn**	13 22 35.0	+0.1
JCH	**Churui**	0.99	49	A	A	13 22 21.2	
	comp=N,9.0nm,0.4s,comp=E,11nm,2.9s						
JKB	**Kayabe**	0.99	266	⇓P	**Pn**	13 22 20.5	-0.7
JKB				⇓S	**Sn**	13 22 33.8	-1.1
JKB	**Kayabe**	0.99	266	A	A	13 22 20.5	
	comp=N,16nm,0.8s,comp=E,12nm,0.7s						
JAHD	**Aomorihigashid**	1.03	228	A	A	13 22 21.2	
	comp=N,35nm,0.7s,comp=E,52nm,1.2s						
JNB	**Noboribetsu**	1.10	298	⇓*i* P	**Pn**	13 22 21.5	-1.1
JNB				⇓S	**Sn**	13

TEY pmax pmax
comp=N,20nm,0.7s
TEY pmax pmax
comp=E,40nm,0.7s
TEY pmax pmax
comp=Z,40nm,0.7s
MJB9 Matsu-Tunnel 6.30 212 Pn 13 23 33.9 +0.7
MAJO Matsushiro 6.30 212 Pn 13 23 34.0 +0.8
MAJO Matsushiro 6.30 212⇓ eP Pn 13 23 34.8 +1.6
MJAR Matsushiro Arr 6.30 212 P Pn 13 23 35.0 +1.8
comp=Z,7.3nm,0.7s,baz=27,slow=15,SNR=13
MJAR LR LR 13 26 35.5
comp=Z,80nm,20.7s,baz=18,slow=43
MJAR Matsushiro Arr 6.30 212 P Pn 13 23 35.0 +1.8
JGF Kuroka 7.46 213 Pn **Pn 13 23 49.7 +0.7**
INU Inuyama 7.81 214 Pn **Pn 13 23 54.6 +0.7**
VLA Vladivostok 7.82 282⇑ eP Pn 13 23 56.7 +2.8
VLA pmax pmax
comp=Z,14nm,0.9s
USA0B Ussuriysk Arra 7.91 290 Pn **Pn 13 23 56.3 +1.2**
USA0B Ussuriysk Arra 7.91 290 deP Pn 13 23 57.1 +2.0
USRK Ussuriysk Ar. 7.91 290 P **Pn 13 23 56.9 +1.7**
comp=Z,25nm,0.8s,baz=104,slow=14,SNR=30
USRK LR LR 13 27 01.6
comp=Z,126nm,20.7s,baz=151,slow=38
MSHR Mys Shultsa 8.33 278 deP Pn 13 24 02.9 +2.1
MSHR pmax pmax
comp=Z,27nm,1.0s
TYV Tymovskoe 8.90 1 eP Pn 13 24 09.9 +1.3
TYV eS **Sn 13 25 50.1 +2.8**
TYV pmax pmax
comp=Z,6.0nm,1.0s
TYV pmax pmax
comp=Z,200nm,5.7s
TYV smax smax
comp=E,100nm,6.4s
TYV smax smax
comp=N,8.0nm,1.1s
TYV smax smax
comp=E,6.0nm,1.1s
JHJ Hachijo jima 2 9.06 194 P **Pn 13 24 10.2 -0.7**
comp=E,59nm,0.4s,baz=240,slow=14,SNR=1.5
JHJ S **Sn 13 25 44.6 -6.7**
comp=E,110nm,0.6s,baz=68,slow=16,SNR=2.1
MDJ Mudanjiang 9.68 290 P **Pn 13 24 21.7 +2.4**
MDJ pmax pmax
comp=E,15nm,1.1s
GRNR Gornyy 9.71 337⇓ iP Pn 13 24 21.7 +2.0
GRNR pmax pmax
comp=Z,5.0nm,0.8s
GRNR MLR MLR
comp=E,90nm,20.0s
GRNR MLR MLR
comp=N,60nm,13.0s
GRNR MLR MLR
comp=Z,70nm,18.0s
KLR Kul'dur 10.39 318 P **Pn 13 24 30.8 +1.9**
comp=Z,12nm,0.8s,baz=124,slow=14,SNR=32
KLR LR LR 13 28 35.1
comp=Z,126nm,21.1s,baz=144,slow=38
KLR Kul'dur 10.39 318c iP Pn 13 24 31.5 +2.6
KLR pmax pmax
comp=Z,13nm,1.0s
BNX BinXian 11.44 294 ⇑P Pn 13 24 45.2 +2.0
BNX pmax pmax
comp=Z,11nm,0.9s
KSRS Korea Array 11.99 253 P **Pn 13 24 53.0 +2.1**
comp=Z,8.4nm,0.6s,baz=64,slow=12,SNR=20
KSRS S **Sn 13 27 09.6 +6.9**
comp=Z,2.2nm,0.8s,baz=68,slow=23,SNR=6.0
KSRS Korea Array 11.99 253 P **Pn 13 24 53.0 +2.1**
KSAR Wonju Array Be 12.02 253 P **Pn 13 24 52.1 +0.8**
KSAR Wonju Array Be 12.02 253 P **Pn 13 24 52.1 +0.8**
JNU Nakatsue 12.67 230 P **Pn 13 25 00.5 +0.3**
comp=Z,9.8nm,1.0s,baz=111,slow=4.0,SNR=4.1
JNU LR LR 13 29 39.4
comp=Z,72nm,19.1s,baz=28,slow=36
HEH HeiHe 13.26 314 eP Pn 13 25 07.9 0.0
HEH pmax pmax
comp=Z,7.0nm,1.2s
HEH pmax pmax
comp=Z,150nm,4.6s
JCJ Chichijima 14.83 181 P **Pn 13 25 28.4 -0.3**
comp=Z,42nm,0.4s,baz=257,slow=18,SNR=1.8
PETK Petropavlovsk- 15.18 38 Pn **Pn 13 25 31.2 -1.9**
PETK Petropavlovsk- 15.18 38 P **Pn 13 25 31.9 -1.2**
comp=Z,1.5nm,0.5s,baz=216,slow=8.9,SNR=14
ZEA Zeya 15.50 325 eP Pn 13 25 37.0 -0.1
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
DL2 Dalian 16.07 266 P **Pn 13 25 45.0 +0.6**
DL2 pmax pmax
comp=Z,26nm,1.0s
MA2 Magadan 18.39 14 P **P 13 26 11.1 -0.9**
MA2 Magadan 18.39 14 P **P 13 26 10.8 -1.1**
comp=Z,5.4nm,0.6s,baz=177,slow=9.4,SNR=4.9
MA2 LR LR 13 33 56.2
comp=Z,14nm,20.2s,baz=110,slow=39
MA2 Magadan 18.39 14 P **P 13 26 11.1 -0.9**
MA2 pmax pmax
comp=Z,20nm,1.1s
JOW Kunigami 19.01 222 P **P 13 26 19.1 +0.2**
comp=Z,3.2nm,0.5s,baz=40,slow=17,SNR=1.7
JOW LR LR 13 34 10.2
comp=Z,56nm,21.4s,baz=352,slow=38
BJI Beijing 19.83 273 P **P 13 26 26.4 -1.4**
BJI pmax pmax
comp=Z,6.0nm,1.0s
TIA Tai'an 20.38 262 P **P 13 26 32.4 -1.4**
TIA pmax pmax
comp=Z,28nm,0.8s
NJ2 Nanjing 21.16 250 eP P 13 26 43.3 +1.1
NJ2 pmax pmax
comp=Z,12nm,0.5s
YAK Yakutsk 21.48 344 P **P 13 26 44.6 -0.8**
YAK IAmb IAmb 13 26 49.4
comp=Z,17nm,0.8s
YAK Yakutsk 21.48 344 P **P 13 26 43.5 -1.9**
comp=Z,7.7nm,0.3s,baz=117,slow=14,SNR=5.5
YAK S **S 13 30 32.4 -7.1**
comp=Z,3.6nm,0.3s,baz=314,slow=20,SNR=6.4
YAK LR LR 13 35 33.2
comp=Z,29nm,20.3s,baz=174,slow=38
comp=Z,7.7nm,0.3s
YAK Yakutsk 21.48 344 eP P 13 26 42.6 -2.8
YAK eS **S 13 30 31.8 -7.7**
YAK e*SS Sn 13 30 56.7 +5.2
YAK pmax pmax
comp=Z,9.0nm,1.2s
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK pmax pmax
comp=E,1.0nm,0.7s
YAK smax smax
comp=E,43nm,2.5s
YAK smax smax
comp=N,40nm,2.3s
HNS HongShan 21.72 267 ⇓P P 13 26 45.5 -2.6
HNS eS **S 13 30 37.3 -7.3**
SEY Seymchan 21.82 12 P **P 13 26 47.5 -1.5**
comp=N,1.3nm,0.4s,baz=206,slow=10,SNR=8.2
comp=N,1.3nm,0.4s
SEY Seymchan 21.82 12⇓ eP P 13 26 46.7 -2.3
SEY pmax pmax
comp=Z,5.0nm,0.9s
HHC Hu-ho-hao-te 23.07 278 eP P 13 27 01.9 -0.6
HHC pmax pmax
comp=Z,13nm,0.8s
SHEM Shemya Is, Ala 23.86 52 LR LR 13 36 21.1
comp=Z,19nm,21.1s,baz=258,slow=36
ULN Ulaanbaatar 25.53 295 P **P 13 27 25.2 +0.2**
ULN Ulaanbaatar 25.53 295 deP P 13 27 25.6 +0.6
ULN pmax pmax
comp=Z,6.0nm,1.1s
SONM Songino Array 25.97 295 P **P 13 27 28.9 -0.1**
SONM Songino Array 25.97 295 P **P 13 27 29.0 0.0**
comp=Z,4.2nm,0.6s,baz=84,slow=8.7,SNR=16
SONM PcP **PcP 13 30 56.1 +0.5**
comp=Z,0.6nm,0.7s,baz=128,slow=3.2,SNR=3.2
SONM LR LR 13 38 27.3
comp=Z,67nm,18.5s,baz=88,slow=38
comp=Z,4.2nm,0.6s

SONM Songino Array 25.97 295 P **P 13 27 28.9 -0.1**
SONM pmax pmax
comp=Z,3.0nm,0.7s
XAN Xi'an 27.38 264 ⇓P P 13 27 42.1 +0.5
XAN pmax pmax
comp=Z,15nm,1.0s
GUMO Guam 28.36 175 LR LR 13 38 53.9
comp=Z,30nm,20.6s,baz=6.0,slow=36
H11N2 WAKE ISLAND Hy 30.39 129 T T 13 59 47.9
baz=324,slow=75,SNR=140
H11N1 WAKE ISLAND Hy 30.40 129 T T 13 59 47.4
baz=324,slow=75,SNR=330
H11N3 WAKE ISLAND Hy 30.40 129 T T 13 59 48.0
baz=324,slow=75,SNR=367
TIXI Tiksi 30.50 352 P **P 13 28 10.3 +1.5**
comp=Z,2.4nm,0.3s,baz=246,slow=4.6,SNR=3.5
comp=Z,2.4nm,0.3s
H11S1 WAKE ISLAND Hy 31.24 131 T T 14 00 55.5
baz=325,slow=76,SNR=624
H11S3 WAKE ISLAND Hy 31.25 131 T T 14 00 55.4
baz=325,slow=76,SNR=504
H11S2 WAKE ISLAND Hy 31.26 131 T T 14 00 51.4
baz=325,slow=76,SNR=299
GTA Gaotai 32.12 280 eP P 13 28 23.9 +0.3
GTA pmax pmax
comp=Z,3.0nm,0.7s
PZH PanZhiHua 36.58 258 P **P 13 29 02.7 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,5.8s
GOMU GeErMu 36.97 277 P **P 13 29 05.6 -0.2**
GOMU pmax pmax
comp=Z,9.0nm,0.7s
SLVN Son La 38.24 250 P **P 13 29 16.4 +0.2**
SLVN IAmb IAmb 13 29 20.0
comp=Z,7.5nm,1.1s
NRIK Noril'sk 39.16 333 P **P 13 29 22.7 -0.6**
comp=Z,2.5nm,0.5s,baz=107,slow=13,SNR=5.8
NRIK LR LR 13 46 51.9
comp=Z,56nm,20.6s,baz=124,slow=38
comp=Z,2.5nm,0.5s
NRIK Noril'sk 39.16 333⇓ eP P 13 29 22.0 -1.3
NRIK pmax pmax
comp=Z,5.0nm,1.1s
ZAA0 Zalesovo Array 39.29 308 P **P 13 29 24.6 0.0**
ZAA0 IAmb IAmb 13 29 25.7
comp=Z,9.0nm,0.8s
ZALV Zalesovo Beam 39.29 308 P **P 13 29 24.5 -0.1**
ZALV Zalesovo Beam 39.29 308 P **P 13 29 25.1 +0.5**
comp=Z,10.0nm,0.8s,baz=89,slow=8.2,SNR=29
ZALV PcP **PcP 13 31 32.5 +0.5**
comp=Z,2.0nm,0.5s,baz=110,slow=3.9,SNR=4.9
ZALV LR LR 13 46 28.8
comp=Z,39nm,20.1s,baz=76,slow=37
comp=Z,10.0nm,0.8s
TTA Tatalina 41.02 38 P **P 13 29 39.8 +0.9**
TTA Tatalina 41.02 38 P **P 13 29 39.8 +0.9**
TTA pmax pmax
comp=Z,6.0nm,1.4s
CRAI Chiangrai 41.45 252 P **P 13 29 43.7 +0.9**
CRAI IAmb IAmb 13 29 45.9
comp=Z,11nm,0.7s
MK31 Makanchi Array 42.29 298 P **P 13 29 49.7 +0.2**
MK31 IAmb IAmb 13 29 50.5
comp=Z,8.4nm,0.8s
MK31 Makanchi Array 42.29 298 ceP P 13 29 49.6 +0.2
MKAR Makanchi Array 42.29 298 P **P 13 29 49.6 +0.2**
comp=Z,7.3nm,0.7s,baz=83,slow=9.5,SNR=51
MKAR PcP **PcP 13 31 42.6 +0.7**
comp=Z,1.2nm,0.9s,baz=68,slow=0.7,SNR=2.6
MKAR LR LR 13 46 53.6
comp=Z,27nm,20.4s,baz=62,slow=35
comp=Z,7.3nm,0.7s
MAKZ Makanchi 42.49 298 P **P 13 29 51.7 +0.6**
MAKZ IAmb IAmb 13 29 52.3
comp=Z,12nm,0.8s
MAKZ Makanchi 42.49 298 P **P 13 29 51.7 +0.6**
MAKZ pmax pmax
comp=Z,12nm,0.8s
PPLA Purkeypile 42.77 38 P **P 13 29 55.2 +1.9**
PPLA IAmb IAmb 13 30 02.3
comp=Z,18nm,1.4s
CAST Castle Rocks 42.80 37 P **P 13 29 54.8 +1.5**
KTH Kantishna Hill 43.31 37 P **P 13 29 58.9 +1.4**
KTH IAmb IAmb 13 30 21.0
comp=Z,6.7nm,1.0s
CHTO Chiang Mai 43.39 251 P **P 13 29 59.3 +0.8**
CHTO IAmb IAmb 13 30 05.1
comp=Z,4.6nm,0.7s
CHTO Chiang Mai 43.39 251 P **P 13 29 59.3 +0.8**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 43.61 304c iP P 13 29 59.7 -0.3
KURK pmax pmax
comp=Z,29nm,1.3s
CMAR Chiang Mai Arr 43.62 251 P **P 13 30 01.5 +1.0**
comp=Z,0.9nm,0.6s,baz=41,slow=8.3,SNR=8.7
CMAR PcP **PcP 13 31 48.3 +1.5**
comp=Z,0.3nm,0.3s,baz=52,slow=2.6,SNR=1.7
CMAR LR LR 13 49 20.6
comp=Z,30nm,18.2s,baz=10.0,slow=38
comp=Z,0.9nm,0.6s
CMAR Chiang Mai Arr 43.62 251 ceP P 13 30 04.0 +3.5
CMAR pmax pmax
comp=Z,2.0nm,0.8s
KURBB Kurchatov Arra 43.69 304 P **P 13 30 00.8 +0.1**
comp=Z,15nm,0.8s,baz=77,slow=8.6,SNR=91
KURBB PcP **PcP 13 31 46.7 +0.2**
comp=Z,1.2nm,0.7s,baz=75,slow=3.2,SNR=0.6
comp=Z,15nm,0.8s
ILAR Eielson Array 44.99 35 P **P 13 30 11.3 +0.5**
comp=Z,2.1nm,0.8s,baz=259,slow=5.3,SNR=28
ILAR PcP **PcP 13 31 50.5 -0.2**
comp=Z,0.4nm,0.6s,baz=299,slow=4.5,SNR=0.7
comp=Z,2.1nm,0.8s
BRDH Bariadhala 46.25 262 LR LR 13 53 28.4
comp=Z,59nm,18.1s,baz=317,slow=41
SCRK Sand Creek 46.34 36 IAmb IAmb 13 30 22.2
comp=Z,4.1nm,0.6s
MDOK Medeo 47.00 295 P **P 13 30 27.0 -0.1**
TARG Taragay, Kyrgy 47.03 293 IAmb IAmb 13 30 29.4
comp=Z,5.6nm,0.7s
KDJ Kajisay 47.30 293 P **P 13 30 29.8 +0.3**
KDJ IAmb IAmb 13 30 30.9
comp=Z,5.3nm,0.7s
KDJ Kajisay 47.30 293 P **P 13 30 29.8 +0.3**
KDJ pmax pmax
comp=Z,5.0nm,0.7s
BVA0 Borovoye Array 47.91 309 iP P 13 30 34.1 +0.3
BVAR Borovoye Array 47.91 309 P **P 13 30 34.3 +0.5**
comp=Z,6.1nm,0.4s,baz=72,slow=9.1,SNR=38
BVAR PcP **PcP 13 32 01.4 +0.2**
comp=Z,1.9nm,0.6s,baz=57,slow=5.5,SNR=4.2
BVAR LR LR 13 50 32.1
comp=Z,37nm,19.4s,baz=72,slow=36
comp=Z,6.1nm,0.4s
BRVK Borovoye 47.96 309c iP P 13 30 34.7 +0.5
BRVK pmax pmax
comp=Z,4.0nm,0.6s
TKM2 Tokmak 2 48.07 295 P **P 13 30 36.5 +1.0**
SNR=27
KBK Karagaybulak 48.62 295 P **P 13 30 40.5 +0.8**
SNR=6.9
USP Ospenovka 48.68 296 P **P 13 30 40.5 +0.5**
SNR=7.3
AAK Ala-Archa 48.93 295 P **P 13 30 42.2 +0.2**
comp=Z,4.1nm,0.4s,baz=122,slow=4.8,SNR=14
comp=Z,4.1nm,0.4s
AAK Ala-Archa 48.93 295 P **P 13 30 42.5 +0.5**
SNR=6.5
KSH Kashi 49.21 291 P **P 13 30 48.2 +4.1**
KSH pmax pmax
comp=Z,7.0nm,0.7s
EKS2 Erkin-Say 49.40 295 P **P 13 30 46.1 +0.5**
SNR=8.4
AML Almayashu 49.68 295 P **P 13 30 48.9 +0.9**
SNR=8.4
HYT Haines Junctio 49.96 39 IAmb IAmb 13 30 53.7
comp=Z,10nm,0.9s
ARK Arkit 50.99 295 P **P 13 30 58.5 +0.9**
ARK pmax pmax
comp=Z,8μm,0.7s
KK31 Karatay Array 51.41 297 iP P 13 31 00.5 -0.1
KKAR Karatay Array 51.41 297 P **P 13 31 00.3 -0.2**
KKAR Karatay Array 51.41 297 IAmb IAmb 13 31 01.4
comp=Z,12nm,0.6s

KKAR Karatay Array 51.41 297 P **P 13 31 00.3 -0.2**
SVE Sverdlovsk 52.01 316 eP P 13 31 05.6 +0.8
SVE pmax pmax
comp=Z,20nm,0.9s
ARTI Arti 53.33 316 P **P 13 31 14.4 -0.1**
comp=Z,15nm,0.7s,baz=83,slow=4.2,SNR=21
ARTI LR LR 13 54 37.7
comp=Z,52nm,18.6s,baz=117,slow=37
comp=Z,15nm,0.7s
GAR Garm 53.36 293 IAmb IAmb 13 31 22.8
comp=Z,8.2nm,0.7s
DZET Dzherino 54.48 293 P **P 13 31 23.4 0.0**
DZET pmax pmax
comp=Z,12μm,0.7s
AB31 Akbulak array 55.40 308 eP P 13 31 30.1 +0.4
ABKAR Akbulak array 55.40 308 P **P 13 31 29.8 +0.1**
ABKAR Akbulak array 55.40 308 IAmb IAmb 13 31 31.5
comp=Z,7.0nm,0.6s
SPITS Spitsbergen Ar 55.84 348 P **P 13 31 32.5 0.0**
comp=Z,7.7nm,1.1s,baz=73,slow=9.9,SNR=6.2
comp=Z,7.7nm,1.1s
AKTO Aktyubinsk 56.00 310 P **P 13 31 33.6 -0.4**
comp=Z,2.1nm,0.5s,baz=41,slow=5.4,SNR=7.4
comp=Z,2.1nm,0.5s
KBL Kabul 56.44 288 P **P 13 31 36.8 -0.8**
KBL IAmb IAmb 13 31 37.8
comp=Z,6.5nm,0.8s
KBL Kabul 56.44 288 P **P 13 31 36.8 -0.8**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KIRV Kirov 56.81 321 P **P 13 31 39.8 +0.3**
comp=Z,19nm,0.6s,baz=236,slow=1.1,SNR=6.9
comp=Z,19nm,0.6s
KIRV Kirov 56.81 321c iP P 13 31 39.5 0.0
YKA Yellowknife Ar 59.21 32 P **P 13 31 56.9 +0.7**
comp=Z,1.6nm,0.7s,baz=307,slow=6.4,SNR=44
comp=Z,1.6nm,0.7s
YKA Yellowknife Ar 59.21 32 i P P 13 31 57.0 +0.7
YKA pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 59.66 339 P **P 13 31 59.4 +0.1**
comp=Z,2.4nm,0.8s,baz=52,slow=6.3,SNR=5.3
ARCES LR LR 14 00 19.9
comp=Z,22nm,21.0s,baz=314,slow=38
comp=Z,2.4nm,0.8s
KLMR Klimovskoe 60.01 327 eP P 13 31 59.3 -2.5
KLMR pmax pmax
comp=Z,16nm,2.0s
WRAB Tennant Creek 62.03 189⇑ eP P 13 32 15.5 -0.4
WRAB pmax pmax
comp=Z,17nm,2.0s
WRA Warramunga Arr 62.04 189 P **P 13 32 16.0 +0.1**
comp=Z,1.2nm,0.4s,baz=6.3,slow=6.9,SNR=31
comp=Z,1.2nm,0.4s
OBN Obninsk 64.62 322⇓ eP P 13 32 33.0 +0.4
OBN e*PP **sP 13 32 53.6 -5.0**
OBN e*SP **PcP 13 33 00.9 -5.1**
OBN i 13 33 06.8
OBN S **S 13 41 04.0 -2.7**
OBN pmax pmax
comp=Z,12nm,0.4s
OBN MLR MLR
comp=Z,25nm,13.0s
FINES FINESS Array B 64.81 332 P **P 13 32 33.7 -0.1**
comp=Z,5.7nm,0.5s,baz=56,slow=7.0,SNR=61
FINES LR LR 14 03 19.1
comp=Z,45nm,19.5s,baz=26,slow=38
comp=Z,5.7nm,0.5s
FINES FINESS Array B 64.81 332 i P P 13 32 33.9 +0.1
FINES pmax pmax
comp=Z,6.0nm,0.5s
VSR Storozhevoye 65.74 318 eP P 13 32 38.1 -1.9
VSR pmax pmax
comp=Z,9.0nm,1.0s
ASAR Alice Springs 65.77 188 P **P 13 32 41.1 +0.7**
comp=Z,0.6nm,0.5s,baz=3.7,slow=7.5,SNR=20
comp=Z,0.6nm,0.5s
VSU Vasula 66.59 329⇑ eP P 13 32 44.4 -0.9
VSU pmax pmax
comp=Z,34nm,1.4s
KIV Kislovodsk 68.27 310 eP P 13 32 56.6 +0.3
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,11nm,17.0s
KIV Kislovodsk 68.27 310 P **P 13 32 57.4 +1.1**
comp=Z,15nm,0.8s
KBZ Khabaz 68.28 310 P **P 13 32 57.2 +1.0**
comp=Z,5.1nm,0.9s,baz=54,slow=5.5,SNR=16
comp=Z,5.1nm,0.9s
KBZ Khabaz 68.28 310c iP P 13 32 57.0 +0.8
KBZ pmax pmax
comp=Z,6.0nm,0.9s
SHA1 Shidzhatmaz 68.42 310 ceP P 13 32 58.4 +1.0
MNK Minsk 68.84 325 i P P 13 32 58.9 -0.6
MNK i *PP **pP 13 33 20.2 +2.3**
MNK i 13 35 31.5
MNK i PPP PPP 13 37 13.2
MNK i S **S 13 41 57.6 -0.1**
MNK i *SS **sS 13 42 34.1 +4.8**
MNK i SS **SS 13 46 26.9 +3.9**
MNK pmax pmax
comp=E,32nm,1.1s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=N,17nm,1.0s
MNK MLR MLR
comp=Z,41nm,20.0s
MNK MLR MLR
comp=N,51nm,26.0s
MNK MLR MLR
comp=E,41nm,18.0s
HFS Hagfors 69.91 335 P **P 13 33 06.0 0.0**
comp=E,6.1nm,0.5s,baz=47,slow=6.5,SNR=28
comp=E,6.1nm,0.5s
HFS Hagfors 69.91 335 P **P 13 33 06.0 0.0**
NB2 NORSAR Subarra 69.93 337 P **P 13 33 06.3 +0.1**
comp=Z,2.3nm,0.6s,baz=36,slow=6.5
NOA NORSAR Array B 69.93 337 P **P 13 33 06.0 -0.2**
comp=Z,4.0nm,0.7s,baz=37,slow=6.2,SNR=14
NOA LR LR 14 07 00.6
comp=Z,16nm,21.7s,baz=220,slow=39
comp=Z,4.0nm,0.7s
AK03 Malin Array Si 70.85 322 P **P 13 33 12.0 +0.1**
AKASG Malin Array Be 70.86 322 P **P 13 33 11.9 -0.1**
comp=Z,3.4nm,0.5s,baz=46,slow=6.1,SNR=30
comp=Z,3.4nm,0.5s
AKASG Malin Array Be 70.86 322 i P P 13 33 12.0 0.0
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 70.86 322 P **P 13 33 11.7 -0.3**
AKBB IAmb IAmb 13 33 12.8
comp=Z,9.9nm,0.8s
AKBB Malin Array Si 70.86 322 ceP P 13 33 11.8 -0.2
AKBB pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 70.86 322 P **P 13 33 12.1 +0.1**
AK23 Malin Array Si 70.87 322 P **P 13 33 12.2 +0.2**
AK01 Malin Array Si 70.88 322 P **P 13 33 12.2 +0.1**
AK04 Malin Array Si 70.88 322 P **P 13 33 12.2 +0.1**
KIEV Kiev 70.88 322 P **P 13 33 11.8 -0.2**
KIEV IAmb IAmb 13 33 12.8
comp=Z,8.5nm,0.8s
KIEV Kiev 70.88 322 P **P 13 33 11.8 -0.2**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 70.88 322 P **P 13 33 12.1 0.0**
comp=Z,50nm,1.2s
MI28 Mi28,Pidlybu 71.42 323 P **P 13 33 16.0 +0.7**
NVAR Mina Array Bea 71.50 55 P **P 13 33 18.0 +1.6**
comp=Z,1.3nm,0.7s,baz=290,slow=5.5,SNR=8.5
comp=Z,1.3nm,0.7s
GURO Guroymak-BITLI 72.02 306 IAmb IAmb 13 33 22.4
comp=Z,8.3nm,0.8s
LUBAR Lubar, Ukraine 72.08 322 P **P 13 33 19.4 0.0**
SORM Soroca 73.06 320 P **P 13 33 25.2 0.0**
comp=Z,10nm,0.8s
NDNU Novodnistrovsk 73.20 321 P **P 13 33 26.3 +0.3**
NDNU Novodnistrovsk 73.20 321 P **P 13 33 26.3 +0.3**
STKA Stephens Creek 73.48 181 P **P 13 33 27.6 0.0**
comp=Z,0.8nm,0.5s,baz=68,slow=11,SNR=1.0
comp=Z,0.8nm,0.5s
MARD Mardin 73.57 305 P **P 13 33 29.9 +1.3**
KMPD K-Podol'skiy 73.64 321 P **P 13 33 28.2 -0.4**
DIKM Dikmen 73.93 312 P **P 13 33 31.5 +1.1**
comp=Z,11nm,0.8s

KSV	Kosov	74.47 322	P	P	13 33 33.2	-0.3
KSV	Kosov	74.47 322	P	P	13 33 33.2	-0.3
BURAR	Bucovina Array	74.91 321	P	P	13 33 36.2	+0.1
RAKU	Rahkiv	75.09 322	P	P	13 33 37.6	+0.5
ILGA	Ilgaz	75.19 312	P	P	13 33 39.4	+1.4
KOLS	Kolonicke sedl	75.27 324	eP	P	13 33 39.1	+1.0
KOLS			pmax	pmax		
	comp=Z,6.0nm,0.7s					
KOLS	Kolonicke sedl	75.27 324	eP	P	13 33 39.1	+1.0
STHS	Stebnicka Huta	75.36 325	eP	P	13 33 39.4	+0.8
STHS	Stebnicka Huta	75.36 325	eP	P	13 33 39.4	+0.8
OJC	Ojcow	75.36 326	eP	P	13 33 39.2	+0.6
OJC	Ojcow	75.36 326	P	P	13 33 39.7	+1.1
	comp=Z,16nm,0.8s					
BERU	Beregovo	75.62 323	P	P	13 33 40.6	+0.5
SRU	San Rafael Swe	75.66 50	P	P	13 33 40.0	-0.7
SRU			pmax	pmax		
	comp=Z,4μm,0.8s					
NIE	Niedzica	75.76 325	eP	P	13 33 42.7	+1.8
NIE	Niedzica	75.76 325	P	P	13 33 42.4	+1.5
	comp=Z,5.5nm,0.9s					
MLR	Muntele Rosu	76.10 320	LR	LR	14 09 47.6	
	comp=Z,20nm,18.8s,baz=278,slow=38					
BR131	Keskin Array S	76.14 311	P	P	13 33 43.5	+0.1
BR131	Keskin Array S	76.14 311	P	P	13 33 43.5	+0.1
BR131			pmax	pmax		
	comp=Z,3.0nm,0.8s					
BRTR	Keskin Array B	76.14 311	P	P	13 33 43.5	+0.1
BRTR	Keskin Array B	76.14 311	P	P	13 33 44.0	+0.7
	comp=Z,1.8nm,0.7s,baz=64,slow=3.6,SNR=11					
	comp=Z,1.8nm,0.7s					
BR106	Keskin Array S	76.15 311	P	P	13 33 44.3	+0.9
	comp=Z,2.9nm,0.8s					
BR104	Keskin Array S	76.15 311	P	P	13 33 44.3	+0.9
	comp=Z,2.9nm,0.9s					
BR105	Keskin Array S	76.16 311	P	P	13 33 44.3	+0.8
	comp=Z,2.4nm,0.8s					
KSP	Ksiaz	76.30 328	eP	P	13 33 45.1	+1.1
KSP	Ksiaz	76.30 328	P	P	13 33 45.0	+1.1
KSP	Ksiaz	76.30 328	P	P	13 33 45.0	+1.1
	comp=Z,8.3nm,1.3s					
LANS	Liptovska Anna	76.31 325	eP	P	13 33 46.3	+2.2
LANS			pmax	pmax		
	comp=Z,4.0nm,0.9s					
LANS	Liptovska Anna	76.31 325	eP	P	13 33 46.3	+2.2
HMU	Henry Mountain	76.33 51	P	P	13 33 45.4	+0.8
HMU			IAmb	IAmb	13 33 47.5	
	comp=Z,3.7nm,0.7s					
MORC	Moravsky Berou	76.63 327	IAmb	IAmb	13 33 47.8	
	comp=Z,6.0nm,1.0s					
MORC	Moravsky Berou	76.63 327	eP	P	13 33 46.8	+0.9
DPC	Dobruska-Polom	76.67 328	P	P	13 33 47.4	+1.3
	comp=Z,3.9nm,2.0s					
CLL	Collm	77.19 330	⇑iP	P	13 33 49.0	+0.1
CLL			i		13 34 13.0	
CLL			pmax	pmax		
	comp=Z,5.0nm,0.7s					
CLL	Collm	77.19 330	P	P	13 33 49.2	+0.3
	comp=Z,8.0nm,0.9s					
CLL	Collm	77.19 330	⇑iP	P	13 33 49.0	+0.1
	comp=Z,5.0nm,0.7s					
CLL			i (sP)	sP	13 34 13.0	-2.3
JAVC	Velka Javorina	77.29 326	eP	P	13 33 51.5	+1.9
VRAC	Vranov	77.39 327	eP	P	13 33 51.1	+1.1
KRUC	Moravsky	77.66 327	eP	P	13 33 52.4	+0.8
MODS	Modra-Piesok	77.84 326	eP	P	13 33 53.7	+1.1
MODS	Modra-Piesok	77.84 326	eP	P	13 33 53.7	+1.1
KHC	Kasperske Hory	78.72 329	ceP	P	13 33 58.4	+0.9
KHC			pmax	pmax		
	comp=Z,44nm,3.7s					
KHC	Kasperske Hory	78.72 329	P	P	13 33 58.6	+1.1
	comp=Z,5.6nm,0.8s					
EKA	Eskdalemuir Ar	78.73 341	P	P	13 33 57.6	+0.3
	comp=Z,1.6nm,0.5s,baz=23,slow=5.0,SNR=8.0					
	comp=Z,1.6nm,0.5s					
CONA	Conrad Observa	78.77 327	iP	P	13 33 58.5	+0.6
	comp=Z,2.2nm,0.6s					
RONA	Rosalia, Austr	78.77 326	iP	P	13 33 59.2	+1.4
	comp=Z,3.7nm,0.6s					
GERES	GERESS Array B	78.91 328	P	P	13 33 58.6	+0.1
	comp=Z,0.9nm,0.5s,baz=26,slow=4.9,SNR=8.0					
	comp=Z,0.9nm,0.5s					
ECSD	EROS Data Cent	79.62 39	P	P	13 34 03.0	+0.6
ECSD			IAmb	IAmb	13 34 03.8	
	comp=Z,4.6nm,0.8s					
MMAI	Mount Meron Ar	79.71 305	P	P	13 34 04.5	+1.3
	comp=Z,0.6nm,0.3s,baz=41,slow=16,SNR=3.9					
	comp=Z,0.6nm,0.3s					
SOKA	Soboth	80.11 326	eP	P	13 34 05.8	+0.7
	comp=Z,5.2nm,0.7s					
OBKA	Obir	80.44 326	iP	P	13 34 07.6	+0.7
	comp=Z,6.2nm,0.7s					
LESA	Schwarzleotal	80.46 328	iP	P	13 34 08.0	+1.0
	comp=Z,5.6nm,1.1s					
KBA	Koelnbreinsper	80.48 327	eP	P	13 34 07.9	+0.7
	comp=Z,3.4nm,0.6s					
ANMO	Albuquerque	80.88 51	⇓eP	P	13 34 09.8	+0.2
WATA	Walderalm	80.97 329	iP	P	13 34 10.5	+0.7
	comp=Z,4.6nm,0.6s					
WTTA	Wattenberg	81.00 328	iP	P	13 34 10.9	+0.9
	comp=Z,3.6nm,0.6s					
MOTA	Moosalm	81.14 329	iP	P	13 34 10.9	+0.2
	comp=Z,9.7nm,0.8s					
RETA	Reutte	81.15 329	iP	P	13 34 10.5	-0.2
	comp=Z,1.9nm,0.3s					
SQTA	Sankt Quirin	81.20 329	iP	P	13 34 11.4	+0.4
	comp=Z,3.4nm,0.6s					
FETA	Feichten	81.55 329	eP	P	13 34 13.6	+0.7
	comp=Z,4.5nm,0.8s					
DAVA	Damuels	81.66 330	iP	P	13 34 14.2	+0.7
	comp=Z,5.2nm,0.6s					
FUORN	Ofenpass-Fuorn	82.06 329	IAmb	IAmb	13 34 17.5	
	comp=Z,7.5nm,0.8s					
TUE	Stuetta	82.54 329	P	P	13 34 19.1	+1.0
PPT2	Papeete2	86.24 118	eLR	LR	14 01 51.0	
	comp=Z,37nm,22.2s					
PPT2			eLR	LR	14 01 58.1	
	comp=Z,104nm,28.8s					
TXAR	Lajitas Array	86.56 53	P	P	13 34 40.4	+1.8
	comp=Z,1.3nm,0.7s,baz=285,slow=4.0,SNR=9.5					
	comp=Z,1.3nm,0.7s					
TAOE	Nuku Hiva Isla	86.69 105	eLR	LR	14 02 10.0	
	comp=Z,50nm,22.6s					
ESDC	Sonseca Array	93.17 335	P	P	13 35 09.8	+0.4
	comp=Z,1.1nm,0.8s,baz=0.2,slow=4.0,SNR=5.9					
	comp=Z,1.1nm,0.8s					
QSPA	South Pole Qui	131.70 180	PKP	PKPdf	13 41 08.0	+1.3
	comp=Z,1.4nm,1.0s,baz=266,slow=1.5,SNR=7.3					
SNAA	Sanae	145.66 199	PKPbc	PKPbc	13 41 33.1	+0.7
	comp=Z,2.1nm,0.9s,baz=197,slow=9.3,SNR=6.9					
H03N2	Juan Fernandez 146.51 89		T	T	16 24 57.2	
	baz=300,slow=77,SNR=67					
H03N3	Juan Fernandez 146.52 89		T	T	16 24 58.1	
	baz=300,slow=77,SNR=101					
H03N1	Juan Fernandez 146.52 89		T	T	16 24 58.3	
	baz=300,slow=77,SNR=104					

JMA 08 13:25:20.3±0.3, 28°N±1°×13°0E±°, h37km±2km, MV0.1/4,
NEAR AMAMI-OSHIMA ISLAND, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.21	22	eP	Pn	13 25 27.2	-2.3
JAMN	Amaminishikomi	0.30	275	eP	Pn	13 25 28.2	-0.3
JAMN				eS	Sn	13 25 33.7	-1.9
JTK	Tokunoshima	0.66	229	P	Pn	13 25 32.8	-0.5

IDC ***08*** *13:27:04.5±1.0, 24°.30N×122°.17E, h0km, mb3.7/9, mbtmp3.7/10, ML3.2/1, MS3.2/1, Error ellipse: s-maj=28.7km s-min=20.1km az=57.0*
JMA ***08*** *13:27:08.7±0.1, 24°.1N±0°.5×121°.9E±0°.5, h29km±1km, MV3.1/13, TAIWAN REGION*
ASIES ***08*** *13:27:08.6, 24°.18N×121°.90E, h25km, ML4.1, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^21Nm; Mrr-2.07; Mθθ4.23; Mφφ-2.25; Mrθ5.08; Mθφ0.49; Mφr6.54; Fault plane solution: M0 9.07804×10^21 NP1: φs118.40000°, δs22.37000°, λs-16.16000°. NP2: φs223.40000°, δs83.92000°, λs-111.57000°. Principal axes: T Plg35.3800°, Azm331.9920°; N Plg21.4410°, Azm225.7980°; P Plg46.7850°, Azm111.0900°;*
TAP ***08*** *13:27:08.6, 24°.18N×121°.90E, h25km, ML4.1, B*
ISC 08 13:27:08.0±0.8, 24°.14N±0°.01×121°.95E±0°.02, h26km±5km,
n172, σ1§04/285, mb3.6/9, 13C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.26	312	eP	Pb	13 27 14.7	+0.2
EHP				eS	Sb	13 27 19.4	+0.4
EAHA	Aohua	0.28	315	⇓eP	Pb	13 27 14.7	0.0
EAHA				eS	Sb	13 27 19.9	+0.7
ETL	Fush Village	0.30	275	⇓iP	Pb	13 27 15.2	+0.1
ETL				S	Sb	13 27 20.5	+0.5
NACB	Ninganchiao	0.33	277	⇓iP	Pb	13 27 15.5	0.0
NACB				S	Sb	13 27 20.6	0.0
TWD	Chiawan	0.33	261	⇓iP	Pb	13 27 15.8	+0.3
TWD				S	Sb	13 27 21.3	+0.7
EOS4	EOS4	0.33	92	eP	Pn	13 27 17.7	+0.9
EOS4				eS	Sn	13 27 23.9	+1.3
EWUT	Wuta	0.35	333	⇓P	Pb	13 27 15.9	+0.2
EWUT				S	Sb	13 27 21.6	+0.5
ENA	Nanau	0.35	326	⇓iP	Pb	13 27 15.8	0.0
ENA				S	Sb	13 27 21.4	+0.2
HWA	Hwalien	0.36	244	eP	Pn	13 27 17.0	-0.5
HWA				S	Sb	13 27 22.5	+1.2
EOS3	EOS3	0.36	66	eP	Pn	13 27 19.2	+1.8
EOS2	EOS2	0.38	42	eP	Pn	13 27 18.9	+1.2
TEYL	Yanliau Villag	0.42	231	eP	Pn	13 27 17.9	-0.5
TEYL				eS	Sb	13 27 24.1	+1.2
ETLH	Xiulin Townshi	0.44	279	⇓P	Pb	13 27 17.2	-0.1
ETLH				S	Sb	13 27 23.7	+0.1
ESAO	Su ao	0.45	347	eP	Pb	13 27 17.8	+0.4
ESAO				eS	Sb	13 27 24.2	+0.4
ETM	Tongmen	0.45	248	⇓P	Pb	13 27 17.8	+0.3
ETM				S	Sb	13 27 25.0	+1.1
SHUL	Shoufeng	0.50	226	⇓eP	Pn	13 27 19.5	+0.1
SHUL				eS	Sn	13 27 28.1	+0.9
LXIB	Xiulin Townshi	0.51	257	⇓iP	Pb	13 27 18.5	+0.1
LXIB				S	Sb	13 27 26.6	+1.0
NDS	Dongshan	0.54	336	P	Pb	13 27 19.1	+0.2
NDS				S	Sb	13 27 26.2	-0.1
LATG	Datong	0.56	316	⇓iP	Pb	13 27 18.9	-0.3
LATG				S	Sb	13 27 26.7	-0.2
TEGC	Jichi Village	0.57	222	eP	Pn	13 27 20.6	+0.2
TEGC				eS	Sn	13 27 30.5	+1.6
ESL	Shilin	0.57	236	⇓P	Pb	13 27 19.8	+0.4
ESL				eS	Sn	13 27 28.4	-0.7
NNSB	Datong	0.60	299	⇓iP	Pb	13 27 19.7	-0.3
NNSB				S	Sb	13 27 27.7	-0.4
ENTT	Nioudou	0.61	325	iP	Pb	13 27 20.2	+0.1
ENTT				iS	Sb	13 27 28.8	+0.4
WHF	Hehuan Shan	0.63	271	⇑iP	Pb	13 27 20.8	+0.1
WHF				eS	Sb	13 27 29.4	+0.1
TWE	Neicheng	0.64	336	⇑P	Pb	13 27 20.8	+0.2
TWE				eS	Sb	13 27 29.0	-0.1
ILA	Ilan	0.66	343	iP	Pn	13 27 21.8	+0.1
ILA				eS	Sn	13 27 30.3	-0.8
FUSS	Fushou	0.66	280	⇓iP	Pb	13 27 21.1	+0.1
FUSS				iS	Sb	13 27 30.0	+0.1
WARBT	Fenglin Townsh	0.67	231	⇓iP	Pb	13 27 21.1	+0.1
WARBT				eS	Sb	13 27 30.7	+0.9
EGFH	Guangfu	0.67	226	P	Pn	13 27 21.9	+0.1
EGFH				eS	Sn	13 27 31.6	+0.2
FUSB	Fushanzhiwuyua	0.71	332	⇑iP	Pb	13 27 21.7	0.0
FUSB				eS	Sb	13 27 31.1	+0.1
EGS		0.71	358	⇑iP	Pn	13 27 22.7	+0.4
EGS				eS	Sn	13 27 32.0	-0.3
TWT	Tachien	0.72	280	⇓iP	Pb	13 27 22.3	+0.3
TWT				iS	Sb	13 27 32.3	+0.7
NTC	Toucheng	0.72	351	eP	Pn	13 27 23.0	+0.4
NTC				eS	Sn	13 27 33.9	+1.1
OWD	Renai	0.73	256	⇓iP	Pb	13 27 22.4	+0.2
OWD				eS	Sb	13 27 32.2	+0.3
TDCB	Techi	0.74	279	⇓iP	Pb	13 27 22.3	0.0
TDCB				S	Sb	13 27 31.6	-0.4
YHNB	Yeheng	0.75	315	P	Pb	13 27 22.4	0.0
YHNB	Yeheng	0.75	315	S	Sb	13 27 32.1	-0.2
YHNB	Yeheng	0.75	315	⇓iP	Pb	13 27 22.3	-0.2
YHNB				eS	Sb	13 27 31.4	-1.0
NWLT	Wulai	0.76	327	eP	Pb	13 27 22.7	+0.1
NWLT				eS	Sb	13 27 32.9	+0.3
NSK	Sanguang	0.77	315	⇓P	Pb	13 27 22.5	-0.2
NSK				iS	Sb	13 27 32.3	-0.5
WUSB	Renai	0.78	260	⇓iP	Pb	13 27 23.1	+0.2
WUSB				eS	Sb	13 27 32.8	-0.4
HGSD	Ruisui	0.80	217	⇓P	Pn	13 27 24.0	+0.4
HGSD				iS	Sn	13 27 35.8	+1.0
VWDT	VWDT	0.83	243	⇓iP	Pn	13 27 24.2	+0.2
VWDT				eS	Sb	13 27 34.8	+0.1
TIPB	Shuangxi	0.84	352	⇑iP	Pn	13 27 24.6	+0.4
TIPB				iS	Sn	13 27 36.1	+0.3
EHYH	Wanrong	0.85	221	eP	Pn	13 27 24.5	+0.2
EHY	Hungye	0.85	223	eP	Pb	13 27 23.9	-0.2
EHY				eS	Sn	13 27 36.8	+0.8
TWB1	Santiao Chiao	0.87	2	⇑iP	Pn	13 27 25.3	+0.7
TWB1				eS	Sn	13 27 37.3	+0.9
TWA	Mucha	0.91	338	⇓iP	Pn	13 27 26.6	+1.6
TWA				eS	Sn	13 27 37.4	0.0
NFF	Wufeng Townshi	0.91	303	⇓eP	Pn	13 27 25.2	0.0
NFF				S	Sb	13 27 36.6	-0.3
WHP	Taichung City	0.93	279	⇓P	Pb	13 27 25.8	+0.3
WHP				eS	Sb	13 27 37.6	+0.1
ECBN	Changbin	0.94	210	eP	Pb	13 27 25.8	+0.2
ECBN				eS	Sb	13 27 37.4	-0.2
TATO	Taipei	0.94	333	P	Pb	13 27 26.2	+0.6
TATO	Taipei	0.94	333	S	Sn	13 27 39.4	+1.3
NWF	Wu-fen Shan	0.94	350	⇑iP	Pb	13 27 26.7	+1.0
NWF				S	Sn	13 27 40.0	+1.6
WFSB	Wu-fen Shan	0.94	350	⇑P	Pb	13 27 26.7	+1.0
WFSB				S	Sn	13 27 39.8	+1.5
YULB	Yu-li	0.95	219	P	Pn	13 27 25.9	+0.2
YULB	Yu-li	0.95	219	⇑eP	Pn	13 27 25.6	-0.2
YULB				eS	Sn	13 27 39.0	+0.5
KSHI	Guanxi Townshi	0.95	312	eP	Pb	13 27 26.8	+1.0
KSHI				eS	Sn	13 27 38.6	+0.1
WCS	Beigang Elemen	0.96	266	⇓eP	Pn	13 27 25.9	+0.1
WCS				eS	Sn	13 27 38.8	+0.3
SXI1	Grass Mountain	0.96	356	⇑iP	Pb	13 27 27.0	+1.0
SXI1				S	Sn	13 27 40.9	+2.1
JYNG	Yonagunijimaku	0.96	71	P	Pb	13 27 27.2	+1.3
JYNG				S	Sn	13 27 41.0	+2.4
NHY	Taipei	0.97	339	eP	Pb	13 27 27.7	+1.6
NHY				eS	Sn	13 27 39.3	+0.5
EYUL	Yuli	0.98	217	eP	Pb	13 27 26.7	+0.5
SSLB	Suanglung	0.98	249	P	Pb	13 27 26.4	+0.1
SSLB	Suanglung	0.98	249	S	Sn	13 27 40.0	+0.9
SSLB	Suanglung	0.98	249	⇓iP	Pn	13 27 26.2	+0.1
SSLB				eS	Sb	13 27 38.5	-0.3
TWF1	Yuli	0.98	218	eP	Pn	13 27 26.3	+0.1
TWF1				eS	Sb	13 27 38.6	-0.4
TAP	Taipei	0.99	336	eP	Pb	13 27 27.4	+1.0
TAP				iS	Sn	13 27 40.9	+1.6
LIOB	Emei	0.99	301	eP	Pb	13 27 27.2	+0.6
LIOB				eS	Sn	13 27 39.7	+0.1
SMLT	Sun Moon Lake	1.00	256	⇑P	Pn	13 27 25.8	-0.6
SMLT				eS	Sb	13 27 39.1	-0.3
NSTT	Nanjuang	1.00	300	eP	Pb	13 27 27.0	+0.4
NSTT				iS	Sn	13 27 39.7	0.0
YOJ	Yonaguni jima	1.02	71	P	Pb	13 27 28.1	+1.1
YOJ	Yonaguni jima	1.02	71	P	Pb	13 27 28.1	+1.1
YOJ				S	Sn	13 27 42.0	+2.0
YOJ	Yonaguni jima	1.02	71	eP	Pb	13 27 28.0	+1.1
TNOU	National Taiwa	1.02	351	eP	Pb	13 27 28.8	+1.8
TNOU				eS	Sn	13 27 41.1	+0.9
TYC	Yuchr	1.03	257	iP	Pb	13 27 27.1	0.0
TYC				S	Sb	13 27 40.1	-0.1
YM01	YM01	1.07	341	eP	Pb	13 27 27.9	+0.1
YM01				eS	Sb	13 27 42.6	+1.3
CHKH	Chenggong	1.07	209	eP	Pb	13 27 27.8	0.0
CHKH				eS	Sb	13 27 42.4	+1.0
TWS1	Kuangyinshan	1.08	333	eP	Pb	13 27 28.1	+0.1
TWS1				eS	Sb	13 27 43.1	+1.4
NCUH	Zhongli	1.08	320	iP	Pb	13 27 28.6	+0.5
NCUH				eS	Sb	13 27 44.1	+2.3
ZUZH	Zhuzihu	1.09	340	⇑eP	Pb	13 27 28.3	+0.1
ZUZH				eS	Sb	13 27 42.8	+0.8
WHYT	Xinyi Township	1.10	247	⇓iP	Pb	13 27 28.6	+0.3
WHYT				eS	Sb	13 27 43.1	+0.9
SBCB	Hsinchu	1.10	307	eP	Pb	13 27 29.1	+0.8
SBCB				eS	Sb	13 27 43.1	+0.9
YM08	YM08	1.10	343	eP	Pb	13 27 28.0	+0.2
YM08				eS	Sn	13 27 41.6	-0.5
FULB	Fuli	1.11	213	eP	Pb	13 27 28.5	-0.1
FULB				eS	Sb	13 27 45.0	+2.4
HSN	Hsinchu	1.12	307	eP	Pb	13 27 28.7	+0.1
HSN				S	Sb	13 27 44.2	+1.5
ANP	Anpu	1.12	339	eP	Pb	13 27 29.1	+0.4
NTST	Danshui	1.12	336	eP	Pb	13 27 29.4	+0.6
NTST				eS	Sb	13 27 44.0	+1.1
NSY	Sanyi	1.12	285	eP	Pn	13 27 27.7	-0.4
NMLH	Miaoli	1.13	291	eP	Pb	13 27 29.8	+0.8
NMLH				eS	Sb	13 27 45.0	+1.7
WJS	Zhushan	1.16	255	iP	Pb	13 27 30.6	+1.2
WJS				S	Sb	13 27 46.9	+2.8
TCU	Taichung	1.17	271	eP	Pb	13 27 30.4	+0.9
TCU				eS	Sb	13 27 47.1	+2.9
TWY	Chenhua	1.18	344	eP	Pn	13 27 29.1	+0.2
TWY				eS	Sb	13 27 46.2	+1.6
WNT	Mingjian	1.19	258	⇑iP	Pb	13 27 30.9	+1.0
WNT				eS	Sb	13 27 47.0	+2.2
EHD	Haiduan	1.20	215	eP	Pn	13 27 29.2	+0.1
EHD				eS	Sb	13 27 46.9	+1.8
WDJ	Dajia District	1.22	280	eP	Pb	13 27 31.3	+0.9
WDJ				iS	Sb	13 27 47.5	+1.9
ALS	Alishan	1.22	240	eP	Pb	13 27 31.2	+0.6
ALS				eS	Sb	13 27 46.7	+0.6
ECS	Chishang	1.23	213	eP	Pb	13 27 31.0	+0.4
ELDTW	Lidau	1.27	223	eP	Pb	13 27 31.0	-0.4
ELDTW				eS	Sb	13 27 47.9	+0.5
CHN5	Tsauling	1.28	246	eP	Pb	13 27 32.2	+0.6
CHN5				S	Sb	13 27 49.9	+2.2
WCH1	Changhua City	1.29	267	eP	Pb	13 27 31.5	0.0
WCH1				eS	Sb	13 27 49.3	+1.7
EDH	Donghe	1.30	207	eP	Pn	13 27 30.5	-0.1
EDH				eS	Sn	13 27 46.0	-1.1
WGK	Gukeng	1.35	251	eP	Pb	13 27 33.3	+0.9
WGK				eS	Sb	13 27 51.0	+1.5
WDLH	Douliu	1.37	251	eP	Pb	13 27 34.0	+1.0
WDLH				eS	Sb	13 27 52.1	+2.1
WCKO	Fanlu	1.42	241	eP	Pb	13 27 34.9	+1.2
WCKO				eS	Sb	13 27 53.1	+1.7
LONT	Longtian	1.44	212	eP	Pn	13 27 33.2	+0.9
STYH	Taoyuan	1.45	229	eP	Pn	13 27 33.2	+0.8
STYH				iS	Sb	13 27 51.8	-0.4
CHN4	Tsaushan	1.47	238	eP	Pb	13 27 35.6	+0.9
TPUB	Ta-pu	1.47	236	P	Pb	13 27 35.3	+0.6
TPUB	Ta-pu	1.47	236	P	Pb	13 27 35.5	+0.9
TPUB				eS	Sb	13 27 54.1	+1.2
PCYT	Pengchaiyu	1.49	4	eP	Pb	13 27 34.7	-0.3
WTK	Tuku	1.50	253	eP	Pb	13 27 35.8	+0.7
WTK				eS	Sb	13 27 55.6	+1.9
WTP	Ta-pu	1.51	234	eP	Pb	13 27 36.4	+1.0
LDUT	Ludao	1.52	197	eP	Pn	13 27 33.3	-0.2
LDUT				eS	Sn	13 27 52.1	-0.4
CHY	Chiayi	1.54	246	eP	Pb	13 27 36.5	+0.7
CHY				eS	Sb	13 27 57.1	+2.3
TWGBT	Beinan	1.54	212	eP	Pn	13 27 33.9	+0.1
TWGBT				S	Sb	13 27 54.2	-0.7
TWG	Pinlang	1.54	212	eP	Pn	13 27 34.4	+0.6
TWG				eS	Sn	13 27 53.5	+0.6
TWK	Hsinying	1.60	238	eP	Pb	13 27 37.1	+0.2
TWK				eS	Sb	13 27 58.5	+1.8
CHN1	Nanshi	1.61	234	eP	Pb	13 27 37.4	+0.3
CHN1				eS	Sb	13 27 58.7	+1.6
SNST	Tainan City	1.62	236	eP	Pb	13 27 37.4	+0.3
SNST				eS	Sb	13 27 57.9	+0.8
IRIF	Iriomote-Funau	1.63	83	P	Pb	13 27 36.7	-0.7
SGST	Jiashian	1.64	230	P	Pb	13 27 37.1	-0.4
SGST				S	Sb	13 27 59.7	+1.9
WSF	Szhu	1.66	253	eP	Pb	13 27 38.0	+0.1
WSF				iS	Sb	13 28 00.0	+1.6
WSL	Shuilin Townsh	1.69	249	eP	Pb	13 27 38.5	+0.1
WSL				iS	Sb	13 28 00.8	+1.4
ICHU	Yijhu	1.72	244	eP	Pb	13 27 38.5	-0.4
ICHU				eS	Sb	13 28 00.3	+0.3
CHN8	Yiju	1.78	244	eP	Pb	13 27 39.6	-0.3
CHN8				eS	Sb	13 28 03.0	+1.2
ECL	Taimali	1.79	211	eP	Pn	13 27 36.9	-0.3
CHN3	Shinhua	1.80	234	eP	Pb	13 27 41.0	+0.8
CHN3				eS	Sb	13 28 04.1	+1.8
SCST	Cishan	1.83	227	eP	Pb	13 27 41.7	+1.0
SCST				eS	Sb	13 28 05.4	+2.2
SHHT	Tainan City	1.84	233	eP	Pb	13 27 41.5	+0.4
TSMG	Majia	1.86	220	eP	Pb	13 27 41.0	-0.3
SCLT	Jiali	1.88	240	eP	Pb	13 27 40.2	-1.4
JKRS	Kuro-shima	1.88	86	P	Pb	13 27 40.9	-0.7
JKRS				eS	Sb	13 28 05.0	+0.3
TWM1	Shoushan	1.92	227	eP	Pb	13 27 43.2	+0.9
MASBT	Mashibuluo	1.94	219	eP	Pb	13 27 41.3	-1.4
MASBT				eS	Sb	13 28 07.0	+0.5
TSCK	Chigu Township	1.98	241	eP	Pn	13 27 41.5	+1.7
JIJ	Ishigaki jima	2.01	83	P	Pn	13 27 41.9	+1.7
JIJ				S	Sb	13 28 06.6	-1.9
EAST	Anshuo	2.02	210	eP	Pn	13 27 41.2	+0.7
TAWH	Dawu Township	2.04	209	eP	Pn	13 27 42.5	+1.8
LAY	Lan-yu	2.12	190	eP	Pn	13 27 42.5	+0.7
LAY				eS	Sn	13 28 06.2	-1.1
S

JAGI	Jajag, Banyuwa	1.85	55	P	Pn	13 37 46.3	-0.9
PCJI	Pacitan	1.97	313	P	Pn	13 37 48.6	-0.2
ABJI	Asem Bagus	2.36	42	P	Pn	13 37 55.1	+0.9
NGJI	Ngawi	2.46	332	P	Pn	13 37 54.8	-0.8
UGM	Wanagama	2.64	308	P	Pn	13 37 58.5	+0.3
KMMI	Kalianget	2.81	28	P	Pn	13 38 00.3	-0.2
SRBI	Singaraja	2.94	61	P	Pn	13 38 02.3	+0.1
TWSI	Taliwang, Sumb	4.28	79	P	Pn	13 38 20.8	+0.2
CMJI	Cimerak	4.49	293	P	Pn	13 38 23.1	-0.5
PLAI	Plampang 0.1nm24nm,0.8s	5.13	82	P	Pn	13 38 32.7	+0.3
WBSI	Waikabubak, Su 23nm,1.6s	6.67	91	P	Pn	13 38 53.4	-0.1
CGJI	Cibinong	7.46	293	P	Pn	13 39 05.8	+1.4

*IDC **08** 13:41:24.1±0.6,5°.69N×32°.97W,h0km,mb4.1/15, mbtmp4.1/15,MS3.5/20,Error ellipse: s-maj=22.7km s-min=15.5km az=131.0*
*NEIC **08** 13:41:26.6±1.5,5°.7N±0°.1×32°.9W±0°.1,h10km±1km, mb4.6/63,Error ellipse: s-maj=21.0km s-min=17.3km az=163.0*
ISC 08 13:41:26.1±0.4,**5°.65N**±0°.09×**32°.90W**±0°.08,**h12**km,**n126**, σ0**s73**/105,**mb4.6**/46,**MS3.5**/17,**Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	11.79	195	LR	LR	13 47 43.5	
	comp=Z,51nm,19.0s,baz=60,slow=32						
TMAB	Tom-Au,PA,Br	17.14	243	eP	P	13 45 28.0	+0.6
BBTS	Babate	18.41	60	LR	LR	13 51 08.5	
	comp=Z,142nm,19.1s,baz=114,slow=32						
MDP	Montagnes des	19.66	269	LR	LR	13 51 50.4	
	comp=Z,118nm,19.4s,baz=190,slow=32						
SMTB	Santa Maria do	20.55	226	eP	Pn	13 46 06.2	-0.9
SDBA	SAO DESIDERIO	21.55	214	eP	P	13 46 15.8	+0.2
CMC01	Camacan, BA	21.88	197	eP	P	13 46 21.4	+2.2
MAL2	Monte Alegre,	22.58	251	P	P	13 46 27.3	+0.6
MAL2				IAmb	IAmb	13 46 46.5	
	comp=Z,29nm,1.0s						
H10N3	ASCENSION HYDR	22.73	126	T	T	14 10 03.0	
	baz=305,slow=75,SNR=26						
H10N2	ASCENSION HYDR	22.73	126	T	T	14 10 04.4	
	baz=305,slow=75,SNR=20						
H10N1	ASCENSION HYDR	22.75	126	T	T	14 10 04.6	
	baz=305,slow=75,SNR=32						
H10S3	ASCENSION HYDR	23.26	128	T	T	14 10 43.0	
	baz=306,slow=74,SNR=15						
H10S2	ASCENSION HYDR	23.28	128	T	T	14 10 43.1	
	baz=274,slow=74,SNR=20						
ITTB	Itaituba	24.88	247	eP	P	13 46 48.4	-0.7
SNDB	Serra Nova Dou	25.33	226	eP	P	13 46 53.6	+0.5
NPGB	Novo Progresso	25.72	241	eP	P	13 46 56.3	-0.4
BDFB	Brasilia	25.92	215	P	P	13 46 58.0	-0.5
	comp=Z,1.4nm,0.4s,baz=58,slow=13,SNR=2.3						
BDFB				LR	LR	13 56 09.3	
	comp=Z,128nm,20.1s,baz=59,slow=34						
	comp=Z,1.4nm,0.4s						
DBIC	Dimbokro	27.90	86	LR	LR	13 55 43.0	
	comp=Z,126nm,21.5s,baz=261,slow=31						
H05S1	Guadeloupe/Mar	28.83	290	T	T	14 17 25.2	
	SNR=9.4						
PTLB	Pontes e Lacer	33.39	231	eP	P	13 48 05.4	+0.6
SAML	Samuel	33.49	245	P	P	13 48 06.1	+0.3
SAML				IAmb	IAmb	13 48 07.7	
	comp=Z,8.0nm,1.1s						
SAML	Samuel	33.49	245	eP	P	13 48 06.4	+0.7
SJG	San Juan	34.74	294	LR	LR	13 59 22.2	
	comp=Z,84nm,20.5s,baz=269,slow=31						
TORD	Torodi Ar. Bea	34.90	75	P	P	13 48 17.6	-0.4
TORD					PcP	13 50 49.7	-1.2
TORD	Torodi Ar. Bea	34.90	75	P	P	13 48 17.0	-1.0
	comp=Z,127nm,0.4s,baz=263,slow=7.3,SNR=2.6						
TORD				PcP	PcP	13 50 49.2	-1.7
	comp=Z,59nm,0.3s,baz=237,slow=2.4,SNR=1.9						
BAUV	El Baul	35.00	277	P	P	13 48 19.4	+0.5
SIV	San Ignacio	35.22	232	LR	LR	14 02 45.1	
	comp=Z,85nm,18.9s,baz=90,slow=36						
MURT	Porto Murtinho	36.38	221	eP	P	13 48 31.6	+1.0
MDT	Midelt	37.75	41	LR	LR	14 03 41.2	
	comp=Z,72nm,18.1s,baz=350,slow=35						
CPUP	Villa Florida	39.65	216	P	P	13 48 58.5	+0.4
	comp=Z,1.1nm,0.5s,baz=160,slow=3.3,SNR=2.6						
CPUP				LR	LR	14 04 54.5	
	comp=Z,92nm,18.4s,baz=50,slow=36						
	comp=Z,1.1nm,0.5s						
RUSC	La Rusia	39.98	272	P	P	13 49 02.5	+0.9
RUSC				IAmb	IAmb	13 49 08.3	
	comp=Z,14nm,1.2s						
LPAZ	La Paz	41.11	237	P	P	13 49 10.8	-0.4
LPAZ	La Paz	41.11	237	P	P	13 49 11.0	-0.1
	comp=Z,3.0nm,0.9s,baz=51,slow=8.7,SNR=8.1						
LPAZ				LR	LR	14 05 42.2	
	comp=Z,117nm,18.0s,baz=74,slow=36						
	comp=Z,3.0nm,0.9s						
LPAZ	La Paz	41.11	237	eP	P	13 49 10.1	-1.0
ROSC	El Rosal	41.25	271	LR	LR	14 05 00.3	
	comp=Z,101nm,21.5s,baz=124,slow=34						
ITQB	Itaqui	41.86	212	P	P	13 49 16.2	-0.2
ITQB				IAmb	IAmb	13 49 36.8	
	comp=Z,24nm,1.3s						
CZSB	Cruzeiro do Su	41.88	252	P	P	13 49 15.7	-1.0
CZSB				IAmb	IAmb	13 49 17.2	
	comp=Z,22nm,1.0s						
CZSB	Cruzeiro do Su	41.88	252	eP	P	13 49 15.2	-1.5
ESDC	Sonseca Array	42.74	33	P	P	13 49 24.6	+1.2
	comp=Z,1.7nm,1.0s,baz=234,slow=8.1,SNR=6.2						
	comp=Z,1.7nm,1.0s						
PB08	IPOC Station P	43.90	233	P	P	13 49 32.7	-0.7
PB08				IAmb	IAmb	13 49 34.8	
	comp=Z,6.7nm,0.9s						
GO02	Mina Guanaco	47.02	228	P	P	13 49 58.3	+0.3
ATAH	Atahualpa	47.14	255	LR	LR	14 09 53.5	
	comp=Z,137nm,18.9s,baz=93,slow=36						
AC02	Maricunga	47.67	226	P	P	13 50 03.0	-0.4
AC02				IAmb	IAmb	13 50 05.0	
	comp=Z,5.0nm,1.1s						
KEST	Kesra	48.98	46	LR	LR	14 11 29.1	
	comp=Z,75nm,18.1s,baz=278,slow=37						
AC05	El Transito	49.69	224	P	P	13 50 19.2	+0.7
AC05				IAmb	IAmb	13 50 19.4	
	comp=Z,9.9nm,1.1s						
AC04	Llanos de Chal	49.87	226	P	P	13 50 18.4	-1.2
UCCT	U. Connecticut	50.16	322	P	P	13 50 21.6	-0.1
GO04	Tololo Observa	50.87	223	P	P	13 50 27.3	-0.2
GO04				IAmb	IAmb	13 50 34.8	
	comp=Z,14nm,1.1s						
JTS	Las Juntas de	51.71	279	LR	LR	14 12 54.6	
	comp=Z,39nm,18.5s,baz=120,slow=37						
CNGN	Cerro Negro	53.48	281	P	P	13 50 46.5	-0.5
V55A	Taylorsville	53.51	311	P	P	13 50 47.5	+0.8
V55A				IAmb	IAmb	13 51 13.5	
	comp=Z,12nm,1.4s						
553A	Crawfordville	54.20	303	P	P	13 50 53.6	+1.7
TKL	Tuckaleechee C	55.38	310	LR	LR	14 10 41.3	
	comp=Z,27nm,21.5s,baz=109,slow=32						
TSUM	Tsumeb	55.49	118	P	P	13 51 02.4	+0.8
TSUM				IAmb	IAmb	13 51 04.2	
	comp=Z,9.7nm,1.1s						
SABO	M.te Sabotino	56.78	37	P	P	13 51 10.9	+0.7
PRED	Cave del Predi	56.99	37	P	P	13 51 12.2	+0.3
PRED				IAmb	IAmb	13 51 13.9	
	comp=Z,8.8nm,1.3s						
LRAL	Lakeview Retre	57.09	306	P	P	13 51 11.5	-1.2
LRAL				IAmb	IAmb	13 51 12.8	
	comp=Z,6.6nm,1.1s						
GEC2	GERESS Array S	58.32	34	P	P	13 51 20.9	-0.2
GEC2				IAmb	IAmb	13 51 23.3	
	comp=Z,5.6nm,1.1s						
GERES	GERESS Array B	58.32	34	P	P	13 51 20.7	-0.5
GERES	GERESS Array B	58.32	34	P	P	13 51 21.4	+0.2
	comp=Z,2.6nm,0.9s,baz=232,slow=6.6,SNR=11						
	comp=Z,2.6nm,0.9s						
T47A	Sharon Grove	58.35	310	P	P	13 51 21.1	-0.4
T47A				IAmb	IAmb	13 51 22.6	
	comp=Z,11nm,1.3s						
KHC	Kasperske Hory	58.40	34	eP	P	13 51 21.5	-0.2
L44A	Lake County Fo	60.69	316	P	P	13 51 37.6	+0.1
MORC	Moravsky Berou	60.96	35	P	P	13 51 40.1	+0.8
MORC				IAmb	IAmb	13 51 45.1	
	comp=Z,5.7nm,1.2s						
H43A	Windswept, Lux	61.43	318	P	P	13 51 42.2	-0.3
PSZ	Piszkesteto	61.50	38	P	P	13 51 43.7	+0.7
OJC	Ojcow	62.46	35	P	P	13 51 50.0	+0.7
NB2	NORSAR Subarra	64.33	22	P	P	13 52 01.5	-0.1
	comp=Z,1.1nm,0.8s,baz=231,slow=6.9						
NOA	NORSAR Array B	64.33	22	P	P	13 52 01.4	-0.1
	comp=Z,2.3nm,0.9s,baz=232,slow=6.6,SNR=4.1						
	comp=Z,2.3nm,0.9s						
MLR	Muntele Rosu	64.42	42	P	P	13 52 03.1	+0.6
BUR08	Bucovina Ar. S	64.68	39	P	P	13 52 04.0	-0.2
BUR08				IAmb	IAmb	13 52 06.8	
	comp=Z,6.2nm,1.3s						
BURAR	Bucovina Array	64.68	39	P	P	13 52 04.3	+0.1
HFS	Hagfors	64.72	24	LR	LR	14 17 30.7	
	comp=Z,20nm,18.5s,baz=104,slow=34						
BOSA	Boshof	65.48	125	P	P	13 52 09.4	-0.3
	comp=Z,4.4nm,0.8s,baz=311,slow=8.5,SNR=5.7						
	comp=Z,4.4nm,0.8s						
SUW	Suwalki	66.00	32	P	P	13 52 12.5	0.0
OK032	Salt Plains WL	66.92	308	P	P	13 52 19.2	+0.5
EIL	Elat	67.99	60	LR	LR	14 22 33.5	
	comp=Z,58nm,19.7s,baz=250,slow=36						
LODK	Lodwar	68.05	89	P	P	13 52 25.9	-0.5
LODK				IAmb	IAmb	13 52 29.1	
	comp=Z,3.2nm,1.1s						
KIEV	Kiev	68.18	37	P	P	13 52 25.3	-1.1
KIEV				IAmb	IAmb	13 52 27.8	
	comp=Z,4.2nm,0.9s						
AKASG	Malin Array Be	68.20	37	P	P	13 52 26.4	-0.1
AKASG				IAmb	IAmb	13 52 28.2	
	comp=Z,7.7nm,1.4s						
AKASG	Malin Array Be	68.20	37	P	P	13 52 26.2	-0.3
	comp=Z,3.6nm,0.8s,baz=253,slow=6.6,SNR=11						
	comp=Z,3.6nm,0.8s						
AKBB	Malin Array Si	68.20	37	P	P	13 52 25.6	-0.9
AKBB				IAmb	IAmb	13 52 27.8	
	comp=Z,4.7nm,0.9s						
BRTR	Keskin Array B	68.42	50	P	P	13 52 28.3	0.0
BRTR	Keskin Array B	68.42	50	P	P	13 52 28.6	+0.3
	comp=Z,0.5nm,0.7s,baz=235,slow=4.4,SNR=4.4						
	comp=Z,0.5nm,0.7s						
FINES	FINESS Array B	70.59	26	P	P	13 52 41.5	+0.4
	comp=Z,4.3nm,1.0s,baz=223,slow=9.3,SNR=4.8						
	comp=Z,4.3nm,1.0s						
DGMT	Dagmar	73.42	319	P	P	13 52 58.9	+0.5
ARCES	ARCESS Array B	74.04	18	LR	LR	14 21 36.5	
	comp=Z,15nm,20.7s,baz=191,slow=33						
O20A	White River Ci	75.17	310	P	P	13 53 09.4	+0.4
O20A				IAmb	IAmb	13 53 11.1	
	comp=Z,12nm,1.5s						
PV13	Radium Mtn., P	75.46	308	P	P	13 53 11.7	+1.0
PV13				IAmb	IAmb	13 53 12.4	
	comp=Z,4.9nm,1.2s						
KBZ	Khabaz	75.85	46	P	P	13 53 13.3	+0.8
	comp=Z,3.2nm,1.0s,baz=270,slow=2.6,SNR=6.5						
	comp=Z,3.2nm,1.0s						
PD31	Pinedale Array	76.39	313	P	P	13 53 15.5	-0.4
PDAR	Pinedale Array	76.39	313	P	P	13 53 15.2	-0.7
PDAR	Pinedale Array	76.39	313	P	P	13 53 15.6	-0.4
	comp=Z,0.8nm,1.0s,baz=106,slow=7.9,SNR=6.2						
	comp=Z,0.8nm,1.0s						
SRU	San Rafael Swe	76.86	309	P	P	13 53 17.8	-0.9
SRU				IAmb	IAmb	13 53 20.1	
	comp=Z,7.7nm,1.5s						
GNI	Garni	76.93	50	LR	LR	14 30 41.4	
	comp=Z,20nm,18.7s,baz=256,slow=38						
LOHW	Long Hollow	77.22	313	P	P	13 53 20.1	-0.6
LOHW				IAmb	IAmb	13 53 22.4	
	comp=Z,6.3nm,1.3s						
MOOW	Moose Ponds	77.33	313	P	P	13 53 20.4	-0.8
WUAZ	Wupatki	77.36	305	P	P	13 53 22.1	+0.6
YFT	Old Faithful	77.45	314	P	P	13 53 22.7	+0.8
YFT				IAmb	IAmb	13 53 25.3	
	comp=Z,7.8nm,1.3s						
TPAW	Teton Pass	77.47	313	P	P	13 53 22.4	+0.3
FXWY	Fox Creek	77.53	313	P	P	13 53 22.1	-0.3
HWUT	Hardware Ranch	77.80	311	P	P	13 53 24.0	+0.1
MVU	Marysvale	78.14	308	P	P	13 53 26.9	+1.0
MVU				IAmb	IAmb	13 53 30.1	
	comp=Z,7.3nm,1.4s						
EUNU	Eureka	78.51	352	P	P	13 53 27.2	+0.3
EUNU				IAmb	IAmb	13 53 28.8	
	comp=Z,7.6nm,1.1s						
DUG	Dugway, Tooele	78.67	310	P	P	13 53 28.6	-0.1
SPR3	Spring Creek 3	79.81	308	P	P	13 53 35.9	+0.7
HLID	Hailey	79.98	313	P	P	13 53 36.8	+1.0
PRN	Pahroc Range	80.36	307	P	P	13 53 39.4	+1.5
YKA	Yellowknife Ar	81.18	332	P	P	13 53 40.6	-0.9
	comp=Z,1.4nm,1.0s,baz=97,slow=5.6,SNR=13						
	comp=Z,1.4nm,1.0s						
GSC	Goldstone, Bar	81.80	305	P	P	13 53 44.8	-0.7
NEW	Newport	81.97	318	LR	LR	14 26 29.6	
	comp=Z,25nm,19.5s,baz=150,slow=33						
BMO	Blue Mountains	82.08	314	P	P	13 53 46.9	0.0
NVAR	Mina Array Bea	82.92	308	P	P	13 53 52.1	+0.5
NVAR	Mina Array Bea	82.92	308	P	P	13 53 49.5	-2.1
	comp=Z,0.7nm,0.7s,baz=117,slow=2.7,SNR=4.2						
	comp=Z,0.7nm,0.7s						
BELA	Belgrano 2	83.42	180	P	P	13 53 52.4	-0.5
BELA				IAmb	IAmb	13 53 54.4	
	comp=Z,6.8nm,1.0s						
BEKR	Beckworth	84.47	309	P	P	13 53 59.3	-0.1
BEKR				IAmb	IAmb	13 54 01.0	
	comp=Z,6.7nm,1.4s						
WRGLY	Wrigley	85.25	333	P	P	13 54 02.5	-0.1
ABKAR	Akbulak array	87.62	41	P	P	13 54 14.5	0.0
D27M	Malcolm River	91.07	340	P	P	13 54 30.8	+0.4
D27M				IAmb	IAmb	13 54 39.5	
	comp=Z,4.7nm,1.2s						
E27K	Coleen River	91.63	339	P	P	13 54 32.7	-0.2
E27K				IAmb	IAmb	13 54 34.6	
	comp=Z,4.4nm,1.1s						
F26K	Sheenjek River	92.71	339	P	P	13 54 39.0	+1.0
F26K				IAmb	IAmb	13 54 39.5	
	comp=Z,3.5nm,1.1s						
ILAR	Eielson Array	94.88	337	P	P	13 54 47.3	-0.7
	comp=Z,0.8nm,0.9s,baz=69,slow=3.5,SNR=6.3						
	comp=Z,0.8nm,0.9s						
CMAR	Chiang Mai Arr	126.82	62	PKP	PKiKP	14 00 31.8	+0.4
	comp=Z,1.9nm,1.0s,baz=304,slow=4.1,SNR=9.7						
MSVF	Nonsavu	147.47	246	PKPbc	PKPbc	14 01 11.1	-0.1
	comp=Z,7.8nm,1.1s,baz=150,slow=7.8,SNR=4.8						
ASAR	Alice Springs	158.04	146	PKP	PKPdf	14 01 23.6	-0.3
	comp=Z,2.4nm,1.2s,baz=204,slow=2.0,SNR=5.8						
ASAR				PKPab	PKPab	14 01 57.0	-0.1
	comp=Z,1.5nm,0.9s,baz=223,slow=4.7,SNR=7.5						
WRA	Warramunga Arr	161.14	140	PKPab	PKPab	14 02 10.8	+0.1
	comp=Z,1.5nm,1.1s,baz=189,slow=3.8,SNR=4.5						

IDC 08 13:50:30.4±6.2,**5°.12N**×**33°.05W**,**h0km**,**mb3.7**/3, **mbtmp3.7**/3,**MS3.2**/4,**Error ellipse: s-maj=176.5km s-min=47.3km az=9.0**,**Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	Babate	18.82	59	LR	LR	13 59 33.7	
	comp=Z,112nm,21.1s,baz=149,slow=29						
MDP	Montagnes des	19.51	271	LR	LR	14 01 23.5	
	comp=Z,52nm,19.3s,baz=54,slow=34						
H10N3	ASCENSION HYDR	22.54	125	T	T	14 19 13.7	
	baz=305,slow=75,SNR=13						
H10N2	ASCENSION HYDR	22.54	125	T	T	14 19 14.0	
	baz=305,slow=75,SNR=10						
H10N1	ASCENSION HYDR	22.56	125	T	T	14 19 15.2	
	baz=305,slow=75,SNR=18						
H10S3	ASCENSION HYDR	23.05	127	T	T	14 19 59.3	
	baz=274,slow=74,SNR=10						
H10S2	ASCENSION HYDR	23.07	127	T	T	14 19 55.9	
	baz=306,slow=74,SNR=8.9						
DBIC	Dimbokro	28.09	85	LR	LR	14 06 32.2	
	comp=Z,36nm,18.9s,baz=241,slow=34						
H05S1	Guadeloupe/Mar	28.87	291	T	T	14 26 37.8	
	SNR=5.3						
SJG	San Juan	34.82	295	LR	LR	14 08 56.3	
	comp=Z,37nm,19.4s,baz=132,slow=32						
TORD	Torodi Ar. Bea	35.18	74	P	P	13 57 26.2	-0.3
	56nm,0.3s,baz=266,slow=9.4,SNR=1.7						
GERES	GERESS Array B	58.85	34	P	P	14 00 30.4	-0.5
	0.6nm,0.7s,baz=206,slow=8.3,SNR=3.5						
	0.6nm,0.7s						
AKASG	Malin Array Be	68.71	37	P	P	14 01 36.5	+0.6
	0.6nm,0.5s,baz=258,slow=4.6,SNR=4.2						
	0.6nm,0.5s						
YKA	Yellowknife Ar	81.58	332	P	P	14 02 49.8	-0.1
	0.5nm,1.0s,baz=93,slow=5.6,SNR=4.9						
	0.5nm,1.0s						

*IDC **08** 13:55:24.3±0.6,28°.32S×74°.11E,h0km,mb4.2/18, mbtmp4.2/18,MS3.5/16,Error ellipse: s-maj=22.3km s-min=16.6km az=54.0*
*NEIC **08** 13:55:26.5±1.8,28°.2S±0°.1×74°.2E±0°.1,h10km±1km, mb4.7/30,Error ellipse: s-maj=23.2km s-min=18.9km az=181.0*
ISC 08 13:55:25.7±0.5,**28°.3S**±0°.1×**74°.25E**±0°.09,**h10**km,**n79**, σ0**s78**/56,**mb4.5**/32,**MS3.5**/16,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	20.59	355	T	T	14 21 18.5	
	baz=177,slow=75,SNR=272						
H08S1	Diego Garcia P	20.59	355	T	T	14 21 23.0	
	baz=177,slow=75,SNR=281						
H08S3	Diego Garcia H	20.61	355	T	T	14 21 17.1	
	baz=177,slow=75,SNR=318						
FOMA	Nahampoana Res	24.58	271	P	P	14 00 44.8	-1.2
FOMA				IAmb	IAmb	14 01 19.9	
	comp=Z,31nm,1.0s						
H04N2	CROZET ISLANDS	25.12	219	T	T	14 26 46.9	
	baz=54,slow=75,SNR=9517						
H04N1	CROZET ISLANDS	25.13	219	T	T	14 26 53.6	
	baz=54,slow=75,SNR=7847						
H04N3	CROZET ISLANDS	25.14	219	T	T	14 26 50.9	
	baz=54,slow=75,SNR=4202						
H04S1	CROZET ISLANDS	25.48	217	T	T	14 27 11.2	
	baz=52,slow=75,SNR=24						
H04S3	CROZET ISLANDS	25.49	217	T	T	14 27 18.4	
	baz=52,slow=75,SNR=26						
H04S2	CROZET ISLANDS	25.50	217	T	T	14 27 18.7	
	baz=52,slow=75,SNR=24						
VOI	Vohitsoka	25.63	278	P	P	14 00 55.0	-0.7
VOI				IAmb	IAmb	14 01 11.3	
	comp=Z,18nm,1.4s						
H01W2	Cape Leeuwin H	34.44	111	T	T	14 38 36.7	
	baz=270,slow=75,SNR=32						
H01W3	Cape Leeuwin H	34.44	111	T	T	14 38 36.3	
	baz=270,slow=75,SNR=36						
H01W1	Cape Leeuwin H	34.46	111	T	T	14 38 42.2	
	baz=270,slow=75,SNR=32						
PALK	Pallekele	35.89	11	LR	LR	14 15 19.6	
	comp=Z,56nm,18.1s,baz=160,slow=33						
MNAI	Manna	36.20	54	P	P	14 02 27.5	-1.3
LEM	Lembang	38.09	62	LR	LR	14 13 53.8	
	comp=Z,131nm,21.7s,baz=257,slow=29						
MBWA	Marble Bar	41.73	91	P	P	14 03 13.2	-2.0
MBWA				IAmb	IAmb	14 03 31.1	
	comp=Z,16nm,1.1s						
BOSA	Boshof	42.83	257	P	P	14 03 23.8	-0.5
	comp=Z,2.2nm,0.9s,baz=127,slow=5.1,SNR=3.5						
BOSA				LR	LR	14 18 19.2	
	comp=Z,47nm,19.2s,baz=175,slow=32						
	comp=Z,2.2nm,0.9s						
LSZ	Lusaka	44.44	277	P	P	14 03 38.4	+1.1
LSZ				IAmb	IAmb	14 03 39.2	
	comp=Z,9.1nm,0.9s						
LSZ	Lusaka	44.44	277	LR	LR	14 18 35.3	
	comp=Z,129nm,19.9s,baz=132,slow=31						
SUR	Sutherland	45.91	251	LR	LR	14 18 58.1	
	comp=Z,92nm,18.9s,baz=113,slow=31						
CMAR	Chiang Mai Arr	52.24	30	P	P	14 04 37.2	0.0
CMAR	Chiang Mai Arr	52.24	30	P	P	14 04 38.4	+1.1
	comp=Z,0.5nm,0.8s,baz=204,slow=9.1,SNR=6.0						
CMAR				LR	LR	14 24 10.6	
	comp=Z,32nm,19.1s,baz=200,slow=33						
	comp=Z,0.5nm,0.8s						
TSUM	Tsumeb	52.26	267	LR	LR	14 23 33.4	
	comp=Z,64nm,20.0s,baz=142,slow=32						
CHTO	Chiang Mai	52.56	30	P	P	14 04 39.1	-0.4
TOLI2	Tolitoli	53.30	65	P	P	14 04 45.8	+0.6
TOLI2				IAmb	IAmb	14 04 53.2	
	comp=Z,7.2nm,1.2s						
ASAR	Alice Springs	53.37	100	P	P	14 04 47.2	+1.5
	comp=Z,2.0nm,0.8s,baz=253,slow=6.8,SNR=15						
ASAR				PcP	PcP	14 05 53.4	+0.3
	comp=Z,1.0nm,0.8s,baz=256,slow=3.3,SNR=4.7						
	comp=Z,2.0nm,0.8s						
MYLDM	Lahad Datu	54.06	59	P	P	14 04 50.2	-0.6
WRA	Warramunga Arr	55.00	95	P	P	14 04 59.1	+1.5
	comp=Z,5.8nm,1.0s,baz=251,slow=7.2,SNR=12						
WRA				PcP	PcP	14 05 59.3	-0.1
	comp=Z,0.6nm,0.7s,baz=249,slow=2.9,SNR=2.1						
	comp=Z,5.8nm,1.0s						
FAKI	Fak Fak	60.62	76	P	P	14 05 37.7	+0.6
FAKI				IAmb	IAmb	14 05 43.1	
	comp=Z,5.7nm,1.0s						
DAV	Davao City (W)	60.70	63	LR	LR	14 30 20.1	
	comp=Z,48nm,19.7s,baz=345,slow=34						
QSPA	South Pole Qui	61.86	180	P	P	14 05 45.0	+0.1
QSPA				IAmb	IAmb	14 05 46.4	
	comp=Z,6.4nm,1.1s						
QSPA	South Pole Qui	61.86	180	P	P	14 05 44.6	-0.3
	comp=Z,2.9nm,1.0s,baz=85,slow=1.1,SNR=6.2						
	comp=Z,2.9nm,1.0s						
VNDA	Vanda	62.09	166	P	P	14 05 45.9	-0.3
	comp=Z,1.1nm,0.9s,baz=258,slow=8.8,SNR=5.0						
	comp=Z,1.1nm,0.9s						
HKPS	Hong Kong Po S	63.31	42	P	P	14 05 54.0	-1.0
BTK	Batken	68.06	357	P	P	14 06 25.9	+0.5
ARSB	Arslanbob	69.26	359	P	P	14 06 33.5	+0.6
ARSB				IAmb	IAmb	14 06 34.7	
	comp=Z,11nm,1.2s						
WUS	Wushi	69.28	4	P	P	14 06 33.8	+0.7
WUS				IAmb	IAmb	14 06 34.8	
	comp=Z,9.1nm,1.3s	

comp=Z,1.2nm,0.8s
TORD Torodi Ar. Bea 81.31 290 P P 14 07 42.3 -0.5
TORD Torodi Ar. Bea 81.31 290 P P 14 07 42.2 -0.6
comp=Z,74nm,0.3s,baz=124,slow=5.4,SNR=2.3
ZAA0 Zalesovo Array 82.40 6 P P 14 07 47.1 -0.4
ZAA0 IAmb IAmb 14 07 47.7
comp=Z,5.6nm,1.3s
ZALV Zalesovo Beam 82.40 6 P P 14 07 47.1 -0.4
comp=Z,1.0nm,0.5s,baz=209,slow=2.7,SNR=6.4
comp=Z,1.0nm,0.5s
KSRS Korea Array 82.51 40 LR LR 14 41 51.8
comp=Z,19nm,21.0s,baz=215,slow=34
MLR Muntele Rosu 85.55 328 P P 14 08 04.5 +0.5
MLR IAmb IAmb 14 08 08.4
comp=Z,9.4nm,1.3s
MLR Muntele Rosu 85.55 328 P P 14 08 04.6 +0.5
comp=Z,3.1nm,0.9s,baz=88,slow=4.6,SNR=4.7
comp=Z,3.1nm,0.9s
AKASG Malin Array Be 88.13 333 P P 14 08 16.0 -0.3
comp=Z,0.4nm,0.5s,baz=139,slow=4.4,SNR=1.2
comp=Z,0.4nm,0.5s
KLR Kul'dur 92.59 34 LR LR 14 53 34.6
comp=Z,15nm,18.1s,baz=180,slow=38
ASAJ Asahikawa 95.31 42 LR LR 14 52 32.2
comp=Z,12nm,18.1s,baz=132,slow=36
YKA Yellowknife Ar 145.29 7 PKPbc PKPbc 14 15 02.5 -0.3
comp=Z,1.4nm,0.9s,baz=344,slow=3.3,SNR=20
PDAR Pinedale Array 165.22 11 PKP PKPdf 14 15 30.0 -0.6
comp=Z,0.5nm,0.8s,baz=315,slow=0.2,SNR=4.7

---

*NDI **08** 14:09:11.0±0.8, 21°.35N×76°.29E, h10km, ML3.5, MW3.1*
ISC 08 14:09:10.2±1.1, 21°.32N±0°.05×76°.21E±0°.07, h10km, n16, σ2§04/27, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRDN	**NARMADA NAGAR**	**1.65**	**32**	*eP*	**Pb**	**14 09 39.8**	**-1.0**
NRDN				*eS*	**Sn**	**14 10 00.8**	**+0.2**
NRDN				IAML		14 10 02.4	
	comp=E,345nm,0.2s						
NRDN				IAML		14 10 02.8	
	comp=N,293nm,0.1s						
BHPL	**Bhopal**	**2.22**	**30**	*eP*	**Pn**	**14 09 47.3**	**+0.1**
BHPL				*eS*	**Sn**	**14 10 14.0**	**-0.7**
BHPL				IAML		14 10 21.4	
	comp=N,265nm,0.2s						
BHPL				IAML		14 10 22.6	
	comp=E,505nm,0.2s						
NGP	**Nagpur**	**2.65**	**93**	*eP*	**Pn**	**14 09 53.1**	**+0.1**
NGP				*eS*	**Sn**	**14 10 23.8**	**-1.5**
NGP				IAML		14 10 37.4	
	comp=E,184nm,0.1s						
NGP				IAML		14 10 37.7	
	comp=N,218nm,0.2s						
LATR	**Latur**	**2.90**	**174**	*eP*	**Pn**	**14 09 58.5**	**+2.0**
LATR				*eS*	**Sn**	**14 10 32.6**	**+1.2**
LATR				IAML		14 10 43.2	
	comp=E,389nm,0.3s						
LATR				IAML		14 10 44.3	
	comp=N,201nm,0.2s						
GUNA	**GUNA**	**3.47**	**17**	*eP*	**Pn**	**14 10 04.8**	**+0.4**
GUNA				*eS*	**Sn**	**14 10 42.8**	**-2.9**
GUNA				IAML		14 11 05.2	
	comp=N,276nm,0.6s						
GUNA				IAML		14 11 05.3	
	comp=E,253nm,0.3s						
BHV	**Bhavnagar**	**3.81**	**277**	*eS*	**Sn**	**14 10 54.5**	**+0.5**
BHV				IAML		14 11 11.0	
	comp=N,85nm,0.5s						
KAD	**Karad**	**4.42**	**206**	*eP*	**Pn**	**14 10 19.0**	**+1.5**
KAD				*eS*	**Sn**	**14 11 08.1**	**-1.0**
KAD				IAML		14 11 30.4	
	comp=N,110nm,0.2s						
KAD				IAML		14 11 30.7	
	comp=E,129nm,0.3s						
JHNI	**Jhansi**	**4.65**	**27**	*eP*	**Pn**	**14 10 20.6**	**0.0**
JHNI				*eS*	**Sn**	**14 11 11.9**	**-2.8**
JHNI				IAML		14 11 19.2	
	comp=N,66nm,0.2s						
JHNI				IAML		14 11 19.4	
	comp=E,92nm,0.2s						
GOA	**Goa**	**6.22**	**202**	*eS*	**Sn**	**14 11 50.6**	**-2.8**
GOA				IAML		14 11 52.9	
	comp=E,103nm,0.5s						
GOA				IAML		14 12 02.4	
	comp=N,109nm,0.4s						
VJD	**Vijayawada**	**6.36**	**138**	IAML		14 12 29.2	
	comp=E,62nm,0.4s						
VJD				IAML		14 12 30.0	
	comp=N,48nm,0.2s						
PYUN	**Piuthan**	**9.14**	**41**	Pn	**Pn**	**14 11 25.8**	**+3.4**
	baz=40,slow=0.0						
PYUN				Sn	**Sn**	**14 13 05.1**	**-0.4**
	comp=N,22nm,0.4s,baz=40,slow=0.0						
KOLN	**Koldanda**	**9.30**	**45**	Pn	**Pn**	**14 11 28.2**	**+3.6**
	baz=44,slow=0.0						
KOLN				Sn	**Sn**	**14 13 09.3**	**-0.1**
	comp=N,17nm,0.3s,baz=44,slow=0.0						
DMN	**Daman**	**10.24**	**51**	Pn	**Pn**	**14 11 40.8**	**+3.3**
	baz=50,slow=0.0						
DMN				Sn	**Sn**	**14 13 31.8**	**-0.7**
	comp=N,6.9nm,0.2s,baz=50,slow=0.0						
PKI	**Pulchoki**	**10.44**	**52**	Pn	**Pn**	**14 11 43.1**	**+2.8**
	baz=51,slow=0.0						
PKI				Sn	**Sn**	**14 13 36.6**	**-0.9**
	comp=N,7.3nm,0.2s,baz=51,slow=0.0						
KKN	**Kakani**	**10.47**	**50**	Sn	**Sn**	**14 13 35.3**	**-2.8**
	comp=N,8.4nm,0.2s,baz=50,slow=0.0						
GUN	**Gumba**	**10.97**	**51**	Pn	**Pn**	**14 11 49.9**	**+2.3**
	baz=51,slow=0.0						
GUN				Sn	**Sn**	**14 13 48.4**	**-2.2**
	comp=N,16nm,0.3s,baz=51,slow=0.0						

NOU 08 14:18:13.0, 17°.40S×168°.08E, h28km, MLv3.9/15, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.34**	**163**	P	Pn	14 18 21.7	-0.4
DVP	**Devils Point**	**0.34**	**163**	S	Sn	14 18 29.0	+1.0
VLAKA	**Lakatoro**	**1.43**	**334**	P	Pn	14 18 36.3	-0.8
INH	**Isangel**	**2.42**	**152**	P	Pn	14 18 50.4	-0.3
KOUNC	**Koumac, New Ca**	**4.76**	**228**	P	Pn	14 19 23.2	+0.2
YATNC	**Mamie plateau,**	**4.77**	**193**	P	Pn	14 19 22.2	-0.8
DZM	**Mont Dzumac**	**4.90**	**198**	P	Pn	14 19 24.5	-0.4
ONTNC	**Ouen Toro**	**5.12**	**197**	P	Pn	14 19 28.8	+1.0
OUENC	**Ouen Island, N**	**5.13**	**193**	P	Pn	14 19 28.3	+0.3
PINNC	**Pines Island,**	**5.22**	**186**	P	Pn	14 19 29.7	+0.5
NGOA	**Tingoa Renbel**	**9.70**	**306**	P	Pn	14 20 31.5	+0.8

---

*IDC **08** 14:19:29.4±1.1, 55°.61N×166°.12E, h0km, mb3.5/9, mbtmp3.7/12, ML3.0/2, MS3.4/2, Error ellipse: s-maj=29.2km s-min=16.8km az=160.0*
*KRSC **08** 14:19:30.2±2.0, 55°.43N×166°.19E, h37km±13km, Ml4.0*
ISC 08 14:19:32.1±0.7, 55°.57N±0°.05×166°.12E±0°.06, h20km, n39, σ1§56/49, mb3.5/9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.38**	**193**	*eP*	**Pb**	**14 19 38.0**	**-2.1**
BKI				*eS*	**Sb**	**14 19 43.5**	**-2.1**
KBTR	**Krutoberegovo**	**1.97**	**290**	*eP*	**Pn**	**14 20 03.0**	**-1.2**
KBTR				*eS*	**Sn**	**14 20 28.4**	**+0.1**
KBG	**Krutoberegovo**	**2.04**	**291**	*eP*	**Pn**	**14 20 04.2**	**-1.1**
KBG				*eS*	**Sn**	**14 20 30.4**	**+0.3**
SMKR	**Semkarok**	**2.80**	**293**	*eS*	**Sb**	**14 20 53.1**	**-2.1**
BDR	**Baidarnaya**	**2.93**	**292**	*eS*	**Sb**	**14 20 56.2**	**-2.8**
BZGR	**Bezymyannyi-Gr**	**3.09**	**279**	*eP*	**Pn**	**14 20 21.7**	**+2.0**
KLY	**Klyuchi**	**3.16**	**286**	*eP*	**Pn**	**14 20 20.2**	**-0.5**
KLY				*eS*	**Sn**	**14 20 58.0**	**+0.2**
TUMD	**Tumrok D**	**3.29**	**266**	*eP*	**Pn**	**14 20 24.0**	**+1.6**
TUMD				*eS*	**Sn**	**14 21 03.7**	**+2.9**
KIRR	**Kirishev**	**3.29**	**279**	*eP*	**Pn**	**14 20 23.6**	**+1.1**
KIRR				*eS*	**Sn**	**14 21 03.6**	**+2.5**
KMNR	**Kamenistaya**	**3.34**	**276**	*eP*	**Pn**	**14 20 25.9**	**+2.7**
KPT	**Kopyto**	**3.36**	**279**	*eP*	**Pn**	**14 20 24.7**	**+1.2**
SPN	**Mys Shipunski**	**4.35**	**238**	*eS*	**Sn**	**14 21 25.0**	**-2.0**
NLC	**Nalytchevo**	**4.63**	**242**	*eS*	**Sn**	**14 21 33.2**	**-0.9**
UGLR	**Uglovaya**	**4.88**	**244**	*eP*	**Pn**	**14 20 45.9**	**+1.6**
KRX	**Arik**	**4.89**	**246**	*eP*	**Pn**	**14 20 45.8**	**+1.3**
KRX				*eS*	**Sn**	**14 21 40.9**	**+0.3**
AVH	**Avacha**	**4.89**	**245**	*eP*	**Pn**	**14 20 45.9**	**+1.4**
AVH				*eS*	**Sn**	**14 21 42.7**	**+2.1**
KOK	**Koryaka**	**4.93**	**245**	*eP*	**Pn**	**14 20 46.3**	**+1.2**
KOK				*eS*	**Sn**	**14 21 43.7**	**+2.1**
DALK	**Dalny**	**5.01**	**242**	*eP*	**Pn**	**14 20 46.5**	**+0.5**
DALK				*eS*	**Sn**	**14 21 43.0**	**-0.3**
PET	**Petropavlovsk**	**5.07**	**243**	*eP*	**Pn**	**14 20 47.5**	**+0.7**
PET				*eS*	**Sn**	**14 21 43.4**	**-1.2**
GNL	**Ganaly**	**5.11**	**252**	*eP*	**Pn**	**14 20 49.4**	**+1.8**
KRMR	**Karymshinskiy**	**5.44**	**243**	*eP*	**Pn**	**14 20 53.0**	**+1.1**
KRMR				*eS*	**Sn**	**14 21 53.2**	**-0.6**
PETK	**Petropavlovsk-**	**5.51**	**247**	Pn	**Pn**	**14 20 53.4**	**+0.4**
	1.2nm,0.3s,baz=67,slow=15,SNR=58						
PETK				Sn	**Sn**	**14 21 59.2**	**+3.5**
	0.9nm,0.3s,baz=302,slow=14,SNR=4.6 3.7nm,0.4s						
GRL	**Gorelyy**	**5.62**	**241**	*eP*	**Pn**	**14 20 56.6**	**+2.0**
GRL				*eS*	**Sn**	**14 21 59.7**	**+1.1**
APC	**Apacha**	**5.89**	**247**	*eP*	**Pn**	**14 21 00.3**	**+2.2**
ASAJ	**Asahikawa**	**18.91**	**243**	P	**Pn**	**14 23 51.9**	**-0.1**
	0.1nm,0.3s,baz=90,slow=7.1,SNR=1.6 2.0nm,0.8s						
YAK	**Yakutsk**	**19.73**	**304**	P	**P**	**14 23 59.9**	**-0.2**
	5.6nm,0.4s,baz=57,slow=17,SNR=3.0						
YAK				LR	LR	14 31 55.6	
	comp=Z,22nm,18.0s,baz=14,slow=38						
TIXI	**Tiksi**	**22.50**	**330**	P	**P**	**14 24 29.9**	**0.0**
	1.6nm,0.3s,baz=111,slow=8.6,SNR=4.3 1.6nm,0.3s						
ILAR	**Eielson Array**	**24.54**	**49**	P	**P**	**14 24 49.8**	**-0.2**
	1.4nm,0.9s,baz=269,slow=8.8,SNR=9.6 1.4nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**35.79**	**179**	T	T	15 04 08.8	
	baz=359,slow=76,SNR=66						
H11N3	**WAKE ISLAND Hy**	**35.80**	**179**	T	T	15 04 09.9	
	baz=359,slow=76,SNR=43						
H11N1	**WAKE ISLAND Hy**	**35.81**	**179**	T	T	15 04 10.2	
	baz=359,slow=76,SNR=52						
SONM	**Songino Array**	**36.76**	**284**	P	**P**	**14 26 39.8**	**+1.8**
	0.2nm,0.4s,baz=64,slow=10,SNR=2.4 0.2nm,0.4s						
YKA	**Yellowknife Ar**	**38.92**	**47**	P	**P**	**14 26 56.3**	**+0.4**
	0.5nm,0.7s,baz=298,slow=8.2,SNR=8.6 0.5nm,0.7s						
SPITS	**Spitsbergen Ar**	**45.23**	**352**	P	**P**	**14 27 47.8**	**+0.5**
	1.3nm,0.7s,baz=52,slow=4.3,SNR=6.5 1.3nm,0.7s						
MKAR	**Makanchi Array**	**50.21**	**297**	P	**P**	**14 28 25.1**	**-1.1**
	0.2nm,0.6s,baz=60,slow=9.0,SNR=2.3 0.2nm,0.6s						
BVAR	**Borovoye Array**	**51.56**	**310**	P	**P**	**14 28 35.7**	**-0.6**
	0.7nm,0.7s,baz=29,slow=3.3,SNR=4.2 0.7nm,0.7s						
TXAR	**Lajitas Array**	**66.46**	**72**	P	**P**	**14 30 20.9**	**+0.9**
	0.3nm,0.5s,baz=285,slow=4.2,SNR=5.1 0.3nm,0.5s						
PSI	**Prapat**	**74.94**	**252**	LR	LR	15 05 46.8	
	comp=Z,85nm,18.6s,baz=232,slow=37						
ASAR	**Alice Springs**	**83.57**	**209**	P	**P**	**14 31 58.7**	**+0.2**
	0.3nm,1.0s,baz=14,slow=4.9,SNR=1.8 0.3nm,1.0s						

HEL 08 14:30:15.9±0.6, 60°.58N×22°.36E, h0km, ML1.2, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.53**	**327**	PG	Pg	14 30 25.1	-1.0
RAF				SG	Sg	14 30 32.2	-0.8
RAF				MSG		14 30 33.0	
	comp=Z,3.2nm,0.2s						
MEF	**Metsahovi**	**1.07**	**109**	PG	Pg	14 30 35.1	-1.4
MEF				MSG		14 30 48.8	
	comp=Z,1.1nm,0.2s						
KPF	**Kankaanpaa**	**1.27**	**354**	PG	Pg	14 30 38.2	-2.0
KPF				SG	Sg	14 30 54.0	-2.6
PVF	**Pernaja**	**1.73**	**90**	PG	Pn	14 30 46.3	-0.8
PVF				MSG		14 31 07.5	
	comp=Z,1.8nm,0.2s						
KAF	**Kangasniemi**	**2.45**	**49**	PN	Pn	14 30 57.6	+0.6
KAF				MSG		14 31 28.2	
	comp=Z,0.8nm,0.2s						
VAF	**Ylistaro**	**2.48**	**3**	MSG		14 31 29.2	
	comp=Z,0.7nm,0.2s						
VAF				SN	Sn	14 31 30.2	+1.8

---

*IDC **08** 14:34:03.0±0.5, 5°.77N×33°.00W, h0km, mb4.2/22, mbtmp4.2/22, MS3.6/36, Error ellipse: s-maj=19.4km s-min=13.9km az=125.0*
*NEIC **08** 14:34:05.5±1.5, 5°.7N±0°.1×32°.9W±0°.1, h10km±1km, mb4.6/48, Error ellipse: s-maj=23.8km s-min=17.4km az=176.0*
ISC 08 14:34:05.0±0.4, 5°.70N±0°.09×32°.87W±0°.07, h12km, n118, σ0§90/90, mb4.5/40, MS3.6/34, 1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBO	**M'Bour**	**17.88**	**60**	P	**Pn**	**14 38 12.5**	**-1.2**
MBO				IAmb	IAmb	14 38 14.2	
	comp=Z,101nm,1.3s						
BBTS	**Babate**	**18.36**	**60**	LR	LR	14 43 48.1	
	comp=Z,204nm,20.2s,baz=124,slow=32						
MDP	**Montagnes des**	**19.69**	**269**	LR	LR	14 44 19.5	
	comp=Z,158nm,22.0s,baz=90,slow=32						
SMTB	**Santa Maria do**	**20.61**	**226**	*eP*	**P**	**14 38 43.1**	**-1.2**
SDBA	**SAO DESIDERIO**	**21.61**	**214**	*eP*	**P**	**14 38 54.1**	**-1.0**
CMC01	**Camacan, BA**	**21.94**	**197**	*eP*	**P**	**14 38 59.0**	**+0.4**
MAL2	**Monte Alegre,**	**22.62**	**251**	P	**P**	**14 39 05.5**	**-0.5**
H10N3	**ASCENSION HYDR**	**22.73**	**126**	T	T	15 02 48.1	
	baz=305,slow=75,SNR=27						
H10N2	**ASCENSION HYDR**	**22.74**	**126**	T	T	15 02 46.7	
	baz=305,slow=75,SNR=17						
H10N1	**ASCENSION HYDR**	**22.75**	**126**	T	T	15 02 44.3	
	baz=305,slow=75,SNR=29						
H10S3	**ASCENSION HYDR**	**23.27**	**129**	T	T	15 03 18.5	
	baz=304,slow=74,SNR=21						
H10S2	**ASCENSION HYDR**	**23.29**	**129**	T	T	15 03 19.9	
	baz=276,slow=74,SNR=20						
ITTB	**Itaituba**	**24.93**	**247**	*eP*	**P**	**14 39 28.8**	**+0.4**
SNDB	**Serra Nova Dou**	**25.38**	**226**	*eP*	**P**	**14 39 32.5**	**+0.1**
NPGB	**Novo Progresso**	**25.77**	**241**	*eP*	**P**	**14 39 35.0**	**-1.0**
BDFB	**Brasilia**	**25.98**	**215**	P	**P**	**14 39 37.9**	**0.0**
	comp=Z,1.1nm,0.5s,baz=27,slow=9.0,SNR=1.2						
BDFB				LR	LR	14 49 07.1	
	comp=Z,171nm,18.4s,baz=98,slow=35 comp=Z,1.1nm,0.5s						
BOAV	**Boa Vista**	**27.77**	**264**	P	**P**	**14 39 54.6**	**+0.5**
BOAV				IAmb	IAmb	14 39 59.4	
	comp=Z,14nm,1.2s						
DBIC	**Dimbokro**	**27.87**	**87**	LR	LR	14 48 34.2	
	comp=Z,130nm,21.6s,baz=254,slow=31						
H05S1	**Guadeloupe/Mar**	**28.84**	**290**	T	T	15 09 60.0	
	SNR=9.0						
PCRV	**Puerto La Cruz**	**31.76**	**280**	LR	LR	14 52 43.9	
	comp=Z,106nm,19.9s,slow=36						
TEFE	**Tefe**	**33.02**	**255**	*eP*	**P**	**14 40 41.6**	**+1.2**
PTLB	**Pontes e Lacer**	**33.45**	**231**	*eP*	**P**	**14 40 45.2**	**+1.0**
SAML	**Samuel**	**33.54**	**244**	P	**P**	**14 40 45.0**	**0.0**
SAML				IAmb	IAmb	14 40 46.8	
	comp=Z,7.2nm,1.1s						
IGPR	**InterUniversit**	**34.66**	**293**	P	**P**	**14 40 55.2**	**+0.6**
SJG	**San Juan**	**34.74**	**294**	LR	LR	14 52 01.9	
	comp=Z,130nm,21.5s,baz=157,slow=31						
TORD	**Torodi Ar. Bea**	**34.86**	**75**	P	**P**	**14 40 55.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**34.86**	**75**	P	**P**	**14 40 56.3**	**-0.2**
	comp=Z,36nm,0.3s,baz=257,slow=11,SNR=1.2						
TORD				PcP	**PcP**	**14 43 29.9**	**+0.3**
	comp=Z,108nm,0.4s,baz=242,slow=2.3,SNR=1.7						
BAUV	**El Baul**	**35.02**	**277**	P	**P**	**14 40 58.3**	**+0.4**
SIV	**San Ignacio**	**35.27**	**232**	P	**P**	**14 41 00.3**	**+0.3**
	comp=Z,5.1nm,0.9s,baz=71,slow=8.7,SNR=18						
SIV				LR	LR	14 54 21.1	
	comp=Z,114nm,21.1s,baz=85,slow=35 comp=Z,5.1nm,0.9s						
SDV	**Santo Domingo**	**37.58**	**277**	LR	LR	14 57 50.5	
	comp=Z,72nm,18.1s,baz=4.0,slow=38						
MDT	**Midelt**	**37.69**	**41**	LR	LR	14 55 53.8	
	comp=Z,105nm,18.4s,baz=0.5,slow=35						
CPUP	**Villa Florida**	**39.70**	**216**	P	**P**	**14 41 36.8**	**-0.6**
	comp=Z,3.0nm,1.0s,baz=45,slow=10.0,SNR=2.9						
CPUP				LR	LR	14 57 32.5	
	comp=Z,120nm,18.6s,baz=55,slow=36 comp=Z,3.0nm,1.0s						
RUSC	**La Rusia**	**40.00**	**272**	P	**P**	**14 41 40.8**	**+0.1**
RUSC				IAmb	IAmb	14 41 43.5	
	comp=Z,16nm,1.3s						
LPAZ	**La Paz**	**41.16**	**237**	LR	LR	14 58 22.3	
	comp=Z,169nm,18.6s,baz=74,slow=36						
CZSB	**Cruzeiro do Su**	**41.92**	**252**	*eP*	**P**	**14 41 55.8**	**-0.1**
ESDC	**Sonseca Array**	**42.68**	**33**	P	**P**	**14 42 02.7**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=228,slow=7.8,SNR=5.3						
ESDC				LR	LR	14 57 12.7	
	comp=Z,38nm,18.6s,baz=168,slow=32 comp=Z,0.9nm,0.9s						
NNA	**Nana**	**47.13**	**248**	LR	LR	15 02 28.8	
	comp=Z,119nm,18.8s,baz=86,slow=36						
ATAH	**Atahualpa**	**47.18**	**255**	LR	LR	15 02 51.9	
	comp=Z,164nm,18.3s,baz=105,slow=37						
KEST	**Kesra**	**48.93**	**46**	LR	LR	15 03 18.7	
	comp=Z,113nm,19.7s,baz=279,slow=36						
JTS	**Las Juntas de**	**51.73**	**279**	LR	LR	15 06 17.2	
	comp=Z,44nm,19.6s,baz=112,slow=38						
TKL	**Tuckaleechee C**	**55.36**	**310**	LR	LR	15 03 20.2	
	comp=Z,40nm,20.2s,baz=116,slow=32						
TSUM	**Tsumeb**	**55.49**	**118**	P	**P**	**14 43 41.2**	**+0.8**
TSUM	**Tsumeb**	**55.49**	**118**	P	**P**	**14 43 41.2**	**+0.8**
	comp=Z,6.0nm,1.0s,baz=336,slow=11,SNR=3.3						
TSUM				LR	LR	15 03 14.8	
	comp=Z,104nm,18.3s,baz=320,slow=32 comp=Z,6.0nm,1.0s						
LRAL	**Lakeview Retre**	**57.08**	**306**	P	**P**	**14 43 52.1**	**+0.7**
PLCA	**Paso Flores**	**57.70**	**213**	LR	LR	15 08 30.9	
	comp=Z,139nm,19.3s,baz=38,slow=36						
GEC2	**GERESS Array S**	**58.26**	**34**	P	**P**	**14 43 59.6**	**0.0**
GEC2				IAmb	IAmb	14 44 01.7	
	comp=Z,6.2nm,1.2s						
GERES	**GERESS Array B**	**58.26**	**34**	P	**P**	**14 43 59.6**	**0.0**
GERES	**GERESS Array B**	**58.26**	**34**	P	**P**	**14 43 59.9**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=231,slow=7.4,SNR=9.5 comp=Z,1.3nm,0.8s						
BORG	**Borgarnes**	**59.51**	**6**	LR	LR	15 02 55.6	
	comp=Z,21nm,21.8s,baz=260,slow=29						
MODS	**Modra-Piesok**	**60.08**	**36**	*eP*	**P**	**14 44 15.8**	**+3.7**
VRAC	**Vranov**	**60.14**	**35**	P	**P**	**14 44 12.7**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=245,slow=12,SNR=1.8						
VRAC				LR	LR	15 07 57.2	
	comp=Z,18nm,20.3s,baz=229,slow=34 comp=Z,1.6nm,0.5s						
PSZ	**Piszkesteto**	**61.44**	**38**	P	**P**	**14 44 21.3**	**-0.1**
PSZ				IAmb	IAmb	14 44 30.7	
	comp=Z,7.1nm,1.0s						
CMIG	**Matias Romero**	**61.61**	**286**	LR	LR	15 13 10.8	
	comp=Z,26nm,18.1s,baz=200,slow=38						
LANS	**Liptovska Anna**	**61.73**	**36**	*eP*	**P**	**14 44 25.7**	**+2.4**
LSZ	**Lusaka**	**63.97**	**110**	P	**P**	**14 44 39.4**	**+0.4**
LSZ				IAmb	IAmb	14 44 41.2	
	comp=Z,7.2nm,1.2s						
LSZ	**Lusaka**	**63.97**	**110**	P	**P**	**14 44 39.9**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=263,slow=8.0,SNR=4.0						
LSZ				LR	LR	15 06 59.7	
	comp=Z,60nm,19.2s,baz=145,slow=31 comp=Z,1.3nm,0.3s						
NOA	**NORSAR Array B**	**64.27**	**22**	P	**P**	**14 44 39.1**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=231,slow=6.4,SNR=3.7						
NOA				LR	LR	15 10 40.5	
	comp=Z,24nm,18.7s,baz=135,slow=34 comp=Z,2.0nm,0.9s						
MLR	**Muntele Rosu**	**64.37**	**42**	P	**P**	**14 44 41.8**	**+0.8**
MLR	**Muntele Rosu**	**64.37**	**42**	P	**P**	**14 44 41.8**	**+0.8**
	comp=Z,8.3nm,1.1s,baz=335,slow=3.8,SNR=9.8						
MLR				LR	LR	15 12 51.2	
	comp=Z,35nm,18.2s,baz=241,slow=36 comp=Z,8.3nm,1.1s						
BURAR	**Bucovina Array**	**64.62**	**39**	P	**P**	**14 44 43.0**	**+0.4**
HFS	**Hagfors**	**64.67**	**24**	P	**P**	**14 44 42.2**	**-0.3**
	comp=Z,5.4nm,1.0s,baz=99,slow=7.4,SNR=3.1 comp=Z,5.4nm,1.0s						
BOSA	**Boshof**	**65.48**	**125**	P	**P**	**14 44 48.6**	**+0.1**
	comp=Z,5.1nm,0.9s,baz=345,slow=3.0,SNR=6.3 comp=Z,5.1nm,0.9s						
KAN14	**Manchester OK**	**66.75**	**308**	P	**P**	**14 44 55.2**	**-1.2**
KAN14				IAmb	IAmb	14 45 12.0	
	comp=Z,4.5nm,0.8s						
EIL	**Elat**	**67.94**	**60**	LR	LR	15 15 22.9	
	comp=Z,48nm,19.6s,baz=270,slow=36						
LODK	**Lodwar**	**68.02**	**89**	P	**P**	**14 45 03.6**	**-1.4**
KIEV	**Kiev**	**68.13**	**37**	P	**P**	**14 45 04.6**	**-0.3**
KIEV				IAmb	IAmb	14 45 06.7	
	comp=Z,6.8nm,1.1s						
AKASG	**Malin Array Be**	**68.14**	**37**	P	**P**	**14 45 05.0**	**0.0**
	comp=Z,3.7nm,0.9s,baz=252,slow=7.0,SNR=9.8						
AKASG				LR	LR	15 14 03.7	
	comp=Z,24nm,19.6s,baz=234,slow=35 comp=Z,3.7nm,0.9s						
AKBB	**Malin Array Si**	**68.14**	**37**	P	**P**	**14 45 04.4**	**-0.5**
BR131	**Keskin Array S**	**68.36**	**50**	P	**P**	**14 45 06.5**	**-0.3**
BRTR	**Keskin Array B**	**68.36**	**50**	P	**P**	**14 45 07.8**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=232,slow=7.1,SNR=5.3 comp=Z,0.8nm,0.8s						
OZNA	**Ozona**	**68.45**	**301**	P	**P**	**14 45 07.5**	**0.0**
KMBO	**Kilima Mbogo**	**70.35**	**93**	LR	LR	15 13 50.6	
	comp=Z,58nm,18.9s,baz=57,slow=34						
FINES	**FINESS Array B**	**70.53**	**26**	P	**P**	**14 45 20.0**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=235,slow=6.7,SNR=4.1						
FINES				LR	LR	15 13 46.1	
	comp=Z,20nm,19.2s,baz=254,slow=34 comp=Z,4.0nm,0.9s						
Q24A	**Divide**	**72.66**	**309**	P	**P**	**14 45 33.6**	**+0.3**
Q24A				IAmb	IAmb	14 45 35.9	
	comp=Z,4.2nm,1.0s						
SDCO	**Great Sand Dun**	**72.80**	**308**	P	**P**	**14 45 34.5**	**+0.3**
ANMO	**Albuquerque**	**73.30**	**305**	LR	LR	15 13 53.2	
	comp=Z,39nm,21.9s,baz=268,slow=33						
**D

comp=Z,0.4nm,0.5s,baz=97,slow=1.2,SNR=3.6
comp=Z,0.4nm,0.5s
BELA Belgrano 2 83.47 180 P P 14 46 31.6 -0.5
BELA IAmb IAmb 14 46 34.2
comp=Z,5.4nm,1.0s
WRGLY Wrigley 85.22 333 P P 14 46 41.3 +0.1
ELIB Princess Elisa 85.49 165 *dP* **P 14 46 44.0 +1.5**
ARTI Arti 85.99 34 P P 14 46 44.3 -0.9
comp=Z,1.4nm,0.6s,baz=233,slow=5.9,SNR=2.6
ARTI LR LR 15 24 36.6
comp=Z,23nm,19.6s,baz=303,slow=35
comp=Z,1.4nm,0.6s
AKTO Aktyubinsk 86.21 40 LR LR 15 25 49.7
comp=Z,16nm,18.5s,baz=359,slow=36
COR Corvallis 86.35 314 P P 14 46 45.0 -2.3
ABKAR Akbulak array 87.56 41 P P 14 46 52.8 -0.3
ABKAR IAmb IAmb 14 46 55.9
comp=Z,3.6nm,1.4s
DLBC Dease Lake 88.92 329 LR LR 15 21 36.2
comp=Z,191nm,21.5s,baz=238,slow=32
ILAR Eielson Array 94.84 337 P P 14 47 26.5 -0.1
comp=Z,0.9nm,1.0s,baz=40,slow=4.5,SNR=5.9
comp=Z,0.9nm,1.0s
CMAR Chiang Mai Arr 126.78 62 PKP PKiKP 14 53 10.1 0.0
comp=Z,0.5nm,0.4s,baz=298,slow=3.4,SNR=9.8
MSVF Nonsavu 147.51 246 PKPbc PKPbc 14 53 50.8 +0.6
comp=Z,9.6nm,1.1s,baz=121,slow=11,SNR=4.9
STKA Stephens Creek 153.45 169 PKPbc PKPbc 14 54 03.8 -0.3
comp=Z,3.2nm,1.0s,baz=337,slow=7.7,SNR=2.1
ASAR Alice Springs 158.07 146 PKP PKPdf 14 54 00.8 -2.1
comp=Z,1.9nm,1.1s,baz=194,slow=4.6,SNR=5.5
ASAR PKPab PKPab 14 54 35.7 -0.4
comp=Z,1.4nm,0.9s,baz=212,slow=4.3,SNR=5.9

*IDC **08** 14:39:58.8±1.9,24.°05S×67.°04W,h164km±23km,mb3.6/1, mbtmp4.1/6,Error ellipse: s-maj=36.5km s-min=16.2km az=101.0*
*SJA **08** 14:39:59.0±0.7,24.°08S×66.°99W,h211km±5km,ML3.9, MW3.8*
*NEIC **08** 14:40:00.6±2.5,24.°04S±0.°07×67.°2W±0.°1,h207km±13km, mb4.0/3,Error ellipse: s-maj=17.4km s-min=10.6km az=98.0*
*GUC **08** 14:40:02.4±0.6,24.°05S×67.°33W,h214km±10km,ML4.4*
ISC 08 14:39:59.4±0.7,24.°06S±0.°04×67.°05W±0.°04,h200km,n61, σ1§74/81,7C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.67**	**105**	*eP*	Pn	14 40 14.4	-13
SALTA				*eP*	Pn	14 40 14.8	-13
SALTA				*eP*	**Pn**	**14 40 28.0**	**+0.2**
SALTA				IAML		14 40 28.7	
comp=Z,383nm,1.0s							
AF01	**San Pedro de A**	**1.51**	**316**	Pn	**Pn**	**14 40 34.9**	**+1.3**
AF01	**San Pedro de A**	**1.51**	**316**	*eP*	**Pn**	**14 40 35.9**	**+2.4**
AF01	**San Pedro de A**	**1.51**	**316**	*eP*	Pn	14 40 46.8	+13
AF01				*eS*	**Sn**	**14 41 02.0**	**+2.0**
AF01				IAML		14 41 23.1	
comp=Z,292nm,0.5s							
SLA	**San Lorenzo**	**1.55**	**115**	*eP*	**Pn**	**14 40 35.0**	**+1.3**
AZAP	**Zapla**	**1.82**	**96**	*eP*	**Pn**	**14 40 37.0**	**+0.7**
FSA	**Cafayete**	**2.26**	**155**	*eP*	**Pn**	**14 40 41.6**	**+0.8**
YJA	**Yavi**	**2.34**	**37**	*eP*	**Pn**	**14 40 43.5**	**+1.4**
YJA				*eS*	**Sn**	**14 41 15.9**	**+0.7**
GO02	**Mina Guanaco**	**2.56**	**244**	Pn	**Pn**	**14 40 45.3**	**+1.1**
GO02	**Mina Guanaco**	**2.56**	**244**	⇑*iP*	**Pn**	**14 40 45.6**	**+1.3**
GO02				*i* S	**Sn**	**14 41 19.4**	**+0.1**
GO02				IAML		14 41 20.0	
comp=E,799nm,0.3s							
GO02	**Mina Guanaco**	**2.56**	**244**	*eP*	**Pn**	**14 40 44.0**	**-0.3**
GO02				*eS*	**Sn**	**14 41 19.9**	**+0.6**
PB06	**IPOC Station P**	**2.68**	**300**	⇑*iP*	**Pn**	**14 40 47.1**	**+1.5**
PB06				*i* S	**Sn**	**14 41 20.3**	**-1.1**
PB06				IAML		14 41 23.2	
comp=E,1μm,0.3s							
PB06	**IPOC Station P**	**2.68**	**300**	*eP*	**Pn**	**14 40 47.0**	**+1.5**
PB06				IAML		14 41 25.1	
comp=Z,515nm,0.1s							
PB09	**IPOC Station P**	**3.03**	**318**		**Pn**	**14 40 51.1**	**+1.6**
PB09	**IPOC Station P**	**3.03**	**318**	*eP*	**Pn**	**14 40 51.8**	**+2.2**
PB09				*i* S	**Sn**	**14 41 28.9**	**+0.1**
PB09				IAML		14 41 30.3	
comp=N,322nm,0.5s							
PB09	**IPOC Station P**	**3.03**	**318**	*eP*	**Pn**	**14 40 51.8**	**+2.2**
PB09				IAML		14 41 34.2	
comp=Z,194nm,0.1s							
PB03	**IPOC Station P**	**3.20**	**308**	⇑*iP*	**Pn**	**14 40 52.8**	**+1.3**
PB03				*i* S	**Sn**	**14 41 30.8**	**-1.5**
PB03	**IPOC Station P**	**3.20**	**308**	*eP*	**Pn**	**14 40 52.8**	**+1.3**
PB03				IAML		14 41 35.0	
comp=Z,460nm,0.3s							
PB10	**IPOC Station P**	**3.26**	**279**	Pn	**Pn**	**14 40 53.2**	**+1.1**
PB10	**IPOC Station P**	**3.26**	**279**	⇑*iP*	**Pn**	**14 40 53.5**	**+1.4**
PB10				*i* S	**Sn**	**14 41 31.2**	**-2.1**
PB10				IAML		14 41 37.3	
comp=E,405nm,0.8s							
PB10	**IPOC Station P**	**3.26**	**279**	*eP*	**Pn**	**14 40 53.6**	**+1.5**
PB10				*eS*	**Sn**	**14 41 33.8**	**+0.5**
PB10				IAML		14 41 36.6	
comp=Z,157nm,0.4s							
AC02	**Maricunga**	**3.35**	**214**	Pn	**Pn**	**14 40 55.2**	**+1.6**
AC02	**Maricunga**	**3.35**	**214**	⇑*iP*	**Pn**	**14 40 55.1**	**+1.6**
AC02				*i* S	**Sn**	**14 41 37.8**	**+1.7**
AC02	**Maricunga**	**3.35**	**214**	*eP*	**Pn**	**14 40 55.2**	**+1.6**
AC02				*eS*	**Sn**	**14 41 40.0**	**+3.9**
PB01	**IPOC Station P**	**3.75**	**323**		**Pn**	**14 40 59.3**	**+1.0**
PB01	**IPOC Station P**	**3.75**	**323**	⇑*iP*	**Pn**	**14 40 59.2**	**+1.0**
PB01	**IPOC Station P**	**3.75**	**323**	*eP*	**Pn**	**14 40 59.4**	**+1.2**
PB01				*eS*	**Sn**	**14 41 43.8**	**-0.6**
PB01				IAML		14 41 45.8	
comp=Z,203nm,0.2s							
AC01	**Pan de Azucar**	**3.83**	**236**	Pn	**Pn**	**14 40 59.2**	**+0.1**
AC01	**Pan de Azucar**	**3.83**	**236**	⇑*iP*	**Pn**	**14 40 59.1**	**+0.1**
AC01	**Pan de Azucar**	**3.83**	**236**	*eP*	**Pn**	**14 40 59.2**	**+0.1**
AC01				*eS*	**Sn**	**14 41 44.5**	**-1.6**
AC01				IAML		14 41 46.3	
comp=Z,111nm,0.5s							
AC06	**Mina Casimiro**	**4.44**	**222**		**Pn**	**14 41 06.4**	**-0.2**
AC06	**Mina Casimiro**	**4.44**	**222**	*eP*	**Pn**	**14 41 06.3**	**-0.2**
AC06				*i* S	**Sn**	**14 41 56.9**	**-2.7**
CYA	**Choya**	**4.51**	**166**	*eP*	**Pn**	**14 41 09.1**	**+1.6**
CYA				*eS*	**Sn**	**14 42 03.4**	**+2.1**
GO03	**Copiapo**	**4.54**	**219**		**Pn**	**14 41 07.8**	**-0.2**
GO03	**Copiapo**	**4.54**	**219**	*eP*	**Pn**	**14 41 07.7**	**-0.3**
GO03				*i* S	**Sn**	**14 41 59.7**	**-2.4**
GO03	**Copiapo**	**4.54**	**219**	*eP*	**Pn**	**14 41 08.2**	**+0.2**
GO03				*eS*	**Sn**	**14 42 00.1**	**-2.0**
TA02	**Huaiquique**	**4.73**	**322**		**Pn**	**14 41 11.0**	**+0.6**
GO01	**Chusmiza**	**4.80**	**335**		**Pn**	**14 41 13.0**	**+1.2**
GO01	**Chusmiza**	**4.80**	**335**	*eP*	**Pn**	**14 41 13.4**	**+1.6**
GO01				*eS*	**Sn**	**14 42 11.3**	**+2.6**
PB11	**IPOC Station P**	**4.92**	**330**	Pn	**Pn**	**14 41 13.0**	**+0.1**
PB11	**IPOC Station P**	**4.92**	**330**	*eS*	**Sn**	**14 42 09.1**	**-1.7**
PB11				IAML		14 42 14.1	
comp=Z,108nm,0.2s							
ACLC	**CERRO LA CRUZ**	**5.35**	**179**	*eP*	**Pn**	**14 41 18.9**	**+0.5**
AC04	**Llanos de Chal**	**5.49**	**220**	Pn	**Pn**	**14 41 19.0**	**-1.0**
AC05	**El Transito**	**5.57**	**211**	Pn	**Pn**	**14 41 21.0**	**-0.2**
LCO	**Las Campanas**	**5.92**	**213**		**Pn**	**14 41 25.0**	**-0.9**
PB12	**IPOC Station P**	**6.22**	**330**	Pn	**Pn**	**14 41 29.6**	**0.0**
GO04	**Tololo Observa**	**6.95**	**208**		**Pn**	**14 41 37.6**	**-1.5**
CFA	**Coronel Fontan**	**7.59**	**188**	P	**Pn**	**14 41 46.9**	**-0.4**
comp=Z,2.1nm,0.3s,baz=17,slow=12,SNR=13							
CFA				S	**Sn**	**14 43 08.3**	**-4.9**
comp=Z,3.1nm,0.4s,baz=140,slow=22,SNR=7.2							
LPAZ	**La Paz**	**7.80**	**352**		**Pn**	**14 41 49.5**	**-1.1**
LPAZ	**La Paz**	**7.80**	**352**	P	**Pn**	**14 41 50.2**	**-0.5**
comp=Z,7.2nm,0.4s,baz=152,slow=8.2,SNR=30							
LPAZ				S	**Sn**	**14 43 15.2**	**-3.8**
comp=Z,1.2nm,0.7s,baz=163,slow=11,SNR=0.8							
LPAZ	**La Paz**	**7.80**	**352**	*eP*	**Pn**	**14 41 51.1**	**+0.5**
CO02	**Combarbal**	**7.93**	**205**	Pn	**Pn**	**14 41 51.3**	**-0.5**
SIV	**San Ignacio**	**9.79**	**36**	P	**Pn**	**14 42 15.6**	**-0.4**
comp=Z,2.3nm,0.4s,baz=215,slow=11,SNR=16							
SIV				S	**Sn**	**14 43 59.7**	**-5.9**
comp=Z,1.4nm,0.8s,baz=235,slow=16,SNR=2.4							
PLCA	**Paso Flores**	**16.89**	**189**	Pn	**Pn**	**14 43 44.9**	**+0.7**
PLCA				IAmb	IAmb	14 43 54.2	
comp=Z,6.3nm,1.0s							
PLCA	**Paso Flores**	**16.89**	**189**	P	**Pn**	**14 43 46.1**	**+1.8**
comp=Z,1.9nm,0.8s,baz=355,slow=12,SNR=6.6							
VAO	**Valinhos**	**18.45**	**91**	P	**Pn**	**14 44 01.6**	**-1.1**
BDFB	**Brasilia**	**19.75**	**68**	P	**Pn**	**14 44 16.4**	**-1.8**
BDFB	**Brasilia**	**19.75**	**68**	P	**Pn**	**14 44 16.5**	**-1.8**
comp=Z,17nm,0.7s,baz=238,slow=12,SNR=21							
SNAA	**Sanae**	**59.31**	**161**	P	**P**	**14 49 43.4**	**+3.6**
comp=Z,1.5nm,0.7s,baz=295,slow=12,SNR=2.2							
comp=Z,1.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.63**	**69**	P	**P**	**14 51 30.3**	**+1.9**
comp=Z,54nm,0.2s,baz=253,slow=5.0,SNR=1.2							
MKAR	**Makanchi Array**	**146.60**	**40**	PKPbc	**PKiKP**	**14 59 21.1**	**+1.3**
comp=Z,0.2nm,0.6s,baz=295,slow=4.8,SNR=2.7							

IDC 08 14:46:55.4±1.5,37.°53N×95.°80E,h0km,mb3.3/3, mbtmp3.4/4,ML3.6/1,MS3.4/1,Error ellipse: s-maj=71.1km s-min=26.6km az=54.0,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.90**	**34**	Pn	Pn	14 50 05.2	+5.1
0.6nm,0.3s,baz=217,slow=15,SNR=6.4							
MKAR	**Makanchi Array**	**13.63**	**317**	Pn	Pn	14 50 06.2	-3.7
0.3nm,0.3s,baz=122,slow=13,SNR=15							
MKAR				Sn	Sn	14 52 28.2	-14
0.1nm,0.3s,baz=120,slow=27,SNR=1.9							
0.8nm,0.5s							
BVAR	**Borovoye Array**	**23.48**	**319**	P	P	14 52 06.4	-0.2
0.5nm,0.5s,baz=134,slow=8.3,SNR=5.0							
0.5nm,0.5s							
GERES	**GERESS Array B**	**58.16**	**310**	LR	LR	15 24 49.7	
comp=Z,37nm,20.8s,baz=181,slow=39							
ILAR	**Eielson Array**	**66.94**	**24**	P	P	14 57 49.3	0.0
0.1nm,0.7s,baz=317,slow=5.4,SNR=1.8							
0.1nm,0.7s							
ASAR	**Alice Springs**	**70.64**	**143**	P	P	14 58 12.9	0.0
0.3nm,0.5s,baz=328,slow=6.1,SNR=9.8							
0.3nm,0.5s							

*IDC **08** 15:24:13.8±0.5,65.°36N×153.°76W,h0km,mb4.3/28, mbtmp4.3/29,ML4.4/1,MS3.6/34,Error ellipse: s-maj=16.1km s-min=9.9km az=29.0*
*AEIC **08** 15:24:14.2±1.1,65.°40N±0.°02×153.°35W±0.°08,h12km±4km, ML4.6,mb4.7/108(NEIC),ML4.8/74(NEIC), Mwr4.4/138(NEIC),Mww4.4/28(NEIC),Error ellipse: s-maj=5.6km s-min=1.5km az=118.0*
*NEIC **08** 15:24:14.2,65.°40N×153.°00W,h14km,Moment Tensor Solution. Duration:0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.13; $M_{\theta\theta}$-4.52; $M_{\phi\phi}$3.39; $M_{r\theta}$0.23; $M_{\theta\phi}$-2.36; $M_{\phi r}$2.66; Fault plane solution: $M_0$5.41000×10^{15} NP1: ϕ_s295.62000°,δ62.10000°,λ163.97000°. NP2: ϕ_s33.28000°,δ75.88000°,λ28.85000°. Principal axes: T 5.4946, Plg30.0000°, Azm257.0000°; N -0.1791, Plg58.0000°, Azm57.0000°; P -5.3155, Plg9.0000°, Azm162.0000°;*
*NEIC **08** 15:24:14.1±0.8,65.°39N±0.°03×153.°31W±0.°06,h10km±1km Error ellipse: s-maj=6.2km s-min=4.6km az=19.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.16; $M_{\theta\theta}$-3.88; $M_{\phi\phi}$2.73; $M_{r\theta}$0.10; $M_{\theta\phi}$-2.70; $M_{\phi r}$1.93; Fault plane solution: $M_0$4.79000×10^{15} NP1:ϕ_s28.83000°, δ76.26000°,λ25.54000°. NP2:ϕ_s292.35000°,δ65.24000°, λ164.83000°. Principal axes: T 4.6262, Plg28.0000°, Azm253.0000°; N 0.3121, Plg61.0000°, Azm55.0000°; P -4.9383, Plg7.0000°, Azm159.0000°;*
*NEIC **08** 15:24:14.2,65.°40N×153.°35W,h12km*
*NEIC **08** 15:24:14.2,65.°40N×153.°35W,h14km*
ISC 08 15:24:14.9±0.4,65.°39N±0.°05×153.°35W±0.°04,h10km, n187,σ1§14/109,mb4.6/91,MS3.6/32,1D,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHUM	**Lake Minchumin**	**1.57**	**163**		**Pn**	**15 24 42.4**	**-0.4**
GCSA	**Galena City Sc**	**1.63**	**248**		**Pn**	**15 24 42.5**	**-1.0**
GCSA					**Sb**	**15 25 05.0**	**-0.5**
BPAW	**Bear Paw Mtn.**	**1.64**	**141**		**Pn**	**15 24 42.6**	**-1.2**
NEA2	**Nenana**	**1.98**	**112**		**Pn**	**15 24 47.2**	**-1.3**
NEA2				IAML		15 25 25.7	
comp=N,6μm,1.1s							
CAST	**Castle Rocks**	**2.05**	**164**		**Pn**	**15 24 48.2**	**-1.2**
BWN	**Browne**	**2.06**	**124**		**Pn**	**15 24 49.3**	**-0.3**
KTH	**Kantishna Hill**	**2.12**	**149**		**Pn**	**15 24 49.4**	**-1.0**
COLD	**Coldfoot**	**2.24**	**33**		**Pn**	**15 24 51.1**	**-1.0**
COLD				IAML		15 25 24.6	
comp=E,5μm,1.0s							
TRF	**Thorofare Moun**	**2.35**	**144**		**Pn**	**15 24 52.9**	**-0.8**
TRF				IAML		15 25 30.0	
comp=E,4μm,1.2s							
TRF				IAML		15 25 31.0	
comp=N,5μm,1.0s							
I53US	**FAIRBANKS INFR**	**2.38**	**100**	Pn	**Pb**	**15 24 57.7**	**0.0**
baz=273,slow=28							
I53US				I	I	15 34 10.0	
baz=278,slow=331,SNR=0.5							
COLA	**College**	**2.38**	**100**		**Pn**	**15 24 52.5**	**-1.3**
WRH	**Wood River Hil**	**2.42**	**110**		**Pn**	**15 24 53.4**	**-1.1**
WRH				IAML		15 25 32.0	
comp=N,4μm,0.6s							
CCB	**Clear Creek Bu**	**2.47**	**105**		**Pn**	**15 24 53.9**	**-1.2**
CCB				IAML		15 25 33.7	
comp=N,4μm,0.9s							
PPLA	**Purkeypile**	**2.55**	**168**		**Pn**	**15 24 55.8**	**-0.6**
PPLA				IAML		15 25 43.8	
comp=N,3μm,1.1s							
PPLA				IAML		15 25 45.6	
comp=E,5μm,1.1s							
TTA	**Tatalina**	**2.73**	**207**		**Pn**	**15 24 57.7**	**-1.0**
TTA				IAML		15 25 45.2	
comp=N,4μm,0.8s							
TTA				IAML		15 25 47.2	
comp=E,3μm,0.7s							
RND	**Reindeer**	**2.79**	**133**		**Pn**	**15 24 59.0**	**-0.6**
RND				IAML		15 25 43.6	
comp=N,2μm,0.8s							
IL31		**2.81**	**100**		**Pn**	**15 24 58.6**	**-1.1**
ILAR	**Eielson Array**	**2.81**	**100**	Pn	**Pn**	**15 24 58.6**	**-1.1**
comp=N,53nm,0.3s,baz=284,slow=13,SNR=390							
ILAR				Sn	**Sn**	**15 25 31.2**	**-2.3**
comp=N,119nm,0.3s,baz=305,slow=26,SNR=3.4							
ILAR				Lg	Lg	15 25 42.2	
comp=N,259nm,0.3s,baz=289,slow=28,SNR=3.2							
ILAR				LR	LR	15 26 20.3	
comp=N,3μm,18.1s,baz=233,slow=43							
comp=N,112nm,0.3s							
HDA	**Harding Lake**	**2.90**	**107**		**Pn**	**15 24 59.6**	**-1.4**
HDA				IAML		15 25 48.8	
comp=E,3μm,0.5s							
HDA				IAML		15 25 58.1	
comp=N,3μm,1.0s							
PRP	**Porcupine Dome**	**3.27**	**84**	Pn	**Pn**	**15 25 04.5**	**-1.7**
PRP				IAML		15 26 07.9	
comp=E,2μm,0.7s							
PRP				IAML		15 26 12.1	
comp=N,3μm,1.1s							
SKT	**Skwentna**	**3.51**	**166**		**Pn**	**15 25 09.5**	**0.0**
SKT				IAML		15 26 15.0	
comp=N,1μm,1.0s							
RIDG	**Independent Ri**	**4.02**	**110**		**Pn**	**15 25 15.4**	**-1.1**
BMAR	**Burnt Mountain**	**4.08**	**56**		**Pn**	**15 25 16.3**	**-0.9**
SUA	**Susitna One**	**4.11**	**162**	IAML		15 26 34.1	
comp=E,915nm,0.8s							
SUA				IAML		15 26 44.5	
comp=N,903nm,1.2s							
GHO	**Glory Hole Cre**	**4.13**	**149**	IAML		15 26 33.2	
comp=N,1μm,1.0s							
GHO				IAML		15 26 34.7	
comp=E,940nm,0.9s							
PAX	**Paxson**	**4.21**	**122**	IAML		15 26 30.9	
comp=N,1μm,0.9s							
SML	**Sawmill**	**4.23**	**146**	IAML		15 26 31.3	
comp=E,986nm,0.8s							
SML				IAML		15 26 36.0	
comp=N,1μm,1.2s							
PMR	**Palmer**	**4.25**	**152**	Pn	**Pn**	**15 25 19.2**	**-0.4**
DOT	**Dot Lake**	**4.37**	**109**	IAML		15 26 33.4	
comp=N,1μm,1.0s							
DOT				IAML		15 26 39.8	
comp=E,1μm,0.9s							
SCM	**Sheep Creek Mo**	**4.46**	**140**	IAML		15 26 51.8	
comp=N,1μm,1.2s							
KNK	**Knik Glacier**	**4.55**	**149**	IAML		15 26 43.1	
comp=E,798nm,0.9s							
KNK				IAML		15 26 49.3	
comp=N,740nm,0.9s							
RDOG	**Red Dog Mine**	**4.64**	**310**		**Pn**	**15 25 24.2**	**-0.8**
RDOG				IAML		15 26 39.4	
comp=E,655nm,1.0s							
RDOG				IAML		15 26 39.5	
comp=N,632nm,0.9s							
RDT	**Redoubt**	**4.85**	**174**		**Pn**	**15 25 28.9**	**+1.0**
PWL	**Port Wells**	**5.08**	**151**	IAML		15 27 03.2	
comp=E,622nm,0.8s							
PWL				IAML		15 27 06.2	
comp=N,687nm,1.2s							
KLU	**Klutina**	**5.13**	**136**	IAML		15 26 57.8	
comp=N,503nm,0.7s							
KLU				IAML		15 27 03.6	
comp=E,557nm,0.8s							
ANM	**Nome**	**5.17**	**266**		**Pn**	**15 25 31.7**	**-0.5**
ANM				IAML		15 27 03.5	
comp=N,615nm,1.2s							
ANM				IAML		15 27 15.1	
comp=E,491nm,1.1s							
GLI	**Glacier Island**	**5.34**	**145**	IAML		15 27 05.0	
comp=N,389nm,0.7s							
GLI				IAML		15 27 14.5	
comp=E,504nm,0.7s							
BCAR	**Beaver Creek A**	**5.55**	**109**		**Pn**	**15 25 36.1**	**-1.4**
BRLK	**Bradley Lake**	**5.76**	**167**		**Pn**	**15 25 42.5**	**+2.2**
BRSE	**Bradley Lake S**	**5.79**	**167**		**Pn**	**15 25 42.7**	**+2.0**
KDAK	**Kodiak Island**	**7.64**	**177**	Pn	**Pn**	**15 26 06.7**	**+0.7**
comp=E,1.6nm,0.3s,baz=328,slow=17,SNR=17							
KDAK				Lg	Lg	15 28 10.7	
comp=E,0.8nm,0.3s,baz=29,slow=19,SNR=3.6							
KDAK				LR	LR	15 29 27.6	
comp=E,277nm,18.8s,baz=211,slow=41							
OHAK	**Old Harbor**	**8.19**	**180**	Pn	**Pn**	**15 26 13.2**	**-0.4**
MMPY	**Sheldon Lake,**	**10.06**	**96**		**Pn**	**15 26 38.1**	**-1.2**
WRGLY	**Wrigley**	**13.08**	**86**		**Pn**	**15 27 19.4**	**-1.0**
BILL	**Bilibino**	**15.97**	**298**		**Pn**	**15 27 58.2**	**-1.1**
YKA	**Yellowknife Ar**	**17.07**	**82**	P	**Pn**	**15 28 12.5**	**-0.8**
comp=E,8.6nm,0.8s,baz=298,slow=11,SNR=32							
YKA				LR	LR	15 35 14.8	
comp=E,420nm,18.5s,baz=114,slow=38							
SHEM	**Shemya Is, Ala**	**20.69**	**248**	LR	LR	15 36 42.4	
comp=E,59nm,19.7s,baz=186,slow=36							
LLLB	**Lillooet**	**21.95**	**117**	P	**P**	**15 29 07.1**	**-1.2**
EUNU	**Eureka**	**22.66**	**25**	P	**P**	**15 29 16.0**	**+0.2**
B08A	**Colville Reser**	**24.75**	**117**	P	**P**	**15 29 36.7**	**+0.4**
B08A				IAmb	IAmb	15 29 42.0	
comp=Z,13nm,0.8s							
NEW	**Newport**	**25.66**	**114**	LR	LR	15 41 12.1	
comp=Z,103nm,19.3s,baz=330,slow=40							
MA2	**Magadan**	**25.68**	**284**	LR	LR	15 40 02.6	
comp=Z,110nm,19.1s,baz=53,slow=37							
MA2	**Magadan**	**25.68**	**284**	P	**P**	**15 29 45.2**	**+0.7**
comp=Z,24nm,1.1s							
MXC	**Moxie City**	**25.90**	**121**	IAmb	IAmb	15 29 58.3	
comp=Z,11nm,0.8s							
PETK	**Petropavlovsk-**	**27.09**	**267**	P	**P**	**15 29 56.7**	**-0.6**
comp=Z,1.7nm,0.8s,baz=74,slow=11,SNR=6.4							
PETK				LR	LR	15 40 42.5	
comp=Z,124nm,19.7s,baz=37,slow=37							
comp=Z,1.7nm,0.8s							
TIXI	**Tiksi**	**27.20**	**317**	LR	LR	15 41 41.9	
comp=Z,75nm,18.8s,baz=206,slow=39							
PINE	**Pine Mountain**	**28.08**	**124**	IAmb	IAmb	15 30 13.8	
comp=Z,9.0nm,0.8s							
BMO	**Blue Mountains**	**28.46**	**119**	P	**P**	**15 30 09.1**	**-0.7**
YBH	**Yreka Blue Hor**	**29.32**	**129**	LR	LR	15 42 30.7	
comp=Z,100nm,18.2s,baz=339,slow=37							
BOZ	**Bozeman (W)**	**29.99**	**111**	IAmb	IAmb	15 30 29.2	
comp=Z,15nm,1.5s							
MFID	**Camas Ranch**	**30.24**	**118**	IAmb	IAmb	15 30 31.0	
comp=Z,6.2nm,0.7s							
YAK	**Yakutsk**	**32.29**	**301**	P	**P**	**15 30 42.3**	**-1.0**
YAK				IAmb	IAmb	15 30 48.0	
comp=Z,7.7nm,0.8s							
YAK	**Yakutsk**	**32.29**	**301**	LR	LR	15 45 22.3	
comp=Z,162nm,18.4s,baz=42,slow=39							
ELK	**Elko**	**32.78**	**120**	LR	LR	15 44 05.8	
comp=Z,114nm,21.0s,baz=329,slow=36							
HVU	**Hansel Valley**	**32.79**	**116**	IAmb	IAmb	15 30 55.6	
comp=Z,11nm,0.9s							
PD31	**Pinedale Array**	**33.17**	**111**	IAmb	IAmb	15 30 58.8	
comp=Z,15nm,0.8s							
PDAR	**Pinedale Array**	**33.17**	**111**	P	**P**	**15 30 50.9**	**-0.6**
PDAR	**Pinedale Array**	**33.17**	**111**	P	**P**	**15 30 53.8**	**+2.3**
comp=Z,14nm,0.8s,baz=336,slow=5.6,SNR=46							
PDAR				PcP	**PcP**	**15 33 33.7**	**-0.3**
comp=Z,1.1nm,0.5s,baz=108,slow=0.5,SNR=7.5							
PDAR				LR	LR	15 44 49.2	
comp=Z,98nm,21.6s,baz=330,slow=37							
comp=Z,14nm,0.8s							
NVAR	**Mina Array Bea**	**33.76**	**126**	P	**P**	**15 30 55.6**	**-1.0**
NVAR	**Mina Array Bea**	**33.76**	**126**	P	**P**	**15 30 57.7**	**+1.1**
comp=Z,5.0nm,0.8s,baz=310,slow=7.4,SNR=23							
comp=Z,5.0nm,0.8s							
NV11	**Mina Array Sit**	**33.81**	**126**	IAmb	IAmb	15 31 03.2	
comp=Z,10nm,1.1s							
DUG	**Dugway, Tooele**	**34.15**	**118**	IAmb	IAmb	15 31 08.8	
comp=Z,8.3nm,0.9s							
SPR3	**Spring Creek 3**	**34.64**	**120**	P	**P**	**15 31 03.0**	**-1.3**
R11B	**Troy Canyon, C**	**34.77**	**122**	P	**P**	**15 31 05.6**	**+0.2**
R11B				IAmb	IAmb	15 31 11.2	
comp=Z,9.4nm,1.0s							
PSUT	**Pine Spring**	**35.23**	**120**	IAmb	IAmb	15 31 16.9	
comp=Z,12nm,0.9s							
SUMG	**Summit**	**35.63**	**28**	P	**P**	**15 31 11.7**	**-0.9**
**TPN

W35A Tecumseh 44.76 104 lAmb lAmb 15 32 33.6
comp=Z,12nm,0.9s
Q44A Meyer Farm, Va 44.80 94 lAmb lAmb 15 32 33.2
comp=Z,19nm,1.0s
FVM French Village 44.99 96 lAmb lAmb 15 32 35.0
comp=Z,12nm,0.7s
ARCES ARCESS Array B 45.35 1 P **P** **15 32 33.2 +0.7**
comp=Z,3.2nm,0.8s,baz=1.5,slow=9.0,SNR=5.0
comp=Z,3.2nm,0.8s
VHRN Van Horn 45.41 115 P **P** **15 32 32.7 -0.9**
VHRN lAmb lAmb 15 32 44.9
comp=Z,10nm,1.2s
T42A Van Buren 45.53 97 lAmb lAmb 15 32 38.7
comp=Z,8.1nm,0.7s
BORG Borgarnes 45.57 27 LR LR 15 54 03.6
comp=Z,31nm,18.8s,baz=324,slow=39
SGCY Sterling City 45.90 111 lAmb lAmb 15 32 43.2
comp=Z,19nm,1.2s
ALPN Alpine 46.30 114 lAmb lAmb 15 32 51.0
comp=Z,8.0nm,1.0s
OZNA Ozona 46.78 111 lAmb lAmb 15 32 50.2
comp=Z,5.3nm,0.8s
TX31 Lajitas Ar. Si 47.22 115 lAmb lAmb 15 32 54.7
comp=Z,9.6nm,0.9s
TXAR Lajitas Array 47.22 115 P **P** **15 32 47.1 -0.6**
TXAR Lajitas Array 47.22 115 P **P** **15 32 49.4 +1.7**
comp=Z,4.8nm,0.7s,baz=322,slow=6.4,SNR=25
comp=Z,4.8nm,0.7s
SAND Sanderson 47.25 113 lAmb lAmb 15 32 57.1
comp=Z,7.7nm,0.9s
BRDY Brady 47.29 109 lAmb lAmb 15 32 53.9
comp=Z,5.4nm,0.9s
CLTN Cedars of Leba 48.31 93 lAmb lAmb 15 33 01.9
comp=Z,5.8nm,1.1s
MJAR Matsushiro Arr 48.53 268 P **P** **15 32 56.8 -0.9**
comp=Z,1.5nm,0.8s,baz=8.8,slow=9.1,SNR=3.0
MJAR LR LR 15 53 40.0
comp=Z,62nm,21.3s,baz=18,slow=36
comp=Z,1.5nm,0.8s
PLAL Pickwick Lake 48.54 96 lAmb lAmb 15 33 02.9
comp=Z,9.6nm,0.8s
X48A Hartselle 49.42 95 lAmb lAmb 15 33 09.5
comp=Z,8.1nm,0.7s
LPIG La Paz 49.57 125 LR LR 15 53 52.2
comp=Z,55nm,19.6s,baz=1.5,slow=36
TKL Tuckaleechee C 49.76 91 LR LR 15 55 08.2
comp=Z,205nm,18.6s,baz=328,slow=37
SONM Songino Array 51.63 302 P **P** **15 33 21.5 +0.3**
comp=Z,1.4nm,0.9s,baz=38,slow=7.5,SNR=7.8
comp=Z,1.4nm,0.9s
KSRS Korea Array 52.05 278 P **P** **15 33 24.9 +0.6**
comp=Z,2.7nm,0.8s,baz=29,slow=8.0,SNR=8.8
KSRS LR LR 15 56 27.1
comp=Z,46nm,18.2s,baz=55,slow=37
comp=Z,2.7nm,0.8s
KSAR Wonju Array Be 52.07 278 P **P** **15 33 24.1 -0.4**
ZAA0 Zalesovo Array 53.00 321 P **P** **15 33 29.9 -1.2**
ZAA0 lAmb lAmb 15 33 35.6
comp=Z,7.0nm,0.8s
ZALV Zalesovo Beam 53.00 321 P **P** **15 33 29.7 -1.5**
ZALV Zalesovo Beam 53.00 321 P **P** **15 33 30.5 -0.6**
comp=Z,9.1nm,0.9s,baz=16,slow=5.8,SNR=12
ZALV LR LR 16 00 37.1
comp=Z,32nm,19.3s,baz=5.5,slow=41
comp=Z,9.1nm,0.9s
NB2 NORSAR Subarra 53.36 9 P **P** **15 33 37.5 +3.7**
comp=Z,1.1nm,0.6s,baz=352,slow=7.4
NOA NORSAR Array B 53.36 9 P **P** **15 33 35.8 +2.0**
comp=Z,1.2nm,0.6s,baz=351,slow=7.3,SNR=6.5
comp=Z,1.2nm,0.6s
FINES FINESS Array B 53.48 0 P **P** **15 33 36.1 +1.6**
comp=Z,1.8nm,0.7s,baz=1.4,slow=7.6,SNR=6.2
comp=Z,1.8nm,0.7s
HFS Hagfors 54.42 8 P **P** **15 33 42.8 +1.3**
comp=Z,2.7nm,0.7s,baz=354,slow=7.4,SNR=4.8
comp=Z,2.7nm,0.7s
JNU Nakatsue 54.53 273 LR LR 15 57 30.1
comp=Z,50nm,18.1s,baz=18,slow=37
KIRV Kirov 55.16 346 LR LR 16 00 58.6
comp=Z,29nm,18.6s,baz=29,slow=40
HHC Hu-ho-hao-te 55.70 294 *e*P **P** **15 33 50.3 -0.8**
HHC pmax pmax
comp=Z,12nm,0.7s
ARTI Arti 56.18 339 P **P** **15 33 53.9 -0.3**
comp=Z,6.3nm,0.6s,baz=18,slow=3.2,SNR=8.8
ARTI LR LR 16 00 52.8
comp=Z,33nm,19.4s,baz=20,slow=39
comp=Z,6.3nm,0.6s
BVAR Borovoye Array 57.26 330 P **P** **15 34 01.6 -0.3**
comp=Z,6.6nm,0.8s,baz=25,slow=8.2,SNR=24
BVAR LR LR 16 02 10.0
comp=Z,61nm,18.8s,baz=24,slow=40
comp=Z,6.6nm,0.8s
HNS HongShan 57.46 289 ⇓P **P** **15 34 04.1 +0.6**
EKA Eskdalemuir Ar 57.48 20 P **P** **15 34 03.9 +0.4**
comp=Z,2.3nm,0.5s,baz=335,slow=5.6,SNR=11
comp=Z,2.3nm,0.5s
KURBB Kurchatov Arra 57.63 324 P **P** **15 34 03.7 -0.9**
comp=Z,3.3nm,0.9s,baz=27,slow=6.6,SNR=13
comp=Z,3.3nm,0.9s
MK31 Makanchi Array 60.17 319 P **P** **15 34 20.6 -1.7**
MKAR Makanchi Array 60.17 319 P **P** **15 34 21.1 -1.2**
comp=Z,4.0nm,0.8s,baz=40,slow=6.8,SNR=17
MKAR LR LR 16 03 21.9
comp=Z,55nm,18.3s,baz=53,slow=39
comp=Z,4.0nm,0.8s
NJ2 Nanjing 60.45 283 *e*P **P** **15 34 24.3 0.0**
NJ2 pmax pmax
comp=Z,28nm,0.6s
JOW Kunigami 61.11 272 LR LR 16 02 29.8
comp=Z,38nm,18.0s,baz=317,slow=38
GTA Gaotai 61.30 302 *e*P **P** **15 34 30.0 -0.2**
GTA pP sP 15 34 34.1 -0.7
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=N,120nm,12.7s
GTA LR LR
comp=E,87nm,13.9s
GTA LR LR
comp=Z,140nm,15.9s
AKTO Aktyubinsk 62.00 338 P **P** **15 34 34.1 -0.6**
comp=Z,2.3nm,0.7s,baz=3.3,slow=5.6,SNR=12
AKTO LR LR 16 03 17.5
comp=Z,28nm,20.4s,baz=316,slow=38
comp=Z,2.3nm,0.7s
XAN Xi'an 62.67 292 P **P** **15 34 40.5 +1.1**
XAN pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 62.83 336 P **P** **15 34 39.6 -0.5**
ABKAR Akbulak array 62.83 336 lAmb lAmb 15 34 45.8
comp=Z,4.2nm,0.8s
AK21 Malin Array Si 64.16 358 P **P** **15 34 49.2 +0.3**
AK22 Malin Array Si 64.17 358 P **P** **15 34 49.5 +0.5**
AK04 Malin Array Si 64.21 358 P **P** **15 34 49.9 +0.7**
AKASG Malin Array Be 64.23 358 P **P** **15 34 49.5 +0.2**
comp=Z,2.2nm,0.5s,baz=3.6,slow=6.2,SNR=8.3
AKASG LR LR 16 01 35.6
comp=Z,22nm,21.4s,baz=25,slow=35
comp=Z,2.2nm,0.5s
AKBB Malin Array Si 64.23 358 P **P** **15 34 51.0 +1.6**
KIEV Kiev 64.24 358 P **P** **15 34 51.0 +1.6**
GERES GERESS Array B 65.66 9 P **P** **15 35 01.2 +2.3**
comp=Z,0.7nm,0.6s,baz=0.0,slow=2.7,SNR=5.0
comp=Z,0.7nm,0.6s
BOOM Boomskoye usch 65.85 322 P **P** **15 34 58.9 -1.4**
AAK Ala-Archa 66.08 323 LR LR 16 05 53.7
comp=Z,41nm,20.2s,baz=38,slow=38
CONA Conrad Observa 66.71 8 *e*pP pP 15 35 10.5 +1.5
comp=Z,3.1nm,0.9s
MOTA Moosalm 66.96 11 *e*pP pP 15 35 11.4 +0.8
comp=Z,2.9nm,0.9s
LESA Schwarzleotal 67.00 10 *i* pP pP 15 35 11.5 +0.7
comp=Z,2.3nm,0.6s
WTTA Wattenberg 67.08 11 *e*pP pP 15 35 12.9 +1.4
comp=Z,2.9nm,0.6s
SQTA Sankt Quirin 67.09 11 *e*pP pP 15 35 12.7 +1.2
comp=Z,5.0nm,0.9s
FETA Feichten 67.25 12 *i* pP pP 15 35 14.0 +1.5
comp=Z,1.3nm,0.6s
BUR08 Bucovina Ar. S 67.30 1 P **P** **15 35 09.7 +0.3**
KBA Koelnbreinsper 67.40 10 *i* pP pP 15 35 14.7 +1.2
comp=Z,5.2nm,0.7s
OBKA Obir 68.05 9 *e*pP pP 15 35 18.3 +0.8
comp=Z,10nm,0.9s
KBZ Khabaz 70.49 348 P **P** **15 35 29.0 -0.1**
comp=Z,0.8nm,0.7s,baz=357,slow=11,SNR=5.1
comp=Z,0.8nm,0.7s
GAR Garm 70.55 325 P **P** **15 35 29.3 -0.4**
GAR lAmb lAmb 15 35 33.6
comp=Z,8.6nm,1.1s
JTS Las Juntas de 71.76 106 LR LR 16 10 25.7
comp=Z,51nm,19.0s,baz=130,slow=38
PZH PanZhiHua 72.15 295 P **P** **15 35 39.4 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,6.0s
ESDC Sonseca Array 72.59 24 P **P** **15 35 42.8 +0.9**
comp=Z,0.8nm,0.7s,baz=353,slow=5.4,SNR=4.1
comp=Z,0.8nm,0.7s
GNI Garni 73.86 346 P **P** **15 35 50.5 +1.0**
comp=Z,11nm,0.4s,baz=29,slow=6.7,SNR=3.9
GNI LR LR 16 11 48.8
comp=Z,30nm,20.2s,baz=14,slow=39
comp=Z,11nm,0.4s
TAOE Nuku Hiva Isla 74.69 166 *e*LR LR 15 58 51.3
comp=Z,34nm,22.7s
BRTR Keskin Array B 75.08 354 P **P** **15 35 58.2 +1.6**
comp=Z,1.9nm,0.9s,baz=21,slow=1.7,SNR=7.9
comp=Z,1.9nm,0.9s
SDV Santo Domingo 78.94 93 LR LR 16 14 07.7
comp=Z,71nm,18.7s,baz=256,slow=38
CMAR Chiang Mai Arr 80.51 294 P **P** **15 36 26.3 -0.7**
CMAR Chiang Mai Arr 80.51 294 P **P** **15 36 25.5 -1.5**
comp=Z,2.6nm,0.8s,baz=4.0,slow=6.3,SNR=21
comp=Z,2.6nm,0.8s
PPT2 Papeete2 82.77 176 *e*LR LR 16 02 35.1
comp=Z,55nm,24.0s
PPT2 *e*LR LR 16 02 36.8
comp=Z,78nm,33.8s
TBI Tubuai 88.50 176 *e*LR LR 16 05 10.6
comp=Z,379nm,28.5s
MDP Montagnes des 89.84 78 LR LR 16 17 02.8
comp=Z,34nm,20.4s,baz=307,slow=35
PLCA Paso Flores 123.39 115 PKP **PKiKP** **15 43 13.7 +2.3**
comp=Z,2.1nm,0.9s,baz=284,slow=1.6,SNR=4.2
BOSA Boshof 143.20 2 PKP **PKPdf** **15 43 48.8 +0.1**
comp=Z,0.7nm,0.4s,baz=158,slow=15,SNR=1.4
VNDA Vanda 145.25 196 PKPbc **PKPdf** **15 43 50.6 +0.1**
comp=Z,2.4nm,0.9s,baz=4.2,slow=2.9,SNR=7.2
QSPA South Pole Qui 155.21 180 PKP **PKPdf** **15 44 07.9 +1.5**
comp=Z,1.3nm,1.1s,baz=279,slow=8.3,SNR=2.3
QSPA PKPab **PKPab** **15 44 31.5 -0.1**
comp=Z,1.5nm,0.6s,baz=3.7,slow=2.8,SNR=7.7

---

*SJA **08** 15:39:11.0±0.6, 21°.40S×68°.16W, h164km±5km, ML3.5, MW3.4*
*GUC **08** 15:39:13.7±0.7, 21°.41S×68°.28W, h156km±6km, ML3.5*
*IDC **08** 15:39:14.3±2.8, 21°.31S×67°.74W, h142km±26km, mb3.5/4, mbtmp4.0/6, Error ellipse: s-maj=37.6km s-min=20.5km az=73.0*
*SCB **08** 15:39:14.0±1.0, 21°.37S×68°.11W, h118km±15km, ML3.7/3, MW3.4, Error ellipse: s-maj=4.0km s-min=3.8km az=358.0*
ISC 08 15:39:13.6±0.8, 21°.41S±0°.03×68°.12W±0°.04, h142km±6km, n49, σ1°.61/70, mb4.0/4, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.11**	**249**	↑↑*i*P		**Pn**		**15 39 38.7**	**-0.1**
PB09				*i* S		**Sn**		**15 39 57.7**	**-0.3**
PB09				lAML				15 39 59.7	
comp=N,508nm,0.4s									
PB09	**IPOC Station P**	**1.11**	**249**	*e*P		**Pn**		**15 39 38.7**	**-0.1**
PB09				*e*S		**Sn**		**15 39 59.2**	**+1.2**
PB09				lAML				15 39 59.6	
comp=Z,519nm,0.7s									
PB09	**IPOC Station P**	**1.11**	**249**	Pg		**Pn**		**15 39 38.7**	**-0.1**
PB01	**IPOC Station P**	**1.33**	**286**	↑↑*i*P		**Pn**		**15 39 39.9**	**-0.9**
PB01				*i* S		**Sn**		**15 40 00.3**	**-1.2**
PB01				lAML				15 40 02.2	
comp=N,1μm,0.1s									
PB01	**IPOC Station P**	**1.33**	**286**	*e*P		**Pn**		**15 39 39.9**	**-0.9**
PB01				*e*S		**Sn**		**15 40 01.5**	**0.0**
PB01				lAML				15 40 02.1	
comp=Z,558nm,0.2s									
PB01	**IPOC Station P**	**1.33**	**286**	Pg		**Pn**		**15 39 40.2**	**-0.6**
PB01				Sg		**Sn**		**15 40 00.8**	**-0.7**
PB01				lAML				15 40 02.4	
comp=Z,725nm,0.2s									
AF01	**San Pedro de A**	**1.54**	**182**	*e*P		**Pn**		**15 39 43.8**	**+0.5**
AF01				lAML				15 40 26.1	
comp=E,442nm,0.7s									
AF01	**San Pedro de A**	**1.54**	**182**	*e*P		**Pn**		**15 39 43.9**	**+0.7**
AF01				*e*S		Sn		15 39 51.4	-15
AF01				lAML				15 40 31.5	
comp=Z,215nm,1.1s									
AF01	**San Pedro de A**	**1.54**	**182**	Pg		**Pn**		**15 39 43.7**	**+0.5**
PB03	**IPOC Station P**	**1.65**	**247**	↑↑*i*P		**Pn**		**15 39 43.4**	**-0.9**
PB03				*i* S		**Sn**		**15 40 06.4**	**-1.5**
PB03				lAML				15 40 08.2	
comp=E,446nm,0.3s									
PB03	**IPOC Station P**	**1.65**	**247**	*e*P		**Pn**		**15 39 43.7**	**-0.6**
PB03				*e*S		**Sn**		**15 40 07.3**	**-0.5**
PB03				lAML				15 40 08.0	
comp=Z,293nm,0.2s									
PB06	**IPOC Station P**	**1.87**	**226**	↑↑*i*P		**Pn**		**15 39 46.2**	**-0.6**
PB06				*i* S		**Sn**		**15 40 11.3**	**-1.0**
PB06				lAML				15 40 13.0	
comp=E,309nm,0.1s									
PB06	**IPOC Station P**	**1.87**	**226**	*e*P		**Pn**		**15 39 46.3**	**-0.6**
PB06				lAML				15 40 15.5	
comp=Z,184nm,0.2s									
GO01	**Chusmiza**	**2.00**	**330**	*e*P		**Pn**		**15 39 48.6**	**-0.1**
GO01				*i* S		**Sn**		**15 40 15.1**	**-0.5**
GO01				lAML				15 40 20.3	
comp=N,466nm,0.1s									
GO01	**Chusmiza**	**2.00**	**330**	*e*P		**Pn**		**15 39 48.1**	**-0.6**
GO01				*e*S		**Sn**		**15 40 18.9**	**+3.3**
GO01	**Chusmiza**	**2.00**	**330**	Pg		**Pn**		**15 39 48.8**	**+0.1**
PB11	**IPOC Station P**	**2.18**	**318**	*e*P		**Pn**		**15 39 49.8**	**-0.8**
PB11				*i* S		**Sn**		**15 40 17.1**	**-1.8**
PB11				lAML				15 40 20.7	
comp=E,508nm,0.6s									
PB11	**IPOC Station P**	**2.18**	**318**	*e*P		**Pn**		**15 39 49.6**	**-0.9**
PB11				*e*S		**Sn**		**15 40 18.7**	**-0.2**
PB11				lAML				15 40 20.5	
comp=Z,210nm,0.1s									
PB11	**IPOC Station P**	**2.18**	**318**	Pg		**Pn**		**15 39 49.9**	**-0.6**
PB11				Sg		**Sn**		**15 40 17.7**	**-1.2**
PB11				lAML				15 40 21.0	
comp=Z,489nm,0.2s									
TA02	**Huaiquique**	**2.19**	**301**	*e*S		**Sn**		**15 40 18.4**	**-0.5**
TA02				lAML				15 40 21.6	
comp=Z,338nm,0.3s									
MOCB	**Mochara**	**2.32**	**87**	Pg		**Pn**		**15 39 52.5**	**0.0**
MOCB				Sg		**Sn**		**15 40 21.9**	**-0.4**
MOCB				lAML				15 40 22.4	
comp=Z,294nm,0.8s									
YJA	**Yavi**	**2.54**	**108**	*e*P		**Pn**		**15 39 55.5**	**+0.3**
YJA				*e*S		**Sn**		**15 40 23.8**	**-3.4**
YJA	**Yavi**	**2.54**	**108**	Pg		**Pn**		**15 39 55.5**	**+0.3**
PB10	**IPOC Station P**	**3.08**	**227**	*e*P		**Pn**		**15 40 00.3**	**-1.3**
PB10				lAML				15 40 46.9	
comp=N,48nm,0.4s									
PB10	**IPOC Station P**	**3.08**	**227**	*e*P		**Pn**		**15 40 00.5**	**-1.1**
SALTA		**3.25**	**150**	*e*P		Pn		15 39 50.4	-14
SALTA				*e*P				15 39 51.5	
SALTA				*e*P				15 39 53.1	
PB16	**IPOC Station P**	**3.32**	**337**	*e*P		**Pn**		**15 40 05.9**	**+0.6**
PB16				*i* S		**Sn**		**15 40 44.0**	**-1.3**
PB16				lAML				15 40 57.1	
comp=E,46nm,0.5s									
PB16	**IPOC Station P**	**3.32**	**337**	*e*P		**Pn**		**15 40 06.0**	**+0.6**
PB16				*e*S		**Sn**		**15 40 40.4**	**-4.9**
PB16	**IPOC Station P**	**3.32**	**337**	Pg		**Pn**		**15 40 05.9**	**+0.6**
PB12	**IPOC Station P**	**3.47**	**323**	*e*P		**Pn**		**15 40 04.6**	**-2.2**
PB12				*i* S		**Sn**		**15 40 44.1**	**-3.9**
PB12	**IPOC Station P**	**3.47**	**323**	*e*P		**Pn**		**15 40 05.4**	**-1.3**
PB12				*e*S		**Sn**		**15 40 45.3**	**-2.6**
PB12				lAML				15 40 53.6	
comp=Z,55nm,0.7s									
SOET	**ToroToro**	**3.93**	**34**	Pg		**Pn**		**15 40 13.1**	**+0.1**
AZAP	**Zapla**	**3.98**	**135**	*e*P		**Pn**		**15 40 13.2**	**-0.3**
GO02	**Mina Guanaco**	**3.98**	**200**	*i* P		**Pn**		**15 40 12.0**	**-1.6**
GO02	**Mina Guanaco**	**3.98**	**200**	*e*P		**Pn**		**15 40 12.3**	**-1.3**
GO02				*e*S		**Sn**		**15 40 58.6**	**-1.6**
AOEA	**Aiquile**	**4.20**	**41**	Pg		**Pn**		**15 40 16.5**	**-0.1**
SOEJ	**Jacaque**	**4.41**	**359**	Pg		**Pn**		**15 40 19.9**	**+0.4**
LPAZ	**La Paz**	**5.09**	**360**	P		**Pn**		**15 40 29.6**	**+1.0**
comp=Z,5.1nm,0.5s,baz=170,slow=5.3,SNR=17									
LPAZ				S		**Sn**		**15 41 25.5**	**-1.5**
comp=Z,1.9nm,0.4s,baz=238,slow=19,SNR=1.5									
LPAZ	**La Paz**	**5.09**	**360**	Pg		**Pn**		**15 40 29.0**	**+0.3**
AC01	**Pan de Azucar**	**5.24**	**205**	*e*P		**Pn**		**15 40 27.2**	**-2.8**
AC01				*e*S		**Sn**		**15 41 24.4**	**-5.3**
SIV	**San Ignacio**	**8.58**	**52**	P		**Pn**		**15 41 10.5**	**-4.3**
comp=Z,22nm,0.3s,baz=239,slow=10,SNR=98									
SNAA	**Sanae**	**62.13**	**161**	P		**P**		**15 49 19.7**	**+0.5**
comp=Z,1.5nm,0.8s,baz=264,slow=10,SNR=2.2									
comp=Z,1.5nm,0.8s									
QSPA	**South Pole Qui**	**68.79**	**180**	P		**P**		**15 50 03.6**	**+1.5**
comp=Z,1.3nm,0.5s,baz=188,slow=6.8,SNR=22									
comp=Z,1.3nm,0.5s									
PDAR	**Pinedale Array**	**74.40**	**330**	P		**P**		**15 50 37.9**	**+1.8**
comp=Z,0.1nm,0.5s,baz=148,slow=8.5,SNR=1.7									
comp=Z,0.1nm,0.5s									
TORD	**Torodi Ar. Bea**	**76.63**	**70**	P		**P**		**15 50 48.3**	**-0.9**
comp=Z,52nm,0.3s,baz=228,slow=3.7,SNR=1.4									
YKA	**Yellowknife Ar**	**91.34**	**340**	P		**P**		**15 52 03.3**	**+0.6**
comp=Z,0.8nm,0.7s,baz=136,slow=4.5,SNR=18									
comp=Z,0.8nm,0.7s									
ASAR	**Alice Springs**	**130.33**	**207**	PKP		**PKPdf**		**15 58 08.0**	**+0.2**
comp=Z,0.3nm,0.5s,baz=133,slow=1.7,SNR=9.4									
WRA	**Warramunga Arr**	**133.41**	**210**	PKP		**PKPdf**		**15 58 13.9**	**+0.2**
comp=Z,0.3nm,0.5s,baz=151,slow=1.7,SNR=5.5									
MKAR	**Makanchi Array**	**145.12**	**36**	PKP		**PKPdf**		**15 58 34.5**	**+0.3**
comp=Z,1.0nm,0.7s,baz=340,slow=3.2,SNR=13									
MKAR				pPKP		pPKPab		15 59 12.4	+0.1
comp=Z,0.4nm,0.8s,baz=258,slow=7.2,SNR=2.6									

---

*IDC **08** 15:39:40.9±0.7, 9°.90S×124°.22E, h0km, mb4.0/13, mbtmp4.0/17, ML3.9/3, MS3.4/4, Error ellipse: s-maj=16.5km s-min=8.2km az=141.0*
*NEIC **08** 15:39:46.5±1.0, 10°.24S±0°.06×123°.93E±0°.05, h41km±3km, mb4.5/11, Error ellipse: s-maj=9.4km s-min=6.2km az=152.0*
*DJA **08** 15:39:47.2±0.7, 10°S±5°×12°4E±°, h33km±12km, M4.6/12, mB5.1/3, mb4.9/4, MLv4.5/12, Mw(mB)4.4/3*
ISC 08 15:39:46.0±0.4, 10°.28S±0°.05×123°.97E±0°.05, h35km, n86, σ2°.27/76, mb4.2/17, MS3.1/3, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.31**	**284**	Pg		**Pn**		**15 39 54.5**	**+0.5**
2μm,0.3s,baz=89,slow=2.7,SNR=1235									
BATI				Lg		Lg		15 40 00.6	
4μm,0.3s,baz=169,slow=22,SNR=23									
BATI				LR		LR		15 40 26.4	
comp=Z,1μm,21.8s,baz=358,slow=73									
SOEI	**Soe**	**0.60**	**30**			**Pn**		**15 39 58.8**	**+0.7**
SOEI	**Soe**	**0.60**	**30**	P		**Pn**		**15 39 59.4**	**+1.2**
SOEI	**Soe**	**0.60**	**30**	P		**Pn**		**15 39 59.4**	**+1.2**
MMRI	**Maumere**	**2.36**	**314**	Pn		**Pn**		**15 40 21.8**	**-0.5**
MMRI	**Maumere**	**2.36**	**314**	P		**Pn**		**15 40 23.6**	**+1.3**
MMRI	**Maumere**	**2.36**	**314**	P		**Pn**		**15 40 23.4**	**+1.1**
EDFI	**Ende, Flores**	**2.71**	**304**	P		**Pn**		**15 40 27.7**	**+0.5**
BASI	**Baing, Sumba**	**3.33**	**271**	P		**Pn**		**15 40 37.6**	**+1.9**
WSI	**Waingapu**	**3.66**	**279**	P		**Pn**		**15 40 42.2**	**+2.0**
WBSI	**Waikabubak, Su**	**4.55**	**278**	P		**Pn**		**15 40 53.1**	**+0.6**
BBSI	**Bau Bau**	**4.96**	**344**	P		**Pn**		**15 41 00.6**	**+2.6**
BSSI	**Bau Bau, Buton**	**5.36**	**320**	P		**Pn**		**15 41 05.4**	**+1.9**
0.3nm964nm91nm,0.7s									
BKSI	**Bulukumba**	**6.22**	**322**	P		**Pn**		**15 41 17.1**	**+1.7**
0.2nm58nm,0.8s									
PLAI	**Plampang**	**6.27**	**283**	P		**Pn**		**15 41 17.1**	**+1.0**
PLAI	**Plampang**	**6.27**	**283**	P		**Pn**		**15 41 16.8**	**+0.7**
2μm151nm,0.7s									
KAPI	**Kappang**	**6.69**	**321**	Pn		**Pn**		**15 41 20.3**	**-1.6**
3.1nm,0.3s,baz=146,slow=12,SNR=8.6									
KAPI				LR		LR		15 44 19.5	
comp=Z,352nm,19.4s,baz=147,slow=42									
7.7nm,0.3s									
KNRA	**Kununurra**	**7.12**	**139**			**Pn**		**15 41 28.4**	**+0.8**
TWSI	**Taliwang, Sumb**	**7.15**	**282**	P		**Pn**		**15 41 29.5**	**+1.3**
0.3nm55nm,0.8s									
MTN	**Manton Dam**	**7.47**	**111**			**Pn**		**15 41 33.0**	**+0.4**
MTN	**Manton Dam**	**7.47**	**111**	P		**Pn**		**15 41 33.6**	**+1.0**
KDU	**Kakadu**	**8.68**	**107**	P		**Pn**		**15 41 50.9**	**+1.8**
JAGI	**Jajag, Banyuwa**	**9.85**	**280**	Pn		**Pn**		**15 42 06.7**	**+1.5**
FAKI	**Fak Fak**	**11.00**	**49**	P		**Pn**		**15 42 24.5**	**+3.5**
MBWA	**Marble Bar**	**11.56**	**200**	Pn		**Pn**		**15 42 29.6**	**+1.0**
MBWA	**Marble Bar**	**11.56**	**200**	P		**Pn**		**15 42 30.8**	**+2.2**
TOLI2	**Tolitoli**	**11.75**	**344**	P		**Pn**		**15 42 34.7**	**+3.4**
PSA00	**Pilbara Seismi**	**11.90**	**199**	Pn		**Pn**		**15 42 35.1**	**+1.8**
UGM	**Wanagama**	**13.48**	**279**	P		**Pn**		**15 42 57.7**	**+2.8**
WB0	**Warramunga Arr**	**13.79**	**134**	Pn		**Pn**		**15 42 57.2**	**-2.0**
WRA	**Warramunga Arr**	**13.87**	**135**	Pn		**Pn**		**15 42 58.9**	**-1.3**
WRA	**Warramunga Arr**	**13.87**	**135**	Pn		**Pn**		**15 42 58.7**	**-1.5**
0.5nm,0.3s,baz=300,slow=13,SNR=28									
WRA				Sn		**Sn**		**15 45 25.6**	**-7.5**
3.7nm,0.3s,baz=39,slow=17,SNR=11									
0.6nm,0.3s									
WB2	**Warramunga Arr**	**13.88**	**135**	Pn		**Pn**		**15 42 58.6**	**-1.7**
WR8	**Warramunga Arr**	**13.99**	**135**	Pn		**Pn**		**15 42 59.7**	**-2.1**
WR0	**Warramunga Arr**	**14.02**	**135**	Pn		**Pn**		**15 43 00.4**	**-1.9**
GIRL	**Giralia**	**15.42**	**216**	Pn		**Pn**		**15 43 22.2**	**+1.1**
GIRL	**Giralia**	**15.42**	**216**	P		**P**		**15 43 24.0**	**-1.2**
AS31	**Alice Springs**	**16.34**	**146**	Pn		**Pn**		**15 43 32.1**	**-0.8**
ASAR	**Alice Springs**	**16.34**	**146**	Pn		**Pn**		**15 43 32.3**	**-0.7**
0.6nm,0.3s,baz=317,slow=12,SNR=54									
ASAR				Sn		**Sn**		**15 46 25.3**	**-8.0**
1.6nm,0.3s,baz=317,slow=22,SNR=12									
1.5nm,0.5s									
BBJI	**Bungbulang**	**16.36**	**279**	P		**P**		**15 43 36.6**	**+0.8**
LEM	**Lembang**	**16.52**	**281**	Pn		**Pn**		**15 43 36.2**	**+0.8**
5.3nm,0.4s,baz=98,slow=16,SNR=3.9									
MEEK	**Meekatharra**	**17.04**	**197**	P		**P**		**15 43 44.7**	**+1.5**
QIS	**Mount Isa**	**18.20**	**126**	P		**P**		**15 43 58.4**	**+2.4**
COEN	**Coen**	**19.13**	**103**	P		**Pn**		**15 44 10.0**	**+2.6**
MORW	**Morawa**	**20.11**	**201**	Pn		Pn		15 44 18.6	-0.3
MORW				lAmb		lAmb		15 44 38.1	
comp=Z,13nm,1.1s									
MORW	**Morawa**	**20.11**	**201**	P		Pn		15 44 20.0	+1.1
OOD	**Oodnadatta**	**20.62**	**149**	P		Pn		15 44 25.8	+1.0
FORT	**Forrest**	**20.75**	**170**	P		**P**		**15 44 23.6**	**-0.2**
FORT				lAmb		lAmb		15 44 35.8	
comp=Z,37nm,1.1s									
FORT	**Forrest**	**20.75**	**170**	P		Pn		15 44 26.7	+0.4
KMBL	**Kambalda**	**21.07**	**185**	P		**P**		**15 44 29.7**	**+2.4**
MTSU	**M

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,1.9nm,0.6s						
AAK	**Ala-Archa**	**69.37**	**323**	P	**P**	**15 50 49.4**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=190,slow=8.7,SNR=4.1						
	comp=Z,1.4nm,0.6s						
PETK	**Petropavlovsk-**	**69.39**	**21**	P	**P**	**15 50 47.7**	**-2.5**
	comp=Z,1.2nm,0.8s,baz=223,slow=6.4,SNR=4.1						
	comp=Z,1.2nm,0.8s						
H04N2	**CROZET ISLANDS**	**70.31**	**225**	T	T	17 07 11.1	
	baz=84,slow=75,SNR=6.2						
H04N3	**CROZET ISLANDS**	**70.32**	**225**	T	T	17 07 11.1	
	baz=84,slow=75,SNR=8.0						
H04N1	**CROZET ISLANDS**	**70.32**	**225**	T	T	17 07 11.1	
	baz=84,slow=75,SNR=3.6						
ZALV	**Zalesovo Beam**	**72.05**	**337**	P	**P**	**15 51 04.5**	**-1.8**
	comp=Z,1.5nm,0.4s,baz=138,slow=5.2,SNR=6.0						
	comp=Z,1.5nm,0.4s						
YAK	**Yakutsk**	**72.22**	**3**	P	**P**	**15 51 04.6**	**-2.5**
YAK				IAmb	IAmb	15 51 32.3	
	comp=Z,3.2nm,0.6s						
KURBB	**Kurchatov Arra**	**72.35**	**332**	P	**P**	**15 51 06.7**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=144,slow=5.5,SNR=9.5						
	comp=Z,0.7nm,0.6s						
BVAR	**Borovoye Array**	**77.78**	**330**	P	**P**	**15 51 38.2**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=194,slow=3.1,SNR=3.6						
	comp=Z,0.5nm,0.5s						
QSPA	**South Pole Qui**	**79.72**	**180**	P	**P**	**15 51 52.4**	**+2.2**
QSPA				IAmb	IAmb	15 52 10.6	
	comp=Z,5.6nm,1.2s						
QSPA	**South Pole Qui**	**79.72**	**180**	P	**P**	**15 51 52.6**	**+2.5**
	comp=Z,1.9nm,0.8s,baz=312,slow=2.1,SNR=7.3						
	comp=Z,1.9nm,0.8s						
AB31	**Akbulak array**	**81.46**	**323**	P	**P**	**15 51 58.4**	**-1.2**
ABKAR	**Akbulak array**	**81.46**	**323**	P	**P**	**15 51 58.2**	**-1.3**
AKTO	**Aktyubinsk**	**83.10**	**324**	P	**P**	**15 52 07.1**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=90,slow=6.3,SNR=2.9						
	comp=Z,0.8nm,0.5s						
LPAZ	**La Paz**	**151.02**	**155**	PKPbc	**PKiKP**	**15 59 38.0**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=80,slow=4.3,SNR=4.7						

DJA 08 15:58:47.2±0.7, 11°S±9°×11°8E±°, h10km, M4.0/13, mb4.1/6, MLv4.0/13, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.33**	**42**	P	Pn	15 59 26.2	+0.5
WBSI				S	Sn	15 59 51.8	-2.7
PLAI	**Plampang**	**2.55**	**359**	P	Pn	15 59 29.3	+0.7
PLAI				S	Sn	15 59 56.2	-3.5
BASI	**Baing, Sumba**	**2.96**	**67**	P	Pn	15 59 33.5	-0.8
WSI	**Waingapu**	**2.98**	**55**	P	Pn	15 59 34.8	+0.2
WSI				S	Sn	16 00 10.6	+0.1
SRBI	**Singaraja**	**4.16**	**322**	P	Pn	15 59 50.8	-0.1
JAGI	**Jajag, Banyuwa**	**4.63**	**309**	P	Pn	15 59 55.8	-1.4
EDFI	**Ende, Flores**	**4.63**	**56**	P	Pn	15 59 56.5	-0.9
GMJI	**Gumukmas**	**5.30**	**305**	P	Pn	16 00 05.9	-0.6
	0.1nm15nm,1.6s						
BSSI	**Bau Bau, Buton**	**5.85**	**27**	P	Pn	16 00 14.2	+0.2
	0.1nm39nm,1.2s						
BKSI	**Bulukumba**	**6.45**	**21**	P	Pn	16 00 22.9	+0.6
SOEI	**Soe**	**6.55**	**76**	P	Pn	16 00 24.7	+0.9
	0.1nm11nm,1.7s						
PCJI	**Pacitan**	**7.27**	**295**	P	Pn	16 00 33.5	0.0
	32nm,0.9s						
UGM	**Wanagama**	**7.97**	**295**	P	Pn	16 00 43.6	+0.4

*TAP **08** 16:03:58.9, 21°.97N×121°.51E, h14km, ML2.7, D*

ISC 08 16:03:58.7±1.1, 21°.98N±0°.04×121°.56E±0°.04, h18km±4km, n71, σ0°995/117, 2C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.04**	**42**	⇑P	**Pg**	**16 04 02.0**	**+0.1**
LYUB				*i* S	**Sg**	**16 04 03.9**	**-0.1**
LAY	**Lan-yu**	**0.06**	**353**	⇑P	**Pg**	**16 04 02.3**	**+0.2**
LAY				*i* S	**Sg**	**16 04 04.5**	**+0.1**
TSEB	**Hengchuen, Pin**	**0.62**	**263**	P	**Pn**	**16 04 11.9**	**-0.6**
TSEB				*i* S	**Sn**	**16 04 21.6**	**-0.4**
TWKBT	**Hengchun**	**0.69**	**267**	P	**Pb**	**16 04 12.1**	**-0.2**
TWKBT				*e*S	**Sg**	**16 04 20.4**	**-1.2**
LDUT	**Ludao**	**0.70**	**353**	*i* P	**Pg**	**16 04 11.7**	**-0.8**
LDUT				*e*S	**Sg**	**16 04 21.1**	**-0.7**
TWK1	**Hengchun**	**0.70**	**267**	*i* P	**Pb**	**16 04 12.4**	**0.0**
TWK1				*e*S	**Sb**	**16 04 21.8**	**+0.1**
TAWH	**Dawu Township**	**0.72**	**300**	P	**Pg**	**16 04 12.3**	**-0.5**
TAW	**Tawu**	**0.72**	**302**	*e*P	**Pn**	**16 04 14.2**	**+0.1**
SLIU	**Shizi**	**0.74**	**289**	P	**Pg**	**16 04 12.6**	**-0.8**
SLIU				*e*S	**Sb**	**16 04 22.9**	**-0.2**
EAST	**Anshuo**	**0.77**	**302**	P	**Pg**	**16 04 12.8**	**-1.1**
EAST				*e*S	**Sg**	**16 04 22.5**	**-1.7**
ECL	**Taimali**	**0.83**	**318**	P	**Pg**	**16 04 13.7**	**-1.3**
ECL				*e*S	**Sg**	**16 04 22.1**	**-4.0**
TTN	**Taitung**	**0.86**	**334**	*e*S	**Sg**	**16 04 26.4**	**-0.6**
TWGBT	**Beinan**	**0.95**	**332**	*e*P	**Pn**	**16 04 17.4**	**+0.3**
TWGBT				*e*S	**Sn**	**16 04 31.4**	**+1.1**
TWG	**Pinlang**	**0.95**	**332**	*e*P	**Pg**	**16 04 17.2**	**-0.1**
TWG				*e*S	**Sn**	**16 04 31.7**	**+1.3**
SCZT	**Fangliau**	**0.95**	**295**	*e*P	**Pn**	**16 04 18.1**	**+0.9**
LONT	**Longtian**	**1.01**	**337**	*e*P	**Pb**	**16 04 18.1**	**+0.4**
LONT				S	**Sn**	**16 04 32.9**	**+1.1**
EDH	**Donghe**	**1.02**	**347**	*e*P	**Pb**	**16 04 17.1**	**-0.8**
EDH				*e*S	**Sb**	**16 04 30.9**	**0.0**
MASBT	**Mashibuluo**	**1.07**	**307**	*e*P	**Pn**	**16 04 19.9**	**+1.1**
TSMG	**Majia**	**1.11**	**311**	*e*P	**Pg**	**16 04 21.1**	**+0.8**
ECS	**Chishang**	**1.16**	**344**	S	**Sg**	**16 04 36.7**	**+0.3**
EHD	**Haiduan**	**1.21**	**344**	*e*P	**Pn**	**16 04 20.4**	**-0.4**
EHD				S	**Sg**	**16 04 38.0**	**0.0**
CHKH	**Chenggong**	**1.22**	**353**	*e*P	**Pn**	**16 04 19.9**	**-1.0**
CHKH				*e*S	**Sb**	**16 04 34.7**	**-2.0**
FULB	**Fuli**	**1.24**	**349**	*e*P	**Pn**	**16 04 20.3**	**-0.9**
FULB				*e*S	**Sb**	**16 04 36.7**	**-0.7**
ELDTW	**Lidau**	**1.31**	**338**	*e*P	**Pn**	**16 04 21.7**	**-0.6**
ELDTW				*e*S	**Sb**	**16 04 39.3**	**-0.1**
ECBN	**Changbin**	**1.34**	**356**	*e*P	**Pn**	**16 04 21.4**	**-1.1**
ECBN				*e*S	**Sn**	**16 04 38.0**	**-1.9**
SCST	**Cishan**	**1.34**	**313**	*e*P	**Pg**	**16 04 24.8**	**+0.2**
SCST				*e*S	**Sg**	**16 04 44.2**	**+2.2**
TWM1	**Shoushan**	**1.35**	**309**	*e*P	**Pg**	**16 04 25.7**	**+1.0**
EYUL	**Yuli**	**1.38**	**351**	*e*P	**Pn**	**16 04 23.0**	**-0.2**
EYUL				*e*S	**Sn**	**16 04 40.5**	**-0.5**
TWF1	**Yuli**	**1.39**	**350**	*e*P	**Pn**	**16 04 23.6**	**+0.3**
TWF1				S	**Sb**	**16 04 42.8**	**+1.1**
STYH	**Taoyuan**	**1.39**	**329**	P	**Pn**	**16 04 23.0**	**-0.3**
SGST	**Jiashian**	**1.42**	**321**	P	**Pn**	**16 04 24.4**	**+0.6**
SGST				*e*S	**Sg**	**16 04 45.6**	**+0.9**
YULB	**Yu-li**	**1.43**	**350**	P	**Pn**	**16 04 23.8**	**0.0**
YULB	**Yu-li**	**1.43**	**350**	*e*P	**Pn**	**16 04 23.9**	**+0.1**
YULB				*e*S	**Sn**	**16 04 42.7**	**+0.5**
HGSD	**Ruisui**	**1.51**	**355**	*e*P	**Pn**	**16 04 23.9**	**-1.1**
HGSD				*e*S	**Sb**	**16 04 45.6**	**+0.4**
CHN1	**Nanshi**	**1.54**	**322**	*e*P	**Pg**	**16 04 27.7**	**-0.7**
CHN1				*e*S	**Sg**	**16 04 48.9**	**+0.6**
WTP	**Ta-pu**	**1.54**	**326**	*e*P	**Pb**	**16 04 27.5**	**+0.7**
WTP				*e*S	**Sg**	**16 04 48.8**	**+0.4**
EHY	**Hungye**	**1.54**	**352**	*e*P	**Pn**	**16 04 24.7**	**-0.6**
EHY				*e*S	**Sn**	**16 04 45.9**	**+1.0**
TPUB	**Ta-pu**	**1.57**	**327**	P	**Pb**	**16 04 27.9**	**+0.6**
TPUB	**Ta-pu**	**1.57**	**327**	P	**Pb**	**16 04 27.0**	**-0.3**
TPUB				*e*S	**Sg**	**16 04 49.5**	**-0.1**
SNST	**Tainan City**	**1.58**	**322**	*e*P	**Pg**	**16 04 29.1**	**-0.1**
SNST				*e*S	**Sg**	**16 04 50.7**	**+0.9**
TWK	**Hsinying**	**1.62**	**323**	*e*P	**Pb**	**16 04 28.6**	**+0.4**
TWK				*e*S	**Sg**	**16 04 50.9**	**-0.2**
CHN4	**Tsaushan**	**1.63**	**327**	*e*P	**Pb**	**16 04 28.6**	**+0.3**
CHN4				*e*S	**Sg**	**16 04 51.5**	**0.0**
ALS	**Alishan**	**1.68**	**336**	*e*P	**Pb**	**16 04 28.9**	**-0.4**
WCKO	**Fanlu**	**1.70**	**329**	*e*P	**Pb**	**16 04 30.0**	**+0.5**
WCKO				*e*S	**Sg**	**16 04 52.6**	**-1.1**
WARBT	**Fenglin Townsh**	**1.74**	**355**	⇓*e*P	**Pn**	**16 04 27.6**	**-0.6**
WARBT				*i* S	**Sn**	**16 04 51.0**	**+1.1**
TSCK	**Chigu Township**	**1.79**	**311**	*e*P	**Pb**	**16 04 31.7**	**+0.7**
TSCK				*e*S	**Sg**	**16 04 56.3**	**-0.2**
SHUL	**Shoufeng**	**1.80**	**0**	*e*P	**Pn**	**16 04 28.7**	**-0.3**
SHUL				*e*S	**Sn**	**16 04 51.9**	**+0.5**
CHN5	**Tsauling**	**1.81**	**333**	*e*P	**Pb**	**16 04 31.4**	**0.0**
CHN5				*e*S	**Sg**	**16 04 55.5**	**-1.5**
VWDT	**VWDT**	**1.81**	**348**	P	**Pn**	**16 04 30.0**	**+1.0**
VWDT				S	**Sn**	**16 04 52.9**	**+1.3**
ICHU	**Yijhu**	**1.81**	**320**	*e*P	**Pb**	**16 04 31.9**	**+0.4**
ICHU				*e*S	**Sg**	**16 04 56.0**	**-1.2**
WHYT	**Xinyi Township**	**1.83**	**339**	*e*P	**Pb**	**16 04 31.7**	**-0.1**
WHYT				*e*S	**Sb**	**16 04 55.4**	**+1.0**
ESL	**Shilin**	**1.83**	**356**	*e*P	**Pn**	**16 04 29.6**	**+0.2**
ESL				*e*S	**Sn**	**16 04 53.0**	**+0.9**
SSLB	**Suanglung**	**1.89**	**343**	P	**Pb**	**16 04 31.9**	**-0.8**
SSLB	**Suanglung**	**1.89**	**343**	P	**Pn**	**16 04 31.6**	**+1.5**
SSLB				*e*S	**Sb**	**16 04 56.4**	**+0.4**
ETM	**Tongmen**	**1.98**	**358**	P	**Pn**	**16 04 32.3**	**+0.9**
ETM				*e*S	**Sn**	**16 04 56.6**	**+0.8**
SMLT	**Sun Moon Lake**	**1.99**	**342**	*e*P	**Pn**	**16 04 33.0**	**+1.3**
SMLT				*e*S	**Sb**	**16 04 58.5**	**-0.7**
OWD	**Renai**	**2.00**	**350**	P	**Pn**	**16 04 32.8**	**+1.0**
OWD				*e*S	**Sn**	**16 04 57.1**	**+0.7**
LXIB	**Xiulin Townshi**	**2.04**	**356**	*e*P	**Pn**	**16 04 32.3**	**0.0**
LXIB				*e*S	**Sn**	**16 04 57.2**	**-0.3**
WUSB	**Renai**	**2.05**	**349**	*e*P	**Pn**	**16 04 33.8**	**+1.4**
WUSB				*e*S	**Sn**	**16 04 58.1**	**+0.5**
NACB	**Ninganchiao**	**2.19**	**1**	P	**Pb**	**16 04 36.9**	**-0.9**
NACB	**Ninganchiao**	**2.19**	**1**	*e*P	**Pn**	**16 04 33.9**	**-0.3**
VCHM	**Qimei**	**2.32**	**302**	*e*P	**Pn**	**16 04 36.0**	**0.0**
PHUB	**P'eng-hu**	**2.39**	**310**	*e*P	**Pn**	**16 04 37.1**	**+0.1**
NNSB	**Datong**	**2.45**	**356**	*e*P	**Pn**	**16 04 38.7**	**+0.8**
LATG	**Datong**	**2.55**	**359**	*e*P	**Pn**	**16 04 40.5**	**+1.2**
ENTT	**Nioudou**	**2.65**	**0**	*i* P	**Pn**	**16 04 41.8**	**+1.1**
YHNB	**Yeheng**	**2.69**	**356**	P	**Pn**	**16 04 43.7**	**+2.5**
YHNB	**Yeheng**	**2.69**	**356**	P	**Pn**	**16 04 43.2**	**+2.0**
NSK	**Sanguang**	**2.69**	**356**	P	**Pn**	**16 04 42.2**	**+0.9**
LIOB	**Emei**	**2.70**	**349**	*e*P	**Pb**	**16 04 44.9**	**-1.8**
YOJ	**Yonaguni jima**	**2.81**	**28**	*i* P	**Pn**	**16 04 44.0**	**+1.2**

*GCG **08** 16:04:09.8±1.3, 14°.77N×89°.09W, h6km±31km, MD3.0*
*SNET **08** 16:04:11.6±1.7, 14°.66N×89°.12W, h5km, ML2.3*

ISC 08 16:04:10.5±2.5, 14°.7N±0°.1×89°.05W±0°.07, h10km, n10, σ0°44/14, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.32**	**242**	*i* P	**Pg**	**16 04 16.9**	**-0.1**
ESQI				*e*S	**Sg**	**16 04 22.0**	**+0.8**
MTO3	**Montecristo**	**0.43**	**224**	*e*P	**Pg**	**16 04 18.9**	**-0.2**
MTO3				*e*S	**Sg**	**16 04 25.2**	**+0.4**
MTO3				IAML		16 04 25.7	
	comp=Z,243nm,0.1s						
MTO3	**Montecristo**	**0.43**	**224**	*i* P	**Pg**	**16 04 18.9**	**-0.2**
LLGN	**La Laguna**	**0.55**	**170**	*e*P	**Pb**	**16 04 22.6**	**+0.2**
LLGN				*e*S	**Sb**	**16 04 30.2**	**-0.2**
SBLS	**San Blas**	**1.03**	**213**	*e*P	**Pg**	**16 04 30.1**	**-0.3**
NUBE	**Las Nubes**	**1.07**	**222**	*e*P	**Pg**	**16 04 30.7**	**-0.5**
COEG	**Centro de Oper**	**1.09**	**171**	*e*S	**Sn**	**16 04 47.9**	**+0.7**
JAYA	**Jayaque - finc**	**1.12**	**200**	*e*P	**Pb**	**16 04 31.6**	**-0.4**
JAYA				*e*S	**Sg**	**16 04 46.7**	**+0.1**
JAYA				IAML		16 04 49.7	
	comp=Z,123nm,0.2s						
JAYA	**Jayaque - finc**	**1.12**	**200**	*e*P	**Pb**	**16 04 31.5**	**-0.5**
MARCA	**Marcala la Paz**	**1.12**	**119**	*e*S	**Sn**	**16 04 48.2**	**+0.1**

TAP 08 16:07:11.2, 24°.19N×121°.88E, h23km, ML1.5, 2C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.17**	**314**	*e*P	Pb	16 07 17.2	+0.8
EAHA	**Aohua**	**0.19**	**318**	*e*P	Pb	16 07 17.1	+0.6
ETL	**Fush Village**	**0.23**	**262**	*e*P	Pb	16 07 17.2	+0.1
ETL				*e*S	Sb	16 07 23.0	+1.8
NACB	**Ninganchiao**	**0.26**	**266**	P	Pb	16 07 17.8	+0.4
NACB				*e*S	Sb	16 07 22.5	+0.8
ENA	**Nanau**	**0.27**	**332**	*i* P	Pb	16 07 18.1	+0.5
ENA				*i* S	Sb	16 07 23.1	+1.2
EWUT	**Wuta**	**0.27**	**341**	*e*P	Pb	16 07 18.3	+0.7
EWUT				*i* S	Sb	16 07 23.2	+1.2
TWD	**Chiawan**	**0.28**	**247**	P	Pb	16 07 18.1	+0.3
TWD				*e*S	Sn	16 07 24.0	-1.3
ETLH	**Xiulin Townshi**	**0.36**	**273**	P	Pb	16 07 19.4	+0.3
ETLH				S	Sb	16 07 25.4	+0.9
ETM	**Tongmen**	**0.42**	**237**	*e*P	Pb	16 07 19.9	0.0
ETM				*e*S	Sn	16 07 27.6	-1.1
TWC	**Suao**	**0.42**	**357**	*e*P	Pn	16 07 21.1	-0.6
TWC				*e*S	Sb	16 07 27.3	+1.4
LXIB	**Xiulin Townshi**	**0.46**	**248**	*i* P	Pb	16 07 21.2	+0.6
LXIB				*i* S	Sn	16 07 28.6	-1.4
LATG	**Datong**	**0.47**	**317**	*e*P	Pb	16 07 21.2	+0.4
LATG				S	Sn	16 07 29.1	-1.1
SHUL	**Shoufeng**	**0.49**	**216**	⇑P	Pb	16 07 22.0	+0.8
SHUL				*e*S	Sn	16 07 31.3	+0.6
NNSB	**Datong**	**0.51**	**298**	P	Pb	16 07 22.0	+0.4
NNSB				*i* S	Sn	16 07 30.1	-1.1
NNS	**Nan Shan**	**0.52**	**298**	*e*P	Pb	16 07 22.4	+0.6
NNS				*e*S	Sb	16 07 30.2	+1.2
ENTT	**Nioudou**	**0.53**	**328**	*e*P	Pn	16 07 23.2	-0.1
ENTT				S	Sn	16 07 31.0	-0.6
TWE	**Neicheng**	**0.56**	**340**	P	Pb	16 07 22.7	+0.3
TWE				S	Sn	16 07 31.2	-1.1
FUSS	**Fushou**	**0.58**	**276**	*e*P	Pn	16 07 23.6	-0.7
FUSS				S	Sn	16 07 32.3	-0.9
FUSB	**Fushanzhiwuyua**	**0.62**	**335**	*e*P	Pb	16 07 24.1	+0.6
FUSB				*e*S	Sn	16 07 33.6	-0.4
WARBT	**Fenglin Townsh**	**0.65**	**224**	P	Pb	16 07 23.9	0.0
WARBT				S	Sn	16 07 34.2	-0.3
YHNB	**Yeheng**	**0.66**	**316**	*e*P	Pb	16 07 24.4	+0.3
YHNB				*e*S	Sn	16 07 34.2	-0.7
NSK	**Sanguang**	**0.68**	**316**	⇑P	Pb	16 07 24.9	+0.5
NSK				*e*S	Sn	16 07 34.4	-0.9
NWLT	**Wulai**	**0.68**	**330**	*i* P	Pb	16 07 24.8	+0.4
NWLT				S	Sn	16 07 34.7	-0.5
OWD	**Renai**	**0.68**	**250**	P	Pb	16 07 24.6	+0.1
OWD				S	Sn	16 07 34.8	-0.7
WUSB	**Renai**	**0.72**	**254**	*i* P	Pn	16 07 25.7	-0.4
WUSB				S	Sn	16 07 36.0	-0.4
TIPB	**Shuangxi**	**0.78**	**357**	P	Pn	16 07 26.7	-0.1
TIPB				*e*S	Sn	16 07 38.7	+0.9
VWDT	**VWDT**	**0.80**	**237**	*i* P	Pn	16 07 26.9	-0.1
VWDT				*e*S	Sn	16 07 39.8	+1.6

TAP 08 16:07:50.6, 24°.72N×122°.05E, h68km, ML2.6, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.17**	**320**	*i* P	Pn	16 08 01.0	+0.1
EGS				S	Sn	16 08 08.1	-0.1
TWC	**Suao**	**0.21**	**240**	*e*P	Pn	16 08 01.2	+0.2
TWC				*e*S	Sn	16 08 08.7	+0.1
ESAO	**Su ao**	**0.23**	**234**	*i* P	Pn	16 08 01.4	+0.3
ESAO				*i* S	Sn	16 08 09.0	+0.2
ILA	**Ilan**	**0.28**	**280**	*i* S	Sn	16 08 10.2	+0.9
TWB1	**Santiao Chiao**	**0.30**	**349**	*e*P	Pn	16 08 01.6	+0.1
TWB1				*i* S	Sn	16 08 09.3	-0.2
NDS	**Dongshan**	**0.32**	**255**	P	Pn	16 08 02.0	+0.4
NDS				*i* S	Sn	16 08 10.2	+0.4
TIPB	**Shuangxi**	**0.33**	**321**	*e*P	Pn	16 08 01.9	+0.1
TIPB				*i* S	Sn	16 08 09.7	-0.2
EOS2	**EOS2**	**0.34**	**151**	*e*P	Pn	16 08 02.6	+0.9
EOS2				*e*S	Sn	16 08 11.9	+2.2
TWE	**Neicheng**	**0.35**	**271**	*i* P	Pn	16 08 02.4	+0.5
TWE				S	Sn	16 08 10.6	+0.4
EWUT	**Wuta**	**0.37**	**223**	P	Pn	16 08 02.2	+0.2
EWUT				*e*S	Sn	16 08 10.0	-0.4
ENA	**Nanau**	**0.40**	**225**	*e*P	Pn	16 08 03.1	+0.7
ENA				S	Sn	16 08 12.1	+1.2
SXI1	**Grass Mountain**	**0.41**	**337**	P	Pn	16 08 02.5	0.0
SXI1				*e*S	Sn	16 08 11.2	0.0
FUSB	**Fushanzhiwuyua**	**0.43**	**276**	*i* P	Pn	16 08 03.0	+0.4
FUSB				*e*S	Sn	16 08 11.4	0.0
NWF	**Wu-fen Shan**	**0.43**	**325**	P	Pn	16 08 02.7	0.0
WFSB	**Wu-fen Shan**	**0.43**	**325**	*i* P	Pn	16 08 02.6	+0.1
WFSB				S	Sn	16 08 11.5	+0.1
ENTT	**Nioudou**	**0.45**	**261**	*e*P	Pn	16 08 03.8	+1.1
ENTT				S	Sn	16 08 12.5	+0.8
EAHA	**Aohua**	**0.48**	**217**	*i* P	Pn	16 08 03.5	+0.5
EAHA				S	Sn	16 08 12.8	+0.7
EOS3	**EOS3**	**0.49**	**151**	*e*P	Pn	16 07 57.3	-5.7
EOS3				*e*S	Sn	16 08 14.2	+2.2
TNOU	**National Taiwa**	**0.50**	**330**	*e*P	Pn	16 08 04.1	+0.9
TNOU				S	Sn	16 08 13.1	+0.6
TWA	**Mucha**	**0.50**	**302**	*e*P	Pn	16 08 04.3	+1.0
TWA				*i* S	Sn	16 08 12.3	-0.2
NWLT	**Wulai**	**0.50**	**277**	P	Pn	16 08 03.7	+0.4
NWLT				*i* S	Sn	16 08 12.6	0.0
LATG	**Datong**	**0.51**	**250**	P	Pn	16 08 04.6	+1.1
LATG				S	Sn	16 08 14.7	+1.8
NHDH	**Xindian Distri**	**0.54**	**297**	*i* P	Pn	16 08 03.7	+0.1
NHDH				*i* S	Sn	16 08 12.8	-0.3
NHY	**Taipei**	**0.55**	**306**	*e*S	Sn	16 08 12.5	-0.7
TATO	**Taipei**	**0.57**	**297**	P	Pn	16 08 04.0	+0.1
TATO				S	Sn	16 08 13.3	-0.5
YM01	**YM01**	**0.61**	**315**	*i* P	Pn	16 08 04.5	+0.1
YM01				*e*S	Sn	16 08 14.6	0.0
YHNB	**Yeheng**	**0.62**	**266**	*e*P	Pn	16 08 05.6	+1.0
YHNB				S	Sn	16 08 16.0	+1.2
YM08	**YM08**	**0.63**	**318**	P	Pn	16 08 04.4	-0.2
YM08				S	Sn	16 08 13.8	-1.1
NSK	**Sanguang**	**0.63**	**267**	*i* P	Pn	16 08 05.3	+0.7
NSK				S	Sn	16 08 16.0	+0.9
EOS4	**EOS4**	**0.64**	**158**	*e*S	Sn	16 08 16.0	+1.7
ZUZH	**Zhuzihu**	**0.64**	**314**	*i* P	Pn	16 08 04.6	-0.1
ZUZH				*i* S	Sn	16 08 14.3	-0.8
ANP	**Anpu**	**0.67**	**314**	P	Pn	16 08 05.0	-0.1
ANP				S	Sn	16 08 15.3	-0.6
NNSB	**Datong**	**0.67**	**245**	P	Pn	16 08 06.1	+0.9
NNSB				*e*S	Sn	16 08 17.3	+1.4
NNS	**Nan Shan**	**0.68**	**246**	P	Pn	16 08 05.9	+0.7
NNS				S	Sn	16 08 17.3	+1.4
ETL	**Fush Village**	**0.68**	**215**	*e*P	Pn	16 08 05.5	+0.4
ETL				S	Sn	16 08 16.4	+0.6
NACB	**Ninganchiao**	**0.68**	**218**	P	Pn	16 08 05.9	+0.8
NACB				*i* S	Sn	16 08 16.9	+1.1
TWS1	**Kuangyinshan**	**0.69**	**304**	*e*P	Pn	16 08 04.0	-1.3
TWS1				*e*S	Sn	16 08 15.3	-0.8
TWY	**Chenhua**	**0.69**	**324**	*e*P	Pn	16 08 04.0	-1.2
TWY				S	Sn	16 08 15.4	-0.6
NTST	**Danshui**	**0.71**	**309**	P	Pn	16 08 05.7	+0.3
NTST				*i* S	Sn	16 08 16.5	+0.1
ETLH	**Xiulin Townshi**	**0.73**	**226**	*e*P	Pn	16 08 06.2	+0.5
ETLH				*e*S	Sn	16 08 17.7	+0.8
TWD	**Chiawan**	**0.76**	**213**	*e*P	Pn	16 08 05.8	-0.2
TWD				S	Sn	16 08 18.6	+1.3
KSHI	**Guanxi Townshi**	**0.80**	**275**	*e*P	Pn	16 08 07.0	+0.5
KSHI				*e*S	Sn	16 08 19.9	+1.6
NCUH	**Zhongli**	**0.83**	**288**	*e*S	Sn	16 08 20.6	+1.7
NFF	**Wufeng Townshi**	**0.85**	**265**	*i* P	Pn	16 08 08.1	+0.8
NFF				S	Sn	16 08 20.7	+1.2
FUSS	**Fushou**	**0.87**	**238**	*e*P	Pn	16 08 08.7	+1.0
FUSS				*e*S	Sn	16 08 20.3	+0.1
ETM	**Tongmen**	**0.90**	**215**	*e*P	Pn	16 08 07.8	-0.1
ETM				*e*S	Sn	16 08 20.5	0.0
LXIB	**Xiulin Townshi**	**0.90**	**220**	*e*P	Pn	16 08 07.8	-0.1
LXIB				*e*S	Sn	16 08 20.9	+0.2
YOJ	**Yonaguni jima**	**0.91**	**106**	*i* P	Pn	16 08 07.8	0.0
YOJ				*e*S	Sn	16 08 21.9	+1.3
PCYT	**Pengchaiyu**	**0.91**	**1**	*e*P	Pn	16 08 08.5	+0.6
WHF	**Hehuan Shan**	**0.92**	**232**	*e*P	Pn	16 08 08.4	0.0
WHF				*e*S	Sn	16 08 21.9	+0.5
TWT	**Tachien**	**0.92**	**240**	P	Pn	16 08 09.4	+1.2
TWT				*e*S	Sn	16 08 22.6	+1.4
TDCB	**Techi**	**0.94**	**241**	*i* P	Pn	16 08 09.2	+0.9

TWGZ			S	Sn	16 14 39.9	+1.6
MXZ	**Matakaoa Point**	0.36 36	P	Pn	16 14 31.5	+0.1
MXZ	**Matakaoa Point**	0.36 36	S	Sn	16 14 40.5	+1.7
MXZ	**Matakaoa Point**	0.36 36	P	Pn	16 14 31.6	+0.2
TKGZ	**Te Karaka**	0.60 195	P	Pn	16 14 34.5	+0.6
TKGZ			S	Sn	16 14 45.3	+2.1
MWZ	**Matawai**	0.62 220	P	Pn	16 14 34.7	+0.4
MWZ			S	Sn	16 14 44.9	+1.1
CNGZ	**Carnagh Statio**	0.64 168	P	Pn	16 14 35.4	+1.0
WIZ	**White Island**	0.75 296	P	Pn	16 14 35.0	-0.8
WSRZ	**White Island S**	0.76 296	P	Pn	16 14 35.7	-0.3
RAGZ	**Rawiri**	0.80 218	P	Pn	16 14 37.3	+0.7
URZ	**Urewera**	0.84 241	P	Pn	16 14 37.1	+0.2
URZ	**Urewera**	0.84 241	S	Sn	16 14 50.0	+1.6
URZ	**Urewera**	0.84 241	P	Pn	16 14 37.0	+0.2
URZ			S	Sn	16 14 49.3	+0.9
WHRZ	**Whale Island**	0.84 270	P	Pn	16 14 36.8	-0.2
RIGZ	**Rimuhau**	0.87 194	P	Pn	16 14 38.0	+0.6
PRGZ	**Paritu Road**	1.07 187	P	Pn	16 14 40.3	+0.4
SNGZ	**Shannon Statio**	1.07 211	P	Pn	16 14 40.8	+0.8
RTZ	**Ruatahuna**	1.13 228	P	Pn	16 14 41.3	+0.5
MUGZ	**Murupara**	1.18 238	P	Pn	16 14 41.6	+0.3
KNZ	**Kokohu**	1.20 194	P	Pn	16 14 41.5	-0.1
TARZ	**Mount Tarawera**	1.27 252	P	Pn	16 14 43.2	+0.6
RAHZ	**Arahi**	1.29 215	P	Pn	16 14 43.6	+0.7
MHGZ	**Mahia Peninsul**	1.30 185	P	Pn	16 14 43.2	+0.2
RRRZ	**Republican Roa**	1.30 248	P	Pn	16 14 43.4	+0.4
OMRZ	**Omania**	1.34 259	P	Pn	16 14 43.8	+0.2
MTHZ	**Maungataniwha**	1.37 223	P	Pn	16 14 44.6	+0.6
WHHZ	**Waihua**	1.37 207	P	Pn	16 14 45.0	+1.0
HLRZ	**Highlands Stat**	1.39 253	P	Pn	16 14 44.8	+0.6
TGRZ	**Tauranga**	1.42 275	P	Pn	16 14 44.0	-0.5
KARZ	**Kaharoa**	1.43 263	P	Pn	16 14 44.8	0.0
PRRZ	**Plateau Road**	1.45 243	P	Pn	16 14 45.2	+0.2
HRRZ	**Handcock Road**	1.48 248	P	Pn	16 14 46.0	+0.5
NGRZ	**Ngongotaha**	1.48 260	P	Pn	16 14 46.4	+0.9
HSRZ	**Hossack Road**	1.49 252	P	Pn	16 14 46.4	+0.9
ALRZ	**Allen Road**	1.51 242	P	Pn	16 14 46.3	+0.4
NMHZ	**Naumai**	1.57 218	P	Pn	16 14 47.6	+0.8
GRRZ	**Galatos Road**	1.60 252	P	Pn	16 14 48.1	+1.0
MRHZ	**Matea Rd**	1.60 232	P	Pn	16 14 47.6	+0.4
WPRZ	**Whakapapatarin**	1.62 245	P	Pn	16 14 48.1	+0.7
ARHZ	**Aropaoanui**	1.62 210	P	Pn	16 14 48.0	+0.6
BKZ	**Black Stump Fm**	1.78 222	P	Pn	16 14 49.8	+0.2
BKZ	**Black Stump Fm**	1.78 222	P	Pn	16 14 49.8	+0.2
KUTZ	**Kaahu Road**	1.86 250	P	Pn	16 14 51.0	+0.5
MCHZ	**McNeill Hill**	1.90 213	P	Pn	16 14 51.5	+0.4
WATZ	**Wairara**	2.00 244	P	Pn	16 14 53.3	+0.7
KWHZ	**Kaweka Forest**	2.01 219	P	Pn	16 14 52.7	-0.1
TOZ	**Tahuroa Road**	2.02 273	P	Pn	16 14 52.3	-0.4
RITZ	**Rihia Road**	2.05 236	P	Pn	16 14 54.0	+0.8
RATZ	**Rangitukua**	2.05 240	P	Pn	16 14 54.7	+1.5
KAHZ	**Kahuranaki**	2.14 205	P	Pn	16 14 54.0	-0.4
KATZ	**Kakaramea**	2.15 238	P	Pn	16 14 55.5	+0.7
KUZ	**Kuaotunu**	2.16 300	P	Pn	16 14 53.7	-0.9
KUZ	**Kuaotunu**	2.16 300	P	Pn	16 14 53.8	-0.9
KRHZ	**Kereru**	2.21 216	P	Pn	16 14 54.7	-0.7
TMVZ	**Te Maari**	2.22 235	P	Pn	16 14 55.2	-0.5
NTVZ	**North Tongarir**	2.23 236	P	Pn	16 14 56.3	+0.5
KRVZ	**Karewarewa**	2.25 236	P	Pn	16 14 56.6	+0.5
NNVZ	**North Ngauruho**	2.29 236	P	Pn	16 14 57.4	+0.8
WTVZ	**West Tongariro**	2.30 236	P	Pn	16 14 57.8	+1.1
SNVZ	**South Ngauruho**	2.30 234	P	Pn	16 14 57.1	+0.3
NGZ	**Ngauruhoe**	2.32 235	P	Pn	16 14 57.5	+0.5
TUVZ	**Tukino**	2.34 232	P	Pn	16 14 58.3	+1.0
PXZ	**Pawanui**	2.36 203	P	Pn	16 14 56.3	-1.0
WHVZ	**Whangaehu Hut**	2.39 233	P	Pn	16 14 58.3	+0.3
FWVZ	**Far West T-bar**	2.40 234	P	Pn	16 14 59.0	+0.8
WNVZ	**Wahianoa**	2.41 232	P	Pn	16 14 58.5	+0.2
TRVZ	**Turoa**	2.43 233	P	Pn	16 14 59.2	+0.7
PNHZ	**Pukenui**	2.50 214	P	Pn	16 14 58.1	-1.3
MTVZ	**Mangateitei**	2.52 232	P	Pn	16 15 00.1	+0.3
WPHZ	**Waipukurau**	2.53 209	P	Pn	16 14 58.8	-1.0
HIZ	**Hauiti**	2.59 254	P	Pn	16 15 01.8	+1.2
GRZ	**Great Barrier**	2.62 307	P	Pn	16 15 00.6	-0.3
PRHZ	**Porangahau**	2.64 204	P	Pn	16 14 59.8	-1.4
BFZ	**Birch Farm**	3.14 206	P	Pn	16 15 06.1	-2.1
BFZ	**Birch Farm**	3.14 206	S	Sn	16 15 42.2	-2.2
KHEZ	**Kahui Hut**	3.46 244	P	Pn	16 15 13.8	+1.2
SNZO	**South Karori**	4.30 216	P	Pn	16 15 20.9	-3.1
OUZ	**Omahuta**	4.44 305	P	Pn	16 15 26.5	+0.6
OUZ	**Omahuta**	4.44 305	S	Sn	16 16 18.6	+2.3
QRZ	**Quartz Range**	5.20 234	P	Pn	16 15 34.3	-2.0
KHZ	**Kahutara**	5.71 216	P	Pn	16 15 41.0	-2.3

*BJI **08** 16:16:28.6, 0.°86N×127.°30E, h132km, mB5.2/45, mb5.2/90*
*IDC **08** 16:16:33.9±1.0, 1.°30N×127.°09E, h134km±8km, mb4.7/34, mbtmp5.1/39, MS3.7/25, Error ellipse: s-maj=9.8km s-min=6.4km az=79.0*
*NEIC **08** 16:16:34.3, 1.°27N×127.°01E, h140km*
*DJA **08** 16:16:34.1±0.1, 1.°N±1.°×12.°7E±.°, h129km±2km, M5.1/115, mb5.3/115, mB5.6/77, MLv5.7/23, Mw(mB)5.1/77, MwMwp4.8/8, Mwp5.1/8*
*MOS **08** 16:16:34.7±0.8, 1.°32N×127.°02E, h155km, mb5.2/59, Error ellipse: s-maj=7.7km s-min=4.3km az=114.5*
*NEIC **08** 16:16:34.4±1.8, 1.°27N±0.°07×127.°01E±0.°07, h133km±5km, mb5.2/158, Mww5.1/32, Error ellipse: s-maj=11.0km s-min=9.1km az=49.0*
*NEIC **08** 16:16:34.3, 1.°17N×127.°00E, h140km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.06; $M_{\theta\theta}$=4.23; $M_{\phi\phi}$=-2.17; $M_{r\theta}$=2.62; $M_{\theta\phi}$=0.09; $M_{r\phi}$=-3.53; Fault plane solution: M_0=5.70000×10^{16} NP1: ϕ_s=303.32000°, δ37.11000°, λ-21.85000°. NP2: ϕ_s=51.06000°, δ77.02000°, λ-125.07000°. Principal axes: T 5.4348, Plg24.0000°, Azm167.0000°; N 0.5279, Plg34.0000°, Azm60.0000°; P -5.9627, Plg46.0000°, Azm285.0000°;*
*GCMT **08** 16:16:34.4±0.1, 1.°37N±0.°01×126.°98E±0.°01, h136km±1km, MW5.2/133, Moment Tensor Solution. s89, c137; s133, c239; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}=3.12±.12; $M_{\theta\theta}$=6.42±.13; $M_{\phi\phi}$=-3.30±.14; $M_{r\theta}$=3.06±.10; $M_{\theta\phi}$=1.31±.13; $M_{\phi r}$=-4.26±.10; Best double couple: M_0=7.75000×10^{16} NP1: ϕ_s=299.00000°, δ41.00000°, λ-24.00000°. NP2: ϕ_s=47.00000°, δ75.00000°, λ-129.00000°. Principal axes: T 7.9170, Plg20.0000°, Azm165.0000°; N -0.3330, Plg37.0000°, Azm59.0000°; P -7.5840, Plg46.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 16:16:34.2±0.3, 1.°27N±0.°03×127.°03E±0.°04, h136km±2km, h136km; pP-P, n849, σ1s18/903, mb5.2/199, 24C-41D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	0.60	146	Pn	Pn	16 16 54.2	-0.3
TNTI	**Ternate**	0.60	146	P	Pn	16 16 54.5	-0.1
TNTI	**Ternate**	0.60	146	P	Pn	16 16 54.4	-0.1
TNTI				S	Sn	16 17 08.8	-1.2
SGSI	**Sangihe**	2.83	328	P	Pn	16 17 17.4	-1.6
KMSI	**Cibinong**	3.12	257	P	Pn	16 17 22.4	-0.3
SANI	**Sanana**	3.45	198	P	Pn	16 17 26.2	-0.8
SANI	**Sanana**	3.45	198	P	Pn	16 17 26.1	-0.9
NLAI	**Namlea**	4.48	179	P	Pn	16 17 40.7	+0.2
SWI	**Sorong**	4.73	117	P	Pn	16 17 44.6	+0.8
LUWI	**Luwuk**	4.84	242	Pn	Pn	16 17 44.4	-0.8
LUWI	**Luwuk**	4.84	242	P	Pn	16 17 45.8	+0.5
LUWI	**Luwuk**	4.84	242	P	Pn	16 17 44.5	-0.8
MSAI	**Masohi**	4.96	158	P	Pn	16 17 48.6	+1.7
AAI	**Ambon**	5.06	167	P	Pn	16 17 49.0	+0.8
MRSI	**Marisa**	5.15	261	P	Pn	16 17 48.9	-0.5
	3.0nm7μm692nm,1.0s						
APSI	**Ampana**	5.80	248	P	Pn	16 17 57.7	-0.5
	9μm858nm,1.0s						
DAV	**Davao City (W)**	5.94	346		Pn	16 17 58.4	-1.7
DAV	**Davao City (W)**	5.94	346	P	Pn	16 17 58.5	-1.6
	335nm,0.3s,baz=125,slow=3.7,SNR=14						
DAV				S	Sn	16 19 07.6	+0.4
	614nm,0.5s,baz=46,slow=20,SNR=4.0						
DAV	**Davao City (W)**	5.94	346	P	Pn	16 18 00.0	-0.1
DAV	**Davao City (W)**	5.94	346	P	Pn	16 17 55.0	-5.1
TOLI2	**Tolitoli**	6.25	269	Pn	Pn	16 18 03.3	-0.8
TOLI2	**Tolitoli**	6.25	269	P	Pn	16 18 03.4	-0.8
BNDI	**Bandanaira**	6.43	153	P	Pn	16 18 06.8	+0.2
BNDI	**Bandanaira**	6.43	153	P	Pn	16 18 06.6	0.0
FAKI	**Fak Fak**	6.67	129		Pn	16 18 10.7	+0.8
FAKI	**Fak Fak**	6.67	129	P	Pn	16 18 10.4	+0.5
FAKI	**Fak Fak**	6.67	129	P	Pn	16 18 10.8	+0.9
	1.8nm3μm3μm437nm,1.0s						
KDI	**Kendari**	6.81	220	P	Pn	16 18 12.4	+0.7
	2.0nm260nm,0.9s						
MPSI	**Mapaga**	7.19	263	P	Pn	16 18 16.6	-0.2
	1.1nm2μm3μm136nm,0.8s						
PCI	**Palu**	7.51	253	P	Pn	16 18 20.3	-0.9
	1.3nm4μm397nm,1.1s						
RKPI	**Ransiki, Papua**	7.66	111	P	Pn	16 18 24.0	+0.8
	1.4nm496nm,1.0s						
BBSI	**Bau Bau**	8.05	214	P	Pn	16 18 29.2	+0.7
	5μm515nm,1.0s						
KMPI	**Kaimana, Papua**	8.27	126	P	Pn	16 18 32.2	+0.8
	3μm7μm750nm,1.2s						
TTSI	**Tana Toraja**	8.38	239	P	Pn	16 18 33.0	+0.1
BNSI	**Bone**	8.92	231	P	Pn	16 18 40.9	+0.8
	3μm329nm,0.9s						
SPSI	**Sidrap Palu**	8.93	234	P	Pn	16 18 40.7	+0.5
	4μm383nm,0.8s						
MYLDM	**Lahad Datu**	9.36	295	Pn	Pn	16 18 45.0	-1.0
MYLDM	**Lahad Datu**	9.36	295	P	Pn	16 18 47.2	+1.2
BAKI	**Biak**	9.40	105	P	Pn	16 18 47.8	+1.3
	5μm435nm,1.0s						
BKSI	**Bulukumba**	9.51	226	P	Pn	16 18 48.1	+0.1
	2μm255nm,0.6s						
KAPI	**Kappang**	9.58	229	P	Pn	16 18 48.0	-1.0
	22nm,0.3s,baz=47,slow=8.1,SNR=18						
KAPI				S	Sn	16 20 32.1	-2.8
	119nm,0.7s,baz=64,slow=21,SNR=14						
KAPI	**Kappang**	9.58	229	*de*P	Pn	16 18 48.1	-0.8
BSSI	**Bau Bau, Buton**	9.84	222	P	Pn	16 18 53.4	+1.0
	2μm166nm,0.9s						
SMKI	**Samarinda**	9.97	260	P	Pn	16 18 53.5	-0.6
	194nm,1.1s						
SAUI	**Saumlaki**	10.13	155	Pn	Pn	16 18 55.5	-0.8
SAUI	**Saumlaki**	10.13	155	P	Pn	16 18 57.2	+1.0
SAUI	**Saumlaki**	10.13	155	P	Pn	16 18 55.6	-0.6
BKB	**Balikpapan**	10.44	256	P	Pn	16 19 00.2	-0.2
BKB	**Balikpapan**	10.44	256	P	Pn	16 18 59.8	-0.6
	177nm,1.4s						
MMRI	**Maumere**	10.94	206	Pn	Pn	16 19 07.0	0.0
MMRI	**Maumere**	10.94	206	P	Pn	16 19 07.7	+0.7
EDFI	**Ende, Flores**	11.28	208	P	Pn	16 19 12.3	+0.6
	2μm256nm,1.0s						
SOEI	**Soe**	11.29	194	Pn	Pn	16 19 10.9	-0.9
SOEI	**Soe**	11.29	194	P	Pn	16 19 14.2	+2.4
KKM	**Kota Kinabalu**	11.79	294	Pn	Pn	16 19 17.6	-0.7
BATI	**Baumata**	11.88	196	P	Pn	16 19 20.5	+1.0
	273nm,0.9s,baz=81,slow=13,SNR=8.3						
SMPI	**Sarmi**	12.12	105	P	Pn	16 19 23.8	+1.2
	117nm,1.1s						
WSI	**Waingapu**	12.77	212	P	Pn	16 19 32.1	+1.1
	296nm,1.0s						
BASI	**Baing, Sumba**	13.09	209	P	Pn	16 19 37.3	+2.1
WBSI	**Waikabubak, Su**	13.24	215	P	Pn	16 19 38.0	+0.9
	2μm233nm,0.8s						
PLAI	**Plampang**	13.62	222	P	P	16 19 44.6	-1.6
	2μm248nm,1.0s						
GENI	**Genyem**	13.68	106	P	Pn	16 19 44.0	+1.2
	6μm268nm,0.9s						
TGY	**Tagaytay City**	14.11	335	P	Pn	16 19 47.5	-0.7
	62nm,0.3s,baz=163,slow=11,SNR=3.0						
JAY	**Jayapura**	14.18	105	P	Pn	16 19 48.8	-0.4
	77nm,1.0s,baz=274,slow=6.2,SNR=26						
JAY				LR	LR	16 24 50.4	
	comp=Z,287nm,19.4s,baz=303,slow=35						
JAY	**Jayapura**	14.18	105	P	Pn	16 19 49.5	+0.3
	113nm,0.9s						
MTN	**Manton Dam**	14.60	164	Pn	Pn	16 19 52.8	-1.6
MTN	**Manton Dam**	14.60	164	P	Pn	16 19 52.2	-2.2
SBUM	**Sibu**	14.85	275	Pn	Pn	16 19 57.3	-0.2
KDU	**Kakadu**	14.88	159	P	Pn	16 19 55.7	-2.2
KDU	**Kakadu**	14.88	159	P	Pn	16 19 56.0	-1.9
SRBI	**Singaraja**	15.00	232	P	Pn	16 19 59.5	0.0
	2μm189nm,1.1s						
DNP	**Denpasar**	15.37	230	P	P	16 20 05.6	-0.1
	524nm,1.1s						
KMMI	**Kalianget**	15.43	237	P	P	16 20 06.8	+0.5
	5μm372nm,0.9s						
STKI	**Sintang**	15.60	266	P	Pn	16 20 07.3	+0.4
	184nm,1.4s						
ABJI	**Asem Bagus**	15.62	235	P	P	16 20 09.6	+1.2
	4μm202nm,1.3s						
BWJI	**Bawean**	16.00	244	P	P	16 20 13.6	+1.0
	221nm,1.3s						
JAGI	**Jajag, Banyuwa**	16.07	233		Pn	16 20 12.3	-0.4
JAGI	**Jajag, Banyuwa**	16.07	233	P	P	16 20 13.8	+0.4
	2μm224nm,1.2s						
MMPI	**Merauke**	16.45	126	P	P	16 20 19.8	+2.2
GMJI	**Gumukmas**	16.53	235	P	P	16 20 19.9	+1.4
	2μm104nm,1.0s						
GRJI	**Gresik**	16.64	241	P	P	16 20 21.2	+1.5
	6μm366nm,1.6s						
KSM	**Kuching**	16.72	271	P	P	16 20 20.4	-0.2
KNRA	**Kununurra**	16.92	174	P	Pn	16 20 23.2	+0.2
KNRA	**Kununurra**	16.92	174	P	P	16 20 22.1	-0.7
TBJI	**Tambak Boyo**	17.15	242	P	Pn	16 20 26.1	+0.3
	5μm283nm,0.8s						
SZP	**Santa**	17.43	339	P	Pn	16 20 29.8	+0.7
NGJI	**Ngawi**	17.74	241	P	Pn	16 20 34.3	+1.4
	192nm,1.4s						
PCJI	**Pacitan**	18.39	239	P	Pn	16 20 41.5	+0.9
	5μm478nm,1.4s						
SMRI	**Semarang**	18.50	243	P	Pn	16 20 41.2	-0.7
	3μm176nm,1.0s						
UGM	**Wanagama**	18.82	241		P	16 20 44.2	+0.6
UGM	**Wanagama**	18.82	241	P	Pn	16 20 44.9	-0.8
	170nm,0.7s						
YOGI	**Yogyakarta**	18.97	241	P	Pn	16 20 47.2	-0.3
	6μm438nm,1.7s						
TPI	**Tanjungpandan**	19.78	258	P	P	16 20 54.1	+0.1
	122nm,1.1s						
CMJI	**Cimerak**	20.60	244	P	P	16 21 02.6	-0.2
	3μm332nm,0.9s						
MANU	**Manus Island**	20.60	99	P	P	16 21 02.8	-0.1
LEM	**Lembang**	20.98	247	P	P	16 21 07.8	+0.7
	99nm,0.9s,baz=48,slow=7.4,SNR=24						
LEM				S	S	16 24 56.7	+3.3
	8.2nm,0.4s,baz=314,slow=22,SNR=1.1						
	99nm,0.9s						
LEM	**Lembang**	20.98	247	P	P	16 21 07.6	+0.6
	2μm167nm,1.8s						
PPBI	**Pangkal Pinang**	21.16	261	P	P	16 21 09.5	+0.6
BBJI	**Bungbulang**	21.19	246	P	P	16 21 10.2	+1.0
DLV	**Lat**	21.23	301	P	P	16 21 10.5	+0.7
GUMO	**Guam**	21.48	54	P	P	16 21 11.4	-0.9
	25nm,0.7s,baz=225,slow=2.9,SNR=2.0						
	25nm,0.7s						
CNJI	**Cibinong**	21.60	246	P	P	16 21 14.2	+0.6
	1μm132nm,1.2s						
COEN	**Coen**	22.02	134	P	P	16 21 16.0	-1.9
COEN	**Coen**	22.02	134	P	P	16 21 15.8	-2.1
COEN	**Coen**	22.02	134	P	P	16 21 16.9	-1.0
SKJI	**Sukabumi**	22.02	248	P	P	16 21 18.9	+0.9
	4μm296nm,1.0s						
SBJI	**Serang**	22.12	250	P	P	16 21 20.5	+1.6
	666nm,1.5s						
TWGBT	**Beinan**	22.19	345	P	P	16 21 19.9	+0.4
TWG	**Pinlang**	22.19	345	IAmb	IAmb	16 21 20.0	
	comp=Z,52nm,0.6s						
WRAB	**Tennant Creek**	22.26	162	P	P	16 21 19.1	-1.2
WRAB	**Tennant Creek**	22.26	162	*c*iP	P	16 21 19.3	-1.0
WRA	**Warramunga Arr**	22.26	162	P	P	16 21 19.4	-1.0
WRA				IAmb	IAmb	16 21 27.4	
	comp=Z,76nm,1.1s						
WRA	**Warramunga Arr**	22.26	162	P	P	16 21 19.8	-0.5
	comp=Z,126nm,0.6s,baz=342,slow=11,SNR=324						
WRA				S	S	16 25 15.0	-0.8
	comp=Z,53nm,0.9s,baz=339,slow=18,SNR=8.0						
WRA				ScP	ScP	16 28 36.2	-0.3
	comp=Z,14nm,0.8s,baz=339,slow=3.1,SNR=17						
WRA				ScS	ScS	16 32 20.2	-1.6
	comp=Z,1.0nm,0.7s,baz=338,slow=3.7,SNR=4.6						
	comp=Z,126nm,0.6s						
WB1	**Warramunga Ar.**	22.28	162	P	P	16 21 20.0	-0.5
PMG	**Port Moresby**	22.68	118	P	P	16 21 24.7	+0.2
PMG	**Port Moresby**	22.68	118	P	P	16 21 24.3	-0.1
	comp=Z,29nm,0.8s,baz=313,slow=3.1,SNR=15						
	comp=Z,29nm,0.8s						
PMG	**Port Moresby**	22.68	118	P	P	16 21 25.0	+0.6
PMG	**Port Moresby**	22.68	118	⇓*e*P	P	16 21 24.4	-0.1
PMG				pmax	pmax		
	comp=Z,73nm,1.2s						
YULB	**Yu-li**	22.69	346	P	P	16 21 22.5	-1.9
YULB	**Yu-li**	22.69	346	P	P	16 21 23.9	-0.5
CGJI	**Cibinong**	22.69	250	P	P	16 21 24.3	-0.2
	comp=Z,6μmcomp=Z,521nm,1.1s						
TPUB	**Ta-pu**	22.77	345	IAmb	IAmb	16 21 26.2	
	comp=Z,176nm,1.0s						
TPUB	**Ta-pu**	22.77	345	P	P	16 21 25.3	+0.1
SSLB	**Suanglung**	23.15	346	P	P	16 21 27.2	-1.6
SSLB				IAmb	IAmb	16 21 30.8	
	comp=Z,86nm,0.9s						
SSLB	**Suanglung**	23.15	346	P	P	16 21 29.2	+0.4
MYKOM	**Kota Tinggi**	23.18	272	IAmb	IAmb	16 21 30.8	
	comp=Z,132nm,1.3s						
MYKOM	**Kota Tinggi**	23.18	272	P	P	16 21 30.2	+1.1
NACB	**Ninganchiao**	23.37	347	P	P	16 21 31.4	+0.6
MBWA	**Marble Bar**	23.40	197	P	P	16 21 30.6	-0.4
MBWA				IAmb	IAmb	16 21 32.3	
	comp=Z,76nm,0.7s						
MBWA	**Marble Bar**	23.40	197	P	P	16 21 31.2	+0.1
MDSI	**Maura Dua**	23.54	256	P	P	16 21 32.4	0.0
	comp=Z,85nm,0.9s						
PSA00	**Pilbara Seismi**	23.76	197	P	P	16 21 33.9	-0.4
PSA00				IAmb	IAmb	16 21 35.7	
	comp=Z,104nm,1.4s						
PSA00	**Pilbara Seismi**	23.76	197	IAmb	IAmb	16 21 35.9	
	comp=Z,405nm,1.8s						
PSA00	**Pilbara Seismi**	23.76	197	P	P	16 21 34.6	+0.3
LWLI	**Liwa**	23.78	255	P	P	16 21 35.3	+0.6
	comp=Z,289nm,0.8s						
YHNB	**Yeheng**	23.90	347	P	P	16 21 35.2	-0.5
YHNB				IAmb	IAmb	16 21 37.4	
	comp=Z,95nm,0.9s						
YHNB	**Yeheng**	23.90	347	P	P	16 21 36.8	+1.2
XMI	**Christmas Isla**	24.21	241	P	P	16 21 39.5	+0.9
XMIS	**Christmas Isla**	24.26	241	P	P	16 21 39.0	0.0
XMIS	**Christmas Isla**	24.26	241	P	P	16 21 39.7	+0.7
QIZ	**Qiongzhong**	24.40	317	P	P	16 21 40.1	-0.1
QIZ				pP	pP	16 22 07.9	0.0
QIZ				sP	sP	16 22 23.1	-1.1
QIZ				S	S	16 25 50.2	0.0
QIZ				sS	sS	16 26 40.8	+1.3
QIZ				pmax	pmax		
	comp=Z,33nm,0.7s						
QIZ				pmax	pmax		
	comp=Z,400nm,2.7s						
QIZ	**Qiongzhong**	24.40	317	P	P	16 21 41.2	+1.0
KSI	**Kapahiang**	24.91	259	P	P	16 21 45.9	+1.0
QZH	**Quanzhou**	24.91	342	⇓*i*P	P	16 21 45.3	+0.6
QZH				sP	sP	16 22 26.8	-1.5
QZH				S	S	16 25 58.4	+0.3
QZH				pmax	pmax		
	comp=Z,280nm,4.3s						
QIS	**Mount Isa**	24.94	151	P	P	16 21 45.3	+0.2
UBPT	**Khong Chiam**	25.43	304	P	P	16 21 49.6	+0.1
UBPT				IAmb	IAmb	16 21 52.2	
	comp=Z,94nm,1.0s						
UBPT	**Khong Chiam**	25.43	304	P	P	16 21 50.3	+0.8
GZH	**Guangzhou**	25.44	330	P	P	16 21 52.5	+3.0
GZH				pP	pwP	16 22 19.9	-0.4
GZH				S	S	16 26 10.9	+4.4
GZH				pmax	pmax		
	comp=Z,87nm,1.1s						
GZH				pmax	pmax		
	comp=Z,180nm,4.5s						
JOW	**Kunigami**	25.45 3		P	P	16 21 50.5	+1.0
JOW	**Kunigami**	25.45 3		P	P	16 21 50.2	+0.7
	comp=Z,31nm,0.4s,baz=204,slow=7.6,SNR=24						
JOW				S	S	16 26 05.1	-1.5
	comp=Z,5.9nm,0.9s,baz=98,slow=28,SNR=1.9						
	comp=Z,31nm,0.4s						
JOW	**Kunigami**	25.45 3		P	P	16 21 51.7	+2.1
AS31	**Alice Springs**	25.67	165	IAmb	IAmb	16 22 01.4	
	comp=Z,26nm,0.

comp=Z,250nm,11.3s
FORT Forrest 31.88 178 P **P 16 22 47.3 +0.6**
JNU Nakatsue 31.89 6 P **P 16 22 46.1 -0.7**
JNU IAmb IAmb 16 22 47.5
comp=Z,36nm,1.0s
JNU Nakatsue 31.89 6 P **P 16 22 47.3 +0.5**
MORW Morawa 31.95 198 P **P 16 22 47.7 +0.5**
BSI Banda Aceh 31.95 278 P **P 16 22 46.2 -1.3**
comp=Z,862nmcomp=Z,52nm,1.4s
CRAI Chiangrai 32.16 308 IAmb IAmb 16 22 51.0
comp=Z,106nm,1.8s
QLP Quilpie 32.28 150 P **P 16 22 50.8 +0.6**
CM31 Chiang Mai Arr 32.42 304 IAmb IAmb 16 22 53.5
comp=Z,42nm,1.2s
CM31 Chiang Mai Arr 32.42 304 P **P 16 22 52.4 +0.8**
SNR=14
CM31 S **S 16 27 54.7 -1.6**
CMAR Chiang Mai Arr 32.42 304 P **P 16 22 50.8 -0.8**
CMAR Chiang Mai Arr 32.42 304 P **P 16 22 52.2 +0.6**
comp=Z,10nm,0.9s,baz=123,slow=7.2,SNR=67
CMAR PcP **PcP 16 25 35.0 -1.0**
comp=Z,5.3nm,1.0s,baz=144,slow=1.6,SNR=11
CMAR ScP **ScP 16 29 06.5 -0.7**
comp=Z,0.7nm,0.5s,baz=149,slow=1.5,SNR=6.3
comp=Z,10nm,0.9s
CHTO Chiang Mai 32.59 304 P **P 16 22 52.4 -0.7**
CHTO IAmb IAmb 16 22 54.7
comp=Z,28nm,0.7s
CHTO Chiang Mai 32.59 304 P **P 16 22 54.9 +1.8**
CHTO Chiang Mai 32.59 304 P **P 16 22 52.4 -0.7**
CHTO pmax pmax
comp=Z,28nm,0.7s
CHTO Chiang Mai 32.59 304 P **P 16 22 53.0 -0.1**
CHTO PcP **PcP 16 25 37.4 +0.9**
KMBL Kambalda 32.82 188 P **P 16 22 55.9 +1.0**
BLDU Ballidu 33.19 196 P **P 16 22 58.8 +0.7**
LCRK Leigh Creek 33.29 162 P **P 16 22 59.8 +0.9**
ENH Enshi 33.31 332 P **P 16 22 59.9 +0.7**
ENH Enshi 33.31 332 P **P 16 22 60.0 +0.7**
ENH PcP **PcP 16 25 39.0 +0.8**
KMI Kunming 33.35 317 ⇓P **P 16 23 01.1 +1.3**
KMI S **S 16 28 09.1 -1.9**
KMI SS **SnSn 16 30 25.9 -2.2**
KMI pmax pmax
comp=Z,44nm,1.5s
KMI LR LR
comp=Z,410nm,18.6s
KMI LR LR
comp=Z,340nm,15.8s
KMI LR LR
comp=Z,270nm,13.8s
RK1H Rockhampton Ha 33.49 138 P **P 16 23 01.6 +0.8**
KLBR Kellerberrin 33.84 194 P **P 16 23 04.7 +1.0**
GD1S Gladstone Soft 34.25 138 P **P 16 23 08.4 +1.0**
HNR Honiara 34.46 109 LR LR 16 37 51.5
comp=Z,162nm,20.1s,baz=268,slow=37
MUN Mundaring 34.62 196 P **P 16 23 11.6 +1.2**
PZH PanZhiHua 34.94 318 P **P 16 23 13.4 0.0**
PZH S **S 16 28 35.0 -0.2**
PZH SS **SnSn 16 31 06.7 +0.6**
PZH pmax pmax
comp=Z,40nm,1.1s
PZH pmax pmax
comp=Z,130nm,5.1s
PZH LR LR
comp=Z,290nm,17.5s
PZH LR LR
comp=Z,310nm,19.2s
PZH LR LR
comp=Z,230nm,16.2s
TJN Taejon 34.94 0 P **P 16 23 13.2 +0.2**
TJN Taejon 34.94 0 P **P 16 23 14.1 +1.0**
TJN Taejon 34.94 0 *de*P **P 16 23 13.3 +0.2**
TJN pmax pmax
comp=Z,2.0nm,1.5s
BBOO Buckleboo 34.95 167 IAmb IAmb 16 24 34.2
comp=Z,58nm,1.1s
BBOO Buckleboo 34.95 167 P **P 16 23 13.4 +0.1**
INU Inuyama 35.16 14 P **P 16 23 14.9 -0.1**
NWAO Narrogin (SRO) 35.24 194 P **P 16 23 15.6 -0.2**
NWAO Narrogin (SRO) 35.24 194 P **P 16 23 16.6 +0.8**
NWAO Narrogin (SRO) 35.24 194 P **P 16 23 15.6 -0.2**
NWAO pmax pmax
comp=Z,56nm,0.7s
NWAO Narrogin (SRO) 35.24 194 P **P 16 23 16.2 +0.4**
EIDS Eidsvold 35.26 140 P **P 16 23 15.4 -0.6**
EIDS IAmb IAmb 16 23 17.0
comp=Z,58nm,1.0s
EIDS Eidsvold 35.26 140 P **P 16 23 16.6 +0.6**
WHYH Whyalla 35.54 165 P **P 16 23 18.6 +0.4**
PBA Port Blair 35.55 288 P **P 16 23 18.6 0.0**
PBA S **S 16 28 41.9 -2.6**
STKA Stephens Creek 35.74 159 P **P 16 23 20.0 0.0**
STKA Stephens Creek 35.74 159 P **P 16 23 20.2 +0.2**
comp=Z,60nm,0.8s,baz=332,slow=8.8,SNR=74
STKA PP **PP 16 24 42.8 -1.3**
comp=Z,68nm,0.9s,baz=325,slow=12,SNR=10
STKA LR LR 16 39 23.9
comp=Z,183nm,18.4s,baz=353,slow=38
comp=Z,60nm,0.8s
STKA Stephens Creek 35.74 159 P **P 16 23 20.5 +0.5**
STKA Stephens Creek 35.74 159 *c iP* **P 16 23 20.0 0.0**
LYN LuoYang 35.80 339 ⇓P **P 16 23 21.5 +1.0**
LYN pP pP 16 23 50.0 +0.5
LYN S **S 16 28 46.9 -1.0**
LYN sS sS 16 29 40.6 +2.1
LYN pmax pmax
comp=Z,140nm,1.1s
LYN pmax pmax
comp=Z,420nm,3.5s
TIA Tai'an 35.96 346 P **P 16 23 22.3 +0.4**
TIA S **S 16 28 48.3 -2.1**
TIA pmax pmax
comp=Z,21nm,1.0s
TIA LR LR
comp=Z,210nm,17.2s
TIA LR LR
comp=Z,250nm,22.6s
KSAR Wonju Array Be 36.01 1 P **P 16 23 21.9 -0.3**
KSAR Wonju Array Be 36.01 1 P **P 16 23 21.9 -0.3**
KSRS Korea Array 36.02 1 P **P 16 23 22.8 +0.5**
comp=Z,12nm,0.6s,baz=177,slow=9.8,SNR=64
KSRS PcP **PcP 16 25 46.0 +0.1**
comp=Z,3.2nm,0.8s,baz=179,slow=3.2,SNR=6.0
KSRS ScP **ScP 16 29 19.4 -0.3**
comp=Z,1.9nm,0.7s,baz=177,slow=3.7,SNR=6.0
comp=Z,12nm,0.6s
TNCH TengChong 36.27 313 P **P 16 23 24.5 -0.4**
TNCH pP pP 16 23 52.0 -2.2
TNCH PP **PP 16 24 49.6 -0.6**
TNCH S **S 16 28 55.9 +0.2**
TNCH pmax pmax
comp=Z,70nm,1.6s
TNCH LR LR
comp=Z,210nm,11.9s
TNCH LR LR
comp=Z,140nm,8.4s
TNCH LR LR
comp=Z,170nm,11.9s
MAJO Matsushiro 36.59 15 ⇓*e*P **P 16 23 25.2 -2.1**
MAJO Matsushiro 36.59 15 P **P 16 23 25.9 -1.3**
MJAR Matsushiro Arr 36.59 15 P **P 16 23 26.2 -1.1**
comp=Z,5.7nm,0.6s,baz=188,slow=9.2,SNR=18
MJAR PcP **PcP 16 25 47.5 -0.1**
comp=Z,5.1nm,0.9s,baz=157,slow=3.9,SNR=4.8
comp=Z,5.7nm,0.6s
XAN Xi'an 36.74 334 ⇓P **P 16 23 28.8 +0.2**
XAN pP pP 16 23 55.6 -2.2
XAN sP sP 16 24 08.6 -4.5
XAN S **S 16 28 59.9 -2.5**
XAN ScS **ScS 16 33 26.9 -2.9**
XAN pmax pmax
comp=Z,160nm,0.8s
XAN pmax pmax
comp=Z,350nm,3.5s
XAN Xi'an 36.74 334 P **P 16 23 29.1 +0.4**
XAN sP **sP 16 24 10.9 -2.2**
CD2 Chengdu 36.81 325 P **P 16 23 30.0 +0.8**
CD2 S **S 16 29 06.0 +2.5**
CD2 pmax pmax
comp=Z,60nm,1.1s
CMSA Cobar Meteorol 37.12 153 P **P 16 23 32.5 +0.7**
HNS HongShan 37.71 344 ⇓P **P 16 23 37.4 +0.8**
HNS S **S 16 29 14.6 -2.2**
HNS pmax pmax
comp=Z,36nm,1.4s
HNS LR LR
comp=Z,210nm,12.4s
HNS LR LR
comp=Z,210nm,15.9s
DL2 Dalian 37.78 353 ⇑*iP* **P 16 23 38.1 +0.9**
DL2 sP **sP 16 24 20.9 -0.9**
DL2 S **S 16 29 16.5 -1.4**
DL2 pmax pmax
comp=Z,57nm,0.9s
AUWSH Wavell State H 37.93 141 P **P 16 23 39.1 +0.5**
JMM Marumori 38.56 18 IAmb IAmb 16 23 45.9
comp=Z,37nm,0.7s
JMM Marumori 38.56 18 P **P 16 23 44.7 +1.0**
TIY Taiyuan 38.68 341 *e*P **P 16 23 46.2 +1.4**
TIY S **S 16 29 30.0 -1.6**
TIY pmax pmax
comp=Z,43nm,0.9s
ARMA Armidale 39.27 145 P **P 16 23 51.5 +1.6**
BJT Baijiatuau 39.82 347 IAmb IAmb 16 23 55.6
comp=Z,118nm,1.6s
BJT Baijiatuau 39.82 347 P **P 16 23 54.9 +0.7**
BJT Baijiatuau 39.82 347 P **P 16 23 54.6 +0.4**
BJI Beijing 39.84 347 P **P 16 23 55.1 +0.8**
BJI S **S 16 29 46.5 -2.1**
BJI pmax pmax
comp=Z,18nm,0.7s
ARPS Mount Arapiles 40.27 161 P **P 16 23 59.0 +1.1**
BRDH Bariadhala 40.43 304 P **P 16 23 59.7 +0.3**
comp=Z,156nm,0.3s,baz=63,slow=14,SNR=6.5
LUES Luesalemba Tem 40.45 108 P **P 16 24 01.3 +1.5**
SNY Shenyang 40.50 356 ⇑P **P 16 24 00.4 +0.7**
SNY pmax pmax
comp=Z,48nm,0.5s
LZH Lanzhou 40.77 331 *e*P **P 16 24 04.0 +1.7**
LZH sP sP 16 24 50.6 +3.5
LZH S **S 16 30 03.6 +0.5**
LZH SS **SS 16 33 07.9 -1.8**
LZH pmax pmax
comp=Z,160nm,1.5s
LZH pmax pmax
comp=Z,420nm,4.9s
LZH LR LR
comp=Z,570nm,11.7s
LZH LR LR
comp=Z,370nm,14.1s
LZH LR LR
comp=Z,280nm,16.8s
MSHR Mys Shultsa 41.30 5 *d iP* **P 16 24 06.3 0.0**
MSHR pmax pmax
comp=Z,63nm,1.0s
JTM Tenmabayashi 41.35 16 P **P 16 24 06.7 0.0**
JTM IAmb IAmb 16 24 08.2
comp=Z,39nm,0.8s
SYDH Sydney Hard Ro 41.37 150 P **P 16 24 08.9 +1.9**
SHL Shillong 41.60 308 P **P 16 24 09.2 0.0**
SHL Shillong 41.60 308 P **P 16 24 10.1 +0.8**
SNR=28
SHL Shillong 41.60 308 P **P 16 24 09.3 0.0**
SHL pmax pmax
comp=Z,79nm,0.7s
BRAT Ballarat 41.67 160 P **P 16 24 11.1 +1.7**
CAN Canberra 41.79 153 P **P 16 24 11.5 +1.0**
CAN IAmb IAmb 16 24 12.9
comp=Z,80nm,0.9s
CAN Canberra 41.79 153 P **P 16 24 12.1 +1.6**
CAN Canberra 41.79 153 P **P 16 24 11.5 +1.0**
CAN pmax pmax
comp=Z,80nm,0.9s
CAN Canberra 41.79 153 P **P 16 24 12.2 +1.6**
CAN pP **pP 16 24 40.2 -0.7**
HHC Hu-ho-hao-te 41.82 342 ⇑*iP* **P 16 24 12.2 +1.5**
HHC sP sP 16 24 56.5 +0.9
HHC PP **PP 16 25 48.2 -2.1**
HHC S **S 16 30 19.0 +0.7**
HHC pmax pmax
comp=Z,30nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.1s
VLA Vladivostok 41.90 5 *de*P **P 16 24 12.5 +1.4**
WOLH Wollongong Har 41.95 150 P **P 16 24 12.8 +1.1**
CNB Canberra Magne 41.96 152 P **P 16 24 14.0 +2.1**
BTO Baotou 42.09 341 *e*P **P 16 24 15.2 +2.3**
BTO pP **pP 16 24 43.7 +1.0**
BTO sP **sP 16 24 58.3 +0.5**
BTO PP **PP 16 25 58.3 +5.1**
BTO S **S 16 30 26.7 +4.5**
BTO sS **sS 16 31 16.8 +2.9**
BTO SS **SS 16 33 35.2 0.0**
BTO pmax pmax
comp=Z,36nm,0.9s
BTO pmax pmax
comp=Z,380nm,7.1s
TOO Toolangi 42.25 158 P **P 16 24 14.6 +0.4**
TOO Toolangi 42.25 158 P **P 16 24 14.6 +0.4**
TOO pmax pmax
comp=Z,24nm,1.4s
CN2 Changchun 42.38 358 *e*P **P 16 24 14.6 -0.4**
CN2 *e*S **S 16 30 27.5 +1.4**
CN2 SS **SS 16 33 34.8 -5.7**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,4.5s
CN2 LR LR
comp=Z,140nm,15.0s
CN2 LR LR
comp=Z,150nm,15.0s
CN2 LR LR
comp=Z,140nm,16.0s
USRK Ussuriysk Ar. 42.98 5 P **P 16 24 19.7 -0.2**
USRK Ussuriysk Ar. 42.98 5 P **P 16 24 20.3 +0.5**
comp=Z,22nm,0.7s,baz=192,slow=6.9,SNR=84
USRK PcP **PcP 16 26 07.7 -0.1**
comp=Z,1.2nm,0.4s,baz=183,slow=2.9,SNR=1.4
comp=Z,22nm,0.7s
USA0B Ussuriysk Arra 42.98 5 IAmb IAmb 16 24 21.3
comp=Z,32nm,0.9s
USA0B Ussuriysk Arra 42.98 5 *d iP* **P 16 24 19.9 0.0**
MDJ Mudanjiang 43.23 3 IAmb IAmb 16 24 23.5
comp=Z,58nm,1.1s
MDJ Mudanjiang 43.23 3 P **P 16 24 22.8 +0.9**
MDJ S **S 16 30 40.6 +2.1**
MDJ ScS **ScS 16 34 05.5 -2.3**
MDJ pmax pmax
comp=Z,58nm,1.0s
MDJ Mudanjiang 43.23 3 P **P 16 24 22.5 +0.6**
MDJ Mudanjiang 43.23 3 P **P 16 24 22.1 +0.3**
XLT XiLinHaoTe 43.55 349 *e*P **P 16 24 24.8 +0.2**
XLT pP pP 16 24 53.7 -0.9
XLT S **S 16 30 39.5 -4.1**
XLT ScS **SS 16 34 05.3 +1.4**
XLT pmax pmax
comp=Z,34nm,1.1s
XLT pmax pmax
comp=Z,110nm,4.9s
XLT LR LR
comp=Z,120nm,11.6s
XLT LR LR
comp=Z,160nm,17.2s
BNX BinXian 44.29 0 ⇑P **P 16 24 29.8 -0.6**
BNX pmax pmax
comp=Z,19nm,1.2s
LSA Lhasa 44.31 313 P **P 16 24 32.1 +0.8**
LSA IAmb IAmb 16 24 34.2
comp=Z,40nm,0.7s
LSA Lhasa 44.31 313 P **P 16 24 32.1 +0.8**
LSA pmax pmax
comp=Z,40nm,0.7s
LSA Lhasa 44.31 313 P **P 16 24 32.8 +1.4**
LSA Lhasa 44.31 313 P **P 16 24 32.7 +1.4**
ASAJ Asahikawa 44.85 16 LR LR 16 42 40.8
comp=Z,95nm,19.8s,baz=218,slow=35
ASAJ Asahikawa 44.85 16 P **P 16 24 35.3 +0.4**
ASAJ pmax pmax
comp=Z,45nm,1.3s
JKA Kamikawa-asahi 44.85 16 P **P 16 24 35.3 +0.5**
JKA IAmb IAmb 16 24 36.6
comp=Z,45nm,1.3s
DZM Mont Dzumac 44.91 123 P **P 16 24 35.9 +0.2**
DZM Mont Dzumac 44.91 123 *e*P **P 16 24 35.2 -0.6**
comp=Z,90nm,1.2s
DZM *e*S **S 16 30 58.3 -5.5**
comp=Z,62nm,24.7s
DZM *e*SS **SS 16 34 29.2 +0.7**
comp=Z,198nm,25.6s
DZM *e*LR LR 16 37 21.4
comp=Z,272nm,28.4s
DZM Mont Dzumac 44.91 123 P **P 16 24 36.5 +0.7**
DZM Mont Dzumac 44.91 123 P **P 16 24 36.6 +0.9**
DZM pP **pP 16 25 06.1 -0.5**
GTA Gaotai 45.36 330 ⇓P **P 16 24 40.8 +1.7**
GTA sP sP 16 25 23.0 -1.4
GTA PcP **PcP 16 26 17.4 +1.0**
GTA ScP **ScP 16 29 57.2 +0.6**
GTA S **S 16 31 09.1 -0.8**
GTA SS **SS 16 34 37.0 +1.5**
GTA pmax pmax
comp=Z,60nm,1.1s
GTA pmax pmax
comp=Z,160nm,8.8s
GTA LR LR
comp=Z,72nm,15.5s
GTA LR LR
comp=Z,73nm,17.5s
GTA LR LR
comp=Z,120nm,17.1s
GOMU GeErMu 45.81 323 P **P 16 24 44.4 +1.4**
GOMU pP pP 16 25 12.9 -0.3
GOMU sP sP 16 25 30.1 +1.8
GOMU S **S 16 31 18.3 +1.4**
GOMU pmax pmax
comp=Z,63nm,1.4s
GOMU pmax pmax
comp=Z,560nm,4.8s
PALK Pallekele 46.56 279 P **P 16 24 48.8 0.0**
PALK IAmb IAmb 16 24 50.0
comp=Z,95nm,1.8s
PALK Pallekele 46.56 279 P **P 16 24 48.7 0.0**
comp=Z,5.6nm,0.5s,baz=99,slow=6.6,SNR=9.3
PALK PcP **PcP 16 26 21.0 0.0**
comp=Z,8.4nm,0.8s,baz=34,slow=1.9,SNR=3.6
PALK LR LR 16 44 16.9
comp=Z,98nm,21.4s,baz=95,slow=36
comp=Z,5.6nm,0.5s
PALK Pallekele 46.56 279 P **P 16 24 48.8 0.0**
PALK pmax pmax
comp=Z,95nm,1.8s
PALK Pallekele 46.56 279 P **P 16 24 49.0 +0.2**
PALK PcP **PcP 16 26 22.3 +1.4**
YSS Yuzhno-Sakhali 47.53 15 P **P 16 24 55.6 -0.1**
YSS Yuzhno-Sakhali 47.53 15 P **P 16 24 56.3 +0.6**
YSS Yuzhno-Sakhali 47.53 15 *eP* **P 16 24 56.0 +0.3**
YSS *e* 16 25 28.2
YSS *e* 16 26 23.3
YSS pmax pmax
comp=Z,20nm,0.6s
YSS Yuzhno-Sakhali 47.53 15 P **P 16 24 55.8 +0.1**
YSS PcP **PcP 16 26 24.3 +0.7**
KLR Kul'dur 47.95 4 *d iP* **P 16 24 58.3 -0.7**
KLR pmax pmax
comp=Z,35nm,1.0s
HIA Hailar 48.23 354 P **P 16 25 01.8 +0.7**
HEH HeiHe 48.81 0 *eP* **P 16 25 04.9 -0.6**
HEH pmax pmax
comp=Z,39nm,0.8s
ULN Ulaanbaatar 49.54 342 P **P 16 25 11.5 +0.2**
ULN IAmb IAmb 16 25 13.3
comp=Z,71nm,1.2s
ULN Ulaanbaatar 49.54 342 *d iP* **P 16 25 11.9 +0.5**
ULN pmax pmax
comp=Z,74nm,1.3s
ULN Ulaanbaatar 49.54 342 P **P 16 25 11.8 +0.5**
ULN PcP **PcP 16 26 30.3 -0.8**
SONM Songino Array 49.72 342 P **P 16 25 13.0 +0.4**
SONM IAmb IAmb 16 25 14.4
comp=Z,47nm,1.3s
SONM Songino Array 49.72 342 P **P 16 25 13.1 +0.4**
comp=Z,14nm,0.8s,baz=161,slow=8.5,SNR=86
SONM PcP **PcP 16 26 31.0 -0.7**
comp=Z,4.8nm,0.8s,baz=150,slow=5.6,SNR=1.7
SONM ScP **ScP 16 30 13.5 -1.2**
comp=Z,0.4nm,0.7s,baz=140,slow=5.4,SNR=3.3
SONM LR LR 16 48 27.0
comp=Z,107nm,18.9s,baz=122,slow=38
comp=Z,14nm,0.8s
SONM Songino Array 49.72 342 P **P 16 25 13.0 +0.4**
SONM pmax pmax
comp=Z,47nm,1.3s
GRNR Gornyy 49.96 8 ⇓*iP* **P 16 25 14.9 +0.6**
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR MLR MLR
comp=E,50nm,17.0s
GRNR MLR MLR
comp=N,80nm,16.0s
GRNR MLR MLR
comp=Z,110nm,16.0s
HYB Hyderabad 50.26 292 *eP* **P 16 25 16.6 -0.5**
HYB IVmB_BB 16 25 17.9
comp=Z,1μm,1.0s
TYV Tymovskoe 51.16 13 *eP* **P 16 25 24.3 +1.1**
TYV pmax pmax
comp=Z,10.0nm,1.8s
TYV pmax pmax
comp=Z,100nm,5.8s
CIT Chita 51.83 349 *eP* **P 16 25 28.8 +0.5**
CIT *e* 16 26 06.0
CIT *e* 16 26 40.0
CIT pmax pmax
comp=Z,66nm,1.7s
ZEA Zeya 52.30 0 *eP* **P 16 25 31.1 -0.5**
ZEA *e* 16 26 02.5
ZEA *e* 16 26 42.3
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 52.94 341 *eP* **P 16 25 35.7 -0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.6s
MSVF Nonsavu 53.65 113 P **P 16 25 43.6 +1.4**
MSVF IAmb IAmb 16 25 45.6
comp=Z,27nm,1.0s
MSVF Nonsavu 53.65 113 P **P 16 25 44.6 +2.3**
MSVF Nonsavu 53.65 113 ⇑*eP* **P 16 25 43.9 +1.6**
MSVF pmax pmax
comp=Z,80nm,2.7s
MSVF Nonsavu 53.65 113 P **P 16 25 43.9 +1.6**
KAAM Kaadhehdhoo 54.03 270 P **P 16 25 45.5 +0.5**
KAAM Kaadhehdhoo 54.03 270 P **P 16 25 45.5 +0.5**
SNR=7.4
IRK Irkutsk 54.26 343 *eP* **P 16 25 45.5 -0.5**
IRK pmax pmax
comp=Z,53nm,2.4s
MOY Mondy 54.79 340 *eP* **P 16 25 50.4 +0.4**
MOY pmax pmax
comp=Z,62nm,2.1s
DGTI Dogotuki 54.86 111 P **P 16 25 53.4 +2.4**
WMQ Urumqi 54.91 326 *eP* **P 16 25 52.4 +1.4**
WMQ pmax pmax
comp=Z,96nm,0.9s
WMQ pmax pmax
comp=Z,430nm,4.1s
DGAR Diego Garcia 55.12 260 ⇓*iP* **P 16 25 54.8 +1.9**
DGAR pmax pmax
comp=Z,235nm,2.5s
BOD Bodaibo 57.33 352 *eP* **P 16 26 07.3 -0.5**
BOD pmax pmax
comp=Z,46nm,1.6s
PEA0B Petropavlovsk- 57.59 21 *c iP* **P 16 26 10.7 +1.0**
PETK Petropavlovsk- 57.59 21 P **P 16 26 09.7 0.0**
comp=Z,16nm,0.9s,baz=184,slow=4.0,SNR=37
PETK PcP **PcP 16 27 00.7 -0.8**
comp=Z,1.5nm,0.6s,baz=222,slow=6.2,SNR=5.9
comp=Z,16nm,0.9s
SHLS Shalkode 59.43 321 *eP* **P 16 26 21.4 -1.4**
SHLS pmax pmax
comp=Z,19nm,0.9s
SHLS Shalkode 59.43 321 *eP* **P 16 26 21.5 -1.4**
comp=Z,19nm,0.9s
PDGK Podgornoye 59.50 321 P **P 16 26 23.2 -0.1**
THZ Tophouse 59.59 141 IAmb IAmb 16 26 24.6
comp=Z,21nm,0.6s
NIL Nilore 59.67 309 P **P 16 26 24.7 +0.1**
NIL Nilore 59.67 309 P **P 16 26 25.2 +0.6**
NIL Nilore 59.67 309 P **P 16 26 24.7 +0.1**
NIL pmax pmax
comp=Z,247nm,1.7s
NIL Nilore 59.67 309 P **P 16 26 25.1 +0.6**

UZB	**Uzynbulak**	**59.70**	**321**	*e*P	**P**	**16 26 25.2 +0.5**
UZB				pmax	pmax	
comp=Z,14nm,0.8s						
UZB	**Uzynbulak**	**59.70**	**321**	*e*P	**P**	**16 26 25.2 +0.5**
comp=Z,14nm,0.8s						
MK31	**Makanchi Array**	**59.74**	**326**	*d i*P	**P**	**16 26 25.2 +0.4**
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**16 26 25.2 +0.5**
comp=Z,22nm,0.4s,baz=116,slow=7.6,SNR=445						
MKAR				PcP	**PcP**	**16 27 09.6 -0.6**
comp=Z,14nm,0.6s,baz=114,slow=6.1,SNR=5.5						
MKAR				ScP	**ScP**	**16 30 57.6 -0.9**
comp=Z,0.7nm,0.8s,baz=116,slow=5.6,SNR=4.2						
MKAR				LR	LR	16 55 04.4
comp=Z,68nm,18.4s,baz=111,slow=39						
comp=Z,22nm,0.4s						
MAKZ	**Makanchi**	**59.93**	**326**	P	**P**	**16 26 26.2 +0.1**
MAKZ	**Makanchi**	**59.93**	**326**	P	**P**	**16 26 26.2 +0.1**
MAKZ				pmax	pmax	
comp=Z,81nm,1.1s						
MAKZ	**Makanchi**	**59.93**	**326**	P	**P**	**16 26 26.5 +0.4**
MAKZ				pP	**pP**	**16 26 57.6 -0.2**
MAKZ				PcP	**PcP**	**16 27 10.7 -0.2**
KSH	**Kashi**	**60.00**	**316**	P	**P**	**16 26 29.1 +2.3**
KSH				PcP	**sP**	**16 27 13.1 -0.3**
KSH				S	**S**	**16 34 31.6 +2.7**
KSH				pmax	pmax	
comp=Z,30nm,1.1s						
KSH				pmax	pmax	
comp=Z,240nm,5.8s						
SATY	**Saty**	**60.05**	**321**	*e*P	**P**	**16 26 27.4 +0.4**
SATY				pmax	pmax	
comp=Z,15nm,0.5s						
SATY	**Saty**	**60.05**	**321**	*e*P	**P**	**16 26 27.5 +0.4**
comp=Z,15nm,0.5s						
ZHN	**Zhinishke**	**60.08**	**321**	*e*P	**P**	**16 26 27.6 +0.3**
ZHN				pmax	pmax	
comp=Z,11nm,0.5s						
ZHN	**Zhinishke**	**60.08**	**321**	*e*P	**P**	**16 26 27.7 +0.3**
comp=Z,10nm,0.5s						
TCW	**Tory Channel**	**60.16**	**140**	P	**P**	**16 26 26.9 -0.7**
URZ	**Urewera**	**60.56**	**136**	LR	LR	16 53 15.8
comp=Z,97nm,19.5s,baz=31,slow=36						
BKZ	**Black Stump Fm**	**60.57**	**137**	P	**P**	**16 26 30.4 -0.2**
BKZ				IAmb	IAmb	16 26 31.0
comp=Z,23nm,0.7s						
RTZ	**Ruatahuna**	**60.64**	**137**	P	**P**	**16 26 30.1 -0.9**
YAK	**Yakutsk**	**60.65**	**1**	P	**P**	**16 26 30.5 0.0**
YAK	**Yakutsk**	**60.65**	**1**	*e*P	**P**	**16 26 29.5 -1.0**
YAK				*e*		16 27 12.6
YAK				*e*		16 28 41.8
YAK				*e*S	**S**	**16 34 36.0 0.0**
YAK				*e*		16 36 07.2
YAK				pmax	pmax	
comp=Z,72nm,1.0s						
YAK				pmax	pmax	
comp=N,20nm,1.3s						
YAK				pmax	pmax	
comp=E,6.0nm,1.2s						
YAK				pmax	pmax	
comp=Z,140nm,9.3s						
YAK				pmax	pmax	
comp=N,69nm,5.6s						
YAK				pmax	pmax	
comp=E,119nm,7.8s						
YAK				smax	smax	
comp=N,148nm,5.3s						
YAK				smax	smax	
comp=E,49nm,6.3s						
YAK	**Yakutsk**	**60.65**	**1**	P	**P**	**16 26 30.3 -0.2**
YAK				pP	**pP**	**16 27 01.3 -1.1**
YAK				PcP	**PcP**	**16 27 14.0 +0.6**
MDOK	**Medeo**	**60.96**	**320**	P	**P**	**16 26 33.7 +0.4**
MDOK	**Medeo**	**60.96**	**320**	*e*P	**P**	**16 26 33.7 +0.4**
TNSS	**Tian-Shan**	**60.97**	**320**	*e*P	**P**	**16 26 33.6 0.0**
TNSS	**Tian-Shan**	**60.97**	**320**	*e*P	**P**	**16 26 33.7 0.0**
ARXS	**Arharly**	**60.99**	**322**	*e*P	**P**	**16 26 34.1 +0.7**
MA2	**Magadan**	**61.01**	**14**	P	**P**	**16 26 33.5 +0.5**
MA2				IAmb	IAmb	16 26 35.1
comp=Z,49nm,1.0s						
MA2	**Magadan**	**61.01**	**14**	LR	LR	16 53 24.3
comp=Z,43nm,19.6s,baz=184,slow=36						
MA2	**Magadan**	**61.01**	**14**	P	**P**	**16 26 34.2 +1.1**
MA2	**Magadan**	**61.01**	**14**	*d i*P	**P**	**16 26 33.6 +0.5**
MA2				pmax	pmax	
comp=Z,47nm,1.3s						
MA2	**Magadan**	**61.01**	**14**	P	**P**	**16 26 34.0 +0.9**
comp=Z,52nm,1.1s						
MA2	**Magadan**	**61.01**	**14**	P	**P**	**16 26 34.1 +1.1**
MA2				pP	**pP**	**16 27 04.2 -0.7**
MA2				PcP	**PcP**	**16 27 16.1 +1.1**
ULHL	**Ulahol**	**61.05**	**319**	P	**P**	**16 26 35.7 +1.7**
SNR=8.9						
AAA	**Alma-Ata**	**61.07**	**320**	*e*P	**P**	**16 26 34.2 +0.3**
AAA				pmax	pmax	
comp=Z,24nm,1.0s						
AAA	**Alma-Ata**	**61.07**	**320**	*e*P	**P**	**16 26 34.2 +0.3**
comp=Z,24nm,1.0s						
CHKK	**Chushkaly**	**61.34**	**321**	*e*P	**P**	**16 26 35.8 +0.2**
CHKK	**Chushkaly**	**61.34**	**321**	*e*P	**P**	**16 26 35.9 +0.2**
BOOM	**Boomskoye usch**	**61.36**	**319**	IAmb	IAmb	16 26 38.3
comp=Z,49nm,1.3s						
TKM2	**Tokmak 2**	**61.79**	**319**	P	**P**	**16 26 39.8 +0.9**
SNR=42						
TKM2	**Tokmak 2**	**61.79**	**319**	P	**P**	**16 26 38.9 0.0**
KBK	**Karagaybulak**	**62.09**	**319**	P	**P**	**16 26 41.8 +0.9**
SNR=14						
UCH	**Uchtor**	**62.19**	**318**	P	**P**	**16 26 43.5 +1.5**
SNR=8.4						
CHMS	**Chumysh**	**62.38**	**319**	P	**P**	**16 26 43.1 +0.4**
SNR=9.5						
AAK	**Ala-Archa**	**62.38**	**319**	P	**P**	**16 26 43.1 +0.2**
AAK				IAmb	IAmb	16 26 45.4
comp=Z,63nm,1.6s						
AAK	**Ala-Archa**	**62.38**	**319**	LR	LR	16 55 52.4
comp=Z,81nm,20.3s,baz=118,slow=38						
AAK	**Ala-Archa**	**62.38**	**319**	P	**P**	**16 26 43.9 +1.0**
SNR=27						
AAK	**Ala-Archa**	**62.38**	**319**	*d i*P	**P**	**16 26 43.3 +0.4**
AAK				pmax	pmax	
comp=Z,40nm,1.5s						
AAK	**Ala-Archa**	**62.38**	**319**	*i*P	**P**	**16 26 43.9 +1.0**
SNR=32						
AAK	**Ala-Archa**	**62.38**	**319**	P	**P**	**16 26 43.9 +1.0**
AAK				pP	**pP**	**16 27 15.2 +0.4**
AAK				PcP	**PcP**	**16 27 21.8 +0.7**
USP	**Ospenovka**	**62.66**	**319**	P	**P**	**16 26 45.2 +0.7**
SNR=72						
AML	**Almayashu**	**62.69**	**318**	P	**P**	**16 26 46.7 +1.5**
SNR=8.6						
EKS2	**Erkin-Say**	**62.87**	**318**	P	**P**	**16 26 47.0 +0.9**
SNR=37						
ZAA0	**Zalesovo Array**	**62.91**	**334**	P	**P**	**16 26 44.9 -1.0**
ZAA0				IAmb	IAmb	16 26 46.4
comp=Z,37nm,1.3s						
ZALV	**Zalesovo Beam**	**62.91**	**334**	P	**P**	**16 26 44.5 -1.4**
ZALV	**Zalesovo Beam**	**62.91**	**334**	P	**P**	**16 26 44.8 -1.1**
comp=Z,5.5nm,0.4s,baz=115,slow=5.6,SNR=43						
ZALV				LR	LR	16 56 24.5
comp=Z,35nm,19.4s,baz=110,slow=38						
comp=Z,5.5nm,0.4s						
KBL	**Kabul**	**63.26**	**308**	P	**P**	**16 26 48.7 -0.2**
KBL	**Kabul**	**63.26**	**308**	P	**P**	**16 26 48.7 -0.2**
KBL				pmax	pmax	
comp=Z,42nm,0.8s						
BTK	**Batken**	**63.84**	**315**	IAmb	IAmb	16 26 54.6
comp=Z,56nm,1.1s						
KURBB	**Kurchatov Arra**	**63.97**	**328**	P	**P**	**16 26 52.9 0.0**
comp=Z,31nm,0.4s,baz=128,slow=6.3,SNR=324						
comp=Z,31nm,0.4s						
KURBB	**Kurchatov Arra**	**63.97**	**328**	P	**P**	**16 26 52.7 -0.2**
KURK	**Kurchatov**	**63.97**	**328**	P	**P**	**16 26 52.8 -0.1**
KURK	**Kurchatov**	**63.97**	**328**	P	**P**	**16 26 52.8 -0.1**
KURK				pmax	pmax	
comp=Z,99nm,1.0s						
KURK	**Kurchatov**	**63.97**	**328**	P	**P**	**16 26 53.1 +0.2**
KURK				PcP	**PcP**	**16 27 26.5 -0.7**
KURK				sP	**sP**	**16 27 38.2 -1.2**
SEY	**Seymchan**	**64.35**	**13**	LR	LR	16 52 35.4
comp=Z,52nm,22.0s,baz=136,slow=34						
SEY	**Seymchan**	**64.35**	**13**	‖*e*P	**P**	**16 26 56.3 +1.1**
SEY				pmax	pmax	
comp=Z,55nm,1.1s						
SHEM	**Shemya Is, Ala**	**64.43**	**30**	LR	LR	16 50 02.3
comp=Z,47nm,20.3s,baz=192,slow=31						
SIMJ	**Simiganj**	**64.65**	**313**	P	**P**	**16 26 57.6 -0.2**
SIMJ	**Simiganj**	**64.65**	**313**	P	**P**	**16 26 58.0 +0.2**
SIMJ				PcP	**pwP**	**16 27 31.5 -0.7**
SIMJ				sP	**sP**	**16 27 43.1 -1.7**
IUG	**Iuzhnay**	**65.19**	**317**	*e*P	**P**	**16 27 01.6 +0.5**
IUG	**Iuzhnay**	**65.19**	**317**	*e*P	**P**	**16 27 01.7 +0.5**
KK31	**Karatay Array**	**65.23**	**318**	IAmb	IAmb	16 27 03.0
comp=Z,47nm,0.9s						
KKAR	**Karatay Array**	**65.23**	**318**	P	**P**	**16 27 01.2 -0.1**
KKAR	**Karatay Array**	**65.23**	**318**	IAmb	IAmb	16 27 03.0
comp=Z,50nm,0.9s						
KKAR	**Karatay Array**	**65.23**	**318**	P	**P**	**16 27 01.2 -0.1**
BRLS	**Borolday**	**65.66**	**317**	*e*P	**P**	**16 27 04.4 +0.3**
BRLS				pmax	pmax	
comp=Z,17nm,0.7s						
BRLS	**Borolday**	**65.66**	**317**	*e*P	**P**	**16 27 04.5 +0.3**
comp=Z,17nm,0.7s						
OTUK	**Ortayu**	**66.26**	**323**	P	**P**	**16 27 07.3 -0.5**
BRZS	**Berezniki**	**66.86**	**325**	*e*P	**P**	**16 27 11.7 +0.1**
BRZS	**Berezniki**	**66.86**	**325**	*e*P	**P**	**16 27 11.8 +0.1**
NGCH	**Negor - Chabah**	**67.74**	**297**	P	**P**	**16 27 18.4 +0.8**
CASY	**Casey**	**68.42**	**187**	P	**P**	**16 27 21.7 +0.6**
CASY	**Casey**	**68.42**	**187**	P	**P**	**16 27 21.6 +0.6**
JLN	**Jalan Bani Buh**	**68.83**	**293**	P	**P**	**16 27 24.1 -0.3**
WBK	**Wadi Bani Khal**	**69.29**	**294**	P	**P**	**16 27 27.3 -0.1**
BVA0	**Borovoye Array**	**69.54**	**327**	*i*P	**P**	**16 27 27.1 -1.1**
BVAR	**Borovoye Array**	**69.54**	**327**	P	**P**	**16 27 28.1 -0.1**
comp=Z,23nm,0.6s,baz=112,slow=5.7,SNR=128						
comp=Z,23nm,0.6s						
BRVK	**Borovoye**	**69.61**	**327**	P	**P**	**16 27 28.0 -0.6**
BRVK				IAmb	IAmb	16 27 29.9
comp=Z,61nm,1.1s						
BRVK	**Borovoye**	**69.61**	**327**	*d i*P	**P**	**16 27 28.4 -0.2**
BRVK				pmax	pmax	
comp=Z,71nm,1.1s						
BRVK	**Borovoye**	**69.61**	**327**	P	**P**	**16 27 28.8 +0.1**
BRVK				PcP	**PcP**	**16 27 51.4 +0.7**
BRVK				pP	**pP**	**16 28 01.5 +0.4**
WSAR	**Wadi Sarin**	**69.69**	**294**	P	**P**	**16 27 29.7 0.0**
MHTO	**MHTO**	**70.02**	**292**	P	**P**	**16 27 31.9 +0.1**
SNR=14						
JMDO	**Jabal Madar**	**70.06**	**293**	P	**P**	**16 27 32.3 +0.2**
SNR=5.1						
BIDO	**Bidbid**	**70.18**	**294**	P	**P**	**16 27 33.1 +0.4**
SNR=8.6						
SMDO	**Samad**	**70.19**	**294**	P	**P**	**16 27 32.8 -0.1**
TIXI	**Tiksi**	**70.29**	**1**	P	**P**	**16 27 31.6 -0.7**
TIXI	**Tiksi**	**70.29**	**1**	LR	LR	16 59 00.3
comp=Z,44nm,21.8s,baz=208,slow=36						
TIXI	**Tiksi**	**70.29**	**1**	‖*e*P	**P**	**16 27 31.3 -1.1**
TIXI				pmax	pmax	
comp=Z,23nm,0.9s						
TIXI	**Tiksi**	**70.29**	**1**	P	**P**	**16 27 31.6 -0.7**
DQM	**DQM**	**70.31**	**291**	P	**P**	**16 27 33.9 +0.3**
BSY	**Bisya**	**70.93**	**294**	P	**P**	**16 27 37.9 +0.6**
SNR=7.9						
HOQ	**Hoqain**	**70.93**	**294**	P	**P**	**16 27 37.7 +0.4**
SNR=5.2						
ARQ	**Araqi**	**71.62**	**294**	P	**P**	**16 27 42.1 +0.6**
SNR=6.4						
SOHO	**SOHO**	**71.71**	**295**	P	**P**	**16 27 42.0 +0.1**
SOHO	**SOHO**	**71.71**	**295**	*i*P	**P**	**16 27 41.7 -0.2**
SNR=9.3						
BILL	**Bilibino**	**71.84**	**15**	P	**P**	**16 27 41.7 -0.2**
BILL	**Bilibino**	**71.84**	**15**	*d i*P	**P**	**16 27 41.7 -0.2**
BILL				pmax	pmax	
comp=Z,25nm,1.7s						
BILL	**Bilibino**	**71.84**	**15**	P	**P**	**16 27 41.7 -0.2**
UOSS	**Minazif**	**72.10**	**296**	P	**P**	**16 27 44.1 -0.2**
UOSS	**Minazif**	**72.10**	**296**	*i*P	**P**	**16 27 43.9 -0.4**
SNR=6.8						
BANOM	**Banah**	**72.14**	**297**	P	**P**	**16 27 45.3 +0.8**
BANOM	**Banah**	**72.14**	**297**	P	**P**	**16 27 44.9 +0.3**
HATD	**Hatta, Dubai**	**72.15**	**296**	P	**P**	**16 27 45.6 +1.0**
SNR=13						
HATD	**Hatta, Dubai**	**72.15**	**296**	*i*P	**P**	**16 27 44.8 +0.2**
SNR=8.6						
MSFE	**Esma-Masafi**	**72.19**	**296**	*i*P	**P**	**16 27 44.5 -0.4**
SNR=8.6						
MASF	**Masafi**	**72.20**	**296**	P	**P**	**16 27 46.3 +1.4**
SNR=10						
ASHO	**Ashiyiah**	**72.20**	**295**	P	**P**	**16 27 45.5 +0.6**
SNR=9.8						
ASHO	**Ashiyiah**	**72.20**	**295**	*i*P	**P**	**16 27 46.0 +1.0**
SNR=11						
SHME	**Shamm**	**72.30**	**297**	P	**P**	**16 27 46.3 +0.9**
SHME	**Shamm**	**72.30**	**297**	P	**P**	**16 27 45.9 +0.4**
ALNE	**Al Ain**	**72.41**	**295**	P	**P**	**16 27 47.2 +1.0**
SNR=40						
ALNE	**Al Ain**	**72.41**	**295**	*i*P	**P**	**16 27 46.8 +0.7**
SNR=32						
DMTO	**DMTO**	**72.55**	**288**	P	**P**	**16 27 47.5 +0.4**
NAZ	**Nazwa, Dubai**	**72.60**	**296**	P	**P**	**16 27 47.9 +0.7**
SNR=10						
NAZ	**Nazwa, Dubai**	**72.60**	**296**	*i*P	**P**	**16 27 47.1 -0.1**
SNR=7.3						
FAQ	**Al Faqa, Dubai**	**72.63**	**295**	P	**P**	**16 27 48.2 +0.8**
SNR=6.1						
FAQ	**Al Faqa, Dubai**	**72.63**	**295**	P	**P**	**16 27 47.6 +0.2**
UMZA	**Um Al Zommool**	**72.80**	**293**	P	**P**	**16 27 48.6 +0.2**
ASUD	**Al Ashush, Dub**	**72.86**	**295**	P	**P**	**16 27 49.9 +1.2**
SNR=11						
ASUD	**Al Ashush, Dub**	**72.86**	**295**	*i*P	**P**	**16 27 49.5 +0.8**
SNR=9.4						
NRIK	**Noril'sk**	**72.88**	**346**	IAmb	IAmb	16 27 49.0
comp=Z,26nm,0.7s						
NRIK	**Noril'sk**	**72.88**	**346**	P	**P**	**16 27 47.7 -0.3**
comp=Z,25nm,0.7s,baz=130,slow=6.1,SNR=59						
comp=Z,25nm,0.7s						
NRIK	**Noril'sk**	**72.88**	**346**	*d i*P	**P**	**16 27 47.6 -0.3**
NRIK				pmax	pmax	
comp=Z,45nm,1.1s						
AJN	**Ajban**	**73.16**	**295**	P	**P**	**16 27 51.4 +0.9**
SNR=9.5						
AJN	**Ajban**	**73.16**	**295**	*i*P	**P**	**16 27 50.6 +0.1**
SNR=6.2						
RBK	**Rabkut**	**73.25**	**288**	P	**P**	**16 27 51.6 +0.4**
DOK	**Doka**	**73.40**	**289**	P	**P**	**16 27 51.9 -0.1**
SNR=5.9						
NIKH	**Nikolski High**	**73.65**	**35**	P	**P**	**16 27 53.7 +0.9**
baz=250						
WHFO	**Wadi Hawf**	**73.69**	**288**	P	**P**	**16 27 53.3 -0.5**
MZWR	**Madinat Zayed**	**74.08**	**294**	P	**P**	**16 27 56.6 +0.7**
ABTO	**Aybut**	**74.10**	**288**	P	**P**	**16 27 56.1 -0.1**
SNR=5.3						
AB31	**Akbulak array**	**74.24**	**321**	*i*P	**P**	**16 27 55.5 -0.8**
ABKAR	**Akbulak array**	**74.24**	**321**	P	**P**	**16 27 55.4 -0.9**
ABKAR	**Akbulak array**	**74.24**	**321**	IAmb	IAmb	16 27 57.3
comp=Z,38nm,1.1s						
MZR	**Muzera**	**74.37**	**293**	P	**P**	**16 27 58.7 +1.1**
SNR=9.2						
MZR	**Muzera**	**74.37**	**293**	*i*P	**P**	**16 27 58.0 +0.3**
SNR=8.2						
SPIA	**Saint Paul Isl**	**74.46**	**30**	P	**P**	**16 27 58.4 +1.0**
baz=247						
GHWR	**Ruwais**	**75.01**	**294**	P	**P**	**16 28 02.0 +0.7**
JRN	**Qarnain Island**	**75.13**	**295**	P	**P**	**16 28 02.1 +0.1**
UNV	**Unalaska Valle**	**75.27**	**34**	P	**P**	**16 28 03.1 +0.9**
baz=251						
AKTO	**Aktyubinsk**	**75.77**	**322**	P	**P**	**16 28 04.8 -0.2**
comp=Z,20nm,0.5s,baz=98,slow=5.0,SNR=48						
AKTO				LR	LR	17 03 56.8
comp=Z,36nm,20.0s,baz=225,slow=38						
comp=Z,20nm,0.5s						
SLWR	**Sila**	**76.10**	**294**	P	**P**	**16 28 08.4 +0.9**
SVE	**Sverdlovsk**	**76.21**	**329**	*ce*P	**P**	**16 28 07.3 -0.1**
SVE				pmax	pmax	
comp=Z,74nm,1.1s						
GAMB	**Gambell**	**76.52**	**24**	IAmb	IAmb	16 28 11.0
comp=Z,42nm,1.1s						
GAMB	**Gambell**	**76.52**	**24**	P	**P**	**16 28 09.6 +0.6**
baz=244						
TRNA	**Turayna**	**76.59**	**295**	P	**P**	**16 28 10.8 +0.6**
SMRA	**Abu-Samra**	**76.94**	**295**	P	**P**	**16 28 12.5 +0.2**
SNR=5.9						
ARTI	**Arti**	**77.25**	**328**	P	**P**	**16 28 12.3 -1.0**
ARTI				IAmb	IAmb	16 28 13.5
comp=Z,23nm,0.7s						
ARTI	**Arti**	**77.25**	**328**	P	**P**	**16 28 12.6 -0.7**
comp=Z,14nm,0.5s,baz=98,slow=2.9,SNR=24						
comp=Z,14nm,0.5s						
ARTI	**Arti**	**77.25**	**328**	P	**P**	**16 28 12.3 -1.0**
ARTI				pmax	pmax	
comp=Z,23nm,0.7s						
FALS	**False Pass**	**77.30**	**34**	P	**P**	**16 28 14.0 +0.4**
baz=254						
K13K	**Kusilvak Mount**	**78.81**	**27**	P	**P**	**16 28 22.7 +0.9**
baz=251						
M13K	**Dall Lake**	**78.94**	**28**	P	**P**	**16 28 23.2 +0.7**
baz=253						
SDPT	**Sand Point**	**79.06**	**34**	IAmb	IAmb	16 28 24.4
comp=Z,48nm,0.7s						
SDPT	**Sand Point**	**79.06**	**34**	P	**P**	**16 28 24.2 +0.9**
SDPT	**Sand Point**	**79.06**	**34**	P	**P**	**16 28 23.7 +0.4**
baz=256						
F14K	**Arctic Creek**	**79.31**	**23**	P	**P**	**16 28 25.3 +0.8**
baz=249						
ANM	**Nome**	**79.38**	**24**	P	**P**	**16 28 25.6 +0.7**
baz=250						
CHNA	**Chernabura Isl**	**79.44**	**34**	P	**P**	**16 28 25.9 +0.6**
baz=257						
L14K	**Kuka Creek**	**79.53**	**27**	P	**P**	**16 28 26.3 +0.6**
baz=253						
J14K	**Nanvaranak Lak**	**79.56**	**26**	P	**P**	**16 28 26.7 +0.9**
baz=252						
N14K	**Kuskokwak Cree**	**79.60**	**29**	P	**P**	**16 28 26.4 +0.4**
baz=254						
O14K	**Tigyukauivet M**	**79.63**	**30**	P	**P**	**16 28 26.9 +0.7**
baz=255,SNR=9.9						
S14K	**Fog Glacier**	**79.78**	**33**	P	**P**	**16 28 27.6 +0.3**
baz=257						
F15K	**North Star Dit**	**80.05**	**23**	P	**P**	**16 28 29.2 +0.7**
baz=251						
G15K	**Niukluk**	**80.06**	**24**	P	**P**	**16 28 29.1 +0.6**
baz=251						
KBD	**Kabd**	**80.07**	**299**	P	**P**	**16 28 29.6 +0.3**
L15K	**Ungalak Mounta**	**80.17**	**27**	P	**P**	**16 28 30.0 +0.9**
baz=254						
M15K	**Kasigluk River**	**80.28**	**28**	P	**P**	**16 28 30.6 +0.8**
baz=255						
K15K	**Wolf Creek Mou**	**80.32**	**27**	P	**P**	**16 28 31.2 +1.2**
baz=254						
O15K	**Ungalikthiuk R**	**80.32**	**30**	P	**P**	**16 28 30.6 +0.5**
baz=256						
CHGN	**Chignik**	**80.41**	**33**	P	**P**	**16 28 31.6 +1.1**
baz=258						
N15K	**Kwethluk River**	**80.44**	**29**	P	**P**	**16 28 31.7 +1.1**
baz=256						
C16K	**Lisburne Hills**	**80.67**	**20**	P	**P**	**16 28 32.6 +0.9**
baz=250						
G16K	**Koyuk River**	**80.86**	**24**	P	**P**	**16 28 33.3 +0.5**
baz=253						
VNDA	**Vanda**	**80.96**	**173**	P	**P**	**16 28 32.9 -0.2**
VNDA	**Vanda**	**80.96**	**173**	P	**P**	**16 28 33.0 -0.2**
comp=Z,8.9nm,0.8s,baz=316,slow=6.2,SNR=30						
comp=Z,8.9nm,0.8s						
VNDA	**Vanda**	**80.96**	**173**	P	**P**	**16 28 32.9 -0.2**
VNDA				pmax	pmax	
comp=Z,14nm,1.0s						
J16K	**Anvik River**	**81.00**	**26**	P	**P**	**16 28 34.3 +0.7**
baz=255						
L16K	**Owhat River**	**81.11**	**28**	P	**P**	**16 28 34.9 +0.8**
baz=256						
M16K	**Timber Creek**	**81.18**	**28**	P	**P**	**16 28 35.6 +1.0**
baz=256						
O16K	**Kokwok River B**	**81.28**	**30**	P	**P**	**16 28 36.0 +0.9**
baz=258,SNR=14						
VOI	**Vohitsoka**	**81.41**	**248**	P	**P**	**16 28 36.3 -0.5**
VOI	**Vohitsoka**	**81.41**	**248**	P	**P**	**16 28 37.5 +0.7**
RDOG	**Red Dog Mine**	**81.46**	**21**	IAmb	IAmb	16 28 38.5
comp=Z,76nm,1.6s						
RDOG	**Red Dog Mine**	**81.46**	**21**	P	**P**	**16 28 37.2 +1.3**
baz=252						
MAW	**Mawson**	**81.56**	**200**	P	**P**	**16 28 37.0 +0.6**
comp=Z,18nm,1.0s,baz=125,slow=9.9,SNR=1.8						
comp=Z,18nm,1.0s						
MAW	**Mawson**	**81.56**	**200**	P	**P**	**16 28 37.0 +0.6**
G17K	**Kiwalik Mounta**	**81.57**	**24**	P	**P**	**16 28 37.6 +1.1**
baz=254						
F17K	**Baldwin Pennin**	**81.60**	**23**	P	**P**	**16 28 37.8 +1.2**
baz=254						
J17K	**VABM Dome**	**81.69**	**26**	P	**P**	**16 28 38.4 +1.2**
baz=256						
H17K	**Granite Mounta**	**81.72**	**24**	P	**P**	**16 28 38.6 +1.3**
baz=255						
RAYN	**Ar Rayn**	**81.72**	**293**	P	**P**	**16 28 37.8 -0.5**
RAYN				IAmb	IAmb	16 28 39.5
comp=Z,36nm,1.0s						
RAYN	**Ar Rayn**	**81.72**	**293**	P	**P**	**16 28 37.8 -0.5**
RAYN				pmax	pmax	
comp=Z,36nm,1.0s						
RAYN	**Ar Rayn**	**81.72**	**293**	*i*P	**P**	**16 28 38.4 +0.1**
SNR=39						
L17K	**Donlin**	**81.75**	**27**	P	**P**	**16 28 39.0 +1.5**
baz=257						
O17K	**Koliganek Bris**	**81.81**	**30**	P	**P**	**16 28 38.8 +0.9**
baz=258						
CHIR	**Chirikof Islan**	**81.85**	**34**	P	**P**	**16 28 39.2 +1.0**
baz=260						
SBA	**Scott Base**	**81.87**	**172**	P	**P**	**16 28 39.2 +1.4**
SBA				IAmb	IAmb	16 29 54.4
comp=Z,57nm,1.8s						
SBA	**Scott Base**	**81.87**	**172**	P	**P**	**16 28 39.2 +1.4**
SBA				pmax	pmax	
comp=Z,57nm,1.8s						
K17K	**Iditarod**	**81.88**	**27**	P	**P**	**16 28 39.8 +1.6**
baz=257						
N17K	**Nushagak Hills**	**81.92**	**29**	P	**P**	**16 28 40.0 +1.6**
baz=258						
M17K	**Holitna River**	**81.99**	**28**	P	**P**	**16 28 40.2 +1.4**
baz=258,SNR=7.1						
P17K	**Kvichak River**	**82.03**	**30**	P	**P**	**16 28 39.4 +0.4**
baz=259						
E18K	**Tukpahlearik C**	**82.11**	**22**	P	**P**	**16 28 40.8 +1.5**
baz=254						
Q17K	**Contact Creek**	**82.14**	**31**	P	**P**	**16 28 40.5 +0.7**
baz=260						
B18K	**Kokolik River**	**82.25**	**20**	P	**P**	**16 28 41.7 +1.7**
baz=253						
C18K	**Utukok River**	**82.25**	**21**	P	**P**	**16 28 41.0 +0.9**
baz=253						
H18K	**Honhosa River**	**82.41**	**24**	P	**P**	**16 28 42.0 +1.0**
baz=256						
KIRV	**Kirov**	**82.47**	**329**	*d i*P	**P**	**16 28 40.6 -0.7**
G18K	**Tagagawik**	**82.47**	**24**	P	**P**	**16 28 42.2 +1.0**
baz=256						
L18K	**Granite Mounta**	**82.50**	**27**	P	**P**	**16 28 42.9 +1.4**
baz=258,SNR=26						
N18K	**Kilae Creek**	**82.58**	**29**	P	**P**	**16 28 43.3 +1.4**
baz=259						
**

K20K **Telida** 83.89 26 P P 16 28 50.0 +1.4
baz=261,SNR=8.3
H20K **Anotleneega Mo** 83.91 24 P P 16 28 49.9 +1.2
baz=260,SNR=5.4
E20K **Nigu River** 83.94 21 P P 16 28 50.0 +1.2
baz=258
I20K **Naaghedeneel** 83.96 25 P P 16 28 50.2 +1.4
baz=260
B20K **Meade River** 83.98 20 P P 16 28 50.2 +1.3
baz=257
J20K **Nowinta River** 84.00 26 P P 16 28 50.5 +1.5
baz=260,SNR=10
PPT2 **Papeete2** 84.08 108 eP P 16 28 50.2 -0.4
comp=Z,57nm,23.2s
PPT2 **Papeete2** 84.08 108 eS S 16 39 05.6 +1.2
comp=Z,70nm,24.8s
PPT2 **Papeete2** 84.08 108 eLR LR 16 55 29.7
comp=Z,111nm,43.8s
PPT2 eLR LR 16 55 31.7
comp=Z,120nm,31.5s
M20K **Styx River** 84.09 28 P P 16 28 50.9 +1.1
baz=262
NCK **Nalchik** 84.36 313⇑iP P 16 28 52.0 +0.6
NCK pmax pmax
comp=Z,72nm,1.9s
GEVA **Gevas** 84.48 308 IAmb IAmb 16 28 54.2
comp=Z,44nm,0.8s
HOM **Homer** 84.52 30 P P 16 28 52.6 +0.8
baz=263
TBI **Tubuai** 84.54 113 eS SKSac 16 38 59.9 -4.5
comp=Z,348nm,26.8s
TBI **Tubuai** 84.54 113 eLR LR 16 55 44.6
comp=Z,709nm,38.8s
KARS **Kars** 84.58 311 P P 16 28 54.9 +2.1
KARS pmax pmax
comp=Z,34nm,0.8s
G21K **Alakaket** 84.64 23 P P 16 28 53.1 +0.8
baz=261
PPLA **Purkeypile** 84.67 27 P P 16 28 52.9 +0.2
baz=262
CNPM **China Poot** 84.71 30 IAmb IAmb 16 28 54.0
comp=Z,59nm,1.0s
CHUM **Lake Minchumin** 84.75 26 P P 16 28 53.5 +0.6
baz=262
F21K **Alatna River** 84.77 23 P P 16 28 53.3 +0.4
baz=261
B21K **Ikpikpuk River** 84.77 20 P P 16 28 53.4 +0.6
baz=260
E21K **Killik River** 84.78 21 P P 16 28 53.7 +0.7
baz=260
CAST **Castle Rocks** 84.79 26 P P 16 28 53.7 +0.6
baz=262
H21K **Melozitna Rive** 84.79 24 P P 16 28 53.8 +0.7
baz=262
GOF **Gofitskoye** 84.85 315 ceP P 16 28 53.9 +0.1
SKT **Skwentna** 84.86 28 P P 16 28 53.6 +0.1
baz=263
KBZ **Khabaz** 84.88 314 P P 16 28 54.0 0.0
comp=Z,20nm,1.1s,baz=110,slow=2.3,SNR=31
comp=Z,20nm,1.1s
KBZ **Khabaz** 84.88 314 diP P 16 28 53.6 -0.3
KBZ pmax pmax
comp=Z,28nm,1.1s
CAPN **Captain Cook N** 84.89 29 P P 16 28 54.1 +0.5
baz=264
A22K **Sinclair Lake** 84.90 19 P P 16 28 54.4 +0.9
baz=259
BRLK **Bradley Lake** 84.92 30 IAmb IAmb 16 28 55.4
comp=Z,52nm,1.1s
BRSE **Bradley Lake S** 84.99 30 P P 16 28 54.5 +0.3
baz=264
KIV **Kislovodsk** 85.05 314 eP P 16 28 54.4 -0.5
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,31nm,20.0s
KIV **Kislovodsk** 85.05 314 iP P 16 28 54.9 0.0
SNR=6.7
SHA1 **Shidzhatmaz** 85.06 314 diP P 16 28 54.6 -0.6
I21K **Tanana** 85.07 25 P P 16 28 55.0 +0.5
baz=262
SUA **Susitna One** 85.17 29 IAmb IAmb 16 28 56.6
comp=Z,32nm,0.9s
SUA **Susitna One** 85.17 29 P P 16 28 55.1 -0.1
baz=264
B22K **Teshekpuk Lake** 85.30 20 P P 16 28 56.3 +0.9
baz=261
GURO **Guroymak-BITLI** 85.30 308 IAmb IAmb 16 28 58.6
comp=Z,38nm,1.0s
F22K **John River** 85.31 22 P P 16 28 56.4 +0.8
baz=262,SNR=24
D22K **Ayikyak River** 85.32 21 P P 16 28 56.3 +0.7
baz=261
KTH **Kantishna Hill** 85.32 26 IAmb IAmb 16 29 49.9
comp=Z,56nm,1.9s
SLKM **Skilak Lake** 85.33 30 IAmb IAmb 16 28 57.4
comp=Z,48nm,1.0s
BPAW **Bear Paw Mtn.** 85.36 26 P P 16 28 56.8 +0.8
baz=263
H22K **Ishtalitna Cre** 85.41 24 P P 16 28 57.0 +0.8
baz=263
G22K **Bettles** 85.49 23 P P 16 28 57.4 +0.9
baz=263
CUT **Chulitna** 85.49 28 P P 16 28 57.4 +0.9
baz=264
E22K **Anaktuvuk Pass** 85.53 22 P P 16 28 57.7 +0.9
baz=262
TRF **Thorofare Moun** 85.59 27 P P 16 28 57.9 +0.6
baz=264
RC01 **Rabbit Creek A** 85.62 29 IAmb IAmb 16 28 58.3
comp=Z,28nm,1.0s
RC01 **Rabbit Creek A** 85.62 29 P P 16 28 57.6 +0.4
baz=265
SEW **Seward** 85.67 30 P P 16 28 58.2 +0.7
baz=265
PMR **Palmer** 85.95 28 IAmb IAmb 16 29 00.5
comp=Z,21nm,1.0s
PMR **Palmer** 85.95 28 P P 16 29 00.0 +1.1
PMR **Palmer** 85.95 28 P P 16 28 59.3 +0.4
baz=265
COLD **Coldfoot** 86.03 23 P P 16 28 59.7 +0.5
baz=264
G23K **Bananza Creek** 86.05 23 P P 16 28 59.7 +0.4
baz=264
D23K **Nanushuk River** 86.05 21 P P 16 28 59.9 +0.7
baz=263
GHO **Glory Hole Cre** 86.07 28 IAmb IAmb 16 29 01.5
comp=Z,40nm,1.5s
VRH **Novokhopyorsk** 86.07 321 eP P 16 28 55.7 -4.0
VRH pmax pmax
comp=Z,30nm,1.0s
C23K **Itkillik River** 86.18 20 P P 16 29 00.3 +0.5
baz=263
MCK **McKinley** 86.22 26 IAmb IAmb 16 29 50.5
comp=Z,43nm,1.7s
MCK **McKinley** 86.22 26 P P 16 29 00.7 +0.5
baz=265
NEA2 **Nenana** 86.24 25 P P 16 29 00.7 +0.4
baz=265
MARD **Mardin** 86.25 307 IAmb IAmb 16 29 02.5
comp=Z,22nm,1.0s
KNK **Knik Glacier** 86.26 29 IAmb IAmb 16 29 02.7
comp=Z,38nm,1.2s
KNK **Knik Glacier** 86.26 29 P P 16 29 01.0 +0.6
baz=266
PWL **Port Wells** 86.28 29 P P 16 29 01.0 +0.4
baz=266
E23K **Chandalar** 86.34 22 P P 16 29 01.0 +0.2
baz=264
SML **Sawmill** 86.35 28 IAmb IAmb 16 29 03.0
comp=Z,26nm,1.0s
SML **Sawmill** 86.35 28 P P 16 29 01.0 +0.1
baz=266
LABN **Labinsk** 86.48 314 eP P 16 29 02.1 +0.2
LABN eS SKSac 16 39 15.0 -0.9
LABN pmax pmax
comp=Z,33nm,0.7s
ERBR **Yeremizino-Bor** 86.68 316 eP P 16 29 01.5 -1.3
ERBR e*PP pP 16 29 35.9 -0.7
ERBR eS SKSac 16 39 14.3 -2.7
ERBR pmax pmax
comp=Z,41nm,1.2s
E24K **Your Creek** 86.77 22 P P 16 29 03.0 +0.1
baz=265
SCM **Sheep Creek Mo** 86.83 28 P P 16 29 03.5 +0.2
baz=267
H24K **Noodor Dome** 86.83 24 P P 16 29 03.5 +0.3
baz=266

GLI **Glacier Island** 86.89 29 P P 16 29 03.6 +0.1
baz=267
F24K **Squaw Lake** 86.95 23 P P 16 29 03.9 +0.1
baz=266
VSLR **Vesyoloye** 86.95 313 ceP P 16 29 04.0 -0.2
VSLR pmax pmax
comp=Z,49nm,1.2s
G24K **Hadweenzic Riv** 87.06 23 P P 16 29 04.2 -0.1
baz=266
HDA **Harding Lake** 87.14 26 P P 16 29 03.8 -0.8
baz=267
ILAR **Eielson Array** 87.19 25 P P 16 29 03.0 -1.8
comp=Z,4.4nm,1.1s,baz=246,slow=4.8,SNR=17
comp=Z,4.4nm,1.1s
KLU **Klutina** 87.48 29 P P 16 29 06.3 -0.1
baz=268
EYAK **Cordova Ski Ar** 87.53 30 P P 16 29 06.9 +0.3
baz=268
VORD **Divnogorie** 87.59 321 eP P 16 29 04.5 -2.6
VORD pmax pmax
comp=Z,10.0nm,0.9s
G25K **Bearman Lake** 87.60 23 P P 16 29 07.0 +0.3
baz=268
D25K **Kavik River** 87.61 21 P P 16 29 07.0 +0.2
baz=267
VORR **Voronezh** 87.66 321 eP P 16 29 03.3 -4.1
VORR pmax pmax
comp=Z,30nm,0.9s
VSR **Storozhevoye** 87.68 321 eP P 16 29 04.0 -3.5
VSR pmax pmax
comp=Z,10.0nm,0.9s
KLMR **Klimovskoe** 87.69 331 eP P 16 29 03.8 -3.5
KLMR e*SP sP 16 29 55.5 +0.2
KLMR e 16 32 29.5
KLMR pmax pmax
comp=Z,27nm,1.1s
PAX **Paxson** 87.74 27 P P 16 29 07.9 +0.2
baz=268
PRP **Porcupine Dome** 87.79 25 P P 16 29 08.3 +0.4
baz=268
F25K **Christian Rive** 87.81 23 P P 16 29 08.3 +0.5
baz=268
J25K **Salcha River,** 87.83 26 P P 16 29 08.1 +0.1
baz=268
LPSR **Galich'ya Gora** 87.84 322 eP P 16 29 07.0 -1.2
LPSR pmax pmax
comp=Z,25nm,1.0s
E25K **Arctic Village** 87.86 22 P P 16 29 08.6 +0.6
baz=268
FYU **Fort Yukon** 87.94 24 IAmb IAmb 16 29 10.8
comp=Z,24nm,1.2s
RIDG **Independent Ri** 88.04 26 P P 16 29 09.2 +0.1
baz=269
BMRM **Bremner River** 88.11 29 P P 16 29 09.3 -0.1
baz=269
C26K **Camden Bay** 88.15 20 P P 16 29 10.0 +0.7
baz=269
KAIM **Kayak Island** 88.18 30 P P 16 29 10.2 +0.5
baz=269
BMAR **Burnt Mountain** 88.22 23 P P 16 29 10.2 +0.5
F26K **Sheenjek River** 88.39 22 P P 16 29 11.0 +0.5
baz=269
SCRK **Sand Creek** 88.42 26 P P 16 29 11.2 +0.3
baz=270
G26K **Porcupine Rive** 88.52 23 P P 16 29 11.7 +0.6
baz=270
C27K **Jago River** 88.56 21 P P 16 29 12.0 +0.7
baz=270
MOS **Moscow** 88.63 326 eP P 16 29 09.8 -2.0
MOS e 16 32 46.2
ANN **Anapa** 88.83 315 eP P 16 29 11.4 -1.6
ANN eS SKSac 16 39 26.9 -3.1
ANN pmax pmax
comp=Z,31nm,0.8s
M26K **Nabesna, AK** 88.88 28 P P 16 29 13.7 +0.7
baz=271
KIBK **Kibwezi** 89.04 268 P P 16 29 15.8 +1.0
GAZ **Gaziantep** 89.10 307 IAmb IAmb 16 29 15.9
comp=Z,17nm,0.9s
OBN **Obninsk** 89.23 325 P P 16 29 13.7 -0.9
OBN **Obninsk** 89.23 325 ciP P 16 29 13.9 -0.8
OBN eS SKSac 16 39 24.7 -7.2
OBN e 16 39 55.5
OBN e 16 41 10.8
OBN eSS SS 16 45 50.2 +0.6
OBN pmax pmax
comp=Z,28nm,0.6s
E27K **Coleen River** 89.35 22 P P 16 29 15.7 +0.7
baz=272
G27K **Doyon Strip** 89.37 23 P P 16 29 15.9 +0.8
baz=272
M27K **Edge Creek, AK** 89.40 28 P P 16 29 15.8 +0.3
baz=272
L27K **Beaver Creek,** 89.40 27 P P 16 29 15.9 +0.5
baz=272
I27K **Kandik River** 89.42 25 P P 16 29 15.9 +0.5
baz=272
BCAR **Beaver Creek A** 89.42 27 P P 16 29 15.8 +0.3
MESA **MESA** 89.42 30 P P 16 29 16.0 +0.3
baz=272
H27K **Steamboat Moun** 89.44 24 P P 16 29 16.0 +0.5
baz=272
D27M **Malcolm River** 89.54 21 P P 16 29 16.4 +0.5
baz=272
KMBO **Kilima Mbogo** 89.80 269 P P 16 29 19.4 +0.8
comp=Z,9.1nm,1.1s,baz=66,slow=6.4,SNR=11
KMBO LR LR 17 08 05.3
comp=Z,57nm,18.0s,baz=92,slow=34
comp=Z,9.1nm,1.1s
KMBO **Kilima Mbogo** 89.80 269 iP P 16 29 19.2 +0.6
SNR=8.4
BVCY **Beaver Creek** 89.87 28 P P 16 29 18.0 +0.4
baz=272
YUK3 **Moose Creek** 90.09 28 P P 16 29 19.0 +0.2
baz=273
E28M **Babbage River** 90.09 21 P P 16 29 18.7 +0.2
baz=274
I28M **Miner Creek** 90.12 25 P P 16 29 19.0 +0.2
baz=273
APA **Apatity** 90.23 337⇓iP P 16 29 29.7 +11
APA pmax pmax
comp=Z,6.0nm,1.1s
APA MLR MLR
comp=Z,300nm,21.0s
SYO **Syowa Base** 90.25 201⇑ePcP PcP 16 29 21.5 +1.3
O28M **Mount Upton** 90.27 29 P P 16 29 19.5 -0.3
baz=273
PINM **Pinnacle** 90.27 30 P P 16 29 19.6 +0.1
baz=273
D28M **Stokes Point** 90.33 21 P P 16 29 19.7 +0.2
baz=274
DAWY **Dawson** 90.44 26 P P 16 29 20.5 +0.2
baz=274
YUK8 **Steele Glacier** 90.45 29 P P 16 29 20.2 -0.4
baz=273
GHAJ **Ghor Haditha** 90.60 301 IAmb IAmb 16 29 22.9
comp=Z,17nm,0.8s
MMAI **Mount Meron Ar** 90.68 303 P P 16 29 23.0 +0.9
comp=Z,4.6nm,0.7s,baz=77,slow=6.4,SNR=8.0
MMAI LR LR 17 16 11.0
comp=Z,23nm,19.1s,baz=88,slow=39
comp=Z,4.6nm,0.7s
E29M **Blow River** 90.71 22 P P 16 29 21.2 -0.1
baz=275
H29M **Whitestone** 90.71 24 P P 16 29 21.3 -0.1
baz=275
PNL **Peninsula** 90.73 30 P P 16 29 21.3 -0.3
baz=274
G29M **Pine Creek** 90.79 23 P P 16 29 21.9 +0.1
baz=275
I29M **Ogilvie Camp,** 90.81 25 P P 16 29 22.0 +0.1
baz=275
J29N **Klondike Camp** 90.92 26 P P 16 29 22.5 0.0
baz=275
M29M **Somme Creek** 90.98 28 P P 16 29 22.7 -0.1
baz=275
YUK4 **Talbot Arm** 90.98 29 P P 16 29 23.1 +0.2
baz=274
L29M **L29M** 91.08 27 P P 16 29 23.9 +0.6
baz=275
O29M **Mount Kennedy** 91.09 30 P P 16 29 23.2 -0.3
baz=274
YUK6 **Outpost Mounta** 91.15 29 P P 16 29 23.6 -0.3
baz=275
EIL **Elat** 91.19 300 LR LR 17 15 16.4
comp=Z,28nm,20.0s,baz=92,slow=39
QSPA **South Pole Qui** 91.19 180 P P 16 29 24.1 +0.4

comp=Z,2.8nm,0.6s,baz=307,slow=5.3,SNR=30
comp=Z,2.8nm,0.6s
K29M **Barlow Dome** 91.28 26 P P 16 29 24.1 -0.1
baz=276
G30M **tAoh Zraii Nji** 91.49 23 P P 16 29 25.0 0.0
baz=277
P29M **Windy Craggy** 91.57 30 P P 16 29 25.3 -0.2
baz=275
HYT **Haines Junctio** 91.58 29 P P 16 29 25.6 -0.1
baz=275
F30M **Barrier River** 91.58 22 P P 16 29 25.5 +0.1
baz=277
LODK **Lodwar** 91.59 273 P P 16 29 26.4 -0.2
KIRS **Kirsehir-Merke** 91.63 309 ⇑P P 16 29 25.3 -1.0
I30M **Mount Dempster** 91.63 25 P P 16 29 25.9 0.0
baz=276
ILGA **Ilgaz** 91.68 311 IAmb IAmb 16 29 27.3
comp=Z,30nm,1.2s
N30M **Aishikik Lake** 91.72 29 P P 16 29 26.3 0.0
baz=276
J30M **Hart River** 91.72 25 P P 16 29 26.2 -0.1
baz=277
BR104 **Keskin Array S** 91.81 310 P P 16 29 26.1 -1.1
comp=Z,42nmcomp=Z,6.2nm,0.9s
BR131 **Keskin Array S** 91.81 310 deP P 16 29 25.9 -1.4
BRTR **Keskin Array B** 91.81 310 P P 16 29 25.4 -1.9
BRTR **Keskin Array B** 91.81 310 P P 16 29 26.4 -0.9
comp=Z,5.3nm,0.9s,baz=116,slow=5.6,SNR=26
BRTR PP PP 16 33 07.0 -1.0
comp=Z,1.3nm,0.9s,baz=108,slow=4.0,SNR=5.2
comp=Z,5.3nm,0.9s
BR106 **Keskin Array S** 91.83 310 P P 16 29 26.2 -1.1
comp=Z,40nmcomp=Z,5.2nm,1.0s
BR105 **Keskin Array S** 91.83 310 P P 16 29 26.2 -1.1
comp=Z,48nmcomp=Z,6.8nm,0.9s
P30M **Million Dollar** 91.92 30 P P 16 29 27.0 -0.2
baz=276
PLBC **Pleasant Camp** 92.28 31 P P 16 29 29.2 +0.4
baz=276
CSS **Mathiatis** 92.32 305 IAmb IAmb 16 29 29.9
comp=Z,14nm,1.0s
CSS **Mathiatis** 92.32 305 P P 16 29 29.3 -0.2
comp=Z,17nm,1.2s
INK **Inuvik** 92.33 22 P P 16 29 29.3 +0.6
baz=279
H31M **Peel River** 92.40 24 P P 16 29 29.7 +0.4
baz=278
SKAG **Skagway** 92.81 30 P P 16 29 31.6 +0.5
baz=277
ARCES **ARCESS Array B** 92.85 340 P P 16 29 29.9 -1.2
comp=Z,3.3nm,0.4s,baz=88,slow=5.3,SNR=43
ARCES LR LR 17 14 58.9
comp=Z,38nm,19.3s,baz=96,slow=38
comp=Z,3.3nm,0.4s
ARCES **ARCESS Array B** 92.85 340 P P 16 29 30.0 -1.2
WHY **Whitehorse** 92.88 29 P P 16 29 31.8 +0.1
baz=278
M31M **Drury Creek, Y** 92.90 28 P P 16 29 32.2 +0.6
baz=278
SPITS **Spitsbergen Ar** 92.94 349 P P 16 29 30.9 -0.6
comp=Z,2.6nm,0.5s,baz=91,slow=7.5,SNR=20
comp=Z,2.6nm,0.5s
TAOE **Nuku Hiva Isla** 92.98 99 eLR LR 16 59 34.3
comp=Z,70nm,24.5s
SIT **Sitka** 93.11 33 P P 16 29 32.9 +0.3
baz=277
N32M **Quiet Lake** 93.67 29 P P 16 29 35.7 +0.4
baz=279
AKASG **Malin Array Be** 93.98 321 P P 16 29 35.5 -1.2
comp=Z,0.8nm,0.6s,baz=73,slow=3.3,SNR=8.4
AKASG LR LR 17 14 38.5
comp=Z,33nm,21.4s,baz=62,slow=37
comp=Z,0.8nm,0.6s
AKBB **Malin Array Si** 93.98 321 diP P 16 29 34.9 -1.9
AKBB pmax pmax
comp=Z,13nm,1.6s
AKBB **Malin Array Si** 93.98 321 P P 16 29 35.6 -1.2
AK01 **Malin Array Si** 93.99 321 P P 16 29 35.5 -1.3
KIEV **Kiev** 93.99 321 P P 16 29 35.5 -1.3
KIEV **Kiev** 93.99 321 P P 16 29 35.5 -1.3
comp=Z,18nm,0.8s
AK02 **Malin Array Si** 94.00 321 P P 16 29 35.3 -1.6
FINES **FINESS Array B** 94.13 332 P P 16 29 36.2 -1.0
comp=Z,2.1nm,0.6s,baz=44,slow=3.3,SNR=14
FINES LR LR 17 16 16.8
comp=Z,92nm,19.1s,baz=86,slow=38
comp=Z,2.1nm,0.6s
MMPY **Sheldon Lake,** 94.26 27 IAmb IAmb 16 29 39.8
comp=Z,21nm,1.0s
VSU **Vasula** 94.31 329⇓eP P 16 29 38.5 +0.4
VSU pmax pmax
comp=Z,25nm,1.2s
Q32M **Nakina River** 94.44 31 P P 16 29 38.9 -0.1
baz=280
CRAG **Craig** 94.55 34 P P 16 29 39.4 +0.2
baz=279
SORM **Soroca** 94.86 318 ⇑P P 16 29 39.5 -1.4
SORM **Soroca** 94.86 318 ⇑P P 16 29 39.5 -1.4
SORM **Soroca** 94.86 318 P P 16 29 39.4 -1.4
comp=Z,9.4nm,1.1s
MI28 **Mi28,Pidlybu** 94.93 321 P P 16 29 39.8 -1.3
YLV **Yalova** 95.01 311 P P 16 29 40.8 -1.0
comp=Z,16nm,0.9s
LUBAR **Lubar, Ukraine** 95.01 320 P P 16 29 40.4 -1.1
R33M **Jennings River** 95.02 30 P P 16 29 41.7 +0.1
baz=281
DLBC **Dease Lake** 95.69 31 P P 16 29 44.3 -0.2
baz=282
CTYL **Yalikoy Yolu** 95.72 312 P P 16 29 44.4 -0.5
comp=Z,19nm,0.9s
WTLY **Watson Lake, Y** 95.95 29 IAmb IAmb 16 29 47.5
comp=Z,20nm,1.2s
RNPP9 **Sopachiv** 95.96 322 P P 16 29 45.1 -0.7
RNPP5 **Staryi Chortor** 95.99 322 P P 16 29 45.6 -0.4
RNPP8 **Varash** 96.00 322 P P 16 29 45.7 -0.3
KMPD **K-Podol'skiy** 96.05 319 P P 16 29 45.0 -1.3
VRI **Vrincioaia** 96.27 316 ⇑P P 16 29 47.5 +0.1
VRI **Vrincioaia** 96.27 316 ⇑P P 16 29 47.5 +0.1
VRI **Vrincioaia** 96.27 316 P P 16 29 47.4 0.0
comp=Z,16nm,1.5s
PLOR5 **Plostina Array** 96.32 316 P P 16 29 47.5 -0.1
comp=Z,12nm,1.6s
PLOR **Plostina** 96.33 316 ⇓P P 16 29 47.6 -0.1
PLOR **Plostina** 96.33 316 ⇓P P 16 29 47.6 -0.1
ONER **Baraj Valea Uz** 96.43 317 ⇑P P 16 29 46.2 -1.9
NEHR **Nehoiu** 96.64 316 ⇑P P 16 29 48.3 -0.8
MLR **Muntele Rosu** 96.87 316 IAmb IAmb 16 29 50.7
comp=Z,13nm,1.0s
MLR **Muntele Rosu** 96.87 316 ⇓P P 16 29 50.0 -0.3
MLR **Muntele Rosu** 96.87 316 ⇓P P 16 29 50.0 -0.3
MLR **Muntele Rosu** 96.87 316 P P 16 29 50.0 -0.3
comp=Z,13nm,1.0s
BURAR **Bucovina Array** 97.03 318 P P 16 29 49.9 -0.9
BURAR **Bucovina Array** 97.03 318 ⇓P P 16 29 50.8 -0.1
BURAR **Bucovina Array** 97.03 318 ⇓P P 16 29 50.8 -0.1
EUNU **Eureka** 97.09 6 IAmb IAmb 16 29 50.7
comp=Z,12nm,1.4s
EZN **Ezine** 97.41 310 P P 16 29 51.7 -0.9
comp=Z,14nm,1.1s
HOLU **Holmets** 98.72 319 P Pdif 16 29 58.5 +0.2
LSZ **Lusaka** 98.86 255 P P 16 29 58.8 -1.0
LSZ IAmb IAmb 16 30 00.7
comp=Z,5.6nm,1.1s
LSZ **Lusaka** 98.86 255 P P 16 29 58.8 -1.0
LSZ pmax pmax
comp=Z,6.0nm,1.1s
GZR **Gura Zlata** 99.08 316 ⇑P Pdif 16 29 58.5 -1.6
GZR **Gura Zlata** 99.08 316 ⇑P Pdif 16 29 58.5 -1.6
HERR **Herculane** 99.43 316 ⇑P Pdif 16 30 01.3 -0.3
HFS **Hagfors** 100.32 332 P Pdif 16 30 04.1 -1.1
comp=Z,1.1nm,0.4s,baz=119,slow=9.3,SNR=4.2
VYHS **Vyhne** 101.03 320 ePP PP 16 34 23.1 +4.7
NOA **NORSAR Array B** 101.11 333 P Pdif 16 30 07.4 -1.3
comp=Z,1.7nm,0.9s,baz=69,slow=4.5,SNR=3.7
YKA **Yellowknife Ar** 101.60 25 P Pdif 16 30 10.7 -0.1
comp=Z,1.6nm,0.9s,baz=298,slow=4.7,SNR=13
YKA PKiKP PKiKP 16 34 32.8 -1.0
comp=Z,0.1nm,0.5s,baz=308,slow=2.2,SNR=3.9
YKA PKKPbc PKKPbc 16 46 17.6 -2.6
comp=Z,0.2nm,0.6s,baz=116,slow=3.7,SNR=3.9
CLL **Collm** 103.79 324 eP Pdif 16 30 20.0 -0.8
CLL e 16 40 40.0
CLL eS Sdif 16 41 47.0 -12
GERES **GERESS Array B** 104.19 321 PP PKiKP 16 34 40.6 +1.6
comp=Z,0.4nm,0.7s,baz=51,slow=11,SNR=3.7
NVAR **Mina Array Bea** 108.31 49 PP PP 16 35 11.4 -1.5
comp=Z,1.0nm,0.2s,baz=348,slow=4.3,SNR=9.7

PDAR	**Pinedale Array**	**112.99**	**42**	PKKPbc	PKKPbc	16 45 43.5	-1.0		
	comp=Z,0.5nm,0.6s,baz=109,slow=5.7,SNR=7.6								
PDAR				PKKPab	**PKKPab**	**16 45 51.5**	**-0.4**		
	comp=Z,0.6nm,0.5s,baz=110,slow=6.3,SNR=5.8								
ESDC	**Sonseca Array**	**119.48**	**318**	PP	**PP**	**16 36 32.1**	**+0.7**		
	comp=Z,3.4nm,1.1s,baz=45,slow=5.9,SNR=8.0								
TXAR	**Lajitas Array**	**122.84**	**54**	PKP	**PKPdf**	**16 35 14.7**	**-0.3**		
	comp=Z,1.3nm,0.8s,baz=223,slow=1.3,SNR=8.4								
TXAR				PKKPbc	**PKKPab**	**16 45 08.6**	**0.0**		
	comp=Z,0.8nm,0.8s,baz=112,slow=5.8,SNR=6.0								
TORD	**Torodi Ar. Bea**	**123.94**	**287**	PKP	**PKPdf**	**16 35 17.4**	**0.0**		
	comp=Z,59nm,0.3s,baz=57,slow=2.1,SNR=1.7								
DBIC	**Dimbokro**	**131.34**	**280**	PKP	**PKPdf**	**16 35 31.7**	**+0.2**		
	comp=Z,4.7nm,0.7s,baz=200,slow=2.2,SNR=4.9								
DBIC				SKPbc	**SKPab**	**16 38 44.5**	**-0.3**		
	comp=Z,6.5nm,1.1s,baz=72,slow=6.4,SNR=3.9								
PLCA	**Paso Flores**	**137.61**	**160**	PKP	**PKiKP**	**16 35 43.8**	**-0.8**		
	comp=Z,1.6nm,0.7s,baz=0.3,slow=0.9,SNR=7.2								
PLCA				SKPbc	**SKPbc**	**16 39 05.0**	**+1.1**		
	comp=Z,9.0nm,0.9s,baz=199,slow=4.4,SNR=14								
PLCA	**Paso Flores**	**137.61**	**160**	*eP*	**PKPdf**	**16 35 42.9**	**+0.3**		
TBOT	**Tacuaremb**	**149.62**	**175**	*eP*	**PKPdf**	**16 36 04.8**	**+1.1**		
PLTB	**Pedras Altas**	**149.66**	**179**	*eP*	**PKPdf**	**16 36 03.5**	**-0.3**		
CPUP	**Villa Florida**	**154.73**	**171**	PKP	**PKPdf**	**16 36 11.2**	**-0.2**		
	comp=Z,1.4nm,1.0s,baz=237,slow=17,SNR=1.7								
CPUP				PKPbc	**PKiKP**	**16 36 20.8**	**+0.7**		
	comp=Z,1.9nm,0.8s,baz=252,slow=3.2,SNR=3.7								
LPAZ	**La Paz**	**158.88**	**136**	PKP	**PKPdf**	**16 36 16.8**	**-1.0**		
	comp=Z,0.6nm,0.5s,baz=315,slow=1.1,SNR=3.7								
LPAZ				PKPab	**pPKPdf**	**16 36 53.5**	**-0.2**		
	comp=Z,2.1nm,0.8s,baz=216,slow=4.3,SNR=5.4								
CZSB	**Cruzeiro do Su**	**159.31**	**109**	*eP*	**PKPdf**	**16 36 19.2**	**+1.6**		
SDV	**Santo Domingo**	**159.71**	**60**	*eP*	**PKPdf**	**16 36 18.9**	**+0.6**		
GUA01	**Guaratinga, BA**	**160.00**	**220**	*eP*	**PKPdf**	**16 36 18.8**	**+0.5**		
TEFE	**Tefe**	**168.13**	**101**	*eP*	**PKPdf**	**16 36 26.1**	**+0.4**		
SMTB	**Santa Maria do**	**170.75**	**215**	*eP*	**PKPdf**	**16 36 27.2**	**-0.1**		
MACA	**Manacapuru-AM**	**172.07**	**104**	*eP*	**PKPdf**	**16 36 29.0**	**+1.1**		
NPGB	**Novo Progresso**	**173.78**	**158**	*eP*	**PKPdf**	**16 36 28.4**	**-0.3**		
PRPB	**Parauapebas**	**174.20**	**213**	*eP*	**PKPdf**	**16 36 29.9**	**+1.0**		

*IDC **08** 16:23:22.8±0.8, 2°.03N×127°.84E, h0km, mb4.1/11, mbtmp4.1/11, Error ellipse: s-maj=43.2km s-min=17.0km az=69.0*
*DJA **08** 16:23:26.7±0.4, 2°.N±3°×12°.8E±°, h15km±3km, M4.3/12, mB5.5/1, mb4.3/6, MLv4.2/12, Mw(mB)5.0/1*
*NEIC **08** 16:23:31.4±2.0, 2°.1N±0°.1×127°.93E±0°.09, h53km±5km, mb4.4/23, Error ellipse: s-maj=14.6km s-min=12.4km az=195.0*

ISC 08 16:23:30.4±0.5,**2°.24N**±0°.06×**128°.07E**±0°.07,**h50**km,**n54,**
σ1§**35**/53,**mb4.3**/25,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.61**	**206**		**Pn**	**16 23 54.7**	**-1.8**
TNTI	**Ternate**	**1.61**	**206**	P	**Pn**	**16 23 55.4**	**-1.1**
TNTI				S	**Sn**	**16 24 19.4**	**+3.2**
SGSI	**Sangihe**	**2.92**	**300**	P	**Pn**	**16 24 12.1**	**-2.3**
SGSI				S	**Sn**	**16 24 48.1**	**-0.1**
KMSI	**Cibinong**	**4.41**	**248**	P	**Pn**	**16 24 36.0**	**+1.2**
KMSI				S	**Sn**	**16 25 26.9**	**+2.0**
SWI	**Sorong**	**4.43**	**134**	P	**Pn**	**16 24 34.0**	**-1.1**
SANI	**Sanana**	**4.74**	**206**	P	**Pn**	**16 24 38.9**	**-0.4**
NLAI	**Namlea**	**5.52**	**190**	P	**Pn**	**16 24 50.2**	**+0.1**
	0.1nm18nm,0.5s						
LUWI	**Luwuk**	**6.22**	**238**	P	**Pn**	**16 24 59.5**	**-0.1**
FAKI	**Fak Fak**	**6.61**	**141**	Pn	**Pn**	**16 25 05.1**	**0.0**
FAKI	**Fak Fak**	**6.61**	**141**	P	**Pn**	**16 25 04.7**	**-0.3**
	0.1nm16nm,0.8s						
APSI	**Ampana**	**7.14**	**244**	P	**Pn**	**16 25 11.8**	**-0.5**
	28nm,1.2s						
SBUM	**Sibu**	**15.84**	**271**	P	**P**	**16 27 12.9**	**-0.3**
WB0	**Warramunga Arr**	**22.73**	**164**	P	**P**	**16 28 27.9**	**-0.5**
WB0				IAmb	IAmb	16 28 38.0	
	comp=Z,9.9nm,0.8s						
WRA	**Warramunga Arr**	**22.88**	**165**	P	**P**	**16 28 26.3**	**-3.7**
	comp=Z,1.2nm,0.7s,baz=336,slow=11,SNR=1.6						
	comp=Z,1.2nm,0.7s						
PMBI	**Palembang**	**23.85**	**258**	P	**P**	**16 28 38.2**	**-1.1**
UBPT	**Khong Chiam**	**25.78**	**301**	P	**P**	**16 28 56.3**	**-0.6**
UBPT				IAmb	IAmb	16 28 57.8	
	comp=Z,16nm,1.5s						
ASAR	**Alice Springs**	**26.36**	**168**	P	**P**	**16 28 59.6**	**-2.5**
	comp=Z,0.5nm,0.5s,baz=350,slow=10,SNR=1.1						
	comp=Z,0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.78**	**301**	P	**P**	**16 29 57.1**	**-2.0**
	comp=Z,2.4nm,0.9s,baz=112,slow=8.5,SNR=9.2						
	comp=Z,2.4nm,0.9s						
CHTO	**Chiang Mai**	**32.94**	**302**	P	**P**	**16 30 00.4**	**-0.1**
CHTO				IAmb	IAmb	16 30 01.6	
	comp=Z,4.0nm,0.8s						
KSRS	**Korea Array**	**35.05**	**360**	P	**P**	**16 30 19.3**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=178,slow=9.0,SNR=3.1						
	comp=Z,0.8nm,0.7s						
STKA	**Stephens Creek**	**36.27**	**160**	P	**P**	**16 30 28.6**	**-0.5**
STKA	**Stephens Creek**	**36.27**	**160**	P	**P**	**16 30 27.5**	**-1.6**
	comp=Z,2.8nm,0.6s,baz=340,slow=9.4,SNR=3.9						
	comp=Z,2.8nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**41.14**	**64**	T	T	17 14 47.5	
	baz=254,slow=74						
H11S2	**WAKE ISLAND Hy**	**41.15**	**64**	T	T	17 14 50.3	
	baz=254						
H11S1	**WAKE ISLAND Hy**	**41.15**	**64**	T	T	17 14 50.9	
	baz=254,slow=74						
H11N1	**WAKE ISLAND Hy**	**41.72**	**63**	T	T	17 15 13.5	
	baz=250,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**41.73**	**63**	T	T	17 15 13.9	
	baz=250,slow=75,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**41.73**	**63**	T	T	17 15 14.9	
	baz=250,slow=75,SNR=19						
TOO	**Toolangi**	**42.77**	**159**	P	**P**	**16 31 23.2**	**0.0**
TOO				IAmb	IAmb	16 31 27.6	
	comp=Z,15nm,1.4s						
GTA	**Gaotai**	**45.06**	**329**	*eP*	**P**	**16 31 42.2**	**+0.6**
GTA				pP	pP	16 31 52.2	-2.5
GTA				sP	sP	16 31 56.4	-3.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**48.95**	**341**	P	**P**	**16 32 11.7**	**-0.2**
ULN				IAmb	IAmb	16 32 13.2	
	comp=Z,7.7nm,1.1s						
SONM	**Songino Array**	**49.13**	**341**	P	**P**	**16 32 12.9**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=160,slow=7.8,SNR=6.6						
SONM				PcP	**PcP**	**16 33 35.3**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=159,slow=4.5,SNR=2.0						
	comp=Z,1.7nm,0.9s						
PETK	**Petropavlovsk-**	**56.32**	**21**	P	**P**	**16 33 07.3**	**+1.2**
	comp=Z,2.9nm,0.9s,baz=210,slow=7.7,SNR=4.4						
	comp=Z,2.9nm,0.9s						
MK31	**Makanchi Array**	**59.54**	**325**	P	**P**	**16 33 28.4**	**-0.4**
MK31				IAmb	IAmb	16 33 29.3	
	comp=Z,4.1nm,0.7s						
MKAR	**Makanchi Array**	**59.54**	**325**	P	**P**	**16 33 28.3**	**-0.5**
MKAR	**Makanchi Array**	**59.54**	**325**	P	**P**	**16 33 28.9**	**+0.1**
	comp=Z,5.2nm,0.6s,baz=120,slow=8.4,SNR=38						
MKAR				PcP	**PcP**	**16 34 16.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=115,slow=8.4,SNR=1.6						
	comp=Z,5.2nm,0.6s						
MAKZ	**Makanchi**	**59.73**	**325**	P	**P**	**16 33 29.8**	**-0.2**
KDJ	**Kajisay**	**60.34**	**318**	P	**P**	**16 33 35.0**	**+0.4**
KDJ				IAmb	IAmb	16 33 35.5	
	comp=Z,3.3nm,0.6s						
BOOM	**Boomskoye usch**	**61.33**	**318**	P	**P**	**16 33 41.3**	**0.0**
AAK	**Ala-Archa**	**62.36**	**318**	P	**P**	**16 33 48.0**	**-0.2**
ARSB	**Arslanbob**	**62.86**	**316**	P	**P**	**16 33 51.4**	**-0.1**
ARSB				IAmb	IAmb	16 33 54.3	
	comp=Z,6.3nm,1.4s						
KURBB	**Kurchatov Arra**	**63.71**	**327**	P	**P**	**16 33 56.1**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=128,slow=6.2,SNR=30						
	comp=Z,3.4nm,0.6s						
KURK	**Kurchatov**	**63.71**	**327**	P	**P**	**16 33 56.1**	**-0.6**
KKAR	**Karatay Array**	**65.23**	**317**	P	**P**	**16 34 05.9**	**-1.0**
BVAR	**Borovoye Array**	**69.29**	**327**	P	**P**	**16 34 31.7**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=134,slow=6.2,SNR=9.3						
	comp=Z,1.6nm,0.7s						
TIXI	**Tiksi**	**69.31**	**0**	P	**P**	**16 34 32.3**	**+0.1**
BRVK	**Borovoye**	**69.36**	**327**	P	**P**	**16 34 32.1**	**-0.7**
BRVK				IAmb	IAmb	16 34 32.7	
	comp=Z,2.6nm,0.7s						
ABKAR	**Akbulak array**	**74.15**	**321**	P	**P**	**16 35 00.7**	**-1.0**
L16K	**Owhat River**	**79.77**	**27**	P	**P**	**16 35 35.4**	**+2.4**
L16K				IAmb	IAmb	16 36 08.1	
	comp=Z,6.9nm,1.4s						
K17K	**Iditarod**	**80.55**	**27**	P	**P**	**16 35 40.0**	**+2.8**
K17K				IAmb	IAmb	16 35 40.2	
	comp=Z,6.4nm,1.1s						
TTA	**Tatalina**	**81.62**	**27**	P	**P**	**16 35 44.6**	**+1.7**
H19K	**Roundabout Mou**	**81.98**	**24**	P	**P**	**16 35 47.3**	**+2.7**
H19K				IAmb	IAmb	16 35 59.5	
	comp=Z,7.1nm,1.4s						
D19K	**Kuna River**	**82.03**	**21**	P	**P**	**16 35 46.8**	**+1.8**
D19K				IAmb	IAmb	16 35 58.4	
	comp=Z,4.4nm,1.4s						
AKASG	**Malin Array Be**	**93.89**	**321**	P	**P**	**16 36 43.5**	**+0.9**
	comp=Z,0.1nm,0.2s,baz=57,slow=3.2,SNR=1.6						
	comp=Z,0.1nm,0.2s						

*IDC **08** 16:57:38.1±0.5, 27°.78N×140°.10E, h469km±9km, mb3.1/10, mbtmp3.9/13, Error ellipse: s-maj=25.5km s-min=10.9km az=71.0*

ISC 08 16:57:38.6±0.7,**27°.8N**±0°.1×**140°.1E**±0°.1,**h478**km,**n14,**
σ0§**64**/15,**mb3.5**/10,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.94**	**110**	P	**P**	**16 58 41.5**	**+0.1**
	46nm,0.4s,baz=319,slow=20,SNR=1.8						
JCJ				S	**S**	**16 59 30.8**	**-1.6**
	216nm,0.4s,baz=290,slow=23,SNR=13						
JOW	**Kunigami**	**10.60**	**268**	P	**P**	**17 00 02.5**	**+0.3**
	5.1nm,0.5s,baz=90,slow=13,SNR=5.1						
KSRS	**Korea Array**	**14.10**	**316**	P	**P**	**17 00 39.2**	**-0.4**
	0.5nm,0.5s,baz=121,slow=11,SNR=4.9						
USRK	**Ussuriysk Ar.**	**17.65**	**340**	P	**P**	**17 01 17.1**	**+0.6**
	2.0nm,0.7s,baz=156,slow=8.9,SNR=6.3						
SONM	**Songino Array**	**32.97**	**317**	P	**P**	**17 03 32.7**	**0.0**
	0.4nm,0.4s,baz=125,slow=9.1,SNR=1.7						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**47.77**	**187**	P	**P**	**17 05 31.6**	**+0.1**
	1.0nm,0.4s,baz=5.5,slow=7.6,SNR=32						
	1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**47.79**	**319**	P	**P**	**17 05 30.6**	**-0.7**
	0.5nm,0.3s,baz=94,slow=7.2,SNR=2.4						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**48.64**	**309**	P	**P**	**17 05 37.7**	**-0.2**
	0.2nm,0.3s,baz=91,slow=7.2,SNR=7.2						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**51.27**	**314**	P	**P**	**17 05 56.7**	**-0.4**
	1.5nm,0.5s,baz=91,slow=8.0,SNR=26						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**51.49**	**187**	P	**P**	**17 05 59.2**	**+0.1**
	0.4nm,0.4s,baz=4.7,slow=6.2,SNR=56						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**56.31**	**317**	P	**P**	**17 06 32.8**	**-0.1**
	1.6nm,0.4s,baz=95,slow=7.6,SNR=16						
	1.6nm,0.4s						
STKA	**Stephens Creek**	**59.34**	**179**	P	**P**	**17 06 54.1**	**+0.4**
	3.1nm,1.0s,baz=343,slow=14,SNR=2.8						
	3.1nm,1.0s						
YKA	**Yellowknife Ar**	**72.40**	**28**	P	**P**	**17 08 16.1**	**+1.0**
	0.2nm,0.8s,baz=306,slow=5.6,SNR=4.1						
	0.2nm,0.8s						
FINES	**FINESS Array B**	**76.53**	**333**	P	**P**	**17 08 38.2**	**-0.2**
	1.7nm,0.6s,baz=74,slow=4.6,SNR=9.2						
	1.7nm,0.6s						

*IDC **08** 16:57:40.5±2.7, 31°.44N×141°.04E, h71km±22km, mb3.4/14, mbtmp3.6/18, MS2.7/1, Error ellipse: s-maj=22.9km s-min=20.1km az=83.0*
*JMA **08** 16:57:40.9±0.2, 31°.7N±0°.9×14°.1E±°, h70km, MV4.0/39, NEAR TORISHIMA IS*

ISC 08 16:57:38.9±0.6,**31°.45N**±0°.05×**141°.20E**±0°.08,**h57**km,**n37,**
σ1§**16**/41,**mb3.6**/14,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.58**	**310**	*eP*	**Pn**	**16 58 06.7**	**+2.0**
JHCJ	**Hachijojimakas**	**2.00**	**324**	*eS*	**Sn**	**16 58 33.6**	**-0.7**
JHJ2	**Mitsune**	**2.03**	**325**	*eP*	**Pn**	**16 58 11.5**	**+0.9**
JHJ	**Hachijo jima 2**	**2.05**	**324**	P	**Pn**	**16 58 11.2**	**+0.3**
	126nm,0.2s,baz=93,slow=23,SNR=6.5						
JHJ				S	**Sn**	**16 58 32.9**	**-2.5**
	263nm,0.3s,baz=158,slow=23,SNR=10.0						
JMKN	**Mikurajimanish**	**2.79**	**331**	*eS*	**Sn**	**16 58 52.1**	**-1.3**
JMYK	**Miyake Tsubota**	**2.95**	**332**	*eP*	**Pn**	**16 58 24.5**	**+1.3**
JMYK				*eS*	**Sn**	**16 58 56.6**	**-0.7**
BSO1	**Boso 1**	**3.20**	**357**	*eP*	**Pn**	**16 58 27.2**	**+1.1**
BSO1				*eS*	**Sn**	**16 59 01.6**	**-1.1**
BSO3	**Boso 3**	**3.39**	**350**	*eP*	**Pn**	**16 58 29.8**	**+0.8**
BSO3				*eS*	**Sn**	**16 59 07.3**	**-0.5**
JOD2	**Odawara 2**	**4.19**	**336**	*eP*	**Pn**	**16 58 41.2**	**+0.9**
CBIJ	**Chichi jima**	**4.43**	**169**	*eP*	**Pn**	**16 58 42.8**	**-0.7**
CBIJ				*eS*	**Sn**	**16 59 32.0**	**-1.8**
JYT	**Yasato**	**4.83**	**350**	*eP*	**Pn**	**16 58 49.7**	**+0.7**
JYT				*eS*	**Sn**	**16 59 42.3**	**-1.4**
JRY	**Ryogami san**	**4.94**	**338**	*eP*	**Pn**	**16 58 51.9**	**+1.4**
JRY				*eS*	**Sn**	**16 59 46.2**	**-0.1**
JAG	**Ashikaga**	**5.17**	**344**	*eP*	**Pn**	**16 58 53.5**	**-0.1**
JHO	**Hitachi**	**5.17**	**354**	*eP*	**Pn**	**16 58 53.4**	**-0.2**
JTNC	**Tanabenakahech**	**5.27**	**298**	*eP*	**Pn**	**16 58 57.5**	**+2.5**
MJAR	**Matsushiro Arr**	**5.65**	**335**	P	**Pn**	**16 59 01.6**	**+1.3**
	2.1nm,0.3s,baz=163,slow=11,SNR=36						
MJAR				S	**Sn**	**17 00 01.1**	**-2.7**
	0.9nm,0.4s,baz=147,slow=22,SNR=1.2						
JNU	**Nakatsue**	**8.90**	**283**	P	**Pn**	**16 59 45.0**	**+0.2**
	4.1nm,0.8s,baz=291,slow=18,SNR=2.5						
USRK	**Ussuriysk Ar.**	**14.64**	**333**	P	**Pn**	**17 01 02.8**	**+0.1**
	0.8nm,0.7s,baz=153,slow=14,SNR=4.4						
KLR	**Kul'dur**	**19.13**	**341**	P	**Pn**	**17 01 57.4**	**-1.1**
	1.1nm,0.6s,baz=172,slow=7.0,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**26.38**	**113**	T	T	17 32 07.8	
	baz=304,slow=75,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**26.39**	**113**	T	T	17 32 05.5	
	baz=304,slow=75,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**26.40**	**113**	T	T	17 32 04.3	
	baz=304,slow=75,SNR=7.7						
DAV	**Davao City (W)**	**28.32**	**214**	LR	LR	17 15 36.8	
	comp=Z,15nm,19.3s,baz=335,slow=38						
SONM	**Songino Array**	**31.08**	**312**	P	**P**	**17 03 51.2**	**-0.4**
	0.4nm,0.5s,baz=128,slow=6.5,SNR=2.5						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**45.69**	**317**	P	**P**	**17 05 54.3**	**+0.4**
	0.5nm,0.3s,baz=98,slow=7.2,SNR=2.5						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**47.12**	**307**	P	**P**	**17 06 04.4**	**-0.8**
	0.8nm,0.5s,baz=95,slow=8.6,SNR=11						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**49.44**	**312**	P	**P**	**17 06 22.1**	**-0.9**
	0.5nm,0.4s,baz=90,slow=8.9,SNR=6.9						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**51.53**	**188**	P	**P**	**17 06 38.6**	**-0.4**
	0.2nm,0.3s,baz=5.4,slow=7.4,SNR=4.7						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**54.30**	**315**	P	**P**	**17 06 58.6**	**-0.6**
	0.4nm,0.4s,baz=90,slow=7.0,SNR=3.1						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**54.35**	**30**	P	**P**	**17 06 59.8**	**+0.5**
	0.2nm,0.5s,baz=277,slow=8.9,SNR=1.7						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**55.25**	**188**	P	**P**	**17 07 06.1**	**-0.2**
	0.2nm,0.9s,baz=3.5,slow=5.7,SNR=1.5						
	0.2nm,0.9s						
YKA	**Yellowknife Ar**	**68.74**	**29**	P	**P**	**17 08 36.6**	**+0.3**
	0.1nm,0.3s,baz=297,slow=6.8,SNR=2.0						
	0.1nm,0.3s						
KBZ	**Khabaz**	**74.44**	**312**	P	**P**	**17 09 11.3**	**+0.4**
	0.4nm,0.5s,baz=135,slow=5.7,SNR=1.8						
	0.4nm,0.5s						
NVAR	**Mina Array Bea**	**78.51**	**52**	P	**P**	**17 09 36.0**	**+1.6**
	0.5nm,0.7s,baz=311,slow=5.0,SNR=2.5						
	0.5nm,0.7s						
AKASG	**Malin Array Be**	**78.62**	**323**	P	**P**	**17 09 33.6**	**-0.8**
	1.8nm,0.4s,baz=52,slow=5.5,SNR=6.1						
	1.8nm,0.4s						
PDAR	**Pinedale Array**	**81.72**	**45**	P	**P**	**17 09 51.8**	**+0.1**
	0.2nm,0.4s,baz=305,slow=8.5,SNR=1.7						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**93.66**	**52**	P	**P**	**17 10 50.7**	**+1.1**
	0.4nm,0.6s,baz=321,slow=5.4,SNR=4.9						
	0.4nm,0.6s						

*JMA **08** 17:11:42.0±0.2, 39°.5N±0°.9×14°.5E±°, h53km, MV3.4/33, FAR E OFF NORTH HONSHU*
*IDC **08** 17:11:42.7±2.1, 39°.69N×144°.01E, h0km, mb3.6/4, mbtmp3.6/6, ML3.0/2, MS2.3/1, Error ellipse: s-maj=48.9km s-min=24.2km az=94.0*

ISC 08 17:11:39.0±1.4,**39°.45N**±0°.06×**144°.55E**±0°.08,**h10**km,**n24,**
σ1§**95**/37,**mb3.7**/4,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.11**	**274**	P	**Pb**	**17 12 16.5**	**-0.9**
MIYJ				*eS*	**Sb**	**17 12 41.7**	**-1.9**
JTH	**Tanohata**	**2.13**	**284**	P	**Pb**	**17 12 16.5**	**-1.1**
JTH				*eS*	**Sb**	**17 12 42.9**	**-1.2**
OFUJ	**Ofunato**	**2.26**	**262**	P	**Pb**	**17 12 18.1**	**-1.8**
OFUJ				*eS*	**Sn**	**17 12 44.9**	**+0.5**
JANG	**Nango**	**2.51**	**293**	P	**Pb**	**17 12 21.4**	**-2.7**
JANG				S	**Sn**	**17 12 50.9**	**+0.4**
JOM	**Ohasama**	**2.52**	**272**	P	**Pb**	**17 12 22.3**	**-1.9**
JOM				S	**Sb**	**17 12 52.5**	**-2.8**
JMK	**Ichinoseki**	**2.63**	**260**	P	**Pb**	**17 12 23.5**	**-2.7**
JMK				*eS*	**Sn**	**17 12 54.3**	**+0.9**
JNBK	**Urakawa-nobuka**	**3.14**	**335**	*eP*	**Pn**	**17 12 30.4**	**+1.8**
JNBK				*eS*	**Sn**	**17 13 06.9**	**+0.8**
JCH	**Churui**	**3.29**	**345**	P	**Pn**	**17 12 32.0**	**+1.5**
JCH				*eS*	**Sn**	**17 13 09.5**	**-0.3**
JYK	**Kaneyama**	**3.30**	**262**	P	**Pb**	**17 12 33.2**	**-4.3**
JYK				*eS*	**Sn**	**17 13 11.2**	**+1.3**
JOT	**Ohata**	**3.30**	**307**	*eP*	**Pn**	**17 12 32.9**	**+2.2**
JOT				*eS*	**Sn**	**17 13 11.0**	**+1.1**
JAK	**Akkeshi**	**3.55**	**2**	*eS*	**Sn**	**17 13 14.8**	**-1.4**
JOTO	**OTAMA OYAMA**	**3.80**	**242**	*eP*	**Pn**	**17 12 39.1**	**+1.5**
JOTO				*eS*	**Sn**	**17 13 21.5**	**-0.9**
NEM2	**Nemuro 2**	**4.02**	**13**	*eP*	**Pn**	**17 12 39.8**	**-0.7**
NEM2				*eS*	**Sn**	**17 13 23.8**	**-3.9**
JTKR	**Abashiri--Toko**	**4.55**	**354**	*eP*	**Pn**	**17 12 48.9**	**+1.1**
JTKR				*eS*	**Sn**	**17 13 39.0**	**-1.7**
JOSM	**Okushiri--Mats**	**4.67**	**306**	P	**Pn**	**17 12 52.9**	**+3.4**
JHR	**Hokuryu**	**4.79**	**335**	*eP*	Pn	17 12 55.1	+4.0
ASAJ	**Asahikawa**	**4.89**	**343**	Pn	**Pn**	**17 12 54.4**	**+1.8**
	0.8nm,0.3s,baz=192,slow=12,SNR=14						
ASAJ				Sn	**Sn**	**17 13 49.0**	**-0.2**
	0.6nm,0.3s,baz=108,slow=20,SNR=4.6						
	1.7nm,0.3s						
JRY	**Ryogami san**	**5.63**	**234**	P	**Pn**	**17 13 03.2**	**+0.4**
JRY				*eS*	**Sn**	**17 14 05.7**	**-1.9**
MJAR	**Matsushiro Arr**	**5.78**	**242**	Pn	**Pn**	**17 13 07.2**	**+2.4**
	0.3nm,0.3s,baz=55,slow=11,SNR=16						
MJAR				Sn	**Sn**	**17 14 10.1**	**-1.2**
	baz=62,slow=12						
	3.0nm,0.4s						
KSRS	**Korea Array**	**13.18**	**267**	LR	LR	17 19 16.2	
	comp=Z,16nm,20.6s,baz=245,slow=35						
MKAR	**Makanchi Array**	**44.97**	**301**	P	**P**	**17 19 56.5**	**+2.3**
	0.7nm,1.0s,baz=89,slow=9.1,SNR=3.5						
	0.7nm,1.0s						
KURBB	**Kurchatov Arra**	**46.50**	**307**	P	**P**	**17 20 07.3**	**+1.1**
	0.6nm,0.6s,baz=84,slow=8.9,SNR=4.9						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**59.84**	**191**	P	P	17 21 51.6	+6.9
	0.3nm,0.6s,baz=11,slow=7.0,SNR=2.2						
	0.3nm,0.6s						
AKASG	**Malin Array Be**	**73.87**	**323**	P	**P**	**17 23 15.1**	**+1.3**
	0.6nm,0.6s,baz=46,slow=6.5,SNR=4.2						
	0.6nm,0.6s						

*IDC **08** 17:13:09.3±1.1, 33°.13N×96°.20E, h0km, mb3.4/5, mbtmp3.5/9, ML3.2/4, MS3.2/1, Error ellipse: s-maj=52.2km s-min=18.2km az=58.0*

ISC 08 17:13:13.9±0.9,**33°.2N**±0°.1×**96°.3E**±0°.2,**h35**km,**n10,**
σ1§**21**/9,**mb3.5**/5,**Qinghai**

| Code | Station Name | Δ

ONTNC **Ouen Toro** 42.67 348 P **P** 17 29 30.9 +1.4
DZM Mont Dzumac 42.90 348 *e*S **S** 17 35 51.4 -4.8
comp=Z,104nm,23.4s
DZM comp=Z,1μm,28.1s *e*SS **SS** 17 39 06.3 -1.2
DZM comp=Z,871nm,24.6s *e*LR LR 17 41 20.4
DZM Mont Dzumac 42.90 348 LR LR 17 46 26.9
comp=Z,420nm,18.1s,baz=196,slow=35
PMSA Palmer Station 43.90 148 LR LR 17 44 22.6
comp=Z,151nm,20.7s,baz=222,slow=31
SNAA Sanae 43.98 181 P **P** 17 29 39.7 0.0
SNAA comp=Z,11nm,1.4s IAmb IAmb 17 30 25.8
SNAA Sanae 43.98 181 LR LR 17 47 19.0
comp=Z,538nm,18.1s,baz=166,slow=35
RAR Rarotonga 46.45 33 LR LR 17 44 23.2
comp=Z,452nm,20.3s,baz=198,slow=30
H01W1 Cape Leeuwin H 46.71 279 T T 18 20 44.7
baz=148,slow=76,SNR=68
H01W2 Cape Leeuwin H 46.71 279 T T 18 20 47.5
baz=148,slow=76,SNR=65
H01W3 Cape Leeuwin H 46.73 279 T T 18 20 45.8
baz=148,slow=76,SNR=71
MSVF Nonsavu 46.87 4 LR LR 17 47 42.7
comp=Z,241nm,18.7s,baz=179,slow=34
NWAO Narrogin (SRO) 47.09 283 LR LR 17 45 10.2
comp=Z,572nm,21.0s,baz=126,slow=30
TBI Tubuai 47.26 46 *e*S **S** 17 37 01.8 +2.8
TBI comp=Z,479nm,30.5s *e*SS **SS** 17 40 28.8 +2.7
TBI comp=Z,2μm,28.5s *e*LR LR 17 43 05.0
TBI comp=Z,1μm,26.0s *e*LR LR 17 43 16.3
TBI comp=Z,3μm,26.2s
ASAR Alice Springs 48.89 307 P **P** 17 30 19.7 +0.9
ASAR Alice Springs 48.89 307 P **P** 17 30 20.0 +1.2
comp=Z,11nm,1.0s,baz=155,slow=7.3,SNR=27
ASAR PcP **PcP** 17 31 45.1 +2.1
comp=Z,1.2nm,1.0s,baz=144,slow=3.3,SNR=1.6
comp=Z,11nm,1.0s
AS31 Alice Springs 48.89 307 P **P** 17 30 19.9 +1.1
USHA Ushuaia 51.33 138 LR LR 17 48 23.8
comp=Z,157nm,18.1s,baz=119,slow=32
AFI Afiamalu 51.43 16 P **P** 17 30 38.2 +0.1
WR0 Warramunga Arr 52.11 309 P **P** 17 30 43.9 +0.8
WR0 comp=Z,12nm,0.9s IAmb IAmb 17 30 46.9
WB2 Warramunga Arr 52.19 309 P **P** 17 30 43.9 +0.2
WB2 comp=Z,42nm,1.6s IAmb IAmb 17 30 52.6
WRA Warramunga Arr 52.19 309 P **P** 17 30 44.9 +1.2
WRA Warramunga Arr 52.19 309 P **P** 17 30 44.6 +0.9
comp=Z,11nm,1.1s,baz=158,slow=7.2,SNR=28
WRA PcP **PcP** 17 31 56.2 +1.0
comp=Z,1.6nm,1.1s,baz=159,slow=3.4,SNR=1.7
comp=Z,11nm,1.1s
RKT Rikitea 52.55 62 *e*LR LR 17 45 45.0
comp=Z,1μm,23.8s
PPT2 Papeete2 52.64 44 *e*P **P** 17 30 46.0 -1.1
PPT2 comp=Z,32nm,23.5s *e*S **S** 17 38 16.6 +2.3
comp=Z,169nm,26.2s
PPT2 *e*LR LR 17 45 40.3
comp=Z,835nm,25.8s
PPT2 *e*LR LR 17 45 48.4
comp=Z,479nm,23.8s
PPT Papeete 52.66 44 LR LR 17 48 58.8
comp=Z,186nm,18.1s,baz=207,slow=32
FITZ Fitzroy Crossi 56.98 300 P **P** 17 31 18.7 +0.3
comp=Z,5.3nm,1.1s,baz=176,slow=9.1,SNR=2.0
comp=Z,5.3nm,1.1s
KNRA Kununurra 58.07 305 P **P** 17 31 28.4 +2.3
PMG Port Moresby 58.52 327 P **P** 17 31 32.1 +2.9
PMG comp=Z,18nm,0.9s IAmb IAmb 17 31 39.2
PLCA Paso Flores 63.16 129 P **P** 17 31 59.5 -1.2
PLCA comp=Z,21nm,1.6s IAmb IAmb 17 32 49.3
PLCA Paso Flores 63.16 129 P **P** 17 31 59.2 -1.4
comp=Z,2.2nm,0.9s,baz=221,slow=8.3,SNR=4.2
comp=Z,2.2nm,0.9s
TAOE Nuku Hiva Isla 63.84 51 *e*LR LR 17 50 58.1
comp=Z,377nm,23.9s
H03S2 Juan Fernandez 66.33 119 T T 18 45 07.7
baz=205,slow=74,SNR=25
H03S1 Juan Fernandez 66.33 119 T T 18 45 13.9
baz=205,slow=74,SNR=23
H03S3 Juan Fernandez 66.34 119 T T 18 45 11.9
baz=205,slow=74,SNR=22
SUR Sutherland 81.26 202 LR LR 18 06 32.9
comp=Z,512nm,21.6s,baz=160,slow=33
BOSA Boshof 84.16 206 P **P** 17 34 05.0 +0.9
comp=Z,2.0nm,0.9s,baz=168,slow=9.3,SNR=3.2
BOSA LR LR 18 08 21.2
comp=Z,458nm,21.2s,baz=180,slow=33
comp=Z,2.0nm,0.9s
LPAZ La Paz 86.26 121 P **P** 17 34 15.9 +0.5
LPAZ comp=Z,21nm,1.9s IAmb IAmb 17 34 18.9
LPAZ La Paz 86.26 121 P **P** 17 34 15.2 -0.3
comp=Z,2.7nm,1.2s,baz=215,slow=5.7,SNR=4.6
LPAZ LR LR 18 04 27.8
comp=Z,54nm,20.1s,baz=223,slow=30
comp=Z,2.7nm,1.2s
NNA Nana 86.81 111 LR LR 18 05 10.3
comp=Z,103nm,19.8s,baz=187,slow=30
H08S2 Diego Garcia H 88.53 255 T T 19 13 31.4
baz=154,slow=76,SNR=185
H08S1 Diego Carcia H 88.54 255 T T 19 13 30.3
baz=154,slow=76,SNR=85
H08S3 Diego Garcia H 88.55 255 T T 19 13 23.4
baz=154,slow=76,SNR=184
ATAH Atahualpa 90.57 108 LR LR 18 06 00.1
comp=Z,170nm,19.6s,baz=215,slow=30
LSZ Lusaka 96.47 212 LR LR 18 17 05.1
comp=Z,205nm,18.1s,baz=171,slow=34
H06S1 SOCORRO T 100.06 68 T T 19 26 28.9
SNR=3.8
PZH PanZhiHua 106.86 296 PKP **PKiKP** 17 40 00.1 +1.8
HHC Hu-ho-hao-te 116.25 311 *e*P **PKPdf** 17 40 13.8 -1.8
PDAR Pinedale Array 121.99 57 PKP **PKiKP** 17 40 25.6 -1.4
comp=Z,0.6nm,0.9s,baz=223,slow=4.1,SNR=3.9
W59A Clinton 128.11 87 **PKiKP** 17 40 37.9 -1.1
IL31 132.03 21 **PKiKP** 17 40 47.7 +1.9
ILAR Eielson Array 132.03 21 **PKiKP** 17 40 45.0 -0.9
ILAR Eielson Array 132.03 21 PKP **PKPdf** 17 40 44.1 -0.8
comp=Z,4.5nm,0.9s,baz=208,slow=5.0,SNR=13
MKAR Makanchi Array 132.09 292 PKP **PKiKP** 17 40 45.9 -0.8
comp=Z,0.2nm,0.7s,baz=114,slow=3.5,SNR=1.7
E22K Anaktuvuk Pass 134.52 17 **PKiKP** 17 40 49.5 -1.4
D22K Ayikyak River 135.12 16 **PKPdf** 17 40 49.9 -0.6
YKA Yellowknife Ar 137.01 40 PKP **PKPdf** 17 40 52.8 -1.4
comp=Z,1.0nm,0.9s,baz=211,slow=1.6,SNR=8.2
BVAR Borovoye Array 141.76 289 PKhKP PKPpre 17 41 00.3
comp=Z,0.7nm,0.7s,baz=137,slow=3.0,SNR=4.4
AKTO Aktyubinsk 145.02 277 PKPbc **PKPdf** 17 41 09.0 -0.1
comp=Z,6.5nm,0.8s,baz=168,slow=2.2,SNR=14
ELL Elmali 145.29 234 **PKPbc** 17 41 09.1 -0.8
KBZ Khabaz 146.27 255 PKPbc **PKiKP** 17 41 14.2 -1.4
comp=Z,2.6nm,0.8s,baz=166,slow=4.2,SNR=3.9
NRIK Noril'sk 146.83 320 PKPbc **PKPab** 17 41 14.4 -0.4
comp=Z,6.8nm,0.8s,baz=121,slow=4.4,SNR=11
ARTI Arti 149.07 285 PKPdf **PKPdf** 17 41 13.2 -2.4
ARTI Arti 149.07 285 PKPbc **PKPbc** 17 41 19.2 -0.6
comp=Z,5.2nm,0.9s,baz=143,slow=4.7,SNR=3.7
ESDC Sonseca Array 155.03 182 PKPbc PKPdf 17 41 33.3 +8.1
comp=Z,0.3nm,0.4s,baz=198,slow=5.2,SNR=2.0

---

*NEIC **08** 17:30:37.5±2.1, 19°.05N±0°.09×145°.7E±0°.2, h102km±12km, mb4.3/10, Error ellipse: s-maj=33.3km s-min=13.0km az=92.0*
*IDC **08** 17:30:40.5±2.7, 18°.98N×145°.67E, h135km±25km, mb3.5/9, mbtmp3.9/11, Error ellipse: s-maj=31.0km s-min=14.6km az=94.0*
ISC 08 17:30:37.1±0.7, 19°.11N±0°.07×145°.8E±0°.2, h100km, n25, σ1§39/23, mb3.9/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**		**5.56 189**	P	**Pn**	**17 31 60.0**	**+2.5**
GUMO	33nm,0.3s,baz=21,slow=14,SNR=23			S	**Sn**	**17 33 00.3**	**+0.3**
	44nm,0.4s,baz=0.0,slow=20,SNR=2.1						
PATS	**Pohnpei**		**17.27 133**	P	**P**	**17 34 30.4**	**-1.7**
JGF	**Kuroka**		**18.02 337**	P	**P**	**17 34 37.9**	**-2.4**
JGF	comp=Z,20nm,1.1s			IAmb	IAmb	17 35 02.8	
MJAR	**Matsushiro Arr**		**18.59 341**	P	**Pn**	**17 34 49.5**	**+1.7**
	comp=Z,1.4nm,0.7s,baz=174,slow=11,SNR=2.4						
JMM	**Marumori**		**19.18 348**	P	**P**	**17 34 53.0**	**+0.1**
JMM	comp=Z,23nm,1.1s			IAmb	IAmb	17 34 58.2	
H11S3	**WAKE ISLAND Hy**	**19.83**	**88**	T	T	17 56 02.4	
	baz=275,slow=75,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**19.84**	**88**	T	T	17 56 09.0	
	baz=275,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**19.85**	**88**	T	T	17 55 53.0	
	baz=275,slow=75,SNR=13						
KSRS	**Korea Array**		**24.02 323**	P	**P**	**17 35 42.5**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=148,slow=9.6,SNR=4.1						
	comp=Z,0.6nm,0.6s						
WB0	**Warramunga Arr**		**40.21 197**	P	**P**	**17 38 02.7**	**-1.4**
WB0				IAmb	IAmb	17 38 33.5	
	comp=Z,5.2nm,1.3s						
WR8	**Warramunga Arr**		**40.36 196**	P	**P**	**17 38 03.9**	**-1.4**
WR8				IAmb	IAmb	17 38 32.6	
	comp=Z,7.1nm,1.4s						
WRA	**Warramunga Arr**		**40.39 197**	P	**P**	**17 38 04.0**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=16,slow=8.4,SNR=15						
	comp=Z,0.6nm,0.4s						
FITZ	**Fitzroy Crossi**		**41.92 209**	P	**P**	**17 38 15.8**	**-2.3**
FITZ	**Fitzroy Crossi**		**41.92 209**	P	**P**	**17 38 17.1**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=43,slow=7.9,SNR=9.4						
	comp=Z,1.5nm,0.7s						
AS31	**Alice Springs**		**44.06 196**	P	**P**	**17 38 34.8**	**-0.5**
ASAR	**Alice Springs**		**44.06 196**	P	**P**	**17 38 34.0**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=3.9,slow=5.5,SNR=12						
	comp=Z,0.2nm,0.4s						
C16K	**Lisburne Hills**		**57.76 19**	P	**P**	**17 40 17.0**	**-0.4**
C16K				IAmb	IAmb	17 40 42.8	
	comp=Z,9.0nm,1.4s						
N18K	**Kilae Creek**		**58.17 30**	P	**P**	**17 40 21.5**	**+1.1**
KURBB	**Kurchatov Arra**		**61.05 318**	P	**P**	**17 40 39.9**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=87,slow=7.4,SNR=4.7						
	comp=Z,0.6nm,0.3s						
BMAR	**Burnt Mountain**		**64.72 24**	P	**P**	**17 41 05.2**	**+0.8**
F26K	**Sheenjek River**		**64.94 23**	P	**P**	**17 41 06.9**	**+1.1**
F26K				IAmb	IAmb	17 41 08.8	
	comp=Z,2.8nm,0.7s						
YKA	**Yellowknife Ar**		**77.60 28**	P	**P**	**17 42 22.0**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=289,slow=5.5,SNR=16						
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**		**82.12 342**	P	**P**	**17 42 47.5**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=56,slow=5.6,SNR=3.9						
	comp=Z,1.1nm,0.6s						
NVAR	**Mina Array Bea**		**82.85 52**	P	**P**	**17 42 51.3**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=288,slow=6.7,SNR=7.6						
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**		**86.53 335**	P	**P**	**17 43 07.5**	**-1.3**
	comp=Z,2.5nm,1.0s,baz=66,slow=3.8,SNR=3.5						
	comp=Z,2.5nm,1.0s						

---

*NOU **08** 17:32:18.3, 32°.39S×179°.26E, h540km, MLv4.4/7, South of Kermadec Islands*
*WEL **08** 17:32:19.3±1.4, 34°.5S±38°.×17°.9E±2°.9, h671km±44km, M3.7/7, MLv3.7/7, Error ellipse: s-maj=59.2km s-min=20.5km az=35.2, confirmed*
ISC 08 17:32:15.8±3.9, 32°.65S±0°.3×179°.2E±0°.3, h600km, n20, σ2§27/26, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**		**5.00 188**	P	**P**	**17 33 49.7**	**+1.2**
MXZ	**Matakaoa Point**		**5.00 188**	P	**P**	**17 33 47.9**	**-0.6**
MXZ				S	**S**	**17 35 07.0**	**+2.5**
KUZ	**Kuaotunu**		**5.04 214**	P	**P**	**17 33 50.6**	**+1.8**
KUZ	**Kuaotunu**		**5.04 214**	P	**P**	**17 33 50.5**	**+1.7**
KUZ				S	**S**	**17 35 01.0**	**-3.9**
WCZ	**Waipu Caves**		**5.23 229**	P	**P**	**17 33 51.2**	**+0.8**
WMGZ	**Waiomatatini S**		**5.25 187**	P	**P**	**17 33 50.6**	**+0.1**
PKGZ	**Pakihiroa**		**5.33 190**	P	**P**	**17 33 51.1**	**0.0**
PKGZ				S	**S**	**17 35 09.4**	**0.0**
OUZ	**Omahuta**		**5.35 239**	P	**P**	**17 33 51.4**	**0.0**
OUZ	**Omahuta**		**5.35 239**	P	**P**	**17 33 51.3**	**0.0**
MBAZ	**Motutapu North**		**5.47 219**	P	**P**	**17 33 54.3**	**+2.0**
RUGZ	**Raukumara Rang**		**5.50 193**	P	**P**	**17 33 51.9**	**-0.7**
MKAZ	**Moumakai**		**5.59 215**	P	**P**	**17 33 55.8**	**+2.5**
ETAZ	**East Tamaki Re**		**5.59 218**	P	**P**	**17 33 56.0**	**+2.7**
TWGZ	**Tauwhareparae**		**5.65 190**	P	**P**	**17 33 53.7**	**-0.1**
TWGZ				P	**S**	**17 35 13.0**	**-1.3**
MWZ	**Matawai**		**5.88 193**	P	**P**	**17 33 55.6**	**-0.2**
MWZ				P	**S**	**17 35 13.2**	**-4.5**
URZ	**Urewera**		**5.90 196**	P	**P**	**17 33 56.5**	**+0.6**
URZ	**Urewera**		**5.90 196**	P	**P**	**17 33 54.9**	**-1.0**
URZ				P	**S**	**17 35 13.9**	**-4.0**
BKZ	**Black Stump Fm**		**6.91 198**	P	**P**	**17 34 06.0**	**+1.1**
BFZ	**Birch Farm**		**8.41 196**	P	**P**	**17 34 21.8**	**+3.0**
KHZ	**Kahutara**		**10.78 203**	P	**P**	**17 34 46.6**	**+4.6**

---

*NEIC **08** 17:33:16.2±1.0, 23°.24S±0°.06×179°.7W±0°.2, h563km±16km, mb4.4/13, Error ellipse: s-maj=31.2km s-min=8.4km az=89.0*
*IDC **08** 17:33:17.4±2.3, 23°.10S×179°.85W, h568km±46km, mb3.3/5, mbtmp4.3/6, Error ellipse: s-maj=64.2km s-min=28.2km az=24.0*
ISC 08 17:33:15.8±1.5, 23°.3S±0°.2×179°.8W±0°.2, h550km, n21, σ0§89/21, mb4.2/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**		**5.86 339**	P	**P**	**17 34 54.3**	**+0.9**
	5.3nm,0.4s,baz=138,slow=16,SNR=20						
WHZ	**Wether Hill Ro**		**24.67 201**	P	**P**	**17 37 52.9**	**-0.5**
WHZ				IAmb	IAmb	17 37 56.0	
	comp=Z,34nm,1.4s						
EIDS	**Eidsvold**		**26.60 260**	P	**P**	**17 38 10.9**	**+0.2**
EIDS				IAmb	IAmb	17 38 19.5	
	comp=Z,13nm,1.4s						
CAN	**Canberra**		**29.62 239**	P	**P**	**17 38 37.7**	**+0.7**
CAN				IAmb	IAmb	17 39 10.5	
	comp=Z,32nm,1.5s						
STKA	**Stephens Creek**		**35.13 247**	P	**P**	**17 39 23.7**	**-0.1**
STKA	**Stephens Creek**		**35.13 247**	P	**P**	**17 39 24.0**	**+0.3**
	comp=Z,3.4nm,0.5s,baz=95,slow=9.6,SNR=6.3						
	comp=Z,3.4nm,0.5s						
BBOO	**Buckleboo**		**39.87 246**	P	**P**	**17 40 01.9**	**-0.4**
AS31	**Alice Springs**		**42.32 260**	P	**P**	**17 40 21.8**	**-0.2**
ASAR	**Alice Springs**		**42.33 260**	P	**P**	**17 40 21.3**	**-0.7**
ASAR	**Alice Springs**		**42.33 260**	P	**P**	**17 40 22.0**	**0.0**
	comp=Z,2.4nm,0.4s,baz=99,slow=8.2,SNR=70						
	comp=Z,2.4nm,0.4s						
WR8	**Warramunga Arr**		**42.49 265**	P	**P**	**17 40 22.8**	**-0.5**
WR8				IAmb	IAmb	17 40 49.7	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**		**42.64 265**	P	**P**	**17 40 24.0**	**-0.5**
WRA	**Warramunga Arr**		**42.64 265**	P	**P**	**17 40 24.1**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=102,slow=8.0,SNR=68						
	comp=Z,4.1nm,0.6s						
FORT	**Forrest**		**46.71 249**	P	**P**	**17 40 54.4**	**-1.2**
KNRA	**Kununurra**		**48.88 269**	P	**P**	**17 41 12.5**	**+0.5**
KNRA				IAmb	IAmb	17 41 38.2	
	comp=Z,32nm,1.4s						
FITZ	**Fitzroy Crossi**		**51.06 265**	P	**P**	**17 41 28.7**	**+0.7**
FITZ	**Fitzroy Crossi**		**51.06 265**	P	**P**	**17 41 28.6**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=105,slow=5.5,SNR=6.0						
	comp=Z,1.9nm,0.5s						
MORW	**Morawa**		**57.27 249**	P	**P**	**17 42 11.4**	**-0.1**
MORW				IAmb	IAmb	17 42 46.6	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**		**66.82 180**	P	**P**	**17 43 13.8**	**+0.8**
QSPA				IAmb	IAmb	17 43 43.1	
	comp=Z,7.4nm,1.5s						
QSPA	**South Pole Qui**		**66.82 180**	P	**P**	**17 43 14.1**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=15,slow=12,SNR=7.2						
	comp=Z,1.4nm,0.8s						
HFS	**Hagfors**		**141.96 349**	PKP	**PKPdf**	**17 51 42.3**	**-2.5**
	comp=Z,0.6nm,0.4s,baz=42,slow=2.3,SNR=4.9						

---

*ISK **08** 17:38:19.9, 38°.76N×38°.15E, h2km, ML4.1/39*
*AFAD **08** 17:38:19.1, 38°.77N×38°.16E, h17km±1km, MW4.0*
*IDC **08** 17:38:20.1±0.8, 38°.73N×38°.09E, h0km, mb3.7/8, mbtmp3.5/16, ML3.0/7, MS3.1/11, Error ellipse: s-maj=13.2km s-min=9.5km az=154.0*
*NEIC **08** 17:38:21.6±1.6, 38°.74N±0°.05×38°.09E±0°.06, h10km±2km, mb4.2/5, Error ellipse: s-maj=8.7km s-min=7.5km az=174.0*
ISC 08 17:38:20.6±0.8, 38°.75N±0°.02×38°.17E±0°.02, h4km±5km, n141, σ1§32/159, mb3.9/9, MS3.1/8, 8C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**		**0.21 308**	P	**Pg**	**17 38 23.9**	**-0.8**
ARPR	**Arapgir-MALATY**		**0.37 21**	Pg	**Pg**	**17 38 27.5**	**-0.2**
ARPR				Sg	**Sb**	**17 38 33.9**	**-2.1**
MAYA	**Malatya/Merkez**		**0.47 154**	P	**Pg**	**17 38 29.4**	**-0.2**
MAYA				S	**Sb**	**17 38 36.8**	**-2.2**
MAYA				*i* AML	AML	17 38 37.0	
	comp=N,1μm,0.4s						
AKCD	**Akcadag**		**0.49 203**	P	**Pg**	**17 38 29.3**	**-0.8**
AKCD				S	**Sg**	**17 38 37.4**	**+0.9**
AKCD				*i* AML	AML	17 38 39.0	
	comp=E,1μm,0.2s						
AKCD				*i* AML	AML	17 38 41.0	
	comp=N,2μm,0.5s						
DARE	**Darende-Malaty**		**0.56 252**	Pg	**Pg**	**17 38 30.5**	**-1.0**
DARE				Sg	**Sg**	**17 38 39.6**	**+0.8**
KEMA	**Kemaliye**		**0.58 26**	P	**Pg**	**17 38 30.3**	**-1.4**
KEMA				S	**Sg**	**17 38 39.6**	**+0.4**
KEMA				*i* AML	AML	17 38 44.0	
	comp=E,7μm,0.6s						
ELZG	**Elazig**		**0.69 111**	P	**Pg**	**17 38 32.3**	**-1.6**
ELZG				S	**Sb**	**17 38 42.9**	**-2.4**
ELZG				*i* AML	AML	17 38 45.0	
	comp=N,1μm,0.5s						
ELZG				*i* AML	AML	17 38 47.0	
	comp=E,2μm,0.8s						
CUGUR	**Gurin_SVAS**		**0.70 268**	P	**Pg**	**17 38 32.6**	**-1.4**
CUGUR				S	**Sg**	**17 38 43.3**	**+0.2**
CUGUR				*i* AML	AML	17 38 48.0	
	comp=N,5μm,0.5s						
CUGUR				*i* AML	AML	17 38 50.0	
	comp=E,8μm,0.7s						
CUKAN	**kangal_SIVAS**		**0.78 316**	P	**Pg**	**17 38 33.7**	**-2.0**
CUKAN				S	**Sg**	**17 38 44.8**	**-1.1**
CUKAN				*i* AML	AML	17 38 56.0	
	comp=N,1μm,0.5s						
ELBS	**KAHRAMANMARAS**		**0.92 243**	P	**Pg**	**17 38 36.4**	**-1.8**
AZEY	**Adyaman-Merk**		**0.94 176**	P	**Pg**	**17 38 38.0**	**-0.6**
PTK	**Pertek**		**0.97 81**	Pg	**Pg**	**17 38 37.9**	**-1.3**
PTK				Sg	**Sb**	**17 38 53.2**	**-0.2**
NARI	**Adyaman-Kaht**		**0.98 151**	P	**Pg**	**17 38 38.7**	**-0.8**
AKCA	**Adyaman/G¶l**		**1.03 202**	P	**Pg**	**17 38 39.2**	**-1.1**
AKCA				S	**Sb**	**17 38 54.7**	**-0.3**
AKCA				*i* AML	AML	17 38 59.0	
	comp=E,4μm,0.9s						
AKCA				*i* AML	AML	17 39 01.0	
	comp=N,5μm,0.6s						
TNCL	**Tunceli-Merkez**		**1.13 71**	P	**Pg**	**17 38 40.2**	**-2.2**
TNCL				S	**Sg**	**17 38 56.3**	**-0.8**
TNCL				*i* AML	AML	17 39 00.0	
	comp=E,5μm,0.3s						
TNCL				*i* AML	AML	17 39 03.0	
	comp=N,3μm,0.7s						
CUZAR	**Zara_SIVAS**		**1.18 345**	P	**Pg**	**17 38 41.2**	**-2.0**
CUAYA	**Sivas-Altinyay**		**1.22 295**	P	**Pg**	**17 38 41.1**	**-2.9**
CUAYA				*i* AML	AML	17 39 05.0	
	comp=N,2μm,0.6s						
CUAYA				*i* AML	AML	17 39 08.0	
	comp=E,1μm,0.8s						
ATAB	**Bozova**		**1.28 175**	P	**Pg**	**17 38 44.4**	**-0.9**
KOVA	**Elazig, Kovanc**		**1.29 92**	P	**Pg**	**17 38 43.5**	**-1.8**
KOVA				S	**Sn**	**17 39 03.2**	**-0.2**
KOVA				*i* AML	AML	17 39 13.0	
	comp=E,2μm,0.8s						
HANM	**anlurfa/Hi**		**1.30 154**	P	**Pb**	**17 38 44.7**	**-0.9**
HANM				S	**Sn**	**17 39 02.3**	**-1.1**
URFA	**Urfa**		**1.41 158**	Pn	**Pg**	**17 38 47.4**	**-0.2**
URFA				Sn	**Sn**	**17 39 07.7**	**+1.5**
SARI	**SarD1z-Kayseri**		**1.41 256**	Pn	**Pb**	**17 38 47.2**	**-0.5**
SARI				Sn	**Sn**	**17 39 07.3**	**+0.8**
SUSE	**Susehri**		**1.46 1**	P	**Pn**	**17 38 46.9**	**-1.1**
SUSE				*i* AML	AML	17 39 11.0	
	comp=E,2μm,0.5s						
GZT	**Gaziantep**		**1.47 199**	P	**Pn**	**17 38 47.5**	**-0.6**
GZT				S	**Sg**	**17 39 08.0**	**0.0**
GZT				*i* AML	AML	17 39 18.0	
	comp=E,1μm,0.4s						
SVSK	**Karacayir**		**1.48 322**	Pn	**Pb**	**17 38 48.1**	**-0.5**
SVSK				Sn	**Sg**	**17 39 08.7**	**+0.7**
EUZM	**Uzumlu**		**1.52 51**	P	**Pb**	**17 38 48.5**	**-1.0**
KAHM	**Kahramanmaras,**		**1.54 217**	P	**Pn**	**17 38 48.5**	**-0.5**
KAHM				S	**Sb**	**17 39 09.4**	**-0.4**
KAHM				*i* AML	AML	17 39 15.0	
	comp=E,2μm,1.0s						
KHMN	**Narli-Kahraman**		**1.57 211**	Pn	**Pb**	**17 38 49.7**	**-0.7**
KMRS	**Kahramanmaras**		**1.59 219**	Pn	**Pb**	**17 38 50.1**	**-0.6**
KMRS				Sn	**Sg**	**17 39 12.2**	**+0.3**
KELT	**Kelkit**		**1.63 31**	P	**Pn**	**17 38 49.5**	**-0.8**
CUSAR	**Sarkisla-SIVAS**		**1.64 295**	P	**Pn**	**17 38 48.0**	**-2.4**
CUSAR				S	**Sg**	**17 39 13.7**	**+0.5**
CUSAR				*i* AML	AML	17 39 23.0	
	comp=N,509nm,0.7s						
ALUC	**Giresun/Alucra**		**1.66 16**	P	**Pn**	**17 38 50.4**	**-0.3**
SANL	**SANLIURFA_Merk**		**1.71 157**	P	**Pb**	**17 38 51.1**	**-1.5**
DIYA	**Diyarbakir**		**1.75 118**	P	**Pb**	**17 38 52.2**	**-1.1**
GAZ	**Gaziantep**		**1.75 206**	Pn	**Pb**	**17 38 52.4**	**-0.9**
GAZ	**Gaziantep**		**1.75 206**	Pn	**Pn**	**17 38 51.5**	**-0.3**
NZIP	**Nizip/Gaziante**		**1.75 193**	P	**Pn**	**17 38 51.2**	**-0.6**
RSDY	**Resadiye-TOKAT**		**1.77 339**	Pn	**Pn**	**17 38 52.3**	**+0.2**
RSDY				Sn	**Sb**	**17 39 15.8**	**-0.4**
HANI	**Diyarbakir_Han**		**1.78 100**	P	**Pn**	**17 38 51.9**	**-0.4**
BNN	**Bunyan**		**1.82 274**	Pn	**Pn**	**17 38 52.9**	**+0.1**
BNN				Sn	**Sb**	**17 39 17.3**	**-0.4**
BNN	**Bunyan**		**1.82 274**	Pn	**Pn**	**17 38 52.1**	**-0.7**
ANDN	**Andirin**		**1.85 231**	P	**Pn**	**17 38 53.0**	**-0.3**
SURC	**SANLIURFA_SURC**		**1.90 169**	P	**Pn**	**17 38 53.2**	**-0.7**
KAMA	**Osmaniye**		**1.96 218**	P	**Pn**	**17 38 53.9**	**-0.9**
YEDI	**Yedisu-Bingol**		**1.97 69**	Pn	**Pb**	**17 38 56.2**	**-1.0**
BNGB	**Bingl**		**1.98 82**	Pn	**Pb**	**17 38 55.6**	**-1.7**
GUMT	**Gumushane**		**1.98 30**	Pn	**Pb**	**17 38 55.9**	**-1.5**
GUNE	**Kayseri**		**1.99 275**	P	**Pn**	**17 38 55.3**	**+0.1**
TOKT	**Tokat**		**2.01 322**	Pn	**Pn**	**17 38 55.5**	**+0.1**
TOKT				Sn	**Sb**	**17 39 21.8**	**-1.3**
TOKA	**Tokat**		**2.04 321**	Pn	**Pn**	**17 38 55.5**	**-0.3**
KUZU	**Kuzuini**		**2.16 204**	P	**Pn**	**17 38 56.9**	**-0.5**
ESPY	**Espiye-Giresun**		**2.21 11**	Pn	**Pn**	**17 38 58.8**	**+0.7**
KOPT	**Kop Dagi**		**2.21 54**	Pn	**Pb**	**17 38 59.3**	**-2.0

SENK	Senkaya-Erzuru	3.70	59	Pn		Pn	17 39 20.6	+1.8
BCA	Borcka	3.78	43	Pn		Pn	17 39 20.6	+0.9
GEVA	Gevas	3.86	95			Pn	17 39 22.5	+1.5
ILGA	Ilgaz	4.12	305	Pn		Pn	17 39 24.6	0.0
KARS	Kars	4.23	62	Pn		Pn	17 39 26.3	+0.3
ANTO	Ankara	4.31	287			Pn	17 39 26.7	-0.4
ANTO	Ankara	4.31	287	⇑P		Pn	17 39 27.8	+0.7
BEIL	Beino	4.49	201	*e*P		Pn	17 39 31.1	+1.5
BZK	Bozkurt	4.51	317	Pn		Pn	17 39 30.0	+0.2
BZK	Bozkurt	4.51	317	⇑P		Pn	17 39 30.9	+1.1
FKH	Fakeheh	4.71	198	*e*P		Pn	17 39 32.9	+0.2
HWQ	Hawqa	4.81	202	*e*P		Pn	17 39 35.1	+1.2
CIDE	Kastamonu/Cide	5.07	310	⇑P		Pn	17 39 39.1	+1.8
GNI	Garni	5.28	73	Pn		Pn	17 39 45.2	+4.8
	0.3nm,0.3s,baz=337,slow=14,SNR=1.8							
GNI				Lg		Lg	17 41 12.0	
	0.6nm,0.3s,baz=270,slow=19,SNR=0.9							
GNI				LR		LR	17 41 43.6	
	comp=Z,80nm,21.6s,baz=269,slow=38							
	2.3nm,0.4s							
CSS	Mathiatis	5.42	227			Pn	17 39 40.4	-1.8
MDUB	Mudurnu	5.65	290	Pn		Pn	17 39 44.6	-0.9
BORA	Eskisehir	6.09	283			Pn	17 39 50.1	-1.4
KBZ	Khabaz	6.12	34	Pn		Pn	17 39 53.9	+2.1
	0.2nm,0.3s,baz=228,slow=12,SNR=6.9							
	0.2nm,0.3s							
MMAI	Mount Meron Ar	6.15	202	Pn		Pn	17 39 50.8	-1.5
	0.5nm,0.3s,baz=19,slow=14,SNR=1.6							
MMAI				Lg		Lg	17 41 34.2	
	0.6nm,0.3s,baz=17,slow=17,SNR=1.8							
MMAI				LR		LR	17 42 20.7	
	comp=Z,154nm,19.5s,baz=4.5,slow=39							
	0.3nm,0.3s							
KIV	Kislovodsk	6.21	32	Pn		Pn	17 39 52.1	-1.1
KVAR	Kislovodsk Arr	6.22	32	Pn		Pn	17 39 54.9	+1.6
	0.6nm,0.3s,baz=222,slow=17							
KVAR				Sn		Sn	17 41 12.5	+7.6
	baz=281,slow=20							
ASF	Jabal al Asfar	6.65	189	Pn		Pn	17 39 58.6	-0.6
	0.4nm,0.3s,baz=62,slow=15,SNR=5.8							
ASF				Lg		Lg	17 41 52.8	
	1.0nm,0.3s,baz=151,slow=22,SNR=3.6							
	4.5nm,0.8s							
EIL	Elat	9.44	197	Pn		Pn	17 40 35.1	-2.4
	0.1nm,0.3s,baz=37,slow=15,SNR=1.2							
EIL				Lg		Lg	17 43 15.5	
	0.2nm,0.3s,baz=22,slow=16,SNR=1.9							
EIL				LR		LR	17 44 48.2	
	comp=Z,266nm,18.4s,baz=11,slow=41							
	1.0nm,0.5s							
RDO	Rodhopi	9.99	288	Pn		Pn	17 40 43.8	-1.2
VRI	Vrincioaia	11.05	314	⇑P		Pn	17 41 00.5	+1.0
MLR	Muntele Rosu	11.29	311	⇓P		Pn	17 41 03.3	+0.4
ONER	Baraj Valea Uz	11.52	315	⇑P		Pn	17 41 06.1	+0.3
VOIR		11.81	309	⇓P		Pn	17 41 11.6	+1.8
BURAR	Bucovina Array	12.94	317	Pn		Pn	17 41 24.1	-1.2
BUR08	Bucovina Ar. S	12.96	317	Pn		Pn	17 41 23.3	-2.4
GZR	Gura Zlata	13.21	305	⇑P		Pn	17 41 30.7	+1.7
AKASG	Malin Array Be	13.52	335	Pn		Pn	17 41 32.5	-0.6
	0.5nm,0.3s,baz=143,slow=11,SNR=1.6							
	0.6nm,0.5s							
AKTO	Aktyubinsk	18.27	44	LR		LR	17 50 52.6	
	comp=Z,24nm,18.1s,baz=38,slow=41							
ABKAR	Akbulak array	18.79	49	P		P	17 42 39.6	-1.3
GERES	GERESS Array B	20.26	308	P		P	17 42 54.6	-2.5
GERES	GERESS Array B	20.26	308	P		Pn	17 42 58.0	-0.9
	0.9nm,0.6s,baz=106,slow=8.7,SNR=8.0							
	0.9nm,0.6s							
CLL	Collm	21.64	314	*es*P		sP	17 43 16.0	+2.1
CLL				*e*S		S	17 47 12.0	+0.1
CLL				*e*SSS		SSS	17 47 48.0	
CLL				AMS		AMS	17 51 00.0	
	comp=N,100nm,18.1s							
CLL				AMS		AMS	17 51 00.0	
	comp=E,100nm,20.6s							
ARTI	Arti	22.16	31	P		P	17 43 18.1	+0.8
	comp=E,4.3nm,0.7s,baz=221,slow=9.4,SNR=5.7							
ARTI				LR		LR	17 53 02.0	
	comp=E,48nm,18.3s,baz=232,slow=40							
	comp=E,4.3nm,0.7s							
FINES	FINESS Array B	23.92	346	P		P	17 43 36.7	+1.3
FINES	FINESS Array B	23.92	346	P		P	17 43 36.0	+0.6
	comp=E,1.9nm,0.8s,baz=168,slow=7.1,SNR=1.6							
	comp=E,1.9nm,0.8s							
KK31	Karatay Array	24.73	69	P		P	17 43 43.7	+0.5
KKAR	Karatay Array	24.73	69	P		P	17 43 44.0	+0.9
KKAR	Karatay Array	24.73	69	P		P	17 43 43.5	+0.3
KKAR				IAmb		IAmb	17 43 49.3	
	comp=Z,6.4nm,1.4s							
GAR	Garm	24.96	79	P		P	17 43 47.0	+1.6
BTK	Batken	25.19	77	P		P	17 43 47.1	-0.2
BTK				IAmb		IAmb	17 43 53.8	
	comp=Z,6.1nm,1.3s							
BVAR	Borovoye Array	26.31	47	P		P	17 43 58.3	+0.9
	comp=Z,1.3nm,0.9s,baz=256,slow=5.8,SNR=4.6							
BVAR				LR		LR	17 56 35.5	
	comp=Z,34nm,18.8s,baz=253,slow=42							
	comp=Z,1.3nm,0.9s							
HFS	Hagfors	26.38	332	P		P	17 43 59.2	+1.4
	comp=Z,2.0nm,0.8s,baz=146,slow=14,SNR=1.9							
HFS				LR		LR	17 56 24.9	
	comp=Z,20nm,19.4s,baz=142,slow=41							
	comp=Z,2.0nm,0.8s							
AAK	Ala-Archa	27.68	70	LR		LR	17 56 36.0	
	comp=Z,62nm,18.8s,baz=272,slow=40							
NOA	NORSAR Array B	27.90	332	LR		LR	17 57 47.8	
	comp=Z,34nm,18.9s,baz=130,slow=42							
KURBB	Kurchatov Arra	30.68	54	P		P	17 44 36.1	-0.1
	comp=Z,1.6nm,0.2s,baz=269,slow=8.6,SNR=4.9							
	comp=Z,1.6nm,0.2s							
ARCES	ARCESS Array B	31.58	352	LR		LR	17 58 17.4	
	comp=Z,50nm,19.1s,baz=202,slow=38							
MKAR	Makanchi Array	33.01	61	P		P	17 44 57.4	+0.6
MKAR	Makanchi Array	33.01	61	P		P	17 44 58.0	+1.2
	comp=Z,0.1nm,0.4s,baz=274,slow=5.5,SNR=2.1							
	comp=Z,0.1nm,0.4s							
PETK	Petropavlovsk-	74.63	33	LR		LR	18 25 25.8	
	comp=Z,145nm,19.7s,baz=163,slow=38							
YKA	Yellowknife Ar	76.74	347	P		P	17 50 13.1	+0.4
	comp=Z,0.3nm,0.8s,baz=21,slow=5.9,SNR=4.5							
	comp=Z,0.3nm,0.8s							

*IDC **08** 17:50:39.2±2.1, 4°.10N×127°.55E, h0km, mb3.3/5, mbtmp3.3/5, Error ellipse: s-maj=139.4km s-min=22.6km az=71.0*
*DJA **08** 17:50:44.6±1.7, 4°N±17°×12°7E±°, h44km±25km, M3.7/7, mb3.4/3, MLv3.8/7*
ISC 08 17:50:46.9±1.1, 3°.8N±0°.1×126°.52E±0°.08, h45km, n9, σ1°73/10, mb3.3/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.00	264	P	Pn	17 51 02.9	-1.6
SGSI				S	Sn	17 51 16.5	-1.0
KMSI	Cibinong	4.08	219	P	Pn	17 51 46.8	0.0
SANI	Sanana	5.83	185	P	Pn	17 52 10.7	-0.1
	0.0nm4.5nm,1.9s						
SWI	Sorong	6.62	134	P	Pn	17 52 20.2	-1.5
FITZ	Fitzroy Crossi	21.77	182	P	P	17 55 37.3	+2.4
	1.3nm,0.8s,baz=0.0,slow=9.1,SNR=1.3						
	1.3nm,0.8s						
WRA	Warramunga Arr	24.80	162	P	P	17 56 02.4	-2.6
	0.4nm,0.5s,baz=342,slow=10,SNR=6.6						
	0.4nm,0.5s						
ASAR	Alice Springs	28.23	166	P	P	17 56 35.1	-0.6
	0.2nm,0.6s,baz=342,slow=8.9,SNR=5.5						
	0.2nm,0.6s						
MKAR	Makanchi Array	57.39	325	P	P	18 00 31.1	+0.3
	0.1nm,0.3s,baz=122,slow=6.8,SNR=1.9						
	0.1nm,0.3s						
BVAR	Borovoye Array	67.16	327	P	P	18 01 37.6	+1.6
	0.2nm,0.4s,baz=113,slow=6.9,SNR=1.9						
	0.2nm,0.4s						

*MOS **08** 17:53:06.4±0.9, 4°.70S×145°.16E, h19km, mb5.1/23, Error ellipse: s-maj=10.2km s-min=6.4km az=116.4*
*NEIC **08** 17:53:11.4, 4°.83S×145°.19E, h40km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.31; $M_{\theta\theta}$-2.11; $M_{\phi\phi}$3.42; $M_{r\theta}$1.26; $M_{\theta\phi}$-1.65; $M_{\phi r}$1.71; Fault plane solution: $M_0$4.00000×10^{16} NP1: ϕ_s304.09000°, δ53.56000°, λ-162.51000°. NP2: ϕ_s203.49000°, δ76.01000°, λ-37.74000°. Principal axes: T 4.2122, Plg14.0000°, Azm258.0000°; N -0.4191, Plg50.0000°, Azm6.0000°; P -3.7931, Plg36.0000°, Azm157.0000°;*
*NEIC **08** 17:53:11.4, 4°.73S×145°.19E, h40km*
*NEIC **08** 17:53:11.1±2.0, 4°.74S±0°.07×145°.20E±0°.07, h44km±6km, mb5.0/167, Mww5.0/13, Error ellipse: s-maj=10.2km s-min=9.5km az=45.0*
*IDC **08** 17:53:11.6±1.7, 4°.79S×145°.23E, h53km±16km, mb4.4/22, mbtmp4.7/26, ML4.9/3, MS4.1/27, Error ellipse: s-maj=12.0km s-min=7.8km az=110.0*
*DJA **08** 17:53:12.8±0.6, 5°S±4°×14°5E±°, h40km±5km, M5.1/48, mb5.3/48, mB5.5/28, MLv5.6/4, Mw(mB)5.0/28, MwMwp5.3/1, Mwp5.5/1*
*GCMT **08** 17:53:13.4±0.2, 4°.73S±0°.01×145°.21E±0°.01, h34km±1km, MW5.1/100, Moment Tension Solution. s52, c63; s100, c162; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.71±.17; $M_{\theta\theta}$-1.67±.11; $M_{\phi\phi}$4.39±.12; $M_{r\theta}$1.53±.14; $M_{\theta\phi}$-1.65±.07; $M_{\phi r}$3.03±.16; Best double couple: $M_0$5.35500×10^{16} NP1:ϕ_s312.00000°, δ39.00000°, λ-148.00000°. NP2:ϕ_s196.00000°, δ71.00000°, λ-55.00000°. Principal axes: T 5.6580, Plg18.0000°, Azm261.0000°; N -0.5950, Plg33.0000°, Azm3.0000°; P -5.0530, Plg51.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 17:53:11.5±0.3, 4°.75S±0°.03×145°.21E±0°.04, h45km±3km, h45km:pP-P, n596, σ1°13/543, mb5.0/151, MS4.1/32, 13C-9D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.44	39	Pn	Pn	17 54 02.8	+0.1
JAY	Jayapura	5.01	296	P	Pn	17 54 25.0	+0.8
	34nm,0.3s,baz=117,slow=5.2,SNR=74						
JAY				S	Sn	17 55 33.4	+12
	178nm,0.9s,baz=112,slow=19,SNR=3.9						
	114nm,0.5s						
JAY	Jayapura	5.01	296	P	Pn	17 54 24.8	+0.5
	2.0nm3μm331nm,1.0s						
PMG	Port Moresby	5.02	157	Pn	Pn	17 54 24.6	+0.2
PMG	Port Moresby	5.02	157	P	Pn	17 54 24.9	+0.6
	324nm,0.3s,baz=340,slow=9.1,SNR=340						
PMG				S	Sn	17 55 21.9	+0.9
	437nm,0.5s,baz=343,slow=19,SNR=3.7						
PMG				LR	LR	17 57 06.3	
	comp=Z,5μm,21.1s,baz=328,slow=47						
PMG	Port Moresby	5.02	157	S	Sn	17 55 22.1	+1.0
PMG	Port Moresby	5.02	157	P	Pn	17 54 25.4	+1.1
PMG	Port Moresby	5.02	157	S	Sn	17 55 22.2	+1.1
PMG	Port Moresby	5.02	157	*d*P	Pn	17 54 24.8	+0.5
GENI	Genyem	5.47	293	P	Pn	17 54 33.3	+2.8
GENI	Genyem	5.47	293	P	Pn	17 54 31.8	+1.3
	9.5nm11μm738nm,0.9s						
I40PG	Keravat	6.80	87	I	I	18 33 30.0	
	77nm,0.5s,baz=269,slow=310,SNR=0.8						
RABL	Rabaul	6.96	86		Pn	17 54 51.9	+0.9
SMPI	Sarmi	7.04	293	P	Pn	17 54 53.3	+1.2
	2.3nm7μm637nm,1.2s						
COEN	Coen	9.37	192	Pn	Pn	17 55 25.9	+1.9
COEN	Coen	9.37	192	P	Pn	17 55 26.5	+2.4
	comp=Z,216nm,0.7s						
COEN	Coen	9.37	192	P	Pn	17 55 26.3	+2.2
COEN	Coen	9.37	192	S	Sn	17 57 08.2	0.0
SRPI	Serui, Papua	9.40	287	P	Pn	17 55 25.4	+1.0
	comp=Z,2μmcomp=Z,195nm,1.0s						
BAKI	Biak	9.75	291	P	Pn	17 55 30.7	+1.4
	comp=Z,2μmcomp=Z,167nm,1.0s						
RKPI	Ransiki, Papua	11.47	286	P	Pn	17 55 53.8	+0.9
	comp=Z,180nm,1.1s						
FAKI	Fak Fak	13.06	278	Pn	Pn	17 56 09.3	-5.2
FAKI	Fak Fak	13.06	278	P	Pn	17 56 16.1	+1.6
FAKI	Fak Fak	13.06	278	S	Sn	17 58 40.0	+1.5
FAKI	Fak Fak	13.06	278	P	Pn	17 56 13.9	-0.6
	comp=Z,1μmcomp=Z,105nm,1.2s						
MTSU	Mount Surprise	13.33	184	P	Pn	17 56 20.6	+2.3
	comp=Z,37nm,0.6s						
MTSU	Mount Surprise	13.33	184	P	Pn	17 56 20.3	+2.0
SAUI	Saumlaki	14.19	256	Pn	Pn	17 56 23.8	-6.1
SAUI	Saumlaki	14.19	256	P	Pn	17 56 30.9	+1.0
SAUI	Saumlaki	14.19	256	P	Pn	17 56 29.1	-0.8
SWI	Sorong	14.45	285	P	Pn	17 56 31.8	-1.7
TV1H	Townsville Har	14.51	174	P	Pn	17 56 35.8	+1.6
KDU	Kakadu	14.85	237	P	Pn	17 56 37.3	-1.4
	comp=Z,287nm,1.1s						
KDU	Kakadu	14.85	237	P	Pn	17 56 38.3	-0.4
TATA	Tatamba Isabel	14.94	105	P	Pn	17 56 43.2	+3.2
SAVO	Savo Central	15.14	108	P	P	17 56 45.9	-1.1
BNDI	Bandanaira	15.26	270	P	Pn	17 56 45.3	+1.3
BNDI	Bandanaira	15.26	270	P	Pn	17 56 42.6	-1.4
	comp=Z,4μmcomp=Z,315nm,1.0s						
HNR	Honiara	15.35	108		Pn	17 56 40.3	-4.9
HNR				IAmb	IAmb	17 56 53.5	
	comp=Z,70nm,0.8s						
HNR	Honiara	15.35	108	P	Pn	17 56 45.6	+0.3
	comp=Z,4.7nm,0.3s,baz=274,slow=19,SNR=5.3						
HNR				LR	LR	18 02 19.9	
	comp=Z,957nm,22.0s,baz=277,slow=36						
	comp=Z,50nm,0.8s						
MTN	Manton Dam	16.06	239	Pn	Pn	17 56 53.0	-1.4
MTN	Manton Dam	16.06	239	P	Pn	17 56 53.7	-0.7
	comp=Z,82nm,0.9s						
MTN	Manton Dam	16.06	239	P	Pn	17 56 54.9	+0.5
MSAI	Masohi	16.30	274	P	P	17 56 58.6	-1.2
	comp=Z,156nm,1.0s						
QIS	Mount Isa	16.63	199	P	Pn	17 57 01.3	-0.4
	comp=Z,27nm,1.2s						
QIS	Mount Isa	16.63	199	P	Pn	17 57 01.5	-0.1
AAI	Ambon	17.00	273	P	Pn	17 57 04.7	-1.5
PATS	Pohnpei	17.42	49	P	Pn	17 57 10.3	-1.1
PATS				IAmb	IAmb	17 57 14.8	
	comp=Z,160nm,1.0s						
PATS	Pohnpei	17.42	49	P	P	17 57 13.9	+1.7
	comp=Z,226nm,1.6s						
NLAI	Namlea	18.13	274	P	Pn	17 57 20.8	+0.7
	comp=Z,2μmcomp=Z,132nm,0.7s						
WB0	Warramunga Arr	18.27	214	P	P	17 57 20.6	-1.0
WB0				IAmb	IAmb	17 57 23.3	
	comp=Z,184nm,1.4s						
WR0	Warramunga Arr	18.35	214	P	P	17 57 21.0	-1.4
WR0				IAmb	IAmb	17 57 24.0	
	comp=Z,137nm,1.1s						
WRAB	Tennant Creek	18.43	214	P	P	17 57 23.1	-0.3
WRAB				IAmb	IAmb	17 57 25.0	
	comp=Z,136nm,1.1s						
WRAB	Tennant Creek	18.43	214	*c i*P	P	17 57 23.7	+0.3
WRAB				pmax	pmax		
	comp=Z,143nm,1.2s						
WB2	Warramunga Arr	18.44	214	P	P	17 57 23.0	-0.4
WB2				IAmb	IAmb	17 57 25.2	
	comp=Z,159nm,1.2s						
WRA	Warramunga Arr	18.44	214	P	P	17 57 21.7	-1.8
WRA	Warramunga Arr	18.44	214	P	P	17 57 23.0	-0.5
	comp=Z,4.0nm,0.3s,baz=39,slow=12,SNR=58						
WRA				S	Sn	18 00 46.9	-2.4
	comp=Z,18nm,1.2s,baz=32,slow=20,SNR=8.6						
WRA				LR	LR	18 05 49.4	
	comp=Z,819nm,20.1s,baz=53,slow=41						
	comp=Z,68nm,0.9s						
WRA	Warramunga Arr	18.44	214	*i*P	P	17 57 23.2	-0.3
WRA				pmax	pmax		
	comp=Z,67nm,0.9s						
TNTI	Ternate	18.65	287	P	P	17 57 22.8	-3.0
TNTI	Ternate	18.65	287	P	Pn	17 57 28.5	+2.0
RK1H	Rockhampton Ha	19.22	165	P	P	17 57 32.8	+0.8
SANI	Sanana	19.37	277	P	Pn	17 57 35.4	+0.3
SANI	Sanana	19.37	277	P	P	17 57 34.3	+0.6
	comp=Z,1μmcomp=Z,100nm,1.0s						
KNRA	Kununurra	19.47	235	P	P	17 57 32.2	-2.6
KNRA	Kununurra	19.47	235	P	P	17 57 34.1	-0.6
	comp=Z,138nm,1.0s						
EIDS	Eidsvold	21.27	165	P	P	17 57 54.9	+0.7
EIDS				IAmb	IAmb	17 57 58.1	
	comp=Z,86nm,0.9s						
EIDS	Eidsvold	21.27	165	P	P	17 57 55.2	+1.1
	comp=Z,102nm,0.9s						
EIDS	Eidsvold	21.27	165	P	P	17 57 55.3	+1.1
SOEI	Soe	21.35	255	P	P	17 57 54.7	-0.6
SOEI	Soe	21.35	255	P	P	17 57 56.1	+0.7
SOEI	Soe	21.35	255	P	P	17 57 56.0	+0.7
AS01	Alice Springs	21.72	209	P	P	17 57 59.2	+0.1
QLP	Quilpie	21.73	182	P	P	17 57 59.5	+0.4
	comp=Z,126nm,0.6s						
QLP	Quilpie	21.73	182	P	P	17 57 59.8	+0.7
AS31	Alice Springs	21.74	209	P	P	17 57 58.3	-1.0
AS31	Alice Springs	21.74	209	P	P	17 57 59.4	+0.1
	comp=Z,24nm,0.7s						
ASAR	Alice Springs	21.74	209	P	P	17 57 58.3	-1.0
ASAR	Alice Springs	21.74	209	P	P	17 57 59.0	-0.3
	comp=Z,47nm,1.0s,baz=36,slow=10,SNR=162						
ASAR				S	S	18 01 55.8	-1.8
	comp=Z,20nm,1.3s,baz=30,slow=19,SNR=4.1						
ASAR				LR	LR	18 07 21.4	
	comp=Z,593nm,18.7s,baz=50,slow=39						
	comp=Z,47nm,1.0s						
KMSI	Cibinong	21.85	283	P	P	17 58 03.5	+2.9
RMQ	Roma	21.88	171	P	P	17 58 03.6	+2.9
	comp=Z,65nm,1.5s						
BATI	Baumata	22.03	255	P	P	17 58 03.2	+0.7
	comp=Z,134nm,0.7s,baz=82,slow=5.3,SNR=19						
BATI				S	S	18 02 03.9	+0.6
	comp=Z,27nm,1.1s,baz=73,slow=19,SNR=2.4						
BATI				LR	LR	18 09 34.2	
	comp=Z,1μm,19.0s,baz=106,slow=45						
	comp=Z,134nm,0.7s						
BBSI	Bau Bau	22.56	267	P	P	17 58 09.6	+1.4
	comp=Z,2μmcomp=Z,246nm,0.9s						
LUWI	Luwuk	22.70	279	P	P	17 58 10.5	+0.8
LUWI	Luwuk	22.70	279	P	P	17 58 12.9	+3.2
MMRI	Maumere	23.13	259	P	P	17 58 10.4	-3.7
MMRI	Maumere	23.13	259	P	P	17 58 12.3	-1.8
MMRI	Maumere	23.13	259	P	P	17 58 11.3	-2.8
INKA	Innaminka	23.26	190	P	P	17 58 14.9	-0.2
FITZ	Fitzroy Crossi	23.28	234	P	P	17 58 15.1	-0.4
	comp=Z,45nm,0.6s,baz=56,slow=8.3,SNR=100						
FITZ				S	S	18 02 26.7	+1.9
	comp=Z,3.9nm,0.7s,baz=17,slow=12,SNR=0.9						
FITZ				LR	LR	18 08 32.5	
	comp=Z,972nm,18.7s,baz=58,slow=40						
	comp=Z,45nm,0.6s						
EDFI	Ende, Flores	23.69	259	P	P	17 58 16.2	-3.3
MRSI	Marisa	23.82	282	P	P	17 58 23.6	+3.0
	comp=Z,795nmcomp=Z,88nm,0.9s						
APSI	Ampana	23.83	278	P	P	17 58 20.8	0.0
	comp=Z,2μmcomp=Z,160nm,1.2s						
BSSI	Bau Bau, Buton	24.64	266	P	P	17 58 29.7	+1.5
	comp=Z,2μmcomp=Z,132nm,0.9s						
OOD	Oodnadatta	24.65	201	P	P	17 58 28.1	0.0
BKSI	Bulukumba	25.00	268	P	P	17 58 30.9	-0.5
	comp=Z,51nm,0.9s						
BASI	Baing, Sumba	25.01	256	P	P	17 58 31.8	+0.3
BNSI	Bone	25.02	270	P	P	17 58 32.2	+0.6
	comp=Z,1μmcomp=Z,158nm,1.0s						
TOLI2	Tolitoli	25.09	283	P	P	17 58 28.4	-3.8
TOLI2	Tolitoli	25.09	283	P	P	17 58 32.1	-0.1
WSI	Waingapu	25.18	257	P	P	17 58 33.1	0.0
KAPI	Kappang	25.36	268	P	P	17 58 32.7	-2.0
KAPI				IAmb	IAmb	17 58 36.9	
	comp=Z,48nm,0.8s						
KAPI	Kappang	25.36	268	P	P	17 58 34.4	-0.4
	comp=Z,41nm,0.7s,baz=98,slow=6.5,SNR=21						
KAPI				LR	LR	18 11 17.3	
	comp=Z,372nm,19.9s,baz=90,slow=43						
	comp=Z,41nm,0.7s						
KAPI	Kappang	25.36	268	*c i*P	P	17 58 33.9	-0.8
KAPI				pmax	pmax		
	comp=Z,64nm,0.9s						
SPSI	Sidrap Palu	25.38	271	P	P	17 58 33.4	-1.4
PCI	Palu	25.62	278	P	P	17 58 38.5	+1.4
	comp=Z,2μmcomp=Z,144nm,0.9s						
MPSI	Mapaga	25.78	281	P	P	17 58 41.3	+2.8
WRKA	Warakurna	25.90	217	P	P	17 58 38.7	-0.8
	comp=Z,40nm,1.0s						
WRKA	Warakurna	25.90	217	P	P	17 58 39.2	-0.3
WBSI	Waikabubak, Su	26.06	258	P	P	17 58 43.2	+2.1
ARMA	Armidale	26.24	167	P	P	17 58 43.6	+0.9
	comp=Z,124nm,1.0s						
ARMA	Armidale	26.24	167	P	P	17 58 43.0	+0.3
LCRK	Leigh Creek	26.40	194	P	P	17 58 43.8	-0.1
CMSA	Cobar Meteorol	26.66	179	P	P	17 58 46.6	+0.4
	comp=Z,45nm,0.8s						
CMSA	Cobar Meteorol	26.66	179	P	P	17 58 46.5	+0.3
DZM	Mont Dzumac	26.82	132	P	P	17 58 46.2	-1.8
DZM				IAmb	IAmb	17 58 51.4	
	comp=Z,38nm,0.9s						
DZM	Mont Dzumac	26.82	132	*e*P	P	17 58 47.1	-0.9
	comp=Z,87nm,1.0s						
DZM				*e*S	S	18 03 24.9	+3.4
	comp=Z,372nm,23.4s						
DZM				*e*LR	LR	18 05 40.4	
	comp=Z,3μm,27.1s						
DZM	Mont Dzumac	26.82	132	LR	LR	18 08 43.3	
	comp=Z,512nm,20.5s,baz=313,slow=35						
DZM	Mont Dzumac	26.82	132	P	P	17 58 47.5	-0.5
STKA	Stephens Creek	27.20	187	P	P	17 58 50.1	-1.0
STKA	Stephens Creek	27.20	187	P	P	17 58 50.5	-0.6
	comp=Z,348nm,0.7s						
STKA	Stephens Creek	27.20	187	P	P	17 58 50.8	-0.3
	comp=Z,52nm,0.6s,baz=1.0,slow=11,SNR=106						
STKA				S	S	18 03 28.9	+1.9
	comp=Z,1.8nm,0.8s,baz=320,slow=16,SNR=1.2						
STKA				LR	LR	18 11 21.3	
	comp=Z,489nm,19.6s,baz=1.7,slow=40						
	comp=Z,52nm,0.6s						
STKA	Stephens Creek

TPUB	Ta-pu	36.78	320	P	P	18 00 14.5 -0.7
KLBR	Kellerberrin	37.10	221	P	P	18 00 17.1 -0.7
	comp=Z,39nm,0.9s					
KLBR	Kellerberrin	37.10	221	P	P	18 00 17.2 -0.7
BLDU	Ballidu	37.18	223	P	P	18 00 18.6 +0.1
BBJI	Bungbulang	37.43	264	P	P	18 00 22.4 +1.5
LEM	Lembang	37.45	265	P	P	18 00 19.8 -1.3
	comp=Z,18nm,0.7s,baz=150,slow=20,SNR=6.5					
LEM				LR	LR	18 19 21.2
	comp=Z,189nm,19.9s,baz=100,slow=42					
	comp=Z,18nm,0.7s					
TATO	Taipei	37.48	323	P	P	18 00 21.6 +0.6
TATO				pP	pP	18 00 32.9 -0.4
TPI	Tanjungpandan	37.52	272	P	P	18 00 28.6 +7.0
MOO	Moorlands	37.58	178	P	P	18 00 23.0 +1.3
TAU	Tasmania Unive	38.05	177	P	P	18 00 25.5 -0.1
JNU	Nakatsue	40.04	341	LR	LR	18 17 50.2
	comp=Z,56nm,18.0s,baz=154,slow=37					
MDSI	Maura Dua	40.89	269	P	P	18 00 48.3 -1.5
LWLI	Liwa	41.00	268	P	P	18 00 54.5 +3.7
MJAR	Matsushiro Arr	41.59	351	P	P	18 00 54.2 -0.9
	comp=Z,1.5nm,0.6s,baz=166,slow=16,SNR=5.8					
	comp=Z,1.5nm,0.6s					
MAJO	Matsushiro	41.59	351	P	P	18 00 54.3 -0.9
MAJO				pP	pP	18 01 06.1 -1.5
MAJO				sP	sP	18 01 11.0 -1.9
QIZ	Qiongzhong	42.08	305	P	P	18 01 00.4 +1.0
QIZ				S	S	18 07 16.9 +0.9
QIZ				LR	LR	
	comp=Z,150nm,16.5s					
QIZ				LR	LR	
	comp=Z,220nm,20.9s					
QIZ				LR	LR	
	comp=Z,320nm,25.6s					
TOZ	Tahuroa Road	42.91	144	IAmb	IAmb	18 01 08.3
	comp=Z,43nm,1.0s					
HIZ	Hauiti	43.08	145	P	P	18 01 08.1 +0.9
QRZ	Quartz Range	43.49	150	P	P	18 01 10.8 +0.2
URZ	Urewera	44.21	143	LR	LR	18 17 50.4
	comp=Z,603nm,21.7s,baz=38,slow=34					
URZ	Urewera	44.21	143	P	P	18 01 16.9 +0.5
JCZ	Jackson Bay	44.33	156	P	P	18 01 19.1 +1.8
NJ2	Nanjing	44.36	327	eP	P	18 01 20.1 +2.5
NJ2				pP	pP	18 01 30.7 +0.6
NJ2				sP	sP	18 01 36.6 +1.2
NJ2				pmax	pmax	
	comp=Z,17nm,0.5s					
NJ2				LR	LR	
	comp=Z,420nm,15.6s					
INZ	Inchbonnie	44.41	152	IAmb	IAmb	18 01 23.3
	comp=Z,38nm,1.2s					
BKZ	Black Stump Fm	44.45	145	P	P	18 01 19.2 +0.8
MXZ	Matakaoa Point	44.49	142	P	P	18 01 19.4 +0.8
PPI	Padang Panjang	44.95	274	P	P	18 01 23.1 +0.4
	comp=Z,49nm,0.8s					
KSRS	Korea Array	44.97	340	P	P	18 01 22.0 -0.3
	comp=Z,2.5nm,0.9s,baz=156,slow=8.7,SNR=11					
KSRS				LR	LR	18 17 04.8
	comp=Z,125nm,21.5s,baz=155,slow=32					
	comp=Z,2.5nm,0.9s					
SNZO	South Karori	44.97	148	P	P	18 01 20.9 -1.4
SNZO	South Karori	44.97	148	P	P	18 01 22.7 +0.4
SNZO	South Karori	44.97	148	P	P	18 01 21.9 -0.4
KSAR	Wonju Array Be	44.97	340		P	18 01 21.8 -0.6
KSAR	Wonju Array Be	44.97	340	P	P	18 01 21.8 -0.6
RPZ	Rata Peaks	45.01	153	P	P	18 01 21.8 -0.9
RPZ	Rata Peaks	45.01	153	LR	LR	18 18 13.8
	comp=Z,523nm,19.1s,baz=329,slow=33					
RPZ	Rata Peaks	45.01	153	P	P	18 01 23.2 +0.5
OXZ	Oxford	45.16	152	IAmb	IAmb	18 01 26.5
	comp=Z,26nm,0.8s					
LBZ	Lake Benmore	45.17	155	P	P	18 01 24.0 +0.1
KHZ	Kahutara	45.18	150	P	P	18 01 23.3 -0.7
BFZ	Birch Farm	45.35	147	P	P	18 01 26.0 +0.6
WHN	Wuhan	45.85	322	P	P	18 01 33.0 +3.5
WHN				pP	pP	18 01 42.9 +1.0
WHN				S	S	18 08 17.0 +6.4
WHN				LR	LR	
	comp=Z,560nm,19.8s					
ODZ	Otahua Downs	45.89	155	P	P	18 01 29.7 +0.1
RPSI	Rantau Prapat	46.83	278	P	P	18 01 36.1 -1.4
RPSI				IAmb	IAmb	18 01 59.2
	comp=Z,26nm,1.0s					
PSI	Prapat	46.85	278	P	P	18 01 37.3 -0.4
PSI	Prapat	46.85	278	P	P	18 01 36.1 -1.6
PSI				pmax	pmax	
	comp=Z,26nm,1.0s					
GSI	Gunungsitoli	47.97	276	P	P	18 01 45.6 -0.7
GSI				IAmb	IAmb	18 01 57.8
	comp=Z,17nm,0.8s					
GSI	Gunungsitoli	47.97	276	P	P	18 01 47.3 +1.0
GSI	Gunungsitoli	47.97	276	P	P	18 01 57.1 +11
SLVN	Son La	48.07	304	P	P	18 01 45.4 -1.6
DL2	Dalian	48.60	335	P	P	18 01 52.4 +1.6
DL2				pP	pP	18 02 03.4 0.0
DL2				S	S	18 08 50.2 +0.7
DL2				pmax	pmax	
	comp=Z,11nm,1.0s					
DL2				LR	LR	
	comp=Z,190nm,21.9s					
DL2				LR	LR	
	comp=Z,140nm,23.2s					
DL2				LR	LR	
	comp=Z,310nm,25.6s					
ASAJ	Asahikawa	48.70	357	LR	LR	18 23 44.2
	comp=Z,102nm,19.5s,baz=185,slow=38					
ENH	Enshi	48.80	318	P	P	18 01 51.0 -1.4
ENH				IAmb	IAmb	18 02 10.8
	comp=Z,20nm,1.3s					
VLA	Vladivostok	49.15	347⇑	eP	P	18 01 56.4 +1.6
VLA				pmax	pmax	
	comp=Z,13nm,1.4s					
LYN	LuoYang	49.80	324	SS	SS	18 12 28.7 -11
LYN				pmax	pmax	
	comp=Z,200nm,4.2s					
LYN				LR	LR	
	comp=N,300nm,17.6s					
LYN				LR	LR	
	comp=E,200nm,21.3s					
LYN				LR	LR	
	comp=Z,380nm,16.7s					
USA0B	Ussuriysk Arra	50.16	348	P	P	18 02 01.4 -1.1
USA0B				IAmb	IAmb	18 02 16.2
	comp=Z,12nm,0.9s					
USA0B	Ussuriysk Arra	50.16	348	P	P	18 02 01.4 -1.1
USA0B				pmax	pmax	
	comp=Z,12nm,0.9s					
USRK	Ussuriysk Ar.	50.16	348	P	P	18 02 01.5 -1.0
USRK	Ussuriysk Ar.	50.16	348	P	P	18 02 02.4 0.0
	comp=Z,4.2nm,0.7s,baz=165,slow=6.0,SNR=7.3					
	comp=Z,4.2nm,0.7s					
CRAI	Chiangrai	50.55	301	P	P	18 02 05.5 -0.5
CRAI				IAmb	IAmb	18 02 34.7
	comp=Z,21nm,1.2s					
HNS	HongShan	50.64	328	⇓P	P	18 02 06.2 -0.1
HNS				pP	pP	18 02 18.3 -0.7
HNS				S	S	18 09 19.0 +0.9
HNS				sS	sS	18 09 40.9 +1.4
HNS				pmax	pmax	
	comp=Z,14nm,0.7s					
HNS				LR	LR	
	comp=Z,130nm,22.3s					
HNS				LR	LR	
	comp=Z,140nm,20.7s					
HNS				LR	LR	
	comp=Z,190nm,22.3s					
BSI	Banda Aceh	50.87	281	P	P	18 02 22.4 +14
CMAR	Chiang Mai Arr	51.09	298	P	P	18 02 08.9 -1.2
CMAR	Chiang Mai Arr	51.09	298	P	P	18 02 09.8 -0.2
	comp=Z,2.2nm,0.8s,baz=113,slow=7.7,SNR=9.8					
	comp=Z,2.2nm,0.8s					
YSS	Yuzhno-Sakhali	51.52	358	eP	P	18 02 13.1 +0.4
YSS				eS	S	18 09 28.3 -1.6
YSS				pmax	pmax	
	comp=Z,10.0nm,1.1s					
YSS	Yuzhno-Sakhali	51.52	358	P	P	18 02 13.3 +0.6
YSS				pP	pP	18 02 25.8 +0.4
XAN	Xi'an	51.59	321	⇑P	P	18 02 16.4 +2.8
XAN				pP	pP	18 02 23.1 -3.1
XAN				sP	sP	18 02 27.3 -4.1
XAN				S	S	18 09 30.4 -1.1
XAN				pmax	pmax	
	comp=Z,9.0nm,0.5s					
XAN				pmax	pmax	
	comp=Z,260nm,3.8s					
BJT	Baijiatuau	51.94	332	P	P	18 02 16.0 0.0
BJT				IAmb	IAmb	18 02 29.4
	comp=Z,21nm,1.1s					
BJT	Baijiatuau	51.94	332	P	P	18 02 16.0 0.0
BJT				pmax	pmax	
	comp=Z,21nm,1.1s					
PZH	PanZhiHua	52.29	309	P	P	18 02 21.0 +2.0
PZH				pmax	pmax	
	comp=Z,10.0nm,0.6s					
PZH				pmax	pmax	
	comp=Z,90nm,5.2s					
BNX	BinXian	52.71	344	⇓P	P	18 02 22.2 +0.6
BNX				pmax	pmax	
	comp=Z,7.0nm,1.0s					
HHC	Hu-ho-hao-te	54.84	329	eP	P	18 02 40.1 +2.7
HHC				pP	pP	18 02 50.4 +0.2
HHC				S	S	18 10 14.5 -1.1
HHC				pmax	pmax	
	comp=Z,14nm,0.9s					
HHC				pmax	pmax	
	comp=Z,68nm,5.9s					
HHC				LR	LR	
	comp=Z,120nm,15.1s					
HHC				LR	LR	
	comp=Z,92nm,14.3s					
HHC				LR	LR	
	comp=Z,150nm,14.3s					
KLR	Kul'dur	55.02	349	c iP	P	18 02 38.5 +0.1
KLR				pmax	pmax	
	comp=Z,25nm,1.1s					
TYV	Tymovskoe	55.43	358	eP	P	18 02 53.1 +12
TYV				eS	S	18 10 46.1 +23
TYV				pmax	pmax	
	comp=Z,200nm,3.8s					
TYV				pmax	pmax	
	comp=Z,14nm,1.4s					
TYV				smax	smax	
	comp=N,400nm,7.2s					
TYV				smax	smax	
	comp=E,300nm,7.2s					
RAR	Rarotonga	55.76	112	LR	LR	18 24 30.9
	comp=E,59nm,21.7s,baz=260,slow=34					
HEH	HeiHe	56.90	346	eP	P	18 02 51.6 -0.2
HEH				pmax	pmax	
	comp=E,4.0nm,0.7s					
PETK	Petropavlovsk-	58.60	9	P	P	18 03 03.2 -0.5
	comp=E,3.4nm,0.8s,baz=195,slow=7.5,SNR=12					
	comp=E,3.4nm,0.8s					
ZEA	Zeya	60.19	348	eP	P	18 03 15.4 +0.7
ZEA				e		18 03 28.0
ZEA				pmax	pmax	
	comp=N,10.0nm,0.8s					
ZEA				pmax	pmax	
	comp=Z,10.0nm,0.9s					
GTA	Gaotai	60.65	321	eP	P	18 03 19.0 +0.7
GTA				pP	pP	18 03 31.9 +0.6
GTA				sP	sP	18 03 37.9 +1.3
GTA				pmax	pmax	
	comp=Z,2.0nm,1.2s					
DRV	Dumont d'Urvil	61.92	182	P	P	18 03 25.7 -0.4
ULN	Ulaanbaatar	62.16	332	P	P	18 03 28.0 -0.4
ULN				IAmb	IAmb	18 03 42.6
	comp=Z,16nm,1.1s					
ULN	Ulaanbaatar	62.16	332	⇓eP	P	18 03 28.7 +0.3
ULN				pmax	pmax	
	comp=Z,4.0nm,1.2s					
GOMU	GeErMu	62.25	315	P	P	18 03 29.0 -0.5
GOMU				pP	pP	18 03 41.1 -1.5
GOMU				sP	sP	18 03 46.8 -1.0
GOMU				pmax	pmax	
	comp=Z,12nm,0.9s					
GOMU				pmax	pmax	
	comp=Z,250nm,4.8s					
GOMU				LR	LR	
	comp=Z,160nm,16.9s					
GOMU				LR	LR	
	comp=Z,220nm,15.2s					
GOMU				LR	LR	
	comp=Z,340nm,17.6s					
SONM	Songino Array	62.45	332	P	P	18 03 30.6 +0.3
	comp=Z,1.4nm,0.7s,baz=132,slow=2.1,SNR=8.5					
SONM				LR	LR	18 31 06.8
	comp=Z,167nm,20.6s,baz=112,slow=36					
	comp=Z,1.4nm,0.7s					
PPT	Papeete	64.96	107	LR	LR	18 28 44.9
	comp=Z,96nm,21.9s,baz=260,slow=33					
PPT2	Papeete2	64.96	107	ePKIKP	P	18 03 49.8 +2.4
	comp=Z,79nm,25.8s					
PPT2	Papeete2	64.96	107	eLQ	LQ	18 20 30.6
	comp=Z,304nm,31.5s					
PPT2				eLR	LR	18 23 19.7
	comp=Z,258nm,23.2s					
PPT2				eLR	LR	18 23 19.8
	comp=Z,298nm,22.8s					
PALK	Pallekele	65.47	280	LR	LR	18 36 20.1
	comp=Z,99nm,19.0s,baz=112,slow=40					
TBI	Tubuai	65.50	113	eS	S	18 12 34.2 +1.5
	comp=Z,621nm,28.2s					
TBI				eLQ	LQ	18 20 44.7
	comp=Z,2μm,36.0s					
TBI				eLR	LR	18 23 31.5
	comp=Z,820nm,24.0s					
ZAK	Zakamensk	65.70	332	eP	P	18 03 51.1 -0.4
ZAK				pmax	pmax	
	comp=Z,18nm,1.1s					
CASY	Casey	66.00	195	P	P	18 03 52.4 -0.6
CASY				IAmb	IAmb	18 03 52.7
	comp=Z,11nm,0.8s					
CASY	Casey	66.00	195	P	P	18 03 52.1 -0.9
BOD	Bodaibo	67.25	343	eP	P	18 04 11.3 +10
BOD				pmax	pmax	
	comp=Z,21nm,1.6s					
YAK	Yakutsk	67.65	352	P	P	18 04 02.4 -1.2
YAK	Yakutsk	67.65	352	eP	P	18 04 04.1 +0.5
YAK				e*PP	pP	18 04 16.5 -0.2
YAK				e		18 04 30.4
YAK				ePPP	PPP	18 08 07.8
YAK				eS	S	18 12 58.1 +0.8
YAK				e*SS	sS	18 13 19.6 +1.0
YAK				e		18 13 56.3
YAK				pmax	pmax	
	comp=Z,8.0nm,1.4s					
YAK				pmax	pmax	
	comp=N,5.0nm,1.5s					
YAK				pmax	pmax	
	comp=E,1.0nm,1.3s					
YAK				pmax	pmax	
	comp=Z,80nm,4.0s					
YAK				pmax	pmax	
	comp=N,110nm,6.4s					
YAK				pmax	pmax	
	comp=E,80nm,5.1s					
YAK				smax	smax	
	comp=N,89nm,5.3s					
YAK				smax	smax	
	comp=E,30nm,4.5s					
YAK	Yakutsk	67.65	352	P	P	18 04 04.5 +0.9
YAK				pP	pP	18 04 16.5 -0.2
SEY	Seymchan	67.71	4⇑	i P	P	18 04 04.5 +0.6
SEY				pmax	pmax	
	comp=Z,9.0nm,1.2s					
NIKH	Nikolski High	69.29	28	P	P	18 04 12.9 -1.0
	baz=230					
HYB	Hyderabad	69.35	290	eP	P	18 04 13.7 -1.5
WMQ	Urumqi	70.69	320	eP	P	18 04 24.1 +1.2
UNV	Unalaska Valle	70.93	28	P	P	18 04 23.6 -0.4
	baz=232					
P08K	Saint George I	71.36	24	P	P	18 04 25.8 -0.7
	baz=228					
CCD	Concordia, Ant	71.42	186	P	P	18 04 26.6 -0.6
CCD				sP	sP	18 04 43.5 -2.1
SPIA	Saint Paul Isl	71.46	24	P	P	18 04 27.4 +0.2
	baz=228					
FALS	False Pass	72.98	28	P	P	18 04 36.6 +0.3
	baz=234					
VNDA	Vanda	73.27	176	P	P	18 04 37.3 -0.4
VNDA				IAmb	IAmb	18 04 38.3
	comp=Z,40nm,1.4s					
VNDA	Vanda	73.27	176	P	P	18 04 37.0 -0.7
	comp=Z,7.9nm,0.6s,baz=338,slow=8.5,SNR=65					
VNDA				LR	LR	18 35 27.4
	comp=Z,266nm,18.0s,baz=352,slow=35					
	comp=Z,7.9nm,0.6s					
VNDA	Vanda	73.27	176	P	P	18 04 37.3 -0.4
VNDA				pmax	pmax	
	comp=Z,40nm,1.4s					
SBA	Scott Base	73.94	175	P	P	18 04 41.2 -0.3
SBA	Scott Base	73.94	175	P	P	18 04 41.3 -0.3
SBA				pmax	pmax	
	comp=Z,53nm,1.7s					
BILL	Bilibino	74.12	8	P	P	18 04 41.4 -1.3
BILL	Bilibino	74.12	8⇑	i P	P	18 04 43.0 +0.3
BILL				pmax	pmax	
	comp=Z,8.0nm,1.3s					
TAOE	Nuku Hiva Isla	74.13	98	eLR	LR	18 27 35.3
	comp=Z,111nm,22.6s					
SDPT	Sand Point	74.66	29	P	P	18 04 46.6 +0.5
	baz=237					
CHNA	Chernabura Isl	74.81	29	P	P	18 04 46.6 -0.4
	baz=238					
MK31	Makanchi Array	75.40	321⇑	eP	P	18 04 50.5 -0.2
MKAR	Makanchi Array	75.40	321	P	P	18 04 48.8 -1.9
MKAR	Makanchi Array	75.40	321	P	P	18 04 50.4 -0.3
	comp=Z,1.5nm,0.8s,baz=109,slow=7.0,SNR=14					
	comp=Z,1.5nm,0.8s					
GAMB	Gambell	75.54	18	P	P	18 04 51.4 +0.5
	baz=225					
S14K	Fog Glacier	75.60	28	P	P	18 04 51.5 -0.2
	baz=238					
MAKZ	Makanchi	75.61	321	P	P	18 04 50.1 -1.7
MAKZ	Makanchi	75.61	321	P	P	18 04 50.1 -1.7
MAKZ				pmax	pmax	
	comp=Z,10.0nm,0.9s					
SHLS	Shalkode	75.90	317	eP	P	18 04 52.3 -1.4
SHLS	Shalkode	75.90	317	eP	P	18 04 52.4 -1.4
CHGN	Chignik	76.15	29	P	P	18 04 54.7 +0.1
	baz=239					
UZB	Uzynbulak	76.20	316	eP	P	18 04 55.8 +0.3
UZB	Uzynbulak	76.20	316	eP	P	18 04 55.8 +0.3
M13K	Dall Lake	76.30	24	IAmb	IAmb	18 05 12.4
	comp=Z,30nm,1.2s					
M13K	Dall Lake	76.30	24	P	P	18 04 54.7 -0.7
	baz=233					
O14K	Tigyukauivet M	76.48	25	P	P	18 04 56.0 -0.4
	baz=236					
SATY	Saty	76.60	316	eP	P	18 04 57.9 +0.2
SATY	Saty	76.60	316	eP	P	18 04 58.0 +0.2
N14K	Kuskokwak Cree	76.68	24	P	P	18 04 57.0 -0.6
N14K				IAmb	IAmb	18 05 16.8
	comp=Z,14nm,0.9s					
N14K	Kuskokwak Cree	76.68	24	P	P	18 04 57.4 -0.1
	baz=235					
K13K	Kusilvak Mount	76.72	22	P	P	18 04 56.5 -1.3
	baz=232					
TIXI	Tiksi	77.00	355		P	18 04 57.4 -1.7
TIXI	Tiksi	77.00	355⇑	eP	P	18 05 00.4 +1.3
TIXI				pmax	pmax	
	comp=Z,3.0nm,1.1s					
ZALV	Zalesovo Beam	77.01	328	P	P	18 04 57.7 -1.9
ZALV	Zalesovo Beam	77.01	328	P	P	18 04 58.1 -1.4
	comp=Z,2.0nm,0.7s,baz=117,slow=7.7,SNR=9.5					
ZALV				LR	LR	18 37 45.2
	comp=Z,131nm,21.8s,baz=118,slow=35					
	comp=Z,2.0nm,0.7s					
ZALV	Zalesovo Beam	77.01	328	i P	P	18 04 58.5 -1.1
ZALV				pmax	pmax	
	comp=Z,2.0nm,0.7s					
O15K	Ungalikthiuk R	77.05	26	IAmb	IAmb	18 05 01.6
	comp=Z,14nm,1.1s					
O15K	Ungalikthiuk R	77.05	26	P	P	18 04 59.1 -0.6
	baz=237					
L14K	Kuka Creek	77.11	23	P	P	18 04 59.9 0.0
	baz=234					
KDJ	Kajisay	77.15	315		P	18 04 58.9 -2.0
KDJ	Kajisay	77.15	315	P	P	18 04 58.9 -2.0
KDJ				pmax	pmax	
	comp=Z,8.0nm,1.0s					
R16K	Pilot Point	77.20	28	P	P	18 05 00.4 -0.1
	baz=239					
KSH	Kashi	77.22	312	P	P	18 05 02.6 +1.3
KSH				PcP	pP	18 05 14.7 0.0
KSH				pmax	pmax	
	comp=Z,2.0nm,3.1s					
N15K	Kwethluk River	77.48	25	IAmb	IAmb	18 05 26.8
	comp=Z,12nm,1.0s					
N15K	Kwethluk River	77.48	25	P	P	18 05 02.6 +0.4
	baz=236					
M15K	Kasigluk River	77.53	24	P	P	18 05 02.3 -0.1
	baz=236					
MDOK	Medeo	77.57	316	eP	P	18 05 03.7 +0.5
MDOK	Medeo	77.57	316	eP	P	18 05 03.8 +0.5
TNSS	Tian-Shan	77.60	316	eP	P	18 05 03.8 +0.2
TNSS	Tian-Shan	77.60	316	eP	P	18 05 03.9 +0.2
J14K	Nanvaranak Lak	77.63	22	P	P	18 05 02.7 -0.1
	baz=233					
AAA	Alma-Ata	77.68	316	eP	P	18 05 04.2 +0.5
AAA	Alma-Ata	77.68	316	eP	P	18 05 04.2 +0.5
L15K	Ungalak Mounta	77.78	23	P	P	18 05 03.5 -0.2
	baz=235					
O16K	Kokwok River B	78.02	26	IAmb	IAmb	18 05 06.6
	comp=Z,18nm,1.1s					
O16K	Kokwok River B	78.02	26	P	P	18 05 04.8 -0.2
	baz=238					
K15K	Wolf Creek Mou	78.11	23	IAmb	IAmb	18 05 07.6
	comp=Z,18nm,1.2s					
K15K	Wolf Creek Mou	78.11	23	P	P	18 05 05.5 -0.1
	baz=235					
ANM	Nome	78.12	20	P	P	18 05 05.4 -0.1
	baz=231					
BOOM	Boomskoye usch	78.13	315	P	P	18 05 05.9 -0.5
BOOM	Boomskoye usch	78.13	315	P	P	18 05 05.9 -0.5
BOOM				pmax	pmax	
	comp=Z,8.0nm,0.9s					
Q16K	King Salmon	78.19	27	P	P	18 05 06.3 +0.3
	baz=240					
N16K	Nishlik Lake	78.20	25	P	P	18 05 06.0 -0.2
	baz=238					
KUU	Kurty	78.29	316	eP	P	18 05 07.7 +0.7
KUU	Kurty	78.29	316	eP	P	18 05 07.8 +0.7
SII	Sitkinak Islan	78.33	30	P	P	18 05 06.7 -0.2
	baz=242					
Q17K	Contact Creek	78.33	28	P	P	18 05 06.3 -0.7
	baz=241					
F14K	Arctic Creek	78.39	19	P	P	18 05 06.6 -0.5
	baz=230					
M16K	Timber Creek	78.42	24	IAmb	IAmb	18 05 32.1
	comp=Z,21nm,1.1s					
M16K	Timber Creek	78.42	24	P	P	18 05 07.3 0.0
	baz=237					
P17K	Kvichak River	78.54	27	P	P	18 05 07.0 -0.9
	baz=240					
O17K	Koliganek Bris	78.55	26	P	P	18 05 07.6 -0.4
	baz=239					
L16K	Owhat River	78.59	24	P	P	18 05 08.0 -0.2
	baz=237					
RKT	Rikitea	78.80	113	eLR	LR	18 29 42.4
	comp=Z,1μm,24.5s					
G15K	Niukluk	78.84	20	P	P	18 05 09.5 0.0
	baz=232					
N17K	Nushagak Hills	78.90	25	IAmb	IAmb	18 05 25.6
	comp=Z,17nm,1.1s					
N17K	Nushagak Hills	78.90	25	P	P	18 05 09.9 -0.1
	baz=239					
Q18K	Katmai Hardscr	78.92	27	P	P	18 05 09.8 -0.5
	baz=241					
J16K	Anvik River	79.03	22	P	P	18 05 10.2 -0.4
	baz=235					
OHAK	Old Harbor	79.07	29	P	P	18 05 11.0 +0.1
	baz=243					
F15K	North Star Dit	79.08	19	P	P	18 05 10.0 -0.8
	baz=231					
KURK	Kurchatov	79.15	324	P	P	18 05 10.6 -0.9
KURK	Kurchatov	79.15	324⇑	eP	P	18 05 11.2 -0.3
KURK				pmax	pmax	
	comp=Z,12nm,1.0s					
KURBB	Kurchatov Arra	79.17	323	P	P	18 05 10.6 -1.0
	comp=Z,1.8nm,0.2s,baz=112,slow=4.9,SNR=4.8					
	comp=Z,1.8nm,0.2s					
AAK	Ala-Archa	79.20	315	LR	LR	18 40 43.3
	comp=Z,52nm,21.2s,baz=121,slow=36					
AAK	Ala-Archa	79.20	315⇓	eP	P	18 05 13.4 +1.2
AAK				pmax	pmax	
	comp=Z,8.0nm,1.3s					
M17K	Holitna River	79.24	24	IAmb	IAmb	18 05 14.2
	comp=Z,14nm,0.9s					
M17K	Holitna River	79.24	24	P	P	18 05 11.4 -0.4
	baz=239,SNR=6.0					
L17K	Donlin	79.28	23	P	P	18 05 12.1 +0.1
	baz=238					
N18K	Kilae Creek	79.53	25	P	P	18 05 13.4 0.0
	baz=240					
K17K	Iditarod	79.59	23	IAmb	IAmb	18 05 15.7
	comp=Z,21nm,1.1s					

K17K	Iditarod	79.59	23	P	P	18 05 13.7	0.0	
	baz=238							
G16K	Koyuk River	79.64	20	P	P	18 05 14.5	+0.7	
G16K	Koyuk River	79.64	20	P	P	18 05 13.7	-0.2	
	baz=233							
KDAK	Kodiak Island	79.66	29	P	P	18 05 10.3	-3.8	
	comp=Z,5.7nm,0.8s,baz=248,slow=5.4,SNR=1.9							
J17K	VABM Dome	79.67	22	P	P	18 05 13.5	-0.6	
	baz=237							
M18K	Stony River	79.96	25	P	P	18 05 15.3	-0.4	
	baz=240,SNR=5.6							
L18K	Granite Mounta	79.97	24	P	P	18 05 14.9	-0.8	
	baz=239							
N19K	Bonanza Creek	80.19	26	IAmb	IAmb	18 05 18.6		
	comp=Z,18nm,1.2s							
N19K	Bonanza Creek	80.19	26	P	P	18 05 16.3	-0.8	
	baz=242							
H17K	Granite Mounta	80.22	21	IAmb	IAmb	18 05 19.6		
	comp=Z,20nm,1.2s							
H17K	Granite Mounta	80.22	21	P	P	18 05 16.9	-0.1	
	baz=236,SNR=5.7							
G17K	Kiwalik Mounta	80.29	20	P	P	18 05 17.0	-0.3	
	baz=235							
C16K	Lisburne Hills	80.51	17	P	P	18 05 18.0	-0.5	
	baz=230							
J18K	Innoko River	80.60	23	P	P	18 05 18.3	-0.8	
J18K	Innoko River	80.60	23	P	P	18 05 18.7	-0.4	
	baz=239,SNR=5.6							
TTA	Tatalina	80.61	23	P	P	18 05 18.5	-0.7	
	baz=240							
F17K	Baldwin Pennin	80.63	19	P	P	18 05 18.7	-0.5	
	baz=234							
L19K	White Mountain	80.70	24	P	P	18 05 19.0	-0.7	
	baz=241							
M19K	Big River Lodg	80.76	25	P	P	18 05 19.4	-0.6	
	baz=241							
D17K	Noatak River	80.81	18	P	P	18 05 19.3	-0.8	
	baz=232							
E17K	Hotham Inlet	80.83	18	P	P	18 05 19.6	-0.6	
	baz=234							
H18K	Honhosa River	80.89	21	P	P	18 05 20.1	-0.5	
	baz=237							
HOM	Homer	80.93	27	P	P	18 05 20.4	-0.5	
	baz=244							
RDOG	Red Dog Mine	81.08	17	P	P	18 05 21.2	-0.4	
	baz=232							
G18K	Tagagawik	81.19	20	P	P	18 05 22.3	+0.1	
	baz=237							
GCSA	Galena City Sc	81.21	22	P	P	18 05 22.4	+0.1	
	baz=239							
L20K	Farewell, AK	81.24	24	P	P	18 05 22.4	-0.2	
	baz=242,SNR=6.2							
M20K	Styx River	81.27	25	P	P	18 05 22.6	-0.2	
	baz=242							
J19K	Poorman	81.29	23	P	P	18 05 22.6	-0.2	
	baz=240,SNR=5.6							
BRSE	Bradley Lake S	81.38	27	P	P	18 05 22.3	-1.0	
	baz=245							
E18K	Tukpahlearik C	81.41	18	P	P	18 05 23.1	-0.2	
	baz=235							
K20K	Telida	81.58	23	P	P	18 05 24.2	-0.1	
	baz=242,SNR=6.4							
H19K	Roundabout Mou	81.77	21	IAmb	IAmb	18 05 26.9		
	comp=Z,18nm,1.1s							
H19K	Roundabout Mou	81.77	21	P	P	18 05 25.0	-0.2	
	baz=239,SNR=8.8							
G19K	Purcell Mounta	81.87	20	IAmb	IAmb	18 05 27.4		
	comp=Z,16nm,1.1s							
G19K	Purcell Mounta	81.87	20	P	P	18 05 25.6	-0.2	
	baz=238							
C18K	Utukok River	81.95	17	IAmb	IAmb	18 05 41.9		
	comp=Z,24nm,1.6s							
C18K	Utukok River	81.95	17	P	P	18 05 25.6	-0.7	
	baz=234							
J20K	Nowinta River	81.95	23	IAmb	IAmb	18 05 28.0		
	comp=Z,15nm,1.1s							
J20K	Nowinta River	81.95	23	P	P	18 05 26.3	0.0	
	baz=241							
SKT	Skwentna	81.99	25	P	P	18 05 26.8	+0.3	
	baz=244							
F19K	Shaleruckik Mo	82.00	20	P	P	18 05 26.1	-0.3	
	baz=238							
SUA	Susitna One	82.11	26	P	P	18 05 27.1	-0.2	
	baz=245							
SEW	Seward	82.12	27	P	P	18 05 26.1	-1.1	
	baz=246							
I20K	Naaghedeneel	82.12	22	P	P	18 05 26.6	-0.5	
	baz=241							
PPLA	Purkeypile	82.13	24	P	P	18 05 27.0	-0.4	
	baz=243							
B18K	Kokolik River	82.19	17	P	P	18 05 27.7	+0.3	
	baz=233							
IUG	Iuzhnay	82.26	313	*e*P	P	18 05 28.6	+0.1	
IUG	Iuzhnay	82.26	313	*e*P	P	18 05 28.7	+0.1	
H20K	Anotleneega Mo	82.32	21	P	P	18 05 28.2	0.0	
	baz=240,SNR=8.5							
RC01	Rabbit Creek A	82.39	26	P	P	18 05 28.3	-0.3	
	baz=246							
CAST	Castle Rocks	82.41	24	IAmb	IAmb	18 05 29.2		
	comp=Z,14nm,1.2s							
CAST	Castle Rocks	82.41	24	P	P	18 05 28.3	-0.4	
	baz=243							
BRZS	Berezniki	82.51	322	*e*P	P	18 05 30.5	+1.0	
BRZS	Berezniki	82.51	322	*e*P	P	18 05 30.5	+1.0	
E19K	Redstone River	82.51	19	IAmb	IAmb	18 05 30.7		
	comp=Z,15nm,0.9s							
E19K	Redstone River	82.51	19	P	P	18 05 29.1	-0.1	
	baz=238							
CHUM	Lake Minchumin	82.52	23	P	P	18 05 29.4	+0.1	
	baz=243							
BRLS	Boroldoy	82.61	314	*e*P	P	18 05 31.1	+0.9	
BRLS	Boroldoy	82.61	314	*e*P	P	18 05 31.2	+0.9	
CUT	Chulitna	82.71	25	P	P	18 05 30.4	+0.2	
	baz=245							
D19K	Kuna River	82.79	18	IAmb	IAmb	18 05 47.5		
	comp=Z,16nm,1.2s							
D19K	Kuna River	82.79	18	P	P	18 05 30.9	+0.2	
	baz=237							
F20K	Avaraart Lake	82.80	20	IAmb	IAmb	18 05 45.9		
	comp=Z,18nm,1.3s							
F20K	Avaraart Lake	82.80	20	P	P	18 05 30.8	+0.2	
	baz=240,SNR=11							
PMR	Palmer	82.86	26	P	P	18 05 30.3	-0.7	
	baz=246							
A19K	Wainwright	82.90	16	P	P	18 05 31.3	+0.3	
	baz=234							
PWL	Port Wells	82.92	27	IAmb	IAmb	18 05 32.0		
	comp=Z,18nm,1.0s							
PWL	Port Wells	82.92	27	P	P	18 05 30.8	-0.6	
	baz=247							
KTH	Kantishna Hill	82.93	24	IAmb	IAmb	18 05 32.1		
	comp=Z,35nm,1.5s							
KNK	Knik Glacier	83.09	26	P	P	18 05 32.0	-0.3	
	baz=247							
BPAW	Bear Paw Mtn.	83.14	23	P	P	18 05 32.4	-0.1	
	baz=244							
TRF	Thorofare Moun	83.14	24	P	P	18 05 32.4	-0.3	
	baz=245							
H21K	Melozitna Rive	83.15	22	P	P	18 05 32.5	0.0	
	baz=242							
I21K	Tanana	83.24	22	IAmb	IAmb	18 05 34.5		
	comp=Z,19nm,1.2s							
I21K	Tanana	83.24	22	P	P	18 05 32.6	-0.3	
	baz=243							
E20K	Nigu River	83.27	19	P	P	18 05 33.6	+0.4	
	baz=239							
SML	Sawmill	83.30	26	P	P	18 05 32.4	-1.0	
	baz=247							
G21K	Allakaket	83.31	21	IAmb	IAmb	18 05 49.4		
	comp=Z,28nm,1.9s							
G21K	Allakaket	83.31	21	P	P	18 05 32.7	-0.6	
	baz=242							
D20K	Etivluk River	83.38	18	IAmb	IAmb	18 05 50.4		
	comp=Z,14nm,1.2s							
D20K	Etivluk River	83.38	18	P	P	18 05 33.3	-0.3	
	baz=238							
GLI	Glacier Island	83.49	27	P	P	18 05 34.2	-0.1	
	baz=248							
NRIK	Noril'sk	83.55	342	P	P	18 05 33.6	-0.9	
	comp=Z,4.3nm,0.6s,baz=118,slow=5.5,SNR=10							
NRIK				LR	LR	18 43 54.8		
	comp=Z,75nm,20.2s,baz=128,slow=36							
	comp=Z,4.3nm,0.6s							
NRIK	Noril'sk	83.55	342*c*	*i*P	P	18 05 33.8	-0.6	
NRIK				pmax	pmax			
	comp=Z,12nm,1.3s							
F21K	Alatna River	83.65	20	P	P	18 05 34.5	-0.6	
	baz=242							
RND	Reindeer	83.72	24	IAmb	IAmb	18 05 35.4		
	comp=Z,19nm,1.0s							
SCM	Sheep Creek Mo	83.75	26	P	P	18 05 35.6	-0.1	
	baz=248							
H22K	Ishtalitna Cre	83.79	22	P	P	18 05 36.0	+0.3	
	baz=244							
MCK	McKinley	83.81	24	IAmb	IAmb	18 05 35.9		
	comp=Z,22nm,1.1s							
MCK	McKinley	83.81	24	P	P	18 05 34.5	-1.5	
	baz=246							
B20K	Meade River	83.90	17	P	P	18 05 35.8	-0.4	
	baz=238							
EYAK	Cordova Ski Ar	83.99	28	P	P	18 05 37.3	+0.4	
	baz=249							
E21K	Killik River	84.08	19	P	P	18 05 37.0	-0.3	
	baz=241							
NEA2	Nenana	84.11	23	IAmb	IAmb	18 05 38.0		
	comp=Z,24nm,1.4s							
NEA2	Nenana	84.11	23	P	P	18 05 36.9	-0.5	
	baz=246							
C21K	Knifeblade Rid	84.17	18	P	P	18 05 37.8	+0.1	
	baz=240							
G22K	Bettles	84.20	21	P	P	18 05 37.3	-0.5	
	baz=244							
F22K	John River	84.23	20	P	P	18 05 37.7	-0.3	
	baz=243							
KLU	Klutina	84.25	27	IAmb	IAmb	18 05 39.4		
	comp=Z,14nm,1.0s							
KLU	Klutina	84.25	27	P	P	18 05 37.2	-1.1	
	baz=249							
KAIM	Kayak Island	84.40	28	P	P	18 05 38.2	-0.8	
	baz=251							
WRH	Wood River Hil	84.45	24	IAmb	IAmb	18 05 38.9		
	comp=Z,18nm,1.1s							
B21K	Ikpikpuk River	84.46	18	P	P	18 05 38.4	-0.6	
	baz=240							
CCB	Clear Creek Bu	84.63	23	P	P	18 05 38.9	-1.2	
CCB				IAmb	IAmb	18 05 39.6		
	comp=Z,11nm,0.9s							
G23K	Bananza Creek	84.64	21	P	P	18 05 39.6	-0.5	
	baz=245							
E22K	Anaktuvuk Pass	84.64	20	P	P	18 05 39.6	-0.6	
	baz=243							
BMRM	Bremner River	84.66	27	P	P	18 05 40.1	-0.3	
	baz=250							
D22K	Ayikyak River	84.70	19	IAmb	IAmb	18 05 55.7		
	comp=Z,23nm,1.5s							
D22K	Ayikyak River	84.70	19	P	P	18 05 40.2	-0.2	
	baz=242							
BVAR	Borovoye Array	84.71	324	P	P	18 05 39.7	-1.1	
	comp=Z,1.2nm,0.5s,baz=105,slow=7.1,SNR=12							
	comp=Z,1.2nm,0.5s							
BRVK	Borovoye	84.78	324⇑	*e*P	P	18 05 41.5	+0.4	
BRVK				pmax	pmax			
	comp=Z,11nm,1.1s							
COLD	Coldfoot	84.79	21	P	P	18 05 40.5	-0.3	
	baz=245							
HDA	Harding Lake	84.88	24	IAmb	IAmb	18 05 55.0		
	comp=Z,28nm,1.9s							
HDA	Harding Lake	84.88	24	P	P	18 05 40.3	-1.0	
	baz=248							
PAX	Paxson	84.97	25	P	P	18 05 41.6	-0.3	
	baz=249							
BGLC	Bering Glacier	85.00	28	P	P	18 05 41.6	-0.4	
	baz=252							
A22K	Sinclair Lake	85.04	17	P	P	18 05 41.4	-0.5	
	baz=240							
IL31		85.04	23	IAmb	IAmb	18 05 41.3		
	comp=Z,10nm,0.8s							
ILAR	Eielson Array	85.04	23	P	P	18 05 39.5	-2.6	
ILAR	Eielson Array	85.04	23	P	P	18 05 40.5	-1.6	
	comp=Z,7.2nm,0.8s,baz=256,slow=5.1,SNR=73							
	comp=Z,7.2nm,0.8s							
H24K	Noodor Dome	85.07	22	P	P	18 05 41.7	-0.6	
	baz=247							
B22K	Teshekpuk Lake	85.17	17	IAmb	IAmb	18 05 43.0		
	comp=Z,26nm,1.8s							
B22K	Teshekpuk Lake	85.17	17	P	P	18 05 42.5	-0.1	
	baz=241							
QSPA	South Pole Qui	85.21	180	P	P	18 05 41.6	-1.6	
QSPA	South Pole Qui	85.21	180	P	P	18 05 41.9	-1.2	
	comp=Z,20nm,0.8s,baz=354,slow=1.5,SNR=49							
QSPA				LR	LR	18 42 42.1		
	comp=Z,150nm,21.1s,baz=12,slow=35							
	comp=Z,20nm,0.8s							
E23K	Chandalar	85.35	20	P	P	18 05 43.9	+0.2	
	baz=245							
D23K	Nanushuk River	85.39	19	IAmb	IAmb	18 06 01.6		
	comp=Z,13nm,0.8s							
D23K	Nanushuk River	85.39	19	P	P	18 05 43.4	-0.4	
	baz=244							
RIDG	Independent Ri	85.50	25	IAmb	IAmb	18 05 45.0		
	comp=Z,15nm,1.1s							
RIDG	Independent Ri	85.50	25	P	P	18 05 43.1	-1.4	
	baz=250							
G24K	Hadweenzic Riv	85.56	22	IAmb	IAmb	18 05 59.5		
	comp=Z,21nm,1.5s							
G24K	Hadweenzic Riv	85.56	22	P	P	18 05 44.6	-0.1	
	baz=247							
J25K	Salcha River,	85.59	24	P	P	18 05 45.0	0.0	
	baz=249							
MESA	MESA	85.66	29	P	P	18 05 45.4	-0.2	
	baz=253							
F24K	Squaw Lake	85.73	21	IAmb	IAmb	18 05 47.2		
	comp=Z,8.3nm,0.9s							
F24K	Squaw Lake	85.73	21	P	P	18 05 45.2	-0.4	
	baz=247							
E24K	Your Creek	85.74	20	P	P	18 05 44.8	-0.8	
	baz=246							
C23K	Itkillik River	85.79	18	IAmb	IAmb	18 06 17.2		
	comp=Z,13nm,1.0s							
C23K	Itkillik River	85.79	18	P	P	18 05 45.2	-0.5	
	baz=244							
DOT	Dot Lake	85.80	25	IAmb	IAmb	18 05 46.6		
	comp=Z,14nm,1.0s							
PRP	Porcupine Dome	85.85	23	P	P	18 05 45.7	-0.7	
	baz=249							
M26K	Nabesna, AK	85.86	26	P	P	18 05 46.4	+0.1	
	baz=252							
SCRK	Sand Creek	85.94	25	P	P	18 05 46.0	-0.8	
SCRK	Sand Creek	85.94	25	P	P	18 05 46.3	-0.5	
	baz=251							
G25K	Bearman Lake	86.09	22	P	P	18 05 47.2	-0.1	
	baz=248							
J26L	Joseph Creek	86.29	24	P	P	18 05 48.4	-0.1	
	baz=251							
M27K	Edge Creek, AK	86.34	27	IAmb	IAmb	18 05 50.1		
	comp=Z,16nm,1.0s							
M27K	Edge Creek, AK	86.34	27	P	P	18 05 48.7	-0.1	
	baz=253							
C24K	Franklin Bluff	86.34	19	P	P	18 05 48.3	-0.1	
	baz=246							
PINM	Pinnacle	86.45	29	P	P	18 05 49.4	+0.1	
	baz=254							
F25K	Christian Rive	86.56	21	P	P	18 05 50.0	+0.4	
	baz=249							
L27K	Beaver Creek,	86.57	26	IAmb	IAmb	18 05 50.9		
	comp=Z,14nm,1.2s							
L27K	Beaver Creek,	86.57	26	P	P	18 05 50.1	+0.3	
	baz=253							
BCAR	Beaver Creek A	86.59	26	P	P	18 05 50.0	+0.1	
O28M	Mount Upton	86.66	28	P	P	18 05 50.2	-0.4	
	baz=254							
PNL	Peninsula	86.75	29	P	P	18 05 51.0	+0.3	
	baz=255							
K27K	Chicken	86.76	25	IAmb	IAmb	18 05 52.3		
	comp=Z,16nm,1.1s							
K27K	Chicken	86.76	25	P	P	18 05 51.0	+0.4	
	baz=252							
E25K	Arctic Village	86.77	21	IAmb	IAmb	18 07 26.8		
	comp=Z,5.9nm,0.6s							
E25K	Arctic Village	86.77	21	P	P	18 05 51.1	+0.4	
	baz=249							
BVCY	Beaver Creek	86.81	27	P	P	18 05 51.6	+0.6	
	baz=254							
YUK3	Moose Creek	86.81	27	P	P	18 05 51.2	0.0	
	baz=254							
BMAR	Burnt Mountain	86.88	21	P	P	18 05 51.0	-0.2	
D25K	Kavik River	86.94	19	IAmb	IAmb	18 05 52.5		
	comp=Z,13nm,1.0s							
D25K	Kavik River	86.94	19	P	P	18 05 51.4	-0.1	
	baz=248							
YUK8	Steele Glacier	87.00	28	P	P	18 05 51.9	-0.3	
	baz=255							
G26K	Porcupine Rive	87.01	22	IAmb	IAmb	18 05 53.5		
	comp=Z,14nm,1.2s							
G26K	Porcupine Rive	87.01	22	P	P	18 05 51.9	+0.1	
	baz=251							
F26K	Sheenjek River	87.13	21	IAmb	IAmb	18 05 54.3		
	comp=Z,15nm,1.1s							
F26K	Sheenjek River	87.13	21	P	P	18 05 52.2	-0.2	
	baz=250							
O29M	Mount Kennedy	87.31	29	IAmb	IAmb	18 05 55.5		
	comp=Z,11nm,0.9s							
O29M	Mount Kennedy	87.31	29	P	P	18 05 53.1	-0.5	
	baz=256							
I27K	Kandik River	87.42	23	P	P	18 05 53.3	-0.6	
	baz=253							
YUK4	Talbot Arm	87.53	28	P	P	18 05 55.0	+0.3	
	baz=256							
P29M	Windy Craggy	87.56	30	P	P	18 05 55.4	+0.7	
	baz=256							
YUK6	Outpost Mounta	87.57	28	P	P	18 05 54.8	-0.2	
	baz=256							
C26K	Camden Bay	87.63	19	P	P	18 05 55.6	+0.9	
	baz=250							
H27K	Steamboat Moun	87.64	23	IAmb	IAmb	18 05 56.4		
	comp=Z,21nm,1.4s							
H27K	Steamboat Moun	87.64	23	P	P	18 05 55.6	+0.6	
	baz=253							
G27K	Doyon Strip	87.76	22	P	P	18 05 55.8	+0.3	
	baz=253							
M29M	Somme Creek	87.89	27	IAmb	IAmb	18 05 57.6		
	comp=Z,12nm,1.1s							
M29M	Somme Creek	87.89	27	P	P	18 05 56.3	0.0	
	baz=256							
DAWY	Dawson	87.90	25	IAmb	IAmb	18 05 57.4		
	comp=Z,14nm,1.1s							
DAWY	Dawson	87.90	25	P	P	18 05 56.5	+0.3	
	baz=255							
C27K	Jago River	87.93	19	IAmb	IAmb	18 06 10.8		
	comp=Z,19nm,1.3s							
C27K	Jago River	87.93	19	P	P	18 05 56.5	+0.3	
	baz=251							
HYT	Haines Junctio	87.95	29	P	P	18 05 56.3	-0.3	
	baz=257							
I28M	Miner Creek	88.05	24	P	P	18 05 57.1	+0.2	
	baz=254							
P30M	Million Dollar	88.05	29	P	P	18 05 57.6	+0.6	
	baz=257							
PLBC	Pleasant Camp	88.20	30	P	P	18 05 57.6	0.0	
	baz=258							
E27K	Coleen River	88.20	21	IAmb	IAmb	18 05 59.1		
	comp=Z,13nm,1.2s							
E27K	Coleen River	88.20	21	P	P	18 05 57.7	+0.2	
	baz=253							
L29M	L29M	88.20	26	P	P	18 05 57.9	+0.2	
	baz=256							
SIT	Sitka	88.24	33	P	P	18 05 58.3	+0.4	
	baz=259							
N30M	Aishikik Lake	88.29	28	P	P	18 05 58.2	0.0	
	baz=257							
J29N	Klondike Camp	88.50	25	P	P	18 05 58.5	-0.5	
	baz=256							
K29M	Barlow Dome	88.65	26	P	P	18 05 59.7	-0.1	
	baz=256							
I29M	Ogilvie Camp,	88.68	24	IAmb	IAmb	18 06 00.6		
	comp=Z,8.4nm,1.1s							
I29M	Ogilvie Camp,	88.68	24	P	P	18 05 59.5	-0.3	
	baz=256							
SKAG	Skagway	88.72	30	P	P	18 06 00.3	+0.2	
	baz=258							
D27M	Malcolm River	88.73	20	P	P	18 06 00.1	+0.1	
	baz=253							
H29M	Whitestone	88.87	23	P	P	18 06 00.2	-0.5	
	baz=256							
E28M	Babbage River	89.05	21	P	P	18 06 01.6	+0.1	
	baz=255							
CRAG	Craig	89.16	34	P	P	18 06 01.4	-0.8	
	baz=260							
WHY	Whitehorse	89.17	29	P	P	18 06 01.0	-1.3	
	baz=259							
G29M	Pine Creek	89.17	23	P	P	18 06 01.6	-0.5	
	baz=256							
J30M	Hart River	89.32	25	IAmb	IAmb	18 06 04.0		
	comp=Z,10nm,1.2s							
J30M	Hart River	89.32	25	P	P	18 06 01.9	-1.1	
	baz=258							
I30M	Mount Dempster	89.44	24	P	P	18 06 03.1	-0.5	
	baz=258							
D28M	Stokes Point	89.52	20	P	P	18 06 02.7	-0.9	
	baz=255							
E29M	Blow River	89.58	21	P	P	18 06 03.6	-0.3	
	baz=256							
M31M	Drury Creek, Y	89.70	28	P	P	18 06 04.1	-0.5	
	baz=259							
G30M	tAoh Zraii Nji	89.88	23	IAmb	IAmb	18 06 05.8		
	comp=Z,9.7nm,1.2s							
G30M	tAoh Zraii Nji	89.88	23	P	P	18 06 05.0	-0.5	
	baz=258							
N32M	Quiet Lake	90.13	29	P	P	18 06 06.0	-0.7	
	baz=260							
Q32M	Nakina River	90.18	31	P	P	18 06 06.7	-0.5	
	baz=261							
F30M	Barrier River	90.18	22	P	P	18 06 06.0	-0.7	
	baz=258							
FARO	Faro, Yukon	90.18	28	P	P	18 06 06.6	-0.3	
	baz=260							
H31M	Peel River	90.39	24	P	P	18 06 07.7	-0.1	
	baz=259							
ABKAR	Akbulak array	90.47	319	P	P	18 06 06.9	-1.6	
ABKAR				IAmb	IAmb	18 06 21.4		
	comp=Z,7.7nm,1.1s							
G31M	Satah River	90.62	23	P	P	18 06 08.4	-0.4	
	baz=259							
R33M	Jennings River	90.90	31	P	P	18 06 10.0	-0.5	
	baz=262							
SYO	Syowa Base	91.14	200⇑	*i*P	P	18 06 10.6	-0.7	
SYO	Syowa Base	91.14	200⇓	*e*PcP	P	18 06 12.3	+1.0	
INK	Inuvik	91.15	22	P	P	18 06 11.4	+0.2	
	baz=260							
MMPY	Sheldon Lake,	91.20	27	P	P	18 06 11.8	+0.1	
	baz=262							
DLBC	Dease Lake	91.27	32	P	P	18 06 12.1	0.0	
	baz=263							
WTLY	Watson Lake, Y	92.08	30	P	P	18 06 16.2	+0.4	
	baz=264							
ARTI	Arti	92.15	326	LR	LR	18 48 18.6		
	comp=Z,62nm,21.9s,baz=128,slow=36							
TGTN	Hyland Airport	92.47	29	P	P	18 06 17.5	-0.1	
	baz=265							
YBH	Yreka Blue Hor	94.68	49	LR	LR	18 40 16.5		
	comp=Z,137nm,21.8s,baz=272,slow=30							
ELIB	Princess Elisa	94.93	195	*d*P	P	18 06 28.4	-0.4	
	comp=Z,10nm,1.1s							
KIRV	Kirov	97.05	328	LR	LR	18 50 36.3		
	comp=Z,66nm,21.2s,baz=82,slow=36							
YKA	Yellowknife Ar	98.90	28	P	P	18 06 45.9	-0.9	
	comp=Z,0.5nm,0.8s,baz=273,slow=4.5,SNR=7.5							
YKA				PKKPbc	PKKPbc	18 23 14.2	-2.0	
	comp=Z,0.1nm,0.5s,baz=105,slow=3.2,SNR=4.0							
	comp=Z,0.5nm,0.8s							
TROLL	Troll, Antarti	99.68	191	⇓P	Pdif	18 06 49.1	-1.2	
	comp=Z,75nm,0.7s							
SNAA	Sanae	100.93	190	PP	PP	18 11 02.5	-1.1	
	comp=Z,3.2nm,0.9s,baz=158,slow=9.5,SNR=5.0							
TXAR	Lajitas Array	110.71	61	PKKP		18 22 55.6		
	comp=Z,0.3nm,0.4s,baz=98,slow=4.3,SNR=3.8							
TORD	Torodi Ar. Bea	143.05	286	PKP	PKPdf	18 12 40.7	-0.9	
	comp=Z,44nm,0.3s,baz=63,slow=3.9,SNR=1.8							
PTLB	Pontes e Lacer	148.63	130		PKPbc	18 12 55.9	+1.1	
DBIC	Dimbokro	150.15	275	PKPbc	PKPbc	18 12 56.5	-2.1	
	comp=Z,5.4nm,1.0s,baz=72,slow=3.2,SNR=2.8							
DBIC				PKPab	PKPab	18 13 03.7	-1.0	
	comp=Z,3.7nm,0.7s,baz=272,slow=0.6,SNR=6.0							

H11S3 WAKE ISLAND Hy 39.21 330 T T 19 19 29.6
baz=146,slow=76,SNR=6.6
H11S1 WAKE ISLAND Hy 39.21 330 T T 19 19 25.6
baz=146,slow=76,SNR=6.7
H11N3 WAKE ISLAND Hy 40.16 331 T T 19 20 38.5
baz=151,slow=75
H11N1 WAKE ISLAND Hy 40.16 331 T T 19 21 04.1
baz=151
H11N2 WAKE ISLAND Hy 40.17 331 T T 19 20 40.2
baz=151,slow=75
STKA Stephens Creek 43.52 240 P P 18 39 33.4 +4.2
4.5nm,1.0s,baz=75,slow=16,SNR=3.3
4.5nm,1.0s
WRA Warramunga Arr 49.42 257 P **P** **18 40 15.7 +0.1**
0.5nm,0.4s,baz=92,slow=8.1,SNR=24
0.5nm,0.4s
AS31 Alice Springs 49.66 252 P **P** **18 40 18.2 +0.7**
AS31 IAmb IAmb 18 40 19.4
comp=Z,2.1nm,0.5s
ASAR Alice Springs 49.66 252 P **P** **18 40 17.9 +0.5**
ASAR Alice Springs 49.66 252 P **P** **18 40 18.1 +0.6**
comp=Z,9.1nm,0.6s,baz=90,slow=7.5,SNR=172
comp=Z,9.1nm,0.6s
NVAR Mina Array Bea 74.89 42 P **P** **18 43 06.7 +0.3**
comp=Z,0.8nm,0.8s,baz=256,slow=5.1,SNR=3.8
comp=Z,0.8nm,0.8s
TXAR Lajitas Array 81.14 56 P **P** **18 43 41.8 +0.7**
comp=Z,0.3nm,0.6s,baz=262,slow=2.3,SNR=3.4
comp=Z,0.3nm,0.6s
PDAR Pinedale Array 82.83 42 P **P** **18 43 49.6 -0.3**
comp=Z,0.5nm,0.9s,baz=225,slow=3.9,SNR=4.0
comp=Z,0.5nm,0.9s
ILAR Eielson Array 82.96 11 P **P** **18 43 48.8 -0.9**
comp=Z,0.9nm,1.0s,baz=208,slow=5.1,SNR=6.2
comp=Z,0.9nm,1.0s
E19K Redstone River 83.97 6 P **P** **18 43 55.4 +0.6**
E19K IAmb IAmb 18 43 56.0
comp=Z,3.1nm,0.9s
COLD Coldfoot 84.65 9 P **P** **18 43 59.0 +0.6**
D20K Etivluk River 85.25 6 P **P** **18 44 01.5 +0.2**
D20K IAmb IAmb 18 44 02.3
comp=Z,4.4nm,1.1s
E22K Anaktuvuk Pass 85.27 8 P **P** **18 44 01.6 +0.1**
G26K Porcupine Rive 85.49 11 P **P** **18 44 02.9 +0.4**
G26K IAmb IAmb 18 44 03.7
comp=Z,4.0nm,1.1s
YKA Yellowknife Ar 90.65 23 P **P** **18 44 27.1 -0.2**
comp=Z,0.3nm,0.8s,baz=234,slow=4.6,SNR=4.3
comp=Z,0.3nm,0.8s
ARCES ARCESS Array B 125.02 352 PKP **PKPdf** **18 50 23.9 -0.8**
comp=Z,4.4nm,1.0s,baz=50,slow=2.3,SNR=4.0
BRTR Keskin Array B 146.31 320 PKPbc **PKPdf** **18 51 04.9 -0.2**
comp=Z,2.1nm,0.8s,baz=78,slow=2.0,SNR=14
GERES GERESS Array B 146.55 351 PKPbc **PKPdf** **18 51 04.8 -0.4**
comp=Z,0.4nm,0.5s,baz=32,slow=4.5,SNR=4.1
MMAI Mount Meron Ar 148.60 308 PKPbc **PKPbc** **18 51 11.9 -0.8**
comp=Z,1.3nm,0.6s,baz=72,slow=6.2,SNR=1.9

---

*IDC **08** 18:32:49.7±0.9, 5°.86N×32°.90W, h0km, mb3.9/14, mbtmp3.9/14, MS4.1/53, Error ellipse: s-maj=32.4km s-min=20.4km az=157.0*
*NEIC **08** 18:32:51.4±1.3, 5°.8N±0°.1×32°.93W±0°.09, h10km±1km, mb4.7/29, Error ellipse: s-maj=24.8km s-min=5.6km az=142.0*
*GCMT **08** 18:32:54.4±0.2, 5°.67N±0°.03×32°.90W±0°.01, h12km, MW4.8/107, Moment Tensor Solution. s18,c19; s107,c149; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=2.18±.06; $M_{\theta\theta}$=0.10±.06; $M_{\phi\phi}$=2.07±.05; $M_{r\theta}$=-0.28±.34; $M_{\theta\phi}$=-0.30±.05; $M_{r\phi}$=0.75±.21; Best double couple: M_0=2.29200×10^16^ NP1:ϕ_s=356.00000°, δ35.00000°, λ-83.00000°. NP2:ϕ_s=167.00000°, δ55.00000°, λ-95.00000°. Principal axes: T 2.2530, Plg10.0000°, Azm261.0000°; N 0.0700, Plg4.0000°, Azm170.0000°; P -2.3310, Plg79.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 18:32:51.2±0.5, 5°.8N±0°.1×32°.89W±0°.10, h12km, n122, σ0973/73, mb4.5/34, MS4.1/52, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**18.36**	**60**	LR	LR	18 42 13.2	
	comp=Z,870nm,21.4s,baz=113,slow=31						
MDP	**Montagnes des**	**19.68**	**269**	LR	LR	18 43 17.2	
	comp=Z,392nm,21.3s,baz=114,slow=32						
MAL2	**Monte Alegre,**	**22.62**	**251**	P	**P**	**18 37 51.3**	**-0.9**
MAL2				IAmb	IAmb	18 38 14.3	
	comp=Z,38nm,1.2s						
H10N3	**ASCENSION HYDR**	**22.77**	**126**	T	T	19 01 28.1	
	baz=305,slow=75,SNR=38						
H10N2	**ASCENSION HYDR**	**22.77**	**126**	T	T	19 01 26.8	
	baz=305,slow=75,SNR=30						
H10N1	**ASCENSION HYDR**	**22.79**	**126**	T	T	19 01 29.5	
	baz=305,slow=75,SNR=39						
H10S3	**ASCENSION HYDR**	**23.31**	**129**	T	T	19 02 06.8	
	baz=275,slow=74,SNR=35						
H10S2	**ASCENSION HYDR**	**23.32**	**129**	T	T	19 02 06.2	
	baz=305,slow=74,SNR=32						
BDFB	**Brasilia**	**26.00**	**215**	LR	LR	18 47 35.5	
	comp=Z,521nm,20.1s,baz=3.3,slow=34						
DBIC	**Dimbokro**	**27.88**	**87**	LR	LR	18 47 19.4	
	comp=Z,470nm,20.7s,baz=257,slow=31						
H05S1	**Guadeloupe/Mar**	**28.81**	**290**	T	T	19 08 46.5	
	SNR=8.5						
PCRV	**Puerto La Cruz**	**31.74**	**280**	LR	LR	18 51 51.3	
	comp=Z,337nm,19.9s,slow=36						
SAML	**Samuel**	**33.55**	**244**	P	**P**	**18 39 29.8**	**-1.5**
SAML				IAmb	IAmb	18 39 44.4	
	comp=Z,11nm,1.4s						
SJG	**San Juan**	**34.71**	**294**	LR	LR	18 50 48.3	
	comp=Z,440nm,21.3s,baz=84,slow=31						
TORD	**Torodi Ar. Bea**	**34.86**	**75**	P	**P**	**18 39 41.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**34.86**	**75**	P	**P**	**18 39 42.1**	**-0.6**
	comp=Z,77nm,0.3s,baz=271,slow=7.9,SNR=1.2						
TORD				LR	LR	18 52 17.4	
	comp=Z,477nm,19.8s,baz=260,slow=34						
SIV	**San Ignacio**	**35.28**	**232**	LR	LR	18 53 27.5	
	comp=Z,342nm,20.0s,baz=86,slow=35						
SDV	**Santo Domingo**	**37.56**	**277**	LR	LR	18 55 21.9	
	comp=Z,263nm,19.9s,baz=126,slow=36						
MDT	**Midelt**	**37.67**	**41**	LR	LR	18 54 47.3	
	comp=Z,350nm,18.4s,baz=274,slow=35						
CPUP	**Villa Florida**	**39.73**	**216**	LR	LR	18 56 29.8	
	comp=Z,406nm,19.2s,baz=50,slow=36						
LPAZ	**La Paz**	**41.18**	**237**	P	**P**	**18 40 36.7**	**0.0**
	comp=Z,0.6nm,0.4s,baz=68,slow=17,SNR=4.0						
LPAZ				LR	LR	18 57 08.7	
	comp=Z,464nm,18.3s,baz=56,slow=35						
	comp=Z,0.6nm,0.4s						
ROSC	**El Rosal**	**41.26**	**271**	LR	LR	18 58 14.9	
	comp=Z,427nm,20.1s,baz=88,slow=37						
ESDC	**Sonseca Array**	**42.66**	**33**	LR	LR	18 56 39.2	
	comp=Z,180nm,18.6s,baz=160,slow=34						
NNA	**Nana**	**47.13**	**248**	LR	LR	19 01 23.6	
	comp=Z,322nm,18.4s,baz=82,slow=36						
ATAH	**Atahualpa**	**47.18**	**255**	LR	LR	19 01 39.0	
	comp=Z,513nm,18.3s,baz=82,slow=37						
KEST	**Kesra**	**48.91**	**47**	LR	LR	19 02 15.2	
	comp=Z,377nm,19.5s,baz=250,slow=36						
JTS	**Las Juntas de**	**51.71**	**279**	LR	LR	19 03 22.5	
	comp=Z,141nm,21.1s,baz=299,slow=36						
VAE	**Valguarnera**	**53.33**	**47**	LR	LR	19 05 25.4	
	comp=Z,400nm,19.7s,baz=321,slow=37						
DAVOX	**Davos/Dischmat**	**54.95**	**35**	LR	LR	19 06 01.9	
	comp=Z,146nm,18.0s,baz=292,slow=36						
TKL	**Tuckaleechee C**	**55.33**	**310**	LR	LR	18 59 44.2	
	comp=Z,112nm,20.4s,baz=190,slow=29						
TSUM	**Tsumeb**	**55.53**	**118**	LR	LR	19 01 51.8	
	comp=Z,273nm,20.1s,baz=356,slow=31						
PLCA	**Paso Flores**	**57.73**	**213**	LR	LR	19 07 18.6	
	comp=Z,419nm,21.3s,baz=48,slow=36						
GERES	**GERESS Array B**	**58.23**	**34**	P	**P**	**18 42 45.4**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=218,slow=6.2,SNR=7.4						
	comp=Z,0.9nm,0.9s						
VRAC	**Vranov**	**60.11**	**35**	LR	LR	19 06 56.2	
	comp=Z,132nm,21.2s,baz=36,slow=34						
IDI	**Anoyia**	**60.57**	**53**	LR	LR	19 09 41.1	
	comp=Z,229nm,20.8s,baz=290,slow=36						
PSZ	**Piszkesteto**	**61.41**	**38**	P	**P**	**18 43 08.2**	**+0.8**
CMIG	**Matias Romero**	**61.59**	**286**	LR	LR	19 10 30.7	
	comp=Z,92nm,19.4s,baz=14,slow=37						
NIE	**Niedzica**	**62.31**	**36**	P	**P**	**18 43 14.1**	**+0.7**
	comp=Z,1.7nm,1.5s						
R40A	**Maddies Statio**	**62.60**	**310**	P	**P**	**18 43 15.8**	**+0.3**
HOLU	**Holmets**	**63.18**	**38**	P	**P**	**18 43 19.9**	**+0.7**
BERU	**Beregovo**	**63.22**	**38**	P	**P**	**18 43 20.4**	**+0.9**
BRIU	**Brid**	**63.49**	**38**	P	**P**	**18 43 22.0**	**+0.7**
SUR	**Sutherland**	**63.55**	**130**	LR	LR	19 04 38.0	
	comp=Z,183nm,19.5s,baz=298,slow=30						
VOIR		**63.73**	**42**	P	**P**	**18 43 23.2**	**+0.2**
	comp=Z,3.0nm,1.7s						
LSZ	**Lusaka**	**63.99**	**110**	P	**P**	**18 43 25.0**	**-0.3**
LSZ				IAmb	IAmb	18 43 32.9	
	comp=Z,5.0nm,1.1s						
LSZ	**Lusaka**	**63.99**	**110**	LR	LR	19 07 35.1	
	comp=Z,146nm,20.3s,baz=259,slow=33						
NOA	**NORSAR Array B**	**64.23**	**22**	P	**P**	**18 43 24.6**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=232,slow=6.6,SNR=3.7						
NOA				LR	LR	19 09 54.1	
	comp=Z,98nm,19.0s,baz=75,slow=35						
	comp=Z,1.2nm,0.8s						
MLR	**Muntele Rosu**	**64.34**	**42**	P	**P**	**18 43 26.1**	**-1.0**
MLR	**Muntele Rosu**	**64.34**	**42**	LR	LR	19 09 13.6	
	comp=Z,154nm,22.0s,baz=264,slow=34						
MLR	**Muntele Rosu**	**64.34**	**42**	P	**P**	**18 43 27.8**	**+0.7**
	comp=Z,8.5nm,1.5s						
STNU	**Starunia**	**64.55**	**38**	P	**P**	**18 43 27.9**	**-0.3**
HFS	**Hagfors**	**64.63**	**24**	P	**P**	**18 43 28.7**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=224,slow=8.1,SNR=1.3						
	comp=Z,1.2nm,0.7s						
PLOR5	**Plostina Array**	**64.94**	**42**	P	**P**	**18 43 30.8**	**0.0**
	comp=Z,3.0nm,1.4s						
BOSA	**Boshof**	**65.52**	**125**	LR	LR	19 06 17.8	
	comp=Z,180nm,20.7s,baz=300,slow=31						
KMPD	**K-Podol'skiy**	**65.71**	**39**	P	**P**	**18 43 35.9**	**+0.2**
KMPD				P	**pP**	**18 43 36.1**	**-2.4**
RNPP5	**Staryi Chortor**	**66.31**	**36**	P	**P**	**18 43 39.2**	**-0.4**
RNPP8	**Varash**	**66.33**	**36**	P	**P**	**18 43 40.2**	**+0.5**
RNPP9	**Sopachiv**	**66.38**	**36**	P	**P**	**18 43 39.5**	**-0.5**
SORM	**Soroca**	**66.76**	**40**	P	**P**	**18 43 41.6**	**-0.9**
	comp=Z,7.3nm,1.5s						
SORM				pP	**sP**	**18 43 46.3**	**0.0**
	comp=Z,7.3nm,1.5s						
LUBAR	**Lubar, Ukraine**	**66.97**	**38**	P	**P**	**18 43 43.5**	**-0.3**
LUBAR				pP	**pwP**	**18 43 49.4**	**-1.7**
USHA	**Ushuaia**	**67.22**	**201**	LR	LR	19 11 32.6	
	comp=Z,73nm,19.6s,baz=150,slow=34						
MI28	**Mi28,Pidlybu**	**67.26**	**37**	P	**P**	**18 43 46.2**	**+0.6**
EIL	**Elat**	**67.93**	**60**	LR	LR	19 13 59.1	
	comp=Z,216nm,20.2s,baz=284,slow=36						
AK13	**Malin Array Si**	**67.99**	**37**	P	**P**	**18 43 50.3**	**+0.1**
AK19	**Malin Array Si**	**67.99**	**37**	P	**P**	**18 43 50.3**	**+0.1**
AK20	**Malin Array Si**	**68.00**	**37**	P	**P**	**18 43 50.7**	**+0.4**
AK17	**Malin Array Si**	**68.01**	**37**	P	**P**	**18 43 50.3**	**0.0**
AK14	**Malin Array Si**	**68.02**	**37**	P	**P**	**18 43 50.4**	**0.0**
AK18	**Malin Array Si**	**68.03**	**37**	P	**P**	**18 43 50.6**	**+0.2**
AK21	**Malin Array Si**	**68.03**	**37**	P	**P**	**18 43 50.4**	**-0.1**
LODK	**Lodwar**	**68.04**	**89**	P	**P**	**18 43 51.8**	**+0.5**
LODK				IAmb	IAmb	18 43 54.0	
	comp=Z,6.0nm,1.4s						
AK22	**Malin Array Si**	**68.04**	**37**	P	**P**	**18 43 50.6**	**+0.1**
KIEV	**Kiev**	**68.10**	**37**	P	**P**	**18 43 50.7**	**-0.2**
KIEV				IAmb	IAmb	18 43 51.6	
	comp=Z,5.2nm,1.1s						
KIEV	**Kiev**	**68.10**	**37**	P	**P**	**18 43 51.2**	**+0.3**
	comp=Z,20nm,0.6s						
AKASG	**Malin Array Be**	**68.11**	**37**	P	**P**	**18 43 51.2**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=253,slow=6.3,SNR=9.7						
	comp=Z,1.9nm,0.8s						
AKBB	**Malin Array Si**	**68.11**	**37**	P	**P**	**18 43 51.1**	**+0.2**
AKBB				IAmb	IAmb	18 43 51.5	
	comp=Z,5.7nm,1.1s						
AKBB	**Malin Array Si**	**68.11**	**37**	P	**P**	**18 43 51.2**	**+0.2**
BR104	**Keskin Array S**	**68.34**	**50**	P	**P**	**18 43 53.9**	**+1.0**
	comp=Z,1.7nm,1.4s						
BRTR	**Keskin Array B**	**68.34**	**50**	P	**P**	**18 43 52.1**	**-0.8**
	comp=Z,0.9nm,1.0s,baz=254,slow=5.4,SNR=4.4						
BRTR				LR	LR	19 15 35.5	
	comp=Z,67nm,18.4s,baz=246,slow=38						
	comp=Z,0.9nm,1.0s						
MMAI	**Mount Meron Ar**	**68.70**	**57**	LR	LR	19 16 37.7	
	comp=Z,71nm,20.5s,baz=290,slow=38						
KMBO	**Kilima Mbogo**	**70.36**	**93**	LR	LR	19 13 04.6	
	comp=Z,151nm,18.1s,baz=286,slow=34						
TXAR	**Lajitas Array**	**70.46**	**299**	P	**P**	**18 44 08.0**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=78,slow=6.9,SNR=1.5						
TXAR				LR	LR	19 12 23.4	
	comp=Z,65nm,21.9s,baz=70,slow=34						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**70.50**	**26**	P	**P**	**18 44 05.3**	**-0.3**
	comp=Z,4.8nm,1.0s,baz=255,slow=4.2,SNR=5.5						
	comp=Z,4.8nm,1.0s						
SDCO	**Great Sand Dun**	**72.76**	**308**	P	**P**	**18 44 19.9**	**-0.2**
ANMO	**Albuquerque**	**73.27**	**305**	LR	LR	19 13 30.9	
	comp=Z,136nm,21.6s,baz=262,slow=33						
FFC	**Flin Flon**	**73.32**	**326**	P	**P**	**18 44 22.5**	**-0.2**
FFC				IAmb	IAmb	18 44 23.6	
	comp=Z,9.9nm,1.4s						
DGMT	**Dagmar**	**73.35**	**319**	P	**P**	**18 44 23.3**	**+0.2**
BLKN	**Baker Lake**	**73.41**	**336**	P	**P**	**18 44 22.5**	**-0.4**
ARCES	**ARCESS Array B**	**73.94**	**18**	LR	LR	19 12 58.3	
	comp=Z,69nm,20.6s,baz=224,slow=33						
ATD	**Arta Tunnel**	**74.92**	**80**	LR	LR	19 16 06.4	
	comp=Z,7.3nm,19.4s,baz=40,slow=35						
O20A	**White River Ci**	**75.12**	**310**	P	**P**	**18 44 33.4**	**-0.4**
KBZ	**Khabaz**	**75.78**	**46**	P	**P**	**18 44 38.4**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=251,slow=8.8,SNR=4.0						
	comp=Z,1.2nm,0.9s						
LPIG	**La Paz**	**76.21**	**293**	LR	LR	19 17 18.5	
	comp=Z,48nm,20.1s,baz=40,slow=35						
PDAR	**Pinedale Array**	**76.34**	**312**	P	**P**	**18 44 40.3**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=130,slow=0.5,SNR=4.0						
PDAR				LR	LR	19 13 53.1	
	comp=Z,96nm,22.0s,baz=103,slow=32						
	comp=Z,0.4nm,0.8s						
RLMT	**Red Lodge**	**76.34**	**315**	P	**P**	**18 44 40.2**	**-0.4**
RLMT				IAmb	IAmb	18 44 54.4	
	comp=Z,7.9nm,1.4s						
YNE	**Yellowstone No**	**76.85**	**315**	P	**P**	**18 44 43.9**	**+0.3**
YNE				IAmb	IAmb	18 44 45.0	
	comp=Z,8.3nm,1.4s						
GNI	**Garni**	**76.86**	**50**	LR	LR	19 19 46.6	
	comp=Z,71nm,20.4s,baz=264,slow=37						
RAYN	**Ar Rayn**	**77.10**	**67**	P	**P**	**18 44 46.0**	**+0.9**
MOOW	**Moose Ponds**	**77.28**	**313**	P	**P**	**18 44 45.6**	**-0.3**
HWUT	**Hardware Ranch**	**77.74**	**311**	P	**P**	**18 44 48.5**	**-0.1**
HWUT				IAmb	IAmb	18 44 50.0	
	comp=Z,13nm,1.5s						
EUNU	**Eureka**	**78.42**	**352**	IAmb	IAmb	18 44 53.3	
	comp=Z,6.8nm,1.1s						
SPR3	**Spring Creek 3**	**79.77**	**308**	P	**P**	**18 44 59.6**	**-0.4**
R11B	**Troy Canyon, C**	**80.74**	**308**	P	**P**	**18 45 05.6**	**+0.6**
YKA	**Yellowknife Ar**	**81.10**	**332**	P	**P**	**18 45 05.4**	**-0.8**
	comp=Z,1.0nm,1.0s,baz=98,slow=5.2,SNR=10						
YKA				LR	LR	19 17 50.4	
	comp=Z,73nm,20.3s,baz=84,slow=33						
	comp=Z,1.0nm,1.0s						
KIRV	**Kirov**	**81.11**	**32**	LR	LR	19 21 21.8	
	comp=Z,44nm,18.1s,baz=281,slow=36						
PFO	**Pinyon Flats O**	**81.50**	**303**	LR	LR	19 18 51.2	
	comp=Z,77nm,20.8s,baz=52,slow=34						
NEW	**Newport**	**81.91**	**318**	LR	LR	19 19 18.2	
	comp=Z,76nm,18.9s,baz=75,slow=34						
NVAR	**Mina Array Bea**	**82.88**	**308**	P	**P**	**18 45 16.0**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=91,slow=2.7,SNR=3.9						
NVAR				LR	LR	19 20 00.2	
	comp=Z,33nm,20.2s,baz=176,slow=34						
	comp=Z,0.6nm,0.8s						
BELA	**Belgrano 2**	**83.51**	**180**	P	**P**	**18 45 18.7**	**+0.3**
BELA				IAmb	IAmb	18 45 19.8	
	comp=Z,8.8nm,1.2s						
ARTI	**Arti**	**85.96**	**34**	LR	LR	19 21 09.9	
	comp=Z,104nm,21.1s,baz=266,slow=34						
AKTO	**Aktyubinsk**	**86.19**	**40**	LR	LR	19 23 01.7	
	comp=Z,54nm,21.1s,baz=46,slow=35						
ABKAR	**Akbulak array**	**87.54**	**41**	P	**P**	**18 45 38.1**	**-1.0**
E27K	**Coleen River**	**91.55**	**339**	P	**P**	**18 45 57.8**	**+0.1**
E27K				IAmb	IAmb	18 45 59.1	
	comp=Z,7.5nm,1.4s						
C27K	**Jago River**	**91.76**	**341**	IAmb	IAmb	18 46 00.6	
	comp=Z,5.6nm,1.1s						
D25K	**Kavik River**	**92.74**	**341**	P	**P**	**18 46 03.6**	**+0.4**
BVAR	**Borovoye Array**	**93.37**	**36**	P	**P**	**18 46 08.2**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=291,slow=4.0,SNR=2.0						
BVAR				LR	LR	19 27 07.0	
	comp=Z,74nm,21.0s,baz=291,slow=35						
	comp=Z,0.2nm,0.3s						
ILAR	**Eielson Array**	**94.79**	**337**	P	**P**	**18 46 12.7**	**+0.1**
	comp=Z,0.7nm,1.0s,baz=57,slow=3.3,SNR=4.8						
	comp=Z,0.7nm,1.0s						
NRIK	**Noril'sk**	**94.93**	**18**	LR	LR	19 28 09.1	
	comp=Z,40nm,20.3s,baz=306,slow=35						
AAK	**Ala-Archa**	**98.75**	**45**	LR	LR	19 37 25.3	
	comp=Z,31nm,18.9s,baz=294,slow=39						
KURBB	**Kurchatov Arra**	**98.90**	**37**	LR	LR	19 30 12.3	
	comp=Z,68nm,21.4s,baz=178,slow=35						
CMAR	**Chiang Mai Arr**	**126.77**	**62**	PKP	**PKiKP**	**18 51 56.7**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=297,slow=1.3,SNR=9.4						
ASAR	**Alice Springs**	**158.11**	**146**	PKP	**PKPdf**	**18 52 49.6**	**+0.5**
	comp=Z,1.1nm,1.0s,baz=211,slow=1.1,SNR=5.5						
ASAR				PKPab	**PKPab**	**18 53 22.7**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=216,slow=4.0,SNR=4.0						

DJA 08 18:54:28.2±1.4, 7°S±5°×10°2E±1°2, h10km, M3.6/6, mb3.8/2, MLv3.5/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.37**	**26**	P	Pn	18 55 07.5	+0.4
MNAI				S	Sn	18 55 36.8	+0.5
LWLI	**Liwa**	**2.59**	**55**	P	Pn	18 55 09.9	-0.3
KSI	**Kapahiang**	**2.92**	**13**	P	Pn	18 55 14.0	-0.7
MDSI	**Maura Dua**	**3.01**	**48**	P	Pn	18 55 16.9	+0.9
CGJI	**Cibinong**	**3.74**	**92**	P	Pn	18 55 26.3	+0.3
CNJI	**Cibinong**	**5.22**	**99**	P	Pn	18 55 46.2	-0.2
	0.0nm8.6nm,1.4s						

DJA 08 19:13:27.4±1.0, 3°N±3°×12°7E±°, h27km±10km, M3.5/10, mb3.5/4, MLv3.5/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.96**	**293**	P	Pn	19 13 59.1	+0.2
SGSI				S	Sn	19 14 22.5	-0.2
TNTI	**Ternate**	**2.13**	**179**	P	Pn	19 14 01.4	+0.1
TNTI				S	Sn	19 14 28.2	+1.3
KMSI	**Cibinong**	**4.09**	**235**	P	Pn	19 14 28.7	+0.5
SANI	**Sanana**	**5.12**	**195**	P	Pn	19 14 41.5	-0.9
	0.0nm5.5nm,1.3s						
SWI	**Sorong**	**5.43**	**134**	P	Pn	19 14 47.1	+0.5
	0.0nm3.4nm,1.4s						
SWI				S	Sn	19 15 48.9	+0.6
	0.0nm3.4nm,1.4s						
LUWI	**Luwuk**	**6.03**	**229**	P	Pn	19 14 55.0	+0.1

---

*IDC **08** 19:15:18.5±1.0, 6°.48N×33°.07W, h0km, mb3.7/9, mbtmp3.7/9, MS3.7/32, Error ellipse: s-maj=40.5km s-min=20.7km az=147.0*

ISC 08 19:15:19.9±0.9, 6°4N±0°.2×33°1W±0°2, h10km, n44, σ1953/11, mb3.7/9, MS3.7/30, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**18.17**	**62**	LR	LR	19 25 55.4	
	comp=Z,150nm,18.3s,baz=124,slow=35						
MDP	**Montagnes des**	**19.54**	**267**	LR	LR	19 25 34.3	
	comp=Z,179nm,21.2s,baz=118,slow=32						
H10N3	**ASCENSION HYDR**	**23.30**	**127**	T	T	19 44 02.9	
	baz=305,slow=75,SNR=22						
H10N2	**ASCENSION HYDR**	**23.30**	**127**	T	T	19 44 01.8	
	baz=305,slow=75,SNR=19						
H10N1	**ASCENSION HYDR**	**23.32**	**127**	T	T	19 44 04.5	
	baz=305,slow=75,SNR=29						
H10S3	**ASCENSION HYDR**	**23.85**	**130**	T	T	19 44 34.8	
	baz=304,slow=74,SNR=15						
H10S2	**ASCENSION HYDR**	**23.87**	**130**	T	T	19 44 46.4	
	baz=276,slow=74,SNR=15						
BDFB	**Brasilia**	**26.46**	**214**	LR	LR	19 30 03.1	
	comp=Z,176nm,19.6s,baz=140,slow=33						
DBIC	**Dimbokro**	**28.01**	**88**	LR	LR	19 29 47.8	
	comp=Z,160nm,20.7s,baz=263,slow=31						
PCRV	**Puerto La Cruz**	**31.47**	**279**	LR	LR	19 33 37.7	
	comp=Z,156nm,19.8s,slow=35						
SJG	**San Juan**	**34.30**	**293**	LR	LR	19 33 28.1	
	comp=Z,161nm,21.4s,baz=110,slow=32						
TORD	**Torodi Ar. Bea**	**34.85**	**76**	P	**P**	**19 22 11.1**	**-0.5**
	36nm,0.3s,baz=262,slow=7.6,SNR=1.5						
TORD				LR	LR	19 34 35.0	
	comp=Z,173nm,20.5s,baz=271,slow=33						
SIV	**San Ignacio**	**35.57**	**231**	P	**P**	**19 22 19.7**	**+1.9**
	1.9nm,0.8s,baz=47,slow=6.3,SNR=6.6						
SIV				LR	LR	19 35 24.3	
	comp=Z,123nm,20.4s,baz=60,slow=34						
	1.9nm,0.8s						
MDT	**Midelt**	**37.27**	**41**	LR	LR	19 36 57.1	
	comp=Z,101nm,19.1s,baz=168,slow=35						
SDV	**Santo Domingo**	**37.32**	**276**	LR	LR	19 37 52.5	
	comp=Z,108nm,19.3s,baz=81,slow=36						
CPUP	**Villa Florida**	**40.18**	**215**	LR	LR	19 38 49.3	
	comp=Z,127nm,18.1s,baz=48,slow=35						
ROSC	**El Rosal**	**41.10**	**270**	LR	LR	19 40 45.0	
	comp=Z,118nm,20.8s,baz=94,slow=37						
LPAZ	**La Paz**	**41.40**	**237**	P	**P**	**19 23 06.8**	**-0.7**
	1.2nm,0.9s,baz=11,slow=12,SNR=1.4						
LPAZ				LR	LR	19 39 37.7	
	comp=Z,155nm,19.1s,baz=70,slow=35						
	1.2nm,0.9s						
ESDC	**

ISC 08 19:36:42.9±2.2, 10°.26N±0°.07×86°.50W±0°.07, h14km±11km, n42, σ0°.71/50, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIBA	**Liberia Airpor**	**1.00**	**70**	*eP*	**Pg**	**19 37 03.0**	**+0.8**
ELI1	**Hacienda Flor**	**1.01**	**67**	*eP*	**Pg**	**19 37 03.2**	**+0.8**
CMARA	Lajas Hojancha	1.09	102	S	Sn	19 37 18.5	-0.2
PLVR	**Palo Verde**	**1.14**	**85**	*eP*	**Pg**	**19 37 05.1**	**+0.2**
LCRUZ	**La Cruz**	**1.18**	**46**	*eP*	**Pb**	**19 37 05.2**	**+0.1**
VRLE	**La Escondida,**	**1.24**	**65**	*eP*	**Pn**	**19 37 05.6**	**-0.3**
CARN	**Rivas**	**1.33**	**46**	P	**Pn**	**19 37 06.9**	**-0.2**
CARN				S	**Sg**	**19 37 26.5**	**+0.4**
COLC	**Colonia**	**1.34**	**72**	*eP*	**Pn**	**19 37 07.5**	**+0.3**
CUI	**Cuipilapa**	**1.38**	**73**	*eP*	**Pn**	**19 37 08.1**	**+0.4**
CUI				*eS*	**Sn**	**19 37 24.4**	**-1.4**
HORNC	**Hornillas**	**1.38**	**71**	*eP*	**Pn**	**19 37 07.9**	**+0.1**
VMAR	**Armenia, Volca**	**1.47**	**68**	*eP*	**Pn**	**19 37 09.7**	**+0.6**
JAPN	**AI SSO del Vol**	**1.50**	**33**	P	**Pn**	**19 37 09.8**	**+0.4**
JTS	**Las Juntas de**	**1.53**	**89**	*eP*	**Pb**	**19 37 10.9**	**-0.1**
CONN	**Concepcion**	**1.56**	**33**	P	**Pn**	**19 37 09.9**	**-0.3**
CONN				S	**Sg**	**19 37 33.3**	**+0.1**
TENO	**El Achiote**	**1.56**	**73**	*eP*	**Pn**	**19 37 10.3**	**0.0**
QUEB	**Quebradon, Cot**	**1.62**	**77**	*eP*	**Pb**	**19 37 12.3**	**-0.4**
NANN	**Nandasmo**	**1.71**	**13**	P	**Pb**	**19 37 13.5**	**-0.7**
NANN	**Nandasmo**	**1.71**	**13**	S	**Sg**	**19 37 37.3**	**-0.7**
SABN	**Sabanita**	**1.72**	**11**	P	**Pn**	**19 37 12.3**	**-0.2**
MASN	**Masaya**	**1.75**	**11**	P	**Pn**	**19 37 13.3**	**+0.4**
MASN				S	**Sg**	**19 37 38.6**	**-0.8**
ARE1	**Arenal 1**	**1.77**	**83**	*eP*	**Pb**	**19 37 15.2**	**+0.1**
UNAN	**Cigeo UNAN**	**1.86**	**7**	P	**Pn**	**19 37 15.2**	**+0.9**
UNAN				S	**Sg**	**19 37 41.4**	**-1.3**
SOCE	**Pocosol**	**1.86**	**86**	P	**Pn**	**19 37 14.7**	**+0.4**
COPN	**Copaltepe**	**1.91**	**357**	P	**Pn**	**19 37 15.2**	**+0.1**
COVE	**Coope Vega, Sa**	**2.12**	**77**	P	**Pn**	**19 37 17.0**	**-0.9**
MOMN	**Momotombo**	**2.14**	**359**	P	**Pn**	**19 37 18.3**	**+0.1**
MOMN				S	**Sb**	**19 37 48.0**	**+0.1**
ACON	**Acoyapa**	**2.14**	**37**	*eP*	**Pn**	**19 37 17.4**	**-0.8**
ACON	**Acoyapa**	**2.14**	**37**	P	**Pn**	**19 37 17.9**	**-0.3**
ACON	**Acoyapa**	**2.14**	**37**	S	**Sb**	**19 37 48.3**	**+0.4**
CNGA	**AI SSO del Vol**	**2.23**	**355**	P	**Pn**	**19 37 20.3**	**+0.8**
CNGA				S	**Sb**	**19 37 50.3**	**-0.2**
CNGN	**Cerro Negro**	**2.24**	**355**	*eP*	**Pb**	**19 37 21.5**	**-1.6**
CNGN	**Cerro Negro**	**2.24**	**355**	P	**Pn**	**19 37 20.0**	**+0.4**
CNGN	**Cerro Negro**	**2.24**	**355**	S	**Sb**	**19 37 50.2**	**-0.5**
CSGN	**Cosiguina Volc**	**2.89**	**339**	P	**Pn**	**19 37 28.3**	**-0.4**
CSGN				S	**Sn**	**19 38 04.6**	**+1.3**
BLUN	**Bluefields**	**3.19**	**57**	P	**Pn**	**19 37 33.0**	**+0.3**
CHOHN	**Orocuina**	**3.27**	**349**	S	**Sn**	**19 38 14.8**	**+2.3**
CHOHN	**Orocuina**	**3.27**	**349**	P	**Pn**	**19 37 33.9**	**+0.1**
CNCH	**Conchagua**	**3.27**	**337**	P	**Pn**	**19 37 34.2**	**+0.3**
CNCH	**Conchagua**	**3.27**	**337**	S	**Sn**	**19 38 12.4**	**-0.2**
RCPN	**Sur Rio San Ju**	**3.27**	**7**	P	**Pn**	**19 37 34.9**	**+1.0**
RCVN	**Varilla12**	**3.32**	**5**	P	**Pn**	**19 37 35.1**	**+0.6**
DRK0	**Durika**	**3.36**	**107**	S	**Sn**	**19 38 14.5**	**-0.4**

*IDC **08** 19:38:31.3±0.6, 20°.47N×121°.55E, h0km, mb4.1/23, mbtmp4.1/25, ML3.9/2, MS3.4/11, Error ellipse: s-maj=18.6km s-min=13.4km az=75.0*
*NEIC **08** 19:38:37.0±1.9, 20°.50N±0°.09×121°.4E±0°.1, h34km±6km, mb4.5/57, Error ellipse: s-maj=14.5km s-min=12.3km az=69.0*

ISC 08 19:38:37.4±0.5, 20°.48N±0°.06×121°.43E±0°.07, h43km, n119, σ1§05/96, mb4.4/49, MS3.3/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**2.36**	**352**		**Pn**	**19 39 11.6**	**-2.0**
YULB	**Yu-li**	**2.91**	**358**	Pn	**Pn**	**19 39 18.8**	**-2.3**
YULB	**Yu-li**	**2.91**	**358**	P	**Pn**	**19 39 21.8**	**+0.7**
TPUB	**Ta-pu**	**2.91**	**345**		**Pn**	**19 39 19.8**	**-1.4**
TPUB	**Ta-pu**	**2.91**	**345**	P	**Pn**	**19 39 20.4**	**-0.8**
SSLB	**Suanglung**	**3.33**	**352**		**Pn**	**19 39 25.5**	**-1.4**
SSLB	**Suanglung**	**3.33**	**352**	P	**Pn**	**19 39 27.6**	**+0.7**
NACB	**Ninganchiao**	**3.68**	**2**		**Pn**	**19 39 31.0**	**-0.8**
NACB	**Ninganchiao**	**3.68**	**2**	P	**Pn**	**19 39 32.3**	**+0.5**
YHNB	**Yeheng**	**4.17**	**359**	Pn	**Pn**	**19 39 39.3**	**+0.7**
YHNB	**Yeheng**	**4.17**	**359**	P	**Pn**	**19 39 40.7**	**+2.1**
YOJ	**Yonaguni jima**	**4.23**	**20**	Pn	**Pn**	**19 39 41.0**	**+1.8**
YOJ	**Yonaguni jima**	**4.23**	**20**	P	**Pn**	**19 39 41.1**	**+1.8**
TATO	**Taipei**	**4.48**	**1**		**Pn**	**19 39 42.0**	**-0.7**
KNMB	**Chin-men Tao**	**4.87**	**325**	Pn	**Pn**	**19 39 45.1**	**-3.0**
TGY	**Tagaytay City**	**6.36**	**184**	LR	LR	19 43 06.3	
	comp=Z,334nm,18.6s,baz=312,slow=43						
HKPS	**Hong Kong Po S**	**7.03**	**286**		**Pn**	**19 40 14.6**	**-3.2**
JOW	**Kunigami**	**8.91**	**43**		**Pn**	**19 40 43.0**	**-0.5**
JOW	**Kunigami**	**8.91**	**43**	Pn	**Pn**	**19 40 41.2**	**-2.3**
	3.9nm,0.3s,baz=202,slow=14,SNR=13						
JOW				Sn	**Sn**	**19 42 19.8**	**-2.8**
	0.5nm,0.3s,baz=109,slow=29,SNR=1.0						
	4.5nm,0.3s						
JOW	**Kunigami**	**8.91**	**43**	P	**Pn**	**19 40 44.4**	**+0.9**
JMZ	**Minamidaito 2**	**10.46**	**58**	P	**Pn**	**19 41 06.6**	**+1.8**
DAV	**Davao City (W)**	**13.92**	**163**	LR	LR	19 47 25.8	
	comp=Z,186nm,21.1s,baz=324,slow=38						
JNU	**Nakatsue**	**15.15**	**32**	Pn	**P**	**19 42 12.2**	**-0.7**
	0.3nm,0.3s,baz=173,slow=6.6,SNR=4.6						
JNU				LR	LR	19 47 06.7	
	comp=Z,67nm,19.6s,baz=238,slow=34						
KSRS	**Korea Array**	**17.84**	**17**	P	**Pn**	**19 42 41.6**	**-0.6**
	0.3nm,0.3s,baz=200,slow=12,SNR=8.9						
KSRS				LR	LR	19 49 31.8	
	comp=Z,55nm,21.5s,baz=210,slow=37						
	2.2nm,0.7s						
TOLI2	**Tolitoli**	**19.26**	**182**		**P**	**19 42 58.0**	**-0.4**
CRAI	**Chiangrai**	**19.75**	**273**	P	**P**	**19 43 03.0**	**-0.8**
BJT	**Baijiatuau**	**19.99**	**348**	P	**P**	**19 43 06.2**	**0.0**
BJT				IAmb	IAmb	19 43 08.5	
	comp=Z,14nm,0.7s						
SBUM	**Sibu**	**20.05**	**208**	P	**P**	**19 43 06.1**	**-0.8**
CM31	**Chiang Mai Arr**	**21.30**	**268**	P	**P**	**19 43 20.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**21.30**	**268**	P	**P**	**19 43 21.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**21.30**	**268**	P	**P**	**19 43 21.5**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=72,slow=9.4,SNR=18						
CMAR				PcP	**PcP**	**19 47 24.0**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=87,slow=0.7,SNR=9.7						
CMAR				LR	LR	19 52 22.5	
	comp=Z,92nm,18.5s,baz=85,slow=39						
	comp=Z,1.9nm,0.7s						
MJAR	**Matsushiro Arr**	**21.71**	**39**	P	**P**	**19 43 24.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=239,slow=12,SNR=4.7						
	comp=Z,0.8nm,0.5s						
GUMO	**Guam**	**23.42**	**103**	LR	LR	19 51 09.0	
	comp=Z,72nm,19.7s,baz=280,slow=32						
USRK	**Ussuriysk Ar.**	**25.24**	**18**	P	**P**	**19 43 59.5**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=194,slow=9.2,SNR=3.2						
	comp=Z,1.5nm,0.7s						
KAPI	**Kappang**	**25.39**	**184**	P	**P**	**19 44 01.1**	**+0.3**
KAPI	**Kappang**	**25.39**	**184**	LR	LR	19 55 43.3	
	comp=Z,86nm,19.1s,baz=299,slow=41						
FAKI	**Fak Fak**	**25.56**	**154**	P	**P**	**19 44 01.6**	**-0.8**
FAKI				IAmb	IAmb	19 44 05.3	
	comp=Z,7.1nm,0.8s						
KLR	**Kul'dur**	**29.85**	**14**	LR	LR	19 59 03.2	
	comp=Z,81nm,18.2s,baz=212,slow=41						
SONM	**Songino Array**	**29.88**	**339**	P	**P**	**19 44 42.8**	**+1.8**
SONM	**Songino Array**	**29.88**	**339**	P	**P**	**19 44 42.0**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=160,slow=9.8,SNR=12						
SONM				LR	LR	19 58 05.6	
	comp=Z,112nm,19.1s,baz=182,slow=39						
	comp=Z,1.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**38.56**	**174**	P	**P**	**19 45 55.4**	**-0.7**
MK31	**Makanchi Array**	**41.21**	**319**	P	**P**	**19 46 18.3**	**+0.4**
MKAR	**Makanchi Array**	**41.21**	**319**	P	**P**	**19 46 18.8**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=112,slow=9.9,SNR=20						
MKAR				PcP	**PcP**	**19 48 16.2**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=96,slow=5.8,SNR=2.5						
	comp=Z,1.6nm,0.8s						
WUS	**Wushi**	**41.22**	**310**	P	**P**	**19 46 18.6**	**+0.4**
WB0	**Warramunga Arr**	**41.96**	**162**	P	**P**	**19 46 23.5**	**-0.8**
WB0				IAmb	IAmb	19 46 26.4	
	comp=Z,7.6nm,0.6s						
WRAB	**Tennant Creek**	**42.11**	**162**	P	**P**	**19 46 24.0**	**-1.5**
WRA	**Warramunga Arr**	**42.11**	**162**	P	**P**	**19 46 24.6**	**-1.0**
WRA	**Warramunga Arr**	**42.11**	**162**	P	**P**	**19 46 24.7**	**-0.8**
	comp=Z,4.3nm,0.5s,baz=343,slow=9.1,SNR=63						
WRA				PcP	**PcP**	**19 48 19.6**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=336,slow=3.5,SNR=3.8						
	comp=Z,4.3nm,0.5s						
WB2	**Warramunga Arr**	**42.12**	**162**	P	**P**	**19 46 24.7**	**-0.8**
WR8	**Warramunga Arr**	**42.17**	**162**	P	**P**	**19 46 24.8**	**-1.2**
WR8				IAmb	IAmb	19 46 40.3	
	comp=Z,8.1nm,0.7s						
WR0	**Warramunga Arr**	**42.19**	**161**	P	**P**	**19 46 25.3**	**-0.8**
H11N1	**WAKE ISLAND Hy**	**42.59**	**83**	T	T	20 31 48.3	
	baz=278,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**42.60**	**83**	T	T	20 31 54.8	
	baz=278,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**42.61**	**85**	T	T	20 31 44.0	
	baz=281,slow=74,SNR=19						
H11N3	**WAKE ISLAND Hy**	**42.61**	**83**	T	T	20 31 46.9	
	baz=278,slow=75,SNR=7.8						
H11S1	**WAKE ISLAND Hy**	**42.62**	**85**	T	T	20 31 46.4	
	baz=281,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy**	**42.63**	**85**	T	T	20 31 44.5	
	baz=281,slow=74,SNR=14						
PETK	**Petropavlovsk-**	**42.84**	**32**	P	**P**	**19 46 30.4**	**-0.8**
	comp=Z,3.6nm,1.0s,baz=226,slow=7.9,SNR=2.6						
	comp=Z,3.6nm,1.0s						
KDJ	**Kajisay**	**42.95**	**310**	P	**P**	**19 46 32.0**	**-0.4**
ZALV	**Zalesovo Beam**	**43.50**	**329**	P	**P**	**19 46 36.6**	**+0.2**
ZALV	**Zalesovo Beam**	**43.50**	**329**	P	**P**	**19 46 37.3**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=121,slow=6.3,SNR=8.1						
ZALV				LR	LR	20 06 11.9	
	comp=Z,36nm,18.7s,baz=235,slow=38						
	comp=Z,2.1nm,0.8s						
AAK	**Ala-Archa**	**45.00**	**310**	P	**P**	**19 46 48.6**	**-0.2**
AAK	**Ala-Archa**	**45.00**	**310**	LR	LR	20 08 10.5	
	comp=Z,88nm,18.2s,baz=66,slow=40						
KURK	**Kurchatov**	**45.11**	**322**	P	**P**	**19 46 49.5**	**+0.1**
KURBB	**Kurchatov Arra**	**45.12**	**322**	P	**P**	**19 46 50.4**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=125,slow=7.3,SNR=15						
KURBB				PcP	**PcP**	**19 48 30.4**	**+1.0**
	comp=Z,0.3nm,0.9s,baz=116,slow=2.2,SNR=1.5						
	comp=Z,1.4nm,0.8s						
AS31	**Alice Springs**	**45.53**	**164**	P	**P**	**19 46 53.1**	**+0.1**
AS31				IAmb	IAmb	19 46 54.2	
	comp=Z,3.9nm,0.5s						
ASAR	**Alice Springs**	**45.53**	**164**	P	**P**	**19 46 53.0**	**0.0**
ASAR	**Alice Springs**	**45.53**	**164**	P	**P**	**19 46 53.2**	**+0.3**
	comp=Z,5.5nm,0.6s,baz=345,slow=6.9,SNR=140						
	comp=Z,9.5nm,0.6s						
GAR	**Garm**	**47.42**	**305**	IAmb	IAmb	19 47 10.4	
	comp=Z,4.2nm,0.8s						
KK31	**Karatay Array**	**47.96**	**310**	P	**P**	**19 47 11.9**	**+0.1**
KKAR	**Karatay Array**	**47.96**	**310**	P	**P**	**19 47 12.3**	**+0.4**
KKAR	**Karatay Array**	**47.96**	**310**	P	**P**	**19 47 12.2**	**+0.3**
BVAR	**Borovoye Array**	**50.71**	**323**	P	**P**	**19 47 34.0**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=111,slow=8.3,SNR=4.7						
BVAR				PcP	**PcP**	**19 48 49.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=112,slow=4.3,SNR=5.1						
	comp=Z,0.5nm,0.6s						
FORT	**Forrest**	**51.36**	**173**	P	**P**	**19 47 37.7**	**+0.1**
NRIK	**Noril'sk**	**53.03**	**346**	P	**P**	**19 47 49.8**	**+0.2**
NRIK				IAmb	IAmb	19 47 50.8	
	comp=Z,3.9nm,0.7s						
NRIK	**Noril'sk**	**53.03**	**346**	P	**P**	**19 47 50.2**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=100,slow=5.2,SNR=8.3						
	comp=Z,3.6nm,0.7s						
BBOO	**Buckleboo**	**54.80**	**165**	P	**P**	**19 48 03.2**	**+0.2**
STKA	**Stephens Creek**	**55.53**	**159**	P	**P**	**19 48 08.7**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=351,slow=8.0,SNR=5.1						
	comp=Z,2.6nm,0.8s						
ABKAR	**Akbulak array**	**56.22**	**316**	P	**P**	**19 48 13.8**	**+0.6**
ARTI	**Arti**	**58.31**	**324**	P	**P**	**19 48 27.8**	**0.0**
C18K	**Utukok River**	**66.51**	**23**	IAmb	IAmb	19 49 39.8	
	comp=Z,3.3nm,0.8s						
D19K	**Kuna River**	**67.63**	**23**	IAmb	IAmb	19 49 46.2	
	comp=Z,3.3nm,0.6s						
B20K	**Meade River**	**67.99**	**22**	IAmb	IAmb	19 49 49.4	
	comp=Z,7.2nm,1.4s						
KBZ	**Khabaz**	**68.00**	**310**	P	**P**	**19 49 33.7**	**+1.5**
	comp=Z,1.9nm,0.9s,baz=137,slow=2.3,SNR=7.7						
	comp=Z,1.9nm,0.9s						
KIV	**Kislovodsk**	**68.12**	**310**	P	**P**	**19 49 31.8**	**-1.3**
KIV				IAmb	IAmb	19 49 36.3	
	comp=Z,4.0nm,0.8s						
D20K	**Etivluk River**	**68.18**	**23**	IAmb	IAmb	19 49 50.2	
	comp=Z,3.4nm,0.9s						
H19K	**Roundabout Mou**	**68.30**	**26**	IAmb	IAmb	19 49 50.3	
	comp=Z,3.7nm,0.7s						
B21K	**Ikpikpuk River**	**68.88**	**22**	IAmb	IAmb	19 49 40.7	
	comp=Z,3.8nm,0.8s						
E21K	**Killik River**	**69.16**	**23**	IAmb	IAmb	19 49 55.7	
	comp=Z,3.2nm,0.6s						
B22K	**Teshekpuk Lake**	**69.26**	**21**	IAmb	IAmb	19 49 55.8	
	comp=Z,3.7nm,0.8s						
D22K	**Ayikyak River**	**69.61**	**23**	IAmb	IAmb	19 49 48.5	
	comp=Z,4.9nm,1.2s						
RAYN	**Ar Rayn**	**69.68**	**288**	P	**P**	**19 49 43.0**	**-0.1**
RAYN				IAmb	IAmb	19 49 58.2	
	comp=Z,5.4nm,1.2s						
E22K	**Anaktuvuk Pass**	**69.98**	**23**	IAmb	IAmb	19 50 00.7	
	comp=Z,2.4nm,0.6s						
D23K	**Nanushuk River**	**70.32**	**23**	P	**P**	**19 49 45.3**	**-0.8**
D23K				IAmb	IAmb	19 49 50.3	
	comp=Z,7.1nm,1.1s						
CAST	**Castle Rocks**	**70.34**	**28**	P	**P**	**19 49 47.4**	**+1.0**
E23K	**Chandalar**	**70.81**	**23**	IAmb	IAmb	19 50 06.1	
	comp=Z,2.5nm,0.7s						
H23K	**Yukon River**	**71.13**	**26**	IAmb	IAmb	19 50 09.1	
	comp=Z,3.7nm,0.7s						
NEA2	**Nenana**	**71.50**	**27**	P	**P**	**19 49 54.1**	**+0.7**
NEA2				IAmb	IAmb	19 49 55.3	
	comp=Z,2.9nm,0.9s						
RND	**Reindeer**	**71.78**	**28**	P	**P**	**19 49 55.5**	**+0.3**
D25K	**Kavik River**	**71.80**	**22**	IAmb	IAmb	19 50 11.7	
	comp=Z,3.8nm,0.6s						
F25K	**Christian Rive**	**72.37**	**24**	IAmb	IAmb	19 50 16.1	
	comp=Z,2.4nm,0.6s						
ILAR	**Eielson Array**	**72.40**	**27**	P	**P**	**19 49 58.3**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=281,slow=5.7,SNR=7.1						
	comp=Z,0.7nm,0.8s						
C27K	**Jago River**	**72.67**	**21**	IAmb	IAmb	19 50 17.1	
	comp=Z,2.1nm,0.7s						
ARCES	**ARCESS Array B**	**73.05**	**339**	P	**P**	**19 50 03.0**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=75,slow=4.9,SNR=1.6						
	comp=Z,1.8nm,0.8s						
FINES	**FINESS Array B**	**74.75**	**330**	P	**P**	**19 50 12.5**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=126,slow=3.3,SNR=4.0						
	comp=Z,2.4nm,0.8s						
AKASG	**Malin Array Be**	**75.79**	**319**	P	**P**	**19 50 18.4**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=68,slow=5.5,SNR=5.2						
	comp=Z,0.8nm,0.7s						
F30M	**Barrier River**	**76.01**	**23**	IAmb	IAmb	19 50 39.2	
	comp=Z,3.9nm,0.7s						
M29M	**Somme Creek**	**76.62**	**28**	P	**P**	**19 50 23.5**	**0.0**
M29M				IAmb	IAmb	19 50 38.4	
	comp=Z,5.0nm,0.9s						
HFS	**Hagfors**	**80.90**	**331**	P	**P**	**19 50 47.3**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=109,slow=8.0,SNR=4.4						
	comp=Z,2.4nm,0.7s						
NB2	**NORSAR Subarra**	**81.60**	**333**	P	**P**	**19 50 50.9**	**+0.3**
	comp=Z,4.7nm,1.0s,baz=63,slow=4.6						
NOA	**NORSAR Array B**	**81.60**	**333**	P	**P**	**19 50 49.9**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=63,slow=4.9,SNR=8.4						
	comp=Z,2.3nm,0.8s						
OJC	**Ojcow**	**81.66**	**321**	P	**P**	**19 50 51.2**	**+0.1**
VYHS	**Vyhne**	**82.90**	**319**	*eP*	**P**	**19 50 59.2**	**+1.6**
VRAC	**Vranov**	**83.93**	**320**	*eP*	**P**	**19 51 04.2**	**+1.3**
KRUC	**Moravsky**	**84.15**	**320**	*eP*	**P**	**19 51 05.3**	**+1.3**
CLL	**Collm**	**85.14**	**323**	*i P*	**P**	**19 51 09.7**	**+0.7**
GERES	**GERESS Array B**	**85.84**	**321**	P	**P**	**19 51 13.1**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=57,slow=4.9,SNR=11						
	comp=Z,1.1nm,0.7s						
YKA	**Yellowknife Ar**	**86.28**	**23**	P	**P**	**19 51 13.6**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=314,slow=4.6,SNR=10.0						
	comp=Z,0.5nm,0.7s						
EKA	**Eskdalemuir Ar**	**91.07**	**332**	P	**P**	**19 51 37.1**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=20,slow=2.7,SNR=4.7						
	comp=Z,1.5nm,0.7s						

*BJI **08** 19:57:39.2, 56°.15N×149°.67W, h5km, mB4.9/12, mb4.7/45, Ms4.8/24, Ms7 4.4/25*
*NEIC **08** 19:57:40.8, 56°.14N×149°.00W, h12km, Moment Tensor Solution. Duration: 1§3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.25; $M_{\theta\theta}$-2.09; $M_{\phi\phi}$1.84; $M_{r\theta}$0.61; $M_{\theta\phi}$0.08; $M_{\phi r}$0.14; Fault plane solution: $M_0$2.05000×10^{16} NP1: ϕ_s317.13000°, δ76.18000°, λ-174.18000°. NP2: ϕ_s225.74000°, δ84.35000°, λ-13.89000°. Principal axes: T 1.8544, Plg6.0000°, Azm272.0000°; N 0.3832, Plg75.0000°, Azm24.0000°; P -2.2375, Plg14.0000°, Azm181.0000°;*
*NEIC **08** 19:57:40.8, 56°.34N×149°.27W, h12km*
*NEIC **08** 19:57:41.1±1.6, 56°.33N±0°.06×149°.27W±0°.09, h7km±4km, mb4.9/268, ML4.6/68, Mww4.8/50, ML4.5(AEIC), Error ellipse: s-maj=9.4km s-min=6.9km az=183.0*

*IDC **08** 19:57:41.2±0.5, 56°.39N×149°.22W, h0km, mb4.4/35, mbtmp4.4/38, ML4.1/3, MS3.9/57, Error ellipse: s-maj=16.1km s-min=9.2km az=35.0*
*GCMT **08** 19:57:44.1±0.3, 56°.34N±0°.01×149°.11W±0°.02, h15km±1km, MW4.9/114, Moment Tensor Solution. s25,c30; s114,c168; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.38±.08; $M_{\theta\theta}$-2.55±.09; $M_{\phi\phi}$2.18±.07; $M_{r\theta}$-0.29±.24; $M_{\theta\phi}$0.42±.07; $M_{\phi r}$-0.74±.25; Best double couple: $M_0$2.54900×10^{16} NP1:ϕ_s138.00000°, δ73.00000°, λ169.00000°. NP2:ϕ_s232.00000°, δ79.00000°, λ18.00000°. Principal axes: T 2.4930, Plg20.0000°, Azm96.0000°; N 0.1180, Plg70.0000°, Azm262.0000°; P -2.6060, Plg5.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **08** 19:57:45.1±2.0, 56°.30N±0°.06×149°.22W±0°.08, h7km±4km Error ellipse: s-maj=9.5km s-min=6.8km az=186.0*
*BGR **08** 19:57:51.7, 57°.19N×150°.67W, h33km, mb4.7, Hypocentre not reviewed by the ISC*

ISC 08 19:57:41.9±0.4, 56°.38N±0°.05×149°.20W±0°.03, h10km, n644, σ1§51/563, mb4.8/192, MS4.0/62, 29C-8D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.32**	**309**		**Pn**	**19 58 19.2**	**-0.9**
KDAK	**Kodiak Island**	**2.32**	**309**		**Sn**	**19 58 45.7**	**-2.9**
KDAK	**Kodiak Island**	**2.32**	**309**	Pn	**Pn**	**19 58 19.4**	**-0.7**
	31nm,0.3s,baz=225,slow=9.1,SNR=508						
KDAK				Sn	**Sn**	**19 58 45.5**	**-3.2**
	47nm,0.3s,baz=139,slow=20,SNR=22						
KDAK				LR	LR	19 59 30.2	
	comp=Z,2μm,19.4s,baz=340,slow=47						
	62nm,0.3s						
KDAK	**Kodiak Island**	**2.32**	**309**	P	**Pn**	**19 58 19.3**	**-0.9**
	baz=127						
KDAK				S	**Sn**	**19 58 45.4**	**-3.2**
	baz=127						
OHAK	**Old Harbor**	**2.40**	**292**		**Sn**	**19 58 46.8**	**-3.8**
OHAK	**Old Harbor**	**2.40**	**292**		**Pn**	**19 58 19.6**	**-1.5**
OHAK	**Old Harbor**	**2.40**	**292**	P	**Pn**	**19 58 19.7**	**-1.5**
OHAK	**Old Harbor**	**2.40**	**292**	P	**Pn**	**19 58 19.7**	**-1.5**
	baz=110						
OHAK				S	**Sn**	**19 58 46.8**	**-3.8**
	baz=110						
SII	**Sitkinak Islan**	**2.77**	**276**		**Sn**	**19 58 56.1**	**-3.7**
SII	**Sitkinak Islan**	**2.77**	**276**		**Pn**	**19 58 24.5**	**-1.8**
SII	**Sitkinak Islan**	**2.77**	**276**	P	**Pn**	**19 58 24.7**	**-1.6**
SII	**Sitkinak Islan**	**2.77**	**276**	P	**Pn**	**19 58 24.7**	**-1.6**
	baz=92						
CNPM	**China Poot**	**3.34**	**342**		**Pn**	**19 58 33.2**	**-0.9**
CNPM				IAML		19 59 22.6	
	comp=E,979nm,0.7s						
CNPM	**China Poot**	**3.34**	**342**		**Sn**	**19 59 13.0**	**-0.7**
BRSE	**Bradley Lake S**	**3.47**	**347**		**Pn**	**19 58 34.9**	**-1.0**
BRSE					**Sn**	**19 59 14.9**	**-2.2**
BRSE	**Bradley Lake S**	**3.47**	**347**	P	**Pn**	**19 58 35.1**	**-0.9**
	baz=166						
BRSE				S	**Sn**	**19 59 14.8**	**-2.3**
	baz=166						
BRLK	**Bradley Lake**	**3.51**	**346**		**Pn**	**19 58 35.3**	**-

RC01				S	Sn	19 59 44.8	-3.4
	baz=177						
P17K	**Kvichak River**	**4.79**	**309**	P	Pn	19 58 54.0	0.0
	baz=124						
P17K				S	Sn	19 59 47.1	-2.4
	baz=124						
FIS	**Fire Island**	**4.81**	**354**	IAML		20 00 06.3	
	comp=N,826nm,1.0s						
GOAT	**Goat Mountain**	**4.82**	**27**		Pn	19 58 54.4	-0.2
BGLC	**Bering Glacier**	**4.88**	**37**		Pn	19 58 55.6	+0.3
BGLC	**Bering Glacier**	**4.88**	**37**	P	Pn	19 58 55.6	+0.3
	baz=222						
BGLC				S	Sn	19 59 48.4	-3.4
	baz=222						
KNK	**Knik Glacier**	**5.07**	**4**	IAML		20 00 00.8	
	comp=E,410nm,0.9s						
KNK				IAML		20 00 10.0	
	comp=N,336nm,1.1s						
KNK	**Knik Glacier**	**5.07**	**4**	P	Pn	19 58 57.3	-0.5
	baz=185						
KNK				S	Sn	19 59 52.4	-3.9
	baz=185						
SNH	**Sunshine Point**	**5.08**	**39**		Pn	19 58 57.8	-0.3
SNH				IAML		20 00 30.4	
	comp=N,663nm,1.7s						
SPCR	**Spurr Chakacha**	**5.08**	**343**		Pn	19 58 56.9	-1.3
SPCR	**Spurr Chakacha**	**5.08**	**343**	P	Pn	19 58 57.1	-1.0
	baz=161						
SPCR				S	Sn	19 59 54.3	-2.5
	baz=161						
DIV	**Divide**	**5.09**	**19**	IAML		20 00 01.1	
	comp=N,321nm,0.8s						
DIV				IAML		20 00 01.4	
	comp=E,257nm,0.8s						
CHGN	**Chignik**	**5.13**	**273**	P	Pn	19 58 57.9	-0.8
	baz=86						
CYK	**Cape Yakataga**	**5.14**	**41**		Pn	19 58 58.6	-0.2
SUA	**Susitna One**	**5.16**	**352**	IAML		20 00 08.1	
	comp=E,230nm,1.0s						
SUA				IAML		20 00 19.2	
	comp=N,321nm,0.9s						
SUA	**Susitna One**	**5.16**	**352**	P	Pn	19 58 58.3	-1.0
	baz=171						
SUA				S	Sn	19 59 56.4	-2.5
	baz=171						
BMRM	**Bremner River**	**5.19**	**26**	IAML		20 00 04.7	
	comp=N,639nm,0.8s						
BMRM	**Bremner River**	**5.19**	**26**	P	Pn	19 58 59.1	-0.4
	baz=210						
BMRM				S	Sn	19 59 54.7	-4.7
	baz=210						
PMR	**Palmer**	**5.23**	**0**	IAML		20 00 05.6	
	comp=E,200nm,1.0s						
PMR				IAML		20 00 06.6	
	comp=N,203nm,0.9s						
PMR	**Palmer**	**5.23**	**0**	P	Pn	19 59 00.0	0.0
PMR	**Palmer**	**5.23**	**0**	P	Pn	19 58 59.6	-0.5
	baz=181						
PMR				S	Sn	19 59 56.5	-3.8
	baz=181						
N19K	**Bonanza Creek**	**5.23**	**330**	IAML		20 00 19.1	
	comp=E,185nm,0.9s						
N19K	**Bonanza Creek**	**5.23**	**330**	P	Pn	19 58 59.3	-0.9
	baz=146						
N19K				S	Sn	19 59 56.8	-3.8
	baz=146						
STLK	**Strandline Lak**	**5.31**	**346**	IAML		20 00 04.5	
	comp=E,224nm,1.1s						
STLK				IAML		20 00 05.0	
	comp=N,353nm,0.6s						
O17K	**Koliganek Bris**	**5.39**	**312**	P	Pn	19 59 01.6	-0.7
	baz=126						
MESA	**MESA**	**5.40**	**42**	P	Pn	19 59 02.2	-0.3
	baz=228						
MESA				S	Sn	20 00 00.2	-4.6
	baz=228						
KLU	**Klutina**	**5.40**	**17**	P	Pn	19 59 02.4	-0.1
	baz=200						
KLU				S	Sn	20 00 01.0	-3.7
	baz=200						
SML	**Sawmill**	**5.46**	**4**	P	Pn	19 59 03.2	-0.1
	baz=185						
SML				S	Sn	20 00 02.2	-4.0
	baz=185						
N18K	**Kilae Creek**	**5.55**	**324**	P	Pn	19 59 03.5	-1.1
	baz=139,SNR=27						
SCM	**Sheep Creek Mo**	**5.56**	**9**	P	Pn	19 59 04.7	+0.1
	baz=191						
SCM				S	Sn	20 00 07.0	-1.5
	baz=191						
O16K	**Kokwok River B**	**5.72**	**308**	P	Pn	19 59 06.8	0.0
	baz=121,SNR=63						
SKT	**Skwentna**	**5.74**	**349**	P	Pn	19 59 06.4	-0.7
	baz=167						
SKT				S	Sn	20 00 11.3	-1.7
	baz=167						
S14K	**Fog Glacier**	**5.76**	**273**	P	Pn	19 59 06.5	-0.9
	baz=85						
KIAG	**Kiagna River**	**5.79**	**35**		Pn	19 59 07.2	-0.7
M20K	**Styx River**	**5.88**	**342**	P	Pn	19 59 08.0	-1.0
	baz=159						
M20K				S	Sn	20 00 15.3	-1.1
	baz=159						
BALM	**Baldy**	**5.88**	**35**		Pn	19 59 08.9	-0.2
N17K	**Nushagak Hills**	**5.90**	**318**	P	Pn	19 59 08.5	-0.8
	baz=132,SNR=31						
PCA	**Pinnacle**	**6.02**	**48**		Pn	19 59 10.9	0.0
PINM	**Pinnacle**	**6.02**	**48**	P	Pn	19 59 11.2	+0.3
	baz=236						
PINM				S	Sn	20 00 15.9	-4.0
	baz=236						
CUT	**Chulitna**	**6.07**	**355**	P	Pn	19 59 11.2	-0.4
	baz=175						
CUT				S	Sn	20 00 18.5	-2.5
	baz=175						
CHNA	**Chernabura Isl**	**6.09**	**260**	P	Pn	19 59 10.2	-1.6
CHNA	**Chernabura Isl**	**6.09**	**260**	P	Pn	19 59 10.6	-1.2
	baz=71						
CHNA				S	Sn	20 00 15.6	-5.9
	baz=71						
M19K	**Big River Lodg**	**6.15**	**336**	P	Pn	19 59 11.4	-1.3
	baz=152						
PNL	**Peninsula**	**6.16**	**54**	P	Pn	19 59 13.0	+0.1
PNL	**Peninsula**	**6.16**	**54**	P	Pn	19 59 13.1	+0.1
	baz=242						
M18K	**Stony River**	**6.17**	**329**	P	Pn	19 59 11.6	-1.3
	baz=144,SNR=63						
M18K				S	Sn	20 00 20.1	-3.2
	baz=144						
BCPM	**Bancas Point**	**6.20**	**51**		Pn	19 59 13.1	-0.3
O15K	**Ungalikthiuk R**	**6.33**	**301**	P	Pn	19 59 15.3	+0.1
	baz=112						
O15K				S	Sn	20 00 25.1	-2.5
	baz=112						
SDPT	**Sand Point**	**6.43**	**265**	Pn	Pn	19 59 15.5	-1.0
SDPT	**Sand Point**	**6.43**	**265**	P	Pn	19 59 16.1	-0.4
SDPT	**Sand Point**	**6.43**	**265**	P	Pn	19 59 15.7	-0.8
	baz=76						
SDPT				S	Sn	20 00 26.5	-3.4
	baz=76						
O28M	**Mount Upton**	**6.45**	**43**	P	Pn	19 59 17.1	0.0
	baz=231						
O28M				S	Sn	20 00 25.9	-4.9
	baz=231						
N16K	**Nishlik Lake**	**6.49**	**313**	P	Pn	19 59 17.1	-0.2
	baz=126						
N16K				S	Sn	20 00 28.6	-2.8
	baz=126						
L19K	**White Mountain**	**6.50**	**336**	P	Pn	19 59 16.3	-1.2
	baz=152						
L19K				S	Sn	20 00 30.7	-0.9
	baz=152						
L20K	**Farewell, AK**	**6.57**	**341**	P	Pn	19 59 17.5	-0.9
	baz=157,SNR=12						
L20K				S	Sn	20 00 34.1	+0.9
	baz=157						
M17K	**Holitna River**	**6.60**	**323**	P	Pn	19 59 18.2	-0.7
	baz=137,SNR=52						
M17K				S	Sn	20 00 32.0	-2.1
	baz=137						
PPLA	**Purkeypile**	**6.71**	**348**	P	Pn	19 59 20.1	-0.4
	baz=166						
PPLA				S	Sn	20 00 35.0	-2.0
	baz=166						
M26K	**Nabesna, AK**	**6.82**	**25**	P	Pn	19 59 22.9	+1.0
	baz=211						
M26K				S	Sn	20 00 39.2	-0.4
	baz=211						
O29M	**Mount Kennedy**	**6.84**	**50**	P	Pn	19 59 22.7	+0.4
	baz=240						
O29M				S	Sn	20 00 35.3	-4.8
	baz=240						
PAX	**Paxson**	**6.88**	**14**	P	Pn	19 59 22.8	+0.1
	baz=198						
PAX				S	Sn	20 00 36.6	-4.3
	baz=198						
N15K	**Kwethluk River**	**6.88**	**308**	P	Pn	19 59 22.9	+0.1
	baz=119,SNR=56						
N15K				S	Sn	20 00 38.4	-2.6
	baz=119						
M16K	**Timber Creek**	**6.89**	**317**	P	Pn	19 59 22.4	-0.5
	baz=129						
P29M	**Windy Craggy**	**6.91**	**57**	P	Pn	19 59 23.1	-0.1
	baz=247						
P29M				S	Sn	20 00 35.0	-6.7
	baz=247						
YUK8	**Steele Glacier**	**6.94**	**41**	P	Pn	19 59 24.5	+0.8
	baz=229						
YUK8				S	Sn	20 00 40.8	-1.9
	baz=229						
L18K	**Granite Mounta**	**7.00**	**330**	P	Pn	19 59 22.9	-1.4
	baz=144,SNR=11						
YUK3	**Moose Creek**	**7.04**	**36**	P	Pn	19 59 25.9	+0.8
	baz=224						
YUK3				S	Sn	20 00 41.0	-4.2
	baz=224						
O14K	**Tigyukauivet M**	**7.06**	**299**	P	Pn	19 59 25.3	+0.2
	baz=109,SNR=22						
O14K				S	Sn	20 00 45.2	-0.1
	baz=109						
M27K	**Edge Creek, AK**	**7.07**	**29**	P	Pn	19 59 25.7	+0.3
	baz=215,SNR=5.8						
M27K				S	Sn	20 00 44.6	-1.1
	baz=215						
TRF	**Thorofare Moun**	**7.12**	**356**	P	Pn	19 59 25.7	-0.4
	baz=175						
TRF				S	Sn	20 00 45.9	-1.0
	baz=175						
CAST	**Castle Rocks**	**7.21**	**350**	P	Pn	19 59 27.0	-0.2
	baz=168						
CAST				S	Sn	20 00 46.7	-2.3
	baz=168						
YUK6	**Outpost Mounta**	**7.27**	**47**	P	Pn	19 59 28.7	+0.4
	baz=236						
YUK6				S	Sn	20 00 47.4	-3.5
	baz=236						
MCK	**McKinley**	**7.38**	**1**	P	Pn	19 59 29.6	0.0
	baz=181						
MCK				S	Sn	20 00 50.4	-2.9
	baz=181						
YUK4	**Talbot Arm**	**7.39**	**43**	P	Pn	19 59 32.0	+2.1
	baz=232						
YUK4				S	Sn	20 00 53.7	-0.2
	baz=232						
BVCY	**Beaver Creek**	**7.39**	**32**	P	Pn	19 59 29.9	+0.1
	baz=219						
BVCY				S	Sn	20 00 52.4	-1.3
	baz=219						
M15K	**Kasigluk River**	**7.40**	**311**	P	Pn	19 59 29.9	+0.1
	baz=121						
L17K	**Donlin**	**7.41**	**325**	P	Pn	19 59 28.9	-1.1
	baz=138						
K20K	**Telida**	**7.41**	**343**	P	Pn	19 59 28.5	-1.6
	baz=159,SNR=27						
TTA	**Tatalina**	**7.42**	**335**	P	Pn	19 59 28.7	-1.4
TTA	**Tatalina**	**7.42**	**335**	P	Pn	19 59 29.1	-1.1
	baz=150						
P30M	**Million Dollar**	**7.47**	**55**	P	Pn	19 59 31.2	+0.4
	baz=245						
P30M				S	Sn	20 00 54.2	-1.3
	baz=245						
N14K	**Kuskokwak Cree**	**7.50**	**303**	P	Pn	19 59 30.2	-1.0
	baz=113						
PLBC	**Pleasant Camp**	**7.50**	**60**	P	Pn	19 59 31.2	0.0
	baz=251						
L16K	**Owhat River**	**7.52**	**320**	P	Pn	19 59 30.9	-0.6
	baz=131						
HYT	**Haines Junctio**	**7.56**	**49**	Pn	Pn	19 59 31.9	-0.2
HYT	**Haines Junctio**	**7.56**	**49**	P	Pn	19 59 32.1	-0.1
	baz=239						
HYT				S	Sn	20 00 55.0	-2.8
	baz=239						
L27K	**Beaver Creek,**	**7.67**	**26**	P	Pn	19 59 33.6	+0.1
	baz=212						
SIT	**Sitka**	**7.67**	**79**	P	Pn	19 59 29.6	-3.9
CHUM	**Lake Minchumin**	**7.69**	**350**	P	Pn	19 59 33.4	-0.3
	baz=167						
CHUM				S	Sn	20 00 58.2	-2.5
	baz=167						
RIDG	**Independent Ri**	**7.70**	**15**	P	Pn	19 59 34.0	0.0
	baz=199						
RIDG				S	Sn	20 00 59.4	-1.8
	baz=199						
BPAW	**Bear Paw Mtn.**	**7.80**	**354**	P	Pn	19 59 34.2	-1.1
	baz=173						
BPAW				S	Sn	20 00 59.8	-3.8
	baz=173						
K17K	**Iditarod**	**7.85**	**328**	P	Pn	19 59 34.7	-1.3
	baz=140						
SKAG	**Skagway**	**8.00**	**62**	P	Pn	19 59 38.2	+0.1
SKAG	**Skagway**	**8.00**	**62**	P	Pn	19 59 37.9	-0.2
	baz=253						
J18K	**Innoko River**	**8.04**	**335**	P	Pn	19 59 37.7	-0.9
	baz=149,SNR=7.9						
SCRK	**Sand Creek**	**8.05**	**17**	P	Pn	19 59 38.6	-0.3
	baz=201						
N30M	**Aishikik Lake**	**8.07**	**46**	P	Pn	19 59 39.3	+0.2
	baz=236,SNR=7.0						
N30M				S	Sn	20 01 05.7	-4.6
	baz=236						
HDA	**Harding Lake**	**8.13**	**7**	P	Pn	19 59 39.9	0.0
	baz=189						
HDA				S	Sn	20 01 10.2	-1.5
	baz=189						
M29M	**Somme Creek**	**8.18**	**38**	P	Pn	19 59 40.7	+0.1
	baz=227,SNR=20						
M29M				S	Sn	20 01 09.7	-3.3
	baz=227						
FALS	**False Pass**	**8.19**	**265**	P	Pn	19 59 40.3	-0.4
FALS	**False Pass**	**8.19**	**265**	P	Pn	19 59 39.4	-1.3
	baz=74						
J20K	**Nowinta River**	**8.20**	**345**	P	Pn	19 59 39.9	-0.9
	baz=161,SNR=35						
J20K				S	Sn	20 01 12.9	-0.4
	baz=161						
JIS	**Juneau Island**	**8.24**	**71**	P	Pn	19 59 40.4	-0.9
NEA2	**Nenana**	**8.24**	**0**	P	Pn	19 59 40.5	-0.8
	baz=181						
NEA2				S	Sn	20 01 07.5	-6.9
	baz=181						
L15K	**Ungalak Mounta**	**8.26**	**315**	P	Pn	19 59 41.3	-0.3
	baz=125						
J19K	**Poorman**	**8.28**	**340**	P	Pn	19 59 40.4	-1.5
	baz=155,SNR=19						
J19K				S	Sn	20 01 18.1	+2.8
	baz=155						
K27K	**Chicken**	**8.45**	**22**	P	Pn	19 59 44.6	+0.4
	baz=208						
K27K				S	Sn	20 01 17.5	-2.0
	baz=208						
M13K	**Dall Lake**	**8.45**	**304**	P	Pn	19 59 44.8	+0.5
	baz=113,SNR=9.7						
M13K				Sb	Sb	20 01 54.5	+5.8
	baz=113						
J25K	**Salcha River,**	**8.47**	**11**	P	Pn	19 59 44.0	-0.6
	baz=195,SNR=34						
J25K				S	Sn	20 01 20.6	+0.4
	baz=195						
ILAR	**Eielson Array**	**8.50**	**7**	Pn	Pn	19 59 44.0	-0.9
ILAR	**Eielson Array**	**8.50**	**7**	Pn	Pn	19 59 43.0	-1.8
	comp=N,8.3nm,0.3s,baz=190,slow=12,SNR=254						
ILAR				Sn	Sn	20 01 15.0	-5.7
	comp=N,2.3nm,0.3s,baz=175,slow=21,SNR=6.2						
ILAR				LR	LR	20 03 12.3	
	comp=N,2µm,19.3s,baz=168,slow=39						
	comp=N,19nm,0.4s						
COLA	**College**	**8.55**	**4**		Pn	19 59 44.8	-0.8
COLA	**College**	**8.55**	**4**	P	Pn	19 59 45.5	0.0
COLA	**College**	**8.55**	**4**	P	Pn	19 59 45.7	+0.2
	baz=185						
L14K	**Kuka Creek**	**8.57**	**311**	P	Pn	19 59 46.1	+0.3
	baz=120,SNR=21						
J17K	**VABM Dome**	**8.60**	**329**	P	Pn	19 59 44.8	-1.5
	baz=141						
J26L	**Joseph Creek**	**8.61**	**17**	P	Pn	19 59 46.4	-0.1
	baz=202,SNR=55						
WHY	**Whitehorse**	**8.63**	**54**	P	Pn	19 59 47.0	+0.2
	baz=246						
K15K	**Wolf Creek Mou**	**8.64**	**318**	P	Pn	19 59 46.3	-0.5
	baz=128						
L29M	**L29M**	**8.75**	**35**	P	Pn	19 59 48.8	+0.4
	baz=225						
I20K	**Naaghedeneel**	**8.83**	**345**	P	Pn	19 59 49.7	+0.3
	baz=161						
I21K	**Tanana**	**8.93**	**352**	P	Pn	19 59 50.2	-0.6
	baz=170						
J16K	**Anvik River**	**8.98**	**325**	P	Pn	19 59 50.4	-1.1
	baz=136						
CRAG	**Craig**	**9.08**	**89**	P	Pn	19 59 48.9	-3.9
DAWY	**Dawson**	**9.11**	**28**	P	Pn	19 59 52.2	-1.2
	baz=217						
GCSA	**Galena City Sc**	**9.20**	**339**	P	Pn	19 59 52.8	-1.6
	baz=153						
PRP	**Porcupine Dome**	**9.34**	**9**	P	Pn	19 59 55.9	-0.6
	baz=193						
WRAK	**Wrangell Islan**	**9.35**	**83**		Pn	19 59 54.4	-2.1
WRAK	**Wrangell Islan**	**9.35**	**83**	P	Pn	19 59 54.9	-1.6
	baz=277						
Q32M	**Nakina River**	**9.43**	**67**	P	Pn	19 59 57.2	-0.6
	baz=261,SNR=6.4						
H21K	**Melozitna Rive**	**9.47**	**351**	P	Pn	19 59 56.6	-1.6
	baz=168,SNR=98						
K29M	**Barlow Dome**	**9.47**	**33**	P	Pn	19 59 57.9	-0.4
	baz=223,SNR=26						
H23K	**Yukon River**	**9.48**	**359**	P	Pn	19 59 57.6	-0.7
	baz=179						
H24K	**Noodor Dome**	**9.51**	**3**	P	Pn	19 59 58.3	-0.6
	baz=185						
H20K	**Anotleneega Mo**	**9.55**	**346**	P	Pn	19 59 58.8	-0.5
	baz=161,SNR=11						
M31M	**Drury Creek, Y**	**9.55**	**46**	P	Pn	19 59 59.8	+0.5
	baz=239						
H22K	**Ishtalitna Cre**	**9.61**	**355**	P	Pn	19 59 59.7	-0.4
	baz=173						
N32M	**Quiet Lake**	**9.63**	**54**	P	Pn	20 00 00.4	0.0
	baz=247						
J14K	**Nanvaranak Lak**	**9.67**	**317**	P	Pn	20 00 00.1	-0.8
	baz=125						
K13K	**Kusilvak Mount**	**9.68**	**311**	P	Pn	20 00 00.5	-0.6
	baz=118						
AKUT	**Akutan**	**9.72**	**264**	P	Pn	20 00 00.3	-1.3
J29N	**Klondike Camp**	**9.73**	**29**	P	Pn	20 00 02.2	+0.3
	baz=219						
H19K	**Roundabout Mou**	**9.82**	**342**	P	Pn	20 00 02.5	-0.4
	baz=156,SNR=7.8						
H18K	**Honhosa River**	**9.86**	**337**	P	Pn	20 00 02.0	-1.6
	baz=149						
I27K	**Kandik River**	**9.95**	**19**	P	Pn	20 00 05.2	+0.3
	baz=205,SNR=21						
FARO	**Faro, Yukon**	**9.99**	**48**	P	Pn	20 00 05.4	+0.1
	baz=241						
H17K	**Granite Mounta**	**10.05**	**333**	P	Pn	20 00 04.8	-1.3
	baz=144,SNR=5.3						
I28M	**Miner Creek**	**10.14**	**22**	P	Pn	20 00 07.3	-0.2
	baz=211,SNR=11						
R33M	**Jennings River**	**10.16**	**65**		Pn	20 00 07.2	-0.6
R33M	**Jennings River**	**10.16**	**65**	P	Pn	20 00 07.5	-0.3
	baz=260,SNR=21						
UNV	**Unalaska Valle**	**10.23**	**263**	Pn	Pn	20 00 06.3	-2.3
UNV	**Unalaska Valle**	**10.23**	**263**	P	Pn	20 00 06.7	-1.9
	baz=69						
J30M	**Hart River**	**10.37**	**32**	P	Pn	20 00 11.1	+0.5
	baz=224						
G21K	**Allakaket**	**10.38**	**350**	P	Pn	20 00 09.6	-1.0
	baz=167						
G23K	**Bananza Creek**	**10.38**	**358**	P	Pn	20 00 10.0	-0.6
	baz=178						
G24K	**Hadweenzic Riv**	**10.39**	**4**	P	Pn	20 00 10.6	-0.1
	baz=186						
FYU	**Fort Yukon**	**10.39**	**9**	Pn	Pn	20 00 10.3	-0.5
I29M	**Ogilvie Camp,**	**10.44**	**26**	P	Pn	20 00 11.7	+0.3
	baz=216						
G19K	**Purcell Mounta**	**10.49**	**342**	P	Pn	20 00 12.6	+0.4
	baz=156						
G25K	**Bearman Lake**	**10.53**	**7**	P	Pn	20 00 12.6	0.0
	baz=190						
H27K	**Steamboat Moun**	**10.54**	**17**	P	Pn	20 00 12.8	-0.1
	baz=204						
DLBC	**Dease Lake**	**10.54**	**71**	P	Pn	20 00 11.3	-1.7
	baz=267						
G18K	**Tagagawik**	**10.57**	**338**	P	Pn	20 00 12.5	-0.7
	baz=150						
G22K	**Bettles**	**10.64**	**355**	P	Pn	20 00 14.0	-0.1
	baz=173						
G17K	**Kiwalik Mounta**	**10.69**	**333**	P	Pn	20 00 14.6	-0.3
	baz=144						
I30M	**Mount Dempster**	**10.83**	**30**	P	Pn	20 00 16.6	-0.3
	baz=221,SNR=11						
COLD	**Coldfoot**	**10.90**	**358**	Pn	Pn	20 00 16.8	-1.0
COLD	**Coldfoot**	**10.90**	**358**	P	Pn	20 00 17.4	-0.3
	baz=177						
G26K	**Porcupine Rive**	**10.91**	**11**	P	Pn	20 00 17.6	-0.2
	baz=196						
MMPY	**Sheldon Lake,**	**11.03**	**48**	Pn	Pn	20 00 19.3	-0.3
MMPY	**Sheldon Lake,**	**11.03**	**48**	P	Pn	20 00 20.1	+0.5
	baz=244						
G16K	**Koyuk River**	**11.05**	**330**	P	Pn	20 00 19.5	-0.3
	baz=139						
G27K	**Doyon Strip**	**11.05**	**16**	P	Pn	20 00 19.9	0.0
	baz=202						
F21K	**Alatna River**	**11.06**	**351**	P	Pn	20 00 19.0	-1.0
	baz=168						
F20K	**Avaraart Lake**	**11.14**	**347**	P	Pn	20 00 19.9	-1.0
	baz=161,SNR=39						
H29M	**Whitestone**	**11.14**	**23**	P	Pn	20 00 21.0	0.0
	baz=213						
F24K	**Squaw Lake**	**11.20**	**3**	P	Pn	20 00 21.1	-0.7
	baz=184						
F19K	**Shaleruckik Mo**	**11.24**	**342**	P	Pn	20 00 21.7	-0.6
	baz=155						
P08K	**Saint George I**	**11.25**	**280**	P	Pn	20 00 21.1	-1.3
	baz=83						
F22K	**John River**	**11.26**	**354**	P	Pn	20 00 22.0	-0.6
	baz=172,SNR=10						
G15K	**Niukluk**	**11.26**	**326**	P	Pn	20 00 21.8	-0.9
	baz=133						
BMAR	**Burnt Mountain**	**11.30**	**9**	Pn	Pn	20 00 22.5	-0.7
F25K	**Christian Rive**	**11.38**	**7**	P	Pn	20 00 23.9	-0.4
	baz=190						
ANM	**Nome**	**11.41**	**323**	P	Pn	20 00 24.0	-0.8
	baz=129						
SPIA	**Saint Paul Isl**	**11.57**	**283**	P	Pn	20 00 25.7	-1.1
	baz=85						
F26K	**Sheenjek River**	**11.60**	**10**	P	Pn	20 00 26.4	-0.9
	baz=194						
F17K	**Baldwin Pennin**	**11.60**	**335**	P	Pn	20 00 26.1	-1.1
	baz=145						
E23K	**Chandalar**	**11.72**	**359**	P	Pn	20 00 28.7	-0.4
	baz=179						
E19K	**Redstone River**	**11.73**	**345**	P	Pn	20 00 29.0	-0.1
	baz=158						
E24K	**Your Creek**	**11.74**	**1**	P	Pn	20 00 29.2	-0.2
	baz=182						
G29M	**Pine Creek**	**11.80**	**22**	P	Pn	20 00 30.2	+0.1
	baz=212						
H31M	**Peel River**	**11.84**	**31**	P	Pn	20 00 30.2	-0.4
	baz=224						
E22K	**Anaktuvuk Pass**	**11.86**	**355**	P	Pn	20 00 30.5	-0.4
	baz=173						
NIKH	**Nikolski High**	**11.87**	**262**	P	Pn	20 00 31.6	+0.6
NIKH	**Nikolski High**	**11.87**	**262**	P	Pn	20 00 29.6	-1.4
	baz=66						
E25K	**Arctic Village**	**11.90**	**7**		Pn	20 00 30.7	-0.7
E25K	**Arctic Village**	**11.90**	**7**	P	Pn	20 00 31.4	-0.1
	baz=190						
F15K	**North Star Dit**	**11.94**	**328**	P	Pn	20 00 31.4	-0.5
	baz=134						
TGTN	**Hyland Airport**	**11.94**	**56**	P	Pn	20 00 32.0	-0.1
	baz=254						
G30M	**tAoh Zraii Nji**	**12.26**	**25**	P	Pn	20 00 35.9	-0.4
	baz=216						
E17K	**Hotham Inlet**	**12.26**	**336**	P	Pn	20 00 35.8	-0.4
	baz=145						
E18K	**Tukpahlearik C**	**12.28**	**339**	P	Pn	20 00 36.3	-0.3
	baz=149						
E21K	**Killik River**	**12.30**	**352**	P	Pn	20 00 37.0	+0.1
	baz=168						
E20K	**Nigu River**	**12.34**	**348**	P	Pn	20 00 38.0	+0.5
	baz=162						
E27K	**Coleen River**	**12.35**	**13**	P	Pn	20 00 38.1	+0.5
	baz=200						
LIRD	**Liard River Hi**	**12.64

D22K Ayikyak River 12.65 354 P Pn 20 00 41.9 +0.3
baz=171
D23K Nanushuk River 12.65 358 P Pn 20 00 40.8 -0.9
baz=176
G31M Satah River 12.69 28 P Pn 20 00 42.1 0.0
baz=221
D19K Kuna River 12.82 345 P Pn 20 00 43.8 -0.1
baz=157
D24K Happy Valley 12.82 1 P Pn 20 00 44.4 +0.4
baz=181
D20K Etivluk River 12.83 348 P Pn 20 00 43.6 -0.5
baz=161
F30M Barrier River 12.87 24 P Pn 20 00 44.8 +0.2
baz=216
TNA Tin City 12.88 323 P Pn 20 00 43.9 -0.8
baz=127
E28M Babbage River 13.03 16 P Pn 20 00 47.4 +0.5
baz=205
D17K Noatak River 13.04 336 P Pn 20 00 46.2 -0.7
baz=144
D25K Kavik River 13.05 4 P Pn 20 00 47.4 +0.2
baz=187
TOAD Toad River Com 13.06 69 P Pn 20 00 47.3 0.0
baz=269
C21K Knifeblade Rid 13.07 351 P Pn 20 00 47.1 -0.3
baz=166
E29M Blow River 13.11 19 P Pn 20 00 48.3 +0.4
baz=209
RDOG Red Dog Mine 13.29 337 P Pn 20 00 50.9 +0.5
baz=145
GAMB Gambell 13.39 313 P Pn 20 00 50.9 -0.8
baz=113
C24K Franklin Bluff 13.39 1 P Pn 20 00 51.3 -0.4
baz=181
D27M Malcolm River 13.43 13 P Pn 20 00 53.1 +0.9
baz=200
C18K Utukok River 13.46 341 Pn 20 00 53.0 +0.4
C18K Utukok River 13.46 341 P Pn 20 00 52.5 -0.2
baz=150
B21K Ikpikpuk River 13.51 352 P Pn 20 00 52.2 -1.0
baz=167
C27K Jago River 13.52 8 P Pn 20 00 53.8 +0.4
baz=193
C23K Itkillik River 13.52 358 P Pn 20 00 52.3 -1.3
baz=177
C26K Camden Bay 13.72 6 P Pn 20 00 54.9 -1.3
baz=190
KOTAN Kotaneelee Air 13.72 64 P Pn 20 00 56.8 +0.5
baz=265
D28M Stokes Point 13.81 16 P Pn 20 00 57.8 +0.4
baz=205
INK Inuvik 13.94 25 P Pn 20 00 58.7 -0.5
baz=219
C16K Lisburne Hills 14.02 335 P Pn 20 00 59.5 -0.8
baz=141
B20K Meade River 14.12 349 P Pn 20 01 00.5 -1.1
baz=162
B22K Teshekpuk Lake 14.14 354 P Pn 20 01 01.7 -0.1
baz=170
B18K Kokolik River 14.19 342 P Pn 20 01 02.6 -0.1
baz=150
WRGLY Wrigley 14.58 51 P Pn 20 01 09.3 +1.3
baz=254
A19K Wainwright 14.82 344 P Pn 20 01 10.0 -1.1
baz=154
A22K Sinclair Lake 14.89 353 P Pn 20 01 10.2 -1.9
baz=168
ATKA Atka Island 15.14 264 Pn Pn 20 01 14.6 -1.0
ATKA IAmb IAmb 20 01 22.1
comp=Z,30nm,0.6s
GSTR Great Sitkin T 16.22 266 Pn Pn 20 01 28.4 -1.3
LLLB Lillooet 17.18 98 Pn Pn 20 01 41.3 -0.6
YKA Yellowknife Ar 18.45 56 P P 20 01 56.2 -1.1
comp=Z,0.5nm,0.3s,baz=268,slow=10,SNR=71
YKA PcP PcP 20 06 26.6 -0.4
comp=Z,1.0nm,0.7s,baz=261,slow=1.2,SNR=5.4
YKA LR LR 20 08 52.0
comp=Z,547nm,20.0s,baz=264,slow=36
comp=Z,11nm,1.0s
LON Longmire 19.44 108 P P 20 02 07.9 -0.4
LTY Liberty 19.73 105 IAmb IAmb 20 02 16.0
comp=Z,89nm,1.2s
MXC Moxie City 20.36 107 IAmb IAmb 20 02 23.5
comp=Z,90nm,1.2s
BUCK Buck Mountain 20.57 115 IAmb IAmb 20 02 31.2
comp=Z,68nm,1.4s
E07A Sunnyside 20.60 106 IAmb IAmb 20 02 26.1
comp=Z,57nm,1.2s
WAH2 Wahluke Slope 20.63 105 IAmb IAmb 20 02 26.1
comp=Z,80nm,1.3s
HAWA Hanford 20.88 106 P P 20 02 23.9 -0.1
HAWA IAmb IAmb 20 02 26.3
comp=Z,50nm,1.5s
NEW Newport 21.06 99 P P 20 02 26.9 +0.9
comp=Z,17nm,1.1s,baz=297,slow=7.9,SNR=18
NEW LR LR 20 09 21.5
comp=Z,542nm,21.7s,baz=289,slow=33
comp=Z,17nm,1.1s
DBO Dodson Butte 21.22 118 IAmb IAmb 20 02 34.0
comp=Z,38nm,1.0s
K02D Willamette Mer 21.33 119 IAmb IAmb 20 02 32.1
comp=Z,91nm,1.3s
SHEM Shemya Is, Ala 21.42 276 LR LR 20 11 30.9
comp=Z,370nm,19.1s,baz=97,slow=39
LNOR Lincton Mounta 21.88 106 IAmb IAmb 20 02 37.1
comp=Z,50nm,1.3s
PINE Pine Mountain 21.89 113 IAmb IAmb 20 02 38.0
comp=Z,46nm,1.1s
F10A Beach Ranch, E 22.39 104 IAmb IAmb 20 02 43.1
comp=Z,80nm,1.6s
YBH Yreka Blue Hor 22.52 119 IAmb IAmb 20 02 45.7
comp=Z,35nm,1.4s
YBH Yreka Blue Hor 22.52 119 LR LR 20 09 15.7
comp=Z,486nm,18.0s,baz=306,slow=31
BILL Bilibino 23.20 318 P P 20 02 46.8 -1.7
BILL IAmb IAmb 20 03 00.6
comp=Z,110nm,2.0s
MSO Missoula 23.65 99 IAmb IAmb 20 02 56.4
comp=Z,26nm,1.4s
HATC Hat Creek Radi 23.83 119 IAmb IAmb 20 03 15.8
comp=Z,90nm,1.4s
WVOR Wild Horse Val 24.04 112 IAmb IAmb 20 02 59.3
comp=Z,23nm,1.0s
MFID Camas Ranch 24.82 107 IAmb IAmb 20 03 07.4
comp=Z,19nm,1.1s
BEKR Beckworth 25.10 119 IAmb IAmb 20 03 10.7
comp=Z,30nm,1.6s
DLMT Dillon 25.29 100 IAmb IAmb 20 03 13.1
comp=Z,37nm,1.3s
AFDM Forest Hills D 25.52 121 P P 20 03 10.1 -0.3
FFC Flin Flon 26.36 74 P P 20 03 17.9 0.0
FFC IAmb IAmb 20 03 22.8
comp=Z,25nm,1.4s
YHL Hebgen Lake 26.39 100 IAmb IAmb 20 03 21.0
comp=Z,25nm,1.5s
YHB Horse Butte 26.44 100 IAmb IAmb 20 03 21.3
comp=Z,21nm,1.4s
WAKR Walker 26.61 120 IAmb IAmb 20 03 26.2
comp=Z,20nm,1.3s
YMR Madison River 26.62 100 IAmb IAmb 20 03 22.9
comp=Z,26nm,1.2s
YNR Norris Junctio 26.75 99 IAmb IAmb 20 03 25.3
comp=Z,20nm,1.3s
H17A Grant Village 27.01 100 IAmb IAmb 20 03 27.9
comp=Z,21nm,1.4s
ELK Elko 27.02 111 P P 20 03 25.8 +1.5
comp=Z,6.3nm,1.1s,baz=315,slow=7.7,SNR=14
comp=Z,6.3nm,1.1s
NVAR Mina Array Bea 27.22 118 P P 20 03 27.6 +1.6
comp=Z,6.8nm,0.8s,baz=306,slow=9.0,SNR=4.4
NVAR LR LR 20 12 22.8
comp=Z,416nm,18.1s,baz=345,slow=32
comp=Z,6.8nm,0.8s
PDAR Pinedale Array 28.64 101 P P 20 03 39.2 +0.6
comp=Z,1.9nm,0.8s,baz=317,slow=6.1,SNR=8.5
PDAR PcP PcP 20 06 49.3 +0.1
comp=Z,0.3nm,0.6s,baz=316,slow=6.6,SNR=2.6
PDAR LR LR 20 14 11.0
comp=Z,92nm,19.6s,baz=304,slow=34
comp=Z,1.9nm,0.8s
S11A Rachel 29.10 116 IAmb IAmb 20 03 47.0
comp=Z,24nm,1.1s
WCT Wildcat Mounta 29.33 118 IAmb IAmb 20 03 47.5
comp=Z,15nm,1.2s
PRN Pahroc Range 29.63 115 IAmb IAmb 20 03 50.2
comp=Z,24nm,1.3s
PETK Petropavlovsk- 30.19 287 P P 20 03 51.9 -0.1
comp=Z,6.9nm,0.8s,baz=64,slow=13,SNR=5.9
PETK LR LR 20 16 58.3
comp=Z,188nm,19.2s,baz=83,slow=38
comp=Z,6.9nm,0.8s
EUNU Eureka 30.39 18 P P 20 03 56.0 +2.4
SRU San Rafael Swe 30.69 108 IAmb IAmb 20 03 59.5
comp=Z,26nm,1.1s
PKCU Pink Cliffs 31.00 112 IAmb IAmb 20 04 02.9
comp=Z,13nm,1.1s
V12A Nelson 31.04 117 IAmb IAmb 20 04 03.1
comp=Z,12nm,1.0s
MA2 Magadan 31.05 301 LR LR 20 17 57.4
comp=Z,223nm,18.0s,baz=82,slow=39
O20A White River Ci 31.17 104 IAmb IAmb 20 04 03.2
comp=Z,28nm,1.3s
HMU Henry Mountain 31.44 109 IAmb IAmb 20 04 06.2
comp=Z,16nm,1.2s
PFO Pinyon Flats O 31.97 122 P P 20 04 09.7 +1.7
comp=Z,2.3nm,0.8s,baz=32,slow=6.0,SNR=3.8
PFO LR LR 20 14 32.9
comp=Z,198nm,20.1s,baz=342,slow=32
comp=Z,2.3nm,0.8s
PV23 Carpenter Ridg 31.98 107 IAmb IAmb 20 04 18.8
comp=Z,14nm,0.7s
PV10 Paradox Valley 32.02 107 IAmb IAmb 20 05 04.2
comp=Z,12nm,0.8s
PV11 David Mesa, Pa 32.16 107 IAmb IAmb 20 04 11.9
comp=Z,16nm,1.1s
PV13 Radium Mtn., P 32.29 107 IAmb IAmb 20 04 13.1
comp=Z,26nm,1.3s
PV15 Paradox Valley 32.34 106 IAmb IAmb 20 04 13.3
comp=Z,13nm,0.9s
BLYC Blythe 32.79 119 IAmb IAmb 20 04 17.9
comp=Z,18nm,0.9s
AGMN Agassiz Nation 32.82 81 IAmb IAmb 20 04 17.1
comp=Z,41nm,1.7s
WUAZ Wupatki 32.96 113 IAmb IAmb 20 04 19.7
comp=Z,15nm,1.1s
YUH Yuha Desert 33.02 122 P P 20 04 16.5 -0.6
YUH IAmb IAmb 20 04 19.3
comp=Z,11nm,1.2s
Y14A Wickenburg 33.38 117 IAmb IAmb 20 04 23.1
comp=Z,11nm,1.0s
F33A 5 Mile Ranch, 34.03 85 IAmb IAmb 20 04 27.6
comp=Z,22nm,1.3s
PIX Pinacate 35.09 120 IAmb IAmb 20 04 37.8
comp=Z,16nm,1.2s
ECSD EROS Data Cent 35.17 88 IAmb IAmb 20 04 37.0
comp=Z,15nm,1.1s
EYMN Ely 35.42 79 P P 20 04 37.8 +0.1
EYMN IAmb IAmb 20 04 39.9
comp=Z,30nm,0.9s
TIXI Tiksi 35.62 327 P P 20 04 39.6 +0.5
TIXI Tiksi 35.62 327 LR LR 20 21 36.3
comp=Z,108nm,18.4s,baz=96,slow=40
ANMO Albuquerque 35.96 108 P P 20 04 44.6 +1.9
comp=Z,1.7nm,0.2s,baz=86,slow=14,SNR=5.1
ANMO PcP PcP 20 07 09.6 +0.3
comp=Z,2.3nm,0.9s,baz=253,slow=1.6,SNR=3.7
ANMO LR LR 20 19 44.5
comp=Z,117nm,18.6s,baz=112,slow=37
comp=Z,1.7nm,0.2s
E38A The Farm, Brul 36.18 81 IAmb IAmb 20 04 46.2
comp=Z,43nm,1.2s
I37A Lemond, Waseca 36.78 85 IAmb IAmb 20 04 51.5
comp=Z,25nm,1.0s
KULLO Kullorsuaq 37.29 26 *i* P P 20 04 54.4 +1.0
KULLO IAmb IAmb 20 04 56.5
comp=Z,12nm,1.1s
NEEM North Greenlan 37.47 21 *i* P P 20 04 56.3 +1.0
NEEM IAmb IAmb 20 04 58.2
comp=Z,18nm,1.1s
G40A Rib Lake 37.75 81 IAmb IAmb 20 04 59.5
comp=Z,40nm,1.7s
COWI Conover 37.82 80 P P 20 04 58.2 0.0
I40A Norwalk 38.40 83 IAmb IAmb 20 05 05.0
comp=Z,27nm,1.2s
ELIS Ellis County 38.92 100 IAmb IAmb 20 05 10.2
comp=Z,30nm,0.9s
KAN09 Caldwell North 39.13 97 IAmb IAmb 20 05 11.2
comp=Z,16nm,1.0s
L40A Anamosa 39.26 86 IAmb IAmb 20 05 11.5
comp=Z,22nm,0.9s
KAN13 South Haven SW 39.29 97 IAmb IAmb 20 05 13.1
comp=Z,28nm,1.3s
I42A Draeger Farm, 39.34 82 IAmb IAmb 20 05 13.2
comp=Z,29nm,1.2s
YAK Yakutsk 39.34 313 P P 20 05 10.8 +0.1
YAK IAmb IAmb 20 05 20.1
comp=Z,16nm,0.7s
YAK Yakutsk 39.34 313 LR LR 20 21 04.7
comp=Z,195nm,18.5s,baz=57,slow=36
P38A Dawn 39.63 91 IAmb IAmb 20 05 15.1
comp=Z,25nm,1.0s
VHRN Van Horn 39.97 111 IAmb IAmb 20 05 19.7
comp=Z,33nm,1.9s
L42A Oliver, Polo 40.16 85 IAmb IAmb 20 05 18.8
comp=Z,24nm,1.1s
K43A Burlington 40.43 83 IAmb IAmb 20 05 21.5
comp=Z,34nm,1.0s
P40A Paris 40.52 90 IAmb IAmb 20 05 22.3
comp=Z,16nm,0.9s
ABTX Abilene, Hawle 41.38 104 IAmb IAmb 20 05 29.8
comp=Z,39nm,1.6s
U38A Gravette 41.42 95 P P 20 05 28.1 -0.2
U38A IAmb IAmb 20 05 29.6
comp=Z,31nm,1.4s
M44A Midewin, Midew 41.48 84 IAmb IAmb 20 05 30.2
comp=Z,38nm,1.4s
HHAR Hobbs 41.78 95 IAmb IAmb 20 05 32.2
comp=Z,31nm,1.5s
TXAR Lajitas Array 41.82 111 P P 20 05 33.0 +1.3
TXAR Lajitas Array 41.82 111 P P 20 05 33.2 +1.4
comp=Z,3.5nm,0.9s,baz=319,slow=5.5,SNR=27
TXAR PcP PcP 20 07 27.6 -0.1
comp=Z,0.8nm,0.8s,baz=283,slow=1.4,SNR=3.9
TXAR LR LR 20 22 02.1
comp=Z,159nm,19.0s,baz=310,slow=35
comp=Z,3.5nm,0.9s
P43A Skaggs, Pawnee 41.85 87 IAmb IAmb 20 05 33.1
comp=Z,27nm,1.0s
OZNA Ozona 41.90 107 P P 20 05 32.8 +0.4
OZNA IAmb IAmb 20 05 34.3
comp=Z,33nm,1.6s
PLPT Palo Pinto 41.95 102 P P 20 05 32.6 -0.1
MGMO Mountain Grove 42.08 92 IAmb IAmb 20 05 34.8
comp=Z,23nm,1.4s
FVM French Village 42.51 90 IAmb IAmb 20 05 38.4
comp=Z,34nm,1.4s
SFIN Lafayette 42.69 85 IAmb IAmb 20 05 39.7
comp=Z,20nm,1.2s
LPIG La Paz 42.85 122 LR LR 20 21 30.3
comp=Z,86nm,18.2s,baz=14,slow=33
SUMG Summit 42.86 24 P P 20 05 40.6 +0.5
SUMG IAmb IAmb 20 05 43.5
comp=Z,26nm,1.2s
SUMG Summit 42.86 24 *i* P P 20 05 41.2 +1.1
SUMG IAmb IAmb 20 05 43.1
comp=Z,25nm,1.2s
JCT Junction City 42.95 106 IAmb IAmb 20 05 42.9
comp=Z,71nm,1.6s
SFJD Kangerlussuaq 42.99 35 LR LR 20 23 11.6
comp=Z,129nm,19.0s,baz=308,slow=36
N47A Urbana 43.12 83 IAmb IAmb 20 05 43.1
comp=Z,23nm,1.2s
SIUC Southern Illin 43.37 89 IAmb IAmb 20 05 45.4
comp=Z,42nm,1.4s
CGM3 Cape Girardeau 43.43 90 IAmb IAmb 20 05 45.5
comp=Z,52nm,1.8s
ASAJ Asahikawa 43.51 284 LR LR 20 25 27.8
comp=Z,183nm,18.5s,baz=36,slow=38
ICESG Greenland Ices 44.87 29 *i* P P 20 05 56.9 +0.7
ICESG IAmb IAmb 20 05 59.2
comp=Z,14nm,0.9s
DBG Daneborg 45.22 17 *i* P P 20 05 59.0 +0.5
DBG IAmb IAmb 20 06 01.5
comp=Z,9.1nm,1.0s
WVT Waverly 45.28 90 P P 20 05 59.6 +0.1
SPITS Spitsbergen Ar 45.41 4 P P 20 06 00.9 +0.9
comp=Z,6.0nm,0.8s,baz=12,slow=4.6,SNR=6.7
comp=Z,6.0nm,0.8s
TRQ Mont Tremblant 45.55 70 IAmb IAmb 20 06 02.7
comp=Z,30nm,1.3s
R50A Paris 45.69 85 IAmb IAmb 20 06 04.0
comp=Z,16nm,1.0s
KLR Kul'dur 45.83 296 LR LR 20 27 38.7
comp=Z,195nm,18.6s,baz=62,slow=39
LDAQ Lac Daran 46.11 66 P P 20 06 05.7 -0.3
V48A Smith Brothers 46.13 89 IAmb IAmb 20 06 07.3
comp=Z,13nm,1.2s
CLTN Cedars of Leba 46.15 88 IAmb IAmb 20 06 08.6
comp=Z,21nm,1.2s
U49A Red Boiling Sp 46.15 88 IAmb IAmb 20 06 07.4
comp=Z,8.4nm,0.9s
S51A Beattyville 46.55 85 IAmb IAmb 20 06 11.0
comp=Z,20nm,1.2s
HEH HeiHe 47.29 300 *e*P P 20 06 14.9 -0.1
HEH pmax pmax
comp=Z,9.0nm,1.2s
TZTN Tazewell 47.36 86 IAmb IAmb 20 06 17.8
comp=Z,23nm,1.2s
ISOG Isortoq, Green 47.50 32 *i* P P 20 06 16.8 +0.3
ISOG IAmb IAmb 20 06 19.1
comp=Z,41nm,1.3s
SSPA Standing Stone 47.57 78 P P 20 06 17.4 0.0
CPCT Cooper Cave 47.62 88 IAmb IAmb 20 06 19.3
comp=Z,20nm,1.4s
FPAL Fort Paine 47.68 89 IAmb IAmb 20 06 20.2
comp=Z,18nm,1.0s
TKL Tuckaleechee C 47.88 87 IAmb IAmb 20 06 21.5
comp=Z,24nm,1.2s
TKL Tuckaleechee C 47.88 87 P P 20 06 20.4 +0.5
comp=Z,9.8nm,1.0s,baz=314,slow=2.0,SNR=5.9
TKL LR LR 20 26 22.8
comp=Z,782nm,19.2s,baz=329,slow=36
comp=Z,9.8nm,1.0s
SCO Scoresbysund 47.97 21 *i* P P 20 06 21.0 +0.9
SCO IAmb IAmb 20 06 29.8
comp=Z,6.8nm,1.2s
R55A Marlinton 48.01 82 IAmb IAmb 20 06 35.5
comp=Z,19nm,1.1s
NRIK Noril'sk 48.03 336 P P 20 06 20.8 +0.2
NRIK IAmb IAmb 20 06 31.9
comp=Z,10.0nm,1.1s
NRIK Noril'sk 48.03 336 P P 20 06 21.6 +1.0
comp=Z,2.7nm,0.6s,baz=59,slow=4.7,SNR=8.7
NRIK LR LR 20 30 39.8
comp=Z,208nm,18.6s,baz=42,slow=41
comp=Z,2.7nm,0.6s
W52A Murphy 48.21 87 IAmb IAmb 20 06 24.3
comp=Z,12nm,1.0s
MVL Millersville 48.85 77 IAmb IAmb 20 06 28.4
comp=Z,17nm,1.0s
H11N2 WAKE ISLAND Hy 48.97 240 T T 20 59 09.6
baz=30,slow=76,SNR=43
H11N3 WAKE ISLAND Hy 48.97 240 T T 20 59 26.9
baz=30,slow=76,SNR=45
F64A Sherman 48.99 66 P P 20 06 28.6 +0.4
H11N1 WAKE ISLAND Hy 48.99 240 T T 20 59 15.7
baz=30,slow=76,SNR=37
USRK Ussuriysk Ar. 49.08 291 P P 20 06 29.1 +0.1
comp=Z,0.9nm,0.8s,baz=67,slow=11,SNR=1.2
USRK LR LR 20 27 36.6
comp=Z,269nm,21.0s,baz=44,slow=37
comp=Z,0.9nm,0.8s
U56A King 49.26 83 IAmb IAmb 20 06 32.5
comp=Z,27nm,1.1s
WUPA West Chester U 49.30 77 IAmb IAmb 20 06 32.5
comp=Z,10nm,0.9s
PAULI Pauline 49.58 86 IAmb IAmb 20 06 34.1
comp=Z,13nm,0.8s
GOGA Godfrey 49.71 89 IAmb IAmb 20 06 35.4
comp=Z,12nm,0.9s
H11S1 WAKE ISLAND Hy 50.11 239 T T 21 01 24.6
baz=29,slow=74
H11S2 WAKE ISLAND Hy 50.12 239 T T 21 01 15.5
baz=29,slow=74
H11S3 WAKE ISLAND Hy 50.13 239 T T 21 01 18.9
baz=29
W57A Gilead 50.35 84 IAmb IAmb 20 06 40.4
comp=Z,27nm,1.1s
BNX BinXian 50.36 295 ⇓P P 20 06 39.9 +1.2
BNX pmax pmax
comp=Z,5.0nm,1.4s
V58A Windy Hill, Pi 50.36 83 IAmb IAmb 20 06 40.6
comp=Z,25nm,1.2s
BIRD Birdtown, Kers 50.46 85 IAmb IAmb 20 06 41.4
comp=Z,12nm,0.9s
MAJO Matsushiro 51.19 280 P P 20 06 45.1 0.0
MAJO IAmb IAmb 20 06 55.8
comp=Z,24nm,1.2s
MJAR Matsushiro Arr 51.19 280 P P 20 06 46.8 +1.7
comp=Z,3.6nm,0.9s,baz=16,slow=7.1,SNR=6.6
MJAR LR LR 20 27 49.7
comp=Z,92nm,21.2s,baz=42,slow=35
comp=Z,3.6nm,0.9s
CN2 Changchun 52.71 295 *e*P P 20 06 51.9 -4.4
CN2 *e*S S 20 14 22.2 -1.6
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,90nm,4.5s
CN2 LR LR
comp=N,210nm,18.0s
CN2 LR LR
comp=E,220nm,18.0s
CN2 LR LR
comp=Z,150nm,18.0s
ARCES ARCESS Array B 54.33 2 P P 20 07 08.3 +0.4
comp=Z,2.4nm,0.4s,baz=350,slow=6.6,SNR=26
ARCES LR LR 20 29 52.5
comp=Z,55nm,21.3s,baz=24,slow=36
comp=Z,2.4nm,0.4s
KSRS Korea Array 56.07 288 P P 20 07 22.1 +1.3
comp=Z,2.1nm,0.8s,baz=44,slow=7.6,SNR=8.5
KSRS LR LR 20 31 37.0
comp=Z,75nm,20.2s,baz=40,slow=36
comp=Z,2.1nm,0.8s
KSAR Wonju Array Be 56.10 288 P P 20 07 21.3 +0.2
CMIG Matias Romero 56.42 111 P P 20 07 24.1 +0.5
comp=Z,3.1nm,0.9s,baz=342,slow=8.5,SNR=5.4
CMIG LR LR 20 31 25.0
comp=Z,86nm,18.5s,baz=1.0,slow=36
comp=Z,3.1nm,0.9s
ULN Ulaanbaatar 58.31 310 P P 20 07 36.9 +0.2
ULN IAmb IAmb 20 07 47.0
comp=Z,5.7nm,0.8s
SONM Songino Array 58.61 310 P P 20 07 40.3 +1.5
SONM IAmb IAmb 20 07 41.7
comp=Z,8.6nm,0.9s
SONM Songino Array 58.61 310 P P 20 07 40.5 +1.7
comp=Z,5.8nm,0.8s,baz=47,slow=6.3,SNR=41
SONM LR LR 20 34 20.3
comp=Z,189nm,20.0s,baz=44,slow=38
comp=Z,5.8nm,0.8s
ZAA0 Zalesovo Array 61.50 327 P P 20 07 58.8 +0.5
ZAA0 IAmb IAmb 20 08 08.2
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 61.50 327 P P 20 07 58.6 +0.2
ZALV Zalesovo Beam 61.50 327 P P 20 07 59.4 +1.0
comp=Z,3.6nm,0.5s,baz=33,slow=7.0,SNR=19
ZALV LR LR 20 35 47.2
comp=Z,96nm,19.2s,baz=30,slow=37
comp=Z,3.6nm,0.5s
HHC Hu-ho-hao-te 61.72 302 *e*P P 20 07 57.9 -2.3
HHC pmax pmax
comp=Z,19nm,0.8s
NB2 NORSAR Subarra 61.91 11 P P 20 08 01.8 +0.7
comp=Z,1.2nm,0.7s,baz=348,slow=6.9
NOA NORSAR Array B 61.91 11 P P 20 08 01.4 +0.4
comp=Z,2.6nm,0.8s,baz=349,slow=6.8,SNR=7.7
NOA LR LR 20 35 02.6
comp=Z,53nm,21.4s,baz=10.0,slow=36
comp=Z,2.6nm,0.8s
FINES FINESS Array B 62.46 3 P P 20 08 05.3 +0.7
comp=Z,3.2nm,0.5s,baz=360,slow=8.6,SNR=32
FINES LR LR 20 35 02.4
comp=Z,59nm,20.1s,baz=22,slow=36
comp=Z,3.2nm,0.5s
HNS HongShan 62.90 297 ⇑P P 20 08 09.6 +1.7
HNS pmax pmax
comp=Z,12nm,0.8s
HNS LR LR
comp=Z,220nm,18.4s
HNS LR LR
comp=Z,220nm,16.7s
HFS Hagfors 63.04 10 P P 20 08 09.2 +0.6
comp=Z,1.8nm,0.5s,baz=25,slow=3.9,SNR=9.6
HFS LR LR 20 34 52.2
comp=Z,44nm,21.5s,baz=341,slow=35
comp=Z,1.8nm,0.5s
KIRV Kirov 64.42 349 LR LR 20 40 30.9
comp=Z,56nm,18.0s,baz=16,slow=40
NJ2 Nanjing 64.98 291 *e*P P 20 08 21.4 -0.3
NJ2 pmax pmax
comp=Z,23nm,0.5s
EKA Eskdalemuir Ar 65.27 21 P P 20 08 23.1 -0.1

comp=Z,2.0nm,0.5s,baz=320,slow=5.4,SNR=10
comp=Z,2.0nm,0.5s
ARTI Arti 65.39 344 P **P 20 08 24.4 +0.4**
ARTI IAmb IAmb 20 08 45.6
comp=Z,13nm,0.9s
ARTI Arti 65.39 344 P **P 20 08 24.7 +0.7**
comp=Z,7.5nm,0.5s,baz=17,slow=4.0,SNR=20
ARTI LR LR 20 38 23.2
comp=Z,173nm,20.4s,baz=14,slow=37
comp=Z,7.5nm,0.5s
TAOE Nuku Hiva Isla 65.43 170 *e*LR LR 20 27 54.9
comp=Z,248nm,23.8s
KURK Kurchatov 66.17 329 P **P 20 08 29.0 -0.1**
KURK IAmb IAmb 20 08 59.1
comp=Z,7.5nm,1.2s
BRVK Borovoye 66.21 335 P **P 20 08 29.6 +0.2**
BVAR Borovoye Array 66.21 335 P **P 20 08 30.1 +0.7**
comp=Z,0.9nm,0.3s,baz=38,slow=9.1,SNR=15
BVAR LR LR 20 40 36.8
comp=Z,158nm,20.0s,baz=22,slow=39
comp=Z,0.9nm,0.3s
KURBB Kurchatov Arra 66.28 329 P **P 20 08 30.4 +0.6**
comp=Z,1.4nm,0.7s,baz=28,slow=6.3,SNR=12
KURBB LR LR 20 39 15.0
comp=Z,165nm,21.4s,baz=187,slow=38
comp=Z,1.4nm,0.7s
GTA Gaotai 68.21 309 *e*P **P 20 08 43.2 +0.7**
GTA sP pwP 20 08 51.5 +1.2
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA LR LR
comp=Z,220nm,21.9s
GTA LR LR
comp=Z,200nm,17.1s
GTA LR LR
comp=Z,170nm,21.9s
XAN Xi'an 68.41 299 ⇑P **P 20 08 44.2 +0.5**
XAN pmax pmax
comp=Z,12nm,0.9s
MKAR Makanchi Array 68.54 325 P **P 20 08 44.6 +0.3**
MKAR Makanchi Array 68.54 325 P **P 20 08 44.9 +0.7**
comp=Z,2.2nm,0.5s,baz=32,slow=6.2,SNR=50
MKAR PP **PP 20 11 14.4 -0.5**
comp=Z,0.7nm,0.7s,baz=42,slow=7.9,SNR=3.1
MKAR LR LR 20 40 09.5
comp=Z,113nm,19.7s,baz=78,slow=37
comp=Z,2.2nm,0.5s
WMQ Urumqi 69.30 320 *e*P **P 20 08 50.8 +1.7**
WMQ pP pwP 20 08 54.9 -2.0
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ LR LR
comp=Z,280nm,15.9s
WMQ LR LR
comp=Z,150nm,17.5s
AKTO Aktyubinsk 71.19 342 P **P 20 09 01.5 +1.1**
comp=Z,2.4nm,0.7s,baz=331,slow=4.0,SNR=7.0
AKTO LR LR 20 45 48.3
comp=Z,85nm,18.0s,baz=44,slow=41
comp=Z,2.4nm,0.7s
ENH Enshi 71.19 296 IAmb IAmb 20 09 02.4
comp=Z,27nm,1.7s
BCLA Clavier 71.49 17 *d*P **P 20 09 00.6 -1.7**
CLL Collm 71.67 12 P **P 20 09 04.7 +1.4**
comp=Z,6.5nm,1.2s
CLL Collm 71.67 12 *i* P **P 20 09 04.5 +1.2**
comp=Z,5.0nm,1.0s
CLL *e*SS SS 20 22 48.0 -8.7
CLL *ex* x 20 28 30.0
CLL AMS AMS 20 42 00.0
comp=Z,100nm,19.6s
ABKAR Akbulak array 71.97 340 P **P 20 09 05.7 +0.6**
BRG Berggiesshubel 72.20 11 *e*P **P 20 09 08.1 +1.6**
BRG Amp 20 09 08.5
comp=Z,3.7nm,0.9s
HSKC Hora Svate Kat 72.41 12 *e*P **P 20 09 09.6 +1.8**
KSP Ksiaz 72.47 10 P **P 20 09 09.6 +1.5**
comp=Z,10nm,1.1s
RNPP9 Sopachiv 72.50 3 P **P 20 09 09.4 +1.1**
RICC Richard 72.55 11 *e*P **P 20 09 10.9 +2.3**
RNPP8 Varash 72.57 3 P **P 20 09 09.6 +0.9**
PVCC Panska Ves 72.61 11 *e*P **P 20 09 10.7 +1.7**
NKC Novy Kostel 72.67 12 *e*P **P 20 09 11.0 +1.6**
RNPP5 Staryi Chortor 72.68 3 P **P 20 09 10.2 +0.8**
OSTC Ostas 72.75 10 *e*P **P 20 09 11.2 +1.4**
DPC Dobruska-Polom 72.96 10 *e*P **P 20 09 13.1 +2.0**
MI28 Mi28,Pidlybu 73.03 2 P **P 20 09 12.1 +0.7**
GOMU GeErMu 73.05 311 P **P 20 09 12.6 +0.3**
GOMU S **S 20 18 39.1 -0.5**
GOMU pmax pmax
comp=Z,7.0nm,0.8s
GOMU LR LR
comp=Z,250nm,19.9s
GOMU LR LR
comp=Z,300nm,15.3s
GOMU LR LR
comp=Z,420nm,17.7s
GRF Grafenberg Arr 73.05 13 *e*P 20 09 13.1
comp=Z,4.6nm,0.8s,baz=349,slow=5.4
AK21 Malin Array Si 73.20 1 P **P 20 09 13.2 +0.8**
AK23 Malin Array Si 73.22 1 P **P 20 09 13.4 +0.9**
AK22 Malin Array Si 73.22 1 P **P 20 09 13.1 +0.6**
AK20 Malin Array Si 73.23 1 P **P 20 09 13.4 +0.8**
KRLC Kraliky 73.28 9 *e*P **P 20 09 14.6 +1.6**
AKASG Malin Array Be 73.28 1 P **P 20 09 12.9 0.0**
AKASG Malin Array Be 73.28 1 P **P 20 09 13.6 +0.7**
comp=Z,8.7nm,0.5s,baz=0.8,slow=5.7,SNR=50
AKASG LR LR 20 41 03.0
comp=Z,56nm,21.2s,baz=15,slow=36
comp=Z,8.7nm,0.5s
AKBB Malin Array Si 73.28 1 P **P 20 09 13.0 +0.1**
AKBB Malin Array Si 73.28 1 P **P 20 09 13.6 +0.7**
KIEV Kiev 73.28 1 P **P 20 09 13.2 +0.2**
KIEV Kiev 73.28 1 ⇑P **P 20 09 13.7 +0.7**
KIEV Kiev 73.28 1 P **P 20 09 13.5 +0.6**
comp=Z,113nm,0.7s
OJC Ojcow 73.38 7 P **P 20 09 14.5 +1.0**
PRZ Przheval'sk 73.64 325 IAmb IAmb 20 09 26.4
comp=Z,6.7nm,0.8s
MORC Moravsky Berou 73.64 9 *e*P **P 20 09 16.3 +1.2**
MORC Moravsky Berou 73.64 9 ⇓P **P 20 09 16.5 +1.4**
ZVC Zvikov 73.65 11 *e*P **P 20 09 16.8 +1.7**
PPT2 Papeete2 73.68 180 *e*LR LR 20 31 45.1
comp=Z,345nm,23.5s
PPT2 *e*LR LR 20 31 46.9
comp=Z,297nm,27.8s
KHC Kasperske Hory 73.88 12 *e*P **P 20 09 18.6 +2.0**
KHC Kasperske Hory 73.88 12 P **P 20 09 18.0 +1.4**
comp=Z,4.3nm,0.8s
VRAC Vranov 74.02 10 P **P 20 09 18.9 +1.5**
comp=Z,7.6nm,0.7s,baz=5.1,slow=3.5,SNR=13
VRAC LR LR 20 45 40.0
comp=Z,41nm,18.1s,baz=354,slow=39
comp=Z,7.6nm,0.7s
VRAC Vranov 74.02 10 *e*P **P 20 09 18.8 +1.5**
VRAC Vranov 74.02 10 ⇑P **P 20 09 18.5 +1.2**
LUBAR Lubar, Ukraine 74.04 2 P **P 20 09 17.6 +0.2**
GERES GERESS Array B 74.18 12 P **P 20 09 19.1 +0.8**
GERES GERESS Array B 74.18 12 P **P 20 09 19.6 +1.2**
comp=Z,2.3nm,0.5s,baz=353,slow=4.9,SNR=24
comp=Z,2.3nm,0.5s
NIE Niedzica 74.21 7 P **P 20 09 20.1 +1.6**
comp=Z,4.2nm,2.0s
KRUC Moravsky 74.24 10 *e*P **P 20 09 19.7 +1.1**
CKRC Cesky Krumlov 74.27 11 *e*P **P 20 09 20.2 +1.4**
STHS Stebnicka Huta 74.27 6 *e*P **P 20 09 20.1 +1.3**
STHS *e* 20 09 28.4
LANS Liptovska Anna 74.42 8 *e*P **P 20 09 22.0 +2.3**
LANS *e* 20 09 29.3
JAVC Velka Javorina 74.56 9 *e*P **P 20 09 22.7 +2.2**
AAK Ala-Archa 74.69 328 P **P 20 09 22.0 +0.4**
AAK Ala-Archa 74.69 328 LR LR 20 44 24.0
comp=Z,162nm,19.5s,baz=24,slow=38
HORU Horodok 74.71 3 P **P 20 09 22.2 +0.9**
KOLS Kolonicke sedl 74.82 6 *e*P **P 20 09 24.1 +2.1**
MODS Modra-Piesok 75.01 9 *e*P **P 20 09 25.2 +2.1**
VYHS Vyhne 75.02 8 *e*P **P 20 09 24.5 +1.4**
STNU Starunia 75.15 4 P **P 20 09 25.0 +1.1**
MOA Molln 75.22 11 *e*pP pP 20 09 25.1 -1.1
comp=Z,4.5nm,1.2s
HOLU Holmets 75.23 6 P **P 20 09 25.5 +1.2**
DAVA Damuels 75.23 15 *i* pP pP 20 09 25.9 -0.5
comp=Z,9.2nm,2.1s
BIOA Bad Ischl, Aus 75.31 12 *i* pP pP 20 09 26.2 -0.4
comp=Z,4.1nm,0.7s
CONA Conrad Observa 75.31 10 *i* pP pP 20 09 26.7 -0.1
comp=Z,4.7nm,0.7s
MOTA Moosalm 75.34 14 *i* pP pP 20 09 27.3 +0.3
comp=Z,3.1nm,0.8s
KKAR Karatay Array 75.38 331 P **P 20 09 25.5 +0.2**
WATA Walderalm 75.41 13 *i* pP pP 20 09 26.9 -0.5
comp=Z,7.4nm,0.9s
BRIU Brid 75.45 5 P **P 20 09 27.0 +1.4**
LESA Schwarzleotal 75.46 13 *i* pP pP 20 09 27.1 -0.5
comp=Z,2.6nm,1.0s
SQTA Sankt Quirin 75.47 14 *i* pP pP 20 09 27.1 -0.6
comp=Z,9.1nm,1.2s
WTTA Wattenberg 75.49 13 *i* pP pP 20 09 27.7 -0.1
comp=Z,6.5nm,0.7s,SNR=5.4
BERU Beregovo 75.53 6 P **P 20 09 27.7 +1.6**
KSV Kosov 75.56 4 P **P 20 09 27.4 +1.1**
RONA Rosalia, Austr 75.58 10 *i* pP pP 20 09 28.1 -0.1
comp=Z,2.5nm,0.6s
FETA Feichten 75.61 14 *i* pP pP 20 09 27.9 -0.6
comp=Z,5.6nm,0.9s
NSLU Nyzhne Selyshc 75.66 4 P **P 20 09 28.1 +1.3**
PSZ Piszkesteto 75.67 8 IAmb IAmb 20 09 30.3
comp=Z,7.0nm,0.8s
PSZ Piszkesteto 75.67 8 ⇑P **P 20 09 27.8 +0.8**
DAVOX Davos/Dischmat 75.73 15 LR LR 20 44 07.9
comp=Z,45nm,21.1s,baz=352,slow=37
SORM Soroca 75.83 2 ⇑P **P 20 09 28.5 +0.7**
SORM Soroca 75.83 2 P **P 20 09 28.2 +0.4**
comp=Z,19nm,0.7s
KBA Koelnbreinsper 75.88 12 *i* pP pP 20 09 30.2 +0.1
comp=Z,8.2nm,0.7s
ARSA Arzberg 75.95 11 *i* pP pP 20 09 30.3 0.0
comp=Z,3.7nm,0.7s
TUE Stuetta 75.95 15 P **P 20 09 30.1 +1.3**
comp=Z,19nm,1.3s
ABTA Abfaltersbach 76.11 13 *i* pP pP 20 09 31.4 +0.2
comp=Z,6.6nm,1.0s,SNR=5.1
BUR08 Bucovina Ar. S 76.24 4 IAmb IAmb 20 09 32.5
comp=Z,3.6nm,0.6s
BURAR Bucovina Array 76.27 4 P **P 20 09 32.1 +1.6**
BURAR Bucovina Array 76.27 4 ⇑P **P 20 09 31.6 +1.1**
SDV Santo Domingo 76.32 95 LR LR 20 45 32.1
comp=Z,65nm,19.6s,baz=248,slow=38
SOKA Soboth 76.47 11 *e*pP pP 20 09 32.4 -0.9
comp=Z,9.2nm,1.2s,SNR=6.0
OBKA Obir 76.58 11 *i* pP pP 20 09 33.6 -0.3
comp=Z,13nm,0.6s,SNR=19
MESR Meseseni 76.63 5 ⇑P **P 20 09 33.6 +1.3**
ARCR ARCALIA 76.76 5 ⇑P **P 20 09 34.9 +1.7**
DRGR 76.98 6 ⇑P **P 20 09 35.2 +0.8**
MILM Milestii Mici 77.06 1 ⇑P **P 20 09 35.2 +0.4**
KSH Kashi 77.10 326 P **P 20 09 39.0 +3.7**
KSH pmax pmax
comp=Z,3.0nm,0.9s
KSH LR LR
comp=Z,310nm,19.2s
KSH LR LR
comp=Z,310nm,21.3s
KSH LR LR
comp=Z,220nm,19.9s
MARR Marisel-Cluj 77.11 5 ⇑P **P 20 09 35.4 +0.2**
MORH Mrgy, Hungar 77.27 9 ⇑P **P 20 09 37.3 +1.4**
MORH Mrgy, Hungar 77.27 9 P **P 20 09 36.9 +1.0**
comp=Z,6.9nm,1.4s
SIRR Siria 77.44 6 ⇓P **P 20 09 37.5 +0.6**
PURM Purcari 77.46 1 ⇑P **P 20 09 37.1 +0.2**
PURM Purcari 77.46 1 P **P 20 09 37.8 +0.8**
comp=Z,21nm,0.8s
ONER Baraj Valea Uz 77.59 3 ⇑P **P 20 09 39.1 +1.3**
BAUV El Baul 77.71 92 P **P 20 09 38.3 -0.6**
RAR Rarotonga 77.80 190 LR LR 20 36 09.3
comp=Z,171nm,19.5s,baz=334,slow=30
GHRR 77.89 2 ⇑P **P 20 09 40.9 +1.5**
GHRR 77.89 2 P **P 20 09 40.8 +1.4**
DOPR Dopca 77.92 4 ⇑P **P 20 09 40.7 +1.1**
SURR Surduc 77.98 6 ⇑P **P 20 09 40.9 +1.0**
VRI Vrincioaia 78.07 3 ⇑P **P 20 09 41.3 +0.9**
VRI Vrincioaia 78.07 3 P **P 20 09 41.6 +1.1**
comp=Z,7.5nm,1.2s
COVR Voineasa-Covas 78.07 3 ⇑P **P 20 09 41.9 +1.4**
PLOR Plostina 78.08 3 ⇑P **P 20 09 41.4 +0.9**
BZS Buzias 78.08 7 ⇑P **P 20 09 41.4 +0.9**
PLOR5 Plostina Array 78.09 3 P **P 20 09 42.0 +1.4**
comp=Z,11nm,1.4s
PZH PanZhiHua 78.11 300 P **P 20 09 41.7 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,5.2s
DRK Karamyk 78.39 329 IAmb IAmb 20 09 53.1
comp=Z,7.0nm,0.8s
MLR Muntele Rosu 78.42 3 IAmb IAmb 20 10 05.2
comp=Z,20nm,1.6s
MLR Muntele Rosu 78.42 3 LR LR 20 47 16.6
comp=Z,47nm,18.4s,baz=18,slow=38
MLR Muntele Rosu 78.42 3 ⇑P **P 20 09 43.8 +1.2**
MLR Muntele Rosu 78.42 3 P **P 20 09 43.9 +1.4**
comp=Z,7.1nm,0.7s
VOIR 78.44 4 ⇑P **P 20 09 43.3 +0.7**
MSVF Nonsavu 78.79 212 LR LR 20 40 06.4
comp=Z,80nm,19.3s,baz=34,slow=32
HERR Herculane 78.86 6 ⇓P **P 20 09 46.2 +1.4**
MDVR Moldovita 78.92 7 ⇑P **P 20 09 46.2 +1.0**
TPGR Topolog 79.11 2 ⇑P **P 20 09 46.5 +0.3**
GAR Garm 79.25 330 IAmb IAmb 20 09 57.3
comp=Z,14nm,1.0s
TBI Tubuai 79.41 180 *e*LR LR 20 34 15.4
comp=Z,1μm,25.0s
TIRR Tirgusor 79.51 2 ⇑P **P 20 09 49.1 +0.7**
TIRR Tirgusor 79.51 2 P **P 20 09 49.0 +0.7**
comp=Z,8.7nm,0.9s
KVAR Kislovodsk Arr 79.53 351 LR LR 20 46 34.2
comp=Z,78nm,21.9s,baz=263,slow=37
KIV Kislovodsk 79.53 351 P **P 20 09 48.4 -0.2**
KIV IAmb IAmb 20 09 58.8
comp=Z,6.1nm,0.7s
KIV Kislovodsk 79.53 351 ⇓P **P 20 09 49.6 +1.0**
KIV Kislovodsk 79.53 351 P **P 20 09 49.5 +0.9**
comp=Z,7.1nm,0.7s
KBZ Khabaz 79.74 351 P **P 20 09 51.0 +1.4**
comp=Z,3.8nm,0.8s,baz=348,slow=5.1,SNR=17
KBZ LR LR 20 50 02.4
comp=Z,52nm,18.2s,baz=7.0,slow=39
comp=Z,3.8nm,0.8s
ICOR Ion Corvin 79.84 2 ⇑P **P 20 09 51.9 +1.7**
ESDC Sonseca Array 79.88 27 P **P 20 09 51.3 +0.8**
ESDC Sonseca Array 79.88 27 P **P 20 09 51.9 +1.4**
comp=Z,5.1nm,0.8s,baz=340,slow=5.4,SNR=22
ESDC LR LR 20 46 33.1
comp=Z,81nm,19.4s,baz=334,slow=37
comp=Z,5.1nm,0.8s
SIMJ Simiganj 79.94 331 P **P 20 09 51.0 +0.1**
SIMJ IAmb IAmb 20 10 00.8
comp=Z,8.2nm,0.9s
BOVS Bovan 80.06 7 ⇑P **P 20 09 52.3 +0.9**
LSA Lhasa 80.20 310 IAmb IAmb 20 10 04.1
comp=Z,8.4nm,1.0s
QIZ Qiongzhong 80.25 290 P **P 20 09 51.5 -1.3**
QIZ S **S 20 19 52.2 -5.8**
QIZ LR LR
comp=Z,120nm,12.7s
QIZ LR LR
comp=Z,120nm,14.3s
QIZ LR LR
comp=Z,160nm,10.3s
DIKM Dikmen 82.27 357 ⇓P **P 20 10 04.8 +1.7**
DIKM Dikmen 82.27 357 P **P 20 10 05.4 +2.3**
comp=Z,20nm,1.0s
ALN Alexandroupoli 83.01 4 IAmb IAmb 20 10 30.3
comp=Z,8.9nm,1.0s
GNI Garni 83.11 349 LR LR 20 51 23.1
comp=Z,58nm,19.5s,baz=26,slow=39
LIT Litokhoron 83.63 6 IAmb IAmb 20 10 20.2
comp=Z,9.6nm,0.7s
PMG Port Moresby 83.75 243 LR LR 20 46 06.8
comp=Z,51nm,18.1s,baz=103,slow=35
BR106 Keskin Array S 84.22 358 P **P 20 10 14.6 +1.1**
comp=Z,38nmcomp=Z,3.9nm,0.8s
BR131 Keskin Array S 84.23 358 IAmb IAmb 20 10 15.6
comp=Z,4.5nm,0.8s
BRTR Keskin Array B 84.23 358 P **P 20 10 13.8 +0.3**
BRTR Keskin Array B 84.23 358 P **P 20 10 14.8 +1.3**
comp=Z,2.9nm,0.7s,baz=357,slow=2.7,SNR=21
BRTR LR LR 20 49 59.2
comp=Z,31nm,21.3s,baz=330,slow=37
comp=Z,2.9nm,0.7s
BR105 Keskin Array S 84.24 358 P **P 20 10 14.4 +0.8**
comp=Z,44nmcomp=Z,4.6nm,0.8s
BR104 Keskin Array S 84.25 358 P **P 20 10 14.4 +0.8**
comp=Z,48nmcomp=Z,5.3nm,0.8s
VAE Valguarnera 85.47 13 LR LR 20 50 20.4
comp=Z,32nm,20.3s,baz=290,slow=37
MDT Midelt 86.19 29 LR LR 20 49 51.9
comp=Z,72nm,18.1s,baz=348,slow=36
CM31 Chiang Mai Arr 86.28 298 P **P 20 10 22.8 -1.1**
CM31 IAmb IAmb 20 10 33.5
comp=Z,9.1nm,0.8s
CMAR Chiang Mai Arr 86.28 298 P **P 20 10 23.3 -0.5**
CMAR Chiang Mai Arr 86.28 298 P **P 20 10 24.6 +0.7**
comp=Z,5.1nm,0.8s,baz=10,slow=5.0,SNR=42
comp=Z,5.1nm,0.8s
KEST Kesra 86.45 17 P **P 20 10 26.1 +1.5**
comp=Z,2.8nm,0.7s,baz=85,slow=12,SNR=4.3
KEST LR LR 20 52 49.3
comp=Z,55nm,18.5s,baz=285,slow=38
comp=Z,2.8nm,0.7s
DZM Mont Dzumac 86.65 221 *e*LR LR 20 37 49.3
comp=Z,100nm,21.4s
CSS Mathiatis 88.99 358 P **P 20 10 37.3 +0.6**
MDP Montagnes des 89.42 82 LR LR 20 49 14.9
comp=Z,106nm,20.9s,baz=308,slow=35
MMAI Mount Meron Ar 90.87 356 LR LR 20 58 07.6
comp=Z,26nm,18.6s,baz=12,slow=40
EIL Elat 94.22 356 LR LR 20 57 37.6
comp=Z,20nm,20.3s,baz=7.0,slow=38
KMBO Kilima Mbogo 124.67 352 PKP **PKiKP 20 16 42.6 +0.3**
comp=Z,0.4nm,0.3s,baz=94,slow=4.4,SNR=3.6
QSPA South Pole Qui 146.17 180 PKPbc **PKPab 20 17 21.1 -0.5**
comp=Z,4.8nm,0.7s,baz=55,slow=0.8,SNR=24
BOSA Boshof 151.97 10 PKPbc **PKiKP 20 17 36.6 -0.6**
comp=Z,7.8nm,0.7s,baz=356,slow=2.4,SNR=21
TROLL Troll, Antarti 160.41 154 ⇓PKPab **PKPab 20 18 21.1 -0.2**
comp=Z,108nm,0.8s

HEL 08 20:04:29.2±0.3, 67°.16N×20°.49E, h0km, ML1.2,
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.91**	**131**	PG	Pg		20 04 44.0	-2.6
ERTU				SG	Sg		20 04 56.0	-2.3
LANU	**Lannavaara**	**1.06**	**32**	PG	Pg		20 04 48.4	-1.2
baz=209								
LANU				SG	Sg		20 05 01.6	-1.6
KLF	**Kolari**	**1.36**	**85**	MSG			20 05 10.2	
comp=Z,1.1nm,0.2s								
KLF				SG	Sg		20 05 10.3	-2.4
HEF	**Hetta**	**1.74**	**42**	PG	Pn		20 05 00.9	+0.3
baz=224								
HEF				MSG			20 05 21.0	
comp=Z,1.7nm,0.2s								
HEF				SG	Sn		20 05 21.2	-2.3
KALU	**Kalix**	**1.74**	**137**	PG	Pn		20 05 00.4	-0.2
KALU				SN	Sn		20 05 23.6	+0.1
KIF	**Kilpisjarvi**	**1.86**	**4**	PG	Pn		20 05 03.0	+0.8
baz=183								
KIF				MSG			20 05 25.7	
comp=Z,1.6nm,0.2s								
KIF				SG	Sb		20 05 27.9	+0.2
TOF	**Tornio**	**1.88**	**124**	PG	Pn		20 05 03.2	+0.7
TOF				MSG			20 05 25.2	
comp=Z,1.1nm,0.2s								
TOF				SB	Sn		20 05 26.1	-0.7
KTK1	**Kautokeino**	**2.13**	**28**	PG	Pn		20 05 07.1	+1.1
KTK1				SB	Sn		20 05 34.1	+1.1
RNF	**Rovaniemi**	**2.25**	**102**	PB	Pn		20 05 08.4	+0.8
RNF				SB	Sn		20 05 36.7	+0.6
TRO	**Tromso**	**2.55**	**348**	PG	Pg		20 05 17.0	-1.1
RANF	**Ranua**	**2.77**	**112**	SB	Sb		20 05 52.2	-1.6
ARA0	**ARCESS Array S**	**3.03**	**36**	SN	Sn		20 05 54.9	-0.2

---

*KOLA **08** 20:05:14.9, 67°.65N×33°.80E, h0km, ML1.7, Error ellipse: s-maj=3.2km s-min=2.0km az=130.0, Khibiny, mines Kirovsk, Yukspor, Khibiny, mines Rasvumchorr, Central*

HEL 08 20:05:15.9±0.2, 67°.67N×33°.65E, h0km, ML1.4,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.14**	**222**	P	Pg		20 05 17.9	-0.6
APA0	**Apatity Array**	**0.26**	**256**	P	Pg		20 05 20.2	-0.6
APA0				S	Sg		20 05 24.7	+0.5
LVZ	**Lovozero**	**0.44**	**59**	S	Sg		20 05 28.2	-1.9
LVZ	**Lovozero**	**0.44**	**59**	PG	Pg		20 05 24.3	-0.1
LVZ				SG	Sg		20 05 28.9	-1.2
KVDA	**Kovda**	**1.03**	**197**	P	Pg		20 05 33.5	-2.1
KVDA				S	Sg		20 05 46.5	-2.4
VRF	**Varrio**	**1.54**	**275**	PG	Pn		20 05 43.9	-0.7
VRF				MSG			20 06 02.0	
comp=Z,4.3nm,0.2s								
VRF				SG	Sn		20 06 04.0	-1.3
TERR	**Teriberka**	**1.63**	**19**	P	Pn		20 05 44.1	-1.6
TERR				S	Sn		20 06 04.8	-2.6
OLKF	**Oulanka, Finla**	**2.15**	**233**	PG	Pn		20 05 54.2	+1.2
OLKF				MSG			20 06 19.6	
comp=Z,1.3nm,0.2s								
OLKF				SG	Sb		20 06 23.8	+1.0
RAJF	**Raja-Jooseppi**	**2.16**	**294**	PG	Pn		20 05 54.3	+1.2
RAJF				SG	Sb		20 06 22.0	-1.2
KU6	**Riekki**	**2.22**	**224**	PG	Pb		20 05 55.6	-1.3
KU6				MSG			20 06 21.7	
comp=Z,1.1nm,0.2s								
KU6				SG	Sb		20 06 24.9	0.0
MSF	**Maaselka**	**2.54**	**228**	PG	Pb		20 06 01.4	-0.9
MSF				SG	Sg		20 06 35.8	-1.6
VADS	**Vadso**	**2.91**	**330**	S	Sn		20 06 37.7	-1.2
RNF	**Rovaniemi**	**3.17**	**254**	SB	Sn		20 06 47.7	+2.4
KEV	**Kevo**	**3.20**	**314**	PN	Pn		20 06 07.2	-0.2
KEV				SN	Sn		20 06 46.2	+0.1
ARA0	**ARCESS Array S**	**3.52**	**306**	PN	Pn		20 06 11.4	-0.4
ARA0				SN	Sn		20 06 54.3	+0.2
ARCES	**ARCESS Array B**	**3.52**	**306**	P	Pn		20 06 11.2	-0.7
ARCES				S	Sn		20 06 53.6	-0.5
KLF	**Kolari**	**3.76**	**268**	SG	Sg		20 07 13.4	-3.0
HEF	**Hetta**	**3.83**	**286**	SG	Sg		20 07 15.9	-2.7
TOF	**Tornio**	**4.01**	**251**	PG	Pb		20 06 28.2	+0.9

---

*IDC **08** 20:12:20.5±3.2, 25°.35N×142°.25E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=141.3km s-min=27.3km az=77.0*

*JMA **08** 20:12:42.0±0.3, 25°.N±2°.×14°.1E±°, h88km, MV4.3/13, IOTO ISLANDS REGION*

ISC 08 20:12:37.2±1.2, 25°.0N±0°.1×140°.6E±0°.1, h100km, n10, σ1§46/12, mb3.8/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.15**	**40**	P		**Pn**	**20 13 13.2**	**+1.5**
JHH2				*e*S		**Sn**	**20 13 37.3**	**-0.8**
CBIJ	**Chichi jima**	**2.52**	**33**	P		**Pn**	**20 13 18.4**	**+1.8**
CBIJ				S		**Sn**	**20 13 45.7**	**-1.1**
BSO3	**Boso 3**	**9.79**	**359**	P		**Pn**	**20 14 55.5**	**+0.8**
JAG	**Ashikaga**	**11.45**	**355**	*e*P		**Pn**	**20 15 16.4**	**-1.1**
JHO	**Hitachi**	**11.59**	**360**	P		**Pn**	**20 15 19.4**	**0.0**
WRA	**Warramunga Arr**	**45.08**	**188**	P		**P**	**20 20 43.0**	**-0.4**
0.8nm,0.3s,baz=7.1,slow=8.6,SNR=54								
0.8nm,0.3s								
MKAR	**Makanchi Array**	**50.77**	**311**	P		**P**	**20 21 29.1**	**+1.9**
0.1nm,0.4s,baz=82,slow=9.1,SNR=1.5								
0.1nm,0.4s								
KURBB	**Kurchatov Arra**	**53.55**	**316**	P		**P**	**20 21 48.7**	**+1.1**
0.1nm,0.3s,baz=93,slow=8.9,SNR=2.7								
0.1nm,0.3s								
BVAR	**Borovoye Array**	**58.67**	**318**	P		**P**	**20 22 24.1**	**+0.1**
0.4nm,0.4s,baz=74,slow=5.4,SNR=5.5								
0.4nm,0.4s								
FINES	**FINESS Array B**	**79.22**	**334**	P		**P**	**20 24 28.9**	**-2.2**
2.3nm,1.1s,baz=68,slow=5.9,SNR=4.1								
2.3nm,1.1s								

---

*IDC **08** 20:15:43.2±0.4, 15°.54S×173°.12W, h0km, mb4.4/22, mbtmp4.4/22, MS4.2/50, Error ellipse: s-maj=19.9km s-min=13.1km az=136.0*

*NEIC **08** 20:15:44.7±2.3, 15°.57S±0°.07×172°.91W±0°.08, h10km±1km, mb5.2/172, Error ellipse: s-maj=12.9km s-min=11.2km az=114.0*

MOS **08** 20:15:44.1±1.2, 15°.54S×173°.13W, h10km, mb5.0/16, Error ellipse: s-maj=12.4km s-min=10.1km az=77.4
NOU **08** 20:15:50.1, 15°.50S×172°.52W, h61km, mb5.3/22, Samoa Islands Region
GCMT **08** 20:15:52.7±0.2, 15°.39S±0°.01×172°.82W±0°.01, h12km, MW5.3/121, Moment Tensor Solution. s53, c66; s121, c175; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.04±.01; $M_{\theta\theta}$=0.05±.01; $M_{\phi\phi}$=0.00±.01; $M_{r\theta}$=0.14±.03; $M_{r\phi}$=-0.13±.01; $M_{\theta\phi}$=1.29±.02; Best double couple: M_0=1.30500×10^{17} NP1:ϕ_s=270.00000°, δ=6.00000°, λ=-173.00000°. NP2:ϕ_s=174.00000°, δ=89.00000°, λ=-84.00000°. Principal axes: T 1.2950, Plg44.0000°, Azm258.0000°; N 0.0210, Plg6.0000°, Azm353.0000°; P -1.3160, Plg45.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function
ISC 08 20:15:44.3±0.3, 15°.64S±0°.05×172°.84W±0°.05, h10km, n457, σ1=53/332, mb5.1/121, MS4.3/53, 51C-25D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.01**	**31**		**Pn**	**20 16 18.2**	**-0.2**
AFI	**Afiamalu**	**2.01**	**31**	P	**Pn**	**20 16 18.2**	**-0.2**
AFI	**Afiamalu**	**2.01**	**31**	P	**Pn**	**20 16 18.2**	**-0.2**
AFI	**Afiamalu**	**2.01**	**31**	P	**Pn**	**20 16 18.5**	**+0.1**
NIUE	**Niue**	**4.41**	**141**	Pn	**Pn**	**20 16 53.0**	**+1.7**
NIUE	**Niue**	**4.41**	**141**	P	**Pn**	**20 16 53.2**	**+1.8**
NIUE				S	**Sn**	**20 17 39.4**	**-3.3**
NIUE	**Niue**	**4.41**	**141**	P	**Pn**	**20 16 53.6**	**+2.3**
NIUE	**Niue**	**4.41**	**141**	P	**Pn**	**20 16 53.4**	**+2.1**
NIUE				S	**Sn**	**20 17 38.6**	**-4.2**
FUTU	**Fugatoga**	**5.27**	**284**	Pn	**Pn**	**20 17 02.3**	**-0.9**
FUTU	**Fugatoga**	**5.27**	**284**	P	Pb	20 17 10.1	-6.5
LKBA	**Tubou, Lakemba**	**6.27**	**245**	P	Pn	20 17 23.7	+6.8
DGTI	**Dogotuki**	**7.17**	**264**	P	Pn	20 17 36.5	+7.2
MSVF	**Nonsavu**	**8.97**	**255**	LR	LR	20 21 00.0	
	comp=Z,4μm,20.9s,baz=109,slow=36						
MSVF	**Nonsavu**	**8.97**	**255**	P	Pn	20 18 02.0	+7.9
YSA	**Yasawairara**	**9.26**	**262**	P	Pn	20 18 05.5	+7.5
RAR	**Rarotonga**	**13.58**	**116**	Pn	**Pn**	**20 18 57.4**	**+0.2**
	5.8nm,0.3s,baz=278,slow=8.5,SNR=8.3						
RAR				Sn	Sn	20 21 16.8	-11
	2.2nm,0.3s,baz=118,slow=19,SNR=1.6						
RAR	**Rarotonga**	**13.58**	**116**	P	**Pn**	**20 18 57.5**	**+0.3**
INH	**Isangel**	**17.48**	**255**	P	**P**	**20 19 52.9**	**+3.3**
VLAKA	**Lakatoro**	**18.99**	**266**	P	**Pn**	**20 20 10.0**	**+3.1**
MARNC	**Mare, Loyalty**	**19.03**	**249**	P	**Pn**	**20 20 09.6**	**+2.2**
PINNC	**Pines Island,**	**19.86**	**247**	P	**Pn**	**20 20 18.0**	**+0.7**
PINNC	**Pines Island,**	**19.86**	**247**	P	**Pn**	**20 20 19.9**	**+2.6**
OUENC	**Ouen Island, N**	**20.34**	**248**	P	Pn	20 20 25.3	+2.3
DZM	**Mont Dzumac**	**20.61**	**249**	P	**P**	**20 20 24.8**	**+0.8**
DZM				IAmb	IAmb	20 20 30.0	
	comp=Z,160nm,1.0s						
DZM	**Mont Dzumac**	**20.61**	**249**	*e*P	Pn	20 20 27.2	+1.0
	comp=Z,463nm,1.4s						
DZM				*e*S	**S**	**20 24 13.8**	**-0.7**
	comp=Z,552nm,27.9s						
DZM				*e*LR	LR	20 25 18.0	
	comp=Z,4μm,27.2s						
DZM	**Mont Dzumac**	**20.61**	**249**	P	**P**	**20 20 22.1**	**-1.9**
	comp=Z,14nm,0.8s,baz=96,slow=16,SNR=21						
	comp=Z,14nm,0.8s						
DZM	**Mont Dzumac**	**20.61**	**249**	P	Pn	20 20 29.0	+2.8
ONTNC	**Ouen Toro**	**20.66**	**248**	P	**P**	**20 20 23.5**	**-0.9**
ONTNC	**Ouen Toro**	**20.66**	**248**	P	Pn	20 20 29.5	+2.8
PPT	**Papeete**	**22.38**	**98**	LR	LR	20 27 01.4	
	comp=Z,477nm,19.6s,baz=276,slow=30						
PPT2	**Papeete2**	**22.38**	**98**	*e*P	**P**	**20 20 46.4**	**+3.3**
	comp=Z,287nm,28.2s						
PPT2				*e*S	**S**	**20 24 42.6**	**-6.6**
	comp=Z,1μm,28.0s						
PPT2				*e*LR	LR	20 25 57.2	
	comp=Z,3μm,27.2s						
PPT2				*e*LR	LR	20 26 05.3	
	comp=Z,861nm,21.0s						
OUZ	**Omahuta**	**22.98**	**209**	P	**P**	**20 20 49.8**	**+0.7**
GRZ	**Great Barrier**	**23.02**	**205**	P	**P**	**20 20 50.0**	**+0.4**
MXZ	**Matakaoa Point**	**23.20**	**198**	P	**P**	**20 20 52.6**	**+1.2**
MXZ	**Matakaoa Point**	**23.20**	**198**	P	**P**	**20 20 53.7**	**+2.3**
WCZ	**Waipu Caves**	**23.23**	**207**	P	**P**	**20 20 52.2**	**+0.5**
TBI	**Tubuai**	**23.32**	**113**	*e*S	**S**	**20 25 05.0**	**-0.5**
	comp=Z,6μm,29.8s						
TBI				*e*LR	LR	20 26 29.4	
	comp=Z,9μm,25.5s						
TBI				*e*LR	LR	20 26 32.7	
	comp=Z,2μm,23.5s						
KUZ	**Kuaotunu**	**23.35**	**204**	P	**P**	**20 20 55.4**	**+2.5**
KUZ	**Kuaotunu**	**23.35**	**204**	P	**P**	**20 20 54.2**	**+1.3**
HAZ	**Te Kaha**	**23.54**	**199**	P	**P**	**20 20 56.1**	**+1.4**
PUZ	**Puketiti**	**23.68**	**198**	P	**P**	**20 20 58.7**	**+3.5**
TWGZ	**Tauwhareparae**	**23.86**	**198**	P	**P**	**20 21 02.0**	**+3.9**
CNGZ	**Carnagh Statio**	**24.08**	**197**	P	**P**	**20 21 02.5**	**+2.5**
MWZ	**Matawai**	**24.15**	**199**	P	**P**	**20 21 03.8**	**+3.1**
TKGZ	**Te Karaka**	**24.15**	**198**	P	**P**	**20 21 03.8**	**+3.2**
URZ	**Urewera**	**24.21**	**200**	P	**P**	**20 21 02.4**	**+1.2**
TOZ	**Tahuroa Road**	**24.30**	**203**	P	**P**	**20 21 02.4**	**+0.4**
TOZ	**Tahuroa Road**	**24.30**	**203**	P	**P**	**20 21 03.6**	**+1.6**
RAGZ	**Rawiri**	**24.33**	**199**	P	**P**	**20 21 04.9**	**+2.5**
TARZ	**Mount Tarawera**	**24.39**	**201**	P	**P**	**20 21 07.7**	**+4.7**
RIGZ	**Rimuhau**	**24.42**	**198**	P	**P**	**20 21 05.8**	**+2.7**
MUGZ	**Murupara**	**24.52**	**200**	P	**P**	**20 21 05.9**	**+1.8**
RTZ	**Ruatahuna**	**24.58**	**199**	P	**P**	**20 21 05.1**	**+0.4**
RTZ	**Ruatahuna**	**24.58**	**199**	P	**P**	**20 21 07.9**	**+3.2**
HRRZ	**Handcock Road**	**24.61**	**201**	P	**P**	**20 21 09.2**	**+4.3**
SNGZ	**Shannon Statio**	**24.62**	**199**	P	**P**	**20 21 07.2**	**+2.3**
KNZ	**Kokohu**	**24.74**	**198**	P	**P**	**20 21 10.6**	**+4.6**
MTHZ	**Maungataniwha**	**24.84**	**199**	P	**P**	**20 21 07.9**	**+1.0**
NMHZ	**Naumai**	**25.07**	**199**	P	**P**	**20 21 11.6**	**+2.5**
RATZ	**Rangitukua**	**25.21**	**201**	P	**P**	**20 21 11.9**	**+1.6**
HIZ	**Hauiti**	**25.23**	**203**	P	**P**	**20 21 12.8**	**+2.3**
BKZ	**Black Stump Fm**	**25.23**	**200**	P	**P**	**20 21 10.4**	**-0.1**
MCHZ	**McNeill Hill**	**25.42**	**199**	P	**P**	**20 21 12.7**	**+0.5**
NTVZ	**North Tongarir**	**25.45**	**201**	P	**P**	**20 21 12.8**	**+0.2**
TMVZ	**Te Maari**	**25.45**	**201**	P	**P**	**20 21 12.1**	**-0.5**
ETVZ	**East Tongariro**	**25.47**	**201**	P	**P**	**20 21 12.9**	**+0.1**
KWHZ	**Kaweka Forest**	**25.49**	**200**	P	**P**	**20 21 13.8**	**+0.9**
WTVZ	**West Tongariro**	**25.49**	**201**	P	**P**	**20 21 13.4**	**+0.5**
NNVZ	**North Ngauruho**	**25.50**	**201**	P	**P**	**20 21 15.2**	**+2.1**
OTVZ	**Oturere**	**25.51**	**201**	P	**P**	**20 21 13.2**	**+0.1**
SNVZ	**South Ngauruho**	**25.54**	**201**	P	**P**	**20 21 13.3**	**-0.2**
NGZ	**Ngauruhoe**	**25.54**	**201**	P	**P**	**20 21 14.3**	**+0.8**
FWVZ	**Far West T-bar**	**25.63**	**201**	P	**P**	**20 21 15.3**	**+1.0**
WNVZ	**Wahianoa**	**25.68**	**201**	P	**P**	**20 21 14.2**	**-0.6**
MOVZ	**Moawhango**	**25.70**	**201**	P	**P**	**20 21 14.8**	**0.0**
KRHZ	**Kereru**	**25.71**	**199**	P	**P**	**20 21 15.8**	**+1.0**
PKVZ	**Pokaka**	**25.73**	**201**	P	**P**	**20 21 15.0**	**-0.1**
VRZ	**Vera Road**	**25.80**	**203**	P	**P**	**20 21 20.2**	**+4.6**
PXZ	**Pawanui**	**25.91**	**198**	P	**P**	**20 21 19.0**	**+2.4**
NEZ	**North Egmont**	**26.18**	**203**	P	**P**	**20 21 21.4**	**+2.3**
TSZ	**Takapari Road**	**26.22**	**200**	P	**P**	**20 21 20.2**	**+0.8**
DVHZ	**Dannevirke**	**26.37**	**199**	P	**P**	**20 21 23.2**	**+2.4**
BFZ	**Birch Farm**	**26.69**	**199**	P	**P**	**20 21 25.2**	**+1.5**
MRZ	**Mangatainoka R**	**26.89**	**200**	P	**P**	**20 21 25.0**	**-0.4**
HOWZ	**Holdsworth Sta**	**27.12**	**200**	P	**P**	**20 21 29.5**	**+2.0**
OGWZ	**Otaki Gorge**	**27.16**	**200**	P	**P**	**20 21 28.9**	**+1.0**
HNR	**Honiara**	**27.25**	**280**	LR	LR	20 30 43.1	
	comp=Z,981nm,21.8s,baz=117,slow=33						
KIW	**Kapiti Island**	**27.29**	**201**	P	**P**	**20 21 28.5**	**-0.6**
SAVO	**Savo Central**	**27.45**	**280**	P	**P**	**20 21 33.6**	**+2.8**
DUWZ	**D'Urville Isla**	**27.58**	**202**	P	**P**	**20 21 32.2**	**+0.5**
MSWZ	**Moikau Station**	**27.67**	**200**	P	**P**	**20 21 31.7**	**-0.8**
BHW	**Baring Head**	**27.79**	**200**	P	**P**	**20 21 33.0**	**-0.5**
PLWZ	**Palliser**	**27.81**	**199**	P	**P**	**20 21 33.5**	**-0.3**
PLWZ	**Palliser**	**27.81**	**199**	P	**P**	**20 21 33.7**	**-0.1**
TCW	**Tory Channel**	**27.82**	**201**	P	**P**	**20 21 35.1**	**+1.3**
QRZ	**Quartz Range**	**28.13**	**204**	P	**P**	**20 21 39.7**	**+3.2**
QRZ	**Quartz Range**	**28.13**	**204**	P	**P**	**20 21 37.6**	**+1.1**
TUWZ	**Tuamarina**	**28.13**	**201**	P	**P**	**20 21 40.1**	**+3.6**
NNZ	**Nelson**	**28.14**	**202**	P	**P**	**20 21 38.5**	**+1.8**
BSWZ	**Blackbirch Sta**	**28.40**	**201**	P	**P**	**20 21 41.8**	**+2.8**
THZ	**Tophouse**	**28.79**	**202**	P	**P**	**20 21 41.8**	**-0.7**
THZ				IAmb	IAmb	20 21 51.9	
	comp=Z,18nm,0.6s						
THZ	**Tophouse**	**28.79**	**202**	P	**P**	**20 21 42.3**	**-0.2**
KHZ	**Kahutara**	**29.14**	**201**	P	**P**	**20 21 45.0**	**-0.5**
KHZ	**Kahutara**	**29.14**	**201**	P	**P**	**20 21 46.4**	**+0.9**
KHZ	**Kahutara**	**29.14**	**201**	P	**P**	**20 21 44.8**	**-0.7**
DSZ	**Denniston Nort**	**29.19**	**204**	P	**P**	**20 21 44.9**	**-1.2**
GVZ	**Greta Valley S**	**29.80**	**201**	P	**P**	**20 21 50.7**	**-0.7**
GVZ	**Greta Valley S**	**29.80**	**201**	P	**P**	**20 21 51.4**	**0.0**
LTZ	**Lake Taylor**	**29.91**	**202**	P	**P**	**20 21 51.2**	**-1.2**
LTZ				IAmb	IAmb	20 21 55.9	
	comp=Z,35nm,0.6s						
LTZ	**Lake Taylor**	**29.91**	**202**	P	**P**	**20 21 51.1**	**-1.3**
OXZ	**Oxford**	**30.47**	**202**	P	**P**	**20 21 56.6**	**-0.7**
MQZ	**McQueen's Vall**	**30.58**	**201**	P	**P**	**20 22 00.2**	**+2.0**
WVZ	**Waitaha Valley**	**30.74**	**204**	P	**P**	**20 21 58.8**	**-0.8**
FOZ	**Fox Glacier**	**31.49**	**205**	P	**P**	**20 22 05.0**	**-1.3**
LBZ	**Lake Benmore**	**32.06**	**203**	P	**P**	**20 22 09.3**	**-2.1**
JCZ	**Jackson Bay**	**32.35**	**205**	P	**P**	**20 22 15.2**	**+1.2**
JCZ	**Jackson Bay**	**32.35**	**205**	P	**P**	**20 22 13.2**	**-0.8**
ODZ	**Otahua Downs**	**32.45**	**202**	P	**P**	**20 22 15.2**	**+0.4**
ODZ	**Otahua Downs**	**32.45**	**202**	P	**P**	**20 22 15.5**	**+0.7**
TAOE	**Nuku Hiva Isla**	**32.62**	**82**	*e*LR	LR	20 30 44.3	
	comp=Z,2μm,26.0s						
WKZ	**Wanaka**	**32.89**	**204**	P	**P**	**20 22 17.1**	**-1.5**
TUZ	**Tuapeka**	**33.60**	**202**	P	**P**	**20 22 26.0**	**+1.2**
MLZ	**Mavora Lakes**	**33.69**	**204**	P	**P**	**20 22 25.3**	**-0.3**
DCZ	**Deep Cove**	**34.16**	**205**	P	**P**	**20 22 30.0**	**+0.4**
SYZ	**Scrubby Hill**	**34.28**	**202**	P	**P**	**20 22 31.5**	**+0.9**
APZ	**The Paps**	**34.95**	**203**	P	**P**	**20 22 37.2**	**+0.6**
RKT	**Rikitea**	**36.41**	**108**	*e*LR	LR	20 32 30.1	
	comp=Z,5μm,26.8s						
H11S2	**WAKE ISLAND Hy**	**39.45**	**329**	T	T	21 04 39.7	
	baz=146,slow=76,SNR=99						
H11S3	**WAKE ISLAND Hy**	**39.46**	**329**	T	T	21 04 49.2	
	baz=146,slow=76,SNR=58						
H11S1	**WAKE ISLAND Hy**	**39.46**	**329**	T	T	21 04 48.6	
	baz=146,slow=76,SNR=52						
PMG	**Port Moresby**	**39.49**	**274**	LR	LR	20 37 39.6	
	comp=Z,223nm,20.3s,baz=104,slow=34						
PMG	**Port Moresby**	**39.49**	**274⇑**	*e*P	**P**	**20 23 14.3**	**-1.1**
PMG				pmax	pmax		
	comp=Z,22nm,1.2s						
WAKE	**Wake Island**	**40.14**	**329**	P	**P**	**20 23 19.5**	**-1.2**
H11N3	**WAKE ISLAND Hy**	**40.38**	**330**	T	T	21 06 09.4	
	baz=150,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**40.39**	**330**	T	T	21 06 08.1	
	baz=150,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**40.40**	**330**	T	T	21 06 10.7	
	baz=150,slow=76,SNR=16						
COEN	**Coen**	**42.50**	**266**	P	**P**	**20 23 39.3**	**-0.9**
COEN				IAmb	IAmb	20 23 40.1	
	comp=Z,59nm,1.6s						
TOO	**Toolangi**	**42.73**	**231**	P	**P**	**20 23 41.0**	**-0.9**
TOO	**Toolangi**	**42.73**	**231**	P	**P**	**20 23 41.0**	**-0.9**
TOO				pmax	pmax		
	comp=Z,23nm,1.6s						
STKA	**Stephens Creek**	**44.38**	**240**	P	**P**	**20 23 53.7**	**-1.6**
STKA	**Stephens Creek**	**44.38**	**240**	P	**P**	**20 23 53.6**	**-1.6**
	comp=Z,20nm,0.6s,baz=93,slow=10,SNR=56						
STKA				LR	LR	20 40 09.5	
	comp=Z,230nm,21.4s,baz=65,slow=33						
	comp=Z,20nm,0.6s						
JAY	**Jayapura**	**47.56**	**281**	LR	LR	20 43 10.7	
	comp=Z,264nm,21.6s,baz=293,slow=35						
BBOO	**Buckleboo**	**49.16**	**240**	P	**P**	**20 24 30.6**	**-2.0**
WR0	**Warramunga Arr**	**50.12**	**257**	P	**P**	**20 24 38.1**	**-2.1**
WB2	**Warramunga Arr**	**50.30**	**257**	P	**P**	**20 24 38.8**	**-2.7**
WRAB	**Tennant Creek**	**50.30**	**257**	P	**P**	**20 24 38.7**	**-2.9**
WRAB	**Tennant Creek**	**50.30**	**257**	*ce*P	**P**	**20 24 42.3**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WRA	**Warramunga Arr**	**50.31**	**257**	P	**P**	**20 24 39.0**	**-2.7**
WRA	**Warramunga Arr**	**50.31**	**257**	P	**P**	**20 24 38.6**	**-3.0**
	comp=Z,4.7nm,0.7s,baz=93,slow=7.5,SNR=59						
WRA				PcP	**PcP**	**20 26 00.3**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=94,slow=4.3,SNR=3.2						
WRA				LR	LR	20 44 30.2	
	comp=Z,446nm,20.8s,baz=70,slow=34						
	comp=Z,4.7nm,0.7s						
AS31	**Alice Springs**	**50.55**	**252**	P	**P**	**20 24 41.0**	**-2.4**
AS31				IAmb	IAmb	20 24 42.1	
	comp=Z,14nm,0.6s						
ASAR	**Alice Springs**	**50.55**	**252**	P	**P**	**20 24 41.0**	**-2.4**
ASAR	**Alice Springs**	**50.55**	**252**	P	**P**	**20 24 41.1**	**-2.3**
	comp=Z,50nm,0.5s,baz=86,slow=7.9,SNR=832						
ASAR				LR	LR	20 44 39.8	
	comp=Z,956nm,20.6s,baz=99,slow=34						
GUMO	**Guam**	**50.91**	**303**	LR	LR	20 44 15.7	
	comp=Z,69nm,19.0s,baz=128,slow=34						
FORT	**Forrest**	**55.79**	**243**	P	**P**	**20 25 19.5**	**-2.4**
KNRA	**Kununurra**	**56.06**	**261**	P	**P**	**20 25 21.9**	**-2.1**
KNRA				IAmb	IAmb	20 27 18.6	
	comp=Z,46nm,1.4s						
FITZ	**Fitzroy Crossi**	**58.68**	**258**	LR	LR	20 49 05.3	
	comp=Z,754nm,20.6s,baz=103,slow=34						
JCJ	**Chichijima**	**60.91**	**314**	LR	LR	20 47 17.0	
	comp=Z,137nm,21.4s,baz=106,slow=31						
SOEI	**Soe**	**61.45**	**267**	P	**P**	**20 26 00.4**	**-1.4**
SBA	**Scott Base**	**63.06**	**185**	P	**P**	**20 26 13.6**	**+2.3**
SBA				IAmb	IAmb	20 26 41.1	
	comp=Z,14nm,1.1s						
SBA	**Scott Base**	**63.06**	**185**	P	**P**	**20 26 13.6**	**+2.3**
SBA				pmax	pmax		
	comp=Z,14nm,1.1s						
VNDA	**Vanda**	**63.19**	**186**	P	**P**	**20 26 13.8**	**+1.6**
VNDA	**Vanda**	**63.19**	**186**	P	**P**	**20 26 13.6**	**+1.4**
	comp=Z,2.8nm,0.8s,baz=8.3,slow=6.6,SNR=13						
	comp=Z,2.8nm,0.8s						
PSA00	**Pilbara Seismi**	**63.65**	**253**	P	**P**	**20 26 14.8**	**-1.4**
PSA00				IAmb	IAmb	20 26 15.7	
	comp=Z,39nm,1.8s						
NWAO	**Narrogin (SRO)**	**64.97**	**241**	LR	LR	20 54 31.4	
	comp=Z,118nm,18.4s,baz=99,slow=36						
DAV	**Davao City (W)**	**65.02**	**286**	LR	LR	20 53 18.8	
	comp=Z,114nm,18.2s,baz=122,slow=35						
JHJ	**Hachijo jima 2**	**66.31**	**318**	LR	LR	20 52 05.8	
	comp=Z,106nm,18.4s,baz=112,slow=33						
KAPI	**Kappang**	**66.92**	**271**	LR	LR	20 53 15.6	
	comp=Z,150nm,21.5s,baz=99,slow=34						
SHEM	**Shemya Is, Ala**	**69.02**	**352**	LR	LR	20 50 24.7	
	comp=Z,116nm,21.1s,baz=131,slow=30						
MJAR	**Matsushiro Arr**	**69.47**	**320**	P	**P**	**20 26 52.5**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=169,slow=5.9,SNR=4.4						
MJAR				LR	LR	20 51 49.2	
	comp=Z,197nm,21.6s,baz=126,slow=31						
	comp=Z,1.9nm,0.7s						
JOW	**Kunigami**	**71.06**	**306**	LR	LR	20 52 03.5	
	comp=Z,173nm,21.9s,baz=218,slow=31						
TGY	**Tagaytay City**	**71.82**	**291**	LR	LR	20 54 14.3	
	comp=Z,217nm,21.6s,baz=186,slow=32						
ASAJ	**Asahikawa**	**72.03**	**328**	LR	LR	20 52 58.4	
	comp=Z,91nm,21.8s,baz=162,slow=31						
JNU	**Nakatsue**	**72.35**	**313**	LR	LR	20 53 37.9	
	comp=Z,55nm,20.1s,baz=128,slow=32						
PFO	**Pinyon Flats O**	**72.69**	**47**	P	**P**	**20 27 13.2**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=284,slow=8.5,SNR=3.6						
PFO				LR	LR	20 51 02.8	
	comp=Z,370nm,20.6s,baz=233,slow=29						
	comp=Z,3.0nm,0.8s						
PFO	**Pinyon Flats O**	**72.69**	**47⇓**	*e*P	**P**	**20 27 12.7**	**-0.2**
PFO				pmax	pmax		
	comp=Z,18nm,1.5s						
LPIG	**La Paz**	**72.71**	**58**	LR	LR	20 50 50.5	
	comp=Z,256nm,21.0s,baz=228,slow=29						
PETK	**Petropavlovsk-**	**73.02**	**342**	P	**P**	**20 27 14.5**	**+0.3**
	comp=Z,3.9nm,0.6s,baz=103,slow=8.0,SNR=10						
PETK				LR	LR	20 52 42.3	
	comp=Z,35nm,21.6s,baz=154,slow=30						
	comp=Z,3.9nm,0.6s						
YBH	**Yreka Blue Hor**	**73.47**	**37**	IAmb	IAmb	20 27 38.2	
	comp=Z,33nm,1.6s						
WAKR	**Walker**	**73.47**	**41**	IAmb	IAmb	20 27 20.6	
	comp=Z,42nm,2.0s						
BEKR	**Beckworth**	**73.71**	**39**	P	**P**	**20 27 15.1**	**-3.7**
GWY	**Greenwater Val**	**73.96**	**44**	IAmb	IAmb	20 27 22.8	
	comp=Z,31nm,1.7s						
YSS	**Yuzhno-Sakhali**	**73.96**	**330**	P	**P**	**20 27 19.6**	**-0.2**
YSS				IAmb	IAmb	20 27 21.6	
	comp=Z,24nm,1.0s						
YSS	**Yuzhno-Sakhali**	**73.96**	**330**	*e*P	**P**	**20 27 20.7**	**+0.9**
YSS				*e*S	**SKiKP**	**20 36 49.0**	**+0.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
RYN	**Ryan**	**74.12**	**41**	IAmb	IAmb	20 27 24.0	
	comp=Z,49nm,2.0s						
NVAR	**Mina Array Bea**	**74.15**	**42**	P	**P**	**20 27 21.3**	**-0.2**
NVAR	**Mina Array Bea**	**74.15**	**42**	P	**P**	**20 27 22.9**	**+1.4**
	comp=Z,5.1nm,0.8s,baz=228,slow=9.2,SNR=28						
	comp=Z,5.1nm,0.8s						
NV11	**Mina Array Sit**	**74.25**	**42**	P	**P**	**20 27 21.4**	**-0.5**
NV11				IAmb	IAmb	20 27 24.8	
	comp=Z,28nm,1.4s						
QSPA	**South Pole Qui**	**74.41**	**180**	P	**P**	**20 27 23.0**	**+0.6**
QSPA				IAmb	IAmb	20 27 42.9	
	comp=Z,24nm,1.2s						
QSPA	**South Pole Qui**	**74.41**	**180**	P	**P**	**20 27 24.4**	**+1.9**
	comp=Z,8.3nm,1.0s,baz=32,slow=0.9,SNR=26						
QSPA				LR	LR	20 55 33.7	
	comp=Z,64nm,20.8s,baz=47,slow=32						
	comp=Z,8.3nm,1.0s						
TPNV	**Topopah Spring**	**74.66**	**44**	IAmb	IAmb	20 27 27.2	
	comp=Z,38nm,1.7s						
KDAK	**Kodiak Island**	**75.05**	**11**	LR	LR	20 52 46.8	
	comp=Z,170nm,21.9s,baz=46,slow=30						
Y14A	**Wickenburg**	**75.31**	**48**	IAmb	IAmb	20 27 30.9	
	comp=Z,38nm,1.8s						
S11A	**Rachel**	**75.38**	**44**	IAmb	IAmb	20 28 15.2	
	comp=Z,22nm,1.3s						
H04A	**Detroit Lake**	**75.64**	**35**	IAmb	IAmb	20 27 53.9	
	comp=Z,24nm,1.1s						
PRN	**Pahroc Range**	**75.71**	**44**	IAmb	IAmb	20 27 33.6	
	comp=Z,33nm,1.5s						
PINE	**Pine Mountain**	**75.78**	**36**	P	**P**	**20 27 31.4**	**+0.7**
KSRS	**Korea Array**	**76.70**	**315**	P	**P**	**20 27 35.5**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=131,slow=5.6,SNR=7.3						
KSRS				LR	LR	20 55 44.6	
	comp=Z,60nm,21.6s,baz=120,slow=31						
	comp=Z,1.7nm,0.8s						
KSAR	**Wonju Array Be**	**76.72**	**315**	P	**P**	**20 27 36.6**	**+0.6**
KSAR	**Wonju Array Be**	**76.72**	**315**	P	**P**	**20 27 36.6**	**+0.6**
TYV	**Tymovskoe**	**76.81**	**333**	*e*P	**P**	**20 27 36.0**	**-0.1**
TYV				pmax	pmax		
	comp=Z,14nm,1.4s						
TYV				pmax	pmax		
	comp=Z,100nm,4.7s						
G06A	**Carlson Farm,**	**76.85**	**35**	IAmb	IAmb	20 28 00.1	
	comp=Z,46nm,1.8s						
J08A	**Circle Bar Ran**	**76.93**	**37**	IAmb	IAmb	20 27 39.9	
	comp=Z,33nm,1.5s						
KNB	**Kanab**	**77.02**	**45**	IAmb	IAmb	20 27 54.5	
	comp=Z,20nm,1.3s						
SPR3	**Spring Creek 3**	**77.05**	**43**	P	**P**	**20 27 38.0**	**-0.2**
U15A	**North Rim**	**77.08**	**46**	IAmb	IAmb	20 27 41.7	
	comp=Z,47nm,1.7s						
L14K	**Kuka Creek**	**77.15**	**5**	IAmb	IAmb	20 27 56.4	
	comp=Z,17nm,1.1s						
WUAZ	**Wupatki**	**77.27**	**47**	IAmb	IAmb	20 27 42.5	
	comp=Z,32nm,1.6s						
ELK	**Elko**	**77.41**	**41**	P	**P**	**20 27 41.0**	**+1.0**
	comp=Z,2.8nm,0.9s,baz=242,slow=5.7,SNR=9.0						
	comp=Z,2.8nm,0.9s						
PKCU	**Pink Cliffs**	**77.58**	**45**	IAmb	IAmb	20 27 57.6	
	comp=Z,31nm,1.2s						
G08A	**Pilot Rock**	**77.81**	**36**	IAmb	IAmb	20 28 01.6	
	comp=Z,42nm,1.6s						
MXC	**Moxie City**	**77.87**	**34**	IAmb	IAmb	20 27 44.9	
	comp=Z,30nm,1.7s						
USA0B	**Ussuriysk Arra**	**77.90**	**323**	*c i*P	**P**	**20 27 43.1**	**+0.7**
USRK	**Ussuriysk Ar.**	**77.90**	**323**	P	**P**	**20 27 41.0**	**-1.4**
USRK	**Ussuriysk Ar.**	**77.90**	**323**	P	**P**	**20 27 41.0**	**-1.4**
	comp=Z,4.1nm,0.9s,baz=148,slow=6.0,SNR=8.9						
USRK			

COLA pmax pmax
comp=Z,34nm,1.0s
ILAR Eielson Array 82.58 11 P P 20 28 07.5 +0.3
comp=Z,1.3nm,0.6s,baz=226,slow=6.3,SNR=34
ILAR LR LR 20 57 15.5
comp=Z,61nm,21.5s,baz=150,slow=30
comp=Z,1.3nm,0.6s
J25K Salcha River, 82.72 12 IAmb IAmb 20 28 25.9
comp=Z,16nm,1.1s
DRIO Del Rio 82.78 57 IAmb IAmb 20 28 24.0
comp=Z,26nm,1.2s
SEY Seymchan 82.89 345⇑*eP* **P 20 28 08.8 0.0**
SEY pmax pmax
comp=Z,7.0nm,1.1s
YNE Yellowstone No 82.92 39 IAmb IAmb 20 28 13.7
comp=Z,27nm,1.5s
Q24A Divide 83.27 47 IAmb IAmb 20 28 27.2
comp=Z,22nm,1.2s
ISCO Idaho Springs 83.31 46 IAmb IAmb 20 28 35.6
comp=Z,17nm,1.3s
RLMT Red Lodge 83.44 40 IAmb IAmb 20 28 27.9
comp=Z,22nm,1.3s
CMIG Matias Romero 83.46 70 P **P 20 28 13.9 +1.1**
comp=Z,1.1nm,0.6s,baz=89,slow=20,SNR=3.5
CMIG LR LR 20 56 45.4
comp=Z,230nm,20.2s,baz=184,slow=29
comp=Z,1.1nm,0.6s
DAWY Dawson 83.52 14 IAmb IAmb 20 28 30.5
comp=Z,15nm,1.1s
E19K Redstone River 83.65 6 IAmb IAmb 20 28 31.9
comp=Z,25nm,1.3s
BELA Belgrano 2 83.69 172 P **P 20 28 12.9 0.0**
PMSA Palmer Station 83.74 156 LR LR 20 57 58.7
comp=Z,85nm,19.1s,baz=248,slow=30
K29M Barlow Dome 83.79 15 IAmb IAmb 20 28 42.9
comp=Z,12nm,1.1s
G23K Bananza Creek 83.84 9 IAmb IAmb 20 28 32.9
comp=Z,34nm,1.8s
SN05 Snyder 5 83.90 54 IAmb IAmb 20 28 29.4
comp=Z,14nm,1.1s
HEH HeiHe 83.90 326 *eP* **P 20 28 13.9 -0.4**
HEH pmax pmax
comp=Z,6.0nm,1.3s
RTBA Rita Blanca 83.92 50 IAmb IAmb 20 28 29.3
comp=Z,20nm,1.2s
COLD Coldfoot 84.30 9 IAmb IAmb 20 28 35.6
comp=Z,31nm,1.7s
D19K Kuna River 84.58 5 IAmb IAmb 20 28 41.0
comp=Z,18nm,1.4s
H03S2 Juan Fernandez 84.62 123 T T 22 02 11.9
baz=251
H03S1 Juan Fernandez 84.64 123 T T 22 02 14.9
baz=251
H03S3 Juan Fernandez 84.64 123 T T 22 02 35.8
baz=251
BRDY Brady 84.78 56 IAmb IAmb 20 28 33.9
comp=Z,16nm,1.4s
BILL Bilibino 84.82 352⇓*eP* **P 20 28 18.1 -0.5**
BILL pmax pmax
comp=Z,9.0nm,1.4s
E22K Anaktuvuk Pass 84.93 8 IAmb IAmb 20 28 43.6
comp=Z,19nm,1.1s
I30M Mount Dempster 85.21 15 IAmb IAmb 20 28 39.8
comp=Z,30nm,1.4s
BMAR Burnt Mountain 85.39 11 P **P 20 28 22.3 +0.8**
USHA Ushuaia 85.42 146 LR LR 20 57 29.6
comp=Z,207nm,20.6s,baz=212,slow=29
D22K Ayikyak River 85.52 7 IAmb IAmb 20 28 41.6
comp=Z,20nm,1.1s
H29M Whitestone 85.57 13 IAmb IAmb 20 28 42.0
comp=Z,17nm,1.1s
E25K Arctic Village 85.84 10 IAmb IAmb 20 28 43.3
comp=Z,36nm,1.8s
ZEA Zeya 85.90 329 *eP* **P 20 28 20.2 -4.1**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,1.6s
HNS HongShan 86.02 310⇓P **P 20 28 26.5 +1.2**
G29M Pine Creek 86.23 13 IAmb IAmb 20 29 21.6
comp=Z,17nm,1.4s
C23K Itkillik River 86.68 8 IAmb IAmb 20 28 49.1
comp=Z,44nm,1.9s
MAW Mawson 87.74 198 P **P 20 28 33.9 +0.8**
comp=Z,12nm,0.7s,baz=187,slow=3.9,SNR=6.2
comp=Z,12nm,0.7s
PLCA Paso Flores 88.95 132 LR LR 20 59 38.1
comp=Z,152nm,21.7s,baz=254,slow=30
PSI Prapat 89.04 273 LR LR 21 09 31.1
comp=Z,128nm,19.3s,baz=89,slow=36
XAN Xi'an 89.21 306⇓P **P 20 28 41.2 +0.4**
XAN pmax pmax
comp=Z,12nm,1.4s
YAK Yakutsk 89.55 337⇑*eP* **P 20 28 41.3 -0.3**
YAK pmax pmax
comp=Z,4.0nm,0.5s
HHC Hu-ho-hao-te 89.58 313 *eP* **P 20 28 42.4 -0.1**
HHC pmax pmax
comp=Z,24nm,0.8s
HERN Volcan Telica 89.58 77 IAmb IAmb 20 28 44.5
comp=Z,373nm,0.8s
GSI Gunungsitoli 89.94 271 P **P 20 28 43.7 -0.9**
SRIT Nakonsritamara 89.95 279 IAmb IAmb 20 28 46.5
comp=Z,16nm,0.8s
YKA Yellowknife Ar 90.11 23 P **P 20 28 44.8 +0.6**
comp=Z,0.3nm,0.7s,baz=233,slow=4.3,SNR=9.3
YKA LR LR 21 02 27.1
comp=Z,124nm,18.9s,baz=261,slow=31
comp=Z,0.3nm,0.7s
BTO Baotou 90.59 312 *eP* **P 20 28 49.3 +2.1**
BTO pP **pwP 20 28 54.3 +1.5**
BTO sP **sP 20 28 56.3 +5.6**
BTO pmax pmax
comp=Z,35nm,0.9s
BTO pmax pmax
comp=Z,290nm,5.9s
JTS Las Juntas de 90.73 80 LR LR 20 59 02.3
comp=Z,191nm,21.9s,baz=284,slow=29
ELIB Princess Elisa 91.94 185 *dP* **P 20 28 53.3 +0.3**
comp=Z,9.2nm,1.0s
ATAH Atahualpa 92.36 98 LR LR 21 00 30.4
comp=Z,305nm,21.7s,baz=306,slow=29
SYO Syowa Base 92.47 191⇓*eP* **P 20 28 55.6 +0.4**
SYO Syowa Base 92.47 191⇑*ep*P pP 20 28 58.6 +0.7
SYO Syowa Base 92.47 191⇑*es*P sP 20 29 00.8 +1.9
SYO Syowa Base 92.47 191⇑*ep*PKiKP **PKiKP 20 33 46.7 +2.7**
NNA Nana 92.48 103 LR LR 21 01 09.8
comp=Z,112nm,21.9s,baz=266,slow=29
TROLL Troll, Antarti 92.51 179⇓P **P 20 28 57.0 +1.3**
comp=Z,129nm,0.7s
VNA3 Neumayer Olymp 92.57 175⇓P **P 20 28 55.2 -0.5**
comp=Z,6.2nm,0.8s
SNAA Sanae 92.64 177⇓P **P 20 28 57.0 +0.8**
comp=Z,30nm,0.8s
SNAA Sanae 92.64 177 P **P 20 28 56.7 +0.6**
comp=Z,1.5nm,0.9s,baz=3.8,slow=15,SNR=2.1
comp=Z,1.5nm,0.9s
VNA2 Neumayer--Watz 93.07 175⇓P **P 20 28 59.2 +1.1**
comp=Z,5.3nm,0.8s,baz=158,slow=7.3
CMAR Chiang Mai Arr 93.20 288 P **P 20 28 59.3 -0.3**
CMAR Chiang Mai Arr 93.20 288 P **P 20 28 59.6 0.0**
comp=Z,1.1nm,0.9s,baz=148,slow=3.4,SNR=6.5
CMAR LR LR 21 06 09.4
comp=Z,60nm,21.9s,baz=100,slow=33
comp=Z,1.1nm,0.9s
ULN Ulaanbaatar 94.97 318⇓*eP* **P 20 29 07.5 +0.2**
ULN pmax pmax
comp=Z,6.0nm,1.5s
TIXI Tiksi 95.38 344 LR LR 21 07 49.8
comp=Z,69nm,21.0s,baz=194,slow=33
TIXI Tiksi 95.38 344⇓*eP* **P 20 29 08.6 +0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 95.38 318 P **P 20 29 09.4 +0.2**
comp=Z,0.5nm,0.7s,baz=126,slow=5.3,SNR=3.9
SONM LR LR 21 07 38.4
comp=Z,31nm,21.7s,baz=84,slow=33
comp=Z,0.5nm,0.7s
TKL Tuckaleechee C 98.21 55 LR LR 21 06 44.0
comp=Z,210nm,20.4s,baz=238,slow=31
LPAZ La Paz 99.23 110 LR LR 21 05 01.7
comp=Z,94nm,21.0s,baz=268,slow=30
ROSC El Rosal 99.48 88 LR LR 21 04 44.7
comp=Z,123nm,21.6s,baz=248,slow=30
WMQ Urumqi 107.43 312 Pdif **Pdif 20 30 04.6 +1.6**
MKAR Makanchi Array 111.38 315 PKiKP **PKiKP 20 34 16.9 -1.9**
comp=Z,0.5nm,0.9s,baz=57,slow=0.8,SNR=3.7
KURK Kurchatov 113.67 319 PKIKP **PKiKP 20 34 22.0 -1.0**
KURBB Kurchatov Arra 113.74 319 PKiKP **PKiKP 20 34 22.0 -1.1**
comp=Z,0.4nm,0.7s,baz=88,slow=1.8,SNR=5.4
AAK Ala-Archa 117.05 310⇑*i*PKIKP **PKPdf 20 34 30.0 0.0**
SPITS Spitsbergen Ar 117.28 358 PKP **PKPdf 20 34 27.6 -1.7**
comp=Z,5.5nm,1.0s,baz=358,slow=4.8,SNR=5.3
BVAR Borovoye Array 118.40 322 PKP **PKPdf 20 34 31.4 -0.7**
comp=Z,1.3nm,0.7s,baz=252,slow=0.9,SNR=6.9
ARTI Arti 123.93 328 PKP **PKPdf 20 34 42.3 -0.2**
comp=Z,2.1nm,0.9s,baz=306,slow=17,SNR=2.4
ARCES ARCESS Array B 124.92 352 PKP **PKPdf 20 34 43.4 -0.7**
comp=Z,1.1nm,0.6s,baz=35,slow=4.4,SNR=8.1
FINES FINESS Array B 132.29 348 PKP **PKPdf 20 34 58.6 +0.3**
comp=Z,1.3nm,0.8s,baz=336,slow=8.4,SNR=5.0
OBN Obninsk 134.54 337⇓*eP*KIKP **PKPdf 20 35 01.0 -1.7**
OBN *i* 20 35 03.5
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN pmax pmax
comp=Z,4.0nm,0.6s
OBN MLR MLR
comp=Z,52nm,19.0s
KIV Kislovodsk 138.73 320 *i* PKIKP **PKiKP 20 35 15.0 +1.8**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,46nm,24.0s
AKASG Malin Array Be 140.76 338 PKP **PKPdf 20 35 13.0 -1.3**
comp=Z,0.4nm,0.4s,baz=44,slow=1.8,SNR=2.0
LSZ Lusaka 142.91 215 PKPdf **PKPdf 20 35 15.9 -3.5**
LSZ Lusaka 142.91 215 PKIKP **PKPdf 20 35 15.9 -3.5**
RAYN Ar Rayn 143.12 288 PKPdf PKPab 20 35 15.6 +0.7
RAYN Ar Rayn 143.12 288⇑PKHKP PKPpre 20 35 14.3
CLL Collm 144.11 354 *e*PKIKP **PKPdf 20 35 20.0 -0.3**
CLL *e* 20 35 26.0
CLL Collm 144.11 354 *e*PKPdf **PKPdf 20 35 20.0 -0.3**
CLL *e*(PKiKP) 20 35 26.0
CLL *ex* x 20 35 34.0
CLL *e*SKPdf **SKPdf 20 38 55.0 +0.1**
CLL AMS AMS 21 43 00.0
comp=Z,100nm,21.4s
OSTC Ostas 144.41 350 *e*PKP **PKPdf 20 35 22.1 +1.2**
OSTC Ostas 144.41 350 *e*PKIKP **PKPdf 20 35 22.1 +1.2**
UPC Upice 144.49 350 *e*PKP **PKPab 20 35 17.4 -1.9**
UPC *ex* x 20 35 36.5
UPC Upice 144.49 350 *e*PKHKP PKPpre 20 35 17.4
DIKM Dikmen 144.52 323⇑P PKPbc 20 35 20.5 +0.6
KOLS Kolonicke sedl 144.56 343 *e*PKIKP PKPbc 20 35 20.3 +0.5
KOLS Kolonicke sedl 144.56 343 *e*PKP PKPbc 20 35 20.3 +0.5
DPC Dobruska-Polom 144.59 350 *e*PKP **PKPdf 20 35 20.8 -0.5**
DPC *ex* x 20 35 35.4
DPC Dobruska-Polom 144.59 350 *e*PKIKP **PKPdf 20 35 20.8 -0.5**
KIBK Kibwezi 144.61 242 PKPdf **PKPab 20 35 20.6 -0.4**
OKC Ostrava-Krasne 144.74 348 *e*PKP **PKPab 20 35 20.0 -0.2**
OKC Ostrava-Krasne 144.74 348 *e*PKIKP **PKPab 20 35 20.0 -0.2**
KRLC Kraliky 144.78 349 *e*PKP **PKPdf 20 35 22.8 +1.2**
KRLC *ex* x 20 35 35.8
KRLC Kraliky 144.78 349 *e*PKIKP **PKPdf 20 35 22.8 +1.2**
BURAR Bucovina Array 144.79 339 PKPdf **PKPab 20 35 19.5 -1.1**
BURAR Bucovina Array 144.79 339⇑P PKPbc 20 35 21.4 +0.7
BURAR Bucovina Array 144.79 339⇑PKIKP **PKPdf 20 35 21.4 -0.4**
MORC Moravsky Berou 144.92 348 *e*PKP **PKPdf 20 35 22.3 +0.5**
MORC *e* 20 35 35.6
BZK Bozkurt 145.04 324⇑P **PKPdf 20 35 22.1 -0.1**
LANS Liptovska Anna 145.10 346 *e*PKIKP **PKPdf 20 35 23.1 +0.9**
LANS Liptovska Anna 145.10 346 *e*PKP **PKPdf 20 35 23.1 +0.9**
LANS *e* 20 35 40.5
PRA Prague 145.16 352 *ex* x 20 35 38.9
PRU Pruhonice 145.22 352 *e*PKP **PKPdf 20 35 22.3 0.0**
PRU *ex* x 20 35 37.6
PRU Pruhonice 145.22 352 *e*PKIKP **PKPdf 20 35 22.3 0.0**
GHRR 145.25 335⇑P **PKPdf 20 35 23.0 +0.5**
GOPC GO Pecny, Ondr 145.26 351 *e*PKP **PKiKP 20 35 25.6 -0.7**
GOPC *ex* x 20 35 37.6
GOPC GO Pecny, Ondr 145.26 351 *e*PKIKP **PKiKP 20 35 25.6 -0.7**
ONER Baraj Valea Uz 145.43 336⇑P **PKPdf 20 35 23.5 +0.7**
VRAC Vranov 145.55 349 *e*PKP **PKPab 20 35 24.0 +0.8**
VRAC *e* 20 35 38.7
VRAC Vranov 145.55 349⇓P **PKPab 20 35 25.1 +1.9**
VRAC Vranov 145.55 349⇓PKIKP **PKPab 20 35 25.1 +1.9**
ODBI Odobesti 145.64 335⇑P **PKPdf 20 35 23.0 -0.1**
VRI Vrincioaia 145.69 335⇑P **PKPdf 20 35 23.2 0.0**
VRI Vrincioaia 145.69 335⇑PKIKP **PKPdf 20 35 23.2 0.0**
PLOR Plostina 145.73 336⇑P **PKPdf 20 35 23.7 +0.3**
PLOR Plostina 145.73 336⇑PKIKP **PKPdf 20 35 23.7 +0.3**
JAVC Velka Javorina 145.77 348 *e*PKP **PKPab 20 35 24.1 0.0**
TPGR Topolog 145.78 333⇑P **PKPbc 20 35 23.8 0.0**
ZVC Zvíkov 145.81 352 *e*PKP **PKPab 20 35 24.6 +0.5**
ZVC *ex* x 20 35 39.2
KRUC Moravsky 145.82 349 *e*PKP **PKPdf 20 35 23.6 +0.3**
KRUC *e* 20 35 38.6
VYHS Vyhne 145.86 346 *e*PKP2 **PKPbc 20 35 24.2 +0.2**
VYHS Vyhne 145.86 346 *e*PKP **PKPbc 20 35 24.2 +0.2**
VYHS *e* 20 35 41.4
OZUR 145.86 337⇑P **PKPdf 20 35 23.8 +0.3**
KMBO Kilima Mbogo 145.91 243 PKPbc **PKPbc 20 35 25.6 +0.2**
comp=Z,6.7nm,1.0s,baz=83,slow=3.8,SNR=15
COVR Voineasa-Covas 145.91 336⇑P **PKPab 20 35 24.7 -0.1**
TIRR Tirgusor 146.10 332⇓P **PKPbc 20 35 24.8 0.0**
TIRR Tirgusor 146.10 332⇓PKP2 **PKPbc 20 35 24.8 0.0**
CJR Cluj-Napoca 146.12 340⇓P **PKPab 20 35 25.7 +0.2**
CJR Cluj-Napoca 146.12 340⇓PKP2 **PKPab 20 35 25.7 +0.2**
DOPR Dopca 146.12 337⇑P **PKPdf 20 35 24.2 +0.2**
HARR Harsova 146.13 333⇑P **PKPdf 20 35 24.3 +0.3**
HARR Harsova 146.13 333⇑PKP2 **PKPdf 20 35 24.3 +0.3**
PSZ Piszkesteto 146.14 345⇑P **PKPab 20 35 26.5 +1.0**
PSZ Piszkesteto 146.14 345⇑PKP2 **PKPab 20 35 26.5 +1.0**
KHC Kasperske Hory 146.19 352 *e*PKP **PKPbc 20 35 25.4 +0.4**
KHC *ex* x 20 35 41.5
KHC Kasperske Hory 146.19 352 *e*PKP2 **PKPbc 20 35 25.4 +0.4**
TLBR Topalu 146.19 333⇓P **PKPbc 20 35 25.1 0.0**
NEHR Nehoiu 146.22 335⇑P **PKPab 20 35 25.9 0.0**
MLR Muntele Rosu 146.31 336⇑P **PKPdf 20 35 24.8 +0.4**
MODS Modra-Piesok 146.31 348 *e*PKP2 **PKiKP 20 35 27.5 -1.0**
MODS Modra-Piesok 146.31 348 *e*PKP **PKiKP 20 35 27.5 -1.0**
MODS *e* 20 35 43.6
MARR Marisel-Cluj 146.31 340⇑P **PKPbc 20 35 25.3 -0.2**
DRGR 146.34 341⇑P **PKPdf 20 35 24.9 +0.5**
DRGR 146.34 341⇑PKP2 **PKPdf 20 35 24.9 +0.5**
ISR Istrita 146.37 335⇑P **PKPdf 20 35 25.1 +0.6**
ISR Istrita 146.37 335⇑PKP2 **PKPdf 20 35 25.1 +0.6**
GERES GERESS Array B 146.45 352 PKPbc **PKPbc 20 35 26.0 +0.1**
comp=Z,1.2nm,0.6s,baz=45,slow=2.1,SNR=9.9
GERES GERESS Array B 146.45 352 PKP2 **PKPbc 20 35 26.0 +0.1**
BRTR Keskin Array B 146.68 321 **PKPdf 20 35 25.6 +0.3**
BRTR Keskin Array B 146.68 321 PKPbc **PKPbc 20 35 27.0 +0.1**
comp=Z,8.7nm,0.7s,baz=112,slow=2.0,SNR=44
VOIR 146.70 337⇑P **PKPbc 20 35 26.8 +0.1**
VOIR 146.70 337⇑PKP2 **PKPbc 20 35 26.8 +0.1**
KIRS Kirsehir-Merke 146.87 320⇑P **PKPdf 20 35 25.2 -0.4**
ARR Arges 146.91 337⇑P **PKPbc 20 35 26.6 -0.7**
CONA Conrad Observa 147.01 349 *i* PKP **PKPbc 20 35 28.0 +0.5**
comp=Z,7.6nm,1.0s
ANTO Ankara 147.09 322⇑P **PKPdf 20 35 24.9 -1.0**
ANTO Ankara 147.09 322⇑PKIKP **PKPdf 20 35 24.9 -1.0**
SIRR Siria 147.14 341⇑P **PKPdf 20 35 26.9 +1.2**
RONA Rosalia, Austr 147.15 349 *i* pPKP pPKPdf 20 35 28.3 -0.2
comp=Z,8.7nm,1.0s
MOA Molln 147.35 351 *e*PKP **PKPbc 20 35 27.7 -0.7**
comp=Z,10nm,1.3s
SURR Surduc 147.45 340⇓P **PKPdf 20 35 27.0 +0.8**
GZR Gura Zlata 147.55 339⇓P **PKPdf 20 35 26.9 +0.4**
GZR Gura Zlata 147.55 339⇓PKIKP **PKPdf 20 35 26.9 +0.4**
BIOA Bad Ischl, Aus 147.59 352 *e*PKiKP **PKPab 20 35 30.9 -0.2**
comp=Z,3.8nm,0.8s
ARSA Arzberg 147.72 349 *e*PKP **PKiKP 20 35 31.0 -0.4**
comp=Z,5.7nm,0.9s
BZS Buzias 147.74 341⇑P **PKPdf 20 35 27.2 +0.5**
BZS Buzias 147.74 341⇑PKIKP **PKPdf 20 35 27.2 +0.5**
LESA Schwarzleotal 147.98 353 *i* PKP **PKPbc 20 35 31.3 +1.1**
comp=Z,5.4nm,1.3s
MORH Mrgy, Hungar 148.04 345⇑P **PKPdf 20 35 28.7 +1.6**
RETA Reutte 148.10 355 *i* pPKP **PKiKP 20 35 32.8 +0.5**
comp=Z,3.8nm,0.8s
HERR Herculane 148.13 339⇑P **PKPdf 20 35 28.9 +1.6**
WATA Walderalm 148.18 354 *i* PKP **PKiKP 20 35 32.7 +0.1**
comp=Z,4.9nm,1.0s
MOTA Moosalm 148.22 355 *i* PKiKP **PKiKP 20 35 32.5 -0.2**
comp=Z,8.3nm,1.0s
KBA Koelnbreinsper 148.23 352 *i* PKiKP **PKPbc 20 35 31.4 +0.4**
comp=Z,2.0nm,0.6s
WTTA Wattenberg 148.25 354 *i* pPKP **PKPbc 20 35 31.1 +0.1**
comp=Z,6.2nm,0.9s
SQTA Sankt Quirin 148.33 355 *i* PKiKP **PKPbc 20 35 31.9 +0.7**
comp=Z,9.4nm,1.2s
SOKA Soboth 148.36 350 *ep*PKP **PKPbc 20 35 30.9 -0.3**
comp=Z,2.8nm,0.7s
DAVA Damuels 148.37 356 *i* PKiKP **PKiKP 20 35 32.4 -0.6**
comp=Z,4.7nm,1.1s
BORA Eskisehir 148.43 324 **PKPbc 20 35 31.4 -0.3**
MDVR Moldovita 148.45 340⇑P **PKPdf 20 35 29.5 +1.6**
FETA Feichten 148.57 355 *i* PKP **PKPbc 20 35 31.9 +0.1**
comp=Z,8.2nm,1.1s
OBKA Obir 148.61 350 *i* PKP **PKPbc 20 35 31.0 -0.9**
comp=Z,4.0nm,1.0s
MYKA Terra Mystica 148.63 351 *e*PKP **PKPbc 20 35 31.3 -0.6**
comp=Z,2.3nm,0.4s
ABTA Abfaltersbach 148.66 353 *i* pPKP pPKPdf 20 35 30.9 -0.1
comp=Z,9.2nm,1.3s
CIMO Cimolais 149.10 353 **PKPdf 20 35 26.3 -2.7**
MMAI Mount Meron Ar 149.13 309 PKPbc **PKPbc 20 35 34.0 +0.4**
comp=Z,7.7nm,0.8s,baz=56,slow=3.1,SNR=20
TUE Stuetta 149.21 357 PKPab **PKiKP 20 35 35.6 +0.9**
CSS Mathiatis 149.66 314 **PKPbc 20 35 33.7 -1.0**
BNI Bardonecchia 150.68 1 PKPab **PKPab 20 35 43.2 -0.6**
ESDC Sonseca Array 154.16 20 PKPbc **PKiKP 20 35 45.5 +0.5**
comp=Z,1.1nm,1.0s,baz=350,slow=2.5,SNR=4.0

GCMT 08 20:29:36.0±0.4,**41°31S**±0°02×**90°77W**±0°03,**h26**km±1km, **MW4.8**/68,**Moment Tensor Solution. s18,c20; s68,c89; Duration: 0 Moment tensor: Scale** 10^{16}**Nm;** M_{rr}-0.29±.12; $M_{\theta\theta}$0.36±.10; $M_{\phi\phi}$-0.06±.10; $M_{r\theta}$-1.17±.21; $M_{\theta\phi}$-1.69±.07; M_{rf}-0.42±.16; **Best double couple:** $M_0$2.11700×10^{16} **NP1:**ϕ_b353.00000°,δ56.00000°, λ-11.00000°. **NP2:**ϕ_b89.00000°,δ81.00000°, λ-145.00000°. **Principal axes:** T 2.0310, Plg17.0000°, Azm216.0000°; N 0.1740, Plg54.0000°, Azm102.0000°; P -2.2040, Plg31.0000°, Azm317.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southeast of Easter Island**

---

*IDC **08** 21:07:43.2±1.5,3°02N×83°82W,h0km,mb3.5/5, mbtmp3.7/6,ML4.7/1,MS3.4/19 Error ellipse: s-maj=109.7km s-min=26.8km az=61.0*
*RSNC **08** 21:07:46.1±0.5,3°N±5°×8°4W±°,h0km,M4.5,mb4.6,mB5.1, ML3.8,Mw(mB)4.5*
*NEIC **08** 21:07:47.1±2.5,3°07N±0°08×84°20W±0°09,h10km±2km, mb4.1/2,Error ellipse: s-maj=15.4km s-min=14.0km az=247.0*
ISC 08 21:07:49.6±0.7,**3°03N**±0°07×**84°23W**±0°07,**h42**km,**n65,** σ1§**87**/48,**mb3.5**/5,**MS3.4**/15,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**5.93**	**15**	Pn	**Pn**	**21 09 13.4**	**-1.7**
GR1C	**Gorgona, Isla**	**6.05**	**90**	P	**Pn**	**21 09 17.8**	**+1.2**
PAC1	**Pacto, Paraso** 14μm818nm,0.5s	**6.08**	**117**	P	**Pn**	**21 09 17.5**	**+0.3**
OTAV	**Otavalo**	**6.40**	**116**	Pn	**Pn**	**21 09 21.9**	**+0.1**
OTAV	**Otavalo** 956nm34nm,0.5s	**6.40**	**116**	P	**Pn**	**21 09 22.1**	**+0.2**
CUSE	**Cuicocha Este**	**6.42**	**115**	P	**Pn**	**21 09 22.6**	**+0.5**
LCR2	**La Lucha 2**	**6.67**	**2**	Pn	**Pn**	**21 09 24.4**	**-1.0**
SLOR	**San Lorenzo -**	**6.83**	**123**	Pn	**Pn**	**21 09 28.9**	**+1.1**
HDC	**Heredia**	**6.93**	**1**	Pn	**Pn**	**21 09 28.9**	**+0.1**
BBAC	**Balboa, Cauca** 20nm,0.6s	**7.04**	**98**	P	**Pn**	**21 09 31.0**	**+0.6**
BBAC				S	**Sn**	**21 10 50.2**	**+0.8**
PAYG	**Puerto Ayora**	**7.09**	**239**	Pn	**Pn**	**21 09 32.4**	**+1.5**
GCUF	**Volcan Galeras** 667nm38nm,0.5s	**7.10**	**104**	P	**Pn**	**21 09 32.5**	**+1.0**
JTS	**Las Juntas de**	**7.25**	**354**	Pn	**Pn**	**21 09 32.0**	**-1.2**
JTS	**Las Juntas de** 12nm,0.3s,baz=152,slow=22,SNR=25	**7.25**	**354**	Pn	**Pn**	**21 09 33.0**	**-0.2**
JTS	baz=107,slow=24			Sn	**Sn**	**21 10 51.3**	**-3.0**
JTS	comp=Z,280nm,21.2s,baz=116,slow=34			LR	LR	21 11 53.8	
JTS	**Las Juntas de** 37nm,0.5s 1μm62nm,1.0s	**7.25**	**354**	P	**Pn**	**21 09 32.5**	**-0.7**
SOCE	**Pocosol**	**7.32**	**357**	Pn	**Pn**	**21 09 33.2**	**-0.9**
COHC	**Cochancay**	**7.38**	**138**	Pn	**Pn**	**21 09 34.6**	**-0.3**
COHC	**Cochancay** 549nm33nm,0.7s	**7.38**	**138**	P	**Pn**	**21 09 34.5**	**-0.3**
POPC	**Popayan, Colom** 10.0nm,0.7s	**7.56**	**93**	P	**Pn**	**21 09 35.2**	**-2.3**
POPC	10.0nm,0.7s			S	**Sn**	**21 11 02.3**	**+0.2**
YOTC	**Yotoco, Valle** 11nm,1.1s	**7.92**	**83**	P	**Pn**	**21 09 44.8**	**+2.4**
CBOC	**Ciudad Bolivar** 20nm,0.9s	**8.66**	**71**	P	**Pn**	**21 09 54.6**	**+2.0**
FLOC	**Florencia**	**8.68**	**99**	Pn	**Pn**	**21 09 53.1**	**+0.3**
FLOC	**Florencia** 20nm,1.1s	**8.68**	**99**	P	**Pn**	**21 09 56.9**	**+4.1**
DBBC	**Dabeiba**	**8.91**	**63**	P	**Pn**	**21 09 58.0**	**+2.0**
ANIL	**Santa Ana**	**8.92**	**80**	P	**Pn**	**21 09 59.6**	**+3.3**
ACON	**Acoyapa**	**8.93**	**354**	Pn	**Pn**	**21 09 55.3**	**-0.9**
ORTC	**Ortega, Tolima** 690nm22nm,1.0s	**9.01**	**84**	P	**Pn**	**21 10 00.7**	**+3.5**
GUY2C	**Guyana, Caldas** 20nm,0.7s	**9.10**	**76**	P	**Pn**	**21 10 02.0**	**+3.1**
NORC	**Norcasia** 16nm,1.0s	**9.66**	**75**	P	**Pn**	**21 10 10.3**	**+4.0**
CNGN	**Cerro Negro** 464nm,0.6s	**9.72**	**346**	P	**Pn**	**21 10 09.2**	**+2.1**
PTLC	**Puerto Leguiza** 1μm24nm,0.8s	**9.84**	**107**	P	**Pn**	**21 10 11.3**	**+2.6**
CRIN	**San Cristobal** 118nm,0.7s	**10.01**	**344**	P	Pn	21 10 02.0	-9.0
PTBC	**PUERTO BERRIO,** 117nm14nm,0.7s	**10.34**	**70**	P	**Pn**	**21 10 19.3**	**+3.8**
CHIC	**Chingaza** 15nm,1.3s	**10.59**	**81**	P	Pn	21 10 24.3	+5.0
ATAH	**Atahualpa** comp=Z,233nm,20.3s,baz=328,slow=38	**11.65**	**150**	LR	LR	21 14 58.1	
MTO3	**Montecristo**	**12.38**	**336**	Pn	**Pn**	**21 10 45.4**	**+1.8**
HUEH	**Huehuetenango**	**14.16**	**330**	P	**P**	**21 11 13.5**	**-1.1**
SDV	**Santo Domingo**	**14.71**	**66**	Pn	**Pn**	**21 11 16.0**	**+0.7**
SDV	**Santo Domingo** comp=Z,167nm,18.8s,baz=254,slow=37	**14.71**	**66**	LR	LR	21 16 37.7	
SDV	**Santo Domingo**	**14.71**	**66**	P	**Pn**	**21 11 16.4**	**+1.1**
PETF	**Flores**	**14.87**	**338**	P	**P**	**21 11 20.7**	**-1.6**
CZSB	**Cruzeiro do Su**	**15.69**	**133**	Pn	**Pn**	**21 11 27.3**	**-0.6**
CZSB	comp=Z,12nm,0.9s			IAmb	IAmb	21 11 29.9	
BAUV	**El Baul**	**17.13**	**69**	Pn	**Pn**	**21 11 45.6**	**-0.4**
BAUV	comp=Z,14nm,1.0s			IAmb	IAmb	21 11 51.5	
CMIG	**Matias Romero** comp=Z,1.9nm,0.4s,baz=132,slow=9.5,SNR=10	**17.46**	**324**	P	P	21 11 58.2	+7.3
CMIG	comp=Z,56nm,21.9s,baz=183,slow=28			LR	LR	21 15 55.3	
PCRV	**Puerto La Cruz** comp=Z,60nm,20.8s,slow=38	**20.70**	**69**	LR	LR	21 20 38.1	
SJG	**San Juan** comp=Z,62nm,20.5s,baz=235,slow=36	**23.21**	**48**	LR	LR	21 21 22.0	
LPAZ	**La Paz** comp=Z,1.0nm,1.0s,baz=349,slow=5.2,SNR=3.1 comp=Z,1.0nm,1.0s	**24.93**	**141**	P	**P**	**21 13 07.0**	**-2.8**
SIV	**San Ignacio** comp=Z,196nm,18.3s,baz=285,slow=38	**29.69**	**130**	LR	LR	21 26 08.2	
TXAR	**Lajitas Array** comp=Z,32nm,19.4s,baz=160,slow=34	**32.02**	**327**	LR	LR	21 26 12.2	
TKL	**Tuckaleechee C** comp=Z,41nm,18.6s,baz=214,slow=36	**32.47**	**1**	LR	LR	21 27 13.3	
H03N2	**Juan Fernandez** baz=351,slow=76,SNR=17	**36.61**	**173**	T	T	21 53 36.5	
H03N1	**Juan Fernandez** baz=351,slow=76,SNR=25	**36.62**	**173**	T	T	21 53 37.5	
H03N3	**Juan Fernandez** baz=351,slow=76,SNR=22	**36.63**	**173**	T	T	21 53 36.3	
ANMO	**Albuquerque** comp=Z,18nm,18.3s,baz=310,slow=35	**37.88**	**330**	LR	LR	21 29 42.5	
CPUP	**Villa Florida** comp=Z,75nm,18.8s,baz=349,slow=36	**39.09**	**140**	LR	LR	21 31 15.5	
BDFB	**Brasilia** comp=Z,62nm,20.8s,baz=319,slow=34	**40.34**	**118**	LR	LR	21 30 35.1	
PFO	**Pinyon Flats O** comp=Z,55nm,18.9s,baz=125,slow=34	**42.79**	**319**	LR	LR	21 31 56.7	

PDAR	Pinedale Array	45.56	334	P	P	21 16 06.6	+0.9
	comp=Z,0.5nm,0.8s,baz=151,slow=4.5,SNR=3.9						
PDAR				LR	LR	21 36 26.4	
	comp=Z,55nm,18.2s,baz=165,slow=38						
	comp=Z,0.5nm,0.8s						
ELK	Elko	46.81	328	LR	LR	21 35 57.3	
	comp=Z,58nm,18.9s,baz=142,slow=36						
NVAR	Mina Array Bea	46.99	323	P	P	21 16 18.9	+1.9
	comp=Z,0.8nm,0.7s,baz=139,slow=6.9,SNR=4.0						
NVAR				LR	LR	21 35 37.9	
	comp=Z,53nm,18.6s,baz=247,slow=36						
	comp=Z,0.8nm,0.7s						
YBH	Yreka Blue Hor	51.69	324	LR	LR	21 38 14.8	
	comp=Z,34nm,19.3s,baz=168,slow=35						
NEW	Newport	53.18	333	LR	LR	21 39 34.2	
	comp=Z,24nm,20.3s,baz=142,slow=36						
YKA	Yellowknife Ar	63.48	345	P	P	21 18 14.7	-0.4
	comp=Z,0.3nm,0.8s,baz=142,slow=6.4,SNR=5.2						
	comp=Z,0.3nm,0.8s						
ILAR	Eielson Array	75.88	337	P	P	21 19 32.1	+0.6
	comp=Z,0.5nm,1.0s,baz=108,slow=6.5,SNR=2.0						
ILAR				LR	LR	21 54 42.3	
	comp=Z,28nm,20.6s,baz=96,slow=37						
	comp=Z,0.5nm,1.0s						
WRA	Warramunga Array	138.80	243	PKP	PKiKP	21 27 13.5	-0.9
	comp=Z,0.4nm,0.7s,baz=108,slow=1.9,SNR=1.6						

*IDC **08** 21:08:49.2±1.5, 22°.55N×118°.45E, h0km, mb3.4/5, mbtmp3.4/5, MS2.9/3, Error ellipse: s-maj=144.7km s-min=20.8km az=63.0*

ISC 08 21:08:51.9±1.2, 22°.5N±0°.1×118°.3E±0°.1, h17km, n14, σ0§57/11, mb3.4/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPUB	Ta-pu	2.34	69	P	Pn	21 09 29.2	-0.5
TWGBT	Beinan	2.63	82	P	Pn	21 09 34.4	+0.7
SSLB	Suanglung	2.81	62	P	Pn	21 09 36.0	-0.2
YULB	Yu-li	2.95	71	P	Pn	21 09 37.8	-0.3
NACB	Ninganchiao	3.51	60	P	Pn	21 09 46.2	+0.5
YHNB	Yeheng	3.61	52	P	Pn	21 09 47.4	+0.2
JNU	Nakatsue	15.40	44	LR	LR	21 18 39.4	
	comp=Z,51nm,18.9s,baz=184,slow=39						
KSRS	Korea Array	17.11	27	LR	LR	21 18 59.6	
	comp=Z,21nm,19.8s,baz=200,slow=36						
SONM	Songino Array	27.04	342	P	P	21 14 33.4	-0.1
	0.3nm,0.5s,baz=164,slow=8.7,SNR=2.7						
	0.3nm,0.5s						
MKAR	Makanchi Array	37.77	319	P	P	21 16 07.5	+0.3
	0.5nm,0.6s,baz=118,slow=9.0,SNR=5.6						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	41.75	322	P	P	21 16 40.0	-0.2
	0.5nm,0.7s,baz=125,slow=6.9,SNR=5.5						
	0.5nm,0.7s						
WRA	Warramunga Arr	44.98	158	P	P	21 17 05.6	-0.9
	0.5nm,1.0s,baz=342,slow=8.7,SNR=1.5						
	0.5nm,1.0s						
ASAR	Alice Springs	48.31	161	P	P	21 17 33.3	+0.7
	0.2nm,0.6s,baz=346,slow=8.6,SNR=9.4						
	0.2nm,0.6s						
SHEM	Shemya Is, Ala	51.87	40	LR	LR	21 40 12.6	
	comp=Z,19nm,21.6s,baz=297,slow=36						

IDC 08 21:11:41.0±3.4, 33°.79S×178°.91W, h0km, mb3.4/2, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=77.7km s-min=37.3km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.50	215	Pn	Pn	21 13 04.3	+0.1
	3.5nm,0.3s,baz=335,slow=4.7,SNR=16						
URZ				Sn	Sn	21 14 08.0	-0.2
	2.1nm,0.3s,baz=294,slow=22,SNR=8.4						
	10nm,0.3s						
ASAR	Alice Springs	42.27	271	P	P	21 19 36.5	+0.1
	0.4nm,0.7s,baz=117,slow=7.3,SNR=5.0						
	0.4nm,0.7s						
WRA	Warramunga Arr	43.57	276	P	P	21 19 46.7	-0.2
	0.2nm,0.3s,baz=116,slow=8.2,SNR=5.3						
	0.2nm,0.3s						
FINES	FINESS Array B	148.01	337	PKPbc	PKPbc	21 31 26.7	-0.8
	0.9nm,0.6s,baz=104,slow=1.7,SNR=1.0						

*IDC **08** 21:11:49.4±0.8, 29°.92N×142°.71E, h0km, mb3.6/9, mbtmp3.5/11, ML2.8/2, MS2.6/1, Error ellipse: s-maj=29.5km s-min=18.2km az=87.0*

ISC 08 21:11:54.5±0.7, 29°.93N±0°.07×142°.5E±0°.2, h35km, n13, σ1§54/14, mb3.6/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.83	185	Pn	Pn	21 12 36.5	-0.7
	1.9nm,0.3s,baz=296,slow=21,SNR=1.3						
JCJ				Sn	Sn	21 13 08.5	-1.7
	11nm,0.3s,baz=105,slow=24,SNR=5.8						
	57nm,0.7s						
MJAR	Matsushiro Arr	7.50	333	Pn	Pn	21 13 41.1	-0.3
	0.1nm,0.3s,baz=159,slow=11,SNR=8.1						
MJAR				Sn	Sn	21 15 01.5	-3.8
	0.1nm,0.3s,baz=169,slow=33,SNR=1.7						
	1.4nm,0.6s						
JOW	Kunigami	12.88	260	LR	LR	21 18 42.7	
	comp=Z,27nm,20.4s,baz=301,slow=32						
SONM	Songino Array	32.91	313	P	P	21 18 27.1	+1.6
	0.3nm,0.8s,baz=107,slow=7.7,SNR=1.5						
	0.3nm,0.8s						
MKAR	Makanchi Array	48.91	308	P	P	21 20 38.6	+1.6
	0.3nm,0.5s,baz=95,slow=9.5,SNR=3.8						
	0.3nm,0.5s						
WRA	Warramunga Arr	50.20	190	P	P	21 20 47.3	+0.4
	0.8nm,0.6s,baz=9.0,slow=8.0,SNR=9.1						
	0.8nm,0.6s						
KURBB	Kurchatov Arra	51.28	313	P	P	21 20 55.5	+0.7
	0.3nm,0.5s,baz=91,slow=9.5,SNR=7.9						
	0.3nm,0.5s						
ASAR	Alice Springs	53.92	190	P	P	21 21 14.7	0.0
	0.2nm,0.6s,baz=350,slow=4.2,SNR=4.6						
	0.2nm,0.6s						
ILAR	Eielson Array	55.12	30	P	P	21 21 22.1	-0.8
	0.4nm,0.9s,baz=252,slow=4.9,SNR=2.5						
	0.4nm,0.9s						
YKA	Yellowknife Ar	69.54	29	P	P	21 22 59.0	-0.3
	0.3nm,0.5s,baz=298,slow=6.3,SNR=7.3						
	0.3nm,0.5s						
FINES	FINESS Array B	75.53	334	P	P	21 23 36.4	+1.4
	2.4nm,0.9s,baz=46,slow=8.3,SNR=1.7						
	2.4nm,0.9s						
NVAR	Mina Array Bea	78.58	52	P	P	21 23 53.0	+0.1
	0.5nm,0.7s,baz=316,slow=6.9,SNR=3.0						
	0.5nm,0.7s						
QSPA	South Pole Qui	119.69	180	PKP	PKiKP	21 30 40.2	+0.2
	1.8nm,1.1s,baz=258,slow=12,SNR=2.0						

IDC 08 21:22:27.7±1.8, 17°.66S×178°.84W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=48.4km s-min=40.3km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.27	259	P	P	21 30 39.0	-0.5
	0.2nm,0.3s,baz=92,slow=7.9,SNR=9.6						
	0.2nm,0.3s						
ASAR	Alice Springs	44.46	254	P	P	21 30 41.4	+0.3
	1.3nm,0.5s,baz=89,slow=8.5,SNR=16						
	1.3nm,0.5s						
VNDA	Vanda	60.66	185	P	P	21 32 39.9	-0.3
	1.2nm,1.0s,baz=47,slow=5.6,SNR=3.8						
	1.2nm,1.0s						
ILAR	Eielson Array	85.73	13	P	P	21 35 08.4	+0.1
	0.2nm,0.6s,baz=213,slow=6.5,SNR=1.6						
	0.2nm,0.6s						

DJA 08 21:24:14.3±0.4, 1°.S±5°.×10°.0E±°, h76km±7km, M3.7/9, mb4.0/3, MLv3.6/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	0.41	59	P	Pn	21 24 28.5	+1.5
PPI				S	Sn	21 24 39.0	+2.7
MNSI	Mandailing Nat	1.53	342	P	Pn	21 24 40.2	+0.4
PBSI	Pulau Batu	1.86	289	P	Pn	21 24 44.9	+0.6
PBSI				S	Sn	21 25 07.3	+0.2
GSI	Gunungsitoli	3.15	309	P	Pn	21 25 01.2	-0.4
MNAI	Manna	4.68	142	P	Pn	21 25 22.4	-0.2
MDSI	Maura Doa	5.61	133	P	Pn	21 25 35.5	+0.3
	0.0nm5.1nm,0.8s						
BSI	Banda Aceh	7.74	322	P	Pn	21 26 03.5	-0.9

*SOME **08** 21:41:14.8, 42°.90N×77°.93E, h10km*

NNC 08 21:41:12.6±1.0, 43°.41N×77°.91E, h0km, mb1.3, mpv2.1, 2C, Error ellipse: s-maj=9.1km s-min=6.3km az=26.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	Zhinishke	0.45	122	P	Pb	21 41 23.2	-0.3
	3.4nm,0.1s						
ZHN				S	Sb	21 41 29.5	-1.4
	17nm,0.2s						
ZHN	Zhinishke	0.45	122	eP	Pb	21 41 23.2	-0.3
	3.4nm,0.1s						
ZHN				eS	Sb	21 41 29.5	-1.4
	17nm,0.2s						
SATY	Saty	0.50	133	P	Pg	21 41 22.1	-0.1
	0.8nm,0.1s						
SATY				S	Sg	21 41 27.5	-1.2
	13nm,0.1s						
TNSS	Tian-Shan	0.79	243	P	Pb	21 41 28.9	-0.6
	0.7nm,0.1s						
TNSS				S	Sg	21 41 38.6	+0.6
	1.6nm,0.1s						
TNSS	Tian-Shan	0.79	243	eP	Pb	21 41 28.9	-0.6
	0.7nm,0.1s						
TNSS				eS	Sg	21 41 39.3	+1.2
	1.7nm,0.1s						
ARXS	Arharly	0.81	356	P	Pb	21 41 29.0	-0.6
	0.7nm,0.3s						
ARXS				S	Sg	21 41 39.2	+0.6
	13nm,0.2s						
UZB	Uzynbulak	0.85	107	P	Pb	21 41 30.0	-0.3
	0.4nm,0.2s						
UZB				S	Sg	21 41 41.1	+1.1
	2.6nm,0.1s						
UZB	Uzynbulak	0.85	107	eP	Pb	21 41 30.1	-0.3
	0.4nm,0.2s						
UZB				eS	Sg	21 41 41.1	+1.1
	2.6nm,0.1s						
PDGK	Podgornoye	1.16	93	⇑P	Pg	21 41 34.9	+0.1
	0.4nm,0.5s						
PDGK				⇑S	Sg	21 41 49.0	-0.8
	1.0nm,0.3s						
SHLS	Shalkode	1.16	102	eP	Pn	21 41 41.9	+5.6
	1.4nm,0.1s						
SHLS				eS	Sn	21 42 01.3	+8.4
	267nm,0.2s						

*IDC **08** 21:48:33.4±3.4, 6°.17S×148°.44E, h98km±21km, mb3.6/3, mbtmp3.9/5, MS2.7/1, Error ellipse: s-maj=54.1km s-min=24.5km az=121.0*

ISC 08 21:48:25.2±1.9, 5°.6S±0°.2×147°.9E±0°.3, h35km, n6, σ2§29/8, mb3.9/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.88	191	P	Pn	21 49 24.5	+2.2
	27nm,0.3s,baz=27,slow=5.8,SNR=18						
PMG				S	Sn	21 50 06.5	-0.2
	32nm,0.3s,baz=7.7,slow=15,SNR=7.3						
PMG				LR	LR	21 50 17.3	
	comp=Z,108nm,19.4s,baz=265,slow=30						
WRA	Warramunga Arr	19.43	221	P	Pn	21 52 50.6	+0.5
	0.8nm,0.3s,baz=53,slow=10,SNR=23						
ASAR	Alice Springs	22.47	215	P	P	21 53 23.4	+1.8
	1.5nm,0.5s,baz=49,slow=9.2,SNR=27						
ASAR				S	S	21 57 22.9	-3.4
	0.3nm,0.8s,baz=38,slow=23,SNR=1.6						
	1.5nm,0.5s						
STKA	Stephens Creek	26.82	192	P	P	21 54 00.2	-2.1
	1.5nm,0.5s,baz=354,slow=10,SNR=4.8						
	1.5nm,0.5s						
QSPA	South Pole Qui	84.39	180	P	P	22 00 52.6	-1.3
	0.4nm,0.5s,baz=270,slow=1.0,SNR=6.0						
	0.4nm,0.5s						
TORD	Torodi Ar. Bea	145.83	285	PKPbc	PKPab	22 08 03.1	+0.8
	63nm,0.3s,baz=92,slow=3.3,SNR=1.7						

*IDC **08** 21:54:02.8±4.8, 15°.67S×173°.40W, h128km±41km, mb3.6/7, mbtmp4.0/8, MS3.4/3, Error ellipse: s-maj=44.5km s-min=21.6km az=142.0*

ISC 08 21:53:53.0±0.9, 15°.5S±0°.3×173°.4W±0°.2, h42km, n20, σ0§59/10, mb3.9/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.45	254	P	Pn	21 56 04.3	+11
	14nm,1.0s,baz=106,slow=14,SNR=7.9						
MSVF				LR	LR	21 59 03.4	
	comp=Z,194nm,19.9s,baz=23,slow=36						
DZM	Mont Dzumac	20.11	248	eLR	LR	22 03 13.4	
	118nm,26.8s						
DZM	Mont Dzumac	20.11	248	LR	LR	22 04 51.6	
	comp=Z,80nm,20.8s,baz=43,slow=32						
PPT2	Papeete2	22.96	98	eLR	LR	22 03 36.4	
	97nm,31.5s						
PPT2				eLR	LR	22 04 00.0	
	72nm,24.5s						
TAOE	Nuku Hiva Isla	33.18	82	eLR	LR	22 09 05.8	
	55nm,21.3s						
H11S2	WAKE ISLAND Hy	39.06	329	T	T	22 42 59.7	
	baz=149,slow=76,SNR=13						
H11S3	WAKE ISLAND Hy	39.07	329	T	T	22 43 13.0	
	baz=149,slow=76,SNR=12						
H11S1	WAKE ISLAND Hy	39.08	329	T	T	22 43 00.4	
	baz=149,slow=76,SNR=10						
H11N3	WAKE ISLAND Hy	40.01	330	T	T	22 44 10.3	
	baz=150,slow=74						
H11N1	WAKE ISLAND Hy	40.02	330	T	T	22 44 10.0	
	baz=150						
H11N2	WAKE ISLAND Hy	40.03	330	T	T	22 44 10.5	
	baz=150						
STKA	Stephens Creek	43.94	240	P	P	22 01 55.2	-0.9
	4.4nm,0.8s,baz=81,slow=12,SNR=4.7						
	4.4nm,0.8s						
WRA	Warramunga Arr	49.78	257	P	P	22 02 42.3	+0.3
	0.9nm,0.7s,baz=94,slow=7.4,SNR=6.5						
WRA				PcP	PcP	22 04 03.5	+1.1
	0.3nm,0.7s,baz=93,slow=3.2,SNR=1.8						
	0.9nm,0.7s						
ASAR	Alice Springs	50.03	252	P	P	22 02 43.9	0.0
	5.5nm,0.6s,baz=86,slow=7.9,SNR=87						
ASAR				LR	LR	22 22 00.5	
	comp=Z,79nm,18.7s,baz=154,slow=34						
	5.5nm,0.6s						
NVAR	Mina Array Bea	74.45	42	P	P	22 05 26.7	-0.6
	0.9nm,0.7s,baz=224,slow=9.9,SNR=4.1						
	0.9nm,0.7s						
QSPA	South Pole Qui	74.51	180	P	P	22 05 27.3	+0.2
	1.3nm,0.9s,baz=132,slow=13,SNR=2.4						
	1.3nm,0.9s						
TXAR	Lajitas Array	80.72	56	P	P	22 06 02.5	+0.1
	0.2nm,0.5s,baz=254,slow=4.5,SNR=2.9						
	0.2nm,0.5s						
ILAR	Eielson Array	82.58	11	P	P	22 06 11.4	+0.2
	0.3nm,0.6s,baz=205,slow=5.3,SNR=5.2						
	0.3nm,0.6s						
BRTR	Keskin Array B	146.24	321	PKPbc	PKPab	22 13 30.2	0.0
	1.2nm,0.9s,baz=67,slow=1.9,SNR=6.9						
MMAI	Mount Meron Ar	148.62	309	PKPbc	PKPbc	22 13 36.2	0.0
	0.3nm,0.3s,baz=50,slow=2.5,SNR=2.5						

*IDC **08** 21:55:18.7±1.4, 2°.56N×126°.52E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=215.1km s-min=16.9km az=67.0*

*DJA **08** 21:55:27.5±2.2, 3°.N±5°.×12°.7E±°, h31km±38km, M4.1/9, mB5.3/1, mb4.6/3, MLv3.8/9, Mw(mB)4.7/1*

ISC 08 21:55:24.9±1.0, 2°.94N±0°.10×127°.4E±0°.1, h50km, n13, σ0§95/13, mb3.6/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.00	292	P	Pn	21 55 55.9	-0.5
TNTI	Ternate	2.15	181	P	Pn	21 55 59.5	+1.1
SANI	Sanana	5.15	196	P	Pn	21 56 39.2	-0.3
MRSI	Marisa	5.97	246	P	Pn	21 56 52.4	+1.6
	2μm265nm,0.5s						
LUWI	Luwuk	6.08	230	P	Pn	21 56 51.7	-0.6
WRA	Warramunga Arr	23.74	164	P	P	22 00 31.5	-1.2
	1.4nm,0.6s,baz=337,slow=10,SNR=32						
	1.4nm,0.6s						
ASAR	Alice Springs	27.19	167	P	P	22 01 03.2	-0.9
	0.3nm,0.6s,baz=353,slow=7.5,SNR=7.3						
	0.3nm,0.6s						
STKA	Stephens Creek	37.16	160	P	P	22 02 30.9	-0.3
	2.2nm,0.5s,baz=355,slow=12,SNR=4.0						
	2.2nm,0.5s						
SONM	Songino Array	48.26	341	P	P	22 04 02.4	+1.3
	0.3nm,0.6s,baz=155,slow=7.9,SNR=2.8						
	0.3nm,0.6s						
MKAR	Makanchi Array	58.58	325	P	P	22 05 16.1	-0.6
	0.2nm,0.4s,baz=121,slow=8.7,SNR=4.2						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	61.59	333	P	P	22 05 37.1	0.0
	0.4nm,0.4s,baz=126,slow=9.3,SNR=1.9						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	62.76	327	P	P	22 05 44.8	-0.2
	0.3nm,0.5s,baz=123,slow=5.5,SNR=4.8						
	0.3nm,0.5s						
BVAR	Borovoye Array	68.34	327	P	P	22 06 20.8	-0.3
	0.3nm,0.4s,baz=110,slow=8.3,SNR=3.5						
	0.3nm,0.4s						

*IDC **08** 21:56:38.1±3.1, 13°.58N×89°.30W, h0km, mb3.3/5, mbtmp3.4/5, MS3.2/1, Error ellipse: s-maj=121.2km s-min=58.2km az=50.0*

*CATAC **08** 21:56:44.0±0.5, 13°.N±2°.×9°.0W±°, h18km±2km, M4.2/29, MLv4.2/29, Error ellipse: s-maj=4.7km s-min=2.4km az=21.8, confirmed*

*GCG **08** 21:56:44.9±1.8, 13°.38N×90°.34W, h47km±50km, MD4.2, ML3.7, MW3.7*

*SNET **08** 21:56:45.3±1.7, 13°.53N×90°.27W, h70km, ML4.1*

ISC 08 21:56:44.0±1.4, 13°.34N±0°.05×90°.26W±0°.03, h14km±8km, n115, σ1§22/125, mb3.3/4, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	San Jos, E	0.32	313	eP	Pn	21 57 00.2	+5.8
ESSJ				i S	Sb	21 57 13.3	+17
NUBE	Las Nubes	0.72	40	eP	Pn	21 56 59.4	-0.6
NUBE				eS	Sn	21 57 10.8	-0.2
NUBE	Las Nubes	0.72	40	i P	Pn	21 56 59.4	-0.6
NUBE	Las Nubes	0.72	40	P	Pn	21 56 59.5	-0.6
NUBE	Las Nubes	0.72	40	S	Sn	21 57 11.1	0.0
CEVE	Cerro Verde	0.78	52	⇓eP	Pn	21 57 00.7	-0.3
CEVE				eS	Sn	21 57 12.8	+0.1
CEVE	Cerro Verde	0.78	52	P	Pn	21 57 00.8	-0.2
CEVE	Cerro Verde	0.78	52	S	Sn	21 57 13.3	+0.7
SBLS	San Blas	0.79	51	eP	Pb	21 57 00.6	+0.8
LOAL	Lomas de Alarc	0.80	36	eP	Pn	21 57 00.7	-0.3
LOAL				eS	Sn	21 57 13.1	+0.3
LOAL	Lomas de Alarc	0.80	36	P	Pn	21 57 00.9	-0.1
SLOZ	Alcaldia de Sa	0.82	34	eP	Pn	21 57 00.9	-0.3
SLOZ				eS	Sn	21 57 13.7	+0.3
SLOZ	Alcaldia de Sa	0.82	34	P	Pn	21 57 01.0	-0.3
SNJE	San Jose	0.82	51	eP	Pn	21 57 01.2	-0.2
JAYA	Jayaque - finc	0.85	69	⇓eP	Pg	21 57 00.8	+0.3
JAYA				eS	Sb	21 57 13.4	+1.4
JAYA	Jayaque - finc	0.85	69	i P	Pb	21 57 01.1	+0.5
JAYA				eS	Sb	21 57 13.7	+1.7
JAYA	Jayaque - finc	0.85	69	P	Pb	21 57 01.2	+0.5
LALI	Alcalda de L	0.93	81	eP	Pg	21 57 01.8	-0.1
LALI				eS	Sb	21 57 15.6	+1.6
LALI	Alcalda de L	0.93	81	eP	Pg	21 57 01.8	-0.1
LALI	Alcalda de L	0.93	81	P	Pg	21 57 02.3	+0.4
LALI	Alcalda de L	0.93	81	S	Sg	21 57 14.8	+0.8
UNIC	Universidad Ca	0.94	47	eP	Pn	21 57 02.7	-0.2
UNIC				eS	Sn	21 57 16.4	+0.2
UNIC	Universidad Ca	0.94	47	P	Pn	21 57 02.8	-0.2
FG8	Yepocapa, Chim	0.96	342	eP	Pn	21 57 05.6	+2.4
FG8				i S	Sn	21 57 23.8	+7.1
CEDA	San Andres	0.96	61	eP	Pb	21 57 02.6	+0.1
CEDA	San Andres	0.96	61	P	Pb	21 57 02.9	+0.5
CEDA	San Andres	0.96	61	S	Sn	21 57 17.4	+0.8
PMON	Piamonte	0.99	68	eP	Pg	21 57 03.2	0.0
PMON	Piamonte	0.99	68	P	Pb	21 57 03.7	+0.6
PMON	Piamonte	0.99	68	S	Sn	21 57 18.2	+0.6
ITCA	Escuela Especi	1.01	71	P	Pg	21 57 03.6	0.0
ITCA	Escuela Especi	1.01	71	S	Sn	21 57 18.6	+0.6
BOQS	Boqueron	1.03	68	eP	Pg	21 57 03.9	-0.1
BOQS				eS	Sn	21 57 19.2	+0.5
PIC2	El Picacho	1.05	68	eP	Pg	21 57 04.3	-0.2
UEES	Universidad Ev	1.06	69	eP	Pg	21 57 04.0	-0.5
UEES	Universidad Ev	1.06	69	P	Pb	21 57 04.8	+0.5
UEES	Universidad Ev	1.06	69	S	Sn	21 57 20.1	+0.8
SEMO	Seminario San	1.07	70	P	Pg	21 57 04.9	+0.2
SEMO	Seminario San	1.07	70	S	Sn	21 57 20.2	+0.7
QUEZ	Alcaldia de Qu	1.08	63	eP	Pb	21 57 04.9	+0.3
PANCS	Alcalda de	1.08	76	eP	Pg	21 57 04.7	-0.2
PANCS	Alcalda de	1.08	76	P	Pg	21 57 05.0	0.0
PANCS	Alcalda de	1.08	76	S	Sb	21 57 19.8	+1.0
UTEC	Universidad Te	1.09	71	P	Pg	21 57 05.3	+0.2
UTEC	Universidad Te	1.09	71	S	Sn	21 57 21.1	+1.2
LOMA	Loma Larga	1.10	74	eP	Pg	21 57 04.7	-0.6
LOMA	Loma Larga	1.10	74	P	Pg	21 57 05.0	-0.3
UDBS	Universidad Do	1.14	71	eP	Pg	21 57 05.4	-0.5
UDBS	Universidad Do	1.14	71	P	Pg	21 57 05.6	-0.3
UDBS	Universidad Do	1.14	71	S	Sn	21 57 22.9	+1.8
ESSG	Sabana Grande	1.17	332	eP	Pg	21 57 04.0	-2.7
	comp=Z,2μm,0.4s						
ESSG				IAML		21 57 28.4	
	comp=Z,2μm,0.4s						
LFU	La Fuente	1.19	70	eP	Pg	21 57 06.3	-0.6
LFRS	El Faro	1.20	76	eP	Pg	21 57 06.8	-0.4
PAVA	Las Pavas	1.34	74	eP	Pg	21 57 08.8	-1.0
PAVA	Las Pavas	1.34	74	P	Pg	21 57 09.2	-0.6
PAVA	Las Pavas	1.34	74	S	Sn	21 57 27.1	+0.9
MTO3	Montecristo	1.36	40	eP	Pn	21 57 09.2	+0.3
MTO3	Montecristo	1.36	40	i P	Pn	21 57 09.3	+0.3
	comp=Z,588nm,0.6s						
MTO3				IAML		21 57 49.2	
	comp=Z,588nm,0.6s						
MTO3	Montecristo	1.36	40	P	Pn	21 57 09.4	+0.4
MTO3	Montecristo	1.36	40	S	Sn	21 57 28.1	+1.1
COEG	Centro de Oper	1.37	78	eP	Pn	21 57 08.6	-0.3
COEG	Centro de Oper	1.37	78	P	Pn	21 57 09.2	+0.3
COEG	Centro de Oper	1.37	78	S	Sg	21 57 27.7	-0.5
SNVI	San Vicente	1.41	79	eP	Pn	21 57 09.6	+0.1
TECO	Alcaldia de Te	1.45	82	eP	Pn	21 57 09.9	-0.1
TECO	Alcaldia de Te	1.45	82	P	Pn	21 57 10.1	+0.2
TECO	Alcaldia de Te	1.45	82	S	Sb	21 57 29.7	+0.4
UESV	Universidad de	1.46	78	P	Pn	21 57 10.6	+0.5
UESV

TGUH	**Tegucigalpa,Un**	**2.99**	**76**	P		**Pn**	**21 57 31.6 +0.4**
CHOHN	**Orocuina**	**3.02**	**87**	P		**Pn**	**21 57 31.3 -0.3**
CRIN	**San Cristobal**	**3.19**	**101**	S		**Sn**	**21 58 13.6 +1.7**
YUSH	**Yuscaran**	**3.38**	**79**	P		**Pn**	**21 57 36.7 +0.1**
QUEN	**Al S del Volca**	**3.41**	**102**	P		**Pn**	**21 57 37.1 +0.3**
HERN	**Volcan Telica**	**3.42**	**102**	P		**Pn**	**21 57 38.0 +0.9**
POLN	**Al Sur del Vol**	**3.43**	**101**	S		**Sn**	**21 58 19.0 +1.3**
PLRN	**Geotermica Pol**	**3.49**	**102**	S		**Sn**	**21 58 20.5 +1.4**
TXAR	**Lajitas Array**	**20.20**	**324**	P		**P**	**22 01 18.8 +0.2**
	comp=Z,0.4nm,0.5s,baz=156,slow=9.6,SNR=5.0						
	comp=Z,0.4nm,0.5s						
TKL	**Tuckaleechee C**	**22.97**	**14**	LR		LR	22 11 11.5
	comp=Z,59nm,19.5s,baz=184,slow=39						
PDAR	**Pinedale Array**	**33.73**	**334**	P		**P**	**22 03 23.9 -1.5**
	comp=Z,0.1nm,0.3s,baz=134,slow=7.9,SNR=2.0						
	comp=Z,0.1nm,0.3s						
NVAR	**Mina Array Bea**	**35.25**	**320**	P		**P**	**22 03 38.4 -0.2**
	comp=Z,2.9nm,0.7s,baz=126,slow=6.4,SNR=15						
	comp=Z,2.9nm,0.7s						
YKA	**Yellowknife Ar**	**52.06**	**346**	P		P	22 05 49.5 -3.7
	comp=Z,0.3nm,0.8s,baz=172,slow=6.8,SNR=2.4						
	comp=Z,0.3nm,0.8s						
ILAR	**Eielson Array**	**64.11**	**337**	P		P	22 07 14.2 -3.4
	comp=Z,0.2nm,0.7s,baz=110,slow=7.2,SNR=1.7						
	comp=Z,0.2nm,0.7s						
WRA	**Warramunga Arr**	**136.87**	**255**	PKP		**PKPdf**	**22 16 05.0 -2.3**
	comp=Z,0.3nm,0.7s,baz=89,slow=2.2,SNR=1.7						
CMAR	**Chiang Mai Arr**	**147.12**	**344**	PKPbc		**PKPdf**	**22 16 23.7 -1.9**
	comp=Z,0.8nm,0.3s,baz=31,slow=2.8,SNR=1.6						

*IDC **08** 22:24:17.2±1.9, 16°.62N×94°.57W, h0km, mb3.5/3, mbtmp3.6/4, ML4.0/1, MS3.8/2, Error ellipse: s-maj=29.0km s-min=13.2km az=47.0*
*GCG **08** 22:24:17.3±2.6, 17°.00N×94°.81W, h36km±553km, MD4.8*
*MEX **08** 22:24:19.4±3.4, 16°.53N×94°.66W, h96km±84km, MD4.2*
*NEIC **08** 22:24:19.6±2.9, 16°.46N±0°.08×94°.66W±0°.04, h87km±20km, mb4.0/15, Md4.2/133(MEX), Error ellipse: s-maj=11.0km s-min=6.2km az=179.0*

ISC 08 22:24:17.5±1.2, 16°.60N±0°.03×94°.63W±0°.02, h15km±8km, n114, σ2§15/174, mb3.7/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.55**	**334**	Pg	**Pg**	**22 24 27.8**	**-0.6**
	522nm,0.3s,baz=147,slow=16,SNR=3365						
CMIG				LR	LR	22 24 34.3	
	comp=Z,66nm,18.2s,baz=271,slow=31						
CMIG				Lg	Lg	22 24 35.5	
	548nm,0.3s,baz=237,slow=24,SNR=22						
CMIG	**Matias Romero**	**0.55**	**334**	*eP*	**Pg**	**22 24 28.0**	**-0.3**
CMIG				*eS*	**Sb**	**22 24 35.8**	**-0.7**
UXUV	**UXUV**	**0.85**	**33**	*eP*	**Pg**	**22 24 33.9**	**-0.2**
UXUV				*eS*	**Sb**	**22 24 45.5**	**+0.1**
TUIG	**Tuzandepetl**	**1.44**	**8**	*eP*	**Pg**	**22 24 45.0**	**-0.3**
TUIG				*eS*	**Sg**	**22 25 03.6**	**-0.4**
TGIG		**1.46**	**83**		**Pn**	**22 24 44.2**	**+0.8**
TGIG					**Sn**	**22 25 03.1**	**+0.8**
TGIG		**1.46**	**83**	*eP*	**Pn**	**22 24 44.2**	**+0.8**
TGIG				*eS*	**Sn**	**22 25 03.1**	**+0.8**
TGIG		**1.46**	**83**	*i P*	**Pn**	**22 24 43.7**	**+0.3**
TGIG				*eS*	**Sb**	**22 25 03.9**	**+1.1**
TGBT	**Tuxtla Gutierr**	**1.49**	**83**		**Pn**	**22 24 44.7**	**+1.0**
TGBT					**Sn**	**22 25 04.1**	**+1.1**
TGBT	**Tuxtla Gutierr**	**1.49**	**83**	*eP*	**Pn**	**22 24 44.7**	**+1.0**
TGBT				*eS*	**Sn**	**22 25 04.1**	**+1.1**
NEUV	**Arroyo Zacate**	**1.58**	**315**	*eP*	**Pn**	**22 24 45.3**	**+0.3**
NEUV				*eS*	**Sb**	**22 25 06.7**	**+0.5**
PCIG		**1.62**	**123**		**Pn**	**22 24 45.8**	**+0.3**
PCIG					**Sn**	**22 25 05.8**	**-0.5**
PCIG		**1.62**	**123**	*eP*	**Pn**	**22 24 45.8**	**+0.3**
PCIG				*eS*	**Sn**	**22 25 05.8**	**-0.5**
HUIG	**Huatulco**	**1.64**	**240**		**Pn**	**22 24 45.0**	**-0.9**
HUIG					**Sn**	**22 25 05.7**	**-1.0**
HUIG	**Huatulco**	**1.64**	**240**	*eP*	**Pn**	**22 24 45.0**	**-0.9**
HUIG				*eS*	**Sn**	**22 25 05.7**	**-1.0**
HUIG	**Huatulco**	**1.64**	**240**	*eP*	**Pn**	**22 24 44.9**	**-0.9**
HUIG				*eS*	**Sn**	**22 25 06.7**	**0.0**
PMUV	**Sontecomapan**	**1.99**	**346**	*eP*	**Pn**	**22 24 50.3**	**-0.5**
PMUV				*eS*	**Sg**	**22 25 24.6**	**+2.9**
PANG	**Puerto Angel**	**2.00**	**243**		**Pn**	**22 24 52.6**	**+1.8**
PANG					**Sn**	**22 25 13.2**	**-2.3**
PANG	**Puerto Angel**	**2.00**	**243**	*eP*	**Pn**	**22 24 52.6**	**+1.8**
PANG				*eS*	**Sn**	**22 25 13.2**	**-2.3**
OXLC	**Oaxaca**	**2.04**	**283**	*eP*	**Pb**	**22 24 53.8**	**-0.7**
OXLC				*eS*	**Sb**	**22 25 20.6**	**+0.9**
OXBJ	**Oaxaca**	**2.06**	**283**		**Pn**	**22 24 52.3**	**+0.5**
OXBJ					**Sb**	**22 25 20.5**	**+0.2**
OXBJ	**Oaxaca**	**2.06**	**283**	*eP*	**Pn**	**22 24 52.3**	**+0.5**
OXBJ				*eS*	**Sb**	**22 25 20.5**	**+0.2**
OXIG	**Oaxaca**	**2.07**	**284**		**Pn**	**22 24 52.8**	**+0.9**
OXIG					**Sb**	**22 25 20.1**	**-0.4**
VHO	**Vista Hermosa**	**2.07**	**284**	*eP*	**Pn**	**22 24 52.8**	**+0.9**
VHO				*eS*	**Sb**	**22 25 20.1**	**-0.4**
CCIG	**Comitan**	**2.41**	**97**	Pn	**Pn**	**22 24 58.8**	**+2.2**
CCIG	**Comitan**	**2.41**	**97**	*eP*	**Pb**	**22 24 59.7**	**-1.1**
CCIG				*eS*	**Sb**	**22 25 31.2**	**+0.7**
CCIG	**Comitan**	**2.41**	**97**	*eP*	**Pn**	**22 24 59.2**	**+2.5**
PEIG	**Puerto Escondi**	**2.49**	**257**		**Pn**	**22 24 56.9**	**-0.7**
PEIG					**Sn**	**22 25 27.4**	**-0.4**
PEIG	**Puerto Escondi**	**2.49**	**257**	*eP*	**Pn**	**22 24 56.9**	**-0.7**
PEIG				*eS*	**Sn**	**22 25 27.4**	**-0.4**
PATR	**El Naranjo**	**2.74**	**122**	*eP*	**Pn**	**22 25 03.5**	**+2.4**
PATR				*eS*	**Sb**	**22 25 39.3**	**-0.5**
PAVE	**Pavencul**	**2.74**	**120**	*eP*	**Pn**	**22 25 04.0**	**+2.7**
PAVE				*eS*	**Sb**	**22 25 40.5**	**+0.5**
TOIG	**Toxpalan**	**2.76**	**303**		**Pn**	**22 25 02.5**	**+1.1**
TOIG					**Sn**	**22 25 36.8**	**+2.2**
TOIG	**Toxpalan**	**2.76**	**303**	*eP*	**Pn**	**22 25 02.5**	**+1.1**
TOIG				*eS*	**Sn**	**22 25 36.8**	**+2.2**
YOIG	**Yosondua**	**2.81**	**276**		**Pn**	**22 25 03.8**	**+1.7**
YOIG					**Sn**	**22 25 38.3**	**+2.4**
YOIG	**Yosondua**	**2.81**	**276**	*eP*	**Pn**	**22 25 03.8**	**+1.7**
YOIG				*eS*	**Sn**	**22 25 38.3**	**+2.4**
THIG		**2.83**	**126**		**Pn**	**22 25 05.5**	**+3.3**
THIG					**Sn**	**22 25 39.6**	**+3.5**
THIG		**2.83**	**126**	*eP*	**Pn**	**22 25 05.5**	**+3.3**
THIG				*eS*	**Sn**	**22 25 39.6**	**+3.5**
THIG		**2.83**	**126**	*eP*	**Pn**	**22 25 05.9**	**+3.7**
THIG				*i S*	**Sb**	**22 25 42.9**	**+0.6**
TXIG	**Tlaxiaco**	**3.07**	**283**		**Pn**	**22 25 07.8**	**+1.9**
TXIG					**Sn**	**22 25 44.4**	**+1.8**
TXIG	**Tlaxiaco**	**3.07**	**283**	*eP*	**Pn**	**22 25 07.8**	**+1.9**
TXIG				*eS*	**Sn**	**22 25 44.4**	**+1.8**
TPIG	**Tehuac#an**	**3.17**	**305**		**Pn**	**22 25 08.2**	**+1.0**
TPIG					**Sn**	**22 25 45.4**	**+0.5**
TPIG	**Tehuac#an**	**3.17**	**305**	*eP*	**Pn**	**22 25 08.2**	**+1.0**
TPIG				*eS*	**Sn**	**22 25 45.4**	**+0.5**
HUEH	**Huehuetenango**	**3.27**	**112**	Pn	**Pn**	**22 25 10.4**	**+2.0**
HUEH	**Huehuetenango**	**3.27**	**112**	*eP*	**Pn**	**22 25 12.5**	**+4.0**
HUEH				*e*		22 25 56.6	
HLIG	**Huajuapan de L**	**3.27**	**292**		**Pn**	**22 25 10.2**	**+1.7**
HLIG					**Sn**	**22 25 47.1**	**-0.2**
HLIG	**Huajuapan de L**	**3.27**	**292**	*eP*	**Pn**	**22 25 10.2**	**+1.7**
HLIG				*eS*	**Sn**	**22 25 47.1**	**-0.2**
PNIG	**Pinotepa**	**3.36**	**267**		**Pn**	**22 25 09.4**	**-0.1**
PNIG					**Sn**	**22 25 50.0**	**+0.8**
PNIG	**Pinotepa**	**3.36**	**267**	*eP*	**Pn**	**22 25 09.4**	**-0.1**
PNIG				*eS*	**Sn**	**22 25 50.0**	**+0.8**
JAUV	**Jalcomulco**	**3.44**	**323**	*eP*	**Pn**	**22 25 09.8**	**-0.9**
JAUV				*eS*	**Sn**	**22 25 50.8**	**-0.6**
RTAL	**Retalhuleu**	**3.50**	**126**	Pn	**Pn**	**22 25 12.0**	**+0.5**
RTAL	**Retalhuleu**	**3.50**	**126**	*eP*	**Pn**	**22 25 14.3**	**+2.8**
RTAL				*eS*	**Sn**	**22 25 54.1**	**+1.4**
POHV	**Veracruz**	**3.52**	**315**		**Pn**	**22 25 13.5**	**+1.2**
POHV	**Veracruz**	**3.52**	**315**	*eP*	**Pn**	**22 25 13.5**	**+1.2**
POHV				*eS*	**Sn**	**22 25 46.8**	**-7.2**
LVIG	**Laguna Verde**	**3.54**	**332**	*eP*	**Pn**	**22 25 11.2**	**-0.9**
LVIG				*eS*	**Sn**	**22 25 46.5**	**-7.2**
FTIG	**Fresnillo de T**	**3.59**	**292**		**Pn**	**22 25 14.9**	**+2.0**
FTIG	**Fresnillo de T**	**3.59**	**292**	*e*	**Pn**	**22 25 14.9**	**+2.0**
FTIG				*e*		22 26 05.9	
STG8	**El Palmar, Qui**	**3.81**	**124**	*eP*	**Pn**	**22 25 14.0**	**-2.0**
STG0	**El Palmar, Qui**	**3.83**	**124**	*eP*	**Pn**	**22 25 14.4**	**-1.9**
MGIG	**Malinaltepec**	**3.88**	**280**		**Pn**	**22 25 17.9**	**+1.0**
MGIG	**Malinaltepec**	**3.88**	**280**	*e*	**Pn**	**22 25 17.9**	**+1.0**
MGIG				*e*		22 26 14.5	
TLIG	**Tlapa**	**3.88**	**285**	*eP*	**Pn**	**22 25 18.3**	**+1.4**
TLIG				*eS*	**Sn**	**22 26 02.6**	**+0.3**
SCIG	**Sabancuy**	**4.04**	**54**	*eP*	**Pn**	**22 25 18.7**	**-0.2**
SCIG				*eS*	**Sn**	**22 26 02.1**	**-3.9**
SCIG	**Sabancuy**	**4.04**	**54**	*eP*	**Pn**	**22 25 20.8**	**+1.9**
CRIG	**Cruz Grande**	**4.32**	**272**		**Pn**	**22 25 22.5**	**-0.2**
CRIG	**Cruz Grande**	**4.32**	**272**	*eP*	**Pn**	**22 25 22.5**	**-0.2**
CRIG				*eS*	**Sn**	**22 26 10.2**	**-2.6**
PBCV	**Popocatepetl**	**4.43**	**303**	*e*	**Pn**	**22 25 29.0**	**+4.4**
PBCV				*e*		22 26 27.9	
PBXN	**Popocatepetl**	**4.52**	**303**	*eP*	**Pn**	**22 25 28.8**	**+2.8**
PBXN				*eP*		22 25 29.3	
PBXN				*eS*	**Sn**	**22 26 24.9**	**+6.3**
PBXN				*eS*		22 26 26.2	
PPM	**Popocatepetl**	**4.53**	**303**	*eP*	**Pn**	**22 25 29.5**	**+3.4**
PPM				*eS*	**Sn**	**22 26 20.8**	**+2.0**
PPIG	**Popocatepetl**	**4.53**	**303**		**Pn**	**22 25 29.5**	**+3.4**
PPIG					**Sn**	**22 26 20.8**	**+2.0**
CXUV	**Coxquihui**	**4.53**	**322**	*eP*	**Pn**	**22 25 25.4**	**-0.3**
CXUV				*eS*	**Sn**	**22 26 19.0**	**+0.8**
YAIG	**Yautepec**	**4.79**	**299**		**Pn**	**22 25 31.7**	**+2.4**
YAIG					**Sn**	**22 26 24.8**	**0.0**
YAIG	**Yautepec**	**4.79**	**299**	*eP*	**Pn**	**22 25 31.7**	**+2.4**
YAIG				*eS*	**Sn**	**22 26 24.8**	**0.0**
DAIG	**Los Arroyos**	**4.83**	**276**		**Pn**	**22 25 30.0**	**+0.3**
DAIG	**Los Arroyos**	**4.83**	**276**	*eP*	**Pn**	**22 25 30.0**	**+0.3**
DAIG				*eS*	**Sn**	**22 26 20.6**	**-4.9**
MEIG	**Mezcala**	**4.95**	**286**		**Pn**	**22 25 33.5**	**+2.1**
MEIG					**Sn**	**22 26 32.5**	**+4.0**
MEIG	**Mezcala**	**4.95**	**286**	*eP*	**Pn**	**22 25 33.5**	**+2.1**
MEIG				*eS*	**Sn**	**22 26 32.5**	**+4.0**
PLIG	**Platanillo**	**4.98**	**292**		**Pn**	**22 25 33.7**	**+1.8**
PLIG					**Sn**	**22 26 29.8**	**+0.5**
PLIG	**Platanillo**	**4.98**	**292**	*eP*	**Pn**	**22 25 33.7**	**+1.8**
PLIG				*eS*	**Sn**	**22 26 29.8**	**+0.5**
CAIG	**El Cayaco**	**5.42**	**276**		**Pn**	**22 25 37.4**	**-0.5**
CAIG	**El Cayaco**	**5.42**	**276**	*eP*	**Pn**	**22 25 37.4**	**-0.5**
CAIG				*eS*	**Sn**	**22 26 36.9**	**-3.1**
ARIG	**Puente Sto Nin**	**5.71**	**288**		**Pn**	**22 25 43.7**	**+1.9**
ARIG	**Puente Sto Nin**	**5.71**	**288**	*eP*	**Pn**	**22 25 43.7**	**+1.9**
ARIG				*eS*	**Sn**	**22 26 43.6**	**-3.6**
ZIIG	**Zihuatanejo**	**6.61**	**280**		**Pn**	**22 25 55.1**	**+0.8**
ZIIG	**Zihuatanejo**	**6.61**	**280**	*eP*	**Pn**	**22 25 55.1**	**+0.8**
ZIIG				*eS*	**Sn**	**22 27 07.3**	**-2.1**
MOIG	**Morelia**	**6.95**	**297**	Pn	Pn	22 26 08.1	+9.0
TEIG	**Tepich**	**7.03**	**58**	Pn	**Pn**	**22 26 02.4**	**+2.4**
TEIG	**Tepich**	**7.03**	**58**	Pn	**Pn**	**22 26 01.4**	**+1.5**
	baz=233,slow=20						
TEIG				Sn	**Sn**	**22 27 16.8**	**-2.9**
	baz=177,slow=24,SNR=10.0						
EZ5V		**9.00**	**290**		**Pn**	**22 26 31.8**	**+4.5**
EZ5V		**9.00**	**290**	*eP*	**Pn**	**22 26 31.8**	**+4.5**
INCO	**Volcan de Coli**	**9.02**	**290**	*eP*	Pn	22 26 33.0	+5.3
INCO				*eS*	Sn	22 28 36.1	+27
CEGR	**Campo Tres**	**9.21**	**289**	*eP*	**Pn**	**22 26 33.8**	**+3.7**
CEGR				*eS*	Sn	22 28 26.7	+13
HDC	**Heredia**	**12.15**	**121**	*eP*	**Pn**	**22 27 07.2**	**-3.1**
SOR	**Soroa**	**12.56**	**59**	Pn	**Pn**	**22 27 16.9**	**+1.1**
JCT	**Junction City**	**14.61**	**342**	P	**Pn**	**22 27 46.5**	**+2.6**
SAND	**Sanderson**	**14.96**	**334**	P	**Pn**	**22 27 48.6**	**0.0**
TXAR	**Lajitas Array**	**15.15**	**328**	P	**Pn**	**22 27 49.9**	**-1.3**
TXAR	**Lajitas Array**	**15.15**	**328**	Pn	**P**	**22 27 58.1**	**+1.8**
	0.1nm,0.3s,baz=156,slow=12,SNR=10						
	1.4nm,0.9s						
BRDY	**Brady**	**15.15**	**346**	Pn	**Pn**	**22 27 49.3**	**-1.9**
BRDY				IAmb	IAmb	22 28 06.4	
	comp=Z,11nm,0.8s						
MNHN	**Monahans**	**16.44**	**335**		**Pn**	**22 28 07.2**	**-0.6**
MNHN				IAmb	IAmb	22 28 17.1	
	comp=Z,5.3nm,0.8s						
PLPT	**Palo Pinto**	**16.49**	**349**	Pn	**Pn**	**22 28 05.8**	**-2.5**
PLPT				IAmb	IAmb	22 28 35.5	
	comp=Z,9.5nm,0.9s						
ABTX	**Abilene, Hawle**	**16.59**	**345**	P	**Pn**	**22 28 08.7**	**-1.0**
ABTX				IAmb	IAmb	22 28 17.8	
	comp=Z,11nm,1.1s						
VHRN	**Van Horn**	**17.00**	**328**		**Pn**	**22 28 13.6**	**-1.4**
SN07	**Snyder 07**	**17.37**	**342**	P	**Pn**	**22 28 15.9**	**-3.6**
SN07				IAmb	IAmb	22 28 43.8	
	comp=Z,4.8nm,0.8s						
APMT	**Aspermont**	**17.38**	**344**	P	**Pn**	**22 28 16.2**	**-3.4**
APMT				IAmb	IAmb	22 28 45.4	
	comp=Z,6.1nm,0.8s						
WTFS	**Witchita Falls**	**17.44**	**349**	P	**Pn**	**22 28 17.2**	**-3.1**
POST	**Post**	**17.53**	**341**	P	**Pn**	**22 28 19.3**	**-2.3**
POST				IAmb	IAmb	22 28 49.5	
	comp=Z,8.6nm,0.8s						
MIAR	**Mount Ida**	**17.90**	**3**	P	**Pn**	**22 28 25.1**	**-1.0**
MIAR				IAmb	IAmb	22 28 47.0	
	comp=Z,12nm,1.5s						
OK052	**Battle Ridge R**	**19.41**	**355**	P	**P**	**22 28 39.7**	**-3.5**
OK052				IAmb	IAmb	22 28 53.8	
	comp=Z,8.7nm,0.7s						
X51A	**Calhoun**	**19.93**	**24**	P	**P**	**22 28 45.2**	**-3.6**
T42A	**Van Buren**	**20.59**	**8**	P	**P**	**22 28 52.9**	**-3.1**
NVAR	**Mina Array Bea**	**30.07**	**321**	P	**P**	**22 30 29.2**	**+2.7**
	comp=Z,1.0nm,0.7s,baz=149,slow=6.0,SNR=3.6						
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**47.95**	**348**	P	**P**	**22 32 55.3**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=155,slow=7.4,SNR=11						
	comp=Z,0.6nm,0.7s						
SFJD	**Kangerlussuaq**	**57.85**	**19**	LR	LR	23 00 41.7	
	comp=Z,91nm,18.4s,baz=224,slow=38						
ILAR	**Eielson Array**	**59.47**	**337**	P	**P**	**22 34 22.6**	**+3.0**
	comp=Z,0.2nm,0.8s,baz=134,slow=7.8,SNR=2.3						
	comp=Z,0.2nm,0.8s						
JMIC	**Jan Mayen**	**73.18**	**20**	LR	LR	23 09 26.4	
	comp=Z,44nm,19.6s,baz=256,slow=37						

*IDC **08** 22:25:37.1±0.5, 12°.88N×88°.80W, h0km, mb4.4/22, mbtmp4.4/24, ML3.3/1, MS4.2/22, Error ellipse: s-maj=24.2km s-min=11.1km az=50.0*
*GCG **08** 22:25:39.7±1.8, 12°.43N×89°.54W, h22km±14km, MD4.9*
*CATAC **08** 22:25:39.9±0.4, 12°.N±2°×.8°.9W±°, h13km±2km, M5.0/39, MLv5.0/39, Error ellipse: s-maj=4.7km s-min=2.3km az=53.3, confirmed*
*SNET **08** 22:25:41.8±1.7, 12°.60N×89°.34W, h7km, ML4.9*
*GCMT **08** 22:25:41.6±0.2, 12°.59N±0°.01×89°.54W±0°.02, h16km, MW5.0/116, Moment Tensor Solution. s59,c78; s116,c160; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.03±.12; $M_{\theta\theta}$2.50±.08; $M_{\phi\phi}$0.53±.07; $M_{r\theta}$1.97±.20; $M_{\theta\phi}$-0.96±.05; $M_{\phi r}$0.29±.25; Best double couple: $M_0$3.55600×10^{16} NP1:ϕ_s125.00000°, δ31.00000°, λ-66.00000°. NP2:ϕ_s277.00000°, δ62.00000°, λ-104.00000°. Principal axes: T 3.3730, Plg16.0000°, Azm17.0000°; N 0.3720, Plg12.0000°, Azm284.0000°; P -3.7380, Plg70.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **08** 22:25:42.6±2.7, 12°.54N±0°.06×89°.20W±0°.07, h35km±1km, mb5.0/460 Error ellipse: s-maj=13.6km s-min=7.3km az=229.0*

ISC 08 22:25:39.3±1.0, 12°.50N±0°.03×89°.42W±0°.03, h17km±5km, n569, σ1§66/419, mb5.0/233, MS4.2/22, 2C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.98**	**5**	*eP*	**Pg**	**22 25 58.8**	**+0.4**
LALI				*eS*	**Sn**	**22 26 12.0**	**+0.3**
LALI	**Alcalda de L**	**0.98**	**5**	*eP*	**Pg**	**22 25 59.1**	**+0.7**
LALI				*eS*	**Sn**	**22 26 13.2**	**+1.4**
LALI	**Alcalda de L**	**0.98**	**5**	P	**Pg**	**22 25 59.6**	**+1.3**
LALI	**Alcalda de L**	**0.98**	**5**	S	**Sn**	**22 26 14.2**	**+2.4**
PANCS	**Alcalda de**	**1.12**	**12**	*eP*	**Pg**	**22 26 00.8**	**-0.3**
PANCS	**Alcalda de**	**1.12**	**12**	P	**Pg**	**22 26 01.8**	**+0.7**
PANCS	**Alcalda de**	**1.12**	**12**	S	**Sg**	**22 26 18.2**	**+2.4**
JAYA	**Jayaque - finc**	**1.14**	**358**	*eP*	**Pg**	**22 26 01.0**	**-0.4**
JAYA	**Jayaque - finc**	**1.14**	**358**	*eP*	**Pg**	**22 26 01.2**	**-0.2**
JAYA	**Jayaque - finc**	**1.14**	**358**	P	**Pg**	**22 26 01.7**	**+0.2**
JAYA	**Jayaque - finc**	**1.14**	**358**	S	**Sg**	**22 26 19.0**	**+2.5**
LOMA	**Loma Larga**	**1.16**	**12**	*eP*	**Pg**	**22 26 01.6**	**-0.1**
LOMA				*eS*	**Sg**	**22 26 17.6**	**+0.7**
LOMA	**Loma Larga**	**1.16**	**12**	P	**Pg**	**22 26 02.1**	**+0.4**
LOMA	**Loma Larga**	**1.16**	**12**	S	**Sg**	**22 26 19.1**	**+2.2**
ALJI	**Alcalda de J**	**1.16**	**45**	P	**Pg**	**22 26 02.9**	**+1.1**
ALJI	**Alcalda de J**	**1.16**	**45**	S	**Sg**	**22 26 18.8**	**+1.9**
LFRS	**El Faro**	**1.16**	**17**	*eP*	**Pg**	**22 26 01.5**	**-0.4**
ITCA	**Escuela Especi**	**1.17**	**7**	*eP*	**Pg**	**22 26 01.6**	**-0.4**
ITCA	**Escuela Especi**	**1.17**	**7**	P	**Pg**	**22 26 02.5**	**+0.6**
ITCA	**Escuela Especi**	**1.17**	**7**	S	**Sg**	**22 26 19.3**	**+2.0**
TECO	**Alcaldia de Te**	**1.20**	**31**	*eP*	**Pb**	**22 26 01.7**	**+0.1**
TECO				*eS*	**Sg**	**22 26 18.6**	**+0.5**
TECO	**Alcaldia de Te**	**1.20**	**31**	P	**Pg**	**22 26 02.4**	**0.0**
TECO	**Alcaldia de Te**	**1.20**	**31**	S	**Sg**	**22 26 20.1**	**+2.0**
PMON	**Piamonte**	**1.21**	**5**	*eP*	**Pg**	**22 26 02.3**	**-0.3**
PMON				*eS*	**Sg**	**22 26 18.6**	**+0.2**
PMON	**Piamonte**	**1.21**	**5**	P	**Pg**	**22 26 03.1**	**+0.5**
PMON	**Piamonte**	**1.21**	**5**	S	**Sg**	**22 26 20.3**	**+2.0**
SEMO	**Seminario San**	**1.21**	**9**	P	**Pg**	**22 26 03.0**	**+0.4**
SEMO	**Seminario San**	**1.21**	**9**	S	**Sg**	**22 26 20.5**	**+2.0**
UTEC	**Universidad Te**	**1.21**	**10**	*eP*	**Pg**	**22 26 02.3**	**-0.4**
UTEC	**Universidad Te**	**1.21**	**10**	P	**Pg**	**22 26 02.9**	**+0.3**
UTEC	**Universidad Te**	**1.21**	**10**	S	**Sg**	**22 26 20.4**	**+2.0**
UEES	**Universidad Ev**	**1.22**	**8**	*eP*	**Pg**	**22 26 02.3**	**-0.5**
UEES	**Universidad Ev**	**1.22**	**8**	P	**Pg**	**22 26 03.3**	**+0.4**
UEES	**Universidad Ev**	**1.22**	**8**	S	**Sg**	**22 26 20.8**	**+2.0**
COEG	**Centro de Oper**	**1.23**	**25**	*eP*	**Pb**	**22 26 02.2**	**+0.2**
COEG	**Centro de Oper**	**1.23**	**25**	P	**Pg**	**22 26 03.2**	**+0.2**
COEG	**Centro de Oper**	**1.23**	**25**	S	**Sg**	**22 26 20.8**	**+1.8**
UESS	**Universidad de**	**1.23**	**10**	*eP*	**Pg**	**22 26 02.8**	**-0.2**
BOQS	**Boqueron**	**1.23**	**6**	*eP*	**Pg**	**22 26 02.6**	**-0.5**
UDBS	**Universidad Do**	**1.23**	**12**	P	**Pg**	**22 26 03.4**	**+0.3**
UDBS	**Universidad Do**	**1.23**	**12**	S	**Sg**	**22 26 21.5**	**+2.3**
SNVI	**San Vicente**	**1.24**	**27**	*eP*	**Pg**	**22 26 02.9**	**-0.3**
PIC2	**El Picacho**	**1.24**	**7**	*eP*	**Pg**	**22 26 03.0**	**-0.3**
LFU	**La Fuente**	**1.27**	**13**	*eP*	**Pg**	**22 26 03.4**	**-0.5**
UESV	**Universidad de**	**1.28**	**28**	*eP*	**Pb**	**22 26 03.6**	**+0.6**
UESV				*eS*	**Sg**	**22 26 21.6**	**+0.8**
UESV	**Universidad de**	**1.28**	**28**	P	**Pg**	**22 26 03.9**	**-0.1**
UESV	**Universidad de**	**1.28**	**28**	S	**Sg**	**22 26 22.4**	**+1.7**
PAVA	**Las Pavas**	**1.29**	**21**	*eP*	**Pb**	**22 26 03.6**	**+0.4**
PAVA				*eS*	**Sg**	**22 26 21.4**	**+0.3**
PAVA	**Las Pavas**	**1.29**	**21**	P	**Pg**	**22 26 04.3**	**+0.2**
PAVA	**Las Pavas**	**1.29**	**21**	S	**Sg**	**22 26 22.7**	**+1.6**
CEDA	**San Andres**	**1.29**	**1**	*eP*	**Pg**	**22 26 03.7**	**-0.5**
CEDA	**San Andres**	**1.29**	**1**	P	**Pg**	**22 26 04.3**	**+0.1**
CEDA	**San Andres**	**1.29**	**1**	S	**Sg**	**22 26 22.5**	**+1.4**
TECA	**Tecapa**	**1.33**	**42**	*eP*	**Pb**	**22 26 03.9**	**0.0**
QUEZ	**Alcaldia de Qu**	**1.33**	**6**	*eP*	**Pb**	**22 26 03.9**	**+0.1**
QUEZ				*eS*	**Sg**	**22 26 21.7**	**-0.7**
CEVE	**Cerro Verde**	**1.33**	**351**	*eP*	**Pb**	**22 26 04.0**	**+0.1**
CEVE	**Cerro Verde**	**1.33**	**351**	P	**Pg**	**22 26 05.0**	**-0.1**
CEVE	**Cerro Verde**	**1.33**	**351**	S	**Sg**	**22 26 23.3**	**+0.9**

comp=Z,137nm,1.7s
RUSC La Rusia 17.40 111 Pn P 22 29 40.8 -1.2
FLOC Florencia 17.43 127 Pn **P 22 29 44.4 +1.4**
COHC Cochancay 17.98 145 P **P 22 29 50.5 +1.5**
735A Kenedy 18.05 336 P **P 22 29 49.7 0.0**
735A IAmb IAmb 22 29 57.4
comp=Z,67nm,0.9s
HKT Hockley 18.35 342 P **P 22 29 53.4 +0.5**
HKT IAmb IAmb 22 30 02.2
comp=Z,99nm,1.4s
MLDN Muldoon 18.60 339 P **Pn 22 29 56.6 +0.5**
MLDN IAmb IAmb 22 30 00.9
comp=Z,82nm,1.2s
SDV Santo Domingo 18.80 99 P **P 22 29 57.6 -0.7**
SDV Santo Domingo 18.80 99 P **P 22 29 57.7 -0.7**
comp=Z,13nm,0.6s,baz=284,slow=6.8,SNR=18
SDV LR LR 22 38 17.6
comp=Z,404nm,18.3s,baz=309,slow=42
SDV Santo Domingo 18.80 99 *eP* **Pn 22 29 58.9 0.0**
HNDO Hondo 19.26 333 P **Pn 22 30 03.4 -0.7**
352A Blakely 19.33 12 IAmb IAmb 22 30 14.9
comp=Z,73nm,0.8s
TIGA Tifton 19.59 15 P **P 22 30 06.6 0.0**
TIGA IAmb IAmb 22 30 17.0
comp=Z,103nm,0.9s
250A Grady 19.60 8 P **P 22 30 05.8 -0.9**
435B Jarrell 19.70 339 P **P 22 30 08.0 +0.2**
NATX Nacogdoches 19.76 347 IAmb IAmb 22 30 10.7
comp=Z,84nm,0.8s
DRIO Del Rio 19.80 330 P **P 22 30 09.3 +0.4**
146A Union 20.04 1 P **P 22 30 12.0 +0.4**
146A IAmb IAmb 22 30 29.4
comp=Z,52nm,0.8s
143A Socs Landing, 20.19 355 IAmb IAmb 22 30 22.6
comp=Z,82nm,1.0s
237A Washetta, Mont 20.28 344 P **P 22 30 14.2 +0.1**
237A IAmb IAmb 22 30 23.6
comp=Z,86nm,0.9s
JCT Junction City 20.31 333 P **P 22 30 14.4 -0.1**
JCT IAmb IAmb 22 30 16.2
comp=Z,55nm,0.8s
152A Waverly Hall 20.53 11 IAmb IAmb 22 30 23.8
comp=Z,62nm,1.3s
LRAL Lakeview Retre 20.55 6 P **P 22 30 17.1 0.0**
LRAL IAmb IAmb 22 30 28.2
comp=Z,44nm,1.0s
Z47A Carrollton 20.64 3 IAmb IAmb 22 30 28.4
comp=Z,61nm,0.9s
BRDY Brady 20.68 336 P **P 22 30 18.2 -0.2**
BRDY IAmb IAmb 22 30 19.8
comp=Z,97nm,1.0s
WHTX Lake Whitney, 20.76 340 P **P 22 30 19.1 -0.1**
HPIG 20.94 316 IAmb IAmb 22 30 28.2
comp=Z,58nm,1.1s
SAND Sanderson 20.99 328 P **P 22 30 21.9 0.0**
SAND IAmb IAmb 22 30 41.0
comp=Z,64nm,1.3s
TREL Terrell 21.04 344 P **P 22 30 22.0 -0.3**
Z38A Mt. Pleasant 21.28 347 IAmb IAmb 22 30 32.8
comp=Z,58nm,0.8s
OZNA Ozona 21.28 331 IAmb IAmb 22 30 29.1
comp=Z,45nm,0.9s
BAUV El Baul 21.29 97 P **P 22 30 22.6 -2.7**
BAUV IAmb IAmb 22 30 35.7
comp=Z,36nm,0.8s
TXAR Lajitas Array 21.35 324 P **P 22 30 27.7 +1.8**
TXAR Lajitas Array 21.35 324 P **P 22 30 28.5 +2.6**
comp=Z,23nm,0.7s,baz=141,slow=9.9,SNR=174
TXAR PcP **PcP 22 34 31.1 +1.2**
comp=Z,2.5nm,0.9s,baz=180,slow=2.3,SNR=5.0
comp=Z,23nm,0.7s
TX31 Lajitas Ar. Si 21.36 324 IAmb IAmb 22 30 29.5
comp=Z,53nm,0.9s
CCAR Cane Creek 21.42 355 P **P 22 30 27.3 +0.8**
CCAR IAmb IAmb 22 30 32.3
comp=Z,88nm,0.8s
Y49A Blount Mountai 21.43 7 P **P 22 30 25.9 -0.6**
FW07 Weatherford 21.52 340 IAmb IAmb 22 30 35.4
comp=Z,76nm,0.8s
FW06 Azle 21.69 341 IAmb IAmb 22 30 31.3
comp=Z,57nm,0.7s
Z35A Perchaven, San 21.93 342 IAmb IAmb 22 30 32.8
comp=Z,92nm,1.0s
X48A Hartselle 21.95 5 P **P 22 30 32.4 +0.3**
X40A Basin Creek Fa 22.10 352 IAmb IAmb 22 30 36.2
comp=Z,69nm,1.2s
ABTX Abilene, Hawle 22.11 337 P **P 22 30 33.2 -0.7**
ABTX IAmb IAmb 22 30 36.6
comp=Z,83nm,0.9s
SGCY Sterling City 22.12 333 IAmb IAmb 22 30 44.6
comp=Z,43nm,1.2s
NHSC New Hope 22.18 21 P **P 22 30 34.5 -0.1**
X51A Calhoun 22.35 10 P **P 22 30 36.1 -0.4**
ATAH Atahualpa 22.38 150 LR LR 22 37 10.3
comp=Z,239nm,21.1s,baz=335,slow=31
PLAL Pickwick Lake 22.41 3 P **P 22 30 37.1 0.0**
MNHN Monahans 22.42 329 IAmb IAmb 22 30 41.1
comp=Z,52nm,0.8s
SLBS Sierra La Lagu 22.43 303 P **P 22 30 40.0 +2.5**
SLBS IAmb IAmb 22 30 47.9
comp=Z,61nm,1.2s
HODGE Hodges 22.59 16 P **P 22 30 38.4 -0.5**
HODGE IAmb IAmb 22 30 47.9
comp=Z,40nm,0.8s
SWET Sewanee 22.83 7 IAmb IAmb 22 30 43.4
comp=Z,103nm,1.8s
LPIG La Paz 22.91 303 P **P 22 30 45.7 +3.3**
comp=Z,15nm,0.3s,baz=105,slow=5.8,SNR=4.4
comp=Z,15nm,0.3s
JSC Jenkinsville 22.91 18 P **P 22 30 41.4 -1.0**
JSC IAmb IAmb 22 30 45.1
comp=Z,42nm,1.0s
JSC PcP **PcP 22 34 30.7 -2.1**
APMT Aspermont 22.92 336 P **P 22 30 40.9 -1.6**
Y57A Sumter 22.94 20 P **P 22 30 42.3 -0.3**
Y57A IAmb IAmb 22 30 44.3
comp=Z,73nm,0.9s
SN07 Snyder 07 23.02 335 P **P 22 30 42.1 -1.5**
SN07 IAmb IAmb 22 30 44.8
comp=Z,56nm,0.7s
W52A Murphy 23.03 12 IAmb IAmb 22 30 47.7
comp=Z,75nm,1.7s
Y58A Scranton 23.08 21 IAmb IAmb 22 30 53.3
comp=Z,78nm,0.9s
BG3 Lake Jocassee 23.15 14 IAmb IAmb 22 30 48.8
comp=Z,39nm,1.1s
VHRN Van Horn 23.20 324 IAmb IAmb 22 30 47.9
comp=Z,78nm,1.5s
V48A Smith Brothers 23.25 5 IAmb IAmb 22 30 50.8
comp=Z,47nm,1.3s
PAULI Pauline 23.26 16 IAmb IAmb 22 30 47.5
comp=Z,83nm,1.5s
CPCT Cooper Cave 23.27 10 P **P 22 30 45.8 -0.3**
CPCT IAmb IAmb 22 30 47.0
comp=Z,120nm,1.9s
X34A Smith Ranch, M 23.29 342 P **P 22 30 45.8 -0.5**
W35A Tecumseh 23.54 345 IAmb IAmb 22 30 49.1
comp=Z,49nm,0.8s
WVT Waverly 23.57 3 P **P 22 30 47.5 -1.5**
TKL Tuckaleechee C 23.61 12 IAmb IAmb 22 30 50.7
comp=Z,26nm,0.8s
TKL Tuckaleechee C 23.61 12 P **P 22 30 48.1 -1.3**
comp=Z,22nm,0.7s,baz=186,slow=12,SNR=25
TKL LR LR 22 41 04.7
comp=Z,626nm,18.0s,baz=240,slow=40
KMSC Kings Mountain 23.70 17 IAmb IAmb 22 30 52.6
comp=Z,85nm,1.6s
Y60A Bolivia 23.71 24 P **P 22 30 48.4 -1.9**
WMOK Wichita Mounta 23.71 341 IAmb IAmb 22 30 50.3
comp=Z,45nm,0.8s
UTMT University of 23.74 1 P **P 22 30 50.4 -0.2**
HTMS Hat Mesa 23.77 329 P **P 22 30 49.7 -1.4**
V53A Saluda 23.82 13 IAmb IAmb 22 31 02.3
comp=Z,32nm,0.9s
TUL3 Leonard 24.00 347 P **P 22 30 52.2 -0.9**
TUL3 IAmb IAmb 22 31 00.6
comp=Z,54nm,1.0s
HHAR Hobbs 24.02 351 IAmb IAmb 22 30 59.8
comp=Z,30nm,1.0s
DEOK Depew 24.10 346 IAmb IAmb 22 30 54.4
comp=Z,45nm,0.7s
W57A Gilead 24.11 19 IAmb IAmb 22 31 11.4
comp=Z,78nm,1.4s
U49A Red Boiling Sp 24.13 7 IAmb IAmb 22 31 01.6
comp=Z,28nm,0.7s
U38A Gravette 24.25 350 IAmb IAmb 22 30 58.1
comp=Z,33nm,1.1s
OK029 Liberty Lake 24.30 344 P **P 22 30 54.6 -1.3**
V55A Taylorsville 24.40 16 IAmb IAmb 22 31 06.3
comp=Z,31nm,0.9s
T45A Paducah 24.42 1 P **P 22 30 56.4 -0.6**
T47A Sharon Grove 24.47 4 IAmb IAmb 22 30 58.0
comp=Z,57nm,0.8s
TZTN Tazewell 24.51 11 IAmb IAmb 22 31 28.8
comp=Z,53nm,1.4s
CSTR Hydro, Custer 24.52 342 P **P 22 30 57.5 -0.4**
MSTX Muleshoe 24.59 333 IAmb IAmb 22 30 59.4
comp=Z,67nm,1.0s
MGMO Mountain Grove 24.68 355 IAmb IAmb 22 31 01.6
comp=Z,50nm,0.8s
T50A Nancy 24.76 9 IAmb IAmb 22 31 08.2
comp=Z,64nm,1.9s
U54A Nelsons Funny 24.87 15 IAmb IAmb 22 31 09.8
comp=Z,54nm,0.9s
V58A Windy Hill, Pi 24.98 20 P **P 22 31 00.6 -1.5**
V58A IAmb IAmb 22 31 11.5
comp=Z,38nm,0.9s
U56A King 25.10 17 IAmb IAmb 22 31 06.1
comp=Z,28nm,0.8s
CROK Carrier 25.11 344 IAmb IAmb 22 31 03.8
comp=Z,61nm,0.9s
T35A Sooner Cattle 25.13 347 IAmb IAmb 22 31 04.7
comp=Z,34nm,1.0s
OK038 West end E0370 25.30 342 P **P 22 31 04.2 -0.8**
FVM French Village 25.39 358 IAmb IAmb 22 31 08.6
comp=Z,29nm,0.8s
USIN University of 25.40 3 IAmb IAmb 22 31 12.8
comp=Z,37nm,0.8s
OK032 Salt Plains WL 25.45 343 IAmb IAmb 22 31 07.0
comp=Z,44nm,0.9s
KAN13 South Haven SW 25.45 345 IAmb IAmb 22 31 06.6
comp=Z,38nm,0.7s
NOKA Waynoka 25.51 342 P **P 22 31 05.6 -1.2**
TBTG Tabatinga, AM 25.51 129 *eP* **P 22 31 10.1 +3.1**
KAN14 Manchester OK 25.53 344 IAmb IAmb 22 31 14.9
comp=Z,40nm,1.1s
KAN17 Caldwell West 25.56 344 IAmb IAmb 22 31 08.6
comp=Z,60nm,1.0s
WCI Wyandotte Cave 25.77 6 P **P 22 31 08.0 -1.2**
WCI IAmb IAmb 22 31 17.1
comp=Z,39nm,0.8s
KAN08 Anthony NE Sta 25.79 344 IAmb IAmb 22 31 18.1
comp=Z,49nm,1.0s
R40A Maddies Statio 25.81 355 IAmb IAmb 22 31 11.9
comp=Z,36nm,0.9s
KAN12 Harper NE Stat 25.86 344 IAmb IAmb 22 31 10.4
comp=Z,67nm,1.1s
BLA Blacksburg 25.89 17 IAmb IAmb 22 31 43.1
comp=Z,29nm,1.0s
CZSB Cruzeiro do Su 26.08 140 P **P 22 31 14.6 +2.4**
CZSB Cruzeiro do Su 26.08 140 *eP* **P 22 31 15.5 +3.3**
OLIL Olney 26.15 2 P **P 22 31 11.1 -1.5**
OLIL IAmb IAmb 22 31 38.5
comp=Z,26nm,0.8s
319A Douglas 26.23 319 IAmb IAmb 22 31 27.3
comp=Z,59nm,1.2s
T59A Double "B" Far 26.59 22 IAmb IAmb 22 31 18.2
comp=Z,37nm,0.8s
RTBA Rita Blanca 26.68 336 IAmb IAmb 22 31 18.8
comp=Z,42nm,0.9s
BLO Bloomington 26.68 5 IAmb IAmb 22 31 24.1
comp=Z,22nm,0.9s
SBM South Baldy 26.81 326 P **P 22 31 20.3 +1.2**
Q51A Peebles 26.96 10 IAmb IAmb 22 31 26.9
comp=Z,24nm,0.8s
R55A Marlinton 26.98 16 IAmb IAmb 22 31 31.8
comp=Z,29nm,1.1s
P40A Paris 27.02 356 IAmb IAmb 22 31 31.3
comp=Z,44nm,0.8s
P43A Skaggs, Pawnee 27.03 360 IAmb IAmb 22 31 21.1
comp=Z,46nm,1.1s
P46A Rosedale 27.08 4 IAmb IAmb 22 31 28.6
comp=Z,22nm,0.9s
Q52A Bidwell 27.11 12 IAmb IAmb 22 31 23.5
comp=Z,22nm,1.0s
R32A Long Quarter, 27.11 344 IAmb IAmb 22 31 22.0
comp=Z,35nm,1.0s
ANMO Albuquerque 27.16 328 P **P 22 31 22.4 +0.4**
ANMO Albuquerque 27.16 328 P **P 22 31 22.0 -0.1**
comp=Z,2.0nm,0.7s,baz=306,slow=12,SNR=7.9
ANMO PcP **PcP 22 34 43.5 +1.1**
comp=Z,1.8nm,0.9s,baz=314,slow=4.2,SNR=4.2
comp=Z,2.0nm,0.7s
P38A Dawn 27.26 353 IAmb IAmb 22 31 24.5
comp=Z,25nm,0.7s
CBN Corbin Frederi 27.75 21 IAmb IAmb 22 31 35.5
comp=Z,46nm,0.8s
CBKS Cedar Bluff 27.76 343 IAmb IAmb 22 31 28.1
comp=Z,41nm,0.9s
P53A Whipple 27.80 13 IAmb IAmb 22 31 35.8
comp=Z,24nm,1.0s
TUC Tucson 27.80 319 P **P 22 31 29.1 +1.4**
TUC IAmb IAmb 22 31 35.1
comp=Z,23nm,0.8s
O48B Farmland 27.90 7 P **P 22 31 26.2 -2.1**
HDIL Hopedale 27.94 0 IAmb IAmb 22 31 29.0
comp=Z,47nm,1.0s
Q56A Snyder Ridge, 27.95 17 IAmb IAmb 22 31 37.9
comp=Z,34nm,1.3s
T25A Trinidad 27.97 334 IAmb IAmb 22 31 32.9
comp=Z,30nm,0.9s
O52A Adamsville 28.30 12 IAmb IAmb 22 31 39.7
comp=Z,25nm,1.0s
N38A Joes South For 28.38 354 IAmb IAmb 22 31 32.9
comp=Z,22nm,0.8s
O53A New Philadelph 28.57 13 P **P 22 31 32.0 -2.3**
O53A IAmb IAmb 22 31 42.1
comp=Z,21nm,0.9s
O54A Avella 28.70 15 IAmb IAmb 22 31 42.6
comp=Z,19nm,0.8s
P57A Homestead Farm 28.70 19 IAmb IAmb 22 31 43.7
comp=Z,19nm,0.7s
N35A Tabor 28.77 350 IAmb IAmb 22 31 42.3
comp=Z,42nm,0.8s
SDCO Great Sand Dun 28.96 333 P **P 22 31 38.8 +0.7**
TEFE Tefe 29.32 121 *eP* **P 22 31 41.9 +0.6**
M50A Fremont 29.32 10 IAmb IAmb 22 31 48.3
comp=Z,36nm,0.7s
SCIA State Center 29.48 354 IAmb IAmb 22 31 42.6
comp=Z,18nm,0.8s
113A Mohawk Valley, 30.06 316 P **P 22 31 49.7 +2.0**
BOAV Boa Vista 30.32 107 *eP* **P 22 31 51.4 +1.3**
LUPA Lehigh Univers 30.59 21 IAmb IAmb 22 31 60.0
comp=Z,18nm,0.9s
ISCO Idaho Springs 30.72 335 IAmb IAmb 22 32 02.0
comp=Z,23nm,1.4s
PV15 Paradox Valley 30.83 330 P **P 22 31 54.8 +0.1**
PV15 **PcP 22 34 53.6 +1.9**
BRIGG Briggsdale 30.89 338 IAmb IAmb 22 31 57.0
comp=Z,46nm,1.0s
PV11 David Mesa, Pa 30.99 329 IAmb IAmb 22 32 00.4
comp=Z,25nm,0.8s
PV10 Paradox Valley 31.13 329 IAmb IAmb 22 31 60.0
comp=Z,28nm,0.9s
BLYC Blythe 31.16 317 P **P 22 31 59.1 +1.8**
I40A Norwalk 31.29 358 IAmb IAmb 22 32 01.0
comp=Z,24nm,0.9s
W13A Hualapai Mount 31.57 320 P **P 22 32 02.6 +1.3**
HMU Henry Mountain 31.68 327 IAmb IAmb 22 32 13.2
comp=Z,17nm,1.2s
ECSD EROS Data Cent 31.73 350 IAmb IAmb 22 32 09.1
comp=Z,12nm,0.8s
H43A Windswept, Lux 31.89 2 IAmb IAmb 22 32 03.4
comp=Z,26nm,0.8s
O20A White River Ci 32.14 332 IAmb IAmb 22 32 17.9
comp=Z,18nm,1.1s
KNB Kanab 32.19 323 IAmb IAmb 22 32 24.0
comp=Z,28nm,1.5s
PKCU Pink Cliffs 32.19 324 IAmb IAmb 22 32 10.5
comp=Z,25nm,1.3s
PFO Pinyon Flats O 32.39 315 P **P 22 32 09.8 +1.3**
PFO IAmb IAmb 22 32 19.4
comp=Z,22nm,1.4s
PFO Pinyon Flats O 32.39 315 P **P 22 32 09.7 +1.3**
comp=Z,1.6nm,0.5s,baz=123,slow=11,SNR=5.4
comp=Z,1.6nm,0.5s
PFO Pinyon Flats O 32.39 315 P **P 22 32 09.6 +1.2**
MACA Manacapuru-AM 32.51 117 P **P 22 32 09.3 -0.1**
MACA Manacapuru-AM 32.51 117 *eP* **P 22 32 10.8 +1.3**
V12A Nelson 32.58 320 P **P 22 32 10.0 +0.1**
V12A IAmb IAmb 22 32 13.5
comp=Z,26nm,0.9s
SHPR Sheep Range 33.26 320 P **P 22 32 18.3 +2.3**
SHPR PcP **PcP 22 34 59.8 +1.6**
SAML Samuel 33.67 128 P **P 22 32 18.8 -0.8**
SAML IAmb IAmb 22 32 20.5
comp=Z,21nm,0.9s
SAML Samuel 33.67 128 *eP* **P 22 32 19.9 +0.3**
PRN Pahroc Range 33.77 322 IAmb IAmb 22 32 34.8
comp=Z,28nm,1.7s
PSUT Pine Spring 33.82 324 P **P 22 32 21.5 +0.6**
GWY Greenwater Val 34.02 319 IAmb IAmb 22 32 36.8
comp=Z,20nm,1.5s
TPNV Topopah Spring 34.22 320 P **P 22 32 25.4 +1.1**
TPNV IAmb IAmb 22 32 30.5
comp=Z,9.6nm,0.8s
TPNV PcP **PcP 22 35 02.9 +1.9**
S11A Rachel 34.35 321 IAmb IAmb 22 32 41.5
comp=Z,31nm,1.1s
SPR3 Spring Creek 3 34.41 324 P **P 22 32 27.3 +1.2**
SPR3 PcP **PcP 22 35 01.9 +0.3**
LONY Lake Ozonia 34.44 19 IAmb IAmb 22 32 25.5
comp=Z,19nm,1.1s
PD31 Pinedale Array 34.84 334 IAmb IAmb 22 32 53.5
comp=Z,20nm,1.6s
PDAR Pinedale Array 34.84 334 P **P 22 32 29.0 -0.8**
comp=Z,1.6nm,0.8s,baz=130,slow=9.2,SNR=8.8
PDAR PcP **PcP 22 35 03.3 +0.6**
comp=Z,1.0nm,0.6s,baz=165,slow=6.4,SNR=5.4
PDAR ScP **ScP 22 38 50.7 +3.1**
comp=Z,0.5nm,0.7s,baz=265,slow=0.5,SNR=4.0
PDAR LR LR 22 49 49.5
comp=Z,234nm,18.6s,baz=127,slow=42
comp=Z,1.6nm,0.8s
HWUT Hardware Ranch 34.85 330 P **P 22 32 29.7 -0.1**
HWUT PcP **PcP 22 35 03.6 +0.9**
LPAZ La Paz 35.52 143 P **P 22 32 36.6 +0.4**
LPAZ IAmb IAmb 22 32 39.0
comp=Z,40nm,1.9s
LPAZ La Paz 35.52 143 P **P 22 32 35.8 -0.4**
comp=Z,5.0nm,0.9s,baz=330,slow=9.1,SNR=15
comp=Z,5.0nm,0.9s
LPAZ La Paz 35.52 143 *eP* **P 22 32 37.8 +1.6**
LPAZ La Paz 35.52 143 P **P 22 32 37.5 +1.3**
MNTQ Montreal, Queb 35.53 19 IAmb IAmb 22 32 35.5
comp=Z,19nm,0.8s
AHID Auburn Hatcher 35.53 332 IAmb IAmb 22 32 45.0
comp=Z,10nm,0.8s
HVU Hansel Valley 35.58 329 IAmb IAmb 22 32 42.5
comp=Z,17nm,1.2s
SNOW Snow King Moun 35.92 333 IAmb IAmb 22 32 52.7
comp=Z,22nm,0.7s
TPAW Teton Pass 36.03 333 IAmb IAmb 22 32 51.7
comp=Z,23nm,1.1s
ELK Elko 36.12 326 P **P 22 32 41.2 +0.4**
ELK IAmb IAmb 22 32 48.0
comp=Z,39nm,2.0s
ELK PcP **PcP 22 35 07.9 +1.4**
ELK Elko 36.12 326 LR LR 22 49 39.1
comp=Z,303nm,19.0s,baz=138,slow=40
NV11 Mina Array Sit 36.33 320 P **P 22 32 43.9 +1.5**
NV11 IAmb IAmb 22 32 54.2
comp=Z,27nm,1.3s
NV11 PcP **PcP 22 35 08.5 +1.4**
PB16 IPOC Station P 36.40 147 IAmb IAmb 22 32 48.3
comp=Z,13nm,0.8s
NVAR Mina Array Bea 36.41 320 P **P 22 32 45.2 +1.9**
NVAR PcP **PcP 22 35 07.9 +0.4**
NVAR Mina Array Bea 36.41 320 P **P 22 32 45.7 +2.4**
comp=Z,14nm,0.9s,baz=136,slow=9.0,SNR=41
NVAR PcP **PcP 22 35 09.0 +1.5**
comp=Z,4.9nm,0.7s,baz=132,slow=3.8,SNR=10
NVAR ScP **ScP 22 38 57.2 +3.8**
comp=Z,0.9nm,0.7s,baz=94,slow=1.8,SNR=3.7
NVAR LR LR 22 50 31.1
comp=Z,436nm,18.4s,baz=149,slow=41
comp=Z,14nm,0.9s
LHV Little Huntoon 36.43 320 IAmb IAmb 22 32 47.5
comp=Z,23nm,0.8s
H17A Grant Village 36.59 334 IAmb IAmb 22 33 05.9
comp=Z,31nm,1.5s
RLMT Red Lodge 36.66 336 IAmb IAmb 22 32 58.8
comp=Z,12nm,0.8s
RYN Ryan 36.67 320 IAmb IAmb 22 32 57.0
comp=Z,32nm,1.7s
YFT Old Faithful 36.75 334 IAmb IAmb 22 33 07.8
comp=Z,13nm,0.9s
YNE Yellowstone No 36.86 335 IAmb IAmb 22 32 59.4
comp=Z,16nm,0.8s
YNR Norris Junctio 36.90 334 P **P 22 32 48.2 +0.9**
YNR IAmb IAmb 22 32 54.0
comp=Z,23nm,1.5s
YMR Madison River 36.98 334 IAmb IAmb 22 32 54.1
comp=Z,15nm,0.9s
WAKR Walker 37.17 319 IAmb IAmb 22 33 07.8
comp=Z,35nm,1.5s
ITTB Itaituba 37.44 115 *eP* **P 22 32 52.4 +0.5**
PB11 IPOC Station P 37.50 148 P **P 22 32 53.9 +1.3**
PB11 IAmb IAmb 22 32 55.1
comp=Z,23nm,1.1s
DLMT Dillon 38.23 333 IAmb IAmb 22 33 08.8
comp=Z,28nm,1.4s
VILB Vilhena 38.46 130 P **P 22 32 59.7 -0.9**
VILB Vilhena 38.46 130 *eP* **P 22 33 01.5 +0.9**
NPGB Novo Progresso 39.03 118 *eP* **P 22 33 05.0 -0.4**
LMN Caledonia Moun 39.25 27 IAmb IAmb 22 33 06.7
comp=Z,27nm,0.8s
EGMT Eagleton 39.27 338 IAmb IAmb 22 33 11.9
comp=Z,35nm,1.1s
PLID Pearl Lake 39.60 330 P **P 22 33 09.7 -0.4**
PLID PcP **PcP 22 35 17.1 -0.1**
SIV San Ignacio 39.85 135 LR LR 22 49 07.4
comp=Z,518nm,18.8s,baz=313,slow=36
MSO Missoula 39.96 334 IAmb IAmb 22 33 19.2
comp=Z,45nm,1.9s
BMO Blue Mountains 40.08 329 P **P 22 33 13.8 -0.1**
PDRB Porto dos Gac 40.33 125 *eP* **P 22 33 16.1 -0.1**
CLDB Colider 40.67 123 *eP* **P 22 33 19.0 0.0**
PTLB Pontes e Lacer 40.86 132 P **P 22 33 19.8 -0.7**
PTLB Pontes e Lacer 40.86 132 *eP* **P 22 33 22.3 +1.8**
YBH Yreka Blue Hor 41.09 321 LR LR 22 54 40.1
comp=Z,444nm,18.8s,baz=151,slow=42
J04A Umpqua Nationa 41.63 324 IAmb IAmb 22 33 35.9
comp=Z,23nm,0.8s
NEW Newport 42.46 333 P **P 22 33 32.8 -0.6**
comp=Z,2.0nm,0.7s,baz=120,slow=13,SNR=2.9
NEW LR LR 22 54 47.3
comp=Z,272nm,19.7s,baz=144,slow=41
comp=Z,2.0nm,0.7s
H04A Detroit Lake 42.56 325 IAmb IAmb 22 33 38.5
comp=Z,20nm,0.9s
C09A Chrisman Ranch 42.65 331 IAmb IAmb 22 33 42.7
comp=Z,52nm,2.0s
HOOD Mount Hood Mea 42.67 326 IAmb IAmb 22 33 37.7
comp=Z,31nm,0.9s
FFC Flin Flon 43.27 349 P **P 22 33 38.9 -0.9**
FFC IAmb IAmb 22 33 43.1
comp=Z,42nm,1.6s
FFC Flin Flon 43.27 349 P **P 22 33 39.2 -0.5**
PRPB Paraúapebas 43.52 113 *eP* **P 22 33 42.3 0.0**
TMAB Tom-Au,PA,Br 43.62 107 *eP* **P 22 33 44.8 +1.6**
SALV Santo Antonio 43.70 129 *eP* **P 22 33 44.5 +0.9**
SNDB Serra Nova Dou 44.97 121 *eP* **P 22 33 55.3 +1.3**
LCO Las Campanas 45.06 157 P **P 22 33 55.3 +0.6**
LCO IAmb IAmb 22 33 57.2
comp=Z,17nm,0.9s
LCO Las Campanas 45.06 157 P **P 22 33 56.5 +1.7**
AC05 El Transito 45.07 156 P **P 22 33 56.1 +1.5**
AC05 IAmb IAmb 22 33 57.3
comp=Z,18nm,1.0s
BDQN Bodoquena, MS 45.88 135 *eP* **P 22 34 01.9 +0.9**
MURT Porto Murtinho 46.12 137 *eP* **P 22 34 03.1 +0.2**
LLLB Lillooet 46.31 332 P **P 22 34 04.0 -0.1**
LLLB IAmb IAmb 22 34 15.4
comp=Z,20nm,1.3s
ARAG Araguaiana, MT 46.58 126 *eP* **P 22 34 06.2 -0.5**
AQDB Aquidauana 46.62 134 IAmb IAmb 22 34 13.5
comp=Z,20nm,1.0s
AQDB Aquidauana 46.62 134 *eP* **P 22 34 08.0 +1.1**
SMTB Santa Maria do 46.67 115 *eP* **P 22 34 07.8 +0.4**
H03N2 Juan Fernandez 46.77 168 T T 23 24 08.6
baz=346,slow=76,SNR=7.1
H03N1 Juan Fernandez 46.77 168 T T 23 24 09.7
baz=346,slow=76,SNR=10
H03N3 Juan Fernandez 46.78 168 T T 23 24 08.6
baz=346,slow=76,SNR=13
AMBA Amambai (Brazi 48.75 136 *eP* **P 22 34 23.9 +0.5**
SJPY San Joaquin 49.45 139 *eP* **P 22 34 29.2 +0.5**
BO04 La Punta 49.58 159 IAmb IAmb 22 34 31.7

comp=Z,32nm,1.3s
LMEL Las Melosas 49.59 159 IAmb IAmb 22 34 32.5
comp=Z,19nm,1.0s
BDFB Brasilia 49.60 123 P **P** **22 34 29.0 -1.1**
comp=Z,3.4nm,0.7s,baz=257,slow=14,SNR=5.1
BDFB PcP **PcP** **22 35 53.4 +1.7**
comp=Z,3.2nm,0.7s,baz=282,slow=8.1,SNR=2.3
comp=Z,3.4nm,0.7s
CPUP Villa Florida 49.64 141 IAmb IAmb 22 34 31.6
comp=Z,29nm,1.5s
CPUP Villa Florida 49.64 141 P **P** **22 34 30.3 +0.1**
comp=Z,7.1nm,0.9s,baz=329,slow=7.5,SNR=9.9
comp=Z,7.1nm,0.9s
CPUP Villa Florida 49.64 141 *e*P **P** **22 34 31.7 +1.6**
CPUP Villa Florida 49.64 141 P **P** **22 34 30.2 +0.1**
BO01 Tunca 49.79 160 P **P** **22 34 31.6 +0.5**
BO02 Sierra Bellavi 50.25 160 P **P** **22 34 35.6 +0.8**
BO02 IAmb IAmb 22 34 51.2
comp=Z,32nm,1.4s
ML02 Panimavida 50.93 161 P **P** **22 34 40.5 +0.7**
BI02 San Fabin de 51.81 161 IAmb IAmb 22 35 00.2
comp=Z,16nm,0.9s
ITQB Itaqui 52.52 144 *e*P **P** **22 34 52.6 +0.9**
YKA Yellowknife Ar 53.07 346 P **P** **22 34 54.5 -0.9**
comp=Z,11nm,0.9s,baz=147,slow=7.8,SNR=96
YKA PcP **PcP** **22 36 04.6 +1.0**
comp=Z,0.9nm,0.6s,baz=150,slow=4.1,SNR=1.4
YKA ScP **ScP** **22 40 02.4 +1.8**
comp=Z,0.2nm,0.7s,baz=138,slow=4.6,SNR=3.0
comp=Z,11nm,0.9s
TBOT Tacuaremb 54.41 145 *e*P **P** **22 35 07.0 +1.4**
DIAM Diamantina, MG 54.52 123 *e*P **P** **22 35 07.1 +0.2**
TAOE Nuku Hiva Isla 54.69 250 *e*S **S** **22 42 45.5 -2.6**
comp=Z,162nm,25.7s
TAOE *e*LR LR 22 50 47.6
comp=Z,124nm,20.7s
LR05 Currie 54.90 164 P **P** **22 35 09.4 +0.4**
PLCA Paso Flores 55.78 163 IAmb IAmb 22 35 17.4
comp=Z,15nm,1.0s
PLCA Paso Flores 55.78 163 P **P** **22 35 16.2 +0.9**
comp=Z,6.1nm,0.8s,baz=340,slow=9.4,SNR=11
comp=Z,6.1nm,0.8s
PLCA Paso Flores 55.78 163 *e*P **P** **22 35 17.1 +1.7**
PLCA Paso Flores 55.78 163 P **P** **22 35 16.9 +1.5**
PLTB Pedras Altas 55.81 143 IAmb IAmb 22 35 16.7
comp=Z,11nm,0.8s
PLTB Pedras Altas 55.81 143 *e*P **P** **22 35 16.6 +0.9**
WRGLY Wrigley 56.06 342 IAmb IAmb 22 35 32.8
comp=Z,16nm,1.2s
RCBR Riachuelo 56.22 106 *e*P **P** **22 35 20.6 +1.6**
RCBR Riachuelo 56.22 106 P **P** **22 35 20.4 +1.4**
TRQA Tornquist 56.49 154 P **P** **22 35 20.5 +0.1**
CMC01 Camacan, BA 56.62 118 *e*P **P** **22 35 22.3 +0.6**
RKT Rikitea 56.94 232 *e*LR LR 22 52 08.0
comp=Z,778nm,30.0s
NBAN Anadia - AL 57.20 110 *e*P **P** **22 35 26.3 +0.3**
RIB01 Linhares ES 57.72 123 *e*P **P** **22 35 29.9 +0.4**
N32M Quiet Lake 57.94 337 IAmb IAmb 22 35 31.6
comp=Z,9.5nm,0.8s
MMPY Sheldon Lake, 58.19 339 IAmb IAmb 22 37 14.5
comp=Z,34nm,1.9s
M29M Somme Creek 60.78 336 IAmb IAmb 22 35 51.4
comp=Z,8.9nm,0.8s
I30M Mount Dempster 61.58 339 IAmb IAmb 22 35 56.2
comp=Z,9.4nm,1.2s
F30M Barrier River 62.81 342 IAmb IAmb 22 36 18.8
comp=Z,13nm,0.8s
ISOG Isortoq, Green 62.97 21 *i* P **P** **22 36 02.0 -2.7**
ISOG IAmb IAmb 22 36 02.8
comp=Z,14nm,0.8s
K27K Chicken 63.00 337 IAmb IAmb 22 36 06.2
comp=Z,30nm,1.9s
G29M Pine Creek 63.10 341 IAmb IAmb 22 37 11.3
comp=Z,21nm,1.4s
A36M Sachs Harbour 63.21 348 IAmb IAmb 22 36 16.1
comp=Z,11nm,0.9s
ANGG Ammassalik, Gr 63.48 21 *i* P **P** **22 36 05.1 -2.9**
ANGG IAmb IAmb 22 36 06.2
comp=Z,25nm,0.8s
DOT Dot Lake 63.60 336 P **P** **22 36 08.5 -0.5**
J26L Joseph Creek 63.80 337 IAmb IAmb 22 36 13.7
comp=Z,17nm,1.5s
H27K Steamboat Moun 63.91 339 IAmb IAmb 22 36 12.1
comp=Z,9.6nm,1.1s
RIDG Independent Ri 63.95 336 IAmb IAmb 22 36 14.4
comp=Z,19nm,1.5s
I26K Coal Creek Min 64.03 338 IAmb IAmb 22 36 21.8
comp=Z,20nm,1.6s
G27K Doyon Strip 64.25 340 IAmb IAmb 22 36 13.8
comp=Z,22nm,1.9s
J25K Salcha River, 64.54 337 IAmb IAmb 22 36 17.6
comp=Z,25nm,1.7s
KULLO Kullorsuaq 64.63 9 *i* P **P** **22 36 13.8 -1.7**
KULLO IAmb IAmb 22 36 14.7
comp=Z,4.2nm,0.8s
ICESG Greenland Ices 64.71 18 *i* P **P** **22 36 13.4 -3.1**
ICESG IAmb IAmb 22 36 14.6
comp=Z,20nm,0.9s
GHO Glory Hole Cre 64.86 333 IAmb IAmb 22 36 18.6
comp=Z,8.7nm,0.8s
E27K Coleen River 64.95 341 IAmb IAmb 22 36 18.8
comp=Z,41nm,2.0s
HDA Harding Lake 65.07 336 IAmb IAmb 22 36 18.6
comp=Z,10nm,1.1s
IL31 65.20 337 P **P** **22 36 18.1 -1.2**
IL31 IAmb IAmb 22 36 24.8
comp=Z,17nm,1.4s
ILAR Eielson Array 65.20 337 P **P** **22 36 19.0 -0.4**
comp=Z,4.3nm,1.0s,baz=122,slow=4.7,SNR=28
ILAR LR LR 23 11 38.5
comp=Z,142nm,19.8s,baz=108,slow=42
comp=Z,4.3nm,1.0s
KDAK Kodiak Island 65.30 328 LR LR 23 04 04.1
comp=Z,130nm,21.6s,baz=311,slow=35
RND Reindeer 65.44 335 IAmb IAmb 22 36 22.2
comp=Z,14nm,0.9s
CCB Clear Creek Bu 65.51 336 IAmb IAmb 22 36 21.2
comp=Z,16nm,1.8s
F26K Sheenjek River 65.54 340 IAmb IAmb 22 36 22.9
comp=Z,18nm,1.8s
MCK McKinley 65.60 335 IAmb IAmb 22 36 27.6
comp=Z,16nm,1.3s
F25K Christian Rive 66.00 340 IAmb IAmb 22 36 34.9
comp=Z,17nm,1.4s
H24K Noodor Dome 66.03 337 IAmb IAmb 22 36 37.7
comp=Z,19nm,1.6s
TRF Thorofare Moun 66.06 335 IAmb IAmb 22 36 25.8
comp=Z,7.9nm,0.9s
SKT Skwentna 66.09 333 P **P** **22 36 24.2 -0.9**
SKT IAmb IAmb 22 36 34.7
comp=Z,24nm,1.4s
E25K Arctic Village 66.21 340 IAmb IAmb 22 36 27.3
comp=Z,41nm,2.0s
I23K Minto, Yukon-K 66.32 336 IAmb IAmb 22 36 27.5
comp=Z,10nm,0.9s
KTH Kantishna Hill 66.36 335 IAmb IAmb 22 36 27.3
comp=Z,8.5nm,0.9s
PPT2 Papeete2 66.49 244 *e*S **S** **22 45 18.7 -0.2**
comp=Z,84nm,24.8s
PPT2 Papeete2 66.49 244 *e*LR LR 22 56 21.4
comp=Z,107nm,21.8s
PPT2 *e*LR LR 22 56 21.8
comp=Z,137nm,27.2s
BPAW Bear Paw Mtn. 66.58 335 IAmb IAmb 22 36 28.6
comp=Z,8.2nm,0.8s
F24K Squaw Lake 66.73 339 IAmb IAmb 22 37 07.8
comp=Z,22nm,1.9s
CAST Castle Rocks 66.81 334 IAmb IAmb 22 36 42.6
comp=Z,25nm,1.6s
SUMG Summit 67.02 15 P **P** **22 36 29.6 -1.8**
SUMG IAmb IAmb 22 36 39.9
comp=Z,11nm,0.8s
SUMG Summit 67.02 15 *i* P **P** **22 36 30.0 -1.4**
SUMG IAmb IAmb 22 36 33.0
comp=Z,27nm,1.4s
D25K Kavik River 67.03 341 IAmb IAmb 22 36 32.2
comp=Z,11nm,0.9s
COLD Coldfoot 67.44 338 IAmb IAmb 22 36 35.5
comp=Z,8.6nm,1.0s
EUNU Eureka 67.58 1 IAmb IAmb 22 36 37.5
comp=Z,8.1nm,0.8s
K20K Telida 67.64 334 IAmb IAmb 22 36 34.7
comp=Z,26nm,1.7s
D24K Happy Valley 67.74 341 IAmb IAmb 22 36 39.3
comp=Z,30nm,1.9s
TOLK Toolik Lake Re 67.78 340 P **P** **22 36 35.6 -0.3**
NEEM North Greenlan 67.82 8 *i* P **P** **22 36 34.3 -2.0**
NEEM IAmb IAmb 22 36 37.5
comp=Z,23nm,1.1s
J20K Nowinta River 67.92 335 IAmb IAmb 22 36 37.4
comp=Z,17nm,1.8s
I20K Naaghedeneel 68.24 335 IAmb IAmb 22 36 39.1
comp=Z,17nm,0.8s
D23K Nanushuk River 68.28 340 IAmb IAmb 22 36 42.4
comp=Z,32nm,1.9s
TTA Tatalina 68.36 333 IAmb IAmb 22 37 05.2
comp=Z,20nm,1.8s
J19K Poorman 68.48 334 IAmb IAmb 22 36 53.2
comp=Z,15nm,1.5s
C23K Itkillik River 68.60 341 IAmb IAmb 22 36 42.1
comp=Z,12nm,0.9s
F21K Alatna River 68.63 338 IAmb IAmb 22 36 42.7
comp=Z,12nm,0.8s
TBI Tubuai 68.69 239 *e*S S 22 45 32.9 -12
comp=Z,696nm,22.5s
TBI Tubuai 68.69 239 *e*LR LR 22 57 23.8
comp=Z,467nm,26.2s
D22K Ayikyak River 68.92 340 IAmb IAmb 22 36 44.3
comp=Z,35nm,1.9s
E21K Killik River 69.21 339 IAmb IAmb 22 37 06.1
comp=Z,12nm,1.4s
F20K Avaraart Lake 69.40 337 P **P** **22 36 45.6 -0.4**
F20K IAmb IAmb 22 36 55.9
comp=Z,13nm,1.4s
B22K Teshekpuk Lake 69.68 341 IAmb IAmb 22 36 58.8
comp=Z,8.5nm,0.9s
D20K Etivluk River 70.22 339 IAmb IAmb 22 37 01.0
comp=Z,9.7nm,1.1s
BBTS Babate 70.59 79 LR LR 23 01 57.1
comp=Z,120nm,21.0s,baz=156,slow=31
M14K Bethel 70.65 330 IAmb IAmb 22 36 55.3
comp=Z,15nm,0.9s
D19K Kuna River 70.68 339 IAmb IAmb 22 37 02.8
comp=Z,17nm,1.6s
K15K Wolf Creek Mou 70.71 332 P **P** **22 36 53.6 -0.5**
K15K IAmb IAmb 22 36 56.2
comp=Z,7.5nm,0.8s
SCO Scoresbysund 70.83 19 *i* P **P** **22 36 52.8 -1.9**
SCO IAmb IAmb 22 36 54.8
comp=Z,4.2nm,1.1s
ALE Alert 70.88 4 P **P** **22 36 53.1 -1.7**
DBG Daneborg 72.46 15 *i* P **P** **22 37 08.4 +4.0**
DBG IAmb IAmb 22 37 13.0
comp=Z,7.2nm,0.7s
NOR Nord 75.20 8 *i* P **P** **22 37 18.5 -1.9**
NOR IAmb IAmb 22 37 22.4
comp=Z,16nm,1.5s
EKA Eskdalemuir Ar 77.70 36 P **P** **22 37 31.8 -3.2**
comp=Z,2.0nm,0.8s,baz=262,slow=5.0,SNR=3.6
comp=Z,2.0nm,0.8s
ESDC Sonseca Array 78.66 52 P **P** **22 37 36.2 -4.6**
comp=Z,0.8nm,0.7s,baz=285,slow=4.9,SNR=4.9
comp=Z,0.8nm,0.7s
SPITS Spitsbergen Ar 81.04 12 P **P** **22 37 51.6 -1.2**
comp=Z,8.1nm,0.9s,baz=222,slow=1.1,SNR=8.0
comp=Z,8.1nm,0.9s
DBIC Dimbokro 83.29 85 P **P** **22 38 04.1 -1.7**
comp=Z,5.4nm,0.8s,baz=126,slow=6.4,SNR=6.4
comp=Z,5.4nm,0.8s
BILL Bilibino 83.77 338 P **P** **22 38 06.0 -1.3**
BILL IAmb IAmb 22 38 08.5
comp=Z,8.3nm,0.9s
NOA NORSAR Array B 84.25 29 P **P** **22 38 07.7 -2.1**
comp=Z,0.6nm,0.8s,baz=286,slow=4.9,SNR=3.6
comp=Z,0.6nm,0.8s
HFS Hagfors 85.68 29 P **P** **22 38 12.8 -4.2**
comp=Z,2.1nm,0.8s,baz=42,slow=4.5,SNR=1.9
comp=Z,2.1nm,0.8s
ARCES ARCESS Array B 86.75 19 P **P** **22 38 18.4 -3.7**
comp=Z,2.7nm,1.0s,baz=333,slow=4.1,SNR=4.4
comp=Z,2.7nm,1.0s
TUE Stuetta 86.98 43 P **P** **22 38 22.0 -2.0**
comp=Z,24nm,1.1s
DAVA Damuels 87.12 42 *e*P **P** **22 38 21.3 -3.3**
comp=Z,6.1nm,1.2s
DAVOX Davos/Dischmat 87.26 43 LR LR 23 12 11.6
comp=Z,90nm,18.4s,baz=281,slow=32
FUORN Ofenpass-Fuorn 87.55 43 P **P** **22 38 24.1 -2.8**
RETA Reutte 87.65 42 *e*P **P** **22 38 25.3 -1.7**
comp=Z,3.8nm,0.9s
MOTA Moosalm 87.91 42 *e*P **P** **22 38 25.2 -3.2**
comp=Z,3.9nm,1.4s
SQTA Sankt Quirin 88.01 42 *e*P **P** **22 38 25.1 -3.7**
comp=Z,7.5nm,1.7s
TORD Torodi Ar. Bea 88.27 77 P **P** **22 38 28.1 -2.4**
comp=Z,41nm,0.3s,baz=293,slow=5.1,SNR=1.3
GERES GERESS Array B 89.14 40 P **P** **22 38 32.1 -2.0**
comp=Z,0.7nm,0.8s,baz=272,slow=5.7,SNR=6.8
comp=Z,0.7nm,0.8s
FINES FINESS Array B 90.76 26 P **P** **22 38 39.8 -1.5**
comp=Z,3.4nm,1.0s,baz=251,slow=8.4,SNR=1.6
FINES LR LR 23 18 09.6
comp=Z,65nm,19.8s,baz=294,slow=35
comp=Z,3.4nm,1.0s
VRAC Vranov 90.78 39 LR LR 23 17 27.3
comp=Z,142nm,18.1s,baz=292,slow=34
TIXI Tiksi 92.22 349 P **P** **22 38 46.1 -1.7**
TIXI IAmb IAmb 22 38 47.8
comp=Z,5.6nm,1.1s
TIXI Tiksi 92.22 349 LR LR 23 25 39.4
comp=Z,110nm,18.5s,baz=19,slow=39
VAE Valguarnera 93.17 51 LR LR 23 16 14.3
comp=Z,240nm,18.1s,baz=314,slow=33
MA2 Magadan 93.55 334 LR LR 23 29 03.0
comp=Z,49nm,18.8s,baz=96,slow=41
BELA Belgrano 2 95.23 170 P **P** **22 39 01.0 -0.5**
BELA IAmb IAmb 22 39 04.3
comp=Z,7.9nm,1.2s
AKASG Malin Array Be 97.56 34 LR LR 23 22 31.2
comp=Z,109nm,19.3s,baz=294,slow=35
MLR Muntele Rosu 98.12 40 LR LR 23 20 42.7
comp=Z,67nm,19.5s,baz=294,slow=34
NRIK Noril'sk 98.34 1 LR LR 23 26 16.9
comp=Z,172nm,18.9s,baz=6.5,slow=37
YAK Yakutsk 99.65 342 LR LR 23 34 20.0
comp=Z,120nm,18.2s,baz=45,slow=41
SNAA Sanae 100.70 161 P **Pdif** **22 39 25.6 -0.6**
comp=Z,1.5nm,0.8s,baz=258,slow=4.1,SNR=2.3
QSPA South Pole Qui 102.47 180 P **Pdif** **22 39 35.5 +1.3**
comp=Z,0.9nm,1.0s,baz=15,slow=9.9,SNR=1.4
DZM Mont Dzumac 107.56 251 *e*LR LR 23 15 32.7
comp=Z,626nm,26.4s
BVAR Borovoye Array 112.47 13 PP **PP** **22 44 56.8 -2.7**
comp=Z,0.8nm,0.7s,baz=338,slow=6.7,SNR=3.8
ZALV Zalesovo Beam 113.63 4 PP **PP** **22 45 05.6 -2.1**
comp=Z,1.8nm,0.7s,baz=350,slow=6.0,SNR=5.6
SYO Syowa Base 114.97 162‖ *e*Pdiff **Pdif** **22 40 29.5 -0.1**
SYO Syowa Base 114.97 162‖ *e*pPdiff pPdif 22 40 38.8 +4.2
SYO Syowa Base 114.97 162‖ *e*sPdiff **Pdif** **22 40 42.3 +13**
KURBB Kurchatov Arra 116.26 9 PKP **PKPdf** **22 44 22.2 +0.3**
comp=Z,1.3nm,0.6s,baz=352,slow=1.8,SNR=16
KURBB PP **PP** **22 45 23.3 -3.0**
comp=Z,0.2nm,0.3s,baz=336,slow=6.3,SNR=4.0
BOSA Boshof 117.44 116 PKP **PKiKP** **22 44 25.6 +0.7**
comp=Z,3.8nm,0.9s,baz=211,slow=4.3,SNR=5.4
SONM Songino Array 118.30 348 PKP **PKiKP** **22 44 27.0 +0.9**
comp=Z,1.1nm,0.8s,baz=314,slow=1.2,SNR=9.3
KSRS Korea Array 119.19 326 PKP **PKiKP** **22 44 27.8 -0.1**
comp=Z,1.9nm,0.7s,baz=347,slow=1.6,SNR=7.8
KSAR Wonju Array Be 119.21 326 PKPdf **PKPdf** **22 44 26.1 -1.8**
XLT XiLinHaoTe 119.25 339 *e*PKP **PKiKP** **22 44 34.9 +6.9**
MKAR Makanchi Array 120.51 7 PKPdf **PKPdf** **22 44 30.0 -0.2**
MKAR Makanchi Array 120.51 7 PKP **PKPdf** **22 44 30.0 -0.2**
comp=Z,0.9nm,0.8s,baz=302,slow=2.3,SNR=7.9
KKAR Karatay Array 121.69 17 PKPdf **PKPdf** **22 44 32.6 0.0**
HHC Hu-ho-hao-te 123.47 341 *e*PKP **PKPdf** **22 44 35.6 -0.6**
WMQ Urumqi 123.89 3 *e*PKP **PKPdf** **22 44 36.8 0.0**
WMQ LR LR
comp=Z,100nm,22.1s
TARG Taragay, Kyrgy 124.77 12 PKPdf **PKPdf** **22 44 39.1 0.0**
CHGR Chuyangaron 125.31 21 PKPdf **PKiKP** **22 44 40.0 -0.1**
KSH Kashi 126.49 14 PKP **PKiKP** **22 44 44.3 +1.8**
GTA Gaotai 127.64 351 *e*PKP **PKiKP** **22 44 45.5 +0.7**
NJ2 Nanjing 128.08 329 *e*PKP **PKPdf** **22 44 43.9 -1.2**
STKA Stephens Creek 129.48 239 PKP **PKiKP** **22 44 48.8 +0.3**
comp=Z,1.9nm,0.8s,baz=65,slow=8.0,SNR=4.2
XAN Xi'an 130.53 340 PKP **PKiKP** **22 44 50.6 0.0**
GOMU GeErMu 131.40 355 PKP **PKPdf** **22 44 50.4 -1.4**
ENH Enshi 133.74 337 PKPdf **PKPdf** **22 44 55.7 -0.2**
WRA Warramunga Arr 137.44 254 PKP **PKiKP** **22 45 04.3 -0.5**
comp=Z,4.0nm,0.9s,baz=93,slow=1.8,SNR=19
WRA SKPab **SKPab** **22 48 47.2 +4.2**
comp=Z,1.3nm,0.8s,baz=88,slow=2.8,SNR=5.7
ASAR Alice Springs 137.50 249 PKPdf **PKPdf** **22 45 03.7 +0.7**
ASAR Alice Springs 137.50 249 PKhKP PKPpre 22 44 54.0
comp=Z,0.6nm,0.9s,baz=108,slow=4.1,SNR=5.1
ASAR PKP **PKPdf** **22 45 03.9 +0.8**
comp=Z,1.7nm,0.7s,baz=98,slow=2.0,SNR=14
ASAR SKPab **SKPab** **22 48 47.8 +4.5**
comp=Z,1.0nm,0.9s,baz=87,slow=2.0,SNR=4.8
LSA Lhasa 138.04 359 PKPdf **PKPdf** **22 45 00.2 -4.3**
PZH PanZhiHua 139.74 344 PKP **PKPdf** **22 45 08.0 +0.8**
MYLDM Lahad Datu 147.16 301 PKPbc **PKPbc** **22 45 22.0 -0.6**
HYB Hyderabad 147.98 22 *e*PKPbc **PKPbc** **22 45 24.6 -0.1**
CMAR Chiang Mai Arr 148.15 345 PKPbc **PKPdf** **22 45 22.8 +0.9**
CMAR Chiang Mai Arr 148.15 345 PKPbc **PKPdf** **22 45 23.4 +1.5**
comp=Z,15nm,0.8s,baz=319,slow=2.3,SNR=54
CMAR SKPbc **SKiKP** **22 49 05.6 +3.0**
comp=Z,1.7nm,0.7s,baz=323,slow=2.7,SNR=5.8
PSA00 Pilbara Seismi 150.65 248 PKPbc **PKPbc** **22 45 31.3 +0.1**
RPSI Rantau Prapat 162.78 331 PKPdf **PKPdf** **22 45 42.0 +0.4**

TIR ***08*** *22:44:49.1, 42°.27N×21°.37E, h11km±2km, Md3.3/4, Ml3.1/4*
SKO ***08*** *22:44:49.7, 42°.29N×21°.33E, h19km, ML3.0*
SOF ***08*** *22:44:49.3, 42°.19N±0°.02×21°.41E±0°.02, h2km±5km, MD3.0/10*
PDG ***08*** *22:44:50.5±0.6, 42°.28N×21°.43E, h18km±2km, ML2.8/12, Error ellipse: s-maj=1.7km s-min=2.6km az=0.0*
BEO ***08*** *22:44:50.8±0.3, 42°.29N×21°.40E, h4km±1km, ML2.7/13*
ISC 08 22:44:49.6±1.1, 42°.31N±0°.02×21°.38E±0°.01, h5km±10km, n101, σ1°19/160, 36C-24D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARS	**Barje**	**0.60**	**32**	*i* Pg		**Pb**		**22 45 02.5**	**-0.2**
BARS				*i* Sg		**Sb**		**22 45 11.9**	**+0.4**
BARS	**Barje**	**0.60**	**32**	*e*Pg		**Pb**		**22 45 02.6**	**-0.1**
BARS				*e*Sg		**Sb**		**22 45 11.4**	**-0.1**
BOSS	**Bosilegrad**	**0.84**	**76**	*e*Pg		**Pb**		**22 45 06.4**	**-0.2**
BOSS				*e*Sg		**Sb**		**22 45 17.6**	**-0.6**
PHP	**Peshkopia**	**0.93**	**229**	↑*i*Pg		**Pg**		**22 45 06.8**	**-0.6**
PHP				Sg		**Sg**		**22 45 19.8**	**+0.3**
PHP				AML		AML		22 45 22.0	
	3.3nm,0.3s								
PHP				AMd				22 46 27.9	
SELS	**Selova**	**0.93**	**348**	*e*Pg		**Pb**		**22 45 08.3**	**0.0**
SELS				*e*Sg		**Sn**		**22 45 22.1**	**-1.0**
BCI	**Bajram Curri**	**0.97**	**274**	↑*e*Pg		**Pg**		**22 45 08.3**	**+0.1**
BCI				Sg		**Sn**		**22 45 22.6**	**-1.4**
BCI				AML		AML		22 45 27.4	
	3.0nm,0.4s								
BCI				AMd				22 46 36.0	
TRAN	**Tran**	**1.08**	**60**	Pg		**Pn**		**22 45 11.4**	**0.0**
TRAN				Sg		**Sn**		**22 45 26.8**	**0.0**
PVY	**Plav**	**1.09**	**286**	↓*e*Pg		**Pg**		**22 45 10.3**	**-0.2**
PVY				AMd				22 46 21.9	
PVY	**Plav**	**1.09**	**286**	↑*i*Pg		**Pn**		**22 45 11.2**	**-0.4**
PVY				*i* Sg		**Sn**		**22 45 28.4**	**+1.3**
PUK	**Puka**	**1.13**	**257**	↑*e*Pg		**Pb**		**22 45 11.1**	**-0.6**
PUK				Sg		**Sn**		**22 45 27.4**	**-0.7**
PUK				AML		AML		22 45 32.3	
	1.5nm,0.4s								
PUK				AMd				22 46 32.0	
BEY	**Berane**	**1.23**	**298**	↑*e*Pg		**Pb**		**22 45 13.1**	**-0.2**
BEY	**Berane**	**1.23**	**298**	*i* Pg		**Pb**		**22 45 13.1**	**-0.2**
IVA	**Berane**	**1.23**	**298**	↓*i*Pg		**Pb**		**22 45 13.2**	**-0.2**
IVA				*i* Sg		**Sn**		**22 45 33.6**	**+3.0**
OHR	**Ohrid**	**1.27**	**200**	*i* Pg		**Pb**		**22 45 13.6**	**-0.4**
OHR				*i* Sg		**Sn**		**22 45 32.4**	**+0.9**
OHR				*e*Lg		Lg		22 45 34.2	
	comp=E,333nm,0.6s								
OHR				*e*Lg		Lg		22 45 35.3	
	comp=N,199nm,0.9s								
GOCS	**Kraljevo Serbi**	**1.31**	**344**	*e*Pg		**Pg**		**22 45 14.8**	**+0.1**
GOCS				*e*Sg		**Sg**		**22 45 33.0**	**+1.3**
ZAPS	**Zavoj**	**1.34**	**43**	*e*Pg		**Pg**		**22 45 15.6**	**+0.3**
ZAPS				*e*Sg		**Sg**		**22 45 32.8**	**+0.2**
BOVS	**Bovan**	**1.35**	**10**	↑P		Pg		22 45 22.6	+7.1
BOVS	**Bovan**	**1.35**	**10**	*e*Pg		**Pb**		**22 45 15.1**	**-0.3**
BOVS				*e*Sg		**Sg**		**22 45 33.0**	**0.0**
KKB	**Krupnik**	**1.39**	**109**	P		**Pb**		**22 45 15.3**	**-0.6**
KKB				S		**Sn**		**22 45 33.3**	**-0.9**
KKB	**Krupnik**	**1.39**	**109**	*i* Pg		**Pb**		**22 45 15.3**	**-0.6**
KKB				*i* Sg		**Sg**		**22 45 33.9**	**-0.2**
SJES	**Sjenica**	**1.41**	**313**	*e*Pg		**Pb**		**22 45 16.0**	**-0.4**
SJES				*e*Sg		**Sg**		**22 45 35.7**	**+0.9**
VTS	**Vitosha**	**1.41**	**77**	P		**Pb**		**22 45 16.1**	**-0.4**
VTS				S		**Sg**		**22 45 35.3**	**+0.4**
VTS	**Vitosha**	**1.41**	**77**	*e*Pg		**Pg**		**22 45 16.3**	**-0.3**
VTS				*e*Sg		**Sg**		**22 45 34.8**	**-0.1**
KOME	**Kolasin**	**1.48**	**292**	↑*e*Pn		**Pb**		**22 45 17.3**	**-0.3**
KOME	**Kolasin**	**1.48**	**292**	↓*i*Pg		**Pg**		**22 45 17.8**	**-0.1**
KOME				*i* Sg		**Sg**		**22 45 39.8**	**+2.7**
TIR	**Tirane**	**1.48**	**230**	↓*e*Pn		**Pg**		**22 45 17.9**	**0.0**
TIR				Sn		**Sg**		**22 45 37.9**	**+0.7**
TIR				AML		AML		22 45 44.4	
	comp=N,0.3nm,0.5s								
TIR	**Tirane**	**1.48**	**230**	↑S		**Sg**		**22 45 37.8**	**+0.7**
TIR	**Tirane**	**1.48**	**230**	*e*Pg		**Pg**		**22 45 18.0**	**0.0**
TIR				*e*Sg		**Sg**		**22 45 37.8**	**+0.7**
SOF	**Sofia**	**1.52**	**75**	*e*S		**Sg**		**22 45 40.4**	**+2.0**
PLNA	**Plana**	**1.53**	**83**	P		**Pg**		**22 45 19.4**	**+0.5**
PLNA				S		**Sg**		**22 45 39.3**	**+0.6**
GRG	**Griva**	**1.55**	**150**	*i* Pg		**Pb**		**22 45 17.8**	**-1.0**
IVAS	**Ivanjica**	**1.56**	**325**	*e*Pn		**Pn**		**22 45 17.6**	**-0.4**
IVAS				*e*Sn		**Sg**		**22 45 40.3**	**+0.7**
PDG	**Podgorica**	**1.58**	**275**	↑P		**Pg**		**22 45 20.9**	**+1.1**
PDG	**Podgorica**	**1.58**	**275**	*e*Pg		**Pg**		**22 45 19.9**	**-0.3**
PDG				*e*Sg		**Sg**		**22 45 41.9**	**+1.7**
PDG	**Podgorica**	**1.58**	**275**	↓*i*Pn		**Pg**		**22 45 19.7**	**-0.1**
PDG				*i* Sn		**Sg**		**22 45 41.9**	**+1.7**
ULC	**Ulcinj**	**1.62**	**259**	↑*e*Pn		**Pb**		**22 45 19.8**	**-0.2**
ULC	**Ulcinj**	**1.62**	**259**	*i* Pn		**Pg**		**22 45 20.2**	**-0.4**
ULC	**Ulcinj**	**1.62**	**259**	↓*i*Pn		**Pg**		**22 45 20.4**	**-0.3**
ULC				*i* Sn		**Sg**		**22 45 42.8**	**+1.1**
BLKB	**Belogradchik**	**1.63**	**35**	*e*Pg		**Pg**		**22 45 20.8**	**+0.1**
BLKB				*e*Sg		**Sb**		**22 45 41.0**	**+0.1**
DRME	**Dracevica, Mon**	**1.63**	**267**	↓*e*Pn		**Pg**		**22 45 20.7**	**-0.2**
DRME	**Dracevica, Mon**	**1.63**	**267**	↑*i*Pn		**Pg**		**22 45 21.0**	**+0.2**
DRME				*i* Sn		**Sg**		**22 45 43.6**	**+1.6**
GRUS	**Gruza**	**1.66**	**343**	*e*Pg		**Pb**		**22 45 19.6**	**-0.9**
GRUS				*e*Sg		**Sg**		**22 45 43.8**	**+1.0**
PLE	**Pljevlja**	**1.79**	**306**	↑*e*Pn		**Pb**		**22 45 22.0**	**-0.8**
PLE	**Pljevlja**	**1.79**	**306**	↑*i*Pn		**Pb**		**22 45 22.6**	**-0.2**
PLE				*i* Sn		**Sg**		**22 45 47.1**	**+0.2**
CEME	**Cevo**	**1.84**	**278**	↓*e*Pn		**Pb**		**22 45 23.2**	**-0.5**
CEME	**Cevo**	**1.84**	**278**	↓*i*Pn		**Pb**		**22 45 23.1**	**-0.5**
CEME				*i* Sn		**Sg**		**22 45 48.1**	**-0.5**
BUM	**Brajici-Budva**	**1.84**	**271**	↓*e*Pn		**Pg**		**22 45 24.2**	**-0.7**
BUM	**Brajici-Budva**	**1.84**	**271**	↑*i*Pn		**Pb**		**22 45 23.0**	**-0.8**
BUM				*i* Sn		**Sg**		**22 45 48.0**	**-0.7**
BORS2	**Bor- Borsko je**	**1.84**	**15**	*e*Pn		**Pn**		**22 45 22.2**	**+0.3**
BORS2				*e*Sn		**Sb**		**22 45 46.5**	**-0.7**
NKME	**Niksic**	**1.85**	**285**	↑*e*Pn		**Pg**		**22 45 24.6**	**-0.5**
NKME	**Niksic**	**1.85**	**285**	↓*i*Pn		**Pb**		**22 45 24.2**	**+0.3**
NKME				*i* Sn		**Sg**		**22 45 48.6**	**-0.4**
MMB	**Musomishta**	**1.93**	**112**	P		**Pb**		**22 45 24.0**	**-1.2**
MMB				S		**Sg**		**22 45 51.5**	**+0.1**
MMB	**Musomishta**	**1.93**	**112**	*i* Pn		**Pn**		**22 45 22.9**	**-0.1**
SVIS	**Svilajnac**	**1.96**	**357**	*e*Pn		**Pb**		**22 45 25.9**	**+0.1**
SVIS				*e*Sn		**Sg**		**22 45 52.1**	**-0.5**
UPM	**Unac-Piva**	**2.03**	**297**	↑*e*Pn		**Pn**		**22 45 25.2**	**+0.6**
UPM	**Unac-Piva**	**2.03**	**297**

BAIL	**Bailesti**	**2.24**	**39**	⇑P		**Pg**	**22 45 34.3**	**+1.8**
PUNG	**Punghina**	**2.28**	**29**	⇑P		**Pg**	**22 45 34.1**	**+0.9**
LIT	**Litokhoron**	**2.36**	**159**	*i* Pn		**Pn**	**22 45 28.9**	**-0.1**
AVAS	**Avala Beograd**	**2.47**	**346**	*e*Pn		**Pn**	**22 45 30.6**	**+0.1**
AVAS				*e*Sn		**Sb**	**22 46 03.4**	**-1.8**
MDVR	**Moldovita**	**2.49**	**6**	⇑P		**Pg**	**22 45 37.2**	**-0.1**
PLD	**Plovdiv**	**2.51**	**92**	P		**Pb**	**22 45 32.6**	**-2.5**
PLD				S		**Sg**	**22 46 08.6**	**-1.6**
PLD	**Plovdiv**	**2.51**	**92**	*i* Pn		**Pb**	**22 45 32.6**	**-2.5**
RMGR	**Halanga-Turnu**	**2.54**	**22**	⇑P		**Pg**	**22 45 38.8**	**+0.5**
RZN	**Rozhen**	**2.58**	**103**	P		**Pn**	**22 45 33.5**	**+1.4**
RZN				S		**Sg**	**22 46 13.9**	**+1.5**
TEKS	**Tekeris**	**2.62**	**330**	*e*Pn		**Pn**	**22 45 32.4**	**-0.1**
TEKS				*e*Sn		**Sb**	**22 46 08.2**	**-1.2**
HERR	**Herculane**	**2.68**	**16**	⇓P		**Pg**	**22 45 40.6**	**-0.3**
VLAD	**Vladila**	**2.79**	**52**	⇑P		**Pg**	**22 45 43.2**	**+0.2**
VLAD				⇑S		**Sg**	**22 46 19.3**	**+0.2**
VRSS	**Vrsac**	**2.82**	**359**	*e*Pn		**Pn**	**22 45 34.9**	**-0.3**
VRSS				*e*Sn		**Sb**	**22 46 12.4**	**-2.7**
KDZ	**Kurdzhali**	**3.03**	**102**	S		**Sg**	**22 46 27.6**	**+0.7**
FRGS	**Fruska Gora**	**3.07**	**339**	*e*Pn		**Pn**	**22 45 38.9**	**+0.2**
FRGS				*e*Sn		**Sn**	**22 46 16.5**	**+0.7**
BANR	**Banloc**	**3.08**	**357**	⇑P		**Pg**	**22 45 46.6**	**-2.0**
BANR				⇑S		**Sg**	**22 46 26.7**	**-1.8**
GZR	**Gura Zlata**	**3.25**	**18**	⇑P		**Pb**	**22 45 49.3**	**+1.6**
GZR				⇑S		**Sg**	**22 46 31.4**	**-2.5**
BZS	**Buzias**	**3.31**	**3**	⇑P		**Pb**	**22 45 50.3**	**+1.5**
BZS				⇑S		**Sb**	**22 46 31.8**	**+2.4**
HUMR	**Humele**	**3.44**	**49**	⇑S		**Sb**	**22 46 35.1**	**+2.0**
SURR	**Surduc**	**3.49**	**9**	⇓P		**Pb**	**22 45 52.7**	**+0.9**
SURR				⇓S		**Sb**	**22 46 37.1**	**+2.6**
LOT	**Lotru**	**3.59**	**28**	⇓P		**Pb**	**22 45 54.8**	**+1.3**
LOT				⇓S		**Sb**	**22 46 40.4**	**+3.0**
DEV	**Deva**	**3.74**	**17**	⇓P		**Pb**	**22 45 56.7**	**+0.6**
DEV				⇑S		**Sb**	**22 46 43.7**	**+1.9**
JMB	**Yambol**	**3.82**	**85**	P		**Pn**	**22 45 50.8**	**+1.8**
JMB				*e*S		**Sg**	**22 46 54.6**	**+2.3**
SIRR	**Siria**	**3.97**	**3**	⇓P		**Pb**	**22 45 59.4**	**-0.5**
SIRR				⇓S		**Sb**	**22 46 48.5**	**+0.3**
RAZG	**Razgrad**	**3.97**	**70**	⇑S		**Sb**	**22 46 48.2**	**-0.2**
VOIR		**4.11**	**39**	⇑P		**Pb**	**22 46 01.3**	**-1.0**
MARR	**Marisel-Cluj**	**4.54**	**15**	⇓P		**Pb**	**22 46 07.2**	**-2.6**
DRGR		**4.59**	**12**	⇓P		**Pb**	**22 46 07.5**	**-3.1**
MLR	**Muntele Rosu**	**4.59**	**44**	⇓P		**Pb**	**22 46 07.7**	**-2.8**
DOPR	**Dopca**	**4.66**	**37**	⇑P		**Pb**	**22 46 09.0**	**-2.8**
CJR	**Cluj-Napoca**	**4.69**	**19**	⇑P		**Pb**	**22 46 09.5**	**-2.7**
MESR	**Meseseni**	**4.97**	**12**	⇑P		**Pb**	**22 46 13.7**	**-3.4**
VYHS	**Vyhne**	**6.44**	**345**	*e*PN		**Pn**	**22 46 26.2**	**+1.2**
KOLS	**Kolonicke sedl**	**6.66**	**5**	*e*PN		**Pn**	**22 46 29.2**	**+1.2**

NEIC ***08*** *23:05:53.4±1.8, 15°.60S±0°.07×172°.99W±0°.08, h10km±1km, mb5.2/24, Error ellipse: s-maj=12.5km s-min=11.0km az=114.0*
IDC ***08*** *23:05:54.2±0.6, 15°.52S×173°.51W, h0km, mb4.3/14, mbtmp4.3/14, MS3.8/30, Error ellipse: s-maj=26.5km s-min=16.2km az=130.0*
ISC 08 23:05:57.3±0.4, 15°.65S±0°.06×173°.19W±0°.06, h29km, n114, σ1§42/84, mb5.0/32, MS3.9/30, 3C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.21**	**39**	Pg	**Pn**	**23 06 31.2**	**-0.9**
AFI				Sn	**Sn**	**23 06 53.4**	**-5.1**
NIUE	**Niue**	**4.62**	**138**	Pn	**Pn**	**23 07 04.0**	**-1.2**
NIUE				Sn	**Sn**	**23 07 53.6**	**-4.3**
FUTU	**Fugatoga**	**4.95**	**285**	Pn	**Pn**	**23 07 10.8**	**+1.1**
MSVF	**Nonsavu**	**8.64**	**255**	Pn	Pn	23 08 04.4	+3.8
MSVF	**Nonsavu**	**8.64**	**255**	Pn	Pn	23 08 08.8	+8.2
	1.4nm,0.3s,baz=95,slow=11,SNR=37						
RAR	**Rarotonga**	**13.88**	**115**		Pn	23 09 09.1	-3.1
RAR	**Rarotonga**	**13.88**	**115**	Pn	**Pn**	**23 09 12.2**	**0.0**
	4.3nm,0.3s,baz=277,slow=5.4,SNR=6.2						
RAR				Sn	Sn	23 11 36.6	-8.8
	1.0nm,0.3s,baz=144,slow=16,SNR=1.5						
RAR				LR	LR	23 13 07.5	
	comp=Z,272nm,18.7s,baz=270,slow=30						
PINNC	**Pines Island,**	**19.55**	**246**	P	**Pn**	**23 10 22.9**	**-1.3**
PINNC				IAmb	IAmb	23 10 35.0	
	comp=Z,73nm,1.1s						
DZM	**Mont Dzumac**	**20.29**	**249**	*e*LR	LR	23 15 26.5	
	comp=Z,626nm,26.4s						
DZM	**Mont Dzumac**	**20.29**	**249**	P	**P**	**23 10 30.3**	**-0.7**
	comp=Z,8.8nm,1.0s,baz=61,slow=22,SNR=1.8						
DZM				LR	LR	23 17 04.2	
	comp=Z,448nm,21.8s,baz=54,slow=33						
	comp=Z,8.8nm,1.0s						
PPT	**Papeete**	**22.71**	**98**	LR	LR	23 17 20.1	
	comp=Z,113nm,20.9s,baz=251,slow=30						
PPT2	**Papeete2**	**22.71**	**98**	*e*LR	LR	23 16 16.3	
	comp=Z,394nm,26.0s						
PPT2				*e*LR	LR	23 16 17.7	
	comp=Z,237nm,25.8s						
TBI	**Tubuai**	**23.62**	**113**	*e*LR	LR	23 16 45.4	
	comp=Z,2μm,27.0s						
BKZ	**Black Stump Fm**	**25.12**	**199**	P	**P**	**23 11 19.3**	**-0.5**
BFZ	**Birch Farm**	**26.58**	**198**	P	**P**	**23 11 32.1**	**-0.9**
BFZ				IAmb	IAmb	23 11 54.9	
	comp=Z,93nm,1.4s						
HNR	**Honiara**	**26.92**	**280**	LR	LR	23 20 54.7	
	comp=Z,127nm,20.3s,baz=146,slow=34						
QRZ	**Quartz Range**	**27.98**	**204**	P	**P**	**23 11 46.3**	**+0.7**
QRZ				IAmb	IAmb	23 12 04.1	
	comp=Z,35nm,1.1s						
THZ	**Tophouse**	**28.66**	**202**	P	**P**	**23 11 50.2**	**-1.4**
THZ				IAmb	IAmb	23 11 50.9	
	comp=Z,57nm,1.7s						
GVZ	**Greta Valley S**	**29.67**	**201**	P	**P**	**23 12 00.6**	**0.0**
GVZ				IAmb	IAmb	23 12 27.0	
	comp=Z,50nm,1.1s						
LTZ	**Lake Taylor**	**29.78**	**202**	P	**P**	**23 12 01.3**	**-0.3**
FOZ	**Fox Glacier**	**31.34**	**204**	P	**P**	**23 12 14.9**	**-0.4**
FOZ				IAmb	IAmb	23 12 31.6	
	comp=Z,61nm,1.4s						
TAOE	**Nuku Hiva Isla**	**32.96**	**82**	*e*LR	LR	23 20 56.5	
	comp=Z,252nm,25.2s						
DCZ	**Deep Cove**	**34.01**	**205**	P	**P**	**23 12 38.3**	**-0.3**
DCZ				IAmb	IAmb	23 12 57.2	
	comp=Z,106nm,1.8s						
ARMA	**Armidale**	**35.39**	**239**	P	**P**	**23 12 50.0**	**-0.9**
ARMA				IAmb	IAmb	23 14 11.3	
	comp=Z,54nm,2.0s						
H11S2	**WAKE ISLAND Hy**	**39.28**	**329**	T	T	23 55 28.0	
	baz=149,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**39.29**	**329**	T	T	23 55 19.8	
	baz=149,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**39.30**	**329**	T	T	23 55 04.6	
	baz=149,slow=76,SNR=40						
H11N3	**WAKE ISLAND Hy**	**40.23**	**330**	T	T	23 56 25.7	
	baz=150,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**40.23**	**330**	T	T	23 56 37.0	
	baz=150,slow=76,SNR=37						
H11N2	**WAKE ISLAND Hy**	**40.24**	**330**	T	T	23 56 21.1	
	baz=150,slow=76,SNR=34						
COEN	**Coen**	**42.17**	**266**	P	**P**	**23 13 46.9**	**-0.8**
COEN				IAmb	IAmb	23 13 58.8	
	comp=Z,39nm,1.4s						
STKA	**Stephens Creek**	**44.09**	**240**	P	**P**	**23 14 02.2**	**-0.9**
STKA	**Stephens Creek**	**44.09**	**240**	P	**P**	**23 14 02.1**	**-1.0**
	comp=Z,5.5nm,0.5s,baz=98,slow=12,SNR=7.6						
STKA				LR	LR	23 32 54.6	
	comp=Z,148nm,18.2s,baz=187,slow=37						
	comp=Z,5.5nm,0.5s						
BBOO	**Buckleboo**	**48.86**	**240**	P	**P**	**23 14 39.5**	**-1.0**
WR0	**Warramunga Arr**	**49.79**	**257**	P	**P**	**23 14 47.3**	**-0.6**
WB0	**Warramunga Arr**	**49.95**	**257**	P	**P**	**23 14 48.3**	**-0.8**
WB2	**Warramunga Arr**	**49.97**	**257**	P	**P**	**23 14 47.9**	**-1.4**
WB2				IAmb	IAmb	23 14 51.5	
	comp=Z,42nm,1.8s						
WRA	**Warramunga Arr**	**49.98**	**257**	P	**P**	**23 14 47.6**	**-1.7**
WRA	**Warramunga Arr**	**49.98**	**257**	P	**P**	**23 14 47.9**	**-1.5**
	comp=Z,6.7nm,0.9s,baz=99,slow=5.8,SNR=32						
WRA				PcP	**PcP**	**23 16 09.5**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=97,slow=3.8,SNR=1.8						
	comp=Z,6.7nm,0.9s						
AS31	**Alice Springs**	**50.22**	**252**	P	**P**	**23 14 50.2**	**-0.9**
ASAR	**Alice Springs**	**50.23**	**252**	P	**P**	**23 14 49.7**	**-1.4**
ASAR	**Alice Springs**	**50.23**	**252**	P	**P**	**23 14 49.9**	**-1.3**
	comp=Z,20nm,0.7s,baz=85,slow=8.1,SNR=102						
ASAR				LR	LR	23 34 30.8	
	comp=Z,201nm,21.1s,baz=115,slow=34						
	comp=Z,20nm,0.7s						

MTN	**Manton Dam**	**53.91**	**265**	P		**P**	**23 15 17.4**	**-1.2**
FORT	**Forrest**	**55.48**	**243**	P		**P**	**23 15 27.8**	**-2.0**
KNRA	**Kununurra**	**55.73**	**262**	P		**P**	**23 15 31.0**	**-0.8**
JCJ	**Chichijima**	**60.67**	**314**	LR		LR	23 36 58.0	
	comp=Z,26nm,20.0s,baz=230,slow=31							
BATI	**Baumata**	**61.60**	**267**	LR		LR	23 41 01.9	
	comp=Z,103nm,20.5s,baz=216,slow=34							
VNDA	**Vanda**	**63.15**	**186**	P		**P**	**23 16 24.1**	**+2.1**
	comp=Z,2.6nm,0.8s,baz=2.3,slow=6.3,SNR=12							
	comp=Z,2.6nm,0.8s							
PSA00	**Pilbara Seismi**	**63.33**	**253**	P		**P**	**23 16 22.8**	**-1.4**
PSA00				IAmb		IAmb	23 16 58.8	
	comp=Z,53nm,1.7s							
MORW	**Morawa**	**65.96**	**245**	P		**P**	**23 16 39.9**	**-1.4**
MORW				IAmb		IAmb	23 17 35.2	
	comp=Z,60nm,1.9s							
SHEM	**Shemya Is, Ala**	**68.98**	**352**	LR		LR	23 40 40.8	
	comp=Z,79nm,20.3s,baz=220,slow=30							
MJAR	**Matsushiro Arr**	**69.26**	**320**	LR		LR	23 41 40.1	
	comp=Z,18nm,21.5s,baz=116,slow=31							
PETK	**Petropavlovsk-**	**72.93**	**342**	P		**P**	**23 17 24.1**	**+0.4**
	comp=Z,4.0nm,1.0s,baz=168,slow=5.9,SNR=2.5							
	comp=Z,4.0nm,1.0s							
PFO	**Pinyon Flats O**	**72.94**	**47**	LR		LR	23 41 22.8	
	comp=Z,92nm,19.8s,baz=244,slow=29							
LPIG	**La Paz**	**73.00**	**58**	LR		LR	23 40 22.5	
	comp=Z,87nm,21.2s,baz=217,slow=28							
YBH	**Yreka Blue Hor**	**73.67**	**37**	LR		LR	23 41 15.5	
	comp=Z,103nm,20.8s,baz=212,slow=29							
NVAR	**Mina Array Bea**	**74.38**	**42**	P		**P**	**23 17 35.5**	**+2.6**
	comp=Z,0.8nm,0.7s,baz=228,slow=12,SNR=4.7							
NVAR				LR		LR	23 43 01.2	
	comp=Z,103nm,20.2s,baz=221,slow=30							
	comp=Z,0.8nm,0.7s							
QSPA	**South Pole Qui**	**74.40**	**180**	P		**P**	**23 17 34.8**	**+2.3**
	comp=Z,9.9nm,0.9s,baz=38,slow=0.8,SNR=30							
	comp=Z,9.9nm,0.9s							
KDAK	**Kodiak Island**	**75.12**	**11**	LR		LR	23 43 49.2	
	comp=Z,74nm,19.5s,baz=41,slow=30							
F03A	**Seaside**	**75.91**	**33**	P		P	23 17 30.1	-11
KSRS	**Korea Array**	**76.48**	**316**	LR		LR	23 45 58.8	
	comp=Z,13nm,21.9s,baz=5.0,slow=32							
ELK	**Elko**	**77.64**	**41**	LR		LR	23 44 04.2	
	comp=Z,78nm,21.0s,baz=270,slow=30							
MA2	**Magadan**	**80.46**	**342**	LR		LR	23 49 28.1	
	comp=Z,16nm,19.4s,baz=118,slow=33							
TXAR	**Lajitas Array**	**80.58**	**56**	P		**P**	**23 18 10.1**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=231,slow=7.9,SNR=4.9							
TXAR				LR		LR	23 47 03.3	
	comp=Z,36nm,19.0s,baz=238,slow=31							
	comp=Z,0.4nm,0.7s							
NEW	**Newport**	**80.80**	**34**	LR		LR	23 45 45.4	
	comp=Z,58nm,19.5s,baz=214,slow=30							
ANMO	**Albuquerque**	**80.81**	**50**	LR		LR	23 44 38.4	
	comp=Z,53nm,21.0s,baz=44,slow=29							
BNX	**BinXian**	**81.25**	**322**	⇑P		**P**	**23 18 11.3**	**+0.6**
BNX				pmax		pmax		
	comp=Z,6.0nm,1.0s							
CN2	**Changchun**	**81.41**	**320**	*e*P		**P**	**23 18 10.5**	**-1.0**
CN2	**Changchun**	**81.41**	**320**	*e*S		**S**	**23 28 20.6**	**-0.2**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.4s							
CN2				pmax		pmax		
	comp=Z,80nm,3.0s							
CN2				LR		LR		
	comp=N,100nm,14.0s							
CN2				LR		LR		
	comp=E,50nm,14.0s							
CN2				LR		LR		
	comp=Z,100nm,14.0s							
PDAR	**Pinedale Array**	**82.32**	**42**	P		**P**	**23 18 18.4**	**+1.7**
	comp=Z,2.3nm,1.1s,baz=209,slow=2.7,SNR=6.3							
PDAR				LR		LR	23 49 41.6	
	comp=Z,48nm,19.0s,baz=226,slow=32							
	comp=Z,2.3nm,1.1s							
ILAR	**Eielson Array**	**82.65**	**11**	P		**P**	**23 18 18.1**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=226,slow=6.1,SNR=16							
ILAR				LR		LR	23 46 33.0	
	comp=Z,33nm,21.1s,baz=233,slow=30							
	comp=Z,0.7nm,0.6s							
CMIG	**Matias Romero**	**83.78**	**70**	LR		LR	23 46 46.2	
	comp=Z,58nm,21.5s,baz=226,slow=29							
USHA	**Ushuaia**	**85.60**	**146**	LR		LR	23 47 59.1	
	comp=Z,66nm,20.1s,baz=42,slow=29							
XLT	**XiLinHaoTe**	**87.44**	**317**	*e*P		**P**	**23 18 38.7**	**-3.5**
XLT				pmax		pmax		
	comp=Z,7.0nm,0.8s							
XLT				pmax		pmax		
	comp=Z,86nm,5.4s							
XAN	**Xi'an**	**88.94**	**306**	⇑P		**P**	**23 18 48.1**	**-1.4**
XAN				pP		PcP	23 18 51.3	+0.3
XAN				pmax		pmax		
	comp=Z,4.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**89.34**	**313**	*e*P		**P**	**23 18 51.3**	**0.0**
HHC				sP		pP	23 18 57.5	-2.7
HHC				pmax		pmax		
	comp=Z,12nm,0.7s							
YKA	**Yellowknife Ar**	**90.25**	**23**	P		**P**	**23 18 56.6**	**+1.8**
	comp=Z,0.5nm,0.9s,baz=234,slow=4.1,SNR=6.5							
YKA				LR		LR	23 53 47.2	
	comp=Z,72nm,18.9s,baz=317,slow=32							
	comp=Z,0.5nm,0.9s							
BTO	**Baotou**	**90.35**	**312**	*e*P		**P**	**23 18 57.0**	**+0.9**
BTO				pP		**pP**	**23 19 01.9**	**-3.0**
BTO				sP		**pwP**	**23 19 03.9**	**-1.0**
BTO				pmax		pmax		
	comp=Z,18nm,0.8s							
BTO				pmax		pmax		
	comp=Z,170nm,5.1s							
JTS	**Las Juntas de**	**91.06**	**80**	LR		LR	23 49 43.2	
	comp=Z,51nm,19.5s,baz=104,slow=29							
ELIB	**Princess Elisa**	**91.91**	**185**	*d*P		**P**	**23 19 04.4**	**+1.6**
	comp=Z,4.5nm,0.9s							
SYO	**Syowa Base**	**92.39**	**191**	⇑*e*P		**P**	**23 19 04.4**	**-0.5**
PZH	**PanZhiHua**	**92.56**	**297**	P		**P**	**23 19 07.7**	**+1.0**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,80nm,4.9s							
SNAA	**Sanae**	**92.65**	**177**	P		**P**	**23 19 08.8**	**+2.6**
	comp=Z,3.1nm,1.1s,baz=262,slow=9.6,SNR=2.8							
	comp=Z,3.1nm,1.1s							
ATAH	**Atahualpa**	**92.69**	**98**	LR		LR	23 51 57.2	
	comp=Z,72nm,20.8s,baz=259,slow=30							
CMAR	**Chiang Mai Arr**	**92.88**	**288**	P		**P**	**23 19 09.0**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=98,slow=2.7,SNR=9.1							
	comp=Z,1.6nm,0.8s							
TKL	**Tuckaleechee C**	**98.49**	**55**	LR		LR	23 58 16.6	
	comp=Z,41nm,18.4s,baz=243,slow=32							
LPAZ	**La Paz**	**99.54**	**110**	LR		LR	23 54 35.2	
	comp=Z,31nm,19.7s,baz=270,slow=29							
WMQ	**Urumqi**	**107.18**	**312**	Pdif		**Pdif**	**23 20 12.1**	**+0.2**
BVAR	**Borovoye Array**	**118.20**	**322**	PKP		**PKPdf**	**23 24 41.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=53,slow=5.6,SNR=3.6							
ARCES	**ARCESS Array B**	**124.88**	**352**	PKP		**PKPdf**	**23 24 54.0**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=347,slow=1.6,SNR=6.5							
FINES	**FINESS Array B**	**132.23**	**348**	PKP		**PKPdf**	**23 25 08.0**	**-0.1**
	comp=Z,7.6nm,1.1s,baz=18,slow=4.8,SNR=2.0							
DPC	**Dobruska-Polom**	**144.54**	**349**	*e*PKP		**PKPdf**	**23 25 31.2**	**+0.1**
PRU	**Pruhonice**	**145.18**	**351**	*e*PKP		**PKPdf**	**23 25 32.3**	**+0.2**
KMBO	**Kilima Mbogo**	**145.61**	**244**	PKPbc		**PKPab**	**23 25 35.6**	**+0.9**
	comp=Z,5.0nm,1.1s,baz=63,slow=4.3,SNR=7.1							
ZVC	**Zvikov**	**145.77**	**351**	*e*PKP		**PKPab**	**23 25 34.8**	**+0.8**
GRF	**Grafenberg Arr**	**145.86**	**355**	*e*PKP			23 25 35.0	
	baz=7.2,slow=3.1							
KHC	**Kasperske Hory**	**146.15**	**352**	*e*PKP		**PKPab**	**23 25 36.7**	**+1.2**
CKRC	**Cesky Krumlov**	**146.35**	**351**	*e*PKP		**PKPab**	**23 25 36.3**	**+0.1**
GERES	**GERESS Array B**	**146.41**	**352**	PKPbc		**PKPab**	**23 25 36.6**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=117,slow=0.6,SNR=12							
BRTR	**Keskin Array B**	**146.48**	**321**			**PKPbc**	**23 25 35.7**	**-0.6**
BRTR	**Keskin Array B**	**146.48**	**321**	PKPbc		**PKPab**	**23 25 37.1**	**0.0**
	comp=Z,6.6nm,1.1s,baz=128,slow=2.0,SNR=17							
CONA	**Conrad Observa**	**146.95**	**349**	*e*PKiKP		**PKPab**	**23 25 39.0**	**+0.4**
	comp=Z,7.9nm,1.2s							
RONA	**Rosalia, Austr**	**147.09**	**348**	*i* pPKP		**PKPab**	**23 25 39.4**	**+0.2**
	comp=Z,6.2nm,0.8s							
MOA	**Molln**	**147.30**	**351**	*i* pPKP		**PKPab**	**23 25 39.6**	**-0.4**
	comp=Z,9.8nm,1.4s							
BIOA	**Bad Ischl, Aus**	**147.55**	**351**	*i* PKiKP		**PKPbc**	**23 25 39.8**	**+0.9**
	comp=Z,1.2nm,0.5s							
LESA	**Schwarzleotal**	**147.94**	**352**	*e*pPKP		**PKPbc**	**23 25 41.1**	**+1.0**
	comp=Z,6.9nm,1.5s							
WATA	**Walderalm**	**148.16**	**354**	*i* PKP		**PKPbc**	**23 25 41.1**	**+0.5**
	comp=Z,3.3nm,0.6s							
KBA	**Koelnbreinsper**	**148.19**	**352**	*i* PKP		**PKPbc**	**23 25 41.3**	**+0.5**
	comp=Z,3.4nm,1.1s							
MOTA	**Moosalm**	**148.20**	**354**	*i* PKiKP		**PKPbc**	**23 25 40.7**	**-0.1**

WTTA	**Wattenberg**	**148.22**	**354**	*i* pPKP		**PKiKP**	**23 25 42.0**	**-0.6**
	comp=Z,3.9nm,0.5s							
SOKA	**Soboth**	**148.31**	**349**	*i* PKP		**PKPbc**	**23 25 41.9**	**+0.9**
	comp=Z,4.5nm,1.2s							
FETA	**Feichten**	**148.55**	**355**	*e*PKP		**PKPdf**	**23 25 40.0**	**+1.9**
	comp=Z,6.2nm,1.5s							
ABTA	**Abfaltersbach**	**148.63**	**352**	*e*PKP		**PKPdf**	**23 25 39.8**	**+1.7**
	comp=Z,3.4nm,0.8s							
MMAI	**Mount Meron Ar**	**148.88**	**309**	PKPbc		**PKiKP**	**23 25 44.3**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=70,slow=3.1,SNR=6.5							
FUORN	**Ofenpass-Fuorn**	**148.99**	**355**			**PKiKP**	**23 25 44.8**	**+0.5**

WEL 08 23:21:54.8±1.2, 31°.5S±29°×18°0E±7°2, h457km±38km, M3.8/5, mB4.0/5, ML4.5/5, MLv4.1/4, Mw(mB)3.0/5, Error ellipse: s-maj=100.6km s-min=12.3km az=111.2, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.29**	**192**	P	P	23 23 32.3	+0.1
MXZ				S	S	23 24 52.5	+0.5
WMGZ	**Waiomatatini S**	**6.52**	**191**	P	P	23 23 36.3	+1.7
WMGZ				S	S	23 24 56.8	+0.5
HAZ	**Te Kaha**	**6.58**	**195**	P	P	23 23 35.8	+0.6
HAZ				S	S	23 24 57.7	+0.3
PKGZ	**Pakihiroa**	**6.63**	**193**	P	P	23 23 36.9	+1.2
PUZ	**Puketiti**	**6.80**	**191**	P	P	23 23 38.0	+0.5
PUZ				S	S	23 25 01.4	-0.2
RUGZ	**Raukumara Rang**	**6.81**	**195**	P	P	23 23 35.6	-2.1
RUGZ				S	S	23 25 01.4	-0.6
MWZ	**Matawai**	**7.19**	**195**	P	P	23 23 42.3	+0.7
MWZ				S	S	23 25 10.2	+0.9
CNGZ	**Carnagh Statio**	**7.21**	**191**	P	P	23 23 41.0	-0.7
URZ	**Urewera**	**7.22**	**198**	P	P	23 23 42.1	+0.2
URZ				S	S	23 25 10.2	+0.5
MUGZ	**Murupara**	**7.52**	**199**	P	P	23 23 45.7	+0.6
MTHZ	**Maungataniwha**	**7.85**	**198**	P	P	23 23 49.1	+0.4
MTHZ				S	S	23 25 23.5	+1.3
BKZ	**Black Stump Fm**	**8.24**	**199**	P	P	23 23 52.5	-0.3
BKZ				S	S	23 25 31.9	+2.1
PNHZ	**Pukenui**	**9.02**	**199**	P	P	23 24 00.6	-0.6
MRZ	**Mangatainoka R**	**9.89**	**200**	P	P	23 24 10.0	-0.6
MRZ				S	S	23 26 03.2	+0.9

RSNC ***08*** *23:30:41.4±0.5, 19°.N±2°×7°.0W±°, h0km, M4.0, mb4.5, mB4.8, ML3.1, Mw(mB)4.0, MwMwp5.0, Mwp5.3*
IDC ***08*** *23:30:44.2±0.9, 18°.89N×69°.80W, h78km±6km, mb3.3/8, mbtmp3.8/11, MS2.7/1, Error ellipse: s-maj=25.0km s-min=10.8km az=23.0*
NEIC ***08*** *23:30:45.3±1.7, 18°.81N±0°.07×69°.76W±0°.04, h78km±5km, mb4.3/20, Error ellipse: s-maj=10.0km s-min=4.9km az=192.0*
SDD ***08*** *23:30:46.2±2.5, 18°.81N×69°.76W, h72km±8km, MD3.7, ML4.0, MW4.1*
OSPL ***08*** *23:30:46.7±3.4, 18°.71N×69°.74W, h81km±15km, ML4.0*
SSNC ***08*** *23:30:47.6±3.4, 18°.66N×70°.22W, h120km±57km, MD3.9, ML3.9*
ISC 08 23:30:43.5±0.5, 18°.75N±0°.04×69°.80W±0°.03, h74km±4km, n114, σ2§28/150, mb4.1/18, 24C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR08	**Loma La Naviza**	**0.30**	**314**	⇑*e*Pg	**Pn**	**23 30 56.0**	**+0.8**
DR08				⇑*e*Sg	**Sn**	**23 31 04.7**	**+0.8**

MCDR	**Montecristi**	**2.09 303**	⇑ *e*Pg		**Pn**	**23 31 16.6 +0.1**
MCDR			IAML			23 31 53.3
comp=N,1μm,0.5s						
PAPH	**Port-au-Prince**	**2.39 265**			**Pn**	**23 31 22.6 +2.1**
PAPH	**Port-au-Prince**	**2.39 265**	*e*P		**Pn**	**23 31 22.6 +2.1**
PAPH			*e*S		**Sn**	**23 31 42.8 -6.0**
PAPH	**Port-au-Prince**	**2.39 265**	*i* P		**Pn**	**23 31 22.8 +2.3**
AGPR	**Aguadilla, PR**	**2.56 96**			**Pn**	**23 31 24.4 +1.5**
AGPR	**Aguadilla, PR**	**2.56 96**	⇑ *e*Pg		**Pn**	**23 31 24.2 +1.4**
AGPR			IAML			23 32 03.9
comp=N,1μm,0.2s						
AGPR	**Aguadilla, PR**	**2.56 96**	*i* P		**Pn**	**23 31 24.1 +1.3**
AGPR			IAML			23 32 01.9
comp=Z,844nm,0.2s						
PRSN	**Puerto Rico Se**	**2.57 102**			**Pn**	**23 31 24.9 +2.0**
CRPR	**Cabo Rojo, PR**	**2.66 106**			**Pn**	**23 31 26.6 +2.5**
CRPR	**Cabo Rojo, PR**	**2.66 106**	*i* P		**Pn**	**23 31 26.2 +2.1**
CRPR			IAML			23 32 11.5
comp=Z,694nm,0.4s						
MLPR	**Magueyes Islan**	**2.73 106**	⇑ *e*Pg		**Pn**	**23 31 27.3 +2.3**
MLPR			IAML			23 32 05.8
comp=N,160nm,0.6s						
AOPR	**Arecibo Observ**	**2.91 97**			**Pn**	**23 31 28.8 +1.2**
AOPR	**Arecibo Observ**	**2.91 97**	⇑ *e*Pg		**Pn**	**23 31 29.3 +1.7**
AOPR			IAML			23 32 11.6
comp=N,3μm,0.6s						
AOPR	**Arecibo Observ**	**2.91 97**	*e*P		**Pn**	**23 31 29.7 +2.1**
AOPR			*e*S		**Sn**	**23 32 05.2 +3.6**
UUPR	**Utuado, UPR, P**	**2.96 99**			**Pn**	**23 31 29.6 +1.4**
GRTK	**Grand Turk**	**3.02 336**	Pn		**Pn**	**23 31 28.3 -0.7**
GRTK	**Grand Turk**	**3.02 336**	*e*P		**Pn**	**23 31 27.6 -1.5**
GRTK	**Grand Turk**	**3.02 336**	⇑ *e*Sg		**Sn**	**23 32 01.5 -2.6**
GRTK			IAML			23 32 02.0
comp=N,351nm,0.2s						
GRTK	**Grand Turk**	**3.02 336**	P		**Pn**	**23 31 27.3 -1.7**
GRTK			S		**Sn**	**23 32 00.6 -3.5**
EMPR	**Esperanza - Ma**	**3.11 95**			**Pn**	**23 31 33.0 +2.7**
OBIP	**Obispado Ponce**	**3.11 103**			**Pn**	**23 31 31.5 +1.2**
CELP	**Cerrillos**	**3.13 102**			**Pn**	**23 31 32.7 +2.2**
CELP	**Cerrillos**	**3.13 102**	⇑ *e*Pg		**Pn**	**23 31 32.7 +2.2**
CELP			IAML			23 32 17.8
comp=N,822nm,0.2s						
SJG	**San Juan**	**3.52 100**			**Pn**	**23 31 37.0 +1.1**
SJG	**San Juan**	**3.52 100**	P		**Pn**	**23 31 37.6 +1.8**
comp=N,66nm,0.3s,baz=292,slow=9.9,SNR=34						
SJG			S		**Sn**	**23 32 18.9 +2.6**
comp=N,113nm,0.3s,baz=181,slow=23,SNR=15						
SJG	**San Juan**	**3.52 100**	*e*P		**Pn**	**23 31 37.3 +1.4**
SJG			*e*S		**Sn**	**23 32 18.3 +2.0**
GCPR	**Guaynabo City**	**3.55 97**			**Pn**	**23 31 37.4 +1.2**
IGPR	**InterUniversit**	**3.59 102**			**Pn**	**23 31 37.7 +0.9**
PDPR	**Patillas Dam,**	**3.66 101**			**Pn**	**23 31 38.8 +1.1**
MASC	**Masc**	**4.42 289**	*e*P		**Pn**	**23 31 46.7 -1.4**
MASC			*e*S		**Sn**	**23 32 35.9 -2.4**
QMBU	**Quimbuelo**	**4.95 288**	*e*P		**Pn**	**23 31 53.7 -1.7**
QMBU			*e*S		**Sn**	**23 32 46.3 -5.0**
GTBY	**Guantanamo Bay**	**5.15 284**	Pn		**Pn**	**23 31 58.8 +0.6**
GTBY	**Guantanamo Bay**	**5.15 284**	*e*P		**Pn**	**23 31 57.6 -0.5**
GTBY	**Guantanamo Bay**	**5.15 284**	P		**Pn**	**23 31 57.2 -1.0**
GTBY			S		**Sn**	**23 32 54.7 -1.6**
RCC	**Rio Carpintero**	**5.71 283**	*e*P		**Pn**	**23 32 04.4 -1.3**
URIC	**Uribia, Colomb**	**7.32 197**	P		**Pn**	**23 32 27.2 -0.7**
comp=N,13nm,1.2s						
URIC			S		**Sn**	**23 33 46.4 -3.1**
comp=N,13nm,1.2s						
ANWB	**Willy Bob**	**7.69 97**	*e*P		**Pn**	**23 32 31.2 -1.6**
ANBD	**Bethesda, Anti**	**7.83 101**	*e*P		**Pn**	**23 32 33.0 -1.7**
ANBD	**Bethesda, Anti**	**7.83 101**	*e*S		**Sn**	**23 33 56.2 -5.7**
CRJC	**Cerrejon, Guaj**	**8.25 202**	P		**Pn**	**23 32 39.9 -0.7**
comp=N,684nmcomp=N,21nm,0.5s						
CRJC			S		**Sn**	**23 34 08.1 -4.2**
comp=N,684nmcomp=N,21nm,0.5s						
DSLB	**Salisbury**	**8.66 111**	*e*P		Pn	23 32 41.3 -4.8
SMRC	**Santa Marta, M**	**8.67 210**	P		**Pn**	**23 32 42.1 -4.2**
comp=N,23nm,1.0s						
SMRC			S		**Sn**	**23 34 16.1 -6.5**
comp=N,23nm,1.0s						
SDV	**Santo Domingo**	**9.84 185**			**Pn**	**23 33 04.9 +2.4**
SDV	**Santo Domingo**	**9.84 185**	P		**Pn**	**23 33 04.5 +2.0**
comp=N,9.6nm,0.3s,baz=42,slow=8.5,SNR=22						
SDV			S		**Sn**	**23 34 47.9 -3.5**
comp=N,8.5nm,0.4s,baz=331,slow=18,SNR=9.0						
SDV			LR	LR		23 38 12.0
comp=N,41nm,18.1s,baz=94,slow=45						
SDV	**Santo Domingo**	**9.84 185**	P		**Pn**	**23 33 04.8 +2.4**
comp=N,317nmcomp=N,16nm,0.6s						
PCRV	**Puerto La Cruz**	**9.88 149**	P		**Pn**	**23 33 05.7 +2.8**
comp=N,5.7nm,0.2s,baz=320,slow=3.2,SNR=21						
PCRV			S		**Sn**	**23 34 45.6 -6.5**
comp=N,9.2nm,0.5s,baz=34,slow=16,SNR=1.9						
BAUV	**El Baul**	**9.90 170**	Pn		**Pn**	**23 33 05.0 +2.0**
SJCC	**San Jacinto, C**	**10.23 211**	P		**Pn**	**23 33 06.9 -0.8**
comp=N,12nm,1.2s						
SJCC			S		**Sn**	**23 34 54.5 -6.3**
comp=N,12nm,1.2s						
PAMC	**Pamplona, Colo**	**11.69 194**	P		**Pn**	**23 33 29.2 +1.3**
PTBC	**PUERTO BERRIO,**	**12.96 201**	P		**Pn**	**23 33 45.1 +0.3**
comp=N,182nmcomp=N,11nm,0.8s						
RUSC	**La Rusia**	**13.18 194**	P		**Pn**	**23 33 48.7 +0.6**
comp=N,29nm,0.6s						
CBOC	**Ciudad Bolivar**	**14.17 206**	P		**Pn**	**23 34 03.4 +2.5**
TXAR	**Lajitas Array**	**32.57 295**	P		**P**	**23 37 08.8 +0.8**
comp=N,0.3nm,0.7s,baz=133,slow=6.9,SNR=5.2						
comp=N,0.3nm,0.7s						
PDAR	**Pinedale Array**	**41.19 314**	P		**P**	**23 38 21.0 -0.2**
comp=N,0.2nm,0.5s,baz=118,slow=7.4,SNR=2.0						
comp=N,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**46.30 306**	P		**P**	**23 39 01.9 -0.4**
comp=N,0.4nm,0.5s,baz=65,slow=7.9,SNR=3.0						
comp=N,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**53.48 336**	P		**P**	**23 39 54.7 -1.2**
comp=N,0.5nm,0.8s,baz=117,slow=7.3,SNR=6.6						
YKA			pP		**pP**	**23 40 14.3 -0.4**
comp=N,0.3nm,0.8s,baz=122,slow=6.3,SNR=3.2						
comp=N,0.5nm,0.8s						
ESDC	**Sonseca Array**	**59.83 55**	P		**P**	**23 40 41.8 +0.4**
comp=N,0.5nm,0.5s,baz=272,slow=6.8,SNR=5.0						
ESDC			pP		**pP**	**23 41 01.5 +0.9**
comp=N,0.6nm,0.7s,baz=273,slow=6.5,SNR=2.6						
comp=N,0.5nm,0.5s						
DBIC	**Dimbokro**	**64.18 92**	P		**P**	**23 41 12.1 +1.1**
DBIC			IAmb		IAmb	23 41 22.7
comp=Z,6.4nm,1.4s						
CLF	**Chambon-Foret**	**64.35 45**			**P**	**23 41 11.8 +0.3**
H29M	**Whitestone**	**64.38 335**	P		**P**	**23 41 10.9 -0.5**
E29M	**Blow River**	**64.68 338**	P		**P**	**23 41 14.2 +0.9**
L26K	**Log Cabin Wild**	**66.00 331**	P		**P**	**23 41 24.1 +2.1**
L26K			IAmb		IAmb	23 41 42.8
comp=Z,7.5nm,1.4s						
MENT	**Mentasta**	**66.16 331**	P		**P**	**23 41 24.6 +1.6**
MENT			IAmb		IAmb	23 41 25.5
comp=Z,4.2nm,0.7s						
SENIN	**Lac Senin/Sane**	**67.85 47**	P		**P**	**23 41 34.6 +0.3**
SENIN			IAmb		IAmb	23 41 46.9
comp=Z,1.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**68.58 83**	P		**P**	**23 41 37.5 -1.6**
TORD	**Torodi Ar. Bea**	**68.58 83**	P		**P**	**23 41 37.8 -1.3**
comp=Z,39nm,0.3s,baz=289,slow=6.3,SNR=1.7						
TORD			pP		**pP**	**23 41 59.3 +0.8**
comp=Z,34nm,0.2s,baz=291,slow=6.9,SNR=1.1						
SEW	**Seward**	**68.79 328**	P		**P**	**23 41 38.0 -1.5**
TUE	**Stuetta**	**69.25 47**	P		**P**	**23 41 42.1 -0.9**
FUORN	**Ofenpass-Fuorn**	**69.86 46**	P		**P**	**23 41 47.1 +0.3**
FUORN			IAmb		IAmb	23 42 01.2
comp=Z,8.3nm,1.5s						
K20K	**Telida**	**70.86 332**	P		**P**	**23 41 55.8 +3.5**
K20K			IAmb		IAmb	23 41 59.0
comp=Z,1.9nm,0.6s						
GERES	**GERESS Array B**	**71.89 44**	P		**P**	**23 41 57.9 -1.0**
comp=Z,0.7nm,0.9s,baz=280,slow=8.9,SNR=4.2						
comp=Z,0.7nm,0.9s						
K17K	**Iditarod**	**72.84 331**	P		**P**	**23 42 03.5 -0.6**
C18K	**Utukok River**	**73.21 338**	P		**P**	**23 42 04.8 -1.5**
L16K	**Owhat River**	**73.53 330**	P		**P**	**23 42 09.7 +1.5**
L16K			IAmb		IAmb	23 42 16.8
comp=Z,3.6nm,1.2s						
K15K	**Wolf Creek Mou**	**74.39 331**	P		**P**	**23 42 14.8 +1.6**
K15K			IAmb		IAmb	23 42 18.6
comp=Z,9.1nm,1.5s						
ARCES	**ARCESS Array B**	**74.43 21**	P		**P**	**23 42 13.0 -0.3**
comp=Z,2.8nm,0.9s,baz=284,slow=3.6,SNR=2.8						
ARCES			pP		**pP**	**23 42 33.8 +0.7**
comp=Z,4.2nm,1.1s,baz=294,slow=6.8,SNR=2.3						
comp=Z,2.8nm,0.9s						
L14K	**Kuka Creek**	**75.11 330**	P		**P**	**23 42 19.2 +1.9**
L14K			IAmb		IAmb	23 42 36.4
comp=Z,7.4nm,1.3s						
FINES	**FINESS Array B**	**76.49 29**	P		**P**	**23 42 24.2 -1.0**
PABE	**Paberze**	**76.86 36**	P		**P**	**23 42 28.4 +1.0**
BUR08	**Bucovina Ar. S**	**79.65 43**	P		**P**	**23 42 43.9 +0.7**
BUR08			IAmb		IAmb	23 42 49.5
comp=Z,3.2nm,1.3s						
BURAR	**Bucovina Array**	**79.67 43**	P		**P**	**23 42 44.1 +0.9**
BRTR	**Keskin Array B**	**88.07 49**	P		**P**	**23 43 26.2 -0.1**
BRTR	**Keskin Array B**	**88.07 49**	P		**P**	**23 43 26.1 -0.2**
comp=Z,0.5nm,0.7s,baz=286,slow=5.5,SNR=3.7						
BRTR			pP		**pP**	**23 43 47.0 +0.5**
comp=Z,0.8nm,0.9s,baz=290,slow=7.3,SNR=3.5						
comp=Z,0.5nm,0.7s						
CSS	**Mathiatis**	**89.68 53**	P		**P**	**23 43 34.4 +0.6**

TXNET 08 23:36:36.7, 31°.6N±0°.6×103°.9W±0°.8, h6km±2km, ML1.5/7, 2C-1D, Error ellipse: s-maj=1.2km s-min=0.8km az=104.5, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB07	**Mentone**	**0.17**	**86**	P	Pg	23 36 40.8	+0.6
TPB07				S	Sg	23 36 43.8	+1.2
PECS	**Pecos**	**0.20**	**179**	⇓P	Pg	23 36 41.2	+0.5
PECS				S	Sg	23 36 44.5	+1.3
PECS	**Pecos**	**0.20**	**179**	P	Pg	23 36 45.5	+4.9
TPB10	**Southeast of T**	**0.30**	**161**	P	Pg	23 36 43.1	+0.5
TPB10				S	Sb	23 36 48.2	-1.6
TPB10	**Southeast of T**	**0.30**	**161**	P	Pg	23 36 43.1	+0.5
PCOS	**Crockett Middl**	**0.35**	**117**	S	Sg	23 36 49.4	+1.3
TPB12	**Southwest of T**	**0.36**	**192**	⇑P	Pg	23 36 44.4	+0.6
TPB12				S	Sg	23 36 50.0	+1.5
TPB12	**Southwest of T**	**0.36**	**192**	P	Pg	23 36 44.4	+0.6
TPB11	**China Draw**	**0.39**	**339**	P	Pg	23 36 44.8	+0.5
TPB11				S	Sb	23 36 51.0	-1.4
TPB06	**Permian Basin**	**0.56**	**82**	S	Sg	23 36 55.9	+1.0
TPB06	**Permian Basin**	**0.56**	**82**	P	Pn	23 36 51.0	-0.3
TPB03	**Saragosa**	**0.57**	**148**	S	Sg	23 36 56.2	+1.1
TPB01	**Permian Basin**	**0.63**	**173**	S	Sg	23 36 58.0	+1.1
CLNB	**Carlsbad**	**0.69**	**359**	S	Sb	23 37 00.5	-0.7
TPB05	**Hovey Rd**	**0.80**	**144**	P	Pg	23 36 52.0	0.0
TPB05				S	Sg	23 37 03.0	+0.6
TPB05	**Hovey Rd**	**0.80**	**144**	P	Pg	23 36 52.2	+0.2
MNHN	**Monahans**	**0.97**	**103**	S	Sg	23 37 07.9	-0.1
ALPN	**Alpine**	**1.21**	**170**	⇑P	Pg	23 36 58.8	-1.0
ALPN				S	Sg	23 37 15.5	0.0
ALPN	**Alpine**	**1.21**	**170**	P	Pg	23 36 58.9	-1.0
VHRN	**Van Horn**	**1.23**	**231**	P	Pb	23 37 00.4	0.0
VHRN				S	Sb	23 37 17.0	+0.3
ODSA	**Odessa**	**1.25**	**64**	S	Sg	23 37 16.9	-0.1
MNTX	**Cornudas Mount**	**1.30**	**276**	P	Pg	23 37 01.7	+0.2
MNTX				S	Sn	23 37 19.3	+0.3
CPRX	**Cap Rock**	**1.46**	**0**	P	Pb	23 37 04.1	-0.2
TMB04	**Seminole**	**1.58**	**48**	S	Sg	23 37 27.1	-0.3
TMB02	**Rankin**	**1.61**	**103**	P	Pn	23 37 06.0	+0.3
TMB02				S	Sb	23 37 27.2	-0.2

*IDC **09** 00:01:49.2±14.0, 14°.89S×166°.08E, h0km, mb3.8/3, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=240.0km s-min=37.8km az=58.0*
*NOU **09** 00:01:54.0, 14°.96S×167°.38E, h95km, MLv4.7/22, Vanuatu Islands*

ISC 09 00:01:53.8±1.4, 14°.98S±0°.07×167°.2E±0°.2, h100km, n18, σ1§62/15, mb3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**1.15**	**169**	P	**Pn**	**00 02 15.7**	**-0.1**
VLAKA	**Lakatoro**	**1.15**	**169**	P	**Sn**	**00 02 33.9**	**+1.4**
DVP	**Devils Point**	**2.90**	**161**	P	**Pn**	**00 02 38.1**	**-0.1**
DVP	**Devils Point**	**2.90**	**161**	S	**Sn**	**00 03 12.0**	**-0.3**
LUES	**Luesalemba Tem**	**4.46**	**344**	P	**Pn**	**00 02 59.6**	**+0.3**
LUES	**Luesalemba Tem**	**4.46**	**344**	S	**Sn**	**00 03 52.0**	**+1.9**
YATNC	**Mamie plateau,**	**7.05**	**182**	P	**Pn**	**00 03 34.0**	**-0.4**
YATNC	**Mamie plateau,**	**7.05**	**182**	S	**Sn**	**00 04 53.7**	**+0.7**
DZM	**Mont Dzumac**	**7.09**	**186**	Pn	**Pn**	**00 03 35.4**	**+0.4**
2.0nm,0.3s,baz=61,slow=19,SNR=39							
DZM				Sn	**Sn**	**00 04 57.8**	**+3.7**
3.2nm,0.3s,baz=114,slow=20,SNR=9.0							
7.4nm,0.4s							
DZM	**Mont Dzumac**	**7.09**	**186**	P	**Pn**	**00 03 36.1**	**+1.1**
DZM	**Mont Dzumac**	**7.09**	**186**	S	**Sn**	**00 04 55.7**	**+1.5**
NGOA	**Tingoa Renbel**	**7.72**	**295**	P	Pn	00 03 44.9	+1.4
SAVO	**Savo Central**	**9.25**	**308**	P	Pn	00 04 07.7	+3.4
TATA	**Tatamba Isabel**	**9.75**	**311**	P	Pn	00 04 13.6	+2.4
TATA	**Tatamba Isabel**	**9.75**	**311**	S	Sn	00 06 02.6	+3.7
STKA	**Stephens Creek**	**28.77**	**230**	P	**P**	**00 07 41.9**	**-0.3**
3.9nm,0.8s,baz=23,slow=13,SNR=6.3							
3.9nm,0.8s							
WRA	**Warramunga Arr**	**31.69**	**256**	P	**P**	**00 08 06.0**	**-2.1**
0.2nm,0.5s,baz=83,slow=9.0,SNR=1.6							
0.2nm,0.5s							
ASAR	**Alice Springs**	**32.51**	**249**	P	**P**	**00 08 13.4**	**-1.9**
0.7nm,0.5s,baz=80,slow=9.2,SNR=11							
0.7nm,0.5s							

*JMA **09** 00:18:00.8±0.3, 23°.N±1°.×12°.4E±°, h38km, MV3.3/16, NEAR ISHIGAKIJIMA ISLAND*

ISC 09 00:17:58.0±2.2, 23°.12N±0°.09×124°.11E±0°.06, h17km±12km, n16, σ0§91/24, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.97**	**343**	*e*P	**Pg**	**00 18 17.2**	**+0.3**
HATJ				*e*S	**Sb**	**00 18 29.5**	**+0.5**
JKRS	**Kuro-shima**	**1.12**	**355**	P	**Pg**	**00 18 19.9**	**+0.2**
JKRS				S	**Sb**	**00 18 33.5**	**+0.4**
JIJ	**Ishigaki jima**	**1.24**	**1**	*i* P	**Pb**	**00 18 20.9**	**0.0**
JIJ				S	**Sn**	**00 18 35.2**	**-1.7**
IRIF	**Iriomote-Funau**	**1.26**	**344**	P	**Pg**	**00 18 21.9**	**-0.5**
IRIF				*e*S	**Sn**	**00 18 36.9**	**-0.4**
JISG	**Ishigakijimahi**	**1.47**	**7**	P	**Pb**	**00 18 24.2**	**-0.8**
JISG				S	**Sn**	**00 18 41.7**	**-0.9**
JTJ	**Tarama**	**1.61**	**20**	*e*P	**Pb**	**00 18 26.3**	**-0.9**
JTJ				S	**Sn**	**00 18 45.5**	**-0.4**
YOJ	**Yonaguni jima**	**1.67**	**323**	P	**Pb**	**00 18 28.2**	**-0.1**
YOJ				S	**Sn**	**00 18 47.5**	**-0.1**
JYNG	**Yonagunijimaku**	**1.70**	**321**	P	**Pb**	**00 18 28.6**	**-0.2**
JYNG				S	**Sn**	**00 18 47.9**	**-0.4**
JIRB	**Irabujima**	**1.96**	**29**	S	**Sn**	**00 18 54.1**	**-0.5**
JMJ2	**Miyako jima3**	**1.96**	**34**	S	**Sn**	**00 18 54.4**	**-0.2**
JOGS	**Gusukube**	**2.02**	**36**	S	**Sn**	**00 18 55.4**	**-0.6**
JIKM	**Ikemajima**	**2.08**	**30**	S	**Sn**	**00 18 57.6**	**+0.1**
YULB	**Yu-li**	**2.60**	**277**	P	**Pn**	**00 18 39.8**	**+0.5**
TWGBT	**Beinan**	**2.81**	**264**	P	**Pn**	**00 18 43.2**	**+1.0**
SSLB	**Suanglung**	**2.98**	**284**	P	**Pb**	**00 18 48.6**	**-2.0**
TPUB	**Ta-pu**	**3.21**	**274**	P	**Pn**	**00 18 49.7**	**+2.0**

*IDC **09** 00:27:11.0±1.2, 56°.78N×153°.42W, h0km, mb3.5/9, mbtmp3.5/10, ML3.6/1, MS3.0/1, Error ellipse: s-maj=26.6km s-min=13.3km az=123.0*
*NEIC **09** 00:27:12.2±1.5, 56°.74N±0°.04×152°.94W±0°.07, h10km±1km, Error ellipse: s-maj=8.1km s-min=4.4km az=130.0*
*AEIC **09** 00:27:13.5±1.4, 56°.77N±0°.03×153°.07W±0°.06, h2km±6km, ML3.3, ML3.4/92(NEIC), Error ellipse: s-maj=6.4km s-min=3.0km az=134.0*

ISC 09 00:27:14.5±1.3, 56°.79N±0°.05×153°.06W±0°.05, h27km±9km, n136, σ1§09/147, mb3.7/8, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.45**	**344**	Pg	**Pb**	**00 27 23.7**	**-0.2**
OHAK				Sg	**Sb**	**00 27 30.0**	**-0.3**
OHAK				IAML		00 27 31.4	
comp=N,4μm,0.5s							
OHAK				IAML		00 27 32.6	
comp=E,3μm,0.3s							
SII	**Sitkinak Islan**	**0.66**	**250**	Pg	**Pb**	**00 27 26.9**	**-0.5**
SII				Sg	**Sb**	**00 27 35.5**	**-0.8**
SII				IAML		00 27 38.4	
comp=E,3μm,0.7s							
KDAK	**Kodiak Island**	**1.03**	**14**		**Pb**	**00 27 33.1**	**-0.5**
KDAK					**Sb**	**00 27 46.1**	**-0.6**
KDAK				IAML		00 27 50.6	
comp=E,1μm,0.6s							
KDAK				IAML		00 27 50.6	
comp=E,1μm,0.6s							
KDAK	**Kodiak Island**	**1.03**	**14**	Pg	**Pb**	**00 27 33.1**	**-0.5**
comp=E,91nm,0.3s,baz=63,slow=2.8,SNR=2152							
KDAK				Lg	Lg	00 27 46.5	
comp=E,51nm,0.3s,baz=149,slow=22,SNR=9.5							
R18K	**Karluk**	**1.08**	**316**		**Pn**	**00 27 33.4**	**-0.5**
R18K					**Sn**	**00 27 48.9**	**+0.8**
CHIR	**Chirikof Islan**	**1.73**	**237**		**Pn**	**00 27 41.9**	**-0.9**
CHIR				Pg	**Pb**	**00 27 47.5**	**+2.0**
CHIR				Sn	**Sn**	**00 28 01.1**	**-2.8**
CHIR				IAML		00 28 18.3	
comp=N,368nm,0.7s							
CHIR				IAML		00 28 22.1	
comp=E,360nm,0.7s							
KAKN	**Katmai Knife C**	**1.85**	**325**		**Pn**	**00 27 44.8**	**+0.2**
KAKN					**Sb**	**00 28 11.3**	**+0.8**
SYI	**Shuyak Island**	**1.86**	**11**		**Pn**	**00 27 44.9**	**+0.4**
SYI				Pg	**Pb**	**00 27 49.7**	**+2.0**
SYI				Sg	**Sb**	**00 28 13.6**	**+3.1**
SYI				IAML		00 28 17.1	
comp=E,348nm,0.6s							
SYI				IAML		00 28 20.2	
comp=N,298nm,0.7s							
ACHA	**Angle Creek He**	**1.88**	**320**	Pn	**Pn**	**00 27 44.0**	**-0.9**
KAHG	**Katmai Hook Gl**	**1.88**	**336**		**Pn**	**00 27 45.5**	**+0.5**
KAHG					**Sb**	**00 28 12.3**	**+1.0**
ANCK	**Angle Creek**	**1.93**	**318**		**Pn**	**00 27 45.5**	**0.0**
CNTC	**Contact Creek**	**2.12**	**315**		**Pn**	**00 27 48.3**	**0.0**
CNTC					**Sb**	**00 28 18.3**	**+0.1**
Q19K	**Cape Douglas,**	**2.17**	**352**		**Pn**	**00 27 49.4**	**+0.5**
PLK1	**Peulik 1**	**2.17**	**299**		**Pn**	**00 27 48.8**	**-0.1**
PLBL	**Peulik Blue Cr**	**2.23**	**296**		**Pn**	**00 27 50.3**	**+0.5**
AUCH	**Augustine Cone**	**2.59**	**356**		**Pn**	**00 27 56.0**	**+1.4**
P18K	**Big Mountain,**	**2.85**	**337**	Pn	**Pn**	**00 27 58.6**	**+0.3**
P18K				IAML		00 28 45.3	
comp=E,99nm,1.0s							
P19K	**Oil Pt**	**2.87**	**358**		**Pn**	**00 27 59.7**	**+1.2**
CNPM	**China Poot**	**2.91**	**19**	Pn	**Pn**	**00 27 59.1**	**+0.1**
CNPM				IAML		00 28 59.4	
comp=N,120nm,0.8s							
CNPM				IAML		00 29 00.8	
comp=E,139nm,1.1s							
HOM	**Homer**	**2.97**	**14**		**Pn**	**00 28 00.6**	**+0.8**
CHGN	**Chignik**	**3.00**	**263**	Pn	**Pn**	**00 28 00.6**	**+0.3**
CHGN				IAML		00 28 51.2	
comp=N,87nm,0.9s							
CHGN				IAML		00 28 54.3	
comp=E,83nm,0.7s							
BRLK	**Bradley Lake**	**3.19**	**20**	Pn	**Pn**	**00 28 03.0**	**0.0**
BRLK				IAML		00 29 04.5	
comp=N,118nm,0.8s							
BRLK				IAML		00 29 07.3	
comp=E,135nm,0.7s							
ILSW	**Iliamna Southw**	**3.20**	**359**		**Pn**	**00 28 03.2**	**+0.1**
ILSW				IAML		00 28 59.7	
comp=E,91nm,0.9s							
ILSW				IAML		00 29 06.4	
comp=N,91nm,1.0s							
O18K	**Koktuh Hills**	**3.27**	**341**		**Pn**	**00 28 04.4**	**+0.4**
O18K				IAML		00 29 03.6	
comp=N,73nm,0.7s							
P16K	**Nushagak River**	**3.46**	**313**		**Pn**	**00 28 06.8**	**+0.3**
RED	**Redoubt Volcan**	**3.64**	**2**		**Pn**	**00 28 09.5**	**+0.4**
O17K	**Koliganek Bris**	**3.67**	**326**		**Pn**	**00 28 09.5**	**+0.1**
SEW	**Seward**	**3.83**	**28**	Pn	**Pn**	**00 28 10.7**	**-0.9**
SEW				IAML		00 29 31.3	
comp=E,48nm,1.4s							
O16K	**Kokwok River B**	**3.87**	**319**	Pn	**Pn**	**00 28 11.3**	**-0.8**
SLKM	**Skilak Lake**	**4.01**	**21**	Pn	**Pn**	**00 28 14.0**	**-0.2**
SLKM				IAML		00 29 28.3	
comp=N,45nm,0.8s							
SLKM				IAML		00 29 31.0	
comp=E,74nm,0.8s							
O22K	**Cooper Landing**	**4.09**	**24**		**Pn**	**00 28 14.9**	**-0.3**
N19K	**Bonanza Creek**	**4.10**	**350**	Pn	**Pn**	**00 28 15.5**	**0.0**
N19K				IAML		00 29 31.3	
comp=E,36nm,0.9s							
N18K	**Kilae Creek**	**4.17**	**340**	Pn	**Pn**	**00 28 16.0**	**-0.3**
N18K				IAML		00 29 27.8	
comp=N,34nm,1.1s							
CNBA	**Chernabura Isl**	**4.18**	**245**	Pn	**Pn**	**00 28 16.0**	**-0.4**
N17K	**Nushagak Hills**	**4.32**	**332**	Pn	**Pn**	**00 28 18.8**	**+0.4**
O15K	**Ungalikthiuk R**

K20K Telida 6.61 356 Pn **Pn 00 28 50.6 +0.8**
VRDI Verde Repeater 6.66 44 Pn **Pn 00 28 50.0 -0.7**
GLB Gilahina Butte 6.66 42 Pn **Pn 00 28 50.0 -0.6**
CAST Castle Rocks 6.67 4 Pn **Pn 00 28 51.1 +0.5**
TRF Thorofare Moun 6.82 11 Pn 00 28 52.8 0.0
KTH Kantishna Hill 6.87 8 Pn **Pn 00 28 53.4 +0.1**
J18K Innoko River 6.94 346 Pn **Pn 00 28 54.0 -0.3**
RND Reindeer 6.96 16 Pn 00 28 54.1 -0.5
K15K Wolf Creek Mou 6.99 326 Pn **Pn 00 28 55.5 +0.4**
MCK McKinley 7.26 15 Pn 00 28 59.1 +0.4
J17K VABM Dome 7.27 338 Pn **Pn 00 28 59.8 +0.9**
PAX Paxson 7.27 28 Pn **Pn 00 28 59.9 +0.9**
J19K Poorman 7.34 351 Pn **Pn 00 29 00.1 +0.3**
BPAW Bear Paw Mtn. 7.40 7 Pn **Pn 00 28 60.0 -0.7**
J20K Nowinta River 7.43 356 Pn **Pn 00 29 00.9 -0.1**
J16K Anvik River 7.52 333 Pn **Pn 00 29 02.2 -0.1**
O28M Mount Upton 7.78 54 Pn **Pn 00 29 05.8 -0.4**
K24K Donnelly Dome 7.90 24 Pn **Pn 00 29 08.7 +1.1**
J14K Nanvaranak Lak 7.97 323 Pn **Pn 00 29 10.3 +1.9**
NEA2 Nenana 8.07 12 Pn **Pn 00 29 10.6 +0.9**
RIDG Independent Ri 8.07 27 Pn **Pn 00 29 10.8 +0.9**
WRH Wood River Hil 8.08 15 Pn **Pn 00 29 09.7 -0.3**
DOT Dot Lake 8.20 29 Pn **Pn 00 29 11.7 +0.1**
HDA Harding Lake 8.21 19 Pn 00 29 12.0 +0.3
CCB Clear Creek Bu 8.29 16 Pn 00 29 12.2 -0.5
O29M Mount Kennedy 8.35 59 Pn **Pn 00 29 14.4 +0.6**
BCAR Beaver Creek A 8.45 37 Pn **Pn 00 29 15.6 +0.5**
SCRK Sand Creek 8.48 28 Pn **Pn 00 29 15.9 +0.3**
IL31 8.55 18 Pn 00 29 17.1 +0.8
ILAR Eielson Array 8.55 18 Pn **Pn 00 29 17.3 +0.9**
ILAR Eielson Array 8.55 18 Pn **Pn 00 29 12.5 -3.9**
comp=E,0.7nm,0.3s,baz=207,slow=14,SNR=32
ILAR Sn **Sn 00 30 45.0 -6.8**
comp=E,0.2nm,0.3s,baz=90,slow=17,SNR=4.6
comp=E,0.4nm,0.6s
I23K Minto, Yukon-K 8.57 11 Pn 00 29 15.6 -1.1
J25K Salcha River, 8.70 22 Pn **Pn 00 29 19.0 +0.5**
H18K Honhosa River 8.77 345 Pn **Pn 00 29 19.7 +0.3**
H21K Melozitna Rive 8.90 1 Pn **Pn 00 29 20.8 -0.4**
S31K Pelican 9.17 76 Pn **Pn 00 29 22.4 -2.4**
PRP Porcupine Dome 9.47 19 Pn **Pn 00 29 29.6 +0.5**
ANM Nome 9.84 327 Pn **Pn 00 29 35.8 +1.8**
G23K Bananza Creek 10.06 7 Pn **Pn 00 29 36.9 -0.1**
WHY Whitehorse 10.21 60 Pn **Pn 00 29 39.6 +0.5**
F20K Avaraart Lake 10.37 354 Pn **Pn 00 29 42.7 +1.5**
F17K Baldwin Pennin 10.43 342 Pn **Pn 00 29 40.5 -1.5**
K29M Barlow Dome 10.43 41 Pn **Pn 00 29 42.3 0.0**
FYU Fort Yukon 10.48 17 Pn **Pn 00 29 43.2 +0.5**
P32M Atlin 10.58 67 Pn **Pn 00 29 44.2 0.0**
I28M Miner Creek 10.73 31 Pn **Pn 00 29 46.5 +0.2**
E19K Redstone River 10.88 351 Pn **Pn 00 29 49.5 +1.3**
H27K Steamboat Moun 10.93 25 Pn **Pn 00 29 49.5 +0.6**
BMAR Burnt Mountain 11.37 17 Pn **Pn 00 29 55.2 +0.2**
E25K Arctic Village 11.87 14 Pn **Pn 00 30 01.1 -0.8**
TOLK Toolik Lake Re 12.00 6 Pn **Pn 00 30 00.7 -2.9**
D25K Kavik River 12.92 11 Pn **Pn 00 30 15.8 -0.3**
YKA Yellowknife Ar 20.02 58 P **P 00 31 45.0 +0.2**
comp=E,0.4nm,0.9s,baz=271,slow=10.0,SNR=4.2
comp=E,0.4nm,0.9s
YBH Yreka Blue Hor 24.61 115 LR LR 00 39 58.4
comp=E,34nm,19.7s,baz=258,slow=31
NVAR Mina Array Bea 29.32 114 P **P 00 33 17.3 +2.4**
comp=E,0.2nm,0.3s,baz=301,slow=6.1,SNR=2.1
comp=E,0.2nm,0.3s
ARCES ARCESS Array B 53.97 1 P **P 00 36 35.1 -0.2**
comp=E,2.3nm,0.9s,baz=21,slow=7.7,SNR=2.0
comp=E,2.3nm,0.9s
SONM Songino Array 56.69 308 P **P 00 36 54.9 -0.5**
comp=E,0.6nm,0.7s,baz=38,slow=7.5,SNR=4.0
comp=E,0.6nm,0.7s
ZALV Zalesovo Beam 59.96 325 P **P 00 37 17.5 -0.4**
comp=E,0.3nm,0.4s,baz=46,slow=4.2,SNR=1.8
comp=E,0.3nm,0.4s
NOA NORSAR Array B 61.86 9 P **P 00 37 32.4 +1.6**
comp=E,0.5nm,0.8s,baz=348,slow=3.7,SNR=4.0
comp=E,0.5nm,0.8s
KURBB Kurchatov Arra 64.79 327 P **P 00 37 50.0 -0.2**
comp=E,0.2nm,0.4s,baz=358,slow=3.0,SNR=1.2
comp=E,0.2nm,0.4s
BVAR Borovoye Array 64.90 333 P **P 00 37 51.0 0.0**
comp=E,0.5nm,0.7s,baz=43,slow=6.5,SNR=3.6
comp=E,0.5nm,0.7s
MKAR Makanchi Array 66.94 322 P **P 00 38 03.8 -0.4**
comp=E,0.3nm,0.6s,baz=47,slow=8.5,SNR=3.0
comp=E,0.3nm,0.6s

---

*IDC **09** 00:28:53.6±1.3, 38°.15S×75°.08W, h0km, mb3.7/4, mbtmp3.8/7, ML3.9/3, MS2.9/3, Error ellipse: s-maj=32.6km s-min=20.7km az=87.0*
*GUC **09** 00:28:55.9±0.5, 38°.00S×75°.06W, h23km±3km, ML4.2*
ISC 09 00:28:53.0±1.8, 38°.09S±0°.04×75°.21W±0°.05, h9km±11km, n29, σ2°86/51, mb3.8/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI04	**Isla Mocha**	**1.09**	**107**	*eP*	**Pg**	**00 29 13.8**	**-0.3**
BI04				*i* S	**Sg**	**00 29 26.4**	**-1.8**
BI04				IAML		00 29 28.3	
comp=E,5μm,0.3s							
LC02	**Puerto Saavedr**	**1.60**	**116**	*eP*	**Pn**	**00 29 20.9**	**-0.5**
LC02				*i* S	**Sn**	**00 29 38.7**	**-3.5**
LC02				IAML		00 29 42.1	
comp=N,12μm,0.4s							
BI05	**Punta Hualpn**	**2.10**	**51**	*eP*	**Pn**	**00 29 27.6**	**-0.8**
BI05				*i* S	**Sn**	**00 29 52.0**	**-2.6**
BI05				IAML		00 29 53.6	
comp=E,2μm,0.2s							
LR04	**Corral**	**2.26**	**143**	*eP*	**Pn**	**00 29 29.4**	**-1.2**
LR04				*i* S	**Sn**	**00 29 52.3**	**-6.4**
LR04				IAML		00 29 54.5	
comp=N,5μm,0.3s							
LC01	**Cunco**	**2.74**	**108**	*eP*	**Pn**	**00 29 38.0**	**+0.8**
LC01				*i* S	**Sn**	**00 30 07.0**	**-3.4**
GO06	**Curarrehue**	**3.28**	**118**	*eP*	**Pn**	**00 29 45.8**	**+1.1**
GO06				*i* S	**Sn**	**00 30 22.2**	**-1.7**
GO06				IAML		00 30 24.8	
comp=E,192nm,0.3s							
LR05	**Currie**	**3.28**	**132**	*eP*	**Pn**	**00 29 45.4**	**+0.7**
LR05				*i* S	**Sn**	**00 30 21.1**	**-2.7**
LR05				IAML		00 30 25.7	
comp=E,764nm,0.3s							
BI02	**San Fabin de**	**3.45**	**67**	*eP*	**Pn**	**00 29 47.6**	**+0.6**
BI02				*i* S	**Sn**	**00 30 27.4**	**-0.6**
LL05	**Los Muermos**	**3.57**	**159**	*eP*	**Pn**	**00 29 48.3**	**-0.3**
LL05				*i* S	**Sn**	**00 30 26.6**	**-4.4**
LL03	**Petrohue**	**3.73**	**145**	*eP*	**Pn**	**00 29 50.9**	**0.0**
LL03				*i* S	**Sn**	**00 30 30.3**	**-4.7**
ML02	**Panimavida**	**3.83**	**54**	*eP*	**Pn**	**00 29 52.9**	**+0.7**
ML02				*i* S	**Sn**	**00 30 35.0**	**-2.3**
GO05	**Hualane**	**4.06**	**42**	*eP*	**Pn**	**00 29 55.4**	**+0.1**
GO05				*i* S	**Sn**	**00 30 40.5**	**-2.5**
BO03	**Pichilemu**	**4.45**	**37**	*eP*	**Pn**	**00 30 00.8**	**+0.1**
BO03				*i* S	**Sn**	**00 30 50.0**	**-2.6**
PLCA	**Paso Flores**	**4.47**	**128**	Pn	**Pn**	**00 30 02.5**	**+1.4**
comp=E,1.0nm,0.3s,baz=296,slow=13,SNR=22							
PLCA				Sn	**Sn**	**00 30 54.3**	**+1.0**
comp=E,4.7nm,0.3s,baz=6.1,slow=18,SNR=6.1							
PLCA				LR	LR	00 31 16.7	
comp=E,53nm,18.8s,baz=306,slow=33							
comp=E,3.4nm,0.4s							
BO02	**Sierra Bellavi**	**4.86**	**49**	*eP*	**Pn**	**00 30 06.5**	**+0.1**
BO02				*i* S	**Sn**	**00 30 59.9**	**-3.0**
BO01	**Tunca**	**4.98**	**43**	*eP*	**Pn**	**00 30 08.2**	**+0.2**
BO01				*i* S	**Sn**	**00 31 02.4**	**-3.2**
H03S1	**Juan Fernandez**	**5.19**	**324**	Pn	**Pn**	**00 30 12.0**	**+1.3**
H03S1				Sn	**Sn**	**00 31 05.6**	**-5.0**
H03S1				T	T	00 35 47.4	
baz=146,slow=72,SNR=4.2							
H03S2	**Juan Fernandez**	**5.21**	**324**	Pn	**Pn**	**00 30 11.9**	**+1.0**
H03S2				Sn	**Sn**	**00 31 05.4**	**-5.5**
H03S2				T	T	00 35 48.0	
baz=146,slow=72,SNR=6.7							
H03S3	**Juan Fernandez**	**5.21**	**324**	Pn	**Pn**	**00 30 12.1**	**+1.2**
H03S3				Sn	**Sn**	**00 31 05.7**	**-5.3**
H03S3				T	T	00 35 51.4	
baz=146,slow=72,SNR=6.3							
H03N3	**Juan Fernandez**	**5.52**	**326**	Pn	**Pn**	**00 30 16.8**	**+1.5**
baz=236,slow=78							
H03N3				Sn	**Sn**	**00 31 13.5**	**-5.4**
baz=246,slow=74							
H03N1	**Juan Fernandez**	**5.53**	**326**	Pn	**Pn**	**00 30 16.3**	**+0.9**
baz=236,slow=78							
H03N1				Sn	**Sn**	**00 31 12.7**	**-6.3**
baz=246,slow=74							
H03N2	**Juan Fernandez**	**5.54**	**326**	Pn	**Pn**	**00 30 16.5**	**+1.1**
baz=236,slow=78							
H03N2				Sn	**Sn**	**00 31 13.7**	**-5.5**
baz=246,slow=74							
CFA	**Coronel Fontan**	**8.64**	**44**	Pn	**Pn**	**00 30 58.4**	**0.0**
comp=E,3.1nm,0.3s,baz=209,slow=13,SNR=28							
CFA				Sn	**Sn**	**00 32 34.0**	**-2.1**
comp=E,0.9nm,0.3s,baz=356,slow=18,SNR=3.5							
comp=E,5.2nm,0.3s							
CPUP	**Villa Florida**	**19.11**	**57**	P	**Pn**	**00 33 17.3**	**+0.3**
comp=E,0.1nm,0.3s,baz=232,slow=11,SNR=5.6							
CPUP				LR	LR	00 41 45.9	
comp=E,59nm,20.0s,baz=222,slow=40							
comp=E,2.7nm,0.7s							
LPAZ	**La Paz**	**22.60**	**18**	P	**P**	**00 33 56.7**	**+2.0**
comp=E,0.8nm,0.8s,baz=236,slow=7.3,SNR=3.7							
comp=E,0.8nm,0.8s							
RCBR	**Riachuelo**	**47.98**	**58**	LR	LR	00 57 27.3	
comp=E,23nm,18.3s,baz=246,slow=36							
SNAA	**Sanae**	**48.82**	**156**	P	**P**	**00 37 39.3**	**+0.9**
comp=E,2.6nm,0.9s,baz=302,slow=11,SNR=3.7							
comp=E,2.6nm,0.9s							
QSPA	**South Pole Qui**	**52.15**	**180**	P	**P**	**00 38 04.8**	**+1.1**
comp=E,2.0nm,0.9s,baz=164,slow=5.7,SNR=9.6							
comp=E,2.0nm,0.9s							
TXAR	**Lajitas Array**	**72.17**	**334**	P	**P**	**00 40 21.4**	**+3.1**
comp=E,0.3nm,0.7s,baz=155,slow=7.6,SNR=4.2							
comp=E,0.3nm,0.7s							

---

*AEIC **09** 00:44:45.5±1.5, 66°.30N±0°.02×157°.24W±0°.05, h10km±5km, ML3.4, ML3.6/170(NEIC), Mwr3.5/46(NEIC), Error ellipse: s-maj=3.2km s-min=2.7km az=187.0*
*NEIC **09** 00:44:45.4±1.3, 66°.31N±0°.01×157°.17W±0°.04, h5km±6km, Error ellipse: s-maj=2.7km s-min=1.3km az=46.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.69; $M_{\theta\theta}$1.73; $M_{\phi\phi}$-0.04; $M_{r\theta}$-1.21; $M_{\theta\phi}$-0.97; $M_{\phi r}$0.62; Fault plane solution: $M_0$2.39000×10^{14} NP1: ϕ_s116.32000°, δ62.65000°, λ-87.22000°. NP2: ϕ_s290.29000°, δ27.48000°, λ-95.36000°. Principal axes: T 2.5903, Plg18.0000°, Azm204.0000°; N -0.4681, Plg2.0000°, Azm295.0000°; P -2.1223, Plg72.0000°, Azm33.0000°;*
*IDC **09** 00:44:45.9±1.3, 66°.47N×157°.26W, h0km, mb3.5/5, mbtmp3.5/7, ML3.2/2 Error ellipse: s-maj=50.4km s-min=13.1km az=25.0*
*NEIC **09** 00:44:49.1, 66°.29N×157°.12W, h35km*
ISC 09 00:44:45.3±1.1, 66°.30N±0°.02×157°.24W±0°.02, h4km±8km, n172, σ0°90/175, mb3.6/5, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
G19K	**Purcell Mounta**	**0.17**	**159**		**Pg**	**00 44 48.9**	**+0.3**
G19K				Sg	**Sg**	**00 44 51.4**	**+0.6**
F19K	**Shaleruckik Mo**	**0.57**	**339**		**Pg**	**00 44 56.4**	**+0.1**
F19K				Sg	**Sg**	**00 45 04.6**	**+0.9**
G18K	**Tagagawik**	**0.71**	**235**		**Pg**	**00 44 59.2**	**+0.4**
G18K	**Tagagawik**	**0.71**	**235**		**Sb**	**00 45 09.3**	**-0.9**
H19K	**Roundabout Mou**	**0.84**	**157**		**Pg**	**00 45 01.3**	**-0.1**
H19K					**Sg**	**00 45 12.8**	**+0.5**
H19K	**Roundabout Mou**	**0.84**	**157**	IAML		00 45 17.1	
comp=E,2μm,0.2s							
H19K				IAML		00 45 17.9	
comp=N,2μm,0.3s							
F20K	**Avaraart Lake**	**0.96**	**38**		**Pg**	**00 45 03.3**	**-0.4**
F20K					**Sg**	**00 45 16.4**	**+0.2**
F18K	**Selawik**	**1.01**	**288**		**Pg**	**00 45 04.8**	**+0.1**
F18K					**Sb**	**00 45 19.4**	**+0.3**
E19K	**Redstone River**	**1.16**	**0**		**Pg**	**00 45 07.1**	**-0.4**
E19K					**Sg**	**00 45 22.3**	**-0.3**
E19K	**Redstone River**	**1.16**	**0**	IAML		00 45 25.6	
comp=N,1μm,0.6s							
E19K				IAML		00 45 26.3	
comp=E,1μm,0.6s							
H18K	**Honhosa River**	**1.24**	**202**		**Pg**	**00 45 08.4**	**-0.7**
H18K				IAML		00 45 27.8	
comp=E,1μm,0.4s							
H18K				IAML		00 45 28.5	
comp=N,2μm,0.9s							
H18K	**Honhosa River**	**1.24**	**202**		**Sg**	**00 45 25.5**	**+0.3**
H20K	**Anotleneega Mo**	**1.26**	**129**		**Pg**	**00 45 09.0**	**-0.4**
H20K					**Sg**	**00 45 25.9**	**+0.1**
G21K	**Allakaket**	**1.52**	**80**		**Pn**	**00 45 11.8**	**-1.4**
G21K	**Allakaket**	**1.52**	**80**		**Sn**	**00 45 33.3**	**-0.2**
GCSA	**Galena City Sc**	**1.57**	**174**		**Pn**	**00 45 13.6**	**-0.3**
GCSA					**Sb**	**00 45 35.1**	**+0.1**
G17K	**Kiwalik Mounta**	**1.61**	**242**		**Pn**	**00 45 13.1**	**-1.4**
G17K					**Sn**	**00 45 35.9**	**0.0**
F17K	**Baldwin Pennin**	**1.62**	**277**		**Pn**	**00 45 14.5**	**-0.2**
F17K				IAML		00 45 41.7	
comp=N,521nm,1.0s							
E18K	**Tukpahlearik C**	**1.74**	**312**		**Pn**	**00 45 15.8**	**-0.5**
F21K	**Alatna River**	**1.75**	**56**	Pn	**Pn**	**00 45 14.1**	**-2.4**
F21K				IAML		00 45 43.6	
comp=N,854nm,0.7s							
F21K	**Alatna River**	**1.75**	**56**		**Sn**	**00 45 39.8**	**+0.5**
H17K	**Granite Mounta**	**1.76**	**220**	Pn	**Pn**	**00 45 15.2**	**-1.4**
H17K				IAML		00 45 46.0	
comp=E,537nm,0.9s							
H17K				IAML		00 45 46.9	
comp=N,497nm,0.8s							
H17K	**Granite Mounta**	**1.76**	**220**		**Sb**	**00 45 41.3**	**+0.7**
I20K	**Naaghedeneel**	**1.90**	**141**		**Pn**	**00 45 17.8**	**-0.7**
H21K	**Melozitna Rive**	**1.93**	**108**		**Pn**	**00 45 18.1**	**-0.8**
H21K	**Melozitna Rive**	**1.93**	**108**	IAML		00 45 48.1	
comp=E,521nm,0.7s							
H21K				IAML		00 45 49.1	
comp=N,363nm,0.5s							
E17K	**Hotham Inlet**	**1.99**	**295**		**Pn**	**00 45 20.0**	**+0.3**
E20K	**Nigu River**	**2.01**	**11**		**Pn**	**00 45 21.1**	**+1.1**
D19K	**Kuna River**	**2.23**	**352**	Pn	**Pn**	**00 45 23.3**	**+0.2**
D19K				IAML		00 46 00.4	
comp=E,282nm,1.3s							
D19K				IAML		00 46 01.4	
comp=N,457nm,0.9s							
G16K	**Koyuk River**	**2.29**	**249**		**Pn**	**00 45 22.6**	**-1.2**
G16K				IAML		00 46 04.1	
comp=N,283nm,1.0s							
F22K	**John River**	**2.33**	**56**		**Pn**	**00 45 24.2**	**-0.2**
G22K	**Bettles**	**2.37**	**72**		**Pn**	**00 45 24.0**	**-0.9**
J19K	**Poorman**	**2.42**	**163**		**Pn**	**00 45 25.6**	**0.0**
J19K	**Poorman**	**2.42**	**163**	IAML		00 46 05.8	
comp=E,222nm,0.9s							
D20K	**Etivluk River**	**2.44**	**5**	Pn	**Pn**	**00 45 26.5**	**+0.6**
D20K				IAML		00 46 08.6	
comp=N,235nm,1.0s							
D20K				IAML		00 46 09.4	
comp=E,312nm,0.8s							
I21K	**Tanana**	**2.45**	**115**	Pn	**Pn**	**00 45 25.7**	**-0.3**
I21K				IAML		00 46 09.8	
comp=E,349nm,0.8s							
I21K				IAML		00 46 10.9	
comp=N,418nm,0.6s							
E21K	**Killik River**	**2.49**	**29**		**Pn**	**00 45 26.2**	**-0.4**
E21K				IAML		00 46 09.8	
comp=E,359nm,0.7s							
E21K				IAML		00 46 10.0	
comp=N,417nm,0.8s							
J20K	**Nowinta River**	**2.50**	**147**	Pn	**Pn**	**00 45 26.2**	**-0.5**
J20K				IAML		00 46 09.8	
comp=N,205nm,0.8s							
J20K				IAML		00 46 14.4	
comp=E,214nm,0.7s							
D17K	**Noatak River**	**2.69**	**304**		**Pn**	**00 45 29.3**	**0.0**
E22K	**Anaktuvuk Pass**	**2.80**	**46**		**Pn**	**00 45 30.9**	**0.0**
E22K					**Pb**	**00 45 31.9**	**-4.0**
E22K				IAML		00 46 16.1	
comp=N,160nm,1.0s							
E22K				IAML		00 46 16.8	
comp=E,249nm,1.1s							
C18K	**Utukok River**	**2.81**	**329**		**Pn**	**00 45 30.7**	**-0.3**
RDOG	**Red Dog Mine**	**2.83**	**311**		**Pn**	**00 45 31.0**	**-0.2**
I17K	**Unalakleet**	**2.83**	**213**		**Pn**	**00 45 31.5**	**+0.3**
I17K				IAML		00 46 19.1	
comp=E,272nm,0.9s							
I17K				IAML		00 46 24.2	
comp=N,221nm,0.9s							
J18K	**Innoko River**	**2.86**	**175**		**Pn**	**00 45 31.4**	**-0.3**
J18K	**Innoko River**	**2.86**	**175**	Pg	**Pg**	**00 45 39.6**	**-0.4**
J18K				IAML		00 46 20.7	
comp=N,90nm,0.6s							
J18K				IAML		00 46 27.1	
comp=E,93nm,0.8s							
G23K	**Bananza Creek**	**2.92**	**79**	Pn	**Pn**	**00 45 32.5**	**0.0**
G23K				Pg	**Pg**	**00 45 41.2**	**0.0**
G23K				IAML		00 46 24.8	
comp=N,307nm,0.9s							
G23K				IAML		00 46 26.1	
comp=E,170nm,0.6s							
COLD	**Coldfoot**	**2.94**	**68**		**Pn**	**00 45 32.0**	**-0.8**
COLD				Pg	**Pg**	**00 45 41.0**	**-0.6**
COLD				IAML		00 46 24.3	
comp=N,251nm,0.7s							
COLD				IAML		00 46 24.6	
comp=E,146nm,0.6s							
J17K	**VABM Dome**	**3.02**	**196**		**Pn**	**00 45 33.8**	**-0.1**
J17K				Pg	**Pg**	**00 45 41.7**	**-1.4**
F15K	**North Star Dit**	**3.09**	**262**		**Pn**	**00 45 36.0**	**+1.2**
F15K				IAML		00 46 26.7	
comp=N,148nm,1.4s							
F15K				IAML		00 46 31.3	
comp=E,142nm,0.8s							
D22K	**Ayikyak River**	**3.12**	**32**		**Pn**	**00 45 35.4**	**+0.1**
H23K	**Yukon River**	**3.17**	**95**		**Pn**	**00 45 35.5**	**-0.5**
H23K				IAML		00 46 37.1	
comp=E,236nm,0.9s							
K20K	**Telida**	**3.25**	**154**	Pn	**Pn**	**00 45 37.1**	**+0.1**
J16K	**Anvik River**	**3.35**	**207**		**Pn**	**00 45 38.5**	**+0.1**
J16K	**Anvik River**	**3.35**	**207**	IAML		00 46 36.4	
comp=E,163nm,1.4s							
J16K				IAML		00 46 38.5	
comp=N,146nm,0.9s							
TTA	**Tatalina**	**3.43**	**171**	Pn	**Pn**	**00 45 39.7**	**+0.2**
BPAW	**Bear Paw Mtn.**	**3.44**	**127**		**Pn**	**00 45 39.5**	**-0.2**
BPAW				IAML		00 46 37.1	
comp=E,84nm,1.4s							
BPAW				IAML		00 46 42.1	
comp=N,101nm,1.1s							
E23K	**Chandalar**	**3.46**	**56**		**Pn**	**00 45 39.5**	**-0.5**
E23K				IAML		00 46 39.6	
comp=N,191nm,0.6s							
I23K	**Minto, Yukon-K**	**3.46**	**106**		**Pn**	**00 45 39.5**	**-0.3**
I23K				IAML		00 46 40.0	
comp=E,162nm,0.8s							
I23K				IAML		00 46 40.6	
comp=N,174nm,1.1s							
B21K	**Ikpikpuk River**	**3.48**	**15**	Pn	**Pn**	**00 45 41.2**	**+1.1**
K17K	**Iditarod**	**3.63**	**188**		**Pn**	**00 45 41.7**	**-0.6**
K17K	**Iditarod**	**3.63**	**188**	IAML		00 46 48.1	
comp=N,95nm,1.4s							
K17K				IAML		00 46 52.6	
comp=E,78nm,1.3s							
CAST	**Castle Rocks**	**3.63**	**140**		**Pn**	**00 45 42.0**	**-0.3**
D23K	**Nanushuk River**	**3.67**	**40**		**Pn**	**00 45 41.9**	**-0.9**
C16K	**Lisburne Hills**	**3.71**	**306**	Pn	**Pn**	**00 45 43.5**	**+0.1**
B20K	**Meade River**	**3.73**	**0**	Pn	**Pn**	**00 45 43.4**	**-0.1**
B20K				IAML		00 46 50.0	
comp=N,128nm,1.0s							
B20K				IAML		00 46 52.0	
comp=E,137nm,0.7s							
TOLK	**Toolik Lake Re**	**3.77**	**48**		**Pn**	**00 45 44.8**	**+0.6**
NEA2	**Nenana**	**3.82**	**113**		**Pn**	**00 45 44.6**	**-0.2**
NEA2				IAML		00 46 53.7	
comp=N,66nm,1.3s							
ANM	**Nome**	**3.82**	**247**	Pn	**Pn**	**00 45 45.0**	**+0.2**
ANM				IAML		00 46 53.4	
comp=N,65nm,1.5s							
F14K	**Arctic Creek**	**3.82**	**262**		**Pn**	**00 45 44.2**	**-0.7**
H24K	**Noodor Dome**	**3.84**	**93**		**Pn**	**00 45 44.2**	**-1.0**
H24K	**Noodor Dome**	**3.84**	**93**	IAML		00 46 48.3	
comp=N,131nm,0.7s							
H24K				IAML		00 46 58.0	
comp=E,109nm,1.3s							
E24K	**Your Creek**	**3.85**	**58**		**Pn**	**00 45 44.9**	**-0.4**
E24K	**Your Creek**	**3.85**	**58**	IAML		00 46 59.7	
comp=N,117nm,0.6s							
KTH	**Kantishna Hill**	**3.85**	**133**		**Pn**	**00 45 45.9**	**+0.5**
KTH				IAML		00 46 58.5	
comp=E,77nm,0.9s							
KTH				IAML		00 47 04.5	
comp=N,74nm,1.1s							
F24K	**Squaw Lake**	**3.88**	**67**	Pn	**Pn**	**00 45 45.9**	**+0.1**
F24K				IAML		00 46 53.4	
comp=N,144nm,0.9s							
BWN	**Browne**	**3.91**	**120**		**Pn**	**00 45 46.4**	**+0.4**
G24K	**Hadweenzic Riv**	**3.93**	**80**		**Pn**	**00 45 45.2**	**-1.2**
PPLA	**Purkeypile**	**4.05**	**145**		**Pn**	**00 45 48.8**	**+0.6**
PPLA				IAML		00 46 56.2	
comp=E,57nm,1.1s							
PPLA				IAML		00 47 08.1	
comp=N,64nm,1.2s							
L18K	**Granite Mounta**	**4.11**	**176**		**Pn**	**00 45 48.2**	**-0.6**
L18K				IAML		00 46 59.1	
comp=N,61nm,1.2s							
L18K				IAML		00 47 06.1	
comp=E,55nm,0.9s							
L20K	**Farewell, AK**	**4.11**	**158**		**Pn**	**00 45 49.3**	**+0.5**
TRF	**Thorofare Moun**	**4.12**	**131**		**Pn**	**00 45 49.4**	**+0.3**
TRF				IAML		00 46 57.5	
comp=E,111nm,1.1s							
TRF				IAML		00 46 58.0	
comp=N,81nm,1.4s							
COLA	**College**	**4.15**	**106**		**Pn**	**00 45 48.8**	**-0.6**
A19K	**Wainwright**	**4.17**	**342**		**Pn**	**00 45 49.7**	**+0.1**
L17K	**Donlin**	**4.21**	**187**		**Pn**	**00 45 50.0**	**-0.2**
POKR	**Poker Plat Res**	**4.22**	**102**		**Pn**	**00 45 50.4**	**0.0**
POKR				IAML		00 47 01.3	
comp=N,73nm,1.1s							
POKR				IAML		00 47 02.0	
comp=E,69nm,0.7s							
WRH	**Wood River Hil**	**4.25**	**111**		**Pn**	**00 45 50.0**	**-0.7**
WRH				IAML		00 47 01.1	
comp=E,52nm,0.7s							
WRH				IAML		00 47 09.0	
comp=N,46nm,1.4s							
L19K	**White Mountain**	**4.26**	**165**		**Pn**	**00 45 51.2**	**+0.2**
CCB	**Clear Creek Bu**	**4.27**	**109**		**Pn**	**00 45 49.9**	**-1.1**
CCB				IAML		00 47 02.9	
comp=E,43nm,0.8s							
D24K	**Happy Valley**	**4.29**	**44**		**Pn**	**00 45 51.0**	**-0.4**
B22K	**Teshekpuk Lake**	**4.30**	**18**		**Pn**	**00 45 50.2**	**-1.2**
C23K	**Itkillik River**	**4.33**	**32**		**Pn**	**00 45

PRP IAML 00 47 33.2
comp=N,45nm,0.7s
M18K Stony River 4.87 172 Pn 00 45 59.2 0.0
E25K Arctic Village 4.89 63 Pn 00 46 00.0 +0.4
E25K IAML 00 47 28.7
comp=E,60nm,0.7s
M17K Holitna River 4.92 181 Pn **Pn 00 46 00.4 +0.4**
M17K IAML 00 47 29.7
comp=E,52nm,1.3s
M17K IAML 00 47 35.2
comp=N,49nm,1.3s
CUT Chulitna 4.95 139 Pn **Pn 00 45 59.4 -0.9**
L15K Ungalak Mounta 5.00 204 Pn 00 46 01.5 +0.4
SKT Skwentna 5.00 147 Pn 00 46 01.5 +0.3
SKT IAML 00 47 41.4
comp=E,35nm,1.3s
A21K Barrow 5.05 2 Pn 00 46 00.8 -0.9
D25K Kavik River 5.11 49 Pn **Pn 00 46 02.7 +0.1**
BMAR Burnt Mountain 5.12 71 Pn 00 46 02.2 -0.5
J25K Salcha River, 5.23 103 IAML 00 47 30.6
comp=E,30nm,0.5s
J25K IAML 00 47 36.7
comp=N,34nm,0.9s
F26K Sheenjek River 5.32 69 Pg **Pb 00 46 22.7 +4.0**
F26K IAML 00 47 40.4
comp=N,43nm,1.0s
F26K IAML 00 47 53.3
comp=E,46nm,1.4s
M16K Timber Creek 5.36 189 Pn **Pn 00 46 05.6 -0.3**
M16K IAML 00 47 46.8
comp=N,25nm,0.9s
STLK Strandline Lak 5.38 151 Pn 00 46 05.2 -1.1
G26K Porcupine Rive 5.40 77 Pn 00 46 06.7 +0.2
K13K Kusilvak Mount 5.45 220 Pn 00 46 06.5 -0.8
K13K Kusilvak Mount 5.45 220 Pg **Pg 00 46 26.2 -3.4**
K24K Donnelly Dome 5.46 112 Pn 00 46 06.1 -1.3
L14K Kuka Creek 5.53 208 Pn **Pn 00 46 09.2 +0.9**
SUA Susitna One 5.64 146 Pn 00 46 09.9 0.0
N19K Bonanza Creek 5.64 166 Pn 00 46 10.3 +0.3
N18K Kilae Creek 5.68 173 Pn 00 46 10.8 +0.5
N17K Nushagak Hills 5.80 180 Pn 00 46 12.2 +0.2
GHO Glory Hole Cre 5.83 137 Pn 00 46 12.4 -0.1
M15K Kasigluk River 5.84 197 Pn 00 46 12.1 -0.4
RIDG Independent Ri 5.84 110 Pn 00 46 13.1 +0.4
I26K Coal Creek Min 5.88 93 Pn 00 46 12.6 -0.5
N16K Nishlik Lake 5.89 187 Pn 00 46 12.9 -0.4
M14K Bethel 5.96 203 Pn **Pn 00 46 13.8 -0.4**
SML Sawmill 5.97 135 Pn 00 46 14.0 -0.3
J26L Joseph Creek 5.99 101 Pn **Pn 00 46 13.5 -1.2**
SCRK Sand Creek 6.05 107 Pn 00 46 14.4 -1.3
PAX Paxson 6.06 118 Pn **Pn 00 46 15.9 +0.2**
C27K Jago River 6.08 51 Pn 00 46 16.3 +0.5
DOT Dot Lake 6.19 109 Pn 00 46 17.4 0.0
RC01 Rabbit Creek A 6.20 144 Pn **Pn 00 46 17.4 -0.1**
SCM Sheep Creek Mo 6.24 131 Pn **Pn 00 46 19.0 +0.8**
KNK Knik Glacier 6.25 138 Pn 00 46 18.9 +0.6
N15K Kwethluk River 6.29 193 Pn 00 46 18.2 -0.6
H27K Steamboat Moun 6.34 83 Pn 00 46 20.1 +0.6
M24K Tolsona, Glenn 6.40 126 Pn **Pn 00 46 21.4 +1.1**
O18K Koktuh Hills 6.54 171 Pn **Pn 00 46 21.9 -0.3**
O17K Koliganek Bris 6.55 179 Pn 00 46 22.1 -0.2
ILSW Iliamna Southw 6.61 162 Pn **Pn 00 46 23.7 +0.5**
MENT Mentasta 6.71 114 Pn **Pn 00 46 25.0 +0.4**
PWL Port Wells 6.75 140 Pn **Pn 00 46 25.7 +0.7**
KLU Klutina 6.94 129 Pn 00 46 28.6 +0.9
P18K Big Mountain, 7.00 172 Pn **Pn 00 46 28.6 +0.2**
GL1 Glacier Island 7.07 136 Pn **Pn 00 46 28.5 -0.9**
O15K Ungalikthiuk R 7.25 191 Pn 00 46 31.4 -0.5
N25K Chitina, Valde 7.28 124 Pn 00 46 33.6 +1.2
FID Port Fidalgo 7.35 134 Pn 00 46 32.2 -1.1
BCAR Beaver Creek A 7.37 109 Pn **Pn 00 46 33.7 0.0**
E29M Blow River 7.75 66 Pn 00 46 38.2 -0.4
BMRM Bremner River 7.75 128 Pn **Pn 00 46 39.5 +0.7**
ACHA Angle Creek He 8.17 173 Pn **Pn 00 46 45.9 +1.3**
EPYK Eagle Plains 8.25 80 Pn 00 46 45.0 -0.6
G30M tAoh Zraii Nji 8.37 76 Pn 00 46 46.5 -0.7
YKA Yellowknife Ar 18.53 82 P **Pn 00 49 03.8 +1.3**
comp=N,0.1nm,0.3s,baz=300,slow=11,SNR=8.0
comp=N,1.2nm,1.0s
TXAR Lajitas Array 49.05 112 P **P 00 53 33.9 +0.6**
comp=N,0.2nm,0.7s,baz=339,slow=7.8,SNR=3.8
comp=N,0.2nm,0.7s
SONM Songino Array 49.78 299 P **P 00 53 39.7 +1.0**
comp=N,0.2nm,0.3s,baz=31,slow=3.4,SNR=2.8
comp=N,0.2nm,0.3s
BVAR Borovoye Array 55.64 327 P **P 00 54 20.9 -0.9**
comp=N,0.5nm,0.5s,baz=39,slow=5.5,SNR=3.8
comp=N,0.5nm,0.5s
KURBB Kurchatov Arra 55.92 321 P **P 00 54 23.1 -0.8**
comp=N,0.2nm,0.3s,baz=34,slow=7.0,SNR=3.5
comp=N,0.2nm,0.3s
MKAR Makanchi Array 58.41 316 P **P 00 54 42.6 +1.0**
comp=N,0.4nm,0.7s,baz=38,slow=7.3,SNR=2.8
comp=N,0.4nm,0.7s

*CNRM **09** 00:59:59.2, 36.°35N×3.°53W, h2km*
*SFS **09** 01:00:01.4, 36.°35N×3.°51W, h0km, ML2.5/8, ML2.1/10, MLv1.9/10*
*MDD **09** 01:00:01.2±0.6, 36.°34N×3.°53W, h0km±4km, mb_Lg2.2/8, Error ellipse: s-maj=4.0km s-min=3.4km az=48.0*
ISC 09 01:00:00.6±1.2, 36.°32N±0.°03×3.°51W±0.°03, h9km±10km, n35, σ0°73/56, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELGU	**Los Guajares,**	**0.55**	**350**	Pg	**Pg**	**01 00 11.7**	**+0.4**
ELGU				Sg	**Sg**	**01 00 18.2**	**-0.4**
ELGU	**Los Guajares,**	**0.55**	**350**	↑↑Pg	**Pg**	**01 00 11.6**	**+0.4**
ELGU				Sg	**Sg**	**01 00 18.1**	**-0.4**
EBER	**Berja**	**0.76**	**41**	Pg	**Pg**	**01 00 15.8**	**+0.6**
EBER	**Berja**	**0.76**	**41**	Pg	**Pg**	**01 00 15.8**	**+0.6**
EBER				Sg	**Sg**	**01 00 25.6**	**+0.4**
EXCAB	**Granada**	**0.85**	**356**	Sg	**Sg**	**01 00 28.5**	**+0.3**
EMAL	**Malaga-Limoner**	**0.86**	**301**	Pg	**Pg**	**01 00 16.9**	**-0.2**
EMAL				Sg	**Sg**	**01 00 27.2**	**-1.1**
EQUE	**Quentar**	**0.88**	**4**	Pg	**Pg**	**01 00 17.4**	**-0.1**
EQUE				Sg	**Sg**	**01 00 29.0**	**0.0**
EQUE				*i* Vmb_Lg		01 00 31.5	
EQTA	**Presa de Quent**	**0.88**	**4**	Pg	**Pg**	**01 00 17.9**	**+0.3**
EGOR	**Sierra Gorda,**	**0.92**	**329**	Pg	**Pg**	**01 00 17.6**	**-0.7**
EGOR	**Sierra Gorda,**	**0.92**	**329**	Pg	**Pg**	**01 00 17.6**	**-0.7**
EGOR				Sg	**Sg**	**01 00 29.5**	**-0.8**
PALE	**Palemas**	**1.16**	**198**	P	**Pn**	**01 00 21.7**	**-1.2**
PALE	**Palemas**	**1.16**	**198**	S	**Sb**	**01 00 38.4**	**+0.5**
GOG	**Mont Gurugu**	**1.18**	**159**	P	**Pn**	**01 00 22.2**	**-1.1**
GOG	**Mont Gurugu**	**1.18**	**159**	S	**Sb**	**01 00 39.5**	**+1.0**
ENIJ	**Nijar**	**1.23**	**58**	Pg	**Pn**	**01 00 23.1**	**-0.9**
ENIJ				Sg	**Sb**	**01 00 39.0**	**-1.0**
ENIJ	**Nijar**	**1.23**	**58**	Pg	**Pn**	**01 00 23.2**	**-0.7**
ENIJ				Sg	**Sn**	**01 00 39.9**	**-0.8**
ENIJ				*i* Vmb_Lg		01 00 49.9	
E0803	**Jimena (Jaen)**	**1.51**	**1**	Pg	**Pn**	**01 00 28.0**	**+0.2**
E0803				Sg	**Sg**	**01 00 49.3**	**+0.1**
EQES	**Quesada**	**1.52**	**13**	Pg	**Pb**	**01 00 29.2**	**+0.2**
EQES				Sg	**Sg**	**01 00 49.7**	**+0.3**
EQES				*i* Vmb_Lg		01 00 53.9	
EJIF	**Jimena Fronter**	**1.58**	**275**	Sn	**Sn**	**01 00 49.0**	**-0.4**
SMIR	**Smir Dam**	**1.65**	**248**	P	**Pn**	**01 00 30.1**	**+0.5**
SMIR	**Smir Dam**	**1.65**	**248**	S	**Sn**	**01 00 52.2**	**+1.3**
E0802	**Ubeda,Jaen**	**1.70**	**4**	Sg	**Sg**	**01 00 54.7**	**-0.6**
TAF	**Taforalt**	**1.75**	**149**	P	**Pn**	**01 00 30.6**	**-0.6**
AKLM	**AKL**	**1.83**	**189**	P	**Pn**	**01 00 31.1**	**-1.2**
AKLM	**AKL**	**1.83**	**189**	S	**Sn**	**01 00 55.5**	**-0.1**
EADA	**Adamuz**	**2.03**	**335**	Pn	**Pn**	**01 00 35.8**	**+0.9**
EADA				Pg	**Pb**	**01 00 38.5**	**+0.9**
EADA				Sn	**Sn**	**01 01 00.2**	**-0.2**
EADA				Sg	**Sg**	**01 01 04.8**	**-1.0**
EADA	**Adamuz**	**2.03**	**335**	Pn	**Pn**	**01 00 35.4**	**+0.4**
EADA				Pg	**Pb**	**01 00 38.2**	**+0.6**
EADA				Sn	**Sn**	**01 00 60.0**	**-0.4**
EADA				Sg	**Sg**	**01 01 05.1**	**-0.6**
EADA				*i* Vmb_Lg		01 01 06.0	
ECAB	**El Cabril**	**2.32**	**319**	Pn	**Pn**	**01 00 39.0**	**+0.1**
ECAB				Pg	**Pb**	**01 00 43.2**	**+0.6**
ECAB				Sn	**Sn**	**01 01 07.6**	**0.0**
ECAB				*i* Vmb_Lg		01 01 09.8	
ECAB				Sg	**Sg**	**01 01 14.3**	**-0.8**
PSIM	**Granatula de C**	**2.50**	**356**	Pg	**Pb**	**01 00 45.9**	**+0.3**
PAB	**San Pablo**	**3.28**	**349**	Pn	**Pn**	**01 00 52.8**	**+0.6**
PAB				*i* Vmb_Lg		01 01 27.5	
PAB				Sg	**Sg**	**01 01 45.4**	**-0.6**
MD31	**MD31**	**3.60**	**197**	P	**Pn**	**01 00 56.7**	**+0.1**
MD31	**MD31**	**3.60**	**197**	S	**Sn**	**01 01 40.7**	**+1.4**
EBAD	**Badajoz**	**3.69**	**312**	Pn	**Pn**	**01 00 58.6**	**+0.8**
EBAD	**Badajoz**	**3.69**	**312**	Pn	**Pn**	**01 00 58.1**	**+0.3**
EBAD				Sn	**Sn**	**01 01 39.6**	**-1.9**
EBAD				*i* Vmb_Lg		01 01 54.2	
PCVE	**Castro Verde**	**3.85**	**291**	Pn	**Pn**	**01 00 59.7**	**-0.3**

*IDC **09** 01:03:22.9±1.6, 7.°01S×155.°31E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=57.0km s-min=30.0km az=94.0*
*NEIC **09** 01:03:24.3±1.1, 7.°07S±0.°10×155.°3E±0.°1, h10km±1km, mb4.3/18, Error ellipse: s-maj=23.7km s-min=13.3km az=60.0*
ISC 09 01:03:28.3±0.7, 7.°1S±0.°1×155.°2E±0.°1, h41km, n29, σ1°04/26, mb4.2/16, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.20**	**313**	Pn	**Pn**	**01 04 29.3**	**-0.5**
EIDS	**Eidsvold**	**18.59**	**192**	P	**P**	**01 07 40.8**	**-1.4**
WB0	**Warramunga Arr**	**23.81**	**236**	P	**P**	**01 08 38.8**	**+1.1**
WB0				IAmb	IAmb	01 09 11.0	
WR8	**Warramunga Arr**	**23.82**	**236**	P	**P**	**01 08 37.9**	**+0.2**
WR8				IAmb	IAmb	01 08 53.4	
WRAB	**Tennant Creek**	**23.93**	**236**	P	**P**	**01 08 38.2**	**-0.6**
WRAB				IAmb	IAmb	01 08 38.4	
WB2	**Warramunga Arr**	**23.93**	**236**	P	**P**	**01 08 38.6**	**-0.2**
WB2				IAmb	IAmb	01 08 42.5	
WRA	**Warramunga Arr**	**23.94**	**236**	P	**P**	**01 08 41.2**	**+2.3**
	comp=Z,0.6nm,0.5s,baz=63,slow=10.0,SNR=6.2						
	comp=Z,0.6nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**27.84**	**24**	T	T	01 37 32.7	
	baz=202,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**27.84**	**24**	T	T	01 37 38.2	
	baz=202,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy**	**27.85**	**24**	T	T	01 37 33.7	
	baz=202,slow=76,SNR=10						
FITZ	**Fitzroy Crossi**	**30.81**	**246**	P	**P**	**01 09 39.9**	**-0.7**
NIUE	**Niue**	**35.89**	**113**	P	**P**	**01 10 23.5**	**-1.3**
SBUM	**Sibu**	**43.95**	**281**	P	**P**	**01 11 30.8**	**-1.0**
SBUM				IAmb	IAmb	01 11 49.8	
	comp=Z,3.3nm,1.3s						
PEA0B	**Petropavlovsk-**	**60.01**	**2**	P	**P**	**01 13 30.4**	**-0.3**
SONM	**Songino Array**	**69.54**	**327**	P	**P**	**01 14 34.5**	**+1.4**
SONM	**Songino Array**	**69.54**	**327**	P	**P**	**01 14 34.9**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=144,slow=5.3,SNR=5.8						
	comp=Z,0.8nm,0.6s						
VNDA	**Vanda**	**70.47**	**178**	P	**P**	**01 14 39.3**	**+1.2**
VNDA	**Vanda**	**70.47**	**178**	P	**P**	**01 14 39.6**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=17,slow=5.3,SNR=2.2						
	comp=Z,0.6nm,0.8s						
F15K	**North Star Dit**	**78.34**	**16**	P	**P**	**01 15 23.8**	**-0.2**
C18K	**Utukok River**	**81.43**	**15**	P	**P**	**01 15 40.7**	**-0.1**
C18K				IAmb	IAmb	01 16 17.4	
	comp=Z,3.6nm,1.2s						
E19K	**Redstone River**	**81.66**	**17**	P	**P**	**01 15 42.1**	**+0.2**
E19K				IAmb	IAmb	01 16 22.0	
	comp=Z,3.4nm,1.2s						
QSPA	**South Pole Qui**	**82.88**	**180**	P	**P**	**01 15 49.2**	**+0.7**
QSPA				IAmb	IAmb	01 16 29.5	
	comp=Z,4.3nm,1.4s						
MK31	**Makanchi Array**	**83.63**	**319**	P	**P**	**01 15 51.7**	**-1.0**
MK31				IAmb	IAmb	01 15 54.7	
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**83.63**	**319**	P	**P**	**01 15 53.5**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=98,slow=6.2,SNR=14						
	comp=Z,1.6nm,0.8s						
M26K	**Nabesna, AK**	**83.69**	**24**	P	**P**	**01 15 53.6**	**+1.0**
M26K				IAmb	IAmb	01 16 08.0	
	comp=Z,9.2nm,1.4s						
PCA	**Pinnacle**	**83.82**	**27**	P	**P**	**01 15 53.4**	**0.0**
ZALV	**Zalesovo Beam**	**84.39**	**326**	P	**P**	**01 15 56.1**	**-0.2**
ZALV	**Zalesovo Beam**	**84.39**	**326**	P	**P**	**01 15 56.0**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=108,slow=4.8,SNR=7.1						
	comp=Z,1.5nm,0.5s						
KURBB	**Kurchatov Arra**	**87.08**	**322**	P	**P**	**01 16 09.2**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=101,slow=4.3,SNR=8.9						
	comp=Z,0.4nm,0.6s						

*IDC **09** 01:08:53.4±1.1, 0.°09N×98.°19E, h0km, mb3.9/10, mbtmp3.9/12, ML4.4/2, MS3.3/8, Error ellipse: s-maj=39.8km s-min=19.5km az=59.0*
*DJA **09** 01:09:00.3±0.3, 0.°N±4.°×9.°9E±.°, h37km±8km, M4.5/16, mB5.2/3, mb4.5/5, MLv4.5/16, Mw(mB)4.6/3*
*NEIC **09** 01:09:02.1±1.8, 0.°35N±0.°07×98.°52E±0.°07, h50km±7km, mb4.5/19, Error ellipse: s-maj=13.6km s-min=2.6km az=46.0*
ISC 09 01:09:00.6±0.5, 0.°27N±0.°05×98.°50E±0.°05, h43km, n66, σ0°93/55, mb4.3/20, MS3.4/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.39**	**214**	P	**Pn**	**01 09 10.0**	**-0.1**
PBSI				S	**Sn**	**01 09 18.1**	**+1.4**
MNSI	**Mandailing Nat**	**1.20**	**64**	P	**Pn**	**01 09 20.7**	**-0.2**
SBSI	**Sibolga**	**1.33**	**17**	P	**Pn**	**01 09 24.0**	**+1.3**
GSI	**Gunungsitoli**	**1.38**	**318**		**Pn**	**01 09 23.7**	**+0.4**
GSI				Sn	**Sn**	**01 09 40.7**	**+0.2**
GSI	**Gunungsitoli**	**1.38**	**318**	P	**Pn**	**01 09 24.1**	**+0.7**
PPI	**Padang Panjang**	**2.03**	**111**	P	**Pn**	**01 09 32.4**	**+0.1**
PPI				S	**Sn**	**01 09 56.0**	**-0.5**
RPSI	**Rantau Prapat**	**2.45**	**10**		**Pn**	**01 09 38.8**	**+0.7**
RPSI	**Rantau Prapat**	**2.45**	**10**		**Pn**	**01 09 38.1**	**+0.1**
BKNI	**Bangkinang**	**2.54**	**89**		**Pn**	**01 09 38.9**	**-0.5**
BKNI	**Bangkinang**	**2.54**	**89**	P	**Pn**	**01 09 39.4**	**0.0**
PSI	**Prapat**	**2.55**	**10**	Pn	**Pn**	**01 09 38.1**	**-1.5**
	14nm,0.3s,baz=138,slow=6.5,SNR=19						
PSI				LR	LR	01 10 50.3	
	comp=Z,379nm,18.3s,baz=170,slow=43						
	28nm,0.3s						
SNSI	**Sinabang, Aceh**	**3.04**	**314**	P	**Pn**	**01 09 46.7**	**+0.6**
MLSI	**Meulaboh, Aceh**	**4.49**	**332**	P	**Pn**	**01 10 07.1**	**+1.0**
LHMI	**Lhok Sumawe**	**5.16**	**343**	Pn	**Pn**	**01 10 16.1**	**+0.8**
LHMI	**Lhok Sumawe**	**5.16**	**343**	P	**Pn**	**01 10 15.8**	**+0.4**
KULM	**Kulim**	**5.43**	**23**		**Pn**	**01 10 19.8**	**+0.7**
MYKOM	**Kota Tinggi**	**5.56**	**74**		**Pn**	**01 10 21.9**	**+1.0**
BSI	**Banda Aceh**	**6.10**	**328**	P	**Pn**	**01 10 28.0**	**-0.2**
MNAI	**Manna**	**6.40**	**136**	Pn	**Pn**	**01 10 34.4**	**+2.0**
MNAI	**Manna**	**6.40**	**136**	P	**Pn**	**01 10 32.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**18.08**	**1**	P	**P**	**01 13 08.3**	**-0.4**
	1.2nm,0.3s,baz=188,slow=11,SNR=9.4						
CMAR				LR	LR	01 21 23.6	
	comp=Z,43nm,18.1s,baz=200,slow=41						
	2.0nm,0.3s						
PALK	**Pallekele**	**19.06**	**292**	LR	LR	01 19 52.4	
	comp=Z,58nm,18.1s,baz=112,slow=35						
H08S2	**Diego Garcia H**	**27.09**	**253**	T	T	01 42 13.3	
	baz=73,slow=75,SNR=96						
H08S3	**Diego Garcia H**	**27.10**	**253**	T	T	01 42 10.9	
	baz=73,slow=75,SNR=82						
H08S1	**Diego Garcia H**	**27.11**	**253**	T	T	01 42 10.4	
	baz=73,slow=75,SNR=59						
BATI	**Baumata**	**27.11**	**113**	LR	LR	01 28 09.2	
	comp=Z,163nm,18.2s,baz=265,slow=42						
DAV	**Davao City (W)**	**27.84**	**75**	LR	LR	01 29 20.1	
	comp=Z,30nm,18.5s,baz=153,slow=44						
LYN	**LuoYang**	**36.52**	**20**	P	P	01 16 11.9	+10
LYN				pmax	pmax		
	comp=Z,15nm,0.6s						
WB0	**Warramunga Arr**	**40.42**	**122**	P	**P**	**01 16 35.6**	**+0.6**
WB0				IAmb	IAmb	01 16 59.3	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**40.45**	**122**	P	**P**	**01 16 35.5**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=297,slow=8.1,SNR=3.6						
	comp=Z,0.8nm,0.8s						
WR8	**Warramunga Arr**	**40.59**	**122**	P	**P**	**01 16 36.6**	**+0.2**
WR8				IAmb	IAmb	01 17 13.6	
	comp=Z,6.1nm,1.2s						
FORT	**Forrest**	**41.73**	**140**	P	**P**	**01 16 47.1**	**+1.4**
FORT				IAmb	IAmb	01 17 17.8	
	comp=Z,16nm,0.9s						
ASAR	**Alice Springs**	**41.80**	**127**	P	**P**	**01 16 46.0**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=304,slow=7.9,SNR=5.1						
	comp=Z,0.6nm,0.6s						
JNU	**Nakatsue**	**44.67**	**40**	LR	LR	01 37 21.0	
	comp=Z,41nm,18.1s,baz=360,slow=38						
KDJ	**Kajisay**	**45.89**	**338**	P	**P**	**01 17 19.6**	**+0.5**
KDJ				IAmb	IAmb	01 17 31.9	
	comp=Z,5.3nm,1.2s						
KSRS	**Korea Array**	**45.90**	**33**	LR	LR	01 39 12.9	
	comp=Z,27nm,18.1s,baz=110,slow=39						
SONM	**Songino Array**	**47.87**	**7**	P	**P**	**01 17 37.0**	**+2.6**
SONM				IAmb	IAmb	01 17 40.1	
	comp=Z,2.4nm,0.9s						
SONM	**Songino Array**	**47.87**	**7**	P	**P**	**01 17 34.9**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=189,slow=8.0,SNR=9.8						
	comp=Z,2.5nm,0.8s						
MK31	**Makanchi Array**	**48.46**	**345**	P	**P**	**01 17 39.1**	**+0.3**
MK31				IAmb	IAmb	01 17 50.5	
	comp=Z,4.8nm,1.3s						
MKAR	**Makanchi Array**	**48.46**	**345**	P	**P**	**01 17 38.9**	**0.0**
MKAR	**Makanchi Array**	**48.46**	**345**	P	**P**	**01 17 39.1**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=160,slow=8.8,SNR=11						
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**52.97**	**344**	P	**P**	**01 18 12.6**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=166,slow=7.4,SNR=9.8						
	comp=Z,0.8nm,0.8s						
OPO	**Ambohidratompo**	**53.74**	**247**	LR	LR	01 37 41.8	
	comp=Z,43nm,18.3s,baz=360,slow=32						
ZALV	**Zalesovo Beam**	**54.68**	**350**	P	**P**	**01 18 24.7**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=180,slow=6.7,SNR=5.5						
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**57.55**	**340**	P	**P**	**01 18 44.4**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=140,slow=9.5,SNR=11						
	comp=Z,1.7nm,0.6s						
BRVK	**Borovoye**	**57.62**	**340**	P	**P**	**01 18 45.5**	**-0.6**
AB31	**Akbulak array**	**58.94**	**332**	P	**P**	**01 18 55.0**	**-0.5**
ABKAR	**Akbulak array**	**58.94**	**332**	P	**P**	**01 18 54.7**	**-0.8**
ABKAR	**Akbulak array**	**58.94**	**332**	P	**P**	**01 18 54.9**	**-0.5**
ABKAR				IAmb	IAmb	01 18 55.5	
	comp=Z,1.3nm,0.8s						
H04N2	**CROZET ISLANDS**	**61.75**	**215**	T	T	02 25 40.6	
	baz=57,slow=75,SNR=34						
H04N1	**CROZET ISLANDS**	**61.76**	**215**	T	T	02 25 41.1	
	baz=57,slow=75,SNR=40						
H04N3	**CROZET ISLANDS**	**61.77**	**215**	T	T	02 25 39.8	
	baz=57,slow=75,SNR=31						
ARTI	**Arti**	**64.58**	**337**	P	**P**	**01 19 32.1**	**-1.2**
ARTI				IAmb	IAmb	01 19 32.6	
	comp=Z,3.1nm,0.4s						
KBZ	**Khabaz**	**65.62**	**319**	P	**P**	**01 19 39.1**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=66,slow=7.5,SNR=2.3						
	comp=Z,0.7nm,0.8s						
BRTR	**Keskin Array B**	**70.69**	**312**	P	**P**	**01 20 11.3**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=160,slow=4.6,SNR=2.9						
	comp=Z,0.4nm,0.8s						
BOSA	**Boshof**	**75.44**	**240**	P	**P**	**01 20 38.5**	**-2.2**
BOSA				IAmb	IAmb	01 21 07.0	
	comp=Z,6.1nm,1.2s						
BURAR	**Bucovina Array**	**78.58**	**319**	P	**P**	**01 20 58.9**	**+1.0**
BKZ	**Black Stump Fm**	**80.87**	**130**	P	**P**	**01 21 11.2**	**+0.8**
BKZ				IAmb	IAmb	01 21 43.1	
	comp=Z,16nm,1.2s						
FINES	**FINESS Array B**	**81.42**	**332**	P	**P**	**01 21 11.3**	**-1.5**
	comp=Z,4.8nm,1.1s,baz=145,slow=5.1,SNR=1.7						
	comp=Z,4.8nm,1.1s						
VNDA	**Vanda**	**84.66**	**169**	P	**P**	**01 21 30.8**	**+1.5**
NC303	**NORSAR Array S**	**88.38**	**331**	P	P	01 21 41.6	-6.2
PRMA	**PARMA**	**88.52**	**315**	P	**P**	**01 21 48.3**	**-0.5**
NBO00	**NORSAR Array S**	**88.66**	**331**	P	**P**	**01 21 48.9**	**-0.2**
KONO	**Kongsberg**	**89.21**	**329**	P	**P**	**01 21 52.0**	**+0.3**
QSPA	**South Pole Qui**	**90.22**	**180**	P	**P**	**01 21 56.5**	**+0.1**
QSPA				IAmb	IAmb	01 22 00.3	
	comp=Z,2.6nm,1.2s						
CPUP	**Villa Florida**	**145.16**	**220**	PKP	**PKPbc**	**01 28 32.8**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=164,slow=5.1,SNR=5.0						

IDC 09 01:32:37.1±4.2, 47.°50N×155.°33E, h0km, mb3.4/4, mbtmp3.3/5, ML2.3/1, Error ellipse: s-maj=98.4km s-min=31.6km az=166.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.81**	**14**	Pn	Pn	01 34 05.1	+0.6
	0.4nm,0.3s,baz=199,slow=14,SNR=4.1						
PETK				Sn	Sn	01 35 17.9	+6.1
	0.2nm,0.3s,baz=224,slow=28,SNR=2.1						
	1.7nm,0.6s						
ILAR	**Eielson Array**	**35.01**	**39**	P	P	01 39 29.4	-1.4
	0.3nm,0.6s,baz=262,slow=8.7,SNR=5.3						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**48.30**	**304**	P	P	01 41 19.7	0.0
	0.4nm,0.4s,baz=63,slow=8.0,SNR=5.3						
	0.4nm,0.4s						
YKA	**Yellowknife Ar**	**49.41**	**38**	P	P	01 41 29.2	+1.2
	0.1nm,0.6s,baz=280,slow=13,SNR=3.6						
	0.1nm,0.6s						
BVAR	**Borovoye Array**	**51.55**	**310**	P	P	01 41 44.2	-0.2
	0.8nm,0.6s,baz=82,slow=10,SNR=3.9						
	0.8nm,0.6s						

*NEIC **09** 01:36:29.7±1.1, 23.°4S±0.°1×179.°5W±0.°2, h457km±8km, mb4.4/30, Error ellipse: s-maj=21.9km s-min=15.5km az=96.0*
*IDC **09** 01:36:49.5±23.0, 23.°08S×179.°61E, h672km±311km, mb2.8/3, mbtmp3.9/3, Error ellipse: s-maj=226.2km s-min=105.7km az=166.0*
ISC 09 01:36:36.2±0.6, 23.°6S±0.°1×179.°7W±0.°1, h536km, n37, σ0°81/37, mb4.4/18, South of Fiji Islands

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

M27K	**Edge Creek, AK**	**90.77**	**17**	P	**P**	**01 48 41.7**	**-0.1**
M27K				IAmb	IAmb	01 49 10.7	
comp=Z,12nm,1.4s							
RIDG	**Independent Ri**	**91.19**	**15**	P	**P**	**01 48 43.4**	**-0.2**
RIDG				IAmb	IAmb	01 48 45.2	
comp=Z,4.1nm,0.8s							
SAND	**Sanderson**	**91.48**	**58**	P	**P**	**01 48 44.9**	**-0.9**
M29M	**Somme Creek**	**91.77**	**18**	P	**P**	**01 48 46.7**	**+0.4**
M29M				IAmb	IAmb	01 49 12.9	
comp=Z,4.2nm,1.2s							
C16K	**Lisburne Hills**	**92.17**	**5**	P	**P**	**01 48 48.3**	**+0.4**
C16K				IAmb	IAmb	01 49 02.7	
comp=Z,7.6nm,1.4s							
SOE	**Somerset East**	**119.08**	**204**	PKPdf	**PKiKP**	**01 54 24.9**	**+0.2**
GGN	**Saint George**	**122.19**	**50**	PKPdf	**PKiKP**	**01 54 31.0**	**+0.7**
ABKAR	**Akbulak array**	**127.18**	**315**	PKPdf	**PKiKP**	**01 54 40.2**	**+0.2**
HFS	**Hagfors**	**142.27**	**349**	PKP	**PKPdf**	**01 55 05.2**	**-2.0**
comp=Z,0.6nm,0.4s,baz=48,slow=2.1,SNR=5.8							

*NOU **09** 01:44:05.9, 17.41S×167.45E, h0km, MLv4.9/9, Vanuatu Islands*
*IDC **09** 01:44:07.3±4.1, 17.36S×167.46E, h0km, mb4.0/4, mbtmp3.9/5, ML3.4/1, MS3.5/9, Error ellipse: s-maj=82.5km s-min=39.3km az=35.0*

ISC 09 01:44:08.8±1.0, 17.37S±0.07×167.61E±0.09, h19km, n16, σ1°56/9, mb4.1/4, MS3.3/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.66**	**123**	P	**Pb**	**01 44 20.5**	**-1.1**
DVP	**Devils Point**	**0.66**	**123**	S	**Sb**	**01 44 31.2**	**+0.9**
VLAKA	**Lakatoro**	**1.27**	**352**	P	**Pn**	**01 44 30.8**	**-0.7**
DZM	**Mont Dzumac**	**4.81**	**193**	Pn	**Pn**	**01 45 20.3**	**-0.1**
1.5nm,0.3s,baz=134,slow=23,SNR=14							
DZM				Sn	**Sn**	**01 46 13.1**	**-2.4**
2.6nm,0.3s,baz=278,slow=23,SNR=8.0							
9.2nm,0.8s							
MSVF	**Nonsavu**	**9.96**	**94**	LR	LR	01 49 37.9	
comp=Z,621nm,18.5s,baz=281,slow=33							
HNR	**Honiara**	**10.85**	**316**	LR	LR	01 50 43.3	
comp=Z,166nm,19.0s,baz=7.5,slow=37							
URZ	**Urewera**	**22.42**	**160**	LR	LR	01 55 42.0	
comp=Z,103nm,20.5s,baz=145,slow=31							
STKA	**Stephens Creek**	**27.62**	**234**	P	**P**	**01 49 56.9**	**+1.6**
4.3nm,0.8s,baz=56,slow=16,SNR=4.6							
4.3nm,0.8s							
RAR	**Rarotonga**	**30.99**	**102**	LR	LR	01 59 57.8	
comp=Z,31nm,21.0s,baz=250,slow=30							
WRA	**Warramunga Arr**	**31.60**	**260**	P	**P**	**01 50 30.2**	**-0.6**
0.5nm,0.9s,baz=102,slow=8.0,SNR=2.0							
0.5nm,0.9s							
ASAR	**Alice Springs**	**32.13**	**253**	P	**P**	**01 50 35.2**	**-0.1**
1.6nm,0.8s,baz=78,slow=8.7,SNR=12							
ASAR				LR	LR	02 02 52.2	
comp=Z,61nm,21.9s,baz=106,slow=35							
1.6nm,0.8s							
PPT	**Papeete**	**40.77**	**97**	LR	LR	02 07 32.9	
comp=Z,59nm,18.2s,baz=9.5,slow=34							
NWAO	**Narrogin (SRO)**	**47.72**	**241**	LR	LR	02 12 31.7	
comp=Z,90nm,18.1s,baz=126,slow=36							
JNU	**Nakatsue**	**61.25**	**325**	LR	LR	02 20 01.0	
comp=Z,19nm,18.5s,baz=34,slow=35							
QSPA	**South Pole Qui**	**72.67**	**180**	P	**P**	**01 55 37.0**	**+1.8**
2.3nm,1.0s,baz=344,slow=7.1,SNR=6.1							
2.3nm,1.0s							
NVAR	**Mina Array Bea**	**88.74**	**49**	LR	LR	02 36 21.3	
comp=Z,23nm,18.0s,baz=188,slow=35							

ROM 09 01:59:00.5±0.1, 42.744N±0.003×13.242E±0.005, h10km, ML2.1/62, 2C, Error ellipse: s-maj=0.4km s-min=0.2km az=248.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTRA	**Matera**	**0.11**	**83**	P	Pg	01 59 03.8	+0.5
MTRA				S	Sg	01 59 06.0	+0.7
MTRA				AML	AML		
comp=E,2490μm,0.2s							
MTRA				AML	AML		
comp=E,2465μm,0.2s							
MTRA				AML	AML		
comp=N,1705μm,1.5s							
MTRA				AML	AML		
comp=N,1650μm,1.5s							
MTRA				AML	AML		
comp=E,2465μm,0.2s							
MTRA				AML	AML		
comp=N,1705μm,1.5s							
MTRA				AML	AML		
comp=N,1705μm,0.5s							
MTRA				AML	AML		
comp=E,2465μm,1.8s							
MTRA				AML	AML		
comp=N,1650μm,0.5s							
MTRA				AML	AML		
comp=E,2490μm,1.8s							
NRCA	**Norcia**	**0.13**	**314**	P	Pg	01 59 04.1	+0.6
NRCA				S	Sg	01 59 06.4	+0.7
NRCA				AML	AML		
comp=E,16300μm,0.1s							
NRCA				AML	AML		
comp=N,10960μm,0.1s							
NRCA				AML	AML		
comp=E,16300μm,0.1s							
NRCA				AML	AML		
comp=N,8965μm,0.1s							
NRCA				AML	AML		
comp=E,16750μm,0.1s							
NRCA				AML	AML		
comp=N,8965μm,0.1s							
SMA1	**SAN MARTINO**	**0.13**	**149**	P	Pg	01 59 04.3	+0.7
SMA1				S	Sg	01 59 06.6	+0.8
SMA1				AML	AML		
comp=E,1665μm,1.5s							
SMA1				AML	AML		
comp=N,1270μm,0.1s							
SMA1				AML	AML		
comp=E,1665μm,0.5s							
MMO1	**Montemonaco**	**0.17**	**22**	P	Pg	01 59 04.5	+0.4
MMO1				S	Sg	01 59 07.4	+0.7
MC2	**Monte Cornacci**	**0.17**	**347**	P	Pg	01 59 04.8	+0.5
MC2				S	Sg	01 59 07.9	+0.9
LNSS	**Leonessa**	**0.20**	**227**	P	Pg	01 59 05.6	+0.8
LNSS				S	Sg	01 59 09.3	+1.6
LNSS				AML	AML		
comp=E,1450μm,0.3s							
LNSS				AML	AML		
comp=N,1130μm,0.6s							
LNSS				AML	AML		
comp=N,1175μm,0.6s							
LNSS				AML	AML		
comp=E,1480μm,0.3s							
LNSS				AML	AML		
comp=E,1450μm,0.3s							
RM33	**Pellescritta (**	**0.23**	**185**	⇑P	Pg	01 59 06.0	+0.7
RM33				S	Sg	01 59 10.4	+1.8
RM33				AML	AML		
comp=E,599μm,1.0s							
RM33				AML	AML		
comp=N,1038μm,0.2s							
RM33				AML	AML		
comp=E,560μm,1.4s							
RM33				AML	AML		
comp=N,1026μm,0.2s							
RM33				AML	AML		
comp=N,1035μm,0.2s							
RM33				AML	AML		
comp=E,560μm,1.4s							
RM33				AML	AML		
comp=E,598μm,1.0s							
CAMP	**Campotosto**	**0.24**	**149**	⇑P	Pg	01 59 06.0	+0.6
CAMP				S	Sg	01 59 10.1	+1.3
CAMP				AML	AML		
comp=N,493μm,0.2s							
CAMP				AML	AML		
comp=E,870μm,0.3s							
MF5	**Montefalcone A**	**0.29**	**33**	P	Pg	01 59 07.0	+0.6
MF5				S	Sb	01 59 12.2	-0.6
MF5				AML	AML		
comp=E,519μm,0.6s							
MF5				AML	AML		
comp=N,522μm,1.2s							
MF5				AML	AML		
comp=N,522μm,1.2s							
MF5				AML	AML		
comp=E,518μm,0.6s							
MF5				AML	AML		
comp=N,522μm,0.8s							
TERO	**Teramo**	**0.29**	**114**	P	Pg	01 59 06.6	+0.2
TERO				S	Sg	01 59 11.2	+1.0
TERO				AML	AML		
comp=N,295μm,1.0s							
TERO				AML	AML		
comp=N,585μm,0.5s							
TERO				AML	AML		
comp=E,222μm,1.1s							
TERO				AML	AML		
comp=E,400μm,0.4s							
FDMO	**Fiordimonte**	**0.31**	**339**	P	Pg	01 59 06.9	+0.1
FDMO				S	Sg	01 59 11.8	+0.9
FDMO				AML	AML		
comp=E,333μm,0.6s							
FDMO				AML	AML		
comp=N,396μm,0.9s							
FDMO				AML	AML		
comp=N,396μm,1.1s							
GUMA	**Gualdo di Mace**	**0.33**	**12**	P	Pg	01 59 07.5	+0.5
GUMA				S	Sb	01 59 13.2	-0.6
GUMA				AML	AML		
comp=N,2790μm,0.3s							
GUMA				AML	AML		
comp=E,2585μm,0.3s							
CESI	**CESI - Serrava**	**0.36**	**317**	P	Pg	01 59 07.9	+0.3
CESI				S	Sg	01 59 13.3	+0.9
CESI				AML	AML		
comp=N,730μm,0.7s							
CESI				AML	AML		
comp=E,643μm,0.2s							
CESI				AML	AML		
comp=N,730μm,1.3s							
OFFI	**Offida**	**0.38**	**59**	P	Pb	01 59 09.1	-0.2
OFFI				AML	AML		
comp=E,162μm,0.5s							
OFFI				AML	AML		
comp=N,562μm,0.5s							
GIGS	**Gran Sasso**	**0.38**	**140**	P	Pg	01 59 08.0	0.0
GIGS				AML	AML		
comp=E,112μm,0.5s							
GIGS				AML	AML		
comp=N,109μm,0.1s							
GIGS				AML	AML		
comp=N,109μm,0.1s							
ARRO	**Arrone**	**0.39**	**245**	P	Pg	01 59 08.8	+0.7
ARRO				S	Sg	01 59 14.3	+1.1
ARRO				AML	AML		
comp=E,160μm,0.2s							
ARRO				AML	AML		
comp=N,116μm,0.5s							
FIAM	**Fiamignano**	**0.48**	**191**	P	Pg	01 59 10.2	+0.3
FIAM				S	Sb	01 59 17.7	-0.7
TRTR	**Tortoreto Alta**	**0.50**	**82**	P	Pb	01 59 11.5	+0.2
ASSB	**Assisi San Ben**	**0.52**	**305**	P	Pg	01 59 10.8	+0.1
ASSB				S	Sb	01 59 18.8	-0.7
ASSB				AML	AML		
comp=E,189μm,1.2s							
ASSB				AML	AML		
comp=N,139μm,0.3s							
VCEL	**Villa Celiera**	**0.56**	**128**	P	Pg	01 59 11.9	+0.5
VCEL				S	Sb	01 59 20.7	+0.1
VCEL				AML	AML		
comp=E,261μm,0.8s							
VCEL				AML	AML		
comp=N,364μm,0.2s							
VCEL				AML	AML		
comp=E,262μm,0.8s							
EL6	**Elcito**	**0.59**	**350**	P	Pg	01 59 11.9	-0.1
EL6				S	Sb	01 59 21.4	-0.2
EL6				AML	AML		
comp=E,195μm,1.5s							
EL6				AML	AML		
comp=N,184μm,1.1s							
EL6				AML	AML		
comp=E,196μm,1.5s							
EL6				AML	AML		
comp=N,184μm,1.1s							
EL6				AML	AML		
comp=E,196μm,0.5s							
ATCC	**AVT- Casa Cast**	**0.62**	**315**	P	Pg	01 59 12.7	+0.1
ATCC				S	Sb	01 59 22.7	+0.3
ATCC				AML	AML		
comp=E,138μm,1.2s							
ATCC				AML	AML		
comp=N,112μm,0.8s							
ATCC				AML	AML		
comp=N,112μm,0.8s							
ATCC				AML	AML		
comp=E,138μm,0.8s							
ATCC				AML	AML		
comp=N,112μm,1.2s							
FOSV	**Fossato di Vic**	**0.65**	**328**	P	Pg	01 59 12.9	-0.2
FOSV				S	Sb	01 59 23.2	-0.1
FOSV				AML	AML		
comp=E,106μm,0.7s							
FOSV				AML	AML		
comp=N,109μm,0.3s							
MURB	**Monte Urbino**	**0.74**	**315**	P	Pg	01 59 14.7	-0.1
MURB				AML	AML		
comp=E,206μm,0.2s							
MURB				AML	AML		
comp=N,154μm,0.2s							
SSFR	**Montelago di S**	**0.77**	**334**	P	Pg	01 59 15.1	-0.3
SSFR				S	Sb	01 59 26.4	-0.2
SSFR				AML	AML		
comp=N,182μm,0.2s							
SSFR				AML	AML		
comp=E,200μm,0.2s							
ARVD	**Arcevia**	**0.79**	**344**	P	Pg	01 59 15.4	-0.2
ARVD				AML	AML		
comp=N,38μm,1.6s							
ARVD				AML	AML		
comp=E,48μm,0.7s							
ARVD				AML	AML		
comp=N,38μm,0.4s							
ATFO	**Monte Foce - G**	**0.79**	**322**	P	Pg	01 59 15.4	-0.4
FRON	**Frontone**	**0.86**	**334**	P	Pg	01 59 16.7	-0.4
FRON				S	Sb	01 59 29.2	0.0
FRON				AML	AML		
comp=N,73μm,1.2s							
FRON				AML	AML		
comp=N,73μm,1.2s							
FRON				AML	AML		
comp=E,56μm,0.3s							
PIEI	**Pieia**	**0.95**	**327**	P	Pg	01 59 18.1	-0.6

ROM 09 01:59:36.5±0.4, 43.13N±0.01×13.93E±0.02, h37km±2km, ML1.9/12, Error ellipse: s-maj=1.8km s-min=1.5km az=58.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNTT	**Montottone**	**0.25**	**254**	P	Pn	01 59 43.7	-1.4
MNTT				S	Sn	01 59 49.2	-3.5
CIMA	**Civitanova Mar**	**0.26**	**313**	P	Pn	01 59 44.5	-0.4
CIMA				S	Sn	01 59 50.3	-2.3
OFFI	**Offida**	**0.26**	**222**	P	Pn	01 59 44.1	-0.8
TRTR	**Tortoreto Alta**	**0.32**	**182**	P	Pn	01 59 45.8	+1.0
MNTP	**Montappone**	**0.33**	**271**	P	Pn	01 59 45.0	+0.1
MNTP				S	Sn	01 59 51.6	-0.2
PP3	**Marolino**	**0.34**	**317**	P	Pn	01 59 46.0	+1.2
MF5	**Montefalcone A**	**0.37**	**248**	P	Pn	01 59 45.7	+0.4
TERO	**Teramo**	**0.56**	**205**	P	Pn	01 59 48.3	+0.1
TERO				S	Sn	01 59 57.4	+1.2
TERO				AML	AML		
comp=N,21μm,0.1s							
TERO				AML	AML		
comp=E,18μm,0.1s							
TERO				AML	AML		
comp=E,29μm,0.6s							
TERO				AML	AML		
comp=N,28μm,0.7s							
TERO				AML	AML		
comp=E,93μm,1.0s							
TERO				AML	AML		
comp=N,88μm,1.0s							
MC2	**Monte Cornacci**	**0.58**	**248**	P	Pn	01 59 48.8	+0.2
MC2				S	Sn	01 59 58.5	+1.5
FDMO	**Fiordimonte**	**0.62**	**262**	P	Pn	01 59 49.4	+0.4
FDMO				S	Sn	01 59 59.2	+1.5
FDMO				AML	AML		
comp=N,23μm,0.1s							
FDMO				AML	AML		
comp=E,56μm,0.2s							
FDMO				AML	AML		
comp=E,60μm,0.4s							
FDMO				AML	AML		
comp=N,23μm,0.6s							
NRCA	**Norcia**	**0.67**	**244**	P	Pn	01 59 50.0	+0.4
NRCA				S	Sn	02 00 00.6	+1.8
NRCA				AML	AML		
comp=N,238μm,0.1s							
NRCA				AML	AML		
comp=E,142μm,0.1s							
NRCA				AML	AML		
comp=N,56μm,0.1s							
NRCA				AML	AML		
comp=E,55μm,0.1s							
NRCA				AML	AML		
comp=E,171μm,1.6s							
NRCA				AML	AML		
comp=N,263μm,1.2s							
NRCA				AML	AML		
comp=N,238μm,0.1s							
NRCA				AML	AML		
comp=E,141μm,0.1s							
GAVE	**Gavelli**	**0.88**	**240**	AML	AML		
comp=E,121μm,0.2s							
GAVE				AML	AML		
comp=E,138μm,0.8s							
GAVE				AML	AML		
comp=N,131μm,0.6s							
GAVE				AML	AML		
comp=N,130μm,0.2s							

TRN 09 02:06:41.6, 16.72N×60.69W, h18km, MD3.5, North-east of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**1.08**	**288**	*e*P	Pg	02 07 02.9	+0.2
ANBD				*e*S	Sg	02 07 18.9	+2.0
TBG	**Guadaloupe-3**	**1.26**	**227**	*e*P	Pg	02 07 06.4	+0.4
TBG				*e*S	Sg	02 07 23.6	+1.1
ANWB	**Willy Bob**	**1.42**	**312**	*e*P	Pg	02 07 08.3	-0.7
MBWH		**1.44**	**271**	*e*S	Sg	02 07 29.5	+1.2
DSLB	**Salisbury**	**1.45**	**209**	*e*P	Pb	02 07 08.6	+0.4
DSLB				*e*S	Sg	02 07 28.4	-0.3
MBFL	**Flemmings, Mon**	**1.46**	**271**	*e*P	Pg	02 07 09.9	0.0
MDN	**Morne-Daniel**	**1.55**	**206**	*e*P	Pb	02 07 09.5	-0.3
MDN				*e*S	Sg	02 07 30.6	-1.1
BIM	**Bigot**	**2.22**	**190**	*e*P	Pb	02 07 20.5	-0.7
BIM				*e*S	Sb	02 07 47.8	-0.5
SLBI	**Saint Lucia, B**	**2.69**	**186**	*e*P	Pn	02 07 26.0	+2.0
SLBI				*e*S	Sn	02 07 58.2	+2.1

*KRNET **09** 02:08:17.3±0.1, 40.19N×78.65E, mb3.3*
*SOME **09** 02:08:18.5, 40.30N×78.78E, h10km*
*NNC **09** 02:08:22.1±3.2, 40.49N×78.75E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=22.0km s-min=16.6km az=153.0*

ISC 09 02:08:19.8±1.7, 40.30N±0.07×78.57E±0.05, h10km, n41, σ2°16/64, 21C-15D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.54**	**338**	⇓*e*P	**Pb**	**02 08 48.3**	**-0.5**
TARG				⇓*e*S	**Sg**	**02 09 10.9**	**+1.3**
KDJ	**Kajisay**	**2.11**	**331**	⇑*e*P	**Pb**	**02 08 57.1**	**-1.2**
KDJ				⇑*e*S	**Sb**	**02 09 26.0**	**+1.4**
PRZ	**Przheval'sk**	**2.19**	**357**	⇑*e*P	**Pb**	**02 08 58.3**	**-1.3**
PRZ				⇑*e*S	**Sb**	**02 09 28.3**	**+1.4**
NRN	**Naryn**	**2.26**	**301**	⇓*e*P	**Pb**	**02 08 59.0**	**-1.9**
NRN				⇓*e*S	**Sb**	**02 09 30.0**	**+1.1**
ANVS	**Anan'yevo**	**2.58**	**345**	⇑*e*P	**Pb**	**02 09 03.6**	**-2.6**
ANVS				⇑*e*S	**Sb**	**02 09 37.4**	**-0.6**
ULHL	**Ulahol**	**2.62**	**319**	⇓*e*P	**Pb**	**02 09 04.2**	**-2.8**
ULHL				⇓*e*S	**Sb**	**02 09 38.5**	**-0.9**
SATY	**Saty**	**2.76**	**358**	Pg	**Pb**	**02 09 10.1**	**+0.7**
14nm,0.9s							
SATY				Lg	Lg	02 09 48.3	
26nm,0.4s							
UZB	**Uzynbulak**	**2.87**	**7**	Pg	**Pb**	**02 09 10.6**	**-0.6**
4.5nm,0.3s							
UZB				Lg	Lg	02 09 48.4	
11nm,0.6s							
UZB	**Uzynbulak**	**2.87**	**7**	*e*P	**Pb**	**02 09 10.6**	**-0.6**
4.5nm,0.3s							
UZB				*e*S	**Sb**	**02 09 48.4**	**+2.0**
11nm,0.6s							
ZHN	**Zhinishke**	**2.87**	**358**	Pg	**Pg**	**02 09 12.3**	**-2.5**
9.5nm,0.2s							
ZHN				Lg	Lg	02 09 51.3	
34nm,0.2s							
ZHN	**Zhinishke**	**2.87**	**358**	*e*P	**Pg**	**02 09 12.3**	**-2.5**
9.5nm,0.2s							
ZHN				*e*S	**Sg**	**02 09 51.3**	**-0.7**
34nm,0.2s							
SHLS	**Shalkode**	**2.94**	**13**	Pg	**Pg**	**02 09 13.3**	**-2.7**
12nm,0.3s							
SHLS				Lg	Lg	02 09 53.5	
30nm,0.4s							
SHLS	**Shalkode**	**2.94**	**13**	*e*P	**Pg**	**02 09 13.3**	**-2.7**
12nm,0.3s							
SHLS				*e*S	**Sg**	**02 09 53.1**	**-1.0**
30nm,0.4s							
BOOM	**Boomskoye usch**	**2.95**	**319**	⇓*i*P	**Pn**	**02 09 08.8**	**+1.9**
BOOM				⇓*e*S	**Sb**	**02 09 46.4**	**-2.5**
TNSS	**Tian-Shan**	**3.00**	**337**	Pg	**Pg**	**02 09 15.9**	**-1.4**
9.3nm,0.6s							
TNSS				Lg	Lg	02 09 57.4	
19nm,0.8s							
TNSS	**Tian-Shan**	**3.00**	**337**	*e*P	**Pg**	**02 09 15.8**	**-1.4**
9.3nm,0.6s							
TNSS				*e*S	**Sg**	**02 09 57.4**	**+1.3**
19nm,0.8s							
MDOK	**Medeo**	**3.08**	**339**	Pg	**Pb**	**02 09 11.3**	**-3.5**
12nm,0.8s							
MDOK				Pg	**Pg**	**02 09 16.7**	**-2.2**
6.5nm,0.6s							
MDOK				Lg	Lg	02 09 52.3	
16nm,0.7s							
MDOK				Lg	Lg	02 09 59.1	
30nm,0.6s							
PDGK	**Podgornoye**	**3.11**	**12**	⇓Pg	**Pb**	**02 09 13.7**	**-1.6**
3.4nm,0.5s							
PDGK				⇓Lg	Lg	02 09 49.0	
45nm,1.2s							
KURS	**Kuram**	**3.20**	**355**	Pg	**Pg**	**02 09 18.9**	**-2.3**
7.7nm,1.0s							
KURS				Lg	Lg	02 10 02.9	
18nm,1.3s							
MTBS	**Maitube**	**3.25**	**331**	Pg	**Pg**	**02 09 19.8**	**-2.3**
2.9nm,0.3s							
MTBS				Lg	Lg	02 10 04.2	
11nm,0.7s							
MTBS	**Maitube**	**3.25**	**331**	*e*P	**Pg**	**02 09 19.8**	**-2.3**
2.9nm,0.3s							
MTBS				*e*S	**Sg**	**02 10 04.2**	**-0.1**
11nm,0.7s							
TKM2	**Tokmak 2**	**3.44**	**321**	⇑Pn	**Pb**	**02 09 18.1**	**-2.9**
3.7nm,0.6s							
TKM2				⇑Lg	Lg	02 10 06.5	
9.2nm,0.6s							
ARLS	**Aral**	**3.57**	**297**	⇑*i*P	**Pn**	**02 09 17.0**	**+1.6**
ARLS				⇑*e*S	**Sn**	**02 10 00.5**	**+2.7**
KBK	**Karagaybulak**	**3.60**	**312**	⇑*i*P	**Pn**	**02 09 17.8**	**+1.9**
KBK				⇑*e*S	**Sn**	**02 10 01.8**	**+3.3**
DGS	**Degeres**	**3.61**	**326**	Pg	**Pg**	**02 09 26.6**	**-2.5**
4.1nm,0.6s							
DGS				Lg	Lg	02 10 16.4	
6.8nm,0.7s							
UCH	**Uchtor**	**3.62**	**304**	⇑*i*P	**Pn**	**02 09 18.0**	**+1.7**
UCH				⇑*e*S	**Sn**	**02 10 02.2**	**+2.9**
SALK	**Salom-Alik**	**3.66**	**281**	⇓*e*P	**Pn**	**02 09 18.1**	**+1.4**
SALK				⇓*i*S	**Sn**	**02 10 02.4**	**+2.3**
KTBS	**Karatobe**	**3.69**	**338**	Pg	**Pg**	**02 09 27.5**	**-3.1**
4.3nm,0.8s							
KTBS				Lg	Lg	02 10 17.5	
17nm,0.4s							
CHKK	**Chushkaly**	**3.75**	**342**	Pg	**Pg**	**02 09 28.2**	**-3.3**
0.9nm,0.1s							
CHKK				Lg	Lg	02 10 18.6	
13nm,0.5s							
CHKK	**Chushkaly**	**3.75**	**342**	*e*P	**Pg**	**02 09 28.2**	**-3.3**
0.9nm,0.1s							

CHKK				eS	Sg	02 10 18.6	-1.5
	13nm,0.5s						
AAK	**Ala-Archa**	**3.85**	**309**	Pg	Pg	02 09 30.9	-2.8
	8.8nm,0.8s						
AAK				Lg	Lg	02 10 23.8	
	8.8nm,0.7s						
AAK	**Ala-Archa**	**3.85**	**309**	⇑iP	Pn	02 09 21.2	+1.9
AAK				⇑eS	Sn	02 10 07.8	+3.1
SFK	**Sufi-Kurgan**	**3.89**	**267**	⇑eP	Pn	02 09 21.0	+1.1
SFK				⇑eS	Sn	02 10 07.4	+1.6
CHMS	**Chumysh**	**3.93**	**315**	⇑Pg	Pg	02 09 32.6	-2.6
	7.1nm,0.8s						
CHMS				⇓Lg	Lg	02 10 21.9	
	5.9nm,0.6s						
ARXS	**Arharly**	**3.95**	**352**	Pg	Pb	02 09 31.0	+1.4
	1.6nm,0.5s						
ARXS				Lg	Lg	02 10 23.9	
	11nm,0.4s						
KUU	**Kurty**	**3.96**	**336**	Pg	Pb	02 09 32.0	+2.3
KUU				Lg	Lg	02 10 25.0	
KUU	**Kurty**	**3.96**	**336**	eP	Pb	02 09 32.0	+2.3
KUU				eS	Sg	02 10 25.0	-2.0
AML	**Almayashu**	**4.11**	**298**	⇑eP	Pn	02 09 24.7	+1.7
AML				⇑eS	Sn	02 10 14.1	+2.7
DJR	**Jarkent**	**4.13**	**12**	Pg	Pb	02 09 33.9	+1.2
	1.9nm,0.4s						
DJR				Lg	Lg	02 10 28.6	
	6.8nm,0.6s						
DJR	**Jarkent**	**4.13**	**12**	eP	Pb	02 09 33.9	+1.2
	1.9nm,0.4s						
DJR				eS	Sg	02 10 28.6	-3.9
	6.8nm,0.6s						
KK31	**Karatay Array**	**6.65**	**298**	⇓Pg	Pg	02 10 25.3	-1.8
	0.3nm,0.3s,baz=102,slow=16						
KK31				⇓Lg	Lg	02 11 55.1	
	0.5nm,0.4s,baz=96,slow=24,SNR=3.6						

SSNC 09 02:14:56.2±3.6, 17°.06N×80°.35W, h5km±463km, MD3.9, ML2.6, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**4.36**	**46**	eP	Pn	02 16 00.3	-2.8
LMGC				eS	Sn	02 16 48.8	-5.6
LMGC				IAML		02 16 54.5	
	comp=E,3.0nm,0.1s						
LMGC				IAML		02 16 55.0	
	comp=N,2.9nm,0.1s						
RCC	**Rio Carpintero**	**5.29**	**56**	eP	Pn	02 16 17.0	+1.0
PINC	**Pinares de May**	**5.50**	**51**	eP	Pn	02 16 19.6	+0.7
PINC				IAML		02 17 23.6	
	comp=N,1.7nm,0.1s						
PINC				IAML		02 17 23.6	
	comp=E,1.6nm,0.1s						
QMBU	**Quimbuelo**	**6.11**	**58**	eP	Pn	02 16 26.0	-1.2

*SJA **09** 02:21:03.0±0.9, 32°.40S×71°.48W, h13km±3km, ML3.6, MW3.5*
*GUC **09** 02:21:05.7±0.6, 32°.35S×71°.26W, h51km±5km, ML3.7*
*IDC **09** 02:21:06.3±1.9, 31°.29S×71°.20W, h0km, mb3.3/1, mbtmp3.5/5, ML3.7/4, Error ellipse: s-maj=36.9km s-min=19.1km az=18.0*
*NEIC **09** 02:21:07.4±0.6, 32°.36S±0°.03×71°.30W±0°.02, h37km±14km, mb4.6/3, Error ellipse: s-maj=4.3km s-min=2.1km az=195.0*

ISC 09 02:21:03.0±1.2, 32°.34S±0°.02×71°.34W±0°.03, h7km±9km, n89, σ1§35/119, mb4.4/4, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.69**	**157**	⇑iP	Pn	02 21 20.3	+0.8
ROCH				IAML		02 21 31.2	
	comp=N,4μm,0.3s						
VA01	**Torpederas**	**0.73**	**201**		Pn	02 21 20.9	+1.1
VA01				Sn	Sb	02 21 31.2	+2.8
VA01	**Torpederas**	**0.73**	**201**	eP	Pn	02 21 20.9	+1.1
VA01				IAML		02 21 35.7	
	comp=N,5μm,0.2s						
VA01	**Torpederas**	**0.73**	**201**	eP	Pg	02 21 15.2	-1.8
VA01				eS	Sb	02 21 31.3	+3.0
VA01				IAML		02 21 33.8	
	comp=Z,2μm,0.2s						
VA03	**San Esteban**	**0.79**	**123**		Pn	02 21 21.4	+0.7
VA03				Sn	Sn	02 21 31.7	-1.2
VA03	**San Esteban**	**0.79**	**123**	eP	Pn	02 21 21.4	+0.7
VA03				eS	Sn	02 21 32.4	-0.5
VA03				IAML		02 21 33.0	
	comp=E,13μm,0.2s						
VA03	**San Esteban**	**0.79**	**123**	eP	Pn	02 21 20.7	0.0
VA03				eS	Sn	02 21 32.0	-0.8
VA03				IAML		02 21 32.8	
	comp=Z,3μm,0.1s						
MT02	**Curacav**	**0.94**	**170**	Pn	Pn	02 21 23.0	+0.4
MT02				Sn	Sb	02 21 34.9	+0.7
MT02	**Curacav**	**0.94**	**170**	⇑iP	Pn	02 21 23.1	+0.4
MT02				IAML		02 21 36.8	
	comp=E,2μm,0.2s						
MT02	**Curacav**	**0.94**	**170**	eP	Pb	02 21 22.2	+0.6
MT02				eP		02 21 22.7	
MT02				eS	Sb	02 21 35.1	+0.9
MT02				IAML		02 21 36.8	
	comp=Z,1μm,0.2s						
PEL	**Peldehue**	**0.97**	**146**	Pn	Pn	02 21 23.9	+0.7
PEL				Sn	Sn	02 21 36.1	-1.3
PEL	**Peldehue**	**0.97**	**146**	eP	Pn	02 21 23.9	+0.7
PEL				IAML		02 21 37.2	
	comp=N,2μm,0.2s						
MT10	**Hacienda Santa**	**1.15**	**144**	eP	Pn	02 21 26.6	+0.9
MT10				IAML		02 21 42.4	
	comp=E,4μm,0.2s						
CO02	**Combarbal**	**1.17**	**14**		Pn	02 21 27.6	+1.7
CO02				Sn	Sn	02 21 42.7	+0.5
CO02	**Combarbal**	**1.17**	**14**	eP	Pn	02 21 27.6	+1.7
CO02				eS	Sn	02 21 43.7	+1.6
CO02				IAML		02 21 45.2	
	comp=E,7μm,0.3s						
CO02	**Combarbal**	**1.17**	**14**	eP	Pn	02 21 26.8	+0.9
CO02				eS	Sn	02 21 44.1	+2.0
CO02				IAML		02 21 45.5	
	comp=Z,2μm,0.3s						
MT05	**Renca**	**1.17**	**155**		Pn	02 21 26.8	+0.9
MT05				Sn	Sb	02 21 40.7	-0.3
MT05	**Renca**	**1.17**	**155**	eP	Pn	02 21 26.7	+0.9
MT05				IAML		02 21 42.9	
	comp=E,4μm,0.2s						
MT05	**Renca**	**1.17**	**155**	eP	Pn	02 21 26.1	+0.2
MT05				eP		02 21 26.7	
MT05				eS	Sn	02 21 41.7	-0.4
MT05				IAML		02 21 42.4	
	comp=Z,912nm,0.2s						
MT14	**Cerro Calın**	**1.25**	**148**	eP	Pn	02 21 28.1	+1.0
MT14				IAML		02 21 45.5	
	comp=E,3μm,0.5s						
MT16	**CCHEN**	**1.29**	**148**		Pn	02 21 28.6	+1.1
MT16				Sn	Sb	02 21 44.1	-0.3
FCH	**Farellones**	**1.32**	**139**	eP	Pn	02 21 29.2	+0.9
VA05	**Santo Domingo**	**1.34**	**190**		Pg	02 21 29.6	+0.9
VA05	**Santo Domingo**	**1.34**	**190**	eP	Pb	02 21 29.2	+0.8
VA05				eS	Sn	02 21 47.5	+1.4
VA05				IAML		02 21 51.1	
	comp=E,4μm,0.2s						
MT03	**Universidad Ad**	**1.35**	**149**		Pb	02 21 29.4	+0.8
MT03	**Universidad Ad**	**1.35**	**149**	eP	Pb	02 21 29.5	+0.8
MT03				IAML		02 21 47.8	
	comp=N,3μm,0.2s						
MT03	**Universidad Ad**	**1.35**	**149**	eP	Pb	02 21 28.8	+0.2
MT03				eS	Sn	02 21 49.6	+3.0
MT03				IAML		02 21 50.3	
	comp=Z,2μm,0.1s						
MT09	**Talagante**	**1.47**	**169**		Pb	02 21 30.9	+0.3
MT09	**Talagante**	**1.47**	**169**	eP	Pb	02 21 31.0	+0.3
MT04	**Ro Olivares**	**1.47**	**137**	eP	Pg	02 21 31.4	+0.3
MT04				IAML		02 21 53.7	
	comp=E,881nm,0.1s						
MT04	**Ro Olivares**	**1.47**	**137**	eP	Pg	02 21 31.5	+0.3
MT04				eS	Sn	02 21 51.5	+1.7
MT04				IAML		02 21 58.4	
	comp=Z,483nm,0.1s						
MT01	**Popeta**	**1.52**	**177**		Pb	02 21 32.0	+0.4
MT01	**Popeta**	**1.52**	**177**	eP	Pb	02 21 31.9	+0.3
MT01				IAML		02 21 57.3	
	comp=E,2μm,0.1s						
MT01	**Popeta**	**1.52**	**177**	eP	Pn	02 21 26.7	-4.0
MT01				eP		02 21 31.4	
MT01				eS	Sn	02 21 49.7	-1.1
MT01				IAML		02 21 55.7	
	comp=Z,825nm,0.4s						
MT08	**Bocatoma Ro**	**1.57**	**135**		Pb	02 21 32.2	-0.3
MT08	**Bocatoma Ro**	**1.57**	**135**	eP	Pg	02 21 33.6	+0.6
MT08				eS	Sg	02 21 55.3	+1.9
MT08				IAML		02 22 01.4	
	comp=Z,350nm,0.3s						
CO03	**El Pedregal**	**1.59**	**20**	Pn	Pg	02 21 33.6	0.0
CO03	**El Pedregal**	**1.59**	**20**	eP	Pg	02 21 33.6	0.0
CO03				eS	Sg	02 21 54.6	+0.4
CO03	**El Pedregal**	**1.59**	**20**	eP	Pb	02 21 33.0	+0.2
CO03				eS	Sg	02 21 55.5	+1.3
CO03				IAML		02 21 56.1	
	comp=Z,1μm,0.2s						
MT13	**San Alfonso**	**1.66**	**148**		Pb	02 21 33.5	-0.5
MT13	**San Alfonso**	**1.66**	**148**	eP	Pb	02 21 33.9	-0.1
MT13				IAML		02 21 55.2	
	comp=N,1μm,0.2s						
MT13	**San Alfonso**	**1.66**	**148**	eP	Pb	02 21 33.3	-0.7
MT13				eS	Sg	02 21 54.9	-1.4
MT13				IAML		02 21 56.0	
	comp=Z,480nm,0.2s						
CO06	**Fray Jorge**	**1.68**	**351**		Pn	02 21 34.2	+1.4
CO06	**Fray Jorge**	**1.68**	**351**	iP	Pn	02 21 34.2	+1.4
CO06				IAML		02 22 03.3	
	comp=E,747nm,0.4s						
BO04	**La Punta**	**1.76**	**160**		Pn	02 21 34.8	+0.8
BO04	**La Punta**	**1.76**	**160**	eP	Pb	02 21 35.1	-0.5
BO04				eS	Sb	02 21 57.5	-0.4
BO04				IAML		02 22 00.1	
	comp=N,886nm,0.3s						
LMEL	**Las Melosas**	**1.78**	**148**		Pb	02 21 35.4	-0.7
LMEL	**Las Melosas**	**1.78**	**148**	eP	Pb	02 21 35.8	-0.3
LMEL				IAML		02 22 03.5	
	comp=N,2μm,0.1s						
LMEL	**Las Melosas**	**1.78**	**148**	eP	Pb	02 21 36.1	0.0
LMEL				eS	Sg	02 21 58.8	-1.5
LMEL				IAML		02 22 01.8	
	comp=Z,505nm,0.3s						
RTLS	**Leoncito**	**1.81**	**73**	eP	Pg	02 21 38.6	+0.8
RTLS				eS	Sg	02 22 03.4	+2.1
RTLS				IAML		02 22 05.8	
	comp=Z,1μm,0.8s						
BO01	**Tunca**	**2.06**	**174**	Pn	Pn	02 21 39.0	+0.9
BO01	**Tunca**	**2.06**	**174**	eP	Pn	02 21 39.2	+1.1
BO01				eS	Sg	02 22 08.2	-1.0
BO01				IAML		02 22 15.4	
	comp=Z,283nm,0.3s						
GO04	**Tololo Observa**	**2.21**	**12**	Pn	Pn	02 21 42.5	+2.2
GO04	**Tololo Observa**	**2.21**	**12**	eP	Pn	02 21 42.3	+2.0
GO04	**Tololo Observa**	**2.21**	**12**	eP	Pn	02 21 42.3	+2.0
GO04				eS	Sg	02 22 13.2	-0.7
GO04				IAML		02 22 22.0	
	comp=Z,743nm,0.2s						
DOCA	**Reserva Natura**	**2.37**	**55**	eP	Pb	02 21 45.9	-0.3
DOCA				eS	Sg	02 22 21.6	+2.5
DOCA				IAML		02 22 26.5	
	comp=Z,146nm,0.8s						
CO05	**La Serena**	**2.41**	**2**		Pn	02 21 44.7	+1.8
BO02	**Sierra Bellavi**	**2.49**	**169**	Pn	Pn	02 21 45.0	+0.9
BO02	**Sierra Bellavi**	**2.49**	**169**	eP	Pn	02 21 45.5	+1.4
BO02				eS	Sg	02 22 21.4	-1.7
BO02				IAML		02 22 22.8	
	comp=Z,470nm,0.2s						
CO01	**Juntas del Tor**	**2.58**	**25**	Pn	Pn	02 21 47.2	+1.7
CO01	**Juntas del Tor**	**2.58**	**25**	IAML		02 22 31.8	
	comp=N,208nm,0.2s						
CO01	**Juntas del Tor**	**2.58**	**25**	eP	Pn	02 21 48.0	+2.5
CO01				eS	Sb	02 22 22.7	+0.8
CO01				IAML		02 22 35.1	
	comp=Z,141nm,0.8s						
ACCO	**Cerro Coronel**	**2.61**	**49**	eP	Pg	02 21 51.8	-1.3
ACCO				eS	Sb	02 22 22.7	0.0
ACCO				eS		02 22 26.7	
AROD	**Rodeo**	**2.69**	**37**	eP	Pb	02 21 51.5	-0.1
AROD				eS	Sg	02 22 27.2	-2.2
CFA	**Coronel Fontan**	**2.73**	**75**	Pn	Pb	02 21 50.6	-1.7
	comp=Z,18nm,0.3s,baz=267,slow=16,SNR=125						
CFA				Lg	Lg	02 22 25.7	
	comp=Z,22nm,0.3s,baz=34,slow=12,SNR=12						
	comp=Z,45nm,0.3s						
ACDV	**Cuesta del Vie**	**2.88**	**42**	eP	Pb	02 21 54.2	-0.6
ACDV				IAML		02 22 47.9	
	comp=Z,128nm,0.6s						
LCO	**Las Campanas**	**3.36**	**10**		Pn	02 21 57.9	+1.7
LCO	**Las Campanas**	**3.36**	**10**	eP	Pn	02 21 57.8	+1.5
LCO				IAML		02 22 54.5	
	comp=Z,275nm,0.5s						
ML02	**Panimavida**	**3.42**	**181**	Pn	Pn	02 21 57.8	+1.0
AC05	**El Transito**	**3.61**	**15**	Pn	Pn	02 22 01.4	+1.9
AC04	**Llanos de Chal**	**4.12**	**3**	Pn	Pn	02 22 07.9	+1.4
BI02	**San Fabin de**	**4.32**	**179**	Pn	Pn	02 22 10.4	+1.3
ACLC	**CERRO LA CRUZ**	**4.76**	**54**	eP	Pn	02 22 18.3	+3.0
ACLC				eS	Sb	02 23 20.2	-4.2
ACLC				IAML		02 23 20.8	
	comp=Z,50nm,0.9s						
GO03	**Copiapo**	**4.82**	**12**	Pn	Pn	02 22 17.4	+1.3
AC06	**Mina Casimiro**	**5.04**	**10**		Pn	02 22 19.4	+0.4
AC02	**Maricunga**	**5.81**	**20**	Pn	Pn	02 22 31.1	+1.0
AC01	**Pan de Azucar**	**6.20**	**6**	Pn	Pn	02 22 36.6	+1.6
GO02	**Mina Guanaco**	**7.31**	**13**	Pn	Pn	02 22 52.0	+1.4
PLCA	**Paso Flores**	**8.40**	**176**	Pn	Pn	02 23 05.8	+0.5
PLCA	**Paso Flores**	**8.40**	**176**	Pn	Pb	02 23 23.5	-5.4
	comp=Z,0.2nm,0.3s,baz=341,slow=14,SNR=5.0						
	comp=Z,1.0nm,0.7s						
TRQA	**Tornquist**	**9.55**	**129**	Pn	Pn	02 23 22.3	+1.4
ITQB	**Itaqui**	**12.90**	**82**	Pn	Pn	02 24 08.0	+1.2
CPUP	**Villa Florida**	**13.60**	**67**	Pn	Pn	02 24 16.3	-0.1
CPUP	**Villa Florida**	**13.60**	**67**	Pn	Pn	02 24 15.3	-1.1
	comp=Z,0.2nm,0.3s,baz=253,slow=11,SNR=3.1						
	comp=Z,0.5nm,0.4s						
LPAZ	**La Paz**	**16.24**	**11**	Pn	Pn	02 24 43.2	-9.1
	comp=Z,0.1nm,0.3s,baz=183,slow=17,SNR=1.5						
	comp=Z,0.4nm,0.5s						
MG01	**Puerto William**	**22.74**	**174**	P	P	02 26 05.6	+0.1
MG01				IAmb	IAmb	02 26 09.6	
	comp=Z,59nm,1.4s						
OTAV	**Otavalo**	**33.09**	**347**	P	P	02 27 39.8	-0.4
OTAV				IAmb	IAmb	02 27 50.9	
	comp=Z,5.0nm,1.4s						
SNAA	**Sanae**	**52.90**	**158**	P	P	02 30 18.9	-0.5
SNAA				IAmb	IAmb	02 30 33.5	
	comp=Z,12nm,1.5s						
TXAR	**Lajitas Array**	**68.58**	**330**	P	P	02 32 05.3	-1.4
	comp=Z,0.2nm,0.7s,baz=144,slow=6.2,SNR=3.8						
	comp=Z,0.2nm,0.7s						

*NEIC **09** 02:31:36.0±1.7, 38°.39N±0°.03×115°.82W±0°.02, h10km±2km, Error ellipse: s-maj=5.5km s-min=3.0km az=152.0*

REN 09 02:31:37.6±2.2, 38°.33N±0°.02×115°.81W±0°.03, h11km±7km, ML2.7/8, ML2.2/54(NEIC), Error ellipse: s-maj=3.3km s-min=3.0km az=138.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R11B	**Troy Canyon, C**	**0.18**	**85**		Pg	02 31 40.3	-1.4
R11B				Sg	Sg	02 31 43.0	-1.5
S11A	**Rachel**	**0.69**	**176**		Pg	02 31 50.5	-0.4
S11A				IAML		02 32 04.8	
	comp=N,188nm,0.4s						
S11A	**Rachel**	**0.69**	**176**		Sg	02 32 00.2	+0.2
Q12A	**Willow Creek R**	**1.04**	**47**		Pg	02 31 56.9	-0.8
PRN	**Pahroc Range**	**1.10**	**147**		Pb	02 31 58.2	-0.6
PRN	**Pahroc Range**	**1.10**	**147**		Sn	02 32 13.9	-0.5
PRN				IAML		02 32 20.2	
	comp=E,90nm,0.6s						
Q09A	**Carvers**	**1.18**	**295**		Pb	02 31 58.6	-1.6
SPR3	**Spring Creek 3**	**1.34**	**60**		Pn	02 32 00.7	-1.8
SPR3				IAML		02 32 18.9	
	comp=N,39nm,0.7s						
SPR3				IAML		02 32 19.3	
	comp=E,44nm,0.7s						
MZP	**Montezuma Peak**	**1.39**	**244**	Pn	Pn	02 32 02.5	-0.7
MZP				IAML		02 32 23.9	
	comp=E,26nm,0.5s						
CPY	**CP-1**	**1.41**	**188**		Pn	02 32 02.3	-1.0
TPNV	**Topopah Spring**	**1.43**	**194**		Pn	02 32 02.8	-0.8
PSUT	**Pine Spring**	**1.55**	**82**	Pn	Pn	02 32 04.0	-1.3
PSUT				IAML		02 32 26.3	
	comp=N,32nm,0.3s						
PSUT				IAML		02 32 27.2	
	comp=E,28nm,0.5s						
NSP	**Numbskull Pass**	**1.63**	**191**		Pn	02 32 05.5	-0.8
SGV	**South Grapevin**	**1.66**	**216**		Pn	02 32 06.0	-0.8
WCT	**Wildcat Mounta**	**1.67**	**203**		Pn	02 32 07.4	+0.6
WCT	**Wildcat Mounta**	**1.67**	**203**	IAML		02 32 33.0	
	comp=E,20nm,0.3s						
MCY	**Mercury**	**1.67**	**184**		Pb	02 32 08.1	-0.3
SDH	**Striped Hills**	**1.74**	**194**		Pb	02 32 08.9	-0.6
GRAC	**Grapevine Rang**	**1.82**	**223**		Pb	02 32 09.9	-0.9
GRAC				IAML		02 32 40.3	
	comp=E,29nm,0.5s						
NV11	**Mina Array Sit**	**1.84**	**274**		Pn	02 32 09.3	0.0
NV11				IAML		02 32 35.7	
	comp=N,25nm,0.5s						
NV11				IAML		02 32 37.5	
	comp=E,16nm,0.3s						
SHPR	**Sheep Range**	**1.90**	**164**		Pn	02 32 09.3	-0.7
AMDNV	**Amargosa**	**1.91**	**191**		Pn	02 32 11.1	+1.0
DSP	**Deep Springs**	**1.96**	**241**		Pn	02 32 10.8	+0.1
DSP				IAML		02 32 40.9	
	comp=N,17nm,0.8s						
NVAR	**Mina Array Bea**	**1.96**	**274**		Pn	02 32 11.5	+0.5
LHV	**Little Huntoon**	**2.12**	**269**		Pn	02 32 12.4	-0.5
RYN	**Ryan**	**2.15**	**279**		Pn	02 32 12.6	-0.9
GWY	**Greenwater Val**	**2.25**	**198**	Pn	Pn	02 32 14.7	-0.2
GWY				IAML		02 32 53.6	
	comp=E,22nm,0.5s						
GWY				IAML		02 32 54.8	
	comp=N,14nm,0.5s						
LCMT	**Little Creek M**	**2.43**	**122**	Pn	Pn	02 32 17.4	+0.1
ELK	**Elko**	**2.45**	**10**	Pn	Pn	02 32 17.9	+0.1
TCRU	**Three Creeks R**	**2.66**	**83**	Pn	Pn	02 32 20.9	+0.3
TCRU				IAML		02 33 14.2	
	comp=N,13nm,1.9s						
KNB	**Kanab**	**2.71**	**118**	Pn	Pn	02 32 21.9	+0.6
KNB				IAML		02 33 25.0	
	comp=N,7.6nm,4.5s						
KNB				IAML		02 33 58.9	
	comp=E,7.7nm,4.9s						
V12A	**Nelson**	**2.71**	**163**	Pn	Pn	02 32 21.1	-0.1
V12A				IAML		02 33 12.6	
	comp=E,6.9nm,5.0s						
MSU	**Marysvale**	**2.86**	**85**	Pn	Pn	02 32 23.3	0.0
PAHR	**Pah Rah Range**	**3.10**	**297**	Pn	Pn	02 32 27.3	+0.7
PAHR				IAML		02 33 31.4	
	comp=N,7.9nm,4.9s						
PAHR				IAML		02 33 54.7	
	comp=E,9.4nm,4.8s						
U15A	**North Rim**	**3.39**	**123**	Pn	Pn	02 32 30.1	-0.6
U15A				IAML		02 33 37.8	
	comp=E,9.0nm,4.3s						
U15A				IAML		02 34 19.3	
	comp=N,7.0nm,4.9s						
O02D	**Mt. Diablo Mer**	**5.72**	**291**		Pn	02 33 02.3	-0.2

*IDC **09** 02:46:32.7±1.0, 0°.51N×135°.13E, h0km, mb3.9/7, mbtmp3.9/8, ML3.4/1, MS3.5/3, Error ellipse: s-maj=38.8km s-min=15.2km az=83.0*
*DJA **09** 02:46:34.1±0.7, 0°N±5°×13°5E±°, h10km, M4.0/5, MLv4.0/5*
*NEIC **09** 02:46:35.2±1.9, 0°.57N±0°.10×135°.13E±0°.09, h15km±4km, mb4.5/22, Error ellipse: s-maj=15.0km s-min=11.8km az=150.0*

ISC 09 02:46:35.8±0.6, 0°.53N±0°.06×135°.14E±0°.05, h26km, n44, σ1§60/41, mb4.4/12, MS3.4/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**1.97**	**151**	P	Pn	02 47 07.9	+0.5
BAKI				S	Sn	02 47 31.7	+0.4
RKPI	**Ransiki, Papua**	**2.25**	**205**	S	Sn	02 47 37.0	-1.3
SRPI	**Serui, Papua**	**2.63**	**155**	S	Sn	02 47 49.4	+1.8
SWI	**Sorong**	**4.12**	**250**	P	Pn	02 47 33.9	-3.2
SMPI	**Sarmi**	**4.36**	**125**	P	Pn	02 47 41.3	+1.0
FAKI	**Fak Fak**	**4.49**	**220**	Pn	Pn	02 47 42.7	+0.5
FAKI	**Fak Fak**	**4.49**	**220**	P	Pn	02 47 42.4	+0.3
FAKI				S	Sn	02 48 31.4	-2.2
JAY	**Jayapura**	**6.33**	**119**	Pn	Pn	02 48 07.3	-0.2
	0.8nm,0.3s,baz=270,slow=17,SNR=1.7						
JAY				Sn	Sn	02 49 12.1	-7.0
	0.5nm,0.3s,baz=136,slow=21,SNR=1.6						
	2.3nm,0.5s						
LUWI	**Luwuk**	**12.47**	**263**	Pn	Pn	02 49 30.4	-1.3
COEN	**Coen**	**16.45**	**151**	Pn	Pn	02 50 24.5	-0.4
KNRA	**Kununurra**	**17.30**	**201**	Pn	Pn	02 50 34.7	-0.9
KNRA				IAmb	IAmb	02 50 40.0	
	comp=Z,49nm,1.5s						
WB0	**Warramunga Arr**	**20.19**	**182**	P	Pn	02 51 09.8	-0.9
WB0				IAmb	IAmb	02 51 13.7	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**20.36**	**182**	P	P	02 51 09.6	-0.8
WRAB				IAmb	IAmb	02 51 15.0	
	comp=Z,10.0nm,0.6s						
WB2	**Warramunga Arr**	**20.36**	**182**	P	Pn	02 51 11.7	-1.0
WB2				IAmb	IAmb	02 51 15.1	
	comp=Z,7.7nm,0.6s						
WRA	**Warramunga Arr**	**20.36**	**182**	P	Pn	02 51 11.5	-1.2
WRA	**Warramunga Arr**	**20.36**	**182**	P	Pn	02 51 12.1	-0.6
	comp=Z,5.0nm,0.5s,baz=1.4,slow=11,SNR=52						
	comp=Z,5.0nm,0.5s						
WR8	**Warramunga Arr**	**20.37**	**182**	P	P	02 51 10.7	+0.1
WR8				IAmb	IAmb	02 51 21.9	
	comp=Z,10nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.74**	**206**	P	P	02 51 14.8	+0.2
FITZ	**Fitzroy Crossi**	**20.74**	**206**	P	P	02 51 15.2	+0.6
	comp=Z,4.0nm,0.5s,baz=32,slow=9.7,SNR=17						
	comp=Z,4.0nm,0.5s						
AS31	**Alice Springs**	**24.08**	**183**	P	P	02 51 50.5	+1.2
ASAR	**Alice Springs**	**24.09**	**183**	P	P	02 51 50.5	+1.1
ASAR	**Alice Springs**	**24.09**	**183**	P	P	02 51 51.5	+2.1
	comp=Z,4.0nm,0.5s,baz=12,slow=11,SNR=43						
ASAR				S	S	02 56 08.1	+2.5
	comp=Z,0.4nm,0.7s,baz=9.3,slow=24,SNR=6.4						
	comp=Z,4.0nm,0.5s						
UGM	**Wanagama**	**25.94**	**251**	P	P	02 52 06.4	0.0
HNR	**Honiara**	**26.61**	**112**	LR	LR	03 02 35.4	
	comp=Z,375nm,20.0s,baz=130,slow=36						
NACB	**Ninganchiao**	**26.92**	**332**	P	P	02 52 15.5	+0.5
NACB

IDC 09 02:52:16.0±3.7, 29°.11N×81°.41E, h0km, mb3.7/4, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=107.7km s-min=31.0km az=104.0, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	17.67	2	P	Pn	02 56 23.1	-0.4
	0.1nm,0.3s,baz=190,slow=13,SNR=6.6						
MKAR				S	Sn	02 59 42.2	+1.3
	0.4nm,0.4s,baz=185,slow=24,SNR=6.2						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	21.60	355	P	P	02 57 07.3	0.0
	0.9nm,0.7s,baz=181,slow=10,SNR=13						
	0.9nm,0.7s						
ZALV	Zalesovo Beam	24.94	5	P	P	02 57 40.5	-0.3
	2.0nm,0.6s,baz=196,slow=10,SNR=8.5						
	2.0nm,0.6s						
FINES	FINESS Array B	48.42	328	P	P	03 00 59.5	-0.1
	1.1nm,0.7s,baz=106,slow=6.9,SNR=5.1						
	1.1nm,0.7s						
ARCES	ARCESS Array B	51.27	338	P	P	03 01 21.5	+0.2
	1.1nm,0.8s,baz=96,slow=9.2,SNR=5.4						
	1.1nm,0.8s						

*CATAC **09** 02:52:31.6±0.6, 13°.N±3°.×8°.9W±°., h16km±5km, M4.0/18, MLv4.0/18, Error ellipse: s-maj=7.2km s-min=3.2km az=42.4, confirmed*

*IDC **09** 02:52:31.2±2.0, 13°.28N×88°.76W, h0km, mb3.7/4, mbtmp3.7/6, ML3.7/2, MS3.2/1, Error ellipse: s-maj=84.0km s-min=23.2km az=41.0*

*GCG **09** 02:52:32.2±1.7, 12°.49N×89°.54W, h35km±999km, MD4.5*

*SNET **09** 02:52:34.4±2.7, 12°.71N×89°.25W, h10km, ML3.9*

ISC 09 02:52:34.5±1.6, 12°.56N±0°.07×89°.33W±0°.05, h43km±17km, n80, σ1°.28/86, mb3.7/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	1.06	44	eP	Pn	02 52 52.6	-0.4
LFRS	El Faro	1.09	14	eP	Pn	02 52 52.2	-1.3
LOMA	Loma Larga	1.09	8	eP	Pn	02 52 52.1	-1.4
LOMA	Loma Larga	1.09	8	P	Pn	02 52 52.4	-1.1
LOMA	Loma Larga	1.09	8	S	Sn	02 53 08.3	+0.7
JAYA	Jayaque - finc	1.10	354	eP	Pn	02 52 51.6	-2.0
JAYA	Jayaque - finc	1.10	354	i P	Pn	02 52 51.8	-1.8
JAYA	Jayaque - finc	1.10	354	S	Sn	02 53 07.3	-0.4
JAYA	Jayaque - finc	1.10	354	P	Pn	02 52 52.6	-1.0
TECO	Alcaldia de Te	1.11	29	eP	Pn	02 52 52.4	-1.3
TECO	Alcaldia de Te	1.11	29	P	Pn	02 52 52.6	-1.1
TECO	Alcaldia de Te	1.11	29	S	Sn	02 53 08.4	+0.5
COEG	Centro de Oper	1.14	22	eP	Pn	02 52 52.9	-1.3
COEG	Centro de Oper	1.14	22	S	Sn	02 53 09.5	+0.8
COEG	Centro de Oper	1.14	22	P	Pn	02 52 53.2	-1.0
PMON	Piamonte	1.15	1	eP	Pn	02 52 53.1	-1.2
PMON	Piamonte	1.15	1	P	Pn	02 52 53.1	-1.2
PMON	Piamonte	1.15	1	S	Sn	02 53 09.9	+1.0
UEES	Universidad Ev	1.16	4	eP	Pn	02 52 53.2	-1.2
UEES	Universidad Ev	1.16	4	S	Sn	02 53 10.1	+1.0
UEES	Universidad Ev	1.16	4	P	Pn	02 52 53.4	-1.0
BOQS	Boqueron	1.17	2	eP	Pn	02 52 53.5	-1.2
BOQS				eS	Sn	02 53 11.8	+2.2
PIC2	El Picacho	1.18	3	eP	Pn	02 52 53.6	-1.2
UESV	Universidad de	1.20	26	P	Pn	02 52 53.9	-1.0
UESV	Universidad de	1.20	26	S	Sn	02 53 10.8	+0.8
LFU	La Fuente	1.20	10	eP	Pn	02 52 54.0	-1.0
PAVA	Las Pavas	1.21	18	eP	Pn	02 52 54.3	-0.9
PAVA	Las Pavas	1.21	18	S	Sn	02 53 10.6	+0.1
PAVA	Las Pavas	1.21	18	P	Pn	02 52 54.5	-0.7
SCLA	Alcaldia de Sa	1.28	27	eP	Pn	02 52 54.6	-1.4
SCLA	Alcaldia de Sa	1.28	27	P	Pn	02 52 55.5	-0.5
SCLA	Alcaldia de Sa	1.28	27	S	Sn	02 53 12.6	+0.6
CEVE	Cerro Verde	1.30	347	eP	Pn	02 52 54.5	-2.0
CEVE	Cerro Verde	1.30	347	S	Sn	02 53 13.0	+0.3
CEVE	Cerro Verde	1.30	347	P	Pn	02 52 55.0	-1.4
SBLS	San Blas	1.31	347	eP	Pn	02 52 54.8	-1.8
SNJE	San Jose	1.33	348	eP	Pn	02 52 55.4	-1.5
PACA	Pacayal	1.33	47	eP	Pn	02 52 56.5	-0.3
PACA	Pacayal	1.33	47	P	Pn	02 52 56.5	-0.3
PACA	Pacayal	1.33	47	S	Sn	02 53 14.5	+1.0
BLLM	Bellamira	1.38	50	eP	Pn	02 52 57.9	+0.5
NUBE	Las Nubes	1.41	342	eP	Pn	02 52 56.0	-1.9
NUBE	Las Nubes	1.41	342	eP	Pn	02 52 55.9	-1.9
NUBE				eS	Sn	02 53 14.6	-0.8
NUBE	Las Nubes	1.41	342	P	Pn	02 52 56.2	-1.7
NUBE	Las Nubes	1.41	342	S	Sn	02 53 16.0	+0.7
UNIC	Universidad Ca	1.43	351	P	Pn	02 52 57.2	-1.0
UNIC	Universidad Ca	1.43	351	S	Sn	02 53 16.1	+0.3
LOAL	Lomas de Alarc	1.50	343	S	Sn	02 53 18.8	+1.3
LOAL	Lomas de Alarc	1.50	343	P	Pn	02 52 58.4	-0.6
SLOZ	Alcaldia de Sa	1.53	343	eP	Pn	02 52 57.6	-1.9
SLOZ	Alcaldia de Sa	1.53	343	P	Pn	02 52 58.7	-0.7
SLOZ	Alcaldia de Sa	1.53	343	S	Sn	02 53 20.1	+2.0
LCND	La Caada	1.59	62	eP	Pn	02 52 59.2	-1.0
LCND	La Caada	1.59	62	S	Sn	02 53 21.1	+1.5
LCND	La Caada	1.59	62	P	Pn	02 52 59.8	-0.4
CNCH	Conchagua	1.62	64	eP	Pn	02 52 59.9	-0.9
CNCH	Conchagua	1.62	64	P	Pn	02 52 60.0	-0.8
CNCH	Conchagua	1.62	64	S	Sn	02 53 21.6	+1.1
LLGN	La Laguna	1.64	13	S	Sn	02 53 22.6	+1.6
LLGN	La Laguna	1.64	13	P	Pn	02 53 00.9	-0.1
CSGN	Cosiguina Volc	1.78	76	P	Pn	02 53 02.3	-0.6
CSGN				S	Sn	02 53 25.0	+0.7
POTN	Potosi Cosigui	1.83	76	P	Pn	02 53 01.9	-1.6
POTN				S	Sn	02 53 27.1	+1.6
MTO3	Montecristo	1.83	359	eP	Pn	02 53 03.1	-0.6
MTO3	Montecristo	1.83	359	P	Pn	02 53 03.3	-0.4
MTO3	Montecristo	1.83	359	S	Sn	02 53 27.5	+1.7
ESQI	Esquipulas	1.99	360	eP	Pn	02 53 05.7	-0.2
ESQI	Esquipulas	1.99	360	P	Pn	02 53 05.8	0.0
ESQI	Esquipulas	1.99	360	S	Sn	02 53 30.5	+0.8
MARCA	Marcala la Paz	2.03	38	eP	Pn	02 53 06.6	+0.2
FG8	Yepocapa, Chim	2.08	325	eP	Pn	02 53 10.1	+3.1
ESSG	Sabana Grande	2.33	321	eP	Pn	02 53 08.5	-2.0
POLN	Al Sur del Vol	2.46	88	P	Pn	02 53 10.6	-1.6
POLN				S	Sn	02 53 41.6	+0.6
ROCN	Rota Cerro Neg	2.52	91	P	Pn	02 53 09.6	-3.5
ROCN				S	Sn	02 53 43.0	+0.4
JTS	Las Juntas de	4.84	117	Pn	Pn	02 53 45.5	+0.5
	2.9nm,0.3s,baz=306,slow=24,SNR=13						
JTS				Sn	Sn	02 54 40.1	+0.3
	1.2nm,0.3s,baz=132,slow=16,SNR=3.7						
	5.0nm,0.3s						
CMIG	Matias Romero	7.01	311	Pn	Pn	02 54 14.4	-0.3
	1.3nm,0.3s,baz=106,slow=11,SNR=9.5						
CMIG				Sn	Sn	02 55 43.7	+10
	0.8nm,0.3s,baz=282,slow=21,SNR=1.5						
	2.0nm,0.3s						
TXAR	Lajitas Array	21.36	324	P	P	02 57 19.5	+1.1
	2.7nm,0.6s,baz=142,slow=10.0,SNR=40						
	2.7nm,0.6s						
TKL	Tuckaleechee C	23.54	11	LR	LR	03 05 53.5	
	comp=Z,67nm,20.7s,baz=186,slow=35						
NVAR	Mina Array Bea	36.43	320	P	P	02 59 37.1	+1.6
	0.5nm,0.6s,baz=128,slow=9.6,SNR=4.7						
	0.5nm,0.6s						
YKA	Yellowknife Ar	53.04	346	P	P	03 01 45.4	-1.7
	1.5nm,0.9s,baz=148,slow=7.6,SNR=15						
	1.5nm,0.9s						
ILAR	Eielson Array	65.19	337	P	P	03 03 10.1	-1.1
	0.5nm,1.1s,baz=119,slow=6.3,SNR=5.7						
	0.5nm,1.1s						

*NEIC **09** 02:57:55.8±1.6, 14°.27S±0°.08×167°.32E±0°.09, h200km±3km, mb4.9/134, Error ellipse: s-maj=12.9km s-min=11.3km az=84.0*

*IDC **09** 02:57:55.1±0.5, 14°.32S×167°.38E, h198km±4km, mb4.5/23, mbtmp5.0/25, MS3.6/13, Error ellipse: s-maj=12.4km s-min=9.4km az=96.0*

*NOU **09** 02:57:55.5, 14°.24S×167°.36E, h199km, mb5.1/64, Vanuatu Islands*

*GCMT **09** 02:57:56.8±0.2, 14°.29S±0°.01×167°.14E±0°.01, h203km±1km, MW5.2/131, Moment Tensor Solution. s81,c105; s131,c208; Duration: 1ꝑ0 Moment tensor: Scale 10^16 Nm; Mrr6.25±.13; Mθθ-0.29±.15; Mφφ-5.95±.14; Mrθ-2.98±.13; Mrφ3.31±.14; Mθf-0.16±.13; Best double couple: M0=7.55900×10^16 NP1:φs177.00000°, δ45.00000°, λ124.00000°. NP2:φs313.00000°, δ54.00000°, λ61.00000°. Principal axes: T 7.5490, Plg66.0000°, Azm165.0000°; N 0.0250, Plg23.0000°, Azm332.0000°; P -7.5690, Plg5.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **09** 02:57:57.3, 13°.84S×167°.49E, h219km, mB4.8/15, mb4.9/63*

ISC 09 02:57:55.6±0.3, 14°.31S±0°.04×167°.46E±0°.04, h207km±2km, h207km:pP-P, n573, σ1°.13/642, mb4.9/169, 30C-21D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.79	181	P	Pn	02 58 32.9	+0.3
VLAKA	Lakatoro	1.79	181	P	S	02 59 00.6	-0.5
DVP	Devils Point	3.47	168	P	Pn	02 58 50.4	-0.8
LUES	Luesalemba Tem	3.92	337	P	Pn	02 58 54.2	-2.6
KOUNC	Koumac, New Ca	6.91	206	P	Pn	02 59 34.9	+0.2
MARNC	Mare, Loyalty	7.16	176	P	Pn	02 59 39.1	+1.2
NGOA	Tingoa Renbel	7.71	290	P	Pn	02 59 43.5	-1.7
YATNC	Mamie plateau,	7.73	184	P	Pn	02 59 46.4	+1.0
DZM	Mont Dzumac	7.78	187	Pn	Pn	02 59 47.9	+1.7
DZM	Mont Dzumac	7.78	187	ePn	Pn	02 59 46.2	+0.1
	262nm,1.2s						
DZM				eSn	S	03 01 15.8	+1.6
	412nm,1.5s						
DZM	Mont Dzumac	7.78	187	P	Pn	02 59 45.6	-0.5
	29nm,0.8s,baz=101,slow=5.3,SNR=24						
DZM				S	S	03 01 13.7	-0.5
	28nm,0.6s,baz=295,slow=22,SNR=6.4						
DZM	Mont Dzumac	7.78	187	P	Pn	02 59 47.2	+1.1
ONTNC	Ouen Toro	8.01	187	Pn	Pn	02 59 50.2	+1.2
ONTNC	Ouen Toro	8.01	187	P	Pn	02 59 49.8	+0.8
OUENC	Ouen Island, N	8.09	184	P	Pn	02 59 51.4	+1.4
PINNC	Pines Island,	8.26	180		Pn	02 59 53.9	+1.6
ALEG	Aligegeo Malai	8.62	309	P	Pn	02 59 55.5	-1.5
HNR	Honiara	8.80	303		Pn	02 59 58.4	-1.0
HNR	Honiara	8.80	303	P	Pn	02 59 58.2	-1.2
	219nm,0.7s,baz=267,slow=7.8,SNR=5.6						
HNR				S	S	03 01 41.6	+3.1
	635nm,0.9s,baz=83,slow=21,SNR=3.9						
HNR	Honiara	8.80	303	P	Pn	02 59 58.0	-1.4
SAVO	Savo Central	9.07	304	P	Pn	03 00 02.6	-0.3
TATA	Tatamba Isabel	9.53	307	P	Pn	03 00 07.3	-1.5
MSVF	Nonsavu	10.74	110	Pn	Pn	03 00 28.1	+3.6
MSVF	Nonsavu	10.74	110	P	P	03 00 29.2	-1.7
	25nm,1.1s,baz=285,slow=6.0,SNR=8.6						
MSVF				LR	LR	03 03 23.3	
	comp=Z,307nm,21.6s,baz=289,slow=30						
MSVF	Nonsavu	10.74	110	P	Pn	03 00 26.0	+1.6
DGTI	Dogotuki	12.01	101	P	Pn	03 00 41.6	+1.0
LHI	Lord Howe Isla	18.78	203	P	P	03 02 00.7	+1.2
LHI	Lord Howe Isla	18.78	203	P	P	03 02 00.6	+1.2
	comp=Z,122nm,0.8s						
EIDS	Eidsvold	18.91	232	P	P	03 02 02.0	+1.1
EIDS	Eidsvold	18.91	232	P	P	03 02 02.2	+1.3
	comp=Z,107nm,1.1s						
EIDS	Eidsvold	18.91	232	P	P	03 02 02.2	+1.3
AFI	Afiamalu	20.15	91	P	Pn	03 02 17.9	-1.2
TV1H	Townsville Har	20.38	253	P	P	03 02 16.6	-0.1
PMG	Port Moresby	20.45	282	P	P	03 02 17.6	+0.1
PMG	Port Moresby	20.45	282	P	P	03 02 17.8	+0.3
	comp=Z,43nm,0.8s,baz=84,slow=8.8,SNR=17						
	comp=Z,43nm,0.8s						
RMQ	Roma	21.27	232	P	P	03 02 27.0	+0.9
	comp=Z,84nm,0.8s						
RMQ	Roma	21.27	232	P	P	03 02 26.3	+0.2
ARMA	Armidale	21.66	220	P	P	03 02 31.0	+0.8
ARMA	Armidale	21.66	220	P	P	03 02 30.8	+0.6
	comp=Z,123nm,1.7s						
ARMA	Armidale	21.66	220	P	P	03 02 30.5	+0.3
NIUE	Niue	22.17	105	P	P	03 02 36.4	+1.3
NIUE	Niue	22.17	105	P	P	03 02 36.0	+0.9
	comp=Z,171nm,1.0s						
MTSU	Mount Surprise	22.54	257	P	P	03 02 38.5	+0.1
	comp=Z,97nm,0.9s						
PATS	Pohnpei	22.88	336	P	P	03 02 41.9	+0.4
	comp=Z,51nm,1.0s						
MANU	Manus Island	23.29	300	P	P	03 02 44.4	-0.9
COEN	Coen	23.55	268	P	P	03 02 48.0	+0.4
COEN	Coen	23.55	268	P	P	03 02 47.5	0.0
	comp=Z,65nm,0.8s						
COEN	Coen	23.55	268	P	P	03 02 48.2	+0.6
MGCD	Mangrove Creek	23.98	215	P	P	03 02 52.3	+1.0
	comp=Z,96nm,1.2s						
MGCD	Mangrove Creek	23.98	215	P	P	03 02 52.1	+0.8
RIV	Riverview	24.41	214	P	P	03 02 56.4	+1.2
	comp=Z,233nm,0.9s						
QLP	Quilpie	24.90	237	P	P	03 02 59.9	+0.2
	comp=Z,266nm,0.9s						
RTZ	Ruatahuna	25.64	163	P	P	03 03 08.2	+1.9
RTZ				IAmb	IAmb	03 03 54.8	
	comp=Z,60nm,1.5s						
BKZ	Black Stump Fm	26.01	164	P	P	03 03 10.4	+0.8
BKZ	Black Stump Fm	26.01	164	P	P	03 03 10.4	+0.8
CMSA	Cobar Meteorol	26.29	226	P	P	03 03 12.6	+0.4
	comp=Z,81nm,1.5s						
CMSA	Cobar Meteorol	26.29	226	P	P	03 03 12.8	+0.6
CNB	Canberra Magne	26.50	215	P	P	03 03 15.0	+0.8
	comp=Z,67nm,1.8s						
CNB	Canberra Magne	26.50	215	P	P	03 03 15.2	+1.1
CAN	Canberra	26.71	215	P	P	03 03 17.2	+1.2
CAN				IAmb	IAmb	03 03 17.4	
	comp=Z,30nm,1.0s						
CAN	Canberra	26.71	215	P	P	03 03 16.5	+0.5
	comp=Z,41nm,1.9s						
CAN	Canberra	26.71	215	P	P	03 03 16.5	+0.5
QIS	Mount Isa	27.26	253	P	P	03 03 20.4	-0.7
	comp=Z,62nm,0.8s						
QIS	Mount Isa	27.26	253	P	P	03 03 20.3	-0.7
BFZ	Birch Farm	27.38	165	P	P	03 03 23.5	+1.8
BFZ	Birch Farm	27.38	165	P	P	03 03 23.1	+1.4
THZ	Tophouse	27.76	171	P	P	03 03 25.8	+0.6
THZ				IAmb	IAmb	03 03 34.9	
	comp=Z,44nm,1.6s						
MILA	Mila	27.92	212	P	P	03 03 27.3	+0.6
	comp=Z,13nm,1.9s						
INKA	Innaminka	28.21	237	P	P	03 03 29.4	+0.1
LTZ	Lake Taylor	28.68	173	P	P	03 03 33.6	+0.3
LTZ				IAmb	IAmb	03 03 36.7	
	comp=Z,15nm,0.8s						
JAY	Jayapura	28.89	291	P	P	03 03 34.3	-1.3
	comp=Z,5.2nm,0.4s,baz=91,slow=8.3,SNR=4.8						
	comp=Z,5.2nm,0.4s						
JAY	Jayapura	28.89	291	P	P	03 03 34.2	-1.4
FOZ	Fox Glacier	29.19	176	P	P	03 03 38.8	+1.1
STKA	Stephens Creek	29.40	229	P	P	03 03 40.9	+1.1
STKA	Stephens Creek	29.40	229	P	P	03 03 40.6	+0.7
	comp=Z,594nm,1.1s						
STKA	Stephens Creek	29.40	229	P	P	03 03 40.6	+0.7
	comp=Z,68nm,0.5s,baz=50,slow=8.6,SNR=173						
STKA				PcP	PcP	03 06 41.0	+0.4
	comp=Z,10nm,0.7s,baz=350,slow=4.9,SNR=4.0						
	comp=Z,68nm,0.5s						
STKA	Stephens Creek	29.40	229	P	P	03 03 40.5	+0.7
RPZ	Rata Peaks	29.47	175	P	P	03 03 40.7	+0.5
RPZ				IAmb	IAmb	03 03 57.2	
	comp=Z,37nm,1.1s						
MQZ	McQueen's Vall	29.63	172	P	P	03 03 43.6	+2.0
LBZ	Lake Benmore	30.07	176	P	P	03 03 47.2	+1.7
TOO	Toolangi	30.29	216	P	P	03 03 48.5	+0.9
TOO	Toolangi	30.29	216	P	P	03 03 48.5	+0.9
	comp=Z,37nm,1.3s						
SMPI	Sarmi	30.92	291	P	P	03 03 53.5	+0.1
	comp=Z,77nm,1.2s						
DCZ	Deep Cove	31.06	180	P	P	03 03 54.8	+0.7
LCRK	Leigh Creek	31.32	234	P	P	03 03 56.6	-0.1
GLAD	Gladstone	31.52	209	P	P	03 03 59.2	+0.9
WR0	Warramunga Arr	31.92	255	P	P	03 04 00.2	-1.8
WR0				IAmb	IAmb	03 04 01.4	
	comp=Z,63nm,1.2s						
WR9	Warramunga Arr	31.94	255	P	P	03 04 00.5	-1.8
	comp=Z,58nm,0.9s						
ARPS	Mount Arapiles	31.98	221	P	P	03 04 02.9	+0.5
	comp=Z,96nm,0.8s						
ARPS	Mount Arapiles	31.98	221	P	P	03 04 03.1	+0.7
WB0	Warramunga Arr	32.04	256	P	P	03 04 01.6	-1.5
WB2	Warramunga Arr	32.09	255	P	P	03 04 01.8	-1.9
WRAB	Tennant Creek	32.09	255	P	P	03 04 01.9	-1.8
WRA	Warramunga Arr	32.10	255	P	P	03 04 00.7	-3.0
WRA	Warramunga Arr	32.10	255	P	P	03 04 01.5	-2.2
	comp=Z,42nm,0.5s,baz=82,slow=6.8,SNR=8.6						
WRA				PcP	PcP	03 06 48.0	0.0
	comp=Z,0.8nm,0.6s,baz=82,slow=3.2,SNR=5.6						
WRA				S	S	03 08 53.9	-6.9
	comp=Z,5.4nm,1.0s,baz=82,slow=14,SNR=8.5						
WRA				LR	LR	03 16 57.9	
	comp=Z,386nm,18.1s,baz=56,slow=36						
	comp=Z,42nm,0.5s						
HTT	Hallett	32.13 229		P	P	03 04 04.3	+0.5
	comp=Z,29nm,1.2s						
HTT	Hallett	32.13 229		P	P	03 04 04.3	+0.5
OOD	Oodnadatta	32.43 240		P	P	03 04 06.4	0.0
AS17	Alice Springs	32.91 249		P	P	03 04 09.1	-1.6
	comp=Z,67nm,0.9s						
AS01	Alice Springs	32.95 249		P	P	03 04 09.5	-1.6
AS31	Alice Springs	32.99 249		P	P	03 04 09.7	-1.8
AS31				IAmb	IAmb	03 04 11.2	
	comp=Z,19nm,0.6s						
AS31	Alice Springs	32.99 249		P	P	03 04 10.1	-1.4
	comp=Z,31nm,0.6s						
ASAR	Alice Springs	32.99 249		P	P	03 04 09.7	-1.7
ASAR	Alice Springs	32.99 249		P	P	03 04 09.9	-1.5
	comp=Z,40nm,0.5s,baz=76,slow=9.3,SNR=491						
ASAR				PcP	PcP	03 06 49.4	-1.0
	comp=Z,3.4nm,0.6s,baz=89,slow=2.4,SNR=5.7						
ASAR				S	S	03 09 10.2	-4.4
	comp=Z,5.3nm,1.0s,baz=76,slow=16,SNR=11						
	comp=Z,40nm,0.5s						
MOO	Moorlands	33.04 208		P	P	03 04 12.6	+1.0
	comp=Z,100nm,2.2s						
MOO	Moorlands	33.04 208		P	P	03 04 12.8	+1.2
BBOO	Buckleboo	33.98 232		P	P	03 04 19.7	0.0
BBOO	Buckleboo	33.98 232		P	P	03 04 19.6	-0.2
	comp=Z,102nm,1.3s						
BBOO	Buckleboo	33.98 232		P	P	03 04 19.8	0.0
KDU	Kakadu	34.04 268		P	P	03 04 19.4	-1.1
	comp=Z,44nm,0.7s						
KDU	Kakadu	34.04 268		P	P	03 04 19.7	-0.8
KMPI	Kaimana, Papua	34.92 284		P	P	03 04 29.5	+1.4
	comp=Z,80nm,0.7s						
RKPI	Ransiki, Papua	35.26 288		P	P	03 04 31.0	+0.1
	comp=Z,110nm,1.1s						
MTN	Manton Dam	35.32 268		P	P	03 04 30.7	-0.8
	comp=Z,26nm,1.2s						
GUMO	Guam	35.61 320		LR	LR	03 21 22.7	
	comp=Z,29nm,18.2s,baz=110,slow=40						
FAKI	Fak Fak	36.54 285		P	P	03 04 40.0	-1.8
FAKI				IAmb	IAmb	03 04 42.2	
	comp=Z,40nm,0.9s						
FAKI				PcP	PcP	03 07 01.1	+0.2
FAKI	Fak Fak	36.54 285		P	P	03 04 41.7	-0.1
FAKI	Fak Fak	36.54 285		P	P	03 04 41.4	-0.4
	comp=Z,49nm,1.2s						
KNRA	Kununurra	37.37 263		P	P	03 04 47.7	-1.1
KNRA	Kununurra	37.37 263		P	P	03 04 47.7	-1.1
	comp=Z,95nm,0.9s						
SWI	Sorong	38.20 287		P	P	03 04 55.4	-0.4
	comp=Z,1μmcomp=Z,114nm,0.9s						
BNDI	Bandanaira	38.24 281		P	P	03 04 55.2	-0.9
WRKA	Warakurna	38.26 248		P	P	03 04 54.8	-1.4
	comp=Z,134nm,0.9s						
WRKA	Warakurna	38.26 248		P	P	03 04 55.5	-0.7
FORT	Forrest	39.67 239		P	P	03 05 07.1	-0.6
FORT	Forrest	39.67 239		P	P	03 05 07.3	-0.5
	comp=Z,219nm,1.2s						
FORT	Forrest	39.67 239		P	P	03 05 07.6	-0.1
AAI	Ambon	40.12 281		P	P	03 05 11.7	0.0
	comp=Z,89nm,0.8s						
FITZ	Fitzroy Crossi	40.27 259		P	P	03 05 12.1	-0.8
NLAI	Namlea	41.29 282		P	P	03 05 20.9	-0.4
	comp=Z,1μmcomp=Z,121nm,1.1s						
PPT2	Papeete2	41.38 100		eP	P	03 05 21.5	-0.5
	comp=Z,68nm,25.2s						
PPT2				eS	S	03 11 18.3	-3.1
	comp=Z,102nm,26.0s						
PPT2				eSS	SS	03 14 29.8	-4.3
	comp=Z,218nm,26.8s						
PPT2				eLQ	LQ	03 15 26.2	
	comp=Z,936nm,25.8s						
TBI	Tubuai	41.63 109		eS	S	03 11 18.8	-5.9
	comp=Z,669nm,29.8s						
TBI				eLQ	LQ	03 15 31.2	
	comp=Z,3μm,27.5s						
SOEI	Soe	42.44 271		P	P	03 05 30.4	-0.2
SOEI				IAmb	IAmb	03 06 21.9	
	comp=Z,45nm,1.1s						
SOEI	Soe	42.44 271		P	P	03 05 30.7	0.0
	comp=Z,36nm,1.4s						
SANI	Sanana	42.72 283		P	P	03 05 31.9	-0.9
	comp=Z,596nmcomp=Z,55nm,1.0s						
BATI	Baumata	42.94 270		P	P	03 05 35.4	+0.8
	comp=Z,129nm,0.9s						
MMRI	Maumere	44.62 272		P	P	03 05 47.1	-0.8
	comp=Z,61nm,0.6s						
KMBL	Kambalda	44.96 240		P	P	03 05 49.5	-0.9
	comp=Z,96nm,1.3s						
KMBL	Kambalda	44.96 240		P	P	03 05 49.7	-0.7
BBSI	Bau Bau	45.00 277		P	P	03 05 51.0	0.0
	comp=Z,47nm,1.1s						
EDFI	Ende, Flores	45.12 272		P	P	03 05 50.9	-1.1
	comp=Z,558nmcomp=Z,45nm,1.0s						
PSAC2	Pilbara Seismi	45.67 254		P	P	03 05 55.6	-0.5
	comp=Z,60nm,1.9s						
PSA00	Pilbara Seismi	45.73 254		P	P	03 05 55.4	-1.2
PSA00				IAmb	IAmb	03 05 57.3	
	comp=Z,47nm,0.9

comp=Z,140nm,1.8s
GIRL Giralia 50.94 252 P **P 03 06 36.2 -0.1**
TAOE Nuku Hiva Isla 51.53 90 *e*S **S 03 13 43.4 -2.3**
comp=Z,138nm,39.9s
TAOE *e*SS **SS 03 17 26.6 +1.9**
comp=Z,77nm,23.6s
JAGI Jajag, Banyuwa 52.48 270 P **P 03 06 46.2 -1.7**
JAGI Jajag, Banyuwa 52.48 270 P **P 03 06 46.0 -1.9**
comp=Z,58nm,1.4s
ABJI Asem Bagus 52.54 271 P **P 03 06 48.6 +0.3**
comp=Z,66nm,1.1s
KKM Kota Kinabalu 54.70 288 P **P 03 07 03.6 -0.5**
DRV Dumont d'Urvil 55.39 193 P **P 03 07 08.3 +0.3**
PCJI Pacitan 55.42 270 P **P 03 07 09.2 +0.1**
comp=Z,135nm,1.4s
UGM Wanagama 56.11 270 P **P 03 07 14.2 +0.1**
UGM Wanagama 56.11 270 P **P 03 07 13.5 -0.6**
comp=Z,87nm,1.0s
SBUM Sibu 57.19 282 P **P 03 07 20.9 -0.8**
JGF Kuroka 57.24 331 IAmb IAmb 03 07 22.7
comp=Z,13nm,0.8s
JGF Kuroka 57.24 331 P **P 03 07 21.8 +0.2**
MJAR Matsushiro Arr 57.62 332 P **P 03 07 23.5 -0.7**
comp=Z,8.2nm,0.7s,baz=176,slow=7.9,SNR=24
MJAR PcP **PcP 03 08 15.4 +0.5**
comp=Z,4.7nm,0.8s,baz=136,slow=3.6,SNR=4.2
comp=Z,8.2nm,0.7s
MAJO Matsushiro 57.62 332 P **P 03 07 23.8 -0.4**
MAJO IAmb IAmb 03 07 24.6
comp=Z,46nm,1.4s
MAJO Matsushiro 57.62 332 P **P 03 07 24.3 +0.1**
MAJO Matsushiro 57.62 332 P **P 03 07 23.6 -0.6**
MJB9 Matsu-Tunnel 57.62 332 P **P 03 07 24.6 +0.4**
MJB9 IAmb IAmb 03 07 25.6
comp=Z,49nm,1.4s
CMJI Cimerak 58.15 270 P **P 03 07 27.3 -1.0**
comp=Z,67nm,1.6s
JNU Nakatsue 58.69 324 P **P 03 07 31.5 -0.2**
JNU IAmb IAmb 03 07 32.6
comp=Z,32nm,0.9s
JNU Nakatsue 58.69 324 P **P 03 07 32.4 +0.7**
KSM Kuching 58.71 281 IAmb IAmb 03 07 33.0
comp=Z,28nm,1.0s
NACB Ninganchiao 58.90 310 P **P 03 07 32.1 -1.2**
BBJI Bungbulang 58.99 270 P **P 03 07 33.6 -0.6**
TPUB Ta-pu 59.12 309 IAmb IAmb 03 07 34.6
comp=Z,26nm,0.7s
LEM Lembang 59.16 271 P **P 03 07 35.2 -0.3**
comp=Z,90nm,0.9s
YHNB Yeheng 59.35 310 P **P 03 07 35.4 -1.0**
YHNB IAmb IAmb 03 07 37.1
comp=Z,34nm,0.8s
CNJI Cibinong 59.53 270 P **P 03 07 36.2 -1.6**
comp=Z,40nm,1.1s
TPI Tanjungpandan 60.08 275 P **P 03 07 41.5 -0.1**
comp=Z,33nm,1.2s
CGJI Cibinong 61.07 270 P **P 03 07 46.7 -1.6**
JKA Kamikawa-asahi 62.41 340 P **P 03 07 57.6 +1.1**
MDSI Maura Dua 63.02 272 P **P 03 07 59.1 -2.1**
comp=Z,30nm,0.7s
VNDA Vanda 63.28 181 P **P 03 08 02.6 +0.7**
VNDA IAmb IAmb 03 08 04.1
comp=Z,15nm,1.0s
VNDA Vanda 63.28 181 P **P 03 08 01.8 -0.1**
comp=Z,5.5nm,0.7s,baz=1.9,slow=6.1,SNR=25
comp=Z,5.5nm,0.7s
VNDA Vanda 63.28 181 P **P 03 08 02.3 +0.4**
KSRS Korea Array 63.49 326 P **P 03 08 03.4 -0.5**
comp=Z,6.2nm,0.8s,baz=141,slow=7.0,SNR=15
KSRS PcP **PcP 03 08 39.9 +1.3**
comp=Z,3.1nm,1.0s,baz=123,slow=4.6,SNR=4.3
KSRS pP **pP 03 08 50.9 -0.2**
comp=Z,2.5nm,0.9s,baz=142,slow=6.8,SNR=2.3
KSRS LR LR 03 31 25.7
comp=Z,13nm,20.8s,baz=125,slow=32
comp=Z,6.2nm,0.8s
KSAR Wonju Array Be 63.51 325 P **P 03 08 03.7 -0.2**
SBA Scott Base 63.55 180 P **P 03 08 04.8 +1.1**
SBA IAmb IAmb 03 08 06.0
comp=Z,26nm,0.9s
SBA Scott Base 63.55 180 P **P 03 08 05.3 +1.7**
CASY Casey 63.98 202 P **P 03 08 06.8 +0.2**
CASY Casey 63.98 202 P **P 03 08 06.8 +0.2**
CASY pP **pP 03 08 55.0 +0.5**
YSS Yuzhno-Sakhali 64.89 342 P **P 03 08 14.0 +1.3**
CCD Concordia, Ant 65.35 191 P **P 03 08 16.2 +0.4**
CCD pP **pP 03 09 04.4 +0.6**
NJ2 Nanjing 65.50 316 ⇑P **P 03 08 17.1 +0.2**
NJ2 pmax pmax
comp=Z,23nm,0.7s
USA0B Ussuriysk Arra 66.59 333 P **P 03 08 24.2 +0.6**
USA0B IAmb IAmb 03 08 26.0
comp=Z,31nm,1.1s
USRK Ussuriysk Ar. 66.59 333 P **P 03 08 24.3 +0.6**
comp=Z,6.9nm,0.6s,baz=149,slow=4.4,SNR=30
USRK pP **pP 03 09 11.3 0.0**
comp=Z,5.4nm,1.0s,baz=108,slow=6.2,SNR=2.2
comp=Z,6.9nm,0.6s
SHEM Shemya Is, Ala 67.01 4 LR LR 03 31 26.8
comp=Z,36nm,21.5s,baz=268,slow=30
PEA0B Petropavlovsk- 67.66 354 P **P 03 08 30.6 +0.4**
PETK Petropavlovsk- 67.66 354 P **P 03 08 30.1 -0.1**
PETK Petropavlovsk- 67.66 354 P **P 03 08 30.2 0.0**
comp=Z,19nm,0.8s,baz=147,slow=8.2,SNR=19
comp=Z,19nm,0.8s
WHN Wuhan 67.80 312 P **P 03 08 31.3 -0.2**
MDJ Mudanjiang 68.00 332 P **P 03 08 32.8 +0.3**
MDJ IAmb IAmb 03 08 34.5
comp=Z,33nm,1.0s
MDJ Mudanjiang 68.00 332 P **P 03 08 33.0 +0.6**
MDJ pmax pmax
comp=Z,38nm,1.7s
MDJ Mudanjiang 68.00 332 P **P 03 08 33.4 +1.0**
CN2 Changchun 69.38 329 *e*P **P 03 08 41.2 +0.2**
CN2 pmax pmax
comp=Z,30nm,0.7s
BNX BinXian 69.86 331 ⇑P **P 03 08 43.9 0.0**
BNX pmax pmax
comp=Z,51nm,0.6s
RPSI Rantau Prapat 69.94 278 P **P 03 08 43.6 -1.5**
RPSI IAmb IAmb 03 08 44.8
comp=Z,15nm,0.7s
ENH Enshi 71.24 309 IAmb IAmb 03 08 53.3
comp=Z,33nm,1.0s
LYN LuoYang 71.31 314 ⇑P **P 03 08 53.3 +0.4**
LYN pmax pmax
comp=Z,55nm,1.2s
HNS HongShan 71.41 318 ⇑P **P 03 08 54.0 +0.6**
HNS pmax pmax
comp=Z,23nm,1.0s
GYA Guiyang 71.62 304 ⇓P **P 03 08 55.6 +0.5**
GYA pmax pmax
comp=Z,24nm,1.2s
BJI Beijing 72.05 321 P **P 03 08 57.7 +0.5**
BJI PcP **PcP 03 09 14.9 +0.5**
BJI pP **pwP 03 09 46.8 -1.1**
BJI sP **sP 03 10 08.6 +1.2**
BJI PP **PP 03 11 42.1 +1.7**
BJI S **S 03 18 02.3 +0.4**
BJI pmax pmax
comp=Z,7.0nm,1.3s
MLSI Meulaboh, Aceh 72.80 279 P **P 03 09 02.3 +0.1**
comp=Z,65nm,0.9s
TIY Taiyuan 73.07 317 *e*P **P 03 09 04.8 +1.4**
TIY S **SKiKP 03 18 16.1 +1.7**
TIY pmax pmax
comp=Z,19nm,0.7s
HEH HeiHe 73.26 334 *e*P **P 03 09 04.4 +0.3**
HEH pmax pmax
comp=Z,15nm,0.7s
XAN Xi'an 73.54 312 ⇑P **P 03 09 06.4 +0.2**
XAN PcP **PcP 03 09 20.2 -0.8**
XAN pP pP 03 09 55.8 +1.2
XAN pmax pmax
comp=Z,24nm,1.0s
XAN pmax pmax
comp=Z,120nm,3.8s
BSI Banda Aceh 74.20 280 P **P 03 09 09.7 -0.7**
comp=Z,41nm,0.8s
KMI Kunming 74.24 302 ⇑P **P 03 09 11.6 +1.0**
KMI PcP **PcP 03 09 24.3 -0.2**
KMI pP pwP 03 10 03.5 +1.2
KMI pmax pmax
comp=Z,34nm,1.0s
XLT XiLinHaoTe 74.47 324 *e*P **P 03 09 12.0 +0.6**

XLT PcP **PcP 03 09 25.3 +0.4**
XLT pP pwP 03 10 04.3 +2.0
XLT sP sP 03 10 22.5 +0.6
XLT PP **PP 03 11 57.1 -3.9**
XLT pmax pmax
comp=Z,24nm,0.7s
MA2 Magadan 74.86 351 LR LR 03 38 07.9
comp=Z,22nm,19.6s,baz=88,slow=32
MA2 Magadan 74.86 351 P **P 03 09 13.3 +0.2**
comp=Z,18nm,1.1s
CMAR Chiang Mai Arr 74.94 294 P **P 03 09 14.3 -0.2**
CMAR Chiang Mai Arr 74.94 294 P **P 03 09 14.6 0.0**
comp=Z,9.2nm,0.8s,baz=118,slow=4.3,SNR=42
CMAR pP **pP 03 10 02.9 +0.1**
comp=Z,9.0nm,0.9s,baz=125,slow=4.3,SNR=5.9
comp=Z,9.2nm,0.8s
CHTO Chiang Mai 75.07 294 P **P 03 09 15.3 0.0**
CHTO IAmb IAmb 03 09 16.4
comp=Z,15nm,0.8s
HHC Hu-ho-hao-te 75.38 320 *e*P **P 03 09 19.5 +2.8**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,73nm,5.3s
PZH PanZhiHua 75.62 303 P **P 03 09 20.4 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.8s
QSPA South Pole Qui 75.72 180 P **P 03 09 18.6 +0.3**
QSPA IAmb IAmb 03 09 19.3
comp=Z,24nm,0.8s
QSPA South Pole Qui 75.72 180 P **P 03 09 18.7 +0.5**
comp=Z,19nm,0.8s,baz=357,slow=1.0,SNR=79
comp=Z,19nm,0.8s
CD2 Chengdu 75.90 307 P **P 03 09 20.2 +0.4**
CD2 pmax pmax
comp=Z,20nm,1.1s
BTO Baotou 76.23 319 *e*P **P 03 09 23.7 +2.2**
BTO pP **pwP 03 10 16.9 +4.3**
BTO sP sP 03 10 40.2 +8.1
BTO pmax pmax
comp=Z,31nm,1.6s
BTO pmax pmax
comp=Z,200nm,3.9s
M11K Mekoryuk 77.39 13 P **P 03 09 28.9 +1.6**
baz=206
N14K Kuskokwak Cree 78.06 15 P **P 03 09 31.4 +0.4**
baz=211
M13K Dall Lake 78.07 14 P **P 03 09 32.2 +1.1**
baz=209
Q17K Contact Creek 78.31 19 P **P 03 09 32.3 -0.4**
baz=216
OHAK Old Harbor 78.33 21 P **P 03 09 33.1 +0.5**
baz=219
N15K Kwethluk River 78.68 16 P **P 03 09 35.9 +1.4**
N15K pP **pP 03 10 22.0 -1.9**
N15K IAmb IAmb 03 10 23.4
comp=Z,21nm,1.2s
N15K Kwethluk River 78.68 16 P **P 03 09 35.5 +1.0**
baz=212
M14K Bethel 78.70 15 P **P 03 09 35.1 +0.5**
baz=210
O16K Kokwok River B 78.75 17 P **P 03 09 35.4 +0.6**
baz=214
Q18K Katmai Hardscr 78.90 19 P **P 03 09 36.3 +0.4**
baz=217
P17K Kvichak River 78.90 18 P **P 03 09 36.3 +0.6**
baz=216
M15K Kasigluk River 78.97 15 P **P 03 09 36.9 +0.8**
baz=212
KDAK Kodiak Island 79.01 21 LR LR 03 40 54.6
comp=Z,45nm,18.3s,baz=68,slow=33
KDAK Kodiak Island 79.01 21 P **P 03 09 36.9 +0.6**
baz=219
L14K Kuka Creek 79.04 14 P **P 03 09 36.9 +0.5**
L14K Kuka Creek 79.04 14 P **P 03 09 37.2 +0.9**
baz=210
K13K Kusilvak Mount 79.11 13 P **P 03 09 37.8 +1.1**
baz=208
O17K Koliganek Bris 79.18 17 P **P 03 09 38.6 +1.4**
baz=215
N16K Nishlik Lake 79.29 16 P **P 03 09 39.3 +1.4**
baz=213
P18K Big Mountain, 79.43 18 P **P 03 09 40.2 +1.6**
baz=217
Q19K Cape Douglas, 79.56 19 P **P 03 09 39.7 +0.4**
baz=218
L15K Ungalak Mounta 79.62 14 P **P 03 09 40.0 +0.5**
baz=211
M16K Timber Creek 79.70 16 P **P 03 09 41.0 +1.0**
baz=213
Q20K Shuyak Island 79.71 20 P **P 03 09 40.4 +0.3**
baz=220
J14K Nanvaranak Lak 80.08 13 P **P 03 09 43.6 +1.6**
baz=209
K15K Wolf Creek Mou 80.14 14 P **P 03 09 43.2 +0.9**
K15K pP **pP 03 10 30.8 -1.1**
K15K IAmb IAmb 03 10 32.3
comp=Z,81nm,1.9s
K15K Wolf Creek Mou 80.14 14 P **P 03 09 43.6 +1.2**
baz=211
P19K Oil Pt 80.25 19 P **P 03 09 44.2 +1.1**
baz=219
L17K Donlin 80.81 16 P **P 03 09 48.1 +2.2**
baz=214
M18K Stony River 80.95 17 P **P 03 09 49.3 +2.7**
baz=216
BRSE Bradley Lake S 81.13 20 P **P 03 09 50.1 +2.5**
baz=221
J16K Anvik River 81.22 14 P **P 03 09 49.9 +1.9**
baz=211
L18K Granite Mounta 81.31 16 P **P 03 09 49.9 +1.4**
baz=215
YAK Yakutsk 81.68 343 P **P 03 09 50.9 +0.4**
M19K Big River Lodg 81.69 17 P **P 03 09 52.5 +1.9**
baz=217
I17K Unalakleet 81.71 14 P **P 03 09 52.6 +2.0**
baz=211
L19K White Mountain 81.78 17 P **P 03 09 53.4 +2.4**
baz=217
ULN Ulaanbaatar 81.90 324 P **P 03 09 52.6 +0.4**
ULN IAmb IAmb 03 09 54.0
comp=Z,57nm,1.4s
O22K Cooper Landing 82.03 20 P **P 03 09 54.2 +2.0**
baz=222
M20K Styx River 82.04 18 P **P 03 09 53.6 +1.1**
baz=218
BILL Bilibino 82.13 360 P **P 03 09 53.1 +0.5**
BILL IAmb IAmb 03 09 54.5
comp=Z,53nm,1.6s
SONM Songino Array 82.27 323 P **P 03 09 54.3 +0.2**
SONM IAmb IAmb 03 09 55.8
comp=Z,56nm,1.6s
SONM Songino Array 82.27 323 P **P 03 09 54.4 +0.4**
comp=Z,12nm,1.0s,baz=146,slow=5.7,SNR=46
SONM pP **pP 03 10 44.1 +0.5**
comp=Z,2.7nm,0.8s,baz=150,slow=5.7,SNR=3.8
SONM LR LR 03 43 59.7
comp=Z,17nm,21.4s,baz=94,slow=34
comp=Z,12nm,1.0s
L20K Farewell, AK 82.29 17 P **P 03 09 54.9 +1.2**
baz=218
J18K Innoko River 82.32 15 P **P 03 09 54.8 +1.0**
baz=215
MAW Mawson 82.34 202 P **P 03 09 54.5 +0.6**
comp=Z,40nm,0.9s,baz=113,slow=7.3,SNR=7.0
comp=Z,40nm,0.9s
GTA Gaotai 82.51 314 ⇑P **P 03 09 56.7 +1.2**
GTA pP pP 03 10 44.5 -0.5
GTA pmax pmax
comp=Z,20nm,1.3s
G16K Koyuk River 82.66 12 P **P 03 09 56.6 +1.2**
baz=210
PWL Port Wells 82.77 20 P **P 03 09 55.7 -0.4**
PWL IAmb IAmb 03 11 16.0
comp=Z,21nm,0.9s
PWL Port Wells 82.77 20 P **P 03 09 56.5 +0.4**
baz=223
M22K Willow 82.85 19 P **P 03 09 56.7 +0.2**
baz=221
K20K Telida 82.94 16 P **P 03 09 57.8 +0.9**
baz=218
J19K Poorman 83.04 15 P **P 03 09 58.7 +1.2**
baz=216
PMR Palmer 83.05 19 P **P 03 09 58.3 +0.8**
baz=222

PPLA Purkeypile 83.11 17 P **P 03 09 58.7 +0.7**
baz=219
G17K Kiwalik Mounta 83.11 13 P **P 03 09 58.9 +1.1**
baz=211
KNK Knik Glacier 83.13 20 P **P 03 09 58.5 +0.5**
baz=223
CUT Chulitna 83.30 18 P **P 03 09 58.4 -0.3**
baz=221
SHL Shillong 83.53 298 P **P 03 10 00.3 -0.7**
CAST Castle Rocks 83.54 17 P **P 03 09 59.6 -0.4**
CAST IAmb IAmb 03 10 00.7
comp=Z,11nm,0.8s
CAST Castle Rocks 83.54 17 P **P 03 09 59.6 -0.4**
baz=219,SNR=9.7
J20K Nowinta River 83.57 16 P **P 03 10 00.9 +0.8**
baz=217
KTH Kantishna Hill 83.98 17 IAmb IAmb 03 11 21.5
comp=Z,60nm,1.9s
I20K Naaghedeneel 83.98 15 P **P 03 10 02.7 +0.6**
baz=217
KLU Klutina 84.03 21 P **P 03 10 02.7 0.0**
baz=225
TRF Thorofare Moun 84.09 18 IAmb IAmb 03 11 21.4
comp=Z,12nm,0.9s
TRF Thorofare Moun 84.09 18 P **P 03 10 02.5 -0.5**
baz=221
H19K Roundabout Mou 84.09 14 P **P 03 10 03.3 +0.6**
H19K IAmb IAmb 03 10 05.1
comp=Z,20nm,1.4s
H19K Roundabout Mou 84.09 14 P **P 03 10 03.5 +0.8**
baz=215,SNR=5.5
BMRM Bremner River 84.12 21 P **P 03 10 02.8 -0.3**
baz=226
E17K Hotham Inlet 84.24 12 P **P 03 10 03.5 +0.1**
baz=210,SNR=6.4
F18K Selawik 84.26 13 P **P 03 10 04.4 +0.8**
baz=212
H20K Anotleneega Mo 84.44 15 P **P 03 10 05.5 +0.9**
baz=217
G19K Purcell Mounta 84.45 14 P **P 03 10 05.7 +1.2**
baz=214,SNR=5.7
RND Reindeer 84.48 18 P **P 03 10 05.1 +0.2**
RND IAmb IAmb 03 10 13.3
comp=Z,15nm,1.1s
D17K Noatak River 84.54 11 P **P 03 10 06.2 +1.2**
baz=209
MESA MESA 84.56 23 P **P 03 10 07.4 +1.9**
baz=229
C16K Lisburne Hills 84.66 10 P **P 03 10 06.3 +0.8**
baz=207
MCK McKinley 84.70 18 P **P 03 10 06.4 +0.5**
MCK IAmb IAmb 03 10 07.5
comp=Z,22nm,1.2s
MCK McKinley 84.70 18 P **P 03 10 06.0 +0.1**
baz=222
E18K Tukpahlearik C 84.77 12 P **P 03 10 07.1 +1.0**
baz=211
GOMU GeErMu 84.86 309 P **P 03 10 07.5 -0.3**
GOMU pP pP 03 10 58.0 +0.4
GOMU pmax pmax
comp=Z,9.0nm,0.9s
F19K Shaleruckik Mo 84.87 13 P **P 03 10 06.9 +0.3**
F19K IAmb IAmb 03 10 08.7
comp=Z,31nm,1.8s
F19K Shaleruckik Mo 84.87 13 P **P 03 10 07.5 +0.9**
baz=214
I21K Tanana 84.94 16 P **P 03 10 07.6 +0.6**
baz=219
YBH Yreka Blue Hor 84.99 45 P **P 03 10 08.9 +0.9**
comp=Z,2.4nm,0.7s,baz=119,slow=2.8,SNR=5.9
comp=Z,2.4nm,0.7s
CMB Columbia Colle 85.19 49 P **P 03 10 09.6 +0.6**
CMB IAmb IAmb 03 11 00.3
comp=Z,21nm,1.8s
F20K Avaraart Lake 85.50 14 P **P 03 10 10.2 +0.5**
F20K Avaraart Lake 85.50 14 P **P 03 10 10.7 +1.0**
baz=216,SNR=6.5
E19K Redstone River 85.50 13 P **P 03 10 10.2 +0.4**
E19K Redstone River 85.50 13 P **P 03 10 10.9 +1.1**
baz=214,SNR=10
G21K Allakaket 85.60 15 P **P 03 10 10.6 +0.3**
G21K IAmb IAmb 03 11 31.2
comp=Z,28nm,1.8s
G21K Allakaket 85.60 15 P **P 03 10 11.0 +0.7**
baz=218,SNR=5.1
O28M Mount Upton 85.61 23 P **P 03 10 10.9 +0.1**
baz=230
H22K Ishtalina Cre 85.65 16 P **P 03 10 11.5 +0.9**
baz=220
M26K Nabesna, AK 85.67 21 P **P 03 10 11.9 +1.1**
baz=228
C18K Utukok River 85.72 11 P **P 03 10 10.9 0.0**
C18K Utukok River 85.72 11 P **P 03 10 11.7 +0.8**
baz=210
K24K Donnelly Dome 85.72 19 P **P 03 10 11.9 +0.9**
baz=225
HDA Harding Lake 85.79 18 IAmb IAmb 03 11 32.1
comp=Z,18nm,1.0s
HDA Harding Lake 85.79 18 P **P 03 10 12.0 +0.8**
baz=224,SNR=5.7
BEKR Beckworth 85.90 47 P **P 03 10 13.3 +0.7**
RIDG Independent Ri 85.97 19 P **P 03 10 13.0 +0.8**
baz=226
ILAR Eielson Array 86.07 18 P **P 03 10 11.8 -0.8**
ILAR Eielson Array 86.07 18 P **P 03 10 12.0 -0.6**
comp=Z,4.4nm,0.8s,baz=236,slow=5.5,SNR=29
ILAR pP **pP 03 11 00.9 -2.1**
comp=Z,2.3nm,0.7s,baz=238,slow=5.5,SNR=3.0
ILAR LR LR 03 41 35.5
comp=Z,42nm,19.8s,baz=216,slow=30
comp=Z,4.4nm,0.8s
YUK8 Steele Glacier 86.09 23 P **P 03 10 12.9 -0.2**
baz=231
V35K Ketchikan 86.12 30 P **P 03 10 13.3 +0.3**
baz=238
YUK3 Moose Creek 86.15 22 P **P 03 10 13.6 +0.2**
baz=230
POKR Poker Plat Res 86.16 17 P **P 03 10 13.0 -0.1**
baz=224
F21K Alatna River 86.17 14 P **P 03 10 13.9 +0.8**
F21K IAmb IAmb 03 11 33.1
comp=Z,32nm,1.9s
F21K Alatna River 86.17 14 P **P 03 10 13.9 +0.8**
baz=218
D19K Kuna River 86.19 12 P **P 03 10 14.0 +0.8**
D19K IAmb IAmb 03 10 15.4
comp=Z,35nm,1.9s
D19K Kuna River 86.19 12 P **P 03 10 14.2 +1.1**
baz=213
B18K Kokolik River 86.23 10 P **P 03 10 14.7 +1.4**
baz=210
WRAK Wrangell Islan 86.36 29 P **P 03 10 15.5 +1.3**
baz=238
E20K Nigu River 86.39 13 P **P 03 10 15.5 +1.3**
baz=215
SCRK Sand Creek 86.41 19 P **P 03 10 14.7 +0.2**
baz=227
G22K Bettles 86.41 15 P **P 03 10 15.1 +0.9**
baz=220,SNR=5.7
J25K Salcha River, 86.42 18 P **P 03 10 15.1 +0.6**
baz=226
L27K Beaver Creek, 86.51 21 P **P 03 10 15.7 +0.9**
baz=229
G23K Bananza Creek 86.63 16 P **P 03 10 16.5 +1.1**
baz=221
D20K Etivluk River 86.67 12 P **P 03 10 16.1 +0.6**
D20K **pP 03 11 03.6 -2.5**
D20K IAmb IAmb 03 11 35.9
comp=Z,14nm,1.1s
D20K Etivluk River 86.67 12 P **P 03 10 16.7 +1.2**
baz=215
F22K John River 86.70 14 P **P 03 10 16.7 +1.1**
baz=219,SNR=6.2
DSP Deep Springs 86.73 50 P **P 03 10 16.5 +0.1**
DSP **pP 03 11 05.8 -0.7**
NVAR Mina Array Bea 86.86 49 P **P 03 10 17.7 +0.3**
NVAR **pP 03 11 06.6 -0.8**
NVAR Mina Array Bea 86.86 49 P **P 03 10 18.0 +0.6**
comp=Z,1.7nm,0.8s,baz=225,slow=6.5,SNR=11
NVAR pP **pP 03 11 07.0 -0.3**
comp=Z,2.2nm,0.9s,baz=230,slow=8.5,SNR=3.2
NVAR PKPPKP **P'P'df 03 36 17.2 -0.1**
comp=Z,0.5nm,0.8s,baz=27,slow=1.7,SNR=5.2
NVAR LR LR 03 42 51.7
comp=Z,47nm,20.4s,baz=280,slow=31
comp=Z,1.7nm,0.8s
NV11 Mina Array Sit 86.97 49 IAmb IAmb 03 11 10.7

comp=Z,39nm,2.0s
COLD **Coldfoot** 86.98 15 P P 03 10 18.2 +1.2
baz=221
E21K **Killik River** 87.03 13 P P 03 10 18.1 +0.9
baz=217
K27K **Chicken** 87.07 20 P P 03 10 18.7 +1.2
baz=229
A19K **Wainwright** 87.09 10 P P 03 10 19.0 +1.6
baz=211
E22K **Anaktuvuk Pass** 87.28 14 P P 03 10 18.9 +0.5
E22K pP 03 11 08.3 -0.8
E22K IAmb IAmb 03 11 09.2
comp=Z,14nm,1.4s
E22K **Anaktuvuk Pass** 87.28 14 P P 03 10 19.7 +1.2
baz=219
M29M **Somme Creek** 87.30 22 P P 03 10 20.0 +1.2
baz=232
G24K **Hadweenzic Riv** 87.31 16 P P 03 10 19.8 +1.2
baz=224
C21K **Knifeblade Rid** 87.42 13 P P 03 10 20.6 +1.5
baz=217,SNR=7.4
WCT **Wildcat Mounta** 87.54 51 P P 03 10 21.5 +1.0
WCT pP pP 03 11 10.1 -0.5
I26K **Coal Creek Min** 87.58 19 P P 03 10 20.6 +0.7
baz=228
B20K **Meade River** 87.64 11 P P 03 10 20.8 +0.8
baz=214
D22K **Ayikyak River** 87.66 13 P P 03 10 20.8 +0.6
D22K pP 03 11 09.8 -1.1
D22K IAmb IAmb 03 11 41.2
comp=Z,9.3nm,0.8s
D22K **Ayikyak River** 87.66 13 P P 03 10 21.8 +1.6
baz=219
E23K **Chandalar** 87.75 15 P P 03 10 21.2 +0.5
baz=222
F24K **Squaw Lake** 87.80 16 P P 03 10 22.4 +1.5
baz=223
B21K **Ikpikpuk River** 87.83 12 P P 03 10 22.1 +1.1
B21K pP pP 03 11 09.8 -1.8
B21K **Ikpikpuk River** 87.83 12 P P 03 10 22.4 +1.4
baz=217
I07A **Izee** 88.08 44 IAmb IAmb 03 11 16.0
comp=Z,16nm,1.5s
D23K **Nanushuk River** 88.19 14 P P 03 10 23.8 +1.1
D23K pP 03 11 12.6 -0.8
D23K **Nanushuk River** 88.19 14 P P 03 10 23.4 +0.7
baz=220
TOLK **Toolik Lake Re** 88.20 14 P P 03 10 23.7 +0.8
baz=222
I27K **Kandik River** 88.26 19 P P 03 10 23.8 +0.7
baz=229
V12A **Nelson** 88.55 53 IAmb IAmb 03 11 17.5
comp=Z,24nm,2.0s
SHPR **Sheep Range** 88.56 52 P P 03 10 26.2 +0.8
SHPR pP pP 03 11 15.5 -0.1
PALK **Pallekele** 88.65 278 P P 03 10 26.4 +0.3
B22K **Teshekpuk Lake** 88.66 12 P P 03 10 26.2 +1.4
baz=218
E25K **Arctic Village** 88.84 16 P P 03 10 27.6 +1.8
baz=225
LPIG **La Paz** 88.86 65 LR LR 03 41 45.4
comp=Z,33nm,20.4s,baz=233,slow=30
C23K **Itkillik River** 88.87 13 IAmb IAmb 03 11 47.0
comp=Z,8.1nm,0.9s
C23K **Itkillik River** 88.87 13 P P 03 10 27.4 +1.6
baz=220
W13A **Hualapai Mount** 89.10 54 IAmb IAmb 03 11 20.3
comp=Z,29nm,1.9s
SYO **Syowa Base** 89.16 197 ⇑iPcP PcP 03 10 29.0 +0.3
C24K **Franklin Bluff** 89.22 14 P P 03 10 29.0 +1.5
baz=222
TIXI **Tiksi** 89.59 349 P P 03 10 28.8 -0.4
TIXI IAmb IAmb 03 10 30.1
comp=Z,7.9nm,0.8s
ELK **Elko** 89.88 48 P P 03 10 31.9 +0.4
ELK pP pP 03 11 21.5 -0.6
SPR3 **Spring Creek 3** 89.98 50 P P 03 10 32.2 0.0
SPR3 pP pP 03 11 22.6 -0.2
LCMT **Little Creek M** 90.18 52 P P 03 10 33.3 +0.3
LCMT pP 03 11 22.1 -1.5
PSUT **Pine Spring** 90.19 50 IAmb IAmb 03 11 26.7
comp=Z,18nm,1.7s
F10A **Beach Ranch, E** 90.27 42 IAmb IAmb 03 10 34.6
comp=Z,9.0nm,0.8s
C26K **Camden Bay** 90.28 15 P P 03 10 34.0 +1.6
baz=226
C27K **Jago River** 90.38 15 P P 03 10 35.4 +2.6
baz=227
KNB **Kanab** 90.50 52 P P 03 10 35.4 +0.9
KNB pP pP 03 11 24.7 -0.4
KNB IAmb IAmb 03 11 29.6
comp=Z,39nm,2.0s
ELIB **Princess Elisa** 90.66 191 *d*P P 03 10 34.7 +0.2
comp=Z,13nm,1.0s
U15A **North Rim** 90.74 53 P P 03 10 35.7 0.0
U15A pP pP 03 11 23.9 -2.2
U15A IAmb IAmb 03 11 30.0
comp=Z,7.7nm,1.0s
TUC **Tucson** 90.75 57 P P 03 10 36.9 +1.3
TUC IAmb IAmb 03 11 31.0
comp=Z,16nm,1.9s
PLID **Pearl Lake** 90.78 44 P P 03 10 35.8 +0.2
PLID pP pP 03 11 23.8 -2.4
PLID IAmb IAmb 03 11 29.3
comp=Z,21nm,1.8s
E28M **Babbage River** 90.83 17 P P 03 10 37.2 +2.2
baz=231
D27M **Malcolm River** 90.84 16 P P 03 10 35.6 +0.4
baz=230
WUAZ **Wupatki** 91.18 54 P P 03 10 38.1 +0.4
WUAZ pP pP 03 11 28.8 +0.8
WUAZ IAmb IAmb 03 11 31.9
comp=Z,6.8nm,1.1s
MSU **Marysvale** 91.44 51 P P 03 10 38.3 -0.6
MSU pP 03 11 27.6 -1.9
WMQ **Urumqi** 92.56 315 *e*P P 03 10 44.6 +0.9
WMQ pmax pmax
comp=Z,27nm,1.7s
TROLL **Troll, Antarti** 93.29 185 ⇑P P 03 10 46.7 0.0
comp=Z,916nm,0.8s
PV23 **Carpenter Ridg** 93.81 51 IAmb IAmb 03 10 51.6
comp=Z,7.7nm,0.7s
SNAA **Sanae** 93.98 183 P P 03 10 49.2 -0.5
SNAA IAmb IAmb 03 10 51.2
comp=Z,9.6nm,0.9s
SNAA **Sanae** 93.98 183 ⇑P P 03 10 48.1 -1.6
comp=Z,164nm,0.8s
SNAA **Sanae** 93.98 183 P P 03 10 48.3 -1.4
comp=Z,7.1nm,0.8s,baz=156,slow=8.6,SNR=14
comp=Z,7.1nm,0.8s
PDAR **Pinedale Array** 94.53 47 PKKPbc PKKPbc 03 27 50.5 -1.9
comp=Z,0.4nm,0.7s,baz=107,slow=5.0,SNR=5.5
VNA3 **Neumayer Olymp** 94.64 181 ⇑P P 03 10 52.1 -0.6
comp=Z,16nm,0.6s
VNA2 **Neumayer--Watz** 94.90 182 ⇑P P 03 10 53.7 -0.2
comp=Z,15nm,0.6s,baz=168,slow=5.8
ANMO **Albuquerque** 94.92 55 LR LR 03 47 10.7
comp=Z,29nm,18.7s,baz=24,slow=31
TXAR **Lajitas Array** 95.92 61 P P 03 10 59.7 +0.3
comp=Z,0.3nm,0.7s,baz=220,slow=5.6,SNR=5.9
TXAR pP pP 03 11 51.0 +1.0
comp=Z,0.4nm,0.8s,baz=235,slow=4.4,SNR=3.3
TXAR PKKPbc PKKPbc 03 27 47.1 -0.7
comp=Z,0.2nm,0.7s,baz=105,slow=4.8,SNR=3.9
comp=Z,0.3nm,0.7s
C36M **Paulatuk** 95.94 19 P P 03 10 57.4 -1.0
baz=245
A36M **Sachs Harbour** 96.72 17 P P 03 11 02.5 +0.6
baz=244
MKAR **Makanchi Array** 97.03 316 P P 03 11 03.5 -0.4
MKAR pP 03 11 52.1 -2.4
MKAR **Makanchi Array** 97.03 316 P P 03 11 03.7 -0.2
comp=Z,9.5nm,0.7s,baz=93,slow=6.3,SNR=81
MKAR pP pP 03 11 52.3 -2.1
comp=Z,1.9nm,0.8s,baz=92,slow=7.3,SNR=3.5
MKAR PKiKP PKiKP 03 15 37.6 -1.2
comp=Z,0.8nm,0.8s,baz=70,slow=2.1,SNR=4.5
MKAR PKKPbc PKKPbc 03 27 42.8 -2.7
comp=Z,0.3nm,0.7s,baz=266,slow=3.6,SNR=3.7
comp=Z,9.5nm,0.7s
YKA **Yellowknife Ar** 97.09 27 P P 03 11 03.1 -0.7
comp=Z,1.0nm,0.8s,baz=253,slow=4.4,SNR=17
YKA PKKPbc PKKPbc 03 27 43.6 -2.2
comp=Z,0.4nm,0.8s,baz=72,slow=2.6,SNR=6.8
YKA LR LR 03 49 02.5
comp=Z,33nm,19.2s,baz=303,slow=32
comp=Z,1.0nm,0.8s

ZALV **Zalesovo Beam** 97.16 324 P P 03 11 03.4 -0.9
ZALV **Zalesovo Beam** 97.16 324 P P 03 11 03.2 -1.1
comp=Z,7.6nm,0.7s,baz=117,slow=4.9,SNR=37
ZALV pP pP 03 11 53.7 -1.2
comp=Z,0.7nm,0.4s,baz=122,slow=4.1,SNR=2.2
comp=Z,7.6nm,0.7s
NRIK **Noril'sk** 99.75 339 P Pdif 03 11 14.6 -1.0
comp=Z,4.3nm,0.8s,baz=126,slow=4.6,SNR=8.6
comp=Z,4.3nm,0.8s
KURK **Kurchatov** 100.20 320 Pdif Pdif 03 11 16.9 -1.1
KURBB **Kurchatov Arra** 100.24 320 P Pdif 03 11 17.4 -0.7
comp=Z,0.7nm,0.7s,baz=94,slow=4.2,SNR=6.3
KURBB PP PP 03 15 28.4 +1.4
comp=Z,0.3nm,0.3s,baz=99,slow=7.3,SNR=4.4
KURBB PKiKP PKiKP 03 15 44.8 +0.4
comp=Z,1.5nm,0.8s,baz=110,slow=1.6,SNR=8.8
BVAR **Borovoye Array** 105.53 322 Pdiff Pdif 03 11 41.0 -0.7
comp=Z,1.6nm,0.9s,baz=110,slow=6.5,SNR=5.1
BVAR PKiKP PKiKP 03 15 54.2 +0.3
comp=Z,1.3nm,0.6s,baz=101,slow=0.8,SNR=7.6
ARCES **ARCESS Array B** 119.89 346 PKP PKPdf 03 16 20.9 +0.1
comp=Z,7.0nm,0.6s,baz=75,slow=1.7,SNR=46
BOSA **Boshof** 123.81 220 PKP PKiKP 03 16 30.4 +0.3
comp=Z,3.5nm,0.9s,baz=147,slow=1.7,SNR=6.0
OBN **Obninsk** 124.44 328 PKP PKPdf 03 16 30.0 +0.2
KBZ **Khabaz** 124.59 314 PKP PKiKP 03 16 31.4 +0.5
comp=Z,5.4nm,0.8s,baz=109,slow=2.6,SNR=20
KIV **Kislovodsk** 124.69 314 ⇑P PKiKP 03 16 31.2 0.0
FINES **FINESS Array B** 125.40 338 PKP PKiKP 03 16 32.0 +0.1
comp=Z,12nm,0.9s,baz=113,slow=4.4,SNR=17
NB2 **NORSAR Subarra** 130.27 345 PKPdf PKPdf 03 16 41.4 +0.5
comp=Z,7.3nm,1.2s,baz=31,slow=1.9
NB2 pPKP SKPab 03 19 47.3 +2.6
comp=Z,32nm,1.7s,baz=34,slow=3.3
NB2 **NORSAR Subarra** 130.27 345 PKPdf PKPdf 03 16 41.4 +0.5
baz=31,slow=1.9
NOA **NORSAR Array B** 130.27 345 PKP PKPdf 03 16 41.1 +0.2
comp=Z,2.8nm,0.7s,baz=34,slow=2.0,SNR=15
NOA SKPbc SKPab 03 19 46.7 +2.0
comp=Z,3.6nm,0.8s,baz=32,slow=3.0,SNR=10
HFS **Hagfors** 130.38 343 SKPbc SKPab 03 19 46.9 +1.8
comp=Z,5.8nm,0.8s,baz=23,slow=4.8,SNR=7.3
AKASG **Malin Array Be** 130.49 326 PKP PKPdf 03 16 41.5 -0.1
comp=Z,4.2nm,0.6s,baz=57,slow=1.8,SNR=24
AKASG SKPbc SKPab 03 19 47.5 +1.7
comp=Z,2.2nm,0.7s,baz=47,slow=3.8,SNR=12
AKBB **Malin Array Si** 130.49 326 PKP PKPdf 03 16 41.7 +0.1
KIEV **Kiev** 130.50 326 ⇑P PKPdf 03 16 41.8 +0.3
KIEV **Kiev** 130.50 326 PKP PKPdf 03 16 41.1 -0.5
AK09 **Malin Array Si** 130.50 326 PKP PKPdf 03 16 41.6 0.0
AK08 **Malin Array Si** 130.51 326 PKP PKPdf 03 16 42.0 +0.4
LUBAR **Lubar, Ukraine** 131.70 326 PKP PKPdf 03 16 44.2 +0.3
RNPP9 **Sopachiv** 131.84 328 PKP PKPdf 03 16 44.3 +0.2
RNPP5 **Staryi Chortor** 131.95 328 PKP PKPdf 03 16 44.8 +0.5
PURM **Purcari** 132.20 321 PKP PKPdf 03 16 44.9 0.0
SORM **Soroca** 132.31 324 ⇑P PKPdf 03 16 45.1 0.0
SORM **Soroca** 132.31 324 PKP PKPdf 03 16 44.9 -0.2
KIRS **Kirsehir-Merke** 132.35 310 ⇓P PKPdf 03 16 46.1 +0.5
BRTR **Keskin Array B** 132.37 311 PKP PKPdf 03 16 46.0 +0.3
comp=Z,4.1nm,0.8s,baz=128,slow=2.5,SNR=24
BRTR SKPbc SKPab 03 19 54.6 +0.1
comp=Z,0.6nm,0.6s,baz=101,slow=5.2,SNR=3.9
BR104 **Keskin Array S** 132.38 311 PKP PKPdf 03 16 45.2 -0.5
BR106 **Keskin Array S** 132.38 311 PKP PKPdf 03 16 45.2 -0.5
BR105 **Keskin Array S** 132.39 311 PKP PKPdf 03 16 45.2 -0.5
MILM **Milestii Mici** 132.65 322 ⇓P PKPdf 03 16 45.3 -0.5
MMAI **Mount Meron Ar** 132.74 302 PKP PKiKP 03 16 47.3 -0.4
comp=Z,3.1nm,0.6s,baz=46,slow=2.4,SNR=12
MMAI SKPbc SKPab 03 19 56.4 +0.2
comp=Z,2.3nm,0.7s,baz=65,slow=3.1,SNR=7.4
HORU **Horodok** 132.81 326 PKP PKPdf 03 16 45.8 -0.2
ANTO **Ankara** 132.94 312 PKP PKPdf 03 16 46.2 -0.5
KMPD **K-Podol'skiy** 133.16 325 PKP PKPdf 03 16 46.0 -0.7
BDFB **Brasilia** 134.01 129 PKP PKPdf 03 16 49.9 +0.4
comp=Z,1.4nm,0.6s,baz=250,slow=1.7,SNR=3.1
KSV **Kosov** 134.06 325 PKP PKPdf 03 16 48.3 -0.1
STNU **Starunia** 134.14 326 PKP PKPdf 03 16 48.6 0.0
BURAR **Bucovina Array** 134.37 325 ⇑P PKiKP 03 16 51.1 +0.6
ONER **Baraj Valea Uz** 134.39 322 ⇑P PKiKP 03 16 50.4 -0.2
VRI **Vrincioaia** 134.43 322 PKP PKPdf 03 16 49.2 0.0
PLOR **Plostina** 134.49 322 ⇑P PKPdf 03 16 47.2 -2.1
MLR **Muntele Rosu** 135.09 322 ⇑P PKPdf 03 16 49.8 -0.8
DOPR **Dopca** 135.17 323 ⇑P PKiKP 03 16 51.8 -0.4
KOLS **Kolonicke sedl** 135.19 328 *e*PKP PKiKP 03 16 52.4 +0.3
OJC **Ojcow** 135.59 331 *e*PKP PKPdf 03 16 51.9 +0.7
OJC **Ojcow** 135.59 331 PKP PKPdf 03 16 51.7 +0.5
VOIR 135.66 322 ⇑P PKPdf 03 16 49.7 -1.9
CJR **Cluj-Napoca** 135.79 324 ⇓P PKiKP 03 16 53.0 -0.4
NIE **Niedzica** 135.88 329 *e*PKP PKiKP 03 16 53.7 +0.2
ARR **Arges** 135.94 322 ⇓P PKiKP 03 16 53.7 -0.1
MARR **Marisel-Cluj** 136.09 325 ⇑P PKPdf 03 16 52.8 +0.5
DRGR 136.25 325 ⇓P PKPdf 03 16 53.0 +0.4
LANS **Liptovska Anna** 136.46 330 *e*PKP PKiKP 03 16 55.8 +1.1
STEB **Steborice** 136.73 332 *e*PKPDF PKPdf 03 16 54.4 +1.1
KSP **Ksiaz** 136.74 333 *e*PKP PKiKP 03 16 56.4 +1.2
MORC **Moravsky Berou** 136.95 332 *e*PKIKP PKiKP 03 16 55.3 -0.4
MORC **Moravsky Berou** 136.95 332 ⇑P PKPdf 03 16 54.2 +0.4
OSTC **Ostas** 136.99 333 *e*PKPDF PKiKP 03 16 55.2 -0.5
GZR **Gura Zlata** 137.02 323 ⇑P PKPdf 03 16 54.5 +0.4
PSZ **Piszkesteto** 137.06 328 ⇑P PKPdf 03 16 54.5 +0.4
KRLC **Kraliky** 137.08 332 *e*PKPDF PKiKP 03 16 55.7 -0.2
DPC **Dobruska-Polom** 137.09 333 *e*PKPDF PKiKP 03 16 55.5 -0.4
MAUC **Maruska** 137.10 331 *e*PKPDF PKiKP 03 16 55.6 -0.4
SIRR **Siria** 137.14 325 ⇓P PKPdf 03 16 55.3 +1.0
SURR **Surduc** 137.18 324 ⇓P PKPdf 03 16 54.8 +0.5
VYHS **Vyhne** 137.21 329 *e*PKP PKPdf 03 16 53.8 -0.5
VYHS *e*PP PP 03 19 41.7 +0.9
HERR **Herculane** 137.52 323 ⇓P PKPdf 03 16 55.1 +0.2
JAVC **Velka Javorina** 137.53 331 *e*PKIKP PKiKP 03 16 56.6 -0.3
BZS **Buzias** 137.55 324 ⇑P PKPdf 03 16 54.9 -0.1
BRG **Berggiesshubel** 137.71 335 *e*PKP PKiKP 03 16 57.6 +0.5
BRG Amp 03 16 58.7
comp=Z,6.5nm,0.8s
VRAC **Vranov** 137.72 332 PKP PKPdf 03 16 56.1 +0.9
comp=Z,2.7nm,0.6s,baz=18,slow=4.5,SNR=5.1
VRAC **Vranov** 137.72 332 *e*PKIKP PKiKP 03 16 56.6 -0.6
VRAC **Vranov** 137.72 332 ⇓P PKiKP 03 16 56.7 -0.5
CLL **Collm** 137.75 336 *e*PKPdf PKPdf 03 16 56.0 +0.9
CLL *i* PKiKP PKiKP 03 16 57.6 +0.5
comp=Z,12nm,0.8s
CLL *i* SKPdf SKiKP 03 20 13.2 -0.4
comp=Z,5.0nm,0.9s
KRUC **Moravsky** 137.99 332 *e*PKIKP PKPdf 03 16 56.1 +0.4
MDVR **Moldovita** 137.99 323 ⇑P PKPdf 03 16 55.4 -0.5
MODS **Modra-Piesok** 138.05 330 *e*PKP PKiKP 03 16 57.2 -0.7
MODS *e*PP PP 03 19 47.8 +1.8
GOPC **GO Pecny, Ondr** 138.08 334 *e*PKPDF PKiKP 03 16 58.8 +0.9
PRU **Pruhonice** 138.13 334 *e*PKPDF PKiKP 03 16 58.9 +0.9
EKA **Eskdalemuir Ar** 138.42 352 PKP PKPdf 03 16 56.6 +0.3
comp=Z,2.9nm,1.0s,baz=66,slow=2.1,SNR=3.7
EKA SKPbc SKPbc 03 20 13.4 +2.2
comp=Z,1.5nm,0.7s,baz=15,slow=3.5,SNR=4.0
BOVS **Bovan** 138.65 322 ⇑P PKPdf 03 16 57.6 +0.5
MORH **Mrgy, Hungar** 138.81 327 ⇑P PKPdf 03 16 57.7 +0.4
RONA **Rosalia, Austr** 139.00 330 *i* PKP PKPdf 03 16 56.4 -1.3
comp=Z,15nm,0.8s
RONA *i* PKiKP PKiKP 03 17 01.0 +1.1
comp=Z,15nm,0.8s
CONA **Conrad Observa** 139.04 331 *i* PKP PKPdf 03 16 56.8 -1.0
comp=Z,12nm,0.8s
CKRC **Cesky Krumlov** 139.10 333 *e*PKPDF PKPdf 03 16 58.6 +0.8
KHC **Kasperske Hory** 139.19 334 *e*PKPDF PKiKP 03 17 01.0 +0.8
GERES **GERESS Array B** 139.35 333 PKhKP PKPpre 03 16 50.3
comp=Z,0.9nm,0.7s,baz=31,slow=3.1,SNR=7.9
GERES PKP PKPdf 03 16 58.8 +0.5
comp=Z,2.2nm,0.8s,baz=38,slow=6.8,SNR=3.7
GERES SKPbc SKiKP 03 20 16.6 -0.6
comp=Z,1.9nm,0.8s,baz=29,slow=3.0,SNR=11
ARSA **Arzberg** 139.69 330 *i* PKiKP PKiKP 03 17 01.8 +0.5
comp=Z,3.3nm,0.7s
GRF **Grafenberg Arr** 139.72 336 *e*PKP 03 16 59.5
baz=37,slow=1.2
MOA **Molln** 139.84 332 *i* PKP PKPdf 03 16 58.1 -1.0
comp=Z,6.5nm,0.7s
MOA *i* PKiKP PKiKP 03 17 02.3 +0.7
comp=Z,6.5nm,0.7s
BIOA **Bad Ischl, Aus** 140.24 332 *i* PKP PKPdf 03 16 58.8 -1.1
comp=Z,14nm,1.8s
BIOA *i* PKiKP PKiKP 03 17 02.8 +0.4
comp=Z,5.1nm,0.8s
SOKA **Soboth** 140.33 330 *i* PKP PKPdf 03 16 59.2 -0.9
comp=Z,9.5nm,1.4s
SOKA *i* PKiKP PKiKP 03 17 03.2 +0.5
comp=Z,8.0nm,1.2s

BTNL **Ternell** 140.77 341 *d*PKiKP PKiKP 03 17 04.1 +0.7
MEM **Membach** 140.79 341 *d*PKPdf PKPdf 03 17 01.4 +0.6
MEM *d*PKP PKiKP 03 17 03.9 +0.5
KBA **Koelnbreinsper** 140.83 332 *i* PKP PKPdf 03 17 00.2 -0.9
comp=Z,11nm,1.0s
KBA *i* PKiKP PKiKP 03 17 03.8 0.0
comp=Z,12nm,1.2s
LESA **Schwarzleotal** 140.87 333 *e*PKP PKPdf 03 16 58.5 -2.6
comp=Z,9.5nm,0.7s
LESA *i* PKiKP PKiKP 03 17 04.3 +0.5
comp=Z,9.5nm,0.7s
MYKA **Terra Mystica** 141.03 331 *i* PKiKP PKiKP 03 17 04.2 +0.1
comp=Z,8.4nm,0.7s
WATA **Walderalm** 141.43 334 *i* PKiKP PKiKP 03 17 05.4 +0.4
comp=Z,10nm,0.9s
RCHB **Rochefort** 141.43 342 *d*PKPdf PKPdf 03 17 02.5 +0.6
RCHB *d*PKiKP PKiKP 03 17 05.5 +0.8
BMRD **Maredsous** 141.44 342 *d*PKPdf PKPdf 03 17 03.0 +1.2
BMRD *d*PKiKP PKiKP 03 17 05.3 +0.6
WTTA **Wattenberg** 141.45 333 *i* PKiKP PKiKP 03 17 05.1 0.0
comp=Z,8.2nm,0.7s
ABTA **Abfaltersbach** 141.46 332 *i* PKiKP PKiKP 03 17 05.3 +0.2
comp=Z,8.9nm,0.7s
WLF **Walferdange** 141.56 340 *d*PKPdf PKPdf 03 17 02.8 +0.7
WLF *d*PKiKP PKiKP 03 17 06.5 +1.5
MOTA **Moosalm** 141.62 334 *e*PKP PKPdf 03 17 00.2 -2.3
comp=Z,16nm,0.9s
MOTA *i* PKiKP PKiKP 03 17 06.0 +0.5
comp=Z,16nm,0.9s
RETA **Reutte** 141.65 334 *i* PKiKP PKiKP 03 17 05.3 -0.1
comp=Z,4.4nm,0.8s
DOU **Dourbes** 141.67 342 *d*PKPdf PKPdf 03 17 02.9 +0.6
SQTA **Sankt Quirin** 141.67 334 *i* PKiKP PKiKP 03 17 05.5 0.0
comp=Z,8.2nm,0.6s
FETA **Feichten** 142.03 334 *e*PKP PKPdf 03 17 00.4 -2.9
comp=Z,13nm,1.0s
FETA *i* PKiKP PKiKP 03 17 06.3 0.0
comp=Z,10nm,0.8s
DAVA **Damuels** 142.18 335 *e*PKP PKPdf 03 17 00.8 -2.7
comp=Z,9.6nm,0.9s
DAVA *i* PKiKP PKiKP 03 17 06.6 0.0
comp=Z,6.8nm,0.7s
TIP **Timpagrande** 144.25 319 ⇑P PKPdf 03 17 07.1 -0.2
KEST **Kesra** 151.00 321 PKPbc PKiKP 03 17 25.4 +0.4
comp=Z,51nm,0.7s,baz=103,slow=0.1,SNR=58
ESDC **Sonseca Array** 153.63 345 PKPbc PKiKP 03 17 30.6 +0.4
comp=Z,2.4nm,0.7s,baz=7.2,slow=2.7,SNR=13
ESDC PKPab PKPab 03 17 44.0 +0.4
comp=Z,5.5nm,0.8s,baz=11,slow=3.8,SNR=13
DBIC **Dimbokro** 169.29 226 PKP PKPdf 03 17 38.5 -0.6
comp=Z,3.8nm,1.0s,baz=39,slow=3.8,SNR=3.7
DBIC PKPab sPKPdf 03 18 53.9 +0.4
comp=Z,5.8nm,1.0s,baz=143,slow=8.4,SNR=5.1

GCG ***09*** *02:59:22.5±3.4, 17°.17N×94°.90W, h6km±239km, MD4.4*
MEX ***09*** *02:59:29.5±1.2, 16°.68N×94°.63W, h60km±26km, MD4.1*
ISC 09 02:59:24.5±1.1, 16°.55N±0°.03×94°.64W±0°.02, h9km±10km,
n30,σ1°70/56, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.59**	**336**	*e*P	**Pb**	**02 59 36.7**	**-0.3**
CMIG				*i* S	**Sb**	**02 59 44.3**	**-1.1**
UXUV	**UXUV**	**0.90**	**32**	*e*P	**Pn**	**02 59 42.6**	**-0.7**
UXUV				*e*S	**Sn**	**02 59 54.4**	**-2.0**
TGIG		**1.47**	**81**	*e*P	**Pg**	**02 59 52.7**	**-0.1**
TGIG				*e*S	**Sg**	**03 00 11.7**	**-0.2**
TGIG		**1.47**	**81**	*e*P	**Pg**	**02 59 52.9**	**+0.1**
TGIG				*e*S	**Sg**	**03 00 12.8**	**+0.9**
NEUV	**Arroyo Zacate**	**1.60**	**316**	*e*P	**Pb**	**02 59 54.0**	**-0.3**
NEUV				*e*S	**Sb**	**03 00 14.5**	**-0.2**
PCIG		**1.60**	**121**	*e*P	**Pg**	**02 59 55.0**	**-0.3**
PCIG				*e*S	**Sg**	**03 00 16.2**	**0.0**
HUIG	**Huatulco**	**1.61**	**241**	*e*P	**Pn**	**02 59 54.2**	**+1.1**
HUIG				*e*S	**Sb**	**03 00 16.0**	**+1.1**
HUIG	**Huatulco**	**1.61**	**241**	*e*P	**Pb**	**02 59 54.3**	**-0.1**
HUIG				*e*S	**Sb**	**03 00 16.2**	**+1.3**
PANG	**Puerto Angel**	**1.97**	**244**	*e*P	**Pg**	**03 00 03.1**	**+0.8**
PANG				*i* S	**Sn**	**03 00 23.1**	**+0.2**
PMUV	**Sontecomapan**	**2.04**	**347**	*e*P	**Pg**	**03 00 06.9**	**+3.3**
OXLC	**Oaxaca**	**2.04**	**285**	*e*P	**Pg**	**03 00 03.3**	**-0.5**
OXLC				*e*S	**Sb**	**03 00 28.2**	**+0.7**
OXBJ	**Oaxaca**	**2.06**	**285**	*e*P	**Pg**	**03 00 03.7**	**-0.4**
OXBJ				*i* S	**Sn**	**03 00 23.9**	**-1.6**
VHO	**Vista Hermosa**	**2.07**	**285**	*e*P	**Pb**	**03 00 03.7**	**+1.2**
VHO				*e*S	**Sg**	**03 00 30.6**	**-0.6**
CCIG	**Comitan**	**2.42**	**96**	*e*P	**Pb**	**03 00 08.7**	**+0.4**
CCIG				*e*S	**Sg**	**03 00 43.2**	**+1.0**
CCIG	**Comitan**	**2.42**	**96**	*e*P	**Pb**	**03 00 08.7**	**+0.4**
CCIG				*i* S	**Sg**	**03 00 42.9**	**+0.7**
PEIG	**Puerto Escondi**	**2.47**	**257**	*e*P	**Pb**	**03 00 10.2**	**+1.0**
PEIG				*e*S	**Sb**	**03 00 40.7**	**+1.0**
PATR	**El Naranjo**	**2.72**	**121**	*e*P	**Pb**	**03 00 13.1**	**-0.4**
PATR				*e*S	**Sg**	**03 00 48.9**	**-3.0**
PAVE	**Pavencul**	**2.73**	**119**	*e*P	**Pb**	**03 00 14.5**	**+0.9**
PAVE				*e*S	**Sg**	**03 00 50.2**	**-2.1**
TOIG	**Toxpalan**	**2.78**	**304**	*e*P	**Pb**	**03 00 13.3**	**-1.1**
TOIG				*e*S	**Sn**	**03 00 45.6**	**+2.5**
YOIG	**Yosondua**	**2.80**	**277**	*e*P	**Pn**	**03 00 08.8**	**-1.0**
YOIG				*i* S	**Sn**	**03 00 41.5**	**-2.4**
TXIG	**Tlaxiaco**	**3.08**	**284**	*e*P	**Pg**	**03 00 23.6**	**+0.1**
TXIG				*i* S	**Sb**	**03 00 55.9**	**-1.5**
HUEH	**Huehuetenango**	**3.26**	**112**	*e*P	**Pb**	**03 00 23.7**	**+1.0**
HUEH				*e*S	**Sg**	**03 01 06.0**	**-3.2**
HLIG	**Huajuapan de L**	**3.28**	**293**	*e*P	**Pn**	**03 00 17.4**	**+1.1**
HLIG				*i* S	**Sn**	**03 00 54.2**	**-1.5**
PNIG	**Pinotepa**	**3.35**	**268**	*i* P	Pn	03 00 10.7	-6.4
PNIG				*i* S	**Sn**	**03 00 53.6**	**-3.5**
JAUV	**Jalcomulco**	**3.48**	**324**	*e*P	**Pn**	**03 00 19.2**	**+0.4**
JAUV				*i* S	**Sn**	**03 00 55.8**	**-4.4**
FTIG	**Fresnillo de T**	**3.60**	**293**	*e*P	**Pb**	**03 00 28.3**	**-0.1**
STG0	**El Palmar, Qui**	**3.82**	**123**	*e*P	**Pn**	**03 00 25.2**	**+1.5**
MGIG	**Malinaltepec**	**3.88**	**281**	*e*P	**Pn**	**03 00 23.1**	**-1.5**
MGIG				*i* S	**Sn**	**03 01 13.2**	**+2.7**
TLIG	**Tlapa**	**3.89**	**286**	*e*P	**Pg**	**03 00 38.3**	**-0.8**
TLIG				*i* S	**Sn**	**03 01 13.6**	**+3.1**
CXUV	**Coxquihui**	**4.56**	**323**	*e*P	**Pn**	**03 00 33.8**	**0.0**
CXUV				*i* S	**Sn**	**03 01 31.5**	**+4.5**

ISK ***09*** *02:59:43.7, 41°.60N×43°.67E, h5km, ML2.5/8*
AFAD ***09*** *02:59:43.5, 41°.58N×43°.69E, h7km±2km, ML2.7*
NORS ***09*** *02:59:44.4, 41°.69N×43°.76E, h1km, MPVA3.6*
ISC 09 02:59:44.0±1.2, 41°.56N±0°.02×43°.71E±0°.03, h4km±10km,
n29,σ1°11/51, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPOS	**Posof**	**0.74**	**266**	P	**Pn**	**03 00 00.0**	**-1.4**
AHAN	**Ardahan-Merkez**	**0.91**	**244**	P	**Pn**	**03 00 04.9**	**+1.1**
AHAN				S	**Sb**	**03 00 14.6**	**-0.3**
KARS	**Kars**	**1.05**	**207**	Pg	**Pb**	**03 00 04.9**	**+0.1**
KARS				Sg	**Sn**	**03 00 20.3**	**-0.5**
GOLE	**Ardahan-G¶le**	**1.11**	**229**	P	**Pg**	**03 00 05.3**	**+0.1**
GOLE				S	**Sb**	**03 00 20.5**	**-0.3**
GOLE				*i* AML	AML	03 00 21.0	
	comp=N,336nm,0.3s						
GOLE				*i* AML	AML	03 00 21.0	
	comp=E,312nm,0.2s						
BOZK	**Kars-Merkez-Bo**	**1.11**	**210**	P	**Pg**	**03 00 05.7**	**+0.3**
DIGO	**Kars**	**1.17**	**192**	P	**Pg**	**03 00 06.0**	**-0.5**
LACR	**Lac**	**1.34**	**19**	*i* Pg	**Pb**	**03 00 09.0**	**-0.8**
LACR				*e*Sg	**Sn**	**03 00 27.5**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.34**	**356**	*e*Pg	**Pb**	**03 00 09.3**	**-0.6**
DIGR				*e*Sg	**Sn**	**03 00 29.2**	**+1.0**
SENK	**Senkaya-Erzuru**	**1.43**	**226**	Pn	**Pb**	**03 00 11.2**	**-0.2**
SENK				Sn	**Sn**	**03 00 31.3**	**+0.9**
DAGI	**Agillar**	**1.43**	**251**	P	**Pb**	**03 00 10.8**	**-0.6**
DBOC	**Borcka**	**1.55**	**263**	P	**Pn**	**03 00 12.3**	**-0.2**
DBOC				S	**Sn**	**03 00 31.4**	**-1.6**
KORR	**Kora**	**1.55**	**10**	*e*Pg	**Pg**	**03

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNR	**Ardon**	**1.67**	**15**	*e*Pg	**Pg**	**03 00 16.5**	**+0.4**
ARNR				*e*Sg	**Sg**	**03 00 40.0**	**+2.2**
HOPA	**Hopa-Artvin**	**1.71**	**265**	Pn	**Pb**	**03 00 14.8**	**-1.2**
KOTA	**Agri, Merkez-K**	**1.80**	**192**	P	**Pb**	**03 00 18.3**	**+0.6**
STDR	**Stavd-Durt**	**1.83**	**8**	*e*Pg	**Pg**	**03 00 19.8**	**+0.8**
STDR				*e*Sg	**Sg**	**03 00 45.1**	**+2.4**
BTKR	**Batakoyurt**	**1.91**	**19**	*e*Pg	**Pg**	**03 00 21.1**	**+0.4**
BTKR				*e*Sg	**Sg**	**03 00 47.6**	**+2.1**
EATA	**Eleskirt**	**1.93**	**209**	P	**Pb**	**03 00 19.6**	**-0.4**
AGRB	**Hanur-Agry**	**2.06**	**196**	Pn	**Pn**	**03 00 20.4**	**+0.8**
KOPR	**Koprukoy-ERZUR**	**2.11**	**223**	Pn	**Pn**	**03 00 20.9**	**+0.6**
BTLR	**Botlikh**	**2.17**	**59**	*e*Pg	**Pg**	**03 00 24.5**	**-1.1**
BTLR				*e*Sg	**Sg**	**03 00 53.1**	**-0.7**
CHOM	**Cayeli-Rize**	**2.27**	**259**	Pn	**Pn**	**03 00 23.1**	**+0.8**
DVE	**Vedeno**	**2.27**	**51**	*e*Pg	**Pg**	**03 00 26.4**	**-1.2**
DVE				*e*Sg	**Sg**	**03 00 56.7**	**-0.4**
SHA1	**Shidzhatmaz**	**2.31**	**341**	*e*Pg	**Pg**	**03 00 26.5**	**-1.8**
SHA1				*e*Sg	**Sg**	**03 00 56.9**	**-1.3**
GNBR	**Gunib**	**2.57**	**70**	*e*Pn	**Pb**	**03 00 30.5**	**-0.1**
GNBR				*e*Sn	**Sg**	**03 01 04.6**	**-1.9**
MNK	**Minsk**	**16.67**	**326**	*i* P	**Pn**	**03 03 38.2**	**-0.1**
	comp=E,8.0nm,0.9s						
MNK				*i* P	**Pn**	**03 03 38.2**	**-0.1**
	comp=N,8.0nm,0.8s						
MNK				*i* P	**Pn**	**03 03 38.2**	**-0.1**
	comp=Z,5.0nm,0.8s,baz=135						
MNK				*i* PP	**PnPn**	**03 03 47.5**	**0.0**
MNK				*i* PPP	PPP	03 03 55.2	
MNK				*i* S	**Sn**	**03 06 44.6**	**+0.9**
MNK				*i* SS	**SnSn**	**03 06 59.1**	**+2.4**
MNK				*i* SSS	SSS	03 07 11.8	
MNK				*i* LQ	LQ	03 08 33.2	
MNK				*i* LR	LR	03 09 49.3	
MNK				*i* LRM	MLR	03 11 29.5	
	comp=N,19nm,10.8s						
MNK				*i* LRM	MLR	03 11 31.4	
	comp=E,25nm,17.4s						
MNK				*i* LRM	MLR	03 11 58.2	
	comp=Z,18nm,14.6s						

*IDC **09** 03:04:25.4±1.7, 1°.82N×83°.98W, h0km, mb3.7/5, mbtmp3.8/6, ML3.9/1, MS3.2/5, Error ellipse: s-maj=171.5km s-min=21.5km az=58.0*

ISC 09 03:04:30.1±1.4, **1°.6N**±0°.6×**84°.3W**±0°.9, **h35**km, **n9**, σ0s**57**/6, **mb3.7**/5, **Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**10.47**	**146**	Pn	**Pn**	**03 06 58.4**	**+0.1**
	0.9nm,0.3s,baz=336,slow=8.9,SNR=5.6						
ATAH				LR	LR	03 10 23.6	
	comp=Z,173nm,18.8s,baz=304,slow=34 12nm,0.7s						
SDV	**Santo Domingo**	**15.44**	**61**	LR	LR	03 14 12.7	
	comp=Z,109nm,18.2s,baz=262,slow=39						
CMIG	**Matias Romero**	**18.60**	**327**	LR	LR	03 14 16.3	
	comp=Z,72nm,21.5s,baz=178,slow=32						
LPAZ	**La Paz**	**23.88**	**139**	P	**P**	**03 09 41.2**	**-0.1**
	1.6nm,0.7s,baz=313,slow=6.5,SNR=8.5						
LPAZ				LR	LR	03 18 57.5	
	comp=Z,62nm,20.4s,baz=288,slow=37 1.6nm,0.7s						
MDP	**Montagnes des**	**31.82**	**83**	LR	LR	03 22 13.8	
	comp=Z,37nm,19.1s,baz=246,slow=34						
PDAR	**Pinedale Array**	**46.82**	**334**	P	**P**	**03 12 57.6**	**+0.8**
	0.8nm,0.9s,baz=147,slow=8.9,SNR=5.5 0.8nm,0.9s						
NVAR	**Mina Array Bea**	**48.10**	**324**	P	**P**	**03 13 07.0**	**+0.2**
	0.5nm,0.6s,baz=150,slow=6.4,SNR=1.7 0.5nm,0.6s						
YKA	**Yellowknife Ar**	**64.86**	**345**	P	**P**	**03 15 05.1**	**-0.3**
	1.1nm,0.9s,baz=143,slow=6.5,SNR=16 1.1nm,0.9s						
ILAR	**Eielson Array**	**77.18**	**337**	P	**P**	**03 16 19.6**	**-0.4**
	0.7nm,0.9s,baz=151,slow=4.6,SNR=6.0 0.7nm,0.9s						

*MEX **09** 03:23:56.5±1.1, 15°.05N×93°.15W, h71km±18km, MD4.1*
*GCG **09** 03:23:56.6±1.8, 15°.13N×93°.05W, h49km±69km, MD4.2, MW3.1*

ISC 09 03:23:53.3±1.5, **14°.98N**±0°.07×**93°.20W**±0°.05, **h75**km±16km, **n18**, σ2s**47**/28, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.72**	**358**	*e*P	**Pn**	**03 24 09.6**	**+0.9**
PCIG				*e*S	**Sn**	**03 24 20.1**	**-0.2**
THIG		**0.90**	**95**	*i* P	**Pn**	**03 24 12.1**	**+1.2**
THIG				*i* S	**Sn**	**03 24 24.0**	**0.0**
THIG		**0.90**	**95**	*e*P	**Pn**	**03 24 11.7**	**+0.8**
	comp=Z,105nm,1.3s						
PATR	**El Naranjo**	**0.94**	**82**	*e*P	**Pn**	**03 24 12.0**	**+0.4**
PATR				*i* S	**Sn**	**03 24 24.9**	**-0.3**
PAVE	**Pavencul**	**1.01**	**78**	*e*P	**Pn**	**03 24 13.1**	**+0.7**
PAVE				*i* S	**Sn**	**03 24 26.6**	**0.0**
RTAL	**Retalhuleu**	**1.52**	**107**	*e*P	Pn	03 24 15.1	-3.6
RTAL				*i* S	**Sn**	**03 24 38.0**	**+0.1**
CCIG	**Comitan**	**1.65**	**38**	*e*P	**Pn**	**03 24 22.3**	**+1.8**
CCIG				*i* S	**Sn**	**03 24 39.0**	**-2.1**
CCIG	**Comitan**	**1.65**	**38**	*e*P	**Pn**	**03 24 22.2**	**+1.6**
	comp=Z,12nm,0.5s						
HUEH	**Huehuetenango**	**1.67**	**78**	*e*P	Pn	03 24 16.8	-4.1
HUEH				*i* S	**Sn**	**03 24 43.1**	**+1.3**
TGIG		**1.79**	**2**	*e*P	**Pn**	**03 24 22.8**	**+0.5**
TGIG				*i* S	**Sn**	**03 24 41.7**	**-2.5**
TGIG		**1.79**	**2**	*e*P	**Pn**	**03 24 22.5**	**+0.2**
STG8	**El Palmar, Qui**	**1.86**	**106**	*e*P	Pn	03 24 20.7	-2.8
STG8				*e*S	**Sn**	**03 24 40.0**	**-6.4**
STG0	**El Palmar, Qui**	**1.88**	**107**	*e*P	Pn	03 24 21.1	-2.5
STG0				*e*S	**Sn**	**03 24 40.7**	**-5.9**
UXUV	**UXUV**	**2.49**	**339**	*e*P	**Pn**	**03 24 31.1**	**-0.6**
UXUV				*i* S	**Sn**	**03 25 03.1**	**+1.9**
CMIG	**Matias Romero**	**2.65**	**322**	*e*P	**Pn**	**03 24 33.8**	**0.0**
CMIG				*e*S	**Sn**	**03 25 01.0**	**-4.0**
HUIG	**Huatulco**	**2.92**	**286**	*e*P	**Pn**	**03 24 39.6**	**+2.2**
HUIG				*i* S	**Sn**	**03 25 08.7**	**-2.7**
NUBE	**Las Nubes**	**3.48**	**108**	*e*P	**Pn**	**03 24 48.6**	**+3.4**
NEUV	**Arroyo Zacate**	**3.69**	**318**	*e*P	**Pn**	**03 24 50.0**	**+2.1**
NEUV				*i* S	**Sn**	**03 25 31.0**	**+0.7**

*IDC **09** 03:24:47.2±1.4, 37°.61N×20°.68E, h0km, mb3.7/11, mbtmp3.6/19, ML3.4/7, MS3.4/1, Error ellipse: s-maj=26.6km s-min=16.1km az=1.0*
*THE **09** 03:24:48.9, 37°.66N×20°.30E, h0km±1km, ML3.6/5, Error ellipse: s-maj=2.5km s-min=0.7km az=248.0*
*ATH **09** 03:24:51.0, 37°.78N×20°.44E, h9km±4km, ML3.7/24, Manual Solution by M.Kolligri First location: 2019/04/09 03:25:40, This location: 2019/04/09 03:44:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*

ISC 09 03:24:49.9±1.1, **37°.76N**±0°.03×**20°.40E**±0°.03, **h15**km±6km, **n134**, σ1s**49**/173, **mb3.8**/11, **10C-7D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	**Orthonies,Zaky**	**0.25**	**69**	P	**Pb**	**03 24 55.9**	**-0.3**
ORTH				S	**Sg**	**03 24 59.2**	**0.0**
KYPS	**Kipseli, Zakin**	**0.34**	**80**	P	**Pg**	**03 24 57.3**	**+0.4**
KYPS				S	**Sb**	**03 25 01.9**	**-0.9**
LTHK	**Lithakia**	**0.35**	**99**	P	**Pg**	**03 24 56.7**	**-0.4**
LTHK				S	**Sg**	**03 25 02.3**	**+0.3**
	106μm,0.4s						
LTHK	**Lithakia**	**0.35**	**99**	P	**Pg**	**03 24 56.9**	**-0.2**
LTHK				S	**Sg**	**03 25 01.8**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.38**	**22**	P	**Pb**	**03 24 58.3**	**0.0**
PSDA				S	**Sb**	**03 25 05.5**	**+1.5**
	15μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.38**	**22**	P	**Pb**	**03 24 58.1**	**-0.2**
PSDA				S	**Sb**	**03 25 03.7**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.43**	**43**	P	**Pb**	**03 24 59.2**	**0.0**
RTZL				S	**Sb**	**03 25 06.7**	**+1.3**
VLS	**Valsamata**	**0.44**	**20**	P	**Pb**	**03 24 59.3**	**-0.1**
VLS	**Valsamata**	**0.44**	**20**	P	**Pb**	**03 24 59.0**	**-0.4**
VLS				S	**Sb**	**03 25 04.9**	**-0.9**
DMLN	**Damoulianata-K**	**0.47**	**357**	P	**Pb**	**03 25 00.1**	**+0.1**
DMLN				S	**Sb**	**03 25 08.9**	**+2.1**
DMLN	**Damoulianata-K**	**0.47**	**357**	P	**Pb**	**03 24 59.8**	**-0.2**
DMLN				S	**Sb**	**03 25 07.0**	**+0.2**
SMHA	**Samh**	**0.53**	**22**	P	**Pg**	**03 24 59.4**	**-0.9**
SMHA				S	**Sb**	**03 25 07.2**	**-1.0**
CLEM	**Kyllini,Ilia,G**	**0.59**	**77**	P	**Pg**	**03 25 01.6**	**0.0**
CLEM				S	**Sb**	**03 25 10.3**	**+0.2**
LCHA	**Lechaina**	**0.70**	**75**	P	**Pb**	**03 25 04.3**	**+0.5**
LCHA				S	**Sg**	**03 25 12.4**	**-0.6**
FSK	**Fiskardo**	**0.71**	**10**	P	**Pb**	**03 25 04.4**	**+0.5**
FSK				S	**Sn**	**03 25 17.0**	**+1.0**
	4μm,0.4s						
FSK	**Fiskardo**	**0.71**	**10**	P	**Pb**	**03 25 03.7**	**-0.2**
FSK				S	**Sb**	**03 25 12.8**	**-0.6**
YRMI	**Loutra Irminis**	**0.82**	**65**	P	**Pb**	**03 25 05.8**	**-0.1**
YRMI				S	**Sg**	**03 25 15.5**	**-1.3**
EVGI	**Lefkada island**	**0.88**	**13**	P	**Pn**	**03 25 07.5**	**-0.2**
EVGI				S	**Sn**	**03 25 22.8**	**+2.5**
EVGI	**Lefkada island**	**0.88**	**13**	P	**Pb**	**03 25 06.6**	**-0.3**
EVGI				S	**Sn**	**03 25 18.8**	**-1.4**
AXS	**Araxos**	**0.88**	**60**	P	**Pb**	**03 25 06.9**	**0.0**
AXS				S	**Sb**	**03 25 17.5**	**-1.0**
RLS	**Riolos of Patr**	**0.89**	**70**	P	**Pb**	**03 25 07.6**	**+0.5**
RLS	**Riolos of Patr**	**0.89**	**70**	P	**Pg**	**03 25 06.8**	**-0.4**
RLS				S	**Sb**	**03 25 18.1**	**-0.7**
DRAG	**Dragano-Lefkad**	**0.93**	**8**	P	**Pb**	**03 25 08.0**	**+0.3**
DRAG				S	**Sn**	**03 25 24.4**	**+2.9**
DRAG	**Dragano-Lefkad**	**0.93**	**8**	P	**Pb**	**03 25 07.8**	**+0.1**
DRAG				S	**Sn**	**03 25 20.2**	**-1.3**
NYDR	**Nydri-Lefkada**	**0.98**	**14**	P	**Pn**	**03 25 08.9**	**-0.2**
NYDR				S	**Sn**	**03 25 26.1**	**+3.5**
	2μm,0.6s						
NYDR	**Nydri-Lefkada**	**0.98**	**14**	P	**Pb**	**03 25 08.5**	**0.0**
NYDR				S	**Sn**	**03 25 21.3**	**-1.4**
ZARO	**Zacharo**	**1.03**	**105**	P	**Pb**	**03 25 09.3**	**-0.1**
ZARO				S	**Sb**	**03 25 23.6**	**+1.0**
LKD2	**Lefkada island**	**1.04**	**11**	P	**Pn**	**03 25 10.5**	**+0.5**
LKD2	**Lefkada island**	**1.04**	**11**	P	**Pn**	**03 25 10.0**	**0.0**
LKD2				S	**Sn**	**03 25 23.9**	**-0.5**
AMT	**Artemida-Makis**	**1.06**	**102**	P	**Pb**	**03 25 09.3**	**-0.7**
AMT				S	**Sb**	**03 25 23.9**	**+0.1**
TSLK	**Tsoukalades, L**	**1.08**	**11**	P	**Pn**	**03 25 10.9**	**+0.4**
TSLK				S	**Sn**	**03 25 29.7**	**+4.5**
TSLK	**Tsoukalades, L**	**1.08**	**11**	P	**Pn**	**03 25 10.7**	**+0.2**
TSLK				S	**Sn**	**03 25 25.1**	**-0.1**
PATC	**Patra C**	**1.19**	**64**	P	**Pg**	**03 25 13.3**	**+0.5**
UPR	**University Cam**	**1.21**	**64**	P	**Pg**	**03 25 13.9**	**+0.6**
UPR	**University Cam**	**1.21**	**64**	P	**Pg**	**03 25 14.2**	**+0.9**
PVO	**Paravola**	**1.23**	**46**	P	**Pg**	**03 25 13.3**	**-0.3**
ITM	**Ithomi**	**1.35**	**115**	P	**Pn**	**03 25 15.1**	**+0.9**
ITM				S	**Sg**	**03 25 35.3**	**+1.9**
	2μm,0.7s						
ITM	**Ithomi**	**1.35**	**115**	P	**Pn**	**03 25 14.3**	**+0.1**
EFP	**Efpalio**	**1.36**	**60**	P	**Pg**	**03 25 16.2**	**+0.1**
EFP				S	**Sg**	**03 25 36.6**	**+2.8**
EFP	**Efpalio**	**1.36**	**60**	P	**Pb**	**03 25 15.1**	**0.0**
KLV	**Kalavryta, Ach**	**1.41**	**78**	P	**Pb**	**03 25 16.4**	**+0.4**
KLV	**Kalavryta, Ach**	**1.41**	**78**	P	**Pn**	**03 25 15.9**	**+0.8**
ALIK	**Aliki, Aigiali**	**1.44**	**69**	P	**Pg**	**03 25 16.9**	**-0.7**
ANX	**Ano Chora**	**1.46**	**55**	P	**Pg**	**03 25 17.5**	**-0.5**
ANX				S	**Sg**	**03 25 40.5**	**+3.6**
ANX	**Ano Chora**	**1.46**	**55**	P	**Pg**	**03 25 17.1**	**-0.8**
SERG	**Sergoula**	**1.46**	**63**	P	**Pb**	**03 25 16.7**	**0.0**
KALE	**Kalithea**	**1.51**	**65**	P	**Pg**	**03 25 18.1**	**-0.9**
KALE	**Kalithea**	**1.51**	**65**	P	**Pg**	**03 25 18.9**	**0.0**
GUR	**Goura**	**1.55**	**83**	P	**Pb**	**03 25 18.9**	**+0.6**
GUR	**Goura**	**1.55**	**83**	P	**Pn**	**03 25 18.1**	**+1.1**
EVR	**Evrytania**	**1.60**	**43**	P	**Pg**	**03 25 20.3**	**-0.4**
EVR	**Evrytania**	**1.60**	**43**	P	**Pg**	**03 25 20.6**	**0.0**
VLX	**Vlachokerasia**	**1.62**	**103**	P	**Pn**	**03 25 18.2**	**+0.2**
TETR	**Tetrakomo, Epi**	**1.72**	**23**	P	**Pb**	**03 25 21.5**	**+0.2**
IGT	**Igoumenitsa**	**1.77**	**358**	P	**Pn**	**03 25 21.0**	**+1.0**
DLFA	**Delphi**	**1.80**	**66**	P	**Pb**	**03 25 23.2**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.85**	**47**	P	**Pg**	**03 25 24.8**	**-0.6**
JAN	**Janina**	**1.92**	**10**	P	**Pb**	**03 25 23.7**	**-1.0**
KEK	**Kerkira**	**2.00**	**347**	P	**Pn**	**03 25 23.9**	**+0.7**
KEK	**Kerkira**	**2.00**	**347**	P	**Pb**	**03 25 26.0**	**0.0**
AXAR	**Agios Charalam**	**2.04**	**60**	P	**Pb**	**03 25 26.6**	**-0.1**
THL	**Klokotos Trika**	**2.20**	**35**	P	**Pb**	**03 25 28.3**	**-1.0**
KRND	**KRANIDI**	**2.22**	**99**	P	**Pn**	**03 25 27.5**	**+1.4**
LKR	**Lokris**	**2.23**	**66**	P	**Pb**	**03 25 28.3**	**-1.6**
VLI	**Veliai**	**2.28**	**116**	P	**Pn**	**03 25 28.2**	**+1.3**
VILL	**Villia**	**2.33**	**79**	P	**Pn**	**03 25 28.8**	**+2.0**
ATH	**Athens Observa**	**2.63**	**84**	P	**Pn**	**03 25 34.0**	**+2.2**
NEST	**Nestorio**	**2.70**	**11**	P	**Pn**	**03 25 34.7**	**+1.9**
XOR	**Xorichti**	**2.71**	**53**	P	**Pn**	**03 25 35.2**	**+2.3**
PTL	**Penteli**	**2.75**	**83**	P	**Pn**	**03 25 35.0**	**+1.5**
DION	**Dionisos Attik**	**2.81**	**82**	P	**Pn**	**03 25 35.7**	**+1.4**
LIT	**Litokhoron**	**2.85**	**34**	P	**Pn**	**03 25 37.3**	**+2.5**
KYMI	**Kymi, Euboea I**	**3.04**	**72**	P	**Pn**	**03 25 39.3**	**+1.9**
OHR	**Ohrid**	**3.36**	**5**	*i* Pn	**Pn**	**03 25 45.3**	**+3.5**
OHR				*i* Sn	**Sb**	**03 26 26.1**	**-3.8**
TIR	**Tirane**	**3.60**	**354**	⇑P	**Pn**	**03 25 48.0**	**+2.8**
SOH	**Sokhos**	**3.82**	**36**	P	**Pn**	**03 25 51.0**	**+2.8**
MATE	**Matera**	**4.07**	**316**	⇓P	Pn	03 25 56.5	+5.0
KOKK	**Kokkinochori,**	**4.13**	**41**	P	**Pn**	**03 25 54.8**	**+2.3**
APE	**Apeiranthos**	**4.14**	**98**	⇑P	Pn	03 25 57.7	+5.1
SRS	**Serrai**	**4.16**	**35**	P	**Pn**	**03 25 55.0**	**+2.1**
IDI	**Anoyia**	**4.38**	**123**	Pn	**Pn**	**03 25 56.1**	**+0.2**
	1.8nm,0.3s,baz=311,slow=14,SNR=8.8						
IDI				Sn	**Sn**	**03 26 45.5**	**-1.1**
	3.7nm,0.3s,baz=328,slow=22,SNR=8.8						
DRME	**Dracevica, Mon**	**4.52**	**348**	*e*Pn	**Pn**	**03 25 57.7**	**0.0**
PDG	**Podgorica**	**4.74**	**350**	*e*Pn	**Pn**	**03 26 01.2**	**+0.4**
PDG	**Podgorica**	**4.74**	**350**	⇑P	**Pn**	**03 26 02.9**	**+2.1**
PDG				⇑S	**Sn**	**03 26 55.6**	**+0.1**
VAE	**Valguarnera**	**4.76**	**268**	Pn	**Pn**	**03 26 02.8**	**+1.6**
	4.4nm,0.4s,baz=120,slow=20,SNR=1.8						
VAE				Sn	**Sn**	**03 26 57.1**	**+1.0**
	1.5nm,0.3s,baz=216,slow=22,SNR=2.6						
TREB	**Trebinje**	**5.19**	**343**	*e*Pn	**Pn**	**03 26 05.9**	**-1.1**
SJES	**Sjenica**	**5.50**	**357**	*e*Pn	**Pn**	**03 26 13.4**	**+2.0**
RUDO	**Rudo**	**5.90**	**353**	*e*Pn	**Pn**	**03 26 20.4**	**+3.6**
BOVS	**Bovan**	**5.95**	**9**	⇓P	**Pn**	**03 26 18.7**	**+1.3**
BBLS	**Lazi&#263i**	**6.14**	**353**	*e*Pn	Pn	03 26 14.2	-5.9
HERR	**Herculane**	**7.27**	**11**	⇓P	**Pn**	**03 26 36.8**	**+1.3**
A050A	**Klekovaca**	**7.32**	**338**	*e*Pn	**Pn**	**03 26 37.5**	**+1.2**
BLY	**Banja Luka**	**7.39**	**342**	*e*Pn	**Pn**	**03 26 39.2**	**+2.1**
A051A	**Mrakovica**	**7.70**	**341**	*e*Pn	**Pn**	**03 26 41.1**	**-0.4**
GZR	**Gura Zlata**	**7.83**	**12**	⇑P	**Pn**	**03 26 44.4**	**+1.2**
BZS	**Buzias**	**7.90**	**6**	⇑P	**Pn**	**03 26 45.5**	**+1.3**
ARR	**Arges**	**8.23**	**21**	⇑P	**Pn**	**03 26 49.5**	**+0.7**
VOIR		**8.42**	**23**	⇑P	**Pn**	**03 26 52.5**	**+1.1**
BOJS	**Bojanci**	**8.64**	**335**	*e*Pn	**Pn**	**03 26 53.9**	**-0.4**
MLR	**Muntele Rosu**	**8.76**	**26**	**Pn**	**Pn**	**03 26 56.5**	**+0.3**
	0.2nm,0.3s,baz=239,slow=8.0,SNR=8.6 2.2nm,0.7s						
MLR	**Muntele Rosu**	**8.76**	**26**	⇓P	**Pn**	**03 26 57.1**	**+0.9**
NEHR	**Nehoiu**	**8.84**	**28**	⇓P	**Pn**	**03 26 58.0**	**+0.9**
CRES	**Cresnjevec Ost**	**8.86**	**337**	*e*Pn	**Pn**	**03 26 57.7**	**+0.3**
DOPR	**Dopca**	**9.00**	**23**	⇓P	**Pn**	**03 27 00.5**	**+1.2**
KEST	**Kesra**	**9.10**	**260**	**Pn**	**Pn**	**03 27 00.8**	**0.0**
	0.2nm,0.3s,baz=71,slow=9.7,SNR=4.7 3.3nm,0.8s						
CEY	**Cerknica**	**9.13**	**333**	*e*Pn	**Pn**	**03 27 02.4**	**+1.3**
COVR	**Voineasa-Covas**	**9.16**	**26**	⇑P	**Pn**	**03 27 02.4**	**+0.9**
PLOR	**Plostina**	**9.33**	**28**	⇑P	**Pn**	**03 27 04.8**	**+1.1**
VRI	**Vrincioaia**	**9.37**	**28**	⇓P	**Pn**	**03 27 05.1**	**+0.8**
SOKA	**Soboth**	**9.76**	**338**	*i* Pn	**Pn**	**03 27 10.5**	**+0.8**
	3.3nm,0.7s						
SOKA				*i* Sn	**Sn**	**03 28 55.2**	**-3.8**
	1.7nm,0.6s						
OBKA	**Obir**	**9.76**	**335**	*e*Pn	**Pn**	**03 27 10.5**	**+0.8**
OBKA	**Obir**	**9.76**	**335**	*i* Pn	**Pn**	**03 27 11.5**	**+1.8**
	1.1nm,0.4s						
OBKA				*i* Sn	**Sn**	**03 28 57.0**	**-2.0**
	8.4nm,0.8s						
BRTR	**Keskin Array B**	**10.53**	**75**	**Pn**	**Pn**	**03 27 19.1**	**-1.2**
	0.1nm,0.3s,baz=228,slow=7.6,SNR=4.0 0.4nm,0.8s						
KBA	**Koelnbreinsper**	**10.66**	**333**	*e*Pn	**Pn**	**03 27 25.3**	**+3.1**
	0.5nm,0.3s						
KBA				*i* Sn	**Sn**	**03 29 19.1**	**-2.3**
	3.3nm,0.7s						
ABTA	**Abfaltersbach**	**10.71**	**329**	*i* Pn	**Pn**	**03 27 24.6**	**+1.9**
	0.6nm,0.4s						
ABTA				*e*Sn	**Sn**	**03 29 19.3**	**-3.0**
	7.9nm,1.1s						
MOA	**Molln**	**11.04**	**338**	*i* Pn	**Pn**	**03 27 29.2**	**+2.1**
	0.2nm,0.1s						
MOA				*i* Sn	**Sn**	**03 29 31.0**	**+0.7**
	1.4nm,0.3s						
LESA	**Schwarzleotal**	**11.20**	**332**	*i* Pn	**Pn**	**03 27 30.9**	**+1.4**
	1.4nm,0.6s						
LESA				*e*Sn	**Sn**	**03 29 32.8**	**-1.6**
	4.9nm,0.8s						
WTTA	**Wattenberg**	**11.48**	**329**	*i* Sn	**Sn**	**03 29 38.9**	**-2.5**
	5.9nm,0.9s						
MOTA	**Moosalm**	**11.77**	**327**	*i* Sn	**Sn**	**03 29 49.3**	**+1.0**
	1.8nm,0.5s						
GERES	**GERESS Array B**	**12.10**	**338**	Pn	**Pn**	**03 27 46.2**	**+4.4**
	baz=170,slow=13,SNR=2.4 0.2nm,0.3s						
MMAI	**Mount Meron Ar**	**13.12**	**107**	Pn	**Pn**	**03 27 52.4**	**-3.4**
	0.5nm,0.3s,baz=308,slow=14,SNR=2.2 0.5nm,0.4s						
AKASG	**Malin Array Be**	**14.38**	**23**	Pn	**Pn**	**03 28 13.7**	**+0.8**
	0.6nm,0.3s,baz=214,slow=9.3,SNR=4.3 0.3nm,0.4s						
ESDC	**Sonseca Array**	**19.10**	**283**	P	**Pn**	**03 29 15.6**	**+2.7**
	0.1nm,0.3s,baz=73,slow=9.1,SNR=5.3 0.8nm,0.8s						
HFS	**Hagfors**	**22.80**	**351**	P	**P**	**03 29 52.4**	**+0.6**
	1.2nm,0.6s,baz=161,slow=9.4,SNR=6.4 1.2nm,0.6s						
EKA	**Eskdalemuir Ar**	**23.71**	**325**	P	**P**	**03 30 01.4**	**+0.4**
	2.4nm,0.8s,baz=123,slow=10.0,SNR=3.6 2.4nm,0.8s						
FINES	**FINESS Array B**	**23.97**	**7**	P	**P**	**03 30 03.7**	**+0.3**
	1.1nm,0.4s,baz=178,slow=9.7,SNR=14 1.1nm,0.4s						
NOA	**NORSAR Array B**	**24.01**	**349**	P	**P**	**03 30 06.2**	**+2.4**
	1.3nm,0.9s,baz=161,slow=8.9,SNR=3.9 1.3nm,0.9s						
ARCES	**ARCESS Array B**	**31.95**	**3**	P	**P**	**03 31 14.2**	**-0.5**
	0.4nm,0.3s,baz=190,slow=10,SNR=8.5 0.4nm,0.3s						
BVAR	**Borovoye Array**	**37.46**	**50**	P	**P**	**03 32 01.8**	**-0.7**
	0.5nm,0.4s,baz=263,slow=3.9,SNR=3.6 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**42.55**	**53**	P	**P**	**03 32 43.6**	**-1.2**
	0.6nm,0.3s,baz=281,slow=8.9,SNR=6.2						
KURBB				LR	LR	03 53 13.1	
	comp=Z,45nm,20.9s,baz=162,slow=40 0.6nm,0.3s						
MKAR	**Makanchi Array**	**45.60**	**58**	P	**P**	**03 33 07.3**	**-2.0**
	0.4nm,0.4s,baz=273,slow=7.7,SNR=5.6 0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**46.04**	**48**	P	**P**	**03 33 12.1**	**-0.5**
	2.1nm,0.4s,baz=276,slow=8.7,SNR=8.6 2.1nm,0.4s						
SONM	**Songino Array**	**60.79**	**50**	P	**P**	**03 35 00.8**	**-0.5**
	0.3nm,0.3s,baz=292,slow=7.6,SNR=2.5 0.3nm,0.3s						
YKA	**Yellowknife Ar**	**73.75**	**340**	P	**P**	**03 36 25.6**	**+2.7**
	0.1nm,0.7s,baz=38,slow=5.1,SNR=5.6 0.1nm,0.7s						

*JMA **09** 03:27:50.5±0.1, 24°.0N±1°.0×122°.4E±0°.3, h34km±3km, MV2.6/14, NW OFF ISHIGAKIJIMA IS*
*TAP **09** 03:27:50.7, 24°.04N×122°.46E, h30km, ML3.1, C*

ISC 09 03:27:50.5±1.0, **24°.01N**±0°.02×**122°.47E**±0°.02, **h31**km±11km, **n94**, σ0s**89**/169, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS3	**EOS3**	**0.31**	**334**	*e*S	**Sn**	**03 28 03.7**	**-0.5**
EOS2	**EOS2**	**0.46**	**333**	S	**Sn**	**03 28 08.2**	**+0.3**
JYNG	**Yonagunijimaku**	**0.62**	**45**	*e*P	**Pb**	**03 28 02.8**	**-0.3**
JYNG				*e*S	**Sb**	**03 28 11.1**	**-0.4**
YOJ	**Yonaguni jima**	**0.67**	**48**	*e*P	**Pb**	**03 28 03.7**	**

NHDH	Xindian Distri	1.28 318	eS	Sb	03 28 32.7	+2.6
TATO	Taipei	1.31 317	P	Pn	03 28 13.1	+0.4
TATO			eS	Sb	03 28 30.3	-0.8
FULB	Fuli	1.34 233	eP	Pn	03 28 13.1	-0.1
FULB			eS	Sn	03 28 29.3	-0.7
NFF	Wufeng Townshi	1.38 297	P	Pb	03 28 15.6	-0.1
NFF			eS	Sb	03 28 33.2	+0.2
YM01	YM01	1.40 324	P	Pb	03 28 14.8	-1.2
YM01			eS	Sb	03 28 32.2	-1.3
SSLB	Suanglung	1.40 261	eS	Sn	03 28 32.6	+1.2
WHP	Taichung City	1.41 281	P	Pb	03 28 15.3	-1.0
WCS	Beigang Elemen	1.42 272	eS	Sb	03 28 33.6	-0.6
JKRS	Kuro-shima	1.43 80	eP	Pn	03 28 15.5	+1.2
SMLT	Sun Moon Lake	1.44 265	eS	Sn	03 28 31.6	-0.8
ECS	Chishang	1.46 232	P	Pn	03 28 15.7	+0.9
LIOB	Emei	1.47 296	eP	Pb	03 28 16.5	-0.7
LIOB			eS	Sb	03 28 35.3	-0.2
TYC	Yuchr	1.47 266	eS	Sn	03 28 33.5	+0.4
EDH	Donghe	1.48 226	P	Pn	03 28 14.6	-0.5
EDH			S	Sn	03 28 32.1	-1.3
TWY	Chenhua	1.49 328	P	Pb	03 28 16.1	-1.5
TWY			S	Sb	03 28 34.7	-1.4
ELDTW	Lidau	1.56 239	eP	Pn	03 28 16.9	+0.7
ELDTW			eS	Sn	03 28 35.2	-0.2
JIJ	Ishigaki jima	1.57 77	eP	Pn	03 28 16.8	+0.5
JIJ			eS	Sn	03 28 35.4	-0.2
ALS	Alishan	1.60 252	P	Pn	03 28 17.4	+0.5
ALS			S	Sn	03 28 37.4	+0.7
LDUT	Ludao	1.61 215	P	Pn	03 28 16.4	-0.4
LDUT			eS	Sn	03 28 34.9	-1.7
LONT	Longtian	1.64 228	P	Pn	03 28 17.6	+0.3
LONT			S	Sn	03 28 37.6	+0.2
PCYT	Pengchaiyu	1.65 348	P	Pn	03 28 17.4	0.0
TWGBT	Beinan	1.74 227	eP	Pn	03 28 18.9	+0.3
TWGBT			eS	Sn	03 28 39.8	+0.1
STYH	Taoyuan	1.76 242	eP	Pn	03 28 18.9	0.0
STYH			eS	Sn	03 28 40.1	-0.1
JISG	Ishigakijimahi	1.78 71	eP	Pn	03 28 19.4	+0.2
JISG			eS	Sn	03 28 40.4	-0.3
TPUB	Ta-pu	1.82 248	eP	Pb	03 28 22.6	-0.7
TPUB			eS	Sn	03 28 43.3	+1.4
WTP	Ta-pu	1.86 246	eP	Pn	03 28 22.3	+2.0
WTP			eS	Sb	03 28 47.1	+0.3
CHN1	Nanshi	1.96 246	P	Pn	03 28 23.0	+1.4
CHN1			S	Sb	03 28 49.0	-0.5
SGST	Jiashian	1.96 242	eP	Pn	03 28 23.5	+1.9
SGST			S	Sb	03 28 48.1	-1.5
TWK	Hsinying	1.96 248	P	Pb	03 28 24.1	-1.5
TWK			eS	Sb	03 28 48.5	-1.1
LAY	Lan-yu	2.13 203	eP	Pn	03 28 23.7	-0.4
LAY			eS	Sn	03 28 47.8	-1.7
CHN3	Shinhua	2.14 245	eP	Pn	03 28 24.2	+0.1
LYUB	Lan-yu	2.15 202	eP	Pn	03 28 23.9	-0.4
LYUB			eS	Sn	03 28 47.8	-2.1
MASBT	Mashibuluo	2.18 231	eP	Pn	03 28 26.1	+1.4
MASBT			eS	Sn	03 28 52.2	+1.5
TAWH	Dawu Township	2.21 221	eP	Pn	03 28 27.1	+2.1
TAWH			eS	Sn	03 28 51.4	+0.2
SCZT	Fangliau	2.35 227	eP	Pn	03 28 30.0	+3.0
SCZT			eS	Sn	03 28 58.1	+3.3
TWKBT	Hengchun	2.56 217	eP	Pn	03 28 31.4	+1.5
TWKBT			eS	Sn	03 29 01.5	+1.5
WDGT	Dungji	2.68 254	eP	Pn	03 28 33.2	+1.7
WDGT			eS	Sn	03 29 03.8	+0.9
PHUB	P'eng-hu	2.70 260	eP	Pn	03 28 33.0	+1.3
PHUB			eS	Sn	03 29 04.6	+1.3
VWUC	VWUC	2.92 290	eP	Pn	03 28 34.6	-0.1
PTMZ	Houxiangcun	3.21 289	eP	Pn	03 28 38.5	-0.3

IDC 09 03:35:11.3±2.3, 6°.39S×128°.80E, h0km, mb3.5/1, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=146.9km s-min=33.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.51	159	Pn	Pn	03 38 38.4	+0.3
	0.2nm,0.3s,baz=337,slow=13,SNR=17						
WRA				Sn	Sn	03 41 02.8	-17
	0.3nm,0.3s,baz=140,slow=15,SNR=6.2						
	0.2nm,0.3s						
ASAR	Alice Springs	17.86	165	P	Pn	03 39 21.2	-0.2
	0.1nm,0.3s,baz=344,slow=9.2,SNR=6.0						
	0.2nm,0.4s						
MKAR	Makanchi Array	67.07	327	P	P	03 46 06.6	0.0
	0.2nm,0.4s,baz=114,slow=8.3,SNR=2.2						
	0.2nm,0.4s						

SCB 09 03:38:01.8±1.3, 21°.40S×66°.89W, h208km±12km, ML3.5/2, MW2.9, Error ellipse: s-maj=8.5km s-min=4.8km az=0.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	Mochara	1.18	83	Pg	Pn	03 38 34.6	+0.4
MOCB				Sg	S	03 38 59.3	+0.2
MOCB				IAML		03 39 00.1	
	382nm,0.4s						
YJA	Yavi	1.50	121	Pg	Pn	03 38 36.9	+0.2
PB09	IPOC Station P	2.22	259	Pg	Pn	03 38 44.3	+0.9
PB01	IPOC Station P	2.44	278	Pg	Pn	03 38 45.9	+0.2
PB01				Sg	S	03 39 20.0	+0.6
PB08	IPOC Station P	2.46	300	Pg	Pn	03 38 47.1	+0.9
GO01	Chusmiza	2.76	308	Pg	Pn	03 38 50.2	+0.6
SOEO	Opoqueri	2.97	342	Pg	Pn	03 38 53.0	+0.9
PB11	IPOC Station P	3.06	302	Pg	Pn	03 38 52.7	0.0
PB11				Sg	S	03 39 31.2	-0.8
PB11				IAML		03 39 35.4	
	55nm,0.3s						
SOET	ToroToro	3.42	18	Pg	Pn	03 38 57.8	+0.5
AOEA	Aiquile	3.56	26	Pg	Pn	03 38 58.6	-0.3
SOEJ	Jacaque	4.57	344	Pg	Pn	03 39 12.6	+1.1
LPAZ	La Paz	5.22	347	Pg	Pn	03 39 21.0	+1.2

*MDD **09** 03:39:55.4±0.9, 43°.87N×9°.68W, h6km±3km, mb_Lg3.0/19, Error ellipse: s-maj=5.3km s-min=3.8km az=124.0*
*LDG **09** 03:39:55.4±0.3, 43°.96N×9°.57W, h5km, Ml3.0/18, Error ellipse: s-maj=7.3km s-min=3.3km az=95.0*
ISC 09 03:39:52.7±1.5, 44°.00N±0°.04×9°.56W±0°.07, h10km, n34, σ3s10/74, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	Mazaricos	1.13	158	Pg	Pg	03 40 15.0	+0.6
EMAZ				Sg	Sg	03 40 29.2	+0.2
EMAZ				*i* Vmb_Lg		03 40 30.2	
EAGO	Agolada(Pontev	1.60	138	Pn	Pn	03 40 21.5	+0.4
EAGO				Pg	Pg	03 40 23.9	+0.5
EAGO				Sn	Sb	03 40 42.6	0.0
EAGO				Sg	Sg	03 40 46.0	+1.8
EAGO				*i* Vmb_Lg		03 40 48.1	
EPON	Pontenova	1.87	110	Pn	Pb	03 40 27.6	+0.6
EPON				Pg	Pg	03 40 30.6	+2.0
EPON				Sn	Sb	03 40 50.8	+0.4
EPON				Sg	Sg	03 40 56.1	+3.2
EPON				*i* Vmb_Lg		03 40 58.6	
EZAM	Zamans	1.95	161	Pn	Pn	03 40 26.6	+0.8
EZAM				Pg	Pb	03 40 29.6	+1.3
EZAM				Sn	Sn	03 40 50.0	-0.5
EZAM				Sg	Sg	03 40 54.9	-0.5
EZAM				*i* Vmb_Lg		03 40 59.4	
ELOB	Lobios	2.39	152	Pn	Pn	03 40 33.1	+1.0
ELOB				Pg	Pb	03 40 37.7	+1.7
ELOB				Sn	Sn	03 41 00.8	-0.6
ELOB				Sg	Sg	03 41 09.3	-0.3
ELOB				*i* Vmb_Lg		03 41 12.0	
ECAL	Calabor	2.92	134	Pn	Pn	03 40 40.2	+1.0
ECAL				Sn	Sn	03 41 13.8	-0.5
ECAL	Calabor	2.92	134	Pn	Pn	03 40 40.4	+1.2
ECAL				Sn	Sn	03 41 14.4	+0.1
ECAL				Sg	Sg	03 41 28.1	+1.8
ECAL				*i* Vmb_Lg		03 41 34.5	
EARI	Arriondas	3.23	101	Pn	Pn	03 40 45.7	+2.2
EARI				Sn	Sn	03 41 23.7	+1.7
EARI				Sg	Sg	03 41 41.1	+4.6
EARI				*i* Vmb_Lg		03 41 43.3	
ELAN	Lanestosa	4.51	98	Pn	Pn	03 41 03.6	+2.5
ELAN				*i* Vmb_Lg		03 41 52.4	
ELAN				Sn	Sn	03 41 54.1	+0.5

EPLA	Plasencia	4.71	145	Pn	Pn	03 41 04.5	+0.7
EPLA				Sn	Sn	03 41 56.1	-2.3
EPLA				*i* Vmb_Lg		03 42 19.1	
EPLA				Sg	Sg	03 42 23.9	+0.1
GUD	Guadarrama	5.22	128	Pn	Pn	03 41 12.8	+1.8
EBAD	Badajoz	5.57	159	Pn	Pn	03 41 15.9	+0.3
EBAD				Sn	Sn	03 42 14.9	-4.9
EBAD	Badajoz	5.57	159	Pn	Pn	03 41 16.6	+0.9
EBAD				Sn	Sn	03 42 16.1	-3.6
EBAD				*i* Vmb_Lg		03 42 32.2	
EVO	Evora	5.58	167	Sn	Sn	03 42 14.8	-5.2
EVO				Pn	Pn	03 41 15.7	-0.1
PAB	San Pablo	5.91	137	Pn	Pn	03 41 21.6	+1.2
PAB				Sn	Sn	03 42 25.4	-2.8
PAB				*i* Vmb_Lg		03 42 35.3	
PAB				Sg	Sg	03 43 03.2	+0.8
QUIF	Quistinic	5.93	46	ePn	Pn	03 41 23.3	+2.7
QUIF				eSn	Sn	03 42 24.8	-3.8
	12nm,0.9s						
PBAR	Barrancos	6.12	161	Pn	Pn	03 41 23.1	-0.1
PBAR				Sn	Sn	03 42 25.9	-7.3
SJPF	Ste Jean	6.12	95	ePn	Pn	03 41 26.5	+3.3
SJPF				eSn	Sn	03 42 31.3	-1.9
	1.5nm,0.3s						
ROSF	Rostrenen	6.15	43	ePn	Pn	03 41 24.8	+1.2
ROSF				eSn	Sn	03 42 30.2	-3.8
	2.3nm,0.3s						
SGMF	Saint Gilles	6.46	46	ePn	Pn	03 41 30.1	+2.3
ETSF	Etsaut	6.64	96	ePn	Pn	03 41 31.0	+0.6
ETSF				eSn	Sn	03 42 43.6	-2.5
	1.3nm,0.3s						
PVAQ	Vaqueiros	6.73	167	Pn	Pn	03 41 31.8	+0.3
MFF	Saint Martin d	7.13	65	ePn	Pn	03 41 39.1	+2.1
MFF				eSn	Sn	03 42 52.9	-5.1
	2.7nm,0.4s						
EPF	Esparros	7.26	94	ePn	Pn	03 41 40.2	+1.3
EPF				eSn	Sn	03 42 55.4	-5.9
	1.7nm,0.5s						
GRR	Gorron	7.46	51	ePn	Pn	03 41 43.7	+2.1
GRR	Gorron	7.46	51	ePg	Pg	03 42 14.7	-0.8
GRR				eSn	Sn	03 43 01.5	-4.7
	1.0nm,0.3s						
FLN	La Foliniere	7.88	50	ePn	Pn	03 41 48.9	+1.6
FLN				eSn	Sn	03 43 11.7	-4.7
	0.9nm,0.3s						
LDF	La Druitiere	7.99	52	ePn	Pn	03 41 49.8	+1.0
LDF				eSn	Sn	03 43 13.7	-5.4
	0.9nm,0.3s						
RJF	Les Rejaudoux	8.00	77	ePn	Pn	03 41 49.9	+0.9
RJF				eSn	Sn	03 43 13.3	-6.3
	1.7nm,0.3s						
CAF	Calviac	8.37	80	ePn	Pn	03 41 55.0	+1.0
CAF				eSn	Sn	03 43 23.3	-5.2
	1.2nm,0.4s						
MTLF	Montolieu	8.56	90	ePn	Pn	03 41 57.4	+0.7
MTLF				eSn	Sn	03 43 26.3	-7.0
	0.9nm,0.2s						
TCF	Toulx Ste Croi	8.63	71	eSn	Sn	03 43 27.7	-7.2
	0.7nm,0.3s						
LASF	Ste Croix	9.66	85	ePn	Pn	03 42 13.5	+1.7
LASF				eSn	Sn	03 43 54.3	-6.1
	1.2nm,0.4s						
VIVF	Saint-Julien-l	10.22	80	eSn	Sn	03 44 06.7	-7.3
	0.6nm,0.3s						

IDC 09 03:41:53.2±54.0, 18°.01S×177°.93W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1000.0km s-min=169.5km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.98	241	P	P	03 49 21.1	-0.3
	0.7nm,0.3s,baz=80,slow=12,SNR=3.1						
	0.7nm,0.3s						
WRA	Warramunga Arr	45.06	260	P	P	03 50 11.0	-0.2
	0.8nm,0.4s,baz=94,slow=7.5,SNR=15						
	0.8nm,0.4s						
ASAR	Alice Springs	45.20	254	P	P	03 50 12.4	+0.1
	4.3nm,0.7s,baz=92,slow=7.6,SNR=40						
	4.3nm,0.7s						

*IDC **09** 04:21:45.1±1.8, 50°.51N×159°.93E, h0km, mb3.7/8, mbtmp3.7/9, ML2.5/1, MS2.4/1, Error ellipse: s-maj=44.5km s-min=20.6km az=11.0*
*MOS **09** 04:21:47.6±0.9, 50°.44N×160°.00E, h34km, mb3.8/1, Error ellipse: s-maj=17.8km s-min=4.9km az=99.1*
*KRSC **09** 04:21:47.4±1.9, 50°.55N×159°.93E, h63km±38km, Ml4.2*
ISC 09 04:21:49.8±0.9, 50°.48N±0°.07×159°.93E±0°.06, h35km, n55, σ1s05/70, mb3.7/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	2.14	336	PN	Pn	04 22 21.6	-1.4
RUS				S	Sn	04 22 47.0	-1.4
RUS	Russkaya	2.14	336	ePn	Pn	04 22 21.7	-1.4
RUS				eS	Sn	04 22 47.0	-1.4
PAU	Pauzhetka	2.20	298	PN	Pn	04 22 23.4	-0.4
PAU				S	Sn	04 22 49.5	-0.3
PAU	Pauzhetka	2.20	298	eP	Pn	04 22 23.4	-0.4
PAU				eS	Sn	04 22 49.5	-0.3
GRL	Gorelyy	2.37	331	PN	Pn	04 22 26.4	+0.1
GRL				S	Sn	04 22 53.8	-0.4
GRL	Gorelyy	2.37	331	eP	Pn	04 22 26.5	+0.1
GRL				eS	Sn	04 22 53.9	-0.4
SKR	Severo-Kuril's	2.44	276	PN	Pn	04 22 25.9	-1.1
SKR				S	Sn	04 22 53.9	-1.7
SKR	Severo-Kuril's	2.44	276	eP	Pn	04 22 25.9	-1.1
SKR				eS	Sn	04 22 53.9	-1.7
KRMR	Karymshinskiy	2.60	335	PN	Pn	04 22 29.3	0.0
KRMR				S	Sn	04 22 59.8	+0.1
KRMR	Karymshinskiy	2.60	335	eP	Pn	04 22 29.4	0.0
KRMR				eS	Sn	04 22 59.9	+0.1
SPN	Mys Shipunski	2.62	1	PN	Pn	04 22 27.9	-1.7
SPN	Mys Shipunski	2.62	1	eP	Pn	04 22 27.9	-1.7
SPN				eS	Sn	04 22 57.8	-2.3
DALK	Dalny	2.65	344	PN	Pn	04 22 28.7	-1.3
DALK				S	Sn	04 22 59.3	-1.6
DALK	Dalny	2.65	344	eP	Pn	04 22 28.8	-1.3
DALK				eS	Sn	04 22 59.3	-1.6
PET	Petropavlovsk	2.67	343	ePN	Pn	04 22 30.4	+0.2
PET				eS	Sn	04 22 59.5	-1.7
PET				pmax	pmax		
	comp=Z,12nm,0.4s						
PET				smax	smax		
	comp=N,215nm,0.6s						
PET				smax	smax		
	comp=E,133nm,0.4s						
PET	Petropavlovsk	2.67	343	eP	Pn	04 22 29.3	-0.9
PET				eS	Sn	04 22 59.8	-1.4
NLC	Nalytchevo	2.72	353	eS	Sn	04 23 01.6	-0.9
UGLR	Uglovaya	2.81	346	PN	Pn	04 22 33.0	+0.7
UGLR	Uglovaya	2.81	346	eP	Pn	04 22 33.1	+0.7
AVH	Avacha	2.88	346	PN	Pn	04 22 33.8	+0.6
AVH	Avacha	2.88	346	eP	Pn	04 22 33.9	+0.6
KOK	Koryaka	2.92	345	PN	Pn	04 22 35.0	+1.2
KOK	Koryaka	2.92	345	eP	Pn	04 22 35.1	+1.2
PEA0B	Petropavlovsk-	2.97	333	PN	Pn	04 22 34.5	+0.1
PEA0B				S	Sn	04 23 09.9	+1.1
PETK	Petropavlovsk-	2.97	333	Pn	Pn	04 22 34.0	-0.4
	comp=E,3.4nm,0.3s,baz=128,slow=16,SNR=46						
PETK				Sn	Sn	04 23 09.7	+0.9
	comp=E,3.6nm,0.3s,baz=141,slow=15,SNR=6.4						
PETK				LR	LR	04 23 56.8	
	comp=E,63nm,21.8s,baz=106,slow=45						
	comp=E,9.0nm,0.5s						
KRX	Arik	2.99	345	PN	Pn	04 22 34.5	-0.3
KRX	Arik	2.99	345	eP	Pn	04 22 34.5	-0.3
APC	Apacha	2.99	326	PN	Pn	04 22 34.5	-0.2
APC	Apacha	2.99	326	eP	Pn	04 22 34.5	-0.2
GNL	Ganaly	3.44	340	PN	Pn	04 22 41.7	+0.7
GNL	Ganaly	3.44	340	eP	Pn	04 22 41.8	+0.7
TUMD	Tumrok D	4.74	3	PN	Pn	04 22 57.8	-0.8
TUMD	Tumrok D	4.74	3	eP	Pn	04 22 57.9	-0.8
TUMD				eS	Sn	04 23 50.1	-2.2
KMNR	Kamenistaya	5.29	2	PN	Pn	04 23 07.1	+0.8
KMNR	Kamenistaya	5.29	2	eP	Pn	04 23 07.2	+0.8
BZGR	Bezymyannyi-Gr	5.49	5	PN	Pn	04 23 09.7	+0.7
BZGR	Bezymyannyi-Gr	5.49	5	eP	Pn	04 23 09.8	+0.7
KIRR	Kirishev	5.49	2	PN	Pn	04 23 09.0	-0.1
KIRR	Kirishev	5.49	2	eP	Pn	04 23 09.0	-0.1
BZWR	Bezymyannyi-We	5.50	3	PN	Pn	04 23 11.2	+1.9
BZWR	Bezymyannyi-We	5.50	3	eP	Pn	04 23 11.2	+1.9
KBTR	Krutoberegovo	5.99	16	PN	Pn	04 23 14.7	-1.1
KBTR	Krutoberegovo	5.99	16	eP	Pn	04 23 14.7	-1.1
ILAR	Eielson Array	30.78	42	P	P	04 28 00.8	-0.7
	comp=E,0.6nm,0.6s,baz=248,slow=7.5,SNR=8.6						
	comp=E,0.6nm,0.6s						
H11N2	WAKE ISLAND Hy	31.18	167	T	T	05 00 50.6	
	baz=352,slow=76,SNR=4.0						
H11N3	WAKE ISLAND Hy	31.20	167	T	T	05 00 50.3	
	baz=352,slow=76,SNR=4.3						
H11N1	WAKE ISLAND Hy	31.20	167	T	T	05 00 50.6	
	baz=352,slow=76,SNR=5.9						
YKA	Yellowknife Ar	45.18	41	P	P	04 30 03.6	+0.9
	comp=E,0.4nm,0.8s,baz=294,slow=7.7,SNR=6.0						
	comp=E,0.4nm,0.8s						
KURK	Kurchatov	49.06	304	P	P	04 30 34.1	+1.0
KURBB	Kurchatov Arra	49.16	304	P	P	04 30 34.1	+0.3
	comp=E,0.4nm,0.5s,baz=63,slow=7.5,SNR=6.5						
	comp=E,0.4nm,0.5s						
MKAR	Makanchi Array	49.23	298	P	P	04 30 34.9	+0.4
	comp=E,0.3nm,0.5s,baz=31,slow=6.7,SNR=2.1						
	comp=E,0.3nm,0.5s						
SPITS	Spitsbergen Ar	49.70	351	P	P	04 30 37.4	-0.3
	comp=E,4.7nm,0.8s,baz=49,slow=4.4,SNR=2.0						
	comp=E,4.7nm,0.8s						
BVAR	Borovoye Array	51.96	310	P	P	04 30 55.1	+0.2
	comp=E,0.8nm,0.5s,baz=72,slow=6.8,SNR=3.8						
	comp=E,0.8nm,0.5s						
PDAR	Pinedale Array	58.92	59	P	P	04 31 46.4	+1.0
	comp=E,0.4nm,0.7s,baz=336,slow=3.3,SNR=4.9						
	comp=E,0.4nm,0.7s						
TXAR	Lajitas Array	71.78	66	P	P	04 33 09.2	+0.5
	comp=E,1.0nm,0.6s,baz=303,slow=5.2,SNR=22						
	comp=E,1.0nm,0.6s						

*SKHL **09** 04:30:45.9±0.2, 42°.80N×145°.90E, h37km±2km, mb4.3/3*
*JMA **09** 04:30:45.2±0.1, 42°.8N±0°.5×145°.9E±0°.8, h47km±1km, MV3.3/38, OFF NEMURO PENINSULA*
ISC 09 04:30:45.5±1.8, 42°.84N±0°.08×145°.89E±0°.06, h30km±12km, n14, σ0s67/28, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.54	348	*i* P	Pb	04 30 57.1	+0.6
NEM2				*i* S	Sn	04 31 05.7	+0.6
NMR	Nemuro--Hokkai	0.54	347	*i* P	Pb	04 30 57.1	+0.5
NMR				*i* S	Sn	04 31 05.7	+0.4
JKHN	Kushirohamanak	0.59	295	*i* P	Pb	04 30 57.5	+0.2
JKHN				S	Sb	04 31 06.5	+1.1
AKK	Akkeshi	0.79	283	eP	Pb	04 31 00.2	-0.5
AKK				eS	Sb	04 31 10.9	-0.2
JAK	Akkeshi	0.89	281	*i* P	Pb	04 31 01.6	-0.8
JAK				S	Sb	04 31 13.9	-0.1
JNK	Nakash	1.14	311	*i* P	Pn	04 31 04.9	-0.4
JNK				S	Sb	04 31 19.6	-1.3
JNSB	Nemuroshibetsu	1.14	326	*i* P	Pn	04 31 05.4	0.0
JNSB				S	Sb	04 31 19.8	-1.2
YUK	Yuzh-Kuril'sk	1.20	359	*i* P	Pn	04 31 05.9	-0.2
YUK				AMB	AMB	04 31 06.1	
	300nm,0.6s						
YUK				eS	Sn	04 31 21.0	-0.3
YUK				A	A	04 31 21.4	
	590nm,0.7s						
YUK				A	A	04 31 21.4	
	1μm,0.7s						
JRA	Rausu	1.23	333	*i* P	Pn	04 31 06.8	+0.2
JRA				S	Sn	04 31 22.3	+0.1
SHO	Shikotan	1.24	33	*i* P	Pn	04 31 06.3	-0.4
SHO				AMB	AMB	04 31 06.5	
	70nm,0.3s						
SHO				eS	Sn	04 31 21.6	-0.8
SHO				A	A	04 31 22.5	
	80nm,0.2s						
SHO				A	A	04 31 22.5	
	100nm,0.2s						
JAR	Ashorobuto	1.62	287	P	Pn	04 31 11.8	-0.1
JAR				eS	Sn	04 31 31.4	-0.5
JTKR	Abashiri--Toko	1.84	309	P	Pn	04 31 15.6	+0.7
JTKR				eS	Sn	04 31 38.3	+1.1
JCH	Churui	1.88	264	P	Pn	04 31 16.1	+0.6
JCH				S	Sn	04 31 38.6	+0.5
KUR	Kuril'sk	2.79	30	eP	Pn	04 31 28.7	+0.7
KUR				AMB	AMB	04 31 29.8	
	40nm,0.4s						
KUR				eS	Sn	04 32 00.7	+0.2
KUR				A	A	04 32 00.8	
	20nm,0.2s						
KUR				A	A	04 32 00.8	
	30nm,0.2s						

*SNET **09** 04:35:05.6±0.8, 12°.96N×88°.78W, h51km±8km, ML3.2*
*CATAC **09** 04:35:05.3±0.7, 13°.N±5°.×8°.9W±°., h33km±6km, M3.1/14, MLv3.1/14, Error ellipse: s-maj=13.0km s-min=4.2km az=28.0, confirmed*
*GCG **09** 04:35:05.9±0.6, 13°.04N×88°.80W, h66km±16km, MD3.8*
ISC 09 04:35:05.4±1.7, 12°.90N±0°.10×88°.79W±0°.05, h49km±20km, n53, σ0s34/72, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.48	27	eP	Pn	04 35 16.3	0.0
ALJI				eS	Sn	04 35 24.3	+0.2
ALJI	Alcalda de J	0.48	27	P	Pn	04 35 16.3	0.0
TECO	Alcaldia de Te	0.64	1	eP	Pn	04 35 17.8	-0.6
TECO				eS	Sn	04 35 27.5	-0.1
TECO	Alcaldia de Te	0.64	1	P	Pn	04 35 18.0	-0.4
TECO	Alcaldia de Te	0.64	1	S	Sn	04 35 28.1	+0.4
TECA	Tecapa	0.66	25	eP	Pn	04 35 18.6	-0.2
TECA				eS	Sn	04 35 28.4	0.0
LCY	Lacayo	0.71	43	eP	Pn	04 35 19.1	-0.3
COEG	Centro de Oper	0.72	353	eP	Pn	04 35 19.1	-0.4
COEG				eS	Sn	04 35 29.7	0.0
COEG				IAML		04 35 34.3	
	comp=Z,709nm,0.2s						
COEG	Centro de Oper	0.72	353	P	Pn	04 35 19.2	-0.4
RANC	El Ranchito	0.72	42	eP	Pn	04 35 19.3	-0.3
RANC	El Ranchito	0.72	42	P	Pn	04 35 19.5	-0.1
PACA	Pacayal	0.73	39	eP	Pn	04 35 19.5	-0.1
PACA				eS	Sn	04 35 30.3	+0.4
PACA	Pacayal	0.73	39	P	Pn	04 35 19.6	0.0
VSM	San Miguel	0.

CEVE				eS	Sn	04 35 43.0	+0.9
SBLS	San Blas	1.24	319	eP	Pn	04 35 27.2	+0.6
POTN	Potosi Cosigui	1.25	85	P	Pn	04 35 26.9	+0.3
POTN				S	Sn	04 35 42.1	-0.2
LLGN	La Laguna	1.27	353	eP	Pn	04 35 26.6	-0.2
LLGN				eS	Sn	04 35 43.2	+0.4
LLGN	La Laguna	1.27	353	P	Pn	04 35 26.7	-0.2
NUBE	Las Nubes	1.39	316	eP	Pn	04 35 28.4	-0.1
NUBE				eS	Sn	04 35 45.4	-0.5
NUBE	Las Nubes	1.39	316	eP	Pn	04 35 28.4	-0.1
NUBE				eS	Sn	04 35 45.6	-0.2
NUBE	Las Nubes	1.39	316	P	Pn	04 35 28.5	-0.1
MARCA	Marcala la Paz	1.45	30	eP	Pn	04 35 28.9	-0.5
MTO3	Montecristo	1.59	340	eP	Pn	04 35 31.2	-0.2
MTO3	Montecristo	1.59	340	eP	Pn	04 35 31.3	-0.2
MTO3	Montecristo	1.59	340	P	Pn	04 35 31.3	-0.2
ESQI	Esquipulas	1.74	342	eP	Pn	04 35 33.4	+0.1

GCG 09 04:38:26.4±0.5, 14°.44N×91°.71W, h67km±25km, MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG8	El Palmar, Qui	0.35	89	eP	Pn	04 38 38.2	+0.3
STG8				eS	Sn	04 38 47.6	+1.3
STG0	El Palmar, Qui	0.35	92	eP	Pn	04 38 37.7	-0.2
STG0				eS	Sn	04 38 47.2	+0.9

*IDC **09** 04:39:47.7±1.9, 32°.92S×72°.13W, h0km, mb3.7/2, mbtmp3.5/6, ML3.8/4, Error ellipse: s-maj=35.8km s-min=33.0km az=105.0*
*NEIC **09** 04:39:49.9±1.2, 32°.93S±0°.04×72°.14W±0°.05, h19km±3km, mb4.4/11, Mwr3.8/46, Error ellipse: s-maj=6.9km s-min=5.0km az=50.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}3.47; $M_{\theta\theta}$0.18; $M_{\phi\phi}$-3.65; $M_{r\theta}$0.29; $M_{\phi r}$-4.15; Fault plane solution: $M_0$5.56000×10^{14} NP1:ϕ_s338.07000°, δ21.33000°, λ75.10000°. NP2:ϕ_s174.01000°, δ69.42000°, λ95.73000°. Principal axes: T 5.3849, Plg65.0000°, Azm94.0000°; N 0.3421, Plg5.0000°, Azm352.0000°; P -5.7270, Plg24.0000°, Azm260.0000°;*
*GUC **09** 04:39:49.8±0.6, 32°.92S×72°.08W, h25km±6km, ML3.7*
*NEIC **09** 04:39:51.2, 32°.95S×72°.07W, h26km*

ISC 09 04:39:48.4±1.5, 32°.91S±0°.04×72°.19W±0°.05, h12km±9km, n73, σ1°14/76, mb4.4/8, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.47	104		Pb	04 39 58.7	+0.1
VA01				Sg	Sg	04 40 04.3	+0.4
VA01	Torpederas	0.47	104	eP	Pg	04 39 58.4	+0.8
VA05	Santo Domingo	0.89	147		Pb	04 40 06.0	+0.2
VA05				Sn	Sg	04 40 17.4	+0.2
VA05	Santo Domingo	0.89	147	eP	Pb	04 40 05.8	+0.1
VA05				eS	Sn	04 40 18.3	-1.2
VA05				IAML		04 40 19.5	
	comp=E,4μm,0.2s						
MT02	Curacav	0.95	112		Pb	04 40 06.4	-0.4
MT02				Sn	Sb	04 40 18.6	-0.7
MT02	Curacav	0.95	112	eP	Pb	04 40 06.1	-0.7
ROCH	El Roble	0.99	94	eP	Pb	04 40 07.2	-0.5
ROCH				IAML		04 40 21.9	
	comp=N,3μm,0.3s						
MT01	Popeta	1.24	141		Pn	04 40 11.1	-0.4
MT01	Popeta	1.24	141	eP	Pn	04 40 11.1	-0.4
MT01				eS	Sn	04 40 27.4	-0.7
PEL	Peldehue	1.29	101		Pn	04 40 12.3	0.0
PEL	Peldehue	1.29	101	eP	Pn	04 40 12.2	0.0
PEL				eS	Sn	04 40 28.9	-0.6
PEL				IAML		04 40 31.2	
	comp=N,4μm,0.3s						
MT05	Renca	1.31	112		Pn	04 40 12.5	-0.1
MT05	Renca	1.31	112	eP	Pn	04 40 12.6	+0.1
MT05				eS	Sg	04 40 29.9	-0.8
MT05				IAML		04 40 32.3	
	comp=E,2μm,0.3s						
MT09	Talagante	1.33	131		Pn	04 40 13.0	+0.1
MT09	Talagante	1.33	131	eP	Pn	04 40 13.0	+0.1
MT09				IAML		04 40 31.8	
	comp=N,2μm,0.2s						
VA03	San Esteban	1.39	85		Pn	04 40 13.2	-0.4
VA03	San Esteban	1.39	85	eP	Pn	04 40 13.6	0.0
VA03				IAML		04 40 33.4	
	comp=E,4μm,0.2s						
MT10	Hacienda Santa	1.44	105	eP	Pb	04 40 14.7	-0.4
MT10				IAML		04 40 38.6	
	comp=E,4μm,0.5s						
MT16	CCHEN	1.49	111		Pn	04 40 15.0	0.0
MT03	Universidad Ad	1.53	113		Pn	04 40 15.6	+0.1
MT03	Universidad Ad	1.53	113	eP	Pn	04 40 16.0	+0.5
MT03				IAML		04 40 43.0	
	comp=E,4μm,0.3s						
MT15	Las Vizcachas	1.57	116	eP	Pb	04 40 16.8	-0.6
MT15				IAML		04 40 40.8	
	comp=E,3μm,0.2s						
MT12	Pirque	1.60	121	eP	Pb	04 40 17.3	-0.6
FCH	Farellones	1.65	105	eP	Pb	04 40 18.2	-0.7
BO04	La Punta	1.71	130		Pn	04 40 18.3	+0.3
BO01	Tunca	1.75	148		Pn	04 40 18.3	-0.1
MT04	Ro Olivares	1.79	107	eP	Pb	04 40 20.7	-0.6
MT04				IAML		04 40 50.6	
	comp=N,942nm,0.4s						
MT13	San Alfonso	1.80	118		Pn	04 40 19.5	+0.1
MT08	Bocatoma Ro	1.90	107		Pn	04 40 21.4	+0.6
MT08	Bocatoma Ro	1.90	107	eP	Pb	04 40 22.1	-1.0
MT08				IAML		04 40 54.6	
	comp=E,673nm,0.4s						
LMEL	Las Melosas	1.91	120		Pn	04 40 21.5	+0.6
LMEL	Las Melosas	1.91	120	eP	Pb	04 40 22.2	-1.0
LMEL				IAML		04 40 54.9	
	comp=N,1μm,0.5s						
CO02	Combarbal	1.98	31		Pn	04 40 22.4	+0.7
BO02	Sierra Bellavi	2.22	148		Pn	04 40 25.7	+0.7
CO06	Fray Jorge	2.28	12		Pn	04 40 25.4	-0.4
CO03	El Pedregal	2.43	32	Pn	Pn	04 40 28.6	+0.7
ML02	Panimavida	2.92	168		Pn	04 40 34.8	+0.2
GO04	Tololo Observa	2.97	24	Pn	Pn	04 40 35.9	+0.3
CO05	La Serena	3.09	16		Pn	04 40 37.1	+0.2
ZON	Zonda	3.27	66		Pn	04 40 40.8	+1.2
CO01	Juntas del Tor	3.43	32	Pn	Pn	04 40 42.9	+1.0
CFA	Coronel Fontan	3.59	70	Pn	Pn	04 40 45.7	+1.8
	comp=N,6.0nm,0.3s,baz=248,slow=13,SNR=44						
CFA				Sn	Sb	04 41 31.9	-3.6
	comp=N,4.2nm,0.3s,baz=209,slow=4.6,SNR=5.5						
	comp=N,3.8nm,0.5s						
BI02	San Fabin de	3.82	169	Pn	Pn	04 40 47.5	+0.4
LCO	Las Campanas	4.09	19		Pn	04 40 50.8	-0.1
AC05	El Transito	4.38	23	Pn	Pn	04 40 55.5	+0.7
AC04	Llanos de Chal	4.79	12	Pn	Pn	04 40 59.2	-1.1
GO03	Copiapo	5.56	18		Pn	04 41 11.9	+0.9
H03N1	Juan Fernandez	5.66	263	T	T	04 47 52.6	
	baz=88,slow=73,SNR=83						
H03N3	Juan Fernandez	5.67	263	T	T	04 47 56.4	
	baz=88,slow=73,SNR=94						
H03N2	Juan Fernandez	5.68	263	T	T	04 47 57.7	
	baz=88,slow=73,SNR=78						
H03S1	Juan Fernandez	5.69	259	T	T	04 47 37.9	
	baz=85,slow=74,SNR=14						
H03S3	Juan Fernandez	5.70	259	T	T	04 47 39.4	
	baz=85,slow=74,SNR=10						
H03S2	Juan Fernandez	5.71	259	T	T	04 47 38.6	
	baz=85,slow=74,SNR=12						
AC06	Mina Casimiro	5.76	17	Pn	Pn	04 41 15.6	+2.0
AC02	Maricunga	6.61	25	Pn	Pn	04 41 25.9	+0.1
LR05	Currie	7.31	179	Pn	Pn	04 41 34.5	-0.4
PLCA	Paso Flores	7.92	171	Pn	Pn	04 41 42.9	-0.5
PLCA	Paso Flores	7.92	171	Pn	Pn	04 41 44.1	+0.7
	comp=N,0.3nm,0.3s,baz=335,slow=11,SNR=16						
	comp=N,0.7nm,0.4s						
CPUP	Villa Florida	14.49	67	Pn	Pn	04 43 15.0	+1.8
	comp=N,0.2nm,0.3s,baz=242,slow=9.7,SNR=4.1						
CPUP				Sn	Sn	04 45 59.0	+5.3
	comp=N,0.1nm,0.3s,baz=225,slow=12,SNR=5.3						
	comp=N,2.0nm,0.9s						
PLTB	Pedras Altas	15.76	91	Pn	Pn	04 43 28.0	-2.1
LPAZ	La Paz	16.95	13	Pn	Pn	04 43 45.0	-1.1
LPAZ	La Paz	16.95	13	Pn	Pn	04 43 47.0	+1.0
	comp=N,0.1nm,0.3s,baz=190,slow=8.0,SNR=5.8						
	comp=N,1.0nm,0.7s						
EFI	East Falkland	21.40	155	P	P	04 44 35.3	-0.5
EFI				IAmb	IAmb	04 44 35.9	
	comp=Z,36nm,1.2s						
BDFB	Brasilia	27.84	58	P	P	04 45 37.2	-0.7
BDFB				IAmb	IAmb	04 45 48.3	
	comp=Z,1.2nm,0.8s						
BDFB	Brasilia	27.84	58	P	P	04 45 37.2	-0.7
	comp=Z,1.7nm,0.5s,baz=212,slow=7.6,SNR=4.5						
	comp=Z,1.7nm,0.5s						
RPN	Rapa Nui	32.56	270	P	P	04 46 20.7	+1.2
OTAV	Otavalo	33.49	349	P	P	04 46 26.4	-1.7
OTAV				IAmb	IAmb	04 46 41.5	
	comp=Z,2.7nm,1.2s						
RUSC	La Rusia	38.59	359	P	P	04 47 11.4	-0.5
RUSC				IAmb	IAmb	04 47 25.9	
	comp=Z,6.5nm,1.0s						
PRVC	Isla de Provid	46.85	348	P	P	04 48 18.8	+0.5
SNAA	Sanae	52.64	158	P	P	04 49 01.8	-0.1
SNAA				IAmb	IAmb	04 49 05.0	
	comp=Z,8.2nm,1.5s						
QSPA	South Pole Qui	57.33	180	P	P	04 49 36.7	+0.8
QSPA				IAmb	IAmb	04 49 56.4	
	comp=Z,10nm,1.4s						
TXAR	Lajitas Array	68.72	331	P	P	04 50 54.0	+2.0
	comp=Z,0.1nm,0.4s,baz=150,slow=5.7,SNR=2.1						
	comp=Z,0.1nm,0.4s						
DBIC	Dimbokro	74.95	72	P	P	04 51 27.1	-2.6
DBIC				IAmb	IAmb	04 51 45.0	
	comp=Z,6.9nm,1.2s						

*ASRS **09** 04:55:17.0±1.0, 53°.82N×88°.22E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 04:55:20.8±3.3, 53°.75N×88°.13E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=30.7km s-min=20.2km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.97	277	I	I	05 08 40.0	
	0.1nm,0.8s,baz=91,slow=330,SNR=17						
ZALV	Zalesovo Beam	1.97	277	Pn	Pn	04 55 56.1	+0.8
	1.8nm,0.3s,baz=91,slow=15,SNR=21						
ZALV				Lg	Lg	04 56 23.2	
	4.3nm,0.3s,baz=94,slow=26,SNR=22						
KURBB	Kurchatov Arra	6.68	246	Pn	Pn	04 57 01.1	+1.0
	0.1nm,0.3s,baz=64,slow=15,SNR=6.5						
KURBB				Lg	Lg	04 58 49.3	
	baz=52,slow=32,SNR=4.9						
	0.5nm,0.3s						
MKAR	Makanchi Array	7.90	211	Pn	Pn	04 57 17.2	+0.3
	0.1nm,0.3s,baz=27,slow=13,SNR=1.8						
	0.1nm,0.3s						

*ASRS **09** 04:59:27.0±1.9, 55°.67N×86°.27E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 04:59:30.3±3.6, 55°.71N×86°.39E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=30.3km s-min=29.0km az=167.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.98	208	I	I	05 12 06.2	
	baz=26,slow=331,SNR=14						
ZALV	Zalesovo Beam	1.98	208	Pn	Pn	05 00 03.5	-1.6
	1.6nm,0.3s,baz=28,slow=16,SNR=16						
ZALV				Lg	Lg	05 00 33.1	
	2.4nm,0.3s,baz=28,slow=25,SNR=6.0						
KURBB	Kurchatov Arra	6.94	226	Pn	Pn	05 01 12.8	-0.4
	baz=45,slow=13,SNR=3.1						
KURBB				Lg	Lg	05 03 11.8	
	0.1nm,0.3s,baz=45,slow=32,SNR=4.7						
	0.2nm,0.3s						
MKAR	Makanchi Array	9.29	198	Pn	Pn	05 01 46.4	+1.1
	0.1nm,0.3s,baz=22,slow=12,SNR=3.0						
	0.3nm,0.5s						

GCG 09 05:01:18.6±0.3, 14°.25N×91°.69W, h94km±10km, MD4.3, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	El Palmar, Qui	0.38	62	eP	Pn	05 01 34.1	+1.0
STG8	El Palmar, Qui	0.38	58	eP	Pn	05 01 34.8	+1.5
CCIG	Comitan	2.07	348	eP	Pn	05 01 52.7	+0.7

*NEIC **09** 05:17:03.3±2.4, 9°.25S±0°.03×118°.46E±0°.08, h95km±9km, mb4.3/18, Error ellipse: s-maj=11.4km s-min=4.3km az=84.0*
*IDC **09** 05:17:04.4±3.2, 9°.17S×118°.57E, h106km±28km, mb3.8/10, mbtmp4.1/14, MS2.5/1, Error ellipse: s-maj=46.5km s-min=16.9km az=60.0*
*DJA **09** 05:17:05.5±0.3, 9°.5±3°×11°.9E±°, h77km±10km, M4.6/25, mb4.7/15, mB5.1/7, MLv4.8/25, Mw(mB)4.4/7*

ISC 09 05:17:03.2±0.5, 9°.28S±0°.05×118°.61E±0°.04, h100km, n79, σ2°.04/76, mb4.2/16, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.85	115	P	Pn	05 17 21.6	-0.6
PLAI	Plampang	0.94	298	P	Pn	05 17 23.5	+0.5
PLAI	Plampang	0.94	298	P	Sn	05 17 37.3	-0.5
PLAI	Plampang	0.94	298	P	Pn	05 17 23.9	+0.9
WSI	Waingapu	1.71	103	P	Pn	05 17 33.6	+1.5
TWSI	Taliwang, Sumb	1.79	287	P	Pn	05 17 34.7	+1.6
BASI	Baing, Sumba	2.15	116	P	Pn	05 17 41.1	+3.3
EDFI	Ende, Flores	3.09	81	P	Pn	05 17 52.0	+1.7
DNP	Denpasar	3.41	280	P	Pn	05 17 56.8	+2.3
SRBI	Singaraja	3.56	289	P	Pn	05 17 57.4	+0.9
BSSI	Bau Bau, Buton	3.63	31	P	Pn	05 17 57.6	+0.2
MMRI	Maumere	3.64	80		Pn	05 17 59.5	+1.9
MMRI	Maumere	3.64	80	P	Pn	05 17 59.9	+2.3
MMRI	Maumere	3.64	80	S	Sn	05 18 42.8	+3.1
MMRI	Maumere	3.64	80	P	Pn	05 17 59.8	+2.2
BKSI	Bulukumba	4.21	21	P	Pn	05 18 05.6	+0.4
KAPI	Kappang	4.38	15	P	Pn	05 18 08.5	+0.9
	18nm,0.3s,baz=195,slow=6.9,SNR=12						
KAPI				S	Sn	05 18 54.1	-3.5
	287nm,0.4s,baz=90,slow=23,SNR=69						
KAPI				LR	LR	05 19 54.1	
	comp=Z,59nm,20.4s,baz=184,slow=40						
KAPI	Kappang	4.38	15	P	Pn	05 18 08.8	+1.2
JAGI	Jajag, Banyuwa	4.48	280	Pn	Pn	05 18 07.7	-1.1
JAGI	Jajag, Banyuwa	4.48	280	P	Pn	05 18 09.9	+1.0
JAGI	Jajag, Banyuwa	4.48	280	S	Sn	05 19 00.5	+0.6
JAGI	Jajag, Banyuwa	4.48	280	P	Pn	05 18 09.1	+0.2
ABJI	Asem Bagus	4.57	288	P	Pn	05 18 13.4	+3.3
BNSI	Bone	5.07	17	P	Pn	05 18 20.6	+3.7
	0.8nm70nm,0.6s						
BATI	Baumata	5.07	101	P	Pn	05 18 17.9	+1.0
	80nm,0.5s,baz=249,slow=1.2,SNR=12						
BATI				S	Sn	05 19 15.0	+0.7
	81nm,0.3s,baz=56,slow=18,SNR=5.9						
BATI	Baumata	5.07	101	P	Pn	05 18 20.2	+3.3
KMMI	Kalianget	5.10	295	P	Pn	05 18 22.6	+5.3
	45nm,0.8s						
GMJI	Gumukmas	5.20	281	P	Pn	05 18 19.0	+0.3
	0.6nm65nm,0.7s						
SPSI	Sidrap Palu	5.40	12	P	Pn	05 18 22.8	+1.4
	0.4nm23nm,0.6s						
BBSI	Bau Bau	5.44	47	P	Pn	05 18 21.2	-0.8
	2μm129nm,0.9s						
SOEI	Soe	5.60	95	Pn	Pn	05 18 25.7	+1.5
SOEI	Soe	5.60	95	P	Pn	05 18 26.0	+1.8
SOEI	Soe	5.60	95	P	Pn	05 18 26.2	+2.0
	0.8nm2μm128nm,0.7s						
PCJI	Pacitan	7.42	278	P	Pn	05 18 51.5	+2.6
	64nm,1.9s						
UGM	Wanagama	8.11	279	Pn	Pn	05 18 57.3	-1.0
UGM	Wanagama	8.11	279	P	Pn	05 19 01.3	+3.0
	63nm,1.6s						
SANI	Sanana	10.27	46	P	Pn	05 19 29.9	+2.3
SANI	Sanana	10.27	46	P	Pn	05 19 30.3	+2.7
	42nm,0.8s						
NLAI	Namlea	10.35	55	P	Pn	05 19 33.4	+4.6
FITZ	Fitzroy Crossi	11.11	143	Pn	Pn	05 19 39.8	+0.7
FITZ	Fitzroy Crossi	11.11	143	P	Pn	05 19 39.6	+0.5
	4.1nm,0.4s,baz=337,slow=8.8,SNR=16						
FITZ				S	Sn	05 21 34.9	-6.5
	43nm,0.7s,baz=190,slow=16,SNR=14						
KNRA	Kununurra	11.78	124	Pn	Pn	05 19 49.1	+1.1
MBWA	Marble Bar	11.87	175	Pn	Pn	05 19 49.0	-0.1
MTN	Manton Dam	12.79	107	Pn	Pn	05 20 01.2	-0.2
GIRL	Giralia	13.94	197	Pn	Pn	05 20 15.9	-0.4
FAKI	Fak Fak	14.96	66		Pn	05 20 27.0	-2.5
FAKI				IAmb	IAmb	05 20 28.6	
	comp=Z,11nm,0.7s						
WB0	Warramunga Arr	18.48	126	Pn	Pn	05 21 14.1	+1.2
WRA	Warramunga Arr	18.53	127		Pn	05 21 14.4	+1.0
WRA	Warramunga Arr	18.53	127	P	Pn	05 21 14.6	+1.2
	comp=Z,2.9nm,0.8s,baz=303,slow=13,SNR=19						
WRA				S	S	05 24 32.1	-6.3
	comp=Z,1.2nm,0.4s,baz=243,slow=25,SNR=7.4						
WRAB	Tennant Creek	18.54	127	P	Pn	05 21 14.5	+1.1
WRAB				IAmb	IAmb	05 21 53.4	
	comp=Z,12nm,0.6s						
WB2	Warramunga Arr	18.54	127	P	Pn	05 21 14.7	+1.1
WB2				IAmb	IAmb	05 21 39.0	
	comp=Z,18nm,1.4s						
WR0	Warramunga Arr	18.70	126		Pn	05 21 16.7	+1.2
MORW	Morawa	19.84	187		P	05 21 26.8	+0.6
MORW				IAmb	IAmb	05 22 05.3	
	comp=Z,15nm,1.2s						
AS31	Alice Springs	20.46	136	P	P	05 21 34.6	+1.6
ASAR	Alice Springs	20.46	136	P	Pn	05 21 35.6	-0.5
ASAR	Alice Springs	20.46	136	P	Pn	05 21 36.1	+0.1
	comp=Z,1.3nm,0.5s,baz=312,slow=9.7,SNR=22						
ASAR				S	S	05 25 20.5	+3.8
	comp=Z,1.8nm,0.7s,baz=308,slow=24,SNR=5.6						
	comp=Z,1.3nm,0.5s						
COEN	Coen	24.50	103	P	P	05 22 15.5	+2.1
COEN				IAmb	IAmb	05 22 33.6	
	comp=Z,31nm,1.4s						
CMAR	Chiang Mai Arr	33.70	325	P	P	05 23 35.6	+0.5
	comp=Z,1.0nm,0.3s,baz=155,slow=6.9,SNR=7.0						
	comp=Z,1.0nm,0.3s						
H08S2	Diego Garcia H	45.62	268	T	T	06 14 54.6	
	baz=96,slow=76,SNR=7.8						
H08S3	Diego Garcia H	45.63	268	T	T	06 14 53.1	
	baz=96,slow=76,SNR=5.9						
H08S1	Diego Carcia H	45.64	268	T	T	06 14 57.9	
	baz=96,slow=76,SNR=4.2						
GTA	Gaotai	51.49	341	eP	P	05 26 00.4	+1.7
GTA				pP	pP	05 26 05.5	-17
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
USA0B	Ussuriysk Arra	54.59	12	P	P	05 26 20.8	-0.4
USA0B				IAmb	IAmb	05 26 21.5	
	comp=Z,3.3nm,0.8s						
USRK	Ussuriysk Ar.	54.59	12	P	P	05 26 20.1	-1.1
	comp=Z,1.7nm,0.5s,baz=201,slow=6.8,SNR=2.7						
	comp=Z,1.7nm,0.5s						
SONM	Songino Array	57.88	350	P	P	05 26 45.2	+0.4
	comp=Z,3.8nm,0.6s,baz=169,slow=8.5,SNR=28						
	comp=Z,3.8nm,0.6s						
HEH	HeiHe	59.77	7	eP	P	05 26 57.6	0.0
HEH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WUS	Wushi	61.93	327	P	P	05 27 10.8	-1.8
KBL	Kabul	64.02	316	P	P	05 27 25.2	-1.5
MKAR	Makanchi Array	64.53	333	P	P	05 27 29.4	-0.1
	comp=Z,1.1nm,0.5s,baz=147,slow=5.7,SNR=11						
	comp=Z,1.1nm,0.5s						
BOOM	Boomskoye usch	64.59	326		P	05 27 28.8	-1.4
BOOM				IAmb	IAmb	05 27 31.4	
	comp=Z,1.7nm,0.6s						
ARSB	Arslanbob	65.51	324	IAmb	IAmb	05 27 37.0	
	comp=Z,5.7nm,0.7s						
GAR	Garm	65.71	320	P	P	05 27 37.4	-0.1
KURBB	Kurchatov Arra	69.04	334	P	P	05 27 57.5	-0.5
	comp=Z,0.8nm,0.6s,baz=148,slow=5.7,SNR=8.7						
	comp=Z,0.8nm,0.6s						
ZALV	Zalesovo Beam	69.16	339	P	P	05 27 57.5	-1.2
	comp=Z,1.5nm,0.5s,baz=147,slow=3.5,SNR=5.2						
	comp=Z,1.5nm,0.5s						
PETK	Petropavlovsk-	70.48	24	P	P	05 28 07.3	+0.4
	comp=Z,1.2nm,0.7s,baz=222,slow=6.9,SNR=1.6						
	comp=Z,1.2nm,0.7s						
BVAR	Borovoye Array	74.36	332	P	P	05 28 29.8	-0.1
	comp=Z,1.2nm,0.7s,baz=119,slow=5.8,SNR=6.5						
	comp=Z,1.2nm,0.7s						
ABKAR	Akbulak array	77.56	325		P	05 28 46.7	-1.4
ABKAR	Akbulak array	77.56	325	IAmb	IAmb	05 28 48.8	
	comp=Z,4.1nm,0.9s						
NRIK	Noril'sk	81.35	349	P	P	05 29 07.1	-1.1
	comp=Z,1.6nm,0.6s,baz=157,slow=6.4,SNR=4.1						
	comp=Z,1.6nm,0.6s						

TXNET 09 05:19:21.3, 31°.0N±0°.9×103°.5W±0°.6, h5km±1km, ML1.4/7, 1C, Error ellipse: s-maj=1.3km s-min=0.9km az=10.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	Saragosa	0.05	8	P	Pg	05 19 23.0	+0.2
TPB03				S	Sg	05 19 24.2	+0.5
TPB05	Hovey Rd	0.20	123	P	Pg	05 19 25.9	+0.5
TPB05				S	Sg	05 19 29.7	+1.7
TPB01	Permian Basin	0.24	248	↑P	Pg	05 19 26.7	+0.7
TPB01				S	Sg	05 19 30.7	+1.5
TPB16	Coyonosa	0.25	68	P	Pg	05 19 27.6	+1.3
TPB16				S	Sg	05 19 31.9	+2.3
TPB16	Coyonosa	0.25	68	P	Pg	05 19 27.4	+1.2
TPB16				S	Sg	05 19 31.9	+2.3
TPB04	Verhalen	0.27	55	P	Pb	05 19 28.0	-0.7
TPB04				S	Sb	05 19 32.4	-1.2
TPB10	Southeast of T	0.32	322	S	Sb	05 19 35.0	-0.2
PCOS	Crockett Middl	0.38	2	S	Sb	05 19 37.6	+0.8
TPB12	Southwest of T	0.41	296	S	Sb	05 19 36.7	-1.2
PECS	Pecos	0.45	319	S	Sb	05 19 38.0	-0.9
TPB08	Permian Basin	0.55	105	P	Pb	05 19 32.7	-0.8
TPB08				S	Sb	05 19 40.9	-0.8
ALPN	Alpine	0.66	189	P	Pg	05 19 34.2	+0.1
ALPN				S	Sg	05 19 43.0	+0.2
MNHN	Monahans	0.72	65	P	Pg	05 19 35.5	+0.3
MNHN

QSPA LR LR 05 50 27.6
comp=Z,102nm,18.9s,baz=230,slow=34
2.5nm,1.0s
H01W2 Cape Leeuwin H 53.79 107 T T 06 29 38.3
baz=242,slow=75,SNR=14
H01W3 Cape Leeuwin H 53.80 107 T T 06 29 38.9
baz=242,slow=75,SNR=12
H01W1 Cape Leeuwin H 53.80 107 T T 06 29 39.5
baz=242,slow=75,SNR=13
VNDA Vanda 55.73 166 LR LR 05 55 15.1
comp=Z,92nm,18.1s,baz=199,slow=36
PALK Pallekele 58.34 43 LR LR 05 50 46.7
comp=Z,61nm,19.3s,baz=181,slow=29
PSI Prapat 65.80 63 LR LR 05 56 58.9
comp=Z,156nm,18.5s,baz=248,slow=32
EIL Elat 70.92 351 LR LR 06 03 37.4
comp=Z,24nm,19.0s,baz=250,slow=35
WRA Warramunga Arr 76.93 105 P **P 05 34 05.3 +0.1**
1.0nm,0.8s,baz=224,slow=5.0,SNR=5.4
1.0nm,0.8s
CMAR Chiang Mai Arr 77.66 52 P **P 05 34 09.2 +0.1**
1.6nm,0.3s,baz=229,slow=7.8,SNR=6.8
CMAR LR LR 06 02 04.5
comp=Z,22nm,20.2s,baz=205,slow=31
1.6nm,0.3s
PLCA Paso Flores 79.64 224 LR LR 06 03 51.6
comp=Z,45nm,18.9s,baz=170,slow=31
CPUP Villa Florida 81.54 243 P **P 05 34 30.6 +0.4**
1.4nm,0.9s,baz=156,slow=3.4,SNR=3.1
1.4nm,0.9s
MDT Midelt 86.40 320 LR LR 06 14 04.8
comp=Z,24nm,18.2s,baz=160,slow=36
ESDC Sonseca Array 91.72 325 LR LR 06 17 32.3
comp=Z,24nm,19.8s,baz=105,slow=36
AKTO Aktyubinsk 91.83 8 LR LR 06 16 31.9
comp=Z,13nm,18.0s,baz=280,slow=36
DAVOX Davos/Dischmat 92.76 337 LR LR 06 19 26.9
comp=Z,20nm,18.5s,baz=244,slow=37
LPAZ La Paz 95.71 243 LR LR 06 13 54.2
comp=Z,32nm,19.7s,baz=238,slow=32
ARTI Arti 97.74 8 LR LR 06 20 58.7
comp=Z,16nm,20.0s,baz=228,slow=36
KIRV Kirov 99.33 3 LR LR 06 20 35.0
comp=Z,29nm,21.2s,baz=219,slow=35
TXAR Lajitas Array 151.78 256 PKPbc **PKiKP 05 42 07.8 0.0**
1.6nm,0.7s,baz=132,slow=5.1,SNR=24
YKA Yellowknife Ar 155.20 337 PKPbc PKPbc 05 42 12.4
0.2nm,0.8s,baz=37,slow=2.1,SNR=3.9
YKA PKPab **PKPab 05 42 29.0 -0.6**
0.6nm,0.7s,baz=40,slow=4.7,SNR=14

*NEIC **09** 05:26:41.5±1.3, 19°.99N±0°.02×155°.49W±0°.02, h35km±5km, Error ellipse: s-maj=4.5km s-min=1.4km az=221.0*
HVO 09 05:26:42.1±0.7, 20°.03N±0°.02×155°.53W±0°.03, h40km±3km, ML2.4/15, ML2.6/35(NEIC), Error ellipse: s-maj=4.3km s-min=2.9km az=85.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.16 269**			Pn	05 26 48.0	-1.2
HPAH					Sn	05 26 52.4	-1.7
HPAH	**Hawaii Prepara**	**0.16 269**		IAML		05 26 52.6	
HPAH	comp=N,920nm,0.2s			IAML		05 26 52.7	
	comp=E,930nm,0.1s						
POHA	**Pohakuloa**	**0.27 180**			Pn	05 26 49.1	-1.3
HMH	**Humu'ula Sheep**	**0.43 174**			Pn	05 26 51.2	-1.0
HMH					Sn	05 26 58.1	-1.2
HMH	**Humu'ula Sheep**	**0.43 174**		IAML		05 26 58.6	
HMH	comp=E,177nm,0.2s			IAML		05 27 05.2	
	comp=N,236nm,4.0s						
HUH	**Hualalai**	**0.45 220**			Sn	05 26 59.8	+0.1
HUH				IAML		05 27 01.8	
	comp=E,248nm,1.2s						
HUH				IAML		05 27 03.3	
	comp=N,287nm,0.2s						
HUH	**Hualalai**	**0.45 220**			Pn	05 26 51.4	-1.1
ALEP	**Alea Permanent**	**0.50 192**			Pn	05 26 52.1	-1.1
ALEP					Sn	05 26 59.5	-1.4
MWH	**Mokuaweoweo**	**0.55 187**			Pn	05 26 52.4	-1.6
MWH					Sn	05 27 00.4	-1.9
MWH	**Mokuaweoweo**	**0.55 187**		IAML		05 27 08.3	
	comp=E,279nm,2.2s						
MWH				IAML		05 27 16.1	
	comp=N,297nm,3.5s						
MLH	**Mauna Loa**	**0.55 166**			Sn	05 27 00.2	-1.9
MLH	**Mauna Loa**	**0.55 166**			Pn	05 26 52.6	-1.2
MLH	**Mauna Loa**	**0.55 166**		IAML		05 26 56.8	
	comp=E,138nm,4.9s						
MLH				IAML		05 27 00.1	
	comp=N,250nm,2.4s						
RSD	**Rainshed**	**0.61 157**			Pn	05 26 53.4	-1.2
RSD					Sn	05 27 01.6	-1.7
UWE	**Uwekahuna**	**0.65 160**			Pn	05 26 53.5	-1.5
UWE					Sn	05 27 02.3	-1.9
UWE	**Uwekahuna**	**0.65 160**		IAML		05 27 02.8	
	comp=E,317nm,0.4s						
UWE				IAML		05 27 03.2	
	comp=N,449nm,3.0s						
UWB	**Uwekahuna Bluf**	**0.65 158**			Pn	05 26 53.4	-1.6
UWB					Sn	05 27 01.7	-2.5
SBLHI	**Steaming Bluff**	**0.65 158**			Pn	05 26 53.4	-1.6
SBLHI					Sn	05 27 02.0	-2.2
OBL	**Observatory Le**	**0.66 159**			Pn	05 26 53.5	-1.5
OBL					Sn	05 27 02.0	-2.3
HATHI	**Halema'uma'u T**	**0.66 157**			Pn	05 26 53.5	-1.6
HATHI					Sn	05 27 01.9	-2.5
HATHI	**Halema'uma'u T**	**0.66 157**		IAML		05 27 01.9	
	comp=E,152nm,3.8s						
HATHI				IAML		05 27 16.0	
	comp=N,179nm,4.0s						
WRMHI	**West Rim**	**0.66 161**			Pn	05 26 53.5	-1.6
WRMHI					Sn	05 27 02.2	-2.2
BYL	**Byron's Ledge**	**0.67 158**			Sn	05 27 02.3	-2.3
BYL	**Byron's Ledge**	**0.67 158**			Pn	05 26 53.6	-1.6
BYL				IAML		05 27 05.4	
	comp=N,184nm,4.0s						
BYL	**Byron's Ledge**	**0.67 158**		IAML		05 27 02.1	
	comp=E,173nm,3.2s						
SDHHI	**Sand Hill**	**0.68 161**			Pn	05 26 53.8	-1.6
SDHHI					Sn	05 27 02.3	-2.6
KKO	**Keanakako'i**	**0.68 158**			Pn	05 26 53.8	-1.6
RIM	**Rim**	**0.68 159**			Pn	05 26 53.8	-1.6
RIM					Sn	05 27 02.9	-2.0
PUH	**Pauahi**	**0.72 156**			Pn	05 26 54.2	-1.7
PUH					Sn	05 27 03.4	-2.5
PUH	**Pauahi**	**0.72 156**		IAML		05 27 06.8	
	comp=N,235nm,2.7s						
PUH				IAML		05 27 21.0	
	comp=E,195nm,4.5s						
KNHH	**Kane Nui o Ham**	**0.73 152**			Pn	05 26 54.6	-1.5
STCH	**Steam Cracks**	**0.75 149**			Pn	05 26 54.7	-1.6
STCH					Sn	05 27 03.9	-2.6
NPOC	**North of Pu'u**	**0.75 148**			Pn	05 26 54.7	-1.6
NPOC					Sn	05 27 04.0	-2.6
JCUZ	**Jacuzzi**	**0.76 148**			Pn	05 26 54.8	-1.6
JCUZ					Sn	05 27 04.2	-2.7
HLP	**Hilina Pali**	**0.76 164**			Pn	05 26 54.9	-1.6
HLP					Sn	05 27 04.5	-2.3
JOKA	**Jonika Flow**	**0.78 140**			Pn	05 26 55.0	-1.6
JOKA				IAML		05 27 06.8	
	comp=E,134nm,3.3s						
JOKA	**Jonika Flow**	**0.78 140**			Sn	05 27 04.5	-2.6
JOKA	**Jonika Flow**	**0.78 140**		IAML		05 27 01.9	
	comp=N,234nm,4.0s						
KHU	**Kahuku**	**0.79 186**			Pn	05 26 55.3	-1.7
KHU					Sn	05 27 05.1	-2.5
HTC	**Hot Caves**	**0.80 171**			Pn	05 26 55.5	-1.5

*IDC **09** 05:37:25.7±2.6, 24°.50N×142°.15E, h71km±24km, mb3.3/7, mbtmp3.7/8, MS2.6/1, Error ellipse: s-maj=35.1km s-min=17.6km az=91.0*
ISC 09 05:37:22.0±1.1, 24°.3N±0°.1×142°.2E±0°.3, h35km, n9, σ1°80/9, mb3.6/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.77 360**		P	**Pn**	**05 38 06.8**	**+2.8**
JCJ	53nm,0.3s,baz=104,slow=18,SNR=8.3			S	**Sn**	**05 38 36.0**	**-0.3**
	62nm,0.5s,baz=284,slow=22,SNR=1.7						
KSRS	**Korea Array**	**17.91 320**		LR	LR	05 48 05.0	
	comp=Z,20nm,19.6s,baz=235,slow=36						
WRA	**Warramunga Arr**	**44.65 191**		P	**P**	**05 45 32.5**	**+1.1**
	2.9nm,0.8s,baz=11,slow=8.5,SNR=12						
	2.9nm,0.8s						
ASAR	**Alice Springs**	**48.37 190**		P	**P**	**05 46 01.7**	**+1.2**
	0.4nm,0.7s,baz=14,slow=11,SNR=6.5						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**52.28 311**		P	**P**	**05 46 29.1**	**-0.9**
	0.1nm,0.3s,baz=94,slow=8.7,SNR=2.5						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**55.01 316**		P	**P**	**05 46 47.8**	**-2.0**
	0.5nm,0.4s,baz=92,slow=8.0,SNR=7.3						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**60.11 319**		P	**P**	**05 47 24.9**	**-0.8**
	0.9nm,0.4s,baz=76,slow=6.6,SNR=5.4						
	0.9nm,0.4s						
ILAR	**Eielson Array**	**60.15 28**		P	**P**	**05 47 24.2**	**-1.6**
	0.4nm,0.7s,baz=280,slow=6.5,SNR=4.2						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**74.58 28**		P	**P**	**05 48 56.4**	**-0.7**
	0.3nm,0.7s,baz=292,slow=6.0,SNR=5.3						
	0.3nm,0.7s						

*DNK **09** 05:49:42.5±1.4, 58°.77N×18°.79E, h0km, ML2.6, Explosion*
*UPP **09** 05:49:42.5±0.2, 58°.80N×18°.82E, h0km, ML2.2, Unknown*
*HEL **09** 05:49:43.4±0.1, 58°.81N×18°.76E, h0km, ML1.8, Explosion*
*IDC **09** 05:49:44.4±1.9, 58°.82N×18°.64E, h0km, mbtmp3.0/4, ML2.1/3, Error ellipse: s-maj=22.5km s-min=8.4km az=178.0*
ISC 09 05:49:42.1±0.8, 58°.81N±0°.02×18°.81E±0°.03, h0km, n45, σ1°13/54, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.46 295**		P	**Pg**	**05 49 51.4**	**+0.6**
NYNU				S	**Sg**	**05 49 57.6**	**+0.8**
NYNU	**Nynaeshamn**	**0.46 295**		P	**Pg**	**05 49 51.4**	**+0.6**
NYNU				S	**Sg**	**05 49 57.6**	**+0.8**
NRTU	**Norrtaelje**	**0.87 354**		P	**Pg**	**05 49 58.9**	**+0.1**
NRTU				S	**Sg**	**05 50 10.8**	**+0.7**
NRTU	**Norrtaelje**	**0.87 354**		P	**Pg**	**05 49 58.9**	**+0.1**
NRTU				S	**Sg**	**05 50 10.8**	**+0.7**
NRTU	**Norrtaelje**	**0.87 354**		*e*P	**Pg**	**05 49 59.1**	**+0.3**
NRTU				*e*S	**Sg**	**05 50 10.2**	**+0.1**
NRTU				MSG		05 50 11.8	
	comp=Z,14nm,0.1s						
GOTU	**Gotland**	**1.14 186**		P	**Pg**	**05 50 03.5**	**-0.3**
GOTU	**Gotland**	**1.14 186**		P	**Pg**	**05 50 03.5**	**-0.3**
GOTU	**Gotland**	**1.14 186**		*e*P	**Pg**	**05 50 03.5**	**-0.3**
GOTU				*e*S	**Sg**	**05 50 18.5**	**0.0**
GOTU				MSG		05 50 18.7	
	comp=Z,3.5nm,0.1s						
VIKU	**Vikbolandet**	**1.14 255**		P	**Pg**	**05 50 03.8**	**-0.2**
VIKU	**Vikbolandet**	**1.14 255**		P	**Pg**	**05 50 03.8**	**-0.2**
UPP	**Uppsala**	**1.21 331**		P	**Pg**	**05 50 05.4**	**+0.1**
UPP	**Uppsala**	**1.21 331**		P	**Pg**	**05 50 05.4**	**+0.1**
ESKU	**Eskilstuna**	**1.32 290**		P	**Pg**	**05 50 06.9**	**-0.4**
ESKU	**Eskilstuna**	**1.32 290**		P	**Pg**	**05 50 06.9**	**-0.4**
BACU	**Backbrunna**	**1.36 321**		P	**Pg**	**05 50 07.8**	**-0.3**
BACU	**Backbrunna**	**1.36 321**		P	**Pg**	**05 50 07.8**	**-0.3**
FLYU	**Flymyra**	**1.40 341**		P	**Pn**	**05 50 08.8**	**-0.1**
FLYU	**Flymyra**	**1.40 341**		P	**Pn**	**05 50 08.8**	**-0.1**
GRAU	**Graesoe**	**1.54 355**		P	**Pn**	**05 50 10.7**	**0.0**
GRAU	**Graesoe**	**1.54 355**		P	**Pn**	**05 50 10.7**	**0.0**
FORU	**Forsmark**	**1.61 349**		P	**Pb**	**05 50 12.5**	**-0.1**
FORU	**Forsmark**	**1.61 349**		P	**Pb**	**05 50 12.5**	**-0.1**
OSTU	**Oestervaala**	**1.66 330**		P	**Pn**	**05 50 12.9**	**+0.6**
OSTU	**Oestervaala**	**1.66 330**		P	**Pn**	**05 50 12.9**	**+0.6**
BYXU	**Byxelkrok**	**1.80 213**		P	**Pn**	**05 50 14.9**	**+0.6**
BYXU	**Byxelkrok**	**1.80 213**		P	**Pn**	**05 50 14.9**	**+0.6**
SLIT	**Slitere, Latvi**	**2.19 121**		*e*P	**Pn**	**05 50 20.6**	**+0.9**
SLIT				*e*SG	**Sb**	**05 50 51.2**	**+1.0**
MTSE	**Matsula**	**2.61 90**		*e*P	**Pn**	**05 50 25.6**	**+0.2**
MTSE				*e*S	**Sn**	**05 50 58.8**	**+1.0**
RAF	**Rauma**	**2.67 33**		*e*PB	**Pb**	**05 50 28.9**	**-1.8**
RAF				*e*SB	**Sb**	**05 51 04.6**	**+0.6**
RAF				MSG		05 51 07.9	
	comp=Z,5.2nm,0.1s						
HFS	**Hagfors**	**2.93 299**		Pn	**Pn**	**05 50 30.6**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=119,slow=17,SNR=16						
HFS				Lg	Lg	05 51 11.5	
	comp=Z,3.3nm,0.3s,baz=118,slow=30,SNR=7.8						
	comp=Z,2.3nm,0.3s						
BLEU	**Blekinge**	**2.98 214**		*i* P	**Pn**	**05 50 31.5**	**+0.9**
MEF	**Metsahovi**	**3.18 61**		MSG		05 51 26.1	
	comp=Z,3.5nm,0.1s						
BORU	**Boraas**	**3.40 252**		*i* P	**Pn**	**05 50 35.1**	**-1.2**
KPF	**Kankaanpaa**	**3.44 27**		*e*P	**Pn**	**05 50 38.7**	**+1.9**
DEL	**Delary**	**3.54 231**		*i* P	**Pn**	**05 50 38.0**	**-0.2**
ONAU	**Onsala**	**3.92 252**		*e*P	**Pn**	**05 50 43.8**	**+0.4**
STRU	**Stroemstad**	**3.96 277**		*e*P	**Pn**	**05 50 45.6**	**+1.7**
STRU	**Stroemstad**	**3.96 277**		*i* P	**Pn**	**05 50 44.6**	**+0.7**
NC602	**NORSAR Array S**	**4.15 301**		*e*P	**Pn**	**05 50 48.5**	**+1.9**
BJUU	**Bjuv**	**4.16 231**		*i* P	**Pn**	**05 50 46.8**	**+0.1**
BSD	**Bornholm Skovb**	**4.27 212**		IAML		05 52 05.5	
	comp=Z,6.6nm,0.3s						
LUNU	**Lund**	**4.32 225**		*i* P	**Pn**	**05 50 48.6**	**-0.3**
NOA	**NORSAR Array B**	**4.42 304**		Pn	**Pn**	**05 50 51.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=122,slow=15,SNR=14						
NOA				Lg	Lg	05 52 00.8	
	comp=Z,0.3nm,0.3s,baz=141,slow=23,SNR=7.6						
	comp=Z,0.3nm,0.4s						
FINES	**FINESS Array B**	**4.49 51**		Pn	**Pn**	**05 50 53.2**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=238,slow=12,SNR=6.9						
FINES				Sn	**Sn**	**05 51 45.8**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=244,slow=24,SNR=7.8						
	comp=Z,3.5nm,0.9s						
ARCES	**ARCESS Array B**	**11.15 12**		Pn	**Pn**	**05 52 20.8**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=194,slow=12,SNR=16						
ARCES				Sn	**Sn**	**05 54 22.1**	**-5.5**
	comp=Z,0.2nm,0.3s,baz=186,slow=22,SNR=2.4						

*ASRS **09** 05:55:34.0±1.1, 53°.54N×87°.67E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 09 05:55:36.4±2.9, 53°.51N×87°.66E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.6km s-min=16.6km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74 286**		I	I	06 07 20.0	
	0.1nm,0.9s,baz=100,slow=327,SNR=9.2						
ZALV	**Zalesovo Beam**	**1.74 286**		Pn	Pn	05 56 07.8	-0.1
	0.8nm,0.3s,baz=105,slow=16,SNR=10						
ZALV				Lg	Lg	05 56 31.6	
	1.0nm,0.3s,baz=105,slow=27,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.33 246**		Pn	Pn	05 57 11.5	+0.6
	baz=62,slow=14,SNR=4.7						
KURBB				Lg	Lg	05 58 55.2	
	baz=61,slow=30,SNR=5.7						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.56 209**		Pn	Pn	05 57 29.1	+1.3
	0.2nm,0.3s,baz=32,slow=13,SNR=5.7						
MKAR				Lg	Lg	05 59 35.9	
	0.1nm,0.3s,baz=28,slow=31,SNR=3.5						
	0.2nm,0.3s						

*NEIC **09** 05:56:18.4±2.4, 20°.11N±0°.03×155°.45W±0°.02, h10km±1km, Error ellipse: s-maj=5.5km s-min=3.0km az=212.0*
HVO 09 05:56:17.4±2.4, 20°.20N±0°.03×155°.42W±0°.03, h12km±7km, ML2.3/3, ML2.5/30(NEIC), Error ellipse: s-maj=5.5km s-min=2.4km az=210.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.31 237**			Pg	05 56 23.5	-0.2
HPAH					Sg	05 56 28.1	+0.1
HPAH	**Hawaii Prepara**	**0.31 237**		IAML		05 56 28.5	
	comp=E,185nm,0.2s						
HPAH				IAML		05 56 28.9	
	comp=N,191nm,0.3s						
POHA	**Pohakuloa**	**0.45 193**			Pg	05 56 25.5	-0.8
POHA					Sg	05 56 31.5	-0.9
HMH	**Humu'ula Sheep**	**0.60 185**			Pg	05 56 27.9	-1.3
HMH	**Humu'ula Sheep**	**0.60 185**			Sg	05 56 36.1	-1.0
HMH	**Humu'ula Sheep**	**0.60 185**		IAML		05 56 31.9	
	comp=E,207nm,4.8s						
HMH				IAML		05 56 33.1	
	comp=N,182nm,4.8s						
HUH	**Hualalai**	**0.64 217**		Pg	Pg	05 56 29.9	-0.1
HUH				IAML		05 56 36.7	
	comp=N,320nm,3.1s						
HUH				IAML		05 56 44.5	
	comp=E,369nm,4.5s						
ALEP	**Alea Permanent**	**0.69 198**			Pg	05 56 29.3	-1.5
ALEP					Sg	05 56 38.0	-2.0
MLH	**Mauna Loa**	**0.70 177**			Pg	05 56 29.2	-1.9
MLH					Sg	05 56 38.1	-2.3
MLH	**Mauna Loa**	**0.70 177**		IAML		05 56 53.9	
	comp=N,310nm,4.0s						
MWH	**Mokuaweoweo**	**0.73 193**			Pg	05 56 29.7	-2.0
MWH				IAML		05 56 53.5	
	comp=E,319nm,2.7s						
MWH	**Mokuaweoweo**	**0.73 193**			Sg	05 56 38.8	-2.5
MWH	**Mokuaweoweo**	**0.73 193**		IAML		05 56 35.7	
	comp=N,284nm,4.6s						
RSD	**Rainshed**	**0.75 169**		Pg	Pg	05 56 30.2	-1.7
SBLHI	**Steaming Bluff**	**0.78 169**			Pg	05 56 29.9	-2.7
SBLHI					Sg	05 56 39.5	-3.3
UWB	**Uwekahuna Bluf**	**0.78 170**			Pg	05 56 30.1	-2.5
UWE	**Uwekahuna**	**0.79 171**			Pg	05 56 30.1	-2.5
UWE					Sg	05 56 39.5	-3.5
HATHI	**Halema'uma'u T**	**0.79 169**			Pg	05 56 30.0	-2.7
HATHI					Sg	05 56 39.3	-3.7
HATHI	**Halema'uma'u T**	**0.79 169**		IAML		05 56 40.7	
	comp=N,192nm,4.5s						
HATHI				IAML		05 56 59.5	
	comp=E,173nm,0.8s						
OBL	**Observatory Le**	**0.79 170**			Pg	05 56 30.1	-2.7
OBL					Sg	05 56 40.2	-2.9
WRMHI	**West Rim**	**0.80 172**			Pg	05 56 30.1	-2.7
WRMHI					Sg	05 56 39.8	-3.5
KKO	**Keanakako'i**	**0.81 169**			Pg	05 56 30.4	-2.7
SDHHI	**Sand Hill**	**0.82 171**			Pg	05 56 30.5	-2.7
PUH	**Pauahi**	**0.84 167**			Pg	05 56 30.8	-2.9
PUH					Sg	05 56 40.5	-4.3
PUH	**Pauahi**	**0.84 167**		IAML		05 56 43.5	
	comp=E,134nm,1.9s						
PUH				IAML		05 56 47.2	
	comp=N,194nm,2.6s						
KNHH	**Kane Nui o Ham**	**0.85 164**			Pg	05 56 30.4	-3.4
NPOC	**North of Pu'u**	**0.86 160**			Pg	05 56 30.9	-3.0
STCH	**Steam Cracks**	**0.86 161**			Pg	05 56 30.9	-3.1
STCH				IAML		05 56 53.2	
	comp=E,190nm,4.1s						
STCH	**Steam Cracks**	**0.86 161**			Sg	05 56 40.5	-4.7
STCH	**Steam Cracks**	**0.86 161**		IAML		05 56 38.0	
	comp=N,158nm,4.0s						
JOKA	**Jonika Flow**	**0.86 153**			Pg	05 56 31.0	-3.0
JOKA					Sg	05 56 41.2	-4.0
JOKA	**Jonika Flow**	**0.86 153**		IAML		05 56 48.5	
	comp=E,149nm,3.2s						
HTC	**Hot Caves**	**0.96 179**			Pg	05 56 32.5	-3.4
KHU	**Kahuku**	**0.97 191**			Pg	05 56 32.6	-3.5

*IDC **09** 06:04:40.4±1.6, 20°.80S×178°.41W, h539km±16km, mb3.6/11, mbtmp4.4/13, Error ellipse: s-maj=20.0km s-min=11.9km az=146.0*
*NOU **09** 06:04:40.3, 21°.12S×178°.42W, h500km, mb4.4/12, Fiji Islands Region*
*NEIC **09** 06:04:41.8±2.8, 20°.7S±0°.1×178°.4W±0°.1, h549km±7km, mb4.4/72, Error ellipse: s-maj=21.1km s-min=16.2km az=142.0*
ISC 09 06:04:41.0±0.4, 20°.91S±0°.07×178°.37W±0°.08, h550km, n125, σ1°29/105, mb4.4/46, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.62 312**		P	**P**	**06 06 05.6**	**-2.4**
MSVF	**Nonsavu**	**4.62 312**		P	**P**	**06 06 05.7**	**-2.2**
	77nm,0.7s,baz=130,slow=4.4,SNR=71						
MSVF	**Nonsavu**	**4.62 312**		P	**P**	**06 06 05.0**	**-2.9**
YSA	**Yasawairara**	**5.68 317**		P	**P**	**06 06 13.6**	**-3.2**
FUTU	**Fugatoga**	**6.57 2**		P	**P**	**06 06 22.0**	**-3.0**
NIUE	**Niue**	**8.14 79**		P	**P**	**06 06 42.3**	**+2.1**
GLKZ	**Green Lake**	**8.33 177**		P	**P**	**06 06 39.4**	**-2.5**
GLKZ				S	**S**	**06 08 18.5**	**-2.6**
DVP	**Devils Point**	**13.08 282**		P	**P**	**06 07 29.8**	**-1.0**
PINNC	**Pines Island,**	**13.29 260**		P	**P**	**06 07 34.1**	**+1.2**
OUZ	**Omahuta**	**15.91 205**		P	**P**	**06 08 00.6**	**+1.0**
WCZ	**Waipu Caves**	**16.28 202**		P	**P**	**06 08 04.7**	**+1.7**
KUZ	**Kuaotunu**	**16.60 197**		P	**P**	**06 08 08.9**	**+2.9**
MXZ	**Matakaoa Point**	**16.85 189**		P	**P**	**06 08 07.4**	**-0.8**
MKAZ	**Moumakai**	**17.09 198**		P	**P**	**06 08 12.5**	**+2.1**
HAZ	**Te Kaha**	**17.12 190**		P	**P**	**06 08 10.5**	**-0.1**
RUGZ	**Raukumara Rang**	**17.34 191**		P	**P**	**06 08 13.0**	**+0.2**
TWGZ	**Tauwhareparae**	**17.50 190**		P	**P**	**06 08 15.1**	**+1.0**
MWZ	**Matawai**	**17.73 191**		P	**P**	**06 08 15.5**	**-0.7**
URZ	**Urewera**	**17.73 192**		P	**P**	**06 08 15.3**	**-0.9**
	5.9nm,0.3s,baz=26,slow=3.6,SNR=10						
URZ	**Urewera**	**17.73 192**		P	**P**	**06 08 16.1**	**-0.1**
URZ	**Urewera**	**17.73 192**		P	**P**	**06 08 14.6**	**-1.6**
HLRZ	**Highlands Stat**	**17.88 194**		P	**P**	**06 08 18.6**	**+0.9**
RAGZ	**Rawiri**	**17.90 191**		P	**P**	**06 08 17.5**	**-0.4**
RIGZ	**Rimuhau**	**18.05 190**		P	**P**	**06 08 19.7**	**+0.4**
BKZ	**Black Stump Fm**	**18.73 193**		P	**P**	**06 08 25.0**	**-0.4**
BKZ	**Black Stump Fm**	**18.73 193**		P	**P**	**06 08 24.3**	**-1.1**
TMVZ	**Te Maari**	**18.85 194**		P	**P**	**06 08 26.4**	**-0.2**
SNVZ	**South Ngauruho**	**18.93 194**		P	**P**	**06 08 27.5**	**+0.1**
BFZ	**Birch Farm**	**20.24 192**		P	**P**	**06 08 38.9**	**-0.2**
TCW	**Tory Channel**	**21.18 196**		P	**P**	**06 08 48.3**	**+0.7**
QRZ	**Quartz Range**	**21.31 199**		P	**P**	**06 08 48.8**	**0.0**
KHZ	**Kahutara**	**22.50 196**		P	**P**	**06 08 59.3**	**-0.1**
TATA	**Tatamba Isabel**	**24.47 297**		P	**P**	**06 09 20.7**	**+3.4**
COEN	**Coen**	**37.27 274**		P	**P**	**06 11 07.0**	**+0.2**
COEN				IAmb	IAmb	06 11 49.5	
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**37.30 245**		P	**P**	**06 11 08.2**	**+1.3**
STKA	**Stephens Creek**	**37.30 245**		P	**P**	**06 11 07.8**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=106,slow=11,SNR=4.6						
	comp=Z,4.0nm,0.8s						
BBOO	**Buckleboo**	**42.06 244**		P	**P**	**06 11 45.3**	**+0.3**

NVAR	Mina Array Bea	81.56	43	P		P	06 16 02.1	+0.3
	comp=Z,2.2nm,0.8s,baz=223,slow=8.7,SNR=12							
	comp=Z,2.2nm,0.8s							
N14K	Kuskokwak Cree	81.68	8	P		P	06 16 02.1	+0.5
O16K	Kokwok River B	81.91	10	P		P	06 16 01.6	-1.2
O16K				IAmb		IAmb	06 16 05.5	
	comp=Z,13nm,1.4s							
N15K	Kwethluk River	82.15	9	P		P	06 16 04.6	+0.5
N15K				IAmb		IAmb	06 16 06.0	
	comp=Z,13nm,1.1s							
P18K	Big Mountain,	82.23	12	P		P	06 16 03.8	-0.7
P18K				IAmb		IAmb	06 16 05.0	
	comp=Z,13nm,1.1s							
J05D	Fort Rock, OR	82.64	38	P		P	06 16 08.5	+1.4
J05D				IAmb		IAmb	06 16 09.1	
	comp=Z,12nm,0.7s							
O18K	Koktuh Hills	82.67	12	P		P	06 16 06.5	-0.2
O18K				IAmb		IAmb	06 16 07.5	
	comp=Z,15nm,0.8s							
L14K	Kuka Creek	82.93	8	P		P	06 16 08.5	+0.6
L14K				IAmb		IAmb	06 16 09.1	
	comp=Z,7.9nm,0.9s							
PINE	Pine Mountain	83.12	38	P		P	06 16 11.0	+1.4
PINE				IAmb		IAmb	06 16 11.7	
	comp=Z,14nm,1.0s							
M16K	Timber Creek	83.13	9	P		P	06 16 09.6	+0.6
M16K				IAmb		IAmb	06 16 11.5	
	comp=Z,8.8nm,0.9s							
ILSW	Iliamna Southw	83.19	12	P		P	06 16 08.7	-0.7
ILSW				IAmb		IAmb	06 16 09.8	
	comp=Z,14nm,0.9s							
M17K	Holitna River	83.73	10	IAmb		IAmb	06 16 13.2	
	comp=Z,9.4nm,1.1s							
K15K	Wolf Creek Mou	83.99	8	IAmb		IAmb	06 16 15.5	
	comp=Z,6.9nm,0.9s							
ELIB	Princess Elisa	86.20	187	*d*P		P	06 16 23.9	-0.2
	comp=Z,2.9nm,0.7s							
F10A	Beach Ranch, E	86.53	38	P		P	06 16 25.7	-0.3
F10A				IAmb		IAmb	06 16 27.5	
	comp=Z,9.5nm,0.8s							
TRF	Thorofare Moun	86.92	12	IAmb		IAmb	06 16 27.3	
	comp=Z,9.5nm,0.8s							
RND	Reindeer	87.17	13	P		P	06 16 26.7	-1.8
VHRN	Van Horn	87.17	56	P		P	06 16 30.9	+1.5
MCK	McKinley	87.44	13	IAmb		IAmb	06 16 29.9	
	comp=Z,11nm,1.2s							
TXAR	Lajitas Array	87.56	57	P		P	06 16 31.8	+0.6
	comp=Z,1.6nm,0.9s,baz=216,slow=6.6,SNR=16							
	comp=Z,1.6nm,0.9s							
HDA	Harding Lake	88.45	13	IAmb		IAmb	06 16 34.5	
	comp=Z,4.8nm,0.6s							
H21K	Melozitna Rive	88.47	10	IAmb		IAmb	06 16 36.2	
	comp=Z,3.3nm,0.8s							
IL31		88.78	13	IAmb		IAmb	06 16 35.9	
	comp=Z,9.5nm,1.3s							
ILAR	Eielson Array	88.78	13	P		P	06 16 34.8	-1.2
ILAR	Eielson Array	88.78	13	P		P	06 16 34.9	-1.0
	comp=Z,2.2nm,0.7s,baz=221,slow=5.6,SNR=30							
	comp=Z,2.2nm,0.7s							
G21K	Allakaket	89.14	10	IAmb		IAmb	06 16 38.2	
	comp=Z,4.1nm,0.8s							
K27K	Chicken	89.24	15	IAmb		IAmb	06 16 39.9	
	comp=Z,6.3nm,1.1s							
J26L	Joseph Creek	89.28	14	IAmb		IAmb	06 16 39.6	
	comp=Z,5.4nm,0.8s							
M30M	Minto, Yukon	89.46	18	IAmb		IAmb	06 16 40.2	
	comp=Z,5.6nm,0.9s							
E19K	Redstone River	89.49	8	IAmb		IAmb	06 16 39.9	
	comp=Z,5.0nm,0.8s							
PD31	Pinedale Array	89.49	43	IAmb		IAmb	06 16 41.0	
	comp=Z,2.4nm,0.7s							
PDAR	Pinedale Array	89.49	43	P		P	06 16 39.9	-0.2
	comp=Z,1.9nm,0.6s,baz=209,slow=3.4,SNR=21							
	comp=Z,1.9nm,0.6s							
L29M	L29M	89.51	17	IAmb		IAmb	06 16 40.9	
	comp=Z,7.1nm,0.9s							
CMAR	Chiang Mai Arr	89.92	290	P		P	06 16 43.6	+1.3
	comp=Z,1.4nm,0.3s,baz=110,slow=2.9,SNR=8.0							
	comp=Z,1.4nm,0.3s							
DAWY	Dawson	89.94	16	P		P	06 16 41.6	+0.3
DAWY				IAmb		IAmb	06 16 42.4	
	comp=Z,5.9nm,1.0s							
K29M	Barlow Dome	90.26	17	IAmb		IAmb	06 16 44.2	
	comp=Z,3.7nm,0.9s							
COLD	Coldfoot	90.34	11	IAmb		IAmb	06 16 44.2	
	comp=Z,3.8nm,0.9s							
D19K	Kuna River	90.36	7	IAmb		IAmb	06 16 43.9	
	comp=Z,3.5nm,0.8s							
D20K	Etivluk River	90.75	8	IAmb		IAmb	06 16 45.7	
	comp=Z,4.4nm,0.9s							
B20K	Meade River	91.91	7	IAmb		IAmb	06 16 51.1	
	comp=Z,3.1nm,0.8s							
YKA	Yellowknife Ar	97.02	25	P		Pdif	06 17 12.5	-1.1
	comp=Z,0.2nm,0.8s,baz=246,slow=5.2,SNR=4.4							
	comp=Z,0.2nm,0.8s							
ZALV	Zalesovo Beam	110.59	321	PKiKP		PKiKP	06 22 10.1	-0.9
	comp=Z,0.6nm,0.5s,baz=113,slow=2.3,SNR=4.9							
MKAR	Makanchi Array	111.22	313	PKiKP		PKiKP	06 22 11.7	-0.7
	comp=Z,0.7nm,0.6s,baz=45,slow=2.2,SNR=5.6							
KURBB	Kurchatov Arra	114.11	317	PKP		PKPdf	06 22 16.8	-1.0
	comp=Z,1.1nm,0.7s,baz=91,slow=2.0,SNR=12							
BVAR	Borovoye Array	119.17	320	PKP		PKPdf	06 22 27.1	-0.3
	comp=Z,2.8nm,0.4s,baz=113,slow=1.7,SNR=16							
DSLB	Salisbury	120.16	84	*e*P		Pdif	06 18 53.3	-4.3
SPITS	Spitsbergen Ar	122.25	356	PKP		PKPdf	06 22 32.2	-0.6
	comp=Z,7.1nm,1.0s,baz=83,slow=7.5,SNR=1.6							
ARCES	ARCESS Array B	129.25	349	PKP		PKPdf	06 22 45.5	-0.8
	comp=Z,1.0nm,0.4s,baz=22,slow=1.4,SNR=16							
FINES	FINESS Array B	136.06	343	PKP		PKPdf	06 22 57.5	-1.8
	comp=Z,1.8nm,0.6s,baz=85,slow=6.1,SNR=7.2							
HFS	Hagfors	139.88	351	PKhKP		PKPpre	06 22 57.8	
	comp=Z,2.0nm,0.4s,baz=46,slow=4.3,SNR=13							
AKASG	Malin Array Be	143.20	331	PKP		PKPab	06 23 09.8	-0.7
	comp=Z,8.3nm,0.4s,baz=44,slow=4.3,SNR=90							
EKA	Eskdalemuir Ar	145.44	5	PKPbc		PKPdf	06 23 16.9	+0.7
	comp=Z,3.0nm,0.7s,baz=334,slow=3.0,SNR=5.9							
BR131	Keskin Array S	146.85	312			PKPbc	06 23 22.2	0.0
BRTR	Keskin Array B	146.85	312	PKPbc		PKPbc	06 23 22.1	-0.2
	comp=Z,3.1nm,0.6s,baz=135,slow=4.5,SNR=14							
BURAR	Bucovina Array	147.24	330			PKPbc	06 23 24.0	+1.0
MMAI	Mount Meron Ar	147.71	299	PKPbc		PKPbc	06 23 25.3	+0.7
	comp=Z,4.2nm,0.4s,baz=59,slow=4.0,SNR=16							
MLR	Muntele Rosu	148.37	326	PKPbc		PKPbc	06 23 26.2	+0.3
	comp=Z,3.7nm,0.6s,baz=285,slow=4.8,SNR=6.6							
BORA	Eskisehir	148.97	314			PKPbc	06 23 27.5	0.0
GERES	GERESS Array B	150.49	344			PKPbc	06 23 30.7	-0.1
GERES	GERESS Array B	150.49	344	PKPbc		PKPbc	06 23 31.1	+0.3
	comp=Z,2.1nm,0.5s,baz=9.5,slow=1.6,SNR=16							
RDO	Rodhopi	151.41	320	PKPbc		PKPbc	06 23 33.1	+0.1

*JMA **09** 06:10:05.3±0.2,23°.4N±0°.8×123°.2E±0°.5, h47km, MV3.0/14, NEAR ISHIGAKIJIMA ISLAND*

ISC 09 06:10:03.5±1.5,**23°.34N**±0°.08×**123°.12E**±0°.08,**h29**km,**n15**, σ0**51**/18,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.95	41	*e*P	Pn	06 10 21.0	0.0
HATJ				*e*S	Sn	06 10 32.1	-1.5
JYNG	Yonagunijimaku	1.12	352	*e*P	Pb	06 10 24.6	+0.3
JYNG				*e*S	Sn	06 10 38.0	+0.3
YOJ	Yonaguni jima	1.13	355	P	Pb	06 10 24.4	0.0
YOJ	Yonaguni jima	1.13	355	*e*P	Pb	06 10 24.5	+0.2
YOJ				*e*S	Sb	06 10 38.7	0.0
IRIF	Iriomote-Funau	1.14	29	P	Pn	06 10 23.9	+0.4
JKRS	Kuro-shima	1.21	42	*e*P	Pn	06 10 24.9	+0.4
JIJ	Ishigaki jima	1.39	42	*e*P	Pn	06 10 26.9	0.0
NACB	Ninganchiao	1.63	301	P	Pb	06 10 32.7	-0.2
JISG	Ishigakijimahi	1.66	41	*e*P	Pn	06 10 30.8	+0.2
YULB	Yu-li	1.68	272	P	Pb	06 10 33.3	-0.4
JTJ	Tarama	1.94	48	*e*P	Pn	06 10 35.5	+0.9
TWGBT	Beinan	1.95	255	P	Pb	06 10 38.5	+0.2
SSLB	Suanglung	2.04	283	P	Pb	06 10 39.6	-0.3
YHNB	Yeheng	2.08	310	P	Pb	06 10 40.3	-0.3
TPUB	Ta-pu	2.29	270	P	Pb	06 10 44.4	+0.2

*UPP **09** 06:10:54.4±0.2,58°.80N×18°.81E, h0km, ML2.8, Unknown*
*HEL **09** 06:10:55.5±0.1,58°.81N×18°.77E, h0km, ML1.7, Explosion*
*DNK **09** 06:10:55.1±2.4,58°.79N×18°.78E, h0km, Explosion*
*IDC **09** 06:10:57.5±1.9,58°.97N×18°.67E, h0km, mbtmp2.7/4, ML2.2/4, Error ellipse: s-maj=22.9km s-min=8.1km az=178.0*

ISC 09 06:10:53.6±0.8,**58°.77N**±0°.02×**18°.62E**±0°.03,**h0**km,**n53**, σ1**47**/72,**Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	Nynaeshamn	0.40	306	P	Pb	06 11 03.4	-0.1
NYNU				S	Sb	06 11 09.7	-0.3
NYNU	Nynaeshamn	0.40	306	P	Pb	06 11 03.4	-0.1
NYNU				S	Sb	06 11 09.7	-0.3
NRTU	Norrtaelje	0.91	0	P	Pg	06 11 10.9	-0.1
NRTU				S	Sg	06 11 22.8	+0.1
NRTU	Norrtaelje	0.91	0	P	Pg	06 11 10.9	-0.1
NRTU				S	Sg	06 11 22.8	+0.1
NRTU	Norrtaelje	0.91	0	*e*P	Pg	06 11 11.0	+0.1
NRTU				*e*S	Sg	06 11 22.3	-0.4
NRTU				MSG		06 11 23.4	
	comp=Z,7.3nm,0.1s						
VIKU	Vikbolandet	1.04	256	P	Pn	06 11 15.7	+0.3
VIKU				S	Sn	06 11 30.9	+0.2
VIKU	Vikbolandet	1.04	256	P	Pn	06 11 15.7	+0.3
VIKU				S	Sn	06 11 30.9	+0.2
GOTU	Gotland	1.09	181	P	Pg	06 11 15.4	+1.0
GOTU				S	Sb	06 11 30.5	+0.5
GOTU	Gotland	1.09	181	P	Pg	06 11 15.4	+1.0
GOTU				S	Sb	06 11 30.5	+0.5
GOTU	Gotland	1.09	181	*e*P	Pg	06 11 15.5	+1.0
GOTU				*e*S	Sb	06 11 30.7	+0.7
GOTU				MSG		06 11 31.6	
	comp=Z,4.7nm,0.1s						
ESKU	Eskilstuna	1.24	293	P	Pn	06 11 18.8	+0.6
ESKU	Eskilstuna	1.24	293	P	Pn	06 11 18.8	+0.6
BACU	Backbrunna	1.33	325	P	Pn	06 11 19.8	+0.4
BACU	Backbrunna	1.33	325	P	Pn	06 11 19.8	+0.4
FLYU	Flymyra	1.41	345	P	Pg	06 11 20.7	+0.1
FLYU	Flymyra	1.41	345	P	Pg	06 11 20.7	+0.1
GRAU	Graesoe	1.57	359	P	Pg	06 11 22.7	0.0
GRAU	Graesoe	1.57	359	P	Pn	06 11 22.7	0.0
FORU	Forsmark	1.64	352	P	Pb	06 11 24.7	+0.2
FORU	Forsmark	1.64	352	P	Pb	06 11 24.7	+0.2
OSTU	Oestervaala	1.65	333	P	Pb	06 11 24.9	+0.1
OSTU	Oestervaala	1.65	333	P	Pb	06 11 24.9	+0.1
BYXU	Byxelkrok	1.72	211	P	Pg	06 11 26.8	+0.4
BYXU	Byxelkrok	1.72	211	P	Pg	06 11 26.8	+0.4
LNKU	Linkoeping	1.73	253	P	Pg	06 11 27.5	+0.8
LNKU	Linkoeping	1.73	253	P	Pg	06 11 27.5	+0.8
SLIT	Slitere, Latvi	2.26	119	*e*P	Pn	06 11 32.8	+0.7
SLIT	Slitere, Latvi	2.26	119	*e*P	Pn	06 11 33.0	+0.9
MTSE	Matsula	2.71	89	*e*P	Pn	06 11 38.1	-0.2
MTSE	Matsula	2.71	89	*e*P	Pn	06 11 38.3	0.0
MTSE				*e*S	Sn	06 12 10.7	-1.0
RAF	Rauma	2.76	34	*e*P	Pn	06 11 41.1	+2.1
RAF	Rauma	2.76	34	*e*P	Pn	06 11 39.6	+0.6
RAF				MSG		06 12 20.9	
	comp=Z,6.2nm,0.1s						
HFS	Hagfors	2.86	301	Pn	Pb	06 11 43.7	-1.8
	comp=Z,0.6nm,0.3s,baz=116,slow=18,SNR=12						
HFS				Lg	Lg	06 12 23.7	
	comp=Z,3.4nm,0.3s,baz=114,slow=30,SNR=12						
	comp=Z,1.2nm,0.3s						
BLEU	Blekinge	2.90	213	*i* P	Pb	06 11 45.3	-0.9
BLEU				*i* S	Sn	06 12 15.5	-1.0
MEF	Metsahovi	3.28	61	*e*P	Pn	06 11 48.9	+2.7
DEL	Delary	3.44	230	*i* P	Pn	06 11 51.0	+2.6
DEL				*i* S	Sn	06 12 27.1	-2.8
KPF	Kankaanpaa	3.52	28	*e*P	Pn	06 11 50.6	+1.2
KPF				MSG		06 12 53.8	
	comp=Z,1.7nm,0.1s						
NUR	Nurmijarvi	3.52	58	*e*P	Pn	06 11 50.7	+1.2
FABU	Falkenberg	3.62	243	*i* P	Pg	06 12 01.2	-1.6
FABU				*i* S	Sn	06 12 33.7	-0.4
TJOU	Tjoern	3.75	262	*i* P	Pg	06 12 03.4	-2.1
TJOU				*i* S	Sn	06 12 41.1	+3.5
ONAU	Onsala	3.82	252	*i* P	Pg	06 12 06.3	-0.3
ONAU				*i* S	Sn	06 12 39.2	+0.2
ARBE	Arbavere	3.86	77	*e*P	Pn	06 11 57.4	+3.3
STRU	Stroemstad	3.87	277	*e*P	Pn	06 11 58.2	+4.0
STRU	Stroemstad	3.87	277	*i* P	Pb	06 12 01.9	-0.7
STRU				*i* S	Sn	06 12 43.2	+3.0
BJUU	Bjuv	4.06	231	*i* P	Pb	06 12 03.0	-2.8
BJUU				*i* S	Sn	06 12 42.2	-2.8
NC602	NORSAR Array S	4.08	302	*e*P	Pn	06 12 00.1	+2.9
VSU	Vasula	4.26	91	*e*P	Pn	06 12 01.2	+1.7
NOA	NORSAR Array B	4.37	305	Pn	Pn	06 12 02.6	+1.4
	comp=Z,0.1nm,0.3s,baz=120,slow=13,SNR=6.4						
NOA				Lg	Lg	06 13 10.7	
	comp=Z,0.1nm,0.3s,baz=306,slow=21,SNR=6.8						
	comp=Z,0.2nm,0.4s						
FINES	FINESS Array B	4.59	51	Pn	Pn	06 12 04.9	+0.7
	comp=Z,0.2nm,0.3s,baz=246,slow=13,SNR=6.5						
FINES				Sn	Sn	06 12 56.2	-2.0
	comp=Z,0.7nm,0.3s,baz=264,slow=26,SNR=6.0						
	comp=Z,0.6nm,0.4s						
KEF	Keuruu	4.60	40	*e*P	Pn	06 12 05.2	+0.9
VAF	Ylistaro	4.72	23	*e*P	Pn	06 12 08.1	+2.2
VAF	Ylistaro	4.72	23	*e*P	Pn	06 12 07.4	+1.5
ARCES	ARCESS Array B	11.20	13	Pn	Pn	06 13 32.1	-2.6
	comp=Z,0.1nm,0.3s,baz=192,slow=14,SNR=20						
ARCES				Sn	Sn	06 15 31.5	-9.0
	comp=Z,0.1nm,0.3s,baz=194,slow=22,SNR=1.5						
	comp=Z,0.3nm,0.3s						

*CNRM **09** 06:33:20.7,38°.27N×1°.59W, h30km, ML3.3*
*MDD **09** 06:33:21.9±0.1,38°.12N×1°.66W, h0km, mb_Lg3.6/69, Error ellipse: s-maj=1.1km s-min=0.9km az=120.0*
*SFS **09** 06:33:22.8,38°.09N×1°.59W, h15km, ML3.8/18, ML3.5/24, MLv3.5/24*
*IGIL **09** 06:33:22.2,38°.12N×1°.66W, h0km*

ISC 09 06:33:20.9±0.9,**38°.09N**±0°.01×**1°.65W**±0°.02,**h17**km±7km, **n104**, σ1**59**/206,**2C-7D**,**Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZAR	Zarzadilla de	0.22	188	⇓Pg	Pg	06 33 26.2	+0.1
EZAR				Sg	Sg	06 33 29.5	0.0
EZAR				*i* Vmb_Lg		06 33 30.4	
EXAHM	Alhama Murcia,	0.30	145	⇓Pg	Pb	06 33 27.6	-0.4
EXAHM				Sg	Sb	06 33 32.2	-0.4
EMUR	La Murta	0.41	127	Pg	Pb	06 33 29.3	-0.5
EMUR				Sg	Sb	06 33 35.1	-0.6
EMUR	La Murta	0.41	127	⇓Pg	Pb	06 33 29.3	-0.5
EMUR				Sg	Sb	06 33 34.1	-1.6
EMUR				*i* Vmb_Lg		06 33 36.1	
TLOR	Lorca, Murcia	0.43	184	Pg	Pb	06 33 30.0	-0.2
TLOR				Sg	Sb	06 33 36.9	+0.5
TLOR	Lorca, Murcia	0.43	184	Pg	Pb	06 33 30.5	+0.3
TLOR				Sg	Sb	06 33 36.0	-0.4
TLOR	Lorca, Murcia	0.43	184	Pg	Pb	06 33 30.2	0.0
TLOR				Sg	Sb	06 33 35.7	-0.7
ELOR	Lorca, Murcia	0.46	189	⇓Pg	Pb	06 33 30.0	-0.6
ELOR				Sg	Sb	06 33 37.0	0.0
ELOR				*i* Vmb_Lg		06 33 39.6	
EXMAZ	Mazarron	0.56	151	Sg	Sb	06 33 40.7	+0.5
EXTPC	Torre Pacheco	0.65	122	Pg	Pn	06 33 34.8	-0.6
CART	Cartagena	0.72	134	Pg	Pb	06 33 35.1	0.0
CART				Sg	Sb	06 33 44.9	+0.3
CART	Cartagena	0.72	134	P	Pn	06 33 35.4	-0.9
CART	Cartagena	0.72	134	S	Sn	06 33 48.0	+1.0
AFON	Font Roja	1.05	56	⇓Pg	Pn	06 33 42.5	+1.6
AFON				Sg	Sg	06 33 54.3	-0.6
AFON				*i* Vmb_Lg		06 33 59.1	
EQES	Quesada	1.16	256	Pg	Pn	06 33 44.3	+1.9
EQES				Sg	Sn	06 33 59.6	+1.7
EQES				*i* Vmb_Lg		06 34 02.8	
ENIJ	Nijar	1.20	202	Pg	Pn	06 33 43.7	+0.7
ENIJ				Sg	Sn	06 34 01.2	+2.3
ENIJ	Nijar	1.20	202	Pg	Pn	06 33 44.0	+1.0
ENIJ				Sg	Sn	06 34 01.3	+2.4
ENIJ				*i* Vmb_Lg		06 34 01.8	
EVIV	Cofrentes, Val	1.25	19	Pn	Pn	06 33 44.3	+0.6
EVIV				⇓Pg	Pg	06 33 45.6	+0.5
EVIV				Sg	Sn	06 34 01.8	+1.6
EVIV				*i* Vmb_Lg		06 34 05.4	
EBEN2	Beniarda presa	1.29	63	Pg	Pb	06 33 44.9	+0.1
EBEN2				Sg	Sn	06 34 02.9	+1.7
EBEN2				*i* Vmb_Lg		06 34 05.9	
E0802	Ubeda,Jaen	1.36	268	Pg	Pg	06 33 47.5	+0.3
E0802				Sg	Sg	06 34 05.8	+0.9
E0803	Jimena (Jaen)	1.46	261	Pg	Pg	06 33 49.1	0.0
E0803				Sg	Sg	06 34 09.5	+1.5
ECHE	Chera	1.59	19	Pn	Pn	06 33 49.1	+0.7
ECHE				Sn	Sn	06 34 07.7	-0.9
ECHE	Chera	1.59	19	⇓Pn	Pn	06 33 49.0	+0.7
ECHE				Pg	Pg	06 33 51.8	+0.2
ECHE				Sn	Sn	06 34 09.5	+0.8
ECHE				Sg	Sg	06 34 12.6	+0.3
ECHE				*i* Vmb_Lg		06 34 14.6	
EQUE	Quentar	1.67	239	⇑Pg	Pg	06 33 52.8	-0.3
EQUE				Sg	Sg	06 34 16.5	+1.8
EQUE				*i* Vmb_Lg		06 34 20.5	
EQTA	Presa de Quent	1.67	239	Pn	Pg	06 33 52.8	-0.3
EQTA				Sn	Sn	06 34 11.0	+0.4
EXCAB	Granada	1.79	240	Pg	Pg	06 33 56.3	+1.0
EXCAB				Sn	Sb	06 34 16.2	+0.8
PSIM	Granatula de C	1.81	294	Pn	Pn	06 33 52.3	+1.0
PSIM				Pg	Pg	06 33 54.7	-0.9
PSIM				Sn	Sn	06 34 14.9	+1.0
PSIM				Sg	Sg	06 34 18.5	-0.6
ELGU	Los Guajares,	1.99	233	Pg	Pg	06 33 59.4	+0.3
ELGU				Sg	Sg	06 34 26.2	+1.3
ELGU	Los Guajares,	1.99	233	Pn	Pb	06 33 55.8	-0.9
ELGU				Pg	Pg	06 33 58.1	-1.0
ELGU				Sg	Sg	06 34 24.9	0.0
ELGU				*i* Vmb_Lg		06 34 29.5	
EGOR	Sierra Gorda,	2.18	244	Pn	Pb	06 33 59.6	-0.4
EGOR				Sg	Sg	06 34 33.4	+2.2
EGOR	Sierra Gorda,	2.18	244	Pn	Pb	06 33 59.7	-0.4
EGOR				Sg	Sg	06 34 31.4	+0.3
EGOR				*i* Vmb_Lg		06 34 36.7	
EADA	Adamuz	2.31	273	Pn	Pn	06 33 59.1	+0.9
EADA				Sn	Sn	06 34 27.9	+1.6
EADA	Adamuz	2.31	273	⇑Pn	Pn	06 33 59.1	+0.9
EADA				Sn	Sn	06 34 27.9	+1.6
EADA				Sg	Sg	06 34 34.1	-1.0
EADA				*i* Vmb_Lg		06 34 40.1	
ESBB	Sonseca Array	2.40	312	Pn	Pb	06 34 02.3	-1.4
ESBB				Pg	Pg	06 34 06.0	-0.9
ESBB				Sg	Sb	06 34 36.0	+3.0
ESDC	Sonseca Array	2.40	312	Pn	Pn	06 34 01.0	+1.4
ESDC				Pg	Pb	06 34 04.2	+0.5
ESDC				Sn	Sn	06 34 31.0	+2.5
ESDC				Sg	Sb	06 34 36.0	+3.0
ESDC				*i* Vmb_Lg		06 34 39.4	
E0901	Celadas (Terue	2.42	10	Pg	Pg	06 34 07.5	+0.1
E0901				Sg	Sg	06 34 39.4	+0.6
E0901				*i* Vmb_Lg		06 34 53.0	
EMOS	Mosqueruela	2.45	22	Pn	Pn	06 34 01.4	+1.1
EMOS				Pg	Pg	06 34 07.0	-1.0
EMOS				Sn	Sn	06 34 31.0	+1.0
EMOS				Sg	Sg	06 34 38.1	-1.6
EIBI	Ibiza	2.53	67	Pn	Pn	06 34 01.7	+0.4
EIBI				Sn	Sn	06 34 31.0	-0.7
EIBI	Ibiza	2.53	67	Pn	Pn	06 34 02.4	+1.2
EIBI				Sn	Sn	06 34 32.1	+0.3
UCM	Universidad Co	2.54	331	Pn	Pn	06 34 03.2	+1.8
UCM				Pg	Pg	06 34 08.1	-1.4
UCM				Sg	Sb	06 34 40.5	+3.6
PAB	San Pablo	2.56	305	Pn	Pn	06 34 02.7	+1.0
PAB				Sg	Sg	06 34 41.3	-1.9
PAB				*i* Vmb_Lg		06 34 44.4	
ECOL	Islas Columbre	2.57	45	Pn	Pn	06 34 02.5	+0.7
ECOL				Sn	Sn	06 34 33.2	+0.6
EMAL	Malaga-Limoner	2.58	240	Pn	Pb	06 34 05.2	-1.4
ETOR	Torete	2.74	354	Pn	Pn	06 34 06.2	+1.9
ETOR				Pg	Pg	06 34 12.4	-1.2
ETOR				Sg	Sg	06 34 48.4	-0.7
ETOR				*i* Vmb_Lg		06 34 51.0	
ECAB	El Cabril	2.97	271	Pn	Pn	06 34 08.2	+0.8
ECAB				Sn	Sn	06 34 42.8	+0.1
ECAB	El Cabril	2.97	271	Pn	Pn	06 34 08.1	+0.8
ECAB				Sn	Sn	06 34 44.7	+2.0
ECAB				Sg	Sg	06 34 56.1	-0.3
ECAB				*i* Vmb_Lg		06 35 04.1	
GOG	Mont Gurugu	3.06	201	P	Pn	06 34 09.6	+1.0
GOG	Mont Gurugu	3.06	201	S	Sb	06 34 48.7	-3.4
ATANC	Embalse El Ata	3.11	344	Pn	Pn	06 34 10.5	+1.2
ATANC				Pg	Pg	06 34 20.1	-0.4
ATANC				Sn	Sn	06 34 44.8	-1.2
ATANC				Sg	Sg	06 34 59.3	-1.5
GUD	Guadarrama	3.20	324	Pn	Pn	06 34 12.6	+2.0
GUD				Pg	Pg	06 34 20.6	-1.7
GUD				Sg	S

ELAN				Sg	Sg	06 36 10.6	-0.8
ELAN				*i* Vmb_Lg		06 36 19.4	
ECAL	**Calabor**	**5.48**	**316**	Pn	**Pn**	**06 34 42.8**	**+0.9**
ECAL				Sg	**Sg**	**06 36 12.8**	**-4.0**
ECAL	**Calabor**	**5.48**	**316**	Pn	**Pn**	**06 34 43.0**	**+1.1**
ECAL				Sg	**Sg**	**06 36 15.1**	**-1.6**
ECAL				*i* Vmb_Lg		06 36 27.5	
EJON	**La Jonquera**	**5.57**	**37**	Pn	**Pn**	**06 34 44.8**	**+1.8**
MORF	**Marmelete**	**5.61**	**264**	*e*P	**Pn**	**06 34 44.4**	**+0.8**
PFVI	**Vila Bisbo**	**5.77**	**263**	Pn	**Pn**	**06 34 45.7**	**-0.1**
PFVI				Sn	**Sn**	**06 35 50.7**	**-1.0**
PFVI	**Vila Bisbo**	**5.77**	**263**	P	**Pn**	**06 34 45.2**	**-0.7**
PFVI	**Vila Bisbo**	**5.77**	**263**	S	**Sn**	**06 35 52.0**	**+0.3**
MDT	**Midelt**	**5.79**	**205**	P	**Pn**	**06 34 47.1**	**+0.9**
MDT	**Midelt**	**5.79**	**205**	S	**Sn**	**06 35 55.7**	**+3.4**
MD31	**MD31**	**5.79**	**207**	P	**Pn**	**06 34 48.1**	**+1.8**
MD31	**MD31**	**5.79**	**207**	S	**Sn**	**06 35 55.9**	**+3.6**
EARI	**Arriondas**	**5.87**	**334**	Pn	**Pn**	**06 34 48.7**	**+1.6**
EARI				Sn	**Sn**	**06 35 51.0**	**-3.0**
EARI				Sg	**Sg**	**06 36 27.0**	**-2.1**
EARI				*i* Vmb_Lg		06 36 37.6	
ELOB	**Lobios**	**6.20**	**309**	Pn	**Pn**	**06 34 53.2**	**+1.4**
ELOB				Sn	**Sn**	**06 36 00.5**	**-1.8**
ELOB				Sg	**Sg**	**06 36 38.5**	**-1.3**
ELOB				*i* Vmb_Lg		06 36 49.5	
EPON	**Pontenova**	**6.69**	**323**	Pn	**Pn**	**06 34 59.6**	**+1.2**
EPON				Sg	**Sg**	**06 36 53.0**	**-2.5**
EPON				*i* Vmb_Lg		06 37 07.5	
EZAM	**Zamans**	**6.75**	**309**	Sg	**Sg**	**06 36 57.2**	**-0.2**
EZAM				*i* Vmb_Lg		06 37 11.3	
EAGO	**Agolada(Pontev**	**6.80**	**316**	Sg	**Sg**	**06 36 54.8**	**-4.3**
EAGO				*i* Vmb_Lg		06 37 08.2	

*IDC **09** 06:44:03.9±5.5, 6°.77S×103°.62E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=221.5km s-min=32.6km az=51.0*
*DJA **09** 06:44:17.3±0.7, 6°.S±7°.×10°.4E±°, h10km, M3.5/4, MLv3.5/4*
ISC 09 06:44:07.1±1.6, 6°.6S±0°.1×104°.0E±0°.1, h10km, n21, σ0.97/9, mb3.5/3, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.56**	**1**	P	**Pn**	**06 44 33.8**	**-1.3**
CGJI	**Cibinong**	**1.66**	**91**	P	**Pn**	**06 44 36.0**	**-0.3**
BLSI	**Bandar Lampung**	**1.72**	**45**	P	**Pn**	**06 44 38.5**	**+1.4**
MDSI	**Maura Dua**	**2.10**	**4**	P	**Pn**	**06 44 43.2**	**+0.9**
MNAI	**Manna**	**2.46**	**334**	P	**Pn**	**06 44 48.1**	**+0.7**
SKJI	**Sukabumi**	**2.54**	**99**	P	Pg	06 45 07.8	+12
KSI	**Kapahiang**	**3.25**	**334**	P	Pg	06 45 22.6	+13
PPBI	**Pangkal Pinang**	**4.88**	**26**	P	**Pn**	**06 45 19.9**	**-0.7**
H08S2	**Diego Garcia H**	**31.30**	**266**	T	T	07 23 02.6	
	baz=94,slow=74,SNR=3.7						
H08S3	**Diego Garcia H**	**31.32**	**266**	T	T	07 23 03.0	
	baz=94,slow=74,SNR=6.0						
H08S1	**Diego Carcia H**	**31.32**	**266**	T	T	07 23 06.8	
	baz=94						
WRA	**Warramunga Arr**	**32.27**	**117**	P	**P**	**06 50 36.5**	**+0.2**
	0.5nm,0.7s,baz=290,slow=9.0,SNR=5.1						
	0.5nm,0.7s						
SONM	**Songino Array**	**54.23**	**2**	P	**P**	**06 53 33.0**	**-0.2**
	0.6nm,0.4s,baz=180,slow=7.4,SNR=3.7						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**56.55**	**342**	P	P	06 53 47.8	-2.1
	0.3nm,0.6s,baz=143,slow=8.9,SNR=4.1						
	0.3nm,0.6s						
H04N2	**CROZET ISLANDS**	**59.67**	**220**	T	T	07 58 40.3	
	baz=65,slow=75,SNR=29						
H04N1	**CROZET ISLANDS**	**59.69**	**220**	T	T	07 58 39.5	
	baz=65,slow=75,SNR=32						
H04N3	**CROZET ISLANDS**	**59.69**	**220**	T	T	07 58 38.2	
	baz=65,slow=75,SNR=31						
H04S1	**CROZET ISLANDS**	**59.89**	**219**	T	T	07 58 54.6	
	baz=72						
H04S3	**CROZET ISLANDS**	**59.90**	**219**	T	T	07 58 54.6	
	baz=72,SNR=6.2						
H04S2	**CROZET ISLANDS**	**59.90**	**219**	T	T	07 58 57.7	
	baz=72						
TXAR	**Lajitas Array**	**145.45**	**46**	PKPbc	**PKPbc**	**07 03 46.2**	**-0.2**
	0.3nm,0.6s,baz=312,slow=2.9,SNR=5.6						

*NEIC **09** 06:56:42.2±0.9, 37°.21N±0°.02×115°.39W±0°.01, h9km±11km, Error ellipse: s-maj=2.7km s-min=0.5km az=154.0*
REN 09 06:56:42.3±1.0, 37°.19N±0°.02×115°.37W±0°.02, h8km±8km, ML2.5/26, ML2.3/40(NEIC), Error ellipse: s-maj=2.4km s-min=1.7km az=151.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRN	**Pahroc Range**	**0.33**	**50**	Pg		06 56 48.9	0.0
PRN				Sg		06 56 53.6	+0.2
PRN	**Pahroc Range**	**0.33**	**50**	IAML		06 56 54.7	
	comp=N,679nm,0.3s						
PRN				IAML		06 56 56.0	
	comp=E,706nm,0.3s						
S11A	**Rachel**	**0.54**	**327**	Pg		06 56 51.8	-1.0
S11A				Sg		06 56 59.7	-0.2
S11A	**Rachel**	**0.54**	**327**	IAML		06 57 00.7	
	comp=N,375nm,0.3s						
S11A				IAML		06 57 00.9	
	comp=E,531nm,0.3s						
CPY	**CP-1**	**0.60**	**245**	Pg		06 56 54.1	+0.1
CPY				Sg		06 57 02.1	+0.2
SHPR	**Sheep Range**	**0.71**	**166**	Pg		06 56 56.2	+0.2
MCY	**Mercury**	**0.71**	**222**	Pg		06 56 55.9	0.0
TPNV	**Topopah Spring**	**0.74**	**251**	Pg		06 56 56.7	+0.1
TPNV				IAML		06 57 08.2	
	comp=E,145nm,0.3s						
NSP	**Numbskull Pass**	**0.82**	**236**	Pg		06 56 57.9	-0.1
SDH	**Striped Hills**	**0.95**	**235**	Pg		06 57 00.3	-0.2
AMDNV	**Amargosa**	**1.04**	**225**	Pg		06 57 01.9	-0.3
WCT	**Wildcat Mounta**	**1.08**	**249**	Pb		06 57 03.4	+0.2
WCT	**Wildcat Mounta**	**1.08**	**249**	IAML		06 57 20.1	
	comp=E,72nm,0.5s						
WCT				IAML		06 57 20.1	
	comp=N,51nm,0.2s						
R11B	**Troy Canyon, C**	**1.17**	**352**	Pg	Pg	06 57 04.4	-0.3
SGV	**South Grapevin**	**1.34**	**261**		Pn	06 57 07.3	-0.1
GWY	**Greenwater Val**	**1.45**	**226**	Pg	Pn	06 57 09.1	+0.2
GWY				IAML		06 57 30.9	
	comp=N,50nm,0.4s						
GWY				IAML		06 57 31.2	
	comp=E,56nm,0.6s						
V12A	**Nelson**	**1.52**	**164**		Pn	06 57 10.0	+0.1
V12A	**Nelson**	**1.52**	**164**	IAML		06 57 33.3	
	comp=N,67nm,0.6s						
V12A				IAML		06 57 34.1	
	comp=E,32nm,0.6s						
GRAC	**Grapevine Rang**	**1.61**	**264**		Pn	06 57 10.9	0.0
MZP	**Montezuma Peak**	**1.68**	**288**		Pn	06 57 11.7	-0.4
LCMT	**Little Creek M**	**1.71**	**95**		Pn	06 57 12.8	+0.3
PSUT	**Pine Spring**	**1.80**	**41**		Pn	06 57 13.7	0.0
PSUT				IAML		06 57 41.8	
	comp=E,24nm,0.4s						
SPR3	**Spring Creek 3**	**1.98**	**24**		Pn	06 57 14.7	-1.7
SPR3	**Spring Creek 3**	**1.98**	**24**	IAML		06 57 47.8	
	comp=E,18nm,0.6s						
KNB	**Kanab**	**2.05**	**94**		Pn	06 57 15.6	-1.6
KNB	**Kanab**	**2.05**	**94**	IAML		06 57 49.8	
	comp=N,18nm,0.8s						
DSP	**Deep Springs**	**2.08**	**276**		Pn	06 57 17.4	0.0
DSP	**Deep Springs**	**2.08**	**276**	IAML		06 57 49.9	
	comp=N,15nm,0.8s						
Q09A	**Carvers**	**2.17**	**319**		Pn	06 57 19.3	+0.4
U15A	**North Rim**	**2.59**	**106**	Pn	Pn	06 57 24.9	+0.2
U15A				IAML		06 58 03.2	
	comp=E,14nm,0.7s						
U15A				IAML		06 58 06.5	
	comp=N,9.7nm,0.7s						
NV08	**Mina Array Sit**	**2.63**	**298**		Pn	06 57 25.0	-0.1
NV09	**Mina Array Sit**	**2.65**	**299**		Pn	06 57 25.9	+0.4

JMA 09 07:07:37.7±0.1, 24°.0N±0°.5×142°.5E±0°.5, h132km, MV4.8/10, IOTO ISLANDS REGION, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.69**	**353**	*e*P	Pn	07 08 20.8	+0.4
JHH2				*e*S	Sn	07 08 54.0	+0.6
CBIJ	**Chichi jima**	**3.15**	**355**	*e*P	Pn	07 08 27.1	+0.8
CBIJ				*e*S	Sn	07 09 04.4	+0.5
BSO1	**Boso 1**	**10.75**	**353**	*e*P	Pn	07 10 08.3	+0.9
JOD2	**Odawara 2**	**11.66**	**346**	*e*P	Pn	07 10 21.4	+1.4
JRY	**Ryogami san**	**12.43**	**346**	*e*P	Pn	07 10 30.4	+0.3

*DNK **09** 07:07:42.9±1.5, 51°.42N×15°.70E, h15km, ML1.9*
*VIE **09** 07:07:43.8±1.0, 51°.44N×16°.00E, h0km, mb2.6/2, ml2.9/4, Error ellipse: s-maj=11.7km s-min=5.5km az=37.0 81 km WNW of Wroclaw Suspected Mining induced.*
*IPEC **09** 07:07:43.9±0.2, 51°.51N×16°.19E, h1km, ML2.7/5, Error ellipse: s-maj=1.7km s-min=1.3km az=55.0*
*IDC **09** 07:07:45.6±1.1, 51°.48N×15°.98E, h0km, mbtmp3.4/4, ML2.3/3, Error ellipse: s-maj=22.5km s-min=9.7km az=127.0*
*PRU **09** 07:07:46.4, 51°.42N×16°.11E, h0km*
ISC 09 07:07:42.6±0.7, 51°.56N±0°.03×16°.09E±0°.02, h0km, n39, σ1.24/70, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg	**Pg**	**07 07 57.1**	**+0.5**
KSP				*e*Sg	**Sg**	**07 08 05.8**	**-0.2**
CHVC	**Chvalec**	**0.97**	**181**	*e*PG	**Pg**	**07 08 01.7**	**+0.5**
CHVC				*e*SG	**Sg**	**07 08 13.8**	**0.0**
	comp=Z,50nm,0.5s						
OSTC	**Ostas**	**1.01**	**175**	*e*PG	**Pg**	**07 08 02.5**	**+0.6**
OSTC				*e*SG	**Sg**	**07 08 14.8**	**-0.1**
	comp=Z,53nm,0.4s						
UPC	**Upice**	**1.05**	**183**	*e*PG	**Pg**	**07 08 03.1**	**+0.3**
UPC				*e*SG	**Sg**	**07 08 16.1**	**-0.4**
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG	**Pg**	**07 08 05.9**	**-0.1**
DPC				*e*SG	**Sg**	**07 08 20.4**	**-1.4**
	comp=Z,55nm,0.4s						
PIVO	**Bartosovice**	**1.41**	**168**	*e*Pg	**Pg**	**07 08 09.5**	**0.0**
	baz=350						
PIVO				*e*Sg	**Sg**	**07 08 26.1**	**-1.6**
	94nm,0.6s,baz=350						
PVCC	**Panska Ves**	**1.41**	**223**	*e*PG	**Pg**	**07 08 10.0**	**+0.4**
PVCC				*e*SG	**Sb**	**07 08 28.8**	**+0.5**
	comp=Z,131nm,0.2s						
BRG	**Berggiesshubel**	**1.51**	**244**	Pg	**Pg**	**07 08 12.8**	**+1.1**
BRG				Sg	**Sn**	**07 08 32.5**	**+1.1**
BRG				Amp		07 08 34.7	
	comp=Z,53nm,0.4s						
KRLC	**Kraliky**	**1.55**	**163**	*e*PG	**Pn**	**07 08 12.0**	**+0.5**
KRLC				*e*SG	**Sg**	**07 08 31.4**	**-1.0**
	comp=Z,59nm,0.6s						
PRU	**Pruhonice**	**1.85**	**213**	*e*SG	**Sb**	**07 08 41.1**	**0.0**
	comp=Z,200nm,0.4s						
HSKC	**Hora Svate Kat**	**1.93**	**241**	*e*PG	**Pb**	**07 08 19.0**	**+0.4**
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**07 08 17.0**	**+0.1**
CLL				*e*Pg	**Pb**	**07 08 20.0**	**+1.0**
CLL				*i* x	x	07 08 24.5	
CLL				*i* Sg	**Sg**	**07 08 46.1**	**+0.9**
	comp=Z,32nm,0.9s						
STEB	**Steborice**	**1.95**	**146**	*e*PG	**Pb**	**07 08 18.8**	**-0.2**
STEB				*e*SG	**Sb**	**07 08 43.6**	**-0.2**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**07 08 17.8**	**-0.1**
	baz=334						
MORC				*e*Sg	**Sn**	**07 08 44.6**	**+0.9**
	comp=Z,46nm,0.6s,baz=334						
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*SG	**Sb**	**07 08 50.0**	**0.0**
VRAC	**Vranov**	**2.28**	**172**	Lg	Lg	07 08 54.5	
	comp=Z,3.6nm,0.3s,baz=75,slow=23,SNR=5.3						
VRAC	**Vranov**	**2.28**	**172**	*e*Pn	**Pn**	**07 08 21.8**	**+0.3**
	baz=354						
VRAC				*e*Sg	**Sb**	**07 08 53.3**	**0.0**
	comp=Z,42nm,0.8s,baz=354						
VRAC	**Vranov**	**2.28**	**172**	*e*PN	**Pn**	**07 08 21.9**	**+0.4**
VRAC				*e*SG	**Sb**	**07 08 53.4**	**+0.1**
KRUC	**Moravsky**	**2.51**	**175**	*e*Pn	**Pn**	**07 08 25.0**	**+0.4**
	baz=357						
KRUC				*e*Sg	**Sb**	**07 09 00.7**	**+0.8**
	comp=Z,46nm,1.1s,baz=357						
NKC	**Novy Kostel**	**2.66**	**241**	*e*PN	**Pn**	**07 08 28.0**	**+1.2**
NKC				*e*PG	**Pg**	**07 08 34.0**	**+0.4**
NKC				*e*SG	**Sg**	**07 09 08.8**	**+0.8**
	comp=Z,35nm,0.4s						
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**07 08 34.7**	**+0.3**
OJC				*e*Sg	**Sg**	**07 09 09.7**	**+0.2**
JAVC	**Velka Javorina**	**2.89**	**159**	*e*Pn	**Pn**	**07 08 30.0**	**+0.1**
	baz=341						
JAVC	**Velka Javorina**	**2.89**	**159**	*e*PN	**Pn**	**07 08 30.1**	**+0.1**
KHC	**Kasperske Hory**	**2.91**	**214**	*e*PN	**Pn**	**07 08 30.7**	**+0.4**
KHC				*e*PG	**Pb**	**07 08 36.8**	**+1.3**
KHC				*e*SG	**Sg**	**07 09 15.1**	**-1.1**
	comp=Z,11nm,0.4s						
CKRC	**Cesky Krumlov**	**2.97**	**203**	*e*PN	**Pn**	**07 08 32.1**	**+1.1**
CKRC				*e*PG	**Pb**	**07 08 37.2**	**+0.8**
CKRC				*e*SG	**Sg**	**07 09 15.9**	**-2.1**
	comp=Z,18nm,0.4s						
GERES	**GERESS Array B**	**3.12**	**210**	Pn	**Pn**	**07 08 34.6**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=32,slow=12,SNR=17						
GERES				Pg	**Pb**	**07 08 40.4**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=30,slow=16,SNR=22						
GERES				Lg	Lg	07 09 19.7	
	comp=Z,0.5nm,0.3s,baz=32,slow=28,SNR=11						
	comp=Z,2.8nm,0.5s						
LANS	**Liptovska Anna**	**3.24**	**137**	*e*PG	**Pg**	**07 08 45.0**	**+0.3**
LANS				*e*SG	**Sg**	**07 09 28.6**	**+1.9**
LANS				*e*LG	Lg	07 09 33.9	
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**07 08 41.0**	**+0.9**
BSD				*i* S	**Sn**	**07 09 22.7**	**-0.8**
BSD				IAML		07 09 43.8	
	comp=Z,0.8nm,0.2s						
CONA	**Conrad Observa**	**3.64**	**182**	*e*Pn	**Pn**	**07 08 39.8**	**-0.4**
	comp=Z,3.6nm,0.3s						
CONA				*e*Sg	**Sg**	**07 09 37.3**	**-2.2**
	comp=Z,14nm,0.4s						
RONA	**Rosalia, Austr**	**3.87**	**178**	*e*Sg	**Sg**	**07 09 44.2**	**-2.5**
	comp=Z,9.9nm,0.4s						
MOA	**Molln**	**3.90**	**198**	*i* Pn	**Pn**	**07 08 42.9**	**-0.9**
	comp=Z,0.9nm,0.1s						
MOA				Sg	**Sg**	**07 09 44.7**	**-3.1**
	comp=Z,8.4nm,0.4s						
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*PG	**Pg**	**07 08 59.6**	**+1.7**
STHS				*e*SG	**Sg**	**07 09 51.3**	**+2.5**
ARSA	**Arzberg**	**4.33**	**185**	*e*Sg	**Sg**	**07 09 58.1**	**-3.5**
	comp=Z,6.1nm,0.4s						
LUNU	**Lund**	**4.37**	**340**	*i* P	**Pn**	**07 08 50.3**	**+0.1**
LUNU				*i* S	**Sn**	**07 09 42.8**	**+1.0**
BLEU	**Blekinge**	**4.76**	**358**	*i* P	**Pn**	**07 08 56.1**	**+0.6**
BLEU				*i* S	**Sn**	**07 09 49.9**	**-1.4**
DEL	**Delary**	**5.09**	**346**	*i* P	**Pn**	**07 08 59.0**	**-1.1**
DEL				*i* S	**Sn**	**07 09 55.6**	**-3.9**
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	**07 09 45.1**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=284,slow=12,SNR=4.2						
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**07 10 24.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=213,slow=9.9,SNR=2.1						
	comp=Z,3.1nm,0.9s						
ARCES	**ARCESS Array B**	**18.58**	**10**	Pn	**P**	**07 11 59.1**	**-1.8**
	baz=200,slow=9.9,SNR=4.9						
	comp=Z,1.9nm,1.0s						

IDC 09 07:11:01.8±331.0, 53°.51N×34°.28E, h0km, Error ellipse: s-maj=145.0km s-min=72.1km az=2.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.63**	**26**	I	I	07 33 00.0	
	0.2nm,0.8s,baz=211,slow=317,SNR=3.1						
I26DE	**FREYUNG INFRAS**	**13.71**	**258**	I	I	08 32 10.0	
	baz=65,slow=330,SNR=0.5						
I31KZ	**AKTYUBINSK INF**	**14.95**	**92**	I	I	08 42 30.0	
	baz=292,slow=328,SNR=1.5						
I37NO	**I37NO**	**17.23**	**341**	I	I	09 01 20.0	
	baz=146,slow=328,SNR=1.8						
I46RU	**ZALESOVO INFRA**	**29.39**	**68**	I	I	10 08 00.0	
	baz=290,slow=331,SNR=1.2						

*ASRS **09** 07:14:10.0±1.9, 53°.76N×88°.25E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 09 07:14:12.2±3.3, 53°.78N×88°.24E, h0km, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=31.6km s-min=20.1km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.03**	**276**	I	I	07 27 30.0	
	0.1nm,0.9s,baz=92,slow=329,SNR=7.3						
ZALV	**Zalesovo Beam**	**2.03**	**276**	Pn	Pn	07 14 48.1	+0.4
	2.1nm,0.3s,baz=93,slow=15,SNR=26						
ZALV				Lg	Lg	07 15 16.6	
	3.7nm,0.3s,baz=91,slow=23,SNR=15						
	7.5nm,0.5s						
KURBB	**Kurchatov Arra**	**6.75**	**246**	Pn	Pn	07 15 53.3	+0.8
	0.1nm,0.3s,baz=63,slow=14,SNR=6.6						
KURBB				Lg	Lg	07 17 44.6	
	baz=60,slow=31,SNR=4.1						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**7.96**	**211**	Pn	Pn	07 16 09.7	+0.6
	0.1nm,0.3s,baz=33,slow=12,SNR=4.6						
	0.3nm,0.5s						

*NEIC **09** 07:50:25.7±1.7, 5°.8S±0°.1×142°.54E±0°.08, h10km±2km, mb4.0/8, Error ellipse: s-maj=23.2km s-min=6.6km az=33.0*
*IDC **09** 07:50:32.2±1.8, 6°.03S×142°.66E, h53km±19km, mb3.6/5, mbtmp3.9/8, ML4.0/2, MS3.4/1, Error ellipse: s-maj=25.5km s-min=11.2km az=55.0*
ISC 09 07:50:29.8±0.7, 6°.17S±0°.06×142°.48E±0°.08, h28km, n25, σ1.70/27, mb4.2/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.04**	**334**	P	**Pn**	**07 51 30.3**	**+0.4**
	7.8nm,0.3s,baz=176,slow=9.8,SNR=22						
JAY				S	**Sn**	**07 52 17.9**	**+1.5**
	28nm,0.4s,baz=320,slow=18,SNR=4.3						
	20nm,0.3s						
PMG	**Port Moresby**	**5.64**	**125**	Pn	**Pn**	**07 51 51.1**	**-0.7**
PMG	**Port Moresby**	**5.64**	**125**	P	**Pn**	**07 51 51.4**	**-0.4**
	8.1nm,0.4s,baz=356,slow=15,SNR=5.5						
PMG				S	**Sn**	**07 52 56.6**	**+0.9**
	11nm,0.3s,baz=202,slow=21,SNR=10						
COEN	**Coen**	**7.76**	**175**	Pn	**Pn**	**07 52 22.9**	**+1.9**
FAKI	**Fak Fak**	**10.70**	**287**	Pn	Pn	07 52 56.6	-4.7
MTN	**Manton Dam**	**13.01**	**239**	Pn	**Pn**	**07 53 33.5**	**+0.6**
WB0	**Warramunga Arr**	**15.63**	**209**		**Pn**	**07 54 10.4**	**+2.1**
WB0				IAmb	IAmb	07 54 20.1	
	comp=Z,4.8nm,0.6s						
WR8	**Warramunga Arr**	**15.74**	**209**	Pn	**Pn**	**07 54 10.7**	**+1.0**
WR8				IAmb	IAmb	07 54 16.1	
	comp=Z,9.5nm,1.1s						
WRA	**Warramunga Arr**	**15.81**	**209**	Pn	**Pn**	**07 54 11.2**	**+0.6**
WRA	**Warramunga Arr**	**15.81**	**209**	P	**Pn**	**07 54 10.7**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=28,slow=13,SNR=18						
WRA				S	**Sn**	**07 56 59.9**	**-5.3**
	comp=Z,1.1nm,0.4s,baz=24,slow=22,SNR=5.0						
KNRA	**Kununurra**	**16.44**	**234**	Pn	**Pn**	**07 54 18.4**	**-0.3**
KNRA				IAmb	IAmb	07 54 28.4	
	comp=Z,17nm,1.1s						
SOEI	**Soe**	**18.39**	**258**	P	**P**	**07 54 41.7**	**-1.2**
AS31	**Alice Springs**	**19.25**	**205**	P	**Pn**	**07 54 53.9**	**+0.6**
ASAR	**Alice Springs**	**19.25**	**205**	P	**P**	**07 54 53.2**	**+1.0**
ASAR	**Alice Springs**	**19.25**	**205**	P	**Pn**	**07 54 55.2**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=26,slow=11,SNR=34						
ASAR				S	**Sn**	**07 58 25.2**	**-3.3**
	comp=Z,0.6nm,0.5s,baz=13,slow=29,SNR=4.6						
ASAR				LR	LR	08 02 46.0	
	comp=Z,97nm,19.0s,baz=112,slow=38						
	comp=Z,2.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.26**	**233**	P	**P**	**07 55 04.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**20.26**	**233**	P	Pn	07 55 06.0	+0.6
	comp=Z,1.7nm,0.3s,baz=52,slow=11,SNR=12						
	comp=Z,1.7nm,0.3s						
STKA	**Stephens Creek**	**25.59**	**182**	P	**P**	**07 55 57.4**	**+0.7**
ARMA	**Armidale**	**25.61**	**161**	P	**P**	**07 55 58.3**	**+1.3**
ARMA				IAmb	IAmb	07 56 04.7	
	comp=Z,9.3nm,1.1s						
PSA00	**Pilbara Seismi**	**26.72**	**233**	P	**P**	**07 56 07.7**	**+0.6**
MKAR	**Makanchi Array**	**74.81**	**322**	P	**P**	**08 02 07.4**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=142,slow=7.3,SNR=3.9						
	comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**83.80**	**180**	P	**P**	**08 02 57.5**	**+1.1**
QSPA	**South Pole Qui**	**83.80**	**180**	P	**P**	**08 02 56.7**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=291,slow=0.8,SNR=9.5						
	comp=Z,0.8nm,0.5s						
BVAR	**Borovoye Array**	**84.29**	**325**	P	**P**	**08 02 58.5**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=103,slow=6.2,SNR=3.7						
	comp=Z,0.7nm,0.4s						
ILAR	**Eielson Array**	**87.43**	**24**	P	**P**	**08 03 11.8**	**-2.6**
	comp=Z,0.3nm,0.8s,baz=258,slow=4.3,SNR=4.8						
	comp=Z,0.3nm,0.8s						

*TIR **09** 07:53:07.2, 39°.31N×20°.03E, h4km±2km, Ml2.7/5*
*THE **09** 07:53:08.9, 39°.29N×20°.06E, h28km±2km, ML2.7/4, Error ellipse: s-maj=2.5km s-min=0.7km az=304.0*
*ATH **09** 07:53:08.4, 39°.33N×20°.08E, h33km±4km, ML2.9/6, Manual Solution by A.Moschou First location: 2019/04/09 07:54:09, This location: 2019/04/09 08:42:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 5 km*
ISC 09 07:53:08.2±1.1, 39°.29N±0°.02×20°.04E±0°.04, h23km±10km, n34, σ1.02/59, 2C-3D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRGA	**Parga**	**0.28**	**90**	P	**Pn**	**07 53 15.9**	**-1.0**
PRGA				S	**Sn**	**07 53 21.4**	**-1.1**
IGT	**Igoumenitsa**	**0.33**	**43**	P	**Pb**	**07 53 15.6**	**+0.1**
IGT				S	**Sn**	**07 53 22.1**	**-1.7**
	992

NEST	Nestorio	1.37	34	P	Pn	07 53 32.0	0.0
NEST	Nestorio	1.37	34	⇑Pg	Pb	07 53 32.8	-0.3
NEST				Sg	Sb	07 53 53.9	+3.7
NEST				AML	AML	07 53 57.6	
	0.5nm,0.3s						
THL	Klokotos Trika	1.56	79	P	Pn	07 53 34.4	0.0
ANX	Ano Chora	1.62	115	P	Pn	07 53 35.3	-0.2
EFP	Efpalio	1.69	120	P	Pn	07 53 36.5	+0.2
OHR	Ohrid	1.91	17	*i* Pn	Pn	07 53 39.9	+0.5
OHR				*i* Sn	Sb	07 54 10.1	+4.3
LIT	Litokhoron	2.06	66	P	Pn	07 53 40.4	-1.0

ASRS ***09*** *07:59:36.0±1.1, 55°.64N×86°.05E, h0km, M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 07:59:40.4±3.9, 55°.58N×86°.21E, h0km, mbtmp2.8/1, ML2.9/1, Error ellipse: s-maj=31.1km s-min=27.2km az=157.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.82	207	I	I	08 12 10.0	
	baz=26,slow=334,SNR=13						
ZALV	Zalesovo Beam	1.82	207	Pn	Pn	08 00 11.9	-1.0
	2.8nm,0.3s,baz=25,slow=17,SNR=20						
ZALV				Lg	Lg	08 00 37.4	
	2.5nm,0.3s,baz=24,slow=30,SNR=6.4						
KURBB	Kurchatov Arra	6.78	226	Lg	Lg	08 03 16.1	
	0.1nm,0.3s,baz=45,slow=30,SNR=2.2						
MKAR	Makanchi Array	9.13	197	Pn	Pn	08 01 53.8	+0.4
	0.1nm,0.3s,baz=26,slow=14,SNR=4.4						
MKAR				Lg	Lg	08 04 34.1	
	0.1nm,0.3s,baz=23,slow=27,SNR=3.6						
	0.2nm,0.5s						

IDC ***09*** *08:00:00.7±1.0, 3°.48S×145°.34E, h0km, mb4.0/9, mbtmp4.1/11, ML4.3/1, MS3.4/1, Error ellipse: s-maj=40.1km s-min=18.2km az=97.0*

NEIC ***09*** *08:00:03.3±0.9, 3°.35S±0°.09×145°.1E±0°.1, h10km±1km, mb4.4/28, Error ellipse: s-maj=22.9km s-min=12.2km az=119.0*

ISC 09 08:00:04.6±0.6, 3°.44S±0°.08×145°.2E±0°.1, h22km, n45, σ0§77/45, mb4.4/19, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	2.56	57		Pn	08 00 45.1	+0.3
PMG	Port Moresby	6.23	162	Pn	Pn	08 01 35.4	+0.1
PMG	Port Moresby	6.23	162	Pn	Pn	08 01 34.1	-1.2
	7.4nm,0.4s,baz=342,slow=9.6,SNR=3.0						
RABL	Rabaul	6.97	96	Pn	Pn	08 01 45.9	+0.4
COEN	Coen	10.64	191	Pn	Pn	08 02 38.1	+2.3
WB0	Warramunga Arr	19.36	212	P	P	08 04 28.6	-0.2
WR0	Warramunga Arr	19.44	212	P	P	08 04 29.7	-0.1
WR8	Warramunga Arr	19.46	212	P	Pn	08 04 30.2	-1.1
WRAB	Tennant Creek	19.52	212	P	Pn	08 04 31.1	-0.8
WRAB				IAmb	IAmb	08 04 32.6	
	comp=Z,13nm,0.9s						
WB2	Warramunga Arr	19.53	212		Pn	08 04 31.0	-1.1
WB2				IAmb	IAmb	08 04 32.8	
	comp=Z,16nm,0.8s						
WRA	Warramunga Arr	19.53	212		P	08 04 30.6	-0.1
WRA	Warramunga Arr	19.53	212	P	P	08 04 30.7	-0.1
	comp=Z,0.9nm,0.3s,baz=33,slow=11,SNR=40						
	comp=Z,6.5nm,0.7s						
KNRA	Kununurra	20.25	232	P	P	08 04 38.0	-0.6
KNRA				IAmb	IAmb	08 05 07.7	
	comp=Z,19nm,1.2s						
SOEI	Soe	21.72	252	P	P	08 04 53.8	-0.9
SOEI				IAmb	IAmb	08 05 07.8	
	comp=Z,23nm,0.9s						
AS31	Alice Springs	22.88	208	P	P	08 05 07.1	+0.2
ASAR	Alice Springs	22.89	208	P	P	08 05 07.1	+0.2
ASAR	Alice Springs	22.89	208	P	P	08 05 06.4	-0.5
	comp=Z,4.5nm,0.6s,baz=32,slow=12,SNR=66						
ASAR				LR	LR	08 15 42.1	
	comp=Z,84nm,19.1s,baz=194,slow=41						
	comp=Z,4.5nm,0.6s						
FITZ	Fitzroy Crossi	24.08	231	P	P	08 05 18.2	-0.4
FITZ	Fitzroy Crossi	24.08	231	P	P	08 05 18.4	-0.2
	comp=Z,8.5nm,0.6s,baz=51,slow=9.2,SNR=28						
	comp=Z,8.5nm,0.6s						
FORT	Forrest	31.65	209	P	P	08 06 27.0	+0.7
SONM	Songino Array	61.32	331	P	P	08 10 19.9	+1.3
	comp=Z,0.2nm,0.5s,baz=130,slow=6.0,SNR=3.6						
	comp=Z,0.2nm,0.5s						
MKAR	Makanchi Array	74.40	321	P	P	08 11 40.8	-0.2
	comp=Z,0.4nm,0.8s,baz=115,slow=8.1,SNR=3.7						
	comp=Z,0.4nm,0.8s						
M14K	Bethel	75.86	24	P	P	08 11 49.6	+0.6
ZALV	Zalesovo Beam	75.91	328	P	P	08 11 48.7	-0.7
L14K	Kuka Creek	75.92	23	P	P	08 11 49.2	-0.1
Q16K	Kokwok River B	76.85	26	P	P	08 11 55.6	+1.0
O16K				IAmb	IAmb	08 12 11.8	
	comp=Z,5.7nm,1.2s						
K15K	Wolf Creek Mou	76.92	23	P	P	08 11 55.0	0.0
K15K				IAmb	IAmb	08 12 02.7	
	comp=Z,6.2nm,1.1s						
P18K	Big Mountain,	78.02	27	P	P	08 12 02.2	+1.0
KURBB	Kurchatov Arra	78.13	323	P	P	08 12 02.8	+0.9
	comp=Z,0.5nm,0.5s,baz=108,slow=3.0,SNR=2.6						
	comp=Z,0.5nm,0.5s						
G16K	Koyuk River	78.42	20	P	P	08 12 03.2	0.0
P19K	Oil Pt	79.05	27	P	P	08 12 05.2	-1.7
C18K	Utukok River	80.71	17	P	P	08 12 15.5	-0.2
D19K	Kuna River	81.56	18	P	P	08 12 20.8	+0.5
D19K				IAmb	IAmb	08 12 22.4	
	comp=Z,6.1nm,1.3s						
D20K	Etivluk River	82.14	18	P	P	08 12 24.8	+1.5
D20K				IAmb	IAmb	08 12 30.4	
	comp=Z,2.6nm,0.9s						
NRIK	Noril'sk	82.31	342	P	P	08 12 24.2	0.0
	comp=Z,1.4nm,0.5s,baz=136,slow=4.4,SNR=4.0						
	comp=Z,1.4nm,0.5s						
RND	Reindeer	82.53	24	P	P	08 12 25.9	+0.4
RND				IAmb	IAmb	08 12 26.3	
	comp=Z,2.6nm,0.8s						
E21K	Killik River	82.85	19	P	P	08 12 26.9	-0.1
E21K				IAmb	IAmb	08 12 34.2	
	comp=Z,2.1nm,0.9s						
BVAR	Borovoye Array	83.67	324	P	P	08 12 31.5	0.0
	comp=Z,1.7nm,0.8s,baz=106,slow=5.3,SNR=8.6						
	comp=Z,1.7nm,0.8s						
ILAR	Eielson Array	83.85	24	P	P	08 12 31.6	-0.6
	comp=Z,0.8nm,0.7s,baz=258,slow=5.1,SNR=9.4						
	comp=Z,0.8nm,0.7s						
H24K	Noodor Dome	83.87	22	P	P	08 12 33.3	+0.9
H24K				IAmb	IAmb	08 12 39.4	
	comp=Z,4.0nm,1.3s						
D23K	Nanushuk River	84.16	19	P	P	08 12 33.2	-0.5
D23K				IAmb	IAmb	08 13 12.0	
	comp=Z,4.4nm,1.4s						
QSPA	South Pole Qui	86.51	180	P	P	08 12 45.7	0.0
QSPA				IAmb	IAmb	08 12 52.1	
	comp=Z,4.5nm,1.3s						
QSPA	South Pole Qui	86.51	180	P	P	08 12 45.1	-0.6
	comp=Z,1.2nm,0.7s,baz=278,slow=0.5,SNR=10						
	comp=Z,1.2nm,0.7s						
C27K	Jago River	86.70	19	P	P	08 12 46.9	+0.5
C27K				IAmb	IAmb	08 13 01.3	
	comp=Z,4.4nm,1.4s						
ABKAR	Akbulak array	89.49	319	P	P	08 12 59.7	-0.4

IDC ***09*** *08:14:17.1±3.8, 2°.87S×100°.06E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=155.8km s-min=29.5km az=52.0*

ISC 09 08:14:17.5±3.3, 3°.1S±0°.6×99°.9E±0°.8, h10km, n15, σ0§38/6, mb3.8/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	27.63	259	T	T	08 49 09.8	
	baz=82,slow=75,SNR=502						
H08S3	Diego Garcia H	27.63	259	T	T	08 49 10.3	
	baz=82,slow=75,SNR=642						
H08S1	Diego Garcia H	27.64	259	T	T	08 49 09.5	
	baz=82,slow=75,SNR=154						
WRA	Warramunga Arr	37.58	119	P	P	08 21 32.4	-0.2
	0.3nm,0.4s,baz=302,slow=8.1,SNR=2.0						
	0.3nm,0.4s						
SONM	Songino Array	51.01	6	P	P	08 23 19.8	+0.1
	1.1nm,0.7s,baz=182,slow=8.7,SNR=6.8						
	1.1nm,0.7s						
MKAR	Makanchi Array	52.01	345	P	P	08 23 27.0	-0.2
	1.3nm,0.7s,baz=151,slow=7.5,SNR=11						
	1.3nm,0.7s						
KURBB	Kurchatov Arra	56.53	344	P	P	08 23 59.5	-0.4
	0.6nm,0.8s,baz=165,slow=6.3,SNR=5.5						
	0.6nm,0.8s						
ZALV	Zalesovo Beam	58.18	350	P	P	08 24 11.5	0.0
	0.6nm,0.6s,baz=168,slow=8.7,SNR=1.8						
	0.6nm,0.6s						
H04N2	CROZET ISLANDS	59.87	217	T	T	09 29 31.8	
	baz=60,slow=74,SNR=357						
H04N1	CROZET ISLANDS	59.88	217	T	T	09 29 31.8	
	baz=60,slow=74,SNR=391						
H04N3	CROZET ISLANDS	59.89	217	T	T	09 29 37.4	
	baz=60,slow=74,SNR=455						
H04S1	CROZET ISLANDS	60.16	216	T	T	09 29 56.8	
	baz=58,slow=75,SNR=50						
H04S3	CROZET ISLANDS	60.17	216	T	T	09 29 54.8	
	baz=58,slow=75,SNR=106						
H04S2	CROZET ISLANDS	60.17	216	T	T	09 29 56.9	
	baz=58,slow=75,SNR=60						
TXAR	Lajitas Array	145.62	38	PKPbc	PKPdf	08 33 57.5	+0.5
	0.5nm,0.5s,baz=216,slow=0.9,SNR=11						

CATAC 09 08:16:48.1±0.2, 15°N±1°×8°9W±°, h3km±1km, M2.3/12, MLv2.3/12, Error ellipse: s-maj=3.5km s-min=2.8km az=55.5, confirmed, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	Esquipulas	0.21	281	P	Pg	08 16 52.5	+0.3
ESQI	Esquipulas	0.21	281	S	Sg	08 16 56.5	+1.4
MTO3	Montecristo	0.26	243	P	Pg	08 16 53.3	+0.2
MTO3	Montecristo	0.26	243	S	Sg	08 16 57.8	+1.2
LLGN	La Laguna	0.40	154	P	Pg	08 16 55.4	-0.3
LLGN	La Laguna	0.40	154	S	Sg	08 17 01.4	+0.5
UNIC	Universidad Ca	0.67	218	S	Sg	08 17 10.4	+0.6
UNIC	Universidad Ca	0.67	218	P	Pg	08 17 01.2	+0.1
SEMO	Seminario San	0.82	187	S	Sg	08 17 14.4	0.0
PAVA	Las Pavas	0.82	167	P	Pg	08 17 03.3	-0.6
PAVA	Las Pavas	0.82	167	S	Sg	08 17 14.9	+0.3
NUBE	Las Nubes	0.88	226	S	Sg	08 17 17.1	+0.6
NUBE	Las Nubes	0.88	226	P	Pg	08 17 04.8	-0.2
SCLA	Alcaldia de Sa	0.90	155	P	Pg	08 17 04.8	-0.5
SCLA	Alcaldia de Sa	0.90	155	S	Sb	08 17 18.6	-0.2
JAYA	Jayaque - finc	0.92	200	P	Pg	08 17 05.4	-0.3
JAYA	Jayaque - finc	0.92	200	S	Sb	08 17 18.6	-0.8
COEG	Centro de Oper	0.92	165	P	Pg	08 17 05.2	-0.6
COEG	Centro de Oper	0.92	165	S	Sb	08 17 19.0	-0.5
TECO	Alcaldia de Te	1.03	161	S	Sg	08 17 21.9	+0.6
PQSS	Presa 15 de Se	1.04	148	S	Sg	08 17 21.9	+0.2
PQSS	Presa 15 de Se	1.04	148	P	Pg	08 17 07.2	-0.9
PACA	Pacayal	1.30	143	S	Sg	08 17 29.6	-0.4
PACA	Pacayal	1.30	143	P	Pg	08 17 12.0	-1.1
IZABA	Izabal, Puerto	1.31	23	S	Sg	08 17 29.4	-1.0
IZABA	Izabal, Puerto	1.31	23	P	Pg	08 17 12.2	-1.1
RANC	El Ranchito	1.35	143	P	Pn	08 17 12.8	-1.2
COMHN	El Horno	1.52	93	P	Pn	08 17 14.6	-1.9
COMHN	El Horno	1.52	93	S	Sn	08 17 35.4	-1.4
NISHN	Nisperales Com	1.73	44	S	Sn	08 17 41.4	-0.5
CNCH	Conchagua	1.76	134	S	Sn	08 17 42.1	-0.6
CNCH	Conchagua	1.76	134	P	Pn	08 17 19.9	+0.2
TGUH	Tegucigalpa,Un	1.85	104	P	Pn	08 17 21.8	+0.8
TGUH				S	Sb	08 17 45.7	-0.7
CHOHN	Orocuina	2.17	118	S	Sb	08 17 54.8	-0.7
CHOHN	Orocuina	2.17	118	P	Pn	08 17 25.7	+0.4
YUSH	Yuscaran	2.28	104	S	Sb	08 17 57.2	-1.5
YUSH	Yuscaran	2.28	104	P	Pn	08 17 27.7	+0.9

NEIC ***09*** *08:17:01.9±1.2, 5°.1S±0°.1×145°.6E±0°.2, h79km±12km, mb4.2/7, Error ellipse: s-maj=24.2km s-min=11.8km az=114.0*

IDC ***09*** *08:17:01.2±5.6, 5°.18S×145°.76E, h76km±48km, mb3.4/4, mbtmp3.8/6, ML3.3/2, Error ellipse: s-maj=43.3km s-min=31.3km az=122.0*

ISC 09 08:16:59.8±1.1, 5°.1S±0°.1×145°.6E±0°.1, h64km, n17, σ0§98/18, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.55	161	P	Pn	08 18 07.8	+1.5
	11nm,0.3s,baz=331,slow=13,SNR=15						
PMG				S	Sn	08 18 55.8	-2.0
	56nm,0.3s,baz=161,slow=20,SNR=14						
	27nm,0.3s						
COEN	Coen	9.14	195	Pn	Pn	08 19 10.1	+1.0
HNR	Honiara	14.84	108	Pn	Pn	08 20 26.4	+0.1
MTN	Manton Dam	16.25	241		P	08 20 46.0	-0.2
MTN				IAmb	IAmb	08 21 20.0	
	comp=Z,31nm,1.3s						
WB0	Warramunga Arr	18.24	216	P	P	08 21 07.9	-0.2
WB0				IAmb	IAmb	08 21 14.7	
	comp=Z,9.0nm,1.5s						
WR8	Warramunga Arr	18.32	215		Pn	08 21 09.6	-0.1
WR8				IAmb	IAmb	08 21 32.6	
	comp=Z,9.7nm,1.3s						
WRA	Warramunga Arr	18.41	216	P	Pn	08 21 11.0	+0.3
WRA	Warramunga Arr	18.41	216	P	P	08 21 09.7	-0.3
	comp=Z,0.4nm,0.3s,baz=36,slow=11,SNR=14						
	comp=Z,0.5nm,0.3s						
KNRA	Kununurra	19.62	236	P	P	08 21 23.3	0.0
KNRA				IAmb	IAmb	08 21 33.6	
	comp=Z,31nm,1.3s						
ASAR	Alice Springs	21.65	210	P	P	08 21 43.2	-2.0
ASAR	Alice Springs	21.65	210	P	P	08 21 45.3	+0.1
	comp=Z,0.6nm,0.5s,baz=34,slow=8.0,SNR=16						
	comp=Z,0.6nm,0.5s						
FITZ	Fitzroy Crossi	23.43	235	P	P	08 22 03.8	+0.2
STKA	Stephens Creek	26.92	188	P	P	08 22 36.5	+1.4
	comp=Z,0.9nm,0.5s,baz=10.0,slow=16,SNR=3.1						
	comp=Z,0.9nm,0.5s						
ACHA	Angle Creek He	78.67	28	P	P	08 28 54.5	-0.4
ACHA				IAmb	IAmb	08 29 34.0	
	comp=Z,6.7nm,1.4s						
QSPA	South Pole Qui	84.87	180	P	P	08 29 27.7	+0.1
QSPA	South Pole Qui	84.87	180	P	P	08 29 26.8	-0.8
	comp=Z,0.7nm,0.5s,baz=18,slow=6.4,SNR=8.0						
	comp=Z,0.7nm,0.5s						
ILAR	Eielson Array	85.19	23	P	P	08 29 28.6	-0.3
	comp=Z,0.6nm,0.8s,baz=247,slow=5.4,SNR=5.7						
	comp=Z,0.6nm,0.8s						

AFAD ***09*** *08:22:06.4, 35°.37N×30°.07E, h24km±2km, MW3.9*

IDC ***09*** *08:22:07.4±1.0, 35°.56N×30°.00E, h0km, mb4.1/10, mbtmp4.1/19, ML3.8/8, MS2.9/6, Error ellipse: s-maj=19.2km s-min=13.8km az=16.0*

MED_RC ***09*** *08:22:08.0±0.8, 35°.42N×29°.92E, h10km, MW4.0/11, Moment Tensor Solution. Mantle waves: s11,c12; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}0.11±.56; $M_{\theta\theta}$-0.90±.41; $M_{\phi\phi}$0.79±.23; $M_{r\theta}$-0.64±.54; $M_{\theta\phi}$0.77±.43; $M_{\phi r}$0.00±.43; Best double couple: $M_0$1.29000×10^{15} NP1:ϕ_s158.00000°, δ64.00000°, λ-175.00000°. NP2:ϕ_s66.00000°, δ86.00000°, λ-26.00000°. Principal axes: T 1.1500, Plg15.0000°, Azm115.0000°; N 0.2800, Plg63.0000°, Azm237.0000°; P -1.4300, Plg22.0000°, Azm19.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

NEIC ***09*** *08:22:08.9±1.1, 35°.52N±0°.05×29°.93E±0°.02, h10km±1km, mb4.3/25 Error ellipse: s-maj=8.2km s-min=3.0km az=188.0*

ISK ***09*** *08:22:08.1, 35°.42N×29°.95E, h15km, ML3.8/28*

ATH ***09*** *08:22:09.3, 35°.49N×29°.93E, h14km±6km, ML3.4/8, Manual Solution by A.Papageorgiou First location: 2019/04/09 08:23:39, This location: 2019/04/09 08:31:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 4 km*

NIC ***09*** *08:22:09.9, 35°.43N×29°.97E, h12km±3km, Ml3.2/7*

GII ***09*** *08:22:10.9±0.0, 35°.412N±0°.003×29°.812E±0°.001, h40km, Mws3.6, confirmed*

ISC 09 08:22:09.4±1.2, 35°.46N±0°.03×29°.95E±0°.02, h15km±7km, n182, σ1§15/213, mb4.2/22, MS2.8/3, 2C-1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.75	337	P	Pg	08 22 22.8	-1.2
KSL				S	Sn	08 22 36.9	+0.5
KSL				AML	AML	08 22 38.9	
	24nm,0.6s						
KSL				AML	AML	08 22 39.0	
	15nm,0.4s						
KSL	Kastellorizon	0.75	337	P	Pg	08 22 22.8	-1.2
KSL				S	Sg	08 22 33.1	-0.8
DEMR	Demre-Antalya	0.78	357	Pg	Pg	08 22 24.3	-0.2
DEMR				Sg	Sb	08 22 36.3	+1.5
AKAS	Kas	0.82	340	Pg	Pg	08 22 25.2	-0.2
AKAS	Kas	0.82	340		Pg	08 22 23.9	-1.5
AKAS	Kas	0.82	340	P	Pg	08 22 23.2	-2.1
AKAS				S	Sn	08 22 39.1	+0.7
AKUM	Antalya-Kumluc	0.92	20	P	Pb	08 22 24.7	-2.2
AKUM				S	Sn	08 22 43.2	+2.6
IZZE	Mula-Seydike	1.14	329	P	Pn	08 22 29.9	-0.9
IZZE				S	Sg	08 22 49.0	+2.8
KEMT	Kemer-ANTALYA	1.24	23	Pn	Pn	08 22 32.1	0.0
ELL	Elmali	1.28	359	Pn	Pn	08 22 32.8	-0.1
ELL	Elmali	1.28	359		Pn	08 22 32.3	-0.5
ELL	Elmali	1.28	359	P	Pn	08 22 33.0	+0.1
ELL				S	Sg	08 22 53.2	+2.3
ELL				AML	AML	08 23 08.7	
	5.8nm,0.9s						
ELL				AML	AML	08 23 10.7	
	10nm,0.7s						
ELL	Elmali	1.28	359	P	Pn	08 22 32.6	-0.3
ELL				S	Sb	08 22 49.4	-0.2
FETY	Fethiye	1.37	329	Pn	Pn	08 22 33.8	-0.1
FETY	Fethiye	1.37	329	P	Pb	08 22 34.8	+0.2
KNIK	Mula-Seydike	1.42	348	P	Pn	08 22 34.8	+0.2
KNIK				S	Sb	08 22 54.1	+0.7
ANTB	Antalya	1.54	21	Pn	Pn	08 22 36.4	+0.1
CAME	Cameli-Denizli	1.57	341	Pn	Pn	08 22 36.8	0.0
SABU	Mula-Dalaman	1.57	330	P	Pb	08 22 37.6	-0.6
ARG	Arkhangelos	1.66	297	Pn	Pn	08 22 37.8	-0.2
ARG	Arkhangelos	1.66	297	Pn	Pn	08 22 37.4	-0.5
ARG	Arkhangelos	1.66	297	P	Pn	08 22 37.7	-0.2
ARG				S	Sb	08 22 59.7	-0.6
ARG	Arkhangelos	1.66	297	P	Pn	08 22 37.5	-0.5
ARG				S	Sn	08 22 58.6	-0.3
DALY	Dalyan (Mula)	1.71	323	Pn	Pn	08 22 38.9	+0.3
CAEL	Denizli, Camel	1.73	343	P	Pg	08 22 42.4	-0.3
CAEL				S	Sg	08 23 08.8	+3.5
MNVG	Manavgat-Antal	1.78	41	Pn	Pn	08 22 39.7	+0.1
GOLH	Golhisar	1.80	350	P	Pn	08 22 40.4	+0.5
TURN	Turunc	1.90	314	Pn	Pn	08 22 41.4	+0.2
TURN	Turunc	1.90	314	P	Pb	08 22 42.7	-1.0
KEPZ	Antalya-Kepez	1.96	42	P	Pn	08 22 42.2	+0.1
KEPZ				S	Sn	08 23 07.5	+1.0
AKMS	Akamas	2.00	102	⇑*i* P	Pn	08 22 43.5	+0.8
AKMS				S	Sb	08 23 08.8	-1.4
AKMS				AML	AML	08 23 12.6	
	1.2nm,0.4s						
AKMS				AML	AML	08 23 14.4	
	0.5nm,0.3s						
AKMS	Akamas	2.00	102	P	Pn	08 22 43.4	+0.8
AKMS				S	Sn	08 23 07.0	-0.4
ALAN	Alanya-ANTALYA	2.01	56	Pn	Pn	08 22 42.8	+0.1
BCK	Bucak	2.06	14	Pn	Pn	08 22 43.9	+0.4
GAZI	Gazipasa	2.07	67	Pn	Pn	08 22 43.7	+0.1
GAZI	Gazipasa	2.07	67	P	Pn	08 22 42.2	-1.3
GAZI				S	Sn	08 23 09.3	+0.2
APMY	Acipayam-Deniz	2.07	346	Pn	Pn	08 22 44.2	+0.5
YER	Yerkesik	2.15	322	Pn	Pn	08 22 44.9	+0.3
TAVA	DENIZLI_Tavas	2.17	338	P	Pb	08 22 48.7	+0.3
TAVA				S	Sg	08 23 18.0	-1.1
ALFC	Alefka	2.19	97	P	Pn	08 22 46.0	+0.8
ALFC				S	Sn	08 23 13.0	+1.0
ALFC				AML	AML	08 23 19.2	
	0.6nm,0.4s						
ALFC				AML	AML	08 23 22.3	
	0.7nm,0.3s						
ALFC	Alefka	2.19	97	P	Pn	08 22 45.8	+0.6
ALFC				S	Sn	08 23 13.0	+1.0
BRDR	BURDUR-Merkez	2.23	2	P	Pn	08 22 45.7	-0.2
BRDR				S	Sn	08 23 15.1	+1.9
NATA	Nata	2.25	107	⇑*e* P	Pn	08 22 47.2	+1.1
NATA				S	Sb	08 23 16.1	-1.3
NATA				AML	AML	08 23 30.3	
	0.9nm,0.4s						
NATA				AML	AML	08 23 32.8	
	1.2nm,0.5s						
NATA	Nata	2.25	107	P	Pn	08 22 46.9	+0.9
NATA				S	Sn	08 23 14.8	+1.2
INCE	Denizli-Bozkur	2.26	352	P	Pn	08 22 45.2	-1.1
KARP	Karpathos	2.28	273	Pn	Pn	08 22 46.3	-0.1
KARP	Karpathos	2.28	273	Pn	Pn	08 22 47.0	+0.6
KARP	Karpathos	2.28	273	P	Pn	08 22 47.2	+0.8
KARP				S	Sb	08 23 17.3	-0.8
KARP	Karpathos	2.28	273	P	Pn	08 22 46.8	+0.4
DNIZ	Denizli-Tavas-	2.28	342	P	Pn	08 22 47.3	+0.8
DAT	Datca	2.30	304	Pn	Pn	08 22 46.9	+0.1
YAZI	Mula-Dat§a-	2.36	302	P	Pn	08 22 44.9	-2.7
ISP	Isparta	2.40	11	Pn	Pn	08 22 48.5	+0.3
ISP	Isparta	2.40	11		Pn	08 22 49.4	+1.2
ISP	Isparta	2.40	11	P	Pn	08 22 50.0	+1.8
ISP	Isparta	2.40	11	P	Pn	08 22 48.9	+0.7
BASM	Basmaki-Afyon	2.46	2	Pn	Pn	08 22 49.3	+0.4
SEYD	Seydisehir-KON	2.47	38	Pn	Pn	08 22 49.6	+0.5
MLSB	Milas	2.54	317	Pn	Pn	08 22 50.3	+0.3
HDMB	Hadim	2.54	53	Pn	Pn	08 22 50.2	0.0
BODT	Bodrum	2.67	308	Pn	Pn	08 22 51.1	-0.6
ESEN	Aydn-Nazilli	2.67	332	P	Pn	08 22 51.6	-0.1
ASGA	Asgata	2.79	103	P	Pn	08 22 54.4	+1.0
ASGA				S	Sb	08 23 29.5	-3.2
ASGA				AML	AML	08 23 37.1	
	0.2nm,0.4s						
ASGA				AML	AML	08 23 40.9	
	0.2nm,0.5s						
ASGA	Asgata	2.79	103	P	Pn	08 22 53.7	+0.3
ASGA				S	Sn	08 23 27.7	+1.0
KZIL	AFYON_Kizioren	2.80	3	P	Pn	08 22 52.3	-1.3

BRTR	Keskin Array B	5.17	33	Pn	Pn	08 23 26.0	-0.2
BRTR	Keskin Array B	5.17	33	Pn	Pn	08 23 26.8	+0.5
	2.7nm,0.3s,baz=220,slow=14,SNR=56						
BRTR				Sn	Sn	08 24 25.5	-0.1
	1.0nm,0.3s,baz=214,slow=29,SNR=5.4						
	9.0nm,0.5s						
BEIL	Beino	5.20	98	eP	Pn	08 23 26.9	+0.3
GEM	Giv'at Ha'Em	5.23	114	P	Pn	08 23 28.5	+1.5
GEM	Giv'at Ha'Em	5.23	114	S	Sn	08 24 27.9	+0.8
SHBL	Chebaa	5.23	112	eP	Pn	08 23 28.2	+1.0
RCY	Rachaya	5.24	110	eP	Pn	08 23 27.9	+0.6
NATI	Neve Ativ	5.26	113	P	Pn	08 23 28.8	+1.4
NATI	Neve Ativ	5.26	113	S	Sn	08 24 29.4	+1.6
SLTI	Sal'it	5.32	126	P	Pn	08 23 29.6	+1.4
KSHT	Keshet	5.45	115	P	Pn	08 23 31.3	+1.3
MMLI	Mount Malkishu	5.46	122	P	Pn	08 23 30.7	+0.6
MMLI	Mount Malkishu	5.46	122	S	Sn	08 24 33.6	+1.0
SALP	Salfit	5.52	126	P	Pn	08 23 31.6	+0.5
HMDT	Nahal Hemdat	5.63	123	P	Pn	08 23 33.1	+0.6
HMDT	Nahal Hemdat	5.63	123	S	Sn	08 24 38.4	+1.4
AMAZ	Amatzia	5.71	132	P	Pn	08 23 34.6	+1.0
KZIT	Kziot	5.88	139	P	Pn	08 23 36.9	+1.1
KZIT	Kziot	5.88	139	S	Sn	08 24 42.6	-0.3
YTIR	Yattir	5.95	132	P	Pn	08 23 37.4	+0.5
DSI	Dead Sea	5.97	129	P	Pn	08 23 37.9	+0.8
DSI	Dead Sea	5.97	129	S	Sn	08 24 46.9	+1.7
GAZ	Gaziantep	6.11	72	Pn	Pn	08 23 36.1	-3.0
MSBI	Mazada	6.13	131	P	Pn	08 23 40.4	+1.1
GHAJ	Ghor Haditha	6.26	130	Pn	Pn	08 23 40.7	-0.5
ILGA	Ilgaz	6.32	27	Pn	Pn	08 23 39.4	-2.7
PRNI	Paran	6.63	139	P	Pn	08 23 47.3	+1.0
PRNI	Paran	6.63	139	S	Sn	08 25 01.2	-0.5
ASF	Jabal al Asfar	6.65	118	Pn	Pn	08 23 48.0	+1.4
	3.0nm,0.3s,baz=338,slow=16,SNR=4.3						
ASF				Sn	Sn	08 24 57.8	-4.2
	1.3nm,0.3s,baz=346,slow=24,SNR=1.6						
	5.9nm,0.4s						
KRMI	Paran Flat	6.67	142	P	Pn	08 23 47.4	+0.6
KRMI	Paran Flat	6.67	142	S	Sn	08 25 02.9	+0.3
HRFI	Mount Harif	6.90	140	P	Pn	08 23 50.6	+0.7
HRFI	Mount Harif	6.90	140	S	Sn	08 25 07.7	-0.5
MBRI	Mt Berech	7.03	142	P	Pn	08 23 52.7	+0.9
EIL	Elat	7.15	142	Pn	Pn	08 23 54.4	+1.0
	4.4nm,0.3s,baz=342,slow=3.2,SNR=38						
EIL				Sn	Sn	08 25 14.1	-0.2
	3.0nm,0.3s,baz=41,slow=8.4,SNR=5.5						
	13nm,0.5s						
EIL	Elat	7.15	142	P	Pn	08 23 54.3	+0.9
EIL	Elat	7.15	142	S	Sn	08 25 14.2	-0.2
MLR	Muntele Rosu	10.47	344	LR	LR	08 28 47.1	
	comp=Z,36nm,20.1s,baz=13,slow=38						
TIP	Timpagrande	11.14	293	Pn	Pn	08 24 45.9	-2.2
CUC	Castrocucco	12.07	296	Pn	Pn	08 25 00.1	-0.6
KBZ	Khabaz	12.95	46	Pn	Pn	08 25 15.4	+2.7
	0.5nm,0.3s,baz=237,slow=11,SNR=8.8						
	1.4nm,0.8s						
KIEV	Kiev	15.24	358	Pn	Pn	08 25 43.3	-0.5
AKASG	Malin Array Be	15.24	358	Pn	Pn	08 25 43.6	-0.2
	0.5nm,0.3s,baz=177,slow=9.1,SNR=7.0						
	0.3nm,0.5s						
AKBB	Malin Array Si	15.24	358	Pn	Pn	08 25 43.4	-0.5
KEST	Kesra	16.76	277	Pn	Pn	08 26 02.6	-1.0
KEST				IAmb	IAmb	08 26 13.6	
	comp=Z,13nm,0.7s						
KEST	Kesra	16.76	277	Pn	P	08 26 05.5	-0.3
	comp=Z,1.0nm,0.3s,baz=94,slow=7.7,SNR=9.0						
	comp=Z,6.1nm,0.5s						
GERES	GERESS Array B	17.95	323	P	P	08 26 18.6	-0.2
	baz=134,slow=11,SNR=9.3						
	comp=Z,2.5nm,0.9s						
DAVOX	Davos/Dischmat	18.82	313	LR	LR	08 34 25.4	
	comp=Z,44nm,18.4s,baz=182,slow=39						
MNK	Minsk	19.09	356	*i* P	Pn	08 26 34.3	+2.2
	comp=E,16nm,0.7s						
MNK				*i* P	Pn	08 26 34.3	+2.2
	comp=N,16nm,0.7s						
MNK				*i* P	Pn	08 26 34.3	+2.2
	comp=Z,11nm,0.7s,baz=175						
MNK				*i* PP	PnPn	08 26 50.0	+5.2
MNK				*i* PPP	PPP	08 26 57.7	
MNK				*i* S	S	08 30 19.4	+12
MNK				*i* SSS	SSS	08 30 49.9	
MNK				*i* LQ	LQ	08 32 35.7	
MNK				*i* LR	LR	08 34 06.8	
MNK				*i* LRM	MLR	08 35 30.9	
	comp=Z,28nm,14.8s						
MNK				*i* LRM	MLR	08 36 01.0	
	comp=E,204nm,23.3s						
MNK				*i* LRM	MLR	08 36 33.9	
	comp=N,62nm,18.8s						
CLL	Collm	19.99	328	⇓*i*sP	sP	08 26 45.8	-0.9
	comp=Z,18nm,0.2s						
SENIN	Lac Senin/Sane	20.22	309	P	P	08 26 43.1	-0.7
AB31	Akbulak array	25.90	49	P	P	08 27 40.3	-0.2
ABKAR	Akbulak array	25.90	49	P	P	08 27 39.8	-0.7
FINES	FINESS Array B	26.12	356	P	P	08 27 41.1	-1.2
FINES	FINESS Array B	26.12	356	P	P	08 27 41.7	-0.7
	comp=Z,1.7nm,0.6s,baz=152,slow=8.6,SNR=6.7						
	comp=Z,1.7nm,0.6s						
FIA1	FINESS Array S	26.12	356	P	P	08 27 41.2	-1.2
KIRV	Kirov	26.47	23	LR	LR	08 39 10.8	
	comp=Z,33nm,19.6s,baz=187,slow=39						
HFS	Hagfors	26.84	342	P	P	08 27 49.5	+0.6
	comp=Z,2.9nm,1.0s,baz=146,slow=13,SNR=1.7						
	comp=Z,2.9nm,1.0s						
ESDC	Sonseca Array	27.11	289	P	P	08 27 51.7	0.0
	comp=Z,2.0nm,0.8s,baz=76,slow=10.0,SNR=8.4						
	comp=Z,2.0nm,0.8s						
PAB	San Pablo	27.41	289	P	P	08 27 54.3	-0.1
NOA	NORSAR Array B	28.26	341	LR	LR	08 40 48.5	
	comp=Z,20nm,18.3s,baz=160,slow=40						
ARTI	Arti	28.45	34	P	P	08 28 02.3	-1.1
KKAR	Karatay Array	32.06	64	P	P	08 28 36.3	+0.8
ARCES	ARCESS Array B	34.22	357	P	P	08 28 52.9	-1.1
	comp=Z,2.3nm,0.6s,baz=169,slow=8.5,SNR=16						
	comp=Z,2.3nm,0.6s						
KURBB	Kurchatov Arra	37.88	51	P	P	08 29 24.2	-1.4
	comp=Z,1.1nm,0.5s,baz=270,slow=8.6,SNR=11						
	comp=Z,1.1nm,0.5s						
KURK	Kurchatov	37.95	51	P	P	08 29 25.6	-0.5
MK31	Makanchi Array	40.33	57	P	P	08 29 45.5	-0.6
MKAR	Makanchi Array	40.33	57	P	P	08 29 45.5	-0.6
	comp=Z,1.8nm,0.5s,baz=271,slow=8.5,SNR=29						
	comp=Z,1.8nm,0.5s						
JMIC	Jan Mayen	40.96	342	LR	LR	08 46 55.2	
	comp=Z,11nm,21.0s,baz=80,slow=36						
ZALV	Zalesovo Beam	41.97	46	P	P	08 29 58.2	-1.2
	comp=Z,0.8nm,0.3s,baz=260,slow=8.7,SNR=4.7						
	comp=Z,0.8nm,0.3s						
SPB2	Spitsbergen Ar	43.21	356	P	P	08 30 09.5	+0.2
SPITS	Spitsbergen Ar	43.22	356	P	P	08 30 08.9	-0.4
	comp=Z,11nm,1.0s,baz=145,slow=12,SNR=7.6						
	comp=Z,11nm,1.0s						
SONM	Songino Array	56.24	52	P	P	08 31 48.8	-0.2
	comp=Z,0.3nm,0.4s,baz=280,slow=8.9,SNR=2.5						
	comp=Z,0.3nm,0.4s						
EUNU	Eureka	59.62	350	P	P	08 32 12.2	+0.1
CMAR	Chiang Mai Arr	62.64	86	P	P	08 32 34.2	+0.8
	comp=Z,0.8nm,0.3s,baz=305,slow=7.3,SNR=4.7						
	comp=Z,0.8nm,0.3s						
ILON	Igloolik, Nuna	64.36	339	P	P	08 32 43.4	-0.6
ILON				IAmb	IAmb	08 33 15.1	
	comp=Z,4.8nm,1.4s						
C36M	Paulatuk	73.76	351	P	P	08 33 41.7	-0.7
C36M				IAmb	IAmb	08 33 58.9	
	comp=Z,2.5nm,1.2s						
B22K	Teshekpuk Lake	74.47	1	P	P	08 33 46.6	+0.1
B22K				IAmb	IAmb	08 33 52.3	
	comp=Z,3.4nm,1.4s						
C23K	Itkillik River	75.01	0	P	P	08 33 50.4	+0.8
C23K				IAmb	IAmb	08 33 52.8	
	comp=Z,2.3nm,1.0s						
B21K	Ikpikpuk River	75.17	2	P	P	08 33 50.8	+0.2
B21K				IAmb	IAmb	08 34 30.3	
	comp=Z,2.4nm,1.1s						
C18K	Utukok River	75.87	4	P	P	08 33 54.7	0.0
C18K				IAmb	IAmb	08 33 57.8	
	comp=Z,3.3nm,1.4s						
D23K	Nanushuk River	75.88	0	P	P	08 33 55.4	+0.7
D23K				IAmb	IAmb	08 34 09.5	
	comp=Z,2.9nm,1.2s						
D19K	Kuna River	76.18	3	P	P	08 33 56.2	-0.2
D19K				IAmb	IAmb	08 34 20.9	
	comp=Z,5.0nm,1.4s						
F30M	Barrier River	76.68	354	P	P	08 33 59.1	-0.1
F30M				IAmb	IAmb	08 34 15.0	
	comp=Z,4.3nm,1.3s						
E22K	Anaktuvuk Pass	76.71	1	P	P	08 33 59.7	+0.2
E22K				IAmb	IAmb	08 34 02.2	
	comp=Z,4.7nm,1.4s						
E23K	Chandalar	76.80	360	P	P	08 34 00.3	+0.4
E23K				IAmb	IAmb	08 34 01.8	
	comp=Z,1.4nm,0.8s						
F19K	Shaleruckik Mo	77.86	3	P	P	08 34 05.5	-0.3
F19K				IAmb	IAmb	08 34 14.0	
	comp=Z,4.8nm,1.4s						

ASRS ***09*** *08:24:38.0±0.7,54.°14N×86.°46E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 08:24:42.5±3.0,54.°13N×86.°41E,h0km,mbtmp2.5/2, ML2.2/2,Error ellipse: s-maj=22.4km s-min=12.9km az=63.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.96	260	I	I	08 30 08.1	
	baz=81,slow=328,SNR=2.5						
ZALV	Zalesovo Beam	0.96	260	Pg	Pg	08 24 59.1	-1.7
	0.9nm,0.3s,baz=77,slow=17,SNR=11						
ZALV				Lg	Lg	08 25 14.8	
	1.3nm,0.3s,baz=77,slow=30,SNR=9.9						
ZALV				Rg	Rg	08 25 19.5	
	11nm,1.1s,baz=73,slow=28,SNR=19						
KURBB	Kurchatov Arra	5.97	237	Pn	Pn	08 26 14.0	+2.0
	baz=53,slow=14,SNR=3.4						
	0.3nm,0.5s						
MKAR	Makanchi Array	7.80	201	Pn	Pn	08 26 37.8	+0.6
	0.1nm,0.3s,baz=25,slow=14,SNR=2.0						
	0.1nm,0.3s						

IDC ***09*** *08:28:58.7±1.8,11.°64S×167.°18E,h0km,mb3.8/6, mbtmp3.8/6,MS3.3/1,Error ellipse: s-maj=124.8km s-min=23.9km az=147.0*

NEIC ***09*** *08:29:06.7±2.4,11.°4S±0.°2×167.°0E±0.°1,h35km±2km, mb4.4/35,Error ellipse: s-maj=28.1km s-min=17.6km az=187.0*

ISC 09 08:29:04.2±1.0,12.°0S±0.°4×167.°4E±0.°3,h35km,n47, σ0.°89/43,mb4.4/24,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.78	288	Pn	Pn	08 30 47.4	-7.5
MSVF	Nonsavu	11.75	120	Pn	Pn	08 31 58.7	+9.1
EIDS	Eidsvold	20.41	227	P	Pn	08 33 43.2	+2.6
EIDS				IAmb	IAmb	08 33 43.9	
	comp=Z,10nm,0.7s						
STKA	Stephens Creek	30.96	226	P	P	08 35 19.3	+1.2
WR8	Warramunga Arr	32.60	252	P	P	08 35 32.2	-0.6
WR8				IAmb	IAmb	08 35 59.9	
	comp=Z,15nm,1.4s						
WB0	Warramunga Arr	32.67	252	P	P	08 35 33.0	-0.3
WB0				IAmb	IAmb	08 35 33.4	
	comp=Z,14nm,1.4s						
WB2	Warramunga Arr	32.73	252	P	P	08 35 33.5	-0.5
WB2				IAmb	IAmb	08 35 58.1	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	32.74	252	P	P	08 35 33.6	-0.4
WRA	Warramunga Arr	32.74	252	P	P	08 35 32.2	-1.8
	comp=Z,0.8nm,0.6s,baz=84,slow=8.9,SNR=5.7						
	comp=Z,0.8nm,0.6s						
AS31	Alice Springs	33.88	245	P	P	08 35 43.1	-0.8
ASAR	Alice Springs	33.89	245	P	P	08 35 42.9	-1.1
	comp=Z,1.2nm,0.8s,baz=71,slow=9.6,SNR=16						
	comp=Z,1.2nm,0.8s						
BBOO	Buckleboo	35.45	229	P	P	08 35 57.7	+0.4
KNRA	Kununurra	37.70	260	P	P	08 36 16.6	-0.1
FITZ	Fitzroy Crossi	40.75	256	P	P	08 36 42.2	0.0
FORT	Forrest	40.89	237	P	P	08 36 42.8	-0.4
ASAJ	Asahikawa	60.22	340	LR	LR	08 59 14.1	
	comp=Z,25nm,21.4s,baz=59,slow=30						
M16K	Timber Creek	77.47	16	P	P	08 40 57.4	+1.6
M16K				IAmb	IAmb	08 41 07.7	
	comp=Z,9.7nm,1.5s						
K15K	Wolf Creek Mou	77.89	14	P	P	08 40 59.5	+1.5
K15K				IAmb	IAmb	08 41 04.5	
	comp=Z,4.4nm,1.1s						
L16K	Owhat River	77.91	15	P	P	08 40 58.5	+0.4
L18K	Granite Mounta	79.08	16	P	P	08 41 06.3	+1.8
SCM	Sheep Creek Mo	81.63	20	P	P	08 41 18.8	+0.3
BERG	Berg Lake	81.90	22	P	P	08 41 18.7	-1.1
I21K	Tanana	82.71	16	P	P	08 41 25.2	+1.3
I21K				IAmb	IAmb	08 41 46.1	
	comp=Z,8.1nm,1.4s						
E19K	Redstone River	83.24	13	P	P	08 41 28.2	+1.5
E19K				IAmb	IAmb	08 41 28.8	
	comp=Z,1.9nm,0.7s						
WRH	Wood River Hil	83.29	18	P	P	08 41 26.5	-0.4
WRH				IAmb	IAmb	08 41 26.8	
	comp=Z,2.3nm,0.8s						
G21K	Allakaket	83.35	15	P	P	08 41 27.8	+0.5
C18K	Utukok River	83.44	11	P	P	08 41 28.1	+0.4
C18K				IAmb	IAmb	08 41 28.4	
	comp=Z,4.6nm,1.5s						
CCB	Clear Creek Bu	83.50	18	P	P	08 41 27.2	-0.7
CCB				IAmb	IAmb	08 41 47.4	
	comp=Z,4.3nm,1.4s						
HDA	Harding Lake	83.59	18	P	P	08 41 28.5	+0.1
IL31		83.86	18	P	P	08 41 29.7	-0.1
ILAR	Eielson Array	83.86	18	P	P	08 41 28.8	-1.1
ILAR	Eielson Array	83.86	18	P	P	08 41 28.9	-1.0
	comp=Z,1.7nm,0.6s,baz=206,slow=5.2,SNR=37						
	comp=Z,1.7nm,0.6s						
DOT	Dot Lake	83.97	20	P	P	08 41 30.3	-0.2
DOT				IAmb	IAmb	08 41 48.0	
	comp=Z,4.6nm,1.4s						
J25K	Salcha River,	84.22	19	P	P	08 41 31.8	0.0
J25K				IAmb	IAmb	08 41 32.6	
	comp=Z,2.8nm,0.7s						
SCRK	Sand Creek	84.22	19	P	P	08 41 31.8	-0.1
SCRK				IAmb	IAmb	08 41 34.7	
	comp=Z,4.5nm,1.4s						
BCAR	Beaver Creek A	84.36	21	P	P	08 41 32.1	-0.4
D20K	Etivluk River	84.41	12	P	P	08 41 33.1	+0.5
G24K	Hadweenzic Riv	85.08	16	P	P	08 41 36.7	+0.7
G24K				IAmb	IAmb	08 41 37.5	
	comp=Z,2.2nm,0.9s						
NVAR	Mina Array Bea	85.36	49	P	P	08 41 39.0	+0.6
	comp=Z,0.6nm,0.8s,baz=254,slow=7.5,SNR=3.3						
	comp=Z,0.6nm,0.8s						
I26K	Coal Creek Min	85.38	19	P	P	08 41 37.2	-0.3
I26K				IAmb	IAmb	08 41 51.4	
	comp=Z,4.4nm,1.4s						
F24K	Squaw Lake	85.56	16	P	P	08 41 38.6	+0.2
B21K	Ikpikpuk River	85.56	12	P	P	08 41 39.0	+0.6
G26K	Porcupine Rive	86.30	17	P	P	08 41 43.4	+1.4
G26K				IAmb	IAmb	08 42 01.2	
	comp=Z,3.6nm,1.2s						
C23K	Itkillik River	86.61	13	P	P	08 41 44.2	+0.7
C23K				IAmb	IAmb	08 42 07.2	
	comp=Z,2.4nm,1.2s						
C24K	Franklin Bluff	86.97	14	P	P	08 41 45.9	+0.6
C24K				IAmb	IAmb	08 41 49.0	
	comp=Z,5.3nm,1.4s						
TXAR	Lajitas Array	94.82	61	P	P	08 42 22.8	-0.2
	comp=Z,0.1nm,0.7s,baz=252,slow=4.5,SNR=2.2						
	comp=Z,0.1nm,0.7s						
YKA	Yellowknife Ar	95.03	27	P	P	08 42 21.5	-1.5
	comp=Z,0.1nm,0.6s,baz=257,slow=4.5,SNR=2.6						
	comp=Z,0.1nm,0.6s						

MDD ***09*** *08:38:11.8±1.3,36.°64N×9.°72W,h22km±14km,mb_Lg2.6/7, Error ellipse: s-maj=15.2km s-min=6.9km az=53.0*

IGIL ***09*** *08:38:14.1,36.°70N×9.°66W,h19km,ML1.5*

SFS ***09*** *08:38:14.2,36.°72N×9.°68W,h25km,ML2.8/7,ML2.3/10, MLv2.1/10*

CNRM ***09*** *08:38:20.2,35.°62N×9.°56W,h6km*

ISC 09 08:38:11.3±2.1,36.°60N±0.°04×9.°69W±0.°10,h33km±24km, n29,σ1.°58/39,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.87	52	Pg	Pb	08 38 28.8	+0.8
PFVI				Sg	Sb	08 38 39.6	+0.2
MORF	Marmelete	1.09	50	eP	Pb	08 38 31.8	+0.2
MORF				eS	Sb	08 38 44.4	-1.1
MORF				IAML		08 38 45.3	
	comp=N,18nm,0.1s						
PCVE	Castro Verde	1.67	52	Sn	Sb	08 38 59.8	-2.4
PCVE				Pn	Pn	08 38 40.1	+1.9
MESJ	Messejana	1.70	43	eP	Pn	08 38 40.0	+1.4
MESJ				eS	Sn	08 38 59.1	-0.2
MESJ				IAML		08 38 59.8	
	comp=E,2.2nm,0.1s						
PVAQ	Vaqueiros	1.77	63	Pn	Pn	08 38 41.8	+2.2
EGRO	El Granado	1.99	62	Pn	Pn	08 38 44.2	+1.6
EGRO				Sn	Sn	08 39 07.0	+0.6
EGRO	El Granado	1.99	62	P	Pn	08 38 43.0	+0.4
EGRO				S	Sn	08 39 06.6	+0.2
EGRO				*i* Vmb_Lg		08 39 11.3	
EVO	Evora	2.34	34	Sn	Sn	08 39 13.8	-1.2
PMAFR	Mafra	2.37	8	Sn	Sn	08 39 15.2	-0.5
EMIN	Mina Concepcio	2.67	63	Sn	Sn	08 39 23.5	+0.2
EMIN	Mina Concepcio	2.67	63	P	Pn	08 38 51.8	-0.2
EMIN				S	Sn	08 39 22.5	-0.7
EMIN				*i* Vmb_Lg		08 39 30.1	
EBAD	Badajoz	3.02	44	Pn	Pn	08 38 57.4	+0.7
EBAD				Sn	Sn	08 39 30.2	-1.5
EBAD	Badajoz	3.02	44	P	Pn	08 38 57.4	+0.7
EBAD				S	Sn	08 39 30.7	-1.1
EBAD				*i* Vmb_Lg		08 39 33.7	
ESPR	Espera	3.09	84	Pn	Pn	08 38 59.9	+2.2
ESPR				Sn	Sn	08 39 34.5	+1.0
ESPR	Espera	3.09	84	P	Pn	08 38 58.9	+1.2
ESPR				S	Sn	08 39 34.6	+1.2
ESPR				*i* Vmb_Lg		08 39 36.2	
EXAGE	Algeciras	3.45	97	S	Sn	08 39 42.1	-0.3
ECAB	El Cabril	3.71	65	Pn	Pn	08 39 08.3	+2.1
ECAB				Sn	Sn	08 39 47.3	-1.5
ECAB	El Cabril	3.71	65	P	Pn	08 39 06.5	+0.2
ECAB				S	Sn	08 39 47.2	-1.5
ECAB				*i* Vmb_Lg		08 39 49.7	
EPLA	Plasencia	4.47	38	*i* Vmb_Lg		08 39 58.5	
EPLA				S	Sn	08 40 06.1	-1.5
EQUE	Quentar	5.04	81	S	Sn	08 40 18.2	-3.6
EQUE				*i* Vmb_Lg		08 40 23.7	
PSIM	Granatula de C	5.20	63	S	Sn	08 40 23.6	-1.9
MD31	MD31	5.51	131	P	Pn	08 39 33.6	+2.5
MD31	MD31	5.51	131	S	Sn	08 40 31.0	-2.3
MDT	Midelt	5.64	131	P	Pn	08 39 35.2	+2.3
MDT	Midelt	5.64	131	S	Sn	08 40 34.1	-2.4
TTIG	Tnine Tigouga,	6.13	170	P	Pn	08 39 38.2	-1.4
TTIG	Tnine Tigouga,	6.13	170	S	Sn	08 40 39.1	-10
OUZM	OUZ	6.18	156	P	Pn	08 39 40.0	-0.3
OUZM	OUZ	6.18	156	S	Sn	08 40 42.4	-7.5

IDC ***09*** *08:43:32.8±2.5,25.°89N×141.°51E,h55km±22km,mb3.4/6, mbtmp3.7/6,Error ellipse: s-maj=35.4km s-min=17.8km az=106.0*

JMA ***09*** *08:43:34.3±0.1,26.°0N±0.°6×14.°2E±.°,h49km,MV3.8/6, IOTO ISLANDS REGION*

ISC 09 08:43:31.4±1.0,25.°9N±0.°1×141.°3E±0.°2,h35km,n10, σ1.°56/13,mb3.7/6,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	1.05	45	P	Pn	08 43 50.7	+1.0
JHH2				S	Sn	08 44 02.3	-0.9
CBIJ	Chichi jima	1.42	32	P	Pn	08 43 56.0	+1.3
CBIJ				eS	Sn	08 44 12.1	-0.1
JCJ	Chichijima	1.42	32	P	Pn	08 43 55.0	+0.3
	61nm,0.5s,baz=296,slow=20,SNR=1.9						
JCJ				S	Sn	08 44 12.3	+0.1
	143nm,0.2s,baz=291,slow=22,SNR=3.9						
WRA	Warramunga Arr	46.07	189	P	P	08 51 51.1	-0.9
	1.6nm,0.4s,baz=10,slow=8.7,SNR=20						
	1.6nm,0.4s						
ASAR	Alice Springs	49.79	189	P	P	08 52 20.6	-0.3
	0.4nm,0.9s,baz=24,slow=12,SNR=4.1						
	0.4nm,0.9s						
MKAR	Makanchi Array	50.66	310	P	P	08 52 27.3	0.0
	0.3nm,0.6s,baz=100,slow=7.9,SNR=2.0						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	53.34	315	P	P	08 52 47.3	+0.1
	0.2nm,0.4s,baz=92,slow=8.3,SNR=2.3						
	0.2nm,0.4s						
ILAR	Eielson Array	59.13	28	P	P	08 53 26.6	-1.6
	0.8nm,0.7s,baz=269,slow=5.8,SNR=11						
	0.8nm,0.7s						
YKA	Yellowknife Ar	73.56	28	P	P	08 54 59.5	-1.1
	0.8nm,0.6s,baz=295,slow=6.1,SNR=20						
	0.8nm,0.6s						
LPAZ	La Paz	150.95	77	PKPbc	PKPdf	09 03 20.3	+4.0
	0.6nm,0.6s,baz=298,slow=3.3,SNR=5.5						

ASRS ***09*** *08:50:15.0±1.1,53.°75N×88.°14E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 08:50:16.3±4.0,53.°72N×88.°37E,h0km,mbtmp2.5/3, ML1.9/3,Error ellipse: s-maj=39.9km s-min=21.8km az=47.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.12	278	I	I	09 03 39.4	
	baz=94,slow=329,SNR=3.4						
ZALV	Zalesovo Beam	2.12	278	Pn	Pn	08 50 53.7	+0.8
	0.4nm,0.3s,baz=91,slow=14,SNR=6.9						
ZALV				Lg	Lg	08 51 23.4	
	0.9nm,0.3s,baz=96,slow=26,SNR=8.7						
	1.1nm,0.3s						
KURBB	Kurchatov Arra	6.80	247	Pn	Pn	08 51 57.4	+0.2
	baz=58,slow=14,SNR=2.7						
	0.2nm,0.4s						
MKAR	Makanchi Array	7.95	212	Pn	Pn	08 52 14.1	+1.0
	0.1nm,0.3s,baz=22,slow=12,SNR=1.6						

MAKZ ⇓Lg Lg 08 59 15.5
3.5nm,1.1s

*IDC **09** 08:55:17.6±0.6, 40.87N×143.14E, h0km, mb4.2/26, mbtmp4.2/31, ML3.6/5, MS3.5/20, Error ellipse: s-maj=16.4km s-min=13.9km az=86.0*
*NIED **09** 08:55:19.9, 40.84N×143.13E, h12km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.28; Mθθ-0.31; Mφφ-0.96; Mrθ0.87; Mφθ-0.46; Mφr1.21; Fault plane solution: M0 1.94000×10^15 NP1: φs202.00000°, δ20.00000°, λ79.00000°. NP2: φs34.00000°, δ70.00000°, λ94.00000°.*
*JMA **09** 08:55:19.9±0.3, 40.8N±0.4×143.1E±0.7, h12km±3km, MD4.2/37, MV4.6/37, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
*BJI **09** 08:55:20.5, 40.78N×143.13E, h37km, mB4.7/10, mb4.6/28, Ms3.9/6, Ms7 3.8/10*
*NEIC **09** 08:55:21.8±1.5, 40.86N±0.05×143.14E±0.09, h28km±5km, mb4.4/29, Error ellipse: s-maj=11.7km s-min=5.1km az=122.0*
ISC 09 08:55:21.6±1.0, 40.88N±0.04×143.19E±0.05, h28km±6km, n134, σ1.900/130, mb4.4/46, MS3.5/17, 1C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.14**	**359**		**Pb**	**08 55 42.0**	**-0.7**
ERM				Sn	**Sn**	**08 55 56.0**	**-0.3**
ERM	**Erimo**	**1.14**	**359**	P	**Pn**	**08 55 41.4**	**-0.3**
JEM	**Erimo**	**1.14**	**359**	P	**Pn**	**08 55 41.5**	**-0.2**
JEM	**Erimo**	**1.14**	**359**	P	**Pn**	**08 55 41.8**	**+0.1**
JEM				*e*S	**Sn**	**08 55 56.1**	**-0.2**
JKEN	**Kujiedanarisaw**	**1.31**	**240**	*e*P	**Pn**	**08 55 43.0**	**-1.1**
JKEN				*e*S	**Sn**	**08 55 59.7**	**-1.0**
JKEN	**Kujiedanarisaw**	**1.31**	**240**	A	A	08 55 43.0	
	comp=N,7.0nm,1.0s,comp=E,7.0nm,0.4s						
JANG	**Nango**	**1.37**	**249**	⇓P	**Pn**	**08 55 44.2**	**-0.7**
JANG				⇓*e*S	**Sn**	**08 56 01.0**	**-1.1**
JANG	**Nango**	**1.37**	**249**	A	A	08 55 44.2	
	comp=N,3.0nm,0.2s,comp=E,4.0nm,0.3s						
JTH	**Tanohata**	**1.38**	**228**	*e*P	**Pn**	**08 55 44.1**	**-0.9**
JTH				*e*S	**Sn**	**08 56 01.8**	**-0.5**
JARK	**Aomorirokkasho**	**1.39**	**276**	P	**Pn**	**08 55 44.5**	**-0.6**
JARK				*e*S	**Sn**	**08 56 02.3**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.44**	**347**	P	**Pn**	**08 55 46.5**	**+0.7**
JNBK	**Urakawa-nobuka**	**1.44**	**347**	A	A	08 55 46.5	
	comp=N,5.0nm,1.6s,comp=E,5.0nm,2.4s						
JAHD	**Aomorihigashid**	**1.45**	**286**	A	A	08 55 45.6	
	comp=N,10.0nm,0.4s,comp=E,11nm,0.4s						
JTM	**Tenmabayashi**	**1.61**	**267**	Pn	**Pn**	**08 55 48.3**	**+0.1**
JTM				Sn	**Sn**	**08 56 06.2**	**-1.8**
JTM	**Tenmabayashi**	**1.61**	**267**	P	**Pn**	**08 55 48.7**	**+0.5**
JTM	**Tenmabayashi**	**1.61**	**267**	S	**Sn**	**08 56 10.4**	**+2.4**
JTM	**Tenmabayashi**	**1.61**	**267**	P	**Pn**	**08 55 48.1**	**0.0**
JTM				*e*S	**Sn**	**08 56 08.8**	**+0.8**
JOT	**Ohata**	**1.69**	**288**	*i*P	**Pn**	**08 55 49.3**	**0.0**
JOT				⇓*e*S	**Sn**	**08 56 09.9**	**-0.2**
JCH	**Churui**	**1.74**	**4**	*e*P	**Pn**	**08 55 50.5**	**+0.5**
JKB	**Kayabe**	**1.91**	**303**	P	**Pn**	**08 55 52.7**	**+0.4**
JKB				*e*S	**Sn**	**08 56 16.2**	**+0.8**
JIAM	**Iburiatsuma**	**1.98**	**332**	A	A	08 55 54.2	
	comp=N,12nm,0.4s,comp=E,13nm,0.7s						
JOM	**Ohasama**	**2.02**	**227**	*e*P	**Pn**	**08 55 54.3**	**+0.5**
JOM				*e*S	**Sn**	**08 56 19.6**	**+1.5**
JSZI	**Iwateshizukuis**	**2.05**	**237**	A	A	08 55 54.2	
	comp=N,9.0nm,0.6s,comp=E,9.0nm,0.7s						
JAH	**Hinai**	**2.06**	**251**	*e*P	**Pn**	**08 55 55.4**	**+1.0**
JEW	**Eniwo**	**2.35**	**327**	*e*P	**Pn**	**08 55 59.5**	**+1.1**
JEW				*e*S	**Sn**	**08 56 28.7**	**+2.4**
JAK	**Akkeshi**	**2.40**	**28**	*e*P	**Pn**	**08 55 59.1**	**+0.1**
JAK				*e*S	**Sn**	**08 56 26.4**	**-1.0**
JMK	**Ichinoseki**	**2.45**	**219**	*i*P	**Pn**	**08 56 00.6**	**+0.9**
JAR	**Ashorobuto**	**2.46**	**10**	*i*P	**Pn**	**08 55 59.9**	**+0.1**
JAR				*e*S	**Sn**	**08 56 28.3**	**-0.6**
JOMM	**Oshimamatsumae**	**2.48**	**286**	*e*P	**Pn**	**08 56 00.7**	**+0.5**
JKA	**Kamikawa-asahi**	**3.27**	**353**	Pn	**Pn**	**08 56 12.3**	**+1.4**
ASAJ	**Asahikawa**	**3.27**	**353**	Pn	**Pn**	**08 56 11.5**	**+0.6**
	comp=E,7.8nm,0.3s,baz=200,slow=16,SNR=102						
ASAJ				Sn	**Sn**	**08 56 49.7**	**+0.8**
	comp=E,13nm,0.3s,baz=78,slow=33,SNR=4.2 comp=E,15nm,0.3s						
JMM	**Marumori**	**3.53**	**212**	Pn	**Pn**	**08 56 14.2**	**-0.4**
JSD	**Sado**	**4.75**	**235**	Pn	**Pn**	**08 56 31.3**	**0.0**
JSD	**Sado**	**4.75**	**235**	P	**Pn**	**08 56 32.8**	**+1.4**
MJB9	**Matsu-Tunnel**	**5.82**	**224**		**Pn**	**08 56 46.0**	**-0.1**
MAJO	**Matsushiro**	**5.82**	**224**	Pn	**Pn**	**08 56 46.3**	**+0.2**
MAJO	**Matsushiro**	**5.82**	**224**	P	**Pn**	**08 56 48.2**	**+2.1**
	comp=E,51nm,0.6s						
MJAR	**Matsushiro Arr**	**5.82**	**224**		**Pn**	**08 56 46.1**	**0.0**
	comp=E,0.7nm,0.3s,baz=30,slow=14,SNR=32						
MJAR				LR	LR	08 59 24.1	
	comp=E,251nm,19.2s,baz=52,slow=43 comp=E,8.5nm,0.5s						
YSS	**Yuzhno-Sakhali**	**6.08**	**357**	Pn	**Pn**	**08 56 51.3**	**+1.7**
JGF	**Kuroka**	**6.99**	**223**	Pn	**Pn**	**08 57 02.4**	**+0.3**
JGF	**Kuroka**	**6.99**	**223**	P	**Pn**	**08 57 04.6**	**+2.5**
	comp=E,23nm,0.9s						
INU	**Inuyama**	**7.36**	**223**	Pn	**Pn**	**08 57 07.8**	**+0.6**
INU	**Inuyama**	**7.36**	**223**	P	**Pn**	**08 57 09.1**	**+2.0**
	comp=E,28nm,1.0s						
JHJ2	**Mitsune**	**8.21**	**200**	Pn	**Pn**	**08 57 18.7**	**-0.1**
USA0B	**Ussuriysk Arra**	**8.91**	**296**	Pn	**Pn**	**08 57 29.2**	**+0.8**
USRK	**Ussuriysk Ar.**	**8.91**	**296**	Pn	**Pn**	**08 57 28.6**	**+0.3**
	comp=E,1.6nm,0.3s,baz=96,slow=15,SNR=22						
USRK				LR	LR	09 01 00.4	
	comp=E,218nm,18.9s,baz=151,slow=39 comp=E,11nm,0.5s						
MDJ	**Mudanjiang**	**10.67**	**295**		**Pn**	**08 57 54.7**	**+2.1**
KLR	**Kul'dur**	**11.62**	**320**	Pn	**Pn**	**08 58 05.2**	**-0.3**
	comp=E,0.1nm,0.3s,baz=124,slow=17,SNR=7.8 comp=E,2.7nm,0.8s						
KSRS	**Korea Array**	**12.33**	**259**	Pn	**Pn**	**08 58 12.8**	**-2.4**
	comp=E,0.4nm,0.3s,baz=67,slow=14,SNR=5.3						
KSRS				LR	LR	09 02 49.9	
	comp=E,210nm,18.1s,baz=70,slow=37 comp=E,0.5nm,0.4s						
BNX	**BinXian**	**12.48**	**298**	⇓P	**Pn**	**08 58 18.7**	**+1.5**
BNX				pmax	pmax		
	comp=E,14nm,0.9s						
JNU	**Nakatsue**	**12.51**	**236**	LR	LR	09 03 09.4	
	comp=E,57nm,18.2s,baz=58,slow=38						
CN2	**Changchun**	**13.45**	**288**	*e*P	**Pn**	**08 58 32.9**	**+2.5**
CN2				*e*S	**Sn**	**09 00 55.4**	**-3.4**
CN2				pmax	pmax		
	comp=E,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=E,100nm,4.0s						
CN2				LR	LR		
	comp=E,200nm,11.0s						
CN2				LR	LR		
	comp=E,300nm,11.0s						
CN2				LR	LR		
	comp=E,100nm,12.0s						
PETK	**Petropavlovsk-**	**15.70**	**34**	LR	LR	09 05 22.6	
	comp=E,54nm,19.1s,baz=212,slow=38						
TIA	**Tai'an**	**20.88**	**266**	P	**P**	**09 00 00.4**	**-1.1**
TIA				pmax	pmax		
	comp=E,16nm,0.7s						
YAK	**Yakutsk**	**22.70**	**343**	LR	LR	09 10 03.0	
	comp=E,74nm,18.1s,baz=188,slow=39						
SEY	**Seymchan**	**22.76**	**11**	P	**P**	**09 00 19.2**	**-2.1**
	comp=E,1.6nm,0.5s,baz=170,slow=9.8,SNR=9.1 comp=E,1.6nm,0.5s						
HHC	**Hu-ho-hao-te**	**23.85**	**280**	*e*P	**P**	**09 00 32.6**	**0.0**
HHC				pmax	pmax		
	comp=E,12nm,0.7s						
HHC				pmax	pmax		
	comp=E,56nm,4.0s						
HHC				LR	LR		
	comp=E,110nm,13.4s						
HHC				LR	LR		
	comp=E,120nm,12.7s						
HHC				LR	LR		
	comp=E,110nm,12.7s						
WHN	**Wuhan**	**25.48**	**255**	P	**P**	**09 00 47.2**	**-0.2**
WHN				sP	**sP**	**09 00 58.5**	**+0.3**
WHN				LR	LR		
	comp=E,640nm,14.9s						
SONM	**Songino Array**	**27.02**	**297**	P	**P**	**09 00 59.6**	**-1.7**
	comp=E,1.4nm,0.5s,baz=99,slow=8.8,SNR=14 comp=E,1.4nm,0.5s						
XAN	**Xi'an**	**27.92**	**267**	⇑P	P	09 01 04.5	-4.9
XAN				pmax	pmax		
	comp=E,6.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**29.21**	**129**	T	T	09 32 13.6	
	baz=318,slow=75,SNR=209						
H11N1	**WAKE ISLAND Hy**	**29.23**	**129**	T	T	09 32 07.0	
	baz=318,slow=75,SNR=210						
H11N3	**WAKE ISLAND Hy**	**29.23**	**129**	T	T	09 32 10.4	
	baz=318,slow=75,SNR=233						
BILL	**Biliibino**	**29.95**	**17**	P	**P**	**09 01 27.4**	**+0.4**
BILL				IAmb	IAmb	09 01 29.0	
	comp=E,6.0nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**30.06**	**131**	T	T	09 33 12.0	
	baz=323,slow=74,SNR=89						
H11S3	**WAKE ISLAND Hy**	**30.06**	**131**	T	T	09 33 19.0	
	baz=323,SNR=47						
H11S2	**WAKE ISLAND Hy**	**30.08**	**131**	T	T	09 33 18.3	
	baz=323,slow=74,SNR=85						
TIXI	**Tiksi**	**31.67**	**351**	LR	LR	09 14 06.9	
	comp=Z,38nn,19.4s,baz=338,slow=36						
PZH	**PanZhiHua**	**36.99**	**260**	P	**P**	**09 02 29.4**	**+0.5**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
GOMU	**GeErMu**	**37.74**	**279**	P	**P**	**09 02 35.7**	**+0.3**
GOMU				pmax	pmax		
	comp=Z,17nm,0.9s						
NRIK	**Noril'sk**	**40.41**	**333**	P	**P**	**09 02 56.4**	**-0.5**
NRIK				IAmb	IAmb	09 03 36.4	
	comp=Z,6.4nm,0.8s						
NRIK	**Noril'sk**	**40.41**	**333**	P	**P**	**09 02 56.3**	**-0.5**
	comp=Z,2.2nm,0.4s,baz=100,slow=11,SNR=6.6						
NRIK				LR	LR	09 21 00.6	
	comp=Z,98nm,18.7s,baz=128,slow=38 comp=Z,2.2nm,0.4s						
ZAA0	**Zalesovo Array**	**40.45**	**309**	P	**P**	**09 02 56.7**	**-0.7**
ZAA0				IAmb	IAmb	09 02 58.0	
	comp=Z,5.8nm,0.6s						
ZALV	**Zalesovo Beam**	**40.45**	**309**	P	**P**	**09 02 56.6**	**-0.8**
	comp=Z,4.7nm,0.4s,baz=93,slow=8.2,SNR=16 comp=Z,4.7nm,0.4s						
H19K	**Roundabout Mou**	**41.51**	**33**	P	**P**	**09 03 06.5**	**+0.5**
H19K				IAmb	IAmb	09 03 20.0	
	comp=Z,5.0nm,0.8s						
D20K	**Etivluk River**	**41.88**	**28**	P	**P**	**09 03 09.7**	**+0.7**
G21K	**Allakaket**	**42.79**	**32**	P	**P**	**09 03 14.7**	**-1.7**
MK31	**Makanchi Array**	**43.36**	**299**	P	**P**	**09 03 20.9**	**-0.4**
MK31				IAmb	IAmb	09 03 25.7	
	comp=Z,3.8nm,0.8s						
MKAR	**Makanchi Array**	**43.36**	**299**	P	**P**	**09 03 20.8**	**-0.5**
MKAR	**Makanchi Array**	**43.36**	**299**	P	**P**	**09 03 21.2**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=84,slow=12,SNR=20						
MKAR				LR	LR	09 22 34.7	
	comp=Z,61nm,18.8s,baz=78,slow=38 comp=Z,2.8nm,0.7s						
E22K	**Anaktuvuk Pass**	**43.57**	**30**	P	**P**	**09 03 24.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**43.88**	**253**	P	**P**	**09 03 26.4**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=52,slow=6.6,SNR=6.6						
CMAR				LR	LR	09 22 38.5	
	comp=Z,26nm,18.5s,baz=220,slow=37 comp=Z,0.8nm,0.3s						
D24K	**Happy Valley**	**44.73**	**28**	P	**P**	**09 03 31.1**	**-0.8**
KURK	**Kurchatov**	**44.74**	**305**	P	**P**	**09 03 31.8**	**-0.5**
KURBB	**Kurchatov Arra**	**44.82**	**305**	P	**P**	**09 03 32.8**	**-0.1**
	comp=Z,8.2nm,0.6s,baz=78,slow=8.6,SNR=44 comp=Z,8.2nm,0.6s						
D25K	**Kavik River**	**45.60**	**28**	P	**P**	**09 03 39.6**	**+0.7**
F26K	**Sheenjek River**	**46.47**	**30**	P	**P**	**09 03 45.5**	**-0.3**
F26K				IAmb	IAmb	09 03 48.9	
	comp=Z,3.1nm,0.8s						
KDJ	**Kajisay**	**48.31**	**294**	P	**P**	**09 03 59.7**	**-1.0**
KDJ				IAmb	IAmb	09 04 08.0	
	comp=Z,2.6nm,0.5s						
E29M	**Blow River**	**48.73**	**29**	P	**P**	**09 04 02.5**	**-0.8**
E29M				IAmb	IAmb	09 04 06.8	
	comp=Z,4.1nm,0.8s						
BOOM	**Boomskoye usch**	**49.03**	**295**	P	**P**	**09 04 05.7**	**-0.4**
BOOM				IAmb	IAmb	09 04 24.1	
	comp=Z,3.3nm,0.6s						
BVAR	**Borovoye Array**	**49.08**	**310**	P	**P**	**09 04 06.3**	**+0.2**
	comp=Z,5.2nm,0.5s,baz=72,slow=8.6,SNR=30 comp=Z,5.2nm,0.5s						
BRVK	**Borovoye**	**49.13**	**310**	P	**P**	**09 04 05.5**	**-1.0**
BRVK				IAmb	IAmb	09 04 07.2	
	comp=Z,3.0nm,0.6s						
F30M	**Barrier River**	**49.65**	**30**	P	**P**	**09 04 10.1**	**-0.2**
I30M	**Mount Dempster**	**49.89**	**33**	P	**P**	**09 04 11.9**	**-0.4**
I30M				IAmb	IAmb	09 04 54.2	
	comp=Z,4.2nm,0.9s						
AAK	**Ala-Archa**	**49.96**	**296**	P	**P**	**09 04 12.8**	**-0.4**
	comp=Z,2.5nm,0.3s,baz=131,slow=3.7,SNR=8.1 comp=Z,2.5nm,0.3s						
KSH	**Kashi**	**50.18**	**292**	P	P	09 04 20.6	+5.7
KSH				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ARSB	**Arslanbob**	**51.52**	**295**	P	**P**	**09 04 24.5**	**-0.5**
A36M	**Sachs Harbour**	**52.18**	**23**	P	**P**	**09 04 29.3**	**0.0**
A36M				IAmb	IAmb	09 04 33.0	
	comp=Z,4.6nm,0.9s						
KK31	**Karatay Array**	**52.46**	**298**	P	**P**	**09 04 30.9**	**-0.9**
KK31				IAmb	IAmb	09 04 37.5	
	comp=Z,2.2nm,0.7s						
KKAR	**Karatay Array**	**52.46**	**298**	P	**P**	**09 04 30.8**	**-1.0**
KKAR				IAmb	IAmb	09 04 37.5	
	comp=Z,2.3nm,0.7s						
KKAR	**Karatay Array**	**52.46**	**298**	P	**P**	**09 04 30.9**	**-0.9**
C36M	**Paulatuk**	**53.37**	**26**	P	**P**	**09 04 37.7**	**-0.3**
ARTI	**Arti**	**54.55**	**317**	P	**P**	**09 04 46.8**	**-0.1**
ARTI	**Arti**	**54.55**	**317**	P	**P**	**09 04 47.2**	**+0.4**
	comp=Z,13nm,0.7s,baz=91,slow=3.8,SNR=18						
ARTI				LR	LR	09 29 11.2	
	comp=Z,40nm,19.3s,baz=60,slow=37 comp=Z,13nm,0.7s						
ABKAR	**Akbulak array**	**56.57**	**309**	P	**P**	**09 05 01.0**	**-0.5**
ABKAR				PcP	**PcP**	**09 06 00.4**	**+2.7**
ABKAR	**Akbulak array**	**56.57**	**309**	P	**P**	**09 05 01.1**	**-0.3**
ABKAR				IAmb	IAmb	09 05 02.4	
	comp=Z,4.5nm,1.0s						
SPITS	**Spitsbergen Ar**	**57.03**	**349**	P	**P**	**09 05 05.7**	**+1.3**
	comp=Z,6.9nm,1.0s,baz=85,slow=9.3,SNR=5.1 comp=Z,6.9nm,1.0s						
AKTO	**Aktyubinsk**	**57.18**	**311**	P	**P**	**09 05 06.0**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=78,slow=5.4,SNR=5.5 comp=Z,1.5nm,0.4s						
YKA	**Yellowknife Ar**	**59.80**	**32**	P	**P**	**09 05 24.6**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=300,slow=6.4,SNR=6.0 comp=Z,0.3nm,0.7s						
ARCES	**ARCESS Array B**	**60.90**	**339**	P	**P**	**09 05 31.1**	**-0.1**
	comp=Z,2.2nm,1.0s,baz=50,slow=8.1,SNR=5.7						
ARCES				LR	LR	09 36 36.6	
	comp=Z,32nm,19.2s,baz=76,slow=41 comp=Z,2.2nm,1.0s						
WRA	**Warramunga Arr**	**61.06**	**190**	P	**P**	**09 05 32.5**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=6.1,slow=6.9,SNR=17 comp=Z,1.2nm,0.5s						
ASAR	**Alice Springs**	**64.79**	**189**	P	**P**	**09 05 57.8**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=2.8,slow=5.1,SNR=11 comp=Z,1.0nm,0.7s						
OBN	**Obninsk**	**65.86**	**323**	LR	LR	09 37 57.1	
	comp=Z,120nm,19.6s,baz=180,slow=39						
FINES	**FINESS Array B**	**66.06**	**332**	P	**P**	**09 06 05.5**	**0.0**
	comp=Z,3.3nm,0.4s,baz=43,slow=8.1,SNR=34						
FINES				LR	LR	09 37 38.9	
	comp=Z,74nm,18.9s,baz=18,slow=38 comp=Z,3.3nm,0.4s						
KIV	**Kislovodsk**	**69.44**	**311**	P	**P**	**09 06 27.4**	**+0.2**
KBZ	**Khabaz**	**69.46**	**310**	P	**P**	**09 06 27.4**	**+0.2**
	comp=Z,7.0nm,0.8s,baz=72,slow=4.1,SNR=23						
KBZ				LR	LR	09 40 36.9	
	comp=Z,25nm,18.6s,baz=58,slow=39 comp=Z,7.0nm,0.8s						
HFS	**Hagfors**	**71.15**	**336**	P	**P**	**09 06 37.6**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=44,slow=6.6,SNR=11 comp=Z,2.7nm,0.5s						
NB2	**NORSAR Subarra**	**71.17**	**338**	P	**P**	**09 06 37.6**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**71.17**	**338**	P	**P**	**09 06 37.2**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=37,slow=6.1,SNR=7.1						
NOA				LR	LR	09 41 11.6	
	comp=Z,32nm,21.1s,baz=10.0,slow=39 comp=Z,1.6nm,0.7s						
AKASG	**Malin Array Be**	**72.10**	**322**	P	**P**	**09 06 43.1**	**0.0**
	comp=Z,2.1nm,0.5s,baz=46,slow=5.8,SNR=16						
AKASG				LR	LR	09 42 36.3	
	comp=Z,35nm,18.7s,baz=280,slow=39 comp=Z,2.1nm,0.5s						
AKBB	**Malin Array Si**	**72.10**	**322**	P	**P**	**09 06 42.2**	**-1.0**
KIEV	**Kiev**	**72.12**	**322**	P	**P**	**09 06 42.4**	**-0.8**
PDAR	**Pinedale Array**	**74.01**	**47**	P	**P**	**09 06 56.0**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=299,slow=1.5,SNR=5.6 comp=Z,0.4nm,0.6s						
MLR	**Muntele Rosu**	**77.34**	**320**	LR	LR	09 45 28.7	
	comp=Z,47nm,21.9s,baz=94,slow=39						
CLL	**Collm**	**78.44**	**331**	*i*P	**P**	**09 07 20.0**	**+0.4**
	comp=Z,4.0nm,0.6s						
VRAC	**Vranov**	**78.64**	**328**	LR	LR	09 43 54.8	
	comp=Z,20nm,18.1s,baz=42,slow=37						
EKA	**Eskdalemuir Ar**	**79.96**	**341**	P	**P**	**09 07 28.1**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=18,slow=5.9,SNR=2.9 comp=Z,1.5nm,0.6s						
GERES	**GERESS Array B**	**80.16**	**329**	P	**P**	**09 07 29.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=360,slow=7.0,SNR=3.2 comp=Z,0.3nm,0.3s						
MMAI	**Mount Meron Ar**	**80.85**	**306**	P	**P**	**09 07 34.0**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=345,slow=4.5,SNR=4.3 comp=Z,1.1nm,0.5s						
DAVOX	**Davos/Dischmat**	**83.33**	**330**	LR	LR	09 48 43.1	
	comp=Z,26nm,18.2s,baz=250,slow=38						
TXAR	**Lajitas Array**	**86.70**	**54**	P	**P**	**09 08 03.6**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=274,slow=3.9,SNR=4.8 comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**130.62**	**180**	PKP	**PKiKP**	**09 14 28.9**	**-0.7**
	comp=Z,2.0nm,1.1s,baz=277,slow=2.2,SNR=6.3						
SNAA	**Sanae**	**144.82**	**198**	PKP	**PKPdf**	**09 14 54.0**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=216,slow=3.1,SNR=10						
SIV	**San Ignacio**	**147.50**	**47**	PKPbc	**PKPab**	**09 15 04.0**	**-1.5**
	comp=Z,2.2nm,0.8s,baz=316,slow=3.4,SNR=10						

*ISK **09** 09:01:01.4, 34.46N×33.83E, h20km, ML2.6/17*
*NIC **09** 09:01:04.0, 34.56N×33.84E, h18km±1km, Ml2.5/8*
*GII **09** 09:01:04.3±0.0, 34.595N±0.006×33.898E±0.002, h20km, Mws2.4, confirmed*
ISC 09 09:01:04.5±1.1, 34.58N±0.03×33.84E±0.03, h23km±12km, n50, σ0.88/64, 1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.45**	**22**	⇓*i*P	**Pb**	**09 01 13.7**	**-0.1**
PARAL				S	**Sb**	**09 01 21.5**	**+1.4**
PARAL				AML	AML	09 01 24.4	
	2.2nm,0.5s						
PARAL				AML	AML	09 01 25.1	
	1.8nm,0.6s						
MVOU	**Mavrovouni**	**0.47**	**339**	P	**Pb**	**09 01 12.7**	**-1.5**
MVOU				S	**Sb**	**09 01 20.8**	**+0.1**
MVOU				AML	AML	09 01 21.4	
	0.8nm,0.5s						
MVOU				AML	AML	09 01 21.8	
	0.6nm,0.3s						
ASGA	**Asgata**	**0.53**	**293**	P	**Pb**	**09 01 13.9**	**-1.3**
ASGA				S	**Sb**	**09 01 23.5**	**+1.0**
ASGA				AML	AML	09 01 24.4	
	1.1nm,0.6s						
ASGA				AML	AML	09 01 25.6	
	0.7nm,0.2s						
AKIN	**Akıncılar- Kıb**	**0.53**	**325**	Pg	**Pb**	**09 01 14.4**	**-0.9**
AKIN				Sg	**Sb**	**09 01 23.7**	**+1.1**
CSS	**Mathiatis**	**0.57**	**313**	Pg	**Pb**	**09 01 14.9**	**-1.0**
CSS	**Mathiatis**	**0.57**	**313**	P	**Pb**	**09 01 15.1**	**-0.8**
CSS				S	**Sn**	**09 01 25.0**	**-1.0**
CSS				AML	AML	09 01 27.2	
	0.6nm,0.7s						
CSS				AML	AML	09 01 28.6	
	0.5nm,0.5s						
CSS	**Mathiatis**	**0.57**	**313**	P	**Pb**	**09 01 15.1**	**-0.8**
ATHAL	**Athalassa**	**0.67**	**327**	P	**Pb**	**09 01 17.4**	**-0.2**
ATHAL				S	**Sn**	**09 01 28.2**	**-0.3**
ATHAL				AML	AML	09 01 28.9	
	1.2nm,0.5s						
ATHAL				AML	AML	09 01 29.1	
	1.5nm,0.5s						
LFK	**Lefkose**	**0.74**	**340**	Pg	**Pb**	**09 01 18.5**	**-0.4**
LFK				Sg	**Sn**	**09 01 30.7**	**+0.3**
APOL	**The Sanctuary**	**0.81**	**277**	P	**Pb**	**09 01 20.0**	**+0.1**
APOL				S	**Sn**	**09 01 31.6**	**-0.3**
APOL				AML	AML	09 01 32.1	
	5.1nm,0.3s						
APOL				AML	AML	09 01 32.4	
	2.8nm,0.5s						
LEF	**Lefka**	**0.95**	**305**	Pg	**Pb**	**09 01 21.5**	**-0.8**
LEF				Sg	**Sn**	**09 01 36.0**	**+0.6**
EREN	**Erenkoy**	**0.99**	**16**	Pn	**Pb**	**09 01 22.1**	**-0.9**
EREN				Sn	**Sn**	**09 01 38.1**	**+1.8**
ALFC	**Alefka**	**1.17**	**300**	P	**Pn**	**09 01 25.0**	**-0.6**
ALFC				S	**Sn**	**09 01 41.2**	**+0.3**
ALFC				AML	AML	09 01 42.3	
	0.4nm,0.3s						
ALFC				AML	AML	09 01 43.3	
	0.5nm,0.2s						
AKMS	**Akamas**	**1.31**	**290**	P	**Pn**	**09 01 27.7**	**+0.2**
AKMS				S	**Sb**	**09 01 46.3**	**+1.3**
AKMS				AML	AML	09 01 47.8	
	0.4nm,0.3s						
AKMS				AML	AML	09 01 48.6	
	0.3nm,0.2s						
TISA	**Tisan-Mersin**	**1.59**	**355**	Pn	**Pn**	**09 01 30.7**	**-0.6**
YORU	**Yoruktepe-Mers**	**1.61**	**347**	Pn	**Pn**	**09 01 31.0**	**-0.7**
YORU				Sn	**Sn**	**09 01 52.4**	**+0.6**
YESI	**Yesilovacik-Me**	**1.62**	**354**	Pn	**Pn**	**09 01 31.2**	**-0

*SJA **09** 09:17:18.3±0.7,24.°19S×67.°18W,h200km±5km,ML3.5, MW3.5*
*GUC **09** 09:17:21.2±0.7,24.°14S×67.°35W,h198km±14km,ML3.9*
*IDC **09** 09:17:24.9±2.5,23.°69S×67.°14W,h223km±34km,mb3.6/1, mbtmp4.0/5,Error ellipse: s-maj=34.6km s-min=19.6km az=124.0*
ISC 09 09:17:20.2±0.9,24.°16S±0.°04×67.°24W±0.°04,h186km±8km, n37,σ1°35/57,7C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.82**	**95**	*eP*	**Pn**	**09 17 47.0**	**-1.0**
AF01	**San Pedro de A**	**1.48**	**324**	*eP*	**Pn**	**09 17 54.5**	**+1.6**
AF01				*eS*	**Sn**	**09 18 20.4**	**+2.3**
AF01				IAML		09 18 37.1	
	comp=Z,116nm,0.4s						
SLA	**San Lorenzo**	**1.67**	**110**	*eP*	**Pn**	**09 17 54.6**	**0.0**
AZAP	**Zapla**	**1.98**	**92**	*eP*	**Pn**	**09 17 57.3**	**-0.5**
FSA	**Cafayete**	**2.25**	**150**	*eP*	**Pn**	**09 18 00.8**	**+0.2**
GO02	**Mina Guanaco**	**2.37**	**244**	⇑*iP*	**Pn**	**09 18 02.9**	**+0.8**
GO02				*i* S	**Sn**	**09 18 34.8**	**+0.2**
GO02				IAML		09 18 37.7	
	comp=E,466nm,0.1s						
GO02	**Mina Guanaco**	**2.37**	**244**	*eP*	**Pn**	**09 18 02.9**	**+0.8**
GO02				*eS*	**Sn**	**09 18 35.7**	**+1.1**
YJA	**Yavi**	**2.53**	**39**	*eP*	**Pn**	**09 18 04.6**	**+0.5**
YJA				*eS*	**Sn**	**09 18 39.5**	**+1.3**
PB06	**IPOC Station P**	**2.59**	**303**	⇑*iP*	**Pn**	**09 18 05.3**	**+0.8**
PB06				*i* S	**Sn**	**09 18 38.0**	**-0.9**
PB06				IAML		09 18 40.1	
	comp=E,507nm,0.2s						
PB06	**IPOC Station P**	**2.59**	**303**	*eP*	**Pn**	**09 18 05.3**	**+0.8**
PB06				*eS*	**Sn**	**09 18 38.8**	**-0.1**
PB06				IAML		09 18 39.8	
	comp=Z,300nm,0.3s						
PB09	**IPOC Station P**	**2.99**	**321**	⇑*iP*	**Pn**	**09 18 10.6**	**+1.3**
PB09				*eS*	**Sn**	**09 18 47.2**	**-0.3**
PB09				IAML		09 18 49.4	
	comp=N,113nm,0.6s						
PB09	**IPOC Station P**	**2.99**	**321**	*eP*	**Pn**	**09 18 10.0**	**+0.7**
PB09				IAML		09 18 52.6	
	comp=Z,69nm,0.3s						
PB10	**IPOC Station P**	**3.11**	**281**	⇑*iP*	**Pn**	**09 18 11.2**	**+0.7**
PB10				*i* S	**Sn**	**09 18 48.7**	**-0.9**
PB10				IAML		09 18 53.1	
	comp=E,146nm,0.4s						
PB10	**IPOC Station P**	**3.11**	**281**	*eP*	**Pn**	**09 18 11.2**	**+0.7**
PB10				*eS*	**Sn**	**09 18 49.0**	**-0.6**
PB10				IAML		09 18 58.2	
	comp=Z,76nm,0.5s						
PB03	**IPOC Station P**	**3.13**	**312**	*eP*	**Pn**	**09 18 11.3**	**+0.3**
PB03				IAML		09 18 49.8	
	comp=N,258nm,0.2s						
PB03	**IPOC Station P**	**3.13**	**312**	*eP*	**Pn**	**09 18 11.3**	**+0.3**
PB03				IAML		09 18 52.4	
	comp=Z,145nm,0.1s						
AHML	**Horco Molle**	**3.13**	**147**	*eP*	**Pn**	**09 18 10.8**	**+0.1**
AC02	**Maricunga**	**3.17**	**212**	⇑*eP*	**Pn**	**09 18 12.6**	**+0.9**
AC02				*eS*	**Sn**	**09 18 52.3**	**+0.4**
AC02				IAML		09 18 59.2	
	comp=E,56nm,0.4s						
AC02	**Maricunga**	**3.17**	**212**	*eP*	**Pn**	**09 18 12.6**	**+0.9**
AC01	**Pan de Azucar**	**3.63**	**236**	⇑*eP*	**Pn**	**09 18 16.5**	**-0.4**
AC01				*eS*	**Sn**	**09 18 59.4**	**-2.0**
AC01	**Pan de Azucar**	**3.63**	**236**	*eP*	**Pn**	**09 18 16.6**	**-0.4**
AC01				*eS*	**Sn**	**09 19 00.2**	**-1.2**
AC01				IAML		09 19 00.8	
	comp=Z,34nm,0.1s						
PB01	**IPOC Station P**	**3.73**	**326**	*eP*	**Pn**	**09 18 18.1**	**-0.2**
PB01				*eS*	**Sn**	**09 19 01.9**	**-1.9**
PB01	**IPOC Station P**	**3.73**	**326**	*eP*	**Pn**	**09 18 18.3**	**0.0**
PB01				IAML		09 19 05.3	
	comp=Z,43nm,0.3s						
GO03	**Copiapo**	**4.36**	**218**	⇑*eP*	**Pn**	**09 18 25.2**	**-0.9**
GO03				*eS*	**Sn**	**09 19 16.0**	**-1.9**
GO03	**Copiapo**	**4.36**	**218**	*eP*	**Pn**	**09 18 25.4**	**-0.7**
GO03				*eS*	**Sn**	**09 19 16.1**	**-1.8**
PB08	**IPOC Station P**	**4.38**	**336**	*eP*	**Pn**	**09 18 27.3**	**+0.5**
PB08	**IPOC Station P**	**4.38**	**336**	*eP*	**Pn**	**09 18 27.3**	**+0.5**
PB08				*eS*	**Sn**	**09 19 20.3**	**+1.5**
GO01	**Chusmiza**	**4.82**	**337**	*eP*	**Pn**	**09 18 32.8**	**+0.2**
GO01				*eS*	**Sn**	**09 19 29.6**	**+0.3**
PB11	**IPOC Station P**	**4.92**	**332**	*eP*	**Pn**	**09 18 32.2**	**-1.3**
PB11				*eS*	**Sn**	**09 19 27.9**	**-3.1**
PB11				IAML		09 19 34.8	
	comp=Z,17nm,0.2s						
AC04	**Llanos de Chal**	**5.30**	**220**	*eP*	**Pn**	**09 18 36.7**	**-1.5**
AC04				*eS*	**Sn**	**09 19 36.4**	**-3.3**
AC04				IAML		09 19 44.5	
	comp=Z,22nm,0.5s						
AC05	**El Transito**	**5.40**	**210**	*eP*	**Pn**	**09 18 38.9**	**-0.7**
AC05				*eS*	**Sn**	**09 19 40.2**	**-1.9**
AC05				IAML		09 19 43.4	
	comp=Z,18nm,0.6s						
LPAZ	**La Paz**	**7.88**	**354**	P	**Pn**	**09 19 10.9**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=169,slow=7.3,SNR=29						
LPAZ				S	**Sn**	**09 20 38.5**	**-3.0**
	comp=Z,0.5nm,0.5s,baz=96,slow=7.6,SNR=1.8						
SIV	**San Ignacio**	**9.97**	**37**	P	**Pn**	**09 19 36.7**	**-2.8**
	comp=Z,2.8nm,0.5s,baz=220,slow=11,SNR=18						
PLCA	**Paso Flores**	**16.76**	**189**	P	Pn	09 21 12.3	+7.9
	comp=Z,2.3nm,1.1s,baz=24,slow=9.9,SNR=4.8						
BDFB	**Brasilia**	**19.94**	**68**	P	**P**	**09 21 37.9**	**-0.4**
	comp=Z,7.9nm,0.6s,baz=244,slow=11,SNR=12						
QSPA	**South Pole Qui**	**66.05**	**180**	P	**P**	**09 27 49.3**	**+2.5**
	comp=Z,3.0nm,1.1s,baz=222,slow=1.8,SNR=3.5						
	comp=Z,3.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.83**	**69**	P	**P**	**09 28 52.0**	**0.0**
	comp=Z,168nm,0.3s,baz=249,slow=4.4,SNR=4.8						

*IDC **09** 09:19:04.5±6.9,6.°64N×76.°30W,h91km±73km,mb2.7/1, mbtmp3.4/2,ML2.5/1,Error ellipse: s-maj=101.4km s-min=41.2km az=73.0*
*RSNC **09** 09:19:06.2±0.0,7.°N±1.°×7.°3W±.°,h150km±2km,M3.2, mB4.6,mb3.8,ML3.0,Mw(mB)3.8*
ISC 09 09:19:05.6±1.0,6.°83N±0.°03×73.°12W±0.°04,h152km±6km, n39,σ1°39/73,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**195**	P	**Pn**	**09 19 26.5**	**-0.1**
BARC				S	**Sn**	**09 19 41.3**	**-1.2**
BRJC	**Barrancabermej**	**0.64**	**283**	P	**Pn**	**09 19 28.4**	**+0.4**
BRJC				S	**Sn**	**09 19 45.2**	**+0.3**
PAMC	**Pamplona, Colo**	**0.66**	**39**	P	**Pn**	**09 19 29.3**	**+0.6**
PAMC				S	**Sn**	**09 19 46.8**	**+0.6**
RUSC	**La Rusia**	**0.93**	**178**	P	**Pn**	**09 19 30.4**	**-0.2**
RUSC				S	**Sn**	**09 19 49.0**	**-0.7**
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	P	**Pn**	**09 19 33.3**	**-0.6**
PTBC				S	**Sn**	**09 19 54.4**	**-1.2**
TAMC	**Tame, Arauca**	**1.37**	**106**	P	**Pn**	**09 19 34.8**	**+0.7**
TAMC				S	**Sn**	**09 19 55.7**	**-0.2**
OCAC	**Ocana**	**1.42**	**352**	P	**Pn**	**09 19 34.8**	**+0.1**
OCAC				S	**Sn**	**09 19 56.7**	**-0.2**
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	P	**Pn**	**09 19 39.4**	**+0.2**
ZARC				S	**Sn**	**09 20 05.0**	**+0.1**
NORC	**Norcasia**	**2.15**	**234**	P	**Pn**	**09 19 42.3**	**-0.4**
NORC				S	**Sn**	**09 20 09.2**	**-2.0**
CHIC	**Chingaza**	**2.27**	**196**	P	**Pn**	**09 19 44.5**	**0.0**
CHIC				S	**Sn**	**09 20 13.8**	**-0.6**
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**09 19 46.5**	**+1.5**
	18nm,0.3s,baz=305,slow=17,SNR=35						
ROSC				S	**Sn**	**09 20 18.1**	**+2.9**
	173nm,0.3s,baz=203,slow=20,SNR=15						
	40nm,0.3s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**09 19 46.2**	**+1.2**
ROSC				S	**Sn**	**09 20 15.2**	**0.0**
CVER	**Cruz Verde, Cu**	**2.48**	**203**	P	**Pn**	**09 19 47.6**	**+0.5**
CVER				S	**Sn**	**09 20 19.1**	**0.0**
UREC	**San Jos de Ur**	**2.57**	**291**	P	**Pn**	**09 19 46.7**	**-1.0**
UREC				S	**Sn**	**09 20 18.9**	**-1.2**
GUY2C	**Guyana, Caldas**	**2.75**	**235**	P	**Pn**	**09 19 51.0**	**+0.6**
GUY2C				S	**Sn**	**09 20 24.2**	**-0.6**
VILC	**Villavicencio,**	**2.76**	**192**	P	**Pn**	**09 19 50.0**	**-0.2**
VILC				S	**Sn**	**09 20 24.7**	**0.0**
PTGC	**Puerto Gaitan,**	**2.79**	**159**	P	**Pn**	**09 19 49.7**	**-0.8**
PTGC				S	**Sn**	**09 20 22.9**	**-2.3**
CBOC	**Ciudad Bolivar**	**3.03**	**252**	P	**Pn**	**09 19 54.4**	**+0.7**
CBOC				S	**Sn**	**09 20 30.2**	**-0.6**
DBBC	**Dabeiba**	**3.08**	**274**	P	**Pn**	**09 19 54.5**	**+0.4**
DBBC				S	**Sn**	**09 20 30.2**	**-1.4**
SDV	**Santo Domingo**	**3.20**	**50**	P	**Pn**	**09 19 56.3**	**+0.5**
SDV				S	**Sn**	**09 20 33.4**	**-1.2**
ARGC	**Ariguani, Magd**	**3.21**	**340**	P	**Pn**	**09 19 57.1**	**+1.3**
ARGC				S	**Sn**	**09 20 35.9**	**+1.2**
ANIL	**Santa Ana**	**3.25**	**225**	P	**Pn**	**09 19 58.4**	**+1.8**
ANIL				S	**Sn**	**09 20 37.4**	**+1.4**
PRAC	**Prado**	**3.56**	**210**	P	**Pn**	**09 20 00.3**	**0.0**
PRAC				S	**Sn**	**09 20 42.3**	**-0.5**
APAC	**Apartado, Choc**	**3.60**	**287**	P	**Pn**	**09 20 00.8**	**+0.1**
APAC				S	**Sn**	**09 20 43.9**	**+0.5**
SJCC	**San Jacinto, C**	**3.67**	**326**	P	**Pn**	**09 20 01.3**	**-0.4**
SJCC				S	**Sn**	**09 20 42.2**	**-3.1**
URMC	**La Uribe, Meta**	**3.77**	**200**	P	**Pn**	**09 20 03.6**	**+0.5**
URMC				S	**Sn**	**09 20 48.3**	**+0.5**
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P	**Pn**	**09 20 07.1**	**-1.2**
CRJC				S	**Sn**	**09 20 56.0**	**-1.1**
YOTC	**Yotoco, Valle**	**4.28**	**229**	P	**Pn**	**09 20 09.5**	**-0.3**
GUVC	**San Jose del G**	**4.28**	**173**	P	**Pn**	**09 20 11.4**	**+1.7**
GUVC				S	**Sn**	**09 20 59.1**	**-0.5**
PTAC	**Punta Ardita,**	**4.67**	**274**	P	**Pn**	**09 20 14.2**	**-0.5**
MACC	**Macarena, Meta**	**4.71**	**189**	P	**Pn**	**09 20 13.6**	**-1.7**
MACC				S	**Sn**	**09 21 05.6**	**-4.1**
URIC	**Uribia, Colomb**	**4.97**	**13**	P	**Pn**	**09 20 17.2**	**-1.5**
GARC	**Garzon, Huila**	**5.18**	**207**	P	**Pn**	**09 20 20.7**	**-1.1**
GARC				S	**Sn**	**09 21 17.0**	**-4.2**
POPC	**Popayan, Colom**	**5.54**	**220**	P	**Pn**	**09 20 26.6**	**0.0**
	2.9nm,0.6s						
POPC				S	**Sn**	**09 21 28.4**	**-1.4**
	2.9nm,0.6s						
FLOC	**Florencia**	**5.79**	**206**	P	**Pn**	**09 20 29.8**	**+0.1**
	6.7nm,1.0s						
FLOC				S	**Sn**	**09 21 35.7**	**+0.3**
	6.7nm,1.0s						
BBAC	**Balboa, Cauca**	**6.30**	**221**	P	**Pn**	**09 20 37.6**	**+0.9**
BBAC				S	**Sn**	**09 21 45.3**	**-2.6**
CRUC	**La Cruz**	**6.47**	**216**	P	**Pn**	**09 20 41.9**	**+2.8**
CRUC				S	**Sn**	**09 21 54.6**	**+2.4**
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**09 29 17.0**	**-0.7**
	0.1nm,0.5s,baz=132,slow=6.5,SNR=6.5						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPdf**	**09 38 35.4**	**+2.7**
	0.2nm,0.7s,baz=106,slow=4.2,SNR=4.1						

*ASRS **09** 09:24:47.0±1.1,54.°28N×86.°88E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 09 09:24:46.9±3.4,54.°36N×87.°18E,h0km,mbtmp2.8/2, ML2.5/2,Error ellipse: s-maj=31.2km s-min=19.8km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.45**	**254**	I	I	09 33 30.0	
	baz=74,slow=327,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.45**	**254**	Pg	Pn	09 25 11.7	-2.6
	1.9nm,0.3s,baz=73,slow=17,SNR=20						
ZALV				Lg	Lg	09 25 33.5	
	1.5nm,0.3s,baz=75,slow=28,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.47**	**238**	Pn	Pn	09 26 23.6	+0.3
	0.1nm,0.3s,baz=54,slow=13,SNR=6.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.19**	**204**	Pn	Pn	09 26 49.1	+2.2
	0.1nm,0.3s,baz=24,slow=14,SNR=2.0						
	0.1nm,0.3s						

*ASRS **09** 09:30:01.0±1.6,53.°60N×87.°94E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 09 09:30:02.1±3.0,53.°55N×87.°98E,h0km,mbtmp3.0/2, ML2.7/2,Error ellipse: s-maj=28.8km s-min=18.4km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**283**	I	I	09 42 30.0	
	0.1nm,1.0s,baz=98,slow=330,SNR=8.8						
ZALV	**Zalesovo Beam**	**1.92**	**283**	Pn	Pn	09 30 36.4	+0.4
	1.6nm,0.3s,baz=100,slow=16,SNR=18						
ZALV				Lg	Lg	09 31 02.4	
	2.9nm,0.3s,baz=104,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**6.52**	**247**	Pn	Pn	09 31 39.8	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=9.8						
KURBB				Lg	Lg	09 33 29.5	
	baz=58,slow=30,SNR=4.3						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**7.69**	**211**	Pn	Pn	09 31 56.0	+0.8
	0.1nm,0.3s,baz=23,slow=14,SNR=4.5						
	0.2nm,0.3s						

*ASRS **09** 09:39:38.0±1.1,54.°25N×87.°08E,h0km,M3.1,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 09 09:39:37.4±2.7,54.°28N×87.°50E,h0km,mbtmp3.4/3, ML2.7/3,Error ellipse: s-maj=24.4km s-min=16.0km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**259**	I	I	09 49 10.0	
	0.1nm,0.9s,baz=76,slow=320,SNR=9.4						
ZALV	**Zalesovo Beam**	**1.61**	**259**	Pg	Pn	09 40 05.0	-2.0
	3.6nm,0.3s,baz=76,slow=17,SNR=30						
ZALV				Lg	Lg	09 40 28.1	
	2.7nm,0.3s,baz=74,slow=23,SNR=9.9						
ZALV				Rg	Rg	09 40 36.1	
	11nm,1.0s,baz=71,slow=33,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.59**	**240**	Pn	Pn	09 41 15.9	+0.5
	0.2nm,0.3s,baz=56,slow=14,SNR=28						
KURBB				Lg	Lg	09 43 06.7	
	baz=57,slow=33,SNR=5.8						
	4.2nm,0.7s						
MKAR	**Makanchi Array**	**8.19**	**206**	Pn	Pn	09 41 37.9	+0.5
	0.2nm,0.3s,baz=28,slow=12,SNR=6.5						
MKAR				Sn	Sn	09 43 11.2	+0.5
	0.2nm,0.3s,baz=25,slow=24,SNR=5.8						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**10.24**	**270**	Pn	Pn	09 42 05.4	0.0
	baz=67,slow=15,SNR=4.4						
BVAR				Sn	Sn	09 43 51.3	-10
	baz=75,slow=25,SNR=6.3						
	0.9nm,0.5s						

IDC 09 09:40:57.3±559.0,53.°71N×34.°50E,h0km,Error ellipse: s-maj=242.0km s-min=72.5km az=28.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.40**	**26**	I	I	10 02 20.0	
	0.2nm,0.6s,baz=210,slow=309,SNR=3.2						
I31KZ	**AKTYUBINSK INF**	**14.83**	**93**	I	I	11 10 10.0	
	baz=291,slow=326,SNR=1.3						
I37NO	**I37NO**	**17.09**	**340**	I	I	11 30 00.0	
	baz=146,slow=328,SNR=1.1						
I46RU	**ZALESOVO INFRA**	**29.19**	**69**	I	I	12 36 10.0	
	baz=290,slow=328,SNR=1.1						

*SOME **09** 09:41:43.9,43.°70N×69.°67E*
*KRNET **09** 09:41:43.2±0.1,43.°68N×69.°57E,mb3.0*
*NNC **09** 09:41:44.9±1.2,43.°70N×69.°72E,h0km,mb3.7,mpv3.2, Error ellipse: s-maj=6.9km s-min=4.5km az=142.0, Suspected Mining explosion.*
ISC 09 09:41:47.1±2.5,43.°64N±0.°10×69.°72E±0.°10,h0km,n14, σ1°32/22,14C-1D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.61**	**172**	P	**Pb**	**09 42 01.7**	**+1.0**
	4.6nm,0.5s						
BRLS				S	**Sn**	**09 42 14.8**	**+1.1**
	31nm,0.3s						
KK31	**Karatay Array**	**0.79**	**132**	P	**Pg**	**09 42 00.5**	**-1.7**
	1.7nm,0.3s,baz=320,slow=17,SNR=175						
KK31				⇑S	**Sg**	**09 42 12.5**	**+0.1**
	76nm,0.7s,baz=314,slow=31,SNR=28						
KKAR	**Karatay Array**	**0.79**	**132**	⇑*iP*	**Pg**	**09 42 00.4**	**-1.8**
KKAR				⇑*eS*	**Sg**	**09 42 13.0**	**+0.7**
IUG	**Iuzhnay**	**1.51**	**171**	P	**Pn**	**09 42 14.6**	**-0.9**
	41nm,0.3s						
IUG				S	**Sn**	**09 42 36.7**	**+0.9**
	88nm,0.4s						
MNAS	**Manas**	**2.34**	**118**	⇑*eP*	**Pn**	**09 42 26.7**	**-0.3**
MNAS				⇑*eS*	**Sn**	**09 42 58.5**	**+1.9**
TRKS	**Terek-Say**	**2.35**	**153**	⇑*eP*	**Pn**	**09 42 27.5**	**+0.4**
TRKS				⇑*eS*	**Sb**	**09 42 59.8**	**-0.3**
ARK	**Arkit**	**2.47**	**137**	⇑*eP*	**Pn**	**09 42 28.3**	**-0.5**
ARK				⇑*eS*	**Sn**	**09 43 01.3**	**+1.6**
MRKS	**Merke**	**2.72**	**108**	Pg	**Pb**	**09 42 35.6**	**-1.0**
	6.0nm,0.4s						
MRKS				Lg	Lg	09 43 12.7	
	19nm,0.4s						
AAK	**Ala-Archa**	**3.63**	**104**	Pg	**Pb**	**09 42 51.6**	**-0.7**
	5.3nm,0.5s						
AAK				Lg	Lg	09 43 41.6	
	4.2nm,0.5s						
CHMS	**Chumysh**	**3.73**	**98**	⇑Pg	**Pb**	**09 42 51.9**	**-1.9**
	6.0nm,0.6s						
CHMS				⇓Lg	Lg	09 43 44.7	
	7.7nm,0.7s						
ARLS	**Aral**	**3.83**	**116**	⇑*eP*	**Pn**	**09 42 47.5**	**+0.1**
ARLS				⇑*eS*	**Sn**	**09 43 34.5**	**+1.3**
TKM2	**Tokmak 2**	**4.35**	**97**	⇑Pg	**Pb**	**09 43 04.5**	**0.0**
	2.7nm,0.6s						
TKM2				⇑Lg	Lg	09 44 02.8	
	4.8nm,0.8s						
DGS	**Degeres**	**4.43**	**93**	Pg	**Pb**	**09 43 07.5**	**+1.7**
	2.9nm,0.5s						
DGS				Lg	Lg	09 44 07.5	
	12nm,0.5s						
TNSS	**Tian-Shan**	**5.31**	**94**	Pg	**Pb**	**09 43 23.5**	**+2.5**
	1.2nm,0.5s						
TNSS				Lg	Lg	09 44 34.5	
	2.9nm,0.5s						

IDC 09 09:42:50.9±417.0,49.°14N×50.°75E,h0km,Error ellipse: s-maj=172.1km s-min=100.5km az=65.0,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**4.89**	**72**	I	I	10 12 30.0	
	0.1nm,0.5s,baz=257,slow=326,SNR=3.4						
I43RU	**DUBNA INFRASON**	**11.14**	**318**	I	I	10 50 40.0	
	baz=128,slow=324,SNR=3.3						
I46RU	**ZALESOVO INFRA**	**21.59**	**64**	I	I	11 53 00.0	
	baz=275,slow=328,SNR=2.0						

*SJA **09** 09:44:02.7±0.7,22.°96S×66.°29W,h248km±8km,ML3.5, MW3.3*
*GUC **09** 09:44:04.3±0.5,22.°89S×66.°44W,h241km±10km,ML3.7*
ISC 09 09:44:02.2±2.5,22.°94S±0.°06×66.°38W±0.°07, h247km±18km,n18,σ1°50/32,4C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.10**	**47**	*eP*	**Pn**	**09 44 39.0**	**+0.8**
YJA				*i* S	**S**	**09 45 03.4**	**-2.9**
YJA	**Yavi**	**1.10**	**47**	*eP*	**Pn**	**09 44 39.5**	**+1.3**
YJA				*eS*	**S**	**09 45 05.8**	**-0.5**
AF01	**San Pedro de A**	**1.66**	**269**	*eP*	**Pn**	**09 44 44.0**	**+2.1**
AZAP	**Zapla**	**1.76**	**137**	*eP*	**Pn**	**09 44 43.3**	**+0.7**
PB09	**IPOC Station P**	**2.88**	**293**	⇑*iP*	**Pn**	**09 44 55.0**	**+1.5**
PB09				*eS*	**S**	**09 45 33.3**	**-0.7**
PB09				IAML		09 45 38.3	
	comp=E,53nm,0.2s						
PB09	**IPOC Station P**	**2.88**	**293**	*eP*	**Pn**	**09 44 55.1**	**+1.6**
PB09				*eS*	**S**	**09 45 34.4**	**+0.5**
PB09				IAML		09 45 35.0	
	comp=Z,61nm,0.5s						
PB06	**IPOC Station P**	**2.96**	**274**	*eP*	**Pn**	**09 44 55.4**	**+1.1**
PB06				*i* S	**S**	**09 45 34.0**	**-1.3**
PB06				IAML		09 45 36.5	
	comp=N,95nm,0.1s						
PB06	**IPOC Station P**	**2.96**	**274**	*eP*	**Pn**	**09 44 55.4**	**+1.1**
PB06				*eS*	**S**	**09 45 36.5**	**+1.3**
PB06				IAML		09 45 37.3	
	comp=Z,40nm,0.1s						
FSA	**Cafayete**	**3.18**	**174**	*eP*	**Pn**	**09 44 57.7**	**+1.0**
PB03	**IPOC Station P**	**3.24**	**285**	⇑*iP*	**Pn**	**09 44 58.0**	**+0.6**
PB03				*i* S	**S**	**09 45 38.9**	**-2.1**
PB03				IAML		09 45 41.4	
	comp=N,101nm,0.3s						
PB03	**IPOC Station P**	**3.24**	**285**	*eP*	**Pn**	**09 44 58.3**	**+0.9**
PB03				*eS*	**S**	**09 45 39.3**	**-1.8**
PB03				IAML		09 45 41.2	
	comp=Z,73nm,0.2s						
PB01	**IPOC Station P**	**3.45**	**303**	⇑*iP*	**Pn**	**09 45 00.4**	**+0.7**
PB01				*i* S	**S**	**09 45 43.4**	**-1.7**
PB01	**IPOC Station P**	**3.45**	**303**	*eP*	**Pn**	**09 45 00.7**	**+1.0**
PB01				IAML		09 45 46.4	
	comp=Z,94nm,0.2s						
GO02	**Mina Guanaco**	**3.68**	**232**	*eP*	**Pn**	**09 45 03.3**	**+0.9**
GO02				*eS*	**S**	**09 45 49.2**	**-0.9**
PB08	**IPOC Station P**	**3.80**	**317**	⇑*iP*	**Pn**	**09 45 05.7**	**+1.7**
PB08				*eS*	**S**	**09 45 52.3**	**-0.6**
PB10	**IPOC Station P**	**3.88**	**261**	*eP*	**Pn**	**09 45 04.7**	**+0.2**
PB10				*eS*	**S**	**09 45 51.6**	**-2.3**
PB10				IAML		09 45 56.0	
	comp=Z,37nm,0.4s						
GO01	**Chusmiza**	**4.18**	**321**	*eP*	**Pn**	**09 45 09.9**	**+1.3**
GO01				*i* S	**S**	**09 46 01.5**	**+0.3**
PB11	**IPOC Station P**	**4.40**	**315**	*eP*	**Pn**	**09 45 11.1**	**+0.2**
PB11				*eS*	**S**	**09 46 02.3**	**-3.0**

SNET 09 09:48:28.9±1.1,13.°04N×88.°77W,h64km±10km,ML3.1,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.35**	**33**	*eP*	Pn	09 48 39.8	0.0
ALJI				*eS*	Sn	09 48 48.6	+1.0
TECO	**Alcaldia de Te**	**0.50**	**358**	*eP*	Pn	09 48

JAYA	**Jayaque - finc**	**0.79 208**	IAML		09 49 02.5	
	comp=Z,349nm,0.2s					
JAYA	**Jayaque - finc**	**0.79 208**	*e*P	**Pg**	**09 48 46.4**	**-4.1**
JAYA			*e*S	**Sg**	**09 48 59.5**	**-1.4**
JAYA	**Jayaque - finc**	**0.79 208**	*e*P	**Pg**	**09 48 46.2**	**-4.3**
JAYA	**Jayaque - finc**	**0.79 208**	*e*S	**Sg**	**09 48 59.8**	**-1.0**
NUBE	**Las Nubes**	**0.82 237**	*e*S	**Sn**	**09 49 07.7**	**+2.2**
NUBE	**Las Nubes**	**0.82 237**	*e*P	**Pb**	**09 48 51.9**	**+0.1**
NUBE			*e*S	**Sn**	**09 49 05.5**	**+0.1**
NUBE	**Las Nubes**	**0.82 237**	*e*P	**Pb**	**09 48 51.6**	**-0.2**
MARCA	**Marcala la Paz**	**1.02 101**	*e*P	**Pg**	**09 48 52.4**	**-2.6**
MARCA			*e*S	**Sb**	**09 49 08.0**	**-0.7**

*ASRS **09** 09:50:27.0±1.3, 53°.68N×86°.92E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 09:50:26.9±3.0, 53°.76N×87°.23E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=29.6km s-min=17.4km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44 278**		I	I	09 59 10.0	
	baz=99,slow=328,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.44 278**		Pg	Pn	09 50 51.6	-2.7
	1.0nm,0.3s,baz=98,slow=18,SNR=9.9						
ZALV				Lg	Lg	09 51 13.9	
	1.4nm,0.3s,baz=98,slow=33,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.20 243**		Pn	Pn	09 51 59.8	+0.1
	0.1nm,0.3s,baz=60,slow=13,SNR=5.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.66 206**		Pn	Pn	09 52 21.8	+2.1
	0.1nm,0.3s,baz=25,slow=13,SNR=5.2						
	0.2nm,0.3s						

*IDC **09** 10:05:59.5±1.2, 76°.21N×134°.12E, h0km, mb3.4/5, mbtmp3.5/7, ML3.6/2, MS2.7/1, Error ellipse: s-maj=45.3km s-min=19.9km az=139.0*

ISC 09 10:06:00.9±1.0, 76°.1N±0°.1×134°.2E±0°.1, h10km, n8, σ1§28/8, mb3.5/5, Laptev Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**4.72 201**		Pn	**Pn**	**10 07 12.0**	**0.0**
	3.0nm,0.3s,baz=33,slow=13,SNR=28						
TIXI				Sn	**Sn**	**10 08 04.7**	**-1.9**
	3.2nm,0.3s,baz=292,slow=18,SNR=6.0						
	8.0nm,0.3s						
SEY	**Seymchan**	**14.56 145**		Pn	**Pn**	**10 09 27.3**	**+0.7**
	0.1nm,0.3s,baz=333,slow=8.0,SNR=5.3						
	0.4nm,0.3s						
NRIK	**Noril'sk**	**14.96 268**		LR	LR	10 15 52.9	
	comp=Z,33nm,20.9s,baz=359,slow=40						
ILAR	**Eielson Array**	**26.28 72**		P	**P**	**10 11 35.7**	**-0.2**
	0.5nm,0.7s,baz=319,slow=6.8,SNR=7.2						
	0.5nm,0.7s						
SONM	**Songino Array**	**30.56 218**		P	**P**	**10 12 15.9**	**+1.6**
	0.4nm,0.5s,baz=23,slow=7.8,SNR=2.2						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**33.40 253**		P	**P**	**10 12 38.8**	**-0.2**
	0.3nm,0.5s,baz=23,slow=8.7,SNR=2.6						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**35.03 49**		P	**P**	**10 12 51.9**	**-1.2**
	0.3nm,0.9s,baz=340,slow=8.4,SNR=4.0						
	0.3nm,0.9s						
TXAR	**Lajitas Array**	**68.86 52**		P	**P**	**10 17 05.7**	**+0.4**
	0.5nm,0.8s,baz=4.0,slow=3.5,SNR=7.2						
	0.5nm,0.8s						

IDC 09 10:08:39.9±1.7, 26°.88N×97°.37E, h0km, mb3.2/3, mbtmp3.3/4, ML4.1/1, Error ellipse: s-maj=109.3km s-min=27.8km az=63.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.51 170**		Pn	Pn	10 10 45.9	+1.5
	0.6nm,0.3s,baz=343,slow=14,SNR=5.8						
	1.2nm,0.3s						
MKAR	**Makanchi Array**	**23.18 333**		P	P	10 13 48.3	+0.2
	0.2nm,0.4s,baz=146,slow=8.7,SNR=3.6						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**58.74 139**		P	P	10 18 39.4	-0.5
	0.3nm,0.6s,baz=321,slow=7.1,SNR=2.1						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**61.41 142**		P	P	10 18 58.0	-0.2
	0.4nm,0.9s,baz=322,slow=6.4,SNR=2.3						
	0.4nm,0.9s						

*GCG **09** 10:15:05.1±3.0, 15°.51N×94°.83W, h27km, MD4.0*
*MEX **09** 10:15:07.2±0.9, 15°.51N×94°.81W, h16km±999km, MD4.1*

ISC 09 10:15:01.4±1.3, 15°.59N±0°.05×94°.79W±0°.02, h6km±10km, n20, σ1§77/39, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.28 278**		*i* P	**Pg**	**10 15 27.3**	**+1.4**
HUIG				*e*S	**Sg**	**10 15 41.5**	**-1.0**
HUIG	**Huatulco**	**1.28 278**		*e*P	**Pg**	**10 15 27.0**	**+1.1**
HUIG				*e*S	**Sg**	**10 15 41.3**	**-1.2**
CMIG	**Matias Romero**	**1.50 357**		*e*P	**Pg**	**10 15 31.0**	**+0.9**
CMIG				*e*S	**Sg**	**10 15 48.9**	**-0.7**
PCIG		**1.52 85**		*e*P	**Pg**	**10 15 30.8**	**+0.2**
PCIG				*e*S	**Sn**	**10 15 48.8**	**-0.5**
UXUV	**UXUV**	**1.83 20**		*e*P	**Pg**	**10 15 36.5**	**0.0**
UXUV				*e*S	**Sb**	**10 15 57.8**	**-0.7**
TGIG		**2.00 53**		*e*P	**Pb**	**10 15 38.3**	**+0.1**
TGIG				*e*S	**Sn**	**10 16 01.0**	**-0.1**
TGIG		**2.00 53**		*e*P	**Pb**	**10 15 38.3**	**+0.1**
TGIG				*e*S	**Sg**	**10 16 04.0**	**-1.6**
PEIG	**Puerto Escondi**	**2.30 281**		*e*P	**Pn**	**10 15 41.6**	**+1.6**
PEIG				*e*S	**Sn**	**10 16 05.7**	**-2.9**
NEUV	**Arroyo Zacate**	**2.33 336**		*e*P	**Pb**	**10 15 42.5**	**-1.2**
NEUV				*e*S	**Sn**	**10 16 06.6**	**-2.5**
VHO	**Vista Hermosa**	**2.38 309**		*e*P	**Pb**	**10 15 44.5**	**-0.2**
VHO				*i* Sg	**Sn**	**10 16 11.5**	**+0.8**
VHO				*e*S	**Sb**	**10 16 11.9**	**-2.6**
PATR	**El Naranjo**	**2.51 100**		*e*P	**Pn**	**10 15 44.8**	**+1.8**
PATR				*e*S	**Sn**	**10 16 13.1**	**-1.1**
PAVE	**Pavencul**	**2.56 98**		*e*P	**Pn**	**10 15 45.6**	**+2.0**
PAVE				*e*S	**Sn**	**10 16 14.3**	**-0.8**
CCIG	**Comitan**	**2.65 74**		*e*P	**Pb**	**10 15 48.5**	**-0.8**
CCIG				*e*S	**Sb**	**10 16 21.7**	**-0.6**
CCIG	**Comitan**	**2.65 74**		*e*P	**Pb**	**10 15 49.3**	**-0.1**
YOIG	**Yosondua**	**2.93 296**		*e*P	**Pn**	**10 15 47.6**	**-1.2**
YOIG				*e*S	**Sn**	**10 16 22.7**	**-1.7**
PNIG	**Pinotepa**	**3.30 284**		*e*P	**Pn**	**10 15 55.2**	**+1.5**
PNIG				*e*S	**Sn**	**10 16 30.4**	**-3.0**
TOIG	**Toxpalan**	**3.31 319**		*e*P	**Pn**	**10 15 56.6**	**+2.7**
TOIG				*e*S	**Sn**	**10 16 36.3**	**+2.7**
HLIG	**Huajuapan de L**	**3.65 308**		*e*P	**Pn**	**10 16 01.1**	**+2.6**
HLIG				*e*S	**Sn**	**10 16 45.9**	**+3.8**
FTIG	**Fresnillo de T**	**3.94 306**		*e*P	**Pn**	**10 16 06.0**	**+3.4**
FTIG				*e*S	**Sn**	**10 16 49.7**	**+0.3**
JAUV	**Jalcomulco**	**4.22 333**		*e*P	**Pn**	**10 16 07.1**	**+0.8**

*UPP **09** 10:24:06.3±2.3, 64°.63N×30°.93E, h0km, ML1.7*
*HEL **09** 10:24:06.3±0.2, 64°.78N×30°.70E, h0km, ML2.1, Suspected explosion*
*IDC **09** 10:24:07.7±2.1, 64°.75N×30°.70E, h0km, mbtmp3.1/3, ML2.3/3, Error ellipse: s-maj=31.5km s-min=9.4km az=103.0*
*KOLA **09** 10:24:07.3, 64°.73N×30°.88E, h0km, ML2.2, Error ellipse: s-maj=17.5km s-min=12.9km az=160.0, Kostomuksha, Karelia*
*BER **09** 10:24:12.4±0.6, 65°.06N×30°.61E, h0km, ML1.7(UPP), Suspected explosion*

ISC 09 10:24:06.5±0.9, 64°.82N±0°.03×30°.86E±0°.04, h0km, n61, σ1§59/91, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.72 214**		PB	**Pg**	**10 24 18.7**	**-1.6**
RMF				MSG		10 24 26.8	
	comp=Z,31nm,0.2s						
KU1	**Kurvinen**	**0.93 324**		PG	**Pg**	**10 24 23.0**	**-1.3**
KU6	**Riekki**	**1.28 342**		PG	**Pg**	**10 24 29.8**	**-1.2**
	baz=163						
KU6				MSG		10 24 45.5	
	comp=Z,13nm,0.2s						
KU6				SG	**Sg**	**10 24 46.9**	**-0.6**
MSF	**Maaselka**	**1.34 326**		PG	**Pg**	**10 24 30.4**	**-1.7**
	baz=152						
MSF				SN	**Sg**	**10 24 49.4**	**0.0**
KU2	**Taivalkoski**	**1.42 310**		PG	**Pn**	**10 24 31.5**	**-2.1**
	baz=131						
KU2				SN	**Sb**	**10 24 53.4**	**+0.9**
OLKF	**Oulanka, Finla**	**1.63 339**		PG	**Pn**	**10 24 35.8**	**-0.6**
OLKF				MSG		10 24 55.5	
	comp=Z,9.3nm,0.2s						
OLKF				SN	**Sb**	**10 24 58.8**	**+0.4**
JOF	**Joensuu**	**1.92 174**		*e*P	**Pn**	**10 24 41.2**	**+0.9**
JOF	**Joensuu**	**1.92 174**		PG	**Pn**	**10 24 39.9**	**-0.4**
NIF	**Nilsia**	**1.96 224**		PG	**Pn**	**10 24 40.5**	**-0.4**
	baz=43						
KVDA	**Kovda**	**2.06 23**		P	**Pb**	**10 24 44.2**	**-0.5**
KVDA				S	**Sg**	**10 25 11.8**	**-0.8**
RANF	**Ranua**	**2.08 307**		PG	**Pn**	**10 24 43.0**	**+0.4**
	baz=125						
RANF				SG	**Sn**	**10 25 09.5**	**+0.3**
OUL	**Oulu**	**2.13 280**		PG	**Pn**	**10 24 43.2**	**0.0**
OUL				SG	**Sn**	**10 25 10.7**	**+0.4**
OBF4	**Vikkela, Lumij**	**2.46 273**		PG	**Pn**	**10 24 48.4**	**+0.6**
	baz=86						
OBF4				MSG		10 25 17.0	
	comp=Z,17nm,0.2s						
OBF4				SG	**Sn**	**10 25 20.8**	**+2.3**
OUF	**Merijarvi**	**2.68 263**		PG	**Pn**	**10 24 51.8**	**+1.0**
	baz=81						
OUF				MSG		10 25 23.3	
	comp=Z,11nm,0.2s						
OUF				SG	**Sn**	**10 25 26.2**	**+2.3**
RNF	**Rovaniemi**	**2.69 314**		PB	**Pn**	**10 24 52.0**	**+1.1**
	baz=132						
RNF				SG	**Sb**	**10 25 27.3**	**-1.7**
OBF0	**Syolatti, Pyha**	**2.87 267**		PG	**Pn**	**10 24 56.5**	**+3.2**
OBF0				MSG		10 25 28.7	
	comp=Z,7.1nm,0.2s						
APA0	**Apatity Array**	**2.93 16**		P	**Pn**	**10 24 55.9**	**+1.7**
APA0				S	**Sn**	**10 25 32.6**	**+2.5**
SUF	**Sumiainen**	**2.97 227**		PB	**Pn**	**10 24 56.4**	**+1.7**
SUF				MSG		10 25 31.3	
	comp=Z,3.3nm,0.2s						
SUF				SG	**Sb**	**10 25 36.2**	**-0.7**
VRF	**Varrio**	**2.99 351**		PB	**Pn**	**10 24 56.3**	**+1.3**
VRF				MSG		10 25 34.9	
	comp=Z,4.0nm,0.2s						
VRF				SG	**Sb**	**10 25 38.4**	**+1.0**
TOF	**Tornio**	**3.01 298**		PB	**Pn**	**10 24 56.9**	**+1.6**
TOF				MSG		10 25 33.4	
	comp=Z,3.7nm,0.2s						
TOF				SG	**Sb**	**10 25 37.0**	**-1.0**
KALU	**Kalix**	**3.31 292**		P	**Pn**	**10 25 00.6**	**+1.2**
KALU				S	**Sn**	**10 25 41.6**	**+2.1**
KALU	**Kalix**	**3.31 292**		PB	**Pn**	**10 25 01.4**	**+1.9**
	baz=107						
KALU				SB	**Sn**	**10 25 42.0**	**+2.5**
KAF	**Kangasniemi**	**3.40 219**		PB	**Pn**	**10 25 02.5**	**+1.9**
KAF				SG	**Sb**	**10 25 47.8**	**-1.4**
LVZ	**Lovozero**	**3.45 25**		PB	**Pn**	**10 25 04.5**	**+3.0**
LVZ				SN	**Sn**	**10 25 44.8**	**+1.8**
RUF	**Ruokolahti**	**3.51 195**		PB	**Pn**	**10 25 03.4**	**+1.1**
KLF	**Kolari**	**3.72 314**		PN	**Pn**	**10 25 06.1**	**+1.1**
KEF	**Keuruu**	**3.78 228**		*e*P	**Pn**	**10 25 07.2**	**+1.4**
KEF	**Keuruu**	**3.78 228**		PB	**Pn**	**10 25 07.4**	**+1.5**
RAJF	**Raja-Jooseppi**	**3.81 346**		PN	**Pn**	**10 25 06.9**	**+0.6**
RAJF				SN	**Sn**	**10 25 53.0**	**+1.2**
PAJU	**Pajala**	**3.87 308**		P	**Pn**	**10 25 07.8**	**+0.7**
PAJU				S	**Sn**	**10 25 55.8**	**+2.5**
PAJU	**Pajala**	**3.87 308**		PB	**Pn**	**10 25 10.2**	**+3.0**
PAJU				SG	**Sb**	**10 26 05.4**	**+2.6**
ERTU	**Ertsjaerv**	**3.99 300**		P	**Pn**	**10 25 09.9**	**+1.2**
ERTU				S	**Sn**	**10 25 57.6**	**+1.5**
ERTU	**Ertsjaerv**	**3.99 300**		PB	**Pn**	**10 25 11.2**	**+2.5**
ERTU				SB	**Sn**	**10 26 00.0**	**+3.9**
FIA0	**FINESS Array S**	**4.02 215**		PB	**Pn**	**10 25 13.8**	**+4.6**
	baz=31						
FINES	**FINESS Array B**	**4.02 215**		Pn	**Pn**	**10 25 08.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=33,slow=16,SNR=10						
FINES				Sn	**Sn**	**10 25 57.8**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=33,slow=16,SNR=3.4						
FINES				Lg	Lg	10 26 11.2	
	comp=Z,0.7nm,0.3s,baz=28,slow=27,SNR=5.3						
FINES				Rg	Rg	10 26 26.5	
	comp=Z,4.2nm,0.8s,baz=43,slow=25,SNR=8.2						
	comp=Z,0.8nm,0.4s						
VAF	**Ylistaro**	**4.03 247**		*e*P	**Pn**	**10 25 10.2**	**+1.0**
VAF	**Ylistaro**	**4.03 247**		PB	**Pn**	**10 25 11.3**	**+2.0**
BURU	**Burvik**	**4.08 271**		P	**Pn**	**10 25 10.0**	**0.0**
BURU				S	**Sn**	**10 25 57.9**	**-0.4**
ODEU	**Stanfors**	**4.39 269**		P	**Pn**	**10 25 13.8**	**-0.4**
MASU	**Masugnsbyn**	**4.47 310**		P	**Pn**	**10 25 17.0**	**+1.6**
HEF	**Hetta**	**4.61 325**		PN	**Pn**	**10 25 17.9**	**+0.6**
HEF				SG	**Sb**	**10 26 26.6**	**+2.6**
TERR	**Teriberka**	**4.71 19**		P	**Pn**	**10 25 18.9**	**+0.3**
TERR				S	**Sn**	**10 26 12.1**	**-1.7**
DUNU	**Dundret**	**4.80 303**		P	**Pn**	**10 25 21.0**	**+1.1**
LANU	**Lannavaara**	**4.81 316**		P	**Pn**	**10 25 21.0**	**+0.9**
PRVG	**Vayda Guba**	**4.98 5**		P	**Pn**	**10 25 23.7**	**+1.3**
PRVG				S	**Sn**	**10 26 20.3**	**-0.2**
KTK1	**Kautokeino**	**5.17 328**		*e*P	**Pn**	**10 25 25.6**	**+0.7**
ARA0	**ARCESS Array S**	**5.18 339**		*e*P	**Pn**	**10 25 24.8**	**-0.2**
ARCES	**ARCESS Array B**	**5.18 339**		Pn	**Pn**	**10 25 24.8**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=155,slow=13,SNR=52						
ARCES				Sn	**Sn**	**10 26 22.3**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=156,slow=24,SNR=5.9						
ARCES				Lg	Lg	10 26 45.5	
	comp=Z,0.7nm,0.3s,baz=156,slow=30,SNR=13						
	comp=Z,0.8nm,0.2s						
ARCES	**ARCESS Array B**	**5.18 339**		P	**Pn**	**10 25 24.5**	**-0.5**
ARCES				S	**Sn**	**10 26 23.9**	**-1.5**
KEV	**Kevo**	**5.18 345**		*e*P	**Pn**	**10 25 25.4**	**+0.3**
KUA	**Kurravaara**	**5.27 311**		P	**Pn**	**10 25 27.6**	**+1.2**
VADS	**Vadso**	**5.36 355**		P	**Pn**	**10 25 28.5**	**+0.9**
VADS				S	**Sn**	**10 26 29.7**	**-0.1**
VADS	**Vadso**	**5.36 355**		*e*P	**Pn**	**10 25 28.1**	**+0.5**
RATU	**Laukkuluspa**	**5.45 309**		P	**Pn**	**10 25 30.1**	**+1.2**
KOVU	**Salmi**	**5.47 313**		P	**Pn**	**10 25 29.4**	**+0.3**
RAF	**Rauma**	**5.63 232**		*e*P	**Pn**	**10 25 32.6**	**+1.3**
JETT	**Jettan, Norway**	**6.25 324**		*e*P	**Pn**	**10 25 39.8**	**0.0**
I37NO	**I37NO**	**6.43 317**		I	I	11 06 40.0	
	baz=123,slow=328,SNR=1.8						
FAUS	**Fauske**	**6.83 299**		S	**Sn**	**10 27 04.0**	**-1.8**
VAGH	**Vaagaholmen**	**7.48 293**		*e*P	**Pn**	**10 25 56.9**	**+0.3**
HFS	**Hagfors**	**9.21 247**		Pn	**Pn**	**10 26 18.3**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=54,slow=13,SNR=1.7						
HFS				Lg	Lg	10 28 50.7	
	comp=Z,0.2nm,0.3s,baz=55,slow=33,SNR=1.5						
	comp=Z,1.5nm,0.7s						

*SOME **09** 10:32:09.7, 41°.77N×78°.28E, h5km*
*NNC **09** 10:32:10.7±1.4, 41°.73N×78°.32E, h0km±6km, mb3.5, mpv3.0, Error ellipse: s-maj=10.3km s-min=7.4km az=2.0, Suspected Mining explosion.*

ISC 09 10:32:08.8±3.0, 41°.7N±0°.2×78°.42E±0°.07, h0km, n10, σ1§28/13, 3C-1D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**1.73 322**		P	**Pn**	**10 32 40.9**	**+0.3**
	3.1nm,0.2s						
TNSS				S	**Sg**	**10 33 03.7**	**-0.8**
	1.3nm,0.2s						
TNSS	**Tian-Shan**	**1.73 322**		*e*P	**Pn**	**10 32 40.8**	**+0.3**
	3.1nm,0.2s						
TNSS				*e*S	**Sn**	**10 33 03.3**	**-0.3**
	1.3nm,0.2s						
KTBS	**Karatobe**	**2.39 328**		Pg	**Pb**	**10 32 52.7**	**-0.1**
	2.0nm,0.2s						
KTBS				Lg	Lg	10 33 23.7	
	3.4nm,0.3s						
CHKK	**Chushkaly**	**2.41 335**		Pg	**Pb**	**10 32 53.9**	**+0.9**
	6.0nm,0.2s						
CHKK				Lg	Lg	10 33 25.8	
	12nm,0.3s						
CHKK	**Chushkaly**	**2.41 335**		*e*P	**Pb**	**10 32 53.9**	**+0.9**
	6.0nm,0.2s						
CHKK				*e*S	**Sg**	**10 33 25.8**	**-0.3**
	12nm,0.3s						
DGS	**Degeres**	**2.50 309**		Pg	**Pb**	**10 32 54.8**	**+0.1**
DGS				Lg	Lg	10 33 27.1	
DJR	**Jarkent**	**2.83 20**		Pg	**Pb**	**10 33 02.0**	**+1.8**
	1.1nm,0.2s						
DJR				Lg	Lg	10 33 39.7	
	6.2nm,0.3s						
DJR	**Jarkent**	**2.83 20**		*e*P	**Pb**	**10 33 02.0**	**+1.8**
	1.1nm,0.2s						
DJR				*e*S	**Sg**	**10 33 39.6**	**0.0**
	6.2nm,0.3s						
MAKZ	**Makanchi**	**5.72 25**		⇓Pg	**Pb**	**10 33 46.7**	**-2.7**
	4.1nm,0.6s						
MAKZ				⇑Lg	Lg	10 35 27.2	
	1.6nm,0.5s						
MK31	**Makanchi Array**	**5.81 27**		⇑Pg	Pn	10 33 44.7	+8.4
	0.1nm,0.3s,baz=196,slow=15,SNR=4.3						
MK31				⇑Lg	Lg	10 35 26.7	
	0.6nm,0.6s,baz=202,slow=30						

*KRNET **09** 10:35:07.2±0.1, 41°.77N×73°.15E, h27km, mb3.3*
*SOME **09** 10:35:07.7, 41°.78N×73°.15E, h15km*
*KNET **09** 10:35:10.8±0.7, 41°.90N×73°.31E, h6km±3km, ml2.6, Error ellipse: s-maj=4.5km s-min=4.0km az=103.0*
*NNC **09** 10:35:10.8±1.6, 41°.86N×73°.18E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=13.6km s-min=6.1km az=175.0*

ISC 09 10:35:07.2±1.0, 41°.78N±0°.02×73°.13E±0°.02, h15km±8km, n63, σ1§43/110, 46C-28D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.47 194**		⇑*i*P	**Pg**	**10 35 16.7**	**0.0**
ARSB				⇑*i*S	**Sg**	**10 35 23.4**	**+0.3**
AML	**Almayashu**	**0.54 50**		P	**Pb**	**10 35 18.8**	**+0.1**
	46nm,0.2s,SNR=208						
AML				⇓S	**Sg**	**10 35 25.9**	**+0.5**
	328nm,0.3s						
AML	**Almayashu**	**0.54 50**		⇓*i*P	**Pg**	**10 35 18.2**	**+0.1**
AML				⇓*i*S	**Sb**	**10 35 26.1**	**-0.4**
MNAS	**Manas**	**0.85 327**		⇑*i*P	**Pb**	**10 35 23.6**	**-0.1**
MNAS				⇑*i*S	**Sb**	**10 35 35.5**	**+0.6**
ARK	**Arkit**	**0.88 271**		⇑*i*P	**Pg**	**10 35 23.8**	**-0.4**
ARK				⇑*i*S	**Sb**	**10 35 36.0**	**+0.3**
ARLS	**Aral**	**0.89 85**		⇑*e*P	**Pg**	**10 35 24.1**	**-0.5**
ARLS				⇑*e*S	**Sg**	**10 35 36.1**	**-0.2**
MRKS	**Merke**	**0.96 4**		P	**Pn**	**10 35 26.6**	**+0.3**
	54nm,0.2s						
MRKS				S	**Sg**	**10 35 38.8**	**+0.2**
	125nm,0.1s						
MRKS	**Merke**	**0.96 4**		*e*P	**Pn**	**10 35 26.6**	**+0.3**
	54nm,0.2s						
MRKS				*e*S	**Sn**	**10 35 39.5**	**-0.3**
	125nm,0.1s						
EKS2	**Erkin-Say**	**1.00 28**		⇑P	**Pn**	**10 35 27.0**	**+0.2**
	5.8nm,0.1s,SNR=12						
EKS2				⇑S	**Sb**	**10 35 39.1**	**-0.3**
	25nm,0.1s						
EKS2	**Erkin-Say**	**1.00 28**		⇑*i*P	**Pb**	**10 35 25.9**	**-0.4**
EKS2				⇑*i*S	**Sb**	**10 35 39.4**	**0.0**
SALK	**Salom-Alik**	**1.04 150**		⇓*i*P	**Pb**	**10 35 26.1**	**-0.8**
SALK				⇓*i*S	**Sb**	**10 35 39.8**	**-0.6**
UCH	**Uchtor**	**1.12 66**		⇑P	**Pn**	**10 35 29.1**	**+0.3**
	4.9nm,0.1s,SNR=9.2						
UCH				⇑S	**Sb**	**10 35 43.2**	**+0.1**
	29nm,0.2s						
UCH	**Uchtor**	**1.12 66**		⇓*i*P	**Pb**	**10 35 27.9**	**-0.7**
UCH				⇓*i*S	**Sb**	**10 35 42.9**	**-0.2**
OHH	**Osh**	**1.28 192**		⇑*i*P	**Pn**	**10 35 30.5**	**-0.2**
OHH				⇑*i*S	**Sb**	**10 35 47.4**	**0.0**
AAK	**Ala-Archa**	**1.32 49**		⇓P	**Pg**	**10 35 32.7**	**-0.1**
	13nm,0.2s						
AAK				⇓S	**Sg**	**10 35 49.8**	**-0.3**
	36nm,0.2s						
AAK	**Ala-Archa**	**1.32 49**		⇓P	**Pg**	**10 35 33.9**	**+1.2**
	6.0nm,0.4s						
AAK				⇑S	**Sg**	**10 35 53.5**	**+3.4**
	21nm,0.5s						
AAK	**Ala-Archa**	**1.32 49**		⇑*i*P	**Pn**	**10 35 31.4**	**+0.1**
AAK				⇑*i*S	**Sb**	**10 35 48.9**	**+0.2**
FRU1	**Bishkek**	**1.51 47**		⇓*i*P	**Pb**	**10 35 34.7**	**-0.3**
FRU1				⇓*i*S	**Sb**	**10 35 54.6**	**+0.6**
TRKS	**Terek-Say**	**1.52 261**		⇑*i*P	**Pb**	**10 35 34.7**	**-0.4**
TRKS				⇑*i*S	**Sb**	**10 35 54.6**	**+0.4**
KBK	**Karagaybulak**	**1.61 56**		⇑P	**Pg**	**10 35 38.5**	**+0.4**
	16nm,0.2s,SNR=8.1						
KBK				⇑S	**Sg**	**10 35 59.4**	**+0.4**
	127nm,0.4s						
KBK	**Karagaybulak**	**1.61 56**		⇑*i*P	**Pb**	**10 35 36.1**	**-0.6**
KBK				⇑*i*S	**Sb**	**10 35 57.0**	**+0.2**
CHMS	**Chumysh**	**1.71 44**		⇑P	**Pg**	**10 35 40.0**	**0.0**
	18nm,0.3s						
CHMS				⇑S	**Sg**	**10 36 01.4**	**-0.8**
	8.1nm,0.1s						
CHMS	**Chumysh**	**1.71 44**		⇑P	**Pg**	**10 35 40.6**	**+0.6**
	7.9nm,0.4s						
CHMS				⇑S	**Sg**	**10 36 01.3**	**-0.8**
	64nm,0.6s						
CHMS	**Chumysh**	**1.71 44**		⇑*i*P	**Pb**	**10 35 37.5**	**-0.8**
CHMS				⇑*i*S	**Sb**	**10 35 59.5**	**-0.1**
SFK	**Sufi-Kurgan**	**1.79 171**		⇑*i*P	**Pn**	**10 35 38.6**	**+0.8**
SFK				⇑*i*S	**Sn**	**10 36 01.4**	**+1.1**
USP	**Ospenovka**	**1.79 34**		⇑P	**Pg**	**10 35 41.5**	**-0.2**
	17nm,0.3s,SNR=9.0						
USP				⇑S	**Sg**	**10 36 05.2**	**+0.2**
	128nm,0.3

	12nm,0.3s								
TNSS					*e*S	**Sg**	**10 36 43.6**	**-2.9**
	24nm,0.5s								
MDOK	**Medeo**	**3.21**	**63**		Pg	**Pb**	**10 36 05.3**	**+1.4**
	9.5nm,0.6s								
MDOK					Pg	**Pg**	**10 36 06.6**	**-2.1**
	7.2nm,0.3s								
MDOK					Lg	Lg	10 36 47.8	
	23nm,0.4s								
MDOK					Lg	Lg	10 36 49.0	
	21nm,0.7s								
KTBS	**Karatobe**	**3.25**	**52**		Pg	**Pg**	**10 36 07.0**	**-2.4**
	3.4nm,0.3s								
KTBS					Lg	Lg	10 36 48.8	
	57nm,0.6s								
ANVS	**Anan'yevo**	**3.51**	**72**	⇓	*i*P	**Pn**	**10 36 02.5**	**+1.1**
ANVS				⇓	*i*S	**Sn**	**10 36 43.0**	**+0.3**
CHKK	**Chushkaly**	**3.51**	**53**		Pg	**Pb**	**10 36 11.5**	**+2.4**
	1.4nm,0.2s								
CHKK					Lg	Lg	10 36 56.5	
	30nm,0.3s								
CHKK	**Chushkaly**	**3.51**	**53**		*e*P	**Pb**	**10 36 11.5**	**+2.4**
	1.4nm,0.2s								
CHKK					*e*S	**Sg**	**10 36 56.5**	**-3.4**
	30nm,0.3s								
KURS	**Kuram**	**4.09**	**64**		Pg	**Pg**	**10 36 22.8**	**-2.7**
	3.3nm,0.4s								
KURS					Lg	Lg	10 37 15.9	
	9.9nm,0.7s								
KURS	**Kuram**	**4.09**	**64**		*e*P	**Pn**	**10 36 11.5**	**+2.3**
	1.4nm,0.2s								
KURS					*e*S	**Sn**	**10 36 56.5**	**-0.3**
	30nm,0.3s								
SATY	**Saty**	**4.11**	**70**		Pg	**Pg**	**10 36 23.7**	**-2.2**
	6.8nm,0.6s								
SATY					Lg	Lg	10 37 16.9	
	16nm,0.3s								
SATY	**Saty**	**4.11**	**70**		*e*P	**Pg**	**10 36 25.2**	**-0.7**
	7.1nm,0.5s								
SATY					*e*S	**Sg**	**10 37 19.5**	**+0.4**
	26nm,0.6s								
ARXS	**Arharly**	**4.21**	**53**		Pg	**Pg**	**10 36 25.2**	**-2.7**
	7.1nm,0.5s								
ARXS					Lg	Lg	10 37 19.5	
	26nm,0.6s								
UZB	**Uzynbulak**	**4.56**	**71**		Pg	**Pg**	**10 36 31.0**	**-3.6**
	4.4nm,0.2s								
UZB					Lg	Lg	10 37 29.4	
	9.5nm,0.6s								
UZB	**Uzynbulak**	**4.56**	**71**		*e*P	**Pg**	**10 36 31.0**	**-3.6**
	4.4nm,0.2s								
UZB					*e*S	**Sg**	**10 37 30.2**	**-3.5**
	9.5nm,0.6s								
PDGK	**Podgornoye**	**4.94**	**70**	⇓	Pg	**Pb**	**10 36 36.0**	**+2.5**
	2.2nm,0.5s								
PDGK				⇑	Lg	Lg	10 37 44.9	
	7.6nm,0.8s								
DJR	**Jarkent**	**5.50**	**60**		Pg	**Pg**	**10 36 49.9**	**-2.6**
	0.9nm,0.1s								
DJR					Lg	Lg	10 38 01.9	
	5.0nm,0.5s								
DJR	**Jarkent**	**5.50**	**60**		*e*P	**Pg**	**10 36 49.9**	**-2.6**
	0.9nm,0.1s								
DJR					*e*S	**Sg**	**10 38 01.9**	**-1.9**
	5.0nm,0.5s								

*AFAD **09** 10:35:43.8, 36°.41N±28°.68E, h12km±3km, ML2.7*
*ISK **09** 10:35:43.2, 36°.46N±28°.72E, h5km, ML2.8/21*
ISC 09 10:35:44.8±1.0, 36°.46N±0°.02×28°.69E±0°.02, h8km±9km, n52, σ1°20/86, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.36**	**356**	Pg	**Pg**	**10 35 51.2**	**-0.6**
DALY				Sg	**Sg**	**10 35 57.5**	**+0.9**
FETY	**Fethiye**	**0.36**	**61**	Pg	**Pg**	**10 35 50.6**	**-1.4**
FETY				Sg	**Sg**	**10 35 56.9**	**+0.1**
FETY	**Fethiye**	**0.36**	**61**	P	**Pb**	**10 35 53.0**	**-0.5**
FETY				S	**Sb**	**10 35 58.0**	**-1.4**
SABU	**Mula-Dalaman**	**0.43**	**32**	P	**Pg**	**10 35 52.4**	**-0.7**
SABU				S	**Sb**	**10 35 59.9**	**-1.4**
SABU				*i* AML	AML	10 36 02.0	
	comp=E,512nm,0.3s						
SABU				*i* AML	AML	10 36 04.0	
	comp=N,537nm,0.8s						
IZZE	**Mula-Seydike**	**0.43**	**93**	P	**Pg**	**10 35 51.9**	**-1.4**
IZZE				S	**Sg**	**10 35 59.1**	**+0.1**
IZZE				*i* AML	AML	10 36 03.0	
	comp=E,1μm,0.3s						
TURN	**Turunc**	**0.47**	**312**	Pg	**Pg**	**10 35 54.1**	**+0.1**
TURN				Sg	**Sb**	**10 36 01.9**	**-0.7**
TURN	**Turunc**	**0.47**	**312**	P	**Pg**	**10 35 53.7**	**-0.3**
TURN				S	**Sb**	**10 36 01.6**	**-1.0**
ARG	**Arkhangelos**	**0.51**	**242**	P	**Pb**	**10 35 55.2**	**-0.9**
ARG				S	**Sb**	**10 36 03.8**	**+0.1**
ARG	**Arkhangelos**	**0.51**	**242**	Pg	**Pg**	**10 35 54.4**	**-0.4**
CAME	**Cameli-Denizli**	**0.69**	**46**	Pg	**Pg**	**10 35 57.4**	**-0.8**
YER	**Yerkesik**	**0.75**	**334**	Pg	**Pg**	**10 35 59.0**	**-0.2**
AKAS	**Kas**	**0.78**	**107**	Pg	**Pg**	**10 35 58.9**	**-0.8**
AKAS	**Kas**	**0.78**	**107**	P	**Pg**	**10 35 59.2**	**-0.5**
AKAS				S	**Sb**	**10 36 11.7**	**+0.4**
AKAS				*i* AML	AML	10 36 14.0	
	comp=N,793nm,0.6s						
AKAS				*i* AML	AML	10 36 17.0	
	comp=E,658nm,0.7s						
KSL	**Kastellorizon**	**0.79**	**113**	P	**Pn**	**10 36 02.0**	**-0.2**
KSL				S	**Sn**	**10 36 16.9**	**+2.7**
KNIK	**Mula-Seydike**	**0.81**	**61**	P	**Pg**	**10 35 59.3**	**-1.1**
KNIK				S	**Sb**	**10 36 12.5**	**+0.1**
KNIK				*i* AML	AML	10 36 20.0	
	comp=E,153nm,0.5s						
CAEL	**Denizli, Camel**	**0.83**	**37**	P	**Pg**	**10 36 00.6**	**-0.2**
CAEL				S	**Sn**	**10 36 13.9**	**-1.6**
CAEL				*i* AML	AML	10 36 23.0	
	comp=E,290nm,1.3s						
CAEL				*i* AML	AML	10 36 28.0	
	comp=N,420nm,1.1s						
MULA	**Mugla, Merkez-**	**0.85**	**340**	P	**Pb**	**10 36 01.3**	**-0.6**
MULA				S	**Sb**	**10 36 13.9**	**+0.5**
DNZT	**Denizli-Tavas-**	**0.86**	**18**	P	**Pg**	**10 36 00.6**	**-0.8**
DNZT				S	**Sb**	**10 36 13.3**	**-0.5**
DAT	**Datca**	**0.93**	**287**	Pg	**Pb**	**10 36 02.8**	**-0.5**
YAZI	**Mula-Dat§a-**	**1.02**	**283**	P	**Pg**	**10 36 03.7**	**-0.6**
YAZI				S	**Sn**	**10 36 19.4**	**-0.4**
YAZI				*i* AML	AML	10 36 23.0	
	comp=N,120nm,0.7s						
TAVA	**DENIZLI_Tavas**	**1.02**	**10**	P	**Pg**	**10 36 03.9**	**-0.5**
TAVA				S	**Sn**	**10 36 19.6**	**-0.5**
TAVA				*i* AML	AML	10 36 25.0	
	comp=E,111nm,0.7s						
ELL	**Elmali**	**1.02**	**73**	Pg	**Pg**	**10 36 03.6**	**-0.9**
GOLH	**Golhisar**	**1.04**	**42**	P	**Pg**	**10 36 04.2**	**-0.7**
GOLH				S	**Sn**	**10 36 19.8**	**-1.0**
GOLH				*i* AML	AML	10 36 21.0	
	comp=E,156nm,0.5s						
GOLH				*i* AML	AML	10 36 28.0	
	comp=N,167nm,0.6s						
MLSB	**Milas**	**1.11**	**319**	Pn	**Pg**	**10 36 05.9**	**-0.2**
APMY	**Acipayam-Deniz**	**1.12**	**26**	Pn	**Pb**	**10 36 05.6**	**-0.9**
BDRM	**Kayabasi**	**1.17**	**302**	P	**Pb**	**10 36 05.5**	**-1.8**
BDRM				S	**Sn**	**10 36 25.2**	**+1.7**
BDRM				*i* AML	AML	10 36 27.0	
	comp=E,125nm,0.4s						
DNIZ	**Denizli-Tavas-**	**1.20**	**13**	P	**Pg**	**10 36 07.6**	**-0.2**
DNIZ				S	**Sn**	**10 36 24.3**	**-0.2**
DNIZ				*i* AML	AML	10 36 29.0	
	comp=E,567nm,0.3s						
DNIZ				*i* AML	AML	10 36 31.0	
	comp=N,402nm,0.3s						
BODT	**Bodrum**	**1.26**	**299**	Pn	**Pg**	**10 36 08.9**	**-0.1**
AKUM	**Antalya-Kumluc**	**1.34**	**95**	P	**Pg**	**10 36 10.4**	**-0.1**
AKUM				S	**Sg**	**10 36 31.8**	**+3.8**
AKUM				*i* AML	AML	10 36 36.0	
	comp=N,125nm,0.5s						
AKUM				*i* AML	AML	10 36 39.0	
	comp=E,77nm,0.3s						
AYDN	**Tasoluk**	**1.36**	**332**	P	**Pb**	**10 36 10.3**	**-0.3**
AYDN				S	**Sg**	**10 36 30.6**	**+2.0**
AYDN				*i* AML	AML	10 36 34.0	
	comp=E,92nm,0.6s						
AYDN				*i* AML	AML	10 36 35.0	
	comp=N,97nm,0.3s						
ESEN	**Aydn-Nazilli**	**1.36**	**349**	P	**Pb**	**10 36 10.2**	**-0.4**
ESEN				S	**Sg**	**10 36 29.9**	**+1.3**
INCE	**Denizli-Bozkur**	**1.44**	**29**	P	**Pg**	**10 36 12.2**	**-0.2**
INCE				S	**Sg**	**10 36 32.1**	**+1.1**
INCE				*i* AML	AML	10 36 36.0	
	comp=N,172nm,0.5s						
INCE				*i* AML	AML	10 36 36.0	
	comp=E,216nm,0.7s						
KORT	**Korkueli**	**1.44**	**68**	Pn	**Pb**	**10 36 11.2**	**-0.8**
KORT	**Korkueli**	**1.44**	**68**	P	**Pg**	**10 36 12.7**	**+0.2**
KORT				S	**Sg**	**10 36 35.5**	**+4.3**
KORT				*i* AML	AML	10 36 38.0	
	comp=N,206nm,0.5s						
KORT				*i* AML	AML	10 36 38.0	
	comp=E,238nm,0.6s						
KARP	**Karpathos**	**1.54**	**234**	P	**Pn**	**10 36 12.0**	**-0.6**
KARP				S	**Sg**	**10 36 33.4**	**-0.8**
KARP	**Karpathos**	**1.54**	**234**	Pn	**Pb**	**10 36 13.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.61**	**337**	Pn	**Pb**	**10 36 14.1**	**-0.8**
BRDR	**BURDUR-Merkez**	**1.65**	**41**	P	**Pb**	**10 36 15.5**	**0.0**
BRDR				S	**Sg**	**10 36 40.2**	**+2.3**
BRDR				*i* AML	AML	10 36 42.0	
	comp=E,69nm,0.5s						
BRDR				*i* AML	AML	10 36 46.0	
	comp=N,86nm,0.5s						
GCAM	**G?zelcaml?**	**1.70**	**317**	Pn	**Pb**	**10 36 15.4**	**-0.9**
GCAM	**G?zelcaml?**	**1.70**	**317**	P	**Pb**	**10 36 16.4**	**+0.1**
GCAM				S	**Sg**	**10 36 40.7**	**+1.3**
GCAM				*i* AML	AML	10 36 43.0	
	comp=N,92nm,0.5s						
GCAM				*i* AML	AML	10 36 46.0	
	comp=E,86nm,0.5s						
BUCA	**Burdur, Bucak-**	**1.73**	**59**	S	**Sg**	**10 36 41.3**	**+0.8**
BUCA				P	**Sg**	**10 36 45.0**	**+4.4**
KIRA	**zmir-Kiraz**	**1.75**	**353**	P	**Pb**	**10 36 16.6**	**-0.6**
KIRA				S	**Sb**	**10 36 39.0**	**-0.3**
IZMR	**zmir-demi**	**1.77**	**341**	P	**Pb**	**10 36 16.7**	**-0.8**
IZMR				S	**Sb**	**10 36 40.5**	**+0.5**
BASM	**Basmaki-Afyon**	**1.82**	**36**	Pn	**Pn**	**10 36 16.5**	**0.0**
BCK	**Bucak**	**1.82**	**56**	Pn	**Pn**	**10 36 16.6**	**+0.1**
ODEM	**Odemis-Izmir**	**1.88**	**345**	Pn	**Pn**	**10 36 17.8**	**+0.5**
PASA	**Karahalli, USA**	**1.99**	**18**	P	**Pb**	**10 36 20.1**	**-1.3**
PASA				S	**Sn**	**10 36 43.8**	**-0.2**
MANT	**Manisa**	**2.03**	**357**	P	**Pn**	**10 36 19.5**	**-0.1**
MANT				S	**Sb**	**10 36 46.4**	**-1.1**
KZIL	**AFYON_Kizioren**	**2.14**	**32**	P	**Pb**	**10 36 22.4**	**-1.4**
KZIL				S	**Sg**	**10 36 53.0**	**-0.5**
BLCB	**Balcova**	**2.33**	**326**	Pn	**Pn**	**10 36 24.3**	**+0.9**
KEPZ	**Antalya-Kepez**	**2.39**	**79**	P	**Pb**	**10 36 26.8**	**-1.2**
KEPZ				S	**Sb**	**10 36 57.4**	**-0.2**
KEPZ				*i* AML	AML	10 37 06.0	
	comp=N,34nm,0.8s						
KEPZ				*i* AML	AML	10 37 24.0	
	comp=E,33nm,1.0s						
GORD	**Gordes-Manisa**	**2.48**	**351**	Pn	**Pn**	**10 36 26.3**	**+0.8**

RSNC 09 10:39:44.6±0.0, 7°.N±1°.×7°.3W±°., h145km±2km, M2.9, mb3.1, mB4.7, ML2.7, Mw(mB)3.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**192**	P	Pn	10 40 04.5	-0.1
BARC				S	Sn	10 40 18.5	-1.3
BRJC	**Barrancabermej**	**0.62**	**286**	P	Pn	10 40 06.2	+0.1
BRJC				S	Sn	10 40 22.4	0.0
PAMC	**Pamplona, Colo**	**0.69**	**39**	P	Pn	10 40 07.2	+0.1
PAMC				S	Sn	10 40 24.3	+0.1
RUSC	**La Rusia**	**0.90**	**176**	P	Pn	10 40 08.4	-0.3
RUSC				S	Sn	10 40 25.9	-1.1
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	P	Pn	10 40 11.1	-1.0
PTBC				S	Sn	10 40 31.2	-1.8
TAMC	**Tame, Arauca**	**1.39**	**105**	P	Pn	10 40 12.3	-0.4
TAMC				S	Sn	10 40 34.2	+0.1
OCAC	**Ocana**	**1.44**	**353**	P	Pn	10 40 12.6	-0.8
OCAC				S	Sn	10 40 34.6	-0.7
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	P	Pn	10 40 17.0	-0.6
ZARC				S	Sn	10 40 42.7	-0.1
NORC	**Norcasia**	**2.11**	**235**	P	Pn	10 40 20.9	+0.1
NORC				S	Sn	10 40 47.9	-0.8
CHIC	**Chingaza**	**2.23**	**195**	P	Pn	10 40 22.7	0.0
CHIC				S	Sn	10 40 51.8	-0.1
ROSC	**El Rosal**	**2.27**	**211**	P	Pn	10 40 24.6	+1.5
ROSC				S	Sn	10 40 52.6	-0.1
CVER	**Cruz Verde, Cu**	**2.45**	**202**	P	Pn	10 40 26.0	+0.7
CVER				S	Sn	10 40 58.3	+1.7
UREC	**San Jos de Ur**	**2.56**	**292**	P	Pn	10 40 25.4	-0.8
UREC				S	Sn	10 40 55.9	-2.3
GUY2C	**Guyana, Caldas**	**2.71**	**235**	P	Pn	10 40 29.0	+0.4
GUY2C				S	Sn	10 41 02.4	0.0
VILC	**Villavicencio,**	**2.73**	**192**	P	Pn	10 40 28.6	+0.1
VILC				S	Sn	10 41 01.7	-0.6
PTGC	**Puerto Gaitan,**	**2.77**	**159**	P	Pn	10 40 27.5	-1.4
PTGC				S	Sn	10 41 00.9	-2.2
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	10 40 32.5	+0.5
CBOC				S	Sn	10 41 10.2	+1.7
DBBC	**Dabeiba**	**3.06**	**274**	P	Pn	10 40 32.3	-0.3
DBBC				S	Sn	10 41 08.1	-1.5
ANIL	**Santa Ana**	**3.21**	**225**	P	Pn	10 40 36.6	+1.8
ANIL				S	Sn	10 41 16.0	+2.4
ARGC	**Ariguani, Magd**	**3.23**	**340**	P	Pn	10 40 35.2	+0.5
ARGC				S	Sn	10 41 14.4	+0.8
SDV	**Santo Domingo**	**3.23**	**50**	P	Pn	10 40 34.0	-1.0
SDV				S	Sn	10 41 11.2	-2.7
PRAC	**Prado**	**3.52**	**210**	P	Pn	10 40 38.4	-0.2
PRAC				S	Sn	10 41 20.5	0.0
APAC	**Apartado, Choc**	**3.58**	**288**	P	Pn	10 40 38.7	-0.6
APAC				S	Sn	10 41 22.0	+0.3
SJCC	**San Jacinto, C**	**3.68**	**327**	P	Pn	10 40 38.5	-2.1
SJCC				S	Sn	10 41 20.3	-3.8
URMC	**La Uribe, Meta**	**3.74**	**199**	P	Pn	10 40 41.7	+0.3
URMC				S	Sn	10 41 25.8	+0.3
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	P	Pn	10 40 45.0	-2.5
YOTC	**Yotoco, Valle**	**4.24**	**229**	P	Pn	10 40 48.0	-0.1
SMRC	**Santa Marta, M**	**4.47**	**346**	P	Pn	10 40 50.2	-0.7
SMRC				S	Sn	10 41 38.2	-4.3
MACC	**Macarena, Meta**	**4.68**	**189**	P	Pn	10 40 52.2	-1.5
MACC				S	Sn	10 41 44.1	-3.5
GARC	**Garzon, Huila**	**5.15**	**207**	P	Pn	10 40 59.4	-0.8
FLOC	**Florencia**	**5.76**	**206**	P	Pn	10 41 06.7	-1.4

*LDO **09** 11:22:43.1±1.8, 40°.40N±0°.03×71°.99W±0°.02, h7km±2km,*
Error ellipse: s-maj=5.0km s-min=3.1km az=164.0
NEIC 09 11:22:42.3±2.2, 40°.50N±0°.03×72°.05W±0°.03, h5km±2km,
mb_Lg2.9/27, ML3.0/27, ML3.0/11(LDO), Error ellipse:
s-maj=4.8km s-min=3.5km az=155.0, New York

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M63A	**Gales Ferry**	**0.91**	**0**		Pb	11 23 00.3	-0.2
M63A	**Gales Ferry**	**0.91**	**0**		Sb	11 23 12.6	-0.3
M63A				IAML		11 23 14.7	
	408nm,0.2s						
N62A	**Caumsett State**	**1.16**	**292**		Pg	11 23 04.5	-0.1
N62A	**Caumsett State**	**1.16**	**292**		Sg	11 23 19.6	-0.1
WSPT	**Westport, CT**	**1.18**	**305**		Pg	11 23 04.9	-0.1
WSPT					Sg	11 23 19.5	-0.8
WSPT				IAML		11 23 22.1	
	608nm,0.3s						
UCCT	**U. Connecticut**	**1.30**	**354**		Pn	11 23 06.8	-0.4
UCCT					Sn	11 23 24.9	-0.1
CUNY	**Queens College**	**1.37**	**280**		Sb	11 23 25.6	-0.6
FOR	**Fordham**	**1.45**	**285**		Pn	11 23 09.1	-0.1
FOR					Sb	11 23 27.2	-1.2
CPNY	**Central Park**	**1.48**	**282**		Pb	11 23 10.0	-0.4
CPNY	**Central Park**	**1.48**	**282**		Sn	11 23 27.9	-1.5
M65A	**Busby, Falmout**	**1.50**	**44**		Pn	11 23 09.1	-0.8
M65A				IAmb_Lg		11 23 30.3	
	comp=Z,84nm,0.7s						
M65A					Sg	11 23 30.6	0.0
PAL	**Palisades**	**1.50**	**290**		Pn	11 23 08.9	-1.0
PAL					Sn	11 23 29.3	-0.5
PAL				IAML		11 23 30.7	
	comp=E,156nm,0.5s						
KSCT	**Kent School, K**	**1.64**	**319**		Sg	11 23 34.6	-0.3
KSCT	**Kent School, K**	**1.64**	**319**		Pn	11 23 10.9	-0.8
KSCT					Sb	11 23 33.6	-0.3
KSCT				IAML		11 23 36.4	
	comp=N,227nm,0.3s						
MSNJ	**Montclair St.**	**1.67**	**284**		Pn	11 23 11.5	-0.7
MSNJ					Sg	11 23 35.4	-0.5
L64A	**Middleborough**	**1.70**	**32**		Pn	11 23 11.5	-1.1
L64A					Sn	11 23 33.2	-1.6
L64A				IAML		11 23 39.2	
	comp=N,207nm,0.1s						
L64A				IAML		11 23 40.1	
	comp=N,187nm,0.1s						
BRNY	**Black Rk. Fore**	**1.75**	**302**		Pn	11 23 12.3	-1.0
BRNY					Sb	11 23 37.1	0.0
TRNY	**Table Rock, Ra**	**1.77**	**292**		Sn	11 23 35.5	-1.1
TRNY	**Table Rock, Ra**	**1.77**	**292**		Pn	11 23 12.6	-1.1
TRNY	**Table Rock, Ra**	**1.77**	**292**	IAmb_Lg		11 23 38.4	
	comp=Z,53nm,0.7s						
BRNJ	**Basking Ridge**	**1.93**	**276**		Pn	11 23 15.0	-0.8
BCX	**Boston College**	**1.95**	**19**	Pn	Pn	11 23 14.7	-1.3
BCX				IAML		11 23 51.5	
	comp=Z,84nm,0.3s						
WES	**Weston**	**1.96**	**16**		Pn	11 23 14.9	-1.3
WES					Pb	11 23 15.8	-2.7
L61B	**Northampton**	**2.01**	**347**		Pn	11 23 15.6	-1.3
L61B				IAML		11 23 48.5	
	comp=Z,94nm,0.3s						
L61B				IAmb_Lg		11 23 49.8	
	comp=Z,56nm,0.9s						
NPNY	**Mohonk Preserv**	**2.02**	**309**		Pn	11 23 16.3	-0.8
NPNY					Sn	11 23 41.3	-1.4
ODNJ	**Ogdensburg**	**2.03**	**288**		Sb	11 23 44.7	-0.5
ODNJ	**Ogdensburg**	**2.03**	**288**		Pn	11 23 16.1	-1.1
ODNJ	**Ogdensburg**	**2.03**	**288**	IAmb_Lg		11 23 49.0	
	comp=Z,50nm,1.0s						
PANJ	**Princeton**	**2.03**	**267**		Pb	11 23 19.2	-0.5
PANJ					Sg	11 23 46.5	-1.1
HRV	**Adam Dziewonsk**	**2.04**	**10**	Pn	Pn	11 23 16.4	-0.9
HRV				IAML		11 23 52.9	
	comp=Z,102nm,0.5s						
K62A	**Royalston**	**2.17**	**356**	Pn	Pn	11 23 18.1	-1.1
K62A				IAML		11 23 53.4	
	comp=Z,170nm,0.2s						
K62A				IAML		11 23 57.5	
	comp=Z,119nm,0.1s						
LUPA	**Lehigh Univers**	**2.54**	**273**		Pn	11 23 23.7	-0.5
LUPA				IAML		11 24 07.9	
	comp=N,71nm,0.4s						
LUPA				IAML		11 24 10.5	
	comp=E,70nm,0.3s						
TRY	**Troy**	**2.54**	**332**	Pn	Pn	11 23 23.6	-0.6
TRY				IAML		11 24 06.0	
	comp=E,69nm,0.4s						
TRY				IAML		11 24 11.4	
	comp=E,49nm,2.6s						
UNH	**University of**	**2.74**	**18**		Pn	11 23 26.4	-0.6
WUPA	**West Chester U**	**2.78**	**259**		Pn	11 23 26.7	-0.8
WUPA				IAmb_Lg		11 24 15.1	
	comp=Z,35nm,0.8s						
L59A	**Walton**	**2.82**	**308**	Pn	Pn	11 23 27.5	-0.6
L59A				IAmb_Lg		11 24 13.5	
	comp=Z,34nm,0.8s						
J61A	**Chester**	**2.87**	**353**	Pn	Pn	11 23 30.0	+1.2
KSPA	**Keystone Colle**	**3.01**	**292**		Sn	11 24 06.0	-1.1
KSPA	**Keystone Colle**	**3.01**	**292**		Pn	11 23 31.0	+0.3
ACCN	**Adirondack Com**	**3.13**	**338**		Pn	11 23 31.2	-1.1
HNH	**Hanover**	**3.21**	**357**		Pn	11 23 35.8	+2.4
MVL	**Millersville**	**3.33**	**263**		Pn	11 23 36.0	+1.0
MVL				IAmb_Lg		11 24 32.6	
	comp=Z,26nm,0.9s						
R61A	**Willards**	**3.34**	**231**	Pn	Pn	11 23 34.0	-1.2
I62A	**Tamworth**	**3.42**	**9**		Pn	11 23 35.9	-0.3
BINY	**Binghamton**	**3.42**	**301**	Pn	Pn	11 23 36.0	-0.3
J59A	**Piesco**	**3.48**	**329**	Pn	Pn	11 23 37.0	-0.2
J59A				IAmb_Lg		11 24 33.1	
	comp=Z,30nm,0.8s						
MCVT	**Middlebury Col**	**3.52**	**349**		Sn	11 24 21.4	+1.6
N58A	**Sunbury**	**3.57**	**277**		Pn	11 23 37.5	-0.8
I63A	**Otisfield**	**3.71**	**17**	Pn	Pn	11 23 39.5	-0.9
NCB	**Newcomb**	**3.83**	**336**	Pn	Pn	11 23 42.2	+0.2
SDMD	**Soldier's Deli**	**3.84**	**255**		Pn	11 23 45.9	+3.8
SDMD	**Soldier's Deli**	**3.84**	**255**	Pn	Pn	11 23 40.8	-1.3
M57A	**Sunshine Farm,**	**3.94**	**284**	IAmb_Lg		11 24 51.5	
	comp=Z,24nm,0.8s						
K57A	**Scipio Center**	**4.03**	**305**	Pn	Pn	11 23 44.6	0.0
H62A	**Milan**	**4.13**	**9**	Pn	Pn	11 23 46.0	-0.1
J57A	**Williamstown**	**4.14**	**316**	Pn	Pn	11 23 47.3	+1.1
SSPA	**Standing Stone**	**4.45**	**274**	Pn	Pn	11 23 49.6	-0.9
SSPA				IAmb_Lg		11 25 10.9	
	comp=Z,23nm,0.9s						
L56A	**Greenwood**	**4.46**	**293**	Pn	Pn	11 23 49.5	-1.2
FRNY	**Flat Rock**	**4.48**	**346**	Pn	Pn	11 23 50.5	-0.4
LONY	**Lake Ozonia**	**4.53**	**336**	Pn	Pn	11 23 51.5	0.0
P57A	**Homestead Farm**	**4.69**	**259**	Pn	Pn	11 23 52.1	-1.7
P57A				IAmb_Lg		11 25 19.6	
	comp=Z,21nm,1.1s						
G62A	**West of Eustis**	**4.85**	**13**	Pn	Pn	11 23 55.1	-0.8
PECO	**Prince Edward**	**5.03**	**315**	Pn	Pn	11 23 57.9	-0.5
PECO				IAmb_Lg		11 25 22.4	
	comp=Z,25nm,1.0s						
T59A	**Double "B" Far**	**5.56**	**232**	Pn	Pn	11 24 04.0	-1.7
Q56A	**Snyder Ridge,**	**5.69**	**257**	Pn	Pn	11 24 06.9	-0.7
Q56A				IAmb_Lg		11 25 49.1	
	comp=Z,15nm,0.8s						
G65A	**Princeton**	**5.74**	**34**	Pn	Pn	11 24 06.3	-1.8
DELO	**Deloro Mine**	**5.75**	**316**	Pn	Pn	11 24 07.4	-1.0
F64A	**Sherman**	**6.00**	**26**	Pn	Pn	11 24 10.5	-1.3
O54A	**Avella**	**6.37**	**270**	Pn	Pn	11 24 14.0	-2.9

KYMI				S	Sn	11 26 08.9	+0.2
KYMI	**Kymi, Euboea I**	**0.99**	**174**	P	Pb	11 25 54.4	-0.1
KYMI				S	Sg	11 26 08.0	+0.2
THAS	**Thassos island**	**1.14**	**30**	P	Pb	11 25 57.0	-0.1
THAS	**Thassos island**	**1.14**	**30**	P	Pb	11 25 56.0	-1.1
THAS				S	Sb	11 26 11.8	+0.1
HORT	**Hortiatis**	**1.19**	**326**	P	Pn	11 25 57.8	0.0
HORT				S	Sg	11 26 14.4	+0.3
	908nm,0.7s						
HORT	**Hortiatis**	**1.19**	**326**	Pn	Pn	11 25 57.4	-0.4
HORT				Sn	Sg	11 26 14.4	+0.3
KOKK	**Kokkinochori,**	**1.20**	**1**	P	Pn	11 25 57.9	0.0
KOKK				S	Sg	11 26 15.9	+1.5
LKR	**Lokris**	**1.23**	**218**	P	Pn	11 25 57.7	-0.6
LKR	**Lokris**	**1.23**	**218**	P	Pn	11 25 57.1	-1.2
LIT	**Litokhoron**	**1.24**	**293**	P	Pn	11 25 58.5	0.0
LIT	**Litokhoron**	**1.24**	**293**	P	Pn	11 25 58.2	-0.2
LIT				S	Sb	11 26 13.7	-0.9
THE	**Thessaloniki**	**1.27**	**323**	P	Pn	11 25 59.0	+0.1
THE				S	Sg	11 26 17.1	+0.2
THE	**Thessaloniki**	**1.27**	**323**	P	Pn	11 25 58.7	-0.2
THE				S	Sb	11 26 15.5	0.0
SOH	**Sokhos**	**1.29**	**339**	P	Pn	11 25 59.0	-0.2
SOH				S	Sg	11 26 18.0	+0.5
	902nm,0.6s						
AXAR	**Agios Charalam**	**1.33**	**231**	P	Pn	11 25 60.0	+0.3
KAVA	**Kavala**	**1.44**	**17**	P	Pb	11 26 01.9	-0.2
KAVA				S	Sg	11 26 22.7	+0.6
	1μm,0.6s						
KAVA	**Kavala**	**1.44**	**17**	P	Pn	11 26 00.4	-0.8
SMTH	**Samothraki Isl**	**1.47**	**54**	P	Pn	11 26 02.2	+0.6
SMTH				S	Sg	11 26 23.8	+0.8
SMTH	**Samothraki Isl**	**1.47**	**54**	P	Pn	11 26 00.4	-1.1
SMTH				S	Sn	11 26 19.9	-0.6
VIL2	**Platees**	**1.51**	**202**	P	Pn	11 26 02.1	0.0
SIGR	**SIGRI**	**1.51**	**105**	P	Pg	11 26 04.3	-0.5
SIGR	**SIGRI**	**1.51**	**105**	Pn	Pn	11 26 01.6	-0.6
SIGR	**SIGRI**	**1.51**	**105**	P	Pn	11 26 02.1	-0.1
SIGR				S	Sn	11 26 20.7	-0.9
THL	**Klokotos Trika**	**1.52**	**269**	P	Pn	11 26 02.6	+0.4
SRS	**Serrai**	**1.52**	**349**	P	Pn	11 26 02.3	-0.1
SRS	**Serrai**	**1.52**	**349**	*e*Pg	Pn	11 26 02.3	-0.1
SRS				*e*Sg	Sg	11 26 24.8	-0.1
DION	**Dionisos Attik**	**1.54**	**181**	P	Pn	11 26 03.2	+0.6
DION				S	Sg	11 26 25.4	+0.1
DION	**Dionisos Attik**	**1.54**	**181**	P	Pn	11 26 03.3	+0.6
VILL	**Villia**	**1.54**	**200**	P	Pn	11 26 03.1	+0.5
PTL	**Penteli**	**1.57**	**183**	P	Pn	11 26 03.6	+0.6
PTL	**Penteli**	**1.57**	**183**	P	Pn	11 26 02.4	-0.6
GADA	**Gvkgeada**	**1.59**	**68**	Pn	Pn	11 26 02.8	-0.4
BOZC	**Bozcaada**	**1.62**	**81**	Pn	Pn	11 26 03.3	-0.3
ATH	**Athens Observa**	**1.66**	**187**	P	Pn	11 26 04.8	+0.6
ATH				S	Sb	11 26 27.5	+1.0
	670nm,0.4s						
GRG	**Griva**	**1.80**	**319**	P	Pn	11 26 06.8	+0.6
GRG				S	Sb	11 26 30.9	+0.2
GRG	**Griva**	**1.80**	**319**	Pn	Pn	11 26 05.8	-0.4
GRG	**Griva**	**1.80**	**319**	P	Pn	11 26 06.5	+0.3
PRK	**Paraskevi**	**1.82**	**101**	P	Pb	11 26 08.4	-0.2
PRK	**Paraskevi**	**1.82**	**101**	P	Pn	11 26 05.5	-0.9
PRK				S	Sn	11 26 28.5	-0.6
EZN	**Ezine**	**1.82**	**83**	Pn	Pn	11 26 06.2	-0.3
KALE	**Kalithea**	**1.88**	**230**	P	Pn	11 26 07.6	+0.2
RDO	**Rodhopi**	**1.94**	**38**	P	Pn	11 26 08.9	+0.9
RDO	**Rodhopi**	**1.94**	**38**	P	Pn	11 26 07.2	-0.8
EFP	**Efpalio**	**2.00**	**234**	P	Pn	11 26 09.6	+0.7
ALN	**Alexandroupoli**	**2.04**	**50**	P	Pn	11 26 09.7	+0.3
ALN				S	Sb	11 26 38.1	+0.7
GUR	**Goura**	**2.11**	**218**	P	Pn	11 26 10.3	-0.2
KLV	**Kalavryta, Ach**	**2.12**	**223**	P	Pn	11 26 10.5	-0.1
PLD	**Plovdiv**	**2.59**	**13**	*e*Pn	Pn	11 26 18.4	+1.4
APE	**Apeiranthos**	**2.83**	**154**	⇑P	Pn	11 26 20.3	0.0
VTS	**Vitosha**	**3.05**	**350**	*e*Pn	Pn	11 26 24.0	+0.5
VTS				*e*Sg	Sg	11 27 11.9	-1.7
BOSS	**Bosilegrad**	**3.09**	**339**	*e*Pn	Pn	11 26 24.6	+0.7
BARS	**Barje**	**3.58**	**334**	*e*Pn	Pn	11 26 31.2	+0.5
ZAPS	**Zavoj**	**3.79**	**345**	*e*Pn	Pn	11 26 34.4	+0.9
SELS	**Selova**	**4.19**	**330**	*e*Pn	Pn	11 26 39.6	+0.6
BOVS	**Bovan**	**4.36**	**338**	⇓P	Pn	11 26 41.7	+0.4
BOVS	**Bovan**	**4.36**	**338**	*e*Pn	Pn	11 26 41.7	+0.4
GOCS	**Kraljevo Serbi**	**4.58**	**330**	*e*Pn	Pn	11 26 45.0	+0.6
IVAS	**Ivanjica**	**4.88**	**325**	*e*Pn	Pn	11 26 48.7	+0.1
GRUS	**Gruza**	**4.91**	**331**	*e*Pn	Pn	11 26 49.0	+0.1
HERR	**Herculane**	**5.38**	**348**	⇓P	Pn	11 26 54.7	-0.7
MDVR	**Moldovita**	**5.42**	**343**	⇑P	Pn	11 26 56.1	+0.1
ARR	**Arges**	**5.77**	**5**	⇓P	Pn	11 27 01.3	+0.6
LOT	**Lotru**	**5.83**	**359**	⇑P	Pn	11 27 01.7	+0.1
GZR	**Gura Zlata**	**5.84**	**352**	⇓P	Pn	11 27 01.0	-0.7
VOIR		**5.87**	**7**	⇑P	Pn	11 27 02.9	+0.7
MLR	**Muntele Rosu**	**6.05**	**13**	⇑P	Pn	11 27 06.6	+2.0
MLR	**Muntele Rosu**	**6.05**	**13**	*e*Pn	Pn	11 27 06.9	+2.3
VRI	**Vrincioaia**	**6.56**	**17**	⇑P	Pn	11 27 13.8	+2.2

TAP ***09*** *11:37:47.5,21.°71N×120.°40E,h58km,ML3.4,D*
ISC 09 11:37:44.2±2.4,21.°5N±0.°1×120.°27E±0.°05,h60km±12km,
n105,σ1§45/181,4C-10D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.68**	**41**	P	Pn	11 37 59.2	+1.0
HEN				*e*S	Sn	11 38 07.8	-0.6
TWK1	**Hengchun**	**0.68**	**48**	⇑*i*P	Pn	11 37 59.1	+1.0
TWK1				S	Sn	11 38 07.5	-0.9
TWKBT	**Hengchun**	**0.68**	**49**	⇑*i*P	Pn	11 37 59.1	+0.9
TWKBT				S	Sn	11 38 07.4	-1.0
TSEB	**Hengchuen, Pin**	**0.72**	**55**	⇑*i*P	Pn	11 37 59.5	+0.8
TSEB				S	Sn	11 38 08.4	-0.8
SMST	**Manzhou Townsh**	**0.75**	**45**	⇓P	Pn	11 37 59.9	+0.9
SMST				*e*S	Sn	11 38 08.9	-1.0
TWP	**Hsiaoliuchiu**	**0.86**	**6**	P	Pn	11 38 01.8	+1.4
TWP				*e*S	Sn	11 38 13.4	+1.1
SLIU	**Shizi**	**0.88**	**34**	⇓P	Pn	11 38 01.4	+0.8
SLIU				S	Sn	11 38 11.5	-1.3
SCZT	**Fangliau**	**0.94**	**20**	⇓P	Pn	11 38 02.0	+0.6
SCZT				*e*S	Sn	11 38 12.1	-2.1
TAWH	**Dawu Township**	**1.02**	**34**	⇓P	Pn	11 38 03.5	+1.0
TAWH				*e*S	Sn	11 38 14.8	-1.3
EAST	**Anshuo**	**1.04**	**31**	⇓P	Pn	11 38 03.6	+0.8
EAST				*e*S	Sn	11 38 15.2	-1.4
TAW	**Tawu**	**1.04**	**34**	⇓P	Pn	11 38 03.8	+1.0
TAW				*e*S	Sn	11 38 14.9	-1.7
WSSB	**Gushan**	**1.15**	**360**	P	Pn	11 38 05.5	+1.3
WSSB				S	Sn	11 38 19.3	+0.2
MASBT	**Mashibuluo**	**1.17**	**17**	⇓*i*P	Pn	11 38 05.0	+0.6
MASBT				*e*S	Sn	11 38 17.0	-2.5
TSMG	**Majia**	**1.26**	**16**	P	Pn	11 38 06.3	+0.6
TSMG				S	Sn	11 38 19.5	-2.2
ECL	**Taimali**	**1.27**	**30**	⇓P	Pn	11 38 06.7	+0.9
ECL				*e*S	Sn	11 38 19.9	-2.1
SSD	**Sandimen**	**1.29**	**15**	⇓P	Pn	11 38 06.9	+0.7
SSD				*e*S	Sn	11 38 20.9	-1.6
LAY	**Lan-yu**	**1.31**	**65**	*e*P	Pn	11 38 07.1	+0.7
LAY				*e*S	Sn	11 38 20.9	-2.1
LYUB	**Lan-yu**	**1.33**	**67**	*e*P	Pn	11 38 06.8	+0.3
LYUB				*e*S	Sn	11 38 21.0	-2.3
TWM1	**Shoushan**	**1.33**	**6**	*e*P	Pn	11 38 08.8	+2.1
TWM1				*e*S	Sn	11 38 24.3	+0.8
SCST	**Cishan**	**1.41**	**9**	*e*P	Pn	11 38 09.5	+1.9
SCST				*e*S	Sn	11 38 23.5	-1.7
TWG	**Pinlang**	**1.52**	**29**	*e*P	Pn	11 38 10.2	+1.1
TWG				*e*S	Sn	11 38 26.6	-1.4
TWGBT	**Beinan**	**1.52**	**30**	P	Pn	11 38 10.2	+1.0
TWGBT	**Beinan**	**1.52**	**30**	S	Sn	11 38 27.3	-0.7
TWGBT	**Beinan**	**1.52**	**30**	*e*P	Pn	11 38 10.2	+1.0
TWGBT				*e*S	Sn	11 38 26.6	-1.3
SHHT	**Tainan City**	**1.53**	**3**	*e*P	Pn	11 38 10.2	+1.0
SHHT				*e*S	Sn	11 38 28.2	+0.2
SGST	**Jiashian**	**1.61**	**10**	*e*P	Pn	11 38 10.6	+0.2
SGST				*e*S	Sn	11 38 28.9	-1.3
LONT	**Longtian**	**1.62**	**29**	*e*P	Pn	11 38 11.6	+1.0
LONT				*e*S	Sn	11 38 29.5	-0.9
LDUT	**Ludao**	**1.62**	**43**	*e*P	Pn	11 38 11.2	+0.7
LDUT				*e*S	Sn	11 38 28.6	-1.8
SSHA	**Shanhua**	**1.64**	**1**	*e*S	Sn	11 38 31.0	+0.3
TSCK	**Chigu Township**	**1.66**	**354**	*e*P	Pn	11 38 11.2	+0.2
TSCK				*e*S	Sn	11 38 29.1	-2.1
SCLT	**Jiali**	**1.68**	**358**	*e*S	Sn	11 38 31.2	-0.5
CHN1	**Nanshi**	**1.70**	**8**	*e*P	Pn	11 38 12.8	+1.1
CHN1				*e*S	Sn	11 38 31.4	-1.0
SNST	**Tainan City**	**1.73**	**7**	*e*P	Pn	11 38 13.2	+1.2
SNST				*e*S	Sn	11 38 31.6	-1.6
STYH	**Taoyuan**	**1.74**	**16**	P	Pn	11 38 12.1	0.0
STYH				S	Sn	11 38 30.5	-2.7
EDH	**Donghe**	**1.76**	**33**	*e*P	Pn	11 38 13.6	+1.2
EDH				*e*S	Sn	11 38 33.0	-0.8
WTP	**Ta-pu**	**1.78**	**10**	*e*P	Pn	11 38 13.3	+0.6
WTP				*e*S	Sn	11 38 32.2	-2.1
TWK	**Hsinying**	**1.78**	**7**	*e*P	Pn	11 38 13.7	+1.0
TWK				*e*S	Sn	11 38 33.1	-1.2
ELDTW	**Lidau**	**1.83**	**22**	*e*P	Pn	11 38 14.8	+1.3
ELDTW				*e*S	Sn	11 38 33.5	-2.0
TPUB	**Ta-pu**	**1.83**	**11**	P	Pn	11 38 14.1	+0.6
TPUB	**Ta-pu**	**1.83**	**11**	*e*P	Pn	11 38 14.0	+0.6
TPUB				*e*S	Sn	11 38 34.1	-1.5
WDGT	**Dungji**	**1.85**	**342**	*e*P	Pn	11 38 14.4	+0.8
WDGT				*e*S	Sn	11 38 34.2	-1.7
ICHU	**Yijhu**	**1.86**	**0**	*e*S	Sn	11 38 34.6	-1.6
EHD	**Haiduan**	**1.87**	**28**	*e*P	Pn	11 38 15.0	+1.2
CHN4	**Tsaushan**	**1.88**	**9**	*e*P	Pn	11 38 14.8	+0.8
CHN4				*e*S	Sn	11 38 36.0	-0.6
VCHM	**Qimei**	**1.88**	**336**	*e*P	Pn	11 38 14.9	+1.0
VCHM				*e*S	Sn	11 38 34.7	-1.9
FULB	**Fuli**	**1.95**	**29**	*e*P	Pn	11 38 17.1	+2.2
FULB				*e*S	Sn	11 38 39.1	+0.7
WCKO	**Fanlu**	**1.96**	**9**	*e*P	Pn	11 38 16.2	+1.0
WCKO				*e*S	Sn	11 38 37.5	-1.3
CHKH	**Chenggong**	**1.99**	**32**	*e*P	Pn	11 38 17.1	+1.6
CHKH				*e*S	Sn	11 38 38.6	-0.7
CHY	**Chiayi**	**2.00**	**4**	*e*S	Sn	11 38 38.1	-1.5
WSL	**Shuilin Townsh**	**2.02**	**359**	*e*P	Pn	11 38 16.6	+0.7
WSL				*e*S	Sn	11 38 39.2	-1.0
ALS	**Alishan**	**2.07**	**14**	⇓P	Pn	11 38 18.0	+1.1
TWF1	**Yuli**	**2.08**	**27**	*e*P	Pn	11 38 18.2	+1.4
TWF1				*e*S	Sn	11 38 40.1	-1.6
EYUL	**Yuli**	**2.09**	**28**	*e*P	Pn	11 38 18.8	+1.9
PHUB	**P'eng-hu**	**2.11**	**342**	⇑P	Pn	11 38 17.9	+0.8
PHUB				S	Sn	11 38 40.4	-1.9
YULB	**Yu-li**	**2.12**	**27**	P	Pn	11 38 18.7	+1.4
YULB	**Yu-li**	**2.12**	**27**	S	Sn	11 38 42.5	-0.1
YULB	**Yu-li**	**2.12**	**27**	*e*P	Pn	11 38 18.6	+1.4
YULB				*e*S	Sn	11 38 40.7	-1.9
ECBN	**Changbin**	**2.12**	**31**	*e*P	Pn	11 38 19.3	+2.0
ECBN				*e*S	Sn	11 38 42.3	-0.3
CHN5	**Tsauling**	**2.13**	**10**	*e*P	Pn	11 38 18.4	+0.9
CHN5				*e*S	Sn	11 38 41.4	-1.5
WSF	**Szhu**	**2.14**	**359**	*e*P	Pn	11 38 18.5	+1.0
WSF				*e*S	Sn	11 38 41.8	-1.1
PNG	**Penghu**	**2.17**	**343**	*e*P	Pn	11 38 19.3	+1.4
PNG				*e*S	Sn	11 38 42.7	-1.0
WTK	**Tuku**	**2.19**	**3**	*e*P	Pn	11 38 18.1	-0.1
WTK				*e*S	Sn	11 38 42.1	-2.1
WGK	**Gukeng**	**2.20**	**7**	*e*P	Pn	11 38 19.9	+1.5
WGK				*e*S	Sn	11 38 44.4	-0.2
WDLH	**Douliu**	**2.20**	**7**	*e*P	Pn	11 38 19.6	+1.2
WDLH				*e*S	Sn	11 38 43.4	-1.2
EHY	**Hungye**	**2.23**	**26**	*e*P	Pn	11 38 20.3	+1.5
EHY				*e*S	Sn	11 38 43.5	-1.7
HGSD	**Ruisui**	**2.26**	**28**	*e*P	Pn	11 38 21.7	+2.5
HGSD				*e*S	Sn	11 38 45.0	-1.0
WHYT	**Xinyi Township**	**2.26**	**14**	*e*P	Pn	11 38 20.4	+1.2
WHYT				*e*S	Sn	11 38 44.5	-1.5
SSLB	**Suanglung**	**2.37**	**15**	P	Pn	11 38 21.9	+1.1
SSLB	**Suanglung**	**2.37**	**15**	S	Sn	11 38 49.3	+0.5
SSLB	**Suanglung**	**2.37**	**15**	*e*P	Pn	11 38 21.8	+1.1
SSLB				*e*S	Sn	11 38 48.1	-0.6
VWDT	**VWDT**	**2.39**	**20**	*e*P	Pn	11 38 22.6	+1.6
WNT	**Mingjian**	**2.41**	**9**	*e*P	Pn	11 38 22.4	+1.2
WNT				*e*S	Sn	11 38 47.8	-1.8
EGFH	**Guangfu**	**2.42**	**26**	*e*P	Pn	11 38 23.0	+1.7
EGFH				*e*S	Sn	11 38 47.4	-2.4
WARBT	**Fenglin Townsh**	**2.45**	**25**	*e*P	Pn	11 38 23.0	+1.3
WARBT				*e*S	Sn	11 38 48.7	-1.9
SMLT	**Sun Moon Lake**	**2.45**	**14**	*e*P	Pn	11 38 22.4	+0.5
TYC	**Yuchr**	**2.46**	**13**	*e*P	Pn	11 38 23.6	+1.6
TYC				*e*S	Sn	11 38 50.0	-0.9
ESL	**Shilin**	**2.55**	**25**	*e*P	Pn	11 38 24.7	+1.6
ESL				*e*S	Sn	11 38 51.4	-1.7
SHUL	**Shoufeng**	**2.58**	**27**	*e*P	Pn	11 38 25.2	+1.7
OWD	**Renai**	**2.59**	**19**	*e*P	Pn	11 38 25.4	+1.6
OWD				*e*S	Sn	11 38 53.5	-0.8
WUSB	**Renai**	**2.61**	**17**	*e*P	Pn	11 38 25.5	+1.4
WUSB				*e*S	Sn	11 38 53.3	-1.4
WCS	**Beigang Elemen**	**2.62**	**13**	*e*P	Pn	11 38 25.5	+1.4
WCS				*e*S	Sn	11 38 53.7	-1.1
TCU	**Taichung**	**2.67**	**8**	*e*P	Pn	11 38 26.3	+1.5
TCU				*e*S	Sn	11 38 55.0	-1.0
ETM	**Tongmen**	**2.71**	**24**	*e*P	Pn	11 38 27.4	+2.0
ETM				*e*S	Sn	11 38 56.2	-0.8
LXIB	**Xiulin Townshi**	**2.73**	**23**	*e*P	Pn	11 38 27.4	+1.6
LXIB				*e*S	Sn	11 38 56.1	-1.6
WHF	**Hehuan Shan**	**2.80**	**19**	*e*P	Pn	11 38 28.9	+2.0
WHP	**Taichung City**	**2.84**	**13**	*e*P	Pn	11 38 29.2	+2.0
WHP				*e*S	Sn	11 39 00.5	+0.1
FUSS	**Fushou**	**2.89**	**18**	*e*P	Pn	11 38 29.9	+1.9
ETLH	**Xiulin Townshi**	**2.93**	**22**	*e*P	Pn	11 38 30.0	+1.6
ETLH				*e*S	Sn	11 39 01.8	-0.6
NACB	**Ninganchiao**	**2.94**	**24**	P	Pn	11 38 30.8	+2.3
NACB	**Ninganchiao**	**2.94**	**24**	*e*P	Pn	11 38 29.8	+1.4
NACB				*e*S	Sn	11 38 60.0	-2.6
NNSB	**Datong**	**3.10**	**19**	*e*P	Pn	11 38 32.9	+2.1
NNSB				*e*S	Sn	11 39 06.2	-0.5
NSTT	**Nanjuang**	**3.20**	**12**	*e*P	Pn	11 38 33.4	+1.4
LIOB	**Emei**	**3.22**	**12**	*e*P	Pn	11 38 33.8	+1.5
NFF	**Wufeng Townshi**	**3.22**	**14**	*e*P	Pn	11 38 33.7	+1.3
EOS4	**EOS4**	**3.23**	**35**	*e*P	Pn	11 38 34.3	+2.2
EOS4				*e*S	Sn	11 39 07.5	-1.7
LATG	**Datong**	**3.25**	**21**	*e*P	Pn	11 38 34.4	+1.7
YHNB	**Yeheng**	**3.33**	**18**	P	Pn	11 38 36.2	+2.4
YHNB	**Yeheng**	**3.33**	**18**	*e*P	Pn	11 38 35.3	+1.5
NSK	**Sanguang**	**3.33**	**17**	*e*P	Pn	11 38 35.6	+1.8
ENTT	**Nioudou**	**3.36**	**21**	*e*P	Pn	11 38 36.7	+2.5
KSHI	**Guanxi Townshi**	**3.38**	**14**	*e*P	Pn	11 38 36.3	+1.9
VWUC	**VWUC**	**3.56**	**348**	*e*P	Pn	11 38 38.1	+1.1
VWUC				S	Sn	11 39 15.2	-2.6
PTMZ	**Houxiangcun**	**3.69**	**344**	P	Pn	11 38 40.3	+1.6
PTMZ				S	Sn	11 39 18.9	-2.0
MATB	**Ma-tsu**	**4.65**	**356**	*e*P	Pn	11 38 53.3	+1.4
MATB				*e*S	Sn	11 39 41.7	-2.9
MHZQ	**Yeshan**	**4.73**	**346**	*e*P	Pn	11 38 54.9	+2.0
MHZQ				*i* S	Sn	11 39 44.4	-2.0

IDC ***09*** *11:39:50.1±0.5,3.°83N×78.°67W,h0km,mb4.4/20,*
mbtmp4.5/24,ML4.1/4,MS4.0/38,Error ellipse:
s-maj=20.4km s-min=12.0km az=59.0
VAO ***09*** *11:39:52.7±0.3,3.°72N×78.°61W,h10km,mb4.9*
NEIC ***09*** *11:39:52.5±2.1,3.°75N±0.°05×78.°74W±0.°07,h10km±1km,*
mb5.0/395,Mww5.0/14,Error ellipse: s-maj=11.1km
s-min=8.3km az=269.0
NEIC ***09*** *11:39:52.5,3.°75N×78.°74W,h12km*
NEIC ***09*** *11:39:52.5,3.°95N×78.°74W,h12km,Moment Tensor*
Solution. Duration: 1§7 Moment tensor: Scale 10^16Nm;
Mrr=3.91; Mθθ0.69; Mφφ3.22; Mrθ2.06; Mrφ1.49; Mθφ-0.51;
Fault plane solution: M0 4.38000×10^16 NP1:φs3.92000°,
δ46.35000°,λ-122.94000°. NP2:φs227.11000°,
δ52.61000°,λ-60.31000°. Principal axes: T 3.9310,
Plg3.0000°, Azm297.0000°; N 0.8960, Plg23.0000°,
Azm28.0000°; P -4.8270, Plg67.0000°, Azm199.0000°;
UPA ***09*** *11:39:53.3±0.7,4.°03N×79.°16W,h0km±11km*
GCMT ***09*** *11:39:55.5±0.2,3.°93N±0.°01×78.°80W±0.°01,h12km,*
MW5.0/122,Moment Tensor Solution. s57,c69;
s122,c189; Duration: 0 Moment tensor: Scale 10^16Nm;
Mrr=3.85±.08; Mθθ0.92±.06; Mφφ2.93±.09; Mrθ1.26±.26;
Mrφ1.78±.06; Mθφ1.47±.24; Best double couple:
M0 4.36400×10^16 NP1:φs26.00000°,δ32.00000°,
λ-98.00000°. NP2:φs215.00000°,δ58.00000°,
λ-85.00000°. Principal axes: T 4.4110, Plg13.0000°,
Azm301.0000°; N -0.0910, Plg4.0000°, Azm32.0000°; P
-4.3160, Plg76.0000°, Azm140.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
RSNC ***09*** *11:39:55.4±0.0,4.°N±5.°×7.°9W±.°,h30km±10km,M4.3,mb5.0,*
mB5.2,ML3.8,Mw5.1,Mw(mB)4.6,MwMwp4.7,Mwp5.1
ISC 09 11:39:51.6±2.1,3.°82N±0.°03×78.°77W±0.°04,h11km±12km,

n698,σ1§24/626,mb4.9/216,MS4.0/35,5C,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GR1C	**Gorgona, Isla**	**1.01**	**144**	P	Pb	11 40 09.8	-1.4
GR1C				S	Sb	11 40 22.5	-2.1
MALC	**Bahia Malaga**	**1.44**	**82**	P	Pn	11 40 16.5	-1.2
MALC				S	Sn	11 40 34.8	-1.9
PIZC	**Pizarro, Choco**	**1.80**	**51**	P	Pn	11 40 20.1	-2.6
PIZC				S	Sn	11 40 41.6	-4.0
TUMC	**Tumaco**	**1.99**	**179**	Pn	Pn	11 40 24.2	-1.1
TUMC	**Tumaco**	**1.99**	**179**	P	Pn	11 40 25.0	-0.3
TUMC				S	Sn	11 40 46.6	-3.6
BBAC	**Balboa, Cauca**	**2.35**	**140**	P	Pn	11 40 29.2	-1.2
BBAC				S	Sn	11 40 54.8	-4.6
YOTC	**Yotoco, Valle**	**2.42**	**86**	P	Pn	11 40 29.7	-1.6
YOTC				S	Sn	11 40 58.0	-3.1
POPC	**Popayan, Colom**	**2.45**	**121**	P	Pn	11 40 30.1	-1.7
POPC				S	Sn	11 41 00.0	-1.9
CRUC	**La Cruz**	**2.88**	**141**	P	Pn	11 40 38.2	+0.3
CRUC				S	Sn	11 41 12.3	-0.5
GCUF	**Volcan Galeras**	**2.95**	**151**	P	Pn	11 40 38.6	-0.3
GCUF				S	Sn	11 41 12.3	-2.3
TULM	**Tulcn-Chalpat**	**3.24**	**162**	P	Pn	11 40 44.6	+1.7
TULM				S	Sn	11 41 19.5	-2.3
CBOC	**Ciudad Bolivar**	**3.41**	**53**	P	Pn	11 40 43.1	-1.9
CBOC				S	Sn	11 41 19.8	-5.8
ANIL	**Santa Ana**	**3.42**	**79**	P	Pn	11 40 45.1	-0.1
BETC	**Betania**	**3.51**	**109**	P	Pn	11 40 48.4	+2.1
BETC				S	Sn	11 41 28.4	+0.5
ORTC	**Ortega, Tolima**	**3.51**	**89**	P	Pn	11 40 46.6	+0.3
CUSE	**Cuicocha Este**	**3.52**	**174**	P	Pn	11 40 42.1	-4.6
CUSE				S	Sn	11 41 25.7	-2.8
PAC1	**Pacto, Paraso**	**3.54**	**180**	P	Pn	11 40 45.1	-1.6
PAC1				S	Sn	11 41 25.3	-3.3
OTAV	**Otavalo**	**3.58**	**175**	P	Pn	11 40 46.0	-1.6
OTAV				Sn	Sn	11 41 26.5	-3.6
OTAV	**Otavalo**	**3.58**	**175**	P	Pn	11 40 46.8	-0.8
OTAV				S	Sn	11 41 26.2	-3.9
OTAV	**Otavalo**	**3.58**	**175**	*e*P	Pn	11 40 45.7	-1.8
GARC	**Garzon, Huila**	**3.65**	**116**	P	Pn	11 40 49.4	+1.0
GARC				S	Sn	11 41 32.8	+1.1
GUY2C	**Guyana, Caldas**	**3.67**	**68**	P	Pn	11 40 48.0	-0.8
GUY2C				S	Sn	11 41 30.9	-1.4
FLOC	**Florencia**	**3.83**	**126**	Pn	Pn	11 40 51.5	+0.8
FLOC	**Florencia**	**3.83**	**126**	P	Pn	11 40 51.4	+0.8
FLOC				S	Sn	11 41 36.1	+0.5
ACHO3	**Achotines, Los**	**3.83**	**339**	*e*P	Pn	11 40 48.5	-2.2
PRAC	**Prado**	**3.87**	**91**	P	Pn	11 40 51.9	+0.6
PRAC				S	Sn	11 41 37.3	+0.4
CACAO	**El Cacao, Vera**	**4.07**	**329**	*e*P	Pn	11 40 51.5	-2.4
CACAO				*e*S	Sn	11 41 35.9	-5.8
AZU	**Azuero**	**4.22**	**339**	P	Pn	11 40 52.5	-3.4
AZU				S	Sn	11 41 37.8	-7.5
AZU	**Azuero**	**4.22**	**339**	*e*P	Pn	11 40 54.3	-1.7
AZU				*e*S	Sn	11 41 39.9	-5.3
NORC	**Norcasia**	**4.25**

TEIG Tepich 18.75 331 P **Pn** **11 44 11.4 +0.1**
PDPR Patillas Dam, 18.84 41 P **Pn** **11 44 11.6 -0.7**
MACA Manacapuru-AM 19.36 111 P **P** **11 44 17.5 0.0**
MACA Manacapuru-AM 19.36 111 *e*P **P** **11 44 17.2 -0.3**
SAML Samuel 20.06 129 P **P** **11 44 23.9 -1.3**
SAML IAmb IAmb 11 44 27.0
comp=Z,52nm,0.8s
SAML Samuel 20.06 129 *e*P **P** **11 44 24.2 -0.9**
SVN Savane Anatole 20.50 57 P **P** **11 44 30.2 +0.1**
MPOM Morne Pois Mar 20.57 58 P **P** **11 44 31.2 +0.5**
CMIG Matias Romero 20.59 311 P **P** **11 44 31.0 +0.1**
comp=Z,4.5nm,0.7s,baz=107,slow=9.8,SNR=5.9
CMIG LR LR 11 51 18.3
comp=Z,606nm,20.3s,baz=126,slow=33
comp=Z,4.5nm,0.7s
GDHS Morne Mazeau, 20.79 52 P **P** **11 44 33.4 +0.3**
LPAZ La Paz 22.58 153 P **P** **11 44 52.3 -0.8**
LPAZ La Paz 22.58 153 P **P** **11 44 52.6 -0.4**
comp=Z,11nm,0.7s,baz=339,slow=10,SNR=29
LPAZ LR LR 11 54 32.9
comp=Z,1µm,19.9s,baz=311,slow=39
comp=Z,11nm,0.7s
LPAZ La Paz 22.58 153 *e*P **P** **11 44 52.2 -0.8**
PB18 Visviri 23.17 157 P **P** **11 45 00.0 +1.0**
PB18 IAmb IAmb 11 45 12.6
comp=Z,38nm,0.6s
PB12 IPOC Station P 23.80 160 P **P** **11 45 05.2 +0.4**
PB12 IAmb IAmb 11 45 11.9
comp=Z,25nm,0.6s
PB16 IPOC Station P 23.84 158 P **P** **11 45 06.8 +1.1**
DWPF Disney Wildern 24.29 354 P **P** **11 45 10.2 +1.1**
ITTB Itaituba 24.41 109 *e*P **P** **11 45 09.6 -0.9**
VILB Vilhena 24.86 132 P **P** **11 45 14.5 -0.1**
VILB Vilhena 24.86 132 *e*P **P** **11 45 15.4 +0.8**
PB11 IPOC Station P 25.09 159 P **P** **11 45 15.3 -1.4**
MAL2 Monte Alegre, 25.25 103 P **P** **11 45 17.1 -1.0**
MAL2 IAmb IAmb 11 45 21.5
comp=Z,32nm,0.8s
TA02 Huaiquique 25.40 161 P **P** **11 45 19.1 -0.3**
TA02 IAmb IAmb 11 45 31.9
comp=Z,47nm,1.0s
PB08 IPOC Station P 25.62 159 P **P** **11 45 21.0 -0.8**
PB08 IAmb IAmb 11 45 42.7
comp=Z,42nm,1.2s
NPGB Novo Progresso 25.74 115 *e*P **P** **11 45 22.0 -0.5**
MDP Montagnes des 26.08 86 LR LR 11 56 03.5
comp=Z,77nm,18.2s,baz=278,slow=38
PB01 IPOC Station P 26.34 160 P **P** **11 45 27.9 -0.1**
PB01 IAmb IAmb 11 45 42.6
comp=Z,37nm,1.2s
SIV San Ignacio 26.34 139 LR LR 11 56 04.0
comp=Z,1µm,18.9s,baz=312,slow=37
PDRB Porto dos Gac 26.75 125 *e*P **P** **11 45 30.8 -0.9**
PB09 IPOC Station P 27.12 160 P **P** **11 45 33.8 -1.3**
PB09 IAmb IAmb 11 45 53.2
comp=Z,18nm,0.7s
CLDB Colider 27.13 123 *e*P **P** **11 45 34.4 -0.8**
PTLB Pontes e Lacer 27.28 135 P **P** **11 45 35.8 -0.7**
PTLB Pontes e Lacer 27.28 135 *e*P **P** **11 45 36.0 -0.5**
152A Waverly Hall 29.23 350 P **P** **11 45 54.5 +0.8**
152A IAmb IAmb 11 46 03.5
comp=Z,28nm,1.2s
LRAL Lakeview Retre 30.06 346 P **P** **11 46 02.0 +1.0**
LRAL IAmb IAmb 11 46 10.7
comp=Z,26nm,1.1s
Z47A Carrollton 30.49 345 P **P** **11 46 05.8 +1.0**
FPAL Fort Paine 31.22 349 P **P** **11 46 12.2 +0.9**
FPAL IAmb IAmb 11 46 20.6
comp=Z,19nm,1.4s
BG3 Lake Jocassee 31.25 353 P **P** **11 46 13.2 +1.6**
BG3 IAmb IAmb 11 46 22.6
comp=Z,13nm,1.0s
TMAB Tom-Au,PA,Br 31.27 101 *e*P **P** **11 46 12.2 +0.3**
X48A Hartselle 31.43 347 P **P** **11 46 13.6 +0.5**
X48A IAmb IAmb 11 46 22.2
comp=Z,20nm,1.1s
SNDB Serra Nova Dou 31.50 120 *e*P **P** **11 46 14.6 +0.6**
Y45A Yeager Farm, C 31.53 343 P **P** **11 46 15.0 +1.0**
AC02 Maricunga 31.87 164 P **P** **11 46 17.4 -0.2**
CPCT Cooper Cave 31.92 351 P **P** **11 46 18.8 +1.4**
TKL Tuckaleechee C 32.01 352 LR LR 11 58 08.3
comp=Z,161nm,20.9s,baz=172,slow=34
HNDO Hondo 32.12 325 IAmb IAmb 11 46 28.3
comp=Z,19nm,1.3s
MURT Porto Murtinho 32.72 142 *e*P **P** **11 46 23.5 -1.1**
ARAG Araguaiana, MT 32.99 127 *e*P **P** **11 46 25.7 -1.3**
T57A Hurt 33.02 359 IAmb IAmb 11 46 29.6
comp=Z,15nm,1.0s
WHTX Lake Whitney, 33.06 330 IAmb IAmb 11 46 36.3
comp=Z,28nm,1.2s
WVT Waverly 33.22 347 P **P** **11 46 28.4 -0.3**
WVT IAmb IAmb 11 46 36.5
comp=Z,15nm,1.2s
BRDY Brady 33.30 327 P **P** **11 46 29.6 0.0**
BRDY PcP **PcP** **11 49 12.4 +0.6**
AC05 El Transito 33.48 166 P **P** **11 46 31.3 0.0**
SMTB Santa Maria do 33.54 112 *e*P **P** **11 46 31.8 -0.1**
T47A Sharon Grove 33.88 348 IAmb IAmb 11 46 43.4
comp=Z,26nm,1.2s
FW03 Perrin-Whitt E 34.21 330 IAmb IAmb 11 46 46.5
comp=Z,38nm,1.3s
TXAR Lajitas Array 34.66 320 P **P** **11 46 43.0 +1.5**
TXAR Lajitas Array 34.66 320 P **P** **11 46 42.2 +0.6**
comp=Z,3.2nm,1.0s,baz=141,slow=8.1,SNR=22
TXAR PcP **PcP** **11 49 16.8 +1.0**
comp=Z,3.2nm,0.9s,baz=138,slow=6.6,SNR=14
TXAR LR LR 12 00 34.7
comp=Z,131nm,21.8s,baz=126,slow=36
comp=Z,3.2nm,1.0s
TX31 Lajitas Ar. Si 34.66 320 P **P** **11 46 42.9 +1.4**
TX31 IAmb IAmb 11 46 51.4
comp=Z,19nm,1.4s
ABTX Abilene, Hawle 34.69 328 IAmb IAmb 11 46 49.8
comp=Z,18nm,1.2s
CGM3 Cape Girardeau 34.78 345 IAmb IAmb 11 46 50.8
comp=Z,24nm,1.1s
T42A Van Buren 34.93 343 IAmb IAmb 11 46 51.6
comp=Z,19nm,1.0s
AMBA Amambai (Brazi 35.30 140 *e*P **P** **11 46 45.7 -1.3**
W35A Tecumseh 35.40 334 IAmb IAmb 11 46 55.7
comp=Z,23nm,0.9s
DEOK Depew 35.83 335 P **P** **11 46 51.9 +0.6**
DEOK IAmb IAmb 11 46 59.7
comp=Z,29nm,1.1s
POST Post 36.03 327 IAmb IAmb 11 47 01.6
comp=Z,17nm,1.1s
BDFB Brasilia 36.06 123 P **P** **11 46 53.8 0.0**
comp=Z,4.4nm,0.8s,baz=274,slow=13,SNR=4.7
BDFB LR LR 12 02 07.0
comp=Z,1µm,19.3s,baz=305,slow=37
comp=Z,4.4nm,0.8s
Q44A Meyer Farm, Va 36.14 346 IAmb IAmb 11 47 02.1
comp=Z,32nm,1.1s
DKNS Dickens 36.17 328 P **P** **11 46 54.8 +0.3**
DKNS IAmb IAmb 11 47 03.6
comp=Z,32nm,1.4s
QUOK Quay 36.19 335 P **P** **11 46 54.7 +0.2**
OK029 Liberty Lake 36.20 334 P **P** **11 46 54.2 -0.3**
CPUP Villa Florida 36.46 146 P **P** **11 46 55.5 -1.4**
comp=Z,1.8nm,0.6s,baz=309,slow=6.4,SNR=4.5
CPUP LR LR 12 04 16.4
comp=Z,574nm,18.9s,baz=320,slow=40
comp=Z,1.8nm,0.6s
VHRN Van Horn 36.48 320 IAmb IAmb 11 47 07.8
comp=Z,51nm,1.4s
LPIG La Paz 36.48 306 LR LR 11 58 36.4
comp=Z,269nm,21.0s,baz=118,slow=31
SMWD Samnorwood 36.94 330 IAmb IAmb 11 47 09.8
comp=Z,25nm,1.3s
P43A Skaggs, Pawnee 36.96 346 IAmb IAmb 11 47 09.8
comp=Z,42nm,1.1s
CROK Carrier 37.02 334 IAmb IAmb 11 47 09.7
comp=Z,25nm,0.8s
IPMB Ipameri, GO 37.11 127 *e*P **P** **11 47 01.1 -1.6**
SDBA SÃO DESIDERIO 37.32 116 *e*P **P** **11 47 04.0 -0.4**
OK032 Salt Plains WL 37.37 334 P **P** **11 47 04.5 -0.1**
OK032 IAmb IAmb 11 47 12.9
comp=Z,43nm,1.2s
KAN17 Caldwell West 37.38 335 IAmb IAmb 11 47 13.1
comp=Z,40nm,1.0s
KAN14 Manchester OK 37.39 334 IAmb IAmb 11 47 13.0
comp=Z,25nm,1.0s
KAN09 Caldwell North 37.40 335 P **P** **11 47 05.1 +0.3**
KAN09 IAmb IAmb 11 47 13.3
comp=Z,38nm,1.0s

MSTX Muleshoe 37.41 326 IAmb IAmb 11 47 14.7
comp=Z,20nm,1.0s
KAN05 Bluff City Nor 37.48 335 P **P** **11 47 05.6 +0.1**
KAN05 IAmb IAmb 11 47 14.1
comp=Z,34nm,0.9s
P40A Paris 37.53 343 IAmb IAmb 11 47 14.2
comp=Z,29nm,1.4s
KSU1 Kansas State U 38.68 338 P **P** **11 47 15.5 0.0**
KSU1 IAmb IAmb 11 47 24.0
comp=Z,43nm,1.1s
BO01 Tunca 38.70 170 P **P** **11 47 15.4 -0.3**
JANB Januaria 38.94 120 *e*P **P** **11 47 17.6 -0.6**
R32A Long Quarter, 38.95 335 IAmb IAmb 11 47 26.8
comp=Z,28nm,0.9s
N38A Joes South For 39.04 342 IAmb IAmb 11 47 26.5
comp=Z,36nm,1.1s
FRTB Fartura 39.25 135 *e*P **P** **11 47 20.4 -0.1**
RTBA Rita Blanca 39.25 329 IAmb IAmb 11 47 30.0
comp=Z,40nm,1.1s
ITQB Itaqui 39.49 149 *e*P **P** **11 47 22.0 -0.4**
J59A Piesco 39.66 5 P **P** **11 47 25.0 +1.3**
319A Douglas 39.69 317 P **P** **11 47 25.7 +1.4**
CRNM Carthage 39.70 322 P **P** **11 47 26.2 +1.8**
CBKS Cedar Bluff 39.71 334 P **P** **11 47 25.2 +1.0**
BNM Barren Site 39.77 323 P **P** **11 47 26.9 +1.8**
N35A Tabor 39.88 340 P **P** **11 47 24.5 -1.1**
SBM South Baldy 39.99 322 P **P** **11 47 28.9 +1.8**
LENM Lemitar 39.99 322 P **P** **11 47 28.6 +1.7**
ITAB Concordia 40.18 142 P **P** **11 47 27.5 -0.7**
ITAB Concordia 40.18 142 *e*P **P** **11 47 26.7 -1.5**
ANMO Albuquerque 40.22 324 P **P** **11 47 30.2 +1.5**
ANMO IAmb IAmb 11 47 32.3
comp=Z,23nm,0.9s
ANMO Albuquerque 40.22 324 LR LR 12 07 04.1
comp=Z,126nm,18.7s,baz=298,slow=41
JFWS Jewell Farm 40.24 347 P **P** **11 47 27.5 -1.0**
DUN6 Lazy B Ranch 40.28 319 P **P** **11 47 31.0 +1.8**
T25A Trinidad 40.65 328 P **P** **11 47 32.7 +0.4**
DIAM Diamantina, MG 40.98 124 *e*P **P** **11 47 34.1 -1.0**
L34A Svendsen Farm, 41.12 340 P **P** **11 47 35.4 -0.4**
L34A IAmb IAmb 11 47 43.7
comp=Z,21nm,0.8s
KSCO Kaye Shedlock' 41.20 331 P **P** **11 47 37.2 +0.6**
KSCO IAmb IAmb 11 47 46.4
comp=Z,28nm,1.0s
BGNE Belgrade 41.27 338 P **P** **11 47 36.6 -0.5**
BGNE IAmb IAmb 11 47 45.3
comp=Z,21nm,0.8s
TUC Tucson 41.27 317 P **P** **11 47 38.6 +1.4**
SDCO Great Sand Dun 41.69 328 P **P** **11 47 42.0 +1.2**
SDCO IAmb IAmb 11 47 52.6
comp=Z,32nm,1.4s
CPSB Cacapava Do Su 41.77 146 *e*P **P** **11 47 39.6 -1.6**
X18A Snowflake 42.09 320 IAmb IAmb 11 47 55.4
comp=Z,24nm,1.2s
GDU01 Guandu, BA 42.61 115 *e*P **P** **11 47 48.3 -0.1**
PLTB Pedras Altas 42.73 148 P **P** **11 47 48.4 -0.7**
PLTB Pedras Altas 42.73 148 *e*P **P** **11 47 48.4 -0.7**
ECSD EROS Data Cent 42.77 341 IAmb IAmb 11 47 56.8
comp=Z,25nm,1.1s
MVCO Mesa Verde 42.98 324 IAmb IAmb 11 48 01.9
comp=Z,37nm,1.2s
X16A Lo Mia Camp, P 42.98 319 P **P** **11 47 51.8 +0.4**
TER01 Tubaro-SC 42.98 140 *e*P **P** **11 47 49.5 -1.7**
SPMN Marine on St. 43.03 345 P **P** **11 47 50.3 -1.1**
SPMN IAmb IAmb 11 47 58.9
comp=Z,36nm,1.2s
SJMB Sao Joao De Ma 43.25 122 *e*P **P** **11 47 53.1 -0.4**
ISCO Idaho Springs 43.27 329 P **P** **11 47 54.6 +0.8**
CMC01 Camacan, BA 43.28 117 *e*P **P** **11 47 53.6 -0.2**
GUA01 Guaratinga, BA 43.51 119 *e*P **P** **11 47 55.3 -0.4**
Y14A Wickenburg 43.73 317 P **P** **11 47 59.1 +1.8**
PV13 Radium Mtn., P 43.81 325 P **P** **11 48 00.2 +2.1**
RCBR Riachuelo 43.87 102 *e*P **P** **11 47 59.0 +0.3**
PV07 Paradox Valley 43.91 326 IAmb IAmb 11 48 09.6
comp=Z,35nm,1.2s
PV11 David Mesa, Pa 43.94 325 P **P** **11 48 00.9 +1.9**
PV11 IAmb IAmb 11 48 09.6
comp=Z,32nm,1.0s
E38A The Farm, Brul 44.04 347 P **P** **11 47 59.1 -0.3**
E38A IAmb IAmb 11 48 08.2
comp=Z,13nm,0.9s
PV10 Paradox Valley 44.09 325 P **P** **11 48 01.4 +1.0**
PV23 Carpenter Ridg 44.12 325 IAmb IAmb 11 48 11.0
comp=Z,31nm,1.1s
NBAN Anadia - AL 44.41 108 *e*P **P** **11 48 01.6 -1.4**
F33A 5 Mile Ranch, 44.56 343 IAmb IAmb 11 48 10.8
comp=Z,21nm,1.0s
ESJX Sierra Juarez 44.74 313 IAmb IAmb 11 48 16.7
comp=Z,15nm,1.1s
U15A North Rim 44.76 321 P **P** **11 48 06.1 +0.3**
U15A IAmb IAmb 11 48 16.9
comp=Z,17nm,1.0s
O20A White River Ci 44.89 328 P **P** **11 48 06.3 -0.3**
O20A IAmb IAmb 11 48 17.8
comp=Z,16nm,0.9s
PLCA Paso Flores 44.98 171 P **P** **11 48 08.5 +1.4**
PLCA Paso Flores 44.98 171 P **P** **11 48 07.7 +0.6**
comp=Z,10nm,0.7s,baz=347,slow=8.9,SNR=54
PLCA PcP **PcP** **11 49 48.2 -0.1**
comp=Z,0.9nm,0.6s,baz=343,slow=4.3,SNR=3.8
comp=Z,10nm,0.7s
PLCA Paso Flores 44.98 171 *e*P **P** **11 48 08.8 +1.7**
W13A Hualapai Mount 45.00 318 P **P** **11 48 07.6 0.0**
W13A IAmb IAmb 11 48 19.0
comp=Z,18nm,1.3s
YUH Yuha Desert 45.05 314 P **P** **11 48 08.6 +0.8**
PKCU Pink Cliffs 45.41 322 P **P** **11 48 12.6 +1.6**
PKCU IAmb IAmb 11 48 14.1
comp=Z,21nm,1.1s
SRU San Rafael Swe 45.44 325 P **P** **11 48 12.7 +1.7**
KNB Kanab 45.46 321 IAmb IAmb 11 48 23.4
comp=Z,15nm,1.2s
P18A Preston Nutter 45.63 326 IAmb IAmb 11 48 23.0
comp=Z,18nm,1.0s
Q16A Castle Valley 45.68 324 P **P** **11 48 14.4 +1.4**
Q16A IAmb IAmb 11 48 24.6
comp=Z,17nm,1.2s
K22A Casper 45.88 331 P **P** **11 48 15.7 +1.3**
K22A IAmb IAmb 11 48 24.2
comp=Z,21nm,1.0s
PFO Pinyon Flats O 45.94 315 LR LR 12 07 04.0
comp=Z,314nm,18.5s,baz=125,slow=36
V12A Nelson 46.00 318 P **P** **11 48 17.5 +2.0**
V12A IAmb IAmb 11 48 26.2
comp=Z,13nm,1.0s
MSU Marysvale 46.01 323 P **P** **11 48 17.3 +1.7**
MVU Marysvale 46.03 323 P **P** **11 48 17.6 +1.9**
MVU IAmb IAmb 11 48 26.5
comp=Z,10nm,1.0s
BSUT Blindstream Ca 46.54 326 P **P** **11 48 21.6 +1.7**
SHPR Sheep Range 46.66 319 P **P** **11 48 22.7 +2.0**
AGMN Agassiz Nation 46.67 344 P **P** **11 48 19.4 -0.9**
AGMN IAmb IAmb 11 48 28.3
comp=Z,17nm,1.1s
MPU Maple Canyon 46.68 325 P **P** **11 48 22.2 +1.4**
MPU IAmb IAmb 11 48 30.9
comp=Z,15nm,1.0s
PSUT Pine Spring 47.04 322 IAmb IAmb 11 48 34.3
comp=Z,8.7nm,0.9s
LL02 Futaleuf 47.21 173 P **P** **11 48 24.6 0.0**
LL02 IAmb IAmb 11 48 28.1
comp=Z,9.4nm,0.8s
TCUT Toone Canyon 47.30 326 P **P** **11 48 26.6 +1.0**
PD31 Pinedale Array 47.47 329 P **P** **11 48 27.6 +0.7**
PD31 IAmb IAmb 11 48 37.4
comp=Z,21nm,1.3s
PDAR Pinedale Array 47.47 329 P **P** **11 48 27.3 +0.3**
PDAR Pinedale Array 47.47 329 P **P** **11 48 27.6 +0.7**
comp=Z,5.1nm,0.9s,baz=134,slow=8.6,SNR=28
PDAR PcP **PcP** **11 49 56.9 -0.4**
comp=Z,1.3nm,0.8s,baz=116,slow=3.4,SNR=3.6
PDAR LR LR 12 10 51.0
comp=Z,119nm,18.1s,baz=130,slow=39
comp=Z,5.1nm,0.9s
GWY Greenwater Val 47.48 318 P **P** **11 48 28.5 +1.4**
GWY IAmb IAmb 11 48 37.5
comp=Z,9.5nm,1.0s
DUG Dugway, Tooele 47.48 324 IAmb IAmb 11 48 37.4
comp=Z,14nm,0.9s
SPR3 Spring Creek 3 47.62 322 P **P** **11 48 29.6 +1.3**
SPR3 IAmb IAmb 11 48 38.4
comp=Z,12nm,0.9s
TPNV Topopah Spring 47.63 319 IAmb IAmb 11 48 39.2
comp=Z,11nm,0.9s

S11A Rachel 47.70 320 IAmb IAmb 11 48 40.8
comp=Z,23nm,1.2s
WCT Wildcat Mounta 47.79 318 P **P** **11 48 31.2 +1.9**
BGU Big Grassy Mou 48.08 325 IAmb IAmb 11 48 41.7
comp=Z,20nm,1.1s
AHID Auburn Hatcher 48.27 328 IAmb IAmb 11 48 42.6
comp=Z,21nm,1.1s
GRAC Grapevine Rang 48.39 318 P **P** **11 48 35.2 +1.2**
GRAC IAmb IAmb 11 48 45.1
comp=Z,22nm,1.4s
HVU Hansel Valley 48.50 326 P **P** **11 48 35.8 +0.9**
SNOW Snow King Moun 48.58 329 P **P** **11 48 36.7 +1.1**
LOHW Long Hollow 48.61 329 IAmb IAmb 11 48 45.6
comp=Z,29nm,1.4s
TPAW Teton Pass 48.70 329 IAmb IAmb 11 48 49.8
comp=Z,13nm,1.1s
MOOW Moose Ponds 48.77 329 P **P** **11 48 37.9 +0.8**
MOOW IAmb IAmb 11 48 46.6
comp=Z,16nm,1.0s
MZP Montezuma Peak 48.80 319 P **P** **11 48 38.7 +1.3**
FXWY Fox Creek 48.84 329 P **P** **11 48 38.5 +1.0**
FXWY IAmb IAmb 11 48 47.1
comp=Z,11nm,1.0s
LAO LASA Array 48.88 335 IAmb IAmb 11 48 47.7
comp=Z,16nm,1.1s
DSP Deep Springs 49.00 318 IAmb IAmb 11 48 49.5
comp=Z,11nm,1.1s
RLMT Red Lodge 49.05 332 P **P** **11 48 40.0 +0.9**
RLMT IAmb IAmb 11 48 48.4
comp=Z,16nm,1.0s
ELK Elko 49.25 323 P **P** **11 48 42.0 +1.2**
YNE Yellowstone No 49.32 331 P **P** **11 48 41.9 +0.7**
YNE IAmb IAmb 11 48 50.4
comp=Z,13nm,1.1s
YFT Old Faithful 49.32 330 IAmb IAmb 11 48 54.8
comp=Z,15nm,1.0s
DGMT Dagmar 49.52 338 P **P** **11 48 43.1 +0.7**
COYC Coyhaique 49.54 174 P **P** **11 48 42.3 -0.2**
COYC IAmb IAmb 11 48 54.0
comp=Z,20nm,0.9s
YHH Holmes Hill 49.57 330 P **P** **11 48 44.9 +1.7**
NV11 Mina Array Sit 49.71 319 IAmb IAmb 11 48 55.0
comp=Z,20nm,1.2s
NVAR Mina Array Bea 49.80 319 P **P** **11 48 46.5 +1.5**
NVAR Mina Array Bea 49.80 319 P **P** **11 48 47.0 +1.9**
comp=Z,3.8nm,0.7s,baz=130,slow=6.8,SNR=23
NVAR PcP **PcP** **11 50 06.0 +0.2**
comp=Z,1.8nm,0.8s,baz=126,slow=5.6,SNR=3.7
NVAR LR LR 12 09 58.8
comp=Z,245nm,19.8s,baz=168,slow=36
comp=Z,3.8nm,0.7s
WAKR Walker 50.59 319 IAmb IAmb 11 48 53.9
comp=Z,15nm,1.2s
MFID Camas Ranch 51.27 326 P **P** **11 48 57.2 +1.3**
MFID IAmb IAmb 11 49 06.0
comp=Z,14nm,1.1s
MSO Missoula 52.54 330 IAmb IAmb 11 49 14.9
comp=Z,26nm,1.5s
J08A Circle Bar Ran 52.76 324 P **P** **11 49 07.9 +0.9**
J08A IAmb IAmb 11 49 16.5
comp=Z,16nm,0.8s
BMO Blue Mountains 53.01 326 P **P** **11 49 08.6 -0.2**
F10A Beach Ranch, E 53.67 327 IAmb IAmb 11 49 24.3
comp=Z,15nm,0.9s
I07A Izee 53.79 324 IAmb IAmb 11 49 24.5
comp=Z,13nm,0.9s
FFC Flin Flon 54.13 344 P **P** **11 49 16.7 0.0**
FFC IAmb IAmb 11 49 25.9
comp=Z,13nm,1.1s
LNOR Lincton Mounta 54.18 327 P **P** **11 49 18.3 +1.0**
LNOR IAmb IAmb 11 49 26.9
comp=Z,16nm,0.9s
G08A Pilot Rock 54.20 326 IAmb IAmb 11 49 27.4
comp=Z,18nm,1.2s
YBH Yreka Blue Hor 54.43 320 LR LR 12 13 43.7
comp=Z,152nm,20.2s,baz=132,slow=37
PINE Pine Mountain 54.47 323 IAmb IAmb 11 49 21.9
comp=Z,17nm,1.0s
NEW Newport 55.10 330 P **P** **11 49 24.5 +0.6**
NEW IAmb IAmb 11 49 33.2
comp=Z,15nm,1.1s
NEW Newport 55.10 330 LR LR 12 13 40.2
comp=Z,174nm,21.7s,baz=131,slow=37
G06A Carlson Farm, 55.12 325 P **P** **11 49 25.9 +1.7**
G06A IAmb IAmb 11 49 34.8
comp=Z,26nm,1.2s
E07A Sunnyside 55.47 327 P **P** **11 49 27.5 +1.0**
E07A IAmb IAmb 11 49 36.3
comp=Z,10nm,0.8s
MXC Moxie City 55.72 326 P **P** **11 49 30.1 +1.7**
B08A Colville Reser 56.30 329 P **P** **11 49 33.4 +0.9**
B08A IAmb IAmb 11 49 42.1
comp=Z,11nm,1.0s
LTY Liberty 56.33 327 P **P** **11 49 33.8 +0.9**
LTY IAmb IAmb 11 49 42.6
comp=Z,14nm,1.0s
LON Longmire 56.66 326 IAmb IAmb 11 49 44.7
comp=Z,13nm,0.9s
GNW Green Mountain 57.70 326 P **P** **11 49 42.9 +0.5**
GNW IAmb IAmb 11 49 51.6
comp=Z,20nm,1.1s
BBTS Babate 62.19 76 LR LR 12 14 40.8
comp=Z,151nm,21.4s,baz=148,slow=34
TAOE Nuku Hiva Isla 62.47 258 *e*S **S** **11 58 45.0 +1.3**
TAOE *e*SS **SS** **12 02 45.9 -1.9**
comp=Z,59nm,35.5s
TAOE *e*LR LR 12 08 49.8
comp=Z,82nm,39.0s
comp=Z,592nm,26.3s
NUUK Nuuk 63.34 13 *i* P **P** **11 50 21.1 +0.6**
NUUK IAmb IAmb 11 50 22.9
comp=Z,20nm,0.7s
YKA Yellowknife Ar 64.26 342 P **P** **11 50 26.4 -0.4**
comp=Z,6.4nm,0.9s,baz=135,slow=6.9,SNR=83
comp=Z,6.4nm,0.9s
TOAD Toad River Com 65.55 336 P **P** **11 50 35.5 +0.3**
baz=127,SNR=8.3
KOTAN Kotaneelee Air 65.87 337 P **P** **11 50 37.7 +0.4**
baz=129,SNR=7.1
SFJD Kangerlussuaq 66.00 12 LR LR 12 19 17.6
comp=Z,48nm,20.4s,baz=215,slow=36
LIRD Liard River Hi 66.25 336 P **P** **11 50 39.8 +0.2**
baz=127,SNR=8.7
T35M Bob Quinn 66.69 332 P **P** **11 50 43.5 +0.8**
baz=122
DLBC Dease Lake 67.37 334 P **P** **11 50 47.7 +0.8**
baz=122
WRAK Wrangell Islan 67.40 331 P **P** **11 50 47.1 +0.1**
baz=120
S34M Telegraph Cree 67.59 333 P **P** **11 50 48.8 +0.5**
baz=121
WRGLY Wrigley 67.65 340 P **P** **11 50 48.6 +0.1**
baz=131,SNR=9.0
ISOG Isortoq, Green 67.70 17 *i* P **P** **11 50 49.0 +0.2**
ISOG IAmb IAmb 11 50 51.5
comp=Z,26nm,0.9s
ILULI Ilulissat 67.83 10 *i* P **P** **11 50 49.0 -0.5**
ILULI IAmb IAmb 11 50 49.7
comp=Z,21nm,0.8s
ANGG Ammassalik, Gr 68.14 17 *i* P **P** **11 50 50.3 -1.2**
ANGG IAmb IAmb 11 50 51.6
comp=Z,8.7nm,0.6s
R33M Jennings River 68.30 334 IAmb IAmb 11 50 54.8
comp=Z,8.6nm,0.9s
R33M Jennings River 68.30 334 P **P** **11 50 53.3 +0.5**
baz=122,SNR=5.1
TGTN Hyland Airport 68.37 337 P **P** **11 50 54.0 +0.9**
baz=125,SNR=7.7
Q32M Nakina River 68.64 333 P **P** **11 50 55.0 -0.1**
baz=121
S32K Killisnoo 68.98 331 P **P** **11 50 56.9 -0.1**
baz=118
SIT Sitka 69.15 331 P **P** **11 50 58.1 +0.2**
baz=117
PMSA Palmer Station 69.29 173 *e*P **P** **11 50 59.4 +0.7**
R32K Eaglecrest 69.33 332 P **P** **11 50 59.8 +0.7**
baz=118
P33M Teslin, Yukon 69.52 334 IAmb IAmb 11 51 02.3
comp=Z,14nm,1.1s
P33M Teslin, Yukon 69.52 334 P **P** **11 51 01.1 +0.7**
baz=120,SNR=5.8
NUUG Nuugaatsiaq 69.54 8 *i* P **P** **11 50 59.7 -0.4**
NUUG IAmb IAmb 11 51 01.2
comp=Z,13nm,0.8s
P32M Atlin 69.60 334 P **P** **11 51 01.4 +0.5**
baz=119
ICESG Greenland Ices 70.14 14 *i* P **P** **11 51 03.7 -0.7**

ICESG IAmb IAmb 11 51 04.8
comp=Z,16nm,0.8s
WHY Whitehorse 70.63 334 P P 11 51 07.9 +0.7
baz=119
PLBC Pleasant Camp 70.73 333 P P 11 51 08.7 +1.0
baz=117
FARO Faro, Yukon 70.77 336 P P 11 51 08.3 +0.3
FARO Faro, Yukon 70.77 336 P P 11 51 09.4 +1.5
baz=121
M31M Drury Creek, Y 71.18 336 P P 11 51 11.2 +0.8
M31M IAmb IAmb 11 51 27.0
comp=Z,14nm,1.4s
M31M Drury Creek, Y 71.18 336 P P 11 51 11.2 +0.8
baz=120,SNR=5.1
O30N Mendenhall 71.21 334 P P 11 51 11.5 +0.8
baz=118,SNR=7.0
P30M Million Dollar 71.30 333 P P 11 51 12.1 +0.9
baz=116
N31M Braeburn, Yuko 71.41 335 P P 11 51 12.7 +0.9
baz=118
P29M Windy Craggy 71.43 333 P P 11 51 12.8 +0.8
baz=116
KULLO Kullorsuaq 71.81 6 *i* P **P 11 51 13.7 -0.2**
KULLO IAmb IAmb 11 51 14.2
comp=Z,14nm,0.9s
HYT Haines Junctio 71.85 334 P P 11 51 15.8 +1.2
baz=116
N30M Aishikik Lake 71.95 335 P P 11 51 16.8 +1.7
N30M IAmb IAmb 11 51 17.6
comp=Z,14nm,0.9s
N30M Aishikik Lake 71.95 335 P P 11 51 16.1 +0.9
baz=117,SNR=6.6
PNL Peninsula 72.22 332 P P 11 51 17.9 +1.2
baz=114
YUK6 Outpost Mounta 72.28 334 P P 11 51 17.7 +0.3
baz=115
M30M Minto, Yukon 72.34 336 P P 11 51 17.9 +0.5
baz=117,SNR=16
YUK4 Talbot Arm 72.58 334 P P 11 51 19.8 +0.7
baz=115
PINM Pinnacle 72.78 333 P P 11 51 21.0 +0.8
baz=113
PPT Papeete 72.96 250 LR LR 12 15 40.1
comp=Z,120nm,18.3s,baz=92,slow=29
PPT2 Papeete2 72.97 250 *e*LR LR 12 13 33.2
comp=Z,160nm,25.5s
PPT2 *e*LR LR 12 13 43.1
comp=Z,157nm,23.2s
H31M Peel River 72.97 339 P P 11 51 21.7 +0.6
baz=121,SNR=14
M29M Somme Creek 72.97 335 P P 11 51 22.6 +1.3
M29M IAmb IAmb 11 51 23.4
comp=Z,17nm,1.0s
M29M Somme Creek 72.97 335 P P 11 51 22.0 +0.7
baz=116,SNR=11
SUMG Summit 73.00 12 P P 11 51 21.9 +0.4
SUMG Summit 73.00 12 *i* P **P 11 51 21.6 0.0**
SUMG IAmb IAmb 11 51 22.9
comp=Z,38nm,0.8s
YUK8 Steele Glacier 73.04 334 P P 11 51 22.9 +1.0
baz=114
J30M Hart River 73.09 338 IAmb IAmb 11 51 24.2
comp=Z,13nm,1.1s
J30M Hart River 73.09 338 P P 11 51 22.7 +0.8
baz=118,SNR=6.5
L29M L29M 73.13 336 P P 11 51 22.7 +0.6
baz=116,SNR=20
BORG Borgarnes 73.13 22 LR LR 12 21 26.2
comp=Z,56nm,20.4s,baz=239,slow=34
K29M Barlow Dome 73.22 337 P P 11 51 23.7 +1.0
K29M Barlow Dome 73.22 337 P P 11 51 23.2 +0.5
baz=117,SNR=19
I30M Mount Dempster 73.42 338 P P 11 51 25.1 +1.2
I30M IAmb IAmb 11 51 25.8
comp=Z,18nm,0.9s
I30M Mount Dempster 73.42 338 P P 11 51 24.5 +0.6
baz=118,SNR=16
G31M Satah River 73.52 340 P P 11 51 24.9 +0.7
G31M IAmb IAmb 11 51 25.7
comp=Z,18nm,0.9s
G31M Satah River 73.52 340 P P 11 51 24.7 +0.4
baz=121,SNR=12
YUK3 Moose Creek 73.55 334 P P 11 51 25.9 +1.1
baz=114,SNR=6.4
DBIC Dimbokro 73.60 84 P P 11 51 25.4 -0.4
DBIC IAmb IAmb 11 51 38.8
comp=Z,6.7nm,0.7s
DBIC Dimbokro 73.60 84 P P 11 51 25.1 -0.7
comp=Z,4.7nm,0.9s,baz=286,slow=5.5,SNR=6.3
DBIC LR LR 12 20 21.6
comp=Z,121nm,21.9s,baz=259,slow=33
comp=Z,4.7nm,0.9s
F31M Tsiigehtchic 73.62 341 IAmb IAmb 11 51 26.2
comp=Z,14nm,1.0s
F31M Tsiigehtchic 73.62 341 P P 11 51 25.1 +0.3
baz=122,SNR=10
J29N Klondike Camp 73.76 337 IAmb IAmb 11 51 27.8
comp=Z,14nm,0.9s
J29N Klondike Camp 73.76 337 P P 11 51 27.0 +1.2
baz=116,SNR=7.5
TBI Tubuai 73.91 245 *e*LR LR 12 14 06.7
comp=Z,812nm,29.2s
TBI *e*LR LR 12 14 07.1
comp=Z,683nm,30.2s
A36M Sachs Harbour 73.94 346 P P 11 51 26.0 -0.6
A36M Sachs Harbour 73.94 346 P P 11 51 25.7 -0.8
baz=131,SNR=56
BVCY Beaver Creek 73.98 335 P P 11 51 28.1 +1.0
baz=114,SNR=7.3
DAWY Dawson 74.05 337 P P 11 51 28.2 +0.6
DAWY IAmb IAmb 11 51 28.8
comp=Z,11nm,0.9s
DAWY Dawson 74.05 337 P P 11 51 27.8 +0.3
baz=115,SNR=12
EPYK Eagle Plains 74.09 339 P P 11 51 28.2 +0.5
EPYK IAmb IAmb 11 51 29.3
comp=Z,11nm,0.9s
EPYK Eagle Plains 74.09 339 P P 11 51 28.3 +0.6
baz=118,SNR=7.0
BGLC Bering Glacier 74.20 332 P P 11 51 29.2 +0.9
baz=111
F30M Barrier River 74.38 341 IAmb IAmb 11 51 30.8
comp=Z,20nm,0.9s
F30M Barrier River 74.38 341 P P 11 51 29.8 +0.5
baz=120,SNR=14
M27K Edge Creek, AK 74.39 334 IAmb IAmb 11 51 46.9
comp=Z,30nm,1.5s
M27K Edge Creek, AK 74.39 334 P P 11 51 30.6 +1.0
baz=112
H29M Whitestone 74.61 339 P P 11 51 31.5 +0.8
baz=117,SNR=16
BCAR Beaver Creek A 74.62 335 P P 11 51 32.1 +1.2
MDT Midelt 74.63 57 LR LR 12 24 43.6
comp=Z,46nm,18.0s,baz=344,slow=36
L27K Beaver Creek, 74.64 335 P P 11 51 32.4 +1.5
L27K Beaver Creek, 74.64 335 P P 11 51 32.0 +1.1
baz=113,SNR=32
KAIM Kayak Island 74.67 332 P P 11 51 31.2 +0.1
baz=110
G29M Pine Creek 74.81 339 IAmb IAmb 11 51 33.3
comp=Z,17nm,1.0s
G29M Pine Creek 74.81 339 P P 11 51 32.4 +0.5
baz=117,SNR=11
I28M Miner Creek 74.86 338 IAmb IAmb 11 51 35.3
comp=Z,20nm,0.9s
I28M Miner Creek 74.86 338 P P 11 51 33.0 +0.7
baz=115,SNR=28
M26K Nabesna, AK 74.89 334 P P 11 51 33.5 +1.0
M26K IAmb IAmb 11 51 42.3
comp=Z,26nm,1.3s
M26K Nabesna, AK 74.89 334 P P 11 51 33.2 +0.8
baz=112
NEEM North Greenlan 75.05 6 *i* P **P 11 51 33.8 +0.4**
NEEM IAmb IAmb 11 51 34.6
comp=Z,52nm,0.9s
BMRM Bremner River 75.11 333 P P 11 51 34.4 +0.7
baz=110
K27K Chicken 75.12 336 P P 11 51 35.2 +1.6
K27K IAmb IAmb 11 51 36.0
comp=Z,13nm,0.9s
K27K Chicken 75.12 336 P P 11 51 34.7 +1.0
baz=113
L26K Log Cabin Wild 75.27 335 IAmb IAmb 11 51 36.5
comp=Z,16nm,0.8s
L26K Log Cabin Wild 75.27 335 P P 11 51 35.6 +1.0
baz=111,SNR=15
N25K Chitina, Valde 75.32 333 P P 11 51 35.6 +0.7
baz=110
E29M Blow River 75.45 341 IAmb IAmb 11 51 36.7
comp=Z,15nm,1.0s
E29M Blow River 75.45 341 P P 11 51 35.9 +0.4
baz=118,SNR=17
EYAK Cordova Ski Ar 75.50 332 P P 11 51 35.9 +0.1
baz=108
I27K Kandik River 75.56 338 P P 11 51 36.8 +0.6
baz=114,SNR=15
SCO Scoresbysund 75.76 17 *i* P **P 11 51 37.3 +0.1**
SCO IAmb IAmb 11 51 38.5
comp=Z,6.1nm,1.1s
H27K Steamboat Moun 75.78 338 IAmb IAmb 11 51 46.9
comp=Z,9.3nm,1.1s
H27K Steamboat Moun 75.78 338 P P 11 51 37.8 +0.4
baz=114,SNR=11
DOT Dot Lake 75.80 335 P P 11 51 38.7 +1.1
ESDC Sonseca Array 75.88 50 P P 11 51 38.2 -0.4
comp=Z,1.8nm,0.8s,baz=259,slow=5.5,SNR=6.5
ESDC LR LR 12 24 37.0
comp=Z,32nm,18.3s,baz=254,slow=35
comp=Z,1.8nm,0.8s
KLU Klutina 75.88 333 IAmb IAmb 11 51 41.6
comp=Z,18nm,1.0s
KLU Klutina 75.88 333 P P 11 51 39.0 +0.8
baz=108
SCRK Sand Creek 75.88 336 IAmb IAmb 11 51 39.9
comp=Z,14nm,0.9s
SCRK Sand Creek 75.88 336 P P 11 51 38.9 +0.7
baz=111,SNR=16
J26L Joseph Creek 75.90 336 P P 11 51 39.0 +0.7
baz=111,SNR=14
I26K Coal Creek Min 76.04 337 P P 11 51 39.1 +0.3
baz=112
G27K Doyon Strip 76.06 339 P P 11 51 39.0 0.0
G27K Doyon Strip 76.06 339 P P 11 51 38.9 -0.2
baz=114,SNR=9.0
E28M Babbage River 76.09 341 P P 11 51 39.0 -0.1
E28M IAmb IAmb 11 51 39.8
comp=Z,9.6nm,0.8s
E28M Babbage River 76.09 341 P P 11 51 38.8 -0.4
baz=116
P23K Montague Islan 76.12 331 P P 11 51 40.0 +0.6
baz=107
RIDG Independent Ri 76.15 335 P P 11 51 40.0 +0.3
baz=110,SNR=9.3
D28M Stokes Point 76.16 342 P P 11 51 39.6 +0.2
baz=117,SNR=14
PAX Paxson 76.16 334 IAmb IAmb 11 51 41.0
comp=Z,18nm,1.1s
PAX Paxson 76.16 334 P P 11 51 39.8 +0.1
baz=109,SNR=7.0
M24K Tolsona, Glenn 76.19 333 P P 11 51 40.5 +0.6
baz=108
K24K Donnelly Dome 76.57 335 P P 11 51 42.1 +0.1
baz=105
E27K Coleen River 76.60 340 IAmb IAmb 11 51 43.2
comp=Z,8.7nm,0.9s
E27K Coleen River 76.60 340 P P 11 51 42.2 +0.1
baz=114,SNR=11
SCM Sheep Creek Mo 76.62 333 P P 11 51 42.7 +0.3
baz=107
J25K Salcha River, 76.67 336 P P 11 51 43.0 +0.4
J25K IAmb IAmb 11 51 44.1
comp=Z,15nm,1.0s
J25K Salcha River, 76.67 336 P P 11 51 42.7 +0.2
baz=110,SNR=16
M23K Glacier View 76.79 333 P P 11 51 43.6 +0.3
baz=107,SNR=5.5
PWL Port Wells 76.81 332 P P 11 51 43.1 -0.2
baz=106
D27M Malcolm River 76.83 341 P P 11 51 43.9 +0.4
D27M Malcolm River 76.83 341 P P 11 51 43.4 0.0
baz=115
G26K Porcupine Rive 76.89 339 P P 11 51 44.0 +0.3
G26K IAmb IAmb 11 51 44.7
comp=Z,7.3nm,0.8s
G26K Porcupine Rive 76.89 339 P P 11 51 43.8 +0.1
baz=112
KNK Knik Glacier 77.02 332 P P 11 51 44.9 +0.4
baz=106
PRP Porcupine Dome 77.04 337 P P 11 51 44.8 0.0
baz=110
SML Sawmill 77.07 333 P P 11 51 45.2 +0.3
baz=106
SEW Seward 77.14 331 P P 11 51 45.9 +0.7
baz=105
HDA Harding Lake 77.25 336 P P 11 51 46.0 +0.3
HDA Harding Lake 77.25 336 P P 11 51 45.8 0.0
baz=108,SNR=17
F26K Sheenjek River 77.30 339 P P 11 51 46.8 +0.8
F26K IAmb IAmb 11 51 47.6
comp=Z,8.1nm,0.9s
F26K Sheenjek River 77.30 339 P P 11 51 46.4 +0.4
baz=112,SNR=12
GHO Glory Hole Cre 77.33 333 P P 11 51 46.9 +0.5
IL31 77.34 336 P P 11 51 46.4 +0.2
IL31 IAmb IAmb 11 51 47.2
comp=Z,12nm,1.1s
ILAR Eielson Array 77.34 336 P P 11 51 46.1 -0.2
ILAR Eielson Array 77.34 336 P P 11 51 46.4 +0.1
comp=Z,5.2nm,0.9s,baz=108,slow=4.4,SNR=44
ILAR LR LR 12 28 14.0
comp=Z,104nm,20.3s,baz=94,slow=38
comp=Z,5.2nm,0.9s
BMAR Burnt Mountain 77.35 339 P P 11 51 46.9 +0.6
PMR Palmer 77.38 333 P P 11 51 46.6 +0.2
baz=106
H25L Birch Creek 77.41 338 P P 11 51 47.3 +0.7
baz=110,SNR=15
RC01 Rabbit Creek A 77.53 332 P P 11 51 47.6 +0.2
baz=105
SLKM Skilak Lake 77.61 331 IAmb IAmb 11 51 49.4
comp=Z,16nm,0.9s
POKR Poker Plat Res 77.67 336 P P 11 51 48.3 +0.2
baz=108
BRSE Bradley Lake S 77.67 330 P P 11 51 48.4 +0.1
baz=104
G25K Bearman Lake 77.68 338 P P 11 51 49.0 +0.9
baz=110,SNR=10
COLA College 77.76 336 P P 11 51 48.8 +0.2
baz=108
F25K Christian Rive 77.80 339 P P 11 51 49.4 +0.5
baz=110,SNR=9.9
C27K Jago River 77.88 341 P P 11 51 49.8 +0.6
M22K Willow 77.88 333 P P 11 51 49.1 -0.1
baz=105,SNR=5.1
MCK McKinley 77.88 335 P P 11 51 49.8 +0.5
MCK IAmb IAmb 11 51 50.6
comp=Z,15nm,1.0s
MCK McKinley 77.88 335 P P 11 51 49.5 +0.2
baz=106,SNR=7.3
E25K Arctic Village 77.95 339 IAmb IAmb 11 51 51.5
comp=Z,13nm,1.1s
E25K Arctic Village 77.95 339 P P 11 51 50.3 +0.6
baz=110,SNR=11
H24K Noodor Dome 78.06 337 IAmb IAmb 11 51 51.8
comp=Z,11nm,1.1s
H24K Noodor Dome 78.06 337 P P 11 51 50.7 +0.3
baz=108,SNR=9.2
SUA Susitna One 78.09 332 P P 11 51 51.0 +0.3
baz=104,SNR=5.9
CUT Chulitna 78.11 333 P P 11 51 50.8 +0.2
baz=105
CAPN Captain Cook N 78.12 331 P P 11 51 51.7 +1.1
baz=104
DBG Daneborg 78.14 14 *i* P **P 11 51 46.0 -4.5**
DBG IAmb IAmb 11 51 47.1
comp=Z,2.6nm,0.9s
KDAK Kodiak Island 78.17 328 LR LR 12 26 57.9
comp=Z,68nm,20.9s,baz=307,slow=36
KDAK Kodiak Island 78.17 328 P P 11 51 52.1 +1.1
baz=102
G24K Hadweenzic Riv 78.18 338 IAmb IAmb 11 51 52.7
comp=Z,11nm,0.8s
G24K Hadweenzic Riv 78.18 338 P P 11 51 51.2 +0.3
baz=108,SNR=8.8
NEA2 Nenana 78.18 335 P P 11 51 51.2 +0.3
NEA2 IAmb IAmb 11 51 52.0
comp=Z,18nm,1.0s
NEA2 Nenana 78.18 335 P P 11 51 51.0 +0.1
baz=106,SNR=15
C26K Camden Bay 78.37 341 P P 11 51 52.4 +0.5
baz=111
TRF Thorofare Moun 78.39 334 P P 11 51 52.6 +0.3
TRF IAmb IAmb 11 51 53.3
comp=Z,9.3nm,0.9s
TRF Thorofare Moun 78.39 334 P P 11 51 52.2 -0.1
baz=105,SNR=5.9
OHAK Old Harbor 78.44 328 P P 11 51 52.6 +0.2
baz=101
I23K Minto, Yukon-K 78.45 336 IAmb IAmb 11 51 53.8
comp=Z,12nm,1.0s
I23K Minto, Yukon-K 78.45 336 P P 11 51 52.7 +0.3
baz=106,SNR=9.1
SKT Skwentna 78.58 333 P P 11 51 53.3 +0.1
baz=104,SNR=10
F24K Squaw Lake 78.58 338 IAmb IAmb 11 51 55.0
comp=Z,7.8nm,0.8s
F24K Squaw Lake 78.58 338 P P 11 51 53.8 +0.7
baz=108,SNR=8.8
STLK Strandline Lak 78.61 332 IAmb IAmb 11 52 02.6
comp=Z,14nm,1.2s
D25K Kavik River 78.64 340 P P 11 51 54.1 +0.6
D25K IAmb IAmb 11 51 54.8
comp=Z,18nm,0.9s
D25K Kavik River 78.64 340 P P 11 51 53.8 +0.3
baz=110
KTH Kantishna Hill 78.69 334 IAmb IAmb 11 52 03.3
comp=Z,16nm,1.0s
EKA Eskdalemuir Ar 78.69 34 P P 11 51 54.0 0.0
comp=Z,1.9nm,0.7s,baz=251,slow=3.5,SNR=6.0
comp=Z,1.9nm,0.7s
H23K Yukon River 78.72 337 P P 11 51 54.2 +0.2
baz=106
SPCR Spurr Chakacha 78.72 332 P P 11 51 54.0 0.0
baz=103,SNR=5.2
SII Sitkinak Islan 78.80 327 P P 11 51 54.2 -0.4
baz=100
BPAW Bear Paw Mtn. 78.85 335 P P 11 51 54.3 -0.4
baz=104,SNR=13
ILSW Iliamna Southw 78.91 330 P P 11 51 55.2 0.0
ILSW IAmb IAmb 11 52 04.0
comp=Z,19nm,1.0s
Q19K Cape Douglas, 78.95 329 P P 11 51 55.0 -0.4
baz=101
E24K Your Creek 78.97 339 P P 11 51 56.0 +0.6
baz=108
PPLA Purkeypile 79.09 333 P P 11 51 56.4 +0.2
PPLA IAmb IAmb 11 51 57.0
comp=Z,18nm,0.9s
PPLA Purkeypile 79.09 333 P P 11 51 56.1 -0.1
baz=103,SNR=6.3
R18K Karluk 79.12 328 P P 11 51 56.3 +0.1
baz=100
G23K Bananza Creek 79.15 337 P P 11 51 56.8 +0.5
baz=106,SNR=8.0
CAST Castle Rocks 79.16 334 IAmb IAmb 11 51 57.0
comp=Z,12nm,0.9s
CAST Castle Rocks 79.16 334 P P 11 51 55.7 -0.8
baz=103,SNR=14
M20K Styx River 79.30 332 IAmb IAmb 11 51 58.0
comp=Z,12nm,0.9s
M20K Styx River 79.30 332 P P 11 51 57.1 -0.2
baz=102
COLD Coldfoot 79.36 338 IAmb IAmb 11 51 59.4
comp=Z,10nm,1.0s
COLD Coldfoot 79.36 338 P P 11 51 57.8 +0.5
baz=106,SNR=12
CHUM Lake Minchumin 79.37 334 P P 11 51 57.1 -0.4
baz=103
E23K Chandalar 79.37 339 P P 11 51 58.3 +0.7
E23K IAmb IAmb 11 51 59.2
comp=Z,15nm,1.4s
E23K Chandalar 79.37 339 P P 11 51 57.7 +0.2
baz=106,SNR=12
D24K Happy Valley 79.42 340 P P 11 51 57.9 +0.2
baz=107
H22K Ishtalitna Cre 79.46 337 P P 11 51 57.7 -0.3
baz=104
TOLK Toolik Lake Re 79.52 339 P P 11 51 58.1 -0.2
baz=107
O19K Port Alsworth 79.53 331 P P 11 51 58.1 -0.2
O19K IAmb IAmb 11 51 58.7
comp=Z,10nm,0.9s
O19K Port Alsworth 79.53 331 P P 11 51 57.8 -0.6
baz=101
I21K Tanana 79.53 336 P P 11 51 58.0 -0.4
baz=104
C24K Franklin Bluff 79.55 341 P P 11 51 58.6 +0.3
baz=108,SNR=24
Q18K Katmai Hardscr 79.60 329 P P 11 51 58.7 -0.3
baz=100
N19K Bonanza Creek 79.72 331 P P 11 51 59.1 -0.5
baz=101
L20K Farewell, AK 79.76 333 P P 11 51 59.2 -0.5
baz=102,SNR=12
G22K Bettles 79.77 338 P P 11 52 00.2 +0.6
baz=104
P18K Big Mountain, 79.84 330 P P 11 51 59.5 -0.7
baz=100
TORD Torodi Ar. Bea 79.86 77 P P 11 52 00.6 -0.6
TORD Torodi Ar. Bea 79.86 77 LR LR 12 27 31.6
comp=Z,121nm,19.8s,baz=262,slow=36
M19K Big River Lodg 79.88 332 P P 11 52 00.2 -0.1
baz=101
O18K Koktuh Hills 79.91 330 IAmb IAmb 11 52 09.2
comp=Z,16nm,1.1s
O18K Koktuh Hills 79.91 330 P P 11 52 00.2 -0.4
baz=100
H21K Melozitna Rive 79.98 336 P P 11 52 00.4 -0.4
baz=103
Q17K Contact Creek 79.99 328 P P 11 52 00.7 -0.4
baz=99,SNR=6.0
D23K Nanushuk River 80.00 340 IAmb IAmb 11 52 02.7
comp=Z,11nm,1.1s
D23K Nanushuk River 80.00 340 P P 11 52 01.2 +0.4
baz=106,SNR=8.1
K20K Telida 80.02 334 IAmb IAmb 11 52 01.7
comp=Z,13nm,1.1s
K20K Telida 80.02 334 P P 11 52 00.7 -0.4
baz=102
L19K White Mountain 80.15 332 P P 11 52 01.7 -0.1
L19K White Mountain 80.15 332 P P 11 52 01.4 -0.5
baz=101
F22K John River 80.17 338 P P 11 52 02.2 +0.3
baz=104
E22K Anaktuvuk Pass 80.19 339 P P 11 52 01.9 -0.1
baz=104,SNR=6.6
C23K Itkillik River 80.22 340 IAmb IAmb 11 52 03.4
comp=Z,16nm,0.8s
C23K Itkillik River 80.22 340 P P 11 52 02.2 +0.3
baz=106,SNR=12
J20K Nowinta River 80.22 335 P P 11 52 02.0 -0.1
J20K Nowinta River 80.22 335 P P 11 52 01.6 -0.5
baz=102,SNR=7.2
N18K Kilae Creek 80.38 331 IAmb IAmb 11 52 11.9
comp=Z,12nm,1.1s
N18K Kilae Creek 80.38 331 P P 11 52 02.7 -0.3
baz=99
P17K Kvichak River 80.42 329 P P 11 52 03.1 -0.1
baz=99
G21K Allakaket 80.45 337 IAmb IAmb 11 52 04.6
comp=Z,9.1nm,0.8s
G21K Allakaket 80.45 337 P P 11 52 03.5 +0.2
baz=102
Q16K King Salmon 80.45 329 P P 11 52 03.1 -0.3
baz=98
M18K Stony River 80.48 332 P P 11 52 03.0 -0.5
baz=100,SNR=6.4
F21K Alatna River 80.59 338 IAmb IAmb 11 52 05.6
comp=Z,9.4nm,0.9s
F21K Alatna River 80.59 338 P P 11 52 04.2 +0.1
baz=103,SNR=7.7
D22K Ayikyak River 80.68 339 P P 11 52 04.6 +0.1
baz=104
H20K Anotleneega Mo 80.79 336 P P 11 52 05.1 -0.1
baz=101
TTA Tatalina 80.81 333 P P 11 52 05.0 -0.4
baz=100,SNR=5.4
J19K Poorman 80.82 334 P P 11 52 05.4 +0.1
baz=100
O17K Koliganek Bris 80.83 330 P P 11 52 05.3 -0.2
baz=98,SNR=5.6
N17K Nushagak Hills 80.99 331 P P 11 52 06.2 -0.1
baz=98
L18K Granite Mounta 81.00 332 IAmb IAmb 11 52 29.1
comp=Z,16nm,1.4s
L18K Granite Mounta 81.00 332 P P 11 52 06.4 0.0
baz=99
E21K Killik River 81.04 339 P P 11 52 06.7 +0.2
E21K Killik River 81.04 339 P P 11 52 06.3 -0.2
baz=102
P16K Nushagak River 81.19 329 P P 11 52 07.3 0.0
baz=97
J18K Innoko River 81.21 334 P P 11 52 07.3 -0.2

baz=99
M17K Holitna River 81.23 331 P **P** **11 52 07.5 -0.1**
baz=98
B22K Teshekpuk Lake 81.27 341 P **P** **11 52 07.6 0.0**
baz=103,SNR=19
O16K Kokwok River B 81.31 330 P **P** **11 52 07.8 -0.2**
baz=97
F20K Avaraart Lake 81.42 337 P **P** **11 52 08.6 +0.1**
baz=100
H19K Roundabout Mou 81.44 336 IAmb IAmb 11 52 25.1
comp=Z,17nm,1.4s
H19K Roundabout Mou 81.44 336 P **P** **11 52 08.8 +0.2**
baz=100
C21K Knifeblade Rid 81.48 339 P **P** **11 52 09.1 +0.3**
baz=102
GCSA Galena City Sc 81.49 335 P **P** **11 52 09.1 +0.3**
baz=99
B21K Ikpikpuk River 81.52 340 IAmb IAmb 11 52 10.0
comp=Z,12nm,0.9s
B21K Ikpikpuk River 81.52 340 P **P** **11 52 09.0 +0.1**
baz=102
L17K Donlin 81.74 332 P **P** **11 52 10.4 +0.2**
baz=98
G19K Purcell Mounta 81.80 336 P **P** **11 52 10.6 +0.1**
baz=99
E20K Nigu River 81.81 338 P **P** **11 52 10.7 +0.1**
baz=100
K17K Iditarod 81.82 333 IAmb IAmb 11 52 11.7
comp=Z,10nm,1.0s
K17K Iditarod 81.82 333 P **P** **11 52 10.6 0.0**
baz=98
M16K Timber Creek 81.92 331 P **P** **11 52 11.7 +0.5**
baz=97
A22K Sinclair Lake 81.92 341 P **P** **11 52 11.2 +0.2**
baz=102
D20K Etivluk River 82.05 339 IAmb IAmb 11 52 13.2
comp=Z,7.8nm,0.9s
D20K Etivluk River 82.05 339 P **P** **11 52 11.9 +0.1**
baz=100
E19K Redstone River 82.06 338 P **P** **11 52 12.0 +0.1**
E19K Redstone River 82.06 338 P **P** **11 52 11.6 -0.3**
baz=99
SDPT Sand Point 82.15 325 P **P** **11 52 13.2 +0.7**
SDPT Sand Point 82.15 325 P **P** **11 52 12.9 +0.4**
baz=95
H18K Honhosa River 82.17 335 P **P** **11 52 12.8 +0.3**
baz=98
F19K Shaleruckik Mo 82.18 337 P **P** **11 52 12.4 0.0**
baz=99
L16K Owhat River 82.24 332 IAmb IAmb 11 52 14.7
comp=Z,14nm,1.1s
L16K Owhat River 82.24 332 P **P** **11 52 13.3 +0.4**
baz=96,SNR=8.3
J17K VABM Dome 82.25 333 P **P** **11 52 13.5 +0.5**
baz=97
NOR Nord 82.29 8 *i* P **P** **11 52 12.6 -0.2**
NOR IAmb IAmb 11 52 13.7
comp=Z,9.1nm,1.2s
G18K Tagagawik 82.39 336 IAmb IAmb 11 52 15.1
comp=Z,6.9nm,0.9s
G18K Tagagawik 82.39 336 P **P** **11 52 14.1 +0.5**
baz=98,SNR=6.5
B20K Meade River 82.46 340 IAmb IAmb 11 52 15.2
comp=Z,8.1nm,0.9s
B20K Meade River 82.46 340 P **P** **11 52 14.2 +0.3**
baz=100
A21K Barrow 82.51 341 P **P** **11 52 14.1 0.0**
baz=100,SNR=6.3
D19K Kuna River 82.55 339 P **P** **11 52 15.0 +0.5**
D19K IAmb IAmb 11 52 15.3
comp=Z,7.7nm,1.1s
D19K Kuna River 82.55 339 P **P** **11 52 14.8 +0.3**
baz=98
M15K Kasigluk River 82.72 331 P **P** **11 52 15.6 +0.2**
baz=95
H17K Granite Mounta 82.80 335 P **P** **11 52 16.1 +0.3**
baz=96
F18K Selawik 82.88 337 P **P** **11 52 16.4 +0.2**
baz=97
J16K Anvik River 82.93 333 P **P** **11 52 17.3 +0.9**
baz=96
RAR Rarotonga 83.01 248 LR LR 12 20 33.0
comp=Z,101nm,19.9s,baz=112,slow=29
I17K Unalakleet 83.03 334 P **P** **11 52 17.8 +0.9**
baz=96
N14K Kuskokwak Cree 83.16 330 P **P** **11 52 18.1 +0.4**
baz=94
G17K Kiwalik Mounta 83.17 335 P **P** **11 52 18.3 +0.6**
baz=96
L15K Ungalak Mounta 83.19 332 P **P** **11 52 18.4 +0.6**
baz=95
K15K Wolf Creek Mou 83.26 332 IAmb IAmb 11 52 20.1
comp=Z,7.2nm,0.9s
K15K Wolf Creek Mou 83.26 332 P **P** **11 52 19.0 +0.8**
baz=95
E18K Tukpahlearik C 83.35 337 P **P** **11 52 18.4 -0.1**
baz=96
M14K Bethel 83.35 331 P **P** **11 52 19.0 +0.4**
baz=94
F17K Baldwin Pennin 83.50 336 P **P** **11 52 19.6 +0.3**
baz=95
C18K Utukok River 83.70 339 P **P** **11 52 20.2 -0.2**
baz=96
L14K Kuka Creek 83.74 331 P **P** **11 52 20.9 +0.2**
baz=94
H16K Elim 83.76 335 P **P** **11 52 21.1 +0.4**
baz=94
E17K Hotham Inlet 83.79 337 P **P** **11 52 21.2 +0.4**
baz=95,SNR=13
A19K Wainwright 83.81 340 P **P** **11 52 21.1 +0.3**
baz=96
G16K Koyuk River 83.87 335 P **P** **11 52 21.7 +0.5**
baz=94
B18K Kokolik River 83.98 339 P **P** **11 52 22.4 +0.7**
baz=95
M13K Dall Lake 84.02 330 P **P** **11 52 23.1 +1.0**
baz=93
J14K Nanvaranak Lak 84.23 333 P **P** **11 52 24.0 +0.9**
baz=93
D17K Noatak River 84.32 338 P **P** **11 52 23.7 +0.2**
baz=94
G15K Niukluk 84.55 335 P **P** **11 52 24.9 +0.1**
baz=93
K13K Kusilvak Mount 84.71 332 P **P** **11 52 26.0 +0.4**
baz=92
BELA Belgrano 2 85.03 172 P **P** **11 52 26.4 -0.5**
ANM Nome 85.11 334 P **P** **11 52 27.7 +0.2**
baz=91
C16K Lisburne Hills 85.20 338 P **P** **11 52 28.3 +0.4**
C16K IAmb IAmb 11 52 29.2
comp=Z,8.8nm,0.9s
C16K Lisburne Hills 85.20 338 P **P** **11 52 28.5 +0.5**
baz=92,SNR=9.9
KEST Kesra 86.26 55 P **P** **11 52 34.0 0.0**
comp=Z,5.3nm,1.0s,baz=309,slow=8.6,SNR=3.6
KEST LR LR 12 30 53.0
comp=Z,36nm,18.9s,baz=287,slow=36
comp=Z,5.3nm,1.0s
DAVA Damuels 86.30 43 *i* P **P** **11 52 35.2 +1.1**
comp=Z,8.9nm,0.9s
FUORN Ofenpass-Fuorn 86.58 44 P **P** **11 52 36.4 +0.8**
NB2 NORSAR Subarra 86.67 29 P **P** **11 52 35.8 +0.4**
comp=Z,13nm,1.2s,baz=269,slow=4.6
NB2 NORSAR Subarra 86.67 29 P **P** **11 52 35.8 +0.4**
baz=269,slow=4.6
NOA NORSAR Array B 86.67 29 P **P** **11 52 36.2 +0.8**
comp=Z,2.4nm,0.9s,baz=269,slow=4.6,SNR=5.8
comp=Z,2.4nm,0.9s
FETA Feichten 86.89 43 *i* P **P** **11 52 37.9 +1.0**
comp=Z,3.2nm,0.8s
VNA3 Neumayer Olymp 86.99 162 ⇑P **P** **11 52 37.6 +0.9**
comp=Z,11nm,0.8s
SQTA Sankt Quirin 87.20 43 *i* P **P** **11 52 39.3 +0.9**
comp=Z,3.1nm,0.5s
SPITS Spitsbergen Ar 87.34 12 LR LR 12 34 03.2
comp=Z,43nm,18.7s,baz=212,slow=37
WTTA Wattenberg 87.49 43 *i* P **P** **11 52 40.5 +0.6**
comp=Z,3.8nm,0.6s
CTI Castel Tesino 87.56 44 P **P** **11 52 40.7 +0.5**
CTI IAmb IAmb 11 52 41.4
comp=Z,7.6nm,1.0s
VNA2 Neumayer--Watz 87.58 162 ⇑P **P** **11 52 40.4 +0.8**
comp=Z,7.1nm,0.7s,baz=300,slow=4.3
HFS Hagfors 87.94 30 P **P** **11 52 41.2 -0.3**
comp=Z,5.2nm,1.0s,baz=251,slow=9.0,SNR=3.6
HFS LR LR 12 27 32.4
comp=Z,26nm,20.3s,baz=345,slow=33
comp=Z,5.2nm,1.0s

CIMO Cimolais 88.10 44 P **P** **11 52 42.9 +0.2**
CIMO IAmb IAmb 11 52 54.1
comp=Z,7.0nm,0.9s
ABTA Abfaltersbach 88.12 43 *i* P **P** **11 52 43.6 +0.8**
comp=Z,6.9nm,1.2s
LESA Schwarzleotal 88.19 43 *i* P **P** **11 52 43.9 +0.8**
comp=Z,5.7nm,0.9s
KBA Koelnbreinsper 88.67 43 *i* P **P** **11 52 46.3 +0.8**
comp=Z,4.6nm,1.1s
GERES GERESS Array B 88.78 41 P **P** **11 52 45.7 -0.1**
comp=Z,0.4nm,0.4s,baz=336,slow=2.9,SNR=5.7
comp=Z,0.4nm,0.4s
SNAA Sanae 89.20 162 P **P** **11 52 47.9 +0.6**
SNAA IAmb IAmb 11 52 57.3
comp=Z,5.9nm,1.0s
SNAA Sanae 89.20 162 ⇑P **P** **11 52 48.2 +0.9**
comp=Z,106nm,0.6s
SNAA Sanae 89.20 162 P **P** **11 52 47.1 -0.2**
comp=Z,3.8nm,0.6s,baz=268,slow=6.3,SNR=22
SNAA LR LR 12 31 24.0
comp=Z,88nm,21.6s,baz=84,slow=35
comp=Z,3.8nm,0.6s
VRAC Vranov 90.62 41 LR LR 12 33 32.0
comp=Z,37nm,18.1s,baz=258,slow=36
TROLL Troll, Antarti 90.92 162 ⇑P **P** **11 52 56.7 +1.3**
comp=Z,390nm,0.6s
ARCES ARCESS Array B 91.40 20 P **P** **11 52 57.4 -0.2**
comp=Z,2.2nm,0.8s,baz=300,slow=3.6,SNR=5.5
ARCES LR LR 12 31 53.7
comp=Z,18nm,18.1s,baz=282,slow=34
comp=Z,2.2nm,0.8s
QSPA South Pole Qui 93.85 180 P **P** **11 53 09.7 +0.7**
QSPA South Pole Qui 93.85 180 P **P** **11 53 09.7 +0.7**
comp=Z,5.9nm,1.0s,baz=188,slow=1.8,SNR=9.7
comp=Z,5.9nm,1.0s
TSUM Tsumeb 97.24 109 LR LR 12 35 29.3
comp=Z,200nm,18.8s,baz=327,slow=34
SHEM Shemya Is, Ala 97.25 324 LR LR 12 36 08.2
comp=Z,22nm,21.1s,baz=114,slow=35
AKASG Malin Array Be 98.33 38 LR LR 12 38 00.6
comp=Z,32nm,19.1s,baz=276,slow=36
SYO Syowa Base 103.45 161⇑*es*Pdiff **Pdif** **11 53 56.3 +4.4**
DZM Mont Dzumac 114.38 248 *e*LR LR 12 32 50.4
comp=Z,83nm,23.5s
ZALV Zalesovo Beam 120.82 11 PKP **PKPdf** **11 58 43.6 -0.4**
comp=Z,1.7nm,0.8s,baz=304,slow=2.9,SNR=7.5
KURK Kurchatov 122.30 17 PKPdf **PKPdf** **11 58 47.3 +0.3**
KURBB Kurchatov Arra 122.36 17 PKP **PKPdf** **11 58 47.1 0.0**
comp=Z,2.9nm,0.2s,baz=328,slow=2.3,SNR=8.5
USRK Ussuriysk Ar. 124.80 333 PKP **PKiKP** **11 58 53.0 +0.7**
comp=Z,2.9nm,0.7s,baz=66,slow=9.0,SNR=6.1
MKAR Makanchi Array 126.89 16 PKPdf **PKPdf** **11 58 55.3 -0.7**
MKAR Makanchi Array 126.89 16 PKP **PKPdf** **11 58 55.4 -0.6**
comp=Z,1.4nm,0.7s,baz=350,slow=2.8,SNR=5.9
AAK Ala-Archa 127.80 25 **PKPdf** **11 58 58.9 +0.9**
AAK Ala-Archa 127.80 25 PKP **PKPdf** **11 58 58.0 -0.1**
comp=Z,1.4nm,0.7s,baz=6.2,slow=3.1,SNR=4.6
SIMJ Simiganj 128.29 32 PKPdf **PKPdf** **11 58 59.7 +0.6**
SONM Songino Array 128.36 356 PKPdf **PKPdf** **11 58 59.1 +0.2**
SONM Songino Array 128.36 356 PKP **PKPdf** **11 58 58.8 -0.1**
comp=Z,1.9nm,0.7s,baz=31,slow=0.4,SNR=9.2
GAR Garm 128.72 31 **PKPdf** **11 59 00.6 +0.8**
WMQ Urumqi 131.03 13 *e*PKP **PKPdf** **11 59 04.8 +0.8**
STKA Stephens Creek 132.97 229 PKP **PKPdf** **11 59 07.8 -0.1**
comp=Z,4.1nm,0.7s,baz=310,slow=2.8,SNR=7.1
HHC Hu-ho-hao-te 134.55 349 *e*P **PKPdf** **11 59 07.3 -3.5**
NJ2 Nanjing 140.58 336 *e*P **PKPdf** **11 59 22.5 +0.5**
NJ2 pmax pmax
comp=Z,12nm,0.7s
XAN Xi'an 141.65 350 PKP **PKPdf** **11 59 19.9 -4.0**
ASAR Alice Springs 142.80 235 PKhKP PKPpre 11 59 21.7
comp=Z,8.2nm,0.8s,baz=118,slow=3.9,SNR=75
WB2 Warramunga Arr 143.97 241 PKPdf **PKPab** **11 59 26.3 +0.7**
WRAB Tennant Creek 143.97 241 PKPdf **PKPab** **11 59 26.2 +0.6**
WRA Warramunga Arr 143.98 241 PKPdf **PKPab** **11 59 26.5 +0.9**
WRA Warramunga Arr 143.98 241 PKP **PKPab** **11 59 25.9 +0.2**
comp=Z,46nm,0.8s,baz=111,slow=3.2,SNR=250
CD2 Chengdu 145.38 356 PKPbc **PKPbc** **11 59 30.5 +0.1**
FAKI Fak Fak 149.03 271 PKPbc **PKPbc** **11 59 41.0 -0.1**
MTN Manton Dam 149.12 251 **PKPbc** **11 59 41.1 -0.2**
HYB Hyderabad 149.23 46 *e*PKPbc **PKPbc** **11 59 42.0 +0.4**
SHL Shillong 149.41 17 **PKPbc** **11 59 41.5 -0.5**
PZH PanZhiHua 149.85 359 PKPbc **PKPdf** **11 59 37.5 -0.7**
KNRA Kununurra 150.47 245 **PKPbc** **11 59 44.5 -0.1**
FITZ Fitzroy Crossi 152.21 237 **PKPbc** **11 59 48.3 -0.2**
CHTO Chiang Mai 157.39 6 PKPdf **PKPdf** **11 59 47.4 -1.6**
CHTO PKPab **PKPab** **12 00 18.9 -1.1**
CMAR Chiang Mai Arr 157.74 6 PKPdf **PKPdf** **11 59 48.0 -1.5**
CMAR **PKPab** **12 00 21.0 -0.6**
CMAR Chiang Mai Arr 157.74 6 PKP **PKPdf** **11 59 48.3 -1.1**
comp=Z,1.0nm,0.7s,baz=290,slow=2.5,SNR=9.3
CMAR PKPab **PKPab** **12 00 20.7 -0.9**
comp=Z,2.8nm,0.8s,baz=335,slow=5.4,SNR=13
CMAR PP **PP** **12 03 58.5 -0.6**
comp=Z,0.4nm,0.3s,baz=347,slow=5.2,SNR=4.1

*ISK **09** 11:53:02.7, 38°.72N×38°.17E, h8km, ML2.3/8*
*AFAD **09** 11:53:02.6, 38°.77N×38°.18E, h7km±2km, ML2.5*
ISC 09 11:53:02.4±1.3, 38°.79N±0°.03×38°.24E±0°.04, h5km±13km, n16, σ0°67/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.23**	**293**	P	**Pg**	**11 53 07.4**	**+0.4**
HEKM				S	**Sg**	**11 53 10.9**	**+0.7**
HEKM				*i* AML	AML	11 53 11.0	
	comp=N,5μm,0.5s						
HEKM				*i* AML	AML	11 53 11.0	
	comp=E,5μm,0.4s						
ARPR	**Arapgir-MALATY**	**0.32**	**14**	Pg	**Pb**	**11 53 10.7**	**0.0**
ARPR				Sg	**Sb**	**11 53 17.2**	**+1.0**
KEMA	**Kemaliye**	**0.52**	**23**	P	**Pb**	**11 53 13.5**	**-0.6**
KEMA				S	**Sb**	**11 53 21.9**	**-0.1**
KEMA				*i* AML	AML	11 53 23.0	
	comp=E,188nm,0.3s						
AKCD	**Akcadag**	**0.55**	**207**	P	**Pg**	**11 53 12.6**	**-0.4**
AKCD				S	**Sg**	**11 53 21.2**	**+1.0**
AKCD				*i* AML	AML	11 53 23.0	
	comp=N,537nm,0.2s						
AKCD				*i* AML	AML	11 53 24.0	
	comp=E,531nm,0.2s						
DARE	**Darende-Malaty**	**0.63**	**250**	Pg	**Pg**	**11 53 13.5**	**-1.0**
DARE				Sg	**Sg**	**11 53 22.5**	**-0.2**
ELZG	**Elazig**	**0.65**	**116**	P	**Pb**	**11 53 16.2**	**-0.2**
ELZG				S	**Sb**	**11 53 26.3**	**+0.4**
ELZG				*i* AML	AML	11 53 28.0	
	comp=N,244nm,0.5s						
ELZG				*i* AML	AML	11 53 29.0	
	comp=E,319nm,0.4s						
CUGUR	**Gurin_SVAS**	**0.76**	**265**	P	**Pg**	**11 53 16.2**	**-0.7**
CUGUR				S	**Sg**	**11 53 28.1**	**+1.3**
CUGUR				*i* AML	AML	11 53 32.0	
	comp=E,521nm,0.4s						
CUGUR				*i* AML	AML	11 53 33.0	
	comp=N,464nm,0.4s						
CUKAN	**kangal_SIVAS**	**0.80**	**312**	P	**Pg**	**11 53 17.1**	**-0.7**
CUKAN				S	**Sg**	**11 53 27.9**	**-0.3**
PTK	**Pertek**	**0.91**	**83**	Pg	**Pn**	**11 53 21.4**	**-0.7**
PTK				Sg	**Sn**	**11 53 36.3**	**+0.7**
TNCL	**Tunceli-Merkez**	**1.07**	**72**	P	**Pn**	**11 53 23.5**	**-0.7**
TNCL				S	**Sn**	**11 53 40.1**	**+0.6**
TNCL				*i* AML	AML	11 53 42.0	
	comp=E,100nm,0.3s						
TNCL				*i* AML	AML	11 53 45.0	
	comp=N,69nm,0.6s						
AKCA	**Adyaman/G¶l**	**1.08**	**204**	P	**Pg**	**11 53 23.1**	**-0.1**
AKCA				S	**Sb**	**11 53 38.7**	**+0.6**
AKCA				*i* AML	AML	11 53 41.0	
	comp=E,80nm,1.4s						
AKCA				*i* AML	AML	11 53 44.0	
	comp=N,80nm,0.7s						
URFA	**Urfa**	**1.42**	**161**	Pn	**Pn**	**11 53 28.7**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.48**	**256**	Pn	**Pn**	**11 53 29.4**	**-0.4**
SVSK	**Karacayir**	**1.48**	**320**	Pn	**Pg**	**11 53 31.1**	**+0.3**
KMRS	**Kahramanmaras**	**1.66**	**220**	Pn	**Pn**	**11 53 31.7**	**-0.5**
GAZ	**Gaziantep**	**1.81**	**207**	Pn	**Pn**	**11 53 33.8**	**-0.5**

*IDC **09** 11:55:47.7±2.9, 1°.80N×99°.15E, h115km±10km, mb3.3/4, mbtmp3.7/5, Error ellipse: s-maj=116.9km s-min=19.1km az=58.0*
*DJA **09** 11:55:49.5±0.6, 2°.N±4°×9°.9E±°, h108km±11km, M3.7/11, mB4.7/1, mb3.9/1, MLv3.6/11, Mw(mB)3.9/1*
ISC 09 11:55:47.8±0.9, 1°.91N±0°.06×99°.05E±0°.08, h100km, n13, σ2°34/14, mb3.7/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.89**	**352**	P	**Pn**	**11 56 08.4**	**+1.2**
	135nm,0.3s,baz=238,slow=15,SNR=65						
PSI				LR	LR	11 56 15.4	
	comp=Z,131nm,21.0s,baz=158,slow=30						
PSI				S	**Sn**	**11 56 25.2**	**+3.4**
	33nm,0.5s,baz=41,slow=19,SNR=8.6						
MNSI	**Mandailing Nat**	**1.23**	**154**	P	**Pn**	**11 56 13.8**	**+2.9**
GSI	**Gunungsitoli**	**1.59**	**248**	P	**Pn**	**11 56 17.3**	**+2.1**
PBSI	**Pulau Batu**	**2.10**	**201**	P	**Pn**	**11 56 23.3**	**+1.6**
BKNI	**Bangkinang**	**2.54**	**128**	P	**Pn**	**11 56 30.2**	**+2.8**
SNSI	**Sinabang, Aceh**	**2.76**	**280**	P	**Pn**	**11 56 32.2**	**+1.8**
SISI	**Saibi**	**3.22**	**179**	P	**Pn**	**11 56 37.3**	**+0.8**
BSI	**Banda Aceh**	**5.17**	**314**	P	**Pn**	**11 57 03.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**16.44**	**360**	P	**P**	**11 59 33.9**	**+0.3**
	0.6nm,0.4s,baz=175,slow=11,SNR=1.6						
WRA	**Warramunga Arr**	**40.87**	**124**	P	**P**	**12 03 17.8**	**-2.5**
	0.8nm,0.3s,baz=304,slow=8.9,SNR=15						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**42.38**	**129**	P	**P**	**12 03 29.3**	**-3.3**
	0.3nm,0.5s,baz=300,slow=7.8,SNR=6.5						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**47.03**	**344**	P	**P**	**12 04 08.8**	**-0.4**
	0.3nm,0.4s,baz=164,slow=8.6,SNR=4.5						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**53.17**	**350**	P	**P**	**12 04 54.0**	**-1.3**
	0.5nm,0.3s,baz=185,slow=5.4,SNR=3.6						
	0.5nm,0.3s						

VIE 09 11:58:35.9±0.2, 46°.70N×14°.57E, h0km, ml0.6/2, Error ellipse: s-maj=2.1km s-min=1.1km az=10.0 7 km NW of Vlkermarkt Suspected Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.19**	**184**	*e*Pg	Pg	11 58 39.9	+0.4
	0.2nm,0.0s						
OBKA				*i* Sg	Sg	11 58 42.0	+0.1
	0.8nm,0.1s						
SOKA	**Soboth**	**0.32**	**93**	*i* Pg	Pg	11 58 42.0	+0.1
	0.8nm,0.1s						
SOKA				*i* Sg	Sg	11 58 46.4	+0.3
	0.3nm,0.1s						

LJU 09 11:59:22.2, 46°.05N×13°.64E, h0km, ML0.2, 1C, Explosion, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABO	**M.te Sabotino**	**0.08**	**202**	*e*Pg	Pg	11 59 23.4	-0.2
DRE	**Drenchia**	**0.12**	**0**⇑*e*Pg		Pg	11 59 24.3	-0.3
VOJS	**Vojsko**	**0.17**	**96**	*i* Pg	Pg	11 59 25.5	+0.1
VOJS				*i* Sg	Sg	11 59 29.1	+1.5
VOJS				IAML		11 59 30.0	
	comp=Z,6.7nm,0.2s						
CADS	**Cadrg**	**0.19**	**20**	*e*Pg	Pg	11 59 25.6	-0.2
CADS				*e*Sg	Sg	11 59 28.9	+0.6
CADS				IAML		11 59 31.5	
	comp=Z,5.0nm,0.2s						
COLI	**Coloredo**	**0.20**	**294**	*e*Pg	Pg	11 59 26.5	+0.4
VINO	**Villanova**	**0.32**	**309**	*e*Pg	Pg	11 59 28.8	+0.4
BAD	**Bernadia**	**0.33**	**304**	*e*Pg	Pg	11 59 28.9	+0.3

*IDC **09** 12:11:41.2±1.1, 6°.71S×153°.86E, h0km, mb3.9/9, mbtmp3.9/10, ML2.3/1, MS2.6/1, Error ellipse: s-maj=36.6km s-min=19.4km az=114.0*
ISC 09 12:11:48.1±1.0, 6°.7S±0°.2×153°.8E±0°.1, h48km, n11, σ1°06/12, mb3.9/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.10**	**248**	Pn	**Pn**	**12 13 28.3**	**-1.2**
	3.0nm,0.3s,baz=52,slow=11,SNR=12						
PMG				Sn	**Sn**	**12 14 50.4**	**+1.5**
	0.8nm,0.3s,baz=164,slow=23,SNR=1.6						
PMG				LR	LR	12 16 21.8	
	comp=Z,48nm,18.6s,baz=58,slow=39						
	34nm,0.7s						
WRA	**Warramunga Arr**	**23.01**	**233**	P	**P**	**12 16 47.2**	**-1.9**
	2.5nm,1.0s,baz=54,slow=9.9,SNR=15						
	2.5nm,1.0s						
ASAR	**Alice Springs**	**25.48**	**227**	P	**P**	**12 17 11.8**	**-0.3**
	2.9nm,0.7s,baz=60,slow=8.7,SNR=35						
	2.9nm,0.7s						
STKA	**Stephens Creek**	**27.49**	**203**	P	**P**	**12 17 30.8**	**+0.8**
	2.3nm,0.8s,baz=38,slow=11,SNR=3.4						
	2.3nm,0.8s						
KSRS	**Korea Array**	**50.17**	**333**	P	**P**	**12 20 39.1**	**+0.2**
	1.2nm,0.8s,baz=143,slow=7.0,SNR=3.4						
	1.2nm,0.8s						
SONM	**Songino Array**	**68.48**	**328**	P	**P**	**12 22 46.2**	**+0.7**
	0.5nm,0.5s,baz=140,slow=5.0,SNR=4.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**82.43**	**319**	P	**P**	**12 24 06.1**	**+0.7**
	0.4nm,0.6s,baz=105,slow=6.3,SNR=2.7						
	0.4nm,0.6s						
QSPA	**South Pole Qui**	**83.24**	**180**	P	**P**	**12 24 10.0**	**+0.7**
	1.0nm,0.8s,baz=279,slow=0.8,SNR=5.9						
	1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**83.31**	**326**	P	**P**	**12 24 09.2**	**-0.5**
	0.6nm,0.4s,baz=101,slow=7.5,SNR=2.2						
	0.6nm,0.4s						
ILAR	**Eielson Array**	**83.57**	**22**	P	**P**	**12 24 10.2**	**-0.6**
	0.3nm,0.5s,baz=247,slow=4.8,SNR=6.9						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**151.82**	**285**	PKPbc	**PKPbc**	**12 31 38.5**	**-0.2**
	166nm,0.3s,baz=46,slow=2.2,SNR=2.3						

IDC 09 12:17:35.6±999.0, 57°.99N×25°.45E, h0km, Error ellipse: s-maj=1414.0km s-min=137.6km az=95.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON 6.50**	**96**		I	I	12 56 00.0	
	0.1nm,0.7s,baz=285,slow=318,SNR=2.2						
I31KZ	**AKTYUBINSK INF 20.35**	**98**		I	I	14 22 30.0	
	baz=306,slow=328,SNR=1.0						
I46RU	**ZALESOVO INFRA32.54**	**71**		I	I	15 35 30.0	
	baz=301,slow=327,SNR=1.2						

*IDC **09** 12:29:47.0±1.1, 33°.28S×71°.96W, h0km, mb3.8/2, mbtmp3.8/3, ML4.1/1, MS3.6/2, Error ellipse: s-maj=41.4km s-min=28.5km az=94.0*
*NEIC **09** 12:29:48.5±1.7, 33°.41S±0°.03×72°.15W±0°.05, h10km±2km, mb4.4/1, Error ellipse: s-maj=6.3km s-min=4.6km az=87.0*
*SJA **09** 12:29:48.8±0.8, 33°.43S×72°.07W, h22km±2km, ML3.7, MW3.9*
*GUC **09** 12:29:51.3±0.6, 33°.43S×71°.96W, h37km±4km, ML3.9*
ISC 09 12:29:49.7±1.3, 33°.47S±0°.02×72°.03W±0°.04, h14km±8km, n95, σ1°05/123, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA05	**Santo Domingo**	**0.40**	**119**		**Pn**	**12 30 00.5**	**-0.4**
VA05				Sg	**Sn**	**12 30 07.2**	**-1.0**
VA05	**Santo Domingo**	**0.40**	**119**	*e*P	**Pn**	**12 30 00.6**	**-0.4**
VA05				*e*S	**Sn**	**12 30 07.4**	**-0.8**
VA01	**Torpederas**	**0.55**	**36**	Pg	**Pg**	**12 30 01.0**	**+0.6**
VA01				Sg	**Sg**	**12 30 08.2**	**+0.5**
VA01	**Torpederas**	**0.55**	**36**	*i* P	**Pg**	**12 30 01.1**	**+0.7**
VA01				IAML		12 30 08.7	
	comp=N,22μm,0.1s						
VA01	**Torpederas**	**0.55**	**36**	*e*P	**Pg**	**12 30 00.4**	**0.0**
VA01				*e*S	**Pg**	**12 30 01.0**	**+0.6**
VA01				IAML		12 30 08.7	
	comp=Z,5μm,0.1s						
MT01	**Popeta**	**0.76**	**122**	Pg	**Pn**	**12 30 06.1**	**+0.1**
MT01				Sg	**Sn**	**12 30 16.7**	**-0.5**
MT01	**Popeta**	**0.76**	**122**	*e*P	**Pn**	**12 30 06.0**	**+0.1**
MT01				IAML		12 30 18.9	
	comp=E,13μm,0.2s						
MT01	**Popeta**	**0.76**	**122**	*e*P	**Pn**	**12 30 05.3**	**-0.7**
MT01				IAML		12 30 19.2	
	comp=Z,3μm,0.3s						
MT02	**Curacav**	**0.78**	**75**	Pg	**Pb**	**12 30 05.2**	**+0.4**

```
MT02                                  Sg    Sb     12 30 15.5 +0.2
MT02  Curacav          0.78  75  iP          Pb     12 30 05.3 +0.4
MT02                                IAML             12 30 15.9
      comp=E,8μm,0.3s
MT02  Curacav          0.78  75  eP          Pg     12 30 04.5 -0.2
MT02                                IAML             12 30 17.8
      comp=Z,4μm,0.3s
MT09  Talagante        0.92 110  Pg          Pn     12 30 08.3  0.0
MT09                                Sg    Sn     12 30 21.2 -0.2
MT09  Talagante        0.92 110  eP          Pn     12 30 08.4 +0.1
MT09                                eS    Sn     12 30 21.8 +0.3
MT09                                IAML             12 30 22.7
      comp=N,7μm,0.1s
ROC1  El Roble         0.98  60  eP          Pb     12 29 53.2 -15
ROC1                                eS    Sg     12 30 03.3 -18
ROCH  El Roble         0.99  60  eP          Pb     12 30 08.4 -0.2
ROCH                                IAML             12 30 23.9
      comp=N,5μm,0.3s
BO03  Pichilemu        1.03 177  eP          Pn     12 30 10.6 +1.0
MT05  Renca            1.08  86              Pn     12 30 10.4  0.0
MT05  Renca            1.08  86  eP          Pn     12 30 10.6 +0.2
MT05                                eS    Sn     12 30 25.0 -0.2
MT05                                IAML             12 30 30.9
      comp=E,5μm,0.4s
MT05  Renca            1.08  86  eP          Pb     12 30 10.0 -0.2
MT05                                eS    Sn     12 30 25.4 +0.1
MT05                                IAML             12 30 27.7
      comp=Z,2μm,0.3s
PEL   Peldehue         1.17  74  Pn          Pn     12 30 11.8 +0.2
PEL   Peldehue         1.17  74  eP          Pn     12 30 11.8 +0.2
PEL                                eS    Sn     12 30 27.2 -0.2
PEL   Peldehue         1.17  74  eP          Pn     12 30 11.8 +0.2
PEL                                eS    Sn     12 30 27.9 +0.4
PEL                                IAML             12 30 30.2
      comp=Z,2μm,0.4s
BO01  Tunca            1.21 140  Pn          Pg     12 30 13.0 -0.1
BO01  Tunca            1.21 140  eP          Pg     12 30 13.0 -0.1
BO01  Tunca            1.21 140  eP          Pg     12 30 12.4 -0.7
BO01                                eS    Sn     12 30 30.4 +2.0
BO01                                IAML             12 30 33.0
      comp=Z,722nm,0.3s
MT14  Cerro Calıın     1.25  87  eP          Pg     12 30 13.5 -0.3
MT14                                eS    Sg     12 30 30.0 -0.1
MT16  CCHEN            1.26  89  Pn          Pg     12 30 13.6 -0.4
MT10  Hacienda Santa   1.26  82  eP          Pg     12 30 13.7 -0.3
MT10                                eS    Sg     12 30 30.6 +0.1
MT12  Pirque           1.27 103  eP          Pg     12 30 13.8 -0.2
MT12                                eS    Sg     12 30 30.6 +0.1
MT12                                IAML             12 30 32.1
      comp=N,5μm,0.4s
MT03  Universidad Ad   1.27  92  Pn          Pg     12 30 13.7 -0.5
MT03  Universidad Ad   1.27  92  eP          Pg     12 30 13.9 -0.3
MT03  Universidad Ad   1.27  92  eP          Pg     12 30 13.3 -0.1
MT03                                eS    Sg     12 30 32.2 +1.5
MT03                                IAML             12 30 34.3
      comp=Z,3μm,0.8s
MT15  Las Vizcachas    1.28  96  eP          Pg     12 30 13.9 -0.5
MT15                                IAML             12 30 34.3
      comp=N,3μm,0.3s
BO04  La Punta         1.29 114  Pn          Pg     12 30 14.1 -0.4
BO04  La Punta         1.29 114  eP          Pg     12 30 14.2 -0.4
VA03  San Esteban      1.43  61  Pn          Pn     12 30 15.4 +0.2
VA03  San Esteban      1.43  61  eP          Pn     12 30 15.1  0.0
VA03                                IAML             12 30 35.1
      comp=N,5μm,0.1s
VA03  San Esteban      1.43  61  eP          Pn     12 30 15.3 +0.1
VA03                                eS    Sn     12 30 33.6 -0.1
VA03                                IAML             12 30 36.0
      comp=Z,3μm,0.3s
FCH   Farellones       1.46  85  eP          Pb     12 30 16.8  0.0
FCH                                IAML             12 30 36.9
      comp=N,3μm,0.3s
MT13  San Alfonso      1.48 101  Pn          Pg     12 30 17.3 -0.9
MT13  San Alfonso      1.48 101  eP          Pg     12 30 17.3 -0.9
MT13                                eS    Sg     12 30 36.7 -0.7
MT13                                IAML             12 30 39.5
      comp=N,2μm,0.2s
MT13  San Alfonso      1.48 101  eP          Pb     12 30 16.9 -0.1
MT13                                eS    Sg     12 30 37.9 +0.4
MT13                                IAML             12 30 39.6
      comp=Z,1μm,0.5s
LMEL  Las Melosas      1.57 105  Pn          Pb     12 30 18.4 -0.1
LMEL  Las Melosas      1.57 105  eP          Pb     12 30 18.5 -0.1
LMEL                                IAML             12 30 39.2
      comp=N,2μm,0.3s
LMEL  Las Melosas      1.57 105  eP          Pn     12 30 14.0 -3.3
LMEL                                eP          Pb     12 30 17.9 -0.7
LMEL                                eS          Sg     12 30 40.1 -0.2
LMEL                                IAML             12 30 42.7
      comp=Z,1μm,0.5s
MT04  Ro Olivares      1.58  88              IAML     12 30 41.2
      comp=E,2μm,0.3s
MT04  Ro Olivares      1.58  88  eP          Pb     12 30 18.1 -0.7
MT04                                eS    Sg     12 30 39.9 -0.9
MT04                                IAML             12 30 42.2
      comp=Z,1μm,0.6s
BO02  Sierra Bellavi   1.68 142  Pn          Pb     12 30 20.4  0.0
BO02  Sierra Bellavi   1.68 142  eP          Pb     12 30 20.1 -0.3
BO02                                eS    Sg     12 30 43.4 -0.4
BO02                                IAML             12 30 44.8
      comp=Z,1μm,0.2s
MT08  Bocatoma Ro      1.68  90  Pn          Pb     12 30 20.2 -0.3
MT08  Bocatoma Ro      1.68  90  eP          Pb     12 30 20.5 -0.1
MT08  Bocatoma Ro      1.68  90  eP          Pb     12 30 20.0 -0.5
MT08                                eS    Sg     12 30 42.5 -1.4
MT08                                IAML             12 30 43.6
      comp=Z,667nm,0.8s
ML02  Panimavida       2.35 168  eP          Pn     12 30 28.4 +0.6
ML02                                IAML             12 31 15.5
      comp=Z,349nm,1.1s
CO02  Combarbal        2.42  21  Pn          Pn     12 30 27.4 -1.4
CO02  Combarbal        2.42  21  eP          Pn     12 30 27.4 -1.4
CO02                                eS    Sn     12 30 59.1 +0.9
CO02                                IAML             12 31 11.7
      comp=Z,339nm,0.2s
ARCO  CERRO ARCO       2.67  77  eP          Pn     12 30 32.2 -0.2
ARCO                                eS    Sb     12 31 10.2 +0.1
ARCO                                IAML             12 31 16.3
      comp=Z,408nm,0.5s
AAGR  Agrelo           2.71  83  eP          Pn     12 30 34.7 +1.8
AAGR                                eS    Sg     12 31 16.4 -0.4
AAGR                                IAML             12 31 17.0
      comp=Z,180nm,0.3s
CO06  Fray Jorge       2.80   7  Pn          Pn     12 30 31.4 -2.6
ASAL  Salagasta        2.82  73  eP          Pb     12 30 38.4 -1.5
ASAL                                eS    Sb     12 31 14.0 -0.3
ASAL                                IAML             12 31 28.1
      comp=Z,122nm,1.4s
RTLS  Leoncito         2.84  55  eP          Pn     12 30 37.0 +2.2
RTLS                                eS    Sb     12 31 13.1 -2.0
CO03  El Pedregal      2.85  24  Pn          Pn     12 30 33.8 -1.1
CO03  El Pedregal      2.85  24  eP          Pn     12 30 34.1 -0.8
CO03                                eS    Sn     12 31 08.1 -1.0
AVIZ  Vizcacheras      2.94  91  eP          Pn     12 30 37.2 +1.2
EDS3  Malargue         3.16 137  eP          Pn     12 30 25.6 -14
BI02  San Fabin de     3.25 169  Pn          Pn     12 30 42.0 +1.8
BI05  Punta Hualpn     3.41 196  Pn          Pn     12 30 42.3 -0.1
GO04  Tololo Observa   3.45  18  Pn          Pn     12 30 41.8 -1.3
SJA   San Juan         3.51  58  eP          Pb     12 30 52.1 +0.5
SJA                                IAML             12 32 12.6
      comp=Z,184nm,0.1s
CFA   Coronel Fontan   3.70  61  eP          Pn     12 30 48.4 +1.9
CFA                                eP          Pn     12 30 48.4 +1.9
CFA                                IAML             12 31 49.1
      comp=Z,235nm,0.8s
AROD  Rodeo            3.94  34  eS          Sb     12 31 49.0 +2.2
ACDV  Cuesta del Vie   4.11  38  eP          Pn     12 30 54.3 +2.1
ACDV                                eP          Pn     12 30 54.3 +2.1
ACDV                                eP          Pn     12 30 54.3 +2.1
ACDV                                IAML             12 32 01.0
      comp=Z,63nm,0.7s
LCO   Las Campanas     4.58  15  Pn          Pn     12 30 57.0 -1.8
AVFE  Valle Fertil     4.79  55  eP          Pn     12 31 03.3 +1.9
AVFE                                eS          Sb     12 32 10.9 +0.1
AVFE                                eS          Sb     12 32 10.9 +0.1
AVFE                                IAML             12 32 21.8
      comp=Z,59nm,0.6s
AC05  El Transito      4.85  19  Pn          Pn     12 31 01.3 -1.1
AC04  Llanos de Chal   5.31   9  Pn          Pn     12 31 05.5 -3.0
VA04  Juan Fernndez    5.68 266  Pn          Pn     12 31 13.6  0.0
H03S1 Juan Fernandez   5.75 264  T           T      12 37 28.3
      baz=84,slow=75,SNR=127
H03S3 Juan Fernandez   5.75 265  T           T      12 37 29.7
      baz=84,slow=75,SNR=108
H03N1 Juan Fernandez   5.75 268  Pn          Pn     12 31 15.1 +0.8
      baz=130,slow=22
H03N1                             T           T      12 37 39.3
      baz=90,slow=74,SNR=16
H03N3 Juan Fernandez   5.76 268  Pn          Pn     12 31 15.0 +0.5
      baz=130,slow=22
H03N3                             T           T      12 37 35.4
      baz=90,slow=74,SNR=20
H03S2 Juan Fernandez   5.76 264  T           T      12 37 29.5
      baz=84,slow=75,SNR=159
H03N2 Juan Fernandez   5.77 268  Pn          Pn     12 31 15.3 +0.8
      baz=130,slow=22
H03N2                             T           T      12 37 36.8
      baz=90,slow=74,SNR=18
GO03  Copiapo          6.05  15  Pn          Pn     12 31 16.4 -2.4
AC02  Maricunga        7.07  22  Pn          Pn     12 31 31.2 -1.9
PLCA  Paso Flores      7.35 171  Pn          Pn     12 31 38.5 +2.0
      comp=Z,0.7nm,0.3s,baz=342,slow=13,SNR=28
      comp=Z,2.4nm,0.4s
PCRV  Puerto La Cruz   43.97  11  LR          LR     12 56 15.7
      comp=Z,52nm,20.2s,slow=36
SNAA  Sanae            52.08 158  P           P      12 38 58.8 +0.2
SNAA                              IAmb        IAmb   12 38 59.5
      comp=Z,7.8nm,1.5s
SNAA  Sanae            52.08 158  P           P      12 38 59.6 +0.9
      comp=Z,1.0nm,0.7s,baz=281,slow=5.2,SNR=2.1
      comp=Z,1.0nm,0.7s
QSPA  South Pole Qui   56.77 180  P           P      12 39 33.9 +1.0
QSPA  South Pole Qui   56.77 180  P           P      12 39 33.5 +0.6
      comp=Z,0.7nm,0.7s,baz=212,slow=1.0,SNR=6.4
      comp=Z,0.7nm,0.7s
MDT   Midelt           91.48  51  LR          LR     13 24 40.5
      comp=Z,39nm,18.0s,baz=127,slow=36
BVAR  Borovoye Array  146.88  42  PKPbc       PKPdf  12 49 30.2 +1.1
      comp=Z,0.3nm,0.4s,baz=298,slow=3.1,SNR=3.9
KURBB Kurchatov Arra  152.47  43  PKPbc       PKPbc  12 49 43.6 -1.3
      comp=Z,0.5nm,0.7s,baz=288,slow=1.5,SNR=5.8
ZALV  Zalesovo Beam   153.77  32  PKPbc       PKPbc  12 49 46.4 -1.3
      comp=Z,0.2nm,0.3s,baz=321,slow=2.0,SNR=3.7
MKAR  Makanchi Array  156.41  48  PKPab       PKPab  12 50 11.5 -0.7
      comp=Z,0.4nm,0.5s,baz=285,slow=4.9,SNR=5.3
```

*SNET **09** 12:33:54.8±1.2, 12°.32N×89°.50W, h9km±6km, ML3.8*
*GCG **09** 12:33:55.5±1.8, 12°.32N×89°.47W, h18km±15km, MD4.3*
*CATAC **09** 12:33:56.7±0.4, 12°N±2°×8°.9W±°, h1km, M3.8/23, MLv3.8/23, Error ellipse: s-maj=4.7km s-min=2.5km az=42.9, confirmed*
*IDC **09** 12:33:58.3±1.9, 13°.78N×88°.18W, h0km, mb3.5/3, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=85.3km s-min=28.3km az=46.0*
*NEIC **09** 12:34:00.9±2.0, 12°.87N±0°.05×88°.78W±0°.04, h35km±2km, mb4.3/18, Error ellipse: s-maj=9.3km s-min=5.0km az=159.0*

ISC 09 12:33:55.7±1.6, 12°.42N±0°.05×89°.42W±0°.04, h16km±8km, n122, σ1§25/131, mb4.3/12, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.06	5	eP	Pg	12 34 16.3	0.0
LALI	Alcalda de L	1.06	5	eP	Pb	12 34 16.1	+0.3
LALI	Alcalda de L	1.06	5	P	Pg	12 34 16.3	0.0
LALI	Alcalda de L	1.06	5	S	Sb	12 34 26.2	-3.3
ALJI	Alcalda de J	1.22	43	S	Sg	12 34 35.0	-0.3
JAYA	Jayaque - finc	1.23	359	eP	Pg	12 34 19.1	-0.3
JAYA	Jayaque - finc	1.23	359	eP	Pn	12 34 18.8	+0.4
JAYA	Jayaque - finc	1.23	359	P	Pb	12 34 18.9	+0.3
JAYA	Jayaque - finc	1.23	359	S	Sb	12 34 34.1	-0.2
LOMA	Loma Larga	1.24	11	eP	Pg	12 34 19.6	0.0
LOMA	Loma Larga	1.24	11	P	Pb	12 34 19.2	+0.3
LOMA	Loma Larga	1.24	11	S	Sg	12 34 35.2	-0.7
LFRS	El Faro	1.25	16	eP	Pn	12 34 18.7	+0.1
ITCA	Escuela Especi	1.25	6	P	Pg	12 34 20.0	+0.1
ITCA	Escuela Especi	1.25	6	S	Sn	12 34 35.2	-0.1
TECO	Alcaldia de Te	1.27	29	P	Pn	12 34 18.8	-0.1
TECO	Alcaldia de Te	1.27	29	S	Sg	12 34 36.2	-0.7
PMON	Piamonte	1.29	5	eP	Pb	12 34 19.9	+0.2
PMON	Piamonte	1.29	5	P	Pb	12 34 20.0	+0.4
PMON	Piamonte	1.29	5	S	Sn	12 34 36.2	+0.1
UEES	Universidad Ev	1.30	8	P	Pb	12 34 20.3	+0.4
UEES	Universidad Ev	1.30	8	S	Sg	12 34 36.8	-0.9
COEG	Centro de Oper	1.30	24	eP	Pg	12 34 20.6	-0.3
COEG				eS	Sg	12 34 39.5	+1.7
COEG	Centro de Oper	1.30	24	P	Pn	12 34 19.7	+0.4
COEG	Centro de Oper	1.30	24	S	Sg	12 34 36.7	-1.1
BOQS	Boqueron	1.31	6	eP	Pn	12 34 19.9	+0.3
PIC2	El Picacho	1.32	7	eP	Pn	12 34 20.4	+0.6
LFU	La Fuente	1.35	13	eP	Pb	12 34 20.9	+0.2
UESV	Universidad de	1.36	27	P	Pn	12 34 20.6	+0.5
UESV	Universidad de	1.36	27	S	Sn	12 34 37.9	+0.1
PAVA	Las Pavas	1.37	20	eP	Pb	12 34 21.0	-0.1
PAVA				eS	Sg	12 34 42.4	+2.4
PAVA	Las Pavas	1.37	20	P	Pb	12 34 20.9	-0.1
PAVA	Las Pavas	1.37	20	S	Sn	12 34 38.6	+0.4
CEDA	San Andres	1.37	1	IAML		12 34 51.2	
	comp=Z,1μm,0.5s						
TECA	Tecapa	1.39	40	eP	Pg	12 34 22.6	0.0
TECA				eP	Pb	12 34 22.8	+1.3
CEVE	Cerro Verde	1.41	352	eP	Pb	12 34 22.5	+0.6
CEVE				eS	Sg	12 34 44.3	+2.9
CEVE				IAML		12 34 46.2	
	comp=Z,1μm,0.3s						
CEVE	Cerro Verde	1.41	352	P	Pb	12 34 22.5	+0.6
CEVE	Cerro Verde	1.41	352	S	Sb	12 34 39.8	+0.1
SBLS	San Blas	1.42	352	eP	Pb	12 34 22.6	+0.6
SCLA	Alcaldia de Sa	1.44	28	eP	Pg	12 34 23.4	-0.1
SCLA				eS	Sg	12 34 45.0	+2.7
SCLA	Alcaldia de Sa	1.44	28	P	Pb	12 34 22.4	+0.1
SCLA	Alcaldia de Sa	1.44	28	S	Sg	12 34 42.1	-0.2
SNJE	San Jose	1.45	353	eP	Pn	12 34 21.9	+0.4
PQSS	Presa 15 de Se	1.46	35	P	Pn	12 34 22.0	+0.6
LCY	Lacayo	1.48	48	eP	Pb	12 34 23.3	+0.3
PACA	Pacayal	1.49	46	eP	Pg	12 34 24.1	-0.4
PACA	Pacayal	1.49	46	P	Pg	12 34 23.9	-0.6
PACA	Pacayal	1.49	46	S	Sg	12 34 43.7	-0.3
RANC	El Ranchito	1.49	48	S	Sg	12 34 43.6	-0.4
RANC	El Ranchito	1.49	48	P	Pb	12 34 23.7	+0.5
NUBE	Las Nubes	1.51	347	eP	Pn	12 34 22.5	+0.3
NUBE				eS	Sg	12 34 44.6	0.0
NUBE	Las Nubes	1.51	347	eP	Pn	12 34 22.4	+0.1
NUBE	Las Nubes	1.51	347	S	Sb	12 34 42.7	+0.1
NUBE	Las Nubes	1.51	347	P	Pn	12 34 22.6	+0.3
BLLM	Bellamira	1.54	49	eP	Pb	12 34 23.6	-0.3
LOAL	Lomas de Alarc	1.61	347	P	Pb	12 34 25.2	+0.1
SLOZ	Alcaldia de Sa	1.63	348	eP	Pn	12 34 24.9	+1.0
SLOZ	Alcaldia de Sa	1.63	348	P	Pb	12 34 25.6	0.0
LCND	La Caada	1.73	59	eP	Pn	12 34 25.8	+0.6
LCND	La Caada	1.73	59	P	Pb	12 34 27.0	-0.2
CNCH	Conchagua	1.77	61	eP	Pn	12 34 27.1	+1.3
CNCH				eS	Sg	12 34 52.8	+0.2
CNCH	Conchagua	1.77	61	P	Pb	12 34 27.3	-0.6
CNCH	Conchagua	1.77	61	S	Sg	12 34 51.5	-1.1
CAHU	Cacacuatique	1.79	41	eP	Pb	12 34 27.9	-0.3
LLGN	La Laguna	1.79	15	P	Pn	12 34 27.2	+1.1
CSGN	Cosiguina Volc	1.90	73	P	Pb	12 34 29.8	-0.3
CSGN				S	Sg	12 34 55.5	-1.4
POTN	Potosi Cosigui	1.96	73	P	Pn	12 34 29.8	+1.5
POTN				S	Sb	12 34 56.8	+1.6
MTO3	Montecristo	1.97	2	Pn	Pn	12 34 27.1	-1.5
MTO3	Montecristo	1.97	2	eP	Pb	12 34 30.4	-0.9
MTO3				eS	Sg	12 34 57.2	-1.9
MTO3	Montecristo	1.97	2	eP	Pn	12 34 29.7	+1.1
MTO3				eS	Sb	12 34 56.7	+1.0
MTO3	Montecristo	1.97	2	P	Pn	12 34 29.9	+1.3
ESQI	Esquipulas	2.13	2	Pn	Pn	12 34 28.1	-2.6
ESQI	Esquipulas	2.13	2	eS	Sb	12 35 01.0	+0.8
ESQI	Esquipulas	2.13	2	S	Sb	12 35 00.1	-0.1
ESQI	Esquipulas	2.13	2	P	Pb	12 34 33.3	-0.6
MARCA	Marcala la Paz	2.19	38	eP	Pn	12 34 32.6	+0.9
CRIN	San Cristobal	2.33	83	Pn	Pn	12 34 28.0	-5.5
CRIN	San Cristobal	2.33	83	S	Sb	12 35 06.7	+0.6
CHOHN	Orocuina	2.44	64	S	Sb	12 35 07.7	-1.7
CHOHN	Orocuina	2.44	64	P	Pn	12 34 36.6	+1.5
HERN	Volcan Telica	2.54	86	Pn	Pn	12 34 31.8	-4.6
HERN	Volcan Telica	2.54	86	S	Sb	12 35 11.2	-0.8
POLN	Al Sur del Vol	2.56	85	P	Pn	12 34 38.3	+1.7
POLN				S	Sb	12 35 12.3	-0.3
ROCN	Rota Cerro Neg	2.62	88	S	Sb	12 35 13.0	-1.2
TGUH	Tegucigalpa,Un	2.65	52		Pn	12 34 30.2	-7.7
TGUH	Tegucigalpa,Un	2.65	52	P	Pn	12 34 40.2	+2.2
TGUH				S	Sn	12 35 12.4	+2.5
CNGA	Al SSO del Vol	2.66	88	P	Pn	12 34 40.3	+2.3
CNGN	Cerro Negro	2.66	88	Pn	Pn	12 34 32.7	-5.3
CNGN	Cerro Negro	2.66	88	P	Pb	12 34 41.4	-1.7
CNGN	Cerro Negro	2.66	88	S	Sb	12 35 14.4	-1.2
MOMN	Momotombo	2.81	90	P	Pn	12 34 42.4	+2.3
MOMN				S	Sn	12 35 17.4	+3.5
YUSH	Yuscaran	2.94	58	P	Pn	12 34 43.9	+2.1
YUSH	Yuscaran	2.94	58	S	Sb	12 35 20.6	-3.0
SAPS	Ciudad Sandino	2.96	95	S	Sb	12 35 21.8	-2.3
PETF	Flores	4.49	355	Pn	Pn	12 35 02.7	-0.4
JTS	Las Juntas de	4.87	115	Pn	Pn	12 35 07.0	-1.4
JTS	Las Juntas de	4.87	115	Pn	Pn	12 35 12.0	+3.6
	comp=Z,2.7nm,0.3s,baz=293,slow=12,SNR=6.7						
JTS				Sn	Sn	12 36 03.5	-0.9
	comp=Z,0.8nm,0.3s,baz=233,slow=19,SNR=1.5						
	comp=Z,6.5nm,0.4s						
CMIG	Matias Romero	7.03	312	Pn	Pn	12 35 45.4	+7.3
	comp=Z,0.4nm,0.3s,baz=104,slow=10,SNR=5.3						
	comp=Z,2.3nm,0.5s						
WHTX	Lake Whitney,	20.83	340		P	12 38 37.5	+0.7
WHTX				IAmb	IAmb	12 38 38.3	
	comp=Z,14nm,0.7s						
TXAR	Lajitas Array	21.42	324	P	P	12 38 45.8	+2.6
TXAR	Lajitas Array	21.42	324	P	P	12 38 46.0	+2.8
	comp=Z,1.4nm,0.6s,baz=142,slow=9.9,SNR=23						
	comp=Z,1.4nm,0.6s						
TX31	Lajitas Ar. Si	21.42	324	P	P	12 38 45.1	+1.9
PLPT	Palo Pinto	21.87	340	P	P	12 38 46.9	-1.1
PLPT				IAmb	IAmb	12 38 48.6	
	comp=Z,8.8nm,0.7s						
MIAR	Mount Ida	22.35	351	P	P	12 38 53.0	-0.1
APMT	Aspermont	22.99	337	P	P	12 38 59.6	-0.3
APMT				IAmb	IAmb	12 39 01.2	
	comp=Z,5.2nm,0.8s						
DKNS	Dickens	23.61	335	P	P	12 39 07.2	+1.0
DKNS				IAmb	IAmb	12 39 08.2	
	comp=Z,6.6nm,0.6s						
WMOK	Wichita Mounta	23.79	341	P	P	12 39 06.9	-0.9
PBMO	Poplar Bluff	24.27	358		P	12 39 12.2	0.0
OK052	Battle Ridge R	24.40	345	P	P	12 39 11.7	-1.7
OK052				IAmb	IAmb	12 39 14.1	
	comp=Z,12nm,1.0s						
QUOK	Quay	24.54	346	P	P	12 39 13.7	-1.1
QUOK				IAmb	IAmb	12 39 15.2	
	comp=Z,8.1nm,0.6s						
T42A	Van Buren	24.55	357		P	12 39 14.4	-0.4
T42A				IAmb	IAmb	12 39 16.1	
	comp=Z,7.9nm,0.7s						
T47A	Sharon Grove	24.55	4	P	P	12 39 14.2	-0.6
T47A				IAmb	IAmb	12 39 57.2	
	comp=Z,22nm,1.5s						
SMWD	Samnorwood	24.62	338		P	12 39 15.2	-0.4
SMWD				IAmb	IAmb	12 39 16.3	
	comp=Z,8.8nm,0.9s						
COWI	Conover	33.57	0	P	P	12 40 34.1	-0.9
EYMN	Ely	35.46	358	P	P	12 40 49.7	-1.6
TBO	Thunder Bay	36.12	0	P	P	12 40 55.8	-1.2
EPLO	Experimental L	37.31	355	P	P	12 41 05.9	-1.2
EPLO				IAmb	IAmb	12 41 07.2	
	comp=Z,3.7nm,0.8s						
YKA	Yellowknife Ar	53.15	346	P	P	12 43 11.9	-0.6
YKA	Yellowknife Ar	53.15	346	P	P	12 43 10.6	-2.0
	comp=Z,0.5nm,0.8s,baz=145,slow=7.6,SNR=10						
	comp=Z,0.5nm,0.8s						
YKAW3	Yellowknife Wh	53.21	346	P	P	12 43 12.6	-0.4
YKAW3				IAmb	IAmb	12 43 19.6	
	comp=Z,1.5nm,1.1s						
ILAR	Eielson Array	65.27	337	P	P	12 44 36.8	+0.2
	comp=Z,0.5nm,1.0s,baz=124,slow=5.8,SNR=4.1						
	comp=Z,0.5nm,1.0s						
CMAR	Chiang Mai Arr	148.23	345	PKPbc	PKPbc	12 53 42.0	-0.1
	comp=Z,0.6nm,0.3s,baz=352,slow=4.0,SNR=4.7						

*CATAC **09** 12:42:55.0±0.4, 12°N±2°×8°.9W±°, h1km, M3.7/21, MLv3.7/21, Error ellipse: s-maj=5.3km s-min=2.9km az=46.5, confirmed*
*SNET **09** 12:42:57.5±1.9, 12°.50N×89°.41W, h10km, ML3.8*
*GCG **09** 12:42:59.4±1.6, 12°.63N×89°.50W, h12km±31km, MD4.2*
*IDC **09** 12:43:00.2±1.3, 14°.17N×88°.13W, h0km, mb3.4/3, mbtmp3.5/5, ML3.2/2, MS3.4/3, Error ellipse: s-maj=63.5km s-min=18.4km az=47.0*

ISC 09 12:42:56.8±1.7, 12°.52N±0°.05×89°.43W±0°.04, h10km±9km, n93, σ1§00/100, mb3.4/3, MS3.5/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.97	6	eP	Pb	12 43 15.6	-0.2
LALI	Alcalda de L	0.97	6	eP	Pb	12 43 15.6	-0.2
LALI	Alcalda de L	0.97	6	P	Pb	12 43 15.9	+0.1
JAYA	Jayaque - finc	1.13	359	eP	Pb	12 43 17.8	-0.8
JAYA				eS	Sn	12 43 34.5	-0.2
JAYA	Jayaque - finc	1.13	359	eP	Pb	12 43 17.7	-1.0
JAYA	Jayaque - finc	1.13	359	P	Pb	12 43 18.0	-0.6
JAYA	Jayaque - finc	1.13	359	S	Sn	12 43 33.9	-0.7
LOMA	Loma Larga	1.15	12	eP	Pg	12 43 18.7	-0.3
LOMA	Loma Larga	1.15	12	P	Pb	12 43 18.4	-0.5
LOMA	Loma Larga	1.15	12	S	Sn	12 43 35.1	+0.1
LFRS	El Faro	1.16	18	eP	Pb	12 43 18.6	-0.5
PMON	Piamonte	1.20	5	eP	Pb	12 43 19.3	-0.4
PMON	Piamonte	1.20	5	P	Pb	12 43 19.3	-0.4
PMON	Piamonte	1.20	5	S	Sn	12 43 37.1	+1.1
TECO	Alcaldia de Te	1.20	32	eP	Pb	12 43 18.4	-1.2
TECO	Alcaldia de Te	1.20	32	P	Pb	12 43 18.6	-1.1
TECO	Alcaldia de Te	1.20	32	S	Sn	12 43 36.0	0.0
COEG	Centro de Oper	1.22	26	eP	Pn	12 43 19.2	-0.9
COEG				eS	Sn	12 43 38.8	+2.2
COEG	Centro de Oper	1.22	26	P	Pn	12 43 19.2	-0.9
COEG	Centro de Oper	1.22	26	S	Sn	12 43 37.2	+0.6
BOQS	Boqueron	1.22	7	eP	Pb	12 43 19.7	-0.5
PIC2	El Picacho	1.23	8	eP	Pn	12 43 20.1	-0.3
LFU	La Fuente	1.26	14	eP	Pb	12 43 20.5	-0.3
UESV	Universidad de	1.28	29	P	Pn	12 43 20.4	-0.4
UESV	Universidad de	1.28	29	S	Sg	12 43 38.8	+0.8
CEDA	San Andres	1.28	1	eP	Pn	12 43 20.2	-0.7
CEDA				eS	Sg	12 43 39.1	+1.0
PAVA	Las Pavas	1.28	22	eP	Pn	12 43 20.5	-0.5
PAVA	Las Pavas	1.28	22	P	Pn	12 43 20.5	-0.5
PAVA	Las Pavas	1.28	22	S	Sn	12 43 39.8	+1.5
CEVE	Cerro Verde	1.32	352	eP	Pn	12 43 21.2	-0.3
CEVE	Cerro Verde	1.32	352	S	Sg	12 43 39.7	+0.3
CEVE	Cerro Verde	1.32	352	P	Pg	12 43 21.8	-0.4
TECA	Tecapa	1.33	43	eP	Pn	12 43 20.6	-1.0
TECA				eP	Pb	12 43 20.8	-1.2
SBLS	San Blas	1.33	352	eP	Pn	12 43 21.2	-0.5
SNJE	San Jose	1.36	353	eP	Pn	12 43 21.3	-0.8
SCLA	Alcaldia de Sa	1.36	30	eP	Pn	12 43 21.6	-0.4
SCLA				eP	Pg	12 43 25.1	+2.1
SCLA	Alcaldia de Sa	1.36	30	P	Pn	12 43 21.5	-0.4
SCLA	Alcaldia de Sa	1.36	30	S	Sg	12 43 40.8	+0.1
PQSS	Presa 15 de Se	1.39	37	eP	Pn	12 43 21.4	-0.9
PQSS				eS	Sg	12 43 43.0	+1.4
PQSS	Presa 15 de Se	1.39	37	P	Pn	12 43 21.5	-0.8
NUBE	Las Nubes	1.42	346	eP	Pn	12 43 22.0	-0.9
NUB

MTO3				*e*S	**Sg**	**12 43 56.5**	**-0.7**
MTO3	**Montecristo**	**1.87**	**2**	*e*P	**Pn**	**12 43 29.3**	**+0.1**
MTO3	**Montecristo**	**1.87**	**2**	P	**Pn**	**12 43 29.4**	**+0.2**
MTO3	**Montecristo**	**1.87**	**2**	S	**Sb**	**12 43 55.4**	**+0.5**
CSGN	**Cosiguina Volc**	**1.88**	**76**	P	**Pn**	**12 43 28.8**	**-0.3**
CSGN				S	**Sb**	**12 43 54.9**	**0.0**
POTN	**Potosi Cosigui**	**1.93**	**75**	P	**Pn**	**12 43 30.0**	**+0.2**
ESQI	**Esquipulas**	**2.03**	**2**	P	**Pn**	**12 43 32.0**	**+0.7**
ESQI	**Esquipulas**	**2.03**	**2**	S	**Sb**	**12 43 59.8**	**+0.4**
MARCA	**Marcala la Paz**	**2.12**	**40**	*e*P	**Pn**	**12 43 33.7**	**+1.2**
CRIN	**San Cristobal**	**2.33**	**85**	S	**Sn**	**12 44 05.7**	**+1.7**
CHOHN	**Orocuina**	**2.41**	**66**	P	**Pn**	**12 43 35.9**	**-0.6**
CHOHN	**Orocuina**	**2.41**	**66**	S	**Sb**	**12 44 08.2**	**-2.0**
POLN	**Al Sur del Vol**	**2.56**	**87**	P	**Pn**	**12 43 37.3**	**-1.0**
POLN				S	**Sn**	**12 44 09.7**	**+0.1**
PLRN	**Geotermica Pol**	**2.60**	**88**	P	**Pn**	**12 43 38.5**	**-0.5**
STG0	**El Palmar, Qui**	**2.66**	**316**	*e*P	**Pb**	**12 43 45.5**	**+0.8**
CNGN	**Cerro Negro**	**2.66**	**90**	P	**Pn**	**12 43 39.5**	**-0.4**
COPN	**Copaltepe**	**2.79**	**97**	P	**Pn**	**12 43 40.9**	**-0.7**
MOMN	**Momotombo**	**2.82**	**92**	P	**Pn**	**12 43 41.9**	**-0.1**
MOMN				S	**Sn**	**12 44 15.9**	**-0.2**
YUSH	**Yuscaran**	**2.89**	**60**	P	**Pn**	**12 43 43.0**	**-0.1**
YUSH	**Yuscaran**	**2.89**	**60**	S	**Sn**	**12 44 20.0**	**+1.9**
JTS	**Las Juntas de**	**4.91**	**116**	Pn	Pb	12 44 17.1	-5.9
	0.8nm,0.3s,baz=320,slow=5.8,SNR=4.2						
JTS				Lg	Lg	12 45 38.6	
	0.7nm,0.3s,baz=176,slow=20,SNR=3.6						
	5.2nm,0.5s						
CMIG	**Matias Romero**	**6.97**	**311**	Pn	Pn	12 44 45.2	+6.2
	0.6nm,0.3s,baz=95,slow=12,SNR=7.1						
CMIG				Sn	Sb	12 46 09.6	-12
	0.7nm,0.3s,baz=55,slow=12,SNR=4.0						
	2.7nm,0.6s						
TXAR	**Lajitas Array**	**21.34**	**324**	P	**P**	**12 47 45.6**	**+1.3**
	1.5nm,0.6s,baz=141,slow=10,SNR=23						
	1.5nm,0.6s						
TKL	**Tuckaleechee C**	**23.60**	**12**	LR	LR	12 55 52.4	
	comp=Z,50nm,18.4s,baz=175,slow=36						
NVAR	**Mina Array Bea**	**36.40**	**320**	P	**P**	**12 50 03.1**	**+1.2**
	0.4nm,0.7s,baz=125,slow=6.4,SNR=3.6						
	0.4nm,0.7s						
CPUP	**Villa Florida**	**49.65**	**141**	LR	LR	13 16 04.7	
	comp=Z,52nm,19.4s,baz=193,slow=40						
YKA	**Yellowknife Ar**	**53.06**	**346**	P	**P**	**12 52 10.1**	**-3.9**
	0.4nm,0.8s,baz=144,slow=7.9,SNR=9.2						
	0.4nm,0.8s						
PLCA	**Paso Flores**	**55.79**	**163**	LR	LR	13 12 52.6	
	comp=Z,50nm,18.9s,baz=164,slow=31						
WRA	**Warramunga Arr**	**137.43**	**254**	PKP	**PKiKP**	**13 02 28.1**	**+4.4**
	0.2nm,0.8s,baz=64,slow=1.2,SNR=1.5						
CMAR	**Chiang Mai Arr**	**148.14**	**345**	PKPbc	**PKPbc**	**13 02 42.2**	**-1.6**
	0.8nm,0.6s,baz=349,slow=3.5,SNR=6.1						

*IDC **09** 12:53:25.0±0.9, 42°.84N×146°.09E, h0km, mb3.8/16, mbtmp3.8/18, ML3.3/2, Error ellipse: s-maj=20.4km s-min=19.2km az=134.0*
*NIED **09** 12:53:26.6, 42°.77N×146°.24E, h35km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.02; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$-3.57; $M_{r\theta}$1.81; $M_{\theta\phi}$-2.04; $M_{\phi r}$3.11; Fault plane solution: $M_0$5.61000×10^{14} NP1: ϕ_s203.00000°, δ25.00000°, λ84.00000°. NP2:ϕ_s29.00000°, δ65.00000°, λ93.00000°.*
*SKHL **09** 12:53:26.7±0.1, 42°.60N×146°.30E, h34km±6km, mb4.9/2*
*JMA **09** 12:53:26.6±0.2, 42°.8N±0°.8×14°.6E±°, h35km±2km, MD3.9/38, MV4.0/38, OFF NEMURO PENINSULA*
JMA Felt I J1 at OFF NEMURO PENINSULA .
*MOS **09** 12:53:27.6±1.2, 42°.74N×146°.15E, h35km, mb4.5/5, Error ellipse: s-maj=11.3km s-min=7.3km az=98.2*
*NEIC **09** 12:53:29.0±0.9, 42°.76N±0°.09×146°.4E±0°.1, h35km±10km, mb4.3/20, Error ellipse: s-maj=16.3km s-min=12.0km az=119.0*
ISC 09 12:53:25.9±1.6,**42°.78N**±0°.05×**146°.22E**±0°.04,**h10**km±9km,
n97,σ1°**06**/108,**mb4.2**/24,**2C-2D**,**Off southeast coast of Hokkaido**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.68**	**329**	*i* P	**Pb**	**12 53 39.9**	**0.0**
NEM2				S	**Sb**	**12 53 49.3**	**-0.1**
NEM2	**Nemuro 2**	**0.68**	**329**	A	A	12 53 39.9	
	comp=N,5.0nm,0.4s,comp=E,6.0nm,0.4s						
NMR	**Nemuro--Hokkai**	**0.69**	**329**	⇓*i*PN	**Pg**	**12 53 39.8**	**+0.6**
NMR				*e*S	**Sb**	**12 53 49.0**	**-0.7**
NMR	**Nemuro--Hokkai**	**0.69**	**329**	*i* P	**Pb**	**12 53 39.9**	**-0.2**
NMR				*e*S	**Sb**	**12 53 49.0**	**-0.7**
JKHN	**Kushirohamanak**	**0.84**	**292**	*i* P	**Pg**	**12 53 42.2**	**+0.2**
JKHN				S	**Sg**	**12 53 54.1**	**+1.2**
JKHN	**Kushirohamanak**	**0.84**	**292**	A	A	12 53 42.2	
	comp=N,9.0nm,0.9s,comp=E,11nm,0.6s						
AKK	**Akkeshi**	**1.04**	**284**	*e*P	**Pb**	**12 53 45.1**	**-0.9**
AKK				*e*S	**Sg**	**12 53 59.0**	**-0.4**
JAK	**Akkeshi**	**1.14**	**281**	*i* P	**Pb**	**12 53 46.5**	**-1.2**
JAK				S	**Sb**	**12 54 01.4**	**-1.2**
SHO	**Shikotan**	**1.18**	**22***c*	*i*PN	**Pn**	**12 53 48.4**	**0.0**
SHO				*e*S	**Sn**	**12 54 05.3**	**+0.8**
SHO				pmax	pmax		
	comp=N,122nm,0.5s						
SHO				pmax	pmax		
	comp=E,135nm,0.5s						
SHO				pmax	pmax		
	comp=Z,236nm,0.5s						
SHO				smax	smax		
	comp=E,871nm,0.2s						
SHO				smax	smax		
	comp=N,2μm,0.3s						
SHO	**Shikotan**	**1.18**	**22**	*i* P	**Pn**	**12 53 48.4**	**0.0**
SHO				AMB	AMB	12 53 49.8	
	comp=N,220nm,0.3s						
SHO				*e*S	**Sn**	**12 54 04.2**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**1.28**	**348***c*	*i*PN	**Pn**	**12 53 49.1**	**-0.8**
YUK				*i* S	**Sb**	**12 54 05.6**	**-1.1**
YUK				pmax	pmax		
	comp=N,277nm,0.4s						
YUK				pmax	pmax		
	comp=E,232nm,0.4s						
YUK				pmax	pmax		
	comp=Z,806nm,0.4s						
YUK				smax	smax		
	comp=N,3μm,0.5s						
YUK				smax	smax		
	comp=E,3μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.28**	**348**	*i* P	**Pn**	**12 53 49.2**	**-0.7**
YUK				AMB	AMB	12 53 53.2	
	comp=E,710nm,0.3s						
YUK				*i* S	**Sb**	**12 54 05.8**	**-0.9**
YUK				A	A	12 54 06.2	
	comp=E,3μm,0.5s						
YUK				A	A	12 54 06.2	
	comp=E,3μm,0.5s						
JNSB	**Nemuroshibetsu**	**1.34**	**319**	A	A	12 53 49.6	
	comp=N,8.0nm,1.0s,comp=E,5.0nm,0.8s						
JNK	**Nakash**	**1.36**	**307**	*i* P	**Pn**	**12 53 49.7**	**-1.3**
JNK				S	**Sb**	**12 54 06.9**	**-2.1**
JRA	**Rausu**	**1.41**	**326**	P	**Pn**	**12 53 50.9**	**-0.7**
JRA				*e*S	**Sb**	**12 54 08.7**	**-1.6**
RUSJ	**Misakicho**	**1.50**	**332**	⇓*i*PN	**Pn**	**12 53 52.8**	**-0.1**
RUSJ				*i* S	**Sb**	**12 54 12.7**	**-0.3**
JOB	**Onbets**	**1.76**	**275**	P	**Pn**	**12 53 55.2**	**-1.2**
JOB				*e*S	**Sn**	**12 54 17.4**	**-1.5**
JAR	**Ashorobuto**	**1.87**	**287**	P	**Pn**	**12 53 56.9**	**-1.1**
JAR				S	**Sn**	**12 54 19.6**	**-2.1**
JTKR	**Abashiri--Toko**	**2.07**	**306**	*e*P	**Pn**	**12 54 00.4**	**-0.2**
JTKR				*e*S	**Sn**	**12 54 26.4**	**0.0**
JCH	**Churui**	**2.12**	**267**	*e*P	**Pn**	**12 54 00.5**	**-0.8**
JEM	**Erimo**	**2.40**	**252**	S	**Sn**	**12 54 33.3**	**-1.2**
ERM	**Erimo**	**2.40**	**252**	Pn	**Pn**	**12 54 07.0**	**+1.8**
ERM	**Erimo**	**2.40**	**252**	PN	**Pn**	**12 54 07.0**	**+1.8**
KUR	**Kuril'sk**	**2.73**	**25**	*e*PN	**Pb**	**12 54 12.2**	**-2.5**
KUR				*i* S	**Sb**	**12 54 45.9**	**-2.3**
KUR				pmax	pmax		
	comp=Z,85nm,0.5s						
KUR				smax	smax		
	comp=N,176nm,0.6s						
KUR				smax	smax		
	comp=E,69nm,0.6s						
KUR	**Kuril'sk**	**2.73**	**25**	*e*P	**Pn**	**12 54 10.6**	**+0.9**
KUR				AMB	AMB	12 54 20.5	
	comp=E,150nm,0.6s						
KUR				*i* S	**Sn**	**12 54 43.7**	**+1.0**
KUR				A	A	12 54 49.6	
	comp=E,130nm,0.3s						
KUR				A	A	12 54 49.6	
	comp=E,120nm,0.3s						
JKA	**Kamikawa-asahi**	**2.96**	**298**		**Pn**	**12 54 14.2**	**+1.3**
JKA	**Kamikawa-asahi**	**2.96**	**298**	*e*P	**Pn**	**12 54 14.2**	**+1.3**
ASAJ	**Asahikawa**	**2.96**	**298**	Pn	**Pn**	**12 54 13.0**	**+0.1**
	comp=E,7.8nm,0.3s,baz=125,slow=8.1,SNR=55						
ASAJ				Sn	**Sn**	**12 54 51.2**	**+2.7**
	comp=E,12nm,0.3s,baz=21,slow=28,SNR=8.4						
	comp=E,15nm,0.3s						
ASAJ	**Asahikawa**	**2.96**	**298**	PN	**Pn**	**12 54 14.2**	**+1.3**
JTM	**Tenmabayashi**	**4.34**	**244**	Pn	**Pn**	**12 54 32.2**	**+0.4**
YSS	**Yuzhno-Sakhali**	**4.85**	**331**	Pn	**Pn**	**12 54 38.8**	**0.0**
YSS	**Yuzhno-Sakhali**	**4.85**	**331**	*e*PN	**Pn**	**12 54 40.9**	**+2.1**
YSS				*e*S	**Sn**	**12 55 36.8**	**+1.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				smax	smax		
	comp=N,20nm,1.1s						
YSS				smax	smax		
	comp=E,10.0nm,1.0s						
YSS				MLR	MLR		
	comp=Z,300nm,13.0s						
YSS				MLR	MLR		
	comp=N,200nm,14.0s						
YSS	**Yuzhno-Sakhali**	**4.85**	**331**	*e*P	**Pn**	**12 54 40.8**	**+2.0**
JMM	**Marumori**	**6.42**	**222**	Pn	**Pn**	**12 55 00.3**	**-0.2**
MAJO	**Matsushiro**	**8.77**	**227**	Pn	**Pn**	**12 55 32.5**	**-0.3**
MAJO	**Matsushiro**	**8.77**	**227**	PN	**Pn**	**12 55 32.5**	**-0.3**
MJAR	**Matsushiro Arr**	**8.77**	**227**	Pn	**Pn**	**12 55 31.9**	**-0.8**
	baz=28,slow=13,SNR=2.3						
	comp=N,0.8nm,0.6s						
JGF	**Kuroka**	**9.93**	**227**	Pn	**Pn**	**12 55 49.5**	**+0.8**
USRK	**Ussuriysk Ar.**	**10.44**	**283**	Pn	**Pn**	**12 55 57.1**	**+1.5**
USRK	**Ussuriysk Ar.**	**10.44**	**283**	PN	**Pn**	**12 55 57.1**	**+1.5**
SEY	**Seymchan**	**20.51**	**8**	P	**P**	**12 58 04.5**	**+0.6**
	comp=N,0.4nm,0.5s,baz=206,slow=13,SNR=5.2						
	comp=N,0.4nm,0.5s						
SONM	**Songino Array**	**28.23**	**294**	P	**P**	**12 59 19.4**	**+0.4**
SONM	**Songino Array**	**28.23**	**294**	P	**P**	**12 59 19.4**	**+0.4**
	comp=N,2.3nm,0.6s,baz=88,slow=8.4,SNR=13						
	comp=N,2.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.84**	**136**	T	T	13 30 12.5	
	baz=328,slow=75,SNR=152						
H11N1	**WAKE ISLAND Hy**	**28.85**	**136**	T	T	13 30 15.2	
	baz=328,slow=75,SNR=114						
H11N3	**WAKE ISLAND Hy**	**28.86**	**136**	T	T	13 30 13.4	
	baz=328,slow=75,SNR=103						
H11S1	**WAKE ISLAND Hy**	**29.77**	**138**	T	T	13 31 23.9	
	baz=329,slow=75,SNR=295						
H11S3	**WAKE ISLAND Hy**	**29.78**	**138**	T	T	13 31 22.2	
	baz=329,slow=75,SNR=204						
H11S2	**WAKE ISLAND Hy**	**29.79**	**138**	T	T	13 31 25.1	
	baz=329,slow=75,SNR=260						
TNA	**Tin City**	**34.03**	**32**	P	**P**	**13 00 07.4**	**-2.3**
C18K	**Utukok River**	**37.48**	**29**	P	**P**	**13 00 39.8**	**+0.5**
C18K				IAmb	IAmb	13 00 55.0	
	comp=Z,3.5nm,1.2s						
E22K	**Anaktuvuk Pass**	**40.79**	**30**	P	**P**	**13 01 06.0**	**-1.0**
C23K	**Itkillik River**	**41.41**	**28**	P	**P**	**13 01 11.1**	**-0.9**
H23K	**Yukon River**	**41.54**	**34**	P	**P**	**13 01 12.0**	**-1.2**
H23K				IAmb	IAmb	13 01 32.0	
	comp=Z,4.4nm,1.1s						
C24K	**Franklin Bluff**	**42.06**	**28**	P	**P**	**13 01 17.6**	**+0.3**
ILAR	**Eielson Array**	**42.67**	**36**	P	**P**	**13 01 24.8**	**+2.4**
	comp=Z,0.2nm,0.6s,baz=274,slow=9.0,SNR=4.5						
	comp=Z,0.2nm,0.6s						
D25K	**Kavik River**	**42.86**	**29**	P	**P**	**13 01 24.7**	**+0.8**
MK31	**Makanchi Array**	**44.44**	**298**	P	**P**	**13 01 36.9**	**0.0**
MK31				IAmb	IAmb	13 01 37.5	
	comp=Z,3.2nm,0.8s						
MK31	**Makanchi Array**	**44.44**	**298**	P	**P**	**13 01 36.9**	**0.0**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**44.44**	**298**	P	**P**	**13 01 37.2**	**+0.3**
MKAR	**Makanchi Array**	**44.44**	**298**	P	**P**	**13 01 37.0**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=80,slow=9.0,SNR=15						
	comp=Z,1.6nm,0.7s						
MKAR	**Makanchi Array**	**44.44**	**298**	P	**P**	**13 01 37.2**	**+0.3**
MKAR	**Makanchi Array**	**44.44**	**298**	*e*P	**P**	**13 01 37.2**	**+0.3**
M26K	**Nabesna, AK**	**44.63**	**39**	P	**P**	**13 01 35.5**	**-2.7**
M26K				IAmb	IAmb	13 01 55.9	
	comp=Z,5.1nm,1.1s						
KURK	**Kurchatov**	**45.52**	**305**	P	**P**	**13 01 45.4**	**+0.1**
KURK				IAmb	IAmb	13 01 45.7	
	comp=Z,2.7nm,0.6s						
KURK	**Kurchatov**	**45.52**	**305**	P	**P**	**13 01 45.4**	**+0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**45.52**	**305**	*e*P	**P**	**13 01 45.4**	**+0.1**
KURBB	**Kurchatov Arra**	**45.60**	**304**	P	**P**	**13 01 46.0**	**0.0**
	comp=Z,1.9nm,0.5s,baz=71,slow=8.6,SNR=15						
	comp=Z,1.9nm,0.5s						
N30M	**Aishikik Lake**	**47.55**	**39**	P	**P**	**13 02 00.2**	**-1.1**
BVAR	**Borovoye Array**	**49.60**	**310**	P	**P**	**13 02 17.2**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=83,slow=7.1,SNR=7.3						
	comp=Z,1.0nm,0.4s						
BOOM	**Boomskoye usch**	**50.27**	**295**	P	**P**	**13 02 23.0**	**+0.5**
BOOM				IAmb	IAmb	13 02 23.8	
	comp=Z,2.3nm,0.7s						
BOOM	**Boomskoye usch**	**50.27**	**295**	P	**P**	**13 02 23.0**	**+0.5**
BOOM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARSB	**Arslanbob**	**52.77**	**295**	P	**P**	**13 02 42.1**	**+0.9**
ARSB				IAmb	IAmb	13 02 43.1	
	comp=Z,3.5nm,0.8s						
ARSB	**Arslanbob**	**52.77**	**295**	P	**P**	**13 02 42.1**	**+0.9**
ARSB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**53.57**	**298**	P	**P**	**13 02 47.2**	**+0.3**
KKAR	**Karatay Array**	**53.57**	**298**	P	**P**	**13 02 47.2**	**+0.3**
EUNU	**Eureka**	**53.93**	**10**	P	**P**	**13 02 48.8**	**-0.3**
EUNU				IAmb	IAmb	13 03 01.0	
	comp=Z,4.6nm,1.4s						
ARTI	**Arti**	**54.70**	**317**	P	**P**	**13 02 54.9**	**0.0**
ARTI				IAmb	IAmb	13 03 04.4	
	comp=Z,4.0nm,1.0s						
ARTI	**Arti**	**54.70**	**317**	P	**P**	**13 02 54.2**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=67,slow=7.7,SNR=4.3						
	comp=Z,1.6nm,0.4s						
ARTI	**Arti**	**54.70**	**317**	P	**P**	**13 02 54.9**	**0.0**
ARTI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YKA	**Yellowknife Ar**	**56.98**	**33**	P	**P**	**13 03 10.8**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=298,slow=7.4,SNR=3.0						
	comp=Z,0.2nm,0.7s						
AB31	**Akbulak array**	**57.15**	**309**	P	**P**	**13 03 12.6**	**+0.1**
AB31				IAmb	IAmb	13 03 13.3	
	comp=Z,2.5nm,0.6s						
ABKAR	**Akbulak array**	**57.15**	**309**	P	**P**	**13 03 12.2**	**-0.3**
AKTO	**Aktyubinsk**	**57.66**	**311**	P	**P**	**13 03 14.5**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=39,slow=11,SNR=4.4						
	comp=Z,0.7nm,0.3s						
ARCES	**ARCESS Array B**	**59.92**	**340**	P	**P**	**13 03 31.1**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=52,slow=7.9,SNR=3.5						
	comp=Z,0.3nm,0.4s						
WRA	**Warramunga Arr**	**63.36**	**193**	P	**P**	**13 03 55.6**	**+0.3**
	comp=Z,0.5nm,1.1s,baz=10,slow=6.4,SNR=1.7						
	comp=Z,0.5nm,1.1s						
FIA1	**FINESS Array S**	**65.43**	**333**	P	**P**	**13 04 08.0**	**-0.4**
FINES	**FINESS Array B**	**65.43**	**333**	P	**P**	**13 04 08.3**	**-0.1**
FINES	**FINESS Array B**	**65.43**	**333**	P	**P**	**13 04 08.1**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=45,slow=8.4,SNR=14						
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**65.43**	**333**	P	**P**	**13 04 08.3**	**-0.1**
ASAR	**Alice Springs**	**67.08**	**192**	P	**P**	**13 04 21.1**	**+1.7**
	comp=Z,0.3nm,1.0s,baz=9.8,slow=6.8,SNR=4.4						
	comp=Z,0.3nm,1.0s						
NVAR	**Mina Array Bea**	**68.67**	**57**	P	**P**	**13 04 30.9**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=284,slow=6.0,SNR=4.6						
	comp=Z,0.5nm,0.7s						
NB201	**NORSAR Array S**	**70.23**	**339**	P	**P**	**13 04 39.0**	**+0.3**
NB2	**NORSAR Subarra**	**70.26**	**339**	P	**P**	**13 04 38.8**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=34,slow=6.2						
NOA	**NORSAR Array B**	**70.26**	**339**	P	**P**	**13 04 38.9**	**0.0**
	comp=Z,1.5nm,0.7s,baz=32,slow=6.2,SNR=6.9						
	comp=Z,1.5nm,0.7s						
HFS	**Hagfors**	**70.32**	**337**	P	**P**	**13 04 38.8**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=46,slow=6.4,SNR=6.0						
	comp=Z,1.7nm,0.6s						
SENIN	**Lac Senin/Sane**	**84.04**	**333**	P	**P**	**13 05 56.5**	**-0.3**

*TEH **09** 12:54:37.8, 34°.56N×47°.69E, h10km±94km*
*ISN **09** 12:54:38.7±0.8, 34°.54N×47°.68E, h19km±5km, ML2.7*
ISC 09 12:54:38.2±1.2,**34°.55N**±0°.04×**47°.66E**±0°.03,**h5**km±12km,
n12,σ0°**68**/19,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNQR	**Sonqor, Kerman**	**0.31**	**355**	Pg	**Pg**	**12 54 44.5**	**+0.2**
SNQR				Sg	**Sg**	**12 54 49.1**	**+0.6**
KCHF	**Cheshme Sefid,**	**0.58**	**242**	Pg	**Pg**	**12 54 49.4**	**0.0**
KCHF				Sg	**Sb**	**12 54 58.7**	**-1.0**
ILIN	**Lien**	**0.68**	**303**	Pg	**Pg**	**12 54 50.5**	**-0.9**
IGHG	**Ghaleghazi**	**0.93**	**257**	Pg	**Pb**	**12 54 56.5**	**-0.5**
IDHR	**Dehrash**	**1.06**	**278**	Pg	**Pb**	**12 54 58.5**	**-0.7**
IDHR				Sg	**Sn**	**12 55 15.3**	**0.0**
BDRS	**Dareh Seyedi**	**1.17**	**120**	Pg	**Pg**	**12 55 00.5**	**-0.2**
HAGD	**Aghdareh**	**1.25**	**77**	Pg	**Pg**	**12 55 01.8**	**-0.4**
HAGD				Sg	**Sg**	**12 55 18.9**	**+0.5**
HGHA	**Hamedan- Ghaye**	**1.35**	**46**	Pg	**Pb**	**12 55 03.7**	**-0.6**
GLG1	**Gilan-e-Gharb**	**1.51**	**254**	Pg	**Pg**	**12 55 07.8**	**+0.5**
IBDR	**Badra**	**2.04**	**226**	*e*Pg	**Pb**	**12 55 15.0**	**-0.7**
IBDR				*e*Sg	**Sb**	**12 55 41.0**	**-0.3**
IBDR				AML	AML	12 55 52.4	
	comp=N,14nm,0.6s						
IKRK	**Kirkuk**	**2.86**	**288**	*e*Pn	**Pn**	**12 55 25.0**	**+0.5**
IKRK				*e*Sn	**Sn**	**12 56 00.0**	**+0.8**
IKRK				AML	AML	12 56 05.8	
	comp=N,118nm,0.4s						
IKRK				AML	AML	12 56 18.3	
	comp=E,84nm,0.6s						
RAFI	**Al-Rafai**	**3.10**	**205**	*e*Pn	**Pn**	**12 55 29.0**	**+1.1**
RAFI				*e*Sn	**Sn**	**12 56 05.0**	**-0.3**

*THE **09** 12:56:26.9, 37°.55N×20°.66E, h16km, ML3.0/8, Error ellipse: s-maj=0.7km s-min=0.3km az=48.0*
*ATH **09** 12:56:27.8, 37°.60N×20°.61E, h14km±3km, ML2.9/12, Manual Solution by E.Daskalaki First location: 2019/04/09 12:57:10, This location: 2019/04/09 13:36:50 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 4 km*
ISC 09 12:56:26.0±1.7,**37°.55N**±0°.06×**20°.64E**±0°.05,**h15**km±9km,
n46,σ0°**60**/64,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.23**	**45**	P	**Pb**	**12 56 31.7**	**-0.2**
LTHK				S	**Sb**	**12 56 35.5**	**-0.4**
	5μm,0.1s						
ORTH	**Orthonies,Zaky**	**0.31**	**9**	P	**Pb**	**12 56 33.6**	**+0.3**
ORTH				S	**Sg**	**12 56 36.6**	**-0.3**
KYPS	**Kipseli, Zakin**	**0.31**	**29**	P	**Pb**	**12 56 33.7**	**+0.3**
KYPS				S	**Sb**	**12 56 38.4**	**+0.1**
CLEM	**Kyllini,Ilia,G**	**0.52**	**49**	P	**Pb**	**12 56 37.4**	**+0.4**
CLEM				S	**Sb**	**12 56 44.8**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.54**	**12**	P	**Pb**	**12 56 37.4**	**+0.1**
RTZL				S	**Sb**	**12 56 45.4**	**+0.6**
	1μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.57**	**356**	P	**Pb**	**12 56 37.9**	**+0.2**
PSDA				S	**Sb**	**12 56 46.5**	**+0.8**
	2μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.57**	**356**	P	**Pb**	**12 56 38.0**	**+0.2**
PSDA				S	**Sb**	**12 56 45.9**	**+0.2**
VLS	**Valsamata**	**0.63**	**357**	P	**Pb**	**12 56 39.0**	**+0.2**
VLS				S	**Sb**	**12 56 48.5**	**+1.0**
	2μm,0.2s						
VLS	**Valsamata**	**0.63**	**357**	P	**Pg**	**12 56 38.3**	**-0.1**
VLS				S	**Sb**	**12 56 47.8**	**+0.3**
SMHA	**Samh**	**0.70**	**1**	P	**Pg**	**12 56 39.4**	**-0.4**
SMHA				S	**Sb**	**12 56 50.0**	**+0.4**
DMLN	**Damoulianata-K**	**0.72**	**343**	P	**Pb**	**12 56 40.8**	**+0.4**
DMLN				S	**Sn**	**12 56 51.3**	**-1.3**
	2μm,0.5s						
DMLN	**Damoulianata-K**	**0.72**	**343**	P	**Pb**	**12 56 40.4**	**+0.1**
DMLN				S	**Sb**	**12 56 50.8**	**+0.7**
YRMI	**Loutra Irminis**	**0.79**	**45**	P	**Pb**	**12 56 42.0**	**+0.4**
YRMI				S	**Sn**	**12 56 53.4**	**-0.9**
RLS	**Riolos of Patr**	**0.83**	**52**	P	**Pb**	**12 56 42.2**	**-0.1**
RLS				S	**Sn**	**12 56 54.2**	**-1.1**
	332nm,0.2s						
RLS	**Riolos of Patr**	**0.83**	**52**	P	**Pg**	**12 56 42.4**	**+0.1**
RLS				S	**Sn**	**12 56 54.7**	**-0.6**
VSK1	**VASILIKIADES**	**0.86**	**356**	P	**Pg**	**12 56 42.9**	**+0.1**
VSK1				S	**Sn**	**12 56 55.7**	**-0.4**
	1μm,0.4s						
AXS	**Araxos**	**0.88**	**42**	P	**Pg**	**12 56 43.2**	**+0.2**
AXS				S	**Sn**	**12 56 56.2**	**-0.1**
FSK	**Fiskardo**	**0.91**	**356**	P

IDE	**Isla Desecheo**	**1.26 128**	*e*S		**Sb**	**12 58 15.4**	**-1.3**
NADR	**Nagua**	**1.28 278**	⇓*e*Pg		**Pb**	**12 58 01.5**	**+0.4**
NADR			*e*Sg		**Sg**	**12 58 19.6**	**+1.1**
NADR			IAML			12 58 23.2	
	comp=N,1μm,0.2s						
NADR			IAML			12 58 23.2	
	comp=N,1μm,0.2s						
DR08	**Loma La Naviza**	**1.44 262**	⇑*e*Pg		**Pn**	**12 58 02.8**	**-0.2**
DR08			⇑*e*Sg		**Sg**	**12 58 23.7**	**0.0**
DR08			IAML			12 58 26.5	
	comp=N,4μm,0.2s						
DR08			IAML			12 58 26.6	
	comp=N,4μm,0.2s						
AGPR	**Aguadilla, PR**	**1.50 118**	Pn		**Pg**	**12 58 06.3**	**+0.3**
AGPR			IAML			12 58 30.6	
	comp=E,224nm,0.6s						
AGPR			IAML			12 58 33.4	
	comp=N,212nm,0.5s						
AGPR	**Aguadilla, PR**	**1.50 118**	*e*Pg		**Pg**	**12 58 06.6**	**+0.6**
AGPR			⇑*e*Sg		**Sg**	**12 58 25.6**	**+0.1**
AGPR			IAML			12 58 33.3	
	comp=N,205nm,0.5s						
AGPR	**Aguadilla, PR**	**1.50 118**	*i* P		**Pg**	**12 58 06.7**	**+0.6**
AGPR			IAML			12 58 35.5	
	comp=Z,84nm,0.7s						
PRSN	**Puerto Rico Se**	**1.61 126**	Pn		**Pn**	**12 58 05.9**	**+0.7**
LSP	**Las Mesas**	**1.68 126**			**Pn**	**12 58 06.4**	**+0.2**
LSP	**Las Mesas**	**1.68 126**	⇑*e*P		**Pn**	**12 58 06.4**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.76 131**			**Pb**	**12 58 08.9**	**-0.4**
CRPR					**Sn**	**12 58 28.6**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.76 131**	*e*Pg		**Pg**	**12 58 10.8**	**-0.2**
CRPR			⇓*e*Sg		**Sg**	**12 58 34.6**	**+0.6**
CRPR			IAML			12 58 41.6	
	comp=N,50nm,0.8s						
CRPR			IAML			12 58 41.6	
	comp=N,50nm,0.8s						
CRPR	**Cabo Rojo, PR**	**1.76 131**	⇑*e*P		**Pn**	**12 58 07.3**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.76 131**	*e*S		**Sn**	**12 58 29.2**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.76 131**	*i* P		**Pb**	**12 58 09.2**	**-0.1**
CRPR			IAML			12 58 38.2	
	comp=Z,98nm,0.5s						
MLPR	**Magueyes Islan**	**1.83 130**	⇑*e*Pg		**Pg**	**12 58 11.7**	**-0.7**
MLPR			⇑*e*Sg		**Sg**	**12 58 36.3**	**0.0**
MLPR			IAML			12 58 44.0	
	comp=N,20nm,0.3s						
MLPR			IAML			12 58 44.7	
	comp=N,17nm,0.5s						
MLPR	**Magueyes Islan**	**1.83 130**	⇑*e*P		**Pn**	**12 58 09.0**	**+0.7**
MLPR	**Magueyes Islan**	**1.83 130**	*e*S		**Sn**	**12 58 31.8**	**+0.4**
AOPR	**Arecibo Observ**	**1.86 116**			**Pn**	**12 58 09.4**	**+0.7**
AOPR					**Sb**	**12 58 33.4**	**-0.7**
AOPR			IAML			12 58 44.6	
	comp=N,222nm,0.3s						
AOPR	**Arecibo Observ**	**1.86 116**	*e*Sg		**Sg**	**12 58 36.2**	**-0.7**
AOPR			IAML			12 58 44.5	
	comp=N,210nm,0.2s						
AOPR			IAML			12 58 44.5	
	comp=N,210nm,0.2s						
AOPR	**Arecibo Observ**	**1.86 116**	⇓*e*P		**Pb**	**12 58 10.7**	**-0.3**
AOPR	**Arecibo Observ**	**1.86 116**	*e*S		**Sn**	**12 58 32.3**	**+0.3**
BANI	**BANI**	**1.91 246**	Pn		**Pn**	**12 58 09.0**	**-0.5**
BANI			IAML			12 58 42.6	
	comp=E,195nm,0.2s						
BANI			IAML			12 58 45.5	
	comp=N,249nm,0.3s						
BANI	**BANI**	**1.91 246**	⇑*e*Pg		**Pb**	**12 58 12.6**	**+0.6**
BANI			*e*Sg		**Sb**	**12 58 36.4**	**+0.6**
BANI			IAML			12 58 45.3	
	comp=N,239nm,0.3s						
BANI			IAML			12 58 45.4	
	comp=N,239nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.93 118**	Pn		**Pb**	**12 58 11.2**	**-0.9**
UUPR	**Utuado, UPR, P**	**1.93 118**	⇓*e*P		**Pb**	**12 58 11.7**	**-0.5**
GBPR	**Guanica, Bosqu**	**1.95 127**			**Pn**	**12 58 10.7**	**+0.7**
GBPR	**Guanica, Bosqu**	**1.95 127**	⇑*e*P		**Pn**	**12 58 10.7**	**+0.7**
EMPR	**Esperanza - Ma**	**2.00 110**			**Pb**	**12 58 12.7**	**-0.6**
EMPR					**Sn**	**12 58 34.8**	**-0.7**
EMPR			IAML			12 58 56.8	
	comp=E,161nm,1.0s						
EMPR			IAML			12 58 57.5	
	comp=N,165nm,1.5s						
EMPR	**Esperanza - Ma**	**2.00 110**	⇓*e*P		**Pn**	**12 58 11.2**	**+0.6**
EMPR	**Esperanza - Ma**	**2.00 110**	*e*S		**Sb**	**12 58 38.8**	**+0.6**
ABDR	**Alto Bandera**	**2.03 260**	⇑*e*Pg		**Pb**	**12 58 14.2**	**+0.1**
ABDR			IAML			12 58 45.0	
	comp=N,126nm,0.3s						
ABDR			IAML			12 58 45.1	
	comp=N,126nm,0.3s						
OBIP	**Obispado Ponce**	**2.13 122**	Pn		**Pb**	**12 58 14.3**	**-1.2**
OBIP			IAML			12 58 49.4	
	comp=E,70nm,0.5s						
CELP	**Cerrillos**	**2.13 120**	Pn		**Pb**	**12 58 15.1**	**-0.6**
CELP			IAML			12 58 47.5	
	comp=E,109nm,0.7s						
CELP			IAML			12 58 48.4	
	comp=N,81nm,0.5s						
CELP	**Cerrillos**	**2.13 120**	⇓*e*Pg		**Pb**	**12 58 16.0**	**+0.3**
CELP			⇓*e*Sg		**Sg**	**12 58 45.5**	**-0.2**
CELP			IAML			12 58 47.6	
	comp=N,69nm,0.2s						
CELP			IAML			12 58 47.6	
	comp=N,69nm,0.2s						
CELP	**Cerrillos**	**2.13 120**	⇑*e*P		**Pn**	**12 58 13.0**	**+0.6**
CELP	**Cerrillos**	**2.13 120**	*e*S		**Sb**	**12 58 42.4**	**+0.4**
ECPR	**Experimental S**	**2.21 112**	⇓*e*P		**Pb**	**12 58 15.5**	**-1.4**
ECPR	**Experimental S**	**2.21 112**	*e*S		**Sn**	**12 58 42.2**	**+1.6**
GCPR	**Guaynabo City**	**2.46 110**	Pn		**Pn**	**12 58 17.8**	**+0.9**
IGPR	**InterUniversit**	**2.58 117**	Pn		**Pn**	**12 58 19.6**	**+1.1**
IGPR			IAML			12 58 59.4	
	comp=N,71nm,0.3s						
IGPR			IAML			12 59 00.5	
	comp=E,83nm,0.6s						
PDPR	**Patillas Dam,**	**2.62 115**	Pn		**Pn**	**12 58 19.7**	**+0.5**
PDPR			IAML			12 59 01.8	
	comp=E,44nm,0.6s						
PDPR			IAML			12 59 05.6	
	comp=N,44nm,0.6s						
PDPR	**Patillas Dam,**	**2.62 115**	⇑*e*P		**Pb**	**12 58 22.2**	**-1.8**
PDPR	**Patillas Dam,**	**2.62 115**	*e*S		**Sn**	**12 58 53.5**	**+2.5**
SDDR	**Presa de Saban**	**2.63 266**			**Pn**	**12 58 19.7**	**+0.4**
SDDR			IAML			12 59 02.5	
	comp=N,55nm,0.9s						
SDDR			IAML			12 59 03.2	
	comp=N,58nm,0.6s						
SDDR	**Presa de Saban**	**2.63 266**	*i* P		**Pb**	**12 58 22.5**	**-1.6**
SDDR			IAML			12 59 04.2	
	comp=Z,28nm,0.2s						
PODR	**Polo**	**2.81 250**	*i* P		**Pb**	**12 58 25.8**	**-1.5**
PODR			*e*S		**Sb**	**12 59 01.6**	**-0.1**
LODU1	**El Espartillar**	**2.92 254**	*i* P		**Pb**	**12 58 28.0**	**-1.1**
LOBH	**Bahia de las A**	**3.24 247**	*i* P		**Pb**	**12 58 31.7**	**-2.8**
LOBH			IAML			12 59 13.1	
	comp=Z,50nm,1.6s						
GRTK	**Grand Turk**	**3.39 314**	Pn		**Pn**	**12 58 29.6**	**-0.1**
GRTK			IAML			12 58 59.0	
	comp=Z,60nm,2.0s						

*NEIC **09** 13:03:25.1±0.8, 18°.0S±0°.2×178°.1W±0°.1, h574km±8km, mb4.2/27, Error ellipse: s-maj=23.4km s-min=16.6km az=163.0*
*IDC **09** 13:03:25.2±2.0, 17°.99S×178°.24W, h574km±19km, mb3.1/7, mbtmp4.0/8, Error ellipse: s-maj=36.8km s-min=19.0km az=136.0*
ISC 09 13:03:25.9±0.6, 18°.1S±0°.1×178°.2W±0°.1, h590km, n41, σ0°81/43, mb4.1/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.62**	**275**	P	**P**	**13 04 45.8**	**-2.4**
MSVF	**Nonsavu**	**3.62**	**275**	P	**P**	**13 04 46.3**	**-1.8**
	20nm,0.7s,baz=118,slow=5.0,SNR=27						
NIUE	**Niue**	**7.87**	**98**	P	**P**	**13 05 21.8**	**-1.8**
DZM	**Mont Dzumac**	**14.99**	**252**	P	**P**	**13 06 34.3**	**-0.1**
DZM				IAmb	IAmb	13 06 40.5	
	comp=Z,25nm,1.2s						
BFZ	**Birch Farm**	**23.02**	**191**	P	**P**	**13 07 47.2**	**+0.4**
EIDS	**Eidsvold**	**29.42**	**250**	P	**P**	**13 08 42.7**	**-0.6**
EIDS				IAmb	IAmb	13 08 54.9	
	comp=Z,6.3nm,1.2s						
ARMA	**Armidale**	**30.05**	**240**	P	**P**	**13 08 49.0**	**+0.3**
CAN	**Canberra**	**33.77**	**233**	P	**P**	**13 09 20.5**	**+0.4**
CAN				IAmb	IAmb	13 09 34.6	
	comp=Z,22nm,1.4s						
TOO	**Toolangi**	**37.23**	**231**	P	**P**	**13 09 49.4**	**+0.8**
TOO				IAmb	IAmb	13 10 21.6	
	comp=Z,9.9nm,1.4s						
COEN	**Coen**	**37.34**	**271**	P	**P**	**13 09 50.1**	**+0.4**
COEN				IAmb	IAmb	13 10 04.0	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**38.74**	**241**	P	**P**	**13 10 01.7**	**+0.8**
STKA	**Stephens Creek**	**38.74**	**241**	P	**P**	**13 10 01.3**	**+0.4**
	comp=Z,4.2nm,0.8s,baz=97,slow=10,SNR=5.4						
	comp=Z,4.2nm,0.8s						
BBOO	**Buckleboo**	**43.52**	**241**	P	**P**	**13 10 38.8**	**+0.2**
WB0	**Warramunga Arr**	**44.79**	**260**	P	**P**	**13 10 48.3**	**-0.3**
WB0				IAmb	IAmb	13 11 07.6	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**44.83**	**260**	P	**P**	**13 10 47.8**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=97,slow=7.1,SNR=36						
WRA				PcP	**PcP**	**13 12 18.1**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=91,slow=3.8,SNR=5.5						
	comp=Z,2.2nm,0.7s						
AS31	**Alice Springs**	**44.96**	**254**	P	**P**	**13 10 49.8**	**-0.1**
AS31				IAmb	IAmb	13 10 50.8	
	comp=Z,4.7nm,0.5s						
ASAR	**Alice Springs**	**44.96**	**254**	P	**P**	**13 10 49.2**	**-0.7**
ASAR	**Alice Springs**	**44.96**	**254**	P	**P**	**13 10 49.8**	**-0.1**
	comp=Z,11nm,0.5s,baz=88,slow=9.0,SNR=289						
ASAR				PcP	**PcP**	**13 12 18.8**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=104,slow=3.8,SNR=9.7						
	comp=Z,11nm,0.5s						
FORT	**Forrest**	**50.14**	**245**	P	**P**	**13 11 27.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.23**	**261**	P	**P**	**13 11 50.8**	**+0.1**
MBWA	**Marble Bar**	**58.25**	**256**	P	**P**	**13 12 25.0**	**-0.3**
MBWA				IAmb	IAmb	13 13 08.2	
	comp=Z,21nm,1.2s						
UGM	**Wanagama**	**69.87**	**268**	P	**P**	**13 13 39.2**	**+0.2**
QSPA	**South Pole Qui**	**71.96**	**180**	P	**P**	**13 13 51.3**	**+0.9**
QSPA	**South Pole Qui**	**71.96**	**180**	P	**P**	**13 13 51.3**	**+0.9**
	comp=Z,1.3nm,1.0s,baz=348,slow=14,SNR=1.8						
	comp=Z,1.3nm,1.0s						
PETK	**Petropavlovsk-**	**73.92**	**345**	P	**P**	**13 14 01.4**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=183,slow=6.4,SNR=1.5						
	comp=Z,0.9nm,0.6s						
NVAR	**Mina Array Bea**	**79.40**	**44**	P	**P**	**13 14 32.2**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=231,slow=3.8,SNR=2.6						
	comp=Z,0.4nm,0.8s						
M16K	**Timber Creek**	**80.35**	**9**	P	**P**	**13 14 37.0**	**+0.8**
M16K				IAmb	IAmb	13 14 56.3	
	comp=Z,9.0nm,1.4s						
L16K	**Owhat River**	**80.92**	**9**	P	**P**	**13 14 39.6**	**+0.5**
K15K	**Wolf Creek Mou**	**81.20**	**8**	P	**P**	**13 14 41.5**	**+0.9**
K15K				IAmb	IAmb	13 14 42.7	
	comp=Z,9.7nm,1.3s						
L18K	**Granite Mounta**	**81.84**	**10**	P	**P**	**13 14 44.4**	**+0.6**
J16K	**Anvik River**	**82.28**	**8**	P	**P**	**13 14 46.7**	**+0.7**
J16K				IAmb	IAmb	13 15 02.8	
	comp=Z,12nm,1.4s						
J17K	**VABM Dome**	**82.59**	**9**	P	**P**	**13 14 48.1**	**+0.5**
J17K				IAmb	IAmb	13 15 06.8	
	comp=Z,9.7nm,1.5s						
J18K	**Innoko River**	**83.01**	**10**	P	**P**	**13 14 50.1**	**+0.4**
J20K	**Nowinta River**	**84.09**	**10**	P	**P**	**13 14 55.5**	**+0.5**
J20K				IAmb	IAmb	13 15 07.1	
	comp=Z,7.1nm,1.4s						
HLID	**Hailey**	**84.62**	**41**	P	**P**	**13 14 59.9**	**+1.5**
ILAR	**Eielson Array**	**86.02**	**13**	P	**P**	**13 15 03.4**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=222,slow=5.3,SNR=7.4						
	comp=Z,0.1nm,0.4s						
COLD	**Coldfoot**	**87.56**	**11**	P	**P**	**13 15 11.7**	**+0.2**
COLD				IAmb	IAmb	13 15 22.1	
	comp=Z,3.6nm,1.3s						
F24K	**Squaw Lake**	**88.23**	**11**	P	**P**	**13 15 14.9**	**+0.3**
F24K				IAmb	IAmb	13 15 21.4	
	comp=Z,3.2nm,1.4s						
BRTR	**Keskin Array B**	**145.08**	**315**	PKP	**PKPbc**	**13 21 58.6**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=132,slow=5.3,SNR=4.5						
MMAI	**Mount Meron Ar**	**146.44**	**303**	PKPbc	**PKPbc**	**13 22 03.2**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=23,slow=4.5,SNR=3.5						
GERES	**GERESS Array B**	**147.86**	**345**	PKPbc	**PKPbc**	**13 22 05.8**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=11,slow=2.7,SNR=7.9						

*NEIC **09** 13:11:34.8±1.6, 21°.7N±0°.1×143°.0E±0°.2, h257km±9km, mb4.0/16, Error ellipse: s-maj=25.5km s-min=16.3km az=95.0*
*IDC **09** 13:11:35.4±7.4, 21°.61N×143°.09E, h269km±74km, mb3.2/8, mbtmp3.8/9, Error ellipse: s-maj=31.1km s-min=16.6km az=90.0*
ISC 09 13:11:39.5±0.8, 21°.70N±0°.10×143°.0E±0°.2, h311km, n29, σ1°32/29, mb3.8/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSG	**Sagara**	**13.59**	**343**		**P**	**13 14 37.7**	**-2.7**
MJAR	**Matsushiro Arr**	**15.36**	**345**	P	**P**	**13 14 59.4**	**-0.5**
	1.1nm,0.6s,baz=164,slow=10,SNR=4.1						
LUWI	**Luwuk**	**29.99**	**224**		**S**	**13 21 58.0**	**+3.1**
ENH	**Enshi**	**31.19**	**293**	P	**P**	**13 17 29.4**	**-1.2**
ENH				IAmb	IAmb	13 18 05.6	
	comp=Z,5.9nm,0.5s						
WB0	**Warramunga Arr**	**42.05**	**192**	P	**P**	**13 19 00.7**	**-0.9**
WB0				IAmb	IAmb	13 19 38.9	
	comp=Z,15nm,1.5s						
WR8	**Warramunga Arr**	**42.22**	**192**	P	**P**	**13 19 02.1**	**-0.9**
WR8				IAmb	IAmb	13 19 04.7	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**42.23**	**192**	P	**P**	**13 19 02.3**	**-0.8**
WRA	**Warramunga Arr**	**42.23**	**192**	P	**P**	**13 19 02.2**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=16,slow=9.7,SNR=7.3						
	comp=Z,0.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**43.03**	**205**	P	**P**	**13 19 08.9**	**-0.5**
ASAR	**Alice Springs**	**45.94**	**192**	P	**P**	**13 19 31.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=12,slow=7.0,SNR=4.5						
	comp=Z,0.1nm,0.3s						
LHMI	**Lhok Sumawe**	**47.43**	**257**	P	**P**	**13 19 44.0**	**+0.1**
BBOO	**Buckleboo**	**54.60**	**187**	P	**P**	**13 20 35.0**	**-1.5**
KURBB	**Kurchatov Arra**	**57.38**	**317**	P	**P**	**13 20 56.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=94,slow=7.4,SNR=8.0						
	comp=Z,0.8nm,0.5s						
BPAW	**Bear Paw Mtn.**	**60.27**	**28**	P	**P**	**13 21 15.7**	**+0.2**
BPAW				IAmb	IAmb	13 21 33.1	
	comp=Z,4.1nm,1.2s						
SML	**Sawmill**	**61.06**	**30**	P	**P**	**13 21 21.9**	**+1.0**
C23K	**Itkillik River**	**61.73**	**21**	P	**P**	**13 21 26.4**	**+1.4**
C23K				IAmb	IAmb	13 21 47.2	
	comp=Z,5.7nm,1.5s						
TOLK	**Toolik Lake Re**	**61.80**	**23**	P	**P**	**13 21 27.2**	**+1.5**
TOLK				IAmb	IAmb	13 22 02.5	
	comp=Z,5.0nm,1.4s						
ILAR	**Eielson Array**	**62.13**	**27**	P	**P**	**13 21 27.4**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=264,slow=5.3,SNR=5.3						
	comp=Z,0.2nm,0.6s						
BVAR	**Borovoye Array**	**62.54**	**319**	P	**P**	**13 21 32.1**	**+1.4**
	comp=Z,1.7nm,0.4s,baz=96,slow=7.3,SNR=8.3						
	comp=Z,1.7nm,0.4s						
BMAR	**Burnt Mountain**	**63.43**	**24**	P	**P**	**13 21 38.6**	**+2.2**
C27K	**Jago River**	**64.04**	**22**	P	**P**	**13 21 41.3**	**+1.1**
C27K				IAmb	IAmb	13 21 57.8	
	comp=Z,3.3nm,1.4s						
AB31	**Akbulak array**	**69.41**	**316**	P	**P**	**13 22 14.6**	**+0.3**
ABKAR	**Akbulak array**	**69.41**	**316**	P	**P**	**13 22 14.5**	**+0.3**
ABKAR				IAmb	IAmb	13 22 15.8	
	comp=Z,3.1nm,1.4s						
C36M	**Paulatuk**	**70.94**	**22**	P	**P**	**13 22 23.4**	**+0.3**
YKA	**Yellowknife Ar**	**76.55**	**28**	P	**P**	**13 22 56.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=294,slow=5.8,SNR=9.6						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**78.86**	**341**	P	**P**	**13 23 10.0**	**+1.8**
ARCES	**ARCESS Array B**	**78.86**	**341**	P	**P**	**13 23 09.8**	**+1.7**
	comp=Z,2.0nm,1.0s,baz=75,slow=9.3,SNR=7.5						
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**83.09**	**334**	P	**P**	**13 23 30.3**	**-0.1**
FINES	**FINESS Array B**	**83.09**	**334**	P	**P**	**13 23 30.5**	**0.0**
	comp=Z,3.8nm,1.0s,baz=96,slow=5.7,SNR=5.9						
	comp=Z,3.8nm,1.0s						

TXNET 09 13:14:57.2, 31°.7N±0°.6×104°.4W±0°.6, h5km±2km, ML2.0/7, Error ellipse: s-maj=0.9km s-min=0.9km az=175.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.39**	**44**	P	Pg	13 15 05.0	+0.1
TPB11				S	Sg	13 15 10.1	+0.1
PECS	**Pecos**	**0.50**	**124**	P	Pg	13 15 07.0	+0.1
PECS				S	Sg	13 15 13.7	+0.2
GDL2	**Guadalupe Moun**	**0.55**	**359**	P	Pg	13 15 07.9	+0.2
TPB12	**Southwest of T**	**0.56**	**142**	P	Pg	13 15 07.8	-0.1
TPB12				S	Sg	13 15 15.3	+0.1
TPB07	**Mentone**	**0.59**	**97**	P	Pg	13 15 09.3	+0.7
TPB07				S	Sg	13 15 16.9	+0.6
TPB10	**Southeast of T**	**0.63**	**125**	P	Pg	13 15 09.8	+0.5
TPB10				S	Sg	13 15 18.5	+0.9
CLNB	**Carlsbad**	**0.73**	**34**	P	Pg	13 15 11.6	+0.3
CLNB				S	Sg	13 15 21.3	+0.6
PCOS	**Crockett Middl**	**0.76**	**108**	S	Sg	13 15 22.3	+0.6
TPB01	**Permian Basin**	**0.86**	**145**	P	Pg	13 15 13.1	-0.6
TPB01				S	Sg	13 15 24.6	-0.4
MNTX	**Cornudas Mount**	**0.88**	**273**	P	Pg	13 15 14.2	+0.1
MNTX				S	Sg	13 15 26.0	+0.7
TPB06	**Permian Basin**	**0.97**	**90**	S	Sg	13 15 29.0	+0.5
VHRN	**Van Horn**	**1.02**	**212**	P	Pg	13 15 16.6	-0.2
VHRN				S	Sb	13 15 31.1	+0.1
HTMS	**Hat Mesa**	**1.02**	**37**	S	Sb	13 15 30.7	-0.5
NM01	**Eunice**	**1.07**	**49**	S	Sb	13 15 32.7	+0.1
TPB16	**Coyonosa**	**1.08**	**119**	S	Sg	13 15 32.1	+0.1
TPB05	**Hovey Rd**	**1.15**	**129**	P	Pg	13 15 18.9	-0.3
TPB05				S	Sg	13 15 33.5	-0.5
MNHN	**Monahans**	**1.40**	**102**	P	Pn	13 15 22.9	-0.5
MNHN				S	Sb	13 15 41.7	-0.2
ALPN	**Alpine**	**1.42**	**154**	P	Pn	13 15 22.7	-1.0
ALPN				S	Sb	13 15 41.2	-1.3
CPRX	**Cap Rock**	**1.43**	**17**	P	Pn	13 15 23.9	-0.1
ODSA	**Odessa**	**1.61**	**73**	S	Sn	13 15 46.9	-0.5
TMB04	**Seminole**	**1.86**	**58**	P	Pb	13 15 30.8	-0.9
TMB02	**Rankin**	**2.03**	**102**	S	Sb	13 16 00.1	-0.2
TX31	**Lajitas Ar. Si**	**2.39**	**165**	Pg	Pb	13 15 40.3	-0.4

*NEIC **09** 13:22:00.2±0.9, 61°.35N±0°.02×150°.02W±0°.04, h46km±4km, Error ellipse: s-maj=3.5km s-min=3.1km az=202.0*
AEIC 09 13:22:01.4±1.2, 61°.32N±0°.02×150°.01W±0°.04, h36km±4km, ML2.5, ML2.7/136(NEIC), Error ellipse: s-maj=3.6km s-min=2.7km az=203.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.21**	**209**		Sn	13 22 16.1	-1.9
FIS	**Fire Island**	**0.21**	**209**		Pn	13 22 08.6	-1.4
FIS				IAML		13 22 16.4	
	comp=E,2μm,0.5s						
FIS				IAML		13 22 16.5	
	comp=N,929nm,0.5s						
RC01	**Rabbit Creek A**	**0.27**	**150**		Sn	13 22 14.8	-1.7
RC01	**Rabbit Creek A**	**0.27**	**150**	Pn	Pn	13 22 08.3	-1.1
RC01				IAML		13 22 15.1	
	comp=E,2μm,0.2s						
RC01				IAML		13 22 15.9	
	comp=N,1μm,0.3s						
SUA	**Susitna One**	**0.38**	**292**		Sn	13 22 16.4	-0.6
SUA	**Susitna One**	**0.38**	**292**		Pn	13 22 09.4	-0.8
SUA				IAML		13 22 17.1	
	comp=E,615nm,0.7s						
SUA				IAML		13 22 17.0	
	comp=N,580nm,0.6s						
M22K	**Willow**	**0.43**	**353**		Sn	13 22 17.8	0.0
M22K	**Willow**	**0.43**	**353**	Pn	Pn	13 22 09.8	-1.0
M22K				IAML		13 22 19.0	
	comp=N,193nm,0.5s						
M22K				IAML		13 22 21.1	
	comp=E,188nm,0.4s						
PMR	**Palmer**	**0.50**	**57**		Sn	13 22 19.0	-0.4
PMR	**Palmer**	**0.50**	**57**		Pn	13 22 10.6	-1.4
PMR				IAML		13 22 19.3	
	comp=E,315nm,0.4s						
PMR				IAML		13 22 19.5	
	comp=N,312nm,0.4s						
GHO	**Glory Hole Cre**	**0.69**	**49**		Sn	13 22 23.9	-0.3
GHO	**Glory Hole Cre**	**0.69**	**49**		Pn	13 22 13.4	-1.3
GHO				IAML		13 22 24.4	
	comp=N,484nm,0.4s						
KNK	**Knik Glacier**	**0.75**	**82**		Pn	13 22 14.5	-1.0
CAPN	**Captain Cook N**	**0.79**	**225**	Pn	Pn	13 22 16.1	+0.2
SLKM	**Skilak Lake**	**0.82**	**187**		Sn	13 22 27.0	-0.4
SLKM	**Skilak Lake**	**0.82**	**187**		Pn	13 22 14.9	-1.6
O22K	**Cooper Landing**	**0.86**	**170**		Sn	13 22 29.0	+0.8
O22K	**Cooper Landing**	**0.86**	**170**		Pn	13 22 15.6	-1.3
STLK	**Strandline Lak**	**0.89**	**282**		Sn	13 22 28.6	-0.6
STLK	**Strandline Lak**	**0.89**	**282**		Pn	13 22 16.4	-1.1
STLK				IAML		13 22 29.4	
	comp=E,180nm,0.3s						
STLK				IAML		13 22 29.8	
	comp=N,219nm,0.5s						
PWL	**Port Wells**	**0.94**	**119**		Sn	13 22 31.2	+0.9
PWL	**Port Wells**	**0.94**	**119**		Pn	13 22 17.4	-0.6
SML	**Sawmill**	**0.94**	**58**		Sn	13 22 30.3	0.0
SML	**Sawmill**	**0.94**	**58**		Pn	13 22 16.9	-1.2
SML				IAML		13 22 32.5	
	comp=E,265nm,0.9s						
SML				IAML		13 22 33.7	
	comp=N,235nm,0.5s						
SKT	**Skwentna**	**0

	comp=N,27nm,0.7s							
KTH	**Kantishna Hill**	**2.28**	**350**	IAML			13 23 07.2	
	comp=N,46nm,0.6s							
KTH				IAML			13 23 08.1	
	comp=E,37nm,0.7s							
L19K	**White Mountain**	**2.46**	**293**	IAML			13 23 09.3	
	comp=E,23nm,0.5s							
MCK	**McKinley**	**2.47**	**11**	IAML			13 23 18.9	
	comp=E,25nm,0.6s							
HARP	**HAARP**	**2.54**	**63**			Pn	13 22 40.6	+0.6
N25K	**Chitina, Valde**	**2.62**	**81**	IAML			13 23 21.3	
	comp=E,28nm,0.4s							
N25K				IAML			13 23 25.3	
	comp=N,35nm,1.1s							
BMRM	**Bremner River**	**2.65**	**95**			Pn	13 22 41.0	-0.5
BMRM	**Bremner River**	**2.65**	**95**	IAML			13 23 22.2	
	comp=E,35nm,0.8s							
BMRM				IAML			13 23 22.5	
	comp=N,34nm,0.4s							
PAX	**Paxson**	**2.70**	**50**			Pn	13 22 43.5	+1.2
PAX	**Paxson**	**2.70**	**50**	IAML			13 23 23.0	
	comp=E,24nm,0.5s							
PAX				IAML			13 23 24.1	
	comp=N,27nm,0.5s							
K20K	**Telida**	**2.78**	**319**	IAML			13 23 24.0	
	comp=E,21nm,0.7s							
M18K	**Stony River**	**2.80**	**276**			Pn	13 22 43.1	-0.4
GLB	**Gilahina Butte**	**2.99**	**85**	IAML			13 23 33.4	
	comp=E,19nm,0.6s							
GLB				IAML			13 23 33.6	
	comp=N,25nm,1.2s							
VRDI	**Verde Repeater**	**3.17**	**89**			Pn	13 22 45.4	-3.4
VRDI	**Verde Repeater**	**3.17**	**89**	IAML			13 23 42.2	
	comp=N,14nm,1.0s							
WRH	**Wood River Hil**	**3.28**	**15**	IAML			13 23 46.5	
	comp=N,11nm,1.2s							
L18K	**Granite Mounta**	**3.30**	**289**	IAML			13 23 48.8	
	comp=N,11nm,0.8s							
HDA	**Harding Lake**	**3.40**	**23**	IAML			13 23 39.6	
	comp=E,20nm,0.4s							
HDA				IAML			13 23 50.6	
	comp=N,20nm,0.8s							
J20K	**Nowinta River**	**3.44**	**328**	IAML			13 23 33.1	
	comp=E,19nm,0.5s							
J20K				IAML			13 23 33.3	
	comp=N,19nm,0.5s							
CCB	**Clear Creek Bu**	**3.48**	**16**			Pn	13 22 51.2	-1.7
CCB	**Clear Creek Bu**	**3.48**	**16**	IAML			13 23 52.4	
	comp=E,10nm,0.7s							
M26K	**Nabesna, AK**	**3.50**	**69**	IAML			13 23 55.5	
	comp=E,12nm,1.1s							
M26K				IAML			13 24 02.1	
	comp=N,12nm,0.8s							
M17K	**Holitna River**	**3.58**	**274**	IAML			13 23 56.0	
	comp=E,13nm,1.0s							
N17K	**Nushagak Hills**	**3.59**	**260**	IAML			13 23 35.7	
	comp=E,8.4nm,1.0s							
J19K	**Poorman**	**3.72**	**318**	IAML			13 23 39.1	
	comp=N,8.1nm,0.7s							
J19K				IAML			13 23 57.3	
	comp=E,11nm,1.0s							
IL31		**3.74**	**21**			Pn	13 22 56.3	-0.2
J18K	**Innoko River**	**3.79**	**307**	IAML			13 23 40.5	
	comp=N,10nm,0.7s							
SCRK	**Sand Creek**	**3.85**	**44**			Pn	13 22 58.2	+0.1
SCRK	**Sand Creek**	**3.85**	**44**	IAML			13 23 59.8	
	comp=E,12nm,0.6s							
SCRK				IAML			13 24 00.2	
	comp=N,14nm,1.1s							
I23K	**Minto, Yukon-K**	**3.85**	**4**	IAML			13 24 01.8	
	comp=N,7.1nm,0.8s							
J25K	**Salcha River,**	**3.92**	**31**	IAML			13 23 55.4	
	comp=N,10nm,0.6s							
K17K	**Iditarod**	**4.15**	**293**	IAML			13 24 15.4	
	comp=E,5.9nm,0.8s							
K17K				IAML			13 24 22.7	
	comp=N,6.2nm,1.1s							
J26L	**Joseph Creek**	**4.34**	**40**			Pn	13 23 05.1	+0.3
I26K	**Coal Creek Min**	**5.05**	**35**			Pn	13 23 15.2	+0.8
I26K	**Coal Creek Min**	**5.05**	**35**	IAML			13 24 37.9	
	comp=N,7.4nm,1.1s							

*AEIC **09** 13:55:46.3±0.8, 53°.35N±0°.04×169°.5W±0°.1, h168km±5km, Error ellipse: s-maj=12.4km s-min=4.0km az=115.0*

NEIC 09 13:55:45.2±0.8, 53°.3N±0°.1×169°.5W±0°.2, h174km±6km, mb3.7/8, ML3.0/12, ML3.0(AEIC), Error ellipse: s-maj=22.7km s-min=4.8km az=139.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.47**	**131**		Pn	13 56 09.1	-0.1
NIKH					Sn	13 56 27.4	-0.2
NIKH	**Nikolski High**	**0.47**	**131**	IAML		13 56 28.5	
	comp=E,344nm,0.7s						
OKWE	**Okmok W'ng Wal**	**0.75**	**75**		Pn	13 56 10.5	-0.1
OKCE	**Okmok Cone E**	**0.78**	**79**		Pn	13 56 10.8	0.0
OKTU	**Okmok Mt. Tuli**	**0.85**	**83**		Pn	13 56 11.3	+0.1
MREP	**Makushin Rep't**	**1.70**	**71**		Pn	13 56 18.8	+0.1
MTBL	**Makushin Table**	**1.79**	**66**		Pn	13 56 19.4	-0.2
UNV	**Unalaska Valle**	**1.84**	**71**		Pn	13 56 20.2	+0.2
UNV					Sn	13 56 46.6	-0.6
UNV	**Unalaska Valle**	**1.84**	**71**	IAML		13 56 47.6	
	comp=N,50nm,0.7s						
AKMO	**Akutan Morgan**	**2.20**	**67**		Pn	13 56 24.4	+0.4
AKMO					Sn	13 56 54.4	+0.2
LVA	**Lava Point**	**2.21**	**65**	Pn	Pn	13 56 23.9	-0.2
LVA				IAML		13 57 04.7	
	comp=E,59nm,1.2s						
LVA				IAML		13 57 16.0	
	comp=N,87nm,1.0s						
AKGG	**Akutan Green G**	**2.25**	**65**		Pn	13 56 25.0	+0.4
AKUT	**Akutan**	**2.35**	**67**	Pn	Pn	13 56 25.9	+0.3
AKUT				IAML		13 57 31.9	
	comp=E,31nm,0.9s						
WECS	**Westdahl Cape**	**3.03**	**64**		Pn	13 56 35.0	+1.1
ATKA	**Atka Island**	**3.08**	**251**		Pn	13 56 34.2	-0.3
ATKA				IAML		13 57 14.1	
	comp=E,17nm,0.3s						
ATKA	**Atka Island**	**3.08**	**251**		Sn	13 57 12.0	-0.8
ISLZ	**Isanotski Laza**	**3.68**	**65**		Pn	13 56 42.4	+0.4
FALS	**False Pass**	**3.89**	**64**	Pn	Pn	13 56 45.1	+0.6
GSCK	**Great Sitkin C**	**4.28**	**255**		Pn	13 56 50.1	+0.4
KIWB	**Kanaga Island**	**4.91**	**256**		Pn	13 56 57.7	0.0
PS1A	**Pavlof South-1**	**4.99**	**62**		Pn	13 56 59.1	+0.3
SDPT	**Sand Point**	**5.65**	**65**		Pn	13 57 06.3	-1.0
CNBA	**Chernabura Isl**	**6.01**	**71**	Pn	Pn	13 57 11.3	-0.7
O14K	**Tigyukuivet M**	**7.52**	**34**	Pn	Pn	13 57 31.5	-0.4
P16K	**Nushagak River**	**8.60**	**43**	Pn	Pn	13 57 46.1	-0.1
N15K	**Kwethluk River**	**8.60**	**33**	Pn	Pn	13 57 45.5	-0.7
ACHA	**Angle Creek He**	**9.36**	**53**	Pn	Pn	13 57 56.5	+0.2
N17K	**Nushagak Hills**	**9.87**	**38**	Pn	Pn	13 58 02.7	-0.1
K15K	**Wolf Creek Mou**	**9.97**	**22**	Pn	Pn	13 58 02.9	-1.2
P18K	**Big Mountain,**	**9.98**	**47**	Pn	Pn	13 58 04.0	-0.3
N19K	**Bonanza Creek**	**11.09**	**41**	Pn	Pn	13 58 18.9	+0.1
BRLK	**Bradley Lake**	**12.11**	**50**	Pn	Pn	13 58 30.1	-1.8
K20K	**Telida**	**12.89**	**32**	Pn	Pn	13 58 41.9	+0.1
H18K	**Honhosa River**	**13.16**	**21**	P	P	13 58 49.5	+0.6
CAST	**Castle Rocks**	**13.59**	**35**	P	P	13 58 54.0	+0.2
KTH	**Kantishna Hill**	**14.08**	**36**	Pn	Pn	13 58 57.0	+0.1
M24K	**Tolsona, Glenn**	**15.18**	**45**		Pn	13 59 10.5	+0.1
I23K	**Minto, Yukon-K**	**15.62**	**33**		Pn	13 59 15.4	-0.3
RIDG	**Independent Ri**	**16.46**	**41**	P	P	13 59 25.2	-0.3
H24K	**Noodor Dome**	**16.54**	**32**	P	P	13 59 26.3	-0.1
H24K				IAmb	IAmb	13 59 32.8	
	comp=Z,5.1nm,1.4s						
MENT	**Mentasta**	**16.56**	**44**	P	P	13 59 26.5	-0.1
M26K	**Nabesna, AK**	**16.66**	**46**	P	P	13 59 27.0	-0.8
E21K	**Killik River**	**16.88**	**20**	P	P	13 59 29.4	-0.7
E21K				IAmb	IAmb	13 59 31.3	
	comp=Z,4.2nm,1.5s						
BCAR	**Beaver Creek A**	**17.42**	**45**	P	P	13 59 35.8	-0.3
K27K	**Chicken**	**17.68**	**42**	P	P	13 59 39.6	+0.7

*REN **09** 14:24:31.4±2.0, 36°.70N±0°.02×113°.46W±0°.02, h6km±5km, Error ellipse: s-maj=2.3km s-min=1.9km az=174.0*

NEIC 09 14:24:30.0±1.4, 36°.64N±0°.01×113°.45W±0°.02, h5km±1km, ML2.5/80, ML2.3/7(REN), Error ellipse: s-maj=3.0km s-min=2.3km az=174.0, Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCMT	**Little Creek M**	**0.41**	**24**		Sg	14 24 43.7	+0.5
LCMT	**Little Creek M**	**0.41**	**24**		Pg	14 24 38.5	+0.6
LCMT				IAML		14 24 44.1	
	comp=E,2μm,0.2s						
LCMT				IAML		14 24 44.8	
	comp=N,1μm,0.2s						
KNB	**Kanab**	**0.63**	**53**		Sg	14 24 50.2	-0.1
KNB	**Kanab**	**0.63**	**53**	Pg	Pg	14 24 42.4	+0.3
KNB				IAML		14 24 57.3	
	comp=E,150nm,0.3s						
KNB				IAML		14 24 58.4	
	comp=N,171nm,0.2s						
ICU	**Indian Springs**	**0.64**	**323**		Pg	14 24 42.5	+0.2
ICU					Sg	14 24 50.7	+0.2
ZNPU	**Zion National**	**0.76**	**20**		Pb	14 24 45.2	-0.6
ZNPU					Sg	14 24 54.7	+0.2
U15A	**North Rim**	**0.95**	**102**		Pg	14 24 48.6	+0.4
U15A				IAML		14 25 01.1	
	comp=N,185nm,0.6s						
U15A				IAML		14 25 01.8	
	comp=E,156nm,0.5s						
ARUT	**Antelope Range**	**1.15**	**0**		Pg	14 24 52.1	+0.2
ARUT					Sg	14 25 07.2	+0.3
PKCU	**Pink Cliffs**	**1.21**	**48**	Pg	Pg	14 24 53.1	-0.2
PKCU				IAML		14 25 14.3	
	comp=N,113nm,0.3s						
SHPR	**Sheep Range**	**1.39**	**265**		Sg	14 25 13.8	-0.7
V12A	**Nelson**	**1.46**	**232**		Pn	14 24 57.1	+0.1
PRN	**Pahroc Range**	**1.49**	**301**		Pn	14 24 57.3	-0.3
PRN				IAML		14 25 24.1	
	comp=E,92nm,0.5s						
PRN				IAML		14 25 28.8	
	comp=N,129nm,0.5s						
W13A	**Hualapai Mount**	**1.58**	**193**		Pn	14 24 58.8	-0.1
W13A				IAML		14 25 27.5	
	comp=E,52nm,0.7s						
BTU	**Barney Top**	**1.68**	**48**		Pn	14 24 58.5	-1.9
PSUT	**Pine Spring**	**1.92**	**350**	Pn	Pn	14 25 03.5	0.0
PSUT				IAML		14 25 30.9	
	comp=N,26nm,0.8s						
PSUT				IAML		14 25 31.3	
	comp=E,30nm,0.5s						
WUAZ	**Wupatki**	**2.02**	**123**	Pn	Pn	14 25 04.7	-0.2
S11A	**Rachel**	**2.09**	**299**	IAML		14 25 41.2	
	comp=N,47nm,0.6s						
S11A				IAML		14 25 45.8	
	comp=E,42nm,0.7s						
TCRU	**Three Creeks R**	**2.12**	**22**	IAML		14 25 38.8	
	comp=N,38nm,0.7s						
TCRU				IAML		14 25 40.3	
	comp=E,38nm,0.4s						
NSP	**Numbskull Pass**	**2.22**	**273**		Pn	14 25 08.6	+1.0
TPNV	**Topopah Spring**	**2.27**	**279**		Pn	14 25 08.6	+0.3
TPNV	**Topopah Spring**	**2.27**	**279**	IAML		14 25 45.0	
	comp=E,29nm,0.3s						
TPNV				IAML		14 25 45.0	
	comp=E,28nm,0.4s						
AMDNV	**Amargosa**	**2.29**	**266**		Pn	14 25 09.7	+1.3
SPR3	**Spring Creek 3**	**2.46**	**344**		Pn	14 25 11.6	+0.6
GWY	**Greenwater Val**	**2.64**	**261**	IAML		14 26 05.3	
	comp=N,13nm,1.0s						
Y14A	**Wickenburg**	**2.72**	**172**	IAML		14 26 03.8	
	comp=N,14nm,0.7s						
X16A	**Lo Mia Camp, P**	**2.75**	**143**	IAML		14 25 55.5	
	comp=N,12nm,4.4s						
SGV	**South Grapevin**	**2.90**	**278**		Pn	14 25 17.6	+0.7
TMUT	**Trail Mountain**	**3.19**	**33**	IAML		14 26 11.9	
	comp=E,13nm,0.5s						
TMUT				IAML		14 26 23.8	
	comp=N,11nm,0.5s						
SRU	**San Rafael Swe**	**3.38**	**42**	IAML		14 26 19.2	
	comp=E,15nm,2.8s						
SRU				IAML		14 26 53.4	
	comp=N,8.3nm,3.7s						
DUG	**Dugway, Tooele**	**3.58**	**8**	IAML		14 26 21.4	
	comp=N,6.8nm,5.0s						
DUG				IAML		14 26 29.0	
	comp=N,6.5nm,2.2s						
P18A	**Preston Nutter**	**3.91**	**39**	IAML		14 26 08.9	
	comp=N,8.0nm,4.6s						
P18A				IAML		14 27 19.2	
	comp=E,8.9nm,4.5s						
NV11	**Mina Array Sit**	**4.15**	**297**	IAML		14 26 08.1	
	comp=E,7.9nm,4.9s						
NV11				IAML		14 26 41.2	
	comp=N,5.9nm,3.0s						
NV08	**Mina Array Sit**	**4.25**	**296**		Pn	14 25 35.6	+0.1

*IDC **09** 14:45:39.4±5.6, 12°.37S×45°.15E, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=204.4km s-min=33.9km az=156.0*

*NEIC **09** 14:45:40.7±0.7, 12°.71S±0°.10×45°.6E±0°.1, h10km±1km, mb4.3/6, Error ellipse: s-maj=22.3km s-min=15.3km az=67.0*

ISC 09 14:45:40.8±0.7, 12°.70S±0°.09×45°.48E±0°.08, h10km, n24, σ1§45/25, mb4.3/6, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.39**	**100**	P	**Pn**	**14 46 49.3**	**+1.8**
SBV				S	**Sn**	**14 47 35.4**	**-3.4**
OPO	**Ambohidratompo**	**6.06**	**164**	P	**Pn**	**14 47 11.5**	**+0.8**
FIRM	**Firavahana**	**6.12**	**167**	P	**Pn**	**14 47 12.2**	**+0.7**
FIRM				S	Sn	14 48 14.9	-6.7
ATG	**Ambohiby**	**6.18**	**174**	P	**Pn**	**14 47 12.4**	**+0.1**
ATG				S	Sn	14 48 17.3	-5.9
ABPO	**Ambohimpanom**	**6.50**	**165**		**Pn**	**14 47 17.0**	**+0.2**
ABPO	**Ambohimpanom**	**6.50**	**165**	P	**Pn**	**14 47 17.0**	**+0.2**
ABPO				S	Sn	14 48 24.6	-6.5
AVY	**Angavokely**	**6.56**	**161**	P	**Pn**	**14 47 17.8**	**+0.2**
DGRM	**Ambatolahisoa**	**6.58**	**172**	P	**Pn**	**14 47 18.4**	**+0.5**
DGRM				S	Sn	14 48 26.1	-7.0
ABM	**Ambohimiarambe**	**7.27**	**166**	P	**Pn**	**14 47 27.9**	**+0.6**
VOI	**Vohitsoka**	**9.24**	**172**		**Pn**	**14 47 53.5**	**-0.8**
FOMA	**Nahampoana Res**	**12.29**	**174**	Pn	**Pn**	**14 48 35.5**	**-0.4**
KIBK	**Kibwezi**	**12.65**	**324**	Pn	**Pn**	**14 48 40.6**	**-0.5**
RER	**Riviere de l'E**	**12.93**	**132**	Pn	**Pn**	**14 48 43.2**	**-1.5**
LSZ	**Lusaka**	**16.98**	**259**		**P**	**14 49 38.6**	**-2.0**
LSZ				IAmb	IAmb	14 49 44.0	
	comp=Z,14nm,0.9s						
BOSA	**Boshof**	**24.61**	**227**	P	**P**	**14 51 01.1**	**-0.5**
BOSA				IAmb	IAmb	14 51 09.5	
	comp=Z,4.8nm,1.0s						
BOSA	**Boshof**	**24.61**	**227**	P	**P**	**14 51 01.9**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=53,slow=8.2,SNR=8.9						
	comp=Z,2.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**50.44**	**299**	P	**P**	**14 54 38.3**	**-0.7**
AB31	**Akbulak array**	**62.99**	**11**	P	**P**	**14 56 08.5**	**+0.8**
AB31				IAmb	IAmb	14 56 13.0	
	comp=Z,2.5nm,0.8s						
ABKAR	**Akbulak array**	**62.99**	**11**	P	**P**	**14 56 08.5**	**+0.8**
MAKZ	**Makanchi**	**67.66**	**26**	P	**P**	**14 56 37.2**	**-0.8**
MAKZ				IAmb	IAmb	14 57 11.9	
	comp=Z,3.6nm,0.5s						
CASY	**Casey**	**68.51**	**157**	P	**P**	**14 56 41.8**	**-1.3**
QSPA	**South Pole Qui**	**77.39**	**180**	P	**P**	**14 57 38.1**	**+2.1**
	comp=Z,2.9nm,0.9s,baz=255,slow=3.4,SNR=7.3						
	comp=Z,2.9nm,0.9s						
ASAR	**Alice Springs**	**83.58**	**113**	P	**P**	**14 58 12.8**	**+2.9**
	comp=Z,1.1nm,0.7s,baz=263,slow=4.8,SNR=32						
	comp=Z,1.1nm,0.7s						
WRA	**Warramunga Arr**	**84.70**	**109**	P	**P**	**14 58 17.7**	**+2.0**
	comp=Z,1.1nm,0.9s,baz=261,slow=3.5,SNR=7.8						
	comp=Z,1.1nm,0.9s						

*SOME **09** 15:07:42.1, 44°.68N×81°.28E, h20km*

*NNC **09** 15:07:44.0±1.2, 44°.79N×81°.03E, h10km±6km, mb3.8, mpv3.5, Error ellipse: s-maj=11.8km s-min=3.6km az=116.0*

ISC 09 15:07:41.0±1.8, 44°.74N±0°.05×81°.18E±0°.07, h5km±12km, n31, σ1§90/46, 12C-12D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.07**	**248**	P	**Pb**	**15 08 02.9**	**+0.8**
	18nm,0.2s						
DJR				S	**Sn**	**15 08 18.0**	**-0.1**
	144nm,0.1s						
DJR	**Jarkent**	**1.07**	**248**	*e*P	**Pb**	**15 08 02.9**	**+0.8**
	18nm,0.2s						
DJR				*e*S	**Sn**	**15 08 18.0**	**-0.1**
	144nm,0.1s						
PDGK	**Podgornoye**	**1.86**	**222**	⇑P	**Pn**	**15 08 15.1**	**+1.4**
	11nm,0.5s						
PDGK				⇓S	**Sb**	**15 08 40.5**	**+1.2**
	234nm,0.6s						
SHLS	**Shalkode**	**2.01**	**219**	P	**Pn**	**15 08 15.6**	**-0.1**
	60nm,0.2s						
SHLS				S	**Sn**	**15 08 39.2**	**-2.1**
	645nm,0.3s						
SHLS	**Shalkode**	**2.01**	**219**	*e*P	**Pn**	**15 08 15.6**	**-0.1**
	60nm,0.2s						
SHLS				*e*S	**Sn**	**15 08 39.2**	**-2.1**
	645nm,0.3s						
MAKZ	**Makanchi**	**2.15**	**15**	⇓Pn	**Pb**	**15 08 21.1**	**+0.8**
	2.0nm,0.3s						
MAKZ				⇑Sn	**Sb**	**15 08 48.0**	**+0.7**
	37nm,0.3s						
MK31	**Makanchi Array**	**2.20**	**20**	⇑Pn	**Pn**	**15 08 20.2**	**+2.0**
	5.3nm,0.3s,baz=199,slow=14,SNR=637						
MK31				⇓Sn	**Sb**	**15 08 48.2**	**-0.6**
	25nm,0.5s,baz=200,slow=28,SNR=16						
UZB	**Uzynbulak**	**2.23**	**225**	Pg	**Pb**	**15 08 21.3**	**-0.5**
	6.6nm,0.1s						
UZB				Lg	Lg	15 08 50.1	
	108nm,0.2s						
UZB	**Uzynbulak**	**2.23**	**225**	*e*P	**Pb**	**15 08 21.3**	**-0.5**
	6.6nm,0.1s						
UZB				*e*S	**Sb**	**15 08 50.1**	**+0.3**
	108nm,0.2s						
ARXS	**Arharly**	**2.46**	**259**	Pg	**Pb**	**15 08 27.3**	**+1.6**
	18nm,0.2s						
ARXS				Lg	Lg	15 08 59.5	
	153nm,0.4s						
KURS	**Kuram**	**2.50**	**241**	Pg	**Pb**	**15 08 28.4**	**+2.0**
	8.3nm,0.3s						
KURS				Lg	Lg	15 09 01.5	
	53nm,0.3s						
SATY	**Saty**	**2.62**	**231**	Pg	**Pb**	**15 08 29.7**	**+1.3**
	16nm,0.2s						
SATY				Lg	Lg	15 09 03.9	
	186nm,0.2s						
SATY	**Saty**	**2.62**	**231**	*e*P	**Pb**	**15 08 27.3**	**-1.1**
	18nm,0.2s						
SATY				*e*S	**Sb**	**15 08 59.5**	**-1.4**
	153nm,0.4s						
CHKK	**Chushkaly**	**3.14**	**255**	Pg	**Pg**	**15 08 40.1**	**-1.0**
	7.3nm,0.2s						
CHKK				Lg	Lg	15 09 21.7	
	131nm,0.3s						
CHKK	**Chushkaly**	**3.14**	**255**	*e*P	**Pg**	**15 08 40.1**	**-1.0**
	7.3nm,0.2s						
CHKK				*e*S	**Sg**	**15 09 21.7**	**-0.1**
	131nm,0.3s						
MDOK	**Medeo**	**3.38**	**244**	Pg	**Pb**	**15 08 44.5**	**+3.1**
	6.2nm,0.3s						
MDOK				Pg	**Pg**	**15 08 47.1**	**+1.5**
	4.6nm,0.4s						
MDOK				Lg	Lg	15 09 28.4	
	41nm,0.3s						
MDOK				Lg	Lg	15 09 29.5	
	26nm,0.6s						
KTBS	**Karatobe**	**3.39**	**254**	Pg	**Pb**	**15 08 43.5**	**+1.8**
	6.6nm,0.3s						
KTBS				Lg	Lg	15 09 28.0	
	84nm,0.2s						
KNDC	**Almaty**	**3.40**	**245**	⇓Pg	**Pg**	**15 08 50.1**	**+4.0**
	12nm,0.3s						
KNDC				⇓Lg	Lg	15 09 28.9	
	50nm,0.5s						
TNSS	**Tian-Shan**	**3.50**	**242**	Pg	**Pb**	**15 08 46.6**	**+2.9**
	4.1nm,0.3s						
TNSS				Lg	Lg	15 09 33.1	
	14nm,0.3s						
TNSS	**Tian-Shan**	**3.50**	**242**	*e*P	**Pb**	**15 08 46.6**	**+2.9**
	4.1nm,0.3s						
TNSS				*e*S	**Sg**	**15 09 33.1**	**-0.4**
	14nm,0.3s						
MTBS	**Maitube**	**3.79**	**247**	Pg	**Pb**	**15 08 51.7**	**+3.2**
	4.5nm,0.3s						
MTBS				Lg	Lg	15 09 41.2	
	70nm,0.3s						
MTBS	**Maitube**	**3.79**	**247**	*e*P	**Pb**	**15 08 51.7**	**+3.2**
	4.5nm,0.3s						
MTBS				*e*S	**Sg**	**15 09 41.2**	**-1.5**
	70nm,0.3s						
KRBS	**Karabastau**	**4.09**	**257**	Pg	**Pb**	**15 08 56.6**	**+3.1**
	3.7nm,0.2s						
KRBS				Lg	Lg	15 09 50.6	
	9.0nm,0.3s						
DGS	**Degeres**	**4.18**	**251**	Pg	**Pb**	**15 08 58.1**	**+3.0**
	5.5nm,0.4s						
DGS				Lg	Lg	15 09 52.7	
	45nm,0.7s						
TKM2	**Tokmak 2**	**4.43**	**248**	⇓Pg	**Pg**	**15 09 05.1**	**-0.7**
	3.7nm,0.6s						
TKM2				⇑Lg	Lg	15 10 00.0	
	16nm,0.5s						
CHMS	**Chumysh**	**4.96**	**252**	⇑Pg	**Pg**	**15 09 14.5**	**-1.6**
	2.0nm,0.5s						
CHMS				⇑Lg	Lg	15 10 16.6	
	15nm,0.8s						
AAK	**Ala-Archa**	**5.28**	**249**	⇑Pg	**Pg**	**15 09 20.7**	**-1.5**
	1.4nm,0.5s						
AAK				⇓Lg	Lg	15 10 29.0	
	25nm,1.3s						
KURBB	**Kurchatov Arra**	**6.16**	**344**	⇑Pn	**Pn**	**15 09 11.9**	**-0.6**
	2.8nm,0.6s						
KURBB				⇓Sn	**Sn**	**15 10 23.2**	**0.0**
	5.1nm,0.7s						
KURBB				⇓Lg	Lg	15 11 00.2	
	38nm,0.7s						
KURK	**Kurchatov**	**6.23**	**345**	⇑Pn	**Pn**	**15 09 10.5**	**-2.9**
	1.3nm,0.4s						
KURK				⇓Sn	**Sn**	**15 10 24.8**	**-0.1**
	2.4nm,0.6s						
KURK				⇑Lg	Lg	15 10 58.0	
	18nm,1.0s						
OTUK	**Ortayu**	**7.04**	**303**	⇑Pn	**Pn**	**15 09 25.3**	**+0.6**
	0.7nm,0.5s						
OTUK				⇑Lg	Lg	15 11 25.4	
	5.4nm,0.5s						
KK31	**Karatay Array**	**7.88**	**262**	⇓Pg	**Pg**	**15 10 08.1**	**-3.7**
	0.3nm,0.4s,baz=334,slow=42,SNR=4.8						
KK31				⇓Lg	Lg	15 11 49.4	
	2.4nm,0.6s,baz=68,slow=28,SNR=3.5						

TAP 09 15:12:50.6, 22°.03N×121°.56E, h13km, ML2.8, 2, C, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.01**	**344**	⇑*i*P	Pg	15 12 53.3	+0.2
LAY				*i*S	Sg	15 12 55.0	+0.2
LYUB	**Lan-yu**	**0.04**	**132**	⇑*i*P	Pg	15 12 53.1	0.0
LYUB				S	Sg	15 12 55.2	+0.4
TSEB	**Hengch

mb5.2/212, Mww4.8/19, Error ellipse: s-maj=7.3km s-min=3.3km az=105.0

NEIC **09** *15:13:22.1, 24.02N, 121.60E, h16km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}1.62; $M_{\theta\theta}$-0.79; $M_{\phi\phi}$-0.84; $M_{r\theta}$0.57; $M_{\theta\phi}$-1.37; $M_{r\phi}$0.43; Fault plane solution: $M_0$2.03000×10^{16} NP1: ϕ_s219.16000°, δ35.02000°, λ82.07000°. NP2: ϕ_s48.82000°, δ55.36000°, λ95.52000°. Principal axes: T 1.7570, Plg79.0000°, Azm339.0000°; N 0.5518, Plg5.0000°, Azm226.0000°; P -2.3088, Plg10.0000°, Azm135.0000°;*

NEIC **09** *15:13:22.1, 23.92N, 121.60E, h16km*

BJI **09** *15:13:23.5, 23.96N, 121.61E, h10km, mB5.0/42, mb4.4/59, ML5.1/10, Ms5.0/83, Ms7 4.9/79*

GCMT **09** *15:13:24.1±0.2, 23.93N±0.02, 121.49E±0.02, h18km, MW4.9/96, Moment Tensor Solution. s41,c49; s96,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.38±.14; $M_{\theta\theta}$-1.19±.09; $M_{\phi\phi}$-1.20±.09; $M_{r\theta}$1.81±.22; $M_{\theta\phi}$-1.52±.06; $M_{r\phi}$-0.68±.22; Best double couple: $M_0$3.16600×10^{16} NP1: ϕ_s201.00000°, δ42.00000°, λ46.00000°. NP2: ϕ_s73.00000°, δ61.00000°, λ122.00000°. Principal axes: T 3.4680, Plg60.0000°, Azm32.0000°; N -0.6140, Plg28.0000°, Azm236.0000°; P -2.8640, Plg11.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 15:13:23.1±0.4, **23.97N**±0.01×**121.60E**±0.01, **h14**km±2km, **n776**, σ1≟**47**/781, **mb5.1**/171, **MS4.1**/73, **32C-47D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res	ISC
HWA	**Hwalien**	**0.01**	**24**	⇑	*i*P	**Pg**	**15 13 24.7**	**-1.0**
HWA					*i* S	**Sg**	**15 13 26.5**	**-0.9**
ETM	**Tongmen**	**0.10**	**270**	⇑	*i*P	**Pg**	**15 13 24.6**	**-1.7**
ETM					*i* S	**Sg**	**15 13 26.1**	**-2.4**
TEYL	**Yanliau Villag**	**0.10**	**181**	⇑	*i*P	**Pg**	**15 13 25.1**	**-1.2**
TEYL					*i* S	**Sg**	**15 13 28.1**	**-0.3**
TWD	**Chiawan**	**0.11**	**358**	⇓	*i*P	**Pg**	**15 13 25.1**	**-1.5**
TWD					*i* S	**Sg**	**15 13 26.9**	**-1.9**
LXIB	**Xiulin Townshi**	**0.18**	**288**	⇓	*i*P	**Pg**	**15 13 25.8**	**-1.8**
LXIB					*i* S	**Sg**	**15 13 27.8**	**-2.7**
SHUL	**Shoufeng**	**0.18**	**191**	⇑	*i*P	**Pg**	**15 13 26.8**	**-0.6**
SHUL					S	**Sg**	**15 13 30.4**	**+0.1**
ETL	**Fush Village**	**0.19**	**6**	⇓	*i*P	**Pg**	**15 13 26.2**	**-1.5**
ETL					*i* S	**Sg**	**15 13 28.9**	**-1.8**
NACB	**Ninganchiao**	**0.21**	**359**			**Pg**	**15 13 26.2**	**-1.6**
NACB	**Ninganchiao**	**0.21**	**359**		P	**Pg**	**15 13 26.1**	**-1.8**
NACB	**Ninganchiao**	**0.21**	**359**		S	**Sg**	**15 13 29.3**	**-1.7**
NACB	**Ninganchiao**	**0.21**	**359**	⇓	*i*P	**Pg**	**15 13 26.3**	**-1.6**
NACB					*i* S	**Sg**	**15 13 28.9**	**-2.2**
ESL	**Shilin**	**0.21**	**225**	⇑	*i*P	**Pg**	**15 13 26.4**	**-1.6**
ESL					S	**Sg**	**15 13 29.6**	**-1.6**
TEGC	**Jichi Village**	**0.26**	**192**	⇑	*i*P	**Pg**	**15 13 28.3**	**-0.4**
TEGC					S	**Sb**	**15 13 33.5**	**-0.4**
ETLH	**Xiulin Townshi**	**0.26**	**336**	⇓	*i*P	**Pg**	**15 13 27.2**	**-1.6**
ETLH					*i* S	**Sg**	**15 13 30.6**	**-2.1**
WARBT	**Fenglin Townsh**	**0.32**	**218**	⇑	*i*P	**Pg**	**15 13 28.1**	**-1.6**
WARBT					*i* S	**Sg**	**15 13 32.4**	**-1.7**
EGFH	**Guangfu**	**0.34**	**208**	*i*	P	**Pg**	**15 13 28.7**	**-1.3**
EGFH					*e*S	**Sg**	**15 13 33.8**	**-1.0**
WHF	**Hehuan Shan**	**0.35**	**300**	⇓	*i*P	**Pg**	**15 13 29.0**	**-1.6**
WHF					*e*S	**Sg**	**15 13 33.7**	**-2.0**
EHP	**Heping Village**	**0.37**	**21**	*e*	P	**Pg**	**15 13 29.3**	**-1.3**
EHP					*e*S	**Sg**	**15 13 34.7**	**-1.0**
EAHA	**Aohua**	**0.38**	**19**	⇓	P	**Pg**	**15 13 29.6**	**-1.4**
EAHA					*e*S	**Sg**	**15 13 36.2**	**0.0**
OWD	**Renai**	**0.39**	**268**	⇓	*i*P	**Pg**	**15 13 29.7**	**-1.4**
OWD					S	**Sg**	**15 13 34.6**	**-1.8**
FUSS	**Fushou**	**0.43**	**311**	⇓	*i*P	**Pg**	**15 13 30.6**	**-1.3**
FUSS					*e*S	**Sg**	**15 13 37.0**	**-0.7**
WUSB	**Renai**	**0.44**	**273**	⇓	*i*P	**Pg**	**15 13 30.8**	**-1.2**
WUSB					S	**Sg**	**15 13 36.4**	**-1.7**
VWDT	**VWDT**	**0.47**	**243**	⇑	*i*P	**Pg**	**15 13 31.4**	**-1.1**
VWDT					S	**Sg**	**15 13 37.1**	**-1.8**
ENA	**Nanau**	**0.48**	**16**	⇓	*i*P	**Pg**	**15 13 31.3**	**-1.3**
ENA					*e*S	**Sg**	**15 13 37.6**	**-1.5**
TWT	**Tachien**	**0.48**	**306**	⇓	*i*P	**Pg**	**15 13 31.8**	**-1.0**
TWT					S	**Sg**	**15 13 38.2**	**-1.1**
TDCB	**Techi**	**0.49**	**305**	⇓	*i*P	**Pg**	**15 13 31.8**	**-1.2**
TDCB					S	**Sg**	**15 13 38.3**	**-1.4**
HGSD	**Ruisui**	**0.50**	**199**	⇑	*i*P	**Pg**	**15 13 32.4**	**-0.6**
NNSB	**Datong**	**0.50**	**337**	⇓	*i*P	**Pg**	**15 13 31.9**	**-1.3**
NNSB					*e*S	**Sg**	**15 13 37.4**	**-2.5**
EWUT	**Wuta**	**0.50**	**19**	⇓	*i*P	**Pg**	**15 13 31.9**	**-1.2**
EWUT					*e*S	**Sg**	**15 13 38.1**	**+0.2**
EHY	**Hungye**	**0.52**	**209**	⇑	P	**Pg**	**15 13 32.0**	**-1.5**
EHY					*e*S	**Sg**	**15 13 39.5**	**-1.0**
EHYH	**Wanrong**	**0.53**	**206**	⇑	*i*P	**Pg**	**15 13 32.1**	**-1.4**
EHYH					*e*S	**Sg**	**15 13 39.4**	**-1.1**
LATG	**Datong**	**0.57**	**353**	⇓	*i*P	**Pg**	**15 13 33.0**	**-1.5**
LATG					*e*S	**Sg**	**15 13 40.6**	**-1.4**
SSLB	**Suanglung**	**0.62**	**253**			**Pg**	**15 13 33.9**	**-1.4**
SSLB	**Suanglung**	**0.62**	**253**		P	**Pg**	**15 13 34.0**	**-1.3**
SSLB	**Suanglung**	**0.62**	**253**		S	**Sg**	**15 13 41.4**	**-2.1**
SSLB	**Suanglung**	**0.62**	**253**	⇓	*i*P	**Pg**	**15 13 33.7**	**-1.6**
SSLB					S	**Sg**	**15 13 41.0**	**-2.5**
YULB	**Yu-li**	**0.64**	**206**			**Pg**	**15 13 33.6**	**-2.0**
YULB	**Yu-li**	**0.64**	**206**		P	**Pg**	**15 13 34.1**	**-1.5**
YULB	**Yu-li**	**0.64**	**206**		S	**Sg**	**15 13 42.7**	**-1.3**
YULB	**Yu-li**	**0.64**	**206**	⇑	P	**Pg**	**15 13 33.8**	**-1.8**
YULB					S	**Sg**	**15 13 41.0**	**-3.0**
WCS	**Beigang Elemen**	**0.64**	**278**	⇓	*i*P	**Pg**	**15 13 34.4**	**-1.2**
WCS					*e*S	**Sg**	**15 13 42.1**	**-1.9**
ESAO	**Su ao**	**0.65**	**20**	⇓	P	**Pg**	**15 13 34.3**	**-1.5**
SMLT	**Sun Moon Lake**	**0.65**	**263**	⇓	*i*P	**Pg**	**15 13 33.5**	**-2.3**
SMLT					*i* S	**Sg**	**15 13 42.5**	**-2.0**
ECBN	**Changbin**	**0.66**	**192**	*e*	P	**Pg**	**15 13 36.0**	**-0.1**
ECBN					*e*S	**Sb**	**15 13 46.3**	**+0.8**
EYUL	**Yuli**	**0.67**	**203**	*e*	P	**Pg**	**15 13 35.0**	**-1.2**
EYUL					*e*S	**Sg**	**15 13 43.8**	**-1.3**
ENTT	**Nioudou**	**0.67**	**357**	⇓	*i*P	**Pg**	**15 13 35.0**	**-1.3**
ENTT					*e*S	**Sg**	**15 13 43.6**	**-1.6**
TWF1	**Yuli**	**0.67**	**204**	*e*	P	**Pg**	**15 13 34.3**	**-2.0**
TWF1					*e*S	**Sg**	**15 13 44.3**	**-0.8**
NDS	**Dongshan**	**0.67**	**9**	⇓	*i*P	**Pg**	**15 13 34.8**	**-1.5**
NDS					*e*S	**Sg**	**15 13 43.7**	**-1.6**
WHP	**Taichung City**	**0.67**	**298**	⇓	*i*P	**Pg**	**15 13 35.2**	**-1.1**
WHP					*e*S	**Sg**	**15 13 44.4**	**-0.8**
EOS4	**EOS4**	**0.67**	**77**	*e*	P	**Pb**	**15 13 36.4**	**0.0**
EOS4					*e*S	**Sb**	**15 13 46.5**	**+1.0**
TYC	**Yuchr**	**0.68**	**265**	⇓	*i*P	**Pg**	**15 13 34.9**	**-1.6**
TYC					S	**Sg**	**15 13 42.6**	**-2.9**
EOS3	**EOS3**	**0.73**	**64**	*e*	P	**Pn**	**15 13 38.4**	**-0.5**
YHNB	**Yeheng**	**0.73**	**344**			**Pg**	**15 13 36.2**	**-1.2**
YHNB	**Yeheng**	**0.73**	**344**		P	**Pg**	**15 13 36.2**	**-1.2**
YHNB	**Yeheng**	**0.73**	**344**		S	**Sg**	**15 13 45.9**	**-1.2**
YHNB	**Yeheng**	**0.73**	**344**	⇓	*i*P	**Pg**	**15 13 36.2**	**-1.2**
YHNB					S	**Sg**	**15 13 44.9**	**-2.1**
EOS2	**EOS2**	**0.73**	**52**	*e*	P	**Pg**	**15 13 37.0**	**-0.4**
WHYT	**Xinyi Township**	**0.73**	**249**	⇓	*e*P	**Pg**	**15 13 36.6**	**-0.9**
WHYT					*e*S	**Sg**	**15 13 45.7**	**-1.5**
NSK	**Sanguang**	**0.74**	**343**	⇓	*i*P	**Pg**	**15 13 36.4**	**-1.2**
NSK					S	**Sg**	**15 13 45.7**	**-1.7**
TWE	**Neicheng**	**0.75**	**5**	⇓	*i*P	**Pg**	**15 13 36.5**	**-1.3**
TWE					*e*S	**Sg**	**15 13 46.1**	**-1.7**
FUSB	**Fushanzhiwuyua**	**0.79**	**359**	⇓	P	**Pg**	**15 13 37.3**	**-1.3**
FUSB					*e*S	**Sg**	**15 13 48.1**	**-0.8**
CHKH	**Chenggong**	**0.79**	**194**	⇓	*e*P	**Pg**	**15 13 37.7**	**-0.9**
CHKH					*e*S	**Sn**	**15 13 50.4**	**-1.1**
NFF	**Wufeng Townshi**	**0.80**	**327**	⇓	*i*P	**Pg**	**15 13 37.5**	**-1.1**
NFF					*e*S	**Sg**	**15 13 47.8**	**-1.3**
ILA	**Ilan**	**0.81**	**10**	*e*	P	**Pg**	**15 13 37.8**	**-1.0**
ILA					*e*S	**Sg**	**15 13 47.7**	**-1.7**
WJS	**Zhushan**	**0.81**	**260**	*e*	P	**Pg**	**15 13 38.5**	**-0.4**
WJS					*e*S	**Sg**	**15 13 47.9**	**-1.6**
NWLT	**Wulai**	**0.81**	**354**	⇓	P	**Pg**	**15 13 37.7**	**-1.2**
NWLT					S	**Sg**	**15 13 48.0**	**-1.7**
FULB	**Fuli**	**0.81**	**200**	*e*	P	**Pg**	**15 13 37.9**	**-1.1**
WNT	**Mingjian**	**0.84**	**264**	⇓	*i*P	**Pg**	**15 13 39.2**	**-0.3**
WNT					*e*S	**Sg**	**15 13 50.1**	**-0.5**
TWQ1	**Liyutan**	**0.84**	**297**	⇓	*i*P	**Pg**	**15 13 38.9**	**-0.7**
ALS	**Alishan**	**0.86**	**238**	⇑	*i*P	**Pg**	**15 13 38.8**	**-1.0**
ALS					*e*S	**Sg**	**15 13 50.5**	**-0.7**
NSTT	**Nanjuang**	**0.86**	**321**	⇓	P	**Pg**	**15 13 38.8**	**-1.0**
NSTT					*e*S	**Sg**	**15 13 49.9**	**-1.2**
LIOB	**Emei**	**0.86**	**322**	⇓	P	**Pg**	**15 13 39.0**	**-0.9**
LIOB					*e*S	**Sg**	**15 13 50.0**	**-1.2**
TCU	**Taichung**	**0.86**	**282**	*e*	P	**Pb**	**15 13 39.8**	**-0.1**
TCU					*e*S	**Sb**	**15 13 51.4**	**+0.1**
NSY	**Sanyi**	**0.89**	**300**	*e*	P	**Pg**	**15 13 37.7**	**-2.7**
NSY					*e*S	**Sg**	**15 13 51.1**	**-0.9**
EHD	**Haiduan**	**0.89**	**204**	*e*	P	**Pg**	**15 13 38.6**	**-1.8**
EHD					*e*S	**Sg**	**15 13 51.2**	**-0.9**
KSHI	**Guanxi Townshi**	**0.89**	**334**	⇓	*i*P	**Pb**	**15 13 39.8**	**-0.7**
KSHI					*e*S	**Sg**	**15 13 51.0**	**-1.2**
NTC	**Toucheng**	**0.91**	**13**	*e*	P	**Pb**	**15 13 39.5**	**-1.2**
EGS		**0.93**	**19**	*e*	P	**Pb**	**15 13 40.2**	**-0.8**
NMLH	**Miaoli**	**0.93**	**308**		P	**Pb**	**15 13 40.5**	**-0.6**
NMLH					*e*S	**Sn**	**15 13 54.5**	**-0.5**
ECS	**Chishang**	**0.94**	**202**	*e*	P	**Pb**	**15 13 40.6**	**-0.5**
ELDTW	**Lidau**	**0.94**	**215**	*e*	P	**Pb**	**15 13 38.8**	**-2.4**
ELDTW					*e*S	**Sg**	**15 13 51.2**	**-2.5**
WDJ	**Dajia District**	**0.95**	**294**	⇓	P	**Pg**	**15 13 41.6**	**-0.1**
WDJ					*e*S	**Sg**	**15 13 54.7**	**+0.5**
WCHH	**Zhanghua**	**0.96**	**277**	⇓	P	**Pb**	**15 13 41.4**	**-0.1**
WCHH					*e*S	**Sn**	**15 13 55.1**	**-0.5**
WCH1	**Changhua City**	**0.97**	**276**	*e*	P	**Pg**	**15 13 41.7**	**-0.2**
WCH1					*e*S	**Sg**	**15 13 54.5**	**-0.1**
WGK	**Gukeng**	**0.99**	**254**	*e*	P	**Pg**	**15 13 42.2**	**-0.1**
WGK					*e*S	**Sb**	**15 13 54.9**	**-0.1**
NHDH	**Xindian Distri**	**0.99**	**356**	*e*	P	**Pb**	**15 13 41.5**	**-0.6**
NHDH					*e*S	**Sb**	**15 13 53.9**	**-1.2**
SBCB	**Hsinchu**	**0.99**	**326**	⇓	*i*P	**Pb**	**15 13 42.1**	**0.0**
WDL	**Douliou City**	**1.00**	**256**	*e*	P	**Pg**	**15 13 42.5**	**-0.1**
WDL					*e*S	**Sn**	**15 13 56.4**	**-0.2**
TATO	**Taipei**	**1.01**	**354**			**Pb**	**15 13 41.8**	**-0.6**
TATO	**Taipei**	**1.01**	**354**		P	**Pb**	**15 13 41.9**	**-0.5**
TWA	**Mucha**	**1.01**	**359**	*e*	P	**Pn**	**15 13 42.9**	**+0.1**
TWA					*e*S	**Sb**	**15 13 53.6**	**-2.0**
HSN	**Hsinchu**	**1.01**	**325**	⇓	P	**Pg**	**15 13 42.6**	**-0.2**
HSN					*e*S	**Sb**	**15 13 55.1**	**-0.5**
WDLH	**Douliu**	**1.01**	**254**	*e*	P	**Pb**	**15 13 42.0**	**-0.5**
WDLH					*i* S	**Sn**	**15 13 57.5**	**+0.6**
TIPB	**Shuangxi**	**1.02**	**12**	⇓	*e*P	**Pb**	**15 13 41.4**	**-1.2**
TIPB					*e*S	**Sb**	**15 13 52.6**	**-3.3**
EDH	**Donghe**	**1.03**	**195**	*e*	P	**Pb**	**15 13 41.0**	**-1.7**
EDH					*e*S	**Sb**	**15 13 55.3**	**-0.6**
WCKO	**Fanlu**	**1.05**	**240**	⇓	P	**Pb**	**15 13 43.0**	**-0.1**
WCKO					S	**Sn**	**15 13 57.5**	**-0.4**
NCUH	**Zhongli**	**1.07**	**339**	*e*	P	**Pb**	**15 13 43.3**	**-0.1**
NCUH					*e*S	**Sn**	**15 13 58.1**	**-0.1**
NHY	**Taipei**	**1.07**	**359**	*e*	P	**Pb**	**15 13 43.0**	**-0.4**
NHY					*e*S	**Sb**	**15 13 56.7**	**-0.5**
TAP	**Taipei**	**1.07**	**355**	*e*	P	**Pb**	**15 13 43.5**	**0.0**
TAP					*e*S	**Sb**	**15 13 56.1**	**-1.2**
STYH	**Taoyuan**	**1.09**	**224**		P	**Pb**	**15 13 41.5**	**-2.3**
STYH					S	**Sb**	**15 13 56.5**	**-1.5**
TWB1	**Santiao Chiao**	**1.10**	**19**	*e*	P	**Pb**	**15 13 43.0**	**-0.8**
CHN4	**Tsaushan**	**1.11**	**237**	⇑	*i*P	**Pb**	**15 13 43.7**	**-0.3**
CHN4					*e*S	**Sb**	**15 13 58.0**	**-0.4**
TPUB	**Ta-pu**	**1.11**	**234**			**Pb**	**15 13 43.2**	**-0.9**
TPUB	**Ta-pu**	**1.11**	**234**		P	**Pb**	**15 13 43.6**	**-0.5**
TPUB	**Ta-pu**	**1.11**	**234**	⇑	P	**Pb**	**15 13 43.5**	**-0.5**
TPUB					*e*S	**Sb**	**15 13 58.1**	**-0.3**
NWF	**Wu-fen Shan**	**1.11**	**8**	*e*	P	**Pb**	**15 13 43.5**	**-0.7**
NWF					*e*S	**Sb**	**15 13 56.7**	**-1.9**
WFSB	**Wu-fen Shan**	**1.11**	**8**	*e*	P	**Pb**	**15 13 43.6**	**-0.5**
WFSB					*e*S	**Sb**	**15 13 57.9**	**-0.6**
CHN2	**Minshiung**	**1.12**	**247**	*e*	P	**Pn**	**15 13 44.2**	**-0.2**
CHN2					*e*S	**Sn**	**15 14 00.6**	**+1.1**
LONT	**Longtian**	**1.14**	**202**	*e*	P	**Pb**	**15 13 42.4**	**-2.2**
LONT					*e*S	**Sb**	**15 13 59.1**	**-0.2**
TWS1	**Kuangyinshan**	**1.14**	**352**		P	**Pb**	**15 13 43.4**	**-1.2**
TWS1					*e*S	**Sb**	**15 13 59.3**	**-0.1**
WTK	**Tuku**	**1.14**	**256**	*e*	P	**Pb**	**15 13 44.3**	**-0.3**
WTK					*e*S	**Sg**	**15 13 59.9**	**-0.2**
SXI1	**Grass Mountain**	**1.15**	**13**	*e*	P	**Pb**	**15 13 44.2**	**-0.7**
SXI1					*e*S	**Sb**	**15 13 59.5**	**-0.2**
WTP	**Ta-pu**	**1.15**	**232**	*i*	P	**Pb**	**15 13 44.3**	**-0.6**
WTP					*e*S	**Sn**	**15 14 00.3**	**-0.2**
CHY	**Chiayi**	**1.17**	**247**		P	**Pb**	**15 13 45.2**	**0.0**
CHY					*e*S	**Sg**	**15 14 01.0**	**-0.1**
YM01	**YM01**	**1.18**	**359**	*e*	P	**Pn**	**15 13 43.9**	**-1.3**
YM01					*e*S	**Sb**	**15 13 59.1**	**-1.2**
TNOU	**National Taiwa**	**1.19**	**8**	*e*	P	**Pg**	**15 13 46.1**	**+0.1**
ZUZH	**Zhuzihu**	**1.19**	**358**	*e*	P	**Pn**	**15 13 44.1**	**-1.3**
ZUZH					S	**Sn**	**15 14 01.5**	**+0.1**
NTST	**Danshui**	**1.20**	**353**	*e*	P	**Pn**	**15 13 45.3**	**-0.2**
NTST					*e*S	**Sg**	**15 14 01.9**	**0.0**
WTCT	**Ta-ch'eng**	**1.21**	**265**	*e*	P	**Pn**	**15 13 45.5**	**-0.1**
WTCT					*e*S	**Sg**	**15 14 02.1**	**-0.2**
YM08	**YM08**	**1.22**	**360**	*e*	P	**Pn**	**15 13 44.1**	**-1.7**
ANP	**Anpu**	**1.22**	**357**	*e*	P	**Pn**	**15 13 45.0**	**-0.8**
ANP					*e*S	**Sb**	**15 14 00.1**	**-1.5**
TWK	**Hsinying**	**1.23**	**236**	*e*	P	**Pn**	**15 13 45.9**	**-0.2**
TWK					S	**Sg**	**15 14 03.5**	**+0.5**
TWG	**Pinlang**	**1.24**	**203**			**Pn**	**15 13 43.5**	**-2.5**
TWG	**Pinlang**	**1.24**	**203**	*e*	P	**Pn**	**15 13 43.5**	**-2.5**
TWG					*e*S	**Sb**	**15 14 00.3**	**-1.8**
TWGBT	**Beinan**	**1.24**	**203**		P	**Pn**	**15 13 44.9**	**-1.1**
TWGBT	**Beinan**	**1.24**	**203**	*e*	P	**Pn**	**15 13 43.7**	**-2.4**
TWGBT					*e*S	**Sb**	**15 14 01.2**	**-0.9**
CHN1	**Nanshi**	**1.25**	**232**	*e*	P	**Pb**	**15 13 46.4**	**-0.2**
CHN1					S	**Sg**	**15 14 04.0**	**+0.3**
SNST	**Tainan City**	**1.25**	**234**	*e*	P	**Pb**	**15 13 46.4**	**-0.1**
SNST					*e*S	**Sg**	**15 14 03.9**	**+0.2**
TTN	**Taitung**	**1.28**	**199**	*e*	P	**Pn**	**15 13 45.6**	**-0.9**
SGST	**Jiashian**	**1.28**	**227**	⇓	P	**Pn**	**15 13 46.1**	**-0.5**
SGST					S	**Sg**	**15 14 04.3**	**-0.3**
LDUT	**Ludao**	**1.29**	**185**	*e*	P	**Pn**	**15 13 43.9**	**-2.8**
LDUT					*e*S	**Sb**	**15 14 02.3**	**-1.4**
TWY	**Chenhua**	**1.30**	**360**	*e*	P	**Pn**	**15 13 44.7**	**-2.1**
WSF	**Szhu**	**1.30**	**256**	*e*	P	**Pn**	**15 13 46.5**	**-0.4**
WSF					*e*S	**Sn**	**15 14 04.2**	**+0.1**
JYNG	**Yonagunijimaku**	**1.32**	**68**		P	**Pn**	**15 13 46.4**	**-0.7**
JYNG	**Yonagunijimaku**	**1.32**	**68**		A	A	15 13 46.4	
	comp=N,29nm,5.7s,comp=E,18nm,6.7s							
WSL	**Shuilin Townsh**	**1.33**	**251**	*e*	P	**Pb**	**15 13 47.6**	**-0.3**
WSL					*e*S	**Sg**	**15 14 06.0**	**-0.2**
ICHU	**Yijhu**	**1.35**	**244**		P	**Pb**	**15 13 48.0**	**-0.2**
ICHU					S	**Sg**	**15 14 07.2**	**+0.4**
YOJ	**Yonaguni jima**	**1.38**	**69**			**Pn**	**15 13 47.0**	**-0.9**
YOJ	**Yonaguni jima**	**1.38**	**69**		P	**Pn**	**15 13 47.6**	**-0.3**
YOJ	**Yonaguni jima**	**1.38**	**69**		P	**Pn**	**15 13 47.0**	**-0.9**
YOJ	**Yonaguni jima**	**1.38**	**69**		P	**Pn**	**15 13 47.1**	**-0.9**
YOJ	**Yonaguni jima**	**1.38**	**69**		A	A	15 13 47.1	
	comp=N,27nm,4.9s,comp=E,25nm,5.6s							
YOJ	**Yonaguni jima**	**1.38**	**69**	*e*	P	**Pn**	**15 13 47.2**	**-0.7**
YOJ					*e*S	**Sb**	**15 14 06.5**	**+0.4**
CHN8	**Yiju**	**1.42**	**244**	*e*	P	**Pn**	**15 13 48.7**	**+0.3**
CHN8					*e*S	**Sg**	**15 14 08.8**	**0.0**
CHN3	**Shinhua**	**1.44**	**232**	*e*	P	**Pb**	**15 13 49.5**	**-0.2**
CHN3					*e*S	**Sg**	**15 14 09.6**	**0.0**
SSHA	**Shanhua**	**1.46**	**236**	*e*	P	**Pb**	**15 13 50.1**	**0.0**
SSHA					*e*S	**Sg**	**15 14 10.0**	**-0.2**
SCST	**Cishan**	**1.48**	**224**	⇑	*e*P	**Pb**	**15 13 50.5**	**+0.1**
SCST					*e*S	**Sg**	**15 14 10.6**	**-0.3**
SHHT	**Tainan City**	**1.48**	**231**	*e*	P	**Pg**	**15 13 51.2**	**-0.6**
ECL	**Taimali**	**1.49**	**204**	*e*	P	**Pn**	**15 13 47.0**	**-2.4**
SSD	**Sandimen**	**1.51**	**216**	*e*	P	**Pn**	**15 13 49.8**	**+0.2**
SSD					*e*S	**Sb**	**15 14 10.0**	**+0.2**
SCLT	**Jiali**	**1.51**	**239**	*e*	P	**Pb**	**15 13 50.3**	**-0.6**
SCLT					*e*S	**Sg**	**15 14 11.0**	**-0.9**
TSMG	**Majia**	**1.53**	**215**		P	**Pn**	**15 13 50.4**	**+0.3**
TSMG					*e*S	**Sg**	**15 14 11.9**	**-0.6**
TAI1	**Yung-k'ang**	**1.56**	**234**	*e*	P	**Pb**	**15 13 52.1**	**+0.4**
TWM1	**Shoushan**	**1.57**	**224**	*e*	P	**Pg**	**15 13 52.6**	**-0.8**
TSCK	**Chigu Township**	**1.61**	**240**	*e*	P	**Pn**	**15 13 51.7**	**+0.6**
TSCK					*i* S	**Sg**	**15 14 14.4**	**-0.6**
MASBT	**Mashibuluo**	**1.61**	**214**	*e*	P	**Pn**	**15 13 51.1**	**-0.1**
MASBT					*e*S	**Sg**	**15 14 14.7**	**-0.5**
SNJT	**Kaohsiung City**	**1.68**	**224**	*e*	P	**Pb**	**15 13 54.1**	**+0.4**
PCYT	**Pengchaiyu**	**1.71**	**14**	*e*	P	**Pn**	**15 13 51.6**	**-0.9**
EAST	**Anshuo**	**1.72**	**204**	*e*	P	**Pn**	**15 13 51.2**	**-1.5**
TAW	**Tawu**	**1.73**	**202**	*e*	P	**Pn**	**15 13 50.6**	**-2.1**
TAWH	**Dawu Township**	**1.75**	**202**	*e*	P	**Pn**	**15 13 50.7**	**-2.3**
WSSB	**Gushan**	**1.80**	**223**	*e*	P	**Pb**	**15 13 55.1**	**-0.8**
SCZT	**Fangliau**	**1.82**	**210**	*e*	P	**Pb**	**15 13 55.1**	**-1.2**
SLIU	**Shizi**	**1.89**	**203**	*e*	P	**Pn**	**15 13 54.0**	**-1.0**
PHUB	**P'eng-hu**	**1.91**	**257**		P	**Pn**	**15 13 55.3**	**+0.1**
PHUB					S	**Sn**	**15 14 20.0**	**+0.9**
WDGT	**Dungji**	**1.91**	**249**	*e*	P	**Pn**	**15 13 55.1**	**-0.2**
WDGT					*e*S	**Sn**	**15 14 19.6**	**+0.5**
PNG	**Penghu**	**1.92**	**258**	*e*	P	**Pn**	**15 13 55.2**	**-0.1**
LAY	**Lan-yu**	**1.92**	**181**	*e*	P	**Pn**	**15 13 52.1**	**-3.3**
LYUB	**Lan-yu**	**1.96**	**180**	*e*	P	**Pn**	**15 13 52.8**	**-3.1**
LYUB					*e*S	**Sn**	**15 14 17.8**	**-2.4**
TWP	**Hsiaoliuchiu**	**1.97**	**215**	*e*	P	**Pb**	**15 13 59.1**	**+0.3**
IRIF	**Iriomote-Funau**	**1.98**	**79**		P	**Pn**	**15 13 55.3**	**-0.8**
IRIF					*e*S	**Sn**	**15 14 20.8**	**0.0**
IRIF	**Iriomote-Funau**	**1.98**	**79**		A	A	15 13 55.3	
	comp=N,19nm,11.4s,comp=E,15nm,1.9s							
HATJ	**Hateruma jima**	**2.02**	**87**		P	**Pn**	**15 13 56.4**	**-0.3**
HATJ					*e*S	**Sn**	**15 14 21.3**	**-0.5**
HATJ	**Hateruma jima**	**2.02**	**87**		A	A	15 13 56.4	
	comp=N,35nm,3.1s,comp=E,30nm,3.9s							
SMST	**Manzhou Townsh**	**2.06**	**200**	*e*	P	**Pn**	**15 13 57.1**	**-0.2**
VCHM	**Qimei**	**2.13**	**250**	*e*	P	**Pn**	**15 13 58.5**	**+0.3**
TWK1	**Hengchun**	**2.14**	**200**	*e*	P	**Pn**	**15 13 58.6**	**+0.2**
TWKBT	**Hengchun**	**2.14**	**200**	*e*	P	**Pn**	**15 13 58.2**	**-0.2**
TSEB	**Hengchuen, Pin**	**2.16**	**198**	*e*	P	**Pb**	**15 14 00.3**	**-1.7**
VWUC	**VWUC**	**2.21**	**298**	*e*	P	**Pn**	**15 13 57.7**	**-1.6**
VWUC					*e*S	**Sn**	**15 14 26.0**

comp=Z,22nm,1.2s
HNS LR LR
comp=Z,4μm,11.9s
HNS LR LR
comp=Z,3μm,10.8s
HNS LR LR
comp=Z,4μm,12.0s
DL2 Dalian 14.89 0 P **P 15 16 59.1 +0.2**
DL2 pmax pmax
comp=Z,47nm,0.9s
DL2 pmax pmax
comp=Z,170nm,4.0s
DL2 LR LR
comp=Z,2μm,13.6s
DL2 LR LR
comp=Z,830nm,12.8s
DL2 LR LR
comp=Z,3μm,12.4s
XAN Xi'an 14.95 315 ⇑P **Pn 15 16 53.8 -0.2**
XAN pP P 15 16 58.0 -1.6
XAN S **Sn 15 19 41.6 +2.2**
XAN SS **S 15 19 56.0 -1.3**
XAN pmax pmax
comp=Z,11nm,1.1s
XAN pmax pmax
comp=Z,330nm,3.5s
XAN LR LR
comp=Z,4μm,8.6s
XAN LR LR
comp=Z,5μm,9.6s
XAN LR LR
comp=Z,7μm,10.3s
TIY Taiyuan 15.79 332 *e*P **P 15 17 10.4 +1.5**
TIY pmax pmax
comp=Z,320nm,3.5s
TIY LR LR
comp=Z,4μm,11.3s
TIY LR LR
comp=Z,3μm,10.3s
TIY LR LR
comp=Z,4μm,10.8s
BJI Beijing 16.67 345 P **Pn 15 17 16.7 +0.5**
BJI pP **P 15 17 20.6 +2.0**
BJI sP **sP 15 17 24.4 -0.6**
BJI S **Sn 15 20 22.0 +0.9**
BJI pmax pmax
comp=Z,200nm,9.0s
BJI LR LR
comp=Z,960nm,12.6s
BJI LR LR
comp=Z,720nm,11.1s
BJI LR LR
comp=Z,910nm,11.7s
KMI Kunming 17.20 278 P **P 15 17 28.3 +3.5**
KMI S **S 15 20 39.7 -4.1**
KMI pmax pmax
comp=Z,13nm,0.8s
KMI LR LR
comp=Z,2μm,7.5s
KMI LR LR
comp=Z,4μm,9.1s
DAV Davao City (W) 17.23 167 LR LR 15 23 32.0
comp=Z,553nm,21.9s,baz=356,slow=36
CD2 Chengdu 17.27 298 P **Pn 15 17 22.8 -1.2**
CD2 S **Sn 15 20 36.5 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.3s
CD2 pmax pmax
comp=Z,190nm,4.2s
CD2 LR LR
comp=Z,3μm,9.5s
CD2 LR LR
comp=Z,6μm,10.6s
PZH PanZhiHua 18.14 282 P **P 15 17 37.4 +2.3**
PZH S **Sn 15 20 55.6 -1.6**
PZH SS **SnSn 15 21 22.4 +11**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,190nm,7.1s
PZH LR LR
comp=Z,3μm,15.9s
PZH LR LR
comp=Z,4μm,12.6s
PZH LR LR
comp=Z,5μm,12.4s
JHJ Hachijo jima 2 18.37 56 LR LR 15 24 43.7
comp=Z,248nm,21.1s,baz=262,slow=37
KKM Kota Kinabalu 18.56 197 P **Pn 15 17 39.9 -0.1**
KKM IAmb IAmb 15 17 47.2
comp=Z,177nm,1.6s
HHC Hu-ho-hao-te 18.82 336 *e*P **Pn 15 17 46.4 +3.4**
HHC pP sP 15 17 50.6 +1.7
HHC S **S 15 21 21.5 +5.2**
HHC sS sS 15 21 25.0 +2.5
HHC SS **SnSn 15 21 38.6 +11**
HHC pmax pmax
comp=Z,23nm,0.6s
HHC pmax pmax
comp=Z,520nm,5.6s
HHC LR LR
comp=Z,1μm,9.2s
HHC LR LR
comp=Z,780nm,8.8s
HHC LR LR
comp=Z,2μm,9.2s
JCJ Chichijima 18.84 76 LR LR 15 24 15.3
comp=Z,479nm,20.6s,baz=246,slow=35
MYLDM Lahad Datu 18.91 190 **P 15 17 43.3 -0.3**
MAJO Matsushiro 19.02 45 *i* P **Pn 15 17 48.9 +3.6**
MJAR Matsushiro Arr 19.02 45 P **Pn 15 17 45.8 +0.5**
baz=230,slow=9.1,SNR=22
MJAR LR LR 15 25 47.4
comp=Z,300nm,19.3s,baz=228,slow=39
comp=Z,15nm,0.9s
BTO Baotou 19.23 332 *e*P **Pn 15 17 53.2 +5.2**
BTO pP **sP 15 17 57.1 +3.7**
BTO sP pP 15 18 00.3 +9.0
BTO PP **PnPn 15 18 11.1 +10**
BTO pmax pmax
comp=Z,21nm,1.2s
BTO pmax pmax
comp=Z,1μm,5.8s
BTO LR LR
comp=Z,8μm,11.6s
BTO LR LR
comp=Z,4μm,10.8s
BTO LR LR
comp=Z,12μm,10.9s
LZH Lanzhou 19.51 312 ⇑P **Pn 15 17 51.9 +0.4**
LZH pP sP 15 17 56.8 +0.3
LZH pmax pmax
comp=Z,17nm,1.3s
LZH pmax pmax
comp=Z,390nm,4.3s
LZH LR LR
comp=Z,2μm,12.0s
LZH LR LR
comp=Z,2μm,13.0s
LZH LR LR
comp=Z,4μm,13.5s
CN2 Changchun 20.04 8 *e*P Pn 15 17 57.9 +0.5
CN2 *e*S **S 15 21 35.1 -5.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,3μm,15.0s
CN2 LR LR
comp=Z,2μm,13.1s
PSTR Posyet 20.14 20 *i* P Pn 15 17 58.5 -0.1
MSHR Mys Shultsa 20.18 21 *ce*P **P 15 17 57.5 +0.3**
MSHR pmax pmax
comp=Z,25nm,1.0s
XLT XiLinHaoTe 20.39 348 *e*P Pn 15 18 01.6 -0.1
XLT pP sP 15 18 05.0 -1.1
XLT sP pP 15 18 08.0 +3.9
XLT S Sn 15 21 51.1 -0.2
XLT SS **SnSn 15 22 13.2 +7.1**
XLT pmax pmax
comp=Z,15nm,1.1s
XLT pmax pmax
comp=Z,210nm,4.3s
XLT LR LR
comp=Z,2μm,17.0s
XLT LR LR
comp=Z,2μm,11.5s
VLA Vladivostok 20.91 21 *i* P **P 15 18 06.2 +1.2**
VLA pmax pmax
comp=Z,28nm,1.5s
TNCH TengChong 21.03 278 P **P 15 18 08.9 +2.1**
TNCH sP sP 15 18 15.0 +2.2
TNCH pmax pmax
comp=Z,39nm,1.3s
TNCH pmax pmax
comp=Z,230nm,3.8s
TNCH LR LR
comp=Z,2μm,8.3s
TNCH LR LR
comp=Z,4μm,8.8s
TNCH LR LR
comp=Z,5μm,9.9s
JMM Marumori 21.46 45 P **P 15 18 10.9 -0.2**
MDJ Mudanjiang 21.61 16 P **P 15 18 12.8 +0.1**
MDJ Mudanjiang 21.61 16 P **P 15 18 13.2 +0.6**
MDJ pmax pmax
comp=Z,23nm,1.9s
MDJ LR LR
comp=Z,2μm,15.1s
MDJ LR LR
comp=Z,3μm,15.6s
MDJ LR LR
comp=Z,2μm,13.1s
CHTO Chiang Mai 21.70 261 P **P 15 18 14.3 +0.5**
CHTO Chiang Mai 21.70 261 P **P 15 18 14.3 +0.5**
CHTO pmax pmax
comp=Z,23nm,1.0s
CMAR Chiang Mai Arr 21.81 260 P **P 15 18 15.6 +0.6**
comp=Z,6.7nm,1.1s,baz=61,slow=8.4,SNR=31
CMAR PcP **PcP 15 22 15.6 +0.5**
comp=Z,1.1nm,0.8s,baz=96,slow=0.7,SNR=6.8
CMAR LR LR 15 27 02.0
comp=Z,319nm,19.2s,baz=85,slow=38
comp=Z,6.7nm,1.1s
USRK Ussuriysk Ar. 21.91 20 P **P 15 18 16.9 +1.1**
comp=Z,4.0nm,0.7s,baz=196,slow=8.2,SNR=7.4
USRK LR LR 15 27 35.5
comp=Z,364nm,20.1s,baz=194,slow=39
comp=Z,4.0nm,0.7s
BNX BinXian 22.23 11 ⇑P **P 15 18 20.5 +1.3**
BNX pmax pmax
comp=Z,12nm,0.8s
TOLI2 Tolitoli 22.73 182 P **P 15 18 22.8 -2.0**
SBUM Sibu 23.23 204 P **P 15 18 29.0 -1.1**
MRSI Marisa 23.35 179 P P 15 18 38.8 +7.6
MPSI Mapaga 23.55 184 P **P 15 18 31.9 -1.2**
comp=Z,467nmcomp=Z,24nm,0.9s
TNTI Ternate 23.73 166 P **P 15 18 33.9 -1.0**
TNTI Ternate 23.73 166 P **P 15 18 37.2 +2.3**
comp=Z,22nm,1.1s
GTA Gaotai 24.01 315 P **P 15 18 39.1 +1.5**
GTA pP sP 15 18 43.6 -0.7
GTA S **S 15 22 59.0 +4.8**
GTA pmax pmax
comp=Z,8.0nm,1.8s
GTA pmax pmax
comp=Z,280nm,6.4s
GTA LR LR
comp=Z,1μm,10.8s
GTA LR LR
comp=Z,2μm,10.8s
GTA LR LR
comp=Z,2μm,11.9s
GUMO Guam 24.29 111 LR LR 15 26 08.5
comp=Z,208nm,21.8s,baz=285,slow=32
APSI Ampana 24.73 180 P **P 15 18 48.6 +4.4**
comp=Z,68nm,0.9s
PCI Palu 24.78 184 P **P 15 18 47.3 +2.6**
comp=Z,3μmcomp=Z,57nm,0.8s
LUWI Luwuk 24.89 177 P **P 15 18 44.2 -1.4**
LUWI Luwuk 24.89 177 P **P 15 18 47.0 +1.4**
comp=Z,1μmcomp=Z,102nm,1.2s
KSM Kuching 24.89 208 P **P 15 18 44.5 -1.2**
KSM IAmb IAmb 15 18 50.7
comp=Z,49nm,1.1s
ERM Erimo 25.39 40 *e*P **P 15 18 49.4 -0.6**
STKI Sintang 25.71 204 P **P 15 18 55.5 +2.4**
comp=Z,19nm,0.5s
GOMU GeErMu 26.10 304 P **P 15 18 58.2 +1.3**
GOMU S **S 15 23 32.3 +4.1**
GOMU pmax pmax
comp=Z,20nm,1.2s
GOMU pmax pmax
comp=Z,200nm,4.3s
GOMU LR LR
comp=Z,2μm,8.7s
GOMU LR LR
comp=Z,2μm,9.2s
GOMU LR LR
comp=Z,4μm,8.7s
SANI Sanana 26.21 170 P **P 15 19 00.6 +3.0**
comp=Z,21nm,0.8s
ASAJ Asahikawa 26.45 35 LR LR 15 29 59.1
comp=Z,415nm,19.3s,baz=226,slow=38
KLR Kul'dur 26.45 15 LR LR 15 29 16.8
comp=Z,274nm,19.1s,baz=202,slow=36
KLR Kul'dur 26.45 15 *ce*P **P 15 18 59.8 +0.3**
KLR pmax pmax
comp=Z,21nm,1.0s
ULN Ulaanbaatar 26.51 338 P **P 15 18 59.7 -0.6**
ULN Ulaanbaatar 26.51 338 *ce*P **P 15 19 00.8 +0.5**
ULN pmax pmax
comp=Z,25nm,1.3s
HEH HeiHe 26.63 8 *e*P **P 15 19 02.1 +1.0**
HEH pmax pmax
comp=Z,21nm,1.1s
HEH pmax pmax
comp=Z,190nm,4.8s
HEH LR LR
comp=Z,920nm,13.1s
HEH LR LR
comp=Z,1μm,13.7s
HEH LR LR
comp=Z,1μm,15.3s
SONM Songino Array 26.72 337 P **P 15 19 01.6 -0.5**
SONM Songino Array 26.72 337 P **P 15 19 02.1 0.0**
comp=Z,6.4nm,0.8s,baz=159,slow=9.0,SNR=20
SONM LR LR 15 29 39.5
comp=Z,532nm,20.7s,baz=144,slow=37
comp=Z,6.4nm,0.8s
SONM Songino Array 26.72 337 P **P 15 19 01.6 -0.5**
SONM pmax pmax
comp=Z,36nm,1.5s
BRDH Bariadhala 27.52 273 LR LR 15 29 23.0
comp=Z,302nm,20.6s,baz=133,slow=35
NLAI Namlea 27.57 168 P **P 15 19 12.5 +2.7**
LSA Lhasa 27.72 289 P **P 15 19 13.7 +2.0**
LSA LR LR
comp=Z,470nm,12.2s
LSA LR LR
comp=Z,2μm,8.6s
YSS Yuzhno-Sakhali 28.52 31 P **P 15 19 18.2 +0.2**
YSS Yuzhno-Sakhali 28.52 31 *e*P **P 15 19 17.3 -0.7**
YSS *e*S **S 15 24 05.0 -0.3**
YSS pmax pmax
comp=Z,10.0nm,1.3s
YSS MLR MLR
comp=Z,500nm,13.0s
YSS MLR MLR
comp=N,400nm,15.0s
YSS MLR MLR
comp=E,600nm,15.0s
KAPI Kappang 28.86 184 LR LR 15 30 39.6
comp=E,277nm,22.0s,baz=354,slow=36
KAPI Kappang 28.86 184 *i* P **P 15 19 22.1 +0.7**
TPI Tanjungpandan 29.83 209 P **P 15 19 30.9 +0.9**
ZAK Zakamensk 29.97 336 *e*P **P 15 19 29.7 -1.4**
ZEA Zeya 30.03 7 *e*P **P 15 19 31.0 -0.4**
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=N,700nm,13.0s
ZEA MLR MLR
comp=Z,700nm,14.0s
PSI Prapat 30.38 230 LR LR 15 31 37.2
comp=Z,278nm,20.5s,baz=62,slow=36
SMPI Sarmi 30.70 145 P **P 15 19 40.3 +2.6**
comp=Z,49nm,1.3s
IRK Irkutsk 31.18 339 *e*P **P 15 19 40.9 -0.7**
IRK pmax pmax
comp=Z,29nm,1.6s
MNSI Mandailing Nat 31.40 226 P P 15 19 50.6 +6.7
MOY Mondy 31.86 335 *e*P **P 15 19 47.2 -0.6**
MOY pmax pmax
comp=Z,19nm,1.8s
JAY Jayapura 32.22 142 LR LR 15 29 58.6
comp=Z,366nm,22.0s,baz=328,slow=31
MMRI Maumere 32.41 179 IAmb IAmb 15 19 55.7
comp=Z,25nm,0.9s
MMRI Maumere 32.41 179 P **P 15 19 54.8 +2.1**
comp=Z,27nm,0.7s
EDFI Ende, Flores 32.52 180 P **P 15 19 51.9 -1.9**
MDSI Maura Dua 32.99 213 P **P 15 19 59.0 +1.2**
comp=Z,33nm,1.0s
LWLI Liwa 33.50 213 P **P 15 20 04.6 +2.2**
LEM Lembang 33.51 206 LR LR 15 34 07.8
comp=Z,141nm,19.0s,baz=20,slow=37
WMQ Urumqi 34.08 314 *e*P **P 15 20 09.5 +2.3**
WMQ LR LR
comp=Z,1μm,11.7s
WMQ LR LR
comp=Z,1μm,13.5s
WMQ LR LR
comp=Z,410nm,12.7s
YAK Yakutsk 38.44 6 LR LR 15 36 43.2
comp=Z,197nm,18.8s,baz=186,slow=36
YAK Yakutsk 38.44 6 *e*P **P 15 20 43.0 -1.1**
YAK *e**PP **pP 15 20 47.8 -0.8**
YAK *e* 15 22 11.7
YAK *e* 15 22 56.1
YAK *e*S **S 15 26 38.9 +0.3**
YAK *e**SS **ScP 15 26 44.4 -0.3**
YAK *e* 15 30 55.7
YAK pmax pmax
comp=Z,20nm,1.1s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,69nm,3.8s
YAK pmax pmax
comp=E,32nm,4.1s
YAK smax smax
comp=E,85nm,4.1s
YAK smax smax
comp=N,40nm,3.7s
YAK MLR MLR
comp=Z,886nm,15.0s
YAK MLR MLR
comp=E,501nm,16.0s
YAK MLR MLR
comp=N,626nm,14.0s
MK31 Makanchi Array 38.76 316 P **P 15 20 46.6 -0.5**
MK31 Makanchi Array 38.76 316 *ce*P **P 15 20 47.9 +0.9**
MKAR Makanchi Array 38.76 316 P **P 15 20 47.1 +0.1**
MKAR Makanchi Array 38.76 316 P **P 15 20 46.4 -0.6**
comp=N,3.6nm,0.8s,baz=106,slow=8.9,SNR=21
MKAR LR LR 15 36 45.6
comp=N,116nm,20.8s,baz=101,slow=36
comp=N,3.6nm,0.8s
MKAR Makanchi Array 38.76 316 *i* P **P 15 20 47.5 +0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
SHLS Shalkode 39.49 309 *e*P **P 15 20 50.1 -3.3**
SHLS Shalkode 39.49 309 *e*P **P 15 20 50.1 -3.3**
UZB Uzynbulak 39.80 309 *e*P **P 15 20 55.4 -0.6**
UZB Uzynbulak 39.80 309 *e*P **P 15 20 55.4 -0.6**
PETK Petropavlovsk- 39.84 34 LR LR 15 37 42.0
comp=Z,203nm,19.8s,baz=221,slow=37
PET Petropavlovsk 40.28 34 *i* P **P 15 21 01.8 +2.3**
PET pmax pmax
comp=Z,23nm,1.1s
ZAA0 Zalesovo Array 40.63 327 P **P 15 21 00.9 -1.5**
ZALV Zalesovo Beam 40.63 327 P **P 15 21 01.0 -1.5**
comp=Z,6.3nm,0.7s,baz=114,slow=7.7,SNR=20
ZALV LR LR 15 37 35.7
comp=Z,219nm,18.7s,baz=122,slow=36
comp=Z,6.3nm,0.7s
ZALV Zalesovo Beam 40.63 327 *i* P **P 15 21 01.7 -0.8**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
MA2 Magadan 41.04 22 LR LR 15 40 19.8
comp=Z,216nm,18.5s,baz=225,slow=39
MDOK Medeo 41.21 309 *e*P **P 15 21 07.3 -0.3**
MDOK Medeo 41.21 309 *e*P **P 15 21 07.3 -0.3**
TNSS Tian-Shan 41.25 309 *e*P **P 15 21 07.5 -0.7**
TNSS Tian-Shan 41.25 309 *e*P **P 15 21 07.6 -0.7**
AAA Alma-Ata 41.31 309 *e*P **P 15 21 08.1 -0.2**
AAA Alma-Ata 41.31 309 *e*P **P 15 21 08.2 -0.2**
KSH Kashi 41.34 303 P **P 15 21 12.2 +3.5**
KSH LR LR
comp=Z,910nm,13.4s
KSH LR LR
comp=Z,740nm,15.8s
KSH LR LR
comp=Z,960nm,15.8s
PMG Port Moresby 41.52 140 P **P 15 21 09.8 -0.4**
PMG IAmb IAmb 15 21 15.3
comp=Z,29nm,0.9s
PMG Port Moresby 41.52 140 LR LR 15 37 40.1
comp=Z,141nm,18.9s,baz=302,slow=35
PMG Port Moresby 41.52 140 *i* P **P 15 21 10.4 +0.2**
PMG pmax pmax
comp=Z,31nm,1.0s
KUU Kurty 41.88 310 *e*P **P 15 21 12.1 -0.8**
KUU pmax pmax
comp=Z,17nm,1.5s
KUU Kurty 41.88 310 *e*P **P 15 21 12.2 -0.8**
comp=Z,17nm,1.5s
H11N1 WAKE ISLAND Hy 42.12 87 T T 16 06 30.1
baz=276,slow=75,SNR=118
H11N2 WAKE ISLAND Hy 42.12 87 T T 16 06 26.0
baz=276,slow=75,SNR=106
H11N3 WAKE ISLAND Hy 42.14 87 T T 16 06 30.0
baz=276,slow=75,SNR=156
H11S3 WAKE ISLAND Hy 42.24 88 T T 16 06 19.9
baz=284,slow=74,SNR=903
H11S1 WAKE ISLAND Hy 42.25 88 T T 16 06 20.7
baz=284,slow=74,SNR=298
H11S2 WAKE ISLAND Hy 42.26 88 T T 16 06 21.3
baz=284,slow=74,SNR=301
KURK Kurchatov 42.50 320 *ce*P **P 15 21 18.3 +0.4**
KURK pmax pmax
comp=Z,23nm,2.5s
KURBB Kurchatov Arra 42.52 320 P **P 15 21 17.3 -0.7**
comp=Z,1.6nm,0.7s,baz=110,slow=8.5,SNR=14
KURBB LR LR 15 38 59.1
comp=Z,106nm,21.6s,baz=186,slow=36
comp=Z,1.6nm,0.7s
AAK Ala-Archa 42.94 307 **P 15 21 22.3 +0.5**
AAK Ala-Archa 42.94 307 LR LR 15 39 27.4
comp=Z,150nm,19.9s,baz=98,slow=36
AAK Ala-Archa 42.94 307 *ce*P **P 15 21 20.8 -1.0**
AAK pmax pmax
comp=Z,6.0nm,2.5s
COEN Coen 43.19 149 P **P 15 21 22.9 -0.9**
COEN IAmb IAmb 15 21 28.8
comp=Z,41nm,1.0s
SEY Seymchan 44.05 20 *ce*P **P 15 21 29.1 -1.1**
SEY pmax pmax
comp=Z,7.0nm,2.5s
WB0 Warramunga Arr 45.22 163 IAmb IAmb 15 21 42.4
comp=Z,25nm,1.4s
WRAB Tennant Creek 45.37 163 P **P 15 21 39.9 -1.3**
WRAB Tennant Creek 45.37 163 *i* P **P 15 21 40.1 -1.1**
WRAB pmax pmax
comp=Z,23nm,1.3s
WRA Warramunga Arr 45.38 163 P **P 15 21 39.9 -1.3**
WRA Warramunga Arr 45.38 163 P **P 15 21 40.0 -1.2**
comp=Z,12nm,0.9s,baz=344,slow=8.8,SNR=56
comp=Z,12nm,0.9s
WRA Warramunga Arr 45.38 163 *i* P **P 15 21 40.0 -1.2**
WRA pmax pmax
comp=Z,13nm,0.9s
BRZS Berezniki 45.85 317 *e*P **P 15 21 44.2 -0.5**
BRZS Berezniki 45.85 317 *e*P **P 15 21 44.3 -0.5**
KKAR Karatay Array 45.90 307 P **P 15 21 45.5 +0.2**
KKAR Karatay Array 45.90 307 IAmb IAmb 15 21 54.9
comp=Z,6.4nm,0.8s
KKAR Karatay Array 45.90 307 P **P 15 21 45.5 +0.2**
IUG Iuzhnay 46.14 306 *e*P **P 15 21 46.4 -0.8**
IUG pmax pmax
comp=Z,10.0nm,1.0s

IUG	**Iuzhnay**	46.14	306	*e*P		**P**	15 21 46.5	-0.8
	comp=Z,10nm,1.0s							
BRLS	**Borolday**	46.39	307	*e*P		**P**	15 21 49.4	+0.3
BRLS	**Borolday**	46.39	307	*e*P		**P**	15 21 49.4	+0.3
TIXI	**Tiksi**	47.89	3	P		**P**	15 21 58.2	-2.1
TIXI				IAmb		IAmb	15 22 01.1	
	comp=Z,18nm,0.9s							
TIXI	**Tiksi**	47.89	3	LR		LR	15 44 39.7	
	comp=Z,375nm,19.3s,baz=206,slow=39							
TIXI	**Tiksi**	47.89	3	*ce*P		**P**	15 21 58.7	-1.6
TIXI				pmax		pmax		
	comp=Z,22nm,1.0s							
BVAR	**Borovoye Array**	48.08	321	P		**P**	15 22 02.2	+0.1
	comp=Z,2.8nm,0.6s,baz=113,slow=8.5,SNR=14							
BVAR				PcP		**PcP**	15 23 29.1	-0.6
	comp=Z,1.7nm,0.6s,baz=126,slow=2.6,SNR=3.6							
BVAR				LR		LR	15 42 27.4	
	comp=Z,64nm,18.4s,baz=98,slow=36							
	comp=Z,2.8nm,0.6s							
BRVK	**Borovoye**	48.15	321	P		**P**	15 22 02.0	-0.6
BRVK	**Borovoye**	48.15	321	*ce*P		**P**	15 22 03.2	+0.5
BRVK				pmax		pmax		
	comp=Z,14nm,1.3s							
SHEM	**Shemya Is, Ala**	48.75	40	LR		LR	15 41 55.7	
	comp=Z,50nm,21.7s,baz=290,slow=35							
ASAR	**Alice Springs**	48.83	165	P		**P**	15 22 07.6	-0.6
ASAR	**Alice Springs**	48.83	165	P		**P**	15 22 06.9	-1.3
	comp=Z,8.2nm,0.9s,baz=340,slow=6.6,SNR=50							
ASAR				LR		LR	15 42 37.2	
	comp=Z,87nm,20.0s,baz=354,slow=36							
	comp=Z,8.2nm,0.9s							
ASAR	**Alice Springs**	48.83	165	P		**P**	15 22 07.6	-0.6
NRIK	**Noril'sk**	49.71	345	P		**P**	15 22 13.8	-0.6
	comp=Z,4.3nm,0.8s,baz=125,slow=7.4,SNR=9.6							
NRIK				LR		LR	15 44 43.0	
	comp=Z,200nm,18.9s,baz=144,slow=38							
	comp=Z,4.3nm,0.8s							
NRIK	**Noril'sk**	49.71	345	*ce*P		**P**	15 22 12.2	-2.2
NRIK				pmax		pmax		
	comp=Z,7.0nm,1.1s							
HNR	**Honiara**	50.05	127	LR		LR	15 41 04.0	
	comp=Z,45nm,21.0s,baz=222,slow=33							
BILL	**Bilibino**	51.76	20	*ce*P		**P**	15 22 29.9	+0.1
BILL				pmax		pmax		
	comp=Z,12nm,1.7s							
ABKAR	**Akbulak array**	53.86	314	P		**P**	15 22 45.1	-0.6
ABKAR	**Akbulak array**	53.86	314	IAmb		IAmb	15 22 51.8	
	comp=Z,12nm,1.1s							
SVE	**Sverdlovsk**	54.44	324	*e*P		**P**	15 22 50.2	+0.4
SVE				pmax		pmax		
	comp=Z,19nm,1.4s							
SVE				MLR		MLR		
	comp=Z,400nm,15.0s							
AKTO	**Aktyubinsk**	55.19	316	P		**P**	15 22 55.3	0.0
	comp=Z,6.1nm,1.1s,baz=107,slow=8.1,SNR=6.6							
AKTO				LR		LR	15 48 09.1	
	comp=Z,187nm,18.5s,baz=171,slow=38							
	comp=Z,6.1nm,1.1s							
ARTI	**Arti**	55.60	323	P		**P**	15 22 56.5	-1.7
ARTI	**Arti**	55.60	323	P		**P**	15 22 58.7	+0.5
	comp=Z,4.9nm,0.6s,baz=129,slow=4.7,SNR=11							
ARTI				LR		LR	15 47 54.9	
	comp=Z,198nm,18.2s,baz=93,slow=37							
	comp=Z,4.9nm,0.6s							
ARTI	**Arti**	55.60	323	*d*P		**P**	15 22 57.4	-0.8
ARTI							15 23 57.8	
ARTI							15 24 57.9	
ARTI				S		**S**	15 30 44.3	+0.9
ARTI				SS		**SS**	15 34 22.9	-5.3
ARTI				pmax		pmax		
	comp=Z,7.0nm,0.8s							
ARTI				MLR		MLR		
	comp=Z,207nm,13.0s							
NWAO	**Narrogin (SRO)**	56.73	184	LR		LR	15 49 01.6	
	comp=Z,63nm,19.5s,baz=117,slow=38							
GAMB	**Gambell**	58.49	29	P		**P**	15 23 17.8	-0.7
	baz=260							
STKA	**Stephens Creek**	58.73	160	P		**P**	15 23 19.9	-0.6
	comp=Z,5.0nm,0.6s,baz=343,slow=6.0,SNR=14							
	comp=Z,5.0nm,0.6s							
NIKH	**Nikolski High**	59.00	41	P		**P**	15 23 21.2	-1.0
	baz=269							
TNA	**Tin City**	60.36	27	P		**P**	15 23 31.1	-0.2
	baz=263							
UNV	**Unalaska Valle**	60.41	40	P		**P**	15 23 31.4	-0.5
	baz=271							
KIRV	**Kirov**	60.61	325	LR		LR	15 51 41.8	
	comp=Z,156nm,18.1s,baz=93,slow=38							
KIRV	**Kirov**	60.61	325	*ce*P		**P**	15 23 34.0	+0.8
M11K	**Mekoryuk**	60.69	33	P		**P**	15 23 33.1	-0.6
	baz=267							
F14K	**Arctic Creek**	61.01	27	P		**P**	15 23 35.3	-0.5
	baz=264							
ANM	**Nome**	61.34	28	P		**P**	15 23 37.2	-0.9
	baz=266							
K13K	**Kusilvak Mount**	61.51	31	P		**P**	15 23 38.6	-0.7
	baz=268							
C16K	**Lisburne Hills**	61.70	24	P		**P**	15 23 40.0	-0.4
	baz=264							
F15K	**North Star Dit**	61.73	27	P		**P**	15 23 40.4	-0.3
	baz=266							
G15K	**Niukluk**	61.94	28	P		**P**	15 23 41.6	-0.4
	baz=267							
J14K	**Nanvaranak Lak**	62.05	30	P		**P**	15 23 42.1	-0.8
	baz=268							
M13K	**Dall Lake**	62.11	33	P		**P**	15 23 42.5	-0.8
	baz=270							
L14K	**Kuka Creek**	62.44	32	P		**P**	15 23 45.1	-0.4
	baz=270,SNR=9.6							
D17K	**Noatak River**	62.49	25	P		**P**	15 23 45.8	0.0
	baz=266,SNR=6.1							
G16K	**Koyuk River**	62.67	27	P		**P**	15 23 46.8	-0.1
	baz=268							
H16K	**Elim**	62.69	28	P		**P**	15 23 46.6	-0.5
	baz=268							
MAK	**Makhachkala**	62.72	307	*e*P		P	15 23 42.2	-5.5
MAK				*e*S		**S**	15 32 08.5	-7.5
MAK				*e*SS		**SS**	15 36 17.4	-3.0
MAK				*e*SSS		SSS	15 39 10.3	
MAK				pmax		pmax		
	comp=Z,128nm,1.3s							
MAK				MLR		MLR		
	comp=Z,230nm,15.0s							
M14K	**Bethel**	62.79	32	P		**P**	15 23 47.3	-0.6
	baz=271,SNR=5.9							
E17K	**Hotham Inlet**	62.95	25	P		**P**	15 23 48.5	-0.2
	baz=268							
N14K	**Kuskokwak Cree**	62.95	33	P		**P**	15 23 48.7	-0.2
	baz=271							
K15K	**Wolf Creek Mou**	62.98	31	IAmb		IAmb	15 23 59.2	
	comp=Z,17nm,1.1s							
K15K	**Wolf Creek Mou**	62.98	31	P		**P**	15 23 48.8	-0.4
	baz=270							
L15K	**Ungalak Mounta**	63.01	31	P		**P**	15 23 49.1	-0.2
	baz=271							
B18K	**Kokolik River**	63.07	23	P		**P**	15 23 49.5	-0.1
	baz=266							
F17K	**Baldwin Pennin**	63.15	26	P		**P**	15 23 50.0	-0.2
	baz=268							
O14K	**Tigyukauivet M**	63.18	34	P		**P**	15 23 49.8	-0.6
	baz=272							
DZM	**Mont Dzumac**	63.21	133	*e*P		**P**	15 23 51.2	-0.1
	comp=Z,55nm,23.3s							
DZM				*e*S		**S**	15 32 21.6	-1.1
	comp=Z,150nm,28.3s							
DZM				*e*SS		**SS**	15 36 28.2	-1.2
	comp=Z,112nm,25.6s							
DZM				*e*LR		LR	15 42 38.7	
	comp=Z,422nm,30.0s							
C18K	**Utukok River**	63.25	24	P		**P**	15 23 50.3	-0.6
	baz=267							
I17K	**Unalakleet**	63.36	29	P		**P**	15 23 51.2	-0.3
	baz=270							
A19K	**Wainwright**	63.38	22	P		**P**	15 23 51.5	-0.1
	baz=267							
G17K	**Kiwalik Mounta**	63.38	27	P		**P**	15 23 51.2	-0.5
	baz=270,SNR=5.5							
J16K	**Anvik River**	63.40	30	P		**P**	15 23 51.5	-0.4
	baz=271							
M15K	**Kasigluk River**	63.42	33	P		**P**	15 23 51.6	-0.5
	baz=272,SNR=5.3							
E18K	**Tukpahlearik C**	63.43	25	P		**P**	15 23 51.6	-0.4
	baz=268							
H17K	**Granite Mounta**	63.69	28	IAmb		IAmb	15 23 56.1	
	comp=Z,12nm,0.9s							
H17K	**Granite Mounta**	63.69	28	P		**P**	15 23 53.6	-0.2
	baz=270,SNR=9.1							
N15K	**Kwethluk River**	63.74	33	IAmb		IAmb	15 24 03.7	
	comp=Z,24nm,1.1s							
N15K	**Kwethluk River**	63.74	33	P		**P**	15 23 53.7	-0.4
	baz=273,SNR=7.8							
F18K	**Selawik**	63.79	26	P		**P**	15 23 54.1	-0.3
	baz=270,SNR=9.5							
SDPT	**Sand Point**	63.84	38	P		**P**	15 23 54.4	-0.5
	baz=275							
O15K	**Ungalikthiuk R**	63.92	34	IAmb		IAmb	15 23 57.0	
	comp=Z,15nm,1.1s							
O15K	**Ungalikthiuk R**	63.92	34	P		**P**	15 23 54.9	-0.5
	baz=273,SNR=5.7							
L16K	**Owhat River**	63.97	31	IAmb		IAmb	15 23 57.1	
	comp=Z,11nm,1.1s							
L16K	**Owhat River**	63.97	31	P		**P**	15 23 55.3	-0.3
	baz=272,SNR=7.7							
J17K	**VABM Dome**	64.09	29	P		**P**	15 23 56.4	0.0
	baz=272,SNR=16							
G18K	**Tagagawik**	64.20	27	IAmb		IAmb	15 23 59.3	
	comp=Z,18nm,1.4s							
G18K	**Tagagawik**	64.20	27	P		**P**	15 23 57.1	-0.1
	baz=271							
M16K	**Timber Creek**	64.25	32	IAmb		IAmb	15 23 59.6	
	comp=Z,16nm,1.1s							
M16K	**Timber Creek**	64.25	32	P		**P**	15 23 57.3	-0.2
	baz=273,SNR=6.5							
S14K	**Fog Glacier**	64.28	37	P		**P**	15 23 57.5	-0.5
	baz=275							
H18K	**Honhosa River**	64.34	27	IAmb		IAmb	15 24 07.4	
	comp=Z,31nm,1.6s							
H18K	**Honhosa River**	64.34	27	P		**P**	15 23 57.9	-0.2
	baz=272							
N16K	**Nishlik Lake**	64.38	33	P		**P**	15 23 58.1	-0.3
	baz=274,SNR=8.1							
D19K	**Kuna River**	64.38	24	IAmb		IAmb	15 24 06.2	
	comp=Z,18nm,1.0s							
D19K	**Kuna River**	64.38	24	P		**P**	15 23 58.3	0.0
	baz=270,SNR=16							
CHNA	**Chernabura Isl**	64.39	39	P		**P**	15 23 57.9	-0.7
	baz=276							
CNBA	**Chernabura Isl**	64.40	39	P		**P**	15 23 58.6	0.0
K17K	**Iditarod**	64.47	30	IAmb		IAmb	15 24 01.4	
	comp=Z,18nm,1.0s							
K17K	**Iditarod**	64.47	30	P		**P**	15 23 58.6	-0.3
	baz=273,SNR=8.3							
L17K	**Donlin**	64.50	31	P		**P**	15 23 58.4	-0.7
	baz=273,SNR=10							
F19K	**Shaleruckik Mo**	64.54	26	P		**P**	15 23 59.3	0.0
	baz=271							
B20K	**Meade River**	64.71	22	IAmb		IAmb	15 24 08.3	
	comp=Z,11nm,0.9s							
B20K	**Meade River**	64.71	22	P		**P**	15 24 00.4	0.0
	baz=270							
E19K	**Redstone River**	64.73	25	IAmb		IAmb	15 24 04.8	
	comp=Z,9.7nm,0.9s							
E19K	**Redstone River**	64.73	25	P		**P**	15 24 00.1	-0.5
	baz=272,SNR=14							
O16K	**Kokwok River B**	64.78	34	IAmb		IAmb	15 24 10.4	
	comp=Z,15nm,1.1s							
O16K	**Kokwok River B**	64.78	34	P		**P**	15 24 00.5	-0.5
	baz=275,SNR=5.3							
G19K	**Purcell Mounta**	64.84	26	IAmb		IAmb	15 24 13.9	
	comp=Z,14nm,1.2s							
G19K	**Purcell Mounta**	64.84	26	P		**P**	15 24 00.9	-0.4
	baz=272							
A21K	**Barrow**	64.88	21	P		**P**	15 24 01.1	-0.3
	baz=270							
D20K	**Etivluk River**	64.93	24	IAmb		IAmb	15 24 09.8	
	comp=Z,14nm,0.9s							
D20K	**Etivluk River**	64.93	24	P		**P**	15 24 02.0	+0.1
	baz=272,SNR=13							
M17K	**Holitna River**	64.96	32	P		**P**	15 24 02.1	-0.1
	baz=274,SNR=6.7							
GCSA	**Galena City Sc**	64.99	28	P		**P**	15 24 02.0	-0.3
	baz=273							
E20K	**Nigu River**	65.10	24	P		**P**	15 24 02.7	-0.3
	baz=272							
H19K	**Roundabout Mou**	65.13	27	P		**P**	15 24 03.0	-0.1
	baz=273,SNR=22							
J18K	**Innoko River**	65.15	29	IAmb		IAmb	15 24 12.0	
	comp=Z,16nm,1.3s							
J18K	**Innoko River**	65.15	29	P		**P**	15 24 03.0	-0.3
	baz=274,SNR=8.1							
N17K	**Nushagak Hills**	65.15	33	IAmb		IAmb	15 24 13.3	
	comp=Z,19nm,1.2s							
N17K	**Nushagak Hills**	65.15	33	P		**P**	15 24 03.0	-0.4
	baz=275,SNR=5.9							
R16K	**Pilot Point**	65.24	36	P		**P**	15 24 03.5	-0.4
	baz=276							
GNI	**Garni**	65.24	305	LR		LR	15 55 59.6	
	comp=Z,82nm,18.6s,baz=80,slow=39							
L18K	**Granite Mounta**	65.25	31	IAmb		IAmb	15 24 13.9	
	comp=Z,16nm,1.2s							
L18K	**Granite Mounta**	65.25	31	P		**P**	15 24 03.3	-0.7
	baz=275,SNR=7.8							
O17K	**Koliganek Bris**	65.27	33	P		**P**	15 24 03.8	-0.3
	baz=275							
F20K	**Avaraart Lake**	65.33	25	P		**P**	15 24 04.0	-0.4
	baz=273							
A22K	**Sinclair Lake**	65.42	21	P		**P**	15 24 04.4	-0.5
	baz=272							
VRH	**Novokhopyorsk**	65.47	317	*e*P		**P**	15 24 03.1	-2.5
VRH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
TTA	**Tatalina**	65.50	30	P		**P**	15 24 05.2	-0.6
	baz=275,SNR=6.0							
KLMR	**Klimovskoe**	65.55	328	*e*P		**P**	15 24 02.9	-3.0
KLMR				*e*			15 26 26.4	
KLMR				pmax		pmax		
	comp=Z,18nm,1.3s							
KLMR				MLR		MLR		
	comp=Z,367nm,14.0s							
C21K	**Knifeblade Rid**	65.57	23	P		**P**	15 24 05.8	-0.2
	baz=273							
J19K	**Poorman**	65.59	29	IAmb		IAmb	15 24 08.9	
	comp=Z,18nm,1.1s							
J19K	**Poorman**	65.59	29	P		**P**	15 24 06.0	-0.2
	baz=275,SNR=14							
B21K	**Ikpikpuk River**	65.61	22	P		**P**	15 24 06.2	0.0
	baz=273							
P17K	**Kvichak River**	65.66	34	P		**P**	15 24 06.2	-0.5
	baz=276							
M18K	**Stony River**	65.72	31	P		**P**	15 24 06.6	-0.5
	baz=276,SNR=5.2							
N18K	**Kilae Creek**	65.78	32	P		**P**	15 24 07.0	-0.5
	baz=276							
H20K	**Anotleneega Mo**	65.78	27	P		**P**	15 24 07.2	-0.3
	baz=275,SNR=11							
E21K	**Killik River**	65.91	24	P		**P**	15 24 07.4	-0.9
	baz=274							
KBZ	**Khabaz**	65.91	309	P		**P**	15 24 10.0	+1.4
	comp=Z,6.2nm,1.1s,baz=108,slow=9.4,SNR=8.4							
KBZ				LR		LR	15 57 27.5	
	comp=Z,121nm,18.5s,baz=60,slow=40							
	comp=Z,6.2nm,1.1s							
KBZ	**Khabaz**	65.91	309	*i* P		**P**	15 24 09.2	+0.6
KBZ				pmax		pmax		
	comp=Z,9.0nm,1.1s							
B22K	**Teshekpuk Lake**	65.97	22	P		**P**	15 24 07.9	-0.6
	baz=274,SNR=17							
I20K	**Naaghedeneel**	66.02	28	P		**P**	15 24 08.6	-0.2
	baz=275,SNR=9.6							
KIV	**Kislovodsk**	66.02	309	*e*P		**P**	15 24 08.7	-0.7
KIV				pmax		pmax		
	comp=Z,12nm,1.0s							
KIV				MLR		MLR		
	comp=Z,89nm,17.0s							
Q17K	**Contact Creek**	66.05	35	P		**P**	15 24 08.9	-0.5
	baz=277							
SHA1	**Shidzhatmaz**	66.08	309	*i* P		**P**	15 24 09.2	-0.8
L19K	**White Mountain**	66.11	31	IAmb		IAmb	15 24 13.1	
	comp=Z,16nm,1.1s							
L19K	**White Mountain**	66.11	31	P		**P**	15 24 08.9	-0.7
	baz=276,SNR=10							
F21K	**Alatna River**	66.20	25	P		**P**	15 24 10.2	+0.1
	baz=275,SNR=9.3							
O18K	**Koktuh Hills**	66.21	33	IAmb		IAmb	15 24 20.0	
	comp=Z,16nm,1.1s							
O18K	**Koktuh Hills**	66.21	33	P		**P**	15 24 09.9	-0.4
	baz=277							
J20K	**Nowinta River**	66.22	28	IAmb		IAmb	15 24 20.0	
	comp=Z,17nm,1.1s							
J20K	**Nowinta River**	66.22	28	P		**P**	15 24 09.9	-0.3
	baz=276,SNR=8.6							
G21K	**Allakaket**	66.25	26	IAmb		IAmb	15 24 19.8	
	comp=Z,22nm,1.0s							
G21K	**Allakaket**	66.25	26	P		**P**	15 24 10.1	-0.4
	baz=275							
P18K	**Big Mountain,**	66.25	34	IAmb		IAmb	15 24 19.0	
	comp=Z,18nm,1.2s							
P18K	**Big Mountain,**	66.25	34	P		**P**	15 24 10.1	-0.4
	baz=277							
K20K	**Telida**	66.34	29	IAmb		IAmb	15 24 20.4	
	comp=Z,16nm,1.1s							
K20K	**Telida**	66.34	29	P		**P**	15 24 11.0	-0.1
	baz=276							
D22K	**Ayikyak River**	66.35	23	P		**P**	15 24 11.4	+0.4
	baz=275,SNR=9.0							
ACHA	**Angle Creek He**	66.35	35	IAmb		IAmb	15 24 11.7	
	comp=Z,11nm,1.0s							
M19K	**Big River Lodg**	66.36	31	P		**P**	15 24 11.2	0.0
	baz=277							
N19K	**Bonanza Creek**	66.45	32	IAmb		IAmb	15 24 14.5	
	comp=Z,11nm,1.0s							
N19K	**Bonanza Creek**	66.45	32	P		**P**	15 24 11.6	-0.3
	baz=277							
Q18K	**Katmai Hardscr**	66.46	35	P		**P**	15 24 11.8	-0.2
	baz=278							
CHIR	**Chirikof Islan**	66.52	38	P		**P**	15 24 12.0	-0.4
	baz=278							
L20K	**Farewell, AK**	66.53	30	P		**P**	15 24 12.2	-0.1
	baz=277,SNR=5.3							
O19K	**Port Alsworth**	66.61	33	IAmb		IAmb	15 24 15.1	
	comp=Z,15nm,1.1s							
O19K	**Port Alsworth**	66.61	33	P		**P**	15 24 12.7	0.0
	baz=278							
H21K	**Melozitna Rive**	66.63	27	IAmb		IAmb	15 24 16.2	
	comp=Z,18nm,0.9s							
H21K	**Melozitna Rive**	66.63	27	P		**P**	15 24 12.8	-0.1
	baz=276,SNR=22							
F22K	**John River**	66.67	25	P		**P**	15 24 13.2	+0.1
	baz=276							
E22K	**Anaktuvuk Pass**	66.74	24	P		**P**	15 24 13.4	-0.1
	baz=276,SNR=29							
R18K	**Karluk**	66.91	36	P		**P**	15 24 13.9	-0.8
	baz=278							
M20K	**Styx River**	66.95	31	IAmb		IAmb	15 24 18.0	
	comp=Z,14nm,1.1s							
M20K	**Styx River**	66.95	31	P		**P**	15 24 14.4	-0.6
	baz=278							
LPSR	**Galich'ya Gora**	66.97	319	*e*P		**P**	15 24 14.4	-0.8
LPSR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
C23K	**Itkillik River**	66.98	22	IAmb		IAmb	15 24 17.4	
	comp=Z,16nm,1.2s							
C23K	**Itkillik River**	66.98	22	P		**P**	15 24 14.8	-0.2
	baz=277,SNR=9.5							
G22K	**Bettles**	67.00	25	P		**P**	15 24 15.7	+0.6
	baz=277,SNR=12							
I21K	**Tanana**	67.03	27	IAmb		IAmb	15 24 24.6	
	comp=Z,16nm,0.9s							
I21K	**Tanana**	67.03	27	P		**P**	15 24 15.3	0.0
	baz=277,SNR=14							
CHUM	**Lake Minchumin**	67.06	29	P		**P**	15 24 15.4	-0.1
	baz=278,SNR=9.1							
D23K	**Nanushuk River**	67.06	23	P		**P**	15 24 15.2	-0.3
	baz=277							
VSR	**Storozhevoye**	67.06	317	*e*P		**P**	15 24 13.8	-2.0
VSR				pmax		pmax		
	comp=Z,7.0nm,0.9s							
Q19K	**Cape Douglas,**	67.12	34	P		**P**	15 24 15.8	-0.4
	baz=279							
H22K	**Ishtalitna Cre**	67.18	26	P		**P**	15 24 16.4	0.0
	baz=278							
SII	**Sitkinak Islan**	67.21	37	P		**P**	15 24 16.4	-0.3
	baz=279							
CAST	**Castle Rocks**	67.22	29	P		**P**	15 24 17.1	+0.5
CAST				IAmb		IAmb	15 24 19.7	
	comp=Z,16nm,1.0s							
CAST	**Castle Rocks**	67.22	29	P		**P**	15 24 16.1	-0.6
	baz=278,SNR=16							
P19K	**Oil Pt**	67.23	33	P		**P**	15 24 16.4	-0.4
	baz=279							
PPLA	**Purkeypile**	67.25	30	P		**P**	15 24 16.9	-0.1
	baz=278							
COLD	**Coldfoot**	67.46	25	P		**P**	15 24 18.1	0.0
	baz=278							
SPCR	**Spurr Chakacha**	67.49	32	P		**P**	15 24 18.5	0.0
	baz=279							
TOLK	**Toolik Lake Re**	67.50	23	IAmb		IAmb	15 24 20.8	
	comp=Z,13nm,0.9s							
TOLK	**Toolik Lake Re**	67.50	23	P		**P**	15 24 18.2	-0.2
	baz=278,SNR=13							
E23K	**Chandalar**	67.57	24	IAmb		IAmb	15 24 22.1	
	comp=Z,19nm,0.9s							
E23K	**Chandalar**	67.57	24	P		**P**	15 24 18.7	-0.2
	baz=278,SNR=21							
OHAK	**Old Harbor**	67.58	36	P		**P**	15 24 18.1	-0.9
	baz=280							
BPAW	**Bear Paw Mtn.**	67.60	28	IAmb		IAmb	15 24 21.5	
	comp=Z,24nm,1.2s							
BPAW	**Bear Paw Mtn.**	67.60	28	P		**P**	15 24 18.6	-0.5
	baz=279,SNR=12							
G23K	**Bananza Creek**	67.61	25	IAmb		IAmb	15 24 22.2	
	comp=Z,16nm,0.9s							
G23K	**Bananza Creek**	67.61	25	P		**P**	15 24 18.7	-0.4
	baz=278,SNR=17							
C24K	**Franklin Bluff**	67.65	22	P		**P**	15 24 18.9	-0.3
	baz=278							
SKT	**Skwentna**	67.69	31	P		**P**	15 24 18.8	-0.8
	baz=279							
D24K	**Happy Valley**	67.69	23	P		**P**	15 24 19.0	-0.6
	baz=279,SNR=22							
KTH	**Kantishna Hill**	67.72	29	IAmb		IAmb	15 24 27.6	
	comp=Z,12nm,0.9s							
Q20K	**Shuyak Island**	67.82	34	P		**P**	15 24 19.7	-0.8
	baz=280							
KDAK	**Kodiak Island**	67.86	35	LR		LR	15 55 23.7	
	comp=Z,40nm,19.7s,baz=102,slow=37							
KDAK	**Kodiak Island**	67.86	35	P		**P**	15 24 19.9	-0.8
	baz=280							
OBN	**Obninsk**	67.91	322	*e*P		**P**	15 24 19.0	-2.1
OBN				*e**PP		**pP**	15 24 26.5	+0.6
OBN				*e*			15 24 48.4	
OBN				*e*			15 26 48.4	
OBN				*e*PPP		PPP	15 28 30.9	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
OBN				MLR		MLR		
	comp=Z,166nm,15.0s							
H23K	**Yukon River**	67.94	26	P		**P**	15 24 21.2	0.0
	baz=279							
E24K	**Your Creek**	67.98	24	IAmb		IAmb	15 24

comp=Z,12nm,1.3s
WRH Wood River Hil 68.78 28 IAmb IAmb 15 24 29.7
comp=Z,12nm,1.0s
COLA College 68.81 27 eP P 15 24 27.5 +1.0
COLA pmax pmax
comp=Z,12nm,1.0s
COLA College 68.81 27 P P 15 24 27.6 +1.0
baz=281
PMR Palmer 68.88 31 P P 15 24 27.1 +0.1
baz=281
C26K Camden Bay 68.91 22 P P 15 24 27.2 +0.1
baz=282
MSVF Nonsavu 68.93 122 LR LR 15 53 09.3
comp=Z,39nm,18.9s,baz=305,slow=35
MSVF Nonsavu 68.93 122 i P P 15 24 28.6 +0.5
MSVF pmax pmax
comp=Z,99nm,3.6s
POKR Poker Plat Res 68.93 27 P P 15 24 27.9 +0.5
baz=281,SNR=11
SEW Seward 69.02 32 P P 15 24 28.3 +0.3
baz=282
E25K Arctic Village 69.05 24 P P 15 24 28.2 +0.1
baz=282,SNR=8.9
G25K Bearman Lake 69.13 25 P P 15 24 28.9 +0.4
baz=282,SNR=17
F25K Christian Rive 69.13 24 P P 15 24 28.8 +0.1
baz=282,SNR=33
SML Sawmill 69.21 31 IAmb IAmb 15 24 37.1
comp=Z,15nm,0.8s
SML Sawmill 69.21 31 P P 15 24 29.1 -0.1
baz=282
ILAR Eielson Array 69.23 27 P P 15 24 28.4 -0.8
comp=Z,2.7nm,0.8s,baz=295,slow=6.4,SNR=30
comp=Z,2.7nm,0.8s
KNK Knik Glacier 69.23 31 IAmb IAmb 15 24 37.8
comp=Z,24nm,1.2s
KNK Knik Glacier 69.23 31 P P 15 24 29.3 0.0
baz=282
HDA Harding Lake 69.28 28 IAmb IAmb 15 24 30.9
comp=Z,12nm,0.9s
HDA Harding Lake 69.28 28 P P 15 24 29.3 -0.3
baz=282,SNR=10
H25L Birch Creek 69.35 26 P P 15 24 30.4 +0.5
baz=282
C27K Jago River 69.38 22 IAmb IAmb 15 24 33.2
comp=Z,12nm,0.8s
C27K Jago River 69.38 22 P P 15 24 30.1 0.0
baz=283
PWL Port Wells 69.41 32 P P 15 24 30.3 -0.1
baz=282
FYU Fort Yukon 69.51 25 IAmb IAmb 15 24 33.6
comp=Z,23nm,1.0s
BMAR Burnt Mountain 69.57 24 P P 15 24 31.1 -0.2
PRP Porcupine Dome 69.63 26 IAmb IAmb 15 24 34.7
comp=Z,16nm,1.2s
PRP Porcupine Dome 69.63 26 P P 15 24 31.3 -0.5
baz=283,SNR=8.1
SCM Sheep Creek Mo 69.67 30 P P 15 24 31.9 -0.2
baz=283,SNR=5.6
F26K Sheenjek River 69.67 24 IAmb IAmb 15 24 35.3
comp=Z,19nm,0.9s
F26K Sheenjek River 69.67 24 P P 15 24 31.8 -0.1
baz=283,SNR=28
SPITS Spitsbergen Ar 69.78 348 LR LR 15 58 02.0
comp=Z,101nm,19.3s,baz=17,slow=38
ARCES ARCESS Array B 69.88 338 P P 15 24 33.5 +0.3
comp=Z,1.1nm,0.7s,baz=78,slow=6.3,SNR=4.0
ARCES LR LR 15 58 40.4
comp=Z,108nm,18.5s,baz=70,slow=39
comp=Z,1.1nm,0.7s
J25K Salcha River, 69.90 27 P P 15 24 33.1 -0.4
baz=283,SNR=7.1
K24K Donnelly Dome 69.92 28 P P 15 24 32.8 -0.7
baz=283
G26K Porcupine Rive 69.98 25 P P 15 24 33.8 0.0
baz=284
GLI Glacier Island 69.99 31 P P 15 24 33.8 -0.2
baz=283
P23K Montague Islan 70.05 32 P P 15 24 34.2 -0.1
baz=283
M24K Tolsona, Glenn 70.14 30 P P 15 24 35.1 +0.2
baz=284
PAX Paxson 70.25 29 IAmb IAmb 15 24 38.0
comp=Z,12nm,1.0s
PAX Paxson 70.25 29 P P 15 24 35.4 -0.3
baz=284,SNR=7.6
RIDG Independent Ri 70.33 28 IAmb IAmb 15 24 37.9
comp=Z,29nm,1.2s
RIDG Independent Ri 70.33 28 P P 15 24 36.1 0.0
baz=284,SNR=7.9
KLU Klutina 70.40 31 IAmb IAmb 15 24 45.3
comp=Z,29nm,1.2s
KLU Klutina 70.40 31 P P 15 24 36.2 -0.4
baz=284
D27M Malcolm River 70.42 22 P P 15 24 36.7 +0.2
baz=286,SNR=12
E27K Coleen River 70.48 23 P P 15 24 36.6 -0.3
baz=286,SNR=12
HARP HAARP 70.53 30 P P 15 24 36.9 -0.4
baz=284
DIV Divide 70.56 31 IAmb IAmb 15 24 46.8
comp=Z,26nm,1.1s
SCRK Sand Creek 70.64 28 IAmb IAmb 15 24 39.5
comp=Z,14nm,1.1s
SCRK Sand Creek 70.64 28 P P 15 24 37.5 -0.6
baz=285,SNR=13
I26K Coal Creek Min 70.64 26 P P 15 24 37.6 -0.3
baz=285
J26L Joseph Creek 70.69 27 IAmb IAmb 15 24 40.0
comp=Z,20nm,0.9s
J26L Joseph Creek 70.69 27 P P 15 24 38.1 -0.2
baz=285,SNR=26
DOT Dot Lake 70.69 28 IAmb IAmb 15 24 40.1
comp=Z,16nm,1.1s
EYAK Cordova Ski Ar 70.72 32 P P 15 24 38.2 -0.1
baz=284
G27K Doyon Strip 70.83 25 IAmb IAmb 15 24 42.2
comp=Z,14nm,1.1s
G27K Doyon Strip 70.83 25 P P 15 24 38.8 -0.2
baz=286,SNR=13
N25K Chitina, Valde 70.99 30 P P 15 24 39.5 -0.6
baz=285
MENT Mentasta 71.03 29 IAmb IAmb 15 24 47.3
comp=Z,14nm,1.0s
H27K Steamboat Moun 71.04 25 P P 15 24 39.9 -0.5
baz=286,SNR=16
E28M Babbage River 71.09 23 IAmb IAmb 15 24 43.4
comp=Z,12nm,0.8s
E28M Babbage River 71.09 23 P P 15 24 40.5 -0.1
baz=287
BMRM Bremner River 71.15 31 P P 15 24 41.0 -0.2
baz=285
D28M Stokes Point 71.15 22 P P 15 24 40.9 0.0
baz=288
L26K Log Cabin Wild 71.17 29 IAmb IAmb 15 24 44.0
comp=Z,9.2nm,0.8s
I27K Kandik River 71.18 26 P P 15 24 41.2 0.0
baz=286,SNR=26
K27K Chicken 71.44 27 IAmb IAmb 15 24 45.7
comp=Z,24nm,0.9s
K27K Chicken 71.44 27 P P 15 24 42.4 -0.3
baz=286
M26K Nabesna, AK 71.50 29 IAmb IAmb 15 24 45.8
comp=Z,30nm,1.2s
M26K Nabesna, AK 71.50 29 P P 15 24 42.8 -0.4
baz=286,SNR=13
KAIM Kayak Island 71.52 32 P P 15 24 42.6 -0.7
baz=286
VRDI Verde Repeater 71.62 31 IAmb IAmb 15 24 45.9
comp=Z,36nm,1.4s
E29M Blow River 71.73 23 P P 15 24 43.8 -0.7
baz=289,SNR=12
FINES FINESS Array B 71.82 330 P P 15 24 44.6 -0.4
comp=Z,2.1nm,0.8s,baz=69,slow=6.3,SNR=8.8
FINES LR LR 15 58 54.1
comp=Z,203nm,19.7s,baz=48,slow=38
comp=Z,2.1nm,0.8s
FINES FINESS Array B 71.82 330 i P P 15 24 45.5 +0.4
FINES pmax pmax
comp=Z,2.0nm,0.8s
L27K Beaver Creek, 71.83 28 IAmb IAmb 15 24 48.3
comp=Z,16nm,0.9s
L27K Beaver Creek, 71.83 28 P P 15 24 45.2 0.0
baz=287,SNR=17
BCAR Beaver Creek A 71.84 28 P P 15 24 44.9 -0.4
I28M Miner Creek 71.90 26 IAmb IAmb 15 24 48.5
comp=Z,14nm,0.8s
I28M Miner Creek 71.90 26 P P 15 24 44.8 -0.8
baz=288,SNR=15
M27K Edge Creek, AK 72.01 29 IAmb IAmb 15 24 48.4
comp=Z,30nm,1.6s
M27K Edge Creek, AK 72.01 29 P P 15 24 46.1 -0.3
baz=287
BGLC Bering Glacier 72.01 32 P P 15 24 46.3 +0.1
baz=287
G29M Pine Creek 72.17 24 P P 15 24 47.1 -0.1
baz=289,SNR=24
H29M Whitestone 72.27 25 IAmb IAmb 15 24 50.2
comp=Z,19nm,0.8s
H29M Whitestone 72.27 25 P P 15 24 47.8 +0.1
baz=289,SNR=12
BVCY Beaver Creek 72.45 29 P P 15 24 48.2 -0.7
baz=288
DAWY Dawson 72.56 27 IAmb IAmb 15 24 52.3
comp=Z,20nm,0.8s
DAWY Dawson 72.56 27 P P 15 24 49.3 -0.2
baz=289,SNR=23
I29M Ogilvie Camp, 72.57 26 P P 15 24 49.2 -0.4
baz=289,SNR=8.4
F30M Barrier River 72.75 23 P P 15 24 50.4 -0.1
baz=291
G30M tAoh Zraii Nji 72.81 24 P P 15 24 51.0 0.0
baz=291,SNR=31
YUK3 Moose Creek 72.83 30 P P 15 24 51.1 -0.2
baz=286
EPYK Eagle Plains 72.84 24 IAmb IAmb 15 24 52.9
comp=Z,21nm,0.8s
EPYK Eagle Plains 72.84 24 P P 15 24 51.0 -0.1
baz=290,SNR=15
J29N Klondike Camp 72.91 27 P P 15 24 51.6 0.0
baz=290,SNR=20
MNK Minsk 72.93 322 i P P 15 24 49.7 -2.1
MNK i 15 25 06.4
MNK i 15 27 31.9
MNK i PPP PPP 15 29 16.4
MNK i S S 15 34 17.2 -0.7
MNK i 15 34 57.5
MNK i SS SS 15 38 58.7 +1.0
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=Z,8.0nm,0.7s
MNK pmax pmax
comp=E,12nm,0.6s
MNK MLR MLR
comp=E,421nm,23.0s
MNK MLR MLR
comp=Z,159nm,17.0s
MNK MLR MLR
comp=N,151nm,17.0s
O28M Mount Upton 73.27 30 P P 15 24 53.8 -0.3
baz=289
AKASG Malin Array Be 73.28 318 P P 15 24 53.2 -0.8
comp=N,0.5nm,0.4s,baz=64,slow=5.2,SNR=7.0
AKASG LR LR 15 57 37.8
comp=N,63nm,18.1s,baz=72,slow=36
comp=N,0.5nm,0.4s
AKASG Malin Array Be 73.28 318 i P P 15 24 53.2 -0.8
AKASG pmax pmax
comp=Z,2.0nm,0.7s
YUK8 Steele Glacier 73.30 30 P P 15 24 53.6 -0.6
baz=289
I30M Mount Dempster 73.38 25 P P 15 24 53.9 -0.6
baz=291,SNR=21
L29M L29M 73.41 28 P P 15 24 54.3 -0.3
baz=290,SNR=17
K29M Barlow Dome 73.41 27 IAmb IAmb 15 24 56.8
comp=Z,38nm,1.5s
K29M Barlow Dome 73.41 27 P P 15 24 54.3 -0.3
baz=290,SNR=14
PINM Pinnacle 73.47 31 P P 15 24 54.4 -0.6
baz=289
M29M Somme Creek 73.49 29 IAmb IAmb 15 24 58.9
comp=Z,12nm,0.8s
M29M Somme Creek 73.49 29 P P 15 24 54.2 -0.9
baz=290,SNR=14
F31M Tsiigehtchic 73.54 23 P P 15 24 55.2 +0.1
baz=293,SNR=13
G31M Satah River 73.55 23 IAmb IAmb 15 24 56.6
comp=Z,18nm,0.8s
G31M Satah River 73.55 23 P P 15 24 55.1 -0.1
baz=292,SNR=14
BRTR Keskin Array B 73.61 307 P P 15 24 56.0 -0.3
comp=Z,3.3nm,1.0s,baz=100,slow=5.1,SNR=8.8
BRTR LR LR 16 01 24.0
comp=Z,39nm,18.4s,baz=136,slow=39
comp=Z,3.3nm,1.0s
J30M Hart River 73.63 26 P P 15 24 55.5 -0.5
baz=291,SNR=5.5
YUK4 Talbot Arm 73.79 30 P P 15 24 56.8 -0.2
baz=290
H31M Peel River 73.95 25 IAmb IAmb 15 24 59.4
comp=Z,19nm,0.8s
H31M Peel River 73.95 25 P P 15 24 57.5 -0.2
baz=293,SNR=17
PNL Peninsula 74.02 31 P P 15 24 58.0 -0.2
baz=290
YUK6 Outpost Mounta 74.06 30 P P 15 24 57.5 -1.1
baz=290
M30M Minto, Yukon 74.17 28 IAmb IAmb 15 25 01.5
comp=Z,41nm,1.4s
M30M Minto, Yukon 74.17 28 P P 15 24 59.0 0.0
baz=291,SNR=16
O29M Mount Kennedy 74.18 31 P P 15 24 58.3 -1.0
baz=290
A36M Sachs Harbour 74.22 17 P P 15 24 59.0 -0.1
baz=299
MMAI Mount Meron Ar 74.33 299 LR LR 16 02 22.4
comp=Z,112nm,18.9s,baz=72,slow=40
N30M Aishikik Lake 74.45 29 IAmb IAmb 15 25 03.2
comp=Z,24nm,1.3s
N30M Aishikik Lake 74.45 29 P P 15 25 00.9 +0.2
baz=291,SNR=5.8
HYT Haines Junctio 74.49 30 P P 15 24 59.6 -1.4
baz=291,SNR=5.7
P29M Windy Craggy 74.82 31 P P 15 25 01.6 -1.2
baz=291
P30M Million Dollar 75.00 31 P P 15 25 02.3 -1.6
baz=292
N31M Braeburn, Yuko 75.02 29 IAmb IAmb 15 25 06.4
comp=Z,37nm,1.2s
N31M Braeburn, Yuko 75.02 29 P P 15 25 02.5 -1.5
baz=292,SNR=7.5
O30N Mendenhall 75.16 30 P P 15 25 04.1 -0.7
baz=292
M31M Drury Creek, Y 75.35 28 IAmb IAmb 15 25 07.6
comp=Z,18nm,1.2s
M31M Drury Creek, Y 75.35 28 P P 15 25 05.3 -0.5
baz=293,SNR=9.4
WHY Whitehorse 75.75 30 P P 15 25 07.6 -0.7
baz=293,SNR=7.3
FARO Faro, Yukon 75.78 28 IAmb IAmb 15 25 10.7
comp=Z,22nm,1.0s
FARO Faro, Yukon 75.78 28 P P 15 25 07.9 -0.5
baz=294,SNR=15
EIL Elat 75.79 296 LR LR 16 01 05.2
comp=Z,93nm,20.1s,baz=60,slow=38
C36M Paulatuk 75.88 19 IAmb IAmb 15 25 10.1
comp=Z,24nm,1.1s
C36M Paulatuk 75.88 19 P P 15 25 08.5 -0.2
baz=301,SNR=20
MLOA Mauna Loa Obse 75.99 75 IAmb IAmb 15 26 43.0
comp=Z,26nm,1.4s
N32M Quiet Lake 76.35 29 IAmb IAmb 15 25 13.4
comp=Z,27nm,1.1s
N32M Quiet Lake 76.35 29 P P 15 25 11.2 -0.4
baz=295
P32M Atlin 76.72 30 P P 15 25 13.3 -0.4
baz=295
P33M Teslin, Yukon 76.86 30 IAmb IAmb 15 25 16.6
comp=Z,21nm,1.1s
P33M Teslin, Yukon 76.86 30 P P 15 25 14.2 -0.4
baz=295,SNR=8.0
R32K Eaglecrest 76.88 32 P P 15 25 14.0 -0.6
baz=294
SIT Sitka 76.98 33 P P 15 25 14.6 -0.5
baz=294
MLR Muntele Rosu 77.07 314 LR LR 16 01 24.7
comp=Z,99nm,19.3s,baz=56,slow=37
S32K Killisnoo 77.19 33 P P 15 25 15.9 -0.4
baz=294
Q32M Nakina River 77.66 31 P P 15 25 19.2 0.0
baz=296
HFS Hagfors 77.94 331 P P 15 25 20.3 -0.2
comp=Z,3.0nm,0.8s,baz=97,slow=12,SNR=3.9
HFS LR LR 16 02 52.8
comp=Z,294nm,18.4s,baz=64,slow=38
comp=Z,3.0nm,0.8s
R33M Jennings River 78.06 30 P P 15 25 20.8 -0.6
baz=297,SNR=5.5
TGTN Hyland Airport 78.25 27 P P 15 25 21.9 -0.4
baz=299,SNR=7.6
NB2 NORSAR Subarra 78.59 332 P P 15 25 23.7 -0.5
comp=Z,5.5nm,1.0s,baz=60,slow=5.6
NOA NORSAR Array B 78.59 332 P P 15 25 23.9 -0.3
comp=Z,1.1nm,0.7s,baz=61,slow=5.4,SNR=5.4
NOA LR LR 16 02 16.9
comp=Z,146nm,18.1s,baz=60,slow=37
comp=Z,1.1nm,0.7s
S34M Telegraph Cree 78.66 31 IAmb IAmb 15 25 27.1
comp=Z,34nm,1.6s
S34M Telegraph Cree 78.66 31 P P 15 25 24.3 -0.2
baz=297
WTLY Watson Lake, Y 78.70 29 P P 15 25 24.8 +0.1
baz=298
WRAK Wrangell Islan 78.74 33 P P 15 25 24.8 -0.1
baz=296
JMIC Jan Mayen 79.14 345 LR LR 16 03 33.3
comp=Z,74nm,18.5s,baz=50,slow=38
WRGLY Wrigley 79.31 25 IAmb IAmb 15 25 30.0
comp=Z,25nm,1.0s
WRGLY Wrigley 79.31 25 P P 15 25 27.8 -0.2
baz=302,SNR=7.0
T35M Bob Quinn 79.51 32 P P 15 25 29.4 +0.2
baz=298
LIRD Liard River Hi 80.24 29 P P 15 25 33.3 +0.2
baz=301
KOTAN Kotaneelee Air 80.74 28 P P 15 25 36.4 +0.6
baz=302
URZ Urewera 80.87 139 LR LR 16 01 13.8
comp=Z,64nm,18.6s,baz=10.0,slow=36
TOAD Toad River Com 80.91 29 P P 15 25 37.8 +1.0
baz=302
VRAC Vranov 81.35 320 LR LR 16 05 37.4
comp=Z,124nm,18.1s,baz=50,slow=38
YKA Yellowknife Ar 83.02 23 P P 15 25 46.8 -0.9
comp=Z,13nm,0.8s,baz=316,slow=4.7,SNR=139
YKA LR LR 16 06 02.8
comp=Z,100nm,18.7s,baz=287,slow=38
comp=Z,13nm,0.8s
GERES GERESS Array B 83.25 321 P P 15 25 48.1 -1.2
comp=Z,1.3nm,0.7s,baz=58,slow=3.5,SNR=7.8
comp=Z,1.3nm,0.7s
KMBO Kilima Mbogo 85.28 267 P P 15 26 00.3 -0.1
comp=Z,1.1nm,0.3s,baz=66,slow=7.4,SNR=4.7
KMBO LR LR 16 05 42.8
comp=Z,74nm,19.0s,baz=82,slow=37
comp=Z,1.1nm,0.3s
DAVOX Davos/Dischmat 86.52 320 LR LR 16 07 19.1
comp=Z,115nm,19.6s,baz=56,slow=37
BORG Borgarnes 87.03 345 LR LR 16 09 06.1
comp=Z,70nm,18.1s,baz=30,slow=38
LLLB Lillooet 87.07 35 IAmb IAmb 15 26 10.6
comp=Z,20nm,1.3s
RAR Rarotonga 88.68 114 LR LR 15 58 51.5
comp=Z,45nm,20.2s,baz=264,slow=31
SFJD Kangerlussuaq 89.13 357 LR LR 16 08 29.8
comp=Z,74nm,18.1s,baz=358,slow=37
LTY Liberty 89.67 37 IAmb IAmb 15 26 22.7
comp=Z,10nm,1.0s
B08A Colville Reser 89.74 36 IAmb IAmb 15 26 23.2
comp=Z,21nm,1.1s
HAWA Hanford 90.81 37 IAmb IAmb 15 26 28.6
comp=Z,16nm,1.1s
NEW Newport 90.96 35 IAmb IAmb 15 26 29.0
comp=Z,12nm,1.1s
J05D Fort Rock, OR 91.66 41 P P 15 26 31.1 +0.8
FFC Flin Flon 93.18 24 P P 15 26 36.3 -0.5
FFC IAmb IAmb 15 26 38.3
comp=Z,11nm,0.9s
FFC Flin Flon 93.18 24 P P 15 26 36.3 -0.5
FFC pmax pmax
comp=Z,11nm,0.9s
J08A Circle Bar Ran 93.24 39 IAmb IAmb 15 26 40.0
comp=Z,13nm,1.0s
BEKR Beckworth 94.19 43 IAmb IAmb 15 26 44.0
comp=Z,8.3nm,0.8s
PAHR Pah Rah Range 94.89 43 IAmb IAmb 15 26 47.3
comp=Z,10.0nm,0.9s
CMB Columbia Colle 95.25 44 P P 15 26 46.6 -0.1
CMB IAmb IAmb 15 26 48.6
comp=Z,11nm,1.1s
CMB Columbia Colle 95.25 44 P P 15 26 46.6 -0.1
CMB pmax pmax
comp=Z,11nm,1.1s
WAKR Walker 95.57 44 IAmb IAmb 15 26 50.3
comp=Z,7.4nm,1.2s
PPT Papeete 95.93 106 LR LR 16 01 06.0
comp=Z,80nm,20.2s,baz=280,slow=30
PPT2 Papeete2 95.94 107 eLR LR 15 57 50.8
comp=Z,331nm,28.0s
NVAR Mina Array Bea 96.33 43 P P 15 26 51.4 -0.5
NVAR Mina Array Bea 96.33 43 P P 15 26 52.0 +0.1
comp=Z,2.9nm,0.9s,baz=281,slow=4.0,SNR=9.5
comp=Z,2.9nm,0.9s
TBI Tubuai 98.26 112 eLR LR 15 58 47.6
comp=Z,521nm,27.5s
PDAR Pinedale Array 98.58 35 LR LR 16 13 29.1
comp=Z,26nm,19.0s,baz=337,slow=37
ESDC Sonseca Array 98.85 321 LR LR 16 17 40.3
comp=Z,102nm,18.2s,baz=347,slow=39
LSZ Lusaka 99.11 257 LR LR 16 08 06.7
comp=Z,106nm,19.1s,baz=126,slow=33
TAOE Nuku Hiva Isla 101.04 95 eLR LR 16 00 08.3
comp=Z,71nm,23.1s
RKT Rikitea 110.69 107 eLR LR 16 04 45.1
comp=Z,706nm,26.2s
LPAZ La Paz 168.09 52 PKP PKPdf 15 33 29.9 -0.9
comp=Z,0.5nm,0.3s,baz=300,slow=3.7,SNR=4.0
LPAZ PKPab PKPab 15 34 37.3 -1.2
comp=Z,2.9nm,0.8s,baz=358,slow=7.1,SNR=8.5

NOU 09 15:38:42.7, 20°.24S × 169°.57E, h107km, MLv3.8/18,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	Isangel	0.74	338	P	Pn	15 39 02.2	+1.0
INH	Isangel	0.74	338	S	Sn	15 39 17.8	+2.8
MARNC	Mare, Loyalty	1.90	229	P	Pn	15 39 13.9	-0.3
MARNC	Mare, Loyalty	1.90	229	P	Sn	15 39 37.7	-0.6
PINNC	Pines Island,	3.08	220	P	Pn	15 39 30.4	+0.7
PINNC	Pines Island,	3.08	220	S	Sn	15 40 05.8	-0.1
YATNC	Mamie plateau,	3.09	234	P	Pn	15 39 28.9	-0.9
YATNC	Mamie plateau,	3.09	234	S	Sn	15 40 06.4	+0.3
OUENC	Ouen Island, N	3.34	229	P	Pn	15 39 33.2	0.0
OUENC	Ouen Island, N	3.34	229	S	Sn	15 40 13.4	+1.2
DZM	Mont Dzumac	3.44	237	P	Pn	15 39 34.7	+0.1
ONTNC	Ouen Toro	3.56	234	P	Pn	15 39 36.3	+0.2
ONTNC	Ouen Toro	3.56	234	S	Sn	15 40 17.7	+0.3
VLAKA	Lakatoro	4.59	333	P	Pn	15 39 49.6	-0.4
VLAKA	Lakatoro	4.59	333	S	Sn	15 40 41.7	-0.6
KOUNC	Koumac, New Ca	4.97	266	P	Pn	15 39 56.3	+1.3
KOUNC	Koumac, New Ca	4.97	266	S	Sn	15 40 52.7	+1.4

*DJA **09** 15:41:04.1±0.9, 5°.5S±5°.5 × 12°.9E±°, h345km±13km, M4.0/11, mB4.7/1, mb4.0/3, MLv3.9/11, Mw(mB)4.0/1*
*NEIC **09** 15:41:05.7±0.9, 5°.5S±0°.1 × 128°.5E±0°.1, h310km±17km, mb4.4/11, Error ellipse: s-maj=25.4km s-min=16.6km az=134.0*
*IDC **09** 15:41:09.2±3.6, 5°.58S × 128°.52E, h351km±39km, mb3.1/2, mbtmp4.1/5, Error ellipse: s-maj=61.9km s-min=15.0km az=71.0*
ISC 09 15:41:06.3±0.8, 5°.43S±0°.08 × 128°.55E±0°.07, h337km, n46, σ1§57/49, mb4.3/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.62	56	P	Pn	15 41 53.2	-0.7
BNDI	Bandanaira	1.62	56	P	Pn	15 41 53.0	-0.9
AAI	Ambon	1.77	348	P	Pn	15 41 53.2	-1.7
MSAI	Masohi	2.11	10	P	Pn	15 41 54.8	-2.4
NLAI	Namlea	2.62	326	P	Pn	15 42 00.6	-0.7
SAUI	Saumlaki	3.72	133	P	Pn	15 42 10.3	-1.4
SANI	Sanana	4.23	323	P	Pn	15 42 16.3	-0.6
FAKI	Fak Fak	4.45	56		Pn	15 42 18.7	-0.7
FAKI	Fak Fak	4.45	56	P	Pn	15 42 18.8	-0.6
FAKI	Fak Fak	4.45	56	P	Pn	15 42 17.8	-1.6
SWI	Sorong	5.28	31	P	Pn	15 42 24.7	-3.9
	0.1nm1μm19nm,0.8s						

SOEI	**Soe**	**6.04 224**		**Pn**	**15 42 36.5**	**-0.8**
SOEI	**Soe**	**6.04 224**	P	**Pn**	**15 42 36.8**	**-0.5**
SOEI	**Soe**	**6.04 224**	S	**S**	**15 43 47.4**	**-3.6**
SOEI	**Soe**	**6.04 224**	P	**Pn**	**15 42 35.9**	**-1.4**
MTN	**Manton Dam**	**7.79 161**	Pn	**Pn**	**15 42 56.2**	**-1.6**
MTN	**Manton Dam**	**7.79 161**	P	**Pn**	**15 42 56.2**	**-1.6**
KDU	**Kakadu**	**8.18 152**	P	**Pn**	**15 43 01.7**	**-0.7**
KNRA	**Kununurra**	**10.18 179**	Pn	**Pn**	**15 43 25.6**	**-0.9**
PLAI	**Plampang**	**11.21 252**	P	**P**	**15 43 38.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**12.90 193**	P	**P**	**15 43 58.0**	**-0.5**
	3.4nm,0.5s,baz=22,slow=7.1,SNR=15					
FITZ			S	**S**	**15 46 23.1**	**+2.1**
	0.7nm,0.3s,baz=35,slow=12,SNR=1.3					
WB0	**Warramunga Arr**	**15.34 159**	P	**P**	**15 44 25.7**	**+0.4**
WB0			IAmb	IAmb	15 44 28.7	
	comp=Z,5.7nm,0.7s					
WRA	**Warramunga Arr**	**15.48 159**	P	**P**	**15 44 27.4**	**+0.6**
	comp=Z,2.7nm,0.4s,baz=334,slow=13,SNR=83					
WRA			S	**S**	**15 47 08.4**	**-4.8**
	comp=Z,0.6nm,0.6s,baz=334,slow=21,SNR=4.9					
WB2	**Warramunga Arr**	**15.48 159**		**P**	**15 44 27.3**	**+0.4**
WR8	**Warramunga Arr**	**15.55 159**	P	**P**	**15 44 28.0**	**+0.4**
COEN	**Coen**	**16.71 122**	P	**Pn**	**15 44 42.6**	**-0.9**
MBWA	**Marble Bar**	**17.82 208**	P	**P**	**15 44 51.5**	**-0.6**
MBWA			IAmb	IAmb	15 45 32.0	
	comp=Z,29nm,1.4s					
MBWA	**Marble Bar**	**17.82 208**	P	**P**	**15 44 51.7**	**-0.4**
PSA00	**Pilbara Seismi**	**18.13 207**	P	**P**	**15 44 54.6**	**-0.8**
PSA00			IAmb	IAmb	15 45 14.9	
	comp=Z,28nm,1.5s					
PSA00	**Pilbara Seismi**	**18.13 207**	P	**P**	**15 44 55.2**	**-0.1**
QIS	**Mount Isa**	**18.47 145**	P	**P**	**15 45 01.3**	**+2.3**
AS31	**Alice Springs**	**18.84 165**		**P**	**15 45 03.7**	**+0.7**
AS31			IAmb	IAmb	15 45 04.8	
	comp=Z,4.1nm,0.4s					
ASAR	**Alice Springs**	**18.85 165**	P	**P**	**15 45 03.8**	**+0.8**
	comp=Z,4.6nm,0.3s,baz=346,slow=12,SNR=246					
ASAR			S	**S**	**15 48 18.6**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=346,slow=25,SNR=16					
AS01	**Alice Springs**	**18.86 165**	P	**P**	**15 45 03.9**	**+0.8**
WRKA	**Warakurna**	**19.49 181**	P	**P**	**15 45 10.2**	**+0.3**
MEEK	**Meekatharra**	**23.12 203**	P	**P**	**15 45 43.8**	**0.0**
OOD	**Oodnadatta**	**23.25 164**	P	**P**	**15 45 46.1**	**+1.3**
MORW	**Morawa**	**26.32 205**	P	**P**	**15 46 12.9**	**+0.5**
MORW			IAmb	IAmb	15 46 29.6	
	comp=Z,24nm,1.5s					
LCRK	**Leigh Creek**	**26.49 161**	P	**P**	**15 46 15.3**	**+1.4**
STKA	**Stephens Creek**	**29.00 157**	P	**P**	**15 46 37.7**	**+1.6**
STKA	**Stephens Creek**	**29.00 157**	P	**P**	**15 46 37.5**	**+1.5**
	comp=Z,2.3nm,0.9s,baz=343,slow=6.8,SNR=6.1					
	comp=Z,2.3nm,0.9s					
STKA	**Stephens Creek**	**29.00 157**	P	**P**	**15 46 37.8**	**+1.7**
NWAO	**Narrogin (SRO)**	**29.32 200**	P	**P**	**15 46 39.4**	**+0.6**
CAN	**Canberra**	**35.22 150**	P	**P**	**15 47 31.9**	**+2.1**
CAN			IAmb	IAmb	15 48 12.6	
	comp=Z,35nm,1.5s					
MKAR	**Makanchi Array**	**66.14 327**	P	**P**	**15 51 20.4**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=114,slow=8.0,SNR=4.7					
	comp=Z,0.3nm,0.5s					
QSPA	**South Pole Qui**	**84.53 180**	P	**P**	**15 53 03.0**	**+1.1**
QSPA			IAmb	IAmb	15 53 08.4	
	comp=Z,9.8nm,1.4s					

*SDD **09** 15:57:47.2±2.2, 19°.13N×69°.74W, h80km±15km, MD3.3, ML3.0, MW3.3*
*OSPL **09** 15:57:48.3±2.1, 18°.94N×69°.76W, h85km±14km, ML2.8*
ISC 09 15:57:47.7±1.5, 19°.00N±0°.06×69°.72W±0°.04, h71km±10km, n15, σ1°.65/26, 5C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR08	**Loma La Naviza**	**0.28**	**263**	⇑*e*Pg	**Pn**	**15 57 58.4**	**-0.6**
DR08				⇓*e*Sg	**Sn**	**15 58 08.0**	**+0.7**
DR08				IAML		15 58 09.3	
	comp=N,11μm,0.1s						
HATOM	**Hato Mayor del**	**0.39**	**123**	⇓*e*Pg	**Pn**	**15 57 59.6**	**-0.1**
HATOM				IAML		15 58 09.7	
	comp=N,575nm,0.3s						
HATOM				⇓*e*Sg	**Sn**	**15 58 09.8**	**+1.3**
LONA1	**Toro Cenizo, N**	**0.40**	**341**	*i* P	Pn	15 57 46.2	-14
LONA1				*e*S	Sn	15 57 56.5	-12
SDD	**Santo Domingo**	**0.57**	**198**	*i* P	**Pn**	**15 58 01.0**	**-0.4**
SDD				*e*S	**Sn**	**15 58 12.0**	**+0.8**
SMDR	**Samana, DR**	**0.58**	**60**	⇑*e*Pg	**Pn**	**15 57 60.0**	**-1.5**
SMDR				⇑*e*Sg	**Sn**	**15 58 11.7**	**+0.2**
SMDR				IAML		15 58 12.0	
	comp=N,362nm,0.3s						
BANI	**BANI**	**0.85**	**225**	*e*Pg	**Pn**	**15 58 04.6**	**0.0**
BANI				IAML		15 58 09.4	
	comp=N,606nm,0.1s						
BANI				⇓*e*Sg	**Sn**	**15 58 19.3**	**+2.2**
ABDR	**Alto Bandera**	**0.88**	**258**	⇓*e*Pg	**Pn**	**15 58 04.6**	**-0.5**
ABDR				*e*Sg	**Sn**	**15 58 15.8**	**-2.2**
ABDR				IAML		15 58 20.9	
	comp=N,313nm,0.2s						
SC01	**Santiago de lo**	**1.04**	**294**	*i* P	**Pn**	**15 58 06.1**	**-0.7**
SC01				*e*S	**Sn**	**15 58 21.2**	**+0.2**
SC01				IAML		15 58 23.6	
	comp=Z,48nm,0.3s						
PCDR	**Punta Cana, DR**	**1.36**	**111**	*i* P	**Pn**	**15 58 10.4**	**-0.5**
PCDR				*e*S	**Sn**	**15 58 29.2**	**+0.9**
PCDR				IAML		15 58 35.4	
	comp=Z,176nm,1.0s						
SDDR	**Presa de Saban**	**1.48**	**270**	⇑*e*Pg	**Pn**	**15 58 12.1**	**-0.5**
SDDR				⇑*e*Sg	**Sn**	**15 58 29.4**	**-1.8**
SDDR				IAML		15 58 34.4	
	comp=N,42nm,0.2s						
SDDR	**Presa de Saban**	**1.48**	**270**	*i* P	**Pn**	**15 58 12.0**	**-0.5**
SDDR				*e*S	**Sn**	**15 58 31.4**	**+0.1**
SDDR				IAML		15 58 34.5	
	comp=Z,27nm,0.4s						
REDR	**Restauracion**	**1.59**	**276**	⇓*e*Pg	**Pn**	**15 58 15.7**	**+1.8**
REDR				⇓*e*Sg	**Sn**	**15 58 38.7**	**+5.0**
REDR				IAML		15 58 42.1	
	comp=N,62nm,0.1s						
PODR	**Polo**	**1.69**	**241**	*i* P	**Pn**	**15 58 16.0**	**+0.5**
PODR				*e*S	**Sn**	**15 58 34.6**	**-1.9**
LOVI	**El Cajuil, Ovi**	**1.96**	**233**	*e*S	**Sn**	**15 58 40.0**	**-2.7**
LOVI				IAML		15 58 46.1	
	comp=Z,74nm,1.2s						
CRPR	**Cabo Rojo, PR**	**2.67**	**111**	*i* P	**Pn**	**15 58 28.4**	**0.0**
CRPR				IAML		15 58 59.1	
	comp=Z,42nm,1.6s						

*SOME **09** 16:12:59.2, 41°.85N×79°.57E, h10km*
*KRNET **09** 16:13:00.8±0.1, 41°.83N×79°.48E, h19km, mb3.3*
*NNC **09** 16:13:01.4±1.6, 41°.97N×79°.73E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=10.6km s-min=6.1km az=142.0*
ISC 09 16:12:59.3±1.5, 41°.81N±0°.06×79°.54E±0°.05, h10km, n46, σ1°.77/77, 32C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.08**	**309**	⇑*i*P	**Pn**	**16 13 20.3**	**-0.4**
PRZ				⇑*i*S	**Sb**	**16 13 34.4**	**-0.1**
SHLS	**Shalkode**	**1.34**	**358**	P	**Pg**	**16 13 24.4**	**-0.8**
	98nm,0.2s						
SHLS				S	**Sg**	**16 13 41.8**	**-0.8**
	606nm,0.3s						
SHLS	**Shalkode**	**1.34**	**358**	*e*P	**Pg**	**16 13 24.3**	**-0.9**
	98nm,0.2s						
SHLS				*e*S	**Sg**	**16 13 42.2**	**-0.4**
	606nm,0.3s						
UZB	**Uzynbulak**	**1.39**	**344**	P	**Pg**	**16 13 25.1**	**-0.8**
	58nm,0.2s						
UZB				S	**Sn**	**16 13 42.9**	**-0.5**
	110nm,0.2s						
UZB	**Uzynbulak**	**1.39**	**344**	*e*P	**Pb**	**16 13 24.6**	**-0.8**
	58nm,0.2s						
UZB				*e*S	**Sg**	**16 13 43.3**	**-0.7**
	110nm,0.2s						
SATY	**Saty**	**1.50**	**326**	P	**Pg**	**16 13 27.4**	**-0.7**
	12nm,0.1s						
SATY				S	**Sg**	**16 13 46.6**	**-1.0**
	181nm,0.2s						
PDGK	**Podgornoye**	**1.52**	**359**	⇑P	**Pb**	**16 13 26.6**	**-1.0**
	30nm,0.5s						
PDGK				⇑S	**Sn**	**16 13 45.7**	**-0.8**
	362nm,0.8s						
ANVS	**Anan'yevo**	**1.69**	**306**	⇑*i*P	**Pb**	**16 13 30.7**	**0.0**
ANVS				⇑*i*S	**Sg**	**16 13 52.9**	**-0.9**
KDJ	**Kajisay**	**1.79**	**281**	⇓*i*P	**Pb**	**16 13 32.4**	**+0.1**
KDJ				⇓*i*S	**Sb**	**16 13 55.4**	**+0.6**
KURS	**Kuram**	**1.96**	**329**	Pg	**Pg**	**16 13 35.8**	**-1.0**
	29nm,0.3s						
KURS				Lg	Lg	16 14 01.2	
	55nm,0.4s						
TNSS	**Tian-Shan**	**2.28**	**303**	Pg	**Pg**	**16 13 41.9**	**-1.0**
	13nm,0.2s						
TNSS				Lg	Lg	16 14 11.2	
	61nm,0.2s						
TNSS	**Tian-Shan**	**2.28**	**303**	*e*P	**Pb**	**16 13 41.4**	**+0.6**
	13nm,0.2s						
TNSS				*e*S	**Sg**	**16 14 11.7**	**-0.8**
	61nm,0.2s						
MDOK	**Medeo**	**2.28**	**307**	Pn	**Pb**	**16 13 40.5**	**-0.2**
	7.6nm,0.3s						
MDOK				Pg	**Pg**	**16 13 41.0**	**-2.1**
	19nm,0.3s						
MDOK				Lg	Lg	16 14 09.7	
	77nm,0.4s						
MDOK				Sn	**Sg**	**16 14 12.6**	**-0.1**
	70nm,0.6s						
KNDC	**Almaty**	**2.37**	**307**	⇓Pn	**Pb**	**16 13 42.6**	**+0.5**
	23nm,0.6s						
KNDC				⇓Sn	**Sg**	**16 14 14.7**	**-0.6**
	87nm,0.4s						
ULHL	**Ulahol**	**2.50**	**281**	⇑*i*P	**Pb**	**16 13 42.7**	**-1.7**
ULHL				⇑*i*S	**Sb**	**16 14 13.1**	**-2.1**
KASK	**Kaskelen**	**2.56**	**304**	⇑Pn	**Pb**	**16 13 44.9**	**-0.5**
	21nm,0.3s						
KASK				⇓Sn	**Sg**	**16 14 20.9**	**-0.7**
	51nm,0.3s						
MTBS	**Maitube**	**2.65**	**301**	Pg	**Pg**	**16 13 48.5**	**-1.7**
	5.9nm,0.2s						
MTBS				Lg	Lg	16 14 22.5	
	65nm,0.3s						
MTBS	**Maitube**	**2.65**	**301**	*e*P	**Pb**	**16 13 47.8**	**+0.9**
	5.9nm,0.2s						
MTBS				*e*S	**Sg**	**16 14 22.6**	**-1.9**
	65nm,0.3s						
NRN	**Naryn**	**2.68**	**263**	⇑*e*P	**Pb**	**16 13 45.7**	**-1.9**
NRN				⇑*e*S	**Sn**	**16 14 17.4**	**+1.9**
ARXS	**Arharly**	**2.71**	**333**	Pg	**Pb**	**16 13 48.7**	**+0.8**
	10nm,0.2s						
ARXS				Lg	Lg	16 14 22.7	
	63nm,0.4s						
BOOM	**Boomskoye usch**	**2.76**	**285**	⇑*e*P	**Pb**	**16 13 46.3**	**-2.6**
BOOM				⇑*i*S	**Sn**	**16 14 19.6**	**+2.3**
CHKK	**Chushkaly**	**2.77**	**318**	Pg	**Pb**	**16 13 49.5**	**+0.5**
	9.1nm,0.2s						
CHKK				Lg	Lg	16 14 24.6	
	92nm,0.3s						
CHKK	**Chushkaly**	**2.77**	**318**	*e*P	**Pb**	**16 13 49.5**	**+0.5**
	9.1nm,0.2s						
CHKK				*e*S	**Sb**	**16 14 24.9**	**+1.9**
	92nm,0.3s						
KTBS	**Karatobe**	**2.83**	**313**	Pg	**Pg**	**16 13 51.5**	**-2.2**
	10nm,0.3s						
KTBS				Lg	Lg	16 14 27.3	
	44nm,0.2s						
TKM2	**Tokmak 2**	**3.12**	**292**	⇑Pg	**Pb**	**16 13 56.4**	**+1.3**
	5.5nm,0.4s						
TKM2				⇓Lg	Lg	16 14 42.8	
	20nm,0.4s						
TKM2	**Tokmak 2**	**3.12**	**292**	⇑*e*P	**Pn**	**16 13 51.4**	**+2.6**
TKM2				⇑*i*S	**Sn**	**16 14 28.5**	**+2.2**
DGS	**Degeres**	**3.13**	**298**	Pg	**Pg**	**16 13 57.1**	**-2.2**
	5.1nm,0.3s						
DGS				Lg	Lg	16 14 36.8	
	27nm,0.4s						
KUU	**Kurty**	**3.14**	**313**	Pg	**Pb**	**16 13 56.6**	**+1.4**
	3.2nm,0.3s						
KUU				Lg	Lg	16 14 36.3	
	38nm,0.3s						
KUU	**Kurty**	**3.14**	**313**	*e*P	**Pb**	**16 13 56.4**	**+1.1**
	3.2nm,0.3s						
KUU				*e*S	**Sg**	**16 14 37.2**	**-3.0**
	38nm,0.3s						
KRBS	**Karabastau**	**3.41**	**305**	Pg	**Pg**	**16 14 01.9**	**-2.7**
	4.9nm,0.2s						
KRBS				Lg	Lg	16 14 45.1	
	43nm,0.3s						
KBK	**Karagaybulak**	**3.51**	**285**	⇑*i*P	**Pn**	**16 13 56.7**	**+2.6**
KBK				⇑*i*S	**Sn**	**16 14 37.6**	**+1.8**
CHMS	**Chumysh**	**3.74**	**290**	⇓Pg	**Pg**	**16 14 09.5**	**-1.4**
	2.2nm,0.5s						
CHMS				⇓Lg	Lg	16 15 01.4	
	12nm,0.6s						
CHMS	**Chumysh**	**3.74**	**290**	⇑*i*P	**Pn**	**16 13 59.8**	**+2.7**
CHMS				⇑*i*S	**Sn**	**16 14 42.7**	**+1.5**
AAK	**Ala-Archa**	**3.84**	**284**	Pg	**Pg**	**16 14 13.9**	**+1.1**
	1.6nm,0.3s						
AAK				Lg	Lg	16 15 08.4	
	11nm,0.7s						
AAK	**Ala-Archa**	**3.84**	**284**	⇓*i*P	**Pn**	**16 14 01.2**	**+2.6**
AAK				⇓*i*S	**Sn**	**16 14 45.6**	**+1.8**
ARLS	**Aral**	**3.90**	**272**	⇑*e*P	**Pn**	**16 14 02.0**	**+2.6**
ARLS				⇑*i*S	**Sn**	**16 14 47.0**	**+1.7**
USP	**Ospenovka**	**4.00**	**293**	⇑*i*P	**Pn**	**16 14 03.5**	**+2.8**
USP				⇑*i*S	**Sn**	**16 14 49.0**	**+1.4**
AML	**Almayashu**	**4.37**	**276**	⇑*e*P	**Pn**	**16 14 08.8**	**+2.7**
AML				⇑*i*S	**Sn**	**16 14 58.6**	**+1.3**
SALK	**Salom-Alik**	**4.41**	**260**	⇓*i*P	**Pn**	**16 14 09.5**	**+3.1**
SALK				⇓*i*S	**Sn**	**16 14 59.5**	**+1.7**
MRKS	**Merke**	**4.78**	**283**	Pg	**Pg**	**16 14 26.8**	**-4.0**
MRKS				Lg	Lg	16 15 29.0	
MRKS	**Merke**	**4.78**	**283**	*e*P	**Pg**	**16 14 26.7**	**-4.1**
	2.6nm,0.4s						
MRKS				*e*S	**Sg**	**16 15 29.2**	**-3.4**
	9.1nm,0.3s						
MNAS	**Manas**	**5.27**	**280**	⇓*i*P	**Pn**	**16 14 20.9**	**+2.6**
MNAS				⇓*e*S	**Sn**	**16 15 19.5**	**+0.3**
MAKZ	**Makanchi**	**5.29**	**18**	⇓Pn	**Pn**	**16 14 19.2**	**+0.8**
	1.6nm,0.5s						
MAKZ				⇓Sn	**Sn**	**16 15 20.4**	**+1.0**
	4.3nm,0.4s						
MAKZ				⇓Lg	Lg	16 15 40.4	
	3.9nm,0.7s						
MK31	**Makanchi Array**	**5.36**	**21**	⇑Pn	**Pn**	**16 14 20.1**	**+0.8**
	1.6nm,0.5s,baz=196,slow=12,SNR=49						
MK31				⇓Sn	**Sn**	**16 15 21.6**	**+0.6**
	4.3nm,0.6s,baz=199,slow=24,SNR=6.2						
MK31				⇑Lg	Lg	16 15 43.1	
	4.2nm,0.6s,baz=198,slow=27,SNR=3.6						
KK31	**Karatay Array**	**6.80**	**284**	⇑Pg	**Pg**	**16 15 07.2**	**-2.3**
	0.4nm,0.3s,baz=98,slow=16,SNR=8.2						
KK31				⇑Lg	Lg	16 16 40.2	
	2.6nm,0.5s,baz=105,slow=28,SNR=4.2						
OTUK	**Ortayu**	**8.21**	**324**	⇑Pg	Pg	16 15 30.3	-6.0
	0.8nm,0.6s						
OTUK				⇑Sn	Sn	16 16 39.6	+8.5
	1.5nm,0.6s						
OTUK				⇓Lg	Lg	16 17 22.0	
	2.7nm,0.6s						

IDC 09 16:13:37.3±1.3, 17°.57N×46°.62W, h0km, mb3.7/3, mbtmp3.7/3, MS3.5/9, Error ellipse: s-maj=45.5km s-min=32.6km az=68.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**13.72**	**206**	LR	LR	16 20 58.8	
	comp=Z,103nm,20.9s,baz=61,slow=32						
ROSC	**El Rosal**	**29.91**	**248**	LR	LR	16 32 47.9	
	comp=Z,77nm,19.3s,baz=92,slow=38						
ATAH	**Atahualpa**	**39.84**	**235**	LR	LR	16 37 03.3	
	comp=Z,74nm,21.1s,baz=18,slow=35						
H10N3	**ASCENSION HYDR**	**40.55**	**126**	T	T	17 04 21.8	
	baz=308,slow=75,SNR=30						
H10N2	**ASCENSION HYDR**	**40.55**	**126**	T	T	17 04 23.2	
	baz=308,slow=75,SNR=23						
H10N1	**ASCENSION HYDR**	**40.57**	**126**	T	T	17 04 21.3	
	baz=308,slow=75,SNR=32						
DBIC	**Dimbokro**	**42.15**	**100**	LR	LR	16 38 32.2	
	comp=Z,46nm,18.6s,baz=297,slow=36						
ESDC	**Sonseca Array**	**42.93**	**50**	LR	LR	16 38 13.9	
	comp=Z,78nm,18.3s,baz=234,slow=34						
CPUP	**Villa Florida**	**44.86**	**194**	P	P	16 21 53.3	-0.2
	0.5nm,0.4s,baz=11,slow=5.2,SNR=3.5						
	0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**46.70**	**88**	P	P	16 22 08.2	-0.2
	39nm,0.3s,baz=291,slow=7.7,SNR=1.2						
YKA	**Yellowknife Ar**	**64.42**	**331**	P	P	16 24 14.7	-0.5
	0.4nm,0.8s,baz=103,slow=7.9,SNR=4.9						
	0.4nm,0.8s						
MLR	**Muntele Rosu**	**65.53**	**48**	LR	LR	16 49 38.4	
	comp=Z,35nm,20.9s,baz=235,slow=33						
EIL	**Elat**	**74.37**	**63**	LR	LR	17 00 27.3	
	comp=Z,29nm,18.4s,baz=245,slow=38						
KIRV	**Kirov**	**78.29**	**32**	LR	LR	16 55 12.3	
	comp=Z,31nm,21.6s,baz=306,slow=32						
ILAR	**Eielson Array**	**78.57**	**335**	P	P	16 25 41.0	+0.5
	0.9nm,0.8s,baz=68,slow=4.9,SNR=7.5						
	0.9nm,0.8s						
BVAR	**Borovoye Array**	**91.30**	**33**	LR	LR	17 03 21.7	
	comp=Z,27nm,19.6s,baz=266,slow=33						

*IDC **09** 16:29:52.6±1.1, 37°.17N×73°.16E, h0km, mb3.8/10, mbtmp3.9/16, ML3.3/6, MS3.0/5, Error ellipse: s-maj=25.9km s-min=16.8km az=55.0*
*MOS **09** 16:29:59.0±1.2, 37°.37N×73°.10E, h59km, mb4.8/7, Error ellipse: s-maj=11.2km s-min=5.2km az=91.8*
*NEIC **09** 16:30:00.3±2.1, 37°.41N±0°.07×72°.87E±0°.07, h40km±6km, mb4.0/5, Error ellipse: s-maj=10.5km s-min=8.3km az=183.0*
*NNC **09** 16:30:00.7±3.0, 37°.32N×72°.96E, h113km±56km, mb3.4, mpv3.9, Error ellipse: s-maj=24.1km s-min=22.0km az=45.0*
ISC 09 16:30:00.2±0.6, 37°.41N±0°.04×73°.12E±0°.05, h49km±5km, h49km:pP-P, n94, σ2°.41/116, mb4.0/20, MS3.3/4, 11C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**2.32**	**334**		**Pn**	**16 30 35.0**	**-1.1**
DRK	**Karamyk**	**2.32**	**334**	PN	**Pn**	**16 30 35.0**	**-1.1**
KSH	**Kashi**	**3.08**	**46**	Pn	Pn	16 30 42.2	-4.2
KSH				Sn	**Sn**	**16 31 15.0**	**-7.0**
KSH				smax	smax		
	comp=N,820nm,0.8s						
KSH				smax	smax		
	comp=E,840nm,0.9s						
SIMJ	**Simiganj**	**3.48**	**292**		**Pn**	**16 30 50.1**	**-1.8**
NIL	**Nilore**	**3.75**	**178**		**Pn**	**16 30 56.4**	**+0.9**
NIL	**Nilore**	**3.75**	**178**	PN	**Pn**	**16 30 56.4**	**+0.9**
ARSB	**Arslanbob**	**3.92**	**358**		**Pn**	**16 30 60.0**	**+2.1**
ARSB	**Arslanbob**	**3.92**	**358**	PN	**Pn**	**16 31 00.0**	**+2.1**
KBL	**Kabul**	**4.37**	**230**	Pn	**Pn**	**16 31 03.9**	**-0.3**
KBL	**Kabul**	**4.37**	**230**	PN	**Pn**	**16 31 03.9**	**-0.3**
AML	**Almayashu**	**4.74**	**5**	P	**Pn**	**16 31 12.4**	**+3.0**
	SNR=17						
JMU	**Jammu**	**4.90**	**162**	*e*P	**Pn**	**16 31 15.1**	**+3.8**
JMU				*e*S	**Sn**	**16 32 08.7**	**+2.1**
JMU				IAML		16 32 34.0	
	comp=E,258nm,0.8s						
JMU				IAML		16 32 46.6	
	comp=N,270nm,1.1s						
EKS2	**Erkin-Say**	**5.27**	**5**	P	**Pn**	**16 31 21.0**	**+4.5**
	SNR=11						
AAK	**Ala-Archa**	**5.33**	**11**		**Pn**	**16 31 17.9**	**+0.6**
AAK	**Ala-Archa**	**5.33**	**11**	Pn	**Pn**	**16 31 20.3**	**+3.0**
	comp=N,3.1nm,0.3s,baz=180,slow=6.3,SNR=31						
AAK				Sn	**Sn**	**16 32 18.9**	**+1.4**
	comp=N,1.6nm,0.3s,baz=219,slow=14,SNR=4.9						
AAK				Lg	Lg	16 32 45.5	
	comp=N,1.5nm,0.3s,baz=124,slow=23,SNR=3.9						
AAK				LR	LR	16 33 39.0	
	comp=N,77nm,20.5s,baz=197,slow=41						
	comp=N,8.6nm,0.4s						
AAK	**Ala-Archa**	**5.33**	**11**	P	**Pn**	**16 31 20.4**	**+3.0**
	SNR=20						
AAK	**Ala-Archa**	**5.33**	**11**	P	**Pn**	**16 31 19.2**	**+1.9**
	comp=N,6.3nm,0.5s						
AAK				S	**Sn**	**16 32 20.9**	**+3.4**
	comp=N,60nm,0.8s						
AAK	**Ala-Archa**	**5.33**	**11**	*ce*PN	**Pn**	**16 31 20.6**	**+3.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ULHL	**Ulahol**	**5.40**	**25**	P	**Pn**	**16 31 21.0**	**+2.7**
	SNR=9.7						
THN	**Thein Dam**	**5.40**	**156**	*e*P	Pn	16 31 23.2	+5.1
THN				*e*S	**Sn**	**16 32 24.1**	**+5.2**
THN				IAML		16 32 27.3	
	comp=E,78nm,0.6s						
THN				IAML		16 32 27.9	
	comp=E,84nm,0.5s						
KBK	**Karagaybulak**	**5.43**	**14**	P	**Pn**	**16 31 22.0**	**+3.3**
	SNR=11						
BOOM	**Boomskoye usch**	**5.52**	**22**		**Pn**	**16 31 22.2**	**+2.3**
BOOM	**Boomskoye usch**	**5.52**	**22**	PN	**Pn**	**16 31 22.2**	**+2.3**
KDJ	**Kajisay**	**5.66**	**32**		**Pn**	**16 31 23.7**	**+1.8**
KDJ	**Kajisay**	**5.66**	**32**	PN	**Pn**	**16 31 23.7**	**+1.8**
CHMS	**Chumysh**	**5.72**	**12**	P	**Pn**	**16 31 25.6**	**+3.0**
	SNR=7.8						
CHMS	**Chumysh**	**5.72**	**12**	⇓P	**Pn**	**16 31 24.4**	**+1.8**
	comp=E,8.4nm,0.6s						
CHMS				⇓S	**Sn**	**16 32 32.2**	**+5.2**
	comp=E,20nm,0.8s						
CHMS	**Chumysh**	**5.72**	**12**	PN	**Pn**	**16 31 24.4**	**+1.8**
CHMS				S	**Sn**	**16 32 32.2**	**+5.2**
DHRM	**DHARAMSHALA**	**5.77**	**152**	*e*P	Pn	16 31 28.4	+5.0
DHRM				*e*S	**Sn**	**16 32 31.1**	**+2.7**
DHRM				IAML		16 32 40.8	
	comp=E,160nm,0.8s						
DHRM				IAML		16 32 49.3	
	comp=E,148nm,0.4s						
TKM2	**Tokmak 2**	**5.83**	**18**	P	**Pn**	**16 31 26.7**	**+2.6**
	SNR=28						
TKM2	**Tokmak 2**	**5.83**	**18**	⇓P	**Pn**	**16 31 26.5**	**+2.3**
	comp=E,11nm,0.6s						
TKM2				⇑S	**Sn**	**16 32 33.8**	**+4.0**
	comp=E,35nm,0.9s						
USP	**Ospenovka**	**5.95**	**10**	P	**Pn**	**16 31 29.1**

comp=Z,27nm,0.7s,baz=133,slow=0.0
PKI Pulchoki 14.26 130 Sn Sn 16 35 43.0 -13
comp=Z,24nm,0.7s,baz=133,slow=0.0
GUN Gumba 14.31 128 Pn Pn 16 33 13.2 -7.1
baz=131,slow=0.0
AB31 Akbulak array 15.21 325 ⇑P **Pn 16 33 29.4 -2.2**
comp=Z,6.1nm,0.6s,baz=134,slow=12,SNR=70
AB31 ⇑S **Sn 16 36 12.8 -6.0**
comp=Z,2.6nm,0.8s,baz=144,slow=22,SNR=5.7
AB31 Akbulak array 15.21 325 P **Pn 16 33 29.4 -2.2**
AB31 S **Sn 16 36 12.8 -6.0**
ABKAR Akbulak Array 15.21 325 **Pn 16 33 29.1 -2.6**
BVAR Borovoye Array 15.74 354 Pn **Pn 16 33 36.8 -1.5**
baz=167,slow=9.1,SNR=5.6
comp=Z,1.1nm,0.7s
BRVK Borovoye 15.78 354 **Pn 16 33 37.3 -1.6**
BRVK IAmb IAmb 16 33 44.2
comp=Z,7.3nm,0.8s
BRVK Borovoye 15.78 354 *ce*P **Pn 16 33 37.9 -1.0**
BRVK pmax pmax
comp=Z,6.0nm,0.6s
AKTO Aktyubinsk 16.93 325 P **Pn 16 33 53.0 -0.4**
comp=Z,0.6nm,0.3s,baz=138,slow=7.5,SNR=14
comp=Z,3.6nm,0.6s
AKTO Aktyubinsk 16.93 325 ⇑P **Pn 16 33 53.0 -0.4**
comp=Z,2.9nm,0.7s
AKTO ⇑S **Sn 16 36 57.3 -3.2**
comp=Z,1.3nm,0.9s
AKTO Aktyubinsk 16.93 325 P **Pn 16 33 52.9 -0.5**
AKTO S **Sn 16 36 57.2 -3.2**
ZAA0 Zalesovo Array 18.41 22 **P 16 34 10.4 -0.7**
ZALV Zalesovo Beam 18.41 22 **P 16 34 10.1 -1.0**
ZALV Zalesovo Beam 18.41 22 P **P 16 34 10.7 -0.4**
comp=Z,1.0nm,0.3s,baz=214,slow=10,SNR=21
comp=Z,3.9nm,0.4s
GTA Gaotai 20.99 76 *e*P **P 16 34 39.2 -0.3**
GTA pP pP 16 34 53.0 +0.9
GTA pmax pmax
comp=Z,8.0nm,1.0s
ARTI Arti 21.41 337 **P 16 34 43.4 -0.2**
ARTI IAmb IAmb 16 34 45.5
comp=Z,7.7nm,0.8s
ARTI Arti 21.41 337 P **P 16 34 44.6 +1.0**
comp=Z,7.1nm,0.7s,baz=157,slow=7.4,SNR=15
comp=Z,7.1nm,0.7s
ARTI Arti 21.41 337 *d i*P **P 16 34 43.2 -0.4**
ARTI 16 35 01.9
ARTI S **S 16 38 36.2 -2.1**
ARTI SS **SnSn 16 39 00.9 -3.0**
ARTI pmax pmax
comp=Z,7.0nm,0.7s
GNI Garni 22.26 286 P **P 16 34 56.2 +3.1**
comp=Z,2.9nm,0.4s,baz=61,slow=19,SNR=3.8
KBZ Khabaz 23.73 295 P **P 16 35 10.8 +3.2**
comp=Z,1.3nm,0.8s,baz=92,slow=11,SNR=4.6
KIV Kislovodsk 23.90 295 *e*P **P 16 35 14.4 +5.0**
KIV pmax pmax
comp=Z,3.0nm,1.1s
LABN Labinsk 25.37 297 *e*P **P 16 35 23.8 +1.2**
LABN *e**PP **pP 16 35 33.8 -2.8**
LABN *e* 16 35 56.7
LABN pmax pmax
comp=Z,24nm,0.5s
ERBR Yeremizino-Bor 25.65 299 *e*P **P 16 35 24.0 -1.2**
ERBR *e**PP **pP 16 35 36.9 -2.2**
ERBR *e*S **S 16 39 50.9 +0.9**
ERBR pmax pmax
comp=Z,13nm,0.4s
SONM Songino Array 26.42 56 P **P 16 35 32.3 0.0**
comp=Z,0.8nm,0.3s,baz=250,slow=10,SNR=8.7
comp=Z,0.8nm,0.3s
ANN Anapa 27.72 297 *e*P **P 16 35 46.1 +2.4**
ANN *e*S **S 16 40 23.8 +1.2**
ANN pmax pmax
comp=Z,26nm,1.2s
CMAR Chiang Mai Arr 29.45 123 P **P 16 35 57.2 -2.3**
comp=Z,0.2nm,0.4s,baz=318,slow=9.5,SNR=1.7
comp=Z,0.2nm,0.4s
HHC Hu-ho-hao-te 29.86 71 *e*P **P 16 36 00.5 -2.5**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,47nm,5.4s
OBN Obninsk 30.39 317 *e*P **P 16 36 08.6 +1.3**
OBN *e**PP **pP 16 36 20.9 -0.5**
OBN *e* 16 37 05.2
OBN pmax pmax
comp=Z,4.0nm,0.6s
MNK Minsk 35.08 314 *i* P **P 16 36 49.8 +1.6**
comp=E,21nm,0.8s
MNK *i* P **P 16 36 49.8 +1.6**
comp=N,19nm,0.8s
MNK *i* P **P 16 36 49.8 +1.6**
comp=Z,6.0nm,0.7s,baz=100
MNK *i* pP **pP 16 37 02.9 +0.3**
MNK *i* PP **PP 16 38 08.1 -0.2**
MNK *i* S **S 16 42 18.9 +1.8**
MNK *i* sS **sS 16 42 41.6 +0.7**
MNK *i* SS **SnSn 16 44 39.2 +2.6**
MNK *i* LR LR 16 50 42.3
MNK *i* LRM MLR 16 51 52.1
comp=E,86nm,19.5s
MNK *i* LRM MLR 16 52 06.5
comp=Z,26nm,15.5s
MNK *i* LRM MLR 16 52 32.2
comp=N,27nm,15.5s
MNK Minsk 35.08 314 *i* P **P 16 36 49.8 +1.6**
MNK *i **PP **pP 16 37 02.8 +0.3**
MNK *i* 16 38 08.1
MNK *i* S **S 16 42 18.9 +1.8**
MNK *i **SS **sS 16 42 41.5 +0.7**
MNK *i* SS **SnSn 16 44 39.1 +2.6**
MNK pmax pmax
comp=N,19nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.7s
MNK pmax pmax
comp=E,21nm,0.8s
MNK MLR MLR
comp=E,86nm,20.0s
MNK MLR MLR
comp=Z,26nm,16.0s
MNK MLR MLR
comp=N,27nm,15.0s
FINES FINESS Array B 37.70 325 P **P 16 37 11.6 +1.1**
comp=N,1.1nm,0.6s,baz=112,slow=10,SNR=7.1
comp=N,1.1nm,0.6s
ARCES ARCESS Array B 40.97 337 P **P 16 37 38.4 +0.7**
comp=N,1.0nm,0.6s,baz=73,slow=8.2,SNR=7.0
ARCES LR LR 16 55 28.8
comp=N,35nm,18.2s,baz=266,slow=37
comp=N,1.0nm,0.6s
KLR Kul'dur 43.24 55 LR LR 16 58 18.9
comp=N,53nm,19.3s,baz=238,slow=39
HFS Hagfors 43.42 321 P **P 16 37 58.3 +0.6**
comp=N,3.0nm,0.8s,baz=114,slow=7.2,SNR=4.8
comp=N,3.0nm,0.8s
NOA NORSAR Array B 44.69 322 P **P 16 38 07.8 -0.1**
comp=N,1.0nm,0.9s,baz=96,slow=7.8,SNR=2.8
NOA LR LR 16 57 49.2
comp=N,22nm,18.7s,baz=220,slow=37
comp=N,1.0nm,0.9s
YSS Yuzhno-Sakhali 50.91 56 *ce*P **P 16 38 55.6 -0.6**
YSS pmax pmax
comp=Z,12nm,2.5s
YKA Yellowknife Ar 80.25 4 P **P 16 42 05.9 +0.7**
comp=Z,0.2nm,0.6s,baz=352,slow=5.3,SNR=5.5
comp=Z,0.2nm,0.6s
WRA Warramunga Arr 81.05 123 P **P 16 42 07.8 -2.3**
comp=Z,0.7nm,0.8s,baz=309,slow=5.4,SNR=3.1
comp=Z,0.7nm,0.8s
ASAR Alice Springs 83.40 126 P **P 16 42 21.8 -0.6**
comp=Z,0.4nm,0.8s,baz=305,slow=4.2,SNR=4.2
comp=Z,0.4nm,0.8s

TAP 09 16:58:33.3, 22°.97N×120°.86E, h6km, ML1.9, 4C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYH	**Taoyuan**	**0.21**	**339**	*i* P		Pg	16 58 37.4 -0.2
STYH				S		Sg	16 58 40.6 +0.2
STYT	**Tauyuan**	**0.21**	**334**	*i* P		Pg	16 58 37.4 -0.2
STYT				*i* S		Sg	16 58 40.6 +0.2
TWG	**Pinlang**	**0.25**	**127**	⇓*i* P		Pg	16 58 38.9 +0.8
TWG				*i* S		Sg	16 58 42.4 +1.0
TWGBT	**Beinan**	**0.25**	**127**	P		Pg	16 58 39.1 +0.8
TWGBT	**Beinan**	**0.25**	**127**	S		Sg	16 58 42.6 +0.9
TWGBT	**Beinan**	**0.25**	**127**	⇓*i* P		Pg	16 58 38.9 +0.6
TWGBT				*i* S		Sg	16 58 42.4 +0.7
LONT	**Longtian**	**0.26**	**104**	⇑*i* P		Pg	16 58 39.0 +0.7
LONT				*i* S		Sg	16 58 42.6 +0.8
ELDTW	**Lidau**	**0.26**	**34**	⇑*i* P		Pg	16 58 38.9 +0.4
ELDTW				*i* S		Sg	16 58 43.0 +1.0
SGST	**Jiashian**	**0.28**	**294**	⇑*i* P		Pg	16 58 39.2 +0.5
SGST				*i* S		Sg	16 58 43.8 +1.4
SSD	**Sandimen**	**0.31**	**223**	⇑*i* P		Pg	16 58 39.6 +0.3
SSD				*i* S		Sg	16 58 43.7 +0.4
TSMG	**Majia**	**0.33**	**217**	P		Pg	16 58 39.5 -0.2
TSMG				S		Sg	16 58 43.6 -0.5
TTN	**Taitung**	**0.34**	**129**	*e*S		Sb	16 58 46.9 -0.6
SCST	**Cishan**	**0.35**	**256**	P		Pb	16 58 41.4 -0.4
SCST				S		Sb	16 58 46.9 -0.7
ECS	**Chishang**	**0.35**	**69**	P		Pg	16 58 40.8 +0.6
ECS				S		Sb	16 58 46.6 -1.3
WTP	**Ta-pu**	**0.35**	**321**	*i* P		Pb	16 58 41.5 -0.6
WTP				*i* S		Sb	16 58 47.4 -0.6
EHD	**Haiduan**	**0.37**	**61**	P		Pg	16 58 40.4 -0.1
EHD				S		Sg	16 58 45.4 +0.1
CHN1	**Nanshi**	**0.37**	**305**	P		Pb	16 58 42.7 +0.4
ECL	**Taimali**	**0.38**	**167**	*i* P		Pg	16 58 41.2 +0.5
ECL				*i* S		Sg	16 58 46.3 +0.5
TPUB	**Ta-pu**	**0.39**	**327**	P		Pb	16 58 42.7 0.0
TPUB	**Ta-pu**	**0.39**	**327**	S		Sb	16 58 48.9 -0.1
TPUB	**Ta-pu**	**0.39**	**327**	*i* P		Pb	16 58 42.7 0.0
TPUB				*e*S		Sb	16 58 49.0 +0.1
EDH	**Donghe**	**0.41**	**90**	*e*P		Pb	16 58 42.5 -0.4
MASBT	**Mashibuluo**	**0.41**	**210**	*i* P		Pg	16 58 41.5 +0.2
MASBT				*e*S		Sg	16 58 47.0 +0.3
SNST	**Tainan City**	**0.42**	**307**	*e*P		Pb	16 58 43.6 +0.6
TWM1	**Shoushan**	**0.43**	**250**	P		Pb	16 58 43.7 +0.4
CHN4	**Tsaushan**	**0.45**	**327**	P		Pb	16 58 44.5 +0.8
TWK	**Hsinying**	**0.45**	**311**	*e*P		Pb	16 58 44.2 +0.5
TWK				*e*S		Sb	16 58 52.2 +1.4
FULB	**Fuli**	**0.46**	**60**	P		Pb	16 58 43.2 -0.6
FULB				S		Sb	16 58 50.2 -0.7
SHHT	**Tainan City**	**0.47**	**276**	*e*P		Pn	16 58 46.6 0.0
WCKO	**Fanlu**	**0.52**	**333**	*e*P		Pb	16 58 46.0 +1.1
WCKO				*e*S		Sb	16 58 54.4 +1.7
ALS	**Alishan**	**0.54**	**355**	P		Pb	16 58 45.3 -0.1
ALS				S		Sb	16 58 53.3 -0.2
CHKH	**Chenggong**	**0.54**	**66**	*e*P		Pb	16 58 45.5 +0.3
CHKH				*e*S		Sb	16 58 54.2 +1.0
TWF1	**Yuli**	**0.55**	**47**	*i* P		Pg	16 58 44.1 +0.1
TWF1				S		Sg	16 58 51.3 +0.1
EYUL	**Yuli**	**0.57**	**48**	P		Pg	16 58 44.5 +0.3
EYUL				*e*S		Sg	16 58 51.8 +0.2
YULB	**Yu-li**	**0.58**	**44**	P		Pg	16 58 44.6 +0.1
YULB				*e*S		Sg	16 58 52.2 +0.1
YULB	**Yu-li**	**0.58**	**44**	*e*P		Pg	16 58 44.6 +0.1
YULB				*e*S		Sg	16 58 52.2 +0.1
EAST	**Anshuo**	**0.58**	**181**	*i* P		Pg	16 58 45.2 +0.7
EAST				S		Sg	16 58 52.7 +0.5
TAWH	**Dawu Township**	**0.63**	**178**	*e*P		Pg	16 58 45.7 +0.3
TAWH				*e*S		Sg	16 58 53.9 +0.3
SCZT	**Fangliau**	**0.64**	**200**	P		Pg	16 58 45.9 +0.3
SCZT				S		Sg	16 58 54.0 +0.2
EHY	**Hungye**	**0.68**	**39**	*e*P		Pg	16 58 46.5 +0.1
EHY				*e*S		Sg	16 58 55.9 +0.6
WHYT	**Xinyi Township**	**0.72**	**360**	*e*P		Pb	16 58 48.0 -0.3
HGSD	**Ruisui**	**0.73**	**45**	*i* P		Pb	16 58 48.7 +0.2
SSLB	**Suanglung**	**0.82**	**6**	P		Pb	16 58 50.3 +0.3
SSLB	**Suanglung**	**0.82**	**6**	*e*P		Pg	16 58 49.0 -0.1
VWDT	**VWDT**	**0.82**	**18**	*e*P		Pg	16 58 49.4 +0.3
EGFH	**Guangfu**	**0.87**	**37**	*i* P		Pg	16 58 50.4 +0.3
WARBT	**Fenglin Townsh**	**0.89**	**33**	*e*P		Pg	16 58 50.4 0.0
SMLT	**Sun Moon Lake**	**0.91**	**2**	*e*P		Pb	16 58 51.7 +0.2
TYC	**Yuchr**	**0.93**	**360**	*e*P		Pn	16 58 53.4 +0.5
ESL	**Shilin**	**0.99**	**32**	*e*P		Pg	16 58 52.2 -0.1
OWD	**Renai**	**1.02**	**16**	*e*P		Pg	16 58 53.1 +0.2
SHUL	**Shoufeng**	**1.04**	**38**	*e*P		Pb	16 58 53.6 0.0
WUSB	**Renai**	**1.04**	**13**	*e*P		Pg	16 58 53.4 0.0
WCS	**Beigang Elemen**	**1.08**	**3**	*e*P		Pn	16 58 55.2 +0.2
ETM	**Tongmen**	**1.15**	**30**	*e*P		Pg	16 58 55.0 -0.3
LXIB	**Xiulin Townshi**	**1.16**	**26**	*e*P		Pg	16 58 55.4 -0.2
WHP	**Taichung City**	**1.30**	**3**	*e*P		Pg	16 58 59.5 +1.1
NACB	**Ninganchiao**	**1.38**	**29**	P		Pg	16 58 59.6 -0.1
NNSB	**Datong**	**1.53**	**18**	*e*P		Pg	16 59 03.7 +1.1
NNSB				*e*S		Sg	16 59 25.2 +2.7
YHNB	**Yeheng**	**1.76**	**16**	P		Pb	16 59 06.1 +0.1

*IDC **09** 17:30:02.4±1.5, 7°.64N×93°.99E, h0km, mb3.7/9, mbtmp3.7/10, ML4.1/1, MS3.1/2, Error ellipse: s-maj=60.0km s-min=20.8km az=59.0*
*BKK **09** 17:30:02.4±1.3, 7°.N±7°.×9°.4E±°, h17km±12km, M4.2/7, mB4.8/1, mb4.6/4, Mjma3.9/7, ML4.2/3, MLv4.1/4, Mw(mB)4.0/1*
ISC 09 17:30:06.3±1.3, 7°.7N±0°.2×94°.3E±0°.2, h24km, n16, σ1§27/13, mb3.7/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RNTT	**Ranong**	**4.49**	**67**	P	**Pn**	**17 31 12.0**	**-0.8**
SRIT	**Nakonsritamara**	**5.35**	**80**	P	**Pn**	**17 31 23.3**	**-1.4**
SRDT	**SRDT**	**8.16**	**35**	P	**Pn**	**17 32 03.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**11.64**	**22**	Pn	**Pn**	**17 32 52.5**	**+1.5**
	0.3nm,0.3s,baz=213,slow=14,SNR=6.0						
CMAR				LR	LR	17 37 26.1	
	comp=Z,54nm,19.2s,baz=190,slow=38						
	0.8nm,0.4s						
H08S3	**Diego Garcia H**	**26.52**	**236**	T	T	18 02 26.7	
	baz=55,slow=75,SNR=27						
H08S2	**Diego Garcia H**	**26.52**	**235**	T	T	18 02 27.7	
	baz=55,slow=75,SNR=9.9						
H08S1	**Diego Carcia H**	**26.54**	**236**	T	T	18 02 28.5	
	baz=55,slow=75,SNR=6.4						
MKAR	**Makanchi Array**	**40.31**	**347**	P	**P**	**17 37 40.7**	**-1.1**
	0.5nm,0.7s,baz=168,slow=7.4,SNR=9.9						
	0.5nm,0.7s						
SONM	**Songino Array**	**41.33**	**12**	P	**P**	**17 37 50.4**	**+0.2**
	0.3nm,0.7s,baz=183,slow=8.2,SNR=2.0						
SONM				LR	LR	17 56 12.5	
	comp=Z,36nm,18.3s,baz=219,slow=38						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**44.77**	**346**	P	**P**	**17 38 17.4**	**-0.5**
	0.5nm,0.3s,baz=167,slow=7.2,SNR=13						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**46.77**	**352**	P	**P**	**17 38 32.9**	**-0.8**
	2.3nm,1.0s,baz=153,slow=7.6,SNR=3.7						
	2.3nm,1.0s						
WRA	**Warramunga Arr**	**48.03**	**125**	P	**P**	**17 38 44.7**	**+0.7**
	0.2nm,0.6s,baz=303,slow=7.5,SNR=1.9						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**49.23**	**341**	P	**P**	**17 38 51.8**	**-0.8**
	1.1nm,0.7s,baz=141,slow=9.6,SNR=9.4						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**49.68**	**130**	P	**P**	**17 38 58.2**	**+1.6**
	0.4nm,0.9s,baz=299,slow=8.9,SNR=5.7						
	0.4nm,0.9s						
FINES	**FINESS Array B**	**72.95**	**332**	P	**P**	**17 41 31.8**	**-1.8**
	1.3nm,0.8s,baz=76,slow=8.0,SNR=3.5						
	1.3nm,0.8s						
ARCES	**ARCESS Array B**	**75.50**	**340**	P	**P**	**17 41 49.7**	**+1.4**
	0.5nm,0.6s,baz=76,slow=10,SNR=4.2						
	0.5nm,0.6s						

*IDC **09** 17:42:19.8±2.3, 5°.50S×147°.70E, h169km±18km, mb3.5/10, mbtmp4.1/13, Error ellipse: s-maj=31.4km s-min=13.4km az=74.0*
*NEIC **09** 17:42:22.3±1.9, 5°.50S±0°.07×147°.51E±0°.05, h179km±7km, mb4.6/41, Error ellipse: s-maj=10.3km s-min=6.9km az=157.0*
ISC 09 17:42:20.7±0.4, 5°.50S±0°.05×147°.59E±0°.06, h170km, n99, σ1§35/104, mb4.5/33, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.44**	**356**	Pn	**Pn**	**17 43 14.5**	**0.0**
PMG	**Port Moresby**	**3.90**	**186**		**Pn**	**17 43 21.2**	**+0.9**
PMG				Sn	**Sn**	**17 44 06.3**	**-0.6**
PMG	**Port Moresby**	**3.90**	**186**	P	**Pn**	**17 43 21.4**	**+1.1**
	33nm,0.3s,baz=353,slow=5.6,SNR=65						
PMG				S	**Sn**	**17 44 05.8**	**-1.0**
	124nm,0.4s,baz=271,slow=24,SNR=23						
PMG	**Port Moresby**	**3.90**	**186**	P	**Pn**	**17 43 21.4**	**+1.1**
RABL	**Rabaul**	**4.75**	**74**	Pn	**Pn**	**17 43 33.9**	**+2.7**
RABL				Sn	**Sn**	**17 44 20.7**	**-5.7**
JAY	**Jayapura**	**7.48**	**293**	P	**Pn**	**17 44 08.2**	**+1.0**
	12nm,0.7s,baz=161,slow=8.1,SNR=12						
COEN	**Coen**	**9.46**	**207**	Pn	**Pn**	**17 44 34.9**	**+1.5**
COEN				Sn	**Sn**	**17 46 17.8**	**-0.9**
COEN	**Coen**	**9.46**	**207**	P	**Pn**	**17 44 34.9**	**+1.5**
TATA	**Tatamba Isabel**	**12.46**	**104**	P	**P**	**17 45 18.4**	**+0.9**
SAVO	**Savo Central**	**12.66**	**107**	P	**P**	**17 45 19.9**	**+0.2**
HNR	**Honiara**	**12.86**	**108**		**P**	**17 45 22.9**	**+1.0**
HNR	**Honiara**	**12.86**	**108**	P	**P**	**17 45 20.3**	**-1.6**
	57nm,0.4s,baz=229,slow=5.5,SNR=9.0						
HNR	**Honiara**	**12.86**	**108**	P	**P**	**17 45 24.1**	**+2.2**
MTSU	**Mount Surprise**	**12.96**	**194**	P	**P**	**17 45 21.1**	**-1.9**
TV1H	**Townsville Har**	**13.70**	**183**	P	**P**	**17 45 30.1**	**-1.1**
KDU	**Kakadu**	**16.53**	**243**	P	**Pn**	**17 46 03.1**	**0.0**
QIS	**Mount Isa**	**16.85**	**207**	P	**Pn**	**17 46 07.6**	**+0.7**
MTN	**Manton Dam**	**17.80**	**245**	P	**P**	**17 46 17.1**	**+0.6**
MTN	**Manton Dam**	**17.80**	**245**	P	**P**	**17 46 16.8**	**+0.3**
WB0	**Warramunga Arr**	**19.13**	**221**		**P**	**17 46 31.2**	**+0.3**
WB0				IAmb	IAmb	17 46 35.5	
	comp=Z,28nm,0.8s						
WR0	**Warramunga Arr**	**19.17**	**220**	P	**P**	**17 46 31.8**	**+0.4**
WRAB	**Tennant Creek**	**19.27**	**221**		**P**	**17 46 32.2**	**-0.3**
WB2	**Warramunga Arr**	**19.28**	**221**		**P**	**17 46 32.3**	**-0.3**
WRA	**Warramunga Arr**	**19.29**	**221**		**P**	**17 46 31.2**	**-1.5**
WRA	**Warramunga Arr**	**19.29**	**221**	P	**P**	**17 46 32.1**	**-0.6**
	comp=Z,12nm,0.3s,baz=48,slow=12,SNR=119						
WB1	**Warramunga Ar.**	**19.30**	**221**	P	**P**	**17 46 33.1**	**+0.3**
EIDS	**Eidsvold**	**20.04**	**171**	P	**P**	**17 46 41.7**	**+1.0**
EIDS				IAmb	IAmb	17 47 10.9	
	comp=Z,11nm,1.2s						
KNRA	**Kununurra**	**21.06**	**240**	P	**P**	**17 46 50.1**	**-1.6**
KNRA				IAmb	IAmb	17 46 53.9	
	comp=Z,38nm,1.1s						
QLP	**Quilpie**	**21.21**	**188**	P	**P**	**17 46 54.6**	**+1.5**
KOUNC	**Koumac, New Ca**	**22.07**	**134**	P	**P**	**17 47 05.4**	**+3.3**
AS01	**Alice Springs**	**22.33**	**215**	P	**P**	**17 47 04.7**	**0.0**
AS31	**Alice Springs**	**22.36**	**215**	P	**P**	**17 47 05.4**	**+0.5**
AS31				IAmb	IAmb	17 47 06.0	
	comp=Z,7.5nm,0.8s						
ASAR	**Alice Springs**	**22.36**	**215**	P	**P**	**17 47 05.3**	**+0.4**
	comp=Z,16nm,0.6s,baz=50,slow=9.1,SNR=461						
	comp=Z,16nm,0.6s						
INKA	**Innaminka**	**23.05**	**196**	P	**P**	**17 47 12.1**	**+0.9**
SOEI	**Soe**	**23.49**	**258**	P	**P**	**17 47 14.9**	**-0.6**
SOEI				IAmb	IAmb	17 47 36.9	
	comp=Z,15nm,0.7s						
SOEI	**Soe**	**23.49**	**258**	P	**P**	**17 47 13.9**	**-1.6**
DZM	**Mont Dzumac**	**24.58**	**134**	P	**P**	**17 47 25.1**	**-0.2**
DZM				IAmb	IAmb	17 47 45.4	
	comp=Z,31nm,1.5s						
FITZ	**Fitzroy Crossi**	**24.82**	**238**	P	**P**	**17 47 26.9**	**-0.5**
FITZ				IAmb	IAmb	17 47 29.7	
	comp=Z,6.3nm,0.5s						
OOD	**Oodnadatta**	**24.89**	**206**	P	**P**	**17 47 27.9**	**0.0**
ARMA	**Armidale**	**25.08**	**172**	P	**P**	**17 47 30.5**	**+0.8**
ARMA	**Armidale**	**25.08**	**172**	P	**P**	**17 47 30.5**	**+0.8**
MMRI	**Maumere**	**25.34**	**261**	P	**P**	**17 47 29.7**	**-2.5**
MMRI				IAmb	IAmb	17 47 41.8	
	comp=Z,11nm,0.5s						
LCRK	**Leigh Creek**	**26.34**	**198**	P	**P**	**17 47 40.4**	**-0.5**
WRKA	**Warakurna**	**26.82**	**222**	P	**P**	**17 47 45.2**	**-0.3**
STKA	**Stephens Creek**	**26.83**	**191**	P	**P**	**17 47 44.7**	**-0.7**
STKA	**Stephens Creek**	**26.83**	**191**	P	**P**	**17 47 44.5**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=358,slow=8.1,SNR=6.3						
	comp=Z,2.0nm,0.5s						
STKA	**Stephens Creek**	**26.83**	**191**	P	**P**	**17 47 45.1**	**-0.3**
HTT	**Hallett**	**28.93**	**195**	P	**P**	**17 48 05.0**	**+0.9**
BBOO	**Buckleboo**	**29.22**	**200**	P	**P**	**17 48 05.6**	**-1.0**
BBOO	**Buckleboo**	**29.22**	**200**	P	**P**	**17 48 07.5**	**+0.9**
CAN	**Canberra**	**29.70**	**178**	P	**P**	**17 48 09.6**	**-1.3**
FORT	**Forrest**	**31.13**	**214**	P	**P**	**17 48 22.7**	**-0.8**
FORT	**Forrest**	**31.13**	**214**	P	**P**	**17 48 23.3**	**-0.1**
MBWA	**Marble Bar**	**31.16**	**237**	P	**P**	**17 48 20.8**	**-3.0**
MBWA				IAmb	IAmb	17 49 03.6	
	comp=Z,12nm,1.1s						
MBWA	**Marble Bar**	**31.16**	**237**	P	**P**	**17 48 23.8**	**-0.1**
PSA00	**Pilbara Seismi**	**31.25**	**237**	P	**P**	**17 48 22.0**	**-2.7**
PSA00				IAmb	IAmb	17 48 24.6	
	comp=Z,21nm,1.1s						
MEEK	**Meekatharra**	**34.72**	**230**	P	**P**	**17 48 54.2**	**-0.5**
KMBL	**Kambalda**	**35.26**	**220**	P	**P**	**17 48 59.1**	**-0.1**
GIRL	**Giralia**	**36.42**	**239**	P	**P**	**17 49 08.5**	**-0.7**
MORW	**Morawa**	**37.94**	**228**	P	**P**	**17 49 20.9**	**-1.1**
MORW				IAmb	IAmb	17 49 25.2	
	comp=Z,11nm,1.2s						
MORW	**Morawa**	**37.94**	**228**	P	**P**	**17 49 21.5**	**-0.4**
KLBR	**Kellerberrin**	**38.13**	**223**	P	**P**	**17 49 22.6**	**-0.9**
BLDU	**Ballidu**	**38.30**	**226**	P	**P**	**17 49 24.5**	**-0.4**
YULB	**Yu-li**	**38.52**	**319**	P	**P**	**17 49 26.6**	**-0.3**
YULB				IAmb	IAmb	17 49 41.2	
	comp=Z,19nm,1.2s						
NACB	**Ninganchiao**	**38.88**	**320**	P	**P**	**17 49 29.4**	**-0.4**
NACB				IAmb	IAmb	17 50 10.5	
	comp=Z,11nm,0.9s						
TPUB	**Ta-pu**	**38.89**	**318**	P	**P**	**17 49 29.2**	**-0.8**
SSLB	**Suanglung**	**39.02**	**319**	P	**P**	**17 49 30.5**	**-0.5**
SSLB				IAmb	IAmb	17 49 42.6	
	comp=Z,29nm,1.5s						
NWAO	**Narrogin (SRO)**	**39.29**	**222**	P	**P**	**17 49 31.8**	**-1.4**
NWAO				IAmb	IAmb	17 49 56.7	
	comp=Z,33nm,1.3s						
YHNB	**Yeheng**	**39.38**	**321**	P	**P**	**17 49 33.7**	**-0.3**
YHNB				IAmb	IAmb	17 50 09.2	
	comp=Z,24nm,1.2s						
RTZ	**Ruatahuna**	**42.39**	**145**	P	**P**	**17 49 59.8**	**+1.3**
RTZ				IAmb	IAmb	17 50 22.1	
	comp=Z,21nm,1.4s						
PLWZ	**Palliser**	**43.57**	**150**	P	**P**	**17 50 08.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**53.53**	**298**	P	**P**	**17 51 24.4**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=126,slow=6.0,SNR=7.8						
	comp=Z,0.7nm,0.5s						
XAN	**Xi'an**	**53.67**	**320**	P	**P**	**17 51 24.6**	**-0.5**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PZH	**PanZhiHua**	**54.61**	**308**	P	**P**	**17 51 33.7**	**+1.6**
PZH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC	**Hu-ho-hao-te**	**56.72**	**328**	*e*P	**P**	**17 51 50.5**	**+3.6**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,71nm,4.1s						
XLT	**XiLinHaoTe**	**56.79**	**333**	*e*P	**P**	**17 51 50.6**	**+3.3**
XLT				pP	pP	17 52 24.1	-1.8
XLT				PcP	**sP**	**17 52 45.4

comp=Z,0.5nm,0.7s
D23K **Nanushuk River** 85.33 19 P P 17 54 40.2 +1.9
BVAR **Borovoye Array** 86.71 324 P P 17 54 44.1 -1.3
comp=Z,0.2nm,0.3s,baz=85,slow=6.5,SNR=2.0
comp=Z,0.2nm,0.3s
BMAR **Burnt Mountain** 86.72 21 P P 17 54 46.1 +0.9
F30M **Barrier River** 89.99 22 P P 17 55 00.1 -0.4
F30M IAmb IAmb 17 55 33.7
comp=Z,8.0nm,1.5s
G31M **Satah River** 90.40 23 P P 17 55 01.7 -0.6
TORD **Torodi Ar. Bea** 145.53 285 PKPdf PKPdf 18 01 38.4 -1.3
SAML **Samuel** 146.13 115 PKPdf PKPdf 18 01 39.2 -1.6

---

*BJI **09** 17:53:57.0, 58.°62S×25.°33W, h30km, mB6.5/49, Ms6.6/70, Ms7 6.6/72*
*NEIC **09** 17:53:58.4±2.2, 58.°63S±0.°08×25.°3W±0.°1, h38km±1km, mb6.5/248, Ms_20 6.6/1087, Mwb6.5/36, Mww6.5/40, Error ellipse: s-maj=14.2km s-min=10.8km az=215.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}6.93; $M_{\theta\theta}$-7.90; $M_{\phi\phi}$0.97; $M_{r\theta}$1.35; $M_{\theta\phi}$2.33; $M_{\phi r}$2.57; Fault plane solution: $M_0$8.34000×10^{18} NP1: ϕ_s305.33000°, δ46.87000°, λ122.34000°. NP2: ϕ_s82.53000°, δ51.93000°, λ60.27000°. Principal axes: T 8.1584, Plg67.0000°, Azm289.0000°; N 0.3456, Plg23.0000°, Azm102.0000°; P -8.5040, Plg3.0000°, Azm193.0000°;*
*MOS **09** 17:53:58.3±0.9, 58.°57S×25.°43W, h46km, mb6.5/36, MS6.4/60 Error ellipse: s-maj=16.0km s-min=8.8km az=100.1*
*ISC-PP **09** 17:53:58, 58.°63S×25.°30W, h33km, Mwppsm6.7, Moment Tensor Solution. s28 Moment tensor: Scale 10^{19}Nm; M_{rr}0.61±.10; $M_{\theta\theta}$-0.59±.15; $M_{\phi\phi}$-0.01±.14; $M_{r\theta}$0.36±.12; $M_{\theta\phi}$0.08±.07; $M_{\phi r}$-0.00±.22; Fault plane solution: $M_0$1.60000×10^{19} NP1:ϕ_s275.60000°, δ29.70000°, λ100.50000°. NP2:ϕ_s83.50000°, δ60.80000°, λ84.00000°.*
*NEIC **09** 17:53:59.7, 58.°61S×25.°29W, h49km*
*IDC **09** 17:53:59.2±1.1, 58.°61S×25.°30W, h41km±8km, mb5.9/27, mbtmp6.1/29, ML6.1/2, MS6.4/42, Error ellipse: s-maj=13.3km s-min=9.8km az=51.0*
*NEIC **09** 17:54:00.2, 58.°61S×26.°00W, h50km*
*NEIC **09** 17:54:00.2, 58.°61S×25.°36W, h50km, Moment Tensor Solution. Duration: 9±2 Moment tensor: Scale 10^{18}Nm; M_{rr}5.90; $M_{\theta\theta}$-7.05; $M_{\phi\phi}$1.16; $M_{r\theta}$1.54; $M_{\theta\phi}$0.04; $M_{\phi r}$2.48; Fault plane solution: $M_0$7.17000×10^{18} NP1: ϕ_s291.58000°, δ42.64000°, λ123.85000°. NP2: ϕ_s69.22000°, δ55.76000°, λ62.84000°. Principal axes: T 7.1022, Plg67.0000°, Azm285.0000°; N 0.1402, Plg22.0000°, Azm85.0000°; P -7.2424, Plg7.0000°, Azm178.0000°;*
*IPGP **09** 17:54:00.0, 58.°61S×25.°36W, h42km, Mw6.5, Fault plane solution: NP1:ϕ_s300.00000°, δ44.00000°, λ136.00000°. NP2:ϕ_s65.00000°, δ61.00000°, λ55.00000°.*
*GCMT **09** 17:54:03.4±0.0, 58.°71S×24.°60W, h43km, MW6.5/177, Moment Tensor Solution. s177, c452; s172, c785; Duration: 4±5 Moment tensor: Scale 10^{18}Nm; M_{rr}5.47±.03; $M_{\theta\theta}$-6.81±.02; $M_{\phi\phi}$1.34±.02; $M_{r\theta}$2.51±.03; $M_{\theta\phi}$-0.28±.02; $M_{\phi r}$3.87±.04; Best double couple: $M_0$7.75300×10^{18} NP1:ϕ_s293.00000°, δ40.00000°, λ135.00000°. NP2:ϕ_s61.00000°, δ63.00000°, λ59.00000°. Principal axes: T 8.0680, Plg59.0000°, Azm286.0000°; N -0.6300, Plg27.0000°, Azm75.0000°; P -7.4380, Plg13.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 09 17:53:59.6±0.3, 58.°59S±0.°03×25.°44W±0.°03, h48km±2km, h48km:pP-P, n2087, σ1996/1912, mb6.5/156, MS6.5/650, 102C-68D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.49 300**			**Pn**	**17 55 47.8**	**+1.8**
HOPE				Sn	Sn	17 57 21.0	+12
HOPE	**Hope Point**	**7.49 300**		*e*P	Pn	17 55 51.9	+5.9
HOPE	**Hope Point**	**7.49 300**		⇑P	Pn	17 55 53.4	+7.3
VNA1	**Neumayer--Stat**	**14.08 156**		⇓P	**Pn**	**17 57 14.3**	**-1.7**
	comp=Z,4μm,0.5s						
VNA1				⇓S	**Sn**	**17 59 54.9**	**+4.4**
	comp=Z,998nm,0.7s						
I27DE	**GEORG VON NEUM**	**14.11 156**		P	**Pn**	**17 57 16.4**	**0.0**
	baz=328,slow=12,SNR=1.5						
VNA3	**Neumayer Olymp**	**14.28 159**		⇓P	**Pn**	**17 57 16.9**	**-1.7**
	comp=Z,7μm,0.6s						
VNA3				⇓S	**S**	**18 00 12.1**	**-1.7**
	comp=Z,1μm,0.6s						
VNA2	**Neumayer--Watz**	**14.48 156**		⇓P	**Pn**	**17 57 18.7**	**-2.7**
	comp=Z,1μm,0.4s,baz=314,slow=13						
VNA2				⇓S	**S**	**18 00 17.2**	**-0.7**
	comp=Z,929nm,0.7s,baz=294,slow=33						
ESPZ	**Base Esperanza**	**15.93 239**		P	**P**	**17 57 42.5**	**-0.6**
ESPZ	**Base Esperanza**	**15.93 239**		*e*P	**Pn**	**17 57 41.4**	**+1.3**
SNAA	**Sanae**	**16.04 154**			**Pn**	**17 57 39.6**	**-1.9**
SNAA				IAmb	IAmb	17 57 45.0	
	comp=Z,5μm,1.1s						
SNAA	**Sanae**	**16.04 154**		⇓P	**Pn**	**17 57 40.5**	**-1.1**
	comp=Z,51μm,0.4s						
SNAA				⇑S	**S**	**18 00 45.7**	**-4.1**
	comp=Z,13μm,0.8s						
SNAA	**Sanae**	**16.04 154**		P	**Pn**	**17 57 40.0**	**-1.5**
	comp=Z,214nm,0.3s,baz=321,slow=14,SNR=3332						
SNAA				S	Sn	18 00 25.3	-13
	comp=Z,349nm,0.7s,baz=348,slow=20,SNR=5.6						
SNAA				LR	LR	18 02 47.6	
	comp=Z,181μm,19.2s,baz=316,slow=33						
	comp=Z,2μm,0.4s						
SNAA	**Sanae**	**16.04 154**		P	**Pn**	**17 57 39.6**	**-1.9**
SNAA				pmax	pmax		
	comp=Z,5μm,1.1s						
SNAA	**Sanae**	**16.04 154**		⇓P	**Pn**	**17 57 39.8**	**-1.7**
TROLL	**Troll, Antarti**	**17.55 151**		⇓P	**P**	**17 58 00.1**	**-1.0**
	comp=Z,75μm,0.5s						
TROLL				⇓S	**S**	**18 01 18.2**	**-2.5**
	comp=Z,21μm,0.8s						
PMSA	**Palmer Station**	**19.08 235**		P	**Pn**	**17 58 20.3**	**+1.5**
PMSA	**Palmer Station**	**19.08 235**		P	**Pn**	**17 58 18.7**	**-0.2**
	comp=Z,23nm,0.3s,baz=95,slow=9.3,SNR=16						
PMSA				PcP	**PcP**	**18 02 42.1**	**+2.0**
	comp=Z,129nm,0.9s,baz=66,slow=3.9,SNR=4.8						
PMSA				LR	LR	18 04 48.7	
	comp=Z,141μm,20.6s,baz=88,slow=34						
PMSA				ScP	**ScP**	**18 06 13.2**	**+1.7**
	comp=Z,231nm,1.0s,baz=358,slow=1.0,SNR=9.1						
	comp=Z,122nm,0.8s						
PMSA	**Palmer Station**	**19.08 235**		*e*P	**P**	**17 58 13.3**	**-4.4**
PMSA	**Palmer Station**	**19.08 235**		*e*P	**P**	**17 58 15.9**	**-1.8**
BELA	**Belgrano 2**	**19.62 186**		P	**Pn**	**17 58 24.5**	**-0.8**
BELA				IAmb	IAmb	17 58 32.0	
	comp=Z,5μm,1.3s						
BELA	**Belgrano 2**	**19.62 186**		*e*P	**Pn**	**17 58 25.0**	**-0.3**
NVL	**N'lazarevskaya**	**19.64 143**		*e*P	**P**	**17 58 20.0**	**-3.8**
NVL				pmax	pmax		
	comp=Z,5μm,2.1s						
NVL				MLR	MLR		
	comp=Z,67μm,17.0s						
EFI	**East Falkland**	**19.74 276**		P	**Pn**	**17 58 27.4**	**+0.6**
EFI				IAmb	IAmb	17 58 32.9	
	comp=Z,4μm,1.0s						
EFI	**East Falkland**	**19.74 276**		*e*P	**Pn**	**17 58 28.2**	**+1.4**
EFI	**East Falkland**	**19.74 276**		P	**Pn**	**17 58 27.4**	**+0.6**
EFI				pmax	pmax		
	comp=Z,4μm,1.0s						
EFI	**East Falkland**	**19.74 276**		⇑P	**Pn**	**17 58 28.4**	**+1.6**
SMAI	**San Martin Ant**	**20.54 225**		P	Pn	17 58 35.1	-1.1
MG01	**Puerto William**	**23.12 261**		P	**P**	**17 59 02.6**	**+1.5**
MG01				IAMs_20	IAMs_20	18 05 41.9	
	comp=Z,167μm,22.0s						
MG01	**Puerto William**	**23.12 261**		*e*P	**P**	**17 59 02.2**	**+1.0**
MG01				*e*S	Sn	18 03 25.9	-2.6
H09W1	**TRISTAN DA CUN**	**23.15 27**		T	T	18 23 29.7	
	SNR=19						
TRIS	**Tristan da Cun**	**23.18 27**		P	**P**	**17 59 02.4**	**+0.6**
TRIS				IAmb	IAmb	17 59 05.7	
	comp=Z,2μm,1.4s						
ELIB	**Princess Elisa**	**23.51 144**		*d*P	**P**	**17 59 03.9**	**-1.0**
	comp=Z,340nm,1.3s						
ELIB				*d*S	**S**	**18 03 13.8**	**-1.1**
USHA	**Ushuaia**	**23.59 260**		LR	LR	18 06 17.7	
	comp=Z,162μm,21.8s,baz=94,slow=31						
USHA	**Ushuaia**	**23.59 260**		*e*P	**P**	**17 59 05.1**	**-0.4**
MG02	**Cerro Sombrero**	**24.99 264**		P	**P**	**17 59 18.7**	**+0.2**
MG02					**PcP**	**18 02 53.0**	**+0.9**
MG03	**Isla Dawson**	**25.10 261**		P	**P**	**17 59 19.4**	**0.0**
GO10	**Punta Arenas**	**25.75 262**		P	**P**	**17 59 26.0**	**+0.7**
MG04	**Isla Riesco**	**26.17 262**		P	**P**	**17 59 30.1**	**+0.9**
MG04				IAmb	IAmb	17 59 49.7	
	comp=Z,679nm,0.8s						
MG04					**PcP**	**18 02 56.3**	**+1.5**
MG05	**Puerto Natales**	**27.28 264**			**P**	**17 59 39.2**	**+0.1**
MG05				IAmb	IAmb	17 59 43.8	
	comp=Z,1μm,0.8s						
SYO	**Syowa Base**	**29.04 138**		⇑*i*P	**P**	**17 59 51.0**	**-3.6**
SYO	**Syowa Base**	**29.04 138**		⇑*i*pP	pP	18 00 01.8	-4.8
SYO	**Syowa Base**	**29.04 138**		⇑*i*sP	sP	18 00 05.0	-7.2
SYO	**Syowa Base**	**29.04 138**		⇑*i*PnPn	**PnPn**	**18 00 41.6**	**-6.6**
AY03	**Cochrane**	**29.97 271**		P	**P**	**18 00 04.4**	**+1.3**
AY03				IAMs_20	IAMs_20	18 11 53.7	
	comp=Z,98μm,18.0s						
COYC	**Coyhaique**	**30.80 274**			**P**	**18 00 11.5**	**+1.0**
COYC	**Coyhaique**	**30.80 274**		⇑P	**P**	**18 00 12.4**	**+1.9**
COYC	**Coyhaique**	**30.80 274**		P	**P**	**18 00 12.6**	**+2.1**
TRQA	**Tornquist**	**31.23 295**		P	**P**	**18 00 14.1**	**-0.2**
TRQA	**Tornquist**	**31.23 295**		*e*P	**P**	**18 00 14.6**	**+0.3**
TRQA	**Tornquist**	**31.23 295**		P	**P**	**18 00 14.1**	**-0.2**
TRQA				pmax	pmax		
	comp=Z,226nm,0.9s						
TRQA				MLR	MLR		
	comp=Z,198μm,22.0s						
TRQA	**Tornquist**	**31.23 295**		P	**P**	**18 00 14.8**	**+0.6**
QSPA	**South Pole Qui**	**31.66 180**		P	**P**	**18 00 18.7**	**+0.7**
QSPA	**South Pole Qui**	**31.66 180**		IAMs_20	IAMs_20	18 12 34.0	
	comp=Z,115μm,20.0s						
QSPA	**South Pole Qui**	**31.66 180**		P	**P**	**18 00 19.5**	**+1.6**
	comp=Z,216nm,0.6s,baz=208,slow=2.5,SNR=737						
QSPA				ScP	**ScP**	**18 06 48.1**	**+0.5**
	comp=Z,90nm,1.0s,baz=181,slow=14,SNR=3.6						
QSPA				LR	LR	18 12 55.2	
	comp=Z,118μm,20.0s,baz=186,slow=36						
QSPA				P3KPbc		18 31 51.8	
	comp=Z,7.6nm,1.0s,baz=230,slow=1.4,SNR=9.0						
	comp=Z,216nm,0.6s						
QSPA	**South Pole Qui**	**31.66 180**		P	**P**	**18 00 19.6**	**+1.6**
QSPA				ScP	**ScP**	**18 06 47.3**	**-0.2**
AY01	**Puyuhuapi**	**31.88 275**			**P**	**18 00 20.9**	**+1.0**
AY01				IAmb	IAmb	18 00 25.8	
	comp=Z,866nm,0.9s						
AY01					**ScP**	**18 06 48.4**	**0.0**
AY01				IAMs_20	IAMs_20	18 12 52.4	
	comp=Z,86μm,20.0s						
LL02	**Futaleuf**	**32.32 278**			**P**	**18 00 24.8**	**+1.0**
LL02				IAmb	IAmb	18 00 30.9	
	comp=Z,705nm,0.9s						
MGBA	**MARTIN GARCIA**	**32.72 304**		*e*P	**P**	**18 00 26.7**	**-0.6**
PLTB	**Pedras Altas**	**32.91 312**			**P**	**18 00 29.1**	**0.0**
PLTB				IAmb	IAmb	18 00 33.6	
	comp=Z,431nm,0.8s						
PLTB	**Pedras Altas**	**32.91 312**		*e*P	**P**	**18 00 29.5**	**+0.4**
PLTB	**Pedras Altas**	**32.91 312**		P	**P**	**18 00 29.7**	**+0.6**
LL01	**San Ignacio de**	**33.19 278**		P	**P**	**18 00 30.9**	**-0.4**
LL01					**PcP**	**18 03 12.9**	**-0.1**
GO07	**Milladeo Hill,**	**33.32 276**		P	**P**	**18 00 32.1**	**-0.3**
LL07	**Hotel Espejo d**	**33.42 277**		P	**P**	**18 00 32.8**	**-0.6**
PLCA	**Paso Flores**	**33.42 282**			**P**	**18 00 33.9**	**+0.3**
PLCA	**Paso Flores**	**33.42 282**		P	**P**	**18 00 34.7**	**+1.2**
	comp=Z,926nm,0.9s,baz=144,slow=8.2,SNR=421						
PLCA				ScP	**ScP**	**18 06 55.4**	**+1.5**
	comp=Z,23nm,0.8s,baz=134,slow=5.0,SNR=3.8						
PLCA				LR	LR	18 14 27.5	
	comp=Z,62μm,18.4s,baz=131,slow=37						
PLCA				P3KPbc		18 31 45.1	
	comp=Z,1.1nm,0.5s,baz=329,slow=11,SNR=3.4						
	comp=Z,926nm,0.9s						
PLCA	**Paso Flores**	**33.42 282**		P	**P**	**18 00 33.9**	**+0.3**
PLCA				pmax	pmax		
	comp=Z,1μm,1.1s						
PLCA	**Paso Flores**	**33.42 282**		*e*P	**P**	**18 00 34.7**	**+1.2**
PLCA	**Paso Flores**	**33.42 282**		⇑P	**P**	**18 00 34.5**	**+0.9**
PLCA	**Paso Flores**	**33.42 282**		P	**P**	**18 00 35.0**	**+1.5**
PLCA				ScP	**ScP**	**18 06 55.5**	**+1.5**
PLCA	**Paso Flores**	**33.42 282**		P	**P**	**18 00 34.8**	**+1.2**
TBOT	**Tacuaremb**	**33.90 309**		*e*P	**P**	**18 00 37.8**	**+0.1**
LL06	**Loncomilla**	**33.94 277**			**P**	**18 00 36.6**	**-1.3**
LL06				IAmb	IAmb	18 00 42.6	
	comp=Z,630nm,0.9s						
CPSB	**Cacapava Do Su**	**34.05 314**		*e*P	**P**	**18 00 39.6**	**+0.6**
CPSB	**Cacapava Do Su**	**34.05 314**		P	**P**	**18 00 39.8**	**+0.8**
CPSB				S	**S**	**18 05 56.6**	**-4.5**
LL03	**Petrohue**	**34.08 280**		P	**P**	**18 00 38.9**	**-0.2**
CNLB	**Canela**	**34.09 318**		*e*P	**P**	**18 00 40.6**	**+1.1**
CNLB	**Canela**	**34.09 318**		P	**P**	**18 00 40.5**	**+1.0**
CNLB				S	**S**	**18 05 58.1**	**-3.8**
TER01	**Tubaro-SC**	**34.23 321**		*e*P	**P**	**18 00 42.1**	**+1.5**
TER01	**Tubaro-SC**	**34.23 321**		P	**P**	**18 00 42.0**	**+1.5**
LL05	**Los Muermos**	**34.44 278**		P	**P**	**18 00 41.9**	**-0.3**
LL05				IAmb	IAmb	18 00 47.7	
	comp=Z,591nm,0.7s						
LR05	**Currie**	**34.54 281**			**P**	**18 00 43.3**	**+0.2**
LR03	**Panguipulli**	**35.16 282**		P	**P**	**18 00 48.6**	**+0.1**
MAJ01	**Sao Joao Batis**	**35.24 322**		*e*P	**P**	**18 00 50.2**	**+0.9**
MAJ01	**Sao Joao Batis**	**35.24 322**		P	**P**	**18 00 51.1**	**+1.7**
LR04	**Corral**	**35.53 280**			**P**	**18 00 51.8**	**+0.2**
LR04					**S**	**18 06 20.5**	**-3.2**
ITQB	**Itaqui**	**35.95 310**			**P**	**18 00 54.9**	**-0.4**
ITQB				IAmb	IAmb	18 00 59.5	
	comp=Z,663nm,0.9s						
ITQB	**Itaqui**	**35.95 310**		*e*P	**P**	**18 00 55.3**	**-0.1**
ITQB	**Itaqui**	**35.95 310**		P	**P**	**18 00 55.2**	**-0.1**
LC02	**Puerto Saavedr**	**36.32 282**		P	**P**	**18 00 59.1**	**+0.7**
ITAB	**Concordia**	**36.44 318**		P	**P**	**18 01 00.2**	**+0.6**
ITAB				IAmb	IAmb	18 01 04.9	
	comp=Z,462nm,1.0s						
ITAB					**PcP**	**18 03 22.2**	**-0.5**
ITAB	**Concordia**	**36.44 318**		*e*P	**P**	**18 01 00.6**	**+1.0**
ITAB	**Concordia**	**36.44 318**		P	**P**	**18 01 00.6**	**+1.0**
ITAB				S	**S**	**18 06 33.9**	**-3.9**
BI02	**San Fabin de**	**36.88 286**		P	**P**	**18 01 03.2**	**-0.1**
BI02				IAmb	IAmb	18 01 17.8	
	comp=Z,312nm,0.8s						
MAW	**Mawson**	**37.56 141**		P	**P**	**18 01 07.9**	**-0.7**
MAW	**Mawson**	**37.56 141**		P	**P**	**18 01 08.4**	**-0.2**
	comp=Z,153nm,0.7s,baz=233,slow=7.9,SNR=67						
MAW				LR	LR	18 14 50.9	
	comp=Z,76μm,20.2s,baz=255,slow=33						
	comp=Z,153nm,0.7s						
MAW	**Mawson**	**37.56 141**		⇓P	**P**	**18 01 08.3**	**-0.3**
PET01	**Itanhaem-SP**	**37.62 326**		*e*P	**P**	**18 01 10.4**	**+0.9**
PET01	**Itanhaem-SP**	**37.62 326**		P	**P**	**18 01 10.6**	**+1.0**
PET01				S	**S**	**18 06 54.0**	**-1.7**
ML02	**Panimavida**	**37.66 287**		P	**P**	**18 01 10.0**	**+0.1**
ML02				IAMs_20	IAMs_20	18 17 43.5	
	comp=Z,62μm,18.0s						
BI05	**Punta Hualpn**	**37.78 284**		P	**P**	**18 01 12.3**	**+1.4**
BI05				IAMs_20	IAMs_20	18 17 11.8	
	comp=Z,79μm,18.0s						
PARB	**Paraibuna**	**38.05 329**		*e*P	**P**	**18 01 14.9**	**+1.5**
PARB	**Paraibuna**	**38.05 329**		P	**P**	**18 01 15.5**	**+2.1**
PARB				S	**S**	**18 07 02.0**	**-0.5**
MAN01	**Angra dos Reis**	**38.08 332**		*e*P	**P**	**18 01 15.1**	**+1.6**
MAN01	**Angra dos Reis**	**38.08 332**		P	**P**	**18 01 15.8**	**+2.3**
BO02	**Sierra Bellavi**	**38.11 288**		P	**P**	**18 01 13.3**	**-0.4**
BO02				IAmb	IAmb	18 01 20.8	
	comp=Z,722nm,0.8s						
DUB01	**Friburgo-RJ**	**38.45 334**		*e*P	**P**	**18 01 19.1**	**+2.5**
DUB01	**Friburgo-RJ**	**38.45 334**		P	**P**	**18 01 19.1**	**+2.5**
DUB01				S	**S**	**18 07 09.6**	**+1.2**
VAS01	**Vassouras-RJ**	**38.51 333**		*e*P	**P**	**18 01 19.6**	**+2.4**
VAS01	**Vassouras-RJ**	**38.51 333**		P	**P**	**18 01 19.7**	**+2.6**
VAS01				S	**S**	**18 07 07.9**	**-1.4**
CAM01	**Campos-RJ**	**38.54 335**		*e*P	**P**	**18 01 19.5**	**+2.2**
CAM01	**Campos-RJ**	**38.54 335**		P	**P**	**18 01 19.8**	**+2.5**
BO01	**Tunca**	**38.58 289**		P	**P**	**18 01 17.6**	**+0.1**
BO01					**S**	**18 07 09.6**	**-0.5**
LMEL	**Las Melosas**	**38.58 290**		P	**P**	**18 01 17.9**	**+0.1**
LMEL				IAmb	IAmb	18 01 29.4	
	comp=Z,444nm,0.9s						
BO04	**La Punta**	**38.66 289**		P	**P**	**18 01 18.4**	**0.0**
BO04				IAMs_20	IAMs_20	18 15 54.2	
	comp=Z,84μm,22.0s						
MT13	**San Alfonso**	**38.70 290**		P	**P**	**18 01 18.9**	**+0.1**
MT13				IAMs_20	IAMs_20	18 16 07.2	
	comp=Z,70μm,22.0s						
PTGB	**Pitanga**	**38.74 319**		*e*P	**P**	**18 01 19.7**	**+0.6**
PTGB	**Pitanga**	**38.74 319**		P	**P**	**18 01 19.5**	**+0.5**
PTGB				S	**S**	**18 07 08.9**	**-3.9**
VAO	**Valinhos**	**38.74 327**		P	**P**	**18 01 21.3**	**+2.2**
VAO				IAmb	IAmb	18 01 25.6	
	comp=Z,1μm,1.0s						
VAO	**Valinhos**	**38.74 327**		*e*P	**P**	**18 01 21.4**	**+2.2**
VABB	**Valinhos**	**38.75 327**		P	**P**	**18 01 21.5**	**+2.3**
VABB				S	**S**	**18 07 13.0**	**+0.1**
MT08	**Bocatoma Ro**	**38.81 291**		P	**P**	**18 01 20.4**	**+0.5**
MT08				IAmb	IAmb	18 01 26.4	
	comp=Z,819nm,0.8s						
MT08				IAMs_20	IAMs_20	18 15 57.1	
	comp=Z,103μm,22.0s						
MT03	**Universidad Ad**	**39.01 290**		P	**P**	**18 01 22.1**	**+0.7**
MT09	**Talagante**	**39.02 289**		P	**P**	**18 01 21.8**	**+0.3**
MT16	**CCHEN**	**39.07 290**		P	**P**	**18 01 22.6**	**+0.7**
MT16				IAMs_20	IAMs_20	18 16 18.0	
	comp=Z,71μm,22.0s						
MT01	**Popeta**	**39.08 289**		P	**P**	**18 01 22.1**	**+0.3**
FRTB	**Fartura**	**39.20 324**		*e*P	**P**	**18 01 24.5**	**+1.7**
FRTB	**Fartura**	**39.20 324**		P	**P**	**18 01 24.6**	**+1.7**
FRTB				S	**S**	**18 07 19.1**	**-0.5**
CPUP	**Villa Florida**	**39.20 311**		P	**P**	**18 01 22.3**	**-0.5**
CPUP	**Villa Florida**	**39.20 311**		P	**P**	**18 01 22.7**	**-0.2**
	comp=Z,170nm,0.9s,baz=154,slow=7.3,SNR=68						
CPUP				PcP	**PcP**	**18 03 32.8**	**+1.5**
	comp=Z,240nm,0.9s,baz=152,slow=2.1,SNR=9.6						
CPUP				ScP	**ScP**	**18 07 17.1**	**+1.8**
	comp=Z,37nm,0.9s,baz=137,slow=1.7,SNR=6.1						
CPUP				LR	LR	18 16 20.5	
	comp=Z,66μm,21.3s,baz=156,slow=34						
	comp=Z,170nm,0.9s						
CPUP	**Villa Florida**	**39.20 311**		*e*P	**P**	**18 01 22.9**	**0.0**
CPUP	**Villa Florida**	**39.20 311**		⇑P	**P**	**18 01 22.7**	**-0.2**
CPUP	**Villa Florida**	**39.20 311**		P	**P**	**18 01 22.6**	**-0.2**
CPUP				PcP	**PcP**	**18 03 32.2**	**+1.0**
CPUP	**Villa Florida**	**39.20 311**		P	**P**	**18 01 22.8**	**-0.2**
CPUP				S	**S**	**18 07 13.7**	**-5.9**
MT05	**Renca**	**39.21 290**		P	**P**	**18 01 23.6**	**+0.7**
PEL	**Peldehue**	**39.38 290**		P	**P**	**18 01 25.0**	**+0.6**
PEL				IAMs_20	IAMs_20	18 16 29.1	
	comp=Z,68μm,22.0s						
PEL	**Peldehue**	**39.38 290**		P	**P**	**18 01 25.0**	**+0.6**
PEL				pmax	pmax		
	comp=Z,4μm,1.2s						
PEL				MLR	MLR		
	comp=Z,68μm,22.0s						
PEL	**Peldehue**	**39.38 290**		⇑P	**P**	**18 01 25.2**	**+0.9**
VA05	**Santo Domingo**	**39.43 289**		P	**P**	**18 01 25.0**	**+0.4**
CFA	**Coronel Fontan**	**39.45 294**		LR	LR	18 17 07.8	
	comp=Z,81μm,21.7s,baz=148,slow=35						
CFA	**Coronel Fontan**	**39.45 294**		*e*P	**P**	**18 01 22.7**	**-2.2**
MT02	**Curacav**	**39.51 290**		P	**P**	**18 01 25.7**	**+0.3**
VA03	**San Esteban**	**39.62 291**		P	**P**	**18 01 27.2**	**+0.7**
VA03				IAMs_20	IAMs_20	18 16 47.6	
	comp=Z,70μm,22.0s						
LDASE	**Londrina, Braz**	**39.65 321**		*e*P	**P**	**18 01 28.0**	**+1.4**
ZON	**Zonda**	**39.71 294**		P	**P**	**18 01 26.8**	**-0.3**
ZON	**Zonda**	**39.71 294**		P	**P**	**18 01 26.8**	**-0.3**
ZON				pmax	pmax		
	comp=Z,222nm,0.9s						
ZON				MLR	MLR		
	comp=Z,162μm,21.0s						
SJPY	**San Joaquin**	**39.93 314**		*e*P	**P**	**18 01 28.4**	**-0.6**
VA01	**Torpederas**	**39.95 289**		P	**P**	**18 01 29.7**	**+0.7**
VA01				IAmb	IAmb	18 01 46.5	
	comp=Z,734nm,0.9s						
SUR	**Sutherland**	**40.50 70**		P	**P**	**18 01 34.0**	**+0.3**
SUR	**Sutherland**	**40.50 70**		LR	LR	18 14 14.6	
	comp=Z,38μm,21.3s,baz=221,slow=30						
SUR	**Sutherland**	**40.50 70**		S	**S**	**18 07 41.3**	**+2.0**
SUR	**Sutherland**	**40.50 70**		⇑P	**P**	**18 01 34.1**	**+0.3**
SUR	**Sutherland**	**40.50 70**		P	**P**	**18 01 34.1**	**+0.3**
SUR				sP	pwP	18 01 52.2	+2.9
SUR				PcP	**PcP**	**18 03 36.9**	**+1.3**
RIB01	**Linhares ES**	**40.72 338**		*e*P	**P**	**18 01 37.5**	**+2.1**
RIB01	**Linhares ES**	**40.72 338**		P	**P**	**18 01 37.6**	**+2.2**
BB19B	**Bebedouro**	**41.03 326**		*e*P	**P**	**18 01 39.4**	**+1.4**
BB19B	**Bebedouro**	**41.03 326**		P	**P**	**18 01 39.3**	**+1.2**
BB19B				S	**S**	**18 07 45.8**	**-1.2**
CO02	**Combarbal**	**41.11 292**		P	**P**	**18 01 39.5**	**+0.7**
CO02				IAmb	IAmb	18 01 45.7	
	comp=Z,749nm,0.9s						
CO02				IAMs_20	IAMs_20	18 17 24.2	
	comp=Z,78μm,22.0s						
CO03	**El Pedregal**	**41.26 292**		P	**P**	**18 01 40.6**	**+0.6**
AMBA	**Amambai (Brazi**	**41.41 317**		*e*P	**P**	**18 01 41.0**	**-0.1**
**

comp=Z,96µm,22.0s
VNDA Vanda 44.07 182 P **P 18 02 04.1 +2.0**
VNDA Vanda 44.07 182 P **P 18 02 03.4 +1.3**
comp=Z,298nm,0.9s,baz=191,slow=8.0,SNR=486
VNDA PP **PcP 18 03 48.5 +2.1**
comp=Z,99nm,1.0s,baz=173,slow=9.2,SNR=4.6
VNDA LR LR 18 19 19.0
comp=Z,46µm,21.7s,baz=160,slow=34
comp=Z,298nm,0.9s
VNDA Vanda 44.07 182 P **P 18 02 04.1 +2.0**
VNDA pmax pmax
comp=Z,386nm,0.9s
VNDA Vanda 44.07 182 P **P 18 02 04.2 +2.0**
BAT3 Ipameri 44.23 329 P **P 18 02 05.7 +1.6**
BAT2 UHE Batalha 44.25 329 P **P 18 02 05.8 +1.5**
BDQN Bodoquena, MS 44.32 316 *e*P **P 18 02 03.6 -1.0**
CMC01 Camacan, BA 44.41 340 *e*P **P 18 02 06.4 +1.0**
CMC01 Camacan, BA 44.41 340 P **P 18 02 07.0 +1.6**
C2SB Chapadao do Su 44.52 322 *e*P **P 18 02 07.6 +1.3**
C2SB Chapadao do Su 44.52 322 P **P 18 02 07.4 +1.1**
NBIT Itapeh - BA 44.81 341 P **P 18 02 10.3 +1.7**
SHEL Horse Pasture 45.00 27 P **P 18 02 11.1 +0.9**
SHEL Horse Pasture 45.00 27 P **P 18 02 11.1 +0.9**
SHEL pmax pmax
comp=Z,2µm,1.3s
SHEL MLR MLR
comp=Z,47µm,22.0s
SHEL Horse Pasture 45.00 27 ⇑P **P 18 02 11.7 +1.5**
SHEL Horse Pasture 45.00 27 P **P 18 02 11.5 +1.3**
SHEL sP **sP 18 02 30.1 +2.4**
SHEL ScP **ScP 18 07 44.5 +5.8**
CCD Concordia, Ant 45.00 169 P **P 18 02 10.0 0.0**
AC01 Pan de Azucar 45.14 296 PcP **PcP 18 03 49.9 -1.0**
AC01 IAMs_20 IAMs_20 18 20 03.9
comp=Z,61µm,22.0s
ANA01 Lindo Horizont 45.44 339 P **P 18 02 15.1 +1.4**
ANA01 S **S 18 08 51.0 -0.7**
GO02 Mina Guanaco 45.51 298 PcP **PcP 18 03 53.2 +0.6**
GO02 IAmb IAmb 18 03 57.5
comp=Z,464nm,0.7s
GO02 IAMs_20 IAMs_20 18 19 50.7
comp=Z,59µm,21.0s
JANB Januaria 45.67 334 *e*P **P 18 02 16.8 +1.3**
JANB Januaria 45.67 334 P **P 18 02 17.1 +1.5**
JANB S **S 18 08 54.8 -0.3**
H04S2 CROZET ISLANDS 45.70 111 T T 18 51 40.5
baz=226,slow=76,SNR=498
H04S3 CROZET ISLANDS 45.71 111 T T 18 51 39.9
baz=226,slow=76,SNR=362
H04S1 CROZET ISLANDS 45.72 111 T T 18 51 47.0
baz=226,slow=76,SNR=889
BOSA Boshof 45.77 72 P **P 18 02 15.6 -0.8**
BOSA IAmb IAmb 18 02 35.1
comp=Z,389nm,0.9s
BOSA Boshof 45.77 72 P **P 18 02 15.6 -0.8**
comp=Z,168nm,0.9s,baz=210,slow=7.3,SNR=198
BOSA LR LR 18 17 07.6
comp=Z,26µm,21.7s,baz=218,slow=30
BOSA PKKP **PKKPdf 18 25 19.1 -1.1**
comp=Z,1.9nm,0.9s,baz=91,slow=6.1,SNR=3.6
comp=Z,168nm,0.9s
BOSA Boshof 45.77 72 *i*P **P 18 02 15.8 -0.5**
BOSA Boshof 45.77 72 ⇑P **P 18 02 15.5 -0.8**
BOSA Boshof 45.77 72 P **P 18 02 15.5 -0.8**
BOSA pP **pwP 18 02 28.1 -0.9**
BOSA sP **sP 18 02 34.3 0.0**
BOSA PcP **PcP 18 03 54.7 +1.5**
BOSA ScP **ScP 18 07 43.0 +1.1**
CRZF Crozet Islands 45.98 110 P **P 18 02 16.7 -0.9**
CRZF IAMs_20 IAMs_20 18 16 06.7
comp=Z,49µm,21.0s
BDFB Brasilia 46.04 329 P **P 18 02 19.7 +1.2**
BDFB IAmb IAmb 18 02 24.4
comp=Z,791nm,1.1s
BDFB Brasilia 46.04 329 P **P 18 02 19.2 +0.8**
comp=Z,364nm,0.8s,baz=152,slow=5.0,SNR=160
BDFB LR LR 18 19 04.1
comp=Z,68µm,21.8s,baz=169,slow=33
comp=Z,364nm,0.8s
BDFB Brasilia 46.04 329 P **P 18 02 19.7 +1.2**
BDFB pmax pmax
comp=Z,791nm,1.1s
BDFB Brasilia 46.04 329 P **P 18 02 20.4 +1.9**
BDFB S **S 18 08 60.0 -0.4**
ARAG Araguaiana, MT 47.07 324 *e*P **P 18 02 27.6 +1.2**
ARAG Araguaiana, MT 47.07 324 P **P 18 02 27.7 +1.2**
ARAG S **S 18 09 12.7 -2.2**
PHPEN Phepeng 47.21 67 *i*P **P 18 02 27.2 -0.4**
PB10 IPOC Station P 47.37 298 IAmb IAmb 18 02 34.1
comp=Z,362nm,1.2s
LKGWB Lokgwabe 47.58 64 *i*P **P 18 02 29.2 -1.3**
MAKGR Makgori 47.87 69 *i*P **P 18 02 31.1 -1.6**
KOOLE Kule 48.06 62 *i*P **P 18 02 33.5 -0.8**
SALV Santo Antonio 48.14 319 *e*P **P 18 02 35.0 +0.3**
SALV Santo Antonio 48.14 319 P **P 18 02 35.2 +0.4**
SALV S **S 18 09 25.6 -4.5**
PB09 IPOC Station P 48.26 300 P **P 18 02 36.0 +0.2**
PB09 IAmb IAmb 18 02 41.9
comp=Z,536nm,1.3s
PB09 PcP **PcP 18 04 03.7 +1.5**
SDBA SAO DESIDERIO 48.37 334 *e*P **P 18 02 38.1 +1.5**
SDBA SAO DESIDERIO 48.37 334 P **P 18 02 38.1 +1.5**
SDBA S **S 18 09 33.1 -0.3**
NBLA Lagarto - SE 48.41 344 P **P 18 02 37.7 +0.9**
NBLA S **S 18 09 33.8 -0.2**
SKOMA Sekoma 48.54 67 *i*P **P 18 02 36.7 -1.2**
PB01 IPOC Station P 49.02 301 P **P 18 02 42.1 +0.5**
PB01 IAmb IAmb 18 02 46.3
comp=Z,672nm,1.3s
KGCAE Kacgae 49.12 64 *i*P **P 18 02 41.2 -1.2**
NBAN Anadia - AL 49.51 346 *e*P **P 18 02 45.7 +0.5**
NBAN Anadia - AL 49.51 346 P **P 18 02 46.0 +0.8**
NBAN S **S 18 09 49.8 +0.5**
PB08 IPOC Station P 49.66 302 P **P 18 02 46.9 +0.1**
PB08 IAmb IAmb 18 02 52.0
comp=Z,410nm,1.3s
PB08 PcP **PcP 18 04 08.6 +1.0**
PB08 IPOC Station P 49.66 302 P **P 18 02 46.7 -0.1**
PTLB Pontes e Lacer 49.78 316 P **P 18 02 47.3 0.0**
PTLB IAmb IAmb 18 02 51.7
comp=Z,718nm,0.9s
PTLB IAMs_20 IAMs_20 18 21 46.1
comp=Z,68µm,22.0s
PTLB Pontes e Lacer 49.78 316 *e*P **P 18 02 47.3 0.0**
PTLB Pontes e Lacer 49.78 316 P **P 18 02 47.4 +0.2**
KDWAN Kaudwane 49.85 67 *i*P **P 18 02 47.3 -0.6**
HMBC Humberstone 49.87 301 IAmb IAmb 18 02 52.4
comp=Z,432nm,1.5s
GRTLG Ghanzi 49.94 62 *i*P **P 18 02 48.2 -0.5**
SIV San Ignacio 50.01 313 P **P 18 02 48.9 -0.2**
comp=Z,160nm,0.6s,baz=155,slow=7.4,SNR=259
SIV PcP **PcP 18 04 10.6 +2.2**
comp=Z,204nm,0.9s,baz=136,slow=3.1,SNR=8.7
SIV LR LR 18 22 28.4
comp=Z,25µm,21.8s,baz=178,slow=34
comp=Z,160nm,0.6s
GO01 Chusmiza 50.09 302 P **P 18 02 49.9 -0.3**
GO01 IAmb IAmb 18 02 55.1
comp=Z,471nm,1.3s
GO01 PcP **PcP 18 04 10.8 +1.5**
TSUM Tsumeb 50.18 57 P **P 18 02 50.4 -0.1**
TSUM Tsumeb 50.18 57 LR LR 18 19 30.4
comp=Z,33µm,21.9s,baz=228,slow=30
TSUM Tsumeb 50.18 57 *i*P **P 18 02 50.5 0.0**
TSUM Tsumeb 50.18 57 ⇑P **P 18 02 50.7 +0.2**
H10S2 ASCENSION HYDR 50.20 14 T T 18 57 25.2
baz=187,slow=74,SNR=149
H10S3 ASCENSION HYDR 50.21 14 T T 18 57 28.5
baz=33,slow=74,SNR=148
PB11 IPOC Station P 50.22 301 IAmb IAmb 18 02 56.0
comp=Z,674nm,1.3s
LPHEP Lephephe 50.44 68 *i*P **P 18 02 51.7 -0.7**
SNDB Serra Nova Dou 50.45 326 *e*P **P 18 02 53.5 +1.1**
SNDB Serra Nova Dou 50.45 326 P **P 18 02 53.8 +1.5**
NBCA Caruaru-PE 50.90 346 *e*P **P 18 02 57.0 +1.2**
CASY Casey 51.19 159 P **P 18 02 57.6 +0.3**
CASY Casey 51.19 159 ⇓P **P 18 02 58.0 +0.6**
CASY Casey 51.19 159 P **P 18 02 57.8 +0.4**
ASCN Ascension 51.25 14 P **P 18 02 59.1 +0.7**
ASCN IAmb IAmb 18 03 01.2
comp=Z,588nm,1.2s
H10N1 ASCENSION HYDR 51.32 14 P **P 18 03 00.5 +2.0**
baz=186,slow=9.6,SNR=26
H10N1 T T 18 58 49.4
baz=186,slow=75,SNR=82
H10N3 ASCENSION HYDR 51.32 14 P **P 18 03 00.6 +2.0**
baz=186,slow=9.6,SNR=24
H10N3 T T 18 58 49.7
baz=186,slow=75,SNR=100
H10N2 ASCENSION HYDR 51.34 14 P **P 18 03 00.8 +2.1**
baz=186,slow=9.6,SNR=25
H10N2 T T 18 58 51.3
baz=186,slow=75,SNR=128
KHWEE KHWEE 51.44 67 *i*P **P 18 02 58.5 -1.5**
QNGWA Qangwa 51.51 61 *i*P **P 18 02 59.7 -0.8**
PB12 IPOC Station P 51.52 301 P **P 18 03 00.4 -0.1**
PB12 PcP **PcP 18 04 15.1 +1.0**
LAJE UHE Lajeado 51.53 331 P **P 18 03 02.2 +1.7**
MREMI Moremi 51.89 70 *i*P **P 18 03 01.6 -1.6**
PB18 Visviri 52.05 303 P **P 18 03 04.8 -0.1**
PB18 PcP **PcP 18 04 18.5 +1.9**
PB18 IAmb IAmb 18 04 22.9
comp=Z,339nm,0.8s
GMARE Gumare 52.09 62 *i*P **P 18 03 04.5 -0.2**
NBMA Muriti-CE 52.12 343 P **P 18 03 06.3 +1.4**
NBMA S **S 18 10 27.4 +1.8**
PAF Port-aux-Franc 52.36 125 IAMs_20 IAMs_20 18 19 18.8
comp=Z,43µm,22.0s
SMTB Santa Maria do 52.43 332 *e*P **P 18 03 09.2 +2.0**
SMTB Santa Maria do 52.43 332 P **P 18 03 09.1 +2.0**
XAUDM Khaudum 52.45 61 *i*P **P 18 03 07.6 +0.1**
VILB Vilhena 52.47 316 IAMs_20 IAMs_20 18 23 20.3
comp=Z,75µm,22.0s
VILB Vilhena 52.47 316 *e*P **P 18 03 07.5 0.0**
VILB Vilhena 52.47 316 P **P 18 03 07.4 0.0**
PDRB Porto dos Gac 52.49 320 *e*P **P 18 03 07.8 +0.2**
PDRB Porto dos Gac 52.49 320 P **P 18 03 07.6 0.0**
PDRB S **S 18 10 23.6 -7.0**
PHDHD Phuduhudu 52.50 65 *i*P **P 18 03 07.2 -0.6**
NBPV Pedro Velho 52.60 348 P **P 18 03 09.7 +1.3**
NBPV S **S 18 10 31.7 -0.3**
LPAZ La Paz 52.62 305 P **P 18 03 09.8 +0.6**
LPAZ PcP **PcP 18 04 18.1 -0.7**
LPAZ La Paz 52.62 305 P **P 18 03 09.8 +0.6**
comp=Z,135nm,0.4s,baz=139,slow=4.8,SNR=175
LPAZ S **S 18 10 32.5 -1.0**
comp=Z,25nm,1.1s,baz=196,slow=25,SNR=3.7
LPAZ LR LR 18 28 20.5
comp=Z,20µm,19.3s,baz=145,slow=39
LPAZ PKPPKP **P'P'df 18 33 37.3 +1.2**
comp=Z,2.3nm,0.8s,baz=31,slow=2.9,SNR=4.1
comp=Z,135nm,0.4s
LPAZ La Paz 52.62 305 *e*P **P 18 03 09.9 +0.6**
LPAZ La Paz 52.62 305 ⇑P **P 18 03 09.8 +0.6**
LPAZ La Paz 52.62 305 P **P 18 03 09.9 +0.6**
LPAZ S **S 18 10 30.1 -3.3**
CLDB Colider 52.87 321 *e*P **P 18 03 10.6 +0.1**
CLDB Colider 52.87 321 P **P 18 03 10.5 +0.1**
CLDB S **S 18 10 29.7 -6.1**
MOPA Mopani 53.06 74 *i*P **P 18 03 10.5 -1.3**
RCBR Riachuelo 53.25 347 P **P 18 03 13.6 +0.3**
RCBR IAmb IAmb 18 03 17.4
comp=Z,615nm,1.8s
RCBR Riachuelo 53.25 347 IAMs_20 IAMs_20 18 20 55.8
comp=Z,45µm,21.0s
RCBR Riachuelo 53.25 347 LR LR 18 21 17.9
comp=Z,17µm,21.7s,baz=192,slow=31
RCBR Riachuelo 53.25 347 P **P 18 03 13.6 +0.3**
RCBR pmax pmax
comp=Z,615nm,1.8s
RCBR MLR MLR
comp=Z,46µm,21.0s
RCBR Riachuelo 53.25 347 *e*P **P 18 03 14.5 +1.3**
RCBR Riachuelo 53.25 347 ⇑P **P 18 03 14.3 +1.0**
RCBR Riachuelo 53.25 347 P **P 18 03 14.2 +1.0**
RCBR sP **sP 18 03 32.8 +1.9**
RCBR PcP **PcP 18 04 22.5 +2.0**
RCBR ScP **ScP 18 08 13.8 +0.1**
RCBR Riachuelo 53.25 347 P **P 18 03 14.5 +1.3**
RCBR S **S 18 10 42.1 +1.2**
MUSN Musina, Limpop 53.32 72 *i*P **P 18 03 13.0 -0.7**
NBPA Parau_RN 53.48 345 P **P 18 03 16.2 +1.3**
NBPA S **S 18 10 46.3 +2.4**
NBPB Pedra_Branca-C 54.04 343 *e*P **P 18 03 20.8 +1.8**
NBPB Pedra_Branca-C 54.04 343 P **P 18 03 20.7 +1.8**
NBPB S **S 18 10 53.0 +1.5**
PAL2 UHE Estreito - 54.40 333 P **P 18 03 24.1 +2.5**
PAL2 S **S 18 10 59.5 +3.1**
BLWY Bulawayo 54.52 69 *i*P **P 18 03 21.9 -0.8**
PAL01 Palmeiras do T 54.56 333 P **P 18 03 25.1 +2.3**
DRV Dumont d'Urvil 54.59 173 P **P 18 03 23.2 +0.8**
KSANE Kasane 54.86 64 *i*P **P 18 03 23.8 -1.3**
NBBC Barra do Corda 55.12 336 P **P 18 03 29.0 +2.1**
NBCL Cascavel-CE 55.14 344 P **P 18 03 28.5 +1.6**
NBCL S **S 18 11 07.4 +1.1**
NBPS Pedro II - PI 55.47 341 P **P 18 03 30.8 +1.3**
NBPS S **S 18 11 12.6 +1.7**
PRPB Parauapebas 55.58 330 *e*P **P 18 03 32.1 +2.0**
PRPB Parauapebas 55.58 330 P **P 18 03 31.8 +1.7**
PRPB S **S 18 11 12.7 +0.5**
SBBR Sobral 55.91 342 P **P 18 03 34.1 +1.6**
SBBR S **S 18 11 17.1 +0.5**
NBMO Morrinhos-CE 56.30 342 P **P 18 03 36.6 +1.3**
NBMO S **S 18 11 22.6 +0.9**
NPGB Novo Progresso 56.33 324 *e*P **P 18 03 36.1 +0.6**
NPGB Novo Progresso 56.33 324 P **P 18 03 36.0 +0.4**
NPGB S **S 18 11 18.1 -4.1**
SAML Samuel 57.26 314 P **P 18 03 41.8 -0.3**
SAML IAMs_20 IAMs_20 18 30 20.5
comp=Z,37µm,20.0s
SAML Samuel 57.26 314 P **P 18 03 41.8 -0.3**
SAML pmax pmax
comp=Z,941nm,0.9s
SAML MLR MLR
comp=Z,37µm,20.0s
SAML Samuel 57.26 314 *e*P **P 18 03 42.2 +0.1**
LSZ Lusaka 58.48 66 P **P 18 03 49.7 -1.1**
LSZ Lusaka 58.48 66 IAMs_20 IAMs_20 18 25 13.3
comp=Z,49µm,20.0s
LSZ Lusaka 58.48 66 LR LR 18 25 54.7
comp=Z,47µm,19.0s,baz=216,slow=33
LSZ Lusaka 58.48 66 P **P 18 03 50.5 -0.3**
LSZ S **S 18 11 48.4 -2.3**
LSZ Lusaka 58.48 66 P **P 18 03 49.7 -1.1**
LSZ pmax pmax
comp=Z,235nm,1.1s
LSZ MLR MLR
comp=Z,49µm,20.0s
LSZ Lusaka 58.48 66 *i*P **P 18 03 50.5 -0.3**
LSZ Lusaka 58.48 66 ⇑P **P 18 03 50.3 -0.5**
LSZ Lusaka 58.48 66 P **P 18 03 50.3 -0.5**
LSZ PcP **PcP 18 04 41.2 +0.2**
TMAB Tom-Au,PA,Br 58.81 333 *e*P **P 18 03 55.1 +2.3**
TMAB Tom-Au,PA,Br 58.81 333 P **P 18 03 55.2 +2.3**
TMAB S **S 18 11 57.4 +2.7**
BMO2 UHE Belo Monte 58.86 329 P **P 18 03 54.9 +1.7**
BMO2 S **S 18 11 53.8 -1.5**
ITTB Itaituba 58.98 324 *e*P **P 18 03 54.7 +0.6**
ITTB Itaituba 58.98 324 P **P 18 03 54.6 +0.5**
ITTB S **S 18 11 52.6 -4.3**
BMO1 UHE Belo Monte 58.98 329 P **P 18 03 55.6 +1.5**
FOMA Nahampoana Res 59.92 89 P **P 18 03 59.7 -0.8**
FOMA IAmb IAmb 18 04 20.3
comp=Z,251nm,1.1s
FOMA IAMs_20 IAMs_20 18 22 59.3
comp=Z,33µm,22.0s
NNA Nana 60.30 298 P **P 18 04 02.8 -0.4**
NNA IAmb IAmb 18 04 08.0
comp=Z,515nm,0.9s
NNA Nana 60.30 298 IAMs_20 IAMs_20 18 27 42.5
comp=Z,56µm,22.0s
NNA Nana 60.30 298 P **P 18 04 03.9 +0.6**
comp=Z,418nm,0.9s,baz=144,slow=4.6,SNR=28
NNA LR LR 18 28 27.7
comp=Z,55µm,21.8s,baz=144,slow=34
comp=Z,418nm,0.9s
NNA Nana 60.30 298 ⇑P **P 18 04 03.7 +0.5**
MAL2 Monte Alegre, 60.74 327 P **P 18 04 07.6 +1.3**
MACA Manacapuru-AM 61.72 319 P **P 18 04 11.9 -0.9**
MACA Manacapuru-AM 61.72 319 *e*P **P 18 04 12.0 -0.8**
MACA Manacapuru-AM 61.72 319 P **P 18 04 11.9 -0.9**
CZSB Cruzeiro do Su 62.22 305 IAmb IAmb 18 04 19.9
comp=Z,523nm,0.8s
CZSB IAMs_20 IAMs_20 18 32 04.6
comp=Z,37µm,20.0s
CZSB Cruzeiro do Su 62.22 305 *e*P **P 18 04 14.9 -1.3**
CZSB Cruzeiro do Su 62.22 305 P **P 18 04 14.9 -1.3**
VOI Vohitsoka 62.33 87 P **P 18 04 16.3 -0.8**
VOI Vohitsoka 62.33 87 P **P 18 04 17.6 +0.6**
VOI S **S 18 12 37.9 -2.0**
VOI Vohitsoka 62.33 87 ⇑P **P 18 04 17.4 +0.4**
CN01 Coaracy Nunes 62.76 331 P **P 18 04 20.0 +0.2**
TEFE Tefe 62.81 315 *e*P **P 18 04 19.3 -0.8**
TEFE Tefe 62.81 315 P **P 18 04 19.8 -0.3**
RPN Rapa Nui 64.15 260 P **P 18 04 28.8 -0.1**
RPN IAmb IAmb 18 04 35.5
comp=Z,634nm,1.2s
RPN Rapa Nui 64.15 260 P **P 18 04 28.8 -0.1**
RPN pmax pmax
comp=Z,634nm,1.3s
RPN MLR MLR
comp=Z,10µm,20.0s
VA02 Isla de Pascua 64.17 260 P **P 18 04 27.9 -1.2**
VA02 IAmb IAmb 18 04 34.8
comp=Z,594nm,1.1s
TBTG Tabatinga, AM 64.24 309 IAmb IAmb 18 04 33.1
comp=Z,743nm,1.0s
TBTG IAMs_20 IAMs_20 18 34 17.3
comp=Z,27µm,20.0s
TBTG Tabatinga, AM 64.24 309 *e*P **P 18 04 28.4 -1.1**
TBTG Tabatinga, AM 64.24 309 P **P 18 04 28.4 -1.1**
AIS Amsterdam Isla 64.76 121 P **P 18 04 31.3 -1.4**
AIS IAmb IAmb 18 04 47.9
comp=Z,510nm,1.0s
ABPO Ambohimpanom 64.94 86 P **P 18 04 33.5 -0.9**
ABPO Ambohimpanom 64.94 86 P **P 18 04 33.5 -0.9**
ABPO pmax pmax
comp=Z,148nm,1.1s
ABPO MLR MLR
comp=Z,16µm,19.0s
ABPO Ambohimpanom 64.94 86 ⇑P **P 18 04 35.2 +0.9**
ATAH Atahualpa 65.28 299 P **P 18 04 39.0 +2.2**
comp=Z,452nm,1.0s,baz=160,slow=4.0,SNR=66
ATAH LR LR 18 32 35.5
comp=Z,31µm,21.7s,baz=176,slow=35
comp=Z,452nm,1.0s
OPO Ambohidratompo 65.29 85 LR LR 18 27 33.8
comp=Z,13µm,21.7s,baz=342,slow=31
SGC2 Sao Gabriel da 66.78 314 P **P 18 04 44.7 -1.2**
BOAV Boa Vista 66.87 321 P **P 18 04 45.5 -1.0**
BOAV IAmb IAmb 18 04 50.4
comp=Z,811nm,1.2s
BOAV IAMs_20 IAMs_20 18 33 49.8
comp=Z,41µm,21.0s
BOAV Boa Vista 66.87 321 *e*P **P 18 04 45.9 -0.6**
BOAV Boa Vista 66.87 321 P **P 18 04 46.2 -0.3**
MDP Montagnes des 67.12 330 P **P 18 04 49.0 +0.9**
comp=Z,1µm,0.9s,baz=179,slow=6.7,SNR=189
MDP LR LR 18 31 36.4
comp=Z,30µm,21.7s,baz=165,slow=34
comp=Z,1µm,0.9s
DBIC Dimbokro 67.12 22 P **P 18 04 48.3 +0.2**
DBIC IAmb IAmb 18 04 52.6
comp=Z,492nm,1.1s
DBIC Dimbokro 67.12 22 P **P 18 04 48.7 +0.6**
comp=Z,169nm,0.8s,baz=177,slow=6.6,SNR=133
DBIC LR LR 18 28 29.1
comp=Z,20µm,18.6s,baz=180,slow=31
DBIC PKPPKP **P'P'df 18 33 15.0 +4.6**
comp=Z,43nm,1.1s,baz=349,slow=3.7,SNR=12
comp=Z,169nm,0.8s
DBIC Dimbokro 67.12 22 ⇑P **P 18 04 48.7 +0.6**
DBIC Dimbokro 67.12 22 P **P 18 04 48.6 +0.6**
DBIC pP **sP 18 05 02.9 -3.4**
DBIC sP **PcP 18 05 08.3 -7.6**
DBIC Dimbokro 67.12 22 P **P 18 04 48.7 +0.6**
DBIC S **S 18 13 36.7 -1.9**
MPGF Montagnes des 67.13 330 ⇑P **P 18 04 49.0 +0.9**
MPGF Montagnes des 67.13 330 P **P 18 04 49.0 +0.9**
ACRG Accra 67.15 27 IAmb IAmb 18 04 52.6
comp=Z,895nm,1.5s
ACRG IAMs_20 IAMs_20 18 27 15.4
comp=Z,33µm,20.0s
RER Riviere de l'E 67.63 94 P **P 18 04 50.4 -1.1**
RER IAmb IAmb 18 05 12.9
comp=Z,522nm,1.1s
SBV Sambava 70.99 85 P **P 18 05 13.6 +1.5**
SNR=7.8
SBV S **S 18 14 25.1 +0.7**
SBV Sambava 70.99 85 ⇑P **P 18 05 13.6 +1.5**
FLOC Florencia 71.84 306 IAmb IAmb 18 05 21.9
comp=Z,568nm,1.1s
OTAV Otavalo 71.84 303 P **P 18 05 18.3 +0.5**
OTAV IAmb IAmb 18 05 24.8
comp=Z,507nm,1.1s
OTAV Otavalo 71.84 303 IAMs_20 IAMs_20 18 35 45.0
comp=Z,33µm,22.0s
OTAV Otavalo 71.84 303 P **P 18 05 18.3 +0.5**
OTAV pmax pmax
comp=Z,507nm,1.2s
OTAV MLR MLR
comp=Z,33µm,22.0s
OTAV Otavalo 71.84 303 *e*P **P 18 05 18.7 +0.9**
OTAV Otavalo 71.84 303 P **P 18 05 18.7 +0.9**
OTAV Otavalo 71.84 303 P **P 18 05 18.8 +0.9**
MBAR Mbarara 72.52 61 P **P 18 05 21.6 +0.1**
MBAR IAmb IAmb 18 05 25.9
comp=Z,528nm,1.6s
MBAR Mbarara 72.52 61 P **P 18 05 23.9 +2.4**
MBAR S **S 18 14 44.5 +2.2**
MBAR Mbarara 72.52 61 *i*P **P 18 05 23.8 +2.3**
MBAR pmax pmax
comp=Z,374nm,1.6s
MBAR Mbarara 72.52 61 ⇑P **P 18 05 23.9 +2.4**
MBO M'Bour 73.05 9 P **P 18 05 25.6 +1.3**
MBO IAMs_20 IAMs_20 18 29 43.1
comp=Z,31µm,21.0s
MBO M'Bour 73.05 9 ⇑P **P 18 05 26.0 +1.8**
SACV Santiago Islan 73.31 2 P **P 18 05 26.4 +0.6**
SACV IAmb IAmb 18 05 31.1
comp=Z,1µm,1.7s
SACV Santiago Islan 73.31 2 IAMs_20 IAMs_20 18 30 49.1
comp=Z,26µm,20.0s
SACV Santiago Islan 73.31 2 ⇑P **P 18 05 26.0 +0.2**
BBTS Babate 73.35 9 P **P 18 05 27.4 +1.4**
comp=Z,201nm,1.3s,baz=241,slow=0.6,SNR=5.8
BBTS LR LR 18 30 39.3
comp=Z,30µm,21.8s,baz=72,slow=30
comp=Z,201nm,1.3s
TUMC Tumaco 73.38 303 P **P 18 05 27.2 +0.8**
TUMC IAmb IAmb 18 05 31.9
comp=Z,684nm,1.1s
ROSC El Rosal 74.23 309 P **P 18 05 31.6 -0.2**
ROSC IAmb IAmb 18 05 36.5
comp=Z,508nm,0.9s
ROSC El Rosal 74.23 309 P **P 18 05 32.2 +0.4**
comp=Z,350nm,0.8s,baz=153,slow=3.7,SNR=34
ROSC LR LR 18 39 06.2
comp=Z,41µm,22.0s,baz=168,slow=36
comp=Z,350nm,0.8s
APZ The Paps 74.36 190 P **P 18 05 32.8 +1.0**
KIBK Kibwezi 74.45 68 P **P 18 05 33.4 +0.6**
KIBK IAMs_20 IAMs_20 18 33 48.3
comp=Z,29µm,22.0s
KIBK Kibwezi 74.45 68 P **P 18 05 33.8 +1.1**
KIBK Kibwezi 74.45 68 P **P 18 05 35.6 +2.8**
SNR=56
KIBK S **S 18 15 07.2 +3.2**
SYZ Scrubby Hill 74.55 190 P **P 18 05 34.9 +2.1**
SYZ Scrubby Hill 74.55 190 P **P 18 05 34.0 +1.2**
RUSC La Rusia 74.68 310 IAmb IAmb 18 05 38.7
comp=Z,1µm,1.4s
TOA0 Torodi Ar. Sit 74.84 27 P **P 18 05 35.8 +1.0**
SNR=97
TOA0 S **S 18 15 07.2 -0.7**
TORD Torodi Ar. Bea 74.84 27 P **P 18 05 36.0 +1.2**
comp=Z,137nm,0.5s,baz=211,slow=5.2,SNR=7.0
TORD LR LR 18 33 15.7
comp=Z,24µm,19.1s,baz=192,slow=32
comp=Z,137nm,0.5s
TRN Trinidad (W) 74.91 323 *e*P **P 18 05 36.8 +1.6**
TUZ Tuapeka 75.08 191 P **P 18 05 37.3 +1.4**
KMBO Kilima Mbogo 75.12 67 P **P 18 05 39.6 +2.8**
KMBO Kilima Mbogo 75.12 67 P **P 18 05 38.8 +2.0**
comp=Z,42nm,1.1s,baz=203,slow=5.7,SNR=48
KMBO PKPPKP **P'P'df 18 33 01.3 +1.2**
comp=Z,5.5nm,0.9s,baz=269,slow=2.9,SNR=2.7
KMBO LR LR 18 36 00.3
comp=Z,39µm,18.6s,baz=204,slow=34
comp=Z,42nm,1.1s
KMBO Kilima Mbogo 75.12 67 P **P 18 05 40.0 +3.2**
KMBO S **S 18 15 13.2 +1.4**

KMBO	Kilima Mbogo	75.12	67	cP	P	18 05 38.9 +2.1
KMBO	Kilima Mbogo	75.12	67	⇑P	P	18 05 39.3 +2.5
CTZ	Chatham Island	75.27 201		P	P	18 05 37.2 +0.2
CTZ				IAmb	IAmb	18 05 43.0
	comp=Z,593nm,1.3s					
CTZ				IAMs_20	IAMs_20	18 33 58.9
	comp=Z,28μm,22.0s					
CTZ	Chatham Island	75.27 201		P	P	18 05 40.4 +3.4
CTZ	Chatham Island	75.27 201		P	P	18 05 38.5 +1.5
WHZ	Wether Hill Ro	75.30 190		IAmb	IAmb	18 05 42.7
	comp=Z,408nm,1.0s					
WHZ	Wether Hill Ro	75.30 190		P	P	18 05 38.2 +1.0
PCRV	Puerto La Cruz	75.52 320		P	P	18 05 39.9 +1.2
	comp=Z,711nm,0.7s,baz=151,slow=2.7,SNR=129					
PCRV				LR	LR	18 39 09.4
	comp=Z,22μm,20.4s,slow=36					
	comp=Z,711nm,0.7s					
PCRV	Puerto La Cruz	75.52 320		eP	P	18 05 39.6 +0.9
BAUV	El Baul	75.56 316		IAmb	IAmb	18 05 43.6
	comp=Z,963nm,1.0s					
BAUV	El Baul	75.56 316		eP	P	18 05 39.2 +0.2
DCZ	Deep Cove	75.79 189		IAmb	IAmb	18 05 49.7
	comp=Z,432nm,1.2s					
DCZ				IAMs_20	IAMs_20	18 38 52.9
	comp=Z,18μm,18.0s					
MLZ	Mavora Lakes	75.80 190		P	P	18 05 40.7 +0.6
MLZ				IAmb	IAmb	18 05 45.8
	comp=Z,689nm,1.2s					
MLZ				IAMs_20	IAMs_20	18 37 48.3
	comp=Z,24μm,20.0s					
MLZ	Mavora Lakes	75.80 190		P	P	18 05 41.4 +1.3
EAZ	Earnscleugh	75.83 191		P	P	18 05 41.5 +1.3
ODZ	Otahua Downs	75.88 192		IAMs_20	IAMs_20	18 36 50.4
	comp=Z,22μm,20.0s					
ODZ	Otahua Downs	75.88 192		P	P	18 05 41.8 +1.3
PTCN	Pitcairn Islan	76.18 245		P	P	18 05 42.4 -0.1
PTCN				IAmb	IAmb	18 05 47.9
	comp=Z,473nm,1.1s					
PTCN	Pitcairn Islan	76.18 245		P	P	18 05 46.2 +3.7
WKZ	Wanaka	76.25 191		IAmb	IAmb	18 05 48.3
	comp=Z,379nm,1.0s					
WKZ				IAMs_20	IAMs_20	18 37 19.3
	comp=Z,24μm,20.0s					
WKZ	Wanaka	76.25 191		P	P	18 05 43.9 +1.2
GRGR	Grenville	76.39 324		IAMs_20	IAMs_20	18 41 12.1
	comp=Z,29μm,20.0s					
GRGR	Grenville	76.39 324		eP	P	18 05 44.4 +0.8
GRGR	Grenville	76.39 324		⇑P	P	18 05 44.7 +1.0
SDV	Santo Domingo	76.47 314		P	P	18 05 44.4 0.0
SDV				IAmb	IAmb	18 05 48.8
	comp=Z,489nm,0.8s					
SDV	Santo Domingo	76.47 314		P	P	18 05 44.7 +0.4
	comp=Z,445nm,0.8s,baz=164,slow=4.5,SNR=170					
SDV				LR	LR	18 38 57.3
	comp=Z,74μm,21.8s,baz=159,slow=35					
	comp=Z,445nm,0.8s					
SDV	Santo Domingo	76.47 314		eP	P	18 05 44.1 -0.3
SDV	Santo Domingo	76.47 314		P	P	18 05 44.6 +0.2
SDV				S	S	18 15 22.1 -4.2
TMZ	Timaru	76.49 192		P	P	18 05 45.2 +1.1
MSZ	Milford Sound	76.51 190		P	P	18 05 46.4 +2.3
GRSS	Sisters	76.53 324		eP	P	18 05 44.7 +0.3
LBZ	Lake Benmore	76.58 191		IAmb	IAmb	18 05 51.2
	comp=Z,864nm,1.4s					
LBZ				IAMs_20	IAMs_20	18 36 52.9
	comp=Z,29μm,20.0s					
LBZ	Lake Benmore	76.58 191		P	P	18 05 46.0 +1.5
GCMP	Grenada, Carri	76.65 324		eP	P	18 05 45.5 +0.4
BBGH	Gun Hill	76.71 326		IAMs_20	IAMs_20	18 40 27.6
	comp=Z,39μm,22.0s					
BBGH	Gun Hill	76.71 326		eP	P	18 05 48.6 +3.2
BBGH	Gun Hill	76.71 326		⇑P	P	18 05 49.0 +3.5
MQZ	McQueen's Vall	76.97 193		IAmb	IAmb	18 05 52.5
	comp=Z,821nm,1.4s					
MQZ	McQueen's Vall	76.97 193		P	P	18 05 47.7 +1.1
JCZ	Jackson Bay	77.02 190		P	P	18 05 49.8 +2.7
RPZ	Rata Peaks	77.14 192		P	P	18 05 49.4 +1.7
RPZ				IAmb	IAmb	18 05 53.5
	comp=Z,566nm,1.1s					
RPZ	Rata Peaks	77.14 192		LR	LR	18 37 25.8
	comp=Z,18μm,19.8s,baz=170,slow=34					
RPZ	Rata Peaks	77.14 192		P	P	18 05 49.1 +1.3
SVB	Belmont	77.34 324		eP	P	18 05 49.4 +0.4
OXZ	Oxford	77.42 193		P	P	18 05 50.1 +0.8
OXZ				IAmb	IAmb	18 05 55.0
	comp=Z,393nm,1.2s					
OXZ	Oxford	77.42 193		P	P	18 05 50.5 +1.2
FOZ	Fox Glacier	77.46 191		P	P	18 05 50.7 +1.3
GVZ	Greta Valley S	77.65 194		IAMs_20	IAMs_20	18 36 40.4
	comp=Z,26μm,20.0s					
GVZ	Greta Valley S	77.65 194		P	P	18 05 52.1 +1.6
WVZ	Waitaha Valley	77.81 192		P	P	18 05 53.6 +2.2
SLAC	Saint Lucia, A	77.82 325		eP	P	18 05 52.9 +1.3
LTZ	Lake Taylor	77.92 193		IAmb	IAmb	18 05 59.8
	comp=Z,932nm,1.1s					
LTZ				IAMs_20	IAMs_20	18 37 32.7
	comp=Z,22μm,20.0s					
LTZ	Lake Taylor	77.92 193		P	P	18 05 53.7 +1.6
SLBI	Saint Lucia, B	77.96 325		eP	P	18 05 53.9 +1.5
INZ	Inchbonnie	78.08 193		IAmb	IAmb	18 05 58.1
	comp=Z,550nm,0.9s					
INZ	Inchbonnie	78.08 193		P	P	18 05 53.8 +0.9
KHZ	Kahutara	78.13 194		P	P	18 05 54.1 +1.0
KHZ				IAmb	IAmb	18 05 58.5
	comp=Z,634nm,1.2s					
KHZ	Kahutara	78.13 194		P	P	18 05 52.4 -0.8
LODK	Lodwar	78.20 63		P	P	18 05 57.2 +3.2
	SNR=94					
LODK				S	S	18 15 47.8 +2.8
H05S1	Guadeloupe/Mar	78.30 325		P	P	18 05 56.3 +2.0
	SNR=33					
MPOM	Morne Pois Mar	78.33 325		P	P	18 05 54.7 +0.3
MPOM				IAmb	IAmb	18 05 59.6
	comp=Z,663nm,0.9s					
BIM	Bigot	78.46 325		eP	P	18 05 56.2 +1.0
ILAM	Ilet Lapin Mar	78.64 325		eP	P	18 05 56.9 +0.7
FDF	Fort de France	78.69 325		⇑P	P	18 05 57.9 +1.4
TAU	Tasmania Unive	78.69 175		P	P	18 05 56.5 +0.3
TAU	Tasmania Unive	78.69 175		P	P	18 05 58.4 +2.2
TAU	Tasmania Unive	78.69 175		P	P	18 05 56.5 +0.3
TAU				pmax	pmax	
	comp=Z,236nm,0.9s					
TAU				MLR	MLR	
	comp=Z,54μm,19.0s					
TAU	Tasmania Unive	78.69 175		⇑P	P	18 05 56.5 +0.3
PLWZ	Palliser	78.73 196		P	P	18 05 57.8 +1.2
SVN	Savane Anatole	78.79 325		eP	P	18 05 58.1 +1.0
THZ	Tophouse	78.85 194		IAMs_20	IAMs_20	18 37 39.3
	comp=Z,26μm,20.0s					
THZ	Tophouse	78.85 194		P	P	18 05 58.5 +1.2
BHW	Baring Head	78.94 195		IAmb	IAmb	18 06 03.4
	comp=Z,694nm,1.4s					
DSZ	Denniston Nort	79.00 193		IAmb	IAmb	18 06 02.4
	comp=Z,1μm,1.1s					
DSZ	Denniston Nort	79.00 193		P	P	18 05 58.2 +0.1
SNZO	South Karori	79.06 195		P	P	18 05 58.5 +0.2
SNZO	South Karori	79.06 195		IAMs_20	IAMs_20	18 37 08.9
	comp=Z,27μm,21.0s					
SNZO	South Karori	79.06 195		P	P	18 06 00.2 +1.9
SNZO	South Karori	79.06 195		⇑P	P	18 05 59.9 +1.6
MOO	Moorlands	79.15 174		P	P	18 06 01.3 +2.5
DLPL	La Plaine	79.28 325		eP	P	18 06 01.0 +1.3
MDN	Morne-Daniel	79.31 325		eP	P	18 06 00.7 +0.9
NNZ	Nelson	79.33 194		IAmb	IAmb	18 06 06.2
	comp=Z,1μm,1.4s					
NNZ				IAMs_20	IAMs_20	18 36 49.9
	comp=Z,32μm,22.0s					
NNZ	Nelson	79.33 194		P	P	18 06 00.8 +1.0
DSLB	Salisbury	79.43 325		eP	P	18 06 02.4 +1.9
BFZ	Birch Farm	79.45 197		P	P	18 06 01.2 +0.7
BFZ				IAmb	IAmb	18 06 06.5
	comp=Z,1μm,1.1s					
BFZ				IAMs_20	IAMs_20	18 36 03.4
	comp=Z,28μm,21.0s					
BFZ	Birch Farm	79.45 197		P	P	18 06 02.5 +2.0
BFZ	Birch Farm	79.45 197		P	P	18 06 02.4 +1.9
MRZ	Mangatainoka R	79.57 196		IAmb	IAmb	18 06 07.7
	comp=Z,573nm,1.1s					
MRZ				IAMs_20	IAMs_20	18 36 18.5
	comp=Z,25μm,22.0s					
MRZ	Mangatainoka R	79.57 196		P	P	18 06 02.5 +1.4
QRZ	Quartz Range	79.82 194		IAmb	IAmb	18 06 06.1
	comp=Z,529nm,1.4s					
QRZ				IAMs_20	IAMs_20	18 38 20.9
	comp=Z,20μm,20.0s					
QRZ	Quartz Range	79.82 194		P	P	18 06 04.7 +2.2
QRZ	Quartz Range	79.82 194		P	P	18 06 01.7 -0.8
MAGL	Barre de l'ile	79.88 325		P	P	18 06 03.8 +0.9
TDBA	Terre de Bas,	79.89 325		P	P	18 06 02.7 -0.3
TDBA				IAMs_20	IAMs_20	18 42 13.0
	comp=Z,25μm,22.0s					
TBG	Guadaloupe-3	79.89 325		eP	P	18 06 03.9 +0.9
SMRC	Santa Marta, M	79.93 311		IAmb	IAmb	18 06 07.7
	comp=Z,622nm,1.1s					
PXZ	Pawanui	80.00 197		P	P	18 06 05.5 +2.1
WPHZ	Waipukurau	80.03 197		P	P	18 06 05.8 +2.2
CBE	Ff, Capester	80.09 325		IAMs_20	IAMs_20	18 41 56.1
	comp=Z,21μm,21.0s					
TSZ	Takapari Road	80.11 197		P	P	18 06 05.7 +1.6
CORO	Coronation Par	80.13 174		P	P	18 06 06.6 +2.5
RKT	Rikitea	80.13 242		eP	P	18 06 06.1 +1.7
	comp=Z,409nm,0.9s					
RKT	Rikitea	80.13 242		ePP	PP	18 09 07.6 +1.0
	comp=Z,8μm,32.8s					
RKT				eS	S	18 16 05.1 -0.2
	comp=Z,58μm,34.5s					
RKT				eSS	SS	18 21 15.9 +0.2
	comp=Z,16μm,45.0s					
RKT				eLQ	LQ	18 27 46.3
	comp=Z,119μm,34.2s					
RKT				eLR	LR	18 31 09.3
	comp=Z,339μm,27.2s					
H05N1	Guadeloupe/Mar	80.15 325		P	P	18 06 05.7 +1.3
	SNR=168					
PNHZ	Pukenui	80.21 197		P	P	18 06 06.4 +1.7
KAHZ	Kahuranaki	80.23 197		P	P	18 06 07.2 +2.4
GDHS	Morne Mazeau,	80.33 325		IAMs_20	IAMs_20	18 40 06.9
	comp=Z,23μm,22.0s					
BCIP	Isla Barro Col	80.43 305		P	P	18 06 05.6 -0.4
BCIP				IAmb	IAmb	18 06 10.7
	comp=Z,720nm,1.5s					
BCIP	Isla Barro Col	80.43 305		P	P	18 06 05.6 -0.4
BCIP				pmax	pmax	
	comp=Z,720nm,1.5s					
BCIP				MLR	MLR	
	comp=Z,16μm,20.0s					
BCIP	Isla Barro Col	80.43 305		⇑P	P	18 06 06.3 +0.3
KRHZ	Kereru	80.45 197		P	P	18 06 07.9 +2.0
WAZ	Wanganui	80.55 196		P	P	18 06 09.5 +3.1
MCHZ	McNeill Hill	80.60 197		P	P	18 06 09.7 +3.0
GLAD	Gladstone	80.64 175		P	P	18 06 08.5 +1.6
MHGZ	Mahia Peninsul	80.69 198		P	P	18 06 10.7 +3.5
MOVZ	Moawhango	80.78 196		P	P	18 06 09.5 +1.8
MTVZ	Mangateitei	80.84 196		P	P	18 06 10.2 +2.1
KNZ	Kokohu	80.85 198		P	P	18 06 12.6 +4.6
WNVZ	Wahianoa	80.88 196		P	P	18 06 10.8 +2.4
MBWH		80.90 325		eP	P	18 06 09.8 +1.4
BKZ	Black Stump Fm	80.90 197		IAmb	IAmb	18 06 22.9
	comp=Z,386nm,0.9s					
BKZ				IAMs_20	IAMs_20	18 37 07.7
	comp=Z,23μm,22.0s					
BKZ	Black Stump Fm	80.90 197		P	P	18 06 10.1 +1.7
BKZ	Black Stump Fm	80.90 197		P	P	18 06 10.3 +1.9
MBFL	Flemmings, Mon	80.91 324		eP	P	18 06 09.6 +1.1
TRVZ	Turoa	80.91 196		P	P	18 06 10.5 +1.8
LREZ	Lake Rotokare	80.92 195		P	P	18 06 10.7 +2.3
NMHZ	Naumai	80.92 197		P	P	18 06 10.9 +2.4
WHVZ	Whangaehu Hut	80.92 196		P	P	18 06 12.2 +3.5
TUVZ	Tukino	80.93 196		P	P	18 06 10.4 +1.7
H01W2	Cape Leeuwin H	80.94 147		P	P	18 06 09.8 +1.5
	baz=194,slow=8.8,SNR=7.8					
MAVZ	Matarangi	80.94 196		P	P	18 06 10.7 +1.8
PKVZ	Pokaka	80.95 196		P	P	18 06 10.1 +1.5
H01W1	Cape Leeuwin H	80.95 147		P	P	18 06 10.0 +1.6
	baz=194,slow=8.8,SNR=8.0					
FWVZ	Far West T-bar	80.95 196		P	P	18 06 10.8 +1.9
H01W3	Cape Leeuwin H	80.96 147		P	P	18 06 09.9 +1.5
	baz=194,slow=8.8,SNR=9.6					
SNVZ	South Ngauruho	81.01 196		P	P	18 06 12.4 +3.3
COVZ	Chateau Observ	81.01 196		P	P	18 06 10.8 +1.7
NGZ	Ngauruhoe	81.03 196		P	P	18 06 11.2 +2.0
OTVZ	Oturere	81.03 196		P	P	18 06 11.0 +1.8
ETVZ	East Tongariro	81.05 197		P	P	18 06 10.9 +1.7
RAHZ	Arahi	81.05 198		P	P	18 06 11.7 +2.5
ANBD	Bethesda, Anti	81.06 325		eP	P	18 06 09.1 -0.1
NNVZ	North Ngauruho	81.07 196		P	P	18 06 11.3 +1.9
PREZ	Palmer Road	81.07 195		P	P	18 06 11.1 +1.8
TMVZ	Te Maari	81.07 197		P	P	18 06 11.1 +1.7
WTVZ	West Tongariro	81.09 196		P	P	18 06 11.1 +1.7
NTVZ	North Tongarir	81.09 196		P	P	18 06 11.2 +1.7
KRVZ	Karewarewa	81.10 196		P	P	18 06 12.4 +2.9
KHEZ	Kahui Hut	81.14 195		P	P	18 06 10.3 +0.6
KHEZ	Kahui Hut	81.14 195		P	P	18 06 10.6 +0.9
SNGZ	Shannon Statio	81.14 198		P	P	18 06 12.1 +2.4
NEZ	North Egmont	81.15 195		P	P	18 06 10.9 +1.2
RIGZ	Rimuhau	81.15 198		P	P	18 06 12.5 +2.8
TWVZ	Taurewa	81.15 196		P	P	18 06 11.2 +1.4
MTHZ	Maungataniwha	81.15 197		P	P	18 06 12.3 +2.6
RITZ	Rihia Road	81.18 197		P	P	18 06 12.0 +2.1
VRZ	Vera Road	81.20 196		P	P	18 06 10.7 +0.8
DREZ	Durham Road	81.21 195		P	P	18 06 12.1 +2.1
MRHZ	Matea Rd	81.24 197		P	P	18 06 12.3 +2.1
PIRO	Carate, Puerto	81.27 302		eP	P	18 06 11.6 +1.1
CNGZ	Carnagh Statio	81.29 199		P	P	18 06 14.6 +4.2
MSEY	Mahe Island	81.30 85		P	P	18 06 10.4 -0.4
MSEY	Mahe Island	81.30 85		P	P	18 06 11.6 +0.8
MSEY				S	S	18 16 21.2 +3.4
MSEY	Mahe Island	81.30 85		P	P	18 06 10.4 -0.4
MSEY				pmax	pmax	
	comp=Z,176nm,1.1s					
MSEY	Mahe Island	81.30 85		⇑P	P	18 06 11.4 +0.6
RATZ	Rangitukua	81.30 197		P	P	18 06 12.0 +1.5
RTZ	Ruatahuna	81.36 198		IAMs_20	IAMs_20	18 37 08.2
	comp=Z,33μm,22.0s					
RTZ	Ruatahuna	81.36 198		P	P	18 06 12.9 +2.1
TKGZ	Te Karaka	81.39 198		P	P	18 06 13.9 +2.9
RAGZ	Rawiri	81.41 198		P	P	18 06 13.5 +2.3
WATZ	Wairara	81.46 197		P	P	18 06 13.0 +1.6
WHTZ	Whakaora	81.47 197		P	P	18 06 13.5 +2.0
MUGZ	Murupara	81.53 197		P	P	18 06 13.8 +2.1
MWZ	Matawai	81.55 198		P	P	18 06 14.0 +2.2
WPRZ	Whakapapatarin	81.58 197		P	P	18 06 14.3 +2.3
SKI	Saint Kitts	81.62 324		eP	P	18 06 12.9 +0.6
TWGZ	Tauwhareparae	81.63 198		P	P	18 06 15.7 +3.4
ANWB	Willy Bob	81.65 325		P	P	18 06 12.2 -0.1
ANWB				IAMs_20	IAMs_20	18 42 03.9
	comp=Z,23μm,22.0s					
ANWB	Willy Bob	81.65 325		eP	P	18 06 13.0 +0.7
ANWB	Willy Bob	81.65 325		⇑P	P	18 06 12.0 -0.3
KUTZ	Kaahu Road	81.67 197		P	P	18 06 14.3 +1.9
PUZ	Puketiti	81.69 199		P	P	18 06 13.9 +1.3
URZ	Urewera	81.69 198		LR	LR	18 41 28.3
	comp=Z,12μm,18.5s,baz=248,slow=35					
URZ	Urewera	81.69 198		P	P	18 06 14.1 +1.6
HRRZ	Handcock Road	81.69 197		P	P	18 06 17.6 +5.0
GRRZ	Galatos Road	81.76 197		P	P	18 06 14.1 +1.2
HIZ	Hauiti	81.78 196		IAmb	IAmb	18 06 17.7
	comp=Z,686nm,1.0s					
HIZ				IAMs_20	IAMs_20	18 37 41.3
	comp=Z,23μm,21.0s					
HIZ	Hauiti	81.78 196		P	P	18 06 13.5 +0.5
TARZ	Mount Tarawera	81.81 197		P	P	18 06 15.2 +1.9
TLZ	Tolley Road	81.86 197		P	P	18 06 14.0 +0.5
RUGZ	Raukumara Rang	81.89 198		P	P	18 06 15.7 +2.0
PKGZ	Pakihiroa	81.92 199		P	P	18 06 16.1 +2.4
DRK0	Durika	82.00 302		eP	P	18 06 15.3 +0.8
SABA	Saba	82.05 324		P	P	18 06 14.8 +0.3
SABA				IAMs_20	IAMs_20	18 44 13.8
	comp=Z,23μm,20.0s					
HAZ	Te Kaha	82.07 198		P	P	18 06 16.4 +1.9
MXZ	Matakaoa Point	82.17 199		IAMs_20	IAMs_20	18 43 52.7
	comp=Z,18μm,19.0s					
MXZ	Matakaoa Point	82.17 199		P	P	18 06 18.1 +3.1
MXZ	Matakaoa Point	82.17 199		P	P	18 06 18.9 +3.9
CEUA	Cerro Uatsi, L	82.18 303		eP	P	18 06 18.0 +2.6
SAJE	San Jernim	82.19 302		eP	P	18 06 15.5 0.0
TGRZ	Tauranga	82.34 197		P	P	18 06 17.3 +1.3
SMRT	St. Maarten	82.40 324		IAMs_20	IAMs_20	18 41 16.2
	comp=Z,33μm,22.0s					
TOZ	Tahuroa Road	82.46 197		IAmb	IAmb	18 06 21.4
	comp=Z,546nm,0.9s					
TOZ				IAMs_20	IAMs_20	18 38 00.1
	comp=Z,26μm,22.0s					
TOZ	Tahuroa Road	82.46 197		P	P	18 06 17.5 +1.0
PICV	PH. Pirrs	82.74 302		eP	P	18 06 19.4 +1.1
LCR2	La Lucha 2	82.76 302		IAmb	IAmb	18 06 23.5
	comp=Z,338nm,0.9s					
LCR2	La Lucha 2	82.76 302		eP	P	18 06 18.5 0.0
VTCV	VTCV, Calle Va	82.85 302		eP	P	18 06 19.9 +0.9
IRES	Siquirres	82.85 303		eP	P	18 06 21.0 +2.2
CVTV	Tajo	82.88 302		eP	P	18 06 20.6 +1.3
CVTQ	Turrialba Volc	82.89 302		eP	P	18 06 20.3 +0.9
VTLA	Turrialba Volc	82.89 302		eP	P	18 06 20.7 +1.3
VTR0	Volcan Turrial	82.89 302		eP	P	18 06 20.1 +0.7
CVTR	Volcan Turrial	82.89 302		eP	P	18 06 20.5 +1.0
RVLA	Villa Bonita	82.90 303		eP	P	18 06 20.1 +1.2
CVIMO	Finca Echandi	82.98 302		eP	P	18 06 20.6 +0.9
CVTG	V. Turrialba,	83.01 302		eP	P	18 06 20.7 +1.0
HDC	Heredia	83.04 302		IAmb	IAmb	18 06 26.3
	comp=Z,614nm,1.1s					
HDC	Heredia	83.04 302		eP	P	18 06 21.1 +1.2
HDC	Heredia	83.04 302		eP	P	18 06 21.1 +1.2
HEME	Heredia, Merce	83.04 302		eP	P	18 06 21.4 +1.5
PILE	Guapiles	83.08 302		eP	P	18 06 22.5 +2.5
CBL1	Cabuya	83.11 301		eP	P	18 06 20.7 +0.6
MKAZ	Moumakai	83.12 196		P	P	18 06 21.0 +1.0
GEXS	Deakin Univers	83.19 172		P	P	18 06 22.7 +2.4
AWAZ	Awhitu Peninsu	83.24 196		P	P	18 06 20.2 -0.4
VPS8	V Poas	83.25 302		eP	P	18 06 22.2 +1.0
VPS5	V. Poas	83.26 302		eP	P	18 06 22.5 +1.3
IGPR	InterUniversit	83.28 321		IAmb	IAmb	18 06 24.4
	comp=Z,298nm,0.8s					
PDPR	Patillas Dam,	83.30 321		IAmb	IAmb	18 06 24.6
	comp=Z,380nm,0.8s					
VPL1	V. Platanar	83.37 302		eP	P	18 06 22.9 +1.2
WTAZ	Waiatarua	83.38 196		P	P	18 06 21.9 +0.6
KUZ	Kuaotuna	83.39 197		P	P	18 06 21.8 +0.4
KUZ	Kuaotunu	83.39 197		P	P	18 06 21.0 -0.3
VPL2	V. Platanar	83.43 302		eP	P	18 06 23.3 +1.4
WIAZ	Waiheke Island	83.43 196		P	P	18 06 21.3 -0.3
SJG	San Juan	83.43 321		IAMs_20	IAMs_20	18 42 56.9
	comp=Z,24μm,22.0s					
SJG	San Juan	83.43 321		P	P	18 06 21.2 -0.4
	comp=Z,178nm,0.9s,baz=101,slow=4.0,SNR=36					
	comp=Z,178nm,0.9s					
MBAZ	Motutapu North	83.49 196		P	P	18 06 23.3 +1.4
OBIP	Obispado Ponce	83.52 321		IAmb	IAmb	18 06 24.5
	comp=Z,687nm,1.3s					
CELP	Cerrillos	83.54 321		P	P	18 06 21.2 -1.0
CELP				IAmb	IAmb	18 06 25.6
	comp=Z,558nm,1.2s					
GCPR	Guaynabo City	83.59 321		IAmb	IAmb	18 06 26.2
	comp=Z,390nm,1.2s					
SOCE	Pocosol	83.60 302		IAmb	IAmb	18 06 27.9
	comp=Z,308nm,1.1s					
MLBS	Spotswood, Mel	83.60 172		P	P	18 06 25.1 +2.7
MTEVE	Monteverde	83.64 302		eP	P	18 06 23.6 +0.6
CMARA	Lajas Hojancha	83.64 301		eP	P	18 06 23.1 +0.2
CRPR	Cabo Rojo, PR	83.65 320		IAmb	IAmb	18 06 27.0
	comp=Z,683nm,1.1s					
NWAO	Narrogin (SRO)	83.65 149		P	P	18 06 22.1 -0.7
NWAO	Narrogin (SRO)	83.65 149		IAMs_20	IAMs_20	18 39 38.1
	comp=Z,26μm,21.0s					
NWAO	Narrogin (SRO)	83.65 149		LR	LR	18 39 59.1
	comp=Z,22μm,20.1s,baz=184,slow=33					
NWAO	Narrogin (SRO)	83.65 149		P	P	18 06 22.8 0.0
NWAO				S	SKSac	18 16 42.4 +1.1
NWAO	Narrogin (SRO)	83.65 149		P	P	18 06 23.4 +0.6
NWAO	Narrogin (SRO)	83.65 149		P	P	18 06 22.1 -0.7
NWAO				pmax	pmax	
	comp=Z,75nm,0.9s					
NWAO				MLR	MLR	
	comp=Z,26μm,21.0s					
JTS	Las Juntas de	83.67 301		P	P	18 06 23.2 +0.2
JTS				IAmb	IAmb	18 06 28.9
	comp=Z,535nm,1.4s					
JTS	Las Juntas de	83.67 301		P	P	18 06 23.2 +0.2
JTS				pmax	pmax	
	comp=Z,535nm,1.4s					
JTS				MLR	MLR	
	comp=Z,16μm,22.0s					
JTS	Las Juntas de	83.67 301		eP	P	18 06 23.5 +0.5
JTS	Las Juntas de	83.67 301		⇑P	P	18 06 22.4 -0.6
VACR	Volcan Arenal	83.70 302		eP	P	18 06 23.6 +0.4
ARE1	Arenal 1	83.71 302		eP	P	18 06 23.9 +0.7
CEDE	Laguna Cedeo	83.73 302		eP	P	18 06 23.9 +0.5
NICO	Nicoya	83.75 301		eP	P	18 06 23.3 0.0
UUPR	Utuado, UPR, P	83.75 321		IAmb	IAmb	18 06 26.2
	comp=Z,356nm,0.8s					
UUPR				IAMs_20	IAMs_20	18 47 50.0
	comp=Z,19μm,20.0s					
AOPR	Arecibo Observ	83.85 321		IAmb	IAmb	18 06 26.6
	comp=Z,283nm,1.0s					
PRSN	Puerto Rico Se	83.86 321		IAmb	IAmb	18 06 27.6
	comp=Z,479nm,0.8s					
INVE	Universidad In	83.88 301		eP	P	18 06 24.8 +0.7
PLVR	Palo Verde	83.89 301		eP	P	18 06 25.4 +1.1
EMPR	Esperanza - Ma	83.90 321		IAmb	IAmb	18 06 27.2
	comp=Z,422nm,0.9s					
TOO	Toolangi	83.90 173		IAMs_20	IAMs_20	18 43 29.7
	comp=Z,19μm,19.0s					
TOO	Toolangi	83.90 173		⇓P	P	18 06 24.6 +0.5
GRZ	Great Barrier	83.91 197		P	P	18 06 24.6 +0.6
TENO	El Achiote	84.04 302		eP	P	18 06 24.7 -0.2
AGPR	Aguadilla, PR	84.08 321		IAmb	IAmb	18 06 29.4
	comp=Z,529nm,1.3s					
CUI	Cuipilapa	84.08 301		eP	P	18 06 25.5 +0.4
HORNC	Hornillas	84.14 301		eP	P	18 06 26.0 +0.6
ALIBA	Liberia Airpor	84.20 301		eP	P	18 06 26.5 +

CNGN Cerro Negro 86.40 301 P **P 18 06 35.5 -1.2**
CNGN Cerro Negro 86.40 301 *e*P **P 18 06 35.4 -1.3**
HERN Volcan Telica 86.56 301 IAMs_20 IAMs_20 18 44 13.3
comp=Z,19µm,21.0s
EOSO Osorio 86.72 9 P **P 18 06 39.5 +1.5**
CRIN San Cristobal 86.74 301 IAMs_20 IAMs_20 18 44 18.9
comp=Z,18µm,21.0s
MORW Morawa 86.96 147 P **P 18 06 38.3 -1.1**
MORW Morawa 86.96 147 P **P 18 06 39.9 +0.5**
MORW Morawa 86.96 147 ⇓P **P 18 06 39.2 -0.1**
HTT Hallett 87.40 167 ⇑P **P 18 06 41.0 -0.5**
WHYH Whyalla 87.63 166 P **P 18 06 42.8 +0.3**
H08S1 Diego Carcia H 87.64 101 P **P 18 06 43.5 +1.1**
baz=320,slow=5.7,SNR=6.9
MTDJ Mount Denham 87.65 311 IAMs_20 IAMs_20 18 46 19.3
comp=Z,32µm,22.0s
MTDJ Mount Denham 87.65 311 ⇑P **P 18 06 44.2 +1.5**
H08S2 Diego Garcia H 87.66 101 P **P 18 06 43.4 +0.9**
baz=320,slow=5.7,SNR=17
H08S3 Diego Garcia H 87.67 101 P **P 18 06 43.7 +1.1**
baz=320,slow=5.7,SNR=15
DGAR Diego Garcia 87.83 101 P **P 18 06 42.2 -1.5**
DGAR IAmb IAmb 18 06 58.5
comp=Z,226nm,1.0s
DGAR Diego Garcia 87.83 101 IAMs_20 IAMs_20 18 36 32.8
comp=Z,21µm,21.0s
DGAR Diego Garcia 87.83 101 P **P 18 06 45.0 +1.3**
DGAR Diego Garcia 87.83 101 *ce*P **P 18 06 45.0 +1.3**
DGAR pmax pmax
comp=Z,676nm,2.5s
DGAR Diego Garcia 87.83 101 ⇑P **P 18 06 44.6 +0.9**
TGUH Tegucigalpa,Un 88.03 301 IAmb IAmb 18 07 03.1
comp=Z,218nm,0.9s
TGUH Tegucigalpa,Un 88.03 301 ⇑P **P 18 06 44.9 +0.2**
MASC Masc 88.16 315 *e*P **P 18 06 45.8 +0.8**
MASC *e*S **PcP 18 06 46.6 0.0**
FORT Forrest 88.26 157 IAmb IAmb 18 06 55.0
comp=Z,409nm,0.9s
FORT IAMs_20 IAMs_20 18 42 50.0
comp=Z,27µm,20.0s
FORT Forrest 88.26 157 P **P 18 06 46.3 +0.7**
FORT Forrest 88.26 157 ⇑P **P 18 06 45.0 -0.6**
GTBY Guantanamo Bay 88.26 314 P **P 18 06 45.2 -0.2**
GTBY Guantanamo Bay 88.26 314 *e*P **P 18 06 45.8 +0.4**
GTBY Guantanamo Bay 88.26 314 ⇑P **P 18 06 46.4 +0.9**
GRTK Grand Turk 88.27 318 IAMs_20 IAMs_20 18 49 21.9
comp=Z,25µm,20.0s
GRTK Grand Turk 88.27 318 ⇑P **P 18 06 46.8 +1.3**
QMBU Quimbuelo 88.40 315 *e*P **P 18 06 47.4 +1.3**
RCC Rio Carpintero 88.55 314 *e*P **P 18 06 47.9 +1.1**
MARVS Santiago de Cu 88.63 313 *e*P **P 18 06 48.4 +1.2**
CHIV Chivirico 88.80 313 IAmb IAmb 18 06 53.3
CHIV comp=Z,905nm,1.5s IAMs_20 IAMs_20 18 50 11.0
comp=Z,11µm,20.0s
ATD Arta Tunnel 88.81 66 IAMs_20 IAMs_20 18 44 58.7
comp=Z,23µm,18.0s
ATD Arta Tunnel 88.81 66 LR LR 18 45 18.8
comp=Z,1µm,18.5s,baz=202,slow=35
ATD Arta Tunnel 88.81 66 P **P 18 06 51.9 +3.6**
SNR=27
ATD Arta Tunnel 88.81 66 ⇑P **P 18 06 51.9 +3.6**
PINC Pinares de May 89.03 314 *e*P **P 18 06 50.7 +1.7**
PILO Pilon 89.12 312 *e*P **P 18 06 50.4 +0.8**
STKA Stephens Creek 89.23 169 P **P 18 06 50.7 +0.6**
comp=Z,79nm,0.8s,baz=157,slow=5.7,SNR=46
STKA PKKPbc **PKKPdf 18 24 19.8 +2.6**
comp=Z,4.9nm,0.8s,baz=11,slow=7.2,SNR=5.2
STKA LR LR 18 45 05.4
comp=Z,40µm,20.1s,baz=191,slow=34
comp=Z,79nm,0.8s
MTO3 Montecristo 89.28 299 P **P 18 06 49.7 -0.9**
MTO3 IAmb IAmb 18 06 54.8
comp=Z,221nm,0.9s
TIO Tiouine 90.46 16 P **P 18 06 57.4 +1.7**
TVO Taravao 91.09 232 *e*P **P 18 07 00.2 +1.1**
comp=Z,306nm,1.0s
TVO Taravao 91.09 232 *e*S **S 18 17 53.9 +0.7**
comp=Z,1µm,26.9s
TVO Taravao 91.09 232 *e*LR LR 18 36 13.0
comp=Z,7µm,21.8s
TVO Taravao 91.09 232 *e*P **P 18 07 00.7 +1.6**
comp=Z,306nm,1.0s
ARMA Armidale 91.30 177 IAmb IAmb 18 07 05.7
comp=Z,272nm,1.6s
ARMA Armidale 91.30 177 ⇓P **P 18 07 00.8 +0.8**
PMOZ Porto Moniz, M 91.33 7 P **P 18 07 00.7 +1.1**
TIAR Tiarei 91.33 232 *e*P **P 18 07 01.4 +1.3**
comp=Z,53nm,0.9s
PAE Paea 91.34 232 *e*P **P 18 07 00.7 +0.6**
comp=Z,52nm,1.0s
PAE Paea 91.34 232 *e*PP **PP 18 10 34.3 -3.0**
PAE comp=Z,366nm,25.2s *e*S **S 18 17 53.3 -2.0**
comp=Z,1µm,29.3s
PAE Paea 91.34 232 *e*LR LR 18 36 19.6
comp=Z,6µm,21.7s
PAE Paea 91.34 232 *e*P **P 18 07 01.3 +1.2**
comp=Z,52nm,1.0s
PPTF Pamatai, Papee 91.40 232 P **P 18 06 59.8 -0.7**
PPTF IAmb IAmb 18 07 06.3
comp=Z,278nm,1.0s
PPTF IAMs_20 IAMs_20 18 39 07.5
comp=Z,19µm,22.0s
PPTF Pamatai, Papee 91.40 232 ⇓P **P 18 07 04.5 +4.0**
PPT2 Papeete2 91.40 232 *e*P **P 18 07 01.4 +0.9**
comp=Z,209nm,1.0s
PPT2 Papeete2 91.40 232 *e*PP **PP 18 10 37.5 -0.4**
comp=Z,2µm,27.8s
PPT2 *e*S **S 18 17 54.3 -1.7**
comp=Z,12µm,26.2s
PPT2 *e*SS **SS 18 24 02.1 +0.9**
comp=Z,7µm,26.0s
PPT2 Papeete2 91.40 232 *e*LR LR 18 36 16.3
comp=Z,26µm,22.5s
PPT2 *e*LR LR 18 36 24.5
comp=Z,31µm,22.0s
PPT Papeete 91.42 232 P **P 18 07 01.4 +0.9**
comp=Z,219nm,0.9s,baz=296,slow=5.6,SNR=14
PPT LR LR 18 39 18.6
comp=Z,18µm,21.4s,baz=170,slow=30
comp=Z,219nm,0.9s
PETF Flores 91.71 300 IAmb IAmb 18 07 06.2
comp=Z,142nm,1.2s
RAR Rarotonga 92.01 222 P **P 18 07 02.3 -0.8**
RAR IAmb IAmb 18 07 08.3
comp=Z,267nm,1.1s
RAR Rarotonga 92.01 222 LR LR 18 41 03.4
comp=Z,7µm,21.8s,baz=198,slow=31
RAR Rarotonga 92.01 222 P **P 18 07 02.3 -0.8**
RAR pmax pmax
comp=Z,267nm,1.2s
RAR MLR MLR
comp=Z,13µm,19.0s
CCIG Comitan 92.20 298 IAMs_20 IAMs_20 18 44 04.1
comp=Z,21µm,22.0s
GIRL Giralia 92.45 143 IAMs_20 IAMs_20 18 42 32.2
comp=Z,20µm,20.0s
GIRL Giralia 92.45 143 ⇓P **P 18 07 07.5 +2.2**
VAH Vaihoa 92.68 235 *e*P **P 18 07 07.0 +0.7**
comp=Z,263nm,1.0s
VAH Vaihoa 92.68 235 *e*LR LR 18 36 57.3
comp=Z,30µm,22.2s
VAH Vaihoa 92.68 235 *e*P **P 18 07 08.5 +2.2**
comp=Z,263nm,1.0s
MDT Midelt 92.71 17 P **P 18 07 07.6 +1.6**
comp=Z,21nm,0.8s,baz=192,slow=5.6,SNR=23
MDT LR LR 18 44 16.7
comp=Z,22µm,19.8s,baz=198,slow=33
comp=Z,21nm,0.8s
AVE Averroes 92.77 15 IAmb IAmb 18 07 12.6
comp=Z,638nm,1.9s
AVE Averroes 92.77 15 P **P 18 07 07.5 +1.3**
PMOR Pomariorio Ree 93.01 235 *e*P **P 18 07 08.8 +1.0**
comp=Z,188nm,1.0s
PMOR Pomariorio Ree 93.01 235 *e*PP **PP 18 10 47.0 -3.5**
comp=Z,2µm,26.5s
PMOR *e*S **S 18 18 08.4 -1.8**
comp=Z,5µm,27.1s
PMOR Pomariorio Ree 93.01 235 *e*LR LR 18 37 05.3
comp=Z,31µm,22.2s
PMOR Pomariorio Ree 93.01 235 *e*P **P 18 07 09.1 +1.3**
comp=Z,188nm,1.0s
IFR Ifrane 93.32 17 P **P 18 07 10.2 +1.3**
WRKA Warakurna 93.87 156 ⇓P **P 18 07 12.1 +0.3**
TEIG Tepich 93.91 303 P **P 18 07 11.6 -0.2**

TEIG Tepich 93.91 303 ⇑P **P 18 07 12.5 +0.8**
SOR Soroa 93.95 309 IAmb IAmb 18 07 16.4
comp=Z,107nm,0.9s
SOR IAMs_20 IAMs_20 18 49 13.7
comp=Z,19µm,22.0s
CMIG Matias Romero 94.18 296 LR LR 18 44 41.2
comp=Z,14µm,21.9s,baz=145,slow=32
QLP Quilpie 94.72 171 ⇑P **P 18 07 15.3 -0.3**
KAAM Kaadhehdhoo 94.83 97 P **P 18 07 17.0 +0.8**
TAOE Nuku Hiva Isla 94.94 244 *e*P **P 18 07 15.9 -0.9**
comp=Z,168nm,1.4s
TAOE Nuku Hiva Isla 94.94 244 *e*PP **PP 18 11 05.4 -0.5**
comp=Z,2µm,27.4s
TAOE *e*S **S 18 18 23.2 -4.2**
comp=Z,4µm,27.8s
TAOE *e*SS **SS 18 24 51.7 -0.6**
comp=Z,3µm,31.8s
TAOE *e*LQ LQ 18 34 02.5
comp=Z,14µm,33.3s
TAOE *e*LR LR 18 37 59.6
comp=Z,60µm,27.2s
PSA00 Pilbara Seismi 95.12 148 P **P 18 07 15.3 -2.2**
PSA00 Pilbara Seismi 95.12 148 IAmb IAmb 18 07 19.9
comp=Z,34nm,0.9s
WMELI Melilla 95.42 18 P P 18 07 22.5 +4.3
COCO West Island 95.44 124 IAMs_20 IAMs_20 18 41 00.1
comp=Z,19µm,21.0s
MBWA Marble Bar 95.49 148 P **P 18 07 17.0 -2.2**
MBWA IAMs_20 IAMs_20 18 44 25.5
comp=Z,27µm,22.0s
MBWA Marble Bar 95.49 148 P **P 18 07 18.9 -0.2**
MBWA S **SKSac 18 17 47.9 -3.3**
MBWA Marble Bar 95.49 148 ⇓P **P 18 07 18.8 -0.4**
ECEU Ceuta 95.61 16 P **P 18 07 21.7 +2.6**
061Z Ochoppi 95.86 312 IAMs_20 IAMs_20 18 55 07.3
comp=Z,17µm,20.0s
CNIL Conil 95.98 16 P **P 18 07 23.9 +3.2**
SFS San Fernando 96.05 15 P **P 18 07 23.1 +2.0**
ASAR Alice Springs 96.28 161 P **P 18 07 21.7 -1.1**
ASAR Alice Springs 96.28 161 P **P 18 07 22.2 -0.6**
comp=Z,49nm,0.9s,baz=187,slow=3.3,SNR=115
ASAR PP **PP 18 11 18.6 +3.0**
comp=Z,23nm,1.1s,baz=187,slow=7.5,SNR=7.2
ASAR S **SKSac 18 17 53.2 -2.2**
comp=Z,2.3nm,1.0s,baz=168,slow=7.0,SNR=4.1
ASAR PKKPbc **PKKPbc 18 24 07.7 +2.2**
comp=Z,23nm,0.6s,baz=23,slow=2.4,SNR=31
ASAR PKPPKP P'P'df 18 32 09.8 -16
comp=Z,2.9nm,0.8s,baz=51,slow=2.0,SNR=7.7
ASAR LR LR 18 50 05.7
comp=Z,35µm,18.1s,baz=190,slow=35
comp=Z,49nm,0.9s
TLIG Tlapa 96.34 293 IAMs_20 IAMs_20 18 48 17.6
comp=Z,14µm,19.0s
BBSR BB Station 96.36 327 P **P 18 07 23.3 +0.7**
BBSR IAmb IAmb 18 07 29.1
comp=Z,121nm,1.2s
BBSR BB Station 96.36 327 IAMs_20 IAMs_20 18 45 38.3
comp=Z,17µm,22.0s
BBSR BB Station 96.36 327 ⇑P **P 18 07 23.6 +1.0**
PFVI Vila Bisbo 96.37 13 P **P 18 07 26.2 +3.6**
ESPR Espera 96.50 16 P **P 18 07 25.9 +2.8**
MORF Marmelete 96.56 13 *e*P **P 18 07 23.6 +0.1**
MORF *e*PP **PP 18 11 19.1 +0.3**
MORF IAMs_20 IAMs_20 18 40 39.6
comp=Z,33µm,27.7s
MORF Marmelete 96.56 13 *e*P **P 18 07 23.6 +0.1**
MORF *e* 18 11 19.1
EMAL Malaga-Limoner 96.60 17 P **P 18 07 23.8 +0.2**
MESJ Messejana 97.14 14 *e*P **P 18 07 26.0 0.0**
MESJ *e*PP **PP 18 11 23.8 +0.6**
MESJ IAMs_20 IAMs_20 18 41 14.4
comp=Z,35µm,31.7s
MESJ Messejana 97.14 14 IAmb IAmb 18 07 32.7
comp=Z,204nm,1.8s
MESJ Messejana 97.14 14 *e*P **P 18 07 26.0 0.0**
MESJ *e* 18 11 23.8
NIUE Niue 97.26 214 IAMs_20 IAMs_20 18 47 52.2
comp=Z,14µm,20.0s
EVO Evora 97.85 14 P Pdif 18 07 31.7 +2.5
LIS Lisbon 97.90 13 *e*P **P 18 07 29.3 -0.1**
LIS *e*PP **PP 18 11 29.4 +0.4**
LIS IAMs_20 IAMs_20 18 45 25.2
comp=Z,25µm,16.7s
LIS Lisbon 97.90 13 *e*P **P 18 07 29.3 -0.1**
LIS *e* 18 11 29.4
CART Cartagena 97.97 19 IAMs_20 IAMs_20 18 47 31.1
comp=Z,21µm,21.0s
CART Cartagena 97.97 19 P Pdif 18 07 30.9 +1.1
DWPF Disney Wildern 98.08 312 IAMs_20 IAMs_20 18 51 31.0
comp=Z,27µm,22.0s
UNM Universidad Na 98.15 294 IAMs_20 IAMs_20 18 47 21.6
comp=Z,19µm,22.0s
KEST Kesra 98.36 28 P Pdif 18 07 33.1 +1.5
comp=Z,17nm,0.9s,baz=306,slow=2.2,SNR=12
KEST PP **PP 18 11 32.4 -0.3**
comp=Z,22nm,1.0s,baz=201,slow=8.5,SNR=9.6
KEST PKKPbc **PKKPbc 18 24 02.6 +1.5**
comp=Z,8.1nm,0.9s,baz=301,slow=2.7,SNR=5.9
KEST LR LR 18 46 48.0
comp=Z,13µm,21.6s,baz=215,slow=32
comp=Z,17nm,0.9s
KEST Kesra 98.36 28 P Pdif 18 07 35.0 +3.3
SNR=11
KEST S **SKSac 18 18 07.9 +2.9**
PINNC Pines Island, 98.40 192 IAMs_20 IAMs_20 18 47 21.6
comp=Z,17µm,21.0s
ONTNC Ouen Toro 98.81 191 IAmb IAmb 18 07 41.0
comp=Z,207nm,1.1s
ONTNC IAMs_20 IAMs_20 18 47 13.3
comp=Z,15µm,22.0s
ONTNC Ouen Toro 98.81 191 ⇑P Pdif 18 07 35.4 +1.2
ABTO Aybut 98.91 71 P Pdif 18 07 36.0 +1.5
SNR=6.3
ABTO S **SKSac 18 18 07.4 -1.2**
DZM Mont Dzumac 99.04 191 P **Pdif 18 07 32.8 -2.5**
DZM IAMs_20 IAMs_20 18 47 09.5
comp=Z,20µm,22.0s
DZM Mont Dzumac 99.04 191 *e*P **Pdif 18 07 35.4 +0.1**
comp=Z,173nm,1.4s
DZM Mont Dzumac 99.04 191 *e*PP **PP 18 11 35.7 -1.1**
comp=Z,2µm,25.8s
DZM *e*SKSac **SKSac 18 18 08.8 -0.8**
comp=Z,6µm,27.4s
DZM *e*SS **SS 18 25 47.0 -2.0**
comp=Z,13µm,31.2s
DZM Mont Dzumac 99.04 191 *e*LR LR 18 39 51.0
comp=Z,37µm,22.9s
DZM Mont Dzumac 99.04 191 *e*P **Pdif 18 07 36.1 +0.8**
comp=Z,178nm,1.4s
DZM Mont Dzumac 99.04 191 LR LR 18 47 53.7
comp=Z,18µm,21.8s,baz=178,slow=33
DZM Mont Dzumac 99.04 191 ⇓P **Pdif 18 07 36.2 +0.9**
MOIG Morelia 99.42 292 IAMs_20 IAMs_20 18 49 23.9
comp=Z,18µm,18.0s
RBK Rabkut 99.49 72 P **Pdif 18 07 38.6 +1.5**
RBK S **SKSac 18 18 10.4 -1.1**
ESDC Sonseca Array 99.53 17 P **Pdif 18 07 37.0 +0.3**
ESDC Sonseca Array 99.53 17 P **Pdif 18 07 37.6 +0.8**
comp=Z,3.8nm,0.9s,baz=191,slow=4.6,SNR=12
ESDC PKKPbc **PKKPbc 18 23 58.7 +0.7**
comp=Z,7.0nm,1.0s,baz=358,slow=3.1,SNR=12
ESDC LR LR 18 46 43.8
comp=Z,8µm,21.3s,baz=192,slow=32
comp=Z,3.8nm,0.9s
WHFO Wadi Hawf 99.62 72 P **Pdif 18 07 39.3 +1.6**
SNR=5.2
WHFO S **SKSac 18 18 10.2 -1.9**
MTE Manteigas 99.75 14 IAMs_20 IAMs_20 18 47 14.5
comp=Z,20µm,21.0s
FITZ Fitzroy Crossi 99.96 152 LR LR 18 51 14.1
comp=Z,19µm,19.1s,baz=203,slow=34
WRA Warramunga Arr 99.99 161 P **Pdif 18 07 38.4 -1.1**
comp=Z,9.6nm,0.8s,baz=198,slow=4.0,SNR=25
WRA PP **PP 18 11 40.8 -3.3**
comp=Z,5.8nm,0.9s,baz=192,slow=6.4,SNR=4.9
WRA PKiKP **PKiKP 18 12 06.1 -1.1**
comp=Z,7.3nm,1.1s,baz=222,slow=1.5,SNR=9.8
WRA S **SKSac 18 18 11.9 -2.3**
comp=Z,2.4nm,1.1s,baz=209,slow=6.2,SNR=5.8
WRA PKKPbc **PKKPdf 18 23 57.7 -0.8**
comp=Z,24nm,0.8s,baz=357,slow=2.8,SNR=38
WRA PKPPKP P'P'df 18 32 05.8 -13
comp=Z,3.5nm,1.0s,baz=20,slow=2.1,SNR=5.8
WRA LR LR 18 51 08.3
comp=Z,39µm,19.9s,baz=187,slow=34

comp=Z,9.6nm,0.8s
DMTO DMTO 100.04 73 P **Pdif 18 07 40.9 +1.4**
DMTO S **SKSac 18 18 12.8 -1.2**
HMDM Hanimaadhoo 100.24 94 IAMs_20 IAMs_20 18 41 56.4
comp=Z,15µm,22.0s
HMDM Hanimaadhoo 100.24 94 P **Pdif 18 07 40.6 +0.1**
DOK Doka 100.39 71 P **Pdif 18 07 42.7 +1.7**
DOK S **SKSac 18 18 13.2 -2.5**
RAYN Ar Rayn 100.44 62 P **Pdif 18 07 43.0 +1.8**
RAYN S **SKSac 18 18 17.6 +1.7**
553A Crawfordville 101.10 311 IAMs_20 IAMs_20 18 58 58.1
comp=Z,18µm,19.0s
257A Skidaway Islan 101.38 314 IAMs_20 IAMs_20 18 58 24.5
comp=Z,18µm,19.0s
MSVF Nonsavu 101.53 203 IAMs_20 IAMs_20 18 47 07.0
comp=Z,18µm,22.0s
MSVF Nonsavu 101.53 203 P **Pdif 18 07 48.0 +1.6**
comp=Z,17nm,0.8s,baz=241,slow=7.7,SNR=12
VSL Villasalto 101.94 27 IAMs_20 IAMs_20 18 50 43.1
comp=Z,21µm,19.0s
NHSC New Hope 102.08 316 IAMs_20 IAMs_20 18 59 17.0
comp=Z,15µm,19.0s
Y60A Bolivia 102.18 317 IAMs_20 IAMs_20 18 52 47.6
comp=Z,20µm,22.0s
Y58A Scranton 102.61 316 IAMs_20 IAMs_20 18 57 55.0
comp=Z,15µm,20.0s
Y57A Sumter 102.98 316 IAMs_20 IAMs_20 18 59 23.7
comp=Z,12µm,20.0s
BRAL Brewton 103.02 309 IAMs_20 IAMs_20 19 00 14.8
comp=Z,15µm,19.0s
X58A Rowland 103.08 317 IAMs_20 IAMs_20 18 57 19.3
comp=Z,17µm,20.0s
DQM DQM 103.20 74 P **Pdif 18 07 54.8 +1.3**
DQM S **SKSac 18 18 29.6 +0.5**
V61A Roper 103.23 319 IAMs_20 IAMs_20 18 58 45.3
comp=Z,13µm,20.0s
W59A Clinton 103.31 318 IAMs_20 IAMs_20 18 53 20.5
comp=Z,19µm,22.0s
250A Grady 103.41 310 IAMs_20 IAMs_20 18 55 37.3
comp=Z,15µm,21.0s
JSC Jenkinsville 103.53 315 IAMs_20 IAMs_20 18 59 52.4
comp=Z,17µm,19.0s
TIP Timpagrande 103.56 32 IAMs_20 IAMs_20 18 50 01.7
comp=Z,15µm,22.0s
TIP Timpagrande 103.56 32 ⇓P **Pdif 18 07 56.9 +2.2**
BIRD Birdtown, Kers 103.56 316 IAMs_20 IAMs_20 18 57 14.2
comp=Z,15µm,21.0s
MZR Muzera 103.78 69 P **Pdif 18 07 57.7 +1.7**
MZR S **SKSac 18 18 30.6 -1.0**
SLWR Sila 103.82 67 P **Pdif 18 07 58.2 +2.1**
SLWR S **SKSac 18 18 30.0 -1.7**
W57A Gilead 103.85 317 IAMs_20 IAMs_20 18 58 41.8
comp=Z,16µm,19.0s
SMRA Abu-Samra 103.98 66 P **Pdif 18 07 58.4 +1.6**
SMRA S **SKSac 18 18 30.3 -2.1**
V58A Windy Hill, Pi 104.11 318 IAMs_20 IAMs_20 18 53 41.7
comp=Z,18µm,22.0s
TRNA Turayna 104.16 66 P **Pdif 18 07 59.5 +1.9**
TRNA S **SKSac 18 18 31.1 -2.1**
PAULI Pauline 104.22 315 IAMs_20 IAMs_20 19 00 03.5
comp=Z,17µm,20.0s
GHWR Ruwais 104.30 68 P **Pdif 18 07 59.9 +1.6**
GHWR S **SKSac 18 18 33.3 -0.6**
MHTO MHTO 104.31 73 P **Pdif 18 07 59.2 +0.8**
MHTO S **SKSac 18 18 32.5 -1.6**
KMSC Kings Mountain 104.33 316 IAMs_20 IAMs_20 18 55 46.4
comp=Z,17µm,22.0s
MMAI Mount Meron Ar 104.33 49 Pdiff **Pdif 18 08 02.3 +4.0**
comp=Z,5.8nm,0.7s,baz=145,slow=3.1,SNR=9.0
MMAI PP **PP 18 12 16.0 -1.8**
comp=Z,9.3nm,0.9s,baz=220,slow=5.0,SNR=6.6
MMAI PKKPbc **PKKPbc 18 23 43.0 -0.5**
comp=Z,2.6nm,0.7s,baz=302,slow=5.3,SNR=4.3
UMZA Um Al Zommool 104.36 70 P **Pdif 18 07 60.0 +1.4**
UMZA S **SKSac 18 18 33.6 -0.7**
PALK Pallekele 104.57 100 IAMs_20 IAMs_20 18 44 16.7
comp=Z,16µm,21.0s
PALK Pallekele 104.57 100 S **SKSac 18 18 34.2 -1.7**
KVTX Kingsville 104.58 299 IAMs_20 IAMs_20 18 57 31.0
comp=Z,18µm,21.0s
MZWR Madinat Zayed 104.62 69 S **SKSac 18 18 35.5 +0.1**
S61A Accomac 104.64 321 IAMs_20 IAMs_20 18 53 54.6
comp=Z,16µm,21.0s
V55A Taylorsville 104.92 316 IAMs_20 IAMs_20 18 57 42.0
comp=Z,14µm,21.0s
U56A King 105.06 317 IAMs_20 IAMs_20 18 58 56.8
comp=Z,17µm,20.0s
R61A Willards 105.12 321 IAMs_20 IAMs_20 18 53 35.3
comp=Z,15µm,22.0s
146A Union 105.12 308 IAMs_20 IAMs_20 19 01 54.5
comp=Z,14µm,20.0s
X51A Calhoun 105.14 313 IAMs_20 IAMs_20 18 56 31.0
comp=Z,21µm,21.0s
Z47A Carrollton 105.21 310 IAMs_20 IAMs_20 18 55 47.8
comp=Z,14µm,22.0s
441A DeRidder 105.23 304 IAMs_20 IAMs_20 18 55 40.3
comp=Z,14µm,22.0s
W52A Murphy 105.25 314 IAMs_20 IAMs_20 18 55 22.9
comp=Z,14µm,22.0s
V53A Saluda 105.34 315 IAMs_20 IAMs_20 19 00 58.3
comp=Z,14µm,19.0s
FPAL Fort Paine 105.41 312 IAMs_20 IAMs_20 18 55 19.1
comp=Z,19µm,22.0s
MALK Mahakanadarawa 105.44 99 PKP **PKiKP 18 12 20.3 +3.2**
JAGI Jajag, Banyuwa 105.66 138 IAMs_20 IAMs_20 18 47 22.2
comp=Z,15µm,21.0s
CBN Corbin Frederi 105.68 320 IAMs_20 IAMs_20 18 57 32.2
comp=Z,14µm,20.0s
U54A Nelsons Funny 105.73 316 IAMs_20 IAMs_20 19 00 40.7
comp=Z,15µm,20.0s
S57A Dark Hollow, R 105.82 319 IAMs_20 IAMs_20 18 58 20.0
comp=Z,15µm,21.0s
BLA Blacksburg 105.84 317 IAMs_20 IAMs_20 18 57 32.6
comp=Z,14µm,22.0s
W50A Signal Mountai 105.88 313 IAMs_20 IAMs_20 18 57 13.5
comp=Z,20µm,21.0s
SWET Sewanee 106.13 312 IAMs_20 IAMs_20 18 55 50.2
comp=Z,20µm,22.0s
P61A Hammonton 106.16 322 IAMs_20 IAMs_20 18 55 00.9
comp=Z,16µm,21.0s
TZTN Tazewell 106.39 315 IAMs_20 IAMs_20 18 54 16.1
comp=Z,16µm,22.0s
SSB Saint Sauveur 106.44 22 IAMs_20 IAMs_20 18 50 30.2
comp=Z,23µm,22.0s
TIR Tirane 106.46 34 IAMs_20 IAMs_20 18 55 30.4
comp=Z,13µm,20.0s
M65A Busby, Falmout 106.62 326 IAMs_20 IAMs_20 18 53 24.0
comp=Z,22µm,21.0s
M65A Busby, Falmout 106.62 326 PKPdf **PKiKP 18 12 20.0 +1.7**
baz=157
R55A Marlinton 106.69 318 IAMs_20 IAMs_20 18 54 36.2
comp=Z,14µm,22.0s
M63A Gales Ferry 106.89 325 IAMs_20 IAMs_20 18 55 17.3
comp=Z,18µm,21.0s
N62A Caumsett State 106.89 324 IAMs_20 IAMs_20 18 52 28.3
comp=Z,19µm,22.0s
MVL Millersville 106.96 321 IAMs_20 IAMs_20 18 54 06.1
comp=Z,20µm,22.0s
P57A Homestead Farm 107.05 320 IAMs_20 IAMs_20 18 58 12.4
comp=Z,16µm,21.0s
Q56A Snyder Ridge, 107.05 319 IAMs_20 IAMs_20 19 01 09.5
comp=Z,12µm,20.0s
PAL Palisades 107.10 324 IAMs_20 IAMs_20 18 52 24.7
comp=Z,18µm,22.0s
SLBS Sierra La Lagu 107.11 287 IAMs_20 IAMs_20 18 54 05.7
comp=Z,15µm,18.0s
PMBI Palembang 107.13 127 IAMs_20 IAMs_20 18 51 30.6
comp=Z,14µm,19.0s
LUPA Lehigh Univers 107.19 322 IAMs_20 IAMs_20 18 54 58.1
comp=Z,19µm,21.0s
T50A Nancy 107.30 314 IAMs_20 IAMs_20 18 57 02.1
comp=Z,13µm,21.0s
UCCT U. Connecticut 107.30 325 IAMs_20 IAMs_20 18 54 50.1
comp=Z,20µm,21.0s
TRNY Table Rock, Ra 107.32 323 IAMs_20 IAMs_20 18 53 05.6
comp=Z,22µm,22.0s
CCAR Cane Creek 107.36 307 IAMs_20 IAMs_20 18 59 51.6
comp=Z,13µm,20.0s
S51A Beattyville 107.38 315 IAMs_20 IAMs_20 19 02 31.2
comp=Z,17µm,19.0s
BCX Boston College 107.49 326 IAMs_20 IAMs_20 18 54 10.0
comp=Z,20µm,22.0s
WES Weston 107.58 326 IAMs_20 IAMs_20 18 54 12.4
comp=Z,20µm,21.0s
HAL Halifax 107.61 332 IAMs_20 IAMs_20 18 50 49.9
comp=Z,17µm,22.0s
MET Memphis--Engin 107.64 309 IAMs_20 IAMs_20 18 57 10.1

comp=Z,16µm,22.0s
HDBT Hernando Brdge 107.72 309 IAMs_20 IAMs_20 18 56 38.2
comp=Z,17µm,22.0s
GSI Gunungsitoli 107.73 118 IAMs_20 IAMs_20 18 46 18.3
comp=Z,20µm,22.0s
MMB Musomishta 107.81 37 P **PP 18 12 41.5 -1.8**
MCWV Mont Chateau 107.83 319 IAMs_20 IAMs_20 19 01 42.1
comp=Z,12µm,20.0s
GBN Guysborough 107.84 334 IAMs_20 IAMs_20 18 57 07.1
comp=Z,16µm,20.0s
KKB Krupnik 107.89 36 P **PP 18 12 42.9 -0.9**
L61B Northampton 108.04 325 IAMs_20 IAMs_20 18 55 10.6
comp=Z,18µm,21.0s
SSPA Standing Stone 108.04 321 IAMs_20 IAMs_20 18 55 24.7
comp=Z,15µm,22.0s
SSFO Shawnee State 108.16 316 IAMs_20 IAMs_20 18 55 36.0
comp=Z,13µm,21.0s
KSPA Keystone Colle 108.18 323 IAMs_20 IAMs_20 18 54 43.4
comp=Z,20µm,22.0s
P53A Whipple 108.22 318 IAMs_20 IAMs_20 18 54 04.4
comp=Z,15µm,22.0s
R50A Paris 108.22 315 IAMs_20 IAMs_20 18 59 29.4
comp=Z,20µm,20.0s
RZN Rozhen 108.26 37 P **PP 18 12 44.2 -2.5**
HBAR Harrisburg 108.31 309 IAMs_20 IAMs_20 18 57 55.9
comp=Z,14µm,22.0s
GNAR Gosnell 108.40 309 IAMs_20 IAMs_20 18 57 13.4
comp=Z,21µm,22.0s
M57A Sunshine Farm, 108.42 321 IAMs_20 IAMs_20 18 55 45.8
comp=Z,17µm,22.0s
PEBM Pemiscott Bayo 108.47 310 IAMs_20 IAMs_20 18 57 26.1
comp=Z,22µm,22.0s
O54A Avella 108.48 319 IAMs_20 IAMs_20 18 59 38.4
comp=Z,15µm,22.0s
Q51A Peebles 108.51 316 IAMs_20 IAMs_20 18 56 28.2
comp=Z,13µm,22.0s
L59A Walton 108.53 323 IAMs_20 IAMs_20 18 53 52.5
comp=Z,20µm,22.0s
PLNA Plana 108.56 36 P **PP 18 12 48.1 -0.7**
TUE Stuetta 108.57 25 IAMs_20 IAMs_20 18 53 32.4
comp=Z,17µm,21.0s
TRY Troy 108.59 325 IAMs_20 IAMs_20 18 52 53.3
comp=Z,19µm,22.0s
P52A Corning 108.61 317 IAMs_20 IAMs_20 18 57 38.8
comp=Z,21µm,22.0s
VTS Vitosha 108.63 36 P **PP 18 12 47.6 -1.8**
MIAR Mount Ida 108.65 306 IAMs_20 IAMs_20 18 57 50.0
comp=Z,13µm,22.0s
CLF Chambon-Foret 108.67 19 IAMs_20 IAMs_20 18 52 59.4
comp=Z,14µm,20.0s
PLD Plovdiv 108.67 37 P **PP 18 12 46.8 -2.7**
GAZ Gaziantep 108.68 49 IAMs_20 IAMs_20 18 55 24.7
comp=Z,13µm,21.0s
TXAR Lajitas Array 108.78 295 Pdiff **Pdif 18 08 17.0 -1.3**
comp=Z,2.0nm,1.0s,baz=137,slow=6.2,SNR=10
TXAR PKiKP **PKiKP 18 12 23.8 +0.8**
comp=Z,13nm,0.9s,baz=156,slow=4.3,SNR=13
TXAR PP **PP 18 12 50.9 +0.3**
comp=Z,3.4nm,0.8s,baz=170,slow=7.6,SNR=6.2
TXAR PKKPbc **PKKPbc 18 23 31.3 +1.7**
comp=Z,2.3nm,0.8s,baz=285,slow=1.8,SNR=2.5
J61A Chester 108.82 326 IAMs_20 IAMs_20 18 55 22.3
comp=Z,20µm,22.0s
PGB Panagyurishte 108.82 37 P **PP 18 12 47.9 -2.7**
O53A New Philadelph 108.83 318 IAMs_20 IAMs_20 19 01 00.6
comp=Z,14µm,20.0s
BINY Binghamton 108.83 323 IAMs_20 IAMs_20 18 55 02.6
comp=Z,22µm,22.0s
GGN Saint George 108.87 330 IAMs_20 IAMs_20 18 54 06.5
comp=Z,19µm,21.0s
I63A Otisfield 108.90 327 IAMs_20 IAMs_20 18 53 34.2
comp=Z,17µm,22.0s
WCI Wyandotte Cave 108.91 313 IAMs_20 IAMs_20 19 00 38.7
comp=Z,14µm,20.0s
O52A Adamsville 108.93 318 IAMs_20 IAMs_20 18 59 52.3
comp=Z,17µm,22.0s
I62A Tamworth 108.95 327 IAMs_20 IAMs_20 18 54 29.7
comp=Z,21µm,21.0s
LMN Caledonia Moun 109.04 332 IAMs_20 IAMs_20 18 54 54.0
comp=Z,18µm,21.0s
BOJS Bojanci 109.05 29 *e*Pdiff **Pdif 18 08 22.9 +4.0**
BOJS *e* 18 08 46.4
BOJS *e*PP **PP 18 12 51.5 -0.7**
BOJS *e* 18 18 54.2
BOJS *e* 18 20 53.0
WVL Waterville 109.11 328 IAMs_20 IAMs_20 18 56 10.9
comp=Z,17µm,20.0s
G65A Princeton 109.14 330 IAMs_20 IAMs_20 18 54 34.5
comp=Z,20µm,21.0s
KIRS Kirsehir-Merke 109.14 45 ⇑P **PKiKP 18 12 22.0 -1.3**
ACCN Adirondack Com 109.19 325 IAMs_20 IAMs_20 18 53 21.0
comp=Z,18µm,22.0s
L56A Greenwood 109.28 322 IAMs_20 IAMs_20 18 55 12.5
comp=Z,18µm,22.0s
LJU Ljubljana 109.37 28 *e*Pdiff **Pdif 18 08 22.2 +1.9**
LJU *i* PKiKP **PKiKP 18 12 25.9 +2.5**
LJU *i* PP **PP 18 12 53.3 -1.2**
LJU *e* 18 19 49.9
LJU *e* 18 20 57.0
LJU *e*PKiKP **SP 18 22 17.6 +1.9**
LJU *i* PKKPbc **PKKPab 18 23 33.4 -4.2**
LJU *e*SS **SS 18 28 11.8 -0.6**
LJU *e*P'P'df P'P'df 18 31 58.4 +5.0
FETA Feichten 109.39 25 *e*Pdiff **Pdif 18 08 15.4 -5.2**
comp=Z,2.0nm,0.8s
FETA *e*PKiKP PKiKP 18 12 15.2 -8.4
comp=Z,10nm,1.2s
FETA *es*PKiKP **PP 18 12 52.3 -2.6**
comp=Z,18nm,1.2s
FETA *e*PKKP **PKKPbc 18 23 30.1 +1.8**
comp=Z,7.3nm,1.1s,SNR=4.8
ACSO Alum Creek Sta 109.44 317 IAMs_20 IAMs_20 18 58 13.8
comp=Z,14µm,21.0s
DAVA Damuels 109.45 25 *e*Pdiff **Pdif 18 08 13.2 -7.7**
comp=Z,2.8nm,0.8s
DAVA *e*PKiKP **PKiKP 18 12 16.1 -7.6**
comp=Z,9.7nm,0.9s
DAVA *es*PKiKP **PP 18 12 51.4 -3.9**
comp=Z,28nm,1.2s
DAVA *i* PKKP **PKKPbc 18 23 29.5 +1.3**
comp=Z,14nm,0.8s
MPEP Malo Peshtene 109.45 36 P **PP 18 12 52.8 -2.4**
K57A Scipio Center 109.48 323 IAMs_20 IAMs_20 18 55 43.8
comp=Z,19µm,22.0s
J59A Piesco 109.52 324 IAMs_20 IAMs_20 18 53 55.7
comp=Z,21µm,22.0s
H62A Milan 109.54 327 IAMs_20 IAMs_20 18 54 05.3
comp=Z,19µm,22.0s
ABTA Abfaltersbach 109.54 27 *e*Pdiff **Pdif 18 08 13.8 -7.4**
comp=Z,3.2nm,0.9s
ABTA *es*PKiKP **PP 18 12 55.4 -0.5**
comp=Z,44nm,1.8s
ABTA *e*PKKP **PKKPbc 18 23 28.4 +0.7**
comp=Z,5.3nm,0.9s
BRTR Keskin Array B 109.56 45 Pdiff **Pdif 18 08 23.2 +1.7**
comp=Z,2.2nm,0.7s,baz=193,slow=7.1,SNR=8.5
BRTR PKiKP **PKiKP 18 12 24.1 -0.1**
comp=Z,2.3nm,0.7s,baz=188,slow=3.9,SNR=6.0
BRTR PP **PP 18 12 52.9 -3.2**
comp=Z,9.2nm,0.9s,baz=184,slow=7.6,SNR=8.1
BRTR PKKPbc **PKKPbc 18 23 30.0 +2.5**
comp=Z,18nm,0.8s,baz=96,slow=2.8,SNR=22
P48A Milroy 109.66 315 IAMs_20 IAMs_20 18 59 49.6
comp=Z,17µm,22.0s
VALD Valchedram 109.66 35 P **PP 18 12 53.5 -3.1**
CCA1 Carnmenellis 109.67 14 IAMs_20 IAMs_20 18 50 54.8
comp=Z,14µm,22.0s
SQTA Sankt Quirin 109.69 26 *e*Pdiff **Pdif 18 08 11.5 -10**
comp=Z,1.6nm,0.7s
SQTA *e*PKiKP PKiKP 18 12 14.2 -10
comp=Z,6.5nm,0.7s
SQTA *es*PKiKP **PP 18 12 53.0 -4.0**
comp=Z,33nm,1.3s
SQTA *e*PKKP **PKKPbc 18 23 30.0 +2.7**
comp=Z,8.8nm,0.9s
PVL Pavlikeni 109.69 37 P **PP 18 12 54.3 -2.6**
MYKA Terra Mystica 109.70 27 *e*PKiKP PKiKP 18 12 15.2 -8.9
comp=Z,3.0nm,0.7s
MYKA *es*PKiKP **PP 18 12 55.6 -1.4**
comp=Z,19nm,1.5s
MYKA *e*PKKP **PKKPbc 18 23 28.5 +1.3**
comp=Z,5.7nm,0.9s
ALLY Alegheny Colle 109.71 319 IAMs_20 IAMs_20 18 57 14.8
comp=Z,17µm,22.0s
T42A Van Buren 109.76 309 IAMs_20 IAMs_20 18 57 55.2
comp=Z,19µm,22.0s
ECH Echery 109.77 23 IAMs_20 IAMs_20 18 54 32.3
comp=Z,17µm,20.0s
VT1 Waterbury 109.78 326 IAMs_20 IAMs_20 18 55 39.4
comp=Z,21µm,22.0s
MOTA Moosalm 109.78 25 *e*Pdiff **Pdif 18 08 15.1 -7.2**
comp=Z,2.5nm,0.9s
MOTA *es*PKiKP **PP 18 12 55.0 -2.7**
comp=Z,75nm,1.7s
MOTA *e*PKKP **PKKPbc 18 23 29.6 +2.6**
comp=Z,8.0nm,0.7s
OBKA Obir 109.81 28 *e*Pdiff **Pdif 18 08 15.0 -7.3**
comp=Z,4.9nm,1.3s
OBKA *e*PKiKP PKiKP 18 12 14.7 -10
comp=Z,8.2nm,1.1s
OBKA *es*PKiKP **PP 18 12 57.0 -0.9**
comp=Z,34nm,1.9s
OBKA *e*PKKP **PKKPbc 18 23 28.3 +1.4**
comp=Z,9.1nm,1.7s
WTTA Wattenberg 109.83 26 *e*Pdiff **Pdif 18 08 14.1 -8.4**
comp=Z,2.8nm,0.7s
WTTA *e*PKiKP PKiKP 18 12 14.5 -10
comp=Z,16nm,1.3s
WTTA *es*PKiKP **PP 18 12 55.4 -2.6**
comp=Z,55nm,1.2s
WTTA *e*PKKP **PKKPbc 18 23 28.7 +1.8**
comp=Z,3.4nm,0.5s
N51A Ashland 109.83 318 IAMs_20 IAMs_20 18 55 02.2
comp=Z,15µm,21.0s
RETA Reutte 109.84 25 *e*Pdiff **Pdif 18 08 15.9 -6.5**
comp=Z,7.3nm,1.5s
RETA *e*PKiKP **PKiKP 18 12 16.8 -7.5**
comp=Z,14nm,1.4s
RETA *es*PKiKP **PP 18 12 54.0 -4.0**
comp=Z,41nm,1.9s
RETA *e*PKKP **PKKPbc 18 23 28.4 +1.7**
comp=Z,8.8nm,0.8s
UBR Ueberruh 109.88 25 *e*PS 18 22 19.3
baz=199,slow=10
WATA Walderalm 109.88 26 *e*Pdiff **Pdif 18 08 14.2 -8.5**
comp=Z,2.6nm,0.8s
WATA *e*PKiKP PKiKP 18 12 14.5 -10
comp=Z,17nm,1.3s
WATA *es*PKiKP **PP 18 12 54.9 -3.5**
comp=Z,120nm,2.1s
WATA *e*PKKP **PKKPbc 18 23 29.4 +2.6**
comp=Z,8.2nm,0.8s
NCB Newcomb 109.89 325 IAMs_20 IAMs_20 18 56 29.6
comp=Z,15µm,20.0s
O49A Covington 109.89 316 IAMs_20 IAMs_20 19 03 28.8
comp=Z,11µm,19.0s
J57A Williamstown 109.93 323 IAMs_20 IAMs_20 18 57 06.6
comp=Z,16µm,22.0s
G62A West of Eustis 109.96 328 IAMs_20 IAMs_20 18 56 48.3
comp=Z,16µm,20.0s
F64A Sherman 109.96 330 IAMs_20 IAMs_20 18 55 10.3
comp=Z,18µm,21.0s
OLIL Olney 110.04 312 IAMs_20 IAMs_20 19 02 17.7
comp=Z,11µm,19.0s
KBA Koelnbreinsper 110.05 27 *e*Pdiff **Pdif 18 08 16.9 -6.7**
comp=Z,3.1nm,0.9s
KBA *e*PKiKP PKiKP 18 12 15.6 -9.3
comp=Z,13nm,1.6s
KBA *es*PKiKP **PP 18 12 58.5 -1.1**
comp=Z,21nm,1.1s
KBA *e*PKKP **PKKPbc 18 23 25.4 -0.8**
comp=Z,6.8nm,1.2s
ERPA Erie 110.07 320 IAMs_20 IAMs_20 19 00 46.4
comp=Z,15µm,22.0s
PERS Pernice 110.07 28 *e*Pdiff **Pdif 18 08 24.6 +1.2**
PERS *e*PKiKP **PKiKP 18 12 26.9 +2.1**
PERS *e*PP **PP 18 12 59.2 -0.5**
PERS *e* 18 18 59.0
PERS *e*SP SP 18 22 26.1 +3.4
PERS *i* PKKPbc **PKKPab 18 23 31.1 -3.5**
PERS *i* PKKPab **PKKPdf 18 23 41.5 -1.6**
PERS *e*P'P'df P'P'df 18 31 56.4 +4.2
DYA Yadsworthy 110.08 14 IAMs_20 IAMs_20 18 51 43.9
comp=Z,18µm,21.5s
SOKA Soboth 110.09 28 *e*Pdiff **Pdif 18 08 16.3 -7.3**
comp=Z,5.6nm,1.3s
SOKA *e*PKiKP PKiKP 18 12 15.2 -10
comp=Z,22nm,1.5s
SOKA *es*PKiKP **PP 18 12 58.4 -1.4**
comp=Z,64nm,1.6s
SOKA *e*PKKP **PKKPbc 18 23 25.8 -0.1**
comp=Z,5.8nm,0.8s
BFO Black Forest 110.11 23 *e*PS 18 22 18.2
baz=199,slow=10
MDVR Moldovita 110.14 34 ⇑P **Pdif 18 08 32.7 +8.9**
MDVR Moldovita 110.14 34 ⇓P PKiKP 18 12 49.5 +25
LESA Schwarzleotal 110.22 27 *e*Pdiff **Pdif 18 08 15.0 -9.1**
comp=Z,5.5nm,1.1s
LESA *es*PKiKP **PP 18 12 58.3 -2.5**
comp=Z,52nm,2.0s
LESA *e*PKKP **PKKPbc 18 23 27.3 +1.7**
comp=Z,7.7nm,1.0s
O48B Farmland 110.25 315 IAMs_20 IAMs_20 19 03 50.4
comp=Z,16µm,20.0s
HHAR Hobbs 110.29 307 IAMs_20 IAMs_20 18 59 11.4
comp=Z,16µm,22.0s
MGMO Mountain Grove 110.34 308 IAMs_20 IAMs_20 18 58 32.7
comp=Z,15µm,22.0s
J55A Hilton 110.38 322 IAMs_20 IAMs_20 18 56 16.6
comp=Z,18µm,22.0s
PRD Provadia 110.44 38 P **PP 18 13 00.1 -2.2**
HERR Herculane 110.44 34 ⇓P **Pdif 18 08 30.2 +5.2**
HERR Herculane 110.44 34 ⇓P **PKiKP 18 12 26.0 +0.5**
N49A Columbus Grove 110.48 316 IAMs_20 IAMs_20 18 56 31.4
comp=Z,16µm,22.0s
FRNY Flat Rock 110.48 326 IAMs_20 IAMs_20 18 55 22.3
comp=Z,19µm,21.0s
MEDO Medina 110.50 321 IAMs_20 IAMs_20 18 56 11.6
comp=Z,18µm,22.0s
M50A Fremont 110.50 317 IAMs_20 IAMs_20 18 55 42.7
comp=Z,15µm,22.0s
RJOB Jochberg 110.54 26 *e*PS 18 22 24.8
baz=199,slow=10
Q44A Meyer Farm, Va 110.55 312 IAMs_20 IAMs_20 18 58 04.1
comp=Z,15µm,22.0s
LONY Lake Ozonia 110.59 325 IAMs_20 IAMs_20 18 58 21.0
comp=Z,15µm,20.0s
FUR Furstenfeldbru 110.59 25 *e*PS 18 22 23.9
baz=199,slow=10
MORH Mrgy, Hungar 110.60 31 ⇓P **Pdif 18 08 31.5 +5.8**
BATG Bathurst New B 110.68 332 IAMs_20 IAMs_20 18 54 29.3
comp=Z,18µm,22.0s
BIOA Bad Ischl, Aus 110.69 27 *e*PKiKP PKiKP 18 12 16.3 -10
comp=Z,6.7nm,0.7s
BIOA *es*PKiKP **PP 18 13 02.1 -2.0**
comp=Z,52nm,1.5s
BIOA *e*PKKP **PKKPbc 18 23 26.7 +2.8**
comp=Z,4.3nm,0.8s
PECO Prince Edward 110.71 323 IAMs_20 IAMs_20 18 58 03.4
comp=Z,17µm,21.0s
STU Stuttgart 110.71 24 *e*PS 18 22 26.4
baz=199,slow=10
STU Stuttgart 110.72 24 IAMs_20 IAMs_20 18 54 35.4
comp=Z,16µm,20.0s
ARSA Arzberg 110.74 29 *e*Pdiff **Pdif 18 08 20.5 -5.9**
comp=Z,2.5nm,0.6s
ARSA *e*PKiKP PKiKP 18 12 16.6 -9.3
comp=Z,5.0nm,0.8s
ARSA *es*PKiKP **PP 18 13 03.4 -1.0**
comp=Z,50nm,1.4s
ARSA *e*PKKP **PKKPbc 18 23 22.8 -1.0**
comp=Z,7.4nm,1.1s
ILGA Ilgaz 110.75 44 IAMs_20 IAMs_20 18 58 29.6
comp=Z,13µm,20.0s
TUL3 Leonard 110.76 305 IAMs_20 IAMs_20 18 59 40.8
comp=Z,13µm,22.0s
BZS Buzias 110.88 33 ⇓P **Pdif 18 08 34.9 +7.9**
BZS Buzias 110.88 33 ⇓P **PKiKP 18 12 26.8 +0.6**
BZS Buzias 110.88 33 ⇓PKiKP **PKiKP 18 12 26.8 +0.6**
WLF Walferdange 110.95 21 *e*PS 18 22 29.5
baz=199,slow=10
WLF Walferdange 110.95 21 IAMs_20 IAMs_20 18 53 14.8
comp=Z,15µm,22.0s
WLF Walferdange 110.95 21 PP **PP 18 13 02.4 -3.5**
WLF Walferdange 110.95 21 *d*PKiKP **PKiKP 18 12 28.5 +2.3**
E62A Clayton Lake 110.97 329 IAMs_20 IAMs_20 18 56 03.1
comp=Z,16µm,21.0s
MOA Molln 110.99 27 *e*Pdiff **Pdif 18 08 20.6 -6.9**
comp=Z,7.9nm,0.8s
MOA *e*PKiKP PKiKP 18 12 17.7 -8.8
comp=Z,6.2nm,0.8s
MOA *es*PKiKP **PP 18 13 04.0 -2.2**
comp=Z,34nm,1.2s
MOA *e*PKKP **PKKPbc 18 23 25.5 +2.6**
comp=Z,4.9nm,0.6s,SNR=9.2
N47A Urbana 111.00 315 IAMs_20 IAMs_20 19 04 13.1
comp=Z,15µm,19.0s
DEOK Depew 111.01 305 IAMs_20 IAMs_20 18 59 38.3
comp=Z,14µm,22.0s
OKCSW OKLAHOMA CITY 111.05 304 IAMs_20 IAMs_20 19 08 49.3
comp=Z,15µm,22.0s
DOU Dourbes 111.08 20 *d*PKiKP **PKiKP 18 12 27.4 +1.0**
DOU *d*PP **PP 18 13 05.6 -1.1**
SFIN Lafayette 111.09 314 IAMs_20 IAMs_20 18 59 55.4
comp=Z,12µm,22.0s
MNTQ Montreal, Queb 111.10 326 IAMs_20 IAMs_20 18 55 28.6
comp=Z,22µm,22.0s
HMNX Herstmonceux 111.11 17 IAMs_20 IAMs_20 18 54 03.9
comp=Z,35µm,21.4s
WBO Williamsburg 111.14 324 IAMs_20 IAMs_20 18 56 56.7
comp=Z,17µm,21.0s
SURR Surduc 111.15 34 ⇑P **PKiKP 18 12 26.9 +0.2**
S39A Bolivar 111.23 308 IAMs_20 IAMs_20 18 59 38.4
comp=Z,16µm,22.0s
OK031 S. Brethren Rd 111.25 304 IAMs_20 IAMs_20 19 00 05.7
comp=Z,14µm,21.0s
OK052 Battle Ridge R 111.27 304 IAMs_20 IAMs_20 19 00 05.2
comp=Z,15µm,22.0s
D62A Allapoint, All 111.27 330 IAMs_20 IAMs_20 18 55 60.0
comp=Z,16µm,20.0s
BMRD Maredsous 111.31 20 *d*PKiKP **PKiKP 18 12 25.6 -1.3**
BMRD *d*PP **PP 18 13 06.9 -1.6**
RONA Rosalia, Austr 111.36 29 *e*Pdiff **Pdif 18 08 21.2 -7.9**
comp=Z,3.3nm,0.7s
RONA *e*PKiKP PKiKP 18 12 17.7 -9.4
comp=Z,2.3nm,0.6s
RONA *es*PKiKP **PP 18 13 04.6 -4.3**
comp=Z,64nm,1.6s
RONA *e*PKKP **PKKPbc 18 23 22.5 +0.7**
comp=Z,6.1nm,1.0s
LOT Lotru 111.36 35 ⇑P **PKiKP 18 12 26.0 -1.3**
P43A Skaggs, Pawnee 111.38 312 IAMs_20 IAMs_20 18 58 17.1
comp=Z,13µm,22.0s
OK029 Liberty Lake 111.38 304 IAMs_20 IAMs_20 18 59 56.3
comp=Z,15µm,22.0s
DELO Deloro Mine 111.44 323 IAMs_20 IAMs_20 18 59 57.5
comp=Z,15µm,20.0s
BGES Gesves 111.45 20 *d*PKiKP **PKiKP 18 12 29.8 +2.7**
BGES *d*PP **PP 18 13 07.2 -2.2**
CONA Conrad Observa 111.46 28 *e*Pdiff **Pdif 18 08 22.3 -7.3**
comp=Z,3.9nm,0.9s
CONA *e*PKiKP PKiKP 18 12 18.0 -9.4
comp=Z,17nm,1.8s
CONA *es*PKiKP **PP 18 13 07.9 -1.8**
comp=Z,67nm,1.7s
CONA *e*PKKP **PKKPbc 18 23 23.2 +1.7**
comp=Z,6.9nm,0.7s
AAM Ann Arbor 111.50 317 IAMs_20 IAMs_20 18 59 29.4
comp=Z,21µm,22.0s
ELSH Elham, Standar 111.51 18 IAMs_20 IAMs_20 18 51 53.5
comp=Z,19µm,23.1s
BCLA Clavier 111.52 21 *d*PKiKP **PKiKP 18 12 29.5 +2.3**
BCLA *d*PP **PP 18 13 08.2 -1.7**
K50A Casco 111.56 318 IAMs_20 IAMs_20 18 59 23.8
comp=Z,13µm,22.0s
MNTX Cornudas Mount 111.56 296 IAMs_20 IAMs_20 18 57 42.0
comp=Z,13µm,19.0s
BHOU Houvegnez 111.59 21 *d*PP **PP 18 13 10.1 -0.3**
UCC Uccle 111.71 20 *d*PKiKP **PKiKP 18 12 30.7 +3.1**
VOIR 111.74 36 ⇑P **Pdif 18 08 38.9 +8.0**
VOIR 111.74 36 ⇑P **PKiKP 18 12 26.5 -1.5**
VOIR 111.74 36 ⇑PKIKP **PKiKP 18 12 26.5 -1.5**
GEC2 GERESS Array S 111.79 27 *e*PS 18 22 35.4
baz=199,slow=10
GERES GERESS Array B 111.79 27 Pdiff **Pdif 18 08 34.0 +2.9**
comp=Z,1.0nm,0.9s,baz=184,slow=4.0,SNR=4.6
GERES PKiKP **PKiKP 18 12 27.5 -0.5**
comp=Z,7.0nm,0.9s,baz=197,slow=3.6,SNR=13
GERES PP **PP 18 13 11.2 -0.8**
comp=Z,7.6nm,0.8s,baz=201,slow=7.0,SNR=10
GERES PKKPbc **PKKPbc 18 23 20.4 0.0**
comp=Z,1.2nm,0.7s,baz=1.4,slow=5.6,SNR=3.7
MEM Membach 111.83 21 *d*PP **PP 18 13 10.9 -1.3**
BTNL Ternell 111.83 21 *d*PP **PP 18 13 12.3 +0.1**
WET Wettzell 111.88 26 *e*PS 18 22 40.3
baz=199,slow=10
CKRC Cesky Krumlov 111.91 27 *e*PDIFF **Pdif 18 08 33.3 +1.8**
CKRC *e*PKP **PKiKP 18 12 27.9 -0.2**
CKRC AMS AMS 18 54 10.0
comp=Z,18µm,21.6s
CKRC Cesky Krumlov 111.91 27 *i* P **Pdif 18 08 33.3 +1.8**
CKRC *e* 18 12 27.9
CKRC MLR MLR
comp=Z,18µm,21.6s
TIRR Tirgusor 111.92 39 ⇑P **PKiKP 18 12 27.9 -0.3**
TNS Taunus Mts 111.94 23 *e*PS 18 22 40.3
baz=199,slow=10
PMG Port Moresby 111.97 172 PKiKP **PKiKP 18 12 29.5 +0.1**
comp=Z,30nm,1.0s,baz=187,slow=14,SNR=5.8
HYB Hyderabad 111.98 93 *e*Pdif **Pdif 18 08 32.9 +0.2**
HYB *e*PKiKP **PKiKP 18 12 29.1 -0.2**
HYB *e*PP **PP 18 13 13.5 0.0**
HYB *e*SKKSac SKKSac 18 20 09.8 -1.7
HYB *e* 18 20 26.9
HYB *e*SP **SP 18 22 40.8 -0.4**
HYB *e*SS **SS 18 28 47.0 -0.4**
HYB IVMs_BB IVMs_BB 18 47 07.3
comp=Z,5µm,28.2s
GRF Grafenberg Arr 112.02 25 *e*Pdiff 18 08 34.8
baz=196,slow=5.2
GRF *e*PP 18 13 02.3
baz=200,slow=7.4
GRF *e*PS 18 22 41.4
baz=199,slow=10
GRF *e*PKKP 18 23 21.9
baz=199,slow=10
GRF *e*L 18 55 14.5
comp=Z,11µm,20.4s
GRFO Grafenberg 112.02 25 IAMs_20 IAMs_20 18 55 33.8
comp=Z,11µm,20.0s
GRA1 Grafenberg Arr 112.02 25 IAMs_20 IAMs_20 18 55 33.9
comp=Z,11µm,20.0s
KHC Kasperske Hory 112.03 26 *e*PDIFF **Pdif 18 08 33.2 +1.1**
KHC *e*PKP **PKiKP 18 12 28.1 -0.3**
KHC *e*SP SP 18 22 37.6 -2.9
KHC *e*PKKP **PKKPbc 18 23 21.6 +2.0**
KHC *e*PKKS 18 27 21.5
KHC AMS AMS 18 53 50.0
comp=Z,13µm,22.1s
KHC Kasperske Hory 112.03 26 *i* P **Pdif 18 08 33.2 +1.1**
KHC *e* 18 12 28.1
KHC *e*SP SP 18 22 37.6 -2.9
KHC MLR MLR
comp=Z,13µm,22.1s
TRQ Mont Tremblant 112.03 326 IAMs_20 IAMs_20 18 56 08.0
comp=Z,20µm,22.0s
LMQ La Malbaie 112.04 329 IAMs_20 IAMs_20 18 56 38.4
comp=Z,15µm,21.0s
MLR Muntele Rosu 112.06 36 ⇓P **Pdif 18 08 36.7 +4.3**
MLR Muntele Rosu 112.06 36 ⇓P **PKiKP 18 12 27.3 -1.4**
MLR Muntele Rosu 112.06 36 ⇓P **Pdif 18 08 36.7 +4.3**
HNR Honiara 112.07 186 IAMs_20 IAMs_20 19 01 01.3
comp=Z,14µm,19.0s
HDIL Hopedale 112.08 312 IAMs_20 IAMs_20 18 59 01.7
comp=Z,15µm,22.0s
NEHR Nehoiu 112.11 37 ⇑P **PKiKP 18 12 28.2 -0.4**
L46A Eue Claire 112.21 315 IAMs_20 IAMs_20 19 04 50.0
comp=Z,15µm,20.0s
CROK Carrier 112.21 304 IAMs_20 IAMs_20 19 01 12.1
comp=Z,13µm,22.0s
MODS Modra-Piesok 112.23 29 *e*PP **PP 18 13 14.1 -1.0**
MODS Modra-Piesok 112.23 29 *e*P **PKKPab 18 23 25.2 +0.2**
HLM1 Long Mynd 112.26 15 *e*P **PKiKP 18 12 30.4 +1.8**
HLM1 IAMs_20 IAMs_20 18 53 10.4
comp=Z,17µm,22.1s
DRGR 112.26 34 ⇓P **Pdif 18 08 37.9 +4.7**
DRGR 112.26 34 ⇑P **PKiKP 18 12 28.9 0.0**
DRGR 112.26 34 ⇑PKIKP **PKiKP 18 12 28.9 0.0**
ROTZ Rotzenmuhle 112.31 25 *e*PS 18 22 39.8
baz=199,slow=10
DOPR Dopca 112.32 36 ⇑P **PKiKP 18 12 30.0 +1.1**
M44A Midewin, Midew 112.32 314 IAMs_20 IAMs_20 18 59 57.0
comp=Z,17µm,22.0s
ELMS Elmsett, Ipswi 112.40 17 IAMs_20 IAMs_20 18 54 13.4
comp=Z,22µm,21.3s
COVR Voineasa-Covas 112.46 36 ⇓P **PKiKP 18 12 29.2 0.0**
ZVC Zvikov 112.46 27 *e*PKP **PKiKP 18 12 29.3 +0.2**
ZVC *e*PKKP **PKKPbc 18 23 20.2 +2.1**
ZVC AMS AMS 18 54 30.0
comp=Z,11µm,21.2s

CFR	Carcaliu	112.47	38	⇑P		Pdif	18 08 43.7	+10
CFR	Carcaliu	112.47	38	⇑P		PKiKP	18 12 28.1	-1.1
CFR	Carcaliu	112.47	38	⇑PKIKP		PKiKP	18 12 28.1	-1.1
MANZ	Manzenberg	112.49	25	*e*PS			18 22 43.1	
baz=199,slow=10								
PSZ	Piszkesteto	112.50	31	⇑P		Pdif	18 08 40.0	+5.7
PSZ	Piszkesteto	112.50	31	⇑P		Pdif	18 08 40.0	+5.7
OK038	West end E0370	112.52	303	IAMs_20	IAMs_20		19 00 53.3	
comp=Z,15μm,22.0s								
DSB	Dublin	112.54	12	IAMs_20	IAMs_20		18 52 00.1	
comp=Z,12μm,22.0s								
SPBR	Spulber	112.54	37	⇓P		PKiKP	18 12 28.8	-0.7
OZUR		112.55	36	⇓P		Pdif	18 08 40.3	+5.8
OZUR		112.55	36	⇓P		PKiKP	18 12 33.6	+4.2
FOEL	Foel Wylfa	112.58	14	*e*P		PKiKP	18 12 29.7	+0.5
FOEL				IAMs_20	IAMs_20		18 52 56.1	
comp=Z,16μm,23.7s								
HQIL	Hanson Quary C	112.60	314	IAMs_20	IAMs_20		18 59 43.5	
comp=Z,18μm,22.0s								
PLOR	Plostina	112.60	37	⇑P		PKiKP	18 12 30.5	+1.0
PLOR	Plostina	112.60	37	⇑PKIKP		PKiKP	18 12 31.4	+1.8
TREC	Trest	112.64	28	*e*PDIFF		Pdif	18 08 37.6	+2.8
TREC				AMS	AMS		18 53 40.0	
comp=Z,16μm,23.6s								
TREC	Trest	112.64	28	*i* P		Pdif	18 08 37.6	+2.8
TREC				MLR	MLR			
comp=Z,16μm,23.6s								
VRI	Vrincioaia	112.64	37	⇑P		Pdif	18 08 43.0	+8.1
VRI	Vrincioaia	112.64	37	⇑P		PKiKP	18 12 27.3	-2.3
VRI	Vrincioaia	112.64	37	⇑PKIKP		PKiKP	18 12 27.3	-2.3
KRUC	Moravsky	112.64	28	*e*PKIKP		PKiKP	18 12 32.0	+2.5
KRUC				*e*PP		PP	18 13 16.9	-1.1
KRUC				*e*			18 23 01.5	
KULM	Kulim	112.66	119	IAMs_20	IAMs_20		18 49 36.8	
comp=Z,19μm,22.0s								
LDAQ	Lac Daran	112.67	329	IAMs_20	IAMs_20		18 57 08.0	
comp=Z,20μm,22.0s								
CWF	Charnwood Fore	112.69	16	IAMs_20	IAMs_20		18 51 39.6	
comp=Z,14μm,24.2s								
NOKA	Waynoka	112.73	303	IAMs_20	IAMs_20		19 00 59.0	
comp=Z,14μm,21.0s								
J47A	Sunmer	112.74	317	IAMs_20	IAMs_20		19 00 26.1	
comp=Z,14μm,21.0s								
VYHS	Vyhne	112.75	30	*e*PP		PP	18 13 18.6	-0.2
VYHS	Vyhne	112.75	30	*e*P		PKKPab	18 23 29.2	+6.4
JAVC	Velka Javorina	112.78	29	*e*PKIKP		PKiKP	18 12 31.5	+1.7
JAVC				*e*PP		PP	18 13 18.2	-0.9
JAVC				*e*			18 23 02.0	
NKC	Novy Kostel	112.80	25	AMS	AMS		18 56 30.0	
comp=Z,10μm,19.0s								
UBBA	Unterbreizbach	112.82	24	*e*PS			18 22 43.2	
baz=199,slow=10								
KASTN	Kahler Asten	112.86	22	*e*PS			18 22 46.7	
baz=199,slow=10								
BUG	Bochum--Univer	112.86	22	*e*PS			18 22 46.7	
baz=199,slow=10								
VRAC	Vranov	112.92	28	*e*PKIKP		PKiKP	18 12 32.8	+2.8
VRAC				*e*PP		PP	18 13 18.7	-1.3
VRAC				*e*			18 23 03.4	
VRAC	Vranov	112.92	28	⇓P		PKiKP	18 12 27.9	-2.1
VRAC	Vranov	112.92	28	⇓PKIKP		PKiKP	18 12 27.9	-2.1
L44A	Lake County Fo	112.95	314	IAMs_20	IAMs_20		19 00 04.7	
comp=Z,17μm,22.0s								
ONER	Baraj Valea Uz	112.96	36	⇑P		Pdif	18 08 43.5	+7.2
PLN	Plauen	112.97	25	*e*PS			18 22 48.4	
baz=199,slow=10								
TANN	Tannenbergstha	112.97	25	*e*PS			18 22 49.3	
baz=199,slow=10								
MOX	Moxa	113.00	25	*e*PS			18 22 50.2	
baz=199,slow=10								
MOX				*e*L			18 54 29.9	
comp=Z,11μm,21.7s								
ARCR	ARCALIA	113.01	35	⇑P		PKiKP	18 12 29.9	-0.3
GOPC	GO Pecny, Ondr	113.04	27	*e*PDIFF		Pdif	18 08 37.6	+1.1
GOPC				AMS	AMS		18 54 40.0	
comp=Z,9μm,21.5s								
GOPC	GO Pecny, Ondr	113.04	27	*i* P		Pdif	18 08 37.6	+1.1
GOPC				MLR	MLR			
comp=Z,9μm,21.5s								
PRU	Pruhonice	113.05	27	*e*PDIFF		Pdif	18 08 37.2	+0.6
PRU				*e*PKP		PKiKP	18 12 30.7	+0.5
PRU				AMS	AMS		18 54 40.0	
comp=Z,10μm,20.9s								
PRU	Pruhonice	113.05	27	*i* P		Pdif	18 08 37.2	+0.6
PRU				*e*			18 12 30.7	
PRU				MLR	MLR			
comp=Z,10μm,20.9s								
ICQ	Pointe Anglais	113.07	332	IAMs_20	IAMs_20		19 00 16.4	
comp=Z,13μm,20.0s								
PRA	Prague	113.11	27	AMS	AMS		18 56 20.0	
comp=Z,13μm,19.1s								
319A	Douglas	113.16	292	IAMs_20	IAMs_20		18 58 18.1	
comp=Z,14μm,21.0s								
TESR	Tescani	113.19	36	⇑P		PKiKP	18 12 28.7	-1.9
LBWR	Ladybower, Pea	113.28	15	*e*P		PKiKP	18 12 32.5	+1.9
LBWR				IAMs_20	IAMs_20		18 56 32.9	
comp=Z,14μm,20.7s								
MAUC	Maruska	113.28	29	*e*PDIFF		Pdif	18 08 41.8	+4.1
MAUC				*e*PKP		PKiKP	18 12 31.7	+1.0
BKB	Balikpapan	113.32	138	IAMs_20	IAMs_20		18 52 03.3	
comp=Z,12μm,22.0s								
HSKC	Hora Svate Kat	113.37	26	*e*PDIFF		Pdif	18 08 39.7	+1.7
HSKC				AMS	AMS		18 59 00.0	
comp=Z,8μm,18.5s								
L42A	Oliver, Polo	113.47	313	IAMs_20	IAMs_20		18 59 53.4	
comp=Z,13μm,22.0s								
RICC	Richard	113.47	26	AMS	AMS		18 56 30.0	
comp=Z,11μm,19.1s								
GTTG	Gottingen	113.50	23	*e*PS			18 22 50.6	
baz=199,slow=10								
LANS	Liptovska Anna	113.51	30	*e*PP		PP	18 13 20.3	-4.0
LANS	Liptovska Anna	113.51	30	*e*P		PKKPab	18 23 26.7	+7.3
K43A	Burlington	113.56	314	IAMs_20	IAMs_20		19 00 45.9	
comp=Z,16μm,22.0s								
PVCC	Panska Ves	113.56	27	*e*PKP		PKiKP	18 12 31.7	+0.5
PVCC				AMS	AMS		18 56 50.0	
comp=Z,15μm,18.8s								
PVCC	Panska Ves	113.56	27	*e*PKIKP		PKiKP	18 12 31.7	+0.5
PVCC				MLR	MLR			
comp=Z,15μm,18.8s								
NEUB	Neuenburg	113.57	25	*e*PS			18 22 55.3	
baz=199,slow=10								
MORC	Moravsky Berou	113.59	29	*e*PKIKP		PKiKP	18 12 31.3	0.0
MORC				*e*PP		PP	18 13 23.0	-1.8
MORC				*e*			18 23 07.2	
MORC	Moravsky Berou	113.59	29	⇑P		PKiKP	18 12 31.4	0.0
KRLC	Kraliky	113.68	28	*e*PKP		PKiKP	18 12 31.0	-0.5
KRLC				AMS	AMS		18 53 40.0	
comp=Z,15μm,24.5s								
KRLC	Kraliky	113.68	28	*e*PKIKP		PKiKP	18 12 31.0	-0.5
KRLC				MLR	MLR			
comp=Z,15μm,24.5s								
BRG	Berggiesshubel	113.74	26	*e*PS			18 22 57.5	
baz=199,slow=10								
BRG	Berggiesshubel	113.74	26	⇓Pif			18 08 45.0	
BRG	Berggiesshubel	113.74	26	*e*PKP		PKiKP	18 12 32.0	+0.5
BRG				Amp			18 12 35.6	
comp=Z,18nm,1.1s								
BRG	Berggiesshubel	113.74	26	PP	PP		18 13 39.0	+13
BRG	Berggiesshubel	113.74	26	SKS	SKSdf		18 19 26.0	-13
BURAR	Bucovina Array	113.74	35	⇓P		PKiKP	18 12 31.8	+0.1
BURAR	Bucovina Array	113.74	35	⇓PKIKP		PKiKP	18 12 31.8	+0.1
IOMK	Kirk Michael	113.75	13	IAMs_20	IAMs_20		18 52 42.7	
comp=Z,10μm,21.9s								
IBBN	Ibbenburen	113.78	22	*e*PS			18 22 57.5	
baz=199,slow=10								
STEB	Steborice	113.80	29	*e*PKP		PKiKP	18 12 31.4	-0.2
KSU1	Kansas State U	113.80	306	IAMs_20	IAMs_20		19 01 39.3	
comp=Z,19μm,22.0s								
OKC	Ostrava-Krasne	113.80	29	AMS	AMS		18 56 10.0	
comp=Z,10μm,21.5s								
DPC	Dobruska-Polom	113.82	28	*e*PKP		PKiKP	18 12 32.3	+0.6
DPC				*e*PKKP		PKKPbc	18 23 13.1	-0.5
DPC				AMS	AMS		18 53 40.0	
comp=Z,12μm,23.4s								
DPC	Dobruska-Polom	113.82	28	*e*PKIKP		PKiKP	18 12 32.3	+0.6
DPC				MLR	MLR			
comp=Z,12μm,23.4s								
CLZ	Clausthal	113.86	23	*e*PS			18 22 55.9	
baz=199,slow=10								
UPC	Upice	113.89	28	*e*PDIFF		Pdif	18 08 41.8	+1.5
UPC				AMS	AMS		18 58 00.0	
comp=Z,9μm,19.2s								
UPC	Upice	113.89	28	*i* P		Pdif	18 08 41.8	+1.5
UPC				MLR	MLR			
comp=Z,9μm,19.2s								
AKL	Akola	113.90	89	IAmb	IAmb		18 13 26.7	
comp=Z,14nm,0.8s								
CLL	Collm	113.93	25	*e*PS			18 22 59.4	
baz=199,slow=10								
CLL	Collm	113.93	25	*i* PKIKP		PKiKP	18 12 32.0	+0.2
CLL				*e*			18 19 16.0	
CLL				pmax	pmax			
comp=Z,26nm,1.1s								
I45A	Fountain	113.94	316	IAMs_20	IAMs_20		19 02 47.9	
comp=Z,19μm,21.0s								
NIE	Niedzica	113.98	31	*e*PP		PP	18 13 26.3	-1.3
NIE				*e*PS		PKKPbc	18 23 10.7	-2.3
NIE				*e*SS	SS		18 29 30.8	+17
NIE				*e*L	L		18 54 31.6	
comp=Z,5μm,24.3s								
OSTC	Ostas	113.98	28	*e*PKP		PKiKP	18 12 32.4	+0.4
OSTC				AMS	AMS		18 58 00.0	
comp=Z,9μm,19.1s								
OSTC	Ostas	113.98	28	*e*PKIKP		PKiKP	18 12 32.4	+0.4
OSTC				MLR	MLR			
comp=Z,9μm,19.1s								
GLMI	Grayling	114.05	318	IAMs_20	IAMs_20		19 00 46.5	
comp=Z,18μm,22.0s								
KOLS	Kolonicke sedl	114.08	32	*e*P		PKKPab	18 23 22.2	+5.2
L40A	Anamosa	114.12	312	IAMs_20	IAMs_20		19 04 12.6	
comp=Z,15μm,20.0s								
ASSE	Asse, Remlinge	114.20	23	*e*PS			18 23 01.4	
baz=199,slow=10								
STHS	Stebnicka Huta	114.23	31	*e*PP		PP	18 13 21.7	-7.6
MILM	Milestii Mici	114.24	38	*e*P		Pdif	18 08 37.0	-4.9
comp=Z,500nm,8.6s								
MILM	Milestii Mici	114.24	38	*e*PKP		PKPdf	18 12 32.0	-0.5
MILM	Milestii Mici	114.24	38	*i* PP		PP	18 13 34.0	+4.7
MILM	Milestii Mici	114.24	38	*e*PPS		PPS	18 24 03.0	
MILM				*e*L	L		18 48 48.0	
MILM				LRM	MLR		19 02 36.0	
comp=Z,3μm,18.5s								
MILM	Milestii Mici	114.24	38	⇑P		PKPdf	18 12 31.4	-1.2
MILM	Milestii Mici	114.24	38	*e*P		Pdif	18 08 37.0	-4.9
MILM				*e*			18 12 32.0	
MILM				*e*			18 12 45.0	
MILM				*i*			18 13 34.0	
MILM				*i* PS		PKKPbc	18 23 09.0	-2.9
MILM				pmax	pmax			
comp=Z,500nm,8.6s								
Y22D	IRIS PASSCAL I	114.25	296	IAMs_20	IAMs_20		18 59 20.0	
comp=Z,15μm,18.0s								
Y22D	IRIS PASSCAL I	114.25	296	PKPdf		PKiKP	18 12 34.2	+0.9
baz=146								
KSP	Ksiaz	114.27	28	*e*P		PKiKP	18 12 34.2	+1.7
KSP				*e*PP		PP	18 13 22.9	-6.6
KSP				*e*PS		PKKPab	18 23 20.3	+4.3
KSP				*e*SS	SS		18 29 41.0	+24
KSP				*e*L	L		18 54 00.5	
comp=Z,6μm,26.1s								
SIM	Simferopol'	114.29	42	*e*P		Pdif	18 08 31.7	-10
SIM				*i*			18 12 33.3	
SIM				*e*			18 19 16.0	
SIM				*e*PS		PKKPbc	18 23 11.0	-0.7
SIM				pmax	pmax			
comp=Z,170nm,18.0s								
SIM				pmax	pmax			
comp=Z,29nm,0.8s								
KIS	Kishinev	114.31	38	*e*P		Pdif	18 08 36.0	-6.2
KIS	Kishinev	114.31	38	*e*PKP		PKPdf	18 12 32.0	-0.7
KIS	Kishinev	114.31	38	*e*PP		PP	18 13 24.0	-5.9
comp=Z,650nm,8.3s								
KIS	Kishinev	114.31	38	*e*PPS	PPS		18 24 14.0	
KIS				*e*L	L		18 50 48.0	
KIS				LQM			18 59 58.0	
comp=Z,1μm,21.5s								
KIS				LRM	MLR		19 02 34.0	
comp=Z,1μm,20.0s								
KIS	Kishinev	114.31	38	*e*P		Pdif	18 08 36.0	-6.2
KIS				*e*			18 12 32.0	
KIS				*e*PS		PKKPbc	18 23 10.0	-1.7
KIS				*e*PPS	PPS		18 24 14.0	
KIS				pmax	pmax			
comp=Z,650nm,8.3s								
GAL1	Galloway	114.33	13	IAMs_20	IAMs_20		18 52 58.8	
comp=Z,16μm,23.0s								
NRDL	Niedersach Rie	114.43	23	*e*PS			18 23 03.7	
baz=199,slow=10								
FLTG	Flechtingen	114.51	24	*e*PS			18 23 01.2	
baz=199,slow=10								
OJC	Ojcow	114.58	30	*e*P		PKiKP	18 12 33.5	+0.4
OJC				*e*PP		PP	18 13 29.4	-2.4
OJC				*e*PS		PKKPab	18 23 15.1	+0.4
OJC				*e*SS	SS		18 29 41.8	+20
OJC				*e*L	L		18 56 24.0	
comp=Z,11μm,22.7s								
EDMD	Edmundbyers	114.64	15	IAMs_20	IAMs_20		18 54 20.5	
comp=Z,16μm,21.9s								
TUC	Tucson	114.65	292	IAMs_20	IAMs_20		19 03 09.7	
comp=Z,11μm,20.0s								
ANMO	Albuquerque	114.74	297	IAMs_20	IAMs_20		18 57 59.7	
comp=Z,9μm,21.0s								
ANMO	Albuquerque	114.74	297	IAMs_20	IAMs_20		18 57 59.7	
comp=Z,9μm,21.0s								
ANMO	Albuquerque	114.74	297	PKP	PKPdf		18 12 32.2	-2.0
comp=Z,7.7nm,0.9s,baz=132,slow=6.9,SNR=4.1								
ANMO				PP	PP		18 13 31.8	-1.5
comp=Z,13nm,0.9s,baz=314,slow=9.8,SNR=4.0								
SCIA	State Center	114.77	310	IAMs_20	IAMs_20		19 01 47.9	
comp=Z,14μm,22.0s								
I42A	Draeger Farm,	114.80	315	IAMs_20	IAMs_20		19 00 58.6	
comp=Z,21μm,22.0s								
H43A	Windswept, Lux	114.87	316	IAMs_20	IAMs_20		19 06 09.5	
comp=Z,13μm,20.0s								
CBKS	Cedar Bluff	114.90	304	IAMs_20	IAMs_20		19 01 51.4	
comp=Z,13μm,22.0s								
ESK	Eskdalemuir	114.95	14	*e*P		PKiKP	18 12 33.8	+0.2
ESK				IAMs_20	IAMs_20		18 53 52.9	
comp=Z,17μm,20.8s								
EKA	Eskdalemuir Ar	114.97	14	PKP	PKPdf		18 12 32.5	-1.2
comp=Z,2.1nm,0.5s,baz=220,slow=2.0,SNR=14								
EKA				PKKPbc	PKKPbc		18 23 10.9	+1.2
comp=Z,6.4nm,0.6s,baz=359,slow=2.7,SNR=24								
SBUM	Sibu	115.02	132	IAMs_20	IAMs_20		18 52 28.8	
comp=Z,11μm,21.0s								
SORM	Soroca	115.17	37	⇑P		PKPdf	18 12 33.3	-1.0
SORM	Soroca	115.17	37	⇑PKIKP		PKPdf	18 12 33.3	-1.0
SOC	Sochi	115.17	47	*i* P		Pdif	18 08 45.3	-0.8
SOC				*i*			18 12 35.7	
SOC				*e*PPP	PPP		18 16 02.4	
SOC				*e*			18 19 18.8	
SOC				*e*PS		PKKPab	18 23 15.2	+2.5
SOC				*e*SS	SS		18 29 31.0	+1.6
SOC				*e*SSS	SSS		18 33 48.6	
SOC				MLR	MLR			
comp=Z,4μm,20.0s								
RUE	Ruedersdorf	115.20	25	*e*PS			18 23 14.9	
baz=199,slow=10								
E46A	Sault Ste Mari	115.28	319	IAMs_20	IAMs_20		19 00 53.3	
comp=Z,18μm,21.0s								
NGP	Nagpur	115.33	91	*e*P		PKiKP	18 12 36.3	+0.8
ANN	Anapa	115.35	45	*i* P		Pdif	18 08 48.1	+1.2
ANN				*i*			18 12 33.4	
ANN				*e*			18 12 51.3	
ANN				*e*			18 13 37.2	
ANN				*e*			18 19 18.3	
ANN				*i* SP	SP		18 23 17.9	+6.7
ANN				*i* SS	SS		18 29 36.4	+4.7
ANN				*i* SSS	SSS		18 33 50.4	
ANN				pmax	pmax			
comp=Z,32nm,1.1s								
PIX	Pinacate	115.36	289		PKPdf		18 12 33.2	-2.0
PIX					PP		18 13 34.2	-3.2
SANI	Sanana	115.43	148	PP	PP		18 13 39.2	+2.1
I40A	Norwalk	115.44	313	IAMs_20	IAMs_20		19 01 52.6	
comp=Z,15μm,22.0s								
LUWI	Luwuk	115.45	144	PP	PP		18 13 39.2	+1.9
EDI	Edinburgh	115.55	14	IAMs_20	IAMs_20		18 53 58.6	
comp=Z,14μm,22.6s								
HLG	Helgoland	115.59	21	*e*PS			18 23 21.5	
baz=199,slow=10								
LAWE	Loch Awe, Argy	115.62	12	*e*P		PKPdf	18 12 33.7	-1.2
LAWE				IAMs_20	IAMs_20		18 53 10.2	
comp=Z,18μm,23.6s								
DGPR	DIGLIPUR	115.81	108	*e*P		PKiKP	18 12 37.4	+0.8
BSEG	Bad Segeberg	115.83	23	*e*PS			18 23 23.7	
baz=199,slow=10								
INVG	Invergeldie, C	115.94	13	*e*P		PKPdf	18 12 35.2	-0.3
INVG				IAMs_20	IAMs_20		18 53 46.5	
comp=Z,10μm,21.0s								
X18A	Snowflake	116.06	294	IAMs_20	IAMs_20		19 03 08.9	
comp=Z,14μm,21.0s								
F42A	Maple Grove Fa	116.11	316	IAMs_20	IAMs_20		19 04 11.3	
comp=Z,14μm,21.0s								
FAKI	Fak Fak	116.16	155	IAMs_20	IAMs_20		19 07 02.1	
comp=Z,10μm,20.0s								
BEL	Belsk	116.31	30	*e*P		PKiKP	18 12 38.1	+1.7
BEL				*e*PP		PP	18 13 41.9	-2.0
BEL				*e*PS	PKKPdf		18 23 47.1	+16
BEL				*e*L	L		18 56 25.1	
comp=Z,62μm,23.6s								
G40A	Rib Lake	116.45	314			PKPdf	18 12 35.8	-1.1
G40A				IAMs_20	IAMs_20		19 01 25.4	
comp=Z,19μm,22.0s								
LABN	Labinsk	116.45	47	*i* P		Pdif	18 08 53.5	+1.7
LABN				*i*			18 12 37.0	
LABN				*e*			18 12 53.2	
LABN				*e*			18 13 44.3	
LABN				*e*PPP	PPP		18 16 14.8	
LABN				*e*			18 19 28.2	
LABN				*e*SP	SP		18 23 28.7	+7.5
LABN				*e*SS	SS		18 29 50.7	+4.5
LABN				*e*SSS	SSS		18 34 10.2	
LABN				pmax	pmax			
comp=Z,38nm,0.9s								
LABN				MLR	MLR			
comp=Z,5μm,19.0s								
KBZ	Khabaz	116.53	49	PKP	PKPdf		18 12 36.0	-1.1
comp=Z,11nm,0.8s,baz=164,slow=2.3,SNR=13								
KBZ				PP	PP		18 13 44.8	-0.7
comp=Z,17nm,1.1s,baz=226,slow=4.8,SNR=7.5								
KBZ				PKKPbc	PKKPbc		18 23 05.1	+1.2
comp=Z,2.9nm,0.9s,baz=75,slow=5.4,SNR=2.4								
KBZ	Khabaz	116.53	49	*c* *i* PKIKP		PKiKP	18 12 37.5	+0.4
KBZ				MLR	MLR			
comp=Z,12μm,19.0s								
DRUM	Mains of Drumt	116.60	14	IAMs_20	IAMs_20		18 51 12.9	
comp=Z,18μm,26.2s								
KIV	Kislovodsk	116.64	49			PKPdf	18 12 36.5	-0.9
KIV	Kislovodsk	116.64	49	⇑P		PKPdf	18 12 36.9	-0.5
KIV	Kislovodsk	116.64	49	*i* P		Pdif	18 08 51.3	-1.5
KIV				*i*			18 12 37.3	
KIV				*e*			18 13 44.5	
KIV				*e*			18 19 23.6	
KIV				*e*PS		PKKPdf	18 23 27.8	-2.6
KIV				*e*SS	SS		18 29 45.8	-3.0
KIV				*e*SSS	SSS		18 34 02.9	
KIV				pmax	pmax			
comp=Z,25nm,1.0s								
KIV				MLR	MLR			
comp=Z,8μm,22.0s								
KPL	Plockton	116.65	12	*e*P		PKPdf	18 12 36.6	-0.2
KPL				IAMs_20	IAMs_20		18 53 14.9	
comp=Z,18μm,23.8s								
X16A	Lo Mia Camp, P	116.69	293	IAMs_20	IAMs_20		19 00 26.5	
comp=Z,14μm,20.0s								
GKP	Gorka Klasztor	116.73	27	*e*P		PKiKP	18 12 39.8	+2.7
GKP				*e*PP		PP	18 13 42.5	-4.3
GKP				*e*PS	PKKPdf		18 23 48.4	+18
GKP				*e*SS	SS		18 29 53.3	+3.8
GKP				*e*L	L		18 56 28.0	
comp=Z,13μm,22.9s								
COWI	Conover	116.77	316	IAMs_20	IAMs_20		18 58 33.7	
comp=Z,14μm,21.0s								
RGN	Rugen	117.03	24	*e*PS			18 23 26.3	
baz=199,slow=10								
Y14A	Wickenburg	117.06	291			PKPdf	18 12 37.1	-1.4
SSRD	Sdr. Stenderup	117.15	22	*i* P		PKiKP	18 12 40.6	+2.7
MCD	Coleburn Disti	117.16	13	*e*P		PKPdf	18 12 37.8	0.0
MCD				IAMs_20	IAMs_20		18 54 33.9	
comp=Z,19μm,21.5s								
S22A	4UR Ranch, Cre	117.20	298	IAMs_20	IAMs_20		19 03 18.8	
comp=Z,13μm,21.0s								
ERBR	Yeremizino-Bor	117.27	46	*i* P		Pdif	18 08 56.2	+0.8
ERBR				*i*			18 12 37.2	
ERBR				*e*			18 12 53.3	
ERBR				*e*			18 13 50.2	
ERBR				*e*PPP	PPP		18 16 21.6	
ERBR				*e*			18 19 32.6	
ERBR				*e*SP	SP		18 23 28.7	+0.1
ERBR				pmax	pmax			
comp=Z,32nm,1.0s								
ERBR				MLR	MLR			
comp=Z,6μm,20.0s								
LEWI	Lewis, Hebride	117.32	11	*e*P		PKPdf	18 12 37.7	-0.4
LEWI				IAMs_20	IAMs_20		18 53 19.4	
comp=Z,18μm,23.6s								
RABL	Rabaul	117.39	177			PKPdf	18 12 38.6	-1.3
RABL				IAMs_20	IAMs_20		19 01 26.1	
comp=Z,18μm,20.0s								
YUH	Yuha Desert	117.46	288	IAMs_20	IAMs_20		18 57 20.8	
comp=Z,9μm,19.0s								
LLD	Lille Linde	117.53	23	*i* P		PKiKP	18 12 40.6	+2.0
WUAZ	Wupatki	117.54	293	IAMs_20	IAMs_20		19 04 59.1	
comp=Z,12μm,21.0s								
BLYC	Blythe	117.65	290	IAMs_20	IAMs_20		19 05 30.0	
comp=Z,10μm,19.0s								
OGNE	Ogallala	117.65	304	IAMs_20	IAMs_20		19 03 22.3	
comp=Z,15μm,22.0s								
KIEV	Kiev	117.69	36			PKPdf	18 12 38.0	-1.1
KIEV	Kiev	117.69	36	⇓P		Pdif	18 09

KUDL **Kundal** 119.69 84 eP PKPdf 18 12 43.4 -0.3
KUDL IAmb IAmb 18 12 46.6
comp=Z,176nm,1.3s
O20A **White River Ci** 119.78 299 IAMs_20 IAMs_20 19 06 00.5
comp=Z,15μm,21.0s
PASC **Pasadena Art C** 119.81 287 IAMs_20 IAMs_20 19 00 01.1
comp=Z,11μm,21.0s
KKM **Kota Kinabalu** 119.84 135 IAMs_20 IAMs_20 18 58 29.3
comp=Z,14μm,22.0s
MYLDM **Lahad Datu** 119.88 137 PKPdf 18 12 43.1 -1.4
MYLDM IAMs_20 IAMs_20 18 57 12.9
comp=Z,13μm,21.0s
LRW **Lerwick** 119.90 14 eP PKPdf 18 12 42.6 -0.4
LRW IAMs_20 IAMs_20 18 56 04.7
comp=Z,17μm,23.6s
KMY **Karmoy** 119.92 18 ePKPdf PKiKP 18 12 43.6 +0.5
KMY IVmB_BB 18 12 53.7
comp=Z,1μm,2.8s
KMY ePP PP 18 14 06.3 -2.4
KMY ePS PKKPdf 18 23 59.9 +35
KMY eSS SS 18 30 29.2 -1.5
KMY e 18 35 16.3
KMY IVMs_BB IVMs_BB 18 53 38.4
comp=Z,3μm,16.4s
GSC **Goldstone, Bar** 120.02 289 IAMs_20 IAMs_20 18 59 34.8
comp=Z,11μm,22.0s
AYAN **Aya Nagar** 120.30 84 eP PKiKP 18 12 46.0 +1.1
AYAN IAmb IAmb 18 12 47.7
comp=Z,398nm,1.3s
BLS5 **Blasjo** 120.32 18 ePKPdf PKiKP 18 12 44.4 +0.3
BLS5 ePP PP 18 14 07.9 -3.6
BLS5 e 18 22 53.0
BLS5 e 18 24 16.5
BLS5 eSS SS 18 30 38.4 +2.5
BLS5 IVMs_BB IVMs_BB 18 54 05.6
comp=Z,4μm,23.7s
BHGR **Bahadurgarh** 120.36 84 IAmb IAmb 18 12 48.3
comp=Z,370nm,0.4s
NRS **Narsarsuaq** 120.42 349 i P PKPdf 18 12 43.5 -0.5
LDR **Lodi Road** 120.42 84 eP PKPdf 18 12 43.6 -1.4
PABE **Paberze** 120.44 30 IAMs_20 IAMs_20 18 59 32.2
comp=Z,13μm,22.0s
CCAC **Calif City Air** 120.50 288 IAMs_20 IAMs_20 18 59 13.5
comp=Z,11μm,20.0s
MNK **Minsk** 120.63 33 i PKiKP PKiKP 18 12 44.8 0.0
comp=E,37nm,0.9s
MNK i PKiKP PKiKP 18 12 44.8 0.0
comp=N,15nm,0.9s
MNK i PKiKP PKiKP 18 12 44.8 0.0
comp=Z,65nm,0.7s,baz=209
MNK i pPKiKP sPKPdf 18 12 59.9 -3.6
MNK i PP PP 18 14 12.4 -1.3
MNK i PPP PPP 18 16 46.0
MNK i SKS SKSdf 18 19 52.2 +0.3
MNK i SS SS 18 30 39.9 0.0
MNK i SSS SSS 18 35 07.6
MNK i LR LR 18 57 28.5
MNK i LRM MLR 19 05 02.4
comp=E,3μm,16.5s
MNK i LRM MLR 19 05 16.9
comp=N,4μm,16.3s
MNK i LRM MLR 19 05 39.2
comp=Z,8μm,18.4s
MNK **Minsk** 120.63 33 i PKiKP PKiKP 18 12 44.7 0.0
MNK i 18 12 59.8
MNK i 18 14 12.4
MNK i PPP PPP 18 16 46.0
MNK i 18 19 52.1
MNK i SS SS 18 30 39.9 0.0
MNK i SSS SSS 18 35 07.6
MNK pmax pmax
comp=Z,65nm,0.7s
MNK pmax pmax
comp=N,15nm,0.9s
MNK pmax pmax
comp=E,37nm,0.9s
MNK MLR MLR
comp=E,3μm,16.0s
MNK MLR MLR
comp=N,4μm,16.0s
MNK MLR MLR
comp=Z,8μm,18.0s
NACGM **Naroch** 120.67 32 ePKiKP PKiKP 18 12 44.7 -0.1
STRU **Stroemstad** 120.78 21 eP PKKPab 18 22 50.5 +3.2
ODD1 **Odda** 120.81 18 ePKPdf PKiKP 18 12 45.1 +0.1
ODD1 IVmB_BB 18 12 55.7
comp=Z,882nm,2.6s
ODD1 ePP PP 18 14 11.0 -3.9
ODD1 e 18 22 51.3
ODD1 ePS PS 18 24 07.6 +1.9
ODD1 eSS SS 18 30 45.4 +3.2
LKN **LUCKNOW** 120.88 89 eP PKiKP 18 12 46.8 +0.7
KBL **Kabul** 120.97 74 PKPdf 18 12 45.1 -1.2
KBL **Kabul** 120.97 74 PKIKP PKPdf 18 12 45.1 -1.2
MERT **Meerut** 121.00 84 eP PKiKP 18 12 46.6 +0.3
K22A **Casper** 121.01 302 IAMs_20 IAMs_20 19 06 41.1
comp=Z,11μm,20.0s
BCW **Bitter Crk WRg** 121.03 287 IAMs_20 IAMs_20 19 00 09.5
comp=Z,9μm,20.0s
BER **Bergen** 121.05 17 ePKPdf PKiKP 18 12 45.9 +0.5
BER ePP PP 18 14 14.0 -2.5
BER e 18 22 52.4
BER e 18 24 22.5
BER eSS SS 18 30 45.8 +0.7
KONO **Kongsberg** 121.07 20 PKPdf 18 12 44.8 -0.5
KONO **Kongsberg** 121.07 20c iPKIKP PKPdf 18 12 42.4 -2.9
KONO pmax pmax
comp=Z,31nm,1.3s
KONO **Kongsberg** 121.07 20 ePKPdf PKPdf 18 12 45.4 +0.1
KONO IVmB_BB 18 12 51.6
comp=Z,659nm,1.8s
KONO ePP PP 18 14 14.8 -1.8
KONO e 18 22 51.6
KONO eSS SS 18 30 51.3 +6.0
KONO IVMs_BB IVMs_BB 18 55 39.4
comp=Z,4μm,27.6s
AGMN **Agassiz Nation** 121.13 313 IAMs_20 IAMs_20 19 06 48.1
comp=Z,17μm,21.0s
ASK **Askoy** 121.13 17 ePKPdf PKiKP 18 12 45.5 0.0
ASK IVmB_BB 18 12 51.4
comp=Z,2μm,2.5s
ASK ePP PP 18 14 14.3 -2.6
ASK e 18 22 49.9
ASK e 18 24 26.2
ASK eSS SS 18 30 46.1 +0.1
ASK IVMs_BB IVMs_BB 18 59 33.5
comp=Z,4μm,18.6s
ISA **Isabella, Lake** 121.13 288 IAMs_20 IAMs_20 19 02 57.2
comp=Z,10μm,20.0s
KUQ **Kuujjuuaa** 121.23 335 IAMs_20 IAMs_20 19 04 19.3
comp=Z,11μm,21.0s
VORD **Divnogorie** 121.24 42 ePKIKP PKPdf 18 12 43.4 -2.5
VORD eSP SP 18 24 03.8 -0.2
S11A **Rachel** 121.35 292 IAMs_20 IAMs_20 19 08 30.1
comp=Z,15μm,22.0s
VSR **Storozhevoye** 121.40 42 ePKIKP PKPdf 18 12 43.8 -2.4
VSR e 18 14 15.6
VSR eSP SP 18 24 10.5 +5.0
VSR MLR MLR
comp=Z,5μm,18.0s
EPLO **Experimental L** 121.45 315 IAMs_20 IAMs_20 19 02 51.5
comp=Z,15μm,22.0s
OSL **Oslo** 121.54 20 ePKPdf PKiKP 18 12 46.7 +0.4
OSL IVmB_BB 18 12 52.2
comp=Z,862nm,2.3s
OSL eSS SS 18 30 54.5 +3.1
OSL IVMs_BB IVMs_BB 19 01 43.0
comp=Z,5μm,19.5s
SUE **Sulen** 121.61 17 ePKPdf PKiKP 18 12 46.9 +0.5
SUE IVmB_BB 18 12 49.8
comp=Z,936nm,1.9s
SUE ePP PP 18 14 19.2 -1.1
SUE e 18 24 45.6
SUE eSS SS 18 30 52.7 +0.5
SUE IVMs_BB IVMs_BB 19 00 24.8
comp=Z,7μm,19.7s
SPR3 **Spring Creek 3** 121.74 294 IAMs_20 IAMs_20 19 02 57.3
comp=Z,11μm,22.0s
VORR **Voronezh** 121.80 41 ePKIKP PKPdf 18 12 45.5 -1.4
VORR eSP SP 18 24 14.3 +5.3
SKAR **Skarslia** 121.82 19 ePKPdf PKiKP 18 12 47.0 0.0
SKAR IVmB_BB 18 12 52.0
comp=Z,951nm,2.7s
SKAR ePP PP 18 14 20.1 -1.6
SKAR e 18 22 47.0
SKAR e 18 24 39.7
SKAR IVMs_BB IVMs_BB 18 55 02.3
comp=Z,5μm,24.6s
HYA **Hoyanger** 121.93 17 eP PKiKP 18 12 47.4 +0.4
HYA ePP PP 18 14 21.6 -0.8
HYA eSS SS 18 30 58.5 +2.2
HYA ⇓eSS SS 18 31 02.0 +5.7
HYA IVMs_BB IVMs_BB 19 01 57.5
comp=Z,5μm,21.2s
DLV **Lat** 122.06 124 PKPdf 18 12 47.7 -1.2
FOO **Floro** 122.17 17 ePKPdf PKiKP 18 12 47.8 +0.4
FOO ePP PP 18 14 23.1 -1.0
FOO eSS SS 18 31 01.2 +1.9
FOO IVMs_BB IVMs_BB 19 01 03.1
comp=Z,6μm,21.1s
MDND **Maddock** 122.23 310 IAMs_20 IAMs_20 19 05 32.4
comp=Z,15μm,22.0s
BHK **Bhakra** 122.27 82 eP PKiKP 18 12 50.2 +1.4
HFS **Hagfors** 122.29 22 PKP PKPdf 18 12 46.8 -0.8
comp=Z,18nm,0.6s,baz=186,slow=3.0,SNR=21
HFS PP PP 18 14 22.8 -2.1
comp=Z,12nm,0.7s,baz=191,slow=4.5,SNR=4.0
HFS PKKPbc PKKPbc 18 22 43.9 +0.9
comp=Z,25nm,0.6s,baz=64,slow=3.4,SNR=27
VRH **Novokhopyorsk** 122.30 43 ePKIKP PKPdf 18 12 46.3 -1.6
VRH eSP SP 18 24 17.1 +3.7
VRH MLR MLR
comp=Z,8μm,21.0s
NIL **Nilore** 122.40 78 PKPdf 18 12 48.2 -0.6
NIL **Nilore** 122.40 78 PKIKP PKPdf 18 12 48.2 -0.6
NIL MLR MLR
comp=Z,6μm,18.0s
NAO01 **NORSAR Array S** 122.42 20 PKPdf 18 12 47.7 -0.2
NC602 **NORSAR Array S** 122.44 21 ePKPdf PKiKP 18 12 48.0 -0.1
NC602 IVmB_BB 18 12 52.8
comp=Z,614nm,2.4s
NC602 ePP PP 18 14 24.8 -1.2
NC602 e 18 22 44.5
NC602 ePS PS 18 24 18.7 -1.4
NC602 eSS SS 18 31 04.5 +1.7
NC602 IVMs_BB IVMs_BB 19 01 47.0
comp=Z,4μm,21.6s
BW06 **Boulder Array** 122.47 300 IAMs_20 IAMs_20 19 05 26.7
comp=Z,18μm,22.0s
PDAR **Pinedale Array** 122.47 300 PKP PKPdf 18 12 48.8 -0.1
comp=Z,37nm,0.7s,baz=131,slow=4.6,SNR=3.7
PDAR PKKPbc PKKPbc 18 22 43.2 +0.9
comp=Z,1.9nm,0.8s,baz=74,slow=0.8,SNR=5.9
LPSR **Galich'ya Gora** 122.47 41 ePKIKP PKPdf 18 12 47.1 -1.1
LPSR e 18 14 22.6
LPSR eSP SP 18 24 17.1 +2.2
LPSR MLR MLR
comp=Z,4μm,22.0s
HWUT **Hardware Ranch** 122.48 298 IAMs_20 IAMs_20 19 09 25.0
comp=Z,13μm,19.0s
NB2 **NORSAR Subarra** 122.66 20 PKPdf PKPdf 18 12 48.2 -0.2
comp=Z,15nm,0.6s,baz=202,slow=1.9
NB2 **NORSAR Subarra** 122.66 20 PKPdf PKPdf 18 12 48.2 -0.2
baz=202,slow=1.9
NB2 **NORSAR Subarra** 122.66 20 pPKP PKKPbc 18 22 42.6 +0.9
comp=Z,22nm,0.8s,baz=23,slow=3.3
NOA **NORSAR Array B** 122.66 20 PKP PKPdf 18 12 48.4 0.0
comp=Z,40nm,1.0s,baz=197,slow=1.7,SNR=41
NOA PKKPbc PKKPbc 18 22 42.8 +1.1
comp=Z,18nm,0.9s,baz=22,slow=2.8,SNR=32
PMPB **Monarch Peak** 122.73 287 IAMs_20 IAMs_20 18 58 32.5
comp=Z,13μm,22.0s
Q09A **Carvers** 122.98 291 IAMs_20 IAMs_20 19 05 23.3
comp=Z,11μm,21.0s
AKN **Aaknes** 123.02 17 ePKPdf PKPdf 18 12 49.0 0.0
AKN IVmB_BB 18 12 55.7
comp=Z,833nm,2.4s
AKN ePP PP 18 14 28.2 -1.6
AKN e 18 22 43.9
AKN ePS PS 18 24 22.6 -2.5
AKN eSS SS 18 31 10.8 +0.7
AKN IVMs_BB IVMs_BB 18 56 13.6
comp=Z,4μm,16.7s
BORG **Borgarnes** 123.05 2 IAMs_20 IAMs_20 18 53 28.8
comp=Z,17μm,22.0s
BBGB **Big Mountain B** 123.13 287 IAMs_20 IAMs_20 18 58 44.2
comp=Z,11μm,21.0s
AHID **Auburn Hatcher** 123.17 299 IAMs_20 IAMs_20 19 05 35.3
comp=Z,13μm,20.0s
NVAR **Mina Array Bea** 123.22 290 PKP PKPdf 18 12 50.2 -0.3
comp=Z,91nm,0.7s,baz=145,slow=2.4,SNR=10.0
NVAR PKKPbc PKKPab 18 22 41.8 +2.5
comp=Z,3.4nm,0.8s,baz=254,slow=5.5,SNR=5.4
NVAR SKKPbc SKKPbc 18 26 13.8 -11
comp=Z,3.3nm,0.9s,baz=286,slow=3.9,SNR=3.6
DOMB **Dombas** 123.22 19 ePKPdf PKPdf 18 12 49.5 +0.1
DOMB ePP PP 18 14 30.0 -1.3
DOMB e 18 22 40.9
DOMB e 18 24 37.9
DOMB eSS SS 18 31 06.5 -6.4
DOMB IVMs_BB IVMs_BB 18 57 12.4
comp=Z,5μm,25.6s
CMAR **Chiang Mai Arr** 123.29 110 PKPdf 18 12 50.3 -0.6
CMAR **Chiang Mai Arr** 123.29 110 PKP PKPdf 18 12 50.9 0.0
comp=Z,69nm,0.8s,baz=229,slow=3.9,SNR=139
CMAR PKKPbc PKKPab 18 22 41.6 +0.5
comp=Z,10nm,0.9s,baz=14,slow=4.1,SNR=18
CMAR PKKP PKKPdf 18 23 19.1 +2.7
comp=Z,6.5nm,0.9s,baz=353,slow=2.7,SNR=5.3
CMAR SKKPbc SKKPbc 18 26 15.3 -6.6
comp=Z,6.8nm,0.9s,baz=349,slow=5.5,SNR=5.9
CMAR PKPPKP 18 31 32.3
comp=Z,1.8nm,0.9s,baz=336,slow=2.8,SNR=4.3
MOL **Molde** 123.47 18 ePKPdf PKiKP 18 12 50.3 +0.3
MOL IVmB_BB 18 12 56.4
comp=Z,572nm,2.5s
MOL ePP PP 18 14 31.2 -1.6
MOL ePS PS 18 24 32.1 +3.0
MOL IVMs_BB IVMs_BB 18 56 24.3
comp=Z,5μm,21.9s
SAO **San Andreas Ge** 123.48 287 IAMs_20 IAMs_20 18 58 42.4
comp=Z,10μm,20.0s
ELK **Elko** 123.54 294 IAMs_20 IAMs_20 19 08 35.9
comp=Z,16μm,22.0s
ELK **Elko** 123.54 294 PKP PKPdf 18 12 50.6 -0.4
comp=Z,68nm,0.8s,baz=79,slow=3.6,SNR=3.5
SNOW **Snow King Moun** 123.56 299 IAMs_20 IAMs_20 19 05 48.4
comp=Z,16μm,22.0s
CHTO **Chiang Mai** 123.59 110 PKPdf 18 12 50.8 -0.7
CHTO IAMs_20 IAMs_20 18 55 09.3
comp=Z,15μm,22.0s
CHTO **Chiang Mai** 123.59 110 PKIKP PKPdf 18 12 50.8 -0.7
CHTO MLR MLR
comp=Z,15μm,22.0s
CHTO **Chiang Mai** 123.59 110 PKP PKPdf 18 12 51.2 -0.3
TPAW **Teton Pass** 123.67 299 IAMs_20 IAMs_20 19 06 29.5
comp=Z,14μm,22.0s
VSU **Vasula** 123.77 30ce PKIKP PKPdf 18 12 49.8 -0.7
VSU pmax pmax
comp=Z,185nm,1.0s
VSU MLR MLR
comp=Z,9μm,19.0s
MOOW **Moose Ponds** 123.77 300 IAMs_20 IAMs_20 19 07 49.3
comp=Z,15μm,21.0s
OBN **Obninsk** 123.78 38 PKPdf 18 12 50.0 -0.6
OBN **Obninsk** 123.78 38 PKP PKPdf 18 12 50.2 -0.4
comp=Z,55nm,0.4s,baz=278,slow=1.5,SNR=10.0
OBN **Obninsk** 123.78 38 ⇓P PKiKP 18 12 50.8 -0.1
OBN **Obninsk** 123.78 38ce PKIKP PKPdf 18 12 50.4 -0.2
OBN e 18 13 06.2
OBN e 18 14 33.6
OBN ePPP PPP 18 17 13.1
OBN e 18 19 58.7
OBN eSS SS 18 31 19.9 -0.1
OBN pmax pmax
comp=Z,110nm,0.7s
FXWY **Fox Creek** 123.82 299 IAMs_20 IAMs_20 19 05 55.4
comp=Z,17μm,22.0s
WAKR **Walker** 123.83 290 IAMs_20 IAMs_20 19 02 24.8
comp=Z,14μm,22.0s
CMB **Columbia Colle** 123.94 289 IAMs_20 IAMs_20 19 11 36.6
comp=Z,11μm,22.0s
SIMJ **Simiganj** 124.18 71 PKPdf 18 12 52.1 -0.1
ANGG **Ammassalik, Gr** 124.23 354 IAMs_20 IAMs_20 19 03 44.0
comp=Z,9μm,19.0s
ANGG **Ammassalik, Gr** 124.23 354 i P PKPdf 18 12 51.2 +0.1
ISOG **Isortoq, Green** 124.24 353 i P PKPdf 18 12 48.5 -2.7
YMP **Mirror Lake Pl** 124.28 301 IAMs_20 IAMs_20 19 08 23.6
comp=Z,13μm,22.0s
PNTR **Pine Nut** 124.37 290 IAMs_20 IAMs_20 18 59 56.9
comp=Z,10μm,22.0s
YNE **Yellowstone No** 124.42 301 IAMs_20 IAMs_20 19 07 38.3
comp=Z,14μm,21.0s
YNR **Norris Junctio** 124.49 300 IAMs_20 IAMs_20 19 08 23.3
comp=Z,14μm,21.0s
YNM **Yellowstone No** 124.51 300 IAMs_20 IAMs_20 19 08 23.8
comp=Z,14μm,21.0s
TBLU **Trondheim** 124.56 19 ePKPdf PKiKP 18 12 52.6 +0.5
TBLU e 18 25 07.9
TBLU IVMs_BB IVMs_BB 18 56 25.3
comp=Z,5μm,25.6s
YMR **Madison River** 124.59 300 IAMs_20 IAMs_20 19 06 29.8
comp=Z,12μm,21.0s
MOS **Moscow** 124.64 38 i PKIKP PKPdf 18 12 49.7 -2.5
MOS e 18 14 37.9
MOS e 18 19 47.0
MOS ePS PS 18 24 34.9 -4.6
MOS eSS SS 18 31 27.2 -3.6
MOS pmax pmax
comp=Z,158nm,0.8s
YHB **Horse Butte** 124.75 300 IAMs_20 IAMs_20 19 06 25.2
comp=Z,12μm,22.0s
YHL **Hebgen Lake** 124.83 300 IAMs_20 IAMs_20 19 08 04.1
comp=Z,11μm,20.0s
GAR **Garm** 125.09 71 PKPdf 18 12 53.8 -0.1
GAR IAMs_20 IAMs_20 19 01 40.2
comp=Z,16μm,21.0s
BOZ **Bozeman (W)** 125.60 301 IAMs_20 IAMs_20 19 07 13.6
comp=Z,14μm,20.0s
SHL **Shillong** 125.65 99 PKPdf 18 12 54.6 -0.9
SHL **Shillong** 125.65 99 PKIKP PKPdf 18 12 54.6 -0.9
ORV **Oroville** 125.67 289 IAMs_20 IAMs_20 19 02 53.3
comp=Z,10μm,20.0s
GDXM **Geysers** 125.74 287 IAMs_20 IAMs_20 19 03 37.2
comp=Z,13μm,20.0s
DLMT **Dillon** 125.86 300 IAMs_20 IAMs_20 19 10 09.5
comp=Z,15μm,21.0s
MFID **Camas Ranch** 125.87 296 IAMs_20 IAMs_20 19 07 25.8
comp=Z,12μm,22.0s
NSS **Namsos** 126.03 19 ePKPdf PKPdf 18 12 54.7 +0.1
NSS IVmB_BB 18 13 00.3
comp=Z,2μm,2.5s
NSS ePP PP 18 14 47.9 -2.0
NSS eSP SP 18 24 45.6 -0.2
NSS eSS SS 18 31 43.1 -4.9
NSS IVMs_BB IVMs_BB 18 56 47.8
comp=Z,5μm,26.2s
FINES **FINESS Array B** 126.19 28 PKPdf 18 12 54.4 -0.6
FINES **FINESS Array B** 126.19 28 PKhKP PKPpre 18 12 47.8
comp=Z,31nm,0.6s,baz=130,slow=2.6,SNR=5.5
FINES PKP PKPdf 18 12 55.0 0.0
comp=Z,60nm,0.7s,baz=161,slow=2.5,SNR=92
FINES PKKPbc PKKPbc 18 22 31.1 +3.4
comp=Z,2.8nm,0.9s,baz=33,slow=4.5,SNR=3.5
DRK **Karamyk** 126.20 72 PKPdf 18 12 55.0 -1.3
DRK **Karamyk** 126.20 72 PKIKP PKPdf 18 12 55.0 -1.3
HATC **Hat Creek Radi** 126.61 290 IAMs_20 IAMs_20 19 04 01.3
comp=Z,11μm,21.0s
JOKA **Jonika Flow** 126.62 245 IAMs_20 IAMs_20 18 54 57.6
comp=Z,14μm,21.0s
STCH **Steam Cracks** 126.64 245 IAMs_20 IAMs_20 18 55 08.0
comp=Z,10μm,21.0s
SFJD **Kangerlussuaq** 126.66 348 PKPdf 18 12 55.3 -0.5
SFJD **Kangerlussuaq** 126.66 348 PKIKP PKPdf 18 12 55.3 -0.5
SFJD MLR MLR
comp=Z,22μm,22.0s
SFJD **Kangerlussuaq** 126.66 348 i P PKPdf 18 12 55.6 -0.2
SFJD **Kangerlussuaq** 126.66 348 PKP PKPdf 18 12 55.7 -0.1
PUH **Pauahi** 126.67 245 IAMs_20 IAMs_20 18 55 21.9
comp=Z,11μm,22.0s
HATHI **Halema'uma'u T** 126.74 245 IAMs_20 IAMs_20 18 54 54.6
comp=Z,12μm,21.0s
UWE **Uwekahuna** 126.75 245 IAMs_20 IAMs_20 18 55 00.9
comp=Z,13μm,22.0s
KHU **Kahuku** 126.75 244 IAMs_20 IAMs_20 18 58 25.0
comp=Z,12μm,20.0s
O02D **Mt. Diablo Mer** 126.78 288 IAMs_20 IAMs_20 19 01 16.7
comp=Z,16μm,22.0s
MLH **Mauna Loa** 126.86 245 IAMs_20 IAMs_20 18 55 13.8
comp=Z,12μm,22.0s
MWH **Mokuaweoweo** 126.95 244 IAMs_20 IAMs_20 19 03 25.2
comp=Z,9μm,19.0s
HMH **Humu'ula Sheep** 127.00 245 PKPdf 18 12 57.1 -1.2
HMH IAMs_20 IAMs_20 19 05 05.5
comp=Z,10μm,19.0s
POHA **Pohakuloa** 127.15 245 IAMs_20 IAMs_20 18 57 08.6
comp=Z,11μm,21.0s
HUH **Hualalai** 127.23 244 IAMs_20 IAMs_20 18 55 24.7
comp=Z,13μm,22.0s
KMRM **Mail Ridge** 127.27 288 IAMs_20 IAMs_20 19 08 42.4
comp=Z,10μm,22.0s
IUG **Iuzhnay** 127.35 69 ePKIKP PKPdf 18 12 57.5 -0.5
IUG e 18 14 58.0
IUG **Iuzhnay** 127.35 69 ePKP PKPdf 18 12 57.6 -0.5
IUG eP PP 18 14 58.0 -1.2
HPAH **Hawaii Prepara** 127.47 245 IAMs_20 IAMs_20 19 01 06.9
comp=Z,10μm,19.0s
KMPM **Mount Pierce** 127.62 288 IAMs_20 IAMs_20 19 04 48.1
comp=Z,9μm,20.0s
LEIR **Leirfjorden** 127.68 19 ePKPdf PKPdf 18 12 57.8 0.0
LEIR IVmB_BB 18 13 01.8
comp=Z,1μm,4.4s
LEIR ePP PP 18 14 59.3 -1.5
LEIR eSP SP 18 25 00.1 0.0
LEIR eSS SS 18 32 05.7 -2.8
LEIR IVMs_BB IVMs_BB 19 07 27.9
comp=Z,3μm,16.5s
ICESG **Greenland Ices** 127.79 354 i P PKPdf 18 12 58.4 0.0
STOK **Stokkvaagen** 127.87 19 ePKPdf PKPdf 18 12 58.3 +0.2
STOK IVmB_BB 18 13 02.2
comp=Z,2μm,4.4s
STOK ePP PP 18 15 00.3 -1.7
STOK eSKPdf SKPdf 18 16 19.1 -10
STOK eSP SP 18 25 01.8 0.0
STOK eSS SS 18 32 11.4 +0.7
STOK IVMs_BB IVMs_BB 18 58 56.3
comp=Z,4μm,27.7s
YBH **Yreka Blue Hor** 127.92 290 PKP PKiKP 18 12 60.0 +0.2
comp=Z,59nm,0.9s,baz=117,slow=3.1,SNR=13
YBH **Yreka Blue Hor** 127.92 290 PKIKP PKiKP 18 13 00.0 +0.2
BRLS **Borolday** 127.92 68 ePKIKP PKPdf 18 12 58.1 -0.9
BRLS e 18 14 59.9
BRLS **Borolday** 127.92 68 ePKP PKPdf 18 12 58.1 -0.9
BRLS eP PP 18 14 59.9 -2.9
MOR8 **Moi Rana** 127.96 19 ePKPdf PKiKP 18 12 58.8 -0.1
MOR8 IVmB_BB 18 13 02.7
comp=Z,2μm,4.2s
MOR8 eP PP 18 15 00.8 -1.8
MOR8 eSKPdf SKPdf 18 16 22.5 -6.8
MOR8 eSP SP 18 25 03.9 +1.3
MOR8 eSS SS 18 32 12.5 +0.5
MOR8 IVMs_BB IVMs_BB 18 57 59.1
comp=Z,3μm,32.8s
ABKAR **Akbulak array** 128.02 56 PKPpre 18 12 42.4
ABKAR PKPdf PKPdf 18 12 58.3 -0.7
KONS **Konsvik** 128.03 19 ePKPdf PKiKP 18 12 58.8 -0.2
KONS IVmB_BB 18 13 01.6
comp=Z,2μm,2.2s
AKTO **Aktyubinsk** 128.08 54 PKP PKPdf 18 12 59.1 +0.1
comp=Z,67nm,0.8s,baz=241,slow=2.1,SNR=10
L04D **Klamath Falls** 128.08 290 IAMs_20 IAMs_20 19 12 15.2
comp=Z,10μm,21.0s
K04D **Chiloquin, OR** 128.12 291 IAMs_20 IAMs_20 19 04 52.2
comp=Z,11μm,21.0s
SLVN **Son La** 128.15 114 IAMs_20 IAMs_20 18 57 54.7
comp=Z,12μm,22.0s
VAGH **Vaagaholmen** 128.27 18 ePKPdf PKiKP 18 12 59.5 +0.1
VAGH IVmB_BB 18 13 03.4
comp=Z,3μm,2.9s
VAGH eP PP 18 15 03.3 -1.3
VAGH eSKPdf SKiKP 18 16 21.3 -10
VAGH eSS SS 18 32 13.9 -1.9
VAGH IVMs_BB IVMs_BB 18 59 08.1
comp=Z,4μm,25.2s
PATS **Pohnpei** 128.29 185 IAMs_20 IAMs_20 19 09 20.8
comp=Z,14μm,20.0s
KKAR **Karatay Array** 128.30 68 PKPpre 18 12 44.1
KKAR PKPdf PKPdf 18 12 59.3 -0.5
KKAR **Karatay Array** 128.30 68 PKHKP PKPpre 18 12 44.1
KKAR 18 12 59.3
KSH **Kashi** 128.32 75 PKP PKPdf 18 12 59.6 -0.5
KSH sPKP 18 13 14.8
KSH PP PP 18 15 04.9 -0.7
KSH SKS SKSac 18 20 05.3 +2.0

KSH SKKS **SKKSac** **18 21 52.6 -5.3**
KSH SS **SS** **18 32 11.4 -6.1**
KSH AMB AMB
comp=Z,2μm,12.0s
KSH LR LR
comp=Z,9μm,25.8s
KSH LR LR
comp=Z,4μm,23.4s
KSH LR LR
comp=Z,10μm,26.8s
HLK Haleakala 128.35 245 IAMs_20 IAMs_20 18 57 41.4
comp=Z,11μm,20.0s
J05D Fort Rock, OR 128.36 292 IAMs_20 IAMs_20 19 02 33.6
comp=Z,10μm,21.0s
F10A Beach Ranch, E 128.46 297 IAMs_20 IAMs_20 19 09 33.1
comp=Z,16μm,22.0s
KHLH Kahului Airpor 128.56 244 IAMs_20 IAMs_20 18 58 07.8
comp=Z,15μm,22.0s
TNCH TengChong 128.60 106⇑*i*PKP **PKPdf** **18 13 01.0 -0.1**
TNCH PP **PP** **18 15 06.2 -1.2**
TNCH SKKS 18 22 00.5
TNCH SS **SS** **18 32 19.4 -1.4**
TNCH AMB AMB
comp=Z,3μm,7.3s
TNCH LR LR
comp=Z,4μm,22.5s
TNCH LR LR
comp=Z,2μm,22.0s
TNCH LR LR
comp=Z,12μm,22.1s
LSA Lhasa 128.60 95 IAMs_20 IAMs_20 19 00 19.6
comp=Z,11μm,22.0s
LSA Lhasa 128.60 95 PKP **PKPdf** **18 13 01.2 -0.2**
LSA PP PP 18 15 16.4 +8.6
LSA LR LR
comp=Z,6μm,22.3s
LSA LR LR
comp=Z,9μm,20.8s
L02F Cave Junction 128.63 289 IAMs_20 IAMs_20 19 08 54.8
comp=Z,10μm,21.0s
J04A Umpqua Nationa 128.75 291 IAMs_20 IAMs_20 19 05 13.0
comp=Z,12μm,21.0s
SCO Scoresbysund 128.80 2 IAMs_20 IAMs_20 18 57 30.7
comp=Z,12μm,21.0s
SCO Scoresbysund 128.80 2 *i* P **PKiKP** **18 13 01.0 +0.5**
ILULI Ilulissat 128.84 349 **PKPdf** **18 12 59.9 0.0**
ILULI Ilulissat 128.84 349 PKIKP **PKPdf** **18 12 59.9 0.0**
ILULI MLR MLR
comp=Z,30μm,21.0s
ILULI Ilulissat 128.84 349 *i* P **PKPdf** **18 13 00.3 +0.4**
QIZ Qiongzhong 128.92 121 IAMs_20 IAMs_20 19 03 43.0
comp=Z,12μm,20.0s
QIZ Qiongzhong 128.92 121 PKP **PKiKP** **18 13 02.2 -0.1**
QIZ PP **PP** **18 15 10.0 +0.9**
QIZ SKKS 18 21 59.0
QIZ SS **SS** **18 32 30.3 +6.2**
QIZ AMB AMB
comp=Z,2μm,9.8s
QIZ LR LR
comp=Z,5μm,19.6s
QIZ LR LR
comp=Z,5μm,20.1s
QIZ LR LR
comp=Z,12μm,20.6s
AML Almayashu 129.14 71 P **PKiKP** **18 13 02.5 -0.1**
SNR=39
FAUS Fauske 129.20 19 *e*PKPdf **PKPdf** **18 13 00.8 +0.2**
FAUS *e*PP **PP** **18 15 07.1 -3.6**
FAUS IVMs_BB IVMs_BB 18 59 49.8
comp=Z,4μm,27.0s
E09A Wood Farm, Sta 129.28 297 IAMs_20 IAMs_20 19 11 50.0
comp=Z,15μm,20.0s
KLMR Klimovskoe 129.37 35*c i*PKIKP **PKPdf** **18 12 57.2 -3.9**
KLMR SS SS 18 32 24.2 -5.4
KLMR MLR MLR
comp=Z,9μm,23.0s
G06A Carlson Farm, 129.52 294 IAMs_20 IAMs_20 19 03 57.2
comp=Z,13μm,22.0s
EKS2 Erkin-Say 129.57 71 P **PKiKP** **18 13 02.9 -0.2**
SNR=33
LOF Lofoten 129.59 18 *e*PKPdf **PKPdf** **18 13 01.6 +0.3**
LOF *e*P **PKiKP** **18 13 01.7 -0.4**
LOF IVmB_BB 18 13 05.5
comp=Z,3μm,2.1s
LOF *e*PP **PP** **18 15 13.4 +0.1**
LOF *e*SS SS 18 32 34.1 +2.0
LOF IVMs_BB IVMs_BB 19 01 50.1
comp=Z,4μm,25.3s
F07A Phinny Hill Vi 129.67 295 IAMs_20 IAMs_20 19 12 59.2
comp=Z,14μm,21.0s
STEI Steigen 129.69 19 *e*PKPdf **PKPdf** **18 13 01.8 +0.2**
STEI IVmB_BB 18 13 06.8
comp=Z,2μm,2.2s
STEI *e*PP **PP** **18 15 13.0 -0.9**
STEI *e* 18 16 26.5
STEI *e* 18 22 52.9
STEI *e*SS SS 18 32 31.9 -1.4
STEI IVMs_BB IVMs_BB 19 02 35.4
comp=Z,4μm,25.1s
E08A Dider Farm, El 129.69 296 IAMs_20 IAMs_20 19 12 32.9
comp=Z,14μm,22.0s
I03D Drain, OR 129.69 291 IAMs_20 IAMs_20 19 11 29.9
comp=Z,9μm,20.0s
KIP Kipapa 129.75 243 IAMs_20 IAMs_20 18 59 05.0
comp=Z,12μm,21.0s
JMI Jan Mayen 129.76 7 *e*PKPdf **PKPdf** **18 12 58.3 -3.3**
JMIC Jan Mayen 129.84 7 *e*PKPdf **PKiKP** **18 13 02.8 +0.3**
JMIC IVmB_BB 18 13 07.7
comp=Z,6μm,2.3s
JMIC *e*PP **PP** **18 15 15.5 +0.6**
JMIC *e*SKPdf **SKPdf** **18 16 33.0 +0.4**
JMIC IVMs_BB IVMs_BB 18 58 16.0
comp=Z,5μm,25.4s
JNE Jan Mayen East 129.85 7 *e*PKPdf **PKiKP** **18 13 03.0 +0.4**
JNE IVmB_BB 18 13 07.7
comp=Z,4μm,2.6s
JNE IVMs_BB IVMs_BB 18 58 15.7
comp=Z,5μm,26.2s
H04A Detroit Lake 129.86 293 IAMs_20 IAMs_20 19 10 32.2
comp=Z,14μm,22.0s
JNW Jan Mayen West 129.88 7 *e*PKPdf **PKiKP** **18 13 03.5 +0.9**
JNW IVmB_BB 18 13 07.7
comp=Z,5μm,2.3s
JNW IVMs_BB IVMs_BB 18 58 16.6
comp=Z,5μm,24.3s
AAK Ala-Archa 129.91 71 IAMs_20 IAMs_20 19 10 14.9
comp=Z,14μm,21.0s
AAK Ala-Archa 129.91 71 SKPbc SKPab 18 16 19.9 -1.0
comp=Z,9.3nm,0.9s,baz=198,slow=3.2,SNR=5.6
AAK Ala-Archa 129.91 71 P **PKPdf** **18 13 03.3 +0.3**
SNR=34
AAK Ala-Archa 129.91 71*ce*PKIKP **PKiKP** **18 13 03.5 -0.3**
AAK pmax pmax
comp=Z,323nm,2.5s
AAK MLR MLR
comp=Z,14μm,21.0s
AAK Ala-Archa 129.91 71 PKP **PKPdf** **18 13 02.9 -0.1**
AAK PKP **PKiKP** **18 13 03.5 -0.3**
D08A Wollman Farm, 130.04 297 IAMs_20 IAMs_20 19 10 50.2
comp=Z,13μm,22.0s
NEW Newport 130.09 299 SKPbc **SKPab** **18 16 20.8 -0.5**
comp=Z,38nm,0.9s,baz=258,slow=2.7,SNR=3.5
FRU1 Bishkek 130.11 71 **PKPdf** **18 13 02.3 -1.0**
FRU1 IAMs_20 IAMs_20 19 10 33.0
comp=Z,13μm,20.0s
FRU1 Bishkek 130.11 71 PKIKP **PKPdf** **18 13 02.3 -1.0**
FRU1 MLR MLR
comp=Z,13μm,20.0s
E07A Sunnyside 130.12 296 IAMs_20 IAMs_20 19 09 52.1
comp=Z,14μm,20.0s
KBK Karagaybulak 130.15 72 P **PKiKP** **18 13 04.0 -0.3**
SNR=22
CHMS Chumysh 130.31 71 P **PKPdf** **18 13 03.8 +0.2**
SNR=20
COR Corvallis 130.33 292 IAMs_20 IAMs_20 19 06 01.7
comp=Z,10μm,22.0s
UMMG Uummannaq 130.35 349 *i* P **PKPdf** **18 13 02.5 -0.2**
USP Ospenovka 130.38 71 P **PKPdf** **18 13 03.6 -0.1**
SNR=30
JOHN Johnston Islan 130.56 228 **PKPdf** **18 13 02.9 -1.9**
TKM2 Tokmak 2 130.67 72 P **PKiKP** **18 13 06.5 +1.1**
SNR=14
KMI Kunming 130.78 110 Pdif **Pdif** **18 09 57.5 +1.1**
KMI PKP **PKPdf** **18 13 04.9 -0.4**
KMI PP **PP** **18 15 20.9 -0.7**
KMI SKS **SKSac** **18 20 12.4 +1.2**

KMI SKKS **SKKSac** **18 22 10.6 -3.3**
KMI SS **SS** **18 32 47.1 -0.6**
KMI AMB AMB
comp=Z,2μm,8.7s
KMI LR LR
comp=Z,8μm,21.8s
KMI LR LR
comp=Z,7μm,21.3s
KMI LR LR
comp=Z,12μm,22.1s
KIRV Kirov 130.84 42 PKP **PKPdf** **18 13 04.0 0.0**
comp=Z,74nm,0.8s,baz=216,slow=1.7,SNR=41
KIRV PP **PP** **18 15 18.6 -3.0**
comp=Z,58nm,0.9s,baz=276,slow=3.8,SNR=4.3
KIRV SKPbc **SKPbc** **18 16 23.9 +0.1**
comp=Z,59nm,1.1s,baz=213,slow=3.5,SNR=7.1
KIRV Kirov 130.84 42*ce*PKIKP **PKPdf** **18 13 03.9 0.0**
KDJ Kajisay 130.88 74 IAMs_20 IAMs_20 19 12 42.5
comp=Z,13μm,19.0s
LTY Liberty 131.01 296 IAMs_20 IAMs_20 19 10 39.6
comp=Z,14μm,22.0s
B08A Colville Reser 131.18 298 IAMs_20 IAMs_20 19 11 07.2
comp=Z,16μm,21.0s
SUMG Summit 131.19 355 IAMs_20 IAMs_20 18 59 21.9
comp=Z,12μm,21.0s
SUMG Summit 131.19 355 PKP **PKPdf** **18 13 04.3 -0.5**
SUMG Summit 131.19 355 *i* P **PKiKP** **18 13 05.8 0.0**
WUS Wushi 131.22 76 **PKPdf** **18 13 04.2 -1.4**
WUS Wushi 131.22 76 IAMs_20 IAMs_20 19 16 09.0
comp=Z,8μm,18.0s
F04D Rainier, OR 131.28 293 IAMs_20 IAMs_20 19 13 43.7
comp=Z,10μm,22.0s
NUUG Nuugaatsiaq 131.29 349 *i* P **PKiKP** **18 13 05.1 -0.4**
TNSS Tian-Shan 131.43 73 *e*PKIKP **PKPdf** **18 13 05.3 -0.9**
TNSS Tian-Shan 131.43 73 *e*PKP **PKPdf** **18 13 05.4 -0.9**
PZH PanZhiHua 131.43 108 PKP **PKPdf** **18 13 05.2 -1.2**
PZH PP PP 18 15 34.0 +8.3
PZH SKKS 18 22 12.8
PZH AMB AMB
comp=Z,2μm,8.9s
PZH LR LR
comp=Z,5μm,20.2s
PZH LR LR
comp=Z,5μm,21.6s
PZH LR LR
comp=Z,6μm,22.6s
AAA Alma-Ata 131.54 73 *e*PKIKP **PKPdf** **18 13 05.6 -0.4**
AAA MLR MLR
comp=Z,18μm,20.0s
AAA Alma-Ata 131.54 73 *e*PKP **PKPdf** **18 13 05.6 -0.4**
AAA LR LR 19 10 60.0
comp=Z,18μm,20.4s
MDOK Medeo 131.57 73 *e*PKIKP **PKPdf** **18 13 05.7 -0.4**
MDOK *e* 18 15 25.7
MDOK MLR MLR
comp=Z,6μm,17.0s
MDOK Medeo 131.57 73 *e*PKP **PKPdf** **18 13 05.8 -0.4**
MDOK *e*PP **PP** **18 15 25.7 -1.1**
MDOK LR LR 19 10 36.9
comp=Z,6μm,16.6s
D05A Enumclaw 131.58 295 IAMs_20 IAMs_20 19 11 42.9
comp=Z,15μm,22.0s
KUU Kurty 131.75 72 *e*PKIKP **PKPdf** **18 13 06.0 -0.2**
KUU MLR MLR
comp=Z,7μm,19.0s
KUU Kurty 131.75 72 *e*PKP **PKPdf** **18 13 06.1 -0.2**
KUU LR LR 19 10 44.1
comp=Z,7μm,19.1s
PRZ Przheval'sk 131.75 74 IAMs_20 IAMs_20 19 13 05.8
comp=Z,12μm,20.0s
TRO Tromso 131.83 19 *e*PKPdf **PKPdf** **18 13 04.5 -1.1**
TRO IVmB_BB 18 13 11.1
comp=Z,1μm,2.8s
TRO *e*PP **PP** **18 15 27.4 -0.4**
TRO *e*SKPdf **SKPdf** **18 16 35.4 -0.9**
TRO IVMs_BB IVMs_BB 19 08 21.2
comp=Z,6μm,19.7s
RADR Rader Ridge 131.90 293 IAMs_20 IAMs_20 19 18 35.2
comp=Z,12μm,20.0s
JETT Jettan, Norway 132.02 20 *e*PKPdf **PKPdf** **18 13 05.7 -0.3**
JETT *e*PP **PP** **18 15 29.1 +0.1**
CHKK Chushkaly 132.04 72 *e*PKIKP **PKPdf** **18 13 06.3 -0.5**
CHKK Chushkaly 132.04 72 *e*PKP **PKPdf** **18 13 06.3 -0.5**
KTK1 Kautokeino 132.07 21 *e*PKPdf **PKPdf** **18 13 06.0 -0.1**
KTK1 IVmB_BB 18 13 09.9
comp=Z,2μm,2.9s
KTK1 *e*PP **PP** **18 15 26.3 -3.1**
KTK1 *e*PP **PP** **18 15 27.2 -2.2**
KTK1 *e*SKPdf **SKPdf** **18 16 35.4 -1.5**
KTK1 *e*SP SKKPbc 18 25 36.5 -19
KTK1 IVMs_BB IVMs_BB 19 00 59.1
comp=Z,3μm,26.9s
SATY Saty 132.18 74 *e*PKIKP **PKPdf** **18 13 06.8 -0.5**
SATY *e* 18 15 29.5
SATY Saty 132.18 74 *e*PKP **PKPdf** **18 13 06.8 -0.5**
SATY *e*PP **PP** **18 15 29.6 -1.1**
WISH Wishkah 132.38 294 IAMs_20 IAMs_20 19 12 55.0
comp=Z,15μm,22.0s
UZB Uzynbulak 132.55 74 *e*PKIKP **PKPdf** **18 13 07.4 -0.6**
UZB Uzynbulak 132.55 74 *e*PKP **PKPdf** **18 13 07.5 -0.6**
ARTI Arti 132.58 49 IAMs_20 IAMs_20 19 12 43.9
comp=Z,11μm,22.0s
ARTI Arti 132.58 49 PKhKP PKPpre 18 12 51.7
comp=Z,10.0nm,0.8s,baz=231,slow=4.5,SNR=9.0
ARTI PKP **PKPdf** **18 13 07.6 +0.2**
comp=Z,27nm,0.8s,baz=220,slow=1.8,SNR=25
ARTI PP **PP** **18 15 30.9 -1.9**
comp=Z,34nm,1.0s,baz=247,slow=4.9,SNR=3.7
ARTI SKPbc **SKPbc** **18 16 30.0 -0.2**
comp=Z,42nm,1.1s,baz=152,slow=1.3,SNR=4.7
ARTI Arti 132.58 49 *i* PKIKP **PKPdf** **18 13 05.7 -1.7**
ARTI SSS SSS 18 38 08.2
ARTI MLR MLR
comp=Z,11μm,22.0s
NLWA Neilton Lookou 132.62 294 IAMs_20 IAMs_20 19 12 12.5
comp=Z,14μm,22.0s
DBG Daneborg 132.67 2 *i* P **PKPdf** **18 13 07.5 +0.4**
ARXS Arharly 132.72 72 *i* PKIKP **PKPdf** **18 13 06.6 -1.6**
UPNV Upernavik 132.77 348 *i* P **PKPdf** **18 13 07.8 +0.5**
SHLS Shalkode 132.78 74 *e*PKIKP **PKPdf** **18 13 08.3 -0.1**
SHLS *e* 18 15 34.6
SHLS Shalkode 132.78 74 *e*PKP **PKPdf** **18 13 08.3 -0.1**
SHLS *e*PP **PP** **18 15 34.6 +0.1**
ARA0 ARCESS Array S 132.95 22 *e*PKPdf **PKPdf** **18 13 07.3 -0.4**
ARA0 IVmB_BB 18 13 12.8
comp=Z,1μm,1.6s
ARA0 *e*PP **PP** **18 15 35.0 -0.1**
ARA0 *e*SS SS 18 33 10.5 -2.6
ARA0 IVMs_BB IVMs_BB 19 01 39.4
comp=Z,4μm,25.9s
ARCES ARCESS Array B 132.95 22 PKhKP PKPpre 18 12 51.2
comp=Z,3.9nm,0.6s,baz=216,slow=3.9,SNR=14
ARCES PKP **PKPdf** **18 13 06.6 -1.1**
comp=Z,59nm,0.7s,baz=205,slow=1.9,SNR=32
ARCES PP **PP** **18 15 31.3 -3.7**
comp=Z,21nm,0.8s,baz=224,slow=5.1,SNR=6.1
ARCES SKPbc **SKPbc** **18 16 30.9 -0.1**
comp=Z,26nm,0.8s,baz=218,slow=2.6,SNR=6.3
APA Apatity 133.05 27⇓*i*PKIKP **PKPdf** **18 13 07.2 -0.7**
APA *i* 18 15 37.3
APA *i* 18 25 44.0
APA *i* PS PS 18 25 59.0 +6.4
APA *i* SS SS 18 33 15.0 +0.6
APA pmax pmax
comp=Z,81nm,0.8s
PGC Sidney 133.31 296 IAMs_20 IAMs_20 19 15 11.7
comp=Z,9μm,21.0s
C03A Quillayute Air 133.35 294 IAMs_20 IAMs_20 19 17 12.7
comp=Z,12μm,20.0s
KEV Kevo 133.43 22 PKPpre 18 12 52.4
KEV PKPdf **PKPdf** **18 13 09.0 +0.4**
KEV IAMs_20 IAMs_20 19 02 44.6
comp=Z,10μm,22.0s
KEV Kevo 133.43 22 PKIKP **PKPdf** **18 13 09.0 +0.4**
KEV 19 12 52.4
KEV Kevo 133.43 22 PKP **PKPdf** **18 13 07.9 -0.7**
HAMF Hammerfest 133.54 20 *e*PKPdf **PKPdf** **18 13 08.3 -0.4**
HAMF *e*PP **PP** **18 15 38.0 -0.7**
HAMF *e*SS SS 18 33 20.0 -0.2
HAMF IVMs_BB IVMs_BB 19 00 34.0
comp=Z,4μm,31.2s
LVZ Lovozero 133.61 27 PKPpre 18 12 53.1
LVZ PKPdf **PKPdf** **18 13 07.9 -1.1**
LVZ IAMs_20 IAMs_20 19 07 16.2
comp=Z,15μm,21.0s

LVZ Lovozero 133.61 27*ce*PKIKP **PKPdf** **18 13 08.7 -0.3**
LVZ pmax pmax
comp=Z,98nm,0.7s
HKPS Hong Kong Po S 133.66 124 IAMs_20 IAMs_20 19 03 59.1
comp=Z,12μm,20.0s
CLRS Cowichan Lake 133.76 295 IAMs_20 IAMs_20 19 11 20.4
comp=Z,10μm,22.0s
SVE Sverdlovsk 133.78 49*d i*PKIKP **PKPdf** **18 13 09.7 +0.1**
SVE *e* 18 15 37.4
SVE *e* 18 33 24.7
SVE pmax pmax
comp=Z,339nm,2.3s
SVE MLR MLR
comp=Z,7μm,24.0s
GYA Guiyang 133.81 113⇑PKP **PKiKP** **18 13 12.4 +0.2**
GYA SKKS 18 22 31.1
GYA AMB AMB
comp=Z,1μm,7.6s
GYA LR LR
comp=Z,4μm,22.4s
GYA LR LR
comp=Z,2μm,22.4s
GYA LR LR
comp=Z,5μm,19.8s
GZH Guangzhou 134.02 122⇓PKP **PKiKP** **18 13 14.1 +1.6**
GZH SS SS 18 33 38.7 +12
GZH LR LR
comp=Z,10μm,23.3s
GZH LR LR
comp=Z,9μm,24.1s
GZH LR LR
comp=Z,18μm,22.2s
VADS Vadso 134.20 23 *e*PKPdf PKPdf 18 12 56.9 -13
VADS IVmB_BB 18 13 15.8
comp=Z,2μm,2.8s
VADS *e*PP **PP** **18 15 40.7 -2.2**
VADS IVMs_BB IVMs_BB 19 07 23.4
comp=Z,3μm,22.7s
BRZS Berezniki 134.29 63 *e*PKIKP **PKPdf** **18 13 10.6 -0.2**
BRZS Berezniki 134.29 63 *e*PKP **PKPdf** **18 13 10.7 -0.2**
GUMO Guam 134.50 167 PKP **PKPdf** **18 13 12.4 +0.1**
comp=Z,34nm,0.5s,baz=35,slow=23,SNR=4.8
KULLO Kullorsuaq 134.56 349 *i* P **PKPdf** **18 13 11.1 +0.5**
CBB Campbell River 135.18 296 IAMs_20 IAMs_20 19 18 18.9
comp=Z,10μm,20.0s
BRVK Borovoye 135.29 59 IAMs_20 IAMs_20 19 12 55.5
comp=Z,12μm,22.0s
BRVK Borovoye 135.29 59 *i* PKIKP **PKPdf** **18 13 10.7 -1.9**
BRVK MLR MLR
comp=Z,11μm,21.0s
BVAR Borovoye Array 135.32 59 PKhKP PKPpre 18 12 58.2
comp=Z,6.2nm,0.7s,baz=228,slow=5.0,SNR=27
BVAR PKP **PKPdf** **18 13 12.2 -0.5**
comp=Z,108nm,0.8s,baz=285,slow=1.0,SNR=31
BVAR SKPbc **SKPbc** **18 16 39.9 +0.6**
comp=Z,17nm,0.9s,baz=225,slow=3.6,SNR=3.6
BVAR PKKP **PKKPdf** **18 22 55.1 +0.6**
comp=Z,2.6nm,0.6s,baz=46,slow=4.3,SNR=3.6
BVAR SKKPbc **SKKPbc** **18 25 44.2 +1.8**
comp=Z,13nm,0.9s,baz=68,slow=1.7,SNR=5.0
GOMU GeErMu 135.59 93 SS SS 18 33 48.5 +2.0
GOMU pmax pmax
comp=Z,3μm,6.6s
GOMU LR LR
comp=N,8μm,19.9s
GOMU LR LR
comp=E,9μm,20.2s
GOMU LR LR
comp=Z,14μm,19.9s
CD2 Chengdu 136.05 106 PKP **PKiKP** **18 13 16.6 +0.1**
CD2 PP **PP** **18 15 54.2 -0.8**
CD2 SKS **SKSdf** **18 20 22.4 +0.9**
CD2 SKKS **SKKSac** **18 22 42.9 -2.5**
CD2 AMB AMB
comp=Z,2μm,8.4s
CD2 LR LR
comp=Z,6μm,22.1s
CD2 LR LR
comp=Z,7μm,21.5s
BJO1 Bjornoya 136.05 16 *e*PKPdf PKPdf 18 13 01.2 -12
BJO1 *e*PP **PP** **18 15 54.0 -0.5**
BJO1 *e*SS SS 18 33 50.6 +0.4
BJO1 IVMs_BB IVMs_BB 19 03 22.9
comp=Z,2μm,19.6s
MAKZ Makanchi 136.62 73 IAMs_20 IAMs_20 19 17 07.3
comp=Z,10μm,19.0s
MKAR Makanchi Array 136.77 73 PKPpre 18 13 01.9
MKAR Makanchi Array 136.77 73 PKhKP PKPpre 18 13 03.8
comp=Z,12nm,0.9s,baz=210,slow=4.2,SNR=18
MKAR PKP **PKPdf** **18 13 14.6 -1.0**
comp=Z,23nm,0.7s,baz=288,slow=1.5,SNR=20
MKAR SKPbc **SKPbc** **18 16 43.8 -0.2**
comp=Z,14nm,1.0s,baz=224,slow=3.3,SNR=4.2
MKAR PKKP **PKKPdf** **18 22 52.1 +0.6**
comp=Z,5.8nm,0.8s,baz=14,slow=1.0,SNR=6.9
HOLB Holberg 136.90 295 IAMs_20 IAMs_20 19 15 16.5
comp=Z,14μm,22.0s
WMQ Urumqi 137.45 80 PKP **PKiKP** **18 13 19.9 +1.0**
WMQ PP **PP** **18 16 05.4 +1.5**
WMQ PKS **PKSdf** **18 16 52.1 -1.0**
WMQ AMB AMB
comp=Z,2μm,9.1s
WMQ LR LR
comp=Z,3μm,24.3s
WMQ LR LR
comp=Z,4μm,20.9s
WMQ LR LR
comp=Z,4μm,20.9s
KURBB Kurchatov Arra 137.50 66 PKhKP PKPpre 18 13 06.0
comp=Z,9.7nm,0.8s,baz=233,slow=3.9,SNR=22
KURBB PKP **PKPdf** **18 13 16.6 -0.1**
comp=Z,32nm,0.7s,baz=231,slow=2.1,SNR=28
KURBB PP **PP** **18 16 02.6 -1.4**
comp=Z,10nm,0.9s,baz=230,slow=5.8,SNR=7.2
KURBB SKPbc **SKPbc** **18 16 44.6 -1.4**
comp=Z,7.7nm,1.0s,baz=230,slow=4.3,SNR=6.1
KURBB PKKP **PKKPdf** **18 22 48.0 -2.1**
comp=Z,4.7nm,0.9s,baz=283,slow=3.5,SNR=4.1
KURK Kurchatov 137.60 66 IAMs_20 IAMs_20 19 18 19.4
comp=Z,7μm,18.0s
KURK Kurchatov 137.60 66 PKIKP **PKPdf** **18 13 16.6 -0.3**
TULEG Thule 137.64 346 *i* P **PKPdf** **18 13 14.7 -1.6**
HSPB Hornsund (broa 137.75 13 *e*P **PKPdf** **18 13 15.3 -1.2**
HSPB *e*PP **PP** **18 16 06.9 +1.8**
HSPB *e*L L 19 12 45.4
comp=Z,9μm,20.4s
QZH Quanzhou 137.91 127 *e*PKP **PKPdf** **18 13 11.8 -6.5**
QZH PKP **PKiKP** **18 13 18.5 -1.8**
QZH PP **PP** **18 16 01.3 -5.0**
QZH PKS PKSdf 18 16 46.6 -8.0
QZH SKKS 18 22 54.4
CNSH ChangSha 138.23 118 PKP **PKPdf** **18 13 14.8 -4.0**
CNSH SKKS 18 22 55.3
CNSH LR LR
comp=Z,5μm,25.5s
CNSH LR LR
comp=Z,5μm,24.3s
CNSH LR LR
comp=Z,13μm,24.8s
HOPEN Hopen 138.57 16 *e*P PKPdf 18 13 08.9 -9.1
YKA Yellowknife Ar 138.67 315 PKhKP PKPpre 18 13 10.7
comp=Z,33nm,0.8s,baz=123,slow=3.1,SNR=42
YKA PKP **PKPdf** **18 13 18.8 +0.3**
comp=Z,262nm,0.8s,baz=130,slow=2.1,SNR=36
YKA PP **PP** **18 16 10.1 -1.0**
comp=Z,39nm,0.9s,baz=121,slow=6.6,SNR=7.7
YKA SKPbc **SKPbc** **18 16 48.8 -0.1**
comp=Z,32nm,0.8s,baz=126,slow=2.3,SNR=6.4
SPA0 Spitsbergen Ar 138.86 12 *e*PKPdf PKPdf 18 13 09.9 -8.6
SPA0 *e*PP **PP** **18 16 11.2 -0.8**
SPA0 *e*SS SS 18 34 19.4 -4.0
SPA0 IVMs_BB IVMs_BB 19 04 14.7
comp=Z,3μm,22.9s
SPITS Spitsbergen Ar 138.86 12 PKhKP PKPpre 18 13 09.6
comp=Z,25nm,0.8s,baz=169,slow=6.0,SNR=26
SPITS PKP **PKPdf** **18 13 18.9 +0.4**
comp=Z,84nm,1.0s,baz=190,slow=7.0,SNR=10.0
SPITS SKPbc **SKPbc** **18 16 50.6 +1.5**
comp=Z,20nm,0.8s,baz=179,slow=3.3,SNR=6.1
SPITS Spitsbergen Ar 138.86 12 PKIKP **PKPdf** **18 13 19.0 +0.4**
KBS Kingsbay 139.06 10 PKPpre 18 13 08.4
KBS IAMs_20 IAMs_20 19 03 03.1
comp=Z,9μm,22.0s
KBS Kingsbay 139.06 10 PKHKP PKPpre 18 13 08.5
KBS MLR MLR
comp=Z,10μm,22.0s

YOJ	**Yonaguni jima**	**139.25 133**	IAMs_20	IAMs_20	19 19 36.6	
	comp=Z,8μm,20.0s					
HG4B	**Hotspring**	**139.43 295**		**PKPdf**	**18 13 20.1**	**-0.1**
LZH	**Lanzhou**	**140.19 102**	sPKP		18 13 31.0	
LZH			*e*PKP	PKPpre	18 13 09.4	
LZH			PP	PP	18 16 05.1	-16
LZH			SKS	SKSdf	18 20 02.2	-26
LZH			SKKS	**SKKSac**	**18 23 08.5**	**-1.4**
MOBC	**Moresby Island**	**140.33 295**		**PKPdf**	**18 13 22.6**	**+0.7**
GTA	**Gaotai**	**140.61 94**	sPKP		18 13 29.1	
GTA			PKP	PKPpre	18 13 15.5	
GTA			PP	**PP**	**18 16 28.2**	**+4.7**
GTA			PKS	**PKSdf**	**18 17 00.2**	**+1.2**
GTA			SKKS		18 23 10.2	
TOAD	**Toad River Com**	**140.72 306**	PKPdf	**PKPdf**	**18 13 23.3**	**+0.8**
	baz=125					
WHN	**Wuhan**	**140.88 118**	PP	**PP**	**18 16 27.8**	**+3.1**
WHN			PKPbc	PKPpre	18 13 16.3	
WHN			SKKS		18 23 15.3	
KOTAN	**Kotaneelee Air**	**140.96 308**	PKPdf	**PKPdf**	**18 13 23.9**	**+1.2**
	baz=125					
U35K	**Hyder**	**141.10 300**	PKPdf	**PKPdf**	**18 13 24.1**	**+1.0**
	baz=126					
XAN	**Xi'an**	**141.15 109**	sPKP		18 13 46.9	
XAN			⇑PKP	PKPpre	18 13 17.6	
XAN			PP	PP	18 16 35.2	+8.7
XAN			SKS	**SKSdf**	**18 20 40.2**	**+10**
XAN			SKKS	**SKKSac**	**18 23 08.0**	**-7.3**
LIRD	**Liard River Hi**	**141.41 306**	PKPdf	**PKPdf**	**18 13 23.7**	**+0.1**
	baz=124					
V35K	**Ketchikan**	**141.48 298**	IAMs_20	IAMs_20	19 17 44.7	
	comp=Z,12μm,22.0s					
V35K	**Ketchikan**	**141.48 298**	PKPdf	**PKPdf**	**18 13 25.1**	**+1.2**
	baz=126					
T35M	**Bob Quinn**	**141.83 301**	PKPdf	**PKPdf**	**18 13 25.7**	**+1.2**
	baz=125					
CRAG	**Craig**	**142.26 298**	IAMs_20	IAMs_20	19 21 06.3	
	comp=Z,10μm,21.0s					
CRAG	**Craig**	**142.26 298**	PKPdf	**PKPdf**	**18 13 26.1**	**+0.9**
	baz=125					
WRGLY	**Wrigley**	**142.43 313**		PKPpre	18 13 18.1	
WRGLY	**Wrigley**	**142.43 313**	PKPdf	**PKPdf**	**18 13 26.5**	**+1.2**
	baz=122					
WRAK	**Wrangell Islan**	**142.45 299**		PKPpre	18 13 20.1	
WRAK	**Wrangell Islan**	**142.45 299**	IAMs_20	IAMs_20	19 19 26.3	
	comp=Z,10μm,20.0s					
WRAK	**Wrangell Islan**	**142.45 299**	PKPdf	**PKPdf**	**18 13 26.6**	**+1.0**
	baz=125					
ZALV	**Zalesovo Beam**	**142.59 66**		PKPpre	18 13 19.9	
ZALV	**Zalesovo Beam**	**142.59 66**	PKhKP	PKPpre	18 13 20.9	
	comp=Z,30nm,0.6s,baz=239,slow=3.3,SNR=55					
ZALV	**Zalesovo Beam**	**142.59 66**	PKHKP	PKPpre	18 13 19.9	
U33K	**Whale Pass**	**142.64 298**		**PKPdf**	**18 13 24.9**	**-0.9**
U33K			IAMs_20	IAMs_20	19 22 37.1	
	comp=Z,13μm,21.0s					
U33K	**Whale Pass**	**142.64 298**	PKPdf	**PKPdf**	**18 13 26.8**	**+0.9**
	baz=125					
S34M	**Telegraph Cree**	**142.75 302**	PKPdf	**PKPdf**	**18 13 27.7**	**+1.7**
	baz=124					
WTLY	**Watson Lake, Y**	**142.93 306**	PKPdf	**PKPdf**	**18 13 28.1**	**+1.7**
	baz=122					
T33K	**Petersburg**	**142.95 299**	PKPdf	**PKPdf**	**18 13 27.6**	**+1.3**
	baz=124					
LYN	**LuoYang**	**143.30 112**	PKP	PKPab	18 13 22.2	-1.6
LYN			sPKP		18 13 42.2	
LYN			PP	**PP**	**18 16 43.6**	**+4.2**
LYN			PKS	**PKSdf**	**18 16 57.6**	**-5.9**
LYN			SKKS		18 23 25.2	
LYN			SS	**SS**	**18 35 14.0**	**-1.9**
LYN			AMB	AMB		
	comp=Z,3μm,9.1s					
LYN			LR	LR		
	comp=Z,5μm,17.5s					
LYN			LR	LR		
	comp=Z,21μm,19.9s					
JOW	**Kunigami**	**143.33 139**		PKPbc	18 13 25.4	0.0
JOW			IAMs_20	IAMs_20	19 21 01.5	
	comp=Z,10μm,20.0s					
TGTN	**Hyland Airport**	**143.46 308**	PKPdf	**PKPdf**	**18 13 28.0**	**+0.7**
	baz=121					
R33M	**Jennings River**	**143.48 304**	IAMs_20	IAMs_20	19 18 25.3	
	comp=Z,10μm,22.0s					
R33M	**Jennings River**	**143.48 304**	PKPdf	**PKPdf**	**18 13 28.5**	**+1.0**
	baz=122					
Q32M	**Nakina River**	**143.82 303**		PKPbc	18 13 26.7	+0.7
Q32M			IAMs_20	IAMs_20	19 26 54.3	
	comp=Z,9μm,20.0s					
Q32M	**Nakina River**	**143.82 303**	PKPdf	**PKPdf**	**18 13 29.6**	**+1.4**
	baz=122					
MIDW	**Midway**	**143.95 225**		PKPbc	18 13 27.5	+0.4
MIDW			IAMs_20	IAMs_20	19 13 52.0	
	comp=Z,9μm,21.0s					
S32K	**Killisnoo**	**144.05 300**		PKPbc	18 13 27.1	+0.6
S32K	**Killisnoo**	**144.05 300**	PKPdf	**PKPdf**	**18 13 30.1**	**+1.8**
	baz=123					
SIT	**Sitka**	**144.17 299**	IAMs_20	IAMs_20	19 20 17.8	
	comp=Z,10μm,20.0s					
SIT	**Sitka**	**144.17 299**	PKPdf	**PKPdf**	**18 13 29.9**	**+1.3**
	baz=123					
NJ2	**Nanjing**	**144.20 122**	⇑PKP	PKPbc	18 13 27.7	0.0
NJ2			pPKP	**PKiKP**	**18 13 36.6**	**+3.6**
NJ2			sPKP		18 13 40.8	
NJ2			PP	**PP**	**18 16 46.0**	**+1.3**
NJ2			SKKS		18 23 34.8	
NJ2			AMB	AMB		
	comp=Z,2μm,7.8s					
NJ2			LR	LR		
	comp=Z,6μm,21.8s					
NJ2			LR	LR		
	comp=Z,4μm,20.8s					
NJ2			LR	LR		
	comp=Z,6μm,19.4s					
SSE	**Sheshan**	**144.39 126**	PKP	PKPab	18 13 17.2	-11
SSE			PP	PP	18 16 37.2	-8.6
P33M	**Teslin, Yukon**	**144.70 304**	PKPdf	**PKPdf**	**18 13 29.8**	**+0.3**
	baz=120					
P32M	**Atlin**	**144.78 303**	IAMs_20	IAMs_20	19 17 11.7	
	comp=Z,11μm,22.0s					
P32M	**Atlin**	**144.78 303**	PKPdf	**PKPdf**	**18 13 29.8**	**+0.2**
	baz=120					
S31K	**Pelican**	**145.07 300**	PKPdf	**PKPdf**	**18 13 30.9**	**+0.8**
	baz=121					
R31K	**City Hall, Gus**	**145.08 300**	PKPdf	**PKPdf**	**18 13 30.8**	**+0.7**
	baz=121					
MMPY	**Sheldon Lake,**	**145.22 309**		**PKPbc**	**18 13 28.6**	**-1.6**
MMPY	**Sheldon Lake,**	**145.22 309**	PKPdf	**PKPab**	**18 13 31.4**	**+1.1**
	baz=118					
N32M	**Quiet Lake**	**145.28 306**	PKPdf	**PKPab**	**18 13 31.9**	**+1.3**
	baz=119					
SKAG	**Skagway**	**145.43 302**	IAMs_20	IAMs_20	19 21 25.8	
	comp=Z,10μm,21.0s					
SKAG	**Skagway**	**145.43 302**	PKPdf	**PKPab**	**18 13 32.3**	**+1.3**
	baz=120					
C36M	**Paulatuk**	**145.52 322**		**PKPdf**	**18 13 28.3**	**-2.2**
C36M	**Paulatuk**	**145.52 322**	PKPdf	**PKPbc**	**18 13 31.1**	**+0.4**
	baz=114					
TIY	**Taiyuan**	**145.79 109**	PKPbc	**PKPab**	**18 13 32.7**	**-0.5**
TIY			PKPab	**PKiKP**	**18 13 35.9**	**-0.3**
TIY			SKKS		18 23 39.6	
TIY			LR	LR		
	comp=Z,6μm,20.2s					
TIY			LR	LR		
	comp=Z,4μm,19.0s					
TIY			LR	LR		
	comp=Z,8μm,20.6s					
WHY	**Whitehorse**	**145.82 304**		**PKPdf**	**18 13 29.4**	**-2.0**
WHY	**Whitehorse**	**145.82 304**	PKPdf	**PKPab**	**18 13 33.2**	**+0.6**
	baz=118					
PLBC	**Pleasant Camp**	**145.89 302**	PKPdf	**PKPab**	**18 13 33.8**	**+1.0**
	baz=119					
FARO	**Faro, Yukon**	**145.90 307**	PKPdf	**PKPab**	**18 13 33.2**	**+0.4**
	baz=117					
M31M	**Drury Creek, Y**	**146.32 307**	PKPdf	**PKPab**	**18 13 34.5**	**+0.1**
	baz=117					
O30N	**Mendenhall**	**146.39 304**	IAMs_20	IAMs_20	19 22 55.4	
	comp=Z,8μm,19.0s					
O30N	**Mendenhall**	**146.39 304**	PKPdf	**PKPab**	**18 13 35.0**	**+0.2**
	baz=118					
P30M	**Million Dollar**	**146.47 303**	PKPdf	**PKPab**	**18 13 35.1**	**0.0**
	baz=118					
P29M	**Windy Craggy**	**146.58 301**	IAMs_20	IAMs_20	19 20 26.4	
	comp=Z,13μm,21.0s					
P29M	**Windy Craggy**	**146.58 301**	PKPdf	**PKPab**	**18 13 35.4**	**-0.1**
	baz=118					
N31M	**Braeburn, Yuko**	**146.59 305**		**PKPdf**	**18 13 31.3**	**-1.3**
N31M	**Braeburn, Yuko**	**146.59 305**	PKPdf	**PKPab**	**18 13 35.3**	**-0.2**
	baz=117					
HNS	**HongShan**	**146.66 112**	⇑PKPbc	**PKPdf**	**18 13 33.2**	**-0.3**
HNS			PKS	PP	18 17 10.4	+11
HNS			SKKS		18 23 44.7	
HNS			SS	**SS**	**18 35 52.8**	**-1.5**
HNS			LR	LR		
	comp=Z,6μm,21.7s					
HNS			LR	LR		
	comp=Z,4μm,21.5s					
HNS			LR	LR		
	comp=Z,8μm,22.3s					
BTO	**Baotou**	**146.78 103**	*e*PKPbc	**PKPdf**	**18 13 33.6**	**-0.1**
BTO			PP	**PP**	**18 17 04.8**	**+4.4**
BTO			LR	LR		
	comp=Z,7μm,19.6s					
BTO			LR	LR		
	comp=Z,14μm,20.4s					
A36M	**Sachs Harbour**	**146.86 326**	PKPdf	**PKPbc**	**18 13 35.4**	**+0.7**
	baz=109					
TIA	**Tai'an**	**146.87 116**	PKPbc	**PKPbc**	**18 13 36.1**	**+0.3**
TIA			sPKP		18 13 49.7	
TIA			PKS	PP	18 17 08.7	+8.0
TIA			AMB	AMB		
	comp=Z,3μm,5.5s					
TIA			LR	LR		
	comp=Z,6μm,17.9s					
TIA			LR	LR		
	comp=Z,2μm,19.2s					
TIA			LR	LR		
	comp=Z,11μm,19.2s					
HYT	**Haines Junctio**	**147.03 303**	IAMs_20	IAMs_20	19 19 24.4	
	comp=Z,12μm,22.0s					
HYT	**Haines Junctio**	**147.03 303**	PKPdf	**PKPbc**	**18 13 35.3**	**-0.4**
	baz=117					
N30M	**Aishikik Lake**	**147.14 305**	PKPdf	**PKPbc**	**18 13 35.5**	**-0.4**
	baz=116					
O29M	**Mount Kennedy**	**147.27 302**	IAMs_20	IAMs_20	19 20 43.5	
	comp=Z,9μm,21.0s					
O29M	**Mount Kennedy**	**147.27 302**	PKPdf	**PKPdf**	**18 13 35.2**	**+1.2**
	baz=117					
PNL	**Peninsula**	**147.34 301**	PKPdf	**PKPdf**	**18 13 35.3**	**+1.3**
	baz=118					
JCJ	**Chichijima**	**147.35 159**		**PKPdf**	**18 13 32.4**	**-2.6**
JCJ			IAMs_20	IAMs_20	19 16 50.5	
	comp=Z,8μm,22.0s					
JCJ	**Chichijima**	**147.35 159**	PKPbc	**PKPdf**	**18 13 35.1**	**+0.1**
	comp=Z,514nm,0.8s,baz=184,slow=3.3,SNR=10					
YKU2	**Yakutat**	**147.40 300**	IAMs_20	IAMs_20	19 20 43.9	
	comp=Z,11μm,21.0s					
YUK6	**Outpost Mounta**	**147.46 303**	PKPdf	**PKPbc**	**18 13 36.0**	**-1.0**
	baz=116					
M30M	**Minto, Yukon**	**147.50 307**	PKPdf	**PKPdf**	**18 13 35.2**	**+1.0**
	baz=115					
BCPM	**Bancas Point**	**147.58 301**	IAMs_20	IAMs_20	19 20 54.9	
	comp=Z,9μm,20.0s					
HHC	**Hu-ho-hao-te**	**147.74 104**	*e*PKPbc	**PKPbc**	**18 13 38.5**	**+0.2**
HHC			sPKP		18 13 52.8	
HHC			PP	**PP**	**18 17 11.0**	**+4.9**
HHC			SKKS		18 23 51.6	
HHC			LR	LR		
	comp=Z,4μm,19.1s					
HHC			LR	LR		
	comp=Z,6μm,20.6s					
HHC			LR	LR		
	comp=Z,10μm,18.3s					
YUK4	**Talbot Arm**	**147.76 304**	PKPdf	**PKPdf**	**18 13 36.4**	**+1.6**
	baz=116					
H31M	**Peel River**	**147.79 313**	IAMs_20	IAMs_20	19 21 55.0	
	comp=Z,11μm,20.0s					
H31M	**Peel River**	**147.79 313**	PKPdf	**PKPdf**	**18 13 35.1**	**+0.6**
	baz=112					
PINM	**Pinnacle**	**147.92 301**	PKPdf	**PKPdf**	**18 13 36.3**	**+1.4**
	baz=116					
PCA	**Pinnacle**	**147.93 301**		**PKPdf**	**18 13 33.2**	**-1.8**
PCA			PKPbc	**PKPbc**	**18 13 39.0**	**+0.9**
PCA			IAMs_20	IAMs_20	19 21 05.9	
	comp=Z,11μm,21.0s					
J30M	**Hart River**	**148.11 310**	PKPdf	**PKPdf**	**18 13 36.1**	**+0.9**
	baz=112					
F31M	**Tsiigehtchic**	**148.14 316**	PKPdf	**PKPdf**	**18 13 35.4**	**+0.5**
	baz=110					
M29M	**Somme Creek**	**148.15 306**	PKPdf	**PKPdf**	**18 13 36.6**	**+1.3**
	baz=114					
G31M	**Satah River**	**148.16 315**	PKPdf	**PKPdf**	**18 13 35.7**	**+0.7**
	baz=110					
O28M	**Mount Upton**	**148.19 302**		**PKPdf**	**18 13 33.9**	**-1.8**
O28M			PKPbc	**PKiKP**	**18 13 40.1**	**-0.6**
O28M			IAMs_20	IAMs_20	19 17 04.0	
	comp=Z,12μm,22.0s					
O28M	**Mount Upton**	**148.19 302**	PKPdf	**PKPdf**	**18 13 36.9**	**+1.2**
	baz=116					
YUK8	**Steele Glacier**	**148.22 303**	PKPdf	**PKPdf**	**18 13 36.8**	**+1.1**
	baz=115					
L29M	**L29M**	**148.27 307**	IAMs_20	IAMs_20	19 17 50.0	
	comp=Z,12μm,22.0s					
L29M	**L29M**	**148.27 307**	PKPdf	**PKPdf**	**18 13 36.3**	**+0.9**
	baz=113					
K29M	**Barlow Dome**	**148.31 309**	IAMs_20	IAMs_20	19 22 59.8	
	comp=Z,11μm,20.0s					
K29M	**Barlow Dome**	**148.31 309**	PKPdf	**PKPdf**	**18 13 36.5**	**+0.9**
	baz=112					
I30M	**Mount Dempster**	**148.36 311**	PKPdf	**PKPdf**	**18 13 36.0**	**+0.4**
	baz=111					
YAH	**Yahtse**	**148.71 301**	IAMs_20	IAMs_20	19 21 05.7	
	comp=Z,11μm,22.0s					
MESA	**MESA**	**148.72 301**	IAMs_20	IAMs_20	19 25 02.0	
	comp=Z,10μm,20.0s					
MESA	**MESA**	**148.72 301**	PKPdf	**PKPdf**	**18 13 37.8**	**+1.4**
	baz=116					
YUK3	**Moose Creek**	**148.73 304**	PKPdf	**PKPdf**	**18 13 36.9**	**+0.5**
	baz=114					
J29N	**Klondike Camp**	**148.82 309**	PKPdf	**PKPdf**	**18 13 37.4**	**+1.1**
	baz=111					
EPYK	**Eagle Plains**	**148.89 313**	PKPdf	**PKPdf**	**18 13 36.8**	**+0.4**
	baz=109					
G30M	**tAoh Zraii Nji**	**148.90 315**		**PKPdf**	**18 13 33.5**	**-2.9**
G30M			PKPbc	**PKPbc**	**18 13 40.9**	**+0.5**
G30M	**tAoh Zraii Nji**	**148.90 315**	PKPdf	**PKPdf**	**18 13 36.7**	**+0.3**
	baz=108					
F30M	**Barrier River**	**148.94 316**	IAMs_20	IAMs_20	19 20 59.3	
	comp=Z,11μm,20.0s					
F30M	**Barrier River**	**148.94 316**	PKPdf	**PKPdf**	**18 13 36.6**	**+0.3**
	baz=108					
DAWY	**Dawson**	**149.16 308**	PKPdf	**PKPdf**	**18 13 37.6**	**+0.8**
	baz=111					
BVCY	**Beaver Creek**	**149.16 305**	PKPdf	**PKPdf**	**18 13 37.7**	**+0.9**
	baz=113					
I29M	**Ogilvie Camp,**	**149.17 311**	PKPdf	**PKPdf**	**18 13 36.7**	**0.0**
	baz=110					
WAX	**Waxell Ridge**	**149.25 301**		**PKPdf**	**18 13 35.1**	**-2.0**
WAX			PKPbc	**PKPbc**	**18 13 42.0**	**+0.6**
BGLC	**Bering Glacier**	**149.30 300**	PKPdf	**PKPdf**	**18 13 38.1**	**+1.0**
	baz=115					
MOY	**Mondy**	**149.34 79**	*e*PKHKP	PKPpre	18 13 36.8	
MOY			pmax	pmax		
	comp=Z,2μm,2.5s					
BJI	**Beijing**	**149.44 110**	PKPbc	**PKPdf**	**18 13 37.5**	**-0.4**
BJI			pPKP	**pPKPdf**	**18 13 49.6**	**-2.3**
BJI			PKS	**PKSdf**	**18 17 10.2**	**-2.5**
BJI			SKKS		18 24 02.7	
BJI			AMB	AMB		
	comp=Z,880nm,8.3s					
BJI			LR	LR		
	comp=Z,2μm,22.4s					
BJI			LR	LR		
	comp=Z,2μm,22.2s					
BJI			LR	LR		
	comp=Z,3μm,19.6s					
H29M	**Whitestone**	**149.48 313**	PKPdf	**PKPdf**	**18 13 38.0**	**+0.8**
	baz=108					
G29M	**Pine Creek**	**149.56 314**	PKPdf	**PKPdf**	**18 13 37.6**	**+0.2**
	baz=107					
M27K	**Edge Creek, AK**	**149.58 304**	IAMs_20	IAMs_20	19 25 43.5	
	comp=Z,7μm,20.0s					
M27K	**Edge Creek, AK**	**149.58 304**	PKPdf	**PKPdf**	**18 13 38.4**	**+0.7**
	baz=112					
BERG	**Berg Lake**	**149.61 300**	IAMs_20	IAMs_20	19 20 07.9	
	comp=Z,12μm,21.0s					
KAIM	**Kayak Island**	**149.74 299**	PKPdf	**PKPdf**	**18 13 38.8**	**+1.0**
	baz=115					
ZAK	**Zakamensk**	**149.79 83**	*e*PKHKP	PKPpre	18 13 37.9	
ZAK			pmax	pmax		
	comp=Z,576nm,1.7s					
BCAR	**Beaver Creek A**	**149.80 306**		**PKPdf**	**18 13 35.4**	**-2.5**
BCAR			PKPbc	**PKiKP**	**18 13 43.6**	**0.0**
L27K	**Beaver Creek,**	**149.81 306**	PKPdf	**PKPdf**	**18 13 38.5**	**+0.6**
	baz=111					
VRDI	**Verde Repeater**	**149.83 302**	IAMs_20	IAMs_20	19 21 07.3	
	comp=Z,12μm,22.0s					
HMT	**Hamilton**	**149.84 300**	IAMs_20	IAMs_20	19 22 24.5	
	comp=Z,11μm,20.0s					
I28M	**Miner Creek**	**149.85 311**	PKPdf	**PKPdf**	**18 13 38.5**	**+0.5**
	baz=108					
SONM	**Songino Array**	**149.87 90**		**PKPdf**	**18 13 36.8**	**-1.8**
SONM	**Songino Array**	**149.87 90**	PKP	**PKPdf**	**18 13 37.9**	**-0.7**
	comp=Z,16nm,0.8s,baz=213,slow=2.2,SNR=46					
SONM			PKPbc	**PKPbc**	**18 13 43.3**	**-0.2**
	comp=Z,208nm,0.9s,baz=225,slow=3.1,SNR=98					
E29M	**Blow River**	**149.93 317**		**PKPdf**	**18 13 34.6**	**-3.3**
E29M			PKPbc	**PKPbc**	**18 13 43.2**	**+0.4**
E29M			IAMs_20	IAMs_20	19 20 14.5	
	comp=Z,12μm,22.0s					
E29M	**Blow River**	**149.93 317**	PKPdf	**PKPdf**	**18 13 37.7**	**-0.2**
	baz=105					
RAGM	**Ragged Mountai**	**150.04 300**		**PKiKP**	**18 13 44.0**	**-0.2**
GLB	**Gilahina Butte**	**150.07 302**		**PKPdf**	**18 13 36.4**	**-2.0**
GLB			PKPbc	**PKiKP**	**18 13 44.4**	**+0.2**
GLB			IAMs_20	IAMs_20	19 23 15.7	
	comp=Z,9μm,20.0s					
M26K	**Nabesna, AK**	**150.08 304**	IAMs_20	IAMs_20	19 23 43.7	
	comp=Z,12μm,22.0s					
M26K	**Nabesna, AK**	**150.08 304**	PKPdf	**PKPdf**	**18 13 38.7**	**+0.4**
	baz=112					
ULN	**Ulaanbaatar**	**150.23 90**		**PKPdf**	**18 13 37.4**	**-1.8**
ULN	**Ulaanbaatar**	**150.23 90**	PKIKP	**PKPdf**	**18 13 37.4**	**-1.8**
ULN			MLR	MLR		
	comp=Z,13μm,20.0s					
BMRM	**Bremner River**	**150.24 301**	PKPdf	**PKPdf**	**18 13 39.2**	**+0.6**
	baz=113					
K27K	**Chicken**	**150.25 308**	PKPdf	**PKPdf**	**18 13 39.4**	**+0.9**
	baz=109					
NRIK	**Noril'sk**	**150.35 41**		**PKPdf**	**18 13 36.0**	**-2.5**
NRIK			PKPbc	**PKPbc**	**18 13 43.8**	**0.0**
NRIK	**Noril'sk**	**150.35 41**	PKP	**PKPdf**	**18 13 35.8**	**-2.7**
	comp=Z,6.7nm,0.8s,baz=239,slow=2.0,SNR=13					
NRIK			PKPbc	**PKiKP**	**18 13 44.1**	**-0.4**
	comp=Z,105nm,0.8s,baz=233,slow=2.8,SNR=77					
NRIK	**Noril'sk**	**150.35 41**	PKIKP	**PKPbc**	**18 13 43.8**	**0.0**
D28M	**Stokes Point**	**150.45 319**	PKPdf	**PKPdf**	**18 13 39.2**	**+0.6**
	baz=103					
L26K	**Log Cabin Wild**	**150.45 305**	IAMs_20	IAMs_20	19 22 08.6	
	comp=Z,13μm,22.0s					
L26K	**Log Cabin Wild**	**150.45 305**	PKPdf	**PKPdf**	**18 13 39.3**	**+0.4**
	baz=110					
N25K	**Chitina, Valde**	**150.48 302**	IAMs_20	IAMs_20	19 20 38.6	
	comp=Z,10μm,22.0s					
N25K	**Chitina, Valde**	**150.48 302**	PKPdf	**PKPdf**	**18 13 39.8**	**+0.8**
	baz=112					
I27K	**Kandik River**	**150.56 311**	PKPdf	**PKPdf**	**18 13 39.7**	**+0.7**
	baz=107					
E28M	**Babbage River**	**150.56 317**		**PKPdf**	**18 13 35.4**	**-3.5**
E28M			PKPbc	**PKPbc**	**18 13 44.5**	**+0.1**
E28M			IAMs_20	IAMs_20	19 24 23.4	
	comp=Z,8μm,20.0s					
E28M	**Babbage River**	**150.56 317**	PKPdf	**PKPdf**	**18 13 38.8**	**-0.1**
	baz=103					
MENT	**Mentasta**	**150.58 305**	IAMs_20	IAMs_20	19 22 25.0	
	comp=Z,12μm,21.0s					
EYAK	**Cordova Ski Ar**	**150.60 300**	PKPdf	**PKPdf**	**18 13 39.7**	**+0.7**
	baz=113					
H27K	**Steamboat Moun**	**150.70 312**	PKPdf	**PKPdf**	**18 13 39.7**	**+0.5**
	baz=106					
G27K	**Doyon Strip**	**150.91 313**	PKPdf	**PKPdf**	**18 13 40.0**	**+0.5**
	baz=105					
DOT	**Dot Lake**	**150.96 306**	IAMs_20	IAMs_20	19 20 52.1	
	comp=Z,12μm,21.0s					
HARP	**HAARP**	**151.01 303**	PKPdf	**PKPdf**	**18 13 40.2**	**+0.4**
	baz=110					
J26L	**Joseph Creek**	**151.02 308**		**PKPdf**	**18 13 36.9**	**-2.9**
J26L			PKPbc	**PKiKP**	**18 13 46.7**	**+0.5**
J26L	**Joseph Creek**	**151.02 308**	PKPdf	**PKPdf**	**18 13 40.4**	**+0.6**
	baz=108					
KLU	**Klutina**	**151.03 301**	IAMs_20	IAMs_20	19 20 22.1	
	comp=Z,12μm,22.0s					
KLU	**Klutina**	**151.03 301**	PKPdf	**PKPdf**	**18 13 40.4**	**+0.5**
	baz=111					
SCRK	**Sand Creek**	**151.03 307**		**PKPdf**	**18 13 37.2**	**-2.7**
SCRK			IAMs_20	IAMs_20	19 20 48.0	
	comp=Z,12μm,21.0s					
SCRK	**Sand Creek**	**151.03 307**	PKPdf	**PKPdf**	**18 13 40.3**	**+0.4**
	baz=108					
I26K	**Coal Creek Min**	**151.09 310**	PKPdf	**PKPdf**	**18 13 39.7**	**-0.1**
	baz=106					
P23K	**Montague Islan**	**151.14 298**	PKPdf	**PKPdf**	**18 13 37.5**	**-2.5**
P23K				**PKiKP**	**18 13 46.9**	**+0.5**
P23K	**Montague Islan**	**151.14 298**	PKPdf	**PKPdf**	**18 13 39.7**	**-0.3**
	baz=113					
DL2	**Dalian**	**151.14 118**	PKPbc	**PKPdf**	**18 13 41.0**	**+0.3**
DL2			PKPab	**pPKPbc**	**18 13 57.2**	**-3.3**
DL2			PP	**PP**	**18 17 25.2**	**-0.2**
DL2			SS	SS	18 36 42.8	-1.6
DL2			AMB	AMB		
	comp=Z,3μm,8.0s					
DL2			LR	LR		
	comp=Z,6μm,22.6s					
DL2			LR	LR		
	comp=Z,4μm,20.4s					
DL2			LR	LR		
	comp=Z,12μm,24.5s					
D27M	**Malcolm River**	**151.21 318**	IAMs_20	IAMs_20	19 23 48.3	
	comp=Z,12μm,20.0s					
D27M	**Malcolm River**	**151.21 318**	PKPdf	**PKPdf**	**18 13 40.4**	**+0.5**
	baz=101					
E27K	**Coleen River**	**151.21 316**		**PKPdf**	**18 13 37.1**	**-2.9**
E27K	**Coleen River**	**151.21 316**	PKPdf	**PKPdf**	**18 13 40.2**	**+0.3**
	baz=102					
RIDG	**Independent Ri**	**151.32 306**	IAMs_20	IAMs_20	19 26 51.6	
	comp=Z,11μm,20.0s					
RIDG	**Independent Ri**	**151.32 306**	PKPdf	**PKPdf**	**18 13 40.4**	**+0.1**
	baz=108					
GLI	**Glacier Island**	**151.34 300**	IAMs_20	IAMs_20	19 20 47.1	
	comp=Z,11μm,22.0s					
GLI	**Glacier Island**	**151.34 300**	PKPdf	**PKPdf**	**18 13 40.3**	**0.0**
	baz=112					
PAX	**Paxson**	**151.34 304**	IAMs_20	IAMs_20	19 21 38.2	
	comp=Z,12μm,22.0s					
PAX	**Paxson**	**151.34 304**	PKPdf	**PKPdf**	**18 13 40.1**	**-0.3**
	baz=109					
IRK	**Irkutsk**	**151.35 81**	*e*PKIKP	**PKPdf**	**18 13 40.2**	**-0.4**
IRK			pmax	pmax		
	comp=Z,1μm,2.5s			

SML	Sawmill	152.22 301	IAMs_20	IAMs_20	19 23 42.5		
	comp=Z,10μm,21.0s						
SML	Sawmill	152.22 301	PKPdf	PKPdf	18 13 41.4	-0.3	
	baz=109						
C27K	Jago River	152.23 319	PKPdf	PKPdf	18 13 41.8	+0.5	
	baz=98						
XLT	XiLinHaoTe	152.25 105	*e*PKPbc	PKPdf	18 13 41.6	-0.7	
XLT			pPKP	PKiKP	18 13 51.5	+2.1	
XLT			PKPab	PKPab	18 13 59.6	+0.4	
XLT			PP	PP	18 17 31.8	-0.3	
XLT			SKKS		18 24 13.6		
XLT			SS	SS	18 36 57.5	+0.4	
XLT			AMB	AMB			
	comp=Z,3μm,9.4s						
XLT			LR	LR			
	comp=Z,540nm,21.7s						
XLT			LR	LR			
	comp=Z,3μm,18.7s						
XLT			LR	LR			
	comp=Z,9μm,23.4s						
H25L	Birch Creek	152.40 311	PKPdf	PKPdf	18 13 42.2	+0.6	
	baz=103						
O22K	Cooper Landing	152.40 298	PKPdf	PKPdf	18 13 41.5	-0.3	
	baz=111						
HDA	Harding Lake	152.40 307	IAMs_20	IAMs_20	19 24 46.1		
	comp=Z,11μm,21.0s						
HDA	Harding Lake	152.40 307	PKPdf	PKPdf	18 13 41.3	-0.5	
	baz=106						
ILAR	Eielson Array	152.47 308	PKP	PKPdf	18 13 39.2	-2.6	
	comp=Z,18nm,0.8s,baz=291,slow=0.8,SNR=60						
ILAR			PKPbc	PKiKP	18 13 49.2	+0.2	
	comp=Z,956nm,0.8s,baz=142,slow=1.8,SNR=140						
GHO	Glory Hole Cre	152.47 301	IAMs_20	IAMs_20	19 24 00.2		
	comp=Z,11μm,22.0s						
PMR	Palmer	152.51 300	IAMs_20	IAMs_20	19 24 02.1		
	comp=Z,9μm,20.0s						
PMR	Palmer	152.51 300	PKPdf	PKPdf	18 13 41.7	-0.3	
	baz=109						
F25K	Christian Rive	152.60 314		PKPdf	18 13 39.0	-3.0	
F25K			PKPbc	PKiKP	18 13 50.0	+0.7	
F25K			IAMs_20	IAMs_20	19 22 33.3		
	comp=Z,11μm,20.0s						
F25K	Christian Rive	152.60 314	PKPdf	PKPdf	18 13 42.4	+0.3	
	baz=100						
BRSE	Bradley Lake S	152.60 296	PKPdf	PKPdf	18 13 41.9	-0.3	
	baz=112						
G25K	Bearman Lake	152.61 312	PKPdf	PKPdf	18 13 42.5	+0.6	
	baz=102						
RC01	Rabbit Creek A	152.62 299	IAMs_20	IAMs_20	19 27 30.0		
	comp=Z,9μm,22.0s						
RC01	Rabbit Creek A	152.62 299	PKPdf	PKPdf	18 13 42.0	-0.2	
	baz=110						
KSAR	Wonju Array Be	152.65 129		PKPdf	18 13 41.0	-2.0	
KSAR	Wonju Array Be	152.65 129	PKIKP	PKPdf	18 13 41.0	-2.0	
JHJ2	Mitsune	152.66 152	IAMs_20	IAMs_20	19 22 59.1		
	comp=Z,8μm,20.0s						
E25K	Arctic Village	152.66 315	PKPdf	PKPdf	18 13 41.9	-0.2	
	baz=100						
KSRS	Korea Array	152.68 129	PKP	PKPdf	18 13 41.1	-1.9	
	comp=Z,21nm,0.9s,baz=226,slow=1.4,SNR=15						
KSRS			PKPbc	PKiKP	18 13 50.5	+0.1	
	comp=Z,62nm,0.9s,baz=200,slow=2.0,SNR=33						
KSRS			SKKPbc		18 23 44.4		
	comp=Z,7.5nm,1.0s,baz=13,slow=5.0,SNR=5.3						
C26K	Camden Bay	152.68 319	PKPdf	PKPdf	18 13 42.7	+0.7	
	baz=96						
KDAK	Kodiak Island	152.72 291	PKP	PKPdf	18 13 39.9	-2.5	
	comp=Z,18nm,0.8s,baz=326,slow=2.0,SNR=6.8						
KDAK			PKPbc	PKiKP	18 13 50.6	+0.9	
	comp=Z,917nm,0.7s,baz=38,slow=3.3,SNR=68						
KDAK	Kodiak Island	152.72 291	PKPdf	PKPdf	18 13 42.5	+0.2	
	baz=114						
CNPM	China Poot	152.75 295		PKPdf	18 13 39.4	-3.1	
CNPM				PKiKP	18 13 50.4	+0.6	
CNPM			IAMs_20	IAMs_20	19 25 47.7		
	comp=Z,10μm,20.0s						
POKR	Poker Plat Res	152.78 308	PKPdf	PKPdf	18 13 41.6	-0.7	
	baz=104						
OHAK	Old Harbor	152.82 290	IAMs_20	IAMs_20	19 24 01.7		
	comp=Z,9μm,22.0s						
OHAK	Old Harbor	152.82 290	PKPdf	PKPdf	18 13 42.5	-0.1	
	baz=115						
FIS	Fire Island	152.85 299	IAMs_20	IAMs_20	19 21 42.3		
	comp=Z,10μm,22.0s						
COLA	College	152.90 308	PKPdf	PKPdf	18 13 41.6	-0.8	
	baz=104						
SYI	Shuyak Island	152.96 293		PKPdf	18 13 41.1	-1.6	
SYI				PKiKP	18 13 50.9	+0.7	
Q20K	Shuyak Island	152.96 293	PKPdf	PKPdf	18 13 42.9	+0.2	
	baz=113						
SII	Sitkinak Islan	152.98 288	PKPdf	PKPdf	18 13 43.2	+0.3	
	baz=116						
HOM	Homer	153.00 296	IAMs_20	IAMs_20	19 25 36.2		
	comp=Z,11μm,21.0s						
HOM	Homer	153.00 296	PKPdf	PKPdf	18 13 42.6	-0.1	
	baz=112						
M22K	Willow	153.01 300	IAMs_20	IAMs_20	19 23 06.3		
	comp=Z,9μm,22.0s						
M22K	Willow	153.01 300	PKPdf	PKPdf	18 13 42.4	-0.3	
	baz=108						
MCK	McKinley	153.06 305	PKPdf	PKPdf	18 13 42.4	-0.4	
	baz=105						
D25K	Kavik River	153.12 318	PKPdf	PKPdf	18 13 42.1	-0.6	
	baz=96						
H24K	Noodor Dome	153.12 310	PKPdf	PKPdf	18 13 42.5	-0.4	
	baz=102						
G24K	Hadweenzic Riv	153.14 312	IAMs_20	IAMs_20	19 24 15.6		
	comp=Z,9μm,20.0s						
G24K	Hadweenzic Riv	153.14 312	PKPdf	PKPdf	18 13 42.8	0.0	
	baz=101						
CAPN	Captain Cook N	153.16 298	PKPdf	PKPdf	18 13 43.8	+0.8	
	baz=110						
SUA	Susitna One	153.20 300	IAMs_20	IAMs_20	19 26 29.4		
	comp=Z,8μm,20.0s						
SUA	Susitna One	153.20 300	PKPdf	PKPdf	18 13 42.9	-0.3	
	baz=109						
CUT	Chulitna	153.27 302	IAMs_20	IAMs_20	19 26 11.2		
	comp=Z,13μm,22.0s						
CUT	Chulitna	153.27 302	PKPdf	PKPdf	18 13 42.6	-0.5	
	baz=107						
NEA2	Nenana	153.34 307	PKPdf	PKPdf	18 13 42.4	-0.7	
	baz=104						
CHIR	Chirikof Islan	153.38 286		PKPdf	18 13 41.5	-1.9	
CHIR			PKPbc	PKiKP	18 13 52.1	+1.0	
CHIR	Chirikof Islan	153.38 286	PKPdf	PKPdf	18 13 43.9	+0.5	
	baz=117						
F24K	Squaw Lake	153.43 313	PKPdf	PKPdf	18 13 43.4	+0.1	
	baz=99						
R18K	Karluk	153.54 290	PKPdf	PKPdf	18 13 43.4	-0.2	
	baz=114						
TRF	Thorofare Moun	153.57 304	PKPdf	PKPdf	18 13 43.0	-0.7	
	baz=105						
I23K	Minto, Yukon-K	153.58 308	PKPdf	PKPdf	18 13 42.7	-0.8	
	baz=102						
Q19K	Cape Douglas,	153.68 293	PKPdf	PKPdf	18 13 43.0	-0.8	
	baz=112						
STLK	Strandline Lak	153.71 299	IAMs_20	IAMs_20	19 32 31.8		
	comp=Z,7μm,21.0s						
JSG	Sagara	153.71 148	IAMs_20	IAMs_20	19 23 45.2		
	comp=Z,9μm,21.0s						
SKT	Skwentna	153.71 300	IAMs_20	IAMs_20	19 22 39.0		
	comp=Z,10μm,22.0s						
SKT	Skwentna	153.71 300	PKPdf	PKPdf	18 13 43.1	-0.7	
	baz=107						
E24K	Your Creek	153.74 315	IAMs_20	IAMs_20	19 23 31.1		
	comp=Z,12μm,21.0s						
E24K	Your Creek	153.74 315	PKPdf	PKPdf	18 13 43.5	-0.2	
	baz=97						
P19K	Oil Pt	153.75 295	IAMs_20	IAMs_20	19 26 09.9		
	comp=Z,12μm,20.0s						
P19K	Oil Pt	153.75 295	PKPdf	PKPdf	18 13 43.0	-0.9	
	baz=111						
SPCR	Spurr Chakacha	153.78 299	PKPdf	PKPdf	18 13 42.6	-1.4	
	baz=108						
H23K	Yukon River	153.79 309	PKPdf	PKPdf	18 13 43.2	-0.6	
	baz=101						
ILSW	Iliamna Southw	153.82 296	IAMs_20	IAMs_20	19 25 28.9		
	comp=Z,12μm,21.0s						
C24K	Franklin Bluff	153.97 318	PKPdf	PKPdf	18 13 43.3	-0.5	
	baz=94						
D24K	Happy Valley	153.97 317	PKPdf	PKPdf	18 13 43.2	-0.7	
	baz=95						
BPAW	Bear Paw Mtn.	154.03 305	IAMs_20	IAMs_20	19 25 20.3		
	comp=Z,10μm,20.0s						
BPAW	Bear Paw Mtn.	154.03 305	PKPdf	PKPdf	18 13 43.3	-0.9	
	baz=103						
G23K	Bananza Creek	154.14 311	IAMs_20	IAMs_20	19 25 39.1		
	comp=Z,8μm,20.0s						
G23K	Bananza Creek	154.14 311	PKPdf	PKPdf	18 13 44.2	0.0	
	baz=99						
E23K	Chandalar	154.16 314	PKPdf	PKPdf	18 13 43.7	-0.6	
	baz=96						
TOLK	Toolik Lake Re	154.20 316		PKPdf	18 13 40.9	-3.5	
TOLK			PKPbc	PKiKP	18 13 53.3	+0.7	
TOLK			IAMs_20	IAMs_20	19 18 05.3		
	comp=Z,10μm,22.0s						
TOLK	Toolik Lake Re	154.20 316	PKPdf	PKPdf	18 13 44.1	-0.2	
	baz=95						
ACHA	Angle Creek He	154.22 291	IAMs_20	IAMs_20	19 26 45.7		
	comp=Z,9μm,21.0s						
Q18K	Katmai Hardscr	154.24 292	PKPdf	PKPdf	18 13 44.3	-0.5	
	baz=112						
PPLA	Purkeypile	154.26 302	PKPdf	PKPdf	18 13 43.7	-0.9	
	baz=105						
COLD	Coldfoot	154.28 313	PKPdf	PKPdf	18 13 44.4	+0.1	
	baz=98						
CAST	Castle Rocks	154.35 304	IAMs_20	IAMs_20	19 25 42.6		
	comp=Z,12μm,20.0s						
CAST	Castle Rocks	154.35 304	PKPdf	PKPdf	18 13 44.0	-0.7	
	baz=104						
JGF	Kuroka	154.35 146		PKPdf	18 13 42.8	-2.7	
SNY	Shenyang	154.37 117	⇑PKPbc	PKPdf	18 13 43.6	-1.7	
SNY			PP	PP	18 17 51.2	+7.5	
SNY			SKKS		18 24 28.5		
SNY			LR	LR			
	comp=Z,3μm,24.8s						
SNY			LR	LR			
	comp=Z,3μm,20.4s						
SNY			LR	LR			
	comp=Z,11μm,21.3s						
M20K	Styx River	154.41 300	PKPdf	PKPdf	18 13 43.7	-1.1	
	baz=106						
O19K	Port Alsworth	154.45 296	PKPdf	PKPdf	18 13 43.2	-1.6	
	baz=109						
Q17K	Contact Creek	154.52 291	PKPdf	PKPdf	18 13 44.5	-0.6	
	baz=112						
H22K	Ishtalitna Cre	154.55 309	PKPdf	PKPdf	18 13 44.5	-0.4	
	baz=99						
CHUM	Lake Minchumin	154.55 305	PKPdf	PKPdf	18 13 43.9	-0.9	
	baz=103						
P18K	Big Mountain,	154.61 294	PKPdf	PKPdf	18 13 43.5	-1.6	
	baz=110						
D23K	Nanushuk River	154.62 317		PKPdf	18 13 41.4	-3.4	
D23K			PKPbc	PKiKP	18 13 54.4	+1.0	
D23K	Nanushuk River	154.62 317	PKPdf	PKPdf	18 13 45.0	+0.2	
	baz=93						
C23K	Itkillik River	154.64 319	PKPdf	PKPdf	18 13 44.7	-0.1	
	baz=92						
N19K	Bonanza Creek	154.72 297	PKPdf	PKPdf	18 13 44.0	-1.3	
	baz=108						
G22K	Bettles	154.75 312	PKPdf	PKPdf	18 13 45.0	0.0	
	baz=97						
O18K	Koktuh Hills	154.76 295	IAMs_20	IAMs_20	19 21 43.6		
	comp=Z,12μm,22.0s						
O18K	Koktuh Hills	154.76 295	PKPdf	PKPdf	18 13 44.3	-1.0	
	baz=109						
L20K	Farewell, AK	154.91 301	PKPdf	PKPdf	18 13 44.3	-1.2	
	baz=105						
CHNA	Chernabura Isl	154.94 281	PKPdf	PKPdf	18 13 45.3	-0.3	
	baz=118						
M19K	Big River Lodg	154.99 299	IAMs_20	IAMs_20	19 34 22.2		
	comp=Z,9μm,20.0s						
M19K	Big River Lodg	154.99 299	PKPdf	PKPdf	18 13 44.8	-0.7	
	baz=106						
CHGN	Chignik	154.99 285	IAMs_20	IAMs_20	19 27 31.0		
	comp=Z,9μm,20.0s						
CHGN	Chignik	154.99 285	PKPdf	PKPdf	18 13 45.2	-0.5	
	baz=115						
F22K	John River	155.07 313	PKPdf	PKPdf	18 13 45.4	-0.1	
	baz=95						
H21K	Melozitna Rive	155.09 309	PKPdf	PKPdf	18 13 45.3	-0.2	
	baz=99						
K20K	Telida	155.20 303	IAMs_20	IAMs_20	19 26 36.6		
	comp=Z,10μm,21.0s						
K20K	Telida	155.20 303	PKPdf	PKPdf	18 13 44.7	-1.1	
	baz=103						
L19K	White Mountain	155.27 300	PKPdf	PKPdf	18 13 45.2	-0.7	
	baz=105						
N18K	Kilae Creek	155.34 296		PKPdf	18 13 42.6	-3.5	
N18K			PKPdif	pPKPdf	18 13 55.5	-4.5	
N18K	Kilae Creek	155.34 296	PKPdf	PKPdf	18 13 45.2	-0.9	
	baz=107						
D22K	Ayikyak River	155.34 316	PKPdf	PKPdf	18 13 45.9	+0.1	
	baz=92						
J20K	Nowinta River	155.40 305	IAMs_20	IAMs_20	19 26 19.5		
	comp=Z,11μm,21.0s						
J20K	Nowinta River	155.40 305	PKPdf	PKPdf	18 13 45.5	-0.5	
	baz=101						
MJAR	Matsushiro Arr	155.47 147	PKP	PKPdf	18 13 46.5	-0.5	
	comp=Z,17nm,1.3s,baz=165,slow=2.1,SNR=12						
MJAR			SKKPbc		18 24 24.1		
	comp=Z,7.4nm,1.0s,baz=320,slow=3.3,SNR=5.0						
MAJO	Matsushiro	155.47 147		PKPdf	18 13 44.4	-2.7	
MAJO	Matsushiro	155.47 147	PKIKP	PKPdf	18 13 44.4	-2.7	
MAJO			MLR	MLR			
	comp=Z,5μm,21.0s						
MAJO	Matsushiro	155.47 147	PKP	PKPdf	18 13 46.2	-0.8	
G21K	Allakaket	155.49 310	PKPdf	PKPdf	18 13 45.4	-0.7	
	baz=96						
M18K	Stony River	155.54 298	PKPdf	PKPdf	18 13 45.6	-0.7	
	baz=106						
F21K	Alatna River	155.55 312	IAMs_20	IAMs_20	19 26 42.1		
	comp=Z,11μm,21.0s						
F21K	Alatna River	155.55 312	PKPdf	PKPdf	18 13 45.9	-0.2	
	baz=95						
S14K	Fog Glacier	155.56 285	PKPdf	PKPdf	18 13 46.7	+0.2	
	baz=115						
B22K	Teshekpuk Lake	155.60 320	IAMs_20	IAMs_20	19 21 42.3		
	comp=Z,11μm,21.0s						
B22K	Teshekpuk Lake	155.60 320	PKPdf	PKPdf	18 13 45.9	-0.2	
	baz=88						
SDPT	Sand Point	155.63 282	IAMs_20	IAMs_20	19 26 53.9		
	comp=Z,9μm,21.0s						
SDPT	Sand Point	155.63 282	PKPdf	PKPdf	18 13 46.7	+0.2	
	baz=116						
I20K	Naaghedeneel	155.65 306	IAMs_20	IAMs_20	19 25 57.1		
	comp=Z,9μm,20.0s						
I20K	Naaghedeneel	155.65 306	PKPdf	PKPdf	18 13 46.3	0.0	
	baz=99						
E21K	Killik River	155.80 315	PKPdf	PKPdf	18 13 46.2	-0.3	
	baz=92						
N17K	Nushagak Hills	155.91 295		PKPdf	18 13 43.2	-3.6	
N17K	Nushagak Hills	155.91 295	PKPdf	PKPdf	18 13 46.5	-0.3	
	baz=107						
H20K	Anotleneega Mo	155.92 308	PKPdf	PKPdf	18 13 46.7	0.0	
	baz=98						
TTA	Tatalina	155.97 301	PKPdf	PKPdf	18 13 46.7	-0.2	
	baz=102						
J19K	Poorman	156.01 304	IAMs_20	IAMs_20	19 26 18.5		
	comp=Z,6μm,20.0s						
J19K	Poorman	156.01 304	PKPdf	PKPdf	18 13 47.0	+0.2	
	baz=100						
B21K	Ikpikpuk River	156.03 318	IAMs_20	IAMs_20	19 30 35.9		
	comp=Z,10μm,21.0s						
B21K	Ikpikpuk River	156.03 318	PKPdf	PKPdf	18 13 46.4	-0.3	
	baz=88						
O16K	Kokwok River B	156.06 293	IAMs_20	IAMs_20	19 22 39.0		
	comp=Z,12μm,22.0s						
O16K	Kokwok River B	156.06 293	PKPdf	PKPdf	18 13 46.4	-0.6	
	baz=108						
CIT	Chita	156.06 88	*e*PKIKP	PKPdf	18 13 46.2	-1.1	
CIT			*e*		18 13 58.2		
CIT			*e*		18 14 14.6		
CIT			*e*		18 20 48.0		
CIT			*e*		18 21 27.0		
CIT			pmax	pmax			
	comp=Z,414nm,2.4s						
A22K	Sinclair Lake	156.07 321	PKPdf	PKPdf	18 13 46.3	-0.4	
	baz=85						
C21K	Knifeblade Rid	156.10 317	PKPdf	PKPdf	18 13 46.8	0.0	
	baz=89						
L18K	Granite Mounta	156.12 300	PKPdf	PKPdf	18 13 46.8	-0.2	
	baz=104						
M17K	Holitna River	156.26 297		PKPdf	18 13 44.2	-3.0	
M17K	Holitna River	156.26 297	PKPdf	PKPdf	18 13 47.0	-0.2	
	baz=105						
J18K	Innoko River	156.39 303	IAMs_20	IAMs_20	19 26 49.6		
	comp=Z,12μm,22.0s						
J18K	Innoko River	156.39 303	PKPdf	PKPdf	18 13 47.2	-0.2	
	baz=101						
F20K	Avaraart Lake	156.41 312	PKPdf	PKPdf	18 13 46.8	-0.4	
	baz=93						
A21K	Barrow	156.57 322	PKPdf	PKPdf	18 13 46.7	-0.6	
	baz=82						
H19K	Roundabout Mou	156.58 308	IAMs_20	IAMs_20	19 27 54.8		
	comp=Z,12μm,22.0s						
H19K	Roundabout Mou	156.58 308	PKPdf	PKPdf	18 13 47.2	-0.3	
	baz=96						
E20K	Nigu River	156.62 315	PKPdf	PKPdf	18 13 47.2	-0.4	
	baz=90						
N16K	Nishlik Lake	156.64 295	PKPdf	PKPdf	18 13 47.9	+0.1	
	baz=106						
GCSA	Galena City Sc	156.66 306	PKPdf	PKPdf	18 13 47.7	+0.1	
	baz=98						
O15K	Ungalikthiuk R	156.76 291	IAMs_20	IAMs_20	19 24 35.9		
	comp=Z,9μm,21.0s						
O15K	Ungalikthiuk R	156.76 291	PKPdf	PKPdf	18 13 47.3	-0.6	
	baz=108						
CN2	Changchun	156.76 117	PKP	PKPdf	18 13 47.7	-0.8	
CN2			PKPab	PKPab	18 14 19.5	+1.2	
CN2			PP	PP	18 17 57.6	+0.5	
CN2			SKKS		18 24 40.0		
CN2			SS	SS	18 37 44.9	-0.8	
CN2			AMB	AMB			
	comp=Z,900nm,7.5s						
CN2			LR	LR			
	comp=Z,5μm,21.0s						
CN2			LR	LR			
	comp=Z,5μm,21.0s						
CN2			LR	LR			
	comp=Z,8μm,23.6s						
D20K	Etivluk River	156.77 316	PKPdf	PKPdf	18 13 47.3	-0.4	
	baz=88						
L17K	Donlin	156.83 299	PKPdf	PKPdf	18 13 48.1	+0.1	
	baz=103						
M16K	Timber Creek	156.88 296	PKPdf	PKPdf	18 13 48.0	0.0	
	baz=105						
B20K	Meade River	156.89 319	PKPdf	PKPdf	18 13 47.5	-0.3	
	baz=85						
G19K	Purcell Mounta	156.90 309	IAMs_20	IAMs_20	19 23 02.8		
	comp=Z,11μm,22.0s						
G19K	Purcell Mounta	156.90 309	PKPdf	PKPdf	18 13 47.5	-0.5	
	baz=94						
FALS	False Pass	156.93 279	PKPdf	PKPdf	18 13 47.5	-0.8	
	baz=117						
K17K	Iditarod	156.96 300		PKPdf	18 13 44.8	-3.3	
K17K	Iditarod	156.96 300	PKPdf	PKPdf	18 13 47.7	-0.4	
	baz=101						
E19K	Redstone River	157.01 313	IAMs_20	IAMs_20	19 25 23.0		
	comp=Z,11μm,21.0s						
E19K	Redstone River	157.01 313	PKPdf	PKPdf	18 13 47.8	-0.2	
	baz=91						
N15K	Kwethluk River	157.19 293	PKPdf	PKPdf	18 13 48.1	-0.4	
	baz=106						
F19K	Shaleruckik Mo	157.21 311	PKPdf	PKPdf	18 13 47.7	-0.5	
	baz=92						
D19K	Kuna River	157.33 315	IAMs_20	IAMs_20	19 18 34.3		
	comp=Z,10μm,21.0s						
D19K	Kuna River	157.33 315	PKPdf	PKPdf	18 13 47.9	-0.6	
	baz=88						
H18K	Honhosa River	157.34 307	IAMs_20	IAMs_20	19 26 25.0		
	comp=Z,7μm,21.0s						
H18K	Honhosa River	157.34 307	PKPdf	PKPdf	18 13 48.1	-0.4	
	baz=96						
JMM	Marumori	157.42 151	IAMs_20	IAMs_20	19 23 21.1		
	comp=Z,12μm,22.0s						
J17K	VABM Dome	157.42 302	IAMs_20	IAMs_20	19 29 38.0		
	comp=Z,10μm,21.0s						
J17K	VABM Dome	157.42 302	PKPdf	PKPdf	18 13 48.5	-0.2	
	baz=99						
O14K	Tigyukauivet M	157.49 291	PKPdf	PKPdf	18 13 48.8	-0.1	
	baz=108						
G18K	Tagagawik	157.52 308	IAMs_20	IAMs_20	19 27 58.3		
	comp=Z,10μm,20.0s						
G18K	Tagagawik	157.52 308	PKPdf	PKPdf	18 13 48.5	-0.3	
	baz=93						
M15K	Kasigluk River	157.61 295	PKPdf	PKPdf	18 13 48.5	-0.5	
	baz=104						
HIA	Hailar	157.72 99		PKPdf	18 13 47.2	-2.3	
HIA	Hailar	157.72 99	PKIKP	PKPdf	18 13 47.2	-2.3	
HIA			MLR	MLR			
	comp=Z,18μm,22.0s						
N14K	Kuskokwak Cree	157.89 292		PKPdf	18 13 45.8	-3.5	
N14K			PKPab	PKPab	18 14 23.7	+1.0	
N14K	Kuskokwak Cree	157.89 292	PKPdf	PKPdf	18 13 48.9	-0.4	
	baz=106						
LVA	Lava Point	157.97 276	IAMs_20	IAMs_20	19 29 37.7		
	comp=Z,12μm,22.0s						
H17K	Granite Mounta	157.97 306	PKPdf	PKPdf	18 13 48.6	-0.7	
	baz=95						
UNV	Unalaska Valle	158.06 274	PKPdf	PKPdf	18 13 49.0	-0.7	
	baz=118						
J16K	Anvik River	158.09 301	PKPdf	PKPdf	18 13 49.1	-0.4	
	baz=98						
A19K	Wainwright	158.20 320	PKPdf	PKPdf	18 13 48.6	-0.8	
	baz=80						
L15K	Ungalak Mounta	158.21 297	PKPdf	PKPdf	18 13 49.3	-0.3	
	baz=102						
E18K	Tukpahlearik C	158.31 313	PKPdf	PKPdf	18 13 48.9	-0.8	
	baz=88						
G17K	Kiwalik Mounta	158.32 307	PKPdf	PKPdf	18 13 49.2	-0.5	
	baz=93						
K15K	Wolf Creek Mou	158.35 299	IAMs_20	IAMs_20	19 27 50.6		
	comp=Z,11μm,21.0s						
K15K	Wolf Creek Mou	158.35 299	PKPdf	PKPdf	18 13 50.1	+0.2	
	baz=100						
C18K	Utukok River	158.45 316	PKPdf	PKPdf	18 13 49.0	-0.8	
	baz=84						
B18K	Kokolik River	158.58 318	PKPdf	PKPdf	18 13 49.3	-0.6	
	baz=82						
F17K	Baldwin Pennin	158.59 310	IAMs_20	IAMs_20	19 25 41.8		
	comp=Z,11μm,22.0s						
F17K	Baldwin Pennin	158.59 310	PKPdf	PKPdf	18 13 49.8	-0.2	
	baz=90						
L14K	Kuka Creek	158.71 296	IAMs_20	IAMs_20	19 28 30.1		
	comp=Z,10μm,21.0s						
L14K	Kuka Creek	158.71 296	PKPdf	PKPdf	18 13 49.7	-0.5	
	baz=102						
M13K	Dall Lake	158.82 293		PKPdf	18 13 47.8	-2.6	
M13K			PKPab	PKPab	18 14 27.3	+0.6	
M13K	Dall Lake	158.82 293	PKPdf	PKPdf	18 13 50.4	0.0	
	baz=104						
BOD	Bodaibo	158.84 75	*e*PKIKP	PKPdf	18 13 48.1	-2.4	
BOD			pmax	pmax			
	comp=Z,157nm,2.2s						
NIKH	Nikolski High	158.87 271	IAMs_20	IAMs_20	19 28 51.5		
	comp=Z,12μm,22.0s						
NIKH	Nikolski High	158.87 271	PKPdf	PKPdf	18 13 50.8	+0.1	
	baz=120						
H16K	Elim	158.95 305	PKPdf	PKPdf	18 13 50.2	-0.2	
	baz=94						
G16K	Koyuk River	159.03 307	PKPdf	PKPdf	18 13 49.8	-0.7	
	baz=92						
BNX	BinXian	159.14 116	⇓PKP	PKPdf	18 13 50.0	-1.3	
BNX			pPKP	pPKPdf	18 14 04.8	-0.5	
BNX			PP	PP	18 18 11.5	+1.4	
BNX			SS	SS	18 38 10.4	-0.6	
BNX			AMB	AMB			

```
USRK                                PKPab  PKPab   18 14 30.9 -1.3
USRK  Ussuriysk Ar.     160.00 126  PKP    PKPdf   18 13 50.8 -1.6
      comp=Z,7.7nm,0.8s,baz=202,slow=2.1,SNR=15
USRK                                PKPab  PKPab   18 14 31.0 -1.3
      comp=Z,16nm,0.7s,baz=184,slow=3.4,SNR=11
USRK                                PP     PP      18 18 15.5 +0.8
      comp=Z,5.3nm,0.9s,baz=242,slow=4.1,SNR=5.0
USRK                                SKKPbc         18 23 59.6
      comp=Z,12nm,0.9s,baz=343,slow=2.0,SNR=6.9
C16K  Lisburne Hills    160.02 315  PKPdf  PKPdf   18 13 50.0 -1.6
      baz=81
ANM   Nome              160.29 304  PKPdf  PKPdf   18 13 51.4 -0.6
      baz=91
F14K  Arctic Creek      160.69 307  PKPdf  PKPdf   18 13 51.6 -0.8
      baz=88
P08K  Saint George I    160.80 280  PKPdf  PKPdf   18 13 51.8 -0.9
      baz=111
TNA   Tin City          161.35 308  PKPdf  PKPdf   18 13 52.4 -0.6
      baz=86
SPIA  Saint Paul Isl    161.36 281  PKPdf  PKPdf   18 13 53.0 -0.3
      baz=109
ERM   Erimo             161.93 152  PKP    PKPdf   18 13 54.0 -0.4
HEH   HeiHe             162.24 106  PKP    PKPdf   18 13 53.4 -1.1
HEH                                 PKPab  PKPab   18 14 40.5 -1.5
HEH                                 PP     PP      18 18 32.7 +5.8
HEH                                 SKKS           18 25 09.3
HEH                                 AMB    AMB
      comp=Z,3μm,8.4s
HEH                                 LR     LR
      comp=Z,8μm,22.2s
HEH                                 LR     LR
      comp=Z,6μm,22.8s
HEH                                 LR     LR
      comp=Z,20μm,21.8s
TEY   Ternei            162.55 133⇓ ePKIKP PKPdf   18 13 53.5 -1.5
TEY                                 pmax   pmax
      comp=Z,10.0nm,2.0s
TEY                                 pmax   pmax
      comp=Z,400nm,4.3s
KIWB  Kanaga Island     162.60 260         PKPdf   18 13 52.7 -2.1
KIWB                                       PKPab   18 14 42.5 -1.0
GAMB  Gambell           163.07 302  PKPdf  PKPdf   18 13 51.4 -3.4
      baz=88
KLR   Kul'dur           163.70 115  i PKIKP PKPdf  18 13 52.4 -3.6
KLR                                 pmax   pmax
      comp=Z,76nm,1.4s
ASAJ  Asahikawa         163.74 148  PKIKP  PKPdf   18 13 53.9 -2.3
JKA   Kamikawa-asahi    163.74 148         PKPdf   18 13 53.9 -2.3
ZEA   Zeya              164.10  96  i PKIKP PKPdf  18 13 55.3 -0.9
ZEA                                 e              18 14 49.5
ZEA                                 e              18 18 37.3
ZEA                                 e              18 32 19.7
ZEA                                 pmax   pmax
      comp=N,20nm,1.6s
ZEA                                 pmax   pmax
      comp=Z,60nm,2.0s
ZEA                                 pmax   pmax
      comp=Z,2μm,11.2s
ZEA                                 pmax   pmax
      comp=E,500nm,13.6s
ZEA                                 pmax   pmax
      comp=N,500nm,10.2s
ZEA                                 pmax   pmax
      comp=Z,2μm,9.5s
YUK   Yuzh-Kuril'sk     164.47 156c i PKIKP PKPdf  18 13 57.2 +0.4
YUK                                 PPP    PPP     18 18 42.0
YUK                                 PPP    PPP     18 22 30.1
YUK                                 pmax   pmax
      comp=Z,623nm,1.8s
YUK                                 pmax   pmax
      comp=N,175nm,1.0s
YUK                                 MLR    MLR
      comp=Z,10μm,22.0s
YUK                                 MLR    MLR
      comp=E,3μm,17.0s
YUK                                 MLR    MLR
      comp=N,6μm,20.0s
YSS   Yuzhno-Sakhali    166.36 144         PKPdf   18 13 56.2 -2.1
YSS                                        PKPab   18 15 00.5 +0.4
YSS   Yuzhno-Sakhali    166.36 144  i PKIKP PKPdf  18 13 58.2 -0.1
YSS                                 e              18 18 51.0
YSS                                 e              18 21 02.2
YSS                                 eSS    SS      18 39 30.7 +5.6
YSS                                 pmax   pmax
      comp=Z,3μm,5.8s
YSS                                 pmax   pmax
      comp=Z,80nm,1.2s
GRNR  Gornyy            166.94 119⇑ i PKIKP PKPdf  18 13 58.4 -0.3
GRNR                                pmax   pmax
      comp=Z,20nm,1.2s
YAK   Yakutsk           167.23  64         PKPdf   18 13 56.3 -2.1
YAK                                        PKPab   18 15 03.0 -0.6
YAK   Yakutsk           167.23  64  ePKIKP PKPdf   18 13 56.3 -2.1
YAK                                 e              18 14 09.4
YAK                                 e              18 18 47.9
YAK                                 e              18 20 56.4
YAK                                 eSSS   SSS     18 46 14.0
YAK                                 pmax   pmax
      comp=Z,51nm,1.2s
YAK                                 pmax   pmax
      comp=N,5.0nm,1.4s
YAK                                 pmax   pmax
      comp=E,7.0nm,1.4s
YAK                                 pmax   pmax
      comp=Z,661nm,2.9s
YAK                                 pmax   pmax
      comp=E,104nm,1.7s
YAK                                 pmax   pmax
      comp=N,182nm,2.9s
SMY   Shemya            167.53 250         PKPab   18 15 04.6 -0.5
SMY   Shemya            167.53 250  PKP2   PKPab   18 15 04.6 -0.5
UGL   Uglegorsk         167.97 137  ePKIKP PKPdf   18 13 59.7 +0.3
UGL                                 pmax   pmax
      comp=Z,90nm,1.5s
UGL                                 pmax   pmax
      comp=Z,4μm,4.4s
UGL                                 pmax   pmax
      comp=E,3μm,9.4s
UGL                                 pmax   pmax
      comp=N,2μm,7.4s
TYV   Tymovskoe         169.66 133  ePKIKP PKPdf   18 14 00.6 +0.2
TYV                                 pmax   pmax
      comp=Z,4μm,4.4s
TYV                                 pmax   pmax
      comp=Z,127nm,1.8s
NKL   Nikolayevsk       170.49 119  ePKIKP PKPdf   18 13 58.3 -2.5
SKR   Severo-Kuril's    172.03 187  i PKIKP PKPdf  18 14 00.4 -1.2
SKR                                 e              18 19 20.7
SKR                                 eSS    SS      18 40 22.4 +1.3
SKR                                 MLR    MLR
      comp=Z,8μm,22.0s
PET   Petropavlovsk     173.97 204         PKPdf   18 13 60.0 -2.4
PET                                        PKPab   18 15 32.7 -0.9
PET   Petropavlovsk     173.97 204  i PKIKP PKPdf  18 14 01.6 -0.8
PET                                 e              18 19 23.0
PET                                 e              18 21 06.2
PET                                 eSS    SS      18 40 39.8 -0.3
PET                                 pmax   pmax
      comp=Z,114nm,1.3s
PET                                 pmax   pmax
      comp=Z,2μm,14.7s
PEA0B Petropavlovsk-    174.23 199         PKPdf   18 14 00.1 -2.4
PEA0B Petropavlovsk-    174.23 199  PKIKP  PKPdf   18 14 00.1 -2.4
PETK  Petropavlovsk-    174.23 199         PKPdf   18 14 00.4 -2.1
PETK                                PKPab  PKPab   18 15 34.9 +0.1
PETK  Petropavlovsk-    174.23 199  PKP    PKPdf   18 14 01.5 -1.0
      comp=Z,52nm,0.8s,baz=104,slow=4.7,SNR=32
PETK                                PKPab  PKPab   18 15 35.6 +0.8
      comp=Z,125nm,0.9s,baz=114,slow=5.4,SNR=13
PETK                                PP     PP      18 19 31.0 +3.7
      comp=Z,21nm,0.9s,baz=174,slow=6.0,SNR=5.6
PETK                                SKKPbc         18 22 42.7
      comp=Z,11nm,0.9s,baz=127,slow=3.9,SNR=4.0
SEY   Seymchan          175.51  13  i PKIKP PKPdf  18 13 57.4 -5.1
SEY                                 pmax   pmax
      comp=Z,134nm,1.5s
MA2   Magadan           177.81  62         PKPdf   18 14 00.5 -2.6
MA2                                        PKPab   18 15 49.3 -1.4
MA2   Magadan           177.81  62  PKP2   PKPab   18 15 49.3 -1.4
MA2                                        19 14 00.5
```

IDC 09 17:57:29.0±58.0, 59°.19S×148°.60E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1029.0km

s-min=263.6km az=147.0, West of Macquarie Island

```
Code  Station Name      Δ°   AZ°   Phase ID  Time      Res
                                  Op    ISC  h m s     ISC
STKA  Stephens Creek    27.72 347  P     P   18 03 18.5 -0.3
      0.9nm,0.3s,baz=156,slow=18,SNR=1.8
      0.9nm,0.3s
H01W1 Cape Leeuwin H    33.16 302  T     T   18 38 45.6
      baz=144,slow=74,SNR=72
H01W2 Cape Leeuwin H    33.16 302  T     T   18 38 47.1
      baz=144,slow=74,SNR=80
H01W3 Cape Leeuwin H    33.17 302  T     T   18 38 46.8
      baz=144,slow=74,SNR=80
ASAR  Alice Springs     36.99 337  P     P   18 04 41.4 +1.4
      1.5nm,0.9s,baz=166,slow=9.7,SNR=13
      1.5nm,0.9s
WRA   Warramunga Arr    40.53 339  P     P   18 05 08.3 -1.4
      2.3nm,0.9s,baz=169,slow=8.1,SNR=11
      2.3nm,0.9s
H04S2 CROZET ISLANDS    54.39 237  T     T   19 07 32.8
      baz=139,slow=76,SNR=6.6
H04S1 CROZET ISLANDS    54.39 237  T     T   19 07 32.3
      baz=139,slow=76,SNR=7.0
H04S3 CROZET ISLANDS    54.40 237  T     T   19 07 30.5
      baz=139,slow=76,SNR=9.6
H08S2 Diego Garcia H    76.36 278  T     T   19 33 21.6
      baz=148,slow=76,SNR=13
H08S1 Diego Garcia H    76.37 278  T     T   19 33 21.9
      baz=148,slow=76,SNR=6.8
H08S3 Diego Garcia H    76.38 278  T     T   19 33 23.1
      baz=148,slow=76,SNR=30
```

*IDC **09** 18:08:44.9±0.6, 44°.62N×112°.53W, h0km, mb4.4/5, mbtmp4.2/11, ML3.8/5, MS5.0/3, Error ellipse: s-maj=8.7km s-min=6.7km az=66.0*

*NEIC **09** 18:08:45.5, 44°.68N×113°.00W, h12km, Moment Tensor Solution. Duration: 1±0 Moment tensor: Scale 10^{15}Nm; M_{rr}=5.77; $M_{\theta\theta}$0.65; $M_{\phi\phi}$5.13; $M_{r\theta}$3.11; $M_{\theta\phi}$-3.24; $M_{\phi r}$6.36; Fault plane solution: $M_0$9.38000×10^{15} NP1: ϕ_s309.29000°, δ32.93000°, λ-141.35000°. NP2: ϕ_s185.42000°, δ70.15000°, λ-63.17000°. Principal axes: T 8.4491, Plg21.0000°, Azm255.0000°; N 1.8634, Plg25.0000°, Azm356.0000°; P -10.3125, Plg56.0°, Azm131.0000°;*

*NEIC **09** 18:08:45.5, 44°.68N×112°.53W, h12km*

*NEIC **09** 18:08:45.6, 44°.69N×112°.52W, h11km*

*NEIC **09** 18:08:46.1±0.9, 44°.70N±0°.02×112°.51W±0°.02, h14km±6km, ML4.6/86, Mwr4.4/60, Mww4.6/13, ML4.9/35(BUT), Error ellipse: s-maj=2.6km s-min=1.0km az=215.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-4.17; $M_{\theta\theta}$0.66; $M_{\phi\phi}$3.52; $M_{r\theta}$2.70; $M_{\theta\phi}$-2.97; $M_{\phi r}$-0.12; Fault plane solution: $M_0$5.59000×10^{15} NP1: ϕ_s303.26000°, δ59.62000°, λ-120.66000°. NP2: ϕ_s172.79000°, δ42.09000°, λ-48.98000°. Principal axes: T 5.6437, Plg10.0000°, Azm55.0000°; N -0.1086, Plg26.0000°, Azm320.0000°; P -5.5351, Plg62.0000°, Azm163.0000°;*

*BUT **09** 18:08:46.5±0.9, 44°.70N±0°.02×112°.50W±0°.02, h8km±5km Error ellipse: s-maj=2.3km s-min=2.0km az=154.0*

ISC 09 18:08:45.4±1.0, 44°.66N±0°.03×112°.50W±0°.02, h8km±7km, n177, σ1§40/183, mb4.5/6, MS5.8/3, Eastern Idaho

```
Code  Station Name      Δ°   AZ°   Phase ID  Time      Res
                                  Op    ISC  h m s     ISC
MOMT  Monida            0.10 130         Pg  18 08 49.9 +1.9
MCMT  McKenzie Canyo    0.30 305         Pg  18 08 52.4 +1.0
ICI   Italian Canyon    0.45 224         Pb  18 08 55.8 -0.1
ICI                                      Sb  18 09 02.6 -0.3
TPMT  Tepee Creek       0.60  83         Pg  18 08 57.9 +0.7
CMI   Centennial Mou    0.64 102         Pg  18 08 58.6 +0.7
BGMT  Barton Gulch      0.66  30         Pg  18 08 58.4 +0.2
DLMT  Dillon            0.71 355         Pg  18 08 59.2 +0.1
DLMT                                IAML     18 09 09.4
      24μm,0.8s
DLMT                                IAML     18 09 16.4
      20μm,0.3s
DLMT  Dillon            0.71 355         Sg  18 09 08.8 +0.5
BCYI  Bear Canyon       0.73 242         Pb  18 09 00.6  0.0
QLMT  Earthquake Lak    0.78  77         Pg  18 09 00.7 +0.1
YPDC  Denny Creek       0.90  86         Pg  18 09 03.0 +0.2
YHB   Horse Butte       0.94  84         Pg  18 09 03.5 +0.1
YHB                                 Sg   Sg  18 09 15.5 -0.2
YHL   Hebgen Lake       0.96  78         Pg  18 09 03.9 -0.1
YHL                                 Sg   Sg  18 09 16.4  0.0
YHL                                 IAML     18 09 18.0
      comp=E,15μm,0.4s
YHL                                 IAML     18 09 20.7
      comp=N,16μm,0.7s
CNCI  Crows Nest Can    1.00 223         Pb  18 09 05.6 +0.5
YPWB  West Boundary     1.00  93         Pb  18 09 05.4 +0.2
GCR   Grayling Creek    1.01  82         Pb  18 09 05.2 -0.1
YMC   Maple Creek       1.07  84         Pg  18 09 06.2 +0.2
YMR   Madison River     1.10  89         Pg  18 09 06.7 +0.1
YMR                                 Sg   Sb  18 09 21.4 -0.1
BOZ   Bozeman (W)       1.12  33         Pg  18 09 06.2 -0.9
BOZ                                 Sg   Sg  18 09 20.9 -0.7
BOZ                                 IAML     18 09 24.8
      comp=N,14μm,0.7s
HBMT  Mount Humbug      1.14 356         Pg  18 09 06.8 -0.4
LRM   Limekiln Ridge    1.16   2         Pg  18 09 07.2 -0.6
YPM   Purple Mountai    1.17  89         Pn  18 09 08.4  0.0
YHH   Holmes Hill       1.19  83         Pg  18 09 08.2 -0.1
YFT   Old Faithful      1.21  99         Pg  18 09 08.8 +0.2
YFT                                 Sg   Sg  18 09 24.5 +0.1
YNM   Yellowstone No    1.29  86         Pn  18 09 10.1 +0.1
YNM                                 Sg   Sb  18 09 26.3 -0.5
YNM                                 IAML     18 09 29.1
      comp=N,7μm,0.4s
YNM                                 IAML     18 09 29.8
      comp=E,11μm,0.4s
YNR   Norris Junctio    1.30  87         Pn  18 09 10.3 +0.1
YNR                                 Sg   Sb  18 09 27.1 -0.2
YNR                                 IAML     18 09 32.2
      comp=N,9μm,0.7s
YNR                                 IAML     18 09 33.0
      comp=E,8μm,0.4s
YML   Mary Lake         1.33  92         Pg  18 09 11.1 +0.1
YMV   Mammoth Vault     1.33  76         Pb  18 09 10.8  0.0
BUT   Butte             1.36 358         Pn  18 09 10.9  0.0
YLT   Little Thumb C    1.39  99         Pg  18 09 12.8 +0.8
H17A  Grant Village     1.40 100         Pg  18 09 13.0 +0.6
YUF   Upper Falls       1.42  87         Pb  18 09 12.4  0.0
FXWY  Fox Creek         1.47 133         Pn  18 09 12.9 +0.3
FXWY                                IAML     18 09 32.9
      comp=E,6μm,0.3s
NQMA  Gallatin River    1.50  33         Pn  18 09 11.3 -1.5
YJC   Joseph's Coat     1.54  86         Pb  18 09 14.7 +0.2
MOOW  Moose Ponds       1.56 125         Pn  18 09 14.2 +0.5
MOOW                                IAML     18 09 38.8
      comp=E,6μm,0.9s
BZMT  Bozeman Pass      1.56  50         Pb  18 09 14.3 -0.5
YPLA  Lake Butte        1.60  94         Pb  18 09 15.7 +0.2
YTP   The Promontory    1.61  99         Pb  18 09 15.5 -0.1
TPAW  Teton Pass        1.62 136         Pn  18 09 14.5 -0.1
TPAW                                IAML     18 09 37.7
      comp=E,12μm,0.5s
YPPC  Pelican Cone      1.65  90         Pg  18 09 17.3 +0.2
YMP   Mirror Lake Pl    1.68  86         Pb  18 09 16.5 -0.2
YPSB  Soda Butte        1.69  82         Pb  18 09 16.6 -0.3
LOHW  Long Hollow       1.72 127         Pb  18 09 17.1 -0.4
SNOW  Snow King Moun    1.74 133         Pb  18 09 17.6 -0.1
SNOW                                IAML     18 09 44.9
      comp=E,4μm,0.4s
SXM   Sixmile           1.75  31         Pn  18 09 16.6 +0.3
HLID  Hailey            1.76 232         Pb  18 09 17.9 -0.2
HLID                                IAML     18 09 43.9
      comp=E,11μm,0.5s
HLID                                IAML     18 09 45.0
      comp=E,9μm,0.5s
MSMT  Mission Creek     1.81  57         Pn  18 09 17.9 +0.8
YNE   Yellowstone No    1.81  78         Pb  18 09 18.5 -0.5
YNE                                 IAML     18 09 44.3
      comp=N,9μm,0.5s
YNE                                 IAML     18 09 47.0
      comp=E,5μm,1.4s
CRMT  Chrome Mountai    1.85  64         Pb  18 09 19.4 -0.4
BPMT  Black Pine Rid    1.90 340         Pn  18 09 18.2 -0.2
BEMT  Mount Belmont     2.09   3         Pn  18 09 21.0 -0.1
HRY   Holter Researc    2.11  13         Pn  18 09 21.1 -0.1
AHID  Auburn Hatcher    2.15 151         Pn  18 09 23.1 +1.3
AHID                                IAML     18 09 57.3
      comp=E,2μm,0.5s
GCMT  Greycliff         2.30  60         Pn  18 09 25.1 +1.2
CHMT  Chamberlain Mo    2.32 347         Pn  18 09 24.1  0.0
RLMT  Red Lodge         2.35  77         Pn  18 09 26.2 +1.7
RLMT                                IAML     18 10 03.1
      comp=E,2μm,0.5s
RLMT                                IAML     18 10 07.2
      comp=E,3μm,0.8s
MSO   Missoula          2.39 336         Pn  18 09 25.3 +0.2
MSO                                 IAML     18 10 03.8
      comp=E,7μm,0.8s
MSO                                 IAML     18 10 07.4
      comp=E,6μm,0.9s
OVMT  Ovando            2.43 352         Pn  18 09 25.5 -0.1
SLMT  Seeley Lake       2.67 345         Pn  18 09 29.3 +0.3
MFID  Camas Ranch       2.70 244         Pn  18 09 31.0 +1.7
BW06  Boulder Array     2.85 130         Pn  18 09 33.8 +2.3
PD31  Pinedale Array    2.85 130         Pn  18 09 33.7 +2.2
PDAR  Pinedale Array    2.85 130         Pn  18 09 33.7 +2.2
PDAR  Pinedale Array    2.85 130  Pn     Pn  18 09 34.0 +2.5
      comp=E,72nm,0.3s,baz=325,slow=12,SNR=290
PDAR                                Lg   Lg  18 10 13.6
      comp=E,69nm,0.3s,baz=332,slow=31,SNR=13
SWMT  Swartz Lake       3.04 340         Pn  18 09 34.1 +0.2
FBMT  Ferry Basin       3.06 335         Pn  18 09 34.8 +0.6
HWUT  Hardware Ranch    3.13 167         Pn  18 09 36.7 +1.4
HWUT                                IAML     18 10 31.9
      comp=E,1μm,1.4s
JTMT  Jette             3.33 339         Pn  18 09 38.6 +0.6
YBMT  Yellow Bay        3.37 342         Pn  18 09 39.1 +0.6
BMO   Blue Mountains    3.43 275         Pn  18 09 39.8 +0.5
BMO                                 IAML     18 10 34.5
      comp=E,2μm,0.3s
BMO                                 IAML     18 10 38.2
      comp=E,1μm,0.7s
BSMT  Bassoo Peak       3.56 334         Pn  18 09 42.2 +1.0
F10A  Beach Ranch, E    3.58 293         Pn  18 09 42.9 +1.5
BLMT  Blacktail Moun    3.59 340         Pn  18 09 42.3 +0.7
EGMT  Eagleton          3.87  29         Pn  18 09 45.8 +0.5
LNOR  Lincton Mounta    4.26 289         Pn  18 09 51.9 +1.3
LNOR                                IAML     18 11 08.9
      comp=E,1μm,0.8s
LNOR                                IAML     18 11 13.8
      comp=N,1μm,1.5s
LDM   Libby Dam         4.26 334         Pn  18 09 51.5 +0.8
E09A  Wood Farm, Sta    4.37 297         Pn  18 09 53.0 +0.9
ELK   Elko              4.40 208         Pn  18 09 54.2 +1.4
ELK   Elko              4.40 208  Pn     Pn  18 09 55.1 +2.3
      comp=N,3.5nm,0.3s,baz=14,slow=12,SNR=40
ELK                                 Pg   Pb  18 10 01.3 -1.8
      comp=N,42nm,0.3s,baz=14,slow=15,SNR=131
ELK                                 Lg   Lg  18 11 00.9
      comp=N,64nm,0.3s,baz=310,slow=0.6,SNR=9.2
      comp=N,12nm,0.4s
DUG   Dugway, Tooele    4.47 183         Pn  18 09 55.0 +1.4
DUG                                 IAML     18 11 21.3
      comp=N,371nm,1.4s
DUG                                 IAML     18 11 32.5
      comp=N,467nm,1.4s
J08A  Circle Bar Ran    4.50 255         Pn  18 09 55.8 +1.8
J08A                                IAML     18 11 16.1
      comp=N,1μm,1.0s
J08A                                IAML     18 11 20.4
      comp=E,838nm,0.7s
MKRVA Milk River, Al    4.51   6         Pb  18 10 07.3 +2.3
G08A  Pilot Rock        4.62 280         Pn  18 09 56.8 +1.1
G08A                                IAML     18 11 12.1
      comp=E,587nm,0.6s
G08A                                IAML     18 11 21.9
      comp=N,538nm,1.1s
YPT   Yellepit          4.76 289         Pn  18 09 56.6 -0.9
YPT                                 IAML     18 11 21.7
      comp=E,712nm,1.1s
YPT                                 IAML     18 11 25.1
      comp=N,748nm,1.1s
K22A  Casper            4.78 113         Pn  18 09 58.0 +0.1
K22A                                IAML     18 11 17.6
      comp=N,290nm,1.3s
NEW   Newport           4.81 320         Pn  18 09 59.0 +0.7
NEW   Newport           4.81 320  Pn     Pn  18 09 59.2 +0.9
      comp=N,13nm,0.3s,baz=134,slow=8.9,SNR=85
NEW                                 Lg   Lg  18 11 15.5
      comp=N,183nm,0.3s,baz=58,slow=19,SNR=14
      comp=N,44nm,0.2s
NEW   Newport           4.81 320  P     Pn  18 09 59.2 +0.9
LAO   LASA Array        4.85  63         Pn  18 09 58.7  0.0
E08A  Dider Farm, El    4.95 294         Pn  18 09 58.3 -1.9
E08A                                IAML     18 11 26.6
      comp=E,756nm,0.8s
WVOR  Wild Horse Val    4.98 246         Pn  18 09 58.9 -1.8
WVOR                                IAML     18 11 23.6
      comp=E,319nm,1.2s
WVOR                                IAML     18 11 25.7
      comp=E,357nm,1.2s
I07A  Izee              5.05 266         Pn  18 10 03.3 +1.7
I07A                                IAML     18 11 31.4
      comp=N,494nm,1.4s
I07A                                IAML     18 11 39.0
      comp=E,402nm,1.0s
D08A  Wollman Farm,     5.08 300         Pn  18 10 02.4 +0.5
D08A                                IAML     18 11 30.4
      comp=E,527nm,0.8s
D08A                                IAML     18 11 33.6
      comp=N,727nm,0.9s
OD2   Odessa Site #2    5.11 304         Pn  18 10 02.9 +0.6
HAWA  Hanford           5.23 292         Pn  18 10 04.8 +0.8
HAWA                                IAML     18 11 38.8
      comp=N,335nm,1.4s
WAH2  Wahluke Slope     5.37 295         Pn  18 10 07.2 +1.3
F07A  Phinny Hill Vi    5.38 286         Pn  18 10 06.6 +0.6
E07A  Sunnyside         5.50 293         Pn  18 10 08.5 +0.9
O20A  White River Ci    5.51 144         Pn  18 10 09.4 +1.4
MXC   Moxie City        5.79 292         Pn  18 10 12.6 +0.9
G06A  Carlson Farm,     5.80 279         Pn  18 10 12.9 +1.1
SPR3  Spring Creek 3    5.82 194         Pn  18 10 14.5 +2.2
B08A  Colville Reser    5.99 311         Pn  18 10 15.0 +0.5
PINE  Pine Mountain     6.12 265         Pn  18 10 18.1 +1.7
MVU   Marysvale         6.15 178  Pn     Pn  18 10 14.5 -2.4
LTY   Liberty           6.26 297         Pn  18 10 18.2  0.0
I05D  Terrebonne, OR    6.33 270         Pn  18 10 19.8 +0.7
J05D  Fort Rock, OR     6.45 261         Pn  18 10 21.8 +1.0
HOOD  Mount Hood Mea    6.52 279         Pn  18 10 21.5 -0.3
R11B  Troy Canyon, C    6.71 201         Pn  18 10 25.7 +1.2
PV23  Carpenter Ridg    6.73 156         Pn  18 10 25.9 +1.0
PV10  Paradox Valley    6.79 156         Pn  18 10 28.8 +3.1
LON   Longmire          6.84 291         Pn  18 10 26.9 +0.7
PV07  Paradox Valley    6.85 154         Pn  18 10 27.6 +1.1
DGMT  Dagmar            6.88  53         Pn  18 10 27.7 +1.1
H04A  Detroit Lake      6.90 274         Pn  18 10 27.4 +0.5
PV11  David Mesa, Pa    6.91 156         Pn  18 10 29.9 +2.6
PV15  Paradox Valley    7.00 153         Pn  18 10 30.4 +2.0
K04D  Chiloquin, OR     7.01 256         Pn  18 10 29.8 +1.3
ISCO  Idaho Springs     7.05 131         Pn  18 10 30.1 +0.8
PV13  Radium Mtn., P    7.06 156         Pn  18 10 29.9 +0.6
D05A  Enumclaw          7.08 294         Pn  18 10 30.3 +0.9
G04A  Mulino            7.10 278         Pn  18 10 29.1 -0.5
PAHR  Pah Rah Range     7.11 228         Pn  18 10 28.3 -1.7
S11A  Rachel            7.42 200         Pn  18 10 33.0 -1.2
L04D  Klamath Falls     7.54 255         Pn  18 10 35.0 -0.7
BEKR  Beckworth         7.54 233         Pn  18 10 34.0 -1.8
NVAR  Mina Array Bea    7.59 217  Pn     Pn  18 10 40.0 +3.4
      comp=N,0.6nm,0.3s,baz=32,slow=13,SNR=6.8
      comp=N,0.6nm,0.4s
HATC  Hat Creek Radi    7.63 243         Pn  18 10 35.9 -1.1
PNTR  Pine Nut          7.68 226         Pn  18 10 38.4 +0.6
GNW   Green Mountain    7.74 296         Pn  18 10 36.4 -1.9
I03D  Drain, OR         7.86 267  Pn     Pn  18 10 38.9 -1.1
MZP   Montezuma Peak    7.86 210         Pn  18 10 38.8 -1.5
Q24A  Divide            7.91 133         Pn  18 10 40.1 -0.9
YBH   Yreka Blue Hor    8.01 252         Pn  18 10 40.6 -1.6
YBH   Yreka Blue Hor    8.01 252  Pn     Pn  18 10 45.0 +2.8
      comp=N,0.3nm,0.3s,baz=68,slow=14,SNR=6.1
      comp=N,4.3nm,0.7s
MVCO  Mesa Verde        8.03 156         Pn  18 10 41.2 -1.5
WAKR  Walker            8.05 223         Pn  18 10 40.3 -2.5
S22A  4UR Ranch, Cre    8.12 146         Pn  18 10 47.1 +3.2
TPNV  Topopah Spring    8.21 202  Pn     Pn  18 10 41.8 -3.2
U15A  North Rim         8.22 179         Pn  18 10 43.3 -2.0
WISH  Wishkah           8.24 291  Pn     Pn  18 10 43.1 -2.0
K02D  Willamette Mer    8.32 260         Pn  18 10 45.0 -1.5
DSP   Deep Springs      8.37 211         Pn  18 10 45.2 -1.8
SHPR  Sheep Range       8.39 195         Pn  18 10 45.0 -2.6
L02F  Cave Junction     8.45 256         Pn  18 10 46.0 -2.1
```

WCT	**Wildcat Mounta**	**8.46**	**203**	Pn	**Pn**	**18 10 47.0**	**-1.3**
E28A	**Huff**	**8.50**	**73**		**Pn**	**18 10 47.6**	**-1.2**
AFDM	**Forest Hills D**	**8.52**	**231**	Pn	**Pn**	**18 10 47.0**	**-2.0**
OGNE	**Ogallala**	**8.54**	**112**		**Pn**	**18 10 47.4**	**-2.2**
LLLB	**Lilloоet**	**8.69**	**317**	Pn	**Pn**	**18 10 49.2**	**-2.2**
SDCO	**Great Sand Dun**	**8.69**	**140**		**Pn**	**18 10 49.1**	**-2.6**
CMB	**Columbia Colle**	**8.88**	**225**	Pn	**Pn**	**18 10 51.0**	**-3.1**
V12A	**Nelson**	**9.10**	**192**	Pn	**Pn**	**18 10 54.4**	**-2.8**
ECSD	**EROS Data Cent**	**11.45**	**89**		**Pn**	**18 11 27.9**	**-1.3**
F33A	**5 Mile Ranch,**	**11.49**	**78**		**Pn**	**18 11 28.6**	**-1.2**
FFC	**Flin Flon**	**12.15**	**30**		**Pn**	**18 11 36.2**	**-2.5**
BBB	**Bella Bella**	**12.80**	**312**	LR	LR	18 15 58.9	
	comp=N,2µm,20.4s,baz=360,slow=34						
KAN12	**Harper NE Stat**	**13.19**	**119**	Pn	**Pn**	**18 11 51.5**	**-1.5**
KAN17	**Caldwell West**	**13.49**	**119**		**Pn**	**18 11 55.6**	**-1.5**
T35A	**Sooner Cattle**	**14.36**	**117**		**Pn**	**18 12 07.9**	**-1.1**
E38A	**The Farm, Brul**	**14.78**	**75**	Pn	**Pn**	**18 12 11.3**	**-3.4**
YKA	**Yellowknife Ar**	**17.91**	**357**	Pn	**Pn**	**18 12 51.9**	**-2.7**
	comp=N,0.2nm,0.3s,baz=176,slow=12,SNR=25						
YKA				Lg	Lg	18 18 00.2	
	comp=N,0.4nm,0.3s,baz=172,slow=28,SNR=4.6						
	comp=N,3.6nm,0.9s						
TKL	**Tuckaleechee C**	**23.63**	**102**	LR	LR	18 23 42.8	
	comp=N,2µm,19.2s,baz=43,slow=38						
NB2	**NORSAR Subarra**	**65.22**	**26**	P	**P**	**18 19 31.6**	**+4.6**
	comp=Z,4.7nm,1.0s,baz=314,slow=6.9						
NOA	**NORSAR Array B**	**65.22**	**26**	P	**P**	**18 19 28.1**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=314,slow=6.7,SNR=3.8						
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**79.38**	**24**	P	**P**	**18 20 53.6**	**+1.9**
	comp=Z,2.4nm,0.7s,baz=332,slow=5.1,SNR=11						
	comp=Z,2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**80.66**	**350**	P	**P**	**18 21 01.0**	**+2.5**
	comp=Z,4.3nm,0.9s,baz=4.6,slow=3.1,SNR=2.9						
	comp=Z,4.3nm,0.9s						
KSRS	**Korea Array**	**81.73**	**316**	P	**P**	**18 21 06.4**	**+1.9**
	comp=Z,3.1nm,0.9s,baz=49,slow=6.2,SNR=4.7						
	comp=Z,3.1nm,0.9s						
BVAR	**Borovoye Array**	**82.66**	**358**	P	**P**	**18 21 10.3**	**+1.2**
	comp=Z,5.3nm,0.8s,baz=336,slow=3.3,SNR=3.7						
	comp=Z,5.3nm,0.8s						
HHC	**Hu-ho-hao-te**	**86.14**	**328**	*e*P	**P**	**18 21 26.2**	**-0.9**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,540nm,4.2s						
WMQ	**Urumqi**	**90.08**	**346**	*e*P	**P**	**18 21 47.3**	**+1.4**
WMQ				LR	LR		
	comp=N,5µm,17.9s						
WMQ				LR	LR		
	comp=E,4µm,19.9s						
WMQ				LR	LR		
	comp=Z,4µm,23.9s						
AAK	**Ala-Archa**	**92.86**	**355**	LR	LR	19 10 17.8	
	comp=Z,3µm,19.1s,baz=250,slow=40						
PZH	**PanZhiHua**	**102.58**	**329**	P	**Pdif**	**18 22 42.7**	**-0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WRA	**Warramunga Arr**	**120.10**	**271**	PKP	**PKPdf**	**18 27 37.0**	**0.0**
	comp=Z,3.2nm,1.0s,baz=45,slow=2.2,SNR=7.3						
ASAR	**Alice Springs**	**122.78**	**268**	PKP	**PKPdf**	**18 27 42.0**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=60,slow=1.6,SNR=4.4						

*BUT **09** 18:11:14.8±2.4, 44°.70N±0°.02×112°.49W±0°.03, h10km±8km, Error ellipse: s-maj=4.3km s-min=1.0km az=221.0*

NEIC 09 18:11:13.9±1.8, 44°.69N±0°.02×112°.52W±0°.02, h10km±2km, ML3.3/46, ML3.5/14(BUT), Error ellipse: s-maj=4.0km s-min=3.1km az=359.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMT	**Monida**	**0.14**	**137**		Pg	18 11 18.2	+1.0
MCMT	**McKenzie Canyo**	**0.27**	**300**		Pb	18 11 20.9	-0.1
ICI	**Italian Canyon**	**0.47**	**220**		Pb	18 11 24.2	-0.3
TPMT	**Tepee Creek**	**0.61**	**86**		Pg	18 11 26.3	+0.5
BGMT	**Barton Gulch**	**0.64**	**32**		Pg	18 11 26.5	+0.2
CMI	**Centennial Mou**	**0.67**	**104**		Pg	18 11 27.2	+0.4
DLMT	**Dillon**	**0.67**	**356**		Pg	18 11 27.0	+0.1
DLMT				IAML		18 11 38.1	
	1µm,0.3s						
DLMT				IAML		18 11 43.7	
	1µm,0.4s						
QLMT	**Earthquake Lak**	**0.79**	**80**		Pg	18 11 29.0	-0.2
YPDC	**Denny Creek**	**0.92**	**89**		Pg	18 11 31.4	-0.1
YHB	**Horse Butte**	**0.95**	**86**		Pg	18 11 31.8	-0.4
YHB				IAML		18 11 47.1	
	comp=E,626nm,0.6s						
YHL	**Hebgen Lake**	**0.97**	**80**		Pg	18 11 31.8	-0.8
YHL					Sg	18 11 45.5	+0.3
YHL				IAML		18 11 46.1	
	comp=E,1µm,0.4s						
YHL				IAML		18 11 46.4	
	comp=N,854nm,0.5s						
GCR	**Grayling Creek**	**1.01**	**84**		Pg	18 11 33.5	+0.1
YPWB	**West Boundary**	**1.02**	**94**		Pb	18 11 33.8	+0.1
YMC	**Maple Creek**	**1.08**	**86**		Pg	18 11 34.6	-0.1
MCID	**Moose Creek**	**1.08**	**117**		Pb	18 11 35.0	+0.1
HBMT	**Mount Humbug**	**1.10**	**357**		Pn	18 11 36.6	+0.9
BOZ	**Bozeman (W)**	**1.10**	**35**		Pg	18 11 34.7	-0.4
BOZ					Sg	18 11 48.8	-0.7
BOZ				IAML		18 11 51.7	
	comp=N,537nm,0.4s						
YMR	**Madison River**	**1.11**	**91**		Pg	18 11 35.1	-0.2
YMR				Sg	Sg	18 11 49.7	0.0
YHH	**Holmes Hill**	**1.20**	**85**		Pb	18 11 36.4	-0.4
YHH	**Holmes Hill**	**1.20**	**85**		Pb	18 11 35.9	-0.9
YFT	**Old Faithful**	**1.23**	**101**		Pb	18 11 36.5	-0.9
YNM	**Yellowstone No**	**1.30**	**88**	Pn	Pn	18 11 37.3	-1.0
YNM				IAML		18 11 56.6	
	comp=E,497nm,0.4s						
YNM				IAML		18 11 56.8	
	comp=N,403nm,0.6s						
YNR	**Norris Junctio**	**1.31**	**88**		Pn	18 11 37.5	-1.1
YNR				IAML		18 11 59.0	
	comp=E,448nm,0.3s						
YNR				IAML		18 12 00.8	
	comp=N,482nm,0.4s						
BUT	**Butte**	**1.32**	**359**		Pg	18 11 39.4	+0.1
YMV	**Mammoth Vault**	**1.33**	**77**		Pg	18 11 39.4	-0.1
YML	**Mary Lake**	**1.34**	**93**		Pg	18 11 39.6	-0.1
H17A	**Grant Village**	**1.42**	**101**	Pn	Pn	18 11 39.4	-0.6
FXWY	**Fox Creek**	**1.51**	**134**	Pn	Pn	18 11 41.2	0.0
MOOW	**Moose Ponds**	**1.59**	**126**	Pn	Pn	18 11 42.6	+0.3
TPAW	**Teton Pass**	**1.65**	**136**	Pn	Pn	18 11 42.8	-0.4
TPAW				IAML		18 12 07.3	
	comp=N,386nm,0.5s						
TPAW				IAML		18 12 07.6	
	comp=N,474nm,0.4s						
YMP	**Mirror Lake Pl**	**1.69**	**88**	Pn	Pg	18 11 46.9	+0.6
YMP				IAML		18 11 56.3	
	comp=N,266nm,1.3s						
YMP				IAML		18 12 02.7	
	comp=E,286nm,1.2s						
LOHW	**Long Hollow**	**1.75**	**127**	Pn	Pn	18 11 44.6	+0.1
HLID	**Hailey**	**1.77**	**231**	Pn	Pb	18 11 45.8	-0.7
HLID				IAML		18 12 11.9	
	comp=E,390nm,0.3s						
HLID				IAML		18 12 13.1	
	comp=E,394nm,0.3s						
SNOW	**Snow King Moun**	**1.77**	**133**	Pn	Pn	18 11 45.2	+0.4
SNOW				IAML		18 11 56.9	
	comp=E,244nm,1.3s						
SNOW				IAML		18 12 11.5	
	comp=E,227nm,1.5s						
YNE	**Yellowstone No**	**1.82**	**79**	Pn	Pn	18 11 45.7	+0.3
YNE				IAML		18 12 12.5	
	comp=E,329nm,0.5s						
AHID	**Auburn Hatcher**	**2.19**	**151**	Pn	Pn	18 11 52.0	+1.5
AHID				IAML		18 12 27.1	
	comp=E,157nm,0.6s						
AHID				IAML		18 12 28.2	
	comp=E,148nm,0.7s						
RLMT	**Red Lodge**	**2.35**	**78**	Pn	Pn	18 11 52.9	+0.1
MSO	**Missoula**	**2.35**	**336**	Pn	Pn	18 11 53.5	+0.8
MFID	**Camas Ranch**	**2.70**	**243**	Pn	Pn	18 11 58.6	+1.1
HWUT	**Hardware Ranch**	**3.16**	**167**	Pn	Pn	18 12 03.1	-0.8
HWUT				IAML		18 12 54.3	
	comp=E,108nm,0.9s						
HWUT				IAML		18 12 59.3	
	comp=E,85nm,1.4s						
BMO	**Blue Mountains**	**3.41**	**274**	Pn	Pn	18 12 07.2	0.0
BMO				IAML		18 12 34.0	
	comp=E,86nm,1.5s						

*HVO **09** 18:14:49.8±2.3, 19°.94N±0°.04×155°.58W±0°.03, h20km±7km, Error ellipse: s-maj=5.8km s-min=4.0km az=208.0*

NEIC 09 18:14:47.8±0.6, 19°.93N±0°.04×155°.56W±0°.04, h34km±9km, ML2.5/37, ML2.3/12(HVO), Error ellipse: s-maj=7.0km s-min=3.8km az=211.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.17**	**309**		Pb	18 14 54.1	-0.2
HPAH				IAML		18 14 57.7	
	comp=E,889nm,0.1s						
HPAH	**Hawaii Prepara**	**0.17**	**309**		Sb	18 14 57.2	-1.5
POHA	**Pohakuloa**	**0.17**	**171**		Pb	18 14 54.4	-0.1
POHA				IAML		18 14 58.1	
	comp=E,825nm,0.2s						
POHA				IAML		18 14 58.4	
	comp=E,830nm,0.4s						
POHA	**Pohakuloa**	**0.17**	**171**		Sb	18 14 57.8	-1.3
HMH	**Humu'ula Sheep**	**0.33**	**167**		Sn	18 15 01.8	+0.1
HMH	**Humu'ula Sheep**	**0.33**	**167**		Pn	18 14 56.7	+0.2
HMH				IAML		18 15 00.7	
	comp=E,242nm,3.2s						
HMH				IAML		18 15 06.3	
	comp=N,232nm,2.0s						
HUH	**Hualalai**	**0.35**	**227**		Pn	18 14 57.1	+0.2
HUH				IAML		18 15 07.8	
	comp=N,514nm,0.4s						
HUH				IAML		18 15 12.8	
	comp=E,436nm,0.6s						
MLOA	**Mauna Loa Obse**	**0.39**	**182**		Pn	18 14 57.9	+0.4
MLOA					Sn	18 15 03.1	-0.4
ALEP	**Alea Permanent**	**0.39**	**192**		Pn	18 14 57.7	+0.2
ALEP					Sb	18 15 05.4	+1.8
MHA	**Mahukona**	**0.41**	**309**		Pb	18 14 57.2	0.0
MHA	**Mahukona**	**0.41**	**309**		Sb	18 15 03.0	-0.6
MWH	**Mokuaweoweo**	**0.44**	**185**		Sb	18 15 04.4	-0.6
MWH	**Mokuaweoweo**	**0.44**	**185**		Pb	18 14 58.0	0.0
MWH				IAML		18 15 09.4	
	comp=E,320nm,2.7s						
MWH				IAML		18 15 14.2	
	comp=N,344nm,2.1s						
MLH	**Mauna Loa**	**0.46**	**159**		Sb	18 15 04.5	-0.6
MLH	**Mauna Loa**	**0.46**	**159**		Pn	18 14 58.4	0.0
MLH	**Mauna Loa**	**0.46**	**159**	IAML		18 15 09.9	
	comp=E,130nm,1.5s						
MLH				IAML		18 15 12.0	
	comp=N,172nm,1.4s						
RSD	**Rainshed**	**0.53**	**150**		Pb	18 14 58.8	-0.3
RSD	**Rainshed**	**0.53**	**150**		Sb	18 15 06.5	-0.3
UWE	**Uwekahuna**	**0.56**	**153**		Pb	18 14 59.7	+0.1
UWE	**Uwekahuna**	**0.56**	**153**		Sb	18 15 06.7	-0.9
UWE	**Uwekahuna**	**0.56**	**153**	IAML		18 15 04.2	
	comp=N,514nm,3.5s						
UWB	**Uwekahuna Bluf**	**0.57**	**152**		Pn	18 14 59.6	0.0
SBLHI	**Steaming Bluff**	**0.57**	**151**		Pn	18 14 59.6	0.0
OBL	**Observatory Le**	**0.57**	**153**		Pb	18 14 59.7	0.0
WRMHI	**West Rim**	**0.57**	**155**		Pb	18 14 59.7	0.0
HATHI	**Halema'uma'u T**	**0.57**	**151**		Pn	18 14 59.7	0.0
HATHI					Sb	18 15 06.7	-1.3
HATHI	**Halema'uma'u T**	**0.57**	**151**	IAML		18 15 09.6	
	comp=N,241nm,4.0s						
BYL	**Byron's Ledge**	**0.58**	**151**		Pn	18 14 59.8	0.0
SDHHI	**Sand Hill**	**0.59**	**155**		Pn	18 14 59.9	0.0
RIM	**Rim**	**0.59**	**153**		Pn	18 14 60.0	0.0
KKO	**Keanakako'i**	**0.59**	**152**		Pn	18 15 00.0	0.0
PUH	**Pauahi**	**0.64**	**149**		Pn	18 15 00.4	-0.1
PUH				IAML		18 15 17.3	
	comp=N,303nm,3.0s						
PUH				IAML		18 15 22.4	
	comp=E,224nm,4.0s						
KNHH	**Kane Nui o Ham**	**0.66**	**146**		Pn	18 15 00.9	+0.1
HLP	**Hilina Pali**	**0.67**	**159**		Pn	18 15 01.1	+0.1
STCH	**Steam Cracks**	**0.68**	**143**		Pn	18 15 01.1	0.0
STCH	**Steam Cracks**	**0.68**	**143**	IAML		18 15 10.3	
	comp=E,160nm,0.1s						
STCH				IAML		18 15 21.4	
	comp=N,167nm,4.1s						
KHU	**Kahuku**	**0.68**	**184**		Pn	18 15 01.0	-0.3
KHU					Sn	18 15 09.7	-1.1
KHU	**Kahuku**	**0.68**	**184**	IAML		18 15 16.8	
	comp=N,196nm,2.5s						
NPOC	**North of Pu'u**	**0.68**	**141**		Pn	18 15 01.1	0.0
HTC	**Hot Caves**	**0.70**	**167**		Pn	18 15 01.6	+0.1
JOKA	**Jonika Flow**	**0.72**	**133**		Pn	18 15 01.7	0.0
JOKA	**Jonika Flow**	**0.72**	**133**	IAML		18 15 15.3	
	comp=E,209nm,4.2s						
JOKA				IAML		18 15 20.0	
	comp=N,198nm,1.7s						
HPO	**Honuapo**	**0.83**	**180**		Pn	18 15 03.4	+0.2
HLK	**Haleakala**	**1.05**	**322**		Pn	18 15 05.9	-0.5

*IDC **09** 18:19:56.0±0.6, 58°.46S×25°.40W, h0km, mb4.3/11, mbtmp4.4/12, ML5.0/1, Error ellipse: s-maj=22.1km s-min=16.6km az=41.0*

*NEIC **09** 18:20:02.4±2.3, 58°.6S±0°.1×25°.2W±0°.2, h47km±5km, mb4.7/38, Error ellipse: s-maj=18.4km s-min=13.2km az=220.0*

ISC 09 18:19:59.8±0.4, 58°.55S±0°.08×25°.20W±0°.09, h28km, n109, σ0§84/97, mb4.6/26, 5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.58**	**299**	Pn	**Pn**	**18 21 49.5**	**+1.4**
VNA1	**Neumayer--Stat**	**14.07**	**156**	⇓P	**Pn**	**18 23 17.5**	**+0.6**
	comp=Z,31nm,0.4s						
VNA3	**Neumayer Olymp**	**14.27**	**159**	⇓P	**Pn**	**18 23 19.4**	**-0.2**
	comp=Z,39nm,0.3s						
VNA2	**Neumayer--Watz**	**14.46**	**156**	⇓P	**Pn**	**18 23 21.9**	**-0.4**
	comp=Z,21nm,0.2s,baz=316,slow=14						
SNAA	**Sanae**	**16.02**	**154**	P	**Pn**	**18 23 42.9**	**+0.1**
SNAA	**Sanae**	**16.02**	**154**	⇓P	**Pn**	**18 23 43.5**	**+0.8**
	comp=Z,400nm,0.3s						
SNAA	**Sanae**	**16.02**	**154**	Pn	**Pn**	**18 23 43.3**	**+0.6**
	comp=Z,6.3nm,0.3s,baz=37,slow=12,SNR=178						
	comp=Z,15nm,0.3s						
TROLL	**Troll, Antarti**	**17.53**	**151**	⇓P	**P**	**18 24 03.1**	**+0.3**
	comp=Z,696nm,0.3s						
BELA	**Belgrano 2**	**19.68**	**186**	P	**P**	**18 24 25.7**	**-0.5**
EFI	**East Falkland**	**19.86**	**276**	P	**P**	**18 24 28.8**	**+0.5**
EFI				IAmb	IAmb	18 25 08.7	
	comp=Z,47nm,1.1s						
MG02	**Cerro Sombrero**	**25.12**	**264**	P	**P**	**18 25 23.6**	**+1.7**
MG03	**Isla Dawson**	**25.23**	**261**	P	**P**	**18 25 22.7**	**-0.2**
MG03				IAmb	IAmb	18 25 39.4	
	comp=Z,27nm,1.1s						
QSPA	**South Pole Qui**	**31.70**	**180**	P	**P**	**18 26 22.3**	**+1.6**
QSPA	**South Pole Qui**	**31.70**	**180**	P	**P**	**18 26 22.7**	**+2.0**
	comp=Z,2.2nm,0.8s,baz=123,slow=21,SNR=1.7						
	comp=Z,2.2nm,0.8s						
PLTB	**Pedras Altas**	**32.97**	**312**	P	**P**	**18 26 32.5**	**+0.6**
PLCA	**Paso Flores**	**33.54**	**282**	P	**P**	**18 26 36.1**	**-0.8**
PLCA	**Paso Flores**	**33.54**	**282**	P	**P**	**18 26 37.2**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=157,slow=7.8,SNR=13						
	comp=Z,3.8nm,0.7s						
LL06	**Loncomilla**	**34.05**	**277**	P	**P**	**18 26 41.2**	**0.0**
BI02	**San Fabin de**	**36.99**	**286**	P	**P**	**18 27 06.3**	**-0.3**
BI02				IAmb	IAmb	18 27 07.7	
	comp=Z,8.4nm,1.4s						
BI05	**Punta Hualpn**	**37.90**	**284**	P	**P**	**18 27 13.9**	**-0.3**
BO01	**Tunca**	**38.68**	**288**	P	**P**	**18 27 19.7**	**-1.1**
BO01				IAmb	IAmb	18 27 22.8	
	comp=Z,18nm,1.4s						
BO04	**La Punta**	**38.77**	**289**	P	**P**	**18 27 21.8**	**+0.2**
BO04				IAmb	IAmb	18 27 23.3	
	comp=Z,7.6nm,0.6s						
MT09	**Talagante**	**39.13**	**289**	P	**P**	**18 27 24.8**	**+0.1**
MT09				IAmb	IAmb	18 27 26.2	
	comp=Z,13nm,0.8s						
MT16	**CCHEN**	**39.18**	**290**	P	**P**	**18 27 23.9**	**-1.1**
MT01	**Popeta**	**39.19**	**289**	P	**P**	**18 27 24.4**	**-0.6**
MT01				IAmb	IAmb	18 27 25.7	
	comp=Z,8.4nm,0.8s						
CPUP	**Villa Florida**	**39.27**	**311**	P	**P**	**18 27 25.3**	**-0.5**
	comp=Z,2.7nm,0.4s,baz=235,slow=1.6,SNR=5.3						
	comp=Z,2.7nm,0.4s						
PEL	**Peldehue**	**39.48**	**290**	P	**P**	**18 27 27.3**	**-0.3**
VA05	**Santo Domingo**	**39.53**	**288**	P	**P**	**18 27 27.4**	**-0.5**
CFA	**Coronel Fontan**	**39.55**	**294**	P	**P**	**18 27 26.7**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=200,slow=6.2,SNR=3.3						
	comp=Z,0.9nm,0.4s						
MT02	**Curacav**	**39.62**	**289**	P	**P**	**18 27 27.9**	**-0.7**
MT02				IAmb	IAmb	18 27 30.1	
	comp=Z,14nm,0.8s						
CO02	**Combarbal**	**41.22**	**291**	P	**P**	**18 27 41.5**	**-0.5**
CO02				IAmb	IAmb	18 27 52.4	
	comp=Z,23nm,1.4s						
GO04	**Tololo Observa**	**41.97**	**292**	P	**P**	**18 27 49.1**	**+0.8**
GO04				IAmb	IAmb	18 27 54.7	
	comp=Z,16nm,1.2s						
AC05	**El Transito**	**42.82**	**294**	P	**P**	**18 27 55.3**	**+0.1**
AC05				IAmb	IAmb	18 27 57.4	
	comp=Z,9.7nm,0.6s						
LCO	**Las Campanas**	**42.88**	**293**	P	**P**	**18 27 55.0**	**-0.8**
LCO				IAmb	IAmb	18 28 15.7	
	comp=Z,18nm,1.4s						
SBA	**Scott Base**	**43.65**	**184**	P	**P**	**18 27 58.8**	**-2.3**
VNDA	**Vanda**	**44.12**	**182**	P	**P**	**18 28 03.4**	**-1.5**
VNDA	**Vanda**	**44.12**	**182**	P	**P**	**18 28 06.7**	**+1.8**
	comp=Z,1.5nm,0.8s,baz=200,slow=7.1,SNR=5.1						
	comp=Z,1.5nm,0.8s						
AC01	**Pan de Azucar**	**45.24**	**296**	P	**P**	**18 28 14.6**	**+0.1**
H04S2	**CROZET ISLANDS**	**45.60**	**111**	T	T	19 17 45.6	
	baz=226,slow=76,SNR=28						
H04S3	**CROZET ISLANDS**	**45.61**	**111**	T	T	19 17 49.4	
	baz=226,slow=76,SNR=26						
H04S1	**CROZET ISLANDS**	**45.62**	**111**	T	T	19 17 47.8	
	baz=226,slow=76,SNR=24						
BOSA	**Boshof**	**45.64**	**72**	P	**P**	**18 28 16.9**	**-0.8**
BOSA				IAmb	IAmb	18 28 19.1	
	comp=Z,7.3nm,0.8s						
BOSA	**Boshof**	**45.64**	**72**	P	**P**	**18 28 19.0**	**+1.3**
	comp=Z,4.6nm,0.7s,baz=217,slow=6.6,SNR=12						
	comp=Z,4.6nm,0.7s						
BDFB	**Brasilia**	**46.07**	**329**	P	**P**	**18 28 20.9**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=212,slow=12,SNR=3.5						
	comp=Z,1.3nm,0.4s						
PTLB	**Pontes e Lacer**	**49.84**	**315**	P	**P**	**18 28 49.5**	**-0.7**
PTLB				IAmb	IAmb	18 28 51.0	
	comp=Z,2.9nm,0.7s						
SIV	**San Ignacio**	**50.08**	**313**	P	**P**	**18 28 51.1**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=158,slow=7.1,SNR=8.0						
	comp=Z,1.8nm,0.5s						
H10S2	**ASCENSION HYDR**	**50.13**	**14**	T	T	19 23 19.2	
	baz=33,slow=74,SNR=6.0						
H10S3	**ASCENSION HYDR**	**50.14**	**14**	T	T	19 23 15.7	
	baz=187,slow=74,SNR=6.5						
GO01	**Chusmiza**	**50.18**	**302**	P	**P**	**18 28 52.2**	**-1.1**
GO01				IAmb	IAmb	18 28 55.6	
	comp=Z,11nm,1.5s						
H10N1	**ASCENSION HYDR**	**51.25**	**14**	T	T	19 24 36.4	
	baz=200						
H10N3	**ASCENSION HYDR**	**51.25**	**14**	T	T	19 24 37.4	
	baz=200,SNR=6.4						
H10N2	**ASCENSION HYDR**	**51.27**	**14**	T	T	19 24 44.9	
	baz=200						
LPAZ	**La Paz**	**52.70**	**305**	P	**P**	**18 29 11.5**	**-0.8**
LPAZ	**La Paz**	**52.70**	**305**	P	**P**	**18 29 11.4**	**-1.0**
	comp=Z,2.5nm,0.5s,baz=152,slow=7.2,SNR=9.0						
	comp=Z,2.5nm,0.5s						
SAML	**Samuel**	**57.32**	**314**	P	**P**	**18 29 44.1**	**-1.0**
SAML				IAmb	IAmb	18 29 45.3	
	comp=Z,5.5nm,1.1s						
BOAV	**Boa Vista**	**66.92**	**321**	P	**P**	**18 30 48.4**	**-1.0**
BOAV				IAmb	IAmb	18 30 57.4	
	comp=Z,13nm,1.4s						
DBIC	**Dimbokro**	**67.04**	**22**	P	**P**	**18 30 49.9**	**-0.2**
DBIC				IAmb	IAmb	18 30 51.7	
	comp=Z,9.2nm,1.1s						
DBIC	**Dimbokro**	**67.04**	**22**	P	**P**	**18 30 50.5**	**+0.4**
	comp=Z,3.1nm,0.5s,baz=161,slow=6.0,SNR=6.2						
	comp=Z,3.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**74.75**	**27**		**P**	**18 31 37.9**	**+1.0**
TORD	**Torodi Ar. Bea**	**74.75**	**27**	P	**P**	**18 31 38.0**	**+1.2**
	comp=Z,35nm,0.3s,baz=199,slow=5.8,SNR=1.2						
OXZ	**Oxford**	**77.48**	**193**	P	**P**	**18 31 52.1**	**-0.1**
TAU	**Tasmania Unive**	**78.71**	**174**	P	**P**	**18 31 58.6**	**-0.5**
TCW	**Tory Channel**	**79.29**	**195**	P	**P**	**18 32 02.6**	**+0.4**
CAN	**Canberra**	**86.36**	**175**	P	**P**	**18 32 39.6**	**+0.5**
MORW	**Morawa**	**86.92**	**147**	P	**P**	**18 32 39.3**	**-2.6**
ASAR	**Alice Springs**	**96.27**	**161**	P	**P**	**18 33 25.4**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=185,slow=4.7,SNR=6.5						
	comp=Z,0.9nm,0.6s						
PDAR	**Pinedale Array**	**122.56**	**300**	PKP	**PKPdf**	**18 38 51.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=126,slow=5.0,SNR=11						
CMAR	**Chiang Mai Arr**	**123.18**	**110**	PKP	**PKiKP**	**18 38 54.1**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=218,slow=3.7,SNR=7.1						
FINES	**FINESS Array B**	**126.10**	**28**	PKP	**PKPdf**	**18 38 57.8**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=155,slow=1.2,SNR=16						
ARCES	**ARCESS Array B**	**132.87**	**22**	PKP	**PKPdf**	**18 39 10.6**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=191,slow=2.0,SNR=12						
BVAR	**Borovoye Array**	**135.19**	**59**	PKP	**PKiKP**	**18 39 16.6**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=249,slow=1.4,SNR=7.6						
MKAR	**Makanchi Array**	**136.63**	**73**	PKP	**PKPdf

H08S3	Diego Garcia H	29.21	261	T	T	19 08 46.8	
	baz=84,slow=75,SNR=30						
H08S1	Diego Carcia H	29.22	261	T	T	19 08 47.2	
	baz=84,slow=75,SNR=5.2						
WRA	Warramunga Arr	35.69	119	P	P	18 39 52.7	+0.4
	0.4nm,0.4s,baz=303,slow=9.0,SNR=9.1						
	0.4nm,0.4s						
ASAR	Alice Springs	36.88	125	P	P	18 40 03.6	+1.2
	0.3nm,0.4s,baz=297,slow=8.0,SNR=16						
	0.3nm,0.4s						
SONM	Songino Array	51.64	4	P	P	18 41 59.8	-0.5
	0.3nm,0.5s,baz=188,slow=10,SNR=3.2						
	0.3nm,0.5s						
MKAR	Makanchi Array	53.24	344	P	P	18 42 11.2	-0.8
	0.4nm,0.5s,baz=156,slow=7.7,SNR=5.9						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	57.78	343	P	P	18 42 43.5	-1.0
	0.2nm,0.7s,baz=161,slow=7.2,SNR=2.2						
	0.2nm,0.7s						
ZALV	Zalesovo Beam	59.28	349	P	P	18 42 52.6	-2.3
	0.7nm,0.4s,baz=134,slow=4.3,SNR=4.7						
	0.7nm,0.4s						
H04N2	CROZET ISLANDS	60.29	218	T	T	19 47 52.4	
	baz=61,slow=74,SNR=20						
H04N1	CROZET ISLANDS	60.30	218	T	T	19 47 50.8	
	baz=61,slow=74,SNR=20						
H04N3	CROZET ISLANDS	60.31	218	T	T	19 47 50.3	
	baz=61,slow=74,SNR=17						
BVAR	Borovoye Array	62.47	339	P	P	18 43 14.5	-2.2
	0.3nm,0.4s,baz=153,slow=11,SNR=2.3						
	0.3nm,0.4s						
TXAR	Lajitas Array	145.12	41	PKPbc	PKPab	18 52 31.5	+0.3
	0.4nm,0.5s,baz=221,slow=1.2,SNR=4.4						

*IDC **09** 18:36:38.5±5.6, 40°.24S×176°.77E, h0km, mb3.9/1, mbtmp3.9/1, Error ellipse: s-maj=333.6km s-min=54.3km az=174.0*
*NOU **09** 18:37:06.3, 38°.80S×175°.47E, h180km, MLv4.0/21, North Island, New Zealand*
*WEL **09** 18:37:09.7±1.1, 39°.S±7°×17°.5E±°, h153km±8km, M3.5/76, ML3.1/22, MLv3.5/76, Error ellipse: s-maj=11.4km s-min=9.6km az=82.2, confirmed*
ISC 09 18:37:06.4±0.9, 38°.78S±0°.05×175°.43E±0°.05, h187km±5km, n180, σ0°.96/188, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUHS	Taumarunui Hig	0.17	239	P	Pn	18 37 29.9	-1.2
WATZ	Wairara	0.25	74	P	Pn	18 37 31.5	+0.2
RATZ	Rangitukua	0.28	109	P	Pn	18 37 31.5	+0.1
KATZ	Kakaramea	0.28	134	P	Pn	18 37 31.9	+0.4
TWVZ	Taurewa	0.29	179	P	Pn	18 37 32.0	+0.5
TWVZ				S	Sn	18 37 49.5	-1.5
KRVZ	Karewarewa	0.36	153	P	Pn	18 37 32.3	+0.6
WTVZ	West Tongariro	0.36	160	P	Pn	18 37 32.3	+0.6
NTVZ	North Tongarir	0.37	149	P	Pn	18 37 32.3	+0.6
NNVZ	North Ngauruho	0.38	158	P	Pn	18 37 32.3	+0.6
RITZ	Rihia Road	0.39	121	P	Pn	18 37 32.2	+0.5
TMVZ	Te Maari	0.40	148	P	Pn	18 37 32.3	+0.5
TMVZ				S	Sn	18 37 49.5	-2.0
ETVZ	East Tongariro	0.42	149	P	Pn	18 37 32.4	+0.5
NGZ	Ngauruhoe	0.42	162	P	Pn	18 37 32.4	+0.5
KUTZ	Kaahu Road	0.42	47	P	Pn	18 37 31.8	0.0
OTVZ	Oturere	0.43	155	P	Pn	18 37 32.4	+0.5
OTVZ				S	Sn	18 37 50.1	-1.7
WHTZ	Whakaora	0.43	75	P	Pn	18 37 32.0	+0.2
COVZ	Chateau Observ	0.43	168	P	Pn	18 37 32.6	+0.7
SNVZ	South Ngauruho	0.44	158	P	Pn	18 37 33.0	+1.1
TLZ	Tolley Road	0.46	11	P	Pn	18 37 31.0	-1.0
FWVZ	Far West T-bar	0.49	169	P	Pn	18 37 32.9	+0.7
FWVZ				S	Sn	18 37 51.7	-0.7
MAVZ	Matarangi	0.50	168	P	Pn	18 37 33.2	+0.8
PKVZ	Pokaka	0.52	187	P	Pn	18 37 33.0	+0.9
TUVZ	Tukino	0.52	161	P	Pn	18 37 33.1	+0.9
TUVZ				S	Sn	18 37 51.7	-0.7
WHVZ	Whangaehu Hut	0.52	166	P	Pn	18 37 33.2	+0.8
WHVZ				S	Sn	18 37 51.1	-1.5
HIZ	Hauiti	0.52	300	P	Pn	18 37 31.9	-0.2
HIZ	Hauiti	0.52	300	S	Sn	18 37 51.3	-0.6
HIZ	Hauiti	0.52	300	P	Pn	18 37 32.5	+0.3
HIZ				S	Sn	18 37 50.1	-1.8
HATZ	Hinemaiaia	0.53	103	P	Pn	18 37 32.2	0.0
TRVZ	Turoa	0.53	170	P	Pn	18 37 33.3	+0.9
TRVZ				S	Sn	18 37 51.1	-1.5
WNVZ	Wahianoa	0.56	167	P	Pn	18 37 33.4	+0.9
MTVZ	Mangateitei	0.61	177	P	Pn	18 37 33.5	+1.0
WPRZ	Whakapapatarin	0.63	66	P	Pn	18 37 32.4	-0.3
VRZ	Vera Road	0.63	236	P	Pn	18 37 33.4	+0.8
MOVZ	Moawhango	0.68	158	P	Pn	18 37 33.5	+0.6
GRRZ	Galatos Road	0.68	51	P	Pn	18 37 32.7	-0.2
ALRZ	Allen Road	0.74	74	P	Pn	18 37 32.9	-0.3
HRRZ	Handcock Road	0.77	60	P	Pn	18 37 33.2	-0.2
MRHZ	Matea Rd	0.77	94	P	Pn	18 37 33.2	-0.2
HSRZ	Hossack Road	0.79	54	P	Pn	18 37 33.2	-0.3
PRRZ	Plateau Road	0.80	70	P	Pn	18 37 33.3	-0.2
UTU	Utuhina	0.85	45	P	Pn	18 37 33.6	-0.2
HLRZ	Highlands Stat	0.89	54	P	Pn	18 37 34.5	+0.3
NGRZ	Ngongotaha	0.90	42	P	Pn	18 37 33.9	-0.3
BKZ	Black Stump Fm	0.91	115	P	Pn	18 37 34.0	-0.3
BKZ	Black Stump Fm	0.91	115	S	Sn	18 37 53.9	-2.0
BKZ	Black Stump Fm	0.91	115	P	Pn	18 37 34.6	+0.3
RRRZ	Republican Roa	0.95	63	P	Pn	18 37 34.2	-0.3
KARZ	Kaharoa	0.99	40	P	Pn	18 37 34.4	-0.5
OMRZ	Omania	1.00	48	P	Pn	18 37 31.1	-3.7
TARZ	Mount Tarawera	1.00	58	P	Pn	18 37 34.7	-0.3
KWRZ	Kaweka Forest	1.01	130	P	Pn	18 37 35.8	+0.9
WAZ	Wanganui	1.04	199	P	Pn	18 37 36.7	+1.6
TOZ	Tahuroa Road	1.05	3	P	Pn	18 37 35.0	-0.2
LREZ	Lake Rotokare	1.05	229	P	Pn	18 37 36.9	+1.8
MUGZ	Murupara	1.09	74	P	Pn	18 37 34.7	-0.8
MTHZ	Maungataniwha	1.10	94	P	Pn	18 37 35.7	+0.1
NMHZ	Naumai	1.12	107	P	Pn	18 37 36.9	+1.1
KRHZ	Kereru	1.13	140	P	Pn	18 37 36.9	+1.1
PREZ	Palmer Road	1.14	240	P	Pn	18 37 37.4	+1.5
NEZ	North Egmont	1.15	244	P	Pn	18 37 37.5	+1.5
MCHZ	McNeill Hill	1.19	124	P	Pn	18 37 37.8	+1.5
KHEZ	Kahui Hut	1.22	244	P	Pn	18 37 37.4	+0.8
KHEZ	Kahui Hut	1.22	244	P	Sn	18 38 00.9	+0.9
KHEZ	Kahui Hut	1.22	244	P	Pn	18 37 37.9	+1.3
RTZ	Ruatahuna	1.22	83	P	Pn	18 37 36.3	-0.3
TGRZ	Tauranga	1.23	32	P	Pn	18 37 36.1	-0.5
PNHZ	Pukenui	1.28	153	P	Pn	18 37 38.2	+1.1
RAHZ	Arahi	1.30	97	P	Pn	18 37 37.8	+0.6
ARHZ	Aropaoanui	1.31	112	P	Pn	18 37 38.3	+1.1
NBEZ	Newall Road No	1.31	248	P	Pn	18 37 38.7	+1.5
TSZ	Takapari Road	1.34	162	P	Pn	18 37 38.8	+1.2
NMEZ	Namu Road	1.37	242	P	Pn	18 37 37.2	-0.5
URZ	Urewera	1.42	69	P	Pn	18 37 37.1	-1.1
URZ	Urewera	1.42	69	P	Pn	18 37 36.7	-1.5
OHWZ	Ohakea	1.43	184	P	Pn	18 37 40.2	+1.9
WHHZ	Waihua	1.44	103	P	Pn	18 37 39.1	+0.7
SNGZ	Shannon Statio	1.49	91	P	Pn	18 37 39.3	+0.4
WPHZ	Waipukurau	1.50	149	P	Pn	18 37 40.2	+1.2
KAHZ	Kahuranaki	1.51	133	P	Pn	18 37 40.4	+1.3
CKHZ	Cape Kidnapper	1.55	125	P	Pn	18 37 40.7	+1.3
RAGZ	Rawiri	1.58	80	P	Pn	18 37 39.6	-0.2
DVHZ	Dannevirke	1.62	160	P	Pn	18 37 41.0	+0.9
POWZ	Post Office Ro	1.63	171	P	Pn	18 37 41.3	+1.2
PXZ	Pawanui	1.67	139	P	Pn	18 37 41.7	+1.1
MKAZ	Moumakai	1.68	353	P	Pn	18 37 40.5	-0.2
MWZ	Matawai	1.70	76	P	Pn	18 37 40.4	-0.6
PRHZ	Porangahau	1.75	148	P	Pn	18 37 42.6	+1.2
KNZ	Kokohu	1.77	99	P	Pn	18 37 41.7	+0.2
AWAZ	Awhitu Peninsu	1.82	340	P	Pn	18 37 42.2	+0.1
PRWZ	Pori Road	1.82	167	P	Pn	18 37 43.4	+1.3
RIGZ	Rimuhau	1.82	88	P	Pn	18 37 42.3	+0.1
ANWZ	Angora Road	1.86	155	P	Pn	18 37 43.8	+1.3
ETAZ	East Tamaki Re	1.86	347	P	Pn	18 37 42.5	0.0
MRZ	Mangatainoka R	1.88	177	P	Pn	18 37 43.6	+0.9
PRGZ	Paritu Road	1.92	95	P	Pn	18 37 43.4	+0.3
TKGZ	Te Karaka	1.92	81	P	Pn	18 37 43.2	+0.1
RUGZ	Raukumara Rang	1.94	66	P	Pn	18 37 41.8	-1.7
WTAZ	Waiatarua	1.96	339	P	Pn	18 37 44.0	+0.4
MHGZ	Mahia Peninsul	1.97	102	P	Pn	18 37 44.3	+0.7
WIAZ	Waiheke Island	2.00	353	P	Pn	18 37 43.7	-0.3
BFZ	Birch Farm	2.00	162	P	Pn	18 37 44.7	+0.8
BFZ	Birch Farm	2.00	162	P	Sn	18 38 12.5	-0.8
BFZ	Birch Farm	2.00	162	P	Pn	18 37 44.9	+0.9
KUZ	Kuaotunu	2.04	7	P	Pn	18 37 43.9	-0.5
KUZ	Kuaotunu	2.04	7	P	Pn	18 37 43.9	-0.5
OGWZ	Otaki Gorge	2.05	186	P	Pn	18 37 45.6	+1.2
TWGZ	Tauwhareparae	2.09	74	P	Pn	18 37 44.7	-0.2
HAZ	Te Kaha	2.11	62	P	Pn	18 37 43.6	-1.5
HOWZ	Holdsworth Sta	2.12	178	P	Pn	18 37 46.0	+0.8
KIW	Kapiti Island	2.12	191	P	Pn	18 37 46.0	+0.8
CNGZ	Carnagh Statio	2.19	83	P	Pn	18 37 46.2	+0.2
ABAZ	Army Bay	2.23	347	P	Pn	18 37 46.7	+0.3
PKGZ	Pakihiroa	2.27	67	P	Pn	18 37 46.0	-0.9
PUZ	Puketiti	2.33	73	P	Pn	18 37 46.8	-0.8
DUWZ	D'Urville Isla	2.33	209	P	Pn	18 37 48.1	+0.6
CAW	Cannon Point	2.34	187	P	Pn	18 37 48.5	+0.8
TMWZ	Te Maipa	2.35	172	P	Pn	18 37 48.6	+0.8
MTW	Mount Morrison	2.38	179	P	Pn	18 37 48.6	+0.6
GRZ	Great Barrier	2.52	0	P	Pn	18 37 49.6	-0.2
WMGZ	Waiomatatini S	2.54	69	P	Pn	18 37 48.9	-1.0
WEL	Wellington	2.56	191	P	Pn	18 37 50.9	+0.9
MXZ	Matakaoa Point	2.57	63	P	Pn	18 37 49.2	-1.1
MXZ	Matakaoa Point	2.57	63	P	Pn	18 37 49.5	-0.8
TCW	Tory Channel	2.59	200	P	Pn	18 37 51.2	+0.7
SNZO	South Karori	2.59	192	P	Pn	18 37 51.0	+0.6
SNZO	South Karori	2.59	192	P	Sn	18 38 23.1	-1.9
PAWZ	Paruwai Farm	2.60	180	P	Pn	18 37 51.1	+0.5
TRWZ	Traveller	2.62	176	P	Pn	18 37 51.5	+0.6
MSWZ	Moikau Station	2.64	183	P	Pn	18 37 51.5	+0.4
BHW	Baring Head	2.66	189	P	Pn	18 37 51.9	+0.6
PLWZ	Palliser	2.79	183	P	Pn	18 37 53.1	+0.2
TUWZ	Tuamarina	2.88	203	P	Pn	18 37 54.4	+0.5
NNZ	Nelson	2.90	212	P	Pn	18 37 54.2	+0.1
TKNZ	Takaka Hill	2.95	219	P	Pn	18 37 54.4	-0.3
QRZ	Quartz Range	3.03	227	P	Pn	18 37 55.1	-0.6
QRZ	Quartz Range	3.03	227	S	Sn	18 38 33.6	-0.7
QRZ	Quartz Range	3.03	227	P	Pn	18 37 55.2	-0.5
CMWZ	Cape Campbell	3.11	197	P	Pn	18 37 58.0	+1.3
BSWZ	Blackbirch Sta	3.17	202	P	Pn	18 37 58.0	+0.7
MRNZ	Matariki Terra	3.33	217	P	Pn	18 37 58.8	-0.5
THZ	Tophouse	3.55	212	P	Pn	18 38 01.8	-0.3
KHZ	Kahutara	3.91	201	P	Pn	18 38 06.7	+0.2
KHZ	Kahutara	3.91	201	S	Sn	18 38 51.7	-2.0
KHZ	Kahutara	3.91	201	P	Pn	18 38 06.9	+0.4
DSZ	Denniston Nort	4.06	222	P	Pn	18 38 07.6	-0.8
GVZ	Greta Valley S	4.56	203	P	Pn	18 38 14.5	-0.3
LTZ	Lake Taylor	4.66	210	P	Pn	18 38 15.0	-1.2
AMCZ	Amberley	4.87	205	P	Pn	18 38 18.1	-0.6
INZ	Inchbonnie	4.97	216	P	Pn	18 38 18.6	-1.4
OXZ	Oxford	5.22	208	P	Pn	18 38 22.0	-1.3
OKCZ	Okains Bay	5.25	199	P	Pn	18 38 23.1	-0.6
MQZ	McQueen's Vall	5.35	202	P	Pn	18 38 23.3	-1.6
AKCZ	Akaroa Harbour	5.43	200	P	Pn	18 38 25.3	-0.7
RACZ	Rakaia	5.53	206	P	Pn	18 38 26.1	-1.1
MHCZ	Mount Hutt	5.57	210	P	Pn	18 38 27.1	-0.8
WVZ	Waitaha Valley	5.57	218	P	Pn	18 38 27.2	-0.6
WACZ	Wakanui South	5.83	206	P	Pn	18 38 29.7	-1.3
RPZ	Rata Peaks	5.93	212	P	Pn	18 38 32.2	-0.3
RPZ	Rata Peaks	5.93	212	P	Pn	18 38 32.2	-0.3
GCSZ	Gaunt Creek Bo	5.95	219	P	Pn	18 38 32.7	0.0
ARCZ	Arundel	6.08	210	P	Pn	18 38 33.7	-0.7
FOZ	Fox Glacier	6.37	220	P	Pn	18 38 37.6	-0.5
TMZ	Timaru	6.51	209	P	Pn	18 38 38.2	-1.9
LBZ	Lake Benmore	6.84	213	P	Pn	18 38 43.5	-0.9
ODZ	Otahua Downs	7.21	208	P	Pn	18 38 48.4	-0.7
ODZ	Otahua Downs	7.21	208	P	Pn	18 38 48.1	-1.1
JCZ	Jackson Bay	7.27	221	P	Pn	18 38 49.6	-0.5
JCZ	Jackson Bay	7.27	221	P	Pn	18 38 48.3	-1.8
WKZ	Wanaka	7.71	216	P	Pn	18 38 54.3	-1.4
EAZ	Earnscleugh	7.89	213	P	Pn	18 38 56.9	-1.3
HHSZ	Highcliff Hill	7.95	205	P	Pn	18 38 59.1	+0.2
TUZ	Tuapeka	8.36	209	P	Pn	18 39 04.3	+0.1
MLZ	Mavora Lakes	8.54	217	P	Pn	18 39 06.1	-0.5
WHZ	Wether Hill Ro	9.01	216	P	Pn	18 39 11.7	-1.1
SYZ	Scrubby Hill	9.03	209	P	Pn	18 39 12.8	-0.2
SYZ	Scrubby Hill	9.03	209	P	Pn	18 39 13.2	+0.2
ASAR	Alice Springs	38.23	281	P	P	18 44 11.1	+2.7
	1.2nm,0.7s,baz=121,slow=8.2,SNR=48						
	1.2nm,0.7s						
KBZ	Khabaz	144.36	294	PKPbc	PKPdf	18 56 19.0	-0.6
	1.1nm,0.8s,baz=90,slow=1.0,SNR=3.8						
ARCES	ARCESS Array B	145.26	342	PKPbc	PKPab	18 56 21.5	+0.5
	0.8nm,0.5s,baz=46,slow=2.6,SNR=15						
FINES	FINESS Array B	150.47	330	PKPbc	PKPbc	18 56 34.4	-0.3
	1.7nm,0.9s,baz=33,slow=3.3,SNR=4.9						

*DJA **09** 18:40:11.6±0.8, 3°.S±6°×13°.9E±°, h24km±10km, M3.7/7, mb4.3/2, MLv3.4/7*
*IDC **09** 18:40:14.6±2.9, 4°.06S×141°.06E, h0km, mb3.5/2, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=122.3km s-min=13.1km az=84.0*
ISC 09 18:40:12.0±1.1, 2°.62S±0°.08×138°.83E±0°.05, h37km, n11, σ1°.76/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.64	350	P	Pn	18 40 23.1	-1.5
SMPI				S	Sn	18 40 34.4	+0.9
GENI	Genyem	1.34	89	P	Pn	18 40 33.7	-0.4
GENI				S	Sn	18 40 52.5	+1.8
JAY	Jayapura	1.88	87	Pg	Pn	18 40 41.3	-0.3
	3.6nm,0.3s,baz=218,slow=9.4,SNR=15						
JAY				Lg	Lg	18 41 06.5	
	4.9nm,0.3s,baz=16,slow=22,SNR=6.1						
JAY	Jayapura	1.88	87	P	Pn	18 40 42.5	+0.9
SRPI	Serui, Papua	2.69	286	P	Pn	18 40 50.7	-2.0
BAKI	Biak	3.07	298	P	Pn	18 41 00.9	+3.0
RKPI	Ransiki, Papua	4.77	283	P	Pn	18 41 08.7	-13
FAKI	Fak Fak	6.58	267	P	Pn	18 41 47.2	+1.1
	23nm,1.4s						
WRA	Warramunga Arr	17.76	194	P	Pn	18 44 14.8	-1.7
	0.2nm,0.3s,baz=14,slow=12,SNR=6.1						
	0.7nm,0.6s						
ASAR	Alice Springs	21.45	192	P	P	18 44 57.0	-0.3
	0.9nm,0.8s,baz=16,slow=11,SNR=12						
	0.9nm,0.8s						
STKA	Stephens Creek	29.22	175	P	P	18 46 04.7	-5.6
	0.7nm,0.4s,baz=350,slow=12,SNR=3.1						
	0.7nm,0.4s						

*NEIC **09** 19:09:11.6±0.6, 35°.998N±0°.005×96°.79W±0°.01, h6km±1km, Error ellipse: s-maj=1.4km s-min=0.7km az=86.0*
NEIC 09 19:09:11.7±0.9, 35°.999N±0°.005×96°.80W±0°.01, h6km±1km, mb_Lg2.5/4, ML2.0/46, ML2.1/24, Error ellipse: s-maj=1.5km s-min=0.7km az=91.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK052	Battle Ridge R	0.01	219	Pg	Pg	19 09 12.8	-0.1
OK052				Sg	Sg	19 09 13.5	-0.2
OK052				IAML		19 09 13.6	
	2um,0.4s						
OK031	S. Brethren Rd	0.06	216		Pg	19 09 13.4	+0.1
OK031				Sg	Sg	19 09 14.6	+0.1
QUOK	Quay	0.19	23		Pg	19 09 15.9	+0.4
QUOK				Sg	Sg	19 09 18.6	+0.6
DEOK	Depew	0.29	123		Pg	19 09 17.6	+0.2
DEOK				Sg	Sg	19 09 21.6	+0.4
DEOK				IAML		19 09 21.8	
	comp=E,184nm,0.2s						
DEOK				IAML		19 09 21.9	
	comp=N,190nm,0.3s						
OK048	Pawnee Station	0.43	344		Pg	19 09 20.5	+0.4
OK048				Sg	Sg	19 09 26.4	+0.6
OK051	E0350 and S346	0.51	356		Pg	19 09 21.7	+0.3
OK051				IAML		19 09 28.9	
	comp=N,185nm,0.2s						
OK051				IAML		19 09 34.1	
	comp=N,117nm,0.1s						
OK029	Liberty Lake	0.57	249		Pg	19 09 22.9	+0.2
OK029				Sg	Sg	19 09 30.5	+0.4
OK029				IAML		19 09 31.8	
	comp=N,117nm,0.1s						
OK029				IAML		19 09 33.7	
	comp=N,69nm,0.2s						
ADOK	Arcadia Dam	0.58	234	Pg	Pg	19 09 23.4	+0.5
ADOK				Sg	Sg	19 09 31.5	+1.0
OKCSW	OKLAHOMA CITY	0.79	222	Pg	Pb	19 09 27.7	-0.1
TUL3	Leonard	0.82	96	Pg	Pg	19 09 26.9	-0.5
TUL3					Sg	19 09 38.0	-0.1
W35A	Tecumseh	0.85	184		Pg	19 09 27.4	-0.6
W35A					Sg	19 09 39.4	+0.4
W35A				IAML		19 09 39.5	
	comp=N,46nm,0.3s						
W35A				IAML		19 09 39.6	
	comp=E,68nm,0.3s						
FNO	Franklin	0.89	214		Pg	19 09 28.2	-0.5
FNO					Sg	19 09 40.9	+0.6
FNO				IAML		19 09 43.8	
	comp=E,63nm,0.2s						
T35A	Sooner Cattle	0.94	14		Pg	19 09 29.7	-0.1
T35A					Sg	19 09 42.4	+0.3
T35A				IAML		19 09 43.2	
	comp=E,46nm,0.1s						
CROK	Carrier	1.08	298		Pg	19 09 32.0	-0.5
CROK					Sg	19 09 46.9	+0.3
CROK				IAML		19 09 51.3	
	comp=E,53nm,0.2s						
KAN13	South Haven SW	1.15	332	Pg	Pg	19 09 33.5	-0.3
GC02	Grant County #	1.21	315		Pg	19 09 34.5	-0.4
KAN17	Caldwell West	1.30	324		Pn	19 09 35.9	-0.5
KAN09	Caldwell North	1.31	330		Pn	19 09 36.4	-0.2
KAN09				IAmb_Lg		19 09 53.2	
	comp=Z,41nm,1.2s						
KAN01	Argonia South	1.39	326		Pn	19 09 37.4	-0.2
OK032	Salt Plains WL	1.39	306		Pn	19 09 36.9	-0.8
KAN05	Bluff City Nor	1.41	322		Pn	19 09 37.1	-0.7
KAN08	Anthony NE Sta	1.55	323		Pn	19 09 38.6	-1.2
KAN12	Harper NE Stat	1.62	324		Pn	19 09 39.5	-1.2
X34A	Smith Ranch, M	1.63	212		Pn	19 09 38.7	-2.2
OK038	West end E0370	1.64	287		Pn	19 09 39.6	-1.5
OK038				IAmb_Lg		19 10 05.8	
	comp=Z,19nm,1.1s						
NOKA	Waynoka	1.84	291	Pn	Pn	19 09 41.0	-2.7
U38A	Gravette	2.00	77		Pn	19 09 43.9	-2.1
WMOK	Wichita Mounta	2.05	233	Pn	Pn	19 09 45.4	-1.3
HHAR	Hobbs	2.33	82	Pn	Pn	19 09 48.9	-1.6
SMWD	Samnorwood	2.95	253	Pn	Pn	19 09 57.8	-1.3
FW03	Perrin-Whitt E	3.13	200	Pn	Pn	19 10 01.9	+0.3
WHAR	Wooly Hollow	3.74	100	Pn	Pn	19 10 09.2	-0.7
MGMO	Mountain Grove	3.82	71		Pn	19 10 09.8	-1.3
237A	Washetta, Mont	4.07	168	Pn	Pn	19 10 15.0	+0.6
R40A	Maddies Statio	4.28	56	Pn	Pn	19 10 16.6	-0.7
T42A	Van Buren	4.71	76	Pn	Pn	19 10 22.6	-0.6

*IDC **09** 19:19:13.9±0.8, 37°.15N×141°.29E, h0km, mb3.6/8, mbtmp3.6/11, ML3.5/3, Error ellipse: s-maj=22.9km s-min=17.3km az=99.0*
*JMA **09** 19:19:18.2±0.1, 37°.2N±0°.3×141°.2E±0°.7, h35km, MD4.0/39, MV4.1/39, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
ISC 09 19:19:15.8±2.1, 37°.14N±0°.04×141°.30E±0°.06, h11km±13km, n50, σ0°.94/42, mb3.6/8, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.40	265	⇓i P	Pn	19 19 26.3	-1.3
ONAJ				⇓S	Sb	19 19 31.8	+0.7
ONAJ	Iwakimizuishiy	0.40	265	A	A	19 19 26.3	
	comp=N,94nm,0.3s,comp=E,119nm,0.3s						
JFK	Kawauchi	0.41	304	⇓i P	Pb	19 19 26.3	+1.3
JFK				⇓S	Sb	19 19 31.8	+0.6
JFK	Kawauchi	0.41	304	A	A	19 19 26.3	
	comp=N,10.0nm,0.9s,comp=E,14nm,0.3s						
JFFD	Fukushimafurud	0.59	265	⇓i P	Pb	19 19 28.9	+0.8
JFFD				⇓S	Sb	19 19 36.2	-0.3
JFFD	Fukushimafurud	0.59	265	A	A	19 19 28.9	
	comp=N,8.0nm,1.0s,comp=E,16nm,0.6s						
JMST	Minamisoumatoc	0.67	331	i P	Pb	19 19 30.1	+0.6
JMST				S	Sb	19 19 38.5	-0.2
JMST	Minamisoumatoc	0.67	331	A	A	19 19 30.1	
	comp=N,4.0nm,0.2s,comp=E,6.0nm,0.4s						
JHO	Hitachi	0.79	228	i P	Pb	19 19 31.5	+0.1
JHO				S	Sg	19 19 41.0	-0.2
JMM	Marumori	0.83	331	P	Pb	19 19 32.3	+0.1
JMM	Marumori	0.83	331	S	Sg	19 19 42.8	+0.2
JMM	Marumori	0.83	331	i P	Pb	19 19 32.5	+0.3
JMM				eS	Sb	19 19 43.6	+0.3
JOTO	OTAMA OYAMA	0.87	299	i P	Pn	19 19 33.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.52**	**39**	Pg	**Pg**	**19 28 07.9**	**+0.3**
GLG1				Sg	**Sg**	**19 28 15.1**	**+0.5**
IBDR	**Badra**	**0.69**	**150**	*e*Pg	**Pb**	**19 28 11.0**	**-0.1**
	baz=330						
IBDR				*e*Sg	**Sb**	**19 28 21.0**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.80**	**4**	Pg	**Pg**	**19 28 12.4**	**-0.4**
IGHG	**Ghaleghazi**	**1.07**	**54**	Pg	**Pg**	**19 28 17.9**	**-0.1**
IDHR	**Dehrash**	**1.23**	**36**	Pg	**Pg**	**19 28 21.2**	**+0.3**
ILIN	**Lien**	**1.70**	**44**	Pg	**Pg**	**19 28 29.3**	**-0.7**
IKRK	**Kirkuk**	**1.95**	**330**	*e*Pn	**Pb**	**19 28 32.0**	**-0.6**
IKRK				*e*Sn	**Sb**	**19 28 58.0**	**+1.1**
IKRK				AML	AML	19 29 15.2	
	comp=N,5.0nm,0.9s						
IKFM	**Kafar-mosalman**	**1.96**	**95**	Pn	**Pb**	**19 28 32.1**	**-0.6**

*IDC **09** 19:30:33.7±1.1, 58°.50S×25°.17W, h0km, mb4.1/2, mbtmp4.4/3, ML5.2/1, Error ellipse: s-maj=73.0km s-min=32.8km az=28.0*

ISC 09 19:30:37.6±1.0, 58°.6S±0°.2×25°.2W±0°.3, h28km, n13, σ0.48/13, 5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.06**	**156**	⇓P	**Pn**	**19 33 54.9**	**+0.3**
	comp=Z,24nm,0.3s						
VNA3	**Neumayer Olymp**	**14.26**	**159**	⇓P	**Pn**	**19 33 57.1**	**-0.2**
	comp=Z,16nm,0.2s						
VNA2	**Neumayer--Watz**	**14.46**	**156**	⇓P	**Pn**	**19 33 59.8**	**-0.3**
	comp=Z,12nm,0.2s,baz=318,slow=14						
SNAA	**Sanae**	**16.01**	**154**	⇓P	**Pn**	**19 34 21.1**	**+0.6**
	comp=Z,397nm,0.3s						
SNAA	**Sanae**	**16.01**	**154**	Pn	**Pn**	**19 34 20.8**	**+0.3**
	comp=Z,8.3nm,0.3s,baz=329,slow=9.7,SNR=362						
	comp=Z,14nm,0.3s						
TROLL	**Troll, Antarti**	**17.52**	**151**	⇓P	**P**	**19 34 40.5**	**0.0**
	comp=Z,545nm,0.3s						
PLCA	**Paso Flores**	**33.53**	**282**	P	**P**	**19 37 14.5**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=127,slow=7.4,SNR=4.0						
	comp=Z,1.9nm,0.9s						
LPAZ	**La Paz**	**52.70**	**305**	P	**P**	**19 39 50.5**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=114,slow=4.9,SNR=5.2						
	comp=Z,1.2nm,0.4s						
FINES	**FINESS Array B**	**126.11**	**28**	PKP	**PKiKP**	**19 49 36.0**	**0.0**
	comp=Z,1.9nm,0.9s,baz=224,slow=5.3,SNR=3.7						
ARCES	**ARCESS Array B**	**132.88**	**22**	PKP	**PKPdf**	**19 49 47.9**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=194,slow=2.5,SNR=3.8						
YKA	**Yellowknife Ar**	**138.73**	**315**	PKP	**PKPdf**	**19 49 58.4**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=132,slow=2.6,SNR=8.9						
SONM	**Songino Array**	**149.75**	**89**	PKPbc	**PKPbc**	**19 50 23.7**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=229,slow=3.7,SNR=5.8						
ILAR	**Eielson Array**	**152.55**	**308**	PKPbc	**PKiKP**	**19 50 30.6**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=122,slow=1.7,SNR=20						

*NEIC **09** 19:33:47.2±2.0, 25°.3S±0°.2×179°.9W±0°.2, h493km±14km, mb4.3/15, Error ellipse: s-maj=22.1km s-min=20.2km az=183.0*

*IDC **09** 19:33:54.3±3.5, 24°.96S×179°.71E, h572km±86km, mb3.3/4, mbtmp4.2/5, Error ellipse: s-maj=92.4km s-min=35.1km az=23.0*

ISC 09 19:33:50.9±1.1, 25°.5S±0°.1×179°.7E±0°.2, h507km, n25, σ0.89/24, mb4.1/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.84**	**349**	P	**P**	**19 35 45.6**	**-0.5**
MSVF	**Nonsavu**	**7.84**	**349**	P	**P**	**19 35 46.8**	**+0.7**
	2.9nm,0.5s,baz=257,slow=21,SNR=4.7						
NIUE	**Niue**	**11.53**	**59**	P	P	19 36 12.1	-13
NIUE				S	S	19 38 16.2	-15
BKZ	**Black Stump Fm**	**13.92**	**190**	P	**P**	**19 36 49.3**	**-0.4**
QRZ	**Quartz Range**	**16.44**	**199**	P	**P**	**19 37 14.8**	**-1.0**
THZ	**Tophouse**	**17.20**	**197**	P	**P**	**19 37 23.1**	**-0.4**
ARMA	**Armidale**	**25.23**	**252**	P	**P**	**19 38 37.3**	**+1.1**
ARMA				IAmb	IAmb	19 38 58.1	
	comp=Z,35nm,1.5s						
STKA	**Stephens Creek**	**33.89**	**250**	P	**P**	**19 39 51.3**	**+0.1**
STKA	**Stephens Creek**	**33.89**	**250**	P	**P**	**19 39 51.3**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=98,slow=14,SNR=6.1						
	comp=Z,1.3nm,0.4s						
COEN	**Coen**	**36.10**	**281**	P	**P**	**19 40 10.5**	**+0.7**
COEN				IAmb	IAmb	19 40 43.6	
	comp=Z,35nm,1.4s						
BBOO	**Buckleboo**	**38.58**	**249**	P	**P**	**19 40 29.5**	**-0.4**
BBOO				IAmb	IAmb	19 41 06.5	
	comp=Z,34nm,1.4s						
AS31	**Alice Springs**	**41.51**	**262**	P	**P**	**19 40 53.6**	**0.0**
AS31				IAmb	IAmb	19 40 54.8	
	comp=Z,2.1nm,0.5s						
ASAR	**Alice Springs**	**41.51**	**262**	P	**P**	**19 40 53.3**	**-0.3**
ASAR	**Alice Springs**	**41.51**	**262**	P	**P**	**19 40 53.8**	**+0.1**
	comp=Z,2.3nm,0.4s,baz=91,slow=7.5,SNR=93						
	comp=Z,2.3nm,0.4s						
WRA	**Warramunga Arr**	**42.03**	**268**	P	**P**	**19 40 56.9**	**-0.8**
WRA	**Warramunga Arr**	**42.03**	**268**	P	**P**	**19 40 57.2**	**-0.6**
	comp=Z,5.7nm,0.5s,baz=102,slow=7.7,SNR=32						
	comp=Z,5.7nm,0.5s						
WB0	**Warramunga Arr**	**42.03**	**268**	P	**P**	**19 40 57.5**	**-0.3**
WB0				IAmb	IAmb	19 40 58.1	
	comp=Z,6.5nm,0.7s						
KNRA	**Kununurra**	**48.40**	**271**	P	**P**	**19 41 45.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**50.43**	**267**	P	**P**	**19 42 01.3**	**-0.4**
VNDA	**Vanda**	**52.80**	**185**	P	**P**	**19 42 19.7**	**+1.8**
QSPA	**South Pole Qui**	**64.63**	**180**	P	**P**	**19 43 38.6**	**+0.6**
QSPA	**South Pole Qui**	**64.63**	**180**	P	**P**	**19 43 39.1**	**+1.1**
	comp=Z,1.1nm,1.0s,baz=21,slow=17,SNR=1.9						
	comp=Z,1.1nm,1.0s						
BELA	**Belgrano 2**	**74.93**	**173**	P	**P**	**19 44 39.0**	**-0.1**
BELA				IAmb	IAmb	19 45 01.7	
	comp=Z,3.7nm,1.4s						
MAW	**Mawson**	**76.19**	**201**	P	**P**	**19 44 45.9**	**-0.3**
MAW				IAmb	IAmb	19 45 28.4	
	comp=Z,4.2nm,1.1s						
SNAA	**Sanae**	**83.12**	**179**	P	**P**	**19 45 20.9**	**-1.9**
SNAA				IAmb	IAmb	19 45 29.9	
	comp=Z,8.8nm,1.5s						

*NEIC **09** 19:37:04.8±1.5, 3°.24S±0°.08×145°.24E±0°.07, h10km±6km, mb4.5/19, Error ellipse: s-maj=12.1km s-min=9.6km az=147.0*

*IDC **09** 19:37:04.6±0.9, 3°.41S×145°.18E, h0km, mb4.0/11, mbtmp4.0/14, ML3.9/2, Error ellipse: s-maj=30.0km s-min=17.2km az=90.0*

ISC 09 19:37:07.0±0.6, 3°.31S±0°.07×145°.17E±0°.08, h22km, n51, σ1.86/52, mb4.2/18, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.53**	**60**		**Pn**	**19 37 44.1**	**-2.8**
JAY	**Jayapura**	**4.53**	**280**	Pn	**Pn**	**19 38 13.4**	**-1.0**
	1.1nm,0.3s,baz=205,slow=14,SNR=5.2						
	5.2nm,0.5s						
PMG	**Port Moresby**	**6.37**	**162**	Pn	**Pn**	**19 38 39.5**	**-0.2**
PMG				Sn	**Sn**	**19 39 49.3**	**-2.4**
PMG	**Port Moresby**	**6.37**	**162**	Pn	**Pn**	**19 38 39.5**	**-0.2**
	6.5nm,0.4s,baz=331,slow=19,SNR=6.6						
PMG	**Port Moresby**	**6.37**	**162**	P	**Pn**	**19 38 42.5**	**+2.9**
PMG	**Port Moresby**	**6.37**	**162**	P	**Pn**	**19 38 42.6**	**+2.9**
COEN	**Coen**	**10.76**	**190**	Pn	**Pn**	**19 39 42.4**	**+2.5**
COEN	**Coen**	**10.76**	**190**	P	**Pn**	**19 39 43.2**	**+3.3**
KDU	**Kakadu**	**15.63**	**233**	P	**P**	**19 40 48.7**	**-1.5**
MTN	**Manton Dam**	**16.80**	**235**	Pn	**Pn**	**19 41 01.0**	**-0.1**
MTN				IAmb	IAmb	19 41 05.9	
	comp=Z,76nm,1.5s						
MTN	**Manton Dam**	**16.80**	**235**	P	**P**	**19 41 03.9**	**+0.7**
TNTI	**Ternate**	**18.25**	**283**	P	**Pn**	**19 41 16.8**	**-2.3**
TNTI				IAmb	IAmb	19 41 29.3	
	comp=Z,18nm,0.7s						
WRAB	**Tennant Creek**	**19.60**	**212**	P	**P**	**19 41 33.0**	**-1.0**
WB2	**Warramunga Arr**	**19.61**	**212**	P	**P**	**19 41 33.3**	**-0.8**
WB2				IAmb	IAmb	19 41 35.6	
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**19.62**	**212**	P	**P**	**19 41 33.5**	**-0.7**
WRA	**Warramunga Arr**	**19.62**	**212**	P	**P**	**19 41 33.8**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=41,slow=11,SNR=22						
	comp=Z,3.0nm,0.4s						
KNRA	**Kununurra**	**20.29**	**232**	P	**P**	**19 41 40.9**	**-0.6**
KNRA				IAmb	IAmb	19 41 48.3	
	comp=Z,31nm,1.1s						
SOEI	**Soe**	**21.72**	**252**	P	**P**	**19 41 55.9**	**-1.2**
SOEI				IAmb	IAmb	19 42 33.1	
	comp=Z,18nm,0.8s						
LUWI	**Luwuk**	**22.49**	**275**	P	**P**	**19 42 00.5**	**-4.8**
AS31	**Alice Springs**	**22.98**	**207**	P	**P**	**19 42 09.2**	**-1.1**
ASAR	**Alice Springs**	**22.98**	**207**	P	**P**	**19 42 08.3**	**-2.0**
ASAR	**Alice Springs**	**22.98**	**207**	P	**P**	**19 42 10.3**	**0.0**
	comp=Z,3.0nm,0.8s,baz=32,slow=9.0,SNR=20						
	comp=Z,3.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.12**	**231**	P	**P**	**19 42 21.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**24.12**	**231**	P	**P**	**19 42 21.5**	**0.0**
	comp=Z,2.8nm,0.3s,baz=52,slow=11,SNR=20						
	comp=Z,2.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**24.12**	**231**	P	**P**	**19 42 21.7**	**+0.2**
INKA	**Innaminka**	**24.66**	**189**	P	**P**	**19 42 28.2**	**+1.9**
TOLI2	**Tolitoli**	**24.77**	**280**	P	**P**	**19 42 26.2**	**-1.2**
TOLI2				IAmb	IAmb	19 43 05.1	
	comp=Z,5.9nm,0.9s						
TOLI2	**Tolitoli**	**24.77**	**280**	P	**P**	**19 42 21.8**	**-5.7**
OOD	**Oodnadatta**	**25.97**	**199**	P	**P**	**19 42 39.8**	**+1.6**
WRKA	**Warakurna**	**27.02**	**215**	P	**P**	**19 42 48.9**	**+1.1**
PLAI	**Plampang**	**27.77**	**257**	P	**P**	**19 42 52.6**	**-2.0**
QUENC	**Quen Island, N**	**28.33**	**134**	P	**P**	**19 42 56.9**	**-2.6**
FORT	**Forrest**	**31.74**	**209**	P	**P**	**19 43 29.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**50.39**	**297**	P	**P**	**19 46 05.7**	**+2.5**
	comp=Z,0.6nm,0.2s,baz=120,slow=6.8,SNR=4.6						
	comp=Z,0.6nm,0.2s						
SONM	**Songino Array**	**61.18**	**331**	P	**P**	**19 47 22.4**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=154,slow=7.2,SNR=4.1						
	comp=Z,0.5nm,0.6s						
MK31	**Makanchi Array**	**74.27**	**321**	P	**P**	**19 48 41.9**	**-0.8**
MK31				IAmb	IAmb	19 49 01.2	
	comp=Z,3.1nm,1.4s						
MKAR	**Makanchi Array**	**74.27**	**321**	P	**P**	**19 48 42.2**	**-0.5**
MKAR	**Makanchi Array**	**74.27**	**321**	P	**P**	**19 48 44.0**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=134,slow=6.9,SNR=4.9						
	comp=Z,0.7nm,0.8s						
VNDA	**Vanda**	**74.69**	**176**	P	**P**	**19 48 45.9**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=2.0,slow=3.7,SNR=3.5						
	comp=Z,0.8nm,0.9s						
L14K	**Kuka Creek**	**75.82**	**23**	P	**P**	**19 48 50.7**	**-0.5**
L14K				IAmb	IAmb	19 49 25.2	
	comp=Z,9.9nm,1.4s						
O16K	**Kokwok River B**	**76.76**	**26**	P	**P**	**19 48 55.5**	**-1.0**
O16K				IAmb	IAmb	19 49 03.4	
	comp=Z,11nm,1.4s						
K15K	**Wolf Creek Mou**	**76.81**	**23**	P	**P**	**19 48 56.1**	**-0.8**
ACHA	**Angle Creek He**	**77.32**	**28**	P	**P**	**19 48 59.2**	**-0.7**
KURBB	**Kurchatov Arra**	**78.00**	**323**	P	**P**	**19 49 05.2**	**+1.5**
	comp=Z,0.6nm,0.9s,baz=112,slow=5.3,SNR=4.3						
	comp=Z,0.6nm,0.9s						
K17K	**Iditarod**	**78.30**	**23**	P	**P**	**19 49 04.2**	**-1.0**
K17K				IAmb	IAmb	19 49 13.3	
	comp=Z,12nm,1.4s						
P19K	**Oil Pt**	**78.95**	**27**	P	**P**	**19 49 09.0**	**+0.1**
L19K	**White Mountain**	**79.42**	**24**	P	**P**	**19 49 10.9**	**-0.4**
L19K				IAmb	IAmb	19 49 19.6	
	comp=Z,8.0nm,1.2s						
NRIK	**Noril'sk**	**82.17**	**342**	P	**P**	**19 49 27.9**	**+2.0**
	comp=Z,2.7nm,0.6s,baz=115,slow=6.8,SNR=4.3						
	comp=Z,2.7nm,0.6s						
BVAR	**Borovoye Array**	**83.53**	**324**	P	**P**	**19 49 34.9**	**+1.6**
	comp=Z,2.1nm,0.8s,baz=104,slow=6.3,SNR=13						
	comp=Z,2.1nm,0.8s						
ILAR	**Eielson Array**	**83.75**	**24**	P	**P**	**19 49 35.0**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=258,slow=3.8,SNR=7.6						
	comp=Z,0.7nm,0.7s						
QSPA	**South Pole Qui**	**86.64**	**180**	P	**P**	**19 49 48.7**	**-0.1**
	comp=Z,4.2nm,1.1s,baz=292,slow=4.4,SNR=3.8						
	comp=Z,4.2nm,1.1s						

*IDC **09** 19:40:58.5±0.9, 1°.04S×23°.80W, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=32.5km s-min=22.4km az=158.0*

ISC 09 19:40:59.9±0.7, 1°.1S±0°.2×23°.9W±0°.1, h12km, n16, σ1.30/11, mb3.9/6, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**1.51**	**126**	T	T	19 55 41.9	
	baz=305,slow=74,SNR=45						
H10N2	**ASCENSION HYDR**	**1.52**	**126**	T	T	19 55 26.4	
	baz=305,slow=74,SNR=63						
H10N1	**ASCENSION HYDR**	**1.53**	**126**	T	T	19 55 29.3	
	baz=305,slow=74,SNR=58						
H10S3	**ASCENSION HYDR**	**12.06**	**131**	T	T	19 56 14.3	
	baz=311,slow=74,SNR=25						
H10S2	**ASCENSION HYDR**	**12.08**	**131**	T	T	19 56 15.6	
	baz=269,slow=74,SNR=17						
RCBR	**Riachuelo**	**12.88**	**248**	Pn	**Pn**	**19 44 01.2**	**-1.9**
	0.7nm,0.3s,baz=73,slow=18,SNR=33						
RCBR				Sn	Sn	19 46 14.5	-12
	0.5nm,0.3s,baz=184,slow=22,SNR=4.8						
DBIC	**Dimbokro**	**20.50**	**68**	P	**P**	**19 45 35.7**	**-2.4**
	7.0nm,0.9s,baz=249,slow=11,SNR=6.0						
	7.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.05**	**60**	P	**P**	**19 47 00.2**	**-0.2**
	50nm,0.3s,baz=235,slow=9.8,SNR=1.8						
ESDC	**Sonsera Array**	**44.48**	**22**	P	**P**	**19 49 11.8**	**+0.6**
	1.8nm,1.0s,baz=195,slow=10,SNR=6.1						
	1.8nm,1.0s						
LPAZ	**La Paz**	**46.12**	**248**	P	**P**	**19 49 26.8**	**+1.5**
	3.9nm,0.9s,baz=72,slow=9.2,SNR=8.6						
	3.9nm,0.9s						
BOSA	**Boshof**	**54.27**	**125**	P	**P**	**19 50 27.0**	**+0.6**
	1.8nm,0.9s,baz=251,slow=8.1,SNR=3.2						
	1.8nm,0.9s						
BRTR	**Keskin Array B**	**66.30**	**45**	P	**P**	**19 51 48.7**	**+0.1**
	0.6nm,0.8s,baz=217,slow=6.9,SNR=2.5						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**81.62**	**300**	P	**P**	**19 53 18.4**	**-0.2**
	0.2nm,0.4s,baz=107,slow=8.0,SNR=3.8						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**91.29**	**332**	P	**P**	**19 54 05.7**	**+0.5**
	0.4nm,0.8s,baz=95,slow=5.5,SNR=6.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**147.27**	**140**	PKPbc	**PKPdf**	**20 00 43.0**	**+1.0**
	0.6nm,0.4s,baz=209,slow=2.3,SNR=9.9						
WRA	**Warramunga Arr**	**150.13**	**136**	PKPbc	**PKiKP**	**20 00 52.7**	**0.0**
	0.3nm,0.6s,baz=241,slow=1.7,SNR=5.4						

*IDC **09** 19:51:51.5±0.7, 28°.08N×103°.52E, h0km, mb3.9/15, mbtmp3.9/17, ML3.4/2, Error ellipse: s-maj=23.6km s-min=13.5km az=60.0*

*NEIC **09** 19:51:56.5±1.6, 28°.13N±0°.09×103°.66E±0°.09, h35km±2km, mb4.3/32, Error ellipse: s-maj=15.5km s-min=12.3km az=149.0*

ISC 09 19:51:52.8±0.5, 28°.15N±0°.08×103°.58E±0°.07, h10km, n63, σ0.91/65, mb4.2/28, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**5.58**	**66**		**Pn**	**19 53 16.9**	**+1.0**
ENH				Sn	**Sn**	**19 54 20.5**	**+0.4**
SLVN	**Son La**	**6.79**	**177**	Pn	**Pn**	**19 53 32.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**10.54**	**205**	Pn	**Pn**	**19 54 24.8**	**+0.7**
	0.1nm,0.3s,baz=16,slow=12,SNR=9.0						
CMAR				Pg		19 55 04.0	
	0.1nm,0.3s,baz=5.6,slow=17,SNR=7.5						
	1.3nm,0.9s						
UBPT	**Khong Chiam**	**12.93**	**172**	Pn	**Pn**	**19 54 57.8**	**+1.1**
SONM	**Songino Array**	**19.78**	**6**	P	**P**	**19 56 22.7**	**-0.5**
SONM	**Songino Array**	**19.78**	**6**	P	**Pn**	**19 56 24.9**	**+0.3**
	0.2nm,0.3s,baz=186,slow=10,SNR=6.6						
	0.6nm,0.6s						
ULN	**Ulaanbaatar**	**19.87**	**7**	P	**Pn**	**19 56 25.3**	**-0.5**
KSAR	**Wonju Array Be**	**22.38**	**59**	P	**P**	**19 56 51.4**	**+0.2**
KS19	**Wonju Array Si**	**22.39**	**59**	P	**P**	**19 56 50.7**	**-0.6**
KSRS	**Korea Array**	**22.42**	**59**	P	**P**	**19 56 52.1**	**+0.5**
	4.2nm,0.6s,baz=246,slow=9.4,SNR=12						
	4.2nm,0.6s						
PRZ	**Przheval'sk**	**24.92**	**312**		**P**	**19 57 16.8**	**+0.5**
PRZ				IAmb	IAmb	19 57 23.4	
	comp=Z,12nm,1.3s						
MK31	**Makanchi Array**	**25.00**	**324**		**P**	**19 57 16.9**	**+0.1**
MK31				IAmb	IAmb	19 57 21.0	
	comp=Z,7.7nm,1.3s						
MKAR	**Makanchi Array**	**25.00**	**324**		**P**	**19 57 17.6**	**+0.8**
MKAR	**Makanchi Array**	**25.00**	**324**	P	**P**	**19 57 18.4**	**+1.6**
	comp=Z,2.0nm,0.5s,baz=122,slow=13,SNR=23						
	comp=Z,2.0nm,0.5s						
MAKZ	**Makanchi**	**25.18**	**324**	P	**P**	**19 57 18.8**	**+0.5**
MAKZ				IAmb	IAmb	19 57 59.9	
	comp=Z,6.1nm,0.6s						
KDJ	**Kajisay**	**25.58**	**310**		**P**	**19 57 23.1**	**+0.9**
KDJ				IAmb	IAmb	19 57 27.9	
	comp=Z,3.3nm,0.9s						
NIL	**Nilore**	**26.54**	**289**		**P**	**19 57 31.4**	**+0.6**
NIL				IAmb	IAmb	19 57 36.2	
	comp=Z,6.5nm,0.7s						
BOOM	**Boomskoye usch**	**26.56**	**310**	P	**P**	**19 57 31.6**	**+0.4**
BOOM				IAmb	IAmb	19 57 40.2	
	comp=Z,6.5nm,1.2s						
AAK	**Ala-Archa**	**27.61**	**309**		**P**	**19 57 41.8**	**+1.3**
USRK	**Ussuriysk Ar.**	**27.79**	**47**	P	**P**	**19 57 43.9**	**+2.0**
	comp=Z,1.8nm,0.6s,baz=255,slow=13,SNR=4.5						
	comp=Z,1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**29.22**	**337**	P	**P**	**19 57 53.5**	**-1.0**
ZALV	**Zalesovo Beam**	**29.22**	**337**	P	**P**	**19 57 54.3**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=146,slow=9.0,SNR=4.1						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**29.39**	**327**	P	**P**	**19 57 55.5**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=132,slow=10,SNR=6.3						
	comp=Z,0.5nm,0.6s						
KURK	**Kurchatov**	**29.40**	**327**	P	**P**	**19 57 55.8**	**-0.4**
KURK				IAmb	IAmb	19 58 01.3	
	comp=Z,3.6nm,1.4s						
KK31	**Karatay Array**	**30.51**	**308**	P	**P**	**19 58 05.5**	**-0.6**
KKAR	**Karatay Array**	**30.51**	**308**	P	**P**	**19 58 05.7**	**-0.5**
KKAR	**Karatay Array**	**30.51**	**308**	P	**P**	**19 58 05.2**	**-1.0**
BVAR	**Borovoye Array**	**34.88**	**325**	P	**P**	**19 58 45.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=157,slow=4.1,SNR=1.9						
BVAR				PcP	**PcP**	**20 01 17.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=144,slow=4.2,SNR=3.8						
	comp=Z,0.2nm,0.3s						
AB31	**Akbulak array**	**39.35**	**315**	P	**P**	**19 59 22.4**	**+0.1**
ABKAR	**Akbulak array**	**39.35**	**315**	P	**P**	**19 59 22.2**	**0.0**
ABKAR	**Akbulak array**	**39.35**	**315**	P	**P**	**19 59 22.6**	**+0.4**
WRA	**Warramunga Arr**	**56.31**	**145**	P	**P**	**20 01 31.3**	**-2.7**
WRA	**Warramunga Arr**	**56.31**	**145**	P	**P**	**20 01 33.0**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=333,slow=7.4,SNR=14						
	comp=Z,1.1nm,0.6s						
BNN	**Bunyan**	**56.33**	**300**	P	**P**	**20 01 33.1**	**-1.1**
WR8	**Warramunga Arr**	**56.40**	**145**	P	**P**	**20 01 32.5**	**-2.1**
AKASG	**Malin Array Be**	**59.10**	**314**	P	**P**	**20 01 53.1**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=70,slow=7.1,SNR=5.1						
	comp=Z,0.7nm,0.5s						
AS31	**Alice Springs**	**59.23**	**147**	P	**P**	**20 01 53.3**	**-1.2**
ASAR	**Alice Springs**	**59.23**	**147**	P	**P**	**20 01 53.6**	**-0.8**
ASAR	**Alice Springs**	**59.23**	**147**	P	**P**	**20 01 54.2**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=324,slow=6.8,SNR=22						
	comp=Z,1.1nm,0.5s						
KEV	**Kevo**	**59.25**	**337**	P	**P**	**20 01 54.6**	**+0.6**
ARCES	**ARCESS Array B**	**59.77**	**337**	P	**P**	**20 01 58.6**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=90,slow=7.9,SNR=16						
	comp=Z,1.0nm,0.8s						
FIA1	**FINESS Array S**	**59.77**	**327**	P	**P**	**20 01 57.3**	**-0.4**
FINES	**FINESS Array B**	**59.78**	**327**	P	**P**	**20 01 57.6**	**-0.2**
FINES	**FINESS Array B**	**59.78**	**327**	P	**P**	**20 01 57.8**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=84,slow=6.5,SNR=10						
	comp=Z,1.8nm,0.8s						
PABE	**Paberze**	**61.54**	**320**	P	**P**	**20 02 10.1**	**+0.2**
BURAR	**Bucovina Array**	**62.22**	**311**	P	**P**	**20 02 15.4**	**+0.7**
C16K	**Lisburne Hills**	**64.57**	**24**	P	**P**	**20 02 28.9**	**-0.9**
C16K				IAmb	IAmb	20 03 02.5	
	comp=Z,6.4nm,1.5s						
C18K	**Utukok River**	**65.97**	**24**	P	**P**	**20 02 37.0**	**-2.0**
HFS	**Hagfors**	**65.97**	**327**	P	**P**	**20 02 39.3**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=98,slow=10,SNR=8.2						
	comp=Z,1.0nm,0.5s						
NB201	**NORSAR Array S**	**66.87**	**328**	P	**P**	**20 02 44.4**	**-0.4**
NB2	**NORSAR Subarra**	**66.91**	**328**	P	**P**	**20 02 45.2**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=74,slow=6.5						
NOA	**NORSAR Array B**	**66.91**	**328**	P	**P**	**20 02 45.4**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=66,slow=8.0,SNR=6.0						
	comp=Z,0.4nm,0.5s						
B20K	**Meade River**	**66.93**	**22**	P	**P**	**20 02 44.9**	**-0.1**
B20K				IAmb	IAmb	20 02 49.4	
	comp=Z,2.1nm,0.7s						
NC204	**NORSAR Array S**	**67.05**	**328**	P	**P**	**20 02 46.1**	**+0.1**
D20K	**Etivluk River**	**67.54**	**23**	P	**P**	**20 02 48.9**	**0.0**

CNTC	Contact Creek	4.34	307		Pn	20 02 07.5	+1.2
P19K	Oil Pt	4.37	333		Pn	20 02 06.9	+0.3
P19K				IAML		20 02 59.9	
	comp=N,149nm,0.5s						
P19K				IAML		20 03 02.7	
	comp=E,146nm,0.4s						
ILSW	Iliamna Southw	4.63	335		Pn	20 02 10.5	+0.2
ILSW				IAML		20 03 06.1	
	comp=N,56nm,0.3s						
ILSW				IAML		20 03 06.1	
	comp=E,68nm,0.6s						
O22K	Cooper Landing	4.66	357		Pn	20 02 10.6	-0.1
SLKM	Skilak Lake	4.71	354		Pn	20 02 10.6	-0.7
SLKM				IAML		20 03 06.7	
	comp=N,189nm,0.2s						
P18K	Big Mountain,	4.78	321		Pn	20 02 12.3	0.0
HIN	Hinchinbrook I	4.81	17		Pn	20 02 12.3	-0.3
HIN				IAML		20 03 04.8	
	comp=E,146nm,0.4s						
HIN				IAML		20 03 06.5	
	comp=N,127nm,0.5s						
KAIM	Kayak Island	4.86	30	Pn	Pn	20 02 13.0	-0.3
CAPN	Captain Cook N	5.04	350	Pn	Pn	20 02 15.4	-0.4
PWL	Port Wells	5.06	5		Pn	20 02 15.6	-0.5
PWL				IAML		20 03 12.4	
	comp=E,105nm,0.4s						
PWL				IAML		20 03 12.6	
	comp=N,101nm,0.3s						
EYAK	Cordova Ski Ar	5.08	20		Pn	20 02 16.2	-0.2
EYAK				IAML		20 03 14.1	
	comp=N,101nm,0.6s						
EYAK				IAML		20 03 14.1	
	comp=E,100nm,0.6s						
EYAK	Cordova Ski Ar	5.08	20	P	Pn	20 02 16.2	-0.2
EYAK	Cordova Ski Ar	5.08	20	S	Sn	20 03 10.9	-2.9
O18K	Koktuh Hills	5.12	324		Pn	20 02 16.4	-0.5
O18K				IAML		20 03 17.5	
	comp=N,51nm,0.6s						
O19K	Port Alsworth	5.12	331	Pn	Pn	20 02 15.6	-1.3
CHGN	Chignik	5.13	279	Pn	Pn	20 02 15.7	-1.3
FID	Port Fidalgo	5.15	16		Pn	20 02 16.6	-0.7
FID				IAML		20 03 16.0	
	comp=N,130nm,0.4s						
FID				IAML		20 03 17.0	
	comp=E,105nm,0.7s						
SUCK	Suckling Hills	5.16	32	Pn	Pn	20 02 16.6	-0.9
SUCK				IAML		20 03 14.1	
	comp=N,146nm,0.3s						
SUCK				IAML		20 03 17.7	
	comp=E,86nm,0.8s						
RAGM	Ragged Mountai	5.18	26		Pn	20 02 17.5	-0.2
GLI	Glacier Island	5.19	12		Pn	20 02 17.1	-0.7
GLI				IAML		20 03 17.8	
	comp=N,54nm,0.7s						
GLI				IAML		20 03 18.5	
	comp=E,66nm,0.4s						
NICHA	Nichawak Mount	5.24	30		Pn	20 02 18.9	+0.3
HMT	Hamilton	5.24	29		Pn	20 02 18.0	-0.6
RC01	Rabbit Creek A	5.27	358		Pn	20 02 19.2	+0.2
RC01				IAML		20 03 21.0	
	comp=E,81nm,0.6s						
RC01				IAML		20 03 22.0	
	comp=N,60nm,0.5s						
GOAT	Goat Mountain	5.33	25		Pn	20 02 20.8	+0.9
FIS	Fire Island	5.34	355	Pn	Pn	20 02 20.6	+0.7
BERG	Berg Lake	5.45	31		Pn	20 02 20.8	-0.6
SNH	Sunshine Point	5.54	36	Pn	Pn	20 02 22.3	-0.5
KNK	Knik Glacier	5.61	4		Pn	20 02 23.3	-0.3
DIV	Divide	5.62	18		Pn	20 02 23.6	-0.3
N19K	Bonanza Creek	5.69	333	Pn	Pn	20 02 24.1	-0.7
SUA	Susitna One	5.69	353	Pn	Pn	20 02 25.5	+0.6
BMRM	Bremner River	5.71	24		Pn	20 02 24.1	-0.8
WAX	Waxell Ridge	5.75	34		Pn	20 02 25.2	-0.3
PMR	Palmer	5.77	1	Pn	Pn	20 02 24.0	-1.8
STLK	Strandline Lak	5.83	348		Pn	20 02 25.7	-1.0
MESA	MESA	5.85	39		Pn	20 02 26.2	-0.8
KLU	Klutina	5.94	16		Pn	20 02 28.3	+0.1
GHO	Glory Hole Cre	5.96	2		Pn	20 02 29.2	+0.7
CHNA	Chernabura Isl	5.96	265	P	Pn	20 02 27.8	-0.6
CHNA	Chernabura Isl	5.96	265	S	Sn	20 03 31.9	-3.5
CNBA	Chernabura Isl	5.96	264		Pn	20 02 28.1	-0.4
N18K	Kilae Creek	5.97	327		Pn	20 02 28.4	-0.2
SML	Sawmill	6.01	4		Pn	20 02 29.4	+0.3
O16K	Kokwok River B	6.03	312		Pn	20 02 30.3	+0.9
YAH	Yahtse	6.05	38		Pn	20 02 29.7	-0.2
SCM	Sheep Creek Mo	6.10	9		Pn	20 02 31.0	+0.6
VRDI	Verde Repeater	6.21	27		Pn	20 02 32.0	0.0
SAMH	Samovar Hills	6.25	43		Pn	20 02 33.3	+0.9
KIAG	Kiagna River	6.27	33		Pn	20 02 32.7	-0.1
SKT	Skwentna	6.27	350	Pn	Pn	20 02 33.8	+1.1
N25K	Chitina, Valde	6.28	21		Pn	20 02 32.9	0.0
N17K	Nushagak Hills	6.28	322	Pn	Pn	20 02 33.0	+0.2
GLB	Gilahina Butte	6.31	25		Pn	20 02 32.9	-0.3
SDPT	Sand Point	6.36	270	Pn	Pn	20 02 34.3	+0.4
SDPT	Sand Point	6.36	270	S	Sn	20 03 41.8	-3.4
SDPT	Sand Point	6.36	270	P	Pn	20 02 34.0	+0.1
BALM	Baldy	6.36	32		Pn	20 02 34.1	0.0
M20K	Styx River	6.38	343	Pn	Pn	20 02 34.9	+0.7
PCA	Pinnacle	6.43	45		Pn	20 02 35.0	0.0
M24K	Tolsona, Glenn	6.49	13		Pn	20 02 36.4	+0.6
PNL	Peninsula	6.54	50	P	Pn	20 02 36.5	+0.1
O15K	Ungalikthiuk R	6.58	305		Pn	20 02 38.1	+1.1
BCPM	Bancas Point	6.60	47		Pn	20 02 37.2	0.0
CUT	Chulitna	6.61	356	Pn	Pn	20 02 39.0	+1.7
M18K	Stony River	6.61	332		Pn	20 02 36.9	-0.4
M19K	Big River Lodg	6.63	339	Pn	Pn	20 02 38.6	+1.0
WACK	Wrangell Chich	6.68	21		Pn	20 02 39.5	+0.9
O28M	Mount Upton	6.89	40		Pn	20 02 41.4	-0.1
L19K	White Mountain	6.98	338		Pn	20 02 42.2	-0.2
M17K	Holitna River	7.01	326		Pn	20 02 42.6	-0.2
N15K	Kwethluk River	7.19	312		Pn	20 02 46.8	+1.4
O29M	Mount Kennedy	7.23	47		Pn	20 02 46.4	+0.4
PPLA	Purkeypile	7.23	349		Pn	20 02 47.2	+1.2
M16K	Timber Creek	7.26	320	Pn	Pn	20 02 46.5	+0.3
P29M	Windy Craggy	7.26	54		Pn	20 02 45.8	-0.5
O14K	Tigyukauivet M	7.29	303	Pn	Pn	20 02 47.3	+0.6
M26K	Nabesna, AK	7.33	24		Pn	20 02 47.9	+0.5
PAX	Paxson	7.42	14		Pn	20 02 49.1	+0.7
L18K	Granite Mounta	7.45	332	Pn	Pn	20 02 47.8	-1.0
S31K	Pelican	7.46	68		Pn	20 02 46.7	-2.3
YUK3	Moose Creek	7.51	34		Pn	20 02 51.2	+1.3
M27K	Edge Creek, AK	7.57	27		Pn	20 02 50.6	-0.1
RND	Reindeer	7.60	2		Pn	20 02 50.6	-0.3
TRF	Thorofare Moun	7.65	357		Pn	20 02 51.7	-0.1
MENT	Mentasta	7.67	19	Pn	Pn	20 02 52.1	+0.2
CAST	Castle Rocks	7.74	351		Pn	20 02 53.0	+0.2
N14K	Kuskokwak Cree	7.77	307	Pn	Pn	20 02 54.2	+1.0
KTH	Kantishna Hill	7.78	355		Pn	20 02 54.0	+0.5
MCK	McKinley	7.92	1	Pn	Pn	20 02 56.1	+0.8
HYT	Haines Junctio	7.96	46		Pn	20 02 55.2	-0.8
RIDG	Independent Ri	8.24	14		Pn	20 03 00.7	+1.0
BESE	Bessie Mountai	8.31	65		Pn	20 02 59.6	-1.1
ISNN	Isanotski Nort	8.32	269		Pn	20 03 01.6	+0.8
SKAG	Skagway	8.32	58	P	Pn	20 03 01.4	+0.6
BPAW	Bear Paw Mtn.	8.33	355		Pn	20 03 01.3	+0.4
JIS	Juneau Island	8.49	67	P	Pn	20 03 02.6	-0.4
N30M	Aishikik Lake	8.49	43		Pn	20 03 03.6	+0.4
M29M	Somme Creek	8.64	36		Pn	20 03 05.9	+0.5
NEA2	Nenana	8.79	1	Pn	Pn	20 03 08.1	+1.0
CCB	Clear Creek Bu	8.87	4		Pn	20 03 09.4	+1.1
WHY	Whitehorse	9.00	52		Pn	20 03 10.8	+0.6
N31M	Braeburn, Yuko	9.03	46		Pn	20 03 11.3	+0.8
IL31		9.04	7		Pn	20 03 11.7	+1.1
ILAR	Eielson Array	9.04	7	Pn	Pn	20 03 10.3	-0.4
	comp=N,0.2nm,0.3s,baz=186,slow=13,SNR=7.8						
ILAR				Sn	Sn	20 04 48.0	-3.1
	comp=N,0.6nm,0.3s,baz=196,slow=23,SNR=11						
	comp=N,0.7nm,0.6s						
P32M	Atlin	9.14	59		Pn	20 03 12.2	+0.1
J26L	Joseph Creek	9.14	16		Pn	20 03 13.1	+0.9
L29M	L29M	9.23	33		Pn	20 03 14.2	+0.9
P33M	Teslin, Yukon	9.77	57		Pn	20 03 20.6	-0.1
K29M	Barlow Dome	9.96	32		Pn	20 03 23.9	+0.6
M31M	Drury Creek, Y	9.97	44		Pn	20 03 24.3	+0.9
H21K	Melozitna Rive	10.00	352		Pn	20 03 24.6	+0.8
R33M	Jennings River	10.45	63		Pn	20 03 29.8	-0.3
H17K	Granite Mounta	10.51	335	Pn	Pn	20 03 31.2	+0.5
T35M	Bob Quinn	10.61	76	Pn	Pn	20 03 31.7	-0.5
I28M	Miner Creek	10.66	22	Pn	Pn	20 03 33.0	+0.1
G24K	Hadweenzic Riv	10.94	4	Pn	Pn	20 03 37.4	+0.8
H27K	Steamboat Moun	11.07	17	Pn	Pn	20 03 39.8	+1.2
MMPY	Sheldon Lake,	11.44	46		Pn	20 03 44.3	+0.8
F21K	Alatna River	11.59	352	Pn	Pn	20 03 48.2	+2.6
E24K	Your Creek	12.29	1	Pn	Pn	20 03 56.0	+0.9
G29M	Pine Creek	12.32	21	Pn	Pn	20 03 55.2	-0.3
E21K	Killik River	12.83	352	Pn	Pn	20 04 03.0	+0.5
D23K	Nanushuk River	13.19	358	Pn	Pn	20 04 08.6	+1.2
G31M	Satah River	13.19	27	Pn	Pn	20 04 07.1	-0.3
C24K	Franklin Bluff	13.94	1	Pn	Pn	20 04 17.9	+0.5
YKA	Yellowknife Ar	18.80	55	P	P	20 05 18.3	-0.5
	comp=N,0.1nm,0.3s,baz=265,slow=11,SNR=6.5						
	comp=N,0.5nm,0.7s						
ARCES	ARCESS Array B	54.88	2	P	P	20 10 29.2	+0.1
	comp=N,1.4nm,0.9s,baz=347,slow=7.4,SNR=5.2						
	comp=N,1.4nm,0.9s						
NOA	NORSAR Array B	62.45	11	P	P	20 11 22.8	+0.9
	comp=N,0.6nm,0.9s,baz=340,slow=6.6,SNR=3.4						
	comp=N,0.6nm,0.9s						
FINES	FINESS Array B	63.00	2	P	P	20 11 26.0	+0.6
	comp=N,1.8nm,0.8s,baz=4.6,slow=4.8,SNR=5.7						
	comp=N,1.8nm,0.8s						
KURBB	Kurchatov Arra	66.72	329	P	P	20 11 54.8	+5.0
	comp=N,0.6nm,0.2s,baz=41,slow=6.7,SNR=1.6						
	comp=N,0.6nm,0.2s						
MKAR	Makanchi Array	68.95	325	P	P	20 12 09.2	+5.2
	comp=N,0.5nm,0.9s,baz=29,slow=5.8,SNR=4.8						
	comp=N,0.5nm,0.9s						

TRN 09 20:10:18.9, 16°.50N×61°.96W, h183km, MD3.7, South-east of Montserrat., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLYT	Lee's Yard	0.31	314	eP	Pn	20 10 44.6	+1.2
MLYT				eS	Sn	20 11 03.5	+1.1
MBWH		0.33	317	eP	Pn	20 10 44.6	+1.1
MBWH				eS	Sn	20 11 02.5	0.0
MBFL	Flemmings, Mon	0.34	315	eP	Pn	20 10 44.5	+0.9
MBFL				eS	Sn	20 11 02.1	-0.5
ANBD	Bethesda, Anti	0.57	19	eP	Pn	20 10 45.7	+1.3
ANBD				eS	Sn	20 11 03.6	-0.5
TBG	Guadaloupe-3	0.71	155	eP	Pn	20 10 45.8	+0.7
SKI	Saint Kitts	1.11	318	eP	Pn	20 10 49.6	+1.8
SKI				eS	Sn	20 11 11.4	+1.2
ANWB	Willy Bob	1.17	8	eP	Pn	20 10 49.9	+1.7
ANWB				eS	Sn	20 11 11.3	+0.2
DSLB	Salisbury	1.18	154	eP	Pn	20 10 49.2	+0.9
DSLB				eS	Sn	20 11 12.2	+1.1
MDN	Morne-Daniel	1.30	155	eP	Pn	20 10 50.7	+1.4
DLPL	La Plaine	1.35	149	eP	Pn	20 10 51.1	+1.3
DLPL				eS	Sn	20 11 15.2	+1.5
SVN	Savane Anatole	1.82	155	eP	Pn	20 10 54.5	+0.1
BIM	Bigot	2.15	156	eP	Pn	20 10 58.0	0.0
BIM				eS	Sn	20 11 28.2	0.0
SLBI	Saint Lucia, B	2.64	159	eP	Pn	20 11 04.4	+1.0
SLBI				eS	Sn	20 11 37.2	-1.0
AOPR	Arecibo Observ	4.93	293	eP	Pn	20 11 32.1	+0.1

*IDC **09** 20:24:10.8±0.5, 23°.89N×121°.61E, h0km, mb4.4/24, mbtmp4.4/27, ML4.3/2, MS4.2/2, Error ellipse: s-maj=18.1km s-min=11.8km az=63.0*
*MOS **09** 20:24:11.6±1.0, 23°.84N×121°.58E, h17km, mb4.8/22, Error ellipse: s-maj=9.7km s-min=6.5km az=95.9*
*NIED **09** 20:24:13.4, 23°.94N×121°.60E, h7km, MW4.4, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}3.65; $M_{\theta\theta}$-0.51; $M_{\phi\phi}$-3.14; $M_{r\theta}$-1.35; $M_{\theta\phi}$-3.14; $M_{\phi r}$-2.39; Fault plane solution: $M_0$5.22000×10^{15} NP1: ϕ_s39.00000°, δ29.00000°, λ97.00000°. NP2:ϕ_s210.00000°, δ61.00000°, λ86.00000°.*
*NEIC **09** 20:24:13.3±1.3, 23°.94N±0°.06×121°.60E±0°.06, h12km±4km, mb5.0/175 Error ellipse: s-maj=9.2km s-min=7.4km az=201.0*
*TAP **09** 20:24:13.6, 23°.97N×121°.56E, h10km, ML4.9, B*
*JMA **09** 20:24:13.4±0.1, 23°.9N±0°.3×12°2E±°, h7km±2km, MD4.5/17, MV4.5/17, TAIWAN REGION*
*ASIES **09** 20:24:13.6, 23°.97N×121°.56E, h10km, ML4.9, Mw4.4, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}4.85; $M_{\theta\theta}$-2.36; $M_{\phi\phi}$-2.49; $M_{r\theta}$1.44; $M_{\theta\phi}$-2.80; $M_{\phi r}$-1.36; Fault plane solution: $M_0$5.42361×10^{22} NP1: ϕ_s204.79000°, δ48.45000°, λ61.69000°. NP2:ϕ_s63.87000°, δ48.78000°, λ118.15000°. Principal axes: T Plg69.2110°, Azm43.9130°; N Plg20.7880°, Azm224.4510°; P Plg0.1790°, Azm134.3830°;*
*BJI **09** 20:24:15.7, 24°.08N×121°.58E, h10km, mB4.8/6, mb4.4/52, ML4.7/11, Ms4.6/39, Ms7 4.5/38*

ISC 09 20:24:14.1±0.4, 23°.95N±0°.01×121°.59E±0°.01, h15km±2km, n671, σ1°.19/742, mb4.9/136, MS4.2/7, 37C-45D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.03	19	⇑P	Pg	20 24 16.3	0.4
HWA				S	Sg	20 24 17.4	-1.1
TEYL	Yanliau Villag	0.08	176	⇑P	Pg	20 24 16.5	-0.6
TEYL				S	Sg	20 24 18.7	-0.3
ETM	Tongmen	0.09	283	⇑P	Pg	20 24 16.1	-1.2
ETM				S	Sg	20 24 17.5	-1.8
TWD	Chiawan	0.14	1	P	Pg	20 24 16.8	-0.9
TWD				eS	Sg	20 24 18.9	-1.2
SHUL	Shoufeng	0.16	190	⇑P	Pb	20 24 18.2	-0.6
SHUL				S	Sb	20 24 21.6	-0.3
LXIB	Xiulin Townshi	0.18	295	⇓P	Pg	20 24 17.3	-1.2
LXIB				S	Sg	20 24 19.7	-1.8
ESL	Shilin	0.20	228	⇑P	Pg	20 24 17.7	-0.9
ESL				S	Sg	20 24 20.5	-1.2
ETL	Fush Village	0.21	7	P	Pg	20 24 18.0	-0.9
ETL				S	Sg	20 24 20.7	-1.6
NACB	Ninganchiao	0.23	0		Pg	20 24 18.0	-1.1
NACB	Ninganchiao	0.23	0	P	Pg	20 24 18.1	-1.1
NACB	Ninganchiao	0.23	0	S	Sg	20 24 21.2	-1.4
NACB	Ninganchiao	0.23	0	⇓P	Pg	20 24 18.1	-1.1
NACB				S	Sg	20 24 21.1	-1.5
TEGC	Jichi Village	0.24	192	⇑P	Pb	20 24 19.6	-0.5
TEGC				S	Sb	20 24 24.5	+0.4
ETLH	Xiulin Townshi	0.28	339	⇓P	Pg	20 24 19.0	-1.1
ETLH				S	Sg	20 24 22.4	-1.8
WARBT	Fenglin Townsh	0.29	220	⇑P	Pg	20 24 19.4	-0.9
WARBT				S	Sg	20 24 23.4	-1.1
EGFH	Guangfu	0.31	209	eP	Pg	20 24 20.0	-0.6
EGFH				eS	Sb	20 24 26.2	-0.1
WHF	Hehuan Shan	0.36	304	⇓P	Pg	20 24 20.6	-1.1
WHF				S	Sg	20 24 25.2	-1.6
OWD	Renai	0.38	272	⇓P	Pg	20 24 21.1	-0.8
OWD				S	Sg	20 24 25.9	-1.2
EHP	Heping Village	0.39	20	eP	Pg	20 24 21.4	-0.5
EHP				eS	Sg	20 24 27.1	-0.2
EAHA	Aohua	0.41	19	⇓P	Pg	20 24 21.4	-0.8
EAHA				eS	Sg	20 24 27.2	-0.7
WUSB	Renai	0.44	276	⇓P	Pg	20 24 22.3	-0.5
WUSB				eS	Sg	20 24 27.5	-1.4
FUSS	Fushou	0.44	313	⇓P	Pg	20 24 22.2	-0.7
FUSS				S	Sg	20 24 28.2	-0.8
VWDT	VWDT	0.46	245	⇑P	Pg	20 24 22.8	-0.4
VWDT				S	Sg	20 24 28.5	-0.8
HGSD	Ruisui	0.48	199	eP	Pb	20 24 23.8	-0.4
TWT	Tachien	0.49	309	⇓P	Pg	20 24 23.4	-0.5
TWT				S	Sg	20 24 29.6	-0.9
ENA	Nanau	0.50	16	⇓P	Pg	20 24 23.1	-0.8
ENA				eS	Sg	20 24 29.8	-0.9
EHY	Hungye	0.50	210	⇑P	Pg	20 24 23.2	-0.8
EHY				eS	Sg	20 24 30.5	-0.3
TDCB	Techi	0.50	308	⇓P	Pg	20 24 23.4	-0.6
TDCB				S	Sg	20 24 29.4	-1.5
EHYH	Wanrong	0.50	207	eP	Pg	20 24 23.4	-0.7
EHYH				S	Sg	20 24 30.2	-0.6
NNSB	Datong	0.52	338	⇓P	Pg	20 24 23.6	-0.8
NNSB				S	Sg	20 24 30.3	-1.1
EWUT	Wuta	0.53	19	⇓P	Pg	20 24 23.8	-0.7
EWUT				eS	Sg	20 24 30.6	-0.9
LATG	Datong	0.59	354	⇓P	Pg	20 24 24.8	-0.9
LATG				S	Sg	20 24 32.7	-0.9
SSLB	Suanglung	0.60	255		Pg	20 24 25.1	-0.8
SSLB	Suanglung	0.60	255	P	Pg	20 24 25.3	-0.7
SSLB	Suanglung	0.60	255	S	Sg	20 24 32.7	-1.3
SSLB	Suanglung	0.60	255	⇓P	Pg	20 24 25.1	-0.8
SSLB				S	Sg	20 24 31.9	-2.1
YULB	Yu-li	0.61	206	P	Pg	20 24 25.3	-0.8
YULB	Yu-li	0.61	206	S	Sg	20 24 32.4	-1.9
YULB	Yu-li	0.61	206	⇑P	Pg	20 24 25.3	-0.8
YULB				S	Sg	20 24 33.9	-0.4
WCS	Beigang Elemen	0.63	280	⇓P	Pg	20 24 26.0	-0.5
WCS				S	Sg	20 24 33.6	-1.3
SMLT	Sun Moon Lake	0.64	265	⇓P	Pg	20 24 24.9	-1.7
SMLT				S	Sg	20 24 33.0	-2.0
ECBN	Changbin	0.64	192	eP	Pb	20 24 27.3	+0.3
ECBN				eS	Sn	20 24 36.8	-1.7
EYUL	Yuli	0.65	203	⇑eP	Pg	20 24 26.3	-0.4
TWF1	Yuli	0.65	205	⇑eP	Pg	20 24 25.6	-1.2
ESAO	Su ao	0.67	20	eP	Pg	20 24 26.4	-0.8
TYC	Yuchr	0.67	267	⇓P	Pg	20 24 26.4	-0.9
TYC				S	Sg	20 24 34.8	-1.4
WHP	Taichung City	0.68	299	⇓P	Pg	20 24 26.9	-0.5
WHP				eS	Sg	20 24 35.1	-1.2
EOS4	EOS4	0.69	75	eP	Pn	20 24 28.4	-0.6
EOS4				S	Sn	20 24 39.5	+0.3
ENTT	Nioudou	0.69	358	⇓P	Pg	20 24 26.9	-0.7
ENTT				S	Sg	20 24 35.9	-0.9
NDS	Dongshan	0.69	9	⇓P	Pg	20 24 26.6	-1.0
NDS				eS	Sg	20 24 36.2	-0.6
WHYT	Xinyi Township	0.72	250	eP	Pg	20 24 27.6	-0.5
WHYT				eS	Sg	20 24 36.3	-1.3
EOS3	EOS3	0.74	63	eP	Pb	20 24 28.9	+0.3
YHNB	Yeheng	0.75	345		Pg	20 24 28.0	-0.7
YHNB	Yeheng	0.75	345	P	Pg	20 24 27.9	-0.7
YHNB	Yeheng	0.75	345	S	Sg	20 24 37.7	-0.9
YHNB	Yeheng	0.75	345	⇓P	Pg	20 24 28.1	-0.7
YHNB				S	Sg	20 24 36.9	-1.7
EOS2	EOS2	0.75	51	eP	Pg	20 24 28.6	-0.1
NSK	Sanguang	0.76	344	⇓P	Pg	20 24 28.2	-0.7
NSK				S	Sg	20 24 37.6	-1.3
CHKH	Chenggong	0.77	194	eP	Pb	20 24 29.1	-0.1
CHKH				eS	Sn	20 24 40.4	-1.4
TWE	Neicheng	0.78	5	⇓P	Pg	20 24 28.4	-0.8
TWE				S	Sg	20 24 38.8	-0.6
FULB	Fuli	0.79	200	eP	Pb	20 24 29.4	-0.2
FULB				eS	Sn	20 24 41.6	-0.8
WJS	Zhushan	0.80	261	eP	Pb	20 24 29.6	-0.1
WJS				eS	Sb	20 24 40.5	+0.1
NFF	Wufeng Townshi	0.81	328	⇓P	Pg	20 24 29.1	-0.7
NFF				eS	Sg	20 24 39.8	-0.8
FUSB	Fushanzhiwuyua	0.81	360	⇓P	Pg	20 24 29.0	-0.8
FUSB				S	Sg	20 24 39.4	-1.2
ILA	Ilan	0.83	10	eP	Pg	20 24 29.9	-0.3
ILA				eS	Sg	20 24 40.8	-0.4
NWLT	Wulai	0.83	354	⇓P	Pg	20 24 29.6	-0.7
NWLT				eS	Sg	20 24 40.0	-1.2
WNT	Mingjian	0.83	266	⇓P	Pn	20 24 30.7	-0.6
WNT				S	Sn	20 24 42.4	-1.0
ALS	Alishan	0.84	239	⇑eP	Pb	20 24 30.2	-0.4
ALS				S	Sb	20 24 41.6	-0.2
TWQ1	Liyutan	0.85	298	⇓P	Pb	20 24 30.5	-0.1
TWQ1				eS	Sb	20 24 41.9	+0.1
TCU	Taichung	0.86	284	eP	Pb	20 24 31.1	+0.3
TCU				eS	Sb	20 24 42.3	+0.1
EHD	Haiduan	0.87	204	eP	Pg	20 24 29.9	-1.1
EHD				eS	Sb	20 24 42.3	0.0
NSTT	Nanjuang	0.87	322	⇓P	Pg	20 24 30.6	-0.4
NSTT				eS	Sg	20 24 41.9	-0.5
LIOB	Emei	0.87	323	⇓P	Pg	20 24 30.7	-0.3
LIOB				eS	Sg	20 24 41.1	-1.4
KSHI	Guanxi Townshi	0.91	335	⇓P	Pb	20 24 31.6	0.0
KSHI				eS	Sb	20 24 43.5	-0.1
ECS	Chishang	0.91	202	eP	Pg	20 24 31.6	-0.2
ECS				eS	Sn	20 24 45.2	-0.1
ELDTW	Lidau	0.92	215	eP	Pg	20 24 30.2	-1.7
ELDTW				S	Sg	20 24 43.3	-0.7
NTC	Toucheng	0.93	13	eP	Pb	20 24 31.1	-0.9
NTC				eS	Sb	20 24 44.1	0.0
NMLH	Miaoli	0.94	309	⇓eP	Pn	20 24 32.6	-0.2
NMLH				eS	Sg	20 24 44.9	+0.3
EGS		0.95	19	⇓P	Pb	20 24 31.9	-0.4
EGS				eS	Sn	20 24 45.9	-0.2
WCHH	Zhanghua	0.95	278	⇓P	Pn	20 24 32.9	-0.1
WCHH				S	Sn	20 24 46.8	+0.5
WDJ	Dajia District	0.96	295	⇓P	Pn	20 24 33.1	+0.1
WDJ				eS	Sg	20 24 45.5	+0.3
WCH1	Changhua City	0.96	278	eP	Pn	20 24 32.9	-0.2
WCH1				eS	Sn	20 24 47.2	+0.7
WGK	Gukeng	0.98	255	P	Pn	20 24 33.2	0.0
WGK				i S	Sn	20

JYNG Yonagunijimaku 1.33 68 *e*P **Pn 20 24 38.2 0.0**
ICHU Yijhu 1.34 244 P **Pg 20 24 39.4 -0.5**
ICHU *i* S **Sg 20 24 59.0 +1.7**
YOJ Yonaguni jima 1.39 68 Pn 20 24 38.7 -0.3
YOJ Yonaguni jima 1.39 68 P **Pb 20 24 39.6 -0.2**
YOJ Yonaguni jima 1.39 68 P **Pn 20 24 38.7 -0.3**
YOJ Yonaguni jima 1.39 68 S **Sb 20 24 57.8 +0.3**
YOJ Yonaguni jima 1.39 68 A A 20 24 57.8
comp=N,9.0nm,1.8s,comp=E,10.0nm,1.8s
YOJ Yonaguni jima 1.39 68 *e*P **Pn 20 24 39.0 0.0**
CHN8 Yiju 1.40 245 *e*P **Pg 20 24 40.4 -0.6**
CHN8 S **Sg 20 24 60.0 +0.7**
CHN3 Shinhua 1.42 233 *e*P **Pg 20 24 41.3 -0.1**
CHN3 *e*S **Sg 20 25 01.2 +1.3**
SSHA Shanhua 1.44 236 *e*P **Pg 20 24 41.4 -0.4**
SSHA *e*S **Sg 20 25 00.8 +0.2**
SCST Cishan 1.46 224 P **Pg 20 24 42.0 -0.1**
SCST *e*S **Sg 20 25 02.5 +1.4**
ECL Taimali 1.46 204 *e*P **Pn 20 24 39.2 -0.7**
SHHT Tainan City 1.47 231 *e*P **Pg 20 24 43.3 +1.0**
SHHT *e*S **Sg 20 25 03.2 +1.8**
SSD Sandimen 1.48 217 *i* P **Pb 20 24 41.5 +0.2**
SSD *e*S **Sg 20 25 01.5 -0.4**
SCLT Jiali 1.50 239 *e*P **Pg 20 24 42.4 -0.5**
SCLT S **Sg 20 25 03.2 +1.0**
TSMG Majia 1.51 215 *e*P **Pb 20 24 41.5 -0.3**
TSMG *e*S **Sg 20 25 02.3 -0.5**
TWM1 Shoushan 1.55 224 *e*P **Pg 20 24 43.8 -0.1**
MASBT Mashibuluo 1.59 214 *e*P **Pn 20 24 42.0 +0.3**
MASBT *e*S **Sg 20 25 05.4 0.0**
TSCK Chigu Township 1.59 240 *e*P **Pn 20 24 42.2 +0.5**
TSCK *e*S **Sg 20 25 05.1 -0.4**
EAST Anshuo 1.70 204 *e*P **Pn 20 24 41.9 -1.4**
TAW Tawu 1.71 202 *e*P **Pn 20 24 42.2 -1.1**
TAWH Dawu Township 1.72 202 *e*P **Pb 20 24 44.2 -1.3**
PCYT Pengchaiyu 1.73 14 *e*P **Pn 20 24 43.4 -0.3**
WSSB Gushan 1.78 224 *e*P **Pb 20 24 45.9 -0.6**
SCZT Fangliau 1.80 210 *e*P **Pb 20 24 47.3 +0.5**
SLIU Shizi 1.87 203 *e*P **Pb 20 24 47.5 -0.4**
LAY Lan-yu 1.90 181 *e*P **Pn 20 24 44.8 -1.1**
WDGT Dungji 1.90 249 *e*P **Pn 20 24 46.8 +0.9**
WDGT *i* S **Sb 20 25 12.7 +0.7**
PHUB P'eng-hu 1.90 257 *e*P **Pn 20 24 46.3 +0.3**
PHUB S **Sb 20 25 11.8 -0.2**
LYUB Lan-yu 1.93 180 *e*P **Pn 20 24 43.9 -2.5**
TWP Hsiaoliuchiu 1.95 216 *e*P **Pb 20 24 48.1 -1.2**
IRIF Iriomote-Funau 1.99 78 *e*P **Pn 20 24 47.5 +0.3**
IRIF *e*S **Sn 20 25 12.4 +0.5**
HATJ Hateruma jima 2.03 86 *e*P **Pn 20 24 48.4 +0.7**
HATJ *e*S **Sn 20 25 13.2 +0.4**
HATJ Hateruma jima 2.03 86 A A 20 24 48.4
comp=N,14nm,3.1s,comp=E,10.0nm,3.9s
SMST Manzhou Townsh 2.04 200 *e*P **Pb 20 24 50.2 -0.6**
VCHM Qimei 2.12 250 *e*P **Pn 20 24 49.7 +0.8**
TWK1 Hengchun 2.12 200 *e*P **Pn 20 24 50.1 +1.1**
TWKBT Hengchun 2.12 200 *e*P **Pn 20 24 48.7 -0.3**
TSEB Hengchuen, Pin 2.13 198 *e*P **Pn 20 24 50.2 +1.0**
VWUC VWUC 2.21 299 *e*P **Pn 20 24 49.2 -1.1**
JKRS Kuro-shima 2.23 82 *e*P **Pn 20 24 51.3 +0.9**
JKRS *e*S **Sn 20 25 19.3 +1.5**
JKRS Kuro-shima 2.23 82 A A 20 24 51.3
comp=N,12nm,3.0s,comp=E,10.0nm,3.5s
JJJ Ishigaki jima 2.37 79 *e*P **Pn 20 24 52.3 -0.1**
PTMZ Houxiangcun 2.50 296 *e*P **Pn 20 24 53.4 -0.9**
JISG Ishigakijimahi 2.56 75 *e*P **Pn 20 24 55.2 +0.1**
JISG *e*S **Sn 20 25 24.8 -1.2**
MATB Ma-tsu 2.66 326 *e*P **Pn 20 24 56.0 -0.4**
QZH Quanzhou 2.91 291 Pn **Pn 20 24 59.3 -0.6**
QZH Sn **Sn 20 25 33.3 -1.3**
QZH smax smax
comp=E,2μm,1.2s
QZH smax smax
comp=E,2μm,0.8s
JTJ Tarama 2.92 76 *e*P **Pn 20 25 00.8 +0.8**
JTJ Tarama 2.92 76 A A 20 25 00.8
comp=N,6.0nm,2.7s,comp=E,5.0nm,2.1s
KNM Kinmen 2.92 280 *e*P **Pn 20 25 01.6 +1.5**
KNMB Chin-men Tao 2.97 281 Pn 20 25 00.1 -0.6
KNMB Chin-men Tao 2.97 281 *e*P **Pn 20 25 00.4 -0.3**
MHZQ Yeshan 3.16 313 *e*P **Pn 20 25 03.0 -0.4**
JIRB Irabujima 3.38 74 *e*P **Pn 20 25 07.2 +0.9**
JIRB *e*S **Sn 20 25 46.8 +0.6**
AXDP Jialang 3.44 287 *e*P **Pn 20 25 06.7 -0.4**
JMJ2 Miyako jima3 3.50 76 *e*P **Pn 20 25 09.0 +1.1**
ZPLA Ao Xicun 3.52 271 *e*P **Pn 20 25 08.2 0.0**
DSXP Dongshan 3.82 267 *e*P **Pn 20 25 12.4 0.0**
SXFK Yanhouchang 4.33 305 *e*P **Pn 20 25 18.8 -0.7**
JOW Kunigami 6.69 63 Pn **Pn 20 25 51.0 -0.9**
comp=E,12nm,0.3s,baz=136,slow=17,SNR=12
comp=E,23nm,0.3s
GZH Guangzhou 7.62 265 Pn **Pn 20 26 00.5 -4.1**
GZH Sn **Sn 20 27 23.9 -6.8**
GZH smax smax
comp=E,510nm,1.3s
GZH smax smax
comp=E,290nm,0.9s
NJ2 Nanjing 8.43 344 ⇓P **Pn 20 26 15.5 -0.2**
NJ2 S **Sn 20 27 47.7 -2.9**
NJ2 pmax pmax
comp=E,34nm,0.6s
NJ2 smax smax
comp=E,190nm,1.1s
NJ2 smax smax
comp=E,200nm,1.0s
NJ2 LR LR
comp=E,2μm,7.3s
NJ2 LR LR
comp=E,1μm,4.0s
NJ2 LR LR
comp=E,2μm,9.5s
CNSH ChangSha 8.86 300 P Pn 20 26 29.5 +7.9
CNSH smax smax
comp=E,390nm,1.4s
CNSH smax smax
comp=E,350nm,1.2s
CNSH LR LR
comp=E,2μm,11.5s
WHN Wuhan 9.20 317 P **Pn 20 26 27.9 +1.6**
WHN S **Sn 20 28 13.2 +3.6**
WHN LR LR
comp=E,5μm,9.3s
WHN LR LR
comp=E,6μm,10.6s
WHN LR LR
comp=E,7μm,9.9s
QIZ Qiongzhong 11.98 248 P **Pn 20 27 04.0 -0.4**
QIZ S **Sn 20 29 23.0 +5.1**
QIZ smax smax
comp=N,24nm,1.0s
QIZ smax smax
comp=E,14nm,1.0s
QIZ LR LR
comp=N,520nm,11.5s
QIZ LR LR
comp=E,680nm,15.7s
QIZ LR LR
comp=Z,530nm,16.5s
TIA Tai'an 12.82 344 P **Pn 20 27 15.0 -0.8**
TIA LR LR
comp=Z,1μm,6.5s
TIA LR LR
comp=Z,540nm,6.5s
TIA LR LR
comp=Z,2μm,7.9s
LYN LuoYang 13.22 325 P **P 20 27 29.5 -1.7**
LYN PP **PnPn 20 27 36.9 +7.5**
LYN pmax pmax
comp=Z,24nm,0.9s
LYN LR LR
comp=Z,4μm,9.3s
LYN LR LR
comp=Z,1μm,8.9s
LYN LR LR
comp=Z,4μm,10.7s
GYA Guiyang 13.74 284 ⇓P **Pn 20 27 31.7 +3.1**
GYA S **Sn 20 30 03.8 +2.6**
GYA pmax pmax
comp=Z,11nm,1.5s
GYA pmax pmax
comp=Z,200nm,3.1s
GYA LR LR
comp=Z,970nm,8.2s
GYA LR LR
comp=Z,2μm,9.2s
GYA LR LR
comp=Z,3μm,10.2s
KSRS Korea Array 14.52 20 Pn **Pn 20 27 39.1 +0.1**
comp=Z,1.3nm,0.3s,baz=198,slow=12,SNR=44
comp=Z,4.3nm,0.9s
KS19 Wonju Array Si 14.54 20 Pn **Pn 20 27 39.8 +0.4**
HNS HongShan 14.65 338 ⇓P **P 20 27 49.1 +2.0**
HNS S **S 20 30 39.2 -2.8**
HNS pmax pmax
comp=Z,25nm,1.2s
HNS LR LR
comp=N,1μm,12.7s
HNS LR LR
comp=E,1μm,11.8s
HNS LR LR
comp=Z,1μm,11.1s
DL2 Dalian 14.92 0 P **P 20 27 52.5 +2.5**
DL2 S **S 20 30 47.3 0.0**
DL2 pmax pmax
comp=Z,58nm,0.9s
DL2 pmax pmax
comp=Z,380nm,11.4s
DL2 LR LR
comp=N,500nm,13.3s
DL2 LR LR
comp=E,1μm,12.2s
DL2 LR LR
comp=Z,1μm,15.3s
XAN Xi'an 14.96 315 P Pn 20 27 39.0 -6.1
XAN PP **PnPn 20 27 53.4 +0.3**
XAN S Sn 20 30 17.8 -13
XAN pmax pmax
comp=Z,10.0nm,2.0s
XAN pmax pmax
comp=Z,630nm,9.3s
XAN LR LR
comp=N,2μm,3.9s
XAN LR LR
comp=E,1μm,4.0s
XAN LR LR
comp=Z,2μm,10.3s
SLVN Son La 16.54 264 P **P 20 28 07.6 -0.6**
BJT Baijiatuau 16.67 345 P **P 20 28 08.7 -0.7**
KMI Kunming 17.20 278 P **P 20 28 15.7 0.0**
KMI pmax pmax
comp=Z,7.0nm,0.8s
KMI LR LR
comp=Z,370nm,7.9s
KMI LR LR
comp=Z,1μm,9.7s
KMI LR LR
comp=Z,1μm,8.9s
DAV Davao City (W) 17.21 167 LR LR 20 35 25.4
comp=Z,692nm,18.9s,baz=316,slow=39
CD2 Chengdu 17.28 298 P **Pn 20 28 13.8 -1.1**
CD2 pP pP 20 28 18.7 -2.2
CD2 S **Sn 20 31 26.5 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.3s
CD2 LR LR
comp=Z,1μm,8.6s
CD2 LR LR
comp=Z,2μm,10.2s
UBPT Khong Chiam 17.45 243 P **P 20 28 19.4 +1.1**
PZH PanZhiHua 18.14 282 P **P 20 28 31.9 +5.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
NONG Nongkai 18.18 255 P **P 20 28 27.4 +1.0**
HHC Hu-ho-hao-te 18.84 336 *e*P **Pn 20 28 34.2 +0.1**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,300nm,5.9s
MYLDM Lahad Datu 18.89 190 P **Pn 20 28 35.6 +0.8**
MAJO Matsushiro 19.04 45 P **Pn 20 28 37.1 +0.7**
MAJO Matsushiro 19.04 45 *i* P **Pn 20 28 36.7 +0.3**
MJAR Matsushiro Arr 19.04 45 P **P 20 28 35.9 +0.3**
comp=Z,9.8nm,1.1s,baz=230,slow=8.5,SNR=16
BTO Baotou 19.25 332 *e*P **Pn 20 28 43.2 +4.2**
BTO pP **sP 20 28 46.9 +2.3**
BTO sP pP 20 28 50.3 +7.8
BTO PP **PnPn 20 29 00.9 +8.9**
BTO S **Sn 20 32 12.7 -1.9**
BTO sS **sS 20 32 22.5 +0.4**
BTO SS **SnSn 20 32 36.8 +7.9**
BTO pmax pmax
comp=Z,16nm,0.7s
BTO pmax pmax
comp=Z,480nm,8.5s
BTO LR LR
comp=Z,2μm,12.9s
BTO LR LR
comp=Z,1μm,12.6s
BTO LR LR
comp=Z,4μm,11.3s
LZH Lanzhou 19.52 312 *e*P **Pn 20 28 43.9 +1.5**
LZH sP sP 20 28 51.7 +4.1
LZH pmax pmax
comp=Z,24nm,0.7s
CN2 Changchun 20.06 8 *e*P Pn 20 28 49.3 +0.8
CN2 *e*S **S 20 32 30.5 -1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,100nm,11.0s
CN2 LR LR
comp=Z,200nm,12.0s
MSHR Mys Shultsa 20.21 21 *ce*P Pn 20 28 50.3 0.0
MSHR pmax pmax
comp=Z,13nm,1.0s
TNCH TengChong 21.02 278 *e*P **P 20 28 59.0 +1.4**
TNCH S **S 20 32 50.5 -1.0**
TNCH pmax pmax
comp=Z,37nm,0.6s
TNCH pmax pmax
comp=Z,180nm,3.8s
TNCH LR LR
comp=Z,640nm,8.0s
TNCH LR LR
comp=Z,1μm,8.3s
TNCH LR LR
comp=Z,1μm,10.1s
NAYO Nakonayok 21.39 247 P **P 20 29 02.6 +1.3**
MDJ Mudanjiang 21.63 16 P **P 20 29 02.1 -1.6**
MDJ Mudanjiang 21.63 16 P **P 20 29 04.1 +0.4**
MDJ Mudanjiang 21.63 16 P **P 20 29 04.8 +1.1**
CHTO Chiang Mai 21.69 261 P 20 29 03.3 -1.3
CHTO Chiang Mai 21.69 261 P **P 20 29 05.6 +1.0**
CHTO Chiang Mai 21.69 261 P **P 20 29 03.3 -1.3**
CHTO pmax pmax
comp=Z,17nm,1.0s
CMAR Chiang Mai Arr 21.80 260 P 20 29 04.5 -1.3
CMAR Chiang Mai Arr 21.80 260 P **P 20 29 06.1 +0.3**
comp=Z,2.0nm,1.0s,baz=60,slow=8.3,SNR=21
comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 21.80 260 P **P 20 29 04.5 -1.3**
USRK Ussuriysk Ar. 21.93 20 P **P 20 29 06.8 -0.1**
comp=Z,3.5nm,0.7s,baz=206,slow=10,SNR=5.7
comp=Z,3.5nm,0.7s
BNX BinXian 22.25 11 ⇑P **P 20 29 11.3 +1.0**
BNX pmax pmax
comp=Z,13nm,0.9s
TOLI2 Tolitoli 22.71 182 P **P 20 29 11.8 -3.7**
TOLI2 Tolitoli 22.71 182 P **P 20 29 17.2 +1.7**
SBUM Sibu 23.21 204 P 20 29 20.3 -0.4
SBUM Sibu 23.21 204 P **P 20 29 22.1 +1.4**
MPSI Mapaga 23.52 184 P **P 20 29 22.9 -0.9**
comp=Z,11nm,0.8s
GTA Gaotai 24.02 315 *e*P **P 20 29 30.2 +1.6**
GTA pP pP 20 29 33.5 +0.4
GTA pmax pmax
comp=Z,4.0nm,1.8s
GTA LR LR
comp=Z,310nm,13.9s
GTA LR LR
comp=Z,650nm,13.9s
GTA LR LR
comp=Z,640nm,12.7s
APSI Ampana 24.71 180 P **P 20 29 36.6 +1.8**
comp=Z,41nm,1.1s
PCI Palu 24.76 184 P **P 20 29 36.9 +1.6**
comp=Z,34nm,1.9s
KSM Kuching 24.87 208 P 20 29 35.8 -0.6
KSM Kuching 24.87 208 P **P 20 29 37.6 +1.3**
HIA Hailar 25.32 357 P **P 20 29 42.1 +2.0**
GOMU GeErMu 26.10 304 P **P 20 29 46.8 -1.0**
GOMU pmax pmax
comp=Z,13nm,1.0s
KLR Kul'dur 26.47 15 *ce*P **P 20 29 50.6 0.0**
KLR pmax pmax
comp=Z,25nm,1.0s
ULN Ulaanbaatar 26.53 338 P 20 29 49.8 -1.5
ULN Ulaanbaatar 26.53 338 *ce*P **P 20 29 51.7 +0.4**
ULN pmax pmax
comp=Z,14nm,1.3s
HEH HeiHe 26.65 8 *e*P **P 20 29 52.5 +0.3**
HEH pmax pmax
comp=Z,12nm,1.5s
SONM Songino Array 26.73 337 P 20 29 52.0 -1.1
SONM Songino Array 26.73 337 P **P 20 29 52.3 -0.8**
comp=Z,4.2nm,0.8s,baz=157,slow=8.7,SNR=27
comp=Z,4.2nm,0.8s
SONM Songino Array 26.73 337 P **P 20 29 52.0 -1.1**
SONM pmax pmax
comp=Z,6.0nm,0.9s
NLAI Namlea 27.55 168 P **P 20 30 00.5 0.0**
comp=Z,34nm,0.8s
LSA Lhasa 27.72 289 P **P 20 30 03.0 +0.4**
LSA LR LR
comp=Z,270nm,17.3s
LSA LR LR
comp=Z,630nm,8.6s
YSS Yuzhno-Sakhali 28.54 31 P **P 20 30 11.5 +2.4**
YSS Yuzhno-Sakhali 28.54 31 *ce*P **P 20 30 09.4 +0.3**
YSS pmax pmax
comp=Z,22nm,1.3s
ZEA Zeya 30.06 7 *e*P **P 20 30 22.3 -0.2**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=N,300nm,16.0s
ZEA MLR MLR
comp=Z,400nm,14.0s
WMQ Urumqi 34.09 314 *e*P **P 20 31 00.8 +2.7**
WMQ LR LR
comp=Z,250nm,23.3s
YAK Yakutsk 38.47 6 P 20 31 33.8 -1.4
YAK Yakutsk 38.47 6 *e*P **P 20 31 34.6 -0.6**
YAK *e**PP **pP 20 31 38.9 -0.8**
YAK *e* 20 33 02.9
YAK *e* 20 33 48.1
YAK *e*S **S 20 37 30.6 +0.8**
YAK *e**SS **sS 20 37 38.8 +1.4**
YAK *e*SS **SnSn 20 40 15.0 -1.2**
YAK *e* 20 41 49.0
YAK pmax pmax
comp=Z,15nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,76nm,4.9s
YAK pmax pmax
comp=E,22nm,4.3s
YAK pmax pmax
comp=N,53nm,3.9s
YAK smax smax
comp=E,85nm,4.8s
YAK smax smax
comp=N,10.0nm,2.3s
MK31 Makanchi Array 38.77 316 P 20 31 37.3 -0.7
MK31 Makanchi Array 38.77 316 *ce*P **P 20 31 37.9 -0.1**
MKAR Makanchi Array 38.77 316 P 20 31 37.6 -0.4
MKAR Makanchi Array 38.77 316 P **P 20 31 37.8 -0.3**
comp=N,4.2nm,0.7s,baz=102,slow=10.0,SNR=28
MKAR PcP **PcP 20 33 48.6 -0.7**
comp=N,1.0nm,0.7s,baz=89,slow=5.5,SNR=4.3
comp=N,4.2nm,0.7s
MKAR Makanchi Array 38.77 316 P **P 20 31 37.6 -0.4**
ZAA0 Zalesovo Array 40.65 327 P 20 31 52.5 -1.0
ZALV Zalesovo Beam 40.65 327 P 20 31 52.8 -0.7
ZALV Zalesovo Beam 40.65 327 P **P 20 31 51.8 -1.7**
comp=N,8.4nm,0.7s,baz=123,slow=7.4,SNR=28
ZALV PcP **PcP 20 33 54.4 -0.7**
comp=N,0.6nm,0.5s,baz=73,slow=5.0,SNR=1.8
comp=N,8.4nm,0.7s
ZALV Zalesovo Beam 40.65 327 P **P 20 31 52.8 -0.7**
KSH Kashi 41.34 303 P **P 20 32 02.8 +3.2**
KSH pP sP 20 32 06.4 +0.2
PMG Port Moresby 41.51 140 P **P 20 31 58.4 -2.5**
comp=N,16nm,0.8s,baz=328,slow=15,SNR=4.7
comp=N,16nm,0.8s
H11N1 WAKE ISLAND Hy 42.13 87 T T 21 17 07.5
baz=283,slow=74,SNR=6.3
H11N2 WAKE ISLAND Hy 42.13 87 T T 21 17 05.8
baz=283,slow=74,SNR=42
H11N3 WAKE ISLAND Hy 42.14 87 T T 21 17 08.0
baz=283,slow=74,SNR=54
H11S3 WAKE ISLAND Hy 42.25 88 T T 21 17 10.2
baz=284,slow=74,SNR=258
H11S1 WAKE ISLAND Hy 42.26 88 T T 21 17 11.7
baz=284,slow=74,SNR=13
H11S2 WAKE ISLAND Hy 42.27 88 T T 21 17 11.4
baz=284,slow=74,SNR=113
KURK Kurchatov 42.51 320 P **P 20 32 08.4 -0.5**
KURK Kurchatov 42.51 320 *ce*P **P 20 32 09.4 +0.6**
KURK pmax pmax
comp=Z,13nm,1.7s
KURBB Kurchatov Arra 42.53 320 P **P 20 32 09.2 +0.3**
comp=Z,2.6nm,0.8s,baz=111,slow=8.0,SNR=15
comp=Z,2.6nm,0.8s
AAK Ala-Archa 42.95 307 P **P 20 32 12.5 -0.2**
AAK Ala-Archa 42.95 307 *ce*P **P 20 32 13.0 +0.3**
AAK pmax pmax
comp=Z,6.0nm,2.5s
COEN Coen 43.17 149 P **P 20 32 13.1 -1.4**
SEY Seymchan 44.08 20 *ce*P **P 20 32 22.4 +1.2**
SEY pmax pmax
comp=Z,6.0nm,2.5s
WB0 Warramunga Arr 45.20 163 P **P 20 32 29.5 -1.2**
WRAB Tennant Creek 45.35 163 P **P 20 32 30.0 -1.9**
WRAB IAmb IAmb 20 32 32.8
comp=Z,15nm,1.2s
WRAB Tennant Creek 45.35 163 *i* P **P 20 32 29.8 -2.1**
WRAB pmax pmax
comp=Z,11nm,1.1s
WRA Warramunga Arr 45.36 163 P **P 20 32 30.8 -1.2**
WRA PcP **PcP 20 34 10.7 -0.7**
WRA Warramunga Arr 45.36 163 P **P 20 32 30.0 -2.0**
comp=Z,8.2nm,1.0s,baz=345,slow=8.5,SNR=22
comp=Z,8.2nm,1.0s
WRA Warramunga Arr 45.36 163 *i* P **P 20 32 31.1 -0.8**
WRA pmax pmax
comp=Z,9.0nm,1.0s
WB2 Warramunga Arr 45.36 163 P **P 20 32 30.6 -1.3**
WB2 IAmb IAmb 20 32 32.7
comp=Z,16nm,1.2s
WB2 PcP **PcP 20 34 11.5 +0.1**
WR0 Warramunga Arr 45.43 163 P **P 20 32 31.5 -1.0**
KKAR Karatay Array 45.91 308 P **P 20 32 36.3 +0.1**
KKAR PcP **PcP 20 34 13.4 +0.3**
KKAR Karatay Array 45.91 308 P **P 20 32 36.3 +0.1**
MTSU Mount Surprise 47.34 150 P **P 20 32 49.7 +2.1**
QIS Mount Isa 47.59 157 P **P 20 32 50.3 +0.8**
TIXI Tiksi 47.91 3 P **P 20 32 49.0 -2.4**
TIXI IAmb IAmb 20 32 52.0
comp=Z,14nm,0.9s
TIXI Tiksi 47.91 3 *ce*P **P 20 32 49.8 -1.6**
TIXI pmax pmax
comp=Z,17nm,1.0s
BVAR Borovoye Array 48.09 321 P **P 20 32 53.2 +0.1**
comp=Z,3.7nm,0.7s,baz=108,slow=9.6,SNR=11
BVAR PcP **PcP 20 34 21.2 +0.6**
comp=Z,1.2nm,0.6s,baz=149,slow=3.1,SNR=3.8
comp=Z,3.7nm,0.7s
BRVK Borovoye 48.16 321 P **P 20 32 53.4 -0.3**
BRVK Borovoye 48.16 321 *ce*P **P 20 32 53.6 0.0**
BRVK pmax pmax
comp=Z,8.0nm,0.9s
AS31 Alice Springs 48.81 165 P 20 32 57.7 -1.2
AS31 PcP **PcP 20 34 23.8 +0.2**
ASAR Alice Springs 48.81 165 P **P 20 32 57.5 -1.4**
ASAR PcP **PcP 20 34 22.9 -0.7**

ASAR	Alice Springs	48.81	165	P	P	20 32 58.4	-0.5	
	comp=Z,6.4nm,0.9s,baz=341,slow=6.7,SNR=38							
ASAR				PcP	PcP	20 34 22.9	-0.7	
	comp=Z,1.2nm,0.6s,baz=342,slow=3.6,SNR=5.0							
	comp=Z,6.4nm,0.9s							
ASAR	Alice Springs	48.81	165	P	P	20 32 57.6	-1.4	
AS01	Alice Springs	48.82	165	P	P	20 32 59.9	+0.9	
NRIK	Noril'sk	49.73	345	P	P	20 33 04.9	-0.5	
	comp=Z,4.4nm,0.8s,baz=128,slow=7.9,SNR=8.2							
	comp=Z,4.4nm,0.8s							
NRIK	Noril'sk	49.73	345	*ce*P	P	20 33 04.6	-0.8	
NRIK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
BILL	Biiibino	51.78	20	P	P	20 33 20.1	-0.8	
BILL	Biiibino	51.78	20	*ce*P	P	20 33 19.6	-1.3	
BILL				pmax	pmax			
	comp=Z,7.0nm,0.9s							
OOD	Oodnadatta	53.20	164	P	P	20 33 32.3	+0.5	
ABKAR	Akbulak array	53.88	314		P	20 33 35.4	-1.2	
ABKAR	Akbulak array	53.88	314	P	P	20 33 35.8	-0.9	
ABKAR				PcP	PcP	20 34 40.5	-1.6	
SVE	Sverdlovsk	54.46	324	*e*P	P	20 33 41.7	+1.0	
SVE				pmax	pmax			
	comp=Z,17nm,1.5s							
ARTI	Arti	55.61	323	P	P	20 33 47.5	-1.6	
ARTI	Arti	55.61	323	P	P	20 33 48.2	-0.9	
	comp=Z,3.6nm,0.6s,baz=133,slow=5.4,SNR=7.0							
	comp=Z,3.6nm,0.6s							
ARTI	Arti	55.61	323	*d i*P	P	20 33 47.6	-1.6	
ARTI						20 34 42.3		
ARTI						20 35 54.5		
ARTI				S	S	20 41 33.5	-0.9	
ARTI				pmax	pmax			
	comp=Z,4.0nm,0.7s							
SPIA	Saint Paul Isl	58.41	36	P	P	20 34 08.1	-0.7	
	baz=266							
GAMB	Gambell	58.51	29	P	P	20 34 09.1	-0.4	
	baz=260							
STKA	Stephens Creek	58.71	160	P	P	20 34 09.3	-1.9	
	comp=Z,4.5nm,0.6s,baz=348,slow=7.6,SNR=15							
	comp=Z,4.5nm,0.6s							
P08K	Saint George I	58.75	37	P	P	20 34 10.5	-0.7	
	baz=266							
NIKH	Nikolski High	59.02	41	P	P	20 34 13.0	-0.3	
	baz=269							
TNA	Tin City	60.38	27	P	P	20 34 22.0	-0.4	
	baz=263							
UNV	Unalaska Valle	60.43	40	P	P	20 34 22.5	-0.4	
	baz=271							
KIRV	Kirov	60.63	325	P	P	20 34 22.9	-1.2	
	comp=Z,12nm,0.5s,baz=134,slow=7.6,SNR=3.9							
	comp=Z,12nm,0.5s							
KIRV	Kirov	60.63	325	*ce*P	P	20 34 24.7	+0.6	
F14K	Arctic Creek	61.04	27	P	P	20 34 26.9	0.0	
	baz=264							
ANM	Nome	61.36	28	P	P	20 34 29.0	-0.1	
	baz=266							
K13K	Kusilvak Mount	61.53	31	P	P	20 34 29.7	-0.6	
	baz=268							
C16K	Lisburne Hills	61.72	24	P	P	20 34 31.1	-0.3	
	baz=264							
F15K	North Star Dit	61.75	27	P	P	20 34 31.6	-0.1	
	baz=266							
G15K	Niukluk	61.96	28	P	P	20 34 33.0	-0.1	
	baz=267							
J14K	Nanvaranak Lak	62.07	30	P	P	20 34 33.5	-0.3	
	baz=268							
M13K	Dall Lake	62.13	33	P	P	20 34 34.4	+0.1	
	baz=270							
L14K	Kuka Creek	62.46	32	P	P	20 34 36.3	-0.1	
	baz=270							
RDOG	Red Dog Mine	62.61	24	P	P	20 34 37.2	-0.2	
	baz=266							
G16K	Koyuk River	62.69	27	P	P	20 34 38.1	+0.1	
	baz=268							
H16K	Elim	62.71	28	P	P	20 34 38.1	0.0	
	baz=268							
N14K	Kuskokwak Cree	62.97	33	P	P	20 34 39.7	-0.2	
	baz=271							
K15K	Wolf Creek Mou	63.01	31	P	P	20 34 40.0	-0.1	
K15K				IAmb	IAmb	20 34 42.0		
	comp=Z,11nm,1.0s							
K15K				PcP	PcP	20 35 16.0	-2.0	
K15K	Wolf Creek Mou	63.01	31	P	P	20 34 40.2	0.0	
	baz=270							
L15K	Ungalak Mounta	63.03	31	P	P	20 34 40.4	+0.1	
	baz=271							
B18K	Kokolik River	63.09	23	P	P	20 34 40.7	+0.1	
	baz=266							
F17K	Baldwin Pennin	63.17	26	P	P	20 34 41.4	+0.3	
	baz=268							
O14K	Tigyukauivet M	63.20	34	P	P	20 34 41.2	-0.3	
	baz=272							
C18K	Utukok River	63.27	24	P	P	20 34 41.2	-0.7	
	baz=267							
A19K	Wainwright	63.40	22	P	P	20 34 42.8	+0.2	
	baz=267							
G17K	Kiwalik Mounta	63.40	27	P	P	20 34 42.9	+0.2	
	baz=270							
J16K	Anvik River	63.43	30	P	P	20 34 43.3	+0.4	
	baz=271							
M15K	Kasigluk River	63.44	33	P	P	20 34 42.7	-0.3	
	baz=272							
E18K	Tukpahlearik C	63.45	25	IAmb	IAmb	20 34 44.5		
	comp=Z,5.6nm,0.8s							
E18K	Tukpahlearik C	63.45	25	P	P	20 34 43.4	+0.4	
	baz=269							
H17K	Granite Mounta	63.71	28	IAmb	IAmb	20 34 46.5		
	comp=Z,12nm,0.9s							
H17K	Granite Mounta	63.71	28	P	P	20 34 45.4	+0.6	
	baz=270,SNR=5.7							
N15K	Kwethluk River	63.76	33		P	20 34 44.6	-0.5	
N15K				IAmb	IAmb	20 34 46.6		
	comp=Z,16nm,0.9s							
N15K	Kwethluk River	63.76	33	P	P	20 34 45.4	+0.2	
	baz=273,SNR=5.5							
SDPT	Sand Point	63.86	38	P	P	20 34 45.7	-0.1	
	baz=275							
O15K	Ungalikthiuk R	63.95	34	IAmb	IAmb	20 34 56.3		
	comp=Z,10nm,1.1s							
O15K	Ungalikthiuk R	63.95	34	P	P	20 34 46.3	-0.1	
	baz=273							
J17K	VABM Dome	64.11	29	IAmb	IAmb	20 34 49.3		
	comp=Z,12nm,0.8s							
J17K	VABM Dome	64.11	29	P	P	20 34 47.7	+0.3	
	baz=272,SNR=7.8							
G18K	Tagagawik	64.23	27	P	P	20 34 48.3	+0.2	
	baz=271							
M16K	Timber Creek	64.27	32	P	P	20 34 47.6	-1.0	
M16K				IAmb	IAmb	20 34 50.4		
	comp=Z,9.0nm,0.9s							
M16K	Timber Creek	64.27	32	P	P	20 34 48.7	+0.1	
	baz=273,SNR=5.9							
S14K	Fog Glacier	64.30	37	P	P	20 34 48.9	-0.1	
	baz=275							
H18K	Honhosa River	64.37	27	P	P	20 34 49.4	+0.3	
	baz=272							
N16K	Nishlik Lake	64.40	33	P	P	20 34 49.4	0.0	
	baz=274,SNR=7.1							
D19K	Kuna River	64.40	24	IAmb	IAmb	20 34 50.7		
	comp=Z,11nm,0.8s							
D19K	Kuna River	64.40	24	P	P	20 34 48.9	-0.4	
	baz=270							
CHNA	Chernabura Isl	64.42	39	P	P	20 34 49.3	-0.3	
	baz=276							
K17K	Iditarod	64.49	30	IAmb	IAmb	20 34 51.9		
	comp=Z,11nm,0.8s							
K17K	Iditarod	64.49	30	P	P	20 34 50.3	+0.4	
	baz=273							
L17K	Donlin	64.53	31	P	P	20 34 50.5	+0.4	
	baz=273,SNR=7.4							
F19K	Shaleruckik Mo	64.56	26	P	P	20 34 50.3	0.0	
	baz=271							
B20K	Meade River	64.73	22	IAmb	IAmb	20 34 53.7		
	comp=Z,9.0nm,0.8s							
B20K	Meade River	64.73	22	P	P	20 34 51.2	-0.2	
	baz=270							
E19K	Redstone River	64.75	25	IAmb	IAmb	20 34 54.4		
	comp=Z,9.3nm,0.9s							
E19K	Redstone River	64.75	25	P	P	20 34 51.9	+0.3	
	baz=272							
O16K	Kokwok River B	64.80	34	P	P	20 34 51.8	-0.2	
O16K				IAmb	IAmb	20 34 53.7		
	comp=Z,9.1nm,1.1s							
O16K	Kokwok River B	64.80	34	P	P	20 34 52.3	+0.3	
	baz=275							
G19K	Purcell Mounta	64.86	26	P	P	20 34 52.1	-0.2	
	baz=272							
A21K	Barrow	64.90	21	P	P	20 34 52.5	+0.1	
	baz=270,SNR=12							
D20K	Etivluk River	64.95	24	IAmb	IAmb	20 34 54.3		
	comp=Z,9.4nm,0.8s							
D20K	Etivluk River	64.95	24	P	P	20 34 53.1	+0.2	
	baz=272							
M17K	Holitna River	64.98	32	P	P	20 34 53.4	+0.2	
	baz=274							
GCSA	Galena City Sc	65.02	28	P	P	20 34 53.9	+0.7	
	baz=273							
E20K	Nigu River	65.12	24	P	P	20 34 53.8	-0.2	
	baz=272							
H19K	Roundabout Mou	65.15	27	P	P	20 34 54.5	+0.3	
	baz=273,SNR=11							
J18K	Innoko River	65.17	29	IAmb	IAmb	20 34 56.1		
	comp=Z,9.5nm,1.3s							
J18K	Innoko River	65.17	29	P	P	20 34 54.6	+0.2	
	baz=274							
N17K	Nushagak Hills	65.18	33	P	P	20 34 54.8	+0.3	
	baz=275							
L18K	Granite Mounta	65.27	31	P	P	20 34 54.5	-0.6	
L18K				IAmb	IAmb	20 34 56.9		
	comp=Z,7.2nm,0.9s							
L18K	Granite Mounta	65.27	31	P	P	20 34 55.2	+0.1	
	baz=275,SNR=5.3							
F20K	Avaraart Lake	65.36	25	P	P	20 34 56.0	+0.6	
	baz=273							
A22K	Sinclair Lake	65.44	21	P	P	20 34 55.9	0.0	
	baz=272							
TTA	Tatalina	65.53	30	P	P	20 34 58.3	+1.5	
TTA	Tatalina	65.53	30	P	P	20 34 56.8	0.0	
	baz=275,SNR=5.7							
KLMR	Klimovskoe	65.56	328	*e*P	P	20 34 53.4	-3.5	
KLMR				pmax	pmax			
	comp=Z,15nm,1.4s							
C21K	Knifeblade Rid	65.59	23	P	P	20 34 57.3	+0.3	
	baz=273							
J19K	Poorman	65.61	29		P	20 34 57.2	+0.1	
J19K				IAmb	IAmb	20 34 59.8		
	comp=Z,11nm,1.0s							
J19K	Poorman	65.61	29	P	P	20 34 57.3	+0.1	
	baz=275,SNR=9.7							
B21K	Ikpikpuk River	65.63	22	P	P	20 34 57.5	+0.4	
	baz=273							
M18K	Stony River	65.75	31	P	P	20 34 58.6	+0.5	
	baz=276							
N18K	Kilae Creek	65.80	32	P	P	20 34 58.5	+0.1	
	baz=276							
H20K	Anotleneega Mo	65.81	27	P	P	20 34 59.1	+0.7	
	baz=275,SNR=5.8							
KBZ	Khabaz	65.92	309	P	P	20 34 59.0	-0.5	
	comp=Z,2.8nm,0.8s,baz=95,slow=4.3,SNR=10							
	comp=Z,2.8nm,0.8s							
KBZ	Khabaz	65.92	309	*ce*P	P	20 35 00.4	+0.9	
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
E21K	Killik River	65.93	24	IAmb	IAmb	20 35 01.9		
	comp=Z,17nm,0.9s							
E21K	Killik River	65.93	24	P	P	20 34 59.5	+0.3	
	baz=274							
B22K	Teshekpuk Lake	66.00	22	P	P	20 35 00.1	+0.6	
	baz=274							
KIV	Kislovodsk	66.03	309	*e*P	P	20 35 00.5	+0.1	
KIV				pmax	pmax			
	comp=Z,7.0nm,1.0s							
I20K	Naaghedeneel	66.04	28	P	P	20 35 00.2	+0.3	
	baz=275							
Q17K	Contact Creek	66.08	35	P	P	20 35 00.6	+0.1	
	baz=277							
SHA1	Shidzhatmaz	66.09	309	*i* P	P	20 35 01.1	+0.2	
L19K	White Mountain	66.13	31	IAmb	IAmb	20 35 04.2		
	comp=Z,9.7nm,1.1s							
L19K	White Mountain	66.13	31	P	P	20 35 01.0	+0.4	
	baz=276,SNR=6.7							
F21K	Alatna River	66.22	25	P	P	20 35 01.0	0.0	
F21K	Alatna River	66.22	25	P	P	20 35 01.1	0.0	
	baz=275							
O18K	Koktuh Hills	66.23	33	IAmb	IAmb	20 35 03.4		
	comp=Z,9.9nm,0.8s							
O18K	Koktuh Hills	66.23	33	P	P	20 35 01.3	0.0	
	baz=277							
J20K	Nowinta River	66.24	28		P	20 35 00.9	-0.3	
J20K				IAmb	IAmb	20 35 04.2		
	comp=Z,15nm,1.4s							
J20K	Nowinta River	66.24	28	P	P	20 35 01.5	+0.3	
	baz=276,SNR=5.5							
G21K	Allakaket	66.28	26	IAmb	IAmb	20 35 04.0		
	comp=Z,14nm,0.9s							
G21K	Allakaket	66.28	26	P	P	20 35 01.6	+0.2	
	baz=276							
P18K	Big Mountain,	66.28	34	P	P	20 35 02.1	+0.5	
	baz=277							
K20K	Telida	66.36	29	IAmb	IAmb	20 35 12.3		
	comp=Z,18nm,1.5s							
K20K	Telida	66.36	29	P	P	20 35 02.4	+0.3	
	baz=276							
D22K	Ayikyak River	66.37	23	P	P	20 35 02.3	+0.3	
	baz=275							
ACHA	Angle Creek He	66.38	35	IAmb	IAmb	20 35 13.2		
	comp=Z,9.1nm,1.0s							
M19K	Big River Lodg	66.38	31	IAmb	IAmb	20 35 15.2		
	comp=Z,24nm,1.6s							
M19K	Big River Lodg	66.38	31	P	P	20 35 02.6	+0.4	
	baz=277							
N19K	Bonanza Creek	66.47	32	P	P	20 35 03.8	+0.9	
	baz=277							
Q18K	Katmai Hardscr	66.48	35	P	P	20 35 03.4	+0.4	
	baz=278							
CHIR	Chirikof Islan	66.55	38	P	P	20 35 04.0	+0.7	
	baz=278							
L20K	Farewell, AK	66.55	30	P	P	20 35 04.3	+1.0	
	baz=277							
O19K	Port Alsworth	66.63	33	P	P	20 35 04.3	+0.6	
	baz=278							
H21K	Melozitna Rive	66.65	27	P	P	20 35 03.7	-0.2	
H21K				IAmb	IAmb	20 35 07.1		
	comp=Z,12nm,0.8s							
H21K	Melozitna Rive	66.65	27	P	P	20 35 04.1	+0.2	
	baz=276,SNR=14							
F22K	John River	66.69	25	P	P	20 35 04.6	+0.5	
	baz=276							
R18K	Karluk	66.93	36	P	P	20 35 06.1	+0.4	
	baz=278							
M20K	Styx River	66.98	31	IAmb	IAmb	20 35 15.7		
	comp=Z,13nm,1.3s							
M20K	Styx River	66.98	31	P	P	20 35 06.4	+0.3	
	baz=278							
C23K	Itkillik River	67.00	22	IAmb	IAmb	20 35 10.3		
	comp=Z,10nm,0.9s							
C23K	Itkillik River	67.00	22	P	P	20 35 07.0	+1.0	
	baz=277							
G22K	Bettles	67.02	25	P	P	20 35 07.1	+1.0	
	baz=277							
CHUM	Lake Minchumin	67.08	29	P	P	20 35 07.2	+0.6	
	baz=278,SNR=5.8							
D23K	Nanushuk River	67.08	23	P	P	20 35 07.7	+1.2	
	baz=277							
Q19K	Cape Douglas,	67.15	34	P	P	20 35 07.5	+0.3	
	baz=279							
H22K	Ishtalitna Cre	67.20	26	P	P	20 35 08.1	+0.7	
	baz=278							
SII	Sitkinak Islan	67.23	37	P	P	20 35 08.0	+0.3	
	baz=279							
CAST	Castle Rocks	67.24	29	P	P	20 35 07.1	-0.5	
CAST				IAmb	IAmb	20 35 10.3		
	comp=Z,15nm,1.2s							
CAST	Castle Rocks	67.24	29	P	P	20 35 08.4	+0.7	
	baz=278,SNR=8.1							
P19K	Oil Pt	67.25	33	P	P	20 35 08.2	+0.5	
	baz=279							
PPLA	Purkeypile	67.27	30	P	P	20 35 07.6	-0.4	
PPLA	Purkeypile	67.27	30	P	P	20 35 08.3	+0.3	
	baz=278							
COLD	Coldfoot	67.49	25	IAmb	IAmb	20 35 12.5		
	comp=Z,9.4nm,1.3s							
COLD	Coldfoot	67.49	25	P	P	20 35 10.3	+1.2	
	baz=278							
SPCR	Spurr Chakacha	67.51	32	P	P	20 35 10.3	+0.8	
	baz=279							
TOLK	Toolik Lake Re	67.52	23	IAmb	IAmb	20 35 11.7		
	comp=Z,14nm,0.9s							
TOLK	Toolik Lake Re	67.52	23	P	P	20 35 09.7	+0.3	
	baz=278,SNR=11							
E23K	Chandalar	67.59	24	P	P	20 35 10.2	+0.3	
	baz=278							
OHAK	Old Harbor	67.61	36	P	P	20 35 10.1	+0.1	
	baz=280							
BPAW	Bear Paw Mtn.	67.62	28	IAmb	IAmb	20 35 12.5		
	comp=Z,7.3nm,0.8s							
BPAW	Bear Paw Mtn.	67.62	28	P	P	20 35 10.3	+0.2	
	baz=279,SNR=5.3							
G23K	Bananza Creek	67.63	25	IAmb	IAmb	20 35 12.7		
	comp=Z,12nm,0.8s							
G23K	Bananza Creek	67.63	25	P	P	20 35 10.1	0.0	
	baz=278							
STLK	Strandline Lak	67.64	31	P	P	20 35 09.5	-0.8	
C24K	Franklin Bluff	67.67	22	P	P	20 35 10.2	0.0	
	baz=278							
SKT	Skwentna	67.71	31	P	P	20 35 10.6	-0.1	
	baz=279							
D24K	Happy Valley	67.72	23	P	P	20 35 10.4	-0.2	
	baz=279,SNR=24							
KTH	Kantishna Hill	67.74	29	IAmb	IAmb	20 37 08.3		
	comp=Z,31nm,1.7s							
Q20K	Shuyak Island	67.84	34	P	P	20 35 10.3	-1.2	
	baz=280							
KDAK	Kodiak Island	67.88	35	P	P	20 35 11.4	-0.4	
	baz=280							
OBN	Obninsk	67.92	322	*e*P	P	20 35 10.4	-1.6	
OBN				*e*		20 35 38.5		
OBN				*e*		20 37 42.3		
OBN				*e*PPP	PPP	20 39 20.1		
OBN				pmax	pmax			
	comp=Z,3.0nm,0.7s							
H23K	Yukon River	67.96	26	P	P	20 35 12.8	+0.7	
	baz=279							
E24K	Your Creek	68.01	24	P	P	20 35 12.0	-0.4	
E24K	Your Creek	68.01	24	P	P	20 35 12.8	+0.3	
	baz=279							
TRF	Thorofare Moun	68.03	29	IAmb	IAmb	20 36 18.7		
	comp=Z,31nm,1.7s							
TRF	Thorofare Moun	68.03	29	P	P	20 35 13.1	+0.2	
	baz=280							
HOM	Homer	68.04	33	P	P	20 35 12.5	-0.2	
	baz=280							
CAPN	Captain Cook N	68.09	32	P	P	20 35 13.2	+0.2	
	baz=280							
I23K	Minto, Yukon-K	68.15	27	IAmb	IAmb	20 35 16.3		
	comp=Z,8.9nm,1.1s							
I23K	Minto, Yukon-K	68.15	27	P	P	20 35 13.8	+0.5	
	baz=280							
SUA	Susitna One	68.17	31	P	P	20 35 12.9	-0.8	
	baz=280,SNR=10							
CUT	Chulitna	68.22	30	P	P	20 35 14.1	+0.2	
	baz=280							
F24K	Squaw Lake	68.33	24	P	P	20 35 14.7	+0.2	
	baz=280							
NEA2	Nenana	68.37	28	P	P	20 35 13.9	-0.8	
NEA2	Nenana	68.37	28	P	P	20 35 14.8	+0.1	
	baz=280,SNR=19							
M22K	Willow	68.41	31	P	P	20 35 15.1	+0.1	
	baz=280							
BRSE	Bradley Lake S	68.48	33	P	P	20 35 15.3	-0.2	
	baz=281							
D25K	Kavik River	68.55	22	P	P	20 35 15.6	-0.2	
	baz=281							
MCK	McKinley	68.58	29	IAmb	IAmb	20 35 18.9		
	comp=Z,7.7nm,0.9s							
MCK	McKinley	68.58	29	P	P	20 35 15.9	-0.2	
	baz=281							
G24K	Hadweenzic Riv	68.63	25	P	P	20 35 16.0	-0.4	
	baz=281							
H24K	Noodor Dome	68.63	26		P	20 35 15.5	-0.9	
H24K				IAmb	IAmb	20 35 19.8		
	comp=Z,11nm,0.9s							
H24K	Noodor Dome	68.63	26	P	P	20 35 15.7	-0.8	
	baz=281,SNR=11							
RC01	Rabbit Creek A	68.71	31	P	P	20 35 16.5	-0.4	
	baz=281							
WRH	Wood River Hil	68.81	28	IAmb	IAmb	20 35 20.8		
	comp=Z,8.3nm,1.0s							
COLA	College	68.83	27	P	P	20 35 19.1	+1.6	
MARD	Mardin	68.90	302	P	P	20 35 18.1	-0.6	
MARD				IAmb	IAmb	20 35 25.0		
	comp=Z,27nm,1.5s							
PMR	Palmer	68.90	31	P	P	20 35 17.6	-0.5	
	baz=281							
C26K	Camden Bay	68.93	22	P	P	20 35 18.2	+0.1	
	baz=282							
POKR	Poker Plat Res	68.95	27	P	P	20 35 18.7	+0.3	
	baz=281,SNR=6.0							
SEW	Seward	69.04	32	P	P	20 35 18.7	-0.3	
	baz=282							
E25K	Arctic Village	69.07	24	P	P	20 35 19.9	+0.8	
	baz=282,SNR=7.8							
G25K	Bearman Lake	69.15	25	P	P	20 35 20.3	+0.7	
	baz=282							
F25K	Christian Rive	69.16	24	P	P	20 35 20.3	+0.6	
	baz=282							
SML	Sawmill	69.23	31	IAmb	IAmb	20 35 26.5		
	comp=Z,14nm,0.8s							
SML	Sawmill	69.23	31	P	P	20 35 21.0	+0.8	
	baz=282							
ILAR	Eielson Array	69.25	27	P	P	20 35 19.9	-0.3	
	comp=Z,2.3nm,0.8s,baz=296,slow=8.7,SNR=24							
	comp=Z,2.3nm,0.8s							
KNK	Knik Glacier	69.25	31	P	P	20 35 21.0	+0.7	
	baz=282							
HDA	Harding Lake	69.30	28	IAmb	IAmb	20 35 21.8		
	comp=Z,8.7nm,0.8s							
HDA	Harding Lake	69.30	28	P	P	20 35 21.0	+0.4	
	baz=282,SNR=8.1							
H25L	Birch Creek	69.37	26	P	P	20 35 21.7	+0.8	
	baz=282,SNR=13							
C27K	Jago River	69.40	22	IAmb	IAmb	20 35 23.7		
	comp=Z,11nm,0.8s							
C27K	Jago River	69.40	22	P	P	20 35 22.3	+1.2	
	baz=283							
PWL	Port Wells	69.43	32	P	P	20 35 22.3	+0.9	
	baz=282							
M23K	Glacier View	69.52	30	P	P	20 35 22.5	+0.6	
	baz=282							
FYU	Fort Yukon	69.53	25	P	P	20 35 21.8	-0.1	
FYU				IAmb	IAmb	20 35 24.6		
	comp=Z,9.1nm,0.8s							
BMAR	Burnt Mountain	69.59	24	P	P	20 35 22.1	-0.2	
PRP	Porcupine Dome	69.65	26	P	P	20 35 23.2	+0.4	
	baz=283							
SCM	Sheep Creek Mo	69.69	30	P	P	20 35 23.5	+0.4	
	baz=283							
F26K	Sheenjek River	69.69	24	P	P	20 35 23.8	+0.9	
	baz=283							
ARCES	ARCESS Array B	69.90	338	P	P	20 35 23.4	-0.7	
	comp=Z,1.2nm,0.7s,baz=69,slow=4.0,SNR=4.2							
ARCES				LR	LR	21 11 29.4		
	comp=Z,204nm,19.4s,baz=103,slow=41							
	comp=Z,1.2nm,0.7s							
J25K	Salcha River,	69.92	27	P	P	20 35 24.7	+0.2	
	baz=283							
K24K	Donnelly Dome	69.94	28	P	P	20 35 25.1	+0.6	
	baz=283,SNR=7.8							
G26K	Porcupine Rive	70.00	25		P	20 35 24.0	-0.8	
G26K	Porcupine Rive	70.00	25	P	P	20 35 25.6	+0.8	
	baz=284							
GLI	Glacier Island	70.02	31	P	P	20 35 25.8	+0.8	
	baz=283							
M24K	Tolsona, Glenn	70.16	30	P	P	20 35 26.6	+0.6	
	baz=284							
PAX	Paxson	70.27	29	P	P	20 35 27.1	+0.5	
	baz=284							
RIDG	Independent Ri	70.36	28	IAmb	IAmb	20 35 29.4		
	comp=Z,13nm,1.0s							
RIDG	Independent Ri	70.36	28	P	P	20 35 28.0	+0.9	
	baz=284,SNR=5.6							
KLU	Klutina	70.42	31	P	P	20 35 28.0	+0.4	
	baz=284							
D27M	Malcolm River	70.44	22	IAmb	IAmb	20 35

comp=Z,17nm,0.8s
J26L Joseph Creek 70.71 27 P **P 20 35 28.9 -0.4**
baz=285,SNR=19
DOT Dot Lake 70.72 28 IAmb IAmb 20 35 31.1
comp=Z,9.7nm,1.0s
EYAK Cordova Ski Ar 70.74 32 P **P 20 35 29.2 -0.2**
baz=284
G27K Doyon Strip 70.85 25 P **P 20 35 30.3 +0.3**
baz=286
N25K Chitina, Valde 71.01 30 IAmb IAmb 20 36 54.1
comp=Z,15nm,1.2s
N25K Chitina, Valde 71.01 30 P **P 20 35 31.4 +0.2**
baz=285
MENT Mentasta 71.05 29 IAmb IAmb 20 35 40.5
comp=Z,14nm,1.1s
MENT Mentasta 71.05 29 P **P 20 35 33.5 +2.2**
H27K Steamboat Moun 71.06 25 **P 20 35 31.4 0.0**
H27K IAmb IAmb 20 35 34.0
comp=Z,9.8nm,0.8s
H27K Steamboat Moun 71.06 25 P **P 20 35 31.7 +0.4**
baz=286,SNR=13
E28M Babbage River 71.12 23 IAmb IAmb 20 35 33.8
comp=Z,12nm,0.8s
E28M Babbage River 71.12 23 P **P 20 35 31.8 +0.2**
baz=287
BMRM Bremner River 71.17 31 P **P 20 35 32.6 +0.5**
baz=285
D28M Stokes Point 71.17 22 P **P 20 35 32.5 +0.6**
baz=288
L26K Log Cabin Wild 71.19 29 IAmb IAmb 20 35 34.9
comp=Z,8.5nm,0.9s
L26K Log Cabin Wild 71.19 29 P **P 20 35 32.6 +0.4**
baz=286,SNR=5.5
I27K Kandik River 71.20 26 P **P 20 35 32.8 +0.6**
baz=286,SNR=24
GLB Gilahina Butte 71.42 30 IAmb IAmb 20 35 38.4
comp=Z,13nm,0.9s
K27K Chicken 71.46 27 IAmb IAmb 20 35 36.6
comp=Z,18nm,0.8s
K27K Chicken 71.46 27 P **P 20 35 34.5 +0.7**
baz=286
M26K Nabesna, AK 71.52 29 IAmb IAmb 20 35 36.9
comp=Z,11nm,0.8s
M26K Nabesna, AK 71.52 29 P **P 20 35 34.5 +0.3**
baz=286,SNR=8.9
KAIM Kayak Island 71.54 32 P **P 20 35 34.2 -0.1**
baz=286
E29M Blow River 71.76 23 P **P 20 35 35.5 +0.1**
baz=289
FINES FINESS Array B 71.84 330 P **P 20 35 35.4 -0.7**
comp=Z,2.8nm,0.8s,baz=263,slow=1.5,SNR=4.5
comp=Z,2.8nm,0.8s
L27K Beaver Creek, 71.85 28 IAmb IAmb 20 35 39.4
comp=Z,12nm,0.9s
L27K Beaver Creek, 71.85 28 P **P 20 35 36.3 +0.2**
baz=287,SNR=10
BCAR Beaver Creek A 71.86 28 P **P 20 35 36.6 +0.3**
I28M Miner Creek 71.92 26 IAmb IAmb 20 35 39.5
comp=Z,12nm,0.9s
I28M Miner Creek 71.92 26 P **P 20 35 36.8 +0.1**
baz=288,SNR=16
M27K Edge Creek, AK 72.03 29 P **P 20 35 37.2 -0.2**
baz=287
BGLC Bering Glacier 72.03 32 P **P 20 35 37.8 +0.6**
baz=287
G29M Pine Creek 72.19 24 P **P 20 35 38.5 +0.4**
baz=289
H29M Whitestone 72.29 25 IAmb IAmb 20 35 41.1
comp=Z,16nm,0.8s
H29M Whitestone 72.29 25 P **P 20 35 39.2 +0.5**
baz=289,SNR=13
BVCY Beaver Creek 72.47 29 P **P 20 35 39.9 +0.1**
baz=288
DAWY Dawson 72.58 27 IAmb IAmb 20 35 42.8
comp=Z,15nm,0.8s
DAWY Dawson 72.58 27 P **P 20 35 40.3 -0.2**
baz=289,SNR=12
I29M Ogilvie Camp, 72.59 26 P **P 20 35 40.4 -0.2**
I29M IAmb IAmb 20 35 42.8
comp=Z,10nm,1.1s
I29M Ogilvie Camp, 72.59 26 P **P 20 35 40.9 +0.3**
baz=289,SNR=10.0
MESA MESA 72.66 31 P **P 20 35 40.8 -0.4**
baz=288
F30M Barrier River 72.77 23 P **P 20 35 41.6 +0.1**
baz=291
G30M tAoh Zraii Nji 72.84 24 P **P 20 35 41.9 -0.1**
baz=291
YUK3 Moose Creek 72.85 30 P **P 20 35 41.8 -0.5**
baz=288
EPYK Eagle Plains 72.86 24 IAmb IAmb 20 35 43.9
comp=Z,19nm,0.8s
EPYK Eagle Plains 72.86 24 P **P 20 35 42.0 -0.2**
baz=290,SNR=10
O28M Mount Upton 73.29 30 P **P 20 35 44.9 -0.2**
baz=289
YUK8 Steele Glacier 73.32 30 P **P 20 35 44.3 -0.9**
baz=289
I30M Mount Dempster 73.40 25 IAmb IAmb 20 35 48.1
comp=Z,11nm,0.8s
I30M Mount Dempster 73.40 25 P **P 20 35 45.2 -0.3**
baz=291,SNR=15
L29M L29M 73.43 28 IAmb IAmb 20 35 49.2
comp=Z,13nm,0.8s
L29M L29M 73.43 28 P **P 20 35 46.0 +0.4**
baz=290,SNR=11
K29M Barlow Dome 73.43 27 **P 20 35 45.8 +0.2**
K29M Barlow Dome 73.43 27 P **P 20 35 45.8 +0.2**
baz=290,SNR=7.4
NACGM Naroch 73.43 323 *e*P **P 20 35 47.4 +1.8**
comp=Z,6.0nm,0.8s,baz=72
PINM Pinnacle 73.49 31 P **P 20 35 46.1 +0.1**
baz=289
M29M Somme Creek 73.51 29 IAmb IAmb 20 35 49.5
comp=Z,10nm,0.8s
M29M Somme Creek 73.51 29 P **P 20 35 46.2 +0.1**
baz=290,SNR=9.1
F31M Tsiigehtchic 73.56 23 P **P 20 35 45.9 -0.3**
baz=293,SNR=8.4
G31M Satah River 73.57 23 P **P 20 35 45.7 -0.5**
baz=292,SNR=20
BRTR Keskin Array B 73.61 307 P **P 20 35 45.0 -2.2**
BRTR Keskin Array B 73.61 307 P **P 20 35 45.9 -1.4**
comp=Z,1.3nm,0.8s,baz=108,slow=5.6,SNR=6.5
comp=Z,1.3nm,0.8s
BRTR Keskin Array B 73.61 307 *i* P **P 20 35 48.7 +1.5**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
J30M Hart River 73.66 26 P **P 20 35 47.2 +0.2**
baz=291
YUK4 Talbot Arm 73.81 30 P **P 20 35 48.2 +0.1**
baz=290
H31M Peel River 73.97 25 IAmb IAmb 20 35 50.3
comp=Z,17nm,0.8s
H31M Peel River 73.97 25 P **P 20 35 48.5 -0.2**
baz=293,SNR=16
PNL Peninsula 74.04 31 P **P 20 35 49.6 +0.5**
baz=290
YUK6 Outpost Mounta 74.08 30 P **P 20 35 49.4 -0.2**
baz=290
M30M Minto, Yukon 74.19 28 IAmb IAmb 20 35 53.1
comp=Z,13nm,0.9s
M30M Minto, Yukon 74.19 28 P **P 20 35 50.3 +0.3**
baz=291,SNR=12
O29M Mount Kennedy 74.20 31 P **P 20 35 49.9 -0.3**
baz=290
A36M Sachs Harbour 74.24 17 **P 20 35 49.6 -0.5**
A36M IAmb IAmb 20 37 41.0
comp=Z,7.3nm,0.6s
A36M Sachs Harbour 74.24 17 P **P 20 35 50.2 +0.1**
baz=299
N30M Aishikik Lake 74.47 29 IAmb IAmb 20 35 54.1
comp=Z,51nm,1.9s
N30M Aishikik Lake 74.47 29 P **P 20 35 51.5 -0.2**
baz=291
HYT Haines Junctio 74.51 30 P **P 20 35 52.0 -0.1**
baz=291
P29M Windy Craggy 74.84 31 P **P 20 35 54.1 +0.2**
baz=291
P30M Million Dollar 75.02 31 P **P 20 35 54.9 0.0**
baz=292
N31M Braeburn, Yuko 75.04 29 P **P 20 35 54.6 -0.4**
baz=292
O30N Mendenhall 75.18 30 P **P 20 35 56.1 +0.3**
baz=292
M31M Drury Creek, Y 75.37 28 IAmb IAmb 20 35 59.4
comp=Z,8.7nm,0.8s
M31M Drury Creek, Y 75.37 28 P **P 20 35 57.4 +0.6**
baz=294,SNR=7.2
WHY Whitehorse 75.77 30 P **P 20 35 59.3 0.0**
baz=293
FARO Faro, Yukon 75.80 28 IAmb IAmb 20 36 01.7
comp=Z,14nm,0.9s
FARO Faro, Yukon 75.80 28 P **P 20 35 59.7 +0.4**
baz=294
C36M Paulatuk 75.90 19 IAmb IAmb 20 36 00.5
comp=Z,15nm,0.8s
C36M Paulatuk 75.90 19 P **P 20 35 58.9 -0.8**
baz=301,SNR=19
S31K Pelican 76.20 32 P **P 20 36 01.4 -0.1**
baz=293
N32M Quiet Lake 76.37 29 IAmb IAmb 20 36 04.5
comp=Z,22nm,1.1s
N32M Quiet Lake 76.37 29 P **P 20 36 02.8 +0.2**
baz=295
MMPY Sheldon Lake, 76.52 27 P **P 20 36 03.5 +0.1**
baz=296,SNR=5.4
P32M Atlin 76.74 30 P **P 20 36 05.4 +0.7**
baz=295
P33M Teslin, Yukon 76.89 30 P **P 20 36 06.2 +0.6**
baz=295
HFS Hagfors 77.96 331 P **P 20 36 09.6 -1.8**
comp=Z,2.2nm,0.8s,baz=127,slow=11,SNR=1.9
comp=Z,2.2nm,0.8s
R33M Jennings River 78.09 30 P **P 20 36 13.2 +0.9**
baz=297
TGTN Hyland Airport 78.27 27 P **P 20 36 14.0 +0.7**
baz=299,SNR=6.8
U33K Whale Pass 78.51 33 P **P 20 36 15.5 +0.9**
baz=296
NB2 NORSAR Subarra 78.61 332 P **P 20 36 14.4 -0.7**
comp=Z,4.2nm,1.1s,baz=61,slow=5.3
NOA NORSAR Array B 78.61 332 P **P 20 36 13.5 -1.6**
comp=Z,0.8nm,0.7s,baz=60,slow=5.5,SNR=5.3
comp=Z,0.8nm,0.7s
WTLY Watson Lake, Y 78.72 29 IAmb IAmb 20 36 17.5
comp=Z,20nm,1.1s
WTLY Watson Lake, Y 78.72 29 P **P 20 36 16.3 +0.5**
baz=298
WRGLY Wrigley 79.34 25 P **P 20 36 19.4 +0.4**
baz=302
TOAD Toad River Com 80.93 29 P **P 20 36 28.1 +0.4**
baz=302
YKA Yellowknife Ar 83.04 23 P **P 20 36 36.9 -1.8**
YKA Yellowknife Ar 83.04 23 P **P 20 36 37.7 -1.0**
comp=Z,13nm,0.8s,baz=316,slow=4.7,SNR=143
comp=Z,13nm,0.8s
YKA Yellowknife Ar 83.04 23 *i* P **P 20 36 38.5 -0.2**
YKA pmax pmax
comp=Z,13nm,0.8s
GERES GERESS Array B 83.26 321 P **P 20 36 40.5 +0.2**
comp=Z,2.0nm,0.9s,baz=64,slow=3.1,SNR=6.8
comp=Z,2.0nm,0.9s
ILON Igloolik, Nuna 85.42 8 IAmb IAmb 20 36 51.6
comp=Z,16nm,0.9s
B08A Colville Reser 89.76 36 IAmb IAmb 20 37 14.1
comp=Z,12nm,0.9s
E07A Sunnyside 90.55 37 P **P 20 37 13.4 -2.4**
NEW Newport 90.99 35 IAmb IAmb 20 37 19.9
comp=Z,6.8nm,0.9s
J04A Umpqua Nationa 91.19 41 **P 20 37 17.6 -1.4**
L04D Klamath Falls 91.65 42 P **P 20 37 20.6 -0.5**
FFC Flin Flon 93.20 24 P **P 20 37 26.9 -0.9**
FFC Flin Flon 93.20 24 P **P 20 37 26.9 -0.9**
FFC pmax pmax
comp=Z,9.0nm,0.9s
PLID Pearl Lake 93.58 37 IAmb IAmb 20 37 33.6
comp=Z,3.9nm,0.8s
BEKR Beckworth 94.21 43 P **P 20 37 31.2 -1.8**
BEKR IAmb IAmb 20 37 34.4
comp=Z,11nm,0.9s
CMB Columbia Colle 95.27 44 P **P 20 37 37.4 -0.3**
CMB IAmb IAmb 20 37 39.5
comp=Z,6.9nm,0.9s
CMB Columbia Colle 95.27 44 P **P 20 37 37.4 -0.3**
CMB pmax pmax
comp=Z,7.0nm,0.9s
HLID Hailey 95.44 37 **P 20 37 38.4 -0.2**
HLID IAmb IAmb 20 37 41.0
comp=Z,3.9nm,0.9s
NVAR Mina Array Bea 96.35 43 P **P 20 37 42.9 +0.1**
comp=Z,1.4nm,0.7s,baz=272,slow=9.8,SNR=5.1
comp=Z,1.4nm,0.7s
SYO Syowa Base 109.31 202 ⇑*i*pPdif pPdif 20 38 43.6 -1.1
SYO Syowa Base 109.31 202 ⇓*es*Pdif **Pdif 20 38 46.8 +7.4**
SYO Syowa Base 109.31 202 ⇑*e*PKiKP **PKiKP 20 42 43.1 +0.2**
VNA1 Neumayer--Stat 125.17 198 ⇑P **Pdif 20 39 55.4 +5.4**
comp=Z,0.3nm,0.2s
VNA3 Neumayer Olymp 125.25 197 ⇑P **Pdif 20 39 55.8 +5.4**
comp=Z,0.4nm,0.2s

*GCG **09** 20:47:33.4±1.7, 14°.13N×93°.36W, h38km±999km, MD4.2*
*MEX **09** 20:47:36.1±0.9, 14°.24N×93°.28W, h15km±88km, MD4.0*
ISC 09 20:47:32.0±2.1, 14°.23N±0°.08×93°.31W±0°.05, h26km±16km, n15, σ1°87/28, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.22**	**56**	*e*P	**Pb**	**20 47 55.0**	**+0.6**
THIG				*e*S	**Sn**	**20 48 08.6**	**-0.5**
PATR	**El Naranjo**	**1.37**	**50**	*e*P	**Pn**	**20 47 56.2**	**+0.6**
PATR				*e*S	**Sn**	**20 48 13.1**	**+0.1**
PAVE	**Pavencul**	**1.46**	**49**	*i* P	**Pn**	**20 47 57.8**	**+0.9**
PAVE				*e*S	**Sn**	**20 48 14.6**	**-0.7**
PCIG		**1.47**	**4**	*e*P	**Pn**	**20 47 56.3**	**-0.5**
PCIG				*e*S	**Sn**	**20 48 10.9**	**-4.4**
RTAL	**Retalhuleu**	**1.60**	**79**	*e*P	**Pb**	**20 48 01.2**	**+0.3**
RTAL				*i* S	**Sn**	**20 48 18.5**	**+0.2**
STG8	**El Palmar, Qui**	**1.92**	**83**	*e*P	**Pn**	**20 48 02.7**	**-0.4**
STG0	**El Palmar, Qui**	**1.92**	**84**	*e*P	**Pn**	**20 48 03.2**	**0.0**
STG0				*e*S	**Sn**	**20 48 25.7**	**-0.9**
CCIG	**Comitan**	**2.34**	**29**	*i* P	**Pb**	**20 48 12.5**	**-1.1**
CCIG				*e*S	**Sb**	**20 48 40.6**	**-1.6**
CCIG	**Comitan**	**2.34**	**29**	*e*P	**Pb**	**20 48 12.5**	**-1.1**
CCIG				*e*S	**Sb**	**20 48 42.8**	**+0.7**
TGIG		**2.54**	**4**	*e*P	**Pn**	**20 48 14.0**	**+2.3**
TGIG				*e*S	**Sn**	**20 48 43.6**	**+1.7**
TGIG		**2.54**	**4**	*e*P	**Pn**	**20 48 14.2**	**+2.5**
TGIG				*e*S	**Sn**	**20 48 44.2**	**+2.3**
HUIG	**Huatulco**	**3.11**	**300**	*e*P	**Pn**	**20 48 20.4**	**+1.1**
UXUV	**UXUV**	**3.18**	**345**	*e*P	**Pn**	**20 48 22.8**	**+2.5**
UXUV				*e*S	**Sn**	**20 48 57.9**	**+0.5**
CMIG	**Matias Romero**	**3.23**	**332**	*e*P	**Pn**	**20 48 22.6**	**+1.6**
CMIG				*e*S	**Sn**	**20 48 55.9**	**-2.7**
NEUV	**Arroyo Zacate**	**4.21**	**326**	*e*P	**Pn**	**20 48 36.7**	**+2.1**
NEUV				*e*S	**Sn**	**20 49 19.3**	**-3.6**

IDC 09 20:52:03.1±1.1, 13°.76N×144°.48E, h144km±42km, mb2.9/3, mbtmp3.4/3, Error ellipse: s-maj=182.9km s-min=28.1km az=83.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.42**	**114**	P	Pn	20 52 24.3	+1.0
	180nm,0.4s,baz=308,slow=6.6,SNR=20						
GUMO				S	Sn	20 52 40.0	+1.4
	126nm,0.2s,baz=240,slow=23,SNR=24						
WRA	**Warramunga Arr**	**34.95**	**197**	P	P	20 58 41.0	-0.4
	0.8nm,0.8s,baz=20,slow=9.4,SNR=6.2						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**38.61**	**196**	P	P	20 59 12.6	+0.1
	0.3nm,0.7s,baz=21,slow=13,SNR=4.3						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**61.10**	**316**	P	P	21 02 01.8	-0.3
	0.1nm,0.4s,baz=93,slow=5.8,SNR=1.9						
	0.1nm,0.4s						

IDC 09 21:14:07.7±1.6, 27°.50N×102°.88E, h0km, mb3.2/3, mbtmp3.2/3, MS3.7/1, Error ellipse: s-maj=802.7km s-min=29.2km az=55.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.16**	**325**	P	P	21 19 34.7	0.0
	0.3nm,0.6s,baz=115,slow=11,SNR=4.4						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**29.59**	**328**	LR	LR	21 32 14.6	
	comp=Z,126nm,18.5s,baz=179,slow=37						
WRA	**Warramunga Arr**	**56.15**	**144**	P	P	21 23 48.9	-0.5
	0.3nm,0.9s,baz=316,slow=9.9,SNR=1.8						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**59.03**	**147**	P	P	21 24 09.9	+0.3
	0.2nm,0.5s,baz=325,slow=6.6,SNR=4.1						
	0.2nm,0.5s						

*IDC **09** 21:49:32.1±2.4, 21°.67N×143°.06E, h304km±20km, mb3.1/8, mbtmp3.8/9, Error ellipse: s-maj=37.6km s-min=20.2km az=92.0*
ISC 09 21:49:32.9±1.1, 21°.7N±0°.1×143°.1E±0°.3, h311km, n9, σ1°04/10, mb3.5/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.44**	**351**	P	**Pn**	**21 50 56.1**	**+0.2**
	98nm,0.9s,baz=294,slow=23,SNR=6.9						
JCJ				S	**S**	**21 52 01.8**	**-1.0**
	25nm,0.4s,baz=120,slow=18,SNR=1.4						
WRA	**Warramunga Arr**	**42.26**	**192**	P	**P**	**21 56 56.1**	**-0.5**
	0.5nm,1.0s,baz=17,slow=9.1,SNR=5.1						
	0.5nm,1.0s						
KURBB	**Kurchatov Arra**	**57.47**	**317**	P	**P**	**21 58 50.0**	**+0.1**
	0.3nm,0.5s,baz=89,slow=7.2,SNR=2.5						
	0.3nm,0.5s						
NRIK	**Noril'sk**	**57.97**	**340**	P	**P**	**21 58 54.2**	**+1.1**
	1.6nm,0.5s,baz=124,slow=3.6,SNR=4.2						
	1.6nm,0.5s						
ILAR	**Eielson Array**	**62.08**	**27**	P	**P**	**21 59 19.4**	**-1.4**
	0.3nm,0.9s,baz=256,slow=5.7,SNR=2.4						
	0.3nm,0.9s						
BVAR	**Borovoye Array**	**62.62**	**319**	P	**P**	**21 59 23.8**	**-0.9**
	0.8nm,0.3s,baz=97,slow=7.1,SNR=5.9						
	0.8nm,0.3s						
YKA	**Yellowknife Ar**	**76.50**	**28**	P	**P**	**22 00 49.9**	**+1.3**
	0.2nm,0.5s,baz=290,slow=5.2,SNR=4.2						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**78.90**	**341**	P	**P**	**22 01 02.4**	**+0.7**
	1.9nm,0.9s,baz=60,slow=5.5,SNR=1.7						
	1.9nm,0.9s						
FINES	**FINESS Array B**	**83.15**	**334**	P	**P**	**22 01 24.1**	**-0.1**
	1.8nm,1.0s,baz=31,slow=4.4,SNR=4.9						
	1.8nm,1.0s						

*RSNC **09** 21:49:58.9±0.0, 12°.N±2°.×7°.1W±°, h81km±4km, M3.7, mB4.9, mb4.4, ML3.1, Mw(mB)4.2*
*FUNV **09** 21:49:59.0, 11°.56N×71°.48W, h23km, MW3.8*
ISC 09 21:49:56.8±1.3, 11°.56N±0°.06×71°.48W±0°.03, h103km±15km, n30, σ2°17/56, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.52**	**286**	P	**Pn**	**21 50 12.8**	**-0.2**
URIC				S	**Sn**	**21 50 22.8**	**-2.4**
CRJC	**Cerrejon, Guaj**	**1.48**	**249**	P	**Pn**	**21 50 23.6**	**+0.6**
CRJC				S	**Sn**	**21 50 42.6**	**-0.3**
MCQV	**Machiques**	**1.82**	**215**	*e*P	**Pn**	**21 50 28.3**	**+1.1**
MCQV				*e*S	**Sn**	**21 50 50.7**	**+0.3**
JACV	**Jacura**	**2.64**	**100**	*e*P	**Pn**	**21 50 39.3**	**+1.5**
JACV				*e*S	**Sn**	**21 51 09.1**	**-0.4**
SMRC	**Santa Marta, M**	**2.72**	**262**	P	**Pn**	**21 50 38.9**	**0.0**
SMRC				S	**Sn**	**21 51 11.4**	**+0.1**
TEPV	**Terepaima**	**2.75**	**125**	*e*P	**Pn**	**21 50 40.7**	**+1.3**
TEPV				*e*S	**Sn**	**21 51 12.6**	**+0.5**
SDV	**Santo Domingo**	**2.78**	**163**	P	**Pn**	**21 50 41.2**	**+1.3**
SDV				S	**Sn**	**21 51 12.4**	**-0.7**
ARGC	**Ariguani, Magd**	**3.20**	**238**	P	**Pn**	**21 50 45.9**	**+0.6**
ARGC				S	**Sn**	**21 51 21.5**	**-1.3**
SOCV	**Socops**	**3.31**	**169**	*e*P	**Pn**	**21 50 48.6**	**+1.8**
SOCV				⇓*e*S	**Sn**	**21 51 24.8**	**-0.7**
CAPV	**Capacho**	**3.76**	**193**	*e*P	**Pn**	**21 50 54.7**	**+1.6**
CAPV				*e*S	**Sn**	**21 51 35.9**	**-0.7**
OCAC	**Ocana**	**3.77**	**209**	P	**Pn**	**21 50 53.8**	**+0.8**
OCAC				S	**Sn**	**21 51 35.7**	**-0.8**
SJCC	**San Jacinto, C**	**4.00**	**246**	P	**Pn**	**21 50 59.5**	**+3.5**
SJCC				S	**Sn**	**21 51 42.2**	**+0.3**
BENV	**Beln**	**4.13**	**112**	*e*P	**Pn**	**21 51 00.9**	**+3.1**
BENV				*e*S	**Sn**	**21 51 44.5**	**-0.8**
BAUV	**El Baul**	**4.27**	**127**	*e*P	**Pn**	**21 51 01.1**	**+1.5**
BAUV				*e*S	**Sn**	**21 51 47.9**	**-0.5**
PAMC	**Pamplona, Colo**	**4.36**	**196**	P	**Pn**	**21 51 02.9**	**+1.5**
PAMC				S	**Sn**	**21 51 50.7**	**-0.7**
TACV	**Tcata**	**4.60**	**107**	*e*P	**Pn**	**21 51 05.6**	**+1.5**
TACV				*e*S	**Sn**	**21 51 54.9**	**-1.5**
BRJC	**Barrancabermej**	**5.08**	**206**	P	**Pn**	**21 51 11.7**	**+1.1**
	2μm123nm,0.4s						
BRJC				S	**Sn**	**21 52 08.4**	**+0.3**
	2μm123nm,0.4s						
BARC	**Barichara**	**5.21**	**199**	P	**Pn**	**21 51 14.5**	**+1.8**
BARC				S	**Sn**	**21 52 12.7**	**+0.9**
ZARC	**Zaragoza, Cauc**	**5.24**	**220**	P	**Pn**	**21 51 13.6**	**+0.8**
	768nm26nm,0.8s						
ZARC				S	**Sn**	**21 52 09.4**	**-2.6**
	768nm26nm,0.8s						
UREC	**San Jos de Ur**	**5.50**	**227**	P	**Pn**	**21 51 19.2**	**+2.8**
	2μm8.0nm,0.5s						
UREC				S	**Sn**	**21 52 14.1**	**-4.4**
	2μm8.0nm,0.5s						
PTBC	**PUERTO BERRIO,**	**5.79**	**211**	P	**Pn**	**21 51 20.7**	**+0.4**
	590nm19nm,0.4s						
PTBC				S	**Sn**	**21 52 24.0**	**-1.4**
	590nm19nm,0.4s						
RUSC	**La Rusia**	**5.85**	**196**	P	**Pn**	**21 51 23.7**	**+2.2**
	1μm63nm,0.7s						
CHIC	**Chingaza**	**7.24**	**198**	P	**Pn**	**21 51 42.1**	**+1.8**
	16nm,0.8s						
CHIC				S	**Sn**	**21 52 58.5**	**-2.7**
	16nm,0.8s						
ROSC	**El Rosal**	**7.24**	**203**	P	**Pn**	**21 51 44.1**	**+3.7**
PTGC	**Puerto Gaitan,**	**7.34**	**185**	P	**Pn**	**21 51 41.1**	**-0.3**
	39nm,0.5s						
PTGC				S	**Sn**	**21 52 59.1**	**-4.1**
	39nm,0.5s						
GUY2C	**Guyana, Caldas**	**7.38**	**212**	P	**Pn**	**21 51 44.6**	**+2.3**
	31nm,0.7s						
GUY2C				S	**Sn**	**21 53 06.1**	**+1.4**
	31nm,0.7s						
SDDR	**Presa de Saban**	**7.38**	**1**	P	**Pn**	**21 51 45.4**	**+3.5**
	28nm,0.7s						
SDDR				S	**Sn**	**21 53 01.0**	**-3.2**
	28nm,0.7s						
ANIL	**Santa Ana**	**8.03**	**209**	P	**Pn**	**21 51 54.4**	**+3.5**
	2μm18nm,0.5s						
ORTC	**Ortega, Tolima**	**8.47**	**206**	P	**Pn**	**21 51 58.7**	**+2.0**
	13nm,0.9s						
URMC	**La Uribe, Meta**	**8.74**	**199**	P	**Pn**	**21 52 01.8**	**+1.3**
URMC				S	**Sn**	**21 53 30.1**	**-7.4**

*BKK **09** 21:53:32.3±1.2, 7°.N±5°.×9°.4E±°, h19km±11km, M4.2/9, mB4.8/5, mb4.2/6, Mjma3.9/9, ML4.3/7, MLv4.3/6, Mw(mB)4.1/7*
*NDI **09** 21:53:42.9±0.7, 7°.52N×94°.44E, h10km, ML4.0, MW4.1, mb4.3(NEIC)*
*NEIC **09** 21:53:42.5±1.5, 7°.53N±0°.08×94°.4E±0°.1, h10km±1km, mb4.3/17, Error ellipse: s-maj=19.8km s-min=12.5km az=260.0*
*IDC **09** 21:53:43.8±1.0, 8°.01N×94°.46E, h0km, mb3.8/9, mbtmp3.7/10, ML3.9/1, Error ellipse: s-maj=36.5km s-min=19.5km az=67.0*
ISC 09 21:53:42.2±0.6, 7°.55N±0°.05×94°.26E±0°.08, h10km, n48, σ1°28/43, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.63**	**212**	*e*P	**Pg**	**21 53 54.1**	**-0.3**
CMBY				*e*S	**Sb**	**21 54 03.6**	**-0.6**
CMBY				IAML		21 54 07.7	
	comp=N,8μm,0.3s						
CMBY				IAML		21 54 08.5	
	comp=E,8μm,0.3s						
LHMI	**Lhok Sumawe**	**3.53**	**131**	Pn	**Pn**	**21 54 35.9**	**-1.2**
PBA	**Port Blair**	**4.35**	**340**	*e*P	**Pn**	**21 54 50.3**	**+2.0**
PBA				*e*S	**Sn**	**21 55 39.3**	**+0.2**
RNTT	**Ranong**	**4.55**	**66**	P	**Pn**	**21 54 51.4**	**+0.2**
	comp=E,0.1nmcomp=E,0.3nmcomp=E,603nmcomp=E,25nm,0.7s						
SRIT	**Nakonsritamara**	**5.39**	**79**	Pn	**Pn**	**21 55 01.5**	**-1.2**
SRIT	**Nakonsritamara**	**5.39**	**79**	P	**Pn**	**21 55 02.7**	**0.0**
DGPR	**DIGLIPUR**	**5.74**	**347**	*e*P	**Pn**	**21 55 09.4**	**+1.8**
DGPR				*e*S	**Sn**	**21 56 11.7**	**-1.8**
RPSI	**Rantau Prapat**	**6.69**	**136**	Pn	**Pn**	**21 55 20.1**	**-0.5**
KULM	**Kulim**	**6.73**	**109**		**Pn**	**21 55 19.1**	**-2.0**
SRDT	**SRDT**	**8.27**	**35**	P	**Pn**	**21 55 43.1**	**+0.8**
	comp=E,0.2nmcomp=E,527nmcomp=E,4.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**11.76**	**22**	Pn	Pn	21 56 26.6	-3.6

comp=E,0.3nm,0.3s,baz=216,slow=14,SNR=4.0
comp=E,0.2nm,0.3s
CHTO Chiang Mai 12.09 22 Pn **Pn 21 56 35.1 +0.5**
LSA Lhasa 22.23 353 P **P 21 58 38.2 -1.4**
LSA IAmb IAmb 21 58 46.0
comp=Z,4.6nm,0.7s
H08S3 Diego Garcia H 26.44 236 T T 22 26 06.7
baz=55,slow=75,SNR=26
H08S2 Diego Garcia H 26.44 236 T T 22 26 04.5
baz=55,slow=75,SNR=9.8
H08S1 Diego Carcia H 26.45 236 T T 22 26 06.1
baz=55,slow=75,SNR=4.5
NIL Nilore 32.43 326 **P 22 00 13.1 +0.4**
NIL IAmb IAmb 22 00 17.8
comp=Z,3.3nm,0.8s
WUS Wushi 36.08 341 P **P 22 00 44.6 +0.3**
WUS IAmb IAmb 22 00 49.5
comp=Z,4.3nm,0.7s
BTK Batken 38.57 331 P **P 22 01 05.9 +0.5**
ARSB Arslanbob 38.59 334 P **P 22 01 05.7 +0.1**
ARSB IAmb IAmb 22 01 11.1
comp=Z,2.9nm,0.7s
MK31 Makanchi Array 40.43 347 P **P 22 01 20.0 -0.7**
MKAR Makanchi Array 40.43 347 P **P 22 01 20.0 -0.7**
MKAR Makanchi Array 40.43 347 P **P 22 01 20.1 -0.6**
comp=Z,1.0nm,0.7s,baz=153,slow=8.2,SNR=10
comp=Z,1.0nm,0.7s
KKAR Karatay Array 41.10 333 P **P 22 01 26.5 +0.2**
SONM Songino Array 41.45 12 P **P 22 01 29.7 +0.5**
comp=Z,0.3nm,0.5s,baz=205,slow=6.4,SNR=2.6
comp=Z,0.3nm,0.5s
KURBB Kurchatov Arra 44.89 346 P **P 22 01 56.8 0.0**
comp=Z,1.4nm,0.7s,baz=170,slow=7.0,SNR=12
comp=Z,1.4nm,0.7s
KURK Kurchatov 44.95 346 P **P 22 01 56.9 -0.4**
KURK IAmb IAmb 22 02 02.8
comp=Z,4.3nm,1.0s
ZAA0 Zalesovo Array 46.89 352 P **P 22 02 12.3 -0.3**
ZAA0 IAmb IAmb 22 02 23.1
comp=Z,2.4nm,0.8s
ZALV Zalesovo Beam 46.89 352 P **P 22 02 12.0 -0.5**
ZALV Zalesovo Beam 46.89 352 P **P 22 02 12.3 -0.3**
comp=Z,0.6nm,0.4s,baz=190,slow=7.5,SNR=4.3
comp=Z,0.6nm,0.4s
WB0 Warramunga Arr 47.93 125 P **P 22 02 20.3 -1.0**
WRA Warramunga Arr 47.98 125 P **P 22 02 25.1 +3.5**
comp=Z,0.3nm,0.6s,baz=305,slow=8.5,SNR=5.3
comp=Z,0.3nm,0.6s
RAYN Ar Rayn 49.33 294 P **P 22 02 32.6 +0.6**
RAYN IAmb IAmb 22 02 33.8
comp=Z,1.2nm,0.5s
BVAR Borovoye Array 49.33 341 P **P 22 02 32.0 +0.5**
comp=Z,1.5nm,0.7s,baz=134,slow=13,SNR=5.4
comp=Z,1.5nm,0.7s
ASAR Alice Springs 49.62 130 P **P 22 02 38.2 +4.0**
comp=Z,0.3nm,0.6s,baz=297,slow=6.8,SNR=5.5
comp=Z,0.3nm,0.6s
AB31 Akbulak array 50.57 331 P **P 22 02 39.3 -1.7**
ABKAR Akbulak array 50.57 331 P **P 22 02 39.3 -1.6**
ABKAR Akbulak array 50.57 331 P **P 22 02 39.1 -1.9**
ABKAR IAmb IAmb 22 02 50.1
comp=Z,2.0nm,1.1s
H04N2 CROZET ISLANDS 65.51 211 T T 23 15 10.5
baz=47,slow=74,SNR=7.1
H04N1 CROZET ISLANDS 65.52 211 T T 23 15 09.5
baz=47,slow=74,SNR=8.5
H04N3 CROZET ISLANDS 65.53 211 T T 23 15 13.3
baz=47,slow=74,SNR=7.9
FINES FINESS Array B 73.05 332 P **P 22 05 11.8 -0.5**
FINES FINESS Array B 73.05 332 P **P 22 05 11.9 -0.3**
comp=Z,4.2nm,1.1s,baz=85,slow=6.3,SNR=3.4
comp=Z,4.2nm,1.1s
BOSA Boshof 75.52 238 P **P 22 05 27.1 -0.3**
BOSA IAmb IAmb 22 05 41.1
comp=Z,2.4nm,1.3s
BOSA Boshof 75.52 238 P P 22 05 33.9 +6.5
comp=Z,0.9nm,0.6s,baz=87,slow=6.6,SNR=3.9
comp=Z,0.9nm,0.6s
E19K Redstone River 90.05 21 P **P 22 06 42.0 0.0**
E19K IAmb IAmb 22 06 55.0
comp=Z,4.2nm,1.4s
G21K Allakaket 91.76 22 **P 22 06 50.9 +1.0**
J20K Nowinta River 92.43 24 P **P 22 06 53.4 +0.4**

HEL 09 22:00:33.5±0.3, 67°.16N×20°.55E, h0km, ML1.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.89**	**132**	PG		Pg	22 00 49.5	-1.1
ERTU				SB		Sg	22 01 02.0	-0.1
PAJU	**Pajala**	**1.01**	**97**	PG		Pg	22 00 51.6	-1.3
PAJU				SG		Sg	22 01 05.0	-1.0
LANU	**Lannavaara**	**1.05**	**31**	PG		Pg	22 00 52.4	-1.1
KLF	**Kolari**	**1.33**	**85**	PG		Pg	22 00 57.2	-1.8
KLF				MSG			22 01 13.7	
	comp=Z,0.5nm,0.2s							
KLF				SG		Sg	22 01 15.6	-0.7
HEF	**Hetta**	**1.72**	**42**	PG		Pn	22 01 04.2	-0.5
	baz=225							
HEF				MSG			22 01 25.1	
	comp=Z,1.1nm,0.2s							
HEF				SG		Sn	22 01 26.2	-1.2
KALU	**Kalix**	**1.73**	**138**	PG		Pn	22 01 04.8	+0.1
KALU				SN		Sg	22 01 29.1	+0.2
KIF	**Kilpisjarvi**	**1.85**	**3**	PG		Pb	22 01 07.8	-0.4
	baz=180							
KIF				MSG			22 01 29.7	
	comp=Z,1.1nm,0.2s							
KIF				SG		Sg	22 01 32.8	-0.2
TOF	**Tornio**	**1.86**	**124**	PG		Pn	22 01 06.9	+0.4
TOF				MSG			22 01 29.0	
	comp=Z,0.6nm,0.2s							
TOF				SG		Sb	22 01 31.9	-0.1
KTK1	**Kautokeino**	**2.12**	**27**	SG		Sb	22 01 38.7	-0.8
RNF	**Rovaniemi**	**2.23**	**102**	SG		Sb	22 01 42.5	-0.1
OLKF	**Oulanka, Finla**	**3.61**	**99**	SG		Sb	22 02 24.3	+1.8
MSF	**Maaselka**	**3.62**	**106**	PG		Pb	22 01 37.4	-0.9
KU6	**Riekki**	**3.90**	**103**	PG		Pb	22 01 45.1	+2.1

UPP 09 22:01:04.2±0.0, 67°.18N×20°.66E, h0km, ML1.5, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**210**	P		Pg	22 01 05.9	+0.3
DUNU				S		Sg	22 01 07.1	+0.6
MASU	**Masugnsbyn**	**0.59**	**62**	P		Pg	22 01 15.4	0.0
MASU				S		Sg	22 01 23.2	+0.2
RATU	**Laukkuluspa**	**0.76**	**328**	P		Pg	22 01 18.7	-0.1
RATU				S		Sg	22 01 28.9	+0.3
KUA	**Kurravaara**	**0.78**	**351**	P		Pg	22 01 18.8	-0.4
KUA				S		Sg	22 01 29.6	+0.3
ERTU	**Ertsjaerv**	**0.88**	**136**	P		Pg	22 01 20.6	-0.3
PAJU	**Pajala**	**0.97**	**98**	P		Pg	22 01 22.3	-0.5
LANU	**Lannavaara**	**1.01**	**30**	P		Pg	22 01 23.1	-0.3
KOVU	**Salmi**	**1.06**	**350**	P		Pg	22 01 24.0	-0.5
KALU	**Kalix**	**1.71**	**140**	P		Pn	22 01 35.8	+0.6
SJUU	**Sjulsmark**	**1.73**	**167**	P		Pn	22 01 35.7	+0.3

*IDC **09** 22:28:12.2±3.0, 3°.55S×133°.35E, h0km, mb3.5/2, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=131.1km s-min=28.6km az=80.0*
*DJA **09** 22:28:13.7±0.4, 3°.5±5°.5×13°.4E±°, h10km, M3.7/6, MLv3.7/6*
ISC 09 22:28:11.4±1.1, 3°.75S±0°.09×134°.15E±0°.07, h13km, n8, σ2ŝ96/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.45**	**281**	P		**Pn**	**22 28 23.8**	**+0.3**
KMPI				S		**Sb**	**22 28 29.4**	**+1.7**
FAKI	**Fak Fak**	**2.06**	**293**	P		**Pn**	**22 28 45.5**	**-0.3**
BAKI	**Biak**	**3.21**	**38**	P		**Pn**	**22 29 00.9**	**-0.6**
SWI	**Sorong**	**4.07**	**315**	P		**Pn**	**22 29 12.3**	**-1.0**
WRA	**Warramunga Arr**	**16.10**	**179**	Pn		**P**	**22 32 01.7**	**+0.8**
	0.2nm,0.3s,baz=354,slow=13,SNR=7.2							
	1.0nm,0.5s							
FITZ	**Fitzroy Crossi**	**16.52**	**210**	Pn		**Pn**	**22 32 02.8**	**-0.1**
	0.4nm,0.3s,baz=31,slow=12,SNR=8.9							
FITZ				Sn		**Sn**	**22 34 60.0**	**-6.3**
	0.2nm,0.3s,baz=14,slow=12,SNR=1.9							
	1.2nm,0.3s							
ASAR	**Alice Springs**	**19.80**	**181**	P		**Pn**	**22 32 47.4**	**+4.0**
	2.4nm,0.8s,baz=4.4,slow=12,SNR=24							
	2.4nm,0.8s							
MKAR	**Makanchi Array**	**67.89**	**324**	P		**P**	**22 39 08.8**	**-0.9**
	0.2nm,0.4s,baz=109,slow=7.8,SNR=5.3							
	0.2nm,0.4s							

*SJA **09** 22:52:14.3±0.6, 19°.94S×70°.13W, h48km±6km, ML3.3, MW3.5*
*GUC **09** 22:52:16.1±0.6, 19°.93S×70°.12W, h41km±2km, ML3.3*
ISC 09 22:52:16.1±1.0, 19°.93S±0°.02×70°.12W±0°.04, h31km±8km, n27, σ1ŝ19/49, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.34**	**181**	*eP*		**Pb**	**22 52 24.1**	**-0.1**
TA02				*eS*		**Sb**	**22 52 30.2**	**+0.5**
TA02				IAML			22 52 30.5	
	comp=E,12μm,0.1s							
TA02	**Huaiquique**	**0.34**	**181**	*eP*		**Pb**	**22 52 24.1**	**-0.1**
TA02				IAML			22 52 31.9	
	comp=Z,2μm,0.1s							
HMBC	**Humberstone**	**0.41**	**147**	*eP*		**Pb**	**22 52 25.3**	**-0.1**
HMBC				*eS*		**Sb**	**22 52 32.0**	**+0.4**
HMBC				IAML			22 52 35.4	
	comp=E,2μm,0.3s							
HMBC	**Humberstone**	**0.41**	**147**	*eP*		**Pb**	**22 52 25.1**	**-0.3**
HMBC				IAML			22 52 37.4	
	comp=Z,2μm,0.2s							
PB11	**IPOC Station P**	**0.47**	**69**	*eP*		**Pb**	**22 52 26.3**	**0.0**
PB11				*eS*		**Sb**	**22 52 33.8**	**+0.5**
PB11	**IPOC Station P**	**0.47**	**69**	*eP*		**Pb**	**22 52 26.1**	**-0.2**
PB11				IAML			22 52 34.7	
	comp=Z,3μm,0.1s							
PX03	**IPOC Station P**	**0.66**	**135**	⇑*eP*		**Pb**	**22 52 27.9**	**-1.4**
PX03				*eS*		**Sb**	**22 52 37.9**	**-0.4**
PX03				IAML			22 52 40.9	
	comp=N,1μm,0.3s							
PATCX	**Punta Patache**	**0.89**	**182**	*eP*		**Pn**	**22 52 31.6**	**-1.0**
PATCX				*eS*		**Sb**	**22 52 43.6**	**-1.1**
PATCX				IAML			22 52 48.6	
	comp=N,1μm,0.2s							
PATCX	**Punta Patache**	**0.89**	**182**	*eP*		**Pn**	**22 52 31.6**	**-1.0**
PATCX				*eS*		**Sb**	**22 52 44.1**	**-0.5**
PATCX				IAML			22 52 47.6	
	comp=Z,730nm,0.4s							
GO01	**Chusmiza**	**0.91**	**74**	*eP*		**Pn**	**22 52 32.9**	**-0.4**
GO01				*eS*		**Sb**	**22 52 45.9**	**+0.1**
GO01				IAML			22 52 46.8	
	comp=N,5μm,0.1s							
GO01	**Chusmiza**	**0.91**	**74**	*eP*		**Pn**	**22 52 32.9**	**-0.4**
GO01				*eS*		**Sb**	**22 52 46.0**	**+0.1**
PB08	**IPOC Station P**	**0.94**	**103**	⇑*eP*		**Pn**	**22 52 33.3**	**-0.2**
PB08				*eS*		**Sb**	**22 52 46.2**	**-0.2**
PB08	**IPOC Station P**	**0.94**	**103**	*eP*		**Pn**	**22 52 33.0**	**-0.5**
PB08				*eS*		**Sb**	**22 52 46.4**	**0.0**
PB01	**IPOC Station P**	**1.26**	**152**	*eP*		**Pn**	**22 52 37.1**	**-0.6**
PB01				*eS*		**Sn**	**22 52 52.8**	**-0.8**
PB01				IAML			22 52 55.2	
	comp=N,593nm,0.2s							
PB01	**IPOC Station P**	**1.26**	**152**	*eP*		**Pn**	**22 52 37.0**	**-0.7**
PB01				*eS*		**Sn**	**22 52 53.1**	**-0.5**
PB01				IAML			22 52 55.9	
	comp=Z,457nm,0.1s							
PB12	**IPOC Station P**	**1.32**	**352**	*eP*		**Pn**	**22 52 37.9**	**-0.6**
PB12				*eS*		**Sn**	**22 52 54.6**	**-0.6**
PB12				IAML			22 52 55.5	
	comp=E,900nm,0.3s							
PB12	**IPOC Station P**	**1.32**	**352**	*eP*		**Pn**	**22 52 38.0**	**-0.6**
PB12				*eS*		**Sn**	**22 52 55.4**	**+0.1**
PB12				IAML			22 52 55.5	
	comp=Z,499nm,0.2s							
AP01	**Chacalluta**	**1.57**	**352**	*eP*		**Pn**	**22 52 42.4**	**+0.5**
AP01				*eS*		**Sn**	**22 53 01.1**	**0.0**
AP01				IAML			22 53 05.3	
	comp=N,914nm,0.3s							
AP01	**Chacalluta**	**1.57**	**352**	*eP*		**Pn**	**22 52 42.8**	**+1.0**
AP01				IAML			22 53 05.1	
	comp=Z,456nm,0.2s							
PB09	**IPOC Station P**	**2.03**	**156**	*eP*		**Pn**	**22 52 49.4**	**+1.0**
PB09				*eS*		**Sn**	**22 53 13.3**	**+0.5**
PB09				IAML			22 53 21.9	
	comp=E,241nm,0.4s							
PB09	**IPOC Station P**	**2.03**	**156**	*eP*		**Pn**	**22 52 44.4**	**-4.0**
PB09				*eS*		**Sn**	**22 53 15.2**	**+2.4**
PB09				IAML			22 53 20.2	
	comp=Z,244nm,0.3s							
PB03	**IPOC Station P**	**2.13**	**171**	*eP*		**Pn**	**22 52 50.7**	**+0.9**
PB03				*eS*		**Sn**	**22 53 16.0**	**+0.6**
PB03				IAML			22 53 26.1	
	comp=E,155nm,0.2s							
PB03	**IPOC Station P**	**2.13**	**171**	*eP*		**Pn**	**22 52 50.8**	**+0.9**
PB03				*eS*		**Sn**	**22 53 17.8**	**+2.4**
PB03				IAML			22 53 22.1	
	comp=Z,272nm,0.2s							
PB06	**IPOC Station P**	**2.81**	**170**	*i* P		**Pn**	**22 52 59.0**	**-0.1**
PB06				*i* S		**Sn**	**22 53 32.2**	**+0.2**
PB06				IAML			22 53 49.4	
	comp=E,150nm,0.5s							
PB06	**IPOC Station P**	**2.81**	**170**	*eP*		**Pn**	**22 52 59.3**	**+0.2**
PB06				*eS*		**Sn**	**22 53 32.8**	**+0.8**
PB06				IAML			22 53 47.0	
	comp=Z,65nm,0.3s							
AF01	**San Pedro de A**	**3.51**	**149**	*eP*		Pb	22 53 23.1	+5.3
AF01				*eS*		**Sb**	**22 54 04.4**	**+4.4**
AF01				IAML			22 54 20.3	
	comp=Z,157nm,0.7s							
PB14	**IPOC Station P**	**4.68**	**183**	*eP*		**Pn**	**22 53 23.6**	**-1.3**
PB14				*eS*		**Sn**	**22 54 17.6**	**-0.7**
PB14				IAML			22 54 45.7	
	comp=Z,15nm,0.9s							

*IDC **09** 22:57:47.4±0.6, 24°.18N×121°.90E, h0km, mb4.2/24, mbtmp4.2/27, ML4.2/2, MS3.8/35, Error ellipse: s-maj=17.6km s-min=14.5km az=75.0*
*MOS **09** 22:57:48.0±0.9, 24°.15N×122°.02E, h16km, mb4.8/38, Error ellipse: s-maj=9.7km s-min=5.5km az=118.6*
*NEIC **09** 22:57:49.5, 24°.14N×122°.03E, h10km*
*NEIC **09** 22:57:51.7±1.6, 24°.18N±0°.04×121°.96E±0°.05, h23km±4km, mb4.7/78, Mwr4.5/24, Error ellipse: s-maj=7.0km s-min=5.1km az=93.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=-4.32; $M_{\theta\theta}$=5.04; $M_{\phi\phi}$=-0.72; $M_{r\theta}$=2.84; $M_{\theta\phi}$=1.21; $M_{r\phi}$=3.49; Fault plane solution: M_{o}=6.64000×10^{15} NP1:ϕ_s=102.44000°, δ=31.88000°, λ=-45.68000°. NP2:ϕ_s=233.44000°, δ=67.80000°, λ=-113.49000°. Principal axes: T 6.5244, Plg19.0000°, Azm341.0000°; N 0.2171, Plg22.0000°, Azm243.0000°; P -6.7415, Plg60.0000°, Azm109.0000°;*
*BJI **09** 22:57:51.1, 24°.17N×121°.91E, h24km, mB4.7/17, mb4.5/59, ML4.7/10, Ms4.3/46, Ms7 4.1/48*
*NIED **09** 22:57:52.0, 24°.10N×121°.90E, h28km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.75; $M_{\theta\theta}$=1.73; $M_{\phi\phi}$=-4.49; $M_{r\theta}$=4.35; $M_{\theta\phi}$=0.64; $M_{r\phi}$=2.98; Fault plane solution: M_{o}=6.46000×10^{15} NP1: ϕ_s=146.00000°, δ=36.00000°, λ=25.00000°. NP2:ϕ_s=34.00000°, δ=76.00000°, λ=123.00000°.*
*TAP **09** 22:57:52.4, 24°.19N×121°.88E, h26km, ML5.0, B*
*ASIES **09** 22:57:52.4, 24°.19N×121°.88E, h26km, ML5.0, Mw4.6, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}=0.60; $M_{\theta\theta}$=4.97; $M_{\phi\phi}$=-4.37; $M_{r\theta}$=4.99; $M_{\theta\phi}$=1.39; $M_{r\phi}$=6.02; Fault plane solution: M_{o}=9.22869×10^{22} NP1: ϕ_s=125.82000°, δ=31.76000°, λ=-4.38000°. NP2:ϕ_s=219.54000°, δ=87.70000°, λ=-121.69000°. Principal axes: T Plg34.9460°, Azm336.4890°; N Plg31.6560°, Azm220.9680°; P Plg39.0240°, Azm100.9860°;*
*JMA **09** 22:57:52.0±0.1, 24°.1N±0°.5×121°.9E±0°.5, h28km±1km, MD4.4/19, MV4.4/19, TAIWAN REGION*
ISC 09 22:57:52.0±0.5, 24°.14N±0°.01×121°.93E±0°.02, h27km±3km, n440, σ1ŝ41/561, mb4.6/89, MS3.9/41, 38C-49D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.24**	**315**	*eP*		**Pb**	**22 57 58.2**	**-0.2**
EHP				*eS*		**Sb**	**22 58 02.9**	**+0.2**
EAHA	**Aohua**	**0.26**	**318**	⇓*iP*		**Pb**	**22 57 58.3**	**-0.3**
EAHA				*eS*		**Sb**	**22 58 02.9**	**-0.2**
ETL	**Fush Village**	**0.28**	**274**	⇓P		**Pb**	**22 57 58.7**	**-0.3**
ETL				*i* S		**Sb**	**22 58 03.9**	**+0.3**
NACB	**Ninganchiao**	**0.30**	**277**			**Pb**	**22 57 58.8**	**-0.5**
NACB					Sg	**Sb**	**22 58 03.9**	**-0.4**
NACB	**Ninganchiao**	**0.30**	**277**	P		**Pb**	**22 57 58.9**	**-0.4**
NACB	**Ninganchiao**	**0.30**	**277**	⇓*iP*		**Pb**	**22 57 58.9**	**-0.4**
NACB				S		**Sb**	**22 58 04.1**	**-0.1**
TWD	**Chiawan**	**0.31**	**259**	⇓*iP*		**Pb**	**22 57 59.1**	**-0.2**
TWD				*eS*		**Sb**	**22 58 05.0**	**+0.7**
ENA	**Nanau**	**0.34**	**330**	⇓P		**Pb**	**22 57 59.2**	**-0.5**
ENA				*eS*		**Sb**	**22 58 04.6**	**-0.4**
EWUT	**Wuta**	**0.34**	**336**	⇓*eP*		**Pb**	**22 57 59.5**	**-0.3**
EWUT				*eS*		**Sb**	**22 58 04.8**	**-0.2**
HWA	**Hwalien**	**0.34**	**242**	⇓*iP*		**Pn**	**22 58 00.5**	**-0.6**
HWA				*eS*		**Sn**	**22 58 06.7**	**-0.4**
EOS4	**EOS4**	**0.36**	**93**	⇓*iP*		**Pn**	**22 58 01.4**	**+0.3**
EOS4				*eS*		**Sn**	**22 58 08.4**	**+1.3**
EOS3	**EOS3**	**0.39**	**67**	*eP*		**Pn**	**22 58 02.6**	**+0.9**
EOS2	**EOS2**	**0.40**	**45**	*eP*		**Pn**	**22 58 02.3**	**+0.4**
TEYL	**Yanliau Villag**	**0.40**	**228**	⇓P		**Pn**	**22 58 01.3**	**-0.8**
TEYL				*eS*		**Sn**	**22 58 07.5**	**-1.3**
ETLH	**Xiulin Townshi**	**0.41**	**280**	⇓*iP*		**Pb**	**22 58 00.6**	**-0.4**
ETLH				S		**Sb**	**22 58 07.4**	**+0.4**
ETM	**Tongmen**	**0.43**	**247**	⇓P		**Pb**	**22 58 01.2**	**0.0**
ETM				*i* S		**Sn**	**22 58 08.4**	**-1.1**
ESAO	**Su ao**	**0.44**	**350**	⇑*iP*		**Pb**	**22 58 01.2**	**-0.2**
ESAO				*eS*		**Sb**	**22 58 07.8**	**0.0**
SHUL	**Shoufeng**	**0.48**	**224**	⇓*iP*		**Pn**	**22 58 03.0**	**-0.2**
SHUL				*eS*		**Sn**	**22 58 11.8**	**+1.0**
LXIB	**Xiulin Townshi**	**0.48**	**256**	⇓*iP*		**Pb**	**22 58 01.9**	**-0.2**
LXIB				*i* S		**Sn**	**22 58 10.1**	**-0.9**
NDS	**Dongshan**	**0.53**	**339**	⇑*iP*		**Pb**	**22 58 02.5**	**-0.4**
NDS				S		**Sb**	**22 58 10.4**	**+0.3**
LATG	**Datong**	**0.54**	**317**	⇓*iP*		**Pb**	**22 58 02.5**	**-0.5**
LATG				*eS*		**Sb**	**22 58 09.9**	**-0.6**
TEGC	**Jichi Village**	**0.55**	**220**	⇑*iP*		**Pn**	**22 58 04.1**	**0.0**
TEGC				S		**Sn**	**22 58 13.8**	**+1.2**
ESL	**Shilin**	**0.56**	**235**	⇓*iP*		**Pb**	**22 58 03.2**	**0.0**
ESL				*i* S		**Sn**	**22 58 11.7**	**-0.8**
NNSB	**Datong**	**0.57**	**300**	⇓*iP*		**Pb**	**22 58 03.2**	**-0.4**
NNSB				*i* S		**Sb**	**22 58 10.9**	**-0.7**
ENTT	**Nioudou**	**0.60**	**327**	⇑*iP*		**Pb**	**22 58 03.6**	**-0.3**
ENTT				S		**Sb**	**22 58 12.4**	**+0.3**
WHF	**Hehuan Shan**	**0.60**	**271**	⇓*eP*		**Pb**	**22 58 04.0**	**-0.3**
WHF				S		**Sb**	**22 58 12.9**	**+0.1**
TWE	**Neicheng**	**0.63**	**338**	⇑*iP*		**Pb**	**22 58 04.3**	**-0.2**
TWE				*i* S		**Sb**	**22 58 12.8**	**-0.1**
FUSS	**Fushou**	**0.63**	**280**	⇓*iP*		**Pb**	**22 58 04.7**	**0.0**
FUSS				*i* S		**Sb**	**22 58 13.7**	**+0.4**
ILA	**Ilan**	**0.65**	**345**	⇑*iP*		**Pb**	**22 58 05.0**	**+0.3**
ILA				S		**Sb**	**22 58 13.9**	**+0.5**
WARBT	**Fenglin Townsh**	**0.65**	**230**	⇓*iP*		**Pb**	**22 58 04.5**	**-0.3**
WARBT				*eS*		**Sn**	**22 58 14.5**	**-0.4**
EGFH	**Guangfu**	**0.65**	**224**	*i* P		**Pn**	**22 58 05.2**	**-0.3**
EGFH				*eS*		**Sn**	**22 58 15.5**	**+0.5**
FUSB	**Fushanzhiwuyua**	**0.69**	**334**	⇑*iP*		**Pb**	**22 58 05.3**	**-0.3**
FUSB				S		**Sb**	**22 58 13.3**	**-1.5**
TWT	**Tachien**	**0.69**	**280**	⇓*iP*		**Pb**	**22 58 05.8**	**+0.1**
TWT				S		**Sb**	**22 58 15.1**	**+0.1**
EGS		**0.70**	**0**	⇑*iP*		**Pn**	**22 58 06.3**	**0.0**
EGS				*eS*		**Sn**	**22 58 16.8**	**+0.6**
OWD	**Renai**	**0.71**	**255**	⇓*iP*		**Pb**	**22 58 05.9**	**0.0**
OWD				S		**Sb**	**22 58 15.6**	**+0.2**
TDCB	**Techi**	**0.71**	**279**	⇓*iP*		**Pb**	**22 58 05.8**	**-0.1**
TDCB				*i* S		**Sb**	**22 58 14.9**	**-0.6**
NTC	**Toucheng**	**0.72**	**353**	*eP*		**Pn**	**22 58 06.4**	**-0.1**
NTC				*i* S		**Sn**	**22 58 16.9**	**+0.3**
YHNB	**Yeheng**	**0.73**	**317**			**Pb**	**22 58 05.3**	**-0.9**
YHNB					Sg	**Sb**	**22 58 14.7**	**-1.2**
YHNB	**Yeheng**	**0.73**	**317**	P		**Pb**	**22 58 05.8**	**-0.4**
YHNB	**Yeheng**	**0.73**	**317**	S		**Sb**	**22 58 15.2**	**-0.7**
YHNB	**Yeheng**	**0.73**	**317**	⇑P		**Pb**	**22 58 06.0**	**-0.2**
YHNB				*eS*		**Sb**	**22 58 15.3**	**-0.6**
NWLT	**Wulai**	**0.74**	**329**	⇑*iP*		**Pb**	**22 58 06.0**	**-0.4**
NWLT				*i* S		**Sb**	**22 58 15.8**	**-0.4**
NSK	**Sanguang**	**0.75**	**316**	⇓*eP*		**Pb**	**22 58 06.0**	**-0.5**
NSK				*i* S		**Sb**	**22 58 15.6**	**-0.8**
WUSB	**Renai**	**0.75**	**259**	⇓*iP*		**Pb**	**22 58 06.7**	**0.0**
WUSB				*eS*		**Sn**	**22 58 17.3**	**-0.3**
HGSD	**Ruisui**	**0.79**	**216**	⇑*iP*		**Pn**	**22 58 07.2**	**-0.2**
HGSD				S		**Sn**	**22 58 21.4**	**+3.1**
VWDT	**VWDT**	**0.81**	**242**	⇓*iP*		**Pn**	**22 58 07.6**	**-0.2**
VWDT				S		**Sn**	**22 58 19.0**	**+0.1**
EHYH	**Wanrong**	**0.83**	**220**	*eP*		**Pn**	**22 58 07.8**	**-0.3**
EHYH				*eS*		**Sn**	**22 58 19.7**	**+0.3**
TIPB	**Shuangxi**	**0.84**	**354**	⇑*iP*		**Pn**	**22 58 08.2**	**+0.1**
TIPB				*i* S		**Sn**	**22 58 19.5**	**-0.1**
EHY	**Hungye**	**0.84**	**221**	*eP*		**Pb**	**22 58 07.3**	**-0.7**
EHY				*eS*		**Sn**	**22 58 19.7**	**+0.2**
TWB1	**Santiao Chiao**	**0.87**	**4**	⇑*iP*		**Pb**	**22 58 08.9**	**+0.4**
TWB1				S		**Sb**	**22 58 20.2**	**+0.4**
NFF	**Wufeng Townshi**	**0.89**	**304**	⇓*eP*		**Pn**	**22 58 08.6**	**-0.2**
NFF				*eS*		**Sb**	**22 58 20.0**	**-0.3**
TWA	**Mucha**	**0.90**	**340**	⇑*iP*		**Pb**	**22 58 09.9**	**+0.9**
TWA				S		**Sn**	**22 58 21.0**	**0.0**
WPL	**Puli Township**	**0.90**	**262**	⇓*iP*		**Pn**	**22 58 08.8**	**-0.1**
WPL				*eS*		**Sn**	**22 58 20.7**	**-0.2**
NHDH	**Xindian Distri**	**0.90**	**336**	*i* P		**Pn**	**22 58 09.0**	**+0.1**
NHDH				*eS*		**Sn**	**22 58 21.5**	**+0.4**
WHP	**Taichung City**	**0.91**	**279**	⇓*iP*		**Pb**	**22 58 09.2**	**0.0**
WHP				*i* S		**Sn**	**22 58 21.6**

TWS1	Kuangyinshan	1.06 334	⇑P	Pn	22 58 10.5	-0.7
TWS1			*i* S	Sb	22 58 26.4	+1.0
NCUH	Zhongli	1.07 321	⇑*eP*	Pb	22 58 11.9	+0.1
NCUH			S	Sb	22 58 27.5	+2.0
TWQ1	Liyutan	1.07 281	⇓*iP*	Pb	22 58 12.6	+0.6
TWQ1			*eS*	Sn	22 58 25.3	-0.1
WHYT	Xinyi Township	1.08 246	⇓*iP*	Pb	22 58 12.1	0.0
WHYT			*eS*	Sb	22 58 26.9	+1.2
SBCB	Hsinchu	1.08 307	⇑*iP*	Pb	22 58 12.5	+0.4
SBCB			S	Sb	22 58 27.4	+1.7
ZUZH	Zhuzihu	1.08 341	*eP*	Pn	22 58 11.6	+0.2
ZUZH			*eS*	Sn	22 58 25.7	+0.2
YM08	YM08	1.09 344	*eP*	Pn	22 58 11.4	-0.1
YM08			*eS*	Sb	22 58 26.4	+0.3
HSN	Hsinchu	1.09 307	⇑P	Pb	22 58 12.3	0.0
HSN			*i* S	Sb	22 58 27.9	+1.7
FULB	Fuli	1.10 212	*eP*	Pn	22 58 11.6	-0.1
ANP	Anpu	1.11 341	⇑P	Pn	22 58 11.7	-0.1
ANP			*eS*	Sn	22 58 26.2	-0.1
NMLH	Miaoli	1.11 291	⇑P	Pb	22 58 13.3	+0.7
NMLH			*i* S	Sb	22 58 27.9	+1.2
NTST	Danshui	1.11 337	*eP*	Pb	22 58 12.3	-0.3
NTST			S	Sb	22 58 27.9	+1.3
WJS	Zhushan	1.14 254	⇓P	Pb	22 58 13.8	+0.7
WJS			*eS*	Sb	22 58 29.8	+2.3
TCU	Taichung	1.14 271	⇓*iP*	Pb	22 58 13.9	+0.8
TCU			*eS*	Sb	22 58 29.8	+2.2
WNT	Mingjian	1.17 257	⇓*iP*	Pb	22 58 14.2	+0.7
WNT			S	Sb	22 58 30.5	+2.2
TWY	Chenhua	1.17 345	*eP*	Pn	22 58 12.5	-0.2
TWY			*eS*	Sb	22 58 28.9	+0.4
EHD	Haiduan	1.19 214	*eP*	Pn	22 58 12.0	-0.9
WDJ	Dajia District	1.19 280	*eP*	Pb	22 58 14.7	+0.7
WDJ			*eS*	Sb	22 58 29.8	+0.7
ALS	Alishan	1.20 239	⇓P	Pb	22 58 14.2	-0.1
ALS			*eS*	Sb	22 58 30.3	+0.7
ECS	Chishang	1.22 212	*eP*	Pn	22 58 13.7	+0.3
WCHH	Zhanghua	1.25 268	⇓*eP*	Pb	22 58 15.3	+0.3
WCHH			S	Sb	22 58 32.7	+2.0
ELDTW	Lidau	1.26 222	*eP*	Pn	22 58 13.8	-0.2
ELDTW			S	Sb	22 58 31.4	+0.4
WCH1	Changhua City	1.26 267	*eP*	Pb	22 58 15.7	+0.5
WCH1			*eS*	Sb	22 58 33.2	+2.2
EDH	Donghe	1.29 206	*i* P	Pn	22 58 13.7	-0.6
EDH			*eS*	Sn	22 58 30.1	-0.7
WGK	Gukeng	1.33 250	P	Pb	22 58 17.2	+0.9
WGK			*eS*	Sb	22 58 34.6	+1.7
WDL	Douliou City	1.34 252	*eP*	Pb	22 58 17.1	+0.7
WDL			*eS*	Sb	22 58 34.9	+1.7
WDLH	Douliu	1.35 251	*eP*	Pb	22 58 17.1	+0.5
WDLH			*eS*	Sb	22 58 35.9	+2.5
WCKO	Fanlu	1.40 240	*eP*	Pb	22 58 17.9	+0.4
WCKO			*eS*	Sb	22 58 36.4	+1.5
LONT	Longtian	1.43 211	*eP*	Pn	22 58 16.3	+0.1
STYH	Taoyuan	1.43 228	⇓P	Pn	22 58 16.2	0.0
STYH			*i* S	Sb	22 58 35.9	+0.1
CHN4	Tsaushan	1.45 238	P	Pb	22 58 18.5	+0.1
CHN4			*eS*	Sb	22 58 39.0	+2.5
TPUB	Ta-pu	1.45 235		Pb	22 58 18.2	-0.3
TPUB	Ta-pu	1.45 235	P	Pb	22 58 18.1	-0.3
TPUB	Ta-pu	1.45 235	S	Sb	22 58 38.2	+1.7
TPUB	Ta-pu	1.45 235	⇓P	Pb	22 58 18.2	-0.3
TPUB			S	Sb	22 58 37.7	+1.2
CHN2	Minshiung	1.46 246	*eP*	Pb	22 58 19.6	+1.1
WTK	Tuku	1.48 253	*i* P	Pb	22 58 18.9	+0.1
WTK			S	Sb	22 58 39.7	+2.5
PCYT	Pengchaiyu	1.49 5	⇓*iP*	Pn	22 58 18.1	+1.0
PCYT			*eS*	Sb	22 58 36.8	-0.8
WTP	Ta-pu	1.50 234	*i* P	Pb	22 58 19.0	-0.2
WTP			S	Sb	22 58 39.2	+1.4
CHY	Chiayi	1.52 245	*eP*	Pb	22 58 20.1	+0.6
CHY			*eS*	Sb	22 58 39.1	+0.8
LDUT	Ludao	1.52 196	*eP*	Pn	22 58 16.5	-0.9
LDUT			*eS*	Sn	22 58 35.4	-0.8
TWGBT	Beinan	1.53 211	*eP*	Pn	22 58 16.7	-0.8
TWG	Pinlang	1.53 211		Pn	22 58 16.8	-0.8
TWG	Pinlang	1.53 211	*eP*	Pn	22 58 17.1	-0.5
WTCT	Ta-ch'eng	1.53 260	*eP*	Pb	22 58 19.6	-0.1
WTCT			*i* S	Sb	22 58 39.5	+0.8
TTN	Taitung	1.55 208	*eP*	Pn	22 58 18.4	+0.5
TWK	Hsinying	1.58 237	*eP*	Pb	22 58 20.5	-0.1
TWK			*eS*	Sb	22 58 41.5	+1.4
CHN1	Nanshi	1.59 234	*eP*	Pb	22 58 21.1	+0.3
CHN1			*eS*	Sb	22 58 41.6	+1.0
SNST	Tainan City	1.60 235	*eP*	Pb	22 58 21.0	+0.1
SGST	Jiashian	1.62 230	*eP*	Pb	22 58 20.3	-1.0
SGST			*i* S	Sb	22 58 42.7	+1.4
WSF	Szhu	1.64 253	*eP*	Pb	22 58 21.1	-0.4
WSF			S	Sb	22 58 43.8	+2.0
IRIF	Iriomote-Funau	1.66 83	P	Pn	22 58 19.9	+0.6
WSL	Shuilin Townsh	1.67 249	P	Pb	22 58 22.1	-0.1
WSL			*i* S	Sb	22 58 45.0	+2.2
ICHU	Yijhu	1.70 243	*eP*	Pb	22 58 22.1	-0.4
ICHU			*eS*	Sb	22 58 44.9	+1.4
HATJ	Hateruma jima	1.72 92	*eP*	Pb	22 58 21.5	-1.4
HATJ	Hateruma jima	1.72 92	A	A	22 58 21.5	
	comp=N,16nm,3.0s,comp=E,18nm,3.5s					
CHN8	Yiju	1.76 244	*eP*	Pb	22 58 23.4	-0.3
CHN8			*i* S	Sb	22 58 47.1	+1.9
ECL	Taimali	1.77 210	*eP*	Pn	22 58 20.4	-0.5
CHN3	Shinhua	1.78 234	*eP*	Pb	22 58 24.4	+0.4
CHN3			*eS*	Sb	22 58 47.2	+1.3
SSHA	Shanhua	1.80 237	*eP*	Pb	22 58 23.7	-0.7
SSHA			*eS*	Sb	22 58 47.3	+0.7
SCST	Cishan	1.81 227	P	Pb	22 58 24.6	+0.1
SCST			S	Sb	22 58 49.4	+2.6
SHHT	Tainan City	1.83 233	*eP*	Pb	22 58 25.3	+0.6
SHHT			*eS*	Sb	22 58 50.3	+3.1
SSD	Sandimen	1.83 221	*eP*	Pb	22 58 24.4	-0.3
SSD			*i* S	Sb	22 58 48.9	+1.7
TSMG	Majia	1.85 220	*eP*	Pb	22 58 23.7	-1.5
TSMG			*eS*	Sb	22 58 48.5	+0.6
SCLT	Jiali	1.86 239	*eP*	Pb	22 58 23.9	-1.3
TWM1	Shoushan	1.90 227	*i* P	Pb	22 58 26.8	+0.7
TWM1			*eS*	Sb	22 58 51.0	+1.6
JKRS	Kuro-shima	1.90 87	*eP*	Pn	22 58 24.2	+1.5
JKRS	Kuro-shima	1.90 87	A	A	22 58 24.2	
	comp=N,18nm,4.1s,comp=E,13nm,4.4s					
MASBT	Mashibuluo	1.93 218	P	Pb	22 58 24.7	-1.9
MASBT			S	Sb	22 58 52.2	+2.0
TSCK	Chigu Township	1.96 240	*i* P	Pb	22 58 25.1	-1.9
TSCK			S	Sb	22 58 50.2	-0.7
EAST	Anshuo	2.01 210	*eP*	Pn	22 58 24.5	+0.2
TAW	Tawu	2.01 208	*eP*	Pn	22 58 24.8	+0.6
TAWH	Dawu Township	2.03 208	*eP*	Pn	22 58 25.3	+0.8
JIJ	Ishigaki jima	2.04 83	P	Pn	22 58 25.1	+0.5
JIJ			*eS*	Sn	22 58 50.7	+1.6
JIJ	Ishigaki jima	2.04 83	A	A	22 58 25.1	
	comp=N,3.0nm,1.7s,comp=E,2.0nm,5.9s					
SSPT	Xinbi	2.07 217	*eP*	Pb	22 58 29.8	+1.0
LAY	Lan-yu	2.12 189	*eP*	Pn	22 58 24.5	-1.2
SCZT	Fangliau	2.13 215	*eP*	Pb	22 58 28.3	-1.6
SCZT			*eS*	Sb	22 58 56.5	+0.6
WSSB	Gushan	2.13 226	*eP*	Pb	22 58 29.6	-0.4
LYUB	Lan-yu	2.15 189	*eP*	Pn	22 58 24.4	-1.8
SLIU	Shizi	2.18 209	*eP*	Pn	22 58 27.1	+0.6
JISG	Ishigakijimahi	2.22 78	*eP*	Pn	22 58 27.4	+0.4
JISG			*eS*	Sn	22 58 55.1	+1.5
PHUB	P'eng-hu	2.24 254	*i* P	Pn	22 58 28.4	+1.0
PHUB			S	Sn	22 58 56.0	+1.8
PNG	Penghu	2.25 256	*eP*	Pn	22 58 28.8	+1.4
WDGT	Dungji	2.25 248	*eP*	Pn	22 58 28.9	+1.3
WDGT			*i* S	Sb	22 58 57.3	-2.2
TWP	Hsiaoliuchiu	2.29 219	*eP*	Pb	22 58 31.9	-0.7
SMST	Manzhou Townsh	2.33 206	*eP*	Pn	22 58 29.5	+0.8
SMST			*i* S	Sn	22 58 57.1	+0.6
HEN	Hengchun	2.39 208	*eP*	Pn	22 58 30.5	+1.1
HEN			*eS*	Sb	22 59 00.7	-2.7
VWUC	VWUC	2.41 291	*eP*	Pn	22 58 29.8	+0.1
TWK1	Hengchun	2.42 206	*eP*	Pn	22 58 30.5	+0.7
TWKBT	Hengchun	2.42 205	*eP*	Pn	22 58 30.4	+0.6
TSEB	Hengchuen, Pin	2.42 203	*eP*	Pn	22 58 30.8	+1.0
TSEB			*i* S	Sn	22 59 00.9	+2.4
VCHM	Qimei	2.47 249	*eP*	Pn	22 58 31.8	+1.2
JTJ	Tarama	2.58 78	*eP*	Pn	22 58 33.2	+1.2
JTJ	Tarama	2.58 78	A	A	22 58 33.2	
	comp=N,6.0nm,3.6s,comp=E,5.0nm,2.3s					
MATB	Ma-tsu	2.69 319	*eP*	Pn	22 58 32.5	-1.1
PTMZ	Houxiangcun	2.71 290	*eP*	Pn	22 58 34.1	+0.3
JIRB	Irabujima	3.04 76	*eP*	Pn	22 58 39.5	+1.2
JIKM	Ikemajima	3.12 75	*eP*	Pn	22 58 41.1	+1.6
JMJ	Miyako jima 2	3.14 77	P	Pn	22 58 41.4	+1.6
QZH	Quanzhou	3.14 285	⇑*iPn*	Pn	22 58 39.6	-0.2
QZH			Sn	Sn	22 59 14.9	-1.5
QZH			smax	smax		
	comp=E,2μm,0.8s					
QZH			smax	smax		
	comp=E,920nm,0.9s					
QZH			LR	LR		
	comp=E,2μm,12.2s					
JMJ2	Miyako jima3	3.16 78	*eP*	Pn	22 58 41.8	+1.8
XPSS	Dashiqiu	3.19 331	*eP*	Pn	22 58 39.6	-0.8
KNM	Kinmen	3.20 276	*eP*	Pn	22 58 42.5	+1.9
JOGS	Gusukube	3.23 78	*eP*	Pn	22 58 43.5	+2.5
KNMB	Chin-men Tao	3.25 276		Pn	22 58 40.8	-0.4
KNMB	Chin-men Tao	3.25 276	*eP*	Pn	22 58 40.9	-0.3
MHZQ	Yeshan	3.27 307	*eP*	Pn	22 58 40.9	-0.6
AXDP	Jialang	3.68 283	*eP*	Pn	22 58 47.4	+0.2
ZPLA	Ao Xicun	3.82 268	*eP*	Pn	22 58 49.4	+0.2
DSXP	Dongshan	4.14 265	*eP*	Pn	22 58 54.0	+0.5
JOW	Kunigami	6.33 64	Pn	Pn	22 59 23.3	-0.3
JOW	Kunigami	6.33 64	Pn	Pn	22 59 22.5	-1.1
	comp=E,14nm,0.3s,baz=178,slow=16,SNR=12					
	comp=E,27nm,0.3s					
GZH	Guangzhou	7.94 264	Pn	Pn	22 59 41.6	-4.1
GZH			Sn	Sn	23 01 07.2	-7.5
GZH			smax	smax		
	comp=E,450nm,0.8s					
GZH			smax	smax		
	comp=E,230nm,1.1s					
NJ2	Nanjing	8.34 342	⇑P	Pn	22 59 50.5	-0.6
NJ2			S	Sn	23 01 25.2	+0.8
NJ2			pmax	pmax		
	comp=E,93nm,0.7s					
NJ2			smax	smax		
	comp=E,330nm,1.0s					
NJ2			smax	smax		
	comp=E,200nm,1.7s					
NJ2			LR	LR		
	comp=E,2μm,9.8s					
NJ2			LR	LR		
	comp=E,2μm,9.3s					
NJ2			LR	LR		
	comp=E,660nm,10.8s					
JMZ	Minamidaito 2	8.60 77	Pn	Pn	22 59 51.7	-3.1
CNSH	ChangSha	9.03 298	P	Pn	23 00 03.7	+3.1
CNSH			S	Sn	23 01 46.0	+4.6
CNSH			smax	smax		
	comp=E,370nm,1.2s					
CNSH			smax	smax		
	comp=E,350nm,0.9s					
WHN	Wuhan	9.28 315	*eP*	Pn	23 00 05.2	+1.2
WHN			*eS*	Sn	23 01 49.9	+2.4
JNU	Nakatsue	11.91 39	LR	LR	23 06 24.6	
	comp=E,329nm,19.0s,baz=228,slow=44					
QIZ	Qiongzhong	12.34 248	P	Pn	23 00 45.6	-0.4
QIZ			S	Sn	23 03 05.2	+2.6
QIZ			LR	LR		
	comp=E,360nm,19.4s					
QIZ			LR	LR		
	comp=E,270nm,21.4s					
QIZ			LR	LR		
	comp=E,220nm,12.8s					
LYN	LuoYang	13.25 324	*eP*	Pn	23 01 03.0	+4.6
LYN			sP	P	23 01 10.7	+2.8
LYN			pmax	pmax		
	comp=E,14nm,0.6s					
LYN			LR	LR		
	comp=E,1μm,11.0s					
LYN			LR	LR		
	comp=E,2μm,9.6s					
LYN			LR	LR		
	comp=E,2μm,16.5s					
GYA	Guiyang	14.00 283	⇓P	Pn	23 01 10.9	+2.1
GYA			S	Sn	23 03 46.2	+2.8
GYA			pmax	pmax		
	comp=E,10.0nm,0.8s					
GYA			pmax	pmax		
	comp=E,130nm,3.5s					
GYA			LR	LR		
	comp=E,470nm,3.8s					
GYA			LR	LR		
	comp=E,280nm,3.8s					
GYA			LR	LR		
	comp=E,990nm,8.7s					
KSAR	Wonju Array Be	14.21 20	Pn	Pn	23 01 11.2	-0.3
KSAR	Wonju Array Be	14.21 20	P	Pn	23 01 11.2	-0.3
KSRS	Korea Array	14.23 20	Pn	Pn	23 01 11.2	-0.6
	comp=E,0.6nm,0.3s,baz=207,slow=14,SNR=6.7					
KSRS			LR	LR	23 07 40.9	
	comp=E,220nm,19.3s,baz=215,slow=42					
	comp=E,1.7nm,0.5s					
KS19	Wonju Array Si	14.26 20	Pn	Pn	23 01 11.4	-0.8
HNS	HongShan	14.59 337	⇓P	P	23 01 22.0	-0.9
HNS			pmax	pmax		
	comp=E,31nm,0.9s					
HNS			LR	LR		
	comp=E,750nm,13.5s					
HNS			LR	LR		
	comp=E,560nm,11.9s					
HNS			LR	LR		
	comp=E,790nm,17.5s					
DL2	Dalian	14.73 359	P	P	23 01 25.1	+0.8
DL2			S	S	23 04 14.5	-4.5
DL2			pmax	pmax		
	comp=E,52nm,0.8s					
DL2			pmax	pmax		
	comp=E,250nm,6.9s					
DL2			LR	LR		
	comp=N,760nm,17.8s					
DL2			LR	LR		
	comp=E,520nm,17.1s					
DL2			LR	LR		
	comp=Z,930nm,13.7s					
XAN	Xi'an	15.04 314	⇓P	P	23 01 30.2	+2.3
XAN			pmax	pmax		
	comp=Z,32nm,0.7s					
XAN			pmax	pmax		
	comp=Z,410nm,3.7s					
XAN			LR	LR		
	comp=N,2μm,7.2s					
XAN			LR	LR		
	comp=E,1μm,7.7s					
XAN			LR	LR		
	comp=Z,600nm,4.7s					
BJT	Baijiatuau	16.56 344		Pn	23 01 42.9	+0.5
BJT	Baijiatuau	16.56 344	P	Pn	23 01 42.9	+0.5
BJT			pmax	pmax		
	comp=Z,23nm,1.4s					
DAV	Davao City (W)	17.33 168	LR	LR	23 08 34.0	
	comp=Z,150nm,18.9s,baz=356,slow=37					
CD2	Chengdu	17.46 297	P	P	23 01 54.4	-0.4
CD2			pmax	pmax		
	comp=Z,10.0nm,0.4s					
KMI	Kunming	17.47 277	P	P	23 01 58.0	+2.8
KMI			pmax	pmax		
	comp=Z,7.0nm,1.3s					
KMI			LR	LR		
	comp=Z,310nm,10.6s					
KMI			LR	LR		
	comp=Z,440nm,15.5s					
KMI			LR	LR		
	comp=Z,640nm,12.1s					
DLV	Lat	17.60 229		Pn	23 01 55.5	-0.2
PZH	PanZhiHua	18.40 282	P	Pn	23 02 07.0	+1.6
PZH			pmax	pmax		
	comp=Z,70nm,0.9s					
PZH			pmax	pmax		
	comp=Z,100nm,5.1s					
JCJ	Chichijima	18.50 77	LR	LR	23 08 25.0	
	comp=Z,220nm,20.8s,baz=144,slow=34					
MJAR	Matsushiro Arr	18.68 45	P	P	23 02 07.8	-0.4
	comp=Z,0.8nm,0.4s,baz=233,slow=9.3,SNR=5.3					
MJAR			LR	LR	23 10 19.2	
	comp=Z,122nm,21.2s,baz=218,slow=40					
HHC	Hu-ho-hao-te	18.79 335	*eP*	Pn	23 02 11.5	+1.5
HHC			pP	pP	23 02 15.4	-0.5
HHC			S	S	23 05 41.2	-0.5
HHC			SS	SnSn	23 06 01.7	+7.9
HHC			pmax	pmax		
	comp=Z,13nm,0.6s					
HHC			pmax	pmax		
	comp=Z,94nm,4.1s					
HHC			LR	LR		
	comp=Z,410nm,11.8s					
HHC			LR	LR		
	comp=Z,340nm,11.5s					
HHC			LR	LR		
	comp=Z,570nm,13.5s					
MYLDM	Lahad Datu	19.14 190	P	Pn	23 02 14.3	+0.1
BTO	Baotou	19.22 332	*eP*	Pn	23 02 18.0	+2.8
BTO			pP	sP	23 02 23.1	-0.9
BTO			sP	pP	23 02 26.7	+6.1
BTO			PP	PnPn	23 02 36.0	+7.6
BTO			S	S	23 05 51.6	+1.2
BTO			sS	sS	23 05 57.9	-3.1
BTO			pmax	pmax		
	comp=Z,19nm,1.0s					
BTO			pmax	pmax		
	comp=Z,470nm,4.6s					
BTO			LR	LR		
	comp=Z,1μm,12.6s					
BTO			LR	LR		
	comp=Z,1μm,15.1s					
BTO			LR	LR		
	comp=Z,2μm,16.7s					
LZH	Lanzhou	19.62 312	*eP*	Pn	23 02 21.0	+0.9
LZH			pP	sP	23 02 27.2	-1.1
LZH			S	Sn	23 06 03.4	+3.6
LZH			pmax	pmax		
	comp=Z,34nm,1.4s					
LZH			LR	LR		
	comp=Z,850nm,13.7s					
LZH			LR	LR		
	comp=Z,720nm,13.4s					
LZH			LR	LR		
	comp=Z,920nm,15.7s					
CN2	Changchun	19.83 8	*eP*	Pn	23 02 22.9	+0.6
CN2			*eS*	S	23 05 59.4	-3.1
CN2			pmax	pmax		
	comp=Z,10.0nm,0.7s					
CN2			pmax	pmax		
	comp=Z,100nm,3.0s					
CN2			LR	LR		
	comp=Z,100nm,12.0s					
CN2			LR	LR		
	comp=Z,200nm,12.0s					
CN2			LR	LR		
	comp=Z,100nm,11.0s					
XLT	XiLinHaoTe	20.29 348	*eP*	P	23 02 26.3	+0.6
XLT			pP	pP	23 02 31.2	-1.1
XLT			sP	sP	23 02 44.3	+8.5
XLT			pmax	pmax		
	comp=Z,14nm,0.7s					
XLT			LR	LR		
	comp=Z,33nm,12.8s					
XLT			LR	LR		
	comp=Z,220nm,8.1s					
XLT			LR	LR		
	comp=Z,430nm,15.0s					
TNCH	TengChong	21.30 277	*eP*	P	23 02 38.3	+1.3
TNCH			S	S	23 06 24.5	-8.0
TNCH			pmax	pmax		
	comp=Z,39nm,0.6s					
TNCH			pmax	pmax		
	comp=Z,89nm,3.6s					
TNCH			LR	LR		
	comp=Z,330nm,7.9s					
TNCH			LR	LR		
	comp=Z,520nm,10.1s					
TNCH			LR	LR		
	comp=Z,590nm,16.6s					
MDJ	Mudanjiang	21.37 15	P	P	23 02 35.5	-1.7
MDJ	Mudanjiang	21.37 15	P	P	23 02 37.8	+0.5
MDJ			pmax	pmax		
	comp=Z,10.0nm,1.5s					
USRK	Ussuriysk Ar.	21.64 20	P	P	23 02 39.9	-0.3
	comp=Z,2.5nm,0.8s,baz=216,slow=7.1,SNR=2.2					
USRK			LR	LR	23 11 41.4	
	comp=Z,133nm,19.6s,baz=179,slow=39					
	comp=Z,2.5nm,0.8s					
BNX	BinXian	22.00 10	⇓P	P	23 02 46.4	+2.3
BNX			pmax	pmax		
	comp=Z,11nm,1.8s					
CHTO	Chiang Mai	22.02 261		P	23 02 44.2	-0.4
CHTO	Chiang Mai	22.02 261	P	P	23 02 44.2	-0.4
CHTO			pmax	pmax		
	comp=Z,7.0nm,1.0s					
CM31	Chiang Mai Arr	22.14 260	P	P	23 02 45.2	-0.5
CMAR	Chiang Mai Arr	22.14 260	P	P	23 02 45.2	-0.5
CMAR	Chiang Mai Arr	22.14 260	P	P	23 02 46.0	+0.2
	comp=Z,1.8nm,0.6s,baz=60,slow=7.9,SNR=13					
CMAR			LR	LR	23 12 13.9	
	comp=Z,146nm,21.1s,baz=20,slow=39					
	comp=Z,1.8nm,0.6s					
CMAR	Chiang Mai Arr	22.14 260	*ceP*	P	23 02 48.7	+2.9
CMAR			pmax	pmax		
	comp=Z,3.0nm,0.8s					
TOLI2	Tolitoli	22.92 183	P	P	23 02 53.0	-1.0
SBUM	Sibu	23.51 205		P	23 02 58.8	-1.2
MRSI	Marisa	23.52 180	P	P	23 03 04.1	+4.0
GUMO	Guam	24.07 112	LR	LR	23 11 05.5	
	comp=Z,73nm,21.5s,baz=302,slow=33					
GTA	Gaotai	24.10 314	*eP*	P	23 03 05.8	+0.2
GTA			sP	pP	23 03 12.9	-0.3
GTA			pmax	pmax		
	comp=Z,13nm,1.4s					
GTA			LR	LR		
	comp=Z,200nm,13.5s					
GTA			LR	LR		
	comp=Z,310nm,11.6s					
GTA			LR	LR		
	comp=Z,360nm,15.1s					
LUWI	Luwuk	25.04 178	P	P	23 03 10.6	-3.5
ERM	Erimo	25.07 40	P	P	23 03 11.1	-3.1
ERM			IAmb	IAmb	23 03 18.0	
	comp=Z,18nm,1.1s					
ERM	Erimo	25.07 40	P	P	23 03 11.1	-3.1
ERM			pmax	pmax		
	comp=Z,18nm,1.1s					
HIA	Hailar	25.14 357	P	P	23 03 14.0	-0.8
HIA			IAmb	IAmb	23 03 23.6	
	comp=Z,8.5nm,0.7s					
HIA	Hailar	25.14 357	P	P	23 03 14.0	-0.8
HIA			pmax	pmax		
	comp=Z,9.0nm,0.7s					
KSM	Kuching	25.18 208	P	P	23 03 15.2	-0.2
KSM			IAmb	IAmb	23 03 41.3	
	comp=Z,37nm,1.5s					
KLR	Kul'dur	26.21 15	P	P	23 03 24.4	-0.1
	comp=Z,4.6nm,0.6s,baz=209,slow=6.9,SNR=21					
KLR			LR	LR	23 15 01.6	
	comp=Z,232nm,19.4s,baz=198,slow=40					
	comp=Z,4.6nm,0.6s					
KLR	Kul'dur	26.21 15	*i* P	P	23 03 23.3	-1.2
KLR			pmax	pmax		
	comp=Z,39nm,3.8s					
GOMU	GeErMu	26.25 304	P	P	23 03 26.8	+1.4
GOMU			S	S	23 07 59.5	+2.9
GOMU			pmax	pmax		
	comp=Z,22nm,1.1s					
GOMU			LR	LR		
	comp=Z,170nm,14.5s					
GOMU			LR	LR		
	comp=Z,370nm,16.2s					
GOMU			LR	LR		
	comp=Z,590nm,15.7s					
HEH	HeiHe	26.42 8	*eP*	P	23 03 26.5	+0.2
ULN	Ulaanbaatar	26.47 337		P	23 03 25.9	-1.1
ULN			IAmb	IAmb	23 03 29.1	
	comp=Z,12nm,0.7s					
ULN	Ulaanbaatar	26.47 337	*ceP*	P	23 03 27.1	+0.1
ULN			pmax	pmax		
	comp=Z,11nm,0.6s					
SONM	Songino Array	26.68 336		P	23 03 28.1	-0.7
SONM			IAmb	IAmb	23 03 50.9	
	comp=Z,21nm,1.2s					
SONM	Songino Array	26.68 336	P	P	23 03 28.6	-0.3
	comp=Z,8.9nm,0.7s,baz=154,slow=9.9,SNR=25					
SONM			LR	LR	23 15 33.3	
	comp=Z,473nm,18.1s,baz=146,slow=40					
	comp=Z,8.9nm,0.7s					
SHL	Shillong	27.27 279	P	P	23 03 34.0	-0.5
SHL			IAmb	IAmb	23 04 13.2	
	comp=Z,12nm,0.9s					
SHL	Shillong	27.27 279	P	P	23 03 34.1	-0.5
SHL			pmax	pmax		
	comp=Z,12nm,0.9s					
LSA	Lhasa	27.95 288		P	23 03 39.8	-1.1
LSA			IAmb	IAmb	23 03 48.9	
	comp=Z,9.0nm,0.6s					
LSA	Lhasa	27.95 288	P	P	23 03 40.7	-0.2

LSA S **S** **23 08 31.3 +7.7**
LSA LR LR
comp=Z,79nm,15.8s
LSA LR LR
comp=Z,300nm,15.8s
LSA Lhasa 27.95 288 P **P** **23 03 39.8 -1.1**
LSA pmax pmax
comp=Z,9.0nm,0.6s
YSS Yuzhno-Sakhali 28.21 31 *e*P **P** **23 03 46.4 +3.9**
YSS *e*S **S** **23 08 31.1 +4.6**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,100nm,16.0s
ZEA Zeya 29.83 6 *e*P P 23 04 03.3 +6.5
ZEA MLR MLR
comp=Z,200nm,15.0s
WMQ Urumqi 34.18 314 *e*P **P** **23 04 37.0 +1.9**
WMQ PP **PP** **23 05 54.0 +1.3**
WMQ S **S** **23 10 00.0 0.0**
WMQ pmax pmax
comp=Z,17nm,0.9s
MK31 Makanchi Array 38.84 316 **P** **23 05 15.2 +0.4**
MK31 IAmb IAmb 23 05 16.9
comp=Z,9.3nm,0.9s
MK31 Makanchi Array 38.84 316 *i* P **P** **23 05 15.3 +0.4**
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 38.84 316 **P** **23 05 15.1 +0.2**
MKAR Makanchi Array 38.84 316 P **P** **23 05 15.2 +0.4**
comp=Z,9.6nm,0.5s,baz=101,slow=10,SNR=130
MKAR LR LR 23 22 39.3
comp=Z,194nm,18.6s,baz=72,slow=38
comp=Z,9.6nm,0.5s
MKAR Makanchi Array 38.84 316 P **P** **23 05 15.1 +0.2**
WUS Wushi 39.34 306 P **P** **23 05 19.9 +0.7**
KNRA Kununurra 40.13 170 P **P** **23 05 24.6 -1.2**
TARG Taragay, Kyrgy 40.49 307 P **P** **23 05 29.0 -0.1**
TARG Taragay, Kyrgy 40.49 307 P **P** **23 05 29.0 -0.1**
TARG pmax pmax
comp=Z,7.0nm,1.1s
ZAA0 Zalesovo Array 40.65 327 **P** **23 05 28.8 -0.9**
ZAA0 IAmb IAmb 23 05 31.3
comp=Z,8.1nm,0.6s
ZALV Zalesovo Beam 40.65 327 P **P** **23 05 28.8 -0.9**
comp=Z,7.3nm,0.5s,baz=115,slow=7.9,SNR=26
ZALV LR LR 23 23 30.1
comp=Z,202nm,18.8s,baz=126,slow=38
comp=Z,7.3nm,0.5s
ZALV Zalesovo Beam 40.65 327 *i* P **P** **23 05 28.7 -1.0**
ZALV pmax pmax
comp=Z,7.0nm,0.5s
KDJ Kajisay 41.02 307 P **P** **23 05 33.8 +0.6**
KDJ Kajisay 41.02 307 P **P** **23 05 33.8 +0.6**
KDJ pmax pmax
comp=Z,7.0nm,0.8s
PMG Port Moresby 41.46 141 LR LR 23 22 02.3
comp=Z,72nm,19.4s,baz=256,slow=35
KSH Kashi 41.49 303 P **P** **23 05 41.4 +4.3**
KSH sP sP 23 05 49.8 +2.6
KSH pmax pmax
comp=Z,10.0nm,1.1s
KSH LR LR
comp=Z,230nm,15.8s
KSH LR LR
comp=Z,140nm,19.2s
KSH LR LR
comp=Z,280nm,24.0s
ULHL Ulahol 41.73 307 P **P** **23 05 41.0 +1.9**
SNR=10
H11N1 WAKE ISLAND Hy 41.81 87 T T 23 51 07.0
baz=283,slow=75,SNR=11
H11N2 WAKE ISLAND Hy 41.81 87 T T 23 51 00.9
baz=283,slow=75,SNR=13
H11N3 WAKE ISLAND Hy 41.83 87 T T 23 51 02.1
baz=283,slow=75,SNR=13
H11S3 WAKE ISLAND Hy 41.94 89 T T 23 50 59.9
baz=284,slow=75,SNR=31
H11S1 WAKE ISLAND Hy 41.95 89 T T 23 51 02.6
baz=284,slow=75,SNR=22
H11S2 WAKE ISLAND Hy 41.96 89 T T 23 51 00.7
baz=284,slow=75,SNR=16
BOOM Boomskoye usch 42.00 307 P **P** **23 05 41.6 +0.4**
BOOM Boomskoye usch 42.00 307 P **P** **23 05 41.6 +0.4**
BOOM pmax pmax
comp=Z,3.0nm,0.7s
FITZ Fitzroy Crossi 42.13 175 P **P** **23 05 41.8 -0.4**
TKM2 Tokmak 2 42.33 308 P **P** **23 05 45.4 +1.4**
SNR=20
TKM2 Tokmak 2 42.33 308 *i* P **P** **23 05 44.5 +0.6**
TKM2 pmax pmax
comp=Z,16nm,0.8s
KURK Kurchatov 42.56 320 **P** **23 05 45.2 -0.3**
KURK IAmb IAmb 23 05 47.2
comp=Z,12nm,1.2s
KURK Kurchatov 42.56 320 *ce*P **P** **23 05 46.9 +1.5**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURBB Kurchatov Arra 42.58 320 P **P** **23 05 44.8 -0.8**
comp=Z,3.9nm,0.8s,baz=110,slow=7.3,SNR=26
comp=Z,3.9nm,0.8s
KBK Karagaybulak 42.75 307 P **P** **23 05 49.3 +2.0**
SNR=11
CHMS Chumysh 42.95 308 P **P** **23 05 50.6 +1.8**
SNR=6.5
FRU1 Bishkek 43.01 308 P **P** **23 05 48.6 -0.7**
FRU1 IAmb IAmb 23 05 51.7
comp=Z,10nm,1.0s
FRU1 Bishkek 43.01 308 P **P** **23 05 48.6 -0.7**
FRU1 pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 43.07 307 **P** **23 05 50.4 +0.4**
AAK Ala-Archa 43.07 307 LR LR 23 26 37.0
comp=Z,172nm,18.2s,baz=98,slow=40
AAK Ala-Archa 43.07 307 *ce*P **P** **23 05 52.0 +2.1**
AAK pmax pmax
comp=Z,6.0nm,1.3s
COEN Coen 43.18 149 P **P** **23 05 50.5 -0.3**
COEN IAmb IAmb 23 06 11.2
comp=Z,11nm,0.8s
USP Ospenovka 43.18 308 P **P** **23 05 51.6 +1.0**
SNR=8.3
NIL Nilore 43.32 294 P **P** **23 05 52.0 +0.1**
NIL Nilore 43.32 294 P **P** **23 05 52.0 +0.1**
NIL pmax pmax
comp=Z,5.0nm,0.8s
AML Almayashu 43.58 306 P **P** **23 05 55.8 +1.5**
SNR=12
EKS2 Erkin-Say 43.60 307 P **P** **23 05 55.4 +1.3**
SNR=8.4
ARSB Arslanbob 43.99 305 P **P** **23 05 57.6 +0.3**
ARSB IAmb IAmb 23 05 59.8
comp=Z,12nm,1.2s
ARSB Arslanbob 43.99 305 P **P** **23 05 57.6 +0.3**
ARSB pmax pmax
comp=Z,12nm,1.2s
WB0 Warramunga Arr 45.30 163 P **P** **23 06 06.5 -1.2**
WB0 IAmb IAmb 23 06 24.8
comp=Z,16nm,1.4s
WRA Warramunga Arr 45.45 164 P **P** **23 06 08.2 -0.7**
WRA Warramunga Arr 45.45 164 P **P** **23 06 08.4 -0.5**
comp=Z,1.1nm,0.6s,baz=345,slow=8.7,SNR=8.2
comp=Z,1.1nm,0.6s
WRA Warramunga Arr 45.45 164 *i* P **P** **23 06 09.6 +0.7**
WRA pmax pmax
comp=Z,2.0nm,0.8s
BTK Batken 45.50 303 **P** **23 06 09.0 -0.3**
BTK IAmb IAmb 23 06 15.2
comp=Z,9.9nm,1.4s
BTK Batken 45.50 303 P **P** **23 06 09.0 -0.3**
BTK pmax pmax
comp=Z,10.0nm,1.4s
GAR Garm 45.82 302 **P** **23 06 12.4 +0.5**
KK31 Karatay Array 46.04 307 **P** **23 06 13.8 +0.4**
KK31 IAmb IAmb 23 06 16.0
comp=Z,6.7nm,0.7s
KK31 Karatay Array 46.04 307 P **P** **23 06 13.8 +0.4**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 46.04 307 **P** **23 06 13.8 +0.4**
KKAR Karatay Array 46.04 307 P **P** **23 06 13.8 +0.4**
KBL Kabul 46.80 295 **P** **23 06 20.2 +0.5**
KBL Kabul 46.80 295 P **P** **23 06 20.2 +0.5**
KBL pmax pmax
comp=Z,12nm,0.9s
SIMJ Simiganj 46.82 301 **P** **23 06 20.1 +0.3**
SIMJ IAmb IAmb 23 06 21.6
comp=Z,4.2nm,0.8s
DZET Dzherino 46.97 301 P **P** **23 06 22.1 +1.2**
DZET pmax pmax
comp=Z,18μm,0.8s
TIXI Tiksi 47.70 3 **P** **23 06 23.8 -2.1**
TIXI Tiksi 47.70 3 LR LR 23 29 56.4
comp=Z,177nm,19.0s,baz=210,slow=40
TIXI Tiksi 47.70 3 *ce*P **P** **23 06 24.2 -1.7**
TIXI pmax pmax
comp=Z,12nm,0.8s
BVAR Borovoye Array 48.14 321 P **P** **23 06 29.5 -0.1**
comp=Z,9.2nm,0.5s,baz=109,slow=8.2,SNR=52
BVAR LR LR 23 30 14.5
comp=Z,71nm,19.1s,baz=97,slow=40
comp=Z,9.2nm,0.5s
BRVK Borovoye 48.21 321 **P** **23 06 29.6 -0.6**
BRVK IAmb IAmb 23 06 31.6
comp=Z,6.8nm,0.7s
BRVK Borovoye 48.21 321 *ce*P **P** **23 06 31.0 +0.8**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
ASAR Alice Springs 48.92 165 P **P** **23 06 35.9 0.0**
ASAR Alice Springs 48.92 165 P **P** **23 06 36.4 +0.5**
comp=Z,0.4nm,0.4s,baz=348,slow=6.0,SNR=7.3
comp=Z,0.4nm,0.4s
NRIK Noril'sk 49.62 345 **P** **23 06 38.9 -1.8**
NRIK IAmb IAmb 23 07 07.3
comp=Z,6.2nm,1.1s
NRIK Noril'sk 49.62 345 **P** **23 06 38.8 -2.0**
comp=Z,2.5nm,0.6s,baz=124,slow=8.4,SNR=8.7
NRIK LR LR 23 29 53.1
comp=Z,116nm,18.9s,baz=146,slow=39
comp=Z,2.5nm,0.6s
NRIK Noril'sk 49.62 345 *ce*P **P** **23 06 39.6 -1.2**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
HRA Herat 52.41 296 P **P** **23 07 02.3 -0.2**
HRA IAmb IAmb 23 07 25.2
comp=Z,10nm,1.5s
AB31 Akbulak array 53.96 314 P **P** **23 07 12.9 -0.5**
AB31 IAmb IAmb 23 07 15.1
comp=Z,6.6nm,0.9s
AB31 Akbulak array 53.96 314 P **P** **23 07 13.2 -0.2**
ABKAR Akbulak array 53.96 314 **P** **23 07 13.0 -0.4**
ABKAR IAmb IAmb 23 07 15.1
comp=Z,6.6nm,0.9s
ABKAR Akbulak array 53.96 314 **P** **23 07 13.2 -0.3**
SVE Sverdlovsk 54.48 324 *e*P **P** **23 07 16.7 -0.4**
SVE pmax pmax
comp=Z,9.0nm,0.6s
AKTO Aktyubinsk 55.28 316 LR LR 23 32 42.7
comp=Z,130nm,19.8s,baz=188,slow=38
ARTI Arti 55.64 323 **P** **23 07 25.0 -0.6**
ARTI Arti 55.64 323 LR LR 23 34 37.5
comp=Z,68nm,19.2s,baz=102,slow=40
ARTI Arti 55.64 323 *c i*P **P** **23 07 24.9 -0.6**
ARTI 23 08 20.8
ARTI 23 09 24.5
ARTI S **S** **23 15 12.5 +2.7**
ARTI SS **SS** **23 18 52.2 -2.6**
ARTI pmax pmax
comp=Z,8.0nm,0.6s
STKA Stephens Creek 58.79 160 P **P** **23 07 48.0 0.0**
comp=Z,0.7nm,0.4s,baz=341,slow=9.9,SNR=3.3
comp=Z,0.7nm,0.4s
STKA Stephens Creek 58.79 160 P **P** **23 07 48.0 0.0**
KIRV Kirov 60.65 325 LR LR 23 38 04.4
comp=Z,102nm,18.1s,baz=90,slow=40
KIRV Kirov 60.65 325 *ce*P **P** **23 08 00.0 -0.4**
C16K Lisburne Hills 61.42 24 P **P** **23 08 06.0 +0.5**
C16K IAmb IAmb 23 08 39.0
comp=Z,6.8nm,1.3s
L14K Kuka Creek 62.14 32 P **P** **23 08 10.2 -0.2**
L14K IAmb IAmb 23 08 45.1
comp=Z,9.7nm,1.2s
K15K Wolf Creek Mou 62.69 31 P **P** **23 08 14.6 +0.5**
C18K Utukok River 62.98 24 P **P** **23 08 15.3 -0.8**
DZM Mont Dzumac 63.11 133 *e*LR LR 23 27 00.8
comp=Z,128nm,26.8s
N15K Kwethluk River 63.43 33 P **P** **23 08 19.2 +0.1**
N15K IAmb IAmb 23 08 28.5
comp=Z,5.8nm,0.9s
D19K Kuna River 64.10 24 P **P** **23 08 23.3 -0.2**
D20K Etivluk River 64.65 24 P **P** **23 08 26.6 -0.5**
D20K IAmb IAmb 23 08 28.3
comp=Z,3.5nm,0.7s
B21K Ikpikpuk River 65.33 23 P **P** **23 08 31.5 +0.1**
B21K IAmb IAmb 23 08 33.2
comp=Z,6.6nm,0.8s
GNI Garni 65.39 305 LR LR 23 41 48.7
comp=Z,43nm,18.1s,baz=71,slow=40
VRH Novokhopyorsk 65.55 317 *e*P **P** **23 08 32.9 -0.2**
VRH pmax pmax
comp=Z,9.0nm,0.6s
KLMR Klimovskoe 65.56 328 *e*P **P** **23 08 31.3 -1.7**
KLMR pmax pmax
comp=Z,19nm,1.4s
KLMR MLR MLR
comp=Z,200nm,13.0s
KBZ Khabaz 66.04 309 P **P** **23 08 36.2 -0.2**
comp=Z,3.6nm,0.8s,baz=131,slow=6.2,SNR=11
KBZ LR LR 23 41 30.0
comp=Z,61nm,20.1s,baz=54,slow=40
comp=Z,3.6nm,0.8s
KBZ Khabaz 66.04 309 *ce*P **P** **23 08 37.7 +1.3**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KVAR Kislovodsk Arr 66.14 309 LR LR 23 42 19.2
comp=Z,55nm,18.9s,baz=284,slow=40
KIV Kislovodsk 66.14 309 **P** **23 08 36.9 -0.4**
KIV IAmb IAmb 23 08 39.8
comp=Z,7.5nm,0.8s
KIV Kislovodsk 66.14 309 *e*P **P** **23 08 37.2 0.0**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,49nm,17.0s
KARS Kars 66.53 306 P **P** **23 08 40.1 +0.3**
KARS Kars 66.53 306 P **P** **23 08 40.2 +0.3**
KARS pmax pmax
comp=Z,23nm,0.5s
C23K Itkillik River 66.71 22 **P** **23 08 40.1 -0.1**
C23K IAmb IAmb 23 09 00.3
comp=Z,10nm,1.2s
CAST Castle Rocks 66.93 29 P **P** **23 08 41.4 -0.4**
CAST IAmb IAmb 23 08 51.1
comp=Z,9.0nm,1.3s
VORR Voronezh 67.03 318 *e*P **P** **23 08 42.4 -0.2**
VORR pmax pmax
comp=Z,26nm,0.4s
LPSR Galich'ya Gora 67.03 319 *e*P **P** **23 08 41.8 -0.8**
LPSR pmax pmax
comp=Z,19nm,0.8s
VSR Storozhevoye 67.14 317 *e*P **P** **23 08 40.1 -3.2**
VSR pmax pmax
comp=Z,5.0nm,0.9s
OBN Obninsk 67.96 322 *e*P **P** **23 08 50.5 +2.1**
OBN *e* 23 09 16.5
OBN *e* 23 11 16.7
OBN *e*PPP PPP 23 12 55.2
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,57nm,17.0s
RND Reindeer 68.36 29 **P** **23 08 50.4 -0.6**
RND IAmb IAmb 23 08 52.4
comp=Z,6.7nm,0.8s
RND Reindeer 68.36 29 P **P** **23 08 50.4 -0.6**
RND pmax pmax
comp=Z,7.0nm,0.8s
POKR Poker Plat Res 68.64 27 P **P** **23 08 53.2 +0.6**
POKR IAmb IAmb 23 08 53.9
comp=Z,3.6nm,0.8s
ILAR Eielson Array 68.94 27 P **P** **23 08 54.2 -0.2**
ILAR Eielson Array 68.94 27 P **P** **23 08 53.9 -0.5**
comp=Z,0.6nm,0.6s,baz=289,slow=6.1,SNR=9.2
ILAR LR LR 23 44 25.7
comp=Z,42nm,18.0s,baz=98,slow=41
comp=Z,0.6nm,0.6s
ILAR Eielson Array 68.94 27 P **P** **23 08 54.2 -0.2**
RAYN Ar Rayn 69.01 287 P **P** **23 08 55.2 -0.4**
RAYN IAmb IAmb 23 09 14.5
comp=Z,5.9nm,1.1s
RAYN Ar Rayn 69.01 287 P **P** **23 08 55.2 -0.4**
RAYN pmax pmax
comp=Z,6.0nm,1.1s
MARD Mardin 69.05 302 **P** **23 08 55.5 -0.2**
KEV Kevo 69.27 338 P **P** **23 08 56.2 -0.1**
KEV Kevo 69.27 338 P **P** **23 08 56.3 -0.1**
KEV pmax pmax
comp=Z,24nm,1.4s
BMAR Burnt Mountain 69.29 24 **P** **23 08 56.7 +0.1**
SPITS Spitsbergen Ar 69.67 348 P **P** **23 08 57.7 -1.1**
comp=Z,24nm,0.6s,baz=81,slow=6.0,SNR=6.9
SPITS LR LR 23 43 38.5
comp=Z,148nm,18.1s,baz=4.0,slow=40
comp=Z,2.4nm,0.6s
ARCES ARCESS Array B 69.83 338 P **P** **23 08 58.9 -1.0**
comp=Z,1.3nm,0.7s,baz=69,slow=8.3,SNR=4.2
comp=Z,1.3nm,0.7s
VRDI Verde Repeater 71.32 31 P **P** **23 09 09.3 0.0**
BCAR Beaver Creek A 71.55 29 P **P** **23 09 11.2 +0.7**
FIA1 FINESS Array S 71.83 330 P **P** **23 09 11.6 -0.5**
FINES FINESS Array B 71.83 330 P **P** **23 09 11.5 -0.6**
FINES FINESS Array B 71.83 330 P **P** **23 09 10.8 -1.3**
comp=Z,3.2nm,0.7s,baz=58,slow=6.1,SNR=14
FINES LR LR 23 43 55.2
comp=Z,174nm,19.4s,baz=42,slow=39
comp=Z,3.2nm,0.7s
FINES FINESS Array B 71.83 330 *i* P **P** **23 09 12.3 +0.2**
FINES pmax pmax
comp=Z,3.0nm,0.7s
DAWY Dawson 72.27 27 **P** **23 09 15.1 +0.4**
AKASG Malin Array Be 73.36 318 P **P** **23 09 20.1 -1.2**
comp=Z,1.2nm,0.8s,baz=61,slow=6.8,SNR=5.3
comp=Z,1.2nm,0.8s
BR131 Keskin Array S 73.75 307 **P** **23 09 23.2 -0.9**
BR131 IAmb IAmb 23 09 39.8
comp=Z,7.6nm,1.2s
BR131 Keskin Array S 73.75 307 P **P** **23 09 23.2 -0.9**
BR131 pmax pmax
comp=Z,8.0nm,1.2s
BRTR Keskin Array B 73.75 307 **P** **23 09 23.3 -0.8**
BRTR Keskin Array B 73.75 307 P **P** **23 09 22.8 -1.4**
comp=Z,2.4nm,0.8s,baz=108,slow=4.0,SNR=13
comp=Z,2.4nm,0.8s
MMAI Mount Meron Ar 74.51 300 LR LR 23 48 53.9
comp=Z,43nm,20.0s,baz=210,slow=41
EUNU Eureka 74.89 5 P **P** **23 09 28.9 -1.0**
EUNU IAmb IAmb 23 09 29.2
comp=Z,7.6nm,1.4s
NDNU Novodnistrovsk 75.17 317 P **P** **23 09 31.5 -0.5**
C36M Paulatuk 75.62 20 P **P** **23 09 32.7 -1.5**
C36M IAmb IAmb 23 09 33.8
comp=Z,4.5nm,0.6s
BURAR Bucovina Array 76.87 316 P **P** **23 09 41.2 -0.6**
MLR Muntele Rosu 77.17 314 LR LR 23 49 21.6
comp=Z,68nm,18.9s,baz=74,slow=40
ELL Elmali 77.50 305 P **P** **23 09 45.7 0.0**
ELL Elmali 77.50 305 P **P** **23 09 45.7 0.0**
ELL pmax pmax
comp=Z,45nm,1.2s
HFS Hagfors 77.94 331 P **P** **23 09 45.9 -1.5**
comp=Z,2.7nm,0.7s,baz=99,slow=9.2,SNR=5.1
HFS LR LR 23 47 43.3
comp=Z,269nm,18.4s,baz=62,slow=38
comp=Z,2.7nm,0.7s
NC405 NORSAR Array S 78.33 332 P **P** **23 09 48.1 -1.5**
NB2 NORSAR Subarra 78.58 332 P **P** **23 09 49.7 -1.4**
comp=Z,0.5nm,0.6s,baz=57,slow=5.3
NOA NORSAR Array B 78.58 332 P **P** **23 09 50.0 -1.0**
comp=Z,0.8nm,0.7s,baz=59,slow=5.5,SNR=4.9
NOA LR LR 23 48 06.5
comp=Z,209nm,18.1s,baz=65,slow=38
comp=Z,0.8nm,0.7s
JMIC Jan Mayen 79.05 345 LR LR 23 50 24.6
comp=Z,67nm,18.3s,baz=230,slow=40
VRAC Vranov 81.41 320 LR LR 23 50 40.3
comp=Z,49nm,18.0s,baz=28,slow=39
CLL Collm 82.50 323 *e*P **P** **23 10 11.0 -1.2**
CLL Collm 82.50 323 *e*P **P** **23 10 11.0 -1.2**
CLL *i* sP **pwP** **23 10 23.5 +0.3**
SUMG Summit 82.62 354 P **P** **23 10 13.2 +0.3**
SUMG IAmb IAmb 23 10 38.4
comp=Z,8.4nm,1.3s
SUMG Summit 82.62 354 P **P** **23 10 13.2 +0.3**
SUMG pmax pmax
comp=Z,8.0nm,1.3s
YKA Yellowknife Ar 82.75 23 P **P** **23 10 12.4 -0.9**
comp=Z,2.5nm,0.8s,baz=315,slow=4.8,SNR=41
comp=Z,2.5nm,0.8s
GERES GERESS Array B 83.31 321 P **P** **23 10 15.8 -0.8**
GERES GERESS Array B 83.31 321 P **P** **23 10 14.3 -2.3**
comp=Z,1.2nm,0.7s,baz=57,slow=4.9,SNR=8.9
comp=Z,1.2nm,0.7s
ILON Igloolik, Nuna 85.19 8 **P** **23 10 24.0 -1.6**
ILON IAmb IAmb 23 10 25.2
comp=Z,4.5nm,0.8s
KMBO Kilima Mbogo 85.59 267 P **P** **23 10 28.2 -0.7**
comp=Z,2.4nm,0.8s,baz=28,slow=4.5,SNR=7.0
comp=Z,2.4nm,0.8s
DAVOX Davos/Dischmat 86.58 320 LR LR 23 52 01.5
comp=Z,83nm,19.6s,baz=48,slow=38
BORG Borgarnes 86.94 345 LR LR 23 52 31.2
comp=Z,59nm,19.7s,baz=33,slow=38
BLKN Baker Lake 87.02 16 P **P** **23 10 33.0 -1.7**
B08A Colville Reser 89.43 36 P **P** **23 10 45.7 -0.8**
B08A IAmb IAmb 23 10 55.9
comp=Z,5.7nm,0.8s
NEW Newport 90.65 35 LR LR 23 52 47.2
comp=Z,28nm,20.3s,baz=231,slow=36
PPT2 Papeete2 95.70 107 *e*LR LR 23 42 08.9
comp=Z,83nm,26.0s

---

*ASIES **09** 23:10:04.6, 24°.19N×121°.88E, h25km, ML3.6, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.06; $M_{\theta\theta}$0.45; $M_{\phi\phi}$-0.66; $M_{r\theta}$0.48; $M_{\theta\phi}$0.15; $M_{\phi r}$1.18; Fault plane solution: $M_0$1.39977×10^{21} NP1: ϕ_s124.97000°, δ22.27000°, λ10.12000°. NP2: ϕ_s25.59000°, δ86.18000°, λ111.96000°. Principal axes: T Plg44.5430°, Azm317.3660°; N Plg21.9050°, Azm204.0530°; P Plg37.3930°, Azm96.1530°;*

*TAP **09** 23:10:04.6, 24°.19N×121°.88E, h25km, ML3.6, B*

ISC 09 23:10:04.3±1.0, 24°.14N±0°.02×121°.94E±0°.02, h23km±6km, n147, σ0°.92/248, 1C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.25**	**312**	P	**Pb**	**23 10 10.4**	**0.0**
EHP				S	**Sb**	**23 10 15.1**	**+0.6**
EAHA	**Aohua**	**0.26**	**315**	||*i*P	**Pb**	**23 10 10.3**	**-0.3**
EAHA				*e*S	**Sb**	**23 10 14.6**	**-0.3**
ETL	**Fush Village**	**0.29**	**273**	||*i*P	**Pb**	**23 10 11.0**	**-0.1**
ETL				*i* S	**Sb**	**23 10 16.0**	**+0.3**
NACB	**Ninganchiao**	**0.32**	**275**	P	**Pb**	**23 10 11.1**	**-0.4**
NACB	**Ninganchiao**	**0.32**	**275**	S	**Sb**	**23 10 16.0**	**-0.4**
NACB	**Ninganchiao**	**0.32**	**275**	||*i*P	**Pb**	**23 10 11.2**	**-0.3**
NACB				*i* S	**Sb**	**23 10 16.1**	**-0.2**
TWD	**Chiawan**	**0.32**	**259**	||*i*P	**Pb**	**23 10 11.5**	**-0.1**
TWD				*i* S	**Sb**	**23 10 16.9**	**+0.4**
EWUT	**Wuta**	**0.34**	**333**	||*i*P	**Pb**	**23 10 11.6**	**-0.1**
EWUT				*i* S	**Sb**	**23 10 17.0**	**+0.2**
ENA	**Nanau**	**0.34**	**327**	||*i*P	**Pb**	**23 10 11.4**	**-0.3**
ENA				*i* S	**Sb**	**23 10 16.6**	**-0.3**
EOS4	**EOS4**	**0.34**	**94**	P	**Pn**	**23 10 13.7**	**+0.1**
HWA	**Hwalien**	**0.35**	**242**	P	**Pb**	**23 10 12.7**	**+0.7**
EOS3	**EOS3**	**0.37**	**67**	P	**Pn**	**23 10 14.9**	**+0.7**
EOS2	**EOS2**	**0.38**	**44**	*e*P	**Pn**	**23 10 14.6**	**+0.3**
TEYL	**Yanliau Villag**	**0.42**	**229**	*i* P	**Pb**	**23 10 13.7**	**+0.6**
TEYL				S	**Sn**	**23 10 21.3**	**-0.7**
ETLH	**Xiulin Townshi**	**0.43**	**279**	||*i*P	**Pb**	**23 10 12.8**	**-0.4**
ETLH				*i* S	**Sb**	**23 10 19.1**	**-0.2**
ESAO	**Su ao**	**0.44**	**348**	P	**Pb**	**23 10 13.3**	**-0.1**
ESAO				*e*S	**Sb**	**23 10 19.5**	**-0.1**
ETM	**Tongmen**	**0.45**	**247**	*i* P	**Pb**	**23 10 13.5**	**-0.1**
ETM				*e*S	**Sb**	**23 10 20.5**	**+0.6**
TWC	**Suao**	**0.47**	**349**	*i* P	**Pb**	**23 10 14.0**	**0.0**
TWC				S	**Sb**	**23 10 20.9**	**+0.4**
SHUL	**Shoufeng**	**0.50**	**225**	P	**Pn**	**23 10 15.4**	**-0.6**
SHUL				*e*S	**Sn**	**23 10 23.9**	**0.0**
LXIB	**Xiulin Townshi**	**0.50**	**256**	||*i*P	**Pb**	**23 10 14.2**	**-0.3**
LXIB				S	**Sb**	**23 10 21.9**	**+0.3**
NDS	**Dongshan**	**0.53**	**337**	*e*P	**Pb**	**23 10 14.6**	**-0.3**
NDS				S	**Sb**	**23 10 21.8**	**-0.4**
LATG	**Datong**	**0.55**	**316**	*i* P	**Pb**	**23 10 14.9**	**-0.4**
LATG				*i* S	**Sb**	**23 10 22.6**	**-0.2**
TEGC	**Jichi Village**	**0.57**	**221**	P	**Pn**	**23 10 16.5**	**-0.5**
TEGC				*e*S	**Sn**	**23 10 26.2**	**+0.5**

ESL	Shilin	0.57 235	P	Pb	23 10 15.5	-0.2
ESL			S	Sb	23 10 24.0	+0.6
NNSB	Datong	0.58 299	‖ *i* P	Pb	23 10 15.4	-0.6
NNSB			*i* S	Sb	23 10 23.3	-0.7
NNSH	Datong	0.58 299	P	Pb	23 10 15.5	-0.5
NNSH			S	Sb	23 10 23.4	-0.5
NNS	Nan Shan	0.60 300	P	Pb	23 10 15.6	-0.7
NNS			S	Sb	23 10 23.9	-0.4
ENTT	Nioudou	0.60 325	*e* P	Pb	23 10 15.9	-0.3
ENTT			*e* S	Sb	23 10 23.6	-0.7
WHF	Hehuan Shan	0.62 270	*i* P	Pb	23 10 16.3	-0.4
WHF			S	Sb	23 10 24.9	-0.3
TWE	Neicheng	0.63 336	*i* P	Pb	23 10 16.4	-0.2
TWE			S	Sb	23 10 24.8	-0.2
ILA	Ilan	0.64 344	P	Pb	23 10 17.4	+0.5
ILA			*i* S	Sn	23 10 26.8	-0.7
FUSS	Fushou	0.65 279	*i* P	Pb	23 10 16.9	-0.2
FUSS			*i* S	Sb	23 10 25.7	-0.1
WARBT	Fenglin Townsh	0.66 230	*e* P	Pb	23 10 17.0	-0.2
EGFH	Guangfu	0.67 225	P	Pb	23 10 17.6	+0.3
EGFH			*e* S	Sn	23 10 28.4	+0.3
FUSB	Fushanzhiwuyua	0.69 332	*i* P	Pb	23 10 17.4	-0.4
FUSB			S	Sb	23 10 26.6	-0.4
EGS		0.70 359	*e* P	Pn	23 10 18.5	-0.3
EGS			*e* S	Sn	23 10 28.1	-0.8
TWT	Tachien	0.71 279	P	Pb	23 10 18.2	+0.1
TWT			S	Sb	23 10 27.6	+0.1
TDCB	Techi	0.73 279	P	Pb	23 10 18.1	-0.3
TDCB			S	Sb	23 10 27.7	-0.3
OWD	Renai	0.73 255	‖ *i* P	Pb	23 10 18.0	-0.3
OWD			S	Sb	23 10 28.4	+0.5
YHNB	Yeheng	0.74 315	P	Pb	23 10 18.1	-0.4
YHNB	Yeheng	0.74 315	S	Sb	23 10 27.8	-0.4
YHNB	Yeheng	0.74 315	P	Pb	23 10 17.9	-0.6
YHNB			S	Sb	23 10 27.4	-0.8
NWLT	Wulai	0.75 328	P	Pb	23 10 18.2	-0.5
NWLT			S	Sb	23 10 27.9	-0.6
NSK	Sanguang	0.75 315	P	Pb	23 10 18.2	-0.6
NSK			*i* S	Sb	23 10 27.9	-0.8
WUSB	Renai	0.77 259	‖ *i* P	Pb	23 10 18.8	-0.4
WUSB			S	Sb	23 10 29.1	-0.2
HGSD	Ruisui	0.81 216	P	Pn	23 10 20.1	-0.2
TIPB	Shuangxi	0.83 353	⇑ *i* P	Pb	23 10 20.3	+0.2
TIPB			*i* S	Sb	23 10 31.4	+0.5
VWDT	VWDT	0.83 242	*e* P	Pb	23 10 19.9	-0.2
VWDT			*e* S	Sb	23 10 31.3	+0.5
EHY	Hungye	0.85 222	*e* P	Pb	23 10 20.0	-0.4
TWB1	Santiao Chiao	0.86 3	P	Pn	23 10 21.1	0.0
TWB1			S	Sn	23 10 32.8	-0.1
TWA	Mucha	0.90 339	P	Pn	23 10 22.1	+0.6
TWA			S	Sn	23 10 33.9	+0.1
NFF	Wufeng Townshi	0.90 303	*i* P	Pb	23 10 21.0	-0.2
NFF			S	Sb	23 10 32.1	-0.7
NHDH	Xindian Distri	0.90 335	*e* P	Pn	23 10 21.5	-0.1
NHDH			*e* S	Sn	23 10 33.4	-0.5
WHP	Taichung City	0.92 279	*e* P	Pb	23 10 21.5	-0.1
WHP			*e* S	Sb	23 10 33.7	+0.2
TATO	Taipei	0.93 333	P	Pn	23 10 21.8	-0.1
TATO	Taipei	0.93 333	S	Sn	23 10 34.2	-0.3
NWF	Wu-fen Shan	0.94 351	P	Pn	23 10 22.4	+0.2
NWF			S	Sn	23 10 35.2	+0.3
WFSB	Wu-fen Shan	0.94 351	*i* P	Pn	23 10 22.3	+0.3
WFSB			S	Sn	23 10 35.0	+0.3
KSHI	Guanxi Townshi	0.94 312	*e* P	Pn	23 10 22.3	+0.1
SXI1	Grass Mountain	0.95 356	*i* P	Pn	23 10 22.7	+0.4
SXI1			S	Sn	23 10 36.1	+0.9
WCS	Beigang Elemen	0.95 265	P	Pb	23 10 21.6	-0.4
WCS			*e* S	Sn	23 10 35.9	+0.8
YULB	Yu-li	0.95 219	P	Pb	23 10 21.7	-0.5
YULB	Yu-li	0.95 219	S	Sn	23 10 35.7	+0.5
YULB	Yu-li	0.95 219	*e* P	Pb	23 10 21.2	-1.0
YULB			*e* S	Sn	23 10 35.5	+0.2
SSLB	Suanglung	0.97 249	P	Pb	23 10 21.9	-0.6
SSLB	Suanglung	0.97 249	S	Sn	23 10 35.5	-0.2
SSLB	Suanglung	0.97 249	P	Pb	23 10 21.9	-0.6
SSLB			*e* S	Sb	23 10 34.5	-0.4
TAP	Taipei	0.98 336	P	Pn	23 10 22.9	+0.3
TAP			*e* S	Sn	23 10 36.1	+0.3
EYUL	Yuli	0.98 216	*e* P	Pn	23 10 22.9	+0.3
LIOB	Emei	0.98 301	P	Pn	23 10 23.0	+0.3
LIOB			*e* S	Sb	23 10 35.5	+0.3
TWF1	Yuli	0.99 217	*e* P	Pb	23 10 22.2	-0.5
TWF1			*e* S	Sn	23 10 36.1	+0.1
NSTT	Nanjuang	0.99 300	*e* P	Pn	23 10 22.9	+0.1
NSTT			*i* S	Sb	23 10 35.3	-0.1
SMLT	Sun Moon Lake	0.99 255	*i* P	Pb	23 10 21.7	-1.2
SMLT			*e* S	Sb	23 10 34.2	-1.3
TNOU	National Taiwa	1.01 351	*e* P	Pn	23 10 24.6	+1.5
TNOU			*e* S	Sn	23 10 38.2	+1.5
TYC	Yuchr	1.02 257	*e* P	Pn	23 10 23.1	-0.2
YOJ	Yonaguni jima	1.02 72	P	Pn	23 10 23.6	+0.4
YOJ	Yonaguni jima	1.02 72	*i* P	Pn	23 10 23.6	+0.4
YOJ			*e* S	Sn	23 10 40.3	+3.4
YM01	YM01	1.05 341	*e* P	Pb	23 10 24.3	+0.4
YM01			*e* S	Sn	23 10 38.1	+0.4
TWS1	Kuangyinshan	1.07 333	P	Pb	23 10 24.0	-0.1
TWS1			*e* S	Sn	23 10 38.6	+0.6
CHKH	Chenggong	1.07 208	*e* P	Pb	23 10 24.0	-0.2
NCUH	Zhongli	1.07 320	P	Pb	23 10 24.1	-0.1
NCUH			*e* S	Sn	23 10 39.5	+1.4
ZUZH	Zhuzihu	1.08 340	P	Pn	23 10 23.7	-0.4
ZUZH			*e* S	Sn	23 10 38.7	+0.4
SBCB	Hsinchu	1.09 307	P	Pb	23 10 24.9	+0.4
SBCB			S	Sn	23 10 40.1	+1.6
TWQ1	Liyutan	1.09 281	P	Pb	23 10 25.2	+0.7
TWQ1			*e* S	Sn	23 10 39.5	+0.9
YM08	YM08	1.09 343	*e* P	Pb	23 10 24.4	0.0
WHYT	Xinyi Township	1.09 246	P	Pb	23 10 24.5	0.0
WHYT			*e* S	Sn	23 10 40.3	+1.6
HSN	Hsinchu	1.10 307	*e* P	Pn	23 10 23.8	-0.6
HSN			S	Sn	23 10 39.9	+0.9
ANP	Anpu	1.11 340	*e* P	Pn	23 10 24.2	-0.3
NTST	Danshui	1.11 336	*e* P	Pb	23 10 24.6	-0.2
NTST			*e* S	Sn	23 10 41.2	+2.1
NSY	Sanyi	1.11 284	*e* P	Pn	23 10 23.1	-1.4
NSY			*e* S	Sb	23 10 37.8	-1.2
FULB	Fuli	1.11 212	*e* P	Pb	23 10 25.1	+0.1
NMLH	Miaoli	1.12 291	*e* P	Pb	23 10 25.8	+0.8
NMLH			*e* S	Sn	23 10 40.8	+1.4
TCU	Taichung	1.16 270	P	Pb	23 10 26.8	+1.2
TCU			S	Sn	23 10 42.7	+2.4
WJS	Zhushan	1.16 254	*e* P	Pb	23 10 26.5	+0.9
WJS			*e* S	Sn	23 10 42.2	+2.0
TWY	Chenhua	1.17 345	*e* P	Pb	23 10 25.5	-0.4
TWY			*e* S	Sn	23 10 41.3	+0.7
WNT	Mingjian	1.18 257	P	Pb	23 10 26.5	+0.5
WNT			S	Sn	23 10 42.5	+1.7
WDJ	Dajia District	1.21 280	*e* P	Pb	23 10 27.4	+1.0
WDJ			*e* S	Sb	23 10 44.2	+2.5
ALS	Alishan	1.22 239	*e* P	Pb	23 10 26.8	-0.1
WCHH	Zhanghua	1.27 267	*e* P	Pb	23 10 27.4	-0.1
WCHH			*e* S	Sb	23 10 44.7	+1.4
ELDTW	Lidau	1.27 222	*e* P	Pn	23 10 26.8	0.0
EDH	Donghe	1.31 207	*e* P	Pn	23 10 26.7	-0.4
EDH			*e* S	Sn	23 10 42.9	-1.0
WGK	Gukeng	1.34 250	*e* P	Pb	23 10 29.7	+0.9
WDLH	Douliu	1.36 251	P	Pb	23 10 29.8	+0.7
WDLH			*e* S	Sb	23 10 48.5	+2.3
WCKO	Fanlu	1.41 240	*e* P	Pb	23 10 31.3	+1.3
WCKO			*e* S	Sb	23 10 50.6	+3.0
LONT	Longtian	1.44 211	*e* P	Pn	23 10 28.9	-0.2
STYH	Taoyuan	1.45 228	*e* P	Pn	23 10 28.5	-0.5
STYH			*e* S	Sb	23 10 48.2	-0.2
CHN4	Tsaushan	1.47 238	P	Pb	23 10 31.4	+0.5
CHN4			*e* S	Sb	23 10 52.5	+3.3
TPUB	Ta-pu	1.47 235	P	Pb	23 10 30.8	-0.1
TPUB	Ta-pu	1.47 235	S	Sb	23 10 50.7	+1.5
TPUB	Ta-pu	1.47 235	*e* P	Pb	23 10 31.0	+0.1
TPUB			*e* S	Sb	23 10 50.3	+1.1
PCYT	Pengchaiyu	1.48 4	P	Pb	23 10 30.4	-0.8
PCYT			*e* S	Sb	23 10 49.6	0.0
WTK	Tuku	1.49 253	*e* P	Pb	23 10 31.7	+0.4
WTK			*e* S	Sb	23 10 51.8	+1.9
WTP	Ta-pu	1.51 234	*e* P	Pb	23 10 32.0	+0.3
WTP			*e* S	Sb	23 10 52.4	+1.9
LDUT	Ludao	1.53 197	*e* P	Pn	23 10 28.6	-1.6
LDUT			*e* S	Sn	23 10 46.5	-2.9
CHY	Chiayi	1.53 246	*e* P	Pb	23 10 32.3	+0.3
TWGBT	Beinan	1.54 211	P	Pn	23 10 30.3	-0.1
TWGBT	Beinan	1.54 211	*e* P	Pn	23 10 29.0	-1.4
TWGBT			*e* S	Sn	23 10 49.2	-0.5
TWG	Pinlang	1.54 211	*e* P	Pn	23 10 28.7	-1.7
TWG			*e* S	Sn	23 10 49.1	-0.6
TWK	Hsinying	1.59 237	P	Pb	23 10 32.9	-0.2
TWK			*e* S	Sb	23 10 54.4	+1.5
CHN1	Nanshi	1.61 234	*e* P	Pb	23 10 33.1	-0.2
CHN1			*i* S	Sb	23 10 55.3	+2.0
SNST	Tainan City	1.61 236	*e* P	Pb	23 10 33.4	0.0
SNST			*e* S	Sb	23 10 55.1	+1.7
SGST	Jiashian	1.64 230	*e* P	Pb	23 10 32.8	-1.0
SGST			*e* S	Sb	23 10 54.9	+0.9
WSF	Szhu	1.66 253	*e* S	Sb	23 10 56.7	+2.2
WSL	Shuilin Townsh	1.69 249	*e* P	Pb	23 10 34.4	-0.3
WSL			*e* S	Sb	23 10 56.7	+1.2
ICHU	Yijhu	1.71 243	P	Pb	23 10 34.6	-0.5
ICHU			*e* S	Sb	23 10 58.9	+2.7
ECL	Taimali	1.79 211	*e* P	Pb	23 10 35.5	-0.9
SSD	Sandimen	1.84 221	*e* P	Pb	23 10 36.3	-1.0
TSMG	Majia	1.86 220	*e* P	Pb	23 10 36.7	-1.0
MASBT	Mashibuluo	1.94 219	*e* P	Pb	23 10 38.2	-0.8
MASBT			*e* S	Sb	23 11 04.0	+1.2
TSCK	Chigu Township	1.97 240	*e* P	Pn	23 10 37.2	+0.9
TSCK			*e* S	Sb	23 11 02.4	-1.3
EAST	Anshuo	2.02 210	*e* P	Pb	23 10 38.9	-1.5
TAWH	Dawu Township	2.04 209	*e* P	Pn	23 10 37.0	-0.3
SCZT	Fangliau	2.14 215	*e* P	Pb	23 10 41.3	-1.1
SCZT			*e* S	Sb	23 11 07.2	-1.4
SLIU	Shizi	2.19 209	*e* P	Pb	23 10 41.2	-2.1
PHUB	P'eng-hu	2.26 254	*e* P	Pn	23 10 40.7	+0.4
PHUB			S	Sn	23 11 08.5	+1.0
PNG	Penghu	2.26 256	*e* P	Pn	23 10 40.9	+0.6
WDGT	Dungji	2.27 248	*e* P	Pn	23 10 41.4	+1.0
WDGT			*e* S	Sn	23 11 07.7	0.0
VWUC	VWUC	2.42 291	*e* P	Pn	23 10 41.9	-0.6
VWUC			*e* S	Sn	23 11 09.6	-1.8
MATB	Ma-tsu	2.70 318	*e* P	Pn	23 10 45.5	-0.8
MATB			*e* S	Sn	23 11 16.7	-1.5
PTMZ	Houxiangcun	2.72 290	*e* P	Pn	23 10 47.1	+0.5
PTMZ			*e* S	Sn	23 11 18.1	-0.8
XPSS	Dashiqiu	3.19 331	*e* P	Pn	23 10 52.0	-1.2
KNM	Kinmen	3.21 276	*e* P	Pn	23 10 54.9	+1.5
KNMB	Chin-men Tao	3.26 276	*e* P	Pn	23 10 53.7	-0.3
MHZQ	Yeshan	3.28 307	*e* P	Pn	23 10 53.5	-0.9
AXDP	Jialang	3.70 283	*e* P	Pn	23 11 00.1	+0.1
AXDP			*e* S	Sn	23 11 42.3	-0.6
ZPLA	Ao Xicun	3.84 268	*e* P	Pn	23 11 01.8	-0.2
ZPLA			*e* S	Sn	23 11 45.0	-1.5
SXFK	Yanhouchang	4.49 301	*e* P	Pn	23 11 10.0	-1.0

TAP ***09*** *23:33:12.8, 23°.43N×121°.61E, h35km, ML2.8, C*
ISC 09 23:33:11.9±1.0, 23°.39N±0°.02×121°.67E±0°.03, h33km±3km, n83, σ0s66/133, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	Changbin	0.22 250		*i* P	Pb	23 33 19.6	+0.9
ECBN				*i* S	Sb	23 33 24.5	+1.3
HGSD	Ruisui	0.25 294		⇑ *i* P	Pb	23 33 19.3	+0.2
HGSD				*e* S	Sb	23 33 24.7	+0.8
EHYH	Wanrong	0.32 289		*e* P	Pn	23 33 20.4	+0.1
EHYH				*e* S	Sn	23 33 26.1	+0.4
CHKH	Chenggong	0.32 232		P	Pn	23 33 20.3	0.0
CHKH				S	Sn	23 33 25.6	-0.2
EYUL	Yuli	0.33 263		P	Pn	23 33 20.7	+0.3
EYUL				S	Sn	23 33 26.9	+1.0
TEGC	Jichi Village	0.34 339		P	Pb	23 33 20.7	+0.6
TEGC				S	Sn	23 33 26.7	+0.5
EHY	Hungye	0.34 290		P	Pb	23 33 20.5	+0.3
EHY				S	Sb	23 33 25.9	0.0
YULB	Yu-li	0.35 270		P	Pb	23 33 20.5	+0.3
YULB	Yu-li	0.35 270		S	Sn	23 33 26.4	0.0
YULB	Yu-li	0.35 270		P	Pb	23 33 20.6	+0.4
YULB				S	Sb	23 33 26.2	+0.3
TWF1	Yuli	0.35 264		*i* P	Pn	23 33 20.9	+0.2
TWF1				*e* S	Sn	23 33 26.5	0.0
EGFH	Guangfu	0.36 321		*e* P	Pn	23 33 21.1	+0.2
EGFH				S	Sb	23 33 26.6	+0.4
FULB	Fuli	0.40 241		P	Pn	23 33 21.5	+0.1
FULB				*e* S	Sn	23 33 27.9	+0.1
CHKT	Chengkung	0.41 224		P	Pb	23 33 21.4	+0.4
CHKT				S	Sb	23 33 27.6	+0.3
SHUL	Shoufeng	0.41 346		*i* P	Pb	23 33 21.6	+0.5
SHUL				S	Sn	23 33 28.3	+0.3
WARBT	Fenglin Townsh	0.42 321		P	Pb	23 33 21.2	-0.1
WARBT				S	Sb	23 33 27.1	-0.7
ESL	Shilin	0.48 332		P	Pb	23 33 22.0	-0.1
ESL				S	Sb	23 33 28.5	-0.6
TEYL	Yanliau Villag	0.48 352		P	Pn	23 33 23.1	+0.6
TEYL				S	Sn	23 33 30.7	+0.9
EHD	Haiduan	0.49 241		*e* P	Pn	23 33 22.8	+0.1
EDH	Donghe	0.54 219		P	Pb	23 33 23.2	+0.2
EDH				*i* S	Sb	23 33 30.7	0.0
HWA	Hwalien	0.59 354		*e* P	Pb	23 33 24.1	+0.2
HWA				*e* S	Sn	23 33 33.4	+1.0
ETM	Tongmen	0.60 344		P	Pb	23 33 23.8	-0.3
VWDT	VWDT	0.61 307		*i* P	Pn	23 33 24.2	0.0
VWDT				*e* S	Sb	23 33 32.3	-0.3
ELDTW	Lidau	0.64 252		*e* P	Pn	23 33 24.2	-0.5
ELDTW				S	Sb	23 33 32.4	-1.1
LXIB	Xiulin Townshi	0.67 339		*e* P	Pn	23 33 24.6	-0.6
LXIB				*e* S	Sb	23 33 33.3	-1.3
TWD	Chiawan	0.69 354		P	Pn	23 33 25.2	-0.1
TWD				*i* S	Sb	23 33 34.4	-0.5
LONT	Longtian	0.69 226		*e* P	Pb	23 33 26.3	+0.6
OWD	Renai	0.72 321		*i* P	Pn	23 33 25.7	-0.3
OWD				*i* S	Sn	23 33 34.5	-1.5
LDUT	Ludao	0.74 195		P	Pn	23 33 25.7	-0.3
LDUT				*e* S	Sn	23 33 35.2	-0.9
ETL	Fush Village	0.77 357		*e* P	Pn	23 33 25.9	-0.6
SSLB	Suanglung	0.77 301		P	Pn	23 33 26.4	-0.1
SSLB	Suanglung	0.77 301		P	Pn	23 33 26.3	-0.2
SSLB				*e* S	Sn	23 33 35.4	-1.6
NACB	Ninganchiao	0.78 355		P	Pn	23 33 26.2	-0.5
NACB	Ninganchiao	0.78 355		S	Sn	23 33 37.1	-0.2
NACB	Ninganchiao	0.78 355		P	Pn	23 33 26.4	-0.3
NACB				S	Sn	23 33 36.7	-0.6
WUSB	Renai	0.79 320		*i* P	Pn	23 33 26.7	-0.1
WUSB				S	Sn	23 33 36.0	-1.5
TWGBT	Beinan	0.79 224		P	Pb	23 33 32.6	+5.3
ALS	Alishan	0.81 279		P	Pb	23 33 27.8	+0.1
ALS				*e* S	Sn	23 33 38.0	-0.3
WHYT	Xinyi Township	0.81 292		P	Pn	23 33 27.6	+0.5
WHYT				S	Sn	23 33 37.4	-0.6
ETLH	Xiulin Townshi	0.83 348		P	Pn	23 33 26.9	-0.6
ETLH				*e* S	Sn	23 33 37.1	-1.5
WHF	Hehuan Shan	0.84 334		*e* P	Pn	23 33 27.7	-0.1
WHF				S	Sn	23 33 37.9	-1.4
STYH	Taoyuan	0.85 255		*e* P	Pn	23 33 26.9	-0.8
STYH				*e* S	Sn	23 33 37.6	-1.4
SMLT	Sun Moon Lake	0.86 305		P	Pn	23 33 27.1	-0.7
SMLT				*e* S	Sn	23 33 38.6	-0.8
STYT	Tauyuan	0.87 255		*e* P	Pn	23 33 27.6	-0.4
TYC	Yuchr	0.91 304		*e* P	Pn	23 33 29.0	+0.6
TYC				*e* S	Sb	23 33 41.1	+0.1
EOS4	EOS4	0.94 39		*e* S	Sn	23 33 41.3	+0.8
FUSS	Fushou	0.94 335		P	Pn	23 33 29.2	+0.1
FUSS				*e* S	Sn	23 33 41.0	-0.5
TPUB	Ta-pu	0.96 265		P	Pb	23 33 30.5	+0.3
TPUB	Ta-pu	0.96 265		S	Sn	23 33 42.2	+0.4
TPUB	Ta-pu	0.96 265		P	Pb	23 33 30.4	+0.2
TPUB				S	Sb	23 33 43.0	+0.3
WCS	Beigang Elemen	0.96 314		P	Pn	23 33 29.7	+0.5
TWT	Tachien	0.97 332		*e* P	Pn	23 33 30.2	+0.8
TWT				S	Sn	23 33 41.9	-0.3
TDCB	Techi	0.98 331		P	Pn	23 33 30.1	+0.6
TDCB				*e* S	Sn	23 33 41.7	-0.7
WTP	Ta-pu	0.98 262		P	Pb	23 33 30.9	+0.4
CHN4	Tsaushan	0.99 268		P	Pb	23 33 31.0	+0.4
WNT	Mingjian	1.03 298		*e* P	Pb	23 33 31.6	+0.4
ECL	Taimali	1.03 220		*e* P	Pn	23 33 29.2	-0.9
ENA	Nanau	1.03 3		*e* P	Pn	23 33 30.5	+0.3
NNSB	Datong	1.07 346		P	Pn	23 33 30.8	+0.1
NNSB				*e* S	Sn	23 33 43.5	-1.0
EOS3	EOS3	1.07 33		*e* S	Sb	23 33 45.6	+0.2
CHN1	Nanshi	1.07 259		*e* P	Pb	23 33 32.2	+0.2
WDLH	Douliu	1.08 286		*e* P	Pb	23 33 32.1	-0.1
TWK	Hsinying	1.10 264		P	Pb	23 33 32.6	+0.2
TWK				*e* S	Sb	23 33 46.9	+0.5
WHP	Taichung City	1.11 323		*e* P	Pb	23 33 33.2	+0.6
LATG	Datong	1.15 353		P	Pn	23 33 32.2	+0.4
LATG				*e* S	Sn	23 33 45.7	-0.7
TCU	Taichung	1.19 310		*e* P	Pb	23 33 35.0	+1.1
MASBT	Mashibuluo	1.23 231		*e* P	Pn	23 33 33.3	+0.4
ENTT	Nioudou	1.25 355		*e* P	Pn	23 33 33.9	+0.8
TAW	Tawu	1.25 215		*e* P	Pn	23 33 33.7	+0.6
TWQ1	Liyutan	1.26 319		P	Pb	23 33 35.1	0.0
TWQ1				*e* S	Sb	23 33 51.1	+0.1
YHNB	Yeheng	1.30 348		P	Pn	23 33 34.8	+0.9
YHNB	Yeheng	1.30 348		S	Sn	23 33 50.5	+0.3
YHNB	Yeheng	1.30 348		*e* P	Pn	23 33 34.9	+1.0
YHNB				S	Sn	23 33 50.6	+0.3
NSK	Sanguang	1.31 347		P	Pn	23 33 35.2	+1.2
NSK				*e* S	Sn	23 33 50.2	-0.2
NFF	Wufeng Townshi	1.34 338		*e* P	Pb	23 33 36.9	+0.5
LAY	Lan-yu	1.35 185		*e* P	Pn	23 33 34.4	-0.1
LAY				*e* S	Sn	23 33 50.2	-1.1
FUSB	Fushanzhiwuyua	1.36 357		*e* P	Pn	23 33 35.0	+0.2
NSTT	Nanjuang	1.38 334		*e* P	Pb	23 33 36.5	-0.6
NSTT				*e* S	Sn	23 33 52.9	+0.9
LIOB	Emei	1.39 334		*e* P	Pb	23 33 36.8	-0.5
LIOB				*e* S	Sb	23 33 54.3	-0.4
NWLT	Wulai	1.39 354		P	Pn	23 33 36.1	+1.0
NWLT				*e* S	Sn	23 33 52.5	+0.2
TIPB	Shuangxi	1.58 5		*e* P	Pb	23 33 39.6	-1.0
TIPB				*e* S	Sn	23 33 59.0	+2.0
VWUC	VWUC	2.58 309		*e* P	Pn	23 33 51.9	+0.5
VWUC				*e* S	Sn	23 34 21.6	-0.1
PTMZ	Houxiangcun	2.85 306		*e* P	Pn	23 33 56.1	+1.0
PTMZ				*e* S	Sn	23 34 27.5	-0.9

NEIC ***09*** *23:40:22.0±1.9, 18°.20N±0°.05×67°.46W±0°.03, h20km±9km, ML2.8/26, Md2.6/14(RSPR), Error ellipse: s-maj=6.6km s-min=4.0km az=181.0*
RSPR ***09*** *23:40:23.0, 18°.19N×67°.46W, h12km±1km, MD2.6/14*
SDD ***09*** *23:40:22.9±2.4, 18°.20N×67°.48W, h15km±60km, MD2.8, ML2.4, MW2.7*
OSPL ***09*** *23:40:23.2±0.5, 18°.19N×67°.48W, h10km±2km, ML2.5*
ISC 09 23:40:21.9±1.0, 18°.20N±0°.03×67°.46W±0°.02, h17km±7km, n62, σ0s54/86, 26C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	Isla Desecheo	0.19 355			Pb	23 40 26.9	0.0
IDE					Sb	23 40 30.3	-0.1
IDE	Isla Desecheo	0.19 355		‖ *e* P	Pb	23 40 26.9	0.0
IDE	Isla Desecheo	0.19 355		*e* S	Sb	23 40 30.3	-0.1
PRSN	Puerto Rico Se	0.30 86			Pg	23 40 28.8	+0.4
PRSN					Sg	23 40 32.7	-0.1
PRSN				IAML		23 40 36.8	
	comp=E,1μm,0.2s						
PRSN				IAML		23 40 41.9	
	comp=N,1μm,0.3s						
PRSN	Puerto Rico Se	0.30 86		⇑ *e* P	Pb	23 40 30.0	+1.2
PRSN	Puerto Rico Se	0.30 86		*e* S	Sb	23 40 33.5	+0.1
LSP	Las Mesas	0.35 93			Pb	23 40 29.9	+0.2
LSP					Sb	23 40 35.9	+0.8
LSP	Las Mesas	0.35 93		‖ *e* P	Pb	23 40 29.9	+0.2
LSP	Las Mesas	0.35 93		*e* S	Sb	23 40 35.9	+0.8
CRPR	Cabo Rojo, PR	0.38 120		Pg	Pg	23 40 30.2	+0.3
CRPR				Sg	Sg	23 40 35.6	+0.5
CRPR	Cabo Rojo, PR	0.38 120		⇑ *e* Pg	Pg	23 40 30.4	+0.5
CRPR				⇑ *e* Sg	Sb	23 40 36.0	+0.2
CRPR				IAML		23 40 39.7	
	comp=N,232nm,0.2s						
CRPR	Cabo Rojo, PR	0.38 120		⇑ *e* P	Pg	23 40 30.3	+0.5
CRPR	Cabo Rojo, PR	0.38 120		*e* S	Sb	23 40 36.0	+0.2
CRPR	Cabo Rojo, PR	0.38 120		*i* P	Pg	23 40 30.4	+0.5
CRPR				*e* S	Sb	23 40 35.9	+0.2
CRPR				IAML		23 40 37.6	
	comp=Z,391nm,0.2s						
AGPR	Aguadilla, PR	0.42 51		Pg	Pg	23 40 30.8	+0.2
AGPR				Sg	Sb	23 40 37.3	+0.2
AGPR				IAML		23 40 37.7	
	comp=N,508nm,0.6s						
AGPR				IAML		23 40 39.4	
	comp=E,567nm,0.2s						
AGPR	Aguadilla, PR	0.42 51		⇑ *e* Pg	Pb	23 40 31.1	+0.1
AGPR				⇑ *e* Sg	Sb	23 40 37.5	+0.4
AGPR				IAML		23 40 39.6	
	comp=N,496nm,0.5s						
AGPR	Aguadilla, PR	0.42 51		⇑ *e* P	Pb

GCPR				IAML		23 41 03.9	
	comp=E,130nm,0.5s						
GCPR				IAML		23 41 04.1	
	comp=N,136nm,0.3s						
GCPR	**Guaynabo City**	**1.31**	**85⇑**	*e*P	**Pn**	**23 40 45.8**	**+0.4**
GCPR	**Guaynabo City**	**1.31**	**85**	*e*S	**Sn**	**23 41 02.6**	**+0.1**
PDPR	**Patillas Dam,**	**1.38**	**97**	Pn	**Pn**	**23 40 46.9**	**+0.6**
PDPR				IAML		23 41 07.7	
	comp=E,132nm,0.2s						
PDPR				IAML		23 41 09.4	
	comp=N,109nm,0.2s						
PDPR	**Patillas Dam,**	**1.38**	**97⇓**	*e*P	**Pb**	**23 40 47.3**	**+0.1**
PDPR	**Patillas Dam,**	**1.38**	**97**	*e*S	**Sb**	**23 41 05.6**	**+1.1**
MIDR	**Miches**	**1.70**	**298⇑**	*e*Pg	**Pn**	**23 40 51.4**	**+0.6**
MIDR			⇑	*e*Sg	**Sn**	**23 41 11.5**	**-0.7**
MIDR				IAML		23 41 26.5	
	comp=N,36nm,2.8s						
MIDR				IAML		23 41 26.5	
	comp=N,36nm,2.8s						
DR12	**Loma Pena Alta**	**1.92**	**288**	Pn	**Pn**	**23 40 53.7**	**-0.2**
HATOM	**Hato Mayor del**	**1.92**	**288⇑**	*e*Pg	**Pn**	**23 40 54.8**	**+0.9**
HATOM			⇑	*e*Sg	**Sb**	**23 41 20.9**	**+0.7**
HATOM				IAML		23 41 25.3	
	comp=N,33nm,2.7s						

IDC 09 23:43:04.5±3.2, 1°.88S×133°.37E, h0km, mb3.1/2, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=133.9km s-min=29.0km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.82**	**205**	P	Pn	23 47 14.2	+0.2
	0.1nm,0.3s,baz=40,slow=14,SNR=2.0						
	4.5nm,1.1s						
WRA	**Warramunga Arr**	**17.98**	**177**	P	Pn	23 47 15.2	-0.9
	0.1nm,0.3s,baz=353,slow=13,SNR=6.6						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**21.67**	**179**	P	P	23 47 57.5	+0.5
	0.5nm,0.6s,baz=6.6,slow=12,SNR=8.0						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**65.93**	**324**	P	P	23 53 52.4	-0.1
	0.1nm,0.4s,baz=107,slow=10,SNR=1.5						
	0.1nm,0.4s						

*IDC **09** 23:51:36.8±1.3, 24°.14N×124°.89E, h0km, mb3.6/4, mbtmp3.6/5, ML3.1/1, Error ellipse: s-maj=57.6km s-min=23.4km az=68.0*
*JMA **09** 23:51:40.8±0.3, 24°.N±1°.×125°.3E±0°.8, h44km, MV3.4/8, NEAR MIYAKOJIMA ISLAND*
ISC 09 23:51:42.0±1.7, 24°.3N±0°.1×125°.25E±0°.07, h40km±18km, n12, σ0°.83/17, mb3.6/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.44**	**10**	*i* P	**Pn**	**23 51 51.4**	**-0.6**
JMJ2				S	**Sn**	**23 51 59.2**	**+0.3**
JOGS	**Gusukube**	**0.47**	**18**	*i* P	**Pn**	**23 51 51.9**	**-0.5**
JOGS				S	**Sn**	**23 52 00.4**	**+0.7**
JIRB	**Irabujima**	**0.52**	**353**	P	**Pn**	**23 51 52.4**	**-0.7**
JIRB				S	**Sn**	**23 52 01.0**	**+0.1**
JTJ	**Tarama**	**0.60**	**304**	P	**Pn**	**23 51 53.6**	**-0.5**
JTJ				S	**Sn**	**23 52 03.0**	**+0.3**
JIKM	**Ikemajima**	**0.61**	**0**	P	**Pn**	**23 51 54.0**	**-0.3**
JISG	**Ishigakijimahi**	**0.90**	**288**	*e*P	**Pn**	**23 51 57.6**	**-0.5**
JISG				*e*S	**Sn**	**23 52 10.3**	**+0.4**
JIJ	**Ishigaki jima**	**1.01**	**273**	P	**Pn**	**23 51 59.9**	**+0.2**
MJAR	**Matsushiro Arr**	**16.52**	**39**	Pn	**P**	**23 55 34.8**	**+1.8**
	0.1nm,0.3s,baz=222,slow=11,SNR=2.4						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**40.87**	**314**	P	**P**	**23 59 20.4**	**+0.4**
	0.4nm,0.5s,baz=102,slow=10,SNR=5.8						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**42.21**	**325**	P	**P**	**23 59 29.5**	**-1.4**
	0.5nm,0.4s,baz=118,slow=8.9,SNR=2.3						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**44.87**	**168**	P	**P**	**23 59 51.6**	**-1.0**
	0.6nm,0.5s,baz=348,slow=8.7,SNR=5.4						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**48.42**	**169**	P	**P**	**00 00 20.7**	**+0.3**
	0.3nm,0.4s,baz=356,slow=13,SNR=5.0						
	0.3nm,0.4s						

*AFAD **10** 00:21:20.5, 41°.62N×44°.28E, h11km±2km, ML2.4*
*NORS **10** 00:21:20.1, 41°.62N×44°.39E, h5km, MPVA3.6*
*MOS **10** 00:21:20.5, 41°.63N×44°.45E, h1km, MPVA3.4*
*DRS **10** 00:21:24.2, 41°.52N×44°.33E, h24km*
ISC 10 00:21:18.7±1.1, 41°.55N±0°.02×44°.48E±0°.02, h7km±10km, n33, σ0°.83/65, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	**1.08**	**218**	P	**Pb**	**00 21 40.1**	**+0.3**
EAK				S	**Sn**	**00 21 55.2**	**-0.5**
EAK				*i* AML	AML	00 21 56.0	
	comp=E,178nm,0.5s						
EAK				*i* AML	AML	00 22 02.0	
	comp=N,97nm,0.4s						
LACR	**Lac**	**1.29**	**354**	*i* Pg	**Pn**	**00 21 42.6**	**-0.6**
LACR				*e*Sg	**Sg**	**00 21 59.8**	**-0.3**
EPOS	**Posof**	**1.32**	**269**	P	**Pn**	**00 21 41.9**	**-1.7**
EPOS				S	**Sg**	**00 22 00.2**	**-0.8**
DIGO	**Kars**	**1.41**	**217**	P	**Pg**	**00 21 46.7**	**+1.0**
DIGO				S	**Sn**	**00 22 05.0**	**+1.2**
DIGO				*i* AML	AML	00 22 12.0	
	comp=N,95nm,0.8s						
BOZK	**Kars-Merkez-Bo**	**1.48**	**231**	P	**Pg**	**00 21 47.7**	**+0.6**
BOZK				S	**Sg**	**00 22 07.0**	**+0.6**
VLKR	**Vladikavkaz**	**1.51**	**5**	*e*Pg	**Pb**	**00 21 47.3**	**+0.3**
VLKR				*e*Sg	**Sg**	**00 22 07.3**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.51**	**334**	*e*Pg	**Pn**	**00 21 46.1**	**-0.1**
DIGR				*e*Sg	**Sn**	**00 22 05.2**	**-1.2**
KORR	**Kora**	**1.57**	**349**	*e*Pg	**Pb**	**00 21 48.5**	**+0.4**
KORR				*e*Sg	**Sb**	**00 22 08.5**	**+0.4**
GOLE	**Ardahan-G¶le**	**1.59**	**244**	P	**Pb**	**00 21 48.6**	**+0.1**
GOLE				S	**Sg**	**00 22 10.0**	**+0.3**
GOLE				*i* AML	AML	00 22 10.0	
	comp=N,60nm,0.2s						
GOLE				*i* AML	AML	00 22 11.0	
	comp=E,72nm,0.2s						
ARNR	**Ardon**	**1.64**	**355**	*i* Pg	**Pg**	**00 21 50.0**	**-0.1**
ARNR				*e*Sg	**Sg**	**00 22 12.5**	**+1.1**
BTLR	**Botlikh**	**1.71**	**49**	*e*Pg	**Pg**	**00 21 52.3**	**+0.8**
BTLR				*e*Sg	**Sg**	**00 22 13.9**	**+0.3**
BTKR	**Batakoyurt**	**1.83**	**1**	*e*Pg	**Pg**	**00 21 53.8**	**+0.1**
BTKR				*e*Sg	**Sg**	**00 22 17.3**	**0.0**
STDR	**Stavd-Durt**	**1.85**	**351**	*e*Pg	**Pb**	**00 21 53.5**	**+0.7**
STDR				*e*Sg	**Sg**	**00 22 17.7**	**-0.4**
DVE	**Vedeno**	**1.87**	**40**	*e*Pg	**Pg**	**00 21 54.6**	**+0.1**
DVE				*e*Sg	**Sg**	**00 22 19.0**	**+0.4**
GROC	**Groznyy**	**1.92**	**30**	*e*Pg	**Pb**	**00 21 54.8**	**+0.8**
GROC				*i* Sg	**Sg**	**00 22 20.3**	**-0.1**
XNZR	**Khunzakh**	**1.93**	**58**	*e*Pg	**Pg**	**00 21 55.8**	**+0.1**
XNZR				*e*Sg	**Sg**	**00 22 21.0**	**+0.3**
DAGI	**Agillar**	**1.99**	**257**	P	**Pb**	**00 21 55.5**	**+0.3**
DAGI				S	**Sg**	**00 22 22.4**	**-0.1**
GNBR	**Gunib**	**2.03**	**65**	*e*Pg	**Pg**	**00 21 57.3**	**-0.4**
GNBR				*e*Sg	**Sg**	**00 22 25.8**	**+1.7**
KMKR	**Kumukh**	**2.04**	**72**	*e*Pg	**Pb**	**00 21 56.4**	**+0.2**
KMKR				*e*Sg	**Sg**	**00 22 23.6**	**-0.7**
UNCR	**Uncukul**	**2.08**	**55**	*e*Pg	**Pg**	**00 21 58.2**	**-0.3**
UNCR				*e*Sg	**Sg**	**00 22 25.8**	**+0.3**
DBOC	**Borcka**	**2.12**	**266**	P	**Pb**	**00 21 56.8**	**-0.7**
DBOC				S	**Sb**	**00 22 23.5**	**-0.5**
ARKR	**Arakani**	**2.15**	**60**	*e*Pg	**Pg**	**00 21 59.1**	**-0.8**
ARKR				*e*Sg	**Sg**	**00 22 27.3**	**-0.4**
DDEM	**Demirkent**	**2.16**	**253**	P	**Pb**	**00 21 58.4**	**+0.3**
DDEM				*i* AML	AML	00 22 27.0	
	comp=N,31nm,0.2s						
DBAD	**Bademkaya**	**2.17**	**257**	P	**Pb**	**00 21 58.5**	**+0.3**
DBAD				S	**Sb**	**00 22 24.6**	**-0.7**
DLMR	**Dylym**	**2.21**	**46**	*e*Pg	**Pb**	**00 21 58.1**	**-0.8**
DLMR				*i* Sg	**Sb**	**00 22 26.2**	**-0.2**
KRNR	**Karanay**	**2.21**	**54**	*e*Pg	**Pg**	**00 22 00.8**	**-0.2**
KRNR				*e*Sg	**Sg**	**00 22 29.5**	**-0.2**
BUJR	**Buynaksk**	**2.33**	**56**	*e*Pn	**Pg**	**00 22 04.1**	**+0.7**
BUJR				*e*Sn	**Sg**	**00 22 34.7**	**+1.0**
AKT	**Akhty**	**2.44**	**90**	*e*Pn	**Pb**	**00 22 02.1**	**-0.8**
AKT				*e*Sn	**Sb**	**00 22 33.8**	**+0.6**
KBZ	**Khabaz**	**2.48**	**332**	*e*Pn	**Pb**	**00 22 03.1**	**-0.3**
KBZ				*e*Sn	**Sb**	**00 22 33.9**	**-0.1**
SHA1	**Shidzhatmaz**	**2.57**	**329**	*e*Pn	**Pb**	**00 22 05.4**	**+0.2**
SHA1				*e*Sn	**Sb**	**00 22 36.0**	**-1.2**
KSMR	**Kasumkent**	**2.74**	**88**	*e*Pn	**Pb**	**00 22 07.4**	**-0.5**
KSMR				*e*Sn	**Sb**	**00 22 41.0**	**-0.7**
KIV0	**Kislovodsk Arr**	**2.75**	**332**	*e*Pn	**Pb**	**00 22 06.8**	**-1.3**
KIV0				*e*Sn	**Sn**	**00 22 39.4**	**+2.7**
KIV	**Kislovodsk**	**2.75**	**332**	*e*Pn	**Pb**	**00 22 07.1**	**-1.0**
KIV				*e*Sn	**Sn**	**00 22 39.4**	**+2.7**

*TRN **10** 00:23:09.1, 18°.60N×63°.64W, h29km, MD3.4, North-west of Anguilla.*
*RSPR **10** 00:23:13.7, 18°.24N×63°.93W, h106km±25km*
*NEIC **10** 00:23:15.0±1.6, 18°.4N±0°.2×63°.96W±0°.07, h35km±2km, ML2.6/12, Md3.1/2(RSPR), Error ellipse: s-maj=28.6km s-min=4.2km az=22.0*
ISC 10 00:23:10.7±2.3, 18°.4N±0°.2×63°.78W±0°.07, h114km±22km, n18, σ1°.29/25, 2C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.74**	**114**	Pn	**Pn**	**00 23 30.6**	**+0.8**
SMRT				IAML		00 23 38.9	
	comp=N,156nm,0.1s						
SMRT				IAML		00 23 39.8	
	comp=E,195nm,0.1s						
SABA	**Saba**	**0.89**	**145**	Pn	**Pn**	**00 23 32.7**	**+1.5**
SABA				IAML		00 23 46.6	
	comp=N,165nm,0.7s						
SKI	**Saint Kitts**	**1.42**	**136**	*e*P	**Pn**	**00 23 36.3**	**-0.6**
SKI				*e*S	**Sn**	**00 23 55.2**	**-1.4**
ANWB	**Willy Bob**	**2.02**	**109**	*e*P	Pn	00 23 41.4	-2.7
ANWB				*e*S	**Sn**	**00 24 08.2**	**-1.3**
PDPR	**Patillas Dam,**	**2.16**	**261**	Pn	**Pn**	**00 23 45.4**	**-0.5**
PDPR	**Patillas Dam,**	**2.16**	**261⇑**	*e*P	**Pn**	**00 23 45.5**	**-0.4**
PDPR	**Patillas Dam,**	**2.16**	**261**	*e*S	**Sn**	**00 24 12.0**	**-0.8**
MBFL	**Flemmings, Mon**	**2.19**	**137**	*e*P	**Pn**	**00 23 47.0**	**+0.7**
MBFL				*e*S	**Sn**	**00 24 14.6**	**+1.0**
MBWH		**2.21**	**136**	*e*P	**Pn**	**00 23 47.2**	**+0.6**
MBWH				*e*S	**Sn**	**00 24 15.1**	**+1.1**
ANBD	**Bethesda, Anti**	**2.32**	**124**	*e*P	**Pn**	**00 23 47.7**	**-0.2**
ANBD				*e*S	**Sn**	**00 24 15.1**	**-1.4**
EMPR	**Esperanza - Ma**	**2.61**	**273**	Pn	**Pn**	**00 23 52.1**	**+0.4**
CELP	**Cerrillos**	**2.68**	**264**		**Pn**	**00 23 52.5**	**-0.1**
CELP					**Sn**	**00 24 22.9**	**-1.9**
CELP				IAML		00 25 30.3	
	comp=N,25nm,2.5s						
CELP	**Cerrillos**	**2.68**	**264⇑**	*e*P	**Pn**	**00 23 53.2**	**+0.6**
CELP	**Cerrillos**	**2.68**	**264**	*e*S	**Sn**	**00 24 24.2**	**-0.6**
AOPR	**Arecibo Observ**	**2.83**	**270**	Pn	**Pn**	**00 23 55.7**	**+1.1**
AOPR				IAML		00 24 21.6	
	comp=E,28nm,1.5s						
AOPR				Sn	**Sn**	**00 24 26.3**	**-2.0**
AOPR				IAML		00 25 34.9	
	comp=N,29nm,1.7s						
AOPR	**Arecibo Observ**	**2.83**	**270⇓**	*e*P	**Pn**	**00 23 56.0**	**+1.5**
AOPR	**Arecibo Observ**	**2.83**	**270**	*e*S	**Sn**	**00 24 27.4**	**-0.9**
AOPR	**Arecibo Observ**	**2.83**	**270**	*e*P	**Pn**	**00 23 56.8**	**+2.3**
AOPR				*e*S	**Sn**	**00 24 30.3**	**+2.0**

NEIC 10 00:23:12.1±1.4, 37°.288N±0°.010×104°.73W±0°.02, h9km±7km, ML1.8/10, Error ellipse: s-maj=2.2km s-min=1.2km az=62.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.30**	**120**	Pg	Pn	00 23 21.4	-1.3
T25A				Sg	Sb	00 23 27.0	+2.3
T25A				IAML		00 23 29.5	
	comp=E,75nm,0.7s						
SDCO	**Great Sand Dun**	**0.76**	**307**	Pg	Pg	00 23 26.7	-0.1
SDCO				Sg	Sg	00 23 36.3	-0.5
SDCO				IAML		00 23 37.2	
	comp=E,29nm,0.1s						
Q24A	**Divide**	**1.71**	**349**	Pn	Pn	00 23 41.5	-0.7

*GII **10** 00:36:18.5±0.0, 36°.67N×31°.46E, h76km, Mws2.5, confirmed*
*ISK **10** 00:36:21.1, 36°.65N×31°.43E, h80km±1km, ML2.5/15*
*NIC **10** 00:36:22.7, 36°.63N×31°.79E, h61km±30km, Ml2.4/6*
*AFAD **10** 00:36:22.0, 36°.70N×31°.47E, h71km±5km, ML2.7*
ISC 10 00:36:20.3±1.4, 36°.61N±0°.04×31°.48E±0°.04, h92km±8km, n39, σ1°.01/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNVG	**Manavgat-Antal**	**0.19**	**346**	Pg	**Pn**	**00 36 33.1**	**-0.3**
MNVG				Sg	**Sn**	**00 36 42.2**	**-1.0**
KEPZ	**Antalya-Kepez**	**0.31**	**19**	P	**Pn**	**00 36 33.6**	**-0.4**
KEPZ				S	**Sn**	**00 36 42.0**	**-2.3**
ALAN	**Alanya-ANTALYA**	**0.45**	**96**	Pg	**Pn**	**00 36 35.0**	**+0.2**
ALAN				Sg	**Sn**	**00 36 45.3**	**-0.4**
ANTB	**Antalya**	**0.72**	**294**	Pg	**Pn**	**00 36 37.3**	**+0.2**
ANTB				Sg	**Sn**	**00 36 48.8**	**-0.9**
KEMT	**Kemer-ANTALYA**	**0.74**	**270**	Pg	**Pn**	**00 36 37.6**	**+0.3**
KEMT				Sg	**Sn**	**00 36 49.6**	**-0.4**
GAZI	**Gazipasa**	**0.77**	**119**	Pg	**Pn**	**00 36 39.1**	**+1.4**
GAZI				Sg	**Sn**	**00 36 52.1**	**+1.4**
GAZI	**Gazipasa**	**0.77**	**119**	P	**Pn**	**00 36 39.3**	**+1.6**
GAZI				S	**Sn**	**00 36 51.8**	**+1.1**
GAZI				*i* AML	AML	00 36 53.0	
	comp=E,265nm,0.3s						
GAZI				*i* AML	AML	00 36 54.0	
	comp=N,193nm,0.5s						
SEYD	**Seydisehir-KON**	**0.85**	**20**	Pg	**Pn**	**00 36 38.9**	**+0.3**
SEYD				Sg	**Sn**	**00 36 52.2**	**0.0**
SEDI	**Konya, Seydise**	**0.87**	**15**	P	**Pn**	**00 36 39.3**	**+0.5**
SEDI				S	**Sn**	**00 36 52.1**	**-0.6**
HDMB	**Hadim**	**0.89**	**66**	Pg	**Pn**	**00 36 39.9**	**+0.8**
AKUM	**Antalya-Kumluc**	**0.96**	**253**	P	**Pn**	**00 36 40.8**	**+1.3**
AKUM				S	**Sn**	**00 36 55.9**	**+1.9**
AKUM				*i* AML	AML	00 37 01.0	
	comp=E,116nm,0.5s						
AKUM				*i* AML	AML	00 37 04.0	
	comp=N,119nm,0.8s						
KORT	**Korkueli**	**0.98**	**294**	Pg	**Pn**	**00 36 40.3**	**+0.3**
BUCA	**Burdur, Bucak-**	**1.03**	**315**	P	**Pn**	**00 36 41.4**	**+1.0**
ELL	**Elmali**	**1.27**	**277**	Pn	**Pn**	**00 36 44.5**	**+1.2**
KKBE	**Karaman, Kazim**	**1.32**	**62**	P	**Pn**	**00 36 45.2**	**+1.2**
KKBE				S	**Sn**	**00 37 02.4**	**+0.4**
TEKE	**Tekeli-Mersin**	**1.40**	**109**	Pn	**Pn**	**00 36 46.8**	**+2.0**
ISP	**Isparta**	**1.43**	**328**	Pn	**Pn**	**00 36 45.9**	**+0.6**
ISP	**Isparta**	**1.43**	**328**	P	Pn	00 36 41.0	-4.3
BERE	**Bereket-Mersin**	**1.43**	**100**	Pn	**Pn**	**00 36 47.2**	**+1.8**
DOGA	**KONYA_Doganhis**	**1.50**	**6**	P	**Pn**	**00 36 46.9**	**+0.6**
DOGA				S	**Sn**	**00 37 04.5**	**-1.5**
KONT	**Konya--Tatoy**	**1.51**	**28**	Pn	**Pn**	**00 36 47.1**	**+0.8**
KONT	**Konya--Tatoy**	**1.51**	**28**	P	**Pn**	**00 36 46.8**	**+0.6**
KRMN	**Karaman**	**1.54**	**68**	Pn	**Pn**	**00 36 48.0**	**+1.3**
AKAS	**Kas**	**1.55**	**257**	Pn	**Pn**	**00 36 47.5**	**+0.6**
ALFC	**Alefka**	**1.71**	**147**	P	**Pn**	**00 36 48.4**	**-0.5**
ALFC				S	**Sn**	**00 37 09.1**	**-1.4**
ALFC				AML	AML	00 37 12.6	
	0.2nm,0.3s						
ALFC				AML	AML	00 37 16.4	
	0.2nm,0.3s						
AKMS	**Akamas**	**1.73**	**156**	P	**Pn**	**00 36 49.4**	**+0.3**
AKMS				S	**Sn**	**00 37 11.2**	**+0.2**
AKMS				AML	AML	00 37 14.4	
	0.1nm,0.4s						
AKMS				AML	AML	00 37 19.1	
	0.2nm,0.4s						
NATA	**Nata**	**2.03**	**154**	P	**Pn**	**00 36 54.2**	**+1.3**
NATA				S	**Sn**	**00 37 18.9**	**+1.0**
NATA				AML	AML	00 37 50.7	
	0.2nm,1.2s						
NATA				AML	AML	00 37 57.7	
	0.2nm,1.3s						
CSS	**Mathiatis**	**2.23**	**137**	P	**Pn**	**00 36 56.0**	**+0.4**
CSS				S	**Sn**	**00 37 21.1**	**-1.4**
CSS				AML	AML	00 37 30.2	
CSS				AML	AML	00 37 35.3	
CSS	**Mathiatis**	**2.23**	**137**	P	**Pn**	**00 36 54.5**	**-1.1**
CSS				S	**Sn**	**00 37 22.1**	**-0.5**
ASGA	**Asgata**	**2.32**	**141**	P	**Pn**	**00 36 57.5**	**+0.8**
ASGA				S	**Sn**	**00 37 23.9**	**-0.8**
ASGA				AML	AML	00 37 38.6	
ASGA				AML	AML	00 37 39.6	
MVOU	**Mavrovouni**	**2.37**	**132**	P	**Pn**	**00 36 57.2**	**-0.1**
MVOU				S	**Sn**	**00 37 24.5**	**-1.2**
MVOU				AML	AML	00 37 26.7	
MVOU				AML	AML	00 37 32.7	
MMA0B	**Mount Meron ar**	**4.83**	**137**	P	**Pn**	**00 37 30.1**	**-0.5**
MMA0B	**Mount Meron ar**	**4.83**	**137**	S	**Sn**	**00 38 24.7**	**-0.6**
KSHT	**Keshet**	**5.08**	**134**	P	**Pn**	**00 37 33.6**	**-0.4**
KSHT	**Keshet**	**5.08**	**134**	S	**Sn**	**00 38 31.6**	**+0.1**
MMLI	**Mount Malkishu**	**5.28**	**141**	P	**Pn**	**00 37 35.9**	**-0.9**
MMLI	**Mount Malkishu**	**5.28**	**141**	S	**Sn**	**00 38 35.5**	**-0.9**
DSI	**Dead Sea**	**5.98**	**146**	P	**Pn**	**00 37 45.3**	**-0.9**
DSI	**Dead Sea**	**5.98**	**146**	S	**Sn**	**00 38 53.3**	**0.0**

*IDC **10** 00:47:39.0±1.0, 7°.29S×13°.56W, h0km, mb4.1/14, mbtmp4.1/15, ML3.3/1, MS3.7/37, Error ellipse: s-maj=48.1km s-min=17.9km az=134.0*
*NEIC **10** 00:47:40.7±2.0, 7°.6S±0°.1×13°.60W±0°.08, h10km±1km, mb4.9/76, Error ellipse: s-maj=25.8km s-min=7.0km az=154.0*
ISC 10 00:47:39.9±0.7, 7°.5S±0°.1×13°.5W±0°.1, h10km, n161, σ1°.15/131, mb4.8/65, MS3.7/36, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**0.94**	**243**		**Pg**	**00 47 56.2**	**-1.8**
ASCN				Sg	**Sg**	**00 48 07.7**	**-2.5**
H10N1	**ASCENSION HYDR**	**1.01**	**250**	Pn	**Pg**	**00 47 58.3**	**-1.1**
H10N2	**ASCENSION HYDR**	**1.01**	**251**	Pn	**Pg**	**00 47 58.3**	**-1.1**
H10N3	**ASCENSION HYDR**	**1.03**	**251**	Pn	**Pg**	**00 47 58.4**	**-1.3**
DBIC	**Dimbokro**	**16.52**	**32**	Pn	**Pn**	**00 51 30.2**	**-1.7**
	0.1nm,0.3s,baz=220,slow=14,SNR=3.1						
DBIC				LR	LR	00 56 31.9	
	comp=Z,148nm,19.7s,baz=190,slow=33						
	4.1nm,1.0s						
RCBR	**Riachuelo**	**22.29**	**273**	LR	LR	01 00 05.4	
	comp=Z,69nm,18.4s,baz=70,slow=34						
NBCA	**Caruaru-PE**	**22.29**	**267**	*e*P	**P**	**00 52 40.5**	**+2.7**
TORD	**Torodi Ar. Bea**	**25.48**	**36**	P	**P**	**00 53 08.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**25.48**	**36**	P	**P**	**00 53 06.8**	**-1.8**
	42nm,0.3s,baz=224,slow=8.1,SNR=1.2						
NBPB	**Pedra_Branca-C**	**25.97**	**273**	*e*P	**P**	**00 53 16.1**	**+3.0**
TSUM	**Tsumeb**	**32.35**	**114**	LR	LR	01 04 59.4	
	comp=Z,151nm,20.0s,baz=254,slow=32						
BDFB	**Brasília**	**34.70**	**253**	P	**P**	**00 54 29.2**	**-1.3**
BDFB				IAmb	IAmb	00 54 52.3	
	comp=Z,31nm,1.8s						
BDFB	**Brasília**	**34.70**	**253**	LR	LR	01 05 51.6	
	comp=Z,197nm,21.9s,baz=142,slow=32						
TMAB	**Tom-Au,PA,Br**	**34.81**	**277**	*e*P	**P**	**00 54 33.8**	**+2.5**
TAM	**Tamanrasset**	**35.41**	**31**	P	**P**	**00 54 34.9**	**-1.6**
ARAG	**Araguaiana, MT**	**38.33**	**254**	*e*P	**P**	**00 55 03.4**	**+2.1**
SUR	**Sutherland**	**40.36**	**133**	LR	LR	01 10 15.9	
	comp=Z,160nm,18.6s,baz=295,slow=34						
MDT	**Midelt**	**40.98**	**11**	LR	LR	01 10 44.6	
	comp=Z,55nm,18.6s,baz=184,slow=34						
MDP	**Montagnes des**	**40.99**	**287**	LR	LR	01 09 08.0	
	comp=Z,48nm,21.6s,baz=115,slow=32						
NPGB	**Novo Progresso**	**41.49**	**268**	*e*P	**P**	**00 55 29.2**	**+1.5**
LSZ	**Lusaka**	**41.55**	**105**	LR	LR	01 10 08.9	
	comp=Z,106nm,21.6s,baz=269,slow=32						
ITTB	**Itaituba**	**42.09**	**272**	*e*P	**P**	**00 55 34.3**	**+1.8**
BOSA	**Boshof**	**42.15**	**125**	LR	LR	01 10 08.1	
	comp=Z,113nm,20.1s,baz=231,slow=32						
PDRB	**Porto dos Gac**	**42.77**	**261**	*e*P	**P**	**00 55 40.0**	**+1.8**
AQDB	**Aquidauana**	**42.77**	**248**	P	**P**	**00 55 38.3**	**+0.3**
PLTB	**Pedras Altas**	**44.43**	**232**	P	**P**	**00 55 51.3**	**0.0**
MURT	**Porto Murtinho**	**44.76**	**247**	*e*P	**P**	**00 55 55.9**	**+1.9**
PTLB	**Pontes e Lacer**	**45.32**	**256**	P	**P**	**00 55 58.2**	**-0.3**
PTLB	**Pontes e Lacer**	**45.32**	**256**	*e*P	**P**	**00 56 00.9**	**+2.3**
CPUP	**Villa Florida**	**45.62**	**240**	P	**P**	**00 56 02.5**	**+1.7**
	comp=Z,2.5nm,0.8s,baz=96,slow=7.0,SNR=4.7						
CPUP				LR	LR	01 13 27.7	
	comp=Z,88nm,18.7s,baz=87,slow=34						
	comp=Z,2.5nm,0.8s						
ITQB	**Itaqui**	**46.06**	**236**	P	**P**	**00 56 03.3**	**-0.9**
ITQB				IAmb	IAmb	00 56 06.8	
	comp=Z,21nm,1.1s						
SIV	**San Ignacio**	**47.22**	**255**	LR	LR	01 13 44.5	
	comp=Z,125nm,21.4s,baz=110,slow=33						
ESDC	**Sonseca Array**	**47.76**	**10**	P	**P**	**00 56 18.7**	**+1.3**
ESDC	**Sonseca Array**	**47.76**	**10**	P	**P**	**00 56 17.3**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=187,slow=6.9,SNR=2.7						
	comp=Z,0.4nm,0.4s						
BOAV	**Boa Vista**	**47.91**	**280**	P	**P**	**00 56 19.3**	**+0.3**
BOAV	**Boa Vista**	**47.91**	**280**	*e*P	**P**	**00 56 20.8**	**+1.9**
KEST	**Kesra**	**48.09**	**25**	LR	LR	01 16 30.2	
	comp=Z,73nm,19.9s,baz=6.2,sl

SOKA	Soboth	59.63	22	eP	P	00 57 44.8	+0.5
	comp=Z,4.6nm,0.9s						
BI02	San Fabin de	59.83	232	P	P	00 57 45.3	-0.6
BEHE	Becsehely	60.13	24	P	P	00 57 48.7	+1.1
RDO	Rodhopi	60.23	33	P	P	00 57 50.2	+1.8
RDO				IAmb	IAmb	00 57 52.0	
	comp=Z,12nm,1.3s						
MOA	Molln	60.33	21	eP	P	00 57 49.7	+0.7
	comp=Z,4.2nm,1.0s						
PLCA	Paso Flores	60.37	227	LR	LR	01 21 24.3	
	comp=Z,48nm,18.3s,baz=130,slow=34						
RUSC	La Rusia	60.89	281	P	P	00 57 54.2	+0.1
RUSC				IAmb	IAmb	00 58 12.9	
	comp=Z,13nm,1.3s						
RONA	Rosalia, Austr	60.96	23	eP	P	00 57 54.1	+0.8
	comp=Z,7.2nm,1.0s						
GEC2	GERESS Array S	60.98	20	P	P	00 57 53.5	0.0
GERES	GERESS Array B	60.98	20	P	P	00 57 52.9	-0.6
GERES	GERESS Array B	60.98	20	P	P	00 57 53.8	+0.3
	comp=Z,2.6nm,0.8s,baz=193,slow=5.2,SNR=16						
	comp=Z,2.6nm,0.8s						
CONA	Conrad Observa	60.98	22	eP	P	00 57 54.1	+0.6
	comp=Z,2.8nm,1.1s						
MMAI	Mount Meron Ar	61.51	46	LR	LR	01 24 07.5	
	comp=Z,23nm,19.3s,baz=240,slow=36						
SRO	Srobarova	61.84	24	eP	P	00 58 01.6	+2.4
ROSC	El Rosal	61.89	280	P	P	00 57 59.4	-1.3
ROSC	El Rosal	61.89	280	LR	LR	01 22 45.4	
	comp=Z,147nm,20.1s,baz=122,slow=34						
ASF	Jabal al Asfar	62.16	48	LR	LR	01 23 27.4	
	comp=Z,54nm,21.1s,baz=321,slow=35						
VRAC	Vranov	62.40	22	LR	LR	01 26 37.6	
	comp=Z,61nm,18.3s,baz=206,slow=38						
NNA	Nana	62.46	260	LR	LR	01 24 53.6	
	comp=Z,127nm,18.4s,baz=101,slow=36						
PSZ	Piszkesteto	62.56	25	P	P	00 58 04.4	+0.3
VYHS	Vyhne	62.59	24	eP	P	00 58 06.0	+1.7
FLOC	Florencia	62.63	276	P	P	00 58 04.6	-0.6
FLOC				IAmb	IAmb	00 58 19.8	
	comp=Z,17nm,1.3s						
MORC	Moravsky Berou	63.13	22	P	P	00 58 07.1	-0.8
MORC				IAmb	IAmb	00 58 18.4	
	comp=Z,14nm,1.8s						
LANS	Liptovska Anna	63.37	24	eP	P	00 58 11.9	+2.5
MLR	Muntele Rosu	63.49	30	P	P	00 58 10.9	+0.4
MLR				IAmb	IAmb	00 58 13.1	
	comp=Z,8.1nm,1.1s						
ANTO	Ankara	63.62	38	P	P	00 58 12.3	+0.9
BR131	Keskin Array S	64.06	39	P	P	00 58 14.0	-0.4
BR131				IAmb	IAmb	00 58 25.2	
	comp=Z,12nm,1.6s						
BRTR	Keskin Array B	64.06	39	P	P	00 58 14.0	-0.4
BRTR	Keskin Array B	64.06	39	P	P	00 58 15.4	+1.0
	comp=Z,1.5nm,1.0s,baz=217,slow=5.9,SNR=8.6						
	comp=Z,1.5nm,1.0s						
ATAH	Atahualpa	64.29	266	LR	LR	01 26 53.3	
	comp=Z,138nm,18.1s,baz=88,slow=37						
OJC	Ojcow	64.35	23	P	P	00 58 15.3	-0.6
KIEV	Kiev	68.70	28		P	00 58 43.2	-0.4
AKASG	Malin Array Be	68.72	28	P	P	00 58 42.0	-1.8
AKASG	Malin Array Be	68.72	28	P	P	00 58 43.5	-0.3
	comp=Z,1.5nm,0.6s,baz=227,slow=7.1,SNR=9.9						
AKASG				LR	LR	01 31 23.4	
	comp=Z,24nm,18.0s,baz=227,slow=38						
	comp=Z,1.5nm,0.6s						
AKBB	Malin Array Si	68.72	28	P	P	00 58 42.9	-0.8
AKBB				IAmb	IAmb	00 58 45.6	
	comp=Z,6.1nm,0.9s						
LMN	Caledonia Moun	70.08	325	P	P	00 58 50.9	-1.4
HFS	Hagfors	70.79	14	P	P	00 58 55.0	-1.4
	comp=Z,1.7nm,0.7s,baz=214,slow=12,SNR=2.1						
HFS				LR	LR	01 32 04.0	
	comp=Z,30nm,18.4s,baz=270,slow=38						
	comp=Z,1.7nm,0.7s						
NOA	NORSAR Array B	71.03	12	P	P	00 58 56.8	-1.1
	comp=Z,1.4nm,1.0s,baz=192,slow=8.7,SNR=2.7						
NOA				LR	LR	01 32 11.7	
	comp=Z,21nm,18.1s,baz=180,slow=38						
	comp=Z,1.4nm,1.0s						
GNI	Garni	71.55	43	LR	LR	01 31 24.3	
	comp=Z,26nm,20.4s,baz=238,slow=37						
KBZ	Khabaz	72.05	39	P	P	00 59 04.2	0.0
	comp=Z,1.9nm,1.0s,baz=321,slow=3.6,SNR=4.7						
	comp=Z,1.9nm,1.0s						
JTS	Las Juntas de	73.28	283	LR	LR	01 32 06.6	
	comp=Z,42nm,19.7s,baz=114,slow=36						
FINES	FINESS Array B	75.32	18	P	P	00 59 22.1	-1.0
FINES	FINESS Array B	75.32	18	P	P	00 59 21.8	-1.4
	comp=Z,4.3nm,0.8s,baz=222,slow=2.6,SNR=7.0						
FINES				LR	LR	01 34 36.5	
	comp=Z,44nm,18.3s,baz=250,slow=38						
	comp=Z,4.3nm,0.8s						
TRQ	Mont Tremblant	76.11	321	P	P	00 59 27.9	-0.2
TRQ				IAmb	IAmb	00 59 31.4	
	comp=Z,14nm,0.9s						
O52A	Adamsville	78.60	313	P	P	00 59 43.7	+1.6
TKL	Tuckaleechee C	78.61	309	LR	LR	01 26 13.4	
	comp=Z,78nm,19.7s,baz=142,slow=30						
P52A	Corning	78.65	313	P	P	00 59 43.0	+0.6
P52A				IAmb	IAmb	00 59 44.9	
	comp=Z,19nm,1.1s						
Q51A	Peebles	79.34	312	P	P	00 59 46.3	+0.1
Q51A				IAmb	IAmb	00 59 50.1	
	comp=Z,11nm,0.9s						
ACSO	Alum Creek Sta	79.46	313	P	P	00 59 45.6	-1.3
ACSO				IAmb	IAmb	00 59 49.2	
	comp=Z,14nm,1.0s						
R50A	Paris	79.83	311	P	P	00 59 48.6	-0.3
R50A				IAmb	IAmb	00 59 51.4	
	comp=Z,19nm,1.4s						
T50A	Nancy	79.84	310	P	P	00 59 49.4	+0.5
T50A				IAmb	IAmb	00 59 52.6	
	comp=Z,11nm,1.0s						
X48A	Hartselle	80.83	307	P	P	00 59 54.4	0.0
X48A				IAmb	IAmb	00 59 56.3	
	comp=Z,21nm,1.4s						
V48A	Smith Brothers	81.00	308	P	P	00 59 54.7	-0.5
V48A				IAmb	IAmb	00 59 57.1	
	comp=Z,9.0nm,0.9s						
ARCES	ARCESS Array B	81.40	13	P	P	00 59 55.4	-1.2
	comp=Z,2.0nm,0.7s,baz=266,slow=3.2,SNR=5.9						
	comp=Z,2.0nm,0.7s						
WVT	Waverly	81.90	308		P	00 59 59.5	-0.5
WVT				IAmb	IAmb	01 00 01.4	
	comp=Z,9.1nm,1.0s						
QSPA	South Pole Qui	82.62	180	P	P	01 00 03.2	-0.1
QSPA				IAmb	IAmb	01 00 23.1	
	comp=Z,24nm,1.8s						
QSPA	South Pole Qui	82.62	180	P	P	01 00 04.9	+1.6
	comp=Z,2.1nm,0.9s,baz=197,slow=3.8,SNR=3.2						
	comp=Z,2.1nm,0.9s						
OLIL	Olney	82.80	311	P	P	01 00 03.8	-0.8
GNAR	Gosnell	83.57	307	P	P	01 00 08.8	+0.2
CGM3	Cape Girardeau	83.62	309	P	P	01 00 07.6	-1.3
CGM3				IAmb	IAmb	01 00 11.0	
	comp=Z,8.2nm,0.9s						
143A	Socs Landing,	83.93	304	P	P	01 00 09.8	-0.7
HBAR	Harrisburg	83.98	307	P	P	01 00 10.1	-0.7
CMIG	Matias Romero	84.00	288	LR	LR	01 36 53.1	
	comp=Z,38nm,18.6s,baz=118,slow=35						
FVM	French Village	84.38	309	P	P	01 00 12.3	-0.5
FVM				IAmb	IAmb	01 00 14.2	
	comp=Z,12nm,0.8s						
LCAR	Lake Charles	84.49	307	P	P	01 00 13.5	+0.2
LCAR				IAmb	IAmb	01 00 16.0	
	comp=Z,8.8nm,1.2s						
CCM	Cathedral Cave	85.02	309	P	P	01 00 15.8	-0.2
MGMO	Mountain Grove	85.61	308	P	P	01 00 19.2	+0.2
MGMO				IAmb	IAmb	01 00 22.9	
	comp=Z,16nm,1.4s						
R40A	Maddies Static	85.86	309	P	P	01 00 19.7	-0.4
R40A				IAmb	IAmb	01 00 22.6	
	comp=Z,10.0nm,0.9s						
P40A	Paris	85.97	311	P	P	01 00 21.1	+0.4
P40A				IAmb	IAmb	01 00 23.3	
	comp=Z,8.5nm,1.0s						
U38A	Gravette	87.12	307	P	P	01 00 25.5	-1.0
I37A	Lemond, Waseca	87.94	315	P	P	01 00 30.5	+0.3
OK048	Pawnee Station	89.14	307	P	P	01 00 36.8	+0.7
GAR	Garm	89.90	51	P	P	01 00 40.3	+0.6
GAR				IAmb	IAmb	01 00 43.1	
	comp=Z,11nm,1.3s						
JCT	Junction City	90.57	301	P	P	01 00 42.7	-0.2
JCT				IAmb	IAmb	01 00 45.0	
	comp=Z,8.0nm,0.9s						
KKAR	Karatay Array	90.73	47	P	P	01 00 44.2	+0.9
OZNA	Ozona	91.76	301	P	P	01 00 49.0	+0.5
OZNA				IAmb	IAmb	01 00 52.3	
	comp=Z,11nm,1.4s						
BVAR	Borovoye Array	92.28	37	P	P	01 00 50.8	+0.5
	comp=Z,0.5nm,0.7s,baz=224,slow=7.9,SNR=3.6						
	comp=Z,0.5nm,0.7s						
MSTX	Muleshoe	93.52	304	P	P	01 00 56.0	-0.6
MSTX				IAmb	IAmb	01 01 00.3	
	comp=Z,12nm,1.2s						
TXAR	Lajitas Array	93.75	299	P	P	01 00 58.8	+1.1
	comp=Z,1.2nm,0.9s,baz=119,slow=5.3,SNR=12						
	comp=Z,1.2nm,0.9s						
SDCO	Great Sand Dun	96.10	307		P	01 01 09.5	+1.0
SDCO				IAmb	IAmb	01 01 12.9	
	comp=Z,3.4nm,1.0s						
ANMO	Albuquerque	96.64	304	LR	LR	01 43 31.9	
	comp=Z,22nm,18.3s,baz=294,slow=35						
MKAR	Makanchi Array	99.39	44	LR	LR	01 51 04.9	
	comp=Z,23nm,18.4s,baz=251,slow=38						
PDAR	Pinedale Array	99.47	312	LR	LR	01 39 51.2	
	comp=Z,33nm,18.6s,baz=110,slow=32						
M24K	Tolsona, Glenn	115.49	337	PKPdf	PKiKP	01 06 19.9	-2.1

NEIC ***10*** *01:05:54.6±1.1, 19°.43N±0°.02×155°.58W±0°.02, h42km±1km, Error ellipse: s-maj=2.6km s-min=2.2km az=173.0*

HVO 10 01:05:55.2±1.1, 19°.42N±0°.02×155°.59W±0°.02, h44km±1km, ML2.5/35, ML2.8/36(NEIC), Error ellipse: s-maj=2.7km s-min=2.7km az=152.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	Mokuaweoweo	0.06	358	Pn	Pn	01 06 01.6	-1.2
MWH				Sn	Sn	01 06 07.0	-1.3
MWH				IAML		01 06 10.2	
	comp=N,1μm,0.6s						
ALEP	Alea Permanent	0.13	339		Pn	01 06 01.9	-1.1
ALEP					Sn	01 06 07.2	-1.1
KHU	Kahuku	0.17	186	Pn	Pn	01 06 01.6	-1.4
KHU				Sn	Sn	01 06 07.1	-1.4
KHU				IAML		01 06 10.3	
	comp=N,1μm,1.1s						
HMH	Humu'ula Sheep	0.21	30	Pn	Pn	01 06 01.9	-1.5
HMH				Sn	Sn	01 06 06.9	-2.1
MLH	Mauna Loa	0.21	70	Pn	Pn	01 06 02.0	-1.2
MLH				Sn	Sn	01 06 07.1	-1.9
MLH				IAML		01 06 08.9	
	comp=E,725nm,1.0s						
MLH				IAML		01 06 10.5	
	comp=N,681nm,0.5s						
HTC	Hot Caves	0.26	134		Pn	01 06 03.0	-0.5
WRMHI	West Rim	0.28	93		Pn	01 06 03.4	-0.3
WRMHI					Sn	01 06 09.4	-0.3
UWE	Uwekahuna	0.28	90	Pn	Pn	01 06 02.3	-1.5
UWE				Sn	Sn	01 06 08.7	-1.1
UWE				IAML		01 06 12.8	
	comp=N,771nm,1.1s						
UWE				IAML		01 06 16.3	
	comp=E,876nm,0.4s						
SDHHI	Sand Hill	0.28	96		Pn	01 06 03.1	-0.7
SDHHI					Sn	01 06 09.1	-0.7
OBL	Observatory Le	0.29	91		Sn	01 06 09.5	-0.5
HLP	Hilina Pali	0.30	115	Pn	Pn	01 06 02.1	-1.7
HLP				IAML		01 06 11.9	
	comp=N,780nm,1.1s						
RSD	Rainshed	0.30	82	Pn	Pn	01 06 01.7	-2.3
RIM	Rim	0.30	95		Pn	01 06 04.0	0.0
SBLHI	Steaming Bluff	0.31	89		Pn	01 06 03.7	-0.3
SBLHI					Sn	01 06 09.2	-1.0
KKO	Keanakako'i	0.31	94		Pn	01 06 04.1	+0.1
KKO					Sn	01 06 09.5	-0.7
HATHI	Halema'uma'u T	0.32	90	Pn	Pn	01 06 03.1	-0.9
HATHI				IAML		01 06 20.8	
	comp=E,644nm,0.8s						
BYL	Byron's Ledge	0.32	92	Pn	Pn	01 06 03.6	-0.5
BYL				Sn	Sn	01 06 08.2	-2.1
POHA	Pohakuloa	0.34	10	Sn	Sn	01 06 09.9	-1.1
POHA	Pohakuloa	0.34	10	Pn	Pn	01 06 03.8	-0.7
POHA				IAML		01 06 11.9	
	comp=E,777nm,0.9s						
POHA				IAML		01 06 12.0	
	comp=E,635nm,0.9s						
HUH	Hualalai	0.35	319	Pn	Pn	01 06 04.5	-0.2
HUH				IAML		01 06 11.6	
	comp=N,737nm,0.6s						
PUH	Pauahi	0.36	97	Pn	Pn	01 06 03.8	-0.8
PUH				Sn	Sn	01 06 09.4	-1.8
PUH				IAML		01 06 12.2	
	comp=E,621nm,1.0s						
KNHH	Kane Nui o Ham	0.40	96	Pn	Pn	01 06 03.3	-1.7
STCH	Steam Cracks	0.44	94	Pn	Pn	01 06 03.8	-1.7
STCH				Sn	Sn	01 06 11.0	-1.8
STCH				IAML		01 06 13.6	
	comp=N,481nm,0.8s						
STCH				IAML		01 06 13.8	
	comp=E,517nm,1.1s						
NPOC	North of Pu'u	0.46	93		Pn	01 06 05.4	-0.3
JCUZ	Jacuzzi	0.47	94		Sn	01 06 12.3	-1.0
JOKA	Jonika Flow	0.56	89	Pn	Pn	01 06 05.0	-1.9
JOKA				Sn	Sn	01 06 13.0	-2.2
JOKA				IAML		01 06 16.0	
	comp=E,483nm,0.9s						
HPAH	Hawaii Prepara	0.61	351	Pn	Pn	01 06 05.6	-2.1
HPAH				IAML		01 06 16.2	
	comp=E,474nm,0.9s						
MHA	Mahukona	0.82	339	Pn	Pn	01 06 09.9	-0.5

CATAC 10 01:18:41.9±0.5, 12°N±2°×8°8W±°, h23km±3km, M3.2/25, MLv3.2/25, Error ellipse: s-maj=4.8km s-min=1.9km az=25.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.86	18	P	Pb	01 18 58.2	-0.1
CSGN				S	Sn	01 19 10.9	+0.2
POTN	Potosi Cosigui	0.90	21	S	Sn	01 19 11.2	-0.4
CRIN	San Cristobal	0.94	54	P	Pn	01 18 59.9	+0.1
CRIN	San Cristobal	0.94	54	S	Sn	01 19 13.3	+0.6
QUEN	Al S del Volca	1.06	65	P	Pn	01 19 00.9	-0.4
HERN	Volcan Telica	1.08	65	S	Sn	01 19 16.1	0.0
HERN	Volcan Telica	1.08	65	P	Pn	01 19 01.2	-0.6
POLN	Al Sur del Vol	1.11	63	P	Pn	01 19 01.4	-0.7
POLN				S	Sn	01 19 17.9	+1.1
CNCH	Conchagua	1.12	0	P	Pn	01 19 02.0	-0.3
CNCH	Conchagua	1.12	0	S	Sn	01 19 17.4	+0.3
PLRN	Geotermica Pol	1.13	67	P	Pn	01 19 01.7	-0.6
PLRN				S	Sn	01 19 17.2	+0.1
ROCN	Rota Cerro Neg	1.13	71	S	Sn	01 19 17.3	+0.1
LCND	La Caada	1.15	357	P	Pn	01 19 02.5	-0.2
CNGA	Al SSO del Vol	1.16	73	P	Pn	01 19 02.3	-0.5
CNGA				S	Sn	01 19 18.3	+0.3
CNGN	Cerro Negro	1.16	72	P	Pn	01 19 02.4	-0.5
CNGN	Cerro Negro	1.16	72	S	Sb	01 19 18.3	+0.2
ILCN	San Idelfonso	1.19	69	P	Pn	01 19 02.0	-1.2
ILCN				S	Sn	01 19 18.5	-0.1
COPN	Copaltepe	1.22	88	P	Pn	01 19 03.3	-0.2
LEVN	Ruinas Leon Vi	1.22	78	S	Sb	01 19 19.5	0.0
MOMN	Momotombo	1.29	78	P	Pn	01 19 04.2	-0.5
MOMN				S	Sn	01 19 21.3	+0.1
RANC	El Ranchito	1.35	341	P	Pn	01 19 05.3	-0.3
RANC	El Ranchito	1.35	341	S	Sn	01 19 22.3	-0.6
ALJI	Alcalda de J	1.37	329	S	Sn	01 19 23.3	+0.1
AMTN	Mateare	1.38	86	S	Sb	01 19 23.9	-0.2
PACA	Pacayal	1.40	340	P	Pn	01 19 06.6	+0.4
PACA	Pacayal	1.40	340	S	Sn	01 19 24.3	+0.3
SAPS	Ciudad Sandino	1.40	89	S	Sn	01 19 24.2	+0.4
SAPS	Ciudad Sandino	1.40	89	P	Pn	01 19 06.5	+0.4
CHOHN	Orocuina	1.48	26	P	Pn	01 19 07.1	-0.2
CHOHN	Orocuina	1.48	26	S	Sb	01 19 27.0	-0.2
UNAN	Cigeo UNAN	1.53	91	P	Pn	01 19 08.0	+0.1
UNAN				S	Sb	01 19 28.1	-0.5
R4DEC	Barrio San Lui	1.55	90	S	Sb	01 19 28.7	-0.5
MAS3	Al N del Volca	1.63	94	S	Sn	01 19 29.9	+0.4
LIMN	Finca el Limon	1.70	57	P	Pn	01 19 10.1	-0.2
UESV	Universidad de	1.75	328	S	Sn	01 19 32.6	+0.2
SCLA	Alcaldia de Sa	1.77	331	P	Pn	01 19 11.3	+0.1
SCLA	Alcaldia de Sa	1.77	331	S	Sn	01 19 33.2	+0.1
COEG	Centro de Oper	1.78	325	P	Pn	01 19 12.3	+0.9
COEG	Centro de Oper	1.78	325	S	Sn	01 19 34.0	+0.6
PAVA	Las Pavas	1.89	325	S	Sn	01 19 37.5	+1.4
TGUH	Tegucigalpa,Un	1.97	16	S	Sn	01 19 38.4	+0.2
LOMA	Loma Larga	1.98	319	S	Sn	01 19 38.8	+0.6
MATN	Matagalpa	2.02	67	P	Pn	01 19 14.6	-0.1
YUSH	Yuscaran	2.04	28	P	Pn	01 19 15.2	+0.3
PMON	Piamonte	2.12	317	P	Pn	01 19 15.7	-0.4
JAYA	Jayaque - finc	2.17	314	P	Pn	01 19 16.8	-0.1
JAYA	Jayaque - finc	2.17	314	S	Sn	01 19 42.8	-0.3
RCPN	Sur Rio San Ju	2.18	51	P	Pn	01 19 17.7	+0.7
RCPN	Sur Rio San Ju	2.18	51	S	Sn	01 19 44.2	+0.9
CONN	Concepcion	2.24	105	P	Pn	01 19 18.0	+0.4
CONN				S	Sn	01 19 45.7	+1.1
CARN	Rivas	2.46	113	P	Pn	01 19 20.4	-0.3
CARN				S	Sn	01 19 50.0	+0.1
NUBE	Las Nubes	2.58	313	P	Pn	01 19 23.0	+0.6
NUBE	Las Nubes	2.58	313	S	Sn	01 19 53.0	-0.1
ACON	Acoyapa	2.61	94	P	Pn	01 19 22.8	+0.1
ACON	Acoyapa	2.61	94	S	Sn	01 19 54.0	+0.3
MTO3	Montecristo	2.69	327	P	Pn	01 19 24.1	+0.1
ESQI	Esquipulas	2.81	329	P	Pn	01 19 26.3	+0.7

NNC 10 01:38:04.1±5.8, 37°.01N×70°.38E, h0km, mb4.4, mpv4.1, 1C-3D, Error ellipse: s-maj=55.4km s-min=44.4km az=77.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.71	26	P	Pn	01 39 31.5	+0.8
	SNR=131						
KK31	Karatay Array	6.08	1	Pn	Pn	01 39 36.5	+1.2
	1.7nm,0.2s,baz=178,slow=12,SNR=45						
KK31				⇓Sn	Sn	01 40 46.2	+0.5
	5.2nm,0.5s,baz=195,slow=20,SNR=4.8						
UCH	Uchtor	6.11	30	P	Pn	01 39 36.8	+0.7
	SNR=7.2						
EKS2	Erkin-Say	6.22	24	P	Pn	01 39 38.0	+0.8
	SNR=12						
AAK	Ala-Archa	6.45	28	P	Pn	01 39 40.9	+0.5
	SNR=16						
AAK	Ala-Archa	6.45	28	⇑Pn	Pn	01 39 40.3	-0.1
	8.7nm,0.6s						
AAK				⇓Sn	Sn	01 40 56.7	+1.9
	7.5nm,1.1s						
KBK	Karagaybulak	6.64	31	P	Pn	01 39 43.5	+0.3
	SNR=7.8						
CHMS	Chumysh	6.85	28	P	Pn	01 39 46.2	+0.3
	SNR=6.3						
ULHL	Ulahol	6.91	39	P	Pn	01 39 46.5	-0.3
	SNR=10						
USP	Ospenovka	7.00	25	P	Pn	01 39 47.8	-0.1
	SNR=7.3						
TKM2	Tokmak 2	7.13	33	P	Pn	01 39 49.4	-0.5
	SNR=10						
TKM2	Tokmak 2	7.13	33	⇓Pn	Pn	01 39 48.6	-1.2
	20nm,0.7s						

KRNET ***10*** *01:48:25.6±0.1, 39°.91N×77°.87E, mb3.6*
SOME ***10*** *01:48:26.2, 40°.02N×77°.48E, h0km*
NNC ***10*** *01:48:27.6±1.6, 40°.01N×77°.47E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=10.4km s-min=8.0km az=167.0*

ISC 10 01:48:29.2±1.9, 39°.87N±0°.09×77°.65E±0°.06, h10km, n38, σ1°93/61, 22C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.87	4	⇓iP	Pn	01 48 59.7	-1.9
TARG				⇓iS	Sn	01 49 24.4	-1.0
KDJ	Kajisay	2.29	351	⇑iP	Pn	01 49 06.6	-0.6
KDJ				⇑iS	Sn	01 49 36.5	+0.9
ULHL	Ulahol	2.61	336	⇑iP	Pn	01 49 11.8	+0.2
ULHL				⇑iS	Sn	01 49 45.6	+2.2
PRZ	Przheval'sk	2.68	12	⇑eP	Pn	01 49 11.4	-1.1
PRZ				⇑eS	Sn	01 49 44.9	-0.2
ANVS	Anan'yevo	2.92	0	⇑iP	Pn	01 49 15.0	-0.8
ANVS				⇑iS	Sn	01 49 51.0	0.0
BOOM	Boomskoye usch	2.92	334	⇓iP	Pn	01 49 16.2	+0.3
BOOM				⇓iS	Sn	01 49 53.3	+2.1
SALK	Salom-Alik	3.10	290	⇑iP	Pn	01 49 20.2	+1.9
SALK				⇑iS	Sb	01 50 00.3	-2.1
SFK	Sufi-Kurgan	3.19	274	⇑eP	Pn	01 49 21.9	+2.2
SFK				⇑eS	Sb	01 50 02.8	-2.4
TNSS	Tian-Shan	3.21	351	Pg	Pb	01 49 24.7	-1.9
	22nm,0.6s						
TNSS				Lg	Lg	01 50 05.6	
	28nm,1.0s						
TNSS	Tian-Shan	3.21	351	eP	Pb	01 49 24.6	-1.9
	22nm,0.6s						
TNSS				eS	Sb	01 50 05.6	-0.3
	28nm,1.0s						
ARLS	Aral	3.22	309	⇑eP	Pn	01 49 20.8	+0.9
ARLS				⇑eS	Sn	01 50 01.3	+2.9
SATY	Saty	3.24	10	Pg	Pb	01 49 25.0	-1.9
	36nm,1.0s						
SATY				Lg	Lg	01 50 06.2	
	37nm,0.6s						
MDOK	Medeo	3.33	352	Pg	Pb	01 49 26.2	-2.1
	24nm,1.1s						
MDOK				Lg	Lg	01 50 08.5	
	40nm,0.8s						
MTBS	Maitube	3.39	345	Pg	Pb	01 49 27.8	-1.6
	4.9nm,0.3s						
MTBS				Lg	Lg	01 50 11.3	
	27nm,0.4s						
MTBS	Maitube	3.39	345	eP	Pb	01 49 27.8	-1.6
	4.9nm,0.3s						
MTBS				eS	Sb	01 50 11.3	+0.6
	27nm,0.4s						
TKM2	Tokmak 2	3.42	334	⇑Pg	Pn	01 49 26.5	+3.7
	7.7nm,0.7s						
TKM2				⇓Lg	Lg	01 50 11.5	
	18nm,0.8s						
TKM2	Tokmak 2	3.42	334	⇑iP	Pn	01 49 23.2	+0.4
TKM2				⇑iS	Sn	01 50 05.3	+1.8
UZB	Uzynbulak	3.44	17	Pg	Pb	01 49 29.0	-1.2
	7.8nm,0.7s						
UZB				Lg

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	22nm,0.6s						
KUU	**Kurty**	**4.14**	**347**	*e*P	**Pb**	**01 49 40.5**	**-1.7**
	2.6nm,0.3s						
KUU				*e*S	**Sb**	**01 50 33.1**	**+0.8**
	22nm,0.6s						
ARXS	**Arharly**	**4.35**	**2**	Pg	**Pb**	**01 49 44.8**	**-0.9**
	4.6nm,0.4s						
ARXS				Lg	Lg	01 50 40.4	
	22nm,0.6s						
MNAS	**Manas**	**4.69**	**306**	⇓*e*P	**Pn**	**01 49 41.6**	**+1.5**
MNAS				⇓*e*S	**Sn**	**01 50 37.2**	**+2.6**
DJR	**Jarkent**	**4.74**	**19**	Pg	**Pb**	**01 49 52.6**	**+0.2**
	1.0nm,0.2s						
DJR				Lg	Lg	01 50 53.3	
	5.9nm,0.5s						
DJR	**Jarkent**	**4.74**	**19**	*e*P	**Pb**	**01 49 52.6**	**+0.2**
	1.0nm,0.2s						
DJR				*e*S	**Sb**	**01 50 53.2**	**+3.7**
	5.2nm,0.6s						
KK31	**Karatay Array**	**6.26**	**303**	⇑Pg	**Pb**	**01 50 13.9**	**-4.4**
	0.6nm,0.5s,baz=124,slow=16,SNR=3.5						
KK31				⇓Lg	Lg	01 51 40.0	
	1.4nm,0.5s,baz=116,slow=28,SNR=4.6						

DJA 10 01:50:19.0±0.6, 11°S±5°×11°8E±°, h10km, M3.8/11, mB5.3/1, mb4.1/4, MLv3.7/11, Mw(mB)4.8/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.23**	**47**	P	Pn	01 50 56.0	-0.1
WBSI				S	Sn	01 51 24.2	+0.4
PLAI	**Plampang**	**2.34**	**1**	P	Pn	01 50 59.4	+1.9
PLAI				S	Sn	01 51 27.3	+1.0
TWSI	**Taliwang, Sumb**	**2.57**	**341**	P	Pn	01 51 02.6	+1.9
TWSI				S	Sn	01 51 31.9	-0.2
BASI	**Baing, Sumba**	**2.95**	**71**	P	Pn	01 51 05.3	-0.6
SRBI	**Singaraja**	**3.96**	**321**	P	Pn	01 51 19.8	0.0
JAGI	**Jajag, Banyuwa**	**4.44**	**307**	P	Pn	01 51 25.4	-1.1
EDFI	**Ende, Flores**	**4.58**	**59**	P	Pn	01 51 27.3	-1.2
GMJI	**Gumukmas**	**5.13**	**304**	P	Pn	01 51 36.4	+0.5
	0.2nm20nm,1.9s						
KMMI	**Kalianget**	**5.54**	**317**	P	Pn	01 51 41.4	-0.2
	3μm18nm,0.9s						
BSSI	**Bau Bau, Buton**	**5.70**	**29**	P	Pn	01 51 44.0	+0.3
	0.1nm11nm,0.8s						
PCJI	**Pacitan**	**7.12**	**294**	P	Pn	01 52 02.8	-0.5

*IDC **10** 01:51:29.1±1.0, 61°18S×36°28W, h0km, mb4.0/2, mbtmp4.0/3, ML3.5/1, MS3.2/5, Error ellipse: s-maj=53.0km s-min=27.0km az=74.0*
*NEIC **10** 01:51:30.9±1.4, 61°16S±0°05×36°0W±0°3, h10km±1km, mb4.5/12, Error ellipse: s-maj=22.3km s-min=8.0km az=100.0*

ISC 10 01:51:30.4±0.6, 61°14S±0°10×35°9W±0°2, h10km, n41, σ0°91/30, mb4.4/7, MS3.2/5, 4C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.88**	**357**	Pn	**Pn**	**01 53 10.8**	**-0.4**
VNA3	**Neumayer Olymp**	**14.49**	**145**	⇑P	**Pn**	**01 54 53.9**	**-1.2**
	comp=Z,1.0nm,0.1s						
VNA1	**Neumayer--Stat**	**14.60**	**142**	⇑P	**Pn**	**01 54 55.2**	**-1.4**
	comp=Z,1.6nm,0.2s						
VNA2	**Neumayer--Watz**	**14.98**	**143**	⇑P	**Pn**	**01 55 00.1**	**-1.8**
	comp=Z,0.7nm,0.2s,baz=300,slow=14						
EFI	**East Falkland**	**15.43**	**298**	Pn	**Pn**	**01 55 07.0**	**-0.8**
SNAA	**Sanae**	**16.63**	**143**	Pn	**Pn**	**01 55 22.9**	**-0.4**
SNAA	**Sanae**	**16.63**	**143**	⇑P	**Pn**	**01 55 22.8**	**-0.4**
	comp=Z,6.7nm,0.2s						
SNAA	**Sanae**	**16.63**	**143**	Pn	**Pn**	**01 55 22.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=34,slow=3.5,SNR=12						
	comp=Z,1.2nm,0.5s						
BELA	**Belgrano 2**	**16.82**	**179**		**P**	**01 55 27.8**	**+0.1**
QSPA	**South Pole Qui**	**29.09**	**180**	P	**P**	**01 57 33.3**	**+2.5**
QSPA				IAmb	IAmb	01 57 52.3	
	comp=Z,20nm,1.4s						
QSPA	**South Pole Qui**	**29.09**	**180**	P	**P**	**01 57 31.0**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=198,slow=4.7,SNR=7.7						
	comp=Z,2.9nm,0.8s						
PLCA	**Paso Flores**	**29.35**	**298**	LR	LR	02 07 56.6	
	comp=Z,60nm,18.7s,baz=156,slow=34						
CPUP	**Villa Florida**	**37.72**	**328**		**P**	**01 58 46.9**	**+0.9**
CPUP	**Villa Florida**	**37.72**	**328**	P	**P**	**01 58 45.1**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=176,slow=15,SNR=3.2						
CPUP				LR	LR	02 11 32.3	
	comp=Z,29nm,21.6s,baz=140,slow=32						
	comp=Z,1.1nm,0.7s						
CO03	**El Pedregal**	**37.94**	**307**	P	**P**	**01 58 47.5**	**-0.4**
CO03				IAmb	IAmb	01 58 51.5	
	comp=Z,23nm,1.3s						
CO01	**Juntas del Tor**	**38.48**	**308**	P	**P**	**01 58 53.0**	**+0.4**
CO01				IAmb	IAmb	01 59 14.0	
	comp=Z,10nm,1.4s						
SBA	**Scott Base**	**40.56**	**187**	P	**P**	**01 59 09.3**	**+0.2**
AC01	**Pan de Azucar**	**42.12**	**310**	P	**P**	**01 59 22.1**	**-0.5**
GO02	**Mina Guanaco**	**42.65**	**312**	P	**P**	**01 59 27.3**	**+0.2**
GO02				IAmb	IAmb	01 59 35.7	
	comp=Z,8.2nm,0.7s						
PB10	**IPOC Station P**	**44.51**	**312**	P	**P**	**01 59 41.9**	**+0.1**
GO01	**Chusmiza**	**47.57**	**315**	P	**P**	**02 00 06.7**	**+0.2**
GO01				IAmb	IAmb	02 00 13.4	
	comp=Z,5.0nm,1.2s						
SIV	**San Ignacio**	**48.57**	**327**	LR	LR	02 23 11.4	
	comp=Z,20nm,18.0s,baz=154,slow=39						
LPAZ	**La Paz**	**50.37**	**318**	LR	LR	02 23 31.6	
	comp=Z,24nm,19.9s,baz=88,slow=38						
H10S2	**ASCENSION HYDR**	**54.41**	**26**	T	T	03 00 06.4	
	baz=193,slow=74,SNR=17						
H10S3	**ASCENSION HYDR**	**54.41**	**26**	T	T	03 00 06.6	
	baz=27,slow=74,SNR=19						
H10N1	**ASCENSION HYDR**	**55.52**	**26**	T	T	03 01 27.0	
	baz=192,slow=75,SNR=13						
H10N3	**ASCENSION HYDR**	**55.52**	**26**	T	T	03 01 33.1	
	baz=192,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**55.54**	**26**	T	T	03 01 28.4	
	baz=192,slow=75,SNR=11						
SDV	**Santo Domingo**	**74.95**	**324**	LR	LR	02 38 53.7	
	comp=Z,23nm,18.4s,baz=182,slow=38						
TORD	**Torodi Ar. Bea**	**79.81**	**37**	P	**P**	**02 03 39.8**	**+1.2**
TORD				IAmb	IAmb	02 03 41.3	
	comp=Z,3.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**79.81**	**37**	P	**P**	**02 03 39.9**	**+1.2**
	comp=Z,34nm,0.3s,baz=198,slow=4.8,SNR=1.3						
FINES	**FINESS Array B**	**131.10**	**34**	PKP	**PKPdf**	**02 10 40.9**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=152,slow=6.3,SNR=4.0						
YKA	**Yellowknife Ar**	**136.92**	**318**	PKP	**PKPdf**	**02 10 50.1**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=139,slow=2.6,SNR=9.2						
MKAR	**Makanchi Array**	**142.45**	**84**	PKhKP	PKPpre	02 10 58.5	
	comp=Z,0.4nm,0.5s,baz=234,slow=4.3,SNR=5.2						
KURBB	**Kurchatov Arra**	**143.31**	**76**	PKhKP	PKPpre	02 11 00.6	
	comp=Z,0.6nm,0.7s,baz=234,slow=3.5,SNR=6.3						
A36M	**Sachs Harbour**	**146.03**	**326**		**PKPbc**	**02 11 08.1**	**-0.4**
F30M	**Barrier River**	**147.10**	**316**	PKPdf	**PKPbc**	**02 11 11.3**	**-0.5**
E29M	**Blow River**	**148.17**	**317**		**PKPbc**	**02 11 14.2**	**-0.5**
ZALV	**Zalesovo Beam**	**148.40**	**76**	PKPbc	**PKPbc**	**02 11 16.3**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=247,slow=3.1,SNR=8.7						
J26L	**Joseph Creek**	**148.43**	**308**	PKPbc	**PKPbc**	**02 11 15.6**	**+0.1**
ILAR	**Eielson Array**	**149.83**	**307**	PKPbc	**PKPbc**	**02 11 18.8**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=158,slow=2.4,SNR=16						

*SFS **10** 01:55:40.4, 35°92N×1°91W, h0km, ML2.9/5, ML2.1/5, MLv1.7/5*
*CNRM **10** 01:55:40.9, 35°77N×2°03W, h73km, ML2.2*
*MDD **10** 01:55:41.8±2.1, 35°95N×2°04W, h2km±10km, mb_Lg2.3/2, Error ellipse: s-maj=17.0km s-min=12.5km az=61.0*

ISC 10 01:55:38.3±1.5, 35°84N±0°03×1°94W±0°08, h8km±10km, n22, σ1°28/25, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**1.06**	**235**	P	**Pg**	**01 55 58.5**	**-0.3**
GOG	**Mont Gurugu**	**1.06**	**235**	S	**Sg**	**01 56 13.3**	**+0.7**
TAF	**Taforalt**	**1.10**	**201**	P	**Pg**	**01 55 59.5**	**+0.1**
TAF	**Taforalt**	**1.10**	**201**	S	**Sg**	**01 56 14.2**	**+0.5**
ENIJ	**Nijar**	**1.15**	**349**	Sg	**Sg**	**01 56 14.7**	**-0.6**
ENIJ				Pg	**Pg**	**01 56 00.0**	**-0.3**
ENIJ	**Nijar**	**1.15**	**349**	Pg	**Pg**	**01 55 59.8**	**-0.6**
ENIJ				Sg	**Sg**	**01 56 14.3**	**-1.0**
ENIJ				*i* Vmb_Lg		01 56 16.7	
EBER	**Berja**	**1.30**	**324**	Pg	**Pg**	**01 56 02.8**	**-0.5**
EBER	**Berja**	**1.30**	**324**	Pg	**Pg**	**01 56 03.3**	**0.0**
EBER				Sg	**Sg**	**01 56 19.8**	**-0.5**
JBK	**JBK**	**1.59**	**199**	P	Pn	01 56 07.0	+0.1
JBK	**JBK**	**1.59**	**199**	S	**Sn**	**01 56 28.3**	**+0.6**
ELGU	**Los Guajares,**	**1.70**	**307**	Sn	**Sn**	**01 56 30.4**	**0.0**
ELGU				Pn	**Pn**	**01 56 09.5**	**+1.1**
ELGU	**Los Guajares,**	**1.70**	**307**	Pn	**Pn**	**01 56 08.1**	**-0.3**
ELGU				Sn	**Sn**	**01 56 29.3**	**-1.1**
EQUE	**Quentar**	**1.82**	**319**	Pn	**Pn**	**01 56 11.4**	**+1.4**
EQUE				Sn	**Sn**	**01 56 32.8**	**-0.5**
EQTA	**Presa de Quent**	**1.82**	**319**	Pn	**Pn**	**01 56 11.6**	**+1.5**
EQTA				Sn	**Sn**	**01 56 34.7**	**+1.4**
AKLM	**AKL**	**2.06**	**230**	P	Pn	01 56 12.5	-0.8
AKLM	**AKL**	**2.06**	**230**	S	**Sn**	**01 56 37.2**	**-2.0**
EMUR	**La Murta**	**2.07**	**15**	Pn	**Pn**	**01 56 13.6**	**+0.2**
EQES	**Quesada**	**2.16**	**335**	Pn	**Pn**	**01 56 17.1**	**+2.5**
EQES				Sn	**Sb**	**01 56 44.7**	**+0.1**
EQES				*i* Vmb_Lg		01 56 46.1	
MDT	**Midelt**	**3.74**	**217**	P	Pn	01 56 35.2	-1.2
MDT	**Midelt**	**3.74**	**217**	S	Sn	01 57 17.1	-3.6
MD31	**MD31**	**3.78**	**219**	P	Pn	01 56 36.0	-0.9
MD31	**MD31**	**3.78**	**219**	S	**Sn**	**01 57 18.1**	**-3.4**

*SNET **10** 02:25:51.3±2.3, 11°67N×88°10W, h10km, ML3.8*
*CATAC **10** 02:25:51.1±0.5, 12°N±2°×8°8W±°, h21km±4km, M3.8/31, MLv3.8/31, Error ellipse: s-maj=5.6km s-min=1.9km az=24.6, confirmed*
*GCG **10** 02:25:54.7±1.5, 11°94N×88°46W, h0km±56km, MD4.3*

ISC 10 02:25:46.0±1.7, 11°56N±0°05×88°31W±0°03, h3km±11km, n99, σ1°03/118, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.59**	**27**	P	**Pg**	**02 26 17.9**	**+1.4**
CSGN				S	**Sg**	**02 26 38.4**	**+1.2**
POTN	**Potosi Cosigui**	**1.64**	**29**	P	**Pg**	**02 26 17.8**	**+0.5**
POTN				S	**Sg**	**02 26 38.8**	**+0.2**
CRIN	**San Cristobal**	**1.68**	**47**	P	**Pg**	**02 26 18.7**	**+0.5**
CRIN	**San Cristobal**	**1.68**	**47**	S	**Sg**	**02 26 40.0**	**+0.1**
QUEN	**Al S del Volca**	**1.76**	**54**	S	**Sb**	**02 26 40.9**	**-0.5**
CNCH	**Conchagua**	**1.77**	**15**	*e*P	**Pg**	**02 26 20.8**	**+0.8**
CNCH				*e*S	**Sg**	**02 26 43.3**	**+0.3**
CNCH	**Conchagua**	**1.77**	**15**	P	**Pg**	**02 26 20.9**	**+0.9**
ALJI	**Alcalda de J**	**1.78**	**352**	P	**Pg**	**02 26 21.0**	**+0.9**
HERN	**Volcan Telica**	**1.79**	**54**	S	**Sb**	**02 26 41.6**	**-0.7**
HERN	**Volcan Telica**	**1.79**	**54**	P	**Pb**	**02 26 19.4**	**0.0**
LCND	**La Caada**	**1.79**	**13**	*e*P	**Pg**	**02 26 20.6**	**+0.3**
LCND	**La Caada**	**1.79**	**13**	P	**Pg**	**02 26 20.7**	**+0.4**
COPN	**Copaltepe**	**1.79**	**70**	P	**Pb**	**02 26 19.4**	**0.0**
PLRN	**Geotermica Pol**	**1.82**	**56**	P	**Pb**	**02 26 19.6**	**-0.3**
PLRN				S	**Sb**	**02 26 42.2**	**-1.0**
POLN	**Al Sur del Vol**	**1.82**	**53**	P	**Pb**	**02 26 19.9**	**-0.2**
POLN				S	**Sn**	**02 26 42.1**	**+0.2**
CNGA	**Al SSO del Vol**	**1.83**	**59**	P	**Pb**	**02 26 19.8**	**-0.3**
CNGA				S	**Sb**	**02 26 42.5**	**-1.0**
CNGN	**Cerro Negro**	**1.83**	**59**	P	**Pb**	**02 26 19.8**	**-0.4**
CNGN	**Cerro Negro**	**1.83**	**59**	S	**Sb**	**02 26 42.7**	**-0.9**
BC86	**Nagarote**	**1.85**	**67**	S	**Sb**	**02 26 43.3**	**-0.6**
LCY	**Lacayo**	**1.86**	**0**	*e*P	**Pg**	**02 26 22.1**	**+0.5**
LEVN	**Ruinas Leon Vi**	**1.86**	**63**	S	**Sb**	**02 26 43.8**	**-0.5**
RANC	**El Ranchito**	**1.87**	**1**	*e*P	**Pg**	**02 26 22.2**	**+0.4**
RANC				*e*S	**Sg**	**02 26 45.7**	**-0.3**
RANC	**El Ranchito**	**1.87**	**1**	S	**Sg**	**02 26 47.4**	**+1.3**
RANC	**El Ranchito**	**1.87**	**1**	P	**Pg**	**02 26 22.4**	**+0.6**
ILCN	**San Idelfonso**	**1.87**	**57**	P	Pn	**02 26 19.8**	**+0.9**
ILCN				S	**Sn**	**02 26 43.5**	**+0.4**
BLLM	**Bellamira**	**1.88**	**2**	*e*P	**Pg**	**02 26 22.3**	**+0.4**
PACA	**Pacayal**	**1.90**	**360**	*e*P	**Pg**	**02 26 22.7**	**+0.2**
PACA				*e*S	**Sg**	**02 26 46.6**	**-0.6**
PACA	**Pacayal**	**1.90**	**360**	P	**Pg**	**02 26 23.3**	**+0.8**
PACA	**Pacayal**	**1.90**	**360**	S	**Sg**	**02 26 48.3**	**+1.2**
CNRM	**Centro Naciona**	**1.91**	**4**	P	**Pg**	**02 26 22.9**	**+0.2**
CNRM	**Centro Naciona**	**1.91**	**4**	S	**Sg**	**02 26 48.5**	**+1.0**
BC84	**Volcan Momotom**	**1.92**	**64**	S	**Sn**	**02 26 44.3**	**-0.1**
MOMN	**Momotombo**	**1.93**	**64**	P	**Pb**	**02 26 21.3**	**-0.5**
MOMN				S	**Sn**	**02 26 44.4**	**-0.2**
TECA	**Tecapa**	**1.94**	**354**	*e*P	**Pg**	**02 26 23.2**	**+0.1**
AMTN	**Mateare**	**1.96**	**70**	S	**Sb**	**02 26 46.2**	**-0.9**
SAPS	**Ciudad Sandino**	**1.96**	**72**	S	**Sb**	**02 26 46.2**	**-1.1**
SAPS	**Ciudad Sandino**	**1.96**	**72**	P	**Pb**	**02 26 21.8**	**-0.6**
TECO	**Alcaldia de Te**	**2.02**	**347**	P	**Pg**	**02 26 25.1**	**+0.3**
TECO	**Alcaldia de Te**	**2.02**	**347**	S	**Sg**	**02 26 51.7**	**+0.7**
APYN	**Apoyeque**	**2.03**	**70**	S	**Sn**	**02 26 47.1**	**0.0**
ABCN	**Banco Central**	**2.04**	**74**	S	**Sb**	**02 26 48.9**	**-0.5**
APQ2	**Apoyeque**	**2.04**	**72**	S	**Sn**	**02 26 46.5**	**-0.9**
UNAN	**Cigeo UNAN**	**2.07**	**74**	P	**Pb**	**02 26 24.2**	**0.0**
UNAN				S	**Sn**	**02 26 48.0**	**-0.1**
ENAN	**Enatrel Managu**	**2.08**	**74**	S	**Sb**	**02 26 49.4**	**-1.3**
TISN	**Laguna Tiscapa**	**2.08**	**74**	P	Pn	**02 26 22.8**	**+1.0**
MAFN	**Magfor**	**2.10**	**75**	S	**Sn**	**02 26 48.8**	**+0.1**
MGAN	**Managua**	**2.10**	**74**	S	**Sn**	**02 26 49.1**	**+0.3**
R4DEC	**Barrio San Lui**	**2.10**	**74**	P	**Pn**	**02 26 23.3**	**+1.2**
R4DEC	**Barrio San Lui**	**2.10**	**74**	S	**Sn**	**02 26 48.8**	**0.0**
UESV	**Universidad de**	**2.12**	**347**	P	**Pg**	**02 26 26.0**	**-0.7**
UESV	**Universidad de**	**2.12**	**347**	S	**Sg**	**02 26 53.2**	**-1.0**
COEG	**Centro de Oper**	**2.13**	**345**	*e*P	**Pg**	**02 26 26.0**	**-0.8**
COEG				*e*S	**Sb**	**02 26 52.2**	**+0.2**
COEG	**Centro de Oper**	**2.13**	**345**	P	**Pg**	**02 26 25.9**	**-0.9**
COEG	**Centro de Oper**	**2.13**	**345**	S	**Sg**	**02 26 53.5**	**-0.8**
LALI	**Alcalda de L**	**2.16**	**333**	*e*S	**Sn**	**02 26 49.2**	**-1.0**
SCLA	**Alcaldia de Sa**	**2.17**	**349**	P	**Pg**	**02 26 27.1**	**-0.6**
SCLA	**Alcaldia de Sa**	**2.17**	**349**	S	**Sg**	**02 26 54.5**	**-1.3**
NANN	**Nandasmo**	**2.18**	**80**	P	**Pb**	**02 26 25.3**	**-0.7**
NANN	**Nandasmo**	**2.18**	**80**	S	**Sn**	**02 26 51.4**	**+0.8**
CHOHN	**Orocuina**	**2.22**	**30**	P	**Pb**	**02 26 26.0**	**-0.8**
CHOHN	**Orocuina**	**2.22**	**30**	S	**Sb**	**02 26 53.5**	**-1.3**
PAVA	**Las Pavas**	**2.23**	**344**	P	**Pb**	**02 26 27.7**	**+0.6**
PAVA	**Las Pavas**	**2.23**	**344**	S	**Sg**	**02 26 56.1**	**-1.6**
LOMA	**Loma Larga**	**2.24**	**338**	P	**Pg**	**02 26 28.1**	**-0.9**
LOMA	**Loma Larga**	**2.24**	**338**	S	**Sg**	**02 26 57.0**	**-1.1**
PMON	**Piamonte**	**2.36**	**336**	P	**Pg**	**02 26 30.7**	**-0.5**
PMON	**Piamonte**	**2.36**	**336**	S	**Sb**	**02 26 59.6**	**+0.8**
JAYA	**Jayaque - finc**	**2.36**	**332**	*e*P	**Pb**	**02 26 29.4**	**0.0**
JAYA				*e*S	**Sb**	**02 26 57.1**	**-1.9**
JAYA	**Jayaque - finc**	**2.36**	**332**	*e*P	**Pb**	**02 26 29.3**	**0.0**
JAYA				*e*S	**Sb**	**02 26 57.0**	**-2.1**
JAYA	**Jayaque - finc**	**2.36**	**332**	S	**Sb**	**02 26 59.5**	**+0.5**
JAYA	**Jayaque - finc**	**2.36**	**332**	P	**Pg**	**02 26 30.7**	**-0.7**
LIMN	**Finca el Limon**	**2.42**	**52**	P	**Pb**	**02 26 28.6**	**-1.7**
CEDA	**San Andres**	**2.47**	**335**	S	**Sb**	**02 27 03.0**	**+1.0**
CEVE	**Cerro Verde**	**2.60**	**331**	*e*P	**Pg**	**02 26 34.9**	**-1.0**
CEVE				*e*S	**Sb**	**02 27 05.7**	**-0.2**
CEVE	**Cerro Verde**	**2.60**	**331**	P	**Pb**	**02 26 34.3**	**+0.9**
CEVE	**Cerro Verde**	**2.60**	**331**	S	**Sb**	**02 27 06.2**	**+0.4**
MARCA	**Marcala la Paz**	**2.60**	**6**	*e*P	**Pb**	**02 26 32.9**	**-0.5**
MARCA				*e*S	**Sb**	**02 27 04.2**	**-1.6**
CONN	**Concepcion**	**2.63**	**90**	P	**Pn**	**02 26 31.2**	**+1.8**
CONN				S	**Sn**	**02 27 01.6**	**-0.3**
LLGN	**La Laguna**	**2.66**	**347**	S	**Sb**	**02 27 06.1**	**-1.5**
TGUH	**Tegucigalpa,Un**	**2.68**	**22**	P	**Pb**	**02 26 33.5**	**-1.3**
TGUH				S	**Sb**	**02 27 05.1**	**-3.1**
UNIC	**Universidad Ca**	**2.70**	**334**	S	**Sb**	**02 27 06.9**	**-1.6**
MATN	**Matagalpa**	**2.70**	**59**	P	**Pn**	**02 26 32.0**	**+1.6**
MATN	**Matagalpa**	**2.70**	**59**	S	**Sn**	**02 27 04.3**	**+0.6**
NUBE	**Las Nubes**	**2.74**	**329**	*e*P	**Pb**	**02 26 35.1**	**-0.6**
NUBE				*e*S	**Sn**	**02 27 05.9**	**+1.2**
NUBE	**Las Nubes**	**2.74**	**329**	P	**Pb**	**02 26 36.2**	**+0.5**
NUBE	**Las Nubes**	**2.74**	**329**	S	**Sb**	**02 27 09.9**	**+0.1**
CARN	**Rivas**	**2.76**	**97**	S	**Sb**	**02 27 04.7**	**-0.3**
YUSH	**Yuscaran**	**2.78**	**31**	P	**Pb**	**02 26 34.5**	**-1.9**
SLOZ	**Alcaldia de Sa**	**2.85**	**330**	P	**Pb**	**02 26 37.6**	**+0.1**
SLOZ	**Alcaldia de Sa**	**2.85**	**330**	S	**Sb**	**02 27 11.8**	**-0.9**
RCVN	**Varillal2**	**2.89**	**45**	P	**Pb**	**02 26 35.6**	**-2.6**
RCVN	**Varillal2**	**2.89**	**45**	S	**Sn**	**02 27 09.7**	**+1.3**
RCPN	**Sur Rio San Ju**	**2.92**	**48**	S	**Sn**	**02 27 10.3**	**+1.2**
RCPN	**Sur Rio San Ju**	**2.92**	**48**	P	**Pn**	**02 26 35.9**	**+2.4**
COMHN	**El Horno**	**2.96**	**14**	S	**Sb**	**02 27 13.2**	**-3.1**
MTO3	**Montecristo**	**3.01**	**340**	P	**Pb**	**02 26 39.1**	**-1.2**
ACON	**Acoyapa**	**3.10**	**82**	S	**Sn**	**02 27 12.5**	**-0.9**
INDI	**Punta indio, G**	**3.23**	**121**	S	**Sn**	**02 27 14.6**	**-2.0**
STG0	**El Palmar, Qui**	**4.11**	**314**	*e*P	**Pb**	**02 26 59.3**	**+0.2**

*MOS **10** 02:33:27.8±1.0, 66°35N×175°69W, h14km, mb4.6/22, Error ellipse: s-maj=13.6km s-min=7.9km az=102.8*
*NERS **10** 02:33:27.8, 66°24N×176°05W, h0km*
*NEIC **10** 02:33:29.0±1.7, 66°24N±0°08×175°8W±0°2, h10km±1km, mb4.2/42, Error ellipse: s-maj=13.6km s-min=10.7km az=207.0*
*ANF **10** 02:33:28.3±0.5, 66°28N×175°74W, h0km, ML5.1/8, Error ellipse: s-maj=6.2km s-min=2.1km az=95.0*
*IDC **10** 02:33:28.2±0.8, 66°43N×175°73W, h0km, mb4.0/21, mbtmp4.0/24, ML3.7/3, MS3.3/33, Error ellipse: s-maj=23.3km s-min=13.2km az=11.0*

ISC 10 02:33:29.1±0.3, 66°31N±0°05×175°75W±0°03, h10km, n435, σ1°03/436, mb4.3/60, MS3.4/32, 5C-3D, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVDR	**Provideniya**	**2.17**	**150**	⇓*i*P	**Pn**	**02 34 06.3**	**+1.1**
PVDR				Pgmax		02 34 07.0	
	2μm,0.4s						
PVDR				*e*Pg	**Pb**	**02 34 08.4**	**0.0**
PVDR				*e*Sg	**Sb**	**02 34 35.9**	**+0.6**
PVDR				Sgmax		02 34 41.2	
	19μm,0.8s						
PVDR				Sgmax		02 34 41.2	
	11μm,0.5s						
PVDR	**Provideniya**	**2.17**	**150**	*ce*P	**Pn**	**02 34 06.3**	**+1.1**
PVDR				*e*		02 34 35.9	
PVDR				pmax	pmax		
	comp=Z,2μm,0.4s						
PVDR				smax	smax		
	comp=E,11μm,0.5s						
PVDR				smax	smax		
	comp=N,19μm,0.8s						
GAMB	**Gambell**	**3.07**	**144**		**Pn**	**02 34 15.8**	**-1.8**
GAMB	**Gambell**	**3.07**	**144**	P	**Pn**	**02 34 15.9**	**-1.7**
	baz=327,SNR=25						
GAMB				Sb	**Sb**	**02 35 03.0**	**+1.8**
	baz=327						
ANDR	**Anadyr'**	**3.23**	**244**	*e*P	**Pn**	**02 34 19.4**	**-0.4**
ANDR				*e*Pg	**Pb**	**02 34 25.1**	**-1.3**
ANDR				Pgmax		02 34 31.9	
	comp=N,400nm,0.4s						
ANDR				*e*Sg	**Sb**	**02 35 07.3**	**+1.6**
ANDR				Sgmax		02 35 13.9	
	comp=N,3μm,0.6s						
ANDR	**Anadyr'**	**3.23**	**244**	*e*P	**Pn**	**02 34 19.4**	**-0.4**
ANDR				*e*S	**Sb**	**02 35 07.3**	**+1.6**
ANDR				pmax	pmax		
	comp=Z,400nm,0.4s						
ANDR				smax	smax		
	comp=N,3μm,0.6s						
TNA	**Tin City**	**3.29**	**100**		**Pn**	**02 34 19.9**	**-0.8**
TNA	**Tin City**	**3.29**	**100**	P	**Pn**	**02 34 19.8**	**-0.8**
	baz=286,SNR=24						
TNA				Sb	**Sg**	**02 35 12.5**	**-2.3**
	baz=286						
F14K	**Arctic Creek**	**3.96**	**98**	P	**Pn**	**02 34 29.1**	**-0.8**
	baz=286						
C16K	**Lisburne Hills**	**4.49**	**59**		**Pn**	**02 34 36.0**	**-1.1**
C16K	**Lisburne Hills**	**4.49**	**59**	P	**Pn**	**02 34 36.2**	**-0.9**
	baz=248						
C16K				S	**Sn**	**02 35 28.3**	**-1.0**
	baz=248						
F15K	**North Star Dit**	**4.58**	**93**	Pn	**Pn**	**02 34 36.6**	**-1.7**
F15K	**North Star Dit**	**4.58**	**93**	P	**Pn**	**02 34 37.6**	**-0.7**
	baz=282						
ANM	**Nome**	**4.67**	**107**	Pn	**Pn**	**02 34 38.7**	**-0.9**
ANM	**Nome**	**4.67**	**107**	P	**Pn**	**02 34 38.7**	**-0.9**
ANM	**Nome**	**4.67**	**107**	P	**Pn**	**02 34 39.3**	**-0.4**
	baz=296,SNR=19						
**G15

E20K				S		Sn	02 36 48.7	-2.3
	baz=264							
B20K	**Meade River**	7.84	53	Pn		Pn	02 35 23.0	0.0
B20K	**Meade River**	7.84	53	P		Pn	02 35 23.2	+0.2
	baz=250							
B20K				S		Sn	02 36 50.9	-0.8
	baz=250							
H19K	**Roundabout Mou**	7.93	87			Pn	02 35 23.8	-0.4
H19K	**Roundabout Mou**	7.93	87	P		Pn	02 35 24.0	-0.2
	baz=284,SNR=26							
H19K				S		Sn	02 36 54.1	+0.3
	baz=284							
F20K	**Avaraart Lake**	7.97	76	Pn		Pn	02 35 24.2	-0.7
F20K	**Avaraart Lake**	7.97	76	P		Pn	02 35 24.7	-0.1
	baz=274							
GCSA	**Galena City Sc**	7.99	93	P		Pn	02 35 24.8	-0.2
	baz=289,SNR=8.2							
M13K	**Dall Lake**	8.12	131			Pn	02 35 26.1	-0.7
M13K	**Dall Lake**	8.12	131	P		Pn	02 35 26.5	-0.3
	baz=322							
K17K	**Iditarod**	8.33	107			Pn	02 35 29.7	-0.1
K17K	**Iditarod**	8.33	107	P		Pn	02 35 29.7	-0.1
	baz=303,SNR=12							
C21K	**Knifeblade Rid**	8.44	61	P		Pn	02 35 31.0	-0.3
	baz=260							
C21K				S		Sn	02 37 04.8	-1.6
	baz=260							
A21K	**Barrow**	8.53	45	P		Pn	02 35 32.3	-0.1
	baz=243,SNR=7.0							
A21K				S		Sn	02 37 06.4	-2.1
	baz=243							
H20K	**Anotleneega Mo**	8.57	86	P		Pn	02 35 32.8	-0.3
	baz=285,SNR=9.2							
J18K	**Innoko River**	8.57	101	Pn		Pn	02 35 32.9	-0.2
J18K	**Innoko River**	8.57	101	P		Pn	02 35 32.7	-0.5
	baz=297,SNR=14							
B21K	**Ikpikpuk River**	8.59	58	Pn		Pn	02 35 32.7	-0.5
B21K	**Ikpikpuk River**	8.59	58	P		Pn	02 35 32.9	-0.3
	baz=257							
E21K	**Killik River**	8.64	66	Pn		Pn	02 35 34.3	+0.2
E21K	**Killik River**	8.64	66	P		Pn	02 35 34.4	+0.2
	baz=266							
L17K	**Donlin**	8.67	111	P		Pn	02 35 33.9	-0.5
	baz=306,SNR=9.7							
M15K	**Kasigluk River**	8.76	123	P		Pn	02 35 35.3	-0.4
	baz=316,SNR=17							
J19K	**Poorman**	8.78	96	Pn		Pn	02 35 36.1	+0.2
J19K	**Poorman**	8.78	96	P		Pn	02 35 35.8	-0.1
	baz=294							
F21K	**Alatna River**	8.83	74	Pn		Pn	02 35 35.9	-0.8
F21K	**Alatna River**	8.83	74	P		Pn	02 35 36.6	-0.1
	baz=274							
F21K				S		Sn	02 37 10.3	-5.9
	baz=274							
A22K	**Sinclair Lake**	8.88	49	P		Pn	02 35 37.1	-0.2
	baz=248							
G21K	**Allakaket**	8.91	79	Pn		Pn	02 35 37.6	-0.1
G21K	**Allakaket**	8.91	79	P		Pn	02 35 37.5	-0.1
	baz=278							
I20K	**Naaghedeneel**	8.94	90	Pn		Pn	02 35 37.9	-0.2
I20K	**Naaghedeneel**	8.94	90	P		Pn	02 35 37.8	-0.3
	baz=289,SNR=7.0							
N14K	**Kuskokwak Cree**	9.02	129	Pn		Pn	02 35 37.6	-1.5
N14K	**Kuskokwak Cree**	9.02	129	P		Pn	02 35 38.4	-0.8
	baz=321,SNR=9.7							
TTA	**Tatalina**	9.11	103	Pn		Pn	02 35 41.2	+0.6
TTA	**Tatalina**	9.11	103	P		Pn	02 35 41.2	+0.6
TTA	**Tatalina**	9.11	103	P		Pn	02 35 41.3	+0.7
	baz=300,SNR=38							
M16K	**Timber Creek**	9.13	118	Pn		Pn	02 35 40.7	-0.2
M16K	**Timber Creek**	9.13	118	P		Pn	02 35 40.6	-0.2
	baz=312,SNR=8.4							
D22K	**Ayikyak River**	9.15	63	Pn		Pn	02 35 40.7	-0.3
D22K	**Ayikyak River**	9.15	63	P		Pn	02 35 41.0	-0.1
	baz=264							
B22K	**Teshekpuk Lake**	9.16	54	Pn		Pn	02 35 40.7	-0.4
B22K	**Teshekpuk Lake**	9.16	54	P		Pn	02 35 41.0	-0.1
	baz=254							
L18K	**Granite Mounta**	9.23	107	P		Pn	02 35 42.0	-0.2
	baz=304							
J20K	**Nowinta River**	9.30	93	P		Pn	02 35 42.5	-0.5
	baz=293,SNR=52							
F22K	**John River**	9.32	72	P		Pn	02 35 43.3	-0.1
	baz=273							
N15K	**Kwethluk River**	9.35	124	P		Pn	02 35 42.8	-1.0
	baz=318,SNR=7.8							
H21K	**Melozitna Rive**	9.36	83	Pn		Pn	02 35 44.2	+0.3
H21K	**Melozitna Rive**	9.36	83	P		Pn	02 35 44.0	+0.1
	baz=284							
M17K	**Holitna River**	9.44	113	P		Pn	02 35 45.8	+0.8
	baz=309,SNR=8.1							
SPIA	**Saint Paul Isl**	9.53	162	P		Pn	02 35 45.3	-0.9
	baz=346							
N16K	**Nishlik Lake**	9.58	120	P		Pn	02 35 45.8	-1.2
	baz=314,SNR=17							
G22K	**Bettles**	9.63	75	P		Pn	02 35 47.3	-0.3
	baz=277							
K20K	**Telida**	9.68	98	Pn		Pn	02 35 48.3	0.0
K20K	**Telida**	9.68	98	P		Pn	02 35 48.2	-0.1
	baz=297							
O14K	**Tigyukauivet M**	9.68	130	P		Pn	02 35 47.6	-0.7
	baz=323							
H22K	**Ishtalitna Cre**	9.88	81	P		Pn	02 35 50.7	-0.3
	baz=283							
D23K	**Nanushuk River**	9.88	63	P		Pn	02 35 50.4	-0.6
	baz=266							
L19K	**White Mountain**	9.97	105	P		Pn	02 35 51.1	-1.1
	baz=303							
M18K	**Stony River**	9.99	110	P		Pn	02 35 51.2	-1.4
	baz=307							
C23K	**Itkillik River**	10.00	58	P		Pn	02 35 51.8	-0.8
	baz=261							
COLD	**Coldfoot**	10.11	73	Pn		Pn	02 35 53.5	-0.5
COLD	**Coldfoot**	10.11	73	P		Pn	02 35 54.1	0.0
	baz=276							
N17K	**Nushagak Hills**	10.11	116	P		Pn	02 35 53.7	-0.5
	baz=313							
CHUM	**Lake Minchumin**	10.15	93	P		Pn	02 35 55.3	+0.6
	baz=294,SNR=30							
L20K	**Farewell, AK**	10.19	102	P		Pn	02 35 55.8	+0.5
	baz=301,SNR=29							
O15K	**Ungalikthiuk R**	10.20	127	Pn		Pn	02 35 54.8	-0.5
O15K	**Ungalikthiuk R**	10.20	127	P		Pn	02 35 54.6	-0.7
	baz=321							
G23K	**Bananza Creek**	10.25	76	P		Pn	02 35 56.1	0.0
	baz=279							
E23K	**Chandalar**	10.26	68	P		Pn	02 35 56.2	-0.1
	baz=272							
TOLK	**Toolik Lake Re**	10.27	65	P		Pn	02 35 56.1	-0.2
	baz=269							
M19K	**Big River Lodg**	10.30	105	P		Pn	02 35 57.9	+1.1
	baz=304							
CAST	**Castle Rocks**	10.45	95	P		Pn	02 35 59.5	+0.7
	baz=296,SNR=16							
O16K	**Kokwok River B**	10.46	122	Pn		Pn	02 35 59.2	+0.3
O16K	**Kokwok River B**	10.46	122	P		Pn	02 35 58.9	+0.1
	baz=317,SNR=6.6							
N18K	**Kilae Creek**	10.48	113	Pn		Pn	02 36 00.4	+1.0
N18K	**Kilae Creek**	10.48	113	P		Pn	02 35 59.8	+0.5
	baz=311,SNR=24							
D24K	**Happy Valley**	10.56	62	P		Pn	02 35 59.7	-0.6
	baz=267							
BPAW	**Bear Paw Mtn.**	10.60	91	P		Pn	02 36 01.1	+0.2
	baz=293,SNR=19							
H23K	**Yukon River**	10.62	81	P		Pn	02 36 01.8	+0.6
	baz=284							
C24K	**Franklin Bluff**	10.64	59	P		Pn	02 36 00.7	-0.7
	baz=264							
PPLA	**Purkeypile**	10.65	98	Pn		Pn	02 36 02.5	+0.9
PPLA	**Purkeypile**	10.65	98	P		Pn	02 36 02.1	+0.5
	baz=299							
E24K	**Your Creek**	10.69	68	P		Pn	02 36 01.4	-0.6
	baz=273							
M20K	**Styx River**	10.81	104	P		Pn	02 36 03.8	+0.1
	baz=304,SNR=39							
N19K	**Bonanza Creek**	10.93	110	P		Pn	02 36 06.1	+0.7
	baz=309,SNR=10							
F24K	**Squaw Lake**	10.96	71	P		Pn	02 36 05.8	0.0
	baz=276							
TRF	**Thorofare Moun**	11.16	93	Pn		Pn	02 36 09.0	+0.4
TRF	**Thorofare Moun**	11.16	93	P		Pn	02 36 09.1	+0.5
	baz=296,SNR=14							
NEA2	**Nenana**	11.19	86	P		Pn	02 36 09.3	+0.3
	baz=290,SNR=8.8							
G24K	**Hadweenzic Riv**	11.25	75	P		Pn	02 36 09.9	+0.2
	baz=281							
H24K	**Noodor Dome**	11.28	80	Pn		Pn	02 36 10.4	+0.2
H24K	**Noodor Dome**	11.28	80	P		Pn	02 36 10.8	+0.6
	baz=285,SNR=5.7							
O18K	**Koktuh Hills**	11.29	115	P		Pn	02 36 10.5	+0.2
	baz=313,SNR=5.1							
SKT	**Skwentna**	11.38	101	P		Pn	02 36 11.9	+0.3
	baz=303,SNR=7.1							
O19K	**Port Alsworth**	11.39	112	P		Pn	02 36 12.3	+0.7
	baz=311,SNR=9.1							
D25K	**Kavik River**	11.44	62	P		Pn	02 36 12.0	-0.3
	baz=268							
STLK	**Strandline Lak**	11.54	103	Pn		Pn	02 36 15.4	+1.7
SPCR	**Spurr Chakacha**	11.56	105	P		Pn	02 36 13.8	-0.3
	baz=306,SNR=9.0							
MCK	**McKinley**	11.58	90	P		Pn	02 36 14.7	+0.4
	baz=294,SNR=9.7							
COLA	**College**	11.59	84	Pn		Pn	02 36 14.7	+0.5
COLA	**College**	11.59	84	*e*P		Pn	02 36 14.4	+0.1
COLA	**College**	11.59	84	P		Pn	02 36 14.0	-0.2
	baz=289							
P18K	**Big Mountain,**	11.61	117	P		Pn	02 36 14.5	-0.2
	baz=315,SNR=6.2							
CUT	**Chulitna**	11.66	98	P		Pn	02 36 15.5	+0.1
	baz=300							
POKR	**Poker Plat Res**	11.67	83	P		Pn	02 36 14.5	-1.0
	baz=288,SNR=5.1							
RND	**Reindeer**	11.76	92	Pn		Pn	02 36 17.2	+0.5
RND	**Reindeer**	11.76	92	P		Pn	02 36 17.2	+0.5
G25K	**Bearman Lake**	11.77	74	P		Pn	02 36 17.7	+0.9
	baz=281							
E25K	**Arctic Village**	11.77	67	P		Pn	02 36 16.3	-0.6
	baz=275,SNR=7.7							
F25K	**Christian Rive**	11.81	70	P		Pn	02 36 16.8	-0.6
	baz=278							
C26K	**Camden Bay**	11.97	59	P		Pn	02 36 19.1	-0.3
	baz=267							
SUA	**Susitna One**	11.98	102	P		Pn	02 36 20.5	+0.6
	baz=304,SNR=9.2							
H25L	**Birch Creek**	11.99	76	P		Pn	02 36 20.6	+0.8
	baz=284,SNR=9.4							
ILAR	**Eielson Array**	12.01	84	Pn		Pn	02 36 19.8	-0.3
ILAR	**Eielson Array**	12.01	84	Pn		Pn	02 36 20.0	-0.1
	comp=Z,1.3nm,0.3s,baz=286,slow=13,SNR=111							
ILAR				Sn		Sn	02 38 32.3	-1.6
	comp=Z,0.5nm,0.3s,baz=286,slow=21,SNR=5.3							
ILAR				Lg		Lg	02 39 51.6	
	baz=291,slow=26							
ILAR				LR		LR	02 41 37.7	
	comp=Z,96nm,19.1s,baz=243,slow=41							
ILAR	**Eielson Array**	12.01	84	P		Pn	02 36 19.8	-0.3
M22K	**Willow**	12.07	100	P		Pn	02 36 21.0	+0.1
	baz=303							
HDA	**Harding Lake**	12.11	86	Pn		Pn	02 36 20.9	-0.7
HDA	**Harding Lake**	12.11	86	P		Pn	02 36 21.4	-0.2
	baz=292							
P19K	**Oil Pt**	12.16	113	Pn		Pn	02 36 22.9	+0.7
P19K	**Oil Pt**	12.16	113	P		Pn	02 36 20.9	-1.3
	baz=312							
Q17K	**Contact Creek**	12.21	122	P		Pn	02 36 23.1	+0.1
	baz=319,SNR=24							
Q18K	**Katmai Hardscr**	12.23	119	P		Pn	02 36 22.7	-0.6
	baz=317,SNR=7.0							
BMAR	**Burnt Mountain**	12.23	71	Pn		Pn	02 36 22.8	-0.4
PRP	**Porcupine Dome**	12.31	80	Pn		Pn	02 36 24.4	+0.1
PRP	**Porcupine Dome**	12.31	80	P		Pn	02 36 24.2	-0.1
	baz=287,SNR=6.5							
F26K	**Sheenjek River**	12.36	69	P		Pn	02 36 24.6	-0.3
	baz=278							
C27K	**Jago River**	12.38	60	P		Pn	02 36 24.2	-0.9
	baz=270							
ACHA	**Angle Creek He**	12.45	121	Pn		Pn	02 36 26.2	0.0
Q19K	**Cape Douglas,**	12.52	116	Pn		Pn	02 36 28.0	+1.0
Q19K	**Cape Douglas,**	12.52	116	P		Pn	02 36 26.0	-1.1
	baz=315							
PMR	**Palmer**	12.55	100	Pn		Pn	02 36 29.2	+1.7
PMR	**Palmer**	12.55	100	P		Pn	02 36 29.2	+1.7
PMR	**Palmer**	12.55	100	P		Pn	02 36 27.2	-0.3
	baz=303							
RC01	**Rabbit Creek A**	12.60	102	P		Pn	02 36 27.7	-0.5
	baz=305,SNR=5.5							
G26K	**Porcupine Rive**	12.63	72	P		Pn	02 36 27.8	-0.7
	baz=282							
J25K	**Salcha River,**	12.67	84	P		Pn	02 36 28.4	-0.8
	baz=291							
SML	**Sawmill**	12.75	98	P		Pn	02 36 29.1	-1.3
	baz=302							
OMS	**Omsukchan**	12.81	266	*e*Sg			02 40 10.2	
OMS				Sgmax			02 40 38.1	
	comp=Z,70nm,1.0s							
K24K	**Donnelly Dome**	12.83	87	Pn		Pn	02 36 30.9	-0.4
K24K	**Donnelly Dome**	12.83	87	P		Pn	02 36 30.6	-0.7
	baz=294,SNR=13							
KNK	**Knik Glacier**	12.92	99	P		Pn	02 36 32.0	-0.5
	baz=304							
M23K	**Glacier View**	13.00	97	P		Pn	02 36 32.5	-1.3
	baz=302							
BRSE	**Bradley Lake S**	13.04	108	P		Pn	02 36 33.3	-1.0
	baz=311							
SCM	**Sheep Creek Mo**	13.14	97	Pn		Pn	02 36 36.7	+1.0
SCM	**Sheep Creek Mo**	13.14	97	P		Pn	02 36 36.7	+1.0
SCM	**Sheep Creek Mo**	13.14	97	P		Pn	02 36 34.9	-0.8
	baz=302							
RIDG	**Independent Ri**	13.23	87	P		Pn	02 36 35.3	-1.5
	baz=295,SNR=8.1							
R18K	**Karluk**	13.24	121	P		Pn	02 36 34.8	-2.1
	baz=320							
E27K	**Coleen River**	13.24	66	P		Pn	02 36 36.1	-0.9
	baz=278							
PWL	**Port Wells**	13.29	101	P		Pn	02 36 35.9	-1.7
	baz=306							
UNV	**Unalaska Valle**	13.31	156	P		Pn	02 36 36.5	-1.3
	baz=344							
SEW	**Seward**	13.31	105	P		Pn	02 36 36.7	-1.1
	baz=309							
I26K	**Coal Creek Min**	13.32	79	P		Pn	02 36 36.3	-1.7
	baz=289							
PAX	**Paxson**	13.32	90	P		Pn	02 36 36.8	-1.2
	baz=298							
D27M	**Malcolm River**	13.36	62	P		Pn	02 36 37.5	-1.1
	baz=274							
J26L	**Joseph Creek**	13.44	83	P		Pn	02 36 39.0	-0.7
	baz=292,SNR=13							
M24K	**Tolsona, Glenn**	13.46	94	Pn		Pn	02 36 43.0	+3.1
M24K	**Tolsona, Glenn**	13.46	94	P		Pn	02 36 38.7	-1.3
	baz=301							
SCRK	**Sand Creek**	13.48	85	P		Pn	02 36 39.4	-0.8
	baz=294,SNR=5.5							
G27K	**Doyon Strip**	13.48	72	P		Pn	02 36 39.4	-0.8
	baz=283							
H27K	**Steamboat Moun**	13.68	75	P		Pn	02 36 42.3	-0.6
	baz=286							
HARP	**HAARP**	13.72	92	P		Pn	02 36 41.6	-1.9
	baz=300							
KDAK	**Kodiak Island**	13.74	117	Pn		Pn	02 36 46.1	+2.5
	comp=Z,0.6nm,0.3s,baz=230,slow=5.6,SNR=10							
KDAK	**Kodiak Island**	13.74	117	P		Pn	02 36 42.6	-1.0
	baz=318							
GLI	**Glacier Island**	13.77	100	P		Pn	02 36 43.7	-0.4
	baz=305							
I27K	**Kandik River**	13.83	77	P		Pn	02 36 44.8	-0.2
	baz=288							
KLU	**Klutina**	13.89	96	P		Pn	02 36 46.5	+0.6
	baz=303							
OHAK	**Old Harbor**	13.91	120	P		Pn	02 36 45.6	-0.4
	baz=320							
CHNA	**Chernabura Isl**	13.92	138	P		Pn	02 36 45.4	-0.8
	baz=332							
E28M	**Babbage River**	13.94	64	P		Pn	02 36 46.1	-0.4
	baz=278							
SEY	**Seymchan**	13.98	271	Pn		Pn	02 36 48.0	+1.1
	comp=Z,0.2nm,0.3s,baz=77,slow=9.4,SNR=9.1							
SEY				Lg		Lg	02 40 49.1	
	comp=Z,0.2nm,0.3s,baz=216,slow=12,SNR=6.5							
	comp=Z,1.0nm,0.2s							
SEY	**Seymchan**	13.98	271	*e*P		Pn	02 36 49.3	+2.4
SEY				Pmax			02 36 49.7	
	comp=Z,10.0nm,0.3s							
SEY				*e*Sg			02 40 50.6	
SEY				Sgmax			02 41 15.9	
	comp=Z,60nm,1.3s							
SEY	**Seymchan**	13.98	271	*ce*P		Pn	02 36 49.4	+2.5
SEY				pmax		pmax		
	comp=Z,15nm,1.7s							
FID	**Port Fidalgo**	14.09	99	Pn		Pn	02 36 48.1	-0.4
SII	**Sitkinak Islan**	14.12	123	P		Pn	02 36 48.9	-0.1
	baz=322							
D28M	**Stokes Point**	14.14	61	P		Pn	02 36 49.7	+0.5
	baz=275							
L26K	**Log Cabin Wild**	14.15	88	P		Pn	02 36 50.4	+1.0
	baz=297							
P23K	**Montague Islan**	14.18	103	P		Pn	02 36 50.0	+0.3
	baz=308							
K27K	**Chicken**	14.22	84	P		Pn	02 36 51.2	+0.8
	baz=294							
HIN	**Hinchinbrook I**	14.29	101	Pn		Pn	02 36 52.1	+0.8
N25K	**Chitina, Valde**	14.36	94	P		Pn	02 36 53.4	+1.0
	baz=302							
EYAK	**Cordova Ski Ar**	14.50	99	P		Pn	02 36 54.5	+0.4
	baz=306							
SHEM	**Shemya Is, Ala**	14.53	205	LR		LR	02 42 33.4	
	comp=Z,57nm,19.2s,baz=286,slow=37							
I28M	**Miner Creek**	14.54	77	P		Pn	02 36 54.9	+0.2
	baz=290							
E29M	**Blow River**	14.57	65	P		Pn	02 36 55.0	0.0
	baz=280							
M26K	**Nabesna, AK**	14.60	90	P		Pn	02 36 54.4	-1.1
	baz=300							
BMRM	**Bremner River**	14.71	97	P		Pn	02 36 55.9	-1.2
	baz=304							
L27K	**Beaver Creek,**	14.75	87	Pn		Pn	02 36 57.9	+0.4
L27K	**Beaver Creek,**	14.75	87	P		Pn	02 36 56.7	-0.8
	baz=297							
G29M	**Pine Creek**	14.84	70	P		Pn	02 36 57.8	-1.0
	baz=285							
H29M	**Whitestone**	14.91	73	Pn		Pn	02 36 59.9	+0.3
H29M	**Whitestone**	14.91	73	P		Pn	02 36 59.0	-0.6
	baz=287							
M27K	**Edge Creek, AK**	15.07	89	IAmb		IAmb	02 37 15.3	
	comp=Z,12nm,1.1s							
M27K	**Edge Creek, AK**	15.07	89	P		Pn	02 37 00.4	-1.6
	baz=300							
I29M	**Ogilvie Camp,**	15.21	76	Pn		Pn	02 37 04.3	+0.6
I29M				IAmb		IAmb	02 37 16.8	
	comp=Z,6.6nm,0.9s							
I29M	**Ogilvie Camp,**	15.21	76	P		Pn	02 37 04.4	+0.6
	baz=290							
DAWY	**Dawson**	15.28	82	Pn		Pn	02 37 04.5	-0.2
DAWY				IAmb		IAmb	02 37 15.2	
	comp=Z,8.3nm,1.0s							
DAWY	**Dawson**	15.28	82	P		Pn	02 37 05.4	+0.7
	baz=294							
BVCY	**Beaver Creek**	15.45	88	P		Pn	02 37 06.3	-0.6
	baz=300							
EPYK	**Eagle Plains**	15.50	72	IAmb		IAmb	02 37 32.8	
	comp=Z,11nm,1.0s							
EPYK	**Eagle Plains**	15.50	72	P		Pn	02 37 07.3	-0.1
	baz=288							
F30M	**Barrier River**	15.51	67	IAmb		IAmb	02 37 35.0	
	comp=Z,9.3nm,1.1s							
F30M	**Barrier River**	15.51	67	P		Pn	02 37 06.2	-1.4
	baz=284							
G30M	**tAoh Zraii Nji**	15.51	69	P		Pn	02 37 07.5	-0.1
	baz=286							
J29N	**Klondike Camp**	15.59	79	P		Pn	02 37 08.4	-0.3
	baz=294							
BGLC	**Bering Glacier**	15.74	98	P		Pn	02 37 11.1	+0.5
	baz=307							
SUUS	**Susuman**	15.75	274	*e*P		Pn	02 37 10.8	0.0
SUUS				*e*Sg			02 41 46.3	
SUUS	**Susuman**	15.75	274	*e*P		Pn	02 37 10.8	0.0
SUUS				pmax		pmax		
	comp=Z,10.0nm,0.8s							
YUK3	**Moose Creek**	15.94	90	P		Pn	02 37 12.8	-0.7
	baz=302							
I30M	**Mount Dempster**	16.02	76	IAmb		IAmb	02 37 18.4	
	comp=Z,12nm,1.1s							
I30M	**Mount Dempster**	16.02	76	P		Pn	02 37 15.6	+1.3
	baz=292,SNR=12							
K29M	**Barlow Dome**	16.13	81	Pn		Pn	02 37 15.5	-0.1
K29M	**Barlow Dome**	16.13	81	P		Pn	02 37 15.9	+0.2
	baz=296							
L29M	**L29M**	16.22	84	P		Pn	02 37 17.5	+0.7
	baz=298							
G31M	**Satah River**	16.26	69	Pn		Pn	02 37 18.1	+0.8
G31M	**Satah River**	16.26	69	P		Pn	02 37 17.5	+0.3
	baz=287							
J30M	**Hart River**	16.29	78	P		Pn	02 37 18.3	+0.5
	baz=294,SNR=7.9							
M29M	**Somme Creek**	16.41	86	P		Pn	02 37 19.0	-0.2
	baz=300							
MA2	**Magadan**	16.48	262	LR		LR	02 43 20.2	
	comp=Z,87nm,18.7s,baz=302,slow=36							
MA2	**Magadan**	16.48	262	*i* P		Pn	02 37 18.7	-1.4
YUK8	**Steele Glacier**	16.49	91	P		Pn	02 37 20.2	-0.3
	baz=303							
O28M	**Mount Upton**	16.60	93	P		Pn	02 37 22.0	0.0
	baz=304							
M30M	**Minto, Yukon**	17.01	84	P		Pn	02 37 26.8	0.0
	baz=300							
YUK6	**Outpost Mounta**	17.24	90	P		Pn	02 37 30.4	+0.5
	baz=304							
N30M	**Aishikik Lake**	17.47	88	P		Pn	02 37 32.8	+0.1
	baz=303							
O29M	**Mount Kennedy**	17.53	92	P		Pn	02 37 33.1	-0.3
	baz=306							
PNL	**Peninsula**	17.58	95	P		Pn	02 37 33.0	-0.9
	baz=307							
HYT	**Haines Junctio**	17.66	90			P	02 37 37.6	+1.6
HYT	**Haines Junctio**	17.66	90

YSS pmax pmax
comp=Z,6.0nm,0.9s
BLKN Baker Lake 31.28 56 P **P 02 39 48.9 +0.3**
BLKN IAmb IAmb 02 40 02.0
comp=Z,3.8nm,1.3s
KLR Kul'dur 31.57 263 LR LR 02 51 59.5
comp=Z,33nm,19.5s,baz=358,slow=35
KLR Kul'dur 31.57 263 *i* P **P 02 39 50.6 -0.7**
KLR pmax pmax
comp=Z,3.0nm,0.9s
ILON Igloolik, Nuna 32.27 41 P **P 02 39 57.6 +0.4**
ILON IAmb IAmb 02 40 39.3
comp=Z,3.1nm,1.0s
NRIK Noril'sk 33.02 320 P **P 02 40 03.9 +0.1**
NRIK Noril'sk 33.02 320 P **P 02 40 03.4 -0.5**
comp=Z,2.2nm,0.5s,baz=66,slow=11,SNR=7.1
comp=Z,2.2nm,0.5s
NRIK Noril'sk 33.02 320 P **P 02 40 03.9 +0.1**
NRIK pmax pmax
comp=Z,6.0nm,1.1s
NEW Newport 34.80 92 LR LR 02 53 40.6
comp=Z,46nm,21.9s,baz=322,slow=35
USRK Ussuriysk Ar. 35.57 258 P **P 02 40 28.6 +2.5**
comp=Z,1.5nm,0.8s,baz=34,slow=11,SNR=2.6
USRK LR LR 02 54 53.5
comp=Z,22nm,19.3s,baz=13,slow=36
comp=Z,1.5nm,0.8s
PLID Pearl Lake 37.83 94 P **P 02 40 46.2 +0.4**
YBH Yreka Blue Hor 37.96 104 LR LR 02 55 02.3
comp=Z,42nm,19.1s,baz=318,slow=34
BOZ Bozeman (W) 39.18 89 P **P 02 40 57.4 +0.4**
BOZ IAmb IAmb 02 40 59.1
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 39.18 89 P **P 02 40 57.4 +0.4**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
HLID Hailey 39.73 94 P **P 02 41 02.0 +0.4**
HLID IAmb IAmb 02 41 03.6
comp=Z,3.7nm,1.0s
MJAR Matsushiro Arr 39.81 245 LR LR 02 58 25.5
comp=Z,38nm,18.1s,baz=54,slow=38
YHH Holmes Hill 40.16 89 P **P 02 41 06.7 +1.4**
YNE Yellowstone No 40.32 88 P **P 02 41 06.8 +0.3**
YNE IAmb IAmb 02 41 29.8
comp=Z,6.6nm,1.4s
SFJD Kangerlussuaq 41.43 29 LR LR 02 57 18.2
comp=Z,26nm,21.2s,baz=266,slow=35
SCO Scoresbysund 42.29 13 P **P 02 41 22.7 +0.6**
SCO IAmb IAmb 02 41 44.1
comp=Z,7.8nm,1.2s
SCO Scoresbysund 42.29 13 P **P 02 41 22.7 +0.6**
SCO pmax pmax
comp=Z,8.0nm,1.2s
PDAR Pinedale Array 42.36 90 P **P 02 41 23.3 0.0**
PDAR Pinedale Array 42.36 90 P **P 02 41 22.9 -0.5**
comp=Z,0.8nm,0.8s,baz=333,slow=3.8,SNR=7.1
PDAR LR LR 03 00 49.1
comp=Z,42nm,21.2s,baz=314,slow=39
comp=Z,0.8nm,0.8s
NVAR Mina Array Bea 42.53 102 P **P 02 41 26.0 +1.3**
comp=Z,2.5nm,0.8s,baz=313,slow=6.2,SNR=8.5
comp=Z,2.5nm,0.8s
ULN Ulaanbaatar 42.56 284 *i* P **P 02 41 24.3 -0.5**
ULN pmax pmax
comp=Z,10.0nm,2.1s
SONM Songino Array 42.84 284 P **P 02 41 27.3 +0.3**
SONM IAmb IAmb 02 41 31.2
comp=Z,2.4nm,0.7s
SONM Songino Array 42.84 284 P **P 02 41 27.6 +0.5**
comp=Z,3.1nm,0.6s,baz=38,slow=8.0,SNR=19
SONM LR LR 03 00 13.1
comp=Z,119nm,19.6s,baz=78,slow=38
comp=Z,3.1nm,0.6s
SONM Songino Array 42.84 284 P **P 02 41 27.3 +0.3**
SONM pmax pmax
comp=Z,2.0nm,0.7s
KSRS Korea Array 42.93 256 LR LR 02 59 40.2
comp=Z,44nm,18.4s,baz=50,slow=37
ARCES ARCESS Array B 43.62 349 P **P 02 41 32.7 -0.3**
comp=Z,2.1nm,0.8s,baz=22,slow=6.9,SNR=4.9
ARCES LR LR 03 01 22.4
comp=Z,26nm,19.1s,baz=341,slow=38
comp=Z,2.1nm,0.8s
APA Apatity 44.82 345 ⇓ *i* P P 02 41 54.0 +11
APA pmax pmax
comp=Z,4.0nm,0.8s
APA MLR MLR
comp=Z,200nm,10.0s
JNU Nakatsue 45.59 251 LR LR 03 00 40.5
comp=Z,42nm,19.1s,baz=24,slow=36
ZAA0 Zalesovo Array 45.68 305 P **P 02 41 49.0 -0.5**
ZALV Zalesovo Beam 45.68 305 P **P 02 41 48.9 -0.6**
ZALV Zalesovo Beam 45.68 305 P **P 02 41 49.1 -0.3**
comp=Z,4.9nm,0.6s,baz=38,slow=7.5,SNR=17
comp=Z,4.9nm,0.6s
ZALV Zalesovo Beam 45.68 305 *i* P **P 02 41 52.0 +2.5**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
HHC Hu-ho-hao-te 46.59 274 *eP* **P 02 41 57.1 +0.1**
HHC pmax pmax
comp=Z,28nm,0.6s
HHC pmax pmax
comp=Z,90nm,4.6s
HHC LR LR
comp=N,200nm,13.8s
HHC LR LR
comp=E,130nm,13.0s
HHC LR LR
comp=Z,200nm,13.8s
PFO Pinyon Flats O 47.45 103 LR LR 03 00 18.7
comp=Z,55nm,19.0s,baz=232,slow=34
BORG Borgarnes 47.93 14 LR LR 03 02 11.3
comp=Z,54nm,19.2s,baz=9.6,slow=36
ANMO Albuquerque 50.29 93 LR LR 03 07 08.1
comp=Z,33nm,21.0s,baz=150,slow=40
KURK Kurchatov 50.44 307 *i* P **P 02 42 25.0 -1.3**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KLMR Klimovskoe 50.49 339 *eP* **P 02 42 23.7 -2.9**
KLMR pmax pmax
comp=Z,12nm,1.4s
KURBB Kurchatov Arra 50.55 307 P **P 02 42 26.7 -0.4**
comp=Z,1.6nm,0.7s,baz=35,slow=7.6,SNR=9.5
KURBB LR LR 03 06 11.0
comp=Z,35nm,19.5s,baz=176,slow=39
comp=Z,1.6nm,0.7s
Y22D IRIS PASSCAL I 50.86 94 P **P 02 42 29.8 -0.1**
baz=331
BVAR Borovoye Array 50.93 315 P **P 02 42 29.8 -0.2**
comp=Z,1.6nm,0.6s,baz=36,slow=9.1,SNR=9.0
BVAR LR LR 03 06 08.4
comp=Z,44nm,20.6s,baz=12,slow=38
comp=Z,1.6nm,0.6s
BRVK Borovoye 50.93 315 P **P 02 42 30.2 +0.2**
BRVK IAmb IAmb 02 42 34.6
comp=Z,2.8nm,0.8s
BRVK Borovoye 50.93 315 *i* P **P 02 42 28.9 -1.1**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
KIRV Kirov 50.95 331 LR LR 03 06 53.0
comp=Z,53nm,18.4s,baz=27,slow=39
ARTI Arti 51.05 325 P **P 02 42 32.6 +1.7**
ARTI IAmb IAmb 02 42 35.4
comp=Z,3.3nm,0.7s
ARTI Arti 51.05 325 LR LR 03 07 08.7
comp=Z,49nm,18.0s,baz=27,slow=40
ARTI Arti 51.05 325 *d i* P **P 02 42 30.8 -0.1**
ARTI 02 43 44.5
ARTI 02 44 28.8
ARTI S **S 02 49 49.9 +2.1**
ARTI SS **SS 02 53 25.5 +3.5**
ARTI pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 51.54 347 P **P 02 42 36.9 +2.5**
FINES FINESS Array B 51.54 347 P **P 02 42 33.5 -0.9**
comp=Z,1.6nm,0.8s,baz=346,slow=6.5,SNR=3.8
FINES LR LR 03 06 26.1
comp=Z,26nm,19.9s,baz=346,slow=38
comp=Z,1.6nm,0.8s
MKAR Makanchi Array 52.62 302 P **P 02 42 41.4 -1.4**
MKAR Makanchi Array 52.62 302 P **P 02 42 41.5 -1.2**
comp=Z,0.4nm,0.6s,baz=44,slow=7.2,SNR=3.7
MKAR LR LR 03 06 37.3
comp=Z,44nm,19.9s,baz=280,slow=38
comp=Z,0.4nm,0.6s
NC405 NORSAR Array S 52.76 355 P **P 02 42 44.3 +0.7**
NB201 NORSAR Array S 52.84 356 P **P 02 42 44.6 +0.4**
NB2 NORSAR Subarra 52.85 356 P **P 02 42 44.7 +0.4**
comp=Z,1.4nm,0.7s,baz=1.2,slow=7.4
NOA NORSAR Array B 52.85 356 P **P 02 42 44.2 0.0**
comp=Z,1.4nm,0.7s,baz=0.6,slow=7.5,SNR=6.2
NOA LR LR 03 03 56.1
comp=Z,14nm,21.9s,baz=325,slow=35
comp=Z,1.4nm,0.7s
HFS Hagfors 53.67 354 P **P 02 42 50.0 -0.2**
comp=Z,2.5nm,0.8s,baz=180,slow=0.6,SNR=4.6
comp=Z,2.5nm,0.8s
HFS Hagfors 53.67 354 P **P 02 42 50.0 -0.2**
O48B Farmland 54.16 71 P **P 02 42 53.6 -0.5**
T42A Van Buren 54.65 78 P **P 02 42 56.8 -0.9**
T42A IAmb IAmb 02 43 10.1
comp=Z,2.8nm,1.2s
TXAR Lajitas Array 56.33 93 P **P 02 43 09.7 -0.3**
TXAR Lajitas Array 56.33 93 P **P 02 43 10.5 +0.5**
comp=Z,0.9nm,0.7s,baz=298,slow=5.1,SNR=9.2
comp=Z,0.9nm,0.7s
OBN Obninsk 56.46 338 *eP* **P 02 43 10.9 +0.5**
OBN *e* 02 44 04.8
OBN *e* 02 45 16.7
OBN *e*PPP PPP 02 46 30.2
OBN pmax pmax
comp=Z,3.0nm,1.0s
ABKAR Akbulak array 57.19 320 P **P 02 43 15.0 -0.7**
ABKAR IAmb IAmb 02 43 20.4
comp=Z,1.9nm,0.8s
MNK Minsk 58.19 344 *i* P **P 02 43 23.0 +0.4**
MNK *i* 02 44 14.1
MNK *i* 02 45 31.9
MNK *i* PPP PPP 02 47 03.8
MNK *i* S **S 02 51 25.6 +1.9**
MNK *i* 02 53 12.8
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK MLR MLR
comp=N,40nm,16.0s
MNK MLR MLR
comp=Z,28nm,14.0s
M65A Busby, Falmout 58.29 58 P **P 02 43 23.7 +0.2**
baz=333
EKA Eskdalemuir Ar 58.55 5 P **P 02 43 25.7 +0.5**
comp=Z,2.4nm,0.6s,baz=351,slow=5.0,SNR=10
comp=Z,2.4nm,0.6s
BOOM Boomskoye usch 58.55 305 **P 02 43 25.2 -0.4**
BOOM Boomskoye usch 58.55 305 P **P 02 43 25.2 -0.4**
BOOM pmax pmax
comp=Z,3.0nm,0.7s
TKL Tuckaleechee C 58.70 72 P **P 02 43 25.7 -0.8**
TKL Tuckaleechee C 58.70 72 P **P 02 43 25.7 -0.8**
TKL pmax pmax
comp=Z,13nm,1.5s
AAK Ala-Archa 58.90 306 LR LR 03 11 10.9
comp=Z,60nm,18.5s,baz=35,slow=38
AAK Ala-Archa 58.90 306 *i* P **P 02 43 27.8 -0.2**
AAK pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 61.77 342 P **P 02 43 47.0 -0.3**
comp=Z,1.1nm,0.6s,baz=15,slow=6.6,SNR=4.4
AKASG LR LR 03 13 16.6
comp=Z,34nm,20.8s,baz=348,slow=39
comp=Z,1.1nm,0.6s
AKASG Malin Array Be 61.77 342 P **P 02 43 47.0 -0.3**
PZH PanZhiHua 63.05 275 P **P 02 43 57.7 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
LANS Liptovska Anna 64.28 349 *eP* **P 02 44 05.9 +1.8**
LANS pmax pmax
comp=Z,2.0nm,0.8s
LANS Liptovska Anna 64.28 349 *eP* **P 02 44 05.9 +1.8**
KHC Kasperske Hory 64.67 353 *i* P **P 02 44 06.3 -0.3**
KHC pmax pmax
comp=Z,4.0nm,1.0s
GERES GERESS Array B 64.95 353 P **P 02 44 08.3 -0.2**
GERES GERESS Array B 64.95 353 P **P 02 44 09.8 +1.3**
comp=Z,1.3nm,0.7s,baz=20,slow=4.3,SNR=9.6
comp=Z,1.3nm,0.7s
GERES GERESS Array B 64.95 353 P **P 02 44 08.3 -0.2**
VYHS Vyhne 64.98 349 *eP* **P 02 44 09.7 +1.1**
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 64.98 349 *eP* **P 02 44 09.7 +1.1**
MODS Modra-Piesok 65.21 350 *eP* **P 02 44 12.3 +2.2**
MODS Modra-Piesok 65.21 350 *eP* **P 02 44 12.3 +2.2**
BURAR Bucovina Array 65.27 345 P **P 02 44 11.9 +1.3**
CONA Conrad Observa 65.74 351 *eP* **P 02 44 11.9 -1.7**
comp=Z,2.4nm,1.0s
MOA Molin 65.91 353 *eP* **P 02 44 12.0 -2.6**
comp=Z,2.4nm,0.8s
RONA Rosalia, Austr 65.94 351 *eP* **P 02 44 13.0 -1.9**
comp=Z,1.3nm,0.5s
KIV Kislovodsk 66.16 331 *eP* **P 02 44 16.6 +0.2**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,17nm,17.0s
KBZ Khabaz 66.34 330 P **P 02 44 18.1 +0.7**
comp=Z,1.2nm,0.7s,baz=338,slow=6.0,SNR=4.3
comp=Z,1.2nm,0.7s
MOTA Moosalm 66.56 355 *eP* **P 02 44 18.1 -0.9**
comp=Z,4.8nm,1.8s
WTTA Wattenberg 66.62 355 *eP* **P 02 44 19.4 0.0**
comp=Z,1.9nm,0.6s
SQTA Sankt Quirin 66.67 355 *ep*P **P 02 44 20.7 +1.0**
comp=Z,2.4nm,1.0s
KBA Konnbreinsper 66.73 353 *ep*P **P 02 44 21.4 +1.3**
comp=Z,3.1nm,0.8s
FETA Feichten 66.89 355 *ep*P **P 02 44 22.1 +0.9**
comp=Z,2.8nm,1.0s
SOKA Soboth 67.04 352 *ep*P **P 02 44 22.8 +0.9**
comp=Z,2.4nm,1.1s
OBKA Obir 67.23 352 *ep*P **P 02 44 24.5 +1.3**
comp=Z,5.0nm,0.7s
MLR Muntele Rosu 67.29 344 LR LR 03 19 24.5
comp=Z,34nm,18.0s,baz=49,slow=41
FUORN Ofenpass-Fuorn 67.31 356 P **P 02 44 24.1 +0.2**
GNI Garni 69.39 328 LR LR 03 18 42.3
comp=Z,36nm,18.9s,baz=158,slow=39
MSSA Maissana 69.63 356 P **P 02 44 38.5 +0.3**
FDMO Fiordimonte 70.77 353 P **P 02 44 44.8 -0.4**
CMAR Chiang Mai Arr 71.38 273 LR LR 03 16 45.9
comp=Z,18nm,18.1s,baz=355,slow=36
BRTR Keskin Array B 71.89 337 P **P 02 44 51.6 -0.5**
BRTR Keskin Array B 71.89 337 P **P 02 44 52.0 -0.1**
comp=Z,0.8nm,0.6s,baz=19,slow=4.1,SNR=6.2
comp=Z,0.8nm,0.6s
BRTR Keskin Array B 71.89 337 P **P 02 44 51.7 -0.5**
ESDC Sonseca Array 74.16 7 P **P 02 45 06.1 +0.7**
ESDC IAmb IAmb 02 45 36.3
comp=Z,2.3nm,1.1s
ESDC Sonseca Array 74.16 7 P **P 02 45 04.5 -0.9**
comp=Z,1.1nm,0.8s,baz=357,slow=4.4,SNR=5.4
comp=Z,1.1nm,0.8s
EIL Elat 81.48 333 LR LR 03 26 24.1
comp=Z,17nm,18.3s,baz=251,slow=39

*IDC **10** 02:44:04.7±1.1, 21°.54N×124°.03E, h0km, mb3.6/9, mbtmp3.6/10, ML2.8/1, Error ellipse: s-maj=40.9km s-min=23.4km az=65.0*
*JMA **10** 02:44:19.0±0.3, 23°.N±1°.×12°.4E±°., h57km, MV3.2/14, NEAR ISHIGAKIJIMA ISLAND*
ISC 10 02:44:19.2±4.1, 23°.1N±0°.2×123°.77E±0°.07, h40km±29km, n19, σ1§20/24, mb3.5/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.94**	**2**	*eP*	**Pn**	**02 44 35.9**	**-0.1**
HATJ				*eS*	**Sn**	**02 44 48.0**	**-0.3**
JKRS	**Kuro-shima**	**1.14**	**11**	*eP*	**Pn**	**02 44 39.1**	**+0.3**
JKRS				*eS*	**Sn**	**02 44 53.3**	**0.0**
IRIF	**Iriomote-Funau**	**1.22**	**358**	*eP*	**Pn**	**02 44 39.9**	**+0.1**
IRIF				*eS*	**Sn**	**02 44 54.6**	**-0.5**
JIJ	**Ishigaki jima**	**1.29**	**15**	*eP*	**Pn**	**02 44 40.6**	**-0.2**
JIJ				*eS*	**Sn**	**02 44 55.6**	**-1.4**
YOJ	**Yonaguni jima**	**1.51**	**333**	*eP*	**Pn**	**02 44 43.8**	**-0.1**
YOJ				*eS*	**Sn**	**02 45 01.8**	**-0.6**
JYNG	**Yonagunijimaku**	**1.53**	**331**	*eP*	**Pn**	**02 44 44.2**	**+0.1**
JYNG				*eS*	**Sn**	**02 45 02.4**	**-0.5**
JISG	**Ishigakijimahi**	**1.55**	**19**	*eP*	**Pn**	**02 44 44.2**	**-0.1**
JISG				*eS*	**Sn**	**02 45 01.6**	**-1.7**
JTJ	**Tarama**	**1.75**	**29**	*eP*	**Pn**	**02 44 47.4**	**+0.4**
JTJ				*eS*	**Sn**	**02 45 07.5**	**-0.7**
JIRB	**Irabujima**	**2.14**	**37**	*eP*	**Pn**	**02 44 52.6**	**+0.1**
JIRB				*eS*	**Sn**	**02 45 17.2**	**-0.6**
MJAR	**Matsushiro Arr**	**18.30**	**40**	P	**Pn**	**02 48 31.4**	**+1.3**
	baz=220,slow=11,SNR=2.9						
	1.4nm,0.7s						
SONM	**Songino Array**	**28.31**	**335**	P	**P**	**02 50 11.7**	**+2.5**
	0.7nm,0.7s,baz=138,slow=9.1,SNR=4.3						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**40.75**	**316**	P	P	02 51 59.0	+2.6
	0.4nm,0.6s,baz=116,slow=8.2,SNR=5.0						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**42.44**	**327**	P	P	02 52 13.7	+3.7
	0.4nm,0.3s,baz=116,slow=6.6,SNR=2.0						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**44.45**	**320**	P	P	02 52 29.0	+2.7
	0.2nm,0.3s,baz=114,slow=8.2,SNR=2.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**47.53**	**167**	P	P	02 52 29.3	-21
	0.4nm,0.4s,baz=345,slow=12,SNR=10.0						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**50.00**	**321**	P	**P**	**02 53 09.8**	**+0.3**
	0.6nm,0.6s,baz=92,slow=8.9,SNR=4.3						
	0.6nm,0.6s						
AKASG	**Malin Array Be**	**75.24**	**319**	P	**P**	**02 55 58.8**	**+1.0**
	0.5nm,0.5s,baz=73,slow=6.3,SNR=1.9						
	0.5nm,0.5s						
BRTR	**Keskin Array B**	**75.71**	**307**	P	**P**	**02 55 57.4**	**-3.6**
	0.2nm,0.6s,baz=85,slow=5.3,SNR=3.7						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**83.02**	**23**	P	**P**	**02 56 39.7**	**-0.4**
	0.2nm,0.8s,baz=314,slow=5.1,SNR=4.3						
	0.2nm,0.8s						

*IDC **10** 02:51:18.8±1.9, 5°.77S×130°.42E, h0km, mb3.9/2, mbtmp3.8/5, ML3.7/3, Error ellipse: s-maj=93.8km s-min=25.3km az=77.0*
ISC 10 02:51:32.7±1.5, 6°.64S±0°.10×130°.3E±0°.2, h150km, n5, σ0§59/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crosst**	**12.26**	**201**	Pn	**P**	**02 54 27.9**	**-0.7**
	0.2nm,0.3s,baz=24,slow=11,SNR=11						
FITZ				Sn	**Sn**	**02 56 38.4**	**+0.4**
	0.7nm,0.3s,baz=195,slow=18,SNR=6.5						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**13.79**	**164**	Pn	**P**	**02 54 45.3**	**-0.3**
	0.4nm,0.3s,baz=346,slow=13,SNR=10						
WRA				Sn	**Sn**	**02 57 14.9**	**-0.1**
	0.8nm,0.3s,baz=350,slow=24,SNR=7.4						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**17.28**	**169**	P	Pn	02 55 31.8	+6.7
	0.4nm,0.3s,baz=349,slow=11,SNR=17						
ASAR				S	**Sn**	**02 58 39.2**	**+0.6**
	1.2nm,0.8s,baz=358,slow=26,SNR=7.3						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**68.09**	**327**	P	**P**	**03 02 16.9**	**+0.5**
	1.5nm,0.6s,baz=118,slow=8.0,SNR=18						
	1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**72.36**	**328**	P	**P**	**03 02 42.0**	**-0.1**
	0.4nm,0.6s,baz=127,slow=5.1,SNR=5.8						
	0.4nm,0.6s						

*NEIC **10** 03:08:54.4±1.4, 27°.0N±0°.1×140°.9E±0°.1, h131km±10km, mb4.2/29, Error ellipse: s-maj=20.6km s-min=11.5km az=148.0*
*IDC **10** 03:08:54.1±1.4, 26°.97N×140°.90E, h135km±14km, mb3.4/7, mbtmp3.8/8, Error ellipse: s-maj=30.1km s-min=19.0km az=85.0*
*JMA **10** 03:08:58.0±0.1, 27°.1N±0°.7×14°.2E±°., h158km, MV4.3/10, NEAR CHICHIJIMA ISLAND*
ISC 10 03:08:55.3±0.8, 26°.93N±0°.09×141°.1E±0°.1, h150km, n48, σ1§30/51, mb4.1/22, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.01**	**80**	P	**Pn**	**03 09 20.8**	**+0.6**
CBIJ				S	**Sn**	**03 09 38.3**	**-0.9**
JCJ	**Chichijima**	**1.01**	**80**	Pn	**Pn**	**03 09 19.4**	**-0.8**
JCJ				Sn	**Sn**	**03 09 38.1**	**-1.1**
JCJ	**Chichijima**	**1.01**	**80**	P	**Pn**	**03 09 20.2**	**0.0**
	57nm,0.3s,baz=20,slow=13,SNR=56						
JCJ				S	**Sn**	**03 09 37.6**	**-1.6**
	139nm,0.3s,baz=274,slow=23,SNR=10.0						
JHH2	**Haha-jima-NKT2**	**1.03**	**106**	P	**Pn**	**03 09 21.9**	**+1.5**
JHH2				S	**Sn**	**03 09 40.0**	**+0.5**
JHH2	**Haha-jima-NKT2**	**1.03**	**106**	A	A	03 09 21.9	
	comp=N,7.0nm,0.3s,comp=E,4.0nm,0.3s						
JMKN	**Mikurajimanish**	**7.06**	**350**	*eS*	**Sn**	**03 11 56.2**	**+1.1**
JOD2	**Odawara 2**	**8.48**	**349**	*eP*	**Pn**	**03 10 55.8**	**+0.7**
MJAR	**Matsushiro Arr**	**9.89**	**346**	P	**Pn**	**03 11 13.3**	**-0.5**
	comp=E,0.7nm,0.2s,baz=149,slow=8.6,SNR=5.8						
JMM	**Marumori**	**10.91**	**359**	Pn	**Pn**	**03 11 25.1**	**-2.1**
ERM	**Erimo**	**15.15**	**6**	Pn	**Pn**	**03 12 20.0**	**-1.4**
KLR	**Kul'dur**	**23.41**	**345**	P	**P**	**03 13 50.8**	**+0.2**
	comp=E,1.6nm,0.5s,baz=163,slow=7.7,SNR=6.8						
	comp=E,1.6nm,0.5s						
PETK	**Petropavlovsk-**	**28.94**	**21**	P	**P**	**03 14 40.3**	**0.0**
TIXI	**Tiksi**	**45.28**	**355**	P	**P**	**03 16 57.5**	**+0.1**
	comp=E,1.0nm,0.4s,baz=124,slow=3.6,SNR=2.0						
	comp=E,1.0nm,0.4s						
WB0	**Warramunga Arr**	**46.87**	**189**	P	**P**	**03 17 11.2**	**+0.7**
WB0				IAmb	IAmb	03 17 31.7	
	comp=Z,9.6nm,1.4s						
WR8	**Warramunga Arr**	**47.04**	**188**	P	**P**	**03 17 11.3**	**-0.6**
WR8				IAmb	IAmb	03 17 29.6	
	comp=Z,7.6nm,1.2s						
WRA	**Warramunga Arr**	**47.05**	**189**	P	**P**	**03 17 11.8**	**-0.1**
WRA	**Warramunga Arr**	**47.05**	**189**	P	**P**	**03 17 12.5**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=9.0,slow=8.5,SNR=9.5						
	comp=Z,1.6nm,0.8s						
G16K	**Koyuk River**	**52.05**	**26**	P	**P**	**03 17 48.8**	**-0.5**
KURBB	**Kurchatov Arra**	**52.44**	**315**	P	**P**	**03 17 50.3**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=90,slow=7.0,SNR=6.3						
	comp=Z,0.4nm,0.5s						
C18K	**Utukok River**	**53.58**	**23**	P	**P**	**03 18 01.9**	**+1.4**
C18K				IAmb	IAmb	03 18 44.9	
	comp=Z,7.2nm,1.5s						
E19K	**Redstone River**	**54.63**	**25**	P	**P**	**03 18 07.4**	**-0.7**
E19K				IAmb	IAmb	03 18 24.5	
	comp=Z,4.2nm,1.4s						
J20K	**Nowinta River**	**55.14**	**29**	P	**P**	**03 18 14.0**	**+2.2**
J20K				IAmb	IAmb	03 18 33.2	
	comp=Z,5.5nm,1.4s						
D20K	**Etivluk River**	**55.20**	**23**	P	**P**	**03 18 13.9**	**+1.8**
D20K				IAmb	IAmb	03 18 49.7	
	comp=Z,3.9nm,1.4s						
B20K	**Meade River**	**55.38**	**22**	P	**P**	**03 18 15.0**	**+1.7**
STLK	**Strandline Lak**	**55.81**	**32**	P	**P**	**03 18 17.2**	**+0.5**
G21K	**Allakaket**	**55.84**	**26**	P	**P**	**03 18 17.5**	**+0.8**
CAST	**Castle Rocks**	**55.93**	**30**	P	**P**	**03 18 19.0**	**+1.6**
CAST				IAmb	IAmb	03 18 39.8	
	comp=Z,3.6nm,1.4s						
CAPN	**Captain Cook N**	**56.07**	**33**	P	**P**	**03 18 18.4**	**0.0**
B21K	**Ikpikpuk River**	**56.12**	**22**	P	**P**	**03 18 20.7**	**+2.0**
D23K	**Nanushuk River**	**57.35**	**23**	P	**P**	**03 18 28.9**	**+1.5**
C23K	**Itkillik River**	**57.53**	**22**	P	**P**	**03 18 28.8**	**+0.2**
C23K				IAmb	IAmb	03 18 41.6	
	comp=Z,2.5nm,1.1s						
E24K	**Your Creek**	**58.02**	**25**	P	**P**	**03 18 32.8**	**+0.8**
E24K				IAmb	IAmb	03 18 39.4	
	comp=Z,4.1nm,1.5s						
D24K	**Happy Valley**	**58.04**	**23**	P	**P**	**03 18 33.8**	**+1.7**
F24K	**Squaw Lake**	**58.17**	**25**	P	**P**	**03 18 34.6**	**+1.4**
ILAR	**Eielson Array**	**58.34**	**29**	P	**P**	**03 18 35.1**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=272,slow=7.2,SNR=2.5						
	comp=Z,0.3nm,0.9s						
D25K	**Kavik River**	**58.93**	**23**	P	**P**	**03 18 40.3**	**+1.9**
D25K				IAmb	IAmb	03 18 50.3	
	comp=Z,3.3nm,1.4s						
F25K	**Christian Rive**	**59.04**	**25**	P	**P**	**03 18 40.7**	**+1.5**
E25K	**Arctic Village**	**59.11**	**25**	P	**P**	**03 18 40.0**	**+0.3**
E25K				IAmb	IAmb	03 19 20.7	
	comp=Z,5.3nm,1.5s						
BMAR	**Burnt Mountain**	**59.44**	**26**	P	**P**	**03 18 44.3**	**+2.4**
SCRK	**Sand Creek**	**59.57**	**30**	P	**P**	**03 18 44.0**	**+1.1**
SCRK				IAmb	IAmb	03 18 56.8	
	comp=Z,3.2nm,1.4s						
F26K	**Sheenjek River**	**59.62**	**25**	P	**P**	**03 18 44.5**	**+1.4**

F26K				IAmb	IAmb	03 19 13.1	
	comp=Z,4.5nm,1.5s						
J26L	**Joseph Creek**	**59.76**	**29**	P	**P**	**03 18 44.9**	**+0.7**
C27K	**Jago River**	**59.89**	**23**	P	**P**	**03 18 46.7**	**+1.8**
E27K	**Coleen River**	**60.60**	**25**	P	**P**	**03 18 52.0**	**+2.2**
E27K				IAmb	IAmb	03 19 13.5	
	comp=Z,3.0nm,1.4s						
H27K	**Steamboat Moun**	**60.62**	**27**	P	**P**	**03 18 51.4**	**+1.5**
D27M	**Malcolm River**	**60.84**	**24**	P	**P**	**03 18 53.4**	**+1.9**
D27M				IAmb	IAmb	03 19 22.8	
	comp=Z,3.3nm,1.4s						
YKA	**Yellowknife Ar**	**72.76**	**28**	P	**P**	**03 20 07.7**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=298,slow=6.5,SNR=12						
	comp=Z,0.5nm,0.6s						
FINES	**FINESS Array B**	**77.65**	**334**	P	**P**	**03 20 34.4**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=74,slow=5.8,SNR=8.3						
	comp=Z,0.7nm,0.4s						

*IDC **10** 03:26:45.7±1.7,2°.15N×128°.35E,h0km,mb3.7/5, mbtmp3.7/5,MS3.5/2,Error ellipse: s-maj=148.5km s-min=20.3km az=67.0*
*DJA **10** 03:27:09.0±0.5,2°N±4°×12°8E±°,h195km±5km,M4.0/12, mB4.9/3,mb3.9/6,MLv4.1/12,Mw(mB)4.1/3*
ISC 10 03:27:08.0±1.3,2°.0N±0°.1×128°.3E±0°.1,h200km,n12, σ1§26/11,mb3.4/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.55**	**219**	P	**Pn**	**03 27 43.0**	**+0.9**
TNTI				S	**Sn**	**03 28 09.8**	**+1.1**
SANI	**Sanana**	**4.65**	**210**	P	**Pn**	**03 28 17.6**	**-0.3**
NLAI	**Namlea**	**5.34**	**193**	P	**Pn**	**03 28 27.4**	**+0.7**
FAKI	**Fak Fak**	**6.25**	**141**	P	**Pn**	**03 28 40.1**	**+1.5**
	0.1nm32nm,1.0s						
LUWI	**Luwuk**	**6.32**	**242**	P	**Pn**	**03 28 39.7**	**+0.2**
	5um14nm,0.6s						
WRA	**Warramunga Arr**	**22.58**	**165**	P	**P**	**03 31 49.0**	**-2.7**
	0.9nm,0.4s,baz=345,slow=11,SNR=14						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**26.07**	**168**	P	**P**	**03 32 22.7**	**-0.6**
	0.3nm,0.4s,baz=356,slow=8.1,SNR=5.9						
	0.3nm,0.4s						
KSRS	**Korea Array**	**35.30**	**359**	LR	LR	03 49 11.4	
	comp=Z,11nm,18.3s,baz=110,slow=38						
STKA	**Stephens Creek**	**35.96**	**161**	P	**P**	**03 33 49.5**	**-0.2**
	2.2nm,0.4s,baz=343,slow=7.8,SNR=9.3						
	2.2nm,0.4s						
RPZ	**Rata Peaks**	**59.42**	**145**	LR	LR	04 02 03.9	
	comp=Z,194nm,18.7s,baz=201,slow=36						
MKAR	**Makanchi Array**	**59.89**	**325**	P	**P**	**03 36 53.0**	**+0.2**
	0.2nm,0.3s,baz=120,slow=8.2,SNR=2.7						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.06**	**327**	P	**P**	**03 37 20.5**	**+0.1**
	0.3nm,0.5s,baz=124,slow=5.5,SNR=5.5						
	0.3nm,0.5s						

*RSNC **10** 03:30:23.8±0.0,0°N±65°×8°0W±6°5,h20km±130km,M3.2, mb4.0,ML2.8*
IGQ 10 03:30:21.1±0.2,1°S±2°×8°1W±°,h3km±3km,MLv3.3/25, 8C-8D,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMNT	**Manta-Manabi**	**0.21**	**271**	S	Sg	03 30 28.6	+0.8
AMNT				⇑P	Pg	03 30 25.1	-0.1
AQUE	**Quevedo**	**1.04**	**96**	P	Pn	03 30 42.7	+0.1
SALI	**Salinas**	**1.32**	**201**	P	Pg	03 30 44.8	-1.6
AGRD	**Ecuador-Guaran**	**1.64**	**112**	P	Pn	03 30 48.5	-2.6
MILO	**Milagro-Astudi**	**1.64**	**144**	P	Pn	03 30 48.1	-2.7
MILO				S	Sn	03 31 09.6	-2.9
BV15	**Puerto Quito-O**	**1.70**	**50**	P	Pn	03 30 49.1	-2.6
JSCH	**Cashca Tororas**	**1.73**	**116**	⇓P	Pn	03 30 50.7	-1.7
CHSH	**Refugio Sur-Vo**	**1.75**	**108**	P	Pn	03 30 51.5	-1.3
ILLI	**Illinizas Sur**	**1.81**	**83**	⇑P	Pn	03 30 51.0	-2.7
PORT	**Chimborazo Vol**	**1.83**	**106**	⇓P	Pn	03 30 52.2	-1.7
TAMH	**Tambohuasha Ch**	**1.84**	**109**	S	Sg	03 31 20.5	0.0
TAMH				⇑P	Pn	03 30 52.7	-1.4
PAST	**Pastocalle**	**1.90**	**83**	P	Pn	03 30 52.9	-1.9
IGUA	**Igualata**	**1.96**	**106**	⇑P	Pn	03 30 54.7	-1.1
SRAM	**San Ramn-Vol**	**1.97**	**84**	P	Pn	03 30 56.7	+1.0
COHC	**Cochancay**	**1.98**	**140**	S	Sb	03 31 23.1	+0.4
COHC				P	Pn	03 30 55.8	+0.4
HPAL	**Hacienda Las P**	**2.01**	**69**	P	Pn	03 30 54.0	-2.2
GGPT	**Toaza - Volcan**	**2.04**	**69**	⇓P	Pn	03 30 54.4	-2.3
CAMI	**Rancho Maria**	**2.04**	**83**	P	Pn	03 30 56.1	-0.6
SLOR	**San Lorenzo -**	**2.04**	**84**	⇑P	Pn	03 30 55.4	-1.3
JUA2	**San Juan 2**	**2.05**	**69**	⇓P	Pn	03 30 55.0	-2.0
SUCR	**Mariscal Sucre**	**2.06**	**82**	⇑P	Pn	03 30 55.9	-1.1
BRRN	**Barrancas-Volc**	**2.06**	**86**	P	Pn	03 30 57.5	+0.5
BNAS	**Cotopaxi Volca**	**2.06**	**82**	P	Pb	03 30 58.6	-0.9
TERV	**Terraza Guagua**	**2.07**	**68**	⇓P	Pn	03 30 55.0	-2.2
PINO	**Pino**	**2.07**	**68**	⇓P	Pn	03 30 55.0	-2.3
GGPC	**Guagua Pichinc**	**2.07**	**69**	⇓P	Pn	03 30 55.2	-2.1
BMOR	**Cotopaxi Volca**	**2.08**	**84**	⇓P	Pn	03 30 55.8	-1.6
BBIL	**Ulba Tungurahu**	**2.10**	**104**	P	Pb	03 30 58.9	-1.2
BREF	**Cotopaxi Volca**	**2.10**	**83**	⇑P	Pn	03 30 56.8	-1.0
PAC1	**Pacto, Paraso**	**2.11**	**55**	P	Pn	03 30 54.4	-3.0
JUI6	**Juive**	**2.11**	**103**	P	Pb	03 30 59.6	-0.6
YANA	**Yana**	**2.12**	**67**	P	Pn	03 30 55.5	-2.3
POND	**Pondoa**	**2.13**	**103**	P	Pn	03 30 58.0	+0.1
PITA	**Cotopaxi Volc**	**2.13**	**80**	P	Pn	03 30 56.7	-1.3
BVC2	**Cotopaxi Volca**	**2.13**	**82**	P	Pn	03 30 57.6	-0.5
VCES	**Cotopaxi**	**2.14**	**86**	P	Pn	03 30 58.2	+0.1
TOMA	**Boca Toma-Volc**	**2.14**	**78**	P	Pn	03 30 59.0	+0.9
ARRY	**Arrayan**	**2.15**	**105**	S	Sn	03 31 25.2	-0.2
ARRY				P	Pn	03 30 57.3	-0.8
VC1	**Cotopaxi 1**	**2.15**	**82**	P	Pn	03 30 57.2	-1.1
BTAM	**Cotopaxi Volca**	**2.15**	**83**	P	Pn	03 30 58.6	+0.3
BULB	**Ulba Tungurahu**	**2.17**	**103**	P	Pn	03 30 59.8	+1.3
TAMB	**Tambo**	**2.17**	**83**	P	Pb	03 31 00.4	-1.0
PULU	**Pululahua**	**2.24**	**65**	P	Pn	03 30 58.6	-0.8
ANTG	**Antisana-Guama**	**2.31**	**79**	P	Pn	03 31 01.2	+0.6
ANTM	**Antisana-La Mi**	**2.34**	**80**	P	Pn	03 31 00.5	-0.4
OTAV	**Otavalo**	**2.38**	**61**	P	Pn	03 31 00.3	-1.2
ANTS	**Antisana-Sarah**	**2.40**	**79**	P	Pn	03 31 02.4	+0.6
ANTI	**Antisana**	**2.42**	**78**	P	Pn	03 31 01.5	-0.6
CUSE	**Cuicocha Este**	**2.46**	**60**	P	Pn	03 31 01.0	-1.6
CUIC	**Cuicocha-Domo**	**2.50**	**60**	P	Pn	03 31 01.2	-1.7
CUSW	**Cuicocha Oeste**	**2.50**	**61**	P	Pn	03 31 04.4	+1.4
COTA	**Cotacachi**	**2.53**	**60**	P	Pn	03 31 02.7	-0.9
PUYO	**Puyo, Santa Ro**	**2.56**	**102**	P	Pb	03 31 07.2	-0.6
IMBA	**Imbabura, San**	**2.62**	**62**	P	Pn	03 31 04.8	0.0
ARNL	**Arenillas**	**2.63**	**170**	P	Pn	03 31 06.0	+1.7
URCU	**Urcuqui**	**2.65**	**59**	P	Pn	03 31 04.6	-0.5
CAYR	**Refugio Cayamb**	**2.69**	**69**	P	Pn	03 31 05.4	-0.5
ANGU	**Angureal**	**2.70**	**69**	P	Pn	03 31 05.3	-0.7
CAYA	**Cayambe**	**2.73**	**68**	P	Pn	03 31 06.6	+0.3
YAHU	**Yahuarcocha**	**2.78**	**62**	P	Pn	03 31 07.0	+0.1
SNLR	**San Lorenzo-Es**	**2.79**	**37**	P	Pn	03 31 07.7	+1.2
LNGL	**El Angel-Carch**	**3.03**	**56**	P	Pn	03 31 10.5	+0.2
CHMA	**Chilma**	**3.05**	**54**	P	Pn	03 31 10.4	-0.1
ECEN	**Cerro Negro**	**3.10**	**56**	P	Pn	03 31 11.2	-0.2
CHL1	**Volcjn Chiles**	**3.10**	**56**	⇑P	Pn	03 31 11.6	+0.1
CHL2	**Volcjn Chiles**	**3.13**	**56**	P	Pn	03 31 11.9	+0.1
TULM	**Tulcn-Chalpat**	**3.20**	**59**	P	Pn	03 31 14.8	+2.2
CMBC	**Cumbal**	**3.29**	**55**	P	Pn	03 31 16.1	+2.2

*SJA **10** 03:39:26.7±0.8,18°.35S×69°.82W,h124km±4km,ML3.4, MW3.5*
*GUC **10** 03:39:28.9±0.8,18°.36S×69°.73W,h112km±4km,ML3.4*
*IDC **10** 03:39:29.1±3.7,18°.01S×69°.95W,h141km±25km,mb3.1/2, mbtmp3.5/3,Error ellipse: s-maj=87.1km s-min=30.5km az=126.0*
ISC 10 03:39:28.1±1.0,18°.36S±0°.04×69°.81W±0°.07,h119km±8km, n24,σ1§33/42,4C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.50**	**268**	⇑*i*P	**Pn**	**03 39 45.6**	**-0.3**
AP01				*i*S	**Sn**	**03 39 59.2**	**-0.2**
AP01				IAML		03 40 00.6	
	comp=N,4μm,0.3s						
AP01	**Chacalluta**	**0.50**	**268**	*e*P	**Pn**	**03 39 45.6**	**-0.3**
AP01				*e*S	**Sn**	**03 40 00.2**	**+0.8**
AP01				IAML		03 40 01.7	
	comp=Z,2μm,0.1s						
PB12	**IPOC Station P**	**0.55**	**242**	⇑*i*P	**Pn**	**03 39 45.7**	**-0.7**
PB12				*i*S	**Sn**	**03 39 59.5**	**-0.7**
PB12				IAML		03 40 00.6	
	comp=N,1μm,0.2s						
PB12	**IPOC Station P**	**0.55**	**242**	*e*P	**Pn**	**03 39 45.5**	**-0.9**
PB12				*e*S	**Sn**	**03 40 00.2**	**0.0**
PB12				IAML		03 40 02.9	
	comp=Z,528nm,0.2s						
PB18	**Visviri**	**0.83**	**23**	⇓*i*P	**Pn**	**03 39 48.7**	**-0.4**
PB18				*i*S	**Sn**	**03 40 04.9**	**+0.1**
PB18				IAML		03 40 20.5	
	comp=N,1μm,1.1s						
PB11	**IPOC Station P**	**1.40**	**174**	⇑*i*P	**Pn**	**03 39 54.1**	**-0.4**
PB11				*i*S	**Sn**	**03 40 14.1**	**-0.5**
PB11				IAML		03 40 14.6	
	comp=E,797nm,0.3s						
PB11	**IPOC Station P**	**1.40**	**174**	*e*P	**Pn**	**03 39 54.2**	**-0.4**
PB11				*e*S	**Sn**	**03 40 14.5**	**-0.1**
PB11				IAML		03 40 16.2	
	comp=Z,401nm,0.3s						
GO01	**Chusmiza**	**1.43**	**156**	*e*P	**Pn**	**03 39 54.9**	**-0.2**
GO01				*i*S	**Sn**	**03 40 15.6**	**-0.1**
GO01				IAML		03 40 22.6	
	comp=E,492nm,0.2s						
GO01	**Chusmiza**	**1.43**	**156**	*e*P	**Pn**	**03 39 55.2**	**0.0**
GO01				*e*S	**Sn**	**03 40 16.1**	**+0.4**
GO01				IAML		03 40 20.2	
	comp=Z,230nm,0.1s						
PB08	**IPOC Station P**	**1.88**	**161**	⇓*i*P	**Pn**	**03 40 00.6**	**+0.2**
PB08				*e*S	**Sn**	**03 40 24.6**	**-0.4**
PB08				IAML		03 40 27.5	
	comp=E,293nm,0.2s						
PB08	**IPOC Station P**	**1.88**	**161**	*e*P	**Pn**	**03 40 00.6**	**+0.2**
PB08				*e*S	**Sn**	**03 40 25.6**	**+0.5**
PB08				IAML		03 40 26.5	
	comp=Z,140nm,0.5s						
HMBC	**Humberstone**	**1.91**	**182**	⇑*i*P	**Pn**	**03 40 00.2**	**-0.3**
HMBC				IAML		03 40 29.3	
	comp=N,473nm,0.3s						
HMBC	**Humberstone**	**1.91**	**182**	*e*P	**Pn**	**03 40 00.4**	**-0.2**
HMBC				*e*S	**Sn**	**03 40 27.1**	**+1.8**
HMBC				IAML		03 40 33.6	
	comp=Z,434nm,0.4s						
TA02	**Huaiquique**	**1.93**	**189**	*e*P	**Pn**	**03 40 00.5**	**-0.1**
TA02				*e*S	**Sn**	**03 40 28.1**	**+2.7**
TA02				IAML		03 40 29.9	
	comp=Z,201nm,0.1s						
PATCX	**Punta Patache**	**2.47**	**187**	*e*P	**Pn**	**03 40 08.8**	**+1.2**
PATCX				*e*S	**Sn**	**03 40 34.3**	**-3.6**
PATCX				IAML		03 40 46.1	
	comp=Z,161nm,0.6s						
LPAZ	**La Paz**	**2.61**	**38**	P	**Pn**	**03 40 09.9**	**+0.1**
	comp=Z,17nm,0.3s,baz=203,slow=7.3,SNR=271						
LPAZ				S	**Sn**	**03 40 41.3**	**-0.6**
	comp=Z,6.6nm,0.4s,baz=62,slow=23,SNR=7.4						
LPAZ	**La Paz**	**2.61**	**38**	*e*P	**Pn**	**03 40 09.9**	**+0.1**
PB01	**IPOC Station P**	**2.69**	**174**	*e*P	**Pn**	**03 40 10.4**	**0.0**
PB01				*e*S	**Sn**	**03 40 42.9**	**-0.1**
PB01				IAML		03 40 48.5	
	comp=Z,64nm,0.5s						
PB09	**IPOC Station P**	**3.46**	**171**	*e*P	**Pn**	**03 40 21.2**	**+0.5**
PB09				*e*S	**Sn**	**03 40 55.9**	**-5.4**
PB09				IAML		03 41 21.0	
	comp=Z,108nm,0.6s						
PB03	**IPOC Station P**	**3.67**	**179**	*e*P	**Pn**	**03 40 23.6**	**+0.2**
PB03				*e*S	Sn	03 41 16.8	+11
PB03				IAML		03 41 17.5	
	comp=Z,93nm,0.4s						
PB06	**IPOC Station P**	**4.33**	**177**	*e*P	**Pn**	**03 40 31.8**	**-0.4**
PB06				*e*S	**Sn**	**03 41 21.6**	**-0.4**
PB06				IAML		03 41 46.8	
	comp=Z,47nm,0.9s						
BDFB	**Brasilia**	**21.02**	**86**	P	**P**	**03 44 03.3**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=257,slow=12,SNR=3.3						
	comp=Z,1.1nm,0.5s						
PLCA	**Paso Flores**	**22.31**	**181**	P	**P**	**03 44 18.4**	**+2.5**
	comp=Z,0.8nm,0.6s,baz=350,slow=10.0,SNR=2.1						
	comp=Z,0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.13**	**71**	P	**P**	**03 51 07.7**	**-1.4**
	comp=Z,46nm,0.2s,baz=250,slow=4.8,SNR=1.3						

*HEL **10** 04:05:05.7±0.2,69°.27N×30°.83E,h0km,ML1.1,Suspected explosion*
ISC 10 04:05:05.8±1.5,69°.2N±0°.1×30°.72E±0°.07,h0km,n8, σ1§55/11,Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.15**	**231**	PN	**Pb**	**04 05 29.5**	**+1.0**
KEV	**Kevo**	**1.42**	**294**	PG	**Pn**	**04 05 31.2**	**-1.5**
	baz=111						
KEV				MSG		04 05 48.7	
	comp=Z,0.8nm,0.2s						
KEV				SG	**Sg**	**04 05 49.3**	**-1.8**
ARA0	**ARCESS Array S**	**1.87**	**282**	PG	**Pn**	**04 05 40.1**	**+1.1**
ARA0				SG	**Sn**	**04 06 04.6**	**+1.2**
LVZ	**Lovozero**	**1.96**	**131**	PG	**Pn**	**04 05 41.0**	**+0.7**
LVZ				SG	**Sb**	**04 06 07.7**	**+0.3**
KTK1	**Kautokeino**	**2.69**	**269**	PG	**Pb**	**04 05 55.0**	**+0.3**
KTK1				SG	**Sb**	**04 06 29.3**	**+1.1**
HEF	**Hetta**	**2.69**	**256**	MSG		04 06 26.3	
	comp=Z,0.6nm,0.2s						
HEF				SG	**Sb**	**04 06 28.9**	**+0.6**
OLKF	**Oulanka, Finla**	**2.96**	**190**	MSG		04 06 34.3	
	comp=Z,0.7nm,0.2s						
KU6	**Riekki**	**3.23**	**186**	SN	**Sn**	**04 06 33.9**	**-2.8**

KOLA 10 04:05:54.2,67°.66N×33°.73E,h0km,ML1.4,Error ellipse: s-maj=3.2km s-min=1.5km az=130.0,Khibiny, mines Kirovsk, Yukspor,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.15**	**233**	P	Pg	04 05 56.8	-0.3
APA				S	Sg	04 05 59.2	+0.2
APA0	**Apatity Array**	**0.29**	**259**	P	Pg	04 05 59.2	-0.4
LVZ	**Lovozero**	**0.42**	**56**	S	Sg	04 06 07.6	-0.2
KVDA	**Kovda**	**1.03**	**199**	S	Sg	04 06 26.2	-1.0
TERR	**Teriberka**	**1.63**	**18**	P	Pn	04 06 23.2	-0.8
TERR				S	Sn	04 06 44.2	-1.5
VADS	**Vadso**	**2.93**	**329**	S	Sn	04 07 17.1	-0.7
ARCES	**ARCESS Array B**	**3.55**	**306**	S	Sn	04 07 31.1	-2.0

*JMA **10** 04:23:02.1±0.4,34°N±4°×13°7E±°,h367km,MV2.6/13, ENSYUNADA*
*IDC **10** 04:23:06.7±2.0,34°.18N×137°.23E,h300km±36km,mb3.0/6, mbtmp3.6/7,Error ellipse: s-maj=81.4km s-min=18.0km az=67.0*
ISC 10 04:23:06.8±1.0,34°.1N±0°.1×137°.37E±0°.09,h300km,n16, σ1§68/17,mb3.1/6,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**1.54**	**340**	*e*P	**Pn**	**04 23 51.8**	**+1.7**
JYN	**Shimob**	**1.67**	**35**	*e*P	**Pn**	**04 23 52.7**	**+1.5**
JOD2	**Odawara 2**	**1.81**	**51**	*e*S	**S**	**04 24 32.8**	**+4.7**
JWT	**Wachi**	**1.98**	**306**	*e*P	**Pn**	**04 23 55.4**	**+2.0**
JRY	**Ryogami san**	**2.26**	**33**	*e*P	**Pn**	**04 23 56.9**	**+1.2**
JKG	**Kaga**	**2.30**	**339**	*e*P	**Pn**	**04 23 56.9**	**+0.9**
MAT	**Matsushiro**	**2.50**	**16**	*e*P	**Pn**	**04 23 58.0**	**+0.3**
MJAR	**Matsushiro Arr**	**2.50**	**16**	P	**Pn**	**04 23 57.6**	**-0.1**
	12nm,0.7s,baz=195,slow=9.3,SNR=18						
JAG	**Ashikaga**	**2.85**	**36**	*e*P	**Pn**	**04 24 00.4**	**-0.7**
BSO1	**Boso 1**	**3.03**	**79**	*e*P	**Pn**	**04 24 02.4**	**+0.2**
BSO1				*e*S	**S**	**04 24 46.7**	**+0.2**
SONM	**Songino Array**	**26.88**	**310**	P	**P**	**04 28 19.1**	**-1.6**
	0.3nm,0.4s,baz=98,slow=6.0,SNR=2.3						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**42.94**	**304**	P	**P**	**04 30 35.8**	**-0.8**
	0.5nm,0.6s,baz=90,slow=12,SNR=4.7						
	0.5nm,0.6s						
NRIK	**Noril'sk**	**44.59**	**337**	P	**P**	**04 30 48.4**	**-0.9**
	2.2nm,0.5s,baz=119,slow=5.5,SNR=3.6						
	2.2nm,0.5s						
KURBB	**Kurchatov Arra**	**45.25**	**310**	P	**P**	**04 30 53.6**	**-1.2**
	0.2nm,0.2s,baz=92,slow=6.9,SNR=2.3						
	0.2nm,0.2s						
WRA	**Warramunga Arr**	**53.86**	**184**	P	**P**	**04 31 59.7**	**+0.1**
	0.5nm,0.3s,baz=360,slow=7.7,SNR=6.3						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**57.58**	**184**	P	**P**	**04 32 25.8**	**-0.1**
	0.2nm,0.6s,baz=1.6,slow=6.2,SNR=2.4						
	0.2nm,0.6s						

*TEH **10** 04:27:37.9,34°.45N×45°.82E,h8km×30km*
*ISN **10** 04:27:37.3±1.0,34°.45N×45°.78E,h9km±9km,ML3.1*
ISC 10 04:27:37.9±1.2,34°.46N±0°.03×45°.82E±0°.03,h2km±14km, n15,σ1§23/19,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.19**	**283**	Pg	**Pg**	**04 27 42.1**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.36**	**167**	Pg	**Pg**	**04 27 45.0**	**+0.2**
IDHR	**Dehrash**	**0.53**	**63**	Pg	**Pg**	**04 27 48.5**	**+0.4**
IGHG	**Ghaleghazi**	**0.64**	**102**	Pg	**Pg**	**04 27 50.5**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.03**	**100**	Pg	**Pb**	**04 27 58.0**	**-0.7**
ILIN	**Lien**	**1.05**	**64**	Pg	**Pg**	**04 27 57.8**	**-0.2**
IBDR	**Badra**	**1.35**	**176**	*e*Pn	**Pg**	**04 28 04.0**	**+0.1**
IBDR				*e*Sn	**Sg**	**04 28 23.0**	**+1.6**
IBDR				AML	AML	04 28 27.2	
	comp=E,340nm,0.7s						
IBDR				AML	AML	04 28 29.6	
	comp=N,196nm,0.6s						
IKRK	**Kirkuk**	**1.53**	**308**	*e*Pn	**Pb**	**04 28 06.0**	**-1.1**
IKRK				*e*Sn	**Sg**	**04 28 28.0**	**+0.9**
IKRK				AML	AML	04 28 33.2	
	comp=N,458nm,0.4s						
IKRK				AML	AML	04 28 34.1	
	comp=E,371nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.54**	**75**	Pg	**Pg**	**04 28 07.7**	**+0.1**
BHD	**Baghdad**	**1.69**	**225**	*e*Pn	**Pb**	**04 28 08.0**	**-1.7**
BHD				*e*Sn	**Sg**	**04 28 31.0**	**-1.1**
IKFM	**Kafar-mosalman**	**1.93**	**118**	Pn	**Pb**	**04 28 12.9**	**-0.9**
IDOB	**Doab**	**2.07**	**108**	Pn	**Pb**	**04 28 14.9**	**-1.5**
HGHA	**Hamedan- Ghaye**	**2.70**	**67**	Pn	**Pn**	**04 28 23.9**	**+1.3**
RAFI	**Al-Rafai**	**2.75**	**175**	*e*Pn	**Pn**	**04 28 24.0**	**+1.0**
RAFI				*e*Sn	**Sn**	**04 28 57.0**	**+0.2**
HAGD	**Aghdareh**	**2.76**	**82**	Pn	**Pb**	**04 28 25.6**	**-2.7**

*UUSS **10** 04:32:11.4±1.6,39°.06N±0°.03×110°.96W±0°.04,h17km±7km, ML3.2/18,ML3.5/70(NEIC),Error ellipse: s-maj=5.8km s-min=1.2km az=137.0*
*NEIC **10** 04:32:11.0±1.6,39°.04N±0°.02×110°.95W±0°.02, h12km±11km,Error ellipse: s-maj=3.3km s-min=2.4km az=139.0*
*IDC **10** 04:32:13.5±0.8,39°.17N×110°.36W,h0km,mb3.0/1, mbtmp2.9/6,ML3.1/5,Error ellipse: s-maj=10.6km s-min=8.4km az=81.0*
ISC 10 04:32:11.6±0.8,39°.04N±0°.02×110°.97W±0°.02,h10km,n70, σ1§09/76,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q16A	**Castle Valley**	**0.20**	**232**		**Pg**	**04 32 16.3**	**+0.3**
Q16A					**Sg**	**04 32 19.8**	**+0.9**
DBD	**Des Bee Dove**	**0.29**	**340**		**Pg**	**04 32 17.6**	**0.0**
TMUT	**Trail Mountain**	**0.32**	**324**		**Pg**	**04 32 18.2**	**+0.1**
TMUT					**Sg**	**04 32 22.9**	**+0.6**
SRU	**San Rafael Swe**	**0.35**	**78**		**Pg**	**04 32 18.3**	**-0.3**
SRU					**Sg**	**04 32 23.2**	**-0.2**
OWUT	**Old Woman Plat**	**0.44**	**234**		**Pg**	**04 32 20.8**	**+0.4**
SNO	**Snow College**	**0.52**	**302**		**Pg**	**04 32 21.9**	**+0.1**
ELU	**Electric Lake**	**0.63**	**343**		**Pg**	**04 32 23.6**	**-0.2**
BCE	**Book Cliffs Ea**	**0.72**	**37**		**Pg**	**04 32 25.1**	**-0.4**
ROA	**Roan Cliffs**	**0.78**	**37**		**Pg**	**04 32 26.3**	**-0.3**
EMUT	**Emma Park**	**0.78**	**9**		**Pg**	**04 32 26.1**	**-0.6**
LEVU	**Levan**	**0.81**	**305**		**Pg**	**04 32 26.5**	**-0.7**
P18A	**Preston Nutter**	**0.81**	**43**		**Pg**	**04 32 26.8**	**-0.5**
ARGU	**Argyle Ridge**	**0.85**	**23**		**Pg**	**04 32 27.4**	**-0.5**
WCU	**Willow Creek**	**0.88**	**265**		**Pg**	**04 32 28.2**	**-0.3**
FLU	**Fool Peak**	**0.99**	**290**		**Pg**	**04 32 30.1**	**-0.7**
MSU	**Marysvale**	**1.08**	**241**		**Pg**	**04 32 31.8**	**-0.7**
MPU	**Maple Canyon**	**1.10**	**332**		**Pg**	**04 32 31.7**	**-1.1**
MVU	**Marysvale**	**1.11**	**242**		**Pg**	**04 32 32.4**	**-0.6**
HMU	**Henry Mountain**	**1.12**	**171**		**Pg**	**04 32 31.9**	**-1.1**
TCRU	**Three Creeks R**	**1.23**	**250**		**Pn**	**04 32 34.4**	**-0.7**
MTPU	**Mount Pierson**	**1.38**	**224**		**Pb**	**04 32 37.6**	**-0.2**
BTU	**Barney Top**	**1.47**	**209**		**Pb**	**04 32 39.5**	**+0.2**
R19A	**Curley Farm, L**	**1.53**	**119**		**Pb**	**04 32 39.4**	**-0.8**
PV21	**Cone Mtn., Par**	**1.63**	**107**		**Pb**	**04 32 41.1**	**-0.7**
PV23	**Carpenter Ridg**	**1.64**	**110**		**Pb**	**04 32 41.5**	**-0.6**
HTU	**Hoyt Peak**	**1.64**	**353**		**Pb**	**04 32 41.8**	**-0.3**
PV10	**Paradox Valley**	**1.65**	**113**		**Pb

X16A IAML 04 34 46.4
comp=N,40nm,0.7s
K22A Casper 4.93 42 Pn 04 33 26.2 +0.2
K22A IAML 04 34 48.7
comp=N,37nm,0.5s
K22A IAML 04 34 53.3
comp=N,33nm,1.0s
ANMO Albuquerque 5.45 137 Pn 04 33 32.8 -0.3
ANMO Albuquerque 5.45 137 Pn **Pn 04 33 33.4 +0.4**
comp=N,0.3nm,0.3s,baz=130,slow=13,SNR=12
ANMO Pg **Pb 04 33 50.3 +3.3**
comp=N,1.2nm,0.3s,baz=131,slow=13,SNR=11
ANMO Lg Lg 04 34 56.9
comp=N,2.7nm,0.3s,baz=42,slow=14,SNR=11
comp=N,1.8nm,0.6s
T25A Trinidad 5.51 108 Pn 04 33 36.5 +2.7
NVAR Mina Array Bea 5.77 266 Pn 04 33 37.2 -0.3
NVAR Mina Array Bea 5.77 266 Pn **Pb 04 33 49.5 -2.9**
comp=N,0.7nm,0.3s,baz=80,slow=18,SNR=10.0
comp=N,0.4nm,0.4s
BNM Barren Site 6.00 143 Pn 04 33 40.7 +0.1
YNE Yellowstone No 6.00 7 Pn 04 33 40.0 -0.7
TXAR Lajitas Array 11.41 146 Pn **Pn 04 34 58.5 +3.8**
baz=339,slow=13,SNR=4.9
TXAR Lg Lg 04 38 10.0
comp=N,0.1nm,0.3s,baz=337,slow=31,SNR=6.7
comp=N,0.1nm,0.6s
YKA Yellowknife Ar 23.59 356 P 04 37 23.3 +1.2
comp=N,0.5nm,0.9s,baz=171,slow=9.2,SNR=6.0
comp=N,0.5nm,0.9s

---

*JMA **10** 04:52:30.7±0.2,31°N±2°×13°8E±°,h452km,MV3.7/25, NEAR TORISHIMA IS*
*IDC **10** 04:52:33.2±0.7,31°.29N×138°.28E,h403km±7km,mb3.2/14, mbtmp4.0/21,Error ellipse: s-maj=16.8km s-min=11.0km az=70.0*
ISC 10 04:52:33.0±0.6,31°.34N±0°.07×138°.37E±0°.07,h400km,n37, σ1§56/44,mb3.5/14,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.63**	**46**	*e*P	**Pn**	**04 53 29.8**	**+2.9**
JHJ	**Hachijo jima 2**	**2.14**	**34**	P	**Pn**	**04 53 32.2**	**+2.4**
	192nm,0.3s,baz=85,slow=22,SNR=25						
JHJ				S	**S**	**04 54 18.8**	**+3.0**
	96nm,0.3s,baz=78,slow=23,SNR=7.0						
JHJ2	**Mitsune**	**2.15**	**34**	*e*P	**Pn**	**04 53 32.2**	**+2.3**
TTO1	**TONANKAI O.B.S**	**2.64**	**330**	*e*P	**Pn**	**04 53 35.8**	**+2.8**
TTO4	**TONANKAI O.B.S**	**2.75**	**345**	*e*P	**Pn**	**04 53 36.4**	**+2.6**
JIE	**Ise**	**3.35**	**336**	*e*P	**Pn**	**04 53 41.1**	**+2.1**
JTNC	**Tanabenakahech**	**3.39**	**317**	*e*P	**Pn**	**04 53 41.1**	**+1.5**
JWY	**Kouya**	**3.70**	**322**	*e*P	**Pn**	**04 53 44.4**	**+2.1**
JOD2	**Odawara 2**	**3.96**	**9**	*e*P	**Pn**	**04 53 45.5**	**+0.9**
JOD2				*e*S	**S**	**04 54 40.9**	**-1.8**
BSO1	**Boso 1**	**3.96**	**33**	*e*P	**Pn**	**04 53 45.0**	**+1.0**
BSO1				*e*S	**S**	**04 54 41.3**	**-0.5**
JAI	**Aioi**	**4.11**	**307**	P	**Pn**	**04 53 47.6**	**+1.5**
JYN	**Shimob**	**4.14**	**2**	*e*P	**Pn**	**04 53 49.2**	**+2.8**
JRY	**Ryogami san**	**4.68**	**5**	P	**Pn**	**04 53 52.6**	**+0.9**
JRY				*e*S	**S**	**04 54 52.0**	**-3.7**
JTO	**Tosashimizu**	**4.96**	**289**	*e*P	**Pn**	**04 53 55.6**	**+1.0**
MJAR	**Matsushiro Arr**	**5.19**	**359**	P	**Pn**	**04 53 57.1**	**+0.2**
	12nm,0.4s,baz=174,slow=11,SNR=36						
MJAR				S	**S**	**04 55 04.1**	**-1.0**
	4.7nm,0.6s,baz=191,slow=9.0,SNR=5.9						
CBIJ	**Chichi jima**	**5.39**	**141**	*e*P	**Pn**	**04 53 59.3**	**+0.2**
JCJ	**Chichijima**	**5.39**	**141**	P	**Pn**	**04 53 58.7**	**-0.5**
	54nm,0.4s,baz=352,slow=20,SNR=20						
JCJ				S	**S**	**04 55 07.5**	**-1.8**
	154nm,0.4s,baz=293,slow=23,SNR=22						
JHS	**Saijyo**	**5.72**	**311**	*e*P	**Pn**	**04 54 03.8**	**+1.2**
JNU	**Nakatsue**	**6.59**	**288**	P	**P**	**04 54 12.7**	**-0.1**
	20nm,0.8s,baz=86,slow=5.2,SNR=7.2						
KSRS	**Korea Array**	**10.56**	**308**	P	**P**	**04 54 57.0**	**+0.2**
	4.0nm,0.5s,baz=120,slow=10,SNR=13						
USRK	**Ussuriysk Ar.**	**13.78**	**340**	P	**P**	**04 55 32.4**	**+0.3**
	2.1nm,0.6s,baz=145,slow=10,SNR=6.2						
KLR	**Kul'dur**	**18.55**	**346**	P	**P**	**04 56 22.8**	**-0.4**
	1.8nm,0.6s,baz=139,slow=8.2,SNR=8.4						
SONM	**Songino Array**	**29.37**	**313**	P	**P**	**04 58 01.4**	**+0.2**
	0.5nm,0.6s,baz=109,slow=6.9,SNR=3.0						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**37.80**	**260**	P	**P**	**04 59 11.6**	**-1.6**
	0.7nm,0.4s,baz=55,slow=7.2,SNR=5.4						
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**44.11**	**317**	PcP	**PcP**	**05 01 40.1**	**-0.2**
	0.9nm,0.4s,baz=114,slow=3.6,SNR=5.5						
MKAR	**Makanchi Array**	**45.24**	**307**	P	**P**	**05 00 11.8**	**-0.6**
	0.6nm,0.6s,baz=91,slow=10,SNR=8.2						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**47.71**	**312**	P	**P**	**05 00 30.6**	**-0.6**
	1.0nm,0.5s,baz=93,slow=6.8,SNR=10						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**51.14**	**185**	P	**P**	**05 00 57.7**	**+0.6**
	0.4nm,0.6s,baz=360,slow=7.6,SNR=4.9						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**52.68**	**315**	P	**P**	**05 01 07.9**	**-0.1**
	2.0nm,0.5s,baz=90,slow=7.8,SNR=10						
BVAR				PcP	**PcP**	**05 02 11.8**	**+0.2**
	0.8nm,0.5s,baz=64,slow=3.4,SNR=3.8						
	2.0nm,0.5s						
ILAR	**Eielson Array**	**55.66**	**30**	P	**P**	**05 01 28.2**	**-0.8**
	0.3nm,0.6s,baz=284,slow=6.6,SNR=2.6						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**68.43**	**340**	P	**P**	**05 02 53.4**	**+0.7**
	2.0nm,0.8s,baz=57,slow=8.8,SNR=7.9						
	2.0nm,0.8s						
YKA	**Yellowknife Ar**	**69.99**	**28**	P	**P**	**05 03 03.7**	**+1.4**
	0.2nm,0.6s,baz=302,slow=6.1,SNR=5.8						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**72.66**	**332**	P	**P**	**05 03 18.1**	**0.0**
	2.1nm,0.5s,baz=66,slow=5.5,SNR=18						
	2.1nm,0.5s						
KBZ	**Khabaz**	**72.70**	**311**	P	**P**	**05 03 18.8**	**+0.1**
	1.6nm,0.7s,baz=87,slow=4.0,SNR=5.1						
	1.6nm,0.7s						
AKASG	**Malin Array Be**	**77.23**	**322**	P	**P**	**05 03 43.6**	**-0.5**
	1.1nm,0.4s,baz=51,slow=6.2,SNR=9.8						
	1.1nm,0.4s						
HFS	**Hagfors**	**78.20**	**335**	P	**P**	**05 03 48.9**	**-0.3**
	2.3nm,0.8s,baz=66,slow=4.9,SNR=4.9						
	2.3nm,0.8s						
BRTR	**Keskin Array B**	**80.69**	**311**	P	**P**	**05 04 03.3**	**+0.2**
	0.8nm,0.6s,baz=103,slow=4.5,SNR=5.9						
	0.8nm,0.6s						

---

*ISK **10** 04:54:21.6,34°.68N×33°.98E,h15km,ML2.5/12*
*NIC **10** 04:54:25.6,35°.12N×33°.80E,h24km±1km,MI1.7/5*
ISC 10 04:54:26.9±1.2,34°.95N±0°.07×33°.79E±0°.03,h18km±3km, n18,σ0§90/26,1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MVOU	**Mavrovouni**	**0.15**	**297**	‖P	**Pg**	**04 54 31.1**	**0.0**
MVOU				S	**Sg**	**04 54 34.9**	**+0.9**
MVOU				AML	AML	04 54 35.2	
	1.1nm,0.4s						
MVOU				AML	AML	04 54 38.3	
	0.6nm,0.2s						
PAR1C	**Paralimni Civi**	**0.17**	**61**	S	**Sg**	**04 54 34.8**	**+0.3**
PARAL	**Paralimni**	**0.21**	**77**	P	**Pb**	**04 54 31.7**	**-0.2**
PARAL				S	**Sg**	**04 54 36.5**	**+1.1**
PARAL				AML	AML	04 54 38.2	
	0.8nm,0.6s						
PARAL				AML	AML	04 54 38.2	
	1.0nm,0.4s						
AKIN	**Akıncılar- Kıb**	**0.28**	**284**	Pg	**Pg**	**04 54 32.7**	**-0.4**
ATHAL	**Athalassa**	**0.38**	**301**	S	**Sg**	**04 54 38.8**	**-1.3**
ATHAL				AML	AML	04 54 47.0	
	0.4nm,0.3s						
ATHAL				AML	AML	04 54 51.0	
	0.4nm,0.6s						
CSS	**Mathiatis**	**0.38**	**272**	Pg	**Pg**	**04 54 34.4**	**-0.4**
CSS				Sg	**Sn**	**04 54 42.9**	**-1.5**
CSS	**Mathiatis**	**0.38**	**272**	P	**Pg**	**04 54 34.5**	**-0.4**
CSS				S	**Sb**	**04 54 41.4**	**+0.6**
CSS				AML	AML	04 54 45.3	
	0.2nm,0.5s						
CSS				AML	AML	04 54 49.2	
	0.1nm,0.4s						
LFK	**Lefkose**	**0.39**	**327**	Pg	**Pb**	**04 54 35.5**	**0.0**
LFK				Sg	**Sn**	**04 54 46.1**	**+1.3**
ASGA	**Asgata**	**0.48**	**250**	P	**Pg**	**04 54 36.7**	**+0.1**
ASGA				S	**Sn**	**04 54 46.4**	**-0.3**
ASGA				AML	AML	04 54 49.8	
	0.1nm,0.3s						
ASGA				AML	AML	04 54 50.1	
	0.2nm,0.5s						
EREN	**Erenkoy**	**0.66**	**28**	Pg	**Pb**	**04 54 39.5**	**-0.3**
EREN				Sg	**Sn**	**04 54 51.3**	**+0.1**
LEF	**Lefka**	**0.76**	**283**	Pg	**Pb**	**04 54 41.6**	**0.0**
LEF				Sg	**Sn**	**04 54 56.4**	**+2.6**
AKKU	**Akkuyu-Mersin**	**1.22**	**351**	Pn	**Pn**	**04 54 49.0**	**-0.1**
IKL	**Isikli**	**1.29**	**356**	Pn	**Pn**	**04 54 49.2**	**-0.9**
TEKE	**Tekeli-Mersin**	**1.31**	**335**	Pn	**Pn**	**04 54 50.7**	**+0.3**
BERE	**Bereket-Mersin**	**1.47**	**342**	Pn	**Pn**	**04 54 52.4**	**-0.3**
KEBE	**Keben-Mersin**	**1.50**	**358**	Pn	**Pn**	**04 54 52.4**	**-0.6**
TEVE	**Tevekalti-Mers**	**1.51**	**349**	Pn	**Pn**	**04 54 52.8**	**-0.4**
KIZK	**Mersin**	**1.56**	**10**	Pn	**Pn**	**04 54 53.0**	**-0.7**

---

*IDC **10** 04:54:50.7±0.6,45°.30N×154°.08E,h0km,mb4.1/19, mbtmp4.1/25,ML3.9/6,MS3.2/24,Error ellipse: s-maj=15.9km s-min=13.5km az=153.0*
*NEIC **10** 04:54:53.1±1.2,45°.32N±0°.10×154°.0E±0°.1,h10km±1km, mb4.6/39,Error ellipse: s-maj=17.1km s-min=12.1km az=152.0*
*MOS **10** 04:54:54.1±1.1,45°.44N×153°.89E,h35km,mb4.5/14,Error ellipse: s-maj=7.5km s-min=6.5km az=82.2*
*SKHL **10** 04:54:56.4±0.1,45°.60N×153°.90E,h46km±6km,mb5.3/5*
*JMA **10** 04:54:57.1±1.3,46°N±8°×15°4E±°,h30km,MV4.8/17,FAR SE OFF KURILE ISL*
ISC 10 04:54:53.4±0.5,45°.35N±0°.07×153°.89E±0°.06,h19km,n170, σ1§76/166,mb4.4/48,MS3.4/20,11C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.25**	**271**	*e*PN	**Pn**	**04 55 58.5**	**+1.4**
KUR				pmax	pmax		
	comp=Z,685nm,0.6s						
KUR				pmax	pmax		
	comp=N,225nm,0.4s						
KUR				pmax	pmax		
	comp=E,190nm,0.2s						
KUR	**Kuril'sk**	**4.25**	**271**	*e*P	**Pn**	**04 55 59.0**	**+1.9**
KUR				AMB	AMB	04 55 59.8	
	comp=E,690nm,0.4s						
KUR				*e*S	**Sn**	**04 56 46.0**	**-0.2**
KUR				A	A	04 56 47.3	
	comp=E,760nm,0.5s						
KUR				A	A	04 56 47.3	
	comp=E,1μm,0.5s						
SHO	**Shikotan**	**5.25**	**256**	*e*PN	**Pn**	**04 56 11.5**	**+0.6**
SHO				pmax	pmax		
	comp=Z,49nm,0.5s						
SHO				pmax	pmax		
	comp=N,23nm,0.2s						
SHO				pmax	pmax		
	comp=E,24nm,0.2s						
SHO	**Shikotan**	**5.25**	**256**	*e*P	**Pn**	**04 56 11.7**	**+0.8**
SHO				AMB	AMB	04 56 11.8	
	comp=E,50nm,0.3s						
SHO				*e*S	**Sn**	**04 57 08.1**	**-2.8**
SHO				A	A	04 57 08.9	
	comp=E,320nm,0.5s						
SHO				A	A	04 57 08.9	
	comp=E,210nm,0.5s						
SKR	**Severo-Kuril's**	**5.54**	**15⇑**	*i*PN	**Pn**	**04 56 14.4**	**-0.4**
SKR				pmax	pmax		
	comp=Z,256nm,0.6s						
SKR				pmax	pmax		
	comp=Z,600nm,2.7s						
SKR				MLR	MLR		
	comp=Z,700nm,17.0s						
SKR				MLR	MLR		
	comp=E,900nm,15.0s						
SKR				MLR	MLR		
	comp=N,3μm,14.0s						
SKR	**Severo-Kuril's**	**5.54**	**15**	*e*P	**Pn**	**04 56 14.2**	**-0.6**
SKR				*e*S	**Sn**	**04 57 13.8**	**-4.1**
SKR				A	A	04 57 15.6	
	comp=N,110nm,0.2s						
SKR				A	A	04 57 15.6	
	comp=N,50nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.87**	**260**	*e*PN	**Pn**	**04 56 21.4**	**+2.0**
YUK				pmax	pmax		
	comp=N,85nm,0.2s						
YUK				pmax	pmax		
	comp=E,92nm,0.2s						
YUK				pmax	pmax		
	comp=Z,278nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.87**	**260**	*e*P	**Pn**	**04 56 21.7**	**+2.3**
YUK				AMB	AMB	04 56 23.0	
	comp=Z,270nm,0.2s						
YUK				*e*S	**Sn**	**04 57 25.6**	**-0.5**
YUK				A	A	04 57 27.9	
	comp=Z,420nm,0.4s						
YUK				A	A	04 57 27.9	
	comp=Z,820nm,0.4s						
NEM2	**Nemuro 2**	**6.17**	**254**	*e*P	**Pn**	**04 56 23.7**	**+0.3**
NEM2				*e*S	**Sn**	**04 57 28.8**	**-4.7**
NMR	**Nemuro--Hokkai**	**6.18**	**254**	*e*PN	**Pn**	**04 56 23.5**	**-0.1**
NMR	**Nemuro--Hokkai**	**6.18**	**254**	*e*P	**Pn**	**04 56 23.7**	**+0.1**
RUSJ	**Misakicho**	**6.28**	**262**	*e*PN	**Pn**	**04 56 27.5**	**+2.5**
JRA	**Rausu**	**6.41**	**260**	*e*P	**Pn**	**04 56 29.1**	**+2.3**
JRA				*e*S	**Sn**	**04 57 39.2**	**-0.2**
PAU	**Pauzhetka**	**6.42**	**17**	*e*P	**Pn**	**04 56 26.8**	**-0.1**
PAU				AMB	AMB	04 56 27.1	
	comp=Z,30nm,0.3s						
PAU				*e*S	**Sn**	**04 57 36.0**	**-3.6**
PAU				A	A	04 57 38.1	
	comp=Z,200nm,0.4s						
PAU				A	A	04 57 38.1	
	comp=Z,110nm,0.4s						
JNK	**Nakash**	**6.80**	**258**	*e*P	**Pn**	**04 56 33.8**	**+1.7**
JNK				*e*S	**Sn**	**04 57 47.3**	**-1.6**
AKK	**Akkeshi**	**6.91**	**253**	*e*P	**Pn**	**04 56 34.0**	**+0.4**
JAK	**Akkeshi**	**7.02**	**254**	*e*P	**Pn**	**04 56 35.5**	**+0.5**
JAK				*e*S	**Sn**	**04 57 48.2**	**-6.1**
JTKR	**Abashiri--Toko**	**7.25**	**263**	P	**Pn**	**04 56 40.4**	**+2.1**
JTKR				*e*S	**Sn**	**04 58 00.9**	**+0.8**
JAR	**Ashorobuto**	**7.54**	**258**	*e*P	**Pn**	**04 56 44.5**	**+2.2**
JAR				*e*S	**Sn**	**04 58 03.5**	**-3.8**
JOB	**Onbets**	**7.64**	**255**	*e*P	**Pn**	**04 56 44.9**	**+1.3**
JOB				*e*S	**Sn**	**04 58 05.7**	**-3.8**
YSS	**Yuzhno-Sakhali**	**7.90**	**286**		**Pn**	**04 56 49.6**	**+2.5**
YSS				Sn	**Sn**	**04 58 18.7**	**+2.7**
YSS	**Yuzhno-Sakhali**	**7.90**	**286**	*e*PN	**Pn**	**04 56 50.9**	**+3.7**
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
YSS	**Yuzhno-Sakhali**	**7.90**	**286**	*e*P	**Pn**	**04 56 50.4**	**+3.2**
JCH	**Churui**	**8.07**	**254**	*e*P	**Pn**	**04 56 51.3**	**+1.8**
JCH				*e*S	**Sn**	**04 58 17.0**	**-3.3**
JKK2	**Kamakawa 2**	**8.09**	**263**	*e*P	**Pn**	**04 56 52.3**	**+2.5**
JKA	**Kamikawa-asahi**	**8.13**	**265**		**Pn**	**04 56 53.0**	**+2.6**
JKA	**Kamikawa-asahi**	**8.13**	**265**	*e*P	**Pn**	**04 56 53.2**	**+2.8**
ASAJ	**Asahikawa**	**8.14**	**265**	Pn	**Pn**	**04 56 53.2**	**+2.7**
	comp=Z,6.5nm,0.3s,baz=68,slow=11,SNR=20						
	comp=Z,22nm,0.5s						
PEA0B	**Petropavlovsk-**	**8.15**	**16**		**Pn**	**04 56 51.8**	**+1.1**
PEA0B	**Petropavlovsk-**	**8.15**	**16**	*i* PN	**Pn**	**04 56 50.1**	**-0.6**
PETK	**Petropavlovsk-**	**8.15**	**16**		**Pn**	**04 56 50.6**	**-0.1**
PETK	**Petropavlovsk-**	**8.15**	**16**	Pn	**Pn**	**04 56 50.9**	**+0.2**
	comp=Z,6.0nm,0.3s,baz=187,slow=12,SNR=68						
PETK				LR	LR	05 01 13.6	
	comp=Z,73nm,18.2s,baz=200,slow=47						
	comp=Z,24nm,0.5s						
PET	**Petropavlovsk**	**8.29**	**20**	Pn	**Pn**	**04 56 52.6**	**+0.2**
PET	**Petropavlovsk**	**8.29**	**20**	*e*PN	**Pn**	**04 56 52.3**	**-0.2**
PET				pmax	pmax		
	comp=Z,22nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
PET	**Petropavlovsk**	**8.29**	**20**	*e*P	**Pn**	**04 56 52.2**	**-0.2**
PET				*e*S	**Sn**	**04 58 20.6**	**-4.9**
JWK2	**Keihoku**	**8.45**	**274**	*e*P	Pn	04 56 59.5	+4.8
ERM	**Erimo**	**8.46**	**251**		**Pn**	**04 56 56.5**	**+1.6**
JAB	**Ashibetsu**	**8.55**	**262**	*e*P	**Pn**	**04 57 00.0**	**+3.8**
JNBK	**Urakawa-nobuka**	**8.62**	**253**	*e*P	**Pn**	**04 56 57.8**	**+0.7**
UGL	**Uglegorsk**	**8.87**	**299**	*e*P	**Pn**	**04 57 03.1**	**+2.6**
JRBN	**Rebuntou**	**9.03**	**275**	*e*P	**Pn**	**04 57 06.5**	**+3.8**
TYV	**Tymovskoe**	**9.32**	**310**	*e*PN	Pn	04 57 10.7	+4.1
TYV				pmax	pmax		
	comp=Z,200nm,2.5s						
TYV				pmax	pmax		
	comp=Z,36nm,1.3s						
TYV	**Tymovskoe**	**9.32**	**310**	*e*P	**Pn**	**04 57 08.6**	**+2.0**
TEY	**Ternei**	**12.21**	**275**	*e*PN	**Pn**	**04 57 47.5**	**+1.4**
TEY	**Ternei**	**12.21**	**275**	*e*P	**Pn**	**04 57 47.5**	**+1.4**
MA2	**Magadan**	**14.37**	**354**	LR	LR	05 03 32.6	
	comp=Z,50nm,20.2s,baz=163,slow=36						
MA2	**Magadan**	**14.37**	**354**	*i* P	**Pn**	**04 58 16.8**	**+1.1**
MJAR	**Matsushiro Arr**	**14.74**	**239**	Pn	**Pn**	**04 58 22.4**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=40,slow=11,SNR=4.5						
MJAR				LR	LR	05 03 48.7	
	comp=Z,19nm,21.4s,baz=76,slow=36						
	comp=Z,0.6nm,0.3s						
SHEM	**Shemya Is, Ala**	**15.14**	**54**	LR	LR	05 03 09.1	
	comp=Z,43nm,19.2s,baz=290,slow=33						
KLR	**Kul'dur**	**15.50**	**292**	Pn	**Pn**	**04 58 32.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=101,slow=14,SNR=24						
KLR				LR	LR	05 05 25.9	
	comp=Z,49nm,19.0s,baz=318,slow=41						
	comp=Z,9.2nm,0.8s						
KLR	**Kul'dur**	**15.50**	**292**	*ce*P	**Pn**	**04 58 30.5**	**-0.4**
KLR				pmax	pmax		
	comp=Z,18nm,1.3s						
KLR	**Kul'dur**	**15.50**	**292**	*e*P	**Pn**	**04 58 27.6**	**-3.3**
USA0B	**Ussuriysk Arra**	**15.59**	**274**		**Pn**	**04 58 31.0**	**-1.1**
USA0B	**Ussuriysk Arra**	**15.59**	**274**	P	**Pn**	**04 58 31.0**	**-1.1**
USA0B				pmax	pmax		
	comp=Z,14nm,0.9s						
USRK	**Ussuriysk Ar.**	**15.59**	**274**	Pn	**Pn**	**04 58 32.3**	**+0.2**
USRK	**Ussuriysk Ar.**	**15.59**	**274**	Pn	**Pn**	**04 58 31.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=79,slow=12,SNR=17						
USRK				LR	LR	05 05 05.8	
	comp=Z,47nm,21.3s,baz=59,slow=39						
	comp=Z,13nm,0.8s						
USRK	**Ussuriysk Ar.**	**15.59**	**274**	P	**Pn**	**04 58 32.3**	**+0.2**
MSHR	**Mys Shultsa**	**16.59**	**268**	*i* P	**Pn**	**04 58 43.2**	**-1.6**
SEY	**Seymchan**	**17.64**	**358**	P	**P**	**04 58 57.2**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=146,slow=4.8,SNR=6.2						
	comp=Z,1.7nm,0.3s						
SEY	**Seymchan**	**17.64**	**358**	*ce*P	**Pn**	**04 58 55.5**	**-2.3**
SEY				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SEY	**Seymchan**	**17.64**	**358**	*e*P	**Pn**	**04 58 55.5**	**-2.3**
HEH	**HeiHe**	**18.41**	**295**	*e*P	**Pn**	**04 59 07.7**	**+0.4**
HEH				pmax	pmax		
	comp=Z,24nm,1.5s						
ZEA	**Zeya**	**19.12**	**306**	*e*P	**Pn**	**04 59 15.3**	**-0.7**
KSRS	**Korea Array**	**20.95**	**257**	P	Pn	04 59 38.2	+0.5
	comp=Z,0.8nm,0.5s,baz=49,slow=12,SNR=2.1						
KSRS				LR	LR	05 09 11.6	
	comp=Z,33nm,19.6s,baz=60,slow=41						
	comp=Z,0.8nm,0.5s						
YAK	**Yakutsk**	**21.80**	**329**	LR	LR	05 09 06.6	
	comp=Z,38nm,20.9s,baz=193,slow=39						
YAK	**Yakutsk**	**21.80**	**329**	*i* P	**P**	**04 59 42.3**	**-1.6**
YAK				pmax	pmax		
	comp=Z,19nm,0.6s						
YAK	**Yakutsk**	**21.80**	**329**	*e*P	**P**	**04 59 42.3**	**-1.6**
BILL	**Bilibino**	**23.64**	**12**		**P**	**05 00 05.3**	**+2.1**
BILL	**Bilibino**	**23.64**	**12**	*ce*P	**P**	**05 00 03.6**	**+0.5**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BILL	**Bilibino**	**23.64**	**12**	*e*P	**P**	**05 00 03.6**	**+0.5**
XLT	**XiLinHaoTe**	**26.79**	**281**	*e*P	**P**	**05 00 29.0**	**-3.2**
XLT				pmax	pmax		
	comp=Z,19nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**27.73**	**153**	T	T	05 29 24.3	
	baz=344,SNR=0.8						
H11N1	**WAKE ISLAND Hy**	**27.74**	**153**	T	T	05 29 36.9	
	baz=344,slow=74,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**27.74**	**153**	T	T	05 29 33.8	
	baz=344,slow=74,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**28.81**	**154**	T	T	05 30 51.4	
	baz=342,slow=76,SNR=5.9						
H11S3	**WAKE ISLAND Hy**	**28.82**	**154**	T	T	05 30 44.6	
	baz=342,slow=76,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**28.83**	**154**	T	T	05 30 43.5	
	baz=342,slow=76,SNR=6.8						
TIXI	**Tiksi**	**28.96**	**344**	LR	LR	05 12 48.9	
	comp=Z,38nm,19.9s,baz=178,slow=37						
TIXI	**Tiksi**	**28.96**	**344**	*ce*P	**P**	**05 00 51.0**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.7s						
TIXI	**Tiksi**	**28.96**	**344**	*e*P	**P**	**05 00 51.0**	**-0.2**
ULN	**Ulaanbaatar**	**31.89**	**292**	*ce*P	**P**	**05 01 17.7**	**+0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ULN	**Ulaanbaatar**	**31.89**	**292**	*e*P	**P**	**05 01 17.7**	**+0.2**
SONM	**Songino Array**	**32.33**	**292**	P	**P**	**05 01 22.8**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=84,slow=8.7,SNR=4.4						
SONM				LR	LR	05 16 23.2	
	comp=Z,35nm,18.3s,baz=132,slow=40						
	comp=Z,0.7nm,0.7s						
D20K	**Etivluk River**	**34.17**	**30**	P	**P**	**05 01 37.7**	**+0.7**
D20K				IAmb	IAmb	05 01 50.2	
	comp=Z,3.9nm,0.8s						
KTH	**Kantishna Hill**	**35.49**	**39**		**P**	**05 01 49.8**	**+1.3**
KTH				IAmb	IAmb	05 01 50.9	
	comp=Z,9.1nm,1.1s						
COLA	**College**	**36.91**	**37**	*i* P	**P**	**05 02 00.5**	**0.0**
COLA				pmax	pmax		
	comp=Z,28nm,4.4s						
E24K	**Your Creek**	**36.97**	**32**	P	**P**	**05 02 02.4**	**+1.3**
ILAR	**Eielson Array**	**37.32**	**37**	P	**P**	**05 02 03.0**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=282,slow=8.6,SNR=6.1						
ILAR				LR	LR	05 18 09.7	
	comp=Z,22nm,18.6s,baz=290,slow=38						
	com

AAK	Ala-Archa	54.95	298	*ce*P		P	05 04 23.5	+0.3
AAK				pmax	pmax			
comp=Z,3.0nm,0.7s								
AAK	Ala-Archa	54.95	298	*e*P		P	05 04 23.5	+0.3
BLKN	Baker Lake	57.82	29	P		P	05 04 43.1	+0.1
ARCES	ARCESS Array B	59.35	341	P		P	05 04 56.5	+2.8
comp=Z,3.2nm,0.9s,baz=31,slow=7.9,SNR=9.8								
comp=Z,3.2nm,0.9s								
GAR	Garm	59.61	296			P	05 04 59.5	+3.4
ABKAR	Akbulak array	59.75	311			P	05 04 58.1	+1.4
ABKAR	Akbulak array	59.75	311			P	05 04 58.1	+1.4
ABKAR				IAmb	IAmb		05 05 15.3	
comp=Z,4.9nm,0.8s								
PLID	Pearl Lake	60.03	55			P	05 04 59.5	+0.5
PLID				IAmb	IAmb		05 05 00.6	
comp=Z,3.6nm,0.8s								
AKTO	Aktyubinsk	60.07	313	LR		LR	05 32 57.9	
comp=Z,43nm,18.4s,baz=66,slow=38								
MSO	Missoula	60.19	52			P	05 05 00.2	+0.2
SIMJ	Simiganj	60.64	297	P		P	05 05 04.7	+1.6
SIMJ				IAmb	IAmb		05 05 07.6	
comp=Z,4.4nm,0.8s								
FFC	Flin Flon	61.47	40			P	05 05 09.0	+0.6
FFC				IAmb	IAmb		05 05 10.0	
comp=Z,4.8nm,0.8s								
FFC	Flin Flon	61.47	40	P		P	05 05 09.0	+0.6
FFC				pmax	pmax			
comp=Z,5.0nm,0.9s								
BOZ	Bozeman (W)	62.21	52	P		P	05 05 14.4	+0.7
BOZ	Bozeman (W)	62.21	52	P		P	05 05 14.4	+0.7
BOZ				pmax	pmax			
comp=Z,9.0nm,1.5s								
NVAR	Mina Array Bea	62.61	62	P		P	05 05 17.3	+0.8
comp=Z,1.7nm,0.7s,baz=275,slow=7.2,SNR=7.1								
comp=Z,1.7nm,0.7s								
FXWY	Fox Creek	63.75	54	P		P	05 05 24.8	+0.7
FXWY				IAmb	IAmb		05 05 26.6	
comp=Z,6.2nm,1.4s								
MOOW	Moose Ponds	63.84	53			P	05 05 25.8	+1.1
MOOW				IAmb	IAmb		05 05 27.4	
comp=Z,4.3nm,1.4s								
TPAW	Teton Pass	63.89	54	P		P	05 05 25.5	+0.5
LOHW	Long Hollow	64.01	54	P		P	05 05 26.5	+0.7
LOHW				IAmb	IAmb		05 05 28.9	
comp=Z,3.3nm,1.0s								
SNOW	Snow King Moun	64.02	54	P		P	05 05 26.7	+0.8
R11B	Troy Canyon, C	64.34	61	P		P	05 05 28.6	+0.6
R11B				IAmb	IAmb		05 05 29.5	
comp=Z,3.2nm,1.0s								
DUG	Dugway, Tooele	64.86	58	P		P	05 05 31.9	+0.6
DUG				IAmb	IAmb		05 05 32.8	
comp=Z,5.8nm,1.1s								
DUG	Dugway, Tooele	64.86	58	P		P	05 05 31.9	+0.6
DUG				pmax	pmax			
comp=Z,6.0nm,1.2s								
PD31	Pinedale Array	65.14	54			P	05 05 33.2	0.0
PD31				IAmb	IAmb		05 05 34.5	
comp=Z,5.1nm,1.2s								
PDAR	Pinedale Array	65.14	54	P		P	05 05 33.7	+0.5
comp=Z,1.3nm,0.8s,baz=300,slow=2.3,SNR=12								
comp=Z,1.3nm,0.8s								
FINES	FINESS Array B	65.54	335	P		P	05 05 35.5	+0.4
comp=Z,2.9nm,0.5s,baz=38,slow=7.9,SNR=17								
FINES				LR	LR		05 38 03.1	
comp=Z,30nm,18.5s,baz=1.0,slow=40								
comp=Z,2.9nm,0.5s								
OBN	Obninsk	66.77	326	*e*P		P	05 05 41.0	-2.1
OBN				*e**PP		pwP	05 05 53.6	-1.4
OBN				*e*			05 06 12.5	
OBN				*e*			05 08 09.1	
OBN				*e*PPP	PPP		05 09 44.5	
OBN				pmax	pmax			
comp=Z,3.0nm,0.8s								
OBN				MLR	MLR			
comp=Z,26nm,16.0s								
OBN	Obninsk	66.77	326	*e*P		P	05 05 41.0	-2.1
WB0	Warramunga Arr	67.19	200	P		P	05 05 46.1	-0.1
WRA	Warramunga Arr	67.37	200			P	05 05 47.2	-0.1
WRA	Warramunga Arr	67.37	200	P		P	05 05 47.2	-0.1
comp=Z,4.5nm,0.8s,baz=18,slow=6.7,SNR=15								
comp=Z,4.5nm,0.8s								
PV10	Paradox Valley	68.27	57	P		P	05 05 54.1	+0.8
NB2	NORSAR Subarra	69.73	342	P		P	05 06 01.8	+0.2
comp=Z,1.6nm,0.7s,baz=30,slow=6.5								
NOA	NORSAR Array B	69.73	342	P		P	05 06 02.3	+0.7
comp=Z,1.0nm,0.7s,baz=26,slow=6.2,SNR=7.4								
NOA				LR	LR		05 42 31.7	
comp=Z,10nm,18.2s,baz=35,slow=41								
comp=Z,1.0nm,0.7s								
HFS	Hagfors	69.96	340	P		P	05 06 03.1	+0.1
comp=Z,2.8nm,0.7s,baz=74,slow=6.3,SNR=6.2								
comp=Z,2.8nm,0.7s								
AS31	Alice Springs	71.06	199			P	05 06 10.6	+0.5
ASAR	Alice Springs	71.06	199	P		P	05 06 11.1	+1.0
comp=Z,3.2nm,0.8s,baz=15,slow=5.9,SNR=29								
comp=Z,3.2nm,0.8s								
ANMO	Albuquerque	72.11	58	*ce*P		P	05 06 16.3	-0.5
ANMO				pmax	pmax			
comp=Z,3.0nm,2.5s								
KIV	Kislovodsk	72.17	315	*e*P		P	05 06 15.3	-1.5
KIV				pmax	pmax			
comp=Z,5.0nm,1.1s								
KIV				MLR	MLR			
comp=Z,21nm,18.0s								
KIV	Kislovodsk	72.17	315	*e*P		P	05 06 15.3	-1.5
KBZ	Khabaz	72.23	315	P		P	05 06 18.0	+1.0
comp=Z,1.7nm,0.8s,baz=155,slow=6.0,SNR=4.2								
comp=Z,1.7nm,0.8s								
AKASG	Malin Array Be	73.01	327	P		P	05 06 21.9	+0.3
comp=Z,1.3nm,0.5s,baz=34,slow=6.2,SNR=6.5								
AKASG				LR	LR		05 41 39.6	
comp=Z,16nm,19.1s,baz=12,slow=38								
comp=Z,1.3nm,0.5s								
GNI	Garni	73.85	311	LR		LR	05 42 34.8	
comp=Z,41nm,20.0s,baz=107,slow=39								
MNHN	Monahans	76.84	59	P		P	05 06 44.2	+0.1
MNHN				IAmb	IAmb		05 06 45.1	
comp=Z,5.0nm,0.7s								
BUR08	Bucovina Ar. S	77.04	327	P		P	05 06 45.8	+0.8
R40A	Maddes Statio	77.69	47	P		P	05 06 48.2	-0.5
R40A				IAmb	IAmb		05 06 48.8	
comp=Z,5.2nm,0.7s								
TX31	Lajitas Ar. Si	77.70	61			P	05 06 49.5	+0.4
TX31				IAmb	IAmb		05 06 49.9	
comp=Z,3.0nm,0.7s								
TXAR	Lajitas Array	77.71	61	P		P	05 06 49.3	+0.2
comp=Z,3.4nm,0.7s,baz=307,slow=4.3,SNR=42								
comp=Z,3.4nm,0.7s								
TXAR	Lajitas Array	77.71	61	P		P	05 06 49.4	+0.3
EKA	Eskdalemuir Ar	77.83	347	P		P	05 06 49.8	+0.6
comp=Z,0.6nm,0.6s,baz=15,slow=5.6,SNR=5.8								
comp=Z,0.6nm,0.6s								
VRAC	Vranov	78.64	333	LR		LR	05 48 13.3	
comp=Z,26nm,18.2s,baz=336,slow=41								
KHC	Kasperske Hory	79.73	335	*e*P		P	05 07 03.4	+3.6
KHC	Kasperske Hory	79.73	335	*e*P		P	05 07 03.4	+3.6
MMAI	Mount Meron Ar	84.15	312	LR		LR	05 51 40.0	
comp=Z,32nm,18.4s,baz=176,slow=40								
ESDC	Sonseca Array	93.05	343	LR		LR	05 55 51.5	
comp=Z,22nm,18.0s,baz=162,slow=39								
PLCA	Paso Flores	147.51	98	PKPbc		PKPbc	05 14 35.3	-0.6
comp=Z,3.0nm,0.7s,baz=268,slow=3.1,SNR=15								
CPUP	Villa Florida	148.65	63	PKPbc		PKPbc	05 14 38.3	-0.9
comp=Z,1.4nm,1.0s,baz=4.5,slow=5.8,SNR=4.6								
SNAA	Sanae	151.35	195	PKPbc		PKPbc	05 14 43.1	-1.4
comp=Z,2.8nm,0.6s,baz=231,slow=4.4,SNR=15								

*NOU **10** 05:22:46.8, 38.70S×177.93E, h10km, MLv3.5/10, North Island, New Zealand*
*WEL **10** 05:22:48.4±0.4, 39.2°S×17.8°E±, h18km±3km, M3.3/54, ML3.9/17, MLv3.3/54, Error ellipse: s-maj=3.5km s-min=2.4km az=96.9, confirmed*
ISC 10 05:22:48.1±1.4, 38.60S±0.02×177.87E±0.02, h14km±11km, n81, σ0.96/102, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIGZ	Rimuhau	0.13	220	P	Pb	05 22 53.5	+1.1
RIGZ				S	Sb	05 22 58.3	+3.0
GKBS	Kaiti Beach	0.15	122	P	Pb	05 22 53.5	+0.9
GKBS				S	Sb	05 22 58.4	+2.8
TKGZ	Te Karaka	0.17	354	P	Pb	05 22 52.8	-0.1
TKGZ				S	Sb	05 22 56.9	+0.8
CNGZ	Carnagh Statio	0.29	66	P	Pb	05 22 55.7	+0.7
PRGZ	Paritu Road	0.32	178	P	Pn	05 22 56.6	-1.7
PRGZ				S	Sn	05 23 04.8	0.0
RAGZ	Rawiri	0.37	287	P	Pb	05 22 56.6	+0.1
RAGZ				S	Sb	05 23 02.3	+0.1
MWZ	Matawai	0.38	315	P	Pb	05 22 56.3	-0.3
MWZ				S	Sb	05 23 02.5	+0.1
TWGZ	Tauwhareparae	0.43	11	P	Pb	05 22 57.6	+0.1
TWGZ				S	Sb	05 23 05.5	+1.6
KNZ	Kokohu	0.45	200	P	Pn	05 22 58.6	-1.4
KNZ				S	Sn	05 23 07.7	-0.1
SNGZ	Shannon Statio	0.45	247	P	Pn	05 22 58.7	-1.4
SNGZ				S	Sn	05 23 08.0	0.0
MHGZ	Mahia Peninsul	0.55	177	P	Pn	05 23 00.3	-1.2
MHGZ				S	Sn	05 23 11.5	+1.1
PUZ	Puketiti	0.61	30	P	Pb	05 23 00.3	-0.2
PUZ				S	Sn	05 23 10.5	-1.4
RUGZ	Raukumara Rang	0.66	346	P	Pg	05 23 00.8	-0.1
RUGZ				S	Sb	05 23 10.5	+0.2
WHHZ	Waihua	0.69	226	P	Pn	05 23 02.5	-0.8
WHHZ				S	Sn	05 23 14.7	+0.9
RAHZ	Arahi	0.69	243	P	Pn	05 23 02.6	-0.8
URZ	Urewera	0.69	300	P	Pb	05 23 01.7	-0.1
URZ	Urewera	0.69	300	P	Pb	05 23 01.7	-0.1
URZ				S	Sb	05 23 12.2	+1.0
RTZ	Ruatahuna	0.70	269	P	Pb	05 23 02.4	+0.4
RTZ				S	Sn	05 23 13.4	-0.8
PKGZ	Pakihiroa	0.75	13	P	Pg	05 23 02.6	-0.1
PKGZ				S	Sb	05 23 13.7	+0.7
MTHZ	Maungataniwha	0.84	253	P	Pb	05 23 04.6	+0.1
MTHZ				S	Sn	05 23 18.7	+0.9
HAZ	Te Kaha	0.85	355	P	Pg	05 23 03.9	-0.7
HAZ				S	Sb	05 23 16.4	+0.6
MUGZ	Murupara	0.87	278	P	Pb	05 23 05.2	+0.3
WMGZ	Waiomatatini S	0.89	29	P	Pb	05 23 04.8	-0.5
WMGZ				S	Sn	05 23 19.0	+0.2
ARHZ	Aropaoanui	0.95	226	P	Pn	05 23 06.2	-0.7
NMHZ	Naumai	0.97	239	P	Pg	05 23 06.6	-0.1
WHRZ	Whale Island	1.03	316	P	Pn	05 23 08.3	+0.2
MXZ	Matakaoa Point	1.09	18	P	Pn	05 23 08.7	-0.2
MXZ	Matakaoa Point	1.09	18	S	Sn	05 23 25.0	+1.2
MXZ	Matakaoa Point	1.09	18	P	Pb	05 23 07.8	-0.9
RRRZ	Republican Roa	1.10	284	P	Pb	05 23 08.7	-0.1
MARZ	Manawahe	1.13	303	P	Pg	05 23 09.6	-0.2
TARZ	Mount Tarawera	1.14	288	P	Pb	05 23 09.4	-0.1
MRHZ	Matea Rd	1.16	258	P	Pb	05 23 09.7	-0.2
PRRZ	Plateau Road	1.17	275	P	Pn	05 23 09.7	-0.2
MKRZ	Makatiti	1.20	292	P	Pg	05 23 11.2	0.0
ALRZ	Allen Road	1.20	272	P	Pn	05 23 09.9	-0.5
WIZ	White Island	1.20	333	P	Pb	05 23 10.9	+0.3
BKZ	Black Stump Fm	1.21	242	P	Pn	05 23 09.6	-1.0
BKZ	Black Stump Fm	1.21	242	S	Sn	05 23 26.6	-0.3
BKZ	Black Stump Fm	1.21	242	P	Pn	05 23 09.9	-0.7
BKZ				P	Pn	05 23 09.9	-0.7
WSRZ	White Island S	1.22	333	P	Pg	05 23 12.3	+0.8
CKHZ	Cape Kidnapper	1.22	210	P	Pn	05 23 09.1	-1.6
MCHZ	McNeill Hill	1.24	227	P	Pn	05 23 10.2	-0.8
HLRZ	Highlands Stat	1.25	286	P	Pn	05 23 11.1	+0.1
HRRZ	Handcock Road	1.27	279	P	Pn	05 23 11.4	0.0
OMRZ	Omania	1.28	292	P	Pn	05 23 11.1	-0.4
OPRZ	Ohinepanea	1.28	306	P	Pn	05 23 10.5	-1.1
HSRZ	Hossack Road	1.31	282	P	Pn	05 23 11.8	-0.1
LIRZ	Lichensteins R	1.31	297	P	Pn	05 23 11.5	-0.5
WPRZ	Whakapapatarin	1.34	273	P	Pg	05 23 14.6	+0.7
UTU	Utuhina	1.39	287	P	Pg	05 23 16.0	+1.3
KWHZ	Kaweka Forest	1.40	234	P	Pn	05 23 12.1	-1.0
GRRZ	Galatos Road	1.41	280	P	Pn	05 23 13.2	0.0
KARZ	Kaharoa	1.41	294	P	Pn	05 23 12.4	-0.9
NGRZ	Ngongotaha	1.42	290	P	Pn	05 23 13.5	+0.1
KAHZ	Kahuranaki	1.42	213	P	Pn	05 23 11.7	-1.7
HATZ	Hinemaiaia	1.42	258	P	Pg	05 23 15.5	+0.1
TGRZ	Tauranga	1.54	304	P	Pb	05 23 16.7	+0.3
KRHZ	Kereru	1.56	228	P	Pn	05 23 14.0	-1.4
KUTZ	Kaahu Road	1.61	273	P	Pn	05 23 15.6	-0.4
RITZ	Rihia Road	1.62	256	P	Pb	05 23 17.3	-0.4
PXZ	Pawanui	1.63	208	P	Pn	05 23 13.9	-2.3
RATZ	Rangitukua	1.66	260	P	Pb	05 23 18.2	-0.3
KMRZ	Kaimai	1.70	296	P	Pn	05 23 16.3	-1.0
TMVZ	Te Maari	1.77	253	P	Pn	05 23 17.5	-0.8
ETVZ	East Tongariro	1.77	252	P	Pn	05 23 17.6	-0.8
NTVZ	North Tongarir	1.79	253	P	Pn	05 23 17.8	-0.7
KRVZ	Karewarewa	1.81	254	P	Pn	05 23 17.8	-1.1
OTVZ	Oturere	1.81	251	P	Pn	05 23 18.6	-0.3
MOVZ	Moawhango	1.84	243	P	Pn	05 23 18.7	-0.5
SNVZ	South Ngauruho	1.84	251	P	Pn	05 23 18.8	-0.5
NNVZ	North Ngauruho	1.84	253	P	Pn	05 23 19.6	+0.3
PNHZ	Pukenui	1.84	224	P	Pn	05 23 17.3	-2.0
PNHZ				S	Sn	05 23 40.8	-1.6
TUVZ	Tukino	1.85	248	P	Pb	05 23 21.7	0.0
WTVZ	West Tongariro	1.85	253	P	Pb	05 23 21.4	-0.3
NGZ	Ngauruhoe	1.86	251	P	Pn	05 23 19.3	-0.3
PRHZ	Porangahau	1.92	210	P	Pn	05 23 17.5	-2.7
HIZ	Hauiti	2.37	271	P	Pn	05 23 26.2	-0.2
KUZ	Kuaotunu	2.52	317	P	Pn	05 23 28.8	+0.3
KHEZ	Kahui Hut	3.09	256	P	Pn	05 23 36.2	-0.2
KHZ	Kahutara	5.04	220	P	Pn	05 24 00.8	-2.3

*ASRS **10** 05:30:32.0±0.8, 54.12N×87.23E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 10 05:30:34.3±3.6, 54.27N×87.38E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=32.3km s-min=20.2km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.54	259	I	I	05 40 35.0	
baz=80,slow=327,SNR=2.5							
ZALV	Zalesovo Beam	1.54	259	Pg	Pn	05 31 01.0	-2.0
1.4nm,0.3s,baz=81,slow=16,SNR=13							
ZALV				Lg	Lg	05 31 24.3	
1.7nm,0.3s,baz=76,slow=25,SNR=5.9							
KURBB	Kurchatov Arra	6.53	240	Pn	Pn	05 32 11.1	-0.3
0.1nm,0.3s,baz=58,slow=14,SNR=4.9							
0.4nm,0.3s							
MKAR	Makanchi Array	8.15	205	Pn	Pn	05 32 36.1	+2.3
0.1nm,0.3s,baz=24,slow=13,SNR=3.5							
0.1nm,0.5s							

IDC 10 05:34:34.1±4.0, 4.25S×151.37E, h0km, mb3.6/2, mbtmp3.7/2, MS3.4/3, Error ellipse: s-maj=153.7km s-min=52.2km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	9.95	122	LR	LR	05 40 17.8	
comp=Z,152nm,19.3s,baz=334,slow=34							
WRA	Warramunga Arr	22.78	225	P	P	05 39 39.1	+0.6
1.3nm,0.4s,baz=50,slow=9.8,SNR=16							
1.3nm,0.4s							
ASAR	Alice Springs	25.63	220	P	P	05 40 05.0	-0.7
0.4nm,0.4s,baz=52,slow=8.7,SNR=6.2							
0.4nm,0.4s							
JNU	Nakatsue	41.93	334	LR	LR	05 57 47.4	
comp=Z,25nm,20.4s,baz=22,slow=33							
BRDH	Bariadhala	64.14	298	LR	LR	06 13 46.2	
comp=Z,71nm,18.2s,baz=270,slow=37							
TORD	Torodi Ar. Bea	148.78	288	PKPbc	PKPbc	05 54 24.3	-0.5
51nm,0.3s,baz=79,slow=2.9,SNR=1.1							

*IGQ **10** 05:36:37.0±0.3, 1.8S×3.8°×81.4°W±, h13km±3km, MLv4.0/26*
*RSNC **10** 05:36:37.9±1.0, 1.8S±4.8°×81.4°W±1.6, h26km±23km, M3.9, mB4.9, mb4.5, ML3.4, Mw(mB)4.2*
ISC 10 05:36:37.2±1.0, 0.89S±0.04×80.54W±0.06, h14km±10km, n92, σ1.56/96, 12C-19D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMNT	Manta-Manabi	0.20	255	S	Sg	05 36 45.5	+0.5
AMNT				P	Pg	05 36 41.8	0.0
AQUE	Quevedo	1.06	99	S	Sn	05 37 13.6	+1.4
AQUE				P	Pb	05 36 56.4	-0.9
AGUAY	Guayaquil	1.30	153	P	Pn	05 36 58.5	-2.4
SALI	Salinas	1.37	199	S	Sn	05 37 19.6	-0.3
SALI				P	Pn	05 37 01.2	-0.7
ALIBE	La Libertad	1.38	193	P	Pb	05 37 03.7	+0.8
GYE3	Ecuador-Guayaq	1.41	153	P	Pn	05 37 03.5	+1.0
ASDO	Santo Domingo	1.54	66	P	Pn	05 37 03.5	-0.9
AV18	Acelerografo,	1.59	42	P	Pn	05 37 06.4	+1.3
AGRD	Ecuador-Guaran	1.68	114	P	Pn	05 37 05.9	-0.6
BV15	Puerto Quito-O	1.68	52	P	Pn	05 37 04.4	-1.7
MILO	Milagro-Astudi	1.70	145	⇓P	Pn	05 37 04.1	-2.3
JSCH	Cashca Tororas	1.77	118	⇓P	Pn	05 37 07.3	-0.4
CHSH	Refugio Sur-Vo	1.77	110	⇓P	Pn	05 37 08.1	+0.1
ILLI	Illinizas Sur	1.82	85	⇑P	Pn	05 37 07.9	-0.7
PORT	Chimborazo Vol	1.85	108	⇓P	Pn	05 37 08.9	-0.3
TAMH	Tambohuasha Ch	1.88	110	⇓P	Pn	05 37 09.2	-0.2
PAST	Pastocalle	1.91	84	P	Pn	05 37 10.2	+0.5
SRAM	San Ramn-Vol	1.98	86	P	Pn	05 37 11.8	+1.2
IGUA	Igualata	1.99	108	⇓P	Pn	05 37 11.2	+0.1
HPAL	Hacienda Las P	2.00	71	⇓P	Pn	05 37 10.0	-1.0
COHC	Cochancay	2.03	141	P	Pn	05 37 10.0	-1.0
COHC	Cochancay	2.03	141	P	Pn	05 37 09.7	-1.3
COHC				S	Sb	05 37 39.3	+0.3
GGPT	Toaza - Volcan	2.03	71	⇓P	Pn	05 37 10.1	-1.3
CAMI	Rancho Maria	2.04	84	P	Pn	05 37 11.7	0.0
JUA2	San Juan 2	2.04	71	⇓P	Pn	05 37 11.0	-0.7
SLOR	San Lorenzo -	2.05	86	⇓P	Pn	05 37 12.0	+0.3
SUCR	Mariscal Sucre	2.06	83	⇑P	Pn	05 37 12.5	+0.6
TERV	Terraza Guagua	2.06	70	⇑P	Pn	05 37 10.9	-1.1
PINO	Pino	2.06	69	⇑P	Pn	05 37 10.8	-1.2
BRRN	Barrancas-Volc	2.06	87	P	Pn	05 37 12.0	0.0
GGPC	Guagua Pichinc	2.06	70	P	Pn	05 37 10.9	-1.1
BNAS	Cotopaxi Volca	2.07	84	P	Pn	05 37 13.4	+1.4
BMOR	Cotopaxi Volca	2.08	86	P	Pn	05 37 13.1	+0.8
PAC1	Pacto, Paraso	2.09	57	P	Pn	05 37 10.6	-1.4
PAC1	Pacto, Paraso	2.09	57	P	Pn	05 37 10.4	-1.6
PAC1				S	Sn	05 37 39.5	+1.6
BREF	Cotopaxi Volca	2.11	84	P	Pn	05 37 13.9	+1.2
YANA	Yana	2.11	69	P	Pn	05 37 11.6	-1.0
BBIL	Ulba Tungurahu	2.12	105	P	Pn	05 37 14.4	+1.7
PITA	Cotopaxi Volc	2.13	81	⇓P	Pn	05 37 13.4	+0.6
JUI6	Juive	2.14	104	P	Pn	05 37 14.2	+1.4
BVC2	Cotopaxi Volca	2.14	84	P	Pb	05 37 16.0	-0.1
TOMA	Boca Toma-Volc	2.14	80	P	Pn	05 37 13.2	+0.3
VCES	Cotopaxi	2.15	88	P	Pn	05 37 14.3	+1.2
VC1	Cotopaxi 1	2.15	84	P	Pn	05 37 14.4	+1.2
BTAM	Cotopaxi Volca	2.15	84	P	Pb	05 37 16.2	-0.1
POND	Pondoa	2.15	104	P	Pn	05 37 13.9	+0.9
PIS1	Pisayambo	2.16	95	P	Pn	05 37 14.3	+1.1
ARRY	Arrayan	2.17	106	⇑P	Pn	05 37 14.0	+0.7
TAMB	Tambo	2.18	85	P	Pn	05 37 15.5	+1.9
BULB	Ulba Tungurahu	2.20	104	P	Pn	05 37 14.9	+1.2
PULU	Pululahua	2.23	66	P	Pn	05 37 13.7	-0.5
ANTG	Antisana-Guama	2.31	81	⇑P	Pn	05 37 16.2	+0.8
ANTM	Antisana-La Mi	2.34	81	⇓P	Pn	05 37 16.4	+0.6
OTAV	Otavalo	2.37	62	⇓P	Pn	05 37 15.3	-0.8
ANTS	Antisana-Sarah	2.40	81	⇑P	Pn	05 37 17.7	+1.0
ANTI	Antisana	2.42	80	⇑P	Pn	05 37 18.0	+1.1
CUSE	Cuicocha Este	2.44	61	P	Pn	05 37 17.5	+0.4
CUSE	Cuicocha Este	2.44	61	P	Pn	05 37 16.6	-0.6
CUSE				S	Sb	05 37 50.5	-1.0
CUIC	Cuicocha-Domo	2.48	61	⇓P	Pn	05 37 17.2	-0.4
CUSW	Cuicocha Oeste	2.48	62	P	Pn	05 37 19.4	+1.8
COTA	Cotacachi	2.51	61	⇓P	Pn	05 37 18.0	-0.2
IMBA	Imbabura, San	2.61	64	P	Pn	05 37 20.4	+1.0
URCU	Urcuqui	2.63	60	P	Pn	05 37 20.7	+0.9
ARNL	Arenillas	2.69	170	P	Pn	05 37 20.6	+0.5
CAYR	Refugio Cayamb	2.69	71	P	Pn	05 37 21.8	+1.1
ANGU	Angureal	2.69	70	P	Pn	05 37 21.9	+1.1
CAYA	Cayambe	2.72	70	P	Pn	05 37 22.5	+1.5
AIB2	Ibarra (Univer	2.72	63	P	Pn	05 37 23.8	+2.9
ARDO	Archidona, Ten	2.74	92	⇑P	Pb	05 37 24.7	-1.4
SNLR	San Lorenzo-Es	2.75	38	P	Pb	05 37 25.3	-0.9
YAHU	Yahuarcocha	2.77	63	⇑P	Pn	05 37 22.7	+1.2
LNGL	El Angel-Carch	3.01	57	⇓P	Pn	05 37 27.2	+2.2
CHMA	Chilma	3.02	55	P	Pn	05 37 27.4	+2.4
ECEN	Cerro Negro	3.08	57	P	Pn	05 37 27.6	+1.6
CHL1	Volc;n Chiles	3.08	57	⇓P	Pn	05 37 31.7	+4.7
CHL2	Volc;n Chiles	3.11	57	⇓P	Pn	05 37 29.7	+3.2
LAMO	ALAMOR	3.15	171	P	Pn	05 37 29.4	+2.8
TULM	Tulcn-Chalpat	3.18	60	⇓P	Pn	05 37 30.8	+3.5
TULM	Tulcn-Chalpat	3.18	60	P	Pn	05 37 30

BELE	Belen	0.95 131	eP	Pg	05 39 53.1	-0.7
HDC	Heredia	0.99 127		Pg	05 39 54.0	-0.6
HDC				Sg	05 40 07.2	-0.3
HDC	Heredia	0.99 127	P	Pg	05 39 54.3	-0.3
HDC			S	Sb	05 40 08.7	+0.1
ACOS	Acosta	1.09 137	eP	Pg	05 39 55.4	-1.1
CVIMO	Finca Echandi	1.12 121	eP	Pg	05 39 56.2	-0.8
CONN	Concepcion	1.18 324	P	Pg	05 39 57.6	-0.5
CONN			S	Sb	05 40 13.9	+0.1
JAPN	Al SSO del Vol	1.18 321	P	Pg	05 39 58.2	0.0
JAPN			S	Sb	05 40 14.0	+0.1
CVTG	V. Turrialba,	1.22 112	eP	Pg	05 39 57.5	-1.3
ARIN	Rivas	1.23 313	P	Pg	05 39 58.4	-0.8
ARIN	Rivas	1.23 313	S	Sb	05 40 15.8	+0.4
ABE2	San Pablo	1.23 136	eP	Pg	05 39 57.6	-1.7
ACON	Acoyapa	1.38 350	Pn	Pn	05 39 59.9	-1.3
ACON			Sn	Sb	05 40 19.1	-0.4
ACON			IAML		05 40 20.6	
	comp=E,5μm,0.4s					
ACON			IAML		05 40 20.6	
	comp=N,4μm,0.9s					
ACON	Acoyapa	1.38 350	eP	Pn	05 40 00.1	-1.1
ACON	Acoyapa	1.38 350	P	Pn	05 40 00.3	-1.0
ACON	Acoyapa	1.38 350	S	Sb	05 40 19.4	-0.2
ESPN	Las Esperanzas	1.69 21	Pn	Pn	05 40 05.1	-0.5
ESPN			Sn	Sn	05 40 26.9	-0.7
ESPN	Las Esperanzas	1.69 21	P	Pn	05 40 05.4	-0.1
ESPN	Las Esperanzas	1.69 21	S	Sn	05 40 27.7	+0.1
NANN	Nandasmo	1.77 318	S	Sn	05 40 29.8	+0.1
NANN	Nandasmo	1.77 318	P	Pn	05 40 07.6	+0.8
BLUN	Bluefields	1.79 39	P	Pn	05 40 06.5	-0.4
BLUN			S	Sn	05 40 30.1	+0.1
MASN	Masaya	1.83 319	P	Pn	05 40 07.2	-0.4
MASN			S	Sb	05 40 32.4	-0.2
MAS3	Al N del Volca	1.87 319	P	Pn	05 40 07.4	-0.7
MAS3			S	Sn	05 40 32.7	+0.6
OCHAL	Ojochal	1.95 140	P	Pn	05 40 09.9	+0.8
OCHAL	Ojochal	1.95 140	S	Sn	05 40 35.3	+1.3
AERN	Aeropuerto Man	1.96 321	S	Sn	05 40 35.3	+1.1
ENAN	Enatrel Managu	2.00 319	S	Sb	05 40 36.6	-0.7
UNAN	Cigeo UNAN	2.00 319	P	Pn	05 40 09.7	-0.1
UNAN			S	Sb	05 40 36.9	-0.6
R4DEC	Barrio San Lui	2.01 320	P	Pn	05 40 09.4	-0.6
R4DEC	Barrio San Lui	2.01 320	S	Sn	05 40 36.3	+0.8
TISN	Laguna Tiscapa	2.02 319	P	Pn	05 40 09.8	-0.3
SBEN	San Benito	2.03 327	P	Pn	05 40 11.2	+1.0
SBEN	San Benito	2.03 327	S	Sn	05 40 37.1	+1.3
ABCN	Banco Central	2.03 318	S	Sn	05 40 37.0	+1.0
ABCN	Banco Central	2.03 318	P	Pn	05 40 11.3	+1.0
ALLN	Telcor Managua	2.03 319	S	Sb	05 40 37.5	-0.9
APQ2	Apoyeque	2.10 319	P	Pn	05 40 12.1	+0.9
APQ2			S	Sn	05 40 38.8	+1.2
AMTN	Mateare	2.20 318	S	Sn	05 40 40.1	+0.1
COPN	Copaltepe	2.27 314	P	Pn	05 40 13.3	-0.2
MOMN	Momotombo	2.40 319	P	Pn	05 40 16.3	+1.0
MOMN			S	Sn	05 40 46.5	+1.4
MATN	Matagalpa	2.51 337	P	Pn	05 40 16.4	-0.6
MATN	Matagalpa	2.51 337	S	Sb	05 40 50.9	-1.4
CNGA	Al SSO del Vol	2.56 317	P	Pn	05 40 18.3	+0.7
CNGA			S	Sn	05 40 51.0	+1.8
CNGN	Cerro Negro	2.57 317	Pn	Pn	05 40 19.0	+1.3
CNGN	Cerro Negro	2.57 317	S	Sb	05 40 51.8	-2.0
CNGN	Cerro Negro	2.57 317	P	Pn	05 40 17.8	+0.1
ROCN	Rota Cerro Neg	2.61 317	S	Sn	05 40 51.4	+1.1
ILCN	San Idelfonso	2.62 319	P	Pn	05 40 17.9	-0.5
HERN	Volcan Telica	2.73 317	Pn	Pn	05 40 19.9	-0.1
HERN			IAML		05 41 13.3	
	comp=N,3μm,0.5s					
HERN			IAML		05 41 15.5	
	comp=E,1μm,0.5s					
HERN	Volcan Telica	2.73 317	S	Sb	05 40 56.5	-2.2
POLN	Al Sur del Vol	2.75 318	P	Pn	05 40 21.1	+0.9
POLN			S	Sn	05 40 55.9	+2.1
LIMN	Finca el Limon	2.82 330	P	Pn	05 40 20.9	-0.3
BRU2	Volcan	2.84 129	Pn	Pn	05 40 21.4	-0.2
BRU2			IAML		05 41 22.4	
	comp=N,405nm,1.3s					
BRU2			IAML		05 41 24.3	
	comp=E,395nm,1.2s					
BRU2	Volcan	2.84 129	P	Pn	05 40 23.3	+1.8
CDITO	Canoas	2.85 135	S	Sb	05 41 00.1	-1.9
CDITO	Canoas	2.85 135	P	Pn	05 40 23.2	+1.6
CRIN	San Cristobal	2.95 315	Pn	Pn	05 40 22.9	0.0
CRIN			IAML		05 41 09.0	
	comp=N,519nm,0.5s					
CRIN			IAML		05 41 23.2	
	comp=E,431nm,0.7s					
CRIN	San Cristobal	2.95 315	P	Pn	05 40 24.4	+1.4
CRIN	San Cristobal	2.95 315	S	Sn	05 40 59.3	+0.5
TGUH	Tegucigalpa,Un	4.13 326	Pn	Pn	05 40 40.7	+1.4
TGUH			IAML		05 41 43.8	
	comp=E,220nm,0.4s					
TGUH			IAML		05 41 47.3	
	comp=E,216nm,0.7s					
BCIP	Isla Barro Col	5.21 105	Pn	Pn	05 40 52.6	-1.3
BCIP			IAML		05 42 32.2	
	comp=E,23nm,2.1s					
MTO3	Montecristo	5.75 311		Pn	05 41 01.6	0.0

*IDC **10** 05:39:37.6±6.8, 36°.43N×71°.34E, h106km±54km, mb3.3/5, mbtmp3.6/10, MS2.8/3, Error ellipse: s-maj=51.3km s-min=30.5km az=37.0*

ISC 10 05:39:37.5±1.3, 36°.5N±0°.1×71°.2E±0°.2, h100km, n19, σ1§43/20, mb3.5/5, 3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.95	18	P	Pn	05 41 04.0	+0.6
	SNR=27						
EKS2	Erkin-Say	6.47	17	P	Pn	05 41 11.8	+1.6
	SNR=5.8						
KK31	Karatay Array	6.61	356	⇓Pn	Pn	05 41 11.9	-0.1
	1.8nm,0.2s,baz=174,slow=12,SNR=75						
KK31				⇓Sn	Sn	05 42 22.2	-3.6
	1.4nm,0.2s,baz=190,slow=24,SNR=7.9						
AAK	Ala-Archa	6.64	22	P	Pn	05 41 13.7	+1.2
	6.3nm,0.3s,baz=195,slow=9.1,SNR=18						
AAK				S	Sn	05 42 25.4	-1.3
	5.4nm,0.5s,baz=86,slow=22,SNR=8.6						
AAK				LR	LR	05 43 57.2	
	comp=Z,24nm,19.9s,baz=114,slow=39						
AAK	Ala-Archa	6.64	22	P	Pn	05 41 13.8	+1.2
	SNR=8.3						
AAK	Ala-Archa	6.64	22	⇓Pn	Pn	05 41 13.3	+0.8
	4.0nm,0.4s						
AAK				Sn	Sn	05 42 26.0	-0.7
	5.7nm,0.5s						
USP	Ospenovka	7.22	20	P	Pn	05 41 20.8	+0.5
	SNR=5.5						
TKM2	Tokmak 2	7.25	27	P	Pn	05 41 21.7	+0.7
	SNR=6.7						
MKAR	Makanchi Array	13.20	35	P	Pn	05 42 41.2	+0.3
	0.1nm,0.3s,baz=229,slow=13,SNR=4.6						
KURBB	Kurchatov Arra	15.07	18	P	Pn	05 43 06.6	+1.6
	0.1nm,0.3s,baz=206,slow=11,SNR=3.0						
BVAR	Borovoye Array	16.53	358	P	P	05 43 25.4	+1.5
	0.5nm,0.4s,baz=169,slow=16,SNR=1.7						
ZALV	Zalesovo Beam	19.85	24	P	P	05 44 01.4	+1.1
	1.5nm,0.3s,baz=217,slow=11,SNR=7.4						
ARCES	ARCESS Array B	41.19	338	P	P	05 47 13.1	+1.3
	1.3nm,1.0s,baz=122,slow=8.7,SNR=1.2						
	1.3nm,1.0s						
HFS	Hagfors	43.15	322	P	P	05 47 28.2	+0.4
	2.1nm,0.8s,baz=83,slow=12,SNR=2.4						
	2.1nm,0.8s						
YAK	Yakutsk	43.88	35	LR	LR	06 08 38.6	
	comp=Z,26nm,19.0s,baz=230,slow=40						
NOA	NORSAR Array B	44.46	323	P	P	05 47 37.5	-0.8
	0.3nm,0.5s,baz=26,slow=7.2,SNR=2.2						
	0.3nm,0.5s						
USRK	Ussuriysk Ar.	46.04	61	LR	LR	06 08 13.0	
	comp=Z,20nm,20.2s,baz=224,slow=37						
YKA	Yellowknife Ar	81.23	3	P	P	05 51 41.7	-0.2
	0.3nm,0.7s,baz=350,slow=5.6,SNR=6.9						
	0.3nm,0.7s						
WRA	Warramunga Arr	81.88	122	P	P	05 51 44.1	-1.9
	0.7nm,0.9s,baz=339,slow=7.1,SNR=2.5						
	0.7nm,0.9s						

*NEIC **10** 05:40:23.1±1.2, 18°.17N±0°.08×67°.73W±0°.06, h61km±5km, ML2.1/26, Md2.6/13(RSPR), Error ellipse: s-maj=12.2km s-min=5.6km az=209.0*
*SDD **10** 05:40:23.6±0.4, 18°.14N×67°.73W, h69km±5km, MD2.5, ML2.2, MW2.4*
*RSPR **10** 05:40:24.2, 18°.15N×67°.70W, h61km±1km, MD2.6/13*
*OSPL **10** 05:40:25.1±0.3, 18°.15N×67°.65W, h62km±14km, ML2.1*

ISC 10 05:40:22.7±1.5, 18°.13N±0°.08×67°.70W±0°.05, h70km±9km, n58, σ0§64/66, 15C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	Isla Desecheo	0.33	40		Pn	05 40 33.7	-0.3
IDE					Sn	05 40 41.1	-1.3
IDE	Isla Desecheo	0.33	40	⇓eP	Pn	05 40 33.7	-0.3
IDE	Isla Desecheo	0.33	40	eS	Sn	05 40 41.1	-1.3
PRSN	Puerto Rico Se	0.53	81	Pn	Pn	05 40 35.7	-0.1
PRSN				IAML		05 40 46.2	
	comp=E,85nm,0.2s						
PRSN				IAML		05 40 52.8	
	comp=N,83nm,0.3s						
CRPR	Cabo Rojo, PR	0.57	103		Pn	05 40 36.8	+0.7
CRPR					Sn	05 40 46.7	+0.6
CRPR	Cabo Rojo, PR	0.57	103	⇑ePg	Pn	05 40 36.9	+0.7
CRPR				⇓eSg	Sn	05 40 46.7	+0.6
CRPR	Cabo Rojo, PR	0.57	103	⇓eP	Pn	05 40 36.8	+0.7
CRPR	Cabo Rojo, PR	0.57	103	eS	Sn	05 40 46.7	+0.6
CRPR	Cabo Rojo, PR	0.57	103	i P	Pn	05 40 36.9	+0.7
CRPR				IAML		05 40 47.4	
	comp=Z,28nm,0.5s						
LSP	Las Mesas	0.58	86		Pn	05 40 35.9	-0.4
LSP					Sn	05 40 46.1	-0.2
LSP	Las Mesas	0.58	86	⇑eP	Pn	05 40 35.9	-0.4
LSP	Las Mesas	0.58	86	eS	Sn	05 40 46.1	-0.2
MLPR	Magueyes Islan	0.64	105	⇑ePg	Pn	05 40 37.3	+0.5
MLPR				⇑eSg	Sn	05 40 47.5	+0.1
MLPR	Magueyes Islan	0.64	105	⇑eP	Pn	05 40 37.4	+0.5
MLPR	Magueyes Islan	0.64	105	eS	Sn	05 40 47.5	+0.1
AGPR	Aguadilla, PR	0.65	59		Pn	05 40 37.6	+0.6
AGPR					Sn	05 40 47.6	+0.1
AGPR	Aguadilla, PR	0.65	59	IAML		05 40 50.5	
	comp=N,85nm,1.5s						
AGPR				IAML		05 41 04.2	
	comp=E,75nm,2.7s						
AGPR	Aguadilla, PR	0.65	59	⇑ePg	Pn	05 40 37.6	+0.6
AGPR				⇑eSg	Sn	05 40 47.6	+0.1
AGPR				IAML		05 40 48.0	
	comp=N,71nm,0.2s						
AGPR	Aguadilla, PR	0.65	59	⇑eP	Pn	05 40 37.6	+0.6
AGPR	Aguadilla, PR	0.65	59	eS	Sn	05 40 47.6	+0.1
AGPR	Aguadilla, PR	0.65	59	i P	Pn	05 40 37.6	+0.6
AGPR				eS	Sn	05 40 46.9	-0.7
AGPR				IAML		05 40 50.4	
	comp=Z,75nm,1.4s						
PCDR	Punta Cana, DR	0.76	300	i P	Pn	05 40 39.6	+1.4
PCDR				IAML		05 40 51.9	
	comp=Z,70nm,1.3s						
AOPR	Arecibo Observ	0.92	76		Pn	05 40 40.5	+0.3
AOPR					Sn	05 40 52.9	-0.3
AOPR	Arecibo Observ	0.92	76	IAML		05 40 53.7	
	comp=N,45nm,0.2s						
AOPR				IAML		05 40 56.6	
	comp=E,79nm,0.2s						
AOPR	Arecibo Observ	0.92	76	⇑ePg	Pn	05 40 40.5	+0.3
AOPR				⇑eSg	Sn	05 40 52.9	-0.3
AOPR				IAML		05 40 54.1	
	comp=N,44nm,0.2s						
AOPR	Arecibo Observ	0.92	76	⇓eP	Pn	05 40 40.5	+0.3
AOPR	Arecibo Observ	0.92	76	eS	Sn	05 40 52.9	-0.3
UUPR	Utuado, UPR, P	0.93	82		Pn	05 40 40.6	+0.2
UUPR					Sn	05 40 53.4	-0.1
UUPR	Utuado, UPR, P	0.93	82	⇓eP	Pn	05 40 40.6	+0.2
UUPR	Utuado, UPR, P	0.93	82	eS	Sn	05 40 53.4	-0.1
OBIP	Obispado Ponce	1.04	95		Pn	05 40 41.4	-0.3
OBIP	Obispado Ponce	1.04	95	IAML		05 40 51.0	
	comp=N,17nm,2.6s						
OBIP				IAML		05 41 15.0	
	comp=E,20nm,3.0s						
OBIP	Obispado Ponce	1.04	95	⇓eP	Pn	05 40 41.4	-0.3
CELP	Cerrillos	1.06	93		Pn	05 40 42.4	+0.4
CELP					Sn	05 40 56.0	-0.3
CELP	Cerrillos	1.06	93	⇑ePg	Pn	05 40 42.3	+0.4
CELP				⇑eSg	Sn	05 40 56.6	+0.2
CELP	Cerrillos	1.06	93	⇓eP	Pn	05 40 42.4	+0.4
CELP	Cerrillos	1.06	93	eS	Sn	05 40 56.0	-0.3
EMPR	Esperanza - Ma	1.16	73		Pn	05 40 44.0	+0.8
EMPR	Esperanza - Ma	1.16	73		Sn	05 40 59.5	+1.0
EMPR	Esperanza - Ma	1.16	73	IAML		05 40 57.4	
	comp=N,91nm,2.5s						
EMPR	Esperanza - Ma	1.16	73	⇓eP	Pn	05 40 44.0	+0.8
EMPR	Esperanza - Ma	1.16	73	eS	Sn	05 40 59.5	+1.0
ECPR	Experimental S	1.28	81	⇑eP	Pn	05 40 45.5	+0.8
ECPR	Experimental S	1.28	81	eS	Sn	05 41 01.2	-0.1
IGPR	InterUniversit	1.52	96		Pn	05 40 48.1	+0.2
IGPR					Sn	05 41 05.9	-1.0
IGPR	InterUniversit	1.52	96	IAML		05 41 06.8	
	comp=E,18nm,0.3s						
IGPR				IAML		05 41 52.5	
	comp=N,16nm,2.4s						
IGPR	InterUniversit	1.52	96	⇑eP	Pn	05 40 48.1	+0.2
IGPR	InterUniversit	1.52	96	eS	Sn	05 41 05.9	-1.0
GCPR	Guaynabo City	1.54	83		Pn	05 40 47.7	-0.5
GCPR				IAML		05 41 27.8	
	comp=E,15nm,2.5s						
GCPR	Guaynabo City	1.54	83		Sn	05 41 07.5	+0.1
GCPR	Guaynabo City	1.54	83	IAML		05 41 03.5	
	comp=N,15nm,2.3s						
GCPR	Guaynabo City	1.54	83	⇑eP	Pn	05 40 47.7	-0.5
GCPR	Guaynabo City	1.54	83	eS	Sn	05 41 07.5	+0.1
PDPR	Patillas Dam,	1.59	94	Pn	Pn	05 40 49.4	+0.5
PDPR				IAML		05 41 40.4	
	comp=E,12nm,2.4s						
PDPR	Patillas Dam,	1.59	94	⇓eP	Pn	05 40 49.0	+0.1
PDPR	Patillas Dam,	1.59	94	eS	Sn	05 41 07.8	-0.9
DR12	Loma Pena Alta	1.73	292	Pn	Pn	05 40 52.1	+1.4
DR12				IAML		05 41 21.6	
	comp=E,21nm,2.8s						
DR12				IAML		05 41 56.4	
	comp=N,18nm,3.0s						
SDDR	Presa de Saban	3.51	284	Pn	Pn	05 41 13.3	-1.6

IDC 10 05:42:35.2±294.0, 50°.95N×48°.40E, h0km, Error ellipse: s-maj=107.8km s-min=88.5km az=23.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	6.15	91	I	I	06 22 40.0	
	0.3nm,0.6s,baz=280,slow=327,SNR=4.1						
I43RU	DUBNA INFRASON	8.78	316	I	I	06 31 20.0	
	baz=131,slow=326,SNR=2.2						
I46RU	ZALESOVO INFRA	22.24	68	I	I	07 54 10.0	
	baz=280,slow=325,SNR=1.5						
I37NO	I37NO	23.07	333	I	I	08 06 30.0	
	baz=126,slow=331,SNR=1.4						
I18DK	QAANAAQ INFRAS	36.24	344	I	I	10 49 50.0	
	baz=45,slow=341,SNR=1.0						
I45RU	USSURIYSK INFR	53.92	62	I	I	11 10 20.0	
	baz=306,slow=326,SNR=1.7						

*ASRS **10** 05:49:46.0±0.8, 54°.09N×87°.20E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 10 05:49:49.8±3.4, 54°.13N×87°.27E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=31.1km s-min=19.4km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.46	264	I	I	05 59 39.5	
	baz=81,slow=332,SNR=3.3						
ZALV	Zalesovo Beam	1.46	264	Pg	Pn	05 50 16.3	-1.1
	1.8nm,0.3s,baz=81,slow=16,SNR=19						
ZALV				Lg	Lg	05 50 35.9	
	1.1nm,0.3s,baz=83,slow=30,SNR=5.6						
KURBB	Kurchatov Arra	6.40	240	Pn	Pn	05 51 26.6	+1.2
	baz=53,slow=13,SNR=3.0						
	0.2nm,0.3s						
MKAR	Makanchi Array	8.00	205	Pn	Pn	05 51 48.1	+0.8
	0.1nm,0.3s,baz=28,slow=14,SNR=1.4						
	0.1nm,0.3s						

*ASRS **10** 05:54:58.0±0.7, 54°.14N×87°.10E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 10 05:54:58.7±3.6, 54°.22N×87°.39E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=31.5km s-min=19.7km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.54	261	I	I	06 04 42.9	
	baz=80,slow=329,SNR=8.5						
ZALV	Zalesovo Beam	1.54	261	Pg	Pn	05 55 25.2	-2.1
	0.6nm,0.3s,baz=80,slow=16,SNR=7.6						
ZALV				Lg	Lg	05 55 48.3	
	0.9nm,0.3s,baz=80,slow=28,SNR=5.9						
KURBB	Kurchatov Arra	6.51	240	Pn	Pn	05 56 36.1	+0.5
	baz=56,slow=14,SNR=4.9						
	0.2nm,0.3s						
MKAR	Makanchi Array	8.11	206	Pn	Pn	05 56 59.4	+1.7
	0.1nm,0.3s,baz=24,slow=13,SNR=1.3						
	0.1nm,0.3s						

*NNC **10** 05:55:00.6±0.4, 42°.74N×71°.14E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=4.1km s-min=1.9km az=25.0, Suspected Mining explosion.*
*KRNET **10** 05:55:00.6±0.1, 42°.73N×71°.18E, h16km, mb3.3*
*SOME **10** 05:55:03.0, 42°.77N×71°.20E, h20km*

ISC 10 05:55:00.9±0.7, 42°.74N±0°.03×71°.15E±0°.02, h10km, n46, σ1§54/81, 34C-20D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK06	Karatay Array	0.58	308	⇓P	Pb	05 55 12.3	-0.9
KK06				⇑S	Sg	05 55 20.0	+0.1
KK07	Karatay Array	0.59	307	⇓P	Pb	05 55 12.5	-0.9
KK07				⇓S	Sb	05 55 20.5	-1.3
KK02	Karatay Array	0.60	308	⇓P	Pb	05 55 12.6	-0.9
KK02				⇑S	Sg	05 55 20.2	-0.1
KK31	Karatay Array	0.60	308	⇑P	Pb	05 55 12.5	-0.9
	16nm,0.2s,baz=303,slow=2.4,SNR=1011						
KK31				⇑S	Sg	05 55 20.2	-0.2
	44nm,0.3s,baz=41,slow=70,SNR=5.3						
KKAR	Karatay Array	0.60	308	⇑iP	Pg	05 55 12.3	-0.2
KKAR				⇑iS	Sg	05 55 20.5	+0.2
KK05	Karatay Array	0.60	310	⇓P	Pb	05 55 12.6	-0.9
KK05				⇓S	Sg	05 55 20.5	+0.1
KK01	Karatay Array	0.60	308	⇑P	Pg	05 55 12.6	0.0
KK01				⇑S	Sg	05 55 20.2	-0.2
KK03	Karatay Array	0.60	308	⇑P	Pb	05 55 12.7	-0.9
KK03				⇑S	Sg	05 55 20.5	0.0
KK04	Karatay Array	0.60	309	⇑P	Pb	05 55 12.7	-0.9
KK04				⇓S	Sg	05 55 20.6	0.0
KK08	Karatay Array	0.61	308	⇓P	Pb	05 55 12.8	-0.9
KK08				⇓S	Sg	05 55 20.7	-0.1
KK09	Karatay Array	0.61	309	⇓P	Pb	05 55 13.0	-0.8
KK09				⇑S	Sg	05 55 21.0	0.0
BRLS	Borolday	1.01	287	P	Pn	05 55 21.1	0.0
	10nm,0.2s						
BRLS				S	Sb	05 55 34.0	+0.2
	93nm,0.3s						
BRLS	Borolday	1.01	287	eP	Pn	05 55 21.1	0.0
BRLS				eS	Sb	05 55 34.0	+0.2
BRLS	Borolday	1.01	287	eP	Pn	05 55 21.1	0.0
	10nm,0.2s						
BRLS				eS	Sb	05 55 34.0	+0.2
	93nm,0.3s						
IUG	Iuzhnay	1.01	235	P	Pn	05 55 20.8	-0.5
	202nm,0.1s						
IUG				S	Sb	05 55 33.9	-0.2
	407nm,0.2s						
IUG	Iuzhnay	1.01	235	eP	Pn	05 55 20.8	-0.5
IUG				eS	Sb	05 55 33.9	-0.2
MNAS	Manas	1.03	103	⇑iP	Pg	05 55 19.9	-0.8
MNAS				⇑iS	Sg	05 55 33.5	-0.6
ARK	Arkit	1.11	147	⇑iP	Pb	05 55 21.6	-0.7
ARK				⇑iS	Sg	05 55 36.7	-0.1
TRKS	Terek-Say	1.20	180	⇑iP	Pg	05 55 24.3	+0.3
TRKS				⇑iS	Sn	05 55 41.6	+1.2
MRKS	Merke	1.53	89	P	Pb	05 55 29.5	+0.1
	7.0nm,0.1s						
MRKS				S	Sb	05 55 49.0	+0.1
	44nm,0.2s						
MRKS	Merke	1.53	89	eP	Pg	05 55 29.7	-0.6
	7.0nm,0.1s						
MRKS				eS	Sb	05 55 49.0	+0.1
	44nm,0.2s						
EKS2	Erkin-Say	1.94	91	⇑iP	Pb	05 55 35.7	-0.7
EKS2				⇑iS	Sb	05 56 01.5	+0.8
AML	Almayashu	1.98	107	⇓iP	Pb	05 55 36.8	-0.4
AML				⇓eS	Sb	05 56 02.8	+0.7
AAK	Ala-Archa	2.47	91	Pg	Pb	05 55 45.6	+0.1
	5.6nm,0.5s						
AAK				Lg	Lg	05 56 17.7	
	16nm,0.5s						
AAK	Ala-Archa	2.47	91	⇑iP	Pn	05 55 43.1	+1.8
AAK				⇑iS	Sb	05 56 14.4	-1.6
ARLS	Aral	2.51	109	⇑iP	Pn	05 55 43.8	+1.9
ARLS				⇑iS	Sb	05 56 15.5	-1.7
USP	Ospenovka	2.52	77	⇑iP	Pn	05 55 43.8	+1.9
USP				⇑iS	Sb	05 56 15.2	-2.0
UCH	Uchtor	2.54	100	⇑iP	Pn	05 55 44.3	+1.7
UCH				⇑iS	Sb	05 56 16.5	-1.8
CHMS	Chumysh	2.66	83	⇓iP	Pn	05 55 45.9	+2.0
CHMS				⇓iS	Sb	05 56 18.8	-2.6
BTK	Batken	2.69	185	⇑iP	Pn	05 55 46.5	+2.2
BTK				⇑iS	Sb	05 56 19.9	-2.2
SALK	Salom-Alik	2.72	132	⇑iP	Pn	05 55 47.0	+2.2
SALK				⇑iS	Sb	05 56 20.7	-2.6
KBK	Karagaybulak	2.80	90	⇓iP	Pn	05 55 48.0	+2.1
KBK				⇓iS	Sn	05 56 22.3	+2.4
TKM2	Tokmak 2	3.28	85	⇓Pg	Pb	05 55 59.5	+0.2
	2.5nm,0.4s						
TKM2				⇓Lg	Lg	05 56 40.4	
	4.9nm,0.4s						
TKM2	Tokmak 2	3.28	85	⇓iP	Pn	05 55 54.7	+2.2
TKM2				⇓iS	Sn	05 56 33.9	+2.2
DGS	Degeres	3.43	80	Pg	Pg	05 56

*IDC **10** 05:57:46.6±0.8, 22°.28S×169°.74E, h0km, mb4.4/11, mbtmp4.3/13, ML4.5/2, MS3.7/31, Error ellipse: s-maj=24.9km s-min=19.2km az=145.0*
*BJI **10** 05:57:51.0, 23°.85S×169°.21E, h10km, mB5.2/4, mb4.9/17, Ms4.9/1, Ms7 4.7/1*
*NEIC **10** 05:57:54.8±1.2, 23°.2S±0°.2×169°.1E±0°.1, h10km±1km, mb5.1/41, Error ellipse: s-maj=26.6km s-min=17.3km az=17.0*
ISC 10 05:57:53.7±0.5, 23°.2S±0°.1×169°.18E±0°.08, h10km, n130, σ3$ 20/86, mb5.0/35, MS3.7/28, 11C-2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**1.71**	**291**		**Pn**	**05 58 23.6**	**-0.1**
PINNC	**Pines Island,**	**1.71**	**291**	P	**Pn**	**05 58 23.8**	**+0.2**
MARNC	**Mare, Loyalty**	**2.05**	**329**	P	Pn	05 58 18.1	-10
MARNC	**Mare, Loyalty**	**2.05**	**329**	S	Sn	05 58 41.2	-13
OUENC	**Ouen Island, N**	**2.30**	**290**	P	**Pn**	**05 58 30.7**	**-1.1**
YATNC	**Mamie plateau,**	**2.42**	**299**	P	**Pn**	**05 58 29.5**	**-3.8**
ONTNC	**Ouen Toro**	**2.68**	**290**		**Pn**	**05 58 36.0**	**-1.0**
ONTNC	**Ouen Toro**	**2.68**	**290**	P	**Pn**	**05 58 36.3**	**-0.6**
DZM	**Mont Dzumac**	**2.78**	**294**		**Pn**	**05 58 35.6**	**-2.8**
DZM	**Mont Dzumac**	**2.78**	**294**	*e*Pn	**Pn**	**05 58 35.9**	**-2.5**
	820nm,1.6s						
DZM				*e*Sn	**Sn**	**05 59 12.7**	**+0.6**
	2μm,1.2s						
DZM	**Mont Dzumac**	**2.78**	**294**	Pn	**Pn**	**05 58 35.8**	**-2.6**
	8.6nm,0.3s,baz=147,slow=22,SNR=162						
DZM				Sn	**Sn**	**05 59 09.6**	**-2.5**
	48nm,0.3s,baz=271,slow=21,SNR=7.9						
DZM				LR	LR	05 59 22.6	
	comp=Z,184nm,20.3s,baz=88,slow=31						
	21nm,0.3s						
DZM	**Mont Dzumac**	**2.78**	**294**	P	**Pn**	**05 58 35.9**	**-2.5**
INH	**Isangel**	**3.68**	**1**	P	Pn	05 58 32.5	-18
KOUNC	**Koumac, New Ca**	**5.27**	**300**	P	**Pn**	**05 59 08.4**	**-4.2**
MSVF	**Nonsavu**	**9.96**	**58**	Pn	Pn	05 59 59.3	-18
	0.5nm,0.3s,baz=236,slow=13,SNR=13						
	2.0nm,0.6s						
HNR	**Honiara**	**16.33**	**326**	LR	LR	06 07 05.5	
	comp=Z,270nm,18.5s,baz=144,slow=35						
URZ	**Urewera**	**16.44**	**157**	LR	LR	06 06 39.1	
	comp=Z,192nm,21.0s,baz=66,slow=31						
PMG	**Port Moresby**	**25.16**	**300**	LR	LR	06 11 55.3	
	comp=Z,186nm,18.5s,baz=136,slow=34						
STKA	**Stephens Creek**	**25.87**	**245**	P	**P**	**06 03 29.1**	**+3.4**
	0.8nm,0.6s,baz=72,slow=20,SNR=2.4						
STKA				LR	LR	06 13 29.9	
	comp=Z,203nm,18.9s,baz=68,slow=35						
	0.8nm,0.6s						
RAR	**Rarotonga**	**28.79**	**92**	LR	LR	06 14 52.8	
	comp=Z,108nm,18.2s,baz=277,slow=36						
BBOO	**Buckleboo**	**30.64**	**245**	P	**P**	**06 04 08.2**	**-0.2**
ASAR	**Alice Springs**	**32.31**	**262**	P	**P**	**06 04 22.9**	**-0.3**
	1.6nm,0.9s,baz=86,slow=9.1,SNR=11						
ASAR				LR	LR	06 17 01.3	
	comp=Z,220nm,19.6s,baz=98,slow=35						
	1.6nm,0.9s						
WR8	**Warramunga Arr**	**32.36**	**269**	P	**P**	**06 04 22.8**	**-0.8**
WB0	**Warramunga Arr**	**32.50**	**269**	P	**P**	**06 04 24.9**	**0.0**
WRA	**Warramunga Arr**	**32.51**	**269**	P	**P**	**06 04 24.4**	**-0.5**
WRA	**Warramunga Arr**	**32.51**	**269**	P	**P**	**06 04 22.8**	**-2.2**
	2.8nm,1.1s,baz=97,slow=9.8,SNR=5.2						
	2.8nm,1.1s						
TBI	**Tubuai**	**37.90**	**99**	*e*LR	LR	06 15 36.0	
	516nm,35.5s						
PPT2	**Papeete2**	**38.97**	**90**	*e*LR	LR	06 16 02.3	
	92nm,23.8s						
FITZ	**Fitzroy Crossi**	**40.94**	**269**		**P**	**06 05 36.3**	**-0.4**
GUMO	**Guam**	**43.66**	**325**	LR	LR	06 22 50.3	
	comp=Z,75nm,18.2s,baz=99,slow=35						
MBWA	**Marble Bar**	**45.65**	**263**	P	**P**	**06 06 14.4**	**-0.5**
MBWA				IAmb	IAmb	06 06 27.5	
	comp=Z,16nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.44**	**246**	LR	LR	06 26 16.0	
	comp=Z,213nm,18.9s,baz=145,slow=36						
TAOE	**Nuku Hiva Isla**	**50.50**	**82**	*e*LR	LR	06 21 21.8	
	comp=Z,71nm,23.9s						
KAPI	**Kappang**	**50.94**	**283**	LR	LR	06 28 06.3	
	comp=Z,37nm,21.5s,baz=116,slow=36						
DAV	**Davao City (W)**	**52.18**	**300**	LR	LR	06 27 18.5	
	comp=Z,39nm,21.7s,baz=154,slow=34						
VNDA	**Vanda**	**54.45**	**182**	LR	LR	06 28 12.8	
	comp=Z,72nm,18.3s,baz=234,slow=33						
JOW	**Kunigami**	**63.57**	**319**	LR	LR	06 36 46.7	
	comp=Z,44nm,18.0s,baz=292,slow=37						
MJAR	**Matsushiro Arr**	**66.26**	**333**	P	P	06 08 32.9	-9.2
	comp=Z,1.1nm,0.3s,baz=163,slow=6.2,SNR=3.0						
	comp=Z,1.1nm,0.3s						
QSPA	**South Pole Qui**	**66.83**	**180**		**P**	**06 08 46.7**	**+1.1**
QSPA				IAmb	IAmb	06 08 58.6	
	comp=Z,9.2nm,1.0s						
QSPA	**South Pole Qui**	**66.83**	**180**	P	**P**	**06 08 46.5**	**+0.9**
	comp=Z,6.5nm,1.0s,baz=334,slow=1.6,SNR=12						
QSPA				LR	LR	06 36 12.3	
	comp=Z,62nm,19.4s,baz=240,slow=34						
	comp=Z,6.5nm,1.0s						
JNU	**Nakatsue**	**66.90**	**326**	LR	LR	06 36 41.8	
	comp=Z,27nm,18.0s,baz=130,slow=35						
ASAJ	**Asahikawa**	**71.32**	**340**	LR	LR	06 37 17.1	
	comp=Z,33nm,18.3s,baz=172,slow=34						
KSRS	**Korea Array**	**71.78**	**326**	LR	LR	06 37 17.2	
	comp=Z,23nm,20.7s,baz=75,slow=33						
NJ2	**Nanjing**	**73.05**	**317**	*e*P	**P**	**06 09 26.0**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,16nm,0.7s						
PSI	**Prapat**	**73.06**	**281**	LR	LR	06 43 41.7	
	comp=Z,76nm,18.1s,baz=82,slow=38						
SHEM	**Shemya Is, Ala**	**75.77**	**3**	LR	LR	06 37 41.4	
	comp=Z,52nm,18.7s,baz=348,slow=32						
PETK	**Petropavlovsk-**	**76.68**	**353**		**P**	**06 09 45.5**	**+0.9**
PETK	**Petropavlovsk-**	**76.68**	**353**	P	P	06 09 34.3	-10
	comp=Z,11nm,0.9s,baz=164,slow=7.6,SNR=12						
PETK				LR	LR	06 36 42.6	
	comp=Z,44nm,21.2s,baz=132,slow=31						
	comp=Z,11nm,0.9s						
CN2	**Changchun**	**77.84**	**329**	*e*P	**P**	**06 09 53.9**	**+2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BELA	**Belgrano 2**	**78.14**	**175**	P	**P**	**06 09 52.2**	**-0.5**
BNX	**BinXian**	**78.44**	**332**	⇑P	**P**	**06 09 55.8**	**+1.2**
BNX				pmax	pmax		
	comp=Z,11nm,0.9s						
HNS	**HongShan**	**79.14**	**319**	⇓P	**P**	**06 10 03.2**	**+4.6**
BJI	**Beijing**	**80.01**	**321**	P	**P**	**06 10 07.0**	**+3.7**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**80.11**	**295**	P	P	06 10 00.1	-4.3
	comp=Z,1.1nm,0.3s,baz=139,slow=4.6,SNR=6.4						
	comp=Z,1.1nm,0.3s						
XAN	**Xi'an**	**80.77**	**313**	⇑P	**P**	**06 10 12.2**	**+4.5**
XAN				S	**S**	**06 20 24.0**	**+8.2**
XAN				pmax	pmax		
	comp=Z,18nm,1.3s						
SYO	**Syowa Base**	**81.09**	**196**	⇓*e*PcP	**PcP**	**06 10 15.6**	**+0.5**
PZH	**PanZhiHua**	**81.83**	**303**	P	**P**	**06 10 14.6**	**+1.1**
PZH				pmax	pmax		
	comp=Z,90nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
HHC	**Hu-ho-hao-te**	**83.22**	**320**	*e*P	**P**	**06 10 22.2**	**+1.8**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,4.6s						
MA2	**Magadan**	**83.89**	**351**	LR	LR	06 42 23.2	
	comp=Z,43nm,20.8s,baz=144,slow=32						
TROLL	**Troll, Antarti**	**84.56**	**184**	⇑P	**P**	**06 10 26.5**	**-0.5**
	comp=Z,595nm,0.8s						
TROLL				⇑x	x	06 10 35.6	
	comp=Z,595nm,0.8s						
SNAA	**Sanae**	**85.18**	**183**		**P**	**06 10 29.2**	**-0.8**
SNAA	**Sanae**	**85.18**	**183**	⇑P	**P**	**06 10 29.1**	**-0.9**
	comp=Z,168nm,1.0s						
SNAA				⇑x	x	06 10 36.7	
	comp=Z,168nm,1.0s						
SNAA	**Sanae**	**85.18**	**183**	P	**P**	**06 10 28.8**	**-1.2**
	comp=Z,8.0nm,1.2s,baz=207,slow=8.0,SNR=3.9						
SNAA				LR	LR	06 45 46.1	
	comp=Z,108nm,20.4s,baz=122,slow=33						
	comp=Z,8.0nm,1.2s						
VNA3	**Neumayer Olymp**	**85.77**	**180**	⇑P	**P**	**06 10 31.9**	**-1.0**
	comp=Z,9.7nm,0.8s						
VNA3				⇑x	x	06 10 42.3	
	comp=Z,18nm,0.8s						
VNA2	**Neumayer--Watz**	**86.06**	**181**	⇑P	**P**	**06 10 33.6**	**-0.7**
	comp=Z,11nm,0.7s,baz=177,slow=5.2						
VNA2				⇑x	x	06 10 43.4	
	comp=Z,13nm,0.8s,baz=156,slow=3.7						
KDAK	**Kodiak Island**	**86.81**	**19**	LR	LR	06 42 40.2	
	comp=Z,26nm,20.1s,baz=11,slow=31						
N15K	**Kwethluk River**	**86.82**	**15**		**P**	**06 10 39.1**	**+1.2**
L14K	**Kuka Creek**	**87.29**	**13**	P	**P**	**06 10 40.8**	**+0.6**
P18K	**Big Mountain,**	**87.39**	**17**		**P**	**06 10 41.1**	**+0.4**
M16K	**Timber Creek**	**87.84**	**15**	P	**P**	**06 10 44.3**	**+1.5**
GAMB	**Gambell**	**88.02**	**8**	P	**P**	**06 10 45.2**	**+1.6**
ILSW	**Iliamna Southw**	**88.46**	**18**	P	**P**	**06 10 45.5**	**-0.5**
YBH	**Yreka Blue Hor**	**90.20**	**44**	LR	LR	06 44 24.2	
	comp=Z,28nm,18.2s,baz=222,slow=31						
SONM	**Songino Array**	**90.37**	**323**	P	P	06 10 47.8	-7.4
	comp=Z,1.5nm,0.9s,baz=148,slow=5.1,SNR=7.8						
	comp=Z,1.5nm,0.9s						
PFO	**Pinyon Flats O**	**90.53**	**53**	LR	LR	06 45 00.3	
	comp=Z,47nm,18.2s,baz=238,slow=32						
BILL	**Bilibino**	**91.03**	**359**		**P**	**06 10 58.7**	**+1.0**
BILL				IAmb	IAmb	06 11 00.2	
	comp=Z,12nm,1.2s						
LPIG	**La Paz**	**91.19**	**64**	LR	LR	06 44 49.3	
	comp=Z,47nm,18.1s,baz=210,slow=31						
NVAR	**Mina Array Bea**	**91.48**	**49**	P	**P**	**06 11 01.9**	**+1.2**
NVAR	**Mina Array Bea**	**91.48**	**49**	P	P	06 10 49.8	-11
	comp=Z,2.5nm,0.8s,baz=224,slow=7.3,SNR=12						
	comp=Z,2.5nm,0.8s						
NV11	**Mina Array Sit**	**91.58**	**49**	P	**P**	**06 11 02.1**	**+0.9**
NV11				IAmb	IAmb	06 11 03.7	
	comp=Z,7.0nm,1.1s						
PINE	**Pine Mountain**	**92.38**	**43**		**P**	**06 11 05.5**	**+0.7**
E18K	**Tukpahlearik C**	**93.15**	**11**	IAmb	IAmb	06 11 10.7	
	comp=Z,7.5nm,1.1s						
F20K	**Avaraart Lake**	**93.77**	**13**	IAmb	IAmb	06 11 12.5	
	comp=Z,7.6nm,1.0s						
ILAR	**Eielson Array**	**94.05**	**17**	P	P	06 10 60.0	-12
	comp=Z,1.7nm,0.9s,baz=236,slow=5.8,SNR=10						
ILAR				LR	LR	06 48 11.2	
	comp=Z,30nm,19.8s,baz=128,slow=32						
	comp=Z,1.7nm,0.9s						
C18K	**Utukok River**	**94.14**	**10**	IAmb	IAmb	06 11 14.3	
	comp=Z,10nm,1.3s						
K27K	**Chicken**	**94.89**	**19**	IAmb	IAmb	06 11 17.0	
	comp=Z,9.2nm,1.1s						
L29M	**L29M**	**95.51**	**21**	IAmb	IAmb	06 11 20.1	
	comp=Z,7.7nm,1.1s						
DAWY	**Dawson**	**95.75**	**20**		**P**	**06 11 18.9**	**-0.7**
DAWY				IAmb	IAmb	06 11 20.9	
	comp=Z,7.9nm,1.2s						
E23K	**Chandalar**	**95.94**	**14**	IAmb	IAmb	06 11 22.4	
	comp=Z,7.1nm,1.1s						
BI05	**Punta Hualpn**	**96.25**	**134**		**P**	**06 11 24.4**	**+1.8**
H27K	**Steamboat Moun**	**96.64**	**18**	IAmb	IAmb	06 11 25.2	
	comp=Z,4.4nm,1.1s						
NEW	**Newport**	**96.86**	**40**	LR	LR	06 53 42.2	
	comp=Z,34nm,18.1s,baz=225,slow=35						
I29M	**Ogilvie Camp,**	**96.98**	**20**	IAmb	IAmb	06 11 26.3	
	comp=Z,7.3nm,1.2s						
C27K	**Jago River**	**98.53**	**15**	IAmb	IAmb	06 11 34.2	
	comp=Z,5.4nm,1.1s						
ANMO	**Albuquerque**	**98.60**	**56**	LR	LR	06 46 49.8	
	comp=Z,24nm,18.9s,baz=7.0,slow=30						
TIXI	**Tiksi**	**98.63**	**348**	LR	LR	06 49 53.6	
	comp=Z,21nm,20.1s,baz=200,slow=32						
TXAR	**Lajitas Array**	**98.71**	**62**	LR	LR	06 50 29.1	
	comp=Z,38nm,18.3s,baz=241,slow=32						
E28M	**Babbage River**	**98.85**	**17**	IAmb	IAmb	06 11 34.8	
	comp=Z,4.9nm,0.9s						
D27M	**Malcolm River**	**98.93**	**16**	IAmb	IAmb	06 11 36.2	
	comp=Z,5.8nm,1.1s						
WMQ	**Urumqi**	**99.91**	**313**	*e*P	**Pdif**	**06 11 39.9**	**+1.1**
YKA	**Yellowknife Ar**	**104.23**	**28**	Pdiff	**Pdif**	**06 11 45.9**	**-11**
	comp=Z,0.3nm,0.8s,baz=251,slow=4.6,SNR=5.5						
DPC	**Dobruska-Polom**	**145.65**	**329**	*e*PKP	**PKPdf**	**06 17 26.1**	**-6.2**
JAVC	**Velka Javorina**	**145.94**	**326**	*e*PKP	**PKPdf**	**06 17 27.7**	**-5.1**
VRAC	**Vranov**	**146.21**	**327**	*e*PKP	**PKPdf**	**06 17 27.6**	**-5.6**
BRG	**Berggiesshubel**	**146.38**	**331**	⇑*i*PKP	**PKPdf**	**06 17 27.9**	**-5.6**
BRG				Amp		06 17 28.6	
	comp=Z,13nm,1.1s						
BRG	**Berggiesshubel**	**146.38**	**331**	P	**PKiKP**	**06 17 39.1**	**+1.4**
BRG				Amp		06 17 40.4	
	comp=Z,20nm,1.1s						
KRUC	**Moravsky**	**146.47**	**327**	*e*PKP	**PKPdf**	**06 17 28.2**	**-5.4**
CLL	**Collm**	**146.47**	**333**	*i* PKPbc	**PKPdf**	**06 17 27.2**	**-6.3**
	comp=Z,11nm,1.0s						
CLL				*e*PKiKP	**PKPbc**	**06 17 31.0**	**-3.9**
CLL				*i* x	x	06 17 39.1	
	comp=Z,17nm,0.9s						
VAY	**Valandovo**	**146.78**	**311**	*i* P	**PKPdf**	**06 17 29.2**	**-5.2**
ZVC	**Zvikov**	**147.28**	**329**	*e*PKP	**PKPdf**	**06 17 30.8**	**-4.2**
ZVC				*ex*	x	06 17 41.4	
RONA	**Rosalia, Austr**	**147.39**	**325**	*e*PKP	**PKPdf**	**06 17 31.0**	**-4.3**
	comp=Z,1.8nm,0.5s						
EKA	**Eskdalemuir Ar**	**147.44**	**352**	PKPbc	**PKPdf**	**06 17 29.0**	**-6.1**
	comp=Z,5.6nm,0.7s,baz=341,slow=2.5,SNR=16						
CONA	**Conrad Observa**	**147.47**	**326**	*i* PKP	**PKPdf**	**06 17 30.6**	**-4.9**
	comp=Z,3.3nm,1.2s						
KHC	**Kasperske Hory**	**147.78**	**329**	*e*PKP	**PKPdf**	**06 17 31.6**	**-4.3**
KHC				*ex*	x	06 17 40.4	
FNA	**Florina**	**147.81**	**311**		**PKPdf**	**06 17 32.8**	**-3.5**
GERES	**GERESS Array B**	**147.93**	**329**		**PKPdf**	**06 17 32.8**	**-3.5**
GERES	**GERESS Array B**	**147.93**	**329**	PKPbc	**PKPdf**	**06 17 32.5**	**-3.7**
	comp=Z,2.2nm,0.7s,baz=29,slow=3.0,SNR=13						
ARSA	**Arzberg**	**148.08**	**325**	*e*PKP	**PKPdf**	**06 17 32.7**	**-3.7**
	comp=Z,3.1nm,0.8s						
MOA	**Molln**	**148.33**	**327**	*e*PKP	**PKPdf**	**06 17 33.3**	**-3.5**
	comp=Z,1.9nm,0.6s						
KBA	**Koelnbreinsper**	**149.31**	**327**	*e*PKP	**PKPdf**	**06 17 35.4**	**-3.2**
	comp=Z,1.5nm,0.6s						
LESA	**Schwarzleotal**	**149.41**	**328**	*e*PKP	**PKPdf**	**06 17 35.6**	**-3.0**
	comp=Z,2.2nm,0.6s						
ABTA	**Abfaltersbach**	**149.96**	**327**	*e*PKP	**PKPdf**	**06 17 37.0**	**-2.6**
	comp=Z,2.6nm,0.6s						
WTTA	**Wattenberg**	**150.02**	**329**	*e*PKP	**PKPdf**	**06 17 37.9**	**-1.9**
	comp=Z,2.7nm,0.7s						
MOTA	**Moosalm**	**150.22**	**329**	*e*PKP	**PKPdf**	**06 17 37.8**	**-2.2**
	0.8nm,0.3s,baz=79,slow=17,SNR=11						
SQTA	**Sankt Quirin**	**150.26**	**329**	*e*PKP	**PKPdf**	**06 17 38.3**	**-1.8**
	comp=Z,6.6nm,0.8s						
CIMO	**Cimolais**	**150.29**	**326**		**PKPdf**	**06 17 37.8**	**-2.2**
FETA	**Feichten**	**150.63**	**329**	*e*PKP	**PKPdf**	**06 17 39.1**	**-1.6**
	comp=Z,5.4nm,0.8s						
DAVA	**Damuels**	**150.83**	**330**	*e*PKP	**PKPdf**	**06 17 39.8**	**-1.2**
	comp=Z,5.4nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**151.14**	**329**		**PKPdf**	**06 17 40.7**	**-1.0**
TUE	**Stuetta**	**151.68**	**330**		**PKPdf**	**06 17 41.3**	**-1.1**

*ASRS **10** 06:00:32.0±1.4, 54°.13N×86°.45E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 10 06:00:35.4±2.7, 54°.11N×86°.51E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=21.8km s-min=13.5km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**262**	I	I	06 07 59.6	
	baz=81,slow=315,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.01**	**262**	Pg	Pg	06 00 53.1	-1.6
	0.8nm,0.3s,baz=79,slow=17,SNR=11						
ZALV				Lg	Lg	06 01 09.3	
	1.2nm,0.3s,baz=83,slow=31,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.01**	**238**	Pn	Pn	06 02 06.2	+0.8
	0.1nm,0.3s,baz=55,slow=13,SNR=5.1						
KURBB				Lg	Lg	06 03 48.6	
	baz=53,slow=33,SNR=2.8						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.80**	**202**	Pn	Pn	06 02 31.4	+1.4
	0.2nm,0.3s,baz=26,slow=13,SNR=5.9						
	0.3nm,0.3s						

*ASRS **10** 06:05:28.0±0.9, 53°.62N×87°.82E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 10 06:05:31.1±3.2, 53°.59N×87°.88E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=30.2km s-min=19.2km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**283**	I	I	06 17 55.0	
	baz=98,slow=332,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.85**	**283**	Pn	Pn	06 06 04.0	-0.1
	0.8nm,0.3s,baz=104,slow=13,SNR=9.3						
ZALV				Lg	Lg	06 06 29.4	
	1.2nm,0.3s,baz=103,slow=23,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.48**	**246**	Pn	Pn	06 07 08.3	+0.7
	baz=62,slow=14,SNR=4.8						
KURBB				Lg	Lg	06 08 56.9	
	baz=64,slow=32,SNR=3.7						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.68**	**210**	Pn	Pn	06 07 25.3	+1.0
	0.1nm,0.3s,baz=28,slow=13,SNR=1.7						
	0.1nm,0.3s						

*BUT **10** 06:22:53.4±0.9, 44°.69N±0°.02×112°.49W±0°.03, h11km±8km, Error ellipse: s-maj=3.3km s-min=2.7km az=145.0*
NEIC 10 06:22:53.0±1.0, 44°.71N±0°.02×112°.50W±0°.02, h10km±2km, ML3.0/48, ML3.4/34(BUT), Error ellipse: s-maj=3.3km s-min=3.1km az=203.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMT	**Monida**	**0.14**	**147**		Pg	06 22 57.0	+0.7
MCMT	**McKenzie Canyo**	**0.28**	**296**		Pg	06 22 59.5	+0.8
ICI	**Italian Canyon**	**0.49**	**220**		Pg	06 23 02.7	+0.1
TPMT	**Tepee Creek**	**0.59**	**87**		Pg	06 23 04.7	+0.2
BGMT	**Barton Gulch**	**0.62**	**31**		Pg	06 23 05.2	+0.1
CMI	**Centennial Mou**	**0.65**	**106**		Pg	06 23 05.6	0.0
DLMT	**Dillon**	**0.66**	**354**		Pg	06 23 06.2	+0.3
DLMT	**Dillon**	**0.66**	**354**	IAML		06 23 15.7	
	601nm,0.4s						
DLMT				IAML		06 23 15.7	
	578nm,0.4s						
BCYI	**Bear Canyon**	**0.76**	**239**		Pg	06 23 07.6	-0.2
BCYI					Sg	06 23 17.8	+0.1
QLMT	**Earthquake Lak**	**0.77**	**80**		Pg	06 23 07.6	-0.3
YPDC	**Denny Creek**	**0.90**	**89**		Pg	06 23 10.0	-0.2
YHB	**Horse Butte**	**0.93**	**87**		Pg	06 23 10.6	-0.4
YHB	**Horse Butte**	**0.93**	**87**	IAML		06 23 24.1	
	comp=N,478nm,0.4s						
YHL	**Hebgen Lake**	**0.95**	**81**		Pg	06 23 10.9	-0.4
GCR	**Grayling Creek**	**0.99**	**84**		Pg	06 23 12.0	-0.1
YPWB	**West Boundary**	**1.00**	**95**		Pg	06 23 12.4	+0.1
CNCI	**Crows Nest Can**	**1.04**	**222**		Pg	06 23 12.5	-0.5
YMC	**Maple Creek**	**1.06**	**87**		Pg	06 23 13.1	-0.3
MCID	**Moose Creek**	**1.07**	**118**		Pg	06 23 13.4	-0.3
BOZ	**Bozeman (W)**	**1.08**	**34**		Pg	06 23 13.2	-0.6
BOZ	**Bozeman (W)**	**1.08**	**34**	IAML		06 23 31.3	
	comp=N,536nm,0.3s						
BOZ				IAML		06 23 31.6	
	comp=N,296nm,0.2s						
HBMT	**Mount Humbug**	**1.09**	**356**		Pg	06 23 13.8	-0.2
YMR	**Madison River**	**1.09**	**91**		Pg	06 23 13.6	-0.4
LRM	**Limekiln Ridge**	**1.12**	**2**		Pg	06 23 14.1	-0.4
YPM	**Purple Mountai**	**1.16**	**92**		Pb	06 23 15.3	0.0
YHH	**Holmes Hill**	**1.18**	**85**		Pb	06 23 15.0	-0.6
YHH	**Holmes Hill**	**1.18**	**85**		Pb	06 23 15.1	-0.5
YFT	**Old Faithful**	**1.21**	**102**		Pb	06 23 16.1	-0.1
YFT	**Old Faithful**	**1.21**	**102**	IAML		06 23 34.9	
	comp=E,259nm,0.6s						
YNM	**Yellowstone No**	**1.28**	**88**		Pn	06 23 17.2	0.0
YNM				IAML		06 23 35.3	
	comp=N,452nm,0.2s						
YNR	**Norris Junctio**	**1.29**	**89**		Pn	06 23 17.3	-0.1
YNR	**Norris Junctio**	**1.29**	**89**	IAML		06 23 39.1	
	comp=N,450nm,0.5s						
YNR				IAML		06 23 39.2	
	comp=E,392nm,0.3s						
BUT	**Butte**	**1.31**	**358**		Pb	06 23 17.7	-0.1
YMV	**Mammoth Vault**	**1.31**	**78**		Pb	06 23 18.0	+0.1
YML	**Mary Lake**	**1.33**	**94**		Pb	06 23 18.2	+0.1
YLT	**Little Thumb C**	**1.39**	**101**		Pg	06 23 20.0	+0.3
H17A	**Grant Village**	**1.41**	**102**		Pg	06 23 20.1	0.0
YUF	**Upper Falls**	**1.42**	**89**		Pg	06 23 20.0	-0.2
FXWY	**Fox Creek**	**1.50**	**135**		Pn	06 23 19.8	-0.4
BZMT	**Bozeman Pass**	**1.53**	**51**		Pb	06 23 21.4	-0.1
MOOW	**Moose Ponds**	**1.58**	**127**		Pn	06 23 21.1	-0.2
YTP	**The Promontory**	**1.61**	**100**		Pn	06 23 22.4	+0.6
TPAW	**Teton Pass**	**1.65**	**137**		Pn	06 23 21.6	-0.7
TPAW	**Teton Pass**	**1.65**	**137**	IAML		06 23 46.1	
	comp=E,229nm,0.4s						
YMP	**Mirror Lake Pl**	**1.67**	**88**		Pb	06 23 24.5	+0.5
YMP	**Mirror Lake Pl**	**1.67**	**88**	IAML		06 23 59.3	
	comp=E,110nm,0.5s						
**Y

comp=N,2μm,0.3s
KAN17 Caldwell West 0.30 134 Pg Pg 06 40 37.0 +0.2
KAN17 Sg Sg 06 40 41.1 +0.4
KAN17 IAML 06 40 41.7
comp=N,2μm,0.3s
KAN14 Manchester OK 0.30 169 Pg Pg 06 40 37.1 +0.3
KAN14 Sg Sg 06 40 40.9 +0.2
KAN09 Caldwell North 0.35 109 Pg Pg 06 40 38.0 +0.2
KAN09 Sg Sg 06 40 43.1 +0.7
KAN09 IAML 06 40 44.9
comp=E,2μm,0.3s
KAN09 IAML 06 40 50.2
comp=N,2μm,0.3s
GC02 Grant County # 0.42 161 Pg Pg 06 40 39.3 +0.2
GC02 Sg Sg 06 40 45.2 +0.6
OK032 Salt Plains WL 0.47 198 Pg Pg 06 40 40.2 +0.2
OK032 IAML 06 40 47.4
comp=N,1μm,0.4s
OK032 IAML 06 40 49.0
comp=N,858nm,0.2s
KAN13 South Haven SW 0.50 118 Pg Pg 06 40 40.3 -0.4
KAN13 IAML 06 40 53.6
comp=N,1μm,0.3s
KAN13 IAML 06 40 54.6
comp=E,1μm,0.3s
CROK Carrier 0.74 177 Pg Pg 06 40 45.3 0.0
CROK IAML 06 41 00.5
comp=E,465nm,0.3s
CROK IAML 06 41 00.9
comp=N,548nm,0.3s
NOKA Waynoka 0.95 230 Pg Pg 06 40 48.8 -0.4
NOKA IAML 06 41 09.1
comp=N,424nm,0.2s
NOKA IAML 06 41 17.8
comp=E,505nm,0.3s
OK038 West end E0370 0.96 217 Pg Pg 06 40 49.3 -0.1
OK048 Pawnee Station 1.21 133 Pg Pg 06 40 53.6 -0.6
OK048 IAML 06 41 11.6
comp=E,251nm,0.4s
OK051 E0350 and S346 1.21 127 Pg Pg 06 40 53.6 -0.7
T35A Sooner Cattle 1.26 105 Pg Pg 06 40 54.5 -0.7
T35A IAML 06 41 15.4
comp=E,247nm,0.3s
R32A Long Quarter, 1.29 336 Pg Pg 06 40 55.2 -0.6
R32A IAML 06 41 16.6
comp=E,217nm,0.5s
R32A IAML 06 41 16.7
comp=E,293nm,0.6s
QUOK Quay 1.51 135 Pn 06 40 58.5 -0.5
OK029 Liberty Lake 1.52 162 Pn 06 40 57.5 -1.7
OK052 Battle Ridge R 1.60 141 Pn 06 40 60.0 -0.1
OK031 S. Brethren Rd 1.61 143 Pn 06 41 00.1 -0.2
DEOK Depew 1.87 138 Pn Pn 06 41 03.7 -0.1
OKCSW OKLAHOMA CITY 1.90 165 Pn Pn 06 41 03.7 -0.7
FNO Franklin 2.05 165 Pn Pn 06 41 05.3 -1.1
FNO IAmb_Lg 06 41 35.4
comp=Z,14nm,0.9s
CBKS Cedar Bluff 2.06 320 Pn Pn 06 41 06.3 -0.3
KSU1 Kansas State U 2.16 31 Pn Pn 06 41 07.6 -0.3
KSU1 IAmb_Lg 06 41 43.0
comp=Z,26nm,0.8s
TUL3 Leonard 2.25 126 Pn Pn 06 41 08.8 -0.2
W35A Tecumseh 2.29 156 Pn Pn 06 41 08.9 -0.8
W35A IAmb_Lg 06 41 48.5
comp=Z,11nm,0.8s
U38A Gravette 3.04 104 Pn 06 41 20.9 +1.0
U38A IAmb_Lg 06 42 15.0
comp=Z,14nm,0.8s
HHAR Hobbs 3.43 105 IAmb_Lg 06 42 28.1
comp=Z,10nm,0.8s
P38A Dawn 4.26 55 IAmb_Lg 06 42 46.3
comp=Z,9.7nm,0.7s
MGMO Mountain Grove 4.60 89 IAmb_Lg 06 43 04.5
comp=Z,14nm,1.1s
Z38A Mt. Pleasant 4.70 147 IAmb_Lg 06 43 09.4
comp=Z,12nm,0.8s
ABTX Abilene, Hawle 4.80 196 IAmb_Lg 06 43 06.6
comp=Z,6.7nm,0.9s
T25A Trinidad 5.09 271 IAmb_Lg 06 43 17.7
comp=Z,9.4nm,0.7s
ISCO Idaho Springs 6.46 296 IAmb_Lg 06 43 58.5
comp=Z,5.6nm,0.8s
JCT Junction City 6.91 193 IAmb_Lg 06 44 14.9
comp=Z,8.0nm,0.9s

*SJA **10** 06:41:02.1±1.1, 21°.93S×68°.70W, h132km, ML3.5, MW3.5*
*GUC **10** 06:41:03.9±0.6, 21°.93S×68°.69W, h126km±3km, ML3.4*
ISC 10 06:41:02.6±1.4, 21°.95S±0°.03×68°.76W±0°.06, h139km±9km, n23, σ0s72/43, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.47**	**289**	*e*P	**Pn**	**06 41 22.7**	**0.0**
PB09				*e*S	**Sn**	**06 41 36.9**	**-1.1**
PB09	**IPOC Station P**	**0.47**	**289**	*e*P	Pn	06 41 17.3	-5.5
PB09				*e*P	**Pn**	**06 41 22.5**	**-0.2**
PB09				*e*S	**Sn**	**06 41 38.0**	**0.0**
PB09				IAML		06 41 39.8	
comp=Z,832nm,0.2s							
PB03	**IPOC Station P**	**0.93**	**264**	*e*P	**Pn**	**06 41 26.4**	**+0.5**
PB03				*e*S	**Sn**	**06 41 43.5**	**0.0**
PB03				IAML		06 41 44.5	
comp=E,1μm,0.2s							
PB03	**IPOC Station P**	**0.93**	**264**	*e*P	**Pn**	**06 41 25.7**	**-0.2**
PB03				*e*S	**Sn**	**06 41 44.0**	**+0.5**
PB03				IAML		06 41 45.9	
comp=Z,778nm,0.2s							
PB06	**IPOC Station P**	**1.06**	**225**	*e*P	**Pn**	**06 41 27.8**	**+0.6**
PB06				*e*S	**Sn**	**06 41 45.9**	**+0.1**
PB06				IAML		06 41 49.5	
comp=E,457nm,0.2s							
PB06	**IPOC Station P**	**1.06**	**225**	*e*P	**Pn**	**06 41 27.1**	**0.0**
PB06				*e*S	**Sn**	**06 41 46.5**	**+0.7**
PB06				IAML		06 41 48.1	
comp=Z,394nm,0.2s							
PB01	**IPOC Station P**	**1.12**	**323**	*e*P	**Pn**	**06 41 27.8**	**+0.1**
PB01				*i* S	**Sn**	**06 41 45.4**	**-1.2**
PB01				IAML		06 41 47.3	
comp=E,1μm,0.2s							
PB01	**IPOC Station P**	**1.12**	**323**	*e*P	**Pn**	**06 41 27.7**	**+0.1**
PB01				*e*P		06 41 27.8	
PB01				*e*S	**Sn**	**06 41 46.6**	**0.0**
PB01				IAML		06 41 47.0	
comp=Z,726nm,0.3s							
AF01	**San Pedro de A**	**1.14**	**152⇑**	*e*P	**Pn**	**06 41 27.7**	**-0.2**
AF01				*e*S	**Sn**	**06 41 45.6**	**-1.6**
AF01				IAML		06 42 01.8	
comp=E,400nm,0.4s							
AF01	**San Pedro de A**	**1.14**	**152**	*e*P	**Pn**	**06 41 27.8**	**-0.2**
AF01				*e*S	**Sn**	**06 41 49.0**	**+1.8**
AF01				IAML		06 42 03.4	
comp=Z,368nm,0.5s							
PB08	**IPOC Station P**	**1.83**	**348**	*e*P	**Pn**	**06 41 36.3**	**+0.8**
PB08				*e*S	**Sn**	**06 42 00.8**	**+0.1**
PB08				IAML		06 42 01.7	
comp=E,338nm,0.3s							
PB08	**IPOC Station P**	**1.83**	**348**	*e*P	**Pn**	**06 41 35.7**	**+0.1**
PB08				*e*S	**Sn**	**06 42 01.3**	**+0.6**
PB08				IAML		06 42 03.4	
comp=Z,206nm,0.6s							
HMBC	**Humberstone**	**1.97**	**327**	*e*P	**Pn**	**06 41 36.7**	**-0.2**
HMBC				*e*S	**Sn**	**06 42 02.6**	**-0.4**
HMBC				IAML		06 42 04.5	
comp=Z,704nm,0.2s							
PB10	**IPOC Station P**	**2.27**	**226**	*e*P	**Pn**	**06 41 41.7**	**+1.3**
GO01	**Chusmiza**	**2.30**	**350**	*e*P	**Pn**	**06 41 41.8**	**+0.5**
GO01				*e*S	**Sn**	**06 42 11.0**	**0.0**
GO01				IAML		06 42 13.0	
comp=E,436nm,0.1s							
GO01	**Chusmiza**	**2.30**	**350**	*e*P	**Pn**	**06 41 41.2**	**-0.1**
GO01				*e*S	**Sn**	**06 42 12.0**	**+1.1**
GO01				IAML		06 42 13.8	
comp=Z,187nm,0.7s							
PB11	**IPOC Station P**	**2.33**	**339⇑**	*e*P	**Pn**	**06 41 41.2**	**-0.1**
PB11				IAML		06 42 11.3	
comp=E,469nm,0.1s							
PB11	**IPOC Station P**	**2.33**	**339**	*e*P	**Pn**	**06 41 41.2**	**-0.1**
PB11				*e*P	**Pn**	**06 41 41.2**	**-0.1**
PB11				*e*S	**Sn**	**06 42 10.0**	**-1.0**
PB11				*e*S		06 42 10.8	
PB11				IAML		06 42 12.3	
comp=Z,209nm,0.3s							
PB14	**IPOC Station P**	**3.06**	**209**	*e*P	**Pn**	**06 41 50.9**	**+0.2**
PB14				*e*S	Sn	06 42 17.3	-10
GO02	**Mina Guanaco**	**3.29**	**193**	*e*P	**Pn**	**06 41 53.8**	**+0.1**
GO02				*e*S	**Sn**	**06 42 33.8**	**+0.8**
GO02				IAML		06 42 36.7	
comp=Z,70nm,0.3s							
AZAP	**Zapla**	**4.09**	**124**	*e*P	**Pn**	**06 42 04.4**	**+0.4**
AC01	**Pan de Azucar**	**4.51**	**202**	*e*P	**Pn**	**06 42 08.6**	**-0.7**
AC01				*e*S	**Sn**	**06 42 59.6**	**-1.6**
AC02	**Maricunga**	**4.88**	**184**	*e*P	**Pn**	**06 42 15.0**	**+0.3**
AC02				*e*S	**Sn**	**06 43 10.0**	**-0.8**

*IDC **10** 06:49:51.7±20.0, 21°.76S×177°.80W, h425km±140km, mb2.9/3, mbtmp3.7/4, Error ellipse: s-maj=335.9km s-min=28.7km az=141.0*
ISC 10 06:49:55.6±0.8, 21°.07S±0°.08×178°.1W±0°.1, h450km, n39, σ2s40/43, mb3.1/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.95**	**311**	P	**P**	**06 51 21.5**	**+1.8**
4.4nm,0.5s,baz=144,slow=8.8,SNR=7.0							
NIUE	**Niue**	**7.89**	**77**	P	**S**	**06 53 24.7**	**+1.1**
RIZ	**Raoul Island**	**8.14**	**179**	S	**S**	**06 53 25.9**	**-2.6**
GLKZ	**Green Lake**	**8.16**	**179**	S	**S**	**06 53 24.8**	**-4.0**
KUZ	**Kuaotunu**	**16.54**	**198**	P	**P**	**06 53 23.5**	**+0.6**
HAZ	**Te Kaha**	**17.02**	**191**	P	**P**	**06 53 26.3**	**-1.7**
HAZ				S	**S**	**06 56 23.5**	**+0.1**
PUZ	**Puketiti**	**17.25**	**190**	P	**P**	**06 53 28.5**	**-2.0**
PUZ				S	**S**	**06 56 31.9**	**+4.2**
MWZ	**Matawai**	**17.63**	**192**	P	**P**	**06 53 33.7**	**-0.8**
MWZ				S	**S**	**06 56 42.6**	**+8.1**
URZ	**Urewera**	**17.64**	**193**	P	**P**	**06 53 32.1**	**-2.4**
URZ				S	**S**	**06 56 42.4**	**+7.8**
BKZ	**Black Stump Fm**	**18.64**	**193**	P	**P**	**06 53 42.2**	**-2.2**
BFZ	**Birch Farm**	**20.15**	**193**	P	**P**	**06 53 57.5**	**-0.7**
MRZ	**Mangatainoka R**	**20.27**	**194**	P	**P**	**06 53 57.7**	**-1.6**
HOWZ	**Holdsworth Sta**	**20.51**	**194**	P	**P**	**06 54 01.5**	**-0.1**
OGWZ	**Otaki Gorge**	**20.52**	**195**	P	**P**	**06 53 59.0**	**-2.5**
MTW	**Mount Morrison**	**20.76**	**194**	P	**P**	**06 54 04.2**	**+0.4**
CAW	**Cannon Point**	**20.82**	**195**	P	**P**	**06 54 05.6**	**+1.3**
TRWZ	**Traveller**	**20.95**	**193**	P	**P**	**06 54 04.8**	**-0.7**
MSWZ	**Moikau Station**	**21.07**	**194**	P	**P**	**06 54 06.0**	**-0.6**
TCW	**Tory Channel**	**21.11**	**196**	P	**P**	**06 54 05.9**	**-1.1**
QRZ	**Quartz Range**	**21.26**	**200**	P	**P**	**06 54 08.7**	**+0.3**
NNZ	**Nelson**	**21.36**	**198**	P	**P**	**06 54 08.0**	**-1.2**
TUWZ	**Tuamarina**	**21.40**	**197**	P	**P**	**06 54 10.5**	**+0.9**
MRNZ	**Matariki Terra**	**21.71**	**199**	P	**P**	**06 54 13.3**	**+0.9**
THZ	**Tophouse**	**22.00**	**198**	P	**P**	**06 54 14.7**	**-0.4**
DSZ	**Denniston Nort**	**22.33**	**200**	P	**P**	**06 54 16.6**	**-1.4**
KHZ	**Kahutara**	**22.43**	**196**	P	**P**	**06 54 17.2**	**-1.7**
GVZ	**Greta Valley S**	**23.08**	**197**	P	**P**	**06 54 23.4**	**-1.3**
LTZ	**Lake Taylor**	**23.12**	**198**	P	**P**	**06 54 24.4**	**-0.9**
INZ	**Inchbonnie**	**23.33**	**200**	P	**P**	**06 54 25.1**	**-1.8**
OXZ	**Oxford**	**23.69**	**198**	P	**P**	**06 54 30.9**	**+0.6**
WHZ	**Wether Hill Ro**	**27.29**	**202**	P	**P**	**06 55 00.2**	**-2.0**
ASAR	**Alice Springs**	**44.34**	**257**	P	**P**	**06 57 23.1**	**-1.6**
0.3nm,0.6s,baz=94,slow=8.5,SNR=4.1							
0.3nm,0.6s							
WRA	**Warramunga Arr**	**44.48**	**263**	P	**P**	**06 57 24.1**	**-1.6**
0.7nm,0.9s,baz=95,slow=11,SNR=7.0							
0.7nm,0.9s							
ILAR	**Eielson Array**	**88.87**	**13**	P	**P**	**07 02 00.8**	**+0.5**
0.4nm,0.4s,baz=214,slow=5.1,SNR=11							
0.4nm,0.4s							
ARCES	**ARCESS Array B**	**129.47**	**350**	PKP	**PKiKP**	**07 08 11.8**	**-0.5**
2.3nm,0.9s,baz=18,slow=4.3,SNR=4.8							
AKASG	**Malin Array Be**	**143.48**	**331**	PKP	**PKPdf**	**07 08 36.3**	**-1.5**
1.6nm,0.4s,baz=44,slow=4.4,SNR=13							
BRTR	**Keskin Array B**	**147.18**	**312**	PKPbc	**PKPbc**	**07 08 47.5**	**-0.2**
0.7nm,0.6s,baz=123,slow=4.1,SNR=4.6							
MMAI	**Mount Meron Ar**	**148.05**	**299**	PKPbc	**PKiKP**	**07 08 51.1**	**-0.3**
1.5nm,0.4s,baz=74,slow=5.1,SNR=4.0							
GERES	**GERESS Array B**	**150.73**	**344**	PKPbc	**PKiKP**	**07 08 56.6**	**0.0**
0.3nm,0.3s,baz=49,slow=4.1,SNR=3.4							

*UPA **10** 06:57:06.5±1.6, 7°.48N×80°.67W, h0km, MD4.0, ML4.0, MW4.1*
*RSNC **10** 06:57:07.1±0.0, 7°N±2°×8°1W±°, h3km±6km, M3.0, mb3.9, Mjma3.8, ML3.8, ML2.6, MLh3.3, MLv3.6, Ms(BB)3.5*
ISC 10 06:57:05.3±1.1, 7°.34N±0°.04×80°.58W±0°.04, h10km±10km, n24, σ1s45/39, 1C-5D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**0.28**	**272**	P	**Pg**	**06 57 11.5**	**+0.6**
CACAO	**El Cacao, Vera**	**0.28**	**272**	*e*P	**Pg**	**06 57 11.6**	**+0.6**
CACAO				AMP		06 57 12.2	
comp=Z,16μm,0.1s							
CACAO				*i* S	**Sg**	**06 57 15.2**	**+0.5**
AZU	**Azuero**	**0.55**	**34**	P	**Pb**	**06 57 16.7**	**-0.2**
AZU				S	**Sb**	**06 57 24.3**	**-0.6**
AZU	**Azuero**	**0.55**	**34⇓**	*i* P	**Pb**	**06 57 16.8**	**-0.2**
AZU				AMP		06 57 16.9	
comp=Z,20μm,0.1s							
AZU				*e*S	**Sb**	**06 57 24.3**	**-0.6**
CHIT3	**Chitre**	**0.64**	**15⇓**	*i* P	**Pb**	**06 57 17.9**	**-0.6**
CHIT3				*e*S	**Sg**	**06 57 26.1**	**0.0**
GMAL	**Guarumal, Vera**	**0.77**	**303**	P	**Pg**	**06 57 19.5**	**-0.8**
GMAL				S	**Sg**	**06 57 29.5**	**-0.9**
GMAL	**Guarumal, Vera**	**0.77**	**303⇑**	*i* P	**Pg**	**06 57 19.7**	**-0.5**
GMAL				*e*S	**Sg**	**06 57 29.6**	**-0.8**
PNME	**Penonome**	**1.17**	**12**	*e*P	**Pg**	**06 57 27.0**	**-0.9**
PNME				*e*S	**Sg**	**06 57 41.5**	**-1.6**
CHOR3	**La Chorrera**	**1.75**	**27⇓**	*e*P	**Pb**	**06 57 37.5**	**0.0**
CHOR3				*e*S	**Sb**	**06 57 59.5**	**0.0**
UPA	**Univ. de Panam**	**1.94**	**32⇓**	*e*P	**Pn**	**06 57 39.2**	**+0.9**
UPA				*e*S	**Sn**	**06 58 03.8**	**+1.2**
BCIP	**Isla Barro Col**	**1.96**	**22**	P	**Pn**	**06 57 39.8**	**+1.2**
BCIP				S	**Sb**	**06 58 05.2**	**-0.5**
BCIP	**Isla Barro Col**	**1.96**	**22⇓**	*e*P	**Pn**	**06 57 40.0**	**+1.4**
BCIP				*e*S	**Sn**	**06 58 04.2**	**+0.9**
DVD	**David**	**2.15**	**301**	*e*P	**Pn**	**06 57 41.5**	**+0.3**
CHGR2	**Aguacate**	**2.22**	**316**	*e*P	**Pn**	**06 57 42.5**	**+0.3**
CHGR2				*e*S	**Sn**	**06 58 09.4**	**-0.3**
PTAC	**Punta Ardita,**	**2.76**	**94**	P	**Pn**	**06 57 48.5**	**-1.1**
SOLC	**Bahia Solano**	**3.34**	**109**	P	**Pn**	**06 57 56.8**	**-0.7**
SOLC				S	**Sn**	**06 58 33.9**	**-3.4**
CAPC	**Capurgana**	**3.45**	**68**	P	**Pn**	**06 57 59.5**	**+0.4**
APAC	**Apartado, Choc**	**4.01**	**82**	P	**Pn**	**06 58 10.9**	**+4.2**
DBBC	**Dabeiba**	**4.35**	**94**	P	**Pn**	**06 58 11.7**	**+0.2**
CBOC	**Ciudad Bolivar**	**4.77**	**108**	P	**Pn**	**06 58 18.0**	**+0.6**
CBOC				S	**Sn**	**06 59 12.5**	**-0.3**
UREC	**San Jos de Ur**	**5.02**	**85**	P	**Pn**	**06 58 23.8**	**+3.0**
comp=Z,0.1nmcomp=Z,0.1nmcomp=Z,21nm,0.8s							
UREC	**San Jos de Ur**	**5.02**	**85**	*e*P	**Pn**	**06 58 24.2**	**+3.4**
UREC				*e*S	**Sn**	**06 59 20.1**	**+1.2**
JTS	**Las Juntas de**	**5.22**	**305**	*e*P	**Pn**	**06 58 24.0**	**+0.5**
GUY2C	**Guyana, Caldas**	**5.59**	**112**	P	**Pn**	**06 58 31.5**	**+2.5**

DJA 10 06:59:14.9±1.4, 7°S±4°×10°4E±°, h28km±14km, M4.0/7, mb4.5/1, MLv3.7/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.74**	**5**	P	Pn	06 59 43.0	-0.4
LWLI				S	Sn	07 00 04.6	-0.1
CGJI	**Cibinong**	**1.79**	**85**	P	Pn	06 59 43.1	-0.8
CGJI				S	Sn	07 00 06.5	+0.8
BLSI	**Bandar Lampung**	**1.92**	**44**	P	Pn	06 59 45.9	+0.1
MDSI	**Maura Dua**	**2.28**	**7**	P	Pn	06 59 51.1	+0.4
MDSI				S	Sn	07 00 19.2	+1.4
MNAI	**Manna**	**2.56**	**338**	P	Pn	06 59 54.6	0.0
PCJI	**Pacitan**	**7.36**	**102**	P	Pn	07 01 01.1	+0.6

*SDD **10** 06:59:35.2±0.4, 18°.44N×68°.92W, h126km±4km, MD2.8, ML2.1, MW2.4*
*NEIC **10** 06:59:37.0±2.5, 18°.8N±0°.3×68°.80W±0°.09, h112km±7km, ML2.4/14, Md2.8/8(RSPR), Error ellipse: s-maj=40.8km s-min=9.0km az=193.0*
*OSPL **10** 06:59:36.4±0.3, 18°.07N×69°.10W, h85km±13km, ML2.3*
*RSPR **10** 06:59:36.0, 18°.93N×68°.80W, h110km±3km, MD2.8/8*
ISC 10 06:59:37.1±1.8, 18°.5N±0°.2×68°.87W±0°.07, h106km±10km, n34, σ0s77/38, 9C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.17**	**59⇓**	*e*P	**Pn**	**06 59 51.4**	**-0.6**
HIDR	**Higuey Centro**	**0.17**	**59**	*e*S	**Sn**	**07 00 03.7**	**+0.6**
PCDR	**Punta Cana, DR**	**0.47**	**88**		**Pn**	**06 59 52.9**	**-0.4**
PCDR	**Punta Cana, DR**	**0.47**	**88**		**Sn**	**07 00 06.3**	**+0.9**
PCDR	**Punta Cana, DR**	**0.47**	**88**	IAML		07 00 03.8	
comp=N,147nm,1.7s							
PCDR	**Punta Cana, DR**	**0.47**	**88⇑**	*e*Pg	**Pn**	**06 59 52.8**	**-0.4**
PCDR			⇑	*e*Sg	**Sn**	**07 00 06.2**	**+0.7**
PCDR				IAML		07 00 08.1	
comp=N,104nm,2.5s							
PCDR	**Punta Cana, DR**	**0.47**	**88⇑**	*e*P	**Pn**	**06 59 52.9**	**-0.4**
PCDR	**Punta Cana, DR**	**0.47**	**88**	*e*S	**Sn**	**07 00 06.3**	**+0.9**
PCDR	**Punta Cana, DR**	**0.47**	**88**	*i* P	**Pn**	**06 59 52.8**	**-0.4**
PCDR				*e*S	**Sn**	**07 00 05.0**	**-0.4**
PCDR				IAML		07 00 09.3	
comp=Z,68nm,0.8s							
MIDR	**Miches**	**0.51**	**341⇑**	*e*Pg	**Pn**	**06 59 53.4**	**-0.2**
MIDR			⇑	*e*Sg	**Sn**	**07 00 06.4**	**+0.4**
MIDR				IAML		07 00 08.1	
comp=N,20nm,0.4s							
MIDR				IAML		07 00 08.1	
comp=N,20nm,0.4s							
DR12	**Loma Pena Alta**	**0.56**	**301**	Pn	**Pn**	**06 59 53.5**	**-0.6**
HATOM	**Hato Mayor del**	**0.56**	**301⇓**	*e*Pg	**Pn**	**06 59 53.2**	**-0.8**
HATOM			⇑	*e*Sg	**Sn**	**07 00 06.7**	**0.0**
AGPR	**Aguadilla, PR**	**1.67**	**91**	*i* P	**Pn**	**07 00 06.4**	**+0.6**
AGPR				IAML		07 00 31.5	
comp=Z,58nm,1.9s							
LSP	**Las Mesas**	**1.73**	**101**		**Pn**	**07 00 06.2**	**-0.3**
LSP	**Las Mesas**	**1.73**	**101⇑**	*e*P	**Pn**	**07 00 06.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.75**	**106**		**Pn**	**07 00 06.0**	**-0.7**
CRPR					**Sn**	**07 00 30.2**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.75**	**106**	IAML		07 00 35.0	
comp=N,31nm,2.5s							
CRPR				IAML		07 00 43.5	
comp=E,29nm,2.6s							
CRPR	**Cabo Rojo, PR**	**1.75**	**106⇑**	*e*P	**Pn**	**07 00 06.0**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.75**	**106**	*e*S	**Sn**	**07 00 30.2**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.75**	**106**	*i* P	**Pn**	**07 00 05.9**	**-0.8**
CRPR				IAML		07 00 33.7	
comp=Z,23nm,1.9s							
AOPR	**Arecibo Observ**	**2.02**	**94**		**Pn**	**07 00 10.4**	**+0.3**
AOPR					**Sn**	**07 00 34.9**	**-0.5**
AOPR	**Arecibo Observ**	**2.02**	**94**	IAML		07 00 39.4	
comp=N,28nm,0.9s							
AOPR				IAML		07 00 40.2	
comp=E,36nm,0.3s							
AOPR	**Arecibo Observ**	**2.02**	**94⇓**	*e*P	**Pn**	**07 00 10.4**	**+0.3**
AOPR	**Arecibo Observ**	**2.02**	**94**	*e*S	**Sn**	**07 00 34.9**	**-0.5**
UUPR	**Utuado, UPR, P**	**2.06**	**97**		**Pn**	**07 00 11.2**	**+0.6**
UUPR					**Sn**	**07 00 36.8**	**+0.5**
UUPR	**Utuado, UPR, P**	**2.06**	**97⇑**	*e*P	**Pn**	**07 00 11.2**	**+0.6**
UUPR	**Utuado, UPR, P**	**2.06**	**97**	*e*S	**Sn**	**07 00 36.8**	**+0.5**
CELP	**Cerrillos**	**2.22**	**101**		**Pn**	**07 00 11.8**	**-1.0**
CELP					**Sn**	**07 00 41.5**	**+1.4**
CELP	**Cerrillos**	**2.22**	**101**	IAML		07 00 58.7	
comp=N,15nm,2.8s							
CELP				IAML		07 01 16.9	
comp=E,14nm,2.7s							
CELP	**Cerrillos**	**2.22**	**101⇓**	*e*P	**Pn**	**07 00 11.8**	**-1.0**
CELP	**Cerrillos**	**2.22**	**101**	*e*S	**Sn**	**07 00 41.5**	**+1.4**
SDDR	**Presa de Saban**	**2.34**	**282**	Pn	**Pn**	**07 00 14.6**	**+0.3**
SDDR				IAML		07 00 48.7	
comp=E,13nm,2.9s							
SDDR				IAML		07 01 50.5	
comp=E,18nm,2.6s							
ECPR	**Experimental S**	**2.39**	**94⇓**	*e*P	**Pn**	**07 00 13.7**	**-1.3**
ECPR	**Experimental S**	**2.39**	**94**	*e*S	**Sn**	**07 00 42.5**	**-1.5**

*ASRS **10** 07:04:35.0±1.1, 54°.45N×86°.93E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 10 07:04:33.9±2.9, 54°.47N×87°.05E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=24.2km s-min=19.9km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**249**	I	I	07 13 25.0	
baz=70,slow=324,SNR=2.7							
ZALV	**Zalesovo Beam**	**1.41**	**249**	Pg	Pn	07 04 58.5	-2.3
1.8nm,0.3s,baz=67,slow=16,SNR=19							
ZALV				Lg	Lg	07 05 18.2	
1.9nm,0.3s,baz=66,slow=36,SNR=6.7							
KURBB	**Kurchatov Arra**	**6.47**	**237**	Pn	Pn	07 06 11.3	+1.0
0.2nm,0.3s,baz=54,slow=14,SNR=34							
KURBB				Sn	Sn	07 07 24.1	-0.7
0.1nm,0.3s,baz=41,slow=21,SNR=4.2							
KURBB				Lg	Lg	07 08 00.4	
baz=56,slow=27,SNR=2.7							
3.6nm,0.7s							
MKAR	**Makanchi Array**	**8.26**	**203**	Pn	Pn	07 06 36.0	+1.0
0.1nm,0.3s,baz=24,slow=13,SNR=3.2							
MKAR				Lg	Lg	07 08 57.9	
0.1nm,0.3s,baz=25,slow=32,SNR=3.6							
0.2nm,0.3s							

*ASRS **10** 07:15:41.0±0.8, 53°.44N×87°.21E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 10 07:15:40.3±3.5, 53°.53N×87°.39E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=33.9km s-min=17.7km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.58**	**287**	I	I	07 26 15.0	
baz=107,slow=331,SNR=4.1							
ZALV	**Zalesovo Beam**	**1.58**	**287**	Pg	Pn	07 16 07.1	-2.5
0.2nm,0.3s,baz=104,slow=18,SNR=4.3							
ZALV				Lg	Lg	07 16 31.7	
0.6nm,0.3s,baz=105,slow=22,SNR=4.8							
KURBB	**Kurchatov Arra**	**6.18**	**246**	Pn	Pn	07 17 13.1	+0.3
baz=62,slow=14,SNR=5.3							
0.6nm,0.7s							
MKAR	**Makanchi Array**	**7.49**	**208**	Pn	Pn	07 17 32.6	+1.9
baz=24,slow=12,SNR=2.1							
0.1nm,0.3s							

*IDC **10** 07:26:18.1±0.6, 12°.45N×144°.64E, h0km, mb4.2/16, mbtmp4.2/16, MS3.7/30, Error ellipse: s-maj=21.5km s-min=13.1km az=94.0*
*BJ

6.7nm,0.8s
MAJO Matsushiro 24.80 347 P P 07 31 41.6 -0.6
MAJO IAmb IAmb 07 31 41.7
comp=Z,12nm,0.8s
MJB9 Matsu-Tunnel 24.80 347 P P 07 31 41.8 -0.5
MJB9 IAmb IAmb 07 31 42.7
comp=Z,11nm,0.8s
SSLB Suanglung 25.34 300 P 07 31 44.6 -2.6
LUWI Luwuk 25.64 240 P P 07 31 51.0 +1.0
COEN Coen 26.21 184 P P 07 31 55.9 +0.7
KSRS Korea Array 29.21 332 P P 07 32 22.0 +0.2
comp=Z,3.0nm,0.8s,baz=147,slow=11,SNR=7.8
comp=Z,3.0nm,0.8s
ASAJ Asahikawa 31.69 357 LR LR 07 44 52.8
comp=Z,52nm,21.3s,baz=175,slow=35
WB0 Warramunga Arr 33.55 198 P 07 33 00.4 +0.2
WR0 Warramunga Arr 33.69 198 P P 07 33 01.2 -0.3
WR0 IAmb IAmb 07 33 05.5
comp=Z,9.0nm,0.8s
WRAB Tennant Creek 33.72 198 P P 07 33 02.0 +0.3
WB2 Warramunga Arr 33.73 198 P 07 33 01.9 +0.1
WRA Warramunga Arr 33.73 198 P P 07 33 01.8 -0.1
comp=Z,9.6nm,0.7s,baz=21,slow=9.8,SNR=64
comp=Z,9.6nm,0.7s
BNX BinXian 36.41 339 ⇓P **P 07 33 27.8 +3.2**
BNX pmax pmax
comp=Z,9.0nm,0.9s
AS31 Alice Springs 37.38 197 P 07 33 33.6 +0.5
ASAR Alice Springs 37.38 197 P P 07 33 33.2 +0.1
comp=Z,6.8nm,0.8s,baz=20,slow=11,SNR=34
ASAR LR LR 07 48 29.9
comp=Z,126nm,20.1s,baz=342,slow=36
comp=Z,6.8nm,0.8s
DZM Mont Dzumac 40.26 148 *e*LR LR 07 45 02.0
comp=Z,347nm,21.9s
HEH HeiHe 40.39 343 *e*P **P 07 33 55.6 -2.5**
BTO Baotou 41.51 319 *e*P **P 07 34 08.6 +0.9**
BTO pP **pwP 07 34 13.2 -5.2**
BTO sP **sP 07 34 15.6 +6.8**
BTO S **S 07 40 29.3 +5.9**
BTO sS **sS 07 40 32.1 +7.2**
BTO SS **SS 07 43 24.3 -3.7**
BTO pmax pmax
comp=Z,23nm,0.4s
BTO LR LR
comp=Z,350nm,13.9s
BTO LR LR
comp=Z,310nm,15.0s
BTO LR LR
comp=Z,420nm,14.8s
PETK Petropavlovsk- 41.92 12 LR LR 07 52 56.4
comp=Z,62nm,18.8s,baz=192,slow=38
STKA Stephens Creek 44.11 184 P P 07 34 27.9 -0.7
comp=Z,1.5nm,0.8s,baz=21,slow=9.7,SNR=3.1
comp=Z,1.5nm,0.8s
CMAR Chiang Mai Arr 44.56 284 P P 07 34 31.5 -1.0
CMAR Chiang Mai Arr 44.56 284 P P 07 34 31.0 -1.5
comp=Z,2.1nm,0.4s,baz=80,slow=7.2,SNR=12
comp=Z,2.1nm,0.4s
BBOO Buckleboo 45.70 190 P P 07 34 41.6 +0.3
BBOO IAmb IAmb 07 34 48.7
comp=Z,10.0nm,0.9s
MEEK Meekatharra 46.40 213 P P 07 34 46.8 -0.1
comp=Z,34nm,0.9s
MEEK Meekatharra 46.40 213 P P 07 34 47.3 +0.4
SHEM Shemya Is, Ala 46.58 24 LR LR 07 50 58.5
comp=Z,70nm,21.3s,baz=32,slow=32
MA2 Magadan 47.32 4 LR LR 07 53 21.1
comp=Z,54nm,21.4s,baz=204,slow=34
SONM Songino Array 47.70 326 P P 07 34 57.1 +0.1
SONM Songino Array 47.70 326 P P 07 34 56.0 -1.0
comp=Z,0.9nm,0.5s,baz=143,slow=7.6,SNR=6.6
comp=Z,0.9nm,0.5s
GTA Gaotai 47.96 312 *e*P **P 07 35 02.0 +2.9**
GTA pP pwP 07 35 07.6 -2.2
GTA pmax pmax
comp=Z,8.0nm,0.9s
TOO Toolangi 49.68 179 P P 07 35 13.2 +1.1
MORW Morawa 49.71 214 P 07 35 12.5 0.0
MORW Morawa 49.71 214 P P 07 35 13.7 +1.2
comp=Z,20nm,0.7s
YAK Yakutsk 50.77 351 LR LR 07 56 58.2
comp=Z,74nm,18.0s,baz=171,slow=36
SHL Shillong 51.46 293 P 07 35 23.6 -2.4
MWH Mokuaweoweo 57.49 75 P P 07 36 09.0 -1.5
BKZ Black Stump Fm 59.16 152 P P 07 36 21.1 -0.1
TCW Tory Channel 59.85 155 P P 07 36 26.6 +0.8
TIXI Tiksi 60.03 354 LR LR 08 01 52.6
comp=Z,26nm,21.8s,baz=194,slow=36
L14K Kuka Creek 61.75 26 P P 07 36 37.4 -1.0
MK31 Makanchi Array 62.34 317 P 07 36 41.6 -1.1
MKAR Makanchi Array 62.34 317 P 07 36 42.1 -0.6
MKAR Makanchi Array 62.34 317 P P 07 36 40.9 -1.9
comp=Z,1.8nm,0.6s,baz=90,slow=9.1,SNR=9.7
comp=Z,1.8nm,0.6s
N15K Kwethluk River 62.35 28 P P 07 36 41.2 -1.4
MAKZ Makanchi 62.55 316 P P 07 36 43.7 -0.5
MAKZ IAmb IAmb 07 36 52.5
comp=Z,4.9nm,1.1s
ZALV Zalesovo Beam 62.59 325 LR LR 08 04 43.2
comp=Z,68nm,19.2s,baz=84,slow=37
M16K Timber Creek 63.22 27 P P 07 36 48.0 -0.3
RAR Rarotonga 63.82 121 LR LR 08 03 18.4
comp=Z,54nm,18.7s,baz=268,slow=35
K17K Iditarod 64.21 25 P P 07 36 54.5 -0.4
F17K Baldwin Pennin 64.77 21 P P 07 36 58.2 -0.2
KDAK Kodiak Island 65.12 32 LR LR 08 03 47.7
comp=Z,25nm,19.8s,baz=82,slow=34
KURK Kurchatov 65.49 320 P 07 37 02.4 -0.9
KURBB Kurchatov Arra 65.53 320 P P 07 37 01.6 -2.1
comp=Z,1.6nm,0.7s,baz=104,slow=6.7,SNR=17
comp=Z,1.6nm,0.7s
K20K Telida 66.24 26 IAmb IAmb 07 37 16.0
comp=Z,8.2nm,1.4s
CNPM China Poot 66.30 30 P P 07 37 08.2 -0.3
D19K Kuna River 66.81 20 P P 07 37 11.4 -0.2
D19K IAmb IAmb 07 37 14.6
comp=Z,8.4nm,1.4s
CAST Castle Rocks 67.10 26 P 07 37 13.4 -0.1
CAST IAmb IAmb 07 37 22.2
comp=Z,5.2nm,1.0s
NRIK Noril'sk 67.26 341 LR LR 08 06 07.3
comp=Z,47nm,18.3s,baz=117,slow=36
AAK Ala-Archa 67.28 311 LR LR 08 07 23.4
comp=Z,28nm,20.3s,baz=118,slow=37
D20K Etivluk River 67.40 20 IAmb IAmb 07 37 23.9
comp=Z,4.3nm,0.9s
B20K Meade River 67.79 18 IAmb IAmb 07 37 18.1
comp=Z,6.7nm,1.1s
NIL Nilore 67.98 301 P 07 37 18.3 -1.4
B22K Teshekpuk Lake 69.09 19 P P 07 37 25.3 -0.6
B22K IAmb IAmb 07 37 31.8
comp=Z,5.0nm,0.9s
D23K Nanushuk River 69.48 20 IAmb IAmb 07 37 34.9
comp=Z,7.0nm,1.1s
E23K Chandalar 69.56 21 IAmb IAmb 07 37 38.4
comp=Z,5.4nm,0.9s
IL31 69.68 25 IAmb IAmb 07 37 28.5
comp=Z,5.2nm,1.1s
ILAR Eielson Array 69.68 25 P P 07 37 27.7 -1.9
comp=Z,0.6nm,0.4s,baz=253,slow=5.5,SNR=33
ILAR LR LR 08 06 18.9
comp=Z,46nm,20.4s,baz=279,slow=34
comp=Z,0.6nm,0.4s
C23K Itkillik River 69.80 19 IAmb IAmb 07 37 36.7
comp=Z,6.8nm,1.1s
E24K Your Creek 69.97 22 IAmb IAmb 07 37 34.9
comp=Z,5.8nm,1.4s
KKAR Karatay Array 70.22 311 P P 07 37 32.6 -0.9
BVAR Borovoye Array 70.86 322 P P 07 37 35.2 -1.9
comp=Z,1.6nm,0.5s,baz=92,slow=7.7,SNR=8.8
BVAR LR LR 08 09 58.0
comp=Z,102nm,19.0s,baz=105,slow=37
comp=Z,1.6nm,0.5s
BRVK Borovoye 70.92 322 P 07 37 37.5 0.0
BRVK IAmb IAmb 07 37 46.8
comp=Z,3.8nm,0.7s
J26L Joseph Creek 71.01 26 P P 07 37 37.0 -0.9
J26L IAmb IAmb 07 37 43.9
comp=Z,6.4nm,1.3s
PPT2 Papeete2 71.27 113 *e*LR LR 07 59 22.5
comp=Z,78nm,22.8s
SIMJ Simiganj 71.35 307 P 07 37 39.8 -0.7
KBL Kabul 71.45 302 P 07 37 40.2 -1.0
F26K Sheenjek River 71.45 22 IAmb IAmb 07 37 46.0
comp=Z,8.8nm,1.4s
H27K Steamboat Moun 72.17 24 P P 07 37 44.1 -0.7
H27K IAmb IAmb 07 37 46.0
comp=Z,7.8nm,1.1s
J30M Hart River 74.11 26 IAmb IAmb 07 37 58.7
comp=Z,9.5nm,1.3s
G31M Satah River 75.13 24 IAmb IAmb 07 38 02.2
comp=Z,7.1nm,1.1s
ABKAR Akbulak array 77.42 318 P P 07 38 13.8 -1.7
TAOE Nuku Hiva Isla 77.46 102 *e*LR LR 08 02 16.8
comp=Z,74nm,21.8s
WTLY Watson Lake, Y 77.57 31 IAmb IAmb 07 38 26.7
comp=Z,4.7nm,0.9s
ARTI Arti 77.84 325 LR LR 08 14 44.3
comp=Z,54nm,18.6s,baz=93,slow=37
A36M Sachs Harbour 78.30 19 IAmb IAmb 07 38 27.9
comp=Z,4.3nm,0.9s
C36M Paulatuk 78.91 21 IAmb IAmb 07 38 27.3
comp=Z,8.3nm,1.4s
KIRV Kirov 82.36 328 LR LR 08 18 09.2
comp=Z,68nm,18.3s,baz=78,slow=38
YBH Yreka Blue Hor 83.69 49 IAmb IAmb 07 38 52.5
comp=Z,4.5nm,0.8s
YBH Yreka Blue Hor 83.69 49 LR LR 08 10 02.8
comp=Z,52nm,19.4s,baz=304,slow=31
YKA Yellowknife Ar 83.95 27 P P 07 38 49.2 -0.9
comp=Z,0.9nm,0.7s,baz=289,slow=4.9,SNR=12
YKA LR LR 08 15 59.7
comp=Z,66nm,20.1s,baz=274,slow=36
comp=Z,0.9nm,0.7s
EUNU Eureka 84.07 8 IAmb IAmb 07 38 59.1
comp=Z,6.0nm,1.1s
B08A Colville Reser 84.70 42 IAmb IAmb 07 39 04.5
comp=Z,5.1nm,0.9s
BEKR Beckworth 85.82 50 IAmb IAmb 07 39 08.5
comp=Z,3.6nm,0.8s
NEW Newport 86.16 42 P P 07 39 02.2 +0.6
NEW IAmb IAmb 07 39 03.6
comp=Z,4.9nm,0.8s
NEW Newport 86.16 42 LR LR 08 13 04.7
comp=Z,60nm,19.5s,baz=288,slow=32
NVAR Mina Array Bea 87.70 51 P P 07 39 10.7 +1.1
NVAR Mina Array Bea 87.70 51 P P 07 39 10.6 +0.9
comp=Z,1.8nm,0.6s,baz=266,slow=5.4,SNR=10
comp=Z,1.8nm,0.6s
PLID Pearl Lake 87.71 44 P P 07 39 09.4 -0.1
PLID IAmb IAmb 07 39 10.9
comp=Z,2.8nm,0.8s
ARCES ARCESS Array B 88.22 342 P P 07 39 12.2 +1.0
comp=Z,1.5nm,0.6s,baz=64,slow=8.4,SNR=4.6
ARCES LR LR 08 21 57.6
comp=Z,27nm,18.9s,baz=6.0,slow=38
comp=Z,1.5nm,0.6s
HLID Hailey 89.22 46 IAmb IAmb 07 39 27.3
comp=Z,3.6nm,1.1s
ELK Elko 89.40 48 IAmb IAmb 07 39 26.6
comp=Z,5.2nm,0.9s
ELK Elko 89.40 48 LR LR 08 14 48.9
comp=Z,52nm,18.8s,baz=298,slow=32
GNI Garni 89.68 311 LR LR 08 23 26.9
comp=Z,22nm,19.1s,baz=152,slow=38
BOZ Bozeman (W) 90.51 43 IAmb IAmb 07 39 30.6
comp=Z,5.9nm,1.4s
DUG Dugway, Tooele 91.33 48 P P 07 39 27.5 +1.0
DUG IAmb IAmb 07 39 29.9
comp=Z,3.7nm,0.9s
FINES FINESS Array B 92.24 335 P P 07 39 27.6 -2.4
comp=Z,1.4nm,0.7s,baz=44,slow=5.8,SNR=6.5
comp=Z,1.4nm,0.7s
PDAR Pinedale Array 92.84 45 P P 07 39 33.0 -0.5
comp=Z,0.3nm,0.7s,baz=204,slow=3.3,SNR=4.8
PDAR LR LR 08 17 43.8
comp=Z,25nm,18.8s,baz=252,slow=33
comp=Z,0.3nm,0.7s
AKASG Malin Array Be 95.98 325 LR LR 08 23 58.6
comp=Z,49nm,21.4s,baz=56,slow=36
NOA NORSAR Array B 98.17 339 LR LR 08 26 34.2
comp=Z,40nm,19.6s,baz=80,slow=37
SFJD Kangerlussuaq 100.04 6 LR LR 08 28 01.9
comp=Z,20nm,19.2s,baz=358,slow=37
CFA Coronel Fontan 144.06 128 PKP PKPbc 07 45 55.7 +1.2
comp=Z,2.2nm,0.7s,baz=249,slow=6.3,SNR=6.9
DBIC Dimbokro 144.42 301 PKP **PKPab 07 45 55.5 -0.3**
comp=Z,3.8nm,0.7s,baz=2.4,slow=6.2,SNR=5.1
LPAZ La Paz 147.85 101 PKPbc **PKPbc 07 46 08.8 +1.7**
comp=Z,4.5nm,0.8s,baz=252,slow=2.1,SNR=8.9
SIV San Ignacio 154.64 101 PKPab **PKPab 07 46 38.0 +1.0**
comp=Z,0.7nm,0.7s,baz=264,slow=5.5,SNR=3.6

BJI ***10*** *07:28:47.4,2°.28N×128°.93E,h230km,mB4.8/20,mb5.0/75*
NEIC ***10*** *07:28:52.6±2.0,2°.83N±0°.05×128°.59E±0°.07,h219km±6km,mb4.9/176,Error ellipse: s-maj=12.3km s-min=1.1km az=56.0*
IDC ***10*** *07:28:53.0±0.9,2°.76N×128°.55E,h228km±8km,mb4.4/35,mbtmp5.0/39,Error ellipse: s-maj=11.4km s-min=6.1km az=67.0*
DJA ***10*** *07:28:53.3±0.2,3°N±2°×12°9E±°,h222km±2km,M5.0/108,mB5.5/61,mb5.3/108,MLv5.4/19,Mw(mB)4.9/61,MwMwp4.6/3,Mwp5.0/3*
ISC 10 07:28:53.4±0.4,2°.76N±0°.03×128°.56E±0°.04,h230km±3km,h230km:pP-P,n685,σ0°93/661,mb4.9/186,3C-5D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.30**	**211**		**Pn**	**07 29 37.2**	**0.0**
TNTI	**Ternate**	**2.30**	**211**	P	**Pn**	**07 29 37.1**	**-0.1**
TNTI	**Ternate**	**2.30**	**211**	P	**Pn**	**07 29 37.2**	**0.0**
TNTI				S	**S**	**07 30 10.3**	**-1.2**
SWI	**Sorong**	**4.50**	**143**	P	**Pn**	**07 30 03.5**	**+1.1**
KMSI	**Cibinong**	**5.06**	**245**	P	**Pn**	**07 30 09.0**	**-0.3**
DAV	**Davao City (W)**	**5.21**	**325**	Pn	**Pn**	**07 30 10.0**	**-1.2**
DAV	**Davao City (W)**	**5.21**	**325**	P	**Pn**	**07 30 11.4**	**+0.2**
320nm,0.4s,baz=110,slow=3.1,SNR=14							
DAV	**Davao City (W)**	**5.21**	**325**	P	Pn	07 29 58.0	-13
SANI	**Sanana**	**5.42**	**208**	P	**Pn**	**07 30 12.4**	**-1.4**
SANI	**Sanana**	**5.42**	**208**	P	**Pn**	**07 30 11.9**	**-1.9**
5.7nm16μm1μm,0.8s							
MSAI	**Masohi**	**6.07**	**176**	P	**Pn**	**07 30 24.6**	**+2.5**
1.2nm351nm,0.9s							
NLAI	**Namlea**	**6.13**	**194**	P	**Pn**	**07 30 23.3**	**+0.5**
3.5nm345nm,0.7s							
AAI	**Ambon**	**6.41**	**183**	P	**Pn**	**07 30 27.7**	**+1.3**
0.5nm185nm,0.9s							
FAKI	**Fak Fak**	**6.74**	**147**		**Pn**	**07 30 31.2**	**+0.6**
FAKI	**Fak Fak**	**6.74**	**147**	P	**Pn**	**07 30 30.9**	**+0.3**
FAKI	**Fak Fak**	**6.74**	**147**	P	**Pn**	**07 30 31.9**	**+1.3**
LUWI	**Luwuk**	**6.91**	**237**		**Pn**	**07 30 32.5**	**-0.2**
LUWI	**Luwuk**	**6.91**	**237**	P	**Pn**	**07 30 32.2**	**-0.5**
LUWI	**Luwuk**	**6.91**	**237**	P	**Pn**	**07 30 31.2**	**-1.5**
7μm681nm,0.6s							
MRSI	**Marisa**	**6.99**	**251**	P	**Pn**	**07 30 33.8**	**+0.1**
1.7nm3μm311nm,0.9s							
BNDI	**Bandanaira**	**7.35**	**169**	P	**Pn**	**07 30 39.1**	**+0.7**
APSI	**Ampana**	**7.81**	**242**	P	**Pn**	**07 30 43.3**	**-0.9**
5.4nm4μm492nm,0.8s							
TOLI2	**Tolitoli**	**7.94**	**258**		**Pn**	**07 30 45.2**	**-0.7**
TOLI2	**Tolitoli**	**7.94**	**258**	P	**Pn**	**07 30 45.4**	**-0.5**
TOLI2	**Tolitoli**	**7.94**	**258**	S	**S**	**07 32 16.8**	**+0.6**
KMPI	**Kaimana, Papua**	**8.19**	**141**	P	**Pn**	**07 30 50.7**	**+1.6**
3μm302nm,1.0s							
BAKI	**Biak**	**8.51**	**117**	P	**Pn**	**07 30 55.6**	**+2.4**
4μm506nm,0.9s							
MPSI	**Mapaga**	**8.98**	**255**	P	**Pn**	**07 31 00.1**	**+0.8**
PCI	**Palu**	**9.45**	**247**	P	**Pn**	**07 31 06.1**	**+0.9**
6μm117nm,0.9s							
MYLDM	**Lahad Datu**	**10.32**	**284**		**Pn**	**07 31 17.2**	**+0.9**
TTSI	**Tana Toraja**	**10.46**	**237**	P	**Pn**	**07 31 18.0**	**-0.2**
SPSI	**Sidrap Palu**	**11.03**	**233**	P	**Pn**	**07 31 25.5**	**+0.1**
122nm,0.7s							
BNSI	**Bone**	**11.04**	**230**	P	**Pn**	**07 31 25.1**	**-0.3**
3μm245nm,0.9s							
SMPI	**Sarmi**	**11.19**	**115**	P	**Pn**	**07 31 28.7**	**+1.3**
9μm197nm,1.1s							
BKSI	**Bulukumba**	**11.63**	**226**	P	**Pn**	**07 31 34.1**	**+1.1**
4μm410nm,0.7s							
KAPI	**Kappang**	**11.70**	**229**		**Pn**	**07 31 34.2**	**+0.4**
KAPI	**Kappang**	**11.70**	**229**	P	**Pn**	**07 31 34.9**	**+1.1**
20nm,0.6s,baz=47,slow=8.1,SNR=15							
KAPI				S	**S**	**07 33 43.2**	**-0.3**
31nm,0.5s,baz=147,slow=20,SNR=11							
KAPI	**Kappang**	**11.70**	**229**	P	**Pn**	**07 31 33.9**	**+0.1**
KAPI	**Kappang**	**11.70**	**229**	S	**S**	**07 33 44.7**	**+1.2**
BSSI	**Bau Bau, Buton**	**11.96**	**222**	P	**Pn**	**07 31 37.8**	**+0.8**
3μm336nm,0.9s							
KKM	**Kota Kinabalu**	**12.73**	**285**		**Pn**	**07 31 46.8**	**0.0**
GENI	**Genyem**	**12.77**	**114**	P	**Pn**	**07 31 47.6**	**+0.5**
GENI	**Genyem**	**12.77**	**114**	P	**P**	**07 31 48.4**	**-1.3**
MMRI	**Maumere**	**12.95**	**209**		**Pn**	**07 31 50.0**	**+0.6**
MMRI	**Maumere**	**12.95**	**209**	P	**P**	**07 31 51.2**	**-0.6**
236nm,1.0s							
SOEI	**Soe**	**13.14**	**199**		**Pn**	**07 31 52.6**	**+0.7**
SOEI	**Soe**	**13.14**	**199**	P	**Pn**	**07 31 51.8**	**-0.1**
SOEI	**Soe**	**13.14**	**199**	P	**Pn**	**07 31 52.9**	**+1.0**
250nm,0.8s							
JAY	**Jayapura**	**13.22**	**113**	P	**Pn**	**07 31 53.0**	**+0.2**
436nm,0.8s,baz=253,slow=6.7,SNR=29							
JAY	**Jayapura**	**13.22**	**113**	P	**Pn**	**07 31 53.1**	**+0.2**
4μm505nm,0.9s							
EDFI	**Ende, Flores**	**13.32**	**211**	P	**Pn**	**07 31 54.6**	**+0.5**
171nm,0.9s							
TGY	**Tagaytay City**	**13.55**	**327**	P	**P**	**07 31 58.0**	**-0.6**
447nm,0.2s,baz=203,slow=7.2,SNR=3.5							
WSI	**Waingapu**	**14.83**	**214**	P	**P**	**07 32 13.0**	**+0.3**
201nm,0.6s							
BASI	**Baing, Sumba**	**15.14**	**212**	P	**P**	**07 32 15.9**	**-0.2**
5μm153nm,0.7s							
DRS	**Darwin Rock St**	**15.27**	**171**	P	**P**	**07 32 16.8**	**-0.6**
WBSI	**Waikabubak, Su**	**15.33**	**216**	P	**P**	**07 32 17.1**	**-1.1**
2μm269nm,0.8s							
MTN	**Manton Dam**	**15.71**	**171**		**P**	**07 32 21.2**	**-1.1**
MTN	**Manton Dam**	**15.71**	**171**	P	**P**	**07 32 21.2**	**-1.1**
comp=Z,55nm,0.7s							
MTN	**Manton Dam**	**15.71**	**171**	P	**P**	**07 32 21.6**	**-0.7**
PLAI	**Plampang**	**15.74**	**223**	P	**Pn**	**07 32 23.6**	**+0.2**
PLAI	**Plampang**	**15.74**	**223**	S	**S**	**07 35 18.1**	**+1.5**
PLAI	**Plampang**	**15.74**	**223**	P	**Pn**	**07 32 24.6**	**+1.2**
comp=Z,5μmcomp=Z,580nm,0.8s							
KDU	**Kakadu**	**15.83**	**166**	P	**P**	**07 32 23.3**	**-0.3**
comp=Z,89nm,0.7s							
KDU	**Kakadu**	**15.83**	**166**	P	**P**	**07 32 23.5**	**-0.1**
TWSI	**Taliwang, Sumb**	**16.30**	**225**	P	**Pn**	**07 32 30.3**	**+0.2**
comp=Z,2μmcomp=Z,205nm,0.8s							
SBUM	**Sibu**	**16.32**	**269**		**Pn**	**07 32 31.8**	**+1.5**
SBUM	**Sibu**	**16.32**	**269**	P	**Pn**	**07 32 30.0**	**-0.3**
SRBI	**Singaraja**	**17.12**	**231**	P	**Pn**	**07 32 39.8**	**+0.1**
comp=Z,3μmcomp=Z,312nm,1.1s							
STKI	**Sintang**	**17.28**	**261**	P	**Pn**	**07 32 41.5**	**-0.1**
comp=Z,401nm,1.0s							
DNP	**Denpasar**	**17.49**	**229**	P	**Pn**	**07 32 43.5**	**-0.6**
KMMI	**Kalianget**	**17.52**	**236**	P	**Pn**	**07 32 44.8**	**+0.4**
comp=Z,4μmcomp=Z,484nm,1.0s							
ABJI	**Asem Bagus**	**17.72**	**234**	P	**Pn**	**07 32 46.6**	**-0.1**
comp=Z,3μmcomp=Z,379nm,0.9s							
BWJI	**Bawean**	**18.03**	**242**	P	**Pn**	**07 32 49.6**	**-0.9**
comp=Z,10μmcomp=Z,731nm,1.2s							
JAGI	**Jajag, Banyuwa**	**18.18**	**232**		**Pn**	**07 32 51.1**	**-1.1**
JAGI	**Jajag, Banyuwa**	**18.18**	**232**	P	**P**	**07 32 49.6**	**+0.2**
JAGI	**Jajag, Banyuwa**	**18.18**	**232**	P	**Pn**	**07 32 51.1**	**-1.1**
comp=Z,3μmcomp=Z,175nm,0.7s							
KSM	**Kuching**	**18.28**	**266**	P	**Pn**	**07 32 52.2**	**-1.1**
KNRA	**Kununurra**	**18.32**	**179**		**P**	**07 32 51.1**	**+0.4**
KNRA	**Kununurra**	**18.32**	**179**	P	**P**	**07 32 51.1**	**+0.4**
comp=Z,153nm,0.5s							
GMJI	**Gumukmas**	**18.63**	**234**	P	**P**	**07 32 55.6**	**+1.4**
comp=Z,3μmcomp=Z,334nm,1.3s							
GRJI	**Gresik**	**18.70**	**239**	P	**Pn**	**07 32 57.1**	**-1.2**
comp=Z,8μmcomp=Z,730nm,1.0s							
TBJI	**Tambak Boyo**	**19.20**	**240**	P	**P**	**07 33 02.1**	**+1.8**
GUMO	**Guam**	**19.39**	**55**	P	**P**	**07 33 01.8**	**-0.5**
comp=Z,63nm,0.5s,baz=253,slow=4.4,SNR=3.3							
NGJI	**Ngawi**	**19.80**	**239**	P	**Pn**	**07 33 09.1**	**-2.2**
comp=Z,364nm,0.8s							
PCJI	**Pacitan**	**20.46**	**238**	P	**P**	**07 33 15.0**	**+1.1**
comp=Z,5μmcomp=Z,512nm,0.8s							
SMRI	**Semarang**	**20.54**	**242**	P	**P**	**07 33 17.4**	**+2.8**
SMRI	**Semarang**	**20.54**	**242**	P	Pn	07 33 17.6	-2.7
comp=Z,131nm,0.8s							
UGM	**Wanagama**	**20.88**	**239**		**P**	**07 33 18.1**	**-0.2**
UGM	**Wanagama**	**20.88**	**239**	P	**P**	**07 33 18.3**	**0.0**
UGM	**Wanagama**	**20.88**	**239**	P	**P**	**07 33 19.1**	**+0.8**
comp=Z,278nm,1.1s							
FITZ	**Fitzroy Crossi**	**20.92**	**188**		**P**	**07 33 17.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**20.92**	**188**	P	**P**	**07 33 17.5**	**-1.1**
comp=Z,6.9nm,1.4s							
FITZ	**Fitzroy Crossi**	**20.92**	**188**	P	**P**	**07 33 17.5**	**-1.1**
comp=Z,9.9nm,0.5s,baz=17,slow=7.9,SNR=32							
FITZ				S	**S**	**07 36 55.1**	**-2.5**
comp=Z,12nm,0.8s,baz=192,slow=13,SNR=4.4							
comp=Z,9.9nm,0.5s							
FITZ	**Fitzroy Crossi**	**20.92**	**188**	P	**P**	**07 33 18.6**	**0.0**
YOGI	**Yogyakarta**	**21.03**	**240**	P	**P**	**07 33 21.4**	**+1.6**
comp=Z,5μmcomp=Z,463nm,0.9s							
TWG	**Pinlang**	**21.23**	**341**	P	**P**	**07 33 18.5**	**-3.2**
TPI	**Tanjungpandan**	**21.60**	**255**	P	**P**	**07 33 25.9**	**+0.4**
comp=Z,2μmcomp=Z,185nm,1.2s							
YULB	**Yu-li**	**21.69**	**342**		**P**	**07 33 23.7**	**-2.5**
YULB	**Yu-li**	**21.69**	**342**	P	**P**	**07 33 26.3**	**+0.1**
TPUB	**Ta-pu**	**21.82**	**340**	P	**P**	**07 33 25.4**	**-2.0**
TPUB	**Ta-pu**	**21.82**	**340**	P	**P**	**07 33 25.8**	**-1.7**
DLV	**Lat**	**21.88**	**296**	P	**P**	**07 33 28.8**	**+0.5**
DLV	**Lat**	**21.88**	**296**	P	**P**	**07 33 29.3**	**+1.0**
COEN	**Coen**	**22.04**	**139**		**P**	**07 33 27.0**	**-2.6**
COEN	**Coen**	**22.04**	**139**	P	**P**	**07 33 28.1**	**-1.5**
comp=Z,36nm,1.0s							
COEN	**Coen**	**22.04**	**139**	P	**P**	**07 33 28.5**	**-1.1**
PMG	**Port Moresby**	**22.13**	**123**		**P**	**07 33 28.1**	**-2.4**
PMG	**Port Moresby**	**22.13**	**123**	P	**P**	**07 33 28.8**	**-1.6**
comp=Z,32nm,0.8s,baz=308,slow=15,SNR=5.2							
comp=Z,32nm,0.8s							
SSLB	**Suanglung**	**22.16**	**341**	P	**P**	**07 33 30.3**	**-0.4**
JCJI	**Jatiwangi**	**22.24**	**246**	P	**P**	**07 33 34.3**	**+2.8**
NACB	**Ninganchiao**	**22.33**	**343**	P	**P**	**07 33 32.5**	**+0.3**
CMJI	**Cimerak**	**22.63**	**242**	P	**P**	**07 33 34.3**	**-0.7**
comp=Z,4μmcomp=Z,468nm,0.8s							
YHNB	**Yeheng**	**22.86**	**343**	P	**P**	**07 33 37.4**	**+0.3**
PPBI	**Pangkal Pinang**	**22.94**	**258**	P	**P**	**07 33 39.5**	**+1.7**
LEM	**Lembang**	**22.97**	**245**	P	**P**	**07 33 40.2**	**+1.9**
WB9	**Warramunga Arr**	**23.13**	**166**	P	**P**	**07 33 39.0**	**-0.4**
BBJI	**Bungbulang**	**23.20**	**244**	P	**P**	**07 33 40.3**	**0.0**
WRAB	**Tennant Creek**	**23.25**	**166**	P	**P**	**07 33 39.8**	**-0.8**
WRA	**Warramunga Arr**	**23.26**	**166**	P	**P**	**07 33 39.7**	**-1.0**
comp=Z,26nm,0.8s,baz=343,slow=10.0,SNR=67							
WRA				PP	**sP**	**07 34 50.4**	**-0.1**
comp=Z,12nm,0.8s,baz=342,slow=11,SNR=5.6							
WRA				S	**S**	**07 37 39.3**	**+3.7**
comp=Z,14nm,1.0s,baz=340,slow=18,SNR=6.0							
WRA				ScP	**ScP**	**07 40 36.8**	**-0.8**
comp=Z,1.9nm,0.7s,baz=333,slow=3.1,SNR=5.2							
comp=Z,26nm,0.8s							
WR8	**Warramunga Arr**	**23.31**	**166**	P	**P**	**07 33 39.6**	**-1.5**
CBJI	**Citeko**	**23.51**	**247**	P	**P**	**07 33 44.5**	**+1.5**
CNJI	**Cibinong**	**23.60**	**245**	P	**P**	**07 33 43.6**	**-0.2**
comp=Z,2μmcomp=Z,165nm,0.8s							
JOW	**Kunigami**	**23.94**	**359**	P	**P**	**07 33 47.5**	**+0.8**
comp=Z,54nm,0.9s,baz=174,slow=12,SNR=3.9							
comp=Z,54nm,0.9s							
QZH	**Quanzhou**	**24.06**	**337**	P	**P**	**07 33 49.2**	**+1.4**
QZH				pmax	pmax		
comp=Z,160nm,1.2s							
SBJI	**Serang**	**24.07**	**248**	P	**P**	**07 33 49.9**	**+1.8**
TPRI	**Tanjung Pinang**	**24.09**	**266**	P	**P**	**07 33 49.7**	**+1.4**
comp=Z,88nm,1.1s							
QIZ	**Qiongzhong**	**24.43**	**313**		**P**	**07

QIS	Mount Isa	25.58 155	P	P	07 34 01.4	-0.3
PSA00	Pilbara Seismi	25.64 199	IAmb	IAmb	07 34 05.7	
	comp=Z,16nm,0.8s					
PSA00	Pilbara Seismi	25.64 199	P	P	07 34 01.9	-0.2
	comp=Z,22nm,0.9s					
PSA00	Pilbara Seismi	25.64 199	P	P	07 34 02.2	+0.1
LWLI	Liwa	25.66 253	P	P	07 34 03.0	+0.4
MTSU	Mount Surprise	25.92 144	P	P	07 34 05.0	+0.2
UBPT	Khong Chiam	25.93 300	P	P	07 34 05.3	+0.4
XMIS	Christmas Isla	26.32 240	P	P	07 34 06.8	-1.5
XMIS	Christmas Isla	26.32 240	P	P	07 34 08.6	+0.2
MNAI	Manna	26.54 255	P	P	07 34 10.9	+0.5
MNAI	Manna	26.54 255	P	P	07 34 11.2	+0.8
KSI	Kapahiang	26.72 256	P	P	07 34 12.8	+0.8
	comp=Z,190nm,0.7s					
AS15	Alice Springs	26.75 169	P	P	07 34 11.9	-0.2
	comp=Z,50nm,0.9s					
AS31	Alice Springs	26.77 169	P	P	07 34 11.6	-0.7
AS31	Alice Springs	26.77 169	P	P	07 34 12.2	-0.1
	comp=Z,12nm,0.7s					
ASAR	Alice Springs	26.77 169	P	P	07 34 12.0	-0.4
ASAR	Alice Springs	26.77 169	P	P	07 34 11.9	-0.4
	comp=Z,17nm,0.7s,baz=350,slow=6.9,SNR=49					
ASAR			PcP	PcP	07 37 29.2	0.0
	comp=Z,4.2nm,0.8s,baz=347,slow=2.6,SNR=5.2					
ASAR			S	S	07 38 30.9	-0.2
	comp=Z,5.9nm,0.8s,baz=0.9,slow=25,SNR=6.8					
ASAR			ScP	ScP	07 40 46.8	-0.8
	comp=Z,4.9nm,0.8s,baz=356,slow=3.4,SNR=8.6					
	comp=Z,17nm,0.7s					
AS01	Alice Springs	26.78 169	P	P	07 34 12.3	-0.1
BKNI	Bangkinang	27.61 265	P	P	07 34 20.6	+0.7
BKNI	Bangkinang	27.61 265	P	P	07 34 21.5	+1.6
WRKA	Warakurna	27.63 181	P	P	07 34 19.7	-0.2
	comp=Z,52nm,1.2s					
WRKA	Warakurna	27.63 181	P	P	07 34 19.9	0.0
PPI	Padang Panjang	28.33 264	P	P	07 34 27.1	+0.8
	comp=Z,81nm,0.7s					
GIRL	Giralia	28.86 208	P	P	07 34 31.3	+0.5
	comp=Z,174nm,1.5s					
GIRL	Giralia	28.86 208	P	P	07 34 31.0	+0.2
MNSI	Mandailing Nat	29.03 267	P	P	07 34 32.9	+0.5
NAYO	Nakonayok	29.23 295	P	P	07 34 35.1	+0.9
SISI	Saibi	29.74 263	P	P	07 34 39.5	+0.8
	comp=Z,91nm,0.6s					
SLVN	Son La	30.27 310	IAmb	IAmb	07 34 46.0	
	comp=Z,30nm,0.8s					
JNU	Nakatsue	30.29 4	P	P	07 34 43.7	+0.4
PBSI	Pulau Batu	30.39 265	P	P	07 34 45.1	+0.6
	comp=Z,182nm,1.4s					
NJ2	Nanjing	30.54 344	eP	P	07 34 48.4	+2.9
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.5s					
WHN	Wuhan	30.73 336	P	P	07 34 48.6	+1.4
WHN			pmax	pmax		
	comp=Z,94nm,0.7s					
OOD	Oodnadatta	31.14 168	P	P	07 34 50.7	-0.1
GYA	Guiyang	31.57 320	⇑P	P	07 34 56.5	+1.8
GYA			pP	pP	07 35 42.0	+1.9
GYA			S	S	07 39 48.6	+2.2
GYA			pmax	pmax		
	comp=Z,27nm,0.8s					
GYA			pmax	pmax		
	comp=Z,100nm,3.1s					
GYA			LR	LR		
	comp=Z,220nm,4.2s					
GYA			LR	LR		
	comp=Z,140nm,3.8s					
GYA			LR	LR		
	comp=Z,100nm,5.6s					
MLSI	Meulaboh, Aceh	32.12 274	P	P	07 34 59.6	0.0
	comp=Z,216nm,1.1s					
SNSI	Sinabang, Aceh	32.20 270	P	P	07 35 00.6	+0.3
	comp=Z,184nm,1.1s					
INKA	Innaminka	32.51 160	P	P	07 35 02.6	-0.2
ENH	Enshi	32.79 329	P	P	07 35 06.0	+0.8
QLP	Quilpie	32.87 154	P	P	07 35 04.9	-1.0
	comp=Z,49nm,0.9s					
CMAR	Chiang Mai Arr	32.93 300		P	07 35 05.5	-1.1
CMAR	Chiang Mai Arr	32.93 300	P	P	07 35 08.2	+1.6
	comp=Z,50nm,0.8s,baz=116,slow=7.1,SNR=82					
CMAR			ScP	ScP	07 41 08.7	+1.1
	comp=Z,6.5nm,0.9s,baz=140,slow=2.0,SNR=26					
	comp=Z,50nm,0.8s					
CHTO	Chiang Mai	33.08 301		P	07 35 08.3	+0.4
CHTO	Chiang Mai	33.08 301	P	P	07 35 08.9	+1.0
CHTO	Chiang Mai	33.08 301	P	P	07 35 09.1	+1.2
CHTO			ScP	ScP	07 41 08.8	+0.7
FORT	Forrest	33.35 181	P	P	07 35 09.9	-0.1
	comp=Z,222nm,0.8s					
FORT	Forrest	33.35 181	P	P	07 35 10.2	+0.2
KMI	Kunming	33.36 314	⇓P	P	07 35 12.1	+1.7
KMI			pmax	pmax		
	comp=Z,34nm,0.8s					
INU	Inuyama	33.37 13	P	P	07 35 10.1	0.0
INU	Inuyama	33.37 13	P	P	07 35 10.1	0.0
RK1H	Rockhampton Ha	33.65 142	P	P	07 35 12.8	+0.2
LCRK	Leigh Creek	34.28 165	P	P	07 35 18.8	+0.8
KMBL	Kambalda	34.52 190	P	P	07 35 20.4	+0.3
KSAR	Wonju Array Be	34.52 359	P	P	07 35 19.3	-0.7
KSRS	Korea Array	34.54 359	P	P	07 35 20.5	+0.4
	comp=Z,18nm,0.8s,baz=176,slow=10,SNR=36					
KSRS			ScP	ScP	07 41 13.1	+0.2
	comp=Z,1.0nm,0.5s,baz=158,slow=3.6,SNR=5.1					
	comp=Z,18nm,0.8s					
MJAR	Matsushiro Arr	34.78 14	P	P	07 35 20.8	-1.4
	comp=Z,15nm,0.7s,baz=185,slow=9.3,SNR=26					
MJAR			ScP	ScP	07 41 14.0	+0.2
	comp=Z,2.8nm,0.8s,baz=194,slow=4.1,SNR=4.5					
	comp=Z,15nm,0.7s					
MAJO	Matsushiro	34.78 14		P	07 35 20.6	-1.6
MAJO			IAmb	IAmb	07 35 22.9	
	comp=Z,25nm,0.8s					
MAJO	Matsushiro	34.78 14	P	P	07 35 21.9	-0.3
MAJO	Matsushiro	34.78 14	P	P	07 35 20.9	-1.4
MJB9	Matsu-Tunnel	34.78 14	P	P	07 35 22.0	-0.3
MJB9			IAmb	IAmb	07 35 23.9	
	comp=Z,23nm,0.8s					
PZH	PanZhiHua	34.91 315	P	P	07 35 26.4	+2.8
PZH			pmax	pmax		
	comp=Z,6.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,100nm,4.8s					
LYN	LuoYang	35.00 336	P	P	07 35 24.6	+0.5
LYN			pP	pP	07 36 11.3	+1.1
LYN			S	S	07 40 36.4	-2.4
LYN			pmax	pmax		
	comp=Z,47nm,0.8s					
BLDU	Ballidu	35.06 198	P	P	07 35 22.6	-2.1
EIDS	Eidsvold	35.48 143		P	07 35 27.2	-1.1
EIDS			IAmb	IAmb	07 35 28.4	
	comp=Z,18nm,0.8s					
EIDS	Eidsvold	35.48 143	P	P	07 35 27.3	-1.0
	comp=Z,34nm,1.0s					
KLBR	Kellerberrin	35.67 196	P	P	07 35 29.7	-0.1
BBOO	Buckleboo	36.08 169		P	07 35 33.1	-0.2
BBOO	Buckleboo	36.08 169	P	P	07 35 32.7	-0.6
	comp=Z,96nm,0.9s					
BBOO	Buckleboo	36.08 169	P	P	07 35 33.2	-0.1
XAN	Xi'an	36.12 332	⇓P	P	07 35 33.2	-0.5
XAN			pP	pwP	07 36 22.1	-1.1
XAN			pmax	pmax		
	comp=Z,79nm,0.9s					
XAN			pmax	pmax		
	comp=Z,200nm,4.3s					
TNCH	TengChong	36.43 310	⇓iP	P	07 35 37.8	+1.1
TNCH			pmax	pmax		
	comp=Z,110nm,1.3s					
TNCH			pmax	pmax		
	comp=Z,310nm,2.6s					
MUN	Mundaring	36.48 198	P	P	07 35 36.5	-0.2
	comp=Z,35nm,1.3s					
MUN	Mundaring	36.48 198	P	P	07 35 36.7	0.0
CD2	Chengdu	36.51 323	P	P	07 35 37.5	+0.4
CD2			pmax	pmax		
	comp=Z,100nm,0.9s					
DL2	Dalian	36.53 351	P	P	07 35 37.3	+0.3
DL2			pmax	pmax		
	comp=Z,69nm,0.8s					
STKA	Stephens Creek	36.60 161		P	07 35 37.2	-0.6
STKA	Stephens Creek	36.60 161	P	P	07 35 37.1	-0.6
STKA	Stephens Creek	36.60 161	P	P	07 35 37.7	-0.1
	comp=Z,27nm,0.6s,baz=325,slow=9.4,SNR=34					
	comp=Z,27nm,0.6s					
STKA	Stephens Creek	36.60 161	P	P	07 35 37.6	-0.1
JMM	Marumori	36.70 16		P	07 35 38.4	0.0
JMM			IAmb	IAmb	07 35 40.7	
	comp=Z,36nm,0.8s					
JMM	Marumori	36.70 16	P	P	07 35 38.4	0.0
HNS	HongShan	36.75 341	⇑P	P	07 35 38.7	-0.2
HNS			pmax	pmax		
	comp=Z,55nm,1.1s					
NWAO	Narrogin (SRO)	37.07 196	P	P	07 35 41.8	+0.1
	comp=Z,48nm,1.0s					
NWAO	Narrogin (SRO)	37.07 196	P	P	07 35 41.7	+0.1
NWAO	Narrogin (SRO)	37.07 196	P	P	07 35 41.8	+0.1
NWAO	Narrogin (SRO)	37.07 196	P	P	07 35 41.7	+0.1
NWAO			ScP	ScP	07 41 20.9	-1.3
HTT	Hallett	37.30 166	P	P	07 35 43.5	-0.2
	comp=Z,6.5nm,1.5s					
HTT	Hallett	37.30 166	P	P	07 35 43.8	+0.2
CMSA	Cobar Meteorol	37.80 156	P	P	07 35 47.5	-0.3
	comp=Z,12nm,0.9s					
RKGY	Rocky Gully	38.73 195	P	P	07 35 56.4	+0.9
	comp=Z,22nm,0.8s					
BJT	Baijiatuau	38.76 345	P	P	07 35 55.7	+0.1
BJT	Baijiatuau	38.76 345	P	P	07 35 55.7	+0.1
BJI	Beijing	38.77 345	P	P	07 35 55.6	-0.2
BJI			pmax	pmax		
	comp=Z,32nm,0.8s					
JTM	Tenmabayashi	39.51 15	P	P	07 36 02.3	+0.5
ARMA	Armidale	39.67 148		P	07 36 03.6	+0.1
ARMA			IAmb	IAmb	07 36 04.4	
	comp=Z,28nm,0.7s					
ARMA	Armidale	39.67 148	P	P	07 36 03.6	+0.1
	comp=Z,50nm,1.0s					
ARMA	Armidale	39.67 148	P	P	07 36 03.8	+0.4
LZH	Lanzhou	40.27 328	⇓P	P	07 36 10.1	+1.7
LZH			pmax	pmax		
	comp=Z,130nm,0.9s					
H11S3	WAKE ISLAND Hy	40.48 65	T	T	08 20 23.3	
	baz=252,slow=75,SNR=29					
H11S2	WAKE ISLAND Hy	40.49 65	T	T	08 20 29.2	
	baz=252,slow=75,SNR=20					
H11S1	WAKE ISLAND Hy	40.49 65	T	T	08 20 24.8	
	baz=252,slow=75,SNR=15					
BRDH	Bariadhala	40.89 302	P	P	07 36 13.7	+0.2
	comp=Z,111nm,0.3s,baz=84,slow=5.2,SNR=5.7					
HHC	Hu-ho-hao-te	40.91 340	eP	P	07 36 14.2	+0.8
HHC			S	S	07 42 08.9	+1.3
HHC			pmax	pmax		
	comp=Z,50nm,0.8s					
HHC			pmax	pmax		
	comp=Z,100nm,4.7s					
CN2	Changchun	40.97 357	eP	P	07 36 16.4	+2.7
CN2			pmax	pmax		
	comp=Z,10.0nm,0.9s					
H11N1	WAKE ISLAND Hy	41.05 63	T	T	08 21 05.0	
	baz=250,slow=75,SNR=23					
H11N2	WAKE ISLAND Hy	41.06 63	T	T	08 21 05.8	
	baz=250,slow=75,SNR=16					
H11N3	WAKE ISLAND Hy	41.07 63	T	T	08 21 06.3	
	baz=250,slow=75,SNR=20					
ARPS	Mount Arapiles	41.23 164	P	P	07 36 16.4	+0.5
	comp=Z,95nm,1.0s					
ARPS	Mount Arapiles	41.23 164	P	P	07 36 16.5	+0.5
BTO	Baotou	41.23 338	eP	P	07 36 17.5	+1.4
BTO			pP	pwP	07 37 04.9	-1.0
BTO			sP	sP	07 37 30.2	+0.6
BTO			PP	PP	07 37 59.1	+2.6
BTO			pmax	pmax		
	comp=Z,42nm,0.5s					
BTO			pmax	pmax		
	comp=Z,260nm,4.3s					
USA0B	Ussuriysk Arra	41.38 4		P	07 36 16.0	-1.1
USRK	Ussuriysk Ar.	41.38 4	P	P	07 36 17.4	+0.3
	comp=Z,12nm,0.7s,baz=182,slow=7.9,SNR=20					
	comp=Z,12nm,0.7s					
MDJ	Mudanjiang	41.70 1	IAmb	IAmb	07 36 21.2	
	comp=Z,18nm,0.8s					
MDJ	Mudanjiang	41.70 1	P	P	07 36 20.1	+0.5
MDJ			S	S	07 42 18.5	-0.3
MDJ			sS	sS	07 43 42.6	-1.3
MDJ			pmax	pmax		
	comp=Z,30nm,1.1s					
SHL	Shillong	41.92 306	P	P	07 36 21.9	-0.1
XLT	XiLinHaoTe	42.44 347	eP	P	07 36 25.8	0.0
XLT			pmax	pmax		
	comp=Z,43nm,0.9s					
CAN	Canberra	42.45 155	P	P	07 36 26.4	+0.5
	comp=Z,16nm,1.1s					
VLAKA	Lakatoro	42.74 117	P	P	07 36 28.4	-0.1
BNX	BinXian	42.82 359	⇑P	P	07 36 28.0	-0.7
BNX			pmax	pmax		
	comp=Z,11nm,1.2s					
LSA	Lhasa	44.45 311	IAmb	IAmb	07 36 45.2	
	comp=Z,64nm,0.9s					
LSA	Lhasa	44.45 311	P	P	07 36 44.1	+1.6
LSA			pmax	pmax		
	comp=Z,75nm,0.9s					
LSA	Lhasa	44.45 311	P	P	07 36 44.1	+1.6
DZM	Mont Dzumac	44.49 126		P	07 36 42.4	-0.1
DZM			IAmb	IAmb	07 36 44.5	
	comp=Z,27nm,0.8s					
DZM	Mont Dzumac	44.49 126	P	P	07 36 42.4	-0.1
	comp=Z,24nm,0.6s,baz=290,slow=7.0,SNR=33					
	comp=Z,24nm,0.6s					
DZM	Mont Dzumac	44.49 126	P	P	07 36 42.9	+0.5
DZM	Mont Dzumac	44.49 126	P	P	07 36 42.7	+0.2
YATNC	Mamie plateau,	44.85 125	P	P	07 36 45.5	+0.3
GTA	Gaotai	44.87 328	⇓P	P	07 36 46.7	+1.4
GTA			pP	pP	07 37 32.4	-1.5
GTA			ScP	ScP	07 41 54.3	+1.1
GTA			pmax	pmax		
	comp=Z,59nm,0.9s					
GTA			LR	LR		
	comp=Z,67nm,13.1s					
GTA			LR	LR		
	comp=Z,92nm,13.1s					
GTA			LR	LR		
	comp=Z,120nm,14.7s					
OUENC	Ouen Island, N	44.98 126	P	P	07 36 46.6	+0.4
GOMU	GeErMu	45.58 321	P	P	07 36 52.2	+1.0
GOMU			pmax	pmax		
	comp=Z,30nm,0.8s					
HEH	HeiHe	47.34 359	eP	P	07 37 03.8	-0.3
HEH			pmax	pmax		
	comp=Z,27nm,1.2s					
PALK	Pallekele	47.86 277		P	07 37 08.3	-0.4
PALK			IAmb	IAmb	07 37 10.1	
	comp=Z,43nm,1.3s					
PALK	Pallekele	47.86 277	P	P	07 37 08.6	-0.1
PALK			ScP	ScP	07 42 06.8	+0.7
ULN	Ulaanbaatar	48.62 341		P	07 37 14.2	+0.1
ULN			IAmb	IAmb	07 37 15.6	
	comp=Z,37nm,0.8s					
ULN	Ulaanbaatar	48.62 341	P	P	07 37 14.7	+0.5
ULN			ScP	ScP	07 42 09.0	+0.3
SONM	Songino Array	48.81 340		P	07 37 15.5	0.0
SONM	Songino Array	48.81 340	P	P	07 37 15.8	+0.3
	comp=Z,20nm,1.0s,baz=157,slow=8.3,SNR=32					
SONM			ScP	ScP	07 42 09.3	-0.2
	comp=Z,2.2nm,0.8s,baz=161,slow=5.0,SNR=5.8					
	comp=Z,20nm,1.0s					
NFK	Norfolk Island	49.23 133	P	P	07 37 18.6	-0.3
	comp=Z,115nm,1.0s					
MSVF	Nonsavu	52.85 115		P	07 37 46.8	+0.8
MSVF			IAmb	IAmb	07 37 48.8	
	comp=Z,65nm,1.0s					
MSVF	Nonsavu	52.85 115	P	P	07 37 46.9	+0.9
	comp=Z,30nm,0.8s,baz=265,slow=6.3,SNR=8.8					
	comp=Z,30nm,0.8s					
MSVF	Nonsavu	52.85 115	P	P	07 37 46.0	-0.1
MSVF	Nonsavu	52.85 115	P	P	07 37 47.4	+1.4
MSVF			PcP	PcP	07 38 53.3	+1.2
WMQ	Urumqi	54.57 324	eP	P	07 37 59.1	+1.0
WMQ			pmax	pmax		
	comp=Z,66nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,120nm,3.6s					
KAAM	Kaadhehdhoo	55.58 269		P	07 38 05.2	-0.5
KAAM			IAmb	IAmb	07 38 06.8	
	comp=Z,25nm,0.8s					
PETK	Petropavlovsk-	55.66 21		P	07 38 05.2	-0.4
PETK	Petropavlovsk-	55.66 21	P	P	07 38 05.9	+0.3
	comp=Z,7.1nm,0.7s,baz=195,slow=5.0,SNR=20					
PETK			PcP	pwP	07 38 59.7	-1.6
	comp=Z,6.8nm,0.9s,baz=232,slow=3.6,SNR=4.6					
	comp=Z,7.1nm,0.7s					
PET	Petropavlovsk	55.94 21	P	P	07 38 07.2	-0.3
	comp=Z,32nm,1.0s					
OUZ	Omahuta	56.60 136	P	P	07 38 12.5	0.0
DGAR	Diego Garcia	56.88 259		P	07 38 13.6	-1.4
WUS	Wushi	58.50 318	IAmb	IAmb	07 38 26.9	
	comp=Z,14nm,0.8s					
QRZ	Quartz Range	59.04 142	P	P	07 38 29.7	+0.3
YAK	Yakutsk	59.14 1		P	07 38 29.8	+0.1
YAK	Yakutsk	59.14 1	P	P	07 38 29.8	+0.1
MA2	Magadan	59.22 13		P	07 38 30.2	-0.1
MA2			IAmb	IAmb	07 38 32.1	
	comp=Z,12nm,0.7s					
MA2	Magadan	59.22 13	P	P	07 38 30.8	+0.5
	comp=Z,17nm,0.8s					
MA2	Magadan	59.22 13	P	P	07 38 30.9	+0.6
TOZ	Tahuroa Road	59.23 138		P	07 38 31.9	+1.2
SHLS	Shalkode	59.26 320	eP	P	07 38 29.3	-1.7
	comp=Z,17nm,0.9s					
MK31	Makanchi Array	59.39 325	IAmb	IAmb	07 38 32.9	
	comp=Z,18nm,0.8s					
MKAR	Makanchi Array	59.39 325		P	07 38 31.5	-0.2
MKAR	Makanchi Array	59.39 325	P	P	07 38 31.9	+0.1
	comp=Z,19nm,0.6s,baz=118,slow=8.3,SNR=48					
MKAR			PcP	PcP	07 39 16.9	-0.1
	comp=Z,8.2nm,0.8s,baz=114,slow=2.9,SNR=7.3					
MKAR			ScP	ScP	07 42 54.7	-1.0
	comp=Z,4.8nm,0.8s,baz=113,slow=4.5,SNR=10					
	comp=Z,19nm,0.6s					
UZB	Uzynbulak	59.54 320	eP	P	07 38 33.0	+0.1
	comp=Z,17nm,0.8s					
MAKZ	Makanchi	59.58 325	P	P	07 38 32.7	-0.4
MAKZ			IAmb	IAmb	07 38 34.1	
	comp=Z,33nm,0.8s					
MAKZ	Makanchi	59.58 325	P	P	07 38 33.1	0.0
MAKZ			PcP	PcP	07 39 17.5	-0.3
MAKZ			pP	pP	07 39 22.2	-2.3
MAKZ			ScP	ScP	07 42 55.8	-0.8
TARG	Taragay, Kyrgy	59.69 318		P	07 38 33.2	-1.2
TARG			IAmb	IAmb	07 38 45.6	
	comp=Z,23nm,1.1s					
THZ	Tophouse	59.82 143		P	07 38 33.5	-1.3
SATY	Saty	59.89 319	eP	P	07 38 35.5	+0.1
	comp=Z,14nm,0.8s					
RPZ	Rata Peaks	59.93 146	P	P	07 38 35.5	+0.1
NIL	Nilore	59.96 308		P	07 38 35.2	-0.6
NIL			IAmb	IAmb	07 38 37.0	
	comp=Z,51nm,1.1s					
KSH	Kashi	60.02 315	P	P	07 38 37.8	+1.5
KSH			pmax	pmax		
	comp=Z,34nm,1.0s					
OXZ	Oxford	60.25 145	P	P	07 38 37.6	0.0
KDJ	Kajisay	60.28 318	IAmb	IAmb	07 38 39.6	
	comp=Z,28nm,0.8s					
TCW	Tory Channel	60.34 142	P	P	07 38 37.6	-0.6
KHZ	Kahutara	60.59 143	P	P	07 38 39.8	0.0
BKZ	Black Stump Fm	60.65 139		P	07 38 40.4	0.0
BKZ	Black Stump Fm	60.65 139	P	P	07 38 40.2	-0.2
MDOK	Medeo	60.83 319	eP	P	07 38 41.7	0.0
TNSS	Tian-Shan	60.84 319	eP	P	07 38 41.8	-0.3
AAA	Alma-Ata	60.94 319	eP	P	07 38 42.5	+0.2
	comp=Z,14nm,0.5s					
MXZ	Matakaoa Point	61.06 136	P	P	07 38 43.9	+0.8
CHKK	Chushkaly	61.17 320	eP	P	07 38 44.1	+0.2
BFZ	Birch Farm	61.29 140	P	P	07 38 44.8	+0.1
AFI	Afiamalu	61.42 107	P	P	07 38 46.8	+0.8
TKM2	Tokmak 2	61.68 318	P	P	07 38 47.8	+0.3
	SNR=12					
ZAA0	Zalesovo Array	62.28 333	IAmb	IAmb	07 38 51.0	
	comp=Z,24nm,0.9s					
ZALV	Zalesovo Beam	62.28 333		P	07 38 50.2	-0.7
ZALV	Zalesovo Beam	62.28 333	P	P	07 38 50.0	-1.0
	comp=Z,9.6nm,0.5s,baz=104,slow=6.3,SNR=33					
ZALV			PcP	PcP	07 39 27.4	-1.2
	comp=Z,3.6nm,0.8s,baz=208,slow=2.5,SNR=3.6					
ZALV			S	S	07 46 55.2	-3.1
	comp=Z,1.7nm,0.8s,baz=134,slow=13,SNR=6.3					
	comp=Z,9.6nm,0.5s					
AAK	Ala-Archa	62.30 318		P	07 38 51.9	+0.3
AAK	Ala-Archa	62.30 318	P	P	07 38 51.8	+0.3
	comp=Z,5.3nm,0.9s,baz=192,slow=7.0,SNR=8.8					
	comp=Z,5.3nm,0.9s					
AAK	Ala-Archa	62.30 318	P	P	07 38 51.9	+0.3
	SNR=6.0					
AAK	Ala-Archa	62.30 318	P	P	07 38 52.0	+0.4
AAK			PcP	PcP	07 39 29.4	+0.3
USP	Ospenovka	62.55 318	P	P	07 38 53.3	+0.2
	SNR=26					
AML	Almayashu	62.64 317	P	P	07 38 54.8	+0.7
	SNR=20					
EKS2	Erkin-Say	62.80 317	P	P	07 38 55.5	+0.8
	SNR=12					
ARSB	Arslanbob	62.82 316	IAmb	IAmb	07 38 56.3	
	comp=Z,33nm,1.0s					
KURBB	Kurchatov Arra	63.54 327	P	P	07 38 59.1	-0.3
	comp=Z,45nm,0.7s,baz=127,slow=6.0,SNR=105					
KURBB			PP	PP	07 41 22.5	+0.3
	comp=Z,4.4nm,1.1s,baz=124,slow=8.3,SNR=4.6					
KURBB			S	S	07 47 13.0	-1.1
	comp=Z,0.2nm,0.6s,baz=114,slow=12,SNR=4.3					
	comp=Z,45nm,0.7s					
KURK	Kurchatov	63.54 327		P	07 38 59.4	+0.1
KURK	Kurchatov	63.54 327	P	P	07 38 59.0	-0.3
KURK			PcP	PcP	07 39 33.2	-0.5
KURK			pP	pP	07 39 49.4	-2.1
KBL	Kabul	63.56 307		P	07 38 59.7	-0.4
KBL			IAmb	IAmb	07 39 00.7	
	comp=Z,25nm,0.9s					
NIUE	Niue	64.21 113	P	P	07 39 04.2	-0.1
DZA	Taraz	64.55 317	eP	P	07 39 06.0	-0.1
	comp=Z,11nm,0.7s					
SIMJ	Simiganj	64.78 312		P	07 39 07.5	-0.4
SIMJ			IAmb	IAmb	07 39 08.5	
	comp=Z,50nm,1.5s					
SIMJ	Simiganj	64.78 312	P	P	07 39 07.5	-0.4
SIMJ			PcP	PcP	07 39 38.0	-1.4
KK31	Karatay Array	65.18 317	IAmb	IAmb	07 39 11.0	
	comp=Z,36nm,1.1s					
KKAR	Karatay Array	65.18 317		P	07 39 09.6	-0.6
KKAR	Karatay Array	65.18 317	IAmb	IAmb	07 39 11.0	
	comp=Z,37nm,1.1s					
BRLS	Borolday	65.62 317	eP	P	07 39 13.1	+0.1
	comp=Z,12nm,0.6s					
BRZS	Berezniki	66.53 324	eP	P	07 39 18.4	-0.3
TIXI	Tiksi	68.80 0		P	07 39 31.6	-0.6
TIXI			IAmb	IAmb	07 39 32.7	
	comp=Z,14nm,0.9s					
TIXI	Tiksi	68.80 0	P	P	07 39 31.5	-0.8
BVAR	Borovoye Array	69.13 327	P	P	07 39 34.3	-0.4
	comp=Z,38nm,0.8s,baz=121,slow=7.6,SNR=35					
BVAR			S	S	07 48 18.0	-3.2
	comp=Z,1.0nm,0.8s,baz=122,slow=14,SNR=5.4					
	comp=Z,38nm,0.8s					
BRVK	Borovoye	69.20 327		P	07 39 34.9	-0.2
BRVK	Borovoye	69.20 327	P	P	07 39 34.8	-0.4
CASY	Casey	70.09 188		P	07 39 41.0	+0.8
NIKH	Nikolski High	71.57 34	P	P	07 39 49.7	+0.2
	baz=249					
NRIK	Noril'sk	71.81 346	IAmb	IAmb	07 39 51.4	
	comp=Z,18nm,0.8s					
NRIK	Noril'sk	71.81 346	P	P	07 39 50.5	-0.1
	comp=Z,16nm,0.8s,baz=123,slow=5.9,SNR=24					
	comp=Z,16nm,0.8s					
SPIA	Saint Paul Isl	72.41 30	P	P	07 39 55.4	+1.1
	baz=247		

baz=252
SDPT Sand Point 76.98 34 P P 07 40 20.7 +0.1
SDPT Sand Point 76.98 34 P P 07 40 21.0 +0.4
baz=256
CHNA Chernabura Isl 77.35 34 P P 07 40 23.3 +0.6
baz=256
F14K Arctic Creek 77.36 23 P P 07 40 23.2 +0.7
baz=248
ANM Nome 77.41 24 P P 07 40 23.1 +0.3
baz=249
L14K Kuka Creek 77.51 27 IAmb IAmb 07 40 25.6
comp=Z,19nm,0.9s
L14K Kuka Creek 77.51 27 P P 07 40 23.9 +0.5
baz=252
J14K Nanvaranak Lak 77.56 26 P P 07 40 23.7 +0.1
baz=251
N14K Kuskokwak Cree 77.57 29 P P 07 40 24.1 +0.4
baz=254
O14K Tigyukauivet M 77.58 30 P P 07 40 23.9 +0.1
baz=254
S14K Fog Glacier 77.72 33 P P 07 40 25.1 +0.3
baz=256
G15K Niukluk 78.09 24 P P 07 40 27.4 +0.9
baz=250
F15K North Star Dit 78.09 23 P P 07 40 27.1 +0.6
baz=250
L15K Ungalak Mounta 78.16 27 P P 07 40 27.9 +0.9
baz=253
M15K Kasigluk River 78.25 28 P P 07 40 27.7 +0.2
baz=254
O15K Ungalikthiuk R 78.28 30 P P 07 40 28.6 +1.0
baz=255
K15K Wolf Creek Mou 78.31 27 IAmb IAmb 07 40 30.7
comp=Z,26nm,1.2s
K15K Wolf Creek Mou 78.31 27 P P 07 40 29.1 +1.3
baz=253
N15K Kwethluk River 78.40 29 P P 07 40 29.5 +1.2
baz=255
H16K Elim 78.71 24 P P 07 40 30.9 +1.0
baz=252
C16K Lisburne Hills 78.76 20 P P 07 40 31.3 +1.2
baz=248
G16K Koyuk River 78.89 23 P P 07 40 31.9 +1.0
baz=252
J16K Anvik River 79.00 26 IAmb IAmb 07 40 34.0
comp=Z,12nm,0.8s
J16K Anvik River 79.00 26 P P 07 40 32.7 +1.2
baz=254
N16K Nishlik Lake 79.12 29 P P 07 40 33.7 +1.5
baz=256
M16K Timber Creek 79.16 28 P P 07 40 33.5 +1.1
baz=256
O16K Kokwok River B 79.24 30 P P 07 40 33.6 +0.7
baz=257
RDOG Red Dog Mine 79.53 21 IAmb IAmb 07 40 36.2
comp=Z,10nm,0.5s
RDOG Red Dog Mine 79.53 21 P P 07 40 35.6 +1.3
baz=251
G17K Kiwalik Mounta 79.61 24 P P 07 40 36.0 +1.2
baz=254
F17K Baldwin Pennin 79.64 23 P P 07 40 36.1 +1.2
baz=253
J17K VABM Dome 79.70 26 IAmb IAmb 07 40 37.7
comp=Z,11nm,0.8s
J17K VABM Dome 79.70 26 P P 07 40 36.7 +1.4
baz=255,SNR=7.4
L17K Donlin 79.73 27 P P 07 40 36.6 +1.1
baz=256
H17K Granite Mounta 79.75 24 P P 07 40 36.4 +0.8
baz=254
CHIR Chirikof Islan 79.78 34 P P 07 40 36.6 +0.7
baz=260
K17K Iditarod 79.87 27 IAmb IAmb 07 40 38.7
comp=Z,13nm,0.8s
K17K Iditarod 79.87 27 P P 07 40 37.7 +1.5
baz=256,SNR=5.9
N17K Nushagak Hills 79.89 29 P P 07 40 37.3 +0.9
baz=258
M17K Holitna River 79.96 28 P P 07 40 37.3 +0.5
baz=257
Q17K Contact Creek 80.08 31 P P 07 40 37.3 -0.3
baz=259
E18K Tukpahlearik C 80.17 22 IAmb IAmb 07 40 40.0
comp=Z,14nm,0.7s
E18K Tukpahlearik C 80.17 22 P P 07 40 39.2 +1.5
baz=253
C18K Utukok River 80.33 20 P P 07 40 39.7 +1.1
baz=252
B18K Kokolik River 80.34 20 P P 07 40 40.2 +1.6
baz=252
H18K Honhosa River 80.44 24 P P 07 40 40.4 +1.1
baz=256
L18K Granite Mounta 80.49 27 P P 07 40 40.5 +1.0
baz=258,SNR=8.4
G18K Tagagawik 80.51 23 P P 07 40 40.8 +1.2
baz=255
N18K Kilae Creek 80.55 29 P P 07 40 40.1 +0.2
baz=259
Q18K Katmai Hardscr 80.61 31 P P 07 40 40.5 +0.1
baz=260
P18K Big Mountain, 80.63 30 P P 07 40 40.3 -0.1
baz=259
SII Sitkinak Islan 80.69 33 P P 07 40 41.0 +0.2
SII Sitkinak Islan 80.69 33 P P 07 40 41.3 +0.5
baz=261
R18K Karluk 80.71 32 P P 07 40 41.1 +0.3
baz=260
O18K Koktuh Hills 80.72 30 P P 07 40 41.9 +1.0
baz=259
M18K Stony River 80.74 28 P P 07 40 41.9 +1.1
baz=259,SNR=5.3
J18K Innoko River 80.74 26 IAmb IAmb 07 40 42.6
comp=Z,61nm,2.0s
J18K Innoko River 80.74 26 P P 07 40 41.8 +0.9
baz=257,SNR=7.2
A19K Wainwright 80.84 19 P P 07 40 42.5 +1.3
baz=252
TTA Tatalina 80.94 27 P P 07 40 43.0 +1.0
baz=258,SNR=6.1
GCSA Galena City Sc 80.96 25 P P 07 40 43.0 +1.1
baz=257,SNR=8.8
F19K Shaleruckik Mo 81.08 23 P P 07 40 43.5 +0.9
baz=256
G19K Purcell Mounta 81.19 23 IAmb IAmb 07 40 45.3
comp=Z,16nm,0.7s
G19K Purcell Mounta 81.19 23 P P 07 40 44.1 +0.9
baz=257
O19K Port Alsworth 81.22 30 P P 07 40 44.6 +1.2
baz=260
N19K Bonanza Creek 81.25 29 IAmb IAmb 07 40 46.8
comp=Z,10nm,0.8s
N19K Bonanza Creek 81.25 29 P P 07 40 45.1 +1.3
baz=260,SNR=6.9
OHAK Old Harbor 81.28 33 IAmb IAmb 07 40 45.9
comp=Z,16nm,0.7s
OHAK Old Harbor 81.28 33 P P 07 40 44.4 +0.6
OHAK Old Harbor 81.28 33 P P 07 40 44.5 +0.7
baz=261
H19K Roundabout Mou 81.31 24 IAmb IAmb 07 40 46.1
comp=Z,14nm,0.6s
H19K Roundabout Mou 81.31 24 P P 07 40 44.9 +1.2
baz=257,SNR=14
L19K White Mountain 81.32 27 P P 07 40 45.3 +1.3
baz=259,SNR=5.0
J19K Poorman 81.33 26 P P 07 40 45.2 +1.2
baz=258,SNR=9.0
Q19K Cape Douglas, 81.35 31 IAmb IAmb 07 40 44.7
comp=Z,23nm,0.7s
Q19K Cape Douglas, 81.35 31 P P 07 40 44.6 +0.3
baz=261
D19K Kuna River 81.37 21 IAmb IAmb 07 40 46.0
comp=Z,13nm,0.6s
D19K Kuna River 81.37 21 P P 07 40 45.0 +0.8
baz=255
E19K Redstone River 81.44 22 IAmb IAmb 07 40 46.8
comp=Z,18nm,0.9s
E19K Redstone River 81.44 22 P P 07 40 45.5 +1.1
baz=256
M19K Big River Lodg 81.49 28 P P 07 40 46.0 +1.1
baz=260
P19K Oil Pt 81.68 30 P P 07 40 46.7 +0.8
baz=261
KDAK Kodiak Island 81.74 32 P 07 40 45.9 -0.3
KDAK IAmb IAmb 07 40 47.7
comp=Z,26nm,0.8s
KDAK Kodiak Island 81.74 32 P P 07 40 47.2 +1.1
baz=262
L20K Farewell, AK 81.82 27 P P 07 40 47.8 +1.2
baz=260
K20K Telida 81.89 26 P P 07 40 47.8 +0.9
baz=260,SNR=7.0
F20K Avaraart Lake 81.92 23 P P 07 40 48.4 +1.4
baz=258
H20K Anotleneega Mo 81.94 24 P P 07 40 48.1 +1.0
baz=259,SNR=9.8
Q20K Shuyak Island 81.95 31 P P 07 40 47.8 +0.5
baz=262
D20K Etivluk River 81.96 21 IAmb IAmb 07 40 49.4
comp=Z,22nm,1.2s
D20K Etivluk River 81.96 21 P P 07 40 48.4 +1.2
baz=257,SNR=18
I20K Naaghedeneel 81.97 25 IAmb IAmb 07 40 49.4
comp=Z,19nm,0.7s
I20K Naaghedeneel 81.97 25 P P 07 40 48.3 +1.1
baz=259,SNR=10
KIRV Kirov 82.00 329 P P 07 40 46.9 -0.6
comp=Z,28nm,0.8s,baz=310,slow=1.4,SNR=11
comp=Z,28nm,0.8s
J20K Nowinta River 82.00 26 IAmb IAmb 07 40 49.8
comp=Z,12nm,0.7s
J20K Nowinta River 82.00 26 P P 07 40 48.3 +0.9
baz=260,SNR=9.1
E20K Nigu River 82.01 21 P P 07 40 48.4 +0.9
baz=257
M20K Styx River 82.07 28 P P 07 40 48.9 +0.9
baz=261,SNR=5.3
B20K Meade River 82.07 20 P P 07 40 48.9 +1.2
baz=256,SNR=8.9
VNDA Vanda 82.24 173 P 07 40 48.7 +0.3
VNDA Vanda 82.24 173 P P 07 40 47.4 -1.0
comp=Z,7.0nm,0.9s,baz=317,slow=6.5,SNR=26
comp=Z,7.0nm,0.9s
SPCR Spurr Chakacha 82.41 29 P P 07 40 49.8 +0.1
baz=262
HOM Homer 82.48 30 P P 07 40 50.4 +0.4
baz=262
RAYN Ar Rayn 82.54 293 P 07 40 50.5 -0.6
RAYN IAmb IAmb 07 40 51.6
comp=Z,16nm,0.8s
A21K Barrow 82.56 18 P P 07 40 50.8 +0.6
baz=256,SNR=5.8
PPLA Purkeypile 82.66 27 IAmb IAmb 07 40 52.6
comp=Z,61nm,1.8s
PPLA Purkeypile 82.66 27 P P 07 40 51.0 -0.1
baz=262
CNPM China Poot 82.67 30 IAmb IAmb 07 42 56.9
comp=Z,52nm,1.6s
G21K Allakaket 82.68 23 P P 07 40 51.3 +0.3
baz=260
C21K Knifeblade Rid 82.70 21 P P 07 40 51.7 +0.7
baz=258
CHUM Lake Minchumin 82.75 26 P P 07 40 52.4 +1.1
baz=261,SNR=6.9
CAST Castle Rocks 82.78 26 IAmb IAmb 07 40 53.2
comp=Z,11nm,0.8s
CAST Castle Rocks 82.78 26 P P 07 40 51.9 +0.3
baz=262,SNR=8.5
F21K Alatna River 82.81 23 P P 07 40 52.1 +0.4
baz=260
H21K Melozitna Rive 82.82 24 P P 07 40 52.2 +0.5
baz=261,SNR=7.5
SKT Skwentna 82.83 28 IAmb IAmb 07 40 52.4
comp=Z,17nm,1.0s
SKT Skwentna 82.83 28 P P 07 40 52.0 +0.2
baz=262,SNR=7.8
E21K Killik River 82.85 21 IAmb IAmb 07 40 53.7
comp=Z,10nm,0.8s
E21K Killik River 82.85 21 P P 07 40 52.7 +0.9
baz=259
B21K Ikpikpuk River 82.85 20 IAmb IAmb 07 40 53.9
comp=Z,20nm,0.6s
B21K Ikpikpuk River 82.85 20 P P 07 40 52.4 +0.7
baz=258
CAPN Captain Cook N 82.86 29 P P 07 40 52.5 +0.6
baz=263
BRSE Bradley Lake S 82.94 30 P P 07 40 52.4 0.0
baz=263
A22K Sinclair Lake 83.01 19 P P 07 40 53.7 +1.2
baz=258
SBA Scott Base 83.13 172 P P 07 40 53.6 +0.6
SUA Susitna One 83.14 29 IAmb IAmb 07 40 54.3
comp=Z,18nm,0.8s
SUA Susitna One 83.14 29 P P 07 40 53.3 -0.2
baz=263,SNR=9.4
SLKM Skilak Lake 83.28 29 IAmb IAmb 07 40 55.6
comp=Z,27nm,1.0s
F22K John River 83.36 22 P P 07 40 55.6 +1.2
baz=261
BPAW Bear Paw Mtn. 83.36 26 P P 07 40 55.1 +0.7
baz=262
VOI Vohitsoka 83.39 248 P 07 40 55.0 -0.6
VOI IAmb IAmb 07 40 56.1
comp=Z,23nm,0.7s
B22K Teshekpuk Lake 83.39 19 IAmb IAmb 07 40 56.4
comp=Z,13nm,0.7s
B22K Teshekpuk Lake 83.39 19 P P 07 40 55.6 +1.1
baz=260
D22K Ayikyak River 83.39 21 P P 07 40 55.2 +0.7
baz=260
H22K Ishtalitna Cre 83.44 24 P P 07 40 55.9 +1.0
baz=262
M22K Willow 83.47 28 P P 07 40 55.2 +0.2
baz=264,SNR=7.2
O22K Cooper Landing 83.53 30 IAmb IAmb 07 41 02.6
comp=Z,31nm,0.8s
O22K Cooper Landing 83.53 30 P P 07 40 55.4 +0.1
baz=264
G22K Bettles 83.53 23 P P 07 40 55.4 +0.2
baz=262
RC01 Rabbit Creek A 83.58 29 IAmb IAmb 07 40 56.5
comp=Z,19nm,0.8s
RC01 Rabbit Creek A 83.58 29 P P 07 40 55.8 +0.2
baz=264,SNR=9.1
TRF Thorofare Moun 83.59 27 P P 07 40 55.5 -0.4
baz=263
SEW Seward 83.62 30 P P 07 40 55.6 -0.2
baz=264
PMR Palmer 83.92 28 IAmb IAmb 07 40 58.2
comp=Z,20nm,0.9s
PMR Palmer 83.92 28 P P 07 40 57.5 +0.2
baz=264,SNR=12
COLD Coldfoot 84.08 23 P P 07 40 58.4 +0.4
baz=263,SNR=10
G23K Bananza Creek 84.08 23 P P 07 40 58.8 +0.7
baz=263
D23K Nanushuk River 84.12 21 IAmb IAmb 07 41 57.8
comp=Z,27nm,1.2s
D23K Nanushuk River 84.12 21 P P 07 40 59.3 +1.0
baz=262,SNR=6.8
H23K Yukon River 84.18 24 P P 07 40 59.7 +1.1
baz=264
I23K Minto, Yukon-K 84.18 25 IAmb IAmb 07 41 58.0
comp=Z,17nm,1.1s
I23K Minto, Yukon-K 84.18 25 P P 07 40 59.1 +0.5
baz=264
MCK McKinley 84.22 26 P 07 40 58.9 +0.1
MCK McKinley 84.22 26 P P 07 40 59.1 +0.3
baz=264,SNR=6.6
RND Reindeer 84.22 27 IAmb IAmb 07 40 59.5
comp=Z,14nm,1.0s
KNK Knik Glacier 84.23 29 IAmb IAmb 07 41 00.5
comp=Z,30nm,0.9s
KNK Knik Glacier 84.23 29 P P 07 40 59.0 +0.1
baz=265,SNR=9.7
PWL Port Wells 84.24 29 IAmb IAmb 07 41 00.3
comp=Z,25nm,0.8s
PWL Port Wells 84.24 29 P P 07 40 59.0 0.0
baz=265
C23K Itkillik River 84.26 20 IAmb IAmb 07 41 57.7
comp=Z,35nm,1.2s
C23K Itkillik River 84.26 20 P P 07 40 59.6 +0.7
baz=262
SML Sawmill 84.32 28 P P 07 41 00.0 +0.6
SML IAmb IAmb 07 41 00.8
comp=Z,28nm,0.8s
SML Sawmill 84.32 28 P P 07 40 59.5 +0.1
baz=265,SNR=10
E23K Chandalar 84.40 22 IAmb IAmb 07 42 02.1
comp=Z,26nm,1.1s
E23K Chandalar 84.40 22 P P 07 41 00.4 +0.7
baz=263
TOLK Toolik Lake Re 84.48 21 P P 07 41 01.3 +1.2
baz=263,SNR=5.6
M23K Glacier View 84.61 28 P P 07 41 01.0 +0.2
baz=266,SNR=8.7
P23K Montague Islan 84.64 30 P P 07 41 01.6 +0.6
baz=266
SCM Sheep Creek Mo 84.80 28 IAmb IAmb 07 41 03.9
comp=Z,19nm,0.7s
SCM Sheep Creek Mo 84.80 28 P P 07 41 02.6 +0.7
baz=266,SNR=5.7
D24K Happy Valley 84.81 21 IAmb IAmb 07 41 03.9
comp=Z,12nm,0.7s
D24K Happy Valley 84.81 21 P P 07 41 02.3 +0.7
baz=264
E24K Your Creek 84.82 22 P P 07 41 02.2 +0.4
baz=264
GLI Glacier Island 84.85 29 IAmb IAmb 07 41 03.4
comp=Z,19nm,0.7s
GLI Glacier Island 84.85 29 P P 07 41 01.8 -0.2
baz=266
H24K Noodor Dome 84.86 24 P P 07 41 02.4 +0.4
baz=265
C24K Franklin Bluff 84.91 20 IAmb IAmb 07 41 03.9
comp=Z,10nm,0.6s
C24K Franklin Bluff 84.91 20 P P 07 41 02.3 +0.3
baz=264
KBZ Khabaz 84.97 313 P P 07 41 02.7 -0.2
comp=Z,4.9nm,0.8s,baz=24,slow=2.2,SNR=10
comp=Z,4.9nm,0.8s
POKR Poker Plat Res 84.99 25 P P 07 41 02.9 +0.3
baz=266
F24K Squaw Lake 85.00 23 IAmb IAmb 07 42 01.6
comp=Z,24nm,1.6s
F24K Squaw Lake 85.00 23 P P 07 41 03.0 +0.3
baz=265
G24K Hadweenzic Riv 85.09 23 P P 07 41 03.8 +0.7
baz=266
HDA Harding Lake 85.14 26 P P 07 41 03.8 +0.4
baz=266
ILAR Eielson Array 85.19 25 P P 07 41 01.8 -1.9
comp=Z,1.0nm,0.5s,baz=252,slow=4.7,SNR=12
comp=Z,1.0nm,0.5s
M24K Tolsona, Glenn 85.36 28 P P 07 41 05.0 +0.4
baz=267
KLU Klutina 85.45 29 P P 07 41 05.1 0.0
baz=267
EYAK Cordova Ski Ar 85.49 30 P P 07 41 05.9 +0.7
EYAK Cordova Ski Ar 85.49 30 P P 07 41 05.5 +0.4
baz=268
DIV Divide 85.51 29 IAmb IAmb 07 41 07.4
comp=Z,22nm,0.8s
K24K Donnelly Dome 85.62 26 P P 07 41 05.8 0.0
baz=267
G25K Bearman Lake 85.64 23 P P 07 41 05.9 +0.2
baz=267
D25K Kavik River 85.69 21 P P 07 41 06.4 +0.3
baz=266
PAX Paxson 85.73 27 P P 07 41 06.7 +0.3
baz=268
H25L Birch Creek 85.73 24 P P 07 41 06.3 +0.1
baz=267
PRP Porcupine Dome 85.81 25 P P 07 41 07.2 +0.4
baz=267
J25K Salcha River, 85.84 26 P P 07 41 06.2 -0.7
baz=268
HARP HAARP 85.85 28 P P 07 41 07.3 +0.3
baz=268
F25K Christian Rive 85.86 23 P P 07 41 07.3 +0.3
baz=267
E25K Arctic Village 85.92 22 P 07 41 08.1 +0.8
E25K Arctic Village 85.92 22 P P 07 41 08.0 +0.8
baz=267
RIDG Independent Ri 86.03 26 P P 07 41 08.1 +0.2
baz=268
BMRM Bremner River 86.07 29 P P 07 41 08.1 0.0
baz=268
N25K Chitina, Valde 86.09 29 P P 07 41 08.2 0.0
baz=268
KAIM Kayak Island 86.14 30 P P 07 41 08.5 +0.2
baz=269
C26K Camden Bay 86.23 20 P P 07 41 09.4 +0.8
baz=268
SCRK Sand Creek 86.42 26 P P 07 41 10.3 +0.4
baz=269
F26K Sheenjek River 86.44 22 P P 07 41 10.2 +0.4
baz=268
G26K Porcupine Rive 86.56 23 P P 07 41 10.9 +0.6
baz=269
J26L Joseph Creek 86.61 26 P P 07 41 11.0 +0.3
baz=269
C27K Jago River 86.64 21 P P 07 41 11.6 +1.0
baz=269
L26K Log Cabin Wild 86.70 27 P P 07 41 11.9 +0.9
baz=270
BGLC Bering Glacier 86.71 30 P P 07 41 12.1 +1.0
baz=270
I26K Coal Creek Min 86.80 25 P P 07 41 12.2 +0.8
baz=270
M26K Nabesna, AK 86.86 28 P P 07 41 12.4 +0.5
baz=270
K27K Chicken 87.26 26 IAmb IAmb 07 44 29.6
comp=Z,22nm,1.7s
K27K Chicken 87.26 26 P P 07 41 14.6 +0.9
baz=271
M27K Edge Creek, AK 87.38 28 P P 07 41 15.0 +0.6
baz=271
MESA MESA 87.38 30 P P 07 41 15.1 +0.5
baz=271
L27K Beaver Creek, 87.39 27 P P 07 41 15.1 +0.7
baz=271
G27K Doyon Strip 87.40 23 P P 07 41 15.2 +0.8
baz=271
E27K Coleen River 87.40 22 P P 07 41 15.3 +1.0
baz=271
I27K Kandik River 87.44 25 P P 07 41 15.1 +0.5
baz=271
H27K Steamboat Moun 87.46 24 P P 07 41 15.2 +0.5
baz=271
D27M Malcolm River 87.61 21 P P 07 41 15.8 +0.5
baz=271
BVCY Beaver Creek 87.85 28 P P 07 41 17.1 +0.5
baz=272
YUK3 Moose Creek 88.06 28 P P 07 41 17.6 -0.2
baz=272
I28M Miner Creek 88.14 25 P P 07 41 18.5 +0.6
baz=272
E28M Babbage River 88.15 22 P P 07 41 18.3 +0.4
baz=273
PINM Pinnacle 88.23 30 P P 07 41 18.8 +0.4
baz=272
D28M Stokes Point 88.40 21 P P 07 41 19.5 +0.6
baz=273
DAWY Dawson 88.44 26 P P 07 41 19.3 -0.1
baz=273
PNL Peninsula 88.68 30 P P 07 41 20.6 +0.1
baz=273
H29M Whitestone 88.74 24 P P 07 41 20.9 +0.2
baz=274
E29M Blow River 88.77 22 P P 07 41 20.5 -0.3
baz=274
I29M Ogilvie Camp, 88.83 25 P P 07 41 21.2 +0.1
baz=274
G29M Pine Creek 88.83 23 P P 07 41 21.1 0.0
baz=274
OBN Obninsk 88.90 325 P P 07 41 20.4 -1.2
comp=Z,27nm,0.5s
J29N Klondike Camp 88.93 26 P P 07 41 22.1 +0.4
baz=274
YUK4 Talbot Arm 88.95 29 P P 07 41 22.4 +0.4
baz=274
M29M Somme Creek 88.96 28 P P 07 41 22.3 +0.4
baz=274
O29M Mount Kennedy 89.05 30 P P 07 41 22.5 +0.1
baz=274
L29M L29M 89.07 27 P P 07 41 22.2 -0.1
baz=274
YUK6 Outpost Mounta 89.11 29 P P 07 41 22.8 0.0
baz=274
K29M Barlow Dome 89.28 26 P P 07 41 23.3 -0.1
baz=275
EPYK Eagle Plains 89.40 24 P P 07 41 23.9 +0.2
baz=275
P29M Windy Craggy 89.52 30 P P 07 41 24.3 -0.2
baz=274
G30M tAoh Zraii Nji 89.53 23 P P 07 41 24.4 +0.1
baz=276
HYT Haines Junctio 89.54 29 P P 07 41 24.5 -0.2
baz=275
F30M Barrier River 89.63 22 P P 07 41 24.8 0.0
baz=276
I30M Mount Dempster 89.65 25 P P 07 41 25.0 -0.1
baz=276
N30M Aishikik Lake 89.69 29 P P 07 41 25.5 +0.2
baz=275

M30M	Minto, Yukon	89.72	27	P	P	07 41 25.7	+0.3
	baz=275						
J30M	Hart River	89.73	25	P	P	07 41 24.9	-0.6
	baz=276						
PLBC	Pleasant Camp	90.23	31	P	P	07 41 27.6	-0.2
	baz=276						
G31M	Satah River	90.30	23	P	P	07 41 27.7	-0.2
	baz=278						
N31M	Braeburn, Yuko	90.31	29	P	P	07 41 28.4	+0.3
	baz=278						
H31M	Peel River	90.42	24	P	P	07 41 28.7	+0.1
	baz=278						
F31M	Tsiigehtchic	90.44	22	P	P	07 41 28.7	+0.3
	baz=278						
R31K	City Hall, Gus	90.67	32	P	P	07 41 30.6	+0.9
	baz=276						
SKAG	Skagway	90.76	31	P	P	07 41 31.0	+0.9
	baz=277						
WHY	Whitehorse	90.84	29	P	P	07 41 31.5	+0.8
	baz=277						
MMAI	Mount Meron Ar	91.16	303	P	P	07 41 32.0	-0.8
	comp=Z,3.3nm,0.7s,baz=62,slow=9.0,SNR=3.7						
	comp=Z,3.3nm,0.7s						
FARO	Faro, Yukon	91.36	28	P	P	07 41 33.4	+0.5
	baz=278						
S32K	Killisnoo	91.39	32	P	P	07 41 33.6	+0.5
	baz=277						
P32M	Atlin	91.56	30	P	P	07 41 33.9	-0.1
	baz=278						
SPITS	Spitsbergen Ar	91.78	349	P	P	07 41 33.7	-0.9
	comp=Z,2.8nm,0.5s,baz=84,slow=8.5,SNR=12						
	comp=Z,2.8nm,0.5s						
P33M	Teslin, Yukon	91.92	30	P	P	07 41 36.2	+0.6
	baz=279						
ARCES	ARCESS Array B	91.98	340	P	P	07 41 34.6	-1.0
	comp=Z,8.0nm,0.6s,baz=83,slow=5.5,SNR=42						
	comp=Z,8.0nm,0.6s						
BRTR	Keskin Array B	92.04	310	P	P	07 41 35.1	-1.6
	comp=Z,2.3nm,0.9s,baz=111,slow=2.5,SNR=12						
BRTR				PP	PP	07 45 19.6	-0.2
	comp=Z,0.6nm,0.5s,baz=113,slow=8.7,SNR=4.3						
	comp=Z,2.3nm,0.9s						
BR105	Keskin Array S	92.06	310	P	P	07 41 35.9	-0.9
	comp=Z,3.8nm,0.9s						
A36M	Sachs Harbour	92.37	17	P	P	07 41 38.5	+1.2
	baz=286						
U33K	Whale Pass	92.37	34	P	P	07 41 37.8	+0.2
	baz=278						
Q32M	Nakina River	92.39	31	P	P	07 41 37.9	-0.1
	baz=279						
QSPA	South Pole Qui	92.67	180	P	P	07 41 39.6	+0.6
QSPA				IAmb	IAmb	07 41 40.3	
	comp=Z,9.5nm,0.9s						
QSPA	South Pole Qui	92.67	180	P	P	07 41 38.3	-0.7
	comp=Z,6.6nm,0.8s,baz=318,slow=1.7,SNR=28						
	comp=Z,6.6nm,0.8s						
WRAK	Wrangell Islan	92.75	33	P	P	07 41 40.1	+0.7
	baz=279						
R33M	Jennings River	92.97	30	P	P	07 41 41.0	+0.4
	baz=280						
S34M	Telegraph Cree	93.16	32	P	P	07 41 42.1	+0.8
	baz=280						
NE56	Odesa	93.27	317	P	P	07 41 40.7	-1.3
V35K	Ketchikan	93.34	34	P	P	07 41 43.1	+1.0
	baz=280						
C36M	Paulatuk	93.51	20	IAmb	IAmb	07 41 43.1	
	comp=Z,9.1nm,1.1s						
FINES	FINESS Array B	93.55	332	P	P	07 41 41.8	-1.2
	comp=Z,4.8nm,0.8s,baz=64,slow=4.4,SNR=5.6						
	comp=Z,4.8nm,0.8s						
AKASG	Malin Array Be	93.79	321	P	P	07 41 42.4	-2.0
	comp=Z,2.9nm,0.8s,baz=71,slow=4.4,SNR=10						
	comp=Z,2.9nm,0.8s						
KIEV	Kiev	93.80	321		P	07 41 42.8	-1.6
KIEV				IAmb	IAmb	07 41 43.5	
	comp=Z,7.6nm,1.2s						
KIEV	Kiev	93.80	321	P	P	07 41 42.7	-1.7
	comp=Z,25nm,1.2s						
TGTN	Hyland Airport	93.85	28	P	P	07 41 45.4	+0.9
	baz=283						
WTLY	Watson Lake, Y	93.91	29	P	P	07 41 45.4	+0.7
	baz=282						
MI28	Mi28,Pidlybu	94.73	321	P	P	07 41 47.4	-1.2
LUBAR	Lubar, Ukraine	94.85	320	P	P	07 41 46.9	-2.3
YLV	Yalova	95.19	311	P	P	07 41 49.9	-1.2
	comp=Z,4μmcomp=Z,7.6nm,0.6s						
KLYT	Kilyos	95.34	312	P	P	07 41 50.0	-1.6
	comp=Z,1μmcomp=Z,15nm,1.8s						
LIRD	Liard River Hi	95.40	30	P	P	07 41 52.0	+0.4
	baz=285						
WRGLY	Wrigley	95.57	26	P	P	07 41 53.0	+0.9
	baz=287						
RNPP9	Sopachiv	95.73	322	P	P	07 41 51.8	-1.4
RNPP5	Staryi Chortor	95.78	322	P	P	07 41 52.4	-1.0
TOAD	Toad River Com	95.98	30	P	P	07 41 54.5	+0.3
	baz=285						
ODBI	Odobesti	96.05	316	P	P	07 41 54.8	+0.1
	comp=Z,4μmcomp=Z,17nm,0.5s						
KOTAN	Kotaneelee Air	96.20	29	P	P	07 41 55.5	+0.4
	baz=286						
MLR	Muntele Rosu	96.86	316	IAmb	IAmb	07 41 58.6	
	comp=Z,6.1nm,0.8s						
BURAR	Bucovina Array	96.94	318		P	07 41 57.9	-1.0
BUR08	Bucovina Ar. S	96.94	318	IAmb	IAmb	07 41 58.9	
	comp=Z,2.4nm,0.7s						
VOIR		97.49	316	P	P	07 42 00.5	-0.9
	comp=Z,2.6nm,1.9s						
EZN	Ezine	97.61	311	P	P	07 42 00.6	-1.3
RDO	Rodhopi	97.97	312	IAmb	IAmb	07 42 02.6	
	comp=Z,4.5nm,0.8s						
YKA	Yellowknife Ar	99.62	25	P	Pdif	07 42 10.1	-0.3
	comp=Z,0.5nm,0.7s,baz=300,slow=4.4,SNR=6.3						
YKA				PKiKP	PKiKP	07 46 38.4	+0.4
	comp=Z,0.1nm,0.6s,baz=303,slow=1.8,SNR=6.8						
	comp=Z,0.5nm,0.7s						
HFS	Hagfors	99.72	333	P	Pdif	07 42 09.6	-1.3
	comp=Z,4.2nm,0.7s,baz=92,slow=3.4,SNR=11						
	comp=Z,4.2nm,0.7s						
NB2	NORSAR Subarra	100.46	334	P	Pdif	07 42 12.7	-1.5
	comp=Z,0.9nm,0.8s,baz=66,slow=4.4						
NOA	NORSAR Array B	100.46	334	P	Pdif	07 42 12.5	-1.7
	comp=Z,1.9nm,0.9s,baz=66,slow=4.5,SNR=4.2						
GERES	GERESS Array B	103.97	322	Pdiff	Pdif	07 42 29.2	-1.0
	comp=Z,0.3nm,0.2s,baz=53,slow=6.9,SNR=3.6						
PDAR	Pinedale Array	110.87	42	PKKPbc	PKKPbc	07 58 06.1	+6.5
	comp=Z,0.4nm,0.8s,baz=107,slow=4.2,SNR=4.1						
TXAR	Lajitas Array	120.73	53	PKP	PKiKP	07 47 19.2	+0.3
	comp=Z,0.7nm,0.7s,baz=225,slow=0.5,SNR=10.0						
TXAR				PKKPbc	PKKPab	07 57 26.5	+0.3
	comp=Z,0.5nm,0.9s,baz=123,slow=6.6,SNR=3.7						
DBIC	Dimbokro	132.56	282	SKPbc	SKPbc	07 50 47.5	+0.4
	comp=Z,10nm,0.8s,baz=70,slow=2.2,SNR=8.9						
PLCA	Paso Flores	138.44	158	PKhKP	PKPpre	07 47 47.9	
	comp=Z,1.2nm,0.7s,baz=265,slow=1.1,SNR=3.9						
PLCA				PKP	PKPdf	07 47 51.7	-0.3
	comp=Z,3.6nm,0.8s,baz=264,slow=2.9,SNR=8.3						
PLCA				SKPbc	SKPbc	07 51 05.0	+0.2
	comp=Z,1.6nm,0.9s,baz=211,slow=2.3,SNR=3.9						
CFA	Coronel Fontan	147.23	153	PKPbc	PKPbc	07 48 10.3	0.0
	comp=Z,11nm,0.6s,baz=215,slow=2.8,SNR=35						
CPUP	Villa Florida	155.89	167	PKPab	PKPab	07 48 49.2	+0.6
	comp=Z,6.4nm,0.9s,baz=180,slow=4.4,SNR=9.1						
LPAZ	La Paz	158.78	130	PKPab	PKPab	07 49 04.0	+1.8
	comp=Z,3.8nm,0.8s,baz=188,slow=4.1,SNR=6.3						
SIV	San Ignacio	163.79	145	PKPab	PKPab	07 49 23.6	+0.3
	comp=Z,2.3nm,0.8s,baz=193,slow=6.0,SNR=7.6						

*ASRS **10** 07:33:14.0±1.5,53°.94N×86°.59E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 10 07:33:13.4±3.0,53°.88N×86°.66E,h0km,mbtmp2.6/2, ML2.3/2,Error ellipse: s-maj=25.5km s-min=15.0km az=67.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.09	274		I	I	07 41 40.0	
	baz=91,slow=333,SNR=2.9							
ZALV	Zalesovo Beam	1.09	274		Pg	Pg	07 33 33.5	-0.8
	baz=93,slow=12							
ZALV					Lg	Lg	07 33 48.7	
	0.9nm,0.3s,baz=96,slow=28,SNR=3.8							
ZALV					Rg	Rg	07 33 53.0	
	1.1nm,0.3s,baz=95,slow=17,SNR=11							
KURBB	Kurchatov Arra	5.96	240	Pn	Pn		07 34 44.6	+1.8
	baz=55,slow=14,SNR=4.5							
	0.5nm,0.5s							
MKAR	Makanchi Array	7.62	203	Pn	Pn		07 35 05.9	+0.3
	0.1nm,0.3s,baz=26,slow=13,SNR=2.3							
	0.1nm,0.2s							

*IDC **10** 07:37:07.6±0.6,9°.33S×159°.02E,h0km,mb4.3/13, mbtmp4.3/14,ML4.5/1,MS3.5/2,Error ellipse: s-maj=19.3km s-min=13.3km az=176.0*
*NEIC **10** 07:37:10.7±1.3,9°.31S±0°.10×158°.99E±0°.06,h10km±1km, mb4.7/36,Error ellipse: s-maj=16.9km s-min=10.2km az=193.0*

ISC 10 07:37:09.9±0.4,9°.25S±0°.08×158°.97E±0°.06,h10km,n64, σ1§06/62,mb4.5/27,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.98	101			Pg	07 37 28.3	-0.4
HNR	Honiara	0.98	101		Pn	Pg	07 37 28.2	-0.5
	972nm,0.3s,baz=237,slow=4.6,SNR=123							
HNR					Sn	Sb	07 37 41.9	-0.1
	2μm,0.3s,baz=286,slow=21,SNR=15							
DZM	Mont Dzumac	14.63	151		Pn	Pn	07 40 38.4	+1.2
PATS	Pohnpei	16.00	358		Pn	Pn	07 40 56.4	+1.3
PATS					IAmb	IAmb	07 41 17.8	
	comp=Z,95nm,1.0s							
COEN	Coen	16.16	252			Pn	07 40 59.7	+2.4
JAY	Jayapura	19.35	289	P		P	07 41 36.4	+0.5
	comp=Z,1.5nm,0.3s,baz=117,slow=6.7,SNR=5.1							
	comp=Z,4.9nm,0.5s							
MSVF	Nonsavu	20.36	116	P		P	07 41 47.1	+0.2
ARMA	Armidale	22.15	197	P		P	07 42 05.8	-0.2
ARMA					IAmb	IAmb	07 42 17.0	
	comp=Z,28nm,1.4s							
WR8	Warramunga Arr	25.92	243	P		P	07 42 42.5	0.0
WR8					IAmb	IAmb	07 42 43.0	
	comp=Z,14nm,1.1s							
WB0	Warramunga Arr	25.95	244	P		P	07 42 42.9	+0.1
WB2	Warramunga Arr	26.05	243	P		P	07 42 43.2	-0.4
WB2					IAmb	IAmb	07 42 44.3	
	comp=Z,20nm,1.3s							
WRA	Warramunga Arr	26.06	243	P		P	07 42 39.8	-4.0
WRA	Warramunga Arr	26.06	243	P		P	07 42 42.5	-1.3
	comp=Z,5.9nm,0.6s,baz=68,slow=9.6,SNR=13							
	comp=Z,5.9nm,0.6s							
STKA	Stephens Creek	27.69	213	P		P	07 42 58.3	0.0
STKA					IAmb	IAmb	07 43 17.8	
	comp=Z,19nm,0.9s							
STKA	Stephens Creek	27.69	213	P		P	07 42 56.3	-2.0
	comp=Z,2.5nm,0.4s,baz=51,slow=14,SNR=8.9							
	comp=Z,2.5nm,0.4s							
ASAR	Alice Springs	27.92	236	P		P	07 42 59.5	-1.0
	comp=Z,3.8nm,0.8s,baz=64,slow=9.7,SNR=12							
	comp=Z,3.8nm,0.8s							
KNRA	Kununurra	30.16	255	P		P	07 43 20.8	+0.4
KNRA					IAmb	IAmb	07 43 47.5	
	comp=Z,17nm,1.1s							
BBOO	Buckleboo	31.59	219	P		P	07 43 32.5	-0.3
URZ	Urewera	33.18	153	LR		LR	07 56 24.3	
	comp=Z,125nm,18.9s,baz=60,slow=35							
RTZ	Ruatahuna	33.41	154	P		P	07 43 49.7	+0.8
FITZ	Fitzroy Crossi	33.51	251	P		P	07 43 49.5	-0.3
FITZ	Fitzroy Crossi	33.51	251	P		P	07 43 49.2	-0.6
	comp=Z,3.1nm,0.7s,baz=66,slow=12,SNR=2.2							
	comp=Z,3.1nm,0.7s							
SOEI	Soe	34.22	266	P		P	07 43 53.8	-2.4
PEA0B	Petropavlovsk-	62.12	359	P		P	07 47 31.0	+0.1
PETK	Petropavlovsk-	62.12	359	P		P	07 47 31.5	+0.5
KLR	Kul'dur	62.95	340	LR		LR	08 12 57.7	
	comp=Z,22nm,20.3s,baz=336,slow=34							
CMAR	Chiang Mai Arr	65.30	295	P		P	07 47 53.4	+0.8
	comp=Z,1.3nm,0.4s,baz=125,slow=4.9,SNR=9.7							
	comp=Z,1.3nm,0.4s							
CASY	Casey	65.73	199	P		P	07 47 54.4	-0.1
CASY					IAmb	IAmb	07 47 54.6	
	comp=Z,5.1nm,0.8s							
VNDA	Vanda	68.26	179	P		P	07 48 11.2	+0.7
VNDA					IAmb	IAmb	07 48 11.8	
	comp=Z,3.7nm,0.8s							
VNDA	Vanda	68.26	179	P		P	07 48 10.6	+0.1
	comp=Z,3.3nm,0.7s,baz=16,slow=5.6,SNR=3.0							
	comp=Z,3.3nm,0.7s							
SBA	Scott Base	68.70	178	P		P	07 48 14.5	+1.3
SONM	Songino Array	73.37	326	P		P	07 48 43.2	+1.0
SONM	Songino Array	73.37	326	P		P	07 48 42.7	+0.6
	comp=Z,1.6nm,0.8s,baz=147,slow=5.8,SNR=8.3							
	comp=Z,1.6nm,0.8s							
M16K	Timber Creek	77.45	20	P		P	07 49 06.2	+1.0
M16K					IAmb	IAmb	07 49 22.8	
	comp=Z,15nm,1.5s							
K15K	Wolf Creek Mou	77.59	18	P		P	07 49 06.3	+0.4
K15K					IAmb	IAmb	07 49 25.6	
	comp=Z,8.7nm,1.1s							
M19K	Big River Lodg	79.62	20	P		P	07 49 18.5	+1.3
SLKM	Skilak Lake	80.22	23	P		P	07 49 20.6	+0.2
SLKM					IAmb	IAmb	07 49 41.0	
	comp=Z,16nm,1.4s							
SUA	Susitna One	80.63	22	P		P	07 49 23.5	+0.7
QSPA	South Pole Qui	80.74	180	P		P	07 49 24.0	+0.6
QSPA					IAmb	IAmb	07 49 25.2	
	comp=Z,3.6nm,0.7s							
QSPA	South Pole Qui	80.74	180	P		P	07 49 22.7	-0.6
	comp=Z,3.1nm,0.6s,baz=298,slow=1.0,SNR=25							
	comp=Z,3.1nm,0.6s							
RC01	Rabbit Creek A	80.77	23	P		P	07 49 24.2	+0.9
PPLA	Purkeypile	81.05	20	P		P	07 49 25.0	+0.1
PPLA					IAmb	IAmb	07 49 42.2	
	comp=Z,6.7nm,1.3s							
PMR	Palmer	81.31	22	P		P	07 49 25.5	-0.7
PMR					IAmb	IAmb	07 49 40.8	
	comp=Z,14nm,1.5s							
CAST	Castle Rocks	81.43	20	P		P	07 49 27.2	+0.4
CAST					IAmb	IAmb	07 49 40.2	
	comp=Z,4.3nm,0.7s							
G19K	Purcell Mounta	81.77	17	P		P	07 49 28.8	+0.2
E18K	Tukpahlearik C	81.79	15	P		P	07 49 29.9	+1.3
TRF	Thorofare Moun	82.06	21	P		P	07 49 30.1	-0.2
TRF					IAmb	IAmb	07 49 45.0	
	comp=Z,4.4nm,1.0s							
C18K	Utukok River	82.59	14	P		P	07 49 33.2	+0.3
E19K	Redstone River	82.68	16	P		P	07 49 33.9	+0.6
E19K					IAmb	IAmb	07 49 52.7	
	comp=Z,4.5nm,0.9s							
ILAR	Eielson Array	84.06	20	P		P	07 49 38.7	-1.8
	comp=Z,0.5nm,0.5s,baz=249,slow=4.9,SNR=18							
	comp=Z,0.5nm,0.5s							
D22K	Ayikyak River	84.90	16	P		P	07 49 46.1	+1.5
D22K					IAmb	IAmb	07 49 59.1	
	comp=Z,2.9nm,0.7s							
MKAR	Makanchi Array	87.69	318	P		P	07 49 58.8	-0.2
	comp=Z,1.3nm,0.5s,baz=101,slow=6.1,SNR=13							
	comp=Z,1.3nm,0.5s							
NVAR	Mina Array Bea	90.04	51	P		P	07 50 11.4	+1.0
	comp=Z,1.0nm,0.8s,baz=232,slow=7.3,SNR=4.1							
	comp=Z,1.0nm,0.8s							
BELA	Belgrano 2	92.68	177	P		P	07 50 21.1	-0.6
BVAR	Borovoye Array	96.46	323	P		P	07 50 37.6	-1.8
	comp=Z,0.6nm,0.5s,baz=62,slow=3.5,SNR=3.6							
	comp=Z,0.6nm,0.5s							
YKA	Yellowknife Ar	96.48	28	P		P	07 50 38.2	-1.0
	comp=Z,0.4nm,0.9s,baz=265,slow=5.0,SNR=5.1							
	comp=Z,0.4nm,0.9s							
PV10	Paradox Valley	97.22	52	P		P	07 50 43.6	+0.1
AKASG	Malin Array Be	121.64	325	PKP		PKPdf	07 56 03.6	-0.4
	comp=Z,0.4nm,0.4s,baz=66,slow=1.6,SNR=4.4							
NOA	NORSAR Array B	123.08	342	PKP		PKPdf	07 56 06.7	+0.1
	comp=Z,1.0nm,0.8s,baz=47,slow=1.9,SNR=3.7							
LPAZ	La Paz	126.93	118	PKP		PKPdf	07 56 15.0	-0.9
	comp=Z,0.9nm,0.8s,baz=304,slow=3.2,SNR=4.0							
GERES	GERESS Array B	130.98	330	PKP		PKPdf	07 56 21.1	-0.9
	comp=Z,0.3nm,0.5s,baz=211,slow=1.6,SNR=5.2							
SDV	Santo Domingo	131.05	86			PKPdf	07 56 23.1	-0.2
ITM	Ithomi	132.31	313	PKPdf		PKPdf	07 56 23.7	-1.1
BDFB	Brasilia	143.58	133	PKP		PKPab	07 56 43.5	+0.9
	comp=Z,0.7nm,0.4s,baz=106,slow=4.5,SNR=3.9							

*IDC **10** 07:44:34.7±0.8,22°.21S×169°.84E,h0km,mb4.2/11, mbtmp4.2/12,ML3.7/1,MS3.5/9,Error ellipse: s-maj=26.0km s-min=21.0km az=125.0*
*NEIC **10** 07:44:39.7±1.7,22°.2S±0°.2×169°.45E±0°.09,h10km±2km, mb4.3/7,Error ellipse: s-maj=32.5km s-min=12.0km az=167.0*

ISC 10 07:44:38.8±0.6,22°.1S±0°.1×169°.65E±0°.08,h25km,n38, σ1§03/34,mb4.4/16,MS3.5/7,4D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PINNC	Pines Island,	2.10	256			Pn	07 45 12.3	0.0
ONTNC	Ouen Toro	2.97	266			Pn	07 45 24.4	+0.1
DZM	Mont Dzumac	2.98	270	Pn		Pn	07 45 24.7	+0.2
	8.2nm,0.3s,baz=120,slow=12,SNR=661							
DZM					Sn	Sn	07 45 58.3	-1.1
	20nm,0.3s,baz=113,slow=22,SNR=6.0							
DZM					LR	LR	07 46 02.1	
	comp=Z,199nm,21.1s,baz=172,slow=28							
	33nm,0.5s							
MSVF	Nonsavu	9.03	63			Pn	07 46 53.3	+5.6
MSVF	Nonsavu	9.03	63	Pn		Pn	07 46 48.0	+0.3
	1.9nm,0.3s,baz=122,slow=15,SNR=15							
MSVF					LR	LR	07 49 41.0	
	comp=Z,507nm,18.1s,baz=15,slow=34							
RTZ	Ruatahuna	17.60	161			P	07 48 44.8	+1.6
RTZ					IAmb	IAmb	07 48 58.1	
	comp=Z,27nm,1.1s							
BKZ	Black Stump Fm	17.96	163			P	07 48 48.3	+1.0
BKZ					IAmb	IAmb	07 48 52.8	
	comp=Z,20nm,1.4s							
STKA	Stephens Creek	26.75	243	P		P	07 50 18.2	+1.6
	comp=Z,1.0nm,0.6s,baz=102,slow=10,SNR=2.9							
STKA					LR	LR	07 59 54.4	
	comp=Z,101nm,18.2s,baz=31,slow=34							
	comp=Z,1.0nm,0.6s							
WR8	Warramunga Arr	32.84	267	P		P	07 51 09.0	-1.7
WR8					IAmb	IAmb	07 51 43.1	
	comp=Z,6.1nm,1.2s							
AS31	Alice Springs	32.91	260	P		P	07 51 10.9	-0.5
ASAR	Alice Springs	32.92	260	P		P	07 51 11.9	+0.5
ASAR	Alice Springs	32.92	260	P		P	07 51 12.1	+0.7
	comp=Z,1.4nm,1.0s,baz=82,slow=9.3,SNR=7.3							
ASAR					LR	LR	08 03 48.3	
	comp=Z,83nm,19.9s,baz=97,slow=35							
	comp=Z,1.4nm,1.0s							
WB0	Warramunga Arr	32.97	268	P		P	07 51 12.2	+0.4
WB0					IAmb	IAmb	07 51 16.3	
	comp=Z,15nm,1.4s							
WRA	Warramunga Arr	32.99	267	P		P	07 51 11.2	-0.8
WRA	Warramunga Arr	32.99	267	P		P	07 51 11.8	-0.2
	comp=Z,1.6nm,1.0s,baz=97,slow=8.4,SNR=5.8							
	comp=Z,1.6nm,1.0s							
KNRA	Kununurra	39.12	272	P		P	07 52 05.2	+0.6
FITZ	Fitzroy Crossi	41.42	267	P		P	07 52 24.7	+1.2
FITZ					IAmb	IAmb	07 52 37.6	
	comp=Z,4.6nm,1.1s							
FITZ	Fitzroy Crossi	41.42	267	LR		LR	08 08 49.5	
	comp=Z,112nm,18.4s,baz=138,slow=35							
NWAO	Narrogin (SRO)	47.30	245	LR		LR	08 11 40.1	
	comp=Z,84nm,20.6s,baz=354,slow=34							
QSPA	South Pole Qui	67.94	180	P		P	07 55 34.9	-0.4
	comp=Z,5.4nm,1.0s,baz=19,slow=1.5,SNR=13							
	comp=Z,5.4nm,1.0s							
ASAJ	Asahikawa	70.43	340	P		P	07 55 53.2	+2.5
	comp=Z,2.5nm,0.6s,baz=179,slow=10,SNR=3.6							
	comp=Z,2.5nm,0.6s							
PETK	Petropavlovsk-	75.64	353	P		P	07 56 21.6	+0.2
	comp=Z,6.0nm,0.9s,baz=157,slow=6.0,SNR=8.0							
PETK					LR	LR	08 23 43.1	
	comp=Z,18nm,19.9s,baz=124,slow=31							
	comp=Z,6.0nm,0.9s							
KLR	Kul'dur	78.65	336	P		P	07 56 39.9	+1.5
	comp=Z,1.0nm,0.8s,baz=105,slow=2.9,SNR=3.8							
	comp=Z,1.0nm,0.8s							
MA2	Magadan	82.87	350	LR		LR	08 28 51.4	
	comp=Z,19nm,18.8s,baz=152,slow=32							
TROLL	Troll, Antarti	85.70	184	⇓P		P	07 57 14.8	-0.5
	comp=Z,302nm,0.7s							
SNAA	Sanae	86.31	182	⇓P		P	07 57 17.6	-0.6
	comp=Z,117nm,1.0s							
SNAA	Sanae	86.31	182	P		P	07 57 17.7	-0.6
	comp=Z,3.9nm,1.0s,baz=240,slow=1.2,SNR=4.2							
	comp=Z,3.9nm,1.0s							
VNA3	Neumayer Olymp	86.88	180	⇓P		P	07 57 20.3	-0.8
	comp=Z,9.6nm,0.7s							
VNA2	Neumayer--Watz	87.18	181	⇓P		P	07 57 20.9	-1.5
	comp=Z,5.4nm,0.6s,baz=179,slow=3.7							
SONM	Songino Array	89.75	323	P		P	07 57 33.9	-1.1
	comp=Z,1.0nm,0.9s,baz=140,slow=4.9,SNR=4.1							
	comp=Z,1.0nm,0.9s							
LPIG	La Paz	90.32	64	LR		LR	08 30 52.7	
	comp=Z,38nm,18.2s,baz=199,slow=31							
NVAR	Mina Array Bea	90.42	48	P		P	07 57 36.5	-1.9
	comp=Z,1.6nm,0.8s,baz=226,slow=9.1,SNR=6.7							
	comp=Z,1.6nm,0.8s							
ILAR	Eielson Array	92.86	17	P		P	07 57 47.9	-1.0
	comp=Z,0.5nm,0.7s,baz=233,slow=5.0,SNR=8.2							
	comp=Z,0.5nm,0.7s							
EKA	Eskdalemuir Ar	146.41	353	PKPbc		PKPab	08 04 18.1	-0.1
	comp=Z,1.5nm,0.4s,baz=358,slow=2.8,SNR=11							
ZVC	Zvikov	146.54	331	*e*PKP		PKiKP	08 04 19.9	-0.8
ZVC				*ex*		x	08 04 30.8	
CKRC	Cesky Krumlov	146.93	330	*e*PKP		PKiKP	08 04 21.0	-0.6
CKRC				*ex*		x	08 04 29.0	
KHC	Kasperske Hory	147.04	331	*e*PKP		PKPab	08 04 21.0	+

MKAR Makanchi Array 7.98 210 Pn Pn 07 51 42.0 +0.9
0.1nm,0.3s,baz=27,slow=13,SNR=5.4
0.2nm,0.3s

---

*NEIC **10** 08:02:24.0±1.7,51°.7N±0°.2×178°.42E±0°.08, h106km±16km, mb3.8/9, ML3.1(AEIC), Error ellipse: s-maj=28.8km s-min=6.5km az=187.0*
*IDC **10** 08:02:24.1±2.2,51°.90N×178°.47E, h100km±17km, mb3.4/13, mbtmp3.8/15, MS2.6/1, Error ellipse: s-maj=29.8km s-min=14.0km az=1.0*
*AEIC **10** 08:02:25.5±1.1,51°.8N±0°.2×178°.46E±0°.09, h99km±8km, Error ellipse: s-maj=24.4km s-min=7.8km az=185.0*
ISC 10 08:02:24.1±1.1,51°.8N±0°.2×178°.44E±0°.05, h102km±9km, **n48,** σ0°.87/47, **mb3.8**/15, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.68**	**89**		**Pn**	**08 02 52.9**	**+0.2**
GASW					**Sn**	**08 03 13.6**	**-0.9**
GANO	**Gareloi North**	**1.71**	**88**		**Pn**	**08 02 53.3**	**+0.1**
GANE	**Gareloi Northe**	**1.73**	**88**		**Pn**	**08 02 53.7**	**+0.3**
GANE					**Sn**	**08 03 15.0**	**-0.5**
TASE	**Tanaga Southea**	**2.19**	**87**		**Pn**	**08 02 59.4**	**+0.2**
TASE					**Sn**	**08 03 24.9**	**-1.2**
TAFP	**Tanaga Falls P**	**2.23**	**86**		**Pn**	**08 02 59.6**	**0.0**
TAFP					**Sn**	**08 03 26.3**	**-0.6**
KIKV	**Kanaga Island**	**2.73**	**86**		**Pn**	**08 03 07.1**	**+0.9**
KIWB	**Kanaga Island**	**2.74**	**87**	Pn	**Pn**	**08 03 06.7**	**+0.3**
KIRH	**Kanaga Island**	**2.78**	**86**		**Pn**	**08 03 07.3**	**+0.4**
SHEM	**Shemya Is, Ala**	**2.83**	**291**	P	**Pn**	**08 03 07.9**	**+0.3**
	36nm,0.3s,baz=63,slow=5.1,SNR=14						
SHEM				S	**Sn**	**08 03 40.9**	**-0.1**
	50nm,0.4s,baz=275,slow=20,SNR=7.6						
SMY	**Shemya**	**2.83**	**291**		**Pn**	**08 03 08.1**	**+0.6**
SMY					**Sn**	**08 03 40.8**	**-0.2**
GSCK	**Great Sitkin C**	**3.35**	**84**		**Pn**	**08 03 13.8**	**-0.8**
ATKA	**Atka Island**	**4.57**	**82**	Pn	**Pn**	**08 03 30.3**	**-0.6**
SPIA	**Saint Paul Isl**	**8.52**	**46**	Pn	**Pn**	**08 04 26.4**	**+2.1**
UNV	**Unalaska Valle**	**9.35**	**71**	Pn	**Pn**	**08 04 37.1**	**+1.3**
O14K	**Tigyukauivet M**	**13.68**	**49**	P	**P**	**08 05 39.7**	**+1.0**
L14K	**Kuka Creek**	**14.09**	**40**	P	**P**	**08 05 43.2**	**0.0**
N15K	**Kwethluk River**	**14.60**	**47**	P	**P**	**08 05 49.6**	**+0.7**
M17K	**Holitna River**	**16.31**	**44**	P	**P**	**08 06 09.2**	**+1.3**
O18K	**Koktuh Hills**	**16.77**	**51**	P	**P**	**08 06 14.7**	**+1.7**
MA2	**Magadan**	**17.34**	**308**	LR	LR	08 12 53.7	
	comp=Z,20nm,21.4s,baz=240,slow=36						
N19K	**Bonanza Creek**	**17.42**	**48**	P	**Pn**	**08 06 21.1**	**+0.8**
N19K				IAmb	IAmb	08 06 24.9	
	comp=Z,8.8nm,1.3s						
KDAK	**Kodiak Island**	**17.67**	**59**	P	**P**	**08 06 22.1**	**-0.7**
KDAK	**Kodiak Island**	**17.67**	**59**	P	**P**	**08 06 21.5**	**-1.3**
	comp=Z,3.9nm,0.7s,baz=71,slow=0.9,SNR=24						
CNPM	**China Poot**	**18.65**	**54**	P	**P**	**08 06 33.8**	**+0.2**
SUA	**Susitna One**	**19.34**	**48**	P	**P**	**08 06 42.5**	**+1.3**
SUA				IAmb	IAmb	08 07 18.5	
	comp=Z,4.9nm,1.2s						
SML	**Sawmill**	**20.54**	**48**	P	**P**	**08 06 55.0**	**+0.8**
ILAR	**Eielson Array**	**22.03**	**41**	P	**P**	**08 07 09.1**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=220,slow=8.2,SNR=2.3						
	comp=Z,0.2nm,0.7s						
RIDG	**Independent Ri**	**22.58**	**44**	P	**P**	**08 07 16.1**	**+0.5**
RIDG				IAmb	IAmb	08 07 57.5	
	comp=Z,7.6nm,1.4s						
TOLK	**Toolik Lake Re**	**22.75**	**30**	P	**P**	**08 07 18.5**	**+1.1**
TOLK				IAmb	IAmb	08 07 45.2	
	comp=Z,7.9nm,1.4s						
BCAR	**Beaver Creek A**	**23.78**	**46**	P	**P**	**08 07 27.9**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**33.24**	**200**	T	T	08 44 26.8	
	baz=11,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.25**	**200**	T	T	08 44 21.5	
	baz=11,slow=76						
H11N1	**WAKE ISLAND Hy**	**33.26**	**200**	T	T	08 44 13.7	
	baz=11,slow=76						
H11S1	**WAKE ISLAND Hy**	**34.47**	**200**	T	T	08 45 45.4	
	baz=10						
H11S3	**WAKE ISLAND Hy**	**34.49**	**200**	T	T	08 45 52.3	
	baz=10						
H11S2	**WAKE ISLAND Hy**	**34.49**	**200**	T	T	08 45 45.2	
	baz=10						
YKA	**Yellowknife Ar**	**36.20**	**46**	P	**P**	**08 09 16.3**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=284,slow=8.4,SNR=7.9						
	comp=Z,0.2nm,0.6s						
SONM	**Songino Array**	**44.92**	**295**	P	**P**	**08 10 29.3**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=75,slow=8.8,SNR=3.6						
	comp=Z,0.4nm,0.5s						
NVAR	**Mina Array Bea**	**45.20**	**81**	P	**P**	**08 10 31.4**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=316,slow=6.7,SNR=2.7						
	comp=Z,0.5nm,0.5s						
PDAR	**Pinedale Array**	**47.82**	**71**	P	**P**	**08 10 49.9**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=294,slow=8.2,SNR=2.0						
	comp=Z,0.1nm,0.3s						
SPITS	**Spitsbergen Ar**	**49.84**	**355**	P	**P**	**08 11 04.7**	**-1.3**
	comp=Z,6.2nm,0.9s,baz=44,slow=8.5,SNR=13						
	comp=Z,6.2nm,0.9s						
ARCES	**ARCESS Array B**	**57.38**	**349**	P	**P**	**08 12 01.7**	**+0.6**
	comp=Z,2.4nm,0.9s,baz=40,slow=7.4,SNR=1.6						
	comp=Z,2.4nm,0.9s						
KURBB	**Kurchatov Arra**	**57.59**	**312**	P	**P**	**08 12 01.9**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=40,slow=6.7,SNR=4.4						
	comp=Z,0.9nm,0.4s						
MKAR	**Makanchi Array**	**58.42**	**307**	P	**P**	**08 12 08.3**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=50,slow=6.6,SNR=4.5						
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**59.45**	**318**	P	**P**	**08 12 15.7**	**0.0**
	comp=Z,1.1nm,0.4s,baz=59,slow=10,SNR=5.8						
	comp=Z,1.1nm,0.4s						
TXAR	**Lajitas Array**	**60.29**	**79**	P	**P**	**08 12 22.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=298,slow=4.8,SNR=5.0						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**64.99**	**346**	P	**P**	**08 12 51.8**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=283,slow=13,SNR=2.1						
	comp=Z,2.9nm,1.0s						
WRA	**Warramunga Arr**	**81.14**	**221**	P	**P**	**08 14 28.6**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=28,slow=5.7,SNR=2.0						
	comp=Z,0.5nm,0.8s						

---

*ASRS **10** 08:05:46.0±0.8,54°.07N×86°.51E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 10 08:05:26.1±2.9,54°.05N×86°.56E, h0km, **mbtmp2.9**/2, **ML2.6**/2, **Error ellipse: s-maj=22.4km s-min=14.1km az=61.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**265**	I	I	08 13 10.0	
	baz=83,slow=316,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.03**	**265**	Pg	Pg	08 05 44.2	-1.7
	0.9nm,0.3s,baz=86,slow=17,SNR=12						
ZALV				Lg	Lg	08 06 00.8	
	2.4nm,0.3s,baz=85,slow=28,SNR=13						
KURBB	**Kurchatov Arra**	**6.00**	**238**	Pn	Pn	08 06 57.7	+1.7
	0.1nm,0.3s,baz=56,slow=14,SNR=5.8						
KURBB				Lg	Lg	08 08 36.1	
	0.2nm,0.3s,baz=53,slow=33,SNR=4.4						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**7.76**	**202**	Pn	Pn	08 07 20.7	+0.5
	0.1nm,0.3s,baz=15,slow=14,SNR=2.7						
MKAR				Lg	Lg	08 09 32.9	
	0.1nm,0.3s,baz=35,slow=30,SNR=2.9						
	0.2nm,0.4s						

---

*IDC **10** 08:14:12.5±1.6,9°.25S×158°.91E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=54.4km s-min=11.2km az=4.0*
ISC 10 08:14:17.2±1.1,9°.40S±0°.08×159°.02E±0°.09, h35km, **n10,** σ0°.62/10, **mb3.6**/3, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAVO	**Savo Central**	**0.82**	**72**	P	**Pn**	**08 14 31.2**	**-1.0**
HNR	**Honiara**	**0.91**	**92**	Pg	**Pn**	**08 14 32.9**	**-0.6**
	140nm,0.3s,baz=199,slow=9.6,SNR=47						
HNR				Lg	Lg	08 14 46.1	
	460nm,0.3s,baz=94,slow=23,SNR=40						
HNR	**Honiara**	**0.91**	**92**	P	**Pn**	**08 14 33.3**	**-0.2**
HNR	**Honiara**	**0.91**	**92**	S	**Sn**	**08 14 46.4**	**+1.0**
TATA	**Tatamba Isabel**	**1.27**	**37**	P	**Pn**	**08 14 38.4**	**0.0**
NGOA	**Tingoa Renbel**	**2.37**	**155**	P	**Pn**	**08 14 53.3**	**-0.3**
NGOA	**Tingoa Renbel**	**2.37**	**155**	S	**Sn**	**08 15 21.8**	**+0.3**
WRA	**Warramunga Arr**	**26.04**	**244**	P	**P**	**08 19 47.6**	**+0.2**
	1.4nm,0.8s,baz=70,slow=9.6,SNR=6.1						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**27.88**	**236**	P	**P**	**08 20 03.9**	**-0.1**
	0.4nm,0.7s,baz=59,slow=9.4,SNR=5.2						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**87.84**	**318**	P	**P**	**08 27 03.2**	**+0.1**
	0.3nm,0.6s,baz=109,slow=4.2,SNR=2.9						
	0.3nm,0.6s						

---

*CATAC **10** 08:30:23.9±0.5, 13°N±2°×9°.0W±°, h14km±2km, M2.9/19, MLv2.9/19, Error ellipse: s-maj=5.5km s-min=2.8km az=23.2, confirmed*
*GCG **10** 08:30:25.2±0.4, 13°.54N×89°.84W, h80km±22km, MD3.8*
*SNET **10** 08:30:28.5±3.3, 13°.34N×89°.83W, h18km, ML2.7*
ISC 10 08:30:26.1±1.7, 13°.28N±0°.06×89°.86W±0°.04, h16km±9km, **n53,** σ0°.89/64, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.54**	**47**	*eP*	**Pb**	**08 30 37.9**	**+0.5**
JAYA				*eS*	**Sn**	**08 30 48.4**	**+0.3**
JAYA	**Jayaque - finc**	**0.54**	**47**	*eP*	**Pb**	**08 30 37.9**	**+0.5**
JAYA				*eS*	**Sn**	**08 30 48.2**	**0.0**
JAYA	**Jayaque - finc**	**0.54**	**47**	P	**Pb**	**08 30 37.8**	**+0.5**
JAYA	**Jayaque - finc**	**0.54**	**47**	S	**Sn**	**08 30 47.4**	**-0.7**
FAME	**Alcaldia de Sa**	**0.58**	**345**	S	**Sn**	**08 30 46.7**	**-2.1**
CEVE	**Cerro Verde**	**0.59**	**23**	*eP*	**Pb**	**08 30 38.6**	**+0.5**
CEVE				*eS*	**Sn**	**08 30 49.7**	**+0.3**
CEVE	**Cerro Verde**	**0.59**	**23**	P	**Pb**	**08 30 38.6**	**+0.5**
SBLS	**San Blas**	**0.60**	**22**	*eP*	**Pb**	**08 30 38.7**	**+0.4**
SBLS				*eS*	**Sn**	**08 30 49.8**	**+0.2**
NUBE	**Las Nubes**	**0.62**	**7**	*eP*	**Pb**	**08 30 38.7**	**0.0**
NUBE				*eS*	**Sn**	**08 30 48.7**	**-1.4**
NUBE	**Las Nubes**	**0.62**	**7**	*eP*	**Pb**	**08 30 38.6**	**0.0**
NUBE				*eS*	**Sn**	**08 30 48.6**	**-1.4**
NUBE	**Las Nubes**	**0.62**	**7**	P	**Pb**	**08 30 38.7**	**0.0**
NUBE	**Las Nubes**	**0.62**	**7**	S	**Sn**	**08 30 49.2**	**-0.9**
PMON	**Piamonte**	**0.68**	**51**	*eP*	**Pg**	**08 30 40.0**	**+0.5**
PMON	**Piamonte**	**0.68**	**51**	P	**Pg**	**08 30 39.7**	**+0.2**
PMON	**Piamonte**	**0.68**	**51**	S	**Sn**	**08 30 51.4**	**0.0**
ITCA	**Escuela Especi**	**0.68**	**55**	S	**Sn**	**08 30 51.3**	**-0.3**
CEDA	**San Andres**	**0.69**	**41**	P	**Pg**	**08 30 40.0**	**+0.4**
CEDA	**San Andres**	**0.69**	**41**	S	**Sn**	**08 30 52.2**	**+0.7**
LOAL	**Lomas de Alarc**	**0.71**	**6**	P	**Pg**	**08 30 40.4**	**+0.2**
LOAL	**Lomas de Alarc**	**0.71**	**6**	S	**Sn**	**08 30 51.7**	**-0.6**
UEES	**Universidad Ev**	**0.74**	**54**	P	**Pb**	**08 30 40.4**	**-0.3**
UEES	**Universidad Ev**	**0.74**	**54**	S	**Sn**	**08 30 53.8**	**+0.8**
SLOZ	**Alcaldia de Sa**	**0.74**	**5**	*eP*	**Pb**	**08 30 40.6**	**-0.1**
SLOZ				*eS*	**Sn**	**08 30 53.1**	**+0.2**
SLOZ	**Alcaldia de Sa**	**0.74**	**5**	P	**Pb**	**08 30 40.5**	**-0.2**
UNIC	**Universidad Ca**	**0.76**	**23**	S	**Sn**	**08 30 54.1**	**+0.8**
UNIC	**Universidad Ca**	**0.76**	**23**	P	**Pg**	**08 30 40.7**	**-0.2**
LOMA	**Loma Larga**	**0.76**	**62**	S	**Sn**	**08 30 53.1**	**-0.3**
UTEC	**Universidad Te**	**0.76**	**57**	P	**Pb**	**08 30 40.5**	**-0.5**
UTEC	**Universidad Te**	**0.76**	**57**	S	**Sn**	**08 30 53.9**	**+0.4**
PAVA	**Las Pavas**	**0.99**	**64**	P	**Pb**	**08 30 44.7**	**-0.3**
PAVA	**Las Pavas**	**0.99**	**64**	S	**Sn**	**08 31 00.2**	**+1.1**
COEG	**Centro de Oper**	**1.01**	**70**	*eP*	**Pb**	**08 30 44.3**	**-0.8**
COEG				*eS*	**Sn**	**08 31 00.5**	**+1.0**
COEG	**Centro de Oper**	**1.01**	**70**	P	**Pb**	**08 30 44.4**	**-0.8**
TECO	**Alcaldia de Te**	**1.08**	**76**	*eP*	**Pb**	**08 30 44.8**	**-1.6**
TECO				*eS*	**Sg**	**08 31 00.9**	**-0.2**
TECO	**Alcaldia de Te**	**1.08**	**76**	P	**Pb**	**08 30 44.5**	**-1.9**
UESV	**Universidad de**	**1.10**	**71**	S	**Sg**	**08 31 02.1**	**+0.3**
UESV	**Universidad de**	**1.10**	**71**	P	**Pb**	**08 30 45.6**	**-1.1**
SCLA	**Alcaldia de Sa**	**1.17**	**69**	P	**Pb**	**08 30 47.5**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.17**	**69**	S	**Sg**	**08 31 05.1**	**+0.9**
MTO3	**Montecristo**	**1.21**	**23**	P	**Pb**	**08 30 47.9**	**-0.9**
MTO3	**Montecristo**	**1.21**	**23**	S	**Sg**	**08 31 05.6**	**+0.2**
LLGN	**La Laguna**	**1.25**	**45**	S	**Sg**	**08 31 06.4**	**-0.1**
ALJI	**Alcalda de J**	**1.25**	**88**	S	**Sb**	**08 31 04.5**	**-0.7**
PQSS	**Presa 15 de Se**	**1.31**	**75**	S	**Sg**	**08 31 07.2**	**-1.2**
ESQI	**Esquipulas**	**1.36**	**21**	P	**Pn**	**08 30 50.4**	**-0.2**
ESQI	**Esquipulas**	**1.36**	**21**	S	**Sg**	**08 31 09.9**	**-0.4**
STG0	**El Palmar, Qui**	**1.84**	**308**	*eP*	**Pn**	**08 30 58.6**	**+1.4**
STG0				*eS*	**Sb**	**08 31 24.6**	**+2.3**
CNCH	**Conchagua**	**1.97**	**90**	S	**Sn**	**08 31 24.5**	**+1.1**
CNCH	**Conchagua**	**1.97**	**90**	P	**Pn**	**08 31 00.2**	**+1.3**
CSGN	**Cosiguina Volc**	**2.26**	**97**	P	**Pn**	**08 31 02.6**	**-0.2**
CSGN				S	**Sn**	**08 31 31.3**	**+0.9**
HUEH	**Huehuetenango**	**2.58**	**322**	S	**Sn**	**08 31 38.5**	**0.0**
HUEH	**Huehuetenango**	**2.58**	**322**	P	**Pn**	**08 31 05.0**	**-2.4**
HERN	**Volcan Telica**	**3.02**	**102**	P	**Pn**	**08 31 12.6**	**-0.8**

---

*IDC **10** 08:33:11.4±4.0, 19°.78S×178°.32W, h626km±27km, mb2.9/5, mbtmp3.9/6, Error ellipse: s-maj=102.2km s-min=22.4km az=143.0*
ISC 10 08:33:08.0±1.7, 20°.3S±0°.4×177°.9W±0°.3, h600km, **n8,** σ1°.19/8, **mb3.6**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.58**	**303**	P	**P**	**08 34 39.0**	**+1.1**
	8.6nm,0.4s,baz=166,slow=5.5,SNR=9.3						
ASAR	**Alice Springs**	**44.66**	**256**	P	**P**	**08 40 28.9**	**-0.2**
	1.2nm,0.3s,baz=87,slow=8.8,SNR=46						
ASAR				PcP	**PcP**	**08 41 58.2**	**-0.2**
	0.6nm,0.8s,baz=97,slow=3.7,SNR=5.0						
	1.2nm,0.3s						
WRA	**Warramunga Arr**	**44.73**	**262**	P	**P**	**08 40 28.7**	**-0.9**
	1.0nm,0.4s,baz=98,slow=6.9,SNR=29						
	1.0nm,0.4s						
SEY	**Seymchan**	**86.17**	**347**	P	**P**	**08 44 45.4**	**-0.8**
	0.8nm,0.7s,baz=135,slow=7.4,SNR=4.3						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**88.06**	**13**	P	**P**	**08 44 53.9**	**-1.1**
	0.2nm,0.4s,baz=202,slow=4.7,SNR=6.0						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**88.72**	**43**	P	**P**	**08 44 59.8**	**+0.8**
	0.2nm,0.6s,baz=249,slow=4.5,SNR=1.6						
	0.2nm,0.6s						
AKASG	**Malin Array Be**	**142.85**	**331**	PKhKP	PKPpre	08 51 29.8	
	0.2nm,0.3s,baz=57,slow=1.2,SNR=5.9						
BRTR	**Keskin Array B**	**146.75**	**313**	PKPbc	**PKPdf**	**08 51 42.7**	**+1.5**
	0.4nm,0.4s,baz=79,slow=3.7,SNR=2.4						

---

*NOU **10** 08:41:22.6, 36°.75S×177°.51E, h235km, mb3.8/14, Off E. Coast of N. Island, N.Z.*
*WEL **10** 08:41:24.1±0.9, 37°.5S±6°.×17°.7E±°, h210km±8km, M3.2/16, ML3.2/9, MLv3.2/16, Error ellipse: s-maj=9.2km s-min=6.8km az=44.6, confirmed*
ISC 10 08:41:20.5±2.6, 36°.59S±0°.09×177°.52E±0°.09, h243km±14km, **n41,** σ1°.27/60, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.15**	**147**	P	**Pn**	**08 41 56.1**	**+0.5**
MXZ	**Matakaoa Point**	**1.15**	**147**	P	**S**	**08 42 21.9**	**-1.4**
MXZ	**Matakaoa Point**	**1.15**	**147**	P	**Pn**	**08 41 55.9**	**+0.3**
MXZ				S	**S**	**08 42 21.4**	**-1.9**
HAZ	**Te Kaha**	**1.18**	**170**	P	**Pn**	**08 41 56.2**	**+0.4**
HAZ				S	**S**	**08 42 20.4**	**-3.2**
PKGZ	**Pakihiroa**	**1.35**	**161**	P	**Pn**	**08 41 58.0**	**+1.1**
PKGZ				S	**S**	**08 42 25.3**	**-0.4**
RUGZ	**Raukumara Rang**	**1.38**	**175**	P	**Pn**	**08 41 57.2**	**0.0**
RUGZ				S	**S**	**08 42 24.2**	**-2.0**
WMGZ	**Waiomatatini S**	**1.42**	**150**	P	**Pn**	**08 41 58.3**	**+0.9**
WMGZ				S	**S**	**08 42 25.6**	**-0.9**
KUZ	**Kuaotunu**	**1.45**	**263**	P	**Pn**	**08 41 58.6**	**+0.9**
KUZ	**Kuaotunu**	**1.45**	**263**	P	**Pn**	**08 41 58.4**	**+0.7**
OPRZ	**Ohinepanea**	**1.47**	**211**	P	**Pn**	**08 41 58.9**	**+1.2**
PUZ	**Puketiti**	**1.59**	**158**	P	**Pn**	**08 41 59.7**	**+0.9**
PUZ				S	**S**	**08 42 27.2**	**-1.8**
TWGZ	**Tauwhareparae**	**1.62**	**167**	P	**Pn**	**08 42 00.8**	**+1.7**
TWGZ				S	**S**	**08 42 29.7**	**+0.2**
URZ	**Urewera**	**1.69**	**191**	P	**Pn**	**08 42 00.6**	**+1.0**
URZ	**Urewera**	**1.69**	**191**	P	**Pn**	**08 42 00.5**	**+0.9**
URZ				S	**S**	**08 42 29.4**	**-1.0**
GRZ	**Great Barrier**	**1.70**	**281**	P	**Pn**	**08 41 59.9**	**+0.2**
MWZ	**Matawai**	**1.74**	**180**	P	**Pn**	**08 42 01.2**	**+1.2**
MWZ				S	**S**	**08 42 30.2**	**-1.1**
TKGZ	**Te Karaka**	**1.86**	**172**	P	**Pn**	**08 42 02.3**	**+1.3**
TKGZ				S	**S**	**08 42 32.8**	**-0.2**
RAGZ	**Rawiri**	**1.90**	**182**	P	**Pn**	**08 42 03.0**	**+1.5**
RAGZ				S	**S**	**08 42 33.0**	**-0.8**
MKAZ	**Moumakai**	**1.96**	**254**	P	**Pn**	**08 42 03.3**	**+1.4**
CNGZ	**Carnagh Statio**	**1.96**	**164**	P	**Pn**	**08 42 03.6**	**+1.7**
CNGZ				S	**S**	**08 42 34.4**	**-0.3**
MUGZ	**Murupara**	**1.97**	**197**	P	**Pn**	**08 42 03.3**	**+1.3**
MUGZ				S	**S**	**08 42 34.2**	**-0.6**
ETAZ	**East Tamaki Re**	**2.11**	**259**	P	**Pn**	**08 42 05.1**	**+1.8**
RIGZ	**Rimuhau**	**2.12**	**175**	P	**Pn**	**08 42 04.8**	**+1.4**
RIGZ				S	**S**	**08 42 38.4**	**+1.1**
GKBS	**Kaiti Beach**	**2.12**	**169**	P	**Pn**	**08 42 05.3**	**+1.9**
GKBS				S	**S**	**08 42 38.2**	**+0.9**
SNGZ	**Shannon Statio**	**2.19**	**184**	P	**Pn**	**08 42 05.4**	**+1.3**
SNGZ				S	**S**	**08 42 38.2**	**-0.3**
PRGZ	**Paritu Road**	**2.34**	**173**	P	**Pn**	**08 42 07.4**	**+1.9**
PRGZ				S	**S**	**08 42 41.1**	**-0.2**
AWAZ	**Awhitu Peninsu**	**2.35**	**258**	P	**Pn**	**08 42 07.8**	**+2.1**
WTAZ	**Waiatarua**	**2.39**	**261**	P	**Pn**	**08 42 06.4**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.57**	**173**	P	**Pn**	**08 42 09.5**	**+1.6**
MHGZ				S	**S**	**08 42 44.8**	**-0.6**
WCZ	**Waipu Caves**	**2.65**	**283**	P	**Pn**	**08 42 09.6**	**+0.9**
BKZ	**Black Stump Fm**	**2.69**	**197**	P	**Pn**	**08 42 10.3**	**+1.1**
BKZ	**Black Stump Fm**	**2.69**	**197**	S	**S**	**08 42 46.7**	**-1.0**
HIZ	**Hauiti**	**2.85**	**227**	P	**Pn**	**08 42 12.0**	**+1.1**
OUZ	**Omahuta**	**3.47**	**292**	P	**Pn**	**08 42 18.7**	**+1.0**
WAZ	**Wanganui**	**3.73**	**212**	P	**Pn**	**08 42 21.8**	**+1.0**
WAZ				S	**S**	**08 43 09.6**	**+1.0**
BFZ	**Birch Farm**	**4.20**	**193**	P	**Pn**	**08 42 26.7**	**+0.5**
BFZ	**Birch Farm**	**4.20**	**193**	S	**S**	**08 43 17.7**	**-0.8**
SNZO	**South Karori**	**5.20**	**204**	P	**Pn**	**08 42 38.1**	**-0.2**
SNZO	**South Karori**	**5.20**	**204**	S	**S**	**08 43 38.7**	**-1.6**
KHZ	**Kahutara**	**6.58**	**207**	P	**Pn**	**08 42 54.7**	**-0.9**
KHZ	**Kahutara**	**6.58**	**207**	S	**S**	**08 44 09.7**	**-2.0**

IDC 10 08:59:42.3±1.2, 18°.14S×175°.83E, h0km, **mb3.9**/5, **mbtmp3.9**/5, **MS3.5**/20, **Error ellipse: s-maj=43.5km s-min=30.8km az=144.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.15**	**79**	Pn	Pn	09 00 09.7	-10
	40nm,0.3s,baz=272,slow=23,SNR=9.1						
MSVF				Sn	Sn	09 00 29.9	-17
	149nm,0.3s,baz=99,slow=23,SNR=24						
URZ	**Urewera**	**20.07**	**177**	LR	LR	09 11 00.3	
	comp=Z,123nm,18.2s,baz=68,slow=34						
RAR	**Rarotonga**	**23.17**	**102**	LR	LR	09 12 16.6	
	comp=Z,53nm,20.0s,baz=274,slow=33						
PMG	**Port Moresby**	**29.13**	**283**	LR	LR	09 16 05.0	
	comp=Z,139nm,18.7s,baz=338,slow=34						
PPT	**Papeete**	**32.91**	**94**	LR	LR	09 16 25.1	
	comp=Z,85nm,19.9s,baz=270,slow=30						
STKA	**Stephens Creek**	**33.75**	**239**	LR	LR	09 18 43.7	
	comp=Z,76nm,18.6s,baz=46,slow=34						
WRA	**Warramunga Arr**	**39.19**	**261**	P	P	09 07 12.2	-0.2
	0.8nm,0.7s,baz=90,slow=9.0,SNR=6.0						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**39.44**	**255**	P	P	09 07 14.5	0.0
	1.5nm,0.8s,baz=84,slow=8.9,SNR=15						
ASAR				LR	LR	09 23 05.8	
	comp=Z,102nm,18.0s,baz=105,slow=36						
	1.5nm,0.8s						
GUMO	**Guam**	**43.89**	**314**	LR	LR	09 26 53.4	
	comp=Z,24nm,18.3s,baz=144,slow=37						
FITZ	**Fitzroy Crossi**	**47.57**	**262**	LR	LR	09 27 43.3	
	comp=Z,133nm,18.8s,baz=111,slow=35						
VNDA	**Vanda**	**59.81**	**183**	LR	LR	09 30 49.3	
	comp=Z,81nm,20.1s,baz=238,slow=31						
MJAR	**Matsushiro Arr**	**64.97**	**327**	LR	LR	09 33 46.3	
	comp=Z,25nm,19.4s,baz=174,slow=32						
ASAJ	**Asahikawa**	**69.01**	**335**	LR	LR	09 35 16.6	
	comp=Z,42nm,20.7s,baz=196,slow=31						
KSRS	**Korea Array**	**71.34**	**321**	LR	LR	09 42 12.4	
	comp=Z,16nm,18.1s,baz=45,slow=36						
QSPA	**South Pole Qui**	**71.

ITCA	**Escuela Especi**	**1.07 324**	S	Sn	09 03 02.7	+0.6
UEES	**Universidad Ev**	**1.09 327**	S	Sn	09 03 02.6	+0.2
UEES	**Universidad Ev**	**1.09 327**	P	Pn	09 02 49.2	+0.7
POTN	**Potosi Cosigui**	**1.11 80**	P	Pn	09 02 49.2	+0.5
POTN			S	Sn	09 03 03.7	+0.8
PMON	**Piamonte**	**1.12 324**	P	Pn	09 02 49.3	+0.2
PMON	**Piamonte**	**1.12 324**	S	Sn	09 03 03.2	-0.2
JAYA	**Jayaque - finc**	**1.16 317**	*e*P	Pb	09 02 51.0	-0.5
JAYA			*e*S	Sn	09 03 04.1	-0.3
JAYA	**Jayaque - finc**	**1.16 317**	P	Pn	09 02 50.3	+0.7
LLGN	**La Laguna**	**1.39 347**	S	Sn	09 03 10.7	+0.8
LLGN	**La Laguna**	**1.39 347**	P	Pn	09 02 52.8	+0.1
CEVE	**Cerro Verde**	**1.41 317**	S	Sn	09 03 10.8	+0.3
UNIC	**Universidad Ca**	**1.48 323**	S	Sn	09 03 12.6	+0.6
UNIC	**Universidad Ca**	**1.48 323**	P	Pn	09 02 54.8	+0.9
NUBE	**Las Nubes**	**1.57 314**	*e*P	Pn	09 02 55.2	0.0
NUBE			*e*S	Sn	09 03 14.1	-0.2
NUBE	**Las Nubes**	**1.57 314**	P	Pn	09 02 55.3	+0.1
CHOHN	**Orocuina**	**1.58 65**	P	Pn	09 02 55.7	+0.3
CHOHN	**Orocuina**	**1.58 65**	S	Sn	09 03 15.3	+0.6
SLOZ	**Alcaldia de Sa**	**1.66 317**	S	Sn	09 03 17.2	+0.8
MTO3	**Montecristo**	**1.74 336**	P	Pn	09 02 58.0	+0.3
MTO3	**Montecristo**	**1.74 336**	S	Sn	09 03 19.5	+0.8
POLN	**Al Sur del Vol**	**1.78 95**	P	Pn	09 02 57.2	-0.7
POLN			S	Sn	09 03 19.5	0.0
TGUH	**Tegucigalpa,Un**	**1.81 46**	P	Pn	09 02 58.8	+0.2
TGUH			S	Sn	09 03 21.2	+0.7
PLRN	**Geotermica Pol**	**1.83 97**	P	Pn	09 02 59.7	+1.0
PLRN			S	Sn	09 03 20.3	-0.3
ILCN	**San Idelfonso**	**1.90 97**	P	Pn	09 02 59.2	-0.3
ILCN			S	Sn	09 03 23.5	+1.2
CNGA	**Al SSO del Vol**	**1.91 99**	P	Pn	09 02 59.8	0.0
CNGA			S	Sn	09 03 23.0	+0.4
CNGN	**Cerro Negro**	**1.91 99**	P	Pn	09 02 60.0	+0.2
CNGN	**Cerro Negro**	**1.91 99**	S	Sn	09 03 23.0	+0.3
COPN	**Copaltepe**	**2.08 107**	P	Pn	09 03 03.1	+0.9
LIMN	**Finca el Limon**	**2.22 83**	P	Pn	09 03 04.1	0.0
UNAN	**Cigeo UNAN**	**2.40 106**	S	Sn	09 03 34.4	-0.5
RCVN	**Varillal2**	**2.50 72**	P	Pn	09 03 08.1	+0.1

*UPP **10** 09:03:26.4±0.3, 67°.42N×23°.34E, h0km, ML2.0, Unknown*
*HEL **10** 09:03:26.9±0.1, 67°.43N×23°.33E, h0km, ML1.6, Explosion*
*IDC **10** 09:03:27.0±1.6, 67°.47N×23°.68E, h0km, mbtmp2.6/2, ML1.9/2, Error ellipse: s-maj=34.5km s-min=8.3km az=96.0.*
*BER **10** 09:03:29.0±2.6, 67°.41N×23°.38E, h0km, ML1.4, Suspected explosion*

ISC 10 09:03:25.1±0.7, **67°.46N**±0°.02×**23°.57E**±0°.02, **h0km, n40, σ1s09/67, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KLF	**Kolari**	**0.27**	**145**	PG	**Pb**		**09 03 32.5**	**-0.3**
KLF				SG	**Sb**		**09 03 36.6**	**-1.4**
PAJU	**Pajala**	**0.47**	**202**	P	**Pg**		**09 03 34.3**	**+0.3**
PAJU				S	**Sg**		**09 03 40.0**	**0.0**
LANU	**Lannavaara**	**0.84**	**316**	P	**Pg**		**09 03 41.6**	**+0.4**
LANU				S	**Sg**		**09 03 52.5**	**+0.4**
LANU	**Lannavaara**	**0.84**	**316**	PB	**Pg**		**09 03 41.6**	**+0.4**
LANU				SB	**Sb**		**09 03 54.2**	**-0.3**
HEF	**Hetta**	**0.96**	**2**	*e*P	**Pn**		**09 03 45.5**	**-0.2**
HEF				*e*S	**Sn**		**09 03 59.3**	**-0.8**
HEF	**Hetta**	**0.96**	**2**	PG	**Pb**		**09 03 44.9**	**+0.3**
HEF				MSG			09 03 57.2	
	comp=Z,5.5nm,0.2s							
HEF				SB	**Sn**		**09 03 59.4**	**-0.7**
ERTU	**Ertsjaerv**	**1.05**	**211**	P	**Pg**		**09 03 44.5**	**-0.7**
ERTU	**Ertsjaerv**	**1.05**	**211**	PG	**Pg**		**09 03 44.7**	**-0.6**
ERTU				SB	**Sg**		**09 03 58.8**	**-0.1**
DUNU	**Dundret**	**1.21**	**255**	P	**Pg**		**09 03 47.4**	**-0.8**
RNF	**Rovaniemi**	**1.28**	**130**	PG	**Pn**		**09 03 51.1**	**+0.9**
	baz=308							
RNF				SB	**Sn**		**09 04 09.4**	**+1.3**
KUA	**Kurravaara**	**1.33**	**294**	P	**Pg**		**09 03 49.9**	**-0.7**
TOF	**Tornio**	**1.42**	**167**	PG	**Pb**		**09 03 52.5**	**+0.2**
TOF				MSG			09 04 09.7	
	comp=Z,3.1nm,0.2s							
TOF				SB	**Sb**		**09 04 10.8**	**0.0**
KOVU	**Salmi**	**1.50**	**302**	P	**Pn**		**09 03 53.4**	**+0.1**
RATU	**Laukkuluspa**	**1.56**	**285**	P	**Pn**		**09 03 53.9**	**-0.3**
KTK1	**Kautokeino**	**1.57**	**356**	*e*P	**Pg**		**09 03 55.4**	**+0.3**
KTK1				*e*S	**Sg**		**09 04 16.1**	**+0.7**
KTK1				IAML			09 04 20.2	
	comp=Z,4.9nm,0.4s							
KTK1	**Kautokeino**	**1.57**	**356**	PG	**Pg**		**09 03 55.3**	**+0.2**
KTK1				SN	**Sg**		**09 04 19.1**	**+3.7**
KALU	**Kalix**	**1.61**	**183**	P	**Pb**		**09 03 55.2**	**-0.3**
KALU				S	**Sb**		**09 04 16.3**	**0.0**
KALU	**Kalix**	**1.61**	**183**	PG	**Pb**		**09 03 55.4**	**-0.1**
KALU				SN	**Sg**		**09 04 19.4**	**+2.8**
KIF	**Kilpisjarvi**	**1.87**	**328**	*e*P	**Pg**		**09 04 00.7**	**-0.1**
KIF				*e*S	**Sg**		**09 04 25.6**	**+0.6**
KIF	**Kilpisjarvi**	**1.87**	**328**	PB	**Pn**		**09 03 57.6**	**-0.6**
KIF				MSG			09 04 22.6	
	comp=Z,7.7nm,0.2s							
KIF				SG	**Sg**		**09 04 25.6**	**+0.6**
RANF	**Ranua**	**1.93**	**137**	PG	**Pg**		**09 04 02.2**	**+0.1**
RANF				SG	**Sg**		**09 04 28.0**	**+0.9**
RAJF	**Raja-Jooseppi**	**2.06**	**58**	PB	**Pg**		**09 04 04.5**	**-0.1**
RAJF				SG	**Sg**		**09 04 33.5**	**+2.2**
ARA0	**ARCESS Array S**	**2.21**	**18**	*e*P	**Pb**		**09 04 05.6**	**-0.3**
ARA0				*e*S	**Sg**		**09 04 35.5**	**-0.4**
ARA0				IAML			09 04 39.2	
	comp=Z,3.0nm,0.2s							
ARA0	**ARCESS Array S**	**2.21**	**18**	PB	**Pb**		**09 04 05.7**	**-0.2**
ARA0				SG	**Sg**		**09 04 35.8**	**-0.1**
ARCES	**ARCESS Array B**	**2.21**	**18**	Pn	**Pb**		**09 04 05.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=200,slow=14,SNR=22							
ARCES				Lg	Lg		09 04 35.2	
	comp=Z,0.6nm,0.3s,baz=200,slow=28,SNR=13							
	comp=Z,0.6nm,0.4s							
VRF	**Varrio**	**2.33**	**80**	PB	**Pg**		**09 04 09.0**	**-0.8**
	baz=269							
VRF				MSG			09 04 38.7	
	comp=Z,3.9nm,0.2s							
VRF				SB	**Sg**		**09 04 40.6**	**+0.7**
JETT	**Jettan, Norway**	**2.41**	**333**	*e*P	**Pb**		**09 04 08.3**	**-0.9**
JETT				*e*S	**Sb**		**09 04 40.1**	**+0.6**
JETT				IAML			09 04 42.4	
	comp=Z,7.2nm,0.2s							
I37NO	**I37NO**	**2.46**	**314**	I	I		09 19 40.0	
	baz=131,slow=329,SNR=4.3							
KU2	**Taivalkoski**	**2.56**	**131**	PB	**Pb**		**09 04 12.1**	**+0.3**
	baz=309							
KU2				SG	**Sg**		**09 04 47.5**	**+0.3**
OUL	**Oulu**	**2.56**	**157**	PG	**Pb**		**09 04 12.2**	**+0.4**
OLKF	**Oulanka, Finla**	**2.57**	**114**	PB	**Pb**		**09 04 12.1**	**+0.1**
OLKF				MSG			09 04 44.9	
	comp=Z,2.1nm,0.2s							
OLKF				SG	**Sg**		**09 04 47.9**	**+0.4**
KEV	**Kevo**	**2.63**	**27**	*e*P	**Pb**		**09 04 12.3**	**-0.7**
KEV				*e*S	**Sb**		**09 04 46.2**	**+0.4**
KEV	**Kevo**	**2.63**	**27**	PN	**Pb**		**09 04 11.6**	**-1.5**
KEV				MSG			09 04 46.5	
	comp=Z,2.1nm,0.2s							
KEV				SB	**Sg**		**09 04 48.1**	**-1.4**
MSF	**Maaselka**	**2.67**	**123**	SG	**Sg**		**09 04 50.6**	**-0.3**
OBF4	**Vikkela, Lumij**	**2.73**	**166**	PB	**Pb**		**09 04 13.7**	**-1.0**
OBF4				MSG			09 04 47.2	
	comp=Z,0.9nm,0.2s							
KU6	**Riekki**	**2.89**	**117**	PN	**Pb**		**09 04 16.0**	**-1.5**
KU6				MSG			09 04 54.0	
	comp=Z,1.2nm,0.2s							
KU6				SG	**Sg**		**09 04 57.1**	**-0.8**
KU1	**Kurvinen**	**3.06**	**126**	PN	**Pb**		**09 04 17.6**	**-2.7**
	baz=309							
OUF	**Merijarvi**	**3.14**	**171**	PB	**Pb**		**09 04 20.0**	**-1.7**
OUF				SB	**Sb**		**09 04 57.6**	**-2.9**
OUF				MSG			09 04 58.9	
	comp=Z,1.0nm,0.2s							
FAUS	**Fauske**	**3.19**	**272**	*e*P	**Pn**		**09 04 17.4**	**+0.9**
FINES	**FINESS Array B**	**6.13**	**169**	Pn	**Pn**		**09 04 59.2**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=357,slow=10,SNR=3.8							
FINES				Sn	**Sn**		**09 06 08.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=342,slow=22,SNR=1.7							
	comp=Z,1.3nm,0.6s							

*ASRS **10** 09:05:15.0±0.4, 54°.31N×86°.84E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 10 09:05:14.7±3.4, **54°.41N×87°.06E, h0km, mbtmp3.2/2, ML2.6/2, Error ellipse: s-maj=30.8km s-min=19.3km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**252**	I	I		09 14 30.0	
ZALV	**Zalesovo Beam**	**1.40**	**252**	Pg	Pn		09 05 39.6	-1.8
	2.6nm,0.3s,baz=69,slow=16,SNR=24							
ZALV				Lg	Lg		09 05 59.1	
	1.9nm,0.3s,baz=68,slow=27,SNR=6.1							
KURBB	**Kurchatov Arra**	**6.44**	**237**	Pn	Pn		09 06 51.7	+1.0
	0.1nm,0.3s,baz=53,slow=14,SNR=5.8							
	0.9nm,0.3s							
MKAR	**Makanchi Array**	**8.20**	**204**	Pn	Pn		09 07 16.1	+1.1
	0.1nm,0.3s,baz=25,slow=14,SNR=4.0							
	0.4nm,0.3s							

*IDC **10** 09:14:22.1±0.7, 9°.30S×158°.99E, h0km, mb4.0/11, mbtmp4.0/13, ML3.7/2, Error ellipse: s-maj=20.1km s-min=17.0km az=5.0*
*NEIC **10** 09:14:25.1±0.7, 9°.3S±0°.2×159°.03E±0°.03, h13km±6km, mb4.2/10, Error ellipse: s-maj=22.0km s-min=3.6km az=187.0*

ISC 10 09:14:26.2±0.6, **9°.3S**±0°.1×**159°.04E**±0°.06, **h27km, n28, σ0s90/30, mb4.1/16, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.90**	**98**		**Pn**		**09 14 42.7**	**-0.5**
HNR				Sg	**Sb**		**09 14 54.6**	**-0.2**
HNR	**Honiara**	**0.90**	**98**	Pn	**Pn**		**09 14 42.6**	**-0.5**
	576nm,0.3s,baz=214,slow=9.3,SNR=159							
HNR				Sn	**Sn**		**09 14 54.9**	**-0.3**
	2μm,0.3s,baz=270,slow=20,SNR=16							
DZM	**Mont Dzumac**	**14.54**	**152**	Pn	**Pn**		**09 17 49.3**	**-1.1**
DZM	**Mont Dzumac**	**14.54**	**152**	Pn	**Pn**		**09 17 50.8**	**+0.4**
	0.1nm,0.3s,baz=315,slow=19,SNR=0.8							
	1.5nm,0.6s							
JAY	**Jayapura**	**19.44**	**289**	P	**Pn**		**09 18 51.5**	**-0.6**
	0.5nm,0.3s,baz=120,slow=20,SNR=1.8							
	2.8nm,0.5s							
WR8	**Warramunga Arr**	**25.96**	**243**	P	**P**		**09 19 55.9**	**-0.8**
WR8				IAmb	IAmb		09 19 57.5	
	comp=Z,5.9nm,1.1s							
WB0	**Warramunga Arr**	**25.99**	**244**	P	**P**		**09 19 56.7**	**-0.3**
WB0				IAmb	IAmb		09 20 10.5	
	comp=Z,4.6nm,1.1s							
WRA	**Warramunga Arr**	**26.10**	**243**	P	**P**		**09 19 57.4**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=71,slow=9.4,SNR=16							
	comp=Z,2.7nm,0.7s							
STKA	**Stephens Creek**	**27.68**	**213**	P	**P**		**09 20 11.4**	**-0.7**
STKA	**Stephens Creek**	**27.68**	**213**	P	**P**		**09 20 11.1**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=36,slow=12,SNR=4.4							
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**27.94**	**236**	P	**P**		**09 20 14.3**	**-0.3**
ASAR	**Alice Springs**	**27.94**	**236**	P	**P**		**09 20 13.2**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=67,slow=9.4,SNR=12							
	comp=Z,0.8nm,0.8s							
KNRA	**Kununurra**	**30.21**	**255**	P	**P**		**09 20 34.0**	**-0.7**
KNRA				IAmb	IAmb		09 21 01.4	
	comp=Z,10nm,1.1s							
BBOO	**Buckleboo**	**31.58**	**219**	P	**P**		**09 20 46.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**33.56**	**251**	P	**P**		**09 21 03.6**	**-0.5**
FITZ				IAmb	IAmb		09 21 16.1	
	comp=Z,2.9nm,1.4s							
CMAR	**Chiang Mai Arr**	**65.39**	**295**	P	**P**		**09 25 07.0**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=112,slow=6.9,SNR=4.3							
	comp=Z,0.7nm,0.3s							
VNDA	**Vanda**	**68.20**	**179**	P	**P**		**09 25 25.2**	**+1.4**
VNDA	**Vanda**	**68.20**	**179**	P	**P**		**09 25 24.7**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=350,slow=6.2,SNR=9.8							
	comp=Z,1.8nm,0.8s							
SBA	**Scott Base**	**68.64**	**178**	P	**P**		**09 25 28.4**	**+1.9**
SONM	**Songino Array**	**73.46**	**326**	P	**P**		**09 25 57.1**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=139,slow=5.0,SNR=3.5							
	comp=Z,0.9nm,0.7s							
QSPA	**South Pole Qui**	**80.68**	**180**	P	**P**		**09 26 38.1**	**+1.4**
QSPA				IAmb	IAmb		09 26 38.6	
	comp=Z,1.6nm,0.8s							
QSPA	**South Pole Qui**	**80.68**	**180**	P	**P**		**09 26 37.2**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=0.0,slow=3.0,SNR=12							
	comp=Z,1.5nm,0.6s							
PMR	**Palmer**	**81.34**	**22**	P	**P**		**09 26 41.0**	**+1.0**
PMR				IAmb	IAmb		09 26 41.6	
	comp=Z,5.4nm,1.0s							
F19K	**Shaleruckik Mo**	**82.12**	**16**	P	**P**		**09 26 45.3**	**+1.3**
ILAR	**Eielson Array**	**84.09**	**20**	P	**P**		**09 26 54.5**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=259,slow=5.4,SNR=6.7							
	comp=Z,0.2nm,0.6s							
MKAR	**Makanchi Array**	**87.79**	**318**	P	**P**		**09 27 13.1**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=97,slow=6.1,SNR=9.0							
	comp=Z,0.8nm,0.6s							
YKA	**Yellowknife Ar**	**96.50**	**28**	P	**P**		**09 27 52.2**	**-0.7**
	comp=Z,0.2nm,0.8s,baz=243,slow=6.7,SNR=2.4							
	comp=Z,0.2nm,0.8s							
BVAR	**Borovoye Array**	**96.55**	**323**	P	**P**		**09 27 52.2**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=97,slow=7.4,SNR=2.3							
	comp=Z,0.3nm,0.3s							

*IDC **10** 09:20:15.2±1.0, 17°.91S×176°.39E, h0km, mb4.0/4, mbtmp4.0/4, MS3.3/13, Error ellipse: s-maj=34.6km s-min=18.3km az=168.0*

ISC 10 09:20:20.3±1.0, **17°.9S**±0°.3×**176°.4E**±0°.1, **h35km, n18, σ0s71/7, mb3.9/4, MS3.3/12, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.57**	**84**	Pn	**Pn**		**09 20 45.0**	**-0.7**
	47nm,0.3s,baz=268,slow=16,SNR=77							
MSVF				Sn	**Sn**		**09 21 05.2**	**+0.3**
	57nm,0.3s,baz=173,slow=21,SNR=16							
MSVF				LR	LR		09 21 22.3	
	comp=Z,550nm,19.4s,baz=306,slow=42							
HNR	**Honiara**	**18.07**	**296**	LR	LR		09 30 53.5	
	comp=Z,49nm,18.5s,baz=126,slow=35							
URZ	**Urewera**	**20.28**	**178**	LR	LR		09 30 53.9	
	comp=Z,91nm,19.9s,baz=22,slow=32							
RAR	**Rarotonga**	**22.67**	**102**	LR	LR		09 32 22.3	
	comp=Z,31nm,21.8s,baz=269,slow=32							
PMG	**Port Moresby**	**29.62**	**283**	LR	LR		09 36 29.0	
	comp=Z,93nm,18.3s,baz=42,slow=33							
PPT	**Papeete**	**32.37**	**95**	LR	LR		09 36 37.6	
	comp=Z,55nm,21.4s,baz=258,slow=30							
STKA	**Stephens Creek**	**34.34**	**239**	LR	LR		09 39 31.2	
	comp=Z,54nm,18.5s,baz=57,slow=34							
WRA	**Warramunga Arr**	**39.78**	**260**	P	**P**		**09 27 49.7**	**-0.5**
	0.9nm,0.8s,baz=93,slow=8.4,SNR=5.9							
	0.9nm,0.8s							
ASAR	**Alice Springs**	**40.05**	**254**	P	**P**		**09 27 51.9**	**-0.5**
	2.0nm,0.8s,baz=83,slow=8.9,SNR=16							
ASAR				LR	LR		09 43 21.1	
	comp=Z,76nm,19.4s,baz=102,slow=35							
	2.0nm,0.8s							
GUMO	**Guam**	**44.14**	**313**	LR	LR		09 43 45.5	
	comp=Z,20nm,19.7s,baz=148,slow=32							
MJAR	**Matsushiro Arr**	**65.08**	**327**	LR	LR		09 53 50.2	
	comp=Z,27nm,21.9s,baz=188,slow=31							
ASAJ	**Asahikawa**	**69.04**	**335**	LR	LR		09 55 53.3	
	comp=Z,23nm,21.5s,baz=186,slow=31							
QSPA	**South Pole Qui**	**72.14**	**180**	P	**P**		**09 31 41.7**	**+0.6**
	4.4nm,1.0s,baz=36,slow=1.1,SNR=6.6							
	4.4nm,1.0s							
PETK	**Petropavlovsk-**	**72.56**	**348**	LR	LR		10 03 24.1	
	comp=Z,15nm,18.4s,baz=64,slow=36							
KLR	**Kul'dur**	**77.70**	**332**	LR	LR		09 59 50.1	
	comp=Z,19nm,20.3s,baz=182,slow=31							
MA2	**Magadan**	**80.00**	**347**	LR	LR		10 11 09.5	
	comp=Z,11nm,18.6s,baz=240,slow=38							
ILAR	**Eielson Array**	**87.08**	**15**	P	**P**		**09 33 02.1**	**+0.2**
	0.7nm,0.8s,baz=211,slow=5.6,SNR=6.8							
	0.7nm,0.8s							
GERES	**GERESS Array B**	**146.10**	**339**	PKPbc	**PKPab**		**09 39 58.1**	**+0.7**
	0.2nm,0.3s,baz=35,slow=3.6,SNR=3.5							

*ASRS **10** 09:28:19.0±0.9, 53°.63N×87°.98E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 10 09:28:21.8±3.3, **53°.69N×87°.97E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=28.9km s-min=19.0km az=42.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**279**	I	I		09 41 10.0	
	baz=98,slow=332,SNR=8.1							
ZALV	**Zalesovo Beam**	**1.88**	**279**	Pg	Pn		09 28 55.5	+0.3
	1.2nm,0.3s,baz=96,slow=17,SNR=11							
ZALV				Lg	Lg		09 29 21.8	
	3.4nm,0.3s,baz=105,slow=27,SNR=16							
KURBB	**Kurchatov Arra**	**6.57**	**246**	Pn	Pn		09 30 00.0	+0.5
	0.1nm,0.3s,baz=63,slow=15,SNR=5.1							
KURBB				Sn	Sn		09 31 14.4	-0.6
	baz=58,slow=21,SNR=1.6							
KURBB				Lg	Lg		09 31 50.2	
	baz=39,slow=23,SNR=4.1							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**7.80**	**210**	Pn	Pn		09 30 17.8	+1.3
	0.1nm,0.3s,baz=28,slow=14,SNR=2.2							
	0.1nm,0.3s							

STR 10 10:17:09.4±0.3, **48°N**±2°×°±°, **h0km, MLv1.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=179.3, preliminary, France**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
XAFF	**Xaffevillers**	**0.18**	**270**	Pg	Pg		10 17 12.5	-0.3
XAFF				Sg	Sg		10 17 15.3	+0.1
ECH	**Echery**	**0.26**	**137**	Pg	Pg		10 17 14.1	-0.3
ECH				Sg	Sg		10 17 17.8	+0.1
WLS	**Welschbruch**	**0.31**	**89**	Pg	Pg		10 17 14.8	-0.5
WLS				Sg	Sg		10 17 19.6	+0.3
HOHE	**HOHENGOEFT**	**0.47**	**57**	Pg	Pg		10 17 18.0	-0.3
HOHE				Sg	Sg		10 17 24.3	-0.1
ZELS	**Zelsheim**	**0.51**	**102**	Pg	Pg		10 17 19.2	+0.2
ZELS				Sg	Sg		10 17 26.4	+0.8
WALT	**Westhalten**	**0.51**	**149**	Pg	Pg		10 17 19.5	+0.4
WALT				Sg	Sg		10 17 26.5	+0.7
CIEL	**Dossenheim-sur**	**0.53**	**36**	Pg	Pg		10 17 19.3	-0.2
CIEL				Sg	Sg		10 17 27.0	+0.5
VOEL	**Voellerdingen**	**0.58**	**15**	Pg	Pg		10 17 21.2	+0.6
VOEL				Sg	Sg		10 17 28.4	+0.3
ETNF	**Estrennes**	**0.58**	**256**	Pg	Pg		10 17 20.1	-0.5
ETNF	**Estrennes**	**0.58**	**256**	Sg	Sg		10 17 28.5	+0.3
VOGT	**Vogtsburg - To**	**0.61**	**122**	Pg	Pg		10 17 21.6	+0.4
VOGT	**Vogtsburg - To**	**0.61**	**122**	Sg	Sg		10 17 29.7	+0.6
MANO	**Manonville**	**0.77**	**304**	Pg	Pg		10 17 24.1	0.0
MANO				Sg	Sb		10 17 35.5	-1.1
KIZ	**Kirchzarten**	**0.82**	**123**	Sg	Sg		10 17 36.9	+1.2
KIZ	**Kirchzarten**	**0.82**	**123**	Pg	Pg		10 17 25.2	0.0
OPP	**Oppenau**	**0.87**	**84**	Pg	Pg		10 17 26.0	+0.1
OPP	**Oppenau**	**0.87**	**84**	Sg	Sg		10 17 38.0	+0.7
BOURR	**Bourrignon**	**1.04**	**167**	Pg	Pg		10 17 29.4	+0.2
BOURR	**Bourrignon**	**1.04**	**167**	Sg	Sb		10 17 43.6	-0.8
CHMF	**Charmoille**	**1.17**	**188**	Pg	Pg		10 17 30.8	-1.0
CHMF				Sg	Sg		10 17 47.5	+0.6

IDC 10 10:40:50.4±1.6, **15°.61S×174°.75W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=52.6km s-min=33.8km az=136.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.68**	**196**	P	P		10 46 03.7	0.0
	2.8nm,0.3s,baz=14,slow=4.3,SNR=8.8							
	2.8nm,0.3s							
WRA	**Warramunga Arr**	**48.53**	**257**	P	P		10 49 35.9	+0.2
	0.3nm,0.5s,baz=92,slow=8.0,SNR=5.2							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**48.81**	**252**	P	P		10 49 37.5	-0.3
	0.7nm,0.5s,baz=89,slow=7.8,SNR=19							
	0.7nm,0.5s							
PDAR	**Pinedale Array**	**83.29**	**42**	P	P		10 53 19.4	0.0
	0.3nm,0.7s,baz=237,slow=5.0,SNR=3.5							
	0.3nm,0.7s							

*IDC **10** 10:41:22.1±1.1, 1°.50S×23°.91W, h0km, mb3.6/4, mbtmp3.7/5, ML3.5/1, MS3.2/5, Error ellipse: s-maj=54.0km s-min=28.5km az=166.0*

ISC 10 10:41:23.4±1.1, **1.7S**±0°.3×**24°.0W**±0°.2, **h10km, n15, σ1s71/8, mb3.6/3, MS3.2/4, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR1**	**1.27**	**123**	T	T		10 55 39.9	
	baz=307,slow=74							
H10N2	**ASCENSION HYDR1**	**1.27**	**123**	T	T		10 55 59.0	
	baz=307,slow=74							
H10N1	**ASCENSION HYDR1**	**1.29**	**123**	T	T		10 55 50.1	
	baz=307,slow=74							
RCBR	**Riachuelo**	**12.59**	**250**	Pn	**Pn**		**10 44 23.8**	**+1.0

46nm,0.8s,baz=189,slow=26,SNR=27
MAKZ Makanchi 2.47 1 ⇓Pn Pb 10 45 15.4 +1.1
8.1nm,0.5s
MAKZ ⇑Sn Sb 10 45 44.4 -0.4
12nm,0.5s
KPKS Kokpek 2.50 251 Pg Pb 10 45 14.7 -0.1
6.3nm,0.2s
KPKS Lg Lg 10 45 46.6
97nm,0.3s
KPKS Kokpek 2.50 251 *e*P Pb 10 45 14.7 -0.1
6.3nm,0.2s
KPKS *e*S Sb 10 45 46.6 +1.0
97nm,0.3s
SATY Saty 2.85 245 Pg Pb 10 45 21.3 +0.4
3.9nm,0.1s
SATY Lg Lg 10 45 57.9
53nm,0.5s
SATY Saty 2.85 245 *e*P Pb 10 45 21.6 +0.7
8.0nm,0.3s
SATY *e*S Sb 10 45 58.6 +2.7
22nm,0.3s
MDOK Medeo 3.72 253 Pg Pb 10 45 38.3 +2.6
5.9nm,0.6s
MDOK Lg Lg 10 46 29.3
7.1nm,0.6s
TNSS Tian-Shan 3.83 252 Pg Pg 10 45 41.2 -2.1
3.5nm,0.7s
TNSS Lg Lg 10 46 32.5
7.8nm,0.3s
TNSS Tian-Shan 3.83 252 *e*P Pg 10 45 41.2 -2.1
3.5nm,0.7s
TNSS *e*S Sg 10 46 32.5 -0.5
7.8nm,0.3s
MTBS Maitube 4.16 255 Pg Pb 10 45 46.1 +3.0
3.3nm,0.3s
MTBS Lg Lg 10 46 40.5
9.3nm,0.3s
MTBS Maitube 4.16 255 *e*P Pb 10 45 46.1 +3.0
3.3nm,0.3s
MTBS *e*S Sg 10 46 40.5 -2.8
9.3nm,0.3s
DGS Degeres 4.58 258 Pg Pb 10 45 53.7 +3.3
2.0nm,0.2s
DGS Lg Lg 10 46 53.3
14nm,0.4s
TKM2 Tokmak 2 4.80 255 ⇑Pg Pg 10 46 00.3 -1.5
3.5nm,0.7s
TKM2 ⇓Lg Lg 10 46 59.8
6.5nm,0.7s
KURBB Kurchatov Arra 6.69 341 ⇓Lg Lg 10 48 00.2
9.1nm,0.6s
KURK Kurchatov 6.76 342 ⇓Lg Lg 10 48 02.3
6.1nm,0.9s

GCG 10 10:47:49.2±0.3, 13°.69N×91°.70W, h62km±76km, MD4.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG8	**El Palmar, Qui**	**0.83**	**24**	*e*P	Pn	10 48 09.0	+3.5
NUBE	**Las Nubes**	**1.88**	**83**	*e*P	Pn	10 48 19.7	+0.5

*WEL **10** 10:48:10.8±0.8, 32°.S±6°.×17°.8W±1°.7, h12km, M4.0/7, mB4.5/7, ML4.5/13, MLv4.3/6, Mw(mB)3.6/7, Error ellipse: s-maj=23.8km s-min=4.3km az=106.7, confirmed*
*IDC **10** 10:48:11.5±3.2, 31°.98S×178°.75W, h0km, mb3.9/2, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=68.7km s-min=36.5km az=107.0*
ISC 10 10:48:08.1±1.5, 32°.02S±0°.07×177°.8W±0°.2, h10km, n19, σ2°.53/29, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.75 357**		P	**Pn**	10 48 54.6	+2.4
GLKZ				S	**Sn**	10 49 22.4	-3.1
MXZ	**Matakaoa Point**	**6.40 209**		P	**Pn**	10 49 44.3	+1.9
MXZ				S	**Sn**	10 50 54.0	-1.5
WMGZ	**Waiomatatini S**	**6.58 207**		P	**Pn**	10 49 48.6	+3.8
PKGZ	**Pakihiroa**	**6.75 209**		P	**Pn**	10 49 50.7	+3.4
PKGZ				S	**Sn**	10 51 03.5	-0.8
HAZ	**Te Kaha**	**6.79 211**		P	**Pn**	10 49 48.8	+1.0
HAZ				S	**Sn**	10 51 04.9	-0.1
PUZ	**Puketiti**	**6.86 207**		P	**Pn**	10 49 50.3	+1.5
RUGZ	**Raukumara Rang**	**7.01 211**		P	**Pn**	10 49 52.9	+2.1
TWGZ	**Tauwhareparae**	**7.06 208**		P	**Pn**	10 49 54.3	+2.8
TWGZ				S	**Sn**	10 51 11.4	-0.4
CNGZ	**Carnagh Statio**	**7.24 206**		P	**Pn**	10 49 55.0	+1.1
TKGZ	**Te Karaka**	**7.34 208**		P	**Pn**	10 49 58.0	+2.7
TKGZ				S	**Sn**	10 51 17.6	-1.0
MWZ	**Matawai**	**7.38 210**		P	**Pn**	10 49 57.8	+1.9
MWZ				S	**Sn**	10 51 18.2	-1.5
URZ	**Urewera**	**7.50 213**		Pn	**Pn**	10 49 57.6	+0.1
1.2nm,0.3s,baz=348,slow=3.9,SNR=21							
URZ				Sn	**Sn**	10 51 17.4	-5.3
1.1nm,0.3s,baz=276,slow=11,SNR=6.1							
6.1nm,0.9s							
URZ	**Urewera**	**7.50 213**		P	**Pn**	10 49 57.7	+0.1
URZ				S	**Sn**	10 51 20.0	-2.6
WCZ	**Waipu Caves**	**7.62 237**		P	**Pn**	10 50 03.4	+4.2
MUGZ	**Murupara**	**7.84 213**		P	**Pn**	10 50 04.3	+2.1
MUGZ				S	**Sn**	10 51 27.8	-3.1
OUZ	**Omahuta**	**7.87 244**		P	**Pn**	10 50 06.0	+3.3
ASAR	**Alice Springs**	**43.24 269**		P	**P**	10 56 08.0	-1.8
0.6nm,0.5s,baz=107,slow=7.5,SNR=14							
0.6nm,0.5s							
WRA	**Warramunga Arr**	**44.37 274**		P	**P**	10 56 17.1	-1.8
0.9nm,0.3s,baz=112,slow=8.0,SNR=26							
0.9nm,0.3s							
FINES	**FINESS Array B**	**146.72 339**		PKPbc	**PKPab**	11 07 52.7	+2.0
2.6nm,0.9s,baz=46,slow=4.0,SNR=3.9							

*ISN **10** 11:12:39.4±0.6, 35°.29N×46°.58E, h10km±13km, ML2.8*
*TEH **10** 11:12:41.9, 35°.22N×46°.45E, h10km±152km*
ISC 10 11:12:41.7±1.0, 35°.22N±0°.06×46°.46E±0°.04, h10km, n13, σ1°.09/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIN	**Lien**	**0.51 126**		Pg	**Pg**	11 12 51.4	-0.3
IDHR	**Dehrash**	**0.52 186**		Pg	**Pg**	11 12 51.8	0.0
IGHG	**Ghaleghazi**	**0.89 174**		Pg	**Pg**	11 12 59.3	+0.4
KGS1	**Ghasr-e-Shirin**	**1.01 225**		Pg	**Pg**	11 13 01.1	+0.1
SNQR	**Sonqor, Kerman**	**1.03 110**		Pg	**Pg**	11 13 00.6	-0.9
KCHF	**Cheshme Sefid,**	**1.06 153**		Pg	**Pg**	11 13 02.1	+0.1
GLG1	**Gilan-e-Gharb**	**1.19 202**		Pg	**Pg**	11 13 05.1	+0.6
IKRK	**Kirkuk**	**1.74 277**		*e*Pn	**Pn**	11 13 13.0	+1.1
IKRK				*e*Sn	**Sg**	11 13 37.0	-0.6
IKRK				AML	AML	11 13 42.0	
comp=N,13nm,0.8s							
IKRK				AML	AML	11 13 46.3	
comp=E,19nm,0.8s							
HGHA	**Hamedan- Ghaye**	**1.98**	**81**	Pn	**Pb**	11 13 17.4	-0.6
IBDR	**Badra**	**2.15 192**		*e*Pn	**Pn**	11 13 18.0	+0.5
IBDR				*e*Sn	**Sb**	11 13 47.0	-0.3
IAZR	**Azarshahr**	**2.48 351**		Pn	**Pn**	11 13 23.2	+0.7
BHD	**Baghdad**	**2.59 222**		*e*Pn	**Pn**	11 13 25.0	+1.3
BHD				*e*Sn	**Sb**	11 13 58.0	-2.2
QABG	**Abgarm-Qazvin**	**2.60**	**78**	Pn	**Pn**	11 13 26.2	+2.2

IDC 10 11:23:38.7±1.5, 55°.46S×28°.07W, h0km, mb3.7/2, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=85.4km s-min=34.1km az=83.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.48 156**		P	P	11 28 07.4	+0.5
0.2nm,0.3s,baz=317,slow=14,SNR=8.2							
2.0nm,0.7s							
QSPA	**South Pole Qui**	**34.79 180**		P	P	11 30 30.5	-0.2
0.8nm,0.6s,baz=187,slow=2.5,SNR=11							
0.8nm,0.6s							
VNDA	**Vanda**	**47.14 183**		P	P	11 32 11.7	-0.2
0.4nm,0.5s,baz=179,slow=7.1,SNR=5.2							
0.4nm,0.5s							
ILAR	**Eielson Array**	**149.35 313**		PKPbc	PKPbc	11 43 27.6	-0.3
0.7nm,0.9s,baz=100,slow=1.7,SNR=5.5							
SONM	**Songino Array**	**151.19 86**		PKPbc	PKPbc	11 43 32.6	-0.5
0.9nm,0.5s,baz=233,slow=4.3,SNR=5.1							

*UPP **10** 11:32:22.2±2.1, 63°.89N×28°.27E, h0km, ML2.0*

*HEL **10** 11:32:23.1±0.1, 63°.97N×28°.10E, h0km, ML2.0, Suspected explosion*
*IDC **10** 11:32:23.9±1.7, 63°.88N×28°.18E, h0km, mbtmp3.0/3, ML2.0/3, Error ellipse: s-maj=33.3km s-min=9.8km az=98.0*
ISC 10 11:32:22.6±0.7, 63°.91N±0°.03×28°.08E±0°.03, h0km, n45, σ1°.72/72, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.53 193**		PG	**Pb**	11 32 33.5	-1.4
NIF				SG	**Sb**	11 32 42.6	-0.5
RMF	**Romuvaara**	**0.87**	**68**	PG	**Pg**	11 32 38.4	-0.9
RMF				MSG		11 32 49.0	
comp=Z,21nm,0.2s							
RMF				SG	**Sg**	11 32 49.9	-0.7
SUF	**Sumiainen**	**1.48 217**		PG	**Pg**	11 32 50.5	-0.4
SUF				MSG		11 33 09.2	
comp=Z,5.4nm,0.2s							
OUL	**Oulu**	**1.51 322**		PG	**Pn**	11 32 49.7	-1.3
baz=134							
OUL				SN	**Sn**	11 33 10.6	-0.7
OUF	**Merijarvi**	**1.54 289**		PG	**Pn**	11 32 50.4	-0.9
OUF				MSG		11 33 09.0	
comp=Z,24nm,0.2s							
OUF				SN	**Sn**	11 33 12.2	+0.2
OBF4	**Vikkela, Lumij**	**1.58 306**		PG	**Pn**	11 32 51.0	-0.9
OBF4				MSG		11 33 09.5	
comp=Z,14nm,0.2s							
OBF4				SN	**Sn**	11 33 13.4	+0.4
JOF	**Joensuu**	**1.76 123**		*e*P	**Pb**	11 32 55.1	-0.6
JOF	**Joensuu**	**1.76 123**		PG	**Pb**	11 32 54.8	-1.0
baz=306							
JOF				SN	**Sg**	11 33 19.1	0.0
KU1	**Kurvinen**	**1.78**	**20**	PG	**Pn**	11 32 53.8	-0.8
OBF0	**Syolatti, Pyha**	**1.78 291**		PG	**Pn**	11 32 54.7	0.0
OBF0				MSG		11 33 15.7	
comp=Z,16nm,0.2s							
OBF0				SN	**Sn**	11 33 19.4	+1.5
KU2	**Taivalkoski**	**1.81**	**2**	PG	**Pn**	11 32 54.1	-1.0
KAF	**Kangasniemi**	**1.98 205**		PG	**Pb**	11 32 59.1	-0.3
baz=22							
KAF				MSG		11 33 23.7	
comp=Z,7.2nm,0.2s							
MSF	**Maaselka**	**2.05**	**11**	PG	**Pn**	11 32 58.1	-0.3
baz=195							
MSF				SG	**Sn**	11 33 25.2	+0.5
RANF	**Ranua**	**2.19 346**		PG	**Pn**	11 33 00.9	+0.7
RANF				SG	**Sn**	11 33 28.6	+0.7
KU6	**Riekki**	**2.26**	**19**	PG	**Pn**	11 33 01.9	+0.6
KU6				MSG		11 33 28.1	
comp=Z,4.5nm,0.2s							
KU6				SG	**Sn**	11 33 30.9	+1.1
KEF	**Keuruu**	**2.28 221**		*e*P	**Pg**	11 33 05.7	-0.6
KEF	**Keuruu**	**2.28 221**		PG	**Pb**	11 33 04.4	-0.2
KEF				MSG		11 33 32.3	
comp=Z,6.6nm,0.2s							
KEF				SG	**Sg**	11 33 35.8	0.0
OLKF	**Oulanka, Finla**	**2.49**	**12**	PB	**Pn**	11 33 05.5	+1.2
baz=193							
OLKF				MSG		11 33 34.6	
comp=Z,4.3nm,0.2s							
OLKF				SG	**Sn**	11 33 36.8	+1.5
RUF	**Ruokolahti**	**2.52 170**		PG	**Pb**	11 33 08.4	-0.4
baz=354							
RUF				MSG		11 33 39.5	
comp=Z,7.8nm,0.2s							
RUF				SG	**Sg**	11 33 42.7	-0.9
VAF	**Ylistaro**	**2.58 253**		*e*P	**Pb**	11 33 08.5	-1.2
VAF	**Ylistaro**	**2.58 253**		PG	**Pb**	11 33 08.4	-1.3
baz=66							
VAF				MSG		11 33 40.1	
comp=Z,5.5nm,0.2s							
VAF				SG	**Sb**	11 33 42.6	+0.7
FIA0	**FINESS Array S**	**2.64 201**		PB	**Pb**	11 33 09.4	-1.3
baz=21							
FIA0				MSG		11 33 42.9	
comp=Z,4.5nm,0.2s							
FIA0				SG	**Sg**	11 33 46.5	-0.9
FINES	**FINESS Array B**	**2.64 201**		Pn	**Pb**	11 33 08.9	-1.8
comp=Z,0.6nm,0.3s,baz=22,slow=16,SNR=28							
FINES				Sn	**Sb**	11 33 43.7	+0.1
comp=Z,0.7nm,0.3s,baz=19,slow=22,SNR=11							
comp=Z,1.6nm,0.3s							
TOF	**Tornio**	**2.70 325**		PB	**Pn**	11 33 08.6	+1.4
baz=142							
TOF				SB	**Sn**	11 33 40.8	+0.2
TOF				MSG		11 33 41.1	
comp=Z,3.2nm,0.2s							
KALU	**Kalix**	**2.81 316**		P	**Pn**	11 33 09.1	+0.3
KALU				S	**Sn**	11 33 43.4	+0.1
KALU	**Kalix**	**2.81 316**		PB	**Pn**	11 33 10.1	+1.4
KALU				SB	**Sn**	11 33 44.4	+1.1
RNF	**Rovaniemi**	**2.85 343**		PB	**Pn**	11 33 11.0	+1.7
baz=158							
RNF				SG	**Sb**	11 33 48.4	-1.3
BURU	**Burvik**	**3.01 286**		P	**Pn**	11 33 13.1	+1.7
BURU				S	**Sn**	11 33 50.0	+1.9
BURU	**Burvik**	**3.01 286**		PG	**Pb**	11 33 17.2	+0.3
BURU				SG	**Sb**	11 33 56.1	+2.0
SJUU	**Sjulsmark**	**3.21 303**		P	**Pn**	11 33 15.0	+0.8
SJUU				S	**Sn**	11 33 54.8	+1.7
ODEU	**Stanfors**	**3.27 282**		P	**Pn**	11 33 14.3	-0.7
ODEU				S	**Sn**	11 33 55.7	+1.2
VJF	**Virojoki**	**3.39 184**		SG	**Sg**	11 34 08.3	-3.1
KPF	**Kankaanpaa**	**3.45 236**		PB	**Pb**	11 33 21.2	-3.3
ERTU	**Ertsjaerv**	**3.63 320**		P	**Pn**	11 33 20.4	+0.4
ERTU	**Ertsjaerv**	**3.63 320**		PN	**Pn**	11 33 20.9	+0.9
baz=133							
KLF	**Kolari**	**3.75 335**		PN	**Pn**	11 33 22.8	+1.1
KLF				SN	**Sn**	11 34 06.0	-0.5
SVAU	**Svanoeiden**	**3.77 283**		P	**Pn**	11 33 22.6	+0.7
SVAU				S	**Sn**	11 34 07.7	+0.9
LILU	**Lilltraesk**	**3.81 295**		P	**Pn**	11 33 22.8	+0.3
VRF	**Varrio**	**3.91**	**9**	PB	**Pn**	11 33 26.7	+2.8
baz=191							
RAF	**Rauma**	**4.12 228**		*e*P	**Pn**	11 33 29.7	+2.9
RAJF	**Raja-Jooseppi**	**4.59**	**1**	PB	**Pn**	11 33 37.6	+4.4
RAJF				SB	**Sn**	11 34 33.6	+6.5
ARBE	**Arbavere**	**4.60 193**		SG	**Sb**	11 34 43.9	+4.0
ARCES	**ARCESS Array B**	**5.74 351**		Pn	**Pn**	11 33 50.1	+1.1
comp=Z,0.1nm,0.3s,baz=176,slow=13,SNR=9.3							
ARCES				Sn	**Sn**	11 34 50.2	-5.3
comp=Z,0.1nm,0.3s,baz=169,slow=24,SNR=1.3							
ARCES				Lg	Lg	11 35 24.0	
comp=Z,0.1nm,0.3s,baz=166,slow=26,SNR=5.1							
comp=Z,1.2nm,0.8s							
I37NO	**I37NO**	**6.42 328**		I	I	12 13 30.0	
baz=137,slow=332,SNR=2.3							
HFS	**Hagfors**	**7.75 247**		Pn	**Pn**	11 34 15.8	-0.7
comp=Z,0.1nm,0.3s,baz=56,slow=14,SNR=5.5							
comp=Z,0.6nm,0.3s							

IDC 10 11:45:47.0±5.0, 4°.44N×93°.86E, h0km, mb3.6/2, mbtmp3.6/3, ML4.5/2, MS3.0/2, Error ellipse: s-maj=120.7km s-min=36.6km az=42.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.31 108**		Pn	Pn	11 47 08.2	+0.4
47nm,0.3s,baz=239,slow=15,SNR=112							
CMAR	**Chiang Mai Arr**	**14.79**	**19**	Pn	Pn	11 49 17.6	-0.1
0.3nm,0.3s,baz=224,slow=12,SNR=1.3							
0.4nm,0.3s							
H08S2	**Diego Garcia H**	**24.47 241**		T	T	12 15 54.0	
baz=60,slow=75							
H08S3	**Diego Garcia H**	**24.47 241**		T	T	12 16 05.7	
baz=60,slow=75							
H08S1	**Diego Carcia H**	**24.48 241**		T	T	12 16 04.8	
baz=60,slow=75							
MKAR	**Makanchi Array**	**43.36 348**		P	P	11 53 50.7	-0.5
0.5nm,0.8s,baz=167,slow=7.1,SNR=2.8							
0.5nm,0.8s							
ZALV	**Zalesovo Beam**	**49.90 353**		P	P	11 54 42.5	+0.2
0.7nm,0.5s,baz=187,slow=5.8,SNR=2.7							
ZALV				LR	LR	12 21 20.1	
comp=Z,14nm,19.1s,baz=64,slow=43							
0.7nm,0.5s							
KLR	**Kul'dur**	**54.98**	**29**	LR	LR	12 23 46.5	
comp=Z,14nm,19.4s,baz=142,slow=42							
H04N2	**CROZET ISLANDS**	**62.67 212**		T	T	13 04 20.1	
baz=49,slow=74							
H04N1	**CROZET ISLANDS**	**62.67 212**		T	T	13 04 13.7	
baz=49,slow=74							
H04N3	**CROZET ISLANDS**	**62.68 212**		T	T	13 04 09.5	
baz=49							

*IDC **10** 11:51:22.4±0.7, 2°.31S×139°.35E, h0km, mb3.9/10, mbtmp4.0/11, ML4.0/1, MS3.2/8, Error ellipse: s-maj=18.3km s-min=12.9km az=20.0*
*DJA **10** 11:51:24.3±0.7, 2°.S±8°.×13°.9E±°., h12km±5km, M4.3/6, mB4.7/1, mb4.3/4, MLv4.3/6, Mw(mB)3.9/1*
*NEIC **10** 11:51:29.1±1.4, 2°.36S±0°.08×139°.21E±0°.06, h35km±2km, mb4.4/34, Error ellipse: s-maj=14.5km s-min=8.6km az=331.0*
ISC 10 11:51:26.8±0.5, 2°.36S±0°.05×139°.29E±0°.05, h27km, n72, σ1°.88/69, mb4.4/26, MS3.1/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.69 303**		P	**Pb**	11 51 38.7	-1.5
GENI	**Genyem**	**0.91 104**		P	**Pn**	11 51 41.8	-2.1
JAY	**Jayapura**	**1.43**	**96**	Pg	**Pn**	11 51 48.8	-2.3
36nm,0.3s,baz=266,slow=9.5,SNR=178							
JAY				Lg	Lg	11 52 06.2	
82nm,0.3s,baz=102,slow=18,SNR=8.4							
JAY				LR	LR	11 52 33.5	
comp=Z,674nm,19.9s,baz=298,slow=52							
JAY	**Jayapura**	**1.43**	**96**	P	**Pn**	11 51 48.6	-2.4
WAMI	**Wamena**	**1.62 201**		P	**Pb**	11 51 59.7	+3.7
SRPI	**Serui, Papua**	**3.08 279**		P	**Pn**	11 52 14.9	+1.1
SRPI				S	**Sn**	11 52 53.9	+4.1
BAKI	**Biak**	**3.38 290**		P	**Pn**	11 52 17.9	-0.1
BAKI				S	**Sn**	11 52 58.9	+1.6
FAKI	**Fak Fak**	**7.05 265**			**Pn**	11 53 09.4	+1.0
FAKI	**Fak Fak**	**7.05 265**		P	**Pn**	11 53 09.4	+1.0
0.1nm472nm27nm,0.6s							
MANU	**Manus Island**	**8.08**	**88**	Pn	**Pn**	11 53 24.1	+1.6
PMG	**Port Moresby**	**10.50 132**		Pn	**Pn**	11 53 56.6	+0.9
COEN	**Coen**	**12.14 162**		Pn	**Pn**	11 54 20.0	+1.8
MTN	**Manton Dam**	**13.17 217**		Pn	**Pn**	11 54 32.6	+0.3
SOEI	**Soe**	**16.63 243**			**Pn**	11 55 18.3	-0.1
SOEI				IAmb	IAmb	11 55 44.6	
comp=Z,16nm,0.8s							
GUMO	**Guam**	**16.79**	**19**	LR	LR	12 00 49.7	
comp=Z,34nm,18.1s,baz=192,slow=34							
KNRA	**Kununurra**	**16.81 217**		Pn	**Pn**	11 55 19.7	-0.7
KNRA				IAmb	IAmb	11 55 28.0	
comp=Z,26nm,1.4s							
WB0	**Warramunga Arr**	**17.95 195**			**P**	11 55 35.7	+0.7
WB0				IAmb	IAmb	11 55 57.5	
comp=Z,14nm,1.2s							
WR0	**Warramunga Arr**	**18.09 195**		P	**P**	11 55 37.6	+1.0
WR8	**Warramunga Arr**	**18.10 195**			**Pn**	11 55 36.2	-0.3
WRAB	**Tennant Creek**	**18.12 195**		P	**P**	11 55 37.9	+1.0
WB2	**Warramunga Arr**	**18.12 195**			**P**	11 55 36.8	-0.2
WRA	**Warramunga Arr**	**18.13 195**			**Pn**	11 55 35.7	-1.1
WRA	**Warramunga Arr**	**18.13 195**		P	**Pn**	11 55 36.3	-0.5
comp=Z,0.6nm,0.3s,baz=17,slow=13,SNR=23							
WRA				S	**Sn**	11 58 52.0	-6.5
comp=Z,0.5nm,0.8s,baz=12,slow=21,SNR=1.9							
comp=Z,2.6nm,0.9s							
TOLI2	**Tolitoli**	**18.82 280**		P	**P**	11 55 43.7	-1.0
FITZ	**Fitzroy Crossi**	**20.58 220**		P	**P**	11 56 03.9	0.0
FITZ	**Fitzroy Crossi**	**20.58 220**		P	**P**	11 56 04.3	+0.5
comp=Z,2.3nm,0.7s,baz=62,slow=13,SNR=7.5							
FITZ				S	**S**	11 59 45.4	-7.5
comp=Z,3.7nm,0.9s,baz=319,slow=20,SNR=2.0							
FITZ				LR	LR	12 04 55.4	
comp=Z,121nm,19.2s,baz=85,slow=39							
comp=Z,2.3nm,0.7s							
AS31	**Alice Springs**	**21.81 193**			**P**	11 56 18.0	+0.9
AS31				IAmb	IAmb	11 56 23.4	
comp=Z,3.4nm,0.6s							
ASAR	**Alice Springs**	**21.81 193**		P	**P**	11 56 17.6	+0.5
ASAR	**Alice Springs**	**21.81 193**		P	**P**	11 56 17.2	+0.2
comp=Z,0.8nm,0.4s,baz=28,slow=12,SNR=40							
ASAR				S	**S**	12 00 11.5	-5.6
comp=Z,0.5nm,1.0s,baz=20,slow=23,SNR=2.6							
ASAR				LR	LR	12 05 46.2	
comp=Z,99nm,19.0s,baz=6.0,slow=40							
comp=Z,0.8nm,0.4s							
EIDS	**Eidsvold**	**25.54 155**			**P**	11 56 54.8	+1.3
EIDS				IAmb	IAmb	11 57 09.2	
comp=Z,26nm,1.3s							
MBWA	**Marble Bar**	**26.68 224**		P	**P**	11 57 03.6	-0.3
MBWA				IAmb	IAmb	11 57 25.9	
comp=Z,20nm,1.4s							
PSA00	**Pilbara Seismi**	**26.88 223**		P	**P**	11 57 04.5	-1.1
UGM	**Wanagama**	**29.16 258**		P	**P**	11 57 25.4	-0.8
KSM	**Kuching**	**29.22 277**			**P**	11 57 26.4	-0.3
KSM				IAmb	IAmb	11 57 28.2	
comp=Z,7.7nm,0.9s							
JCJ	**Chichijima**	**29.42**	**5**	P	**P**	11 57 28.5	+0.2
STKA	**Stephens Creek**	**29.44 176**		P	**P**	11 57 28.7	+0.3
STKA	**Stephens Creek**	**29.44 176**		P	**P**	11 57 28.2	-0.1
comp=Z,1.0nm,0.5s,baz=17,slow=12,SNR=3.3							
comp=Z,1.0nm,0.5s							
FORT	**Forrest**	**30.19 199**		P	**P**	11 57 34.6	-0.5
BBOO	**Buckleboo**	**30.44 185**		P	**P**	11 57 37.5	+0.3
MORW	**Morawa**	**34.56 218**		P	**P**	11 58 13.4	-0.1
MORW				IAmb	IAmb	11 58 41.3	
comp=Z,15nm,1.4s							
TOO	**Toolangi**	**35.50 171**		P	**P**	11 58 21.5	+0.1
TOO				IAmb	IAmb	11 58 47.9	
comp=Z,7.7nm,1.4s							
JNU	**Nakatsue**	**36.18 348**		LR	LR	12 12 46.6	
comp=Z,30nm,18.4s,baz=120,slow=36							
NWAO	**Narrogin (SRO)**	**36.77 212**		P	**P**	11 58 33.5	+1.2
NWAO	**Narrogin (SRO)**	**36.77 212**		LR	LR	12 14 46.7	
comp=Z,103nm,21.4s,baz=59,slow=38							
KSRS	**Korea Array**	**41.00 346**		LR	LR	12 14 13.2	
comp=Z,18nm,21.6s,baz=255,slow=34							
GSI	**Gunungsitoli**	**41.86 275**		P	**P**	11 59 14.2	-1.0
GSI				IAmb	IAmb	11 59 17.9	
comp=Z,13nm,0.8s							
FUTU	**Fugatoga**	**43.69 108**		P	**P**	11 59 30.8	+0.9
CMAR	**Chiang Mai Arr**	**44.77 299**		P	**P**	11 59 38.8	+0.2
comp=Z,1.1nm,0.6s,baz=112,slow=6.9,SNR=6.3							
comp=Z,1.1nm,0.6s							
PZH	**PanZhiHua**	**46.23 311**		P	**P**	11 59 52.6	+2.4
PZH				pmax	pmax		
comp=Z,10.0nm,1.1s							
PZH				pmax	pmax		
comp=Z,110nm,5.1s							
ASAJ	**Asahikawa**	**46.37**	**3**	LR	LR	12 18 12.7	
comp=Z,22nm,19.7s,baz=166,slow=35							
HHC	**Hu-ho-hao-te**	**49.89 333**		*e*P	P	12 00 22.1	+3.9
HHC				pmax	pmax		
comp=Z,7.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,82nm,4.5s							
MA2	**Magadan**	**62.41**	**7**	LR	LR	12 26 31.7	
comp=Z,12nm,21.1s,baz=156,slow=34							
**W

E25K				IAmb	IAmb	12 04 11.3	
	comp=Z,2.0nm,1.0s						
BMAR	**Burnt Mountain**	**86.87**	**22**	P	**P**	**12 04 10.6**	**+1.7**
QSPA	**South Pole Qui**	**87.58**	**180**	P	**P**	**12 04 11.4**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=287,slow=4.4,SNR=5.3						
	comp=Z,0.5nm,0.6s						
H27K	**Steamboat Moun**	**87.79**	**23**	P	**P**	**12 04 14.6**	**+1.3**
H27K				IAmb	IAmb	12 04 17.0	
	comp=Z,3.8nm,1.1s						
I28M	**Miner Creek**	**88.30**	**24**	P	**P**	**12 04 16.8**	**+0.9**
I28M				IAmb	IAmb	12 04 18.7	
	comp=Z,3.4nm,1.1s						
DAWY	**Dawson**	**88.31**	**26**	P	**P**	**12 04 17.4**	**+1.5**
DAWY				IAmb	IAmb	12 04 19.8	
	comp=Z,3.0nm,0.9s						
LPAZ	**La Paz**	**147.18**	**125**	PKPbc	**PKPab**	**12 11 09.2**	**-1.8**
	comp=Z,1.8nm,0.8s,baz=195,slow=6.5,SNR=6.2						

ROM 10 12:08:55.8±0.1, 42°.678N±0°.005×11°.879E±0°.010, h10km, ML2.1/12, 2C-5D, Error ellipse: s-maj=0.8km s-min=0.5km az=249.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATE	**Laterza**	**0.09**	**221**	⇑P	Pg	12 08 58.7	+0.5
LATE				S	Sg	12 09 00.6	+0.7
LATE				AML	AML		
	comp=E,4430μm,0.6s						
LATE				AML	AML		
	comp=N,7230μm,0.4s						
LATE				AML	AML		
	comp=N,7227μm,0.4s						
LATE				AML	AML		
	comp=E,4374μm,0.2s						
MCIV	**Monte Civitell**	**0.18**	**304**	⇓P	Pg	12 09 00.2	+0.5
MCIV				S	Sg	12 09 03.9	+1.5
MCIV				AML	AML		
	comp=E,939μm,0.3s						
MCIV				AML	AML		
	comp=N,561μm,0.1s						
MCIV				AML	AML		
	comp=E,939μm,0.3s						
MCIV				AML	AML		
	comp=N,561μm,0.1s						
SF03	**Valle Cupa**	**0.19**	**311**	P	Pg	12 09 00.5	+0.6
SF03				S	Sg	12 09 04.5	+1.8
SF14	**Selvena**	**0.21**	**292**	⇓P	Pg	12 09 00.3	+0.2
SF14				S	Sg	12 09 04.0	+0.8
SF04	**Casetta**	**0.23**	**315**	⇓P	Pg	12 09 01.0	+0.6
SF04				S	Sg	12 09 05.3	+1.6
SF04				AML	AML		
	comp=E,1028μm,0.7s						
SF04				AML	AML		
	comp=N,1125μm,0.2s						
SF04				AML	AML		
	comp=E,820μm,0.2s						
SF04				AML	AML		
	comp=N,1126μm,0.2s						
SF13	**Bagnolo**	**0.24**	**306**	⇓P	Pg	12 09 01.3	+0.6
SF13				S	Sg	12 09 05.2	+1.3
SF11	**Podere del Sol**	**0.24**	**322**	⇓P	Pg	12 09 01.4	+0.7
SF01	**Poggio Pratacc**	**0.27**	**300**	P	Pb	12 09 02.0	-0.7
SF01				S	Sb	12 09 06.2	-1.2
SF01				AML	AML		
	comp=E,560μm,0.8s						
SF01				AML	AML		
	comp=N,678μm,0.4s						
SF01				AML	AML		
	comp=E,561μm,0.8s						
SF01				AML	AML		
	comp=N,678μm,0.4s						
MGAB	**Montegabbione**	**0.29**	**36**	⇑P	Pg	12 09 01.9	+0.2
MGAB				S	Sb	12 09 07.3	-0.8
BARO	**Barbarano Roma**	**0.45**	**163**	P	Pg	12 09 05.0	+0.4
BARO				S	Sb	12 09 11.6	-0.9
BARO				AML	AML		
	comp=E,244μm,1.6s						
BARO				AML	AML		
	comp=N,287μm,0.5s						
BARO				AML	AML		
	comp=E,230μm,0.4s						
BARO				AML	AML		
	comp=N,259μm,0.3s						
MOMA	**Monte Martano**	**0.52**	**76**	P	Pg	12 09 06.4	+0.4
TOLF	**Tolfa**	**0.62**	**172**	P	Pg	12 09 07.5	-0.3
TOLF				S	Sb	12 09 17.1	-0.3
TOLF				AML	AML		
	comp=E,104μm,1.4s						
TOLF				AML	AML		
	comp=N,126μm,1.1s						
TOLF				AML	AML		
	comp=N,121μm,0.3s						
TOLF				AML	AML		
	comp=E,101μm,0.3s						
CAFI	**Castiglion Fio**	**0.66**	**6**	P	Pg	12 09 08.6	+0.2
CASP	**Castiglione de**	**0.76**	**279**	P	Pb	12 09 11.7	+0.7
ATVO	**AVT- Monte Val**	**0.80**	**29**	P	Pg	12 09 11.4	+0.1

*LDG **10** 12:09:49.3±0.1, 42°.66N×11°.93E, h4km, Ml2.6/5, Error ellipse: s-maj=3.4km s-min=2.2km az=165.0*

ROM 10 12:09:47.9±0.1, 42°.661N±0°.004×11°.912E±0°.006, h4km, ML2.9/72, 12C-5D, Error ellipse: s-maj=0.5km s-min=0.5km az=197.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATE	**Laterza**	**0.09**	**240**	⇑P	Pg	12 09 51.0	+1.1
LATE				S	Sg	12 09 52.6	+1.5
LATE				AML	AML		
	comp=N,45300μm,1.4s						
LATE				AML	AML		
	comp=E,58400μm,0.3s						
LATE				AML	AML		
	comp=N,45300μm,0.6s						
SF03	**Valle Cupa**	**0.22**	**311**	⇓P	Pg	12 09 52.7	+0.5
SF03				S	Sg	12 09 56.7	+1.6
SF14	**Selvena**	**0.24**	**293**	⇓P	Pg	12 09 52.6	+0.1
SF14				S	Sg	12 09 56.8	+1.1
SF04	**Casetta**	**0.26**	**313**	P	Pg	12 09 53.7	+0.8
SF04				S	Sb	12 09 58.3	-1.6
SF04				AML	AML		
	comp=E,14100μm,1.4s						
SF04				AML	AML		
	comp=N,14750μm,0.3s						
SF04				AML	AML		
	comp=N,14700μm,0.3s						
SF04				AML	AML		
	comp=E,14100μm,0.6s						
SF13	**Bagnolo**	**0.27**	**306**	⇓P	Pg	12 09 53.6	+0.6
SF13				S	Sg	12 09 58.2	+1.5
SF11	**Podere del Sol**	**0.27**	**321**	⇓P	Pg	12 09 53.8	+0.6
SF11				S	Sb	12 09 58.6	-1.8
MGAB	**Montegabbione**	**0.29**	**30**	⇑P	Pg	12 09 54.2	+0.6
MGAB				S	Sb	12 10 00.1	-0.9
SF01	**Poggio Pratacc**	**0.30**	**301**	⇓P	Pg	12 09 54.3	+0.6
SF01				S	Sb	12 09 59.4	-1.8
SF01				AML	AML		
	comp=E,9440μm,0.3s						
SF01				AML	AML		
	comp=N,12000μm,0.4s						
SF01				AML	AML		
	comp=E,9440μm,1.7s						
CESX	**Cesi**	**0.50**	**96**	⇑P	Pb	12 09 58.6	-0.6
CESX				S	Sb	12 10 06.3	-0.5
CESX				AML	AML		
	comp=N,791μm,0.2s						
CESX				AML	AML		
	comp=E,764μm,0.4s						
CESX				AML	AML		
	comp=E,764μm,1.6s						
MOMA	**Monte Martano**	**0.51**	**73**	⇑P	Pb	12 09 58.6	-0.8
MOMA				S	Sb	12 10 07.6	+0.4
MOMA				AML	AML		
	comp=E,1890μm,0.2s						
MOMA				AML	AML		
	comp=N,1220μm,0.8s						
MOMA				AML	AML		
	comp=N,1270μm,0.8s						
MOMA				AML	AML		
	comp=N,1270μm,1.2s						
MOMA				AML	AML		
	comp=N,1220μm,1.2s						
MOMA				AML	AML		
	comp=E,1960μm,0.2s						
MOMA				AML	AML		
	comp=E,1890μm,1.8s						
TOLF	**Tolfa**	**0.60**	**174**	⇑P	Pg	12 09 59.9	+0.5
TOLF				S	Sb	12 10 09.4	-0.4
TOLF				AML	AML		
	comp=E,1635μm,0.3s						
TOLF				AML	AML		
	comp=N,1905μm,1.1s						
TOLF				AML	AML		
	comp=N,1830μm,0.2s						
TOLF				AML	AML		
	comp=E,1635μm,0.3s						
MAON	**Monte Argentar**	**0.62**	**248**	P	Pb	12 10 01.3	-0.1
MAON				S	Sb	12 10 11.1	+0.6
MAON				AML	AML		
	comp=E,1080μm,1.1s						
MAON				AML	AML		
	comp=N,1810μm,1.2s						
MAON				AML	AML		
	comp=N,1810μm,0.8s						
MAON				AML	AML		
	comp=E,1080μm,0.9s						
ATTE	**AVT- Monte Tez**	**0.63**	**31**	⇑P	Pg	12 10 00.4	+0.4
ATTE				S	Sb	12 10 11.3	+0.6
ATTE				AML	AML		
	comp=E,1730μm,0.9s						
ATTE				AML	AML		
	comp=N,1365μm,0.3s						
ARRO	**Arrone**	**0.64**	**97**	P	Pb	12 10 02.1	+0.5
ARRO				AML	AML		
	comp=E,756μm,0.2s						
ARRO				AML	AML		
	comp=E,755μm,0.2s						
ARRO				AML	AML		
	comp=N,720μm,0.4s						
ASSB	**Assisi San Ben**	**0.67**	**55**	P	Pb	12 10 01.6	-0.6
ASSB				S	Sb	12 10 13.3	+1.4
ASSB				AML	AML		
	comp=E,670μm,1.6s						
ASSB				AML	AML		
	comp=N,714μm,1.5s						
ASSB				AML	AML		
	comp=E,670μm,0.4s						
ASSB				AML	AML		
	comp=N,714μm,0.5s						
CAFI	**Castiglion Fio**	**0.67**	**3**	⇑P	Pg	12 10 01.0	+0.2
CAFI				S	Sb	12 10 11.4	-0.5
CAFI				AML	AML		
	comp=E,1145μm,1.1s						
CAFI				AML	AML		
	comp=N,916μm,0.3s						
CAFI				AML	AML		
	comp=N,902μm,0.3s						
CAFI				AML	AML		
	comp=E,1185μm,1.1s						
ATVA	**AVT- Monte Val**	**0.68**	**24**	P	Pg	12 10 01.4	+0.5
RIBO	**Ribolla Roccas**	**0.70**	**295**	P	Pb	12 10 02.8	+0.1
ATMI	**Monte Miggiano**	**0.72**	**21**	P	Pb	12 10 02.5	-0.6
ATMI				S	Sb	12 10 13.9	+0.5
ATMI				AML	AML		
	comp=N,3125μm,0.8s						
ATMI				AML	AML		
	comp=E,2935μm,1.0s						
ATMI				AML	AML		
	comp=N,3125μm,1.2s						
GAVE	**Gavelli**	**0.72**	**87**	P	Pb	12 10 02.8	-0.4
GAVE				S	Sb	12 10 15.0	+1.5
GAVE				AML	AML		
	comp=E,794μm,0.5s						
GAVE				AML	AML		
	comp=E,737μm,0.5s						
GAVE				AML	AML		
	comp=N,755μm,0.5s						
GAVE				AML	AML		
	comp=N,356μm,0.8s						
GAVE				AML	AML		
	comp=E,736μm,0.5s						
GAVE				AML	AML		
	comp=E,794μm,0.5s						
ATCC	**AVT- Casa Cast**	**0.75**	**45**	P	Pg	12 10 02.7	+0.4
ATCC				S	Sb	12 10 15.2	+1.1
ATCC				AML	AML		
	comp=N,1250μm,0.7s						
ATCC				AML	AML		
	comp=E,1830μm,1.6s						
ATLO	**AVT- Montelove**	**0.75**	**29**	⇑P	Pg	12 10 02.4	+0.1
MURB	**Monte Urbino**	**0.75**	**37**	⇑P	Pg	12 10 02.8	+0.4
MURB				S	Sb	12 10 15.2	+0.9
MURB				AML	AML		
	comp=N,4345μm,0.3s						
MURB				AML	AML		
	comp=E,5790μm,0.3s						
MURB				AML	AML		
	comp=E,4995μm,0.3s						
MURB				AML	AML		
	comp=N,4430μm,0.3s						
MURB				AML	AML		
	comp=E,5000μm,0.3s						
FROS	**Frosini**	**0.78**	**315**	AML	AML		
	comp=E,572μm,1.0s						
FROS				AML	AML		
	comp=N,544μm,1.2s						
CASP	**Castiglione de**	**0.78**	**280**	P	Pg	12 10 03.4	+0.5
CASP				S	Sb	12 10 16.4	+1.3
CASP				AML	AML		
	comp=E,715μm,0.5s						
CASP				AML	AML		
	comp=N,1590μm,0.4s						
CASP				AML	AML		
	comp=N,1588μm,0.4s						
CASP				AML	AML		
	comp=E,715μm,0.5s						
ATVO	**AVT- Monte Val**	**0.81**	**27**	⇑P	Pg	12 10 03.6	+0.2
ATVO				S	Sb	12 10 17.1	+1.2
ATVO				AML	AML		
	comp=E,1325μm,1.4s						
ATVO				AML	AML		
	comp=N,946μm,0.7s						
ATVO				AML	AML		
	comp=E,1325μm,0.6s						
ATVO				AML	AML		
	comp=N,946μm,1.3s						
CESI	**CESI - Serrava**	**0.81**	**64**	⇑P	Pg	12 10 04.0	+0.6
CESI				S	Sb	12 10 17.1	+1.3
CESI				AML	AML		
	comp=E,484μm,1.4s						
CESI				AML	AML		
	comp=N,622μm,0.7s						
CESI				AML	AML		
	comp=N,622μm,1.3s						
CESI				AML	AML		
	comp=E,484μm,0.6s						
ATMC	**Monte Cedrone**	**0.81**	**15**	P	Pg	12 10 03.6	+0.1
ATMC				S	Sb	12 10 16.9	+0.9
LNSS	**Leonessa**	**0.83**	**94**	P	Pb	12 10 05.0	-0.1
LNSS				S	Sb	12 10 17.0	+0.4
LNSS				AML	AML		
	comp=E,1024μm,1.3s						
LNSS				AML	AML		
	comp=N,1460μm,0.7s						
LNSS				AML	AML		
	comp=N,1169μm,0.7s						
LNSS				AML	AML		
	comp=E,1024μm,0.7s						
LNSS				AML	AML		
	comp=E,681μm,0.5s						
ATFO	**Monte Foce - G**	**0.86**	**34**	AML	AML		
	comp=N,1239μm,0.8s						
ATFO				AML	AML		
	comp=E,920μm,0.9s						
ATFO				AML	AML		
	comp=N,1239μm,1.2s						
ATPI	**Pietralunga -**	**0.87**	**24**	⇑P	Pg	12 10 04.7	+0.1
ATPI				AML	AML		
	comp=E,801μm,1.1s						
ATPI				AML	AML		
	comp=N,886μm,1.6s						
ATPI				AML	AML		
	comp=N,887μm,1.6s						
ATPI				AML	AML		
	comp=E,801μm,0.9s						
NRCA	**Norcia**	**0.90**	**79**	AML	AML		
	comp=E,460μm,1.0s						
NRCA				AML	AML		
	comp=N,480μm,1.5s						
FDMO	**Fiordimonte**	**0.94**	**66**	AML	AML		
	comp=E,450μm,0.9s						
FDMO				AML	AML		
	comp=N,478μm,0.8s						
CERT	**Cerreto**	**1.07**	**131**	AML	AML		
	comp=E,274μm,0.5s						
CERT				AML	AML		
	comp=N,249μm,0.6s						
EL6	**Elcito**	**1.10**	**52**	AML	AML		
	comp=N,1165μm,1.0s						
EL6				AML	AML		
	comp=E,921μm,1.0s						
RCAV	**Rocca di Cave**	**1.12**	**136**	AML	AML		
	comp=N,176μm,0.7s						
RCAV				AML	AML		
	comp=E,140μm,1.5s						
GUMA	**Gualdo di Mace**	**1.12**	**69**	AML	AML		
	comp=N,1200μm,1.1s						
GUMA				AML	AML		
	comp=E,1054μm,1.3s						
ARVD	**Arcevia**	**1.13**	**42**	AML	AML		
	comp=N,238μm,1.2s						
ARVD				AML	AML		
	comp=E,260μm,0.7s						
ASQU	**Asqua**	**1.14**	**356**	AML	AML		
	comp=N,309μm,1.1s						
ASQU				AML	AML		
	comp=E,468μm,1.4s						
MNTT	**Montottone**	**1.30**	**71**	AML	AML		
	comp=N,952μm,1.1s						
MNTT				AML	AML		
	comp=E,768μm,1.2s						
SENI	**Senigallia**	**1.42**	**42**	AML	AML		
	comp=N,365μm,1.4s						
SENI				AML	AML		
	comp=E,494μm,1.1s						
VVLD	**Villa Vallelon**	**1.50**	**121**	AML	AML		
	comp=E,85μm,1.6s						
VVLD				AML	AML		
	comp=N,99μm,1.3s						
LRP	**Arpino**	**1.60**	**129**	AML	AML		
	comp=E,97μm,1.2s						
LRP				AML	AML		
	comp=N,76μm,1.4s						
LIK	**San Giovanni I**	**1.68**	**133**	AML	AML		
	comp=N,252μm,1.1s						
LIK				AML	AML		
	comp=E,192μm,1.3s						
PGF	**Pioggiola**	**2.15**	**268**	*e*Pn	Pn	12 10 24.3	-0.4
PGF				*e*Sn	Sn	12 10 50.0	-1.9
	comp=E,7.2nm,0.3s						
CGRP	**Cima Grappa**	**3.22**	**359**	AML	AML		
	comp=E,51μm,1.2s						
CGRP				AML	AML		
	comp=N,44μm,1.2s						
SBF	**Sospel**	**3.48**	**292**	*e*Pn	Pn	12 10 42.8	-0.2
SBF				*e*Sn	Sn	12 11 21.9	-2.8
	comp=N,4.4nm,0.3s						
MUGIO	**Muggio**	**3.86**	**329**	AML	AML		
	comp=E,14μm,1.5s						
MUGIO				AML	AML		
	comp=N,14μm,1.5s						
LMR	**La Mourre**	**4.02**	**281**	*e*Pn	Pn	12 10 49.1	-1.1
LMR				*e*Sn	Sn	12 11 33.4	-4.4
	comp=N,2.1nm,0.3s						
MBDF	**Montbardon**	**4.26**	**301**	*e*Pn	Pn	12 10 54.2	+0.5
MBDF				*e*Sn	Sn	12 11 40.5	-3.5
	comp=N,0.9nm,0.2s						
OBKA	**Obir**	**4.28**	**25**	*e*Pn	Pn	12 10 54.3	+0.3
	comp=N,0.4nm,0.2s						
OBKA				*i* Sn	Sn	12 11 46.1	+1.7
	comp=N,5.1nm,0.4s						
FETA	**Feichten**	**4.44**	**349**	*e*Pn	Pn	12 10 59.3	+3.1
	comp=N,3.7nm,0.7s						
KBA	**Koelnbreinsper**	**4.53**	**12**	*i* Pn	Pn	12 10 59.0	+1.5
	comp=N,0.8nm,0.3s						
KBA				*i* Sn	Sn	12 11 50.5	-0.2
	comp=N,1.9nm,0.3s						
WTTA	**Wattenberg**	**4.61**	**358**	*i* Pn	Pn	12 11 02.1	+3.6
	comp=N,2.0nm,0.3s						
WTTA				*e*Sn	Sn	12 11 54.0	+1.4
	comp=N,4.0nm,0.3s						
LPG	**La Plagne**	**4.68**	**309**	*e*P	Pn	12 11 02.8	+3.3
LESA	**Schwarzleotal**	**4.79**	**6**	*e*Pn	Pn	12 11 02.1	+1.2
	comp=N,2.5nm,0.3s						
LESA				*e*Sn	Sn	12 11 59.8	+2.8
	comp=N,6.0nm,0.3s						
SMRF	**Simiane la Rot**	**4.81**	**288**	*e*Pn	Pn	12 11 01.2	+0.1
ORIF	**Oris-en-Rattie**	**4.92**	**299**	*e*Pn	Pn	12 11 01.8	-0.9
ORIF	**Oris-en-Rattie**	**4.92**	**299**	*e*P	Pn	12 11 06.5	+3.8
VIVF	**Saint-Julien-l**	**5.68**	**295**	*e*Pn	Pn	12 11 14.3	+1.2
LASF	**Ste Croix**	**6.04**	**286**	*e*Pn	Pn	12 11 17.2	-0.8

IDC 10 12:19:24.9±601.0, 54°.27N×1°.00E, h0km, Error ellipse: s-maj=257.2km s-min=164.7km az=93.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**9.59**	**119**	I	I	13 16 24.8	
	baz=308,slow=328,SNR=0.7						
I37NO	**I37NO**	**16.93**	**22**	I	I	13 59 10.8	
	baz=215,slow=337,SNR=1.1						
I31KZ	**AKTYUBINSK INF**	**34.25**	**73**	I	I	15 51 20.0	
	baz=300,slow=329,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**46.32**	**54**	I	I	17 00 50.0	
	baz=309,slow=324,SNR=1.8						

*NEIC **10** 12:30:39.1±0.9, 18°.2S±0°.2×177°.9W±0°.1, h594km±10km, mb4.1/21, Error ellipse: s-maj=23.1km s-min=16.6km az=156.0*

*IDC **10** 12:30:40.1±1.1, 18°.19S×178°.20W, h599km±12km, mb3.1/11, mbtmp4.1/12, Error ellipse: s-maj=19.7km s-min=14.2km az=106.0*

ISC 10 12:30:39.1±0.6, 18°.2S±0°.1×178°.0W±0°.1, h590km, n41, σ0°.87/42, mb3.9/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.76**	**276**	P	**P**	**12 32 02.6**	**+0.3**
MSVF	**Nonsavu**	**3.76**	**276**	P	**P**	**12 32 03.5**	**+1.2**
	56nm,0.6s,baz=137,slow=3.7,SNR=67						
MSVF				S	**S**	**12 33 11.1**	**+1.1**
	17nm,1.0s,baz=148,slow=23,SNR=6.3						
FUTU	**Fugatoga**	**3.83**	**359**	P	**P**	**12 32 02.9**	**+0.1**
AFI	**Afiamalu**	**7.35**	**56**	P	**P**	**12 32 30.2**	**-1.9**
URZ	**Urewera**	**20.47**	**191**	P	**P**	**12 34 35.7**	**-1.6**
	3.9nm,0.3s,baz=1.0,slow=2.7,SNR=14						
	3.9nm,0.3s						
THZ	**Tophouse**	**24.77**	**196**	P	**P**	**12 35 14.2**	**-1.4**
ARMA	**Armidale**	**30.13**	**240**	P	**P**	**12 36 02.6**	**0.0**
ARMA				IAmb	IAmb	12 36 21.0	
	comp=Z,10.0nm,1.1s						
CAN	**Canberra**	**33.84**	**233**	P	**P**	**12 36 34.2**	**+0.3**
CAN				IAmb	IAmb	12 36 34.9	
	comp=Z,5.9nm,0.7s						
PMG	**Port Moresby**	**34.86**	**280**	P	**P**	**12 36 42.3**	**-0.4**
TOO	**Toolangi**	**37.29**	**231**	P	**P**	**12 37 02.7**	**+0.4**
TOO				IAmb	IAmb	12 37 14.2	
	comp=Z,3.5nm,1.1s						
COEN	**Coen**	**37.47**	**271**	P	**P**	**12 37 04.9**	**+0.9**
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**12 37 15.6**	**+0.7**
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**12 37 14.8**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=79,slow=5.7,SNR=6.2						
	comp=Z,2.1nm,0.6s						
BBOO	**Buckleboo**	**43.60**	**241**	P	**P**	**12 37 52.5**	**0.0**
BBOO				IAmb	IAmb	12 38 08.6	
	comp=Z,6.7nm,1.1s						
WR8	**Warramunga Arr**	**44.79**	**260**	P	**P**	**12 38 01.5**	**-0.3**
WB0	**Warramunga Arr**	**44.91**	**260**	P	**P**	**12 38 02.4**	**-0.3**
WB0				IAmb	IAmb	12 38 21.3	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**44.94**	**260**	P	**P**	**12 38 02.4**	**-0.6**
WRA	**Warramunga Arr**	**44.94**	**260**	P	**P**	**12 38 02.0**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=94,slow=7.2,SNR=17						
	comp=Z,0.2nm,0.3s						
AS31	**Alice Springs**	**45.07**	**254**	P	**P**	**12 38 02.9**	**-1.0**
ASAR	**Alice Springs**	**45.07**	**254**	P	**P**	**12 38 02.3**	**-1.6**
ASAR	**Alice Springs**	**45.07**	**254**	P	**P**	**12 38 03.1**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=90,slow=7.8,SNR=34						
	comp=Z,0.7nm,0.3s						
MTN	**Manton Dam**	**49.15**	**269**	P	**P**	**12 38 34.2**	**-0.4**
MTN				IAmb	IAmb	12 38 34.5	
	comp=Z,6.1nm,0.8s						
KNRA	**Kununurra**	**50.82**	**264**	P	**P**	**12 38 46.1**	**-0.7**
KNRA				IAmb	IAmb	12 38 57.8	

comp=Z,12nm,1.1s
FITZ Fitzroy Crossi 53.34 261 P P 12 39 03.8 -0.9
SBA Scott Base 60.19 184 P P 12 39 50.2 -0.3
VNDA Vanda 60.22 185 P P 12 39 50.9 +0.1
MJAR Matsushiro Arr 68.33 323 P P 12 40 41.2 -1.3
comp=Z,1.4nm,0.5s,baz=169,slow=5.8,SNR=5.0
comp=Z,1.4nm,0.5s
QSPA South Pole Qui 71.89 180 P P 12 41 04.2 +0.9
comp=Z,3.2nm,0.6s,baz=215,slow=1.3,SNR=33
comp=Z,3.2nm,0.6s
PETK Petropavlovsk- 74.02 345 P P 12 41 15.1 -0.2
comp=Z,2.0nm,0.6s,baz=150,slow=5.8,SNR=4.4
comp=Z,2.0nm,0.6s
NVAR Mina Array Bea 79.36 44 P P 12 41 46.3 +1.2
comp=Z,0.5nm,0.5s,baz=207,slow=7.7,SNR=4.5
comp=Z,0.5nm,0.5s
BELA Belgrano 2 81.87 173 P P 12 41 57.3 +0.1
BELA IAmb IAmb 12 41 58.6
comp=Z,3.9nm,0.8s
TRF Thorofare Moun 84.18 12 P P 12 42 08.5 -0.4
TRF IAmb IAmb 12 42 09.8
comp=Z,4.6nm,0.7s
TXAR Lajitas Array 85.83 57 P P 12 42 19.6 +2.0
comp=Z,0.4nm,0.6s,baz=214,slow=7.1,SNR=6.4
comp=Z,0.4nm,0.6s
IL31 86.05 13 P P 12 42 17.3 -0.3
ILAR Eielson Array 86.05 13 P P 12 42 17.3 -0.4
comp=Z,0.7nm,0.4s,baz=209,slow=4.3,SNR=20
comp=Z,0.7nm,0.4s
F19K Shaleruckik Mo 86.08 8 P P 12 42 17.9 +0.2
F19K IAmb IAmb 12 42 26.3
comp=Z,5.6nm,1.4s
J25K Salcha River, 86.24 13 P P 12 42 19.1 +0.5
J25K IAmb IAmb 12 42 44.5
comp=Z,2.6nm,1.1s
F31M Tsiigehtchic 91.33 16 P P 12 42 42.5 +0.4
YKA Yellowknife Ar 94.41 25 P P 12 42 56.3 0.0
comp=Z,0.2nm,0.7s,baz=235,slow=4.6,SNR=3.0
comp=Z,0.2nm,0.7s
BRTR Keskin Array B 145.22 315 PKPbc PKPbc 12 49 11.3 -0.7
comp=Z,0.6nm,0.6s,baz=57,slow=1.0,SNR=2.9
GERES GERESS Array B 147.95 345 PKPbc PKPbc 12 49 18.9 0.0
comp=Z,0.9nm,0.5s,baz=50,slow=2.1,SNR=4.9

*MRB **10** 12:32:56.8±0.5, 41°.59N×2°.62E, ML2.1/38, Error ellipse: s-maj=1.7km s-min=1.1km az=304.0*
*LDG **10** 12:32:56.8±0.2, 41°.59N×2°.64E, h2km, Ml2.8/9, Error ellipse: s-maj=2.9km s-min=1.7km az=128.0*
*MDD **10** 12:32:57.0±0.4, 41°.60N×2°.60E, h0km, mb_Lg2.7/28, Error ellipse: s-maj=3.0km s-min=1.9km az=127.0*
*STR **10** 12:32:57.2±1.0, 42°.N±5°.×°.±°., h2km, MLv2.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=139.0, preliminary*
ISC 10 12:32:55.6±0.9, 41°.58N±0°.02×2°.65E±0°.02, h17km±6km, n71, σ1°.15/131, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLAN	**Blanes**	**0.15**	**45**	P	**Pg**	**12 33 00.1**	**+0.3**
BLAN				S	**Sg**	**12 33 02.6**	**0.0**
302nm,0.1s							
CFON	**Fontmartina**	**0.24**	**318**	P	**Pg**	**12 33 01.1**	**-0.2**
CFON				S	**Sg**	**12 33 04.4**	**-0.8**
429nm,0.2s							
CCAS	**Cassa de la Se**	**0.36**	**32**	P	**Pb**	**12 33 03.7**	**+0.2**
CCAS				S	**Sb**	**12 33 08.7**	**-0.2**
139nm,0.2s							
CGIR	**Ginora - Unive**	**0.43**	**18**	P	**Pb**	**12 33 05.0**	**+0.3**
CGIR				S	**Sb**	**12 33 11.0**	**+0.1**
120nm,0.2s							
FBR	**Fabra**	**0.43**	**248**	P	**Pb**	**12 33 04.7**	**0.0**
FBR				S	**Sg**	**12 33 10.4**	**+0.1**
169nm,0.2s							
MTJR	**Montjuic**	**0.43**	**241**	P	**Pb**	**12 33 04.8**	**+0.1**
MTJR				S	**Sb**	**12 33 10.5**	**-0.4**
250nm,0.1s							
CORI	**Orista**	**0.60**	**311**	P	**Pb**	**12 33 07.6**	**-0.1**
CORI				S	**Sb**	**12 33 15.3**	**-0.5**
100nm,0.2s							
CMON	**Montserrat**	**0.61**	**272**	P	**Pb**	**12 33 08.4**	**+0.5**
CMON				S	**Sb**	**12 33 16.3**	**0.0**
35nm,0.3s							
CGAR	**Garraf**	**0.62**	**243**	P	**Pb**	**12 33 08.4**	**+0.3**
CGAR				S	**Sb**	**12 33 16.7**	**+0.1**
29nm,0.2s							
CBEU	**Beuda**	**0.68**	**2**	P	**Pb**	**12 33 09.4**	**+0.4**
CBEU				S	**Sb**	**12 33 18.5**	**+0.4**
71nm,0.2s							
CBRU	**Bruguera**	**0.79**	**334**	P	**Pb**	**12 33 11.1**	**+0.1**
CBRU				S	**Sb**	**12 33 22.2**	**+0.8**
39nm,0.1s							
CPAL	**Palau Saverder**	**0.82**	**27**	P	**Pb**	**12 33 12.2**	**+0.7**
CPAL				S	**Sb**	**12 33 23.4**	**+1.1**
60nm,0.1s							
EJON	**La Jonquera**	**0.89**	**11**	Pg	**Pn**	**12 33 13.4**	**0.0**
EJON				Sg	**Sb**	**12 33 24.3**	**+0.2**
EJON				*i* Vmb_Lg		12 33 26.5	
EMIR	**Miracle**	**0.91**	**292**	Pg	**Pb**	**12 33 13.1**	**+0.1**
EMIR				Sg	**Sb**	**12 33 25.0**	**+0.2**
EMIR				*i* Vmb_Lg		12 33 27.9	
SJAF	**Saint Jean de**	**0.92**	**11**	P	**Pn**	**12 33 14.0**	**+0.2**
SJAF				S	**Sb**	**12 33 26.0**	**+0.9**
53nm,0.1s							
SJAF	**Saint Jean de**	**0.92**	**11**	Pg	**Pn**	**12 33 14.0**	**+0.2**
SJAF				Sg	**Sb**	**12 33 26.1**	**+1.0**
VALC	**Valcebollere**	**0.92**	**331**	P	**Pb**	**12 33 13.5**	**+0.3**
VALC				S	**Sb**	**12 33 26.0**	**+0.7**
100nm,0.2s							
VALC	**Valcebollere**	**0.92**	**331**	Pg	**Pb**	**12 33 13.7**	**+0.4**
VALC				Sg	**Sb**	**12 33 26.3**	**+1.1**
FILF	**Fillols**	**0.98**	**356**	P	**Pn**	**12 33 15.1**	**+0.4**
FILF				S	**Sn**	**12 33 28.7**	**+0.5**
46nm,0.2s							
FILF	**Fillols**	**0.98**	**356**	Pg	**Pn**	**12 33 15.1**	**+0.4**
FILF				Sg	**Sb**	**12 33 27.7**	**+0.8**
CLLI	**Llivia**	**1.03**	**331**	P	**Pn**	**12 33 15.7**	**+0.2**
CLLI				S	**Sn**	**12 33 30.0**	**+0.4**
21nm,0.1s							
CORG	**Organya**	**1.19**	**304**	P	**Pn**	**12 33 18.5**	**+0.9**
CORG				S	**Sn**	**12 33 34.3**	**+1.0**
27nm,0.1s							
ARBS	**La Rabassa**	**1.20**	**317**	P	**Pn**	**12 33 18.7**	**+1.0**
ARBS				S	**Sn**	**12 33 34.5**	**+0.8**
98nm,0.3s							
EPOB	**Poblet**	**1.20**	**260**	Pg	**Pn**	**12 33 18.7**	**+0.9**
EPOB				Sg	**Sb**	**12 33 33.9**	**+0.6**
EPOB				*i* Vmb_Lg		12 33 35.7	
EPOB	**Poblet**	**1.20**	**260**	P	**Pb**	**12 33 17.8**	**-0.2**
EPOB				S	**Sb**	**12 33 34.2**	**+0.9**
32nm,0.2s							
CARF	**Carcanieres**	**1.21**	**340**	P	**Pn**	**12 33 18.9**	**+1.2**
CARF				S	**Sn**	**12 33 34.8**	**+1.0**
24nm,0.2s							
CARF	**Carcanieres**	**1.21**	**340**	Pg	**Pn**	**12 33 19.0**	**+1.2**
CARF				Sg	**Sn**	**12 33 34.8**	**+1.0**
CSOR	**Sort**	**1.38**	**306**	P	**Pg**	**12 33 21.8**	**-0.5**
CSOR				S	**Sg**	**12 33 39.9**	**-0.5**
54nm,0.3s							
FNEB	**Nbias**	**1.39**	**343**	P	**Pg**	**12 33 22.2**	**-0.2**
FNEB				S	**Sg**	**12 33 40.3**	**-0.2**
20nm,0.5s							
FNEB	**Nbias**	**1.39**	**343**	Pn	**Pg**	**12 33 22.2**	**-0.2**
FNEB				Sn	**Sg**	**12 33 40.7**	**+0.3**
CAVN	**Les Avellanes**	**1.46**	**283**	P	**Pg**	**12 33 23.0**	**-0.6**
CAVN				S	**Sg**	**12 33 42.5**	**-0.2**
104nm,0.3s							
CEST	**Esterri de Car**	**1.46**	**315**	P	**Pg**	**12 33 22.7**	**-1.1**
CEST				S	**Sg**	**12 33 42.1**	**-0.7**
23nm,0.3s							
DUNF	**Dun**	**1.57**	**337**	Pn	**Pg**	**12 33 24.9**	**-1.1**
DUNF				Sn	**Sg**	**12 33 45.8**	**-0.6**
CTRE	**Tremp**	**1.59**	**299**	P	**Pb**	**12 33 24.6**	**0.0**
CTRE				S	**Sg**	**12 33 45.5**	**-1.4**
21nm,0.4s							
CLAF	**Gruissan**	**1.59**	**12**	P	**Pb**	**12 33 24.6**	**+0.1**
CLAF				S	**Sg**	**12 33 46.4**	**-0.4**
15nm,0.2s							
CLAF	**Gruissan**	**1.59**	**12**	Pn	**Pg**	**12 33 25.2**	**-1.0**
CLAF				Sn	**Sg**	**12 33 46.2**	**-0.7**
SALF	**Salau**	**1.60**	**318**	P	**Pg**	**12 33 25.6**	**-0.9**
SALF				S	**Sg**	**12 33 46.6**	**-0.8**
15nm,0.1s							
SALF	**Salau**	**1.60**	**318**	Pn	**Pb**	**12 33 25.1**	**+0.3**
SALF				Sn	**Sg**	**12 33 46.4**	**-1.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARA	**Val d'Aran**	**1.77**	**310**	P	**Pb**	**12 33 27.8**	**+0.1**
CARA				S	**Sb**	**12 33 50.3**	**+0.6**
17nm,0.4s							
MTLF	**Montolieu**	**1.79**	**350**	*e*Pg	**Pg**	**12 33 29.0**	**-1.1**
MTLF				*e*Sg	**Sg**	**12 33 51.8**	**-1.5**
19nm,0.2s							
MTLF	**Montolieu**	**1.79**	**350**	Sn	**Sg**	**12 33 51.4**	**-2.0**
MTLF	**Montolieu**	**1.79**	**350**	Pn	**Pb**	**12 33 27.8**	**-0.2**
MLS	**Moulis**	**1.80**	**321**	Pg	**Pg**	**12 33 29.4**	**-0.8**
MLS				S	**Sg**	**12 33 51.8**	**-1.8**
15nm,0.3s							
MLS	**Moulis**	**1.80**	**321**	Pn	**Pb**	**12 33 28.3**	**+0.2**
MLS				Sn	**Sg**	**12 33 51.5**	**-2.1**
ETOS	**Mallorca**	**1.81**	**176**	Pn	**Pn**	**12 33 26.5**	**+0.5**
ETOS				Sn	**Sn**	**12 33 45.9**	**-2.7**
ETOS				*i* Vmb_Lg		12 33 52.0	
ERTA	**Horta de San J**	**1.86**	**251**	Pn	**Pb**	**12 33 28.7**	**-0.4**
ERTA				Sn	**Sb**	**12 33 51.8**	**-0.2**
ERTA				*i* Vmb_Lg		12 34 01.5	
ERTA	**Horta de San J**	**1.86**	**251**	S	**Sb**	**12 33 52.0**	**0.0**
6.6nm,0.3s							
MELF	**Melles**	**1.91**	**313**	Pn	**Pb**	**12 33 30.0**	**0.0**
MELF				Sn	**Sb**	**12 33 54.1**	**+0.5**
RESF	**Ens**	**2.11**	**306**	P	**Pb**	**12 33 32.4**	**-1.1**
RESF				S	**Sb**	**12 33 59.3**	**-0.2**
19nm,0.5s							
ECHI	**Chisagues Biel**	**2.13**	**301**	Pn	**Pn**	**12 33 32.0**	**+1.6**
ECHI				Sn	**Sn**	**12 33 57.5**	**+1.0**
ECHI				*i* Vmb_Lg		12 34 03.9	
ECHI	**Chisagues Biel**	**2.13**	**301**	P	**Pb**	**12 33 32.5**	**-1.2**
ECHI	**Chisagues Biel**	**2.13**	**301**	Pn	**Pn**	**12 33 32.3**	**+1.8**
EPF	**Esparros**	**2.25**	**311**	*e*P	**Pb**	**12 33 34.9**	**-0.9**
EPF	**Esparros**	**2.25**	**311**	*e*Pg	**Pg**	**12 33 37.5**	**-1.3**
EPF				*e*Sg	**Sg**	**12 34 05.3**	**-2.6**
7.8nm,0.2s							
ESAC	**San Caprasio**	**2.34**	**275**	Pn	**Pn**	**12 33 35.6**	**+2.2**
ESAC				Sn	**Sn**	**12 34 03.3**	**+1.5**
ESAC				*i* Vmb_Lg		12 34 19.2	
ESAC	**San Caprasio**	**2.34**	**275**	P	**Pn**	**12 33 35.4**	**+2.0**
ESAC				S	**Sn**	**12 34 03.6**	**+1.8**
VIEF	**Viey**	**2.35**	**305**	P	**Pb**	**12 33 36.4**	**-1.2**
VIEF				S	**Sn**	**12 34 04.2**	**+2.3**
6.1nm,0.3s							
VIEF	**Viey**	**2.35**	**305**	Pn	**Pn**	**12 33 35.6**	**+2.2**
VIEF				Sn	**Sb**	**12 34 05.4**	**-0.8**
LABF	**Labassere**	**2.41**	**308**	Pn	**Pb**	**12 33 37.1**	**-1.4**
LABF				Sn	**Sb**	**12 34 07.3**	**-0.7**
LASF	**Ste Croix**	**2.65**	**19**	*e*Pn	**Pn**	**12 33 38.3**	**+0.8**
LASF				*e*Sn	**Sn**	**12 34 09.3**	**+0.1**
LASF				*e*Sg	**Sg**	**12 34 19.0**	**-1.8**
4.5nm,0.3s							
EMOS	**Mosqueruela**	**2.66**	**244**	Pn	**Pn**	**12 33 38.4**	**+0.5**
EMOS				Sn	**Sn**	**12 34 11.8**	**+2.1**
EMOS				*i* Vmb_Lg		12 34 25.6	
EMOS	**Mosqueruela**	**2.66**	**244**	P	**Pn**	**12 33 39.3**	**+1.5**
EMOS				S	**Sn**	**12 34 12.0**	**+2.3**
ETSF	**Etsaut**	**2.73**	**300**	*e*Pn	**Pn**	**12 33 39.8**	**+1.2**
ETSF	**Etsaut**	**2.73**	**300**	*e*Pg	**Pg**	**12 33 46.2**	**-1.7**
ETSF				*e*Sg	**Sg**	**12 34 20.2**	**-3.0**
11nm,0.3s							
ATE	**Arette**	**2.91**	**302**	S	**Sn**	**12 34 18.9**	**+3.3**
4.3nm,0.3s							
EORO	**Oroz-Betelu**	**3.22**	**295**	Sg	**Sg**	**12 34 37.8**	**-1.4**
EORO				*i* Vmb_Lg		12 34 44.0	
SJPF	**Ste Jean**	**3.26**	**299**	*e*Pn	**Pn**	**12 33 46.9**	**+1.0**
SJPF	**Ste Jean**	**3.26**	**299**	*e*Pg	**Pg**	**12 33 57.2**	**-0.9**
SJPF				*e*Sg	**Sg**	**12 34 37.0**	**-3.3**
8.4nm,0.4s							
CAF	**Calviac**	**3.37**	**353**	*e*Pg	**Pg**	**12 33 59.0**	**-1.3**
CAF				*e*Sg	**Sg**	**12 34 41.5**	**-2.5**
4.6nm,0.3s							
VIVF	**Saint-Julien-l**	**3.59**	**24**	*e*Sg	**Sg**	**12 34 49.4**	**-1.6**
2.9nm,0.3s							
RJF	**Les Rejaudoux**	**3.81**	**348**	*e*Sg	**Sg**	**12 34 56.8**	**-1.3**
3.1nm,0.2s							

*SJA **10** 12:42:46.4±0.7, 32°.12S×72°.14W, h13km, ML3.8, MW3.6*
*GUC **10** 12:42:52.9±0.6, 32°.14S×71°.57W, h37km±2km, ML3.7*
ISC 10 12:42:47.7±1.2, 32°.12S±0°.02×71°.97W±0°.06, h14km±10km, n44, σ1°.57/78, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.94**	**163**	*e*P	**Pn**	**12 43 08.9**	**+2.4**
VA01				IAML		12 43 24.5	
comp=N,3μm,0.1s							
VA01	**Torpederas**	**0.94**	**163**	*e*P	**Pb**	**12 43 03.9**	**-1.9**
VA01				*e*S	**Sn**	**12 43 21.7**	**+1.9**
ROCH	**El Roble**	**1.18**	**137**	*e*P	**Pb**	**12 43 10.3**	**+0.4**
ROCH				*e*S	**Sb**	**12 43 23.5**	**-1.6**
ROCH				IAML		12 43 27.4	
comp=N,1μm,0.4s							
CO02	**Combarbal**	**1.23**	**43**	*e*P	**Pb**	**12 43 11.7**	**+1.0**
CO02				*e*S	**Sb**	**12 43 25.7**	**-0.8**
CO02				IAML		12 43 30.5	
comp=N,11μm,0.2s							
CO02	**Combarbal**	**1.23**	**43**	*e*P	**Pn**	**12 43 11.0**	**+0.5**
CO02				*e*S	**Sb**	**12 43 26.1**	**-0.4**
CO02				IAML		12 43 29.9	
comp=Z,4μm,0.3s							
MT02	**Curacav**	**1.34**	**149**	*e*P	**Pg**	**12 43 13.6**	**+0.1**
MT02	**Curacav**	**1.34**	**149**	*e*P	**Pb**	**12 43 12.9**	**+0.3**
MT02				*e*P	**Pg**	**12 43 13.4**	**-0.1**
MT02				*e*S	**Sn**	**12 43 30.1**	**+0.6**
VA03	**San Esteban**	**1.36**	**119**	*e*P	**Pn**	**12 43 12.1**	**-0.3**
VA03				*e*S	**Sn**	**12 43 26.5**	**-3.8**
VA03				IAML		12 43 28.0	
comp=E,7μm,0.2s							
CO06	**Fray Jorge**	**1.47**	**11**	*e*P	**Pg**	**12 43 17.1**	**+1.3**
CO06				*e*S	**Sg**	**12 43 36.8**	**+1.9**
CO06				IAML		12 43 40.9	
comp=N,1μm,0.2s							
PEL	**Peldehue**	**1.49**	**134**	*e*P	**Pn**	**12 43 14.8**	**+0.7**
PEL				*e*S	**Sn**	**12 43 31.5**	**-1.9**
PEL				IAML		12 43 32.1	
comp=E,3μm,0.3s							
VA05	**Santo Domingo**	**1.57**	**169**	*e*P	**Pg**	**12 43 18.1**	**+0.4**
VA05				*e*S	**Sg**	**12 43 38.7**	**+0.5**
VA05				IAML		12 43 46.8	
comp=E,3μm,0.2s							
MT05	**Renca**	**1.64**	**141**	*e*P	**Pb**	**12 43 17.6**	**-0.2**
MT05				*e*S	**Sn**	**12 43 36.4**	**-0.7**
MT05				IAML		12 43 38.4	
comp=E,2μm,0.2s							
MT05	**Renca**	**1.64**	**141**	*e*P	**Pb**	**12 43 18.1**	**+0.3**
MT05				*e*S	**Sn**	**12 43 38.1**	**+0.9**
MT05				IAML		12 43 38.2	
comp=Z,982nm,0.2s							
MT10	**Hacienda Santa**	**1.67**	**134**	*e*P	**Pn**	**12 43 17.7**	**+1.1**
MT10				*e*S	**Sn**	**12 43 35.9**	**-2.0**
MT10				IAML		12 43 38.8	
comp=N,2μm,0.2s							
CO03	**El Pedregal**	**1.68**	**41**	*e*P	**Pb**	**12 43 18.7**	**+0.3**
CO03				*e*S	**Sn**	**12 43 38.0**	**0.0**
CO03				IAML		12 43 41.4	
comp=E,2μm,0.4s							
CO03	**El Pedregal**	**1.68**	**41**	*e*P	**Pn**	**12 43 13.4**	**-3.3**
CO03				*e*P	**Pb**	**12 43 18.7**	**+0.3**
CO03				*e*S	**Sn**	**12 43 39.8**	**+1.7**
CO03				IAML		12 43 40.6	
comp=Z,940nm,0.3s							
MT14	**Cerro Calı́n**	**1.76**	**137**	*e*P	**Pb**	**12 43 19.5**	**-0.2**
MT14				IAML		12 43 41.0	
comp=N,2μm,0.2s							
MT03	**Universidad Ad**	**1.84**	**139**	*e*P	**Pb**	**12 43 20.9**	**-0.3**
MT03				*e*S	**Sn**	**12 43 41.6**	**-0.5**
MT03				IAML		12 43 44.3	
comp=E,3μm,0.1s							
MT03	**Universidad Ad**	**1.84**	**139**	*e*P	**Pb**	**12 43 21.1**	**-0.1**
MT03				*e*S	**Sn**	**12 43 42.3**	**+0.1**
MT03				IAML		12 43 44.2	
comp=Z,2μm,0.2s							
MT01	**Popeta**	**1.84**	**161**	*e*P	**Pb**	**12 43 21.3**	**+0.1**
MT01				*e*S	**Sb**	**12 43 44.4**	**+0.2**
MT01				IAML		12 43 51.3	
comp=Z,448nm,0.6s							
MT09	**Talagante**	**1.85**	**154**	*e*P	**Pb**	**12 43 21.9**	**+0.5**
MT09				IAML		12 43 49.7	
comp=N,1μm,0.3s							
FCH	**Farellones**	**1.86**	**131**	*e*P	**Pn**	**12 43 20.7**	**+1.3**
FCH				IAML		12 43 43.2	
comp=E,970nm,0.3s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MT15	**Las Vizcachas**	**1.93**	**141**	*e*P	**Pb**	**12 43 21.8**	**-0.8**
MT15				*e*S	**Sn**	**12 43 43.9**	**-0.2**
MT15				IAML		12 43 46.6	
comp=N,1μm,0.2s							
MT04	**Ro Olivares**	**2.01**	**130**	*e*P	**Pn**	**12 43 22.9**	**+1.6**
MT04	**Ro Olivares**	**2.01**	**130**	*e*P	**Pn**	**12 43 23.1**	**+1.7**
MT04				*e*S	**Sn**	**12 43 46.3**	**-0.1**
MT04				IAML		12 43 48.6	
comp=Z,508nm,0.2s							
MT08	**Bocatoma Ro**	**2.11**	**129**	*e*P	**Pb**	**12 43 25.2**	**-0.7**
MT08				*e*S	**Sn**	**12 43 50.4**	**+1.4**
MT08				IAML		12 43 55.5	
comp=Z,381nm,0.3s							
MT13	**San Alfonso**	**2.15**	**139**	*e*P	**Pb**	**12 43 25.4**	**-1.2**
MT13	**San Alfonso**	**2.15**	**139**	*e*P	**Pb**	**12 43 25.5**	**-1.1**
MT13				*e*S	**Sn**	**12 43 50.2**	**+0.4**
MT13				IAML		12 43 50.7	
comp=Z,483nm,0.5s							
GO04	**Tololo Observa**	**2.18**	**28**	*e*P	**Pb**	**12 43 26.3**	**-0.8**
GO04				*e*S	**Sb**	**12 43 55.6**	**+1.6**
GO04				IAML		12 44 01.1	
comp=Z,958nm,0.8s							
BO04	**La Punta**	**2.19**	**149**	*e*P	**Pb**	**12 43 26.4**	**-0.7**
BO04				*e*S	**Sn**	**12 43 51.4**	**+0.8**
LMEL	**Las Melosas**	**2.28**	**140**	*e*P	**Pb**	**12 43 27.6**	**-1.1**
LMEL				*e*S	**Sn**	**12 43 55.3**	**+2.4**
LMEL				IAML		12 44 02.7	
comp=Z,504nm,0.4s							
RTLS	**Leoncito**	**2.29**	**83**	*e*P	**Pn**	**12 43 28.2**	**+2.8**
RTLS				*e*S	**Sn**	**12 43 48.9**	**-4.7**
RTLS				IAML		12 43 58.7	
comp=Z,1μm,0.4s							
BO01	**Tunca**	**2.39**	**162**	*e*P	**Pb**	**12 43 29.7**	**-0.8**
BO01				IAML		12 44 07.3	
comp=E,212nm,0.5s							
BO01	**Tunca**	**2.39**	**162**	*e*P	**Pb**	**12 43 28.9**	**-1.5**
BO01				*e*S	**Sg**	**12 44 02.3**	**-2.2**
ARCO	**CERRO ARCO**	**2.67**	**107**	*e*P	**Pb**	**12 43 34.8**	**-0.5**
ARCO				*e*S	**Sn**	**12 44 02.9**	**+0.3**
ARCO				IAML		12 44 08.8	
comp=Z,325nm,0.7s							
CO01	**Juntas del Tor**	**2.67**	**38**	*e*P	**Pb**	**12 43 33.9**	**-1.5**
CO01				*e*S	**Sb**	**12 44 07.8**	**-0.4**
CO01				IAML		12 44 10.1	
comp=Z,210nm,0.2s							
ASAL	**Salagasta**	**2.69**	**101**	*e*P	**Pb**	**12 43 35.2**	**-0.6**
ASAL				*e*S	**Sn**	**12 44 04.4**	**+1.2**
ASAL				*e*S	**Sb**	**12 44 09.9**	**+1.2**
ASAL				IAML		12 44 16.1	
comp=Z,166nm,1.4s							
DOCA	**Reserva Natura**	**2.73**	**66**	*e*P	**Pn**	**12 43 34.5**	**+3.2**
DOCA				IAML		12 44 19.7	
comp=Z,152nm,0.5s							
AAGR	**Agrelo**	**2.82**	**111**	*e*P	**Pb**	**12 43 36.8**	**-1.1**
AAGR				IAML		12 44 20.8	
comp=Z,163nm,0.4s							
BO02	**Sierra Bellavi**	**2.85**	**160**	*e*P	**Pb**	**12 43 36.0**	**-2.4**
BO02				IAML		12 44 18.9	
comp=E,539nm,0.2s							
BO02	**Sierra Bellavi**	**2.85**	**160**	*e*P	**Pb**	**12 43 35.4**	**-3.0**
BO02				*e*S	**Sn**	**12 44 04.4**	**-2.5**
BO02				*e*S	**Sb**	**12 44 14.9**	**+1.8**
BO02				IAML		12 44 19.0	
comp=Z,329nm,0.6s							
AROD	**Rodeo**	**2.89**	**48**	*e*S	**Sb**	**12 44 15.4**	**+0.8**
LCO	**Las Campanas**	**3.28**	**20**	*e*S	**Sb**	**12 44 24.4**	**-1.4**
LCO				IAML		12 44 33.1	
comp=Z,294nm,0.4s							
AC04	**Llanos de Chal**	**3.98**	**11**	*e*S	**Sg**	**12 44 51.9**	**-3.5**
AC04				IAML		12 44 54.6	
comp=Z,76nm,0.5s							

*PRE **10** 12:45:21.7±0.8, 26°.10S×29°.44E, h0km, ML2.8, Suspected explosion*
*BUL **10** 12:45:26.1±1.0, 26°.02S×29°.74E, h5km±11km, MD3.2*
*BGSI **10** 12:45:55.9±1.4, 23°.87S×26°.15E, h31km±999km, ML2.6*
ISC 10 12:45:20.8±0.8, 26°.09S±0°.03×29°.39E±0°.03, h0km, n17, σ2°.09/29, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.57**	**80**	*e*P	**Pg**	**12 45 32.5**	**+0.6**
CRLN				*e*S	**Sg**	**12 45 39.7**	**+0.4**
CRLN				IAML		12 45 49.8	
comp=Z,160nm,0.5s							
PILG	**Pilgrimsrest,**	**1.66**	**46**	*e*P	**Pg**	**12 45 52.9**	**+0.3**
PILG				*e*S	**Sg**	**12 46 14.3**	**+0.2**
PILG				IAML		12 46 17.4	
comp=Z,252nm,0.5s							
NWCL	**Newcastle**	**1.70**	**165**	*e*P	**Pg**	**12 45 53.1**	**-0.2**
NWCL				*e*S	**Sg**	**12 46 16.1**	**+0.7**
NWCL				IAML		12 46 22.1	
comp=Z,122nm,0.4s							
PRYS	**Parys**	**2.00**	**245**	*e*P	**Pn**	**12 45 57.6**	**+1.6**
PRYS				*e*S	**Sb**	**12 46 24.9**	**+1.1**
PRYS				IAML		12 46 28.0	
comp=Z,62nm,0.6s							
POGA	**Pongola**	**2.42**	**122**	*e*P	**Pn**	**12 46 02.2**	**+0.6**
POGA				*e*S	**Sn**	**12 46 32.7**	**+0.8**
POGA				IAML		12 46 39.8	
comp=Z,103nm,0.4s							
SNKL	**Senekal, Frees**	**2.61**	**213**	*e*P	**Pn**	**12 46 06.5**	**+2.1**
SNKL				*e*S	**Sn**	**12 46 38.6**	**+1.6**
SNKL				IAML		12 46 53.8	
comp=Z,88nm,0.5s							
MOPA	**Mopani**	**3.15**	**36**	*i* P	**Pn**	**12 46 13.5**	**+1.8**
MOPA				*i* S	**Sn**	**12 46 46.4**	**-3.5**
LBTB	**Lobatse**	**3.59**	**287**	*e*P	**Pn**	**12 46 20.4**	**+2.5**
LBTB				*e*S	**Sn**	**12 47 03.1**	**+2.0**
LBTB				IAML		12 47 16.3	
comp=Z,52nm,0.5s			

68nm,0.6s,baz=48,slow=12,SNR=81
DZM S **Sn** 12 57 39.2 +3.8
43nm,0.8s,baz=321,slow=22,SNR=8.5
DZM Mont Dzumac 5.97 198 P **Pn** 12 56 28.8 +2.3
ONTNC Ouen Toro 6.19 197 **Pn** 12 56 31.4 +2.0
ONTNC Ouen Toro 6.19 197 P **Pn** 12 56 31.3 +2.0
PINNC Pines Island, 6.27 189 **Pn** 12 56 32.1 +1.8
PINNC Pines Island, 6.27 189 P **Pn** 12 56 32.4 +2.1
MSVF Nonsavu 9.28 100 **Pn** 12 57 11.5 +1.9
MSVF Nonsavu 9.28 100 P **Pn** 12 57 12.1 +2.5
15nm,0.9s,baz=266,slow=11,SNR=6.6
MSVF Nonsavu 9.28 100 P **Pn** 12 57 11.7 +2.1
NGOA Tingoa Renbel 9.45 299 P Pn 12 57 16.6 +4.8
HNR Honiara 10.79 309 Pn **Pn** 12 57 31.2 +2.1
HNR Honiara 10.79 309 P **Pn** 12 57 30.8 +1.7
82nm,0.7s,baz=59,slow=3.8,SNR=3.8
SAVO Savo Central 11.07 309 P **Pn** 12 57 37.4 +4.6
TATA Tatamba Isabel 11.60 312 P **Pn** 12 57 41.6 +2.2
EIDS Eidsvold 18.52 238 **P** 12 59 02.7 +1.6
EIDS Eidsvold 18.52 238 P **P** 12 59 03.3 +2.2
ARMA Armidale 20.79 225 **P** 12 59 26.7 +1.2
ARMA Armidale 20.79 225 P **P** 12 59 26.8 +1.3
PMG Port Moresby 21.87 286 P **P** 12 59 34.4 -2.3
PMG IAmb IAmb 12 59 41.6
comp=Z,22nm,0.9s
TOZ Tahuroa Road 22.16 165 P **P** 12 59 40.5 +1.3
TOZ IAmb IAmb 12 59 41.6
comp=Z,12nm,0.8s
URZ Urewera 23.09 162 P **P** 12 59 48.5 +0.9
MTSU Mount Surprise 23.11 262 P **P** 12 59 49.2 +1.0
BKZ Black Stump Fm 23.76 164 P **P** 12 59 54.6 +0.7
BKZ Black Stump Fm 23.76 164 P **P** 12 59 54.8 +0.9
MANU Manus Island 25.18 302 P **P** 13 00 07.0 +0.1
MANU IAmb IAmb 13 00 09.0
comp=Z,9.7nm,0.8s
CAN Canberra 25.65 219 P **P** 13 00 11.4 +0.5
STKA Stephens Creek 28.85 233 P **P** 13 00 39.7 +0.2
comp=Z,9.2nm,0.7s,baz=51,slow=8.9,SNR=24
STKA ScP **ScP** 13 07 03.1 -3.3
comp=Z,2.4nm,0.7s,baz=52,slow=7.9,SNR=5.7
comp=Z,9.2nm,0.7s
TOO Toolangi 29.25 219 P **P** 13 00 44.2 +1.1
JAY Jayapura 30.58 294 P **P** 13 00 55.6 +0.7
comp=Z,6.4nm,0.6s,baz=150,slow=4.7,SNR=5.2
comp=Z,6.4nm,0.6s
WR8 Warramunga Arr 32.42 258 P **P** 13 01 09.8 -1.2
MGBR Mount Gambier 32.48 224 P **P** 13 01 11.7 +0.4
WB0 Warramunga Arr 32.52 259 P **P** 13 01 11.4 -0.5
WB0 IAmb IAmb 13 01 20.9
comp=Z,9.5nm,1.2s
WRA Warramunga Arr 32.58 259 P **P** 13 01 11.2 -1.2
comp=Z,0.5nm,0.3s,baz=80,slow=6.0,SNR=29
WRA PcP **PcP** 13 03 53.4 -0.6
comp=Z,0.8nm,0.8s,baz=87,slow=2.2,SNR=3.9
WRA S **S** 13 06 07.5 -5.7
comp=Z,0.2nm,0.8s,baz=312,slow=35,SNR=1.1
WRA ScP **ScP** 13 07 15.4 -3.6
comp=Z,1.8nm,1.0s,baz=89,slow=3.2,SNR=5.9
comp=Z,0.5nm,0.3s
AS31 Alice Springs 33.20 252 **P** 13 01 17.6 -0.2
AS31 IAmb IAmb 13 01 18.1
comp=Z,8.0nm,0.5s
ASAR Alice Springs 33.20 252 **P** 13 01 17.6 -0.2
ASAR Alice Springs 33.20 252 P **P** 13 01 17.4 -0.4
comp=Z,11nm,0.5s,baz=76,slow=9.1,SNR=195
ASAR pP **pwP** 13 02 04.0 +0.1
comp=Z,2.9nm,0.7s,baz=83,slow=9.0,SNR=1.6
ASAR PcP **PcP** 13 03 53.6 -2.1
comp=Z,0.7nm,1.0s,baz=85,slow=3.2,SNR=4.2
ASAR S **S** 13 06 18.6 -4.2
comp=Z,0.5nm,0.9s,baz=78,slow=17,SNR=4.0
ASAR ScP **ScP** 13 07 18.1 -3.1
comp=Z,2.5nm,0.5s,baz=87,slow=3.4,SNR=36
comp=Z,11nm,0.5s
BBOO Buckleboo 33.52 235 P **P** 13 01 20.7 +0.3
MTN Manton Dam 36.25 271 P **P** 13 01 44.6 +0.6
MTN IAmb IAmb 13 01 49.2
comp=Z,27nm,1.4s
KNRA Kununurra 38.11 265 P **P** 13 01 59.5 -0.1
KNRA IAmb IAmb 13 02 14.3
comp=Z,21nm,1.4s
FORT Forrest 39.47 241 P **P** 13 02 10.0 -0.7
FITZ Fitzroy Crossi 40.86 261 P **P** 13 02 22.7 +0.4
MBWA Marble Bar 46.24 256 P **P** 13 03 05.3 +0.2
MBWA IAmb IAmb 13 03 11.1
comp=Z,9.9nm,1.0s
MJAR Matsushiro Arr 59.89 332 P **P** 13 04 43.5 -0.9
comp=Z,3.7nm,1.0s,baz=163,slow=8.3,SNR=4.6
comp=Z,3.7nm,1.0s
VNDA Vanda 61.25 182 P **P** 13 04 53.6 +0.5
VNDA Vanda 61.25 182 P **P** 13 04 52.8 -0.2
comp=Z,2.0nm,0.7s,baz=0.7,slow=5.2,SNR=10
comp=Z,2.0nm,0.7s
SBA Scott Base 61.50 180 P **P** 13 04 55.8 +1.1
SBA IAmb IAmb 13 04 56.9
comp=Z,15nm,0.9s
CASY Casey 62.45 203 P **P** 13 05 01.3 +0.1
CASY IAmb IAmb 13 05 12.5
comp=Z,5.1nm,1.1s
JKA Kamikawa-asahi 64.68 340 P **P** 13 05 17.3 +1.3
JKA IAmb IAmb 13 05 17.7
comp=Z,6.3nm,0.8s
ASAJ Asahikawa 64.68 340 P **P** 13 05 16.5 +0.5
comp=Z,5.1nm,0.6s,baz=212,slow=7.8,SNR=11
comp=Z,5.1nm,0.6s
KSRS Korea Array 65.74 325 P **P** 13 05 23.2 +0.2
comp=Z,0.7nm,0.6s,baz=142,slow=6.4,SNR=4.2
comp=Z,0.7nm,0.6s
YSS Yuzhno-Sakhali 67.15 341 P **P** 13 05 32.6 +0.9
YSS IAmb IAmb 13 05 33.9
comp=Z,16nm,1.4s
USA0B Ussuriysk Arra 68.87 333 P **P** 13 05 42.5 0.0
USA0B IAmb IAmb 13 05 44.7
comp=Z,4.2nm,0.8s
USRK Ussuriysk Ar. 68.87 333 P **P** 13 05 42.5 0.0
comp=Z,2.0nm,0.6s,baz=101,slow=7.5,SNR=6.6
comp=Z,2.0nm,0.6s
PEA0B Petropavlovsk- 69.82 353 P **P** 13 05 48.7 +0.6
PEA0B IAmb IAmb 13 05 49.6
comp=Z,11nm,0.9s
PETK Petropavlovsk- 69.82 353 P **P** 13 05 48.0 -0.2
comp=Z,5.7nm,0.7s,baz=141,slow=8.0,SNR=15
comp=Z,5.7nm,0.7s
KLR Kul'dur 72.97 336 P **P** 13 06 07.4 +0.3
comp=Z,2.0nm,0.9s,baz=118,slow=6.1,SNR=4.4
comp=Z,2.0nm,0.9s
QSPA South Pole Qui 73.66 180 P **P** 13 06 11.1 0.0
QSPA South Pole Qui 73.66 180 P **P** 13 06 10.9 -0.2
comp=Z,15nm,0.9s,baz=224,slow=0.6,SNR=78
comp=Z,15nm,0.9s
CM31 Chiang Mai Arr 76.66 294 P **P** 13 06 30.7 +1.8
CMAR Chiang Mai Arr 76.66 294 P **P** 13 06 30.3 +1.4
CMAR Chiang Mai Arr 76.66 294 P **P** 13 06 29.7 +0.8
comp=Z,1.7nm,0.8s,baz=129,slow=4.9,SNR=12
comp=Z,1.7nm,0.8s
YAK Yakutsk 83.94 343 P **P** 13 07 06.9 +0.2
J18K Innoko River 84.06 15 P **P** 13 07 07.9 +0.6
J18K IAmb IAmb 13 07 09.4
comp=Z,3.8nm,0.8s
SUA Susitna One 84.08 18 P **P** 13 07 07.5 -0.1
ULN Ulaanbaatar 84.14 324 P **P** 13 07 09.0 +0.7
ULN IAmb IAmb 13 07 09.8
comp=Z,8.8nm,1.0s
SONM Songino Array 84.50 323 P **P** 13 07 10.5 +0.5
SONM IAmb IAmb 13 07 11.5
comp=Z,4.3nm,0.9s
SONM Songino Array 84.50 323 P **P** 13 07 09.9 -0.2
comp=Z,3.8nm,0.8s,baz=150,slow=6.3,SNR=19
comp=Z,3.8nm,0.8s
H17K Granite Mounta 84.58 13 P **P** 13 07 10.1 +0.2
H17K IAmb IAmb 13 07 29.3
comp=Z,6.4nm,1.2s
BELA Belgrano 2 84.99 175 P **P** 13 07 11.3 -0.7
H18K Honhosa River 85.10 13 P **P** 13 07 12.7 +0.2
CAST Castle Rocks 85.23 17 **P** 13 07 12.4 -0.8
F17K Baldwin Pennin 85.61 12 P **P** 13 07 15.8 +0.8
F17K IAmb IAmb 13 07 16.1
comp=Z,18nm,1.4s
F19K Shaleruckik Mo 86.66 13 P **P** 13 07 20.7 +0.7
E19K Redstone River 87.30 13 P **P** 13 07 24.4 +1.2
E19K IAmb IAmb 13 07 25.6
comp=Z,2.7nm,0.7s
NVAR Mina Array Bea 87.48 49 P **P** 13 07 25.6 +0.6
comp=Z,0.9nm,0.7s,baz=225,slow=9.1,SNR=5.0
comp=Z,0.9nm,0.7s
ILAR Eielson Array 87.74 18 P **P** 13 07 23.4 -2.0
comp=Z,0.6nm,0.8s,baz=235,slow=5.0,SNR=7.8
ILAR pP **pwP** 13 08 19.9 +2.2
comp=Z,1.2nm,0.8s,baz=232,slow=5.9,SNR=5.6
comp=Z,0.6nm,0.8s
TROLL Troll, Antarti 91.31 184 ⇑P **P** 13 07 41.2 -1.1
comp=Z,459nm,0.8s
SNAA Sanae 91.97 183 ⇑P **P** 13 07 43.7 -1.5
comp=Z,44nm,0.6s
SNAA Sanae 91.97 183 P **P** 13 07 42.5 -2.7
comp=Z,1.9nm,0.6s,baz=226,slow=6.6,SNR=8.3
comp=Z,1.9nm,0.6s
VNA3 Neumayer Olymp 92.59 181 ⇑P **P** 13 07 46.9 -1.1
comp=Z,10nm,0.7s
VNA2 Neumayer--Watz 92.87 181 ⇑P **P** 13 07 48.4 -0.9
comp=Z,8.7nm,0.6s,baz=172,slow=4.0
FXWY Fox Creek 94.47 46 P **P** 13 07 55.3 -2.1
FXWY IAmb IAmb 13 08 23.9
comp=Z,2.4nm,0.5s
YKA Yellowknife Ar 98.48 27 P **P** 13 08 13.3 -1.4
comp=Z,0.2nm,0.8s,baz=248,slow=4.3,SNR=3.7
YKA pP **pwP** 13 09 09.6 +2.3
comp=Z,0.7nm,1.0s,baz=247,slow=4.3,SNR=5.6
comp=Z,0.2nm,0.8s
MKAR Makanchi Array 99.18 316 P **Pdif** 13 08 16.4 -1.9
comp=Z,0.5nm,0.6s,baz=106,slow=5.1,SNR=7.6
comp=Z,0.5nm,0.6s
ZALV Zalesovo Beam 99.39 323 P **Pdif** 13 08 16.6 -2.3
comp=Z,0.9nm,0.5s,baz=118,slow=5.2,SNR=6.3
comp=Z,0.9nm,0.5s
ARCES ARCESS Array B 122.13 346 PKP **PKPdf** 13 13 28.4 -1.5
comp=Z,3.6nm,1.0s,baz=14,slow=2.5,SNR=4.3
NOA NORSAR Array B 132.51 345 SKPbc **SKPbc** 13 16 53.4 -4.7
comp=Z,0.7nm,0.6s,baz=29,slow=3.3,SNR=3.9
AKASG Malin Array Be 132.74 326 SKPbc **SKPbc** 13 16 54.9 -4.2
comp=Z,0.2nm,0.2s,baz=52,slow=3.9,SNR=5.3
BRTR Keskin Array B 134.44 310 SKPbc **SKPbc** 13 17 00.8 -4.5
comp=Z,0.5nm,0.7s,baz=140,slow=4.7,SNR=3.8
ESDC Sonseca Array 155.87 346 PKPab **PKPab** 13 14 57.2 -0.5
comp=Z,1.5nm,0.8s,baz=28,slow=3.6,SNR=7.8
TORD Torodi Ar. Bea 166.80 258 PKPab **PKPab** 13 15 45.3 -1.1
comp=Z,0.5nm,0.8s,baz=53,slow=1.5,SNR=2.5

*NEIC **10** 13:08:09.3±1.9, 16°.07S±0°.06×69°.58W±0°.06, h225km±8km, mb4.6/32, Error ellipse: s-maj=11.7km s-min=3.3km az=221.0*
*IDC **10** 13:08:09.7±0.6, 15°.94S×69°.47W, h226km±4km, mb3.7/13, mbtmp4.2/17, Error ellipse: s-maj=13.9km s-min=11.5km az=33.0*
*VAO **10** 13:08:10.0±0.4, 16°.01S×69°.55W, h230km±2km, mb4.4*
*GUC **10** 13:08:10.2±0.8, 16°.44S×69°.99W, h245km±5km, ML4.5*
ISC 10 13:08:08.5±0.6,**16°.05S**±0°.04×**69°.63W**±0°.05,**h222**km±5km, **n146,**σ1$12/163,**mb4.1**/17,**6C,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.46**	**100**		**Pn**	**13 08 46.0**	**+1.5**
LPAZ	**La Paz**	**1.46**	**100**	P	**Pn**	**13 08 46.4**	**+1.9**
	626nm,0.3s,baz=325,slow=6.6,SNR=2701						
LPAZ				S	**S**	**13 09 13.3**	**+0.9**
	424nm,0.5s,baz=23,slow=18,SNR=29						
LPAZ	**La Paz**	**1.46**	**100**	*e*P	**Pn**	**13 08 46.3**	**+1.8**
LPAZ				*e*S	**S**	**13 09 13.8**	**+1.4**
PB18	**Visviri**	**1.54**	**175**		**Pn**	**13 08 47.5**	**+2.5**
PB18	**Visviri**	**1.54**	**175**	⇑*i*P	**Pn**	**13 08 47.7**	**+2.7**
PB18				*i* S	**S**	**13 09 16.7**	**+3.1**
PB16	**IPOC Station P**	**2.28**	**177**		**Pn**	**13 08 53.6**	**+1.6**
PB16	**IPOC Station P**	**2.28**	**177**	⇑*e*P	**Pn**	**13 08 54.2**	**+2.1**
PB16				*i* S	**S**	**13 09 27.9**	**+1.9**
AP01	**Chacalluta**	**2.41**	**196**		**Pn**	**13 08 53.0**	**+0.2**
AP01	**Chacalluta**	**2.41**	**196**	⇑*i*P	**Pn**	**13 08 52.9**	**+0.2**
AP01				*i* S	**S**	**13 09 25.3**	**-2.1**
PB12	**IPOC Station P**	**2.64**	**195**		**Pn**	**13 08 54.9**	**-0.5**
PB12	**IPOC Station P**	**2.64**	**195**	⇑*i*P	**Pn**	**13 08 55.2**	**-0.1**
PB12				*i* S	**S**	**13 09 29.6**	**-2.3**
PB12				IAML		13 09 31.0	
	comp=E,2μm,0.2s						
GO01	**Chusmiza**	**3.62**	**173**		**Pn**	**13 09 07.6**	**+0.6**
GO01	**Chusmiza**	**3.62**	**173**	⇑*i*P	**Pn**	**13 09 08.2**	**+1.1**
GO01				*i* S	**S**	**13 09 52.7**	**-0.3**
PB11	**IPOC Station P**	**3.69**	**180**		**Pn**	**13 09 07.4**	**-0.1**
PB11	**IPOC Station P**	**3.69**	**180**	⇑*i*P	**Pn**	**13 09 07.7**	**+0.2**
PB11				*i* S	**S**	**13 09 51.4**	**-2.5**
PB08	**IPOC Station P**	**4.10**	**174**		**Pn**	**13 09 13.0**	**+0.4**
HMBC	**Humberstone**	**4.21**	**183**		**Pn**	**13 09 12.8**	**-1.0**
TA02	**Huaiquique**	**4.23**	**186**		**Pn**	**13 09 13.3**	**-0.5**
PATCX	**Punta Patache**	**4.77**	**186**		**Pn**	**13 09 20.2**	**-0.4**
PB01	**IPOC Station P**	**4.97**	**178**		**Pn**	**13 09 22.6**	**-0.5**
PB09	**IPOC Station P**	**5.73**	**176**		**Pn**	**13 09 32.8**	**0.0**
PB10	**IPOC Station P**	**7.48**	**187**	Pn	**Pn**	**13 09 54.4**	**-0.6**
NNA	**Nana**	**8.08**	**299**	P	**Pn**	**13 10 03.8**	**+1.0**
	comp=E,11nm,0.3s,baz=153,slow=6.0,SNR=6.1						
NNA				S	**S**	**13 11 30.8**	**-3.6**
	comp=E,19nm,0.3s,baz=205,slow=15,SNR=5.1						
SIV	**San Ignacio**	**8.23**	**91**	P	**Pn**	**13 10 03.5**	**-1.3**
	comp=E,5.1nm,0.5s,baz=271,slow=10,SNR=22						
SIV				S	**S**	**13 11 35.7**	**-2.2**
	comp=E,14nm,0.9s,baz=185,slow=22,SNR=7.0						
PB14	**IPOC Station P**	**8.57**	**185**		**Pn**	**13 10 08.4**	**-0.9**
CZSB	**Cruzeiro do Su**	**8.80**	**340**	*e*P	**Pn**	**13 10 11.4**	**-0.7**
GO02	**Mina Guanaco**	**9.07**	**180**		**Pn**	**13 10 15.8**	**0.0**
SAML	**Samuel**	**9.45**	**42**	Pn	**Pn**	**13 10 19.6**	**-0.9**
VILB	**Vilhena**	**9.64**	**73**		**Pn**	**13 10 22.5**	**-0.4**
VILB	**Vilhena**	**9.64**	**73**	*e*P	**Pn**	**13 10 23.2**	**+0.3**
AC01	**Pan de Azucar**	**10.09**	**185**	Pn	**Pn**	**13 10 28.8**	**+0.2**
PTLB	**Pontes e Lacer**	**10.12**	**88**		**Pn**	**13 10 29.8**	**+0.8**
PTLB	**Pontes e Lacer**	**10.12**	**88**	*e*P	**Pn**	**13 10 29.9**	**+0.9**
AC02	**Maricunga**	**10.74**	**178**		**Pn**	**13 10 37.9**	**+0.5**
AC06	**Mina Casimiro**	**11.28**	**183**	Pn	**Pn**	**13 10 42.0**	**-1.6**
GO03	**Copiapo**	**11.50**	**183**	Pn	**Pn**	**13 10 46.7**	**+0.1**
AC04	**Llanos de Chal**	**12.17**	**186**		**Pn**	**13 10 55.1**	**+0.2**
MURT	**Porto Murtinho**	**12.67**	**118**	*e*P	**Pn**	**13 11 00.7**	**-0.5**
AC05	**El Transito**	**12.74**	**183**	P	**Pn**	**13 11 02.7**	**+0.5**
LCO	**Las Campanas**	**12.94**	**184**		**Pn**	**13 11 04.9**	**+0.1**
BDQN	**Bodoquena, MS**	**12.99**	**112**	*e*P	**Pn**	**13 11 05.8**	**+0.6**
PDRB	**Porto dos Gac**	**13.28**	**72**	*e*P	**Pn**	**13 11 09.0**	**+0.1**
SALV	**Santo Antonio**	**13.40**	**91**	*e*P	**Pn**	**13 11 10.3**	**-0.1**
CO01	**Juntas del Tor**	**13.87**	**182**	P	**P**	**13 11 17.9**	**+0.2**
AQDB	**Aquidauana**	**13.94**	**110**		**Pn**	**13 11 17.3**	**+0.3**
AQDB	**Aquidauana**	**13.94**	**110**	*e*P	**P**	**13 11 18.2**	**-0.2**
GO04	**Tololo Observa**	**14.10**	**184**		**Pn**	**13 11 19.4**	**+0.3**
CLDB	**Colider**	**14.40**	**71**	*e*P	**P**	**13 11 23.2**	**-0.3**
CO03	**El Pedregal**	**14.76**	**184**	P	**Pn**	**13 11 26.5**	**-0.4**
CO02	**Combarbal**	**15.14**	**184**		**P**	**13 11 31.7**	**+0.1**
CPUP	**Villa Florida**	**15.36**	**134**	P	**P**	**13 11 32.7**	**-1.3**
	comp=E,2.1nm,0.5s,baz=306,slow=10.0,SNR=5.7						
CPUP	**Villa Florida**	**15.36**	**134**	*e*P	**Pn**	**13 11 35.1**	**+1.0**
AMBA	**Amambai (Brazi**	**15.40**	**119**	*e*P	**Pn**	**13 11 35.5**	**+0.8**
ZON	**Zonda**	**15.45**	**177**		**Pn**	**13 11 35.8**	**+0.5**
SJPY	**San Joaquin**	**15.47**	**127**	*e*P	**Pn**	**13 11 36.5**	**+1.0**
MACA	**Manacapuru-AM**	**15.54**	**35**		**P**	**13 11 35.5**	**-0.6**
MACA	**Manacapuru-AM**	**15.54**	**35**	*e*P	**Pn**	**13 11 36.5**	**+0.1**
CFA	**Coronel Fontan**	**15.54**	**176**	P	**Pn**	**13 11 37.8**	**+1.5**
	comp=E,6.0nm,0.7s,baz=1.0,slow=12,SNR=15						
CFA				S	**S**	**13 14 22.9**	**-4.9**
	comp=E,1.1nm,0.4s,baz=301,slow=22,SNR=1.7						
C2SB	**Chapadao do Su**	**16.25**	**102**	*e*P	**P**	**13 11 43.6**	**-0.3**
COHC	**Cochancay**	**16.49**	**324**		**Pn**	**13 11 49.0**	**+1.3**
NPGB	**Novo Progresso**	**16.59**	**59**	*e*P	**P**	**13 11 47.9**	**+0.2**
VA03	**San Esteban**	**16.66**	**183**	P	**P**	**13 11 48.7**	**+0.4**
ARAG	**Araguaiana, MT**	**17.14**	**91**	*e*P	**Pn**	**13 11 54.6**	**-0.9**
MT02	**Curacav**	**17.19**	**184**	P	**P**	**13 11 54.7**	**+0.6**
MT02				IAmb	IAmb	13 11 58.9	
	comp=Z,15nm,0.8s						
MT08	**Bocatoma Ro**	**17.33**	**181**	P	**Pn**	**13 11 58.0**	**+0.4**
MT08				IAmb	IAmb	13 12 01.4	
	comp=Z,15nm,0.9s						
MT13	**San Alfonso**	**17.63**	**182**		**P**	**13 11 59.6**	**+0.6**
MT13				IAmb	IAmb	13 12 07.8	
	comp=Z,16nm,0.8s						
MT09	**Talagante**	**17.70**	**184**	P	**P**	**13 12 00.3**	**+0.6**
MT09				IAmb	IAmb	13 12 07.4	
	comp=Z,35nm,1.2s						
MT01	**Popeta**	**17.80**	**184**	P	**P**	**13 12 01.2**	**+0.5**
MT01				IAmb	IAmb	13 12 06.7	
	comp=Z,29nm,1.1s						
BO04	**La Punta**	**17.89**	**183**	P	**P**	**13 12 02.5**	**+0.9**
BO04				IAmb	IAmb	13 12 09.0	
	comp=Z,18nm,0.7s						
ITTB	**Itaituba**	**17.92**	**51**	*e*P	**P**	**13 12 02.7**	**+0.6**
ITQB	**Itaqui**	**18.07**	**141**		**P**	**13 12 03.8**	**+0.1**
ITQB				IAmb	IAmb	13 12 05.8	
	comp=Z,24nm,0.7s						
ITQB	**Itaqui**	**18.07**	**141**	*e*P	**Pn**	**13 12 05.1**	**-1.2**
SNDB	**Serra Nova Dou**	**18.24**	**80**	*e*P	**P**	**13 12 06.4**	**+0.7**
BO01	**Tunca**	**18.31**	**184**		**Pn**	**13 12 07.8**	**-1.2**
OTAV	**Otavalo**	**18.38**	**331**	*e*P	**Pn**	**13 12 09.3**	**-1.1**
PTGB	**Pitanga**	**18.57**	**120**	*e*P	**P**	**13 12 10.3**	**+1.1**
BO02	**Sierra Bellavi**	**18.70**	**183**		**P**	**13 12 11.0**	**+0.6**
ITRB	**Iturama**	**18.70**	**104**	*e*P	**P**	**13 12 11.3**	**+0.8**
LDASE	**Londrina, Braz**	**18.89**	**116**	*e*P	**P**	**13 12 13.8**	**+1.2**
ITAB	**Concordia**	**19.68**	**127**	*e*P	**P**	**13 12 19.5**	**-1.5**
TBOT	**Tacuaremb**	**19.94**	**144**	*e*P	**P**	**13 12 24.1**	**+0.4**
FRTB	**Fartura**	**20.23**	**114**	*e*P	**P**	**13 12 27.4**	**+0.5**
BOAV	**Boa Vista**	**20.42**	**27**		**P**	**13 12 28.9**	**-0.1**
BOAV	**Boa Vista**	**20.42**	**27**	*e*P	**P**	**13 12 29.8**	**+0.8**
IPMB	**Ipameri, GO**	**20.57**	**98**	*e*P	**P**	**13 12 29.2**	**-1.5**
CPSB	**Cacapava Do Su**	**20.59**	**137**	*e*P	**P**	**13 12 30.1**	**-0.7**
BB19B	**Bebedouro**	**20.61**	**107**	*e*P	**P**	**13 12 29.8**	**-1.3**
MAL2	**Monte Alegre,**	**20.64**	**49**	P	**P**	**13 12 29.6**	**-1.8**
MAL2				IAmb	IAmb	13 12 31.7	
	comp=Z,26nm,0.9s						
BDFB	**Brasilia**	**20.80**	**92**		**P**	**13 12 32.2**	**-0.9**
BDFB				IAmb	IAmb	13 12 35.1	
	comp=Z,24nm,1.1s						
BDFB	**Brasilia**	**20.80**	**92**	P	**P**	**13 12 31.7**	**-1.5**
	comp=Z,15nm,0.7s,baz=229,slow=11,SNR=16						
	comp=Z,15nm,0.7s						
PLTB	**Pedras Altas**	**21.39**	**140**	*e*P	**P**	**13 12 40.6**	**+1.6**
CNLB	**Canela**	**21.74**	**131**	*e*P	**P**	**13 12 42.6**	**+0.1**
PRPB	**Parauapebas**	**21.76**	**65**	*e*P	**P**	**13 12 42.4**	**-0.4**
RUSC	**La Rusia**	**22.07**	**351**		**P**	**13 12 45.6**	**-0.5**
RUSC				IAmb	IAmb	13 12 51.5	
	comp=Z,23nm,1.0s						
PMNB	**Patos De Minas**	**22.28**	**100**	*e*P	**P**	**13 12 46.9**	**-0.8**
VAO	**Valinhos**	**22.44**	**112**	*e*P	**P**	**13 12 49.6**	**+0.5**
SMTB	**Santa Maria do**	**22.66**	**74**	*e*P	**P**	**13 12 51.2**	**+0.1**
TRQA	**Tornquist**	**22.94**	**164**	P	**P**	**13 12 53.7**	**+0.3**
TRQA				IAmb	IAmb	13 12 56.3	
	comp=Z,16nm,0.8s						
LR05	**Currie**	**24.18**	**184**	P	**P**	**13 13 05.4**	**+0.8**
LR05				IAmb	IAmb	13 13 21.9	
	comp=Z,40nm,1.5s						
SDBA	**SAO DESIDERIO**	**24.23**	**85**	*e*P	**P**	**13 13 04.2**	**-1.2**
JANB	**Januaria**	**24.41**	**91**	*e*P	**P**	**13 13 05.8**	**-1.2**
PLCA	**Paso Flores**	**24.61**	**182**		**P**	**13 13 09.1**	**+0.5**
PLCA	**Paso Flores**	**24.61**	**182**	P	**P**	**13 13 09.8**	**+1.2**
	comp=Z,4.6nm,0.8s,baz=359,slow=10,SNR=10						
	comp=Z,4.6nm,0.8s						
PLCA	**Paso Flores**	**24.61**	**182**	*e*P	**P**	**13 13 09.8**	**+1.2**
SDV	**Santo Domingo**	**24.79**	**358**	*e*P	**P**	**13 13 12.0**	**+1.4**
BAUV	**El Baul**	**24.88**	**4**		**P**	**13 13 10.8**	**-0.3**
DIAM	**Diamantina, MG**	**24.90**	**99**	*e*P	**P**	**13 13 12.6**	**+1.1**
MAN01	**Angra dos Reis**	**25.11**	**110**	*e*P	**P**	**13 13 15.0**	**+1.7**
TMAB	**Tom-Au,PA,Br**	**25.18**	**60**	*e*P	**P**	**13 13 14.7**	**+0.7**
VAS01	**Vassouras-RJ**	**25.48**	**108**	*e*P	**P**	**13 13 18.0**	**+1.4**
GUA01	**Guaratinga, BA**	**28.62**	**95**	*e*P	**P**	**13 13 44.1**	**-0.5**
CMC01	**Camacan, BA**	**28.98**	**93**	*e*P	**P**	**13 13 46.8**	**-1.0**
NBPB	**Pedra_Branca-C**	**31.26**	**74**	*e*P	**P**	**13 14 07.9**	**0.0**
NBCA	**Caruaru-PE**	**33.73**	**81**	*e*P	**P**	**13 14 29.0**	**-0.4**
RCBR	**Riachuelo**	**34.58**	**77**		**P**	**13 14 36.2**	**-0.5**
RCBR	**Riachuelo**	**34.58**	**77**	*e*P	**P**	**13 14 37.1**	**+0.4**
TXAR	**Lajitas Array**	**55.82**	**324**	P	**P**	**13 17 23.9**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=145,slow=9.3,SNR=7.5						
	comp=Z,0.6nm,0.6s						
ISCO	**Idaho Springs**	**64.90**	**330**	P	**P**	**13 18 25.3**	**+0.8**
PV15	**Paradox Valley**	**65.22**	**327**		**P**	**13 18 28.1**	**+1.5**
PV15				IAmb	IAmb	13 18 29.3	
	comp=Z,9.8nm,0.9s						
SNAA	**Sanae**	**67.64**	**162**	P	**P**	**13 18 42.6**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=270,slow=8.1,SNR=1.8						
	comp=Z,0.9nm,0.5s						
DBIC	**Dimbokro**	**67.95**	**76**	P	**P**	**13 18 42.5**	**-1.5**
DBIC	**Dimbokro**	**67.95**	**76**	P	**P**	**13 18 42.8**	**-1.2**
	comp=Z,10nm,0.6s,baz=248,slow=7.6,SNR=25						
	comp=Z,10nm,0.6s						
PD31	**Pinedale Array**	**69.08**	**330**		**P**	**13 18 51.0**	**+0.3**
PDAR	**Pinedale Array**	**69.08**	**330**	P	**P**	**13 18 51.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=114,slow=9.3,SNR=9.4						
	comp=Z,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**70.81**	**321**	P	**P**	**13 19 00.7**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=180,slow=5.9,SNR=3.6						
	comp=Z,0.6nm,0.8s						
MFID	**Camas Ranch**	**72.73**	**327**		**P**	**13 19 13.9**	**+1.4**
QSPA	**South Pole Qui**	**74.11**	**180**	P	**P**	**13 19 21.5**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=224,slow=2.0,SNR=2.3						
	comp=Z,1.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.24**	**72**	P	**P**	**13 19 31.5**	**-1.6**
TORD				IAmb	IAmb	13 19 33.6	
	comp=Z,14nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.24**	**72**	P	**P**	**13 19 32.0**	**-1.1**
	comp=Z,15nm,0.8s,baz=274,slow=5.7,SNR=78						
	comp=Z,15nm,0.8s						
VNDA	**Vanda**	**82.07**	**190**	P	**P**	**13 20 05.3**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=189,slow=4.6,SNR=3.4						
	comp=Z,0.4nm,0.7s						
TSUM	**Tsumeb**	**82.30**	**108**		**P**	**13 20 05.5**	**-0.5**
TSUM				IAmb	IAmb	13 20 08.0	
	comp=Z,9.7nm,1.1s	

TWK	Hsinying	0.27 316	⇓iP		Pg	13 11 45.3	+0.6
TWK			eS		Sg	13 11 49.7	+1.4
CHN4	Tsaushan	0.29 342	⇓eP		Pg	13 11 45.9	+0.8
CHN4			eS		Sb	13 11 50.8	-1.5
CHN3	Shinhua	0.30 271	eP		Pb	13 11 47.1	-0.2
SHHT	Tainan City	0.32 261	eP		Pb	13 11 47.8	+0.2
ELDTW	Lidau	0.32 69	P		Pb	13 11 47.1	-0.6
ELDTW			S		Sb	13 11 52.0	-1.3
SSD	Sandimen	0.33 189	eP		Pb	13 11 47.3	-0.5
SSD			eS		Sb	13 11 52.2	-1.2
TWM1	Shoushan	0.35 225	eP		Pb	13 11 48.8	+0.6
TSMG	Majia	0.37 187	eP		Pb	13 11 48.0	-0.5
TSMG			eS		Sg	13 11 53.0	+1.6
WCKO	Fanlu	0.37 348	eP		Pb	13 11 47.7	-0.8
WCKO			eS		Sb	13 11 53.9	-0.7
SSHA	Shanhua	0.38 280	eP		Pb	13 11 48.7	+0.1
SGLT	Jiouru	0.39 208	eP		Pb	13 11 49.2	+0.4
TWG	Pinlang	0.43 125	P		Pb	13 11 49.7	+0.2
TWG			eS		Sb	13 11 57.5	+1.2
LONT	Longtian	0.44 112	eP		Pb	13 11 49.7	0.0
LONT			eS		Sb	13 11 56.6	+0.1
TWGBT	Beinan	0.44 125	P		Pb	13 11 49.7	0.0
TWGBT	Beinan	0.44 125	⇓eP		Pb	13 11 49.7	0.0
TWGBT			eS		Sb	13 11 56.6	0.0
ALS	Alishan	0.45 14	⇑iP		Pb	13 11 49.0	-1.0
ALS			S		Sb	13 11 55.9	-1.3
MASBT	Mashibuluo	0.46 187	⇓iP		Pb	13 11 49.6	-0.4
MASBT			S		Sb	13 11 56.1	-1.1
ICHU	Yijhu	0.47 307	eP		Pb	13 11 50.0	-0.3
EHD	Haiduan	0.48 81	eP		Pb	13 11 50.0	-0.4
EHD			eS		Sb	13 11 56.8	-1.0
ECS	Chishang	0.49 87	eP		Pg	13 11 49.5	+0.7
ECS			eS		Sb	13 11 58.5	+0.6
CHY	Chiayi	0.49 330	eP		Pb	13 11 49.9	-0.6
CHY			eS		Sb	13 11 57.6	-0.4
CHN8	Yiju	0.52 302	eP		Pb	13 11 50.7	-0.3
ECL	Taimali	0.53 153	eP		Pb	13 11 50.9	-0.3
ECL			eS		Sb	13 11 58.4	-0.8
TSCK	Chigu Township	0.56 278	eP		Pb	13 11 51.5	-0.2
TSCK			eS		Sb	13 12 01.1	+1.0
FULB	Fuli	0.57 77	eP		Pb	13 11 52.3	+0.4
EDH	Donghe	0.57 100	eP		Pb	13 11 52.6	+0.7
WSL	Shuilin Townsh	0.62 317	eP		Pb	13 11 52.6	-0.1
WGK	Gukeng	0.62 349	eP		Pb	13 11 52.6	-0.2
WGK			eS		Sb	13 12 02.3	+0.4
CHKT	Chengkung	0.62 87	eP		Pb	13 11 53.1	+0.3
TWF1	Yuli	0.62 63	P		Pb	13 11 52.7	-0.1
TWF1			eS		Sb	13 12 01.1	-0.8
WDLH	Douliu	0.63 347	eP		Pb	13 11 52.8	-0.1
WDLH			eS		Sb	13 12 02.3	+0.3
WHYT	Xinyi Township	0.64 14	P		Pb	13 11 52.5	-0.6
WHYT			eS		Sb	13 12 02.1	-0.3
EYUL	Yuli	0.64 65	eP		Pb	13 11 52.8	-0.3
YULB	Yu-li	0.64 60	P		Pb	13 11 52.8	-0.4
YULB	Yu-li	0.64 60	P		Pb	13 11 52.7	-0.4
YULB			eS		Sb	13 12 01.3	-1.2
CHKH	Chenggong	0.66 80	eP		Pb	13 11 53.6	+0.2
CHKH			eS		Sn	13 12 04.8	-1.4
WTK	Tuku	0.67 336	eP		Pb	13 11 53.3	-0.4
WTK			eS		Sb	13 12 03.8	+0.6
SCZT	Fangliau	0.70 185	eP		Pb	13 11 53.9	-0.3
EAST	Anshuo	0.70 168	eP		Pb	13 11 54.3	+0.1
EAST			eS		Sb	13 12 04.0	-0.2
WSF	Szhu	0.71 323	eP		Pb	13 11 53.9	-0.3
WSF			eS		Sb	13 12 04.8	+0.5
EHY	Hungye	0.72 53	eP		Pb	13 11 54.1	-0.4
EHY			eS		Sb	13 12 04.3	-0.5
ECBN	Changbin	0.74 71	eP		Pb	13 11 55.8	-0.7
WJS	Zhushan	0.75 3	eP		Pb	13 11 54.9	0.0
WJS			eS		Sb	13 12 06.6	+1.2
SSLB	Suanglung	0.75 19	P		Pg	13 11 54.2	+0.3
SSLB	Suanglung	0.75 19	P		Pg	13 11 54.3	+0.4
SSLB			eS		Sb	13 12 05.5	-0.1
TAWH	Dawu Township	0.75 166	eP		Pb	13 11 55.0	0.0
HGSD	Ruisui	0.79 58	eP		Pb	13 11 56.2	+0.5
HGSD			eS		Sb	13 12 07.6	+0.9
VWDT	VWDT	0.79 31	P		Pb	13 11 55.3	-0.4
WNT	Mingjian	0.80 360	eP		Pb	13 11 56.0	+0.1
WNT			eS		Sb	13 12 07.5	+0.5
LDUT	Ludao	0.82 119	eP		Pb	13 11 56.3	+0.1
LDUT			eS		Sn	13 12 09.4	-0.8
SMLT	Sun Moon Lake	0.83 13	eP		Pb	13 11 55.9	-0.5
SMLT			eS		Sb	13 12 08.4	+0.5
WNT1	Nantou City	0.83 359	eP		Pg	13 11 55.6	+0.2
TYC	Yuchr	0.84 10	eP		Pb	13 11 56.7	+0.2
TYC			eS		Sn	13 12 09.5	-1.2
SLIU	Shizi	0.86 173	eP		Pn	13 11 57.5	-0.7
RLNB	Erlin	0.87 340	eP		Pg	13 11 56.3	+0.2
WARBT	Fenglin Townsh	0.91 45	eP		Pb	13 11 57.4	-0.2
WARBT			eS		Sb	13 12 10.7	+0.7
WWF	Wufeng	0.96 0	eP		Pb	13 11 58.8	+0.2
WDGT	Dungji	0.97 281	P		Pg	13 11 58.2	+0.2
DPDB	Guoxing	0.98 13	eP		Pb	13 11 58.7	-0.2
OWD	Renai	0.98 27	eP		Pb	13 11 58.7	-0.4
OWD			eS		Sb	13 12 13.0	+0.6
WUSB	Renai	0.99 23	P		Pg	13 11 58.5	-0.1
WUSB			eS		Sb	13 12 12.6	-0.2
WCS	Beigang Elemen	1.00 12	eP		Pb	13 11 59.4	+0.1
WCS			eS		Sn	13 12 14.1	-0.5
ESL	Shilin	1.00 43	P		Pb	13 11 59.5	+0.2
ESL			eS		Sn	13 12 14.2	-0.5
SHUL	Shoufeng	1.07 48	eP		Pn	13 12 01.0	-0.1
PHUB	P'eng-hu	1.12 293	eP		Pg	13 12 00.2	-0.7
PHUB			eS		Sg	13 12 15.3	-0.1
TWKBT	Hengchun	1.13 174	eP		Pb	13 12 03.5	+1.6
LXIB	Xiulin Townshi	1.15 35	eP		Pb	13 12 01.8	-0.2
ETM	Tongmen	1.15 40	eP		Pn	13 12 02.0	-0.3
ETM			eS		Sn	13 12 18.2	-0.2
VCHM	Qimei	1.17 277	eP		Pg	13 12 01.5	-0.3
VCHM			eS		Sb	13 12 17.7	+0.1
WHP	Taichung City	1.22 11	P		Pn	13 12 03.7	+0.4
WHP			eS		Sn	13 12 21.9	+1.7
TDCB	Techi	1.25 20	eP		Pg	13 12 03.3	-0.1
TWT	Tachien	1.26 21	eP		Pb	13 12 03.6	-0.1
TWT			eS		Sn	13 12 21.3	+0.1
TWQ1	Liyutan	1.27 3	eP		Pb	13 12 04.1	+0.2
FUSS	Fushou	1.27 23	eP		Pn	13 12 04.0	-0.1
NSY	Sanyi	1.34 3	eP		Pn	13 12 03.4	-1.4
ETLH	Xiulin Townshi	1.34 33	eP		Pg	13 12 05.2	0.0
NACB	Ninganchiao	1.37 37	P		Pg	13 12 06.4	+0.6
NACB	Ninganchiao	1.37 37	eP		Pg	13 12 05.6	-0.2
NNSB	Datong	1.49 25	eP		Pb	13 12 07.3	-0.4
NNSB			eS		Sg	13 12 28.2	+0.8
NNS	Nan Shan	1.50 25	eP		Pg	13 12 08.0	-0.2
NSTT	Nanjuang	1.58 10	eP		Pb	13 12 08.9	-0.2
LIOB	Emei	1.59 11	eP		Pb	13 12 09.2	-0.1
NFF	Wufeng Townshi	1.60 14	eP		Pb	13 12 09.1	-0.4
NFF			eS		Sg	13 12 31.4	+0.5
LATG	Datong	1.65 28	eP		Pb	13 12 10.3	0.0
ENA	Nanau	1.66 35	eP		Pb	13 12 10.6	+0.1
NSK	Sanguang	1.71 21	eP		Pb	13 12 11.0	-0.4
YHNB	Yeheng	1.71 21	P		Pb	13 12 11.6	+0.2
YHNB	Yeheng	1.71 21	eP		Pb	13 12 11.0	-0.4
YHNB			eS		Sb	13 12 33.0	-0.2
ENTT	Nioudou	1.75 27	eP		Pb	13 12 12.3	+0.2
NWLT	Wulai	1.85 23	eP		Pb	13 12 13.1	-0.7
FUSB	Fushanzhiwuyua	1.87 26	eP		Pb	13 12 14.5	+0.3

*IDC **10** 13:15:26.3±1.9, 49°.47S×111°.09E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=85.8km s-min=20.7km az=111.0, Southeast Indian Ridge*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.73	10	T	T	13 34 51.9	
	baz=179,slow=74,SNR=69						
H01W1	Cape Leeuwin H	14.74	10	T	T	13 34 52.1	
	baz=179,slow=74,SNR=81						
H01W3	Cape Leeuwin H	14.75	10	T	T	13 34 52.9	
	baz=179,slow=74,SNR=109						
ASAR	Alice Springs	31.37	43	P	P	13 21 48.4	-0.3
	0.7nm,0.6s,baz=211,slow=7.8,SNR=11						
	0.7nm,0.6s						
VNDA	Vanda	33.95	162	P	P	13 22 11.4	+0.6
	0.5nm,0.5s,baz=260,slow=18,SNR=6.4						
	0.5nm,0.5s						
WRA	Warramunga Arr	34.83	41	P	P	13 22 19.2	+0.3
	1.3nm,0.8s,baz=202,slow=11,SNR=6.1						
	1.3nm,0.8s						
QSPA	South Pole Qui	40.66	180	P	P	13 23 06.8	-1.2
	1.4nm,0.7s,baz=304,slow=2.4,SNR=8.9						
	1.4nm,0.7s						
SNAA	Sanae	50.56	202	P	P	13 24 26.8	+0.7
	1.5nm,1.0s,baz=140,slow=7.9,SNR=1.4						
	1.5nm,1.0s						
YKA	Yellowknife Ar	151.99	45	PKPbc	PKPbc	13 35 21.8	-0.2
	0.2nm,0.8s,baz=265,slow=1.9,SNR=3.8						

*WEL **10** 13:20:19.5±0.8, 37°.5S×17°.9E±°, h12km, M3.5/36, ML3.8/35, MLv3.5/36, Error ellipse: s-maj=8.6km s-min=6.1km az=95.1, confirmed*
*NOU **10** 13:20:20.9, 37°.32S×179°.04E, h21km, MLv3.9/13, Off E. Coast of N. Island, N.Z.*

ISC 10 13:20:18.6±2.9, 37°.30S±0°.07×179°.2E±0°.1, h18km±7km, n96, σ1°.23/110, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.79	250	P	Pg	13 20 33.7	-0.3
MXZ	Matakaoa Point	0.79	250	P	Pg	13 20 33.7	-0.3
MXZ				S	Sg	13 20 43.2	-1.2
WMGZ	Waiomatatini S	0.83	231	P	Pn	13 20 36.8	+1.3
WMGZ				S	Sn	13 20 48.7	+1.4
PKGZ	Pakihiroa	1.08	238	P	Pn	13 20 40.1	+1.3
PKGZ				S	Sn	13 20 53.8	+0.4
PUZ	Puketiti	1.09	225	P	Pg	13 20 40.5	+0.6
PUZ				S	Sn	13 20 55.2	+1.4
HAZ	Te Kaha	1.25	248	P	Pg	13 20 42.5	-0.1
HAZ				S	Sn	13 20 57.8	+0.4
TWGZ	Tauwhareparae	1.33	228	P	Pb	13 20 43.9	+0.9
RUGZ	Raukumara Rang	1.41	241	P	Pb	13 20 44.9	+0.5
CNGZ	Carnagh Statio	1.44	214	P	Pb	13 20 45.9	+1.0
TKGZ	Te Karaka	1.58	224	P	Pn	13 20 47.0	+1.3
WIZ	White Island	1.65	262	P	Pn	13 20 47.4	+0.8
MWZ	Matawai	1.70	232	P	Pn	13 20 48.6	+1.1
RIGZ	Rimuhau	1.82	219	P	Pn	13 20 50.5	+1.4
RAGZ	Rawiri	1.87	230	P	Pn	13 20 51.3	+1.5
WHRZ	Whale Island	1.88	252	P	Pn	13 20 51.6	+1.7
URZ	Urewera	1.94	240	P	Pn	13 20 51.5	+0.9
URZ	Urewera	1.94	240	S	Sn	13 21 14.2	-0.3
URZ	Urewera	1.94	240	P	Pn	13 20 51.9	+1.3
PRGZ	Paritu Road	1.94	213	P	Pn	13 20 52.1	+1.4
SNGZ	Shannon Statio	2.11	225	P	Pn	13 20 54.1	+1.1
KNZ	Kokohu	2.12	215	P	Pn	13 20 53.7	+0.6
MHGZ	Mahia Peninsul	2.13	209	P	Pn	13 20 54.6	+1.4
MARZ	Manawahe	2.15	251	P	Pn	13 20 54.1	+0.6
OPRZ	Ohinepanea	2.20	255	P	Pn	13 20 54.5	+0.2
RTZ	Ruatahuna	2.22	233	P	Pn	13 20 55.9	+1.3
MUGZ	Murupara	2.28	238	P	Pn	13 20 56.1	+0.8
RAHZ	Arahi	2.34	226	P	Pn	13 20 57.3	+1.1
TARZ	Mount Tarawera	2.36	246	P	Pn	13 20 57.7	+1.2
WHHZ	Waihua	2.38	221	P	Pn	13 20 57.6	+1.0
MYRZ	Mayor Island	2.39	270	P	Pn	13 20 57.1	+0.2
RRRZ	Republican Roa	2.39	244	P	Pn	13 20 57.6	+0.7
TGRZ	Tauranga	2.41	259	P	Pn	13 20 57.5	+0.4
OMRZ	Omania	2.41	250	P	Pn	13 20 58.0	+0.8
MTHZ	Maungataniwha	2.45	230	P	Pn	13 20 59.1	+1.5
HLRZ	Highlands Stat	2.48	247	P	Pn	13 20 59.1	+1.0
PRRZ	Plateau Road	2.55	241	P	Pn	13 20 59.9	+0.8
HSRZ	Hossack Road	2.58	246	P	Pn	13 21 00.9	+1.5
ALRZ	Allen Road	2.61	240	P	Pn	13 21 00.8	+0.8
NMHZ	Naumai	2.62	226	P	Pn	13 21 01.5	+1.3
ARHZ	Aropaoanui	2.64	221	P	Pn	13 21 01.3	+1.1
MRHZ	Matea Rd	2.70	235	P	Pn	13 21 01.9	+0.7
BKZ	Black Stump Fm	2.85	228	P	Pn	13 21 03.8	+0.5
BKZ	Black Stump Fm	2.85	228	S	Sn	13 21 36.6	-0.6
BKZ	Black Stump Fm	2.85	228	P	Pn	13 21 03.9	+0.6
KUZ	Kuaotunu	2.87	280	P	Pn	13 21 03.5	+0.1
KUZ	Kuaotunu	2.87	280	S	Sn	13 21 34.9	-2.6
KUZ	Kuaotunu	2.87	280	P	Pn	13 21 03.5	+0.1
CKHZ	Cape Kidnapper	2.90	215	P	Pn	13 21 04.2	+0.3
MCHZ	McNeill Hill	2.93	222	P	Pn	13 21 04.9	+0.7
KUTZ	Kaahu Road	2.95	245	P	Pn	13 21 05.5	+1.0
TOZ	Tahuroa Road	3.00	261	P	Pn	13 21 05.7	+0.4
KWHZ	Kaweka Forest	3.07	225	P	Pn	13 21 06.5	+0.3
KAHZ	Kahuranaki	3.10	216	P	Pn	13 21 06.9	+0.4
RITZ	Rihia Road	3.15	237	P	Pn	13 21 08.3	+1.0
RATZ	Rangitukua	3.15	239	P	Pn	13 21 08.5	+1.1
GRZ	Great Barrier	3.21	288	P	Pn	13 21 08.9	+0.8
KRHZ	Kereru	3.25	223	P	Pn	13 21 08.6	-0.1
KATZ	Kakaramea	3.26	238	P	Pn	13 21 09.9	+1.0
MKAZ	Moumakai	3.26	272	P	Pn	13 21 09.3	+0.5
PXZ	Pawanui	3.30	214	P	Pn	13 21 08.2	-1.1
PXZ				S	Sn	13 21 46.0	-2.1
TMVZ	Te Maari	3.32	236	P	Pn	13 21 10.6	+0.8
WIAZ	Waiheke Island	3.32	278	P	Pn	13 21 09.5	-0.2
ETVZ	East Tongariro	3.33	236	P	Pn	13 21 10.5	+0.6
KRVZ	Karewarewa	3.35	237	P	Pn	13 21 10.8	+0.6
WTVZ	West Tongariro	3.40	237	P	Pn	13 21 11.8	+1.0
SNVZ	South Ngauruho	3.40	235	P	Pn	13 21 11.6	+0.7
SNVZ				S	Sn	13 21 48.8	-2.1
NGZ	Ngauruhoe	3.42	236	P	Pn	13 21 11.9	+0.7
NGZ				S	Sn	13 21 49.4	-2.0
MOVZ	Moawhango	3.46	231	P	Pn	13 21 12.1	+0.6
MOVZ				S	Sn	13 21 49.5	-2.6
ETAZ	East Tamaki Re	3.46	274	P	Pn	13 21 11.7	+0.1
ETAZ				S	Sn	13 21 50.4	-1.7
MBAZ	Motutapu North	3.51	277	P	Pn	13 21 13.5	+1.2
WPHZ	Waipukurau	3.52	218	P	Pn	13 21 12.0	-0.5
WPHZ				S	Sn	13 21 52.5	-1.2
PNHZ	Pukenui	3.53	221	P	Pn	13 21 11.7	-0.9
PNHZ				S	Sn	13 21 52.7	-1.3
PRHZ	Porangahau	3.59	214	P	Pn	13 21 12.4	-1.0
PRHZ				S	Sn	13 21 52.1	-3.3
ABAZ	Army Bay	3.60	280	P	Pn	13 21 14.7	+1.3
ABAZ				S	Sn	13 21 54.0	-1.5
EPAZ	Eden Park BICE	3.62	275	P	Pn	13 21 15.4	+1.6
HBAZ	Herne Bay Bore	3.63	276	P	Pn	13 21 15.6	+1.6
HIZ	Hauiti	3.67	249	P	Pn	13 21 16.1	+1.7
HIZ	Hauiti	3.67	249	P	Pn	13 21 16.2	+1.7
AWAZ	Awhitu Peninsu	3.68	272	P	Pn	13 21 15.7	+1.2
WTAZ	Waiatarua	3.75	274	P	Pn	13 21 17.0	+1.5
TSZ	Takapari Road	3.76	222	P	Pn	13 21 14.7	-1.1
RVAZ	Riverhead Bore	3.77	277	P	Pn	13 21 15.9	+0.1
ANWZ	Angora Road	3.82	214	P	Pn	13 21 15.4	-1.1
DVHZ	Dannevirke	3.84	218	P	Pn	13 21 15.9	-0.9
VRZ	Vera Road	3.97	241	P	Pn	13 21 20.4	+1.8
BFZ	Birch Farm	4.10	214	P	Pn	13 21 19.0	-1.4
POWZ	Post Office Ro	4.11	220	P	Pn	13 21 20.5	0.0
PRWZ	Pori Road	4.13	217	P	Pn	13 21 20.1	-0.7
WAZ	Wanganui	4.14	232	P	Pn	13 21 22.2	+1.3
WCZ	Waipu Caves	4.17	288	P	Pn	13 21 21.6	+0.4
NEZ	North Egmont	4.50	243	P	Pn	13 21 30.0	+4.1
OUZ	Omahuta	5.01	293	P	Pn	13 21 33.5	+0.7
OUZ	Omahuta	5.01	293	P	Pn	13 21 33.6	+0.7
QRZ	Quartz Range	6.30	234	P	Pn	13 21 50.8	+0.3
KHZ	Kahutara	6.73	219	P	Pn	13 21 56.1	-0.4
CTZ	Chatham Island	7.16	155	P	Pn	13 22 04.9	+2.6

*IDC **10** 13:23:24.6±4.5, 22°.90S×69°.03E, h0km, mb3.7/7, mbtmp3.7/7, MS3.6/12, Error ellipse: s-maj=136.4km s-min=29.0km az=53.0*

ISC 10 13:23:27.1±4.4, 22°.95±0°.5×69°.1E±0°.7, h14km, n27, σ0°.49/7, mb3.8/7, MS3.5/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	15.50	13	T	T	13 42 37.4	
	baz=191,slow=76,SNR=61						
H08S2	Diego Garcia H	15.50	13	T	T	13 42 38.3	
	baz=191,slow=76,SNR=52						
H08S3	Diego Garcia H	15.52	13	T	T	13 42 42.5	
	baz=191,slow=76,SNR=67						
H04N2	CROZET ISLANDS	27.12	207	T	T	13 58 00.0	
	baz=37,slow=75,SNR=136						
H04N1	CROZET ISLANDS	27.13	207	T	T	13 58 02.8	
	baz=37,slow=75,SNR=126						
H04N3	CROZET ISLANDS	27.14	207	T	T	13 58 02.5	
	baz=37,slow=75,SNR=108						
PSI	Prapat	38.72	53	LR	LR	13 42 52.6	
	comp=Z,64nm,18.9s,baz=200,slow=30						
LSZ	Lusaka	39.28	274	LR	LR	13 43 21.1	
	comp=Z,75nm,21.4s,baz=149,slow=30						
H01W2	Cape Leeuwin H	40.91	117	T	T	14 14 33.7	
	baz=274						
H01W3	Cape Leeuwin H	40.91	117	T	T	14 14 40.0	
	baz=274						
H01W1	Cape Leeuwin H	40.92	117	T	T	14 14 38.7	
	baz=274						
NWAO	Narrogin (SRO)	43.39	114	LR	LR	13 45 26.8	
	comp=Z,55nm,19.7s,baz=350,slow=30						
SUR	Sutherland	43.49	247	LR	LR	13 47 45.9	
	comp=Z,88nm,21.5s,baz=148,slow=34						
TSUM	Tsumeb	48.01	264	LR	LR	13 52 02.9	
	comp=Z,86nm,18.0s,baz=154,slow=36						
BRDH	Bariadhala	50.33	27	LR	LR	13 50 49.9	
	comp=Z,62nm,20.9s,baz=174,slow=33						
CMAR	Chiang Mai Arr	50.40	38	P	P	13 32 24.3	+0.1
	0.3nm,0.3s,baz=208,slow=5.2,SNR=1.5						
CMAR				LR	LR	13 52 26.9	
	comp=Z,32nm,18.1s,baz=205,slow=34						
	0.3nm,0.3s						
KAPI	Kappang	51.98	78	LR	LR	13 55 12.3	
	comp=Z,21nm,18.1s,baz=266,slow=37						
ASAR	Alice Springs	59.06	105	P	P	13 33 27.3	+0.1
	0.8nm,0.7s,baz=256,slow=6.4,SNR=12						
	0.8nm,0.7s						
WRA	Warramunga Arr	60.38	101	P	P	13 33 36.4	0.0
	1.1nm,0.7s,baz=254,slow=6.7,SNR=7.3						
	1.1nm,0.7s						
AAK	Ala-Archa	65.38	4	LR	LR	13 59 49.9	
	comp=Z,37nm,19.2s,baz=200,slow=33						
MKAR	Makanchi Array	70.37	10	P	P	13 34 40.4	0.0
	0.6nm,0.7s,baz=197,slow=6.2,SNR=9.0						
	0.6nm,0.7s						
KURBB	Kurchatov Arra	73.66	6	P	P	13 35 00.7	+0.8
	0.2nm,0.5s,baz=204,slow=6.6,SNR=4.6						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	77.71	9	P	P	13 35 22.6	-0.5
	0.7nm,0.5s,baz=216,slow=7.1,SNR=4.6						
	0.7nm,0.5s						
SONM	Songino Array	77.97	25	P	P	13 35 24.5	-0.3
	0.3nm,0.7s,baz=219,slow=6.7,SNR=1.2						
	0.3nm,0.7s						
JNU	Nakatsue	81.06	48	LR	LR	14 12 03.5	
	comp=Z,52nm,18.1s,baz=310,slow=36						
KIRV	Kirov	82.79	350	LR	LR	14 10 44.2	
	comp=Z,97nm,20.4s,baz=201,slow=34						
MJAR	Matsushiro Arr	87.97	49	LR	LR	14 16 39.0	
	comp=Z,16nm,18.1s,baz=264,slow=36						

*NNC **10** 13:24:57.3±0.5, 50°.24N×79°.37E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=9.7km s-min=2.6km az=43.0, Suspected Mining explosion.*
*IDC **10** 13:24:59.3±1.0, 50°.07N×78°.77E, h0km, mbtmp2.3/2, ML1.8/2, Error ellipse: s-maj=14.1km s-min=6.2km az=64.0*

ISC 10 13:24:57.4±1.1, 50°.48N±0°.06×79°.42E±0°.05, h0km, n16, σ0°.69/27, 9C-15D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR14	Kurchatov Arra	0.55	285	⇓P	Pb	13 25 09.7	-0.3
KUR14				⇓S	Sb	13 25 19.0	+0.7
KURK	Kurchatov	0.57	295	⇓P	Pb	13 25 10.5	+0.3
KURK	5.5nm,0.8s			⇑S	Sb	13 25 20.2	+1.3
	7.0nm,0.7s						
KUR15	Kurchatov Arra	0.57	285	⇑P	Pb	13 25 10.0	-0.3
KUR15				⇓S	Sb	13 25 19.6	+0.7
KUR06	Kurchatov Arra	0.59	283	⇓P	Pb	13 25 09.9	-0.7
KUR06				⇑S	Sb	13 25 19.3	-0.2
KUR07	Kurchatov Arra	0.59	281	⇓P	Pb	13 25 09.7	-1.0
KUR07				⇑S	Sb	13 25 18.9	-0.6
KURBB	Kurchatov Arra	0.59	285	Pg	Pb	13 25 10.2	-0.4
KURBB	0.5nm,0.3s,baz=167,slow=18,SNR=28			Lg	Lg	13 25 19.0	
	0.9nm,0.3s,baz=160,slow=33,SNR=15						
KURBB	Kurchatov Arra	0.59	285	⇓P	Pb	13 25 09.8	-0.8
KURBB	6.2nm,0.5s			⇓S	Sb	13 25 19.7	+0.1
	39nm,0.6s						
KUR05	Kurchatov Arra	0.59	287	⇓P	Pb	13 25 10.5	-0.2
KUR05				⇓S	Sb	13 25 20.0	+0.4
KUR04	Kurchatov Arra	0.59	289	⇓P	Pb	13 25 10.8	+0.2
KUR04				⇑S	Sb	13 25 20.3	+0.7
KUR16	Kurchatov Arra	0.61	285	⇑P	Pb	13 25 10.0	-1.0
KUR16				⇓S	Sb	13 25 19.6	-0.5
KUR17	Kurchatov Arra	0.63	285	⇑P	Pb	13 25 10.7	-0.6
KUR17				⇓S	Sb	13 25 20.2	-0.5
MAKZ	Makanchi	4.04	154	⇑Pg	Pb	13 26 09.2	-0.3
MAKZ	2.2nm,0.9s			⇓Lg	Lg	13 26 58.4	
	3.0nm,0.6s						
MK31	Makanchi Array	4.14	152	⇑Pg	Pb	13 26 12.2	+0.9
MK31	0.5nm,0.5s,baz=322,slow=13,SNR=11

ALRZ	**Allen Road**	**1.14**	**72**	P	**Pn**	**13 42 49.6**	**+1.3**
MRHZ	**Matea Rd**	**1.14**	**86**	P	**Pn**	**13 42 49.4**	**+1.0**
MRHZ				S	**S**	**13 43 13.2**	**-3.0**
HRRZ	**Handcock Road**	**1.16**	**63**	P	**Pn**	**13 42 49.9**	**+1.3**
HSRZ	**Hossack Road**	**1.17**	**59**	P	**Pn**	**13 42 50.0**	**+1.4**
PRRZ	**Plateau Road**	**1.20**	**70**	P	**Pn**	**13 42 49.9**	**+1.2**
BKZ	**Black Stump Fm**	**1.22**	**102**	P	**Pn**	**13 42 50.1**	**+1.2**
BKZ	**Black Stump Fm**	**1.22**	**102**	S	**S**	**13 43 15.3**	**-1.8**
BKZ	**Black Stump Fm**	**1.22**	**102**	P	**Pn**	**13 42 50.3**	**+1.4**
BKZ				S	**S**	**13 43 14.9**	**-2.2**
KWHZ	**Kaweka Forest**	**1.24**	**114**	P	**Pn**	**13 42 51.0**	**+1.9**
KWHZ				S	**S**	**13 43 16.0**	**-1.5**
TOZ	**Tahuroa Road**	**1.26**	**20**	P	**Pn**	**13 42 50.5**	**+1.4**
KRHZ	**Kereru**	**1.31**	**124**	P	**Pn**	**13 42 51.3**	**+1.8**
KRHZ				S	**S**	**13 43 16.8**	**-1.4**
KMRZ	**Kaimai**	**1.32**	**36**	P	**Pn**	**13 42 51.0**	**+1.4**
RRRZ	**Republican Roa**	**1.35**	**65**	P	**Pn**	**13 42 50.2**	**+0.5**
KARZ	**Kaharoa**	**1.35**	**49**	P	**Pn**	**13 42 51.0**	**+1.3**
TSZ	**Takapari Road**	**1.38**	**146**	P	**Pn**	**13 42 52.0**	**+2.0**
PNHZ	**Pukenui**	**1.38**	**136**	P	**Pn**	**13 42 51.8**	**+1.9**
MCHZ	**McNeill Hill**	**1.45**	**112**	P	**Pn**	**13 42 52.9**	**+2.5**
NMHZ	**Naumai**	**1.45**	**98**	P	**Pn**	**13 42 52.9**	**+2.4**
MTHZ	**Maungataniwha**	**1.47**	**88**	P	**Pn**	**13 42 52.0**	**+1.4**
MUGZ	**Murupara**	**1.48**	**73**	P	**Pn**	**13 42 51.5**	**+0.8**
RTZ	**Ruatahuna**	**1.61**	**80**	P	**Pn**	**13 42 52.9**	**+1.2**
WPHZ	**Waipukurau**	**1.62**	**136**	P	**Pn**	**13 42 53.8**	**+2.1**
ARHZ	**Aropaoanui**	**1.62**	**103**	P	**Pn**	**13 42 53.9**	**+2.2**
OPRZ	**Ohinepanea**	**1.65**	**50**	P	**Pn**	**13 42 53.1**	**+1.1**
RAHZ	**Arahi**	**1.66**	**91**	P	**Pn**	**13 42 54.0**	**+1.9**
KAHZ	**Kahuranaki**	**1.72**	**121**	P	**Pn**	**13 42 55.0**	**+2.3**
CKHZ	**Cape Kidnapper**	**1.80**	**115**	P	**Pn**	**13 42 55.6**	**+2.4**
MRZ	**Mangatainoka R**	**1.81**	**165**	P	**Pn**	**13 42 54.8**	**+1.6**
URZ	**Urewera**	**1.81**	**69**	P	**Pn**	**13 42 53.9**	**+0.6**
URZ	**Urewera**	**1.81**	**69**	P	**Pn**	**13 42 54.0**	**+0.7**
PRWZ	**Pori Road**	**1.81**	**155**	P	**Pn**	**13 42 55.4**	**+2.1**
MKAZ	**Moumakai**	**1.82**	**5**	P	**Pn**	**13 42 55.1**	**+1.6**
PXZ	**Pawanui**	**1.84**	**128**	P	**Pn**	**13 42 55.6**	**+2.0**
SNGZ	**Shannon Statio**	**1.86**	**87**	P	**Pn**	**13 42 55.5**	**+1.7**
AWAZ	**Awhitu Peninsu**	**1.87**	**352**	P	**Pn**	**13 42 55.6**	**+1.7**
PRHZ	**Porangahau**	**1.87**	**137**	P	**Pn**	**13 42 55.9**	**+2.1**
OGWZ	**Otaki Gorge**	**1.91**	**175**	P	**Pn**	**13 42 55.9**	**+1.8**
ANWZ	**Angora Road**	**1.93**	**143**	P	**Pn**	**13 42 56.5**	**+2.1**
ANWZ				S	**S**	**13 43 26.2**	**-0.9**
KIW	**Kapiti Island**	**1.94**	**181**	P	**Pn**	**13 42 56.0**	**+1.5**
BFZ	**Birch Farm**	**2.02**	**151**	P	**S**	**13 43 25.9**	**-2.6**
BFZ	**Birch Farm**	**2.02**	**151**	P	**Pn**	**13 42 56.5**	**+1.3**
BFZ	**Birch Farm**	**2.02**	**151**	P	**Pn**	**13 42 56.8**	**+1.7**
HOWZ	**Holdsworth Sta**	**2.02**	**168**	P	**Pn**	**13 42 56.6**	**+1.4**
DUWZ	**D'Urville Isla**	**2.05**	**203**	P	**Pn**	**13 42 56.9**	**+1.5**
MWZ	**Matawai**	**2.09**	**75**	P	**Pn**	**13 42 57.0**	**+1.0**
KNZ	**Kokohu**	**2.12**	**94**	P	**Pn**	**13 42 57.8**	**+1.7**
CAW	**Cannon Point**	**2.19**	**178**	P	**Pn**	**13 42 58.3**	**+1.5**
RIGZ	**Rimuhau**	**2.20**	**85**	P	**Pn**	**13 42 58.6**	**+1.7**
KUZ	**Kuaotunu**	**2.25**	**16**	P	**Pn**	**13 42 58.9**	**+1.5**
PRGZ	**Paritu Road**	**2.28**	**91**	P	**Pn**	**13 42 59.5**	**+1.8**
MHGZ	**Mahia Peninsul**	**2.31**	**97**	P	**Pn**	**13 42 60.0**	**+2.1**
TKGZ	**Te Karaka**	**2.31**	**79**	P	**Pn**	**13 42 59.6**	**+1.7**
RUGZ	**Raukumara Rang**	**2.33**	**67**	P	**Pn**	**13 42 58.5**	**+0.2**
TCW	**Tory Channel**	**2.35**	**193**	P	**Pn**	**13 42 60.0**	**+1.7**
WEL	**Wellington**	**2.37**	**184**	P	**Pn**	**13 42 59.9**	**+1.5**
PAWZ	**Paruwai Farm**	**2.49**	**172**	P	**Pn**	**13 43 01.0**	**+1.3**
TRWZ	**Traveller**	**2.54**	**168**	P	**Pn**	**13 43 01.6**	**+1.4**
TKNZ	**Takaka Hill**	**2.61**	**215**	P	**Pn**	**13 43 01.8**	**+0.8**
QRZ	**Quartz Range**	**2.67**	**224**	P	**Pn**	**13 43 02.2**	**+0.6**
MXZ	**Matakaoa Point**	**2.96**	**64**	P	**Pn**	**13 43 07.4**	**+2.7**
KHZ	**Kahutara**	**3.66**	**197**	P	**Pn**	**13 43 13.6**	**+1.2**
KHZ	**Kahutara**	**3.66**	**197**	S	**S**	**13 43 57.5**	**-2.2**
RPZ	**Rata Peaks**	**5.62**	**210**	P	**Pn**	**13 43 36.7**	**+0.5**
ODZ	**Otahua Downs**	**6.92**	**206**	P	**Pn**	**13 43 53.4**	**+1.1**

*IDC **10** 13:48:28.9±3.8, 17°.00S×177°.92W, h645km±15km, mb3.2/4, mbtmp4.2/6, Error ellipse: s-maj=83.6km s-min=28.6km az=26.0*

ISC 10 13:48:28.5±3.4, 16°.8S±0°.6×177°.9W±0°.3, h650km, n6, σ1§39/8, mb3.9/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.97**	**256**	P	**P**	**13 49 55.6**	**-1.9**
	15nm,0.5s,baz=129,slow=6.7,SNR=24						
MSVF				S	**S**	**13 51 10.9**	**+0.8**
	8.9nm,1.1s,baz=1.6,slow=18,SNR=1.8						
DZM	**Mont Dzumac**	**15.66**	**248**	P	**P**	**13 51 40.9**	**-0.1**
	3.0nm,0.6s,baz=70,slow=18,SNR=2.1						
STKA	**Stephens Creek**	**39.59**	**240**	P	**P**	**13 55 07.4**	**+0.6**
	3.9nm,0.8s,baz=94,slow=13,SNR=5.9						
	3.9nm,0.8s						
WRA	**Warramunga Arr**	**45.31**	**258**	P	**P**	**13 55 51.3**	**-0.1**
	2.3nm,0.6s,baz=95,slow=7.1,SNR=32						
	2.3nm,0.6s						
ASAR	**Alice Springs**	**45.56**	**253**	P	**P**	**13 55 53.0**	**-0.2**
	3.2nm,0.4s,baz=95,slow=6.9,SNR=46						
ASAR				PcP	**PcP**	**13 57 19.7**	**+2.2**
	0.2nm,0.4s,baz=94,slow=3.5,SNR=2.0						
	3.2nm,0.4s						
QSPA	**South Pole Qui**	**73.27**	**180**	P	**P**	**13 58 55.4**	**-0.3**
	0.9nm,0.6s,baz=22,slow=5.4,SNR=14						
	0.9nm,0.6s						

*TIR **10** 13:49:24.9, 40°.20N×20°.68E, h4km±1km, Md2.4/1, Ml2.7/9*
*ATH **10** 13:49:24.9, 40°.18N×20°.70E, h6km±2km, ML2.6/11,*
Manual Solution by K.Orfanogiannaki First location: 2019/04/10 13:50:26, This location: 2019/04/10 14:19:52
ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 4 km
*THE **10** 13:49:25.9, 40°.21N×20°.72E, h0km±2km, ML2.4/9, Error ellipse: s-maj=3.0km s-min=0.8km az=315.0*
*SKO **10** 13:49:27.1, 40°.11N×20°.91E, h18km, ML2.4*

ISC 10 13:49:25.2±1.0, 40°.18N±0°.02×20°.69E±0°.02, h3km±8km, n44, σ0§96/73, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.07**	**247**	⇓Pg	**Pg**	**13 49 26.8**	**0.0**
LSK				Sg	**Sg**	**13 49 28.4**	**+0.5**
LSK				AML	AML	13 49 31.5	
	218nm,0.5s						
PENT	**Pentalofos**	**0.34**	**87**	P	**Pg**	**13 49 31.8**	**-0.1**
PENT				S	**Sg**	**13 49 36.9**	**+0.5**
PENT	**Pentalofos**	**0.34**	**87**	P	**Pg**	**13 49 31.8**	**-0.1**
PENT				S	**Sg**	**13 49 36.3**	**0.0**
NEST	**Nestorio**	**0.36**	**49**	P	**Pg**	**13 49 32.3**	**+0.1**
NEST				S	**Sg**	**13 49 37.5**	**+0.5**
	840nm,0.4s						
NEST	**Nestorio**	**0.36**	**49**	Pg	**Pg**	**13 49 32.2**	**-0.1**
NEST				Sg	**Sg**	**13 49 38.0**	**+1.1**
NEST				AML	AML	13 49 45.9	
	4.0nm,0.4s						
NEST	**Nestorio**	**0.36**	**49**	P	**Pg**	**13 49 32.2**	**-0.1**
NEST				S	**Sg**	**13 49 37.3**	**+0.3**
KBN	**Korca**	**0.45**	**9**	Pg	**Pg**	**13 49 33.5**	**-0.4**
KBN				Sg	**Sg**	**13 49 39.6**	**-0.1**
KBN				AML	AML	13 49 48.2	
	1.7nm,0.6s						
JAN	**Janina**	**0.54**	**167**	P	**Pg**	**13 49 34.9**	**-0.6**
JAN				S	**Sb**	**13 49 44.5**	**-0.9**
	2μm,0.3s						
JAN	**Janina**	**0.54**	**167**	P	**Pg**	**13 49 34.8**	**-0.7**
JAN				S	**Sg**	**13 49 43.0**	**+0.5**
SRN	**Sarande**	**0.61**	**241**	Pg	**Pg**	**13 49 36.6**	**-0.3**
SRN				Sg	**Sb**	**13 49 47.4**	**-0.1**
SRN				AML	AML	13 49 53.1	
	0.8nm,0.6s						
SRN				AMd		13 50 12.0	
IGT	**Igoumenitsa**	**0.70**	**203**	P	**Pg**	**13 49 38.6**	**-0.1**
IGT				S	**Sb**	**13 49 50.9**	**+0.7**
	392nm,0.6s						
IGT	**Igoumenitsa**	**0.70**	**203**	Pg	**Pb**	**13 49 39.8**	**-0.3**
IGT				Sg	**Sb**	**13 49 50.5**	**+0.4**
IGT				AML	AML	13 49 55.2	
	1.0nm,0.5s						
IGT	**Igoumenitsa**	**0.70**	**203**	*i* Pg	**Pb**	**13 49 39.9**	**-0.3**
IGT				*i* Sg	**Sn**	**13 49 52.4**	**-1.0**
IGT	**Igoumenitsa**	**0.70**	**203**	P	**Pg**	**13 49 38.5**	**-0.2**
IGT				S	**Sg**	**13 49 47.8**	**0.0**
FNA	**Florina**	**0.80**	**41**	P	**Pg**	**13 49 39.8**	**-0.8**
FNA				S	**Sg**	**13 49 51.3**	**+0.4**
	352nm,0.6s						
FNA	**Florina**	**0.80**	**41**	Pg	**Pg**	**13 49 40.4**	**-0.2**
FNA				Sg	**Sb**	**13 49 52.8**	**-0.3**
FNA				AML	AML	13 50 00.2	
	1.2nm,0.4s						
FNA	**Florina**	**0.80**	**41**	*i* Pg	**Pg**	**13 49 39.9**	**-0.6**
FNA				*i* Sg	**Sb**	**13 49 52.7**	**-0.3**
FNA	**Florina**	**0.80**	**41**	P	**Pg**	**13 49 39.6**	**-1.0**
FNA				S	**Sg**	**13 49 51.0**	**+0.1**
KEK	**Kerkira**	**0.83**	**236**	P	**Pb**	**13 49 42.1**	**-0.2**
KEK				S	**Sn**	**13 49 55.6**	**-0.9**
	222nm,0.4s						
KEK	**Kerkira**	**0.83**	**236**	P	**Pb**	**13 49 41.5**	**-0.7**
OHR	**Ohrid**	**0.94**	**5**	*i* Pg	**Pn**	**13 49 45.1**	**-0.2**
OHR				*i* Sg	**Sn**	**13 49 59.6**	**+0.4**
OHR				*e*Lg	Lg	13 50 00.9	
	comp=N,49nm,0.6s						
TETR	**Tetrakomo, Epi**	**0.95**	**151**	P	**Pg**	**13 49 42.6**	**-0.7**
TETR				S	**Sg**	**13 49 55.8**	**+0.1**
THL	**Klokotos Trika**	**1.19**	**121**	P	**Pg**	**13 49 47.6**	**-0.4**
THL				S	**Sn**	**13 50 05.7**	**+0.3**
	comp=N,120nm,0.5s						
THL	**Klokotos Trika**	**1.19**	**121**	P	**Pg**	**13 49 47.5**	**-0.5**
THL				S	**Sb**	**13 50 03.2**	**-1.0**
TIR	**Tirane**	**1.32**	**332**	Pn	**Pg**	**13 49 50.8**	**+0.1**
TIR				Sn	**Sn**	**13 50 09.5**	**+0.7**
TIR				AML	AML	13 50 21.5	
	comp=N,0.3nm,0.5s						
LIT	**Litokhoron**	**1.38**	**93**	P	**Pn**	**13 49 50.7**	**-0.7**
LIT				S	**Sn**	**13 50 11.4**	**+1.2**
	comp=N,128nm,0.4s						
LIT	**Litokhoron**	**1.38**	**93**	*i* Pg	**Pg**	**13 49 51.6**	**-0.1**
LIT				*i* Sg	**Sn**	**13 50 14.9**	**+4.7**
LIT	**Litokhoron**	**1.38**	**93**	P	**Pn**	**13 49 50.1**	**-1.3**
LKD2	**Lefkada island**	**1.39**	**181**	Pn	**Pg**	**13 49 52.2**	**+0.4**
LKD2				AML	AML	13 50 21.6	
	comp=N,1.1nm,0.6s						
LKD2	**Lefkada island**	**1.39**	**181**	P	**Pg**	**13 49 51.9**	**0.0**
NYDR	**Nydri-Lefkada**	**1.46**	**180**	P	**Pg**	**13 49 53.9**	**+0.6**
NYDR				S	**Sg**	**13 50 14.6**	**+2.4**
	comp=N,165nm,0.5s						
NYDR	**Nydri-Lefkada**	**1.46**	**180**	P	**Pg**	**13 49 53.2**	**-0.1**
PHP	**Peshkopia**	**1.52**	**353**	Pn	**Pg**	**13 49 54.3**	**0.0**
PHP				Sn	**Sg**	**13 50 16.6**	**+2.6**
PHP				AML	AML	13 50 28.0	
	comp=N,0.5nm,0.8s						
GRG	**Griva**	**1.52**	**59**	*i* Pg	**Pg**	**13 49 53.7**	**-0.6**
EVR	**Evrytania**	**1.53**	**145**	P	**Pg**	**13 49 54.5**	**0.0**
EVR				S	**Sg**	**13 50 16.9**	**+2.6**
	comp=N,132nm,0.6s						
EVR	**Evrytania**	**1.53**	**145**	P	**Pb**	**13 49 53.6**	**-0.6**
PVO	**Paravola**	**1.69**	**157**	P	**Pb**	**13 49 56.7**	**-0.3**
SCTE	**Santa Cesarea**	**1.71**	**267**	Pn	**Pg**	**13 49 57.3**	**-0.6**
ANX	**Ano Chora**	**1.85**	**149**	P	**Pb**	**13 49 58.4**	**-1.3**
ANX	**Ano Chora**	**1.85**	**149**	P	**Pb**	**13 49 58.4**	**-1.3**
HORT	**Hortiatis**	**1.89**	**76**	P	**Pn**	**13 49 58.5**	**+0.1**
PUK	**Puka**	**1.96**	**342**	Pn	**Pg**	**13 50 02.1**	**-0.6**
XOR	**Xorichti**	**2.09**	**112**	P	**Pn**	**13 50 01.0**	**-0.2**
XOR	**Xorichti**	**2.09**	**112**	P	**Pn**	**13 50 01.1**	**-0.1**

*IDC **10** 13:51:59.7±0.9, 35°.32S×53°.81E, h0km, mb3.8/5, mbtmp3.8/5, MS3.2/3, Error ellipse: s-maj=38.6km s-min=27.1km az=25.0*

ISC 10 13:52:02.6±0.9, 35°.3S±0°.2×53°.8E±0°.2, h17km, n15, σ1§03/8, mb3.8/5, MS3.1/3, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**10.93**	**187**	T	T	14 06 33.5	
	baz=11,slow=76,SNR=194						
H04N2	**CROZET ISLANDS**	**10.93**	**187**	T	T	14 06 14.1	
	baz=11,slow=76,SNR=212						
H04N3	**CROZET ISLANDS**	**10.95**	**187**	T	T	14 06 07.8	
	baz=11,slow=76,SNR=250						
LBTB	**Lobatse**	**26.37**	**285**	P	**P**	**13 57 37.8**	**-0.4**
	1.6nm,0.8s,baz=112,slow=11,SNR=2.1						
LBTB				LR	LR	14 06 14.2	
	comp=Z,42nm,19.9s,baz=160,slow=32						
	1.6nm,0.8s						
LSZ	**Lusaka**	**30.41**	**305**	LR	LR	14 07 23.2	
	comp=Z,44nm,20.2s,baz=172,slow=30						
H08S1	**Diego Garcia H**	**32.44**	**36**	T	T	14 32 23.5	
	baz=209,slow=75,SNR=19						
H08S2	**Diego Garcia H**	**32.46**	**36**	T	T	14 32 23.8	
	baz=209,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**32.46**	**36**	T	T	14 32 21.2	
	baz=209,slow=75,SNR=17						
QSPA	**South Pole Qui**	**54.86**	**180**	P	**P**	**14 01 32.1**	**+0.4**
	2.0nm,0.9s,baz=233,slow=15,SNR=3.1						
	2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**68.51**	**46**	P	**P**	**14 03 05.2**	**+1.0**
	0.2nm,0.3s,baz=220,slow=6.3,SNR=2.1						
	0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**68.95**	**305**	P	**P**	**14 03 07.9**	**+1.0**
	170nm,0.3s,baz=126,slow=4.5,SNR=1.7						
ASAR	**Alice Springs**	**68.99**	**105**	P	**P**	**14 03 07.0**	**-0.3**
ASAR				LR	LR	14 29 07.8	
	comp=Z,21nm,18.4s,baz=173,slow=32						
	0.3nm,0.6s						
AKASG	**Malin Array Be**	**88.36**	**345**	P	**P**	**14 04 52.6**	**-0.3**
	0.2nm,0.3s,baz=188,slow=5.6,SNR=2.4						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**147.99**	**17**	PKPbc	**PKPbc**	**14 11 44.9**	**-1.2**
	0.7nm,0.9s,baz=310,slow=2.6,SNR=6.3						
YKA	**Yellowknife Ar**	**151.85**	**349**	PKPbc	**PKPbc**	**14 11 54.4**	**-1.1**
	0.2nm,0.8s,baz=31,slow=2.3,SNR=4.0						

*NEIC **10** 14:01:17.4±1.4, 5°.87S±0°.07×145°.92E±0°.09, h110km±7km, mb4.5/48, Error ellipse: s-maj=12.6km s-min=9.7km az=83.0*
*IDC **10** 14:01:17.0±0.6, 5°.84S×146°.11E, h111km±5km, mb3.9/18, mbtmp4.3/21, MS3.5/4, Error ellipse: s-maj=15.8km s-min=8.0km az=74.0*

ISC 10 14:01:16.5±0.4, 5°.91S±0°.05×145°.93E±0°.06, h100km, n110, σ1§57/119, mb4.5/40, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.68**	**161**		**Pn**	**14 02 12.7**	**+1.3**
PMG	**Port Moresby**	**3.68**	**161**	P	**Pn**	**14 02 13.0**	**+1.6**
	149nm,0.3s,baz=4.3,slow=6.1,SNR=230						
PMG				S	**Sn**	**14 02 54.3**	**+0.5**
	662nm,0.5s,baz=334,slow=23,SNR=26						
PMG				LR	LR	14 03 34.8	
	comp=Z,174nm,21.4s,baz=64,slow=37						
MANU	**Manus Island**	**4.10**	**21**		**Pn**	**14 02 17.8**	**+0.7**
JAY	**Jayapura**	**6.21**	**303**	P	**Pn**	**14 02 46.1**	**+0.5**
	4.5nm,0.8s,baz=38,slow=21,SNR=1.8						
JAY				S	**Sn**	**14 03 59.1**	**+3.8**
	5.5nm,0.5s,baz=172,slow=18,SNR=1.3						
RABL	**Rabaul**	**6.44**	**75**	Pn	**Pn**	**14 02 51.2**	**+2.4**
COEN	**Coen**	**8.44**	**199**		**Pn**	**14 03 18.5**	**+2.5**
HNR	**Honiara**	**14.33**	**105**	P	**Pn**	**14 04 32.9**	**-1.8**
	53nm,0.9s,baz=284,slow=12,SNR=1.0						
MTN	**Manton Dam**	**16.13**	**244**		**Pn**	**14 04 57.9**	**+0.4**
MTN				IAmb	IAmb	14 05 01.6	
	comp=Z,14nm,0.6s						
WB0	**Warramunga Arr**	**17.76**	**218**		**P**	**14 05 15.9**	**-0.9**
WRA	**Warramunga Arr**	**17.93**	**218**		**P**	**14 05 19.2**	**+0.6**
WRA	**Warramunga Arr**	**17.93**	**218**	P	**P**	**14 05 19.4**	**+0.8**
	comp=Z,4.8nm,0.8s,baz=40,slow=12,SNR=13						
WRA				S	**S**	**14 08 32.4**	**-7.0**
	comp=Z,1.0nm,0.8s,baz=33,slow=24,SNR=1.2						
WRA				ScP	**ScP**	**14 13 15.8**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=43,slow=2.4,SNR=3.1						
KNRA	**Kununurra**	**19.43**	**239**	P	**P**	**14 05 35.6**	**+0.5**
KNRA				IAmb	IAmb	14 06 11.3	
	comp=Z,34nm,1.4s						
AS31	**Alice Springs**	**21.11**	**212**		**P**	**14 05 53.4**	**+0.2**
ASAR	**Alice Springs**	**21.11**	**212**		**P**	**14 05 53.1**	**-0.1**
ASAR	**Alice Springs**	**21.11**	**212**	P	**P**	**14 05 54.2**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=40,slow=9.5,SNR=16						
ASAR				S	**S**	**14 09 37.6**	**-5.0**
	comp=Z,0.6nm,0.6s,baz=38,slow=21,SNR=1.1						
ASAR				LR	LR	14 14 45.1	
	comp=Z,91nm,19.5s,baz=66,slow=38						
	comp=Z,3.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.21**	**237**	P	**P**	**14 06 15.6**	**+0.7**
	comp=Z,5.5nm,0.7s,baz=70,slow=11,SNR=3.5						
	comp=Z,5.5nm,0.7s						
MMRI	**Maumere**	**23.65**	**262**	P	**P**	**14 06 18.5**	**-0.5**
MMRI				IAmb	IAmb	14 06 23.7	
	comp=Z,12nm,0.5s						

DZM	**Mont Dzumac**	**25.52**	**131**	P	**P**	**14 06 35.2**	**-0.8**
DZM				IAmb	IAmb	14 06 57.6	
	comp=Z,26nm,1.5s						
TOLI2	**Tolitoli**	**26.06**	**285**		**P**	**14 06 40.2**	**-0.7**
KAPI	**Kappang**	**26.07**	**271**	P	**P**	**14 06 42.8**	**+1.8**
	comp=Z,6.1nm,0.4s,baz=68,slow=10,SNR=3.6						
	comp=Z,6.1nm,0.4s						
STKA	**Stephens Creek**	**26.15**	**188**		**P**	**14 06 41.2**	**-0.2**
STKA	**Stephens Creek**	**26.15**	**188**	P	**P**	**14 06 41.6**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=358,slow=8.2,SNR=8.5						
	comp=Z,2.3nm,0.4s						
MSVF	**Nonsavu**	**33.50**	**113**	P	**P**	**14 07 47.4**	**+0.7**
OUZ	**Omahuta**	**38.73**	**143**	P	**P**	**14 08 33.1**	**+2.1**
JHJ	**Hachijo jima 2**	**39.25**	**352**	LR	LR	14 23 42.9	
	comp=Z,426nm,20.7s,baz=95,slow=34						
MJAR	**Matsushiro Arr**	**42.85**	**351**	P	**P**	**14 09 01.8**	**-3.0**
	comp=Z,3.9nm,1.1s,baz=135,slow=8.7,SNR=4.4						
	comp=Z,3.9nm,1.1s						
URZ	**Urewera**	**42.86**	**143**	P	**P**	**14 09 06.1**	**+1.2**
HAZ	**Te Kaha**	**42.94**	**142**	P	**P**	**14 09 07.6**	**+2.2**
RUGZ	**Raukumara Rang**	**43.01**	**142**	P	**P**	**14 09 07.8**	**+1.6**
MTHZ	**Maungataniwha**	**43.09**	**144**	P	**P**	**14 09 07.8**	**+1.0**
BKZ	**Black Stump Fm**	**43.09**	**145**	P	**P**	**14 09 08.1**	**+1.3**
BKZ	**Black Stump Fm**	**43.09**	**145**	P	**P**	**14 09 08.4**	**+1.5**
MWZ	**Matawai**	**43.15**	**143**	P	**P**	**14 09 09.3**	**+2.0**
KWHZ	**Kaweka Forest**	**43.23**	**145**	P	**P**	**14 09 10.1**	**+2.2**
TUWZ	**Tuamarina**	**43.30**	**149**	P	**P**	**14 09 09.5**	**+1.2**
TUWZ	**Tuamarina**	**43.30**	**149**	P	**P**	**14 09 09.9**	**+1.5**
TWGZ	**Tauwhareparae**	**43.33**	**142**	P	**P**	**14 09 11.0**	**+2.3**
SNGZ	**Shannon Statio**	**43.33**	**144**	P	**P**	**14 09 10.3**	**+1.6**
WMGZ	**Waiomatatini S**	**43.37**	**142**	P	**P**	**14 09 10.8**	**+1.8**
MCHZ	**McNeill Hill**	**43.40**	**145**	P	**P**	**14 09 10.8**	**+1.6**
TSZ	**Takapari Road**	**43.40**	**146**	P	**P**	**14 09 10.9**	**+1.6**
TKGZ	**Te Karaka**	**43.41**	**143**	P	**P**	**14 09 10.8**	**+1.5**
PUZ	**Puketiti**	**43.43**	**142**	P	**P**	**14 09 11.0**	**+1.5**
PNHZ	**Pukenui**	**43.43**	**146**	P	**P**	**14 09 11.1**	**+1.6**
RIGZ	**Rimuhau**	**43.53**	**143**	P	**P**	**14 09 11.5**	**+1.2**
MRZ	**Mangatainoka R**	**43.61**	**147**	P	**P**	**14 09 11.8**	**+1.0**
CNGZ	**Carnagh Statio**	**43.66**	**143**	P	**P**	**14 09 13.0**	**+1.7**
KAHZ	**Kahuranaki**	**43.74**	**145**	P	**P**	**14 09 13.1**	**+1.2**
HOWZ	**Holdsworth Sta**	**43.74**	**147**	P	**P**	**14 09 12.7**	**+0.7**
BFZ	**Birch Farm**	**43.99**	**146**	P	**P**	**14 09 14.3**	**+0.4**
KSRS	**Korea Array**	**46.30**	**340**	P	**P**	**14 09 31.5**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=157,slow=9.1,SNR=5.5						
	comp=Z,1.3nm,0.6s						
KULM	**Kulim**	**46.55**	**283**	P	**P**	**14 09 34.1**	**-0.5**
KULM				IAmb	IAmb	14 10 13.3	
	comp=Z,5.6nm,1.0s						
JTM	**Tennmabayashi**	**46.69**	**355**	P	**P**	**14 09 33.7**	**-1.4**
JKA	**Kamikawa-asahi**	**49.89**	**357**	P	**P**	**14 09 58.3**	**-1.4**
JKA				IAmb	IAmb	14 10 02.0	
	comp=Z,8.1nm,1.2s						
USRK	**Ussuriysk Ar.**	**51.44**	**347**	P	**P**	**14 10 10.0**	**-1.4**
USRK	**Ussuriysk Ar.**	**51.44**	**347**	P	**P**	**14 10 10.8**	**-0.6**
	comp=Z,2.4nm,0.5s,baz=170,slow=8.1,SNR=9.5						
	comp=Z,2.4nm,0.5s						
CM31	**Chiang Mai Arr**	**52.27**	**299**	P	**P**	**14 10 17.9**	**-0.1**
CM31				IAmb	IAmb	14 10 20.2	
	comp=Z,6.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**52.27**	**299**	P	**P**	**14 10 18.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**52.27**	**299**	P	**P**	**14 10 19.4**	**+1.3**
	comp=Z,3.1nm,0.6s,baz=123,slow=6.1,SNR=25						
	comp=Z,3.1nm,0.6s						
CHTO	**Chiang Mai**	**52.41

comp=Z,6.3nm,0.8s
D24K Happy Valley 86.93 19 P **P 14 13 49.5 -0.4**
C24K Franklin Bluff 87.21 19 P **P 14 13 50.6 -0.6**
L29M L29M 88.93 26 P **P 14 13 59.2 -0.3**
ARTI Arti 93.52 326 LR LR 14 58 11.8
comp=Z,26nm,20.8s,baz=5.5,slow=36
YKA Yellowknife Ar 99.59 28 P **Pdif 14 14 46.1 -2.2**
comp=Z,0.1nm,0.6s,baz=273,slow=4.6,SNR=2.1
YKA pP **pP 14 15 15.6 +0.7**
comp=Z,0.3nm,0.8s,baz=268,slow=4.1,SNR=3.3
comp=Z,0.1nm,0.6s
PLCA Paso Flores 122.77 147 PKP **PKPdf 14 20 01.7 +0.5**
comp=Z,1.6nm,0.6s,baz=282,slow=2.0,SNR=8.9
CPUP Villa Florida 140.81 146 PKP **PKPdf 14 20 36.2 +0.8**
comp=Z,1.9nm,0.5s,baz=283,slow=2.8,SNR=5.8
TORD Torodi Ar. Bea 144.03 284 PKP **PKPab 14 20 39.9 +0.8**
comp=Z,141nm,0.3s,baz=81,slow=2.3,SNR=1.6
DBIC Dimbokro 150.95 273 PKPbc **PKPbc 14 20 59.2 +0.5**
comp=Z,29nm,0.8s,baz=85,slow=2.9,SNR=21
BDFB Brasilia 154.52 147 PKPbc **PKPbc 14 21 06.2 -0.5**
comp=Z,2.9nm,0.6s,baz=301,slow=3.4,SNR=4.3

---

*IDC **10** 14:11:29.6±0.8, 44°.13N×128°.93W, h0km, mb4.0/19, mbtmp4.0/25, ML3.7/6, MS3.8/43, Error ellipse: s-maj=23.1km s-min=10.5km az=35.0*
*NEIC **10** 14:11:31.8±1.4, 44°.05N±0°.09×128°.8W±0°.1, h10km±1km, mb4.5/117, ML3.8/66, Mww4.7/39, Error ellipse: s-maj=17.6km s-min=12.6km az=233.0*
*NEIC **10** 14:11:32.1, 44°.02N×128°.82W, h14km*
*GCMT **10** 14:11:32.8±0.3, 43°.99N±0°.02×129°.16W±0°.02, h14km±2km, MW4.8/95, Moment Tensor Solution. s1,c1; s95,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.38±.10; $M_{\theta\theta}$-1.15±.07; $M_{\phi\phi}$1.53±.08; $M_{r\theta}$-0.10±.17; $M_{\theta\phi}$-1.15±.07; $M_{\phi r}$0.55±.17; Best double couple: $M_0$1.83100×10^{16} NP1:ϕ_s294.00000°, δ78.00000°, λ175.00000°. NP2: ϕ_s25.00000°, δ85.00000°, λ12.00000°. Principal axes: T 2.0790, Plg13.0000°, Azm250.0000°; N -0.4960, Plg76.0000°, Azm48.0000°; P -1.5840, Plg5.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 14:11:32.1, 44°.12N×129°.00W, h14km, Moment Tensor Solution. Duration: 1s2 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.61; $M_{\theta\theta}$-0.61; $M_{\phi\phi}$1.22; $M_{r\theta}$-0.12; $M_{\theta\phi}$-1.00; $M_{\phi r}$0.30; Fault plane solution: $M_0$1.37000×10^{16} NP1: ϕ_s290.88000°, δ82.90000°, λ175.93000°. NP2: ϕ_s21.38000°, δ85.97000°, λ7.12000°. Principal axes: T 1.7017, Plg8.0000°, Azm246.0000°; N -0.6545, Plg82.0000°, Azm51.0000°; P -1.0472, Plg2.0000°, Azm156.0000°;*
ISC 10 14:11:31.9±0.5, 44°.05N±0°.07×128°.91W±0°.06, h15km, n455, σ0°.90/416, mb4.4/63, MS3.8/37, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02E	**Swisshome, OR**	**3.65**	**87**		**Pn**	**14 12 26.7**	**-1.0**
J01E	**Myrtle Point**	**3.72**	**102**		**Pn**	**14 12 26.7**	**-2.1**
J01E				IAML		14 13 14.1	
comp=E,255nm,0.7s							
HEBO	**Mount Hebo**	**3.86**	**71**		**Pn**	**14 12 29.5**	**-1.3**
HEBO				IAML		14 13 20.4	
comp=E,176nm,2.0s							
HEBO				IAML		14 13 26.4	
comp=N,155nm,2.1s							
KBO	**Bosley Butte**	**3.88**	**117**	Pn	**Pn**	**14 12 29.7**	**-1.4**
I03D	**Drain, OR**	**4.03**	**93**		**Pn**	**14 12 32.2**	**-0.8**
K02D	**Willamette Mer**	**4.05**	**108**		**Pn**	**14 12 31.8**	**-1.6**
K02D				IAML		14 13 21.6	
comp=N,164nm,0.7s							
COR	**Corvallis**	**4.06**	**80**		**Pn**	**14 12 32.8**	**-0.6**
COR				IAML		14 13 26.5	
comp=N,125nm,0.9s							
G03D	**McMinnville, O**	**4.19**	**72**		**Pn**	**14 12 34.8**	**-0.4**
G03D				IAML		14 13 05.0	
comp=E,97nm,1.1s							
G03D				IAML		14 13 30.1	
comp=N,140nm,0.7s							
DBO	**Dodson Butte**	**4.22**	**101**		**Pn**	**14 12 35.3**	**-0.3**
DBO				IAML		14 13 28.5	
comp=N,130nm,0.8s							
DBO				IAML		14 13 30.4	
comp=E,115nm,0.7s							
F03A	**Seaside**	**4.23**	**62**		**Pn**	**14 12 35.8**	**-0.1**
F03A				IAML		14 13 45.3	
comp=E,142nm,2.2s							
BUCK	**Buck Mountain**	**4.26**	**86**		**Pn**	**14 12 36.1**	**-0.2**
BUCK				IAML		14 13 30.3	
comp=E,93nm,2.2s							
BUCK				IAML		14 13 33.8	
comp=N,95nm,0.9s							
RADR	**Rader Ridge**	**4.32**	**55**		**Pn**	**14 12 36.9**	**-0.1**
L02F	**Cave Junction**	**4.36**	**114**		**Pn**	**14 12 36.2**	**-1.3**
L02F				IAML		14 13 30.2	
comp=N,122nm,0.6s							
L02F				IAML		14 13 31.4	
comp=E,96nm,1.9s							
H04D	**Lebanon**	**4.45**	**82**		**Pn**	**14 12 38.7**	**-0.2**
H04D				IAML		14 13 38.8	
comp=E,81nm,0.6s							
H04D				IAML		14 13 59.6	
comp=N,88nm,2.0s							
E03A	**Lebam**	**4.52**	**55**		**Pn**	**14 12 38.9**	**-0.8**
E03A				IAML		14 13 42.9	
comp=N,74nm,1.0s							
E03A				IAML		14 13 43.2	
comp=E,72nm,0.8s							
F04D	**Rainier, OR**	**4.64**	**62**		**Pn**	**14 12 40.8**	**-0.6**
F04D				IAML		14 13 52.9	
comp=N,107nm,0.6s							
BBOR	**Butler Butte**	**4.68**	**102**		**Pn**	**14 12 40.7**	**-1.4**
BBOR				IAML		14 13 44.5	
comp=N,120nm,1.2s							
G04A	**Mulino**	**4.73**	**74**		**Pn**	**14 12 41.7**	**-0.9**
G04A				IAML		14 13 44.5	
comp=N,110nm,1.4s							
WISH	**Wishkah**	**4.73**	**48**		**Pn**	**14 12 42.8**	**+0.2**
WISH				IAML		14 14 07.8	
comp=N,81nm,1.7s							
WISH				IAML		14 15 12.6	
comp=E,79nm,2.5s							
H04A	**Detroit Lake**	**4.86**	**80**		**Pn**	**14 12 44.0**	**-0.5**
H04A				IAML		14 13 45.8	
comp=E,56nm,0.4s							
H04A				IAML		14 13 47.9	
comp=N,94nm,0.5s							
NLWA	**Neilton Lookou**	**4.86**	**45**		**Pn**	**14 12 43.8**	**-0.7**
C03A	**Quillayute Air**	**4.93**	**36**		**Pn**	**14 12 45.1**	**-0.3**
J04A	**Umpqua Nationa**	**5.00**	**97**		**Pn**	**14 12 47.9**	**+1.4**
YBH	**Yreka Blue Hor**	**5.11**	**115**		**Pn**	**14 12 47.8**	**-0.1**
YBH	**Yreka Blue Hor**	**5.11**	**115**	Pn	**Pn**	**14 12 48.6**	**+0.7**
comp=N,17nm,0.3s,baz=308,slow=11,SNR=21							
YBH				Sn	**Sn**	**14 13 46.5**	**-0.1**
comp=N,3.0nm,0.3s,baz=262,slow=16,SNR=8.0							
YBH				LR	LR	14 14 32.4	
comp=N,395nm,18.9s,baz=304,slow=36							
comp=N,13nm,0.7s							
L04D	**Klamath Falls**	**5.16**	**108**		**Pn**	**14 12 49.6**	**+0.9**
HOOD	**Mount Hood Mea**	**5.33**	**74**		**Pn**	**14 12 50.2**	**-0.8**
HOOD				IAML		14 14 02.7	
comp=N,74nm,1.0s							
K04D	**Chiloquin, OR**	**5.41**	**103**		**Pn**	**14 12 53.2**	**+1.1**
I05D	**Terrebonne, OR**	**5.45**	**84**		**Pn**	**14 12 51.7**	**-0.8**
I05D				IAML		14 14 10.8	
comp=E,38nm,2.3s							
I05D				IAML		14 14 27.3	
comp=N,44nm,1.2s							
BFSB	**Bamfield**	**5.45**	**27**		**Pn**	**14 12 51.9**	**-0.6**
GNW	**Green Mountain**	**5.52**	**48**		**Pn**	**14 12 53.1**	**-0.3**
J05D	**Fort Rock, OR**	**5.62**	**95**		**Pn**	**14 12 55.4**	**+0.5**
LON	**Longmire**	**5.68**	**59**		**Pn**	**14 12 55.7**	**-0.1**
PINE	**Pine Mountain**	**5.76**	**90**		**Pn**	**14 12 56.6**	**-0.3**
D05A	**Enumclaw**	**5.78**	**55**		**Pn**	**14 12 57.4**	**+0.3**
CLRS	**Cowichan Lake**	**5.80**	**33**		**Pn**	**14 12 56.5**	**-0.9**
PGC	**Sidney**	**5.95**	**37**		**Pn**	**14 12 58.7**	**-0.7**
G06A	**Carlson Farm,**	**6.02**	**76**		**Pn**	**14 12 59.3**	**-1.1**
CBB	**Campbell River**	**6.46**	**21**		**Pn**	**14 13 06.4**	**+0.1**
MXC	**Moxie City**	**6.58**	**64**		**Pn**	**14 13 09.0**	**+0.9**
LTY	**Liberty**	**6.60**	**58**		**Pn**	**14 13 08.5**	**+0.1**
I07A	**Izee**	**6.77**	**86**		**Pn**	**14 13 11.0**	**+0.2**
E07A	**Sunnyside**	**6.86**	**65**		**Pn**	**14 13 12.2**	**+0.3**
HAWA	**Hanford**	**7.02**	**67**		**Pn**	**14 13 14.0**	**-0.1**
WAH2	**Wahluke Slope**	**7.11**	**64**		**Pn**	**14 13 15.2**	**-0.1**
G08A	**Pilot Rock**	**7.20**	**77**		**Pn**	**14 13 16.1**	**-0.5**
J08A	**Circle Bar Ran**	**7.59**	**92**		**Pn**	**14 13 23.3**	**+1.2**
WVOR	**Wild Horse Val**	**7.67**	**99**		**Pn**	**14 13 22.6**	**-0.5**
LLLB	**Lillooet**	**8.11**	**34**		**Pn**	**14 13 29.6**	**+0.5**
BBB	**Bella Bella**	**8.16**	**3**	Pn	**Pn**	**14 13 29.1**	**-0.5**
comp=N,0.4nm,0.3s,baz=164,slow=3.2,SNR=2.6							
comp=N,20nm,1.0s							
C09A	**Chrisman Ranch**	**8.31**	**59**		**Pn**	**14 13 31.7**	**0.0**
F10A	**Beach Ranch, E**	**8.50**	**73**		**Pn**	**14 13 35.1**	**+0.7**
NEW	**Newport**	**9.20**	**59**		**Pn**	**14 13 43.7**	**-0.3**
NEW	**Newport**	**9.20**	**59**	Pn	**Pn**	**14 13 43.3**	**-0.7**
comp=N,1.2nm,0.3s,baz=258,slow=13,SNR=9.2							
NEW				LR	LR	14 17 11.5	
comp=N,938nm,21.4s,baz=247,slow=37							
comp=N,6.3nm,0.6s							
PLID	**Pearl Lake**	**9.27**	**79**		**Pn**	**14 13 46.5**	**+1.3**
MFID	**Camas Ranch**	**9.49**	**89**		**Pn**	**14 13 49.1**	**+1.0**
NVAR	**Mina Array Bea**	**9.76**	**121**	Pn	**Pn**	**14 13 55.2**	**+3.3**
comp=N,0.5nm,0.3s,baz=295,slow=14,SNR=15							
NVAR				LR	LR	14 17 28.7	
comp=N,464nm,19.1s,baz=260,slow=36							
comp=N,3.1nm,0.6s							
ELK	**Elko**	**10.63**	**103**	Pn	**Pn**	**14 14 07.8**	**+4.0**
comp=N,0.2nm,0.3s,baz=302,slow=11,SNR=8.3							
ELK				LR	LR	14 18 16.5	
comp=N,332nm,19.7s,baz=286,slow=38							
comp=N,2.9nm,0.6s							
V35K	**Ketchikan**	**11.43**	**352**	P	**Pn**	**14 14 14.7**	**+0.4**
baz=170							
DLMT	**Dillon**	**11.68**	**78**		**Pn**	**14 14 18.2**	**+0.1**
U33K	**Whale Pass**	**12.38**	**349**	P	**Pn**	**14 14 27.1**	**-0.2**
baz=166							
DUG	**Dugway, Tooele**	**12.55**	**102**	Pn	**Pn**	**14 14 29.1**	**-0.8**
WRAK	**Wrangell Islan**	**12.58**	**351**	P	**Pn**	**14 14 30.3**	**+0.2**
baz=168							
YHB	**Horse Butte**	**12.69**	**81**		**Pn**	**14 14 33.5**	**+1.5**
YMR	**Madison River**	**12.86**	**81**		**Pn**	**14 14 35.5**	**+1.3**
FXWY	**Fox Creek**	**12.92**	**86**		**Pn**	**14 14 37.2**	**+2.2**
YHH	**Holmes Hill**	**12.93**	**80**		**Pn**	**14 14 37.1**	**+1.8**
HWUT	**Hardware Ranch**	**12.96**	**95**		**Pn**	**14 14 37.7**	**+2.1**
YFT	**Old Faithful**	**12.96**	**82**		**Pn**	**14 14 38.8**	**+3.0**
TPAW	**Teton Pass**	**12.99**	**86**		**Pn**	**14 14 37.9**	**+1.8**
AHID	**Auburn Hatcher**	**13.01**	**89**		**Pn**	**14 14 38.9**	**+2.6**
MOOW	**Moose Ponds**	**13.11**	**85**		**Pn**	**14 14 40.9**	**+3.3**
H17A	**Grant Village**	**13.15**	**82**		**Pn**	**14 14 40.5**	**+2.2**
LOHW	**Long Hollow**	**13.22**	**86**		**Pn**	**14 14 42.4**	**+3.1**
YMP	**Mirror Lake Pl**	**13.43**	**81**		**Pn**	**14 14 44.8**	**+2.7**
EGMT	**Eagleton**	**13.88**	**67**		**Pn**	**14 14 48.3**	**+0.3**
PDAR	**Pinedale Array**	**14.12**	**88**	Pn	**Pn**	**14 14 54.5**	**+2.9**
comp=N,0.1nm,0.3s,baz=284,slow=12,SNR=15							
PDAR				LR	LR	14 20 29.0	
comp=N,423nm,19.8s,baz=270,slow=38							
comp=N,3.1nm,1.0s							
PFO	**Pinyon Flats O**	**14.22**	**133**	LR	LR	14 20 01.0	
comp=N,333nm,19.0s,baz=307,slow=36							
S31K	**Pelican**	**14.66**	**344**	P	**Pn**	**14 14 59.0**	**+0.5**
baz=159							
Q32M	**Nakina River**	**15.08**	**353**	P	**Pn**	**14 15 04.7**	**+0.4**
baz=170							
BLYC	**Blythe**	**15.18**	**128**	Pn	**Pn**	**14 15 07.5**	**+1.8**
BLYC				IAmb	IAmb	14 15 32.2	
comp=Z,27nm,1.4s							
R33M	**Jennings River**	**15.42**	**356**		**P**	**14 15 14.4**	**+1.1**
R33M	**Jennings River**	**15.42**	**356**	P	**Pn**	**14 15 09.5**	**+0.7**
baz=174							
LIRD	**Liard River Hi**	**15.48**	**5**	P	**Pn**	**14 15 10.1**	**+0.6**
baz=187							
O20A	**White River Ci**	**15.82**	**97**		**Pn**	**14 15 15.2**	**+1.0**
O20A				IAmb	IAmb	14 15 22.2	
comp=Z,32nm,0.9s							
P32M	**Atlin**	**15.84**	**351**	P	**Pn**	**14 15 15.5**	**+1.3**
baz=167							
WUAZ	**Wupatki**	**15.92**	**116**		**Pn**	**14 15 16.0**	**+0.5**
WUAZ				IAmb	IAmb	14 15 27.0	
comp=Z,27nm,0.9s							
SKAG	**Skagway**	**15.93**	**348**	P	**Pn**	**14 15 16.0**	**+0.8**
baz=163							
PV23	**Carpenter Ridg**	**15.96**	**104**	P	**Pn**	**14 15 17.2**	**+1.2**
PV23				IAmb	IAmb	14 15 19.9	
comp=Z,50nm,1.0s							
PV10	**Paradox Valley**	**15.97**	**104**	P	**P**	**14 15 18.8**	**-1.0**
PV10				IAmb	IAmb	14 15 30.4	
comp=Z,40nm,1.0s							
PLBC	**Pleasant Camp**	**16.09**	**346**	P	**Pn**	**14 15 17.8**	**+0.5**
baz=160							
PV11	**David Mesa, Pa**	**16.13**	**104**	P	**Pn**	**14 15 18.0**	**-0.1**
PV11				IAmb	IAmb	14 15 26.1	
comp=Z,51nm,1.4s							
LAO	**LASA Array**	**16.15**	**73**	P	**Pn**	**14 15 18.4**	**+0.2**
LAO				IAmb	IAmb	14 15 24.6	
comp=Z,32nm,0.8s							
PV07	**Paradox Valley**	**16.22**	**103**		**Pn**	**14 15 21.0**	**+1.6**
PV07				IAmb	IAmb	14 15 26.5	
comp=Z,40nm,1.3s							
PV13	**Radium Mtn., P**	**16.23**	**104**	P	**Pn**	**14 15 21.6**	**+2.1**
PV13				IAmb	IAmb	14 15 30.7	
comp=Z,39nm,1.5s							
K22A	**Casper**	**16.34**	**87**	P	**P**	**14 15 23.4**	**-0.2**
K22A				IAmb	IAmb	14 15 26.9	
comp=Z,37nm,1.4s							
P33M	**Teslin, Yukon**	**16.36**	**353**	P	**Pn**	**14 15 21.7**	**+0.8**
baz=170							
KOTAN	**Kotaneelee Air**	**16.37**	**9**	P	**Pn**	**14 15 21.0**	**0.0**
baz=192							
P29M	**Windy Craggy**	**16.51**	**344**	P	**Pn**	**14 15 22.8**	**+0.1**
baz=157							
P30M	**Million Dollar**	**16.82**	**346**	P	**Pn**	**14 15 27.0**	**+0.4**
baz=160							
PNL	**Peninsula**	**16.90**	**341**	P	**Pn**	**14 15 28.2**	**+0.6**
baz=153							
MVCO	**Mesa Verde**	**16.91**	**107**		**P**	**14 15 30.0**	**-0.1**
MVCO				IAmb	IAmb	14 15 33.9	
comp=Z,66nm,1.5s							
WHY	**Whitehorse**	**17.02**	**350**	P	**Pn**	**14 15 29.8**	**+0.5**
baz=165							
O29M	**Mount Kennedy**	**17.29**	**344**	P	**Pn**	**14 15 32.8**	**+0.2**
baz=156							
O30N	**Mendenhall**	**17.30**	**348**	P	**Pn**	**14 15 32.4**	**-0.2**
baz=162							
PINM	**Pinnacle**	**17.48**	**341**	P	**Pn**	**14 15 34.8**	**-0.1**
baz=152							
HYT	**Haines Junctio**	**17.57**	**346**	P	**Pn**	**14 15 36.4**	**+0.2**
baz=159							
S22A	**4UR Ranch, Cre**	**17.81**	**103**		**P**	**14 15 41.9**	**+1.7**
ISCO	**Idaho Springs**	**17.83**	**96**	P	**Pn**	**14 15 38.7**	**-1.0**
YUK6	**Outpost Mounta**	**17.84**	**345**	P	**Pn**	**14 15 39.3**	**-0.3**
baz=157							
N31M	**Braeburn, Yuko**	**17.94**	**349**	P	**Pn**	**14 15 41.1**	**+0.5**
baz=164							
O28M	**Mount Upton**	**18.06**	**342**	P	**P**	**14 15 43.0**	**+0.3**
baz=153							
N30M	**Aishikik Lake**	**18.10**	**347**	P	**Pn**	**14 15 42.1**	**-0.5**
baz=161							
YUK4	**Talbot Arm**	**18.27**	**345**	P	**Pn**	**14 15 44.7**	**-0.1**
baz=157							
BGLC	**Bering Glacier**	**18.29**	**337**	P	**Pn**	**14 15 44.3**	**-0.5**
baz=145							
FARO	**Faro, Yukon**	**18.40**	**353**	P	**P**	**14 15 45.5**	**-0.7**
baz=170							
M31M	**Drury Creek, Y**	**18.47**	**352**	P	**P**	**14 15 46.6**	**-0.3**
baz=167							
SDCO	**Great Sand Dun**	**18.75**	**102**		**P**	**14 15 51.1**	**+0.6**
YUK3	**Moose Creek**	**19.02**	**343**	P	**P**	**14 15 53.2**	**+0.1**
baz=154							
M30M	**Minto, Yukon**	**19.12**	**349**	P	**P**	**14 15 54.2**	**+0.1**
baz=162							
M29M	**Somme Creek**	**19.26**	**346**	P	**P**	**14 15 56.1**	**+0.5**
baz=159							
BMRM	**Bremner River**	**19.36**	**337**	P	**P**	**14 15 56.8**	**+0.1**
baz=144							
EYAK	**Cordova Ski Ar**	**19.37**	**334**	P	**P**	**14 15 57.1**	**+0.4**
baz=141							
WRGLY	**Wrigley**	**19.47**	**7**	P	**P**	**14 15 58.3**	**+0.5**
baz=192,SNR=9.4							
ANMO	**Albuquerque**	**19.52**	**110**	P	**Pn**	**14 16 01.9**	**+1.8**
comp=Z,6.6nm,0.9s,baz=259,slow=10,SNR=9.7							
T25A	**Trinidad**	**19.80**	**102**		**Pn**	**14 16 03.7**	**+0.3**
T25A				IAmb	IAmb	14 16 08.2	
comp=Z,26nm,1.0s							
L29M	**L29M**	**19.83**	**348**	P	**P**	**14 16 02.4**	**+0.6**
baz=160							
M27K	**Edge Creek, AK**	**19.85**	**342**	P	**Pn**	**14 16 03.5**	**-0.3**
baz=152							
N25K	**Chitina, Valde**	**19.88**	**338**	P	**Pn**	**14 16 04.4**	**+0.3**
baz=145							
E28A	**Huff**	**19.96**	**73**		**P**	**14 16 03.6**	**+0.2**
GLI	**Glacier Island**	**20.05**	**334**	P	**P**	**14 16 04.9**	**+0.7**
baz=139							
M26K	**Nabesna, AK**	**20.14**	**341**	P	Pn	14 16 07.0	-0.1
M26K	**Nabesna, AK**	**20.14**	**341**	P	Pn	14 16 06.6	-0.6
baz=149							
KDAK	**Kodiak Island**	**20.15**	**321**	P	Pn	14 16 08.1	+1.0
comp=Z,8.2nm,1.0s,baz=72,slow=4.7,SNR=2.7							
KDAK				LR	LR	14 21 48.4	
comp=Z,284nm,19.6s,baz=334,slow=31							
KDAK	**Kodiak Island**	**20.15**	**321**	P	Pn	14 16 07.1	0.0
baz=123							
KLU	**Klutina**	**20.17**	**336**	P	**P**	**14 16 06.2**	**+0.7**
baz=142							
KSCO	**Kaye Shedlock'**	**20.27**	**95**		**P**	**14 16 07.5**	**+0.6**
KSCO				IAmb	IAmb	14 16 13.1	
comp=Z,34nm,1.1s							
YKA	**Yellowknife Ar**	**20.27**	**19**		**P**	**14 16 06.2**	**-0.3**
YKA	**Yellowknife Ar**	**20.27**	**19**	P	**P**	**14 16 06.8**	**+0.2**
comp=Z,5.9nm,0.9s,baz=210,slow=11,SNR=42							
YKA				PcP	**PcP**	**14 20 19.1**	**-0.5**
comp=Z,0.2nm,0.6s,baz=202,slow=2.1,SNR=1.7							
YKA				LR	LR	14 23 33.1	
comp=Z,188nm,20.7s,baz=313,slow=36							
comp=Z,5.9nm,0.9s							
SEW	**Seward**	**20.30**	**330**	P	**P**	**14 16 07.7**	**+0.8**
baz=133							
FFC	**Flin Flon**	**20.40**	**49**		**P**	**14 16 08.7**	**+0.7**
K29M	**Barlow Dome**	**20.44**	**349**	P	Pn	14 16 10.2	-0.5
baz=162							
PWL	**Port Wells**	**20.44**	**332**	P	**P**	**14 16 09.7**	**+1.2**
baz=137							
BCAR	**Beaver Creek A**	**20.45**	**343**	P	**P**	**14 16 09.6**	**+0.9**
L27K	**Beaver Creek,**	**20.46**	**343**	P	Pn	14 16 10.3	-0.5
L27K	**Beaver Creek,**	**20.46**	**343**	P	**P**	**14 16 09.7**	**+1.0**
baz=152							
Q20K	**Shuyak Island**	**20.53**	**323**	P	**P**	**14 16 10.5**	**+1.2**
baz=125							
O22K	**Cooper Landing**	**20.66**	**330**	P	**P**	**14 16 11.8**	**+1.0**
baz=133							
MDND	**Maddock**	**20.67**	**69**		**P**	**14 16 09.9**	**-1.1**
HARP	**HAARP**	**20.68**	**338**	P	**P**	**14 16 11.3**	**+0.2**
baz=145							
CHIR	**Chirikof Islan**	**20.70**	**314**	P	**P**	**14 16 11.9**	**+0.7**
baz=114							
M24K	**Tolsona, Glenn**	**20.73**	**337**	P	**P**	**14 16 12.5**	**+0.9**
baz=143							
L26K	**Log Cabin Wild**	**20.76**	**341**	P	Pn	14 16 13.6	-0.8
baz=150							
HOM	**Homer**	**20.84**	**327**	P	**P**	**14 16 13.5**	**+0.7**
baz=128							
SCM	**Sheep Creek Mo**	**20.85**	**335**	P	**P**	**14 16 13.2**	**+0.2**
baz=140							
SLKM	**Skilak Lake**	**20.86**	**330**		**P**	**14 16 13.6**	**+0.7**
SLKM				IAmb	IAmb	14 16 21.2	
comp=Z,36nm,1.2s							
KNK	**Knik Glacier**	**20.89**	**333**	P	**P**	**14 16 14.3**	**+1.0**
KNK				IAmb	IAmb	14 16 31.7	
comp=Z,21nm,1.1s							
KNK	**Knik Glacier**	**20.89**	**333**	P	**P**	**14 16 13.6**	**+0.3**
baz=137							
DAWY	**Dawson**	**20.93**	**347**	P	**P**	**14 16 14.1**	**+0.4**
baz=158							
M23K	**Glacier View**	**20.94**	**335**	P	**P**	**14 16 13.3**	**-0.6**
baz=139							
J30M	**Hart River**	**20.99**	**351**		**P**	**14 16 16.1**	**+1.6**
J30M	**Hart River**	**20.99**	**351**	P	**P**	**14 16 14.4**	**-0.1**
baz=165							
RC01	**Rabbit Creek A**	**21.09**	**331**	P	**P**	**14 16 16.2**	**+0.8**
baz=135							
J29N	**Klondike Camp**	**21.11**	**349**	P	**P**	**14 16 15.8**	**0.0**
baz=161							
SML	**Sawmill**	**21.14**	**334**	P	**P**	**14 16 16.6**	**+0.6**
SML				IAmb	IAmb	14 16 24.4	
comp=Z,22nm,1.2s							
SML	**Sawmill**	**21.14**	**334**	P	**P**	**14 16 16.7**	**+0.6**
baz=138							
PAX	**Paxson**	**21.24**	**339**	P	**P**	**14 16 17.0**	**-0.1**
baz=145							
PMR	**Palmer**	**21.24**	**333**	P	**P**	**14 16 17.3**	**+0.2**
baz=136							
Q19K	**Cape Douglas,**	**21.25**	**323**	P	**P**	**14 16 17.5**	**+0.3**
baz=124							
K30B	**Basset**	**21.30**	**83**		**P**	**14 16 17.1**	**-0.7**
GHO	**Glory Hole Cre**	**21.31**	**333**		**P**	**14 16 19.0**	**+1.1**
GHO				IAmb	IAmb	14 16 22.7	
comp=Z,18nm,1.0s							
CAPN	**Captain Cook N**	**21.37**	**329**	P	**P**	**14 16 18.7**	**+0.2**
baz=132							
K27K	**Chicken**	**21.38**	**344**	P	**P**	**14 16 19.5**	**+1.0**
K27K	**Chicken**	**21.38**	**344**	P	**P**	**14 16 19.0**	**+0.6**
baz=153							
SUSD	**Miller**	**21.41**	**78**		**P**	**14 16 19.6**	**+0.6**
DOT	**Dot Lake**	**21.47**	**341**	P	**P**	**14 16 20.9**	**+1.4**
P19K	**Oil Pt**	**21.48**	**325**	P	**P**	**14 16 20.3**	**+0.6**
baz=126							
I30M	**Mount Dempster**	**21.62**	**351**		**P**	**14 16 22.9**	**+1.6**
I30M	**Mount Dempster**	**21.62**	**351**	P	**P**	**14 16 21.1**	**-0.2**
baz=165							
Q18K	**Katmai Hardscr**	**21.70**	**322**	P	**P**	**14 16 21.6**	**-0.5**
baz=121							
SUA	**Susitna One**	**21.70**	**331**		**P**	**14 16 22.9**	**+0.8**
SUA				IAmb	IAmb	14 16 31.2	
comp=Z,17nm,0.9s							
SUA	**Susitna One**	**21.70**	**331**	P	**P**	**14 16 22.5**	**+0.4**
baz=134							
RIDG	**Independent Ri**	**21.73**	**341**	P	**P**	**14 16 22.6**	**+0.3**
baz=148							
SCRK

HDA IAmb IAmb 14 16 41.3
comp=Z,15nm,1.3s
HDA Harding Lake 22.80 340 P **P 14 16 33.8 +0.1**
baz=145
H29M Whitestone 22.82 350 **P 14 16 35.4 +1.5**
H29M Whitestone 22.82 350 P **P 14 16 34.5 +0.6**
baz=162,SNR=9.6
M20K Styx River 22.83 330 P **P 14 16 35.9 +1.8**
M20K IAmb IAmb 14 16 55.3
comp=Z,33nm,1.5s
M20K Styx River 22.83 330 P **P 14 16 34.4 +0.3**
baz=130
S14K Fog Glacier 22.92 313 P **P 14 16 35.1 0.0**
baz=109
TRF Thorofare Moun 22.98 335 P **P 14 16 36.1 +0.4**
baz=138
F33A 5 Mile Ranch, 23.07 74 **P 14 16 36.4 -0.3**
IL31 23.08 340 P **P 14 16 37.0 +0.4**
ILAR Eielson Array 23.08 340 **P 14 16 37.1 +0.4**
ILAR Eielson Array 23.08 340 P **P 14 16 37.4 +0.8**
comp=Z,5.4nm,1.1s,baz=154,slow=7.8,SNR=22
ILAR PcP **PcP 14 20 23.0 -2.1**
comp=Z,0.1nm,0.5s,baz=173,slow=1.5,SNR=2.3
ILAR LR LR 14 24 03.2
comp=Z,252nm,21.6s,baz=120,slow=33
comp=Z,5.4nm,1.1s
N18K Kilae Creek 23.16 325 P **P 14 16 37.8 +0.2**
baz=124
AGMN Agassiz Nation 23.17 68 **P 14 16 37.2 -0.4**
AGMN IAmb IAmb 14 16 44.8
comp=Z,11nm,0.7s
PPLA Purkeypile 23.18 333 P **P 14 16 38.3 +0.5**
baz=134
ECSD EROS Data Cent 23.20 79 **P 14 16 38.4 +0.4**
CCB Clear Creek Bu 23.21 339 **P 14 16 38.8 +0.9**
H27K Steamboat Moun 23.28 347 P **P 14 16 39.2 +0.5**
baz=156
M19K Big River Lodg 23.30 329 P **P 14 16 38.6 -0.3**
M19K Big River Lodg 23.30 329 P **P 14 16 39.3 +0.4**
baz=128
G30M tAoh Zraii Nji 23.32 353 P **P 14 16 39.3 +0.2**
baz=166
PRP Porcupine Dome 23.40 343 P **P 14 16 40.0 0.0**
baz=149
COLA College 23.41 340 P **P 14 16 40.1 +0.3**
baz=144
G29M Pine Creek 23.44 351 P **P 14 16 41.0 +0.7**
G29M Pine Creek 23.44 351 P **P 14 16 40.0 -0.3**
baz=163
L20K Farewell, AK 23.48 331 P **P 14 16 41.0 +0.3**
baz=130
NEA2 Nenana 23.50 338 P **P 14 16 40.6 -0.2**
baz=141
POKR Poker Plat Res 23.50 340 P **P 14 16 40.6 -0.2**
baz=145
CAST Castle Rocks 23.51 334 **P 14 16 41.8 +0.8**
CAST Castle Rocks 23.51 334 P **P 14 16 40.7 -0.3**
baz=135
O16K Kokwok River B 23.55 322 P **P 14 16 42.2 +0.9**
O16K IAmb IAmb 14 16 50.6
comp=Z,17nm,0.8s
O16K Kokwok River B 23.55 322 P **P 14 16 41.1 -0.3**
baz=118
F31M Tsiigehtchic 23.59 355 P **P 14 16 40.7 -0.9**
F31M Tsiigehtchic 23.59 355 P **P 14 16 41.3 -0.3**
baz=171
M18K Stony River 23.60 327 P **P 14 16 40.8 -1.1**
baz=125
N17K Nushagak Hills 23.62 324 P **P 14 16 40.8 -1.2**
baz=122
L19K White Mountain 23.64 329 **P 14 16 43.1 +0.7**
L19K White Mountain 23.64 329 P **P 14 16 40.8 -1.5**
baz=128
BPAW Bear Paw Mtn. 23.66 336 **P 14 16 41.6 -0.9**
BPAW IAmb IAmb 14 16 45.6
comp=Z,11nm,1.2s
BPAW Bear Paw Mtn. 23.66 336 P **P 14 16 41.8 -0.6**
baz=138
L34A Svendsen Farm, 23.80 84 P **P 14 16 44.6 +0.6**
G27K Doyon Strip 23.83 348 P **P 14 16 44.4 +0.3**
G27K Doyon Strip 23.83 348 P **P 14 16 43.4 -0.7**
baz=157
F30M Barrier River 23.90 353 P **P 14 16 43.8 -0.9**
baz=168
CHUM Lake Minchumin 23.91 334 P **P 14 16 44.1 -0.7**
baz=135
NOKA Waynoka 23.92 98 P **P 14 16 44.5 -0.7**
I23K Minto, Yukon-K 24.01 339 P **P 14 16 45.7 0.0**
I23K IAmb IAmb 14 16 56.1
comp=Z,15nm,0.9s
I23K Minto, Yukon-K 24.01 339 P **P 14 16 45.2 -0.5**
baz=142,SNR=10
H25L Birch Creek 24.11 343 P **P 14 16 46.0 -0.6**
baz=149
K20K Telida 24.12 332 **P 14 16 47.7 +0.9**
K20K IAmb IAmb 14 16 54.7
comp=Z,14nm,0.9s
K20K Telida 24.12 332 P **P 14 16 46.3 -0.5**
baz=131
O15K Ungalikthiuk R 24.15 320 P **P 14 16 47.0 0.0**
baz=115
M17K Holitna River 24.19 326 P **P 14 16 47.2 -0.3**
baz=123
H24K Noodor Dome 24.20 341 **P 14 16 47.0 -0.6**
H24K IAmb IAmb 14 16 57.6
comp=Z,16nm,1.2s
H24K Noodor Dome 24.20 341 P **P 14 16 47.6 +0.1**
baz=145
N16K Nishlik Lake 24.27 323 P **P 14 16 48.1 -0.1**
baz=119
G26K Porcupine Rive 24.32 346 P **P 14 16 49.1 +0.6**
G26K Porcupine Rive 24.32 346 P **P 14 16 48.1 -0.4**
baz=153
L18K Granite Mounta 24.36 328 P **P 14 16 49.6 +0.6**
L18K IAmb IAmb 14 16 57.2
comp=Z,14nm,0.9s
L18K Granite Mounta 24.36 328 P **P 14 16 48.8 -0.2**
baz=125
TTA Tatalina 24.53 330 P **P 14 16 50.6 0.0**
TTA IAmb IAmb 14 17 00.0
comp=Z,11nm,1.2s
TTA Tatalina 24.53 330 P **P 14 16 50.2 -0.4**
baz=128
EPLO Experimental L 24.55 64 **P 14 16 51.0 +0.2**
G25K Bearman Lake 24.59 344 P **P 14 16 50.7 -0.3**
baz=149
H23K Yukon River 24.60 340 P **P 14 16 51.7 +0.6**
H23K IAmb IAmb 14 17 02.0
comp=Z,9.6nm,1.1s
H23K Yukon River 24.60 340 P **P 14 16 50.4 -0.8**
baz=142
M16K Timber Creek 24.62 324 P **P 14 16 51.4 +0.1**
baz=120
J20K Nowinta River 24.70 333 **P 14 16 52.1 +0.1**
J20K IAmb IAmb 14 16 57.0
comp=Z,24nm,1.5s
J20K Nowinta River 24.70 333 P **P 14 16 52.5 +0.5**
baz=133
N15K Kwethluk River 24.71 322 P **P 14 16 52.3 +0.1**
baz=117
G24K Hadweenzic Riv 24.83 342 **P 14 16 54.2 +1.0**
G24K IAmb IAmb 14 17 05.7
comp=Z,11nm,1.1s
G24K Hadweenzic Riv 24.83 342 P **P 14 16 53.2 0.0**
baz=147
E29M Blow River 24.85 352 P **P 14 16 54.9 +1.5**
E29M Blow River 24.85 352 P **P 14 16 53.6 +0.2**
baz=164
O14K Tigyukauivet M 24.86 319 P **P 14 16 53.0 -0.5**
baz=113
TX31 Lajitas Ar. Si 24.87 118 **P 14 16 54.1 +0.1**
TX31 IAmb IAmb 14 17 05.4
comp=Z,16nm,1.2s
TXAR Lajitas Array 24.88 118 **P 14 16 55.0 +0.9**
TXAR Lajitas Array 24.88 118 P **P 14 16 56.0 +2.0**
comp=Z,2.1nm,0.7s,baz=301,slow=9.8,SNR=20
TXAR LR LR 14 25 47.3
comp=Z,83nm,19.4s,baz=302,slow=34
comp=Z,2.1nm,0.7s
L17K Donlin 24.93 327 P **P 14 16 53.4 -0.8**
baz=123
WMOK Wichita Mounta 24.95 102 P **P 14 16 55.7 +1.1**
F26K Sheenjek River 25.05 346 P **P 14 16 55.1 -0.1**
baz=153
LPIG La Paz 25.05 137 LR LR 14 25 41.4
comp=Z,173nm,19.3s,baz=330,slow=34
J19K Poorman 25.06 332 **P 14 16 55.7 +0.4**

J19K Poorman 25.06 332 P **P 14 16 54.9 -0.4**
baz=130,SNR=7.7
E27K Coleen River 25.10 349 **P 14 16 57.2 +1.5**
E27K IAmb IAmb 14 17 02.0
comp=Z,10nm,1.1s
E27K Coleen River 25.10 349 P **P 14 16 55.9 +0.2**
baz=158
J18K Innoko River 25.11 330 **P 14 16 55.9 +0.1**
J18K Innoko River 25.11 330 P **P 14 16 55.5 -0.3**
baz=128
H22K Ishtalitna Cre 25.12 338 P **P 14 16 56.1 +0.2**
baz=140,SNR=9.0
M15K Kasigluk River 25.21 323 P **P 14 16 56.8 +0.2**
baz=117
F25K Christian Rive 25.23 345 P **P 14 16 57.1 +0.3**
baz=151
I20K Naaghedeneel 25.23 334 **P 14 16 58.1 +1.4**
I20K Naaghedeneel 25.23 334 P **P 14 16 56.7 -0.1**
baz=133,SNR=7.6
E28M Babbage River 25.23 351 P **P 14 16 58.0 +1.1**
E28M Babbage River 25.23 351 P **P 14 16 56.3 -0.6**
baz=162
K17K Iditarod 25.26 328 **P 14 16 58.0 +1.0**
K17K Iditarod 25.26 328 P **P 14 16 56.6 -0.4**
baz=124
H21K Melozitna Rive 25.34 337 P **P 14 16 58.1 +0.2**
H21K IAmb IAmb 14 17 03.1
comp=Z,11nm,1.1s
H21K Melozitna Rive 25.34 337 P **P 14 16 57.6 -0.3**
baz=137,SNR=6.9
G23K Bananza Creek 25.42 341 P **P 14 16 59.3 +0.7**
G23K IAmb IAmb 14 17 06.6
comp=Z,20nm,1.5s
G23K Bananza Creek 25.42 341 P **P 14 16 57.8 -0.8**
baz=143
C36M Paulatuk 25.49 4 P **P 14 16 58.8 -0.3**
baz=188
T35A Sooner Cattle 25.53 95 P **P 14 16 59.6 -0.2**
SPMN Marine on St. 25.59 75 **P 14 17 00.6 +0.4**
F24K Squaw Lake 25.61 343 P **P 14 16 60.0 -0.3**
baz=147
E25K Arctic Village 25.68 346 **P 14 17 01.9 +1.0**
E25K Arctic Village 25.68 346 P **P 14 17 00.6 -0.3**
baz=152
H20K Anotleneega Mo 25.83 335 P **P 14 17 02.0 -0.3**
baz=134,SNR=9.9
D28M Stokes Point 25.84 352 P **P 14 17 02.1 -0.2**
baz=164
IMAR Indian Mountai 25.85 337 P **P 14 17 04.7 +2.3**
COLD Coldfoot 25.88 341 P **P 14 17 03.2 +0.5**
baz=143
J17K VABM Dome 25.93 329 **P 14 17 04.7 +1.5**
J17K IAmb IAmb 14 17 20.7
comp=Z,17nm,1.2s
J17K VABM Dome 25.93 329 P **P 14 17 03.5 +0.3**
baz=124
G22K Bettles 25.95 340 P **P 14 17 03.7 +0.4**
baz=141
GCSA Galena City Sc 25.97 333 P **P 14 17 04.5 +1.0**
baz=129
L15K Ungalak Mounta 26.01 324 P **P 14 17 04.9 +1.1**
baz=118
D27M Malcolm River 26.01 350 P **P 14 17 04.6 +0.6**
D27M IAmb IAmb 14 17 16.6
comp=Z,10nm,1.4s
D27M Malcolm River 26.01 350 P **P 14 17 04.2 +0.3**
baz=160
G21K Allakaket 26.17 338 P **P 14 17 05.9 +0.6**
G21K Allakaket 26.17 338 P **P 14 17 05.6 +0.3**
baz=137
E24K Your Creek 26.20 343 P **P 14 17 05.6 0.0**
E24K Your Creek 26.20 343 P **P 14 17 06.8 +1.2**
baz=147
M13K Dall Lake 26.28 321 P **P 14 17 07.9 +1.5**
baz=113
H19K Roundabout Mou 26.34 334 P **P 14 17 07.8 +1.0**
baz=131,SNR=8.9
L14K Kuka Creek 26.37 323 P **P 14 17 07.6 +0.4**
baz=116
E23K Chandalar 26.42 343 P **P 14 17 08.2 +0.5**
E23K Chandalar 26.42 343 P **P 14 17 08.1 +0.4**
baz=145
J16K Anvik River 26.45 328 **P 14 17 07.2 -0.7**
J16K IAmb IAmb 14 17 16.8
comp=Z,16nm,1.1s
J16K Anvik River 26.45 328 P **P 14 17 07.8 0.0**
baz=122
F22K John River 26.57 340 P **P 14 17 10.1 +1.1**
baz=140
F21K Alatna River 26.68 339 P **P 14 17 12.8 +2.8**
F21K IAmb IAmb 14 17 34.6
comp=Z,10.0nm,1.1s
F21K Alatna River 26.68 339 P **P 14 17 10.1 +0.1**
baz=138
H18K Honhosa River 26.72 332 P **P 14 17 10.5 +0.2**
H18K IAmb IAmb 14 17 18.7
comp=Z,9.7nm,0.8s
H18K Honhosa River 26.72 332 P **P 14 17 10.4 +0.1**
baz=128
C27K Jago River 26.73 349 P **P 14 17 10.4 0.0**
C27K Jago River 26.73 349 P **P 14 17 11.0 +0.6**
baz=156
D25K Kavik River 26.88 346 P **P 14 17 11.7 0.0**
baz=151
TOLK Toolik Lake Re 26.89 343 **P 14 17 12.2 +0.3**
TOLK IAmb IAmb 14 17 16.6
comp=Z,8.7nm,1.1s
TOLK Toolik Lake Re 26.89 343 P **P 14 17 12.5 +0.6**
baz=146
H17K Granite Mounta 27.11 331 P **P 14 17 15.0 +1.2**
baz=125
F20K Avaraart Lake 27.16 337 P **P 14 17 16.0 +1.7**
baz=134
C26K Camden Bay 27.18 348 P **P 14 17 15.8 +1.4**
baz=154
D24K Happy Valley 27.18 345 P **P 14 17 15.4 +1.1**
baz=147
U38A Gravette 27.27 94 **P 14 17 15.2 -0.4**
G18K Tagagawik 27.27 334 P **P 14 17 15.4 +0.1**
baz=129
J14K Nanvaranak Lak 27.36 325 P **P 14 17 16.2 +0.1**
baz=117
D23K Nanushuk River 27.39 343 P **P 14 17 17.8 +1.4**
D23K IAmb IAmb 14 17 21.9
comp=Z,8.0nm,1.1s
D23K Nanushuk River 27.39 343 P **P 14 17 16.6 +0.3**
baz=144
BLKN Baker Lake 27.45 31 **P 14 17 16.3 -0.5**
BLKN IAmb IAmb 14 17 39.7
comp=Z,15nm,1.3s
K13K Kusilvak Mount 27.47 323 P **P 14 17 17.1 +0.1**
baz=114
C24K Franklin Bluff 27.64 345 P **P 14 17 18.8 +0.3**
baz=148
G17K Kiwalik Mounta 27.70 332 P **P 14 17 19.3 +0.3**
baz=125
D22K Ayikyak River 27.76 342 P **P 14 17 19.8 +0.1**
baz=141
H16K Elim 27.78 329 P **P 14 17 20.2 +0.4**
baz=122
E19K Redstone River 27.87 337 P **P 14 17 20.8 +0.1**
baz=133
A36M Sachs Harbour 28.07 2 P **P 14 17 22.1 -0.2**
baz=186
C23K Itkillik River 28.10 344 P **P 14 17 22.1 -0.5**
baz=146
E20K Nigu River 28.15 339 P **P 14 17 22.7 -0.4**
baz=136
P08K Saint George I 28.38 311 P **P 14 17 25.5 +0.3**
baz=99
C21K Knifeblade Rid 28.46 341 P **P 14 17 25.8 0.0**
baz=139
D20K Etivluk River 28.58 339 P **P 14 17 26.7 -0.2**
baz=136
B21K Ikpikpuk River 28.77 342 P **P 14 17 28.8 +0.2**
baz=139
D19K Kuna River 28.82 338 P **P 14 17 29.3 +0.2**
D19K IAmb IAmb 14 17 34.0
comp=Z,7.2nm,1.0s
D19K Kuna River 28.82 338 P **P 14 17 29.8 +0.7**
baz=133
E18K Tukpahlearik C 28.84 335 P **P 14 17 29.2 0.0**
baz=128
ANM Nome 28.92 328 P **P 14 17 29.9 0.0**
baz=118
B22K Teshekpuk Lake 29.07 343 P **P 14 17 31.4 +0.1**
baz=142

B20K Meade River 29.65 341 P **P 14 17 36.0 -0.3**
baz=136
C18K Utukok River 29.78 337 P **P 14 17 36.7 -0.9**
baz=129
A22K Sinclair Lake 29.92 343 P **P 14 17 38.4 -0.3**
baz=140
B18K Kokolik River 30.40 338 P **P 14 17 42.6 -0.4**
baz=129
A21K Barrow 30.51 343 P **P 14 17 42.5 -1.4**
baz=139
A19K Wainwright 30.76 339 P **P 14 17 46.0 -0.1**
baz=131
C16K Lisburne Hills 30.79 334 P **P 14 17 46.8 +0.3**
C16K Lisburne Hills 30.79 334 P **P 14 17 46.1 -0.4**
baz=123
GAMB Gambell 31.16 324 P **P 14 17 48.3 -1.4**
baz=109
TKL Tuckaleechee C 35.28 88 LR LR 14 33 25.9
comp=Z,598nm,18.8s,baz=302,slow=37
SHEM Shemya Is, Ala 37.92 304 LR LR 14 32 13.4
comp=Z,35nm,20.3s,baz=340,slow=33
KUQ Kuujjuuaa 39.13 47 **P 14 18 58.7 +0.3**
EUNU Eureka 39.22 11 P **P 14 18 58.8 -0.2**
CMIG Matias Romero 39.29 122 LR LR 14 34 46.2
comp=Z,78nm,21.4s,baz=320,slow=36
BILL Bilibino 40.77 329 P **P 14 19 12.1 +0.2**
BILL IAmb IAmb 14 19 19.3
comp=Z,11nm,1.2s
SFJD Kangerlussuaq 46.00 32 LR LR 14 38 29.0
comp=Z,186nm,19.2s,baz=281,slow=35
PETK Petropavlovsk- 47.39 308 P **P 14 20 04.5 -0.7**
comp=Z,0.9nm,0.6s,baz=77,slow=11,SNR=8.0
comp=Z,0.9nm,0.6s
SUMG Summit 48.78 24 P **P 14 20 16.2 +0.1**
MA2 Magadan 48.85 318 LR LR 14 40 05.7
comp=Z,65nm,18.6s,baz=80,slow=35
TIXI Tiksi 52.50 337 P **P 14 20 44.7 +1.0**
TIXI IAmb IAmb 14 20 46.1
comp=Z,5.3nm,1.1s
TIXI Tiksi 52.50 337 LR LR 14 43 30.9
comp=Z,99nm,19.5s,baz=26,slow=37
TAOE Nuku Hiva Isla 53.63 194 *e*LR LR 14 36 20.2
comp=Z,64nm,23.5s
YAK Yakutsk 57.06 327 LR LR 14 44 04.7
comp=Z,65nm,21.0s,baz=70,slow=34
JMIC Jan Mayen 57.66 20 LR LR 14 44 49.4
comp=Z,30nm,18.9s,baz=249,slow=35
BORG Borgarnes 57.83 29 LR LR 14 46 44.4
comp=Z,73nm,20.8s,baz=304,slow=37
H11N3 WAKE ISLAND Hy 58.12 267 T T 15 24 06.2
baz=49,slow=75,SNR=3574
H11N2 WAKE ISLAND Hy 58.12 267 T T 15 24 10.8
baz=49,slow=75,SNR=1580
SJG San Juan 58.13 95 LR LR 14 46 00.2
comp=Z,47nm,20.8s,baz=236,slow=36
H11N1 WAKE ISLAND Hy 58.13 267 T T 15 24 09.6
baz=49,slow=75,SNR=1968
H11S1 WAKE ISLAND Hy 59.05 266 T T 15 25 16.0
baz=49,slow=75,SNR=172
H11S2 WAKE ISLAND Hy 59.06 266 T T 15 25 17.9
baz=49,slow=75,SNR=175
H11S3 WAKE ISLAND Hy 59.07 266 T T 15 25 17.3
baz=49,slow=75,SNR=159
JKA Kamikawa-asahi 60.38 304 P **P 14 21 41.5 +1.2**
ROSC El Rosal 61.67 113 LR LR 14 55 27.0
comp=Z,54nm,18.3s,baz=270,slow=43
KLR Kul'dur 63.48 314 LR LR 14 48 41.3
comp=Z,44nm,18.9s,baz=53,slow=35
NRIK Noril'sk 63.77 346 P **P 14 22 01.5 -1.1**
comp=Z,1.6nm,0.5s,baz=14,slow=8.8,SNR=5.1
comp=Z,1.6nm,0.5s
PPT2 Papeete2 64.19 202 *e*LR LR 14 41 15.1
comp=Z,57nm,23.5s
PCRV Puerto La Cruz 64.54 101 LR LR 14 52 41.4
comp=Z,82nm,19.3s,slow=38
HEH HeiHe 65.06 317 *e*P **P 14 22 10.8 -0.5**
ARCES ARCESS Array B 65.17 10 LR LR 14 53 53.5
comp=Z,26nm,18.9s,baz=40,slow=39
MDJ Mudanjiang 67.53 311 P P 14 22 33.3 +6.0
MDJ pmax pmax
comp=Z,6.0nm,2.4s
NOA NORSAR Array B 70.37 19 P **P 14 22 44.6 -0.1**
comp=Z,0.7nm,0.8s,baz=335,slow=5.8,SNR=2.5
NOA LR LR 14 51 22.3
comp=Z,31nm,21.7s,baz=290,slow=34
comp=Z,0.7nm,0.8s
EKA Eskdalemuir Ar 70.86 29 P **P 14 22 48.8 +1.1**
comp=Z,0.2nm,0.4s,baz=336,slow=7.0,SNR=1.6
comp=Z,0.2nm,0.4s
HFS Hagfors 71.75 19 P **P 14 22 52.7 -0.3**
comp=Z,1.5nm,0.8s,baz=5.4,slow=4.6,SNR=1.9
HFS LR LR 14 55 43.1
comp=Z,55nm,18.1s,baz=338,slow=37
comp=Z,1.5nm,0.8s
FINES FINESS Array B 72.92 12 P **P 14 22 57.9 -2.0**
comp=Z,2.7nm,0.9s,baz=352,slow=7.2,SNR=2.0
comp=Z,2.7nm,0.9s
KSRS Korea Array 73.22 306 P **P 14 23 03.5 +1.4**
comp=Z,1.2nm,1.0s,baz=18,slow=14,SNR=2.5
comp=Z,1.2nm,1.0s
SONM Songino Array 76.38 325 **P 14 23 21.4 +0.8**
SONM IAmb IAmb 14 23 27.9
comp=Z,5.8nm,1.2s
SONM Songino Array 76.38 325 P **P 14 23 20.4 -0.1**
comp=Z,2.7nm,0.9s,baz=42,slow=4.2,SNR=12
SONM LR LR 14 55 32.5
comp=Z,87nm,21.9s,baz=14,slow=35
comp=Z,2.7nm,0.9s
MDP Montagnes des 76.60 96 LR LR 15 01 35.6
comp=Z,70nm,18.1s,baz=245,slow=39
GUMO Guam 78.00 277 LR LR 14 49 43.2
comp=Z,66nm,22.0s,baz=89,slow=29
ZALV Zalesovo Beam 78.21 340 **P 14 23 29.8 -0.7**
ZALV Zalesovo Beam 78.21 340 P **P 14 23 30.0 -0.4**
comp=Z,1.8nm,0.9s,baz=294,slow=1.5,SNR=3.6
ZALV LR LR 14 59 19.0
comp=Z,40nm,19.3s,baz=33,slow=37
comp=Z,1.8nm,0.9s
HHC Hu-ho-hao-te 79.53 318 *e*P **P 14 23 38.5 +0.4**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,74nm,5.5s
ARTI Arti 79.75 356 P **P 14 23 38.5 -0.3**
ARTI IAmb IAmb 14 23 44.5
comp=Z,4.1nm,1.0s
LPAZ La Paz 81.66 122 P **P 14 23 49.8 -0.5**
comp=Z,1.0nm,0.6s,baz=344,slow=4.3,SNR=8.8
comp=Z,1.0nm,0.6s
GERES GERESS Array B 81.86 24 P **P 14 23 50.4 0.0**
comp=Z,0.5nm,0.5s,baz=295,slow=8.1,SNR=3.6
comp=Z,0.5nm,0.5s
BRVK Borovoye 81.87 348 **P 14 23 49.8 -0.5**
BRVK IAmb IAmb 14 23 57.8
comp=Z,5.3nm,0.9s
BVAR Borovoye Array 81.89 348 P **P 14 23 50.6 +0.2**
comp=Z,1.4nm,0.7s,baz=19,slow=5.0,SNR=7.7
BVAR LR LR 15 02 14.9
comp=Z,46nm,20.2s,baz=24,slow=37
comp=Z,1.4nm,0.7s
VRAC Vranov 82.25 22 LR LR 15 01 15.4
comp=Z,59nm,18.1s,baz=318,slow=36
NJ2 Nanjing 82.29 308 *e*P **P 14 23 51.8 -1.0**
NJ2 pmax pmax
comp=Z,13nm,0.5s
KURK Kurchatov 82.63 343 **P 14 23 55.5 +1.3**
KURK IAmb IAmb 14 24 01.3
comp=Z,4.2nm,0.9s
KURBB Kurchatov Arra 82.74 343 P **P 14 23 54.5 -0.3**
comp=Z,2.2nm,0.8s,baz=18,slow=4.9,SNR=15
KURBB LR LR 15 01 34.2
comp=Z,37nm,21.8s,baz=171,slow=36
comp=Z,2.2nm,0.8s
ESDC Sonseca Array 83.00 40 P **P 14 23 55.7 -0.8**
comp=Z,0.5nm,0.8s,baz=255,slow=4.8,SNR=4.7
ESDC LR LR 14 58 45.9
comp=Z,61nm,18.5s,baz=310,slow=34
comp=Z,0.5nm,0.8s
HNR Honiara 83.28 250 LR LR 14 53 07.3
comp=Z,115nm,21.2s,baz=112,slow=30
AKASG Malin Array Be 83.73 14 P **P 14 24 00.8 +0.9**
comp=Z,0.3nm,0.4s,baz=351,slow=5.0,SNR=4.8
AKASG LR LR 15 00 20.4
comp=Z,60nm,18.4s,baz=37,slow=35
comp=Z,0.3nm,0.4s
MKAR Makanchi Array 85.43 339 P **P 14 24 08.0 -0.7**
comp=Z,0.8nm,1.0s,baz=23,slow=6.6,SNR=6.0
MKAR LR LR 15 03 57.7

comp=Z,46nm,18.4s,baz=18,slow=37
comp=Z,0.8nm,1.0s
MAKZ Makanchi 85.50 339 P P 14 24 07.7 -1.3
MAKZ IAmb IAmb 14 24 15.6
comp=Z,3.2nm,0.8s
AKTO Aktyubinsk 85.71 356 LR LR 15 06 41.6
comp=Z,26nm,18.4s,baz=190,slow=39
SIV San Ignacio 85.87 117 LR LR 15 04 58.9
comp=Z,70nm,18.6s,baz=112,slow=37
XAN Xi'an 86.15 315 P P 14 24 13.0 +0.5
XAN pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 86.76 354 P 14 24 14.4 -0.7
MLR Muntele Rosu 88.09 17 LR LR 15 02 29.6
comp=Z,51nm,21.5s,baz=282,slow=35
DZM Mont Dzumac 88.42 237 eLR LR 14 52 26.6
comp=Z,97nm,21.9s
PMG Port Moresby 92.14 259 LR LR 14 57 35.6
comp=Z,80nm,21.2s,baz=56,slow=30
BDFB Brasilia 94.34 107 LR LR 15 11 03.2
comp=Z,58nm,18.5s,baz=182,slow=38
PZH PanZhiHua 95.87 316 P P 14 24 58.3 +0.2
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.3s
QSPA South Pole Qui 133.85 180 PKP **PKPdf 14 30 46.8 -0.3**
comp=Z,2.4nm,1.1s,baz=106,slow=3.4,SNR=3.4

*IDC **10** 14:41:10.9±6.0,23°.66S×178°.62W,h0km,mb4.2/4, mbtmp4.2/4,Error ellipse: s-maj=165.7km s-min=95.4km az=145.0*
ISC 10 14:42:05.5±2.0,24°.4S±0°.2×179°.8W±0°.2,h500km,n49, σ2°76/49,mb3.8/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.10**	**162**	P	**P**	**14 43 34.6**	**+1.3**
GLKZ				S	**S**	**14 44 49.2**	**+4.1**
OUZ	**Omahuta**	**12.22**	**207**	P	**P**	14 44 38.1	-8.1
GRZ	**Great Barrier**	**12.50**	**198**	P	**P**	**14 44 47.6**	**-1.6**
WCZ	**Waipu Caves**	**12.57**	**203**	P	**P**	**14 44 49.5**	**-0.5**
KUZ	**Kuaotunu**	**12.89**	**197**	P	**P**	**14 44 52.0**	**-1.4**
MXZ	**Matakaoa Point**	**13.21**	**187**	P	**P**	**14 44 54.8**	**-2.0**
MKAZ	**Moumakai**	**13.38**	**198**	P	**P**	**14 44 56.8**	**-1.8**
WMGZ	**Waiomatatini S**	**13.46**	**186**	P	**P**	**14 44 57.4**	**-1.9**
HAZ	**Te Kaha**	**13.47**	**188**	P	**P**	**14 44 57.8**	**-1.6**
PKGZ	**Pakihiroa**	**13.54**	**187**	P	**P**	**14 44 58.5**	**-1.8**
RUGZ	**Raukumara Rang**	**13.69**	**189**	P	**P**	**14 45 00.2**	**-1.7**
PUZ	**Puketiti**	**13.72**	**187**	P	**P**	**14 44 59.7**	**-2.5**
OPRZ	**Ohinepanea**	**13.76**	**192**	P	**P**	**14 45 02.1**	**-0.4**
TWGZ	**Tauwhareparae**	**13.86**	**188**	P	**P**	**14 45 01.3**	**-2.4**
KMRZ	**Kaimai**	**13.89**	**194**	P	**P**	**14 45 01.9**	**-2.0**
KARZ	**Kaharoa**	**13.99**	**193**	P	**P**	**14 45 03.1**	**-1.8**
OMRZ	**Omania**	**14.05**	**193**	P	**P**	**14 45 05.7**	**+0.1**
MKRZ	**Makatiti**	**14.06**	**192**	P	**P**	**14 45 06.7**	**+0.9**
URZ	**Urewera**	**14.06**	**190**	P	**P**	**14 45 00.9**	**-4.8**
MWZ	**Matawai**	**14.07**	**189**	P	**P**	**14 45 03.8**	**-2.0**
TKGZ	**Te Karaka**	**14.13**	**188**	P	**P**	**14 45 04.8**	**-1.7**
CNGZ	**Carnagh Statio**	**14.14**	**187**	P	**P**	**14 45 04.9**	**-1.5**
HLRZ	**Highlands Stat**	**14.19**	**193**	P	**P**	**14 45 06.4**	**-0.8**
MUGZ	**Murupara**	**14.33**	**191**	P	**P**	**14 45 04.9**	**-3.7**
GRRZ	**Galatos Road**	**14.34**	**193**	P	**P**	**14 45 09.0**	**+0.4**
TLZ	**Tolley Road**	**14.44**	**195**	P	**P**	**14 45 10.3**	**+0.5**
SNGZ	**Shannon Statio**	**14.54**	**189**	P	**P**	**14 45 07.5**	**-3.3**
KNZ	**Kokohu**	**14.73**	**188**	P	**P**	**14 45 10.7**	**-2.0**
BKZ	**Black Stump Fm**	**15.05**	**191**	P	**P**	**14 45 12.1**	**-4.0**
TMVZ	**Te Maari**	**15.16**	**194**	P	**P**	**14 45 14.3**	**-3.0**
ETVZ	**East Tongariro**	**15.18**	**194**	P	**P**	**14 45 15.0**	**-2.6**
VRZ	**Vera Road**	**15.39**	**196**	P	**P**	**14 45 19.2**	**-0.4**
PXZ	**Pawanui**	**15.83**	**190**	P	**P**	**14 45 20.1**	**-4.1**
TSZ	**Takapari Road**	**16.02**	**192**	P	**P**	**14 45 21.6**	**-4.5**
BFZ	**Birch Farm**	**16.57**	**191**	P	**P**	**14 45 26.4**	**-5.6**
MRZ	**Mangatainoka R**	**16.67**	**192**	P	**P**	**14 45 28.4**	**-4.6**
QRZ	**Quartz Range**	**17.60**	**200**	P	**P**	**14 45 38.6**	**-3.5**
NNZ	**Nelson**	**17.71**	**197**	P	**P**	**14 45 39.0**	**-4.1**
THZ	**Tophouse**	**18.35**	**198**	P	**P**	**14 45 45.7**	**-3.3**
KHZ	**Kahutara**	**18.80**	**196**	P	**P**	**14 45 49.7**	**-3.2**
GVZ	**Greta Valley S**	**19.44**	**196**	P	**P**	**14 45 55.5**	**-3.4**
LTZ	**Lake Taylor**	**19.47**	**198**	P	**P**	**14 45 55.5**	**-3.8**
OXZ	**Oxford**	**20.04**	**198**	P	**P**	**14 46 00.3**	**-4.1**
MQZ	**McQueen's Vall**	**20.23**	**196**	P	**P**	**14 46 03.1**	**-2.9**
STKA	**Stephens Creek**	**34.75**	**249**	P	**P**	**14 48 13.6**	**+0.2**
	1.2nm,0.6s,baz=90,slow=15,SNR=3.8						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**42.18**	**261**	P	**P**	**14 49 14.6**	**+0.6**
	0.8nm,0.4s,baz=101,slow=8.0,SNR=59						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**42.61**	**267**	P	**P**	**14 49 18.2**	**+0.9**
	2.9nm,0.5s,baz=104,slow=7.9,SNR=48						
	2.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**51.02**	**266**	P	**P**	**14 50 22.6**	**+1.5**
	2.8nm,0.6s,baz=108,slow=6.8,SNR=6.7						
	2.8nm,0.6s						
HFS	**Hagfors**	**143.09**	**349**	PKP	**PKiKP**	**15 00 45.1**	**+0.1**
	0.8nm,0.4s,baz=14,slow=1.8,SNR=6.5						

*GCMT **10** 14:48:08.0±0.4,15°.11S±0°.03×172°.96W±0°.04,h21km±2km, MW4.9/71,Moment Tensor Solution. s20,c26; s71,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.97±.17; $M_{\theta\theta}$0.38±.11; $M_{\phi\phi}$0.58±.12; $M_{r\theta}$-2.95±.50; $M_{\theta\phi}$-1.06±.11; $M_{\phi r}$-0.02±.18; Best double couple: $M_0$3.22700×10^{16} NP1:ϕ_s346.00000°,δ21.00000°,λ-22.00000°. NP2: ϕ_s96.00000°,δ82.00000°,λ-110.00000°. Principal axes: T 3.0150, Plg34.0000°, Azm203.0000°; N 0.4210, Plg20.0000°, Azm99.0000°; P -3.4380, Plg49.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
*IDC **10** 14:48:18.7±4.4,15°.17S×173°.84W,h148km±39km, mb3.5/11,mbtmp4.0/13,MS3.6/20 Error ellipse: s-maj=29.3km s-min=17.4km az=137.0*
ISC 10 14:48:02.1±0.8,15°.1S±0°.2×173.7W±0°.2,h0km,n36, σ1°05/15,mb3.9/11,MS3.7/18,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.37**	**251**	P	Pb	14 50 15.4	-12
	11nm,0.9s,baz=112,slow=12,SNR=7.8						
MSVF				LR	LR	14 53 06.9	
	comp=Z,990nm,20.5s,baz=92,slow=35						
RAR	**Rarotonga**	**14.53**	**117**	LR	LR	14 55 56.6	
	comp=Z,68nm,19.6s,baz=269,slow=31						
DZM	**Mont Dzumac**	**20.07**	**247**	eS	**Sn**	**14 56 24.4**	**+0.6**
	326nm,24.1s						
DZM				eLR	LR	14 57 31.2	
	733nm,27.2s						
DZM	**Mont Dzumac**	**20.07**	**247**	P	**Pn**	**14 52 39.7**	**+2.0**
	5.8nm,1.1s,baz=52,slow=19,SNR=2.0						
PPT	**Papeete**	**23.24**	**99**	LR	LR	14 59 31.1	
	comp=Z,46nm,21.7s,baz=250,slow=29						
PPT2	**Papeete2**	**23.24**	**99**	eLR	LR	14 58 34.6	
	114nm,31.0s						
PPT2				eLR	LR	14 58 43.0	
	98nm,47.5s						
TBI	**Tubuai**	**24.25**	**113**	eLR	LR	14 59 00.9	
	375nm,27.0s						
URZ	**Urewera**	**24.46**	**198**	LR	LR	15 02 06.8	
	comp=Z,318nm,19.3s,baz=116,slow=34						
TAOE	**Nuku Hiva Isla**	**33.34**	**83**	eLR	LR	15 03 16.1	
	204nm,25.2s						
PMG	**Port Moresby**	**38.66**	**274**	LR	LR	15 09 15.5	
	comp=Z,83nm,18.7s,baz=78,slow=33						
H11N3	**WAKE ISLAND Hy**	**39.53**	**331**	T	T	15 37 41.4	
	baz=149,slow=76,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**39.54**	**330**	T	T	15 37 40.7	
	baz=149,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**39.55**	**331**	T	T	15 37 44.7	
	baz=149,slow=76,SNR=7.6						
STKA	**Stephens Creek**	**43.96**	**240**	P	**P**	**14 56 08.3**	**-1.4**
	1.4nm,0.7s,baz=85,slow=4.8,SNR=2.0						
STKA				LR	LR	15 11 35.5	
	comp=Z,94nm,21.0s,baz=28,slow=32						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**49.66**	**257**	P	**P**	**14 56 53.4**	**-1.0**
	0.3nm,0.3s,baz=99,slow=5.8,SNR=30						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**49.96**	**252**	P	**P**	**14 56 55.9**	**-0.8**
	1.6nm,0.4s,baz=86,slow=8.0,SNR=62						
ASAR				LR	LR	15 16 13.7	
	comp=Z,179nm,21.9s,baz=96,slow=34						
	1.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**58.02**	**258**	P	**P**	**14 57 57.0**	**+1.3**
	1.8nm,0.8s,baz=65,slow=9.5,SNR=1.3						
FITZ				LR	LR	15 21 00.4	
	comp=Z,88nm,20.5s,baz=128,slow=34						
	1.8nm,0.8s						
VNDA	**Vanda**	**63.64**	**186**	LR	LR	15 24 15.8	
	comp=Z,45nm,19.4s,baz=242,slow=34						
SHEM	**Shemya Is, Ala**	**68.38**	**352**	LR	LR	15 22 57.5	
	comp=Z,112nm,20.6s,baz=142,slow=30						
MJAR	**Matsushiro Arr**	**68.55**	**320**	LR	LR	15 22 42.4	
	comp=Z,62nm,21.2s,baz=144,slow=30						
ASAJ	**Asahikawa**	**71.16**	**328**	LR	LR	15 24 35.5	
	comp=Z,24nm,21.4s,baz=174,slow=31						
JNU	**Nakatsue**	**71.41**	**313**	LR	LR	15 25 14.2	
	comp=Z,39nm,19.8s,baz=182,slow=31						
PETK	**Petropavlovsk-**	**72.28**	**342**	P	**P**	**14 59 27.6**	**+0.1**
	0.9nm,0.9s,baz=158,slow=5.3,SNR=2.3						
PETK				LR	LR	15 24 06.2	
	comp=Z,17nm,21.1s,baz=148,slow=30						
	0.9nm,0.9s						
NVAR	**Mina Array Bea**	**74.28**	**42**	P	**P**	**14 59 40.5**	**+0.6**
	0.2nm,0.3s,baz=247,slow=7.7,SNR=1.7						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**74.93**	**180**	P	**P**	**14 59 43.1**	**-0.2**
	5.8nm,1.0s,baz=34,slow=3.3,SNR=14						
QSPA				LR	LR	15 25 57.9	
	comp=Z,67nm,21.9s,baz=296,slow=30						
	5.8nm,1.0s						
USRK	**Ussuriysk Ar.**	**77.00**	**323**	LR	LR	15 27 15.4	
	comp=Z,60nm,21.7s,baz=157,slow=30						
ELK	**Elko**	**77.53**	**42**	LR	LR	15 25 48.2	
	comp=Z,84nm,19.8s,baz=290,slow=29						
MA2	**Magadan**	**79.81**	**342**	LR	LR	15 28 33.9	
	comp=Z,29nm,20.9s,baz=143,slow=30						
KLR	**Kul'dur**	**80.14**	**327**	LR	LR	15 34 01.9	
	comp=Z,30nm,18.1s,baz=170,slow=34						
TXAR	**Lajitas Array**	**80.66**	**56**	P	**P**	**15 00 17.2**	**+1.5**
	2.0nm,1.1s,baz=250,slow=4.5,SNR=8.0						
	2.0nm,1.1s						
ILAR	**Eielson Array**	**82.21**	**11**	P	**P**	**15 00 22.6**	**-0.4**
	0.8nm,1.0s,baz=232,slow=5.4,SNR=4.5						
	0.8nm,1.0s						
PDAR	**Pinedale Array**	**82.22**	**42**	P	**P**	**15 00 23.7**	**-0.2**
	1.1nm,1.0s,baz=256,slow=3.9,SNR=5.8						
	1.1nm,1.0s						
YKA	**Yellowknife Ar**	**89.93**	**23**	P	**P**	**15 01 00.9**	**-0.2**
	0.1nm,0.4s,baz=262,slow=3.7,SNR=3.8						
	0.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**92.28**	**288**	LR	LR	15 42 48.0	
	comp=Z,7.0nm,19.0s,baz=175,slow=36						
BRTR	**Keskin Array B**	**145.77**	**321**	PKPbc	**PKPab**	**15 07 41.6**	**-0.7**
	1.1nm,0.8s,baz=105,slow=2.6,SNR=3.6						
GERES	**GERESS Array B**	**145.82**	**351**	PKPbc	**PKPbc**	**15 07 41.2**	**-0.5**
	0.2nm,0.3s,baz=5.5,slow=3.2,SNR=2.1						

DJA 10 14:48:08.3±0.3,2°.5±3°.×12°.1E±°,h10km,M3.8/12,mb3.7/1, MLv3.8/12,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.20**	**218**	P	Pb	14 48 28.5	-2.6
PCI	**Palu**	**1.39**	**329**	P	Pn	14 48 32.7	-1.1
APSI	**Ampana**	**1.61**	**43**	P	Pb	14 48 37.5	-0.6
SPSI	**Sidrap Palu**	**2.01**	**203**	P	Pn	14 48 42.6	+0.2
BNSI	**Bone**	**2.33**	**191**	P	Pn	14 48 46.1	-0.6
LUWI	**Luwuk**	**2.45**	**65**	P	Pn	14 48 47.4	-0.9
MPSI	**Mapaga**	**2.51**	**345**	P	Pn	14 48 49.4	+0.2
KDI	**Kendari**	**2.76**	**132**	P	Pb	14 48 59.4	+1.6
BKSI	**Bulukumba**	**3.23**	**188**	P	Pn	14 48 59.9	+0.8
BBSI	**Bau Bau**	**3.92**	**149**	P	Pn	14 49 09.0	+0.4
BSSI	**Bau Bau, Buton**	**4.02**	**181**	P	Pn	14 49 11.1	+1.2
SANI	**Sanana**	**5.42**	**90**	P	Pn	14 49 28.3	-1.0

*SJA **10** 14:49:10.1±2.1,22°.76S×70°.71W,h15km±13km,ML3.9, MW3.6*
*GUC **10** 14:49:14.7±0.9,22°.78S×70°.49W,h14km±6km,ML3.9*
ISC 10 14:49:12.7±1.4,22.81S±0°.03×70.52W±0.05,h10km±10km, n28,σ1°44/45,4C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	**IPOC Station P**	**0.70**	**182⇑**	*iP*	**Pg**	**14 49 27.4**	**+1.0**
PB10				*i*S	**Sg**	**14 49 37.3**	**+1.7**
PB10				IAML		14 49 40.0	
	comp=E,6μm,0.7s						
PB10	**IPOC Station P**	**0.70**	**182**	*i P*	**Pg**	**14 49 27.4**	**+1.0**
PB10				IAML		14 49 41.6	
	comp=Z,2μm,0.3s						
PB06	**IPOC Station P**	**0.88**	**84⇓**	*iP*	**Pg**	**14 49 29.7**	**-0.1**
PB06				*i*S	**Sg**	**14 49 40.0**	**-1.3**
PB06				IAML		14 49 41.6	
	comp=E,10μm,0.3s						
PB06	**IPOC Station P**	**0.88**	**84**	*i P*	**Pg**	**14 49 29.7**	**-0.1**
PB06				*e*S	**Sg**	**14 49 40.5**	**-0.7**
PB06				IAML		14 49 41.1	
	comp=Z,5μm,0.3s						
PB03	**IPOC Station P**	**1.04**	**43**	*eP*	**Pb**	**14 49 32.1**	**-0.8**
PB03				*e*S	**Sb**	**14 49 45.4**	**-1.2**
PB03				IAML		14 49 48.3	
	comp=E,5μm,0.5s						
PB03	**IPOC Station P**	**1.04**	**43**	*i P*	**Pb**	**14 49 31.5**	**-1.4**
PB03				IAML		14 49 48.8	
	comp=Z,4μm,0.4s						
PB09	**IPOC Station P**	**1.55**	**50**	*eP*	**Pn**	**14 49 40.7**	**+0.1**
PB09				*i*S	**Sn**	**14 50 00.2**	**-0.7**
PB09				IAML		14 50 04.0	
	comp=E,1μm,0.3s						
PB09	**IPOC Station P**	**1.55**	**50**	*i P*	**Pn**	**14 49 40.1**	**-0.5**
PB09				*e*S	**Sb**	**14 50 02.6**	**+1.1**
PB09				IAML		14 50 04.2	
	comp=Z,2μm,0.7s						
PB14	**IPOC Station P**	**1.81**	**177**	*i P*	**Pn**	**14 49 43.6**	**-0.7**
PB14				IAML		14 50 12.0	
	comp=Z,508nm,1.0s						
PB01	**IPOC Station P**	**2.00**	**29⇑**	*eP*	**Pn**	**14 49 46.7**	**0.0**
PB01				*e*S	**Sn**	**14 50 11.6**	**-0.3**
PB01				IAML		14 50 16.1	
	comp=E,982nm,0.3s						
PB01	**IPOC Station P**	**2.00**	**29**	*i P*	**Pn**	**14 49 46.4**	**-0.2**
PB01				*e*S	**Sb**	**14 50 13.8**	**-0.5**
PB01				IAML		14 50 16.0	
	comp=Z,517nm,1.0s						
AF01	**San Pedro de A**	**2.17**	**94**	*eP*	**Pb**	**14 49 52.1**	**-0.1**
AF01				*e*S	**Sb**	**14 50 20.1**	**+0.9**
AF01				IAML		14 50 30.7	
	comp=E,4μm,0.5s						
AF01	**San Pedro de A**	**2.17**	**94**	*i P*	**Pb**	**14 49 52.1**	**-0.1**
AF01				*e*S	**Sg**	**14 50 22.0**	**-0.4**
AF01				IAML		14 50 42.7	
	comp=Z,3μm,0.4s						
GO02	**Mina Guanaco**	**2.50**	**160⇑**	*iP*	**Pn**	**14 49 54.5**	**+0.7**
GO02				*i*S	**Sn**	**14 50 26.3**	**+1.9**
GO02				IAML		14 50 36.5	
	comp=N,1μm,0.3s						
GO02	**Mina Guanaco**	**2.50**	**160**	*i P*	**Pn**	**14 49 53.9**	**+0.2**
GO02				*e*S	**Sn**	**14 50 26.7**	**+2.3**
GO02				IAML		14 50 38.8	
	comp=Z,772nm,0.3s						
HMBC	**Humberstone**	**2.58**	**13**	*eP*	**Pn**	**14 49 55.1**	**+0.3**
HMBC				*i*S	**Sn**	**14 50 27.6**	**+1.3**
HMBC				IAML		14 50 36.5	
	comp=E,619nm,0.5s						
HMBC	**Humberstone**	**2.58**	**13**	*i P*	**Pn**	**14 49 55.0**	**+0.2**
HMBC				IAML		14 50 39.4	
	comp=Z,561nm,0.4s						
PB08	**IPOC Station P**	**2.94**	**26**	*eP*	**Pn**	**14 50 00.9**	**+1.0**
PB08				*e*S	**Sn**	**14 50 35.8**	**+0.3**
PB08				IAML		14 50 48.7	
	comp=N,310nm,0.7s						
PB08	**IPOC Station P**	**2.94**	**26**	*i P*	**Pn**	**14 50 02.7**	**+2.8**
PB08				IAML		14 50 49.8	
	comp=Z,202nm,0.9s						
PB11	**IPOC Station P**	**3.13**	**15**	*i P*	**Pn**	**14 50 02.5**	**+0.2**
PB11				*i*S	**Sn**	**14 50 41.2**	**+1.2**
PB11				IAML		14 50 56.8	
	comp=N,487nm,0.5s						
PB11	**IPOC Station P**	**3.13**	**15**	*i P*	**Pn**	**14 50 01.7**	**-0.7**
PB11				IAML		14 50 53.7	
	comp=Z,213nm,0.4s						
AC01	**Pan de Azucar**	**3.33**	**181**	*eP*	**Pn**	**14 50 03.0**	**-1.9**
AC01				*i*S	**Sn**	**14 50 40.0**	**-4.5**
AC01	**Pan de Azucar**	**3.33**	**181**	*i P*	**Pn**	**14 50 02.4**	**-2.5**
AC01				IAML		14 51 04.1	
	comp=Z,145nm,0.8s						
GO01	**Chusmiza**	**3.36**	**22⇑**	*eP*	**Pn**	**14 50 07.9**	**+2.2**
GO01				*e*S	**Sn**	**14 50 47.2**	**+1.3**
GO01				IAML		14 51 00.1	
	comp=N,302nm,0.3s						
GO01				IAML		14 51 01.6	
	comp=E,317nm,0.4s						
GO01	**Chusmiza**	**3.36**	**22**	*i P*	**Pn**	**14 50 07.2**	**+1.5**
GO01				IAML		14 51 00.9	
	comp=Z,220nm,0.5s						
PB12	**IPOC Station P**	**4.17**	**3⇓**	*iP*	**Pn**	**14 50 15.7**	**-0.9**
PB12				IAML		14 51 26.5	
	comp=Z,73nm,0.6s						
AC02	**Maricunga**	**4.21**	**163**	*e*S	**Sn**	**14 51 09.5**	**+2.6**
AC02				IAML		14 51 29.3	
	comp=Z,179nm,0.7s						
GO03	**Copiapo**	**4.78**	**177**	*i P*	**Pn**	**14 50 23.4**	**-1.4**
GO03				IAML		14 51 48.2	
	comp=Z,81nm,0.3s						

*IDC **10** 14:56:39.7±0.8,33°.29N×140°.01E,h148km±4km,mb3.2/5, mbtmp3.8/9,MS2.9/1,Error ellipse: s-maj=25.4km s-min=9.0km az=67.0*
*JMA **10** 14:56:40.6±0.2,33°.4N±0°.6×14°.0E±°,h148km±1km, MV3.4/29,E OFF HACHIJOJIMA ISLAND*
ISC 10 14:56:39.5±0.8,33°.24N±0°.05×140°.04E±0°.07,h153km±6km, n27,σ1°23/32,mb3.4/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.23**	**235**	P	**Pn**	**14 57 01.0**	**+0.8**
JHJ2				S	**Sn**	**14 57 16.2**	**+0.2**
JHJ	**Hachijo jima 2**	**0.24**	**240**	P	**Pn**	**14 57 01.0**	**+0.7**
	185nm,0.3s,baz=41,slow=16,SNR=22						
JHJ				S	**Sn**	**14 57 16.0**	**0.0**
	322nm,0.4s,baz=106,slow=20,SNR=8.2						
JMKN	**Mikurajimanish**	**0.75**	**330**	*eP*	**Pn**	**14 57 02.3**	**-0.4**
JMYK	**Miyake Tsubota**	**0.91**	**334**	*eP*	**Pn**	**14 57 03.8**	**-0.1**
JMYK				S	**Sn**	**14 57 20.9**	**-1.7**
JKO	**Kozu shima**	**1.21**	**322**	P	**Pn**	**14 57 06.0**	**-0.3**
JIM2	**Oshima 3**	**1.56**	**341**	P	**Pn**	**14 57 09.8**	**-0.1**
BSO3	**Boso 3**	**1.61**	**14**	P	**Pn**	**14 57 10.3**	**+0.2**
BSO3				*e*S	**Sn**	**14 57 34.1**	**+0.3**
BSO1	**Boso 1**	**1.61**	**29**	P	**Pn**	**14 57 10.6**	**+0.7**
BSO1				S	**Sn**	**14 57 34.3**	**+0.9**
JIZS	**Izushimoda**	**1.76**	**327**	P	**Pn**	**14 57 11.7**	**-0.4**
JOD2	**Odawara 2**	**2.17**	**339**	*i P*	**Pn**	**14 57 16.3**	**-0.5**
JOD2				*e*S	**Sn**	**14 57 44.2**	**-1.3**
SHZ3	**Shizuoka 3**	**2.37**	**321**	P	**Pn**	**14 57 19.3**	**0.0**
SHZ3				S	**Sn**	**14 57 48.6**	**-1.3**
TTO2	**TONANKAI O.B.S**	**2.56**	**282**	*eP*	**Pn**	**14 57 21.4**	**+0.2**
JYN	**Shimob**	**2.57**	**332**	P	**Pn**	**14 57 21.5**	**-0.2**
JRY	**Ryogami san**	**2.92**	**342**	P	**Pn**	**14 57 25.5**	**-0.6**
MJAR	**Matsushiro Arr**	**3.62**	**336**	P	**Pn**	**14 57 33.7**	**-1.2**
	3.4nm,0.4s,baz=164,slow=13,SNR=25						
MJAR				S	**Sn**	**14 58 15.7**	**-2.3**
	5.3nm,0.7s,baz=164,slow=14,SNR=5.2						
JCJ	**Chichijima**	**6.40**	**163**	P	**Pn**	**14 58 11.0**	**-0.6**
	48nm,0.6s,baz=330,slow=20,SNR=1.4						
JCJ				S	**Sn**	**14 59 19.8**	**-4.0**
	27nm,0.3s,baz=254,slow=18,SNR=1.5						
JNU	**Nakatsue**	**7.68**	**272**	P	**Pn**	**14 58 30.0**	**+1.4**
	12nm,1.0s,baz=111,slow=8.6,SNR=2.1						
ASAJ	**Asahikawa**	**11.04**	**10**	P	**Pn**	**14 59 11.5**	**-1.5**
	1.7nm,0.3s,baz=210,slow=14,SNR=10						
H11N2	**WAKE ISLAND Hy**	**27.45**	**113**	T	T	15 31 29.2	
	baz=306						
H11N1	**WAKE ISLAND Hy**	**27.46**	**113**	T	T	15 31 31.9	
	baz=306						
H11N3	**WAKE ISLAND Hy**	**27.47**	**113**	T	T	15 31 28.1	
	baz=306						
CMAR	**Chiang Mai Arr**	**39.54**	**259**	LR	LR	15 20 20.7	
	comp=Z,17nm,20.4s,baz=220,slow=36						
MKAR	**Makanchi Array**	**45.28**	**305**	P	**P**	**15 04 41.8**	**+0.1**
	0.5nm,0.5s,baz=89,slow=8.5,SNR=8.3						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**47.53**	**311**	P	**P**	**15 04 58.9**	**-0.2**
	0.2nm,0.4s,baz=102,slow=7.7,SNR=7.2						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**52.35**	**314**	P	**P**	**15 05 37.5**	**+2.0**
	0.4nm,0.5s,baz=100,slow=3.5,SNR=2.2						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**53.16**	**187**	P	**P**	**15 05 42.2**	**+0.5**
	0.5nm,0.4s,baz=2.9,slow=7.8,SNR=17						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**56.89**	**187**	P	**P**	**15 06 09.3**	**+0.9**
	0.3nm,0.5s,baz=360,slow=5.8,SNR=11						
	0.3nm,0.5s						

*JMA **10** 14:58:44.0±0.1,40°.6N±0°.3×141°.4E±0°.6,h89km,MV3.3/39, EASTERN AOMORI PREF*
JMA Felt I J1 at EASTERN AOMORI PREF .
*IDC **10** 14:58:44.8±1.9,40°.52N×141°.39E,h102km±17km, mb3.3/10,mbtmp3.7/15,MS2.3/1,Error ellipse: s-maj=21.5km s-min=13.0km az=115.0*
ISC 10 14:58:43.7±0.7,40°.55N±0°.04×141°.40E±0°.07,h89km±6km, n28,σ1°16/36,mb3.6/10,2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.20**	**153⇓**	*iP*	**Pn**	**14 58 56.8**	**+0.2**
JANG				⇓S	**Sn**

FINES	FINESS Array B	65.71	332	P	P	15 09 19.0	+0.7
	0.9nm,0.8s,baz=66,slow=11,SNR=1.2						
	0.9nm,0.8s						

SJA 10 15:00:00.0±0.7,31°.72S×67°.58W,h116km±3km,ML3.5, MW3.7,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	Cerro Villicun	0.86	297	eP	Pn	15 00 16.0	-4.4
RTLL				eP		15 00 21.2	
RTLL				eS	Sn	15 00 36.5	+0.8
SJA	San Juan	0.86	283	eP	Pn	15 00 16.0	-4.4
SJA				eP		15 00 21.2	
SJA				eS	Sn	15 00 36.4	+0.7
SJA				IAML		15 00 37.0	
	comp=Z,566nm,0.2s						
ZON	Zonda	0.96	280	eP	Pn	15 00 22.0	+0.7
ZON				eS	Sn	15 00 38.7	+1.4
ZON				IAML		15 00 38.9	
	comp=Z,581nm,0.2s						
ACHE	Chepes	0.96	55	eP	Pn	15 00 10.0	-11
AVFE	Valle Fertil	1.06	6	eP	Pn	15 00 22.9	+0.5
AVFE				eS	Sn	15 00 40.5	+1.2
AVFE				IAML		15 00 40.7	
	comp=Z,891nm,0.3s						
ASAL	Salagasta	1.38	231	eP	Pn	15 00 26.8	+1.0
ASAL				eS	Sn	15 00 41.5	-3.9
ASAL				IAML		15 00 47.4	
	comp=Z,763nm,0.6s						
RTLS	Leoncito	1.47	266	eP	Pn	15 00 28.0	+1.0
RTLS				eS	Sn	15 00 48.4	+0.8
RTLS				IAML		15 00 50.1	
	comp=Z,706nm,0.8s						
DOCA	Reserva Natura	1.50	300	eP	Pn	15 00 11.4	-16
APLL	PUNTA DE LOS L	1.60	35	eP	Pn	15 00 27.4	-1.0
ARCO	CERRO ARCO	1.60	225	eP	Pn	15 00 29.5	+1.0
ARCO				eS	Sn	15 00 52.1	+1.9
ARCO				IAML		15 00 54.8	
	comp=Z,594nm,0.3s						
AUSP	Uspallata	1.62	251	eP	Pn	15 00 29.9	+1.1
AUSP				eS	Sn	15 00 46.5	-4.3
ACCO	Cerro Coronel	1.70	311	eP	Pn	15 00 32.7	+2.8
ACCO				eS	Sn	15 00 56.4	+3.8
AAGR	Agrelo	1.72	218	eP	Pn	15 00 31.0	+1.1
AAGR				eS	Sn	15 00 52.9	+0.1
AAGR				IAML		15 00 55.4	
	comp=Z,447nm,0.5s						
MRA	San Martin	1.73	114	eP	Pn	15 00 31.1	+1.2
MRA				eS	Sn	15 00 53.8	+1.0
MRA				IAML		15 00 54.7	
	comp=Z,418nm,0.4s						
ACDV	Cuesta del Vie	2.04	319	eP	Pn	15 00 35.5	+1.7
AROD	Rodeo	2.25	313	eP	Pn	15 00 37.7	+1.0
AROD				eS	Sn	15 01 06.3	+1.5
ACLC	CERRO LA CRUZ	2.35	13	eP	Pn	15 00 38.4	+0.5
ACLC				eS	Sn	15 01 07.7	+0.8
ACLC				IAML		15 01 08.0	
	comp=Z,198nm,0.2s						
AGUA	GUANDACOL	2.36	340	eP	Pn	15 00 39.2	+1.3
AGUA				eS	Sn	15 01 08.2	+1.2
AGUA				IAML		15 01 10.9	
	comp=Z,302nm,0.7s						
VA03	San Esteban	2.73	247	eP	Pn	15 00 44.4	+1.7
VA03				eS	Sn	15 01 16.0	+0.5
VA03				IAML		15 01 22.2	
	comp=Z,153nm,0.8s						
CO03	El Pedregal	2.81	287	eP	Pn	15 00 45.6	+1.9
CO03				eS	Sn	15 01 20.9	+3.5
CO03				IAML		15 01 21.6	
	comp=Z,144nm,0.7s						
CO02	Combarbal	2.97	279	eP	Pn	15 00 47.0	+1.1
CO02				eS	Sn	15 01 22.6	+1.4
CO02				IAML		15 01 24.1	
	comp=Z,176nm,0.4s						
PEL	Peldehue	2.99	241	eP	Pn	15 00 47.1	+1.1
PEL				eS	Sn	15 01 24.2	+2.7
VCA	Vinchina	3.02	349	eP	Pn	15 00 48.0	+1.3
VCA				eS	Sn	15 01 22.0	-0.6
VCA				IAML		15 01 26.9	
	comp=Z,164nm,0.6s						
ROC1	El Roble	3.17	246	eP	Pn	15 00 48.5	-0.1
ROC1				eS	Sn	15 01 28.8	+2.7
GO04	Tololo Observa	3.17	298	eP	Pn	15 00 49.6	+1.0
GO04				eS	Sn	15 01 26.9	+0.8
CYA	Choya	3.61	26	eP	Pn	15 00 48.5	-5.8
CYA				eP		15 00 54.2	
CYA				eS	Sn	15 01 29.5	-6.8
CYA				eS		15 01 34.9	
CYA				IAML		15 01 36.6	
	comp=Z,102nm,0.4s						
GO03	Copiapo	4.72	330	eP	Pn	15 01 09.9	+0.7
AC02	Maricunga	5.05	344	eP	Pn	15 01 16.1	+2.0
AC02				eS	Sn	15 02 10.0	-1.6
AHML	Horco Molle	5.29	22	eS	Sn	15 02 15.8	-1.0
AHML				IAML		15 02 17.2	
	comp=Z,11nm,0.3s						
FSA	Cafayete	5.76	14	eP	Pn	15 01 23.6	+0.2
ASTB	Santa Barbara	8.22	20	eS	Sn	15 03 18.7	-9.3

*BJI **10** 15:09:26.7,6°.84N×93°.92E,h10km,mB4.7/7,mb4.4/33, Ms4.1/4,Ms7 3.6/4*
*IDC **10** 15:09:31.6±0.7,7°.59N×94°.25E,h0km,mb4.1/15, mbtmp4.1/17,ML3.9/2,MS3.5/20,Error ellipse: s-maj=34.4km s-min=14.5km az=56.0*
*NEIC **10** 15:09:33.9±1.3,7°.56N±0°.07×94°.2E±0°.1,h10km±1km, mb4.6/42,Error ellipse: s-maj=17.8km s-min=11.4km az=249.0*
*DJA **10** 15:09:39.5±0.3,8°.N±3°.×9°.5E±°,h10km,M4.8/10,mb4.7/9, mB5.5/5,MLv4.7/10,Mw(mB)5.0/5*
*NDI **10** 15:09:42.7±1.0,7°.53N×94°.26E,h10km,ML4.3,MW4.2, mb4.6(NEIC)*

ISC 10 15:09:32.9±2.5,7°.53N±0°.04×94°.19E±0°.06,h7km±16km, n124,σ1°.54/107,mb4.5/41,MS3.5/20,1C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	0.58	207	eP	Pn	15 09 51.2	+3.6
CMBY				eS	Sn	15 09 59.4	+1.9
CMBY				IAML		15 10 02.1	
	comp=N,27μm,0.4s						
CMBY				IAML		15 10 02.4	
	comp=E,20μm,0.5s						
BSI	Banda Aceh	2.30	151	P	Pb	15 10 17.3	+2.4
LHMI	Lhok Sumawe	3.57	130		Pn	15 10 30.7	+1.9
LHMI	Lhok Sumawe	3.57	130	P	Pn	15 10 31.4	+2.6
LHMI	Lhok Sumawe	3.57	130	P	Pn	15 10 31.1	+2.3
MLSI	Meulaboh, Aceh	3.92	146	P	Pb	15 10 39.3	-3.2
PBA	Port Blair	4.34	341	eP	Pb	15 10 49.7	+0.2
PBA				eS	Sb	15 11 37.4	-4.8
SRIT	Nakonsritamara	5.46	78	Pn	Pn	15 10 56.0	+1.2
SRIT	Nakonsritamara	5.46	78	P	Pn	15 10 56.5	+1.7
DGPR	DIGLIPUR	5.74	348	eP	Pb	15 11 08.5	-5.0
DGPR				eS	Sn	15 12 10.7	+5.7
DGPR				IAML		15 12 42.3	
	comp=N,475nm,2.0s						
PSI	Prapat	6.66	135	Pn	Pn	15 11 11.2	-0.2
	comp=N,1.6nm,0.3s,baz=308,slow=8.2,SNR=7.1						
PSI				Sn	Sn	15 12 28.9	+1.3
	comp=N,1.0nm,0.3s,baz=351,slow=16,SNR=1.1						
	comp=N,3.0nm,0.4s						
PSI	Prapat	6.66	135	P	Pn	15 11 17.1	+5.7
RPSI	Rantau Prapat	6.73	135	Pn	Pn	15 11 14.7	+2.4
RPSI	Rantau Prapat	6.73	135		Pn	15 11 11.2	-1.1
RPSI					Sn	15 12 28.9	-0.4
KULM	Kulim	6.79	109	Pn	Pn	15 11 13.6	+0.4
KULM	Kulim	6.79	109	P	Pn	15 11 14.1	+0.9
GSI	Gunungsitoli	7.05	151	P	Pn	15 11 22.6	+5.9
	comp=N,0.2nmcomp=N,16nm,0.6s						
SRDT	SRDT	8.32	35	P	Pn	15 11 41.2	+7.0
NAYO	Nakonayok	9.71	45	P	Pn	15 11 59.2	+5.9
MYKOM	Kota Tinggi	11.19	120	Pn	Pn	15 12 13.0	-0.5
CM31	Chiang Mai Arr	11.80	23	Pn	Pn	15 12 23.0	+1.1
CMAR	Chiang Mai Arr	11.80	23		Pn	15 12 22.1	+0.2
CMAR	Chiang Mai Arr	11.80	23	Pn	Pn	15 12 20.7	-1.1
	comp=N,0.3nm,0.3s,baz=216,slow=14,SNR=12						
	comp=N,1.2nm,0.5s						
CHTO	Chiang Mai	12.13	22	Pn	Pn	15 12 28.0	+1.7
CHTO	Chiang Mai	12.13	22	P	Pn	15 12 36.2	+10
NONG	Nongkai	13.62	39	P	P	15 12 53.5	-2.3
SLVN	Son La	16.62	33	Pn	Pn	15 13 26.3	-0.4
SLVN	Son La	16.62	33	P	P	15 13 34.4	+5.2
SHL	Shillong	18.07	353		Pn	15 13 44.5	-0.3
SBUM	Sibu	18.65	105	P	P	15 13 51.7	+0.1
QIZ	Qiongzhong	19.02	52	P	P	15 13 55.8	+0.2
QIZ				S	S	15 17 31.5	-0.5
QIZ				LR	LR		
	comp=N,210nm,9.1s						
QIZ				LR	LR		
	comp=N,160nm,6.1s						
QIZ				LR	LR		
	comp=N,170nm,17.0s						
KMI	Kunming	19.30	24	P	Pn	15 14 02.2	+2.3
KMI				sP	pwP	15 14 09.6	+6.6
KMI				pmax	pmax		
	comp=N,18nm,0.5s						
KMI				LR	LR		
	comp=N,170nm,16.6s						
KMI				LR	LR		
	comp=N,230nm,17.7s						
PZH	PanZhiHua	20.19	20	P	Pn	15 14 11.8	+1.5
PZH				pmax	pmax		
	comp=N,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=N,80nm,4.7s						
LSA	Lhasa	22.23	353	P	P	15 14 29.8	-1.1
LSA				IAmb	IAmb	15 14 40.9	
	comp=Z,22nm,0.8s						
LSA	Lhasa	22.23	353	P	P	15 14 33.0	+2.1
LSA				pmax	pmax		
	comp=Z,16nm,0.7s						
H08S3	Diego Garcia H	26.37	236	T	T	15 42 01.5	
	baz=54,slow=75,SNR=272						
H08S2	Diego Garcia H	26.37	236	T	T	15 42 00.2	
	baz=54,slow=75,SNR=312						
H08S1	Diego Carcia H	26.39	236	T	T	15 42 02.8	
	baz=54,slow=75,SNR=190						
ENH	Enshi	26.79	30	P	P	15 15 12.9	-0.9
ENH				IAmb	IAmb	15 15 31.7	
	comp=Z,15nm,1.2s						
TGY	Tagaytay City	27.05	74	LR	LR	15 25 10.1	
	comp=Z,91nm,22.0s,baz=180,slow=35						
KAPI	Kappang	28.39	115	LR	LR	15 26 26.4	
	comp=Z,93nm,18.1s,baz=282,slow=36						
GOMU	GeErMu	28.54	1	P	P	15 15 30.7	+0.9
GOMU				sP	sP	15 15 35.9	+4.2
GOMU				PcP	PcP	15 18 38.7	-2.8
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
DAV	Davao City (W)	31.13	89	LR	LR	15 30 05.6	
	comp=Z,45nm,20.4s,baz=290,slow=40						
GTA	Gaotai	32.14	8	eP	P	15 16 08.9	+7.6
GTA				pP	pwP	15 16 14.9	+9.3
GTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NIL	Nilore	32.41	326	P	P	15 16 03.2	-0.5
NIL				IAmb	IAmb	15 16 11.8	
	comp=Z,10nm,0.6s						
NJ2	Nanjing	33.50	40	eP	P	15 16 13.9	+0.7
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
HNS	HongShan	35.09	29	⇑P	P	15 16 30.3	+3.4
KSH	Kashi	35.80	336	P	P	15 16 31.3	-1.9
WUS	Wushi	36.08	341	P	P	15 16 35.0	-0.5
WUS				IAmb	IAmb	15 16 42.6	
	comp=Z,6.5nm,0.7s						
WMQ	Urumqi	36.59	352	eP	P	15 16 41.3	+1.5
HHC	Hu-ho-hao-te	36.61	22	eP	P	15 16 41.9	+1.8
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,74nm,4.7s						
JOW	Kunigami	37.61	55	LR	LR	15 34 46.6	
	comp=Z,46nm,19.7s,baz=250,slow=40						
DRK	Karamyk	37.63	331	P	P	15 16 49.1	+0.1
DRK				IAmb	IAmb	15 16 56.6	
	comp=Z,13nm,0.5s						
GAR	Garm	37.99	329	P	P	15 16 50.8	-1.0
GAR				IAmb	IAmb	15 16 59.3	
	comp=Z,17nm,1.2s						
SIMJ	Simiganj	38.42	328	P	P	15 16 55.0	-0.4
SIMJ				IAmb	IAmb	15 17 02.6	
	comp=Z,20nm,1.4s						
BTK	Batken	38.55	331	P	P	15 16 56.2	-0.3
BTK				IAmb	IAmb	15 17 06.1	
	comp=Z,14nm,1.4s						
ARSB	Arslanbob	38.57	334	P	P	15 16 55.9	-0.8
ARSB				IAmb	IAmb	15 17 12.7	
	comp=Z,7.9nm,0.7s						
AAK	Ala-Archa	39.04	337	P	P	15 17 01.4	+0.7
AAK	Ala-Archa	39.04	337	LR	LR	15 34 42.1	
	comp=Z,93nm,21.0s,baz=154,slow=39						
MK31	Makanchi Array	40.43	347	P	P	15 17 11.4	-0.5
MKAR	Makanchi Array	40.43	347	P	P	15 17 11.2	-0.8
MKAR	Makanchi Array	40.43	347	P	P	15 17 11.3	-0.7
	comp=Z,3.7nm,0.7s,baz=167,slow=7.9,SNR=49						
MKAR				PcP	PcP	15 19 15.7	+0.8
	comp=Z,0.7nm,1.1s,baz=147,slow=2.9,SNR=1.7						
	comp=Z,3.7nm,0.7s						
MAKZ	Makanchi	40.51	347	P	P	15 17 11.7	-0.9
MAKZ				IAmb	IAmb	15 17 19.2	
	comp=Z,5.8nm,0.7s						
KK31	Karatay Array	41.09	333	P	P	15 17 16.5	-0.9
KKAR	Karatay Array	41.09	333	P	P	15 17 16.1	-1.3
SONM	Songino Array	41.48	12	P	P	15 17 20.4	-0.4
SONM	Songino Array	41.48	12	P	P	15 17 20.2	-0.6
	comp=Z,1.6nm,0.8s,baz=197,slow=8.1,SNR=7.7						
SONM				PcP	PcP	15 19 19.4	+1.0
	comp=Z,1.1nm,0.8s,baz=186,slow=4.6,SNR=3.7						
SONM				LR	LR	15 36 44.5	
	comp=Z,92nm,20.0s,baz=180,slow=39						
	comp=Z,1.6nm,0.8s						
KURBB	Kurchatov Arra	44.89	346	P	P	15 17 48.0	0.0
	comp=Z,4.8nm,0.8s,baz=168,slow=7.2,SNR=56						
KURBB				PcP	PcP	15 19 30.0	+0.3
	comp=Z,1.2nm,0.5s,baz=155,slow=2.9,SNR=7.0						
KURBB				LR	LR	15 39 13.4	
	comp=Z,72nm,20.3s,baz=174,slow=40						
	comp=Z,4.8nm,0.8s						
KURK	Kurchatov	44.95	346	P	P	15 17 48.5	-0.1
KURK				IAmb	IAmb	15 17 55.9	
	comp=Z,11nm,0.9s						
CN2	Changchun	45.29	32	eP	P	15 17 52.8	+1.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZAA0	Zalesovo Array	46.90	352	P	P	15 18 03.9	0.0
ZAA0				IAmb	IAmb	15 18 12.9	
	comp=Z,9.6nm,0.9s						
ZALV	Zalesovo Beam	46.90	352	P	P	15 18 03.8	-0.1
ZALV	Zalesovo Beam	46.90	352	P	P	15 18 03.9	0.0
	comp=Z,6.5nm,0.7s,baz=179,slow=8.2,SNR=28						
ZALV				PcP	PcP	15 19 35.7	-0.9
	comp=Z,0.8nm,0.4s,baz=180,slow=0.1,SNR=1.8						
	comp=Z,6.5nm,0.7s						
WB0	Warramunga Arr	47.98	125	P	P	15 18 12.5	-0.3
WB0				IAmb	IAmb	15 18 33.9	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	48.02	125	P	P	15 18 12.6	-0.6
	comp=Z,0.5nm,0.9s,baz=305,slow=8.5,SNR=15						
	comp=Z,0.5nm,0.9s						
WB2	Warramunga Arr	48.03	125	P	P	15 18 12.6	-0.7
WB2				IAmb	IAmb	15 18 29.9	
	comp=Z,4.4nm,1.1s						
WR0	Warramunga Arr	48.20	125	P	P	15 18 13.7	-0.9
WR0				IAmb	IAmb	15 18 44.8	
	comp=Z,3.9nm,1.1s						
RAYN	Ar Rayn	49.27	295	P	P	15 18 23.7	+0.8
RAYN				IAmb	IAmb	15 18 40.0	
	comp=Z,3.3nm,0.7s						
BVAR	Borovoye Array	49.33	341	P	P	15 18 20.3	-2.4
	comp=Z,1.9nm,0.8s,baz=134,slow=8.5,SNR=12						
BVAR				PcP	PcP	15 19 45.9	+0.5
	comp=Z,2.4nm,0.7s,baz=161,slow=3.7,SNR=6.9						
	comp=Z,1.9nm,0.8s						
MJAR	Matsushiro Arr	49.35	48	LR	LR	15 41 01.5	
	comp=Z,28nm,18.4s,baz=238,slow=38						
BRVK	Borovoye	49.39	341	P	P	15 18 23.4	+0.2
BRVK				IAmb	IAmb	15 18 29.9	
	comp=Z,4.1nm,1.1s						
ASAR	Alice Springs	49.66	130	P	P	15 18 25.1	-0.6
ASAR	Alice Springs	49.66	130	P	P	15 18 24.7	-1.1
	comp=Z,0.6nm,0.5s,baz=302,slow=7.5,SNR=20						
AS31	Alice Springs	49.66	130	P	P	15 18 26.4	+0.6
GUMO	Guam	50.11	79	LR	LR	15 36 42.4	
	comp=Z,18nm,21.9s,baz=222,slow=33						
ABKAR	Akbulak array	50.55	331	P	P	15 18 32.1	0.0
ABKAR				IAmb	IAmb	15 18 40.3	
	comp=Z,6.4nm,1.3s						
ARTI	Arti	56.26	337	P	P	15 19 13.3	-0.6
ARTI	Arti	56.26	337	LR	LR	15 45 01.9	
	comp=Z,53nm,19.5s,baz=135,slow=38						
EIL	Elat	59.64	300	LR	LR	15 45 42.8	
	comp=Z,27nm,22.0s,baz=66,slow=36						
STKA	Stephens Creek	59.84	134	LR	LR	15 49 08.0	
	comp=Z,35nm,19.4s,baz=235,slow=40						
MMAI	Mount Meron Ar	59.85	304	LR	LR	15 46 45.1	
	comp=Z,20nm,21.6s,baz=98,slow=37						
NRIK	Noril'sk	61.88	357	P	P	15 19 51.9	-0.9
NRIK				IAmb	IAmb	15 20 01.1	
	comp=Z,2.9nm,0.6s						
NRIK	Noril'sk	61.88	357	P	P	15 19 50.6	-2.1
	comp=Z,2.0nm,0.5s,baz=174,slow=5.7,SNR=5.7						
	comp=Z,2.0nm,0.5s						
BRTR	Keskin Array B	62.69	311	P	P	15 19 57.0	-1.9
	comp=Z,0.3nm,0.6s,baz=132,slow=8.5,SNR=3.8						
	comp=Z,0.3nm,0.6s						
H04N2	CROZET ISLANDS	65.46	211	T	T	16 30 53.3	
	baz=47						
H04N1	CROZET ISLANDS	65.47	211	T	T	16 30 54.0	
	baz=47,slow=75						
H04N3	CROZET ISLANDS	65.48	211	T	T	16 30 52.7	
	baz=47,slow=75						
TIXI	Tiksi	67.55	11	P	P	15 20 29.1	-0.6
PETK	Petropavlovsk-	68.25	36	LR	LR	15 52 00.7	
	comp=Z,28nm,19.1s,baz=257,slow=37						
SEY	Seymchan	69.21	25	LR	LR	15 53 36.1	
	comp=Z,57nm,18.3s,baz=184,slow=38						
BURAR	Bucovina Array	70.33	318	P	P	15 20 47.6	+0.1
FIA1	FINESS Array S	73.03	332	P	P	15 21 03.1	-0.3
FINES	FINESS Array B	73.03	332	P	P	15 21 03.0	-0.4
	comp=Z,2.4nm,0.7s,baz=101,slow=6.2,SNR=12						
	comp=Z,2.4nm,0.7s						
ARCES	ARCESS Array B	75.60	340	P	P	15 21 18.4	+0.1
	comp=Z,3.3nm,0.8s,baz=91,slow=6.1,SNR=5.0						
ARCES				LR	LR	15 57 38.7	
	comp=Z,79nm,18.3s,baz=76,slow=38						
	comp=Z,3.3nm,0.8s						
GERES	GERESS Array B	78.11	318	P	P	15 21 32.7	-0.3
	comp=Z,0.3nm,0.4s,baz=88,slow=7.1,SNR=4.7						
	comp=Z,0.3nm,0.4s						
HFS	Hagfors	78.77	330	P	P	15 21 35.8	-0.4
	comp=Z,1.5nm,0.5s,baz=104,slow=6.3,SNR=14						
HFS				LR	LR	15 58 21.2	
	comp=Z,50nm,18.0s,baz=32,slow=37						
	comp=Z,1.5nm,0.5s						
NC602	NORSAR Array S	79.88	330	P	P	15 21 41.1	-1.2
NC602				IAmb	IAmb	15 22 08.4	
	comp=Z,16nm,1.5s						
NB2	NORSAR Subarra	80.05	331	P	P	15 21 43.0	-0.3
	comp=Z,3.1nm,0.5s,baz=96,slow=5.1						
NOA	NORSAR Array B	80.05	331	P	P	15 21 42.3	-1.0
	comp=Z,0.8nm,0.7s,baz=89,slow=5.7,SNR=3.5						
NOA				LR	LR	15 59 27.6	
	comp=Z,24nm,20.8s,baz=295,slow=37						
	comp=Z,0.8nm,0.7s						
SPITS	Spitsbergen Ar	80.18	348	P	P	15 21 43.1	-0.5
	comp=Z,2.9nm,0.6s,baz=125,slow=7.2,SNR=6.4						
	comp=Z,2.9nm,0.6s						
EKA	Eskdalemuir Ar	88.03	325	P	P	15 22 23.8	-0.2
	comp=Z,0.6nm,0.5s,baz=75,slow=7.0,SNR=3.5						
	comp=Z,0.6nm,0.5s						
C18K	Utukok River	88.31	21	P	P	15 22 25.1	-0.1
C18K				IAmb	IAmb	15 22 32.9	
	comp=Z,6.5nm,1.2s						
D20K	Etivluk River	89.87	20	P	P	15 22 33.4	+0.9
H19K	Roundabout Mou	91.06	23	P	P	15 22 39.1	+1.2
G21K	Allakaket	91.80	22	P	P	15 22 41.9	+0.5
K20K	Telida	92.83	25	P	P	15 22 46.1	-0.2
CAST	Castle Rocks	93.62	24	P	P	15 22 50.1	+0.2
N19K	Bonanza Creek	93.62	27	P	P	15 22 50.5	+0.5
KDAK	Kodiak Island	95.71	30	LR	LR	16 13 17.1	
	comp=Z,39nm,20.2s,baz=276,slow=40						
QSPA	South Pole Qui	97.44	180	LR	LR	16 05 45.6	
	comp=Z,100nm,19.5s,baz=255,slow=35						
PDAR	Pinedale Array	125.46	21	PKP	PKPdf	15 28 35.1	-0.5
	comp=Z,0.5nm,0.9s,baz=37,slow=0.7,SNR=4.6						
OKCSW	OKLAHOMA CITY	135.91	14		PKiKP	15 28 56.6	-0.3
MNTX	Cornudas Mount	136.74	25	PKPdf	PKPdf	15 28 54.5	-2.5
CPUP	Villa Florida	147.09	232	PKPbc	PKPbc	15 29 18.4	+0.9
	comp=Z,2.3nm,0.7s,baz=168,slow=4.5,SNR=4.2						

*NOU **10** 15:17:10.6,14°.66S×167°.42E,h125km,MLv4.6/14, Vanuatu Islands*
*IDC **10** 15:17:12.0±6.8,14°.85S×167°.26E,h146km±53km,mb3.4/4, mbtmp3.9/5,Error ellipse: s-maj=51.9km s-min=32.7km az=24.0*

ISC 10 15:17:11.4±1.6,14°.8S±0°.1×167°.4E±0°.2,h150km,n14, σ1°.02/15,mb3.7/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.28	181	P	Pn	15 17 38.4	-0.4
VLAKA	Lakatoro	1.28	181	S	Sn	15 17 58.4	-1.4
DVP	Devils Point	2.98	166	P	Pn	15 17 58.3	-0.2
KOUNC	Koumac, New Ca	6.44	207	P	Pn	15 18 45.1	+1.0
YATNC	Mamie plateau,	7.22	184	P	Pn	15 18 54.9	+0.4
DZM	Mont Dzumac	7.28	187	P	Pn	15 18 55.7	+0.4
	3.4nm,0.3s,baz=46,slow=6.9,SNR=36						
DZM				S	Sn	15 20 15.8	-1.0
	6.0nm,0.4s,baz=53,slow=20,SNR=7.3						
DZM	Mont Dzumac	7.28	187	P	Pn	15 18 55.9	+0.6
ONTNC	Ouen Toro	7.51	187	P	Pn	15 19 00.0	+1.7
PINNC	Pines Island,	7.75	180	P	Pn	15 19 03.2	+1.7
STKA	Stephens Creek	29.06	230	P	P	15 22 57.2	-0.6
	2.0nm,0.4s,baz=56,slow=8.8,SNR=12						
	2.0nm,0.4s						
WRA	Warramunga Arr	31.96	256	P	P	15 23 22.7	-0.7
	0.3nm,0.6s,baz=83,slow=9.2,SNR=36						
	0.3nm,0.6s						
ASAR	Alice Springs	32.79	249	P	P	15 23 30.4	-0.3
	0.9nm,0.4s,baz=78,slow=9.3,SNR=53						
	0.9nm,0.4s						
VNDA	Vanda	62.78	181	P	P	15 27 21.3	+0.9
	0.6nm,0.9s,baz=6.7,slow=4.7,SNR=2.0						
	0.6nm,0.9s						
ARCES	ARCESS Array B	120.38	345	PKP	PKPdf	15 35 44.9	+0.5
	4.0nm,1.0s,baz=46,slow=3.5,SNR=5.1						

*IDC **10** 15:17:30.0±1.2,28°.86N×129°.02E,h108km±13km, mb3.4/12,mbtmp3.7/16,Error ellipse

28nm,0.5s,baz=270,slow=4.0,SNR=70
JNU S **Sn** **15 19 32.9 +1.9**
25nm,0.7s,baz=195,slow=7.1,SNR=4.9
KSRS Korea Array 8.65 355 P **Pn** **15 19 32.6 -0.4**
1.8nm,0.7s,baz=170,slow=12,SNR=6.8
MJAR Matsushiro Arr 10.98 43 P **Pn** **15 20 04.7 +0.2**
1.4nm,0.8s,baz=248,slow=14,SNR=1.9
ASAJ Asahikawa 18.78 32 P **P** **15 21 39.2 -1.5**
1.5nm,0.6s,baz=220,slow=12,SNR=6.9
SONM Songino Array 25.77 324 P **P** **15 22 50.5 -0.1**
0.9nm,0.6s,baz=123,slow=9.5,SNR=4.2
0.9nm,0.6s
PETK Petropavlovsk- 32.19 33 P **P** **15 23 44.8 -2.5**
1.2nm,0.8s,baz=236,slow=15,SNR=4.1
1.2nm,0.8s
MKAR Makanchi Array 40.31 309 P **P** **15 24 57.9 +1.4**
0.2nm,0.5s,baz=94,slow=9.8,SNR=3.2
MKAR PcP **PcP** **15 26 59.0 +1.2**
0.2nm,0.3s,baz=88,slow=2.4,SNR=5.3
0.2nm,0.5s
ZALV Zalesovo Beam 40.59 321 P **P** **15 24 58.0 -0.6**
0.3nm,0.3s,baz=104,slow=6.1,SNR=1.9
ZALV PcP **PcP** **15 26 58.7 +0.3**
0.4nm,0.4s,baz=92,slow=10,SNR=2.0
0.3nm,0.3s
KURBB Kurchatov Arra 43.44 314 P **P** **15 25 21.9 +0.1**
0.3nm,0.3s,baz=99,slow=8.7,SNR=2.9
0.3nm,0.3s
WRA Warramunga Arr 48.76 173 P **P** **15 26 04.1 +0.3**
1.8nm,0.6s,baz=349,slow=7.7,SNR=7.1
1.8nm,0.6s
BVAR Borovoye Array 48.78 317 P **P** **15 26 03.9 +0.2**
0.8nm,0.6s,baz=91,slow=8.6,SNR=6.4
0.8nm,0.6s
ASAR Alice Springs 52.40 174 P **P** **15 26 31.6 +0.5**
0.4nm,0.6s,baz=2.3,slow=7.7,SNR=1.7
0.4nm,0.6s
ILAR Eielson Array 61.88 29 P **P** **15 27 36.9 -0.4**
0.8nm,0.7s,baz=281,slow=6.7,SNR=4.4
0.8nm,0.7s
ARCES ARCESS Array B 67.83 338 P **P** **15 28 16.0 +0.2**
1.5nm,0.8s,baz=65,slow=4.9,SNR=1.1
1.5nm,0.8s
FINES FINESS Array B 70.92 330 P **P** **15 28 35.2 +0.3**
1.5nm,0.7s,baz=74,slow=5.8,SNR=3.6
1.5nm,0.7s
YKA Yellowknife Ar 75.93 25 P **P** **15 29 04.8 +0.5**
0.6nm,0.7s,baz=299,slow=5.8,SNR=9.4
0.6nm,0.7s

IDC 10 15:21:01.4±2.1, 6°.66S×130°.41E, h0km, mb4.0/2, mbtmp3.8/5, ML3.9/3, Error ellipse: s-maj=102.9km s-min=25.5km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.28**	**202**	Pn	Pn	15 23 57.0	-0.7
	0.6nm,0.3s,baz=19,slow=8.1,SNR=45						
FITZ				Sn	Sn	15 25 59.9	-16
	2.0nm,0.3s,baz=68,slow=19,SNR=7.5						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**13.74**	**164**	Pn	Pn	15 24 19.0	+1.2
	0.7nm,0.3s,baz=350,slow=13,SNR=20						
WRA				Sn	Sn	15 26 40.5	-11
	1.5nm,0.3s,baz=332,slow=22,SNR=10						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**17.24**	**169**	P	Pn	15 25 03.5	-0.4
	0.2nm,0.3s,baz=348,slow=14,SNR=17						
ASAR				S	Sn	15 28 02.5	-14
	0.6nm,0.5s,baz=351,slow=26,SNR=6.0						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**68.17**	**327**	P	P	15 32 03.5	-0.2
	1.7nm,0.4s,baz=122,slow=7.9,SNR=34						
	1.7nm,0.4s						
KURBB	**Kurchatov Arra**	**72.44**	**328**	P	P	15 32 29.9	+0.3
	0.4nm,0.6s,baz=130,slow=5.3,SNR=5.9						
	0.4nm,0.6s						

---

*IDC **10** 15:30:26.8±2.3, 10°.50S×119°.22E, h0km, mb3.2/1, mbtmp3.6/5, ML3.6/4, MS3.4/1, Error ellipse: s-maj=86.1km s-min=23.9km az=59.0*
*DJA **10** 15:30:33.5±0.6, 10°.3S±3°.3×11°.9E±°, h26km±5km, M3.9/13, mB4.6/1, mb4.0/5, MLv3.9/13, Mw(mB)3.8/1*
ISC 10 15:30:30.8±0.8, 10°.54S±0°.06×119°.41E±0°.04, h35km, n20, σ3$03/30, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.90**	**359**	P	**Pn**	**15 30 46.7**	**-0.3**
WBSI				S	**Sn**	**15 30 57.1**	**-1.7**
BASI	**Baing, Sumba**	**1.19**	**74**	P	**Pn**	**15 30 54.3**	**+3.3**
WSI	**Waingapu**	**1.23**	**45**	P	**Pn**	**15 30 53.9**	**+2.4**
WSI				S	**Sn**	**15 31 09.6**	**+2.7**
PLAI	**Plampang**	**2.35**	**316**	P	**Pn**	**15 31 08.4**	**+1.5**
PLAI				S	**Sn**	**15 31 33.6**	**-1.0**
EDFI	**Ende, Flores**	**2.87**	**52**	P	**Pn**	**15 31 15.4**	**+1.3**
TWSI	**Taliwang, Sumb**	**3.08**	**305**	P	**Pn**	**15 31 18.1**	**+1.2**
TWSI				S	**Sn**	**15 31 52.6**	**+0.1**
MMRI	**Maumere**	**3.37**	**56**	P	**Pn**	**15 31 23.3**	**+2.3**
BSSI	**Bau Bau, Buton**	**4.50**	**14**	P	**Pn**	**15 31 37.6**	**+1.1**
BSSI				S	**Sn**	**15 32 26.8**	**-0.9**
DNP	**Denpasar**	**4.54**	**294**	P	**Pn**	**15 31 39.0**	**+1.9**
DNP				S	**Sn**	**15 32 29.3**	**+0.6**
SRBI	**Singaraja**	**4.81**	**300**	P	**Pn**	**15 31 41.8**	**+1.0**
SOEI	**Soe**	**4.84**	**81**	P	**Pn**	**15 31 44.9**	**+3.6**
BKSI	**Bulukumba**	**5.24**	**8**	P	**Pn**	**15 31 48.8**	**+2.2**
BKSI				S	**Sn**	**15 32 45.4**	**-0.4**
KAPI	**Kappang**	**5.50**	**4**	Pn	**Pn**	**15 31 50.5**	**+0.1**
	3.1nm,0.3s,baz=190,slow=2.3,SNR=12						
KAPI				Sn	**Sn**	**15 32 49.8**	**-2.6**
	4.1nm,0.3s,baz=212,slow=24,SNR=7.6						
	7.3nm,0.3s						
JAGI	**Jajag, Banyuwa**	**5.58**	**291**	P	**Pn**	**15 31 53.9**	**+2.4**
	25nm,1.4s						
GMJI	**Gumukmas**	**6.31**	**290**	P	**Pn**	**15 32 02.7**	**+1.3**
FITZ	**Fitzroy Crossi**	**9.63**	**142**	Pn	**Pn**	**15 32 49.2**	**+2.2**
	0.4nm,0.3s,baz=326,slow=10,SNR=20						
FITZ				Sn	**Sn**	**15 34 30.6**	**-3.5**
	1.2nm,0.3s,baz=268,slow=14,SNR=10						
	6.2nm,1.1s						
WRA	**Warramunga Arr**	**17.15**	**125**	P	**Pn**	**15 34 28.8**	**+0.9**
	0.2nm,0.3s,baz=301,slow=13,SNR=14						
WRA				S	**Sn**	**15 37 28.1**	**-10**
	0.3nm,0.4s,baz=328,slow=11,SNR=6.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**19.00**	**135**	P	**Pn**	**15 34 53.2**	**+2.5**
	0.2nm,0.3s,baz=319,slow=12,SNR=21						
ASAR				S	**Sn**	**15 38 15.3**	**-7.3**
	0.4nm,0.7s,baz=310,slow=21,SNR=5.5						
	0.6nm,0.4s						
BRDH	**Bariadhala**	**42.78**	**321**	LR	LR	15 58 58.6	
	comp=Z,50nm,20.7s,baz=163,slow=40						
MKAR	**Makanchi Array**	**66.01**	**333**	P	**P**	**15 41 14.0**	**+0.2**
	0.2nm,0.6s,baz=142,slow=7.3,SNR=2.0						
	0.2nm,0.6s						

---

*NOU **10** 15:34:16.7, 37°.52S×179°.04E, h14km, MLv3.6/11, Off E. Coast of N. Island, N.Z.*
*WEL **10** 15:34:17.4±0.6, 37°S±4°×17°9E±°, h12km, M3.3/30, ML3.5/40, MLv3.3/30, Error ellipse: s-maj=6.4km s-min=5.3km az=121.1, confirmed*
ISC 10 15:34:16.7±2.6, 37°.37S±0°.07×179°.07E±0°.10, h17km±9km, n80, σ0$97/92, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.63**	**252**	P	**Pg**	**15 34 29.2**	**0.0**
MXZ	**Matakaoa Point**	**0.63**	**252**	P	**Pb**	**15 34 29.5**	**+0.1**
MXZ				S	**Sg**	**15 34 36.7**	**-0.9**
WMGZ	**Waiomatatini S**	**0.68**	**229**	P	**Pn**	**15 34 32.4**	**+0.8**
WMGZ				S	**Sb**	**15 34 41.9**	**+2.5**
PKGZ	**Pakihiroa**	**0.92**	**238**	P	**Pn**	**15 34 35.5**	**+0.6**
PKGZ				S	**Sg**	**15 34 47.2**	**+0.3**
PUZ	**Puketiti**	**0.95**	**222**	P	**Pn**	**15 34 36.1**	**+0.8**
PUZ				S	**Sg**	**15 34 48.3**	**+0.6**
HAZ	**Te Kaha**	**1.09**	**249**	P	**Pg**	**15 34 36.8**	**-1.0**
HAZ				S	**Sg**	**15 34 50.2**	**-1.8**
TWGZ	**Tauwhareparae**	**1.18**	**227**	P	**Pb**	**15 34 39.5**	**+0.8**
TWGZ				S	**Sg**	**15 34 54.3**	**-0.5**
RUGZ	**Raukumara Rang**	**1.25**	**241**	P	**Pn**	**15 34 40.4**	**+0.8**
RUGZ				S	**Sb**	**15 34 56.1**	**+0.3**
CNGZ	**Carnagh Statio**	**1.30**	**211**	P	**Pb**	**15 34 41.8**	**+1.1**
CNGZ				S	**Sg**	**15 34 59.9**	**+1.1**
TKGZ	**Te Karaka**	**1.44**	**222**	P	**Pn**	**15 34 42.6**	**+0.6**
TKGZ				S	**Sn**	**15 35 00.3**	**-0.1**
MWZ	**Matawai**	**1.55**	**231**	P	**Pn**	**15 34 44.0**	**+0.4**
RIGZ	**Rimuhau**	**1.68**	**217**	P	**Pn**	**15 34 46.0**	**+0.6**
RIGZ				S	**Sn**	**15 35 05.9**	**-0.7**
RAGZ	**Rawiri**	**1.72**	**229**	P	**Pn**	**15 34 47.0**	**+1.0**
WHRZ	**Whale Island**	**1.73**	**253**	P	**Pn**	**15 34 47.0**	**+0.9**
WHRZ				S	**Sn**	**15 35 06.8**	**-0.9**
URZ	**Urewera**	**1.78**	**240**	P	**Pn**	**15 34 47.2**	**+0.4**
URZ	**Urewera**	**1.78**	**240**	P	**Pn**	**15 34 47.5**	**+0.8**
URZ				S	**Sn**	**15 35 08.7**	**-0.4**
PRGZ	**Paritu Road**	**1.81**	**211**	P	**Pn**	**15 34 47.7**	**+0.6**
SNGZ	**Shannon Statio**	**1.96**	**224**	P	**Pn**	**15 34 49.6**	**+0.3**
KNZ	**Kokohu**	**1.98**	**213**	P	**Pn**	**15 34 49.3**	**-0.2**
MHGZ	**Mahia Peninsul**	**2.00**	**207**	P	**Pn**	**15 34 50.5**	**+0.8**
RTZ	**Ruatahuna**	**2.06**	**232**	P	**Pn**	**15 34 51.5**	**+0.8**
MUGZ	**Murupara**	**2.12**	**238**	P	**Pn**	**15 34 51.9**	**+0.4**
RAHZ	**Arahi**	**2.19**	**225**	P	**Pn**	**15 34 53.0**	**+0.5**
TARZ	**Mount Tarawera**	**2.20**	**246**	P	**Pn**	**15 34 53.8**	**+1.1**
WHHZ	**Waihua**	**2.23**	**220**	P	**Pn**	**15 34 53.3**	**+0.4**
RRRZ	**Republican Roa**	**2.24**	**244**	P	**Pn**	**15 34 53.8**	**+0.7**
OMRZ	**Omania**	**2.26**	**250**	P	**Pn**	**15 34 54.3**	**+1.0**
TGRZ	**Tauranga**	**2.26**	**260**	P	**Pn**	**15 34 53.4**	**+0.1**
MTHZ	**Maungataniwha**	**2.29**	**229**	P	**Pn**	**15 34 54.7**	**+0.8**
KARZ	**Kaharoa**	**2.33**	**253**	P	**Pn**	**15 34 54.7**	**+0.4**
PRRZ	**Plateau Road**	**2.39**	**241**	P	**Pn**	**15 34 55.4**	**+0.2**
ALRZ	**Allen Road**	**2.46**	**240**	P	**Pn**	**15 34 56.4**	**+0.4**
NMHZ	**Naumai**	**2.48**	**225**	P	**Pn**	**15 34 57.4**	**+1.0**
ARHZ	**Aropaoanui**	**2.49**	**220**	P	**Pn**	**15 34 56.9**	**+0.4**
MRHZ	**Matea Rd**	**2.55**	**234**	P	**Pn**	**15 34 57.7**	**+0.4**
BKZ	**Black Stump Fm**	**2.70**	**228**	P	**Pn**	**15 34 59.4**	**-0.1**
BKZ	**Black Stump Fm**	**2.70**	**228**	S	**Sn**	**15 35 30.4**	**-1.4**
BKZ	**Black Stump Fm**	**2.70**	**228**	P	**Pn**	**15 34 59.8**	**+0.3**
KUZ	**Kuaotunu**	**2.75**	**282**	P	**Pn**	**15 34 59.6**	**-0.4**
KUZ	**Kuaotunu**	**2.75**	**282**	P	**Pn**	**15 34 58.6**	**-1.4**
CKHZ	**Cape Kidnapper**	**2.76**	**214**	P	**Pn**	**15 35 00.2**	**-0.1**
MCHZ	**McNeill Hill**	**2.78**	**221**	P	**Pn**	**15 35 00.6**	**+0.1**
KUTZ	**Kaahu Road**	**2.79**	**246**	P	**Pn**	**15 35 01.3**	**+0.6**
TOZ	**Tahuroa Road**	**2.85**	**262**	P	**Pn**	**15 35 01.7**	**+0.2**
KWHZ	**Kaweka Forest**	**2.92**	**225**	P	**Pn**	**15 35 02.2**	**-0.2**
KAHZ	**Kahuranaki**	**2.96**	**215**	P	**Pn**	**15 35 02.3**	**-0.7**
RITZ	**Rihia Road**	**2.99**	**237**	P	**Pn**	**15 35 04.0**	**+0.6**
RATZ	**Rangitukua**	**2.99**	**239**	P	**Pn**	**15 35 04.2**	**+0.7**
KRHZ	**Kereru**	**3.10**	**222**	P	**Pn**	**15 35 04.1**	**-0.8**
KATZ	**Kakaramea**	**3.10**	**238**	P	**Pn**	**15 35 05.8**	**+0.8**
GRZ	**Great Barrier**	**3.10**	**290**	P	**Pn**	**15 35 04.4**	**-0.5**
MKAZ	**Moumakai**	**3.13**	**274**	P	**Pn**	**15 35 04.7**	**-0.5**
PXZ	**Pawanui**	**3.16**	**212**	P	**Pn**	**15 35 04.5**	**-1.3**
TMVZ	**Te Maari**	**3.17**	**236**	P	**Pn**	**15 35 06.1**	**+0.2**
ETVZ	**East Tongariro**	**3.17**	**235**	P	**Pn**	**15 35 06.2**	**+0.2**
NTVZ	**North Tongarir**	**3.18**	**236**	P	**Pn**	**15 35 06.4**	**+0.4**
KRVZ	**Karewarewa**	**3.20**	**236**	P	**Pn**	**15 35 06.6**	**+0.2**
NNVZ	**North Ngauruho**	**3.23**	**236**	P	**Pn**	**15 35 07.4**	**+0.5**
WTVZ	**West Tongariro**	**3.24**	**237**	P	**Pn**	**15 35 07.5**	**+0.5**
SNVZ	**South Ngauruho**	**3.25**	**235**	P	**Pn**	**15 35 07.3**	**+0.2**
NGZ	**Ngauruhoe**	**3.27**	**236**	P	**Pn**	**15 35 07.3**	**0.0**
MOVZ	**Moawhango**	**3.30**	**231**	P	**Pn**	**15 35 07.5**	**-0.2**
ETAZ	**East Tamaki Re**	**3.33**	**276**	P	**Pn**	**15 35 08.1**	**0.0**
WPHZ	**Waipukurau**	**3.38**	**217**	P	**Pn**	**15 35 07.9**	**-0.9**
PNHZ	**Pukenui**	**3.39**	**221**	P	**Pn**	**15 35 07.5**	**-1.4**
MBAZ	**Motutapu North**	**3.39**	**279**	P	**Pn**	**15 35 09.8**	**+0.9**
PRHZ	**Porangahau**	**3.46**	**213**	P	**Pn**	**15 35 08.2**	**-1.6**
HIZ	**Hauiti**	**3.52**	**250**	P	**Pn**	**15 35 10.4**	**-0.2**
HIZ	**Hauiti**	**3.52**	**250**	P	**Pn**	**15 35 11.9**	**+1.2**
TSZ	**Takapari Road**	**3.62**	**221**	P	**Pn**	**15 35 10.3**	**-1.7**
RVAZ	**Riverhead Bore**	**3.64**	**278**	P	**Pn**	**15 35 12.1**	**-0.1**
VRZ	**Vera Road**	**3.81**	**241**	P	**Pn**	**15 35 15.9**	**+1.2**
BFZ	**Birch Farm**	**3.97**	**213**	P	**Pn**	**15 35 14.4**	**-2.4**
BFZ	**Birch Farm**	**3.97**	**213**	S	**Sn**	**15 35 59.5**	**-3.4**
PRWZ	**Pori Road**	**3.99**	**216**	P	**Pn**	**15 35 15.5**	**-1.6**
WCZ	**Waipu Caves**	**4.06**	**289**	P	**Pn**	**15 35 18.0**	**-0.1**
LREZ	**Lake Rotokare**	**4.21**	**239**	P	**Pn**	**15 35 21.3**	**+1.1**
OUZ	**Omahuta**	**4.91**	**294**	P	**Pn**	**15 35 30.2**	**+0.4**
OUZ	**Omahuta**	**4.91**	**294**	P	**Pn**	**15 35 30.4**	**+0.6**
CTZ	**Chatham Island**	**7.15**	**154**	P	**Pn**	**15 36 03.3**	**+2.8**

WEL 10 15:53:18.1±1.3, 33°S±8°×17°8E±2°6, h12km, M3.7/5, mB4.5/1, ML3.8/10, MLv3.7/5, Mw(mB)3.7/1, Error ellipse: s-maj=33.6km s-min=10.0km az=96.3, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**4.28**	**185**	P	Pn	15 54 25.4	+2.3
HAZ				S	Sn	15 55 16.9	+3.9
WMGZ	**Waiomatatini S**	**4.33**	**179**	P	Pn	15 54 23.9	+0.2
WMGZ				S	Sn	15 55 14.1	0.0
PKGZ	**Pakihiroa**	**4.38**	**182**	P	Pn	15 54 24.6	+0.1
RUGZ	**Raukumara Rang**	**4.50**	**186**	P	Pn	15 54 26.5	+0.3
RUGZ				S	Sn	15 55 21.0	+2.5
PUZ	**Puketiti**	**4.58**	**180**	P	Pn	15 54 26.3	-0.9
PUZ				S	Sn	15 55 19.3	-1.0
TWGZ	**Tauwhareparae**	**4.69**	**183**	P	Pn	15 54 27.6	-1.1
TWGZ				S	Sn	15 55 25.3	+2.2
URZ	**Urewera**	**4.86**	**191**	P	Pn	15 54 32.3	+1.3
URZ				S	Sn	15 55 30.8	+3.6
MWZ	**Matawai**	**4.88**	**187**	P	Pn	15 54 31.2	-0.1
TKGZ	**Te Karaka**	**4.96**	**184**	P	Pn	15 54 30.9	-1.4
TKGZ				S	Sn	15 55 29.3	-0.3
CNGZ	**Carnagh Statio**	**4.99**	**181**	P	Pn	15 54 31.7	-1.1
MUGZ	**Murupara**	**5.13**	**193**	P	Pn	15 54 36.1	+1.3
RIGZ	**Rimuhau**	**5.23**	**184**	P	Pn	15 54 34.9	-1.2
MAVZ	**Matarangi**	**6.17**	**200**	P	Pn	15 54 54.7	+5.3
KAHZ	**Kahuranaki**	**6.40**	**190**	P	Pn	15 54 48.8	-3.4
TSZ	**Takapari Road**	**6.82**	**195**	P	Pn	15 54 55.2	-2.8
TSZ				S	Sn	15 56 11.7	-3.9
BFZ	**Birch Farm**	**7.37**	**192**	P	Pn	15 55 02.9	-2.6
OGWZ	**Otaki Gorge**	**7.73**	**198**	P	Pn	15 55 05.8	-4.7

DJA 10 15:53:50.2±0.4, 9°S±4°×11°9E±°, h53km±10km, M3.7/12, mb3.9/5, MLv3.6/12, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.55**	**162**	P	Pn	15 54 03.2	+0.9
WBSI				S	Sn	15 54 13.4	+2.5
WSI	**Waingapu**	**1.20**	**117**	P	Pn	15 54 10.7	+0.1
WSI				S	Sn	15 54 26.3	+0.5
PLAI	**Plampang**	**1.46**	**281**	P	Pn	15 54 14.7	+0.5
PLAI				S	Sn	15 54 33.5	+1.3
BASI	**Baing, Sumba**	**1.73**	**129**	P	Pn	15 54 18.3	+0.4
EDFI	**Ende, Flores**	**2.47**	**82**	P	Pn	15 54 28.1	0.0
MMRI	**Maumere**	**3.02**	**81**	P	Pn	15 54 36.1	+0.5
BSSI	**Bau Bau, Buton**	**3.21**	**23**	P	Pn	15 54 38.4	+0.1
BKSI	**Bulukumba**	**3.88**	**13**	P	Pn	15 54 47.8	+0.5
BNSI	**Bone**	**4.77**	**11**	P	Pn	15 55 00.1	+0.5
SOEI	**Soe**	**5.02**	**98**	P	Pn	15 55 02.6	-0.5
	0.1nm14nm,1.2s						
JAGI	**Jajag, Banyuwa**	**5.05**	**277**	P	Pn	15 55 02.7	-0.7
	18nm,1.2s						
SPSI	**Sidrap Palu**	**5.15**	**6**	P	Pn	15 55 04.2	-0.6
GMJI	**Gumukmas**	**5.77**	**278**	P	Pn	15 55 13.6	+0.3

---

*UPA **10** 16:08:00.3±1.2, 9°.34N×82°.64W, h2km±3km, MD3.9, MW4.1*
*UCR **10** 16:08:00.8±1.3, 9°.47N×82°.67W, h13km±12km, MW3.7*
ISC 10 16:08:00.9±0.9, 9°.38N±0°.03×82°.67W±0°.03, h16km±8km, n48, σ1$36/65, 5C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGM0	**Gandoca**	**0.22**	**17⇑**	*eP*	**Pg**	**16 08 05.3**	**-0.7**
RGM0				*eS*	**Sg**	**16 08 10.4**	**+0.9**
RGM0	**Gandoca**	**0.22**	**17⇑**	*iP*	**Pg**	**16 08 05.3**	**-0.7**
RGM0				*i* S	**Sg**	**16 08 10.2**	**+0.8**
CEUA	**Cerro Uatsi, L**	**0.36**	**312⇓**	*eP*	**Pg**	**16 08 08.6**	**+0.2**
BC3P	**Paso Ancho**	**0.56**	**174**	*i* P	**Pb**	**16 08 12.2**	**-0.4**
BC3P				*i* S	**Sb**	**16 08 20.9**	**+0.5**
BRU2	**Volcan**	**0.58**	**182**	*eP*	**Pb**	**16 08 12.7**	**-0.2**
BRU2				*eS*	**Sb**	**16 08 22.1**	**+1.2**
BRU2	**Volcan**	**0.58**	**182⇑**	*iP*	**Pb**	**16 08 12.6**	**-0.2**
BRU2				*eS*	**Sb**	**16 08 22.3**	**+1.4**
LNBQ3	**Los Naranjos,**	**0.62**	**159⇓**	*iP*	**Pb**	**16 08 13.0**	**-0.6**
LNBQ3				*i* S	**Sb**	**16 08 22.5**	**+0.3**
CHGR2	**Aguacate**	**0.68**	**130**	*i* P	**Pb**	**16 08 13.5**	**-1.0**
CHGR2				*i* S	**Sb**	**16 08 23.4**	**-0.2**
BURE	**Buenos Aires**	**0.69**	**253**	*eP*	**Pg**	**16 08 13.8**	**-0.7**
PTAR3	**Potrerillos Ar**	**0.70**	**166**	*eP*	**Pb**	**16 08 14.7**	**-0.2**
PTAR3				*i* S	**Sb**	**16 08 24.5**	**+0.1**
NELY	**Ciudad Neily**	**0.77**	**201**	*eP*	**Pn**	**16 08 17.1**	**-0.1**
FIMO	**Fila Mora**	**0.78**	**240**	*eP*	**Pb**	**16 08 16.3**	**+0.2**
SAJE	**San Jermim**	**0.83**	**268⇑**	*eP*	**Pg**	**16 08 16.0**	**-1.1**
EDAD	**Golfito**	**0.87**	**214**	*eP*	**Pb**	**16 08 17.9**	**+0.1**
GUAL3	**Gualaca, Chiri**	**0.92**	**156**	*eP*	**Pg**	**16 08 17.4**	**-1.4**
GUAL3				*i* S	**Sb**	**16 08 31.2**	**+0.8**
DVD	**David**	**0.96**	**167**	*eP*	**Pb**	**16 08 19.3**	**0.0**
DVD				*eS*	**Sn**	**16 08 33.8**	**+0.7**
LOMA3	**Las Lomas, Chi**	**0.98**	**164**	*eP*	**Pb**	**16 08 19.6**	**0.0**
LOMA3				*eS*	**Sb**	**16 08 33.0**	**+0.7**
PTJ1	**Puerto Jimnez**	**1.04**	**217⇑**	*iP*	**Pb**	**16 08 20.8**	**+0.1**
IRES	**Siquirres**	**1.09**	**311**	*eP*	**Pg**	**16 08 19.5**	**-2.6**
PIRO	**Carate, Puerto**	**1.17**	**214**	*eP*	**Pg**	**16 08 21.6**	**-2.0**
PIRO	**Carate, Puerto**	**1.17**	**214**	*eP*	**Pg**	**16 08 22.4**	**-1.1**
PTPM	**Petroterminale**	**1.18**	**190**	*eP*	**Pg**	**16 08 21.5**	**-2.3**
VTCV	**VTCV, Calle Va**	**1.20**	**300**	*eP*	**Pg**	**16 08 21.8**	**-2.5**
CVTV	**Tajo**	**1.23**	**300⇓**	*eP*	**Pg**	**16 08 22.1**	**-2.7**
CVTQ	**Turrialba Volc**	**1.25**	**300**	*eP*	**Pg**	**16 08 22.6**	**-2.5**
VTR0	**Volcan Turrial**	**1.25**	**301**	*eP*	**Pg**	**16 08 22.5**	**-2.6**
CVTR	**Volcan Turrial**	**1.25**	**301**	*eP*	**Pg**	**16 08 22.4**	**-2.7**
VTLA	**Turrialba Volc**	**1.25**	**300**	*eP*	**Pg**	**16 08 22.6**	**-2.7**
VICA	**Volcano Irazu**	**1.30**	**298**	*eP*	**Pg**	**16 08 23.1**	**-3.1**
CVTG	**V. Turrialba,**	**1.33**	**305**	*eP*	**Pn**	**16 08 23.3**	**-1.6**
LCR2	**La Lucha 2**	**1.36**	**285**	*eP*	**Pn**	**16 08 24.6**	**-1.0**
ABE2	**San Pablo**	**1.40**	**284**	*eP*	**Pn**	**16 08 25.7**	**-0.4**
AMPA	**Desamparados**	**1.47**	**291**	*eP*	**Pn**	**16 08 26.3**	**-0.6**
ACOS	**Acosta**	**1.53**	**286**	*eP*	**Pn**	**16 08 27.7**	**-0.1**
HDC	**Heredia**	**1.55**	**294**	*eP*	**Pn**	**16 08 29.6**	**+1.6**
VPS8	**V Poas**	**1.74**	**297**	*eP*	**Pn**	**16 08 30.8**	**-0.1**
MESA3	**La Mesa, Verag**	**1.91**	**130**	*eP*	**Pn**	**16 08 33.1**	**+0.3**
MESA3				*i* S	**Sn**	**16 08 58.0**	**+1.4**
CALO3	**Calobre, Verag**	**2.09**	**120**	*eP*	**Pn**	**16 08 35.6**	**+0.2**
CALO3				*eS*	**Sn**	**16 09 01.6**	**+0.5**
GMAL	**Guarumal, Vera**	**2.14**	**138**	*eP*	**Pn**	**16 08 36.4**	**+0.3**
GMAL				*eS*	**Sn**	**16 09 02.6**	**+0.2**
MARI3	**Mariato, Verag**	**2.39**	**136**	*eP*	**Pn**	**16 08 39.7**	**+0.3**
JTS	**Las Juntas de**	**2.42**	**292**	*eP*	**Pn**	**16 08 41.1**	**+1.1**
JTS				*i* S	**Sn**	**16 09 12.7**	**+3.3**
PNME	**Penonome**	**2.48**	**111**	*eP*	**Pn**	**16 08 40.0**	**-0.7**
CHIT3	**Chitre**	**2.64**	**122**	*eP*	**Pn**	**16 08 41.9**	**-1.0**
CHIT3				*i* S	**Sn**	**16 09 15.2**	**+0.6**
CACAO	**El Cacao, Vera**	**2.70**	**138**	*eP*	**Pn**	**16 08 45.4**	**+1.7**
BCIP	**Isla Barro Col**	**2.81**	**94**	*eP*	**Pn**	**16 08 45.6**	**+0.4**
AZU	**Azuero**	**2.85**	**123**	*eP*	**Pn**	**16 08 46.4**	**+0.6**
AZU				*eS*	**Sn**	**16 09 20.2**	**+0.5**
CHOR3	**La Chorrera**	**2.91**	**99**	*eP*	**Pn**	**16 08 45.1**	**-1.5**
UPA	**Univ. de Panam**	**3.12**	**97**	*eP*	**Pn**	**16 08 51.2**	**+1.7**

---

*CATAC **10** 16:08:32.7±1.4, 12°N±14°×8°8W±°, h19km±21km, M3.8/6, MLv3.8/6, Error ellipse: s-maj=29.5km s-min=12.0km az=3.7, confirmed*
*GCG **10** 16:08:35.5±0.8, 13°.61N×88°.38W, h201km±7km, MD4.3*
*SNET **10** 16:08:35.7±0.8, 13°.16N×88°.61W, h198km±10km, ML3.3*
ISC 10 16:08:36.5±1.4, 13°.5N±0°.2×88°.37W±0°.07, h200km, n29, σ1$13/31, 1C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACA	**Pacayal**	**0.06**	**138**	*eP*	**Pn**	**16 09 03.2**	**+0.3**
TECA	**Tecapa**	**0.13**	**261**	*eP*	**Pn**	**16 09 02.7**	**-0.3**
TECA				*eP*		16 09 02.9

SBZV	Sabzevar	1.76	162	Pg	Pn	16 18 19.4 -0.7
IAKL	Akhelmad	2.07	134	Pn	Pn	16 18 24.1 -0.2
IPAY	Payeh	2.31	134	Pn	Pn	16 18 27.3 -0.3
IMOG	Moghan	2.75	135	Pn	Pn	16 18 33.7 0.0
IGLO	Ghaloghah	2.92	239	Pn	Pn	16 18 36.3 +0.4
TAPT	Tabas- Tapeh t	3.18	176	Pn	Pn	16 18 39.3 -0.2
IKIA	Kiasar	3.19	235	Pn	Pn	16 18 40.0 +0.3
TBHD	Torbat heydari	3.23	144	Pn	Pn	16 18 40.0 -0.3
IALA	Alasht	3.84	240	Pn	Pn	16 18 49.4 +0.7
TBJM	Torbat-e-JAM	3.91	135	Pn	Pn	16 18 49.9 +0.3
IPRN	Peran	4.09	245	Pn	Pn	16 18 52.1 +0.1
TNSJ	Nastanj	4.10	184	Pn	Pn	16 18 51.9 -0.3
ILAS	Lasjerd	4.16	231	Pn	Pn	16 18 53.5 +0.5
TKDS	Koohdasht(Taba	4.45	178	Pn	Pn	16 18 56.9 0.0
MZPU	Pul - Mazandar	4.57	251	Pn	Pn	16 18 58.7 +0.1
KLST	Kelardasht - M	4.92	254	Pn	Pn	16 19 02.8 -0.8
AFRZ	Afriz	4.93	159	Pn	Pn	16 19 03.4 -0.2
TPRV	Parvadeh(Tabas	5.03	182	Pn	Pn	16 19 04.9 0.0
SHRT	Shahrakht	5.19	147	Pn	Pn	16 19 06.4 -0.6
ISFB	Sefidab	5.30	227	Pn	Pn	16 19 08.4 -0.1
ITEG	Tejag	5.37	163	Pn	Pn	16 19 09.5 -0.1
ANAR	Anarak	5.52	209	Pn	Pn	16 19 11.6 0.0
IGZV	Ghazvin	5.61	255	Pn	Pn	16 19 13.3 +0.4
KRSH	Karshahi	5.63	225	Pn	Pn	16 19 13.3 0.0
IKOO	Kooshah	5.88	163	Pn	Pn	16 19 16.4 -0.4
QABG	Abgarm-Qazvin	6.34	250	Pn	Pn	16 19 23.4 +0.5
IZEF	Zefreh	6.38	217	Pn	Pn	16 19 24.1 +0.6
IKLH	Kolahrood	6.43	224	Pn	Pn	16 19 24.3 0.0
GRMI	Germi	7.13	279	Pn	Pn	16 19 33.4 -0.3
IRAM	Ramesheh	7.27	212	Pn	Pn	16 19 36.1 +0.3
IHRS	Heris	7.79	275	Pn	Pn	16 19 43.1 +0.3
GNI	Garni	9.70	286	LR	LR	16 25 14.5
	comp=Z,28nm,18.2s,baz=120,slow=47					
AB31	Akbulak array	11.40	10	P	Pn	16 20 34.7 +2.7
	0.9nm,0.6s,baz=191,slow=12,SNR=15					
AB31			⇑S		Sn	16 22 35.9 -3.4
	0.8nm,0.4s,baz=196,slow=22,SNR=5.2					
KBZ	Khabaz	12.02	302	Pn	Pn	16 20 40.2 -0.4
	0.4nm,0.3s,baz=118,slow=2.9,SNR=7.8					
KBZ				Sn	Sn	16 22 50.5 -4.2
	0.2nm,0.3s,baz=128,slow=16,SNR=6.1					
	1.3nm,0.5s					
AKTO	Aktyubinsk	12.39	3	⇑P	Pn	16 20 46.5 +0.9
	2.5nm,1.0s					
AKTO				⇓S	Sn	16 23 00.4 -3.3
	2.2nm,0.9s					
AAK	Ala-Archa	14.15	66	LR	LR	16 27 46.8
	comp=Z,46nm,18.7s,baz=254,slow=42					
BVAR	Borovoye Array	17.64	28	P	P	16 21 57.7 +1.8
	0.1nm,0.3s,baz=210,slow=13,SNR=12					
	2.1nm,0.7s					
ARTI	Arti	18.36	3	LR	LR	16 29 37.7
	comp=Z,42nm,20.1s,baz=192,slow=39					
KURBB	Kurchatov Arra	19.82	44	P	Pn	16 22 23.5 +2.1
	baz=245,slow=11,SNR=5.9					
	0.5nm,0.7s					
MKAR	Makanchi Array	20.59	57	P	Pn	16 22 31.0 +0.5
	0.8nm,0.7s,baz=244,slow=10,SNR=9.6					
	0.8nm,0.7s					
AKASG	Malin Array Be	23.33	312	P	P	16 22 58.7 +1.3
	0.5nm,0.5s,baz=108,slow=9.5,SNR=1.2					
	0.5nm,0.5s					
ZALV	Zalesovo Beam	24.82	41	P	P	16 23 15.3 +3.8
	0.5nm,0.5s,baz=261,slow=9.3,SNR=2.3					
	0.5nm,0.5s					

IDC 10 16:24:23.1±1.7, 3°.85N×126°.85E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=190.2km s-min=28.4km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.76	163	P	P	16 29 46.9	+0.2
	0.1nm,0.3s,baz=342,slow=9.2,SNR=6.5						
	0.1nm,0.3s						
ASAR	Alice Springs	28.20	166	P	P	16 30 17.4	-0.3
	0.1nm,0.4s,baz=350,slow=7.1,SNR=11						
	0.1nm,0.4s						
SONM	Songino Array	47.22	341	P	P	16 32 57.9	0.0
	0.3nm,0.5s,baz=141,slow=7.7,SNR=2.5						
	0.3nm,0.5s						

DJA 10 16:28:52.6±1.2, 9°S±4°×11°1E±°, h10km±10km, M3.9/16, mb4.3/5, MLv3.6/16, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	1.07	31	P	Pg	16 29 12.1	-1.1
UGM	Wanagama	1.20	355	P	Pb	16 29 15.4	-0.1
UGM				S	Sb	16 29 30.9	-0.3
YOGI	Yogyakarta	1.33	346	P	Pn	16 29 17.4	+0.1
YOGI				S	Sb	16 29 33.9	-1.0
PWJI	Pagerwojo	1.60	47	P	Pn	16 29 20.5	-0.5
NGJI	Ngawi	1.93	26	P	Pn	16 29 26.2	+0.7
SMRI	Semarang	2.06	355	P	Pn	16 29 27.7	+0.3
CMJI	Cimerak	2.52	302	P	Pn	16 29 34.1	+0.4
GMJI	Gumukmas	2.92	73	P	Pn	16 29 38.4	-0.7
JAGI	Jajag, Banyuwa	3.55	80	P	Pn	16 29 46.3	-1.5
CNJI	Cibinong	3.90	297	P	Pn	16 29 52.5	-0.1
TWSI	Taliwang, Sumb	6.20	87	P	Pn	16 30 24.7	+0.4
	0.1nm15nm,0.6s						
PLAI	Plampang	7.08	88	P	Pn	16 30 37.6	+1.3

IDC 10 16:38:27.3±7.5, 14°.56S×174°.39W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=332.5km s-min=35.7km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.11	256	P	P	16 47 17.2	+0.1
	0.7nm,0.5s,baz=91,slow=7.5,SNR=24						
	0.7nm,0.5s						
ASAR	Alice Springs	49.47	251	P	P	16 47 19.4	-0.3
	4.1nm,0.6s,baz=86,slow=8.0,SNR=68						
	4.1nm,0.6s						
ILAR	Eielson Array	81.81	12	P	P	16 50 47.8	0.0
	0.3nm,0.6s,baz=228,slow=6.1,SNR=5.4						
	0.3nm,0.6s						

*IDC **10** 16:45:02.2±1.7, 1°.98S×120°.58E, h0km, mb3.3/3, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=49.9km s-min=25.6km az=74.0*
*DJA **10** 16:45:03.2±0.2, 2°S±2°×12°1E±°, h10km, M3.8/13, MLv3.8/13*
ISC 10 16:45:02.7±1.0, 2°.09S±0°.04×120°.53E±0°.07, h10km, n16, σ1§43/18, mb3.4/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	1.19	217	P	Pb	16 45 23.7	-1.6
PCI	Palu	1.37	329	P	Pn	16 45 27.8	0.0
APSI	Ampana	1.62	44	P	Pn	16 45 31.4	+0.1
SPSI	Sidrap Palu	2.01	202	P	Pn	16 45 37.6	+0.9
SPSI				S	Sb	16 46 03.9	-0.6
BNSI	Bone	2.33	190	P	Pn	16 45 41.5	+0.4
LUWI	Luwuk	2.47	65	P	Pn	16 45 42.2	-0.8
MPSI	Mapaga	2.49	345	P	Pn	16 45 44.2	+0.9
MRSI	Marisa	2.91	29	P	Pn	16 45 49.0	-0.1
KAPI	Kappang	3.01	195	Pn	Pn	16 45 53.3	+2.9
	6.3nm,0.3s,baz=18,slow=7.3,SNR=14						
KAPI				Sn	Sb	16 46 30.2	-3.0
	7.1nm,0.3s,baz=75,slow=20,SNR=8.9						
	24nm,0.5s						
BKSI	Bulukumba	3.24	187	P	Pn	16 45 53.4	-0.2
BBSI	Bau Bau	3.94	149	P	Pn	16 46 04.0	+0.7
BSSI	Bau Bau, Buton	4.03	181	P	Pn	16 46 04.9	+0.4
KMSI	Cibinong	4.35	53	P	Pn	16 46 09.8	+1.0
WRA	Warramunga Arr	22.29	144	P	P	16 50 01.2	+0.8
	1.1nm,0.8s,baz=321,slow=11,SNR=6.8						
	1.1nm,0.8s						
ASAR	Alice Springs	25.06	150	P	P	16 50 29.8	+2.4
	0.7nm,1.0s,baz=324,slow=8.1,SNR=5.0						
	0.7nm,1.0s						
MKAR	Makanchi Array	59.14	330	P	P	16 55 04.1	+0.4
	0.2nm,0.6s,baz=120,slow=8.5,SNR=2.6						
	0.2nm,0.6s						

*IDC **10** 17:00:08.3±4.2, 13°.54S×44°.20E, h0km, mb3.6/5, mbtmp3.7/6, ML4.3/1, Error ellipse: s-maj=135.3km s-min=27.2km az=75.0*

ISC 10 17:00:16.9±1.1, 13°.13S±0°.07×45°.7E±0°.1, h10km, n15, σ1§67/23, mb3.7/5, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	Sambava	4.08	95	P	Pn	17 01 20.4	+1.0
SBV				S	Sn	17 02 05.4	-2.0
OPO	Ambohidratompo	5.59	166	Pn	Pn	17 01 34.0	-6.3
	0.8nm,0.3s,baz=279,slow=19,SNR=19						
OPO				Sn	Sn	17 02 44.5	-0.2
	3.2nm,0.3s,baz=260,slow=22,SNR=10						
	29nm,0.4s						
OPO	Ambohidratompo	5.59	166	P	Pn	17 01 42.5	+2.2
OPO				S	Sn	17 02 44.6	-0.2
FIRM	Firavahana	5.65	169	P	Pn	17 01 43.3	+2.1
FIRM				S	Sn	17 02 45.8	-0.5
ATG	Ambohiby	5.74	176	S	Sn	17 02 48.4	+0.1
ATG				P	Pn	17 01 43.7	+1.4
ABPO	Ambohimpanom	6.03	166	P	Pn	17 01 44.3	-2.1
ABPO				S	Sn	17 02 54.6	-1.0
MDSM	Mandiavato	6.05	168	P	Pn	17 01 44.9	-1.8
MDSM				S	Sn	17 02 55.4	-0.8
AVY	Angavokely	6.08	162	P	Pn	17 01 48.8	+1.7
AVY				S	Sn	17 02 55.0	-1.9
DGRM	Ambatolahisoa	6.13	174	P	Pn	17 01 46.8	-1.0
DGRM				S	Sn	17 02 56.4	-1.7
ABM	Ambohimiarambe	6.80	167	P	Pn	17 01 58.9	+1.9
CMAR	Chiang Mai Arr	61.13	60	P	P	17 10 35.2	+3.4
	0.3nm,0.6s,baz=256,slow=8.4,SNR=4.2						
	0.3nm,0.6s						
MKAR	Makanchi Array	68.06	26	P	P	17 11 14.8	-1.8
	0.2nm,0.5s,baz=203,slow=5.8,SNR=2.2						
	0.2nm,0.5s						
BVAR	Borovoye Array	69.21	16	P	P	17 11 22.6	-1.1
	0.3nm,0.5s,baz=216,slow=4.6,SNR=1.8						
	0.3nm,0.5s						
ASAR	Alice Springs	83.19	113	P	P	17 12 43.9	-0.1
	0.5nm,0.7s,baz=262,slow=4.7,SNR=13						
	0.5nm,0.7s						
WRA	Warramunga Arr	84.32	109	P	P	17 12 49.5	-0.4
	0.8nm,0.9s,baz=263,slow=4.1,SNR=5.1						
	0.8nm,0.9s						

*AEIC **10** 17:04:50.9±1.5, 61°.40N±0°.03×149°.96W±0°.05, h20km±6km, Error ellipse: s-maj=4.5km s-min=3.7km az=153.0*
NEIC 10 17:04:51.3±0.6, 61°.45N±0°.04×149°.90W±0°.06, h35km±21km, ML3.2/172, ML3.3(AEIC), Error ellipse: s-maj=5.2km s-min=4.3km az=186.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.32	341		Pn	17 04 59.5	0.0
M22K				IAML		17 05 06.9	
	comp=E,1μm,0.3s						
M22K				IAML		17 05 07.0	
	comp=N,1μm,0.3s						
FIS	Fire Island	0.34	207		Pn	17 05 00.6	+0.9
FIS				IAML		17 05 09.8	
	comp=E,1μm,0.3s						
RC01	Rabbit Creek A	0.37	167		Pn	17 05 00.0	0.0
RC01				IAML		17 05 08.5	
	comp=E,3μm,0.1s						
PMR	Palmer	0.40	68		Pn	17 05 00.4	0.0
PMR				IAML		17 05 07.8	
	comp=N,1μm,0.2s						
SUA	Susitna One	0.41	273		Pn	17 05 00.8	+0.1
SUA				IAML		17 05 09.0	
	comp=N,2μm,0.7s						
SUA				IAML		17 05 09.6	
	comp=E,2μm,0.5s						
GHO	Glory Hole Cre	0.57	55		Pn	17 05 02.8	-0.3
GHO				IAML		17 05 12.9	
	comp=N,1μm,0.4s						
GHO				IAML		17 05 13.5	
	comp=E,1μm,0.3s						
KNK	Knik Glacier	0.70	92		Pn	17 05 04.8	+0.1
KNK				IAML		17 05 16.7	
	comp=N,1μm,0.5s						
KNK				IAML		17 05 18.4	
	comp=E,966nm,0.2s						
SML	Sawmill	0.83	64		Pn	17 05 06.4	-0.1
SML				IAML		17 05 20.0	
	comp=E,496nm,0.4s						
SML				IAML		17 05 21.8	
	comp=N,627nm,0.7s						
CAPN	Captain Cook N	0.91	222	Pn	Pn	17 05 08.9	+1.3
STLK	Strandline Lak	0.93	274		Pn	17 05 08.1	+0.2
STLK				IAML		17 05 21.3	
	comp=E,467nm,0.3s						
STLK				IAML		17 05 21.3	
	comp=N,696nm,0.3s						
SKT	Skwentna	0.94	305	Sn	Sn	17 05 20.1	-0.2
SLKM	Skilak Lake	0.96	189		Pn	17 05 07.8	-0.5
SLKM				IAML		17 05 23.2	
	comp=N,697nm,0.2s						
SLKM				IAML		17 05 23.9	
	comp=E,675nm,0.3s						
PWL	Port Wells	0.96	127		Pn	17 05 08.3	0.0
O22K	Cooper Landing	0.97	175		Pn	17 05 08.4	-0.1
CUT	Chulitna	0.98	350		Pn	17 05 08.3	-0.1
SCM	Sheep Creek Mo	1.29	71		Pn	17 05 13.5	+0.6
SEW	Seward	1.37	170		Pn	17 05 13.3	-0.5
SEW				IAML		17 05 37.7	
	comp=E,199nm,0.2s						
GLI	Glacier Island	1.48	111		Pn	17 05 15.5	+0.1
GLI				IAML		17 05 37.7	
	comp=E,360nm,0.4s						
GLI				IAML		17 05 38.2	
	comp=N,470nm,0.3s						
M20K	Styx River	1.60	287		Pn	17 05 17.6	+0.5
M20K				IAML		17 05 40.8	
	comp=E,156nm,0.8s						
BRLK	Bradley Lake	1.76	196	IAML		17 05 45.8	
	comp=N,246nm,0.7s						
BRLK				IAML		17 05 45.8	
	comp=E,219nm,0.2s						
FID	Port Fidalgo	1.81	111		Pn	17 05 19.6	-0.3
FID				IAML		17 05 46.2	
	comp=E,275nm,0.5s						
FID				IAML		17 05 48.3	
	comp=N,279nm,0.4s						
PPLA	Purkeypile	1.81	325		Pn	17 05 20.8	+0.8
PPLA				IAML		17 05 46.2	
	comp=N,181nm,0.6s						
PPLA				IAML		17 05 46.4	
	comp=E,197nm,0.4s						
M24K	Tolsona, Glenn	1.89	68	IAML		17 05 52.8	
	comp=N,253nm,0.3s						
P23K	Montague Islan	1.90	139		Pn	17 05 20.7	-0.5
KLU	Klutina	1.91	87	IAML		17 05 46.9	
	comp=N,273nm,0.5s						
KLU				IAML		17 05 52.8	
	comp=E,195nm,0.5s						
HIN	Hinchinbrook I	1.97	121		Pn	17 05 22.5	+0.4
TRF	Thorofare Moun	2.02	355	IAML		17 05 52.1	
	comp=E,133nm,0.5s						
TRF				IAML		17 05 52.7	
	comp=N,140nm,0.5s						
DIV	Divide	2.02	97		Pn	17 05 23.1	+0.2
DIV				IAML		17 05 49.2	
	comp=E,163nm,0.4s						
RND	Reindeer	2.03	14		Pn	17 05 23.9	+0.9
CNPM	China Poot	2.04	199		Pn	17 05 23.1	0.0
CNPM				IAML		17 05 52.4	
	comp=E,222nm,0.5s						
CNPM				IAML		17 05 54.8	
	comp=N,205nm,0.4s						
ILSW	Iliamna Southw	2.17	229		Pn	17 05 25.4	+0.4
ILSW				IAML		17 05 56.6	
	comp=E,110nm,0.8s						
KTH	Kantishna Hill	2.17	348		Pn	17 05 26.0	+1.1
KTH				IAML		17 05 54.1	
	comp=E,132nm,0.8s						
KTH				IAML		17 05 55.8	
	comp=N,142nm,0.6s						
M19K	Big River Lodg	2.19	284		Pn	17 05 25.6	+0.4
EYAK	Cordova Ski Ar	2.22	112		Pn	17 05 26.4	+0.9
EYAK				IAML		17 06 02.2	
	comp=E,101nm,0.5s						
EYAK				IAML		17 06 02.4	
	comp=N,142nm,0.5s						
CAST	Castle Rocks	2.22	334		Pn	17 05 26.0	+0.3
N19K	Bonanza Creek	2.31	256		Pn	17 05 27.6	+0.7
MCK	McKinley	2.34	11		Pn	17 05 28.1	+0.9
MCK				IAML		17 06 08.8	
	comp=N,87nm,0.9s						
P19K	Oil Pt	2.44	224		Pn	17 05 29.6	+1.0
L19K	White Mountain	2.46	290		Pn	17 05 29.8	+0.9
N25K	Chitina, Valde	2.55	84	Pn	Pn	17 05 30.8	+0.6
N25K				IAML		17 06 12.6	
	comp=N,93nm,0.5s						
N25K				IAML		17 06 12.7	
	comp=E,80nm,0.6s						
PAX	Paxson	2.58	52		Pn	17 05 32.1	+1.5
PAX				IAML		17 06 09.4	
	comp=E,96nm,0.5s						
PAX				IAML		17 06 09.4	
	comp=N,123nm,0.7s						
BMRM	Bremner River	2.61	98	IAML		17 06 13.3	
	comp=E,122nm,0.4s						
BMRM				IAML		17 06 17.9	
	comp=N,116nm,0.6s						
BPAW	Bear Paw Mtn.	2.71	350		Pn	17 05 32.6	+0.3
K20K	Telida	2.73	316		Pn	17 05 33.3	+0.8
K20K				IAML		17 06 13.3	
	comp=N,62nm,0.6s						
BWN	Browne	2.74	4		Pn	17 05 33.9	+1.2
BWN				IAML		17 06 21.4	
	comp=N,74nm,1.4s						
BWN				IAML		17 06 23.1	
	comp=E,108nm,1.0s						
GLB	Gilahina Butte	2.93	87	IAML		17 06 20.5	
	comp=N,84nm,0.9s						
GLB				IAML		17 06 21.3	
	comp=E,61nm,0.7s						
N18K	Kilae Creek	3.01	258		Pn	17 05 36.8	+0.3
VRDI	Verde Repeater	3.12	91		Pn	17 05 37.7	-0.4
VRDI				IAML		17 06 29.2	
	comp=N,51nm,0.8s						
Q19K	Cape Douglas,	3.14	218		Pn	17 05 39.6	+1.3
TTA	Tatalina	3.23	300		Pn	17 05 39.8	+0.4
HDA	Harding Lake	3.27	23	IAML		17 06 35.7	
	comp=N,64nm,1.0s						
HDA				IAML		17 06 36.4	
	comp=E,53nm,1.1s						
RIDG	Independent Ri	3.28	43		Pn	17 05 41.8	+1.6
J20K	Nowinta River	3.36	326	IAML		17 06 22.2	
	comp=N,55nm,0.7s						
J20K				IAML		17 06 23.9	
	comp=E,40nm,0.6s						
M26K	Nabesna, AK	3.40	71	IAML		17 06 41.0	
	comp=N,58nm,0.7s						
M26K				IAML		17 06 42.7	
	comp=E,57nm,0.5s						
DOT	Dot Lake	3.49	48		Pn	17 05 44.9	+1.9
COLA	College	3.56	14		Pn	17 05 44.8	+0.8
ILAR	Eielson Array	3.61	21		Pn	17 05 45.3	+0.7
M17K	Holitna River	3.62	273		Pn	17 05 45.3	+0.5
M17K				IAML		17 06 47.5	
	comp=N,37nm,0.8s						
M17K				IAML		17 06 58.4	
	comp=E,39nm,0.8s						
N17K	Nushagak Hills	3.67	259	IAML		17 06 45.0	
	comp=N,31nm,0.9s						
J19K	Poorman	3.67	317		Pn	17 05 45.9	+0.4
J19K				IAML		17 06 41.8	
	comp=N,33nm,0.5s						
J19K				IAML		17 06 48.5	
	comp=E,35nm,0.6s						
SCRK	Sand Creek	3.72	44	IAML		17 06 46.9	
	comp=N,34nm,0.4s						
SCRK				IAML		17 06 48.6	
	comp=E,38nm,0.9s						
J25K	Salcha River,	3.79	31	IAML		17 06 38.5	
	comp=E,58nm,0.6s						
J25K				IAML		17 06 40.8	
	comp=N,25nm,0.4s						
K17K	Iditarod	4.15	292	IAML		17 07 05.9	
	comp=N,24nm,0.7s						
K17K				IAML		17 07 07.6	
	comp=E,29nm,0.8s						
H23K	Yukon River	4.40	2	IAML		17 07 24.8	
	comp=E,13nm,4.8s						
PRP	Porcupine Dome	4.53	24	IAML		17 06 58.3	
	comp=E,17nm,0.5s						
PRP				IAML		17 06 58.8	
	comp=N,22nm,0.4s						
J17K	VABM Dome	4.69	299	IAML		17 07 22.1	
	comp=N,20nm,2.3s						
J17K				IAML		17 08 32.2	
	comp=E,14nm,3.9s						
O28M	Mount Upton	4.76	94	IAML		17 07 42.9	
	comp=E,19nm,2.3s						
O28M				IAML		17 07 46.6	
	comp=N,20nm,2.2s						
I26K	Coal Creek Min	4.92	35	IAML		17 07 30.1	
	comp=N,23nm,0.7s						
H19K	Roundabout Mou	5.04	327	IAML		17 06 49.8	
	comp=E,13nm,4.0s						
H19K				IAML		17 07 39.3	
	comp=N,13nm,4.4s						
G23K	Bananza Creek	5.29	359	IAML		17 07 28.1	
	comp=N,6.8nm,3.9s						
G23K				IAML		17 07 36.6	
	comp=E,8.9nm,4.6s						
G21K	Allakaket	5.33	344	IAML		17 07 11.0	
	comp=N,18nm,0.8s						
G21K				IAML		17 07 12.5	
	comp=E,15nm,0.8s						
G24K	Hadweenzic Riv	5.38	10	IAML		17 09 17.4	
	comp=E,10nm,3.6s						
G24K				IAML		17 09 38.3	

*IDC **10** 17:10:01.1±2.1, 52°.58N×160°.82E, h210km±13km, mb2.7/4, mbtmp3.5/5, Error ellipse: s-maj=30.7km s-min=27.5km az=1.0*
*KRSC **10** 17:10:03.6±1.9, 50°.93N×157°.08E, h133km±18km, Ml3.6*
ISC 10 17:10:04.1±1.1, 50°.91N±0°.09×157°.0E±0°.1, h139km±7km, n29, σ1§58/41, mb3.0/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.57	346	eP	Pn	17 10 24.7	+0.2
SKR	Severo-Kuril's	0.62	249	eP	Pn	17 10 24.9	+0.1
SKR				eS	Sn	17 10 39.6	-0.9
ASAK	Asacha	1.57	20	eP	Pn	17 10 34.5	+0.9
GRL	Gorelyy	1.77	21	eP	Pn	17 10 37.1	+1.3
GRL				eS	Sn	17 11 01.0	+0.8
RUS	Russkaya	1.78	31	eS	Sn	17 10 59.2	-1.1
APC	Apacha	2.02	2	eP	Pn	17 10 39.1	+0.5
APC				eS	Sn	17 11 05.5	+0.2
KRMR	Karymshinskiy	2.04	19	eP	Pn	17 10 39.7	+0.8
KRMR				eS	Sn	17 11 07.0	+1.3
PETK	Petropavlovsk-	2.24	10	P	Pn	17 10 41.0	-0.3
	5.0nm,0.4s,baz=117,slow=20,SNR=58						
PETK				S	Sn	17 11 10.2	+0.1
	4.9nm,0.5s,baz=169,slow=16,SNR=6.2						
PET	Petropavlovsk	2.34	25	eP	Pn	17 10 43.3	+0.7
PET				eS	Sn	17 11 11.9	-0.3
INSR	Institute	2.37	24	eS	Sn	17 11 12.7	-0.1
DALK	Dalny	2.38	26	eP	Pn	17 10 43.9	+0.9
DALK				eS	Sn	17 11 12.5	-0.5
UGLR	Uglovaya	2.55	25	eP	Pn	17 10 47.0	+1.7
AVH	Avacha	2.58	23	eP	Pn	17 10 47.4	+1.7
AVH				eS	Sn	17 11 19.0	+1.2
KOK	Koryaka	2.58	22	eP	Pn	17 10 47.6	+1.9
KOK				eS	Sn	17 11 19.3	+1.5
SDLR	Sedlovina	2.63	25	eP	Pn	17 10 47.5	+1.1
KRX	Arik	2.65	21	eP	Pn	17 10 48.0	+1.5
GNL	Ganaly	2.84	11	eP	Pn	17 10 50.0	+0.9
SPN	Mys Shipunski	2.87	39	eP	Pn	17 10 50.5	+1.3
SPN				eS	Sn	17 11 21.8	-2.2
MKZ	Mys Kozlova	4.63	36	eP	Pn	17 11 12.1	-0.2
MKZ				eS	Sn	17 12 01.6	-3.8
TUMD	Tumrok D	4.75	24	eP	Pn	17 11 16.2	+2.3
TUMD				eS	Sn	17 12 08.2	-0.1

0.2nm,0.5s
MKAR Makanchi Array 47.40 296 P **P 17 18 24.1 0.0**
0.1nm,0.5s,baz=66,slow=8.8,SNR=2.2
0.1nm,0.5s
ASAR Alice Springs 77.01 202 P **P 17 21 43.9 +2.5**
0.1nm,0.4s,baz=14,slow=5.2,SNR=4.6
0.1nm,0.4s

CATAC 10 17:24:51.2±0.5, 12°N±3°×8°8W±°, h32km±4km, M2.6/13, MLv2.6/13, Error ellipse: s-maj=7.2km s-min=3.3km az=33.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.61**	**17**	P	Pn	17 25 04.4	+0.5
CSGN				S	Sn	17 25 13.9	+1.3
POTN	**Potosi Cosigui**	**0.65**	**21**	P	Pn	17 25 04.6	+0.4
POTN				S	Sn	17 25 14.4	+0.9
CRIN	**San Cristobal**	**0.75**	**65**	P	Pb	17 25 06.6	+0.7
PKGN	**Cerro Pekin**	**0.80**	**69**	P	Pb	17 25 06.8	+0.1
PKGN				S	Sb	17 25 18.7	+1.5
CNCH	**Conchagua**	**0.89**	**354**	P	Pb	17 25 08.0	-0.2
CNCH	**Conchagua**	**0.89**	**354**	S	Sb	17 25 20.4	+0.5
QUEN	**Al S del Volca**	**0.90**	**77**	P	Pn	17 25 07.9	+0.3
HERN	**Volcan Telica**	**0.92**	**76**	P	Pn	17 25 08.1	+0.1
HERN	**Volcan Telica**	**0.92**	**76**	S	Sn	17 25 20.0	-0.3
LCND	**La Caada**	**0.93**	**351**	P	Pb	17 25 08.7	-0.2
POLN	**Al Sur del Vol**	**0.95**	**74**	P	Pn	17 25 08.4	+0.1
POLN				S	Sb	17 25 21.4	0.0
PLRN	**Geotermica Pol**	**0.97**	**78**	P	Pn	17 25 08.8	0.0
PLRN				S	Sn	17 25 21.5	0.0
ROCN	**Rota Cerro Neg**	**0.99**	**82**	P	Pn	17 25 08.8	-0.1
ROCN				S	Sb	17 25 22.9	+0.3
CNGA	**Al SSO del Vol**	**1.02**	**84**	P	Pb	17 25 10.0	-0.5
CNGA				S	Sn	17 25 23.1	+0.3
CNGN	**Cerro Negro**	**1.03**	**84**	P	Pb	17 25 10.0	-0.5
CNGN	**Cerro Negro**	**1.03**	**84**	S	Sn	17 25 23.3	+0.4
MACN	**El Madrono**	**1.05**	**86**	P	Pn	17 25 09.8	0.0
MACN				S	Sb	17 25 23.9	-0.5
RANC	**El Ranchito**	**1.17**	**333**	S	Sn	17 25 26.0	-0.5
MOMN	**Momotombo**	**1.18**	**89**	P	Pn	17 25 11.6	0.0
MOMN				S	Sn	17 25 26.5	-0.1
CHOHN	**Orocuina**	**1.23**	**28**	P	Pn	17 25 12.3	0.0
CHOHN	**Orocuina**	**1.23**	**28**	S	Sn	17 25 28.7	+0.8
LIMN	**Finca el Limon**	**1.50**	**63**	P	Pn	17 25 16.0	-0.1
TGUH	**Tegucigalpa,Un**	**1.72**	**15**	S	Sn	17 25 40.9	+0.8
MARCA	**Marcala la Paz**	**1.78**	**351**	S	Sn	17 25 42.4	+0.8
YUSH	**Yuscaran**	**1.79**	**29**	P	Pn	17 25 20.4	+0.3
YUSH	**Yuscaran**	**1.79**	**29**	S	Sn	17 25 42.3	+0.6
RCPN	**Sur Rio San Ju**	**1.97**	**55**	P	Pn	17 25 23.0	+0.5
RCPN	**Sur Rio San Ju**	**1.97**	**55**	S	Sn	17 25 46.6	+0.4
JAYA	**Jayaque - finc**	**2.08**	**307**	S	Sn	17 25 48.7	-0.5

---

*NEIC **10** 17:26:21.7±1.5, 9°.29S±0°.08×118°.52E±0°.07, h85km±18km, mb4.1/6, Error ellipse: s-maj=11.6km s-min=10.7km az=176.0*
*DJA **10** 17:26:22.4±0.2, 9°S±3°×11°9E±°, h76km±6km, M4.4/22, mB4.9/2, mb4.3/12, MLv4.5/22, Mw(mB)4.2/2*
*IDC **10** 17:26:26.3±3.8, 9°.01S×118°.95E, h137km±32km, mb3.4/7, mbtmp3.8/9, MS4.2/1, Error ellipse: s-maj=49.1km s-min=9.1km az=54.0*
ISC 10 17:26:21.2±0.6, 9°.33S±0°.05×118°.59E±0°.04, h100km, n60, σ2°11/67, mb3.8/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.85**	**112**	P	**Pn**	**17 26 39.8**	**-0.3**
WBSI				S	**Sn**	**17 26 53.4**	**-1.0**
PLAI	**Plampang**	**0.94**	**302**	P	**Pn**	**17 26 40.5**	**-0.5**
PLAI	**Plampang**	**0.94**	**302**	P	**Pn**	**17 26 40.6**	**-0.5**
PLAI				S	**Sn**	**17 26 54.2**	**-1.8**
WSI	**Waingapu**	**1.72**	**102**	P	**Pn**	**17 26 51.0**	**+0.8**
TWSI	**Taliwang, Sumb**	**1.79**	**289**	P	**Pn**	**17 26 52.3**	**+1.2**
TWSI				S	**Sn**	**17 27 14.2**	**+0.4**
BASI	**Baing, Sumba**	**2.15**	**115**	P	**Pn**	**17 26 58.7**	**+2.9**
EDFI	**Ende, Flores**	**3.12**	**80**	P	**Pn**	**17 27 10.0**	**+1.4**
DNP	**Denpasar**	**3.40**	**281**	P	**Pn**	**17 27 13.2**	**+0.8**
SRBI	**Singaraja**	**3.56**	**290**	P	**Pn**	**17 27 15.4**	**+0.9**
MMRI	**Maumere**	**3.67**	**79**		**Pn**	**17 27 17.2**	**+1.3**
MMRI	**Maumere**	**3.67**	**79**	P	**Pn**	**17 27 17.9**	**+1.9**
MMRI	**Maumere**	**3.67**	**79**	S	**Sn**	**17 28 01.8**	**+3.4**
MMRI	**Maumere**	**3.67**	**79**	P	**Pn**	**17 27 17.6**	**+1.6**
BSSI	**Bau Bau, Buton**	**3.68**	**31**	P	**Pn**	**17 27 16.2**	**0.0**
BKSI	**Bulukumba**	**4.26**	**21**	P	**Pn**	**17 27 24.4**	**+0.4**
KAPI	**Kappang**	**4.44**	**15**		**Pn**	**17 27 26.3**	**-0.1**
KAPI					**Sn**	**17 28 14.3**	**-2.7**
KAPI	**Kappang**	**4.44**	**15**	P	**Pn**	**17 27 26.8**	**+0.5**
13nm,0.4s,baz=203,slow=6.6,SNR=6.8							
KAPI				S	**Sn**	**17 28 14.2**	**-2.7**
104nm,0.4s,baz=180,slow=20,SNR=38							
KAPI	**Kappang**	**4.44**	**15**	P	**Pn**	**17 27 29.0**	**+2.6**
JAGI	**Jajag, Banyuwa**	**4.47**	**281**	Pn	**Pn**	**17 27 25.9**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.47**	**281**	P	**Pn**	**17 27 29.9**	**+3.1**
JAGI	**Jajag, Banyuwa**	**4.47**	**281**	P	**Pn**	**17 27 26.7**	**-0.1**
ABJI	**Asem Bagus**	**4.57**	**289**	P	**Pn**	**17 27 29.4**	**+1.3**
BATI	**Baumata**	**5.08**	**100**	P	**Pn**	**17 27 36.5**	**+1.5**
BATI				S	**Sn**	**17 28 32.5**	**0.0**
KMMI	**Kalianget**	**5.11**	**296**	P	**Pn**	**17 27 36.9**	**+1.5**
0.2nm26nm,1.0s							
BNSI	**Bone**	**5.12**	**17**	P	**Pn**	**17 27 37.0**	**+1.4**
0.2nm1μm21nm,0.5s							
GMJI	**Gumukmas**	**5.19**	**281**	P	**Pn**	**17 27 36.6**	**0.0**
0.4nm43nm,0.7s							
SPSI	**Sidrap Palu**	**5.45**	**12**	P	**Pn**	**17 27 40.7**	**+0.5**
BBSI	**Bau Bau**	**5.49**	**46**	P	**Pn**	**17 27 41.8**	**+1.2**
0.1nm23nm,0.5s							
SOEI	**Soe**	**5.62**	**95**		**Pn**	**17 27 43.8**	**+1.3**
SOEI	**Soe**	**5.62**	**95**	P	**Pn**	**17 27 44.4**	**+1.9**
SOEI	**Soe**	**5.62**	**95**	P	**Pn**	**17 27 44.1**	**+1.6**
PCJI	**Pacitan**	**7.41**	**278**	P	**Pn**	**17 28 07.3**	**+0.5**
31nm,1.0s							
UGM	**Wanagama**	**8.10**	**279**	Pn	**Pn**	**17 28 15.7**	**-0.5**
UGM	**Wanagama**	**8.10**	**279**	P	**Pn**	**17 28 19.7**	**+3.5**
UGM	**Wanagama**	**8.10**	**279**	P	**Pn**	**17 28 17.6**	**+1.4**
71nm,1.7s							
SANI	**Sanana**	**10.31**	**46**	P	**Pn**	**17 28 49.8**	**+3.5**
FITZ	**Fitzroy Crossi**	**11.08**	**143**	Pn	**Pn**	**17 28 55.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**11.08**	**143**	P	**Pn**	**17 28 56.8**	**+0.1**
2.3nm,0.4s,baz=340,slow=12,SNR=13							
FITZ				S	**Sn**	**17 30 52.1**	**-6.6**
5.9nm,0.4s,baz=24,slow=19,SNR=10							
KNRA	**Kununurra**	**11.77**	**123**	Pn	**Pn**	**17 29 04.2**	**-1.7**
MBWA	**Marble Bar**	**11.82**	**175**	P	**Pn**	**17 29 10.4**	**+3.9**
PSA00	**Pilbara Seismi**	**12.24**	**174**	Pn	**Pn**	**17 29 12.4**	**+0.3**
MTN	**Manton Dam**	**12.79**	**107**	Pn	**Pn**	**17 29 17.9**	**-1.6**
GIRL	**Giralia**	**13.88**	**197**	Pn	**Pn**	**17 29 33.9**	**+0.2**
FAKI	**Fak Fak**	**14.99**	**66**	Pn	**Pn**	**17 29 45.7**	**-2.4**
FAKI				IAmb	IAmb	17 29 57.2	
comp=Z,8.9nm,0.5s							
WB0	**Warramunga Arr**	**18.47**	**126**	P	**P**	**17 30 30.6**	**+1.3**
WB0				IAmb	IAmb	17 30 43.1	
comp=Z,5.6nm,1.1s							
WRA	**Warramunga Arr**	**18.52**	**126**	P	**P**	**17 30 31.5**	**+1.6**
WRA	**Warramunga Arr**	**18.52**	**126**	P	**Pn**	**17 30 32.2**	**+0.9**
comp=Z,1.3nm,0.7s,baz=302,slow=12,SNR=13							
WRA				S	**S**	**17 33 47.5**	**-8.6**
comp=Z,0.7nm,0.6s,baz=291,slow=21,SNR=2.1							
WR8	**Warramunga Arr**	**18.65**	**126**	P	**Pn**	**17 30 33.9**	**+1.1**
WR8				IAmb	IAmb	17 30 48.7	
comp=Z,15nm,1.5s							
AS31	**Alice Springs**	**20.44**	**136**	P	**P**	**17 30 53.0**	**+2.2**
ASAR	**Alice Springs**	**20.44**	**136**	P	**P**	**17 30 53.3**	**+2.6**
ASAR	**Alice Springs**	**20.44**	**136**	P	Pn	17 30 53.7	-0.1
comp=Z,1.2nm,0.5s,baz=318,slow=10,SNR=23							
ASAR				S	**S**	**17 34 33.8**	**-0.5**
comp=Z,1.0nm,0.7s,baz=305,slow=22,SNR=4.8							
comp=Z,1.2nm,0.5s							
COEN	**Coen**	**24.51**	**103**	P	**P**	**17 31 33.8**	**+2.3**
COEN				IAmb	IAmb	17 32 01.3	
comp=Z,17nm,1.4s							
BBOO	**Buckleboo**	**28.40**	**148**	P	**P**	**17 32 06.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**33.74**	**325**	P	**P**	**17 32 53.3**	**-0.1**
comp=Z,0.6nm,0.7s,baz=158,slow=7.2,SNR=6.9							
comp=Z,0.6nm,0.7s							
JHJ	**Hachijo jima 2**	**46.79**	**25**	LR	LR	17 52 07.0	
comp=Z,265nm,20.6s,baz=66,slow=33							
SONM	**Songino Array**	**57.93**	**350**	P	**P**	**17 36 03.6**	**+0.5**
comp=Z,1.3nm,0.7s,baz=168,slow=8.1,SNR=5.8							
comp=Z,1.3nm,0.7s							
MKAR	**Makanchi Array**	**64.56**	**333**	P	**P**	**17 36 48.2**	**+0.4**
comp=Z,0.4nm,0.3s,baz=144,slow=9.0,SNR=3.9							
comp=Z,0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**69.08**	**334**	P	**P**	**17 37 16.4**	**+0.1**
comp=Z,0.4nm,0.5s,baz=148,slow=5.2,SNR=3.0							
comp=Z,0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**69.20**	**339**	P	**P**	**17 37 16.7**	**-0.3**
comp=Z,0.6nm,0.4s,baz=128,slow=6.1,SNR=3.9							
comp=Z,0.6nm,0.4s							
BVAR	**Borovoye Array**	**74.39**	**332**	P	**P**	**17 37 49.1**	**+1.0**
comp=Z,0.6nm,0.6s,baz=96,slow=8.8,SNR=2.6							
comp=Z,0.6nm,0.6s							

---

*IDC **10** 17:37:47.4±2.9, 7°.85S×107°.39E, h38km±23km, mb4.3/27, mbtmp4.5/29, ML4.4/2, MS3.3/20, Error ellipse: s-maj=16.6km s-min=9.9km az=69.0*
*DJA **10** 17:37:48.9±0.2, 8°S±2°×10°7E±°, h44km±2km, M5.0/73, mb4.8/73, mB5.6/24, MLv5.1/30, Mw(mB)5.1/24*
*NEIC **10** 17:37:49.0±2.5, 8°.14S±0°.05×107°.26E±0°.03, h63km±6km, mb4.7/50, Error ellipse: s-maj=8.9km s-min=1.2km az=206.0*
ISC 10 17:37:48.2±0.3, 8°.14S±0°.04×107°.32E±0°.04, h50km, n223, σ1°83/196, mb4.6/58, MS3.5/19, 5C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.85**	**347**	P	**Pn**	**17 38 05.1**	**+1.1**
CNJI				S	**Sn**	**17 38 16.0**	**+0.6**
CMJI	**Cimerak**	**1.18**	**72**	P	**Pn**	**17 38 08.5**	**+0.2**
LEM	**Lembang**	**1.34**	**13**	Pg	**Pn**	**17 38 13.1**	**+2.3**
953nm,0.3s,baz=140,slow=24,SNR=168							
LEM				Lg	Lg	17 38 30.2	
2μm,0.3s,baz=270,slow=20,SNR=13							
LEM	**Lembang**	**1.34**	**13**	P	**Pn**	**17 38 12.9**	**+2.1**
SKJI	**Sukabumi**	**1.36**	**326**	P	**Pn**	**17 38 12.5**	**+1.7**
TNG	**Tangerang**	**2.07**	**341**	P	**Pn**	**17 38 22.7**	**+2.2**
CGJI	**Cibinong**	**2.21**	**313**	P	**Pn**	**17 38 24.0**	**+1.5**
SBJI	**Serang**	**2.33**	**330**	P	**Pn**	**17 38 27.0**	**+2.9**
XMI	**Christmas Isla**	**2.80**	**215**	P	**Pn**	**17 38 30.4**	**-0.2**
XMIS	**Christmas Isla**	**2.84**	**215**		**Pn**	**17 38 30.6**	**-0.6**
XMIS	**Christmas Isla**	**2.84**	**215**	P	**Pn**	**17 38 30.6**	**-0.6**
YOGI	**Yogyakarta**	**2.97**	**84**	P	**Pn**	**17 38 33.3**	**+0.4**
UGM	**Wanagama**	**3.18**	**86**		**Pn**	**17 38 36.3**	**+0.5**
UGM	**Wanagama**	**3.18**	**86**	P	**Pn**	**17 38 36.7**	**+0.8**
UGM	**Wanagama**	**3.18**	**86**	S	**Sn**	**17 39 12.0**	**-0.6**
UGM	**Wanagama**	**3.18**	**86**	P	**Pn**	**17 38 36.4**	**+0.5**
SMRI	**Semarang**	**3.28**	**71**		**Pn**	**17 38 39.6**	**+2.4**
SMRI	**Semarang**	**3.28**	**71**	P	**Pn**	**17 38 39.8**	**+2.6**
SMRI	**Semarang**	**3.28**	**71**	S	**Sn**	**17 39 16.6**	**+1.6**
SMRI	**Semarang**	**3.28**	**71**	P	**Pn**	**17 38 39.7**	**+2.6**
BLSI	**Bandar Lampung**	**3.44**	**323**	P	**Pn**	**17 38 42.1**	**+2.7**
PCJI	**Pacitan**	**3.82**	**91**	P	**Pn**	**17 38 45.2**	**+0.6**
NGJI	**Ngawi**	**4.18**	**80**	P	**Pn**	**17 38 51.9**	**+2.4**
LWLI	**Liwa**	**4.49**	**314**	P	**Pn**	**17 38 56.2**	**+2.4**
TBJI	**Tambak Boyo**	**4.68**	**74**	P	**Pn**	**17 38 58.0**	**+1.6**
MDSI	**Maura Dua**	**4.79**	**319**	P	**Pn**	**17 39 00.3**	**+2.4**
GRJI	**Gresik**	**5.26**	**77**	P	**Pn**	**17 39 05.7**	**+1.3**
1.2nm3μm223nm,0.5s							
TPI	**Tanjungpandan**	**5.36**	**4**	P	**Pn**	**17 39 08.3**	**+2.6**
59nm,0.7s							
MNAI	**Manna**	**5.74**	**311**		**Pn**	**17 39 12.2**	**+1.3**
MNAI	**Manna**	**5.74**	**311**	P	**Pn**	**17 39 12.7**	**+1.8**
PMBI	**Palembang**	**5.77**	**334**	P	Pn	17 39 17.0	+5.7
PMBI	**Palembang**	**5.77**	**334**	P	**Pn**	**17 39 16.1**	**+4.8**
BWJI	**Bawean**	**5.77**	**67**	P	**Pn**	**17 39 13.2**	**+1.9**
PPBI	**Pangkal Pinang**	**6.06**	**349**	P	**Pn**	**17 39 17.5**	**+2.2**
GMJI	**Gumukmas**	**6.07**	**92**	P	**Pn**	**17 39 16.3**	**+0.9**
0.7nm3μm139nm,0.6s							
KSI	**Kapahiang**	**6.48**	**313**	P	**Pn**	**17 39 22.8**	**+1.7**
KMMI	**Kalianget**	**6.68**	**81**	P	**Pn**	**17 39 24.4**	**+0.6**
0.3nm70nm,0.8s							
JAGI	**Jajag, Banyuwa**	**6.77**	**93**		**Pn**	**17 39 25.4**	**+0.3**
JAGI	**Jajag, Banyuwa**	**6.77**	**93**	P	**Pn**	**17 39 25.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**6.77**	**93**	S	**Sn**	**17 40 41.4**	**+0.5**
JAGI	**Jajag, Banyuwa**	**6.77**	**93**	P	**Pn**	**17 39 25.8**	**+0.7**
ABJI	**Asem Bagus**	**6.86**	**88**	P	**Pn**	**17 39 28.0**	**+1.7**
SRBI	**Singaraja**	**7.82**	**90**	P	**Pn**	**17 39 40.6**	**+1.2**
DNP	**Denpasar**	**7.83**	**94**	P	**Pn**	**17 39 41.1**	**+1.5**
STKI	**Sintang**	**9.15**	**27**	P	**Pn**	**17 39 59.5**	**+1.8**
3μm20nm,1.2s							
KSM	**Kuching**	**10.01**	**17**	P	**Pn**	**17 40 13.9**	**+4.4**
PPI	**Padang Panjang**	**10.29**	**318**	P	**Pn**	**17 40 14.9**	**+1.6**
43nm,0.6s							
PLAI	**Plampang**	**10.37**	**95**	P	**Pn**	**17 40 14.4**	**0.0**
PLAI	**Plampang**	**10.37**	**95**	S	**Sn**	**17 42 08.4**	**-0.8**
PLAI	**Plampang**	**10.37**	**95**	P	**Pn**	**17 40 14.4**	**0.0**
1μm107nm,0.7s							
MYKOM	**Kota Tinggi**	**10.46**	**341**		**Pn**	**17 40 14.6**	**-1.0**
BKNI	**Bangkinang**	**10.48**	**323**	Pn	**Pn**	**17 40 15.8**	**-0.2**
SISI	**Saibi**	**10.63**	**309**	P	**Pn**	**17 40 15.6**	**-2.4**
SBUM	**Sibu**	**11.60**	**25**		**Pn**	**17 40 33.0**	**+1.7**
SBUM	**Sibu**	**11.60**	**25**	P	**Pn**	**17 40 35.4**	**+4.1**
MNSI	**Mandailing Nat**	**11.76**	**319**	P	**Pn**	**17 40 35.0**	**+1.6**
24nm,0.8s							
KAPI	**Kappang**	**12.74**	**77**	Pn	**Pn**	**17 40 47.7**	**+0.9**
KAPI	**Kappang**	**12.74**	**77**	Pn	**Pn**	**17 40 45.2**	**-1.6**
3.4nm,0.3s,baz=240,slow=11,SNR=5.5							
KAPI				LR	LR	17 45 55.1	
comp=Z,122nm,20.6s,baz=240,slow=39							
11nm,0.3s							
KAPI	**Kappang**	**12.74**	**77**	P	**Pn**	**17 40 49.3**	**+2.5**
WSI	**Waingapu**	**12.91**	**98**	P	Pn	17 40 45.4	-3.8
BKSI	**Bulukumba**	**13.02**	**78**	P	**Pn**	**17 40 52.5**	**+1.8**
23nm,0.6s							
SPSI	**Sidrap Palu**	**13.06**	**72**	P	**Pn**	**17 40 53.0**	**+1.8**
9.3nm,0.9s							
BSSI	**Bau Bau, Buton**	**13.22**	**82**	P	**Pn**	**17 40 54.4**	**+1.0**
92nm,0.9s							
BNSI	**Bone**	**13.24**	**74**	P	**Pn**	**17 40 56.2**	**+2.5**
19nm,1.1s							
BASI	**Baing, Sumba**	**13.25**	**100**	P	**Pn**	**17 40 54.3**	**+0.5**
79nm,0.6s							
GSI	**Gunungsitoli**	**13.51**	**314**		**Pn**	**17 40 52.8**	**-4.6**
RPSI	**Rantau Prapat**	**13.64**	**322**		**Pn**	**17 40 55.5**	**-3.6**
PSI	**Prapat**	**13.72**	**322**	Pn	Pn	17 40 55.5	-4.8
1.5nm,0.3s,baz=180,slow=19,SNR=4.1							
4.0nm,0.4s							
EDFI	**Ende, Flores**	**14.23**	**93**	P	Pn	17 41 03.3	-3.9
40nm,0.5s							
PCI	**Palu**	**14.40**	**61**	P	**Pn**	**17 41 12.8**	**+3.5**
26nm,1.2s							
MMRI	**Maumere**	**14.77**	**93**		Pn	17 41 10.0	-4.2
MMRI	**Maumere**	**14.77**	**93**	P	**Pn**	**17 41 13.5**	**-0.7**
MMRI	**Maumere**	**14.77**	**93**	P	Pn	17 41 10.5	-3.7
51nm,0.6s							
MPSI	**Mapaga**	**15.11**	**57**	P	**Pn**	**17 41 19.7**	**+1.1**
BBSI	**Bau Bau**	**15.37**	**81**	P	**Pn**	**17 41 23.0**	**+0.9**
40nm,1.2s							
TOLI2	**Tolitoli**	**16.27**	**56**	P	**P**	**17 41 38.0**	**+2.2**
SOEI	**Soe**	**16.82**	**97**		**Pn**	**17 41 37.7**	**-2.9**
SOEI				IAmb	IAmb	17 42 01.7	
comp=Z,101nm,0.9s							
SOEI	**Soe**	**16.82**	**97**	P	**Pn**	**17 41 41.2**	**+0.6**
SOEI	**Soe**	**16.82**	**97**	P	**Pn**	**17 41 38.1**	**-2.5**
comp=Z,1μmcomp=Z,133nm,1.1s							
MRSI	**Marisa**	**16.91**	**60**	P	**P**	**17 41 43.8**	**+0.9**
comp=Z,24nm,0.7s							
MBWA	**Marble Bar**	**17.64**	**139**		**Pn**	**17 41 46.5**	**-4.0**
MBWA	**Marble Bar**	**17.64**	**139**	P	**Pn**	**17 41 48.7**	**-1.7**
comp=Z,14nm,1.6s							
PSA00	**Pilbara Seismi**	**18.01**	**139**		**P**	**17 41 49.8**	**-5.2**
PSA00	**Pilbara Seismi**	**18.01**	**139**	P	**P**	**17 41 53.9**	**-1.1**
comp=Z,14nm,1.1s							
BSI	**Banda Aceh**	**18.09**	**318**	P	**P**	**17 41 55.9**	**-0.1**
comp=Z,18nm,1.1s							
SRIT	**Nakonsritamara**	**18.32**	**335**	P	**P**	**17 41 55.7**	**-2.7**
SANI	**Sanana**	**19.55**	**73**	P	**P**	**17 42 11.6**	**-0.4**
comp=Z,40nm,0.8s							
DLV	**Lat**	**19.99**	**3**		**P**	**17 42 14.2**	**-2.7**
NLAI	**Namlea**	**20.27**	**77**	P	**P**	**17 42 21.5**	**+1.6**
comp=Z,74nm,0.6s							
FITZ	**Fitzroy Crossi**	**20.38**	**121**		**P**	**17 42 16.4**	**-4.6**
FITZ	**Fitzroy Crossi**	**20.38**	**121**	P	**P**	**17 42 22.2**	**+1.2**
comp=Z,4.9nm,0.8s							
FITZ	**Fitzroy Crossi**	**20.38**	**121**	P	**P**	**17 42 22.4**	**+1.3**
comp=Z,18nm,0.8s,baz=299,slow=7.1,SNR=24							
FITZ				S	S	17 45 55.8	-11
comp=Z,3.5nm,0.6s,baz=211,slow=18,SNR=2.4							
comp=Z,18nm,0.8s							
FITZ	**Fitzroy Crossi**	**20.38**	**121**	P	**P**	**17 42 22.3**	**+1.3**
AAI	**Ambon**	**21.23**	**79**	P	**P**	**17 42 29.4**	**-0.8**
comp=Z,1μmcomp=Z,90nm,0.6s							
TNTI	**Ternate**	**21.86**	**67**	P	**P**	**17 42 35.1**	**-1.8**
TNTI				IAmb	IAmb	17 42 49.2	
comp=Z,13nm,0.7s							
TNTI	**Ternate**	**21.86**	**67**	P	**P**	**17 42 39.8**	**+2.8**
TNTI	**Ternate**	**21.86**	**67**	P	**P**	**17 42 37.9**	**+0.9**
comp=Z,16nm,0.6s							
MSAI	**Masohi**	**22.02**	**79**	P	**P**	**17 42 38.8**	**+0.1**
comp=Z,52nm,0.7s							
KNRA	**Kununurra**	**22.27**	**112**	P	**P**	**17 42 40.2**	**-1.0**
KNRA				IAmb	IAmb	17 42 52.0	
comp=Z,26nm,1.1s							
KNRA	**Kununurra**	**22.27**	**112**	P	**P**	**17 42 42.7**	**+1.4**
comp=Z,20nm,0.8s							
BNDI	**Bandanaira**	**22.73**	**82**	P	**P**	**17 42 47.8**	**+1.5**
comp=Z,35nm,1.0s							
DAV	**Davao City (W)**	**23.66**	**51**	LR	LR	17 52 26.3	
comp=Z,30nm,18.9s,baz=230,slow=38							
MTN	**Manton Dam**	**23.87**	**103**	P	**P**	**17 42 58.0**	**+0.6**
MTN				IAmb	IAmb	17 43 09.1	
comp=Z,20nm,0.6s							
MTN	**Manton Dam**	**23.87**	**103**	P	**P**	**17 43 00.0**	**+2.7**
FAKI	**Fak Fak**	**25.34**	**80**	P	**P**	**17 43 07.8**	**-3.0**
FAKI	**Fak Fak**	**25.34**	**80**	P	**P**	**17 43 11.9**	**+1.1**
comp=Z,13nm,0.7s							
QIZ	**Qiongzhong**	**27.11**	**5**	P	**P**	**17 43 26.3**	**-0.4**
QIZ				S	**S**	**17 48 06.1**	**+4.5**
QIZ				LR	LR		
comp=N,160nm,8.4s							
QIZ				LR	LR		
comp=E,100nm,9.0s							
QIZ				LR	LR		
comp=Z,98nm,7.5s							
H01W3	**Cape Leeuwin H**	**27.34**	**168**	T	T	18 13 20.1	
baz=347,slow=76,SNR=9.1							
H01W1	**Cape Leeuwin H**	**27.35**	**168**	T	T	18 13 05.8	
baz=347,slow=76,SNR=10							
H01W2	**Cape Leeuwin H**	**27.36**	**168**	T	T	18 13 21.2	
baz=347,slow=76,SNR=11							
CMAR	**Chiang Mai Arr**	**27.69**	**343**	P	**P**	**17 43 28.6**	**-3.2**
comp=Z,0.9nm,0.5s,baz=179,slow=8.2,SNR=12							
CMAR				PcP	**PcP**	**17 46 49.0**	**+0.9**
comp=Z,0.9nm,0.7s,baz=194,slow=3.3,SNR=5.6							
CMAR				LR	LR	17 54 13.7	
comp=Z,46nm,20.5s,baz=180,slow=36							
comp=Z,0.9nm,0.5s							
WB0	**Warramunga Arr**	**28.65**	**117**	P	**P**	**17 43 41.0**	**+0.5**
WRA	**Warramunga Arr**	**28.66**	**117**	P	**P**	**17 43 39.3**	**-1.3**
WRA	**Warramunga Arr**	**28.66**	**117**	P	**P**	**17 43 40.9**	**+0.2**
comp=Z,2.5nm,0.9s,baz=289,slow=12,SNR=14							
WRA				PcP	**PcP**	**17 46 51.2**	**+0.6**
comp=Z,1.1nm,0.5s,baz=300,slow=2.1,SNR=5.3							
comp=Z,2.5nm,0.9s							
WR8	**Warramunga Arr**	**28.81**	**117**	P	**P**	**17 43 42.3**	**+0.4**
WR8				IAmb	IAmb	17 44 06.4	
comp=Z,17nm,1.4s							
ASAR	**Alice Springs**	**29.78**	**124**	P	**P**	**17 43 51.1**	**+0.6**
comp=Z,2.1nm,0.8s,baz=301,slow=8.6,SNR=23							
ASAR				PcP	**PcP**	**17 46 54.0**	**+0.7**
comp=Z,1.1nm,0.8s,baz=354,slow=2.5,SNR=4.6							
ASAR				LR	LR	17 56 13.7	
comp=Z,103nm,19.9s,baz=298,slow=37							
comp=Z,2.1nm,0.8s							
AS31	**Alice Springs**	**29.78**	**124**	P	**P**	**17 43 50.6**	**+0.1**
OOD	**Oodnadatta**	**

H04S1 CROZET ISLANDS 60.78 220 T T 18 54 23.8
baz=64
H04S3 CROZET ISLANDS 60.79 220 T T 18 54 23.8
baz=64
H04S2 CROZET ISLANDS 60.79 220 T T 18 54 25.1
baz=64
KLR Kul'dur 61.01 18 LR LR 18 16 29.2
comp=Z,6.6nm,18.1s,baz=186,slow=38
YSS Yuzhno-Sakhali 63.25 26 **P** **17 48 09.9 -1.6**
YSS IAmb IAmb 17 48 11.1
comp=Z,7.3nm,0.6s
KURBB Kurchatov Arra 63.63 340 P **P** **17 48 12.8 -1.2**
comp=Z,1.9nm,0.5s,baz=156,slow=5.8,SNR=18
comp=Z,1.9nm,0.5s
KURK Kurchatov 63.67 340 **P** **17 48 13.0 -1.2**
KURK IAmb IAmb 17 48 14.7
comp=Z,4.5nm,0.8s
SMRA Abu-Samra 64.00 302 P **P** **17 48 18.0 +1.1**
SNR=5.5
ZALV Zalesovo Beam 64.71 346 **P** **17 48 18.5 -2.5**
ZALV Zalesovo Beam 64.71 346 P **P** **17 48 18.8 -2.2**
comp=Z,1.5nm,0.4s,baz=105,slow=5.2,SNR=7.9
ZALV LR LR 18 18 30.4
comp=Z,28nm,19.2s,baz=0.5,slow=38
comp=Z,1.5nm,0.4s
MAW Mawson 66.37 197 P **P** **17 48 33.8 +2.3**
MAW Mawson 66.37 197 P **P** **17 48 34.0 +2.5**
comp=Z,7.6nm,0.6s,baz=40,slow=7.3,SNR=9.2
comp=Z,7.6nm,0.6s
BVAR Borovoye Array 68.54 337 P **P** **17 48 44.5 -1.0**
comp=Z,5.7nm,0.6s,baz=145,slow=8.7,SNR=39
comp=Z,5.7nm,0.6s
BRVK Borovoye 68.60 337 **P** **17 48 43.8 -2.0**
BRVK IAmb IAmb 17 48 46.1
comp=Z,3.7nm,0.5s
URZ Urewera 69.15 128 LR LR 18 18 18.8
comp=Z,39nm,21.6s,baz=336,slow=35
KMBO Kilima Mbogo 70.11 272 P **P** **17 48 58.6 +2.3**
comp=Z,0.8nm,0.4s,baz=48,slow=13,SNR=3.5
KMBO LR LR 18 13 31.3
comp=Z,45nm,20.5s,baz=90,slow=31
comp=Z,0.8nm,0.4s
ABKAR Abkulak array 70.55 329 **P** **17 48 57.2 -0.7**
ABKAR Abkulak array 70.55 329 IAmb IAmb 17 48 58.4
comp=Z,15nm,0.7s
YAK Yakutsk 72.09 11 **P** **17 49 05.6 -1.3**
YAK IAmb IAmb 17 49 06.8
comp=Z,15nm,0.8s
PETK Petropavlovsk- 74.43 29 P **P** **17 49 19.6 -1.4**
PETK Petropavlovsk- 74.43 29 P **P** **17 49 19.3 -1.7**
comp=Z,1.5nm,0.5s,baz=172,slow=1.4,SNR=20
comp=Z,1.5nm,0.5s
SYO Syowa Base 74.55 200 ⇑*e*pP pP 17 49 35.7 +1.1
VNDA Vanda 74.79 169 P **P** **17 49 24.2 +1.5**
VNDA Vanda 74.79 169 P **P** **17 49 24.3 +1.6**
comp=Z,2.8nm,0.8s,baz=307,slow=5.0,SNR=9.9
comp=Z,2.8nm,0.8s
GNI Garni 74.98 315 LR LR 18 26 04.6
comp=Z,14nm,18.6s,baz=272,slow=39
ARTI Arti 75.83 334 **P** **17 49 28.3 -0.6**
ARTI Arti 75.83 334 LR LR 18 28 29.3
comp=Z,28nm,19.0s,baz=170,slow=40
MARD Mardin 76.74 311 **P** **17 49 33.6 -1.1**
MARD IAmb IAmb 17 49 36.7
comp=Z,6.0nm,0.5s
KBZ Khabaz 77.70 318 P **P** **17 49 40.0 +0.2**
comp=Z,7.4nm,1.0s,baz=183,slow=5.1,SNR=16
comp=Z,7.4nm,1.0s
NRIK Noril'sk 78.51 353 IAmb IAmb 17 49 43.5
comp=Z,14nm,1.1s
NRIK Noril'sk 78.51 353 P **P** **17 49 42.6 -1.1**
comp=Z,5.2nm,0.4s,baz=140,slow=4.3,SNR=11
comp=Z,5.2nm,0.4s
BOSA Boshof 79.21 242 P **P** **17 49 50.3 +1.6**
comp=Z,2.4nm,0.5s,baz=123,slow=4.0,SNR=13
comp=Z,2.4nm,0.5s
MMAI Mount Meron Ar 79.52 306 P **P** **17 49 49.6 -0.6**
comp=Z,5.4nm,0.7s,baz=104,slow=6.1,SNR=5.8
comp=Z,5.4nm,0.7s
TIXI Tiksi 80.90 7 **P** **17 49 54.4 -2.1**
TIXI IAmb IAmb 17 49 55.9
comp=Z,9.2nm,0.8s
QSPA South Pole Qui 81.85 180 P **P** **17 50 03.2 +1.1**
comp=Z,3.4nm,0.6s,baz=286,slow=0.5,SNR=30
comp=Z,3.4nm,0.6s
SUR Sutherland 82.76 238 LR LR 18 22 08.4
comp=Z,60nm,18.1s,baz=100,slow=32
BR131 Keskin Array S 82.82 312 **P** **17 50 06.8 -0.8**
BR131 IAmb IAmb 17 50 08.7
comp=Z,4.4nm,0.8s
BR131 Keskin Array S 82.82 312 P **P** **17 50 08.1 +0.4**
SNR=7.1
BRTR Keskin Array B 82.82 312 **P** **17 50 07.2 -0.4**
BRTR Keskin Array B 82.82 312 P **P** **17 50 07.8 +0.2**
comp=Z,3.2nm,0.7s,baz=138,slow=6.5,SNR=20
comp=Z,3.2nm,0.7s
BORA Eskisehir 85.22 311 P **P** **17 50 18.3 -1.5**
BORA IAmb IAmb 17 50 21.2
comp=Z,4.8nm,0.9s
TROLL Troll, Antarti 86.83 198 ⇑P **P** **17 50 30.2 +3.0**
comp=Z,223nm,0.9s
SNAA Sanae 88.53 197 P **P** **17 50 37.4 +2.1**
SNAA Sanae 88.53 197 ⇑P **P** **17 50 37.9 +2.6**
comp=Z,108nm,0.5s
SNAA Sanae 88.53 197 P **P** **17 50 36.7 +1.5**
comp=Z,6.7nm,0.8s,baz=179,slow=4.3,SNR=21
comp=Z,6.7nm,0.8s
AKASG Malin Array Be 88.78 322 P **P** **17 50 35.8 -0.8**
comp=Z,1.5nm,0.7s,baz=80,slow=5.9,SNR=5.7
comp=Z,1.5nm,0.7s
RDO Rodhopi 89.16 312 IAmb IAmb 17 50 40.1
comp=Z,3.6nm,0.9s
VNA2 Neumayer--Watz 90.18 197 ⇑P **P** **17 50 45.7 +2.8**
comp=Z,8.1nm,0.8s,baz=112,slow=3.8
BUR08 Bucovina Ar. S 90.68 318 IAmb IAmb 17 50 49.6
comp=Z,2.8nm,1.1s
VNA3 Neumayer Olymp 90.70 197 ⇑P **P** **17 50 47.4 +2.0**
comp=Z,5.4nm,0.8s
FINES FINESS Array B 92.92 332 P **P** **17 50 55.2 -0.4**
comp=Z,3.3nm,0.8s,baz=129,slow=5.4,SNR=9.4
comp=Z,3.3nm,0.8s
ARCES ARCESS Array B 94.71 340 P **P** **17 51 02.9 -0.9**
comp=Z,12nm,1.3s,baz=99,slow=5.4,SNR=6.9
ARCES LR LR 18 37 54.0
comp=Z,22nm,21.7s,baz=160,slow=38
comp=Z,12nm,1.3s
SPITS Spitsbergen Ar 98.11 348 P **P** **17 51 17.9 -1.1**
comp=Z,4.2nm,0.8s,baz=118,slow=8.6,SNR=5.2
comp=Z,4.2nm,0.8s
NOA NORSAR Array B 100.03 331 LR LR 18 41 44.1
comp=Z,6.0nm,19.2s,baz=255,slow=38
YKA Yellowknife Ar 117.82 21 PKP **PKPdf** **17 56 28.8 0.0**
comp=Z,0.3nm,0.4s,baz=275,slow=6.5,SNR=9.8
YKA PKKPbc **PKKPab** **18 06 53.9 +1.0**
comp=Z,0.1nm,0.6s,baz=125,slow=4.7,SNR=5.4
PDAR Pinedale Array 132.72 37 PKP **PKPdf** **17 56 58.2 -0.1**
comp=Z,0.1nm,0.3s,baz=20,slow=2.4,SNR=4.3
CPUP Villa Florida 142.63 203 PKhKP PKPpre 17 57 14.3
comp=Z,1.8nm,0.5s,baz=250,slow=1.8,SNR=5.8
TXAR Lajitas Array 144.07 50 PKP PKPbc 17 57 18.2 +0.9
comp=Z,0.8nm,0.3s,baz=356,slow=0.9,SNR=10
BDFB Brasilia 146.01 226 PKPbc **PKPab** **17 57 25.9 +1.7**
comp=Z,5.4nm,0.5s,baz=103,slow=3.9,SNR=3.3
SIV San Ignacio 153.41 206 PKP **PKPdf** **17 57 34.4 -0.1**
comp=Z,1.5nm,0.9s,baz=222,slow=6.5,SNR=4.8
SIV PKPbc **PKPbc** **17 57 42.9 +0.8**
comp=Z,1.5nm,0.6s,baz=128,slow=3.4,SNR=6.8
SIV PKPab **PKPab** **17 57 55.7 +1.6**
comp=Z,4.5nm,0.6s,baz=155,slow=4.6,SNR=15
LPAZ La Paz 155.31 191 PKPbc PKPbc 17 57 45.6
comp=Z,1.1nm,0.8s,baz=135,slow=2.9,SNR=3.8
LPAZ PKPab **PKPab** **17 58 05.0 +2.1**
comp=Z,1.5nm,0.6s,baz=115,slow=1.8,SNR=6.7

*LDO **10** 17:46:38.8±1.3, 40°.382N±0°.010×76°.07W±0°.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.2km az=146.0*
NEIC 10 17:46:38.5±0.7, 40°.368N±0°.010×76°.05W±0°.01, h5km±1km, ML2.0/14, ML1.6/8(LDO), Error ellipse: s-maj=3.0km s-min=2.1km az=149.0, Pennsylvania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVL	**Millersville**	**0.44**	**212**		**Pg**	17 46 46.5	-0.4
MVL					Sg	17 46 52.2	-0.4
WUPA	**West Chester U**	**0.55**	**142**		**Pg**	17 46 49.0	-0.1
WUPA					Sg	17 46 56.1	-0.1
LUPA	**Lehigh Univers**	**0.56**	**66**		**Pg**	17 46 48.8	-0.5
LUPA					Sg	17 46 56.2	-0.4
PSUB	**Penn St. - Bra**	**0.63**	**134**		**Sg**	17 46 58.5	-0.4
P60A	**Greenville**	**0.64**	**150**		**Pg**	17 46 50.4	-0.3
P60A					Sg	17 46 58.6	-0.4
TUPA	**Temple Univers**	**0.69**	**107**		**Pg**	17 46 51.1	-0.5
TUPA					Sg	17 47 00.2	-0.5
N58A	**Sunbury**	**0.69**	**313**	Pg	**Pg**	17 46 50.8	-1.1
M57A	**Sunshine Farm,**	**1.27**	**320**	Pg	**Pg**	17 47 01.3	-1.5
M57A				IAML		17 47 22.7	
	20nm,1.4s						
M57A				IAML		17 47 23.0	
	12nm,0.5s						
SSPA	**Standing Stone**	**1.43**	**281**		**Pn**	17 47 03.8	-1.2
SSPA				Sg	Sb	17 47 23.5	-0.6
SSPA				IAML		17 47 36.4	
	8.7nm,1.2s						
P57A	**Homestead Farm**	**1.75**	**240**		**Pn**	17 47 10.2	+0.7
P57A				Sg	Sb	17 47 32.8	-0.6
P57A				IAML		17 47 35.1	
	34nm,0.3s						
L59A	**Walton**	**1.97**	**22**	Pn	**Pn**	17 47 12.6	0.0
L59A					Sn	17 47 38.4	+0.6
L59A				IAML		17 47 44.8	
	10nm,0.4s						
L59A				IAML		17 48 11.5	
	10nm,1.5s						
CBN	**Corbin Frederi**	**2.39**	**206**	Pn	**Pn**	17 47 19.3	+1.0
Q56A	**Snyder Ridge,**	**2.76**	**242**	Pn	**Pn**	17 47 23.1	-0.3
Q56A				IAML		17 48 04.6	
	9.1nm,1.0s						
Q56A				IAML		17 48 06.7	
	10nm,1.5s						

*NEIC **10** 17:55:31.3±1.6, 18°.46S±0°.03×172°.40W±0°.09, h10km±1km, mb4.8/27, Error ellipse: s-maj=15.0km s-min=3.8km az=254.0*
*IDC **10** 17:55:42.4±4.5, 18°.44S×172°.73W, h92km±39km, mb3.8/10, mbtmp4.2/12, MS3.3/3, Error ellipse: s-maj=25.7km s-min=18.9km az=109.0*
*NOU **10** 17:56:09.7, 20°.18S×175°.14W, h48km, mb4.5/15, Tonga Islands*
ISC 10 17:55:35.7±0.5, 18°.59S±0°.07×172°.37W±0°.06, h41km, n112, σ3$73/79, mb4.7/22, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.36**	**102**		**Pn**	**17 56 11.2**	**-0.7**
NIUE				Sn	**Sn**	**17 56 38.4**	**-1.3**
AFI	**Afiamalu**	**4.69**	**7**	Pn	**Pn**	**17 56 40.0**	**-4.1**
MSVF	**Nonsavu**	**9.15**	**274**		**Pn**	**17 57 47.5**	**+2.2**
MSVF	**Nonsavu**	**9.15**	**274**	P	**Pn**	**17 57 47.8**	**+2.6**
	16nm,0.5s,baz=89,slow=8.8,SNR=35						
MSVF	**Nonsavu**	**9.15**	**274**	P	**Pn**	**17 57 48.3**	**+3.0**
GLKZ	**Green Lake**	**11.77**	**204**	P	**Pn**	**17 58 20.9**	**-0.1**
GLKZ				S	Sn	18 00 21.0	-10
RAR	**Rarotonga**	**12.13**	**104**		**Pn**	**17 58 24.6**	**-1.4**
RAR	**Rarotonga**	**12.13**	**104**	P	**Pn**	**17 58 24.9**	**-1.1**
	24nm,0.6s,baz=257,slow=9.7,SNR=10						
RAR				S	Sn	18 00 30.0	-10
	6.0nm,0.5s,baz=176,slow=24,SNR=1.3						
RAR				LR	LR	18 02 28.5	
	comp=Z,60nm,19.4s,baz=270,slow=32						
PINNC	**Pines Island,**	**19.31**	**255**	P	**Pn**	**17 59 57.3**	**-1.4**
PINNC				IAmb	IAmb	17 59 59.9	
	comp=Z,104nm,1.5s						
PINNC	**Pines Island,**	**19.31**	**255**	P	**P**	**17 59 56.6**	**-0.8**
VLAKA	**Lakatoro**	**19.45**	**274**	P	**Pn**	**18 00 05.7**	**+5.3**
DZM	**Mont Dzumac**	**20.16**	**257**	P	**P**	**18 00 04.7**	**-2.2**
DZM	**Mont Dzumac**	**20.16**	**257**	*e*P	**P**	**18 00 03.4**	**-3.5**
	comp=Z,42nm,1.2s						
DZM				*e*LR	LR	18 04 40.2	
	comp=Z,135nm,25.1s						
DZM	**Mont Dzumac**	**20.16**	**257**	P	**P**	**18 00 06.1**	**-0.8**
	comp=Z,12nm,1.0s,baz=90,slow=22,SNR=13						
DZM	**Mont Dzumac**	**20.16**	**257**	P	Pn	18 00 07.2	-1.8
MXZ	**Matakaoa Point**	**20.59**	**201**	P	Pn	18 00 18.5	+4.8
MXZ	**Matakaoa Point**	**20.59**	**201**	P	Pn	18 00 20.4	+6.8
MXZ				S	**S**	**18 03 52.3**	**-6.8**
OUZ	**Omahuta**	**20.72**	**214**	P	Pn	18 00 16.9	+1.7
OUZ	**Omahuta**	**20.72**	**214**	P	Pn	18 00 16.6	+1.5
WCZ	**Waipu Caves**	**20.89**	**212**	P	Pn	18 00 19.4	+2.2
HAZ	**Te Kaha**	**20.95**	**202**	P	Pn	18 00 21.5	+3.7
HAZ				S	**S**	**18 03 59.0**	**-7.2**
MWZ	**Matawai**	**21.55**	**202**	P	**P**	**18 00 27.3**	**+5.7**
URZ	**Urewera**	**21.64**	**203**	P	**P**	**18 00 25.6**	**+3.2**
	comp=Z,12nm,0.3s,baz=18,slow=2.7,SNR=29						
URZ				S	**S**	**18 04 09.3**	**-11**
	comp=Z,2.7nm,0.5s,baz=316,slow=18,SNR=6.1						
	comp=Z,12nm,0.3s						
URZ	**Urewera**	**21.64**	**203**	P	**P**	**18 00 29.0**	**+6.6**
URZ	**Urewera**	**21.64**	**203**	P	**P**	**18 00 28.0**	**+5.6**
URZ				S	**S**	**18 04 12.9**	**-7.0**
PPT2	**Papeete2**	**21.69**	**91**	*e*LR	LR	18 05 34.2	
	comp=Z,127nm,27.8s						
PPT2				*e*LR	LR	18 05 34.6	
	comp=Z,81nm,22.0s						
PPT	**Papeete**	**21.69**	**91**	LR	LR	18 06 52.8	
	comp=Z,72nm,18.3s,baz=230,slow=30						
TOZ	**Tahuroa Road**	**21.82**	**207**	P	P	18 00 31.3	+6.9
TOZ				IAmb	IAmb	18 00 31.8	
	comp=Z,25nm,0.6s						
TOZ	**Tahuroa Road**	**21.82**	**207**	P	P	18 00 31.5	+7.1
TBI	**Tubuai**	**21.90**	**106**	*e*LR	LR	18 05 41.0	
	comp=Z,511nm,27.2s						
RTZ	**Ruatahuna**	**22.00**	**203**	P	**P**	**18 00 29.1**	**+2.6**
RAHZ	**Arahi**	**22.23**	**202**	P	**P**	**18 00 34.7**	**+5.9**
RAHZ				S	**S**	**18 04 28.0**	**-3.1**
MTHZ	**Maungataniwha**	**22.26**	**203**	P	P	18 00 35.9	+6.7
MTHZ				S	**S**	**18 04 27.9**	**-3.9**
TLZ	**Tolley Road**	**22.31**	**206**	P	**P**	**18 00 36.1**	**+6.3**
NMHZ	**Naumai**	**22.49**	**202**	P	P	18 00 38.7	+7.0
WATZ	**Wairara**	**22.56**	**205**	P	**P**	**18 00 38.1**	**+5.7**
BKZ	**Black Stump Fm**	**22.66**	**203**	P	P	18 00 40.5	+7.0
BKZ	**Black Stump Fm**	**22.66**	**203**	P	**P**	**18 00 38.2**	**+4.7**
RATZ	**Rangitukua**	**22.68**	**205**	P	**P**	**18 00 38.3**	**+4.7**
HIZ	**Hauiti**	**22.75**	**207**	P	P	18 00 41.2	+6.8
HIZ	**Hauiti**	**22.75**	**207**	P	**P**	**18 00 40.7**	**+6.3**
MCHZ	**McNeill Hill**	**22.84**	**202**	P	**P**	**18 00 41.2**	**+5.9**
KWHZ	**Kaweka Forest**	**22.92**	**203**	P	**P**	**18 00 40.8**	**+4.6**
TMVZ	**Te Maari**	**22.92**	**204**	P	**P**	**18 00 40.9**	**+4.7**
OTVZ	**Oturere**	**22.98**	**204**	P	**P**	**18 00 41.6**	**+4.7**
KAHZ	**Kahuranaki**	**23.08**	**202**	P	P	18 00 45.6	+7.8
KRHZ	**Kereru**	**23.13**	**203**	P	**P**	**18 00 43.3**	**+5.0**
PXZ	**Pawanui**	**23.30**	**201**	P	**P**	**18 00 45.9**	**+6.0**
PNHZ	**Pukenui**	**23.43**	**203**	P	**P**	**18 00 46.1**	**+4.8**
PRHZ	**Porangahau**	**23.59**	**201**	P	P	18 00 50.3	+7.7
TSZ	**Takapari Road**	**23.64**	**203**	P	**P**	**18 00 48.7**	**+5.4**
BFZ	**Birch Farm**	**24.09**	**202**	P	P	18 00 56.7	+9.3
BFZ	**Birch Farm**	**24.09**	**202**	P	P	18 00 54.1	+6.7
MRZ	**Mangatainoka R**	**24.31**	**203**	P	**P**	**18 00 54.9**	**+5.5**
OGWZ	**Otaki Gorge**	**24.60**	**203**	P	**P**	**18 00 57.0**	**+5.0**
MSWZ	**Moikau Station**	**25.09**	**202**	P	P	18 01 03.3	+6.8
TCW	**Tory Channel**	**25.28**	**204**	P	**P**	**18 01 03.8**	**+5.6**
TUWZ	**Tuamarina**	**25.60**	**204**	P	P	18 01 08.1	+7.0
TKNZ	**Takaka Hill**	**25.66**	**206**	P	P	18 01 09.8	+8.2
QRZ	**Quartz Range**	**25.67**	**207**	P	P	18 01 11.2	+9.5
QRZ	**Quartz Range**	**25.67**	**207**	P	P	18 01 09.0	+7.3
MRNZ	**Matariki Terra**	**26.05**	**206**	P	P	18 01 12.5	+7.4
THZ	**Tophouse**	**26.29**	**205**	P	P	18 01 16.1	+8.7
KHZ	**Kahutara**	**26.59**	**204**	P	P	18 01 21.0	+11
KHZ	**Kahutara**	**26.59**	**204**	P	P	18 01 19.5	+10
RPZ	**Rata Peaks**	**28.67**	**206**	P	P	18 01 39.3	+11
JCZ	**Jackson Bay**	**29.93**	**208**	P	P	18 01 50.4	+11
TAOE	**Nuku Hiva Isla**	**32.71**	**77**	*e*LR	LR	18 10 35.5	
	comp=Z,64nm,23.7s						
ARMA	**Armidale**	**34.67**	**243**	P	**P**	**18 02 19.9**	**-1.8**
ARMA				IAmb	IAmb	18 02 48.8	
	comp=Z,34nm,1.5s						
RKT	**Rikitea**	**35.17**	**104**	*e*LR	LR	18 11 44.7	
	comp=Z,457nm,26.8s						
COEN	**Coen**	**42.84**	**269**	P	**P**	**18 03 29.8**	**-0.4**
COEN				IAmb	IAmb	18 04 21.0	
	comp=Z,44nm,1.7s						
H11N3	**WAKE ISLAND Hy**	**43.16**	**331**	T	T	18 49 57.4	
	baz=155						
H11N1	**WAKE ISLAND Hy**	**43.17**	**331**	T	T	18 49 59.1	
	baz=155						
H11N2	**WAKE ISLAND Hy**	**43.18**	**331**	T	T	18 50 02.1	
	baz=155						
STKA	**Stephens Creek**	**43.39**	**243**	P	**P**	**18 03 33.1**	**-1.3**
STKA	**Stephens Creek**	**43.39**	**243**	P	**P**	**18 03 34.2**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=77,slow=14,SNR=3.4						
	comp=Z,1.3nm,0.6s						
BBOO	**Buckleboo**	**48.14**	**242**	P	**P**	**18 04 10.2**	**-1.7**
WR8	**Warramunga Arr**	**50.00**	**259**	P	**P**	**18 04 24.6**	**-1.7**
WR8				IAmb	IAmb	18 05 01.3	
	comp=Z,32nm,1.9s						
WB0	**Warramunga Arr**	**50.12**	**259**	P	**P**	**18 04 25.0**	**-2.3**
WB0				IAmb	IAmb	18 04 26.6	
	comp=Z,5.5nm,0.6s						
AS31	**Alice Springs**	**50.13**	**254**	P	**P**	**18 04 26.2**	**-1.2**
ASAR	**Alice Springs**	**50.13**	**254**	P	**P**	**18 04 26.3**	**-1.1**
ASAR	**Alice Springs**	**50.13**	**254**	P	**P**	**18 04 26.0**	**-1.4**
	comp=Z,3.9nm,0.6s,baz=92,slow=8.3,SNR=136						
	comp=Z,3.9nm,0.6s						
WB2	**Warramunga Arr**	**50.14**	**259**	P	**P**	**18 04 24.9**	**-2.5**
WB2				IAmb	IAmb	18 04 26.4	
	comp=Z,6.1nm,0.8s						
WRAB	**Tennant Creek**	**50.14**	**259**	P	**P**	**18 04 25.2**	**-2.2**
WRAB				IAmb	IAmb	18 04 26.9	
	comp=Z,30nm,1.8s						
WRA	**Warramunga Arr**	**50.15**	**259**	P	**P**	**18 04 25.6**	**-1.9**
WRA	**Warramunga Arr**	**50.15**	**259**	P	**P**	**18 04 26.0**	**-1.5**
	comp=Z,3.0nm,0.6s,baz=97,slow=8.0,SNR=56						
	comp=Z,3.0nm,0.6s						
MTN	**Manton Dam**	**54.51**	**267**	P	**P**	**18 04 58.5**	**-1.4**
KNRA	**Kununurra**	**56.12**	**263**	P	**P**	**18 05 10.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**58.57**	**260**	P	**P**	**18 05 27.2**	**-1.5**
SBA	**Scott Base**	**60.17**	**185**	P	**P**	**18 05 40.5**	**+1.7**
SBA				IAmb	IAmb	18 07 08.5	
	comp=Z,14nm,1.6s						
VNDA	**Vanda**	**60.32**	**186**	P	**P**	**18 05 42.9**	**+3.0**
	comp=Z,0.4nm,0.7s,baz=330,slow=8.1,SNR=2.6						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**71.47**	**180**	P	**P**	**18 06 53.2**	**+1.4**
QSPA	**South Pole Qui**	**71.47**	**180**	P	**P**	**18 06 53.3**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=352,slow=1.5,SNR=8.2						
	comp=Z,2.0nm,0.9s						
PETK	**Petropavlovsk-**	**75.96**	**342**	P	**P**	**18 07 17.5**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=122,slow=7.5,SNR=8.6						
	comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array**	**81.58**	**55**	P	**P**	**18 07 51.5**	**+1.8**
	comp=Z,1.4nm,0.9s,baz=214,slow=8.8,SNR=6.8						
TXAR				LR	LR	18 39 36.2	
	comp=Z,41nm,18.8s,baz=345,slow=32						
	comp=Z,1.4nm,0.9s						
H03S2	**Juan Fernandez**	**82.63**	**123**	T	T	19 39 01.0	
	baz=250,slow=75,SNR=23						
H03S1	**Juan Fernandez**	**82.64**	**123**	T	T	19 39 02.0	
	baz=250,slow=75,SNR=17						
H03S3	**Juan Fernandez**	**82.65**	**123**	T	T	19 39 00.8	
	baz=250,slow=75,SNR=19						
PDAR	**Pinedale Array**	**83.99**	**41**	P	**P**	**18 08 02.8**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=194,slow=4.4,SNR=5.4						
	comp=Z,0.6nm,0.6s						
CCB	**Clear Creek Bu**	**85.10**	**10**	P	**P**	**18 08 06.4**	**-0.4**
SCRK	**Sand Creek**	**85.20**	**12**	P	**P**	**18 08 07.6**	**+0.1**
SCRK				IAmb	IAmb	18 10 59.5	
	comp=Z,16nm,1.8s						
ILAR	**Eielson Array**	**85.38**	**11**	P	**P**	**18 08 08.2**	**0.0**
	comp=Z,1.3nm,0.7s,baz=224,slow=5.5,SNR=15						
	comp=Z,1.3nm,0.7s						
IMAR	**Indian Mountai**	**85.49**	**8**	P	**P**	**18 08 08.9**	**+0.2**
J25K	**Salcha River,**	**85.51**	**11**	P	**P**	**18 08 09.0**	**+0.1**
L29M	**L29M**	**85.74**	**15**	P	**P**	**18 08 11.2**	**+1.1**
L29M				IAmb	IAmb	18 08 11.7	
	comp=Z,7.0nm,1.1s						
DAWY	**Dawson**	**86.26**	**14**	P	**P**	**18 08 13.4**	**+0.8**
DAWY				IAmb	IAmb	18 08 14.1	
	comp=Z,4.8nm,0.9s						
E19K	**Redstone River**	**86.53**	**6**	P	**P**	**18 08 14.5**	**+0.7**
E19K				IAmb	IAmb	18 08 15.9	
	comp=Z,6.5nm,1.2s						
F31M	**Tsiigehtchic**	**90.37**	**14**	P	**P**	**18 08 32.8**	**+0.7**
WCI	**Wyandotte Cave**	**98.29**	**53**	P	Pdif	18 09 08.3	-0.8
KMBO	**Kilima Mbogo**	**144.90**	**239**	PKP	**PKPdf**	**18 15 08.8**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=64,slow=4.3,SNR=4.8						
BRTR	**Keskin Array B**	**149.22**	**319**	PKPbc	**PKiKP**	**18 15 20.8**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=108,slow=4.0,SNR=10						
GERES	**GERESS Array B**	**149.43**	**352**	PKPbc	**PKiKP**	**18 15 21.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=42,slow=2.2,SNR=4.1						

*IDC **10** 18:16:29.2±1.5, 13°.56N×88°.28W, h0km, mb3.6/3, mbtmp3.9/6, ML3.6/3, MS3.3/5, Error ellipse: s-maj=68.6km s-min=14.6km az=45.0*
*SNET **10** 18:16:34.5±0.9, 12°.92N×88°.94W, h52km±29km, ML4.5*
*CATAC **10** 18:16:34.8±0.6, 13°.N±4°.×8°.9W±°., h28km±4km, M4.5/39, MLv4.5/39, Error ellipse: s-maj=9.2km s-min=3.0km az=30.5, confirmed*
*NEIC **10** 18:16:35.7±2.0, 12°.98N±0°.07×88°.82W±0°.08, h54km±18km, mb4.3/7, Error ellipse: s-maj=13.6km s-min=7.4km az=48.0*
*GCG **10** 18:16:35.3±0.9, 12°.97N×88°.95W, h47km±14km, MD4.5, ML3.5, MW3.7*
ISC 10 18:16:34.2±1.0, 12°.95N±0°.06×88°.89W±0°.04, h55km±9km, n133, σ1$22/132, mb4.0/5, MS3.4/3, 5C-24D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.49**	**40**	*e*P	**Pn**	**18 16 46.6**	**+0.8**
ALJI	**Alcalda de J**	**0.49**	**40**	P	**Pn**	**18 16 46.7**	**+0.9**
TECO	**Alcaldia de Te**	**0.60**	**10**	⇓*i*P	**Pn**	**18 16 47.7**	**+0.6**
TECO				*e*S	**Sn**	**18 16 57.1**	**+0.8**
TECO	**Alcaldia de Te**	**0.60**	**10**	P	**Pn**	**18 16 47.7**	**+0.6**
SNVI	**San Vicente**	**0.67**	**5**	⇓*i*P	**Pn**	**18 16 48.7**	**+0.7**
TECA	**Tecapa**	**0.67**	**35**	⇓*i*P	**Pn**	**18 16 49.0**	**+1.0**
TECA				⇓*e*P		18 16 49.1	
COEG	**Centro de Oper**	**0.67**	**1**	⇓*i*P	**Pn**	**18 16 48.5**	**+0.5**
COEG	**Centro de Oper**	**0.67**	**1**	P	**Pn**	**18 16 48.4**	**+0.5**
LALI	**Alcalda de L**	**0.68**	**322**	⇓*e*P	**Pn**	**18 16 48.2**	**+0.1**
LALI				*e*S	**Sn**	**18 16 57.4**	**-0.7**
LALI	**Alcalda de L**	**0.68**	**322**	*e*P	**Pn**	**18 16 48.1**	**+0.1**
	comp=Z,2μm,0.2s						
LALI				*e*S	**Sn**	**18 16 57.7**	**-0.3**
LALI				IAML		18 17 00.5	
	comp=Z,2μm,0.2s						

SBLS ⇓eP 18 16 54.8
SNJE San Jose 1.15 323 ⇓iP **Pn 18 16 54.9 +0.6**
SNJE ⇓iP 18 16 54.9
LLGN La Laguna 1.21 358 ⇑eP **Pn 18 16 56.0 +0.9**
LLGN La Laguna 1.21 358 P **Pn 18 16 55.9 +0.8**
UNIC Universidad Ca 1.21 328 eP **Pn 18 16 55.9 +0.8**
UNIC Universidad Ca 1.21 328 P **Pn 18 16 55.8 +0.8**
NUBE Las Nubes 1.28 318 ⇓iP **Pn 18 16 56.6 +0.5**
NUBE Las Nubes 1.28 318 i P **Pn 18 16 56.6 +0.5**
NUBE eS **Sn 18 17 12.5 +0.1**
NUBE Las Nubes 1.28 318 P **Pn 18 16 56.7 +0.5**
CSGN Cosiguina Volc 1.30 88 P **Pn 18 16 57.2 +1.0**
POTN Potosi Cosigui 1.35 88 P **Pn 18 16 57.7 +0.9**
LOAL Lomas de Alarc 1.36 321 eP **Pn 18 16 58.2 +1.2**
LOAL Lomas de Alarc 1.36 321 P **Pn 18 16 58.3 +1.2**
SLOZ Alcaldia de Sa 1.38 321 eP **Pn 18 16 58.4 +1.1**
SLOZ Alcaldia de Sa 1.38 321 P **Pn 18 16 58.4 +1.1**
MARCA Marcala la Paz 1.47 35 eP **Pn 18 16 59.9 +1.3**
MTO3 Montecristo 1.52 343 **Pn 18 17 00.2 +0.9**
MTO3 Sn **Sn 18 17 16.8 -1.3**
MTO3 Montecristo 1.52 343 eP **Pn 18 17 00.2 +0.9**
MTO3 Montecristo 1.52 343 eP **Pn 18 17 00.1 +0.8**
MTO3 IAML 18 17 20.8
comp=Z,521nm,0.4s
MTO3 Montecristo 1.52 343 P **Pn 18 17 00.2 +0.9**
ESQI Esquipulas 1.66 345 **Pn 18 17 01.7 +0.5**
ESQI Esquipulas 1.66 345⇑eP **Pn 18 17 02.6 +1.4**
ESQI Esquipulas 1.66 345 P **Pn 18 17 02.5 +1.4**
CRIN San Cristobal 1.81 98 **Pn 18 17 04.6 +1.4**
CRIN San Cristobal 1.81 98 P **Pn 18 17 04.7 +1.4**
TGUH Tegucigalpa,Un 1.93 55 **Pn 18 17 06.0 +1.3**
TGUH Tegucigalpa,Un 1.93 55 P **Pn 18 17 06.0 +1.3**
QUEN Al S del Volca 2.02 100 P **Pn 18 17 07.0 +1.0**
HERN Volcan Telica 2.04 99 **Pn 18 17 06.7 +0.5**
HERN Volcan Telica 2.04 99 P **Pn 18 17 06.9 +0.6**
POLN Al Sur del Vol 2.05 98 P **Pn 18 17 07.0 +0.6**
FG8 Yepocapa, Chim 2.08 309 eP Pn 18 17 13.3 +6.4
FG8 eS Sn 18 17 42.6 +11
ROCN Rota Cerro Neg 2.14 101 P **Pn 18 17 08.2 +0.6**
CNGA Al SSO del Vol 2.19 102 P **Pn 18 17 08.8 +0.6**
CNGN Cerro Negro 2.19 101 **Pn 18 17 08.7 +0.5**
CNGN Cerro Negro 2.19 101 P **Pn 18 17 08.8 +0.6**
MOMN Momotombo 2.36 103 P **Pn 18 17 11.0 +0.4**
ESSG Sabana Grande 2.37 307 eP **Pn 18 17 11.7 +0.9**
ESSG eS **Sn 18 17 39.5 +0.9**
COPN Copaltepe 2.37 108 P **Pn 18 17 10.9 +0.2**
LIMN Finca el Limon 2.47 87 P **Pn 18 17 13.1 +1.0**
SAPS Ciudad Sandino 2.55 107 P **Pn 18 17 14.9 +1.7**
APYN Apoyeque 2.58 106 P **Pn 18 17 14.5 +0.9**
MGAN Managua 2.70 107 **Pn 18 17 15.7 +0.4**
RCVN Varillal2 2.70 76 P **Pn 18 17 16.7 +1.2**
RCPN Sur Rio San Ju 2.79 78 P **Pn 18 17 18.6 +2.0**
STG0 El Palmar, Qui 2.80 302 eP **Pn 18 17 21.5 +4.7**
STG0 i S Sn 18 17 59.3 +10
MAS3 Al N del Volca 2.81 109 P **Pn 18 17 19.6 +2.8**
STG8 El Palmar, Qui 2.82 302 eP Pn 18 17 22.9 +5.8
NANN Nandasmo 2.89 110 P **Pn 18 17 21.0 +3.2**
MATN Matagalpa 2.89 90 P **Pn 18 17 18.1 +0.1**
RTAL Retalhuleu 3.14 300 **Pn 18 17 23.5 +2.2**
CONN Concepcion 3.48 113 P **Pn 18 17 27.2 +1.3**
ACON Acoyapa 3.76 105 **Pn 18 17 29.8 +0.1**
PETF Flores 4.06 347 **Pn 18 17 35.8 +1.9**
INDI Punta indio, G 4.52 132 P **Pn 18 17 42.3 +2.1**
CCIG Comitan 4.57 317 **Pn 18 17 43.0 +2.0**
JTS Las Juntas de 4.67 124 **Pn 18 17 44.3 +1.9**
JTS Las Juntas de 4.67 124 Pn **Pn 18 17 41.9 -0.5**
comp=Z,6.1nm,0.3s,baz=307,slow=16,SNR=21
JTS Pg 18 17 52.7
comp=Z,25nm,0.3s,baz=299,slow=19,SNR=16
JTS Sn **Sn 18 18 35.5 +0.1**
comp=Z,3.4nm,0.3s,baz=302,slow=21,SNR=1.0
JTS Lg Lg 18 18 53.3
comp=Z,3.0nm,0.3s,baz=294,slow=20,SNR=7.1
JTS LR LR 18 19 51.9
comp=Z,150nm,21.3s,baz=282,slow=44
comp=Z,14nm,0.4s
CMIG Matias Romero 7.11 306 Pn **Pn 18 18 16.7 +1.0**
comp=Z,1.1nm,0.3s,baz=126,slow=14,SNR=15
CMIG Sn **Sn 18 19 36.3 +1.2**
comp=Z,2.6nm,0.3s,baz=113,slow=19,SNR=4.1
comp=Z,3.2nm,0.4s
TEIG Tepich 7.26 5 Pn **Pn 18 18 20.0 +2.2**
comp=Z,0.1nm,0.3s,baz=184,slow=24,SNR=15
SDV Santo Domingo 18.38 101 P **P 18 20 43.7 -1.2**
SDV IAmb IAmb 18 20 47.8
comp=Z,9.4nm,1.1s
SDV Santo Domingo 18.38 101 P **P 18 20 41.6 -3.4**
comp=Z,1.0nm,0.3s,baz=293,slow=13,SNR=5.5
SDV LR LR 18 27 37.3
comp=Z,48nm,19.0s,baz=119,slow=37
comp=Z,2.5nm,0.3s
BAUV El Baul 20.85 99 P **P 18 21 09.0 -2.8**
BAUV IAmb IAmb 18 21 14.0
comp=Z,13nm,0.7s
GOGA Godfrey 20.97 13 P Pn 18 21 16.0 +0.1
GOGA IAmb IAmb 18 21 16.4
comp=Z,12nm,0.5s
TX31 Lajitas Ar. Si 21.31 322 P **P 18 21 17.7 +1.0**
TXAR Lajitas Array 21.31 322 P **P 18 21 18.6 +1.9**
TXAR Lajitas Array 21.31 322 P **P 18 21 18.2 +1.6**
comp=Z,1.4nm,0.5s,baz=143,slow=12,SNR=17
comp=Z,1.4nm,0.5s
X34A Smith Ranch, M 23.04 341 P **P 18 21 36.4 +1.5**
TKL Tuckaleechee C 23.08 11 LR LR 18 30 13.6
comp=Z,97nm,18.4s,baz=147,slow=37
LCAR Lake Charles 23.12 355 P **P 18 21 35.0 -0.5**
LCAR IAmb IAmb 18 22 05.2
comp=Z,6.5nm,1.2s
SAML Samuel 33.55 129 **P 18 23 08.7 -0.4**
SAML IAmb IAmb 18 23 09.1
comp=Z,4.8nm,0.7s
PDAR Pinedale Array 34.68 333 P **P 18 23 18.6 -0.4**
comp=Z,0.3nm,0.4s,baz=132,slow=11,SNR=4.2
comp=Z,0.3nm,0.4s
H03N2 Juan Fernandez 47.09 169 T T 19 15 29.0
baz=345
H03N1 Juan Fernandez 47.10 169 T T 19 15 30.0
baz=345,slow=74
H03N3 Juan Fernandez 47.11 169 T T 19 15 25.2
baz=345,slow=74
CPUP Villa Florida 49.66 142 LR LR 18 47 15.2
comp=Z,63nm,19.1s,baz=96,slow=37
YKA Yellowknife Ar 52.77 345 P **P 18 25 41.6 -1.9**
comp=Z,0.9nm,0.6s,baz=144,slow=7.5,SNR=18
comp=Z,0.9nm,0.6s
SFJD Kangerlussuaq 59.64 16 LR LR 18 50 49.1
comp=Z,34nm,21.7s,baz=178,slow=35
WRA Warramunga Arr 138.05 255 PKhKP PKPpre 18 35 54.0
comp=Z,0.4nm,0.6s,baz=89,slow=2.0,SNR=6.0
ASAR Alice Springs 138.14 249 PKhKP PKPpre 18 35 50.9
comp=Z,0.4nm,1.0s,baz=97,slow=3.4,SNR=1.8
ASAR PKP **PKiKP 18 35 57.0 +1.0**
comp=Z,0.4nm,1.0s,baz=97,slow=3.4,SNR=1.8

---

*IDC **10** 18:24:28.7±5.1, 31°.42S×179°.94E, h349km±37km, mb2.7/3, mbtmp3.5/4, Error ellipse: s-maj=55.7km s-min=22.0km az=52.0*
*WEL **10** 18:24:37.0±0.7, 32°S±5°×17°9E±1°0, h33km, M4.2/5, mB4.6/4, ML4.5/10, MLv4.3/5, Mw(mB)3.8/4, Error ellipse: s-maj=14.8km s-min=4.0km az=113.8, confirmed*
ISC 10 18:24:28.8±0.9, 31°.45S±0°.09×179°.9E±0°.2, h350km, n31, σ2°04/48, mb3.1/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.89**	**42**	P	**Pn**	**18 25 27.1**	**-0.1**
GLKZ				S	**S**	**18 26 11.3**	**-2.8**
MXZ	**Matakaoa Point**	**6.23**	**192**	P	**Pn**	**18 26 03.9**	**+1.8**
MXZ				S	**S**	**18 27 18.9**	**+1.1**
WCZ	**Waipu Caves**	**6.43**	**224**	P	Pn	18 26 11.6	+7.2
WMGZ	**Waiomatatini S**	**6.47**	**190**	P	**Pn**	**18 26 09.0**	**+4.2**
WMGZ				S	**S**	**18 27 20.5**	**-2.3**
HAZ	**Te Kaha**	**6.52**	**195**	P	**Pn**	**18 26 08.9**	**+3.5**
HAZ				S	**S**	**18 27 25.2**	**+1.2**
PUZ	**Puketiti**	**6.74**	**191**	S	**S**	**18 27 26.1**	**-2.5**
RUGZ	**Raukumara Rang**	**6.75**	**195**	P	**Pn**	**18 26 08.8**	**+0.6**
RUGZ				S	**S**	**18 27 25.2**	**-3.8**
TWGZ	**Tauwhareparae**	**6.89**	**193**	P	**Pn**	**18 26 12.8**	**+3.0**
TWGZ				S	**S**	**18 27 31.7**	**-0.2**
CNGZ	**Carnagh Statio**	**7.15**	**191**	P	**Pn**	**18 26 13.5**	**+0.7**
CNGZ				S	**S**	**18 27 36.7**	**-0.7**
URZ	**Urewera**	**7.16**	**198**	P	**Pn**	**18 26 13.6**	**+0.7**
	4.4nm,0.8s,baz=345,slow=6.3,SNR=14						
URZ				S	**S**	**18 27 37.6**	**-0.1**
	3.1nm,0.3s,baz=311,slow=20,SNR=13						
URZ	**Urewera**	**7.16**	**198**	P	**Pn**	**18 26 14.8**	**+1.9**
URZ				S	**S**	**18 27 37.5**	**-0.1**
TKGZ	**Te Karaka**	**7.17**	**193**	S	**S**	**18 27 36.0**	**-1.8**
RIGZ	**Rimuhau**	**7.44**	**193**	P	**Pn**	**18 26 20.4**	**+4.2**
RIGZ				S	**S**	**18 27 41.2**	**-2.6**
MUGZ	**Murupara**	**7.46**	**199**	P	**Pn**	**18 26 19.4**	**+3.0**
MUGZ				S	**S**	**18 27 45.1**	**+1.0**
PRGZ	**Paritu Road**	**7.63**	**192**	S	**S**	**18 27 46.1**	**-1.7**
MHGZ	**Mahia Peninsul**	**7.85**	**191**	S	**S**	**18 27 53.3**	**+0.8**
BKZ	**Black Stump Fm**	**8.18**	**199**	P	**P**	**18 26 27.6**	**-0.3**
BKZ				S	**S**	**18 27 59.8**	**0.0**
WTVZ	**West Tongariro**	**8.41**	**203**	P	**P**	**18 26 30.8**	**+0.3**
OTVZ	**Oturere**	**8.43**	**203**	P	**P**	**18 26 31.3**	**+0.5**
NGZ	**Ngauruhoe**	**8.46**	**203**	P	**P**	**18 26 30.5**	**-0.6**
KAHZ	**Kahuranaki**	**8.68**	**196**	P	**P**	**18 26 33.6**	**+0.2**
KAHZ				S	**S**	**18 28 09.8**	**-0.8**
PXZ	**Pawanui**	**8.91**	**195**	P	**P**	**18 26 35.5**	**-0.4**
PXZ				S	**S**	**18 28 11.4**	**-4.1**
PNHZ	**Pukenui**	**8.96**	**199**	P	**Pn**	**18 26 34.2**	**0.0**
PNHZ				S	**S**	**18 28 12.9**	**-3.9**
PRHZ	**Porangahau**	**9.18**	**196**	P	**P**	**18 26 38.5**	**-0.5**
PRHZ				S	**S**	**18 28 20.0**	**-1.7**
ANWZ	**Angora Road**	**9.40**	**196**	P	**Pn**	**18 26 38.8**	**-0.6**
ANWZ				S	**S**	**18 28 24.9**	**-1.5**
MRZ	**Mangatainoka R**	**9.83**	**200**	P	**Pn**	**18 26 44.8**	**+0.3**
MRZ				S	**S**	**18 28 31.5**	**-4.3**
ASAR	**Alice Springs**	**41.26**	**269**	P	**P**	**18 31 41.8**	**+0.5**
	0.2nm,0.6s,baz=107,slow=7.3,SNR=4.5						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**42.34**	**274**	P	**P**	**18 31 50.4**	**+0.5**
	0.2nm,0.3s,baz=111,slow=8.0,SNR=11						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**58.66**	**180**	P	**P**	**18 33 51.9**	**+1.7**
	1.1nm,0.9s,baz=98,slow=7.6,SNR=7.0						
	1.1nm,0.9s						
MAW	**Mawson**	**70.68**	**201**	P	**P**	**18 35 06.1**	**-0.7**
	3.3nm,0.2s,baz=117,slow=2.3,SNR=14						
FINES	**FINESS Array B**	**145.47**	**338**	PKPbc	**PKPdf**	**18 43 23.8**	**-0.9**
	1.5nm,0.8s,baz=46,slow=3.5,SNR=2.0						

---

*AEIC **10** 18:24:51.5±1.7, 60°.94N±0°.02×150°.87W±0°.04, h0km±7km, Error ellipse: s-maj=2.7km s-min=2.1km az=113.0*
NEIC 10 18:24:52.9±1.6, 60°.99N±0°.02×150°.80W±0°.05, h24km±13km, ML3.1/180, ML3.0(AEIC), Error ellipse: s-maj=3.9km s-min=1.9km az=130.0, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.28**	**218**		Pb	18 25 00.0	+0.4
FIS	**Fire Island**	**0.32**	**61**	Pg	Pn	18 25 01.4	-0.7
FIS				IAML		18 25 11.5	
comp=N,3μm,0.3s							
SUA	**Susitna One**	**0.47**	**3**		Pb	18 25 02.4	-0.4
RC01	**Rabbit Creek A**	**0.53**	**79**		Pb	18 25 03.4	-0.1
RC01				IAML		18 25 12.8	
comp=E,888nm,0.3s							
RC01				IAML		18 25 12.8	
comp=N,961nm,0.3s							
SLKM	**Skilak Lake**	**0.56**	**150**		Pb	18 25 03.3	-0.8
SLKM				IAML		18 25 11.4	
comp=E,941nm,0.1s							
SLKM				IAML		18 25 14.1	
comp=N,2μm,0.2s							
STLK	**Strandline Lak**	**0.71**	**316**		Pb	18 25 05.3	-1.5
O22K	**Cooper Landing**	**0.73**	**134**		Pb	18 25 06.7	-0.4
M22K	**Willow**	**0.83**	**23**		Pb	18 25 08.1	-0.6
PMR	**Palmer**	**1.00**	**52**		Pn	18 25 10.5	-1.0
SKT	**Skwentna**	**1.05**	**341**		Pn	18 25 11.5	-0.7
SKT				IAML		18 25 27.6	
comp=N,397nm,0.3s							
SKT				IAML		18 25 28.0	
comp=E,663nm,0.4s							
SEW	**Seward**	**1.11**	**143**		Pn	18 25 12.5	-0.4
SEW				IAML		18 25 27.4	
comp=N,574nm,0.6s							
SEW				IAML		18 25 28.2	
comp=E,528nm,0.3s							
GHO	**Glory Hole Cre**	**1.20**	**48**		Pn	18 25 13.8	-0.3
GHO				IAML		18 25 35.3	
comp=N,345nm,0.4s							
KNK	**Knik Glacier**	**1.21**	**68**		Pn	18 25 14.7	+0.4
PWL	**Port Wells**	**1.21**	**95**		Pn	18 25 14.6	+0.3
PWL				IAML		18 25 35.4	
comp=N,475nm,0.6s							
PWL				IAML		18 25 36.4	
comp=E,359nm,0.5s							
BRLK	**Bradley Lake**	**1.23**	**182**		Pn	18 25 13.9	-0.8
BRLK				IAML		18 25 32.4	
comp=N,529nm,0.1s							
HOM	**Homer**	**1.40**	**198**		Pn	18 25 16.8	-0.1
M20K	**Styx River**	**1.44**	**310**		Pn	18 25 17.8	+0.3
CUT	**Chulitna**	**1.44**	**10**		Pb	18 25 18.4	-0.7
SML	**Sawmill**	**1.44**	**54**		Pn	18 25 17.9	+0.4
SML				IAML		18 25 40.9	
comp=N,291nm,0.7s							
SML				IAML		18 25 41.7	
comp=E,259nm,0.4s							
CNPM	**China Poot**	**1.49**	**189**		Pn	18 25 17.6	-0.5
CNPM				IAML		18 25 41.1	
comp=E,333nm,0.7s							
ILSW	**Iliamna Southw**	**1.54**	**230**		Pn	18 25 18.3	-0.6
ILSW				IAML		18 25 42.7	
comp=E,318nm,0.5s							
P19K	**Oil Pt**	**1.81**	**223**		Pn	18 25 23.0	+0.5
GLI	**Glacier Island**	**1.81**	**92**		Pn	18 25 23.9	+1.4
GLI				IAML		18 25 54.3	
comp=E,207nm,0.5s							
N19K	**Bonanza Creek**	**1.81**	**266**		Pn	18 25 22.8	+0.1
N19K				IAML		18 25 47.3	
comp=N,250nm,0.3s							
N19K				IAML		18 25 48.3	
comp=E,147nm,0.4s							
SCM	**Sheep Creek Mo**	**1.87**	**62**	IAML		18 25 53.2	
comp=N,246nm,0.8s							
SCM				IAML		18 25 55.9	
comp=E,202nm,0.5s							
O19K	**Port Alsworth**	**1.91**	**247**		Pn	18 25 24.0	+0.1
P23K	**Montague Islan**	**1.95**	**119**		Pn	18 25 25.4	+1.0
P23K				IAML		18 25 56.7	
comp=E,127nm,0.7s							
P23K				IAML		18 26 01.4	
comp=N,134nm,0.6s							
M19K	**Big River Lodg**	**1.96**	**300**		Pn	18 25 25.1	+0.6
M19K				IAML		18 25 52.8	
comp=N,189nm,0.8s							
M19K				IAML		18 25 54.4	
comp=E,148nm,0.7s							
PPLA	**Purkeypile**	**2.02**	**342**	IAML		18 25 58.0	
comp=E,94nm,0.8s							
FID	**Port Fidalgo**	**2.13**	**95**	IAML		18 25 57.5	
comp=E,106nm,0.7s							
FID				IAML		18 25 58.2	
comp=N,120nm,0.5s							
HIN	**Hinchinbrook I**	**2.19**	**104**		Pn	18 25 29.1	+1.2
HIN				IAML		18 26 08.5	
comp=E,113nm,1.1s							
HIN				IAML		18 26 12.0	
comp=N,85nm,1.2s							
L19K	**White Mountain**	**2.28**	**303**		Pn	18 25 30.1	+1.1
L19K				IAML		18 26 03.5	
comp=N,70nm,0.8s							
L19K				IAML		18 26 04.9	
comp=E,74nm,0.9s							
KLU	**Klutina**	**2.41**	**76**		Pn	18 25 33.0	+2.1
KLU				IAML		18 26 13.8	
comp=E,66nm,0.6s							
KLU				IAML		18 26 16.6	
comp=N,76nm,0.7s							
DIV	**Divide**	**2.45**	**85**		Pn	18 25 33.2	+1.8
DIV				IAML		18 26 19.3	
comp=N,66nm,0.8s							
O18K	**Koktuh Hills**	**2.47**	**244**		Pn	18 25 31.1	-0.5
M24K	**Tolsona, Glenn**	**2.48**	**61**	IAML		18 26 17.5	
comp=N,116nm,0.7s							
TRF	**Thorofare Moun**	**2.48**	**5**	IAML		18 26 10.4	
comp=N,132nm,0.7s							
TRF				IAML		18 26 17.2	
comp=E,74nm,0.5s							
CAST	**Castle Rocks**	**2.51**	**347**		Pn	18 25 33.8	+1.6
N18K	**Kilae Creek**	**2.51**	**265**		Pn	18 25 32.1	-0.1
EYAK	**Cordova Ski Ar**	**2.52**	**98**		Pn	18 25 33.5	+1.3
Q19K	**Cape Douglas,**	**2.52**	**216**		Pn	18 25 32.6	+0.3
KTH	**Kantishna Hill**	**2.57**	**359**		Pn	18 25 35.6	+2.5
KTH				IAML		18 26 21.7	
comp=N,75nm,0.8s							
KTH				IAML		18 26 24.6	
comp=E,79nm,0.6s							
RND	**Reindeer**	**2.59**	**20**		Pb	18 25 36.1	-2.5
RND				IAML		18 26 15.1	
comp=N,54nm,0.6s							
RND				IAML		18 26 18.7	
comp=E,96nm,0.6s							
BMRM	**Bremner River**	**3.02**	**88**	IAML		18 26 37.7	
comp=N,44nm,0.9s							
BMRM				IAML		18 26 38.8	
comp=E,38nm,0.5s							
N25K	**Chitina, Valde**	**3.05**	**76**	IAML		18 26 33.5	
comp=N,35nm,0.9s							
RAGM	**Ragged Mountai**	**3.07**	**99**	IAML		18 26 46.2	
comp=E,71nm,0.8s							
L18K	**Granite Mounta**	**3.07**	**296**	IAML		18 26 32.8	
comp=N,46nm,1.0s							
L18K				IAML		18 26 33.5	
comp=E,43nm,1.0s							
N17K	**Nushagak Hills**	**3.17**	**264**		Pn	18 25 41.0	-0.2
N17K				IAML		18 26 32.9	
comp=E,52nm,0.6s							
N17K				IAML		18 26 35.3	
comp=N,61nm,0.8s							
PAX	**Paxson**	**3.20**	**49**	IAML		18 26 41.0	
comp=N,32nm,0.9s							
HMT	**Hamilton**	**3.28**	**99**	IAML		18 26 44.2	
comp=N,56nm,0.4s							
GLB	**Gilahina Butte**	**3.41**	**79**	IAML		18 26 47.9	
comp=N,33nm,0.8s							
BERG	**Berg Lake**	**3.54**	**97**	IAML		18 26 52.4	
comp=N,46nm,1.0s							
J20K	**Nowinta River**	**3.55**	**336**	IAML		18 26 47.4	
comp=E,27nm,0.7s							
J20K				IAML		18 26 47.4	
comp=N,30nm,0.8s							
WRH	**Wood River Hil**	**3.71**	**18**	IAML		18 26 50.8	
comp=N,27nm,0.8s							
WRH				IAML		18 26 58.5	
comp=E,22nm,1.1s							
J19K	**Poorman**	**3.75**	**326**	IAML		18 26 57.4	
comp=E,20nm,0.8s							
HDA	**Harding Lake**	**3.86**	**26**	IAML		18 26 59.9	
comp=E,38nm,0.6s							
HDA				IAML		18 27 03.6	
comp=N,35nm,0.6s							
MENT	**Mentasta**	**3.87**	**57**	IAML		18 27 09.6	
comp=E,40nm,0.5s							
MENT				IAML		18 27 16.3	
comp=N,38nm,0.8s							
RIDG	**Independent Ri**	**3.91**	**43**	IAML		18 26 54.1	
comp=N,37nm,0.7s							
RIDG				IAML		18 27 02.1	
comp=E,41nm,0.9s							
CCB	**Clear Creek Bu**	**3.92**	**19**	IAML		18 26 59.6	
comp=E,23nm,0.6s							
WAX	**Waxell Ridge**	**3.94**	**94**	IAML		18 26 40.7	
comp=E,25nm,0.4s							
WAX				IAML		18 26 41.7	
comp=N,38nm,0.9s							
K17K	**Iditarod**	**3.96**	**299**	IAML		18 27 01.4	
comp=E,36nm,0.8s							
M26K	**Nabesna, AK**	**3.98**	**66**	IAML		18 27 17.7	
comp=N,18nm,0.9s							
L26K	**Log Cabin Wild**	**4.06**	**57**	IAML		18 27 07.3	
comp=E,25nm,0.6s							
L26K				IAML		18 27 18.9	
comp=N,22nm,0.9s							
DOT	**Dot Lake**	**4.12**	**47**	IAML		18 27 16.7	
comp=N,22nm,0.8s							
DOT				IAML		18 27 26.2	
comp=E,21nm,1.0s							
I23K	**Minto, Yukon-K**	**4.22**	**8**	IAML		18 27 13.9	
comp=N,16nm,0.9s							
SCRK	**Sand Creek**	**4.35**	**44**	IAML		18 27 27.5	
comp=E,14nm,1.1s							
J25K	**Salcha River,**	**4.41**	**32**	IAML		18 27 02.2	
comp=E,17nm,0.5s							
J25K				IAML		18 27 22.1	
comp=N,17nm,0.8s							
POKR	**Poker Plat Res**	**4.42**	**19**	IAML		18 27 14.7	
comp=E,13nm,0.8s							
POKR				IAML		18 27 14.8	
comp=N,19nm,0.8s							
J17K	**VABM Dome**	**4.57**	**305**	IAML		18 27 37.6	
comp=N,12nm,1.2s							
J26L	**Joseph Creek**	**4.84**	**40**	IAML		18 27 26.2	
comp=N,18nm,0.7s							
J26L				IAML		18 27 31.3	
comp=E,12nm,0.6s							
PRP	**Porcupine Dome**	**5.13**	**25**	IAML		18 27 33.8	
comp=E,11nm,0.8s							
PRP				IAML		18 27 35.8	
comp=N,10nm,1.2s							

IDC 10 18:54:46.7±14.0, 5°.17S×131°.33E, h0km, mb4.2/1, mbtmp3.7/3, ML3.3/2, Error ellipse: s-maj=307.6km s-min=150.8km az=107.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.97**	**169**	Pn	Pn	18 58 19.6	-0.3
	0.1nm,0.3s,baz=348,slow=14,SNR=6.2						
	1.3nm,0.3s						
ASAR	**Alice Springs**	**18.56**	**173**	P	P	18 59 05.0	-0.2
	0.1nm,0.3s,baz=353,slow=11,SNR=7.1						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**28.26**	**161**	P	P	19 00 41.8	+0.1
	0.7nm,0.2s,baz=342,slow=9.8,SNR=5.7						
	0.7nm,0.2s						

---

*NNC **10** 18:55:08.6±5.0, 37°.73N×71°.44E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=39.0km s-min=29.1km az=173.0*
ISC 10 18:55:08.6±3.6, 37°.4N±0°.2×71°.4E±0°.1, h109km, n9, σ1°16/13, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.05**	**20**	P	**Pn**	**18 56 23.1**	**+0.8**
	SNR=53						
EKS2	**Erkin-Say**	**5.56**	**18**	P	**Pn**	**18 56 30.8**	**+1.7**
	SNR=20						
KK31	**Karatay Array**	**5.74**	**353**	⇑P	**Pn**	**18 56 31.1**	**-0.2**
	11nm,0.5s,baz=181,slow=13,SNR=148						
KK31				⇑S	**Sn**	**18 57 35.9**	**+0.1**
	3.9nm,0.4s,baz=184,slow=17,SNR=5.0						
CHMS	**Chumysh**	**6.15**	**24**	P	**Pn**	**18 56 38.1**	**+1.1**
	SNR=11						
CHMS	**Chumysh**	**6.15**	**24**	⇑P	**Pn**	**18 56 37.3**	**+0.4**
	13nm,0.7s						
CHMS				⇓S	**Sn**	**18 57 45.5**	**-0.4**
	4.5nm,0.5s						
USP	**Ospenovka**	**6.32**	**21**	P	**Pn**	**18 56 39.8**	**+0.5**
	SNR=7.2						
TKM2	**Tokmak 2**	**6.38**	**29**	P	**Pn**	**18 56 41.4**	**+1.2**
	SNR=7.2						
TKM2	**Tokmak 2**	**6.38**	**29**	⇑P	**Pn**	**18 56 40.8**	**+0.5**
	3.3nm,0.6s						
TKM2				⇓S	**Sn**	**18 57 49.8**	**-1.9**
	1.8nm,0.5s						
AB31	**Akbulak array**	**14.47**	**329**	P	**Pn**	**18 58 26.9**	**-1.0**
	0.5nm,0.3s,baz=138,slow=13,SNR=38						
AB31				⇓S	**Sn**	**19 01 08.7**	**+1.2**
	1.3nm,0.6s,baz=159,slow=22,SNR=4.9						

IDC 10 18:55:50.9±9.0, 5°.62S×148°.47E, h0km, mb3.2/2, mbtmp3.2/3, ML2.9/1, MS3.9/1, Error ellipse: s-maj=283.3km s-min=38.0km az=104.0, New Britain region

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

0.4nm,1.0s,baz=101,slow=4.6,SNR=2.9
0.4nm,1.0s

---

*IDC **10** 19:07:15.1±1.1,7°.74N×93°.65E,h0km,mb3.9/13, mbtmp3.9/14,ML3.8/1,Error ellipse: s-maj=38.2km s-min=19.3km az=53.0*

ISC 10 19:07:21.8±1.1,7°.8N±0°.2×93°.8E±0°.2,h46km,n17, σ0°70/14,mb4.0/13,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.71	25	Pn	Pn	19 10 06.0	-0.3
	0.2nm,0.3s,baz=204,slow=14,SNR=9.7						
	0.5nm,0.5s						
H08S3	Diego Garcia H	26.18	235	T	T	19 39 38.1	
	baz=54,slow=75,SNR=21						
H08S2	Diego Garcia H	26.18	235	T	T	19 39 41.7	
	baz=54,slow=75,SNR=14						
H08S1	Diego Garcia H	26.20	235	T	T	19 39 39.6	
	baz=54,slow=75,SNR=10						
MKAR	Makanchi Array	40.05	348	P	P	19 14 52.8	+0.3
	1.7nm,0.7s,baz=166,slow=7.8,SNR=24						
	1.7nm,0.7s						
SONM	Songino Array	41.29	13	P	P	19 15 02.6	-0.2
	0.5nm,0.7s,baz=193,slow=4.4,SNR=4.5						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	44.49	346	P	P	19 15 29.4	+0.9
	2.5nm,0.8s,baz=168,slow=7.1,SNR=29						
	2.5nm,0.8s						
ZALV	Zalesovo Beam	46.55	353	P	P	19 15 45.1	+0.4
	1.8nm,0.3s,baz=173,slow=7.0,SNR=14						
	1.8nm,0.3s						
WRA	Warramunga Arr	48.55	125	P	P	19 16 01.9	+1.0
	0.6nm,0.8s,baz=302,slow=7.5,SNR=4.6						
	0.6nm,0.8s						
BVAR	Borovoye Array	48.90	341	P	P	19 16 03.0	-0.1
	1.0nm,0.8s,baz=126,slow=7.3,SNR=4.6						
	1.0nm,0.8s						
MJAR	Matsushiro Arr	49.48	48	P	P	19 16 07.4	-0.3
	1.5nm,0.8s,baz=224,slow=9.4,SNR=4.1						
	1.5nm,0.8s						
ASAR	Alice Springs	50.19	130	P	P	19 16 12.5	-0.8
	0.2nm,0.6s,baz=300,slow=8.1,SNR=6.9						
	0.2nm,0.6s						
BRTR	Keskin Array B	62.16	311	P	P	19 17 37.5	-1.3
	0.3nm,0.7s,baz=105,slow=9.5,SNR=1.6						
	0.3nm,0.7s						
FINES	FINESS Array B	72.57	332	P	P	19 18 44.1	+0.2
	1.2nm,0.6s,baz=112,slow=6.3,SNR=6.0						
	1.2nm,0.6s						
ARCES	ARCESS Array B	75.17	340	P	P	19 18 59.9	+0.8
	4.1nm,1.0s,baz=106,slow=7.6,SNR=4.2						
	4.1nm,1.0s						
HFS	Hagfors	78.30	330	P	P	19 19 17.3	+0.4
	0.6nm,0.4s,baz=85,slow=3.6,SNR=6.8						
	0.6nm,0.4s						
SPITS	Spitsbergen Ar	79.80	348	P	P	19 19 24.9	+0.1
	3.9nm,0.8s,baz=94,slow=6.2,SNR=1.5						
	3.9nm,0.8s						

---

*IDC **10** 19:12:43.7±0.7,25°.97N×128°.44E,h0km,mb4.1/21, mbtmp4.1/24,ML3.6/3,MS3.4/13,Error ellipse: s-maj=21.9km s-min=14.3km az=87.0*

*NEIC **10** 19:12:44.2±1.8,25°.93N±0°.07×128°.67E±0°.08,h10km±1km, mb4.5/36,Error ellipse: s-maj=14.2km s-min=9.1km az=234.0*

*MOS **10** 19:12:45.9±1.0,26°.03N×128°.39E,h22km,mb4.6/26,Error ellipse: s-maj=10.6km s-min=5.7km az=106.8*

*NIED **10** 19:12:46.8,25°.98N×128°.56E,h47km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr2.14; Mθθ-0.30; Mφφ-1.85; Mrθ0.33; Mθφ-1.90; Mφr0.24; Fault plane solution: M0 2.67000×1015 NP1: φs207.00000°,δ41.00000°,λ80.00000°. NP2:φs40.00000°, δ49.00000°,λ99.00000°.*

*JMA **10** 19:12:46.8±0.5,26°.2N×12°.9E±°,h47km,MV3.9/18, NEAR OKINAWAJIMA ISLAND*

ISC 10 19:12:45.3±0.8,25°.91N±0°.04×128°.56E±0°.04,h14km±4km, n180,σ1°79/189,mb4.4/55,MS3.5/16,18C-13D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	0.73	288	*i* P	Pn	19 13 00.8	-0.5
JJT3				S	Sn	19 13 11.5	-0.7
JNTH	Nagotoyohara	0.77	322	*i* P	Pn	19 13 00.3	-1.5
JOW	Kunigami	0.95	345	Pn	Pb	19 13 03.0	-0.6
	530nm,0.3s,baz=142,slow=20,SNR=1153						
JOW				Sn	Sb	19 13 14.3	-1.7
	667nm,0.3s,baz=114,slow=22,SNR=8.1						
JOW	Kunigami	0.95	345	P	Pn	19 13 03.2	-1.0
JOW	Kunigami	0.95	345	*i* P	Pn	19 13 03.2	-1.0
JYRO	Yoronjima	1.11	355	*i* P	Pg	19 13 05.4	-1.4
JIH	Iheya	1.24	335	*i* P	Pn	19 13 07.6	-0.5
JIH				*e*S	Sg	19 13 22.4	-2.9
JAGN	Aguni-jima	1.36	300	*i* P	Pg	19 13 09.7	-1.8
JAGN				*e*S	Sg	19 13 25.6	-3.6
JOKE	Okinoerabujima	1.44	0	*i* P	Pn	19 13 10.4	-0.6
JOKE				*e*S	Sb	19 13 27.2	-3.0
JKE	Kume jima 2	1.65	285	*i* P	Pn	19 13 13.2	-0.6
JKE				S	Sn	19 13 32.5	-2.2
JTK	Tokunoshima	1.90	11	*i* P	Pn	19 13 16.7	-0.6
JTK				S	Sn	19 13 39.2	-1.8
JMZ	Minamidaito 2	2.40	92	Pn	Pn	19 13 22.1	-2.1
JMZ				Sn	Sn	19 13 49.5	-3.9
JMZ	Minamidaito 2	2.40	92	P	Pn	19 13 23.2	-1.0
JMZ	Minamidaito 2	2.40	92	S	Sn	19 13 49.7	-3.7
JOGS	Gusukube	3.08	249	*e*P	Pn	19 13 33.8	+0.4
JOGS				*e*S	Sn	19 14 09.0	-1.0
JMJ2	Miyako jima3	3.15	249	P	Pn	19 13 34.7	+0.3
JMJ2				*e*S	Sn	19 14 10.1	-1.7
JMJ	Miyako jima 2	3.15	250	P	Pn	19 13 34.5	+0.1
JIKM	Ikemajima	3.15	253	*e*P	Pn	19 13 34.7	+0.2
JIRB	Irabujima	3.25	251	*e*P	Pn	19 13 35.6	-0.2
JIRB				*e*S	Sn	19 14 12.3	-1.9
JTJ	Tarama	3.71	251	*e*S	Sn	19 14 22.8	-3.0
JISG	Ishigakijimahi	4.07	252	*e*P	Pn	19 13 45.8	-1.3
JISG				*e*S	Sn	19 14 30.6	-3.9
JIJ	Ishigaki jima	4.29	250	P	Pn	19 13 48.8	-1.3
NACB	Ninganchiao	6.55	256	Pn	Pn	19 14 17.9	-3.3
NACB	Ninganchiao	6.55	256	P	Pn	19 14 19.2	-2.0
	40nm,2.8s						
YHNB	Yeheng	6.62	261		Pn	19 14 20.1	-2.2
YHNB	Yeheng	6.62	261	P	Pn	19 14 22.7	+0.5
	48nm,1.1s						
YULB	Yu-li	7.07	251	Pn	Pn	19 14 23.7	-4.6
SSLB	Suanglung	7.22	255		Pn	19 14 28.1	-2.5
SSLB	Suanglung	7.22	255	P	Pn	19 14 28.2	-2.3
	29nm,0.5s						
JNU	Nakatsue	7.46	15	Pn	Pn	19 14 32.9	-0.8
JNU	Nakatsue	7.46	15	Pn	Pn	19 14 34.2	+0.5
	1.8nm,0.3s,baz=208,slow=9.1,SNR=20						
	9.8nm,0.5s						
JNU	Nakatsue	7.46	15	P	Pn	19 14 34.5	+0.7
TWG	Pinlang	7.49	247	Pn	Pn	19 14 29.2	-4.9
TPUB	Ta-pu	7.67	252		Pn	19 14 35.1	-1.5
TPUB	Ta-pu	7.67	252	P	Pn	19 14 35.3	-1.3
	39nm,0.6s						
SSE	Sheshan	8.29	310	P	Pn	19 14 45.5	+0.5
SSE				S	Sn	19 16 19.7	+1.2
SSE				pmax	pmax		
	comp=Z,12nm,0.6s						
SSE				pmax	pmax		
	comp=Z,120nm,4.2s						
SSE				LR	LR		
	comp=N,320nm,11.1s						
SSE				LR	LR		
	comp=E,490nm,11.1s						
TJN	Taejon	10.48	355	*i* P	Pn	19 15 15.5	+0.4
KSRS	Korea Array	11.52	357	Pn	Pn	19 15 29.6	+0.4
	comp=E,0.1nm,0.3s,baz=176,slow=14,SNR=6.9						
KSRS				LR	LR	19 20 14.4	
	comp=E,203nm,18.1s,baz=175,slow=39						
	comp=E,1.5nm,0.7s						
MAJO	Matsushiro	13.42	36	*i* P	Pn	19 15 56.8	+1.5
MSHR	Mys Shultsa	16.76	7	*i* P	Pn	19 16 40.7	+1.1
MSHR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BJT	Baijiatuau	17.46	327	Pn	Pn	19 16 46.0	-2.4
BJT	Baijiatuau	17.46	327	P	Pn	19 16 46.0	-2.4
BJT				pmax	pmax		
	comp=Z,7.0nm,0.5s						
USRK	Ussuriysk Ar.	18.46	8	P	Pn	19 17 01.4	+0.8
	comp=Z,0.1nm,0.3s,baz=191,slow=9.7,SNR=6.3						
	comp=Z,2.1nm,0.6s						
QIZ	Qiongzhong	18.59	252	P	P	19 16 59.6	-2.6
QIZ				S	Sn	19 20 30.4	+0.2
QIZ				LR	LR		
	comp=N,270nm,16.5s						
QIZ				LR	LR		
	comp=E,120nm,13.7s						
QIZ				LR	LR		
	comp=Z,190nm,15.9s						
GUMO	Guam	19.62	126	LR	LR	19 25 25.4	
	comp=Z,34nm,18.3s,baz=319,slow=39						
BTO	Baotou	21.27	318	*e*P	P	19 17 32.4	+1.1
BTO				pP	pwP	19 17 36.6	-1.4
BTO				sP	sP	19 17 39.5	+3.8
BTO				PP	PnPn	19 17 56.2	+5.3
BTO				S	Sn	19 21 31.3	-3.2
BTO				sS	pS	19 21 38.8	+3.7
BTO				SS	SnSn	19 22 01.3	+12
BTO				pmax	pmax		
	comp=Z,11nm,1.5s						
BTO				pmax	pmax		
	comp=Z,200nm,3.9s						
BTO				LR	LR		
	comp=N,680nm,13.0s						
BTO				LR	LR		
	comp=E,510nm,12.5s						
BTO				LR	LR		
	comp=Z,1μm,13.0s						
ASAJ	Asahikawa	21.44	29	P	P	19 17 34.0	+1.0
	comp=Z,2.2nm,0.7s,baz=211,slow=9.7,SNR=5.8						
ASAJ				LR	LR	19 26 07.4	
	comp=Z,80nm,20.6s,baz=185,slow=38						
	comp=Z,2.2nm,0.7s						
ASAJ	Asahikawa	21.44	29	P	P	19 17 34.0	+1.0
KLR	Kul'dur	23.41	5	LR	LR	19 27 57.3	
	comp=Z,47nm,18.8s,baz=180,slow=39						
KLR	Kul'dur	23.41	5	*e*P	P	19 17 52.9	-0.8
KLR				pmax	pmax		
	comp=Z,8.0nm,2.2s						
YSS	Yuzhno-Sakhali	23.83	25		P	19 17 58.2	+0.4
YSS	Yuzhno-Sakhali	23.83	25	*d i* P	P	19 18 00.0	+2.2
YSS				pmax	pmax		
	comp=Z,29nm,0.9s						
UBPT	Khong Chiam	24.02	248	P	P	19 18 01.3	+1.4
UBPT				IAmb	IAmb	19 18 11.6	
	comp=Z,16nm,1.5s						
GRNR	Gornyy	25.54	12	⇑ *i* P	P	19 18 14.5	+1.1
GRNR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GRNR				MLR	MLR		
	comp=N,100nm,17.0s						
GRNR				MLR	MLR		
	comp=E,160nm,17.0s						
GRNR				MLR	MLR		
	comp=Z,120nm,16.0s						
GTA	Gaotai	27.56	306	P	P	19 18 31.4	-0.5
GTA				pP	pwP	19 18 38.8	-0.8
GTA				PcP	PP	19 20 16.2	+42
GTA				pmax	pmax		
	comp=Z,28nm,0.7s						
GTA				pmax	pmax		
	comp=Z,87nm,6.0s						
GTA				LR	LR		
	comp=N,190nm,12.7s						
GTA				LR	LR		
	comp=E,150nm,14.3s						
GTA				LR	LR		
	comp=Z,290nm,13.1s						
ULN	Ulaanbaatar	27.68	328		P	19 18 31.6	-1.4
ULN				IAmb	IAmb	19 18 35.6	
	comp=Z,4.5nm,0.7s						
ULN	Ulaanbaatar	27.68	328	*c i* P	P	19 18 34.6	+1.6
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	Songino Array	27.98	327	P	P	19 18 34.3	-1.3
SONM	Songino Array	27.98	327	P	P	19 18 36.7	+1.1
	comp=Z,4.0nm,0.7s,baz=139,slow=10,SNR=24						
SONM				LR	LR	19 31 05.7	
	comp=Z,86nm,18.1s,baz=137,slow=40						
	comp=Z,4.0nm,0.7s						
SONM	Songino Array	27.98	327	P	P	19 18 34.3	-1.3
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHTO	Chiang Mai	28.24	262		P	19 18 38.2	+0.1
CHTO	Chiang Mai	28.24	262	P	P	19 18 38.2	+0.1
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	Chiang Mai Arr	28.36	261	P	P	19 18 39.6	+0.5
	comp=Z,1.0nm,0.8s,baz=77,slow=8.8,SNR=9.6						
	comp=Z,1.0nm,0.8s						
SHL	Shillong	32.97	278		P	19 19 19.8	-0.2
SHL	Shillong	32.97	278	P	P	19 19 19.8	-0.2
SHL				pmax	pmax		
	comp=Z,17nm,1.4s						
YAK	Yakutsk	36.12	1	P	P	19 19 44.7	-1.9
YAK				IAmb	IAmb	19 20 12.5	
	comp=Z,9.3nm,0.8s						
YAK	Yakutsk	36.12	1	*ce*P	P	19 19 45.5	-1.0
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
PSI	Prapat	36.58	236	LR	LR	19 32 49.2	
	comp=Z,83nm,19.8s,baz=231,slow=33						
MA2	Magadan	37.02	19	LR	LR	19 36 20.3	
	comp=Z,49nm,18.1s,baz=327,slow=38						
MK31	Makanchi Array	41.97	312		P	19 20 35.1	-0.7
MK31	Makanchi Array	41.97	312	P	P	19 20 35.1	-0.7
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	41.97	312		P	19 20 34.5	-1.3
MKAR	Makanchi Array	41.97	312	P	P	19 20 35.0	-0.8
	comp=Z,1.9nm,0.5s,baz=94,slow=9.9,SNR=34						
	comp=Z,1.9nm,0.5s						
MKAR	Makanchi Array	41.97	312	P	P	19 20 35.0	-0.8
MAKZ	Makanchi	42.18	312	P	P	19 20 36.4	-1.1
MAKZ	Makanchi	42.18	312	P	P	19 20 36.4	-1.1
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.4s						
ZAA0	Zalesovo Array	42.68	323	P	P	19 20 38.2	-3.2
ZALV	Zalesovo Beam	42.68	323	P	P	19 20 38.6	-2.8
ZALV	Zalesovo Beam	42.68	323	P	P	19 20 40.0	-1.4
	comp=Z,0.9nm,0.4s,baz=109,slow=8.5,SNR=5.5						
	comp=Z,0.9nm,0.4s						
SHEM	Shemya Is, Ala	43.23	39	LR	LR	19 40 56.5	
	comp=Z,24nm,18.4s,baz=294,slow=39						
WUS	Wushi	43.28	303	P	P	19 20 45.6	-1.0
TARG	Taragay, Kyrgy	44.38	304	P	P	19 20 53.6	-2.3
TARG				IAmb	IAmb	19 21 07.9	
	comp=Z,4.6nm,0.8s						
TARG	Taragay, Kyrgy	44.38	304	P	P	19 20 53.6	-2.3
TARG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KDJ	Kajisay	44.88	305	P	P	19 20 58.4	-1.1
KDJ				IAmb	IAmb	19 21 01.5	
	comp=Z,4.4nm,0.8s						
KDJ	Kajisay	44.88	305	P	P	19 20 58.4	-1.1
KDJ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	Kurchatov	45.25	317		P	19 21 00.7	-1.5
KURK				IAmb	IAmb	19 21 02.5	
	comp=Z,5.2nm,1.2s						
KURK	Kurchatov	45.25	317	*d i* P	P	19 21 01.7	-0.4
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KURBB	Kurchatov Arra	45.28	317	P	P	19 21 01.2	-1.2
	comp=Z,1.3nm,0.6s,baz=103,slow=8.9,SNR=14						
KURBB				LR	LR	19 42 22.2	
	comp=Z,58nm,19.4s,baz=174,slow=39						
	comp=Z,1.3nm,0.6s						
TIXI	Tiksi	45.77	0		P	19 21 05.1	-0.8
TIXI				IAmb	IAmb	19 21 22.3	
	comp=Z,6.3nm,1.5s						
TIXI	Tiksi	45.77	0	LR	LR	19 40 10.1	
	comp=Z,48nm,20.4s,baz=196,slow=36						
TIXI	Tiksi	45.77	0	*ce*P	P	19 21 06.2	+0.3
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.5s						
WRA	Warramunga Arr	45.93	172	P	P	19 21 08.7	+0.9
	comp=Z,2.0nm,0.7s,baz=353,slow=8.5,SNR=12						
	comp=Z,2.0nm,0.7s						
WRA	Warramunga Arr	45.93	172	*i* P	P	19 21 09.1	+1.4
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BILL	Bilibino	47.88	18	*ce*P	P	19 21 23.6	+1.1
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ASAR	Alice Springs	49.56	174	P	P	19 21 37.3	+1.4
	comp=Z,1.1nm,0.8s,baz=4.0,slow=14,SNR=16						
	comp=Z,1.1nm,0.8s						
NRIK	Noril'sk	49.64	342	LR	LR	19 43 21.1	
	comp=Z,31nm,19.4s,baz=104,slow=37						
NRIK	Noril'sk	49.64	342	*ce*P	P	19 21 35.8	-0.2
NRIK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KKAR	Karatay Array	49.83	306		P	19 21 38.4	+0.5
KKAR	Karatay Array	49.83	306	P	P	19 21 38.4	+0.5
BVAR	Borovoye Array	50.71	318	P	P	19 21 44.5	+0.2
	comp=Z,2.2nm,0.6s,baz=85,slow=9.9,SNR=18						
BVAR				LR	LR	19 44 30.8	
	comp=Z,36nm,18.3s,baz=79,slow=38						
	comp=Z,2.2nm,0.6s						
BRVK	Borovoye	50.77	318		P	19 21 44.4	-0.5
BRVK				IAmb	IAmb	19 21 54.0	
	comp=Z,5.7nm,0.6s						
BRVK	Borovoye	50.77	318	*d i* P	P	19 21 44.8	0.0
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ABKAR	Akbulak array	57.08	313		P	19 22 30.7	-0.2
ARTI	Arti	57.92	322	P	P	19 22 36.1	-0.7
ARTI				IAmb	IAmb	19 22 37.9	
	comp=Z,2.8nm,0.6s						
ARTI	Arti	57.92	322	LR	LR	19 51 47.8	
	comp=Z,64nm,18.4s,baz=190,slow=40						
ARTI	Arti	57.92	322	*d i* P	P	19 22 36.4	-0.4
ARTI						19 23 28.1	
ARTI				S	S	19 30 37.0	+0.8
ARTI				SS	SS	19 34 28.4	+1.6
ARTI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
C18K	Utukok River	58.94	24	P	P	19 22 42.8	-1.1
C18K				IAmb	IAmb	19 22 58.0	
	comp=Z,3.8nm,0.8s						
E19K	Redstone River	60.30	25	P	P	19 22 51.4	-1.7
E19K				IAmb	IAmb	19 23 00.9	
	comp=Z,4.6nm,0.8s						
B21K	Ikpikpuk River	61.38	23		P	19 23 02.5	+2.1
B21K				IAmb	IAmb	19 23 08.1	
	comp=Z,3.8nm,0.8s						
D22K	Ayikyak River	62.05	24	P	P	19 23 06.8	+1.9
H23K	Yukon River	63.36	27	P	P	19 23 15.8	+2.1
H23K				IAmb	IAmb	19 23 22.8	
	comp=Z,3.6nm,0.8s						
D24K	Happy Valley	63.43	23	IAmb	IAmb	19 23 21.8	
	comp=Z,4.1nm,0.7s						
ILAR	Eielson Array	64.58	28	P	P	19 23 22.0	+0.2
	comp=Z,0.2nm,0.6s,baz=273,slow=6.2,SNR=4.7						
	comp=Z,0.2nm,0.6s						
ILAR	Eielson Array	64.58	28	P	P	19 23 22.0	+0.2
SPITS	Spitsbergen Ar	69.20	348	P	P	19 23 51.2	+0.2
	comp=Z,2.9nm,0.6s,baz=52,slow=9.3,SNR=7.4						
	comp=Z,2.9nm,0.6s						
KBZ	Khabaz	69.59	310	P	P	19 23 54.3	+0.4
	comp=Z,2.7nm,0.8s,baz=81,slow=5.6,SNR=9.1						
	comp=Z,2.7nm,0.8s						
KBZ	Khabaz	69.59	310	*ce*P	P	19 23 55.1	+1.2
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV	Kislovodsk	69.67	310	*e*P	P	19 23 55.6	+1.0
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,27nm,17.0s						
OBN	Obninsk	70.26	322	*e*P	P	19 23 58.6	+0.8
OBN				*e*		19 24 16.3	
OBN				*e*		19 26 32.8	
OBN				*e*PPP	PPP	19 28 15.5	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	ARCESS Array B	70.41	339	P	P	19 24 00.5	+1.9
	comp=Z,5.2nm,1.1s,baz=53,slow=6.9,SNR=4.1						
	comp=Z,5.2nm,1.1s						
ERBR	Yeremizino-Bor	70.65	312	*e*P	P	19 24 07.1	+6.6
ERBR				pmax	pmax		
	comp=Z,11nm,0.9s						
EUNU	Eureka	72.56	6	P	P	19 24 10.7	-0.7
EUNU				IAmb	IAmb	19 24 25.7	
	comp=Z,2.7nm,0.8s						
ANN	Anapa	72.98	312	*e*P	P	19 24 14.6	+0.1
ANN				pmax	pmax		
	comp=Z,39nm,1.3s						
MARD	Mardin	73.13	304		P	19 24 16.0	+0.3
FINES	FINESS Array B	73.28	331	P	P	19 24 15.6	-0.4
	comp=Z,3.0nm,0.7s,baz=57,slow=5.6,SNR=12						
	comp=Z,3.0nm,0.7s						
FINES	FINESS Array B	73.28	331	*i* P	P	19 24 16.1	+0.2
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
RAYN	Ar Rayn	74.19	289	P	P	19 24 23.4	+1.4
MNK	Minsk	75.18	324	*i* P	P	19 24 27.2	+0.1
MNK				*i*		19 24 40.5	
MNK				*i*		19 27 15.1	
MNK				*i* PPP	PPP	19 29 00.9	
MNK				*i* S	S	19 34 06.4	+1.1
MNK				*i* SSS	SSS	19 42 08.0	
MNK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,6.0nm,1.0s						
MNK				pmax	pmax		
	comp=E,7.0nm,0.8s						
MNK				MLR	MLR		
	comp=N,59nm,14.0s						
MNK				MLR	MLR		
	comp=Z,50nm,14.0s						
MNK				MLR	MLR		
	comp=E,35nm,16.0s						
AKASG	Malin Array Be	75.96	320	P	P	19 24 31.4	-0.3
	comp=E,3.9nm,0.6s,baz=60,slow=6.4,SNR=19						
	comp=E,3.9nm,0.6s						
AKASG	Malin Array Be	75.96	320	*i* P	P	19 24 31.7	0.0
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKBB	Malin Array Si	75.96	320	*c i* P	P	19 24 31.6	-0.1
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KIEV	Kiev	75.97	320	P	P	19 24 31.2	-0.5
KIEV	Kiev	75.97	320	⇑P	P	19 24 31.7	0.0
KIEV	Kiev	75.97	320	P	P	19 24 31.2	-0.5
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BR131	Keskin Array S	77.46	308	IAmb	IAmb	19 24 42.2	
	comp=Z,5.7nm,0.9s						
BRTR	Keskin Array B	77.46	308	P	P	19 24 40.9	+0.3
	comp=Z,3.5nm,0.9s,baz=97,slow=4.9,SNR=19						
	comp=Z,3.5nm,0.9s						
BRTR	Keskin Array B	77.46	308	*i* P	P	19 24 41.5	+0.9
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIRS	Kirsehir-Merke	77.50	307	⇑P	P	19 24 41.5	+0.8
SORM	Soroca	77.54	318	⇓P	P	19 24 40.7	+0.1
SORM	Soroca	77.54	318	P	P	19 24 40.7	+0.1
YKA	Yellowknife Ar	78.69	25	P	P	19 24 47.4	+0.7
	comp=Z,0.6nm,0.7s,baz=301,slow=5.6,SNR=7.8						
	comp=Z,0.6nm,0.7s						
YKA	Yellowknife Ar	78.69	25	*i* P	P	19 24 48.0	+1.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TPGR	Topolog	78.89	314	⇑P	P	19 24 49.1	+0.9
CFR	Carcaliu	78.93	315	⇑P	P	19 24 49.0	+0.6
CFR	Carcaliu	78.93	315	P	P	19 24 48.9	+0.6
HFS	Hagfors	79.24	332	P	P	19 24 49.9	+0.1
	comp=

comp=Z,2.3nm,0.8s
MLR Muntele Rosu 80.18 316 ⇑P P 19 24 56.7 +1.3
MLR Muntele Rosu 80.18 316 P P 19 24 56.6 +1.3
DOPR Dopca 80.31 316 ⇑P P 19 24 57.2 +1.3
HUMR Humele 81.23 315 ⇑P P 19 25 01.5 +0.6
LOT Lotru 81.55 317 ⇑P P 19 25 03.8 +1.0
DRGR 81.56 318 ⇓P P 19 25 03.8 +1.1
DRGR 81.56 318 P P 19 25 03.7 +1.1
LANS Liptovska Anna 82.28 321 eP P 19 25 09.5 +3.2
LANS Liptovska Anna 82.28 321 eP P 19 25 09.5 +3.2
HERR Herculane 82.67 316 ⇓P P 19 25 09.2 +0.8
VYHS Vyhne 82.97 321 eP P 19 25 14.1 +4.2
VYHS Vyhne 82.97 321 eP P 19 25 14.1 +4.2
CLL Collm 84.58 325 i P P 19 25 18.9 +0.8
CLL Collm 84.58 325 i P P 19 25 18.9 +0.8
GERES GERESS Array B 85.63 323 P P 19 25 24.5 +0.9
comp=Z,0.8nm,0.7s,baz=26,slow=4.8,SNR=3.7
comp=Z,0.8nm,0.7s
EKA Eskdalemuir Ar 89.18 335 P P 19 25 40.0 -0.4
comp=Z,0.4nm,0.7s,baz=52,slow=5.7,SNR=3.7
comp=Z,0.4nm,0.7s
EKA Eskdalemuir Ar 89.18 335 P P 19 25 40.0 -0.4
KMBO Kilima Mbogo 91.66 270 i P P 19 25 52.9 -0.1

IDC 10 19:27:54.6±7.8, 6°.35N×94°.84E, h0km, mb3.9/5, mbtmp3.8/6, ML3.8/1, MS2.7/1, Error ellipse: s-maj=196.0km s-min=67.2km az=126.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.68	18	Pn	Pn	19 30 57.1	+0.7
	0.2nm,0.3s,baz=201,slow=14,SNR=2.3						
CMAR				LR	LR	19 35 41.5	
	comp=Z,37nm,19.9s,baz=195,slow=37						
	0.2nm,0.3s						
MKAR	Makanchi Array	41.72 347		P	P	19 35 44.5	-0.8
	0.7nm,0.6s,baz=168,slow=7.6,SNR=10						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	46.18 346		P	P	19 36 21.0	-0.1
	0.8nm,0.6s,baz=171,slow=7.1,SNR=13						
	0.8nm,0.6s						
ZALV	Zalesovo Beam	48.15 352		P	P	19 36 36.8	+0.4
	0.7nm,0.5s,baz=177,slow=5.8,SNR=4.2						
	0.7nm,0.5s						
FINES	FINESS Array B	74.37 332		P	P	19 39 32.6	-1.4
	1.1nm,0.8s,baz=127,slow=8.2,SNR=5.0						
	1.1nm,0.8s						
HFS	Hagfors	80.11 330		P	P	19 40 08.1	+1.8
	2.0nm,0.8s,baz=127,slow=4.5,SNR=4.1						
	2.0nm,0.8s						

*IDC **10** 19:29:00.3±0.8, 3°.39S×135°.57E, h0km, mb3.9/9, mbtmp4.1/14, ML4.2/4, MS3.4/5, Error ellipse: s-maj=22.2km s-min=18.5km az=58.0*
*NEIC **10** 19:29:02.1±1.4, 3°.5S±0°.1×135°.67E±0°.07, h10km±1km, mb4.3/14, Error ellipse: s-maj=17.4km s-min=12.3km az=184.0*
*DJA **10** 19:29:02.4±0.4, 3°.S±3°×13°.6E±°, h12km±2km, M4.6/12, mB5.0/7, mb4.7/10, MLv4.7/12, Mw(mB)4.3/7*
ISC 10 19:29:01.4±0.5, 3°.54S±0°.06×135°.67E±0°.05, h10km, n70, σ1s60/71, mb4.1/12, MS3.4/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	1.76	19	P	Pn	19 29 29.0	-3.0
KMPI	Kaimana, Papua	1.97	267	P	Pb	19 29 37.9	+0.5
BAKI	Biak	2.38	11	P	Sn	19 29 39.7	-0.8
BAKI				S	Sn	19 30 08.3	-1.5
SMPI	Sarmi	3.41	63	P	Pn	19 29 54.1	-0.5
FAKI	Fak Fak	3.47 280			Pn	19 29 56.3	+0.7
FAKI	Fak Fak	3.47 280		P	Pn	19 29 56.7	+1.1
FAKI	Fak Fak	3.47 280		P	Pn	19 29 56.9	+1.3
FAKI				S	Sn	19 30 40.0	+3.2
GENI	Genyem	4.59	78	P	Pn	19 30 13.8	+2.9
GENI	Genyem	4.59	78	P	Pn	19 30 11.5	+0.6
JAY	Jayapura	5.13	79	Pn	Pn	19 30 20.1	+1.7
	2.7nm,0.3s,baz=239,slow=8.7,SNR=12						
JAY				Sn	Sn	19 31 19.4	+1.6
	0.7nm,0.3s,baz=190,slow=19,SNR=1.9						
	10nm,0.5s						
JAY	Jayapura	5.13	79	P	Pn	19 30 18.4	0.0
SWI	Sorong	5.15 301		P	Pn	19 30 19.2	+0.5
BNDI	Bandanaira	5.83 260		P	Pn	19 30 30.9	+2.8
BNDI	Bandanaira	5.83 260		P	Pn	19 30 30.2	+2.1
	2μm104nm,1.4s						
MSAI	Masohi	6.73 271		P	Pn	19 30 42.7	+2.3
	0.4nm894nm55nm,0.6s						
AAI	Ambon	7.46 269		P	Pn	19 30 52.6	+2.1
NLAI	Namlea	8.56 272		P	Pn	19 31 07.5	+1.9
	470nm27nm,0.5s						
KDU	Kakadu	9.62 199		P	Pn	19 31 20.0	-0.1
SANI	Sanana	9.79 278		P	Pn	19 31 23.1	+0.8
SANI	Sanana	9.79 278		P	Pn	19 31 22.9	+0.6
	22nm,0.7s						
MTN	Manton Dam	10.27 206			Pn	19 31 29.8	+0.8
MTN	Manton Dam	10.27 206		P	Pn	19 31 29.8	+0.8
COEN	Coen	12.72 145		Pn	Pn	19 32 01.6	-1.1
COEN	Coen	12.72 145		P	Pn	19 32 01.8	-0.8
PMG	Port Moresby	12.81 118		Pn	Pn	19 32 07.2	+3.4
	15nm,1.0s,baz=295,slow=19,SNR=3.0						
PMG				LR	LR	19 38 09.2	
	comp=Z,165nm,20.1s,baz=342,slow=42						
SOEI	Soe	12.89 241			Pn	19 32 05.1	+0.1
SOEI	Soe	12.89 241		P	Pn	19 32 06.1	+1.1
SOEI	Soe	12.89 241		P	Pn	19 32 05.8	+0.8
KNRA	Kununurra	13.84 209			Pn	19 32 16.3	-1.5
TOLI2	Tolitoli	15.58 287			Pn	19 32 42.4	+0.9
TOLI2				IAmb	IAmb	19 32 47.9	
	comp=Z,14nm,0.7s						
TOLI2	Tolitoli	15.58 287		P	P	19 32 44.5	-1.2
KAPI	Kappang	15.94 264		Pn	Pn	19 32 45.0	-1.0
	comp=Z,2.6nm,0.3s,baz=68,slow=13,SNR=4.1						
	comp=Z,5.3nm,0.4s						
WB0	Warramunga Arr	16.17 184		P	P	19 32 51.9	-0.3
WB0				IAmb	IAmb	19 32 57.7	
	comp=Z,34nm,1.2s						
WRAB	Tennant Creek	16.34 184			Pn	19 32 51.4	+0.2
WRAB				IAmb	IAmb	19 33 00.2	
	comp=Z,21nm,0.9s						
WB2	Warramunga Arr	16.35 184			Pn	19 32 50.8	-0.5
WRA	Warramunga Arr	16.35 184			Pn	19 32 51.8	+0.6
WRA	Warramunga Arr	16.35 184		Pn	P	19 32 53.9	-0.3
	comp=Z,1.4nm,0.3s,baz=6.3,slow=12,SNR=32						
WRA				Sn	Sn	19 35 39.5	-13
	comp=Z,0.6nm,0.3s,baz=9.0,slow=22,SNR=6.5						
	comp=Z,6.6nm,0.7s						
WR8	Warramunga Arr	16.35 184		Pn	Pn	19 32 51.0	-0.3
WR8				IAmb	IAmb	19 32 59.7	
	comp=Z,35nm,1.4s						
WR0	Warramunga Arr	16.35 184			Pn	19 32 51.6	+0.3
QIS	Mount Isa	17.34 168		P	Pn	19 33 04.7	+0.9
FITZ	Fitzroy Crossi	17.49 213		P	Pn	19 33 05.2	-0.4
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=13						
FITZ				S	Sn	19 36 06.8	-14
	comp=Z,6.6nm,0.7s,baz=186,slow=17,SNR=6.9						
	comp=Z,4.4nm,0.8s						
FITZ	Fitzroy Crossi	17.49 213		P	Pn	19 33 05.4	-0.2
AS01	Alice Springs	20.07 185		P	P	19 33 36.1	+0.9
AS31	Alice Springs	20.08 185			P	19 33 36.3	+1.0
AS31				IAmb	IAmb	19 33 40.7	
	comp=Z,12nm,0.8s						
ASAR	Alice Springs	20.08 185			P	19 33 36.3	+1.0
ASAR	Alice Springs	20.08 185		P	P	19 33 36.8	+1.6
	comp=Z,26nm,0.7s,baz=10,slow=11,SNR=152						
ASAR				S	S	19 37 13.2	-7.8
	comp=Z,0.9nm,0.7s,baz=8.2,slow=26,SNR=4.7						
	comp=Z,26nm,0.7s						
WRKA	Warakurna	22.52 198		P	P	19 34 01.9	+0.3
HNR	Honiara	24.81 105		LR	LR	19 44 15.1	
	comp=Z,55nm,18.5s,baz=266,slow=37						
STKA	Stephens Creek	28.73 169		LR	LR	19 46 57.6	
	comp=Z,86nm,20.8s,baz=24,slow=37						
CMAR	Chiang Mai Arr	42.27 302		P	P	19 36 55.1	-0.3
	comp=Z,0.7nm,0.8s,baz=127,slow=8.5,SNR=8.7						
	comp=Z,0.7nm,0.8s						
CHTO	Chiang Mai	42.43 303		P	P	19 36 56.7	-0.1
SHL	Shillong	51.36 307		P	P	19 38 06.2	-0.6
GTA	Gaotai	53.99 326		eP	P	19 38 27.5	+1.5
GTA				pP	sP	19 38 31.0	+0.5
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						

SONM Songino Array 57.23 337 P P 19 38 49.7 +0.5
comp=Z,0.2nm,0.4s,baz=123,slow=5.3,SNR=1.6
comp=Z,0.2nm,0.4s
PETK Petropavlovsk- 59.41 15 P P 19 39 04.2 +0.1
comp=Z,1.2nm,0.8s,baz=181,slow=6.5,SNR=2.3
comp=Z,1.2nm,0.8s
MK31 Makanchi Array 68.63 324 P P 19 40 05.0 +0.1
MKAR Makanchi Array 68.63 324 P P 19 40 04.7 -0.2
MKAR Makanchi Array 68.63 324 P P 19 40 04.6 -0.3
comp=Z,1.0nm,0.6s,baz=112,slow=8.0,SNR=15
comp=Z,1.0nm,0.6s
ZAA0 Zalesovo Array 71.16 331 P P 19 40 19.1 -1.1
ZAA0 IAmb IAmb 19 40 31.3
comp=Z,1.3nm,0.7s
ZALV Zalesovo Beam 71.16 331 P P 19 40 18.9 -1.4
ZALV Zalesovo Beam 71.16 331 P P 19 40 18.4 -1.8
comp=Z,0.9nm,0.6s,baz=120,slow=5.0,SNR=5.0
comp=Z,0.9nm,0.6s
KURBB Kurchatov Arra 72.69 326 P P 19 40 28.4 -1.1
comp=Z,0.4nm,0.7s,baz=118,slow=4.7,SNR=4.8
comp=Z,0.4nm,0.7s
KK31 Karatay Array 74.62 316 P P 19 40 40.6 -0.5
KK31 IAmb IAmb 19 40 41.7
comp=Z,4.5nm,1.5s
KKAR Karatay Array 74.62 316 P P 19 40 40.8 -0.2
KKAR Karatay Array 74.62 316 P P 19 40 40.7 -0.4
KKAR IAmb IAmb 19 40 41.7
comp=Z,4.7nm,1.5s
BVAR Borovoye Array 78.28 326 P P 19 41 01.0 -0.6
comp=Z,1.6nm,0.8s,baz=95,slow=6.4,SNR=4.9
BVAR LR LR 20 18 41.9
comp=Z,26nm,18.4s,baz=289,slow=38
comp=Z,1.6nm,0.8s
AKTO Aktyubinsk 84.88 321 LR LR 20 21 53.1
comp=Z,16nm,18.3s,baz=221,slow=38
ILAR Eielson Array 87.85 25 P P 19 41 49.0 -1.8
comp=Z,0.4nm,0.6s,baz=258,slow=4.7,SNR=5.9
comp=Z,0.4nm,0.6s
CPUP Villa Florida 147.75 158 PKPbc PKPbc 19 48 48.1 +0.8
comp=Z,3.0nm,0.8s,baz=205,slow=4.2,SNR=6.8
LPAZ La Paz 149.31 131 PKPbc PKPbc 19 48 53.6 +1.2
comp=Z,1.1nm,0.4s,baz=183,slow=4.2,SNR=4.9

*CATAC **10** 19:33:05.6±0.9, 13°N±3°×8°9W±°, h18km±8km, M3.4/20, MLv3.4/20, Error ellipse: s-maj=7.5km s-min=4.8km az=29.0, confirmed*
*SNET **10** 19:33:07.0, 12°.89N×89°.03W, h37km, ML3.5*
*GCG **10** 19:33:07.8±0.4, 12°.91N×89°.12W, h49km±20km, MD4.0*
ISC 10 19:33:06.1±1.8, 12°.79N±0°.09×89°.08W±0°.05, h55km, n59, σ0s59/63, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	Alcaldia de Te	0.80	22	eP	Pn	19 33 20.6	-0.7
TECO				eS	Sn	19 33 30.9	-1.6
TECO	Alcaldia de Te	0.80	22	P	Pn	19 33 20.7	-0.7
TECO	Alcaldia de Te	0.80	22	S	Sn	19 33 31.6	-0.9
LFRS	El Faro	0.82	1	eP	Pn	19 33 21.6	-0.2
LFRS				eS	Sn	19 33 31.7	-1.6
COEG	Centro de Oper	0.84	13	eP	Pn	19 33 21.7	-0.4
COEG	Centro de Oper	0.84	13	P	Pn	19 33 22.2	+0.1
LOMA	Loma Larga	0.85	354	eP	Pn	19 33 22.1	0.0
LOMA	Loma Larga	0.85	354	P	Pn	19 33 22.2	0.0
UESV	Universidad de	0.89	19	P	Pn	19 33 22.1	-0.4
UESV	Universidad de	0.89	19	S	Sn	19 33 34.1	-0.4
TECA	Tecapa	0.90	39	⇓eP	Pn	19 33 22.6	-0.2
TECA				⇓eP		19 33 22.6	
PAVA	Las Pavas	0.93	9	eP	Pn	19 33 23.2	+0.1
PAVA	Las Pavas	0.93	9	P	Pn	19 33 23.2	+0.1
PAVA	Las Pavas	0.93	9	S	Sn	19 33 35.9	+0.3
JAYA	Jayaque - finc	0.93	337	eP	Pn	19 33 23.1	-0.1
JAYA	Jayaque - finc	0.93	337	eP	Pn	19 33 23.0	-0.2
JAYA				eS	Sn	19 33 34.4	-1.4
JAYA	Jayaque - finc	0.93	337	P	Pn	19 33 23.1	-0.1
JAYA	Jayaque - finc	0.93	337	S	Sn	19 33 35.2	-0.6
UEES	Universidad Ev	0.93	351	P	Pn	19 33 23.5	+0.4
PMON	Piamonte	0.94	346	eP	Pn	19 33 23.3	+0.1
PMON	Piamonte	0.94	346	P	Pn	19 33 23.4	+0.1
PMON	Piamonte	0.94	346	S	Sn	19 33 36.1	+0.1
LFU	La Fuente	0.95	358	eP	Pn	19 33 23.7	+0.2
BOQS	Boqueron	0.96	348	eP	Pn	19 33 24.0	+0.4
PIC2	El Picacho	0.96	350	eP	Pn	19 33 24.0	+0.3
SCLA	Alcaldia de Sa	0.97	21	eP	Pn	19 33 23.7	+0.1
SCLA	Alcaldia de Sa	0.97	21	P	Pn	19 33 23.7	+0.1
SCLA	Alcaldia de Sa	0.97	21	S	Sn	19 33 36.3	-0.2
PQSS	Presa 15 de Se	0.97	32	P	Pn	19 33 23.8	+0.2
PQSS	Presa 15 de Se	0.97	32	S	Sn	19 33 36.3	-0.1
LCY	Lacayo	0.99	51	eP	Pn	19 33 23.9	0.0
PACA	Pacayal	1.00	48	eP	Pn	19 33 24.2	+0.2
PACA	Pacayal	1.00	48	P	Pn	19 33 24.3	+0.2
PACA	Pacayal	1.00	48	S	Sn	19 33 38.0	+0.7
RANC	El Ranchito	1.00	50	eP	Pn	19 33 24.0	-0.1
RANC	El Ranchito	1.00	50	P	Pn	19 33 24.2	0.0
BLLM	Bellamira	1.04	52	eP	Pn	19 33 24.8	+0.1
CEVE	Cerro Verde	1.16	333	eP	Pn	19 33 27.3	+1.0
CEVE	Cerro Verde	1.16	333	P	Pn	19 33 27.3	+1.0
SNJE	San Jose	1.18	335	eP	Pn	19 33 27.0	+0.3
LCND	La Caada	1.27	66	eP	Pn	19 33 27.7	+0.1
LCND	La Caada	1.27	66	P	Pn	19 33 27.8	+0.2
CAHU	Cacacuatique	1.29	41	eP	Pn	19 33 28.8	+0.8
NUBE	Las Nubes	1.29	328	eP	Pn	19 33 28.2	+0.1
NUBE	Las Nubes	1.29	328	eP	Pn	19 33 28.2	+0.1
NUBE				eS	Sn	19 33 44.6	+0.1
NUBE	Las Nubes	1.29	328	P	Pn	19 33 28.2	+0.1
CNCH	Conchagua	1.31	68	eP	Pn	19 33 28.1	-0.1
CNCH	Conchagua	1.31	68	P	Pn	19 33 28.4	+0.2
LLGN	La Laguna	1.37	6	P	Pn	19 33 29.6	+0.6
CSGN	Cosiguina Volc	1.50	83	P	Pn	19 33 30.8	+0.1
POTN	Potosi Cosigui	1.55	82	P	Pn	19 33 31.3	-0.1
MTO3	Montecristo	1.62	350	eP	Pn	19 33 33.2	+0.7
MTO3	Montecristo	1.62	350	P	Pn	19 33 33.3	+0.7
MARCA	Marcala la Paz	1.70	37	eP	Pn	19 33 34.5	+1.0
ESQI	Esquipulas	1.77	352	P	Pn	19 33 35.9	+1.4
COPN	Copaltepe	2.51	104	P	Pn	19 33 44.4	0.0
MOMN	Momotombo	2.51	98	P	Pn	19 33 44.4	-0.1
LIMN	Finca el Limon	2.66	84	P	Pn	19 33 47.1	+0.4
RCPN	Sur Rio San Ju	3.00	76	P	Pn	19 33 53.0	+1.6

*IGQ **10** 19:42:12.6±0.6, 1°S±2°×8°1W±°, h4km±2km, MLv3.7/19*
*RSNC **10** 19:42:13.0±1.0, 1°S±27°×8°1W±2°4, h100km±39km, M3.6, mb4.1, mB5.3, ML3.3, Mw(mB)4.7*
ISC 10 19:42:12.2±1.5, 1°.43S±0°.04×80°.94W±0°.10, h2km±14km, n63, σ1s40/72, 2C-8D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMNT	Manta-Manabi	0.53	23	P	Pg	19 42 22.0	-0.4
AMNT				S	Sg	19 42 29.4	+0.2
SALI	Salinas	0.75	184	P	Pg	19 42 27.8	+1.1
SALI				S	Sb	19 42 40.0	+1.3
MILO	Milagro-Astudi	1.62	121	P	Pn	19 42 40.1	-1.6
COHC	Cochancay	1.97	121	P	Pn	19 42 45.0	-1.6
CHSH	Refugio Sur-Vo	2.07	92	⇓P	Pn	19 42 47.8	-0.7
TAMH	Tambohuasha Ch	2.16	93	⇓P	Pn	19 42 49.0	-0.6
TAMH				S	Sb	19 43 20.2	+0.5
PORT	Chimborazo Vol	2.16	91	⇓P	Pn	19 42 49.0	-0.7
PORT				S	Sn	19 43 19.4	+2.0
ARNL	Arenillas	2.27	158	S	Sn	19 43 17.0	-2.4
ARNL				P	Pn	19 42 50.5	-0.3
IGUA	Igualata	2.30	91	P	Pn	19 42 51.2	-0.5
ILLI	Illinizas Sur	2.32	72	P	Pn	19 42 50.2	-1.6
BV15	Puerto Quito-O	2.33	47	P	Pn	19 42 52.5	+0.9
ARRY	Arrayan	2.48	92	P	Pn	19 42 54.6	+0.7
SLOR	San Lorenzo -	2.54	74	P	Pn	19 42 54.1	-0.7
BRRN	Barrancas-Volc	2.54	75	P	Pn	19 42 56.8	+1.9
CAMI	Rancho Maria	2.55	73	P	Pn	19 42 56.2	+1.3
SUCR	Mariscal Sucre	2.57	72	P	Pn	19 42 57.7	+2.5
BNAS	Cotopaxi Volca	2.57	73	P	Pn	19 42 57.9	+2.6
BMOR	Cotopaxi Volca	2.57	74	P	Pn	19 42 56.4	+1.0
PIS1	Pisayambo	2.58	82	P	Pn	19 42 56.9	+1.5
HPAL	Hacienda Las P	2.58	62	P	Pn	19 42 54.9	-0.5
BREF	Cotopaxi Volca	2.61	73	P	Pn	19 42 56.8	+0.8
GGPT	Toaza - Volcan	2.61	63	P	Pn	19 42 55.1	-0.6
VCES	Cotopaxi	2.62	76	P	Pn	19 42 57.7	+1.7
JUA2	San Juan 2	2.63	63	⇓P	Pn	19 42 56.2	+0.1
BVC2	Cotopaxi Volca	2.64	73	P	Pb	19 42 59.3	-1.2
TERV	Terraza Guagua	2.65	62	P	Pn	19 42 56.4	0.0
BTAM	Cotopaxi Volca	2.65	74	P	Pn	19 42 58.4	+2.0
GGPC	Guagua Pichinc	2.65	62	P	Pn	19 42 55.9	-0.5
PINO	Pino	2.65	62	P	Pn	19 42 56.1	-0.4
PITA	Cotopaxi Volc	2.65	71	P	Pn	19 42 57.3	+0.9
VC1	Cotopaxi 1	2.65	73	P	Pn	19 42 57.5	+1.1
TOMA	Boca Toma-Volc	2.67	70	P	Pn	19 42 57.9	+1.3
TAMB	Tambo	2.67	74	P	Pn	19 42 57.9	+1.2
YANA	Yana	2.70	61	P	Pn	19 42 57.5	+0.4
PAC1	Pacto, Paraso	2.73	52	P	Pn	19 42 56.2	-1.0
PAC1	Pacto, Paraso	2.73	52	P	Pn	19 42 56.2	-1.0
PAC1				S	Sb	19 43 34.8	-1.0
PULU	Pululahua	2.83	59	P	Pn	19 42 59.4	+0.6
ANTG	Antisana-Guama	2.84	71	P	Pn	19 43 00.3	+1.3
ANTM	Antisana-La Mi	2.86	72	⇓P	Pn	19 43 01.9	+2.6
ANTS	Antisana-Sarah	2.92	71	P	Pn	19 43 01.6	+1.5
ANTI	Antisana	2.94	71	P	Pn	19 43 02.9	+2.4
OTAV	Otavalo	2.99	56	⇓P	Pn	19 43 01.0	0.0
OTAV	Otavalo	2.99	56	P	Pn	19 43 00.7	-0.3
OTAV				S	Sn	19 43 38.3	+0.7
CUSE	Cuicocha Este	3.07	56	P	Pn	19 43 02.4	+0.3
CUSE	Cuicocha Este	3.07	56	P	Pn	19 43 02.4	+0.3
CUSE				S	Sb	19 43 43.9	-2.0
CUSW	Cuicocha Oeste	3.10	57	P	Pn	19 43 04.7	+2.3
CUIC	Cuicocha-Domo	3.10	56	⇓P	Pn	19 43 02.7	+0.3
COTA	Cotacachi	3.14	56	P	Pn	19 43 03.3	+0.2
ARDO	Archidona, Ten	3.17	82	⇑P	Pn	19 43 05.7	+2.6
IMBA	Imbabura, San	3.22	58	P	Pn	19 43 06.1	+1.9
URCU	Urcuqui	3.26	55	P	Pn	19 43 05.2	+0.4
CAYR	Refugio Cayamb	3.26	64	⇑P	Pn	19 43 07.4	+2.5
ANGU	Angureal	3.28	63	⇓P	Pn	19 43 07.5	+2.4
YAHU	Yahuarcocha	3.38	58	P	Pn	19 43 08.0	+1.7
LAV4	Lava4-Reventad	3.57	68	P	Pn	19 43 10.2	+1.4
CHMA	Chilma	3.67	52	P	Pn	19 43 10.7	+0.4
ECEN	Cerro Negro	3.72	53	P	Pn	19 43 11.3	+0.2
CHL1	Volc;n Chiles	3.72	54	P	Pn	19 43 11.7	+0.6
CHL2	Volc;n Chiles	3.75	54	P	Pn	19 43 12.8	+1.3
CRUC	La Cruz	4.98	53	P	Pn	19 43 31.7	+3.4
BBAC	Balboa, Cauca	5.04	47	P	Pn	19 43 28.3	-0.7
	493nm18nm,0.5s						
BBAC				S	Sn	19 44 28.9	+1.0
	493nm18nm,0.5s						
POPC	Popayan, Colom	5.81	47	P	Pn	19 43 39.5	-0.1
	6.8nm,0.5s						
YOTC	Yotoco, Valle	7.07	40	P	Pn	19 43 57.3	+0.4

*JMA **10** 19:45:31.5±0.2, 24°N±1°×122°.3E±0°.6, h14km, MV2.9/15, TAIWAN REGION*
*TAP **10** 19:45:32.5, 24°.03N×122°.27E, h22km, ML3.1, C*
ISC 10 19:45:31.3±1.0, 23°.97N±0°.02×122°.27E±0°.02, h19km±3km, n99, σ0s79/149, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.16	16	i P	Pg	19 45 36.4	+1.0
EOS4				i S	Sg	19 45 39.5	+1.3
EOS3	EOS3	0.32	8	⇑i P	Pb	19 45 38.9	+0.4
EOS3				i S	Sb	19 45 44.1	+0.7
EOS2	EOS2	0.45	356	i P	Pb	19 45 41.3	+0.6
EOS2				i S	Sb	19 45 47.9	+0.9
EAHA	Aohua	0.60	307	eP	Pb	19 45 43.9	+0.7
HWA	Hwalien	0.61	271	eP	Pn	19 45 44.5	-0.4
HWA				eS	Sn	19 45 55.3	+1.0
ETL	Fush Village	0.62	288	P	Pn	19 45 44.8	-0.3
ETL				S	Sn	19 45 54.4	-0.3
TEYL	Yanliau Villag	0.62	261	eS	Sn	19 45 54.7	+0.1
TWD	Chiawan	0.63	281	P	Pg	19 45 43.2	-0.5
TWD				S	Sb	19 45 53.4	+1.5
NACB	Ninganchiao	0.65	289	P	Pb	19 45 44.9	+0.9
NACB	Ninganchiao	0.65	289	eP	Pb	19 45 44.5	+0.5
NACB				eS	Sb	19 45 54.3	+1.7
EWUT	Wuta	0.66	317	P	Pb	19 45 43.8	-0.3
ENA	Nanau	0.67	314	P	Pb	19 45 44.1	-0.2
SHUL	Shoufeng	0.67	255	eP	Pn	19 45 45.8	0.0
SHUL				eS	Sn	19 45 56.2	+0.4
ETM	Tongmen	0.71	270	eP	Pb	19 45 45.6	+0.6
ETM				eS	Sb	19 45 56.0	+1.5
TEGC	Jichi Village	0.71	249	eS	Sn	19 45 56.8	-0.1
ESAO	Su ao	0.72	328	P	Pg	19 45 44.8	-0.7
ESAO				S	Sg	19 45 54.1	-1.1
ETLH	Xiulin Townshi	0.76	289	eP	Pb	19 45 46.3	+0.4
ETLH				eS	Sb	19 45 57.6	+1.6
ESL	Shilin	0.78	259	i P	Pb	19 45 46.9	+0.6
ESL				eS	Sb	19 45 57.6	+1.2
JYNG	Yonagunijimaku	0.79	52	eP	Pg	19 45 45.4	-1.3
JYNG				eS	Sg	19 45 55.9	-1.2
LXIB	Xiulin Townshi	0.79	274	P	Pb	19 45 47.0	+0.5
LXIB				S	Sb	19 45 57.8	+1.0
EGFH	Guangfu	0.82	249	eP	Pn	19 45 48.2	+0.3
EGFH				eS	Sb	19 45 59.5	+1.7
NDS	Dongshan	0.84	323	eP	Pg	19 45 46.8	-0.8
NDS				eS	Sb	19 45 58.6	+0.5
YOJ	Yonaguni jima	0.84	54	P	Pb	19 45 47.6	+0.3
YOJ				eS	Sb	19 45 59.5	+1.4
YOJ	Yonaguni jima	0.84	54	P	Pb	19 45 47.9	+0.6
YOJ				S	Sn	19 46 00.0	+0.1
WARBT	Fenglin Townsh	0.84	253	eP	Pb	19 45 48.0	+0.6
WARBT				eS	Sb	19 45 59.4	+1.1
LATG	Datong	0.88	310	eP	Pn	19 45 48.7	-0.1
HGSD	Ruisui	0.91	239	P

KSHI	**Guanxi Townshi**	**1.28 309**	*i* P	**Pg**	**19 45 55.7**	**-0.4**
TYC	**Yuchr**	**1.29 268**	*e*P	**Pg**	**19 45 55.6**	**-0.8**
WHYT	**Xinyi Township**	**1.32 259**	*e*P	**Pg**	**19 45 56.4**	**-0.5**
EDH	**Donghe**	**1.33 222**	*e*P	**Pn**	**19 45 55.3**	**+0.4**
EDH			*i* S	**Sb**	**19 46 10.9**	**-1.3**
LIOB	**Emei**	**1.33 301**	*e*P	**Pg**	**19 45 56.7**	**-0.3**
NSTT	**Nanjuang**	**1.33 300**	*e*P	**Pg**	**19 45 56.7**	**-0.3**
NSTT			*e*S	**Sn**	**19 46 13.3**	**+1.1**
YM01	**YM01**	**1.34 332**	*e*P	**Pg**	**19 45 56.0**	**-1.1**
ZUZH	**Zhuzihu**	**1.36 331**	*e*P	**Pb**	**19 45 56.3**	**+0.1**
YM08	**YM08**	**1.37 333**	*e*P	**Pb**	**19 45 56.2**	**-0.1**
TWS1	**Kuangyinshan**	**1.37 326**	*e*P	**Pn**	**19 45 55.5**	**0.0**
ELDTW	**Lidau**	**1.38 236**	*e*P	**Pn**	**19 45 56.4**	**+0.7**
ELDTW			S	**Sb**	**19 46 13.1**	**-0.9**
IRIF	**Iriomote-Funau**	**1.38 74**	P	**Pb**	**19 45 56.7**	**+0.2**
IRIF			*e*S	**Sg**	**19 46 15.2**	**-1.0**
ANP	**Anpu**	**1.40 331**	*e*P	**Pb**	**19 45 56.6**	**-0.2**
HATJ	**Hateruma jima**	**1.41 86**	*e*P	**Pg**	**19 45 57.5**	**-1.0**
ALS	**Alishan**	**1.42 252**	*e*P	**Pg**	**19 45 58.5**	**-0.2**
WJS	**Zhushan**	**1.42 265**	*e*P	**Pg**	**19 45 58.2**	**-0.4**
TWQ1	**Liyutan**	**1.42 286**	*e*P	**Pg**	**19 45 57.7**	**-1.0**
TCU	**Taichung**	**1.47 277**	*e*P	**Pn**	**19 45 57.3**	**+0.5**
LDUT	**Ludao**	**1.48 210**	*e*P	**Pn**	**19 45 56.8**	**-0.1**
TWGBT	**Beinan**	**1.58 224**	*e*P	**Pn**	**19 45 59.3**	**+1.0**
TWGBT			*e*S	**Sn**	**19 46 19.3**	**+1.0**
TWG	**Pinlang**	**1.58 224**	*e*P	**Pb**	**19 45 59.8**	**-0.2**
JKRS	**Kuro-shima**	**1.61 80**	*e*P	**Pb**	**19 46 00.3**	**-0.2**
JKRS			*e*S	**Sg**	**19 46 21.8**	**-1.6**
TPUB	**Ta-pu**	**1.64 247**	P	**Pb**	**19 46 00.6**	**-0.4**
TPUB	**Ta-pu**	**1.64 247**	*e*P	**Pb**	**19 46 01.7**	**+0.7**
CHN4	**Tsaushan**	**1.65 249**	*e*P	**Pg**	**19 46 02.4**	**-0.8**
WTP	**Ta-pu**	**1.68 245**	*e*P	**Pb**	**19 46 02.1**	**+0.5**
WTK	**Tuku**	**1.74 261**	*i* P	**Pg**	**19 46 03.7**	**-1.1**
JIJ	**Ishigaki jima**	**1.76 77**	*e*P	**Pn**	**19 46 01.2**	**+0.5**
JIJ			*e*S	**Sn**	**19 46 23.3**	**+0.7**
JISG	**Ishigakijimahi**	**1.96 71**	*e*P	**Pn**	**19 46 03.8**	**+0.2**
JISG			*e*S	**Sn**	**19 46 28.1**	**+0.4**
JTJ	**Tarama**	**2.32 73**	*e*P	**Pn**	**19 46 09.5**	**+1.0**
JTJ			*e*S	**Sn**	**19 46 37.7**	**+1.2**
JIRB	**Irabujima**	**2.78 71**	*e*S	**Sn**	**19 46 49.7**	**+1.8**

*ANF **10** 19:48:19.2±0.1,61°.48N×140°.75W,h0km,ML3.8/58,Error ellipse: s-maj=1.2km s-min=1.0km az=29.0*
*AEIC **10** 19:48:19.6±1.2,61°.48N±0°.03×140°.76W±0°.04,h4km±7km, Error ellipse: s-maj=4.0km s-min=2.7km az=157.0*
*NEIC **10** 19:48:20.4±1.4,61°.479N±0°.005×140°.72W±0°.04, h10km±2km,ML3.6/140,ML3.4(AEIC),Error ellipse: s-maj=3.3km s-min=3.0km az=79.0*
*IDC **10** 19:48:21.1±1.0,61°.76N×140°.83W,h0km,mb3.6/7, mbtmp3.6/10,ML3.2/3,MS3.3/3,Error ellipse: s-maj=21.0km s-min=14.4km az=16.0*
ISC 10 19:48:19.7±1.1,61°.49N±0°.01×140°.73W±0°.01,h1km±8km, n174,σ0°92/201,mb3.8/7,Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK2	**White River**	**0.30**	**350**		**Pg**	**19 48 25.8**	**+0.2**
YUK2					**Sg**	**19 48 30.4**	**+0.9**
YUK3	**Moose Creek**	**0.32**	**24**		**Pg**	**19 48 25.9**	**+0.2**
YUK3					**Sg**	**19 48 30.6**	**+0.7**
YUK3	**Moose Creek**	**0.32**	**24**	P	**Pg**	**19 48 25.9**	**+0.2**
	baz=206,SNR=1000						
YUK3				S	**Sg**	**19 48 30.6**	**+0.7**
	baz=206						
YUK8	**Steele Glacier**	**0.51**	**113**		**Pg**	**19 48 29.5**	**+0.1**
YUK8					**Sg**	**19 48 37.2**	**+1.2**
YUK8	**Steele Glacier**	**0.51**	**113**	P	**Pg**	**19 48 29.6**	**+0.1**
	baz=293,SNR=1000						
YUK8				S	**Sg**	**19 48 36.1**	**+0.1**
	baz=293						
O28M	**Mount Upton**	**0.77**	**160**		**Pg**	**19 48 34.1**	**-0.2**
O28M					**Sg**	**19 48 44.8**	**+0.7**
O28M	**Mount Upton**	**0.77**	**160**	P	**Pg**	**19 48 34.1**	**-0.2**
	baz=339,SNR=1000						
O28M				S	**Sg**	**19 48 44.3**	**+0.2**
	baz=339						
BALM	**Baldy**	**0.90**	**241**		**Pg**	**19 48 36.4**	**-0.5**
BALM					**Sg**	**19 48 49.2**	**+0.7**
BVCY	**Beaver Creek**	**0.93**	**356**		**Pg**	**19 48 37.0**	**-0.5**
BVCY	**Beaver Creek**	**0.93**	**356**	P	**Pg**	**19 48 37.0**	**-0.5**
	baz=177,SNR=64						
BVCY				S	**Sg**	**19 48 49.4**	**-0.2**
	baz=177						
KIAG	**Kiagna River**	**0.97**	**235**		**Pg**	**19 48 37.8**	**-0.4**
KIAG					**Sg**	**19 48 51.2**	**+0.5**
YUK4	**Talbot Arm**	**1.01**	**97**	P	**Pg**	**19 48 39.0**	**0.0**
	baz=274,SNR=1000						
YUK4				S	**Sb**	**19 48 53.4**	**-0.6**
	baz=274						
M27K	**Edge Creek, AK**	**1.03**	**329**		**Pg**	**19 48 38.5**	**-0.8**
M27K	**Edge Creek, AK**	**1.03**	**329**	IAML		19 48 58.4	
	comp=N,1μm,0.5s						
M27K				IAML		19 48 58.8	
	comp=E,1μm,0.4s						
M27K	**Edge Creek, AK**	**1.03**	**329**	P	**Pg**	**19 48 38.5**	**-0.8**
	baz=149,SNR=1000						
M27K				S	**Sg**	**19 48 52.5**	**-0.2**
	baz=149						
RKAV	**Rock Avalanche**	**1.23**	**194**		**Pb**	**19 48 42.5**	**-1.2**
RKAV					**Sg**	**19 48 59.4**	**+0.3**
YAH	**Yahtse**	**1.23**	**204**		**Pb**	**19 48 43.0**	**-0.8**
YAH				IAML		19 49 01.2	
	comp=E,2μm,0.7s						
YAH				IAML		19 49 02.9	
	comp=N,958nm,0.8s						
YUK6	**Outpost Mounta**	**1.27**	**114**	P	**Pn**	**19 48 43.0**	**-1.7**
	baz=296,SNR=1000						
YUK6				S	**Sg**	**19 49 01.1**	**+0.6**
	baz=296						
VRDI	**Verde Repeater**	**1.33**	**260**		**Pn**	**19 48 44.2**	**-1.4**
SAMH	**Samovar Hills**	**1.36**	**181**		**Pb**	**19 48 45.5**	**-0.4**
BARK	**Barkley Ridge**	**1.39**	**219**		**Pn**	**19 48 45.4**	**-0.7**
M26K	**Nabesna, AK**	**1.41**	**312**		**Pn**	**19 48 45.2**	**-1.3**
M26K				IAML		19 49 08.9	
	comp=E,1μm,0.4s						
M26K				IAML		19 49 10.5	
	comp=N,1μm,0.4s						
M26K	**Nabesna, AK**	**1.41**	**312**	P	**Pn**	**19 48 45.2**	**-1.3**
	baz=130,SNR=1000						
M26K				S	**Sg**	**19 49 05.2**	**+0.3**
	baz=130						
PCA	**Pinnacle**	**1.42**	**170**		**Pn**	**19 48 46.1**	**-0.4**
PINM	**Pinnacle**	**1.42**	**170**	P	**Pn**	**19 48 46.2**	**-0.4**
	baz=350,SNR=710						
PINM				S	**Sg**	**19 49 06.2**	**+1.2**
	baz=350						
M29M	**Somme Creek**	**1.44**	**47**		**Pn**	**19 48 46.1**	**-0.9**
M29M				IAML		19 49 07.6	
	comp=N,821nm,0.6s						
M29M				IAML		19 49 07.9	
	comp=E,1μm,0.4s						
M29M	**Somme Creek**	**1.44**	**47**	P	**Pn**	**19 48 46.2**	**-0.7**
	baz=229,SNR=1000						
M29M				S	**Sg**	**19 49 06.3**	**+0.4**
	baz=229						
MESA	**MESA**	**1.44**	**205**		**Pb**	**19 48 47.0**	**-0.4**
MESA				IAML		19 49 09.4	
	comp=E,1μm,0.5s						
MESA				IAML		19 49 14.1	
	comp=N,1μm,0.6s						
MESA	**MESA**	**1.44**	**205**	P	**Pg**	**19 48 47.4**	**+0.1**
	baz=23,SNR=531						
MESA				S	**Sg**	**19 49 07.3**	**+1.4**
	baz=23						
WAX	**Waxell Ridge**	**1.47**	**226**		**Pn**	**19 48 46.5**	**-0.8**
GLB	**Gilahina Butte**	**1.48**	**270**		**Pn**	**19 48 46.9**	**-0.5**
O29M	**Mount Kennedy**	**1.59**	**137**		**Pn**	**19 48 48.5**	**-0.5**
O29M				IAML		19 49 21.7	
	comp=N,569nm,0.8s						
O29M	**Mount Kennedy**	**1.59**	**137**	P	**Pn**	**19 48 48.5**	**-0.5**
	baz=319,SNR=767						
O29M				S	**Sg**	**19 49 10.9**	**+0.2**
	baz=319						
BCPM	**Bancas Point**	**1.63**	**160**		**Pn**	**19 48 49.5**	**0.0**
BCPM				IAML		19 49 21.5	
	comp=N,620nm,0.7s						
BCAR	**Beaver Creek A**	**1.66**	**343**		**Pn**	**19 48 49.1**	**-0.8**
L27K	**Beaver Creek,**	**1.66**	**343**		**Pn**	**19 48 49.2**	**-0.7**
L27K				IAML		19 49 13.5	
	comp=N,533nm,0.7s						
L27K				IAML		19 49 14.1	
	comp=E,979nm,0.7s						
L27K	**Beaver Creek,**	**1.66**	**343**	P	**Pn**	**19 48 49.3**	**-0.7**
	baz=162,SNR=1000						
L27K				S	**Sb**	**19 49 11.9**	**-0.5**
	baz=162						
SNH	**Sunshine Point**	**1.67**	**219**		**Pb**	**19 48 51.1**	**0.0**
SNH				IAML		19 49 16.0	
	comp=E,549nm,0.8s						
SNH				IAML		19 49 18.8	
	comp=N,908nm,0.8s						
HYT	**Haines Junctio**	**1.70**	**112**		**Pn**	**19 48 50.4**	**-0.1**
HYT	**Haines Junctio**	**1.70**	**112**	P	**Pn**	**19 48 50.2**	**-0.3**
	baz=294,SNR=966						
HYT				S	**Sb**	**19 49 13.4**	**-0.3**
	baz=294						
N30M	**Aishikik Lake**	**1.75**	**89**		**Pn**	**19 48 50.2**	**-0.9**
N30M				IAML		19 49 16.8	
	comp=N,735nm,0.5s						
N30M	**Aishikik Lake**	**1.75**	**89**	P	**Pn**	**19 48 50.3**	**-0.9**
	baz=272,SNR=1000						
N30M				S	**Sb**	**19 49 14.4**	**-0.6**
	baz=272						
BERG	**Berg Lake**	**1.82**	**234**	IAML		19 49 23.5	
	comp=N,819nm,0.7s						
N25K	**Chitina, Valde**	**1.85**	**275**		**Pn**	**19 48 53.0**	**+0.4**
N25K	**Chitina, Valde**	**1.85**	**275**	Pb	**Pb**	**19 48 53.2**	**-1.1**
	baz=92						
PNL	**Peninsula**	**1.94**	**160**	P	**Pn**	**19 48 53.6**	**-0.1**
	baz=340,SNR=96						
PNL				Sb	**Sg**	**19 49 21.9**	**-0.1**
	baz=340						
BMRM	**Bremner River**	**1.94**	**256**		**Pb**	**19 48 54.5**	**-1.4**
BMRM				IAML		19 49 27.3	
	comp=E,404nm,0.8s						
BMRM				IAML		19 49 33.4	
	comp=N,377nm,0.9s						
BMRM	**Bremner River**	**1.94**	**256**	P	**Pn**	**19 48 53.0**	**-0.8**
	baz=73						
L26K	**Log Cabin Wild**	**1.97**	**323**		**Pn**	**19 48 53.8**	**-0.2**
L26K	**Log Cabin Wild**	**1.97**	**323**	P	**Pn**	**19 48 53.9**	**-0.2**
	baz=141,SNR=66						
L26K				Sg	**Sg**	**19 49 23.6**	**+0.8**
	baz=141						
MENT	**Mentasta**	**2.02**	**317**		**Pn**	**19 48 54.6**	**-0.2**
MENT				IAML		19 49 29.1	
	comp=N,480nm,0.4s						
MENT				IAML		19 49 31.6	
	comp=E,699nm,0.7s						
L29M	**L29M**	**2.03**	**36**		**Pn**	**19 48 54.9**	**-0.1**
L29M	**L29M**	**2.03**	**36**	P	**Pn**	**19 48 55.0**	**-0.1**
	baz=218						
L29M				Sb	**Sg**	**19 49 24.2**	**-0.7**
	baz=218						
SUCK	**Suckling Hills**	**2.06**	**228**		**Pg**	**19 48 58.8**	**-0.3**
SUCK				IAML		19 49 31.4	
	comp=E,595nm,0.6s						
SUCK				IAML		19 49 31.5	
	comp=N,764nm,0.6s						
HMT	**Hamilton**	**2.07**	**238**		**Pb**	**19 48 58.6**	**+0.5**
RAGM	**Ragged Mountai**	**2.22**	**242**	IAML		19 49 37.9	
	comp=E,472nm,0.8s						
HARP	**HAARP**	**2.28**	**296**	Pb	**Pb**	**19 49 00.8**	**-0.8**
	baz=112						
HARP				Sg	**Sg**	**19 49 33.4**	**+0.5**
	baz=112						
P30M	**Million Dollar**	**2.30**	**125**	P	**Pn**	**19 48 59.0**	**+0.3**
	baz=308,SNR=335						
P30M				Sg	**Sg**	**19 49 35.3**	**+1.8**
	baz=308						
O30N	**Mendenhall**	**2.37**	**106**		**Pn**	**19 48 59.2**	**-0.4**
O30N	**Mendenhall**	**2.37**	**106**	P	**Pn**	**19 48 59.1**	**-0.4**
	baz=290						
O30N				S	**Sn**	**19 49 29.4**	**+0.2**
	baz=290						
N31M	**Braeburn, Yuko**	**2.38**	**88**		**Pn**	**19 48 59.2**	**-0.5**
N31M				IAML		19 49 45.4	
	comp=E,324nm,0.8s						
N31M				IAML		19 49 48.4	
	comp=N,402nm,0.7s						
N31M	**Braeburn, Yuko**	**2.38**	**88**	P	**Pn**	**19 48 59.4**	**-0.4**
	baz=272						
N31M				S	**Sn**	**19 49 30.2**	**+0.7**
	baz=272						
P29M	**Windy Craggy**	**2.38**	**140**		**Pb**	**19 49 01.3**	**-1.9**
P29M				IAML		19 49 40.2	
	comp=N,351nm,0.7s						
P29M				IAML		19 49 43.6	
	comp=E,238nm,1.1s						
P29M	**Windy Craggy**	**2.38**	**140**	P	**Pn**	**19 49 00.3**	**+0.6**
	baz=322,SNR=343						
P29M				Sb	**Sb**	**19 49 34.2**	**+1.2**
	baz=322						
KAIM	**Kayak Island**	**2.39**	**231**		**Pb**	**19 49 03.4**	**-0.1**
KAIM				IAML		19 49 41.3	
	comp=E,366nm,0.6s						
KAIM				IAML		19 49 41.8	
	comp=N,421nm,0.6s						
KAIM	**Kayak Island**	**2.39**	**231**	Pb	**Pb**	**19 49 03.1**	**-0.4**
	baz=47						
KAIM				Sg	**Sg**	**19 49 37.3**	**+0.8**
	baz=47						
DIV	**Divide**	**2.46**	**264**		**Pb**	**19 49 02.6**	**-2.0**
DIV				IAML		19 49 40.1	
	comp=N,237nm,0.7s						
KLU	**Klutina**	**2.49**	**272**	Pb	**Pb**	**19 49 04.2**	**-0.9**
	baz=88,SNR=101						
KLU				Sb	**Sb**	**19 49 37.3**	**+1.1**
	baz=88						
EYAK	**Cordova Ski Ar**	**2.62**	**251**	Pb	**Pb**	**19 49 06.3**	**-0.9**
	baz=67,SNR=12						
EYAK				Sb	**Sg**	**19 49 42.8**	**-0.8**
	baz=67						
K27K	**Chicken**	**2.62**	**347**	IAML		19 49 43.8	
	comp=N,229nm,0.6s						
K27K				IAML		19 49 45.6	
	comp=E,381nm,0.7s						
K27K	**Chicken**	**2.62**	**347**	P	**Pn**	**19 49 03.0**	**-0.1**
	baz=166						
M24K	**Tolsona, Glenn**	**2.66**	**286**		**Pn**	**19 49 03.5**	**-0.1**
M24K	**Tolsona, Glenn**	**2.66**	**286**	Pb	**Pb**	**19 49 07.1**	**-0.9**
	baz=101						
M24K				S	**Sn**	**19 49 35.2**	**-1.3**
	baz=101						
DAWY	**Dawson**	**2.66**	**13**		**Pn**	**19 49 03.5**	**-0.1**
DAWY	**Dawson**	**2.66**	**13**	P	**Pn**	**19 49 03.6**	**-0.1**
	baz=194						
DAWY				S	**Sn**	**19 49 36.4**	**-0.1**
	baz=194						
DOT	**Dot Lake**	**2.66**	**326**		**Pn**	**19 49 03.6**	**0.0**
DOT				IAML		19 49 50.0	
	comp=N,315nm,1.2s						
DOT				IAML		19 49 53.2	
	comp=E,286nm,0.6s						
PAX	**Paxson**	**2.67**	**306**		**Pn**	**19 49 03.8**	**0.0**
PAX	**Paxson**	**2.67**	**306**	Pb	**Pb**	**19 49 07.0**	**-1.3**
	baz=122						
PAX				Sb	**Sb**	**19 49 42.7**	**+1.2**
	baz=122						
K29M	**Barlow Dome**	**2.79**	**31**	IAML		19 49 50.3	
	comp=E,337nm,0.3s						
K29M				IAML		19 49 53.1	
	comp=N,275nm,0.4s						
K29M	**Barlow Dome**	**2.79**	**31**	P	**Pn**	**19 49 05.7**	**+0.2**
	baz=214						
K29M				Sb	**Sg**	**19 49 47.4**	**-1.8**
	baz=214						
SCRK	**Sand Creek**	**2.91**	**331**		**Pn**	**19 49 07.0**	**-0.2**
SCRK				IAML		19 50 01.1	
	comp=E,146nm,0.8s						
SCRK	**Sand Creek**	**2.91**	**331**	P	**Pn**	**19 49 06.8**	**-0.4**
	baz=148						
SCRK				Sb	**Sb**	**19 49 50.1**	**+1.6**
	baz=148						
RIDG	**Independent Ri**	**2.95**	**322**		**Pn**	**19 49 07.4**	**-0.3**
RIDG	**Independent Ri**	**2.95**	**322**	P	**Pn**	**19 49 07.1**	**-0.6**
	baz=138						
RIDG				Sb	**Sb**	**19 49 51.7**	**+2.2**
	baz=138						
WHY	**Whitehorse**	**2.96**	**104**		**Pn**	**19 49 07.4**	**-0.4**
WHY	**Whitehorse**	**2.96**	**104**	P	**Pn**	**19 49 07.7**	**-0.2**
	baz=289						
WHY				S	**Sn**	**19 49 44.9**	**+0.9**
	baz=289						
PLBC	**Pleasant Camp**	**2.97**	**131**	Pb	**Pb**	**19 49 12.6**	**-0.7**
	baz=315						
PLBC				Sb	**Sg**	**19 49 53.1**	**-1.9**
	baz=315						
HIN	**Hinchinbrook I**	**3.02**	**251**	IAML		19 50 16.3	
	comp=E,129nm,1.7s						
HIN				IAML		19 50 16.5	
	comp=N,130nm,1.0s						
M31M	**Drury Creek, Y**	**3.09**	**74**		**Pn**	**19 49 09.2**	**-0.3**
M31M				IAML		19 50 00.3	
	comp=N,180nm,0.5s						
M31M				IAML		19 50 05.2	
	comp=E,198nm,0.7s						
M31M	**Drury Creek, Y**	**3.09**	**74**	P	**Pn**	**19 49 09.2**	**-0.3**
	baz=259						
M31M				Sb	**Sb**	**19 49 55.1**	**+1.5**
	baz=259						
GLI	**Glacier Island**	**3.14**	**262**	IAML		19 50 02.8	
	comp=N,132nm,0.7s						
GLI				IAML		19 50 05.1	
	comp=E,120nm,0.9s						
GLI	**Glacier Island**	**3.14**	**262**	P	**Pn**	**19 49 10.0**	**-0.2**
	baz=76						
GLI				Sb	**Sb**	**19 49 56.2**	**+1.3**
	baz=76						
SCM	**Sheep Creek Mo**	**3.16**	**279**	Sb	**Sb**	**19 49 56.3**	**+0.7**
	baz=94						
J29N	**Klondike Camp**	**3.19**	**20**	P	**Pn**	**19 49 11.8**	**+0.8**
	baz=202						
J29N				Sb	**Sb**	**19 49 58.8**	**+2.4**
	baz=202						
J26L	**Joseph Creek**	**3.29**	**338**	IAML		19 50 05.4	
	comp=N,260nm,0.5s						
J26L	**Joseph Creek**	**3.29**	**338**	P	**Pn**	**19 49 12.6**	**+0.3**
	baz=156						
J26L				Sb	**Sb**	**19 50 01.8**	**+2.5**
	baz=156						
K24K	**Donnelly Dome**	**3.29**	**317**	IAML		19 50 08.7	
	comp=E,214nm,0.8s						
K24K				IAML		19 50 10.7	
	comp=N,232nm,0.9s						
K24K	**Donnelly Dome**	**3.29**	**317**	Sg	**Sg**	**19 50 06.9**	**+1.7**
	baz=133						
SKAG	**Skagway**	**3.36**	**125**		**Pn**	**19 49 13.4**	**+0.3**
SKAG	**Skagway**	**3.36**	**125**	Pb	**Pb**	**19 49 19.2**	**-0.7**
	baz=309						
FARO	**Faro, Yukon**	**3.58**	**75**	Pn	**Pn**	**19 49 16.0**	**-0.2**
J30M	**Hart River**	**3.69**	**31**		**Pn**	**19 49 18.6**	**+0.7**
J30M	**Hart River**	**3.69**	**31**	P	**Pn**	**19 49 18.6**	**+0.7**
	baz=215						
KNK	**Knik Glacier**	**3.71**	**272**	IAML		19 50 18.2	
	comp=N,73nm,0.9s						
KNK				IAML		19 50 18.9	
	comp=E,79nm,0.8s						
KNK	**Knik Glacier**	**3.71**	**272**	Pb	**Pb**	**19 49 24.6**	**-1.3**
	baz=86						
PWL	**Port Wells**	**3.73**	**264**	IAML		19 50 21.6	
	comp=N,80nm,1.6s						
PWL	**Port Wells**	**3.73**	**264**	P	**Pn**	**19 49 18.9**	**+0.5**
	baz=77						
J25K	**Salcha River,**	**3.78**	**328**	Pn	**Pn**	**19 49 18.7**	**-0.4**
J25K				IAML		19 50 28.1	
	comp=E,84nm,0.8s						
J25K				IAML		19 50 33.4	
	comp=N,89nm,0.8s						
J25K	**Salcha River,**	**3.78**	**328**	P	**Pn**	**19 49 19.1**	**+0.1**
	baz=144						
GHO	**Glory Hole Cre**	**3.92**	**278**		**Pn**	**19 49 21.3**	**+0.3**
P32M	**Atlin**	**3.96**	**116**	P	**Pn**	**19 49 21.8**	**+0.4**
	baz=302						
I26K	**Coal Creek Min**	**3.99**	**345**	P	**Pn**	**19 49 22.6**	**+0.9**
	baz=163						
I28M	**Miner Creek**	**3.99**	**5**	IAML		19 50 29.5	
	comp=N,151nm,0.7s						
I28M				IAML		19 50 35.0	
	comp=E,154nm,1.0s						
I28M	**Miner Creek**	**3.99**	**5**	P	**Pn**	**19 49 22.1**	**+0.2**
	baz=186						
PMR	**Palmer**	**4.02**	**275**	Pb	**Pb**	**19 49 29.7**	**-1.4**
	baz=88						
I29M	**Ogilvie Camp,**	**4.04**	**15**	P	**Pn**	**19 49 22.8**	**+0.2**
	baz=197						
P33M	**Teslin, Yukon**	**4.08**	**105**	IAML		19 50 31.8	
	comp=N,70nm,1.0s						
P33M				IAML		19 50 39.2	
	comp=E,53nm,0.9s						
P33M	**Teslin, Yukon**	**4.08**	**105**	P	**Pn**	**19 49 22.9**	**-0.3**
	baz=292						
HDA	**Harding Lake**	**4.08**	**319**	P	**Pn**	**19 49 22.5**	**-0.6**
	baz=133						
BESE	**Bessie Mountai**	**4.15**	**132**		**Pn**	**19 49 24.7**	**+0.6**
BESE				IAML		19 50 37.1	
	comp=N,72nm,1.6s						
BESE				IAML		19 50 39.3	
	comp=E,88nm,2.3s						
I27K	**Kandik River**	**4.15**	**355**	P	**Pn**	**19 49 24.5**	**+0.4**
	baz=174,SNR=14						
I30M	**Mount Dempster**	**4.23**	**26**	P	**Pn**	**19 49 25.6**	**+0.4**
	baz=210,SNR=334						
ILAR	**Eielson Array**	**4.32**	**322**	Pn	**Pn**	**19 49 24.6**	**-1.8**
	comp=E,2.0nm,0.3s,baz=144,slow=12,SNR=5.6						
ILAR				Lg	Lg	19 50 34.1	
	comp=E,8.8nm,0.3s,baz=132,slow=28,SNR=11						
ILAR				LR	LR	19 51 16.6	
	comp=E,107nm,20.0s,baz=100,slow=43						
	comp=E,5.2nm,0.5s						
RC01	**Rabbit Creek A**	**4.36**	**269**		**Pn**	**19 49 26.3**	**-0.6**
RC01				IAML		19 50 40.3	
	comp=N,62nm,2.0s						
SEW	**Seward**	**4.49**	**256**	P	**Pn**	**19 49 28.6**	**-0.1**
	baz=68						
MMPY	**Sheldon Lake,**	**4.60**	**72**		**Pn**	**19 49 29.9**	**-0.3**
MMPY	**Sheldon Lake,**	**4.60**	**72**	P	**Pn**	**19 49 29.9**	**-0.3**
	baz=260						
SLKM	**Skilak Lake**	**4.72**	**262**	IAML		19 50 53.7	
	comp=E,35nm,0.8s						
SLKM				IAML		19 52 37.8	
	comp=N,38nm,3.8s						
POKR	**Poker Plat Res**	**4.73**	**323**	P	**Pn**	**19 49 32.6**	**+0.5**
	baz=138						
H27K	**Steamboat Moun**	**4.78**	**356**	P	**Pn**	**19 49 33.2**	**+0.5**
	baz=176,SNR=18						
SUA	**Susitna One**	**4.80**	**274**	IAML		19 50 46.2	
	comp=N,42nm,4.1s						
SUA				IAML		19 50 53.3	
	comp=E,38nm,1.7s						
TRF	**Thorofare Moun**	**4.85**	**298**	P	**Pn**	**19 49 33.8**	**0.0**
	baz=110						
H29M	**Whitestone**	**4.87**	**11**	P	**Pn**	**19 49 33.5**	**-0.4**
	baz=194,SNR=38						
Q32M	**Nakina River**	**4.92**	**117**	IAML		19 51 07.2	
	comp=N,66nm,1.1s						
Q32M				IAML		19 51 11.6	
	comp=E,58nm,1.5s						
Q32M	**Nakina River**	**4.92**	**117**	P	**Pn**	**19 49 36.1**	**+1.2**
	baz=304						
S32K	**Killisnoo**	**5.11**	**139**	Pn	**Pn**	**19 49 37.2**	**0.0**
S32K				IAML		19 50 39.1	
	comp=E,35nm,4.5s						
S32K				IAML		19 51 09.3	
	comp=N,38nm,4.6s						
S32K	**Killisnoo**	**5.11**	**139**	P	**Pn**	**19 49 37.3**	**+0.1**
	baz=325						
H31M	**Peel River**	**5.18**

	baz=177						
Q19K	Cape Douglas, baz=63	6.92	254	P	Pn	19 50 02.0	-0.2
E25K	Arctic Village baz=161	6.97	345	P	Pn	19 50 02.6	-0.2
E29M	Blow River baz=191	7.03	9	P	Pn	19 50 03.1	-0.5
KDAK	Kodiak Island comp=N,0.8nm,0.3s,baz=7.6,slow=15,SNR=21	7.06	244	Pn	Pn	19 50 05.3	+1.4
KDAK	comp=N,0.4nm,0.3s,baz=107,slow=20,SNR=6.3 comp=N,7.7nm,0.7s			Sn	Sn	19 51 21.6	-3.0
E28M	Babbage River baz=185	7.17	4	P	Pn	19 50 05.0	-0.4
E24K	Your Creek baz=150	7.39	337	P	Pn	19 50 09.0	+0.5
D27M	Malcolm River baz=179	7.79	359	P	Pn	19 50 14.5	+0.5
D28M	Stokes Point baz=187	7.92	5	P	Pn	19 50 16.6	+0.9
C27K	Jago River baz=170	8.27	353	P	Pn	19 50 20.9	+0.4
C36M	Paulatuk	10.46	34		Pn	19 50 48.8	-1.7
C36M	Paulatuk baz=229	10.46	34	P	Pn	19 50 48.8	-1.7
YKA	Yellowknife Ar comp=N,0.1nm,0.3s,baz=245,slow=14,SNR=6.1 comp=N,0.3nm,0.5s	12.29	74	Pn	Pn	19 51 15.0	-0.5
YBH	Yreka Blue Hor comp=N,39nm,20.3s,baz=21,slow=34	22.58	143	LR	LR	20 01 19.2	
PDAR	Pinedale Array comp=N,0.2nm,0.6s,baz=315,slow=6.9,SNR=2.5 comp=N,0.2nm,0.6s	26.38	121	P	P	19 54 02.2	+4.9
ZALV	Zalesovo Beam comp=N,0.5nm,0.3s,baz=19,slow=4.9,SNR=2.4 comp=N,0.5nm,0.3s	59.40	331	P	P	19 58 22.0	-1.1
BVAR	Borovoye Array comp=N,0.7nm,0.6s,baz=18,slow=7.4,SNR=6.3 comp=N,0.7nm,0.6s	63.19	340	P	P	19 58 48.6	-0.1
KURBB	Kurchatov Arra comp=N,0.4nm,0.9s,baz=22,slow=6.2,SNR=2.6 comp=N,0.4nm,0.9s	63.91	333	P	P	19 58 52.7	-0.9
MKAR	Makanchi Array comp=N,0.1nm,0.4s,baz=31,slow=5.6,SNR=2.1 comp=N,0.1nm,0.4s	66.64	329	P	P	19 59 10.5	-0.8
AKASG	Malin Array Be comp=N,0.9nm,0.6s,baz=357,slow=5.9,SNR=5.5 comp=N,0.9nm,0.6s	67.87	7	P	P	19 59 18.4	-0.6
ROSC	El Rosal comp=N,108nm,18.0s,baz=280,slow=38	74.64	109	LR	LR	20 35 18.2	
CMAR	Chiang Mai Arr comp=N,0.2nm,0.3s,baz=11,slow=2.2,SNR=4.8 comp=N,0.2nm,0.3s	87.36	305	P	P	20 01 08.9	+0.7
BOSA	Boshof	145.82	22	PKPbc	PKPdf	20 07 58.9	-0.7
	comp=N,2.3nm,0.9s,baz=343,slow=10,SNR=3.0						

*JMA **10** 19:56:30.0±0.2, 23°.9N±1°.0×122°.9E±0°.6, h26km±4km, MV3.1/15, NEAR ISHIGAKIJIMA ISLAND*

ISC 10 19:56:29.4±1.7, 23°.83N±0°.06×122°.94E±0°.03, h20km±8km, n18, σ0°63/26, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.62	1	P	Pb	19 56 41.6	0.0
JYNG				eS	Sb	19 56 49.4	-0.4
YOJ	Yonaguni jima	0.64	6	P	Pg	19 56 42.3	+0.3
YOJ	Yonaguni jima	0.64	6	S	Sb	19 56 50.5	+0.2
YOJ	Yonaguni jima	0.64	6	eP	Pb	19 56 41.8	0.0
YOJ				eS	Sb	19 56 49.7	-0.5
HATJ	Hateruma jima	0.83	74	P	Pb	19 56 44.9	-0.2
HATJ				eS	Sb	19 56 55.5	-0.3
IRIF	Iriomote-Funau	0.88	55	i P	Pb	19 56 46.1	0.0
IRIF				eS	Sb	19 56 57.5	+0.1
JKRS	Kuro-shima	1.06	67	P	Pn	19 56 49.2	+0.1
JKRS				eS	Sn	19 57 03.1	-0.2
JIJ	Ishigaki jima	1.22	64	P	Pn	19 56 51.4	0.0
JIJ				S	Sb	19 57 06.9	-0.3
NACB	Ninganchiao	1.28	286	P	Pn	19 56 52.6	+0.5
JISG	Ishigakijimahi	1.46	59	P	Pn	19 56 54.9	+0.2
JISG				eS	Sn	19 57 13.6	+0.3
YULB	Yu-li	1.57	254	P	Pn	19 56 55.8	-0.3
YULB	Yu-li	1.57	254	S	Sn	19 57 15.9	+0.1
YHNB	Yeheng	1.65	301	P	Pb	19 56 58.7	-0.5
YHNB	Yeheng	1.65	301	S	Sg	19 57 22.0	-0.9
JTJ	Tarama	1.80	63	eP	Pb	19 57 01.0	-0.8
JTJ				eS	Sb	19 57 24.5	+0.6
SSLB	Suanglung	1.82	269	P	Pn	19 57 00.3	+0.7
TPUB	Ta-pu	2.18	257	P	Pn	19 57 06.6	+2.0
TPUB	Ta-pu	2.18	257	S	Sb	19 57 33.9	-1.0

GCG 10 20:00:03.0±0.3, 14°.57N×91°.63W, h84km±3km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG8	El Palmar, Qui	0.30	113	eP	Pn	20 00 16.1	0.0
STG8				i S	Sn	20 00 26.4	+0.6
STG0	El Palmar, Qui	0.32	117	eP	Pn	20 00 15.9	-0.2
STG0				eS	Sn	20 00 25.8	0.0

*UCR **10** 20:23:53.1±0.9, 10°.59N×86°.68W, h18km±5km, MW4.6*
*CATAC **10** 20:23:53.4±0.8, 11°.N±4°×8°.7W±°, h13km±5km, M4.2/24, MLv4.2/24, Error ellipse: s-maj=11.0km s-min=4.6km az=39.4, confirmed*
*IDC **10** 20:23:54.9±0.9, 11°.60N×85°.71W, h0km, mb3.6/5, mbtmp3.7/6, ML3.6/1, MS3.6/11, Error ellipse: s-maj=78.0km s-min=11.9km az=59.0*
*NEIC **10** 20:23:56.3±2.0, 10°.84N±0°.07×86°.40W±0°.07, h15km±5km, mb4.5/26, Error ellipse: s-maj=12.7km s-min=6.3km az=221.0*

ISC 10 20:23:53.6±0.8, 10°.66N±0°.05×86°.58W±0°.05, h10km, n110, σ1°15/100, mb4.4/18, MS3.6/9, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELI1	Hacienda Flor	1.00	91	eP	Pn	20 24 14.3	+0.6
ELI1				eS	Sn	20 24 29.5	+1.5
ALIBA	Liberia Airpor	1.01	94	eP	Pb	20 24 14.1	+0.9
LCRUZ	La Cruz	1.02	66	eP	Pn	20 24 15.2	+1.3
ARIN	Rivas	1.07	43	P	Pn	20 24 14.9	+0.2
ERIA	Liberia	1.12	91	eP	Pn	20 24 15.9	+0.6
CARN	Rivas	1.16	63	P	Pn	20 24 16.8	+0.9
CARN				S	Sn	20 24 35.2	+3.4
VRLE	La Escondida,	1.20	84	eP	Pb	20 24 16.3	-0.1
GPS2	Hotel Rincn d	1.21	86	eP	Pn	20 24 16.6	+0.1
VORI	VORI	1.22	83	eP	Pn	20 24 16.9	0.0
NICO	Nicoya	1.23	115	eP	Pb	20 24 16.5	-0.3
JAPN	Al SSO del Vol	1.23	46	P	Pn	20 24 18.2	+1.4
PEJA	Penjamo Buenos	1.26	79	eP	Pn	20 24 18.0	+0.7
CONN	Concepcion	1.29	46	P	Pn	20 24 18.4	+0.6
CMARA	Lajas Hojancha	1.30	119	P	Pn	20 24 17.4	-0.4
INDI	Punta indio, G	1.32	127	P	Pn	20 24 17.0	-1.0
NANN	Nandasmo	1.35	19	P	Pn	20 24 20.0	+1.5
COLC	Colonia	1.35	90	eP	Pb	20 24 18.6	-0.3
SABN	Sabanita	1.35	17	P	Pn	20 24 19.4	+0.9
HORNC	Hornillas	1.37	88	eP	Pb	20 24 19.0	-0.5
MASN	Masaya	1.38	17	P	Pn	20 24 20.6	+1.6
CUI	Cuipilapa	1.39	90	eP	Pn	20 24 19.2	+0.2
MAS3	Al N del Volca	1.41	16	P	Pg	20 24 19.9	-0.8
VMAR	Armenia, Volca	1.44	84	eP	Pb	20 24 20.4	-0.2
NYURE	Nandayure	1.46	117	eP	Pn	20 24 18.9	-1.1
UNAN	Cigeo UNAN	1.47	12	P	Pg	20 24 21.1	-0.8
USIM	UNAN	1.48	12		Pn	20 24 18.0	-2.3
INVE	Universidad In	1.50	97	eP	Pn	20 24 20.7	+0.2
TISN	Laguna Tiscapa	1.50	11	P	Pg	20 24 21.5	-0.9
SAPS	Ciudad Sandino	1.51	6	P	Pb	20 24 21.3	-0.3
COPN	Copaltepe	1.51	359	P	Pn	20 24 21.2	+0.5
MGAN	Managua	1.51	12		Pn	20 24 20.8	+0.1
TENO	El Achiote	1.57	88	eP	Pn	20 24 21.6	0.0
APYN	Apoyeque	1.58	8	P	Pg	20 24 22.7	-1.2
JTS	Las Juntas de	1.64	103		Pn	20 24 22.0	-0.4
JTS	Las Juntas de 25nm,0.3s,baz=295,slow=18,SNR=54	1.64	103	Pg	Pn	20 24 22.4	-0.1
JTS	100nm,0.3s,baz=308,slow=17,SNR=6.8			Lg	Lg	20 24 42.6	
JTS	Las Juntas de	1.64	103	eP	Pn	20 24 22.1	-0.3
QUEB	Quebradon, Cot	1.65	91	eP	Pn	20 24 23.6	+0.9
VERA	Finca Concepci	1.69	83	eP	Pb	20 24 24.0	-0.7
MOMN	Momotombo	1.74	1	P	Pn	20 24 24.3	+0.4
MTEVE	Monteverde	1.75	101	eP	Pn	20 24 24.5	+0.4
CNGA	Al SSO del Vol	1.83	356	P	Pn	20 24 25.7	+0.6
CNGN	Cerro Negro	1.83	356	Pn	Pn	20 24 24.5	-0.7
CNGN	Cerro Negro	1.83	356	P	Pn	20 24 25.8	+0.6
PACN	Al O del Volca	1.84	353	P	Pn	20 24 25.2	-0.1
ACON	Acoyapa	1.89	46		Pn	20 24 25.1	-0.9
ACON	Acoyapa	1.89	46	eP	Pn	20 24 25.8	-0.1
ACON	Acoyapa	1.89	46	P	Pb	20 24 26.9	-1.3
QUEN	Al S del Volca	1.94	352	P	Pn	20 24 27.9	+1.3
SOCE	Pocosol	1.94	98	Pn	Pn	20 24 27.7	+1.0
SOCE	Pocosol	1.94	98	P	Pn	20 24 28.3	+1.6
SOCE	Pocosol	1.94	98	S	Sg	20 24 54.1	-2.0
HERN	Volcan Telica	1.95	353	Pn	Pn	20 24 26.7	-0.2
HERN	Volcan Telica	1.95	353	P	Pb	20 24 28.8	-0.5
CRIN	San Cristobal	2.08	347	Pn	Pn	20 24 28.9	+0.3
CRIN	San Cristobal	2.08	347	eP	Pn	20 24 28.6	0.0
CRIN	San Cristobal	2.08	347	P	Pn	20 24 29.3	+0.7
CRIN	San Cristobal	2.08	347	S	Sb	20 24 56.6	-0.8
MATN	Matagalpa	2.34	16	P	Pn	20 24 31.9	-0.4
LIMN	Finca el Limon	2.40	5	P	Pn	20 24 33.1	+0.1
CSGN	Cosiguina Volc	2.49	337	P	Pn	20 24 35.2	+0.9
CSGN				S	Sn	20 25 04.1	-0.8
HDC	Heredia	2.51	105		Pn	20 24 34.0	-0.5
ESPN	Las Esperanzas	2.70	55	Pn	Pn	20 24 35.3	-1.8
CNCH	Conchagua	2.88	335	P	Pn	20 24 40.3	+0.7
RCPN	Sur Rio San Ju	2.89	9	P	Pn	20 24 41.2	+1.5
RCVN	Varillal2	2.93	7	P	Pn	20 24 41.4	+1.0
BUS1	Rivas	2.99	111	eP	Pn	20 24 42.8	+1.3
BLUN	Bluefields	3.05	64	P	Pn	20 24 43.0	+1.1
TGUH	Tegucigalpa,Un	3.44	349		Pn	20 24 46.1	-1.3
BRU2	Volcan	4.25	116		Pg	20 25 21.9	+6.7
MTO3	Montecristo	4.60	324	Pn	Pn	20 25 04.9	+1.5
ESQI	Esquipulas	4.72	325	Pn	Pn	20 25 04.6	-0.4
CCIG	Comitan	7.78	317	Pn	Pn	20 25 48.0	+1.0
CMIG	Matias Romero 0.5nm,0.3s,baz=116,slow=10,SNR=7.0 1.6nm,0.4s	10.29	309	Pn	Pn	20 26 23.8	+2.4
SDV	Santo Domingo	15.81	95		Pn	20 27 38.9	+2.2
SDV	Santo Domingo 0.4nm,0.3s,baz=272,slow=3.5,SNR=8.2	15.81	95	Pn	Pn	20 27 34.0	-2.7
SDV	comp=Z,92nm,19.6s,baz=256,slow=41			LR	LR	20 34 11.7	
ATAH	Atahualpa comp=Z,190nm,19.1s,baz=352,slow=33	19.46	155	LR	LR	20 34 59.5	
HBVL	Hebbronville	19.90	327	P	P	20 28 27.5	+2.1
HBVL	comp=Z,17nm,0.9s			IAmb	IAmb	20 28 28.3	
152A	Waverly Hall comp=Z,20nm,0.8s	21.97	4	P	P	20 28 47.6	-0.1
152A				IAmb	IAmb	20 28 50.9	
DRIO	Del Rio	22.82	327		P	20 28 57.9	+1.1
GOGA	Godfrey	22.82	7		P	20 28 57.5	+0.7
GOGA	comp=Z,18nm,1.3s			IAmb	IAmb	20 28 59.1	
Y49A	Blount Mountai	23.09	0		P	20 28 58.7	-0.9
HODGE	Hodges	23.79	9	P	P	20 29 06.6	+0.1
HODGE	comp=Z,8.3nm,0.7s			IAmb	IAmb	20 29 07.4	
BG3	Lake Jocassee	24.45	7		P	20 29 12.8	+0.1
BG3	comp=Z,14nm,0.9s			IAmb	IAmb	20 29 14.1	
W50A	Signal Mountai	24.45	2		P	20 29 12.4	-0.4
W50A	comp=Z,15nm,1.2s			IAmb	IAmb	20 29 14.2	
TXAR	Lajitas Array comp=Z,3.5nm,0.8s,baz=146,slow=10,SNR=14 comp=Z,3.5nm,0.8s	24.50	322	P	P	20 29 14.3	+1.0
TX31	Lajitas Ar. Si	24.50	322		P	20 29 14.5	+1.2
KMSC	Kings Mountain	24.83	10	P	P	20 29 16.3	+0.1
KMSC	comp=Z,12nm,1.0s			IAmb	IAmb	20 29 17.5	
WHAR	Wooly Hollow	25.06	349		P	20 29 17.8	-0.4
WHAR	comp=Z,7.6nm,0.8s			IAmb	IAmb	20 29 19.4	
SN05	Snyder 5	25.74	331		P	20 29 26.5	+2.1
APMT	Aspermont	25.76	333	P	P	20 29 25.4	+0.8
APMT	comp=Z,13nm,1.1s			IAmb	IAmb	20 29 27.8	
PBMO	Poplar Bluff comp=Z,16nm,0.8s	26.23	353	IAmb	IAmb	20 29 30.0	
LPIG	La Paz comp=Z,81nm,20.4s,baz=36,slow=39	26.24	304	LR	LR	20 41 02.9	
WMOK	Wichita Mounta	26.43	337	P	P	20 29 32.1	+1.4
WMOK	comp=Z,19nm,1.1s			IAmb	IAmb	20 29 34.8	
T42A	Van Buren	26.57	352		P	20 29 29.6	-2.2
R40A	Maddies Statio	27.98	350		P	20 29 44.2	-0.3
Q52A	Bidwell comp=Z,56nm,18.1s,baz=89,slow=38	28.44	7	IAmb	IAmb	20 29 48.9	
ECSD	EROS Data Cent comp=Z,6.0nm,1.1s	34.08	347	IAmb	IAmb	20 30 38.0	
PFO	Pinyon Flats O comp=Z,76nm,18.8s,baz=330,slow=41	35.66	314	LR	LR	20 48 25.1	
PDAR	Pinedale Array comp=Z,0.6nm,0.6s,baz=139,slow=8.0,SNR=6.8 comp=Z,0.6nm,0.6s	37.74	332	P	P	20 31 10.2	+0.3
NVAR	Mina Array Bea comp=Z,0.5nm,0.5s,baz=130,slow=8.2,SNR=6.0 comp=Z,0.5nm,0.5s	39.61	320	P	P	20 31 28.6	+3.0
WVOR	Wild Horse Val	42.24	324	P	P	20 31 48.9	+1.7
WVOR	comp=Z,7.4nm,0.8s			IAmb	IAmb	20 32 20.7	
YBH	Yreka Blue Hor comp=Z,60nm,18.5s,baz=102,slow=40	44.27	321	LR	LR	20 53 24.8	
BDFB	Brasilia comp=Z,56nm,18.1s,baz=89,slow=38	46.27	124	LR	LR	20 52 46.7	
YKA	Yellowknife Ar comp=Z,0.4nm,0.9s,baz=140,slow=7.3,SNR=5.8 comp=Z,0.4nm,0.9s	55.55	345	P	P	20 33 27.0	-1.9
SFJD	Kangerlussuaq comp=Z,90nm,18.2s,baz=206,slow=37	61.20	15	LR	LR	21 01 01.3	
ILAR	Eielson Array comp=Z,0.5nm,1.0s,baz=108,slow=6.5,SNR=5.1	67.99	336	P	P	20 34 51.4	-1.3
ILAR	comp=Z,44nm,18.5s,baz=97,slow=40 comp=Z,0.5nm,1.0s			LR	LR	21 09 06.5	
MDT	Midelt comp=Z,48nm,18.5s,baz=192,slow=34	77.60	59	LR	LR	21 07 42.5	
NOA	NORSAR Array B comp=Z,17nm,18.7s,baz=245,slow=35	84.51	29	LR	LR	21 12 05.7	
VRAC	Vranov comp=Z,30nm,18.4s,baz=220,slow=36	90.44	40	LR	LR	21 16 56.5	
CMAR	Chiang Mai Arr comp=Z,1.3nm,0.7s,baz=7.0,slow=2.0,SNR=11	150.56	349	PKPbc	PKPbc	20 43 46.8	+0.1

*KRSC **10** 20:33:03.2±1.2, 51°.00N×158°.11E, h48km±22km, Ml4.0*
*IDC **10** 20:33:07.2±6.1, 51°.13N×158°.32E, h80km±40km, mb3.1/4, mbtmp3.4/5, ML2.3/1, Error ellipse: s-maj=63.0km s-min=38.3km az=115.0*

ISC 10 20:33:04.4±2.1, 50°.9N±0°.1×158°.1E±0°.1, h53km±15km, n31, σ1°05/32, mb3.4/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.97	303	eP	Pn	20 33 21.5	-0.2
SKR	Severo-Kuril's	1.28	259	eP	Pn	20 33 26.2	+0.1
SKR				eS	Sn	20 33 42.5	+0.3
RUS	Russkaya	1.51	10	eP	Pn	20 33 28.2	-0.9
RUS				eS	Sn	20 33 45.9	-1.8
GRL	Gorelyy	1.61	359	eP	Pn	20 33 30.5	-0.1
GRL				eS	Sn	20 33 49.2	-1.1
KRMR	Karymshinskiy	1.89	1	eP	Pn	20 33 34.6	+0.4
KRMR				eS	Sn	20 33 57.7	+0.9
APC	Apacha	2.07	344	eP	Pn	20 33 37.1	+0.4
APC				eS	Sn	20 34 02.2	+1.0
PET	Petropavlovsk	2.11	9	eP	Pn	20 33 37.8	+0.5
PET				eS	Sn	20 34 01.4	-0.9
DALK	Dalny	2.13	11	eP	Pn	20 33 38.0	+0.5
DALK				eS	Sn	20 34 01.6	-1.1
INSR	Institute	2.15	8	eS	Sn	20 34 02.8	-0.4
PETK	Petropavlovsk- 5.7nm,0.3s,baz=150,slow=15,SNR=82	2.18	354	P	Pn	20 33 38.9	+0.6
PETK	6.1nm,0.3s,baz=174,slow=16,SNR=5.9 9.8nm,0.4s			S	Sn	20 34 04.4	+0.3
UGLR	Uglovaya	2.31	11	eP	Pn	20 33 41.4	+1.3
AVH	Avacha	2.36	9	eP	Pn	20 33 42.2	+1.5
AVH				eS	Sn	20 34 09.9	+1.4
KOK	Koryaka	2.38	8	eP	Pn	20 33 42.2	+1.2
KOK				eS	Sn	20 34 10.1	+1.2
SDLR	Sedlovina	2.39	11	eP	Pn	20 33 41.1	-0.1
KRER	Koryakskii	2.40	9	eP	Pn	20 33 43.5	+2.1
KRX	Arik	2.44	8	eP	Pn	20 33 43.0	+1.1
GNL	Ganaly	2.76	358	eP	Pn	20 33 47.2	+0.9
MKZ	Mys Kozlova	4.24	30	eP	Pn	20 34 06.8	+0.4
H11N2	WAKE ISLAND Hy 31.91 164 baz=349,slow=76,SNR=30			T	T	21 13 19.0	
H11N3	WAKE ISLAND Hy 31.93 164 baz=349,slow=76,SNR=24			T	T	21 13 21.2	
H11N1	WAKE ISLAND Hy 31.93 164 baz=349,slow=76,SNR=20			T	T	21 13 25.7	
H11S1	WAKE ISLAND Hy 33.08 165 baz=350,slow=76,SNR=16			T	T	21 14 52.5	
H11S3	WAKE ISLAND Hy 33.09 165 baz=350,slow=76,SNR=20			T	T	21 14 44.4	
H11S2	WAKE ISLAND Hy 33.10 165 baz=350,slow=76,SNR=10			T	T	21 14 48.4	
MKAR	Makanchi Array 0.1nm,0.4s,baz=54,slow=7.3,SNR=4.3 0.1nm,0.4s	47.99	296	P	P	20 41 37.1	-0.6
BVAR	Borovoye Array 0.3nm,0.4s,baz=44,slow=6.4,SNR=2.6 0.3nm,0.4s	50.77	309	P	P	20 41 57.8	-1.1
CMAR	Chiang Mai Arr 0.3nm,0.4s,baz=40,slow=6.1,SNR=4.3 0.3nm,0.4s	56.52	258	P	P	20 42 43.0	+1.6
EKA	Eskdalemuir Ar 0.1nm,0.3s,baz=16,slow=5.5,SNR=4.2 0.1nm,0.3s	72.95	349	P	P	20 44 27.1	-0.7
H03N2	Juan Fernandez baz=314,slow=77,SNR=5.7	135.45	90	T	T	23 22 55.2	
H03N1	Juan Fernandez baz=314,slow=77,SNR=10	135.46	90	T	T	23 22 57.7	
H03N3	Juan Fernandez baz=314,slow=77,SNR=8.8	135.46	90	T	T	23 22 55.3	

*NNC **10** 20:34:07.3±4.1, 41°.46N×78°.73E, h0km, mb3.2, mpv2.7, Error ellipse: s-maj=29.1km s-min=20.0km az=162.0*
*SOME **10** 20:34:08.2, 41°.45N×78°.28E, h1km*
*KRNET **10** 20:34:12.7±0.1, 41°.75N×79°.33E, h19km, mb2.0*

ISC 10 20:34:13.6±2.2, 41°.74N±0°.09×79°.16E±0°.08, h13km, n12, σ2°04/23, 12C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.93	323	⇑eP	Pn	20 34 32.1	-0.4
PRZ				⇑eS	Sn	20 34 46.3	+0.4
TARG	Taragay, Kyrgy	1.01	270	⇑iP	Pn	20 34 34.3	+0.4
TARG				⇑eS	Sn	20 34 50.1	+1.9
UZB	Uzynbulak 2.3nm,0.2s	1.41	356	P	Pg	20 34 40.2	-0.5
UZB	2.7nm,0.3s			S	Sg	20 35 02.7	+3.8
UZB	Uzynbulak 2.3nm,0.2s	1.41	356	eP	Pb	20 34 40.0	+0.2
UZB	3.3nm,1.0s			eS	Sg	20 35 02.4	+3.5
SATY	Saty 0.5nm,0.1s	1.43	337	P	Pn	20 34 38.6	-0.8
SATY	5.5nm,0.1s			S	Sg	20 35 00.1	+0.5
ANVS	Anan'yevo	1.52	314	⇑eP	Pg	20 34 42.6	-0.2
ANVS				⇑eS	Sg	20 35 04.3	+1.8
KDJ	Kajisay	1.53	285	⇓eP	Pg	20 34 42.9	0.0
KDJ				⇓eS	Sg	20 35 05.1	+2.4
PDGK	Podgornoye 1.2nm,0.5s	1.60	9	⇑Pn	Pn	20 34 41.0	-0.8
PDGK	9.7nm,0.5s			⇑Sn	Sg	20 35 06.9	+1.7
KPKS	Kokpek 3.1nm,0.2s	1.76	349	Pg	Pb	20 34 45.2	-0.5
KPKS	4.6nm,0.4s			Lg	Lg	20 35 11.7	
KPKS	Kokpek 3.1nm,0.2s	1.76	349	eP	Pb	20 34 45.2	-0.5
KPKS	4.6nm,0.4s			eS	Sg	20 35 11.7	+1.6
KNDC	Almaty 3.4nm,0.4s	2.19	313	⇑Pn	Pn	20 34 45.3	-4.5
KNDC	4.4nm,0.4s			⇑Sn	Sn	20 35 13.1	-3.7
BOOM	Boomskoye usch	2.51	288	⇑eP	Pb	20 34 57.6	-1.0
BOOM				⇑iS	Sb	20 35 30.5	+1.1

*GII **10** 21:02:32.6±0.0, 37°.07N×36°.00E, h5km, Mws3.6, confirmed*
*AFAD **10** 21:02:36.7, 36°.64N×36°.10E, h9km±2km, MW3.8*
*IDC **10** 21:02:36.8±1.1, 36°.62N×35°.98E, h0km, mb3.7/11, mbtmp3.6/15, ML3.5/3, MS2.5/2, Error ellipse: s-maj=19.6km s-min=16.1km az=35.0*
*ISK **10** 21:02:36.6, 36°.63N×36°.09E, h4km, ML3.7/21*
*NIC **10** 21:02:42.0, 36°.51N×36°.07E, h21km±31km, Ml3.4/9*
*GRAL **10** 21:02:42.2±0.4, 36°.42N×36°.11E, h0km±388km, MD3.7*

ISC 10 21:02:37.1±1.1, 36°.66N±0°.02×36°.06E±0°.02, h1km±8km, n113, σ1°61/152, mb3.7/10, 1C, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAHT	Tahtakopru-Hat	0.30	161	Pg	Pg	21 02 42.7	-0.2
TAHT				Sg	Sg	21 02 46.8	0.0
HASA	Hatay-Hassa-Ha	0.35	75	P	Pg	21 02 44.0	+0.1
HASA				S	Sg	21 02 48.0	-0.5
CEYT	Ceyhan	0.43	324	Pg	Pg	21 02 46.1	+0.7
ASUZ	Hatay-Arsuz	0.43	211	P	Pg	21 02 46.1	+0.7
ASUZ				S	Sg	21 02 51.2	+0.2
RHAN	Hatay/Reyhanl	0.59	132	P	Pg	21 02 49.0	+0.5
RHAN				S	Sg	21 02 55.6	-0.5
KAMA	Osmaniye	0.71	43	P	Pg	21 02 50.7	-0.2
KAMA				S	Sg	21 03 00.2	+0.1
KUZU	Kuzuini	0.82	82	P	Pg	21 02 53.0	+0.1
KUZU				S	Sb	21 03 05.9	0.0
KOZT	Kozan	0.84	347	Pg	Pg	21 02 53.9	+0.6
KOZT				Sg	Sb	21 03 06.9	+0.5
AKO	Adana	0.94	329	P	Pg	21 02 55.4	+0.3
AKO				S	Sb	21 03 09.6	+0.4
ANDN	Andirin	0.94	14	P	Pb	21 02 56.6	+0.2
ANDN				S	Sg	21 03 07.9	+0.4
KARA	Karaisali	1.00	307	Pg	Pg	21 02 57.1	+0.7
GAZ	Gaziantep	1.05	61	Pg	Pg	21 02 57.4	+0.1
GAZ				Sg	Sb	21 03 12.6	0.0
GAZ	Gaziantep	1.05	61	P	Pg	21 02 56.9	-0.4
GAZ				S	Sb	21 03 12.5	-0.1
DED	Mersin	1.06	287	P	Pg	21 02 56.4	-1.1
KMRS	Kahramanmaras	1.08	38	Pn	Pg	21 02 58.0	+0.2
KMRS				Sn	Sb	21 03 13.1	-0.1
KAHM	Kahramanmaras,	1.13	41	P	Pg	21 02 58.7	-0.2
KAHM				S	Sg	21 03 12.8	-0.7
KHMN	Narli-Kahraman	1.14	50	Pn	Pg	21 02 59.0	0.0
KHMN				Sn	Sn	21 03 15.5	-1.1
GULE	Gulek	1.20	302	P	Pg	21 02 59.2	-1.0
GULE				S	Sn	21 03 18.2	-0.1
MERS	Mersin	1.25	280	Pn	Pg

TEVE	Tevekalti-Mers	2.12	265	Pn	Pn	21 03 14.2 +0.4
BSIR	Belisirma, Guz	2.14	319	P	Pn	21 03 14.4 +0.3
OREN	Orenkoy-Mersin	2.15	259	Pn	Pn	21 03 14.5 +0.4
AKCD	Akcadag	2.20	42	P	Pn	21 03 14.9 -0.1
GUNE	Kayseri	2.27	351	P	Pn	21 03 17.2 +1.3
CUGUR	Gurin_SVAS	2.27	25	P	Pn	21 03 16.4 +0.4
PARAL	Paralimni	2.34	225	P	Pn	21 03 16.8 +0.1
PARAL				S	Sn	21 03 47.1 +1.1
PARAL				AML	AML	21 04 01.0
	1.1nm,0.7s					
PARAL				AML	AML	21 04 02.1
	0.8nm,1.2s					
AVNS	Nevsehir-Avano	2.35	336	P	Pn	21 03 16.9 -0.1
HWQ	Hawqa	2.38	182	eP	Pn	21 03 17.7 +0.3
HWQ				eS	Sn	21 03 44.4 -2.9
SANL	SANLIURFA_Merk	2.40	77	P	Pn	21 03 17.0 -0.6
FKH	Fakeheh	2.43	173	eP	Pn	21 03 18.6 +0.6
HANM	anlurfa/Hi	2.43	67	P	Pn	21 03 16.4 -1.7
NARI	Adyaman-Kaht	2.48	60	P	Pn	21 03 17.6 -1.0
MAYA	Malatya/Merkez	2.51	48	P	Pn	21 03 18.6 -0.5
KKBE	Karaman, Kazim	2.56	284	P	Pn	21 03 21.1 +1.2
KKBE				S	Sb	21 03 55.3 -0.7
MVOU	Mavrovouni	2.57	231	P	Pn	21 03 19.3 -0.5
MVOU				S	Sn	21 03 53.2 +1.5
MVOU				AML	AML	21 04 04.3
	0.4nm,0.6s					
MVOU				AML	AML	21 04 07.3
	0.3nm,0.6s					
ATHAL	Athalassa	2.64	236	P	Pn	21 03 20.0 -0.9
ATHAL				S	Sn	21 03 53.0 -0.5
ATHAL				AML	AML	21 04 09.0
	0.8nm,0.6s					
ATHAL				AML	AML	21 04 16.7
	0.7nm,0.7s					
HEKM	Malatya_Hekimh	2.68	34	P	Pn	21 03 21.9 +0.4
BHL	Bhannes	2.77	187	eP	Pn	21 03 23.4 +0.7
CSS	Mathiatis	2.79	233	P	Pn	21 03 21.5 -1.4
CSS				S	Sn	21 03 58.1 +0.7
CSS				AML	AML	21 04 11.4
	0.3nm,0.7s					
CSS				AML	AML	21 04 15.9
	0.4nm,0.8s					
CSS	Mathiatis	2.79	233	P	Pn	21 03 21.2 -1.8
ZAHL	Zahle	2.80	183	eP	Pn	21 03 23.4 +0.3
ASGA	Asgata	2.96	232	i/P	Pn	21 03 26.5 +1.3
ASGA				S	Sn	21 04 03.8 +2.5
ASGA				AML	AML	21 04 16.4
	0.4nm,0.9s					
ASGA				AML	AML	21 04 19.3
	0.3nm,0.7s					
DQRL	Deir Qamar	2.98	188	eP	Pn	21 03 26.3 +0.7
QRWL	Qaraoun	3.12	186	eP	Pn	21 03 28.4 +0.8
RCY	Rachaya	3.16	183	eP	Pn	21 03 28.9 +0.7
RCY				eS	Sn	21 04 03.2 -3.4
ALFC	Alefka	3.19	243	P	Pn	21 03 26.4 -2.0
ALFC				S	Sn	21 04 03.2 -3.9
ALFC				AML	AML	21 04 11.4
	0.3nm,0.8s					
ALFC				AML	AML	21 04 13.0
	0.4nm,0.7s					
APOL	The Sanctuary	3.27	234	P	Pn	21 03 31.9 +2.3
APOL				S	Sn	21 04 11.8 +2.6
APOL				AML	AML	21 04 27.6
	0.5nm,0.7s					
APOL				AML	AML	21 04 29.8
	0.7nm,1.6s					
SHBL	Chebaa	3.31	185	eP	Pn	21 03 30.8 +0.5
NATI	Neve Ativ	3.40	185	P	Pn	21 03 32.4 +1.1
NATI	Neve Ativ	3.40	185	S	Sb	21 04 17.6 -2.4
NATA	Nata	3.41	238	P	Pn	21 03 34.5 +3.1
NATA				S	Sb	21 04 17.8 -2.4
NATA				AML	AML	21 04 30.4
	1.7nm,0.9s					
NATA				AML	AML	21 04 32.4
	2.0nm,1.0s					
AKMS	Akamas	3.44	243	P	Pn	21 03 34.6 +2.7
AKMS				S	Sn	21 04 14.9 +1.5
AKMS				AML	AML	21 04 23.3
	0.7nm,0.7s					
AKMS				AML	AML	21 04 30.5
	1.1nm,0.7s					
GEM	Giv'at Ha'Em	3.46	186	P	Pn	21 03 32.0 -0.1
GEM	Giv'at Ha'Em	3.46	186	S	Sn	21 04 16.1 +2.4
BRTR	Keskin Array B	3.61	329	Pn	Pn	21 03 35.9 +1.6
	0.7nm,0.3s,baz=158,slow=13,SNR=20					
BRTR				Sn	Sn	21 04 19.0 +1.4
	0.7nm,0.3s,baz=155,slow=21,SNR=6.3					
	2.5nm,0.6s					
HNTI	Hanita	3.64	192	P	Pn	21 03 35.5 +0.9
KSHT	Keshet	3.68	183	P	Pn	21 03 35.9 +0.8
KSHT	Keshet	3.68	183	S	Sb	21 04 23.1 -4.9
MMA0B	Mount Meron ar	3.68	189	P	Pn	21 03 36.5 +1.3
MMA0B	Mount Meron ar	3.68	189	S	Sn	21 04 21.6 +2.4
MMAI	Mount Meron Ar	3.68	189	Pn	Pn	21 03 35.2 0.0
	8.0nm,0.3s,baz=8.4,slow=14,SNR=25					
MMAI				Sn	Sn	21 04 18.0 -1.2
	19nm,0.3s,baz=3.4,slow=27,SNR=8.9					
	7.5nm,0.3s					
BLGI	Bet Lehem HaGe	3.98	191	P	Pn	21 03 40.3 +1.0
OFRI	`Ofer	4.13	193	P	Pn	21 03 42.9 +1.5
MMLI	Mount Malkishu	4.25	187	P	Pn	21 03 45.3 +2.3
MMLI				S	Sn	21 04 33.7 +0.5
HMDT	Nahal Hemdat	4.42	186	P	Pn	21 03 46.4 +1.1
SLTI	Sal'it	4.49	191	P	Pn	21 03 48.3 +2.0
ASF	Jabal al Asfar	4.53	171	Pn	Pn	21 03 49.8 +2.9
	5.1nm,0.3s,baz=23,slow=10,SNR=18					
ASF				Lg	Lg	21 04 55.6
	5.5nm,0.3s,baz=16,slow=18,SNR=6.0					
ELL	Elmali	4.95	273	P	Pn	21 03 56.5 +3.8
ELL				S	Sb	21 04 57.8 -6.8
DSI	Dead Sea	5.11	187	P	Pn	21 03 54.5 -0.4
DSI	Dead Sea	5.11	187	S	Sn	21 04 59.9 +5.5
AMAZ	Amatzia	5.20	191	P	Pn	21 03 56.2 +0.1
AMAZ	Amatzia	5.20	191	S	Sn	21 05 01.4 +4.6
KZIT	Kziot	5.90	194	P	Pn	21 04 05.8 +0.1
EIL	Elat	7.03	188	Pn	Pn	21 04 24.4 +3.1
	0.4nm,0.3s,baz=355,slow=19,SNR=6.3					
EIL				Sn	Sn	21 05 47.3 +5.4
	0.9nm,0.3s,baz=14,slow=12,SNR=1.6					
GNI	Garni	7.65	60	LR	LR	21 07 47.3
	comp=Z,31nm,20.9s,baz=268,slow=40					
KBZ	Khabaz	8.78	34	LR	LR	21 08 13.3
	comp=Z,40nm,20.4s,baz=272,slow=38					
IDI	Anoyia	9.16	265	Pn	Pn	21 04 49.9 -0.6
	4.2nm,0.4s,baz=80,slow=17,SNR=5.9					
IDI				Sn	Sn	21 06 32.5 -1.7
	0.4nm,0.3s,baz=322,slow=18,SNR=1.9					
AKASG	Malin Array Be	14.87	343	Pn	Pn	21 06 07.8 -0.6
	0.6nm,0.3s,baz=161,slow=10,SNR=9.4					
	0.1nm,0.3s					
GERES	GERESS Array B	20.36	314	P	P	21 07 14.6 -0.5
	0.8nm,0.7s,baz=109,slow=12,SNR=4.7					
	0.8nm,0.7s					
AKTO	Aktyubinsk	20.94	42	P	P	21 07 22.0 +0.8
	1.3nm,0.6s,baz=259,slow=6.7,SNR=4.2					
	1.3nm,0.6s					
CLL	Collm	22.00	319	i P	P	21 07 32.0 -0.6
	comp=Z,4.0nm,0.8s					
FINES	FINESS Array B	25.59	349	P	P	21 08 07.2 -0.3
	comp=Z,1.6nm,0.7s,baz=171,slow=9.9,SNR=9.4					
	comp=Z,1.6nm,0.7s					
BVAR	Borovoye Array	28.97	45	P	P	21 08 39.4 +1.4
	comp=Z,0.5nm,0.6s,baz=258,slow=6.8,SNR=4.0					
	comp=Z,0.5nm,0.6s					
KURBB	Kurchatov Arra	33.27	52	P	P	21 09 16.9 +1.0
	comp=Z,0.4nm,0.4s,baz=266,slow=8.8,SNR=4.2					
	comp=Z,0.4nm,0.4s					
ARCES	ARCESS Array B	33.43	353	P	P	21 09 17.1 0.0
	comp=Z,1.8nm,0.8s,baz=169,slow=10,SNR=5.8					
	comp=Z,1.8nm,0.8s					
MKAR	Makanchi Array	35.50	59	P	P	21 09 35.5 +0.1
	comp=Z,1.1nm,0.9s,baz=266,slow=8.6,SNR=7.3					
	comp=Z,1.1nm,0.9s					
ZALV	Zalesovo Beam	37.55	47	P	P	21 09 51.5 -1.1
	comp=Z,0.5nm,0.5s,baz=250,slow=8.6,SNR=2.6					
	comp=Z,0.5nm,0.5s					
SPITS	Spitsbergen Ar	42.45	354	P	P	21 10 33.8 +0.7
	comp=Z,11nm,1.0s,baz=152,slow=11,SNR=4.7					
	comp=Z,11nm,1.0s					
SONM	Songino Array	51.56	54	P	P	21 11 45.1 +0.2
	comp=Z,0.2nm,0.4s,baz=297,slow=4.2,SNR=1.7					
	comp=Z,0.2nm,0.4s					
YKA	Yellowknife Ar	78.40	347	P	P	21 14 38.2 -0.8
	comp=Z,0.1nm,0.3s,baz=30,slow=6.2,SNR=3.6					
	comp=Z,0.1nm,0.3s					

*ANF **10** 21:13:56.6±0.3,59°.09N×137°.96W,h6km±2km, ML3.5/29, Error ellipse: s-maj=2.2km s-min=1.5km az=31.0*
*NEIC **10** 21:13:57.8±2.4,59°.11N±0°.03×137°.99W±0°.07,h12km±7km, ML3.3/82,Error ellipse: s-maj=5.4km s-min=4.3km az=60.0*

ISC 10 21:13:56.3±1.2,59°.07N±0°.03×138°.01W±0°.02,h4km±10km, n97,σ0s93/129,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P29M	Windy Craggy	0.58	14		Pg	21 14 07.8	+0.5
P29M				Sg	Sg	21 14 15.4	+0.6
P29M				IAML		21 14 16.7	
	comp=N,1μm,0.4s						
P29M	Windy Craggy	0.58	14	P	Pg	21 14 07.9	+0.5
	baz=194,SNR=1000						
P29M				S	Sg	21 14 15.5	+0.6
	baz=194						
PLBC	Pleasant Camp	0.93	65	P	Pg	21 14 13.6	-0.5
	baz=248,SNR=31						
PLBC				S	Sg	21 14 26.4	+0.3
	baz=248						
PNL	Peninsula	0.93	311	P	Pg	21 14 14.2	+0.1
	baz=128,SNR=1000						
PNL				S	Sg	21 14 27.0	+0.8
	baz=128						
YKU2	Yakutat	0.96	298	Pg	Pg	21 14 15.6	+0.9
YKU2					Sn	21 14 30.7	+0.1
P30M	Million Dollar	1.18	26	P	Pb	21 14 18.4	-1.0
	baz=208						
P30M				S	Sg	21 14 34.5	+0.3
	baz=208						
BCPM	Bancas Point	1.21	317	Pn	Pb	21 14 18.8	-1.0
BCPM				Sn	Sg	21 14 36.0	+0.7
BCPM				IAML		21 14 37.5	
	comp=E,1μm,0.3s						
BCPM				IAML		21 14 38.1	
	comp=N,814nm,0.7s						
O29M	Mount Kennedy	1.27	347		Pn	21 14 19.2	-1.7
O29M				Sn	Sb	21 14 35.9	-1.6
O29M				IAML		21 14 40.0	
	comp=E,472nm,0.3s						
O29M				IAML		21 14 42.6	
	comp=N,350nm,0.7s						
O29M	Mount Kennedy	1.27	347	P	Pn	21 14 19.4	-1.6
	baz=166,SNR=219						
O29M				S	Sb	21 14 36.2	-1.4
	baz=166						
R31K	City Hall, Gus	1.35	118	S	Sb	21 14 37.9	-2.0
	baz=301						
SKAG	Skagway	1.43	73		Pn	21 14 22.5	-0.6
SKAG				IAML		21 14 42.2	
	comp=N,427nm,0.6s						
SKAG				IAML		21 14 43.7	
	comp=E,483nm,0.8s						
SKAG	Skagway	1.43	73	P	Pn	21 14 22.3	-0.7
	baz=256,SNR=46						
SKAG				S	Sn	21 14 40.8	-1.5
	baz=256						
S31K	Pelican	1.45	139		Pn	21 14 21.1	-2.2
S31K				IAML		21 14 42.5	
	comp=N,396nm,0.7s						
S31K	Pelican	1.45	139	P	Pn	21 14 22.1	-1.2
	baz=322,SNR=185						
S31K				S	Sn	21 14 42.0	-0.7
	baz=322						
PINM	Pinnacle	1.54	313	P	Pn	21 14 23.4	-1.2
	baz=130,SNR=129						
PINM				S	Sb	21 14 45.1	-0.1
	baz=130						
PCA	Pinnacle	1.54	313		Pn	21 14 23.8	-0.8
BESE	Bessie Mountai	1.71	105		Pn	21 14 26.3	-0.7
BESE				IAML		21 14 51.2	
	comp=E,428nm,0.5s						
HYT	Haines Junctio	1.78	8		Pn	21 14 28.1	+0.1
HYT	Haines Junctio	1.78	8	P	Pn	21 14 27.9	0.0
	baz=188,SNR=508						
HYT				S	Sb	21 14 50.9	-1.3
	baz=188						
YUK6	Outpost Mounta	1.89	355	P	Pn	21 14 29.6	+0.1
	baz=174,SNR=460						
YUK6				Sb	Sg	21 14 56.3	-0.5
	baz=174						
O30N	Mendenhall	1.96	29		Pn	21 14 30.6	+0.3
O30N	Mendenhall	1.96	29	P	Pn	21 14 30.7	+0.3
	baz=211,SNR=1000						
O30N				S	Sb	21 14 55.9	-1.4
	baz=211						
O28M	Mount Upton	2.03	328		Pn	21 14 31.7	+0.2
O28M	Mount Upton	2.03	328	P	Pn	21 14 31.7	+0.2
	baz=146,SNR=106						
O28M				S	Sn	21 14 58.0	+0.5
	baz=146						
WHY	Whitehorse	2.24	43		Pn	21 14 34.5	+0.1
WHY				IAML		21 15 08.1	
	comp=N,318nm,0.6s						
WHY				IAML		21 15 10.9	
	comp=E,252nm,0.6s						
WHY	Whitehorse	2.24	43	P	Pn	21 14 34.4	+0.1
	baz=226,SNR=226						
WHY				S	Sn	21 15 01.9	-0.6
	baz=226						
P32M	Atlin	2.26	75		Pn	21 14 33.6	-0.9
P32M				IAML		21 15 07.8	
	comp=E,197nm,0.4s						
P32M	Atlin	2.26	75	P	Pn	21 14 33.7	-0.9
	baz=259,SNR=249						
P32M				S	Sn	21 15 03.6	+0.8
	baz=259						
MESA	MESA	2.29	301		Pn	21 14 34.0	-1.1
MESA				IAML		21 15 12.2	
	comp=E,205nm,1.0s						
MESA				IAML		21 15 21.7	
	comp=N,225nm,0.9s						
MESA	MESA	2.29	301	P	Pn	21 14 34.0	-1.1
	baz=117,SNR=35						
MESA				S	Sn	21 15 04.1	+0.3
	baz=117						
YAH	Yahtse	2.29	306		Pn	21 14 34.3	-0.9
YAH				IAML		21 15 09.3	
	comp=E,120nm,1.1s						
YAH				IAML		21 15 09.9	
	comp=N,159nm,1.3s						
YUK4	Talbot Arm	2.30	352	P	Pn	21 14 36.3	+1.1
	baz=173,SNR=89						
YUK4				S	Sb	21 15 06.2	-1.1
	baz=173						
YUK8	Steele Glacier	2.39	339	P	Pn	21 14 36.2	-0.2
	baz=157,SNR=47						
YUK8				Sb	Sg	21 15 12.2	-0.8
	baz=157						
S32K	Killisnoo	2.42	130		Pn	21 14 36.9	+0.2
S32K				IAML		21 15 12.0	
	comp=E,92nm,0.7s						
S32K	Killisnoo	2.42	130	P	Pn	21 14 36.5	-0.1
	baz=314						
S32K				S	Sn	21 15 07.6	+0.9
	baz=314						
N30M	Aishikik Lake	2.44	10		Pn	21 14 37.3	+0.3
N30M				IAML		21 15 21.0	
	comp=E,104nm,0.9s						
N30M	Aishikik Lake	2.44	10	P	Pn	21 14 37.2	+0.3
	baz=191,SNR=470						
N30M				S	Sn	21 15 08.1	+0.8
	baz=191						
SIT	Sitka	2.47	144		Pn	21 14 38.9	+1.6
SIT				IAML		21 15 15.3	
	comp=E,108nm,1.1s						
SIT	Sitka	2.47	144	Sb	Sb	21 15 13.3	+1.3
	baz=326						
N31M	Braeburn, Yuko	2.66	24		Pn	21 14 40.2	+0.2
N31M				IAML		21 15 28.2	
	comp=E,180nm,1.0s						
N31M				IAML		21 15 33.1	
	comp=N,130nm,1.2s						
N31M	Braeburn, Yuko	2.66	24	P	Pn	21 14 40.7	+0.7
	baz=206,SNR=215						
N31M				S	Sn	21 15 13.1	+0.4
	baz=206						
SNH	Sunshine Point	2.69	296		Pn	21 14 40.2	-0.2
SNH				IAML		21 15 45.2	
	comp=N,154nm,1.9s						
WAX	Waxell Ridge	2.81	301		Pn	21 14 41.6	-0.5
WAX				IAML		21 15 32.2	
	comp=E,113nm,0.6s						
WAX				IAML		21 15 46.2	
	comp=N,185nm,0.9s						
P33M	Teslin, Yukon	2.87	64		Pn	21 14 42.5	-0.5
P33M				IAML		21 15 27.7	
	comp=E,110nm,0.6s						
P33M				IAML		21 15 27.7	
	comp=N,166nm,0.5s						
P33M	Teslin, Yukon	2.87	64	P	Pn	21 14 42.7	-0.3
	baz=249,SNR=199						
P33M				Sb	Sb	21 15 25.1	+1.5
	baz=249						
Q32M	Nakina River	2.97	90		Pn	21 14 43.9	-0.5
Q32M				IAML		21 15 34.3	
	comp=N,118nm,0.9s						
Q32M	Nakina River	2.97	90	P	Pn	21 14 44.3	-0.1
	baz=275,SNR=42						
Q32M				S	Sn	21 15 21.2	+0.7
	baz=275						
YUK3	Moose Creek	2.97	337	Pb	Pb	21 14 49.8	-0.2
	baz=154						
YUK3				Sb	Sg	21 15 29.2	-2.5
	baz=154						
BERG	Berg Lake	3.17	297		Pn	21 14 45.8	-1.2
N32M	Quiet Lake	3.23	48		Pn	21 14 46.8	-1.0
N32M	Quiet Lake	3.23	48	P	Pn	21 14 46.8	-1.0
	baz=232,SNR=16						
N32M				Sb	Sb	21 15 35.5	+1.6
	baz=232						
M29M	Somme Creek	3.39	356		Pn	21 14 50.9	+0.9
M29M				IAML		21 15 46.8	
	comp=E,42nm,1.5s						
M29M	Somme Creek	3.39	356	P	Pn	21 14 50.6	+0.5
	baz=176,SNR=57						
M29M				S	Sn	21 15 31.6	+0.8
	baz=176						
HMT	Hamilton	3.41	294		Pn	21 14 50.5	+0.2
VRDI	Verde Repeater	3.48	311		Pn	21 14 51.0	-0.3
M31M	Drury Creek, Y	3.61	28		Pn	21 14 53.5	+0.5
M31M				IAML		21 15 58.3	
	comp=E,62nm,0.8s						
M31M				IAML		21 15 59.5	
	comp=N,41nm,1.0s						
M31M	Drury Creek, Y	3.61	28	P	Pn	21 14 53.5	+0.5
	baz=211,SNR=21						
M31M				S	Sn	21 15 36.6	+0.5
	baz=211						
RAGM	Ragged Mountai	3.62	294		Pn	21 14 52.5	-0.8
R33M	Jennings River	3.63	82		Pn	21 14 52.9	-0.5
R33M				IAML		21 15 54.0	
	comp=E,55nm,0.5s						
R33M	Jennings River	3.63	82	P	Pn	21 14 52.8	-0.6
	baz=268,SNR=32						
R33M				S	Sn	21 15 36.8	+0.1
	baz=268						
GLB	Gilahina Butte	3.74	312		Pn	21 14 56.0	+1.1
S34M	Telegraph Cree	3.79	105		Pn	21 14 56.8	+1.3
M27K	Edge Creek, AK	3.81	332		Pn	21 14 55.9	+0.1
M27K				IAML		21 16 02.3	
	comp=N,32nm,1.2s						
M27K				IAML		21 16 04.9	
	comp=E,38nm,1.6s						
BMRM	Bremner River	3.82	303		Pn	21 14 56.2	+0.3
BMRM				IAML		21 16 00.5	
	comp=E,34nm,0.6s						
BMRM				IAML		21 16 16.4	
	comp=N,40nm,1.1s						
BMRM	Bremner River	3.82	303	P	Pn	21 14 56.0	+0.1
	baz=117						
BMRM				S	Sn	21 15 42.3	+1.1
	baz=117						
FARO	Faro, Yukon	3.91	34		Pn	21 14 57.7	+0.5
U33K	Whale Pass	3.96	136	Sb	Sb	21 15 58.0	+3.1
	baz=321						
WRAK	Wrangell Islan	4.03	129		Pn	21 14 59.3	+0.5
WRAK				IAML		21 16 08.6	
	comp=N,42nm,0.7s						
WRAK				IAML		21 16 10.2	
	comp=N,60nm,0.5s						
WRAK	Wrangell Islan	4.03	129	P	Pn	21 14 58.7	-0.1
	baz=314						
L29M	L29M	4.05	359		Pn	21 14 59.7	+0.6
L29M				IAML		21 16 08.0	
	comp=N,58nm,0.7s						
L29M	L29M	4.05	359	P	Pn	21 14 59.8	+0.6
	baz=179,SNR=22						
M26K	Nabesna, AK	4.14	326	Pn	Pn	21 15 01.6	+1.3
M26K	Nabesna, AK	4.14	326	P	Pn	21 15 01.3	+1.0
	baz=141,SNR=26						
L27K	Beaver Creek,	4.41	337	Pn	Pn	21 15 05.1	+1.1
T35M	Bob Quinn	4.63	114		Pn	21 15 08.0	+1.0
T35M				IAML		21 16 27.1	
	comp=E,40nm,0.9s						
T35M				IAML		21 16 29.5	
	comp=N,40nm,0.6s						
KLU	Klutina	4.63	305	P	Pn	21 15 07.8	+0.8
	baz=118						
K29M	Barlow Dome	4.79	3		Pn	21 15 10.5	+1.2
K29M				IAML		21 16 21.3	
	comp=N,16nm,4.5s						
K29M				IAML		21 16 28.8	
	comp=E,20nm,1.7s						
K29M	Barlow Dome	4.79	3	P	Pn	21 15 10.5	+1.2
	baz=183,SNR=68						
MMPY	Sheldon Lake,	4.85	40		Pn	21 15 11.0	+0.9
MMPY	Sheldon Lake,	4.85	40	P	Pn	21 15 10.9	+0.8
	baz=226,SNR=31						
GLI	Glacier Island	4.91	296	P	Pn	21 15 10.9	+0.1
	baz=107						
DAWY	Dawson	5.05	353		Pn	21 15 14.5	+1.6
DAWY	Dawson	5.05	353	P	Pn	21 15 13.6	+0.7
	baz=172,SNR=18						
TGTN	Hyland Airport	5.43	59	P	Pn	21 15 18.5	+0.4
	baz=248,SNR=40						
DOT	Dot Lake	5.43	330	Pn	Pn	21 15 19.4	+1.4
J30M	Hart River	5.58	7		Pn	21 15 20.8	+0.6
J30M	Hart River	5.58	7	P	Pn	21 15 20.5	+0.4
	baz=189,SNR=6.7						
SCRK	Sand Creek	5.69	332	Pn	Pn	21 15 22.6	+0.9
KNK	Knik Glacier	5.71	299	P	Pn	21 15 22.1	+0.2
	baz=109						
SML	Sawmill	5.80	303	P	Pn	21 15 23.6	+0.5
	baz=113						
I30M	Mount Dempster	6.22	6		Pn	21 15 29.7	+0.8
I30M	Mount Dempster	6.22	6	P	Pn	21 15 30.0	+1.1
	baz=188,SNR=18						
I29M	Ogilvie Camp,	6.31	359		Pn	21 15 30.9	+0.8
I28M	Miner Creek	6.46	353	P	Pn	21 15 33.2	+1.0
	baz=171						
H31M	Peel River	6.97	13	P	Pn	21 15 39.8	+0.7
	baz=196,SNR=7.7						
SKT	Skwentna	7.28	299	P	Pn	21 15 43.6	+0.3
	baz=107						
TRF	Thorofare Moun	7.37	312	P	Pn	21 15 45.5	+0.8
	baz=121						

*NEIC **10** 21:18:21.5±1.6, 14°.97S±0°.09×167°.4E±0°.2,h146km±8km, mb4.5/9,Error ellipse: s-maj=28.4km s-min=13.4km az=82.0*
*IDC **10** 21:18:21.1±4.6, 14°.98S×167°.39E,h152km±41km,mb3.6/6, mbtmp4.1/7,Error ellipse: s-maj=33.2km s-min=30.5km az=100.0*
*NOU **10** 21:18:21.2, 14°.90S×167°.62E,h131km,MLv4.3/11, Vanuatu Islands*

ISC 10 21:18:18.6±0.8,14°.82S±0°.08×167°.5E±0°.1,h129km,n34, σ1s30/32,mb4.2/9,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.28	181	P	Pn	21 18 46.2	+2.0
VLAKA	Lakatoro	1.28	181	S	Sn	21 19 06.1	+2.4
DVP	Devils Point	2.97	166	P	Pn	21 19 05.3	+0.5
KOUNC	Koumac, New Ca	6.45	207	P	Pn	21 19 54.0	+2.8
YATNC	Mamie plateau,	7.22	184	P	Pn	21 20 02.5	+0.9
DZM	Mont Dzumac	7.27	187		Pn	21 20 03.2	+0.9
DZM	Mont Dzumac	7.27	187	P	Pn	21 20 03.5	+1.1
	3.6nm,0.3s,baz=50,slow=20,SNR=15						
DZM				S	Sn	21 21 21.6	-2.0
	7.0nm,0.3s,baz=150,slow=22,SNR=12						
DZM	Mont Dzumac	7.27	187	P	Pn	21 20 03.8	+1.4
ONTNC	Ouen Toro	7

comp=Z,32nm,1.4s
BKZ Black Stump Fm 25.52 164 P P 21 23 35.2 0.0
BKZ IAmb IAmb 21 23 39.6
comp=Z,20nm,1.3s
STKA Stephens Creek 29.07 230 P P 21 24 07.0 0.0
STKA Stephens Creek 29.07 230 P P 21 24 07.1 +0.2
comp=Z,4.7nm,0.5s,baz=43,slow=8.9,SNR=20
comp=Z,4.7nm,0.5s
WB0 Warramunga Arr 31.91 256 P P 21 24 30.7 -1.5
WB0 IAmb IAmb 21 24 56.7
comp=Z,11nm,1.5s
WRA Warramunga Arr 31.97 256 P P 21 24 31.3 -1.4
comp=Z,0.8nm,0.9s,baz=83,slow=8.8,SNR=4.9
comp=Z,0.8nm,0.9s
AS31 Alice Springs 32.80 249 P P 21 24 38.6 -1.4
ASAR Alice Springs 32.80 249 P P 21 24 38.8 -1.2
comp=Z,2.8nm,0.8s,baz=79,slow=9.2,SNR=21
comp=Z,2.8nm,0.8s
BBOO Buckleboo 33.66 232 P P 21 24 46.5 -0.8
KNRA Kununurra 37.30 264 P P 21 25 17.7 -0.9
KNRA IAmb IAmb 21 25 38.7
comp=Z,16nm,1.2s
FITZ Fitzroy Crossi 40.17 259 P P 21 25 42.0 -0.5
KLR Kul'dur 71.16 336 P P 21 29 24.1 +0.9
comp=Z,0.7nm,0.6s,baz=146,slow=7.3,SNR=2.2
comp=Z,0.7nm,0.6s
QSPA South Pole Qui 75.20 180 P P 21 29 46.3 -0.6
QSPA IAmb IAmb 21 29 48.6
comp=Z,8.9nm,1.4s
QSPA South Pole Qui 75.20 180 P P 21 29 45.8 -1.1
comp=Z,2.7nm,1.1s,baz=57,slow=3.2,SNR=3.3
comp=Z,2.7nm,1.1s
SONM Songino Array 82.68 324 P P 21 30 28.8 +0.9
comp=Z,0.7nm,0.8s,baz=141,slow=5.6,SNR=4.7
comp=Z,0.7nm,0.8s
ARCES ARCESS Array B 120.39 345 PKP PKPdf 21 36 53.2 -0.9
comp=Z,2.9nm,0.8s,baz=51,slow=1.9,SNR=6.9
FUORN Ofenpass-Fuorn 143.00 334 PKPdf PKPbc 21 37 35.5 +0.8
TUE Stuetta 143.51 334 PKPdf PKPbc 21 37 37.3 +1.2
ZCCA Zocca 144.42 331 PKPdf PKPdf 21 37 39.7 -0.1
SENIN Lac Senin/Sane 144.43 336 PKPdf PKPbc 21 37 39.1 +0.4
NRCA Norcia 144.44 327 PKPdf PKPab 21 37 38.7 +0.2
BNI Bardonecchia 145.75 335 PKPbc PKPab 21 37 43.5 +0.1
KEST Kesra 151.40 321 PKPbc PKPbc 21 37 57.8 0.0

---

*IDC **10** 21:22:09.6±0.8, 29°.92N×142°.71E, h0km, mb3.7/11, mbtmp3.7/12, ML2.9/1, MS2.7/2, Error ellipse: s-maj=28.8km s-min=17.0km az=79.0*
ISC 10 21:22:14.2±0.8, 29°.9N±0°.1×142°.7E±0°.2, h35km, n16, σ1°.14/14, mb3.7/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.63**	**332**	Pn	**Pn**	**21 24 00.6**	**-2.3**
	0.2nm,0.3s,baz=160,slow=12,SNR=6.3						
	1.2nm,0.4s						
KSRS	**Korea Array**	**14.42**	**305**	LR	LR	21 31 31.0	
	comp=Z,29nm,19.2s,baz=145,slow=39						
GUMO	**Guam**	**16.34**	**172**	Pn	**Pn**	**21 25 58.8**	**-2.2**
	13nm,0.3s,baz=0.0,slow=16,SNR=6.1						
KLR	**Kul'dur**	**21.04**	**340**	P	**P**	**21 26 55.5**	**+0.6**
	1.0nm,0.6s,baz=169,slow=6.2,SNR=5.1						
	1.0nm,0.6s						
SONM	**Songino Array**	**33.08**	**313**	P	**P**	**21 28 47.4**	**+0.7**
	0.4nm,0.8s,baz=106,slow=9.1,SNR=2.5						
	0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**41.28**	**264**	LR	LR	21 47 37.3	
	comp=Z,8.3nm,20.9s,baz=195,slow=37						
MKAR	**Makanchi Array**	**49.09**	**308**	P	**P**	**21 30 58.8**	**+0.7**
	0.5nm,0.7s,baz=90,slow=8.9,SNR=6.5						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**50.19**	**190**	P	**P**	**21 31 07.4**	**+0.8**
	1.9nm,0.7s,baz=9.3,slow=7.8,SNR=16						
	1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**51.45**	**313**	P	**P**	**21 31 16.3**	**+0.5**
	0.5nm,0.5s,baz=91,slow=9.2,SNR=11						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**53.91**	**190**	P	**P**	**21 31 35.0**	**+0.8**
	0.4nm,0.6s,baz=352,slow=5.1,SNR=7.5						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**55.06**	**30**	P	**P**	**21 31 41.8**	**-0.4**
	0.6nm,0.8s,baz=269,slow=8.4,SNR=4.5						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**56.32**	**316**	P	**P**	**21 31 52.1**	**+0.7**
	1.3nm,0.8s,baz=83,slow=6.1,SNR=5.0						
	1.3nm,0.8s						
YKA	**Yellowknife Ar**	**69.49**	**29**	P	**P**	**21 33 19.5**	**+0.7**
	0.9nm,0.7s,baz=297,slow=6.7,SNR=14						
	0.9nm,0.7s						
FINES	**FINESS Array B**	**75.65**	**334**	P	**P**	**21 33 55.7**	**+0.2**
	0.6nm,0.4s,baz=66,slow=3.5,SNR=7.4						
	0.6nm,0.4s						
NOA	**NORSAR Array B**	**81.19**	**338**	P	**P**	**21 34 26.0**	**-0.1**
	0.5nm,0.8s,baz=39,slow=5.4,SNR=2.8						
	0.5nm,0.8s						
LPAZ	**La Paz**	**148.69**	**71**	PKPbc	**PKiKP**	**21 42 00.9**	**+0.3**
	1.8nm,0.7s,baz=261,slow=3.2,SNR=5.3						

---

*GCG **10** 21:55:09.6±3.1, 14°.92N×94°.34W, h36km±999km, MD4.3*
*MEX **10** 21:55:10.3±0.7, 14°.89N×94°.39W, h16km±11km, MD4.1*
ISC 10 21:55:03.7±1.9, 15°.03N±0°.07×94°.33W±0°.04, h4km±13km, n17, σ1°.68/32, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.26**	**58**	*eP*	**Pg**	**21 55 30.6**	**+2.6**
PCIG				*eS*	**Sg**	**21 55 42.8**	**-1.5**
HUIG	**Huatulco**	**1.87**	**293**	*eP*	**Pb**	**21 55 38.8**	**+0.3**
HUIG				*eS*	**Sn**	**21 55 59.1**	**-1.5**
PATR	**El Naranjo**	**2.02**	**87**	*eP*	**Pb**	**21 55 41.4**	**+0.3**
PATR				*eS*	**Sb**	**21 56 05.8**	**-1.0**
PAVE	**Pavencul**	**2.08**	**85**	*eP*	**Pb**	**21 55 42.1**	**-0.1**
PAVE				*eS*	**Sb**	**21 56 07.8**	**-0.7**
TGIG		**2.09**	**33**	*eP*	**Pg**	**21 55 43.6**	**-0.2**
TGIG				*eS*	**Sg**	**21 56 09.7**	**-1.2**
TGIG		**2.09**	**33**	*eP*	**Pg**	**21 55 43.6**	**-0.2**
TGIG				*i S*	**Sg**	**21 56 10.2**	**-0.7**
CMIG	**Matias Romero**	**2.12**	**345**	*eP*	**Pb**	**21 55 43.5**	**+0.7**
CMIG				*eS*	**Sb**	**21 56 08.6**	**-0.8**
UXUV	**UXUV**	**2.28**	**4**	*eP*	**Pg**	**21 55 47.0**	**-0.5**
UXUV				*eS*	**Sb**	**21 56 14.6**	**+0.5**
CCIG	**Comitan**	**2.45**	**59**	*eP*	**Pb**	**21 55 48.7**	**+0.3**
CCIG				*eS*	**Sb**	**21 56 17.0**	**-2.0**
CCIG	**Comitan**	**2.45**	**59**	*eP*	**Pb**	**21 55 49.1**	**+0.7**
CCIG				*i S*	**Sb**	**21 56 19.0**	**0.0**
STG8	**El Palmar, Qui**	**2.93**	**101**	*eP*	**Pn**	**21 55 50.6**	**-0.8**
NEUV	**Arroyo Zacate**	**3.02**	**332**	*eP*	**Pb**	**21 55 57.0**	**-1.1**
NEUV				*eS*	**Sn**	**21 56 29.8**	**+0.8**
YOIG	**Yosondua**	**3.59**	**301**	*eP*	**Pb**	**21 56 05.3**	**-2.7**
YOIG				*eS*	**Sn**	**21 56 44.1**	**+0.6**
PNIG	**Pinotepa**	**3.90**	**291**	*eP*	**Pn**	**21 56 07.9**	**+3.4**
PNIG				*eS*	**Sn**	**21 56 47.5**	**-3.4**
TXIG	**Tlaxiaco**	**3.98**	**304**	*eP*	**Pn**	**21 56 09.9**	**+4.1**
TXIG				*eS*	**Sn**	**21 56 52.8**	**-0.2**
TOIG	**Toxpalan**	**4.03**	**320**	*eP*	**Pb**	**21 56 12.8**	**-2.5**
TOIG				*eS*	**Sn**	**21 56 53.0**	**-0.9**
FTIG	**Fresnillo de T**	**4.64**	**309**	*eP*	Pn	21 56 20.2	+5.4
FTIG				*eS*	**Sn**	**21 57 09.2**	**0.0**

UPP 10 22:03:54.2±0.0, 67°.19N×20°.64E, h0km, ML2.0, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**203**	P	Pg	22 03 55.9	+0.3
DUNU				S	Sg	22 03 57.1	+0.6
MASU	**Masugnsbyn**	**0.59**	**62**	P	Pg	22 04 05.3	-0.2
RATU	**Laukkuluspa**	**0.76**	**328**	P	Pg	22 04 08.3	-0.3
RATU				S	Sg	22 04 18.5	+0.1
KUA	**Kurravaara**	**0.78**	**352**	P	Pg	22 04 09.0	-0.1
KUA				S	Sg	22 04 19.8	+0.7
SALU	**Saltoluokta**	**0.85**	**284**	P	Pg	22 04 10.1	-0.3
PAJU	**Pajala**	**0.98**	**99**	P	Pg	22 04 12.8	-0.2
KOVU	**Salmi**	**1.05**	**350**	P	Pg	22 04 14.3	-0.1
KALU	**Kalix**	**1.72**	**140**	P	Pb	22 04 26.2	-0.4
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	22 04 25.6	+0.1

IDC 10 22:13:34.5±5.6, 17°.41S×178°.65W, h555km±26km, mb3.1/4, mbtmp4.0/5, Error ellipse: s-maj=158.6km s-min=32.6km az=25.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.16**	**264**	P	P	22 14 51.0	0.0
	8.3nm,0.7s,baz=343,slow=24,SNR=7.0						
STKA	**Stephens Creek**	**38.67**	**241**	P	P	22 20 11.2	+0.1
	1.1nm,0.5s,baz=90,slow=15,SNR=3.7						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**44.49**	**259**	P	P	22 20 56.9	-0.4
	0.7nm,0.6s,baz=96,slow=7.2,SNR=5.8						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**44.70**	**254**	P	P	22 20 58.7	-0.2
	5.0nm,0.5s,baz=89,slow=8.1,SNR=88						
	5.0nm,0.5s						
QSPA	**South Pole Qui**	**72.64**	**180**	P	P	22 24 06.0	+0.1
	0.9nm,0.7s,baz=22,slow=4.4,SNR=7.5						
	0.9nm,0.7s						

IDC 10 22:18:19.4±3.8, 18°.03S×178°.39E, h545km±29km, mb3.1/3, mbtmp4.1/3, Error ellipse: s-maj=147.7km s-min=38.5km az=128.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**0.44**	**312**	P	P	22 19 24.5	+0.1
	1.4nm,0.3s,baz=132,slow=9.4,SNR=4.8						
STKA	**Stephens Creek**	**35.91**	**240**	P	P	22 24 33.9	-0.2
	1.6nm,0.5s,baz=56,slow=11,SNR=4.5						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**41.61**	**260**	P	P	22 25 20.1	-0.2
	0.9nm,0.5s,baz=94,slow=7.2,SNR=14						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**41.83**	**254**	P	P	22 25 21.9	-0.1
	2.9nm,0.6s,baz=88,slow=8.7,SNR=32						
	2.9nm,0.6s						

---

*ATH **10** 22:18:47.7, 38°.51N×21°.67E, h15km±2km, ML2.5/11, Manual Solution by E.Daskalaki First location: 2019/04/11 07:24:34, This location: 2019/04/11 07:45:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **10** 22:18:48.5, 38°.50N×21°.67E, h12km±3km, ML2.6/8, Error ellipse: s-maj=3.5km s-min=0.6km az=90.0*
ISC 10 22:18:48.1±0.9, 38°.51N±0°.02×21°.67E±0°.02, h14km±7km, n24, σ0°.41/46, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVO	**Paravola**	**0.16**	**314**	P	**Pg**	**22 18 51.5**	**-0.5**
PVO				S	**Sg**	**22 18 54.6**	**+0.1**
EFP	**Efpalio**	**0.20**	**113**	P	**Pg**	**22 18 52.3**	**-0.3**
EFP				S	**Sg**	**22 18 56.2**	**+0.6**
	3μm,0.2s						
EFP	**Efpalio**	**0.20**	**113**	P	**Pg**	**22 18 52.2**	**-0.3**
EFP				S	**Sg**	**22 18 56.3**	**+0.7**
ANX	**Ano Chora**	**0.21**	**66**	P	**Pg**	**22 18 52.6**	**-0.3**
ANX				S	**Sg**	**22 18 56.4**	**+0.2**
	4μm,0.4s						
ANX	**Ano Chora**	**0.21**	**66**	P	**Pg**	**22 18 52.6**	**-0.3**
ANX				S	**Sg**	**22 18 56.3**	**+0.1**
UPR	**University Cam**	**0.24**	**158**	P	**Pb**	**22 18 53.8**	**-0.4**
UPR				S	**Sg**	**22 18 57.4**	**+0.6**
PATC	**Patra C**	**0.25**	**164**	P	**Pg**	**22 18 53.7**	**+0.4**
PATG	**Patra B**	**0.27**	**171**	P	**Pg**	**22 18 53.6**	**-0.1**
PATG				S	**Sg**	**22 18 58.0**	**+0.4**
SERG	**Sergoula**	**0.32**	**107**	P	**Pg**	**22 18 54.2**	**-0.3**
SERG				S	**Sg**	**22 18 59.3**	**+0.3**
KALE	**Kalithea**	**0.39**	**107**	P	**Pg**	**22 18 55.6**	**-0.2**
KALE				S	**Sg**	**22 19 01.9**	**+0.8**
	882nm,0.2s						
KALE	**Kalithea**	**0.39**	**107**	P	**Pg**	**22 18 55.8**	**-0.1**
KALE				S	**Sb**	**22 19 02.1**	**-0.6**
AXS	**Araxos**	**0.39**	**217**	P	**Pg**	**22 18 55.4**	**-0.5**
AXS				S	**Sg**	**22 19 01.2**	**+0.1**
EVR	**Evrytania**	**0.42**	**15**	P	**Pg**	**22 18 56.9**	**+0.3**
EVR				S	**Sb**	**22 19 03.8**	**0.0**
	765nm,0.3s						
EVR	**Evrytania**	**0.42**	**15**	P	**Pg**	**22 18 56.9**	**+0.3**
EVR				S	**Sg**	**22 19 02.6**	**+0.3**
ALIK	**Aliki, Aigiali**	**0.42**	**125**	P	**Pg**	**22 18 56.6**	**+0.1**
AST1	**Astakos**	**0.46**	**275**	P	**Pg**	**22 18 57.0**	**-0.1**
AST1				S	**Sb**	**22 19 04.3**	**-0.3**
	2μm,0.3s						
RLS	**Riolos of Patr**	**0.48**	**200**	P	**Pg**	**22 18 57.7**	**+0.2**
RLS				S	**Sb**	**22 19 05.2**	**+0.1**
	450nm,0.4s						
RLS	**Riolos of Patr**	**0.48**	**200**	P	**Pg**	**22 18 57.9**	**+0.4**
RLS				S	**Sg**	**22 19 04.5**	**+0.6**
YRMI	**Loutra Irminis**	**0.48**	**212**	P	**Pg**	**22 18 57.5**	**+0.1**
YRMI				S	**Sb**	**22 19 04.7**	**-0.4**
KLV	**Kalavryta, Ach**	**0.60**	**141**	P	**Pg**	**22 18 59.3**	**-0.5**
KLV				S	**Sb**	**22 19 09.5**	**+0.8**
	225nm,0.3s						
KLV	**Kalavryta, Ach**	**0.60**	**141**	P	**Pg**	**22 18 59.3**	**-0.5**
KLV				S	**Sb**	**22 19 08.8**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.62**	**35**	P	**Pg**	**22 19 00.5**	**+0.3**
MAKR				S	**Sb**	**22 19 09.8**	**+0.4**
	1μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.62**	**35**	P	**Pb**	**22 19 00.6**	**-0.1**
MAKR				S	**Sg**	**22 19 08.6**	**+0.1**
DLFA	**Delphi**	**0.65**	**92**	P	**Pg**	**22 18 60.0**	**-0.7**
DLFA				S	**Sb**	**22 19 09.8**	**-0.3**

IDC 10 22:26:27.3±4.7, 15°.09S×176°.79W, h389km±33km, mb3.6/3, mbtmp4.4/3, Error ellipse: s-maj=187.6km s-min=29.3km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.61**	**241**	P	Pn	22 27 55.4	0.0
	3.0nm,0.6s,baz=49,slow=18,SNR=2.5						
WRA	**Warramunga Arr**	**46.73**	**257**	P	P	22 34 19.8	+0.2
	2.9nm,0.6s,baz=90,slow=7.0,SNR=29						
	2.9nm,0.6s						
ASAR	**Alice Springs**	**47.10**	**252**	P	P	22 34 21.9	-0.5
	11nm,0.4s,baz=88,slow=7.9,SNR=192						
	11nm,0.4s						
ILAR	**Eielson Array**	**82.81**	**12**	P	P	22 38 08.7	0.0
	0.3nm,0.6s,baz=223,slow=5.4,SNR=5.7						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**143.81**	**319**	PKP	PKPdf	22 45 16.7	-0.7
	0.9nm,0.7s,baz=47,slow=2.6,SNR=6.8						

---

*IDC **10** 22:48:08.0±1.1, 51°.69N×175°.23W, h0km, mb3.8/8, mbtmp3.8/10, ML4.1/2, MS3.2/1, Error ellipse: s-maj=33.7km s-min=20.2km az=157.0*
*NEIC **10** 22:48:14.0±2.5, 51°.64N±0°.04×175°.21W±0°.06, h35km±2km, mb3.9/27, ML4.0/6, Error ellipse: s-maj=8.2km s-min=3.9km az=135.0*
ISC 10 22:48:13.3±0.8, 51°.5N±0°.1×175°.20W±0°.05, h40km, n69, σ1°.26/63, mb3.9/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**0.77**	**316**		**Pn**	**22 48 28.2**	**+0.4**
ATKA	**Atka Island**	**0.91**	**43**		**Pn**	**22 48 29.1**	**-0.5**
ATKA				Sn	**Sn**	**22 48 40.2**	**-1.3**
ATKA				IAML		22 48 40.8	
	comp=E,4μm,0.5s						
ADK	**Adak**	**0.99**	**291**		**Pn**	**22 48 30.8**	**+0.1**
ADK				Sn	**Sn**	**22 48 41.9**	**-1.6**
ADK				IAML		22 48 43.8	
	comp=E,5μm,0.4s						
ADK				IAML		22 48 44.2	
	comp=E,5μm,0.2s						
KIWB	**Kanaga Island**	**1.26**	**285**		**Pn**	**22 48 34.8**	**+0.3**
KIWB				Sn	**Sn**	**22 48 50.7**	**+0.6**
NIKH	**Nikolski High**	**4.15**	**67**	Pn	**Pn**	**22 49 14.7**	**+0.5**
NIKH				IAML		22 49 53.5	
	comp=E,163nm,2.3s						
NIKH					**Sn**	**22 50 02.3**	**+0.9**
UNV	**Unalaska Valle**	**5.77**	**63**	Pn	**Pn**	**22 49 38.3**	**+2.0**
SPIA	**Saint Paul Isl**	**6.35**	**25**	Pn	**Pn**	**22 49 46.7**	**+2.5**
O14K	**Tigyukauivet M**	**11.05**	**40**	Pn	**Pn**	**22 50 50.0**	**+1.4**
N14K	**Kuskokwak Cree**	**11.32**	**37**	Pn	**Pn**	**22 50 54.8**	**+2.5**
O15K	**Ungalikthiuk R**	**11.60**	**43**	Pn	**Pn**	**22 50 58.5**	**+2.4**
K13K	**Kusilvak Mount**	**11.90**	**25**	Pn	**Pn**	**22 50 59.5**	**-0.7**
O16K	**Kokwok River B**	**12.57**	**43**	Pn	**Pn**	**22 51 12.3**	**+2.9**
M17K	**Holitna River**	**13.87**	**38**	Pn	**Pn**	**22 51 30.1**	**+3.0**
ANM	**Nome**	**14.03**	**18**	Pn	**Pn**	**22 51 32.5**	**+3.2**
KDAK	**Kodiak Island**	**14.46**	**56**	Pn	**Pn**	**22 51 35.0**	**-0.1**
KDAK	**Kodiak Island**	**14.46**	**56**	Pn	**Pn**	**22 51 33.9**	**-1.2**
	comp=E,1.9nm,0.3s,baz=88,slow=2.4,SNR=26						
	comp=E,5.2nm,0.8s						
N19K	**Bonanza Creek**	**14.74**	**43**	Pn	**Pn**	**22 51 39.8**	**+0.8**
L19K	**White Mountain**	**15.33**	**38**		**P**	**22 51 49.4**	**-1.4**
L19K				IAmb	IAmb	22 51 57.2	
	comp=Z,7.2nm,0.9s						
CNPM	**China Poot**	**15.67**	**50**	Pn	**Pn**	**22 51 52.1**	**+1.1**
SKT	**Skwentna**	**16.55**	**42**		**P**	**22 52 05.2**	**+0.8**
SKT				IAmb	IAmb	22 52 36.1	
	comp=Z,11nm,1.4s						
PPLA	**Purkeypile**	**16.75**	**38**		**P**	**22 52 07.2**	**+0.5**
PPLA				IAmb	IAmb	22 52 31.9	
	comp=Z,11nm,1.2s						
CAST	**Castle Rocks**	**17.08**	**37**	P	**P**	**22 52 11.8**	**+1.6**
CAST				IAmb	IAmb	22 52 40.7	
	comp=Z,9.6nm,1.5s						
TRF	**Thorofare Moun**	**17.78**	**38**	P	**P**	**22 52 18.6**	**+0.6**
BPAW	**Bear Paw Mtn.**	**17.86**	**36**	P	**P**	**22 52 20.2**	**+1.4**
C18K	**Utukok River**	**18.44**	**16**	P	**Pn**	**22 52 26.5**	**+1.0**
HDA	**Harding Lake**	**19.54**	**38**	P	**P**	**22 52 36.8**	**-0.3**
HDA				IAmb	IAmb	22 52 54.7	
	comp=Z,7.2nm,1.2s						
IL31		**19.73**	**37**	P	**P**	**22 52 39.4**	**+0.2**
IL31				IAmb	IAmb	22 53 07.3	
	comp=Z,8.4nm,1.4s						
ILAR	**Eielson Array**	**19.73**	**37**	P	**P**	**22 52 37.1**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=217,slow=10,SNR=10						
	comp=Z,0.3nm,0.4s						
J25K	**Salcha River,**	**20.24**	**38**	P	**P**	**22 52 43.7**	**-1.1**
DOT	**Dot Lake**	**20.37**	**42**	P	**P**	**22 52 45.6**	**-0.6**
SCRK	**Sand Creek**	**20.52**	**41**		**P**	**22 52 47.1**	**-0.9**
B21K	**Ikpikpuk River**	**20.56**	**21**	P	**P**	**22 52 49.1**	**+0.9**
B21K				IAmb	IAmb	22 52 52.2	
	comp=Z,4.5nm,0.7s						
J26L	**Joseph Creek**	**20.90**	**40**	P	**P**	**22 52 51.4**	**-0.6**
J26L				IAmb	IAmb	22 52 55.7	
	comp=Z,3.9nm,0.7s						
D23K	**Nanushuk River**	**21.02**	**25**	P	**P**	**22 52 53.9**	**+0.8**
D23K				IAmb	IAmb	22 53 12.7	
	comp=Z,6.6nm,1.3s						
BCAR	**Beaver Creek A**	**21.14**	**44**	P	**P**	**22 52 54.8**	**+0.3**
K27K	**Chicken**	**21.33**	**41**	P	**P**	**22 52 56.1**	**-0.4**
K27K				IAmb	IAmb	22 53 04.3	
	comp=Z,5.4nm,1.0s						
C23K	**Itkillik River**	**21.65**	**23**		**P**	**22 53 00.4**	**+0.5**
BMAR	**Burnt Mountain**	**21.89**	**32**	P	**P**	**22 53 03.0**	**+0.5**
E25K	**Arctic Village**	**21.95**	**30**	P	**P**	**22 53 03.5**	**+0.4**
D25K	**Kavik River**	**22.42**	**27**	P	**P**	**22 53 07.9**	**-0.3**
DAWY	**Dawson**	**22.46**	**42**	P	**P**	**22 53 08.8**	**+0.2**
DAWY				IAmb	IAmb	22 53 20.4	
	comp=Z,5.1nm,1.3s						
I30M	**Mount Dempster**	**24.03**	**40**	P	**P**	**22 53 23.7**	**-0.6**
I30M				IAmb	IAmb	22 53 50.2	
	comp=Z,6.2nm,1.4s						
TIXI	**Tiksi**	**31.62**	**330**	LR	LR	23 08 25.5	
	comp=Z,40nm,18.5s,baz=18,slow=39						
H11N2	**WAKE ISLAND Hy**	**34.72**	**211**	T	T	23 32 31.2	
	baz=19,slow=74						
H11N3	**WAKE ISLAND Hy**	**34.73**	**211**	T	T	23 32 28.4	
	baz=19,slow=74						
H11N1	**WAKE ISLAND Hy**	**34.74**	**211**	T	T	23 32 31.8	
	baz=19						
H11S1	**WAKE ISLAND Hy**	**35.93**	**210**	T	T	23 33 56.7	
	baz=19,slow=76,SNR=79						
H11S2	**WAKE ISLAND Hy**	**35.95**	**210**	T	T	23 33 43.4	
	baz=19,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**35.95**	**210**	T	T	23 33 43.5	
	baz=19,slow=76,SNR=22						
BOZ	**Bozeman (W)**	**41.29**	**72**	P	**P**	**22 55 54.3**	**-0.5**
BOZ				IAmb	IAmb	22 56 18.1	
	comp=Z,3.9nm,1.4s						
KSRS	**Korea Array**	**41.88**	**273**	P	**P**	**22 56 01.0**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=51,slow=9.1,SNR=2.2						
	comp=Z,0.7nm,0.5s						
PD31	**Pinedale Array**	**44.10**	**75**	P	**P**	**22 56 16.9**	**-0.8**
PD31				IAmb	IAmb	22 56 39.5	
	comp=Z,3.9nm,1.3s						
PDAR	**Pinedale Array**	**44.10**	**75**	P	**P**	**22 56 17.1**	**-0.6**
PDAR	**Pinedale Array**	**44.10**	**75**	P	**P**	**22 56 18.7**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=314,slow=3.6,SNR=12						
	comp=Z,0.9nm,0.5s						
SPITS	**Spitsbergen Ar**	**50.36**	**357**	P	**P**	**22 57 04.7**	**-1.0**
	comp=Z,6.6nm,1.0s,baz=2.3,slow=7.2,SNR=6.0						
	comp=Z,6.6nm,1.0s						
KURK	**Kurchatov**	**60.52**	**315**	P	**P**	**22 58 18.3**	**-0.6**
MKAR	**Makanchi Array**	**61.67**	**310**	P	**P**	**22 58 25.3**	**-1.6**
MKAR	**Makanchi Array**	**61.67**	**310**	P	**P**	**22 58 26.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=42,slow=5.9,SNR=4.6						
	comp=Z,0.1nm,0.3s						
BVAR	**Borovoye Array**	**62.20**	**322**	P	**P**	**22 58 30.4**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=59,slow=7.8,SNR=4.3						
	comp=Z,0.6nm,0.3s						
ARTI	**Arti**	**63.72**	**330**	P	**P**	**22 58 40.3**	**0.0**
HFS	**Hagfors**	**68.45**	**355**	P	**P**	**22 59 09.6**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=30,slow=3.5,SNR=1.6						
	comp=Z,1.1nm,0.7s						
ABKAR	**Akbulak array**	**69.14**	**325**	P	**P**	**22 59 14.0**	**-1.1**
ABKAR	**Akbulak array**	**69.14**	**325**	P	**P**	**22 59 13.8**	**-1.3**
ABKAR				IAmb	IAmb	22 59 24.2	
	comp=Z,1.7nm,1.1s						
WRA	**Warramunga Arr**	**83.73**	**227**	P	**P**	**23 00 38.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=27,slow=5.4,SNR=1.5						
	comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**87.17**	**225**	P	**P**	**23 00 56.1**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=27,slow=6.4,SNR=2.0						

σ1$10/61, **mb3.8/34, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.41**	**351**	Pn	**Pn**	**23 09 18.0**	**-2.7**
JCJ	**Chichijima**	**5.41**	**351**	P	**Pn**	**23 09 18.2**	**-2.5**
	74nm,0.4s,baz=304,slow=21,SNR=2.0						
JCJ				S	**S**	**23 10 23.8**	**-3.5**
	109nm,0.4s,baz=349,slow=23,SNR=6.8						
JGF	**Kuroka**	**14.71**	**341**	P	**P**	**23 11 12.3**	**+0.9**
MJAR	**Matsushiro Arr**	**15.37**	**345**	P	**P**	**23 11 19.1**	**+0.6**
	2.7nm,0.7s,baz=175,slow=11,SNR=6.3						
JMM	**Marumori**	**16.21**	**353**	P	**Pn**	**23 11 29.9**	**-0.2**
JSD	**Sado**	**16.79**	**347**	P	**P**	**23 11 33.3**	**-0.6**
ERM	**Erimo**	**20.23**	**0**	P	**P**	**23 12 11.4**	**+1.0**
KSRS	**Korea Array**	**20.46**	**323**	P	**P**	**23 12 13.9**	**+1.2**
	1.6nm,0.6s,baz=146,slow=8.8,SNR=9.8						
	1.6nm,0.6s						
TOLI2	**Tolitoli**	**29.90**	**230**	P	**P**	**23 13 37.5**	**-0.4**
TOLI2				IAmb	IAmb	23 13 39.9	
	comp=Z,5.5nm,0.7s						
SBUM	**Sibu**	**35.64**	**242**	P	**P**	**23 14 28.6**	**+1.2**
SBUM				IAmb	IAmb	23 14 30.3	
	comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**39.28**	**320**	P	**P**	**23 14 58.6**	**+1.1**
SONM	**Songino Array**	**39.28**	**320**	P	**P**	**23 14 59.0**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=117,slow=5.3,SNR=4.6						
	comp=Z,0.4nm,0.4s						
KNRA	**Kununurra**	**39.75**	**202**	P	**P**	**23 15 00.6**	**-0.9**
JAGI	**Jajag, Banyuwa**	**41.34**	**227**	P	**P**	**23 15 13.2**	**-1.3**
JAGI				IAmb	IAmb	23 15 13.8	
	comp=Z,18nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.52**	**274**	P	**P**	**23 15 16.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=96,slow=7.7,SNR=1.6						
	comp=Z,0.2nm,0.3s						
WB0	**Warramunga Arr**	**42.12**	**192**	P	**P**	**23 15 20.1**	**-0.6**
WB0				IAmb	IAmb	23 15 21.5	
	comp=Z,3.8nm,0.6s						
WRA	**Warramunga Arr**	**42.30**	**192**	P	**P**	**23 15 20.5**	**-1.6**
WRA	**Warramunga Arr**	**42.30**	**192**	P	**P**	**23 15 21.5**	**-0.6**
	comp=Z,4.7nm,0.6s,baz=15,slow=8.3,SNR=32						
	comp=Z,4.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**43.13**	**205**	P	**P**	**23 15 27.8**	**-0.9**
UGM	**Wanagama**	**43.48**	**231**	P	**P**	**23 15 31.0**	**-0.7**
ASAR	**Alice Springs**	**46.01**	**192**	P	**P**	**23 15 50.8**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=17,slow=12,SNR=13						
	comp=Z,0.9nm,0.6s						
GSI	**Gunungsitoli**	**48.76**	**252**	P	**P**	**23 16 12.6**	**+0.1**
GSI				IAmb	IAmb	23 16 15.3	
	comp=Z,13nm,0.9s						
STKA	**Stephens Creek**	**53.32**	**182**	P	**P**	**23 16 45.4**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=0.0,slow=5.1,SNR=3.1						
	comp=Z,1.2nm,0.4s						
ZAA0	**Zalesovo Array**	**54.15**	**322**	P	**P**	**23 16 51.9**	**+0.3**
ZALV	**Zalesovo Beam**	**54.15**	**322**	P	**P**	**23 16 51.6**	**0.0**
ZALV	**Zalesovo Beam**	**54.15**	**322**	P	**P**	**23 16 52.2**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=101,slow=7.7,SNR=7.8						
ZALV				PcP	**PcP**	**23 17 51.6**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=101,slow=4.6,SNR=5.0						
	comp=Z,2.0nm,0.7s						
FORT	**Forrest**	**54.18**	**196**	P	**P**	**23 16 51.0**	**-1.1**
MK31	**Makanchi Array**	**54.64**	**313**	P	**P**	**23 16 56.1**	**+0.8**
MKAR	**Makanchi Array**	**54.64**	**313**	P	**P**	**23 16 56.1**	**+0.8**
MKAR	**Makanchi Array**	**54.64**	**313**	P	**P**	**23 16 56.2**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=90,slow=9.6,SNR=14						
MKAR				PcP	**PcP**	**23 17 54.5**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=75,slow=4.0,SNR=9.8						
	comp=Z,0.8nm,0.5s						
O15K	**Ungalikthiuk R**	**54.84**	**32**	P	**P**	**23 16 57.5**	**+1.1**
MAKZ	**Makanchi**	**54.85**	**313**	P	**P**	**23 16 57.1**	**+0.3**
K17K	**Iditarod**	**56.63**	**28**	P	**P**	**23 17 10.6**	**+1.6**
K17K				IAmb	IAmb	23 17 12.1	
	comp=Z,6.8nm,0.9s						
H18K	**Honhosa River**	**57.40**	**25**	P	**P**	**23 17 15.7**	**+1.3**
H18K				IAmb	IAmb	23 17 29.6	
	comp=Z,5.1nm,1.4s						
KURK	**Kurchatov**	**57.41**	**317**	P	**P**	**23 17 15.2**	**+0.5**
KURBB	**Kurchatov Arra**	**57.46**	**317**	P	**P**	**23 17 15.5**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=95,slow=7.5,SNR=30						
	comp=Z,2.4nm,0.6s						
C18K	**Utukok River**	**57.69**	**21**	P	**P**	**23 17 17.1**	**+0.7**
C18K				IAmb	IAmb	23 17 23.3	
	comp=Z,5.9nm,1.4s						
NRIK	**Noril'sk**	**57.95**	**340**	P	**P**	**23 17 17.9**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=109,slow=7.7,SNR=3.9						
	comp=Z,1.3nm,0.7s						
J19K	**Poorman**	**58.16**	**27**	P	**P**	**23 17 21.0**	**+1.4**
J19K				IAmb	IAmb	23 17 50.1	
	comp=Z,5.2nm,1.5s						
J20K	**Nowinta River**	**58.84**	**27**	P	**P**	**23 17 25.3**	**+1.0**
J20K				IAmb	IAmb	23 17 45.8	
	comp=Z,8.3nm,1.4s						
BOOM	**Boomskoye usch**	**59.04**	**307**	P	**P**	**23 17 27.8**	**+1.5**
CAST	**Castle Rocks**	**59.54**	**28**	P	**P**	**23 17 30.1**	**+1.0**
CAST				IAmb	IAmb	23 17 32.3	
	comp=Z,2.4nm,0.8s						
ARSB	**Arslanbob**	**61.31**	**306**	P	**P**	**23 17 42.8**	**+1.2**
ARSB				IAmb	IAmb	23 17 43.5	
	comp=Z,2.3nm,0.5s						
ILAR	**Eielson Array**	**62.03**	**27**	P	**P**	**23 17 45.6**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=262,slow=4.7,SNR=8.6						
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**62.61**	**319**	P	**P**	**23 17 50.7**	**+1.0**
	comp=Z,3.4nm,0.4s,baz=95,slow=8.0,SNR=35						
	comp=Z,3.4nm,0.4s						
BRVK	**Borovoye**	**62.68**	**320**	P	**P**	**23 17 50.5**	**+0.4**
BRVK				IAmb	IAmb	23 17 51.9	
	comp=Z,2.8nm,0.8s						
SPITS	**Spitsbergen Ar**	**75.79**	**350**	P	**P**	**23 19 10.7**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=69,slow=7.9,SNR=6.2						
	comp=Z,2.2nm,0.8s						
YKA	**Yellowknife Ar**	**76.45**	**28**	P	**P**	**23 19 14.3**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=293,slow=5.7,SNR=20						
	comp=Z,0.9nm,0.6s						
ARCES	**ARCESS Array B**	**78.88**	**341**	P	**P**	**23 19 27.3**	**+0.5**
	comp=Z,3.6nm,0.6s,baz=74,slow=8.9,SNR=15						
	comp=Z,3.6nm,0.6s						
KBZ	**Khabaz**	**82.31**	**314**	P	**P**	**23 19 46.5**	**+1.2**
	comp=Z,4.6nm,0.9s,baz=80,slow=4.5,SNR=16						
	comp=Z,4.6nm,0.9s						
FINES	**FINESS Array B**	**83.13**	**334**	P	**P**	**23 19 49.1**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=69,slow=4.7,SNR=24						
	comp=Z,1.1nm,0.3s						
NVAR	**Mina Array Bea**	**83.17**	**51**	P	**P**	**23 19 50.6**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=296,slow=4.8,SNR=4.2						
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**87.45**	**324**	P	**P**	**23 20 09.7**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=59,slow=3.9,SNR=5.3						
	comp=Z,0.7nm,0.6s						
HFS	**Hagfors**	**88.68**	**337**	P	**P**	**23 20 15.1**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=106,slow=5.4,SNR=6.9						
	comp=Z,0.9nm,0.7s						
NOA	**NORSAR Array B**	**88.90**	**339**	P	**P**	**23 20 16.5**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=52,slow=4.3,SNR=3.7						
	comp=Z,0.7nm,0.8s						
BRTR	**Keskin Array B**	**90.28**	**313**	P	**P**	**23 20 23.4**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=66,slow=4.9,SNR=2.6						
	comp=Z,0.3nm,0.5s						
PLCA	**Paso Flores**	**145.82**	**131**	PKPbc	**PKPab**	**23 27 02.0**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=225,slow=2.9,SNR=5.0						
LPAZ	**La Paz**	**149.99**	**85**	PKPbc	**PKiKP**	**23 27 14.8**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=301,slow=3.3,SNR=6.2						

*NOU **10** 23:11:02.1, 42°.74S×173°.16E, h17km, MLv3.9/15, South Island, New Zealand*
*WEL **10** 23:11:03.3±0.4, 43°.5S±3°×17°.3E±°, h7km±3km, M3.6/9, ML3.9/9, MLv3.6/9, Error ellipse: s-maj=3.6km s-min=2.9km az=153.2, confirmed*
ISC 10 23:11:02.7±0.8, **42°.66S**±0°.02×**173°.06E**±0°.03, **h15**km±5km, **n101**, σ1$26/110, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTMC	**Te Mara Farm W**	**0.04**	**349**	P	**Pg**	**23 11 05.0**	**-0.4**
WTMC				S	**Sg**	**23 11 06.9**	**-0.3**
HSES	**Hanmer Springs**	**0.22**	**308**	P	**Pg**	**23 11 06.7**	**-0.9**
HSES				S	**Sg**	**23 11 09.9**	**-1.0**
CECS	**Cheviot Emerge**	**0.22**	**135**	P	**Pb**	**23 11 09.3**	**+0.9**
CECS				S	**Sg**	**23 11 14.9**	**+3.9**
GVZ	**Greta Valley S**	**0.31**	**184**	P	**Pb**	**23 11 10.8**	**+0.8**
GVZ				S	**Sb**	**23 11 16.9**	**+1.9**
WAKC	**Waikari**	**0.40**	**221**	P	**Pb**	**23 11 11.7**	**+0.1**
WAKC				S	**Sb**	**23 11 18.6**	**+1.0**
KHZ	**Kahutara**	**0.43**	**56**	P	**Pb**	**23 11 11.6**	**-0.4**
KHZ	**Kahutara**	**0.43**	**56**	S	**Sb**	**23 11 18.3**	**+0.1**
KHZ	**Kahutara**	**0.43**	**56**	P	**Pb**	**23 11 11.7**	**-0.2**
KIKS	**Kaikoura**	**0.51**	**63**	P	**Pb**	**23 11 13.9**	**+0.5**
KIKS				S	**Sb**	**23 11 22.5**	**+1.8**
LTZ	**Lake Taylor**	**0.60**	**258**	P	**Pg**	**23 11 14.5**	**0.0**
LTZ				S	**Sg**	**23 11 22.7**	**+0.2**
AMCZ	**Amberley**	**0.60**	**210**	P	**Pn**	**23 11 16.1**	**-0.7**
AMCZ				S	**Sn**	**23 11 25.4**	**-0.9**
THZ	**Tophouse**	**0.90**	**352**	P	**Pg**	**23 11 19.2**	**-1.0**
OXZ	**Oxford**	**1.01**	**228**	P	**Pb**	**23 11 21.7**	**-0.1**
OXZ				S	**Sn**	**23 11 36.1**	**-0.2**
OKCZ	**Okains Bay**	**1.06**	**180**	P	**Pb**	**23 11 22.8**	**-0.1**
MQZ	**McQueen's Vall**	**1.09**	**196**	P	**Pb**	**23 11 22.4**	**-0.9**
BSWZ	**Blackbirch Sta**	**1.12**	**33**	P	**Pb**	**23 11 23.7**	**-0.1**
INZ	**Inchbonnie**	**1.20**	**266**	P	**Pn**	**23 11 25.2**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.22**	**185**	P	**Pn**	**23 11 24.7**	**-0.6**
CMWZ	**Cape Campbell**	**1.25**	**44**	P	**Pg**	**23 11 26.5**	**-0.2**
RACZ	**Rakaia**	**1.26**	**212**	P	**Pn**	**23 11 25.4**	**-0.5**
MRNZ	**Matariki Terra**	**1.28**	**350**	P	**Pn**	**23 11 25.8**	**-0.3**
DSZ	**Denniston Nort**	**1.31**	**314**	P	**Pn**	**23 11 26.7**	**+0.1**
TUWZ	**Tuamarina**	**1.39**	**28**	P	**Pb**	**23 11 28.5**	**+0.1**
MHCZ	**Mount Hutt**	**1.40**	**231**	P	**Pn**	**23 11 27.1**	**-0.8**
NNZ	**Nelson**	**1.46**	**9**	P	**Pn**	**23 11 28.7**	**+0.2**
WACZ	**Wakanui South**	**1.56**	**214**	P	**Pn**	**23 11 29.5**	**-0.5**
TKNZ	**Takaka Hill**	**1.62**	**357**	P	**Pn**	**23 11 31.2**	**+0.3**
TCW	**Tory Channel**	**1.71**	**32**	P	**Pn**	**23 11 31.9**	**0.0**
WVZ	**Waitaha Valley**	**1.76**	**256**	P	**Pn**	**23 11 33.0**	**+0.3**
RPZ	**Rata Peaks**	**1.81**	**234**	P	**Pn**	**23 11 32.9**	**-0.5**
RPZ	**Rata Peaks**	**1.81**	**234**	S	**Sn**	**23 11 55.7**	**-0.5**
RPZ	**Rata Peaks**	**1.81**	**234**	P	**Pn**	**23 11 33.0**	**-0.5**
SNZO	**South Karori**	**1.82**	**43**	P	**Pn**	**23 11 33.4**	**-0.1**
SNZO	**South Karori**	**1.82**	**43**	S	**Sn**	**23 11 56.6**	**+0.3**
WEL	**Wellington**	**1.87**	**43**	P	**Pn**	**23 11 34.0**	**-0.2**
QRZ	**Quartz Range**	**1.87**	**347**	P	**Pn**	**23 11 35.2**	**+0.9**
QRZ	**Quartz Range**	**1.87**	**347**	S	**Sn**	**23 11 59.5**	**+1.8**
QRZ	**Quartz Range**	**1.87**	**347**	P	**Pn**	**23 11 35.2**	**+0.9**
ARCZ	**Arundel**	**1.89**	**226**	P	**Pn**	**23 11 33.8**	**-0.6**
PLWZ	**Palliser**	**1.96**	**57**	P	**Pn**	**23 11 34.6**	**-0.9**
DUWZ	**D'Urville Isla**	**1.96**	**19**	P	**Pn**	**23 11 36.4**	**+0.9**
MSWZ	**Moikau Station**	**2.05**	**53**	P	**Pn**	**23 11 35.8**	**-0.8**
GCSZ	**Gaunt Creek Bo**	**2.11**	**251**	P	**Pn**	**23 11 38.2**	**+0.6**
CAW	**Cannon Point**	**2.15**	**45**	P	**Pn**	**23 11 37.6**	**-0.5**
PAWZ	**Paruwai Farm**	**2.17**	**55**	P	**Pn**	**23 11 37.3**	**-1.1**
KIW	**Kapiti Island**	**2.27**	**38**	P	**Pn**	**23 11 39.6**	**-0.1**
TMZ	**Timaru**	**2.28**	**220**	P	**Pn**	**23 11 39.3**	**-0.6**
TRWZ	**Traveller**	**2.33**	**58**	P	**Pn**	**23 11 39.5**	**-1.0**
MTW	**Mount Morrison**	**2.36**	**51**	P	**Pn**	**23 11 39.8**	**-1.2**
OGWZ	**Otaki Gorge**	**2.42**	**41**	P	**Pn**	**23 11 41.3**	**-0.5**
FOZ	**Fox Glacier**	**2.54**	**249**	P	**Pn**	**23 11 43.7**	**+0.4**
HOWZ	**Holdsworth Sta**	**2.54**	**47**	P	**Pn**	**23 11 42.3**	**-1.2**
TMWZ	**Te Maipa**	**2.62**	**55**	P	**Pn**	**23 11 43.1**	**-1.4**
LBZ	**Lake Benmore**	**2.71**	**230**	P	**Pn**	**23 11 45.5**	**-0.3**
MRZ	**Mangatainoka R**	**2.75**	**44**	P	**Pn**	**23 11 45.2**	**-1.1**
ODZ	**Otahua Downs**	**2.96**	**215**	P	**Pn**	**23 11 48.2**	**-1.0**
ODZ	**Otahua Downs**	**2.96**	**215**	P	**Pn**	**23 11 48.4**	**-0.8**
PRWZ	**Pori Road**	**3.03**	**47**	P	**Pn**	**23 11 49.5**	**-0.6**
BFZ	**Birch Farm**	**3.10**	**51**	S	**Sn**	**23 12 26.2**	**-1.6**
DVHZ	**Dannevirke**	**3.31**	**46**	P	**Pn**	**23 11 52.4**	**-1.7**
LREZ	**Lake Rotokare**	**3.35**	**18**	P	**Pb**	**23 12 00.5**	**-1.4**
PREZ	**Palmer Road**	**3.42**	**14**	P	**Pb**	**23 12 00.2**	**-2.8**
JCZ	**Jackson Bay**	**3.42**	**244**	P	**Pn**	**23 11 55.4**	**-0.3**
JCZ	**Jackson Bay**	**3.42**	**244**	S	**Sn**	**23 12 35.1**	**-1.0**
JCZ	**Jackson Bay**	**3.42**	**244**	P	**Pn**	**23 11 55.4**	**-0.3**
KHEZ	**Kahui Hut**	**3.44**	**12**	P	**Pn**	**23 11 56.8**	**+0.9**
KHEZ	**Kahui Hut**	**3.44**	**12**	P	**Pn**	**23 11 59.9**	**+4.0**
NBEZ	**Newall Road No**	**3.44**	**10**	P	**Pn**	**23 11 58.2**	**+2.4**
NEZ	**North Egmont**	**3.47**	**13**	P	**Pn**	**23 12 00.2**	**+3.9**
PRHZ	**Porangahau**	**3.59**	**50**	P	**Pn**	**23 11 56.3**	**-1.6**
PNHZ	**Pukenui**	**3.62**	**42**	P	**Pn**	**23 11 56.8**	**-1.6**
WKZ	**Wanaka**	**3.65**	**232**	P	**Pn**	**23 11 57.5**	**-1.2**
HHSZ	**Highcliff Hill**	**3.68**	**208**	P	**Pn**	**23 11 58.3**	**-0.8**
VRZ	**Vera Road**	**3.76**	**21**	P	**Pn**	**23 12 01.8**	**+1.7**
MOVZ	**Moawhango**	**3.83**	**33**	P	**Pn**	**23 12 01.3**	**+0.1**
WNVZ	**Wahianoa**	**3.84**	**31**	P	**Pn**	**23 12 02.4**	**+0.9**
KRHZ	**Kereru**	**3.91**	**41**	P	**Pn**	**23 12 00.5**	**-1.8**
TUVZ	**Tukino**	**3.91**	**31**	P	**Pn**	**23 12 03.1**	**+0.6**
COVZ	**Chateau Observ**	**3.93**	**29**	P	**Pn**	**23 12 03.3**	**+0.7**
NGZ	**Ngauruhoe**	**3.98**	**30**	P	**Pn**	**23 12 03.9**	**+0.6**
SNVZ	**South Ngauruho**	**3.98**	**30**	P	**Pn**	**23 12 03.7**	**+0.3**
OTVZ	**Oturere**	**4.01**	**30**	P	**Pn**	**23 12 04.0**	**+0.2**
NNVZ	**North Ngauruho**	**4.02**	**30**	P	**Pn**	**23 12 04.1**	**+0.2**
WTVZ	**West Tongariro**	**4.02**	**29**	P	**Pn**	**23 12 04.1**	**+0.1**
ETVZ	**East Tongariro**	**4.05**	**31**	P	**Pn**	**23 12 04.2**	**-0.1**
KRVZ	**Karewarewa**	**4.06**	**30**	P	**Pn**	**23 12 04.8**	**+0.3**
TMVZ	**Te Maari**	**4.07**	**30**	P	**Pn**	**23 12 04.6**	**+0.1**
NTVZ	**North Tongarir**	**4.07**	**30**	P	**Pn**	**23 12 04.9**	**+0.3**
TUZ	**Tuapeka**	**4.11**	**216**	P	**Pn**	**23 12 04.3**	**-0.8**
HIZ	**Hauiti**	**4.36**	**19**	P	**Pn**	**23 12 12.0**	**+3.6**
TLZ	**Tolley Road**	**4.72**	**24**	P	**Pn**	**23 12 14.8**	**+1.4**
SYZ	**Scrubby Hill**	**4.78**	**215**	P	**Pn**	**23 12 13.6**	**-0.7**
SYZ	**Scrubby Hill**	**4.78**	**215**	P	**Pn**	**23 12 14.1**	**-0.1**
SNGZ	**Shannon Statio**	**5.05**	**41**	P	**Pn**	**23 12 20.5**	**+2.5**
URZ	**Urewera**	**5.37**	**36**	P	**Pn**	**23 12 21.7**	**-0.6**
URZ	**Urewera**	**5.37**	**36**	P	**Pn**	**23 12 20.6**	**-1.7**
APZ	**The Paps**	**5.52**	**219**	P	**Pn**	**23 12 23.7**	**-0.7**
AWAZ	**Awhitu Peninsu**	**5.72**	**13**	P	**Pn**	**23 12 30.4**	**+3.3**
RUGZ	**Raukumara Rang**	**5.87**	**38**	P	**Pn**	**23 12 27.8**	**-1.4**
WIAZ	**Waiheke Island**	**6.07**	**16**	P	**Pn**	**23 12 33.5**	**+1.5**
HAZ	**Te Kaha**	**6.08**	**38**	P	**Pn**	**23 12 29.9**	**-2.2**

*NEIC **10** 23:11:52.7±1.1, 19°.84N±0°.05×155°.39W±0°.03, h35km±9km, Error ellipse: s-maj=7.8km s-min=3.8km az=159.0*
HVO 10 23:11:54.7±1.4, **19°.84N**±0°.04×**155°.37W**±0°.04, **h25**km±7km, **ML2.6**/25, **ML2.6**/34(NEIC), **Error ellipse: s-maj=5.5km s-min=4.7km az=205.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.17**	**242**		Pb	23 11 59.5	-0.7
POHA					Sb	23 12 03.1	-0.9
POHA				IAML		23 12 03.3	
	772nm,0.2s						
POHA				IAML		23 12 03.6	
	735nm,0.2s						
HMH	**Humu'ula Sheep**	**0.26**	**204**		Pb	23 12 00.9	-0.5
HMH					Sb	23 12 05.5	-0.3
MLH	**Mauna Loa**	**0.34**	**182**		Pb	23 12 01.7	-0.8
MLH					Sb	23 12 06.6	-1.3
MLH				IAML		23 12 07.2	
	comp=N,463nm,0.4s						
MLH				IAML		23 12 13.6	
	comp=E,343nm,0.7s						
MLOA	**Mauna Loa Obse**	**0.36**	**213**		Pb	23 12 02.4	-0.5
MLOA	**Mauna Loa Obse**	**0.36**	**213**	IAML		23 12 11.7	
	comp=E,9.5nm,0.7s						
MLOA				IAML		23 12 11.7	
	comp=N,8.3nm,0.7s						
HPAH	**Hawaii Prepara**	**0.36**	**302**		Pb	23 12 01.6	-1.1
HPAH					Sb	23 12 06.6	-1.6
RSD	**Rainshed**	**0.38**	**167**		Pb	23 12 02.5	-0.6
ALEP	**Alea Permanent**	**0.39**	**221**		Pb	23 12 02.5	-0.9
ALEP					Sb	23 12 08.1	-1.2
MWH	**Mokuaweoweo**	**0.41**	**211**		Pb	23 12 02.6	-1.2
MWH					Sb	23 12 08.5	-1.5
MWH				IAML		23 12 09.1	
	comp=E,779nm,0.5s						
MWH				IAML		23 12 12.5	
	comp=N,692nm,0.3s						
SBLHI	**Steaming Bluff**	**0.42**	**166**		Pb	23 12 02.4	-1.3
UWB	**Uwekahuna Bluf**	**0.42**	**168**		Pb	23 12 02.5	-1.2
UWE	**Uwekahuna**	**0.42**	**170**		Pb	23 12 02.4	-1.3
UWE					Sb	23 12 08.5	-1.3
UWE				IAML		23 12 11.3	
	comp=N,341nm,1.4s						
UWE				IAML		23 12 18.4	
	comp=E,333nm,0.4s						
OBL	**Observatory Le**	**0.43**	**169**		Pb	23 12 02.5	-1.2
OBL					Sb	23 12 08.3	-1.7
WRMHI	**West Rim**	**0.43**	**171**		Pb	23 12 02.6	-1.3
HUH	**Hualalai**	**0.46**	**251**		Pb	23 12 03.5	-1.0
HUH					Sb	23 12 10.4	-0.7
HUH				IAML		23 12 12.0	
	comp=N,709nm,0.1s						
HUH				IAML		23 12 12.2	
	comp=E,618nm,0.4s						
PUH	**Pauahi**	**0.48**	**162**		Pb	23 12 03.4	-1.3
PUH					Sb	23 12 09.4	-2.0
KNHH	**Kane Nui o Ham**	**0.49**	**157**		Pb	23 12 03.4	-1.5
NPOC	**North of Pu'u**	**0.51**	**151**		Pb	23 12 03.6	-1.4
NPOC					Sb	23 12 09.9	-2.2
STCH	**Steam Cracks**	**0.51**	**153**		Pb	23 12 03.1	-2.0
STCH				IAML		23 12 10.2	
	comp=E,676nm,0.1s						
STCH				IAML		23 12 10.2	
	comp=N,476nm,0.1s						
JOKA	**Jonika Flow**	**0.53**	**139**		Pb	23 12 03.8	-1.6
JOKA				IAML		23 12 15.0	
	comp=N,248nm,1.4s						
HTC	**Hot Caves**	**0.60**	**182**		Pb	23 12 04.9	-1.6
MHA	**Mahukona**	**0.61**	**305**	Pn	Pb	23 12 05.0	-1.7
KHU	**Kahuku**	**0.63**	**201**		Pb	23 12 05.2	-2.1
KHU				IAML		23 12 13.5	
	comp=E,404nm,0.4s						

*NCEDC **10** 23:20:09.5±2.4, 40°.42N±0°.07×126°.3W±0°.1, h10km±2km, Error ellipse: s-maj=13.7km s-min=11.2km az=245.0*
NEIC 10 23:20:06.9±2.1, **40°.37N**±0°.07×**126°.5W**±0°.1, **h10**km±2km, **ML3.0**/56, **ML3.1**/8(NCEDC), **Error ellipse: s-maj=14.0km s-min=11.7km az=245.0, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETL	**Petrolia**	**1.64**	**92**		Pn	23 20 34.9	-0.8
PETL					Sn	23 20 55.1	-1.7
KCTM	**Capetown**	**1.64**	**86**		Pn	23 20 35.9	+0.1
KSMM	**Slide Mountain**	**1.77**	**95**		Pn	23 20 36.8	-0.9
KMPM	**Mount Pierce**	**1.81**	**88**		Pn	23 20 38.2	+0.1
JCC	**Jacoby Creek,**	**1.92**	**76**	Pn	Pn	23 20 38.2	-1.4
BRIC	**Briceland Vine**	**2.00**	**96**		Pn	23 20 40.5	-0.1
KRPM	**Rodgers**	**2.03**	**66**		Pn	23 20 39.5	-1.6
KRPM				IAML		23 21 04.6	
	comp=E,107nm,2.2s						
KRPM				IAML		23 21 10.7	
	comp=N,163nm,0.9s						
KCRM	**Chalk Rock**	**2.04**	**87**		Pn	23 20 41.2	-0.1
KMRM	**Mail Ridge**	**2.13**	**93**		Pn	23 20 42.5	0.0
KMRM				IAML		23 21 12.2	
	comp=E,131nm,0.9s						
KHMM	**Horse Mountain**	**2.15**	**75**		Pn	23 20 42.1	-0.9
KHMM				IAML		23 21 10.7	
	comp=N,153nm,0.8s						
KHMM				IAML		23 21 11.2	
	comp=E,88nm,1.3s						
KCPM	**Cahto Peak**	**2.33**	**106**		Pn	23 20 45.5	+0.1
KCPM				IAML		23 21 16.6	
	comp=E,107nm,1.3s						
KCPM				IAML		23 21 18.1	
	comp=N,82nm,0.8s						
SIGP	**Signal Peak, C**	**2.36**	**50**		Pn	23 20 45.2	-0.6
KIPM	**Iron Peak**	**2.37**	**103**		Pn	23 20 46.4	+0.5
GTC	**Three Chop Rid**	**2.45**	**112**		Pn	23 20 47.0	0.0
KHBM	**Hayfork Bally**	**2.50**	**82**		Pn	23 20 47.6	-0.2
KHBM	**Hayfork Bally**	**2.50**	**82**	IAML		23 21 24.7	
	comp=N,50nm,0.8s						
KBO	**Bosley Butte**	**2.51**	**42**	Pn	Pn	23 20 46.7	-1.1
KBO				IAML		23 21 16.8	
	comp=N,74nm,1.0s						
KBO				IAML		23 21 18.2	
	comp=E,108nm,1.0s						
KBNM	**Bluenose Ridge**	**2.56**	**100**		Pn	23 20 48.9

CVTQ	Turrialba Volc	2.93	98	eP		Pb	23 22 31.6	-0.8

GUC ***10*** *23:44:49.9±0.8, 19°.22S×69°.44W, h106km±4km, ML3.4*
SJA ***10*** *23:44:49.3±0.6, 19°.25S×69°.50W, h102km±3km, ML3.4, MW3.5*

ISC 10 23:44:50.8±1.4, 19°.27S±0°.03×69°.51W±0°.07, h98km±9km, n24, σ0s65/43, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.49**	**143**	⇑*iP*	**Pn**	**23 45 06.2**	**-0.8**
GO01				*eS*	**Sn**	**23 45 18.7**	**-0.3**
GO01				IAML		23 45 19.3	
	comp=E,3μm,0.2s						
GO01	**Chusmiza**	**0.49**	**143**	*eP*	**Pn**	**23 45 06.1**	**-0.8**
GO01				*eS*	**Sn**	**23 45 19.4**	**+0.4**
PB11	**IPOC Station P**	**0.51**	**196**	⇑*iP*	**Pn**	**23 45 06.5**	**-0.3**
PB11				*eS*	**Sn**	**23 45 19.3**	**+0.7**
PB11				IAML		23 45 20.2	
	comp=N,2μm,0.2s						
PB11	**IPOC Station P**	**0.51**	**196**	*eP*	**Pn**	**23 45 06.4**	**-0.3**
PB11				*eS*	Sn	23 45 06.4	-12
PB11				*eP*	Sn	23 45 06.4	-12
PB11				IAML		23 45 06.9	
	comp=Z,2μm,0.1s						
PB08	**IPOC Station P**	**0.93**	**159**	⇑*iP*	**Pn**	**23 45 10.4**	**-0.5**
PB08				*eS*	**Sn**	**23 45 26.0**	**+0.3**
PB08				IAML		23 45 27.9	
	comp=E,743nm,0.2s						
PB08	**IPOC Station P**	**0.93**	**159**	*eP*	**Pn**	**23 45 10.3**	**-0.5**
PB08				*eS*	**Sn**	**23 45 26.5**	**+0.8**
PB08				IAML		23 45 28.2	
	comp=Z,389nm,0.1s						
PB12	**IPOC Station P**	**1.01**	**310**	⇓*iP*	**Pn**	**23 45 10.8**	**-0.6**
PB12				*eS*	**Sn**	**23 45 26.7**	**-0.2**
PB12				IAML		23 45 27.4	
	comp=E,860nm,0.3s						
PB12	**IPOC Station P**	**1.01**	**310**	*eP*	**Pn**	**23 45 10.8**	**-0.6**
PB12				*eS*	**Sn**	**23 45 26.8**	**-0.1**
PB12				IAML		23 45 27.8	
	comp=Z,288nm,0.2s						
HMBC	**Humberstone**	**1.06**	**200**	⇑*eP*	**Pn**	**23 45 11.7**	**-0.2**
HMBC				*eS*	**Sn**	**23 45 28.9**	**+1.0**
HMBC				IAML		23 45 34.0	
	comp=E,835nm,0.3s						
HMBC	**Humberstone**	**1.06**	**200**	*eP*	**Pn**	**23 45 11.8**	**-0.2**
HMBC				*eS*	**Sn**	**23 45 30.0**	**+2.0**
HMBC				IAML		23 45 32.7	
	comp=Z,719nm,0.4s						
AP01	**Chacalluta**	**1.19**	**318**	*eP*	**Pn**	**23 45 13.2**	**-0.1**
AP01	**Chacalluta**	**1.19**	**318**	*eP*	**Pn**	**23 45 13.7**	**+0.4**
AP01				IAML		23 45 42.8	
	comp=Z,393nm,0.1s						
PATCX	**Punta Patache**	**1.66**	**201**	*eP*	**Pn**	**23 45 19.0**	**-0.1**
PATCX				*eS*	**Sn**	**23 45 40.7**	**+0.2**
PATCX				IAML		23 45 45.5	
	comp=E,301nm,0.3s						
PATCX	**Punta Patache**	**1.66**	**201**	*eP*	**Pn**	**23 45 18.3**	**-0.8**
PATCX				*eS*	**Sn**	**23 45 41.0**	**+0.5**
PATCX				IAML		23 45 42.4	
	comp=Z,193nm,0.3s						
PB18	**Visviri**	**1.67**	**1**	*eP*	**Pn**	**23 45 20.2**	**+0.5**
PB18				*eS*	**Sn**	**23 45 41.9**	**+0.4**
PB01	**IPOC Station P**	**1.76**	**179**	⇑*eP*	**Pn**	**23 45 20.2**	**-0.3**
PB01				*eS*	**Sn**	**23 45 43.3**	**+0.4**
PB01				IAML		23 45 45.1	
	comp=E,829nm,0.2s						
PB01	**IPOC Station P**	**1.76**	**179**	*eP*	**Pn**	**23 45 20.4**	**-0.1**
PB01				*eS*	**Sn**	**23 45 44.1**	**+1.2**
PB01				IAML		23 45 45.7	
	comp=Z,286nm,0.2s						
PB09	**IPOC Station P**	**2.52**	**174**	*eP*	**Pn**	**23 45 30.6**	**+0.2**
PB09				*eS*	**Sn**	**23 46 01.4**	**+0.7**
PB09	**IPOC Station P**	**2.52**	**174**	*eP*	**Pn**	**23 45 30.9**	**+0.5**
PB09				*eS*	**Sn**	**23 46 00.1**	**-0.6**
PB09				IAML		23 46 06.5	
	comp=Z,208nm,0.8s						
PB03	**IPOC Station P**	**2.77**	**185**	*eP*	**Pn**	**23 45 33.9**	**+0.2**
PB03	**IPOC Station P**	**2.77**	**185**	*eP*	**Pn**	**23 45 34.0**	**+0.2**
PB03				*eS*	**Sn**	**23 46 06.5**	**-0.2**
PB03				IAML		23 46 18.3	
	comp=Z,124nm,0.4s						
LPAZ	**La Paz**	**3.24**	**24**	*eP*	**Pn**	**23 45 40.1**	**-0.3**
PB06	**IPOC Station P**	**3.42**	**181**	*eP*	**Pn**	**23 45 42.6**	**+0.3**
PB06				*eS*	**Sn**	**23 46 21.8**	**-0.2**
PB06				IAML		23 46 38.7	
	comp=Z,77nm,0.7s						
PB10	**IPOC Station P**	**4.33**	**193**	*eP*	**Pn**	**23 45 53.8**	**-0.8**
PB10				*eS*	**Sn**	**23 46 42.5**	**-1.4**
PB10				IAML		23 47 28.8	
	comp=Z,20nm,2.2s						

WEL 10 23:50:23.5±0.6, 33°S±11°×18°0W±2°7, h12km, M4.3/11, mB4.8/7, ML4.6/11, MLv4.5/11, Mw(mB)4.1/7, Error ellipse: s-maj=38.3km s-min=4.0km az=111.6, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.30**	**24**	P	Pn	23 51 29.6	+0.9
GLKZ				S	Sn	23 52 17.8	-1.1
MXZ	**Matakaoa Point**	**4.56**	**198**	P	Pn	23 51 31.6	-0.7
MXZ				S	Sn	23 52 22.9	-2.3
MXZ				T	T	23 55 55.8	
WMGZ	**Waiomatatini S**	**4.78**	**196**	P	Pn	23 51 35.2	-0.1
WMGZ				S	Sn	23 52 29.6	-1.0
HAZ	**Te Kaha**	**4.89**	**202**	P	Pn	23 51 38.8	+1.9
HAZ				S	Sn	23 52 36.8	+3.4
PKGZ	**Pakihiroa**	**4.91**	**199**	P	Pn	23 51 38.3	+1.2
PKGZ				S	Sn	23 52 33.9	0.0
PUZ	**Puketiti**	**5.06**	**197**	P	Pn	23 51 36.6	-2.5
PUZ				S	Sn	23 52 40.2	+2.6
RUGZ	**Raukumara Rang**	**5.12**	**202**	P	Pn	23 51 41.7	+1.6
RUGZ				S	Sn	23 52 42.3	+3.1
TWGZ	**Tauwhareparae**	**5.23**	**199**	P	Pn	23 51 42.6	+1.1
TWGZ				S	Sn	23 52 42.4	+0.6
CNGZ	**Carnagh Statio**	**5.46**	**196**	P	Pn	23 51 44.7	0.0
CNGZ				S	Sn	23 52 49.6	+2.2
MWZ	**Matawai**	**5.50**	**201**	P	Pn	23 51 45.4	+0.1
MWZ				S	Sn	23 52 49.0	+0.5
TKGZ	**Te Karaka**	**5.51**	**199**	P	Pn	23 51 46.2	+0.9
TKGZ				S	Sn	23 52 47.2	-1.4
RAGZ	**Rawiri**	**5.69**	**202**	P	Pn	23 51 48.3	+0.4
RAGZ				S	Sn	23 52 53.4	+0.3
RIGZ	**Rimuhau**	**5.78**	**198**	P	Pn	23 51 49.1	0.0
RIGZ				S	Sn	23 52 53.3	-2.2
MUGZ	**Murupara**	**5.89**	**206**	P	Pn	23 51 53.9	+3.4
MUGZ				S	Sn	23 52 58.7	+0.7
PRGZ	**Paritu Road**	**5.96**	**197**	P	Pn	23 51 50.5	-1.0
PRGZ				S	Sn	23 52 57.5	-2.2
SNGZ	**Shannon Statio**	**5.97**	**201**	P	Pn	23 51 50.9	-0.8
SNGZ				S	Sn	23 53 00.5	+0.4
MHGZ	**Mahia Peninsul**	**6.17**	**196**	P	Pn	23 51 50.9	-3.5
MHGZ				S	Sn	23 52 58.7	-6.2
MTHZ	**Maungataniwha**	**6.20**	**204**	P	Pn	23 51 56.7	+1.8
MTHZ				S	Sn	23 53 04.8	-0.9
WAZ	**Wanganui**	**7.70**	**211**	S	Sn	23 53 40.5	-2.1

LDO ***11*** *00:17:33.6±1.7, 40°.38N±0°.01×76°.05W±0°.02, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.5km az=73.0*

NEIC 11 00:17:34.1±1.1, 40°.33N±0°.01×76°.06W±0°.02, h5km±2km, ML1.6/14, ML1.0/6(LDO), Error ellipse: s-maj=3.0km s-min=2.1km az=148.0, Pennsylvania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVL	**Millersville**	**0.40**	**214**		Pg	00 17 41.6	-0.1
MVL					Sg	00 17 47.1	+0.3
PAGS	**Pennsylvania G**	**0.51**	**259**		Sg	00 17 50.5	-0.1
WUPA	**West Chester U**	**0.53**	**138**		Pg	00 17 43.9	-0.3
WUPA					Sg	00 17 50.6	-0.5
P60A	**Greenville**	**0.61**	**147**		Pg	00 17 45.1	-0.7
P60A					Sg	00 17 53.7	-0.1
PSUB	**Penn St. - Bra**	**0.62**	**130**		Pg	00 17 44.8	-1.1
PSUB					Sg	00 17 53.2	-0.7
TUPA	**Temple Univers**	**0.69**	**103**		Sg	00 17 55.1	-1.2
N58A	**Sunbury**	**0.71**	**316**	Pg	Pg	00 17 46.6	-1.2
N58A				Sg	Sg	00 17 56.3	-0.7
SSPA	**Standing Stone**	**1.43**	**283**		Pn	00 17 59.1	-1.5
SSPA					IAML	00 18 21.4	
	5.0nm,0.9s						
SSPA					IAML	00 18 24.4	
	3.4nm,1.3s						
P57A	**Homestead Farm**	**1.72**	**241**	Pn	Pn	00 18 04.7	+0.1
P57A					IAML	00 18 30.7	
	15nm,0.2s						
BINY	**Binghamton**	**1.87**	**2**		Pn	00 18 06.4	-0.4
BINY					IAML	00 18 36.2	
	7.1nm,1.4s						
BINY					IAML	00 18 40.0	
	4.8nm,1.5s						
L59A	**Walton**	**2.01**	**22**	Pn	Pn	00 18 09.1	+0.3
L59A					IAML	00 18 38.5	
	8.4nm,1.3s						
Q56A	**Snyder Ridge,**	**2.73**	**243**	Pn	Pn	00 18 17.9	-0.7
Q56A					IAML	00 19 39.0	
	4.6nm,1.4s						

NEIC ***11*** *00:18:19.7, 33°.97S×70°.28W, h109km*
NEIC ***11*** *00:18:19.8±1.3, 33°.98S±0°.05×70°.30W±0°.10, h109km±4km, mb4.3/15, Mwr4.3/34, Mwr4.3(GUC), Error ellipse: s-maj=11.6km s-min=7.2km az=98.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.20; $M_{\theta\theta}$0.27; $M_{\phi\phi}$0.93; $M_{r\theta}$0.68; $M_{\theta\phi}$2.14; $M_{\phi r}$-1.75; Fault plane solution: $M_0$3.05000×10^{15} NP1:φ_s3.30000°, δ71.87000°, λ-136.95000°. NP2:φ_s257.09000°, δ49.55000°, λ-24.14000°. Principal axes: T 2.9892, Plg14.0000°, Azm125.0000°; N 0.1273, Plg44.0000°, Azm22.0000°; P -3.1164, Plg43.0000°, Azm229.0000°;*
GUC ***11*** *00:18:19.6±0.8, 33°.99S×70°.33W, h119km±3km, ML4.3*
IDC ***11*** *00:18:20.9±1.8, 33°.94S×70°.16W, h119km±15km, mb3.8/8, mbtmp4.0/12, Error ellipse: s-maj=25.7km s-min=12.8km az=100.0*

ISC 11 00:18:19.4±0.6, 33°.97S±0°.04×70°.28W±0°.05, h111km±5km, n99, σ0s87/123, mb4.3/10, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.14**	**29**		**Pn**	**00 18 35.0**	**0.0**
LMEL				Sn	**Sn**	**00 18 47.2**	**+0.5**
MT13	**San Alfonso**	**0.22**	**359**		**Pn**	**00 18 35.3**	**+0.1**
MT13				Sn	**Sn**	**00 18 47.4**	**+0.5**
MT13	**San Alfonso**	**0.22**	**359**	*eP*	**Pn**	**00 18 35.3**	**+0.1**
MT13				*i* S	**Sn**	**00 18 48.5**	**+1.5**
MT13				IAML		00 18 49.5	
	comp=E,23μm,0.3s						
BO04	**La Punta**	**0.27**	**265**		**Pn**	**00 18 35.2**	**0.0**
BO04				Sn	**Sn**	**00 18 47.1**	**0.0**
BO04	**La Punta**	**0.27**	**265**	*eP*	**Pn**	**00 18 35.3**	**0.0**
BO04				*i* S	**Sn**	**00 18 47.3**	**+0.2**
MT12	**Pirque**	**0.32**	**316**	*eP*	**Pn**	**00 18 35.8**	**+0.3**
MT12				*i* S	**Sn**	**00 18 48.2**	**+0.8**
MT15	**Las Vizcachas**	**0.41**	**333**	*eP*	**Pn**	**00 18 36.3**	**+0.3**
MT15				*i* S	**Sn**	**00 18 48.9**	**+0.6**
MT03	**Universidad Ad**	**0.51**	**338**		**Pn**	**00 18 37.1**	**+0.5**
MT03				Sn	**Sn**	**00 18 50.0**	**+0.6**
MT03	**Universidad Ad**	**0.51**	**338**	*eP*	**Pn**	**00 18 36.9**	**+0.3**
MT03				*i* S	**Sn**	**00 18 50.1**	**+0.6**
MT03				IAML		00 18 50.9	
	comp=N,18μm,0.2s						
MT08	**Bocatoma Ro**	**0.56**	**23**		**Pn**	**00 18 37.6**	**+0.4**
MT08				Sn	**Sn**	**00 18 50.9**	**+0.5**
MT08	**Bocatoma Ro**	**0.56**	**23**	*eP*	**Pn**	**00 18 37.6**	**+0.4**
MT08				*i* S	**Sn**	**00 18 51.5**	**+1.1**
MT04	**Ro Olivares**	**0.57**	**12**	*eP*	**Pn**	**00 18 37.4**	**+0.2**
MT04				*i* S	**Sn**	**00 18 51.1**	**+0.6**
MT04				IAML		00 18 53.4	
	comp=N,7μm,0.4s						
MT16	**CCHEN**	**0.57**	**339**		**Pn**	**00 18 37.4**	**+0.4**
MT16				Sn	**Sn**	**00 18 50.7**	**+0.6**
MT16	**CCHEN**	**0.57**	**339**	*eP*	**Pn**	**00 18 37.4**	**+0.4**
MT16				*i* S	**Sn**	**00 18 51.0**	**+0.9**
MT16				IAML		00 18 52.9	
	comp=E,5μm,0.5s						
MT09	**Talagante**	**0.62**	**288**		**Pn**	**00 18 37.3**	**-0.1**
MT09				Sn	**Sn**	**00 18 50.6**	**-0.3**
MT09	**Talagante**	**0.62**	**288**	*eP*	**Pn**	**00 18 37.3**	**-0.1**
MT09				*i* S	**Sn**	**00 18 50.6**	**-0.3**
MT05	**Renca**	**0.69**	**326**		**Pn**	**00 18 38.1**	**+0.2**
MT05	**Renca**	**0.69**	**326**	*eP*	**Pn**	**00 18 38.2**	**+0.3**
MT05				*i* S	**Sn**	**00 18 52.4**	**+0.7**
MT10	**Hacienda Santa**	**0.72**	**343**	*eP*	**Pn**	**00 18 38.7**	**+0.4**
MT10				*i* S	**Sn**	**00 18 53.5**	**+1.1**
MT10				IAML		00 18 55.7	
	comp=N,13μm,0.5s						
BO01	**Tunca**	**0.79**	**237**		**Pn**	**00 18 38.6**	**0.0**
BO01	**Tunca**	**0.79**	**237**	*eP*	**Pn**	**00 18 38.5**	**-0.1**
BO01				*i* S	**Sn**	**00 18 53.2**	**+0.1**
BO01				IAML		00 18 54.2	
	comp=E,8μm,0.1s						
MT01	**Popeta**	**0.81**	**277**		**Pn**	**00 18 38.6**	**-0.3**
MT01	**Popeta**	**0.81**	**277**	*eP*	**Pn**	**00 18 38.6**	**-0.3**
MT01				*i* S	**Sn**	**00 18 53.0**	**-0.5**
MT01				IAML		00 18 54.1	
	comp=N,10μm,0.2s						
PEL	**Peldehue**	**0.89**	**338**		**Pn**	**00 18 39.2**	**-0.4**
PEL	**Peldehue**	**0.89**	**338**	*eP*	**Pn**	**00 18 39.8**	**+0.1**
PEL				*i* S	**Sn**	**00 18 55.9**	**+1.1**
PEL				IAML		00 18 56.8	
	comp=N,11μm,0.5s						
BO02	**Sierra Bellavi**	**0.92**	**206**		**Pn**	**00 18 40.5**	**+0.5**
BO02	**Sierra Bellavi**	**0.92**	**206**	*eP*	**Pn**	**00 18 40.5**	**+0.5**
BO02				*i* S	**Sn**	**00 18 56.9**	**+1.4**
MT02	**Curacav**	**1.00**	**314**		**Pn**	**00 18 40.8**	**+0.1**
VA03	**San Esteban**	**1.22**	**349**		**Pn**	**00 18 44.0**	**+0.8**
VA03	**San Esteban**	**1.22**	**349**	*eP*	**Pn**	**00 18 43.7**	**+0.6**
VA03				*i* S	**Sn**	**00 19 02.4**	**+1.3**
VA03				IAML		00 19 04.1	
	comp=E,8μm,0.5s						
VA01	**Torpederas**	**1.48**	**309**		**Pn**	**00 18 46.2**	**+0.2**
VA01	**Torpederas**	**1.48**	**309**	*eP*	**Pn**	**00 18 46.3**	**+0.3**
VA01				*i* S	**Sn**	**00 19 06.2**	**0.0**
ML02	**Panimavida**	**2.02**	**207**		**Pn**	**00 18 53.0**	**+0.3**
ZON	**Zonda**	**2.77**	**30**		**Pn**	**00 19 03.3**	**+0.8**
BI02	**San Fabin de**	**2.81**	**196**		**Pn**	**00 19 03.4**	**+0.3**
CO02	**Combarbal**	**2.82**	**347**		**Pn**	**00 19 02.8**	**-0.4**
CFA	**Coronel Fontan**	**2.92**	**37**	P	**Pn**	**00 19 04.8**	**+0.3**
	comp=E,13nm,0.3s,baz=222,slow=12,SNR=38						
CFA				S	**Sn**	**00 19 39.7**	**+0.6**
	comp=E,46nm,0.3s,baz=118,slow=15,SNR=18						
CO03	**El Pedregal**	**3.14**	**354**		**Pn**	**00 19 07.7**	**+0.3**
CO06	**Fray Jorge**	**3.48**	**340**		**Pn**	**00 19 11.1**	**-0.7**
BI05	**Punta Hualpn**	**3.65**	**220**		**Pn**	**00 19 12.4**	**-1.7**
GO04	**Tololo Observa**	**3.81**	**353**		**Pn**	**00 19 15.8**	**-0.6**
CO01	**Juntas del Tor**	**3.98**	**2**		**Pn**	**00 19 19.3**	**+0.5**
CO05	**La Serena**	**4.12**	**348**		**Pn**	**00 19 19.7**	**-0.7**
LCO	**Las Campanas**	**4.95**	**356**		**Pn**	**00 19 30.6**	**-1.3**
AC05	**El Transito**	**5.11**	**0**		**Pn**	**00 19 33.6**	**-0.4**
LC02	**Puerto Saavedr**	**5.43**	**207**	Pn	**Pn**	**00 19 37.7**	**-0.2**
AC04	**Llanos de Chal**	**5.78**	**353**	Pn	**Pn**	**00 19 41.3**	**-1.5**
GO03	**Copiapo**	**6.35**	**0**	Pn	**Pn**	**00 19 50.2**	**-0.4**
LR05	**Currie**	**6.40**	**192**		**Pn**	**00 19 48.8**	**-2.3**
AC06	**Mina Casimiro**	**6.59**	**359**		**Pn**	**00 19 51.9**	**-1.9**
PLCA	**Paso Flores**	**6.76**	**182**	Pn	**Pn**	**00 19 56.2**	**+0.1**
PLCA	**Paso Flores**	**6.76**	**182**	P	**Pn**	**00 19 57.4**	**+1.3**
	comp=E,2.8nm,0.5s,baz=356,slow=12,SNR=11						
VA04	**Juan Fernndez**	**7.12**	**270**	Pn	**Pn**	**00 20 00.4**	**-0.6**
H03S1	**Juan Fernandez**	**7.17**	**269**	P	**Pn**	**00 20 01.7**	**+0.4**
	baz=8.9,slow=74,SNR=3.1						
H03S3	**Juan Fernandez**	**7.17**	**269**	P	**Pn**	**00 20 02.1**	**+0.7**
	baz=8.9,slow=74,SNR=5.1						
AC02	**Maricunga**	**7.18**	**8**		**Pn**	**00 20 00.1**	**-2.1**
H03S2	**Juan Fernandez**	**7.19**	**269**	P	**Pn**	**00 20 02.0**	**+0.4**
	baz=8.9,slow=74,SNR=4.0						
H03N1	**Juan Fernandez**	**7.21**	**272**	P	**Pn**	**00 20 03.2**	**+1.3**
	baz=130,slow=24,SNR=19						
H03N3	**Juan Fernandez**	**7.22**	**272**	P	**Pn**	**00 20 03.4**	**+1.3**
	baz=130,slow=24,SNR=16						
H03N2	**Juan Fernandez**	**7.23**	**272**	P	**Pn**	**00 20 03.4**	**+1.3**
	baz=130,slow=24,SNR=10						
AC01	**Pan de Azucar**	**7.80**	**358**	Pn	**Pn**	**00 20 06.8**	**-3.4**
TRQA	**Tornquist**	**7.87**	**124**		**Pn**	**00 20 10.2**	**-0.9**
LL01	**San Ignacio de**	**8.56**	**191**	Pn	**Pn**	**00 20 17.6**	**-2.9**
PLTB	**Pedras Altas**	**14.19**	**86**	Pn	**P**	**00 21 37.4**	**-2.0**
PB12	**IPOC Station P**	**15.29**	**360**	Pn	**Pn**	**00 21 48.3**	**-1.1**
PB12				IAmb	IAmb	00 21 50.0	
	comp=Z,13nm,0.7s						
PB16	**IPOC Station P**	**15.58**	**3**		**Pn**	**00 21 53.7**	**+0.1**
PB16				IAmb	IAmb	00 22 32.0	
	comp=Z,14nm,1.4s						
ITAB	**Concordia**	**17.00**	**72**		**Pn**	**00 22 08.8**	**-1.5**
ITAB				IAmb	IAmb	00 22 15.7	
	comp=Z,18nm,1.4s						
LPAZ	**La Paz**	**17.71**	**7**	P	**Pn**	**00 22 19.0**	**-0.7**
LPAZ	**La Paz**	**17.71**	**7**	P	**Pn**	**00 22 20.4**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=177,slow=11,SNR=6.7						
SIV	**San Ignacio**	**19.73**	**27**	P	**P**	**00 22 40.2**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=200,slow=10,SNR=13						
EFI	**East Falkland**	**19.79**	**157**	P	**P**	**00 22 39.6**	**-1.2**
MG03	**Isla Dawson**	**19.88**	**180**	P	**P**	**00 22 41.6**	**-0.1**
PTLB	**Pontes e Lacer**	**21.00**	**31**	P	**P**	**00 22 54.5**	**+0.4**
BDFB	**Brasilia**	**27.13**	**53**	P	**P**	**00 23 52.0**	**-0.3**
BDFB	**Brasilia**	**27.13**	**53**	P	**P**	**00 23 52.0**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=204,slow=11,SNR=5.3						
	comp=Z,3.3nm,0.6s						
BOAV	**Boa Vista**	**37.32**	**16**	P	**P**	**00 25 20.4**	**-0.6**
BOAV				IAmb	IAmb	00 25 38.0	
	comp=Z,7.6nm,1.4s						
BELA	**Belgrano 2**	**46.66**	**170**	P	**P**	**00 26 37.3**	**+1.1**
BELA				IAmb	IAmb	00 26 45.6	
	comp=Z,7.8nm,1.5s						
SNAA	**Sanae**	**51.07**	**158**	P	**P**	**00 27 10.5**	**+0.4**
SNAA				IAmb	IAmb	00 27 33.2	
	comp=Z,9.8nm,1.4s						
SNAA	**Sanae**	**51.07**	**158**	⇑P	**P**	**00 27 09.8**	**-0.2**
	comp=Z,27nm,0.3s						
SNAA	**Sanae**	**51.07**	**158**	P	**P**	**00 27 10.6**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=262,slow=12,SNR=10						
	comp=Z,1.7nm,0.7s						
TROLL	**Troll, Antarti**	**52.78**	**158**	⇑P	**P**	**00 27 23.0**	**+0.2**
	comp=Z,274nm,0.5s						
QSPA	**South Pole Qui**	**56.27**	**180**	P	**P**	**00 27 48.9**	**+0.8**
QSPA				IAmb	IAmb	00 28 03.9	
	comp=Z,3.9nm,1.3s						
QSPA	**South Pole Qui**	**56.27**	**180**	P	**P**	**00 27 49.6**	**+1.5**
	comp=Z,3.8nm,0.8s,baz=142,slow=2.4,SNR=12						
	comp=Z,3.8nm,0.8s						
TEIG	**Tepich**	**56.55**	**340**	P	**P**	**00 27 50.8**	**+0.4**
TXAR	**Lajitas Array**	**70.43**	**329**	P	**P**	**00 29 22.5**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=165,slow=10,SNR=5.6						
	comp=Z,0.8nm,0.7s						
DBIC	**Dimbokro**	**73.79**	**70**	P	**P**	**00 29 41.6**	**-0.4**
DBIC				IAmb	IAmb	00 29 52.2	
	comp=Z,17nm,1.4s						
DBIC	**Dimbokro**	**73.79**	**70**	P	**P**	**00 29 42.0**	**0.0**
	comp=Z,3.6nm,0.7s,baz=195,slow=8.0,SNR=3.8						
	comp=Z,3.6nm,0.7s						
BOSA	**Boshof**	**78.79**	**117**	P	**P**	**00 30 10.2**	**-0.1**
BOSA				IAmb	IAmb	00 30 33.4	
	comp=Z,8.3nm,1.3s						
BOSA	**Boshof**	**78.79**	**117**	P	**P**	**00 30 10.8**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=228,slow=3.9,SNR=4.0						
	comp=Z,3.1nm,0.9s						
PDAR	**Pinedale Array**	**84.40**	**332**	P	**P**	**00 30 40.3**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=147,slow=5.3,SNR=4.7						
	comp=Z,0.5nm,0.8s						
NVAR	**Mina Array Bea**	**84.70**	**324**	P	**P**	**00 30 42.2**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=140,slow=5.6,SNR=2.6						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**102.50**	**341**	PKKPbc	PKKPbc	00 48 02.3	-2.2
	comp=Z,0.2nm,0.9s,baz=20,slow=2.2,SNR=3.8						
LANS	**Liptovska Anna**	**114.65**	**46**	*e*PDIFF	**Pdif**	**00 32 57.2**	**+0.4**
WRA	**Warramunga Arr**	**121.48**	**207**	PKP	**PKPdf**	**00 36 59.8**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=154,slow=1.7,SNR=5.1						
FINES	**FINESS Array B**	**122.14**	**34**	PKKPbc	PKKPbc	00 46 57.0	-1.3
	comp=Z,0.7nm,0.5s,baz=132,slow=2.8,SNR=4.2						
BVAR	**Borovoye Array**	**146.26**	**44**	PKPbc	**PKPdf**	**00 37 45.2**	**0.0**
	comp=Z,1.3nm,0.7s,baz=286,slow=2.9,SNR=6.9						
KURBB	**Kurchatov Arra**	**151.84**	**44**	PKPbc	**PKiKP**	**00 38 01.4**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=300,slow=2.9,SNR=13						
ZALV	**Zalesovo Beam**	**153.40**	**34**	PKPbc	**PKiKP**	**00 38 04.2**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=306,slow=3.5,SNR=8.5						
MKAR	**Makanchi Array**	**155.63**	**50**	PKP	**PKPdf**	**00 37 59.1**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=315,slow=0.8,SNR=3.1						
MKAR				PKPab	**PKPab**	**00 38 26.6**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=298,slow=4.4,SNR=5.1						

NEIC ***11*** *00:20:10.8±0.4, 19°.52N±0°.03×154°.94W±0°.05, h42km±4km, Error ellipse: s-maj=6.6km s-min=3.8km az=90.0*

HVO 11 00:20:11.6±1.0, 19°.51N±0°.03×154°.88W±0°.06, h38km±3km, ML2.6/27, ML2.7/39(NEIC), Error ellipse: s-maj=7.8km s-min=3.6km az=103.0, Hawaiian Islands

| Code | Station Name | Δ°

comp=N,215nm,0.8s
HPAH Hawaii Prepara 0.93 304 Pn 00 20 26.2 -2.0
HPAH Hawaii Prepara 0.93 304 IAML 00 20 37.1
comp=E,241nm,0.3s
MHA Mahukona 1.18 305 Pn 00 20 29.7 -1.8
HLK Haleakala 1.79 314 Pn 00 20 37.7 -2.5

*CATAC **11** 00:21:12.3±1.0, 10°N±8°×8°7W±°, h1km, M4.4/12, MLv4.4/12, Error ellipse: s-maj=19.5km s-min=12.3km az=151.2, confirmed*
*IDC **11** 00:21:21.6±1.0, 11°48N×85°73W, h0km, mb3.5/5, mbtmp3.5/6, ML3.3/1, MS3.2/3, Error ellipse: s-maj=88.0km s-min=15.0km az=55.0*
*UCR **11** 00:21:23.6±1.0, 10°62N×86°49W, h43km±90km, MW4.4*
ISC 11 00:21:23.6±0.9, 10°69N±0°08×86°44W±0°07, h23km, n44, σ1§14/42, mb3.6/5, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELI1	**Hacienda Flor**	**0.87**	**93**	*eP*	**Pn**	**00 21 40.4**	**-0.1**
LCRUZ	**La Cruz**	**0.88**	**64**	*eP*	**Pn**	**00 21 41.6**	**+0.9**
ALIBA	**Liberia Airpor**	**0.89**	**96**	*eP*	**Pn**	**00 21 40.2**	**-0.5**
CARN	**Rivas**	**1.03**	**61**	P	**Pb**	**00 21 42.5**	**-0.2**
VRLE	**La Escondida,**	**1.06**	**85**	*eP*	**Pn**	**00 21 42.5**	**-0.7**
GPS2	**Hotel Rincn d**	**1.07**	**87**	*eP*	**Pn**	**00 21 42.7**	**-0.6**
VORI	**VORI**	**1.08**	**83**	*eP*	**Pn**	**00 21 43.1**	**-0.4**
JAPN	**Al SSO del Vol**	**1.12**	**42**	P	**Pb**	**00 21 44.7**	**+0.5**
CONN	**Concepcion**	**1.18**	**43**	P	**Pb**	**00 21 45.0**	**-0.4**
CONN				S	Sb	00 22 10.7	+11
HORNC	**Hornillas**	**1.24**	**89**	*eP*	**Pn**	**00 21 45.1**	**-0.5**
CUI	**Cuipilapa**	**1.25**	**91**	*eP*	**Pn**	**00 21 45.4**	**-0.4**
NANN	**Nandasmo**	**1.28**	**14**	P	**Pb**	**00 21 47.4**	**+0.4**
NANN	**Nandasmo**	**1.28**	**14**	S	Sb	00 22 12.6	+10
SABN	**Sabanita**	**1.29**	**12**	P	**Pn**	**00 21 45.7**	**-0.6**
CRUN	**El Crucero**	**1.29**	**6**	P	**Pn**	**00 21 46.4**	**+0.1**
VMAR	**Armenia, Volca**	**1.31**	**85**	*eP*	**Pb**	**00 21 46.6**	**-0.9**
MAS3	**Al N del Volca**	**1.35**	**11**	P	**Pn**	**00 21 47.2**	**+0.1**
TENO	**El Achiote**	**1.44**	**89**	*eP*	**Pn**	**00 21 47.5**	**-0.8**
TISN	**Laguna Tiscapa**	**1.45**	**7**	P	**Pn**	**00 21 48.8**	**+0.3**
SAPS	**Ciudad Sandino**	**1.47**	**1**	P	**Pn**	**00 21 48.8**	**+0.1**
COPN	**Copaltepe**	**1.49**	**354**	*eP*	**Pn**	**00 21 48.9**	**-0.1**
COPN	**Copaltepe**	**1.49**	**354**	P	**Pn**	**00 21 48.8**	**-0.1**
JTS	**Las Juntas de**	**1.52**	**105**	Pn	**Pn**	**00 21 48.1**	**-1.2**
	31nm,0.3s,baz=300,slow=14,SNR=65						
JTS				Sn	**Sn**	**00 22 08.0**	**-0.5**
	54nm,0.3s,baz=259,slow=20,SNR=9.1						
JTS				LR	LR	00 22 26.1	
	comp=Z,202nm,21.5s,baz=341,slow=46						
JTS	**Las Juntas de**	**1.52**	**105**	*eP*	**Pn**	**00 21 48.4**	**-1.0**
QUEB	**Quebradon, Cot**	**1.52**	**92**	*eP*	**Pn**	**00 21 49.4**	**0.0**
APYN	**Apoyeque**	**1.54**	**3**	P	**Pn**	**00 21 50.3**	**+0.6**
VARE2	**V. Arenal**	**1.71**	**98**	*eP*	**Pn**	**00 21 52.2**	**+0.1**
ARE1	**Arenal 1**	**1.71**	**98**	*eP*	**Pn**	**00 21 52.2**	**+0.2**
CEDE	**Laguna Cedeo**	**1.72**	**97**	*eP*	**Pn**	**00 21 52.3**	**+0.1**
ACON	**Acoyapa**	**1.78**	**44**	*eP*	**Pn**	**00 21 52.8**	**-0.1**
CNGA	**Al SSO del Vol**	**1.81**	**352**	P	**Pn**	**00 21 53.4**	**0.0**
ROCN	**Rota Cerro Neg**	**1.84**	**351**	P	**Pn**	**00 21 50.9**	**-2.9**
QUEN	**Al S del Volca**	**1.93**	**348**	P	**Pn**	**00 21 56.0**	**+0.9**
CSGN	**Cosiguina Volc**	**2.52**	**334**	*eP*	**Pn**	**00 22 03.0**	**-0.3**
CMIG	**Matias Romero**	**10.38**	**309**	Pn	**Pn**	**00 23 52.4**	**+1.3**
	0.2nm,0.3s,baz=119,slow=11,SNR=4.3						
	2.3nm,0.7s						
SDV	**Santo Domingo**	**15.68**	**95**	LR	LR	00 33 18.6	
	comp=Z,86nm,18.3s,baz=243,slow=48						
TXAR	**Lajitas Array**	**24.56**	**322**	P	**P**	**00 26 42.1**	**+0.1**
	1.5nm,0.7s,baz=132,slow=9.7,SNR=8.9						
TXAR				PcP	**PcP**	**00 30 22.1**	**+2.2**
	0.3nm,0.7s,baz=149,slow=4.4,SNR=3.5						
	1.5nm,0.7s						
TKL	**Tuckaleechee C**	**24.97**	**5**	LR	LR	00 36 02.1	
	comp=Z,48nm,19.6s,baz=112,slow=36						
LPIG	**La Paz**	**26.34**	**304**	LR	LR	00 37 02.9	
	comp=Z,59nm,19.4s,baz=44,slow=36						
SIV	**San Ignacio**	**36.52**	**136**	P	**P**	**00 28 30.4**	**+2.8**
	1.0nm,0.7s,baz=321,slow=10,SNR=4.3						
	1.0nm,0.7s						
PDAR	**Pinedale Array**	**37.78**	**332**	P	**P**	**00 28 37.6**	**-0.8**
	0.3nm,0.7s,baz=120,slow=10,SNR=3.9						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**39.67**	**320**	PcP	**PcP**	**00 31 03.1**	**+2.2**
	1.4nm,0.7s,baz=133,slow=2.4,SNR=6.0						
YKA	**Yellowknife Ar**	**55.56**	**345**	P	**P**	**00 30 54.2**	**-2.7**
	0.2nm,0.8s,baz=144,slow=8.0,SNR=5.7						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**68.02**	**336**	P	**P**	**00 32 18.4**	**-2.5**
	0.4nm,0.9s,baz=120,slow=6.1,SNR=2.8						
	0.4nm,0.9s						

*IDC **11** 00:28:47.1±1.4, 1°35N×127°26E, h0km, mb3.6/5, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=100.4km s-min=20.7km az=71.0*
*DJA **11** 00:29:00.8±0.7, 1°N±2°×12°7E±°, h34km±11km, M4.2/11, mb4.9/1, MLv3.8/11*
ISC 11 00:28:58.6±0.9, 1°40N±0°08×127°19E±0°08, h103km, n13, σ1§45/15, mb3.5/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.65**	**164**	P	**Pn**	**00 29 15.8**	**-0.1**
SGSI	**Sangihe**	**2.81**	**324**	P	**Pn**	**00 29 41.5**	**-0.5**
SGSI				S	**Sn**	**00 30 14.3**	**-1.0**
KMSI	**Cibinong**	**3.31**	**256**	P	**Pn**	**00 29 48.2**	**-0.4**
KMSI				S	**Sn**	**00 30 27.0**	**-0.2**
NLAI	**Namlea**	**4.61**	**181**	P	**Pn**	**00 30 08.4**	**+2.3**
LUWI	**Luwuk**	**5.04**	**241**	P	**Pn**	**00 30 12.6**	**+0.7**
MPSI	**Mapaga**	**7.37**	**262**	P	**Pn**	**00 30 44.1**	**+0.6**
SPSI	**Sidrap Palu**	**9.13**	**234**	P	**Pn**	**00 31 08.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.43**	**184**	P	**P**	**00 33 15.3**	**-1.7**
	0.3nm,0.3s,baz=18,slow=12,SNR=5.5						
	2.0nm,0.6s						
WRA	**Warramunga Arr**	**22.34**	**162**	P	**P**	**00 33 45.8**	**-2.4**
	2.4nm,0.5s,baz=340,slow=11,SNR=12						
	2.4nm,0.5s						
ASAR	**Alice Springs**	**25.76**	**166**	P	**P**	**00 34 20.1**	**+0.2**
	0.4nm,0.4s,baz=342,slow=11,SNR=4.5						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**35.80**	**159**	P	**P**	**00 35 46.3**	**-1.8**
	1.1nm,0.4s,baz=348,slow=9.3,SNR=3.7						
	1.1nm,0.4s						
SONM	**Songino Array**	**49.64**	**342**	P	**P**	**00 37 42.0**	**+2.2**
	0.2nm,0.3s,baz=140,slow=7.0,SNR=1.9						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.72**	**326**	P	**P**	**00 38 53.4**	**+0.8**
	0.1nm,0.4s,baz=115,slow=6.2,SNR=2.1						
	0.1nm,0.4s						

*SJA **11** 00:32:19.7±0.8, 29°51S×71°52W, h12km±3km, ML3.7, MW3.5*
*NEIC **11** 00:32:23.2±1.7, 29°48S±0°04×71°45W±0°08, h47km±9km, mb4.0/2, Error ellipse: s-maj=10.1km s-min=4.3km az=110.0*
*GUC **11** 00:32:23.4±0.7, 29°53S×71°34W, h58km±2km, ML3.7*
ISC 11 00:32:21.9±1.1, 29°51S±0°02×71°46W±0°04, h30km±9km, n73, σ2§04/106, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.45**	**154**		**Pn**	**00 32 33.9**	**+1.6**
CO05				Sn	**Sn**	**00 32 41.5**	**+2.0**
CO05	**La Serena**	**0.45**	**154**	*eP*	**Pn**	**00 32 34.0**	**+1.6**
CO05				*i* S	**Sn**	**00 32 41.7**	**+2.2**
CO05				IAML		00 32 42.2	
	comp=N,8μm,0.3s						
LCO	**Las Campanas**	**0.83**	**53**		**Pn**	**00 32 38.3**	**+0.4**
LCO				Sn	**Sb**	**00 32 49.0**	**0.0**
LCO	**Las Campanas**	**0.83**	**53**	*eP*	**Pb**	**00 32 37.6**	**-0.4**
LCO				*i* S	**Sb**	**00 32 48.7**	**-0.3**
LCO	**Las Campanas**	**0.83**	**53**	*eP*	**Pb**	**00 32 37.4**	**-0.6**
LCO				*eS*	**Sb**	**00 32 49.1**	**+0.1**
GO04	**Tololo Observa**	**0.88**	**139**		**Pn**	**00 32 39.0**	**+0.5**
GO04				Sn	**Sb**	**00 32 49.7**	**-0.5**
GO04	**Tololo Observa**	**0.88**	**139**	*eP*	**Pn**	**00 32 38.9**	**+0.5**
GO04				*i* S	**Sb**	**00 32 50.3**	**0.0**
GO04	**Tololo Observa**	**0.88**	**139**	*eP*	**Pb**	**00 32 38.3**	**-0.5**
GO04				*eS*	**Sn**	**00 32 50.5**	**+0.2**
GO04				IAML		00 32 51.3	
	comp=Z,4μm,0.2s						
CO06	**Fray Jorge**	**1.17**	**187**		**Pb**	**00 32 43.9**	**+0.3**
CO06				Sn	**Sb**	**00 32 58.7**	**+0.4**
CO06	**Fray Jorge**	**1.17**	**187**	*eP*	**Pb**	**00 32 44.0**	**+0.4**
CO06				*i* S	**Sb**	**00 32 59.1**	**+0.7**
AC05	**El Transito**	**1.24**	**57**		**Pb**	**00 32 44.2**	**-0.6**
AC05				Sn	**Sn**	**00 32 59.2**	**+0.1**
AC05	**El Transito**	**1.24**	**57**	*eP*	**Pb**	**00 32 44.2**	**-0.6**
AC05				*i* S	**Sn**	**00 32 59.3**	**+0.2**
AC05				IAML		00 33 00.4	
	comp=E,3μm,0.2s						
AC05	**El Transito**	**1.24**	**57**	*eP*	**Pn**	**00 32 43.4**	**+0.1**
AC05				*eS*	**Sb**	**00 33 00.2**	**-0.3**
AC05				IAML		00 33 00.6	
	comp=Z,1μm,0.1s						
CO01	**Juntas del Tor**	**1.28**	**112**		**Pn**	**00 32 44.7**	**+0.7**
CO01	**Juntas del Tor**	**1.28**	**112**	*eP*	**Pn**	**00 32 44.8**	**+0.7**
CO01				*i* S	**Sn**	**00 33 00.1**	**-0.2**
CO01				IAML		00 33 01.2	
	comp=E,2μm,0.4s						
CO01	**Juntas del Tor**	**1.28**	**112**	*eP*	**Pn**	**00 32 44.8**	**+0.7**
CO01				*eS*	**Sn**	**00 33 00.7**	**+0.5**
CO01				IAML		00 33 00.9	
	comp=Z,2μm,0.3s						
AC04	**Llanos de Chal**	**1.34**	**15**		**Pb**	**00 32 46.0**	**-0.5**
AC04	**Llanos de Chal**	**1.34**	**15**	*eP*	**Pn**	**00 32 45.5**	**+0.8**
AC04				*eS*	**Sb**	**00 33 04.1**	**+0.7**
AC04				IAML		00 33 06.9	
	comp=Z,1μm,0.5s						
CO03	**El Pedregal**	**1.48**	**153**		**Pn**	**00 32 47.8**	**+1.1**
CO03	**El Pedregal**	**1.48**	**153**	*eP*	**Pn**	**00 32 47.7**	**+1.0**
CO03				*i* S	**Sn**	**00 33 05.3**	**+0.2**
CO03				IAML		00 33 06.6	
	comp=E,2μm,0.4s						
CO03	**El Pedregal**	**1.48**	**153**	*eP*	**Pn**	**00 32 46.9**	**+0.2**
CO03				*eS*	**Sn**	**00 33 05.8**	**+0.6**
CO03				IAML		00 33 06.9	
	comp=Z,773nm,0.3s						
CO02	**Combarbal**	**1.73**	**167**		**Pn**	**00 32 51.5**	**+1.3**
CO02	**Combarbal**	**1.73**	**167**	*eP*	**Pn**	**00 32 51.3**	**+1.1**
CO02				*i* S	**Sn**	**00 33 12.6**	**+1.2**
CO02	**Combarbal**	**1.73**	**167**	*eP*	**Pn**	**00 32 50.6**	**+0.5**
CO02				*eS*	**Sb**	**00 33 15.6**	**+0.9**
CO02				IAML		00 33 17.8	
	comp=Z,674nm,0.4s						
AROD	**Rodeo**	**1.85**	**111**	*eP*	**Pb**	**00 32 54.0**	**-1.3**
AROD				*eS*	**Sb**	**00 33 17.7**	**-0.5**
ACDV	**Cuesta del Vie**	**2.14**	**109**	*eP*	**Pb**	**00 32 58.6**	**-1.5**
ACDV				IAML		00 33 30.7	
	comp=Z,236nm,0.4s						
GO03	**Copiapo**	**2.19**	**30**		**Pn**	**00 32 57.9**	**+1.5**
GO03	**Copiapo**	**2.19**	**30**	*eP*	**Pn**	**00 32 57.4**	**+1.0**
GO03				*i* S	**Sn**	**00 33 23.8**	**+1.2**
GO03	**Copiapo**	**2.19**	**30**	*eP*	**Pn**	**00 32 57.1**	**+0.7**
GO03				*eS*	**Sn**	**00 33 23.3**	**+0.7**
GO03				*eS*		00 33 27.5	
GO03				IAML		00 33 31.3	
	comp=Z,493nm,0.3s						
ACCO	**Cerro Coronel**	**2.34**	**118**	*eP*	**Pb**	**00 33 03.1**	**-0.5**
ACCO				*eS*	Sn	00 33 17.7	-8.9
AC06	**Mina Casimiro**	**2.36**	**25**		**Pn**	**00 32 59.6**	**+1.0**
DOCA	**Reserva Natura**	**2.51**	**125**	*eP*	**Pn**	**00 33 03.7**	**+2.6**
DOCA				*eS*	Sn	00 33 19.6	-11
DOCA				IAML		00 33 21.0	
	comp=Z,209nm,0.7s						
AGUA	**GUANDACOL**	**2.59**	**90**	*eP*	**Pb**	**00 33 05.3**	**-2.5**
AGUA				*eS*	**Sb**	**00 33 43.1**	**+3.8**
AGUA				IAML		00 33 47.3	
	comp=Z,400nm,0.3s						
RTLS	**Leoncito**	**2.95**	**141**	*eP*	**Pn**	**00 33 10.6**	**+3.6**
RTLS				*eS*	**Sb**	**00 33 53.5**	**+3.8**
RTLS				IAML		00 33 55.3	
	comp=Z,452nm,0.5s						
VCA	**Vinchina**	**2.95**	**76**	*eP*	**Pn**	**00 33 05.8**	**-1.2**
VCA				*eP*		00 33 10.6	
VCA				*eS*	**Sb**	**00 33 55.4**	**+5.7**
VCA				*eS*		00 33 55.7	
VCA				IAML		00 33 55.8	
	comp=Z,855nm,0.4s						
ZON	**Zonda**	**3.14**	**131**		**Pn**	**00 33 12.1**	**+2.6**
VA03	**San Esteban**	**3.34**	**167**		**Pn**	**00 33 13.6**	**+1.4**
VA03	**San Esteban**	**3.34**	**167**	*eP*	**Pn**	**00 33 14.1**	**+1.9**
VA03				*eS*	**Sn**	**00 33 55.7**	**+4.8**
VA03				IAML		00 34 12.0	
	comp=Z,135nm,0.2s						
AC02	**Maricunga**	**3.37**	**38**		**Pn**	**00 33 14.5**	**+1.5**
AC02	**Maricunga**	**3.37**	**38**	*eP*	**Pn**	**00 33 14.8**	**+1.8**
AC02				*eS*	**Sn**	**00 33 56.3**	**+4.1**
AC02				IAML		00 34 09.8	
	comp=Z,240nm,0.3s						
AC01	**Pan de Azucar**	**3.44**	**13**	Pn	**Pn**	**00 33 13.0**	**-0.5**
AC01	**Pan de Azucar**	**3.44**	**13**	*eP*	**Pn**	**00 33 13.1**	**-0.4**
AC01				*eS*	**Sb**	**00 34 09.8**	**+6.3**
AC01				IAML		00 34 13.5	
	comp=Z,87nm,0.5s						
CFA	**Coronel Fontan**	**3.48**	**128**	*eP*	**Pn**	**00 33 16.6**	**+2.6**
CFA				*eS*	**Sb**	**00 34 02.2**	**-2.5**
CFA				IAML		00 34 09.5	
	comp=Z,128nm,0.3s						
VA01	**Torpederas**	**3.50**	**183**	Pn	**Pn**	**00 33 14.4**	**0.0**
AVFE	**Valle Fertil**	**3.66**	**109**	*eP*	**Pn**	**00 33 18.5**	**+2.0**
AVFE				*eS*	**Sb**	**00 34 06.2**	**-3.7**
AVFE				IAML		00 34 08.9	
	comp=Z,149nm,0.5s						
PEL	**Peldehue**	**3.68**	**170**		**Pn**	**00 33 18.1**	**+1.2**
MT02	**Curacav**	**3.75**	**176**		**Pn**	**00 33 18.5**	**+0.8**
MT02	**Curacav**	**3.75**	**176**	*eP*	**Pn**	**00 33 18.8**	**+1.0**
MT02				*eS*	**Sn**	**00 34 05.3**	**+4.4**
MT02				IAML		00 34 23.2	
	comp=Z,92nm,0.3s						
MT05	**Renca**	**3.92**	**171**	Pn	**Pn**	**00 33 21.1**	**+0.9**
MT16	**CCHEN**	**3.99**	**169**		**Pn**	**00 33 22.7**	**+1.6**
MT03	**Universidad Ad**	**4.05**	**169**		**Pn**	**00 33 23.6**	**+1.6**
MT08	**Bocatoma Ro**	**4.11**	**163**		**Pn**	**00 33 26.1**	**+3.1**
MT09	**Talagante**	**4.27**	**175**		**Pn**	**00 33 26.3**	**+1.2**
MT13	**San Alfonso**	**4.34**	**167**		**Pn**	**00 33 28.1**	**+2.2**
MT01	**Popeta**	**4.34**	**178**		**Pn**	**00 33 26.7**	**+0.7**
APLL	**PUNTA DE LOS L**	**4.37**	**103**	*eP*	**Pn**	**00 33 28.0**	**+1.6**
APLL				*eS*	**Sn**	**00 34 23.3**	**+6.9**
LMEL	**Las Melosas**	**4.46**	**166**		**Pn**	**00 33 30.2**	**+2.6**
BO04	**La Punta**	**4.52**	**171**		**Pn**	**00 33 29.8**	**+1.4**
GO02	**Mina Guanaco**	**4.64**	**21**		**Pn**	**00 33 29.6**	**-0.7**
BO01	**Tunca**	**4.88**	**176**		**Pn**	**00 33 33.7**	**+0.5**
BO01	**Tunca**	**4.88**	**176**	*eS*	**Sn**	**00 34 28.7**	**-0.1**
BO01				IAML		00 34 55.1	
	comp=Z,28nm,0.8s						
PB14	**IPOC Station P**	**4.96**	**11**	Pn	**Pn**	**00 33 33.0**	**-1.6**
CYA	**Choya**	**5.07**	**79**	*eS*	**Sn**	**00 34 40.7**	**+7.0**
CYA				IAML		00 34 41.4	
	comp=Z,62nm,1.2s						
BO02	**Sierra Bellavi**	**5.30**	**174**		**Pn**	**00 33 40.0**	**+0.8**
ML02	**Panimavida**	**6.24**	**180**	Pn	**Pn**	**00 33 53.5**	**+1.6**
VA04	**Juan Fernndez**	**7.51**	**235**	Pn	**Pn**	**00 34 08.9**	**-0.5**
TRQA	**Tornquist**	**11.61**	**140**	Pn	**Pn**	**00 35 05.3**	**-0.2**
CPUP	**Villa Florida**	**12.89**	**79**	Pn	**Pn**	**00 35 22.2**	**-0.9**
ITQB	**Itaqui**	**12.92**	**94**	Pn	**Pn**	**00 35 22.7**	**-0.8**
LPAZ	**La Paz**	**13.51**	**14**	Pn	**Pn**	**00 35 30.9**	**-1.3**
SNAA	**Sanae**	**55.57**	**159**	P	**P**	**00 41 52.9**	**-1.3**
SNAA				IAmb	IAmb	00 42 17.3	
	comp=Z,3.9nm,1.1s						
QSPA	**South Pole Qui**	**60.71**	**180**	P	**P**	**00 42 29.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**82.23**	**70**	P	**P**	**00 44 38.9**	**-1.8**
TORD				IAmb	IAmb	00 45 02.3	
	comp=Z,0.6nm,0.8s						

RSNC 11 00:42:38.4±0.0, 7°N±1°×77°3W±°, h148km±2km, M3.2, mB4.8, mb4.1, ML3.0, Mw(mB)4.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**192**	P	Pn	00 42 58.5	-0.4
BARC				S	Sn	00 43 13.6	-0.9
BRJC	**Barrancabermej**	**0.62**	**282**	P	Pn	00 43 00.4	+0.2
BRJC				S	Sn	00 43 17.0	+0.2
PAMC	**Pamplona, Colo**	**0.66**	**41**	P	Pn	00 43 01.5	+0.5
PAMC				S	Sn	00 43 17.9	-0.3
RUSC	**La Rusia**	**0.94**	**177**	P	Pn	00 43 02.4	-0.7
RUSC				S	Sn	00 43 20.4	-1.5
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	P	Pn	00 43 05.1	-1.2
PTBC				S	Sn	00 43 25.8	-1.8
TAMC	**Tame, Arauca**	**1.39**	**107**	P	Pn	00 43 07.0	+0.3
TAMC				S	Sn	00 43 28.3	0.0
OCAC	**Ocana**	**1.40**	**352**	P	Pn	00 43 06.7	-0.3
OCAC				S	Sn	00 43 28.4	-0.5
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	P	Pn	00 43 11.7	+0.2
ZARC				S	Sn	00 43 36.8	-0.1
NORC	**Norcasia**	**2.14**	**234**	P	Pn	00 43 14.7	-0.5
NORC				S	Sn	00 43 41.7	-1.8
CHIC	**Chingaza**	**2.28**	**195**	P	Pn	00 43 16.6	-0.5
CHIC				S	Sn	00 43 45.7	-1.2
ROSC	**El Rosal**	**2.31**	**211**	P	Pn	00 43 18.3	+0.7
ROSC				S	Sn	00 43 47.2	-0.4
CVER	**Cruz Verde, Cu**	**2.49**	**202**	P	Pn	00 43 20.0	+0.2
CVER				S	Sn	00 43 51.0	-0.6
UREC	**San Jos de Ur**	**2.55**	**291**	P	Pn	00 43 19.3	-0.8
UREC				S	Sn	00 43 50.2	-2.0
GUY2C	**Guyana, Caldas**	**2.74**	**234**	P	Pn	00 43 23.0	+0.1
GUY2C				S	Sn	00 43 58.3	+1.1
VILC	**Villavicencio,**	**2.77**	**192**	P	Pn	00 43 22.4	-0.5
VILC				S	Sn	00 43 55.8	-1.5
PTGC	**Puerto Gaitan,**	**2.81**	**159**	P	Pn	00 43 21.7	-1.6
PTGC				S	Sn	00 43 53.0	-4.9
NIZA	**Niza - Manizal**	**2.92**	**233**	P	Pn	00 43 27.4	+2.4
NIZA				S	Sn	00 44 03.1	+2.1
CBOC	**Ciudad Bolivar**	**3.02**	**251**	P	Pn	00 43 26.7	+0.5
CBOC				S	Sn	00 44 02.1	-1.0
DBBC	**Dabeiba**	**3.06**	**273**	P	Pn	00 43 26.9	+0.3
DBBC				S	Sn	00 44 01.6	-2.2
ARGC	**Ariguani, Magd**	**3.19**	**340**	P	Pn	00 43 29.1	+0.9
ARGC				S	Sn	00 44 07.9	+1.1
SDV	**Santo Domingo**	**3.20**	**50**	P	Pn	00 43 28.0	-0.5
SDV				S	Sn	00 44 04.4	-2.8
ANIL	**Santa Ana**	**3.25**	**224**	P	Pn	00 43 29.8	+0.6
ANIL				S	Sn	00 44 10.0	+1.5
PRAC	**Prado**	**3.56**	**209**	P	Pn	00 43 32.0	-1.0
PRAC				S	Sn	00 44 14.7	-0.7
APAC	**Apartado, Choc**	**3.58**	**287**	P	Pn	00 43 33.1	-0.1
APAC				S	Sn	00 44 12.9	-2.7
ORTC	**Ortega, Tolima**	**3.59**	**216**	P	Pn	00 43 32.8	-0.6
ORTC				S	Sn	00 44 15.1	-0.9
SJCC	**San Jacinto, C**	**3.65**	**326**	P	Pn	00 43 33.4	-0.8
SJCC				S	Sn	00 44 13.9	-3.5
URMC	**La Uribe, Meta**	**3.78**	**199**	P	Pn	00 43 35.4	-0.5
URMC				S	Sn	00 44 20.3	-0.2
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	P	Pn	00 43 38.9	-1.9
CRJC				S	Sn	00 44 25.6	-3.8
YOTC	**Yotoco, Valle**	**4.28**	**229**	P	Pn	00 43 41.4	-1.0
YOTC				S	Sn	00 44 35.9	+3.8
SMRC	**Santa Marta, M**	**4.43**	**346**	P	Pn	00 43 43.5	-0.8
SMRC				S	Sn	00 44 32.7	-2.9
PIZC	**Pizarro, Choco**	**4.60**	**246**	P	Pn	00 43 46.0	-0.5
MACC	**Macarena, Meta**	**4.72**	**189**	P	Pn	00 43 45.4	-2.7
MACC				S	Sn	00 44 38.2	-4.3
URIC	**Uribia, Colomb**	**4.96**	**13**	P	Pn	00 43 49.1	-2.2
URIC				S	Sn	00 44 45.8	-2.3
MALC	**Bahia Malaga**	**5.04**	**236**	P	Pn	00 43 53.8	+1.1
MALC				S	Sn	00 44 52.5	+2.5
POPC	**Popayan, Colom**	**5.54**	**220**	P	Pn	00 43 59.3	0.0
FLOC	**Florencia**	**5.80**	**206**	P	Pn	00 44 01.6	-0.9
	12nm,1.2s						
BBAC	**Balboa, Cauca**	**6.30**	**221**	P	Pn	00 44 09.9	+0.5
GCUF	**Volcan Galeras**	**6.98**	**217**	P	Pn	00 44 16.9	-1.8

*NEIC **11** 00:52:48.6±2.4, 6°52S±0°06×148°81E±0°09, h10km±1km, mb4.4/8, Error ellipse: s-maj=15.0km s-min=9.4km az=93.0*
*IDC **11** 00:52:57.0±2.1, 6°54S×148°38E, h71km±18km, mb3.5/9, mbtmp3.8/11, MS3.4/14, Error ellipse: s-maj=38.3km s-min=12.6km az=109.0*
ISC 11 00:52:53.4±0.7, 6°57S±0°07×148°7E±0°1, h50km, n35, σ1§77/30, mb3.9/11, MS3.4/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.20**	**208**		**Pn**	**00 53 42.1**	**+1.0**
PMG	**Port Moresby**	**3.20**	**208**	P	**Pn**	**00 53 42.2**	**+1.1**
	124nm,0.5s,baz=14,slow=7.1,SNR=32						
PMG				S	**Sn**	**00 54 20.4**	**+2.4**
	380nm,0.5s,baz=336,slow=20,SNR=20						
PMG				LR	LR	00 55 17.7	
	comp=Z,934nm,18.3s,baz=305,slow=45						
RABL	**Rabaul**	**4.19**	**56**	Pn	**Pn**	**00 53 52.7**	**-2.1**
MANU	**Manus Island**	**4.69**	**344**		**Pn**	**00 54 00.8**	**-0.9**
JAY	**Jayapura**	**8.92**	**297**	LR	LR	00 58 27.0	
	comp=Z,220nm,20.6s,baz=168,slow=38						

mbtmp4.0/11, ML4.3/2, MS3.6/6, Error ellipse: s-maj=29.4km s-min=18.6km az=137.0
NEIC ***11*** *00:55:36.4±1.5, 16°.74S±0°.04×169°.2E±0°.1, h10km±1km, mb4.6/13, Error ellipse: s-maj=18.4km s-min=5.6km az=284.0*

ISC 11 00:55:40.1±0.6, **16°.86S**±0°.09×**169°.1E**±0°.1, **h35**km, **n37**, σ1§**06**/33, **mb4.3**/16, **MS3.8**/4, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.76**	**205**		**Pn**	**00 57 03.1**	**-0.1**
DZM	**Mont Dzumac**	**5.76**	**205**		**Pn**	**00 57 01.9**	**-1.3**
	1.1nm,0.3s,baz=177,slow=21,SNR=7.1						
DZM				Sn	**Sn**	**00 58 07.4**	**-0.7**
	0.6nm,0.3s,baz=286,slow=21,SNR=1.2						
	4.2nm,0.6s						
PINNC	**Pines Island,**	**5.93**	**195**	Pn	**Pn**	**00 57 06.6**	**+1.1**
ONTNC	**Ouen Toro**	**5.97**	**204**	Pn	**Pn**	**00 57 06.5**	**+0.5**
MSVF	**Nonsavu**	**8.60**	**97**	Pn	**Pn**	**00 57 39.6**	**-2.6**
MSVF	**Nonsavu**	**8.60**	**97**	Pn	**Pn**	**00 57 42.7**	**+0.5**
	0.4nm,0.3s,baz=212,slow=22,SNR=7.4						
MSVF				LR	LR	01 00 11.7	
	comp=Z,216nm,20.9s,baz=0.9,slow=32						
	0.8nm,0.2s						
HNR	**Honiara**	**11.57**	**309**	LR	LR	01 01 57.7	
	comp=Z,210nm,21.0s,baz=134,slow=33						
URZ	**Urewera**	**22.45**	**163**	LR	LR	01 07 37.2	
	comp=Z,163nm,18.2s,baz=48,slow=32						
STKA	**Stephens Creek**	**29.06**	**234**	P	**P**	**01 01 37.3**	**0.0**
STKA	**Stephens Creek**	**29.06**	**234**	P	**P**	**01 01 36.9**	**-0.4**
	2.3nm,0.8s,baz=48,slow=9.0,SNR=7.7						
	2.3nm,0.8s						
WB0	**Warramunga Arr**	**33.04**	**260**	P	**P**	**01 02 11.6**	**-0.8**
WB0				IAmb	IAmb	01 02 30.5	
	comp=Z,4.4nm,0.9s						
WRA	**Warramunga Arr**	**33.09**	**259**	P	**P**	**01 02 12.4**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=87,slow=8.7,SNR=5.5						
	comp=Z,0.7nm,0.8s						
AS31	**Alice Springs**	**33.64**	**253**	P	**P**	**01 02 17.7**	**0.0**
AS31				IAmb	IAmb	01 02 24.8	
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**33.64**	**253**	P	**P**	**01 02 17.9**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=76,slow=9.1,SNR=28						
	comp=Z,3.0nm,0.5s						
BBOO	**Buckleboo**	**33.75**	**236**	P	**P**	**01 02 19.5**	**+0.9**
BBOO				IAmb	IAmb	01 02 25.4	
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**38.69**	**266**	P	**P**	**01 03 00.6**	**-0.3**
KNRA				IAmb	IAmb	01 03 09.4	
	comp=Z,17nm,1.1s						
FITZ	**Fitzroy Crossi**	**41.40**	**262**		**P**	**01 03 23.6**	**+0.2**
SBA	**Scott Base**	**61.03**	**181**	P	**P**	**01 05 50.2**	**+0.4**
PEA0B	**Petropavlovsk-**	**70.37**	**353**		**P**	**01 06 50.0**	**-0.1**
PETK	**Petropavlovsk-**	**70.37**	**353**	P	**P**	**01 06 49.0**	**-1.2**
PETK	**Petropavlovsk-**	**70.37**	**353**	P	**P**	**01 06 51.3**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=148,slow=8.7,SNR=4.9						
	comp=Z,1.1nm,0.6s						
QSPA	**South Pole Qui**	**73.18**	**180**	P	**P**	**01 07 07.4**	**+0.2**
QSPA	**South Pole Qui**	**73.18**	**180**	P	**P**	**01 07 07.7**	**+0.5**
	comp=Z,1.4nm,1.0s,baz=99,slow=15,SNR=1.9						
	comp=Z,1.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**77.42**	**294**	P	**P**	**01 07 29.5**	**-2.7**
CMAR	**Chiang Mai Arr**	**77.42**	**294**	P	**P**	**01 07 34.0**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=127,slow=4.7,SNR=7.2						
	comp=Z,0.6nm,0.3s						
M19K	**Big River Lodg**	**83.66**	**16**	P	**P**	**01 08 03.4**	**-1.3**
M19K				IAmb	IAmb	01 08 14.9	
	comp=Z,5.2nm,1.0s						
L19K	**White Mountain**	**83.76**	**16**	P	**P**	**01 08 04.0**	**-1.3**
J18K	**Innoko River**	**84.36**	**15**	P	**P**	**01 08 08.1**	**-0.2**
J18K				IAmb	IAmb	01 08 10.5	
	comp=Z,6.6nm,1.1s						
CAST	**Castle Rocks**	**85.51**	**16**	P	**P**	**01 08 13.4**	**-0.6**
CAST				IAmb	IAmb	01 08 15.2	
	comp=Z,4.1nm,1.0s						
J20K	**Nowinta River**	**85.59**	**15**	P	**P**	**01 08 14.3**	**-0.1**
YBH	**Yreka Blue Hor**	**85.69**	**44**	LR	LR	01 41 46.2	
	comp=Z,37nm,18.3s,baz=2.0,slow=32						
NVAR	**Mina Array Bea**	**87.33**	**49**	P	**P**	**01 08 25.4**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=254,slow=4.2,SNR=7.8						
	comp=Z,1.5nm,0.8s						
ILAR	**Eielson Array**	**88.01**	**17**	P	**P**	**01 08 25.7**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=232,slow=5.2,SNR=4.3						
	comp=Z,0.8nm,0.9s						
BMAR	**Burnt Mountain**	**90.61**	**16**	P	**P**	**01 08 38.7**	**+0.3**
NEW	**Newport**	**92.05**	**40**	LR	LR	01 46 10.1	
	comp=Z,29nm,18.6s,baz=140,slow=33						
PDAR	**Pinedale Array**	**95.10**	**47**	LR	LR	01 48 13.0	
	comp=Z,28nm,18.2s,baz=168,slow=33						
YKA	**Yellowknife Ar**	**98.62**	**27**	P	**P**	**01 09 15.6**	**+0.5**
	comp=Z,0.3nm,0.9s,baz=261,slow=4.6,SNR=4.6						
	comp=Z,0.3nm,0.9s						

UCR 11 01:18:23.7±0.9, **10°.07N**×**86°.65W**, **h0**km±7km, **MW3.8**, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICO	**Nicoya**	**1.18**	**87**	*eP*	Pb	01 18 47.1	+0.1
ALIBA	**Liberia Airpor**	**1.20**	**64**	*eP*	Pn	01 18 47.7	-0.1
ELI1	**Hacienda Flor**	**1.22**	**62**	*eP*	Pn	01 18 48.1	+0.1
NYURE	**Nandayure**	**1.38**	**93**	*eP*	Pg	01 18 49.9	-0.2
LCRUZ	**La Cruz**	**1.42**	**45**	*eP*	Pb	01 18 51.6	+0.6
LCRUZ				*eS*	Sn	01 19 11.9	+1.7
GPS2	**Hotel Rincn d**	**1.44**	**62**	*eP*	Pn	01 18 50.6	-0.6
VRLE	**La Escondida,**	**1.45**	**60**	*eP*	Pn	01 18 50.6	-0.7
VORI	**VORI**	**1.48**	**60**	*eP*	Pn	01 18 51.5	-0.3
COLC	**Colonia**	**1.54**	**67**	*eP*	Pn	01 18 52.1	-0.3
CUI	**Cuipilapa**	**1.57**	**68**	*eP*	Pn	01 18 52.9	-0.1
HORNC	**Hornillas**	**1.58**	**66**	*eP*	Pn	01 18 52.8	-0.3
INVE	**Universidad In**	**1.61**	**75**	*eP*	Pn	01 18 53.7	+0.2
VMAR	**Armenia, Volca**	**1.68**	**64**	*eP*	Pn	01 18 54.6	+0.2
JTS	**Las Juntas de**	**1.68**	**82**	*eP*	Pn	01 18 54.4	0.0
TENO	**El Achiote**	**1.76**	**69**	*eP*	Pn	01 18 54.9	-0.6
QUEB	**Quebradon, Cot**	**1.81**	**72**	*eP*	Pn	01 18 56.5	+0.3
ARE1	**Arenal 1**	**1.94**	**78**	*eP*	Pn	01 18 58.9	+1.0
VARE2	**V. Arenal**	**1.94**	**78**	*eP*	Pn	01 18 59.0	+1.0
COPN	**Copaltepe**	**2.10**	**1**	*eP*	Pn	01 19 00.3	+0.2
ACON	**Acoyapa**	**2.38**	**37**	*eP*	Pn	01 19 04.1	+0.1
CNGN	**Cerro Negro**	**2.42**	**359**	*eP*	Pn	01 19 04.8	+0.2
ABE2	**San Pablo**	**2.58**	**98**	*eP*	Pb	01 19 09.6	-1.5
CRIN	**San Cristobal**	**2.64**	**351**	*eP*	Pn	01 19 07.9	+0.2
CSGN	**Cosiguina Volc**	**3.02**	**343**	*eP*	Pn	01 19 13.5	+0.5

AFAD ***11*** *01:39:30.9, 40°.77N×27°.52E, h7km±3km, ML2.1*

ISK 11 01:39:30.7, 40°.79N×27°.52E, h15km, **ML2.3**/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	**Tekirdag**	**0.20**	**4**	Pg		01 39 35.9	
TKR				Sg		01 39 39.0	
MRMT	**Marmara Adasi**	**0.20**	**163**	Pg		01 39 35.6	
MRMT				Sg		01 39 39.0	
SART	**Tekirdag**	**0.28**	**248**	P		01 39 37.2	
SART				S		01 39 41.2	
RKY	**Sarkoy-Tekirda**	**0.28**	**248**	Pg		01 39 37.2	
RKY				Sg		01 39 41.6	
CRLT	**Corlu**	**0.37**	**26**	Pg		01 39 39.1	
KRBG	**Karabiga-Canak**	**0.43**	**203**	Pg		01 39 39.8	
EDC	**Edincik**	**0.52**	**149**	Pg		01 39 41.4	
EDC				Sg		01 39 49.4	
KNL	**Balıkesir**	**0.52**	**179**	P		01 39 41.7	
KNL				S		01 39 48.6	
BAND	**Balkesir-Ban**	**0.62**	**134**	P		01 39 43.0	
KESN	**Edirne-Kesan**	**0.64**	**273**	P		01 39 43.5	
KESN				S		01 39 50.6	
SLVT	**Silivri**	**0.68**	**50**	Pg		01 39 44.5	
LPK	**Lapseki**	**0.71**	**234**	Pg		01 39 45.1	
UKOP	**Uzunkopru-Edir**	**0.75**	**297**	Pg		01 39 45.8	
GONE	**Gonen-Balikesi**	**0.76**	**170**	Pg		01 39 45.9	
ERIK	**Erikli-Kesan**	**0.77**	**261**	Pg		01 39 46.1	
ELBA	**Catalca**	**0.78**	**63**	P		01 39 45.9	
ELBA				*i* AML		01 39 59.0	
	comp=N,76nm,0.2s						
ELBA				*i* AML		01 40 00.0	
	comp=E,78nm,0.1s						
VIZE	**Kirklareli, Vi**	**0.82**	**17**	P		01 39 46.4	
VIZE				*i* AML		01 40 00.0	
	comp=N,54nm,0.1s						
KCTX	**Karacabey (Bur**	**0.83**	**129**	Pg		01 39 46.8	
CANM	**Can-anakkale**	**0.86**	**205**	Pg		01 39 46.7	
CTKS	**Kestanelik-??a**	**0.87**	**59**	Pg		01 39 48.3	
YENI	**Yenice-Canakka**	**0.88**	**194**	Pg		01 39 48.2	
GELI	**Tayfur-Gelibol**	**0.89**	**244**	Pg		01 39 47.8	
CTYL	**Yalikoy Yolu**	**0.90**	**40**	Pg		01 39 47.9	
SUSR	**Susurluk-Balik**	**0.94**	**152**	Pg		01 39 49.9	
BGKT	**Bogazkoy**	**1.03**	**67**	Pg		01 39 50.6	
CAVK	**Edirne/Enez-Ca**	**1.03**	**265**	P		01 39 50.6	
CAVK				S		01 40 03.4	
CAVK				*i* AML		01 40 06.0	
	comp=E,70nm,0.3s						
CAVK				*i* AML		01 40 07.0	
	comp=N,80nm,0.5s						
KIRK	**Kırklareli**	**1.04**	**342**	P		01 39 50.4	
KIRK				S		01 40 02.4	
KIRK				*i* AML		01 40 05.0	
	comp=E,33nm,0.5s						
ENEZ	**Enez**	**1.04**	**267**	Pg		01 39 50.9	
ARMT	**Armutlu**	**1.05**	**102**	Pg		01 39 50.8	
BALY	**Balya**	**1.05**	**176**	P		01 39 52.0	
BALY				S		01 40 04.9	
BALY				*i* AML		01 40 08.0	
	comp=N,38nm,0.4s						
COMU	**Canakkale**	**1.06**	**229**	Pg		01 39 51.5	
ENZZ	**Sultanice-Enez**	**1.06**	**260**	Pg		01 39 51.5	
ARMN	**Kirklareli, Me**	**1.07**	**356**	P		01 39 51.0	
ARMN				S		01 40 04.2	
BKES	**Balkesir-Mer**	**1.10**	**163**	P		01 39 52.4	
BKES				S		01 40 07.2	
BKES				*i* AML		01 40 10.0	
	comp=E,75nm,0.2s						
ALN	**Alexandroupoli**	**1.12**	**276**	Pn		01 39 52.5	
MDNY	**Mudanya-Bursa**	**1.12**	**112**	Pn		01 39 52.1	
CNKL	**anakkale-Mer**	**1.13**	**230**	P		01 39 51.6	
CNKL				S		01 40 05.7	
ISK	**Istanbul-Kandi**	**1.20**	**76**	Pn		01 39 53.2	
KAVV	**Kandilli-Istan**	**1.20**	**77**	Pn		01 39 53.0	
EDRB	**Edirne**	**1.20**	**331**	Pn		01 39 53.3	
KLYT	**Kilyos**	**1.24**	**68**	Pn		01 39 53.8	
BAYC	**CANAKKALE_Bayr**	**1.29**	**216**	P		01 39 54.2	
BAYC				S		01 40 10.4	
BAYC				*i* AML		01 40 35.0	
	comp=E,31nm,0.8s						
BAYC				*i* AML		01 40 36.0	
	comp=N,23nm,0.2s						
BUHA	**Balikesir, Bur**	**1.33**	**195**	P		01 39 55.8	
BUHA				*i* AML		01 40 38.0	
	comp=N,35nm,0.6s						
GOAD	**anakkale-G¶**	**1.38**	**243**	P		01 39 56.0	
GOAD				S		01 40 13.3	
GOAD				*i* AML		01 40 19.0	
	comp=N,28nm,0.3s						
GOAD				*i* AML		01 40 23.0	
	comp=E,34nm,0.6s						
BOZC	**Bozcaada**	**1.47**	**230**	P		01 39 57.6	
BOZC				*i* AML		01 40 39.0	
	comp=N,26nm,0.6s						
BOZC				*i* AML		01 40 49.0	
	comp=E,28nm,1.0s						

AFAD ***11*** *01:39:32.8, 37°.90N×26°.46E, h7km±2km, ML2.3*
THE ***11*** *01:39:33.0, 37°.83N×26°.66E, h30km±5km, ML2.5/2, Error ellipse: s-maj=5.7km s-min=0.6km az=100.0*
ATH ***11*** *01:39:33.2, 37°.90N×26°.35E, h15km±6km, ML2.6/3, Manual Solution by S.Koutrakis First location: 2019/04/11 01:41:12, This location: 2019/04/11 05:45:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 6 km*

ISC 11 01:39:32.2±1.1, **37°.87N**±0°.02×**26°.42E**±0°.03, **h13**km±9km, **n21**, σ0§**73**/37, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEYE	**Izmir, Urla-Ze**	**0.37**	**10**	P	**Pg**	**01 39 39.7**	**0.0**
ZEYE				S	**Sg**	**01 39 44.9**	**+0.2**
ZEYE				*i* AML	AML	01 39 46.0	
	comp=N,483nm,0.5s						
DGB	**zmir**	**0.41**	**63**	P	**Pg**	**01 39 40.0**	**-0.3**
DGB				S	**Sg**	**01 39 45.4**	**-0.3**
URLA	**Izmir**	**0.51**	**16**	P	**Pg**	**01 39 42.1**	**-0.1**
URLA				S	**Sb**	**01 39 49.9**	**-0.4**
GCAM	**G?zelcaml?**	**0.67**	**105**	P	**Pg**	**01 39 45.4**	**+0.3**
GCAM				*i* AML	AML	01 39 58.0	
	comp=E,120nm,0.5s						
EAG2	**Marmaro, Chios**	**0.72**	**340**	P	**Pg**	**01 39 46.1**	**+0.1**
EAG2				S	**Sb**	**01 39 56.3**	**+0.1**
DDIM	**Aydin, Didim**	**0.77**	**122**	P	**Pb**	**01 39 47.4**	**0.0**
DDIM				*i* AML	AML	01 40 02.0	
	comp=E,179nm,1.0s						
DDIM				*i* AML	AML	01 40 08.0	
	comp=N,169nm,0.7s						
KARB	**zmir-Karabur**	**0.79**	**359**	P	**Pg**	**01 39 47.3**	**-0.2**
KARB				*i* AML	AML	01 40 01.0	
	comp=N,126nm,0.6s						
KARB				*i* AML	AML	01 40 06.0	
	comp=E,128nm,0.7s						
KLNA	**Kalymnos**	**1.01**	**154**	P	**Pn**	**01 39 53.2**	**+1.1**
KLNA				S	**Sn**	**01 40 07.3**	**+1.1**
TNSA	**Tinos**	**1.05**	**252**	P	**Pb**	**01 39 52.6**	**+0.3**
TNSA				S	**Sb**	**01 40 05.3**	**-0.7**
APE	**Apeiranthos**	**1.07**	**222**	P	**Pb**	**01 39 52.7**	**+0.1**
APE				S	**Sn**	**01 40 07.8**	**+0.1**
	185nm,0.1s						
APE	**Apeiranthos**	**1.07**	**222**	P	**Pb**	**01 39 52.8**	**+0.2**
APE				S	**Sn**	**01 40 07.7**	**-0.1**
BDRM	**Kayabasi**	**1.14**	**134**	P	**Pg**	**01 39 54.9**	**+0.7**
BDRM				S	**Sg**	**01 40 09.2**	**+0.1**
BDRM				*i* AML	AML	01 40 12.0	
	comp=E,67nm,1.0s						
AYDN	**Tasoluk**	**1.17**	**100**	P	**Pg**	**01 39 55.5**	**+0.8**
AYDN				*i* AML	AML	01 40 14.0	
	comp=E,49nm,0.5s						
IZMD	**zmir-Dikili-**	**1.18**	**19**	P	**Pn**	**01 39 54.6**	**+0.1**
IZMD				S	**Sn**	**01 40 10.7**	**+0.1**
IZMD				*i* AML	AML	01 40 19.0	
	comp=N,51nm,1.4s						
IZMD				*i* AML	AML	01 40 19.0	
	comp=E,71nm,1.0s						
ZEDA	**zmir-Bergama**	**1.21**	**25**	P	**Pg**	**01 39 55.6**	**+0.2**
ZEDA				S	**Sg**	**01 40 11.8**	**+0.7**
ZEDA				*i* AML	AML	01 40 42.0	
	comp=E,58nm,1.5s						
IZMR	**zmir-demi**	**1.24**	**77**	P	**Pg**	**01 39 56.1**	**+0.1**
IZMR				S	**Sb**	**01 40 10.6**	**-0.7**
NISR	**Nisiros**	**1.38**	**156**	P	**Pn**	**01 39 54.0**	**-3.1**
SIGR	**SIGRI**	**1.41**	**342**	P	**Pn**	**01 39 57.1**	**-0.5**
SIGR				S	**Sn**	**01 40 16.2**	**+0.2**
	120nm,0.5s						
SIGR	**SIGRI**	**1.41**	**342**	P	**Pn**	**01 39 57.6**	**0.0**
SIGR				S	**Sb**	**01 40 16.4**	**+0.1**
AYVA	**Ayvalik**	**1.45**	**8**	P	**Pg**	**01 40 00.8**	**+0.8**
AYVA				S	**Sb**	**01 40 17.9**	**+0.5**
AYVA				*i* AML	AML	01 40 22.0	
	comp=N,41nm,0.3s						
AYVA				*i* AML	AML	01 40 30.0	
	comp=E,51nm,0.8s						
KOCA	**Canakkale, Ayv**	**1.64**	**352**	P	**Pb**	**01 40 01.8**	**-0.6**
KOCA				S	**Sn**	**01 40 22.5**	**+0.7**
KOCA				*i* AML	AML	01 40 27.0	
	comp=N,80nm,0.6s						
KOCA				*i* AML	AML	01 40 29.0	
	comp=E,54nm,0.7s						

IDC ***11*** *01:39:51.6±0.9, 27°.71N×54°.09E, h0km, mb3.8/16, mbtmp3.8/21, ML3.7/5, MS3.2/2, Error ellipse: s-maj=19.8km s-min=17.0km az=161.0*
DSN ***11*** *01:39:52.5±1.3, 27°.87N×54°.10E, h10km, ML3.4/11, Error ellipse: s-maj=16.6km s-min=6.4km az=11.0*
TEH ***11*** *01:39:53.8, 27°.71N×54°.30E, h14km±24km*
NEIC ***11*** *01:39:54.2±1.4, 27°.69N±0°.06×54°.2E±0°.1, h10km±1km, mb4.0/12, Error ellipse: s-maj=17.9km s-min=5.0km az=240.0*
OMAN ***11*** *01:39:55.5±0.8, 27°.60N×54°.19E, h10km±7km, mb4.3/8, ml3.6/20, Error ellipse: s-maj=6.5km s-min=2.7km az=11.0*

ISC 11 01:39:52.9±1.3, **27°.67N**±0°.04×**54°.21E**±0°.03, **h9**km±8km, **n129**, σ1§**85**/149, **mb3.9**/20, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.14**	**91**	Pg	**Pg**	**01 39 56.4**	**+0.2**
LMD1	**Lamerd**	**0.99**	**251**	Pg	**Pn**	**01 40 14.7**	**+1.7**
JHRM	**Jahrom**	**1.00**	**326**	Pg	**Pn**	**01 40 13.6**	**+0.4**
QIR1	**Qir**	**1.31**	**308**	Pg	**Pg**	**01 40 19.4**	**+1.4**
IBND	**Bandar-abas**	**2.08**	**96**	Pn	**Pb**	**01 40 29.4**	**-1.4**
SHME	**Shamm**	**2.36**	**133**	P	**Pb**	**01 40 34.4**	**-1.2**
SHME				S	**Sb**	**01 41 03.4**	**-1.5**
SHME	**Shamm**	**2.36**	**133**	P	**Pb**	**01 40 35.4**	**-0.2**
SHI	**Shiraz**	**2.47**	**323**	Pn	**Pn**	**01 40 35.2**	**+1.7**
BANOM	**Banah**	**2.55**	**133**	P	**Pb**	**01 40 36.9**	**-2.0**
BANOM				S	**Sb**	**01 41 08.7**	**-1.7**
BANOM	**Banah**	**2.55**	**133**	P	**Pn**	**01 40 36.5**	**+2.0**
DSBU	**Dashti - Bushe**	**2.70**	**285**	Pn	**Pn**	**01 40 38.4**	**+1.9**
MASF	**Masafi**	**2.88**	**142**	P	**Pn**	**01 40 41.2**	**+2.2**
MASF				S	**Sn**	**01 41 15.4**	**+1.6**
KAZ2	**Kazeron-Fars-I**	**2.96**	**311**	Pn	**Pn**	**01 40 41.6**	**+1.4**
NGRK	**Negar Kerman**	**2.96**	**48**	Pn	**Pn**	**01 40 41.2**	**+0.8**
NAZ	**Nazwa, Dubai**	**2.97**	**154**	P	**Pb**	**01 40 43.3**	**-2.7**
NAZ	**Nazwa, Dubai**	**2.97**	**154**	P	**Pn**	**01 40 43.1**	**+2.9**
JRN	**Qarnain Island**	**2.98**	**205**	P	**Pn**	**01 40 42.7**	**+2.3**
JRN				S	**Sn**	**01 41 17.8**	**+1.6**
MDH	**Madha**	**3.01**	**141**	P	**Pb**	**01 40 43.8**	**-3.0**
MDH				S	**Sn**	**01 41 19.6**	**+2.5**
MDH	**Madha**	**3.01**	**141**	P	**Pb**	**01 40 44.7**	**-2.1**
FAQ	**Al Faqa, Dubai**	**3.17**	**157**	P	**Pn**	**01 40 45.1**	**+2.2**
FAQ				S	**Sn**	**01 41 23.8**	**+3.0**
FAQ	**Al Faqa, Dubai**	**3.17**	**157**	P	**Pn**	**01 40 45.1**	**+2.2**
AJN	**Ajban**	**3.17**	**167**	P	**Pn**	**01 40 45.7**	**+2.7**
ASUD	**Al Ashush, Dub**	**3.19**	**161**	P	**Pn**	**01 40 45.5**	**+2.2**
	SNR=7.9						
ASUD	**Al Ashush, Dub**	**3.19**	**161**	P	**Pn**	**01 40 45.7**	**+2.4**
KRBR	**Kerman**	**3.21**	**44**	Pn	**Pn**	**01 40 45.0**	**+1.2**
UOSS	**Minazif**	**3.25**	**146**		**Pn**	**01 40 46.2**	**+2.1**
UOSS	**Minazif**	**3.25**	**146**	P	**Pn**	**01 40 46.2**	**+2.1**
UOSS				S	**Sn**	**01 41 25.1**	**+2.2**
UOSS	**Minazif**	**3.25**	**146**	P	**Pn**	**01 40 46.0**	**+1.9**
HATD	**Hatta, Dubai**	**3.32**	**148**	P	**Pn**	**01 40 48.0**	**+2.9**
HATD				S	**Sn**	**01 41 26.3**	**+1.7**
HATD	**Hatta, Dubai**	**3.32**	**148**	P	**Pn**	**01 40 47.1**	**+2.0**
HATD				S	**Sb**	**01 41 31.4**	**-1.0**
KHGB	**Koh Gabri**	**3.35**	**36**	Pn	**Pn**	**01 40 46.6**	**+0.9**
ASHO	**Ashiyiah**	**3.41**	**150**	P	**Pn**	**01 40 48.3**	**+2.1**
	SNR=6.6						
ASHO				S	**Sn**	**01 41 27.9**	**+1.1**
ASHO	**Ashiyiah**	**3.41**	**150**	P	**Pn**	**01 40 47.9**	**+1.6**
SHMA	**Al-Shehemyia**	**3.42**	**239**	P	**Pn**	**01 40 50.2**	**+3.9**
	SNR=24						
SHMA				S	**Sn**	**01 41 30.8**	**+3.7**
CHMN	**Cheshme madani**	**3.65**	**52**	Pn	**Pn**	**01 40 51.7**	**+1.9**
SAKB	**Bahrain**	**3.69**	**244**	P	**Pn**	**01 40 51.3**	**+1.1**
SAKB				S	**Sn**	**01 41 36.2**	**+2.4**
IMEH	**Mehriz**	**3.72**	**5**	Pn	**Pn**	**01 40 52.3**	**+1.5**
ALNE	**Al Ain**	**3.86**	**159**	P	**Pn**	**01 40 54.8**	**+2.3**
ALNE				S	**Sn**	**01 41 40.1**	**+2.2**
ZRDN	**Zarand Kerman**	**3.86**	**31**	Pn	**Pn**	**01 40 53.8**	**+1.1**
GHWR	**Ruwais**	**3.88**	**198**	P	**Pn**	**01 40 54.4**	**+1.6**
GHWR				S	**Sn**	**01 41 39.8**	**+1.3**
KRM1	**Kerman Provinc**	**3.89**	**43**	Pn	**Pn**	**01 40 54.3**	**+1.2**
MZWR	**Madinat Zayed**	**3.91**	**184**	P	**Pn**	**01 40 54.7**	**+1.6**
MZWR				S	**Sn**	**01 41 40.5**	**+1.4**
TRNA	**Turayna**	**3.98**	**223**	P	**Pn**	**01 40 55.8**	**+1.7**
KBAM	**BAM**	**4.01**	**68**	Pn	**Pn**	**01 40 55.7**	**+1.1**
KLNJ	**Kolanjah**	**4.04**	**326**	Pn	**Pn**	**01 40 56.1**	**+0.9**
SOHO	**SOHO**	**4.10**	**149**	P	**Pn**	**01 40 58.3**	**+2.6**
SOHO				S	**Sn**	**01 41 47.1**	**+3.3**
SMRA	**Abu-Samra**	**4.21**	**227**	P	**Pn**	**01 41 00.3**	**+3.0**
SMRA				S	**Sn**	**01 41 48.8**	**+2.2**
SLWR	**Sila**	**4.24**	**213**	P	**Pn**	**01 40 59.3**	**+1.5**
ISAD	**Sadrabad**	**4.25**	**354**	Pn	**Pn**	**01 40 59.9**	**+1.7**
IRAM	**Ramesheh**	**4.42**	**339**	Pn	**Pn**	**01 41 02.2**	**+1.8**
MZR	**Muzera**	**4.70**	**188**	P	**Pn**	**01 41 05.8**	**+1.8**
MZR	**Muzera**	**4.70**	**188**	P	**Pn**	**01 41 05.9**	**+1.9**
ARQ	**Araqi**	**4.79**	**154**	P	**Pn**	**01 41 07.3**	**+1.9**
	SNR=11						
ARQ				S	**Sn**	**01 42 03.6**	**+2.6**
HOQ	**Hoqain**	**4.94**	**145**	P	**Pn**	**01 41 10.4**	**+3.0**
IBRJ	**Brojen**	**4.94**	**329**	Pn	**Pn**	**01 41 08.7**	**+1.2**
UMZA	**Um Al Zommool**	**5.01**	**170**	P	**Pn**	**01 41 10.2**	**+2.0**
ZNGN	**Zangian**	**5.30**	**327**	Pn	**Pn**	**01 41 14.1**	**+1.5**
IZEF	**Zefreh**	**5.46**	**343**	Pn	**Pn**	**01 41 15.2**	**+0.6**
ANAR	**Anarak**	**5.52**	**356**	Pn	**Pn**	**01 41 16.3**	**+0.9**
BSY	**Bisya**	**5.60**	**150**	P	**Pn**	**01 41 18.6**	**+2.1**
BSY				S	**Sn**	**01 42 23.8**	**+2.8**
TPRV	**Parvadeh(Tabas**	**5.75**	**21**	Pn	**Pn**	**01 41 19.3**	**+0.7**
SMDO	**Samad**	**5.76**	**142**	P	**Pn**	**01 41 20.9**	**+2.2**
SMDO		

comp=Z,4.2nm,1.0s
KDJ Kajisay 23.63 46 P 01 45 04.4 -0.2
BVAR Borovoye Array 28.03 21 P **P 01 45 43.7 -0.5**
comp=Z,1.4nm,0.7s,baz=206,slow=8.5,SNR=7.0
comp=Z,1.4nm,0.7s
MKAR Makanchi Array 29.16 42 P **P 01 45 54.8 +0.4**
comp=Z,0.6nm,0.8s,baz=234,slow=10,SNR=4.8
comp=Z,0.6nm,0.8s
KURBB Kurchatov Arra 29.43 32 P **P 01 45 57.6 +0.9**
comp=Z,0.7nm,0.8s,baz=233,slow=8.9,SNR=6.2
comp=Z,0.7nm,0.8s
AKASG Malin Array Be 29.80 327 P **P 01 45 58.0 -2.0**
comp=Z,0.3nm,0.5s,baz=138,slow=9.5,SNR=1.9
comp=Z,0.3nm,0.5s
ZALV Zalesovo Beam 34.53 32 P **P 01 46 41.1 -0.3**
comp=Z,1.5nm,0.7s,baz=230,slow=8.5,SNR=6.3
comp=Z,1.5nm,0.7s
MODS Modra-Piesok 35.22 316 *e*P **P 01 46 50.2 +2.7**
FINES FINESS Array B 38.65 339 P **P 01 47 14.8 -1.6**
comp=Z,2.8nm,0.9s,baz=142,slow=9.9,SNR=18
comp=Z,2.8nm,0.9s
HFS Hagfors 42.49 331 P **P 01 47 47.3 -0.9**
comp=Z,1.0nm,0.6s,baz=120,slow=9.2,SNR=5.0
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 44.01 331 P **P 01 47 59.6 -0.9**
comp=Z,0.5nm,0.7s,baz=120,slow=8.2,SNR=2.5
comp=Z,0.5nm,0.7s
SONM Songino Array 44.95 49 P **P 01 48 09.5 +1.1**
comp=Z,0.7nm,0.9s,baz=255,slow=9.1,SNR=5.7
comp=Z,0.7nm,0.9s
ARCES ARCESS Array B 45.09 346 P **P 01 48 08.9 -0.1**
comp=Z,5.8nm,1.1s,baz=149,slow=8.3,SNR=3.8
comp=Z,5.8nm,1.1s
HHC Hu-ho-hao-te 48.40 59 *e*P **P 01 48 38.5 +3.0**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,35nm,5.2s
ESDC Sonseca Array 49.10 300 P **P 01 48 39.6 -1.2**
comp=Z,0.5nm,0.8s,baz=56,slow=7.6,SNR=5.1
comp=Z,0.5nm,0.8s
TORD Torodi Ar. Bea 50.94 265 P **P 01 48 54.1 -0.9**
comp=Z,116nm,0.3s,baz=56,slow=7.8,SNR=2.4
DBIC Dimbokro 59.59 261 P **P 01 49 57.2 -0.3**
comp=Z,3.1nm,0.8s,baz=8.0,slow=5.4,SNR=1.9
comp=Z,3.1nm,0.8s
BOSA Boshof 62.47 209 P **P 01 50 16.4 -0.4**
comp=Z,3.0nm,0.9s,baz=30,slow=7.7,SNR=3.9
comp=Z,3.0nm,0.9s
MA2 Magadan 69.75 33 LR LR 02 22 51.0
comp=Z,29nm,19.4s,baz=78,slow=37
ILAR Eielson Array 86.40 9 P **P 01 52 36.0 +0.6**
comp=Z,0.4nm,0.7s,baz=335,slow=4.0,SNR=4.5
comp=Z,0.4nm,0.7s
YKA Yellowknife Ar 89.70 355 P **P 01 52 51.0 -0.1**
comp=Z,0.3nm,0.8s,baz=9.6,slow=5.4,SNR=7.2
comp=Z,0.3nm,0.8s

---

*IDC **11** 02:02:18.2±0.8, 6°.13N×73°.58W, h136km±12km, mb2.7/1, mbtmp3.7/3, Error ellipse: s-maj=55.3km s-min=9.3km az=132.0*
*RSNC **11** 02:02:19.0±0.0, 6°N±1°×7°4W±°, h117km±2km, M3.2, mb3.7, ML2.9*
ISC 11 02:02:16.8±0.9, **6°.10N**±0°.02×**73°.67W**±0°.03, **h130**km±6km, **n47**, σ1§18/86, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.62**	**110**	P	**Pn**	**02 02 37.3**	**+0.1**
RUSC				S	**Sn**	**02 02 51.3**	**-1.2**
BARC	**Barichara**	**0.69**	**45**	P	**Pn**	**02 02 37.9**	**+0.5**
BARC				S	**Sn**	**02 02 52.2**	**-0.7**
BRJC	**Barrancabermej**	**0.87**	**355**	P	**Pn**	**02 02 38.8**	**+0.2**
BRJC				S	**Sn**	**02 02 54.4**	**-0.7**
PTBC	**PUERTO BERRIO,**	**0.90**	**299**	P	**Pn**	**02 02 37.9**	**-0.9**
PTBC				S	**Sn**	**02 02 53.2**	**-2.2**
VMM09	**Lebrija**	**1.09**	**20**	P	**Pn**	**02 02 41.5**	**+0.8**
VMM09				S	**Sn**	**02 02 58.9**	**+0.1**
VMM07	**Puerto Wilches**	**1.26**	**352**	P	**Pn**	**02 02 43.1**	**+0.8**
VMM07				S	**Sn**	**02 03 03.0**	**+1.2**
NORC	**Norcasia**	**1.31**	**246**	P	**Pn**	**02 02 42.1**	**-0.7**
NORC				S	**Sn**	**02 03 01.9**	**-0.8**
ROSC	**El Rosal**	**1.41**	**207**	P	**Pn**	**02 02 45.4**	**+1.1**
	81nm,0.3s,baz=86,slow=18,SNR=41						
ROSC				S	**Sn**	**02 03 09.1**	**+3.9**
	124nm,0.4s,baz=90,slow=20,SNR=5.2						
ROSC	**El Rosal**	**1.41**	**207**	P	**Pn**	**02 02 45.2**	**+0.9**
ROSC				S	**Sn**	**02 03 05.3**	**+0.1**
CHIC	**Chingaza**	**1.46**	**182**	P	**Pn**	**02 02 45.1**	**+0.2**
CHIC				S	**Sn**	**02 03 05.8**	**-0.5**
EZNC	**La Esperanza**	**1.55**	**13**	P	**Pn**	**02 02 46.6**	**+1.0**
EZNC				S	**Sn**	**02 03 08.2**	**+0.7**
PAMC	**Pamplona, Colo**	**1.56**	**38**	P	**Pn**	**02 02 47.0**	**+0.9**
PAMC				S	**Sn**	**02 03 09.1**	**+0.7**
CVER	**Cruz Verde, Cu**	**1.62**	**194**	P	**Pn**	**02 02 47.8**	**+1.0**
CVER				S	**Sn**	**02 03 09.5**	**-0.1**
VMM05	**San Martn**	**1.80**	**4**	P	**Pn**	**02 02 50.7**	**+2.4**
ZARC	**Zaragoza, Cauc**	**1.82**	**320**	P	**Pn**	**02 02 48.8**	**+0.2**
ZARC				S	**Sn**	**02 03 12.7**	**-0.2**
TAMC	**Tame, Arauca**	**1.90**	**80**	P	**Pn**	**02 02 50.6**	**+1.0**
TAMC				S	**Sn**	**02 03 13.5**	**-1.1**
GUY2C	**Guyana, Caldas**	**1.90**	**243**	P	**Pn**	**02 02 50.4**	**+0.4**
GUY2C				S	**Sn**	**02 03 16.1**	**+0.7**
VILC	**Villavicencio,**	**1.98**	**181**	P	**Pn**	**02 02 51.1**	**+0.5**
VILC				S	**Sn**	**02 03 16.9**	**+0.3**
OCAC	**Ocana**	**2.15**	**9**	P	**Pn**	**02 02 54.1**	**+1.3**
OCAC				S	**Sn**	**02 03 21.1**	**+0.7**
CBOC	**Ciudad Bolivar**	**2.34**	**264**	P	**Pn**	**02 02 55.9**	**+0.7**
CBOC				S	**Sn**	**02 03 23.7**	**-0.9**
ANIL	**Santa Ana**	**2.35**	**227**	P	**Pn**	**02 02 56.0**	**+0.6**
ANIL				S	**Sn**	**02 03 26.4**	**+1.3**
AGCC	**Aguachica**	**2.40**	**2**	P	**Pn**	**02 02 56.6**	**+0.8**
AGCC				S	**Sn**	**02 03 27.9**	**+2.2**
PTGC	**Puerto Gaitan,**	**2.43**	**141**	P	**Pn**	**02 02 56.0**	**-0.2**
PTGC				S	**Sn**	**02 03 25.4**	**-1.0**
UREC	**San Jos de Ur**	**2.47**	**312**	P	**Pn**	**02 02 56.1**	**-0.6**
UREC				S	**Sn**	**02 03 25.1**	**-2.2**
PRAC	**Prado**	**2.66**	**207**	P	**Pn**	**02 02 59.0**	**-0.2**
PRAC				S	**Sn**	**02 03 32.6**	**+0.8**
DBBC	**Dabeiba**	**2.68**	**290**	P	**Pn**	**02 02 59.9**	**+0.5**
DBBC				S	**Sn**	**02 03 32.5**	**+0.3**
ORTC	**Ortega, Tolima**	**2.69**	**216**	P	**Pn**	**02 02 59.5**	**+0.1**
ORTC				S	**Sn**	**02 03 32.9**	**+0.7**
URMC	**La Uribe, Meta**	**2.92**	**194**	P	**Pn**	**02 03 03.3**	**+0.8**
URMC				S	**Sn**	**02 03 38.5**	**+0.7**
YOTC	**Yotoco, Valle**	**3.40**	**232**	P	**Pn**	**02 03 08.8**	**+0.1**
APAC	**Apartado, Choc**	**3.40**	**302**	P	**Pn**	**02 03 09.3**	**+0.7**
APAC				S	**Sn**	**02 03 47.6**	**-1.1**
GUVC	**San Jose del G**	**3.68**	**164**	P	**Pn**	**02 03 12.6**	**+0.2**
GUVC				S	**Sn**	**02 03 53.7**	**-1.8**
ARGC	**Ariguani, Magd**	**3.78**	**351**	P	**Pn**	**02 03 15.2**	**+1.6**
ARGC				S	**Sn**	**02 03 58.8**	**+1.1**
LCBC	**Los crdobas,**	**3.83**	**316**	P	**Pn**	**02 03 14.0**	**-0.3**
MACC	**Macarena, Meta**	**3.93**	**183**	P	**Pn**	**02 03 14.6**	**-1.1**
MACC				S	**Sn**	**02 03 58.4**	**-3.1**
SJCC	**San Jacinto, C**	**4.06**	**338**	P	**Pn**	**02 03 16.7**	**-0.7**
SJCC				S	**Sn**	**02 04 01.5**	**-2.9**
SDV	**Santo Domingo**	**4.09**	**47**	P	**Pn**	**02 03 19.0**	**+1.1**
	8.7nm,0.4s,baz=212,slow=5.3,SNR=14						
SDV				S	**Sn**	**02 04 05.4**	**+0.1**
	24nm,0.4s,baz=277,slow=22,SNR=11						
SDV	**Santo Domingo**	**4.09**	**47**	P	**Pn**	**02 03 19.0**	**+1.1**
SDV				S	**Sn**	**02 04 05.2**	**-0.1**
PTAC	**Punta Ardita,**	**4.24**	**284**	P	**Pn**	**02 03 20.9**	**+1.1**
GARC	**Garzon, Huila**	**4.29**	**205**	P	**Pn**	**02 03 20.2**	**-0.5**
GARC				S	**Sn**	**02 04 08.1**	**-2.2**
POPC	**Popayan, Colom**	**4.64**	**220**	P	**Pn**	**02 03 25.8**	**+0.5**
CRJC	**Cerrejon, Guaj**	**4.95**	**9**	P	**Pn**	**02 03 29.6**	**+0.3**
CRJC				S	**Sn**	**02 04 26.4**	**+0.6**
BBAC	**Balboa, Cauca**	**5.40**	**222**	P	**Pn**	**02 03 36.8**	**+1.3**
3.7nm,0.4s							
URIC	**Uribia, Colomb**	**5.81**	**16**	P	**Pn**	**02 03 40.9**	**+0.2**
URIC				S	**Sn**	**02 04 43.7**	**-2.5**
PCRV	**Puerto La Cruz**	**9.82**	**65**	P	**Pn**	**02 04 35.1**	**+0.3**
12nm,1.0s,baz=170,slow=6.1,SNR=1.9							
PCRV				S	**Sn**	**02 06 21.5**	**-1.8**
14nm,1.0s,baz=108,slow=2.1,SNR=1.9							
YKA	**Yellowknife Ar**	**63.75**	**340**	P	**P**	**02 12 35.4**	**+1.0**
0.1nm,0.6s,baz=137,slow=6.3,SNR=5.2							
YKA				pP	**PcP**	**02 13 08.4**	**-0.9**
0.3nm,0.8s,baz=133,slow=6.9,SNR=4.3							
0.1nm,0.6s							
ASAR	**Alice Springs**	**148.25**	**234**	PKPbc	**PKiKP**	**02 21 49.0**	**-1.2**
0.9nm,0.6s,baz=122,slow=4.0,SNR=6.8							
WRA	**Warramunga Arr**	**149.51**	**241**	PKPbc	**PKiKP**	**02 21 52.3**	**-0.5**
0.6nm,0.3s,baz=106,slow=3.0,SNR=9.1							

---

*NEIC **11** 02:06:17.0±0.9, 40°.346N±0°.006×111°.91W±0°.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.5km az=335.0*
UUSS 11 02:06:17.2±0.9, **40°.354N**±0°.010×**111°.91W**±0°.01, **h6**km±2km, **ML2.4**/10, **ML2.3**/43(NEIC), **Error ellipse: s-maj=1.4km s-min=1.3km az=193.0, Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMF	**American Fork**	**0.10**	**63**		Pg	02 06 21.1	+1.6
WTU	**Western Traver**	**0.11**	**341**		Pg	02 06 19.9	+0.3
CWU	**Camp Williams**	**0.17**	**302**		Pg	02 06 21.1	+0.3
GMU	**Granite Mounta**	**0.25**	**27**		Pg	02 06 22.2	+0.1
GMU					Sg	02 06 25.7	+0.3
WMUT	**West Mountain**	**0.28**	**168**		Pg	02 06 23.0	+0.2
DCU	**Deer Creek Res**	**0.30**	**78**		Pg	02 06 23.2	+0.1
AAU	**Alta**	**0.32**	**41**		Pg	02 06 23.5	0.0
MHD	**Mile High Driv**	**0.32**	**15**		Pg	02 06 23.6	+0.1
NOQ	**North Oquirrh**	**0.34**	**332**		Pg	02 06 24.3	+0.4
MPU	**Maple Canyon**	**0.40**	**148**		Pg	02 06 25.1	+0.1
MPU				Sg	Sg	02 06 30.4	+0.2
RBU	**Red Butte Cany**	**0.43**	**10**		Pg	02 06 25.6	0.0
RBU	**Red Butte Cany**	**0.43**	**10**		Sg	02 06 31.8	+0.5
LDJ	**Lady**	**0.44**	**59**		Pg	02 06 26.5	+0.7
HEB	**Heber**	**0.46**	**71**		Pg	02 06 26.9	+0.7
HLJ	**Hailstone**	**0.47**	**56**		Pg	02 06 26.6	+0.5
HLJ					Sg	02 06 33.2	+0.9
RCJ	**Ross Creek**	**0.47**	**50**		Pg	02 06 26.5	+0.2
KLJ	**Keetly**	**0.47**	**54**		Pg	02 06 26.7	+0.4
DAU	**Daniels Canyon**	**0.50**	**83**		Pg	02 06 27.4	+0.5
SAIU	**Southern Antel**	**0.54**	**338**		Pg	02 06 27.8	+0.2
HTU	**Hoyt Peak**	**0.61**	**58**		Pg	02 06 29.7	+0.6
N16A	**Rees Ranch, Co**	**0.64**	**34**		Pb	02 06 30.4	-0.5
FPU	**Francis Peak**	**0.67**	**5**		Pg	02 06 30.1	0.0
SNUT	**Stansbury Nort**	**0.70**	**319**		Pg	02 06 31.0	+0.4
NAIU	**Northern Antel**	**0.70**	**340**		Pg	02 06 30.8	+0.1
DUG	**Dugway, Tooele**	**0.71**	**257**	Pg	Pg	02 06 30.8	0.0
DUG				Sg	Sg	02 06 40.5	+0.4
DUG				IAML		02 06 45.1	
	108nm,0.3s						
DUG				IAML		02 06 46.5	
	106nm,0.5s						
LEVU	**Levan**	**0.85**	**175**		Pg	02 06 33.1	-0.4
TCUT	**Toone Canyon**	**0.85**	**26**		Pg	02 06 34.0	+0.5
TCUT	**Toone Canyon**	**0.85**	**26**	Pg	Pg	02 06 33.6	+0.1
TCUT				Sg	Sg	02 06 44.4	-0.2
TCUT				IAML		02 06 47.7	
	comp=E,632nm,0.6s						
LHUT	**Little Humpy P**	**0.88**	**52**		Pb	02 06 34.9	-0.1
BSUT	**Blindstream Ca**	**0.89**	**78**	Pg	Pg	02 06 34.2	-0.1
BSUT				Sg	Sg	02 06 44.7	-1.3
EMUT	**Emma Park**	**1.00**	**122**		Pb	02 06 36.6	-0.3
BGU	**Big Grassy Mou**	**1.03**	**304**	Pg	Pg	02 06 36.5	-0.4
BGU				IAML		02 06 53.2	
	comp=E,148nm,0.3s						
SNO	**Snow College**	**1.08**	**165**		Pn	02 06 38.7	-0.3
EPU	**East Promontor**	**1.10**	**340**		Pg	02 06 38.0	-0.3
MCU	**Monte Cristo P**	**1.15**	**15**		Pg	02 06 38.9	-0.3
ARGU	**Argyle Ridge**	**1.17**	**116**		Pb	02 06 39.9	-0.1
TMUT	**Trail Mountain**	**1.19**	**153**	Pg	Pg	02 06 39.6	-0.3
TMUT				IAML		02 06 59.3	
	comp=N,70nm,0.4s						
TMUT				IAML		02 06 59.7	
	comp=E,75nm,0.5s						
DBD	**Dee Bee Dove**	**1.21**	**149**		Pn	02 06 41.7	+0.9
WVUT	**Wellsville**	**1.25**	**358**		Pg	02 06 40.8	-0.5
HWUT	**Hardware Ranch**	**1.28**	**12**	Pg	Pg	02 06 40.9	-0.8
HWUT				IAML		02 07 00.2	
	comp=E,76nm,0.6s						
HWUT				IAML		02 07 03.2	
	comp=E,42nm,0.4s						
FSU	**Fish Springs**	**1.30**	**241**		Pn	02 06 41.3	-0.6
BCE	**Book Cliffs Ea**	**1.37**	**122**		Pb	02 06 43.4	+0.1
ROA	**Roan Cliffs**	**1.37**	**120**		Pb	02 06 43.3	-0.1
HDU	**Hyde Park**	**1.45**	**4**		Pn	02 06 43.9	-0.2
P18A	**Preston Nutter**	**1.47**	**119**		Pn	02 06 44.6	+0.2
P18A				IAML		02 07 14.2	
	comp=E,36nm,0.7s						
HVU	**Hansel Valley**	**1.57**	**336**		Pn	02 06 44.5	-1.1
HVU				IAML		02 07 09.3	
	comp=E,39nm,0.6s						
HVU				IAML		02 07 18.1	
	comp=N,41nm,0.7s						
SRU	**San Rafael Swe**	**1.64**	**139**		Pn	02 06 46.7	0.0
MLI	**Malad Range**	**1.68**	**354**		Pn	02 06 47.2	0.0
BMUT	**Black Mountain**	**1.68**	**17**		Pb	02 06 48.9	+0.3
BEI	**Bear River Ran**	**1.76**	**3**		Pn	02 06 49.0	+0.6
MTPU	**Mount Pierson**	**2.32**	**185**	Pn	Pn	02 06 55.2	-1.0
PSUT	**Pine Spring**	**2.36**	**220**	Pn	Pn	02 06 56.3	-0.3
PSUT				IAML		02 07 34.9	
	comp=N,14nm,0.8s						
PSUT				IAML		02 07 36.3	
	comp=E,15nm,0.6s						
AHID	**Auburn Hatcher**	**2.48**	**14**	Pn	Pn	02 06 58.0	-0.3
ELK	**Elko**	**2.57**	**280**	Pn	Pn	02 06 59.0	-0.5
PD31	**Pinedale Array**	**2.99**	**35**	Pn	Pn	02 07 05.5	+0.2
TPAW	**Teton Pass**	**3.21**	**13**	Pn	Pn	02 07 07.3	-1.1
TPAW				IAML		02 08 13.8	
	comp=E,12nm,4.6s						
SNOW	**Snow King Moun**	**3.22**	**15**	Pn	Pn	02 07 08.0	-0.5
FXWY	**Fox Creek**	**3.35**	**11**	Pn	Pn	02 07 09.4	-0.7
FXWY				IAML		02 07 38.3	
	comp=E,7.5nm,5.0s						
FXWY				IAML		02 08 09.8	
	comp=E,5.7nm,4.1s						
LOHW	**Long Hollow**	**3.40**	**16**	Pn	Pn	02 07 11.0	+0.1
LOHW				IAML		02 08 05.3	
	comp=E,11nm,2.7s						
KNB	**Kanab**	**3.41**	**192**	Pn	Pn	02 07 11.1	+0.1
KNB				IAML		02 07 49.9	
	comp=N,8.4nm,4.6s						
KNB				IAML		02 08 01.5	
	comp=E,8.1nm,4.9s						
LCMT	**Little Creek M**	**3.50**	**198**	Pn	Pn	02 07 13.4	+1.3
LCMT				IAML		02 08 10.6	
	comp=N,5.3nm,4.2s						
LCMT				IAML		02 08 11.9	

---

*BJI **11** 02:39:22.6, 7°.12N×93°.97E, h10km, mB5.1/26, mb4.8/67, Ms4.6/59, Ms7 4.4/60*
*MOS **11** 02:39:27.0±0.9, 7°.69N×94°.21E, h12km, mb5.0/47, MS4.1/8, Error ellipse: s-maj=7.7km s-min=4.1km az=110.9*
*IDC **11** 02:39:29.9±3.3, 7°.69N×94°.26E, h19km±20km, mb4.4/28, mbtmp4.5/30, ML5.0/3, MS4.1/68, Error ellipse: s-maj=15.0km s-min=10.9km az=62.0*
*NEIC **11** 02:39:29.5, 7°.38N×94°.05E, h26km, Moment Tensor Solution. Duration: 1§5 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.18; $M_{\theta\theta}$-1.30; $M_{\phi\phi}$2.48; $M_{r\theta}$-2.10; $M_{\theta\phi}$1.82; $M_{\phi r}$-0.94; Fault plane solution: $M_0$3.62000×10^{16} NP1: ϕ_s161.86000°, δ45.71000°, λ-162.29000°. NP2: ϕ_s59.29000°, δ77.42000°, λ-45.68000°. Principal axes: T 3.8202, Plg20.0000°, Azm118.0000°; N -0.3948, Plg43.0000°, Azm227.0000°; P -3.4254, Plg40.0000°, Azm10.0000°;*
*NEIC **11** 02:39:29.5, 7°.68N×94°.35E, h26km*
*NEIC **11** 02:39:29.5±1.5, 7°.67N±0°.05×94°.33E±0°.07, h10km±1km, mb5.1/125, Mww5.0/15, Error ellipse: s-maj=13.5km s-min=3.0km az=235.0*
*GCMT **11** 02:39:31.5±0.2, 7°.67N±0°.01×94°.27E±0°.01, h18km±1km, MW4.9/112, Moment Tensor Solution. s39,c42; s112,c167; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.43±.13; $M_{\theta\theta}$-1.16±.08; $M_{\phi\phi}$2.59±.10; $M_{r\theta}$-1.45±.24; $M_{\theta\phi}$1.87±.07; $M_{\phi r}$0.20±.18; Best double couple: $M_0$3.26100×10^{16} NP1:ϕ_s165.00000°, δ59.00000°, λ-152.00000°. NP2:ϕ_s60.00000°, δ67.00000°, λ-34.00000°. Principal axes: T 3.3950, Plg5.0000°, Azm114.0000°; N -0.2670, Plg49.0000°, Azm209.0000°; P -3.1270, Plg40.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

---

*DJA **11** 02:39:31.6±0.8, 8°.N±2°×9°.4E±°, h23km±7km, M5.0/30, mb4.8/30, mB5.4/15, MLv5.2/13, Mw(mB)4.9/15, MwMwp5.1/3, Mwp5.4/3*
*NDI **11** 02:39:33.8±1.0, 7°.64N×94°.23E, h36km, mb4.9, ML4.9, MW5.1*
ISC 11 02:39:31.6±0.4, **7°.67N**±0°.03×**94°.22E**±0°.04, **h27**km±2km, **h28**km:**pP-P, n746**, σ1§35/761, **mb5.0**/164, **MS4.2**/91, **18C-19D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.71**	**204**	*e*P	**Pb**	**02 39 44.7**	**-0.7**
CMBY				*e*S	**Sb**	**02 39 54.7**	**-0.2**
CMBY				IAML		02 39 55.9	
	comp=N,176μm,0.6s						
CMBY				IAML		02 39 57.9	
	comp=E,161μm,0.7s						
BSI	**Banda Aceh**	**2.41**	**153**	P	**Pn**	**02 40 10.9**	**+1.7**
BSI				S	**Sn**	**02 40 38.5**	**+0.6**
LHMI	**Lhok Sumawe**	**3.64**	**132**		**Pn**	**02 40 24.6**	**-1.6**
LHMI					**Sn**	**02 41 02.9**	**-5.2**
LHMI	**Lhok Sumawe**	**3.64**	**132**	P	**Pn**	**02 40 25.6**	**-0.5**
LHMI	**Lhok Sumawe**	**3.64**	**132**	P	**Pn**	**02 40 25.8**	**-0.3**
LHMI				S	**Sn**	**02 41 08.5**	**+0.3**
MLSI	**Meulaboh, Aceh**	**4.02**	**147**	P	**Pn**	**02 40 32.2**	**+0.8**
MLSI				S	**Sn**	**02 41 18.3**	**+0.7**
PBA	**Port Blair**	**4.22**	**340**		**Pn**	**02 40 34.2**	**0.0**
PBA	**Port Blair**	**4.22**	**340**	*e*P	**Pn**	**02 40 36.1**	**+1.9**
PBA				*e*S	**Sn**	**02 41 21.6**	**-1.1**
SRIT	**Nakonsritamara**	**5.41**	**80**		**Pn**	**02 40 49.6**	**-1.0**
SRIT	**Nakonsritamara**	**5.41**	**80**	P	**Pn**	**02 40 50.6**	**0.0**
SRIT	**Nakonsritamara**	**5.41**	**80**	S	**Sn**	**02 41 49.4**	**-2.6**
DGPR	**DIGLIPUR**	**5.62**	**347**	*e*P	**Pn**	**02 40 54.9**	**+1.4**
DGPR				*e*S	**Sn**	**02 41 54.2**	**-2.9**
DGPR				IAML		02 42 10.6	
	comp=N,269nm,1.2s						
SNSI	**Sinabang, Aceh**	**5.63**	**158**	P	**Pb**	**02 41 13.3**	**+4.1**
TSI	**Tuntungan**	**5.99**	**133**	P	**Pn**	**02 40 58.6**	**+0.1**
PSI	**Prapat**	**6.73**	**136**	Pn	**Pn**	**02 41 08.7**	**-0.1**
	comp=N,3.8nm,0.3s,baz=321,slow=12,SNR=48						
PSI				Sn	**Sn**	**02 42 23.1**	**-1.6**
	comp=N,9.5nm,0.3s,baz=329,slow=19,SNR=6.1						
PSI				LR	LR	02 44 02.7	
	comp=N,2μm,20.2s,baz=304,slow=40						
	comp=N,26nm,0.7s						
PSI	**Prapat**	**6.73**	**136**	P	**Pn**	**02 41 11.1**	**+2.3**
RPSI	**Rantau Prapat**	**6.81**	**136**		**Pn**	**02 41 08.2**	**-1.5**
RPSI	**Rantau Prapat**	**6.81**	**136**		**Pn**	**02 41 08.7**	**-1.0**
RPSI					**Sn**	**02 42 23.1**	**-3.3**
KULM	**Kulim**	**6.81**	**110**		**Pn**	**02 41 07.7**	**-2.1**
KULM	**Kulim**	**6.81**	**110**	P	**Pn**	**02 41 08.5**	**-1.4**
KULM	**Kulim**	**6.81**	**110**	S	**Sn**	**02 42 23.8**	**-2.8**
GSI	**Gunungsitoli**	**7.15**	**152**	P	**Pn**	**02 41 14.0**	**-0.5**
	comp=N,0.4nmcomp=N,57nm,1.3s						
SRDT	**SRDT**	**8.20**	**36**	P	**Pn**	**02 41 29.7**	**+0.8**
MNSI	**Mandailing Nat**	**8.67**	**142**	P	**Pn**	**02 41 34.9**	**-0.4**
	comp=N,50nm,0.7s						
NAYO	**Nakonayok**	**9.61**	**46**	P	**Pn**	**02 41 48.9**	**+0.7**
BKNI	**Bangkinang**	**9.97**	**137**	P	**Pn**	**02 41 54.2**	**+1.0**
BKNI	**Bangkinang**	**9.97**	**137**	P	**Pn**	**02 41 53.6**	**+0.4**
PPI	**Padang Panjang**	**10.15**	**142**	P	**Pn**	**02 41 55.9**	**+0.2**
	comp=N,1μmcomp=N,85nm,1.5s						
MYKOM	**Kota Tinggi**	**11.23**	**121**	P	**Pn**	**02 42 11.5**	**+1.0**
CM31	**Chiang Mai Arr**	**11.67**	**23**		**Pn**	**02 42 17.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**11.67**	**23**		**Pn**	**02 42 15.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**11.67**	**23**	Pn	**Pn**	**02 42 18.2**	**+1.7**
	comp=N,1.9nm,0.3s,baz=215,slow=14,SNR=44						
CMAR				LR	LR	02 47 02.4	
	comp=N,1μm,18.3s,baz=210,slow=39						
CMAR				ScP	**ScP**	**02 51 36.4**	**-0.6**
	comp=N,1.3nm,0.6s,baz=220,slow=3.2,SNR=7.0						
CMAR	**Chiang Mai Arr**	**11.67**	**23**	P	**Pn**	**02 42 15.6**	**-0.9**
CHTO	**Chiang Mai**	**12.00**	**22**		**Pn**	**02 42 20.8**	**-0.1**
CHTO	**Chiang Mai**	**12.00**	**22**	P	**Pn**	**02 42 23.5**	**+2.6**
CHTO	**Chiang Mai**	**12.00**	**22**	P	**Pn**	**02 42 20.8**	**-0.1**
UBPT	**Khong Chiam**	**13.37**	**55**		**Pn**	**02 42 39.0**	**-0.7**
UBPT	**Khong Chiam**	**13.37**	**55**	P	**Pn**	**02 42 41.1**	**+1.4**
PALK	**Pallekele**	**13.41**	**269**		**Pn**	**02 42 44.1**	**+3.8**
PALK	**Pallekele**	**13.41**	**269**	P	**Pn**	**02 42 44.1**	**+3.8**
NONG	**Nongkai**	**13.51**	**39**	P	**Pn**	**02 42 43.7**	**+2.2**
VIS	**Vishakhapatnam**	**14.58**	**314**	*e*P	**Pn**	**02 42 56.6**	**+0.4**
VIS				IAmb	IAmb	02 43 04.7	
	comp=Z,66nm,0.8s						
SAIH	**SAIHA**	**14.79**	**356**	*e*P	**Pn**	**02 42 59.1**	**0.0**
BRDH	**Bariadhala**	**15.13**	**351**	Pn	**Pn**	**02 43 03.6**	**0.0**
	comp=Z,40nm,0.3s,baz=256,slow=16,SNR=1.6						
BRDH				LR	LR	02 50 15.2	
	comp=Z,932nm,19.9s,baz=174,slow=43						
RAGD	**RAYAGADA**	**15.55**	**319**	*e*P	**Pn**	**02 43 09.4**	**+0.3**
MDSI	**Maura Dua**	**15.64**	**140**	P	**Pn**	**02 43 07.6**	**-2.7**
	comp=Z,35nm,1.1s						
AZL

comp=Z,6μmcomp=Z,74nm,0.9s
KKM Kota Kinabalu 21.90 93 P P 02 44 24.7 +1.7
LSA Lhasa 22.11 353 P P 02 44 24.1 -1.3
LSA IAmb IAmb 02 44 35.9
comp=Z,47nm,0.9s
LSA Lhasa 22.11 353 P P 02 44 24.6 -0.8
LSA pmax pmax
comp=Z,5.0nm,0.4s
LSA Lhasa 22.11 353 P P 02 44 24.2 -1.3
LSA pmax pmax
comp=Z,47nm,0.9s
GYA Guiyang 22.12 31 P P 02 44 26.5 +1.2
GYA S S 02 48 21.4 -6.5
GYA pmax pmax
comp=Z,47nm,1.1s
GYA pmax pmax
comp=Z,360nm,5.0s
GYA LR LR
comp=Z,770nm,11.2s
GYA LR LR
comp=Z,440nm,10.2s
GYA LR LR
comp=Z,1μm,13.9s
NGJI Ngawi 22.77 131 P P 02 44 32.7 +0.5
comp=Z,86nm,1.1s
MYLDM Lahad Datu 24.25 94 P 02 44 43.2 -3.4
MYLDM IAmb IAmb 02 44 54.2
comp=Z,59nm,1.3s
MYLDM Lahad Datu 24.25 94 P P 02 44 49.4 +2.7
KMMI Kalianget 24.53 126 P P 02 44 49.8 +0.7
comp=Z,48nm,0.9s
CD2 Chengdu 24.79 20 P P 02 44 52.4 +1.0
CD2 S S 02 49 14.4 +2.1
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,340nm,4.4s
CD2 LR LR
comp=Z,690nm,10.4s
CD2 LR LR
comp=Z,950nm,11.6s
ABJI Asem Bagus 25.18 127 P P 02 44 56.3 +1.2
SRBI Singaraja 26.13 126 P P 02 45 03.5 -0.2
comp=Z,51nm,1.1s
DGAR Diego Garcia 26.37 236 *e*P **P 02 45 06.2 +0.4**
H08S3 Diego Garcia H 26.46 235 T T 03 11 59.8
baz=54,slow=75,SNR=790
H08S2 Diego Garcia H 26.47 235 T T 03 12 03.6
baz=54,slow=75,SNR=638
H08S1 Diego Carcia H 26.48 235 T T 03 12 03.0
baz=54,slow=75,SNR=379
MPSI Mapaga 26.62 105 P P 02 45 08.5 +0.4
comp=Z,548nmcomp=Z,43nm,1.1s
ENH Enshi 26.66 31 P P 02 45 06.9 -1.4
ENH IAmb IAmb 02 45 27.2
comp=Z,28nm,1.1s
TOLI2 Tolitoli 27.26 103 P 02 45 12.6 -1.3
TOLI2 Tolitoli 27.26 103 P **P 02 45 14.7 +0.8**
GOMU GeErMu 28.41 1 P **P 02 45 23.8 -0.5**
GOMU pP pP 02 45 27.1 -4.7
GOMU sP pwP 02 45 31.1 -3.4
GOMU S **S 02 50 09.8 -0.3**
GOMU pmax pmax
comp=Z,18nm,0.7s
GOMU LR LR
comp=Z,420nm,13.6s
GOMU LR LR
comp=Z,270nm,13.3s
GOMU LR LR
comp=Z,450nm,13.6s
KAPI Kappang 28.42 116 LR LR 02 56 38.7
comp=Z,318nm,21.1s,baz=286,slow=36
KAPI Kappang 28.42 116 *e*P **P 02 45 23.5 -0.8**
XAN Xi'an 29.55 25 P **P 02 45 32.0 -2.1**
XAN S **S 02 50 25.8 -1.7**
XAN pmax pmax
comp=Z,29nm,0.7s
XAN LR LR
comp=Z,1μm,13.6s
XAN LR LR
comp=Z,1μm,11.2s
XAN LR LR
comp=Z,1μm,13.6s
WHN Wuhan 29.56 37 ⇑P **P 02 45 36.3 +2.2**
WHN sP **pP 02 45 42.8 +1.3**
WHN pmax pmax
comp=Z,82nm,0.8s
WHN LR LR
comp=Z,3μm,12.7s
WHN LR LR
comp=Z,2μm,12.3s
WHN LR LR
comp=Z,3μm,11.8s
LZH Lanzhou 29.63 16 P P 02 45 35.4 +0.5
LZH pP pP 02 45 39.8 -2.5
LZH pmax pmax
comp=Z,32nm,1.7s
LZH LR LR
comp=Z,540nm,14.4s
LZH LR LR
comp=Z,630nm,15.1s
LZH LR LR
comp=Z,690nm,13.1s
LYN LuoYang 31.59 30 ⇓P **P 02 45 53.7 +1.6**
LYN S **S 02 51 03.2 +3.8**
LYN pmax pmax
comp=Z,30nm,1.2s
LYN pmax pmax
comp=Z,300nm,5.9s
LYN LR LR
comp=Z,1μm,15.7s
LYN LR LR
comp=Z,1μm,12.2s
LYN LR LR
comp=Z,1μm,15.5s
GTA Gaotai 32.01 8 P **P 02 45 56.8 +1.0**
GTA pP pwP 02 46 05.1 -0.9
GTA sP sP 02 46 10.4 +4.0
GTA PcP **PcP 02 48 46.2 +0.8**
GTA pmax pmax
comp=Z,16nm,1.0s
GTA LR LR
comp=Z,200nm,16.3s
GTA LR LR
comp=Z,240nm,15.1s
GTA LR LR
comp=Z,280nm,19.9s
NIL Nilore 32.31 326 P 02 45 58.1 -0.4
NIL Nilore 32.31 326 P **P 02 45 58.1 -0.4**
NIL pmax pmax
comp=Z,37nm,0.7s
NJ2 Nanjing 33.38 40 ⇑P **P 02 46 09.4 +1.6**
NJ2 pmax pmax
comp=Z,26nm,1.1s
NJ2 LR LR
comp=Z,780nm,12.8s
NJ2 LR LR
comp=Z,570nm,12.8s
NJ2 LR LR
comp=Z,670nm,13.2s
HNS HongShan 34.96 29 ⇑P **P 02 46 23.7 +2.3**
HNS S S 02 52 03.1 +12
HNS pmax pmax
comp=Z,28nm,1.0s
HNS LR LR
comp=Z,520nm,13.8s
HNS LR LR
comp=Z,460nm,15.0s
HNS LR LR
comp=Z,670nm,14.8s
TIA Tai'an 35.28 33 P **P 02 46 25.7 +1.4**
TIA pmax pmax
comp=Z,18nm,1.3s
TIA LR LR
comp=Z,610nm,13.7s
TIA LR LR
comp=Z,670nm,12.9s
TIA LR LR
comp=Z,730nm,13.9s
KBL Kabul 35.38 323 P 02 46 25.2 -0.2
KBL IAmb IAmb 02 46 34.4
comp=Z,10nm,0.7s
KBL Kabul 35.38 323 P P 02 46 34.1 +8.7
KBL P P 02 46 34.1 +8.7
KBL Kabul 35.38 323 P **P 02 46 25.2 -0.2**
KBL pmax pmax
comp=Z,10.0nm,0.7s
KSH Kashi 35.69 335 P **P 02 46 26.0 -1.9**
KSH sP pP 02 46 33.9 -1.6
KSH S **S 02 52 00.7 -2.4**
KSH SS **SnSn 02 54 19.9 -6.0**
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH LR LR
comp=Z,200nm,15.7s
KSH LR LR
comp=Z,380nm,18.7s
KSH LR LR
comp=Z,440nm,21.3s
BTO Baotou 35.70 21 *e*P **P 02 46 28.5 +0.6**
BTO pP **pP 02 46 33.1 -2.3**
BTO sP **pwP 02 46 35.6 -2.8**
BTO PP **PP 02 47 50.5 +1.1**
BTO S **S 02 52 08.6 +5.4**
BTO sS **sS 02 52 15.7 +0.2**
BTO SS **SnSn 02 54 27.9 +1.8**
BTO pmax pmax
comp=Z,36nm,1.4s
BTO pmax pmax
comp=Z,300nm,6.7s
BTO LR LR
comp=Z,1μm,15.4s
BTO LR LR
comp=Z,1μm,12.1s
BTO LR LR
comp=Z,620nm,14.6s
WUS Wushi 35.96 341 P **P 02 46 29.9 -0.3**
WUS IAmb IAmb 02 46 31.1
comp=Z,50nm,1.5s
WMQ Urumqi 36.46 352 *e*P **P 02 46 37.1 +2.7**
WMQ pmax pmax
comp=Z,20nm,0.7s
JLN Jalan Bani Buh 36.47 297 P **P 02 46 37.1 +2.5**
HHC Hu-ho-hao-te 36.48 22 *e*P **P 02 46 36.9 +2.3**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.2s
HHC LR LR
comp=Z,570nm,12.8s
HHC LR LR
comp=Z,440nm,9.8s
HHC LR LR
comp=Z,570nm,19.3s
WBK Wadi Bani Khal 37.00 298 P **P 02 46 42.7 +3.5**
MHTO MHTO 37.43 295 P **P 02 46 44.8 +2.1**
MHTO P **P 02 46 44.8 +2.1**
KDJ Kajisay 37.48 339 P 02 46 43.4 +0.2
KDJ Kajisay 37.48 339 P **P 02 46 43.4 +0.2**
KDJ pmax pmax
comp=Z,12nm,1.1s
WSAR Wadi Sarin 37.49 298 P **P 02 46 46.4 +3.1**
JOW Kunigami 37.51 55 LR LR 03 04 32.8
comp=Z,321nm,18.4s,baz=245,slow=40
SHLS Shalkode 37.65 342 *e*P **P 02 46 42.4 -2.1**
SHLS pmax pmax
comp=Z,13nm,1.0s
SHLS Shalkode 37.65 342 *e*P **P 02 46 42.5 -2.1**
comp=Z,13nm,1.0s
BJI Beijing 37.75 28 P **P 02 46 47.0 +1.8**
BJI pmax pmax
comp=Z,7.0nm,1.4s
BJI pmax pmax
comp=Z,60nm,6.0s
BJI LR LR
comp=Z,190nm,17.6s
BJI LR LR
comp=Z,140nm,16.2s
BJI LR LR
comp=Z,180nm,23.2s
UZB Uzynbulak 37.78 342 *e*P **P 02 46 44.5 -1.1**
UZB Uzynbulak 37.78 342 *e*P **P 02 46 44.6 -1.1**
GAR Garm 37.89 329 P 02 46 45.7 -1.0
GAR IAmb IAmb 02 46 54.7
comp=Z,43nm,0.9s
SATY Saty 37.90 341 *e*P **P 02 46 45.4 -1.2**
SATY Saty 37.90 341 *e*P **P 02 46 45.5 -1.2**
SWI Sorong 37.90 101 P **P 02 46 46.6 -0.3**
SMDO Samad 37.95 298 P **P 02 46 50.9 +3.6**
SMDO P **P 02 46 50.9 +3.6**
ZHN Zhinishke 37.98 341 *e*P **P 02 46 46.2 -1.1**
ZHN Zhinishke 37.98 341 *e*P **P 02 46 46.2 -1.1**
BIDO Bidbid 38.02 299 P **P 02 46 51.2 +3.4**
KPKS Kokpek 38.17 342 *e*P **P 02 46 47.6 -1.3**
KPKS Kokpek 38.17 342 *e*P **P 02 46 47.6 -1.3**
BOOM Boomskoye usch 38.25 338 P 02 46 48.9 -0.7
BOOM Boomskoye usch 38.25 338 P **P 02 46 48.9 -0.7**
BOOM pmax pmax
comp=Z,6.0nm,0.7s
SIMJ Simiganj 38.32 327 P 02 46 49.3 -1.0
SIMJ IAmb IAmb 02 46 58.0
comp=Z,24nm,0.8s
TNSS Tian-Shan 38.37 339 *e*P **P 02 46 49.4 -1.4**
TNSS Tian-Shan 38.37 339 *e*P **P 02 46 49.5 -1.4**
MDOK Medeo 38.44 340 *e*P **P 02 46 50.0 -1.2**
MDOK Medeo 38.44 340 *e*P **P 02 46 50.1 -1.2**
ARSB Arslanbob 38.46 334 P **P 02 46 51.4 0.0**
ARSB IAmb IAmb 02 47 00.2
comp=Z,24nm,0.6s
ARSB Arslanbob 38.46 334 P **P 02 46 51.4 0.0**
ARSB pmax pmax
comp=Z,24nm,0.6s
DZET Dzherino 38.52 327 P **P 02 46 51.4 -0.6**
DZET pmax pmax
comp=Z,8.0nm,0.7s
AAA Alma-Ata 38.53 340 *e*P **P 02 46 50.8 -1.1**
AAA pmax pmax
comp=Z,14nm,0.5s
AAA Alma-Ata 38.53 340 *e*P **P 02 46 50.9 -1.0**
comp=Z,14nm,0.5s
BSY Bisya 38.60 297 P **P 02 46 55.9 +3.2**
BSY P **P 02 46 55.9 +3.2**
HOQ Hoqain 38.75 298 P **P 02 46 56.9 +3.0**
SNR=6.6
AAK Ala-Archa 38.93 337 P 02 46 55.2 -0.1
AAK Ala-Archa 38.93 337 LR LR 03 04 29.4
comp=Z,615nm,21.2s,baz=157,slow=38
AAK Ala-Archa 38.93 337*c i*P **P 02 46 56.0 +0.7**
AAK pmax pmax
comp=Z,12nm,1.2s
CHKK Chushkaly 39.07 340 *e*P **P 02 46 55.3 -1.0**
CHKK Chushkaly 39.07 340 *e*P **P 02 46 55.4 -1.0**
KUU Kurty 39.33 340 *e*P **P 02 46 57.5 -0.9**
KUU Kurty 39.33 340 *e*P **P 02 46 57.6 -0.9**
ARQ Araqi 39.37 298 P **P 02 47 02.0 +2.9**
SGDS Sogindy 39.57 337 *e*P **P 02 46 59.4 -1.2**
SGDS Sogindy 39.57 337 *e*P **P 02 46 59.4 -1.2**
SOHO SOHO 39.60 299 P **P 02 47 05.0 +4.0**
SOHO P **P 02 47 05.0 +4.0**
DL2 Dalian 39.70 34 P **P 02 47 03.1 +1.5**
DL2 *e*S **S 02 53 09.4 +5.8**
DL2 pmax pmax
comp=Z,35nm,1.1s
DL2 LR LR
comp=Z,340nm,12.8s
DL2 LR LR
comp=Z,600nm,15.1s
DL2 LR LR
comp=Z,640nm,21.1s
ASHO Ashiyiah 40.18 299 P **P 02 47 10.3 +4.4**
ASHO P **P 02 47 10.3 +4.4**
MK31 Makanchi Array 40.31 347 P 02 47 05.8 -0.8
MK31 Makanchi Array 40.31 347*d i*P **P 02 47 05.8 -0.8**
MKAR Makanchi Array 40.31 347 P 02 47 06.1 -0.5
MKAR Makanchi Array 40.31 347 P **P 02 47 05.9 -0.7**
comp=Z,16nm,0.8s,baz=161,slow=7.7,SNR=95
MKAR PcP **PcP 02 49 09.8 -0.1**
comp=Z,1.0nm,0.6s,baz=160,slow=4.2,SNR=2.8
MKAR LR LR 03 07 16.1
comp=Z,91nm,18.3s,baz=186,slow=41
comp=Z,16nm,0.8s
MAKZ Makanchi 40.39 347 P **P 02 47 06.4 -0.9**
MAKZ Makanchi 40.39 347 P **P 02 47 06.4 -0.9**
MAKZ pmax pmax
comp=Z,13nm,0.8s
DOK Doka 40.43 290 P **P 02 47 09.5 +1.5**
DOK P **P 02 47 09.5 +1.5**
IUG Iuzhnay 40.45 332 *e*P **P 02 47 06.8 -1.1**
IUG Iuzhnay 40.45 332 *e*P **P 02 47 06.9 -1.1**
WHFO Wadi Hawf 40.65 289 P **P 02 47 12.0 +2.2**
SNR=10
WHFO P **P 02 47 12.0 +2.2**
SNR=10
ASUD Al Ashush, Dub 40.79 299 P **P 02 47 14.5 +3.6**
ASUD P **P 02 47 14.5 +3.6**
XLT XiLinHaoTe 40.84 24 *e*P **P 02 47 13.0 +1.9**
XLT pmax pmax
comp=Z,18nm,1.6s
XLT pmax pmax
comp=Z,170nm,4.3s
XLT LR LR
comp=Z,520nm,14.6s
XLT LR LR
comp=Z,500nm,15.4s
KK31 Karatay Array 40.98 333 P 02 47 11.7 -0.5
KK31 Karatay Array 40.98 333 P **P 02 47 11.7 -0.5**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 40.98 333 P 02 47 11.7 -0.5
KKAR Karatay Array 40.98 333 P **P 02 47 12.1 -0.1**
KKAR Karatay Array 40.98 333 P **P 02 47 11.7 -0.5**
KKAR pmax pmax
comp=Z,8.0nm,0.9s
ABTO Aybut 41.01 288 P **P 02 47 15.1 +2.2**
BRLS Borolday 41.23 333 *e*P **P 02 47 12.2 -2.0**
BRLS Borolday 41.23 333 *e*P **P 02 47 12.2 -2.0**
SONM Songino Array 41.35 12 P 02 47 15.0 -0.3
SONM Songino Array 41.35 12 P **P 02 47 14.7 -0.6**
comp=Z,12nm,1.0s,baz=198,slow=8.7,SNR=47
SONM PcP **PcP 02 49 13.3 -0.1**
comp=Z,2.6nm,0.9s,baz=194,slow=4.2,SNR=4.6
SONM ScP **ScP 02 53 00.2 -1.5**
comp=Z,0.2nm,0.4s,baz=195,slow=3.4,SNR=3.6
SONM LR LR 03 06 42.0
comp=Z,285nm,18.6s,baz=228,slow=40
comp=Z,12nm,1.0s
ULN Ulaanbaatar 41.52 13 P 02 47 15.6 -1.2
ULN Ulaanbaatar 41.52 13*d i*P **P 02 47 16.6 -0.1**
ULN pmax pmax
comp=Z,10.0nm,1.1s
MZR Muzera 41.97 296 P **P 02 47 23.6 +3.0**
JNU Nakatsue 42.33 48 LR LR 03 06 40.1
comp=Z,319nm,18.5s,baz=250,slow=39
KSAR Wonju Array Be 42.54 41 P 02 47 24.5 -0.5
KSAR Wonju Array Be 42.54 41 P **P 02 47 24.5 -0.5**
KSRS Korea Array 42.57 41 P **P 02 47 25.1 -0.2**
comp=Z,7.8nm,1.1s,baz=230,slow=8.8,SNR=18
KSRS LR LR 03 07 04.5
comp=Z,400nm,18.4s,baz=210,slow=39
comp=Z,7.8nm,1.1s
ZAK Zakamensk 43.24 8 *e*P **P 02 47 30.0 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
SLWR Sila 43.83 297 P **P 02 47 39.3 +3.7**
SLWR P **P 02 47 39.3 +3.7**
SMRA Abu-Samra 44.76 297 P **P 02 47 46.3 +3.2**
KURBB Kurchatov Arra 44.77 346 P **P 02 47 42.5 -0.3**
comp=Z,20nm,0.8s,baz=166,slow=7.1,SNR=97
KURBB PcP **PcP 02 49 24.5 -0.1**
comp=Z,4.1nm,0.9s,baz=153,slow=2.7,SNR=6.3
KURBB LR LR 03 09 01.7
comp=Z,322nm,21.6s,baz=165,slow=40
comp=Z,20nm,0.8s
KURK Kurchatov 44.83 346 P 02 47 42.8 -0.4
KURK IAmb IAmb 02 47 44.8
comp=Z,35nm,1.0s
KURK Kurchatov 44.83 346*d i*P **P 02 47 43.0 -0.2**
KURK *i* *PP **pP 02 47 48.9 -2.0**
KURK pmax pmax
comp=Z,43nm,1.0s
CN2 Changchun 45.16 32 *e*P **P 02 47 45.2 -0.8**
CN2 *e*S **S 02 54 24.2 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,140nm,5.0s
CN2 LR LR
comp=Z,330nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,310nm,14.0s
BRZS Berezniki 45.86 341 *e*P **P 02 47 50.5 -0.9**
BRZS Berezniki 45.86 341 *e*P **P 02 47 50.6 -0.9**
H01W3 Cape Leeuwin H 46.32 157 T T 03 37 33.9
baz=331,slow=76,SNR=38
H01W2 Cape Leeuwin H 46.33 157 T T 03 37 33.9
baz=331,slow=76,SNR=16
H01W1 Cape Leeuwin H 46.33 157 T T 03 37 35.3
baz=331,slow=76,SNR=3.8
HIA Hailar 46.68 23 *e*P **P 02 47 59.2 +1.2**
HIA pmax pmax
comp=Z,22nm,1.4s
ZAA0 Zalesovo Array 46.77 352 P 02 47 58.3 -0.2
ZAA0 IAmb IAmb 02 47 59.6
comp=Z,41nm,1.2s
ZALV Zalesovo Beam 46.77 352 P **P 02 47 57.9 -0.6**
comp=Z,25nm,0.7s,baz=179,slow=7.7,SNR=74
ZALV PcP **PcP 02 49 30.9 -0.6**
comp=Z,0.7nm,0.4s,baz=166,slow=5.0,SNR=0.9
ZALV LR LR 03 10 09.0
comp=Z,106nm,19.3s,baz=186,slow=39
comp=Z,25nm,0.7s
ZALV Zalesovo Beam 46.77 352 *i* P **P 02 47 58.4 -0.1**
ZALV pmax pmax
comp=Z,25nm,0.7s
BNX BinXian 47.51 31 ⇑P **P 02 48 04.8 +0.4**
BNX pmax pmax
comp=Z,14nm,1.2s
MSHR Mys Shultsa 47.59 37 ⇓*i*P **P 02 48 05.7 +0.6**
MSHR pmax pmax
comp=Z,4.0nm,0.6s
MDJ Mudanjiang 47.94 34 P **P 02 48 09.0 +1.2**
MDJ pmax pmax
comp=Z,20nm,1.7s
WB0 Warramunga Arr 48.03 125 P **P 02 48 07.6 -1.3**
WB0 IAmb IAmb 02 48 22.3
comp=Z,5.9nm,0.7s
WRA Warramunga Arr 48.08 125 P **P 02 48 08.0 -1.2**
WRA Warramunga Arr 48.08 125 P **P 02 48 07.5 -1.8**
comp=Z,2.1nm,0.6s,baz=305,slow=8.5,SNR=17
WRA PcP **PcP 02 49 36.6 -0.2**
comp=Z,1.2nm,0.9s,baz=306,slow=4.6,SNR=2.0
WRA LR LR 03 10 18.6
comp=Z,171nm,19.4s,baz=264,slow=38
comp=Z,2.1nm,0.6s
WRA Warramunga Arr 48.08 125 P **P 02 48 08.0 -1.2**
WRAB Tennant Creek 48.08 125 *e*P **P 02 48 09.2 -0.1**
WRAB pmax pmax
comp=Z,15nm,1.8s
WB2 Warramunga Arr 48.09 125 P 02 48 07.0 -2.3
WB2 IAmb IAmb 02 48 18.1
comp=Z,43nm,1.9s
USRK Ussuriysk Ar. 49.04 36 P 02 48 16.2 0.0
USRK Ussuriysk Ar. 49.04 36 P **P 02 48 16.5 +0.3**
comp=Z,1.7nm,0.8s,baz=232,slow=6.9,SNR=7.6
USRK PP **PP 02 50 11.3 +1.4**
comp=Z,0.6nm,0.6s,baz=251,slow=9.9,SNR=5.3
USRK LR LR 03 09 59.1
comp=Z,326nm,18.5s,baz=215,slow=37
comp=Z,1.7nm,0.8s
USRK Ussuriysk Ar. 49.04 36 P **P 02 48 16.2 0.0**
JHJ Hachijo jima 2 49.13 52 LR LR 03 10 48.3
comp=Z,109nm,19.1s,baz=196,slow=38
BVAR Borovoye Array 49.21 341 P **P 02 48 16.8 -0.6**
comp=Z,8.2nm,0.9s,baz=142,slow=7.5,SNR=37
BVAR PcP **PcP 02 49 40.2 -0.1**
comp=Z,4.4nm,0.9s,baz=134,slow=4.3,SNR=4.3
BVAR ScP **ScP 02 53 34.5 +0.7**
comp=Z,0.8nm,0.5s,baz=151,slow=5.2,SNR=4.0
BVAR LR LR 03 12 20.4
comp=Z,129nm,18.8s,baz=152,slow=40
comp=Z,8.2nm,0.9s
RAYN Ar Rayn 49.24 294 P 02 48 19.1 +0.9
RAYN IAmb IAmb 02 48 21.8
comp=Z,14nm,0.7s
RAYN Ar Rayn 49.24 294 P **P 02 48 17.8 -0.4**
MJAR Matsushiro Arr 49.24 48 P **P 02 48 17.5 -0.5**
comp=Z,1.3nm,0.4s,baz=247,slow=7.8,SNR=5.2
MJAR PcP **PcP 02 49 40.5 -0.3**
comp=Z,3.3nm,0.8s,baz=256,slow=1.4,SNR=6.4
MJAR LR LR 03 11 16.8
comp=Z,252nm,18.6s,baz=244,slow=39
comp=Z,1.3nm,0.4s
BRVK Borovoye 49.27 341 P 02 48 16.9 -0.9
BRVK Borovoye 49.27 341*d i*P **P 02 48 17.1 -0.8**

BRVK pmax pmax
comp=Z,15nm,1.2s
JCJ Chichijima 49.33 61 LR LR 03 07 30.2
comp=Z,51nm,20.7s,baz=358,slow=34
ASAR Alice Springs 49.72 130 P **P** **02 48 20.2 -1.6**
comp=Z,3.1nm,0.7s,baz=303,slow=7.2,SNR=25
ASAR PcP **PcP** **02 49 42.2 -0.5**
comp=Z,2.9nm,0.8s,baz=306,slow=3.8,SNR=7.2
ASAR LR LR 03 11 39.1
comp=Z,172nm,20.4s,baz=300,slow=39
comp=Z,3.1nm,0.7s
GUMO Guam 50.06 79 LR LR 03 11 54.8
comp=Z,45nm,18.1s,baz=242,slow=39
FORT Forrest 50.13 141 **P** **02 48 23.4 -1.4**
ABKAR Abkulak array 50.45 331 **P** **02 48 26.5 -0.4**
ABKAR Abkulak array 50.45 331 **P** **02 48 26.8 -0.1**
ABKAR IAmb IAmb 02 48 35.2
comp=Z,9.7nm,0.8s
HEH HeiHe 50.65 27 *e*P **P** **02 48 28.7 +0.3**
HEH LR LR
comp=Z,270nm,12.4s
HEH LR LR
comp=Z,350nm,14.5s
HEH LR LR
comp=Z,330nm,14.5s
ATD Arta Tunnel 50.74 279 LR LR 03 06 19.0
comp=Z,10nm,21.9s,baz=108,slow=32
KLR Kul'dur 52.02 30 LR LR 03 14 20.3
comp=Z,138nm,19.7s,baz=233,slow=40
AKTO Aktyubinsk 52.17 331 LR LR 03 12 41.5
comp=Z,110nm,21.9s,baz=134,slow=38
BOD Bodaibo 52.33 13 *e*P **P** **02 48 40.6 -0.2**
BOD pmax pmax
comp=Z,35nm,1.3s
ZEA Zeya 53.11 24 *e*P **P** **02 48 48.2 +1.5**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,200nm,16.0s
ZEA MLR MLR
comp=N,300nm,15.0s
ZEA MLR MLR
comp=Z,400nm,15.0s
GNI Garni 54.64 314 LR LR 03 13 56.0
comp=Z,77nm,21.9s,baz=101,slow=38
PMG Port Moresby 55.40 107 LR LR 03 18 42.3
comp=Z,54nm,18.1s,baz=290,slow=42
ASAJ Asahikawa 55.52 41 LR LR 03 14 22.0
comp=Z,172nm,18.2s,baz=162,slow=38
ASAJ Asahikawa 55.52 41 P **P** **02 49 06.1 +1.7**
ASAJ pmax pmax
comp=Z,33nm,1.7s
SVE Sverdlovsk 55.62 338 *e*P **P** **02 49 05.1 +0.2**
SVE pmax pmax
comp=Z,51nm,1.3s
GURO Guroymak-BITLI 56.03 312 **P** **02 49 07.8 -0.6**
ARTI Arti 56.15 337 P **P** **02 49 07.9 -0.8**
ARTI IAmb IAmb 02 49 09.2
comp=Z,20nm,0.7s
ARTI Arti 56.15 337 LR LR 03 15 10.9
comp=Z,368nm,20.9s,baz=144,slow=38
ARTI Arti 56.15 337*c i*P **P** **02 49 07.9 -0.8**
ARTI 02 50 05.3
ARTI 02 51 11.4
ARTI S **S** **02 56 57.9 +1.8**
ARTI SS **SS** **03 00 46.9 +4.2**
ARTI pmax pmax
comp=Z,29nm,1.2s
ARTI MLR MLR
comp=Z,355nm,21.0s
MARD Mardin 56.58 310 **P** **02 49 12.2 -0.1**
YSS Yuzhno-Sakhali 56.90 38 *e*P **P** **02 49 15.8 +1.6**
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS MLR MLR
comp=Z,200nm,15.0s
KIBK Kibwezi 56.91 262 **P** **02 49 15.9 +1.0**
KIBK Kibwezi 56.91 262 P **P** **02 49 17.5 +2.6**
KBZ Khabaz 57.29 318 P **P** **02 49 16.2 -0.8**
comp=Z,3.3nm,0.9s,baz=131,slow=7.4,SNR=10
KBZ PcP **PcP** **02 50 10.9 -0.2**
comp=Z,3.3nm,0.8s,baz=108,slow=3.2,SNR=4.9
KBZ LR LR 03 17 12.4
comp=Z,76nm,20.9s,baz=118,slow=40
comp=Z,3.3nm,0.9s
KBZ Khabaz 57.29 318⇓*i*P **P** **02 49 16.1 -0.9**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
SHA1 Shidzhatmaz 57.46 318⇑*i*P **P** **02 49 18.5 0.0**
KMBO Kiima Mbogo 57.48 264 **P** **02 49 20.3 +1.2**
KMBO Kiima Mbogo 57.48 264 P **P** **02 49 20.6 +1.4**
comp=Z,3.5nm,0.7s,baz=59,slow=10,SNR=13
KMBO LR LR 03 11 02.7
comp=Z,260nm,19.6s,baz=78,slow=33
comp=Z,3.5nm,0.7s
KMBO Kiima Mbogo 57.48 264 P **P** **02 49 21.8 +2.7**
KMBO Kiima Mbogo 57.48 264 *e*P **P** **02 49 19.6 +0.5**
KMBO pmax pmax
comp=Z,4.0nm,0.7s
KVAR Kislovodsk Arr 57.52 318 LR LR 03 18 42.8
comp=Z,49nm,18.0s,baz=251,slow=41
KIV Kislovodsk 57.52 318 P **P** **02 49 18.7 -0.1**
KIV IAmb IAmb 02 49 20.7
comp=Z,13nm,0.9s
KIV Kislovodsk 57.52 318 *e*P **P** **02 49 18.5 -0.3**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,78nm,17.0s
ASF Jabal al Asfar 58.39 303 LR LR 03 17 24.5
comp=Z,153nm,20.2s,baz=118,slow=39
SOC Sochi 59.38 317 *e*P **P** **02 49 30.5 -1.1**
SOC *e* 02 51 39.6
SOC *e*S **S** **02 57 40.5 +1.6**
SOC *e*SS **SS** **03 01 33.3 -0.8**
SOC pmax pmax
comp=Z,5.0nm,0.5s
SOC MLR MLR
comp=Z,82nm,20.0s
EIL Elat 59.59 300 LR LR 03 15 29.5
comp=Z,166nm,21.7s,baz=74,slow=36
MMAI Mount Meron Ar 59.80 304 P **P** **02 49 36.5 +1.7**
comp=Z,1.2nm,0.5s,baz=130,slow=6.0,SNR=2.8
MMAI LR LR 03 18 37.9
comp=Z,75nm,18.0s,baz=84,slow=39
STKA Stephens Creek 59.91 134 P **P** **02 49 34.3 -1.1**
comp=Z,1.2nm,0.2s,baz=328,slow=11,SNR=4.1
STKA LR LR 03 17 59.1
comp=Z,144nm,20.1s,baz=307,slow=39
comp=Z,1.2nm,0.2s
YAK Yakutsk 60.17 18 LR LR 03 18 01.8
comp=Z,213nm,21.6s,baz=214,slow=38
YAK Yakutsk 60.17 18 *e*P **P** **02 49 36.4 -0.3**
YAK *e* 02 50 21.4
YAK *e* 02 51 49.4
YAK *e*PPP PPP 02 53 12.3
YAK *e*S **S** **02 57 48.3 0.0**
YAK *e**SS **sS** **02 58 06.7 +5.5**
YAK *e* 02 59 23.8
YAK *e*SS **SS** **03 01 46.8 +1.2**
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK pmax pmax
comp=N,7.0nm,0.6s
YAK pmax pmax
comp=E,6.0nm,0.6s
YAK pmax pmax
comp=Z,234nm,6.3s
YAK pmax pmax
comp=N,118nm,5.7s
YAK pmax pmax
comp=E,98nm,6.2s
YAK smax smax
comp=E,151nm,5.9s
YAK smax smax
comp=N,128nm,6.9s
VRH Novokhopyorsk 61.14 325 *e*P **P** **02 49 42.3 -1.2**
VRH pmax pmax
comp=Z,17nm,1.0s
KIRV Kirov 61.23 335 LR LR 03 18 40.4
comp=Z,193nm,19.5s,baz=138,slow=38
KIRV Kirov 61.23 335*d i*P **P** **02 49 42.8 -1.2**
NRIK Noril'sk 61.75 357 **P** **02 49 46.8 -0.6**
NRIK IAmb IAmb 02 49 48.0
comp=Z,10nm,0.8s
NRIK Noril'sk 61.75 357 P **P** **02 49 46.0 -1.3**
comp=Z,5.7nm,0.5s,baz=155,slow=5.7,SNR=12
NRIK LR LR 03 21 00.2
comp=Z,171nm,19.3s,baz=187,slow=40
comp=Z,5.7nm,0.5s
NRIK Noril'sk 61.75 357*d i*P **P** **02 49 46.7 -0.6**
NRIK pmax pmax
comp=Z,13nm,0.9s
KIRS Kirsehir-Merke 62.27 310⇑P **P** **02 49 50.3 -1.3**
VORD Divnogorie 62.43 324 *e*P **P** **02 49 49.1 -3.1**
VORD pmax pmax
comp=Z,5.0nm,1.0s
VSR Storozhevoye 62.60 325 *e*P **P** **02 49 49.3 -4.1**
VSR pmax pmax
comp=Z,3.0nm,0.8s
BR131 Keskin Array S 62.62 311 P **P** **02 49 53.7 -0.2**
BR131 Keskin Array S 62.62 311*d i*P **P** **02 49 51.9 -2.0**
BRTR Keskin Array B 62.62 311 P **P** **02 49 53.6 -0.3**
BRTR Keskin Array B 62.62 311 P **P** **02 49 52.2 -1.7**
comp=Z,2.5nm,0.6s,baz=106,slow=7.4,SNR=23
comp=Z,2.5nm,0.6s
BRTR Keskin Array B 62.62 311 P **P** **02 49 53.6 -0.3**
VORR Voronezh 62.77 325 P **P** **02 49 53.5 -0.9**
VORR pmax pmax
comp=Z,8.0nm,0.6s
ILGA Ilgaz 62.88 312 P **P** **02 49 54.8 -1.0**
ILGA IAmb IAmb 02 50 04.5
comp=Z,33nm,1.6s
LPSR Galich'ya Gora 63.30 326 *e*P **P** **02 49 56.9 -1.1**
LPSR pmax pmax
comp=Z,23nm,1.3s
SIM Simferopol' 63.63 317 P **P** **02 50 03.6 +3.3**
SIM pmax pmax
comp=Z,6.0nm,0.8s
SIM MLR MLR
comp=Z,70nm,16.0s
MBAR Mbarara 63.82 266 P **P** **02 50 03.0 +0.7**
MBAR IAmb IAmb 02 50 11.5
comp=Z,9.0nm,1.2s
MBAR Mbarara 63.82 266 P **P** **02 50 05.8 +3.5**
MBAR P **P** **02 50 05.8 +3.5**
MBAR Mbarara 63.82 266 P **P** **02 50 03.0 +0.7**
MBAR pmax pmax
comp=Z,9.0nm,1.3s
MOS Moscow 65.30 329 *e*P **P** **02 50 08.5 -2.5**
MOS *e*S **S** **02 58 49.7 -3.2**
MOS pmax pmax
comp=Z,41nm,0.7s
H04N2 CROZET ISLANDS 65.59 211 T T 04 01 04.5
baz=47,slow=75,SNR=23
OBN Obninsk 65.59 328 LR LR 03 21 21.7
comp=Z,121nm,22.0s,baz=45,slow=38
OBN Obninsk 65.59 328 *e*P **P** **02 50 11.4 -1.5**
OBN pmax pmax
comp=Z,31nm,1.0s
OBN MLR MLR
comp=Z,125nm,20.0s
H04N1 CROZET ISLANDS 65.60 211 T T 04 01 10.1
baz=47,slow=75,SNR=32
H04N3 CROZET ISLANDS 65.61 211 T T 04 01 08.8
baz=47,slow=75,SNR=42
H04S1 CROZET ISLANDS 65.99 210 T T 04 01 35.1
baz=46
H04S3 CROZET ISLANDS 66.00 210 T T 04 01 27.0
baz=46,slow=74
H04S2 CROZET ISLANDS 66.01 210 T T 04 01 41.9
baz=46,slow=74
KLMR Klimovskoe 66.67 334 *e*P **P** **02 50 16.9 -2.9**
KLMR *e**PP **pP** **02 50 24.1 -3.6**
KLMR *e* 02 50 44.4
KLMR pmax pmax
comp=Z,18nm,1.0s
MA2 Magadan 66.91 27 LR LR 03 23 01.4
comp=Z,138nm,18.2s,baz=286,slow=39
TIXI Tiksi 67.42 11 **P** **02 50 23.2 -1.1**
TIXI Tiksi 67.42 11*c e*P **P** **02 50 23.2 -1.1**
TIXI pmax pmax
comp=Z,43nm,0.9s
CFR Carcaliu 67.80 316⇑P **P** **02 50 26.2 -1.0**
CFR Carcaliu 67.80 316 P **P** **02 50 26.1 -1.0**
HARR Harsova 67.84 315⇓P **P** **02 50 26.4 -1.1**
HARR Harsova 67.84 315 P **P** **02 50 26.4 -1.1**
PETK Petropavlovsk- 68.13 36 LR LR 03 21 58.8
comp=Z,113nm,18.8s,baz=240,slow=37
SORM Soroca 68.29 319⇑P **P** **02 50 28.8 -1.5**
SORM Soroca 68.29 319 P **P** **02 50 28.7 -1.5**
AKASG Malin Array Be 68.36 322 P **P** **02 50 28.5 -2.2**
comp=Z,0.4nm,0.5s,baz=93,slow=5.1,SNR=6.5
AKASG LR LR 03 25 11.4
comp=Z,76nm,18.4s,baz=102,slow=40
comp=Z,0.4nm,0.5s
AKASG Malin Array Be 68.36 322*c e*P **P** **02 50 29.0 -1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKBB Malin Array Si 68.36 322 *e*P **P** **02 50 30.6 0.0**
AKBB pmax pmax
comp=Z,5.0nm,1.0s
KIEV Kiev 68.37 322 P **P** **02 50 31.1 +0.4**
PET Petropavlovsk 68.66 36 P **P** **02 50 33.4 +1.0**
VRI Vrincioaia 68.90 316⇓P **P** **02 50 34.0 -0.2**
VRI Vrincioaia 68.90 316 P **P** **02 50 33.9 -0.2**
PLOR Plostina 68.95 316⇓P **P** **02 50 34.3 -0.2**
PLOR Plostina 68.95 316 P **P** **02 50 34.3 -0.2**
TESR Tescani 69.08 317⇑P **P** **02 50 34.5 -0.8**
SEY Seymchan 69.08 25 LR LR 03 23 16.1
comp=Z,248nm,18.6s,baz=200,slow=38
SEY Seymchan 69.08 25 *e*P **P** **02 50 33.3 -1.6**
SEY pmax pmax
comp=Z,8.0nm,1.4s
LSZ Lusaka 69.27 251 P **P** **02 50 38.3 +1.2**
LSZ IAmb IAmb 02 50 45.5
comp=Z,15nm,1.4s
LSZ Lusaka 69.27 251 LR LR 03 18 19.6
comp=Z,228nm,18.1s,baz=83,slow=34
LSZ Lusaka 69.27 251 P **P** **02 50 38.3 +1.2**
LSZ pmax pmax
comp=Z,15nm,1.4s
MLR Muntele Rosu 69.37 316 **P** **02 50 36.8 -0.4**
MLR IAmb IAmb 02 51 09.9
comp=Z,11nm,1.1s
MLR Muntele Rosu 69.37 316 LR LR 03 27 39.3
comp=Z,90nm,18.2s,baz=84,slow=42
MLR Muntele Rosu 69.37 316⇑P **P** **02 50 37.1 -0.1**
MLR Muntele Rosu 69.37 316 P **P** **02 50 36.8 -0.4**
MLR pmax pmax
comp=Z,11nm,1.1s
DOPR Dopca 69.84 316⇑P **P** **02 50 39.3 -0.7**
VOIR 69.98 316 P **P** **02 50 41.1 +0.2**
MNK Minsk 70.14 325 *i* P **P** **02 50 39.5 -2.1**
MNK *i* P **P** **02 50 39.5 -2.1**
comp=N,15nm,1.3s
MNK *i* P **P** **02 50 39.5 -2.1**
comp=Z,17nm,1.0s,baz=105
MNK *i* PcP **PcP** **02 51 01.6 -1.9**
MNK *i* PP **PP** **02 53 14.6 -2.3**
MNK *i* PPP PPP 02 54 57.1
MNK *i* S **S** **02 59 50.5 -0.6**
MNK *i* SS **SS** **03 04 15.7 -5.4**
MNK *i* SSS SSS 03 07 44.6
MNK *i* LR LR 03 20 04.7
MNK *i* LRM MLR 03 25 07.6
comp=Z,124nm,18.0s
MNK *i* LRM MLR 03 25 25.6
comp=N,87nm,18.0s
MNK *i* LRM MLR 03 25 37.8
comp=E,75nm,23.1s
MNK Minsk 70.14 325 *i* P **P** **02 50 39.4 -2.2**
MNK *i* 02 51 01.5
MNK *i* 02 53 14.6
MNK *i* PPP PPP 02 54 57.1
MNK *i* S **S** **02 59 50.4 -0.6**
MNK *i* SS **SS** **03 04 15.6 -5.4**
MNK pmax pmax
comp=N,15nm,1.3s
MNK pmax pmax
comp=Z,17nm,1.0s
MNK MLR MLR
comp=Z,124nm,18.0s
MNK MLR MLR
comp=N,87nm,18.0s
MNK MLR MLR
comp=E,75nm,23.0s
BURAR Bucovina Array 70.25 318 P **P** **02 50 41.8 -0.7**
BURAR Bucovina Array 70.25 318⇓P **P** **02 50 42.1 -0.5**
BURAR Bucovina Array 70.25 318 P **P** **02 50 42.0 -0.5**
ARR Arges 70.26 315⇑P **P** **02 50 41.7 -0.9**
BUR08 Bucovina Ar. S 70.27 318 **P** **02 50 42.2 -0.5**
KSV Kosov 70.48 319 P **P** **02 50 44.2 +0.4**
JOF Joensuu 71.07 334 *e*P **P** **02 50 47.4 +0.3**
MARR Marisel-Cluj 71.51 317⇓P **P** **02 50 49.5 -0.7**
HERR Herculane 71.74 315⇑P **P** **02 50 51.7 +0.2**
VSU Vasula 71.81 329*d i*P **P** **02 50 49.7 -1.9**
VSU pmax pmax
comp=Z,21nm,0.8s
VSU Vasula 71.81 329 *e*P **P** **02 50 50.7 -0.9**
SURR Surduc 72.06 316⇑P **P** **02 50 53.0 -0.4**
ARBE Arbavere 72.44 330 *e*P **P** **02 50 55.6 +0.3**
SIRR Siria 72.45 316⇓P **P** **02 50 55.3 -0.4**
PABE Paberze 72.57 326 P **P** **02 50 55.8 -0.4**
PABE Paberze 72.57 326 *e*P **P** **02 50 55.9 -0.3**
SUW Suwalki 72.72 324 *e*P **P** **02 50 53.1 -4.0**
SUW Suwalki 72.72 324 P **P** **02 50 56.1 -1.0**
SUW Suwalki 72.72 324 P **P** **02 50 56.1 -1.0**
FIA1 FINESS Array S 72.93 332 P **P** **02 50 57.6 -0.6**
FINES FINESS Array B 72.93 332 P **P** **02 50 57.3 -0.9**
FINES FINESS Array B 72.93 332 P **P** **02 50 57.4 -0.8**
comp=Z,9.2nm,0.8s,baz=97,slow=6.2,SNR=36
FINES LR LR 03 27 22.5
comp=Z,103nm,19.1s,baz=108,slow=39
comp=Z,9.2nm,0.8s
FINES FINESS Array B 72.93 332 P **P** **02 50 57.3 -0.9**
MTSE Matsula 73.35 329 *e*P **P** **02 51 00.6 -0.1**
MEF Metsahovi 73.41 331 *e*P **P** **02 51 00.9 -0.1**
KEF Keuruu 73.67 333 *e*P **P** **02 51 02.2 -0.4**
PBUR Paburge 73.80 326 *e*P **P** **02 51 03.5 0.0**
OJC Ojcow 74.18 320 *e*P **P** **02 51 04.4 -1.4**
OJC Ojcow 74.18 320 P **P** **02 51 04.8 -1.1**
OJC Ojcow 74.18 320 P **P** **02 51 04.8 -1.1**
LBTB Lobatse 74.21 241 **P** **02 51 07.3 +0.7**
LBTB IAmb IAmb 02 51 10.0
comp=Z,8.5nm,0.8s
LBTB Lobatse 74.21 241 LR LR 03 20 41.7
comp=Z,210nm,18.9s,baz=78,slow=33
LBTB Lobatse 74.21 241 P **P** **02 51 07.3 +0.7**
LBTB pmax pmax
comp=Z,8.0nm,0.9s
VYHS Vyhne 74.61 318 *e*P **P** **02 51 07.9 -0.5**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 74.61 318 *e*P **P** **02 51 07.8 -0.6**
VYHS *e*PP **PP** **02 53 54.1 -1.2**
RAF Rauma 74.86 331 *e*P **P** **02 51 09.4 -0.1**
VAF Ylistaro 74.87 333 *e*P **P** **02 51 10.1 +0.5**
JAVC Velka Javorina 75.42 318 *e*P **P** **02 51 13.7 +0.6**
STEB Steborice 75.45 320 *e*P **P** **02 51 13.3 +0.1**
ARCES ARCESS Array B 75.49 340 P **P** **02 51 12.8 -0.3**
comp=Z,4.6nm,0.7s,baz=95,slow=5.7,SNR=15
ARCES LR LR 03 27 07.6
comp=Z,352nm,20.5s,baz=108,slow=38
comp=Z,4.6nm,0.7s
BOSA Boshof 75.54 238 P **P** **02 51 14.8 +0.5**
BOSA IAmb IAmb 02 52 24.9
comp=Z,54nm,1.9s
BOSA Boshof 75.54 238 P **P** **02 51 14.8 +0.5**
comp=Z,6.6nm,0.7s,baz=94,slow=5.7,SNR=16
BOSA LR LR 03 19 44.1
comp=Z,61nm,18.3s,baz=35,slow=32
comp=Z,6.6nm,0.7s
MORC Moravsky Berou 75.58 319 **P** **02 51 14.2 +0.1**
MORC Moravsky Berou 75.58 319 *e*P **P** **02 51 13.3 -0.7**
MORC Moravsky Berou 75.58 319⇓P **P** **02 51 14.1 +0.1**
MORC Moravsky Berou 75.58 319 P **P** **02 51 14.0 0.0**
KRLC Kraliky 76.10 320 *e*P **P** **02 51 17.1 +0.1**
KRLC Kraliky 76.10 320 *e*P **P** **02 51 17.1 +0.1**
VRAC Vranov 76.16 319 LR LR 03 29 52.2
comp=Z,55nm,20.0s,baz=110,slow=40
BILL Bilibino 76.25 22 **P** **02 51 17.1 -0.3**
BILL IAmb IAmb 02 51 18.6
comp=Z,23nm,1.6s
BILL Bilibino 76.25 22*d i*P **P** **02 51 16.6 -0.8**
BILL pmax pmax
comp=Z,14nm,1.5s
DPC Dobruska-Polom 76.41 320 *e*P **P** **02 51 18.9 +0.1**
DPC *e*x x 02 51 26.3
DPC Dobruska-Polom 76.41 320 *e*P **P** **02 51 18.9 +0.1**
DPC *e* 02 51 26.3
KSP Ksiaz 76.47 320 *e*P **P** **02 51 18.6 -0.4**
DZM Mont Dzumac 76.64 115 *e*LR LR 03 14 57.0
comp=Z,178nm,31.1s
DZM Mont Dzumac 76.64 115 LR LR 03 29 34.4
comp=Z,106nm,18.2s,baz=312,slow=39
ARSA Arzberg 76.74 317 *e*P **P** **02 51 21.0 +0.4**
comp=Z,8.0nm,1.6s
SOKA Soboth 77.05 316 *e*P **P** **02 51 22.3 -0.1**
comp=Z,5.8nm,1.0s
BLEU Blekinge 77.23 326 *i* P **P** **02 51 22.5 -0.6**
VAE Valguarnera 77.30 307 LR LR 03 29 17.9
comp=Z,60nm,19.6s,baz=242,slow=39
OBKA Obir 77.37 316 *e*P **P** **02 51 24.1 -0.2**
comp=Z,6.1nm,1.3s
ZVC Zvikov 77.73 319 *e*P **P** **02 51 27.9 +1.8**
ZVC *e*x x 02 51 33.6
SHEM Shemya Is, Ala 77.81 38 LR LR 03 29 31.3
comp=Z,41nm,18.1s,baz=310,slow=39
BRG Berggiesshubel 77.96 320 *e*P **P** **02 51 28.3 +1.0**
BRG Amp 02 51 29.5
comp=Z,4.2nm,1.1s
SABO M.te Sabotino 78.01 315 P **P** **02 51 28.7 +0.9**
SABO IAmb IAmb 02 51 29.7
comp=Z,38nm,2.0s
GEC2 GERESS Array S 78.03 318 **P** **02 51 27.3 -0.6**
GERES GERESS Array B 78.03 318 **P** **02 51 27.7 -0.2**
GERES GERESS Array B 78.03 318 P **P** **02 51 27.5 -0.5**
comp=Z,2.8nm,0.8s,baz=90,slow=5.3,SNR=16
comp=Z,2.8nm,0.8s
PRED Cave del Predi 78.05 316 **P** **02 51 27.1 -1.0**
KHC Kasperske Hory 78.12 319 *e*P **P** **02 51 27.8 -0.6**
KHC *e*pP **pP** **02 51 35.2 -1.5**
KHC Kasperske Hory 78.12 319 *e*P **P** **02 51 27.8 -0.6**
KHC *e* 02 51 35.2
KBA Koelnbreinsper 78.22 316 *e*P **P** **02 51 28.1 -1.0**
comp=Z,1.0nm,0.4s
DEL Delary 78.32 326 *i* P **P** **02 51 28.8 -0.5**
MAW Mawson 78.35 192 LR LR 03 21 20.2
comp=Z,89nm,18.7s,baz=296,slow=32
HFS Hagfors 78.67 330 P **P** **02 51 30.5 -0.6**
comp=Z,7.5nm,0.4s,baz=107,slow=5.1,SNR=67
HFS LR LR 03 30 37.5
comp=Z,167nm,19.2s,baz=87,slow=39
comp=Z,7.5nm,0.4s
LESA Schwarzleotal 78.68 317 *e*P **P** **02 51 30.3 -1.2**
comp=Z,3.1nm,0.5s
FAUS Fauske 78.71 337 *e*P **P** **02 51 30.3 -0.8**
BJUU Bjuv 78.77 326 *i* P **P** **02 51 31.3 -0.4**
ABTA Abfaltersbach 78.78 316 *e*P **P** **02 51 31.7 -0.5**
comp=Z,8.3nm,1.4s
STEI Steigen 78.80 338 *e*P **P** **02 51 31.1 -0.5**
CIMO Cimolais 78.83 316 **P** **02 51 31.7 -0.6**
CIMO IAmb IAmb 02 51 38.5
comp=Z,13nm,1.0s
MOR8 Moi Rana 78.90 336 *e*P **P** **02 51 30.9 -1.4**
FABU Falkenberg 78.98 327 *i* P **P** **02 51 32.3 -0.5**
BORU Boraas 78.99 327 *i* P **P** **02 51 32.0 -0.9**
CTI Castel Tesino 79.37 315 **P** **02 51 35.5 +0.1**
CTI Castel Tesino 79.37 315 P **P** **02 51 35.5 +0.1**
CTI pmax pmax
comp=Z,14nm,1.3s
WTTA Wattenberg 79.39 317 *e*P **P** **02 51 34.6 -0.9**
comp=Z,8.2nm,0.8s
LEIR Leirfjorden 79.43 336 *e*P **P** **02 51 35.3 +0.2**
ONAU Onsala 79.44 327 *i* P **P** **02 51 34.8 -0.5**
TJOU Tjoern 79.62 328 *i* P **P** **02 51 35.5 -0.8**
GRF Grafenberg Arr 79.67 319 *e*P 02 51 36.9
comp=Z,5.0nm,1.0s,baz=90,slow=4.4
SQTA Sankt Quirin 79.68 317 *i* P **P** **02 51 36.0 -1.1**
comp=Z,1.7nm,0.3s
NC405 NORSAR Array S 79.71 331 **P** **02 51 36.2 -0.6**
NC405 IAmb IAmb 02 51 37.0
comp=Z,22nm,1.3s
MOTA Moosalm 79.75 317 *i* P **P** **02 51 36.6 -0.9**
comp=Z,6.3nm,0.9s
NC602 NORSAR Array S 79.78 330 P **P** **02 51 36.5 -0.7**
NC602 IAmb IAmb 02 51 37.1
comp=Z,16nm,1.2s
NC602 NORSAR Array S 79.78 330 *e*P **P** **02 51 36.2 -0.9**
NORES NORESS Array B 79.78 330 P **P** **02 51 36.7 -0.4**
NSS Namsos 79.79 334 *e*P **P** **02 51 36.4 -0.7**
STRU Stroemstad 79.89 329 *i* P **P** **02 51 36.6 -1.1**
NB2 NORSAR Subarra 79.95 331 P **P** **02 51 36.8 -1.3**
comp=Z,2.9nm,0.6s,baz=97,slow=5.1

NB2	NORSAR Subarra	79.95	331	P		P	02 51 34.5 -3.6
NB2	NORSAR Subarra	79.95	331	P		P	02 51 36.8 -1.3
baz=97,slow=5.1							
NOA	NORSAR Array B	79.95	331	P		P	02 51 37.1 -1.0
comp=Z,4.7nm,0.9s,baz=92,slow=5.6,SNR=17							
NOA				LR		LR	03 30 50.6
comp=Z,91nm,19.9s,baz=115,slow=38							
comp=Z,4.7nm,0.9s							
RETA	Reutte	79.98	317	*i* P		P	02 51 38.0 -0.6
comp=Z,7.0nm,0.8s							
FETA	Feichten	80.00	316	*e*P		P	02 51 38.3 -0.6
comp=Z,4.3nm,1.2s							
TSUM	Tsumeb	80.02	249	LR		LR	03 23 57.7
comp=Z,218nm,18.5s,baz=30,slow=33							
SPA0	Spitsbergen Ar	80.06	348	*e*P		P	02 51 38.0 -0.3
SPITS	Spitsbergen Ar	80.06	348	P		P	02 51 37.8 -0.6
comp=Z,13nm,0.7s,baz=102,slow=11,SNR=25							
SPITS				LR		LR	03 33 17.6
comp=Z,132nm,19.8s,baz=84,slow=40							
comp=Z,13nm,0.7s							
NAO01	NORSAR Array S	80.10	330	P		P	02 51 38.4 -0.5
NAO01				IAmb		IAmb	02 51 45.3
comp=Z,24nm,1.4s							
OSL	Oslo	80.15	329	*e*P		P	02 51 39.0 -0.1
NC204	NORSAR Array S	80.18	331	P		P	02 51 38.8 -0.5
NC204				IAmb		IAmb	02 54 10.1
comp=Z,43nm,1.9s							
DAVA	Damuels	80.58	317	*i* P		P	02 51 41.6 -0.3
comp=Z,9.1nm,1.2s							
DAVOX	Davos/Dischmat	80.59	316	LR		LR	03 33 30.1
comp=Z,48nm,19.7s,baz=82,slow=40							
TUE	Stuetta	80.97	316	P		P	02 51 44.6 +0.5
DOMB	Dombas	81.00	332	*e*P		P	02 51 43.7 -0.1
SKAR	Skarslia	81.37	330	*e*P		P	02 51 46.2 +0.5
KEST	Kesra	81.42	305	P		P	02 51 46.1 -0.5
comp=Z,2.0nm,0.6s,baz=255,slow=1.9,SNR=5.2							
KEST				LR		LR	03 35 46.9
comp=Z,54nm,18.1s,baz=155,slow=42							
comp=Z,2.0nm,0.6s							
BLS5	Blasjo	82.32	329	*e*P		P	02 51 50.7 0.0
GAMB	Gambell	84.99	26	P		P	02 52 03.9 -0.3
baz=277							
TAM	Tamanrasset	85.88	292			P	02 52 09.8 0.0
TAM	Tamanrasset	85.88	292	P		P	02 52 09.8 0.0
TAM				pmax		pmax	
comp=Z,14nm,0.2s							
TNA	Tin City	86.32	24	P		P	02 52 10.7 -0.2
baz=280							
C16K	Lisburne Hills	86.78	22	P		P	02 52 13.2 +0.1
baz=282							
JMIC	Jan Mayen	86.92	341	LR		LR	03 33 21.0
comp=Z,90nm,20.2s,baz=134,slow=37							
F14K	Arctic Creek	86.99	24	P		P	02 52 14.2 0.0
baz=282							
ANM	Nome	87.58	25	P		P	02 52 17.1 +0.1
baz=282							
F15K	North Star Dit	87.62	24	P		P	02 52 17.3 +0.1
baz=283							
RDOG	Red Dog Mine	87.72	22	P		P	02 52 17.8 +0.1
baz=285							
D17K	Noatak River	87.75	22	P		P	02 52 18.3 +0.5
baz=284							
B18K	Kokolik River	87.76	20	P		P	02 52 18.7 +0.9
baz=286							
A19K	Wainwright	87.78	19	P		P	02 52 18.5 +0.7
baz=286							
EKA	Eskdalemuir Ar	87.93	325	P		P	02 52 18.8 -0.2
comp=Z,2.0nm,0.6s,baz=98,slow=6.0,SNR=9.5							
comp=Z,2.0nm,0.6s							
G15K	Niukluk	88.04	25	P		P	02 52 19.6 +0.4
baz=284							
NIKH	Nikolski High	88.10	37	P		P	02 52 20.0 +0.3
baz=280							
M11K	Mekoryuk	88.11	29	P		P	02 52 19.6 0.0
baz=282							
C18K	Utukok River	88.17	21	P		P	02 52 20.2 +0.4
baz=286							
E17K	Hotham Inlet	88.38	22	P		P	02 52 21.2 +0.5
baz=286							
K13K	Kusilvak Mount	88.49	28	P		P	02 52 21.6 +0.2
baz=283							
G16K	Koyuk River	88.63	24	P		P	02 52 22.3 +0.3
baz=285							
E18K	Tukpahlearik C	88.74	22	P		P	02 52 22.9 +0.5
baz=287							
F17K	Baldwin Pennin	88.78	23	P		P	02 52 23.1 +0.5
baz=286							
J14K	Nanvaranak Lak	88.80	27	P		P	02 52 23.0 +0.2
baz=284							
A21K	Barrow	88.82	18	P		P	02 52 22.9 +0.2
baz=290							
H16K	Elim	88.88	25	P		P	02 52 23.3 +0.2
baz=285							
B20K	Meade River	89.11	19	P		P	02 52 24.6 +0.5
baz=290							
URZ	Urewera	89.15	129	LR		LR	03 34 13.4
comp=Z,76nm,20.2s,baz=358,slow=37							
G17K	Kiwalik Mounta	89.28	24	P		P	02 52 25.2 +0.2
baz=287							
D19K	Kuna River	89.30	21	P		P	02 52 25.3 +0.2
baz=289							
UNV	Unalaska Valle	89.31	36	P		P	02 52 26.0 +0.6
baz=282							
F18K	Selawik	89.34	23	P		P	02 52 25.7 +0.5
baz=288							
A22K	Sinclair Lake	89.43	18	P		P	02 52 26.1 +0.5
baz=292							
L14K	Kuka Creek	89.55	28	P		P	02 52 26.6 +0.3
baz=285							
I17K	Unalakleet	89.73	25	P		P	02 52 27.4 +0.3
baz=287							
D20K	Etivluk River	89.74	20			P	02 52 27.8 +0.6
D20K				IAmb		IAmb	02 52 28.9
comp=Z,18nm,1.0s							
D20K	Etivluk River	89.74	20	P		P	02 52 27.5 +0.3
baz=290							
H17K	Granite Mounta	89.75	24			P	02 52 27.4 +0.1
H17K	Granite Mounta	89.75	24	P		P	02 52 27.8 +0.5
baz=287							
K15K	Wolf Creek Mou	89.82	27	P		P	02 52 28.1 +0.4
baz=286							
G18K	Tagagawik	89.95	23	P		P	02 52 28.3 +0.1
baz=289							
J16K	Anvik River	89.95	26	P		P	02 52 28.7 +0.5
J16K				IAmb		IAmb	02 52 30.1
comp=Z,16nm,1.0s							
J16K	Anvik River	89.95	26	P		P	02 52 28.7 +0.5
baz=287							
E19K	Redstone River	89.96	21	P		P	02 52 28.4 +0.2
baz=290							
F19K	Shaleruckik Mo	89.97	22	P		P	02 52 28.4 +0.1
baz=289							
L15K	Ungalak Mounta	90.02	28	P		P	02 52 28.8 +0.2
baz=286							
E20K	Nigu River	90.05	21	P		P	02 52 29.2 +0.5
baz=291							
M14K	Bethel	90.05	28	P		P	02 52 29.0 +0.3
baz=286							
B21K	Ikpikpuk River	90.07	19	P		P	02 52 29.3 +0.6
baz=292							
B22K	Teshekpuk Lake	90.17	18	P		P	02 52 29.3 +0.2
baz=293							
C21K	Knifeblade Rid	90.19	20	P		P	02 52 29.7 +0.4
baz=292							
H18K	Honhosa River	90.30	24	P		P	02 52 30.4 +0.5
H18K				IAmb		IAmb	02 52 31.4
comp=Z,14nm,1.2s							
H18K	Honhosa River	90.30	24	P		P	02 52 30.3 +0.5
baz=289							
N14K	Kuskokwak Cree	90.41	29	P		P	02 52 30.6 +0.2
baz=286							
G19K	Purcell Mounta	90.47	23			P	02 52 31.3 +0.7
G19K				IAmb		IAmb	02 52 32.4
comp=Z,18nm,0.9s							
G19K	Purcell Mounta	90.47	23	P		P	02 52 31.2 +0.6
baz=290,SNR=15							
J17K	VABM Dome	90.57	26	P		P	02 52 31.9 +0.8
baz=288							
F20K	Avaraart Lake	90.66	22	P		P	02 52 31.9 +0.5
baz=291							
M15K	Kasigluk River	90.67	28	P		P	02 52 31.7 +0.1
baz=287							
TORD	Torodi Ar. Bea	90.72	283	P		P	02 52 33.7 +0.9
TORD				IAmb		IAmb	02 52 43.5
comp=Z,12nm,1.8s							
TORD	Torodi Ar. Bea	90.72	283	P		P	02 52 32.0 -0.8
comp=Z,38nm,0.3s,baz=66,slow=5.0,SNR=1.5							
E21K	Killik River	90.74	20	P		P	02 52 32.3 +0.4
E21K	Killik River	90.74	20	P		P	02 52 32.1 +0.2
baz=293,SNR=19							
FALS	False Pass	90.84	34	P		P	02 52 32.7 +0.2
baz=284							
L16K	Owhat River	90.92	27	P		P	02 52 32.9 +0.1
baz=288							
H19K	Roundabout Mou	90.93	23	P		P	02 52 33.8 +1.1
H19K	Roundabout Mou	90.93	23	P		P	02 52 33.6 +0.8
baz=291,SNR=16							
D22K	Ayikyak River	91.00	19	P		P	02 52 32.9 -0.2
D22K				IAmb		IAmb	02 52 34.7
comp=Z,11nm,1.0s							
D22K	Ayikyak River	91.00	19	P		P	02 52 33.7 +0.6
baz=294,SNR=7.1							
GCSA	Galena City Sc	91.03	24	P		P	02 52 34.0 +0.8
baz=290,SNR=6.2							
N15K	Kwethluk River	91.10	29	P		P	02 52 34.1 +0.4
baz=287							
K17K	Iditarod	91.12	26	P		P	02 52 34.1 +0.4
baz=289							
C23K	Itkillik River	91.25	18	P		P	02 52 34.8 +0.6
C23K				IAmb		IAmb	02 52 35.1
comp=Z,21nm,1.4s							
C23K	Itkillik River	91.25	18	P		P	02 52 34.6 +0.5
baz=296							
L17K	Donlin	91.32	27	P		P	02 52 35.3 +0.7
baz=289							
M16K	Timber Creek	91.37	28	P		P	02 52 35.3 +0.4
baz=288							
F21K	Alatna River	91.40	21	P		P	02 52 35.6 +0.7
F21K				IAmb		IAmb	02 52 36.9
comp=Z,20nm,1.3s							
F21K	Alatna River	91.40	21	P		P	02 52 35.1 +0.1
baz=293,SNR=14							
ESDC	Sonseca Array	91.41	310			P	02 52 35.9 +0.2
ESDC	Sonseca Array	91.41	310	P		P	02 52 35.2 -0.4
comp=Z,1.9nm,0.8s,baz=58,slow=3.7,SNR=10							
ESDC				LR		LR	03 37 46.5
comp=Z,42nm,20.1s,baz=121,slow=38							
comp=Z,1.9nm,0.8s							
O15K	Ungalikthiuk R	91.53	30	P		P	02 52 35.6 -0.1
baz=288							
J18K	Innoko River	91.55	25			P	02 52 35.5 -0.2
J18K				IAmb		IAmb	02 52 37.9
comp=Z,22nm,1.3s							
J18K	Innoko River	91.55	25	P		P	02 52 36.2 +0.5
baz=290,SNR=5.7							
H20K	Anotlenegga Mo	91.55	23	P		P	02 52 36.3 +0.6
baz=292,SNR=15							
E22K	Anaktuvuk Pass	91.60	20	P		P	02 52 36.2 +0.3
baz=295							
D23K	Nanushuk River	91.62	19	P		P	02 52 36.4 +0.5
baz=296							
N16K	Nishlik Lake	91.64	28	P		P	02 52 36.5 +0.4
baz=288							
G21K	Allakaket	91.67	22			P	02 52 36.4 +0.3
G21K	Allakaket	91.67	22	P		P	02 52 36.5 +0.3
baz=293,SNR=21							
F22K	John River	91.74	21	P		P	02 52 37.0 +0.5
baz=295							
J19K	Poorman	91.81	24			P	02 52 37.4 +0.5
J19K	Poorman	91.81	24	P		P	02 52 37.8 +0.9
baz=291,SNR=14							
C24K	Franklin Bluff	91.90	18	P		P	02 52 37.7 +0.6
baz=298							
M17K	Holitna River	91.94	27	P		P	02 52 38.2 +0.7
baz=290							
I20K	Naaghedeneel	91.97	24			P	02 52 38.0 +0.4
I20K	Naaghedeneel	91.97	24	P		P	02 52 38.7 +1.1
baz=292,SNR=9.0							
L18K	Granite Mounta	92.00	26	P		P	02 52 38.3 +0.5
L18K	Granite Mounta	92.00	26	P		P	02 52 38.4 +0.5
baz=290							
TTA	Tatalina	92.04	26	P		P	02 52 38.3 +0.2
TTA				IAmb		IAmb	02 52 39.9
comp=Z,15nm,1.2s							
TTA	Tatalina	92.04	26	P		P	02 52 38.3 +0.2
TTA				pmax		pmax	
comp=Z,15nm,1.2s							
TTA	Tatalina	92.04	26	P		P	02 52 38.6 +0.6
baz=291,SNR=5.9							
TOLK	Toolik Lake Re	92.12	19			P	02 52 38.4 +0.1
TOLK				IAmb		IAmb	02 52 39.9
comp=Z,12nm,1.1s							
TOLK	Toolik Lake Re	92.12	19	P		P	02 52 38.6 +0.3
baz=297,SNR=6.0							
D24K	Happy Valley	92.13	19	P		P	02 52 38.7 +0.5
D24K				IAmb		IAmb	02 52 39.8
comp=Z,14nm,1.2s							
D24K	Happy Valley	92.13	19	P		P	02 52 39.3 +1.1
baz=298,SNR=6.6							
G22K	Bettles	92.23	21	P		P	02 52 38.8 +0.1
baz=295,SNR=8.8							
O16K	Kokwok River B	92.24	29	P		P	02 52 39.1 +0.1
baz=289							
H21K	Melozitna Rive	92.28	22	P		P	02 52 40.0 +0.9
H21K	Melozitna Rive	92.28	22	P		P	02 52 39.6 +0.5
baz=294,SNR=12							
SDPT	Sand Point	92.33	33	P		P	02 52 39.2 -0.2
baz=287							
J20K	Nowinta River	92.35	24			P	02 52 39.9 +0.6
J20K	Nowinta River	92.35	24	P		P	02 52 40.0 +0.6
baz=293,SNR=9.1							
N17K	Nushagak Hills	92.36	28	P		P	02 52 40.1 +0.6
baz=290							
E23K	Chandalar	92.38	20	P		P	02 52 40.1 +0.6
E23K				IAmb		IAmb	02 52 41.8
comp=Z,29nm,1.7s							
E23K	Chandalar	92.38	20	P		P	02 52 39.9 +0.4
baz=297							
S14K	Fog Glacier	92.55	32	P		P	02 52 40.7 +0.1
baz=288							
COLD	Coldfoot	92.55	21			P	02 52 41.0 +0.7
COLD				IAmb		IAmb	02 52 41.1
comp=Z,9.7nm,1.4s							
COLD	Coldfoot	92.55	21	P		P	02 52 40.5 +0.3
baz=296							
M18K	Stony River	92.64	27	P		P	02 52 41.3 +0.6
baz=291							
O17K	Koliganek Bris	92.66	29	P		P	02 52 41.8 +1.0
baz=290							
K20K	Telida	92.70	25			P	02 52 41.3 +0.3
K20K	Telida	92.70	25	P		P	02 52 42.0 +1.0
baz=293,SNR=14							
VNDA	Vanda	92.71	168	LR		LR	03 32 33.0
comp=Z,102nm,18.3s,baz=292,slow=34							
H22K	Ishtalitna Cre	92.72	22	P		P	02 52 41.7 +0.7
baz=295,SNR=11							
E24K	Your Creek	92.75	20	P		P	02 52 41.6 +0.5
E24K				IAmb		IAmb	02 52 43.2
comp=Z,28nm,1.9s							
E24K	Your Creek	92.75	20	P		P	02 52 41.7 +0.5
baz=298							
I21K	Tanana	92.79	23	P		P	02 52 42.0 +0.7
baz=295							
D25K	Kavik River	92.81	18	P		P	02 52 41.7 +0.2
baz=300							
L19K	White Mountain	92.81	26			P	02 52 42.6 +1.0
L19K	White Mountain	92.81	26	P		P	02 52 42.2 +0.6
baz=292,SNR=8.4							
G23K	Bananza Creek	92.85	21	P		P	02 52 42.4 +0.7
G23K				IAmb		IAmb	02 52 43.5
comp=Z,13nm,1.2s							
G23K	Bananza Creek	92.85	21	P		P	02 52 42.3 +0.6
baz=296							
N18K	Kilae Creek	92.90	28	P		P	02 52 42.5 +0.5
baz=291							
C26K	Camden Bay	92.94	17	P		P	02 52 43.1 +1.1
baz=302							
CHNA	Chernabura Isl	92.97	34	P		P	02 52 43.0 +0.6
baz=288							
L20K	Farewell, AK	93.12	26	P		P	02 52 43.8 +0.8
baz=293							
M19K	Big River Lodg	93.12	26	P		P	02 52 43.5 +0.5
baz=292							
CHUM	Lake Minchumin	93.20	24	P		P	02 52 44.1 +0.8
baz=294,SNR=10							
F24K	Squaw Lake	93.21	20	P		P	02 52 43.9 +0.6
baz=299							
MDT	Midelt	93.24	304	LR		LR	03 41 04.4
comp=Z,19nm,19.2s,baz=139,slow=40							
H23K	Yukon River	93.42	22	P		P	02 52 44.9 +0.5
baz=297							
C27K	Jago River	93.45	17	P		P	02 52 45.1 +0.7
baz=303							
CAST	Castle Rocks	93.49	24			P	02 52 44.8 +0.1
CAST	Castle Rocks	93.49	24	P		P	02 52 45.3 +0.6
baz=294,SNR=13							
N19K	Bonanza Creek	93.50	27			P	02 52 45.6 +0.8
N19K	Bonanza Creek	93.50	27	P		P	02 52 45.7 +0.8
baz=292,SNR=5.6							
O18K	Koktuh Hills	93.52	28	P		P	02 52 45.3 +0.5
baz=292							
BPAW	Bear Paw Mtn.	93.64	24			P	02 52 45.3 0.0
BPAW	Bear Paw Mtn.	93.64	24	P		P	02 52 45.7 +0.4
baz=296,SNR=12							
BORG	Borgarnes	93.65	337	LR		LR	03 37 06.9
comp=Z,87nm,18.9s,baz=74,slow=37							
PPLA	Purkeypile	93.67	25	P		P	02 52 45.7 0.0
baz=294							
E25K	Arctic Village	93.68	19	P		P	02 52 45.8 +0.3
baz=301							
M20K	Styx River	93.68	26	P		P	02 52 45.8 +0.1
M20K				IAmb		IAmb	02 52 47.5
comp=Z,9.6nm,0.9s							
M20K	Styx River	93.68	26	P		P	02 52 46.1 +0.5
baz=294							
P18K	Big Mountain,	93.68	29	P		P	02 52 45.7 0.0
baz=292							
G24K	Hadweenzic Riv	93.75	21	P		P	02 52 46.5 +0.7
G24K				IAmb		IAmb	02 52 47.5
comp=Z,5.7nm,1.0s							
G24K	Hadweenzic Riv	93.75	21	P		P	02 52 46.4 +0.6
baz=299							
Q17K	Contact Creek	93.77	30	P		P	02 52 46.4 +0.2
baz=291							
I23K	Minto, Yukon-K	93.80	22	P		P	02 52 46.5 +0.5
baz=297							
O19K	Port Alsworth	93.81	28	P		P	02 52 46.4 +0.3
baz=292							
F25K	Christian Rive	93.92	19	P		P	02 52 47.3 +0.6
F25K				IAmb		IAmb	02 52 48.6
comp=Z,6.8nm,1.0s							
F25K	Christian Rive	93.92	19	P		P	02 52 47.4 +0.8
baz=301							
H24K	Noodor Dome	94.02	21	P		P	02 52 47.9 +0.8
baz=298							
Q18K	Katmai Hardscr	94.06	29	P		P	02 52 47.9 +0.4
baz=292							
NEA2	Nenana	94.17	23	P		P	02 52 48.4 +0.7
baz=297							
G25K	Bearman Lake	94.19	20	P		P	02 52 48.4 +0.7
baz=300							
TRF	Thorofare Moun	94.21	24	P		P	02 52 48.3 +0.1
baz=296							
BWN	Browne	94.21	23	P		P	02 52 48.4 +0.4
SKT	Skwentna	94.33	26			P	02 52 48.1 -0.4
SKT	Skwentna	94.33	26	P		P	02 52 48.2 -0.3
baz=295,SNR=8.7							
BMAR	Burnt Mountain	94.36	19			P	02 52 48.9 +0.2
F26K	Sheenjek River	94.36	19			P	02 52 49.2 +0.6
F26K				IAmb		IAmb	02 52 50.3
comp=Z,7.8nm,1.1s							
F26K	Sheenjek River	94.36	19	P		P	02 52 48.9 +0.3
baz=302							
SPCR	Spurr Chakacha	94.36	26	P		P	02 52 49.4 +0.6
baz=294							
D27M	Malcolm River	94.47	17	P		P	02 52 49.5 +0.4
D27M				IAmb		IAmb	02 52 50.8
comp=Z,8.1nm,1.1s							
D27M	Malcolm River	94.47	17	P		P	02 52 49.4 +0.2
baz=305							
P19K	Oil Pt	94.52	28	P		P	02 52 49.4 -0.1
baz=293							
POKR	Poker Plat Res	94.53	22	P		P	02 52 50.0 +0.6
baz=299							
H25L	Birch Creek	94.54	21	P		P	02 52 50.1 +0.8
baz=300							
Q19K	Cape Douglas,	94.61	29	P		P	02 52 50.3 +0.3
baz=293							
MCK	McKinley	94.62	23			P	02 52 49.8 0.0
MCK	McKinley	94.62	23	P		P	02 52 49.8 0.0
MCK				pmax		pmax	
comp=Z,29nm,1.6s							
MCK	McKinley	94.62	23	P		P	02 52 50.2 +0.4
baz=297							
CUT	Chulitna	94.68	25	P		P	02 52 50.0 -0.1
baz=296							
CHIR	Chirikof Islan	94.78	32	P		P	02 52 50.8 +0.1
baz=291							
G26K	Porcupine Rive	94.88	20			P	02 52 51.5 +0.5
G26K	Porcupine Rive	94.88	20	P		P	02 52 51.6 +0.7
baz=302							
SUA	Susitna One	94.89	26			P	02 52 51.0 -0.2
SUA	Susitna One	94.89	26	P		P	02 52 50.9 -0.4
baz=296							
E27K	Coleen River	94.89	18	P		P	02 52 51.0 0.0
baz=304							
ILAR	Eielson Array	94.91	22	P		P	02 52 50.6 -0.5
comp=Z,0.4nm,0.7s,baz=303,slow=4.7,SNR=4.9							
ILAR				PP		PP	02 56 40.7 +0.9
comp=Z,0.4nm,0.9s,baz=298,slow=8.4,SNR=4.8							
ILAR				LR		LR	03 37 53.4
comp=Z,69nm,18.4s,baz=290,slow=37							
comp=Z,0.4nm,0.7s							
M22K	Willow	95.03	25	P		P	02 52 52.0 +0.4
M22K	Willow	95.03	25	P		P	02 52 51.2 -0.5
baz=296							
D28M	Stokes Point	95.06	17	P		P	02 52 52.4 +0.8
baz=307							
HDA	Harding Lake	95.06	22	P		P	02 52 51.9 +0.1
baz=299							
SII	Sitkinak Islan	95.26	31	P		P	02 52 52.9 0.0
baz=292							
E28M	Babbage River	95.27	17			P	02 52 52.6 -0.1
E28M				IAmb		IAmb	02 52 54.1
comp=Z,6.2nm,1.1s							
E28M	Babbage River	95.27	17	P		P	02 52 53.0 +0.3
baz=306							
Q20K	Shuyak Island	95.34	29	P		P	02 52 53.6 +0.4
baz=294							
OHAK	Old Harbor	95.46	30	P		P	02 52 53.8 0.0
baz=293							
RC01	Rabbit Creek A	95.49	26	P		P	02 52 53.9 0.0
baz=296							
PMR	Palmer	95.52	25	P		P	02 52 53.7 -0.2
PMR				IAmb		IAmb	02 52 54.7
comp=Z,15nm,1.2s							
PMR	Palmer	95.52	25	P		P	02 52 53.7 -0.2
PMR				pmax		pmax	
comp=Z,15nm,1.2s							
PMR	Palmer	95.52	25	P		P	02 52 53.7 -0.2
baz=297							
J25K	Salcha River,	95.55	22	P		P	02 52 54.2 +0.1
baz=301							
KDAK	Kodiak Island	95.58	30	P		P	02 52 53.8 -0.5
baz=294							
G27K	Doyon Strip	95.66	19	P		P	02 52 54.7 +0.2
baz=304							
SML	Sawmill	95.76	25	P		P	02 52 54.9 -0.2
SML	Sawmill	95.76	25	P		P	02 52 56.0 +0.8
SML				pmax		pmax	
comp=Z,19nm,1.1s							
SML	Sawmill	95.76	25	P		P	02 52 55.3 +0.1
baz=298							
E29M	Blow River	95.88	17	P		P	02 52 55.6 +0.1
E29M				IAmb		IAmb	02 52 56.7
comp=Z,8.0nm,1.2s							
E29M	Blow River	95.88	17	P		P	02 52 55.7 +0.3
baz=308							
KNK	Knik Glacier	95.89	25	P		P	02 52 55.9 +0.1
baz=298							
I26K	Coal Creek Min	95.98	21	P		P	02 52 56.3 +0.2
baz=303							
M23K	Glacier View	96.02	25	P		P	02 52 56.1 -0.2
baz=298							
H27K	Steamboat Moun	96.03	20			P	02 52 56.6 +0.3
H27K				IAmb		IAmb	02 52 57.3
comp=Z,6.6nm,1.3s							
H27K	Steamboat Moun	96.03	20	P		P	02 52 56.4 +0.1
baz=304							
SEW	Seward	96.06	27	P		P	02 52 56.6 +0.2
baz=297							
SCM	Sheep Creek Mo	96.17	25	P		P	02 52 57.1 0.0
baz=299							
RIDG	Independent Ri	96.20	23	P		P	02 52 57.4 +0.3
baz=301							
PWL	Port Wells	96.20	26	P		P	02 52 57.4 +0.2
PWL	Port Wells	96.20	26	P		P	02 52 57.1 0.0
baz=298							
J26L	Joseph Creek	96.28	22	P		P	02 52 57.1 -0.4
baz=302							

PAX	**Paxson**	**96.36**	**23**	P	**P**	**02 52 57.5**	**-0.4**
	baz=300						
SCRK	**Sand Creek**	**96.40**	**22**	P	**P**	**02 52 57.5**	**-0.6**
SCRK				IAmb	IAmb	02 53 11.6	
	comp=Z,21nm,2.0s						
SCRK	**Sand Creek**	**96.40**	**22**	P	**P**	**02 52 58.3**	**+0.2**
	baz=302						
A36M	**Sachs Harbour**	**96.44**	**11**		**P**	**02 52 58.0**	**+0.1**
A36M	**Sachs Harbour**	**96.44**	**11**	P	**P**	**02 52 58.5**	**+0.6**
	baz=320						
M24K	**Tolsona, Glenn**	**96.51**	**24**	P	**P**	**02 52 58.4**	**-0.2**
	baz=300						
GLI	**Glacier Island**	**96.73**	**26**	P	**P**	**02 52 59.9**	**+0.4**
	baz=299						
G29M	**Pine Creek**	**96.75**	**18**	P	**P**	**02 53 00.0**	**+0.5**
	baz=308						
KLU	**Klutina**	**96.92**	**25**	P	**P**	**02 53 00.3**	**-0.1**
	baz=300						
F30M	**Barrier River**	**96.99**	**17**	P	**P**	**02 53 01.0**	**+0.4**
	baz=310						
I28M	**Miner Creek**	**97.02**	**20**	P	**P**	**02 53 00.3**	**-0.5**
	baz=306						
P23K	**Montague Islan**	**97.02**	**26**	P	**P**	**02 53 00.9**	**+0.1**
	baz=298						
H29M	**Whitestone**	**97.07**	**19**	P	Pdif	02 53 01.4	+0.4
	baz=307						
K27K	**Chicken**	**97.08**	**22**	P	Pdif	02 53 01.4	+0.3
	baz=304						
L26K	**Log Cabin Wild**	**97.15**	**23**	P	Pdif	02 53 01.9	+0.4
L26K				IAmb	IAmb	02 53 03.2	
	comp=Z,12nm,1.4s						
L26K	**Log Cabin Wild**	**97.15**	**23**	P	**P**	**02 53 01.4**	**0.0**
	baz=302						
G30M	**tAoh Zraii Nji**	**97.26**	**18**	P	**P**	**02 53 01.8**	**0.0**
	baz=310						
N25K	**Chitina, Valde**	**97.41**	**24**	P	**P**	**02 53 01.7**	**-1.0**
	baz=301						
EYAK	**Cordova Ski Ar**	**97.47**	**26**	P	**P**	**02 53 01.9**	**-0.9**
	baz=300						
EPYK	**Eagle Plains**	**97.50**	**18**	P	**P**	**02 53 02.1**	**-0.8**
	baz=309						
QSPA	**South Pole Qui**	**97.57**	**180**	P	**P**	**02 53 02.6**	**-0.6**
	comp=Z,1.3nm,1.1s,baz=109,slow=23,SNR=1.6						
QSPA				LR	LR	03 31 56.0	
	comp=Z,125nm,20.1s,baz=278,slow=32						
	comp=Z,1.3nm,1.1s						
I29M	**Ogilvie Camp,**	**97.61**	**20**	P	**P**	**02 53 03.2**	**-0.3**
	baz=307						
M26K	**Nabesna, AK**	**97.63**	**23**	P	**P**	**02 53 03.2**	**-0.4**
	baz=303						
F31M	**Tsiigehtchic**	**97.69**	**17**		Pdif	02 53 04.2	+0.5
F31M				IAmb	IAmb	02 53 05.6	
	comp=Z,12nm,1.4s						
F31M	**Tsiigehtchic**	**97.69**	**17**	P	Pdif	02 53 04.1	+0.4
	baz=312						
L27K	**Beaver Creek,**	**97.71**	**22**	P	**P**	**02 53 04.0**	**0.0**
	baz=304						
BMRM	**Bremner River**	**97.74**	**25**	P	**P**	**02 53 04.1**	**0.0**
	baz=301						
DAWY	**Dawson**	**98.02**	**21**	P	**P**	**02 53 05.4**	**0.0**
	baz=306						
DBIC	**Dimbokro**	**98.05**	**278**	LR	LR	03 36 47.6	
	comp=Z,118nm,18.9s,baz=114,slow=35						
M27K	**Edge Creek, AK**	**98.09**	**23**	P	**P**	**02 53 05.7**	**-0.1**
	baz=304						
I30M	**Mount Dempster**	**98.34**	**19**	P	**P**	**02 53 06.7**	**-0.1**
I30M				IAmb	IAmb	02 53 07.5	
	comp=Z,6.7nm,1.2s						
I30M	**Mount Dempster**	**98.34**	**19**	P	**P**	**02 53 06.7**	**-0.1**
	baz=309						
KAIM	**Kayak Island**	**98.36**	**26**	P	**P**	**02 53 06.3**	**-0.5**
	baz=301						
H31M	**Peel River**	**98.61**	**18**	P	**P**	**02 53 07.7**	**-0.2**
	baz=311						
C36M	**Paulatuk**	**98.75**	**13**		**P**	**02 53 07.8**	**-0.5**
C36M				IAmb	IAmb	02 53 09.0	
	comp=Z,7.6nm,1.1s						
C36M	**Paulatuk**	**98.75**	**13**	P	**P**	**02 53 08.1**	**-0.2**
	baz=322						
J30M	**Hart River**	**98.76**	**20**	P	**P**	**02 53 08.3**	**-0.5**
	baz=309						
K29M	**Barlow Dome**	**98.82**	**21**	P	**P**	**02 53 08.8**	**-0.2**
	baz=308						
YUK3	**Moose Creek**	**98.97**	**23**	P	**P**	**02 53 09.3**	**-0.6**
	baz=305						
MESA	**MESA**	**99.27**	**25**	P	**Pdif**	**02 53 10.2**	**-0.9**
	baz=303						
M29M	**Somme Creek**	**99.33**	**22**	P	**Pdif**	**02 53 11.9**	**+0.6**
	baz=307						
O28M	**Mount Upton**	**99.65**	**24**	P	**Pdif**	**02 53 11.3**	**-1.7**
	baz=305						
PINM	**Pinnacle**	**100.02**	**24**	P	**Pdif**	**02 53 13.5**	**-0.8**
	baz=305						
YUK6	**Outpost Mounta**	**100.28**	**23**	P	**Pdif**	**02 53 14.3**	**-1.4**
	baz=307						
N30M	**Aishikik Lake**	**100.45**	**22**	P	**Pdif**	**02 53 15.1**	**-1.1**
	baz=308						
O29M	**Mount Kennedy**	**100.58**	**24**	P	**Pdif**	**02 53 15.5**	**-1.4**
	baz=306						
PNL	**Peninsula**	**100.62**	**25**	P	**Pdif**	**02 53 17.0**	**0.0**
	baz=306						
HYT	**Haines Junctio**	**100.68**	**23**	P	**Pdif**	**02 53 16.9**	**-0.5**
	baz=308						
N31M	**Braeburn, Yuko**	**100.92**	**22**	P	**Pdif**	**02 53 18.1**	**-0.2**
	baz=309						
M31M	**Drury Creek, Y**	**100.96**	**21**	P	**Pdif**	**02 53 18.3**	**-0.2**
	baz=311						
O30N	**Mendenhall**	**101.26**	**23**	P	**Pdif**	**02 53 19.7**	**-0.2**
	baz=309						
FARO	**Faro, Yukon**	**101.31**	**21**	P	**Pdif**	**02 53 19.2**	**-0.8**
	baz=312						
P29M	**Windy Craggy**	**101.32**	**24**	P	**Pdif**	**02 53 20.0**	**-0.1**
	baz=307						
MMPY	**Sheldon Lake,**	**101.76**	**20**	P	**Pdif**	**02 53 21.4**	**-0.6**
	baz=314						
PLBC	**Pleasant Camp**	**101.98**	**24**	P	**Pdif**	**02 53 22.5**	**-0.4**
	baz=308						
N32M	**Quiet Lake**	**102.13**	**21**	P	**Pdif**	**02 53 23.4**	**-0.3**
	baz=312						
P32M	**Atlin**	**102.93**	**23**	P	**Pdif**	**02 53 27.0**	**-0.3**
	baz=311						
S31K	**Pelican**	**102.96**	**25**	P	**Pdif**	**02 53 27.0**	**-0.3**
	baz=308						
SIT	**Sitka**	**103.91**	**25**	P	**Pdif**	**02 53 31.3**	**-0.3**
	baz=309						
YKA	**Yellowknife Ar**	**106.61**	**14**	PP	**PP**	**02 58 06.2**	**-1.8**
	comp=Z,1.2nm,1.1s,baz=331,slow=6.8,SNR=6.5						
YKA				PKKP	**PKKPdf**	**03 09 26.6**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=150,slow=4.3,SNR=5.1						
PPT2	**Papeete2**	**117.21**	**106**	eLR	LR	03 33 39.0	
PPT2	comp=Z,82nm,26.0s						
				*e*LR	LR	03 33 41.0	
	comp=Z,147nm,34.2s						
MSO	**Missoula**	**120.24**	**22**		**PKPdf**	**02 58 20.3**	**-0.3**
PLID	**Pearl Lake**	**120.88**	**25**		**PKPdf**	**02 58 21.6**	**-0.5**
ULM	**Lac du Bonnet**	**121.66**	**8**	PKP	**PKPdf**	**02 58 22.9**	**0.0**
	comp=Z,0.6nm,0.5s,baz=351,slow=3.2,SNR=3.0						
ULM	**Lac du Bonnet**	**121.66**	**8**	PKIKP	**PKPdf**	**02 58 23.0**	**0.0**
LOHW	**Long Hollow**	**124.22**	**22**		**PKPdf**	**02 58 27.6**	**-0.9**
NVAR	**Mina Array Bea**	**125.06**	**31**	PKP	**PKPdf**	**02 58 30.2**	**0.0**
	comp=Z,1.2nm,0.9s,baz=299,slow=1.9,SNR=5.5						
PD31	**Pinedale Array**	**125.33**	**21**		**PKPdf**	**02 58 29.9**	**-0.7**
PDAR	**Pinedale Array**	**125.33**	**21**	PKP	**PKPdf**	**02 58 29.6**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=86,slow=1.9,SNR=11						
TAOE	**Nuku Hiva Isla**	**126.22**	**95**	eLR	LR	03 37 49.3	
	comp=Z,58nm,26.6s						
TXAR	**Lajitas Array**	**139.38**	**24**	PKP	**PKPdf**	**02 58 57.0**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=319,slow=1.6,SNR=5.4						
TXAR	**Lajitas Array**	**139.38**	**24**	PKIKP	**PKPdf**	**02 58 57.0**	**-0.3**
BDFB	**Brasilia**	**142.22**	**254**	PKP	**PKPdf**	**02 59 00.6**	**-2.1**
	comp=Z,2.2nm,0.7s,baz=185,slow=12,SNR=3.1						
PLCA	**Paso Flores**	**144.38**	**200**	PKP	PKPbc	02 59 04.7	+0.5
	comp=Z,6.8nm,1.0s,baz=182,slow=4.5,SNR=9.1						
CPUP	**Villa Florida**	**147.19**	**232**	PKPbc	**PKPbc**	**02 59 12.2**	**-0.9**
	comp=Z,4.4nm,0.8s,baz=138,slow=3.3,SNR=9.8						
CFA	**Coronel Fontan**	**151.10**	**212**	PKPbc	**PKPbc**	**02 59 22.9**	**0.0**
	comp=Z,6.7nm,0.8s,baz=184,slow=1.5,SNR=14						
CFA				PKPab	**PKPab**	**02 59 30.3**	**-0.2**
	comp=Z,8.4nm,0.9s,baz=112,slow=5.5,SNR=9.8						
SIV	**San Ignacio**	**154.46**	**249**	PKP	**PKPdf**	**02 59 24.4**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=141,slow=11,SNR=2.1						
LPAZ	**La Paz**	**160.74**	**242**	PKP	**PKPdf**	**02 59 30.5**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=60,slow=6.3,SNR=3.7						
LPAZ				PKPab	**PKPab**	**03 00 12.7**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=65,slow=6.1,SNR=3.6						

*IDC **11** 02:52:23.0±6.1, 7°.47N×94°.07E, h0km, mb3.9/9, mbtmp3.8/10, ML3.9/1, Error ellipse: s-maj=140.2km s-min=45.7km az=140.0*
*NEIC **11** 02:52:24.9±0.9, 7°.42N±0°.08×94°.11E±0°.10, h10km±1km, mb4.5/14, Error ellipse: s-maj=20.0km s-min=6.5km az=234.0*
*NDI **11** 02:52:24.8±3.1, 7°.40N×94°.16E, h10km, mb4.5, ML4.4, MW4.3*

ISC 11 02:52:25.3±0.5, 7°.34N±0°.05×94°.12E±0°.06, h20km, n40, σ1§21/50, mb4.3/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.38**	**211**	*e*P	**Pb**	**02 52 31.3**	**-2.0**
CMBY				*e*S	**Sb**	**02 52 36.1**	**-2.6**
CMBY				IAML		02 52 53.1	
	comp=N,52μm,0.4s						
CMBY				IAML		02 52 54.0	
	comp=E,36μm,0.2s						
PBA	**Port Blair**	**4.50**	**343**	Pn	**Pn**	**02 53 32.2**	**-0.3**
PBA	**Port Blair**	**4.50**	**343**	*e*P	**Pn**	**02 53 31.3**	**-1.2**
PBA				*e*S	**Sn**	**02 54 20.8**	**-3.4**
PBA				IAML		02 54 29.5	
	comp=N,920nm,0.7s						
PBA				IAML		02 54 33.6	
	comp=E,932nm,0.7s						
SRIT	**Nakonsritamara**	**5.57**	**77**		**Pn**	**02 53 47.7**	**+0.6**
DGPR	**DIGLIPUR**	**5.92**	**349**	*e*P	**Pn**	**02 53 51.5**	**-0.5**
DGPR				*e*S	**Sn**	**02 54 59.5**	**+0.3**
DGPR				IAML		02 55 16.3	
	comp=E,767nm,0.2s						
DGPR				IAML		02 55 19.2	
	comp=N,492nm,0.3s						
KULM	**Kulim**	**6.80**	**107**	Pn	**Pn**	**02 54 05.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**12.01**	**23**	Pn	**Pn**	**02 55 13.6**	**-1.9**
	comp=N,0.2nm,0.3s,baz=216,slow=11,SNR=1.7						
	comp=N,0.6nm,0.3s						
MDRS	**Chennai**	**14.79**	**294**	*e*P	**Pn**	**02 55 53.5**	**0.0**
MDRS				IAmb	IAmb	02 55 58.2	
	comp=Z,22nm,1.5s						
MDRS				*e*S	**Sn**	**02 58 40.8**	**+3.8**
RAGD	**RAYAGADA**	**15.73**	**320**	*e*P	**Pn**	**02 56 07.3**	**+1.4**
RAGD				IAmb	IAmb	02 56 20.1	
RAGD				*e*S	**Sn**	**02 59 01.2**	**+1.4**
AGT	**Agartala**	**16.68**	**351**	*e*P	**Pn**	**02 56 17.9**	**-0.1**
AGT				IAmb	IAmb	02 57 18.4	
	comp=Z,15nm,0.3s						
AGT				*e*S	**Sn**	**02 59 23.7**	**+0.9**
KOD	**Kodaikanal**	**16.71**	**281**	*e*P	**Pn**	**02 56 19.3**	**+0.6**
KOD				*e*S	**Sn**	**02 59 26.0**	**+1.9**
TRD	**Trivandrum**	**17.04**	**275**	IAmb	IAmb	02 56 10.5	
	comp=Z,817nm,0.1s						
TRD				*e*P	**Pn**	**02 56 23.4**	**+0.8**
TRD				*e*S	**Sn**	**02 59 33.8**	**+2.2**
JHSG	**JHARSUGUGA**	**17.48**	**326**	*e*P	**Pn**	**02 56 27.7**	**-0.3**
JHSG				IAmb	IAmb	02 56 40.8	
	comp=Z,34nm,0.8s						
JHSG				*e*S	**Sn**	**02 59 43.0**	**+0.8**
KOHI	**KOHIMA**	**18.28**	**360**	*e*P	**P**	**02 56 38.1**	**0.0**
KOHI				IAmb	IAmb	02 56 43.5	
	comp=Z,223nm,0.1s						
KOHI				*e*S	**Sn**	**03 00 01.4**	**-0.4**
GAR	**Garm**	**38.13**	**329**	P	**P**	**02 59 42.3**	**-1.0**
GAR				IAmb	IAmb	02 59 45.7	
	comp=Z,9.5nm,1.4s						
MK31	**Makanchi Array**	**40.61**	**348**	P	**P**	**03 00 03.0**	**-0.8**
MKAR	**Makanchi Array**	**40.61**	**348**	P	**P**	**03 00 02.9**	**-0.8**
MKAR	**Makanchi Array**	**40.61**	**348**	P	**P**	**03 00 02.7**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=171,slow=8.6,SNR=8.2						
	comp=Z,0.6nm,0.6s						
SONM	**Songino Array**	**41.69**	**12**	P	**P**	**03 00 12.4**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=199,slow=8.7,SNR=4.3						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**45.06**	**346**	P	**P**	**03 00 39.9**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=170,slow=7.1,SNR=6.5						
	comp=Z,1.1nm,0.9s						
ZAA0	**Zalesovo Array**	**47.08**	**353**	P	**P**	**03 00 55.6**	**0.0**
ZAA0				IAmb	IAmb	03 00 56.6	
	comp=Z,3.3nm,1.0s						
ZALV	**Zalesovo Beam**	**47.08**	**353**	P	**P**	**03 00 55.3**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=157,slow=8.0,SNR=8.5						
	comp=Z,1.3nm,0.4s						
AIS	**Amsterdam Isla**	**47.48**	**198**	P	**P**	**03 00 59.8**	**+0.9**
WB0	**Warramunga Arr**	**47.92**	**125**	P	**P**	**03 01 03.8**	**+1.0**
WB0				IAmb	IAmb	03 01 22.0	
	comp=Z,9.8nm,1.2s						
BVAR	**Borovoye Array**	**49.49**	**341**	P	**P**	**03 01 14.6**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=126,slow=7.3,SNR=2.7						
	comp=Z,0.4nm,0.4s						
AB31	**Akbulak array**	**50.69**	**332**	P	**P**	**03 01 23.7**	**+0.2**
ABKAR	**Akbulak array**	**50.69**	**332**	P	**P**	**03 01 23.5**	**+0.1**
ABKAR	**Akbulak array**	**50.69**	**332**	P	**P**	**03 01 23.7**	**+0.3**
ABKAR				IAmb	IAmb	03 01 59.3	
	comp=Z,1.4nm,1.1s						
COEN	**Coen**	**53.08**	**113**	P	**P**	**03 01 42.1**	**+0.4**
NRIK	**Noril'sk**	**62.08**	**357**	P	**P**	**03 02 44.8**	**+0.6**
NRIK				IAmb	IAmb	03 03 28.4	
	comp=Z,1.5nm,0.9s						
BRTR	**Keskin Array B**	**62.77**	**311**	P	**P**	**03 02 49.5**	**-0.1**
BRTR	**Keskin Array B**	**62.77**	**311**	P	**P**	**03 02 49.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=90,slow=5.1,SNR=3.8						
	comp=Z,0.2nm,0.4s						
EIDS	**Eidsvold**	**64.20**	**123**	P	**P**	**03 02 58.6**	**-0.5**
TIXI	**Tiksi**	**67.76**	**11**	P	**P**	**03 03 20.8**	**-0.4**
TIXI				IAmb	IAmb	03 03 21.4	
	comp=Z,1.7nm,0.7s						
FINES	**FINESS Array B**	**73.18**	**332**	P	**P**	**03 03 54.5**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=110,slow=6.3,SNR=4.7						
	comp=Z,2.8nm,0.9s						
CASY	**Casey**	**74.40**	**173**	P	**P**	**03 04 03.1**	**+1.6**
CASY				IAmb	IAmb	03 04 20.3	
	comp=Z,5.1nm,1.1s						
ARCES	**ARCESS Array B**	**75.76**	**340**	P	**P**	**03 04 09.8**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=110,slow=6.0,SNR=1.9						
	comp=Z,2.7nm,0.9s						
HFS	**Hagfors**	**78.91**	**330**	P	**P**	**03 04 27.6**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=101,slow=6.2,SNR=7.1						
	comp=Z,0.7nm,0.5s						
NC204	**NORSAR Array S**	**80.42**	**331**	P	**P**	**03 04 36.2**	**+0.8**
NC204				IAmb	IAmb	03 04 44.8	
	comp=Z,18nm,1.4s						
BFO	**Black Forest**	**81.78**	**318**	P	**P**	**03 04 42.9**	**0.0**
BFO				IAmb	IAmb	03 05 10.3	
	comp=Z,6.1nm,1.3s						

NOU 11 02:57:40.4, 16°.94S×167°.91E, h16km, MLv3.8/7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.82**	**161**	P	Pb	02 57 56.3	-0.1
YATNC	**Mamie plateau,**	**5.18**	**191**	P	Pn	02 58 56.9	-0.4
DZM	**Mont Dzumac**	**5.29**	**195**	P	Pn	02 58 58.7	-0.2
OUENC	**Ouen Island, N**	**5.54**	**190**	P	Pn	02 59 02.8	+0.5

*IPEC **11** 03:47:36.6±0.2, 51°.60N×16°.17E, h1km, ML2.9/5, Error ellipse: s-maj=3.0km s-min=1.5km az=71.0*
*IDC **11** 03:47:37.8±0.7, 51°.52N×15°.93E, h0km, mb3.2/1, mbtmp3.2/8, ML2.6/6, Error ellipse: s-maj=13.4km s-min=7.4km az=100.0*
*DNK **11** 03:47:37.8±2.0, 51°.75N×16°.06E, h1km, ML2.1*
*BGR **11** 03:47:37.9±0.7, 51°.55N×16°.13E, h1km, ML3.2/13, Error ellipse: s-maj=8.9km s-min=4.4km az=38.0*
*PRU **11** 03:47:40.6, 51°.44N×16°.04E, h0km*
*VIE **11** 03:47:41.3±1.4, 51°.33N×15°.88E, h0km, mb2.6/18, ml2.8/16, ms3.4/1, Error ellipse: s-maj=8.3km s-min=6.5km az=178.0 81 km NE of Liberec Suspected Mining induced.*

ISC 11 03:47:35.5±0.7, 51°.63N±0°.03×16°.11E±0°.02, h0km, n75, σ1§62/128, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.80**	**172**	*e*Pg	**Pg**	**03 47 51.6**	**+0.8**
KSP				*e*Sg	**Sg**	**03 48 01.4**	**+0.1**
KSP				*e*Sg	**Sg**	**03 48 01.4**	**+0.1**
KSP	**Ksiaz**	**0.80**	**172**	*e*Pg	**Pg**	**03 47 51.7**	**+0.8**
KSP				*e*Sg	**Sg**	**03 48 01.3**	**+0.1**
CHVC	**Chvalec**	**1.05**	**182**	*e*PG	**Pb**	**03 47 56.6**	**+0.1**
CHVC				*e*SG	**Sg**	**03 48 09.6**	**+0.5**
OSTC	**Ostas**	**1.08**	**176**	*e*PG	**Pb**	**03 47 57.1**	**0.0**
OSTC				*e*SG	**Sg**	**03 48 10.4**	**+0.2**
UPC	**Upice**	**1.13**	**183**	*e*PG	**Pg**	**03 47 57.9**	**+0.7**
UPC				*e*SG	**Sg**	**03 48 12.1**	**+0.3**
DPC	**Dobruska-Polom**	**1.29**	**174**	*e*PG	**Pg**	**03 48 00.5**	**+0.2**
DPC				*e*SG	**Sg**	**03 48 16.1**	**-0.9**
	comp=Z,92nm,0.7s						
DPC	**Dobruska-Polom**	**1.29**	**174**	*e*Pg	**Pg**	**03 48 00.4**	**+0.1**
PVCC	**Panska Ves**	**1.47**	**222**	*e*PG	**Pb**	**03 48 04.2**	**+0.4**
PVCC				*e*SG	**Sb**	**03 48 23.3**	**+0.3**
	comp=Z,435nm,0.5s						
PIVO	**Bartosovice**	**1.48**	**169**	*e*Pg	**Pn**	**03 48 03.1**	**-0.3**
	baz=350						
PIVO				*e*Sg	**Sg**	**03 48 21.6**	**-1.3**
	134nm,0.4s,baz=350						
BRG	**Berggiesshubel**	**1.56**	**242**	Pn	**Pn**	**03 48 04.4**	**-0.1**
BRG				Pg	**Pg**	**03 48 06.2**	**+0.8**
BRG				Sg	**Sg**	**03 48 26.3**	**+0.6**
BRG				Amp		03 48 26.7	
	comp=Z,286nm,0.4s						
BRG	**Berggiesshubel**	**1.56**	**242**	*e*Pn	**Pb**	**03 48 05.6**	**+0.3**
BRG				*e*Sg	**Sg**	**03 48 26.1**	**+0.5**
KRLC	**Kraliky**	**1.62**	**165**	*e*PG	**Pn**	**03 48 05.5**	**+0.1**
KRLC				*e*SG	**Sn**	**03 48 26.7**	**-0.2**
	comp=Z,106nm,0.4s						
PRA	**Prague**	**1.89**	**215**	*e*PG	**Pb**	**03 48 11.6**	**+0.7**
GOPC	**GO Pecny, Ondr**	**1.92**	**207**	*e*PG	**Pb**	**03 48 11.4**	**0.0**
PRU	**Pruhonice**	**1.93**	**212**	*e*PN	**Pn**	**03 48 09.5**	**0.0**
PRU				*e*PG	**Pb**	**03 48 11.9**	**+0.4**
PRU				*e*SG	**Sb**	**03 48 35.9**	**-0.1**
	comp=Z,62nm,0.6s						
CLL	**Collm**	**1.97**	**262**	*e*Pn	**Pn**	**03 48 10.2**	**0.0**
CLL	**Collm**	**1.97**	**262**	*i* Pn	**Pn**	**03 48 10.2**	**0.0**
CLL				*i* Pg	**Pg**	**03 48 13.9**	**+0.6**
CLL				*i* x	x	03 48 16.9	
CLL				*e*Sg	**Sg**	**03 48 39.0**	**+0.2**
	comp=Z,49nm,0.5s						
HSKC	**Hora Svate Kat**	**1.98**	**240**	*e*PG	**Pb**	**03 48 13.2**	**+0.8**
HSKC				*e*SG	**Sb**	**03 48 38.4**	**+0.8**
STEB	**Steborice**	**2.00**	**148**	*e*PN	**Pn**	**03 48 11.0**	**+0.4**
STEB				*e*PG	**Pg**	**03 48 13.8**	**-0.1**
STEB				*e*SG	**Sg**	**03 48 40.2**	**+0.4**
MORC	**Moravsky Berou**	**2.07**	**153**	*e*Pn	**Pn**	**03 48 11.7**	**+0.1**
	baz=335						
MORC				*e*Sg	**Sb**	**03 48 40.1**	**-0.1**
	comp=Z,60nm,0.5s,baz=335						
MORC	**Moravsky Berou**	**2.07**	**153**	*e*Pn	**Pn**	**03 48 11.6**	**+0.1**
MORC				*e*Sg	**Sb**	**03 48 40.1**	**-0.1**
OKC	**Ostrava-Krasne**	**2.21**	**143**	*e*PG	**Pg**	**03 48 18.2**	**+0.2**
VRAC	**Vranov**	**2.35**	**172**	Pn	**Pn**	**03 48 15.0**	**-0.4**
	comp=Z,5.0nm,0.3s,baz=346,slow=13,SNR=20						
VRAC				Lg	Lg	03 48 49.2	
	comp=Z,7.1nm,0.3s,baz=56,slow=15,SNR=5.3						
	comp=Z,11nm,0.4s						
VRAC	**Vranov**	**2.35**	**172**	*e*Pn	**Pn**	**03 48 15.7**	**+0.3**
	baz=353						
VRAC				*e*Sg	**Sb**	**03 48 48.9**	**+0.7**
	comp=Z,60nm,0.7s,baz=353						
ZVC	**Zvikov**	**2.52**	**210**	*e*SG	**Sg**	**03 48 55.5**	**-0.8**
KRUC	**Moravsky**	**2.58**	**176**	*e*Pn	**Pn**	**03 48 19.0**	**+0.5**
	baz=357						
KRUC				*e*Sg	**Sb**	**03 48 56.3**	**+1.4**
	comp=Z,43nm,0.6s,baz=357						
KRUC	**Moravsky**	**2.58**	**176**	*e*PN	**Pn**	**03 48 19.1**	**+0.5**
KRUC				*e*SG	**Sb**	**03 48 56.4**	**+1.5**
TANN	**Tannenbergstha**	**2.61**	**244**	*e*Pn	**Pn**	**03 48 19.5**	**+0.5**
WERD	**Werda**	**2.68**	**245**	*e*Pn	**Pn**	**03 48 20.5**	**+0.5**
NKC	**Novy Kostel**	**2.71**	**240**	*e*PN	**Pn**	**03 48 21.2**	**+0.9**
NKC				*e*PG	**Pg**	**03 48 27.7**	**+0.3**
NKC				*e*SG	**Sg**	**03 49 01.2**	**-1.3**
	comp=Z,83nm,0.4s						
OJC	**Ojcow**	**2.73**	**120**	*e*Pg	**Pg**	**03 48 28.3**	**+0.5**
OJC				*e*Sg	**Sg**	**03 49 04.3**	**+1.1**
JAVC	**Velka Javorina**	**2.95**	**160**	*e*Pn	**Pn**	**03 48 24.0**	**+0.3**
	baz=341						
KHC	**Kasperske Hory**	**2.98**	**214**	*e*PN	**Pn**	**03 48 24.5**	**+0.4**
KHC				*e*PG	**Pb**	**03 48 30.5**	**+0.9**
KHC				*e*SN	**Sn**	**03 48 59.8**	**-0.8**
KHC				*e*SG	**Sb**	**03 49 08.3**	**+1.7**
	comp=Z,32nm,0.7s						
MANZ	**Manzenberg**	**3.03**	**239**	*e*Pn	**Pn**	**03 48 25.5**	**+0.8**
CKRC	**Cesky Krumlov**	**3.04**	**203**	*e*PN	**Pn**	**03 48 25.8**	**+0.8**
CKRC				*e*PG	**Pb**	**03 48 32.0**	**+1.4**
CKRC				*e*SG	**Sb**	**03 49 10.6**	**+2.3**
ROTZ	**Rotzenmuhle**	**3.11**	**235**	*e*Pn	**Pn**	**03 48 26.4**	**+0.6**
GEC2	**GERESS Array S**	**3.19**	**210**	*e*Pn	**Pn**	**03 48 27.8**	**+0.7**
GERES	**GERESS Array B**	**3.19**	**210**	Pn	**Pn**	**03 48 27.8**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=48						
GERES				Sn	**Sn**	**03 49 00.8**	**-5.0**
	comp=Z,0.4nm,0.3s,baz=36,slow=25,SNR=7.0						
GERES				Lg	Lg

DAVA	**Damuels**	**5.95**	**225**	*i* Pn	**Pn**	**03 49 07.8**	**+2.8**
	comp=Z,1.2nm,0.3s						
DAVA				*e*Sg	**Sg**	**03 50 50.1**	**+3.5**
	comp=Z,13nm,0.8s						
ONAU	**Onsala**	**6.27**	**339**	*i* S	**Sn**	**03 50 16.9**	**-4.5**
DAVOX	**Davos/Dischmat**	**6.34**	**222**	Pn	**Pn**	**03 49 11.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=28,slow=15,SNR=5.8						
DAVOX				Sn	**Sn**	**03 50 19.2**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=135,slow=23,SNR=1.3						
DAVOX				Lg	Lg	03 50 55.7	
	comp=Z,0.4nm,0.3s,baz=308,slow=19,SNR=1.8						
	comp=Z,1.5nm,0.5s						
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**Pn**	**03 49 38.5**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=285,slow=11,SNR=5.0						
HFS	**Hagfors**	**8.63**	**352**	Pn	**Pn**	**03 49 42.5**	**+1.0**
	baz=174,slow=14,SNR=1.7						
HFS				Lg	Lg	03 52 12.9	
	comp=Z,0.1nm,0.3s,baz=170,slow=26,SNR=1.9						
	comp=Z,1.8nm,0.9s						
NOA	**NORSAR Array B**	**9.81**	**346**	Pn	**Pn**	**03 49 58.1**	**+0.3**
	baz=164,slow=12,SNR=1.8						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**11.25**	**25**	Pn	**Pn**	**03 50 16.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=208,slow=15,SNR=4.8						
FINES				Sn	**Sn**	**03 52 18.8**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=211,slow=21,SNR=4.9						
FINES				Lg	Lg	03 53 36.9	
	comp=Z,0.1nm,0.3s,baz=217,slow=29,SNR=1.8						
	comp=Z,2.4nm,0.9s						
YKA	**Yellowknife Ar**	**59.74**	**336**	P	**P**	**03 57 43.8**	**+2.2**
	comp=Z,0.2nm,0.7s,baz=30,slow=6.0,SNR=4.5						
	comp=Z,0.2nm,0.7s						

BJI ***11*** *03:50:32.7, 7.°16N×93.°91E, h10km, mB5.1/33, mb5.0/76, Ms4.7/71, Ms7 4.5/71*
MOS ***11*** *03:50:36.1±0.8, 7.°63N×94.°21E, h12km, mb5.2/53, MS4.3/10, Error ellipse: s-maj=7.8km s-min=3.8km az=113.8*
BGR ***11*** *03:50:39.0, 8.°59N×95.°96E, h33km, mb4.5, Hypocentre not reviewed by the ISC*
NEIC ***11*** *03:50:38.7±1.8, 7.°64N±0.°04×94.°25E±0.°05, h10km±1km, mb5.1/135, Error ellipse: s-maj=10.1km s-min=4.8km az=117.0*
IDC ***11*** *03:50:40.1±3.2, 7.°69N×94.°34E, h21km±20km, mb4.7/32, mbtmp4.8/35, ML4.8/3, MS4.2/59, Error ellipse: s-maj=13.3km s-min=10.3km az=59.0*
DJA ***11*** *03:50:41.2±0.5, 8.°N±2.°×9.°4E±.°, h22km±3km, M5.1/60, mB5.6/22, mb5.1/60, MLv5.4/13, Mw5.0/9, Mw(mB)5.1/22, MwMwp4.9/7, Mwp5.2/7*
GCMT ***11*** *03:50:42.7±0.2, 7.°65N±0.°01×94.°26E±0.°01, h18km±1km, MW5.0/112, Moment Tensor Solution. s44,c52; s112,c158; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.79±.15; Mθθ-2.02±.10; Mφφ3.81±.13; Mrθ-1.72±.31; Mθφ2.28±.10; Mφr-0.10±.24; Best double couple: M0=4.32700×10^16^ NP1:φs=160.00000°, δ60.00000°, λ-157.00000°. NP2:φs=57.00000°, δ70.00000°, λ-32.00000°. Principal axes: T 4.6670, Plg6.0000°, Azm110.0000°; N -0.6800, Plg53.0000°, Azm208.0000°; P -3.9870, Plg37.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NDI ***11*** *03:50:43.6±3.6, 7.°78N×94.°26E, h10km, ML4.5, MW5.0, mb5.1(NEIC)*

ISC 11 03:50:40.4±0.5, 7.°60N±0.°03×94.°16E±0.°04, h22km±3km, h23km:pP-P, n781, σ1°29/740, mb5.1/199, MS4.3/91, 34C-25D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.62**	**202**	*e*P	**Pn**	**03 50 56.2**	**+2.3**
CMBY				*e*S	**Sn**	**03 51 05.5**	**+2.3**
CMBY				IAML		03 51 05.5	
	comp=N,133μm,0.4s						
CMBY				IAML		03 51 07.5	
	comp=E,146μm,0.5s						
BSI	**Banda Aceh**	**2.37**	**152**	P	**Pn**	**03 51 19.6**	**+1.6**
LHMI	**Lhok Sumawe**	**3.63**	**130**		**Pn**	**03 51 34.6**	**-0.8**
LHMI	**Lhok Sumawe**	**3.63**	**130**	P	**Pn**	**03 51 35.7**	**+0.4**
LHMI	**Lhok Sumawe**	**3.63**	**130**	P	**Pn**	**03 51 35.0**	**-0.3**
LHMI				S	**Sn**	**03 52 15.6**	**-1.9**
MLSI	**Meulaboh, Aceh**	**3.99**	**146**	P	**Pn**	**03 51 41.8**	**+1.5**
MLSI				S	**Sn**	**03 52 27.7**	**+1.3**
PBA	**Port Blair**	**4.27**	**341**	Pn	**Pn**	**03 51 45.1**	**+1.0**
PBA	**Port Blair**	**4.27**	**341**	*e*P	**Pn**	**03 51 45.5**	**+1.4**
PBA				*e*S	**Sn**	**03 52 33.8**	**+0.5**
PBA				IAML		03 52 51.9	
	comp=N,1μm,0.9s						
PBA				IAML		03 52 53.8	
	comp=E,2μm,1.2s						
SRIT	**Nakonsritamara**	**5.48**	**79**		**Pn**	**03 51 59.9**	**-0.8**
SRIT	**Nakonsritamara**	**5.48**	**79**	P	**Pn**	**03 52 00.6**	**-0.1**
SNSI	**Sinabang, Aceh**	**5.58**	**157**	P	**Pn**	**03 52 00.7**	**-1.5**
	comp=E,1.1nmcomp=E,4μmcomp=E,319nm,1.1s						
DGPR	**DIGLIPUR**	**5.68**	**348**	*e*P	**Pn**	**03 52 06.2**	**+2.7**
DGPR				*e*S	**Sn**	**03 53 10.5**	**+2.5**
DGPR				AMP		03 53 20.8	
	comp=N,4μm,1.6s						
DGPR				AMP		03 53 22.2	
	comp=E,4μm,1.6s						
TSI	**Tuntungan**	**5.98**	**133**	P	**Pn**	**03 52 07.4**	**-0.2**
	comp=E,1.6nmcomp=E,332nm,0.8s						
PSI	**Prapat**	**6.72**	**135**	Pn	**Pn**	**03 52 19.1**	**+1.1**
	comp=E,7.8nm,0.3s,baz=293,slow=9.0,SNR=63						
PSI				Sn	**Sn**	**03 53 34.4**	**+0.4**
	comp=E,18nm,0.3s,baz=288,slow=20,SNR=6.4						
	comp=E,66nm,0.7s						
PSI	**Prapat**	**6.72**	**135**	P	**Pn**	**03 52 19.1**	**+1.1**
RPSI	**Rantau Prapat**	**6.80**	**136**		**Pn**	**03 52 18.1**	**-0.8**
RPSI	**Rantau Prapat**	**6.80**	**136**		**Pn**	**03 52 19.1**	**+0.2**
KULM	**Kulim**	**6.84**	**109**		**Pn**	**03 52 17.0**	**-2.5**
KULM	**Kulim**	**6.84**	**109**	P	**Pn**	**03 52 18.1**	**-1.4**
GSI	**Gunungsitoli**	**7.12**	**151**	P	Pn	03 52 28.6	+5.3
SRDT	**SRDT**	**8.29**	**36**	P	**Pn**	**03 52 39.8**	**+0.4**
PBSI	**Pulau Batu**	**8.64**	**151**	P	**Pn**	**03 52 45.7**	**+1.5**
	comp=E,134nm,1.2s						
MNSI	**Mandailing Nat**	**8.65**	**141**	P	**Pn**	**03 52 45.2**	**+0.9**
	comp=E,96nm,0.7s						
NAYO	**Nakonayok**	**9.69**	**46**	P	**Pn**	**03 52 58.8**	**+0.2**
BKNI	**Bangkinang**	**9.96**	**136**		**Pn**	**03 53 02.6**	**+0.3**
BKNI	**Bangkinang**	**9.96**	**136**	P	**Pn**	**03 53 04.0**	**+1.7**
BKNI	**Bangkinang**	**9.96**	**136**	P	**Pn**	**03 53 02.1**	**-0.2**
PPI	**Padang Panjang**	**10.13**	**142**	P	**Pn**	**03 53 04.2**	**-0.5**
	comp=E,2μmcomp=E,137nm,1.6s						
SISI	**Saibi**	**10.13**	**151**	P	**Pn**	**03 53 05.5**	**+0.8**
	comp=E,59nm,1.2s						
MYKOM	**Kota Tinggi**	**11.24**	**120**		**Pn**	**03 53 17.5**	**-2.4**
MYKOM	**Kota Tinggi**	**11.24**	**120**	P	**Pn**	**03 53 18.7**	**-1.2**
CM31	**Chiang Mai Arr**	**11.76**	**23**	Pn	**Pn**	**03 53 26.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**11.76**	**23**	Pn	**Pn**	**03 53 25.1**	**-1.8**
CMAR	**Chiang Mai Arr**	**11.76**	**23**	Pn	**Pn**	**03 53 26.6**	**-0.3**
	comp=E,2.0nm,0.3s,baz=213,slow=14,SNR=48						
CMAR				LR	LR	03 58 11.7	
	comp=E,1μm,18.8s,baz=205,slow=39						
	comp=E,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**11.76**	**23**	P	**Pn**	**03 53 25.1**	**-1.8**
CHTO	**Chiang Mai**	**12.08**	**22**		**Pn**	**03 53 31.2**	**-0.2**
CHTO	**Chiang Mai**	**12.08**	**22**	P	**Pn**	**03 53 34.1**	**+2.7**
CHTO	**Chiang Mai**	**12.08**	**22**	P	**Pn**	**03 53 31.2**	**-0.2**
PALK	**Pallekele**	**13.35**	**270**		**Pn**	**03 53 48.9**	**+0.1**
PALK	**Pallekele**	**13.35**	**270**	P	**Pn**	**03 53 48.9**	**+0.1**
NONG	**Nongkai**	**13.60**	**39**	P	**Pn**	**03 53 53.1**	**+1.1**
KSI	**Kapahiang**	**13.99**	**143**	P	**Pn**	**03 53 56.0**	**-1.5**
	comp=E,9μmcomp=E,108nm,1.1s						
VIS	**Vishakhapatnam**	**14.59**	**315**	*e*P	**P**	**03 54 10.5**	**-1.4**
VIS				IAML		03 56 42.8	
	comp=E,33nm,0.6s						
VIS				IAML		03 56 47.1	
	comp=N,47nm,0.8s						
VIS				*e*S	**Sn**	**03 56 52.1**	**+5.4**
DLV	**Lat**	**14.76**	**72**	Pn	**Pn**	**03 54 07.1**	**-1.1**
DLV	**Lat**	**14.76**	**72**	P	**Pn**	**03 54 06.9**	**-1.3**
MNAI	**Manna**	**14.77**	**143**	P	**P**	**03 54 11.3**	**-2.6**
SAIH	**SAIHA**	**14.85**	**356**	*e*P	**P**	**03 54 12.9**	**-2.0**
SAIH				*e*S	**Sn**	**03 56 55.0**	**+1.7**
BRDH	**Bariadhala**	**15.19**	**351**	LR	LR	04 01 15.9	
	comp=N,1μm,20.9s,baz=173,slow=42						
PPBI	**Pangkal Pinang**	**15.38**	**129**	P	**Pn**	**03 54 16.8**	**+0.5**
RAGD	**RAYAGADA**	**15.56**	**319**	*e*P	**P**	**03 54 23.4**	**+0.7**
MDSI	**Maura Dua**	**15.62**	**140**	P	**Pn**	**03 54 16.3**	**-3.0**
	comp=N,72nm,1.0s						
AZL	**Aizawl**	**16.11**	**355**	*e*P	**P**	**03 54 29.8**	**+0.8**
AZL				*e*S	**Sn**	**03 57 26.2**	**+2.3**
SALM	**Salem**	**16.24**	**286**	*e*P	**P**	**03 54 34.1**	**+3.9**
SLVN	**Son La**	**16.59**	**34**		**Pn**	**03 54 31.9**	**+0.1**
SLVN	**Son La**	**16.59**	**34**	P	**P**	**03 54 34.4**	**+0.3**
KOD	**Kodaikanal**	**16.70**	**280**	*e*P	**P**	**03 54 37.8**	**+2.1**
TPI	**Tanjungpandan**	**16.94**	**127**	P	**Pn**	**03 54 34.9**	**-1.3**
	comp=N,987nmcomp=N,85nm,1.2s						
KSM	**Kuching**	**17.20**	**110**	Pn	**Pn**	**03 54 37.6**	**-1.9**
KSM				IAmb	IAmb	03 54 45.1	
	comp=Z,127nm,1.2s						
KSM	**Kuching**	**17.20**	**110**	P	**P**	**03 54 41.0**	**+0.1**
TNCH	**TengChong**	**17.83**	**13**	P	**P**	**03 54 49.8**	**+1.8**
TNCH				S	**S**	**03 58 18.6**	**+6.4**
TNCH				pmax	pmax		
	comp=Z,370nm,0.8s						
TNCH				pmax	pmax		
	comp=Z,880nm,3.9s						
TNCH				LR	LR		
	comp=Z,800nm,13.0s						
TNCH				LR	LR		
	comp=Z,1μm,13.6s						
TNCH				LR	LR		
	comp=Z,990nm,14.8s						
SHL	**Shillong**	**18.00**	**353**	Pn	**Pn**	**03 54 46.0**	**-3.5**
SHL	**Shillong**	**18.00**	**353**	P	**Pn**	**03 54 46.0**	**-3.5**
SHL				pmax	pmax		
	comp=Z,57nm,0.9s						
KOHI	**KOHIMA**	**18.02**	**360**	*e*P	**P**	**03 54 50.9**	**+0.8**
KOHI				*e*S	**Sn**	**03 58 11.8**	**+1.4**
HYB	**Hyderabad**	**18.08**	**304**	*e*P	**Pn**	**03 54 50.0**	**-0.5**
SBUM	**Sibu**	**18.70**	**105**	P	**P**	**03 54 56.0**	**-1.4**
SBUM	**Sibu**	**18.70**	**105**	P	**Pn**	**03 54 58.6**	**+0.7**
STKI	**Sintang**	**18.82**	**113**	P	**Pn**	**03 54 59.3**	**-0.1**
	comp=Z,63nm,0.8s						
QIZ	**Qiongzhong**	**19.01**	**52**	P	**Pn**	**03 55 02.7**	**+1.1**
QIZ				S	**Sn**	**03 58 34.0**	**0.0**
QIZ				pmax	pmax		
	comp=Z,29nm,1.6s						
QIZ				pmax	pmax		
	comp=Z,440nm,4.9s						
QIZ				LR	LR		
	comp=Z,3μm,13.0s						
QIZ				LR	LR		
	comp=Z,2μm,11.5s						
QIZ				LR	LR		
	comp=Z,1μm,9.4s						
KMI	**Kunming**	**19.26**	**24**	⇓P	**Pn**	**03 55 07.4**	**+2.5**
KMI				S	**S**	**03 58 44.8**	**+4.1**
KMI				pmax	pmax		
	comp=Z,100nm,0.9s						
KMI				LR	LR		
	comp=Z,700nm,10.3s						
KMI				LR	LR		
	comp=Z,540nm,13.0s						
KMI				LR	LR		
	comp=Z,1μm,13.5s						
LEM	**Lembang**	**19.63**	**137**	P	**P**	**03 55 06.4**	**-1.4**
	comp=Z,4.5nm,0.3s,baz=307,slow=20,SNR=3.6						
LEM				LR	LR	04 04 38.4	
	comp=Z,1μm,18.2s,baz=283,slow=43						
	comp=Z,14nm,0.3s						
LEM	**Lembang**	**19.63**	**137**	P	**P**	**03 55 05.2**	**-2.6**
	comp=Z,37nm,0.9s						
BBJI	**Bungbulang**	**20.12**	**138**	P	Pn	03 55 17.3	+2.4
PZH	**PanZhiHua**	**20.14**	**20**	P	Pn	03 55 15.6	+0.4
PZH				S	Sn	03 59 02.9	+1.5
PZH				pmax	pmax		
	comp=Z,130nm,1.3s						
PZH				pmax	pmax		
	comp=Z,410nm,3.5s						
PZH				LR	LR		
	comp=Z,630nm,12.6s						
PZH				LR	LR		
	comp=Z,1μm,11.8s						
PZH				LR	LR		
	comp=Z,830nm,13.3s						
XMIS	**Christmas Isla**	**21.29**	**147**	P	**P**	**03 55 30.1**	**+4.4**
SMRI	**Semarang**	**21.80**	**131**	P	**P**	**03 55 33.5**	**+2.3**
SMRI	**Semarang**	**21.80**	**131**	P	**P**	**03 55 31.8**	**+0.6**
	comp=Z,98nm,0.9s						
KKM	**Kota Kinabalu**	**21.95**	**93**	P	**P**	**03 55 30.9**	**-2.0**
KKM				IAmb	IAmb	03 55 36.7	
	comp=Z,110nm,1.4s						
LSA	**Lhasa**	**22.17**	**353**	P	**P**	**03 55 34.1**	**-1.4**
LSA				pmax	pmax		
	comp=Z,21nm,0.7s						
GYA	**Guiyang**	**22.21**	**31**	P	**P**	**03 55 37.1**	**+1.5**
GYA				S	**S**	**03 59 41.1**	**+1.8**
GYA				pmax	pmax		
	comp=Z,59nm,1.0s						
GYA				LR	LR		
	comp=Z,960nm,10.6s						
GYA				LR	LR		
	comp=Z,470nm,7.2s						
GYA				LR	LR		
	comp=Z,1μm,13.4s						
NGJI	**Ngawi**	**22.77**	**130**	P	**P**	**03 55 41.9**	**+0.4**
	comp=Z,213nm,1.2s						
GULI	**GuiLin**	**23.43**	**39**	P	**P**	**03 55 48.3**	**+0.1**
GULI				S	**S**	**04 00 03.8**	**+3.4**
GULI				pmax	pmax		
	comp=Z,80nm,1.1s						
GULI				pmax	pmax		
	comp=Z,260nm,5.4s						
GULI				LR	LR		
	comp=Z,870nm,15.4s						
GULI				LR	LR		
	comp=Z,920nm,16.0s						
GULI				LR	LR		
	comp=Z,1μm,16.5s						
MYLDM	**Lahad Datu**	**24.30**	**94**	P	**P**	**03 55 54.6**	**-2.0**
MYLDM	**Lahad Datu**	**24.30**	**94**	P	**P**	**03 55 58.5**	**+1.9**
KMMI	**Kalianget**	**24.53**	**126**	P	**P**	**03 55 59.0**	**+0.4**
	comp=Z,80nm,1.2s						
CD2	**Chengdu**	**24.87**	**20**	P	**P**	**03 56 01.8**	**+0.2**
CD2				pP	pP	03 56 04.8	-2.9
CD2				sP	sP	03 56 06.3	-3.9
CD2				S	**S**	**04 00 24.4**	**+0.8**
CD2				sS	pS	04 00 30.6	+0.2
CD2				pmax	pmax		
	comp=Z,40nm,0.7s						
CD2				pmax	pmax		
	comp=Z,360nm,4.4s						
CD2				LR	LR		
	comp=Z,910nm,12.7s						
CD2				LR	LR		
	comp=Z,1μm,11.6s						
ABJI	**Asem Bagus**	**25.18**	**127**	P	**P**	**03 56 05.4**	**+0.9**
	comp=Z,147nm,1.0s						
JAGI	**Jajag, Banyuwa**	**25.53**	**128**	P	**P**	**03 56 11.2**	**+3.5**
JAGI	**Jajag, Banyuwa**	**25.53**	**128**	P	P	03 56 22.8	+15
SRBI	**Singaraja**	**26.14**	**126**	P	**P**	**03 56 14.0**	**+0.8**
	comp=Z,128nm,1.1s						
H08S3	**Diego Garcia H**	**26.38**	**235**	T	T	04 23 00.5	
	baz=55,slow=76,SNR=1410						
H08S2	**Diego Garcia H**	**26.38**	**235**	T	T	04 23 00.7	
	baz=55,slow=76,SNR=739						
H08S1	**Diego Carcia H**	**26.40**	**235**	T	T	04 23 02.4	
	baz=55,slow=76,SNR=451						
MPSI	**Mapaga**	**26.65**	**105**	P	**P**	**03 56 17.4**	**-0.5**
	comp=Z,4μmcomp=Z,50nm,1.0s						
TGY	**Tagaytay City**	**27.06**	**74**	LR	LR	04 05 36.5	
	comp=Z,464nm,21.8s,baz=276,slow=33						
CNSH	**ChangSha**	**27.09**	**39**	P	**P**	**03 56 21.5**	**-0.2**
CNSH				S	**S**	**04 01 04.2**	**+5.5**
CNSH				pmax	pmax		
	comp=Z,25nm,1.1s						
CNSH				LR	LR		
	comp=Z,690nm,16.1s						
CNSH				LR	LR		
	comp=Z,860nm,14.6s						
CNSH				LR	LR		
	comp=Z,740nm,15.1s						
TOLI2	**Tolitoli**	**27.30**	**102**	P	**P**	**03 56 22.6**	**-1.1**
TOLI2	**Tolitoli**	**27.30**	**102**	P	**P**	**03 56 24.9**	**+1.2**
KAPI	**Kappang**	**28.44**	**115**	LR	LR	04 07 38.1	
	comp=Z,717nm,21.8s,baz=294,slow=36						
KAPI	**Kappang**	**28.44**	**115**	P	**P**	**03 56 34.5**	**+0.6**
KAPI	**Kappang**	**28.44**	**115**	*e*P	**P**	**03 56 33.5**	**-0.4**
GOMU	**GeErMu**	**28.48**	**1**	P	**P**	**03 56 35.0**	**+0.6**
GOMU				pP	pP	03 56 38.9	-1.8
GOMU				sP	pwP	03 56 42.5	-0.3
GOMU				S	**S**	**04 01 20.7**	**-0.4**
GOMU				pmax	pmax		
	comp=Z,35nm,0.7s						
GOMU				LR	LR		
	comp=Z,440nm,13.6s						
GOMU				LR	LR		
	comp=Z,350nm,13.9s						
GOMU				LR	LR		
	comp=Z,470nm,13.9s						
APSI	**Ampana**	**28.69**	**106**	P	P	03 56 44.6	+8.5
XAN	**Xi'an**	**29.64**	**25**	⇓P	**P**	**03 56 43.7**	**-0.7**
XAN				PP	**PnPn**	**03 57 43.7**	**+4.0**
XAN				S	**S**	**04 01 40.1**	**+1.4**
XAN				SS	**SnSn**	**04 03 15.0**	**+6.8**
XAN				pmax	pmax		
	comp=Z,39nm,0.7s						
XAN				pmax	pmax		
	comp=Z,220nm,4.3s						
XAN				LR	LR		
	comp=Z,1μm,13.9s						
XAN				LR	LR		
	comp=Z,2μm,15.1s						
XAN				LR	LR		
	comp=Z,2μm,17.0s						
WHN	**Wuhan**	**29.64**	**37**	⇑P	**P**	**03 56 45.8**	**+1.4**
WHN				sP	**sP**	**03 56 52.1**	**-0.9**
WHN				pmax	pmax		
	comp=Z,140nm,1.1s						
WHN				LR	LR		
	comp=Z,3μm,11.1s						
WHN				LR	LR		
	comp=Z,2μm,10.9s						
WHN				LR	LR		
	comp=Z,3μm,13.8s						
LZH	**Lanzhou**	**29.71**	**16**	*e*P	**P**	**03 56 42.5**	**-2.6**
LZH				sP	sP	03 56 53.1	-0.6
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
LZH				LR	LR		
	comp=Z,550nm,13.1s						
LZH				LR	LR		
	comp=Z,780nm,14.4s						
LZH				LR	LR		
	comp=Z,840nm,14.8s						
LUWI	**Luwuk**	**29.80**	**106**	P	**P**	**03 56 44.5**	**-1.5**
LUWI	**Luwuk**	**29.80**	**106**	P	**P**	**03 56 48.2**	**+2.2**
LUWI	**Luwuk**	**29.80**	**106**	P	**P**	**03 56 47.0**	**+1.0**
KMSI	**Cibinong**	**30.53**	**102**	P	P	03 57 01.9	+9.4
DAV	**Davao City (W)**	**31.16**	**89**	LR	LR	04 11 03.8	
	comp=Z,419nm,18.6s,baz=304,slow=40						
LYN	**LuoYang**	**31.68**	**30**	⇑*i*P	**P**	**03 57 04.0**	**+1.6**
LYN				S	**S**	**04 02 14.1**	**+3.4**
LYN				pmax	pmax		
	comp=Z,51nm,1.1s						
LYN				LR	LR		
	comp=Z,1μm,15.7s						
LYN				LR	LR		
	comp=Z,2μm,15.5s						
LYN				LR	LR		
	comp=Z,2μm,15.5s						
GTA	**Gaotai**	**32.08**	**8**	*e*P	**P**	**03 57 06.6**	**+0.6**
GTA				sP	pwP	03 57 20.3	+5.4
GTA				PcP	**PcP**	**03 59 56.1**	**+0.9**
GTA				pmax	pmax		
	comp=Z,27nm,0.8s						
GTA				LR	LR		
	comp=Z,210nm,17.1s						
GTA				LR	LR		
	comp=Z,260nm,14.3s						
GTA				LR	LR		
	comp=Z,310nm,20.7s						
NIL	**Nilore**	**32.34**	**326**		**P**	**03 57 07.5**	**-0.7**
NIL	**Nilore**	**32.34**	**326**	P	**P**	**03 57 07.5**	**-0.7**
NIL				pmax	pmax		
	comp=Z,51nm,0.7s						
SANI	**Sanana**	**33.17**	**106**	P	**P**	**03 57 17.8**	**+2.2**
NJ2	**Nanjing**	**33.47**	**40**	⇓P	**P**	**03 57 19.2**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,29nm,0.5s						
NJ2				LR	LR		
	comp=Z,790nm,12.8s						
NJ2				LR	LR		
	comp=Z,810nm,12.8s						
NJ2				LR	LR		
	comp=Z,730nm,16.1s						
SSE	**Sheshan**	**34.41**	**44**	P	**P**	**03 57 25.4**	**-0.8**
SSE				S	**S**	**04 02 54.1**	**+1.0**
SSE				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SSE				pmax	pmax		
	comp=Z,140nm,4.6s						
SSE				LR	LR		
	comp=Z,560nm,14.7s						
SSE				LR	LR		
	comp=Z,400nm,15.3s						
HNS	**HongShan**	**35.05**	**29**	⇓P	**P**	**03 57 33.1**	**+1.5**
HNS				pmax	pmax		
	comp=Z,35nm,1.1s						
HNS				LR	LR		
	comp=Z,790nm,15.0s						
HNS				LR	LR		
	comp=Z,430nm,18.2s						
HNS				LR	LR		
	comp=Z,700nm,16.2s						
TIA	**Tai'an**	**35.37**	**33**	P	**P**	**03 57 35.7**	**+1.2**
TIA				pmax	pmax		
	comp=Z,24nm,0.9s						
TIA				LR	LR		
	comp=Z,750nm,15.3s						
TIA				LR	LR		
	comp=Z,840nm,13.7s						
TIA				LR	LR		
	comp=Z,770nm,12.6s						
KBL	**Kabul**	**35.41**	**323**		**P**	**03 57 33.8**	**-1.3**
KBL				IAmb	IAmb	03 57 37.1	
	comp=Z,16nm,0.8s						
KBL	**Kabul**	**35.41**	**323**	P	**P**	**03 57 33.8**	**-1.3**
KBL				pmax	pmax		
	comp=Z,16nm,0.8s						
KSH	**Kashi**	**35.73**	**336**	P	**P**	**03 57 35.3**	**-2.4**
KSH				pP	pP	03 57 37.9	-6.0
KSH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSH				LR	LR		
	comp=Z,460nm,22.2s						
KSH				LR	LR		
	comp=Z,580nm,20.2s						
KSH				LR	LR		
	comp=Z,420nm,17.5s						
BTO	**Baotou**	**35.79**	**21**	*e*P	**P**	**03 57 39.2**	**+1.1**
BTO				pP	**pP**	**03 57 43.6**	**-0.7**
BTO				sP	**sP**	**03 57 46.2**	**-0.6**
BTO				PP	**PP**	**03 59 01.0**	**+1.3**
BTO				S	**S**	**04 03 19.1**	**+4.7**
BTO				sS	**sS**	**04 03 27.4**	**+2.9**
BTO				SS	**SnSn**	**04 05 40.2**	**+2.6**
BTO				pmax	pmax		
	comp=Z,37nm,1.4s						
BTO				pmax	pmax		
	comp=Z,140nm,4.9s						
BTO				LR	LR		
	comp=Z,1μm,13.9s						
BTO				LR	LR		
	comp=Z,1μm,12.8s						
BTO				LR	LR		
	comp=Z,1μm,13.4s						
WMQ	**Urumqi**	**36.53**	**352**	*e*P	**P**	**03 57 45.2**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,42nm,0.7s						
WMQ				LR	LR		
	comp=Z,330nm,21.9s						
WMQ				LR	LR		
	comp=Z,690nm,24.2s						
WMQ				LR	LR		
	comp=Z,220nm,24.0s						
HHC	**Hu-ho-hao-te**	**36.57**	**22**	*e*P	**P**	**03 57 46.0**	**+1.2**
HHC				pmax	pmax		
	comp=Z,25nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,3.9s						
HHC				LR

TARG	**Taragay, Kyrgy**	**36.96**	**339**	P	**P**	**03 57 47.5**	**-1.0**
TARG				pmax	pmax		
	comp=Z,22nm,0.9s						
PRZ	**Przheval'sk**	**37.43**	**341**	P	**P**	**03 57 52.0**	**-0.2**
PRZ				IAmb	IAmb	03 57 54.1	
	comp=Z,121nm,1.9s						
PRZ	**Przheval'sk**	**37.43**	**341**	P	**P**	**03 57 52.0**	**-0.2**
PRZ				pmax	pmax		
	comp=Z,121nm,1.9s						
KDJ	**Kajisay**	**37.53**	**339**		**P**	**03 57 51.9**	**-1.2**
KDJ				IAmb	IAmb	03 57 54.3	
	comp=Z,23nm,0.9s						
KDJ	**Kajisay**	**37.53**	**339**	P	**P**	**03 57 51.9**	**-1.2**
KDJ				pmax	pmax		
	comp=Z,23nm,0.9s						
DRK	**Karamyk**	**37.56**	**331**	P	**P**	**03 57 53.1**	**-0.4**
DRK	**Karamyk**	**37.56**	**331**	P	**P**	**03 57 53.1**	**-0.4**
DRK				pmax	pmax		
	comp=Z,74nm,0.6s						
JOW	**Kunigami**	**37.59**	**55**	LR	LR	04 15 42.7	
	comp=Z,333nm,18.5s,baz=288,slow=40						
SHLS	**Shalkode**	**37.70**	**342**	*e*P	**P**	**03 57 52.1**	**-2.3**
SHLS	**Shalkode**	**37.70**	**342**	*e*P	**P**	**03 57 52.2**	**-2.3**
UZB	**Uzynbulak**	**37.83**	**342**	*e*P	**P**	**03 57 54.5**	**-1.0**
UZB				*e*S	**S**	**04 03 44.2**	**-1.3**
UZB	**Uzynbulak**	**37.83**	**342**	*e*P	**P**	**03 57 54.6**	**-1.0**
UZB				*e*S	**S**	**04 03 44.2**	**-1.3**
BJI	**Beijing**	**37.84**	**28**	P	**P**	**03 57 56.7**	**+1.2**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BJI				pmax	pmax		
	comp=Z,84nm,5.6s						
BJI				LR	LR		
	comp=Z,210nm,15.7s						
BJI				LR	LR		
	comp=Z,250nm,17.9s						
BJI				LR	LR		
	comp=Z,200nm,22.4s						
PDGK	**Podgornoye**	**37.85**	**342**	P	**P**	**03 57 55.2**	**-0.5**
GAR	**Garm**	**37.92**	**329**		**P**	**03 57 55.5**	**-0.9**
GAR				IAmb	IAmb	03 57 57.0	
	comp=Z,67nm,1.2s						
SWI	**Sorong**	**37.94**	**101**	P	**P**	**03 57 54.7**	**-2.0**
	comp=Z,25nm,0.6s						
SATY	**Saty**	**37.94**	**341**	*e*P	**P**	**03 57 55.4**	**-1.0**
SATY	**Saty**	**37.94**	**341**	*e*P	**P**	**03 57 55.5**	**-1.0**
ULHL	**Ulahol**	**37.97**	**338**	P	P	03 57 48.8	-8.0
	SNR=6.3						
ZHN	**Zhinishke**	**38.03**	**341**	*e*P	**P**	**03 57 56.3**	**-0.9**
ZHN	**Zhinishke**	**38.03**	**341**	*e*P	**P**	**03 57 56.3**	**-0.9**
KPKS	**Kokpek**	**38.22**	**342**	*e*P	**P**	**03 57 57.7**	**-1.1**
KPKS	**Kokpek**	**38.22**	**342**	*e*P	**P**	**03 57 57.7**	**-1.1**
BOOM	**Boomskoye usch**	**38.29**	**338**		**P**	**03 57 57.9**	**-1.6**
BOOM	**Boomskoye usch**	**38.29**	**338**	P	**P**	**03 57 57.9**	**-1.6**
BOOM				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SIMJ	**Simiganj**	**38.35**	**328**		**P**	**03 57 59.2**	**-0.8**
SIMJ				IAmb	IAmb	03 58 00.2	
	comp=Z,26nm,0.7s						
TNSS	**Tian-Shan**	**38.41**	**340**	*e*P	**P**	**03 57 59.1**	**-1.6**
TNSS	**Tian-Shan**	**38.41**	**340**	*e*P	**P**	**03 57 59.2**	**-1.6**
MDOK	**Medeo**	**38.49**	**340**	*e*P	**P**	**03 57 59.8**	**-1.3**
MDOK	**Medeo**	**38.49**	**340**	*e*P	**P**	**03 57 59.9**	**-1.3**
ARSB	**Arslanbob**	**38.50**	**334**	P	**P**	**03 58 00.6**	**-0.6**
ARSB				IAmb	IAmb	03 58 02.4	
	comp=Z,59nm,1.0s						
ARSB	**Arslanbob**	**38.50**	**334**	P	**P**	**03 58 00.6**	**-0.6**
ARSB				pmax	pmax		
	comp=Z,59nm,1.0s						
DZET	**Dzherino**	**38.55**	**328**	P	**P**	**03 58 00.9**	**-0.8**
AAA	**Alma-Ata**	**38.57**	**340**	*e*P	**P**	**03 58 00.6**	**-1.1**
AAA				pmax	pmax		
	comp=Z,29nm,0.6s						
AAA	**Alma-Ata**	**38.57**	**340**	*e*P	**P**	**03 58 00.7**	**-1.1**
	comp=Z,30nm,0.6s						
TKM2	**Tokmak 2**	**38.79**	**338**	P	**P**	**03 58 03.7**	**0.0**
	SNR=10						
TKM2	**Tokmak 2**	**38.79**	**338**	P	**P**	**03 58 02.6**	**-1.1**
KBK	**Karagaybulak**	**38.81**	**337**	P	**P**	**03 58 04.6**	**+0.8**
	SNR=15						
AML	**Almayashu**	**38.87**	**336**	P	**P**	**03 58 05.1**	**+0.6**
	SNR=6.8						
AAK	**Ala-Archa**	**38.97**	**337**		**P**	**03 58 04.7**	**-0.5**
AAK	**Ala-Archa**	**38.97**	**337**	LR	LR	04 15 40.2	
	comp=Z,816nm,21.3s,baz=157,slow=38						
AAK	**Ala-Archa**	**38.97**	**337**	*d iP*	**P**	**03 58 05.3**	**+0.1**
AAK				pmax	pmax		
	comp=Z,21nm,1.0s						
EKS2	**Erkin-Say**	**39.27**	**336**	P	**P**	**03 58 08.3**	**+0.6**
	SNR=12						
USP	**Ospenovka**	**39.50**	**337**	P	**P**	**03 58 09.4**	**0.0**
	SNR=11						
DL2	**Dalian**	**39.79**	**34**	P	**P**	**03 58 13.2**	**+1.4**
DL2				*e*S	**S**	**04 04 16.8**	**+2.0**
DL2				pmax	pmax		
	comp=Z,34nm,1.0s						
DL2				LR	LR		
	comp=Z,700nm,21.1s						
DL2				LR	LR		
	comp=Z,590nm,17.8s						
DL2				LR	LR		
	comp=Z,650nm,15.3s						
FITZ	**Fitzroy Crossi**	**40.22**	**130**	LR	LR	04 16 21.1	
	comp=Z,287nm,20.7s,baz=296,slow=38						
MK31	**Makanchi Array**	**40.36**	**347**		**P**	**03 58 15.5**	**-1.0**
MK31				IAmb	IAmb	03 58 17.0	
	comp=Z,37nm,0.8s						
MK31	**Makanchi Array**	**40.36**	**347**	*d iP*	**P**	**03 58 15.9**	**-0.6**
MKAR	**Makanchi Array**	**40.36**	**347**		**P**	**03 58 15.2**	**-1.3**
MKAR	**Makanchi Array**	**40.36**	**347**	P	**P**	**03 58 15.5**	**-1.0**
	comp=Z,43nm,0.7s,baz=165,slow=8.1,SNR=431						
MKAR				PcP	**PcP**	**04 00 19.4**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=162,slow=4.5,SNR=3.1						
MKAR				LR	LR	04 18 18.7	
	comp=Z,116nm,19.5s,baz=162,slow=41						
	comp=Z,43nm,0.7s						
MKAR	**Makanchi Array**	**40.36**	**347**	*ceP*	**P**	**03 58 16.0**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,43nm,0.7s						
MAKZ	**Makanchi**	**40.45**	**347**	P	**P**	**03 58 16.4**	**-0.8**
MAKZ				IAmb	IAmb	03 58 17.5	
	comp=Z,40nm,0.7s						
MAKZ	**Makanchi**	**40.45**	**347**	P	**P**	**03 58 16.2**	**-1.0**
IUG	**Iuzhnay**	**40.48**	**332**	*e*P	**P**	**03 58 16.7**	**-1.0**
IUG	**Iuzhnay**	**40.48**	**332**	*e*P	**P**	**03 58 16.8**	**-1.0**
XLT	**XiLinHaoTe**	**40.93**	**24**	*e*P	**P**	**03 58 23.8**	**+2.5**
XLT				sP	sP	03 58 30.1	+0.1
XLT				pmax	pmax		
	comp=Z,24nm,0.9s						
XLT				LR	LR		
	comp=Z,1μm,14.7s						
XLT				LR	LR		
	comp=Z,610nm,15.5s						
KK31	**Karatay Array**	**41.02**	**333**		**P**	**03 58 21.3**	**-0.7**
KK31	**Karatay Array**	**41.02**	**333**	*i* P	**P**	**03 58 21.1**	**-0.9**
KKAR	**Karatay Array**	**41.02**	**333**		**P**	**03 58 21.3**	**-0.7**
KKAR	**Karatay Array**	**41.02**	**333**		**P**	**03 58 21.6**	**-0.5**
KKAR				IAmb	IAmb	03 58 22.7	
	comp=Z,9.8nm,0.7s						
KKAR	**Karatay Array**	**41.02**	**333**	P	**P**	**03 58 21.3**	**-0.7**
BRLS	**Borolday**	**41.27**	**333**	*e*P	**P**	**03 58 22.0**	**-2.0**
BRLS	**Borolday**	**41.27**	**333**	*e*P	**P**	**03 58 22.1**	**-2.0**
SONM	**Songino Array**	**41.43**	**12**		**P**	**03 58 24.3**	**-1.2**
SONM				IAmb	IAmb	03 58 26.4	
	comp=Z,24nm,0.9s						
SONM	**Songino Array**	**41.43**	**12**	P	**P**	**03 58 24.8**	**-0.7**
	comp=Z,19nm,0.9s,baz=197,slow=8.0,SNR=85						
SONM				PcP	**PcP**	**04 00 22.9**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=189,slow=3.1,SNR=5.9						
SONM				ScP	**ScP**	**04 04 10.0**	**-2.1**
	comp=Z,1.5nm,0.9s,baz=188,slow=5.8,SNR=1.5						
SONM				LR	LR	04 18 01.4	
	comp=Z,423nm,18.3s,baz=199,slow=40						
	comp=Z,19nm,0.9s						
SONM	**Songino Array**	**41.43**	**12**	P	**P**	**03 58 24.3**	**-1.2**
SONM				pmax	pmax		
	comp=Z,24nm,0.9s						
ULN	**Ulaanbaatar**	**41.60**	**13**		**P**	**03 58 25.5**	**-1.3**
ULN	**Ulaanbaatar**	**41.60**	**13**	*d iP*	**P**	**03 58 26.5**	**-0.4**
ULN				pmax	pmax		
	comp=Z,16nm,0.9s						
JNU	**Nakatsue**	**42.41**	**48**	LR	LR	04 17 50.6	
	comp=Z,504nm,18.1s,baz=240,slow=39						
KSAR	**Wonju Array Be**	**42.63**	**41**	P	**P**	**03 58 34.4**	**-0.8**
KSAR	**Wonju Array Be**	**42.63**	**41**	P	**P**	**03 58 34.4**	**-0.8**
KSRS	**Korea Array**	**42.66**	**41**	P	**P**	**03 58 34.6**	**-0.8**
	comp=Z,4.8nm,0.9s,baz=228,slow=9.4,SNR=18						
KSRS				LR	LR	04 18 15.0	
	comp=Z,459nm,18.6s,baz=205,slow=39						
	comp=Z,4.8nm,0.9s						
BAKI	**Biak**	**42.74**	**100**	P	**P**	**03 58 36.6**	**+0.1**
	comp=Z,42nm,1.2s						
ZAK	**Zakamensk**	**43.32**	**9**	*e*P	**P**	**03 58 39.5**	**-1.3**
ZAK				*e*		04 00 29.4	
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MOY	**Mondy**	**44.30**	**6**	*e*P	**P**	**03 58 47.6**	**-1.0**
MOY				pmax	pmax		
	comp=Z,17nm,3.8s						
OTUK	**Ortayu**	**44.53**	**339**	P	**P**	**03 58 49.2**	**-1.3**
MUN	**Mundaring**	**44.63**	**153**	P	**P**	**03 58 52.1**	**+0.8**
KURBB	**Kurchatov Arra**	**44.82**	**346**	P	**P**	**03 58 51.7**	**-0.9**
	comp=Z,57nm,0.8s,baz=166,slow=7.1,SNR=396						
KURBB				PcP	**PcP**	**04 00 34.1**	**-0.2**
	comp=Z,6.1nm,0.7s,baz=159,slow=2.7,SNR=6.7						
KURBB				LR	LR	04 20 12.9	
	comp=Z,419nm,21.7s,baz=166,slow=40						
	comp=Z,57nm,0.8s						
KURBB	**Kurchatov Arra**	**44.82**	**346**	P	**P**	**03 58 51.8**	**-0.8**
KURK	**Kurchatov**	**44.88**	**346**	*d iP*	**P**	**03 58 53.1**	**0.0**
KURK				pmax	pmax		
	comp=Z,75nm,0.9s						
KLBR	**Kellerberrin**	**45.02**	**151**	P	**P**	**03 58 54.9**	**+0.4**
	comp=Z,29nm,1.0s						
CN2	**Changchun**	**45.25**	**32**	*e*P	**P**	**03 58 56.5**	**+0.3**
CN2				*e*PP	**PP**	**04 00 43.0**	**+0.7**
CN2				*e*S	**S**	**04 05 35.2**	**0.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CN2				pmax	pmax		
	comp=Z,70nm,3.0s						
CN2				LR	LR		
	comp=Z,610nm,13.0s						
CN2				LR	LR		
	comp=Z,560nm,13.0s						
CN2				LR	LR		
	comp=Z,470nm,13.0s						
SMPI	**Sarmi**	**45.45**	**100**	P	**P**	**03 58 58.9**	**+0.7**
NWAO	**Narrogin (SRO)**	**45.89**	**153**	P	**P**	**03 59 02.0**	**+0.6**
	comp=Z,60nm,1.3s						
NWAO	**Narrogin (SRO)**	**45.89**	**153**	P	**P**	**03 59 05.0**	**+3.6**
NWAO				pmax	pmax		
	comp=Z,21nm,1.3s						
BRZS	**Berezniki**	**45.91**	**341**	*e*P	**P**	**03 59 00.6**	**-0.7**
BRZS	**Berezniki**	**45.91**	**341**	*e*P	**P**	**03 59 00.6**	**-0.7**
WRKA	**Warakurna**	**46.44**	**135**	P	**P**	**03 59 05.2**	**-0.7**
	comp=Z,18nm,0.9s						
HIA	**Hailar**	**46.77**	**23**	*e*P	**P**	**03 59 07.5**	**-0.6**
HIA				pmax	pmax		
	comp=Z,17nm,0.8s						
ZAA0	**Zalesovo Array**	**46.83**	**352**		**P**	**03 59 08.4**	**-0.1**
ZALV	**Zalesovo Beam**	**46.83**	**352**	P	**P**	**03 59 08.4**	**-0.1**
	comp=Z,59nm,0.6s,baz=177,slow=8.1,SNR=248						
	comp=Z,59nm,0.6s						
JAY	**Jayapura**	**47.51**	**100**	LR	LR	04 21 24.9	
	comp=Z,176nm,20.2s,baz=324,slow=39						
BNX	**BinXian**	**47.59**	**31**	⇑P	**P**	**03 59 14.8**	**+0.2**
BNX				pmax	pmax		
	comp=Z,15nm,1.1s						
MSHR	**Mys Shultsa**	**47.68**	**37**	⇑ *iP*	**P**	**03 59 13.7**	**-1.5**
MSHR				pmax	pmax		
	comp=Z,17nm,1.5s						
MDJ	**Mudanjiang**	**48.03**	**34**	P	**P**	**03 59 19.6**	**+1.7**
MDJ				S	**S**	**04 06 20.0**	**+5.1**
MDJ				pmax	pmax		
	comp=Z,18nm,1.4s						
MDJ				LR	LR		
	comp=Z,430nm,14.1s						
MDJ				LR	LR		
	comp=Z,390nm,15.1s						
MDJ				LR	LR		
	comp=Z,560nm,15.8s						
WB0	**Warramunga Arr**	**48.04**	**125**		**P**	**03 59 16.8**	**-1.6**
WB0				IAmb	IAmb	03 59 18.8	
	comp=Z,49nm,1.9s						
WRA	**Warramunga Arr**	**48.08**	**125**		**P**	**03 59 16.7**	**-2.1**
WRA	**Warramunga Arr**	**48.08**	**125**	P	**P**	**03 59 17.2**	**-1.6**
	comp=Z,5.1nm,0.9s,baz=305,slow=8.4,SNR=24						
WRA				PcP	**PcP**	**04 00 44.7**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=302,slow=3.5,SNR=1.9						
WRA				LR	LR	04 20 56.0	
	comp=Z,293nm,20.3s,baz=248,slow=38						
	comp=Z,5.1nm,0.9s						
WB2	**Warramunga Arr**	**48.09**	**125**		**P**	**03 59 17.5**	**-1.3**
WB2				IAmb	IAmb	03 59 19.9	
	comp=Z,14nm,1.1s						
WR0	**Warramunga Arr**	**48.26**	**125**	IAmb	IAmb	03 59 21.7	
	comp=Z,24nm,1.3s						
USRK	**Ussuriysk Ar.**	**49.12**	**36**	P	**P**	**03 59 23.9**	**-2.5**
	comp=Z,1.5nm,0.7s,baz=225,slow=7.2,SNR=6.2						
USRK				PP	**PP**	**04 01 21.1**	**+0.9**
	comp=Z,3.4nm,1.0s,baz=238,slow=8.3,SNR=5.9						
USRK				LR	LR	04 20 60.0	
	comp=Z,408nm,18.1s,baz=215,slow=37						
JHJ	**Hachijo jima 2**	**49.21**	**52**	LR	LR	04 20 01.2	
	comp=Z,209nm,20.0s,baz=260,slow=36						
RAYN	**Ar Rayn**	**49.22**	**294**		**P**	**03 59 28.7**	**+1.2**
RAYN				IAmb	IAmb	03 59 30.4	
	comp=Z,18nm,0.6s						
RAYN	**Ar Rayn**	**49.22**	**294**	P	**P**	**03 59 28.7**	**+1.2**
RAYN				pmax	pmax		
	comp=Z,17nm,0.6s						
BVA0	**Borovoye Array**	**49.26**	**341**	*i* P	**P**	**03 59 26.2**	**-1.1**
BVAR	**Borovoye Array**	**49.26**	**341**	P	**P**	**03 59 26.6**	**-0.6**
	comp=Z,20nm,0.8s,baz=142,slow=7.5,SNR=96						
BVAR				PcP	**PcP**	**04 00 49.9**	**-0.1**
	comp=Z,7.6nm,0.7s,baz=137,slow=3.6,SNR=6.7						
BVAR				ScP	**ScP**	**04 04 44.4**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=116,slow=3.4,SNR=1.9						
BVAR				LR	LR	04 23 31.6	
	comp=Z,211nm,18.2s,baz=151,slow=40						
	comp=Z,20nm,0.8s						
BRVK	**Borovoye**	**49.32**	**341**		**P**	**03 59 27.8**	**0.0**
BRVK				IAmb	IAmb	03 59 28.2	
	comp=Z,21nm,0.8s						
BRVK	**Borovoye**	**49.32**	**341**	*d iP*	**P**	**03 59 27.0**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,24nm,0.8s						
MJAR	**Matsushiro Arr**	**49.33**	**48**	P	**P**	**03 59 27.9**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=237,slow=9.3,SNR=6.6						
MJAR				PcP	**PcP**	**04 00 50.4**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=270,slow=2.4,SNR=6.3						
MJAR				LR	LR	04 22 36.0	
	comp=Z,319nm,18.4s,baz=244,slow=39						
	comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**49.72**	**130**	P	**P**	**03 59 30.9**	**-0.4**
ASAR	**Alice Springs**	**49.72**	**130**	P	**P**	**03 59 29.3**	**-2.1**
	comp=Z,2.7nm,0.6s,baz=304,slow=7.0,SNR=17						
ASAR				PcP	**PcP**	**04 00 52.4**	**0.0**
	comp=Z,3.0nm,0.8s,baz=308,slow=4.6,SNR=5.5						
	comp=Z,2.7nm,0.6s						
FORT	**Forrest**	**50.11**	**141**		**P**	**03 59 34.2**	**+0.2**
FORT	**Forrest**	**50.11**	**141**	P	**P**	**03 59 34.3**	**+0.2**
	comp=Z,50nm,0.9s						
GUMO	**Guam**	**50.13**	**79**	LR	LR	04 20 15.0	
	comp=Z,81nm,20.1s,baz=254,slow=36						
AB31	**Akbulak array**	**50.48**	**331**	*e*P	**P**	**03 59 36.5**	**-0.2**
ABKAR	**Akbulak array**	**50.48**	**331**		**P**	**03 59 36.7**	**0.0**
ABKAR	**Akbulak array**	**50.48**	**331**		**P**	**03 59 36.8**	**+0.2**
ABKAR				IAmb	IAmb	03 59 38.0	
	comp=Z,14nm,0.8s						
ATD	**Arta Tunnel**	**50.70**	**279**	LR	LR	04 17 51.6	
	comp=Z,15nm,21.9s,baz=96,slow=32						
HEH	**HeiHe**	**50.74**	**27**	*e*P	**P**	**03 59 38.6**	**+0.1**
HEH				PcP	**PcP**	**04 00 55.2**	**-0.3**
HEH				LR	LR		
	comp=Z,380nm,16.1s						
HEH				LR	LR		
	comp=Z,610nm,15.1s						
HEH				LR	LR		
	comp=Z,530nm,14.5s						
KLR	**Kul'dur**	**52.11**	**30**	LR	LR	04 26 22.8	
	comp=Z,270nm,18.4s,baz=226,slow=41						
KLR	**Kul'dur**	**52.11**	**30**	*e*P	**P**	**03 59 48.9**	**0.0**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKTO	**Aktyubinsk**	**52.20**	**331**	LR	LR	04 24 15.0	
	comp=Z,146nm,20.8s,baz=208,slow=39						
AKTO	**Aktyubinsk**	**52.20**	**331**	P	**P**	**03 59 48.6**	**-0.9**
BOD	**Bodaibo**	**52.41**	**13**	*e*P	**P**	**03 59 50.3**	**-0.6**
BOD				pmax	pmax		
	comp=Z,39nm,0.9s						
QIS	**Mount Isa**	**52.70**	**123**	P	**P**	**03 59 53.7**	**-0.1**
	comp=Z,11nm,1.3s						
OPO	**Ambohidratompo**	**53.12**	**240**	P	**P**	**03 59 59.8**	**+2.8**
	comp=Z,3.2nm,0.6s,baz=75,slow=9.8,SNR=4.2						
	comp=Z,3.2nm,0.6s						
ZEA	**Zeya**	**53.20**	**24**	*e*P	P	04 00 03.4	+6.6
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZEA				MLR	MLR		
	comp=E,300nm,14.0s						
ZEA				MLR	MLR		
	comp=N,400nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,15.0s						
MAK	**Makhachkala**	**53.94**	**319**	*c iP*	P	03 59 56.8	-5.6
MAK				*e*S	**S**	**04 07 30.0**	**-6.8**
MAK				*e*SS	**SS**	**04 11 16.5**	**-1.7**
MAK				*e*SSS	SSS	04 13 10.1	
MAK				pmax	pmax		
	comp=Z,82nm,1.1s						
MAK				MLR	MLR		
	comp=Z,238nm,15.0s						
SVE	**Sverdlovsk**	**55.67**	**338**	*c iP*	**P**	**04 00 14.9**	**+0.2**
SVE				*e*S	**S**	**04 07 56.3**	**-3.3**
SVE				pmax	pmax		
	comp=Z,54nm,0.7s						
SVE				MLR	MLR		
	comp=Z,612nm,23.0s						
GURO	**Guroymak-BITLI**	**56.04**	**312**		**P**	**04 00 17.6**	**-0.3**
ARTI	**Arti**	**56.19**	**337**		**P**	**04 00 18.2**	**-0.4**
ARTI	**Arti**	**56.19**	**337**	LR	LR	04 26 21.5	
	comp=Z,517nm,21.0s,baz=144,slow=38						
ARTI	**Arti**	**56.19**	**337**	*d iP*	**P**	**04 00 18.1**	**-0.4**
ARTI						04 01 14.2	
ARTI						04 02 17.7	
ARTI				S	**S**	**04 08 06.6**	**0.0**
ARTI				SS	**SS**	**04 11 50.2**	**-3.1**
ARTI				pmax	pmax		
	comp=Z,58nm,1.2s						
ARTI				MLR	MLR		
	comp=Z,507nm,21.0s						
MARD	**Mardin**	**56.59**	**310**		**P**	**04 00 21.5**	**-0.3**
KIBK	**Kibwezi**	**56.84**	**262**		**P**	**04 00 25.6**	**+1.6**
YSS	**Yuzhno-Sakhali**	**56.99**	**38**	*e*P	**P**	**04 00 27.9**	**+3.6**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
KBZ	**Khabaz**	**57.31**	**318**	P	**P**	**04 00 26.2**	**-0.4**
	comp=Z,4.9nm,0.8s,baz=119,slow=5.9,SNR=19						
KBZ				PcP	**PcP**	**04 01 21.3**	**+0.6**
	comp=Z,6.2nm,0.8s,baz=100,slow=2.9,SNR=6.7						
	comp=Z,4.9nm,0.8s						
KBZ	**Khabaz**	**57.31**	**318**	*ceP*	**P**	**04 00 26.1**	**-0.5**
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KMBO	**Kilima Mbogo**	**57.41**	**264**	P	**P**	**04 00 27.7**	**-0.5**
KMBO				IAmb	IAmb	04 00 41.0	
	comp=Z,35nm,1.6s						
KMBO	**Kilima Mbogo**	**57.41**	**264**	P	**P**	**04 00 31.2**	**+3.0**
	comp=Z,6.2nm,1.0s,baz=58,slow=10.0,SNR=11						
KMBO				LR	LR	04 22 02.7	
	comp=Z,298nm,19.8s,baz=81,slow=33						
	comp=Z,6.2nm,1.0s						
KMBO	**Kilima Mbogo**	**57.41**	**264**	P	**P**	**04 00 27.7**	**-0.5**
KMBO				pmax	pmax		
	comp=Z,35nm,1.7s						
SHA1	**Shidzhatmaz**	**57.47**	**318**	*d iP*	**P**	**04 00 27.8**	**-0.3**
KVAR	**Kislovodsk Arr**	**57.53**	**318**	P	**P**	**04 00 28.2**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=117,slow=7.6,SNR=2.3						
KVAR				LR	LR	04 29 52.0	
	comp=Z,84nm,18.1s,baz=174,slow=41						
	comp=Z,2.4nm,0.6s						
KIV	**Kislovodsk**	**57.54**	**318**		**P**	**04 00 27.6**	**-0.9**
KIV				IAmb	IAmb	04 00 28.9	
	comp=Z,20nm,0.9s						
KIV	**Kislovodsk**	**57.54**	**318**	⇓P	**P**	**04 00 27.8**	**-0.6**
KIV	**Kislovodsk**	**57.54**	**318**	*e*P	**P**	**04 00 27.2**	**-1.2**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
KIV				MLR	MLR		
	comp=Z,110nm,17.0s						
KOPT	**Kop Dagi**	**57.64**	**313**	P	**P**	**04 00 28.9**	**-0.6**
ASF	**Jabal al Asfar**	**58.38**	**303**	LR	LR	04 28 35.0	
	comp=Z,188nm,19.7s,baz=113,slow=39						
LODK	**Lodwar**	**58.64**	**269**	P	**P**	**04 00 36.9**	**+0.2**
QLP	**Quilpie**	**59.25**	**127**	P	**P**	**04 00 40.1**	**-0.4**
	comp=Z,27nm,1.4s						
SOC	**Sochi**	**59.40**	**317**	*e*P	**P**	**04 00 39.4**	**-1.8**
SOC				*e*		04 02 52.0	
SOC				*e*S	**S**	**04 08 47.8**	**-1.2**
SOC				*e*SS	**SS**	**04 12 40.5**	**-3.7**
SOC				*e*SSS	SSS	04 15 15.7	
SOC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SOC				MLR	MLR		
	comp=Z,137nm,19.0s						
EIL	**Elat**	**59.58**	**300**	LR	LR	04 28 13.9	
	comp=Z,201nm,19.5s,baz=72,slow=38						
MMAI	**Mount Meron Ar**	**59.79**	**304**	P	**P**	**04 00 44.3**	**0.0**
	comp=Z,1.7nm,0.6s,baz=108,slow=7.2,SNR=2.0						
MMAI				LR	LR	04 30 23.8	
	comp=Z,90nm,18.5s,baz=88,slow=40						
	comp=Z,1.7nm,0.6s						
STKA	**Stephens Creek**	**59.90**	**134**	P	**P**	**04 00 43.3**	**-1.5**
STKA	**Stephens Creek**	**59.90**	**134**	P	**P**	**04 00 43.4**	**-1.5**
	comp=Z,4.2nm,0.9s,baz=332,slow=6.5,SNR=5.2						
STKA				LR	LR	04 31 44.0	
	comp=Z,205nm,18.2s,baz=290,slow=41						
	comp=Z,4.2nm,0.9s						
YAK	**Yakutsk**	**60.25**	**18**	*e*P	**P**	**04 00 46.2**	**-0.6**

comp=Z,4.5nm,0.6s,baz=104,slow=7.0,SNR=45
BRTR LR LR 04 31 13.9
comp=Z,98nm,19.9s,baz=120,slow=39
comp=Z,4.5nm,0.6s
VSR Storozhevoye 62.63 325 *e*P **P 04 00 59.5 -3.6**
VSR pmax pmax
comp=Z,10.0nm,0.9s
CMSA Cobar Meteorol 62.73 131 P **P 04 01 03.6 -0.4**
comp=Z,12nm,1.6s
VORR Voronezh 62.79 325 P **P 04 01 03.4 -0.7**
VORR pmax pmax
comp=Z,18nm,0.8s
ILGA Ilgaz 62.89 312 **P 04 01 04.5 -0.8**
ILGA IAmb IAmb 04 01 49.8
comp=Z,17nm,1.1s
BZK Bozkurt 62.91 313 ⇓P **P 04 01 05.0 -0.1**
ANTO Ankara 63.29 311 P **P 04 01 06.7 -1.1**
LPSR Galich'ya Gora 63.33 326 *e*P **P 04 01 06.9 -0.8**
LPSR pmax pmax
comp=Z,34nm,1.0s
SIM Simferopol' 63.64 317 P **P 04 01 09.8 -0.1**
MBAR Mbarara 63.76 266 *ce*P P 04 01 16.3 +4.8
MBAR pmax pmax
comp=Z,10.0nm,1.3s
ELL Elmali 64.91 307 **P 04 01 18.1 -0.4**
ELL Elmali 64.91 307 P **P 04 01 18.1 -0.4**
ELL pmax pmax
comp=Z,57nm,0.8s
MOS Moscow 65.33 329 *e*P **P 04 01 18.1 -2.6**
MOS *e*S **S 04 09 58.3 -5.0**
MOS pmax pmax
comp=Z,75nm,0.7s
H04N2 CROZET ISLANDS 65.50 211 T T 05 12 40.3
baz=47,slow=75,SNR=50
H04N1 CROZET ISLANDS 65.51 211 T T 05 12 42.1
baz=47,slow=75,SNR=41
H04N3 CROZET ISLANDS 65.52 211 T T 05 12 14.0
baz=47,slow=75,SNR=48
OBN Obninsk 65.62 328 **P 04 01 21.7 -0.9**
OBN Obninsk 65.62 328 ⇑P **P 04 01 22.4 -0.2**
OBN Obninsk 65.62 328 *e*P **P 04 01 22.2 -0.4**
OBN pmax pmax
comp=Z,60nm,1.3s
TOO Toolangi 65.64 137 P **P 04 01 25.2 +2.1**
comp=Z,4.8nm,1.1s
H04S1 CROZET ISLANDS 65.90 210 T T 05 12 49.5
baz=48
H04S3 CROZET ISLANDS 65.91 210 T T 05 12 55.8
baz=48,slow=74
H04S2 CROZET ISLANDS 65.92 210 T T 05 12 31.6
baz=48,slow=74
SKR Severo-Kuril's 66.56 38 *e*P P 04 01 11.0 -18
SKR *e*S **S 04 10 16.4 -2.0**
SKR pmax pmax
comp=Z,200nm,5.5s
SKR MLR MLR
comp=Z,200nm,17.0s
KLMR Klimovskoe 66.71 334 *e*P **P 04 01 26.7 -2.8**
KLMR *e* 04 01 54.8
KLMR pmax pmax
comp=Z,44nm,1.1s
CAN Canberra 66.97 133 P **P 04 01 31.7 +0.1**
comp=Z,11nm,0.6s
MA2 Magadan 67.00 27 LR LR 04 33 44.5
comp=Z,197nm,19.1s,baz=275,slow=39
MA2 Magadan 67.00 27 *e*P **P 04 01 31.0 -0.4**
MA2 pmax pmax
comp=Z,20nm,1.1s
TIRR Tirgusor 67.47 315 P **P 04 01 33.0 -1.6**
TIXI Tiksi 67.50 11 *d i*P **P 04 01 33.3 -1.0**
TIXI pmax pmax
comp=Z,62nm,1.0s
TPGR Topolog 67.54 315 ⇑P **P 04 01 34.7 -0.5**
HNR Honiara 67.68 103 LR LR 04 33 52.4
comp=Z,33nm,19.8s,baz=240,slow=38
CFR Carcaliu 67.81 316 ⇑P **P 04 01 36.1 -0.6**
CFR Carcaliu 67.81 316 P **P 04 01 36.1 -0.6**
HARR Harsova 67.85 315 ⇑P **P 04 01 36.7 -0.4**
HARR Harsova 67.85 315 P **P 04 01 36.6 -0.4**
EZN Ezine 68.17 310 P **P 04 01 38.6 -0.6**
PETK Petropavlovsk- 68.22 36 LR LR 04 33 00.3
comp=Z,160nm,20.0s,baz=234,slow=37
SORM Soroca 68.31 319 ⇑P **P 04 01 38.8 -1.1**
SORM Soroca 68.31 319 P **P 04 01 38.8 -1.1**
AKASG Malin Array Be 68.38 322 P **P 04 01 38.8 -1.5**
comp=Z,2.1nm,0.6s,baz=90,slow=5.1,SNR=19
AKASG LR LR 04 36 22.0
comp=Z,94nm,18.6s,baz=106,slow=40
comp=Z,2.1nm,0.6s
AKBB Malin Array Si 68.38 322 **P 04 01 38.6 -1.7**
AKBB Malin Array Si 68.38 322 *ce*P **P 04 01 38.6 -1.7**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 68.39 322 P **P 04 01 38.8 -1.6**
KIEV Kiev 68.39 322 ⇑P **P 04 01 39.1 -1.2**
KIEV Kiev 68.39 322 P **P 04 01 39.1 -1.2**
ALN Alexandroupoli 68.55 311 P **P 04 01 40.5 -1.0**
ALN Alexandroupoli 68.55 311 P **P 04 01 40.5 -1.0**
ALN pmax pmax
comp=Z,5.0nm,0.8s
IDI Anoyia 68.74 305 P **P 04 01 42.9 -0.1**
comp=Z,16nm,0.6s,baz=79,slow=7.7,SNR=13
comp=Z,16nm,0.6s
VRI Vrincioaia 68.92 316 ⇓P **P 04 01 44.1 +0.3**
VRI Vrincioaia 68.92 316 P **P 04 01 44.0 +0.3**
RDO Rodhopi 68.96 311 **P 04 01 43.0 -1.1**
PLOR Plostina 68.97 316 ⇓P **P 04 01 44.4 +0.3**
PLOR Plostina 68.97 316 P **P 04 01 44.4 +0.3**
TESR Tescani 69.09 317 ⇑P **P 04 01 44.8 0.0**
SEY Seymchan 69.17 25 *e*P **P 04 01 43.0 -1.9**
SEY pmax pmax
comp=Z,7.0nm,0.9s
LSZ Lusaka 69.20 251 **P 04 01 46.5 +0.4**
LSZ Lusaka 69.20 251 P **P 04 01 47.4 +1.3**
comp=Z,2.0nm,0.5s,baz=82,slow=8.4,SNR=5.5
LSZ LR LR 04 29 20.2
comp=Z,233nm,18.1s,baz=86,slow=33
comp=Z,2.0nm,0.5s
LSZ Lusaka 69.20 251 P **P 04 01 46.5 +0.4**
LSZ pmax pmax
comp=Z,9.0nm,1.1s
MLR Muntele Rosu 69.38 316 **P 04 01 46.7 -0.1**
MLR IAmb IAmb 04 01 47.8
comp=Z,12nm,0.9s
MLR Muntele Rosu 69.38 316 LR LR 04 39 08.4
comp=Z,100nm,18.4s,baz=82,slow=42
MLR Muntele Rosu 69.38 316 ⇑P **P 04 01 47.4 +0.6**
MLR Muntele Rosu 69.38 316 P **P 04 01 46.7 -0.1**
MLR pmax pmax
comp=Z,13nm,0.9s
DOPR Dopca 69.85 316 ⇑P **P 04 01 48.8 -0.7**
VOIR 70.00 316 ⇓P **P 04 01 50.0 -0.6**
VOIR 70.00 316 P **P 04 01 49.9 -0.6**
MNK Minsk 70.17 325 *i*P **P 04 01 50.2 -1.1**
MNK *i* 04 02 12.7
MNK *i* 04 04 25.4
MNK *i* PPP PPP 04 06 05.8
MNK *i* S **S 04 11 00.5 -0.8**
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK pmax pmax
comp=Z,34nm,1.0s
MNK MLR MLR
comp=E,92nm,19.0s
MNK MLR MLR
comp=Z,169nm,17.0s
MNK MLR MLR
comp=N,203nm,21.0s
BURAR Bucovina Array 70.27 318 **P 04 01 51.8 -0.3**
BURAR Bucovina Array 70.27 318 ⇑P **P 04 01 52.3 +0.1**
BURAR Bucovina Array 70.27 318 P **P 04 01 52.2 +0.1**
ARR Arges 70.27 315 ⇓P **P 04 01 52.0 -0.2**
BUR08 Bucovina Ar. S 70.28 318 **P 04 01 52.1 -0.2**
PUL Pulkovo 70.46 331 *e*P **P 04 01 52.5 -0.4**
PUL pmax pmax
comp=Z,62nm,0.8s
KSV Kosov 70.50 319 P **P 04 01 52.4 -1.0**
JOF Joensuu 71.11 335 *e*P **P 04 01 57.1 +0.3**
LIT Litokhoron 71.13 310 **P 04 01 56.3 -1.2**
LIT IAmb IAmb 04 01 56.9
comp=Z,15nm,0.7s
LIT Litokhoron 71.13 310 P **P 04 01 56.3 -1.2**
LIT pmax pmax
comp=Z,15nm,0.7s
ISAL Salakas 71.42 326 *e*P **P 04 01 58.5 -0.3**
MARR Marisel-Cluj 71.52 317 ⇑P **P 04 01 59.3 -0.5**
HERR Herculane 71.75 315 ⇑P **P 04 02 00.4 -0.7**
LVZ Lovozero 71.83 340 P **P 04 02 00.0 -1.1**
VSU Vasula 71.84 329 *ce*P **P 04 01 59.8 -1.5**
VSU pmax pmax
comp=Z,52nm,0.7s
VSU Vasula 71.84 329 *e*P **P 04 02 00.6 -0.7**
SURR Surduc 72.07 316 ⇑P **P 04 02 03.1 +0.1**
BOVS Bovan 72.11 313 ⇑P **P 04 02 02.7 -0.6**
BZS Buzias 72.41 315 ⇑P **P 04 02 04.1 -1.0**
BZS Buzias 72.41 315 P **P 04 02 04.0 -1.0**
KOLS Kolonicke sedl 72.43 319 *e*P **P 04 02 06.1 +1.0**
KOLS pmax pmax
comp=Z,7.0nm,1.2s
KOLS Kolonicke sedl 72.43 319 *e*P **P 04 02 06.1 +1.0**
SIRR Siria 72.46 316 ⇑P **P 04 02 05.5 +0.1**
ARBE Arbavere 72.47 330 *e*P **P 04 02 05.3 +0.3**
PABE Paberze 72.60 326 **P 04 02 05.0 -0.9**
PABE Paberze 72.60 326 *e*P **P 04 02 05.5 -0.4**
VSVD Vaisvydziai 72.72 326 *e*P **P 04 02 06.7 0.0**
SUW Suwalki 72.74 324 *e*P **P 04 02 06.0 -0.8**
SUW Suwalki 72.74 324 **P 04 02 05.7 -1.1**
SUW Suwalki 72.74 324 P **P 04 02 05.7 -1.1**
SUW Suwalki 72.74 324 *e*P **P 04 02 07.0 +0.2**
FIA1 FINESS Array S 72.97 332 **P 04 02 07.2 -0.8**
FINES FINESS Array B 72.97 332 **P 04 02 07.2 -0.8**
FINES FINESS Array B 72.97 332 P **P 04 02 07.5 -0.5**
comp=Z,24nm,0.7s,baz=100,slow=7.9,SNR=70
FINES LR LR 04 38 23.7
comp=Z,122nm,18.3s,baz=118,slow=39
comp=Z,24nm,0.7s
FINES FINESS Array B 72.97 332 P **P 04 02 07.2 -0.8**
MTSE Matsula 73.38 329 *e*P **P 04 02 10.6 +0.1**
MEF Metsahovi 73.44 331 *e*P **P 04 02 10.8 0.0**
KEF Keuruu 73.71 333 *e*P **P 04 02 12.2 -0.1**
NIE Niedzica 73.78 319 *e*P **P 04 02 11.1 -2.0**
PBUR Paburge 73.83 326 *e*P **P 04 02 12.9 -0.3**
PSZ Piszkesteto 73.86 318 *e*P **P 04 02 13.9 +0.2**
LBTB Lobatse 74.13 241 **P 04 02 15.1 -0.6**
LBTB Lobatse 74.13 241 LR LR 04 30 39.8
comp=Z,189nm,20.5s,baz=76,slow=32
LBTB Lobatse 74.13 241 P **P 04 02 15.1 -0.6**
LBTB pmax pmax
comp=Z,9.0nm,1.0s
OJC Ojcow 74.20 320 *e*P **P 04 02 14.9 -0.6**
OJC Ojcow 74.20 320 **P 04 02 14.9 -0.6**
OJC Ojcow 74.20 320 P **P 04 02 14.9 -0.6**
VADS Vadso 74.47 341 *e*P **P 04 02 17.1 +0.4**
MORH Mrgy, Hungar 74.54 316 ⇓P **P 04 02 16.4 -1.1**
VYHS Vyhne 74.63 318 *e*P **P 04 02 18.2 +0.2**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 74.63 318 *e*P **P 04 02 18.2 +0.2**
RAF Rauma 74.89 331 *e*P **P 04 02 18.8 -0.4**
VAF Ylistaro 74.91 333 *e*P **P 04 02 19.7 +0.3**
JAVC Velka Javorina 75.43 318 *e*P **P 04 02 23.5 +0.8**
BOSA Boshof 75.45 238 P **P 04 02 22.6 -0.7**
BOSA Boshof 75.45 238 P **P 04 02 25.0 +1.7**
comp=Z,3.7nm,0.6s,baz=78,slow=4.6,SNR=19
BOSA LR LR 04 31 35.5
comp=Z,91nm,21.5s,baz=57,slow=32
comp=Z,3.7nm,0.6s
BOSA Boshof 75.45 238 P **P 04 02 22.6 -0.7**
BOSA pmax pmax
comp=Z,12nm,1.1s
STEB Steborice 75.47 320 *e*P **P 04 02 23.1 +0.3**
ARA0 ARCESS Array S 75.53 340 *e*P **P 04 02 22.8 0.0**
ARCES ARCESS Array B 75.53 340 P **P 04 02 23.0 +0.1**
comp=Z,9.4nm,0.7s,baz=95,slow=5.7,SNR=29
ARCES LR LR 04 38 28.5
comp=Z,440nm,20.0s,baz=110,slow=38
comp=Z,9.4nm,0.7s
ARCES ARCESS Array B 75.53 340 P **P 04 02 23.0 +0.1**
MORC Moravsky Berou 75.60 319 **P 04 02 22.5 -1.2**
MORC IAmb IAmb 04 02 26.6
comp=Z,16nm,1.2s
MORC Moravsky Berou 75.60 319 *e*P **P 04 02 23.6 -0.1**
MORC Moravsky Berou 75.60 319 ⇓P **P 04 02 23.9 +0.2**
MORC Moravsky Berou 75.60 319 P **P 04 02 22.5 -1.2**
MORC pmax pmax
comp=Z,16nm,1.2s
KRLC Kraliky 76.11 320 *e*P **P 04 02 27.3 +0.7**
KRLC Kraliky 76.11 320 *e*P **P 04 02 27.3 +0.7**
KTK1 Kautokeino 76.16 339 *e*P **P 04 02 26.4 0.0**
VRAC Vranov 76.17 319 LR LR 04 40 31.1
comp=Z,86nm,20.0s,baz=98,slow=39
VRAC Vranov 76.17 319 *e*P **P 04 02 26.9 0.0**
KOGS Kog 76.21 316 *i*P **P 04 02 26.9 -0.3**
KRUC Moravsky 76.29 319 *e*P **P 04 02 27.3 -0.2**
BILL Bilibino 76.34 22 **P 04 02 26.5 -0.9**
BILL Bilibino 76.34 22 *ce*P **P 04 02 26.9 -0.5**
BILL pmax pmax
comp=Z,16nm,1.8s
DPC Dobruska-Polom 76.43 320 *e*P **P 04 02 28.9 +0.5**
DPC Dobruska-Polom 76.43 320 *e*P **P 04 02 28.9 +0.5**
HAMF Hammerfest 76.45 341 *e*P **P 04 02 28.3 +0.3**
KSP Ksiaz 76.49 320 *e*P **P 04 02 28.9 +0.2**
CONA Conrad Observa 76.56 317 *e*P **P 04 02 29.2 0.0**
comp=Z,3.2nm,0.9s
CHVC Chvalec 76.62 320 *e*P **P 04 02 29.9 +0.5**
CHVC Chvalec 76.62 320 *e*P **P 04 02 29.9 +0.5**
DZM Mont Dzumac 76.66 115 *e*LR LR 04 26 06.2
comp=Z,265nm,25.8s
DZM Mont Dzumac 76.66 115 LR LR 04 39 18.3
comp=Z,134nm,19.3s,baz=302,slow=38
PERS Pernice 77.00 316 *i*P **P 04 02 31.6 -0.1**
SOKA Soboth 77.06 316 *i*P **P 04 02 32.1 0.0**
comp=Z,7.6nm,0.9s,SNR=6.4
BLEU Blekinge 77.25 326 *i*P **P 04 02 32.5 -0.3**
JETT Jettan, Norway 77.27 340 *e*P **P 04 02 32.9 +0.2**
VAE Valguarnera 77.30 307 LR LR 04 44 24.0
comp=Z,65nm,18.6s,baz=116,slow=42
OBKA Obir 77.38 316 *e*P **P 04 02 34.4 +0.4**
comp=Z,5.8nm,0.7s
MOA Molln 77.63 317 *e*P **P 04 02 35.2 0.0**
comp=Z,5.2nm,0.9s
ZVC Zvikov 77.75 319 *e*P **P 04 02 35.4 -0.4**
ZVC *ex* x 04 02 46.1
CADS Cadrg 77.94 316 *e*P **P 04 02 36.5 -0.5**
BRG Berggiesshubel 77.98 320 *e*P **P 04 02 37.1 +0.1**
BRG Amp 04 02 39.3
comp=Z,6.4nm,0.9s
SABO M.te Sabotino 78.03 315 IAmb IAmb 04 02 37.6
comp=Z,9.2nm,0.8s
GEC2 GERESS Array S 78.05 318 IAmb IAmb 04 02 54.7
comp=Z,11nm,1.0s
GERES GERESS Array B 78.05 318 **P 04 02 37.4 -0.2**
GERES GERESS Array B 78.05 318 P **P 04 02 37.6 +0.1**
comp=Z,6.2nm,0.8s,baz=94,slow=4.4,SNR=44
comp=Z,6.2nm,0.8s
GERES GERESS Array B 78.05 318 P **P 04 02 37.4 -0.2**
BIOA Bad Ischl, Aus 78.05 317 *e*P **P 04 02 37.5 0.0**
comp=Z,3.3nm,0.5s
PRED Cave del Predi 78.06 316 IAmb IAmb 04 02 39.6
comp=Z,13nm,0.9s
KHC Kasperske Hory 78.14 319 *e*P **P 04 02 37.6 -0.4**
KHC *ex* x 04 02 46.2
KHC AMS AMS 04 41 40.0
comp=Z,100nm,16.9s
KHC Kasperske Hory 78.14 319 *ce*P **P 04 02 37.4 -0.6**
KHC pmax pmax
comp=Z,9.0nm,0.7s
KBA Koelnbreinsper 78.23 316 *e*P **P 04 02 38.1 -0.6**
comp=Z,4.4nm,1.0s
MAW Mawson 78.27 192 LR LR 04 31 51.4
comp=Z,144nm,18.4s,baz=352,slow=32
DEL Delary 78.34 326 *i*P **P 04 02 38.8 -0.1**
CLL Collm 78.59 321 ⇑ *i*P **P 04 02 40.2 -0.2**
CLL pmax pmax
comp=Z,26nm,1.9s
CLL Collm 78.59 321 ⇑ *i*P **P 04 02 40.2 -0.2**
comp=Z,26nm,1.9s
CLL *i* PcP **sP 04 02 50.0 +0.3**
CLL *e*SSS SSS 04 21 06.0
CLL *e*SSSS 04 23 30.0
LESA Schwarzleotal 78.69 317 *i*P **P 04 02 40.4 -0.7**
comp=Z,6.1nm,0.5s,SNR=7.9
HFS Hagfors 78.71 330 P **P 04 02 40.5 -0.3**
comp=Z,20nm,0.6s,baz=110,slow=6.5,SNR=83
HFS LR LR 04 41 37.9
comp=Z,271nm,19.2s,baz=90,slow=39
comp=Z,20nm,0.6s
FAUS Fauske 78.75 337 *e*P **P 04 02 40.8 -0.1**
BJUU Bjuv 78.79 326 *i*P **P 04 02 41.2 -0.1**
ABTA Abfaltersbach 78.79 316 *e*P **P 04 02 41.0 -0.8**
comp=Z,5.8nm,1.3s
CIMO Cimolais 78.84 316 IAmb IAmb 04 02 42.6
comp=Z,16nm,0.8s
STEI Steigen 78.84 338 *e*P **P 04 02 41.3 -0.1**
MOR8 Moi Rana 78.94 336 *e*P **P 04 02 41.4 -0.7**
FABU Falkenberg 79.01 327 *i*P **P 04 02 42.3 -0.3**
BORU Boraas 79.02 327 *i*P **P 04 02 42.2 -0.4**
WTTA Wattenberg 79.40 317 *i*P **P 04 02 44.4 -0.8**
comp=Z,6.0nm,0.6s
WATA Walderalm 79.44 317 *e*P **P 04 02 44.5 -0.8**
comp=Z,3.8nm,0.5s
VAGH Vaagaholmen 79.46 336 *e*P **P 04 02 44.5 -0.3**
ONAU Onsala 79.47 327 *i*P **P 04 02 44.7 -0.3**
LEIR Leirfjorden 79.47 336 *e*P **P 04 02 44.9 0.0**
TJOU Tjoern 79.65 328 *i*P **P 04 02 45.3 -0.7**
GRF Grafenberg Arr 79.69 319 *e*P 04 02 45.8
comp=Z,4.9nm,0.7s,baz=101,slow=4.5
SQTA Sankt Quirin 79.69 317 *i*P **P 04 02 46.0 -0.7**
comp=Z,5.6nm,0.5s,SNR=6.2
NC405 NORSAR Array S 79.74 331 IAmb IAmb 04 02 47.0
comp=Z,23nm,0.7s
MOTA Moosalm 79.76 317 *e*P **P 04 02 46.4 -0.7**
comp=Z,13nm,1.0s
NC602 NORSAR Array S 79.81 330 IAmb IAmb 04 02 47.1
comp=Z,23nm,0.8s
NC602 NORSAR Array S 79.81 330 *e*P **P 04 02 46.2 -0.6**
NORES NORESS Array B 79.81 330 P **P 04 02 46.2 -0.6**
NSS Namsos 79.83 334 *e*P **P 04 02 46.4 -0.4**
ZCCA Zocca 79.87 314 IAmb IAmb 04 03 07.8
comp=Z,18nm,0.9s
NC303 NORSAR Array S 79.92 331 IAmb IAmb 04 02 47.8
comp=Z,12nm,0.6s
STRU Stroemstad 79.92 329 *i*P **P 04 02 47.1 -0.3**
NB201 NORSAR Array S 79.94 331 IAmb IAmb 04 02 47.9
comp=Z,13nm,0.7s
TSUM Tsumeb 79.95 249 LR LR 04 35 07.5
comp=Z,292nm,19.5s,baz=105,slow=33
NB2 NORSAR Subarra 79.98 331 P **P 04 02 46.9 -0.9**
comp=Z,10.0nm,0.6s,baz=97,slow=5.1
NB2 NORSAR Subarra 79.98 331 P **P 04 02 43.5 -4.3**
NB2 NORSAR Subarra 79.98 331 P **P 04 02 46.9 -0.9**
baz=97,slow=5.1
NOA NORSAR Array B 79.98 331 P **P 04 02 47.1 -0.7**
comp=Z,8.5nm,0.7s,baz=93,slow=5.6,SNR=70
comp=Z,8.5nm,0.7s
RETA Reutte 79.99 317 *i*P **P 04 02 47.8 -0.4**
comp=Z,11nm,0.8s,SNR=5.6
FETA Feichten 80.02 316 *i*P **P 04 02 48.1 -0.4**
comp=Z,8.9nm,1.1s,SNR=8.2
SPA0 Spitsbergen Ar 80.11 348 *e*P **P 04 02 48.1 -0.1**
SPITS Spitsbergen Ar 80.11 348 P **P 04 02 48.2 -0.1**
comp=Z,27nm,0.7s,baz=99,slow=10,SNR=52
SPITS LR LR 04 44 37.7
comp=Z,217nm,19.5s,baz=84,slow=40
comp=Z,27nm,0.7s
SPITS Spitsbergen Ar 80.11 348 P **P 04 02 47.4 -0.8**
SPITS pmax pmax
comp=Z,31nm,0.8s
NAO01 NORSAR Array S 80.14 330 IAmb IAmb 04 02 49.0
comp=Z,13nm,0.7s
OSL Oslo 80.18 329 *e*P **P 04 02 49.2 +0.3**
NBO00 NORSAR Array S 80.19 331 IAmb IAmb 04 02 49.9
comp=Z,11nm,0.8s
NC204 NORSAR Array S 80.21 331 IAmb IAmb 04 02 49.6
comp=Z,15nm,1.0s
DAVA Damuels 80.59 317 *e*P **P 04 02 51.4 -0.2**
comp=Z,14nm,1.0s
KONO Kongsberg 80.75 329 *e*P **P 04 02 51.5 -0.4**
MUD Monsted U'grnd 80.95 326 *i*P **P 04 02 54.0 +1.0**
MUD IAmb IAmb 04 02 54.6
comp=Z,7.9nm,0.7s
DOMB Dombas 81.04 332 *e*P **P 04 02 53.3 -0.2**
SKAR Skarslia 81.40 330 *e*P **P 04 02 55.9 +0.5**
KEST Kesra 81.42 305 P **P 04 02 56.7 +0.6**
comp=Z,4.5nm,0.6s,baz=359,slow=4.2,SNR=5.5
KEST LR LR 04 46 57.5
comp=Z,118nm,18.0s,baz=28,slow=41
comp=Z,4.5nm,0.6s
MOL Molde 81.75 332 *e*P **P 04 02 57.7 +0.6**
SNART Snartemo 81.99 328 *e*P **P 04 02 58.8 +0.3**
SNART Snartemo 81.99 328 *i*P **P 04 02 58.6 +0.1**
AKN Aaknes 82.01 332 *e*P **P 04 02 59.0 +0.4**
ODD1 Odda 82.25 329 *e*P **P 04 03 00.2 +0.3**
BLS5 Blasjo 82.35 329 *e*P **P 04 03 01.0 +0.6**
BER Bergen 82.88 330 *e*P **P 04 03 03.7 +0.7**
BNI Bardonecchia 82.91 314 IAmb IAmb 04 03 08.9
comp=Z,8.8nm,0.8s
BNI Bardonecchia 82.91 314 P **P 04 03 08.2 +4.4**
BNI pmax pmax
comp=Z,50nm,0.9s
KMY Karmoy 82.98 329 *e*P **P 04 03 03.9 +0.3**
SUE Sulen 83.12 331 *e*P **P 04 03 04.9 +0.6**
BCLA Clavier 83.48 320 *d*P **P 04 03 05.1 -1.3**
comp=Z,4.1nm,1.3s
SSB Saint Sauveur 84.40 315 IAmb IAmb 04 03 12.2
comp=Z,7.8nm,0.9s
GAMB Gambell 85.07 26 P **P 04 03 14.1 -0.1**
baz=277
RPZ Rata Peaks 85.84 135 LR LR 04 45 52.0
comp=Z,148nm,18.0s,baz=318,slow=39
TAM Tamanrasset 85.85 292 IAmb IAmb 04 03 35.0
comp=Z,9.2nm,1.0s
TAM Tamanrasset 85.85 292 P **P 04 03 21.3 +2.1**
TAM pmax pmax
comp=Z,4.0nm,0.9s
LRW Lerwick 86.13 330 *e*P **P 04 03 19.1 -0.5**
TNA Tin City 86.41 24 P **P 04 03 21.3 +0.5**
baz=280
MSVF Nonsavu 86.51 108 LR LR 04 43 10.2
comp=Z,64nm,20.4s,baz=177,slow=36
C16K Lisburne Hills 86.87 22 P **P 04 03 23.0 0.0**
baz=282
JMIC Jan Mayen 86.97 341 LR LR 04 44 11.3
comp=Z,104nm,21.0s,baz=80,slow=37
F14K Arctic Creek 87.08 24 P **P 04 03 24.3 +0.2**
baz=282
P08K Saint George I 87.17 33 P **P 04 03 24.8 0.0**
baz=279
HPK Haverah Park 87.31 324 *e*P **P 04 03 25.1 -0.4**
HPK IAmb IAmb 04 03 27.5
comp=Z,19nm,0.9s
EDMD Edmundbyers 87.37 325 *e*P **P 04 03 25.8 0.0**
EDMD IAmb IAmb 04 03 27.2
comp=Z,20nm,0.7s
LBWR Ladybower, Pea 87.46 323 *e*P **P 04 03 26.3 0.0**
LBWR IAmb IAmb 04 03 28.0
comp=Z,36nm,0.9s
MCD Coleburn Disti 87.61 328 *e*P **P 04 03 27.2 +0.3**
ANM Nome 87.67 25 P **P 04 03 27.3 +0.3**
baz=283
F15K North Star Dit 87.71 24 P **P 04 03 27.4 +0.2**
baz=283
BIGH Upper Bighouse 87.78 329 *e*P **P 04 03 28.5 +0.9**
BIGH IAmb IAmb 04 03 29.8
comp=Z,17nm,0.7s
RDOG Red Dog Mine 87.81 22 P **P 04 03 27.9 +0.3**
baz=285
D17K Noatak River 87.83 22 P **P 04 03 28.3 +0.5**
baz=285
B18K Kokolik River 87.85 20 P **P 04 03 28.9 +1.1**
baz=286,SNR=17
A19K Wainwright 87.86 19 P **P 04 03 28.7 +0.9**
baz=286,SNR=6.0
EKA Eskdalemuir Ar 87.96 325 P **P 04 03 29.0 +0.4**
comp=Z,9.1nm,0.6s,baz=97,slow=5.3,SNR=35
comp=Z,9.1nm,0.6s
ESK Eskdalemuir 87.99 325 *e*P **P 04 03 28.8 +0.1**
ESK IAmb IAmb 04 03 30.2
comp=Z,10nm,0.7s
G15K Niukluk 88.13 25 P **P 04 03 29.1 -0.1**
baz=284
NIKH Nikolski High 88.19 37 P **P 04 03 29.5 -0.2**
baz=280
C18K Utukok River 88.26 21 IAmb IAmb 04 03 31.2
comp=Z,22nm,1.1s
C18K Utukok River 88.26 21 P **P 04 03 30.0 +0.1**
baz=286,SNR=18
HLM1 Long Mynd 88.30 323 *e*P **P 04 03 30.3 0.0**
HLM1 IAmb IAmb 04 03 31.9
comp=Z,4.9nm,0.7s
E17K Hotham Inlet 88.46 22 P **P 04 03 31.2 +0.5**
baz=286
K13K Kusilvak Mount 88.58 28 P **P 04 03 31.4 +0.1**

baz=283
G16K Koyuk River 88.71 24 P **P 04 03 32.4 +0.4**
baz=285
E18K Tukpahlearik C 88.82 22 P **P 04 03 33.0 +0.6**
baz=287
F17K Baldwin Pennin 88.86 23 P **P 04 03 33.1 +0.6**
baz=286
J14K Nanvaranak Lak 88.88 27 P **P 04 03 33.0 +0.3**
baz=284
A21K Barrow 88.90 18 P **P 04 03 33.1 +0.5**
baz=290
KPL Plockton 88.93 328 *e*P **P 04 03 33.4 +0.3**
H16K Elim 88.96 25 P **P 04 03 33.4 +0.3**
baz=285
URZ Urewera 89.15 129 LR LR 04 45 25.0
comp=Z,146nm,19.4s,baz=17,slow=37
B20K Meade River 89.19 19 P **P 04 03 34.8 +0.7**
baz=290
G17K Kiwalik Mounta 89.37 24 P **P 04 03 35.4 +0.3**
baz=287
D19K Kuna River 89.38 21 P **P 04 03 35.3 +0.2**
baz=289,SNR=12
F18K Selawik 89.43 23 P **P 04 03 35.8 +0.6**
baz=288
A22K Sinclair Lake 89.52 18 P **P 04 03 36.0 +0.4**
baz=292
RSBS Rosebush, Pemb 89.53 322 *e*P **P 04 03 36.5 +0.4**
M13K Dall Lake 89.56 29 P **P 04 03 36.3 +0.3**
baz=284
L14K Kuka Creek 89.64 28 P **P 04 03 36.5 +0.2**
baz=285
I17K Unalakleet 89.82 25 P **P 04 03 37.5 +0.4**
baz=287
D20K Etivluk River 89.83 20 P **P 04 03 37.6 +0.4**
baz=290,SNR=17
H17K Granite Mounta 89.83 24 IAmb IAmb 04 03 38.8
comp=Z,25nm,1.4s
H17K Granite Mounta 89.83 24 P **P 04 03 37.7 +0.5**
baz=288
K15K Wolf Creek Mou 89.91 27 P **P 04 03 37.8 +0.2**
baz=286
G18K Tagagawik 90.03 23 P **P 04 03 38.5 +0.3**
baz=289
J16K Anvik River 90.04 26 **P 04 03 37.2 -1.0**
J16K IAmb IAmb 04 03 39.9
comp=Z,16nm,0.9s
J16K Anvik River 90.04 26 P **P 04 03 38.9 +0.7**
baz=287
E19K Redstone River 90.05 21 P **P 04 03 38.7 +0.5**
baz=290
F19K Shaleruckik Mo 90.06 22 P **P 04 03 37.7 -0.5**
baz=290
L15K Ungalak Mounta 90.10 28 P **P 04 03 38.6 +0.1**
baz=286
E20K Nigu River 90.14 21 P **P 04 03 39.2 +0.6**
baz=291,SNR=16
M14K Bethel 90.14 28 P **P 04 03 38.8 +0.1**
baz=286
B21K Ikpikpuk River 90.16 19 P **P 04 03 39.2 +0.6**
baz=292
B22K Teshekpuk Lake 90.25 18 P **P 04 03 39.2 +0.2**
baz=294
C21K Knifeblade Rid 90.28 20 P **P 04 03 39.4 +0.2**
baz=292,SNR=8.9
H18K Honhosa River 90.39 24 IAmb IAmb 04 03 41.3
comp=Z,18nm,1.4s
H18K Honhosa River 90.39 24 P **P 04 03 40.2 +0.3**
baz=289,SNR=5.6
G19K Purcell Mounta 90.55 23 P **P 04 03 41.2 +0.7**
baz=290
J17K VABM Dome 90.66 26 P **P 04 03 41.6 +0.5**
baz=288
TORD Torodi Ar. Bea 90.68 283 **P 04 03 40.5 -1.7**
F20K Avaraart Lake 90.74 22 P **P 04 03 41.7 +0.4**
baz=291
M15K Kasigluk River 90.75 28 P **P 04 03 41.9 +0.4**
baz=287
E21K Killik River 90.83 20 P **P 04 03 42.1 +0.2**
baz=293
L16K Owhat River 91.01 27 P **P 04 03 43.2 +0.5**
baz=288
H19K Roundabout Mou 91.02 23 P **P 04 03 43.6 +0.9**
baz=291,SNR=18
D22K Ayikyak River 91.08 19 P **P 04 03 43.4 +0.4**
baz=294
GCSA Galena City Sc 91.12 24 P **P 04 03 43.7 +0.5**
baz=290,SNR=6.4
N15K Kwethluk River 91.19 29 P **P 04 03 44.1 +0.5**
baz=287
K17K Iditarod 91.21 26 **P 04 03 43.5 -0.1**
K17K Iditarod 91.21 26 P **P 04 03 44.4 +0.7**
baz=289
ELIB Princess Elisa 91.33 197 *d*P **P 04 03 48.8 +4.7**
C23K Itkillik River 91.34 18 IAmb IAmb 04 03 46.3
comp=Z,8.5nm,0.9s
C23K Itkillik River 91.34 18 P **P 04 03 44.4 +0.3**
baz=296
L17K Donlin 91.40 27 P **P 04 03 44.9 +0.4**
baz=289
ESDC Sonseca Array 91.41 310 **P 04 03 45.5 +0.3**
ESDC IAmb IAmb 04 04 13.4
comp=Z,18nm,1.4s
ESDC Sonseca Array 91.41 310 P **P 04 03 45.6 +0.4**
comp=Z,3.0nm,0.8s,baz=59,slow=4.3,SNR=19
ESDC LR LR 04 48 56.5
comp=Z,66nm,19.2s,baz=76,slow=38
comp=Z,3.0nm,0.8s
M16K Timber Creek 91.46 28 P **P 04 03 45.0 +0.1**
baz=288
F21K Alatna River 91.48 21 P **P 04 03 45.4 +0.5**
baz=293
J18K Innoko River 91.64 25 IAmb IAmb 04 03 47.2
comp=Z,14nm,1.1s
J18K Innoko River 91.64 25 P **P 04 03 46.2 +0.5**
baz=290
H20K Anotleneega Mo 91.64 23 P **P 04 03 46.3 +0.7**
baz=292,SNR=18
E22K Anaktuvuk Pass 91.69 20 P **P 04 03 46.0 +0.1**
baz=295
D23K Nanushuk River 91.70 19 P **P 04 03 46.5 +0.6**
baz=296
N16K Nishlik Lake 91.72 28 P **P 04 03 46.3 +0.2**
baz=288
G21K Allakaket 91.76 22 P **P 04 03 46.3 +0.2**
baz=293
F22K John River 91.83 21 P **P 04 03 46.9 +0.5**
baz=295,SNR=11
J19K Poorman 91.90 24 P **P 04 03 47.6 +0.8**
baz=291,SNR=12
M17K Holitna River 92.03 27 P **P 04 03 48.1 +0.6**
baz=290
I20K Naaghedeneel 92.06 24 P **P 04 03 48.6 +1.1**
baz=292,SNR=11
L18K Granite Mounta 92.08 26 P **P 04 03 48.2 +0.5**
baz=290
TTA Tatalina 92.12 26 P **P 04 03 48.7 +0.7**
baz=291
TOLK Toolik Lake Re 92.21 19 IAmb IAmb 04 03 49.7
comp=Z,11nm,0.8s
TOLK Toolik Lake Re 92.21 19 P **P 04 03 48.7 +0.4**
baz=297
D24K Happy Valley 92.21 19 P **P 04 03 48.7 +0.5**
baz=298
O16K Kokwok River B 92.33 29 P **P 04 03 49.3 +0.4**
baz=289
H21K Melozitna Rive 92.37 22 P **P 04 03 49.7 +0.7**
baz=294,SNR=13
J20K Nowinta River 92.43 24 P **P 04 03 50.3 +1.0**
baz=293,SNR=9.9
N17K Nushagak Hills 92.44 28 P **P 04 03 49.9 +0.5**
baz=290
E23K Chandalar 92.46 20 IAmb IAmb 04 03 50.9
comp=Z,8.0nm,0.7s
E23K Chandalar 92.46 20 P **P 04 03 50.2 +0.7**
baz=297,SNR=10.0
COLD Coldfoot 92.64 21 P **P 04 03 50.7 +0.5**
baz=296,SNR=6.8
M18K Stony River 92.73 27 P **P 04 03 51.4 +0.7**
baz=291
K20K Telida 92.78 25 P **P 04 03 52.1 +1.1**
baz=293,SNR=15
H22K Ishtalitna Cre 92.80 22 P **P 04 03 52.1 +1.1**
baz=295,SNR=10
E24K Your Creek 92.83 20 P **P 04 03 51.5 +0.3**
baz=298,SNR=9.4
I21K Tanana 92.88 23 P **P 04 03 52.0 +0.7**
baz=295
D25K Kavik River 92.89 18 P **P 04 03 51.9 +0.5**
baz=300
L19K White Mountain 92.90 26 P **P 04 03 52.3 +0.8**
baz=292,SNR=6.5
G23K Bananza Creek 92.93 21 IAmb IAmb 04 03 53.2
comp=Z,11nm,1.2s
G23K Bananza Creek 92.93 21 P **P 04 03 52.3 +0.7**
baz=297
N18K Kilae Creek 92.99 28 P **P 04 03 52.0 +0.1**
baz=291
C26K Camden Bay 93.02 17 P **P 04 03 52.7 +0.9**
baz=302
CHNA Chernabura Isl 93.06 34 P **P 04 03 52.9 +0.5**
baz=288
L20K Farewell, AK 93.21 26 P **P 04 03 53.8 +0.8**
baz=293,SNR=6.5
M19K Big River Lodg 93.21 26 P **P 04 03 53.7 +0.8**
baz=292
MDT Midelt 93.23 304 LR LR 04 53 43.8
comp=Z,59nm,18.9s,baz=130,slow=40
P17K Kvichak River 93.26 29 P **P 04 03 53.8 +0.6**
baz=290
CHUM Lake Minchumin 93.29 24 P **P 04 03 54.2 +0.9**
baz=294,SNR=12
F24K Squaw Lake 93.30 20 P **P 04 03 53.9 +0.6**
baz=299
H23K Yukon River 93.51 22 P **P 04 03 55.0 +0.8**
baz=297
C27K Jago River 93.53 17 P **P 04 03 55.0 +0.7**
baz=303
CAST Castle Rocks 93.58 24 P **P 04 03 55.3 +0.7**
baz=295,SNR=17
N19K Bonanza Creek 93.58 27 P **P 04 03 55.5 +0.8**
baz=292,SNR=9.3
O18K Koktuh Hills 93.61 28 P **P 04 03 55.5 +0.7**
baz=292
BPAW Bear Paw Mtn. 93.73 24 IAmb IAmb 04 03 56.7
comp=Z,16nm,1.0s
BPAW Bear Paw Mtn. 93.73 24 P **P 04 03 55.5 +0.2**
baz=296,SNR=8.9
PPLA Purkeypile 93.75 25 P **P 04 03 55.5 -0.1**
baz=294
E25K Arctic Village 93.76 19 P **P 04 03 55.8 +0.4**
baz=301
M20K Styx River 93.77 26 P **P 04 03 56.0 +0.4**
baz=294
G24K Hadweenzic Riv 93.83 21 IAmb IAmb 04 03 57.3
comp=Z,8.6nm,0.9s
G24K Hadweenzic Riv 93.83 21 P **P 04 03 56.4 +0.6**
baz=299
Q17K Contact Creek 93.86 30 P **P 04 03 55.7 -0.4**
baz=291
I23K Minto, Yukon-K 93.89 22 P **P 04 03 56.4 +0.4**
baz=297
O19K Port Alsworth 93.89 28 P **P 04 03 56.2 +0.2**
baz=292
F25K Christian Rive 94.01 19 P **P 04 03 57.5 +0.9**
baz=301,SNR=9.2
H24K Noodor Dome 94.11 21 P **P 04 03 57.2 +0.1**
baz=299
Q18K Katmai Hardscr 94.15 29 P **P 04 03 57.1 -0.4**
baz=292
NEA2 Nenana 94.25 23 P **P 04 03 57.4 -0.3**
baz=297
G25K Bearman Lake 94.28 20 P **P 04 03 58.2 +0.5**
baz=300
TRF Thorofare Moun 94.29 24 P **P 04 03 58.3 +0.2**
baz=296
SKT Skwentna 94.41 26 P **P 04 03 58.2 -0.3**
baz=295,SNR=16
SUMG Summit 94.42 347 IAmb IAmb 04 03 60.0
comp=Z,14nm,1.2s
SUMG Summit 94.42 347 P **P 04 04 00.2 +1.4**
SUMG pmax pmax
comp=Z,15nm,1.7s
BMAR Burnt Mountain 94.44 19 **P 04 03 59.2 +0.7**
F26K Sheenjek River 94.44 19 IAmb IAmb 04 04 00.1
comp=Z,7.8nm,0.8s
F26K Sheenjek River 94.44 19 P **P 04 03 59.3 +0.7**
baz=302,SNR=12
SPCR Spurr Chakacha 94.45 26 P **P 04 03 58.5 -0.2**
baz=294
STLK Strandline Lak 94.49 26 IAmb IAmb 04 03 59.2
comp=Z,8.3nm,0.9s
D27M Malcolm River 94.55 17 IAmb IAmb 04 04 00.5
comp=Z,6.0nm,0.8s
D27M Malcolm River 94.55 17 P **P 04 03 59.4 +0.3**
baz=305,SNR=9.5
H25L Birch Creek 94.63 21 P **P 04 04 00.0 +0.7**
baz=300
MCK McKinley 94.70 23 P **P 04 03 59.5 -0.3**
baz=297
CUT Chulitna 94.76 25 P **P 04 04 00.1 +0.1**
baz=296
G26K Porcupine Rive 94.96 20 IAmb IAmb 04 04 02.6
comp=Z,11nm,0.8s
G26K Porcupine Rive 94.96 20 P **P 04 04 01.6 +0.8**
baz=302
E27K Coleen River 94.97 18 P **P 04 04 00.9 0.0**
baz=305
SUA Susitna One 94.97 26 P **P 04 04 01.4 +0.2**
baz=296
ILAR Eielson Array 94.99 22 P **P 04 04 00.1 -1.0**
comp=Z,1.1nm,0.8s,baz=290,slow=3.9,SNR=12
ILAR LR LR 04 49 14.3
comp=Z,104nm,18.1s,baz=350,slow=37
comp=Z,1.1nm,0.8s
M22K Willow 95.12 25 P **P 04 04 01.5 -0.1**
baz=296,SNR=7.2
D28M Stokes Point 95.14 17 P **P 04 04 02.3 +0.7**
baz=307
E28M Babbage River 95.35 17 IAmb IAmb 04 04 03.9
comp=Z,7.2nm,0.8s
E28M Babbage River 95.35 17 P **P 04 04 03.0 +0.4**
baz=307
RC01 Rabbit Creek A 95.58 26 P **P 04 04 03.5 -0.3**
baz=296
PMR Palmer 95.61 25 IAmb IAmb 04 04 04.6
comp=Z,8.7nm,0.8s
PMR Palmer 95.61 25 P **P 04 04 03.9 0.0**
baz=297
J25K Salcha River, 95.64 22 P **P 04 04 03.8 -0.3**
baz=301
G27K Doyon Strip 95.74 19 P **P 04 04 04.4 -0.1**
baz=304
SML Sawmill 95.85 25 P **P 04 04 05.1 0.0**
baz=298
E29M Blow River 95.96 17 IAmb IAmb 04 04 06.6
comp=Z,5.1nm,0.8s
E29M Blow River 95.96 17 P **P 04 04 05.4 0.0**
baz=308
KNK Knik Glacier 95.98 25 P **P 04 04 05.8 +0.1**
baz=298
I26K Coal Creek Min 96.07 21 P **P 04 04 06.3 +0.3**
baz=303
M23K Glacier View 96.11 25 P **P 04 04 06.1 -0.1**
baz=298
H27K Steamboat Moun 96.11 20 P **P 04 04 06.4 +0.2**
baz=304
SEW Seward 96.15 27 P **P 04 04 06.1 -0.3**
baz=297
RIDG Independent Ri 96.28 23 P **P 04 04 06.7 -0.3**
baz=301
PWL Port Wells 96.29 26 P **P 04 04 07.1 0.0**
baz=298
J26L Joseph Creek 96.36 22 P **P 04 04 07.5 0.0**
baz=302
I27K Kandik River 96.44 20 P **P 04 04 07.9 +0.2**
baz=304
SCRK Sand Creek 96.48 22 P **P 04 04 07.9 -0.1**
baz=302
A36M Sachs Harbour 96.52 11 P **P 04 04 07.7 -0.1**
baz=321
GLI Glacier Island 96.81 26 P **P 04 04 08.8 -0.6**
baz=299
G29M Pine Creek 96.84 18 P **P 04 04 09.2 -0.2**
baz=308
HARP HAARP 96.86 24 P **P 04 04 09.7 0.0**
baz=301
KLU Klutina 97.01 25 P **P 04 04 10.2 -0.2**
baz=300
F30M Barrier River 97.07 17 P **P 04 04 10.5 0.0**
baz=310
I28M Miner Creek 97.10 20 IAmb IAmb 04 05 24.3
comp=Z,19nm,1.9s
I28M Miner Creek 97.10 20 P **P 04 04 10.6 -0.1**
baz=306
H29M Whitestone 97.15 19 P Pdif 04 04 11.0 0.0
baz=308
L26K Log Cabin Wild 97.24 23 P Pdif 04 04 11.9 +0.4
baz=302
G30M tAoh Zraii Nji 97.35 18 P **P 04 04 11.2 -0.5**
baz=310
N25K Chitina, Valde 97.50 24 P **P 04 04 12.3 -0.3**
baz=301
QSPA South Pole Qui 97.50 180 LR LR 04 44 03.2
comp=Z,272nm,19.9s,baz=356,slow=33
EPYK Eagle Plains 97.58 18 P **P 04 04 12.1 -0.8**
baz=309
I29M Ogilvie Camp, 97.70 20 P **P 04 04 13.0 -0.4**
baz=307
M26K Nabesna, AK 97.71 23 P Pdif 04 04 14.2 +0.6
baz=303
F31M Tsiigehtchic 97.78 17 IAmb IAmb 04 04 24.6
comp=Z,12nm,1.4s
F31M Tsiigehtchic 97.78 17 P **P 04 04 13.4 -0.2**
baz=312
L27K Beaver Creek, 97.80 22 P Pdif 04 04 14.1 +0.1
baz=304
BMRM Bremner River 97.82 25 P Pdif 04 04 14.4 +0.3
baz=301
DAWY Dawson 98.11 21 P Pdif 04 04 15.3 0.0
baz=306
I30M Mount Dempster 98.42 19 IAmb IAmb 04 04 17.4
comp=Z,3.7nm,0.8s
I30M Mount Dempster 98.42 19 P **P 04 04 16.4 -0.4**
baz=309
KAIM Kayak Island 98.44 26 P **P 04 04 16.6 -0.2**
baz=301
BVCY Beaver Creek 98.53 23 P Pdif 04 04 17.2 0.0
baz=305
H31M Peel River 98.69 18 IAmb IAmb 04 04 23.5
comp=Z,9.9nm,1.2s
H31M Peel River 98.69 18 P Pdif 04 04 17.8 0.0
baz=311
C36M Paulatuk 98.83 13 IAmb IAmb 04 04 18.4
comp=Z,8.2nm,1.0s
C36M Paulatuk 98.83 13 P Pdif 04 04 18.5 +0.2
baz=322
J30M Hart River 98.85 20 P **P 04 04 18.4 -0.3**
baz=309
K29M Barlow Dome 98.90 21 P Pdif 04 04 19.1 +0.1
baz=308
L29M L29M 99.14 21 P **Pdif 04 04 20.3 +0.4**
baz=307
M29M Somme Creek 99.42 22 P **Pdif 04 04 21.3 0.0**
baz=307
YUK4 Talbot Arm 100.01 23 P **Pdif 04 04 23.7 -0.3**
baz=307
YKA Yellowknife Ar 106.69 13 Pdiff **Pdif 04 04 52.9 -0.5**
comp=Z,0.3nm,0.9s,baz=294,slow=9.5,SNR=3.7
YKA PP **PP 04 09 15.4 -2.7**
comp=Z,1.3nm,0.9s,baz=334,slow=7.2,SNR=10
YKA PKKP **PKKPdf 04 20 37.2 +0.7**
comp=Z,0.5nm,0.9s,baz=144,slow=4.1,SNR=6.0
TBI Tubuai 117.16 112 *e*LR LR 04 45 00.1
comp=Z,701nm,31.0s
PPT2 Papeete2 117.25 106 *e*LR LR 04 44 58.9
comp=Z,164nm,28.2s
PLID Pearl Lake 120.97 25 **PKPdf 04 09 31.4 -0.3**
NVAR Mina Array Bea 125.14 31 PKP **PKPdf 04 09 39.9 -0.1**
comp=Z,1.6nm,0.8s,baz=297,slow=2.0,SNR=6.9
PDAR Pinedale Array 125.42 21 PKP **PKPdf 04 09 39.4 -1.0**
comp=Z,1.7nm,0.8s,baz=124,slow=2.3,SNR=14
TAOE Nuku Hiva Isla 126.27 95 *e*LR LR 04 49 03.4
comp=Z,87nm,24.4s
ECSD EROS Data Cent 127.99 10 **PKPdf 04 09 44.7 -0.2**
ANMO Albuquerque 133.42 23 **PKPdf 04 09 56.0 +0.3**
ANMO Albuquerque 133.42 23*c i*PKIKP **PKiKP 04 09 57.1 +0.1**
ANMO pmax pmax
comp=Z,1.0nm,1.1s
TXAR Lajitas Array 139.47 24 PKP **PKPdf 04 10 06.6 -0.4**
comp=Z,0.5nm,0.4s,baz=331,slow=1.4,SNR=5.6
TXAR PP **PP 04 12 59.7 -0.3**
comp=Z,0.4nm,0.8s,baz=340,slow=6.6,SNR=3.6
DRIO Del Rio 140.54 20 **PKPdf 04 10 09.4 +0.5**
BDFB Brasilia 142.15 254 PKhKP PKPpre 04 10 09.0
comp=Z,2.3nm,0.6s,baz=124,slow=7.8,SNR=4.7
PLCA Paso Flores 144.29 200 **PKPdf 04 10 14.9 -0.3**
PLCA Paso Flores 144.29 200 PKP PKPbc 04 10 14.1 +0.6
comp=Z,9.2nm,1.0s,baz=209,slow=3.3,SNR=11
ITQB Itaqui 144.85 228 PKPbc 04 10 15.9 +0.4
LR05 Currie 145.23 199 **PKPbc 04 10 15.8 -0.5**
ZAIG Zacatecas 145.66 28 **PKPab 04 10 19.1 +0.1**
CPUP Villa Florida 147.11 232 **PKPbc 04 10 22.3 -0.2**
CPUP Villa Florida 147.11 232 PKPbc **PKPbc 04 10 22.9 +0.5**
comp=Z,6.1nm,0.8s,baz=99,slow=3.2,SNR=15
CPUP Villa Florida 147.11 232 PKP2 **PKPbc 04 10 22.3 -0.2**
MAL2 Monte Alegre, 147.98 278 **PKiKP 04 10 26.4 -0.7**
AQDB Aquidauana 148.15 243 **PKPbc 04 10 24.1 -1.3**
CELP Cerrillos 148.19 323 **PKPbc 04 10 25.4 -0.1**
OBIP Obispado Ponce 148.23 323 **PKPbc 04 10 24.8 -0.8**
CFA Coronel Fontan 151.01 212 PKPbc **PKPbc 04 10 32.5 +0.2**
comp=Z,8.9nm,1.0s,baz=192,slow=1.7,SNR=15
ZON Zonda 151.29 212 **PKPbc 04 10 31.7 -1.3**
TLIG Tlapa 152.02 27 **PKiKP 04 10 35.9 +0.5**
BOAV Boa Vista 152.86 291 **PKPdf 04 10 29.8 0.0**
SIV San Ignacio 154.38 249 PKP **PKPdf 04 10 31.1 -0.8**
comp=Z,0.8nm,0.8s,baz=113,slow=2.2,SNR=3.7
SIV PKPbc **PKPbc 04 10 40.1 -0.1**
comp=Z,1.4nm,0.7s,baz=107,slow=3.4,SNR=4.6
LPAZ La Paz 160.66 242 PKP **PKPdf 04 10 40.8 +0.4**
comp=Z,1.4nm,0.9s,baz=203,slow=3.3,SNR=4.9
LPAZ PKPab **PKPab 04 11 22.4 +0.3**
comp=Z,0.8nm,0.7s,baz=158,slow=5.4,SNR=1.5

---

*BJI **11** 03:55:08.8, 7.°20N×94.°04E, h10km, mB5.1/16, mb4.7/52, Ms4.7/20, Ms7 4.4/20*
*IDC **11** 03:55:11.7±0.5, 7.°56N×94.°18E, h0km, mb4.4/23, mbtmp4.4/25, ML4.5/2, Error ellipse: s-maj=18.9km s-min=13.1km az=65.0*
*NDI **11** 03:55:14.3±1.6, 7.°64N×94.°23E, h10km, mb4.9, ML4.7, MW4.8*
*NEIC **11** 03:55:14.1±1.4, 7.°62N±0.°09×94.°20E±0.°10, h10km±1km, mb4.9/60, Error ellipse: s-maj=18.0km s-min=13.1km az=237.0*
*DJA **11** 03:55:16.7±0.4, 8.°N±3.°×9.°5E±.°, h10km, M5.1/13, mb4.8/13, mB5.8/7, MLv5.1/12, Mw(mB)5.3/7, MwMwp5.2/1, Mwp5.5/1*
*GCMT **11** 03:55:18.1±0.3, 7.°62N±0.°02×94.°27E±0.°02, h19km±1km, MW4.9/105, Moment Tensor Solution. s19,c20; s105,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.12±.18; $M_{\theta\theta}$-1.55±.11; $M_{\phi\phi}$2.66±.14; $M_{r\theta}$-0.96±.30; $M_{r\phi}$1.70±.10; $M_{\theta\phi}$0.17±.23; Best double couple: $M_0$2.99700×10^{16} NP1:ϕ_s159.00000°, δ67.00000°, λ-159.00000°. NP2:ϕ_s60.00000°, δ70.00000°, λ-25.00000°. Principal axes: T 3.2670, Plg2.0000°, Azm110.0000°; N -0.5490, Plg59.0000°, Azm204.0000°; P -2.7280, Plg31.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BKK **11** 03:55:19.0±0.9, 8.°N±5.°×9.°5E±.°, h10km, M5.2/12, mB6.0/2, mb4.9/4, Mjma4.8/12, ML5.4/6, MLv5.3/7, Mw(mB)5.6/2*

ISC 11 03:55:15.2±0.7, 7.°59N±0.°04×94.°20E±0.°04, h19km±2km, n174, σ1^{s}28/189, mb4.8/69, MS4.4/8, 4C-7D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.64**	**205**	*e*P	Pb	03 55 24.8	-2.9
CMBY				*e*S	**Sb**	**03 55 32.6**	**-3.5**
CMBY				IAML		03 55 40.9	
	comp=N,82μm,0.4s						
CMBY				IAML		03 55 42.6	
	comp=E,63μm,0.4s						
BSI	**Banda Aceh**	**2.35**	**152**	P	**Pn**	**03 55 55.1**	**+2.2**
LHMI	**Lhok Sumawe**	**3.60**	**130**		**Pn**	**03 56 10.5**	**+0.3**
LHMI	**Lhok Sumawe**	**3.60**	**130**	P	**Pn**	**03 56 10.1**	**-0.1**
LHMI				S	**Sn**	**03 56 51.5**	**-0.7**
MLSI	**Meulaboh, Aceh**	**3.97**	**146**	P	**Pn**	**03 56 16.2**	**+1.0**
PBA	**Port Blair**	**4.29**	**341**	*e*P	**Pn**	**03 56 19.2**	**-0.3**
PBA				*e*S	**Sn**	**03 57 06.8**	**-2.2**
PBA				IAML		03 57 28.9	
	comp=N,2μm,1.3s						
PBA				IAML		03 57 29.4	
	comp=E,1μm,1.5s						
RNTT	**Ranong**	**4.60**	**67**	P	**Pn**	**03 56 23.5**	**-0.3**
SRIT	**Nakonsritamara**	**5.45**	**79**		**Pn**	**03 56 35.4**	**-0.1**
SRIT	**Nakonsritamara**	**5.45**	**79**	P	**Pn**	**03 56 35.8**	**+0.3**
SRIT				S	**Sn**	**03 57 33.3**	**-4.4**
SNSI	**Sinabang, Aceh**	**5.57**	**157**	P	**Pn**	**03 56 36.9**	**-0.3**

comp=E,0.9nmcomp=E,207nm,1.0s
DGPR DIGLIPUR 5.69 347 *e*P Pn 03 56 37.8 -1.0
DGPR *e*S **Sn 03 57 40.2 -3.5**
DGPR IAML 03 58 06.3
comp=N,2μm,1.7s
DGPR IAML 03 58 19.8
comp=E,2μm,1.6s
PSI Prapat 6.70 135 Pn Pn 03 56 53.8 +1.0
comp=E,4.6nm,0.3s,baz=338,slow=8.8,SNR=6.5
PSI Sn **Sn 03 58 10.8 +2.1**
comp=E,2.9nm,0.3s,baz=252,slow=19,SNR=3.8
comp=E,32nm,0.6s
KULM Kulim 6.81 109 Pn 03 56 52.5 -1.7
GSI Gunungsitoli 7.10 151 P Pn 03 57 00.2 +2.0
comp=E,0.3nmcomp=E,72nm,1.1s
SRDT SRDT 8.28 35 P Pn 03 57 14.8 +0.4
comp=E,88nm,0.9s
MNSI Mandailing Nat 8.62 141 P Pn 03 57 19.8 +0.6
comp=E,45nm,1.1s
UTHA Uthaitani 9.44 33 P Pn 03 57 30.9 +0.5
BKNI Bangkinang 9.93 136 P Pn 03 57 37.4 +0.3
PPI Padang Panjang 10.11 142 P Pn 03 57 40.2 +0.7
comp=E,94nm,1.3s
MYKOM Kota Tinggi 11.21 120 Pn 03 57 54.2 -0.5
CMAR Chiang Mai Arr 11.75 23 Pn 03 58 01.7 -0.3
CMAR Chiang Mai Arr 11.75 23 Pn Pn 03 58 00.5 -1.5
comp=E,1.3nm,0.3s,baz=219,slow=14,SNR=6.7
CMAR Lg Lg 04 01 28.2
comp=E,0.4nm,0.3s,baz=173,slow=34,SNR=1.6
comp=E,4.8nm,0.6s
VIS Vishakhapatnam 14.61 315 *e*P Pn 03 58 40.7 -0.5
VIS *e*S **Sn 04 01 24.6 +1.9**
MDRS Chennai 14.76 293 *e*P Pn 03 58 44.1 +0.9
MDRS IAmb IAmb 03 59 12.2
comp=Z,157nm,2.1s
MDRS *e*S **Sn 04 01 28.7 +2.4**
RAGD RAYAGADA 15.59 319 *e*P Pn 03 58 54.2 +0.1
RAGD IAmb IAmb 03 59 04.9
comp=Z,89nm,1.7s
RAGD *e*S **Sn 04 01 47.5 +1.1**
MDSI Maura Dua 15.59 140 P Pn 03 58 52.1 -2.1
comp=Z,32nm,1.2s
AZL Aizawl 16.12 355 *e*P Pn 03 59 00.1 -1.0
AZL IAmb IAmb 03 59 16.3
comp=Z,48nm,1.2s
AZL *e*S **Sn 04 01 59.6 0.0**
SLVN Son La 16.57 33 Pn Pn 03 59 06.3 -0.5
KOD Kodaikanal 16.73 280 *e*P Pn 03 59 08.5 -0.6
KOD *e*S **Sn 04 02 16.4 +1.6**
TPI Tanjungpandan 16.91 127 P Pn 03 59 11.3 +0.2
comp=Z,884nmcomp=Z,56nm,1.3s
IMP Imphal 17.14 359 *e*P Pn 03 59 13.2 -0.8
IMP IAmb IAmb 03 59 47.9
comp=Z,228nm,2.2s
IMP *e*S **Sn 04 02 24.6 +0.2**
KSM Kuching 17.17 110 P Pn 03 59 15.1 +0.8
KSM IAmb IAmb 03 59 19.9
comp=Z,84nm,1.1s
JHSG JHARSUGUGA 17.31 326 *e*P Pn 03 59 15.7 -0.3
JHSG *e*S **Sn 04 02 29.3 +1.0**
TNCH TengChong 17.83 13 P P 03 59 25.0 +1.8
TNCH S **Sn 04 02 41.4 +0.4**
TNCH pmax pmax
comp=Z,96nm,1.6s
TNCH pmax pmax
comp=Z,360nm,4.1s
TNCH LR LR
comp=Z,1μm,16.4s
TNCH LR LR
comp=Z,920nm,20.0s
TNCH LR LR
comp=Z,1μm,15.9s
SHL Shillong 18.01 353 Pn 03 59 23.7 -1.2
KOHI KOHIMA 18.03 360 *e*P Pn 03 59 24.1 -1.0
KOHI IAmb IAmb 03 59 46.8
comp=Z,121nm,1.3s
KOHI *e*S **Sn 04 02 46.2 +0.3**
SBUM Sibu 18.66 105 P P 03 59 32.4 0.0
STKI Sintang 18.78 113 P Pn 03 59 34.4 +0.2
QIZ Qiongzhong 18.98 52 P P 03 59 35.3 -0.5
QIZ pP **pP 03 59 39.5 -1.1**
QIZ pmax pmax
comp=Z,11nm,1.2s
KMI Kunming 19.25 24 ⇓P Pn 03 59 42.5 +2.5
KMI pmax pmax
comp=Z,40nm,1.0s
KMI LR LR
comp=Z,590nm,12.1s
KMI LR LR
comp=Z,420nm,7.6s
KMI LR LR
comp=Z,710nm,19.2s
PZH PanZhiHua 20.13 20 P Pn 03 59 51.0 +0.6
PZH pmax pmax
comp=Z,60nm,1.3s
MNCY Minicoy 20.97 273 IAmb IAmb 03 57 49.2
comp=Z,51nm,0.7s
MNCY *e*P **P 03 59 57.9 +0.3**
MNCY *e*S **S 04 03 53.0 +2.4**
SMRI Semarang 21.77 132 P P 04 00 07.1 +0.9
KKM Kota Kinabalu 21.92 93 P P 04 00 07.0 -0.9
KKM IAmb IAmb 04 00 13.4
comp=Z,103nm,1.5s
LSA Lhasa 22.18 353 P P 04 00 10.5 -0.4
LSA IAmb IAmb 04 00 21.4
comp=Z,30nm,0.7s
GYA Guiyang 22.20 31 P P 04 00 12.3 +1.5
GYA pmax pmax
comp=Z,23nm,1.4s
NGJI Ngawi 22.74 130 P P 04 00 26.3 +10
MYLDM Lahad Datu 24.27 94 P P 04 00 30.3 -1.3
KMMI Kalianget 24.50 126 P P 04 00 34.4 +0.7
CD2 Chengdu 24.87 20 P P 04 00 37.2 +0.3
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 pmax pmax
comp=Z,530nm,9.2s
H08S3 Diego Garcia H 26.40 236 T T 04 27 42.2
baz=54,slow=75,SNR=23
H08S2 Diego Garcia H 26.41 236 T T 04 27 42.1
baz=54,slow=75,SNR=34
H08S1 Diego Carcia H 26.42 236 T T 04 27 42.4
baz=54,slow=75,SNR=35
TOLI2 Tolitoli 27.27 102 P P 04 00 58.7 -0.1
XAN Xi'an 29.62 25 P P 04 01 20.1 +0.5
XAN pP pP 04 01 23.7 -1.0
XAN pmax pmax
comp=Z,16nm,0.8s
XAN pmax pmax
comp=Z,190nm,3.8s
XAN LR LR
comp=Z,1μm,15.1s
XAN LR LR
comp=Z,1μm,14.1s
XAN LR LR
comp=Z,1μm,16.1s
LZH Lanzhou 29.70 16 *e*P P 04 01 27.8 +7.4
LZH sP pwP 04 01 36.2 +8.0
LZH S **S 04 06 22.5 +6.9**
LZH pmax pmax
comp=Z,15nm,1.6s
LZH LR LR
comp=N,570nm,14.1s
LZH LR LR
comp=E,500nm,13.7s
LZH LR LR
comp=Z,630nm,15.1s
LUWI Luwuk 29.77 106 P P 04 01 21.6 +0.6
GTA Gaotai 32.08 8 P P 04 01 42.3 +1.0
GTA sP pwP 04 01 55.1 +5.9
GTA pmax pmax
comp=Z,16nm,1.0s
GTA LR LR
comp=Z,210nm,17.1s
GTA LR LR
comp=Z,260nm,13.9s
GTA LR LR
comp=Z,310nm,20.7s
NIL Nilore 32.36 326 P P 04 01 43.1 -0.6
NJ2 Nanjing 33.45 40 *e*P P 04 01 53.8 +0.6
NJ2 pmax pmax
comp=Z,19nm,0.8s
HNS HongShan 35.03 29 ⇑P P 04 02 08.9 +2.0
HNS pmax pmax
comp=Z,15nm,1.0s

TIA Tai'an 35.36 33 P P 04 02 11.2 +1.5
TIA pmax pmax
comp=Z,9.0nm,0.9s
BTO Baotou 35.78 21 *e*P P 04 02 15.4 +2.0
BTO pP **sP 04 02 20.1 -1.0**
BTO sP **pwP 04 02 22.5 +1.2**
BTO S **S 04 07 53.9 +4.0**
BTO sS **sS 04 07 59.9 +1.1**
BTO SS **SnSn 04 10 12.8 0.0**
BTO pmax pmax
comp=Z,21nm,0.7s
BTO pmax pmax
comp=Z,260nm,5.0s
BTO LR LR
comp=Z,1μm,13.8s
BTO LR LR
comp=Z,1μm,12.9s
BTO LR LR
comp=Z,1μm,13.3s
WUS Wushi 36.02 341 P P 04 02 14.8 -0.7
WUS IAmb IAmb 04 02 23.1
comp=Z,11nm,0.7s
WMQ Urumqi 36.53 352 *e*P P 04 02 20.3 +0.5
WMQ pmax pmax
comp=Z,28nm,0.7s
WMQ LR LR
comp=Z,370nm,21.9s
WMQ LR LR
comp=Z,710nm,23.8s
WMQ LR LR
comp=Z,220nm,21.9s
HHC Hu-ho-hao-te 36.56 22 *e*P P 04 02 21.2 +1.1
HHC pmax pmax
comp=Z,10.0nm,1.3s
HHC pmax pmax
comp=Z,110nm,5.0s
HHC LR LR
comp=Z,380nm,16.0s
HHC LR LR
comp=Z,510nm,12.4s
HHC LR LR
comp=Z,390nm,14.3s
KDJ Kajisay 37.55 339 P 04 02 27.2 -1.3
DRK Karamyk 37.58 331 P P 04 02 28.8 -0.2
BJI Beijing 37.83 28 P P 04 02 32.6 +1.9
BJI pmax pmax
comp=Z,5.0nm,1.2s
BJI pmax pmax
comp=Z,32nm,3.8s
BJI LR LR
comp=Z,270nm,13.0s
BJI LR LR
comp=Z,300nm,13.3s
BJI LR LR
comp=Z,240nm,15.7s
GAR Garm 37.95 329 P P 04 02 30.9 -1.0
GAR IAmb IAmb 04 02 44.1
comp=Z,20nm,1.0s
SIMJ Simiganj 38.37 328 P P 04 02 34.6 -0.9
SIMJ IAmb IAmb 04 02 42.9
comp=Z,12nm,0.7s
ARSB Arslanbob 38.52 334 P P 04 02 36.7 0.0
ARSB IAmb IAmb 04 02 44.6
comp=Z,16nm,0.6s
AAK Ala-Archa 38.99 337 P 04 02 40.6 0.0
DL2 Dalian 39.77 34 P P 04 02 48.8 +1.8
DL2 pmax pmax
comp=Z,21nm,1.0s
MK31 Makanchi Array 40.37 347 P 04 02 51.3 -0.6
MKAR Makanchi Array 40.37 347 P P 04 02 51.1 -0.9
comp=Z,7.8nm,0.7s,baz=167,slow=8.1,SNR=26
comp=Z,7.8nm,0.7s
MAKZ Makanchi 40.46 347 P P 04 02 51.9 -0.7
KKAR Karatay Array 41.04 333 P 04 02 57.1 -0.4
SONM Songino Array 41.43 12 P P 04 03 00.2 -0.6
SONM Songino Array 41.43 12 P P 04 03 00.6 -0.1
comp=Z,5.1nm,0.9s,baz=197,slow=9.0,SNR=12
comp=Z,5.1nm,0.9s
KSRS Korea Array 42.64 41 P P 04 03 10.6 -0.1
comp=Z,1.9nm,0.9s,baz=232,slow=8.9,SNR=8.3
comp=Z,1.9nm,0.9s
KURBB Kurchatov Arra 44.83 346 P P 04 03 27.9 -0.2
comp=Z,11nm,0.8s,baz=167,slow=7.1,SNR=28
KURBB PcP **PcP 04 05 09.2 -0.5**
comp=Z,0.9nm,0.6s,baz=166,slow=3.0,SNR=2.1
comp=Z,11nm,0.8s
KURK Kurchatov 44.90 346 P P 04 03 27.8 -0.8
CN2 Changchun 45.24 32 *e*P P 04 03 31.6 +0.2
CN2 *e*S **S 04 10 09.9 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,1.6s
CN2 pmax pmax
comp=Z,160nm,4.0s
CN2 LR LR
comp=Z,590nm,13.0s
CN2 LR LR
comp=Z,560nm,13.0s
CN2 LR LR
comp=Z,400nm,14.0s
ZAA0 Zalesovo Array 46.84 352 P 04 03 43.3 -0.6
ZAA0 IAmb IAmb 04 03 44.5
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 46.84 352 P 04 03 43.2 -0.7
ZALV Zalesovo Beam 46.84 352 P P 04 03 43.8 -0.1
comp=Z,7.1nm,0.4s,baz=173,slow=8.1,SNR=21
comp=Z,7.1nm,0.4s
BNX BinXian 47.58 31 ⇓P P 04 03 48.7 -1.1
BNX pmax pmax
comp=Z,4.0nm,1.1s
WRA Warramunga Arr 48.05 125 P P 04 03 52.5 -1.4
comp=Z,2.5nm,1.0s,baz=305,slow=8.5,SNR=14
comp=Z,2.5nm,1.0s
WR0 Warramunga Arr 48.23 125 P P 04 03 53.2 -2.0
WR0 IAmb IAmb 04 05 33.1
comp=Z,5.5nm,0.7s
RAYN Ar Rayn 49.25 294 P 04 04 02.9 -0.3
BVAR Borovoye Array 49.27 341 P P 04 04 02.5 -0.2
comp=Z,4.3nm,0.7s,baz=140,slow=7.8,SNR=10
BVAR PcP **PcP 04 05 25.9 +0.4**
comp=Z,0.9nm,0.6s,baz=71,slow=6.4,SNR=1.6
comp=Z,4.3nm,0.7s
BRVK Borovoye 49.34 341 P 04 04 02.0 -1.2
ASAR Alice Springs 49.69 130 P P 04 04 05.2 -1.3
comp=Z,1.2nm,0.6s,baz=306,slow=6.2,SNR=5.3
ASAR PcP **PcP 04 05 26.6 -1.0**
comp=Z,1.1nm,0.8s,baz=300,slow=3.6,SNR=4.2
comp=Z,1.2nm,0.6s
ABKAR Akbulak array 50.50 331 P 04 04 12.0 -0.2
ABKAR IAmb IAmb 04 04 20.9
comp=Z,22nm,1.6s
ABKAR Akbulak array 50.50 331 P 04 04 11.6 -0.6
HEH HeiHe 50.73 27 *e*P P 04 04 17.1 +3.3
ARTI Arti 56.21 337 P 04 04 53.5 -0.5
ARTI IAmb IAmb 04 05 02.7
comp=Z,11nm,0.7s
KBZ Khabaz 57.33 318 P P 04 05 01.7 -0.5
comp=Z,1.9nm,0.8s,baz=96,slow=9.4,SNR=3.6
comp=Z,1.9nm,0.8s
KMBO Kilima Mbogo 57.45 264 P 04 05 03.6 -0.2
KMBO Kilima Mbogo 57.45 264 P P 04 05 04.0 +0.2
comp=Z,2.2nm,0.7s,baz=59,slow=10.0,SNR=6.9
comp=Z,2.2nm,0.7s
GHAJ Ghor Haditha 59.36 302 P P 04 05 16.4 -0.2
NRIK Noril'sk 61.83 357 P 04 05 31.5 -1.2
NRIK IAmb IAmb 04 05 32.9
comp=Z,20nm,1.6s
NRIK Noril'sk 61.83 357 P P 04 05 32.4 -0.4
comp=Z,3.9nm,0.6s,baz=142,slow=6.3,SNR=5.1
comp=Z,3.9nm,0.6s
KIRS Kirsehir-Merke 62.30 310 ⇑P P 04 05 35.4 -1.2
BR131 Keskin Array S 62.65 311 P P 04 05 37.5 -1.5
BRTR Keskin Array B 62.65 311 P 04 05 37.1 -1.9
BRTR Keskin Array B 62.65 311 P P 04 05 37.4 -1.7
comp=Z,1.4nm,0.6s,baz=106,slow=7.1,SNR=8.4
comp=Z,1.4nm,0.6s
H04N2 CROZET ISLANDS 65.51 211 T T 05 16 29.7
baz=47,slow=75,SNR=15
H04N1 CROZET ISLANDS 65.52 211 T T 05 16 40.3
baz=47,slow=75,SNR=14
H04N3 CROZET ISLANDS 65.53 211 T T 05 16 38.5
baz=47,slow=75,SNR=15
H04S1 CROZET ISLANDS 65.92 210 T T 05 16 58.7
baz=47
H04S3 CROZET ISLANDS 65.93 210 T T 05 17 03.1
baz=47
H04S2 CROZET ISLANDS 65.94 210 T T 05 17 00.8
baz=47

TIXI Tiksi 67.50 11 P 04 06 08.7 -1.0
TIXI IAmb IAmb 04 06 18.4
comp=Z,11nm,0.8s
CFR Carcaliu 67.83 316 ⇓P P 04 06 10.4 -1.9
AKASG Malin Array Be 68.41 322 P P 04 06 14.3 -1.5
comp=Z,0.2nm,0.3s,baz=84,slow=5.1,SNR=4.1
comp=Z,0.2nm,0.3s
VRI Vrincioaia 68.94 316 ⇑P P 04 06 19.4 +0.1
PLOR Plostina 68.99 316 ⇓P P 04 06 19.8 +0.1
RDO Rodhopi 68.99 311 P P 04 06 18.8 -0.9
MLR Muntele Rosu 69.41 316 P P 04 06 22.1 -0.3
MLR Muntele Rosu 69.41 316 ⇓P P 04 06 22.3 -0.1
BURAR Bucovina Array 70.29 318 ⇑P P 04 06 26.2 -1.5
LIT Litokhoron 71.16 310 P P 04 06 31.7 -1.3
LIT IAmb IAmb 04 06 39.8
comp=Z,8.7nm,0.9s
MARR Marisel-Cluj 71.55 317 ⇓P P 04 06 34.6 -0.7
PABE Paberze 72.62 326 P P 04 06 41.2 -0.1
SUW Suwalki 72.77 324 P P 04 06 41.1 -1.2
FIA1 FINESS Array S 72.98 332 P 04 06 42.6 -0.8
FINES FINESS Array B 72.98 332 P P 04 06 42.7 -0.8
comp=Z,3.3nm,0.5s,baz=93,slow=4.4,SNR=16
comp=Z,3.3nm,0.5s
VYHS Vyhne 74.65 318 *e*P P 04 06 52.9 -0.7
BOSA Boshof 75.48 238 P P 04 06 58.8 0.0
comp=Z,4.3nm,0.9s,baz=109,slow=3.0,SNR=5.5
comp=Z,4.3nm,0.9s
ARCES ARCESS Array B 75.55 340 P P 04 06 58.2 -0.1
comp=Z,2.5nm,0.7s,baz=99,slow=7.5,SNR=6.4
comp=Z,2.5nm,0.7s
BRG Berggiesshubel 78.00 320 *e*P P 04 07 15.2 +2.7
BRG Amp 04 07 22.1
comp=Z,3.6nm,0.9s
GERES GERESS Array B 78.07 318 P 04 07 12.4 -0.7
GERES GERESS Array B 78.07 318 P P 04 07 12.9 -0.2
comp=Z,1.8nm,0.8s,baz=85,slow=3.3,SNR=7.9
comp=Z,1.8nm,0.8s
PRED Cave del Predi 78.09 316 P 04 07 13.0 -0.2
CLL Collm 78.61 321 *e*P P 04 07 16.0 +0.1
CLL *e*PcP **PcP 04 07 26.0 +1.2**
HFS Hagfors 78.73 330 P P 04 07 15.6 -0.7
comp=Z,3.8nm,0.5s,baz=102,slow=6.2,SNR=24
comp=Z,3.8nm,0.5s
CIMO Cimolais 78.86 316 P 04 07 17.2 -0.3
CIMO IAmb IAmb 04 07 44.1
comp=Z,7.9nm,0.8s
GRF Grafenberg Arr 79.71 319 *e*P 04 07 27.0
comp=Z,3.2nm,0.8s,baz=90,slow=5.6
SQTA Sankt Quirin 79.72 317 *e*pP P 04 07 21.2 -0.9
comp=Z,2.2nm,0.5s
SQTA Sankt Quirin 79.72 317 *e*P P 04 07 21.2 -0.9
comp=Z,2.2nm,0.5s
NC405 NORSAR Array S 79.76 331 P 04 07 21.4 -0.6
NC405 IAmb IAmb 04 07 32.4
comp=Z,25nm,1.3s
MOTA Moosalm 79.79 317 *e*P P 04 07 22.4 -0.2
comp=Z,0.6nm,0.3s
NC602 NORSAR Array S 79.83 330 P P 04 07 21.3 -1.0
NC602 IAmb IAmb 04 07 32.0
comp=Z,12nm,1.0s
NB2 NORSAR Subarra 80.00 331 P P 04 07 22.2 -1.1
comp=Z,7.2nm,1.1s,baz=93,slow=5.3
NOA NORSAR Array B 80.00 331 P P 04 07 23.0 -0.4
comp=Z,1.5nm,0.7s,baz=93,slow=5.4,SNR=10
comp=Z,1.5nm,0.7s
RETA Reutte 80.02 317 *e*P P 04 07 23.0 -0.8
comp=Z,1.1nm,0.4s
FETA Feichten 80.04 316 *e*P P 04 07 23.2 -0.8
comp=Z,1.0nm,0.4s
SPITS Spitsbergen Ar 80.12 348 P P 04 07 23.3 -0.3
comp=Z,9.6nm,1.0s,baz=99,slow=10,SNR=13
comp=Z,9.6nm,1.0s
EKA Eskdalemuir Ar 87.98 325 P P 04 08 04.0 -0.1
comp=Z,1.8nm,0.6s,baz=92,slow=5.2,SNR=7.0
comp=Z,1.8nm,0.6s
C18K Utukok River 88.25 21 P 04 08 05.1 -0.1
E18K Tukpahlearik C 88.82 22 P P 04 08 08.0 +0.2
E18K IAmb IAmb 04 08 09.7
comp=Z,7.7nm,1.3s
D19K Kuna River 89.38 21 P 04 08 10.4 -0.1
D19K IAmb IAmb 04 08 12.9
comp=Z,13nm,1.3s
D20K Etivluk River 89.82 20 P 04 08 12.4 -0.1
D20K IAmb IAmb 04 08 23.6
comp=Z,6.9nm,1.0s
E19K Redstone River 90.04 21 P P 04 08 13.6 +0.1
E19K IAmb IAmb 04 08 24.1
comp=Z,4.8nm,0.8s
G19K Purcell Mounta 90.55 23 P 04 08 15.9 0.0
F20K Avaraart Lake 90.73 22 P P 04 08 16.6 -0.1
F20K IAmb IAmb 04 08 27.8
comp=Z,6.7nm,0.8s
E21K Killik River 90.82 20 P P 04 08 17.4 +0.2
E21K IAmb IAmb 04 08 18.1
comp=Z,5.6nm,0.9s
H19K Roundabout Mou 91.01 23 P P 04 08 18.7 +0.7
H19K IAmb IAmb 04 08 40.4
comp=Z,14nm,1.2s
ELIB Princess Elisa 91.33 197 *d*P P 04 08 22.9 +3.4
ESDC Sonseca Array 91.44 310 P P 04 08 20.0 -0.7
comp=Z,0.7nm,0.5s,baz=58,slow=4.4,SNR=5.3
comp=Z,0.7nm,0.5s
F21K Alatna River 91.47 21 P P 04 08 20.2 0.0
F21K IAmb IAmb 04 08 21.7
comp=Z,7.6nm,1.3s
J18K Innoko River 91.63 25 P 04 08 21.2 +0.2
G21K Allakaket 91.75 22 P P 04 08 21.6 +0.2
G21K IAmb IAmb 04 08 32.7
comp=Z,5.8nm,0.8s
H21K Melozitna Rive 92.36 22 P P 04 08 24.9 +0.6
H21K IAmb IAmb 04 08 26.5
comp=Z,12nm,1.4s
VNDA Vanda 92.64 168 P P 04 08 23.7 -1.6
comp=Z,0.4nm,0.3s,baz=273,slow=1.9,SNR=6.5
comp=Z,0.4nm,0.3s
K20K Telida 92.77 25 P P 04 08 27.0 +0.7
D25K Kavik River 92.89 18 P P 04 08 27.3 +0.6
D25K IAmb IAmb 04 08 37.7
comp=Z,4.6nm,0.8s
A36M Sachs Harbour 96.52 11 P 04 08 43.0 -0.2
A36M IAmb IAmb 04 09 01.2
comp=Z,5.1nm,0.8s
NVAR Mina Array Bea 125.13 31 PKP PKPdf 04 14 15.1 -0.2
comp=Z,0.2nm,0.3s,baz=323,slow=1.9,SNR=2.3
PDAR Pinedale Array 125.41 21 PKP PKPdf 04 14 15.0 -0.8
comp=Z,0.3nm,0.7s,baz=80,slow=1.7,SNR=2.6
TXAR Lajitas Array 139.46 24 PKP PKPdf 04 14 41.9 -0.5
comp=Z,0.2nm,0.5s,baz=336,slow=1.6,SNR=3.5
PLCA Paso Flores 144.30 200 PKP PKPab 04 14 49.0 +0.5
comp=Z,3.7nm,1.1s,baz=168,slow=1.7,SNR=5.7
CPUP Villa Florida 147.13 232 PKPbc **PKPbc 04 14 58.1 +0.2**
comp=Z,3.1nm,1.0s,baz=126,slow=0.9,SNR=6.5

---

*UCR **11** 03:58:07.1±0.8, 11°.16N×85°.92W, h73km±3km, MW3.7*
*CATAC **11** 03:58:08.4±0.2, 11°.N±2°×.8°.6W±°, h54km±3km, M3.8/34, MLv3.8/34, Error ellipse: s-maj=4.6km s-min=2.4km az=43.2, confirmed*
*SNET **11** 03:58:10.2±1.3, 11°.57N×85°.78W, h34km±999km, ML3.4*
ISC 11 03:58:08.1±1.2, 11°.17N±0°.03×85°.92W±0°.04, h73km±7km, n104, σ0°65/119, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIN	**Rivas**	**0.29**	**16**	P	**Pn**	**03 58 19.0**	**-0.6**
ARIN	**Rivas**	**0.29**	**16**	S	**Sn**	**03 58 27.3**	**-0.7**
LCRUZ	**La Cruz**	**0.30**	**108**	*e*P	**Pn**	**03 58 20.1**	**+0.6**
LCRUZ				*e*S	**Sn**	**03 58 28.8**	**+0.8**
CARN	**Rivas**	**0.39**	**87**	P	**Pn**	**03 58 19.9**	**-0.3**
CARN				S	**Sn**	**03 58 29.2**	**+0.1**
JAPN	**AI SSO del Vol**	**0.42**	**34**	P	**Pn**	**03 58 20.6**	**+0.1**
JAPN				S	**Sn**	**03 58 30.7**	**+1.0**
CONN	**Concepcion**	**0.49**	**36**	P	**Pn**	**03 58 20.8**	**-0.3**
CONN				S	**Sn**	**03 58 30.9**	**+0.2**
ELI1	**Hacienda Flor**	**0.63**	**145**	*e*P	**Pn**	**03 58 22.5**	**0.0**
PEJA	**Penjamo Buenos**	**0.65**	**115**	*e*P	**Pn**	**03 58 22.0**	**-0.7**
VORI	**VORI**	**0.66**	**122**	*e*P	**Pn**	**03 58 22.5**	**-0.5**
VRLE	**La Escondida,**	**0.66**	**125**	*e*P	**Pn**	**03 58 22.5**	**-0.4**
ALIBA	**Liberia Airpor**	**0.68**	**147**	*e*P	**Pn**	**03 58 23.0**	**0.0**
GPS2	**Hotel Rincn d**	**0.69**	**127**	*e*P	**Pn**	**03 58 22.8**	**-0.4**
NANN	**Nandasmo**	**0.79**	**345**	S	**Sn**	**03 58 37.0**	**+0.8**
DELF	**Filadelfia**	**0.80**	**153**	*e*P	**Pn**	**03 58 24.2**	**-0.2**
SABN	**Sabanita**	**0.82**	**343**	P	**Pn**	**03 58 23.3**	**-1.4**
MASN	**Masaya**	**0.84**	**344**	*e*P	**Pn**	**03 58 24.4**	**-0.5**
MASN	**Masaya**	**0.84**	**344**	P	**Pn**	**03 58 24.6**	**-0.3**

MASN			S	Sn	03 58 38.0	+0.6
HORNC	Hornillas	0.86 122	eP	Pn	03 58 24.7	-0.4
COLC	Colonia	0.86 125	eP	Pn	03 58 24.6	-0.5
MAS3	Al N del Volca	0.89 344	P	Pn	03 58 24.9	-0.5
MAS3			S	Sn	03 58 38.3	0.0
CUI	Cuipilapa	0.90 124	eP	Pn	03 58 25.1	-0.4
ENAN	Enatrel Managu	1.00 340	P	Pn	03 58 26.6	-0.1
ENAN	Enatrel Managu	1.00 340	S	Sn	03 58 40.5	-0.1
UNAN	Cigeo UNAN	1.00 340	P	Pn	03 58 26.5	-0.3
UNAN			S	Sn	03 58 40.3	-0.3
USIM	UNAN	1.00 340	P	Pn	03 58 26.7	-0.1
USIM	UNAN	1.00 340	S	Sn	03 58 40.8	0.0
ABCN	Banco Central	1.02 338	P	Pn	03 58 27.0	0.0
ABCN	Banco Central	1.02 338	S	Sn	03 58 40.8	-0.3
MGAN	Managua	1.02 342	eP	Pn	03 58 26.5	-0.5
MGAN	Managua	1.02 342	P	Pn	03 58 26.7	-0.4
MGAN	Managua	1.02 342	S	Sn	03 58 41.2	0.0
R4DEC	Barrio San Lui	1.03 342	P	Pn	03 58 26.7	-0.3
R4DEC	Barrio San Lui	1.03 342	S	Sn	03 58 41.3	+0.1
TISN	Laguna Tiscapa	1.03 340	P	Pn	03 58 26.7	-0.4
TENO	El Achiote	1.03 117	eP	Pn	03 58 26.6	-0.6
ALLN	Telcor Managua	1.04 340	S	Sn	03 58 40.9	-0.6
ACON	Acoyapa	1.08 43	eP	Pn	03 58 27.1	-0.6
ACON			eS	Sn	03 58 42.0	-0.4
ACON	Acoyapa	1.08 43	P	Pn	03 58 27.4	-0.3
INVE	Universidad In	1.09 129	eP	Pn	03 58 27.3	-0.5
NICO	Nicoya	1.13 156	eP	Pn	03 58 27.8	-0.5
APYN	Apoyeque	1.14 338	P	Pn	03 58 28.1	-0.4
QUEB	Quebradon, Cot	1.14 118	eP	Pn	03 58 28.1	-0.5
TILA	Tilaran	1.16 127	eP	Pn	03 58 28.2	-0.6
LCHIL	Los Chiles	1.19 96	eP	Pn	03 58 28.3	-0.8
COPN	Copaltepe	1.20 327	P	Pn	03 58 28.9	-0.4
CMARA	Lajas Hojancha	1.24 157	eP	Pn	03 58 29.2	-0.7
JTS	Las Juntas de	1.29 133	eP	Pn	03 58 29.4	-1.0
NYURE	Nandayure	1.34 151	eP	Pn	03 58 30.3	-0.7
INDI	Punta indio, G	1.36 162	P	Pn	03 58 30.4	-0.9
INDI	Punta indio, G	1.36 162	S	Sn	03 58 47.8	-0.9
ARE1	Arenal 1	1.37 121	eP	Pn	03 58 31.3	-0.2
CEDE	Laguna Cedeo	1.37 119	eP	Pn	03 58 31.2	-0.3
MOMN	Momotombo	1.37 334	P	Pn	03 58 30.9	-0.6
MOMN			S	Sn	03 58 48.7	-0.5
VARE2	V. Arenal	1.37 121	eP	Pn	03 58 31.3	-0.3
LEVN	Ruinas Leon Vi	1.40 331	P	Pn	03 58 32.0	+0.1
LEVN			S	Sn	03 58 49.9	+0.1
FORC	Fortuna	1.41 120	eP	Pn	03 58 31.8	-0.3
SOCE	Pocosol	1.50 121	eP	Pn	03 58 32.6	-0.6
SOCE	Pocosol	1.50 121	P	Pn	03 58 33.1	-0.1
SOCE	Pocosol	1.50 121	S	Sn	03 58 53.0	+0.9
CNGA	Al SSO del Vol	1.52 330	P	Pn	03 58 33.4	-0.2
CNGA			S	Sn	03 58 53.0	+0.2
CNGN	Cerro Negro	1.53 330	eP	Pn	03 58 33.0	-0.6
CNGN	Cerro Negro	1.53 330	P	Pn	03 58 33.2	-0.4
CNGN	Cerro Negro	1.53 330	S	Sn	03 58 52.8	0.0
ROCN	Rota Cerro Neg	1.57 329	S	Sn	03 58 53.1	-0.5
POLN	Al Sur del Vol	1.71 329	P	Pn	03 58 36.0	0.0
MATN	Matagalpa	1.75 360	P	Pn	03 58 36.5	-0.1
MATN	Matagalpa	1.75 360	S	Sn	03 58 57.9	-0.3
VPL1	V. Platanar	1.78 121	eP	Pn	03 58 36.5	-0.5
ZARE	Zarcero	1.79 123	eP	Pn	03 58 37.3	+0.1
CRIN	San Cristobal	1.88 324	eP	Pn	03 58 37.8	-0.5
CRIN	San Cristobal	1.88 324	P	Pn	03 58 38.3	0.0
CRIN	San Cristobal	1.88 324	S	Sn	03 58 59.9	-1.3
ESPN	Las Esperanzas	1.89 57	eP	Pn	03 58 38.1	-0.2
ESPN	Las Esperanzas	1.89 57	P	Pn	03 58 38.3	+0.1
ESPN	Las Esperanzas	1.89 57	S	Sn	03 59 01.6	+0.3
LIMN	Finca el Limon	1.93 347	P	Pn	03 58 38.9	-0.1
BLUN	Bluefields	2.26 68	P	Pn	03 58 43.2	-0.1
BLUN			S	Sn	03 59 09.0	-1.3
RCPN	Sur Rio San Ju	2.35 356	P	Pn	03 58 45.0	+0.4
POTN	Potosi Cosigui	2.39 320	P	Pn	03 58 44.9	-0.2
CSGN	Cosiguina Volc	2.41 318	eP	Pn	03 58 45.1	-0.3
CSGN	Cosiguina Volc	2.41 318	P	Pn	03 58 45.3	-0.1
CSGN			S	Sn	03 59 14.0	0.0
RCVN	Varillal2	2.42 354	P	Pn	03 58 46.0	+0.4
RCVN	Varillal2	2.42 354	S	Sn	03 59 14.5	+0.3
CNCH	Conchagua	2.81 318	eP	Pn	03 58 50.5	-0.4
CNCH	Conchagua	2.81 318	P	Pn	03 58 50.8	0.0
CNCH	Conchagua	2.81 318	S	Sn	03 59 22.5	-1.3
LCND	La Caada	2.87 318	eP	Pn	03 58 51.1	-0.4
LCND			IAML		03 59 30.6	
	comp=Z,49nm,0.3s					
LCND	La Caada	2.87 318	P	Pn	03 58 51.5	0.0
LCND	La Caada	2.87 318	S	Sn	03 59 25.5	+0.4
OCHAL	Ojochal	3.04 132	S	Sn	03 59 31.3	+2.0
BLLM	Bellamira	3.20 315	eP	Pn	03 58 55.6	-0.5
RANC	El Ranchito	3.23 314	P	Pn	03 58 56.9	+0.3
PACA	Pacayal	3.28 314	eP	Pn	03 58 58.4	+1.2
PACA			IAML		03 59 23.4	
	comp=Z,324nm,0.6s					
PACA			eS	Sn	03 59 35.3	+0.1
PACA	Pacayal	3.28 314	P	Pn	03 58 57.9	+0.7
TECA	Tecapa	3.42 313	eP	Pn	03 58 60.0	+0.7
SCLA	Alcaldia de Sa	3.72 313	eP	Pn	03 59 04.0	+0.7
SCLA	Alcaldia de Sa	3.72 313	P	Pn	03 59 03.8	+0.6
SCLA	Alcaldia de Sa	3.72 313	S	Sn	03 59 46.8	+0.8
COEG	Centro de Oper	3.78 310	eP	Pn	03 59 05.6	+1.5
COEG			eS	Sn	03 59 46.9	-0.6
LFRS	El Faro	3.92 309	eP	Pn	03 59 06.5	+0.4
JAYA	Jayaque - finc	4.24 306	P	Pn	03 59 11.2	+0.8
SNJE	San Jose	4.49 307	eP	Pn	03 59 15.8	+2.0
NUBE	Las Nubes	4.65 306	P	Pn	03 59 17.2	+1.2
NUBE	Las Nubes	4.65 306	S	Sn	04 00 06.3	-2.4

PRU 11 04:02:18.9, 51°.52N×16°.09E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	169	ePg	Pg	04 02 31.3	-0.8
KSP				eSg	Sg	04 02 41.0	0.0
CHVC	Chvalec	0.93	181	ePG	Pg	04 02 36.0	-0.8
CHVC				eSG	Sg	04 02 49.2	+0.4
CHVC	Chvalec	0.93	181	e	Pg	04 02 36.0	-0.8
OSTC	Ostas	0.97	175	ePG	Pg	04 02 36.9	-0.5
OSTC				eSG	Sg	04 02 50.0	+0.1
	comp=Z,8.1nm,0.3s						
UPC	Upice	1.01	183	ePG	Pg	04 02 37.4	-0.9
UPC				eSG	Sg	04 02 51.2	-0.3
	comp=Z,14nm,0.2s						
DPC	Dobruska-Polom	1.18	173	ePG	Pg	04 02 39.7	-1.8
DPC				eSG	Sg	04 02 55.5	-1.3
	comp=Z,5.1nm,0.2s						
DPC	Dobruska-Polom	1.18	173	e	Pg	04 02 39.7	-1.8
PVCC	Panska Ves	1.38	225	ePG	Pg	04 02 44.0	-1.4
PVCC				eSG	Sg	04 03 02.9	-0.3
	comp=Z,21nm,0.2s						
BRG	Berggiesshubel	1.50	245	Pg	Pn	04 02 45.7	-1.3
BRG				Sg	Sg	04 03 05.7	-1.3
BRG				Amp		04 03 06.6	
	comp=Z,9.6nm,0.3s						
KRLC	Kraliky	1.51	163	eSG	Sg	04 03 06.4	-1.0
	comp=Z,5.3nm,0.2s						
PRU	Pruhonice	1.82	213	eSG	Sn	04 03 15.7	+0.5
HSKC	Hora Svate Kat	1.91	242	eSG	Sn	04 03 17.7	+0.2
	comp=Z,5.9nm,0.3s						
STEB	Steborice	1.91	145	eSG	Sb	04 03 18.5	-0.6
CLL	Collm	1.94	265	i Pg	Pn	04 02 53.7	+0.5
CLL				eSg	Sn	04 03 18.0	-0.3
MORC	Moravsky Berou	1.98	152	eSG	Sb	04 03 21.0	+0.1
VRAC	Vranov	2.24	172	eSG	Sb	04 03 28.8	+0.4
TREC	Trest	2.26	190	eSG	Sb	04 03 29.9	+0.8
KRUC	Moravsky	2.47	175	eSG	Sb	04 03 36.4	+1.4
NKC	Novy Kostel	2.64	242	eSG	Sg	04 03 42.6	-1.1
	comp=Z,6.2nm,0.3s						
KHC	Kasperske Hory	2.88	215	eSG	Sg	04 03 49.6	-1.9

*MDD **11** 04:13:05.1±0.5, 34°.90N×4°.34W, h0km, Mb3.6/6, Error ellipse: s-maj=4.9km s-min=4.2km az=144.0*
*CNRM **11** 04:13:06.3, 34°.98N×4°.34W, h28km*
*SFS **11** 04:13:06.8, 34°.90N×4°.23W, h17km, ML2.8/7, ML2.3/10, MLv2.1/10*

ISC 11 04:13:04.3±1.3, 34°.94N±0°.02×4°.33W±0°.02, h7km±11km, n42, σ1°54/51, 6C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.42	49	P	Pb	04 13 14.0	-0.1
PALE	Palemas	0.42	49	S	Sb	04 13 22.0	+1.4
AKLM	AKL	0.58	138	P	Pb	04 13 16.7	-0.1
AKLM	AKL	0.58	138	S	Sb	04 13 24.3	-0.9
CHEFC	Chefchaouen	0.85	281	P	Pb	04 13 21.9	+0.5
CHEFC	Chefchaouen	0.85	281	S	Sb	04 13 33.9	+1.0
GOG	Mont Gurugu	1.13	75	P	Pg	04 13 25.8	-0.2
GOG	Mont Gurugu	1.13	75	S	Sb	04 13 41.8	+0.7
SMIR	Smir Dam	1.13	311	P	Pg	04 13 26.2	+0.2
SMIR	Smir Dam	1.13	311	S	Sg	04 13 41.4	+0.6
EMEL	Melilla	1.18	72	P	Pg	04 13 26.9	-0.1
EMEL				⇑iVmb_V		04 13 28.1	
	4μm,SNR=2.4						
EMEL				S	Sn	04 13 44.4	+1.0
EMLI	Melilla	1.19	72	Pg	Pg	04 13 27.0	-0.1
WMELI	Melilla	1.19	71	Pg	Pg	04 13 26.9	-0.2
LCRM	LCR	1.33	199	P	Pb	04 13 31.1	+1.5
LCRM	LCR	1.33	199	S	Sn	04 13 51.5	+4.1
IFR	Ifrane	1.57	205	Pn	Pn	04 13 32.6	-0.1
IFR				Sn	Sn	04 13 52.2	-1.1
JBK	JBK	1.57	112	P	Pn	04 13 32.3	-0.5
JBK	JBK	1.57	112	S	Sn	04 13 51.3	-2.2
TAF	Taforalt	1.58	94	P	Pn	04 13 33.0	+0.2
TAF	Taforalt	1.58	94	S	Sn	04 13 53.1	-0.4
EMAL	Malaga-Limoner	1.82	357	Sn	Sn	04 13 59.2	0.0
ELGU	Los Guajares,	2.00	16	Pn	Pn	04 13 38.1	-0.5
ELGU	Los Guajares,	2.00	16	P	Pn	04 13 37.6	-1.0
ELGU				⇑iVmb_V		04 13 47.5	
	242nm,SNR=1.6						
ELGU				S	Sn	04 14 04.1	+0.2
MD31	MD31	2.10	190	P	Pn	04 13 40.5	+0.6
MD31	MD31	2.10	190	S	Sn	04 14 06.0	-0.3
MDT	Midelt	2.14	186	P	Pn	04 13 40.7	+0.3
MDT	Midelt	2.14	186	S	Sn	04 14 07.4	+0.2
EBER	Berja	2.27	30	Pn	Pn	04 13 41.7	-0.7
EBER	Berja	2.27	30	P	Pn	04 13 41.7	-0.7
EBER				S	Sn	04 14 12.2	+1.5
EQUE	Quentar	2.37	17	P	Pn	04 13 44.1	+0.5
EQUE				⇑iVmb_V		04 13 51.5	
	132nm,SNR=1.7						
EQUE				S	Sn	04 14 14.1	+1.0
EQTA	Presa de Quent	2.37	17	Pn	Pn	04 13 45.1	+1.4
ZHG	ZHG	2.43	233	P	Pb	04 13 46.1	-2.3
ZHG	ZHG	2.43	233	S	Sb	04 14 17.5	-1.0
EQES	Quesada	3.03	19	P	Pn	04 13 54.4	+1.7
EQES				⇑iVmb_V		04 14 04.3	
	116nm,SNR=1.3						
EQES				S	Sn	04 14 30.8	+1.5
EADA	Adamuz	3.23	357	Pn	Pn	04 13 57.3	+1.9
EADA	Adamuz	3.23	357	P	Pn	04 13 56.9	+1.6
EADA				S	Sn	04 14 35.6	+1.6
ECAB	El Cabril	3.25	345	P	Pn	04 13 55.8	+0.1
ECAB				⇑iVmb_V		04 14 04.7	
	86nm,SNR=1.5						
ECAB				S	Sn	04 14 25.1	-9.4
ECAB				S	Sb	04 14 35.3	-6.7
JAND	Jandula	3.28	5	P	Pn	04 13 57.5	+1.3
JAND				⇑iVmb_V		04 14 00.7	
	107nm,SNR=2.1						
JAND				S	Sn	04 14 35.0	-0.5
EGRO	El Granado	3.63	316	Pn	Pn	04 14 02.4	+1.5
PVAQ	Vaqueiros	3.68	313	Pn	Pn	04 14 02.7	+1.2
PVAQ	Vaqueiros	3.68	313	P	Pn	04 14 01.0	-0.5
PVAQ	Vaqueiros	3.68	313	S	Sn	04 14 44.0	-1.2

*IDC **11** 04:15:18.4±3.9, 6°.37S×147°.79E, h0km, mb3.8/2, mbtmp3.8/4, ML3.2/2, MS3.4/2, Error ellipse: s-maj=61.0km s-min=31.0km az=145.0*
*NEIC **11** 04:15:23.7±1.4, 6°.36S±0°.07×147°.78E±0°.09, h35km±2km, mb4.7/24, Error ellipse: s-maj=19.7km s-min=3.2km az=127.0*

ISC 11 04:15:23.2±0.7, 6°.32S±0°.08×147°.7E±0°.1, h35km, n33, σ1°.06/35, mb4.6/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.12	191	Pn	Pn	04 16 09.6	-0.4
PMG	Port Moresby	3.12	191	Pn	Pn	04 16 08.6	-1.4
	25nm,0.3s,baz=18,slow=5.2,SNR=15						
PMG				Sn	Sn	04 16 48.9	+2.9
	45nm,0.3s,baz=354,slow=18,SNR=12						
PMG				LR	LR	04 17 45.6	
	comp=Z,473nm,19.4s,baz=14,slow=48						
	49nm,0.3s						
COEN	Coen	8.82	210	Pn	Pn	04 17 26.9	-1.5
WB0	Warramunga Arr	18.63	223	Pn	Pn	04 19 39.2	+0.7
WR8	Warramunga Arr	18.69	222	Pn	Pn	04 19 39.7	+0.5
WRA	Warramunga Arr	18.79	223	P	P	04 19 38.0	-1.7
WRA	Warramunga Arr	18.79	223	P	P	04 19 40.4	+0.6
	0.3nm,0.3s,baz=47,slow=12,SNR=7.9						
WRA				S	S	04 23 11.6	-0.2
	0.6nm,0.9s,baz=47,slow=25,SNR=2.5						
	0.6nm,0.4s						
KNRA	Kununurra	20.80	242	Pn	P	04 20 03.2	+1.4
KNRA				IAmb	IAmb	04 20 14.3	
	comp=Z,17nm,1.2s						
AS31	Alice Springs	21.79	216	P	P	04 20 11.7	-0.6
ASAR	Alice Springs	21.79	216	P	P	04 20 11.9	-0.4
ASAR	Alice Springs	21.79	216	P	P	04 20 12.4	+0.1
	comp=Z,2.0nm,0.6s,baz=51,slow=9.6,SNR=19						
ASAR				S	S	04 24 11.1	-0.5
	comp=Z,0.9nm,0.8s,baz=45,slow=17,SNR=4.2						
	comp=Z,2.0nm,0.6s						
FITZ	Fitzroy Crossi	24.54	240	P	P	04 20 41.5	+1.8
STKA	Stephens Creek	26.07	192	P	P	04 20 52.0	-1.5
STKA				IAmb	IAmb	04 21 33.9	
	comp=Z,24nm,1.1s						
STKA	Stephens Creek	26.07	192	P	P	04 20 52.4	-1.2
	comp=Z,1.4nm,0.7s,baz=10,slow=11,SNR=2.3						
	comp=Z,1.4nm,0.7s						
TOO	Toolangi	31.18	183	P	P	04 21 39.2	+0.1
JCJ	Chichijima	33.65	351	LR	LR	04 31 53.9	
	comp=Z,73nm,20.9s,baz=42,slow=30						
SBUM	Sibu	36.52	283	P	P	04 22 25.4	-0.3
NWAO	Narrogin (SRO)	38.80	223	P	P	04 22 44.3	-0.5
NWAO				IAmb	IAmb	04 23 15.0	
	comp=Z,18nm,1.3s						
DSZ	Denniston Nort	41.26	152	P	P	04 23 04.7	-0.4
XMIS	Christmas Isla	41.82	261	P	P	04 23 09.3	-0.8
MRZ	Mangatainoka R	42.30	148	P	P	04 23 13.0	-0.6
MRZ				IAmb	IAmb	04 23 13.3	
	comp=Z,44nm,1.3s						
MLZ	Mavora Lakes	42.74	159	P	P	04 23 15.3	-1.8
MLZ				IAmb	IAmb	04 23 32.8	
	comp=Z,30nm,1.2s						
USA0B	Ussuriysk Arra	52.26	346	P	P	04 24 31.5	+0.5
USA0B				IAmb	IAmb	04 24 57.8	
	comp=Z,3.0nm,0.7s						
NIKH	Nikolski High	69.53	26	P	P	04 26 28.4	+0.1
UNV	Unalaska Valle	71.16	27	P	P	04 26 37.6	-0.6
QSPA	South Pole Qui	83.65	180	P	P	04 27 49.4	+1.2
QSPA				IAmb	IAmb	04 28 27.0	
	comp=Z,7.1nm,1.4s						
HIN	Hinchinbrook I	83.81	27	P	P	04 27 48.8	-0.1
SCM	Sheep Creek Mo	84.05	26	P	P	04 27 51.0	+0.9
IL31		85.48	23	P	P	04 27 58.4	+1.3
IL31				IAmb	IAmb	04 28 02.9	
	comp=Z,3.9nm,1.2s						
J25K	Salcha River,	86.01	23	P	P	04 28 00.4	+0.5
J25K				IAmb	IAmb	04 28 42.4	
	comp=Z,7.1nm,1.5s						
G26K	Porcupine Rive	87.53	22	P	P	04 28 06.9	-0.2
G26K				IAmb	IAmb	04 28 50.1	
	comp=Z,5.2nm,1.5s						
C27K	Jago River	88.57	19	P	P	04 28 12.6	+0.5
C27K				IAmb	IAmb	04 28 13.4	
	comp=Z,5.0nm,1.4s						
SNAA	Sanae	99.80	189	Pdif	Pdif	04 29 04.0	+0.4
SNAA				IAmb	IAmb	04 29 05.1	
	comp=Z,5.9nm,1.2s						

*SJA **11** 04:28:51.6±0.6, 19°.64S×69°.38W, h104km±2km, ML3.7, MW3.7*
*GUC **11** 04:28:53.2±0.6, 19°.65S×69°.42W, h100km±2km, ML3.7*

ISC 11 04:28:53.1±1.4, 19°.67S±0°.04×69°.40W±0°.07, h100km±7km, n25, σ0°.97/43, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	Chusmiza	0.19	91	eP	Pn	04 29 07.4	-0.4
GO01				eS	Sn	04 29 18.7	-0.2
GO01	Chusmiza	0.19	91	eP	Pn	04 29 07.4	-0.4
GO01				eS	Sn	04 29 19.2	+0.4
GO01				IAML		04 29 21.0	
	comp=Z,3μm,0.2s						
PB11	IPOC Station P	0.26	249	⇑iP	Pn	04 29 07.4	-0.3
PB11				eS	Sn	04 29 18.4	-0.2
PB11				IAML		04 29 19.5	
	comp=N,9μm,0.2s						
PB11	IPOC Station P	0.26	249	eP	Pn	04 29 07.3	-0.3
PB11				eS	Sn	04 29 19.1	+0.5
PB11				IAML		04 29 19.3	
	comp=Z,4μm,0.2s						
PB08	IPOC Station P	0.53	154	eP	Pn	04 29 09.4	-0.1
PB08				eS	Sn	04 29 21.9	+0.1
PB08				IAML		04 29 23.2	
	comp=E,11μm,0.1s						
PB08	IPOC Station P	0.53	154	eP	Pn	04 29 09.2	-0.3
PB08				eS	Sn	04 29 22.3	+0.6
PB08				IAML		04 29 23.1	
	comp=Z,3μm,0.2s						
HMBC	Humberstone	0.76	217	⇑iP	Pn	04 29 11.2	-0.1
HMBC				eS	Sn	04 29 25.1	+0.2
HMBC				IAML		04 29 26.0	
	comp=N,6μm,0.3s						
HMBC	Humberstone	0.76	217	eP	Pn	04 29 11.1	-0.1
HMBC				eS	Sn	04 29 25.6	+0.8
HMBC				IAML		04 29 26.8	
	comp=Z,4μm,0.3s						
PATCX	Punta Patache	1.35	212	eS	Sn	04 29 36.7	+0.5
PATCX	Punta Patache	1.35	212	eP	Pn	04 29 17.2	-0.4
PATCX				eS	Sn	04 29 37.1	+1.0
PATCX				IAML		04 29 37.4	
	comp=Z,520nm,0.4s						
PB12	IPOC Station P	1.37	320	eP	Pn	04 29 17.3	-0.6
PB12				eS	Sn	04 29 36.0	-0.6
PB12				IAML		04 29 37.2	
	comp=E,842nm,0.3s						
PB12	IPOC Station P	1.37	320	eP	Pn	04 29 17.2	-0.6
PB12				eS	Sn	04 29 36.6	+0.1
PB12				IAML		04 29 41.1	
	comp=Z,512nm,0.2s						
PB01	IPOC Station P	1.37	184	eP	Pn	04 29 17.9	0.0
PB01				eS	Sn	04 29 37.0	+0.3
PB01				IAML		04 29 38.1	
	comp=N,1μm,0.2s						
PB01	IPOC Station P	1.37	184	eP	Pn	04 29 17.9	0.0
PB01				eS	Sn	04 29 37.8	+1.2
PB01				IAML		04 29 41.0	
	comp=Z,623nm,0.1s						
AP01	Chacalluta	1.57	325	eP	Pn	04 29 19.9	-0.3
AP01				IAML		04 29 44.3	
	comp=N,2μm,0.3s						
AP01	Chacalluta	1.57	325	eP	Pn	04 29 19.9	-0.3
AP01				eS	Sn	04 29 41.3	+0.6
AP01				IAML		04 29 47.3	
	comp=Z,863nm,0.1s						
PB09	IPOC Station P	2.12	176	eP	Pn	04 29 28.4	+0.9
PB09	IPOC Station P	2.12	176	eP	Pn	04 29 27.7	+0.3
PB09				eS	Sn	04 29 54.5	+0.8
PB09				IAML		04 30 22.8	
	comp=Z,192nm,0.6s						
PB03	IPOC Station P	2.39	188	eP	Pn	04 29 31.8	+0.9
PB03				IAML		04 29 60.0	
	comp=N,142nm,0.2s						
PB03	IPOC Station P	2.39	188	eP	Pn	04 29 31.2	+0.2
PB03				eS	Sn	04 30 00.2	+0.3
PB03				IAML		04 30 03.9	
	comp=Z,210nm,0.2s						
PB06	IPOC Station P	3.03	183	eP	Pn	04 29 40.5	+1.0
PB06	IPOC Station P	3.03	183	eP	Pn	04 29 39.7	+0.3
PB06				eS	Sn	04 30 15.9	+0.9
PB06				IAML		04 30 36.8	
	comp=Z,132nm,0.7s						
AF01	San Pedro de A	3.46	161	eP	Pn	04 29 59.8	+15
AF01				eS	Sn	04 30 20.9	-4.7
AF01				IAML		04 31 10.4	
	comp=Z,127nm,0.4s						
LPAZ	La Paz	3.57	20	eP	Pn	04 29 48.3	+1.2
PB10	IPOC Station P	3.98	195	eP	Pn	04 29 50.7	-1.3
PB10				eS	Sn	04 30 37.0	-0.6

GCG 11 04:44:36.4±0.5, 14°.05N×91°.18W, h107km±30km, MD4.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	El Palmar, Qui	0.41	337	eP	Pn	04 44 55.5	+2.9
STG8	El Palmar, Qui	0.43	337	eP	Pn	04 44 56.3	+3.5
STG8				eS	Sn	04 45 12.1	+6.9

*SOME **11** 05:00:58.4, 40°.13N×77°.57E, h5km*
*NNC **11** 05:01:01.7±1.5, 40°.24N×77°.56E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=11.5km s-min=10.2km az=93.0*

KRNET 11 05:00:54.5±0.1, 39°.70N×77°.85E, mb2.8, 8C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	2.03	359	⇓iP	Pn	05 01 29.0	-1.4
TARG				⇓iS	Sn	05 01 54.2	-2.4
KDJ	Kajisay	2.48	348	⇓iP	Pn	05 01 35.2	-1.2
KDJ				⇓iS	Sn	05 02 04.8	-2.7
PRZ	Przheval'sk	2.81	8	⇑eP	Pn	05 01 40.1	-0.9
PRZ				⇑eS	Sn	05 02 13.5	-2.2
ANVS	Anan'yevo	3.08	358	⇑eP	Pn	05 01 44.0	-0.7
ANVS				⇑eS	Sn	05 02 19.3	-3.1
BOOM	Boomskoye usch	3.14	333	⇑iP	Pn	05 01 44.6	-0.8
BOOM				⇑iS	Sn	05 02 21.1	-2.6
SALK	Salom-Alik	3.30	292	⇓iP	Pn	05 01 46.6	-1.0
SALK				⇓iS	Sn	05 02 24.7	-2.9
SFK	Sufi-Kurgan	3.36	277	⇓iP	Pn	05 01 47.5	-1.0
SFK				⇓iS	Sn	05 02 26.0	-3.1
SATY	Saty	3.38	7	Pg	Pb	05 01 54.5	-0.9
	1.6nm,0.3s						

3.9nm,0.4s
DGS Degeres 3.87 337 Pg Pb 05 02 00.3 -3.4
1.9nm,0.4s
DGS Lg Lg 05 02 44.9
4.4nm,0.7s
KTBS Karatobe 4.10 348 Pg Pb 05 02 05.8 -1.8
1.2nm,0.6s
KTBS Lg Lg 05 02 54.2
5.0nm,0.6s
ARXS Arharly 4.51 360 Pg Pb 05 02 13.3 -1.3
1.4nm,0.5s
ARXS Lg Lg 05 03 07.3
3.8nm,0.6s

*IDC **11** 05:33:55.4±0.8, 27°.20N×140°.22E, h373km±7km, mb3.2/12, mbtmp3.9/13, Error ellipse: s-maj=22.0km s-min=16.8km az=74.0*
*JMA **11** 05:33:58.2±0.2, 28°.N±2°×14°.1E±°, h395km, MV3.9/31, NEAR CHICHIJIMA ISLAND*
ISC 11 05:33:57.5±0.7, 27°.33N±0°.08×140°.7E±0°.1, h400km, n27, σ1§62/31, mb3.5/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.37**	**99**	P	**Pn**	**05 34 49.3**	**-0.8**
CBIJ				*e*S	**S**	**05 35 29.1**	**-3.3**
JCJ	**Chichijima**	**1.37**	**99**	P	**Pn**	**05 34 48.1**	**-1.9**
	70nm,0.3s,baz=358,slow=17,SNR=22						
JCJ				S	**S**	**05 35 29.0**	**-3.5**
	191nm,0.4s,baz=289,slow=22,SNR=14						
JHH2	**Haha-jima-NKT2**	**1.51**	**117**	P	**Pn**	**05 34 50.5**	**-0.3**
JHH2				*e*S	**S**	**05 35 32.0**	**-1.7**
BSO1	**Boso 1**	**7.31**	**2**	*e*P	**P**	**05 35 44.9**	**+0.5**
BSO1				*e*S	**S**	**05 37 08.9**	**-2.1**
BSO3	**Boso 3**	**7.45**	**359**	*e*P	**P**	**05 35 46.2**	**-0.1**
BSO3				*e*S	**S**	**05 37 11.4**	**-3.1**
BSO4	**Boso 4**	**7.64**	**358**	*e*P	**P**	**05 35 48.3**	**-0.4**
JRY	**Ryogami san**	**8.79**	**351**	*e*P	**P**	**05 36 01.1**	**-0.4**
JAG	**Ashikaga**	**9.13**	**354**	*e*P	**Pn**	**05 36 04.0**	**-1.3**
JHO	**Hitachi**	**9.25**	**359**	*e*P	**Pn**	**05 36 07.1**	**+0.3**
MJAR	**Matsushiro Arr**	**9.42**	**348**	P	**P**	**05 36 07.0**	**-1.5**
	3.1nm,0.6s,baz=167,slow=8.6,SNR=7.0						
JHS	**Saijyo**	**10.01**	**322**	*e*P	**Pn**	**05 36 16.8**	**+1.2**
WRA	**Warramunga Arr**	**47.39**	**188**	P	**P**	**05 41 52.4**	**-1.2**
	0.3nm,0.3s,baz=7.1,slow=8.1,SNR=7.2						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**51.91**	**314**	P	**P**	**05 42 25.9**	**-1.0**
	0.5nm,0.4s,baz=96,slow=8.5,SNR=3.1						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**56.96**	**317**	P	**P**	**05 43 02.6**	**-0.1**
	1.1nm,0.6s,baz=94,slow=9.7,SNR=5.2						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**58.15**	**29**	P	**P**	**05 43 13.5**	**+2.7**
	0.3nm,0.5s,baz=250,slow=5.5,SNR=7.4						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**72.57**	**28**	P	**P**	**05 44 44.4**	**+2.3**
	0.7nm,0.6s,baz=294,slow=5.8,SNR=24						
	0.7nm,0.6s						
ARCES	**ARCESS Array B**	**72.88**	**341**	P	**P**	**05 44 44.5**	**+0.8**
	3.4nm,0.9s,baz=74,slow=8.9,SNR=3.7						
	3.4nm,0.9s						
FINES	**FINESS Array B**	**77.14**	**333**	P	**P**	**05 45 07.9**	**+0.1**
	1.7nm,0.4s,baz=69,slow=5.1,SNR=23						
	1.7nm,0.4s						
NVAR	**Mina Array Bea**	**81.43**	**51**	P	P	05 45 35.3	+3.7
	0.9nm,0.6s,baz=309,slow=4.0,SNR=3.6						
	0.9nm,0.6s						
AKASG	**Malin Array Be**	**81.63**	**323**	P	**P**	**05 45 31.6**	**-0.4**
	0.2nm,0.3s,baz=55,slow=5.7,SNR=3.4						
	0.2nm,0.3s						
HFS	**Hagfors**	**82.67**	**336**	P	**P**	**05 45 36.4**	**-0.8**
	2.2nm,0.9s,baz=37,slow=9.9,SNR=1.7						
	2.2nm,0.9s						
NB2	**NORSAR Subarra**	**82.89**	**338**	P	**P**	**05 45 38.0**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=43,slow=5.1						
NOA	**NORSAR Array B**	**82.89**	**338**	P	**P**	**05 45 37.8**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=46,slow=4.9,SNR=4.1						
	comp=Z,0.9nm,0.6s						
PDAR	**Pinedale Array**	**84.99**	**44**	P	**P**	**05 45 50.3**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=297,slow=9.4,SNR=3.0						
	comp=Z,0.3nm,0.8s						
QSPA	**South Pole Qui**	**117.10**	**180**	PKP	**PKPdf**	**05 51 54.8**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=15,slow=1.8,SNR=1.1						
PLCA	**Paso Flores**	**151.04**	**126**	PKPbc	**PKiKP**	**05 53 05.8**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=270,slow=5.1,SNR=3.5						
LPAZ	**La Paz**	**151.16**	**74**	PKPbc	**PKiKP**	**05 53 07.7**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=317,slow=10,SNR=2.7						

*NEIC **11** 05:39:01.2±1.0, 25°.4S±0°.1×180°.0E±0°.2, h475km±17km, mb4.3/21, Error ellipse: s-maj=26.9km s-min=8.3km az=48.0*
*NOU **11** 05:39:01.9, 25°.21S×179°.64E, h552km, ML4.3/10, South of Fiji Islands*
*IDC **11** 05:39:02.3±1.7, 25°.24S×179°.89E, h494km±17km, mb3.5/7, mbtmp4.4/11, Error ellipse: s-maj=19.1km s-min=15.8km az=127.0*
ISC 11 05:39:02.0±0.5, 25°.44S±0°.06×179°.93E±0°.07, h493km, n96, σ1§70/114, mb4.2/20, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.26**	**154**	P	**P**	**05 40 22.3**	**+0.4**
GLKZ				S	**S**	**05 41 26.2**	**-1.1**
MSVF	**Nonsavu**	**7.87**	**347**		**P**	**05 40 55.3**	**-1.8**
MSVF	**Nonsavu**	**7.87**	**347**	P	**P**	**05 40 55.0**	**-2.0**
	14nm,0.5s,baz=240,slow=18,SNR=18						
MSVF	**Nonsavu**	**7.87**	**347**	P	**P**	**05 40 55.2**	**-1.8**
TAVE	**Taveuni**	**8.69**	**1**	P	**P**	**05 41 04.7**	**-0.9**
YSA	**Yasawairara**	**8.97**	**345**	P	**P**	**05 41 06.9**	**-1.6**
DGTI	**Dogotuki**	**9.10**	**359**	P	**P**	**05 41 08.9**	**-0.9**
FUTU	**Fugatoga**	**11.22**	**10**	P	**P**	**05 41 30.6**	**-1.8**
NIUE	**Niue**	**11.32**	**58**	P	**P**	**05 41 34.8**	**+1.3**
NIUE				S	**S**	**05 43 38.0**	**-0.2**
WCZ	**Waipu Caves**	**11.51**	**203**	P	**P**	**05 41 39.1**	**+3.8**
KUZ	**Kuaotunu**	**11.83**	**197**	P	**P**	**05 41 40.4**	**+1.8**
KUZ	**Kuaotunu**	**11.83**	**197**	P	**P**	**05 41 41.1**	**+2.5**
MXZ	**Matakaoa Point**	**12.16**	**186**	P	**P**	**05 41 44.1**	**+2.0**
MXZ	**Matakaoa Point**	**12.16**	**186**	P	**P**	**05 41 42.6**	**+0.5**
MKAZ	**Moumakai**	**12.32**	**198**	P	**P**	**05 41 46.2**	**+2.4**
WTAZ	**Waiatarua**	**12.34**	**201**	P	**P**	**05 41 47.0**	**+3.0**
KBAZ	**Karaka Road Bo**	**12.39**	**199**	P	**P**	**05 41 47.9**	**+3.4**
HAZ	**Te Kaha**	**12.41**	**188**	P	**P**	**05 41 45.8**	**+1.1**
HAZ				S	**S**	**05 43 58.3**	**-0.7**
AWAZ	**Awhitu Peninsu**	**12.44**	**200**	P	**P**	**05 41 47.1**	**+2.1**
DZM	**Mont Dzumac**	**12.80**	**282**	P	**P**	**05 41 48.5**	**-0.7**
DZM	**Mont Dzumac**	**12.80**	**282**	P	**P**	**05 41 49.1**	**-0.1**
	6.1nm,0.9s,baz=37,slow=11,SNR=4.4						
URZ	**Urewera**	**13.00**	**190**	P	**P**	**05 41 52.1**	**+1.2**
	22nm,0.4s,baz=116,slow=0.7,SNR=31						
URZ				S	**S**	**05 44 08.8**	**-1.7**
	8.6nm,0.7s,baz=18,slow=20,SNR=1.8						
URZ	**Urewera**	**13.00**	**190**	P	**P**	**05 41 52.2**	**+1.2**
URZ	**Urewera**	**13.00**	**190**	P	**P**	**05 41 49.5**	**-1.5**
MWZ	**Matawai**	**13.02**	**188**	P	**P**	**05 41 51.7**	**+0.4**
MWZ				S	**S**	**05 44 10.5**	**-0.3**
MTHZ	**Maungataniwha**	**13.63**	**190**	P	**P**	**05 41 58.9**	**+1.3**
MTHZ				S	**S**	**05 44 23.5**	**+0.9**
KNZ	**Kokohu**	**13.68**	**187**	P	**P**	**05 41 59.0**	**+0.8**
HIZ	**Hauiti**	**13.72**	**197**	P	**P**	**05 41 59.9**	**+1.2**
HIZ	**Hauiti**	**13.72**	**197**	P	**P**	**05 41 59.8**	**+1.2**
BKZ	**Black Stump Fm**	**13.99**	**191**	P	**P**	**05 42 02.6**	**+1.1**
BKZ	**Black Stump Fm**	**13.99**	**191**	P	**P**	**05 41 59.7**	**-1.8**
BKZ				S	**S**	**05 44 23.6**	**-6.1**
NGZ	**Ngauruhoe**	**14.18**	**194**	P	**P**	**05 42 03.5**	**-0.1**
MCHZ	**McNeill Hill**	**14.23**	**190**	P	**P**	**05 42 04.3**	**+0.3**
MCHZ				S	**S**	**05 44 35.9**	**+1.8**
KWHZ	**Kaweka Forest**	**14.25**	**191**	P	**P**	**05 42 03.2**	**-1.2**
KWHZ				S	**S**	**05 44 31.4**	**-3.3**
VRZ	**Vera Road**	**14.32**	**196**	P	**P**	**05 42 06.7**	**+1.7**
KAHZ	**Kahuranaki**	**14.54**	**189**	P	**P**	**05 42 06.5**	**-0.8**
KAHZ				S	**S**	**05 44 38.1**	**-2.2**
PNHZ	**Pukenui**	**14.77**	**191**	P	**P**	**05 42 08.1**	**-1.7**
PNHZ				S	**S**	**05 44 41.7**	**-2.9**
PXZ	**Pawanui**	**14.78**	**189**	P	**P**	**05 42 08.9**	**-0.9**
PXZ				S	**S**	**05 44 46.5**	**+1.9**
WAZ	**Wanganui**	**14.87**	**195**	P	**P**	**05 42 09.5**	**-1.2**
TSZ	**Takapari Road**	**14.95**	**192**	P	**P**	**05 42 11.3**	**-0.4**
DVHZ	**Dannevirke**	**15.15**	**191**	P	**P**	**05 42 11.6**	**-2.1**
DVHZ				S	**S**	**05 44 53.1**	**+1.3**
BFZ	**Birch Farm**	**15.51**	**191**	P	**P**	**05 42 17.3**	**-0.1**
BFZ	**Birch Farm**	**15.51**	**191**	P	**P**	**05 42 16.0**	**-1.4**
BFZ				S	**S**	**05 44 53.9**	**-4.8**
MRZ	**Mangatainoka R**	**15.61**	**192**	P	**P**	**05 42 16.0**	**-2.5**
MRZ				S	**S**	**05 44 58.3**	**-2.4**
OGWZ	**Otaki Gorge**	**15.84**	**193**	P	**P**	**05 42 18.4**	**-2.5**
OGWZ				S	**S**	**05 45 00.1**	**-5.0**
HOWZ	**Holdsworth Sta**	**15.85**	**192**	P	**P**	**05 42 19.9**	**-1.2**
SNZO	**South Karori**	**16.41**	**194**	P	**P**	**05 42 26.5**	**-0.3**
NNZ	**Nelson**	**16.65**	**197**	P	**P**	**05 42 27.7**	**-1.8**
NNZ				S	**S**	**05 45 15.3**	**-4.6**
KHZ	**Kahutara**	**17.73**	**196**	P	**P**	**05 42 39.0**	**-1.0**
KHZ				S	**S**	**05 45 35.4**	**-2.7**
GVZ	**Greta Valley S**	**18.38**	**196**	P	**P**	**05 42 44.9**	**-1.1**
GVZ				S	**S**	**05 45 48.7**	**0.0**
RPZ	**Rata Peaks**	**19.62**	**199**	P	**P**	**05 42 59.8**	**+2.5**
	8.9nm,0.6s,baz=49,slow=7.8,SNR=5.1						
ARMA	**Armidale**	**25.46**	**252**	P	**P**	**05 43 51.5**	**+1.4**
ARMA				IAmb	IAmb	05 44 03.2	
	comp=Z,17nm,1.4s						
EIDS	**Eidsvold**	**26.04**	**264**	P	**P**	**05 43 55.2**	**0.0**
EIDS				IAmb	IAmb	05 44 07.0	
	comp=Z,24nm,1.4s						
CAN	**Canberra**	**28.35**	**242**	P	**P**	**05 44 16.3**	**+0.9**
CAN				IAmb	IAmb	05 44 27.9	
	comp=Z,16nm,1.4s						
TOO	**Toolangi**	**31.59**	**239**	P	**P**	**05 44 43.8**	**+0.4**
STKA	**Stephens Creek**	**34.12**	**250**	P	**P**	**05 45 05.6**	**+0.5**
STKA	**Stephens Creek**	**34.12**	**250**	P	**P**	**05 45 05.5**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=99,slow=12,SNR=3.7						
	comp=Z,1.2nm,0.5s						
COEN	**Coen**	**36.33**	**281**	P	**P**	**05 45 24.0**	**+0.4**
COEN				IAmb	IAmb	05 45 25.6	
	comp=Z,20nm,1.4s						
BBOO	**Buckleboo**	**38.81**	**249**	P	**P**	**05 45 43.2**	**-0.5**
BBOO				IAmb	IAmb	05 45 49.2	
	comp=Z,30nm,1.4s						
AS31	**Alice Springs**	**41.75**	**262**		**P**	**05 46 07.8**	**+0.2**
ASAR	**Alice Springs**	**41.75**	**262**	P	**P**	**05 46 07.4**	**-0.2**
ASAR	**Alice Springs**	**41.75**	**262**	P	**P**	**05 46 07.2**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=84,slow=6.0,SNR=24						
ASAR				PcP	**PcP**	**05 47 52.9**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=100,slow=3.0,SNR=3.5						
ASAR				S	**S**	**05 51 48.6**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=110,slow=15,SNR=4.9						
	comp=Z,1.8nm,0.4s						
WR8	**Warramunga Arr**	**42.12**	**268**	P	**P**	**05 46 09.9**	**-0.5**
WR8				IAmb	IAmb	05 46 11.4	
	comp=Z,3.8nm,0.7s						
WB2	**Warramunga Arr**	**42.26**	**268**	P	**P**	**05 46 11.3**	**-0.2**
WB2				IAmb	IAmb	05 46 11.4	
	comp=Z,5.9nm,0.5s						
WRAB	**Tennant Creek**	**42.26**	**268**	P	**P**	**05 46 11.1**	**-0.4**
WRAB				IAmb	IAmb	05 46 19.8	
	comp=Z,15nm,1.5s						
WB0	**Warramunga Arr**	**42.27**	**268**		**P**	**05 46 11.1**	**-0.5**
WB0				IAmb	IAmb	05 46 11.5	
	comp=Z,5.5nm,0.7s						
WRA	**Warramunga Arr**	**42.27**	**268**		**P**	**05 46 11.3**	**-0.4**
WRA	**Warramunga Arr**	**42.27**	**268**	P	**P**	**05 46 11.0**	**-0.6**
	comp=Z,3.7nm,0.4s,baz=104,slow=8.0,SNR=76						
WRA				PcP	**PcP**	**05 47 54.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=102,slow=5.7,SNR=2.3						
	comp=Z,3.7nm,0.4s						
FORT	**Forrest**	**45.74**	**251**	P	**P**	**05 46 37.2**	**-1.2**
KNRA	**Kununurra**	**48.64**	**271**	P	**P**	**05 47 00.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**50.67**	**267**	P	**P**	**05 47 15.5**	**+0.1**
MBWA	**Marble Bar**	**55.06**	**261**	P	**P**	**05 47 46.4**	**-0.5**
MBWA				IAmb	IAmb	05 48 10.2	
	comp=Z,14nm,1.3s						
MORW	**Morawa**	**56.30**	**251**	P	**P**	**05 47 55.4**	**-0.1**
MORW				IAmb	IAmb	05 47 56.3	
	comp=Z,18nm,1.4s						
CASY	**Casey**	**58.71**	**206**	P	**P**	**05 48 11.3**	**+0.1**
GIRL	**Giralia**	**59.52**	**258**	P	**P**	**05 48 17.7**	**+0.3**
QSPA	**South Pole Qui**	**64.65**	**180**	P	**P**	**05 48 51.9**	**+1.7**
	comp=Z,3.8nm,0.9s,baz=72,slow=6.4,SNR=3.0						
	comp=Z,3.8nm,0.9s						
MAW	**Mawson**	**76.29**	**201**	P	**P**	**05 50 00.7**	**+1.6**
MAW	**Mawson**	**76.29**	**201**	P	**P**	**05 50 00.4**	**+1.3**
	comp=Z,1.8nm,0.5s,baz=101,slow=5.2,SNR=2.7						
	comp=Z,1.8nm,0.5s						
PETK	**Petropavlovsk-**	**80.58**	**347**	P	**P**	**05 50 22.1**	**0.0**
	comp=Z,1.7nm,0.8s,baz=156,slow=5.7,SNR=4.8						
	comp=Z,1.7nm,0.8s						
TROLL	**Troll, Antarti**	**82.80**	**181**	⇓P	**P**	**05 50 34.4**	**+0.8**
	comp=Z,234nm,0.4s						
VNA3	**Neumayer Olymp**	**83.35**	**177**	⇓P	**P**	**05 50 37.2**	**+1.0**
	comp=Z,9.9nm,0.7s						
VNA2	**Neumayer--Watz**	**83.76**	**178**	⇓P	**P**	**05 50 39.2**	**+1.0**
	comp=Z,0.3nm,0.2s,baz=174,slow=5.0						
CMAR	**Chiang Mai Arr**	**90.00**	**290**	P	**P**	**05 51 10.3**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=118,slow=5.3,SNR=6.3						
	comp=Z,0.7nm,0.3s						
MKAR	**Makanchi Array**	**113.14**	**312**	PKiKP	**PKiKP**	**05 56 41.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=98,slow=2.9,SNR=2.6						
KURBB	**Kurchatov Arra**	**116.31**	**316**	PKP	**PKPdf**	**05 56 47.3**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=96,slow=2.1,SNR=6.8						
BVAR	**Borovoye Array**	**121.55**	**318**	PKP	**PKPdf**	**05 56 57.9**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=108,slow=4.8,SNR=4.1						
SPITS	**Spitsbergen Ar**	**126.64**	**356**	PKP	**PKPdf**	**05 57 07.3**	**-0.5**
	comp=Z,5.2nm,0.9s,baz=139,slow=2.9,SNR=1.5						
ARCES	**ARCESS Array B**	**133.37**	**348**	PKP	**PKPdf**	**05 57 20.7**	**0.0**
	comp=Z,4.2nm,1.0s,baz=1.9,slow=3.6,SNR=5.8						
FINES	**FINESS Array B**	**139.88**	**341**	PKhKP	PKPpre	05 57 24.4	
	comp=Z,1.1nm,0.6s,baz=206,slow=30,SNR=1.7						
NB2	**NORSAR Subarra**	**143.59**	**351**	PKP	PKPab	05 57 37.6	-0.5
	comp=Z,1.0nm,0.7s,baz=16,slow=3.3						
NOA	**NORSAR Array B**	**143.59**	**351**	PKP	PKPab	05 57 37.1	-1.0
	comp=Z,2.3nm,0.8s,baz=16,slow=5.0,SNR=7.0						
HFS	**Hagfors**	**144.04**	**348**	PKP	PKPbc	05 57 38.4	-1.2
	comp=Z,5.3nm,0.6s,baz=8.7,slow=2.0,SNR=14						
AKASG	**Malin Array Be**	**146.22**	**326**	PKPbc	**PKPdf**	**05 57 45.2**	**+0.9**
	comp=Z,1.3nm,0.4s,baz=47,slow=4.3,SNR=10						
MMAI	**Mount Meron Ar**	**148.25**	**292**	PKPbc	**PKPbc**	**05 57 53.3**	**+0.8**
	comp=Z,3.4nm,0.4s,baz=90,slow=3.3,SNR=7.3						
BRTR	**Keskin Array B**	**148.43**	**305**	PKPbc	**PKPbc**	**05 57 52.0**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=48,slow=2.1,SNR=7.1						
EKA	**Eskdalemuir Ar**	**150.05**	**4**	PKPbc	**PKPbc**	**05 57 55.1**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=351,slow=2.6,SNR=3.9						

*GCG **11** 05:41:29.7±2.3, 15°.03N×92°.92W, h71km±24km, MD4.2, MW3.0*
*MEX **11** 05:41:30.2±0.9, 14°.97N×93°.00W, h71km±10km, MD4.2*
ISC 11 05:41:27.3±1.3, 14°.93N±0°.05×92°.96W±0°.03, h87km±10km, n34, σ2§39/58, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.67**	**91**	*e*P	**Pn**	**05 41 43.7**	**+0.4**
THIG				*e*S	**Sn**	**05 41 55.4**	**+0.2**
THIG		**0.67**	**91**	*e*P	**Pn**	**05 41 44.4**	**+1.1**
THIG				*e*S	**Sn**	**05 41 54.6**	**-0.5**
PATR	**El Naranjo**	**0.72**	**75**	*e*P	**Pn**	**05 41 44.3**	**+0.2**
PATR				*e*S	**Sn**	**05 41 55.4**	**-1.2**
PAVE	**Pavencul**	**0.80**	**70**	*e*P	**Pn**	**05 41 45.5**	**+0.6**
PAVE				*e*S	**Sn**	**05 41 57.4**	**-0.6**
PCIG		**0.81**	**342**	*e*P	**Pn**	**05 41 44.6**	**-0.2**
PCIG				*e*P		05 41 44.8	
PCIG				*e*S	**Sn**	**05 41 55.8**	**-2.0**
PCIG				*e*S		05 41 55.8	
RTAL	**Retalhuleu**	**1.28**	**108**	*e*P	**Pn**	**05 41 52.5**	**+2.3**
RTAL				*e*S	**Sn**	**05 42 09.0**	**+1.5**
HUEH	**Huehuetenango**	**1.46**	**74**	*e*P	**Pn**	**05 41 54.5**	**+1.9**
HUEH				*e*S	**Sn**	**05 42 13.7**	**+1.9**
HUEH	**Huehuetenango**	**1.46**	**74**	*i* P	**Pn**	**05 41 54.8**	**+2.1**
HUEH				*i* S	**Sn**	**05 42 14.5**	**+2.7**
CCIG	**Comitan**	**1.56**	**30**	*e*P	**Pn**	**05 41 55.5**	**+1.5**
CCIG				*e*S	**Sn**	**05 42 14.3**	**+0.3**
CCIG	**Comitan**	**1.56**	**30**	*i* P	**Pn**	**05 41 55.6**	**+1.6**
STG8	**El Palmar, Qui**	**1.62**	**107**	*e*P	**Pn**	**05 41 52.6**	**-2.2**
STG8				*e*S	**Sn**	**05 42 10.0**	**-5.5**
STG0	**El Palmar, Qui**	**1.64**	**107**	*e*P	**Pn**	**05 41 53.0**	**-1.9**
STG0				*e*S	**Sn**	**05 42 10.6**	**-5.3**
TGIG		**1.85**	**355**	*e*P	**Pn**	**05 41 57.4**	**-0.1**
TGIG				*e*S	**Sn**	**05 42 17.0**	**-3.5**
TGIG		**1.85**	**355**	*e*P	**Pn**	**05 41 57.4**	**-0.1**
UXUV	**UXUV**	**2.64**	**335**	*e*P	**Pn**	**05 42 09.5**	**+1.5**
UXUV				*e*S	**Sn**	**05 42 39.2**	**0.0**
CMIG	**Matias Romero**	**2.84**	**320**	*e*P	**Pn**	**05 42 11.2**	**+0.5**
CMIG				*e*S	**Sn**	**05 42 43.1**	**-1.0**
HUIG	**Huatulco**	**3.15**	**286**	*e*P	**Pn**	**05 42 16.5**	**+1.6**
HUIG				*e*S	**Sn**	**05 42 49.5**	**-2.1**
NUBE	**Las Nubes**	**3.24**	**108**	*e*P	**Pn**	**05 42 19.7**	**+3.4**
PETF	**Flores**	**3.57**	**56**	*e*P	**Pn**	**05 42 21.7**	**+1.1**
PETF				*e*S	**Sn**	**05 42 59.1**	**-2.6**
PETF	**Flores**	**3.57**	**56**	*e*P	**Pn**	**05 42 21.5**	**+0.9**
JAYA	**Jayaque - finc**	**3.63**	**110**	*e*P	**Pn**	**05 42 25.1**	**+3.6**
NEUV	**Arroyo Zacate**	**3.89**	**316**	*e*P	**Pn**	**05 42 25.6**	**+0.7**
NEUV				*e*S	**Sn**	**05 43 09.0**	**-0.5**
PEIG	**Puerto Escondi**	**4.18**	**285**	*e*S	**Sn**	**05 43 13.9**	**-2.6**
VHO	**Vista Hermosa**	**4.21**	**301**	*e*S	**Sn**	**05 43 14.7**	**-2.9**
SCIG	**Sabancuy**	**4.36**	**23**	*e*P	**Pn**	**05 42 31.9**	**+0.6**
SCIG				*e*S	**Sn**	**05 43 17.9**	**-3.0**
YOIG	**Yosondua**	**4.81**	**294**	*e*P	**Pn**	**05 42 40.8**	**+3.2**
YOIG				*e*S	**Sn**	**05 43 32.0**	**-0.4**
TOIG	**Toxpalan**	**5.05**	**309**	*e*P	**Pn**	**05 42 44.5**	**+3.9**
TOIG				*e*S	**Sn**	**05 43 37.7**	**0.0**
TXIG	**Tlaxiaco**	**5.17**	**297**	*e*S	**Sn**	**05 43 35.2**	**-5.8**
PNIG	**Pinotepa**	**5.19**	**287**	*e*P	**Pn**	**05 42 43.7**	**+1.2**
PNIG				*e*S	**Sn**	**05 43 38.6**	**-2.6**
TPIG	**Tehuac#an**	**5.47**	**310**	*e*S	**Sn**	**05 43 49.0**	**+0.9**
HLIG	**Huajuapan de L**	**5.48**	**302**	*e*S	**Sn**	**05 43 48.2**	**-0.2**
JAUV	**Jalcomulco**	**5.75**	**321**	*e*P	**Pn**	**05 42 49.7**	**-0.5**
JAUV				*e*S	**Sn**	**05 43 49.7**	**-5.1**
FTIG	**Fresnillo de T**	**5.79**	**302**	*e*P	**Pn**	**05 42 54.0**	**+3.2**
FTIG				*e*S	**Sn**	**05 43 55.8**	**0.0**
TLIG	**Tlapa**	**5.99**	**297**	*e*P	**Pn**	**05 42 57.3**	**+3.7**
TLIG				*e*S	**Sn**	**05 43 59.6**	**-1.3**

IDC 11 05:59:57.3±2.7, 54°.10N×86°.49E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=22.7km s-min=13.5km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**262**	I	I	06 07 40.0	
	baz=82,slow=325,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.00**	**262**	Pg	Pg	06 00 15.4	-0.9
	1.4nm,0.3s,baz=79,slow=16,SNR=19						
ZALV				Lg	Lg	06 00 30.6	
	1.6nm,0.3s,baz=82,slow=28,SNR=9.2						
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	06 01 28.0	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=3.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.79**	**202**	Pn	Pn	06 01 53.0	+1.2
	0.3nm,0.3s,baz=24,slow=13,SNR=11						
	0.3nm,0.3s						

*ASRS **11** 06:02:57.0±1.8, 51°.64N×82°.56E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **11** 06:03:01.5±1.8, 51°.47N×82°.70E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=17.0km s-min=15.4km az=157.0*
*NNC **11** 06:03:09.9±3.3, 51°.26N×82°.24E, h0km, mb2.5, mpv2.1, Error ellipse: s-maj=40.7km s-min=21.2km az=20.0, Suspected Mining explosion.*
ISC 11 06:02:56.9±1.2, 50°.98N±0°.08×83°.8E±0°.1, h0km, n7, σ1§50/7, 3C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.04**	**12**	I	I	06 19 20.0	
	baz=207,slow=330,SNR=1.4						
ZALV	**Zalesovo Beam**	**3.04**	**12**	Pn	**Pn**	**06 03 47.5**	**+1.2**
	2.0nm,0.3s,baz=210,slow=17,SNR=26						
ZALV				Sn	**Sn**	**06 04 21.6**	**-1.7**
	2.2nm,0.3s,baz=207,slow=26,SNR=15						
	4.0nm,0.3s						
KURK	**Kurchatov**	**3.29**	**267**	⇑Pn	**Pn**	**06 03 49.5**	**-0.1**
	2.8nm,1.3s						
KURK				⇓Lg	Lg	06 04 23.8	

Triangular moment-rate function
*NEIC **11** 06:06:41.0±1.2, 60°.8S±0°.1×148°.8W±0°.2, h10km±1km, mb4.9/23 Error ellipse: s-maj=27.5km s-min=4.8km az=218.0*
ISC 11 06:06:33.1±0.5, 59°.90S±0°.09×151°.0W±0°.1, h10km, n87, σ2s24/45, mb4.7/20, MS4.2/34, 3D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTZ	**Chatham Island**	**22.43**	**305**	P	P	06 11 53.4	+22
CTZ				IAmb	IAmb	06 11 58.4	
	comp=Z,76nm,1.4s						
SBA	**Scott Base**	**22.62**	**202**		**P**	**06 11 37.2**	**+3.7**
VNDA	**Vanda**	**23.44**	**204**		**P**	**06 11 46.1**	**+4.2**
VNDA	**Vanda**	**23.44**	**204**	P	**P**	**06 11 44.2**	**+2.3**
	comp=Z,1.2nm,1.0s,baz=53,slow=8.4,SNR=7.4						
VNDA				LR	LR	06 18 49.8	
	comp=Z,359nm,18.0s,baz=73,slow=31						
	comp=Z,1.2nm,1.0s						
URZ	**Urewera**	**29.61**	**303**	LR	LR	06 21 03.8	
	comp=Z,360nm,21.9s,baz=231,slow=30						
QSPA	**South Pole Qui**	**30.24**	**180**		**P**	**06 12 44.3**	**+0.6**
QSPA				IAmb	IAmb	06 12 48.7	
	comp=Z,16nm,1.1s						
QSPA	**South Pole Qui**	**30.24**	**180**	P	**P**	**06 12 45.1**	**+1.4**
	comp=Z,9.2nm,1.0s,baz=64,slow=8.1,SNR=9.4						
QSPA				LR	LR	06 22 40.4	
	comp=Z,712nm,21.4s,baz=64,slow=32						
	comp=Z,9.2nm,1.0s						
TBI	**Tubuai**	**36.53**	**2**	*e*S	**S**	**06 19 25.5**	**+4.8**
	comp=Z,747nm,40.5s						
TBI				*e*LR	LR	06 23 16.7	
	comp=Z,1μm,30.8s						
TBI				*e*LR	LR	06 23 29.1	
	comp=Z,2μm,23.0s						
BELA	**Belgrano 2**	**37.17**	**162**		**P**	**06 13 41.7**	**-1.8**
PMSA	**Palmer Station**	**37.63**	**136**	P	P	06 13 42.8	-4.7
PMSA	**Palmer Station**	**37.63**	**136**	LR	LR	06 25 31.2	
	comp=Z,349nm,18.2s,baz=111,slow=30						
RKT	**Rikitea**	**38.44**	**24**	*e*LR	LR	06 24 32.0	
	comp=Z,1μm,24.8s						
RAR	**Rarotonga**	**39.15**	**347**	LR	LR	06 26 10.1	
	comp=Z,486nm,18.4s,baz=178,slow=30						
MG04	**Isla Riesco**	**42.02**	**117**	P	**P**	**06 14 20.8**	**-3.3**
USHA	**Ushuaia**	**42.07**	**121**	LR	LR	06 28 26.1	
	comp=Z,198nm,18.5s,baz=248,slow=31						
PPT2	**Papeete2**	**42.26**	**2**	*e*S	**S**	**06 20 41.3**	**-5.6**
	comp=Z,70nm,24.0s						
PPT2				*e*S	**S**	**06 20 48.3**	**+1.4**
	comp=Z,105nm,25.5s						
PPT2				*e*LR	LR	06 26 04.2	
	comp=Z,962nm,25.2s						
PPT2				*e*LR	LR	06 26 05.7	
	comp=Z,568nm,23.5s						
PPT	**Papeete**	**42.28**	**2**	LR	LR	06 27 27.5	
	comp=Z,318nm,19.4s,baz=178,slow=30						
SNAA	**Sanae**	**46.86**	**167**	P	**P**	**06 15 02.1**	**-0.5**
SNAA				IAmb	IAmb	06 15 04.3	
	comp=Z,16nm,1.3s						
SNAA	**Sanae**	**46.86**	**167**	P	**P**	**06 15 02.0**	**-0.7**
	comp=Z,3.3nm,0.8s,baz=210,slow=12,SNR=3.7						
SNAA				LR	LR	06 34 20.1	
	comp=Z,233nm,18.3s,baz=204,slow=35						
	comp=Z,3.3nm,0.8s						
VNA2	**Neumayer--Watz**	**46.98**	**165**	⇓P	**P**	**06 15 03.2**	**-0.3**
	comp=Z,6.2nm,0.6s,baz=189,slow=7.9						
TROLL	**Troll, Antarti**	**47.10**	**169**	⇓P	**P**	**06 15 05.1**	**+0.5**
	comp=Z,220nm,1.1s						
AY01	**Puyuhuapi**	**47.51**	**108**		**P**	**06 15 06.1**	**-1.8**
AY01				IAmb	IAmb	06 15 12.2	
	comp=Z,14nm,1.1s						
MSVF	**Nonsavu**	**47.67**	**318**	LR	LR	06 31 26.6	
	comp=Z,142nm,21.6s,baz=172,slow=32						
DZM	**Mont Dzumac**	**48.17**	**303**	*e*LR	LR	06 29 20.1	
	comp=Z,335nm,26.7s						
DZM	**Mont Dzumac**	**48.17**	**303**	LR	LR	06 32 58.9	
	comp=Z,155nm,18.1s,baz=98,slow=33						
ELIB	**Princess Elisa**	**48.38**	**178**	*d*P	**P**	**06 15 14.2**	**-0.3**
	comp=Z,5.3nm,1.5s						
LL02	**Futaleuf**	**48.81**	**107**		**P**	**06 15 15.8**	**-2.3**
LL02				IAmb	IAmb	06 15 22.2	
	comp=Z,19nm,1.1s						
LL01	**San Ignacio de**	**49.15**	**106**	P	**P**	**06 15 17.8**	**-2.8**
LL01				IAmb	IAmb	06 15 24.5	
	comp=Z,7.6nm,0.9s						
FUTU	**Fugatoga**	**49.69**	**325**		P	06 15 43.3	+18
MAW	**Mawson**	**50.41**	**196**	LR	LR	06 34 14.1	
	comp=Z,242nm,21.7s,baz=165,slow=33						
LR05	**Currie**	**50.99**	**105**	P	**P**	**06 15 33.0**	**-1.6**
LR05				IAmb	IAmb	06 15 40.4	
	comp=Z,24nm,1.1s						
PLCA	**Paso Flores**	**51.31**	**106**	P	**P**	**06 15 38.6**	**+1.5**
	comp=Z,5.8nm,0.9s,baz=219,slow=8.6,SNR=4.0						
PLCA				LR	LR	06 32 09.2	
	comp=Z,152nm,19.7s,baz=217,slow=30						
	comp=Z,5.8nm,0.9s						
TAOE	**Nuku Hiva Isla**	**51.58**	**14**	*e*S	**S**	**06 23 01.8**	**+1.7**
	comp=Z,47nm,26.2s						
TAOE				*e*LR	LR	06 30 31.8	
	comp=Z,370nm,25.1s						
STKA	**Stephens Creek**	**51.80**	**271**	P	**P**	**06 15 39.6**	**-1.1**
	comp=Z,3.2nm,0.8s,baz=150,slow=6.9,SNR=5.2						
STKA				LR	LR	06 33 22.1	
	comp=Z,275nm,22.0s,baz=164,slow=31						
	comp=Z,3.2nm,0.8s						
H03S2	**Juan Fernandez**	**52.55**	**94**	T	T	07 12 16.6	
	baz=215,slow=74,SNR=18						
H03S1	**Juan Fernandez**	**52.56**	**94**	T	T	07 12 19.0	
	baz=215,slow=74,SNR=26						
H03S3	**Juan Fernandez**	**52.57**	**94**	T	T	07 12 17.0	
	baz=215,slow=74,SNR=37						
H03N3	**Juan Fernandez**	**52.86**	**94**	T	T	07 12 37.2	
	baz=218,slow=72,SNR=56						
H03N2	**Juan Fernandez**	**52.87**	**94**	T	T	07 13 02.0	
	baz=218,slow=72,SNR=62						
H03N1	**Juan Fernandez**	**52.88**	**94**	T	T	07 12 32.1	
	baz=218,slow=72,SNR=46						
ASAR	**Alice Springs**	**62.39**	**270**	P	**P**	**06 16 54.9**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=140,slow=6.3,SNR=27						
	comp=Z,2.3nm,0.7s						
H01W1	**Cape Leeuwin H**	**62.83**	**247**	T	T	07 25 59.4	
	baz=145,slow=74						
H01W2	**Cape Leeuwin H**	**62.84**	**247**	T	T	07 26 04.1	
	baz=145,slow=74						
H01W3	**Cape Leeuwin H**	**62.85**	**247**	T	T	07 25 58.5	
	baz=145						
NWAO	**Narrogin (SRO)**	**63.00**	**251**	LR	LR	06 38 22.6	
	comp=Z,309nm,19.2s,baz=122,slow=30						
WRA	**Warramunga Arr**	**65.29**	**273**	P	**P**	**06 17 13.7**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=155,slow=5.9,SNR=6.2						
WRA				LR	LR	06 40 47.7	
	comp=Z,185nm,21.2s,baz=230,slow=32						
	comp=Z,1.4nm,0.8s						
ITQB	**Itaqui**	**66.92**	**109**	P	**P**	**06 17 25.4**	**+0.1**
CPUP	**Villa Florida**	**69.38**	**107**	P	**P**	**06 17 42.8**	**+2.1**
CPUP				IAmb	IAmb	06 17 47.5	
	comp=Z,14nm,1.4s						
CPUP	**Villa Florida**	**69.38**	**107**	P	**P**	**06 17 40.8**	**+0.1**
	comp=Z,5.1nm,1.0s,baz=221,slow=8.0,SNR=6.6						
CPUP				LR	LR	06 43 39.7	
	comp=Z,129nm,19.0s,baz=207,slow=32						
	comp=Z,5.1nm,1.0s						
FITZ	**Fitzroy Crossi**	**71.22**	**266**	LR	LR	06 44 43.8	
	comp=Z,312nm,21.9s,baz=146,slow=32						
LPAZ	**La Paz**	**72.48**	**92**	P	**P**	**06 17 59.0**	**-1.4**
LPAZ				IAmb	IAmb	06 18 04.6	
	comp=Z,15nm,1.4s						
LPAZ	**La Paz**	**72.48**	**92**	P	**P**	**06 18 01.2**	**+0.7**
	comp=Z,4.0nm,1.1s,baz=187,slow=2.0,SNR=8.6						
LPAZ				LR	LR	06 42 03.1	
	comp=Z,118nm,21.6s,baz=192,slow=29						
	comp=Z,4.0nm,1.1s						
ATAH	**Atahualpa**	**75.15**	**78**	LR	LR	06 43 33.1	
	comp=Z,330nm,18.8s,baz=219,slow=30						
SIV	**San Ignacio**	**76.27**	**98**	LR	LR	06 45 53.0	
	comp=Z,133nm,21.7s,baz=196,slow=31						
CZSB	**Cruzeiro do Su**	**77.47**	**84**	P	**P**	**06 18 30.1**	**+1.5**
PTLB	**Pontes e Lacer**	**77.70**	**99**	P	**P**	**06 18 30.4**	**+0.6**
COHC	**Cochancay**	**78.76**	**75**	P	**P**	**06 18 38.2**	**+2.5**
VILB	**Vilhena**	**79.30**	**97**	P	**P**	**06 18 39.7**	**+1.0**
VILB				IAmb	IAmb	06 18 45.4	
	comp=Z,13nm,1.1s						
SLOR	**San Lorenzo -**	**80.64**	**75**	P	**P**	**06 18 47.8**	**+1.3**
SLOR				IAmb	IAmb	06 18 51.2	
	comp=Z,5.3nm,0.8s						
SAML	**Samuel**	**81.22**	**93**	P	**P**	**06 18 51.5**	**+2.5**
SAML				IAmb	IAmb	06 18 52.1	
	comp=Z,8.8nm,1.1s						
OTAV	**Otavalo**	**81.50**	**75**		**P**	**06 18 53.0**	**+1.9**
OTAV				IAmb	IAmb	06 18 56.0	
	comp=Z,18nm,1.5s						
BDFB	**Brasilia**	**82.96**	**109**	LR	LR	06 51 40.8	
	comp=Z,153nm,20.6s,baz=155,slow=33						
KAPI	**Kappang**	**85.33**	**268**	LR	LR	06 56 57.8	
	comp=Z,164nm,18.2s,baz=142,slow=36						
JTS	**Las Juntas de**	**87.23**	**64**	LR	LR	06 49 20.0	
	comp=Z,214nm,18.1s,baz=194,slow=30						
ROSC	**El Rosal**	**87.50**	**76**	LR	LR	06 50 32.6	
	comp=Z,235nm,21.3s,baz=219,slow=30						
SUR	**Sutherland**	**87.81**	**173**	LR	LR	06 53 53.6	
	comp=Z,152nm,21.2s,baz=186,slow=32						
CMIG	**Matias Romero**	**89.04**	**53**	LR	LR	06 52 17.2	
	comp=Z,83nm,18.7s,baz=184,slow=31						
LEM	**Lembang**	**89.83**	**257**	LR	LR	06 54 27.4	
	comp=Z,126nm,20.2s,baz=158,slow=32						
BOSA	**Boshof**	**91.77**	**177**	LR	LR	06 56 19.3	
	comp=Z,364nm,21.5s,baz=195,slow=32						
DAV	**Davao City (W)**	**92.78**	**279**	LR	LR	07 03 01.8	
	comp=Z,48nm,18.0s,baz=160,slow=37						
SDV	**Santo Domingo**	**92.81**	**77**	LR	LR	06 54 39.6	
	comp=Z,158nm,20.0s,baz=226,slow=31						
LBTB	**Lobatse**	**95.36**	**177**	LR	LR	06 58 27.0	
	comp=Z,364nm,21.5s,baz=187,slow=33						
PCRV	**Puerto La Cruz**	**96.89**	**82**	LR	LR	06 58 36.5	
	comp=Z,295nm,18.4s,slow=32						
PFO	**Pinyon Flats O**	**97.42**	**28**	LR	LR	06 56 17.4	
	comp=Z,95nm,18.0s,baz=208,slow=31						
MDP	**Montagnes des**	**98.57**	**95**	LR	LR	06 59 23.7	
	comp=Z,67nm,20.3s,baz=135,slow=32						
H10N3	**ASCENSION HYDR**	**104.19**	**135**	T	T	08 17 38.8	
	baz=203,slow=75,SNR=8.0						
H10N1	**ASCENSION HYDR**	**104.19**	**135**	T	T	08 17 36.6	
	baz=203,slow=75,SNR=7.8						
H10N2	**ASCENSION HYDR**	**104.20**	**135**	T	T	08 17 36.6	
	baz=203,slow=75,SNR=5.4						
ILAR	**Eielson Array**	**124.39**	**2**	PKP	**PKPdf**	**06 25 28.8**	**-1.7**
	comp=Z,1.3nm,0.9s,baz=190,slow=3.7,SNR=5.8						
KSH	**Kashi**	**144.44**	**256**	PKPbc	**PKiKP**	**06 26 16.9**	**+4.4**
MKAR	**Makanchi Array**	**146.58**	**271**	PKPbc	**PKPdf**	**06 26 11.9**	**-0.2**
	comp=Z,5.6nm,0.8s,baz=107,slow=4.2,SNR=26						
ZALV	**Zalesovo Beam**	**149.78**	**284**	PKPbc	**PKPbc**	**06 26 19.3**	**-2.5**
	comp=Z,1.1nm,0.6s,baz=114,slow=1.7,SNR=3.9						
KURBB	**Kurchatov Arra**	**150.96**	**274**	PKPbc	**PKPbc**	**06 26 22.5**	**-2.2**
	comp=Z,2.5nm,0.8s,baz=121,slow=1.8,SNR=12						
ESDC	**Sonseca Array**	**151.10**	**120**		**PKPbc**	**06 26 24.9**	**-0.7**
ESDC	**Sonseca Array**	**151.10**	**120**	PKPbc	**PKPbc**	**06 26 25.1**	**-0.5**
	comp=Z,5.4nm,0.9s,baz=239,slow=1.7,SNR=12						
BRTR	**Keskin Array B**	**159.60**	**190**	PKP	**PKPdf**	**06 26 29.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=163,slow=1.5,SNR=2.0						
HFS	**Hagfors**	**172.31**	**82**	PKP	**PKPdf**	**06 26 38.2**	**-2.3**
	comp=Z,0.8nm,0.4s,baz=298,slow=3.1,SNR=6.3						

*SJA **11** 06:12:45.5±0.7, 31°.01S×71°.99W, h6km±3km, ML3.5, MW3.2*
*GUC **11** 06:12:50.8±0.7, 31°.04S×71°.57W, h35km±2km, ML3.6*
ISC 11 06:12:49.4±1.8, 31°.01S±0°.03×71°.66W±0°.06, h7km±13km, n54, σ1s21/64, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.33**	**4**	⇑*e*P	**Pn**	**06 12 59.8**	**-0.9**
CO06				⇑*e*P	**Pn**	**06 12 59.8**	**-0.9**
CO06				IAML		06 13 05.9	
	comp=N,8μm,0.1s						
CO02	**Combarbal**	**0.60**	**109**	*e*P	**Pb**	**06 13 02.9**	**+0.6**
CO02				*e*S	**Sb**	**06 13 10.9**	**-0.1**
CO02				IAML		06 13 13.5	
	comp=E,7μm,0.3s						
CO02	**Combarbal**	**0.60**	**109**	*e*P	**Pb**	**06 13 02.9**	**+0.6**
CO02				IAML		06 13 18.2	
	comp=Z,1μm,0.4s						
CO03	**El Pedregal**	**0.85**	**79**	⇓*e*P	**Pb**	**06 13 07.1**	**+0.6**
CO03				*e*S	**Sb**	**06 13 18.5**	**+0.2**
CO03	**El Pedregal**	**0.85**	**79**	*e*P	**Pb**	**06 13 07.2**	**+0.6**
CO03				IAML		06 13 25.1	
	comp=Z,554nm,0.2s						
GO04	**Tololo Observa**	**1.12**	**42**	*e*P	**Pn**	**06 13 11.5**	**-0.1**
GO04				*e*S	**Sn**	**06 13 27.4**	**0.0**
GO04	**Tololo Observa**	**1.12**	**42**	*e*P	**Pb**	**06 13 10.8**	**-0.3**
GO04				IAML		06 13 31.4	
	comp=Z,2μm,0.2s						
CO05	**La Serena**	**1.14**	**19**	*e*P	**Pg**	**06 13 11.9**	**+0.5**
CO01	**Juntas del Tor**	**1.70**	**53**	*e*P	**Pb**	**06 13 20.8**	**-0.3**
CO01				*e*S	**Sb**	**06 13 43.2**	**+0.5**
CO01				IAML		06 13 44.5	
	comp=N,1μm,0.3s						
CO01	**Juntas del Tor**	**1.70**	**53**	*e*P	**Pb**	**06 13 20.9**	**-0.1**
CO01				IAML		06 13 48.5	
	comp=Z,234nm,0.4s						
VA03	**San Esteban**	**1.99**	**152**	*e*P	**Pn**	**06 13 24.1**	**+0.5**
VA03				IAML		06 13 51.6	
	comp=E,639nm,0.3s						
VA03	**San Esteban**	**1.99**	**152**	*e*P	**Pn**	**06 13 24.1**	**+0.5**
VA03				IAML		06 13 55.2	
	comp=Z,386nm,0.7s						
VA01	**Torpederas**	**2.01**	**180**	*e*P	**Pn**	**06 13 24.3**	**+0.6**
VA01	**Torpederas**	**2.01**	**180**	*e*P	Pn	06 13 07.0	-17
VA01				IAML		06 13 56.0	
	comp=Z,122nm,0.6s						
ROC1	**El Roble**	**2.04**	**165**	*e*P	**Pn**	**06 13 23.9**	**-0.5**
AROD	**Rodeo**	**2.06**	**67**	*e*P	**Pb**	**06 13 27.6**	**+0.2**
LCO	**Las Campanas**	**2.16**	**23**	*e*P	**Pn**	**06 13 26.6**	**+0.6**
LCO				*e*S	**Sb**	**06 13 54.8**	**-1.2**
LCO				IAML		06 14 03.7	
	comp=Z,411nm,0.2s						
RTLS	**Leoncito**	**2.17**	**112**	*e*P	**Pb**	**06 13 29.2**	**0.0**
RTLS				IAML		06 14 05.4	
	comp=Z,368nm,0.3s						
DOCA	**Reserva Natura**	**2.22**	**89**	*e*P	**Pb**	**06 13 29.4**	**-0.6**
DOCA				IAML		06 14 06.3	
	comp=Z,150nm,0.4s						
ACCO	**Cerro Coronel**	**2.27**	**80**	*e*P	**Pg**	**06 13 32.4**	**-0.6**
PEL	**Peldehue**	**2.29**	**159**	*e*P	**Pn**	**06 13 27.9**	**+0.4**
PEL				IAML		06 13 59.3	
	comp=E,429nm,0.4s						
PEL	**Peldehue**	**2.29**	**159**	*e*P	**Pn**	**06 13 28.1**	**+0.6**
PEL				IAML		06 14 03.5	
	comp=Z,159nm,0.7s						
MT02	**Curacav**	**2.29**	**169**	*e*P	**Pn**	**06 13 26.7**	**-0.9**
MT02				IAML		06 14 07.0	
	comp=Z,155nm,0.7s						
ACDV	**Cuesta del Vie**	**2.34**	**70**	*e*P	Pn	06 13 15.8	-13
ACDV				IAML		06 14 13.9	
	comp=Z,118nm,0.5s						
MT10	**Hacienda Santa**	**2.45**	**157**	*e*P	**Pn**	**06 13 30.4**	**+0.5**
MT10				*e*S	**Sn**	**06 14 02.0**	**+1.8**
AC05	**El Transito**	**2.48**	**29**	*e*P	**Pn**	**06 13 31.1**	**+0.9**
AC05				*e*S	**Sb**	**06 14 05.1**	**+0.1**
AC05				IAML		06 14 15.9	
	comp=Z,153nm,0.5s						
MT05	**Renca**	**2.50**	**162**	*e*P	**Pn**	**06 13 31.2**	**+0.6**
MT05				IAML		06 14 11.8	
	comp=E,526nm,0.3s						
MT05	**Renca**	**2.50**	**162**	*e*P	**Pn**	**06 13 31.0**	**+0.4**
MT05				IAML		06 14 12.9	
	comp=Z,199nm,0.7s						
MT14	**Cerro Calı̣n**	**2.57**	**158**	*e*P	**Pn**	**06 13 31.9**	**+0.4**
MT14				IAML		06 14 11.1	
	comp=E,448nm,0.4s						
FCH	**Farellones**	**2.59**	**154**	*e*P	**Pn**	**06 13 32.9**	**+0.9**
MT16	**CCHEN**	**2.60**	**158**	*e*P	**Pn**	**06 13 32.9**	**+1.0**
ZON	**Zonda**	**2.61**	**103**	*e*P	**Pb**	**06 13 35.2**	**-1.3**
ZON				*e*S	**Sb**	**06 14 09.2**	**+0.4**
ZON				IAML		06 14 20.8	
	comp=Z,155nm,0.6s						
MT03	**Universidad Ad**	**2.67**	**159**	*e*P	**Pn**	**06 13 33.1**	**+0.2**
MT03				IAML		06 14 17.0	
	comp=Z,303nm,0.5s						
SJA	**San Juan**	**2.71**	**102**	*e*P	**Pn**	**06 13 32.8**	**-0.6**
SJA				IAML		06 14 24.4	
	comp=Z,135nm,0.6s						
MT04	**Ro Olivares**	**2.72**	**152**	*e*P	**Pn**	**06 13 34.9**	**+1.3**
MT04				IAML		06 14 19.8	
	comp=E,234nm,0.3s						
MT04	**Ro Olivares**	**2.72**	**152**	*e*P	**Pn**	**06 13 34.8**	**+1.1**
MT04				IAML		06 14 18.2	
	comp=Z,141nm,0.8s						
RTLL	**Cerro Villicun**	**2.75**	**98**	*e*P	**Pb**	**06 13 36.8**	**-2.2**
RTLL				*e*S	**Sb**	**06 14 11.1**	**-1.8**
MT08	**Bocatoma Ro**	**2.80**	**151**	*e*P	**Pn**	**06 13 36.6**	**+1.8**
MT08				*e*S	**Sb**	**06 14 12.8**	**-1.7**
MT08				IAML		06 14 25.1	
	comp=Z,113nm,0.5s						
AC04	**Llanos de Chal**	**2.84**	**11**	*e*P	**Pn**	**06 13 34.8**	**-0.3**
AC04				*e*S	**Sb**	**06 14 13.9**	**-1.4**
AC04				IAML		06 14 31.1	
	comp=Z,72nm,0.8s						
MT01	**Popeta**	**2.87**	**173**	*e*P	**Pn**	**06 13 34.9**	**-0.7**
MT01				IAML		06 14 18.6	
	comp=Z,106nm,0.7s						
MT12	**Pirque**	**2.88**	**161**	*e*P	**Pn**	**06 13 36.1**	**+0.4**
MT12				IAML		06 14 22.7	
	comp=N,411nm,0.5s						
ASAL	**Salagasta**	**2.88**	**124**	*e*P	**Pb**	**06 13 40.0**	**-1.2**
MT13	**San Alfonso**	**2.97**	**157**	*e*P	**Pn**	**06 13 38.0**	**+1.0**
MT13				IAML		06 14 26.4	
	comp=E,236nm,0.5s						
MT13	**San Alfonso**	**2.97**	**157**	*e*P	**Pn**	**06 13 37.7**	**+0.7**
LMEL	**Las Melosas**	**3.09**	**157**	*e*P	**Pn**	**06 13 39.7**	**+1.0**
LMEL				IAML		06 14 27.2	
	comp=N,189nm,0.3s						
LMEL	**Las Melosas**	**3.09**	**157**	*e*S	**Sn**	**06 14 17.3**	**+1.3**
BO01	**Tunca**	**3.41**	**172**	*e*P	**Pn**	**06 13 42.5**	**-0.4**
AVFE	**Valle Fertil**	**3.63**	**86**	IAML		06 14 40.4	
	comp=Z,128nm,0.4s						
VCA	**Vinchina**	**3.76**	**54**	*e*S	**Sg**	**06 14 51.1**	**+0.9**
VCA				*e*S	**Sg**	**06 14 51.1**	**+0.9**
VCA				IAML		06 14 53.0	
	comp=Z,153nm,0.5s						
VCA				IAML		06 14 53.0	
	comp=Z,153nm,0.5s						
BO02	**Sierra Bellavi**	**3.85**	**169**	IAML		06 14 47.3	
	comp=Z,75nm,0.3s						
ACLC	**CERRO LA CRUZ**	**4.37**	**70**	IAML		06 15 01.0	
	comp=Z,70nm,0.8s						
APLL	**PUNTA DE LOS L**	**4.46**	**83**	*e*S	**Sb**	**06 14 56.4**	**-5.7**
AC02	**Maricunga**	**4.71**	**29**	*e*P	**Pn**	**06 14 03.0**	**+1.7**
AC02				*e*P	**Pn**	**06 14 03.0**	**+1.7**
AC02				*e*P	**Pn**	**06 14 03.0**	**+1.7**
AC01	**Pan de Azucar**	**4.93**	**11**	*e*S	**Sb**	**06 15 14.3**	**-1.2**

*IDC **11** 06:13:07.2±0.7, 19°.44N×147°.00E, h0km, mb4.0/19, mbtmp4.1/22, ML4.0/3, MS3.5/6, Error ellipse: s-maj=23.0km s-min=13.2km az=87.0*
*NEIC **11** 06:13:14.6±1.3, 19°.40N±0°.02×146°.7E±0°.2, h35km±2km, mb4.6/34, Error ellipse: s-maj=26.7km s-min=3.5km az=85.0*
ISC 11 06:13:13.5±0.6, 19°.40N±0°.07×146°.8E±0°.1, h39km, n68, σ1s14/63, mb4.4/35, MS3.4/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.08**	**198**	Pn	**Pn**	**06 14 40.0**	**-1.0**
	21nm,0.3s,baz=28,slow=15,SNR=1.7						
	46nm,0.3s						
MJAR	**Matsushiro Arr**	**18.68**	**338**	P	**P**	**06 17 26.3**	**-2.2**
	0.1nm,0.3s,baz=167,slow=10,SNR=4.4						
	1.1nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**18.80**	**89**	T	T	06 36 48.3	
	baz=276,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**18.81**	**89**	T	T	06 36 49.6	
	baz=276,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**18.81**	**90**	T	T	06 36 50.1	
	baz=276,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**18.90**	**86**	T	T	06 36 49.5	
	baz=273						
H11N2	**WAKE ISLAND Hy**	**18.91**	**86**	T	T	06 36 48.9	
	baz=273						
H11N3	**WAKE ISLAND Hy**	**18.92**	**86**	T	T	06 36 48.4	
	baz=273						
JNU	**Nakatsue**	**19.75**	**317**	P	**P**	**06 17 39.7**	**-0.5**
JNU				IAmb	IAmb	06 17 42.3	
	comp=Z,65nm,1.4s						
JNU	**Nakatsue**	**19.75**	**317**	P	**P**	**06 17 39.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=135,slow=6.1,SNR=3.6						
	comp=Z,33nm,1.2s						
MANU	**Manus Island**	**21.32**	**179**	P	**P**	**06 17 57.8**	**+0.6**
DAV	**Davao City (W)**	**24.02**	**242**	LR	LR	06 28 39.5	
	comp=Z,41nm,18.8s,slow=39						
KSRS	**Korea Array**	**24.42**	**321**	P	**P**	**06 18 27.9**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=148,slow=9.9,SNR=11						
KSRS				ScP	**ScP**	**06 25 45.0**	**+2.5**
	comp=Z,1.0nm,0.8s,baz=104,slow=3.0,SNR=2.0						
KSRS				LR	LR	06 27 58.6	
	comp=Z,108nm,20.1s,baz=125,slow=36						
	comp=Z,0.9nm,0.4s						
KSAR	**Wonju Array Be**	**24.43**	**321**	P	**P**	**06 18 24.6**	**-3.9**
ASAJ	**Asahikawa**	**24.89**	**353**	P	**P**	**06 18 33.1**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=184,slow=15,SNR=3.7						
	comp=Z,1.3nm,0.3s						
JKA	**Kamikawa-asahi**	**24.89**	**353**	P	**P**	**06 18 35.9**	**+3.2**
FAKI	**Fak Fak**	**26.42**	**214**	P	**P**	**06 18 47.1**	**+0.3**
KNMB	**Chin-men Tao**	**26.84**	**286**	P	**P**	**06 18 49.8**	**-0.7**
TOLI2	**Tolitoli**	**31.33**	**238**	P	**P**	**06 19 30.3**	**-0.2**
TOLI2

KURK	Kurchatov	61.47	318		P		P	06 23 26.7 +0.5
KURK				IAmb	IAmb			06 23 43.2
comp=Z,8.9nm,1.2s								
KURBB	Kurchatov Arra	61.52	318	P	P		P	06 23 26.0 -0.5
comp=Z,3.4nm,0.9s,baz=96,slow=6.8,SNR=19								
comp=Z,3.4nm,0.9s								
TARG	Taragay, Kyrgy	61.85	308	P	P		P	06 23 28.6 -0.8
TARG				IAmb	IAmb			06 23 41.9
comp=Z,6.6nm,1.1s								
KDJ	Kajisay	62.30	308	P	P		P	06 23 32.6 +0.4
KDJ				IAmb	IAmb			06 23 35.5
comp=Z,4.7nm,1.1s								
ILAR	Eielson Array	62.54	26	P	P		P	06 23 32.0 -1.1
comp=Z,0.8nm,0.9s,baz=262,slow=6.2,SNR=4.3								
comp=Z,0.8nm,0.9s								
BOOM	Boomskoye usch	63.21	308		P		P	06 23 38.1 -0.1
BOOM				IAmb	IAmb			06 24 02.6
comp=Z,3.0nm,0.8s								
BVAR	Borovoye Array	66.62	320	P	P		P	06 24 00.1 +0.1
comp=Z,3.0nm,0.8s,baz=93,slow=7.4,SNR=9.8								
comp=Z,3.0nm,0.8s								
BRVK	Borovoye	66.69	320	P	P		P	06 24 00.7 +0.3
BRVK				IAmb	IAmb			06 24 28.3
comp=Z,3.7nm,0.8s								
KK31	Karatay Array	67.15	309		P		P	06 24 04.0 +0.4
KK31				IAmb	IAmb			06 24 15.0
comp=Z,5.8nm,1.1s								
KKAR	Karatay Array	67.15	309		P		P	06 24 03.7 +0.1
KKAR	Karatay Array	67.15	309		P		P	06 24 04.1 +0.5
KKAR				IAmb	IAmb			06 24 14.9
comp=Z,6.1nm,1.1s								
GAR	Garm	67.77	305	P	P		P	06 24 07.0 -0.7
SIMJ	Simiganj	68.82	305		P		P	06 24 14.4 +0.1
SIMJ				IAmb	IAmb			06 24 21.1
comp=Z,4.9nm,0.8s								
KBL	Kabul	69.44	300	P	P		P	06 24 17.8 -0.5
KBL				IAmb	IAmb			06 24 20.5
comp=Z,7.7nm,1.1s								
DLBC	Dease Lake	70.11	34	LR	LR			06 53 59.5
comp=Z,139nm,19.1s,baz=168,slow=35								
ABKAR	Akbulak array	73.56	317		P		P	06 24 43.0 +0.4
YKA	Yellowknife Ar	76.86	28	P	P		P	06 25 00.7 -0.5
comp=Z,0.7nm,0.9s,baz=282,slow=5.5,SNR=10								
comp=Z,0.7nm,0.9s								
NVAR	Mina Array Bea	81.86	52	P	P		P	06 25 27.1 -2.2
comp=Z,0.2nm,0.3s,baz=288,slow=7.7,SNR=2.1								
NVAR				LR	LR			06 55 34.8
comp=Z,108nm,19.3s,baz=248,slow=31								
comp=Z,0.2nm,0.3s								
KBZ	Khabaz	86.41	315	P	P		P	06 25 51.8 -0.2
comp=Z,1.1nm,0.8s,baz=59,slow=5.9,SNR=2.2								
comp=Z,1.1nm,0.8s								
FINES	FINESS Array B	86.69	336	P	P		P	06 25 51.7 -1.4
comp=Z,1.0nm,0.8s,baz=56,slow=3.5,SNR=1.2								
comp=Z,1.0nm,0.8s								
LPAZ	La Paz	146.60	90	PKPbc	PKPdf			06 32 51.7 +0.7
comp=Z,2.2nm,0.9s,baz=12,slow=4.3,SNR=6.6								

IDC ***11*** *06:15:43.3±0.7, 52°.96N×168°.40W, h0km, mb4.1/19, mbtmp4.1/20, ML3.6/1, MS3.4/19, Error ellipse: s-maj=26.0km s-min=12.8km az=173.0*
AEIC ***11*** *06:15:49.1±2.4, 52°.78N±0°.06×168°.16W±0°.08, h26km±6km, Error ellipse: s-maj=8.8km s-min=6.8km az=208.0*
NEIC ***11*** *06:15:50.6±2.2, 52°.82N±0°.07×168°.19W±0°.09, h35km±2km, mb3.8/62, ML4.4/20, ML4.3(AEIC), Error ellipse: s-maj=11.6km s-min=8.6km az=161.0*
ISC 11 06:15:49.8±1.1, 52°.80N±0°.09×168°.25W±0°.06, h48km±9km**, n160,** σ1$33/138, **mb4.0**/22, **MS3.4**/18, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.40	295		Pn	06 15 59.3	-0.5
NIKH				Sg	Sn	06 16 06.4	-0.5
NIKH				IAML		06 16 06.5	
comp=E,33μm,0.6s							
NIKH				IAML		06 16 06.7	
comp=N,29μm,0.6s							
OKSP	Okmok Steeple	0.45	357		Pn	06 15 59.5	-0.9
OKTU	Okmok Mt. Tuli	0.60	12		Pn	06 16 01.6	-0.5
OKWE	Okmok W'ng Wal	0.67	1		Pn	06 16 02.6	-0.5
OKRE	Okmok R'deer P	0.72	4		Pn	06 16 03.5	-0.2
MREP	Makushin Rep't	1.36	41		Pn	06 16 11.6	-0.8
UNV	Unalaska Valle	1.48	44		Pn	06 16 13.7	-0.2
UNV				Sn	Sn	06 16 31.3	-0.7
UNV				IAML		06 16 32.5	
comp=N,7μm,0.7s							
MTBL	Makushin Table	1.50	38		Pn	06 16 14.3	0.0
MTBL					Sn	06 16 33.0	+0.2
AKRB	Akutan Reef Bi	1.86	44		Pn	06 16 20.0	+0.8
AKRB					Sn	06 16 43.7	+2.2
LVA	Lava Point	1.90	43		Pn	06 16 20.8	+1.0
AKGG	Akutan Green G	1.94	43		Pn	06 16 20.0	-0.3
AKGG					Sn	06 16 45.4	+1.9
AKUT	Akutan	2.00	47		Pn	06 16 20.9	-0.1
AKUT				IAML		06 16 59.5	
comp=N,2μm,0.7s							
WECS	Westdahl Cape	2.70	49		Pn	06 16 32.3	+1.6
ISLZ	Isanotski Laza	3.31	53		Pn	06 16 40.6	+1.5
FALS	False Pass	3.53	52	Pn	Pn	06 16 41.4	-0.6
ATKA	Atka Island	3.68	263		Pn	06 16 46.2	+2.1
ATKA				IAML		06 17 49.3	
comp=N,429nm,0.7s							
P08K	Saint George I	3.88	349	Pn	Pn	06 16 47.1	+0.3
SPIA	Saint Paul Isl	4.53	346	Pn	Pn	06 16 57.6	+1.9
SPIA				IAML		06 17 32.7	
comp=N,308nm,1.5s							
SPIA				IAML		06 17 54.7	
comp=E,360nm,0.6s							
GSTR	Great Sitkin T	4.83	265	Pn	Pn	06 16 59.7	-0.2
SDPT	Sand Point	5.24	58	Pn	Pn	06 17 07.5	+2.1
SDPT				IAML		06 18 30.0	
comp=N,285nm,1.5s							
SDPT				IAML		06 18 31.4	
comp=E,232nm,1.4s							
ADK	Adak	5.25	263		Pn	06 17 08.1	+2.5
ADK				IAML		06 18 28.8	
comp=E,284nm,0.9s							
KIWB	Kanaga Island	5.54	264		Pn	06 17 12.0	+2.4
O14K	Tigyukauivet M	7.55	28	Pn	Pn	06 17 38.0	+0.8
M11K	Mekoryuk	7.69	8	Pn	Pn	06 17 39.5	+0.6
O15K	Ungalikthiuk R	7.94	33	Pn	Pn	06 17 43.9	+1.5
N14K	Kuskokwak Cree	8.01	24	Pn	Pn	06 17 44.0	+0.6
M13K	Dall Lake	8.09	18	Pn	Pn	06 17 47.0	+2.6
N15K	Kwethluk River	8.65	28	Pn	Pn	06 17 50.8	-1.3
M14K	Bethel	8.68	21	Pn	Pn	06 17 54.6	+2.1
O16K	Kokwok River B	8.85	36		Pn	06 17 56.8	+2.0
OHAK	Old Harbor	9.66	57	Pn	Pn	06 18 05.3	-0.7
M16K	Timber Creek	9.67	28	Pn	Pn	06 18 06.6	+0.5
N17K	Nushagak Hills	9.84	34	Pn	Pn	06 18 11.0	+2.7
O18K	Koktuh Hills	10.11	40	Pn	Pn	06 18 14.7	+2.7
L16K	Owhat River	10.11	24	Pn	Pn	06 18 12.8	+0.8
K15K	Wolf Creek Mou	10.17	18	Pn	Pn	06 18 15.2	+2.3
KDAK	Kodiak Island	10.22	55	Pn	Pn	06 18 13.1	-0.6
KDAK	Kodiak Island	10.22	55	Pn	Pn	06 18 13.2	-0.5
comp=E,0.4nm,0.3s,baz=327,slow=1.4,SNR=8.1							
KDAK				Sn	Sn	06 20 03.4	-3.3
comp=E,0.1nm,0.3s,baz=238,slow=15,SNR=1.7							
comp=E,11nm,0.9s							
J14K	Nanvaranak Lak	10.28	12	Pn	Pn	06 18 17.6	+3.2
M17K	Holitna River	10.42	30	Pn	Pn	06 18 18.2	+1.9
SHEM	Shemya Is, Ala	10.70	277	LR	LR	06 22 08.3	
comp=E,140nm,19.2s,baz=85,slow=36							
J16K	Anvik River	11.25	18	Pn	Pn	06 18 29.6	+1.9
K17K	Iditarod	11.25	24	Pn	Pn	06 18 29.6	+1.9
L18K	Granite Mounta	11.28	29	Pn	Pn	06 18 31.4	+3.3
J17K	VABM Dome	11.66	21	Pn	Pn	06 18 35.1	+1.9
L19K	White Mountain	11.82	32	Pn	Pn	06 18 36.3	+0.9
TTA	Tatalina	12.04	28	Pn	Pn	06 18 40.0	+1.5
SLKM	Skilak Lake	12.53	45	Pn	Pn	06 18 46.2	+1.0
K20K	Telida	12.93	30	Pn	Pn	06 18 50.9	+0.3
J19K	Poorman	12.99	25	Pn	Pn	06 18 51.4	0.0
RC01	Rabbit Creek A	13.04	43	Pn	Pn	06 18 52.3	+0.3
J20K	Nowinta River	13.54	27	Pn	Pn	06 19 00.8	+2.0
FID	Port Fidalgo	14.29	48	Pn	Pn	06 19 06.6	-2.4
BPAW	Bear Paw Mtn.	14.42	32		P	06 19 15.5	-1.0
RND	Reindeer	14.69	36	Pn	Pn	06 19 15.9	+1.6
KLU	Klutina	14.85	45	Pn	Pn	06 19 15.7	-0.7
F19K	Shaleruckik Mo	14.99	16		Pn	06 19 20.0	+1.8
M24K	Tolsona, Glenn	15.02	43	Pn	Pn	06 19 17.6	-1.1
H21K	Melozitna Rive	15.05	25		Pn	06 19 21.7	+2.7
H21K				IAmb	IAmb	06 19 48.5	
comp=Z,4.3nm,0.8s							
E18K	Tukpahlearik C	15.13	11	Pn	Pn	06 19 22.2	+2.2
E18K				IAmb	IAmb	06 19 43.1	
comp=Z,5.4nm,1.0s							
BMRM	Bremner River	15.22	48	Pn	Pn	06 19 20.7	-0.5
N25K	Chitina, Valde	15.47	46	Pn	Pn	06 19 23.4	-1.1
N25K				IAmb	IAmb	06 19 38.4	
comp=Z,7.5nm,0.9s							
G21K	Allakaket	15.57	22	Pn	P	06 19 28.2	-1.0
G21K				IAmb	IAmb	06 19 43.9	
comp=Z,6.7nm,1.1s							
WRH	Wood River Hil	15.62	34	Pn	Pn	06 19 27.7	+1.4
WRH				IAmb	IAmb	06 19 45.0	
comp=Z,13nm,1.4s							
I23K	Minto, Yukon-K	15.65	30		P	06 19 29.4	-0.7
I23K				IAmb	IAmb	06 19 46.1	
comp=Z,13nm,1.4s							
CCB	Clear Creek Bu	15.82	33	Pn	Pn	06 19 29.1	+0.2
HDA	Harding Lake	15.97	35	Pn	Pn	06 19 31.7	+0.9
ILAR	Eielson Array	16.21	34	Pn	Pn	06 19 32.9	-1.0
comp=Z,0.1nm,0.3s,baz=227,slow=11,SNR=7.4							
C18K	Utukok River	16.25	9	P	P	06 19 37.7	+0.9
C18K				IAmb	IAmb	06 20 00.1	
comp=Z,5.8nm,1.0s							
YAH	Yahtse	16.36	52		Pn	06 19 36.5	+0.6
RIDG	Independent Ri	16.36	39	Pn	Pn	06 19 35.9	+0.1
RIDG				IAmb	IAmb	06 19 59.9	
comp=Z,5.0nm,0.9s							
M26K	Nabesna, AK	16.49	44		Pn	06 19 37.0	-0.4
M26K				IAmb	IAmb	06 19 54.4	
comp=Z,4.8nm,0.8s							
H24K	Noodor Dome	16.58	30		Pn	06 19 39.3	+0.8
G23K	Bananza Creek	16.59	26		Pn	06 19 39.5	+0.8
L26K	Log Cabin Wild	16.61	42		Pn	06 19 39.5	+0.6
DOT	Dot Lake	16.62	40	Pn	Pn	06 19 39.8	+0.8
DOT				IAmb	IAmb	06 20 02.3	
comp=Z,7.8nm,1.3s							
J25K	Salcha River,	16.64	36		Pn	06 19 39.5	+0.2
SCRK	Sand Creek	16.81	39	Pn	Pn	06 19 42.2	+0.7
D20K	Etivluk River	16.89	15	IAmb	IAmb	06 19 56.9	
comp=Z,8.0nm,1.2s							
M27K	Edge Creek, AK	16.95	45	P	Pn	06 19 42.8	-0.5
M27K				IAmb	IAmb	06 19 53.7	
comp=Z,5.8nm,0.9s							
O28M	Mount Upton	17.20	51	P	Pn	06 19 46.0	-0.6
J26L	Joseph Creek	17.24	38	P	Pn	06 19 47.4	+0.6
J26L				IAmb	IAmb	06 19 52.7	
comp=Z,4.9nm,0.8s							
BCAR	Beaver Creek A	17.27	43	P	Pn	06 19 46.8	-0.3
D22K	Ayikyak River	17.72	19	IAmb	IAmb	06 20 24.8	
comp=Z,6.6nm,1.1s							
F24K	Squaw Lake	17.75	26	P	P	06 19 56.5	+3.1
I26K	Coal Creek Min	17.82	36	IAmb	IAmb	06 20 05.6	
comp=Z,8.0nm,1.2s							
B20K	Meade River	18.00	12	P	P	06 19 58.1	+2.1
B20K				IAmb	IAmb	06 20 19.2	
comp=Z,7.7nm,1.2s							
P29M	Windy Craggy	18.17	56	P	Pn	06 19 58.5	+0.4
P29M				IAmb	IAmb	06 20 10.8	
comp=Z,11nm,0.9s							
TOLK	Toolik Lake Re	18.18	22	P	Pn	06 20 00.1	+1.8
F25K	Christian Rive	18.42	28	P	Pn	06 20 02.2	+1.0
M29M	Somme Creek	18.47	47	P	Pn	06 20 02.7	+0.7
M29M				IAmb	IAmb	06 20 16.7	
comp=Z,4.7nm,0.8s							
HYT	Haines Junctio	18.50	52		Pn	06 20 03.3	+1.1
G26K	Porcupine Rive	18.56	31	P	P	06 20 02.8	+0.7
BMAR	Burnt Mountain	18.62	29	P	Pn	06 20 04.7	+1.1
DAWY	Dawson	18.66	42	P	Pn	06 20 04.9	+0.9
E25K	Arctic Village	18.80	27		Pn	06 20 06.1	+0.3
L29M	L29M	18.83	45	IAmb	IAmb	06 20 19.8	
comp=Z,7.3nm,0.9s							
N30M	Aishikik Lake	18.83	50	P	Pn	06 20 06.7	+0.4
N30M				IAmb	IAmb	06 20 26.3	
comp=Z,14nm,1.1s							
H27K	Steamboat Moun	18.88	34		P	06 20 05.9	+0.1
H27K				IAmb	IAmb	06 20 15.9	
comp=Z,4.7nm,0.9s							
C23K	Itkillik River	18.93	19		P	06 20 06.8	+0.6
C23K				IAmb	IAmb	06 20 19.4	
comp=Z,5.8nm,0.9s							
I28M	Miner Creek	19.05	37		Pn	06 20 08.9	0.0
I28M				IAmb	IAmb	06 20 13.3	
comp=Z,3.6nm,0.8s							
G27K	Doyon Strip	19.16	33	P	P	06 20 08.5	-0.3
BILL	Bilibino	19.54	331		Pn	06 20 14.9	+0.4
I29M	Ogilvie Camp,	19.62	39	IAmb	IAmb	06 20 27.9	
comp=Z,3.9nm,1.0s							
WHY	Whitehorse	19.74	53		Pn	06 20 17.7	+0.6
H29M	Whitestone	19.98	36		P	06 20 17.3	-0.4
M31M	Drury Creek, Y	20.25	49	P	P	06 20 22.1	+1.5
M31M				IAmb	IAmb	06 20 39.0	
comp=Z,6.7nm,0.8s							
I30M	Mount Dempster	20.30	40	P	P	06 20 20.6	-0.8
I30M				IAmb	IAmb	06 20 48.9	
comp=Z,3.2nm,0.9s							
C27K	Jago River	20.33	25	P	Pn	06 20 24.2	+0.3
C27K				IAmb	IAmb	06 20 41.3	
comp=Z,5.4nm,0.9s							
PETK	Petropavlovsk-	20.41	285	P	P	06 20 22.1	-0.3
comp=Z,3.1nm,0.4s,baz=58,slow=12,SNR=7.9							
PETK				LR	LR	06 28 09.6	
comp=Z,62nm,20.2s,baz=149,slow=37							
comp=Z,3.1nm,0.4s							
G29M	Pine Creek	20.43	35	P	P	06 20 22.2	-0.5
EPYK	Eagle Plains	20.65	37	P	P	06 20 24.2	-0.7
P33M	Teslin, Yukon	20.70	55		Pn	06 20 27.4	-1.0
FARO	Faro, Yukon	20.73	49	P	P	06 20 27.5	+1.6
D27M	Malcolm River	20.81	27	P	P	06 20 27.3	+0.6
D27M				IAmb	IAmb	06 20 49.2	
comp=Z,7.6nm,1.2s							
G30M	tAoh Zraii Nji	21.09	35	P	P	06 20 28.9	-0.8
E29M	Blow River	21.23	31		P	06 20 32.9	+1.7
E29M				IAmb	IAmb	06 20 57.2	
comp=Z,8.6nm,1.4s							
H31M	Peel River	21.31	39		P	06 20 30.4	-1.7
H31M				IAmb	IAmb	06 20 38.1	
comp=Z,5.9nm,0.8s							
F30M	Barrier River	21.53	34	P	P	06 20 33.1	-1.3
F30M				IAmb	IAmb	06 20 57.1	
comp=Z,4.4nm,0.8s							
F31M	Tsiigehtchic	22.17	35	P	P	06 20 40.1	-1.0
F31M				IAmb	IAmb	06 20 48.4	
comp=Z,5.1nm,1.2s							
SEY	Seymchan	22.88	312	LR	LR	06 29 38.9	
comp=Z,71nm,19.8s,baz=118,slow=37							
MA2	Magadan	23.47	303	LR	LR	06 28 57.9	
comp=Z,53nm,21.5s,baz=103,slow=34							
YKA	Yellowknife Ar	29.44	50	P	P	06 21 48.9	+0.5
comp=Z,0.2nm,0.7s,baz=275,slow=8.3,SNR=8.4							
YKA				PcP	PcP	06 24 53.7	+0.8
comp=Z,0.6nm,0.7s,baz=276,slow=2.2,SNR=11							
YKA				LR	LR	06 35 53.0	
comp=Z,83nm,18.1s,baz=351,slow=41							
comp=Z,0.2nm,0.7s							
NEW	Newport	32.25	77	LR	LR	06 34 43.1	
comp=Z,52nm,18.3s,baz=198,slow=35							
YBH	Yreka Blue Hor	32.30	91	LR	LR	06 32 31.9	
comp=Z,61nm,20.2s,baz=350,slow=31							
TIXI	Tiksi	32.72	329	LR	LR	06 35 18.4	
comp=Z,71nm,21.7s,baz=22,slow=36							
ASAJ	Asahikawa	33.15	275	LR	LR	06 36 49.3	
comp=Z,48nm,18.1s,baz=202,slow=38							
YAK	Yakutsk	33.40	311	LR	LR	06 35 51.6	
comp=Z,69nm,20.2s,baz=114,slow=36							
KLR	Kul'dur	36.96	289	LR	LR	06 38 57.2	
comp=Z,71nm,18.2s,baz=25,slow=38							
NVAR	Mina Array Bea	37.00	92	P	P	06 22 56.5	+1.8
comp=Z,0.9nm,0.8s,baz=283,slow=9.0,SNR=3.6							
comp=Z,0.9nm,0.8s							
H11N2	WAKE ISLAND Hy	38.22	220	T	T	07 03 49.1	
baz=24,slow=76,SNR=448							
H11N3	WAKE ISLAND Hy	38.23	220	T	T	07 03 49.6	
baz=24,slow=76,SNR=407							
H11N1	WAKE ISLAND Hy	38.24	220	T	T	07 03 50.5	
baz=24,slow=76,SNR=336							
H11S1	WAKE ISLAND Hy	39.41	219	T	T	07 05 11.7	
baz=23,slow=76,SNR=1280							
H11S2	WAKE ISLAND Hy	39.42	219	T	T	07 05 12.7	
baz=23,slow=76,SNR=1286							
H11S3	WAKE ISLAND Hy	39.42	219	T	T	07 05 12.9	
baz=23,slow=76,SNR=868							
PDAR	Pinedale Array	39.66	80	P	P	06 23 18.0	+1.0
comp=Z,0.7nm,0.6s,baz=296,slow=2.8,SNR=13							
comp=Z,0.7nm,0.6s							
MJAR	Matsushiro Arr	40.39	268	P	P	06 23 22.3	-0.6
comp=Z,1.1nm,0.3s,baz=42,slow=15,SNR=1.5							
comp=Z,1.1nm,0.3s							
KSRS	Korea Array	46.03	277	P	P	06 24 08.3	0.0
comp=Z,1.3nm,0.7s,baz=58,slow=6.8,SNR=6.1							
KSRS				LR	LR	06 41 55.9	
comp=Z,19nm,21.8s,baz=70,slow=34							
comp=Z,1.3nm,0.7s							
NRIK	Noril'sk	46.37	332	LR	LR	06 46 00.8	
comp=Z,43nm,18.7s,baz=118,slow=39							
JNU	Nakatsue	47.14	270	P	P	06 24 16.6	-0.5
comp=Z,6.7nm,0.9s,baz=34,slow=7.3,SNR=4.1							
JNU				LR	LR	06 42 35.6	
comp=Z,41nm,21.6s,baz=77,slow=34							
comp=Z,6.7nm,0.9s							
SONM	Songino Array	51.66	301	P	P	06 24 50.1	-1.4
comp=Z,1.8nm,1.1s,baz=61,slow=7.2,SNR=5.0							
SONM				PcP	PcP	06 26 04.1	-0.4
comp=Z,1.9nm,0.8s,baz=37,slow=2.1,SNR=8.0							
comp=Z,1.8nm,1.1s							
TXAR	Lajitas Array	52.06	90	P	P	06 24 55.2	+0.5
comp=Z,1.9nm,0.8s,baz=298,slow=5.6,SNR=16							
comp=Z,1.9nm,0.8s							
JOW	Kunigami	53.20	267	P	P	06 25 01.9	-1.1
comp=Z,14nm,0.7s,baz=37,slow=1.9,SNR=4.2							
comp=Z,14nm,0.7s							
ARCES	ARCESS Array B	57.56	354	P	P	06 25 31.9	-1.9
comp=Z,4.1nm,0.8s,baz=0.6,slow=9.0,SNR=2.0							
comp=Z,4.1nm,0.8s							
ZALV	Zalesovo Beam	57.56	318	LR	LR	06 51 24.3	
comp=Z,58nm,19.1s,baz=44,slow=37							
KURBB	Kurchatov Arra	62.61	319	P	P	06 26 07.3	-1.3
comp=Z,0.7nm,0.7s,baz=44,slow=7.4,SNR=5.4							
KURBB				LR	LR	06 54 05.3	
comp=Z,72nm,21.7s,baz=164,slow=37							
comp=Z,0.7nm,0.7s							
BVAR	Borovoye Array	63.74	325	P	P	06 26 15.3	-0.7
comp=Z,3.3nm,0.8s,baz=51,slow=5.7,SNR=6.9							
comp=Z,3.3nm,0.8s							
MKAR	Makanchi Array	64.00	314	LR	LR	06 55 20.9	
comp=Z,41nm,18.6s,baz=22,slow=37							
AAK	Ala-Archa	70.66	316	LR	LR	06 59 56.1	
comp=Z,38nm,18.7s,baz=122,slow=38							
AKASG	Malin Array Be	75.82	349	P	P	06 27 28.8	-1.4
comp=Z,1.0nm,0.6s,baz=18,slow=6.0,SNR=2.8							
comp=Z,1.0nm,0.6s							
CMAR	Chiang Mai Arr	77.18	284	P	P	06 27 39.4	+0.9
comp=Z,9.2nm,0.7s,baz=25,slow=6.6,SNR=49							
comp=Z,9.2nm,0.7s							
SJG	San Juan	82.85	70	LR	LR	07 05 37.9	
comp=Z,60nm,19.1s,baz=231,slow=36							
BRTR	Keskin Array B	85.91	343	P	P	06 28 24.5	0.0
comp=Z,1.3nm,0.7s,baz=349,slow=6.2,SNR=7.5							
comp=Z,1.3nm,0.7s							
ESDC	Sonseca Array	86.89	12	P	P	06 28 28.8	-0.3
comp=Z,0.5nm,0.6s,baz=348,slow=5.0,SNR=2.6							
comp=Z,0.5nm,0.6s							
WRA	Warramunga Arr	87.81	232	P	P	06 28 32.7	-0.9
comp=Z,1.7nm,0.8s,baz=43,slow=5.4,SNR=7.4							
comp=Z,1.7nm,0.8s							
ASAR	Alice Springs	91.20	231	P	P	06 28 49.6	+0.2
comp=Z,2.3nm,0.8s,baz=32,slow=4.7,SNR=18							
comp=Z,2.3nm,0.8s							
H03N2	Juan Fernandez	115.45	112	T	T	08 40 41.8	
baz=320							
H03N1	Juan Fernandez	115.47	112	T	T	08 40 44.9	
baz=320,slow=74							
H03N3	Juan Fernandez	115.47	112	T	T	08 40 44.1	
baz=320,slow=74							

MEX ***11*** *06:20:41.5±1.3, 15°.00N×92°.99W, h75km±12km, MD3.9*
GCG ***11*** *06:20:41.3±0.3, 15°.16N×92°.79W, h75km±4km, MD4.1*
ISC 11 06:20:35.8±1.8, 14°.78N±0°.08×93°.02W±0°.06, h97km±12km**, n17,** σ2$08/29, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.74	80	eP	Pn	06 20 55.2	+1.9
THIG				eS	Sn	06 21 07.1	+0.7
THIG		0.74	80	eS	Sn	06 21 05.8	-0.6
PATR	El Naranjo	0.83	66	eP	Pn	06 20 55.5	+1.1
PATR				eS	Sn	06 21 06.3	-2.1
PAVE	Pavencul	0.91	63	eP	Pn	06 20 56.5	+1.2
PAVE				eS	Sn	06 21 08.2	-1.6
PCIG		0.94	348	eP	Pn	06 20 56.0	+0.8
PCIG				eS	Sn	06 21 06.9	-3.0
RTAL	Retalhuleu	1.31	101	eS	Sn	06 21 20.2	+2.7
HUEH	Huehuetenango	1.56	70	eP	Pn	06 21 05.0	+2.2
HUEH				eS	Sn	06 21 24.4	+1.1
STG8	El Palmar, Qui	1.65	101	eP	Pn	06 21 03.9	-0.1
STG8				eS	Sn	06 21 21.4	-4.0
STG0	El Palmar, Qui	1.66	102	eP	Pn	06 21 03.9	-0.2
STG0				i S	Sn	06 21 21.7	-3.8
CCIG	Comitan	1.72	30	eP	Pn	06 21 06.7	+1.9
CCIG				eS	Sn	06 21 25.6	-1.1
TGIG		1.99	357	eP	Pn	06 21 08.5	+0.4
TGIG				e

KURBB Kurchatov Arra 7.91 251 ⇓Pn **Pn 06 40 37.2 +1.5**
4.0nm,0.6s
KURBB ⇓Sn **Sn 06 42 06.9 +1.1**
53nm,1.0s
KURBB ⇓Lg Lg 06 42 52.0
114nm,1.1s
MK31 Makanchi Array 8.68 220 Pn **Pn 06 40 46.6 +0.3**
0.6nm,0.6s,baz=31,slow=11,SNR=16
MK31 ⇑Sn **Sn 06 42 25.9 +1.0**
4.4nm,0.8s,baz=42,slow=26,SNR=5.2
MK31 ⇓Lg Lg 06 43 14.4
41nm,1.2s,baz=37,slow=29,SNR=6.2
MKAR Makanchi Array 8.68 220 Pn **Pn 06 40 46.6 +0.3**
0.3nm,0.3s,baz=36,slow=13,SNR=14
MKAR Sn **Sn 06 42 23.5 -1.4**
0.2nm,0.3s,baz=39,slow=23,SNR=9.1
MKAR Lg Lg 06 43 16.1
0.2nm,0.3s,baz=37,slow=30,SNR=5.9
0.8nm,0.5s
MAKZ Makanchi 8.79 221 ⇓Sn **Sn 06 42 27.4 -0.2**
5.5nm,0.8s
MAKZ ⇓Lg Lg 06 43 16.3
34nm,1.1s
SONM Songino Array 11.77 114 Pn Pn 06 41 22.4 -6.3
0.2nm,0.3s,baz=305,slow=5.1,SNR=1.7
SONM Lg Lg 06 44 33.1
0.2nm,0.3s,baz=300,slow=23,SNR=12
BVAR Borovoye Array 11.92 274 Pn **Pn 06 41 30.2 -0.4**
baz=74,slow=12,SNR=1.8
BVAR Sn **Sn 06 43 42.0 -2.3**
baz=73,slow=26
0.2nm,0.3s
AAK Ala-Archa 15.31 230 Lg Lg 06 46 44.4
0.3nm,0.3s,baz=155,slow=22,SNR=6.3
NRIK Noril'sk 15.66 356 Lg Lg 06 46 56.9
0.1nm,0.3s,baz=42,slow=3.0,SNR=1.6

*SNET **11** 06:49:13.7±1.3, 14°.13N×89°.68W, h5km, ML3.4, ML3.1*
*GCG **11** 06:49:14.0±2.0, 14°.15N×89°.71W, h6km±10km, MD4.2, MW2.9*
*CATAC **11** 06:49:14.4±0.3, 14°N±1°×9°0W±°, h3km±1km, M3.3/23, MLv3.3/23, Error ellipse: s-maj=3.2km s-min=2.7km az=148.1, confirmed*
ISC 11 06:49:15.1±0.8, 14°.14N±0°.02×89°.67W±0°.02, h10km, n73, σ1°19/82, 17C-7D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLOZ	**Alcaldia de Sa**	**0.16**	**225**	S	**Sg**	**06 49 20.1**	**-0.9**
SLOZ	**Alcaldia de Sa**	**0.16**	**225**	⇓P	**Pg**	**06 49 17.4**	**-1.2**
LOAL	**Lomas de Alarc**	**0.18**	**218**	*eP*	**Pg**	**06 49 17.9**	**-1.0**
LOAL	**Lomas de Alarc**	**0.18**	**218**	S	**Sg**	**06 49 21.5**	**0.0**
LOAL	**Lomas de Alarc**	**0.18**	**218**	⇓P	**Pg**	**06 49 17.9**	**-1.0**
UNIC	**Universidad Ca**	**0.20**	**143**	S	**Sg**	**06 49 22.4**	**+0.3**
UNIC	**Universidad Ca**	**0.20**	**143**	⇑P	**Pg**	**06 49 18.8**	**-0.4**
NUBE	**Las Nubes**	**0.26**	**205**	*eP*	**Pg**	**06 49 19.4**	**-1.0**
NUBE				*eS*	**Sg**	**06 49 23.4**	**-0.5**
NUBE	**Las Nubes**	**0.26**	**205**	*iP*	**Pg**	**06 49 19.4**	**-1.0**
NUBE				*eS*	**Sg**	**06 49 23.5**	**-0.5**
NUBE	**Las Nubes**	**0.26**	**205**	⇓P	**Pg**	**06 49 19.4**	**-1.0**
CEVE	**Cerro Verde**	**0.31**	**172**	*eP*	**Pg**	**06 49 21.4**	**-0.1**
CEVE				IAML		06 49 29.3	
	comp=Z,5μm,0.2s						
CEVE	**Cerro Verde**	**0.31**	**172**	S	**Sg**	**06 49 26.2**	**+0.6**
CEVE	**Cerro Verde**	**0.31**	**172**	⇑P	**Pg**	**06 49 21.1**	**-0.4**
MTO3	**Montecristo**	**0.40**	**49**	*eP*	**Pg**	**06 49 22.6**	**-0.4**
MTO3				*eS*	**Sg**	**06 49 28.6**	**+0.3**
MTO3	**Montecristo**	**0.40**	**49**	*iP*	**Pg**	**06 49 22.5**	**-0.5**
MTO3	**Montecristo**	**0.40**	**49**	⇓P	**Pg**	**06 49 22.5**	**-0.5**
CEDA	**San Andres**	**0.43**	**141**	*eP*	**Pg**	**06 49 22.9**	**-0.6**
CEDA				*eS*	**Sg**	**06 49 29.8**	**+0.6**
CEDA	**San Andres**	**0.43**	**141**	⇑P	**Pg**	**06 49 22.9**	**-0.6**
ESQI	**Esquipulas**	**0.53**	**37**	*iP*	**Pg**	**06 49 24.9**	**-0.5**
ESQI				*eS*	**Sg**	**06 49 32.8**	**+0.5**
ESQI	**Esquipulas**	**0.53**	**37**	⇓P	**Pg**	**06 49 24.9**	**-0.5**
JAYA	**Jayaque - finc**	**0.53**	**156**	*eP*	**Pg**	**06 49 24.8**	**-0.6**
JAYA	**Jayaque - finc**	**0.53**	**156**	*eP*	**Pg**	**06 49 24.8**	**-0.6**
JAYA	**Jayaque - finc**	**0.53**	**156**	S	**Sb**	**06 49 33.4**	**-0.9**
JAYA	**Jayaque - finc**	**0.53**	**156**	⇑P	**Pg**	**06 49 24.9**	**-0.5**
PMON	**Piamonte**	**0.55**	**141**	S	**Sb**	**06 49 33.9**	**-0.8**
PMON	**Piamonte**	**0.55**	**141**	⇑P	**Pg**	**06 49 25.4**	**-0.3**
BOQS	**Boqueron**	**0.55**	**137**	*eP*	**Pg**	**06 49 25.6**	**-0.3**
UEES	**Universidad Ev**	**0.59**	**135**	S	**Sg**	**06 49 35.2**	**+0.8**
UEES	**Universidad Ev**	**0.59**	**135**	⇑P	**Pg**	**06 49 26.0**	**-0.6**
ITCA	**Escuela Especi**	**0.60**	**141**	*eP*	**Pg**	**06 49 26.1**	**-0.6**
ITCA	**Escuela Especi**	**0.60**	**141**	S	**Sg**	**06 49 35.3**	**+0.7**
ITCA	**Escuela Especi**	**0.60**	**141**	⇓P	**Pg**	**06 49 26.2**	**-0.5**
UTEC	**Universidad Te**	**0.63**	**134**	S	**Sg**	**06 49 36.2**	**+0.6**
UDBS	**Universidad Do**	**0.65**	**130**	⇑P	**Pg**	**06 49 27.0**	**-0.8**
UDBS	**Universidad Do**	**0.65**	**130**	S	**Sg**	**06 49 36.9**	**+0.5**
LFU	**La Fuente**	**0.66**	**126**	*eP*	**Pg**	**06 49 27.5**	**-0.4**
LOMA	**Loma Larga**	**0.69**	**135**	*eP*	**Pg**	**06 49 27.6**	**-0.9**
LOMA	**Loma Larga**	**0.69**	**135**	⇑P	**Pg**	**06 49 27.7**	**-0.8**
LLGN	**La Laguna**	**0.70**	**88**	*eP*	**Pg**	**06 49 27.9**	**-0.9**
LLGN				*eS*	**Sg**	**06 49 38.4**	**+0.5**
LLGN	**La Laguna**	**0.70**	**88**	⇑P	**Pg**	**06 49 28.0**	**-0.7**
PANCS	**Alcalda de**	**0.71**	**138**	P	**Pg**	**06 49 28.2**	**-0.6**
PANCS	**Alcalda de**	**0.71**	**138**	S	**Sg**	**06 49 38.4**	**+0.4**
LALI	**Alcalda de L**	**0.73**	**152**	*eP*	**Pg**	**06 49 28.8**	**-0.4**
LALI	**Alcalda de L**	**0.73**	**152**	*eP*	**Pg**	**06 49 28.7**	**-0.5**
LALI				*eS*	**Sg**	**06 49 39.2**	**+0.5**
LALI	**Alcalda de L**	**0.73**	**152**	⇑P	**Pg**	**06 49 28.7**	**-0.5**
LFRS	**El Faro**	**0.78**	**131**	*eP*	**Pg**	**06 49 29.4**	**-0.8**
PAVA	**Las Pavas**	**0.83**	**121**	S	**Sg**	**06 49 42.4**	**+0.5**
PAVA	**Las Pavas**	**0.83**	**121**	⇑P	**Pg**	**06 49 30.2**	**-0.9**
FG8	**Yepocapa, Chim**	**0.87**	**278**	*iP*	**Pn**	**06 49 36.3**	**+2.8**
FG8				*eS*	**Sn**	**06 49 53.5**	**+7.1**
COEG	**Centro de Oper**	**0.92**	**124**	*eP*	**Pg**	**06 49 32.0**	**-0.9**
COEG	**Centro de Oper**	**0.92**	**124**	S	**Sg**	**06 49 45.4**	**+0.5**
COEG	**Centro de Oper**	**0.92**	**124**	⇑P	**Pg**	**06 49 31.9**	**-0.9**
GCG4	**OSOP**	**0.95**	**298**	*eP*	**Pg**	**06 49 31.4**	**-2.0**
UESV	**Universidad de**	**0.99**	**120**	S	**Sg**	**06 49 47.3**	**+0.2**
UESV	**Universidad de**	**0.99**	**120**	⇑P	**Pg**	**06 49 33.0**	**-1.1**
SCLA	**Alcaldia de Sa**	**1.01**	**115**	S	**Sg**	**06 49 48.1**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.01**	**115**	⇑P	**Pg**	**06 49 33.4**	**-1.1**
TECO	**Alcaldia de Te**	**1.05**	**125**	S	**Sg**	**06 49 49.0**	**0.0**
TECO	**Alcaldia de Te**	**1.05**	**125**	⇑P	**Pg**	**06 49 33.9**	**-1.4**
ESSG	**Sabana Grande**	**1.15**	**282**	*eS*	**Sg**	**06 49 49.6**	**-2.7**
PQSS	**Presa 15 de Se**	**1.19**	**115**	S	**Sb**	**06 49 53.5**	**+0.2**
PQSS	**Presa 15 de Se**	**1.19**	**115**	⇑P	**Pn**	**06 49 36.5**	**-1.3**
PACA	**Pacayal**	**1.47**	**117**	*eP*	**Pn**	**06 49 40.7**	**-1.0**
PACA	**Pacayal**	**1.47**	**117**	S	**Sg**	**06 50 03.0**	**+0.7**
PACA	**Pacayal**	**1.47**	**117**	⇑P	**Pn**	**06 49 41.8**	**0.0**
RANC	**El Ranchito**	**1.51**	**117**	P	**Pn**	**06 49 42.3**	**-0.1**
RANC	**El Ranchito**	**1.51**	**117**	S	**Sg**	**06 50 04.7**	**+0.9**
MARCA	**Marcala la Paz**	**1.59**	**89**	*eP*	**Pn**	**06 49 42.6**	**-0.7**
MARCA				*eS*	**Sg**	**06 50 05.7**	**-0.5**
LCND	**La Caada**	**1.92**	**115**	P	**Pn**	**06 49 48.3**	**+0.5**
CNCH	**Conchagua**	**1.98**	**115**	P	**Pb**	**06 49 50.1**	**-1.2**
CNCH	**Conchagua**	**1.98**	**115**	S	**Sg**	**06 50 17.8**	**-1.0**
HUEH	**Huehuetenango**	**2.13**	**304**	*eP*	**Pb**	**06 49 52.5**	**-1.4**
TGUH	**Tegucigalpa,Un**	**2.33**	**92**	⇓P	**Pb**	**06 49 55.4**	**-1.8**

*IDC **11** 06:55:16.4±1.3, 8°.33S×116°.43E, h0km, mb3.6/6, mbtmp3.7/8, ML3.7/2, Error ellipse: s-maj=49.0km s-min=12.4km az=49.0*
*DJA **11** 06:55:20.1±0.3, 8°S±5°×11°7E±°, h10km, M4.0/12, MLv4.0/12*
ISC 11 06:55:18.9±0.7, 8°.21S±0°.06×116°.69E±0°.04, h10km, n18, σ1°89/22, mb3.6/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.23**	**120**	P	**Pn**	**06 55 43.2**	**+1.0**
SRBI	**Singaraja**	**1.47**	**275**	P	**Pn**	**06 55 46.2**	**+0.7**
DNP	**Denpasar**	**1.54**	**252**	P	**Pb**	**06 55 47.7**	**+0.2**
ABJI	**Asem Bagus**	**2.47**	**279**	Pg	**Pg**	**06 56 07.3**	**+1.0**
JAGI	**Jajag, Banyuwa**	**2.53**	**264**	P	**Pn**	**06 56 00.0**	**-0.1**
KMMI	**Kalianget**	**2.94**	**293**	P	**Pn**	**06 56 07.6**	**+1.9**
WBSI	**Waikabubak, Su**	**3.02**	**118**	P	**Pn**	**06 56 09.0**	**+2.1**
GMJI	**Gumukmas**	**3.22**	**269**	P	**Pn**	**06 56 10.7**	**+1.2**
BSSI	**Bau Bau, Buton**	**4.29**	**62**	P	**Pn**	**06 56 25.6**	**+1.3**
KAPI	**Kappang**	**4.40**	**44**	Pn	**Pn**	**06 56 26.2**	**+0.5**
	2.9nm,0.3s,baz=221,slow=5.2,SNR=7.2						
KAPI				Sn	**Sn**	**06 57 16.6**	**-0.4**
	5.4nm,0.3s,baz=220,slow=21,SNR=6.4						
KAPI				Lg	Lg	06 57 36.0	
	3.4nm,0.3s,baz=54,slow=22,SNR=6.1						
	9.2nm,0.3s						
BKSI	**Bulukumba**	**4.45**	**50**	P	**Pn**	**06 56 27.4**	**+0.8**

FITZ Fitzroy Crossi 13.12 139 Pn **Pn 06 58 24.6 -0.9**
0.3nm,0.3s,baz=315,slow=14,SNR=1.9
FITZ Sn **Sn 07 00 47.4 -4.3**
0.4nm,0.3s,baz=201,slow=19,SNR=2.3
2.1nm,0.7s
WRA Warramunga Arr 20.68 126 P **P 06 59 59.2 -0.1**
0.9nm,0.4s,baz=300,slow=12,SNR=13
WRA S **S 07 03 54.6 +4.0**
0.5nm,0.8s,baz=288,slow=28,SNR=2.1
0.9nm,0.4s
ASAR Alice Springs 22.54 135 P **P 07 00 19.0 -0.3**
1.1nm,0.5s,baz=312,slow=8.6,SNR=15
ASAR S **S 07 04 30.5 +3.8**
0.4nm,0.8s,baz=305,slow=22,SNR=2.0
1.1nm,0.5s
SONM Songino Array 56.54 352 P **P 07 05 01.4 -0.3**
0.4nm,0.6s,baz=155,slow=8.8,SNR=2.7
0.4nm,0.6s
MKAR Makanchi Array 62.74 334 P **P 07 05 44.3 0.0**
0.8nm,0.9s,baz=136,slow=7.4,SNR=5.9
0.8nm,0.9s
KURBB Kurchatov Arra 67.27 335 P **P 07 06 12.2 -1.5**
0.2nm,0.3s,baz=126,slow=4.8,SNR=2.0
0.2nm,0.3s
BVAR Borovoye Array 72.55 333 P **P 07 06 45.1 -0.9**
0.2nm,0.4s,baz=114,slow=6.5,SNR=1.7
0.2nm,0.4s

*IDC **11** 06:55:52.1±1.9, 6°.11S×148°.48E, h0km, mb3.8/3, mbtmp3.8/5, ML3.2/2, Error ellipse: s-maj=84.5km s-min=27.3km az=121.0*
ISC 11 06:55:58.7±1.6, 6°.4S±0°.3×148°.7E±0°.5, h50km, n6, σ0°98/7, mb3.6/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.36**	**207**	Pn	**Pn**	**06 56 48.7**	**0.0**
	21nm,0.3s,baz=18,slow=20,SNR=25						
PMG				Sn	**Sn**	**06 57 27.9**	**+0.4**
	31nm,0.3s,baz=141,slow=22,SNR=11						
	42nm,0.3s						
WRA	**Warramunga Arr**	**19.39**	**225**	P	**P**	**07 00 20.1**	**-0.7**
	0.3nm,0.3s,baz=47,slow=10,SNR=4.6						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**22.30**	**218**	P	**P**	**07 00 51.2**	**-0.9**
	1.7nm,0.6s,baz=48,slow=9.8,SNR=16						
	1.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.32**	**241**	P	**P**	**07 01 21.2**	**+0.2**
	3.5nm,0.5s,baz=68,slow=9.2,SNR=6.5						
	3.5nm,0.5s						
ILAR	**Eielson Array**	**85.18**	**23**	P	**P**	**07 08 29.0**	**-0.4**
	0.3nm,0.9s,baz=252,slow=4.9,SNR=2.0						
	0.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**146.83**	**284**	PKPbc	**PKPdf**	**07 15 36.1**	**+1.4**
	61nm,0.3s,baz=90,slow=2.6,SNR=1.9						

IDC 11 07:01:09.3±3.8, 53°.72N×88°.19E, h0km, mbtmp2.4/2, ML2.0/2, Error ellipse: s-maj=35.0km s-min=20.5km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.01**	**278**	I	I	07 14 50.0	
	baz=94,slow=333,SNR=2.1						
ZALV	**Zalesovo Beam**	**2.01**	**278**	Pg	Pn	07 01 45.3	+0.8
	0.2nm,0.3s,baz=96,slow=15,SNR=6.6						
ZALV				Lg	Lg	07 02 13.7	
	0.6nm,0.3s,baz=97,slow=24,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.70**	**246**	Pn	Pn	07 02 49.5	+0.6
	baz=62,slow=13,SNR=3.1						
KURBB				Lg	Lg	07 04 40.5	
	baz=61,slow=32,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.89**	**211**	Pn	Pn	07 03 06.5	+1.2
	baz=27,slow=10,SNR=1.8						
	0.1nm,0.6s						

*IDC **11** 07:03:15.5±2.6, 6°.35S×148°.44E, h45km±22km, mb3.5/4, mbtmp3.8/6, ML3.3/2, MS3.3/7, Error ellipse: s-maj=44.6km s-min=14.9km az=124.0*
ISC 11 07:03:15.5±1.1, 6°.3S±0°.2×148°.4E±0°.3, h46km, n12, σ0°81/10, mb3.8/4, MS3.2/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.33**	**201**	P	**Pn**	**07 04 05.8**	**+0.6**
	35nm,0.3s,baz=6.3,slow=9.2,SNR=28						
PMG				S	**Sn**	**07 04 43.2**	**-0.3**
	231nm,0.3s,baz=162,slow=18,SNR=17						
PMG				LR	LR	07 05 39.8	
	comp=Z,551nm,18.2s,baz=331,slow=44						
	65nm,0.3s						
WRA	**Warramunga Arr**	**19.25**	**224**	P	**P**	**07 07 36.6**	**+0.3**
	0.3nm,0.3s,baz=52,slow=11,SNR=7.5						
WRA				S	**Sn**	**07 11 13.4**	**+0.6**
	2.6nm,1.2s,baz=47,slow=22,SNR=5.5						
	1.1nm,0.5s						
GUMO	**Guam**	**20.05**	**350**	LR	LR	07 14 53.3	
	comp=Z,55nm,19.0s,baz=160,slow=35						
ASAR	**Alice Springs**	**22.20**	**217**	P	**P**	**07 08 07.3**	**-0.8**
	1.9nm,0.6s,baz=52,slow=9.5,SNR=30						
ASAR				S	**S**	**07 12 09.8**	**-0.2**
	3.7nm,1.1s,baz=35,slow=20,SNR=11						
ASAR				LR	LR	07 16 06.0	
	comp=Z,83nm,19.1s,baz=37,slow=35						
	1.9nm,0.6s						
STKA	**Stephens Creek**	**26.24**	**193**	LR	LR	07 20 39.6	
	comp=Z,116nm,18.2s,baz=23,slow=40						
JCJ	**Chichijima**	**33.72**	**350**	LR	LR	07 22 55.6	
	comp=Z,35nm,19.3s,baz=46,slow=35						
JOW	**Kunigami**	**38.26**	**330**	LR	LR	07 24 02.6	
	comp=Z,53nm,20.0s,baz=142,slow=32						
MJAR	**Matsushiro Arr**	**43.66**	**348**	LR	LR	07 27 42.7	
	comp=Z,30nm,19.7s,baz=160,slow=34						
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**07 15 38.5**	**-0.8**
	1.1nm,0.9s,baz=100,slow=5.1,SNR=1.7						
	1.1nm,0.9s						
ILAR	**Eielson Array**	**85.20**	**23**	P	**P**	**07 15 47.8**	**+1.1**
	0.3nm,0.8s,baz=261,slow=6.0,SNR=2.5						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**87.82**	**324**	P	**P**	**07 15 58.9**	**-1.0**
	0.3nm,0.5s,baz=116,slow=6.6,SNR=1.7						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**146.50**	**284**	PKPbc	**PKPbc**	**07 22 53.3**	**+0.4**
	33nm,0.3s,baz=66,slow=2.6,SNR=1.2						

*IGIL **11** 07:05:55.2, 36°.46N×2°.55W, h0km*
*MDD **11** 07:05:55.4±0.3, 36°.46N×2°.55W, h0km±2km, mb_Lg3.4/40, Error ellipse: s-maj=2.4km s-min=1.7km az=140.0*
*CNRM **11** 07:05:57.3, 36°.55N×2°.62W, h48km, ML2.7*
*SFS **11** 07:05:57.6, 36°.55N×2°.58W, h24km, ML3.6/15, ML3.6/19, MLv3.2/19*
ISC 11 07:05:55.3±1.1, 36°.50N±0°.02×2°.58W±0°.02, h17km±9km, n83, σ1°43/142, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.56**	**33**	Pg	**Pb**	**07 06 07.4**	**+0.8**
ENIJ				Sg	**Sb**	**07 06 14.0**	**-0.4**
ENIJ	**Nijar**	**0.56**	**33**	⇓Pg	**Pb**	**07 06 07.5**	**+0.8**
ENIJ				Sg	**Sb**	**07 06 15.1**	**+0.7**
ELGU	**Los Guajares,**	**0.92**	**294**	Pg	**Pb**	**07 06 12.7**	**-0.1**
ELGU				Sg	**Sb**	**07 06 24.1**	**-0.6**
ELGU	**Los Guajares,**	**0.92**	**294**	Pg	**Pb**	**07 06 12.7**	**-0.1**
ELGU				Sg	**Sb**	**07 06 25.2**	**+0.5**
EQUE	**Quentar**	**0.98**	**316**	Pg	**Pg**	**07 06 15.1**	**+0.7**
EQUE				Sg	**Sb**	**07 06 26.1**	**-0.6**
EQUE				*i* Vmb_Lg		07 06 33.5	
EQTA	**Presa de Quent**	**0.99**	**316**	Pg	**Pg**	**07 06 15.1**	**+0.6**
EQTA				Sg	**Sb**	**07 06 25.7**	**-1.1**
ANER	**Nerja**	**1.05**	**285**	Pg	**Pb**	**07 06 14.6**	**-0.3**
ANER				Sg	**Sb**	**07 06 28.0**	**-0.4**
ANER				*i* Vmb_Lg		07 06 32.4	
EXCAB	**Granada**	**1.06**	**310**	Pg	**Pn**	**07 06 16.0**	**+0.6**
EXCAB				Sg	**Sn**	**07 06 30.0**	**+0.3**
WMELI	**Melilla**	**1.22**	**194**	Pn	**Pn**	**07 06 18.0**	**+0.6**
EMLI	**Melilla**	**1.23**	**194**	Pn	**Pn**	**07 06 18.3**	**+0.7**
EMEL	**Melilla**	**1.23**	**194**	Pg	**Pn**	**07 06 18.2**	**+0.5**
EMEL				Sg	**Sb**	**07 06 33.6**	**-0.1**
GOG	**Mont Gurugu**	**1.32**	**195**	P	**Pn**	**07 06 19.1**	**+0.2**
GOG	**Mont Gurugu**	**1.32**	**195**	S	**Sg**	**07 06 38.3**	**+0.5**
ELOR	**Lorca, Murcia**	**1.32**	**30**	Pg	**Pb**	**07 06 19.5**	**-0.2**
ELOR				Sg	**Sb**	**07 06 36.5**	**+0.2**
ELOR				*i* Vmb_Lg		07 06 44.0	
EQES	**Quesada**	**1.36**	**344**	Pg	**Pg**	**07 06 21.8**	**+0.3**
EQES				Sg	**Sg**	**07 06 40.2**	**+0.9**
EQES				*i* Vmb_Lg		07 06 43.8	
TLOR	**Lorca, Murcia**	**1.36**	**32**	Pn	**Pb**	**07 06 20.4**	**+0.1**
TLOR	**Lorca, Murcia**	**1.36**	**32**	Pg	**Pb**	**07 06 20.3**	**0.0**
TLOR				Sg	**Sg**	**07 06 38.2**	**-1.1**
EGOR	**Sierra Gorda,**	**1.37**	**297**	Pn	**Pb**	**07 06 21.3**	**+0.8**
EGOR				Sn	**Sn**	**07 06 37.8**	**+0.2**
EGOR	**Sierra Gorda,**	**1.37**	**297**	Pg	**Pb**	**07 06 21.5**	**+1.0**
EGOR				Sg	**Sg**	**07 06 39.7**	**+0.1**
EGOR				*i* Vmb_Lg		07 06 44.0	
EXMAZ	**Mazarron**	**1.50**	**43**	Pg	**Pb**	**07 06 22.1**	**-0.5**
EXMAZ				Sg	**Sg**	**07 06 43.0**	**-0.7**
EMAL	**Malaga-Limoner**	**1.51**	**281**	Sn	**Sn**	**07 06 39.4**	**-1.4**
EMAL				Pn	**Pn**	**07 06 22.3**	**+0.8**
E0803	**Jimena (Jaen)**	**1.51**	**332**	Pg	**Pg**	**07 06 24.3**	**0.0**
E0803				Sg	**Sg**	**07 06 44.5**	**+0.4**
EZAR	**Zarzadilla de**	**1.55**	**27**	Pg	**Pn**	**07 06 22.7**	**+0.6**
EZAR				Sg	**Sg**	**07 06 45.6**	**+0.4**
EZAR				*i* Vmb_Lg		07 06 52.0	
E0802	**Ubeda,Jaen**	**1.65**	**338**	Pg	**Pg**	**07 06 28.0**	**+1.0**
E0802				Sn	**Sb**	**07 06 46.2**	**+0.4**
CART	**Cartagena**	**1.67**	**49**	Pn	**Pn**	**07 06 22.8**	**-0.9**
CART				Sn	**Sn**	**07 06 42.5**	**-2.2**
CART				Sg	**Sg**	**07 06 47.8**	**-1.3**
CART	**Cartagena**	**1.67**	**49**	P	**Pn**	**07 06 23.0**	**-0.7**
CART	**Cartagena**	**1.67**	**49**	S	**Sn**	**07 06 45.0**	**+0.3**
TAF	**Taforalt**	**1.69**	**175**	P	**Pn**	**07 06 25.4**	**+1.4**
TAF	**Taforalt**	**1.69**	**175**	S	**Sb**	**07 06 47.0**	**+0.2**
PALE	**Palemas**	**1.69**	**221**	P	**Pn**	**07 06 24.5**	**+0.5**
PALE	**Palemas**	**1.69**	**221**	S	**Sn**	**07 06 45.9**	**+0.7**
EMUR	**La Murta**	**1.72**	**38**	Pn	**Pn**	**07 06 24.5**	**+0.1**
EMUR				Sn	**Sn**	**07 06 44.1**	**-1.9**
EMUR	**La Murta**	**1.72**	**38**	Pn	**Pn**	**07 06 24.5**	**+0.1**
EMUR				Sn	**Sn**	**07 06 45.8**	**-0.3**
EMUR				*i* Vmb_Lg		07 06 53.2	
JAND	**Jandula**	**2.04**	**328**	Pg	**Pb**	**07 06 33.5**	**+1.5**
JAND				Sg	**Sg**	**07 07 00.6**	**-0.4**
JAND				*i* Vmb_Lg		07 07 02.5	
JBK	**JBK**	**2.16**	**180**	P	**Pn**	**07 06 32.1**	**+1.4**
JBK	**JBK**	**2.16**	**180**	S	**Sb**	**07 06 59.7**	**-0.9**
AKLM	**AKL**	**2.24**	**208**	P	**Pn**	**07 06 32.1**	**+0.5**
AKLM	**AKL**	**2.24**	**208**	S	**Sn**	**07 06 59.1**	**+0.1**
EADA	**Adamuz**	**2.30**	**317**	Sn	**Sn**	**07 06 59.4**	**-1.1**
EADA				Pn	**Pn**	**07 06 33.8**	**+1.4**
EADA				Sg	**Sb**	**07 07 06.3**	**+1.8**
EADA	**Adamuz**	**2.30**	**317**	Pn	**Pb**	**07 06 35.5**	**-0.9**
EADA				Sn	**Sb**	**07 07 04.3**	**-0.2**
EADA				*i* Vmb_Lg		07 07 12.6	
EJIF	**Jimena Fronter**	**2.33**	**270**	Pn	**Pn**	**07 06 33.6**	**+0.8**
EJIF				Sn	**Sn**	**07 07 00.5**	**-0.5**
SMIR	**Smir Dam**	**2.41**	**251**	P	**Pn**	**07 06 34.5**	**+0.6**
SMIR	**Smir Dam**	**2.41**	**251**	S	**Sn**	**07 07 03.9**	**+0.9**
PSIM	**Granatula de C**	**2.50**	**338**	Pn	**Pn**	**07 06 36.0**	**+0.8**
PSIM				Pg	**Pb**	**07 06 41.4**	**+1.6**
PSIM				Sn	**Sn**	**07 07 07.4**	**+2.1**
CHEFC	**Chefchaouen**	**2.63**	**239**	P	**Pn**	**07 06 38.3**	**+1.3**
CHEFC	**Chefchaouen**	**2.63**	**239**	S	**Sn**	**07 07 09.0**	**+0.3**
ESPR	**Espera**	**2.66**	**279**	Pn	**Pn**	**07 06 39.7**	**+2.4**
ESPR	**Espera**	**2.66**	**279**	Pn	**Pn**	**07 06 39.3**	**+2.0**
ESPR				Sn	**Sb**	**07 07 13.0**	**-1.7**
AFON	**Font Roja**	**2.70**	**36**	Pn	**Pn**	**07 06 39.5**	**+1.5**
AFON				Sn	**Sn**	**07 07 09.3**	**-1.2**
AFON				*i* Vmb_Lg		07 07 26.1	
ECAB	**El Cabril**	**2.75**	**306**	Sn	**Sn**	**07 07 09.2**	**-2.4**
ECAB				Pn	**Pn**	**07 06 39.3**	**+0.6**
ECAB				Sg	**Sb**	**07 07 17.0**	**-0.6**
ECAB	**El Cabril**	**2.75**	**306**	Pn	**Pn**	**07 06 39.6**	**+0.9**
ECAB				Pg	**Pg**	**07 06 46.9**	**-1.2**
ECAB				Sn	**Sn**	**07 07 13.6**	**+2.0**
ECAB				*i* Vmb_Lg		07 07 24.5	
EBEN2	**Beniarda presa**	**2.89**	**40**	Pn	**Pn**	**07 06 41.3**	**+0.8**
EBEN2				Sn	**Sn**	**07 07 13.0**	**-1.9**
EBEN2				*i* Vmb_Lg		07 07 22.6	
EVIV	**Cofrentes, Val**	**3.00**	**22**	Pn	**Pn**	**07 06 43.2**	**+1.1**
EVIV				Pg	**Pg**	**07 06 53.0**	**+0.3**
EVIV				Sn	**Sn**	**07 07 18.1**	**+0.5**

CATAC 11 07:24:32.3±0.9, 12°N±4°×8°8W±°, h19km±7km, M2.3/13, MLv2.3/13, Error ellipse: s-maj=8.9km s-min=4.5km az=34.9, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.89	26	P	Pb	07 24 49.1	-0.2
CSGN				S	Sn	07 25 02.4	-0.1
POTN	Potosi Cosigui	0.94	28	P	Pb	07 24 49.7	-0.3
POTN				S	Sg	07 25 02.7	-0.2
CRIN	San Cristobal	1.03	59	P	Pg	07 24 52.4	+0.1
CNCH	Conchagua	1.11	6	P	Pn	07 24 52.5	-0.5
CNCH	Conchagua	1.11	6	S	Sg	07 25 08.6	+0.1
LCND	La Caada	1.14	3	P	Pn	07 24 52.7	-0.6
PACN	Al O del Volca	1.18	74	P	Pn	07 24 53.7	-0.1
POLN	Al Sur del Vol	1.21	67	P	Pn	07 24 53.7	-0.6
POLN				S	Sb	07 25 10.1	0.0
PLRN	Geotermica Pol	1.23	70	P	Pn	07 24 54.2	-0.3
ROCN	Rota Cerro Neg	1.23	73	P	Pn	07 24 54.5	-0.1
ROCN				S	Sg	07 25 11.7	-0.6
CNGA	Al SSO del Vol	1.27	75	P	Pn	07 24 55.1	0.0
CNGN	Cerro Negro	1.27	75	S	Sn	07 25 12.2	+0.4
CNGN	Cerro Negro	1.27	75	P	Pn	07 24 55.4	+0.3
ILCN	San Idelfonso	1.29	71	P	Pn	07 24 54.8	-0.6
ILCN				S	Sn	07 25 11.4	-0.8
COPN	Copaltepe	1.33	89	P	Pn	07 24 55.9	0.0
PACA	Pacayal	1.34	344	S	Sb	07 25 13.8	-0.1
SCLA	Alcaldia de Sa	1.70	334	P	Pn	07 25 01.3	+0.2
SCLA	Alcaldia de Sa	1.70	334	S	Sn	07 25 22.7	+0.2

IDC 11 07:28:45.3±1.6, 4°.10N×126°.89E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=161.0km s-min=20.6km az=67.0
DJA 11 07:28:49.8±2.2, 4°N±21°×12°7E±1°0, h25km±6km, M3.6/4, MLv3.6/4

ISC 11 07:28:50.4±1.4, 4°.1N±0°.2×126°.9E±0°.2, h35km, n7, σ6°58/7, mb3.7/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.42	254	P	Pn	07 29 13.7	-0.1
WRA	Warramunga Arr	24.97	163	P	P	07 34 11.1	+0.2
	0.9nm,0.7s,baz=343,slow=11,SNR=7.3 0.9nm,0.7s						
ASAR	Alice Springs	28.41	166	P	P	07 34 41.8	-0.1
	0.1nm,0.4s,baz=348,slow=8.1,SNR=1.7 0.1nm,0.4s						
MKAR	Makanchi Array	57.37	325	P	P	07 38 35.3	0.0
	0.4nm,0.4s,baz=116,slow=8.0,SNR=9.8 0.4nm,0.4s						
ZALV	Zalesovo Beam	60.35	333	P	P	07 38 55.1	-0.8
	0.5nm,0.4s,baz=128,slow=7.5,SNR=3.5 0.5nm,0.4s						
KURBB	Kurchatov Arra	61.54	327	P	P	07 39 04.8	+0.8
	0.5nm,0.4s,baz=124,slow=6.9,SNR=6.2 0.5nm,0.4s						
BVAR	Borovoye Array	67.12	327	P	P	07 39 40.7	+0.2
	0.2nm,0.3s,baz=128,slow=12,SNR=2.2 0.2nm,0.3s						

IDC 11 07:39:54.9±3.7, 54°.20N×87°.28E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=34.0km s-min=21.5km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.47	261	I	I	07 50 10.0	
	baz=79,slow=330,SNR=9.1						
ZALV	Zalesovo Beam	1.47	261	Pg	Pn	07 40 21.7	-0.9
	0.7nm,0.3s,baz=78,slow=15,SNR=6.3						
ZALV				Lg	Lg	07 40 41.2	
	0.5nm,0.3s,baz=81,slow=26,SNR=2.2						
KURBB	Kurchatov Arra	6.44	240	Pn	Pn	07 41 31.8	+0.9
	baz=45,slow=16,SNR=1.3 0.3nm,0.4s						
MKAR	Makanchi Array	8.07	205	Pn	Pn	07 41 54.2	+0.9
	baz=23,slow=14,SNR=1.8 0.1nm,0.4s						

KOLA 11 07:42:20.3, 67°.64N×34°.03E, h0km, ML2.6, Error ellipse: s-maj=3.7km s-min=2.0km az=130.0, Khibiny, mines Koashva, Nyurkpakh
HEL 11 07:42:20.3±0.1, 67°.65N×33°.96E, h1km, ML2.4, ML2.3(BER), Confirmed Induced event
BER 11 07:42:20.8±2.3, 67°.59N×34°.11E, h0km, ML2.3, ML2.4(HEL), Confirmed Induced event

ISC 11 07:42:19.0±0.8, 67°.63N±0°.03×34°.00E±0°.03, h0km, n36, σ1°13/69, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.24	256	P	Pg	07 42 24.7	+1.2
APA				S	Sg	07 42 27.7	+1.1
LVZ	Lovozero	0.37	42	P	Pg	07 42 26.5	+0.5
LVZ				S	Sg	07 42 31.2	+0.5
LVZ	Lovozero	0.37	42	eP	Pg	07 42 26.7	+0.7
LVZ				eS	Sg	07 42 31.5	+0.8
LVZ	Lovozero	0.37	42	eP	Pg	07 42 26.7	+0.7
LVZ				eS	Sg	07 42 31.5	+0.8
APA0	Apatity Array	0.39	267	P	Pg	07 42 27.1	+0.7
APA0				S	Sg	07 42 32.7	+1.4
KVDA	Kovda	1.04	206	P	Pg	07 42 39.0	+0.2
KVDA				S	Sg	07 42 52.6	+0.3
TERR	Teriberka	1.63	14	P	Pn	07 42 49.0	+0.1
TERR				S	Sn	07 43 09.1	-1.5
VRF	Varrio	1.68	276	eP	Pb	07 42 50.4	-0.4
VRF				eS	Sn	07 43 11.2	-0.6
VRF				MSG		07 43 13.0	
	comp=Z,37nm,0.1s						
VRF	Varrio	1.68	276	eP	Pb	07 42 50.4	-0.4
VRF				eS	Sn	07 43 11.2	-0.6
VRF				MSG		07 43 13.0	
	comp=Z,37nm,0.1s						
PRVG	Vayda Guba	2.23	343	P	Pb	07 42 59.7	-0.4
PRVG				S	Sb	07 43 27.6	-0.6
OLKF	Oulanka, Finla	2.24	236	ePG	Pb	07 43 00.1	-0.1
OLKF				eSG	Sb	07 43 29.2	+0.8
OLKF				MSG		07 43 32.0	
	comp=Z,32nm,0.2s						
OLKF	Oulanka, Finla	2.24	236	ePG	Pb	07 43 00.1	-0.1
OLKF				eSG	Sb	07 43 29.2	+0.8
OLKF				MSG		07 43 32.0	
	comp=Z,32nm,0.2s						
KU6	Riekki	2.29	227	ePB	Pb	07 43 00.2	-0.9
KU6				eSG	Sb	07 43 30.3	+0.5
KU6				MSG		07 43 33.6	
	comp=Z,17nm,0.2s						
KU6	Riekki	2.29	227	ePB	Pb	07 43 00.2	-0.9
KU6				eSG	Sb	07 43 30.3	+0.5
KU6				MSG		07 43 33.6	
	comp=Z,17nm,0.2s						
RAJF	Raja-Jooseppi	2.30	294	ePG	Pb	07 43 01.0	-0.3
RAJF				eSB	Sb	07 43 28.9	-1.4
RAJF	Raja-Jooseppi	2.30	294	ePG	Pb	07 43 01.0	-0.3
RAJF				eSB	Sb	07 43 28.9	-1.4
MSF	Maaselka	2.62	231	ePB	Pb	07 43 05.5	-1.2
MSF				eSB	Sb	07 43 39.1	-0.2
MSF				MSG		07 43 43.9	
	comp=Z,18nm,0.2s						
MSF	Maaselka	2.62	231	ePB	Pb	07 43 05.5	-1.2
MSF				eSB	Sb	07 43 39.1	-0.2
MSF				MSG		07 43 43.9	
	comp=Z,18nm,0.2s						
KU1	Kurvinen	2.73	223	eP	Pn	07 43 05.5	+1.5
KU1				eSB	Sb	07 43 41.0	-1.6
KU1	Kurvinen	2.73	223	eP	Pn	07 43 05.5	+1.5
KU1				eSB	Sb	07 43 41.0	-1.6
SGF	Sodankyl	2.88	270	eP	Pn	07 43 06.8	+0.8
SGF	Sodankyl	2.88	270	eP	Pn	07 43 06.8	+0.8
VADS	Vadso	3.02	328	P	Pn	07 43 08.6	+0.7
VADS				S	Sn	07 43 44.1	-0.5
VADS	Vadso	3.02	328	eP	Pn	07 43 08.8	+0.9
VADS				eS	Sn	07 43 44.8	+0.1
VADS				IAML		07 43 59.9	
	comp=Z,28nm,0.2s						
KEV	Kevo	3.33	313	eP	Pn	07 43 13.9	+1.7
KEV				eS	Sn	07 43 52.9	+0.6
KEV	Kevo	3.33	313	eP	Pn	07 43 13.9	+1.7
KEV				eS	Sn	07 43 52.9	+0.6
ARA0	ARCESS Array S	3.66	305	eP	Pn	07 43 17.8	+1.1
ARA0				eS	Sn	07 43 59.4	-1.1
ARA0				IAML		07 44 14.7	
	comp=Z,15nm,0.2s						
ARA0	ARCESS Array S	3.66	305	eP	Pn	07 43 17.8	+1.1
ARA0				eS	Sn	07 43 59.4	-1.1
ARA0				IAML		07 44 14.7	
	comp=Z,15nm,0.2s						
ARCES	ARCESS Array B	3.66	305	P	Pn	07 43 17.5	+0.8
ARCES				S	Sn	07 43 59.6	-0.9
HEF	Hetta	3.97	286	eP	Pn	07 43 21.4	+0.5
HEF				eS	Sn	07 44 07.0	-1.2
HEF	Hetta	3.97	286	eP	Pn	07 43 21.4	+0.5
HEF				eS	Sn	07 44 07.0	-1.2
KTK1	Kautokeino	4.23	294	eP	Pn	07 43 25.2	+0.6
KTK1				eS	Sn	07 44 13.9	-0.6
KTK1				IAML		07 44 31.8	
	comp=Z,15nm,0.4s						
KTK1	Kautokeino	4.23	294	eP	Pn	07 43 25.2	+0.6
KTK1				eS	Sn	07 44 13.9	-0.6
KTK1				IAML		07 44 31.8	
	comp=Z,15nm,0.4s						
KIF	Kilpisjarvi	5.08	292	eP	Pn	07 43 36.6	+0.3
KIF				eS	Sn	07 44 32.8	-2.8
KIF	Kilpisjarvi	5.08	292	eP	Pn	07 43 36.6	+0.3
KIF				eS	Sn	07 44 32.8	-2.8
FAUS	Fauske	7.18	277	S	Sn	07 45 23.0	-4.1

ASRS 11 07:45:10.0±1.1, 53°.68N×88°.21E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 11 07:45:13.0±3.3, 53°.59N×87°.93E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=27.1km s-min=16.0km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.88	282	I	I	07 58 40.0	
	baz=95,slow=333,SNR=5.0						
ZALV	Zalesovo Beam	1.88	282	Pg	Pn	07 45 47.3	+0.9
	0.6nm,0.3s,baz=102,slow=12,SNR=14						
ZALV				Lg	Lg	07 46 13.3	
	1.4nm,0.3s,baz=104,slow=23,SNR=12						
KURBB	Kurchatov Arra	6.51	247	Pn	Pn	07 46 50.3	+0.4
	baz=60,slow=14,SNR=4.2						
KURBB				Sn	Sn	07 48 03.3	-1.5
	baz=62,slow=34,SNR=1.4 0.5nm,0.6s						
MKAR	Makanchi Array	7.71	210	Pn	Pn	07 47 08.1	+1.7
	baz=28,slow=13,SNR=1.9						
MKAR				Sn	Sn	07 48 33.8	-0.6
	baz=23,slow=30,SNR=2.1						
MKAR				Lg	Lg	07 49 16.6	
	0.1nm,0.3s,baz=28,slow=34,SNR=2.6 0.1nm,0.3s						

ASRS 11 07:50:26.0±0.7, 54°.14N×87°.22E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 11 07:50:29.9±2.9, 54°.09N×87°.24E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=24.0km s-min=17.2km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.43	265	I	I	08 00 30.0	
	baz=82,slow=332,SNR=2.1						
ZALV	Zalesovo Beam	1.43	265	Pg	Pn	07 50 55.2	-1.9
	2.5nm,0.3s,baz=85,slow=16,SNR=26						
ZALV				Lg	Lg	07 51 16.3	
	2.5nm,0.3s,baz=90,slow=27,SNR=8.0						
KURBB	Kurchatov Arra	6.36	240	Pn	Pn	07 52 06.1	+1.3
	0.1nm,0.3s,baz=54,slow=14,SNR=2.7						
KURBB				Sn	Sn	07 53 17.3	-0.8
	baz=55,slow=32,SNR=1.5						
KURBB				Lg	Lg	07 53 49.6	
	baz=54,slow=32,SNR=1.5 0.3nm,0.3s						
MKAR	Makanchi Array	7.95	205	Pn	Pn	07 52 28.1	+1.4
	0.1nm,0.3s,baz=27,slow=14,SNR=7.0						
MKAR				Sn	Sn	07 53 56.5	-0.9
	baz=17,slow=15,SNR=1.8 0.1nm,0.3s						

RSNC 11 07:57:37.3±0.0, 7°N±1°×7°3W±°, h144km±2km, M3.0, mb3.7, mB5.1, ML2.8, Mw(mB)4.5
IDC 11 07:57:37.2±6.3, 6°.50N×76°.15W, h112km±68km, mb2.9/1, mbtmp3.5/2, Error ellipse: s-maj=103.5km s-min=35.4km az=78.0

ISC 11 07:57:36.7±0.9, 6°.85N±0°.03×73°.12W±0°.04, h146km±6km, n40, σ1°29/72, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	194	P	Pn	07 57 56.8	-0.1
BARC				S	Sn	07 58 11.3	-1.0
BRJC	Barrancabermej	0.64	281	P	Pn	07 57 58.7	+0.4
BRJC				S	Sn	07 58 14.9	+0.2
PAMC	Pamplona, Colo	0.64	40	P	Pn	07 57 59.8	+0.9
PAMC				S	Sn	07 58 16.5	+0.8
RUSC	La Rusia	0.95	178	P	Pn	07 58 00.7	-0.5
RUSC				S	Sn	07 58 18.8	-1.1
PTBC	PUERTO BERRIO,	1.37	257	P	Pn	07 58 03.7	-0.8
PTBC				S	Sn	07 58 24.0	-1.8
TAMC	Tame, Arauca	1.38	107	P	Pn	07 58 05.2	+0.5
TAMC				S	Sn	07 58 26.4	+0.4
OCAC	Ocana	1.39	352	P	Pn	07 58 05.2	+0.3
OCAC				S	Sn	07 58 27.2	+0.6
ZARC	Zaragoza, Cauc	1.84	290	P	Pn	07 58 09.8	+0.1
ZARC				S	Sn	07 58 35.2	+0.2
NORC	Norcasia	2.16	234	P	Pn	07 58 13.6	+0.1
NORC				S	Sn	07 58 40.2	-1.7
CHIC	Chingaza	2.29	196	P	Pn	07 58 15.6	+0.1
CHIC				S	Sn	07 58 43.9	-1.4
ROSC	El Rosal	2.33	211	P	Pn	07 58 17.5	+1.6
	33nm,0.3s,baz=296,slow=15,SNR=37						
ROSC				S	Sn	07 58 46.9	+0.8
	76nm,0.3s,baz=43,slow=23,SNR=15						
ROSC	El Rosal	2.33	211	P	Pn	07 58 16.8	+0.9
ROSC				S	Sn	07 58 46.8	+0.8
CVER	Cruz Verde, Cu	2.50	202	P	Pn	07 58 18.9	+0.8
CVER				S	Sn	07 58 49.7	-0.3
UREC	San Jos de Ur	2.56	291	P	Pn	07 58 17.4	-0.9
UREC				S	Sn	07 58 49.1	-1.3
GUY2C	Guyana, Caldas	2.76	234	P	Pn	07 58 21.8	+0.5
GUY2C				S	Sn	07 58 56.0	+0.3
VILC	Villavicencio,	2.78	192	P	Pn	07 58 22.0	+0.7
VILC				S	Sn	07 58 54.9	-0.8
PTGC	Puerto Gaitan,	2.81	160	P	Pn	07 58 20.2	-1.3
PTGC				S	Sn	07 58 53.4	-2.7
CBOC	Ciudad Bolivar	3.04	251	P	Pn	07 58 25.0	+0.4
CBOC				S	Sn	07 59 00.6	-0.9
DBBC	Dabeiba	3.08	273	P	Pn	07 58 25.2	+0.3
DBBC				S	Sn	07 59 00.2	-2.0
SDV	Santo Domingo	3.18	50	P	Pn	07 58 26.8	+0.4
SDV				S	Sn	07 59 04.0	-0.8
ARGC	Ariguani, Magd	3.19	340	P	Pn	07 58 28.4	+2.1
ARGC				S	Sn	07 59 06.3	+1.6
ANIL	Santa Ana	3.27	224	P	Pn	07 58 28.5	+0.9
ANIL				S	Sn	07 59 07.8	+0.8
PRAC	Prado	3.58	210	P	Pn	07 58 31.8	+0.4
PRAC				S	Sn	07 59 13.2	-0.7
APAC	Apartado, Choc	3.59	287	P	Pn	07 58 31.4	-0.1
APAC				S	Sn	07 59 14.2	+0.3
SJCC	San Jacinto, C	3.65	326	P	Pn	07 58 31.5	-0.8
SJCC				S	Sn	07 59 13.1	-2.3
URMC	La Uribe, Meta	3.80	199	P	Pn	07 58 35.4	+1.1
URMC				S	Sn	07 59 19.1	+0.1
CRJC	Cerrejon, Guaj	4.15	3	P	Pn	07 58 37.8	-1.0
CRJC				S	Sn	07 59 24.8	-2.4
YOTC	Yotoco, Valle	4.30	229	P	Pn	07 58 40.0	-0.9
SMRC	Santa Marta, M	4.42	346	P	Pn	07 58 43.5	+1.1
SMRC				S	Sn	07 59 31.4	-2.1
CAPC	Capurgana	4.56	293	P	Pn	07 58 45.9	+1.8
CAPC				S	Sn	07 59 34.6	-2.1
MACC	Macarena, Meta	4.73	189	P	Pn	07 58 45.0	-1.5
MACC				S	Sn	07 59 37.3	-3.7
URIC	Uribia, Colomb	4.94	13	P	Pn	07 58 47.9	-1.4
URIC				S	Sn	07 59 44.1	-1.8
POPC	Popayan, Colom	5.56	220	P	Pn	07 58 57.9	+0.1
	6.0nm,0.5s						
POPC				S	Sn	08 00 00.7	-0.3
	6.0nm,0.5s						
GR1C	Gorgona, Isla	6.32	233	P	Pn	07 59 07.1	-0.6
BBAC	Balboa, Cauca	6.32	221	P	Pn	07 59 06.9	-1.0
	725nm9.9nm,0.5s						
CRUC	La Cruz	6.50	216	P	Pn	07 59 12.7	+2.4
GCUF	Volcan Galeras	7.00	217	P	Pn	07 59 18.3	+1.1
YKA	Yellowknife Ar	63.23	340	P	P	08 07 48.7	-0.6
	0.2nm,0.6s,baz=138,slow=6.7,SNR=8.7 0.2nm,0.6s						
ASAR	Alice Springs	149.13	234	PKPbc	PKPdf	08 17 05.1	+0.6
	0.4nm,0.9s,baz=110,slow=2.5,SNR=4.3						
WRA	Warramunga Arr	150.36	241	PKPbc	PKPdf	08 17 09.4	+2.9
	0.2nm,0.4s,baz=108,slow=2.5,SNR=4.7						

ASRS 11 08:00:01.0±1.5, 53°.63N×88°.02E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 11 08:00:03.6±3.6, 53°.66N×87°.87E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=30.9km s-min=16.4km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.83	280	I	I	08 13 15.0	
	baz=97,slow=334,SNR=7.1						
ZALV	Zalesovo Beam	1.83	280	Pg	Pn	08 00 36.6	+0.3
	1.4nm,0.3s,baz=102,slow=15,SNR=20						
ZALV				Lg	Lg	08 01 01.4	
	1.6nm,0.3s,baz=97,slow=25,SNR=21						
KURBB	Kurchatov Arra	6.51	246	Pn	Pn	08 01 41.6	+1.1
	baz=61,slow=14,SNR=3.5 0.6nm,0.7s						
MKAR	Makanchi Array	7.75	210	Pn	Pn	08 01 58.5	+0.9
	baz=28,slow=14,SNR=2.1						
MKAR				Sn	Sn	08 03 25.6	-0.4
	0.1nm,0.3s,baz=26,slow=23,SNR=2.6						
MKAR				Lg	Lg	08 04 06.8	
	0.1nm,0.3s,baz=34,slow=32,SNR=6.4 0.1nm,0.3s						

ASRS 11 08:10:47.0±0.6, 53°.64N×87°.87E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 11 08:10:48.8±3.4, 53°.64N×87°.84E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=30.7km s-min=18.3km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	1.82	281	Pg	Pb	08 11 22.1	-0.8
	0.7nm,0.3s,baz=98,slow=17,SNR=9.2						
ZALV				Lg	Lg	08 11 46.0	
	1.6nm,0.3s,baz=100,slow=25,SNR=11						
I46RU	ZALESOVO INFRA	1.82	281	I	I	08 23 20.0	
	baz=98,slow=333,SNR=5.4						
KURBB	Kurchatov Arra	6.48	246	Pn	Pn	08 12 25.8	+0.5
	baz=63,slow=14,SNR=1.8						
KURBB				Lg	Lg	08 14 15.0	
	baz=64,slow=31,SNR=5.5 0.3nm,0.5s						
MKAR	Makanchi Array	7.72	210	Pn	Pn	08 12 43.7	+1.2
	0.1nm,0.3s,baz=24,slow=13,SNR=2.0 0.1nm,0.3s						

BJI 11 08:18:17.1, 40°.35N×143°.40E, h10km, mB6.3/78, mb5.9/94, Ms6.5/99, Ms7 6.4/98
NIED 11 08:18:18.1, 40°.36N×143°.41E, h5km, MW6.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.75; $M_{\theta\theta}$0.05; $M_{\phi\phi}$-0.80; $M_{r\theta}$0.45; $M_{\theta\phi}$-0.31; $M_{\phi r}$0.73; Fault plane solution: $M_0$1.20000×10^{18} NP1: ϕ_s185.00000°, δ23.00000°, λ68.00000°. NP2:ϕ_p29.00000°, δ68.00000°, λ99.00000°.
JMA 11 08:18:18.1±0.2, 40°.4N±0°.4×143°.4E±0°.6, h5km±2km, MD6.2/40, MW6.2/40, FAR E OFF SANRIKU
JMA Felt III J1 at FAR E OFF SANRIKU .
MOS 11 08:18:19.6±0.9, 40°.51N×143°.25E, h16km, mb6.0/132, MS6.4/48, Error ellipse: s-maj=5.1km s-min=3.1km az=112.0
IPGP 11 08:18:20.0, 40°.42N×143°.30E, h14km, Mw6.2, Fault plane solution: NP1:ϕ_s212.00000°, δ13.00000°, λ93.00000°. NP2:ϕ_s29.00000°, δ77.00000°, λ89.00000°.
NEIC 11 08:18:21, 39°.91N×144°.00E, h26km, Moment Tensor Solution. Duration: 4s1 Moment tensor: Scale 10^{18}Nm; M_{rr}0.60; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-0.56; $M_{r\theta}$0.56; $M_{\theta\phi}$-0.20; $M_{\phi r}$0.71; Fault plane solution: $M_0$1.10000×10^{18} NP1: ϕ_s183.67000°, δ18.99000°, λ60.41000°. NP2:ϕ_s34.65000°, δ73.57000°, λ99.64000°. Principal axes: T 1.1089, Plg60.0000°, Azm318.0000°; N -0.0238, Plg9.0000°, Azm212.0000°; P -1.0850, Plg28.0000°, Azm117.0000°;
NEIC 11 08:18:21.4±1.4, 40°.41N±0°.05×143°.30E±0°.08, h18km±1km, mb5.8/326, Ms_20 5.9/1082, Mwb6.1/109, Mww6.0/25 Error ellipse: s-maj=10.1km s-min=7.3km az=116.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.77; $M_{\theta\theta}$-0.00; $M_{\phi\phi}$-0.77; $M_{r\theta}$0.63; $M_{\theta\phi}$-0.65; $M_{\phi r}$1.22; Fault plane solution: $M_0$1.70000×10^{18} NP1:ϕ_s27.10000°, δ72.54000°, λ87.74000°. NP2:ϕ_s214.58000°, δ17.60000°, λ97.14000°. Principal axes: T 1.4877, Plg62.0000°, Azm294.0000°; N 0.3707, Plg2.0000°; Azm28.0000°; P -1.8584, Plg28.0000°, Azm119.0000°;
NEIC 11 08:18:21.5, 40°.40N×143°.32E, h19km
ISC-PP 11 08:18:21, 40°.41N×143°.30E, h4km, Mwppsm6.5, Moment Tensor Solution. s44 Moment tensor: Scale 10^{18}Nm; M_{rr}0.53±.17; $M_{\theta\theta}$-0.18±.14; $M_{\phi\phi}$0.64±.14; $M_{r\theta}$0.18±.17; $M_{\theta\phi}$0.27±.11; $M_{\phi r}$0.17±.14; Fault plane solution: $M_0$7.76000×10^{18} NP1:ϕ_s62.80000°, δ72.10000°, λ37.00000°. NP2:ϕ_s319.80000°, δ55.10000°, λ158.00000°.
NEIC 11 08:18:21, 40°.41N×143°.32E, h26km
IDC 11 08:18:23.2±1.0, 40°.36N×143°.35E, h36km±7km, mb5.3/38, mbtmp5.5/46, ML4.6/8, MS6.0/77, Error ellipse: s-maj=9.6km s-min=7.8km az=50.0
GCMT 11 08:18:24.4±0.1, 40°.37N×143°.35E, h17km, MW6.1/168, Moment Tensor Solution. s155, c345; s168, c589; Duration: 2s7 Moment tensor: Scale 10^{18}Nm; M_{rr}0.84±.01; $M_{\theta\theta}$-0.08±.01; $M_{\phi\phi}$-0.75±.01; $M_{r\theta}$0.76±.02; $M_{\theta\phi}$-0.30±.00; $M_{\phi r}$1.31±.03; Best double couple: $M_0$1.73900×10^{18} NP1:ϕ_s192.00000°, δ15.00000°, λ74.00000°. NP2:ϕ_s29.00000°, δ75.00000°, λ94.00000°. Principal axes: T 1.7330, Plg59.0000°, Azm305.0000°; N 0.0120, Plg4.0000°, Azm208.0000°; P -1.7450, Plg30.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function
BGR 11 08:18:28.6, 41°.55N×143°.21E, h33km, mb5.7, mB_BB6.3, Ms6.3, Hypocentre not reviewed by the ISC

ISC 11 08:18:20.0±0.4, 40°.41N±0°.02×143°.33E±0°.02, h14km±1km, h14km: pP-P, n2516, σ1°60/2445, mb5.8/492, MS5.9/687, 133C-45D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.22	248	∥P	Pn	08 18 41.7	-0.9
JTH				∥S	Sn	08 18 59.1	+0.3
JTH	Tanohata	1.22	248	A	A	08 18 41.7	
	comp=N,223nm,3.0s,comp=E,361nm,3.6s						
JKEN	Kujiedanarisaw	1.25	261	*i* P	Pn	08 18 42.5	-0.6
JKEN				*e*S	Sb	08 18 59.1	-0.3
JKEN	Kuji

ERM				pmax	pmax	
	comp=Z,3μm,1.0s					
ERM	**Erimo**	**1.61 355**	⇑P		**Pn**	**08 18 47.9 -0.1**
ERM	**Erimo**	**1.61 355**	P		**Pn**	**08 18 48.3 +0.2**
ERM			S		**Sb**	**08 19 10.0 +0.2**
JEM	**Erimo**	**1.61 355**	P		**Pb**	**08 18 50.1 +0.5**
JEM	**Erimo**	**1.61 355**	P		**Pn**	**08 18 48.2 +0.2**
JEM	**Erimo**	**1.61 355**	A		A	08 18 48.2
	comp=N,302nm,3.9s,comp=E,633nm,4.1s					
JAHD	**Aomorihigashid**	**1.74 300**	A		A	08 18 50.4
	comp=N,466nm,1.8s,comp=E,339nm,2.7s					
JTM	**Tenmabayashi**	**1.76 283**			**Pn**	**08 18 50.6 +0.5**
JTM			Sn		**Sn**	**08 19 11.9 -0.5**
JTM	**Tenmabayashi**	**1.76 283**	P		**Pb**	**08 18 52.4 +0.3**
JTM	**Tenmabayashi**	**1.76 283**	P		**Pn**	**08 18 50.9 +0.7**
JTM			S		**Sb**	**08 19 14.4 +0.3**
JTM	**Tenmabayashi**	**1.76 283**	A		A	08 18 50.9
	comp=N,284nm,2.9s,comp=E,403nm,7.5s					
JTM	**Tenmabayashi**	**1.76 283**	⇑P		**Pn**	**08 18 50.6 +0.5**
JOM	**Ohasama**	**1.82 240**	P		**Pn**	**08 18 51.4 +0.5**
JOM			S		**Sb**	**08 19 15.5 -0.3**
JOM	**Ohasama**	**1.82 240**	A		A	08 18 51.4
	comp=N,372nm,5.1s,comp=E,274nm,3.0s					
OFUJ	**Ofunato**	**1.84 225**	A		A	08 18 51.0
	comp=N,260nm,6.4s,comp=E,306nm,3.2s					
JTHR	**Tokachihiroo**	**1.88 359**	A		A	08 18 52.1
	comp=N,241nm,2.7s,comp=E,420nm,3.9s					
JNBK	**Urakawa-nobuka**	**1.92 347**	P		**Pn**	**08 18 53.1 +0.8**
JNBK	**Urakawa-nobuka**	**1.92 347**	A		A	08 18 53.1
	comp=N,409nm,1.5s,comp=E,485nm,4.9s					
JSZI	**Iwateshizukuis**	**1.94 251**	A		A	08 18 52.9
	comp=N,794nm,5.0s,comp=E,755nm,1.8s					
JOT	**Ohata**	**1.98 300**	*i* P		**Pn**	**08 18 53.7 +0.6**
JOT			S		**Sb**	**08 19 20.2 -0.3**
JOT	**Ohata**	**1.98 300**	A		A	08 18 53.7
	comp=N,264nm,3.8s,comp=E,298nm,5.1s					
JAH	**Hinai**	**2.07 265**	*i* P		**Pn**	**08 18 55.4 +1.1**
JAH			S		**Sb**	**08 19 22.2 -0.7**
JAH	**Hinai**	**2.07 265**	A		A	08 18 55.4
	comp=N,363nm,2.4s,comp=E,428nm,4.1s					
JSHD	**Hidakashinhida**	**2.10 342**	A		A	08 18 55.5
	comp=N,729nm,4.5s,comp=E,818nm,5.6s					
JKMT	**Kesennumamotoy**	**2.14 223**	A		A	08 18 55.4
	comp=N,250nm,4.1s,comp=E,312nm,4.0s					
JMK	**Ichinoseki**	**2.18 229**	*i* P		**Pn**	**08 18 56.2 +0.3**
JMK	**Ichinoseki**	**2.18 229**	A		A	08 18 56.2
	comp=N,241nm,3.1s,comp=E,260nm,2.9s					
JCH	**Churui**	**2.21 1**	*i* P		**Pn**	**08 18 56.3 0.0**
JCH			S		**Sn**	**08 19 23.4 0.0**
JCH	**Churui**	**2.21 1**	A		A	08 18 56.3
	comp=N,237nm,1.7s,comp=E,337nm,7.4s					
JHHS	**Hirosakihyakuz**	**2.28 277**	A		A	08 18 58.1
	comp=N,872nm,3.4s,comp=E,642nm,2.3s					
JKB	**Kayabe**	**2.28 311**	A		A	08 18 58.3
	comp=N,257nm,5.1s,comp=E,309nm,4.5s					
JKB	**Kayabe**	**2.28 311**	P		**Pn**	**08 18 58.0 +0.8**
JRG	**Rokugo**	**2.31 245**	A		A	08 18 58.1
	comp=N,363nm,4.7s,comp=E,343nm,8.7s					
JRG	**Rokugo**	**2.31 245**	P		**Pn**	**08 18 58.4 +0.8**
JSI2	**Shiura 2**	**2.31 287**	A		A	08 18 58.7
	comp=N,320nm,2.0s,comp=E,318nm,1.3s					
JNTW	**Noshirotokiwa**	**2.42 268**	A		A	08 19 00.1
	comp=N,1μm,4.1s,comp=E,1μm,2.2s					
JIAM	**Iburiatsuma**	**2.45 335**	A		A	08 19 00.7
	comp=N,1μm,4.9s,comp=E,676nm,1.4s					
JIAM	**Iburiatsuma**	**2.45 335**	*i* P		**Pn**	**08 19 01.8 +2.2**
JSR	**Shiriuchi**	**2.47 298**	A		A	08 19 01.1
	comp=N,312nm,3.2s,comp=E,200nm,3.8s					
JSR	**Shiriuchi**	**2.47 298**	P		**Pn**	**08 19 01.3 +1.4**
JBT2	**Biratori 2**	**2.48 343**	A		A	08 19 01.0
	comp=N,383nm,4.7s,comp=E,368nm,5.0s					
JBT2	**Biratori 2**	**2.48 343**	P		**Pn**	**08 19 01.1 +1.1**
JIO	**Ouri**	**2.48 219**	A		A	08 19 00.1
	comp=N,225nm,6.8s,comp=E,221nm,7.4s					
JOB	**Onbets**	**2.52 8**	A		A	08 19 01.3
	comp=N,349nm,3.9s,comp=E,378nm,4.1s					
JIW	**Iwasaki**	**2.54 275**	A		A	08 19 01.9
	comp=N,199nm,1.4s,comp=E,245nm,3.1s					
JIW	**Iwasaki**	**2.54 275**	*i* P		**Pn**	**08 19 02.4 +1.6**
JIKH	**Ishinomakikobu**	**2.54 215**	A		A	08 19 01.0
	comp=N,162nm,6.6s,comp=E,309nm,6.9s					
JYW	**Yuwa**	**2.55 251**	A		A	08 19 01.7
	comp=N,567nm,2.9s,comp=E,390nm,2.6s					
JOFO	**Osakifurukawao**	**2.60 227**	A		A	08 19 02.0
	comp=N,2μm,3.4s,comp=E,1μm,3.7s					
JNB	**Noboribetsu**	**2.69 321**	A		A	08 19 04.1
	comp=N,133nm,5.2s,comp=E,127nm,7.7s					
JNB	**Noboribetsu**	**2.69 321**	P		**Pn**	**08 19 03.3 +0.5**
JYK	**Kaneyama**	**2.73 238**	*i* P		**Pn**	**08 19 04.1 +0.7**
JYK			S		**Sn**	**08 19 38.6 +2.3**
JYK	**Kaneyama**	**2.73 238**	A		A	08 19 04.1
	comp=N,250nm,6.9s,comp=E,197nm,8.3s					
JOMM	**Oshimamatsumae**	**2.75 295**	P		**Pn**	**08 19 06.1 +2.4**
JOMM			S		**Sb**	**08 19 39.9 -2.6**
JOMM	**Oshimamatsumae**	**2.75 295**	A		A	08 19 06.1
	comp=N,131nm,3.8s,comp=E,156nm,9.0s					
JAK	**Akkeshi**	**2.78 21**	*i* P		**Pn**	**08 19 03.6 -0.5**
JAK			S		**Sn**	**08 19 36.3 -1.3**
JAK	**Akkeshi**	**2.78 21**	A		A	08 19 03.6
	comp=N,205nm,2.9s,comp=E,246nm,4.3s					
JFR	**Furan**	**2.81 349**	A		A	08 19 05.7
	comp=N,137nm,3.8s,comp=E,166nm,4.6s					
JYM2	**Yakumo 2**	**2.81 308**	A		A	08 19 05.9
	comp=N,175nm,4.8s,comp=E,141nm,2.9s					
JYM2	**Yakumo 2**	**2.81 308**	P		**Pn**	**08 19 05.7 +1.2**
JEW	**Eniwo**	**2.81 331**	A		A	08 19 05.9
	comp=N,555nm,1.7s,comp=E,465nm,5.4s					
JOU	**Okura**	**2.90 226**	A		A	08 19 06.3
	comp=N,372nm,6.2s,comp=E,241nm,6.4s					
JOU	**Okura**	**2.90 226**	*i* P		**Pn**	**08 19 06.1 +0.3**
JAR	**Ashorobuto**	**2.91 6**	A		A	08 19 06.8
	comp=N,160nm,3.6s,comp=E,152nm,3.8s					
JAR	**Ashorobuto**	**2.91 6**	*i* P		**Pn**	**08 19 05.3 -0.5**
JYYZ	**Yamagatayuza**	**2.97 243**	A		A	08 19 07.5
	comp=N,648nm,5.0s,comp=E,469nm,9.8s					
JKHN	**Kushirohamanak**	**3.01 27**	A		A	08 19 07.8
	comp=N,191nm,3.6s,comp=E,226nm,4.1s					
JTB	**Tobi-shima**	**3.15 249**	A		A	08 19 10.2
	comp=N,254nm,4.1s,comp=E,226nm,3.5s					
JISS	**Ishikarishitsu**	**3.20 334**	A		A	08 19 11.4
	comp=N,645nm,4.5s,comp=E,388nm,4.3s					
JISS	**Ishikarishitsu**	**3.20 334**	P		**Pn**	**08 19 11.2 +1.3**
JAB	**Ashibetsu**	**3.20 345**	A		A	08 19 11.3
	comp=N,387nm,4.2s,comp=E,385nm,4.9s					
JMM	**Marumori**	**3.21 219**			**Pn**	**08 19 09.8 -0.3**
JMM	**Marumori**	**3.21 219**	P		**Pn**	**08 19 10.1 +0.1**
JMM	**Marumori**	**3.21 219**	A		A	08 19 10.6
	comp=N,106nm,3.7s,comp=E,148nm,3.4s					
JMM	**Marumori**	**3.21 219**	⇑P		**Pn**	**08 19 09.2 -0.8**
JMST	**Minamisoumatoc**	**3.28 216**	A		A	08 19 11.6
	comp=N,108nm,4.7s,comp=E,99nm,7.0s					
JHST	**Hiyamasetana**	**3.29 309**	A		A	08 19 12.7
	comp=N,185nm,3.8s,comp=E,218nm,4.9s					
JOG3	**Oga3**	**3.29 263**	A		A	08 19 04.6
	comp=N,261nm,2.2s,comp=E,252nm,3.8s					
JSH	**Shimam**	**3.33 313**	A		A	08 19 13.3
	comp=N,123nm,6.9s,comp=E,86nm,5.3s					
JYA	**Atsumi**	**3.33 238**	A		A	08 19 12.7
	comp=N,243nm,1.4s,comp=E,269nm,3.3s					
JYS	**Shiratake**	**3.34 230**	A		A	08 19 12.7
	comp=N,424nm,3.0s,comp=E,303nm,3.1s					
JYS	**Shiratake**	**3.34 230**	*i* P		**Pn**	**08 19 12.9 +1.1**
JNK	**Nakash**	**3.34 18**	P		**Pn**	**08 19 10.8 -1.0**
JOSM	**Okushiri--Mats**	**3.35 301**	A		A	08 19 13.7
	comp=N,126nm,6.4s,comp=E,113nm,7.1s					
JOSM	**Okushiri--Mats**	**3.35 301**	*i* P		**Pn**	**08 19 12.7 +0.7**
NMR	**Nemuro--Hokkai**	**3.46 30**	⇓*i* P		**Pn**	**08 19 12.1 -1.3**
NMR			*i* S		**Sn**	**08 19 50.5 -3.7**
JKK2	**Kamakawa 2**	**3.49 353**	A		A	08 19 15.3
	comp=N,85nm,4.4s,comp=E,117nm,3.5s					
JYAR	**Yonezawaarcadi**	**3.51 226**	A		A	08 19 15.0
	comp=N,272nm,8.4s,comp=E,248nm,3.0s					
JHR	**Hokuryu**	**3.54 341**	A		A	08 19 16.2
	comp=N,338nm,5.2s,comp=E,319nm,4.5s					
JHR	**Hokuryu**	**3.54 341**	P		**Pn**	**08 19 16.6 +2.0**
JFK	**Kawauchi**	**3.59 213**	A		A	08 19 15.9
	comp=N,88nm,7.0s,comp=E,87nm,8.5s					
JFK	**Kawauchi**	**3.59 213**	P		**Pn**	**08 19 14.4 -0.9**
JTKR	**Abashiri--Toko**	**3.59 7**	A		A	08 19 16.5
	comp=N,74nm,4.9s,comp=E,85nm,4.0s					
JTKR	**Abashiri--Toko**	**3.59 7**	*i* P		**Pn**	**08 19 15.0 -0.2**
JNSB	**Nemuroshibetsu**	**3.59 20**	A		A	08 19 16.3
	comp=N,248nm,5.7s,comp=E,206nm,3.7s					
JMP	**Maruseppu**	**3.60 0**	A		A	08 19 16.7
	comp=N,89nm,6.0s,comp=E,105nm,7.7s					
JMP	**Maruseppu**	**3.60 0**	P		**Pn**	**08 19 15.3 -0.1**
JSK	**Shakotan**	**3.63 325**	A		A	08 19 17.6
	comp=N,140nm,4.9s,comp=E,158nm,5.1s					
JOTO	**OTAMA OYAMA**	**3.68 220**	A		A	08 19 17.3
	comp=N,231nm,5.8s,comp=E,177nm,3.5s					
JAW	**Awa shima**	**3.71 240**	A		A	08 19 18.1
	comp=N,142nm,9.6s,comp=E,235nm,5.6s					
JAW	**Awa shima**	**3.71 240**	*i* P		**Pn**	**08 19 18.0 +1.1**
JKA	**Kamikawa-asahi**	**3.75 352**			**Pn**	**08 19 18.1 +0.7**
ASAJ	**Asahikawa**	**3.75 352**	Pn		**Pn**	**08 19 18.8 +1.3**
	comp=E,34nm,0.3s,baz=206,slow=13,SNR=202					
ASAJ			Sn		**Sn**	**08 20 05.2 +3.9**
	comp=E,129nm,0.3s,baz=256,slow=17,SNR=6.9					
ASAJ			LR		LR	08 20 39.2
	comp=E,55μm,21.9s,baz=179,slow=36					
	comp=E,287nm,0.7s					
ASAJ	**Asahikawa**	**3.75 352**	P		**Pn**	**08 19 18.1 +0.7**
ASAJ	**Asahikawa**	**3.75 352**	A		A	08 19 18.9
	comp=N,126nm,4.4s,comp=E,112nm,5.4s					
ASAJ	**Asahikawa**	**3.75 352**	P		**Pn**	**08 19 18.3 +0.9**
JRA	**Rausu**	**3.77 20**	A		A	08 19 18.9
	comp=N,86nm,6.4s,comp=E,84nm,3.7s					
JFFD	**Fukushimafurud**	**3.95 214**	A		A	08 19 21.1
	comp=N,66nm,7.7s,comp=E,81nm,4.3s					
RUSJ	**Misakicho**	**3.96 20**	⇑*i* P		**Pn**	**08 19 20.0 -0.3**
RUSJ			*i* S		**Sn**	**08 20 04.7 -1.9**
YUK	**Yuzh-Kuril'sk**	**4.08 27**	*d i* P		**Pn**	**08 19 20.7 -1.3**
YUK			*i* S		**Sn**	**08 20 05.2 -4.4**
YUK			pmax		pmax	
	comp=Z,3μm,0.3s					
YUK			pmax		pmax	
	comp=E,630nm,0.2s					
YUK			pmax		pmax	
	comp=Z,6μm,1.1s					
YUK			smax		smax	
	comp=N,13μm,0.3s					
YUK			smax		smax	
	comp=E,23μm,0.5s					
YUK			MLR		MLR	
	comp=Z,83μm,13.0s					
YUK			MLR		MLR	
	comp=E,51μm,10.0s					
JFY	**Yanaizu**	**4.12 224**	A		A	08 19 23.6
	comp=N,194nm,4.1s,comp=E,160nm,4.2s					
JSS	**Shosan**	**4.14 345**	A		A	08 19 24.5
	comp=N,292nm,4.9s,comp=E,200nm,4.7s					
JSS	**Shosan**	**4.14 345**	P		**Pn**	**08 19 24.6 +1.8**
JYG	**Yagishiri**	**4.26 341**	A		A	08 19 26.3
	comp=N,96nm,5.3s,comp=E,110nm,4.7s					
JYG	**Yagishiri**	**4.26 341**	P		**Pn**	**08 19 25.6 +1.2**
SHO	**Shikotan**	**4.33 36**	*d i* P		**Pn**	**08 19 24.0 -1.4**
SHO			*i* S		**Sn**	**08 20 10.2 -5.5**
SHO			pmax		pmax	
	comp=N,303nm,0.4s					
SHO			pmax		pmax	
	comp=Z,1μm,0.4s					
SHO			smax		smax	
	comp=N,2μm,0.4s					
SHO			smax		smax	
	comp=E,8μm,0.4s					
JSB	**Shiboa**	**4.35 219**	A		A	08 19 26.7
	comp=N,188nm,3.5s,comp=E,173nm,4.0s					
JHO	**Hitachi**	**4.36 211**	A		A	08 19 26.8
	comp=N,56nm,4.7s,comp=E,65nm,5.8s					
JSE	**Soyaes**	**4.58 353**	P		**Pn**	**08 19 29.4 +0.6**
JSD	**Sado**	**4.59 241**			**Pn**	**08 19 30.2 +1.1**
JSD	**Sado**	**4.59 241**	P		**Pn**	**08 19 30.1 +1.1**
JSD	**Sado**	**4.59 241**	P		**Pn**	**08 19 29.9 +0.9**
JSD	**Sado**	**4.59 241**	⇑P		**Pn**	**08 19 29.9 +0.9**
JHYU	**Hitachinakayam**	**4.59 209**	A		A	08 19 30.0
	comp=N,71nm,5.5s,comp=E,73nm,4.4s					
JWK2	**Keihoku**	**5.02 348**	P		**Pn**	**08 19 36.5 +1.6**
JRBN	**Rebuntou**	**5.28 342**	*i* P		**Pn**	**08 19 39.4 +0.9**
JSZ	**Suzu**	**5.51 239**	*i* P		**Pn**	**08 19 43.0 +1.5**
MAJO	**Matsushiro**	**5.57 228**	Pn		**Pn**	**08 19 43.4 +0.9**
MAJO	**Matsushiro**	**5.57 228**	P		**Pn**	**08 19 43.8 +1.3**
MAJO	**Matsushiro**	**5.57 228**	*i* P		**Pn**	**08 19 43.9 +1.4**
MAJO	**Matsushiro**	**5.57 228**	⇑P		**Pn**	**08 19 43.8 +1.3**
MAJO	**Matsushiro**	**5.57 228**	P		**Pn**	**08 19 44.0 +1.6**
MAJO			S		**Sn**	**08 20 47.3 +1.0**
MAT	**Matsushiro**	**5.57 228**	*i* P		**Pn**	**08 19 44.0 +1.6**
MJAR	**Matsushiro Arr**	**5.57 228**	Pn		**Pn**	**08 19 43.9 +1.4**
	comp=E,8.9nm,0.3s,baz=29,slow=11,SNR=374					
MJAR			Sn		**Sn**	**08 20 45.3 -1.0**
	baz=38,slow=19					
MJAR			LR		LR	08 22 16.8
	comp=E,154μm,18.4s,baz=125,slow=42					
	comp=E,1μm,1.2s					
MJB9	**Matsu-Tunnel**	**5.57 228**			**Pn**	**08 19 44.9 +2.5**
JRY	**Ryogami san**	**5.60 220**	*i* P		**Pn**	**08 19 42.6 -0.2**
KUR	**Kuril'sk**	**5.87 33**	*d i* P		**Pn**	**08 19 45.5 -1.0**
KUR			*i* S		**Sn**	**08 20 48.3 -5.2**
KUR			pmax		pmax	
	comp=N,922nm,0.9s					
KUR			pmax		pmax	
	comp=E,1μm,0.9s					
KUR			pmax		pmax	
	comp=Z,3μm,0.9s					
KUR			smax		smax	
	comp=N,4μm,0.6s					
KUR			smax		smax	
	comp=E,3μm,0.6s					
KUR			smax		smax	
	comp=N,70μm,7.4s					
KUR			smax		smax	
	comp=E,58μm,5.7s					
KUR			MLR		MLR	
	comp=Z,110μm,16.0s					
JTT	**Ttatey**	**6.04 233**	P		**Pn**	**08 19 51.2 +2.2**
YSS	**Yuzhno-Sakhali**	**6.56 357**			**Pn**	**08 19 56.6 +0.7**
YSS	**Yuzhno-Sakhali**	**6.56 357**	P		**Pn**	**08 19 57.4 +1.4**
YSS	**Yuzhno-Sakhali**	**6.56 357**	*αe* P		**Pn**	**08 19 56.3 +0.3**
YSS			*e* S		**Sn**	**08 21 11.7 +1.2**
YSS			pmax		pmax	
	comp=Z,7μm,5.7s					
YSS			pmax		pmax	
	comp=N,7μm,5.4s					
YSS			pmax		pmax	
	comp=E,800nm,4.0s					
YSS			pmax		pmax	
	comp=Z,610nm,0.8s					
YSS			smax		smax	
	comp=N,8μm,5.2s					
YSS			smax		smax	
	comp=E,11μm,5.2s					
YSS			MLR		MLR	
	comp=N,144μm,14.0s					
YSS			MLR		MLR	
	comp=E,64μm,14.0s					
YSS			MLR		MLR	
	comp=Z,206μm,14.0s					
YSS	**Yuzhno-Sakhali**	**6.56 357**	⇑P		**Pn**	**08 19 56.3 +0.3**
JGF	**Kuroka**	**6.72 226**			**Pn**	**08 19 58.9 +0.5**
JGF	**Kuroka**	**6.72 226**	P		**Pn**	**08 20 00.3 +1.9**
JGF	**Kuroka**	**6.72 226**	⇑P		**Pn**	**08 19 59.0 +0.6**
TEY	**Ternei**	**6.78 315**	⇑*e* P		**Pn**	**08 20 00.5 +1.5**
TEY			pmax		pmax	
	comp=N,60nm,1.6s					
TEY			pmax		pmax	
	comp=Z,80nm,1.6s					
TEY			pmax		pmax	
	comp=E,70nm,1.6s					
TEY			pmax		pmax	
	comp=E,10μm,12.4s					
TEY			pmax		pmax	
	comp=Z,8μm,12.4s					
TEY			pmax		pmax	
	comp=N,9μm,12.7s					
TEY			MLR		MLR	
	comp=E,62μm,13.0s					
TEY			MLR		MLR	
	comp=Z,70μm,13.0s					
TEY			MLR		MLR	
	comp=N,52μm,12.0s					
JSG	**Sagara**	**7.03 217**			**Pn**	**08 20 05.0 +2.5**
JSG	**Sagara**	**7.03 217**	P		**Pn**	**08 20 04.5 +2.0**
INU	**Inuyama**	**7.10 227**			**Pn**	**08 20 03.8 +0.3**
INU	**Inuyama**	**7.10 227**	P		**Pn**	**08 20 05.1 +1.7**
INU	**Inuyama**	**7.10 227**	⇓P		**Pn**	**08 20 04.5 +1.1**
JHJ2	**Mitsune**	**7.80 202**			**Pn**	**08 20 11.9 -1.3**
JHJ2	**Mitsune**	**7.80 202**	P		**Pn**	**08 20 11.9 -1.3**
JHJ2	**Mitsune**	**7.80 202**	⇑P		**Pn**	**08 20 11.8 -1.3**
JHJ	**Hachijo jima 2**	**7.81 202**	Pn		**Pn**	**08 20 12.0 -1.2**
	comp=N,114nm,0.3s,baz=100,slow=24,SNR=13					
JHJ			Sn		**Sn**	**08 21 33.8 -7.6**
	comp=N,226nm,0.3s,baz=82,slow=23,SNR=6.8					
JHJ			LR		LR	08 23 39.6
	comp=N,60μm,20.9s,baz=44,slow=41					
	comp=N,315nm,0.4s					
JKY	**Yasaka**	**8.05 236**	*i* P		**Pn**	**08 20 18.6 +2.1**
UGL	**Uglegorsk**	**8.72 355**	⇓*e* P		**Pn**	**08 20 26.1 +0.5**
UGL			*e* S		**Sn**	**08 22 03.5 -0.1**
UGL			pmax		pmax	
	comp=Z,7μm,12.3s					
UGL			pmax		pmax	
	comp=Z,216nm,1.0s					
UGL			smax		smax	
	comp=E,23μm,15.1s					
UGL			smax		smax	
	comp=N,10μm,7.4s					
UGL			MLR		MLR	
	comp=Z,112μm,15.0s					
UGL			MLR		MLR	
	comp=N,141μm,15.0s					
VLA	**Vladivostok**	**8.97 291**	*i* P		**Pn**	**08 20 32.5 +3.4**
JAD	**Aida**	**9.08 236**	P		**Pn**	**08 20 32.3 +1.7**
USA0B	**Ussuriysk Arra**	**9.22 298**			**Pn**	**08 20 34.6 +2.1**
USA0B	**Ussuriysk Arra**	**9.22 298**	*c i* P		**Pn**	**08 20 34.5 +2.1**
USRK	**Ussuriysk Ar.**	**9.22 298**			**Pn**	**08 20 34.0 +1.6**
USRK	**Ussuriysk Ar.**	**9.22 298**	Pn		**Pn**	**08 20 35.4 +2.9**
	comp=N,3.6nm,0.3s,baz=98,slow=14,SNR=188					
USRK			LR		LR	08 24 13.1
	comp=N,177μm,18.7s,baz=92,slow=38					
	comp=N,278nm,0.9s					
MSHR	**Mys Shultsa**	**9.39 287**	*c i* P		**Pn**	**08 20 37.2 +2.4**
PSTR	**Posyet**	**9.66 288**	*d i* P		**Pn**	**08 20 42.6 +4.1**
JMN	**Monobe**	**10.07 232**	Pn		**Pn**	**08 20 45.3 +1.1**
JMN	**Monobe**	**10.07 232**	P		**Pn**	**08 20 45.3 +1.1**
JMN	**Monobe**	**10.07 232**	⇑P		**Pn**	**08 20 44.6 +0.5**
JGT2	**ShimaneMisato**	**10.09 242**	P		**Pn**	**08 20 46.3 +1.9**
TYV	**Tymovskoe**	**10.47 358**	*e* P		**Pn**	**08 20 50.6 +1.0**
TYV			*e* S		**Sn**	**08 22 49.5 +2.9**
TYV			pmax		pmax	
	comp=Z,5μm,5.1s					
TYV			pmax		pmax	
	comp=Z,160nm,1.1s					
TYV			smax		smax	
	comp=N,8μm,6.8s					
TYV			smax		smax	
	comp=E,16μm,6.8s					
TYV			smax		smax	
	comp=N,180nm,1.3s					
TYV			smax		smax	
	comp=E,141nm,1.3s					
TYV			MLR		MLR	
	comp=N,176μm,16.0s					
MDJ	**Mudanjiang**	**10.98 297**	Pn		**Pn**	**08 20 58.2 +1.7**
MDJ	**Mudanjiang**	**10.98 297**	P		**Pn**	**08 20 59.2 +2.6**
MDJ			S		**Sn**	**08 23 06.7 +7.6**
MDJ			SS		**SnSn**	**08 23 19.7 +9.0**
MDJ			pmax		pmax	
	comp=N,120nm,1.0s					
MDJ			pmax		pmax	
	comp=N,19μm,4.8s					
MDJ			LR		LR	
	comp=N,105μm,16.5s					
MDJ			LR		LR	
	comp=N,179μm,17.9s					
MDJ			LR		LR	
	comp=N,290μm,15.8s					
MDJ	**Mudanjiang**	**10.98 297**	P		**Pn**	**08 20 58.2 +1.7**
GRNR	**Gornyy**	**11.43 337**	⇑*i* P		**Pn**	**08 21 03.7 +0.9**
GRNR			*e* S		**Sn**	**08 23 16.2 +6.0**
GRNR			pmax		pmax	
	comp=N,70nm,1.1s					
GRNR			pmax		pmax	
	comp=E,40nm,1.1s					
GRNR			pmax		pmax	
	comp=Z,80nm,1.1s					
GRNR			smax		smax	
	comp=E,40nm,1.1s					
GRNR			MLR		MLR	
	comp=Z,48μm,15.0s					
KLR	**Kul'dur**	**12.05 321**	Pn		**Pn**	**08 21 12.0 +0.8**
	comp=Z,0.6nm,0.3s,baz=135,slow=13,SNR=66					
KLR			LR		LR	08 26 17.9
	comp=Z,110μm,18.1s,baz=138,slow=39					
	comp=Z,60nm,1.0s					
KLR	**Kul'dur**	**12.05 321**	*ce* P		**Pn**	**08 21 11.9 +0.8**
KLR			pmax		pmax	
	comp=Z,247nm,1.7s					
JNU	**Nakatsue**	**12.34 238**			**Pn**	**08 21 15.5 +0.2**
JNU	**Nakatsue**	**12.34 238**	Pn		**Pn**	**08 21 15.8 +0.5**
	comp=Z,1.7nm,0.3s,baz=52,slow=8.6,SNR=23					
JNU			LR		LR	08 26 20.0
	comp=Z,76μm,18.6s,baz=44,slow=39					
	comp=Z,94nm,1.0s					
JNU	**Nakatsue**	**12.34 238**	P		**Pn**	**08 21 16.5 +1.2**
JNU	**Nakatsue**	**12.34 238**	⇓P		**Pn**	**08 21 15.6 +0.3**
KSRS	**Korea Array**	**12.35 261**	Pn		**Pn**	**08 21 17.9 +2.5**
	comp=Z,0.5nm,0.3s,baz=74,slow=12,SNR=85					
KSRS			Sn		**Sn**	**08 23 35.5 +2.6**
	comp=Z,0.2nm,0.3s,baz=69,slow=24,SNR=2.2					
KSRS			LR		LR	08 25 45.8
	comp=Z,165μm,18.6s,baz=70,slow=36					
	comp=Z,48nm,1.1s					
KS19	**Wonju Array Si**	**12.38 261**			**Pn**	**08 21 16.4 +0.5**
KSAR	**Wonju Array Be**	**12.39 261**			**Pn**	**08 21 17.8 +1.9**
KSAR	**Wonju Array Be**	**12.39 261**	P		**Pn**	**08 21 17.8 +1.9**
JTU	**Tsushima**	**12.52 246**	P		**Pn**	**08 21 20.3 +2.6**
JTU	**Tsushima**	**12.52 246**	⇑P		**Pn**	**08 21 19.0 +1.3**
BNX	**BinXian**	**12.80 300**	⇑P		**Pn**	**08 21 21.8 +0.3**
BNX			S		**Sn**	**08 23 46.9 +3.2**
BNX			pmax		pmax	
	comp=Z,120nm,1.2s					
BNX			pmax		pmax	
	comp=Z,16μm,10.7s					
BNX			LR		LR	
	comp=Z,94μm,15.5s					
BNX			LR		LR	
	comp=Z,133μm,16.2s					
BNX			LR		LR	
	comp=Z,201μm,17.0s					
TJN	**Taejon**	**13.15 257**			**Pn**	**08

comp=Z,157μm,18.2s
SNY Shenyang 14.96 282 ⇑P **Pn 08 21 51.3 +0.4**
SNY S **Sn 08 24 41.2 +4.9**
SNY pmax pmax
comp=Z,230nm,1.3s
SNY pmax pmax
comp=Z,17μm,11.6s
SNY LR LR
comp=Z,40μm,14.9s
SNY LR LR
comp=Z,90μm,18.6s
SNY LR LR
comp=Z,126μm,17.3s
PEA0B Petropavlovsk- 16.03 33 Pn 08 22 01.3 -3.6
PEA0B Petropavlovsk- 16.03 33 *c*eP **Pn 08 22 01.6 -3.3**
PETK Petropavlovsk- 16.03 33 Pn 08 22 01.3 -3.6
PETK Petropavlovsk- 16.03 33 Pn **Pn 08 22 01.8 -3.1**
comp=Z,0.4nm,0.3s,baz=205,slow=8.8,SNR=58
PETK LR LR 08 28 36.9
comp=Z,14μm,18.7s,baz=219,slow=38
PETK ScS ScS 08 34 11.4 -2.1
comp=Z,0.3nm,0.3s,baz=165,slow=6.2,SNR=2.1
PETK Petropavlovsk- 16.03 33 P **Pn 08 22 01.3 -3.6**
I44RU PETROPAVLOVSK 16.04 33 I I 09 59 00.0
baz=233,slow=337,SNR=1.3
PET Petropavlovsk 16.38 34 Pn **Pn 08 22 04.4 -4.9**
PET Petropavlovsk 16.38 34 P **P 08 22 12.9 +0.8**
PET Petropavlovsk 16.38 34 *e*P **P 08 22 13.6 +1.5**
PET *e*S **Sn 08 25 05.8 -4.9**
PET pmax pmax
comp=Z,183nm,1.0s
PET pmax pmax
comp=Z,2μm,5.6s
PET pmax pmax
comp=Z,4μm,7.4s
PET MLR MLR
comp=Z,42μm,18.0s
PET Petropavlovsk 16.38 34 P **Pn 08 22 09.0 -0.3**
comp=Z,4μmcomp=Z,156nm,1.2s
DL2 Dalian 16.78 272 ⇑*i*P **Pn 08 22 14.0 -0.5**
DL2 pP **pwP 08 22 23.2 +1.0**
DL2 S **Sn 08 25 19.4 -1.2**
DL2 pmax pmax
comp=Z,1μm,1.5s
DL2 pmax pmax
comp=Z,22μm,6.3s
DL2 LR LR
comp=Z,19μm,12.8s
DL2 LR LR
comp=Z,48μm,20.8s
DL2 LR LR
comp=Z,54μm,23.5s
ZEA Zeya 17.20 326 *e*P **Pn 08 22 17.3 -2.4**
ZEA pmax pmax
comp=Z,280nm,0.8s
ZEA pmax pmax
comp=E,120nm,1.0s
ZEA pmax pmax
comp=N,150nm,0.9s
ZEA MLR MLR
comp=E,35μm,15.0s
ZEA MLR MLR
comp=N,26μm,13.0s
ZEA MLR MLR
comp=Z,41μm,14.0s
JMZ Minamidaito 2 17.70 218 P **P 08 22 28.5 +1.5**
JMZ IAmb IAmb 08 22 36.1
comp=Z,1μm,1.3s
JMZ Minamidaito 2 17.70 218 P **P 08 22 28.0 +1.0**
JOW Kunigami 18.41 227 P **P 08 22 33.2 -1.6**
JOW IAmb IAmb 08 22 38.0
comp=Z,577nm,1.1s
JOW Kunigami 18.41 227 P **P 08 22 32.6 -2.2**
comp=Z,412nm,1.0s,baz=28,slow=10,SNR=19
JOW Kunigami 18.41 227 P **P 08 22 32.9 -1.9**
JOW Kunigami 18.41 227 ⇑P **P 08 22 31.1 -3.7**
HIA Hailar 18.87 306 P **P 08 22 37.4 -2.3**
HIA Hailar 18.87 306 P **P 08 22 38.5 -1.2**
HIA Hailar 18.87 306 P **P 08 22 37.4 -2.3**
HIA pmax pmax
comp=Z,352nm,1.2s
MA2 Magadan 19.75 11 P **P 08 22 49.0 -0.2**
MA2 Magadan 19.75 11 P **P 08 22 48.5 -0.8**
comp=Z,1.3nm,0.3s,baz=192,slow=9.3,SNR=21
MA2 S **S 08 26 20.7 -11**
comp=Z,14nm,1.1s,baz=275,slow=24,SNR=1.0
MA2 LR LR 08 31 26.0
comp=Z,14μm,18.2s,baz=196,slow=40
comp=Z,109nm,0.9s
MA2 Magadan 19.75 11 P **Pn 08 22 51.3 +0.5**
MA2 Magadan 19.75 11 *c i*P **P 08 22 48.0 -1.3**
MA2 pmax pmax
comp=Z,134nm,0.9s
MA2 Magadan 19.75 11 ⇑P **P 08 22 47.5 -1.7**
SSE Sheshan 20.19 250 P **P 08 22 53.3 -0.9**
SSE S **S 08 26 40.4 0.0**
SSE pmax pmax
comp=Z,92nm,1.3s
SSE pmax pmax
comp=Z,3μm,12.8s
SSE LR LR
comp=Z,7μm,15.0s
SSE LR LR
comp=Z,7μm,14.9s
XLT XiLinHaoTe 20.46 289 *e*P **P 08 22 55.2 -2.0**
XLT S Sn 08 26 49.4 -0.4
XLT SS **SnSn 08 27 12.5 +8.2**
XLT pmax pmax
comp=Z,230nm,1.2s
XLT pmax pmax
comp=Z,6μm,8.0s
XLT LR LR
comp=Z,46μm,16.9s
XLT LR LR
comp=Z,58μm,17.8s
BJI Beijing 20.71 278 P **P 08 22 57.4 -2.4**
BJI S **S 08 26 47.0 -3.7**
BJI pmax pmax
comp=Z,120nm,1.4s
BJI pmax pmax
comp=Z,4μm,9.4s
BJI LR LR
comp=Z,16μm,13.0s
BJI LR LR
comp=Z,36μm,17.2s
BJI LR LR
comp=Z,44μm,18.1s
BJT Baijiatuau 20.72 278 P **P 08 22 57.5 -2.5**
BJT IAmb IAmb 08 23 12.4
comp=Z,405nm,1.0s
BJT Baijiatuau 20.72 278 P **P 08 22 58.4 -1.5**
BJT Baijiatuau 20.72 278 P **P 08 22 57.5 -2.5**
BJT pmax pmax
comp=Z,405nm,1.0s
BJT MLR MLR
comp=Z,76μm,18.0s
TIA Tai'an 20.95 267 P **P 08 23 00.1 -2.4**
TIA S **S 08 26 45.2 -10**
TIA pmax pmax
comp=Z,290nm,1.2s
TIA pmax pmax
comp=Z,5μm,5.4s
TIA LR LR
comp=Z,45μm,14.1s
TIA LR LR
comp=Z,98μm,15.5s
TIA LR LR
comp=Z,141μm,16.8s
NJ2 Nanjing 21.38 255 ⇑P **P 08 23 04.8 -2.3**
NJ2 sP **pwP 08 23 13.5 +0.8**
NJ2 S **S 08 27 05.0 +0.9**
NJ2 pmax pmax
comp=Z,180nm,1.4s
NJ2 pmax pmax
comp=Z,9μm,7.6s
NJ2 LR LR
comp=Z,54μm,14.7s
NJ2 LR LR
comp=Z,88μm,17.1s
NJ2 LR LR
comp=Z,99μm,17.7s
JMJ Miyako jima 2 21.67 230 P **P 08 23 12.0 +1.8**
HNS HongShan 22.43 272 ⇑P **P 08 23 14.6 -3.8**
HNS PP **PnPn 08 23 48.4 +7.1**
HNS S **S 08 27 17.8 -6.5**
HNS pmax pmax
comp=Z,350nm,1.2s
HNS pmax pmax
comp=Z,9μm,11.8s
HNS LR LR
comp=Z,40μm,16.3s
HNS LR LR
comp=Z,52μm,17.3s
HNS LR LR
comp=Z,76μm,16.8s
YAK Yakutsk 23.18 344 P **P 08 23 22.8 -3.2**
YAK IAmb IAmb 08 23 45.9
comp=Z,383nm,0.9s
YAK Yakutsk 23.18 344 IAMs_20 IAMs_20 08 33 15.9
comp=Z,51μm,18.0s
YAK Yakutsk 23.18 344 LR LR 08 33 23.5
comp=Z,48μm,18.9s,baz=152,slow=39
YAK Yakutsk 23.18 344 *e*P **P 08 23 22.8 -3.2**
YAK *e*PP **sP 08 23 31.6 +0.6**
YAK *e*PPP PPP 08 23 55.8
YAK *e* 08 27 12.8
YAK *e*S **S 08 27 31.1 -5.9**
YAK *e*SSS SSS 08 28 18.4
YAK *e* 08 34 34.0
YAK pmax pmax
comp=Z,179nm,1.3s
YAK pmax pmax
comp=N,50nm,1.3s
YAK pmax pmax
comp=E,65nm,1.4s
YAK smax smax
comp=N,4μm,3.2s
YAK smax smax
comp=E,3μm,3.2s
YAK MLR MLR
comp=Z,42μm,20.0s
YAK MLR MLR
comp=E,53μm,24.0s
YAK MLR MLR
comp=N,53μm,21.0s
YAK Yakutsk 23.18 344 ⇑P **P 08 23 22.7 -3.2**
SEY Seymchan 23.20 11 LR LR 08 33 55.3
comp=N,22μm,18.1s,baz=196,slow=40
SEY Seymchan 23.20 11 *e*P **P 08 23 21.0 -5.2**
SEY pmax pmax
comp=Z,442nm,1.3s
YOJ Yonaguni jima 23.30 233 P **P 08 23 26.9 -0.6**
YOJ IAMs_20 IAMs_20 08 32 26.2
comp=Z,33μm,21.0s
YOJ Yonaguni jima 23.30 233 P **P 08 23 29.0 +1.5**
YOJ Yonaguni jima 23.30 233 P **P 08 23 26.9 -0.6**
YOJ pmax pmax
comp=Z,218nm,1.1s
YOJ MLR MLR
comp=Z,34μm,21.0s
CIT Chita 23.48 310 *e*P **P 08 23 26.8 -2.3**
CIT *e* 08 23 38.2
CIT *e* 08 24 04.2
CIT *e* 08 24 09.4
CIT *e* 08 27 19.6
CIT *e*S **S 08 27 35.6 -6.6**
CIT *e* 08 28 40.0
CIT pmax pmax
comp=Z,1μm,2.6s
TATO Taipei 23.88 237 P **P 08 23 32.4 -0.7**
TATO IAmb IAmb 08 23 49.6
comp=Z,262nm,0.9s
TATO Taipei 23.88 237 P **P 08 23 31.0 -2.2**
TATO P **P 08 23 31.0 -2.2**
TATO P **P 08 23 31.0 -2.2**
TATO S **S 08 27 49.5 +0.6**
TATO S **S 08 27 49.5 +0.6**
TATO S **S 08 27 49.5 +0.6**
TATO Taipei 23.88 237 P **P 08 23 34.3 +1.2**
HHC Hu-ho-hao-te 24.05 281 ⇑*i*P **P 08 23 32.5 -2.3**
HHC pP pP 08 23 36.4 -2.0
HHC PP **PnPn 08 24 06.2 +2.7**
HHC S **S 08 27 46.1 -5.5**
HHC sS pS 08 27 55.4 -0.2
HHC pmax pmax
comp=Z,87nm,1.3s
HHC pmax pmax
comp=Z,5μm,8.4s
HHC LR LR
comp=Z,18μm,13.5s
HHC LR LR
comp=Z,82μm,17.7s
HHC LR LR
comp=Z,120μm,18.5s
TIY Taiyuan 24.08 274 *e*P **P 08 23 31.9 -3.2**
TIY S **S 08 27 46.6 -5.5**
TIY pmax pmax
comp=Z,79nm,1.0s
TIY pmax pmax
comp=Z,4μm,9.9s
TIY LR LR
comp=Z,19μm,15.1s
TIY LR LR
comp=Z,25μm,18.8s
TIY LR LR
comp=Z,35μm,20.4s
YHNB Yeheng 24.17 236 P **P 08 23 33.0 -3.0**
YHNB Yeheng 24.17 236 P **P 08 23 36.2 +0.3**
SMY Shemya 24.28 49 P **P 08 23 36.1 -0.5**
SMY Shemya 24.28 49 P **P 08 23 39.5 +2.9**
SMY Shemya 24.28 49 P **P 08 23 36.1 -0.5**
SMY pmax pmax
comp=Z,734nm,1.2s
NACB Ninganchiao 24.39 235 P **P 08 23 35.1 -2.8**
NACB IAMs_20 IAMs_20 08 34 00.0
comp=Z,34μm,19.0s
NACB Ninganchiao 24.39 235 P **P 08 23 37.1 -0.8**
SSLB Suanglung 25.07 235 P **P 08 23 42.9 -1.1**
SSLB IAmb IAmb 08 23 58.4
comp=Z,271nm,1.2s
SSLB Suanglung 25.07 235 P **P 08 23 44.1 0.0**
LYN LuoYang 25.10 266 ⇑P **P 08 23 41.2 -3.1**
LYN PP **PnPn 08 24 18.7 +0.8**
LYN S **S 08 28 09.5 +1.1**
LYN pmax pmax
comp=Z,120nm,1.2s
LYN pmax pmax
comp=Z,10μm,9.0s
LYN LR LR
comp=Z,72μm,14.8s
LYN LR LR
comp=Z,121μm,17.0s
LYN LR LR
comp=Z,143μm,17.7s
YULB Yu-li 25.14 234 P **P 08 23 43.4 -1.3**
YULB IAmb IAmb 08 23 57.0
comp=Z,230nm,1.2s
YULB Yu-li 25.14 234 P **P 08 23 45.4 +0.7**
BTO Baotou 25.25 281 ⇑*i*P **P 08 23 44.9 -0.7**
BTO pP **pP 08 23 49.1 -0.2**
BTO sP **pwP 08 23 52.1 +0.6**
BTO PP **PnPn 08 24 23.3 +3.4**
BTO S **S 08 28 10.9 0.0**
BTO sS **pS 08 28 14.0 -0.9**
BTO SS **SnSn 08 29 07.9 +6.4**
BTO pmax pmax
comp=Z,150nm,1.5s
BTO pmax pmax
comp=Z,15μm,9.6s
BTO LR LR
comp=Z,43μm,15.4s
BTO LR LR
comp=Z,191μm,16.6s
BTO LR LR
comp=Z,235μm,17.1s
WHN Wuhan 25.47 256 ⇑P **P 08 23 46.0 -1.6**
WHN sP **sP 08 23 53.0 +0.2**
WHN S **S 08 28 12.8 -1.5**
WHN pmax pmax
comp=Z,2μm,1.3s
WHN pmax pmax
comp=Z,10μm,3.8s
WHN LR LR
comp=Z,138μm,14.1s
WHN LR LR
comp=Z,326μm,15.7s
WHN LR LR
comp=Z,420μm,16.0s
BOD Bodaibo 25.61 323 ⇓*i*P **P 08 23 47.9 -0.8**
BOD pmax pmax
comp=Z,380nm,1.1s
TPUB Ta-pu 25.62 235 P **P 08 23 47.9 -1.2**
TPUB IAmb IAmb 08 23 53.4
comp=Z,262nm,1.1s
TPUB Ta-pu 25.62 235 P **P 08 23 48.9 -0.2**
TWGBT Beinan 25.70 234 P **P 08 23 50.5 +0.7**
TWG Pinlang 25.70 234 P **P 08 23 49.0 -0.8**
TWG IAMs_20 IAMs_20 08 34 23.1
comp=Z,39μm,20.0s
QZH Guanzhou 25.79 241 ⇑*i*P **P 08 23 49.9 -0.7**
QZH S **S 08 28 18.0 -1.4**
QZH pmax pmax
comp=Z,340nm,1.6s
QZH pmax pmax
comp=Z,8μm,8.9s
QZH LR LR
comp=Z,33μm,16.1s
QZH LR LR
comp=Z,38μm,14.4s
QZH LR LR
comp=Z,52μm,13.9s
KNMB Chin-men Tao 26.25 240 P **P 08 23 54.3 -0.4**
KNMB IAMs_20 IAMs_20 08 34 48.6
comp=Z,29μm,19.0s
GUMO Guam 26.75 177 LR LR 08 33 21.0
comp=Z,16μm,21.7s,baz=9.0,slow=34
ULN Ulaanbaatar 26.89 298 P **P 08 24 00.2 -0.3**
ULN IAmb IAmb 08 24 03.6
comp=Z,335nm,1.4s
ULN Ulaanbaatar 26.89 298 P **P 08 24 00.9 +0.4**
ULN P **P 08 24 00.9 +0.4**
ULN P **P 08 24 00.9 +0.4**
ULN S **S 08 28 38.0 +1.2**
ULN S **S 08 28 38.0 +1.2**
ULN S **S 08 28 38.0 +1.2**
ULN Ulaanbaatar 26.89 298 *c i*P **P 08 24 00.6 +0.1**
ULN pmax pmax
comp=Z,239nm,1.3s
ULN MLR MLR
comp=Z,108μm,15.0s
ULN Ulaanbaatar 26.89 298 ⇑P **P 08 24 00.7 +0.1**
SONM Songino Array 27.33 298 P **P 08 24 04.0 -0.4**
SONM IAmb IAmb 08 24 07.7
comp=Z,333nm,1.2s
SONM Songino Array 27.33 298 P **P 08 24 04.3 -0.2**
comp=Z,252nm,1.2s,baz=100,slow=7.9,SNR=276
SONM PcP **PcP 08 27 23.0 -0.5**
comp=Z,23nm,1.2s,baz=146,slow=1.6,SNR=2.6
SONM S **S 08 28 42.2 -1.5**
comp=Z,2.9nm,1.0s,baz=160,slow=17,SNR=1.0
SONM LR LR 08 35 39.8
comp=Z,97μm,18.9s,baz=100,slow=38
comp=Z,252nm,1.2s
CNSH ChangSha 27.78 253 P **P 08 24 08.4 0.0**
CNSH S **S 08 28 52.2 +1.4**
CNSH pmax pmax
comp=Z,380nm,1.2s
CNSH LR LR
comp=Z,54μm,15.7s
CNSH LR LR
comp=Z,50μm,15.7s
CNSH LR LR
comp=Z,30μm,17.7s
XAN Xi'an 28.00 268 P **P 08 24 08.7 -1.8**
XAN sP sP 08 24 16.6 +0.9
XAN PP **PnPn 08 25 01.3 +3.7**
XAN S **S 08 28 49.3 -5.1**
XAN pmax pmax
comp=Z,390nm,1.2s
XAN pmax pmax
comp=Z,7μm,6.0s
XAN LR LR
comp=Z,45μm,14.9s
XAN LR LR
comp=Z,75μm,16.2s
XAN LR LR
comp=Z,74μm,16.5s
H11N2 WAKE ISLAND Hy 28.84 129 T T 08 54 25.3
baz=321
H11N1 WAKE ISLAND Hy 28.84 129 T T 08 54 25.1
baz=321
H11N3 WAKE ISLAND Hy 28.85 129 T T 08 54 25.2
baz=321
IRK Irkutsk 29.10 307 *e*P **P 08 24 19.8 -0.2**
IRK pmax pmax
comp=Z,515nm,2.6s
ENH Enshi 29.24 260 P **P 08 24 20.4 -1.1**
ENH Enshi 29.24 260 P **P 08 24 22.1 +0.5**
KIWB Kanaga Island 29.33 54 P **P 08 24 22.2 +0.1**
ZAK Zakamensk 29.51 303 *e*P **P 08 24 22.9 -1.0**
ZAK pmax pmax
comp=Z,98nm,1.2s
H11S1 WAKE ISLAND Hy 29.67 130 T T 08 55 28.5
baz=323,slow=76,SNR=328
H11S3 WAKE ISLAND Hy 29.67 131 T T 08 55 32.1
baz=323,slow=76,SNR=486
H11S2 WAKE ISLAND Hy 29.69 131 T T 08 55 25.9
baz=323,slow=76,SNR=413
BILL Bilibino 30.37 17 P **P 08 24 30.5 -0.6**
BILL Bilibino 30.37 17 *c i*P **P 08 24 31.5 +0.4**
BILL pmax pmax
comp=Z,155nm,1.0s
BILL MLR MLR
comp=Z,18μm,15.0s
HKC Hong Kong Obse 30.55 243 ⇑P **P 08 24 34.0 +0.9**
HKPS Hong Kong Po S 30.59 243 P **P 08 24 35.0 +1.6**
HKPS IAmb IAmb 08 24 41.4
comp=Z,190nm,1.2s
HKPS IAMs_20 IAMs_20 08 36 43.5
comp=Z,25μm,20.0s
GZH Guangzhou 30.59 245 P **P 08 24 28.8 -4.7**
GZH S **S 08 29 26.8 -8.3**
GZH pmax pmax
comp=Z,140nm,1.8s
GZH LR LR
comp=Z,24μm,14.9s
GZH LR LR
comp=Z,52μm,14.7s
GZH LR LR
comp=Z,51μm,13.7s
MOY Mondy 31.05 306 *e*P **P 08 24 36.9 -0.5**
MOY pmax pmax
comp=Z,269nm,1.5s
LZH Lanzhou 31.13 275 ⇑P **P 08 24 38.5 +0.2**
LZH pP pP 08 24 42.9 +0.8
LZH PP **PP 08 25 46.4 -2.1**
LZH S **S 08 29 51.1 +7.4**
LZH pmax pmax
comp=Z,98nm,1.3s
LZH pmax pmax
comp=Z,3μm,3.8s
LZH LR LR
comp=Z,39μm,13.7s
LZH LR LR
comp=Z,34μm,17.9s
LZH LR LR
comp=Z,49μm,16.5s
GULI GuiLin 31.32 251 P **P 08 24 39.6 -0.3**
GULI PP **PP 08 25 47.3 -3.3**
GULI S **S 08 29 45.7 -0.7**
GULI pmax pmax
comp=Z,260nm,1.2s
GULI pmax pmax
comp=Z,3μm,9.2s
GULI LR LR
comp=Z,30μm,14.4s
GULI LR LR
comp=Z,39μm,14.9s
GULI LR LR
comp=Z,44μm,15.0s
TIXI Tiksi 32.15 351 P **P 08 24 45.1 -1.6**
TIXI Tiksi 32.15 351 IAMs_20 IAMs_20 08 38 55.4
comp=Z,33μm,20.0s
TIXI Tiksi 32.15 351 LR LR 08 39 05.9
comp=Z,31μm,19.6s,baz=166,slow=39
TIXI Tiksi 32.15 351 *c i*P **P 08 24 45.7 -1.0**
TIXI pmax pmax
comp=Z,77nm,1.2s
TIXI MLR MLR
comp=Z,35μm,15.0s
TIXI Tiksi 32.15 351 ⇑P **P 08 24 45.9 -0.8**
TGY Tagaytay City 32.72 223 LR LR 08 39 22.8
comp=Z,11μm,18.9s,baz=16,slow=38
GTA Gaotai 33.15 283 P **P 08 24 56.2 +0.2**
GTA pP sP 08 25 01.4 +0.2
GTA PP **PP 08 26 11.1 +0.3**
GTA PcP **PcP 08 27 40.0 +1.2**

GTA S **S** **08 30 16.5 +1.5**
GTA PcS **PcS** **08 31 25.2 +0.8**
GTA ScS **ScS** **08 35 22.4 -0.7**
GTA pmax pmax
comp=Z,190nm,1.0s
GTA pmax pmax
comp=Z,3μm,9.6s
GTA LR LR
comp=Z,28μm,18.7s
GTA LR LR
comp=Z,77μm,18.3s
GTA LR LR
comp=Z,99μm,19.1s
CD2 Chengdu 33.28 266 P **P** **08 24 56.0 -1.2**
CD2 sP pP 08 25 01.8 +0.9
CD2 PP **PP** **08 26 11.0 -1.4**
CD2 S **S** **08 30 16.9 -0.3**
CD2 sS sS 08 30 23.8 +0.4
CD2 pmax pmax
comp=Z,110nm,0.9s
CD2 pmax pmax
comp=Z,3μm,4.9s
CD2 LR LR
comp=Z,65μm,14.9s
CD2 LR LR
comp=Z,61μm,15.7s
GYA Guiyang 33.36 257 ⇑P **P** **08 24 57.4 -0.5**
GYA S **S** **08 30 14.9 -3.6**
GYA pmax pmax
comp=Z,280nm,1.1s
GYA pmax pmax
comp=Z,4μm,9.0s
GYA LR LR
comp=Z,51μm,16.3s
GYA LR LR
comp=Z,39μm,18.7s
GYA LR LR
comp=Z,112μm,18.2s
SPIA Saint Paul Isl 34.09 45 P **P** **08 25 03.7 0.0**
baz=261
P08K Saint George I 34.38 46 P **P** **08 25 06.3 0.0**
baz=262
MIDW Midway 34.40 98 P **P** **08 25 07.0 +0.3**
MIDW IAmb IAmb 08 25 18.3
comp=Z,184nm,0.9s
GAMB Gambell 35.07 33 P **P** **08 25 13.7 +1.5**
GAMB Gambell 35.07 33 P **P** **08 25 13.3 +1.2**
baz=250,SNR=7.6
QIZ Qiongzhong 35.73 243 P **P** **08 25 19.0 +0.6**
QIZ IAmb IAmb 08 25 22.3
comp=Z,288nm,1.8s
QIZ Qiongzhong 35.73 243 IAMs_20 IAMs_20 08 39 29.2
comp=Z,21μm,22.0s
QIZ Qiongzhong 35.73 243 P **P** **08 25 19.7 +1.3**
QIZ PP **PP** **08 26 40.0 +0.4**
QIZ S **S** **08 30 57.8 +2.8**
QIZ pmax pmax
comp=Z,72nm,1.5s
QIZ pmax pmax
comp=Z,2μm,10.1s
QIZ LR LR
comp=Z,26μm,17.2s
QIZ LR LR
comp=Z,15μm,13.1s
QIZ LR LR
comp=Z,26μm,13.6s
QIZ Qiongzhong 35.73 243 P **P** **08 25 19.0 +0.6**
UNV Unalaska Valle 35.91 51 P **P** **08 25 22.1 +2.6**
PATS Pohnpei 36.02 154 IAMs_20 IAMs_20 08 36 46.7
comp=Z,27μm,21.0s
PATS Pohnpei 36.02 154 P **P** **08 25 23.1 +2.3**
comp=Z,0.0nmcomp=Z,209nm,1.3s
DAV Davao City (W) 36.80 210 IAMs_20 IAMs_20 08 42 42.6
comp=Z,15μm,18.0s
DAV Davao City (W) 36.80 210 S **S** **08 31 11.0 -0.3**
PZH PanZhiHua 37.02 261 P **P** **08 25 29.5 0.0**
PZH PP **PnPn** **08 26 58.1 +4.0**
PZH S **S** **08 31 12.9 -2.0**
PZH SS **SnSn** **08 33 48.4 +0.1**
PZH pmax pmax
comp=Z,450nm,1.3s
PZH pmax pmax
comp=Z,3μm,9.6s
PZH LR LR
comp=Z,26μm,14.7s
PZH LR LR
comp=Z,23μm,13.7s
PZH LR LR
comp=Z,31μm,14.1s
KMI Kunming 37.03 258 ⇑P **P** **08 25 29.6 -0.1**
KMI PP **PnPn** **08 26 57.9 +3.6**
KMI S **S** **08 31 10.0 -5.2**
KMI pmax pmax
comp=Z,530nm,1.2s
KMI pmax pmax
comp=Z,4μm,4.5s
KMI LR LR
comp=Z,69μm,16.8s
KMI LR LR
comp=Z,52μm,16.1s
KMI LR LR
comp=Z,86μm,16.7s
TNA Tin City 37.19 31 P **P** **08 25 32.1 +1.8**
TNA IAmb IAmb 08 25 44.8
comp=Z,190nm,1.0s
TNA IAMs_20 IAMs_20 08 40 17.0
comp=Z,15μm,22.0s
TNA Tin City 37.19 31 P **P** **08 25 31.7 +1.4**
baz=252,SNR=9.0
K13K Kusilvak Mount 37.71 38 P **P** **08 25 34.7 0.0**
K13K IAmb IAmb 08 26 09.8
comp=Z,173nm,1.4s
K13K Kusilvak Mount 37.71 38 P **P** **08 25 36.1 +1.3**
baz=260,SNR=8.5
FALS False Pass 37.73 49 P **P** **08 25 36.4 +1.4**
baz=270
F14K Arctic Creek 37.80 32 P **P** **08 25 37.0 +1.5**
baz=254
GOMU GeErMu 37.92 280 P **P** **08 25 37.5 +0.1**
GOMU pP pP 08 25 40.6 -0.5
GOMU sP pwP 08 25 45.0 +1.6
GOMU S **S** **08 31 26.1 -2.8**
GOMU pmax pmax
comp=Z,200nm,0.9s
GOMU LR LR
comp=Z,27μm,15.6s
GOMU LR LR
comp=Z,28μm,15.9s
GOMU LR LR
comp=Z,55μm,16.0s
ANM Nome 37.95 33 P **P** **08 25 37.1 +0.3**
baz=256
M13K Dall Lake 38.10 40 P **P** **08 25 38.3 +0.3**
M13K Dall Lake 38.10 40 P **P** **08 25 38.9 +0.9**
baz=263,SNR=7.2
J14K Nanvaranak Lak 38.36 36 P **P** **08 25 41.4 +1.3**
J14K Nanvaranak Lak 38.36 36 P **P** **08 25 40.7 +0.6**
baz=260,SNR=7.4
SLVN Son La 38.42 252 P **P** **08 25 40.8 -0.5**
SLVN Son La 38.42 252 P **P** **08 25 41.9 +0.6**
F15K North Star Dit 38.54 32 P **P** **08 25 41.7 0.0**
F15K IAMs_20 IAMs_20 08 41 42.6
comp=Z,16μm,20.0s
F15K North Star Dit 38.54 32 P **P** **08 25 43.2 +1.5**
baz=255,SNR=27
L14K Kuka Creek 38.54 39 P **P** **08 25 42.7 +1.0**
L14K IAmb IAmb 08 25 55.4
comp=Z,179nm,1.1s
L14K Kuka Creek 38.54 39 P **P** **08 25 43.0 +1.3**
baz=262,SNR=24
G15K Niukluk 38.61 33 P **P** **08 25 44.1 +1.8**
baz=257
M14K Bethel 38.82 40 P **P** **08 25 45.2 +1.1**
M14K IAmb IAmb 08 26 07.2
comp=Z,242nm,1.1s
M14K Bethel 38.82 40 P **P** **08 25 45.2 +1.1**
baz=264,SNR=17
N14K Kuskokwak Cree 38.88 41 P **P** **08 25 45.3 +0.7**
N14K IAmb IAmb 08 26 14.6
comp=Z,189nm,1.0s
N14K Kuskokwak Cree 38.88 41 P **P** **08 25 44.5 -0.1**
baz=265
C16K Lisburne Hills 39.02 27 P **P** **08 25 45.7 0.0**
C16K IAmb IAmb 08 25 58.3
comp=Z,159nm,1.0s
C16K IAMs_20 IAMs_20 08 41 54.3
comp=Z,19μm,21.0s
C16K Lisburne Hills 39.02 27 P **P** **08 25 46.4 +0.7**
baz=251,SNR=46
O14K Tigyukauivet M 39.04 42 P **P** **08 25 47.5 +1.5**
O14K Tigyukauivet M 39.04 42 P **P** **08 25 47.0 +1.0**
baz=266
L15K Ungalak Mounta 39.16 38 P **P** **08 25 47.4 +0.5**
baz=263
K15K Wolf Creek Mou 39.21 37 P **P** **08 25 47.9 +0.5**
K15K IAmb IAmb 08 26 22.8
comp=Z,213nm,1.3s
K15K Wolf Creek Mou 39.21 37 P **P** **08 25 48.8 +1.4**
baz=262,SNR=8.7
H16K Elim 39.28 34 P **P** **08 25 49.6 +1.6**
baz=259,SNR=17
G16K Koyuk River 39.39 32 P **P** **08 25 49.6 +0.8**
G16K IAMs_20 IAMs_20 08 42 41.2
comp=Z,12μm,19.0s
G16K Koyuk River 39.39 32 P **P** **08 25 50.2 +1.4**
baz=258,SNR=46
M15K Kasigluk River 39.44 40 P **P** **08 25 50.2 +0.9**
baz=265,SNR=26
D17K Noatak River 39.66 29 P **P** **08 25 52.4 +1.3**
baz=254,SNR=89
N15K Kwethluk River 39.70 41 P **P** **08 25 51.4 -0.1**
N15K IAmb IAmb 08 26 06.0
comp=Z,200nm,1.2s
N15K Kwethluk River 39.70 41 P **P** **08 25 50.6 -0.8**
baz=266,SNR=11
J16K Anvik River 39.77 36 P **P** **08 25 53.3 +1.2**
J16K Anvik River 39.77 36 P **P** **08 25 51.7 -0.3**
baz=262,SNR=9.6
O15K Ungalikthiuk R 39.78 42 P **P** **08 25 53.0 +0.9**
O15K Ungalikthiuk R 39.78 42 P **P** **08 25 53.1 +0.9**
baz=268
I17K Unalakleet 39.82 35 P **P** **08 25 52.9 +0.4**
I17K IAMs_20 IAMs_20 08 43 40.5
comp=Z,16μm,20.0s
I17K Unalakleet 39.82 35 P **P** **08 25 52.8 +0.4**
baz=261,SNR=11
RDOG Red Dog Mine 39.83 28 P **P** **08 25 53.0 +0.5**
RDOG IAMs_20 IAMs_20 08 44 30.6
comp=Z,19μm,19.0s
RDOG Red Dog Mine 39.83 28 P **P** **08 25 53.5 +1.1**
baz=254,SNR=53
S14K Fog Glacier 39.90 47 P **P** **08 25 51.5 -1.8**
baz=272
SGSI Sangihe 39.93 208 P **P** **08 25 54.0 +0.2**
comp=Z,5μmcomp=Z,5μmcomp=Z,305nm,0.7s
CHNA Chernabura Isl 39.94 49 P **P** **08 25 56.1 +2.6**
E17K Hotham Inlet 39.98 30 P **P** **08 25 54.9 +1.2**
baz=256,SNR=127
F17K Baldwin Pennin 40.06 31 IAMs_20 IAMs_20 08 42 15.8
comp=Z,13μm,22.0s
F17K Baldwin Pennin 40.06 31 P **P** **08 25 55.8 +1.5**
baz=258
G17K Kiwalik Mounta 40.11 32 P **P** **08 25 56.5 +1.7**
baz=259,SNR=46
L16K Owhat River 40.11 38 P **P** **08 25 55.1 +0.3**
L16K Owhat River 40.11 38 P **P** **08 25 56.1 +1.2**
baz=265,SNR=7.8
TNCH TengChong 40.26 262 P **P** **08 25 57.8 +1.0**
TNCH pP pP 08 26 01.6 +1.1
TNCH PP **PnPn** **08 27 34.4 +1.4**
TNCH S **S** **08 32 04.2 +0.4**
TNCH SS **SS** **08 34 55.5 -6.6**
TNCH pmax pmax
comp=Z,900nm,0.9s
TNCH pmax pmax
comp=Z,6μm,3.1s
TNCH LR LR
comp=Z,28μm,17.6s
TNCH LR LR
comp=Z,10μm,20.0s
TNCH LR LR
comp=Z,42μm,18.3s
M16K Timber Creek 40.31 40 P **P** **08 25 56.5 0.0**
M16K Timber Creek 40.31 40 P **P** **08 25 57.7 +1.1**
baz=266,SNR=11
H17K Granite Mounta 40.32 33 P **P** **08 25 57.8 +1.3**
H17K IAmb IAmb 08 26 39.8
comp=Z,177nm,1.1s
H17K IAMs_20 IAMs_20 08 44 35.7
comp=Z,11μm,18.0s
H17K Granite Mounta 40.32 33 P **P** **08 25 58.5 +2.0**
baz=261,SNR=29
N16K Nishlik Lake 40.37 40 P **P** **08 25 59.8 +2.7**
baz=267,SNR=16
J17K VABM Dome 40.47 36 P **P** **08 25 58.1 +0.3**
J17K IAmb IAmb 08 26 19.2
comp=Z,160nm,1.1s
J17K VABM Dome 40.47 36 P **P** **08 26 00.1 +2.3**
baz=263,SNR=46
E18K Tukpahlearik C 40.52 30 P **P** **08 25 58.6 +0.4**
E18K Tukpahlearik C 40.52 30 P **P** **08 25 59.9 +1.7**
baz=257,SNR=56
B18K Kokolik River 40.58 26 P **P** **08 25 59.5 +0.8**
baz=254,SNR=120
C18K Utukok River 40.60 28 P **P** **08 25 59.2 +0.3**
C18K IAmb IAmb 08 26 17.8
comp=Z,255nm,1.1s
C18K IAMs_20 IAMs_20 08 45 05.0
comp=Z,16μm,19.0s
C18K Utukok River 40.60 28 P **P** **08 25 59.7 +0.8**
baz=255,SNR=88
O16K Kokwok River B 40.68 42 P **P** **08 25 59.5 0.0**
O16K Kokwok River B 40.68 42 P **P** **08 26 01.0 +1.4**
baz=269,SNR=9.5
L17K Donlin 40.70 38 P **P** **08 26 01.1 +1.3**
baz=266,SNR=9.2
F18K Selawik 40.72 31 P **P** **08 26 01.6 +1.8**
baz=259,SNR=76
P16K Nushagak River 40.72 43 P **P** **08 26 01.7 +1.8**
baz=270
K17K Iditarod 40.75 37 P **P** **08 26 00.4 +0.3**
K17K IAmb IAmb 08 26 47.5
comp=Z,184nm,1.1s
K17K IAMs_20 IAMs_20 08 46 04.2
comp=Z,15μm,19.0s
K17K Iditarod 40.75 37 P **P** **08 26 02.7 +2.5**
baz=265,SNR=17
WMQ Urumqi 40.76 294 ⇑P **P** **08 25 59.4 -1.1**
WMQ PP **PnPn** **08 27 39.0 +0.6**
WMQ S **S** **08 32 09.1 -1.6**
WMQ pmax pmax
comp=Z,210nm,1.7s
WMQ pmax pmax
comp=Z,5μm,6.5s
WMQ LR LR
comp=Z,30μm,14.9s
WMQ LR LR
comp=Z,41μm,18.7s
WMQ LR LR
comp=Z,34μm,17.9s
ZAA0 Zalesovo Array 40.84 310 P **P** **08 26 00.4 -0.6**
ZAA0 IAmb IAmb 08 26 37.5
comp=Z,162nm,1.0s
ZALV Zalesovo Beam 40.84 310 P **P** **08 26 00.9 -0.1**
comp=Z,64nm,0.8s,baz=88,slow=7.5,SNR=95
ZALV PcP **PcP** **08 28 02.0 +0.4**
comp=Z,81nm,1.0s,baz=56,slow=3.7,SNR=4.6
ZALV LR LR 08 43 57.8
comp=Z,50μm,18.3s,baz=79,slow=38
comp=Z,64nm,0.8s
NRIK Noril'sk 40.88 333 P **P** **08 26 00.6 -0.5**
NRIK Noril'sk 40.88 333 P **P** **08 26 01.1 0.0**
comp=Z,84nm,1.1s,baz=108,slow=8.6,SNR=79
NRIK S **S** **08 32 13.1 +1.3**
comp=Z,9.7nm,1.0s,baz=274,slow=23,SNR=6.7
NRIK LR LR 08 44 28.0
comp=Z,31μm,18.5s,baz=102,slow=38
comp=Z,84nm,1.1s
NRIK Noril'sk 40.88 333 *ce*P **P** **08 26 01.0 -0.1**
NRIK pmax pmax
comp=Z,92nm,0.9s
NRIK MLR MLR
comp=Z,30μm,18.0s
G18K Tagagawik 40.99 32 P **P** **08 26 02.9 +0.8**
G18K IAmb IAmb 08 26 17.1
comp=Z,287nm,1.2s
G18K IAMs_20 IAMs_20 08 43 08.5
comp=Z,12μm,20.0s
G18K Tagagawik 40.99 32 P **P** **08 26 03.5 +1.4**
baz=261,SNR=56
H18K Honhosa River 41.00 33 P **P** **08 26 03.1 +0.8**
H18K IAmb IAmb 08 26 45.1
comp=Z,248nm,1.2s
H18K Honhosa River 41.00 33 P **P** **08 26 03.2 +1.0**
baz=262,SNR=26
A19K Wainwright 41.06 25 P **P** **08 26 03.4 +0.9**
baz=254,SNR=40
NONG Nongkai 41.06 249 P **P** **08 26 03.8 +0.6**
M17K Holitna River 41.06 39 P **P** **08 26 03.0 +0.2**
M17K Holitna River 41.06 39 P **P** **08 26 03.4 +0.6**
baz=267,SNR=15
N17K Nushagak Hills 41.15 40 P **P** **08 26 05.0 +1.5**
N17K Nushagak Hills 41.15 40 P **P** **08 26 04.6 +1.1**
baz=268,SNR=7.1
O17K Koliganek Bris 41.19 41 P **P** **08 26 04.3 +0.5**
baz=269
UBPT Khong Chiam 41.33 244 P **P** **08 26 05.5 0.0**
UBPT Khong Chiam 41.33 244 P **P** **08 26 06.1 +0.7**
Q16K King Salmon 41.42 43 P **P** **08 26 06.3 +0.7**
baz=271
L18K Granite Mounta 41.46 38 P **P** **08 26 07.1 +1.1**
baz=267,SNR=14
F19K Shaleruckik Mo 41.49 31 IAMs_20 IAMs_20 08 43 09.8
comp=Z,14μm,21.0s
F19K Shaleruckik Mo 41.49 31 P **P** **08 26 07.0 +0.8**
baz=261
P17K Kvichak River 41.52 42 P **P** **08 26 06.7 +0.2**
baz=271
J18K Innoko River 41.53 36 P **P** **08 26 07.1 +0.5**
J18K Innoko River 41.53 36 P **P** **08 26 08.5 +1.9**
baz=266,SNR=17
MYLDM Lahad Datu 41.57 219 P **P** **08 26 09.8 +2.4**
GCSA Galena City Sc 41.58 34 P **P** **08 26 07.9 +1.0**
baz=264,SNR=18
G19K Purcell Mounta 41.66 32 P **P** **08 26 08.0 +0.4**
G19K Purcell Mounta 41.66 32 P **P** **08 26 08.7 +1.1**
baz=262
D19K Kuna River 41.66 28 P **P** **08 26 07.7 +0.1**
D19K IAmb IAmb 08 26 29.0
comp=Z,319nm,1.0s
D19K IAMs_20 IAMs_20 08 44 06.2
comp=Z,18μm,21.0s
D19K Kuna River 41.66 28 P **P** **08 26 08.8 +1.2**
baz=259,SNR=181
DLV Lat 41.75 237 P **P** **08 26 09.8 +0.8**
DLV IAMs_20 IAMs_20 08 46 43.6
comp=Z,16μm,18.0s
DLV Lat 41.75 237 P **P** **08 26 09.6 +0.5**
N18K Kilae Creek 41.80 40 P **P** **08 26 09.9 +1.1**
baz=270,SNR=17
E19K Redstone River 41.80 30 P **P** **08 26 10.2 +1.4**
baz=261
TTA Tatalina 41.81 37 P **P** **08 26 10.4 +1.4**
TTA Tatalina 41.81 37 P **P** **08 26 11.3 +2.3**
TTA Tatalina 41.81 37 P **P** **08 26 10.4 +1.4**
TTA pmax pmax
comp=Z,65nm,1.1s
TTA Tatalina 41.81 37 P **P** **08 26 10.1 +1.1**
baz=267,SNR=9.9
Q17K Contact Creek 41.83 44 P **P** **08 26 09.5 +0.2**
baz=272
M18K Stony River 41.84 39 P **P** **08 26 10.5 +1.4**
baz=269,SNR=10
H19K Roundabout Mou 41.84 33 P **P** **08 26 10.1 +1.0**
H19K IAMs_20 IAMs_20 08 43 27.0
comp=Z,12μm,19.0s
H19K Roundabout Mou 41.84 33 P **P** **08 26 10.6 +1.5**
baz=264,SNR=102
BAKI Biak 41.92 191 P **P** **08 26 11.5 +1.3**
KKM Kota Kinabalu 41.97 223 P **P** **08 26 11.2 +0.4**
KKM IAmb IAmb 08 26 14.4
comp=Z,228nm,1.3s
KKM IAMs_20 IAMs_20 08 42 06.8
comp=Z,17μm,21.0s
KKM Kota Kinabalu 41.97 223 P **P** **08 26 11.9 +1.1**
TNTI Ternate 42.03 204 P **P** **08 26 11.5 +0.3**
TNTI IAmb IAmb 08 26 30.2
comp=Z,157nm,1.0s
TNTI Ternate 42.03 204 P **P** **08 26 13.5 +2.4**
TNTI Ternate 42.03 204 P **P** **08 26 13.3 +2.1**
comp=Z,2μmcomp=Z,193nm,1.5s
J19K Poorman 42.06 35 P **P** **08 26 11.2 +0.3**
J19K IAMs_20 IAMs_20 08 44 48.7
comp=Z,12μm,19.0s
J19K Poorman 42.06 35 P **P** **08 26 12.0 +1.2**
baz=266,SNR=39
CHIR Chirikof Islan 42.13 47 P **P** **08 26 09.4 -2.1**
baz=275
P18K Big Mountain, 42.14 42 P **P** **08 26 11.5 -0.1**
P18K IAmb IAmb 08 26 34.4
comp=Z,212nm,1.4s
P18K Big Mountain, 42.14 42 P **P** **08 26 10.5 -1.2**
baz=272
O18K Koktuh Hills 42.14 41 P **P** **08 26 11.4 -0.3**
baz=271
D20K Etivluk River 42.25 28 IAMs_20 IAMs_20 08 44 34.5
comp=Z,13μm,20.0s
D20K Etivluk River 42.25 28 P **P** **08 26 13.5 +1.1**
baz=260
Q18K Katmai Hardscr 42.28 43 P **P** **08 26 12.8 0.0**
baz=272
B20K Meade River 42.31 26 P **P** **08 26 13.6 +0.8**
baz=258
L19K White Mountain 42.32 38 P **P** **08 26 14.3 +1.2**
L19K White Mountain 42.32 38 P **P** **08 26 14.2 +1.2**
baz=269,SNR=21
F20K Avaraart Lake 42.32 31 IAMs_20 IAMs_20 08 43 34.8
comp=Z,15μm,21.0s
F20K Avaraart Lake 42.32 31 P **P** **08 26 14.4 +1.4**
baz=262
E20K Nigu River 42.32 29 P **P** **08 26 14.4 +1.3**
baz=261,SNR=115
SMPI Sarmi 42.40 187 P **P** **08 26 15.9 +1.8**
comp=Z,4μmcomp=Z,228nm,1.2s
MANU Manus Island 42.41 174 P **P** **08 26 13.3 -0.8**
ZIRO ZIRO 42.49 268 *e*P **P** **08 26 11.9 -3.1**
ZIRO IAmb IAmb 08 26 17.9
comp=Z,546nm,1.2s
N19K Bonanza Creek 42.49 40 P **P** **08 26 15.7 +1.2**
N19K Bonanza Creek 42.49 40 P **P** **08 26 15.7 +1.2**
baz=270,SNR=10
H20K Anotleneega Mo 42.49 33 P **P** **08 26 15.8 +1.4**
baz=265,SNR=43
SWI Sorong 42.52 198 P **P** **08 26 17.3 +2.2**
comp=Z,3μmcomp=Z,121nm,1.6s
M19K Big River Lodg 42.53 38 P **P** **08 26 16.3 +1.5**
baz=269,SNR=7.3
O19K Port Alsworth 42.58 41 P **P** **08 26 16.2 +1.1**
O19K Port Alsworth 42.58 41 P **P** **08 26 16.3 +1.1**
baz=271,SNR=5.6
I20K Naaghedeneel 42.61 34 P **P** **08 26 16.6 +1.3**
I20K IAmb IAmb 08 27 31.0
comp=Z,319nm,1.2s
I20K Naaghedeneel 42.61 34 P **P** **08 26 16.1 +0.8**
baz=266,SNR=15
R18K Karluk 42.63 45 P **P** **08 26 15.7 +0.1**
baz=274
J20K Nowinta River 42.71 35 P **P** **08 26 17.6 +1.3**
J20K IAMs_20 IAMs_20 08 45 19.1
comp=Z,15μm,20.0s
J20K Nowinta River 42.71 35 P **P** **08 26 17.5 +1.3**
baz=267,SNR=50
K20K Telida 42.71 36 P **P** **08 26 17.3 +1.0**
K20K Telida 42.71 36 P **P** **08 26 17.6 +1.4**
baz=268,SNR=17
A21K Barrow 42.77 24 P **P** **08 26 17.3 +0.7**
baz=257,SNR=56
ITAN ITANAGAR 42.78 268 *e*P **P** **08 26 14.2 -3.1**
ITAN *e*P **pP** **08 26 14.4 -6.5**
L20K Farewell, AK 42.78 37 P **P** **08 26 17.7 +0.9**
baz=269,SNR=11
JAY Jayapura 42.78 184 P **P** **08 26 19.2 +1.9**
comp=Z,3μmcomp=Z,79nm,0.8s
SII Sitkinak Islan 42.86 46 IAMs_20 IAMs_20 08 43 47.3
comp=Z,14μm,20.0s
SII Sitkinak Islan 42.86 46 P **P** **08 26 18.2 +0.6**
baz=275
GENI Genyem 42.89 185 P **P** **08 26 19.6 +1.5**
GENI Genyem 42.89 185 P **P** **08 26 20.6 +2.5**
comp=Z,258nm,0.8s
C21K Knifeblade Rid 42.97 28 P **P** **08 26 19.9 +1.6**
baz=261,SNR=105
Q19K Cape Douglas, 42.97 43 P **P** **08 26 18.2 -0.2**
Q19K IAmb IAmb 08 26 29.9
comp=Z,266nm,1.2s
Q19K Cape Douglas, 42.97 43 P **P** **08 26 19.3 +0.8**
baz=273
B21K Ikpikpuk River 43.11 27 P **P** **08 26 20.2 +0.9**
B21K IAMs_20 IAMs_20 08 43 50.2

comp=Z,14µm,21.0s
B21K Ikpikpuk River 43.11 27 P P 08 26 20.7 +1.4
baz=261,SNR=247
M20K Styx River 43.13 38 P P 08 26 19.3 -0.4
M20K Styx River 43.13 38 P P 08 26 20.7 +1.0
baz=271,SNR=14
G21K Allakaket 43.14 32 P P 08 26 20.4 +0.8
G21K IAmb IAmb 08 26 30.7
comp=Z,180nm,1.0s
G21K IAMs_20 IAMs_20 08 43 38.2
comp=Z,13µm,21.0s
G21K Allakaket 43.14 32 P P 08 26 20.2 +0.6
baz=265
P19K Oil Pt 43.15 42 P P 08 26 19.6 -0.2
baz=273
E21K Killik River 43.16 29 IAMs_20 IAMs_20 08 44 41.7
comp=Z,17µm,22.0s
E21K Killik River 43.16 29 P P 08 26 20.3 +0.4
baz=263
ILSW Iliamna Southw 43.17 41 P P 08 26 20.4 +0.2
F21K Alatna River 43.21 30 P P 08 26 21.2 +0.9
F21K IAMs_20 IAMs_20 08 44 14.1
comp=Z,12µm,21.0s
F21K Alatna River 43.21 30 P P 08 26 20.9 +0.7
baz=264
A22K Sinclair Lake 43.23 25 P P 08 26 21.0 +0.8
baz=259
KOHI KOHIMA 43.23 266 *e*P **P 08 26 18.3 -2.7**
OHAK Old Harbor 43.29 45 P P 08 26 21.3 +0.4
OHAK IAmb IAmb 08 27 07.8
comp=Z,177nm,1.2s
OHAK Old Harbor 43.29 45 P P 08 26 24.1 +3.2
OHAK Old Harbor 43.29 45 P P 08 26 21.0 +0.1
baz=275
H21K Melozitna Rive 43.36 33 P P 08 26 22.4 +0.9
H21K IAmb IAmb 08 26 52.6
comp=Z,174nm,1.2s
H21K Melozitna Rive 43.36 33 P P 08 26 23.0 +1.5
baz=267,SNR=36
KMSI Cibinong 43.37 209 P P 08 26 22.7 +0.7
LSA Lhasa 43.47 273 P P 08 26 23.7 +0.3
LSA IAmb IAmb 08 26 44.2
comp=Z,202nm,1.1s
LSA Lhasa 43.47 273 P P 08 26 24.3 +0.9
LSA S **S 08 32 52.9 +1.0**
LSA pmax pmax
comp=Z,35nm,1.2s
LSA LR LR
comp=Z,22µm,21.6s
LSA LR LR
comp=Z,14µm,20.1s
LSA Lhasa 43.47 273 P P 08 26 24.3 +0.9
LSA P **P 08 26 24.3 +0.9**
LSA S **S 08 32 50.3 -1.6**
LSA S **S 08 32 50.3 -1.6**
LSA Lhasa 43.47 273 P P 08 26 23.7 +0.3
LSA pmax pmax
comp=Z,202nm,1.1s
LSA MLR MLR
comp=Z,38µm,20.0s
LSA Lhasa 43.47 273 P P 08 26 24.4 +1.1
CHUM Lake Minchumin 43.51 35 P P 08 26 23.7 +1.0
baz=269,SNR=24
PPLA Purkeypile 43.56 37 P P 08 26 23.4 +0.2
PPLA IAmb IAmb 08 27 17.0
comp=Z,212nm,1.2s
PPLA IAMs_20 IAMs_20 08 47 40.5
comp=Z,13µm,19.0s
PPLA Purkeypile 43.56 37 P P 08 26 24.2 +0.9
baz=270,SNR=22
SPCR Spurr Chakacha 43.59 39 P P 08 26 24.8 +1.4
baz=272,SNR=26
CAST Castle Rocks 43.61 36 P P 08 26 24.0 +0.5
CAST IAmb IAmb 08 27 11.4
comp=Z,254nm,1.6s
CAST Castle Rocks 43.61 36 P P 08 26 24.5 +1.0
baz=270,SNR=21
KDAK Kodiak Island 43.62 44 P P 08 26 23.6 +0.1
KDAK IAmb IAmb 08 26 35.7
comp=Z,256nm,1.1s
KDAK Kodiak Island 43.62 44 IAMs_20 IAMs_20 08 44 31.2
comp=Z,17µm,21.0s
KDAK Kodiak Island 43.62 44 LR LR 08 44 32.4
comp=Z,14µm,21.8s,baz=99,slow=36
KDAK Kodiak Island 43.62 44 P P 08 26 23.6 +0.1
KDAK pmax pmax
comp=Z,256nm,1.1s
KDAK MLR MLR
comp=Z,17µm,21.0s
KDAK Kodiak Island 43.62 44 P P 08 26 23.6 +0.1
baz=275
CHTO Chiang Mai 43.62 254 P P 08 26 23.9 -0.2
CHTO Chiang Mai 43.62 254 IAMs_20 IAMs_20 08 45 14.1
comp=Z,16µm,19.0s
CHTO Chiang Mai 43.62 254 P P 08 26 24.4 +0.3
CHTO S **S 08 32 52.9 -0.4**
CHTO Chiang Mai 43.62 254 P P 08 26 24.3 +0.2
CHTO Chiang Mai 43.62 254 P P 08 26 23.9 -0.2
CHTO pmax pmax
comp=Z,108nm,0.9s
CHTO MLR MLR
comp=Z,16µm,19.0s
CHTO Chiang Mai 43.62 254 P P 08 26 24.3 +0.2
CHTO S **S 08 32 51.4 -1.9**
B22K Teshekpuk Lake 43.62 26 P P 08 26 24.1 +0.7
B22K IAmb IAmb 08 26 54.0
comp=Z,224nm,1.2s
B22K IAMs_20 IAMs_20 08 44 30.9
comp=Z,12µm,22.0s
B22K Teshekpuk Lake 43.62 26 P P 08 26 24.2 +0.8
baz=261
Q20K Shuyak Island 43.65 43 P P 08 26 24.4 +0.7
baz=275,SNR=6.2
SYI Shuyak Island 43.65 43 P P 08 26 24.1 +0.4
SYI IAmb IAmb 08 26 35.9
comp=Z,268nm,1.1s
MK31 Makanchi Array 43.68 299 P P 08 26 24.0 -0.4
MK31 IAmb IAmb 08 26 41.7
comp=Z,246nm,1.1s
MK31 Makanchi Array 43.68 299 *i* P **P 08 26 23.4 -0.9**
MK31 pmax pmax
comp=Z,104nm,0.8s
MKAR Makanchi Array 43.68 299 P P 08 26 24.1 -0.2
MKAR Makanchi Array 43.68 299 P P 08 26 24.4 +0.1
comp=Z,113nm,1.0s,baz=82,slow=8.7,SNR=428
MKAR PP **PP 08 28 07.4 +1.6**
comp=Z,22nm,0.8s,baz=83,slow=12,SNR=1.5
MKAR S **S 08 32 53.9 +0.1**
comp=Z,3.6nm,1.0s,baz=72,slow=14,SNR=2.2
MKAR LR LR 08 45 46.4
comp=Z,65µm,18.2s,baz=71,slow=38
MKAR PKPPKP **P'P'df 08 58 17.4 -3.0**
comp=Z,0.5nm,0.9s,baz=275,slow=2.8,SNR=3.8
comp=Z,113nm,1.0s
MKAR Makanchi Array 43.68 299 *i* P **P 08 26 24.3 0.0**
MKAR pmax pmax
comp=Z,116nm,1.0s
D22K Ayikyak River 43.69 28 P P 08 26 25.2 +1.2
D22K IAmb IAmb 08 26 38.9
comp=Z,219nm,1.0s
D22K IAMs_20 IAMs_20 08 44 35.6
comp=Z,20µm,22.0s
D22K Ayikyak River 43.69 28 P P 08 26 25.6 +1.5
baz=264,SNR=87
I21K Tanana 43.69 34 P P 08 26 25.6 +1.5
I21K IAMs_20 IAMs_20 08 46 39.7
comp=Z,10µm,18.0s
I21K Tanana 43.69 34 P P 08 26 25.5 +1.5
baz=268
F22K John River 43.74 30 P P 08 26 25.3 +0.9
baz=266
STLK Strandline Lak 43.76 39 P P 08 26 26.1 +1.4
IMP Imphal 43.83 265 *e*P **P 08 26 22.5 -3.3**
IMP IAmb IAmb 08 26 27.2
comp=Z,75nm,0.9s
CM31 Chiang Mai Arr 43.85 253 P P 08 26 26.2 +0.3
CM31 Chiang Mai Arr 43.85 253 P P 08 26 26.2 +0.3
SNR=29
CM31 P **P 08 26 26.2 +0.3**
SNR=29
CM31 S **S 08 32 57.9 +1.3**
CM31 S **S 08 32 57.9 +1.3**
CMAR Chiang Mai Arr 43.85 253 P P 08 26 25.8 -0.2
CMAR Chiang Mai Arr 43.85 253 P P 08 26 26.3 +0.4
comp=Z,29nm,1.0s,baz=44,slow=7.8,SNR=54
CMAR PcP **PcP 08 28 12.7 +0.5**
comp=Z,14nm,0.9s,baz=38,slow=2.0,SNR=2.8
CMAR S **S 08 32 51.2 -5.4**
comp=Z,1.0nm,0.4s,baz=307,slow=26,SNR=2.7
CMAR LR LR 08 45 40.3
comp=Z,18µm,18.6s,baz=60,slow=37
comp=Z,29nm,1.0s
SKT Skwentna 43.88 38 P P 08 26 26.6 +0.9
SKT Skwentna 43.88 38 P P 08 26 27.1 +1.4
baz=272,SNR=7.7
MAKZ Makanchi 43.89 300 P P 08 26 25.9 -0.1
MAKZ IAmb IAmb 08 26 40.0
comp=Z,250nm,1.0s
MAKZ Makanchi 43.89 300 P P 08 26 26.3 +0.3
E22K Anaktuvuk Pass 43.93 29 P P 08 26 27.2 +1.2
E22K IAMs_20 IAMs_20 08 44 54.1
comp=Z,14µm,21.0s
E22K Anaktuvuk Pass 43.93 29 P P 08 26 27.3 +1.2
baz=265,SNR=141
G22K Bettles 43.96 31 P P 08 26 27.2 +0.9
baz=267
H22K Ishtalitna Cre 43.96 33 P P 08 26 27.4 +1.1
baz=268
BPAW Bear Paw Mtn. 44.10 35 P P 08 26 27.9 +0.5
BPAW IAMs_20 IAMs_20 08 46 11.6
comp=Z,13µm,20.0s
BPAW Bear Paw Mtn. 44.10 35 P P 08 26 28.7 +1.3
baz=270,SNR=11
CAPN Captain Cook N 44.12 40 P P 08 26 29.2 +1.6
baz=273
KTH Kantishna Hill 44.13 36 P P 08 26 28.3 +0.6
KTH IAmb IAmb 08 26 44.4
comp=Z,236nm,1.1s
TOLI2 Tolitoli 44.15 213 P P 08 26 28.1 -0.1
TOLI2 IAmb IAmb 08 26 32.2
comp=Z,367nm,1.9s
TOLI2 Tolitoli 44.15 213 P P 08 26 30.9 +2.6
CNPM China Poot 44.17 42 P P 08 26 29.2 +1.1
SUA Susitna One 44.28 39 P P 08 26 30.7 +1.7
SUA Susitna One 44.28 39 P P 08 26 30.5 +1.5
baz=273,SNR=14
FAKI Fak Fak 44.29 196 P P 08 26 29.4 -0.1
FAKI IAmb IAmb 08 26 44.0
comp=Z,189nm,1.1s
FAKI IAMs_20 IAMs_20 08 42 12.8
comp=Z,15µm,20.0s
FAKI Fak Fak 44.29 196 P P 08 26 29.9 +0.5
FAKI Fak Fak 44.29 196 P P 08 26 29.5 +0.1
comp=Z,2µmcomp=Z,165nm,1.4s
D23K Nanushuk River 44.41 28 P P 08 26 30.6 +0.7
D23K IAmb IAmb 08 26 45.6
comp=Z,259nm,1.2s
D23K IAMs_20 IAMs_20 08 47 33.8
comp=Z,18µm,19.0s
D23K Nanushuk River 44.41 28 P P 08 26 31.2 +1.4
baz=265
TRF Thorofare Moun 44.42 36 P P 08 26 31.8 +1.7
baz=271,SNR=18
CUT Chulitna 44.46 38 P P 08 26 31.8 +1.6
CUT IAMs_20 IAMs_20 08 48 30.4
comp=Z,12µm,18.0s
CUT Chulitna 44.46 38 P P 08 26 31.4 +1.2
baz=272,SNR=8.7
COLD Coldfoot 44.49 31 P P 08 26 31.5 +1.1
COLD IAmb IAmb 08 26 40.2
comp=Z,112nm,1.1s
COLD IAMs_20 IAMs_20 08 44 53.8
comp=Z,11µm,20.0s
COLD Coldfoot 44.49 31 P P 08 26 31.9 +1.5
baz=268,SNR=28
C23K Itkillik River 44.52 27 P P 08 26 31.4 +0.7
C23K IAMs_20 IAMs_20 08 44 46.5
comp=Z,17µm,21.0s
C23K Itkillik River 44.52 27 P P 08 26 31.6 +1.0
baz=265,SNR=82
G23K Bananza Creek 44.54 31 P P 08 26 31.7 +0.8
G23K IAmb IAmb 08 27 06.8
comp=Z,164nm,1.1s
G23K Bananza Creek 44.54 31 P P 08 26 32.2 +1.3
baz=268,SNR=38
M22K Willow 44.56 38 P P 08 26 32.2 +1.1
M22K IAmb IAmb 08 27 27.8
comp=Z,120nm,1.1s
M22K Willow 44.56 38 P P 08 26 31.6 +0.6
baz=273
SLKM Skilak Lake 44.60 40 P P 08 26 32.5 +1.0
SLKM IAmb IAmb 08 26 43.1
comp=Z,119nm,1.2s
H23K Yukon River 44.72 33 IAMs_20 IAMs_20 08 45 15.2
comp=Z,11µm,20.0s
H23K Yukon River 44.72 33 P P 08 26 34.1 +1.8
baz=270
E23K Chandalar 44.75 29 P P 08 26 33.4 +0.8
E23K IAmb IAmb 08 26 50.0
comp=Z,152nm,0.8s
E23K IAMs_20 IAMs_20 08 46 06.7
comp=Z,11µm,20.0s
E23K Chandalar 44.75 29 P P 08 26 34.3 +1.7
baz=267
BWN Browne 44.76 35 IAMs_20 IAMs_20 08 46 54.2
comp=Z,12µm,20.0s
RC01 Rabbit Creek A 44.79 39 P P 08 26 33.7 +0.8
RC01 IAmb IAmb 08 26 52.8
comp=Z,189nm,1.1s
RC01 Rabbit Creek A 44.79 39 P P 08 26 34.2 +1.3
baz=274,SNR=10
I23K Minto, Yukon-K 44.79 34 P P 08 26 33.7 +0.8
I23K IAmb IAmb 08 27 05.3
comp=Z,222nm,1.4s
I23K Minto, Yukon-K 44.79 34 P P 08 26 34.5 +1.6
baz=270,SNR=22
TOLK Toolik Lake Re 44.79 29 P P 08 26 33.7 +0.8
TOLK IAmb IAmb 08 27 13.3
comp=Z,129nm,1.1s
TOLK IAMs_20 IAMs_20 08 45 44.9
comp=Z,18µm,22.0s
TOLK Toolik Lake Re 44.79 29 P P 08 26 34.4 +1.5
baz=267,SNR=59
O22K Cooper Landing 44.84 40 P P 08 26 33.8 +0.4
O22K IAMs_20 IAMs_20 08 48 53.5
comp=Z,10µm,19.0s
O22K Cooper Landing 44.84 40 P P 08 26 34.2 +0.8
baz=275
NAYO Nakonayok 44.87 247 P P 08 26 34.8 +0.7
NEA2 Nenana 44.93 34 P P 08 26 34.6 +0.7
NEA2 IAmb IAmb 08 26 49.8
comp=Z,112nm,1.0s
NEA2 Nenana 44.93 34 P P 08 26 34.7 +0.7
baz=271,SNR=26
SHL Shillong 45.01 267 P P 08 26 34.2 -1.1
SHL Shillong 45.01 267 P P 08 26 34.7 -0.6
SNR=73
SHL S **S 08 33 15.0 +1.2**
SHL Shillong 45.01 267 *e*P **P 08 26 33.6 -1.7**
SHL IAmb IAmb 08 26 38.5
comp=Z,177nm,1.2s
SHL Shillong 45.01 267 P P 08 26 34.2 -1.1
SHL pmax pmax
comp=Z,314nm,1.4s
SHL MLR MLR
comp=Z,27µm,20.0s
MCK McKinley 45.01 36 P P 08 26 35.2 +0.5
MCK IAmb IAmb 08 27 38.2
comp=Z,130nm,1.2s
MCK IAMs_20 IAMs_20 08 46 31.8
comp=Z,10µm,20.0s
MCK McKinley 45.01 36 P P 08 26 35.2 +0.5
MCK pmax pmax
comp=Z,130nm,1.2s
MCK MLR MLR
comp=Z,10µm,20.0s
MCK McKinley 45.01 36 P P 08 26 35.6 +0.9
baz=272,SNR=38
SEW Seward 45.01 41 P P 08 26 36.1 +1.4
SEW IAmb IAmb 08 27 12.3
comp=Z,156nm,1.2s
SEW Seward 45.01 41 P P 08 26 35.6 +0.9
baz=276,SNR=5.9
PMR Palmer 45.04 39 P P 08 26 35.9 +1.0
PMR IAmb IAmb 08 27 04.1
comp=Z,97nm,1.0s
PMR Palmer 45.04 39 P P 08 26 37.0 +2.1
PMR Palmer 45.04 39 P P 08 26 35.9 +1.0
PMR pmax pmax
comp=Z,97nm,1.0s
PMR MLR MLR
comp=Z,6µm,20.0s
PMR Palmer 45.04 39 P P 08 26 35.9 +1.0
baz=274,SNR=17
RND Reindeer 45.06 36 P P 08 26 35.6 +0.4
RND IAmb IAmb 08 26 50.6
comp=Z,171nm,1.1s
RND IAMs_20 IAMs_20 08 46 35.1
comp=Z,11µm,20.0s
RND Reindeer 45.06 36 P P 08 26 35.6 +0.4
RND pmax pmax
comp=Z,171nm,1.1s
RND MLR MLR
comp=Z,10µm,20.0s
D24K Happy Valley 45.09 28 IAMs_20 IAMs_20 08 45 31.0
comp=Z,15µm,22.0s
D24K Happy Valley 45.09 28 P P 08 26 36.5 +1.3
baz=267
KURK Kurchatov 45.11 306 P P 08 26 35.2 -0.4
KURK IAMs_20 IAMs_20 08 46 09.1
comp=Z,19µm,20.0s
KURK Kurchatov 45.11 306 P P 08 26 35.6 +0.1
KURK P **P 08 26 35.6 +0.1**
KURK S **S 08 33 16.2 +2.0**
KURK S **S 08 33 16.2 +2.0**
KURK Kurchatov 45.11 306 *c i*P **P 08 26 35.6 +0.1**
KURK pmax pmax
comp=Z,442nm,1.0s
KURK MLR MLR
comp=Z,30µm,14.0s
RABL Rabaul 45.12 168 P P 08 26 35.5 -0.4
GHO Glory Hole Cre 45.13 38 P P 08 26 36.3 +0.6
SANI Sanana 45.13 205 P P 08 26 32.5 -3.6
SANI S **S 08 33 12.3 -2.8**
SANI Sanana 45.13 205 P P 08 26 35.6 -0.5
SANI Sanana 45.13 205 P P 08 26 35.6 -0.5
comp=Z,4µmcomp=Z,3µmcomp=Z,166nm,1.1s
C24K Franklin Bluff 45.17 27 IAMs_20 IAMs_20 08 48 54.4
comp=Z,10µm,18.0s
C24K Franklin Bluff 45.17 27 P P 08 26 36.2 +0.4
baz=266
E24K Your Creek 45.17 29 IAMs_20 IAMs_20 08 46 21.1
comp=Z,15µm,20.0s
E24K Your Creek 45.17 29 P P 08 26 37.0 +1.0
baz=268
KURBB Kurchatov Arra 45.18 306 P P 08 26 36.3 +0.1
comp=Z,152nm,0.7s,baz=79,slow=8.3,SNR=638
KURBB PcP **PcP 08 28 16.7 +0.5**
comp=Z,38nm,0.9s,baz=78,slow=4.8,SNR=1.5
KURBB S **S 08 33 13.6 -1.7**
comp=Z,3.5nm,1.1s,baz=81,slow=11,SNR=2.4
KURBB LR LR 08 46 22.9
comp=Z,17µm,18.7s,baz=82,slow=37
comp=Z,152nm,0.7s
MPSI Mapaga 45.22 214 P P 08 26 36.9 +0.1
LUWI Luwuk 45.31 210 P P 08 26 34.3 -3.2
LUWI S **S 08 33 12.3 -5.5**
LUWI Luwuk 45.31 210 P P 08 26 38.8 +1.2
LUWI Luwuk 45.31 210 P P 08 26 36.7 -0.9
comp=Z,4µmcomp=Z,3µmcomp=Z,197nm,1.3s
WRH Wood River Hil 45.35 35 P P 08 26 37.1 -0.3
WRH IAmb IAmb 08 27 34.0
comp=Z,338nm,1.8s
KNK Knik Glacier 45.38 39 P P 08 26 38.1 +0.5
baz=275,SNR=8.2
F24K Squaw Lake 45.39 30 IAMs_20 IAMs_20 08 45 13.6
comp=Z,15µm,21.0s
F24K Squaw Lake 45.39 30 P P 08 26 38.9 +1.2
baz=270
AZL Aizawl 45.39 264 *e*P **P 08 26 35.4 -2.9**
AZL IAmb IAmb 08 26 50.3
comp=Z,162nm,0.9s
H24K Noodor Dome 45.40 33 P P 08 26 39.0 +1.2
H24K IAmb IAmb 08 27 09.7
comp=Z,223nm,1.2s
H24K IAMs_20 IAMs_20 08 45 47.0
comp=Z,10µm,20.0s
H24K Noodor Dome 45.40 33 P P 08 26 38.7 +0.9
baz=271,SNR=27
SML Sawmill 45.41 38 P P 08 26 38.6 +0.7
SML IAMs_20 IAMs_20 08 48 55.4
comp=Z,10µm,20.0s
SML Sawmill 45.41 38 P P 08 26 38.6 +0.7
baz=275,SNR=27
COLA College 45.44 34 P P 08 26 38.8 +0.8
COLA College 45.44 34 P P 08 26 39.9 +1.9
COLA College 45.44 34 P P 08 26 38.8 +0.8
COLA pmax pmax
comp=Z,266nm,1.3s
COLA College 45.44 34 P P 08 26 39.1 +1.1
baz=272
COLA College 45.44 34 P P 08 26 39.5 +1.4
COLA S **S 08 33 19.0 +0.3**
CCB Clear Creek Bu 45.47 34 P 08 26 39.0 +0.7
CCB IAmb IAmb 08 27 18.2
comp=Z,114nm,1.2s
PWL Port Wells 45.49 40 P P 08 26 38.8 +0.2
baz=276
MSAI Masohi 45.50 200 P P 08 26 42.1 +3.1
comp=Z,4µmcomp=Z,229nm,1.2s
G24K Hadweenzic Riv 45.55 31 P P 08 26 40.3 +1.4
G24K Hadweenzic Riv 45.55 31 P P 08 26 40.9 +1.9
baz=271,SNR=55
POKR Poker Plat Res 45.61 34 P P 08 26 40.2 +0.8
POKR IAmb IAmb 08 26 56.0
comp=Z,198nm,1.0s
POKR IAMs_20 IAMs_20 08 45 36.5
comp=Z,10µm,19.0s
POKR Poker Plat Res 45.61 34 P P 08 26 41.2 +1.8
baz=272,SNR=27
APSI Ampana 45.63 211 P P 08 26 40.4 +0.4
comp=Z,4µmcomp=Z,269nm,1.1s
M23K Glacier View 45.70 38 P P 08 26 41.5 +1.4
baz=275,SNR=8.9
HDA Harding Lake 45.85 35 P P 08 26 41.3 0.0
HDA IAmb IAmb 08 27 21.6
comp=Z,190nm,1.3s
HDA IAMs_20 IAMs_20 08 47 23.0
comp=Z,11µm,21.0s
HDA Harding Lake 45.85 35 P P 08 26 41.5 +0.2
baz=273,SNR=33
IL31 45.86 34 P P 08 26 41.1 -0.2
IL31 IAmb IAmb 08 27 21.7
comp=Z,172nm,1.1s
ILAR Eielson Array 45.86 34 P P 08 26 42.2 +0.8
ILAR Eielson Array 45.86 34 P P 08 26 41.7 +0.3
comp=Z,15nm,0.8s,baz=264,slow=5.8,SNR=70
ILAR S **S 08 33 21.6 -3.1**
comp=Z,0.6nm,0.8s,baz=202,slow=16,SNR=4.8
ILAR LR LR 08 48 18.3
comp=Z,7µm,18.1s,baz=274,slow=39
comp=Z,15nm,0.8s
SAIH SAIHA 45.87 263 *e*P **P 08 26 39.6 -2.6**
SCM Sheep Creek Mo 45.88 38 P P 08 26 43.0 +1.3
SCM IAmb IAmb 08 26 55.4
comp=Z,153nm,1.0s
SCM IAMs_20 IAMs_20 08 47 46.8
comp=Z,12µm,20.0s
SCM Sheep Creek Mo 45.88 38 P P 08 26 43.0 +1.3
SCM pmax pmax
comp=Z,153nm,1.0s
SCM MLR MLR
comp=Z,12µm,20.0s
SCM Sheep Creek Mo 45.88 38 P P 08 26 42.2 +0.5
baz=276,SNR=20
NLAI Namlea 45.91 203 P P 08 26 43.5 +1.2
comp=Z,3µmcomp=Z,2µmcomp=Z,105nm,1.0s
D25K Kavik River 45.97 28 P P 08 26 42.6 +0.4
D25K IAmb IAmb 08 26 58.8
comp=Z,140nm,1.1s
D25K IAMs_20 IAMs_20 08 49 38.0
comp=Z,14µm,18.0s
D25K Kavik River 45.97 28 P P 08 26 43.4 +1.1
baz=269,SNR=64
AAI Ambon 46.02 201 P P 08 26 44.4 +1.2
comp=Z,3µmcomp=Z,236nm,0.8s
P23K Montague Islan 46.05 41 IAMs_20 IAMs_20 08 49 44.4
comp=Z,10µm,19.0s
P23K Montague Islan 46.05 41 P P 08 26 43.7 +0.8
baz=277
GLI Glacier Island 46.09 40 P P 08 26 44.0 +0.8
GLI Glacier Island 46.09 40 P P 08 26 44.9 +1.6
baz=277,SNR=5.3
G25K Bearman Lake 46.09 31 P P 08 26 44.5 +1.3
baz=272,SNR=26
H25L Birch Creek 46.23 32 P P 08 26 46.5 +2.3
baz=273,SNR=42
F25K Christian Rive 46.25 30 P P 08 26 45.7 +1.2

F25K IAmb IAmb 08 27 01.3
comp=Z,115nm,1.1s
F25K IAMs_20 IAMs_20 08 49 05.4
comp=Z,10μm,18.0s
F25K Christian Rive 46.25 30 P P 08 26 46.5 +2.0
baz=272,SNR=36
E25K Arctic Village 46.27 29 P P 08 26 45.7 +1.1
E25K IAmb IAmb 08 27 15.2
comp=Z,174nm,1.1s
E25K IAMs_20 IAMs_20 08 47 06.8
comp=Z,14μm,20.0s
E25K Arctic Village 46.27 29 P **P 08 26 46.5 +2.0**
baz=271,SNR=47
PCI Palu 46.36 213 P P 08 26 46.9 +1.0
comp=Z,5μmcomp=Z,188nm,1.2s
BNDI Bandanaira 46.38 199 P **P 08 26 47.2 +1.3**
BNDI Bandanaira 46.38 199 P **P 08 26 47.3 +1.3**
M24K Tolsona, Glenn 46.39 38 P **P 08 26 46.3 +0.6**
M24K IAMs_20 IAMs_20 08 49 30.4
comp=Z,12μm,18.0s
M24K Tolsona, Glenn 46.39 38 P **P 08 26 47.1 +1.4**
baz=276,SNR=14
AGT Agartala 46.41 266 *e*P **P 08 26 43.5 -2.7**
SRDT SRDT 46.41 249 P **P 08 26 47.1 +0.9**
FID Port Fidalgo 46.41 40 P **P 08 26 46.6 +0.9**
FID IAmb IAmb 08 26 59.4
comp=Z,202nm,1.3s
FID IAMs_20 IAMs_20 08 49 22.4
comp=Z,12μm,18.0s
HIN Hinchinbrook I 46.44 40 P **P 08 26 46.6 +0.6**
HIN IAMs_20 IAMs_20 08 48 12.8
comp=Z,10μm,18.0s
C26K Camden Bay 46.49 27 P **P 08 26 48.1 +1.8**
baz=270,SNR=113
J25K Salcha River, 46.52 34 P **P 08 26 46.5 -0.1**
J25K Salcha River, 46.52 34 P **P 08 26 47.2 +0.5**
baz=275,SNR=12
KLU Klutina 46.58 39 P **P 08 26 48.2 +0.9**
KLU IAMs_20 IAMs_20 08 49 51.4
comp=Z,11μm,18.0s
KLU Klutina 46.58 39 P **P 08 26 48.2 +0.9**
baz=277,SNR=32
PDGK Podgornoye 46.59 296 P **P 08 26 46.5 -1.1**
GTK Tadong 46.60 271 *e*P **P 08 26 46.6 -1.2**
GTK IAmb IAmb 08 26 52.5
comp=Z,100nm,0.5s
PAX Paxson 46.63 37 P **P 08 26 48.8 +1.2**
PAX IAmb IAmb 08 28 33.3
comp=Z,124nm,1.4s
PAX Paxson 46.63 37 P **P 08 26 48.8 +1.2**
PAX pmax pmax
comp=Z,124nm,1.4s
PAX MLR MLR
comp=Z,6μm,20.0s
PAX Paxson 46.63 37 P **P 08 26 49.5 +1.9**
baz=276,SNR=8.3
BMAR Burnt Mountain 46.66 30 P **P 08 26 49.1 +1.3**
SHLS Shalkode 46.67 295*c i*P **P 08 26 45.7 -2.5**
SHLS pmax pmax
comp=Z,174nm,1.4s
SHLS Shalkode 46.67 295⇑*i*P **P 08 26 45.8 -2.5**
comp=Z,174nm,1.4s
DIV Divide 46.70 39 P **P 08 26 49.2 +1.1**
DIV IAMs_20 IAMs_20 08 49 59.5
comp=Z,11μm,19.0s
BRDH Bariadhala 46.78 264 LR LR 08 48 44.9
comp=Z,14μm,18.1s,baz=64,slow=39
EYAK Cordova Ski Ar 46.79 40 IAMs_20 IAMs_20 08 47 12.0
comp=Z,13μm,21.0s
EYAK Cordova Ski Ar 46.79 40 P **P 08 26 50.8 +2.1**
EYAK Cordova Ski Ar 46.79 40 P **P 08 26 51.1 +2.4**
baz=278,SNR=5.9
F26K Sheenjek River 46.82 30 P **P 08 26 50.3 +1.3**
F26K IAmb IAmb 08 27 25.8
comp=Z,156nm,1.0s
F26K IAMs_20 IAMs_20 08 45 11.4
comp=Z,10μm,22.0s
F26K Sheenjek River 46.82 30 P **P 08 26 51.2 +2.3**
baz=273,SNR=98
RIDG Independent Ri 46.83 35 P **P 08 26 49.0 -0.1**
RIDG IAmb IAmb 08 27 34.6
comp=Z,111nm,1.1s
RIDG IAMs_20 IAMs_20 08 48 05.8
comp=Z,11μm,19.0s
RIDG Independent Ri 46.83 35 P **P 08 26 49.9 +0.9**
baz=276,SNR=14
HARP HAARP 46.83 37 P **P 08 26 50.3 +1.2**
baz=277,SNR=18
C27K Jago River 46.91 27 P **P 08 26 50.9 +1.3**
C27K IAMs_20 IAMs_20 08 48 07.8
comp=Z,17μm,19.0s
C27K Jago River 46.91 27 P **P 08 26 51.2 +1.7**
baz=271,SNR=96
JPG JALPAIGURI 46.91 270 *e*P P 08 27 00.1 +10
UZB Uzynbulak 46.98 296*c i*P **P 08 26 50.4 -0.3**
UZB *e*S **S 08 33 43.4 +1.7**
UZB pmax pmax
comp=Z,137nm,1.2s
UZB Uzynbulak 46.98 296⇑*i*P **P 08 26 50.4 -0.3**
comp=Z,137nm,1.2s
UZB *e*S **S 08 33 43.4 +1.7**
G26K Porcupine Rive 47.00 31 P **P 08 26 52.0 +1.7**
G26K Porcupine Rive 47.00 31 P **P 08 26 51.6 +1.3**
baz=274,SNR=79
KPKS Kokpek 47.10 296*c i*P **P 08 26 51.6 0.0**
KPKS *e*S **S 08 33 45.5 +2.2**
KPKS pmax pmax
comp=Z,119nm,1.1s
KPKS Kokpek 47.10 296⇑*i*P **P 08 26 51.6 0.0**
comp=Z,119nm,1.1s
KPKS *e*S **S 08 33 45.6 +2.2**
SBUM Sibu 47.11 225 P **P 08 26 51.7 0.0**
SBUM Sibu 47.11 225 P **P 08 26 52.8 +1.1**
SMKI Samarinda 47.11 217 P **P 08 26 52.7 +1.0**
SCRK Sand Creek 47.18 35 P **P 08 26 51.8 -0.1**
SCRK IAmb IAmb 08 27 32.3
comp=Z,146nm,1.1s
SCRK Sand Creek 47.18 35 P **P 08 26 51.6 -0.3**
baz=276,SNR=41
DOT Dot Lake 47.18 35 P **P 08 26 52.5 +0.7**
DOT IAMs_20 IAMs_20 08 48 07.1
comp=Z,13μm,19.0s
N25K Chitina, Valde 47.20 38 P **P 08 26 53.0 +1.0**
N25K IAMs_20 IAMs_20 08 50 07.7
comp=Z,10μm,19.0s
N25K Chitina, Valde 47.20 38 P **P 08 26 53.0 +1.0**
baz=278,SNR=9.4
BMRM Bremner River 47.29 39 P **P 08 26 53.2 +0.6**
BMRM IAMs_20 IAMs_20 08 47 00.1
comp=Z,10μm,20.0s
BMRM Bremner River 47.29 39 P **P 08 26 53.4 +0.7**
baz=279,SNR=13
J26L Joseph Creek 47.30 34 P **P 08 26 53.0 +0.1**
J26L Joseph Creek 47.30 34 P **P 08 26 52.8 0.0**
baz=276,SNR=7.8
RAGM Ragged Mountai 47.34 40 IAMs_20 IAMs_20 08 50 39.5
comp=Z,15μm,18.0s
ZHN Zhinishke 47.38 296 *e*P **P 08 26 53.5 -0.2**
ZHN *e*S **S 08 33 49.2 +1.9**
ZHN pmax pmax
comp=Z,120nm,1.5s
ZHN Zhinishke 47.38 296 *e*P **P 08 26 53.5 -0.2**
comp=Z,120nm,1.5s
ZHN *e*S **S 08 33 49.2 +1.9**
I26K Coal Creek Min 47.39 33 IAMs_20 IAMs_20 08 47 11.0
comp=Z,11μm,21.0s
I26K Coal Creek Min 47.39 33 P **P 08 26 53.6 +0.3**
baz=276
MENT Mentasta 47.42 36 P **P 08 26 55.1 +1.4**
MENT IAMs_20 IAMs_20 08 48 10.6
comp=Z,9μm,20.0s
MENT Mentasta 47.42 36 P **P 08 26 55.8 +2.1**
SATY Saty 47.43 296 *e*P **P 08 26 54.0 -0.2**
SATY *e*S **S 08 33 50.0 +1.9**
SATY pmax pmax
comp=Z,181nm,1.4s
SATY Saty 47.43 296 *e*P **P 08 26 54.0 -0.2**
comp=Z,181nm,1.4s
SATY *e*S **S 08 33 50.0 +1.9**
ARXS Arharly 47.44 297 *e*P **P 08 26 53.8 -0.3**
WUS Wushi 47.52 293 **P 08 26 55.1 +0.2**
KAIM Kayak Island 47.54 41 P **P 08 26 55.1 +0.5**
baz=280
HMT Hamilton 47.55 40 IAMs_20 IAMs_20 08 49 24.1
comp=Z,12μm,20.0s
L26K Log Cabin Wild 47.58 36 P **P 08 26 56.0 +1.0**

L26K IAMs_20 IAMs_20 08 48 13.7
comp=Z,11μm,19.0s
L26K Log Cabin Wild 47.58 36 P **P 08 26 56.4 +1.4**
baz=278,SNR=46
GLB Gilahina Butte 47.59 38 P **P 08 26 56.5 +1.4**
GLB IAmb IAmb 08 27 09.6
comp=Z,139nm,1.4s
GLB IAMs_20 IAMs_20 08 48 40.2
comp=Z,12μm,19.0s
PRZ Przheval'sk 47.64 295 P **P 08 26 56.2 +0.3**
PRZ Przheval'sk 47.64 295 P **P 08 26 56.2 +0.3**
PRZ pmax pmax
comp=Z,196nm,1.0s
PRZ MLR MLR
comp=Z,103μm,18.0s
E27K Coleen River 47.75 29 P **P 08 26 57.4 +1.2**
E27K IAmb IAmb 08 27 29.2
comp=Z,103nm,1.1s
E27K IAMs_20 IAMs_20 08 46 41.0
comp=Z,14μm,22.0s
E27K Coleen River 47.75 29 P **P 08 26 58.0 +1.9**
baz=275,SNR=63
VRDI Verde Repeater 47.80 39 IAMs_20 IAMs_20 08 46 34.6
comp=Z,10μm,22.0s
BERG Berg Lake 47.82 40 P **P 08 26 58.2 +1.4**
BERG IAMs_20 IAMs_20 08 48 05.1
comp=Z,11μm,18.0s
M26K Nabesna, AK 47.83 37 P **P 08 26 58.2 +1.3**
M26K Nabesna, AK 47.83 37 P **P 08 26 58.5 +1.6**
baz=279,SNR=28
SUCK Suckling Hills 47.84 40 IAMs_20 IAMs_20 08 50 57.6
comp=Z,15μm,18.0s
G27K Doyon Strip 47.85 31 P **P 08 26 57.3 +0.4**
G27K IAmb IAmb 08 27 41.7
comp=Z,123nm,1.4s
G27K Doyon Strip 47.85 31 P **P 08 26 58.9 +2.0**
baz=276,SNR=18
D27M Malcolm River 47.90 28 P **P 08 26 58.2 +0.9**
D27M IAmb IAmb 08 27 40.5
comp=Z,101nm,1.1s
D27M IAMs_20 IAMs_20 08 48 51.9
comp=Z,10μm,19.0s
D27M Malcolm River 47.90 28 P **P 08 26 58.9 +1.6**
baz=274,SNR=63
H27K Steamboat Moun 47.96 32 P **P 08 26 59.0 +1.2**
H27K Steamboat Moun 47.96 32 P **P 08 27 00.0 +2.1**
baz=276,SNR=36
BKB Balikpapan 47.97 217 P **P 08 26 58.5 +0.1**
BKB Balikpapan 47.97 217 P **P 08 26 59.0 +0.6**
BKB Balikpapan 47.97 217 P **P 08 26 58.3 -0.1**
I27K Kandik River 48.00 33 P **P 08 26 59.4 +1.2**
baz=277,SNR=13
K27K Chicken 48.01 35 P **P 08 26 58.6 +0.5**
baz=278
CHKK Chushkaly 48.13 297 *e*P **P 08 26 59.4 0.0**
CHKK Chushkaly 48.13 297 *e*P **P 08 26 59.4 0.0**
WAX Waxell Ridge 48.22 40 IAMs_20 IAMs_20 08 48 15.8
comp=Z,9μm,19.0s
L27K Beaver Creek, 48.26 36 P **P 08 27 01.1 +0.9**
L27K IAmb IAmb 08 27 23.9
comp=Z,108nm,0.9s
L27K IAMs_20 IAMs_20 08 49 54.7
comp=Z,10μm,18.0s
L27K Beaver Creek, 48.26 36 P **P 08 27 01.7 +1.5**
baz=279,SNR=86
BCAR Beaver Creek A 48.28 36 P **P 08 27 01.5 +1.1**
SNH Sunshine Point 48.28 40 IAMs_20 IAMs_20 08 50 06.3
comp=Z,13μm,18.0s
TARG Taragay, Kyrgy 48.32 294 P **P 08 27 01.6 +0.2**
TARG Taragay, Kyrgy 48.32 294 P **P 08 27 01.6 +0.2**
TARG pmax pmax
comp=Z,222nm,1.1s
TARG MLR MLR
comp=Z,78μm,19.0s
MDOK Medeo 48.33 296 P **P 08 27 01.2 +0.1**
MDOK Medeo 48.33 296 *e*P **P 08 27 00.9 -0.2**
MDOK *e*S **S 08 34 02.8 +1.9**
MDOK LR LR 08 47 39.6
comp=Z,27μm,15.8s
M27K Edge Creek, AK 48.35 37 P **P 08 27 02.3 +1.3**
M27K IAmb IAmb 08 27 14.9
comp=Z,182nm,1.2s
M27K IAMs_20 IAMs_20 08 48 32.1
comp=Z,10μm,20.0s
M27K Edge Creek, AK 48.35 37 P **P 08 27 02.3 +1.3**
baz=280,SNR=35
AAA Alma-Ata 48.40 296 *e*P **P 08 27 01.5 -0.1**
AAA pmax pmax
comp=Z,163nm,1.2s
AAA MLR MLR
comp=Z,39μm,19.0s
AAA Alma-Ata 48.40 296 *e*P **P 08 27 01.5 -0.1**
comp=Z,163nm,1.2s
AAA LR LR 08 47 42.3
comp=Z,39μm,18.5s
TNSS Tian-Shan 48.44 296 *e*P **P 08 27 01.8 -0.5**
TNSS Tian-Shan 48.44 296 *e*P **P 08 27 01.8 -0.5**
E28M Babbage River 48.47 29 P **P 08 27 03.0 +1.2**
E28M IAmb IAmb 08 27 16.6
comp=Z,83nm,0.9s
E28M IAMs_20 IAMs_20 08 47 28.0
comp=Z,17μm,22.0s
E28M Babbage River 48.47 29 P **P 08 27 03.5 +1.8**
baz=276,SNR=88
KDJ Kajisay 48.61 295 P **P 08 27 03.1 -0.3**
KDJ Kajisay 48.61 295 P **P 08 27 03.1 -0.3**
KDJ pmax pmax
comp=Z,207nm,1.2s
KDJ MLR MLR
comp=Z,99μm,18.0s
D28M Stokes Point 48.68 28 P **P 08 27 04.9 +1.7**
baz=276,SNR=37
I28M Miner Creek 48.71 33 P **P 08 27 04.7 +1.0**
I28M IAmb IAmb 08 27 57.6
comp=Z,166nm,1.1s
I28M IAMs_20 IAMs_20 08 50 44.6
comp=Z,12μm,18.0s
I28M Miner Creek 48.71 33 P **P 08 27 04.2 +0.4**
baz=278,SNR=57
MESA MESA 48.72 40 P **P 08 27 05.8 +1.9**
MESA IAmb IAmb 08 27 19.1
comp=Z,140nm,1.1s
MESA MESA 48.72 40 P **P 08 27 05.6 +1.7**
baz=281,SNR=6.3
BVCY Beaver Creek 48.81 37 P **P 08 27 05.9 +1.5**
baz=280,SNR=22
KSM Kuching 48.96 226 P **P 08 27 06.0 -0.1**
KSM Kuching 48.96 226 P **P 08 27 07.1 +1.0**
BRZS Berezniki 48.97 306*c i*P **P 08 27 05.7 -0.1**
BRZS Berezniki 48.97 306⇑*i*P **P 08 27 05.8 -0.1**
E29M Blow River 49.09 29 P **P 08 27 07.9 +1.4**
E29M IAMs_20 IAMs_20 08 48 33.6
comp=Z,16μm,22.0s
E29M Blow River 49.09 29 P **P 08 27 08.6 +2.1**
baz=278,SNR=81
YUK3 Moose Creek 49.11 38 P **P 08 27 07.6 +0.6**
baz=281,SNR=20
SPSI Sidrap Palu 49.16 212 P **P 08 27 07.3 -0.2**
comp=Z,2μmcomp=Z,126nm,1.2s
DAWY Dawson 49.17 35 P **P 08 27 08.1 +0.9**
DAWY IAMs_20 IAMs_20 08 47 12.7
comp=Z,10μm,21.0s
DAWY Dawson 49.17 35 P **P 08 27 07.5 +0.4**
baz=280
ULHL Ulahol 49.21 295 P **P 08 27 08.4 +0.4**
SNR=48
H29M Whitestone 49.23 32 P **P 08 27 08.7 +1.1**
H29M IAmb IAmb 08 27 41.8
comp=Z,110nm,1.1s
H29M Whitestone 49.23 32 P **P 08 27 09.4 +1.9**
baz=279,SNR=14
G29M Pine Creek 49.26 31 P **P 08 27 09.0 +1.2**
G29M IAmb IAmb 08 27 33.5
comp=Z,169nm,1.1s
G29M Pine Creek 49.26 31 P **P 08 27 10.1 +2.3**
baz=279,SNR=35
BOOM Boomskoye usch 49.33 296 P **P 08 27 09.0 +0.1**
BOOM Boomskoye usch 49.33 296 P **P 08 27 09.0 +0.1**
CAL Calcutta 49.38 266 *e*P **P 08 27 09.3 +0.1**
I29M Ogilvie Camp, 49.40 33 IAMs_20 IAMs_20 08 48 11.8
comp=Z,9μm,20.0s
I29M Ogilvie Camp, 49.40 33 P **P 08 27 10.3 +1.4**
baz=280,SNR=41
TKM2 Tokmak 2 49.41 296 P **P 08 27 10.1 +0.5**
SNR=219
TKM2 Tokmak 2 49.41 296 *i*P **P 08 27 09.6 +0.1**

TKM2 pmax pmax
comp=Z,235nm,0.9s
BNSI Bone 49.42 211 P **P 08 27 09.6 +0.1**
comp=Z,4μmcomp=Z,4μmcomp=Z,345nm,1.1s
O28M Mount Upton 49.45 39 P **P 08 27 10.5 +0.8**
O28M Mount Upton 49.45 39 P **P 08 27 10.7 +1.1**
baz=282,SNR=9.5
BVA0 Borovoye Array 49.47 311 *i*P **P 08 27 09.2 -0.3**
BVAR Borovoye Array 49.47 311 P **P 08 27 10.1 +0.5**
comp=Z,72nm,0.8s,baz=80,slow=9.2,SNR=248
BVAR S **S 08 34 14.8 -1.5**
comp=Z,3.1nm,0.8s,baz=62,slow=18,SNR=2.6
BVAR LR LR 08 49 25.1
comp=Z,42μm,18.2s,baz=75,slow=38
comp=Z,72nm,0.8s
BBSI Bau Bau 49.50 208 P **P 08 27 11.3 +1.2**
STKI Sintang 49.51 224 P **P 08 27 11.1 +0.9**
comp=Z,7μmcomp=Z,212nm,0.9s
BRVK Borovoye 49.52 311 P **P 08 27 10.2 +0.2**
BRVK IAmb IAmb 08 27 32.1
comp=Z,124nm,1.1s
BRVK Borovoye 49.52 311 P **P 08 27 10.3 +0.4**
BRVK P **P 08 27 10.3 +0.4**
BRVK P **P 08 27 10.3 +0.4**
BRVK S **S 08 34 17.7 +0.7**
BRVK S **S 08 34 17.7 +0.7**
BRVK S **S 08 34 17.7 +0.7**
BRVK Borovoye 49.52 311*c i*P **P 08 27 10.3 +0.4**
BRVK pmax pmax
comp=Z,123nm,1.0s
BRVK MLR MLR
comp=Z,37μm,16.0s
YUK8 Steele Glacier 49.54 38 P **P 08 27 11.2 +0.9**
baz=282
PINM Pinnacle 49.56 40 P **P 08 27 12.0 +1.8**
baz=283
J29N Klondike Camp 49.60 34 IAMs_20 IAMs_20 08 47 47.1
comp=Z,12μm,21.0s
J29N Klondike Camp 49.60 34 P **P 08 27 12.4 +1.9**
baz=281,SNR=9.3
PMG Port Moresby 49.69 175 LR LR 08 46 29.8
comp=Z,3μm,20.6s,baz=341,slow=34
PMG Port Moresby 49.69 175 P **P 08 27 13.8 +2.2**
PMG Port Moresby 49.69 175 P **P 08 27 13.7 +2.2**
OTUK Ortayu 49.72 304 P **P 08 27 10.9 -0.7**
EPYK Eagle Plains 49.87 31 P **P 08 27 13.6 +1.2**
EPYK IAMs_20 IAMs_20 08 49 38.0
comp=Z,8μm,19.0s
EPYK Eagle Plains 49.87 31 P **P 08 27 14.1 +1.7**
baz=280,SNR=42
SGDS Sogindy 49.87 297 *e*P **P 08 27 12.6 -0.2**
SGDS Sogindy 49.87 297 *e*P **P 08 27 12.7 -0.2**
BCPM Bancas Point 49.90 40 IAMs_20 IAMs_20 08 50 30.1
comp=Z,8μm,19.0s
M29M Somme Creek 49.90 37 P **P 08 27 14.0 +1.2**
M29M Somme Creek 49.90 37 P **P 08 27 14.4 +1.6**
baz=282,SNR=18
L29M L29M 49.91 36 P **P 08 27 14.5 +1.7**
L29M IAMs_20 IAMs_20 08 49 52.2
comp=Z,10μm,20.0s
L29M L29M 49.91 36 P **P 08 27 14.3 +1.5**
baz=282,SNR=42
G30M tAoh Zrail Nji 49.95 30 P **P 08 27 14.0 +0.9**
baz=280
KBK Karagaybulak 49.95 296 P **P 08 27 14.2 +0.7**
SNR=120
CHMS Chumysh 49.96 297 P **P 08 27 13.6 +0.2**
SNR=8.9
F30M Barrier River 50.00 30 P **P 08 27 14.6 +1.2**
baz=280
K29M Barlow Dome 50.02 35 P **P 08 27 15.1 +1.3**
K29M IAmb IAmb 08 27 28.6
comp=Z,132nm,1.1s
K29M IAMs_20 IAMs_20 08 50 47.2
comp=Z,10μm,19.0s
K29M Barlow Dome 50.02 35 P **P 08 27 15.0 +1.3**
baz=282,SNR=47
USP Ospenovka 50.03 297 P **P 08 27 14.3 +0.2**
SNR=61
YUK4 Talbot Arm 50.05 38 P **P 08 27 15.4 +1.2**
baz=283,SNR=18
PNL Peninsula 50.08 40 P **P 08 27 17.2 +3.1**
PNL Peninsula 50.08 40 P **P 08 27 15.5 +1.3**
baz=284
SRIT Nakonsritamara 50.09 243 P **P 08 27 15.8 +1.1**
SRIT Nakonsritamara 50.09 243 P **P 08 27 15.4 +0.7**
FRU1 Bishkek 50.11 297 P **P 08 27 14.8 +0.1**
FRU1 Bishkek 50.11 297 P **P 08 27 14.8 +0.1**
FRU1 pmax pmax
comp=Z,296nm,1.3s
FRU1 MLR MLR
comp=Z,26μm,20.0s
KAPI Kappang 50.12 211 P **P 08 27 15.0 +0.1**
KAPI Kappang 50.12 211 LR LR 08 50 11.7
comp=Z,4μm,19.0s,baz=14,slow=38
KAPI Kappang 50.12 211 P **P 08 27 14.9 +0.1**
KAPI P **P 08 27 14.9 +0.1**
KAPI P **P 08 27 14.9 +0.1**
KAPI S **S 08 34 25.3 -0.7**
KAPI S **S 08 34 25.3 -0.7**
KAPI S **S 08 34 25.3 -0.7**
KAPI S **S 08 34 26.5 +0.4**
KAPI S **S 08 34 26.5 +0.4**
KAPI S **S 08 34 26.5 +0.4**
KAPI Kappang 50.12 211 P **P 08 27 16.6 +1.7**
KAPI Kappang 50.12 211 P **P 08 27 15.0 +0.1**
KAPI pmax pmax
comp=Z,447nm,1.6s
KAPI Kappang 50.12 211 P **P 08 27 15.0 +0.1**
KAPI S **S 08 34 26.1 +0.1**
I30M Mount Dempster 50.22 33 P **P 08 27 16.1 +0.8**
I30M IAMs_20 IAMs_20 08 49 09.5
comp=Z,10μm,19.0s
I30M Mount Dempster 50.22 33 P **P 08 27 16.3 +1.0**
baz=282,SNR=88
AAK Ala-Archa 50.27 297 P **P 08 27 15.7 -0.3**
AAK Ala-Archa 50.27 297 LR LR 08 49 45.0
comp=Z,41μm,21.1s,baz=80,slow=37
AAK Ala-Archa 50.27 297 P **P 08 27 16.0 0.0**
AAK P **P 08 27 16.0 0.0**
AAK P **P 08 27 16.0 0.0**
AAK S **S 08 34 29.8 +1.8**
AAK S **S 08 34 29.8 +1.8**
AAK S **S 08 34 29.8 +1.8**
AAK Ala-Archa 50.27 297*c i*P **P 08 27 16.0 0.0**
AAK pmax pmax
comp=Z,112nm,1.3s
AAK MLR MLR
comp=Z,38μm,20.0s
AAK Ala-Archa 50.27 297 *i*P **P 08 27 16.0 0.0**
SNR=72
AAK Ala-Archa 50.27 297 P **P 08 27 15.9 0.0**
YUK6 Outpost Mounta 50.28 38 P **P 08 27 17.6 +1.7**
baz=284,SNR=7.6
O29M Mount Kennedy 50.33 39 IAMs_20 IAMs_20 08 50 24.5
comp=Z,9μm,21.0s
O29M Mount Kennedy 50.33 39 P **P 08 27 17.9 +1.7**
baz=284,SNR=21
J30M Hart River 50.38 34 P **P 08 27 16.8 +0.4**
J30M IAmb IAmb 08 28 10.6
comp=Z,89nm,1.1s
J30M Hart River 50.38 34 P **P 08 27 17.8 +1.4**
baz=282,SNR=22
UCH Uchtor 50.41 296 P **P 08 27 18.7 +1.2**
SNR=7.8
KSH Kashi 50.46 292 P **P 08 27 21.6 +4.2**
KSH PcP **PcP 08 28 39.0 +3.5**
KSH PP **PP 08 29 19.7 +6.8**
KSH S **S 08 34 39.3 +8.5**
KSH ScS **ScS 08 37 13.1 +4.9**
KSH pmax pmax
comp=Z,4μm,11.9s
KSH LR LR
comp=Z,61μm,16.9s
KSH LR LR
comp=Z,57μm,16.1s
KSH LR LR
comp=Z,98μm,16.7s
BOK Bokaro 50.55 269 *e*P **P 08 27 17.6 -0.5**
BOK IAmb IAmb 08 27 20.7
comp=Z,276nm,1.3s
M30M Minto, Yukon 50.62 36 P **P 08 27 19.6 +1.3**
baz=284
G31M Satah River 50.71 30 P **P 08 27 19.7 +1.0**
baz=282

HYT	Haines Junctio	50.72	38	P	P	08 27 19.9	+0.9
HYT	Haines Junctio	50.72	38	P	P	08 27 20.8	+1.7
	baz=284,SNR=118						
EKS2	Erkin-Say	50.75	297	P	P	08 27 19.8	+0.3
	SNR=54						
N30M	Aishikik Lake	50.76	38	P	P	08 27 21.0	+1.8
	baz=284,SNR=7.7						
F31M	Tsiigehtchic	50.81	30	P	P	08 27 20.1	+0.6
F31M				IAmb	IAmb	08 27 30.8	
	comp=Z,184nm,1.1s						
F31M	Tsiigehtchic	50.81	30	P	P	08 27 20.6	+1.1
	baz=282,SNR=88						
BSSI	Bau Bau, Buton	50.87	210	P	P	08 27 20.5	0.0
	comp=Z,4μmcomp=Z,2μmcomp=Z,161nm,1.1s						
P29M	Windy Craggy	50.91	40	P	P	08 27 21.4	+1.0
P29M	Windy Craggy	50.91	40	P	P	08 27 21.9	+1.5
	baz=285,SNR=37						
H31M	Peel River	50.93	32	P	P	08 27 20.9	+0.4
H31M				IAMs_20	IAMs_20	08 51 15.1	
	comp=Z,11μm,20.0s						
H31M	Peel River	50.93	32	P	P	08 27 21.5	+1.1
	baz=283,SNR=74						
AML	Almayashu	51.01	296	P	P	08 27 22.4	+0.5
	SNR=221						
P30M	Million Dollar	51.16	39	P	P	08 27 24.1	+1.8
	baz=285						
KEKH	Kekaha	51.19	93	IAMs_20	IAMs_20	08 42 48.2	
	comp=Z,8μm,19.0s						
HNLY	HANLEY	51.22	283	eP	P	08 27 21.8	-1.9
HNLY				IAmb	IAmb	08 27 49.9	
	comp=Z,305nm,1.3s						
N31M	Braeburn, Yuko	51.36	37	P	P	08 27 25.4	+1.7
N31M	Braeburn, Yuko	51.36	37	P	P	08 27 25.6	+1.8
	baz=285,SNR=54						
O30N	Mendenhall	51.40	38	P	P	08 27 24.8	+0.7
O30N	Mendenhall	51.40	38	P	P	08 27 25.8	+1.7
	baz=286,SNR=20						
KNTI	KHUNTI	51.41	269	eP	P	08 27 21.8	-2.9
KNTI				IAmb	IAmb	08 27 27.2	
	comp=Z,201nm,0.9s						
SAVO	Savo Central	51.61	159	P	P	08 27 28.6	+2.5
PLBC	Pleasant Camp	51.63	40	P	P	08 27 27.4	+1.6
	baz=286						
DGPR	DIGLIPUR	51.66	253	eP	P	08 27 24.1	-2.4
M31M	Drury Creek, Y	51.80	36	P	P	08 27 27.8	+0.8
M31M	Drury Creek, Y	51.80	36	P	P	08 27 28.3	+1.2
	baz=286,SNR=30						
ARSB	Arslanbob	51.82	296	P	P	08 27 27.5	-0.1
ARSB	Arslanbob	51.82	296	P	P	08 27 27.5	-0.1
ARSB				pmax	pmax		
	comp=Z,322nm,0.9s						
ARSB				MLR	MLR		
	comp=Z,53μm,20.0s						
KULM	Kulim	51.82	239	P	P	08 27 27.7	0.0
KULM				IAMs_20	IAMs_20	08 50 31.6	
	comp=Z,12μm,19.0s						
KULM	Kulim	51.82	239	P	P	08 27 28.4	+0.7
JOSI	Joshimath	51.85	280	eP	P	08 27 25.4	-2.7
PTH	Pithoragarh	51.85	279	eP	P	08 27 26.8	-1.3
LGTI	Lohaghat	51.88	279	eP	P	08 27 28.1	+0.1
HNR	Honiara	51.91	159	IAMs_20	IAMs_20	08 46 32.2	
	comp=Z,12μm,22.0s						
WHY	Whitehorse	52.00	38	IAMs_20	IAMs_20	08 52 28.7	
	comp=Z,15μm,19.0s						
WHY	Whitehorse	52.00	38	P	P	08 27 29.5	+0.8
	baz=286,SNR=30						
S31K	Pelican	52.13	42	IAMs_20	IAMs_20	08 52 20.2	
	comp=Z,10μm,20.0s						
S31K	Pelican	52.13	42	P	P	08 27 30.6	+1.2
	baz=288						
SKAG	Skagway	52.13	40	P	P	08 27 31.9	+2.4
SKAG	Skagway	52.13	40	P	P	08 27 31.6	+2.1
	baz=287,SNR=14						
R31K	City Hall, Gus	52.24	41	P	P	08 27 31.7	+1.4
	baz=288						
FARO	Faro, Yukon	52.26	36	P	P	08 27 31.1	+0.6
FARO	Faro, Yukon	52.26	36	P	P	08 27 31.8	+1.3
	baz=286,SNR=30						
KLP	Kalpa	52.35	282	eP	P	08 27 30.6	-1.4
MYKOM	Kota Tinggi	52.47	233	P	P	08 27 32.5	-0.1
MYKOM				IAmb	IAmb	08 27 36.0	
	comp=Z,232nm,1.2s						
MYKOM	Kota Tinggi	52.47	233	P	P	08 27 33.7	+1.2
MMRI	Maumere	52.54	207	P	P	08 27 35.2	+2.2
MMRI	Maumere	52.54	207	P	P	08 27 34.2	+1.2
	comp=Z,4μmcomp=Z,5μmcomp=Z,371nm,1.1s						
A36M	Sachs Harbour	52.58	23	P	P	08 27 33.3	+0.7
A36M				IAmb	IAmb	08 28 09.9	
	comp=Z,137nm,1.0s						
A36M	Sachs Harbour	52.58	23	P	P	08 27 33.9	+1.3
	baz=286,SNR=124						
BESE	Bessie Mountai	52.63	41	IAMs_20	IAMs_20	08 51 05.4	
	comp=Z,10μm,20.0s						
N32M	Quiet Lake	52.70	37	P	P	08 27 34.8	+1.0
	baz=286						
LKN	LUCKNOW	52.77	275	eP	P	08 27 34.0	-0.7
KK31	Karatay Array	52.78	299	P	P	08 27 34.1	-0.5
KK31				IAmb	IAmb	08 27 54.2	
	comp=Z,76nm,0.8s						
KK31	Karatay Array	52.78	299	i P	P	08 27 33.9	-0.7
KKAR	Karatay Array	52.78	299	P	P	08 27 34.1	-0.5
KKAR				IAmb	IAmb	08 27 54.2	
	comp=Z,79nm,0.8s						
KKAR	Karatay Array	52.78	299	P	P	08 27 34.1	-0.5
KKAR				pmax	pmax		
	comp=Z,79nm,0.8s						
PBA	Port Blair	52.80	252	P	P	08 27 35.3	+0.3
	SNR=6.7						
PBA	Port Blair	52.80	252	eP	P	08 27 33.4	-1.6
KIP	Kipapa	52.80	93	IAMs_20	IAMs_20	08 49 05.0	
	comp=Z,7μm,18.0s						
KIP	Kipapa	52.80	93	P	P	08 27 38.1	+3.1
ALBI	Allahabad	52.84	273	eP	P	08 27 34.0	-1.2
EDFI	Ende, Flores	52.84	207	P	P	08 27 33.9	-1.4
	comp=Z,2μmcomp=Z,192nm,1.2s						
SIT	Sitka	52.88	43	P	P	08 27 37.1	+2.1
SIT	Sitka	52.88	43	P	P	08 27 36.2	+1.2
	baz=289						
P32M	Atlin	52.88	39	P	P	08 27 36.5	+1.4
P32M	Atlin	52.88	39	P	P	08 27 36.9	+1.8
	baz=288,SNR=8.5						
R32K	Eaglecrest	52.90	41	IAMs_20	IAMs_20	08 51 14.4	
	comp=Z,9μm,19.0s						
R32K	Eaglecrest	52.90	41	P	P	08 27 36.2	+1.0
	baz=288,SNR=11						
SOEI	Soe	52.93	204	IAMs_20	IAMs_20	08 46 52.6	
	comp=Z,10μm,22.0s						
SOEI	Soe	52.93	204	P	P	08 27 34.4	-1.6
SOEI				S	S	08 35 03.7	-1.4
SOEI	Soe	52.93	204	P	P	08 27 37.4	+1.4
SOEI	Soe	52.93	204	P	P	08 27 36.5	+0.5
JIS	Juneau Island	52.96	41	P	P	08 27 37.9	+2.3
TKRD	Thakurdwara	53.08	279	eP	P	08 27 36.2	-0.7
DDI	Dehra Dun	53.09	281	eP	P	08 27 37.5	+0.3
DDI				IAmb	IAmb	08 27 41.1	
	comp=Z,92nm,0.8s						
P33M	Teslin, Yukon	53.11	38	P	P	08 27 37.8	+0.9
P33M				IAmb	IAmb	08 27 52.5	
	comp=Z,135nm,1.2s						
P33M	Teslin, Yukon	53.11	38	P	P	08 27 38.5	+1.6
	baz=288,SNR=40						
S32K	Killisnoo	53.13	42	P	P	08 27 38.4	+1.5
	baz=289,SNR=7.5						
BRLS	Borolday	53.27	299c	i P	P	08 27 39.5	+1.3
BRLS	Borolday	53.27	299	i P	P	08 27 39.6	+1.3
JHSG	JHARSUGUGA	53.30	268	eP	P	08 27 37.6	-1.1
SMLA	Simla	53.36	282	eP	P	08 27 39.0	0.0
DHRM	DHARAMSHALA	53.46	284	eP	P	08 27 39.6	-0.4
IUG	Iuzhnay	53.50	298	eP	P	08 27 39.7	-0.3
IUG				eS	S	08 35 14.1	+1.7
IUG				pmax	pmax		
	comp=Z,286nm,1.8s						
IUG	Iuzhnay	53.50	298	eP	P	08 27 39.8	-0.3
	comp=Z,286nm,1.8s						
IUG				eS	S	08 35 14.1	+1.7
SRNI	Srinagar	53.65	287	eP	P	08 27 40.6	-0.4
SVE	Sverdlovsk	53.65	317d	i P	P	08 27 41.8	+1.1
SVE				eS	S	08 35 14.1	+0.3
SVE				pmax	pmax		
	comp=Z,438nm,1.3s						
SVE				pmax	pmax		
	comp=Z,3μm,15.8s						
SVE				MLR	MLR		
	comp=Z,83μm,16.0s						
SVE				MLR	MLR		
	comp=E,57μm,15.0s						
C36M	Paulatuk	53.74	26	P	P	08 27 41.9	+0.7
C36M				IAmb	IAmb	08 28 16.2	
	comp=Z,174nm,1.2s						
C36M				IAMs_20	IAMs_20	08 51 16.4	
	comp=Z,10μm,22.0s						
C36M	Paulatuk	53.74	26	P	P	08 27 42.2	+1.0
	baz=289,SNR=59						
KDU	Kakadu	53.77	193	P	P	08 27 41.4	-0.6
	comp=Z,0.0nmcomp=Z,127nm,1.0s						
KDU	Kakadu	53.77	193	P	P	08 27 42.6	+0.6
BHK	Bhakra	53.78	283	eP	P	08 27 38.6	-3.5
Q32M	Nakina River	53.78	40	P	P	08 27 43.0	+1.1
	baz=290						
THN	Thein Dam	53.80	284	eP	P	08 27 41.8	-0.4
DRS	Darwin Rock St	53.82	195	P	P	08 27 43.8	+1.5
TPI	Tanjungpandan	53.93	226	P	P	08 27 44.0	+0.7
	comp=Z,6μmcomp=Z,3μmcomp=Z,228nm,1.2s						
NGOA	Tingoa Renbel	53.97	160	P	P	08 27 47.0	+3.5
MERT	Meerut	54.01	280	eP	P	08 27 44.1	+0.3
MERT				IAmb	IAmb	08 27 48.6	
	comp=Z,140nm,0.8s						
COEN	Coen	54.08	180	P	P	08 27 44.6	+0.3
	comp=Z,0.0nmcomp=Z,80nm,1.1s						
COEN	Coen	54.08	180	P	P	08 27 44.6	+0.3
MTN	Manton Dam	54.17	195	P	P	08 27 44.0	-0.9
	comp=Z,0.0nmcomp=Z,143nm,1.4s						
MTN	Manton Dam	54.17	195	P	P	08 27 44.7	-0.2
T33K	Petersburg	54.18	42	P	P	08 27 46.0	+1.4
	baz=291						
UGON	Onchagaon	54.22	279	eP	P	08 27 43.0	-2.3
R33M	Jennings River	54.27	39	P	P	08 27 47.0	+1.6
	baz=290,SNR=22						
JMU	Jammu	54.27	285	eP	P	08 27 45.3	-0.3
PPBI	Pangkal Pinang	54.29	228	P	P	08 27 47.3	+1.4
KHLH	Kahului Airpor	54.32	92	P	P	08 27 47.1	+1.0
LHMI	Lhok Sumawe	54.33	243	P	P	08 27 45.4	-0.8
LHMI	Lhok Sumawe	54.33	243	P	P	08 27 47.2	+0.9
LHMI	Lhok Sumawe	54.33	243	P	P	08 27 46.8	+0.6
	comp=Z,170nm,0.9s						
BLSP	Bilaspur	54.34	270	eP	P	08 27 45.2	-1.1
U33K	Whale Pass	54.34	43	P	P	08 27 46.6	+0.7
U33K				IAmb	IAmb	08 27 59.5	
	comp=Z,113nm,1.2s						
U33K	Whale Pass	54.34	43	P	P	08 27 46.5	+0.7
	baz=291,SNR=6.1						
PLAI	Plampang	54.38	212	P	P	08 27 45.0	-1.5
PLAI	Plampang	54.38	212	P	P	08 27 45.5	-1.0
	comp=Z,3μmcomp=Z,101nm,1.2s						
KMMI	Kalianget	54.42	217	P	P	08 27 47.9	+1.1
	comp=Z,5μmcomp=Z,2μmcomp=Z,140nm,1.2s						
WBSI	Waikabubak, Su	54.49	209	P	P	08 27 46.9	-0.5
	comp=Z,85nm,1.1s						
TSI	Tuntungan	54.52	240	P	P	08 27 49.9	+2.3
	comp=Z,172nm,1.2s						
HLK	Haleakala	54.53	92	IAMs_20	IAMs_20	08 45 21.7	
	comp=Z,9μm,20.0s						
NDI	New Delhi	54.55	280	eP	P	08 27 46.1	-1.6
NDI				IAmb	IAmb	08 28 00.1	
	comp=Z,122nm,0.8s						
JMIU	JAMIA UNIVERSI	54.55	279	eP	P	08 27 46.4	-1.4
JMIU				IAmb	IAmb	08 27 55.9	
	comp=Z,185nm,0.7s						
CRAG	Craig	54.58	44	P	P	08 27 49.7	+2.2
CRAG	Craig	54.58	44	P	P	08 27 49.1	+1.6
	baz=292						
LDR	Lodi Road	54.60	279	eP	P	08 27 46.7	-1.4
WRAK	Wrangell Islan	54.64	43	IAMs_20	IAMs_20	08 52 19.5	
	comp=Z,7μm,19.0s						
WRAK	Wrangell Islan	54.64	43	P	P	08 27 50.1	+2.2
	baz=291,SNR=6.4						
S34M	Telegraph Cree	54.71	41	IAMs_20	IAMs_20	08 54 12.4	
	comp=Z,9μm,20.0s						
S34M	Telegraph Cree	54.71	41	P	P	08 27 50.4	+1.9
	baz=291,SNR=12						
AYAN	Aya Nagar	54.72	279	eP	P	08 27 47.5	-1.5
TGTN	Hyland Airport	54.77	36	P	P	08 27 51.0	+2.1
	baz=291,SNR=12						
SRBI	Singaraja	54.78	215	P	P	08 27 49.9	+0.5
	comp=Z,6μmcomp=Z,3μmcomp=Z,202nm,1.3s						
PSI	Prapat	54.81	239	LR	LR	08 50 50.2	
	comp=Z,7μm,21.6s,baz=41,slow=36						
PSI	Prapat	54.81	239	P	P	08 27 50.6	+0.7
PSI	Prapat	54.81	239	P	P	08 27 50.0	+0.1
PSI				pmax	pmax		
	comp=Z,149nm,1.1s						
SONA	Sohna	54.87	279	eP	P	08 27 49.5	-0.6
SONA				IAmb	IAmb	08 27 52.1	
	comp=Z,186nm,0.9s						
RPSI	Rantau Prapat	54.89	239	IAMs_20	IAMs_20	08 49 45.1	
	comp=Z,8μm,22.0s						
LUES	Luesalemba Tem	54.95	153	P	P	08 27 52.9	+2.3
ABJI	Asem Bagus	54.96	216	P	P	08 27 51.6	+0.9
	comp=Z,4μmcomp=Z,137nm,1.9s						
ARTI	Arti	54.97	317	P	P	08 27 50.2	-0.1
ARTI	Arti	54.97	317	P	P	08 27 50.7	+0.4
	comp=Z,413nm,1.1s,baz=77,slow=4.3,SNR=199						
ARTI				S	S	08 35 31.7	+0.1
	comp=Z,3.5nm,0.8s,baz=311,slow=20,SNR=1.3						
ARTI				ScS	ScS	08 37 37.8	-1.1
	comp=Z,1.2nm,0.3s,baz=216,slow=18,SNR=1.2						
ARTI				LR	LR	08 54 02.1	
	comp=Z,72μm,18.3s,baz=70,slow=39						
	comp=Z,413nm,1.1s						
ARTI	Arti	54.97	317c	i P	P	08 27 50.6	+0.2
ARTI						08 28 52.3	
ARTI						08 29 54.7	
ARTI				PPP	PPP	08 31 01.0	
ARTI				S	S	08 35 34.5	+2.9
ARTI						08 37 31.0	
ARTI				SS	SS	08 39 09.9	-4.7
ARTI				pmax	pmax		
	comp=Z,383nm,1.0s						
ARTI				pmax	pmax		
	comp=Z,3μm,12.3s						
ARTI				MLR	MLR		
	comp=Z,75μm,17.0s						
RAGD	RAYAGADA	54.99	266	eP	P	08 27 50.0	-1.0
GRJI	Gresik	54.99	218	P	P	08 27 52.4	+1.4
	comp=Z,5μmcomp=Z,424nm,1.3s						
NIL	Nilore	55.03	287	P	P	08 27 52.0	+0.8
NIL	Nilore	55.03	287	P	P	08 27 52.3	+1.1
NIL				pmax	pmax		
	comp=Z,454nm,1.0s						
WTLY	Watson Lake, Y	55.04	38	P	P	08 27 52.5	+1.6
	baz=291,SNR=21						
CMBY	CAMPBELL BAY	55.14	247	eP	P	08 27 50.4	-1.7
TBJI	Tambak Boyo	55.21	219	P	P	08 27 53.7	+1.2
	comp=Z,5μmcomp=Z,5μmcomp=Z,340nm,1.2s						
JHNI	Jhansi	55.24	275	eP	P	08 27 50.7	-2.1
JHNI				IAML		08 27 53.5	
	comp=Z,254nm,0.8s						
BSI	Banda Aceh	55.27	244	P	P	08 27 53.6	+0.5
BKNI	Bangkinang	55.35	235	P	P	08 27 54.2	+0.6
BKNI				IAMs_20	IAMs_20	08 55 02.3	
	comp=Z,8μm,19.0s						
BKNI	Bangkinang	55.35	235	P	P	08 27 52.8	-0.8
BKNI				S	S	08 35 36.8	-0.8
BKNI	Bangkinang	55.35	235	P	P	08 27 55.3	+1.7
BKNI	Bangkinang	55.35	235	P	P	08 27 54.9	+1.3
HPAH	Hawaii Prepara	55.37	92	IAMs_20	IAMs_20	08 47 27.0	
	comp=Z,9μm,20.0s						
KUDL	Kundal	55.38	279	eP	P	08 27 52.4	-1.3
KUDL				IAmb	IAmb	08 27 55.4	
	comp=Z,296nm,1.6s						
MLSI	Meulaboh, Aceh	55.40	242	P	P	08 27 53.9	-0.1
	comp=Z,5μmcomp=Z,2μmcomp=Z,304nm,1.0s						
V35K	Ketchikan	55.43	44	P	P	08 27 55.7	+2.1
	baz=293						
HUH	Hualalai	55.47	93	IAMs_20	IAMs_20	08 45 37.5	
	comp=Z,8μm,19.0s						
T35M	Bob Quinn	55.50	42	IAMs_20	IAMs_20	08 54 14.3	
	comp=Z,7μm,20.0s						
T35M	Bob Quinn	55.50	42	P	P	08 27 56.0	+1.7
	baz=292,SNR=17						
JAGI	Jajag, Banyuwa	55.59	216	P	P	08 27 56.6	+1.3
JAGI	Jajag, Banyuwa	55.59	216	P	P	08 27 55.4	+0.1
	comp=Z,4μmcomp=Z,2μmcomp=Z,60nm,1.0s						
POHA	Pohakuloa	55.66	93	IAMs_20	IAMs_20	08 46 25.5	
	comp=Z,10μm,21.0s						
POHA	Pohakuloa	55.66	93	P	P	08 27 58.6	+2.5
PMBI	Palembang	55.69	229	IAMs_20	IAMs_20	08 55 50.0	
	comp=Z,7μm,18.0s						
PMBI	Palembang	55.69	229	P	P	08 27 57.0	+0.9
SIMJ	Simiganj	55.72	294	P	P	08 27 55.6	-0.6
GMJI	Gumukmas	55.74	217	P	P	08 27 56.2	-0.1
	comp=Z,81nm,1.1s						
MWH	Mokuaweoweo	55.77	93	IAMs_20	IAMs_20	08 46 27.4	
	comp=Z,9μm,20.0s						
DZET	Dzherino	55.78	294	P	P	08 27 56.6	0.0
DZET				pmax	pmax		
	comp=Z,155nm,1.2s						
HMH	Humu'ula Sheep	55.79	93	IAMs_20	IAMs_20	08 46 18.9	
	comp=Z,10μm,20.0s						
NGJI	Ngawi	55.88	219	P	P	08 27 58.7	+1.4
	comp=Z,10μmcomp=Z,5μmcomp=Z,182nm,1.1s						
KHU	Kahuku	55.90	93	IAMs_20	IAMs_20	08 45 26.8	
	comp=Z,8μm,20.0s						
MNSI	Mandailing Nat	55.91	237	P	P	08 27 58.3	+0.7
	comp=Z,7μmcomp=Z,4μmcomp=Z,48nm,0.9s						
MLH	Mauna Loa	55.92	93	IAMs_20	IAMs_20	08 46 10.6	
	comp=Z,9μm,21.0s						
VIS	Vishakhapatnam	56.00	265	eP	P	08 27 57.3	-0.9
VIS				IAmb	IAmb	08 28 01.2	
	comp=Z,121nm,0.8s						
U35K	Hyder	56.03	43	IAMs_20	IAMs_20	08 53 20.3	
	comp=Z,8μm,18.0s						
U35K	Hyder	56.03	43	P	P	08 27 59.5	+1.6
	baz=293						
UWE	Uwekahuna	56.04	93	IAMs_20	IAMs_20	08 46 04.6	
	comp=Z,9μm,20.0s						
HATHI	Halema'uma'u T	56.06	93	IAMs_20	IAMs_20	08 45 54.2	
	comp=Z,8μm,20.0s						
BYL	Byron's Ledge	56.07	93	IAMs_20	IAMs_20	08 45 54.4	
	comp=Z,9μm,21.0s						
HLP	Hilina Pali	56.10	93	IAMs_20	IAMs_20	08 47 56.2	
	comp=Z,10μm,20.0s						
SMRI	Semarang	56.10	220	P	P	08 27 59.9	+0.9
SMRI	Semarang	56.10	220	P	P	08 28 00.4	+1.4
	comp=Z,180nm,1.1s						
PUH	Pauahi	56.12	93	IAMs_20	IAMs_20	08 47 59.9	
	comp=Z,9μm,20.0s						
WRGLY	Wrigley	56.20	33	IAMs_20	IAMs_20	08 54 05.5	
	comp=Z,8μm,18.0s						
WRGLY	Wrigley	56.20	33	P	P	08 28 00.3	+1.2
	baz=294,SNR=12						
JOKA	Jonika Flow	56.25	93	IAMs_20	IAMs_20	08 46 42.2	
	comp=Z,10μm,21.0s						
PPI	Padang Panjang	56.36	235	P	P	08 28 01.4	+0.6
	comp=Z,9μmcomp=Z,5μmcomp=Z,89nm,1.2s						
LIRD	Liard River Hi	56.57	38	P	P	08 28 03.3	+1.5
	baz=294,SNR=58						
GUNA	GUNA	56.60	275	eP	P	08 28 01.4	-1.1
EUNU	Eureka	56.63	9	P	P	08 28 01.8	-0.2
EUNU				IAmb	IAmb	08 28 33.4	
	comp=Z,99nm,0.9s						
JCJI	Jatiwangi	56.73	223	P	P	08 28 06.5	+3.1
	comp=Z,439nm,1.3s						
PCJI	Pacitan	56.73	219	P	P	08 28 04.4	+1.0
	comp=Z,4μmcomp=Z,68nm,1.2s						
UGM	Wanagama	56.80	220	P	P	08 28 03.1	-0.9
UGM	Wanagama	56.80	220	P	P	08 28 03.3	-0.7
UGM	Wanagama	56.80	220	P	P	08 28 03.8	-0.2
	comp=Z,296nm,1.2s						
GSI	Gunungsitoli	56.82	239	IAMs_20	IAMs_20	08 54 00.2	
	comp=Z,10μm,18.0s						
GSI	Gunungsitoli	56.82	239	P	P	08 28 04.9	+0.8
GSI	Gunungsitoli	56.82	239	P	P	08 28 04.6	+0.5
	comp=Z,9μmcomp=Z,519nm,1.5s						
SNSI	Sinabang, Aceh	56.82	241	P	P	08 28 05.7	+1.6
YOGI	Yogyakarta	56.83	220	P	P	08 28 05.1	+0.9
	comp=Z,3μmcomp=Z,226nm,1.3s						
AB31	Akbulak array	56.95	309	i P	P	08 28 04.4	-0.2
ABKAR	Akbulak array	56.95	309	P	P	08 28 04.4	-0.2
HOPEN	Hopen	57.14	346	eP	P	08 28 06.6	+1.0
HOPEN				IVmB_BB		08 28 07.2	
	comp=Z,1μm,3.2s						
HOPEN				eS	S	08 36 02.9	+2.9
HOPEN				IVMs_BB	IVMs_BB	08 54 48.9	
	comp=Z,8μm,18.6s						
TOAD	Toad River Com	57.21	38	P	P	08 28 07.5	+1.1
	baz=295,SNR=28						
KOTAN	Kotaneelee Air	57.21	36	P	P	08 28 07.2	+0.8
	baz=295						
NGP	Nagpur	57.25	271	eP	P	08 28 04.0	-3.2
MDSI	Maura Dua	57.30	228	P	P	08 28 07.0	-0.5
	comp=Z,6μmcomp=Z,5μmcomp=Z,318nm,1.3s						
BHPL	Bhopal	57.31	274	eP	P	08 28 05.3	-2.3
LEM	Lembang	57.35	224	LR	LR	08 53 37.1	
	comp=Z,3μm,20.1s,baz=17,slow=37						
PBSI	Pulau Batu	57.39	237	P	P	08 28 09.7	+1.5
	comp=Z,324nm,1.4s						
KNRA	Kununurra	57.41	197	P	P	08 28 07.5	-0.7
KNRA				IAmb	IAmb	08 28 23.5	
	comp=Z,114nm,1.1s						
KNRA	Kununurra	57.41	197	P	P	08 28 07.8	-0.3
	comp=Z,0.0nmcomp=Z,101nm,1.1s						
SPB2	Spitsbergen Ar	57.51	349	P	P	08 28 08.7	+0.5
SPB2				IAmb	IAmb	08 29 43.3	
	comp=Z,147nm,1.3s						
SPITS	Spitsbergen Ar	57.51	349	P	P	08 28 07.9	-0.4
	comp=Z,4.3nm,0.4s,baz=79,slow=8.6,SNR=22						
SPITS				LR	LR	08 55 37.7	
	comp=Z,22μm,19.1s,baz=4.0,slow=39						
SPITS	Spitsbergen Ar	57.51	349	P	P	08 28 08.2	0.0
SPITS				pmax	pmax		
	comp=Z,163nm,1.4s						
KSI	Kapahiang	57.55	231	P	P	08 28 10.2	+0.9
	comp=Z,7μmcomp=Z,163nm,0.9s						
AKTO	Aktyubinsk	57.57	311	P	P	08 28 09.0	0.0
	comp=Z,58nm,0.8s,baz=68,slow=6.4,SNR=57						
AKTO				S	S	08 36 06.2	-0.1
	comp=Z,8.1nm,1.2s,baz=193,slow=9.9,SNR=2.1						
AKTO				LR	LR	08 54 23.4	
	comp=Z,33μm,18.8s,baz=66,slow=38						
	comp=Z,58nm,0.8s						
KBU	Kabul Universi	57.59	290	P	P	08 28 07.0	-2.7
KBS	Kingsbay	57.60	350	IAMs_20	IAMs_20	08 55 37.8	
	comp=Z,10μm,20.0s						
KBS	Kingsbay	57.60	350	eP	P	08 28

BJO1 Bjornoya 59.59 345 *e*P **P** **08 28 22.8 0.0**
BJO1 IVmB_BB 08 28 32.6
comp=Z,2μm,3.6s
BJO1 *e*S **S** **08 36 32.3 +0.4**
BJO1 IVMs_BB IVMs_BB 08 59 41.7
comp=Z,7μm,13.6s
LVZ Lovozero 59.66 335*c i*P **P** **08 28 23.4 0.0**
LVZ pmax pmax
comp=Z,81nm,1.2s
LVZ MLR MLR
comp=Z,18μm,20.0s
HYB Hyderabad 59.82 268 *e*P **P** **08 28 24.8 -0.4**
HYB *e*PP **PP** **08 30 36.8 -0.3**
HYB *e*ScP **ScP** **08 33 11.7 -0.6**
HYB *e*S **S** **08 36 36.9 +0.5**
HYB *e*ScS **ScS** **08 38 16.4 +0.9**
HYB IVMs_BB IVMs_BB 09 01 01.0
comp=Z,3μm,16.3s
VADS Vadso 59.96 339 *e*P **P** **08 28 25.7 +0.4**
VADS IVmB_BB 08 28 26.2
comp=Z,2μm,3.7s
VADS *e*S **S** **08 36 36.8 +0.1**
VADS *e*ScS **ScS** **08 38 12.9 -2.0**
VADS *e*SS **SS** **08 40 38.5 +6.1**
VADS IVMs_BB IVMs_BB 09 02 45.8
comp=Z,7μm,13.9s
YKA Yellowknife Ar 60.15 32 P **P** **08 28 26.9 +0.2**
comp=Z,10nm,0.8s,baz=303,slow=6.3,SNR=66
YKA S **S** **08 36 36.8 -2.6**
comp=Z,0.5nm,1.0s,baz=323,slow=36,SNR=1.1
YKA ScS SKKSac 08 38 12.3 -4.0
comp=Z,0.4nm,1.1s,baz=109,slow=34,SNR=2.2
YKA LR LR 08 57 35.7
comp=Z,6μm,20.2s,baz=305,slow=39
YKA PKPPKP **P'P'df** **08 57 52.0 -6.3**
comp=Z,2.9nm,1.2s,baz=133,slow=2.1,SNR=4.5
comp=Z,10nm,0.8s
YKA Yellowknife Ar 60.15 32 *i* P **P** **08 28 26.8 +0.1**
YKA pmax pmax
comp=Z,11nm,0.8s
JASL Jaisalmer 60.22 281 *e*P **P** **08 28 27.1 -0.7**
APA Apatity 60.24 335 ⇓*i*P **P** **08 28 25.7 -1.6**
APA *i* 08 29 07.9
APA *i* S **S** **08 36 38.0 -2.4**
APA *i* PS **PnS** **08 36 55.0 +1.6**
APA *i* 08 38 16.0
APA *i* SS **SS** **08 40 33.0 -3.9**
APA pmax pmax
comp=Z,25nm,0.8s
WB9 Warramunga Arr 60.46 190 P **P** **08 28 27.9 -1.4**
WB8 Warramunga Arr 60.48 190 P **P** **08 28 28.0 -1.4**
FITZ Fitzroy Crossi 60.49 199 P **P** **08 28 28.9 -0.5**
FITZ Fitzroy Crossi 60.49 199 P **P** **08 28 29.2 -0.3**
comp=Z,20nm,1.0s
FITZ Fitzroy Crossi 60.49 199 LR LR 08 54 15.6
comp=Z,3μm,20.9s,baz=20,slow=36
FITZ Fitzroy Crossi 60.49 199 P **P** **08 28 29.7 +0.2**
WB7 Warramunga Arr 60.51 190 P **P** **08 28 28.4 -1.3**
VLAKA Lakatoro 60.52 153 P **P** **08 28 32.4 +2.7**
WB6 Warramunga Arr 60.53 190 P **P** **08 28 28.4 -1.3**
WB5 Warramunga Arr 60.55 190 P **P** **08 28 28.3 -1.6**
WR0 Warramunga Arr 60.61 189 P **P** **08 28 28.9 -1.4**
WR0 IAmb IAmb 08 28 50.4
comp=Z,70nm,1.1s
WRA Warramunga Arr 60.62 190 P **P** **08 28 28.9 -1.5**
WRA Warramunga Arr 60.62 190 P **P** **08 28 29.1 -1.2**
comp=Z,48nm,0.8s,baz=7.7,slow=7.1,SNR=78
WRA S **S** **08 36 38.2 -8.0**
comp=Z,11nm,1.2s,baz=4.8,slow=11,SNR=8.2
WRA ScS SKKSac 08 38 16.4 -4.4
comp=Z,0.7nm,1.0s,baz=317,slow=34,SNR=1.0
WRA LR LR 08 55 04.1
comp=Z,4μm,20.0s,baz=3.0,slow=36
WRA PKP2bc 08 58 00.5
comp=Z,4.5nm,1.1s,baz=208,slow=1.8,SNR=7.2
comp=Z,48nm,0.8s
QIS Mount Isa 60.75 184 P **P** **08 28 30.0 -1.3**
comp=Z,64nm,1.2s
QIS Mount Isa 60.75 184 P **P** **08 28 30.7 -0.5**
KEV Kevo 60.83 339 P **P** **08 28 31.8 +0.6**
KEV pmax pmax
comp=Z,76nm,1.0s
KEV Kevo 60.83 339 P **P** **08 28 31.5 +0.2**
KEV S **S** **08 36 47.6 -0.3**
HAMF Hammerfest 61.13 341 *e*P **P** **08 28 34.0 +0.6**
HAMF *e* 08 30 40.5
HAMF *e*S **S** **08 36 47.4 -4.4**
HAMF *e* 08 38 21.8
MDRS Chennai 61.19 263 *e*P **P** **08 28 34.9 +0.4**
ARA0 ARCESS Array S 61.38 339 *e*P **P** **08 28 35.1 +0.1**
ARA0 IVmB_BB 08 28 36.5
comp=Z,1μm,4.2s
ARA0 *e*P **pP** **08 28 37.0 -1.9**
ARA0 *e*S **S** **08 36 55.4 +0.5**
ARA0 IVMs_BB IVMs_BB 08 57 25.6
comp=Z,8μm,22.0s
ARA0 IVMs_BB IVMs_BB 08 57 25.8
comp=Z,8μm,22.0s
ARCES ARCESS Array B 61.38 339 P **P** **08 28 35.3 +0.3**
comp=Z,17nm,0.8s,baz=46,slow=8.7,SNR=27
ARCES PP **PP** **08 30 49.9 +0.3**
comp=Z,34nm,1.0s,baz=7.5,slow=10,SNR=4.1
ARCES LR LR 08 57 48.6
comp=Z,23μm,21.1s,baz=36,slow=38
comp=Z,17nm,0.8s
XMI Christmas Isla 61.42 223 P **P** **08 28 37.4 +1.5**
XMIS Christmas Isla 61.46 223 P **P** **08 28 35.8 -0.5**
XMIS Christmas Isla 61.46 223 P **P** **08 28 37.2 +1.0**
TULEG Thule 61.56 8 P **P** **08 28 35.7 -0.4**
TULEG IAmb IAmb 08 29 18.4
comp=Z,142nm,1.2s
TULEG Thule 61.56 8 *i* P **P** **08 28 35.1 -1.0**
TULEG IAmb IAmb 08 28 48.3
comp=Z,54nm,0.8s
KLMR Klimovskoe 61.72 327 *e*P **P** **08 28 34.3 -3.1**
KLMR *e* 08 30 51.0
KLMR S **S** **08 36 56.4 -3.0**
KLMR 08 38 22.7
KLMR SS **SS** **08 40 59.8 -0.5**
KLMR pmax pmax
comp=Z,235nm,1.2s
KLMR MLR MLR
comp=Z,19μm,18.0s
NEEM North Greenlan 62.08 4 *i* P **P** **08 28 40.5 +0.5**
NEEM IAmb IAmb 08 28 52.8
comp=Z,84nm,0.9s
KTK1 Kautokeino 62.33 339 *e*P **P** **08 28 42.0 +0.5**
KTK1 IVmB_BB 08 28 42.5
comp=Z,2μm,4.8s
KTK1 *e*PP **PP** **08 30 59.0 +1.0**
KTK1 *e*S **S** **08 37 08.9 +1.9**
KTK1 IVMs_BB IVMs_BB 08 58 04.2
comp=Z,5μm,15.8s
SGF Sodankyl 62.43 337 P **P** **08 28 42.6 +0.5**
SGF pmax pmax
comp=Z,98nm,1.0s
MSF Maaselka 62.62 335 P **P** **08 28 43.9 +0.5**
MSF pmax pmax
comp=Z,80nm,1.1s
JETT Jettan, Norway 62.70 341 *e*P **P** **08 28 44.6 +0.7**
JETT IVmB_BB 08 28 49.7
comp=Z,2μm,4.2s
JETT *e*S **S** **08 37 14.2 +2.5**
TRO Tromso 63.01 341 P **P** **08 28 47.9 +2.0**
TRO Tromso 63.01 341 *e*P **P** **08 28 45.0 -0.9**
TRO IVmB_BB 08 28 51.1
comp=Z,2μm,3.2s
TRO *e*S **S** **08 37 17.0 +1.5**
TRO IVMs_BB IVMs_BB 09 03 07.9
comp=Z,7μm,16.5s
BHUJ Bhuj 63.20 279 *e*P **P** **08 28 47.3 -0.6**
BHUJ IAmb IAmb 08 28 50.3
comp=Z,169nm,1.1s
KAD Karad 63.22 270 *e*P **P** **08 28 47.1 -1.0**
SALM Salem 63.63 263 *i* Pg **P** **08 28 50.2 -0.6**
SALM *e*P **pP** **08 28 50.8 -3.9**
JOF Joensuu 63.70 332 *e*P **P** **08 28 50.4 -0.2**
KOUNC Koumac, New Ca 63.71 158 P **P** **08 28 53.1 +2.0**
RK1H Rockhampton Ha 63.81 173 P **P** **08 28 53.2 +1.5**
GNW Green Mountain 63.87 49 P **P** **08 28 52.8 +0.8**
MALK Mahakanadarawa 63.95 258 P **P** **08 28 51.9 -1.0**
MALK S **S** **08 37 27.4 -1.2**
OUL Oulu 64.16 335 P **P** **08 28 53.9 +0.3**
OUL pmax pmax
comp=Z,93nm,1.1s
AS16 Alice Springs 64.31 190 P **P** **08 28 54.4 -0.6**
comp=Z,38nm,1.0s
AS01 Alice Springs 64.34 190 P **P** **08 28 55.1 -0.1**
AS31 Alice Springs 64.34 190 P **P** **08 28 54.5 -0.8**
ASAR Alice Springs 64.34 190 P **P** **08 28 54.5 -0.7**
comp=Z,25nm,0.8s,baz=8.9,slow=6.0,SNR=103
ASAR S **S** **08 37 26.6 -6.5**
comp=Z,1.9nm,1.1s,baz=8.2,slow=7.6,SNR=2.7
ASAR LR LR 08 57 10.0
comp=Z,5μm,20.5s,baz=2.0,slow=36
ASAR PKPPKP P'P'df 08 57 46.8 +10
comp=Z,4.9nm,1.1s,baz=179,slow=3.0,SNR=7.4
comp=Z,25nm,0.8s
KULLO Kullorsuaq 64.48 6 *i* P **P** **08 28 55.8 +0.2**
KULLO IAmb IAmb 08 28 59.1
comp=Z,52nm,1.0s
PALK Pallekele 64.56 257 LR LR 09 00 00.5
comp=Z,9μm,18.8s,baz=44,slow=39
PALK Pallekele 64.56 257 P **P** **08 28 57.1 +0.1**
PALK P **P** **08 28 57.1 +0.1**
PALK P **P** **08 28 57.1 +0.1**
PALK S **S** **08 37 37.9 +1.5**
PALK S **S** **08 37 37.9 +1.5**
PALK S **S** **08 37 37.9 +1.5**
PALK Pallekele 64.56 257 P **P** **08 28 56.8 -0.2**
PALK S **S** **08 37 35.6 -0.8**
GOA Goa 64.58 269 *e*P **P** **08 28 57.1 0.0**
DBG Daneborg 65.04 355 *i* P **P** **08 28 59.0 -0.3**
DBG IAmb IAmb 08 29 01.5
comp=Z,69nm,1.3s
MBWA Marble Bar 65.07 204 P **P** **08 28 59.3 -0.7**
comp=Z,90nm,1.1s
MBWA Marble Bar 65.07 204 P **P** **08 29 01.2 +1.2**
MBWA P **P** **08 29 01.2 +1.2**
MBWA S **S** **08 37 39.4 -2.6**
MBWA S **S** **08 37 39.4 -2.6**
MBWA Marble Bar 65.07 204 P **P** **08 29 01.2 +1.2**
KOD Kodaikanal 65.08 262 *e*P **P** **08 28 60.0 -0.7**
KOD IAmb IAmb 08 29 02.9
comp=Z,130nm,1.0s
YSA Yasawairara 65.13 144 P **P** **08 29 03.3 +2.9**
STEI Steigen 65.18 341 *e*P **P** **08 29 00.1 0.0**
STEI IVmB_BB 08 29 01.5
comp=Z,2μm,3.8s
STEI *e*S **S** **08 37 44.5 +2.2**
STEI IVMs_BB IVMs_BB 09 02 36.0
comp=Z,5μm,17.8s
COR Corvallis 65.19 52 P **P** **08 29 02.6 +2.0**
COR pmax pmax
comp=Z,178nm,1.2s
PSAD1 Pilbara Seismi 65.32 204 P **P** **08 29 00.9 -0.7**
comp=Z,76nm,1.2s
PSAC2 Pilbara Seismi 65.40 204 P **P** **08 29 01.7 -0.5**
comp=Z,68nm,1.1s
PSAC1 Pilbara Seismi 65.40 204 P **P** **08 29 01.3 -0.8**
comp=Z,67nm,1.3s
PSAB2 Pilbara Seismi 65.40 204 P **P** **08 29 01.5 -0.6**
comp=Z,58nm,1.0s
PSAA2 Pilbara Seismi 65.42 204 P **P** **08 29 01.4 -0.8**
comp=Z,60nm,1.3s
PSA00 Pilbara Seismi 65.42 204 P **P** **08 29 02.3 0.0**
PSA00 IAmb IAmb 08 29 04.2
comp=Z,58nm,1.1s
PSA00 Pilbara Seismi 65.42 204 P **P** **08 29 02.0 -0.3**
PSA00 IAmb IAmb 08 29 04.1
comp=Z,33nm,1.1s
PSA00 Pilbara Seismi 65.42 204 P **P** **08 29 03.4 +1.1**
MOS Moscow 65.44 323 *e*P **P** **08 28 59.9 -2.2**
MOS *e* 08 29 11.3
MOS *e* 08 29 31.2
MOS *e* 08 31 23.5
MOS *e*PPP PPP 08 32 56.5
MOS *e*S **S** **08 37 43.3 -2.6**
MOS *e* 08 38 53.6
MOS *e*SS **SS** **08 42 00.9 +2.4**
MOS pmax pmax
comp=Z,198nm,1.7s
MOS pmax pmax
comp=Z,2μm,4.0s
MOS pmax pmax
comp=E,900nm,4.0s
MOS pmax pmax
comp=N,1μm,4.0s
MOS MLR MLR
comp=N,22μm,16.0s
MOS MLR MLR
comp=E,30μm,16.0s
MOS MLR MLR
comp=Z,41μm,16.0s
LOF Lofoten 65.44 342 *e*P **P** **08 29 01.9 0.0**
LOF IVmB_BB 08 29 02.8
comp=Z,2μm,4.4s
LOF *e*PP **PP** **08 31 28.5 +3.2**
LOF *e*S **S** **08 37 46.0 +0.4**
LOF IVMs_BB IVMs_BB 09 04 55.6
comp=Z,4μm,12.8s
FAUS Fauske 65.58 340 *e*P **P** **08 29 03.1 +0.3**
FAUS IVmB_BB 08 29 04.5
comp=Z,1μm,1.6s
FAUS *e*S **S** **08 37 48.4 +1.1**
FAUS IVMs_BB IVMs_BB 09 04 23.9
comp=Z,6μm,15.2s
XMAS Kiritimati 65.58 109 P **P** **08 29 07.0 +3.4**
BUCK Buck Mountain 65.59 52 P **P** **08 29 04.8 +1.4**
ILON Igloolik, Nuna 65.61 16 IAMs_20 IAMs_20 09 02 57.7
comp=Z,9μm,19.0s
DZM Mont Dzumac 65.78 156 LR LR 08 57 21.4
comp=Z,9μm,19.3s,baz=328,slow=36
DZM Mont Dzumac 65.78 156 P **P** **08 29 06.9 +2.2**
DGTI Dogotuki 65.79 141 P **P** **08 29 06.7 +1.9**
H04A Detroit Lake 65.80 51 P **P** **08 29 05.3 +0.6**
H04A IAmb IAmb 08 29 17.5
comp=Z,106nm,1.0s
EIDS Eidsvold 65.83 172 P **P** **08 29 05.1 +0.3**
EIDS Eidsvold 65.83 172 P **P** **08 29 04.8 -0.1**
comp=Z,0.0nmcomp=Z,38nm,1.1s
EIDS Eidsvold 65.83 172 P **P** **08 29 06.8 +2.0**
YATNC Mamie plateau, 65.91 156 P **P** **08 29 07.8 +2.4**
ONTNC Ouen Toro 66.00 157 IAMs_20 IAMs_20 08 58 03.4
comp=Z,10μm,20.0s
ONTNC Ouen Toro 66.00 157 P **P** **08 29 08.4 +2.4**
PUL Pulkovo 66.05 329 *i* P **P** **08 29 06.4 +0.5**
PUL pmax pmax
comp=Z,230nm,0.7s
PUL MLR MLR
comp=Z,13μm,15.0s
VRH Novokhopyorsk 66.09 318 *e*P **P** **08 29 04.3 -2.1**
VRH *e* 08 29 05.9
VRH *e*S **S** **08 37 52.4 -1.6**
VRH pmax pmax
comp=Z,190nm,1.3s
VRH pmax pmax
comp=Z,1μm,3.5s
VRH smax smax
comp=E,2μm,7.9s
VRH MLR MLR
comp=Z,56μm,16.0s
E07A Sunnyside 66.12 49 P **P** **08 29 07.5 +0.8**
E07A IAmb IAmb 08 29 19.7
comp=Z,78nm,0.9s
OUENC Ouen Island, N 66.23 156 P **P** **08 29 10.0 +2.6**
MSVF Nonsavu 66.25 144 IAMs_20 IAMs_20 08 51 55.3
comp=Z,9μm,21.0s
MSVF Nonsavu 66.25 144 LR LR 08 52 07.0
comp=Z,9μm,21.9s,baz=330,slow=31
MSVF Nonsavu 66.25 144 P **P** **08 29 10.4 +2.6**
OBN Obninsk 66.30 323 P **P** **08 29 07.3 -0.3**
OBN Obninsk 66.30 323 P **P** **08 29 07.4 -0.2**
comp=Z,36nm,0.5s,baz=69,slow=1.0,SNR=28
OBN S **S** **08 37 56.1 -0.2**
comp=Z,24nm,0.3s,baz=183,slow=18,SNR=1.5
OBN LR LR 09 00 54.9
comp=Z,29μm,18.3s,baz=350,slow=38
comp=Z,36nm,0.5s
OBN Obninsk 66.30 323 ⇓P **P** **08 29 08.2 +0.6**
OBN Obninsk 66.30 323*c i*P **P** **08 29 07.7 +0.1**
OBN *i* 08 29 17.6
OBN *i* 08 29 36.2
OBN *i* S **S** **08 37 54.7 -1.7**
OBN *i* SS **SS** **08 42 12.4 +0.6**
OBN pmax pmax
comp=Z,173nm,1.5s
OBN MLR MLR
comp=Z,49μm,16.0s
UPNV Upernavik 66.30 6 *i* P **P** **08 29 07.7 +0.4**
UPNV IAmb IAmb 08 29 19.8
comp=Z,65nm,1.0s
C09A Chrisman Ranch 66.32 47 P **P** **08 29 08.2 +0.3**
C09A IAmb IAmb 08 29 20.4
comp=Z,102nm,1.0s
F07A Phinny Hill Vi 66.45 49 P **P** **08 29 09.9 +1.1**
F07A IAmb IAmb 08 29 21.8
comp=Z,94nm,0.9s
KEF Keuruu 66.46 333 *e*P **P** **08 29 08.4 -0.1**
FIA1 FINESS Array S 66.53 332 P **P** **08 29 08.9 -0.1**
FINES FINESS Array B 66.53 332 P **P** **08 29 09.0 0.0**
comp=Z,57nm,0.8s,baz=47,slow=8.4,SNR=99
FINES S **S** **08 37 57.2 -1.8**
comp=Z,1.6nm,0.8s,baz=182,slow=38,SNR=1.3
FINES LR LR 08 59 53.0
comp=Z,27μm,21.9s,baz=32,slow=37
comp=Z,57nm,0.8s
TRD Trivandrum 66.57 261 *e*P **P** **08 29 09.2 -0.7**
VAGH Vaagaholmen 66.59 341 *e*P **P** **08 29 09.2 -0.1**
VAGH IVmB_BB 08 29 10.0
comp=Z,2μm,4.8s
VAGH *e*S **S** **08 38 01.1 +1.5**
VAGH IVMs_BB IVMs_BB 09 05 03.4
comp=Z,6μm,15.7s
VAF Ylistaro 66.59 335 *e*P **P** **08 29 10.2 +0.8**
WRKA Warakurna 66.59 195 P **P** **08 29 09.0 -0.8**
comp=Z,0.0nmcomp=Z,62nm,1.1s
WRKA Warakurna 66.59 195 P **P** **08 29 09.5 -0.3**
PINNC Pines Island, 66.60 156 P **P** **08 29 10.8 +1.0**
PINNC IAmb IAmb 08 29 23.8
comp=Z,151nm,1.4s
PINNC IAMs_20 IAMs_20 08 55 00.1
comp=Z,9μm,21.0s
PINNC Pines Island, 66.60 156 P **P** **08 29 12.0 +2.2**
QLP Quilpie 66.65 179 P **P** **08 29 09.9 -0.1**
comp=Z,204nm,1.1s
QLP Quilpie 66.65 179 P **P** **08 29 11.2 +1.1**
LPSR Galich'ya Gora 66.68 320 *e*P **P** **08 29 08.5 -1.6**
LPSR *e* 08 29 09.7
LPSR *e*S **S** **08 37 58.1 -3.0**
LPSR pmax pmax
comp=Z,140nm,1.1s
LPSR pmax pmax
comp=Z,2μm,3.6s
LPSR smax smax
comp=N,1μm,17.4s
LPSR MLR MLR
comp=Z,28μm,14.0s
NEW Newport 66.69 46 IAMs_20 IAMs_20 09 00 13.4
comp=Z,5μm,18.0s
NEW Newport 66.69 46 LR LR 08 55 11.2
comp=Z,3μm,21.8s,baz=326,slow=33
NEW Newport 66.69 46 P **P** **08 29 11.9 +1.6**
NEW pmax pmax
comp=Z,82nm,1.1s
MOR8 Moi Rana 66.72 340 *e*P **P** **08 29 09.1 -1.1**
MOR8 *e*S **S** **08 38 00.3 -0.9**
MOR8 IVMs_BB IVMs_BB 09 01 36.1
comp=Z,8μm,20.3s
KONS Konsvik 66.81 341 *e*P **P** **08 29 10.2 -0.5**
STOK Stokkvaagen 66.97 340 *e*P **P** **08 29 11.3 -0.4**
STOK IVmB_BB 08 29 13.1
comp=Z,1μm,3.7s
STOK *e*S **S** **08 38 04.9 +0.8**
STOK IVMs_BB IVMs_BB 09 05 13.1
comp=Z,7μm,15.7s
KHMM Horse Mountain 66.97 55 P **P** **08 29 13.5 +1.1**
JNW Jan Mayen West 67.04 350 *e*P **P** **08 29 14.0 +1.9**
JNW *e*PP **PP** **08 31 41.9 +2.7**
JNW *e*S **S** **08 38 08.4 +3.6**
JNE Jan Mayen East 67.06 350 *e*P **P** **08 29 14.3 +2.1**
JNE IVmB_BB 08 29 15.0
comp=Z,2μm,1.8s
JNE *e*S **S** **08 38 09.8 +4.7**
JNE IVMs_BB IVMs_BB 09 05 35.8
comp=Z,2μm,16.1s
JMIC Jan Mayen 67.08 350 LR LR 08 57 58.8
comp=Z,5μm,21.9s,baz=19,slow=35
JMIC Jan Mayen 67.08 350 *e*P **P** **08 29 13.1 +0.7**
JMIC IVmB_BB 08 29 15.1
comp=Z,2μm,2.5s
JMIC *e*S **S** **08 38 08.6 +3.2**
VORR Voronezh 67.10 319 *e*P **P** **08 29 11.9 -0.9**
VORR *e* 08 29 12.8
VORR *e*S **S** **08 38 01.9 -4.3**
VORR pmax pmax
comp=Z,140nm,1.2s
VORR pmax pmax
comp=Z,150nm,0.4s
VORR smax smax
comp=N,140nm,4.2s
VORR MLR MLR
comp=Z,47μm,15.0s
LEIR Leirfjorden 67.11 340 *e*P **P** **08 29 12.7 +0.1**
LEIR IVmB_BB 08 29 13.4
comp=Z,1μm,4.8s
LEIR *e*S **S** **08 38 08.3 +2.4**
LEIR *e*SS **SS** **08 42 27.1 +3.2**
LEIR IVMs_BB IVMs_BB 09 05 08.4
comp=Z,5μm,15.5s
E09A Wood Farm, Sta 67.12 48 P **P** **08 29 12.7 -0.4**
E09A IAmb IAmb 08 29 25.9
comp=Z,112nm,1.0s
YBH Yreka Blue Hor 67.13 54 LR LR 08 52 58.7
comp=Z,2μm,21.8s,baz=316,slow=31
JMI Jan Mayen 67.17 350 *e*P **P** **08 29 14.3 +1.5**
JMI *e*PP **PP** **08 31 37.1 -3.1**
JMI *e*S **S** **08 38 10.5 +4.0**
SUMG Summit 67.31 1 IAMs_20 IAMs_20 08 57 53.3
comp=Z,11μm,22.0s
SUMG Summit 67.31 1 P **P** **08 29 14.0 -0.3**
SUMG S **S** **08 38 09.3 +0.3**
SUMG Summit 67.31 1 *i* P **P** **08 29 15.2 +0.9**
SUMG IAmb IAmb 08 29 16.4
comp=Z,75nm,0.9s
KMRM Mail Ridge 67.35 56 IAMs_20 IAMs_20 08 53 13.8
comp=Z,6μm,19.0s
VSR Storozhevoye 67.39 319 *e*P **P** **08 29 12.9 -1.7**
VSR *e* 08 29 14.7
VSR *e*S S 08 38 00.0 -10
VSR pmax pmax
comp=Z,90nm,1.0s
VSR pmax pmax
comp=Z,2μm,3.6s
VSR smax smax
comp=N,2μm,16.6s
VSR MLR MLR
comp=Z,42μm,16.0s
VORD Divnogorie 67.47 318 *e*P **P** **08 29 14.1 -1.1**
VORD *e* 08 29 15.4
VORD *e*S **S** **08 38 05.7 -5.0**
VORD pmax pmax
comp=Z,120nm,0.9s
VORD pmax pmax
comp=Z,190nm,1.2s
VORD smax smax
comp=N,130nm,4.4s
VORD MLR MLR
comp=Z,16μm,13.0s
MAK Makhachkala 67.57 308*d i*P **P** **08 29 13.9 -2.0**
MAK *e* 08 31 45.3
MAK *e*PPP PPP 08 33 22.1
MAK *e*S **S** **08 38 11.0 -1.1**
MAK *e*SS **SS** **08 42 31.4 -0.6**
MAK *e*SSS SSS 08 45 37.1
MAK pmax pmax
comp=Z,2μm,4.1s
MAK pmax pmax
comp=Z,217nm,1.4s
MAK MLR MLR
comp=N,47μm,15.0s
MAK MLR MLR
comp=E,33μm,14.0s
MAK MLR MLR
comp=Z,34μm,15.0s
I07A Izee 67.73 51 P **P** **08 29 17.8 +0.7**
NUUG Nuugaatsiaq 67.74 6 *i* P **P** **08 29 16.8 +0.3**
NUUG IAmb IAmb 08 29 22.4
comp=Z,63nm,1.3s
COCO West Island 67.76 230 P **P** **08 29 20.2 +2.9**
COCO P **P** **08 29 20.2 +2.9**
COCO West Island 67.76 230 P **P** **08 29 18.5 +1.2**
COCO West Island 67.76 230 P **P** **08 29 19.1 +1.8**
COCO pmax pmax

comp=Z,335nm,1.5s
INKA Innaminka 67.84 182 P **P 08 29 18.7 +1.1**
ARBE Arbavere 67.93 331 *e*P **P 08 29 18.1 +0.3**
O02D Mt. Diablo Mer 67.96 56 P **P 08 29 20.0 +1.5**
O02D IAmb IAmb 08 29 31.9
comp=Z,75nm,0.9s
O02D IAMs_20 IAMs_20 08 52 56.5
comp=Z,6μm,22.0s
MEF Metsahovi 67.97 332 *e*P **P 08 29 17.8 -0.3**
AUWSH Wavell State H 68.06 171 P **P 08 29 21.0 +2.0**
AFI Afiamalu 68.22 132 IAMs_20 IAMs_20 08 54 21.1
comp=Z,8μm,20.0s
OOD Oodnadatta 68.22 187 P **P 08 29 21.1 +1.1**
VSU Vasula 68.31 330*c i*P **P 08 29 19.6 -0.7**
VSU pmax pmax
comp=Z,137nm,1.1s
VSU MLR MLR
comp=Z,10μm,15.0s
VSU Vasula 68.31 330 *e*P **P 08 29 20.2 0.0**
RAF Rauma 68.33 333 *e*P **P 08 29 20.9 +0.6**
NGCH Negor - Chabah 68.35 285 P **P 08 29 22.0 +0.9**
NGCH S **S 08 38 22.4 +0.4**
NSS Namsos 68.65 340 *e*P **P 08 29 22.2 -0.2**
NSS IVmB_BB 08 29 23.7
comp=Z,2μm,3.9s
NSS *e*S **S 08 38 23.5 -0.8**
NSS IVMs_BB IVMs_BB 09 02 57.7
comp=Z,6μm,19.5s
UMMG Uummannaq 68.66 5 *i*P **P 08 29 22.8 +0.5**
UMMG IAmb IAmb 08 29 36.4
comp=Z,89nm,1.1s
GDXM Geysers 68.74 57 P **P 08 29 24.8 +1.3**
GDXM IAmb IAmb 08 29 36.7
comp=Z,68nm,1.0s
GDXM IAMs_20 IAMs_20 08 57 54.2
comp=Z,8μm,19.0s
SCO Scoresbysund 68.91 355 P **P 08 29 23.9 +0.1**
SCO IAmb IAmb 08 30 05.2
comp=Z,111nm,1.5s
SCO IAMs_20 IAMs_20 09 01 34.4
comp=Z,8μm,20.0s
SCO Scoresbysund 68.91 355 P **P 08 29 23.9 +0.1**
SCO pmax pmax
comp=Z,111nm,1.5s
SCO MLR MLR
comp=Z,8μm,20.0s
SCO Scoresbysund 68.91 355 *i*P **P 08 29 24.8 +1.0**
SCO IAmb IAmb 08 29 40.6
comp=Z,63nm,1.4s
GOF Gofitskoye 68.97 312*c i*P **P 08 29 25.1 +0.4**
GOF *e*S **S 08 38 29.3 +0.5**
MTSE Matsula 69.24 331 *e*P **P 08 29 26.8 +0.8**
NCK Nalchik 69.58 310 *i*P **P 08 29 28.8 +0.3**
NCK pmax pmax
comp=Z,210nm,1.0s
KHAM Kharkiv 69.61 319 P **P 08 29 28.0 -0.6**
KVAR Kislovodsk Arr 69.83 311 P **P 08 29 31.6 +1.4**
comp=Z,268nm,1.2s,baz=0.0,slow=6.1,SNR=20
KVAR LR LR 09 05 31.3
comp=Z,19μm,18.5s,baz=288,slow=40
comp=Z,268nm,1.2s
KIV Kislovodsk 69.83 311 P **P 08 29 31.0 +0.9**
KIV P **P 08 29 31.0 +0.9**
KIV P **P 08 29 31.0 +0.9**
KIV S **S 08 38 38.4 -0.8**
KIV S **S 08 38 38.4 -0.8**
KIV S **S 08 38 38.4 -0.8**
KIV Kislovodsk 69.83 311 *e*P **P 08 29 30.3 +0.1**
KIV *e* 08 32 04.6
KIV *e*S **S 08 38 41.1 +1.9**
KIV *e*SS **SS 08 43 11.4 +4.3**
KIV pmax pmax
comp=Z,796nm,3.5s
KIV pmax pmax
comp=Z,548nm,1.1s
KIV MLR MLR
comp=Z,27μm,17.0s
KIV Kislovodsk 69.83 311 *i*P **P 08 29 31.1 +0.9**
SNR=100
KIV Kislovodsk 69.83 311 P **P 08 29 31.0 +0.9**
KIV S **S 08 38 39.6 +0.4**
KBZ Khabaz 69.85 311 P **P 08 29 31.0 +0.9**
comp=Z,126nm,0.9s,baz=61,slow=6.3,SNR=133
KBZ S **S 08 38 39.1 0.0**
comp=Z,0.6nm,0.4s,baz=39,slow=18,SNR=1.2
KBZ LR LR 09 05 48.2
comp=Z,35μm,18.1s,baz=30,slow=41
comp=Z,126nm,0.9s
KBZ Khabaz 69.85 311*c i*P **P 08 29 30.6 +0.5**
KBZ pmax pmax
comp=Z,183nm,0.9s
SHA1 Shidzhatmaz 69.98 311*c i*P **P 08 29 32.1 +0.9**
ERBR Yeremizino-Bor 70.02 313 *e*P **P 08 29 31.8 +0.7**
ERBR *e*S **S 08 38 43.1 +2.0**
ERBR pmax pmax
comp=Z,268nm,0.9s
ERBR MLR MLR
comp=N,31μm,15.0s
ERBR MLR MLR
comp=Z,20μm,15.0s
ERBR MLR MLR
comp=E,22μm,16.0s
FFC Flin Flon 70.07 34 P **P 08 29 31.0 -0.3**
FFC IAmb IAmb 08 29 43.5
comp=Z,72nm,1.1s
FFC Flin Flon 70.07 34 IAMs_20 IAMs_20 09 01 10.2
comp=Z,5μm,20.0s
FFC Flin Flon 70.07 34 P **P 08 29 31.0 -0.3**
FFC pmax pmax
comp=Z,72nm,1.1s
FFC MLR MLR
comp=Z,6μm,20.0s
TBLU Trondheim 70.13 339 *e*S **S 08 38 44.1 +2.2**
TBLU IVMs_BB IVMs_BB 09 03 03.5
comp=Z,4μm,20.3s
ILULI Ilulissat 70.18 5 IAMs_20 IAMs_20 09 03 26.1
comp=Z,10μm,20.0s
ILULI Ilulissat 70.18 5 *i*P **P 08 29 31.7 +0.1**
ILULI IAmb IAmb 08 29 32.9
comp=Z,79nm,1.2s
HMDM Hanimaadhoo 70.54 262 IAMs_20 IAMs_20 09 03 16.2
comp=Z,6μm,20.0s
HMDM Hanimaadhoo 70.54 262 P **P 08 29 35.1 +0.4**
SNR=30
LABN Labinsk 70.54 312 *e*P **P 08 29 35.0 +0.7**
LABN *e* 08 32 12.4
LABN *e*S **S 08 38 48.2 +1.0**
LABN pmax pmax
comp=Z,205nm,1.0s
LABN MLR MLR
comp=E,40μm,17.0s
LABN MLR MLR
comp=Z,25μm,17.0s
LABN MLR MLR
comp=N,33μm,16.0s
ISAL Salakas 70.54 328 *e*P **P 08 29 36.0 +1.8**
MNK Minsk 70.54 326 *i*P **P 08 29 34.6 +0.4**
MNK *i* 08 29 56.0
MNK *i* 08 32 09.8
MNK *i*PPP PPP 08 33 53.3
MNK *i*S **S 08 38 49.8 +2.9**
MNK *i*SS **SS 08 43 22.4 +5.1**
MNK pmax pmax
comp=N,89nm,1.0s
MNK pmax pmax
comp=Z,242nm,1.0s
MNK pmax pmax
comp=E,172nm,1.0s
MNK MLR MLR
comp=Z,24μm,18.0s
MNK MLR MLR
comp=E,14μm,16.0s
MNK MLR MLR
comp=N,16μm,19.0s
MEEK Meekatharra 70.55 203 P **P 08 29 34.9 +0.4**
comp=Z,56nm,1.6s
MEEK Meekatharra 70.55 203 P **P 08 29 35.4 +0.9**
SLIT Slitere, Latvi 70.58 331 *e*P **P 08 29 34.1 -0.2**
LCRK Leigh Creek 70.66 185 P **P 08 29 37.7 +2.7**
PLTM Poltava 70.71 319 P **P 08 29 34.8 -0.5**
CMB Columbia Colle 70.72 56 P **P 08 29 35.9 +0.2**
CMB IAmb IAmb 08 29 48.3
comp=Z,81nm,1.0s
CMB IAMs_20 IAMs_20 08 52 56.7
comp=Z,5μm,22.0s
CMB Columbia Colle 70.72 56 P **P 08 29 35.9 +0.2**
CMB pmax pmax
comp=Z,81nm,1.0s
EGMT Eagleton 70.77 43 P **P 08 29 36.1 +0.3**
EGMT IAMs_20 IAMs_20 09 01 12.1
comp=Z,5μm,20.0s
SAO San Andreas Ge 70.80 58 P **P 08 29 37.9 +1.8**
ICESG Greenland Ices 70.80 1 *i*P **P 08 29 36.7 +0.8**
ICESG IAmb IAmb 08 29 38.8
comp=Z,157nm,1.2s
ARMA Armidale 70.89 172 P **P 08 29 38.3 +1.8**
comp=Z,0.0nmcomp=Z,54nm,1.4s
ARMA Armidale 70.89 172 P **P 08 29 38.4 +1.8**
GNI Garni 70.90 307 P **P 08 29 38.0 +1.2**
comp=Z,116nm,1.2s,baz=158,slow=4.9,SNR=18
GNI LR LR 09 03 43.7
comp=Z,18μm,19.6s,baz=51,slow=38
comp=Z,116nm,1.2s
GNI Garni 70.90 307 P **P 08 29 38.0 +1.2**
DLMT Dillon 70.91 46 IAMs_20 IAMs_20 09 01 31.2
comp=Z,5μm,19.0s
HLID Hailey 71.00 49 IAMs_20 IAMs_20 09 02 26.7
comp=Z,6μm,20.0s
WAKR Walker 71.04 55 IAMs_20 IAMs_20 08 56 20.1
comp=Z,5μm,19.0s
VSVD Vaisvydziai 71.13 329 *e*P **P 08 29 38.3 +0.5**
BOZ Bozeman (W) 71.30 46 IAMs_20 IAMs_20 09 03 08.3
comp=Z,7μm,19.0s
MOL Molde 71.41 340 *e*P **P 08 29 39.9 +0.6**
MOL IVmB_BB 08 29 40.4
comp=Z,1μm,3.7s
MOL IVMs_BB IVMs_BB 09 04 13.2
comp=Z,4μm,21.4s
DOMB Dombas 71.44 339 *e*P **P 08 29 39.8 +0.2**
DOMB IVmB_BB 08 29 40.3
comp=Z,2μm,4.1s
DOMB *e*PP **PP 08 32 19.1 +1.7**
DOMB *e*S **S 08 38 58.2 +1.0**
DOMB IVMs_BB IVMs_BB 09 06 25.6
comp=Z,7μm,15.0s
WSAR Wadi Sarin 71.44 285 LR LR 09 04 48.4
comp=Z,62nm,19.6s,baz=46,slow=39
WSAR Wadi Sarin 71.44 285 P **P 08 29 40.4 +0.2**
SNR=9.6
WSAR S **S 08 38 59.7 +1.3**
NC303 NORSAR Array S 71.46 338 P **P 08 29 39.2 -0.4**
NC303 IAmb IAmb 08 30 01.4
comp=Z,98nm,0.9s
PABE Paberze 71.46 328 *e*P **P 08 29 40.0 +0.3**
JLN Jalan Bani Buh 71.52 284 P **P 08 29 40.8 +0.1**
SNR=18
JLN P **P 08 29 40.8 +0.1**
SNR=18
JLN P **pP 08 29 40.9 -3.6**
JLN P **pP 08 29 40.9 -3.6**
JLN S **S 08 38 59.7 +0.5**
JLN S **S 08 38 59.7 +0.5**
BANOM Banah 71.56 289 P **P 08 29 41.1 +0.2**
BANOM P **P 08 29 41.1 +0.2**
BANOM S **S 08 38 58.5 -1.2**
BANOM S **S 08 38 58.5 -1.2**
BANOM Banah 71.56 289 *i*P **P 08 29 41.0 +0.1**
SNR=25
WBK Wadi Bani Khal 71.57 284 P **P 08 29 41.6 +0.6**
SNR=29
WBK P **P 08 29 41.6 +0.6**
SNR=29
WBK S **S 08 39 01.7 +1.9**
WBK S **S 08 39 01.7 +1.9**
NC204 NORSAR Array S 71.59 338 P **P 08 29 40.2 -0.3**
SHME Shamm 71.60 289 P **P 08 29 40.4 -0.6**
SNR=24
SHME P **P 08 29 40.4 -0.6**
SNR=24
SHME S **S 08 38 58.3 -1.7**
SHME S **S 08 38 58.3 -1.7**
SHME Shamm 71.60 289 *i*P **P 08 29 40.8 -0.2**
SNR=22
CMSA Cobar Meteorol 71.62 178 P **P 08 29 41.0 +0.3**
comp=Z,0.0nmcomp=Z,40nm,1.1s
CMSA Cobar Meteorol 71.62 178 P **P 08 29 41.1 +0.3**
KARS Kars 71.62 308 P **P 08 29 42.9 +1.8**
KARS pmax pmax
comp=Z,170nm,1.1s
HFS Hagfors 71.63 336 P **P 08 29 40.7 0.0**
comp=Z,41nm,0.7s,baz=54,slow=7.5,SNR=55
HFS S **S 08 38 57.0 -2.4**
comp=Z,3.0nm,1.1s,baz=60,slow=27,SNR=1.3
HFS LR LR 09 04 36.3
comp=Z,18μm,19.9s,baz=28,slow=39
comp=Z,41nm,0.7s
BIDO Bidbid 71.65 285 P **P 08 29 41.9 +0.5**
SNR=27
BIDO P **P 08 29 41.9 +0.5**
SNR=27
BIDO S **S 08 39 00.9 +0.2**
BIDO S **S 08 39 00.9 +0.2**
NB2 NORSAR Subarra 71.65 338 P **P 08 29 40.9 0.0**
comp=Z,1μm,3.3s,baz=37,slow=6.2
NB2 NORSAR Subarra 71.65 338 P **P 08 29 40.9 0.0**
baz=37,slow=6.2
NOA NORSAR Array B 71.65 338 P **P 08 29 40.9 0.0**
comp=Z,57nm,1.0s,baz=36,slow=6.0,SNR=91
NOA S **S 08 38 57.4 -2.3**
comp=Z,0.4nm,0.8s,baz=110,slow=13,SNR=1.1
NOA LR LR 09 04 20.5
comp=Z,21μm,22.0s,baz=35,slow=38
comp=Z,57nm,1.0s
SOC Sochi 71.76 312 *e*P **P 08 29 40.6 -1.2**
SOC *e* 08 32 19.4
SOC *e*PPP PPP 08 34 03.5
SOC *e*S **S 08 39 02.4 +1.0**
SOC *e*SS **SS 08 43 41.1 +4.6**
SOC pmax pmax
comp=Z,161nm,1.1s
LHV Little Huntoon 71.78 55 P **P 08 29 42.7 +0.8**
LHV IAmb IAmb 08 29 55.6
comp=Z,158nm,1.1s
LHV IAMs_20 IAMs_20 08 59 44.6
comp=Z,5μm,20.0s
NBO00 NORSAR Array S 71.78 338 P **P 08 29 41.4 -0.3**
NBO00 IAmb IAmb 08 30 09.1
comp=Z,144nm,1.1s
NVAR Mina Array Bea 71.80 55 P **P 08 29 43.3 +0.9**
comp=Z,38nm,1.1s,baz=290,slow=5.7,SNR=77
NVAR LR LR 09 04 53.4
comp=Z,2μm,18.0s,baz=294,slow=39
comp=Z,38nm,1.1s
NC602 NORSAR Array S 71.80 337 *e*P **P 08 29 41.3 -0.4**
NORES NORESS Array B 71.80 337 P **P 08 29 41.6 -0.1**
NORES pmax pmax
comp=Z,7.0nm,1.1s
AKN Aaknes 71.88 340 *e*P **P 08 29 42.8 +0.7**
AKN IVmB_BB 08 29 43.6
comp=Z,2μm,4.3s
AKN *e*S **S 08 39 02.2 -0.1**
AKN IVMs_BB IVMs_BB 09 10 53.5
comp=Z,6μm,13.4s
PBUR Paburge 71.88 330 *e*P **P 08 29 42.8 +0.5**
NV11 Mina Array Sit 71.89 55 P **P 08 29 43.5 +0.7**
NV11 IAmb IAmb 08 29 55.8
comp=Z,96nm,1.2s
NAO01 NORSAR Array S 71.90 338 P **P 08 29 42.1 -0.3**
NAO01 IAmb IAmb 08 29 54.8
comp=Z,67nm,1.0s
MDH Madha 71.93 288 P **P 08 29 42.0 -1.1**
SNR=10
MDH P **P 08 29 42.0 -1.1**
SNR=10
MDH Madha 71.93 288 *i*P **P 08 29 42.2 -0.8**
SNR=16
STKA Stephens Creek 71.94 182 P **P 08 29 42.2 -0.6**
comp=Z,73nm,0.8s
STKA Stephens Creek 71.94 182 P **P 08 29 42.4 -0.3**
comp=Z,4.8nm,0.6s,baz=343,slow=8.6,SNR=12
STKA S **S 08 39 00.1 -3.2**
comp=Z,3.4nm,1.2s,baz=176,slow=17,SNR=1.7
STKA LR LR 09 00 00.9
comp=Z,4μm,21.8s,baz=14,slow=35
comp=Z,4.8nm,0.6s
STKA Stephens Creek 71.94 182 P **P 08 29 44.1 +1.4**
SMDO Samad 71.98 285 P **P 08 29 43.8 +0.2**
SNR=30
SMDO P **P 08 29 43.8 +0.2**
SNR=30
SMDO S **S 08 39 04.7 -0.1**
SMDO S **S 08 39 04.7 -0.1**
BCA Borcka 71.98 309 *e*P **P 08 29 44.2 +1.0**
MASF Masafi 71.98 288 P **P 08 29 43.3 -0.1**
SNR=22
MASF P **P 08 29 43.3 -0.1**
SNR=22
MASF S **S 08 39 02.0 -2.7**
MASF S **S 08 39 02.0 -2.7**
MASF S SKiKP 08 39 03.8 -17
MASF S SKiKP 08 39 03.8 -17
MSFE Esma-Masafi 71.99 288 *i*P **P 08 29 43.5 0.0**
SNR=25
YHL Hebgen Lake 72.01 46 IAMs_20 IAMs_20 09 03 34.3
comp=Z,5μm,18.0s
YHB Horse Butte 72.07 46 IAMs_20 IAMs_20 09 03 18.8
comp=Z,5μm,19.0s
UOSS Minazif 72.21 288 P **P 08 29 44.3 -0.4**
UOSS P **P 08 29 44.3 -0.4**
UOSS S **S 08 39 06.0 -1.2**
UOSS S **S 08 39 06.0 -1.2**
UOSS Minazif 72.21 288 *i*P **P 08 29 44.0 -0.8**
SNR=38
UOSS Minazif 72.21 288 P **P 08 29 44.3 -0.4**
UOSS S **S 08 39 04.9 -2.2**
HOQ Hoqain 72.21 286 P **P 08 29 44.7 -0.1**
SNR=45
HOQ P **P 08 29 44.7 -0.1**
SNR=45
HOQ S **S 08 39 06.0 -1.2**
HOQ S **S 08 39 06.0 -1.2**
FORT Forrest 72.23 194 P **P 08 29 43.9 -0.6**
comp=Z,0.0nmcomp=Z,87nm,0.8s
FORT Forrest 72.23 194 P **P 08 29 46.1 +1.6**
YHH Holmes Hill 72.24 46 P **P 08 29 44.9 -0.1**
YMR Madison River 72.25 46 P **P 08 29 45.5 +0.5**
YMR IAmb IAmb 08 30 15.9
comp=Z,80nm,1.1s
YMR IAMs_20 IAMs_20 09 03 42.5
comp=Z,6μm,18.0s
ELK Elko 72.25 51 LR LR 09 01 08.6
comp=Z,2μm,19.5s,baz=330,slow=36
ELK Elko 72.25 51 P **P 08 29 44.5 -0.6**
UMQ Umm Al-Quwin 72.25 289 P **P 08 29 45.8 +0.9**
SNR=7.7
UMQ P **P 08 29 45.8 +0.9**
SNR=7.7
UMQ S **S 08 39 08.0 +0.4**
UMQ S **S 08 39 08.0 +0.4**
UMQ Umm Al-Quwin 72.25 289 *i*P **P 08 29 45.9 +0.9**
SNR=8.6
ANN Anapa 72.27 314*c i*P **P 08 29 44.8 0.0**
ANN *e* 08 32 20.8
ANN *e*PPP PPP 08 34 08.1
ANN *e*S **S 08 39 04.4 -2.8**
ANN *e*SS **SS 08 43 45.9 +1.7**
ANN pmax pmax
comp=Z,92nm,1.1s
ANN MLR MLR
comp=E,16μm,15.0s
ANN MLR MLR
comp=N,18μm,16.0s
ANN MLR MLR
comp=Z,23μm,16.0s
AGRB Hanur-Agry 72.31 307 *e*P **P 08 29 45.9 +0.5**
HATD Hatta, Dubai 72.33 288 P **P 08 29 45.4 -0.1**
SNR=52
HATD P **P 08 29 45.4 -0.1**
SNR=52
HATD S **S 08 39 07.2 -1.4**
HATD S **S 08 39 07.2 -1.4**
HATD Hatta, Dubai 72.33 288 *i*P **P 08 29 45.3 -0.1**
SNR=54
JMDO Jabal Madar 72.35 285 P **P 08 29 45.6 -0.1**
SNR=26
JMDO P **P 08 29 45.6 -0.1**
SNR=26
JMDO S **S 08 39 07.8 -1.1**
JMDO S **S 08 39 07.8 -1.1**
YNM Yellowstone No 72.36 46 IAMs_20 IAMs_20 09 04 01.4
comp=Z,7μm,18.0s
YNR Norris Junctio 72.38 46 IAMs_20 IAMs_20 09 03 53.9
comp=Z,6μm,19.0s
SFJD Kangerlussuaq 72.40 6 LR LR 09 04 38.1
comp=Z,13μm,19.6s,baz=350,slow=38
SFJD Kangerlussuaq 72.40 6 *i*P **P 08 29 45.2 +0.1**
SFJD IAmb IAmb 08 29 51.2
comp=Z,62nm,1.1s
SFJD Kangerlussuaq 72.40 6 P **P 08 29 45.5 +0.4**
SFJD S **S 08 39 06.5 -1.5**
SOHO SOHO 72.45 287 P **P 08 29 45.6 -0.6**
SOHO P **P 08 29 45.6 -0.6**
SOHO S **S 08 39 08.8 -1.1**
SOHO S **S 08 39 08.8 -1.1**
SOHO SOHO 72.45 287 *i*P **P 08 29 45.3 -0.9**
SNR=38
ASHO Ashiyiah 72.47 288 P **P 08 29 46.2 -0.2**
SNR=53
ASHO P **P 08 29 46.2 -0.2**
SNR=53
ASHO S **S 08 39 09.8 -0.5**
ASHO S **S 08 39 09.8 -0.5**
ASHO Ashiyiah 72.47 288 *i*P **P 08 29 46.1 -0.3**
SNR=33
AKASG Malin Array Be 72.54 323 P **P 08 29 46.3 -0.1**
comp=Z,47nm,0.7s,baz=43,slow=6.2,SNR=232
AKASG S **S 08 39 08.0 -2.1**
comp=Z,0.4nm,0.4s,baz=94,slow=16,SNR=1.9
AKASG LR LR 09 05 22.8
comp=Z,20μm,19.0s,baz=43,slow=39
comp=Z,47nm,0.7s
AKASG Malin Array Be 72.54 323 *i*P **P 08 29 46.2 -0.1**
AKASG pmax pmax
comp=Z,49nm,0.7s
AKBB Malin Array Si 72.54 323*c i*P **P 08 29 46.1 -0.2**
AKBB pmax pmax
comp=Z,130nm,0.9s
AKBB MLR MLR
comp=Z,36μm,16.0s
KIEV Kiev 72.56 323 ⇑P **P 08 29 46.4 0.0**
KIEV Kiev 72.56 323 P **P 08 29 46.4 0.0**
KIEV Kiev 72.56 323 *i*P **P 08 29 46.2 -0.2**
SNR=80
NAZ Nazwa, Dubai 72.58 288 P **P 08 29 46.9 -0.1**
SNR=28
NAZ P **P 08 29 46.9 -0.1**
SNR=28
NAZ S **S 08 39 10.8 -0.5**
NAZ S **S 08 39 10.8 -0.5**
NAZ Nazwa, Dubai 72.58 288 *i*P **P 08 29 46.8 -0.1**
SNR=22
YMP Mirror Lake Pl 72.65 46 IAMs_20 IAMs_20 09 04 10.1
comp=Z,5μm,20.0s
DSP Deep Springs 72.65 56 IAMs_20 IAMs_20 08 54 46.7
comp=Z,5μm,21.0s
OSL Oslo 72.69 337 *e*P **P 08 29 47.8 +0.8**
OSL IVmB_BB 08 29 49.0
comp=Z,1μm,1.8s
OSL *e*S **S 08 39 13.0 +1.6**
OSL IVMs_BB IVMs_BB 09 05 25.4
comp=Z,8μm,17.0s
CHOM Cayeli-Rize 72.71 309 *e*P **P 08 29 48.7 +1.2**
KOPR Koprukoy-ERZUR 72.75 308 *e*P **P 08 29 49.7 +1.7**
FAQ Al Faqa, Dubai 72.77 288 P **P 08 29 47.7 -0.4**
SNR=18
FAQ P **P 08 29 47.7 -0.4**
SNR=18
FAQ S **S 08 39 12.4 -1.1**
FAQ S **S 08 39 12.4 -1.1**
FAQ Al Faqa, Dubai 72.77 288 *i*P **P 08 29 48.0 -0.1**
SNR=19
SKAR Skarslia 72.77 339 *e*P **P 08 29 48.2 +0.7**
SKAR IVmBBB 08 29 48.9
comp=Z,2μm,5.6s
SKAR *e*S **S 08 39 14.2 +1.6**
SKAR IVMs_BB IVMs_BB 09 09 11.9
comp=Z,7μm,13.6s
BSY Bisya 72.80 285 P **P 08 29 48.3 0.0**
SNR=30
BSY P **P 08 29 48.3 0.0**
SNR=30
BSY S **S 08 39 14.4 +0.4**
BSY S **S 08 39 14.4 +0.4**
SUW Suwalki 72.85 328 *e*P **P 08 29 48.2 +0.2**
SUW Suwalki 72.85 328 P **P 08 29 48.3 +0.2**
SUW pmax pmax

comp=Z,139nm,1.3s
SUW Suwalki 72.85 328 *e*P **P 08 29 48.3 +0.2**
FOO Floro 72.87 341 *e*P **P 08 29 48.8 +0.8**
FOO IVmB_BB 08 29 49.6
comp=Z,2μm,3.9s
FOO *e*S **S 08 39 15.5 +2.0**
FOO IVMs_BB IVMs_BB 09 05 08.8
comp=Z,6μm,19.4s
RLMT Red Lodge 72.89 45 IAMs_20 IAMs_20 09 03 34.3
comp=Z,6μm,19.0s
ARQ Araqi 72.94 286 P **P 08 29 49.2 +0.1**
SNR=37
ARQ P **P 08 29 49.2 +0.1**
SNR=37
ARQ S **S 08 39 15.7 +0.1**
ARQ S **S 08 39 15.7 +0.1**
HYA Hoyanger 72.94 340 *e*P **P 08 29 48.0 -0.4**
HYA IVmB_BB 08 29 50.5
comp=Z,1μm,1.7s
HYA *e*S **S 08 39 16.6 +2.3**
HYA IVMs_BB IVMs_BB 09 09 51.0
comp=Z,6μm,14.4s
TPAW Teton Pass 73.01 47 P **P 08 29 50.0 +0.4**
TPAW IAmb IAmb 08 30 04.7
comp=Z,112nm,1.3s
ASUD Al Ashush, Dub 73.03 288 P **P 08 29 49.6 -0.1**
SNR=24
ASUD P **P 08 29 49.6 -0.1**
SNR=24
ASUD S **S 08 39 15.3 -1.2**
ASUD S **S 08 39 15.3 -1.2**
ASUD Al Ashush, Dub 73.03 288 *i* P **P 08 29 49.8 +0.2**
SNR=25
LHI Lord Howe Isla 73.03 166 IAMs_20 IAMs_20 08 56 38.4
comp=Z,5μm,22.0s
LHI Lord Howe Isla 73.03 166 P **P 08 29 51.9 +2.7**
comp=Z,73nm,1.2s
GEVA Gevas 73.05 306 P **P 08 29 50.4 +0.6**
GEVA IAmb IAmb 08 29 53.3
comp=Z,115nm,1.2s
ALNE Al Ain 73.07 287 P **P 08 29 49.8 -0.1**
SNR=46
ALNE P **P 08 29 49.8 -0.1**
SNR=46
ALNE S **S 08 39 15.5 -1.5**
ALNE S **S 08 39 15.5 -1.5**
ALNE Al Ain 73.07 287 *i* P **P 08 29 49.9 -0.1**
SNR=14
BBOO Buckleboo 73.16 186 P **P 08 29 49.6 -0.4**
comp=Z,48nm,1.1s
BBOO Buckleboo 73.16 186 P **P 08 29 49.8 -0.2**
BCW Bitter Crk WRg 73.21 58 IAMs_20 IAMs_20 08 55 42.7
comp=Z,5μm,21.0s
KONO Kongsberg 73.25 337 P **P 08 29 50.4 0.0**
KONO Kongsberg 73.25 337 P **P 08 29 50.5 +0.2**
KONO Kongsberg 73.25 337 *e*P **P 08 29 51.0 +0.6**
KONO IAML 08 29 51.4
comp=Z,3.9nm,0.5s
KONO *e* 08 32 23.3
KONO *e*S **SKiKP 08 39 19.5 -1.8**
KONO IVMs_BB IVMs_BB 09 05 52.1
comp=Z,9μm,17.5s
WHYH Whyalla 73.27 185 P **P 08 29 51.9 +1.3**
STRU Stroemstad 73.28 336 *i* P **P 08 29 50.9 +0.4**
DGMT Dagmar 73.28 40 IAMs_20 IAMs_20 09 04 46.5
comp=Z,4μm,19.0s
MHTO MHTO 73.28 283 P **P 08 29 51.2 0.0**
SNR=104
MHTO P **P 08 29 51.2 0.0**
SNR=104
MHTO S **S 08 39 19.6 +0.1**
MHTO S **S 08 39 19.6 +0.1**
AJN Ajban 73.32 288 P **P 08 29 50.7 -0.6**
SNR=16
AJN P **P 08 29 50.7 -0.6**
SNR=16
AJN S **S 08 39 17.4 -2.4**
AJN S **S 08 39 17.4 -2.4**
AJN Ajban 73.32 288 *i* P **P 08 29 50.8 -0.6**
SNR=20
KTUT Trabzon 73.36 310 *e*P **P 08 29 49.9 -1.4**
SUE Sulen 73.40 340 *e*P **P 08 29 52.0 +0.8**
SUE IVmBBB 09 06 08.9
comp=Z,7μm,19.5s
NIUE Niue 73.43 134 IAMs_20 IAMs_20 08 57 59.1
comp=Z,8μm,22.0s
NIUE Niue 73.43 134 P **P 08 29 54.0 +2.1**
comp=Z,200nm,1.6s
NIUE Niue 73.43 134 P **P 08 29 54.7 +2.8**
LAO LASA Array 73.46 42 IAMs_20 IAMs_20 09 07 37.3
comp=Z,6μm,19.0s
BAYT Aydıntepe-Bayb 73.52 309 *e*P **P 08 29 54.2 +1.7**
HTT Hallett 73.58 184 P **P 08 29 54.2 +1.7**
comp=Z,6.3nm,1.1s
HTT Hallett 73.58 184 P **P 08 29 54.4 +1.9**
MORW Morawa 73.62 205 P **P 08 29 52.3 -0.4**
comp=Z,56nm,1.1s
MORW Morawa 73.62 205 P **P 08 29 53.9 +1.1**
RNPP2 Kostyukhnivka 73.62 325 P **P 08 29 52.3 -0.4**
RNPP8 Varash 73.63 325 P **P 08 29 52.3 -0.4**
ASK Askoy 73.78 340 *e*P **P 08 29 54.2 +0.8**
ASK IVmB_BB 08 29 59.1
comp=Z,2μm,3.1s
ASK *e*S **S 08 39 24.2 +0.4**
ASK IVMs_BB IVMs_BB 09 09 34.4
comp=Z,5μm,13.9s
BER Bergen 73.83 340 P **P 08 29 54.5 +0.8**
BER pmax pmax
comp=Z,98nm,1.0s
BER Bergen 73.83 340 *e*P **P 08 29 54.7 +1.0**
BER IVmBBB 08 29 59.3
comp=Z,1μm,2.3s
BER *e*PP **PP 08 32 38.6 +1.0**
BER *e*S **S 08 39 27.3 +2.9**
BER IVMs_BB IVMs_BB 09 09 29.1
comp=Z,5μm,14.6s
WCT Wildcat Mounta 73.85 55 IAMs_20 IAMs_20 08 57 16.5
comp=Z,4μm,20.0s
S11A Rachel 73.87 54 IAMs_20 IAMs_20 09 01 52.9
comp=Z,4μm,19.0s
ODD1 Odda 73.88 339 *e*P **P 08 29 54.8 +0.7**
ODD1 IVmB_BB 08 29 55.4
comp=Z,2μm,5.4s
ODD1 *e*S **S 08 39 25.7 +0.6**
ODD1 IVMs_BB IVMs_BB 09 05 58.4
comp=Z,5μm,18.4s
YEDI Yedisu-Bingol 73.88 308 *e*P **P 08 29 57.1 +2.5**
BORU Boraas 73.91 335 *i* P **P 08 29 54.0 -0.3**
BLEU Blekinge 73.92 333 *i* P **P 08 29 54.0 -0.4**
TJOU Tjoern 73.95 336 *i* P **P 08 29 54.5 0.0**
SIM Simferopol' 73.97 316 *e*P **P 08 29 55.3 +0.5**
SIM *e* 08 32 48.0
SIM *e*PPP PPP 08 34 27.0
SIM *e*S **S 08 39 26.0 -0.5**
SIM pmax pmax
comp=Z,115nm,1.0s
SIM pmax pmax
comp=Z,1μm,10.0s
CCAC Calif City Air 73.98 57 P **P 08 29 55.5 +0.3**
CCAC IAmb IAmb 08 30 07.7
comp=Z,122nm,0.9s
CCAC IAMs_20 IAMs_20 08 55 32.1
comp=Z,5μm,21.0s
TPNV Topopah Spring 73.99 55 IAMs_20 IAMs_20 08 56 15.2
comp=Z,5μm,21.0s
ESPY Espiye-Giresun 74.02 310 *e*P **P 08 29 54.5 -0.7**
DUG Dugway, Tooele 74.04 51 P **P 08 29 57.1 +1.6**
DUG pmax pmax
comp=Z,110nm,1.0s
BNGB Bingl 74.08 308 *e*P **P 08 29 57.3 +1.5**
SYDH Sydney Hard Ro 74.12 174 P **P 08 29 58.0 +2.5**
KMBL Kambalda 74.12 199 P **P 08 29 56.9 +1.2**
comp=Z,32nm,1.1s
KMBL Kambalda 74.12 199 P **P 08 29 57.1 +1.4**
SNCC San Nicolas Is 74.17 60 IAMs_20 IAMs_20 08 55 52.3
comp=Z,6μm,20.0s
RIV Riverview 74.22 173 P **P 08 29 58.4 +2.3**
comp=Z,107nm,1.4s
RIV Riverview 74.22 173 P **P 08 29 57.7 +1.6**
DQM DQM 74.25 283 P **P 08 29 56.6 -0.3**
SNR=30
DQM P **P 08 29 56.6 -0.3**
SNR=30
DQM S **S 08 39 28.3 -2.1**
DQM S **S 08 39 28.3 -2.1**

PDAR Pinedale Array 74.25 47 P **P 08 29 57.1 +0.2**
comp=Z,7.8nm,0.8s,baz=317,slow=0.7,SNR=46
comp=Z,7.8nm,0.8s
ERZN Erzincan 74.28 309 *e*P **P 08 29 58.2 +1.3**
SVAN Silvan-Diyarba 74.30 307 *e*P **P 08 29 58.4 +1.5**
ANGG Ammassalik, Gr 74.31 0 *i* P **P 08 29 56.2 -0.3**
ANGG IAmb IAmb 08 29 57.2
comp=Z,36nm,1.1s
UMZA Um Al Zommool 74.31 287 P **P 08 29 56.4 -0.7**
UMZA P **P 08 29 56.4 -0.7**
UMZA S **S 08 39 27.7 -3.3**
UMZA S **S 08 39 27.7 -3.3**
BLS5 Blasjo 74.34 339 *e*P **P 08 29 57.5 +0.7**
BLS5 IVmB_BB 08 29 59.1
comp=Z,1μm,3.5s
BLS5 *e*PP **PP 08 32 43.1 +1.0**
BLS5 *e*S **S 08 39 31.3 +1.1**
BLS5 IVMs_BB IVMs_BB 09 04 06.6
comp=Z,5μm,25.0s
ISOG Isortoq, Green 74.37 1 *i* P **P 08 29 56.6 -0.2**
ISOG IAmb IAmb 08 29 58.9
comp=Z,82nm,1.2s
ONAU Onsala 74.37 335 *i* P **P 08 29 56.6 -0.3**
FABU Falkenberg 74.43 334 *i* P **P 08 29 56.9 -0.3**
PRN Pahroc Range 74.45 54 IAMs_20 IAMs_20 09 02 14.2
comp=Z,4μm,19.0s
DEL Delary 74.47 334 *i* P **P 08 29 56.9 -0.6**
PSUT Pine Spring 74.47 53 P **P 08 29 58.5 +0.3**
PASC Pasadena Art C 74.48 58 IAMs_20 IAMs_20 08 56 31.3
comp=Z,6μm,20.0s
MZWR Madinat Zayed 74.61 288 P **P 08 29 58.1 -0.8**
MZWR P **P 08 29 58.1 -0.8**
MZWR S **S 08 39 31.6 -2.7**
MZWR S **S 08 39 31.6 -2.7**
JRN Qarnain Island 74.63 290 P **P 08 29 58.0 -1.0**
JRN P **P 08 29 58.0 -1.0**
JRN S **S 08 39 29.6 -5.0**
JRN S **S 08 39 29.6 -5.0**
HOMB Homborsund 74.71 337 *e*P **P 08 29 59.1 +0.3**
HOMB IVmB_BB 08 29 59.8
comp=Z,2μm,5.5s
HOMB *e*PP **PP 08 32 46.6 +1.3**
HOMB *e*S **S 08 39 36.2 +1.8**
HOMB IVMs_BB IVMs_BB 09 05 27.2
comp=Z,8μm,21.6s
HOMB Homborsund 74.71 337 *i* P **P 08 29 59.3 +0.4**
SORM Soroca 74.73 321 ⇓P **P 08 29 59.4 +0.2**
SORM Soroca 74.73 321 *i* P **P 08 29 59.3 +0.2**
KAAM Kaadhehdhoo 74.78 257 IAMs_20 IAMs_20 09 03 18.8
comp=Z,6μm,21.0s
KAAM Kaadhehdhoo 74.78 257 P **P 08 30 00.4 +0.4**
SNR=7.0
KMY Karmoy 74.85 339 *e*P **P 08 30 00.3 +0.7**
KMY IVmB_BB 08 30 01.0
comp=Z,2μm,5.2s
KMY *e*PP **PP 08 32 47.4 +1.1**
KMY *e*S **S 08 39 38.4 +2.6**
KMY IVMs_BB IVMs_BB 09 11 08.3
comp=Z,5μm,14.3s
BLDU Ballidu 74.85 204 P **P 08 29 59.4 -0.5**
comp=Z,49nm,1.1s
BLDU Ballidu 74.85 204 P **P 08 29 59.8 -0.1**
PTK Pertek 74.92 308 *e*P **P 08 30 02.4 +1.7**
R9F13 Warsaw-Wawer 75.00 327 *e*P **P 08 30 01.4 +0.7**
SNART Snartemo 75.03 338 *e*P **P 08 30 00.6 -0.2**
SNART IVmB_BB 08 30 02.1
comp=Z,3μm,5.2s
SNART *e*S **S 08 39 39.4 +1.4**
SNART IVMs_BB IVMs_BB 09 06 55.4
comp=Z,11μm,15.5s
SNART Snartemo 75.03 338 *i* P **P 08 30 01.2 +0.4**
BJUU Bjuv 75.07 334 *i* P **P 08 30 00.8 -0.2**
NUUK Nuuk 75.08 7 *i* P **P 08 30 01.5 +0.7**
NUUK IAmb IAmb 08 30 15.9
comp=Z,110nm,1.1s
RSDY Resadiye-TOKAT 75.16 311 *e*P **P 08 30 02.7 +0.8**
BSD Bornholm Skovb 75.17 332 *e*P **P 08 30 02.2 +0.6**
BSD Bornholm Skovb 75.17 332 *i* P **P 08 30 00.6 -1.1**
BSD IAmb IAmb 08 30 02.8
comp=Z,133nm,1.1s
GHWR Ruwais 75.21 289 P **P 08 30 01.6 -0.7**
GHWR P **P 08 30 01.6 -0.7**
GHWR S **S 08 39 37.3 -3.7**
GHWR S **S 08 39 37.3 -3.7**
TCRU Three Creeks R 75.27 52 IAMs_20 IAMs_20 09 08 36.8
comp=Z,4μm,18.0s
KIS Kishinev 75.29 320 *e*P **P 08 30 02.0 -0.5**
comp=Z,950nm,7.1s
KIS Kishinev 75.29 320 *e*PP PP 08 32 52.0 +1.5
KIS Kishinev 75.29 320 *e*P **P 08 30 02.0 -0.5**
KIS *e* 08 30 20.0
KIS *e* 08 32 52.0
KIS *e*PPP PPP 08 34 35.0
KIS *i* S **S 08 39 38.5 -2.7**
KIS *i* PS PnS 08 40 00.0 -17
KIS pmax pmax
comp=Z,950nm,7.1s
KIS pmax pmax
comp=Z,7μm,15.0s
ELS Elsinore Mount 75.30 58 P **P 08 30 03.0 +0.1**
ELS IAMs_20 IAMs_20 08 57 05.0
comp=Z,5μm,20.0s
MILM Milestii Mici 75.35 320 ⇑*i* P **P 08 30 02.0 -0.8**
comp=Z,2μm,5.5s
MILM Milestii Mici 75.35 320 ⇑*i* PP PP 08 32 52.0 +1.0
MILM Milestii Mici 75.35 320 ⇑P **P 08 30 03.3 +0.5**
MILM Milestii Mici 75.35 320 *c i* P **P 08 30 02.0 -0.8**
MILM *i* 08 32 52.0
MILM *e*PPP PPP 08 34 38.0
MILM *e*S **S 08 39 39.0 -2.9**
MILM pmax pmax
comp=Z,2μm,5.5s
MILM smax smax
comp=Z,16μm,15.0s
MZR Muzera 75.36 288 P **P 08 30 02.6 -0.7**
SNR=55
MZR P **P 08 30 02.6 -0.7**
SNR=55
MZR S **S 08 39 39.5 -3.2**
MZR S **S 08 39 39.5 -3.2**
MZR Muzera 75.36 288 *i* P **P 08 30 02.6 -0.7**
SNR=50
SHMA Al-Shehemyia 75.42 292 P **P 08 30 02.8 -0.8**
SNR=21
SHMA S **S 08 39 38.9 -4.4**
BEL Belsk 75.43 327 *e*P **P 08 30 04.1 +0.9**
KLBR Kellerberrin 75.45 202 P **P 08 30 04.7 +1.3**
GOET G??ttrup 75.52 336 *i* P **P 08 30 04.2 +0.6**
GOET IAmb IAmb 08 30 17.7
comp=Z,143nm,0.8s
DIKM Dikmen 75.52 313 ⇑P **P 08 30 05.0 +1.1**
CAN Canberra 75.54 175 P **P 08 30 05.7 +1.9**
CAN Canberra 75.54 175 P **P 08 30 06.2 +2.4**
CAN pmax pmax
comp=Z,39nm,1.5s
CNB Canberra Magne 75.55 175 P **P 08 30 05.9 +1.9**
COP Copenhagen 75.58 334 P **P 08 30 04.8 +0.9**
COP pmax pmax
comp=Z,1μm,1.1s
COP Copenhagen 75.58 334 *i* P **P 08 30 04.5 +0.6**
COP IAmb IAmb 08 30 05.0
comp=Z,272nm,1.1s
V12A Nelson 75.64 55 P **P 08 30 05.1 +0.3**
SAKB Bahrain 75.65 292 P **P 08 30 04.0 -0.9**
SAKB S **S 08 39 41.6 -4.3**
KBD Kabd 75.67 296 P **P 08 30 04.7 -0.2**
KBD S **S 08 39 42.0 -3.9**
TOKT Tokat 75.67 311 *e*P **P 08 30 06.0 +1.2**
SVSK Karacayir 75.67 310 *e*P **P 08 30 05.1 +0.4**
GKP Gorka Klasztor 75.76 330 *e*P **P 08 30 05.5 +0.5**
P18A Preston Nutter 75.91 50 IAMs_20 IAMs_20 09 06 15.7
comp=Z,5μm,20.0s
MDND Maddock 75.93 38 P **P 08 30 06.4 +0.3**
MDND IAMs_20 IAMs_20 09 09 50.3
comp=Z,6μm,18.0s
TRNA Turayna 75.93 290 P **P 08 30 05.4 -1.1**
SNR=9.7
TRNA S **S 08 39 43.8 -5.2**
LLD Lille Linde 75.94 334 *i* P **P 08 30 06.3 +0.4**
LLD IAmb IAmb 08 30 08.9
comp=Z,73nm,0.8s
PFO Pinyon Flats O 75.95 58 IAMs_20 IAMs_20 08 57 09.3
comp=Z,6μm,20.0s
PFO Pinyon Flats O 75.95 58 LR LR 08 56 38.9
comp=Z,6μm,21.6s,baz=315,slow=30
PFO Pinyon Flats O 75.95 58 P **P 08 30 07.9 +1.2**
SLWR Sila 76.00 290 P **P 08 30 06.3 -0.6**
SLWR P **P 08 30 06.3 -0.6**
SLWR S **S 08 39 45.7 -4.1**
SLWR S **S 08 39 45.7 -4.1**
MUD Monsted U'grnd 76.01 336 *i* P **P 08 30 06.7 +0.4**
MUD IAmb IAmb 08 30 08.1
comp=Z,81nm,1.2s
BZK Bozkurt 76.02 314 ⇑P **P 08 30 07.5 +0.8**
SRU San Rafael Swe 76.09 50 P **P 08 30 07.8 +0.4**
SRU IAmb IAmb 08 30 20.0
comp=Z,86nm,0.9s
SRU San Rafael Swe 76.09 50 P **P 08 30 07.8 +0.4**
SRU pmax pmax
comp=Z,86nm,0.9s
SRU MLR MLR
comp=Z,3μm,19.0s
PKCU Pink Cliffs 76.10 53 IAMs_20 IAMs_20 09 07 44.9
comp=Z,4μm,19.0s
RGN Rugen 76.19 333 *e*P 08 30 08.4
comp=Z,198nm,1.0s,baz=34,slow=5.4
RGN *e*PP 08 32 51.7
baz=37,slow=9.0
URFA Urfa 76.19 307 *e*P **P 08 30 09.7 +1.8**
SMRA Abu-Samra 76.21 291 P **P 08 30 07.0 -1.1**
SNR=29
SMRA S **S 08 39 47.5 -4.5**
DARE Darende-Malaty 76.26 309 *e*P **P 08 30 10.4 +2.1**
E28A Huff 76.31 40 IAMs_20 IAMs_20 09 05 10.5
comp=Z,7μm,22.0s
VLDR Vladesti 76.46 319 ⇑P **P 08 30 09.8 +0.7**
TKX Tecate 76.51 59 IAMs_20 IAMs_20 08 57 57.1
comp=Z,4μm,20.0s
BUR08 Bucovina Ar. S 76.57 322 P **P 08 30 10.0 +0.1**
BUR08 IAmb IAmb 08 30 30.0
comp=Z,138nm,1.2s
BURAR Bucovina Array 76.58 322 ⇑P **P 08 30 10.4 +0.4**
BURAR Bucovina Array 76.58 322 P **P 08 30 10.4 +0.4**
SCTR Scanteiesti 76.63 319 ⇓P **P 08 30 11.7 +1.6**
CIDE Kastamonu/Cide 76.65 314 ⇑P **P 08 30 10.7 +0.4**
SSRD Sdr. Stenderup 76.67 335 *i* P **P 08 30 10.7 +0.5**
SSRD IAmb IAmb 08 30 11.7
comp=Z,185nm,1.0s
U15A North Rim 76.77 53 IAMs_20 IAMs_20 08 57 12.7
comp=Z,5μm,22.0s
NEGRR Negrea 76.78 319 ⇑P **P 08 30 11.7 +0.7**
ARPS Mount Arapiles 76.81 181 P **P 08 30 13.4 +2.4**
IZVR Izvoarele 76.83 319 ⇑P **P 08 30 12.2 +1.0**
SCHLR Schela 76.85 319 ⇑P **P 08 30 12.0 +0.6**
NWAO Narrogin (SRO) 76.85 202 LR LR 09 04 22.8
comp=Z,2μm,21.2s,baz=21,slow=36
NWAO Narrogin (SRO) 76.85 202 P **P 08 30 12.9 +1.6**
NWAO P **P 08 30 12.9 +1.6**
NWAO S **S 08 39 57.2 -1.2**
NWAO S **S 08 39 57.2 -1.2**
NWAO Narrogin (SRO) 76.85 202 P **P 08 30 12.7 +1.4**
NWAO Narrogin (SRO) 76.85 202 P **P 08 30 12.4 +1.1**
NWAO Narrogin (SRO) 76.85 202 P **P 08 30 12.9 +1.6**
NWAO pmax pmax
comp=Z,29nm,1.9s
CFR Carcaliu 76.91 319 ⇑P **P 08 30 12.0 +0.3**
CFR Carcaliu 76.91 319 P **P 08 30 11.9 +0.3**
PANC Panciu 76.91 320 ⇑P **P 08 30 13.1 +1.4**
YUH Yuha Desert 76.91 58 IAMs_20 IAMs_20 08 57 50.6
comp=Z,6μm,20.0s
CCX Cicese 76.92 59 IAMs_20 IAMs_20 08 58 02.9
comp=Z,4μm,20.0s
ONER Baraj Valea Uz 76.94 321 ⇓P **P 08 30 12.9 +1.0**
KOLS Kolonicke sedl 76.96 325 *e*P **P 08 30 12.9 +0.9**
KOLS pmax pmax
comp=Z,47nm,1.0s
KOLS Kolonicke sedl 76.96 325 *e*P **P 08 30 12.9 +0.9**
KOLS *e*PP **PP 08 33 06.6 +2.1**
TPGR Topolog 76.99 319 ⇓P **P 08 30 13.2 +1.0**
SARI SarD1z-Kayseri 77.00 310 *e*P **P 08 30 13.2 +0.6**
BNN Bunyan 77.04 310 *e*P **P 08 30 12.4 -0.4**
STHS Stebnicka Huta 77.05 325 *e*P **P 08 30 13.0 +0.5**
STHS pmax pmax
comp=Z,38nm,0.9s
STHS Stebnicka Huta 77.05 325 *e*P **P 08 30 13.0 +0.5**
OJC Ojcow 77.06 327 *e*P **P 08 30 13.6 +1.1**
OJC Ojcow 77.06 327 P **P 08 30 12.9 +0.4**
OJC Ojcow 77.06 327 P **P 08 30 12.9 +0.4**
VRI Vrincioaia 77.12 320 ⇑P **P 08 30 13.7 +0.8**
VRI Vrincioaia 77.12 320 P **P 08 30 13.7 +0.8**
PLOR Plostina 77.17 320 ⇑P **P 08 30 14.1 +0.8**
PLOR Plostina 77.17 320 P **P 08 30 14.0 +0.8**
SPBR Spulber 77.19 320 ⇑P **P 08 30 14.8 +1.4**
EPLO Experimental L 77.23 34 IAMs_20 IAMs_20 09 10 59.6
comp=Z,5μm,18.0s
TIRR Tirgusor 77.27 318 ⇑P **P 08 30 14.3 +0.6**
TIRR Tirgusor 77.27 318 P **P 08 30 14.3 +0.6**
ESJX Sierra Juarez 77.30 59 IAMs_20 IAMs_20 08 57 49.0
comp=Z,5μm,20.0s
KMRS Kahramanmaras 77.31 309 *e*P **P 08 30 14.2 0.0**
AGMN Agassiz Nation 77.32 36 IAMs_20 IAMs_20 09 11 11.2
comp=Z,7μm,18.0s
BMR Baia Mare 77.34 323 P **P 08 30 14.3 +0.2**
BMR pmax pmax
comp=Z,103nm,1.2s
GAZ Gaziantep 77.34 308 *e*P **P 08 30 16.1 +1.7**
GLA Glamis 77.36 57 IAMs_20 IAMs_20 08 58 14.5
comp=Z,6μm,20.0s
ARCR ARCALIA 77.37 322 ⇑P **P 08 30 15.7 +1.4**
COVR Voineasa-Covas 77.39 320 ⇓P **P 08 30 16.0 +1.6**
OZUR 77.41 321 ⇑P **P 08 30 16.0 +1.4**
NIE Niedzica 77.46 326 *e*P **P 08 30 16.3 +1.5**
NIE Niedzica 77.46 326 P **P 08 30 16.1 +1.3**
NIE pmax pmax
comp=Z,44nm,1.2s
DMTO DMTO 77.53 283 P **P 08 30 15.1 -0.5**
DMTO P **P 08 30 15.1 -0.5**
DMTO S **S 08 40 04.0 -2.6**
DMTO S **S 08 40 04.0 -2.6**
DMTO S SKSac 08 40 04.3 -25
DMTO S SKSac 08 40 04.3 -25
BRAT Ballarat 77.58 180 P **P 08 30 17.1 +1.9**
DOK Doka 77.58 284 P **P 08 30 15.2 -0.7**
SNR=19
DOK P **P 08 30 15.2 -0.7**
SNR=19
DOK S **S 08 40 03.6 -3.6**
DOK S **S 08 40 03.6 -3.6**
NEHR Nehoiu 77.64 320 ⇑P **P 08 30 16.8 +0.9**
RUE Ruedersdorf 77.67 331 *e*P **P 08 30 17.1 +1.3**
RUE Ruedersdorf 77.68 331 *e*P 08 30 16.7
comp=Z,160nm,1.2s,baz=34,slow=5.4
RUE *e*PP 08 33 02.9
baz=37,slow=9.0
RUE *e*S 08 40 02.1
baz=34,slow=10
DOPR Dopca 77.69 321 ⇓P **P 08 30 17.6 +1.4**
BSEG Bad Segeberg 77.72 334 *e*P 08 30 17.0
comp=Z,183nm,1.2s,baz=34,slow=5.4
BSEG *e*PP 08 33 06.9
baz=37,slow=9.0
BSEG *e*S 08 40 05.8
baz=34,slow=10
BR131 Keskin Array S 77.73 312 P **P 08 30 16.7 +0.1**
SNR=38
BR131 P **P 08 30 16.7 +0.1**
SNR=38
BR131 S **S 08 40 08.2 -0.3**
BR131 S **S 08 40 08.2 -0.3**
BR131 Keskin Array S 77.73 312 *c i* P **P 08 30 17.0 +0.4**
BRTR Keskin Array B 77.73 312 P **P 08 30 17.1 +0.4**
comp=Z,51nm,1.1s,baz=72,slow=4.0,SNR=71
BRTR PP **PP 08 33 11.3 -0.1**
comp=Z,12nm,1.0s,baz=49,slow=8.4,SNR=3.7
BRTR S **S 08 40 08.7 +0.2**
comp=Z,0.2nm,0.3s,baz=223,slow=39,SNR=1.0
BRTR LR LR 09 11 25.7
comp=Z,9μm,18.1s,baz=27,slow=41
comp=Z,51nm,1.1s
ISR Istrita 77.74 320 ⇓P **P 08 30 17.6 +1.1**
ISR Istrita 77.74 320 P **P 08 30 17.6 +1.1**
BIGH Upper Bighouse 77.75 343 *e*P **P 08 30 16.5 +0.4**
MLR Muntele Rosu 77.77 320 P **P 08 30 17.2 +0.5**
comp=Z,29nm,0.9s,baz=14,slow=4.5,SNR=19
MLR LR LR 09 06 43.5
comp=Z,18μm,21.4s,baz=33,slow=37
comp=Z,29nm,0.9s
MLR Muntele Rosu 77.77 320 ⇑P **P 08 30 17.1 +0.4**

VTX	**Valle De La Tr**	77.80	59	IAMs_20	IAMs_20	08 58 22.3
	comp=Z,4μm,20.0s					
ICOR	**Ion Corvin**	77.83 318	⇓P		**P**	**08 30 18.1 +1.3**
KOZT	**Kozan**	77.96 309	*e*P		**P**	**08 30 18.9 +1.1**
KIRS	**Kirsehir-Merke**	77.97 311	⇑P		**P**	**08 30 18.7 +0.8**
PSN	**Preselentsi**	77.99 318	*e*P		**P**	**08 30 19.1 +1.3**
CJR	**Cluj-Napoca**	78.00 322	⇑P		**P**	**08 30 19.1 +1.2**
CJR	**Cluj-Napoca**	78.00 322	P		**P**	**08 30 19.1 +1.2**
KSP	**Ksiaz**	78.01 329	*e*P		**P**	**08 30 18.8 +1.0**
KSP	**Ksiaz**	78.01 329	P		**P**	**08 30 18.7 +1.0**
KSP			pmax	pmax		
	comp=Z,117nm,1.1s					
LANS	**Liptovska Anna**	78.02 326	*e*P		**P**	**08 30 19.5 +1.6**
LANS			pmax	pmax		
	comp=Z,31nm,1.1s					
LANS	**Liptovska Anna**	78.02 326	*e*P		**P**	**08 30 19.5 +1.6**
LANS			*e*PP		**PP**	**08 33 15.6 +2.2**
OKC	**Ostrava-Krasne**	78.04 327	*e*P		**P**	**08 30 19.1 +1.1**
OKC			*e*S		**S**	**08 40 10.7 -0.6**
OKC			AMS	AMS		09 08 50.0
	comp=Z,15μm,15.2s					
OKC	**Ostrava-Krasne**	78.04 327	*e*P		**P**	**08 30 19.1 +1.1**
OKC			*e*S		**S**	**08 40 10.7 -0.6**
OKC			MLR	MLR		
	comp=Z,15μm,15.2s					
KECS	**Kecovo**	78.08 325	*e*P		**P**	**08 30 19.2 +1.0**
KECS			pmax	pmax		
	comp=Z,33nm,1.0s					
KECS	**Kecovo**	78.08 325	*e*P		**P**	**08 30 19.2 +1.0**
ANTO	**Ankara**	78.11 313	P		**P**	**08 30 19.4 +0.8**
ANTO			P		**P**	**08 30 19.4 +0.8**
ANTO			S		**S**	**08 40 11.8 -0.7**
ANTO			S		**S**	**08 40 11.8 -0.7**
ANTO	**Ankara**	78.11 313	⇑P		**P**	**08 30 19.4 +0.8**
ANTO	**Ankara**	78.11 313	P		**P**	**08 30 19.4 +0.8**
ANTO	**Ankara**	78.11 313	P		**P**	**08 30 19.3 +0.8**
ANTO			S		**S**	**08 40 12.4 -0.1**
STEB	**Steborice**	78.12 328	*e*P		**P**	**08 30 19.7 +1.3**
GORT1	**Trebel**	78.15 333	*e*P			08 30 19.5
	comp=Z,161nm,1.3s,baz=34,slow=5.4					
GORT1			*e*PP			08 33 06.9
	baz=37,slow=9.0					
RBK	**Rabkut**	78.22 283	P		**P**	**08 30 18.5 -1.1**
	SNR=10.0					
RBK			P		**P**	**08 30 18.5 -1.1**
	SNR=10.0					
113A	**Mohawk Valley,**	78.22	57	IAMs_20	IAMs_20	08 58 51.3
	comp=Z,5μm,19.0s					
VOIR		78.24 321	⇑P		**P**	**08 30 20.0 +0.7**
VOIR		78.24 321	P		**P**	**08 30 19.9 +0.7**
MARR	**Marisel-Cluj**	78.25 323	⇑P		**P**	**08 30 20.0 +0.7**
OSTC	**Ostas**	78.27 329	*e*P		**P**	**08 30 20.5 +1.3**
OSTC			*e*S		**S**	**08 40 13.3 -0.4**
OSTC			AMS	AMS		09 10 00.0
	comp=Z,26μm,14.7s					
OSTC	**Ostas**	78.27 329	*e*P		**P**	**08 30 20.5 +1.3**
OSTC			*e*S		**S**	**08 40 13.3 -0.4**
OSTC			MLR	MLR		
	comp=Z,26μm,14.7s					
WHFO	**Wadi Hawf**	78.28 284	P		**P**	**08 30 18.7 -1.2**
	SNR=16					
WHFO			P		**P**	**08 30 18.7 -1.2**
	SNR=16					
WHFO			S		**S**	**08 40 10.1 -4.8**
WHFO			S		**S**	**08 40 10.1 -4.8**
CHVC	**Chvalec**	78.31 329	*e*P		**P**	**08 30 20.4 +0.9**
CHVC			AMS	AMS		09 10 00.0
	comp=Z,24μm,14.7s					
CHVC	**Chvalec**	78.31 329	*e*P		**P**	**08 30 20.4 +0.9**
CHVC			MLR	MLR		
	comp=Z,24μm,14.7s					
HLG	**Helgoland**	78.31 335	*e*PP			08 33 10.0
	baz=37,slow=9.0					
HLG			*e*S			08 40 12.1
	baz=34,slow=10					
MORC	**Moravsky Berou**	78.34 328	*e*P		**P**	**08 30 20.4 +0.7**
MORC			*e*S		**S**	**08 40 13.4 -1.2**
MORC	**Moravsky Berou**	78.34 328	⇑P		**P**	**08 30 20.6 +0.9**
MORC	**Moravsky Berou**	78.34 328	P		**P**	**08 30 20.6 +0.9**
LINV	**Loch Inver, As**	78.34 344	*e*P		**P**	**08 30 19.6 +0.1**
LINV			IAMs_20	IAMs_20		09 09 54.4
	comp=Z,7μm,16.9s					
DRGR		78.35 323	⇓P		**P**	**08 30 20.6 +0.8**
DRGR		78.35 323	P		**P**	**08 30 20.6 +0.8**
DPC	**Dobruska-Polom**	78.39 329	*e*P		**P**	**08 30 21.2 +1.3**
DPC			*e*S		**S**	**08 40 15.6 +0.6**
DPC			AMS	AMS		09 10 00.0
	comp=Z,24μm,14.9s					
DPC	**Dobruska-Polom**	78.39 329	*e*P		**P**	**08 30 21.2 +1.3**
DPC			*e*S		**S**	**08 40 15.6 +0.6**
DPC			MLR	MLR		
	comp=Z,24μm,14.9s					
UPC	**Upice**	78.39 329	*e*S		**S**	**08 40 14.5 -0.4**
UPC			AMS	AMS		09 10 00.0
	comp=Z,27μm,14.8s					
KRLC	**Kralicky**	78.42 328	AMS	AMS		09 09 40.0
	comp=Z,18μm,16.4s					
MCD	**Coleburn Disti**	78.42 342	*e*P		**P**	**08 30 19.9 -0.1**
MCD			IAmb	IAmb		08 30 20.8
	comp=Z,167nm,1.7s					
MCD			IAMs_20	IAMs_20		09 06 50.5
	comp=Z,11μm,19.4s					
ISCO	**Idaho Springs**	78.45	47	IAMs_20	IAMs_20	09 07 27.6
	comp=Z,4μm,18.0s					
ISCO	**Idaho Springs**	78.45	47	P	**P**	**08 30 23.5 +2.7**
TNR	**Turnu Rosu**	78.46 321	⇑P		**P**	**08 30 21.9 +1.4**
TNR	**Turnu Rosu**	78.46 321	P		**P**	**08 30 21.8 +1.4**
ARR	**Arges**	78.49 321	⇓P		**P**	**08 30 22.3 +1.6**
MAUC	**Maruska**	78.54 327	*e*P		**P**	**08 30 22.1 +1.3**
MVCO	**Mesa Verde**	78.54	51	IAMs_20	IAMs_20	09 08 24.6
	comp=Z,4μm,20.0s					
MDUB	**Mudurnu**	78.58 314	P		**P**	**08 30 21.2 -0.1**
SFX	**San Felipe**	78.64	59	IAMs_20	IAMs_20	09 10 11.5
	comp=Z,5μm,19.0s					
SUSD	**Miller**	78.69	40	P	**P**	**08 30 21.9 +0.2**
SUSD			IAmb	IAmb		08 30 51.1
	comp=Z,132nm,1.0s					
SUSD			IAMs_20	IAMs_20		09 06 24.5
	comp=Z,7μm,21.0s					
PRD	**Provadia**	78.70 318	*e*P		**P**	**08 30 21.9 +0.2**
FLTG	**Flechtingen**	78.72 332	*e*P			08 30 21.8
	comp=Z,80nm,0.9s,baz=34,slow=5.4					
FLTG			*e*PP			08 33 16.1
	baz=37,slow=9.0					
FLTG			*e*S			08 40 15.8
	baz=34,slow=10					
PSZ	**Piszkesteto**	78.77 325	P		**P**	**08 30 22.5 +0.4**
PSZ			IAmb	IAmb		08 30 26.4
	comp=Z,155nm,1.1s					
PSZ	**Piszkesteto**	78.77 325	⇑P		**P**	**08 30 23.1 +1.0**
PSZ	**Piszkesteto**	78.77 325	P		**P**	**08 30 22.5 +0.4**
PSZ			pmax	pmax		
	comp=Z,155nm,1.1s					
PSZ			MLR	MLR		
	comp=Z,29μm,19.0s					
PSZ	**Piszkesteto**	78.77 325	*e*P		**P**	**08 30 23.3 +1.2**
VYHS	**Vyhne**	78.79 326	*e*P		**P**	**08 30 22.7 +0.6**
VYHS			pmax	pmax		
	comp=Z,82nm,1.2s					
VYHS	**Vyhne**	78.79 326	*e*P		**P**	**08 30 22.7 +0.6**
RAZG	**Razgrad**	78.87 319	⇑P		**P**	**08 30 23.2 +0.5**
BRG	**Berggiesshubel**	78.90 330	*i* P		**P**	**08 30 23.3 +0.6**
BRG			Amp			08 30 24.7
	comp=Z,57nm,1.1s					
BRG	**Berggiesshubel**	78.90 330	S		**S**	**08 40 21.0 +0.6**
BRG	**Berggiesshubel**	78.90 330	SS		SS	08 45 33.0 +8.8
BRG	**Berggiesshubel**	78.90 330	P		**P**	**08 30 23.3 +0.6**
BRG			pmax	pmax		
	comp=Z,57nm,1.0s					
BRG	**Berggiesshubel**	78.90 330	*e*P			08 30 23.2
	comp=Z,58nm,1.2s,baz=34,slow=5.4					
BRG			*e*PP			08 33 17.1
	baz=37,slow=9.0					
BRG			*e*S			08 40 17.8
	baz=34,slow=10					
CLL	**Collm**	78.91 331	⇑*i*P		**P**	**08 30 22.8 +0.1**
CLL			*e*S		**S**	**08 40 19.0 -1.4**
CLL			pmax	pmax		
	comp=Z,94nm,1.0s					
CLL			MLR	MLR		
	comp=Z,20μm,18.0s					
CLL	**Collm**	78.91 331	⇑*i*P		**P**	**08 30 22.8 +0.1**
	comp=Z,94nm,1.0s					
CLL			*e*Plp			08 30 27.0
	comp=Z,2μm,20.9s					
CLL			*e*Pmax			08 30 30.0
CLL			*i* PcP		**PcP**	**08 30 33.9 +2.6**
CLL			*e*PP		**PP**	**08 33 19.0 -1.6**
CLL			*e*sPP			08 33 30.0
CLL			*e*PPP	PPP		08 35 06.0
CLL			*e*S		**S**	**08 40 19.0 -1.4**
CLL			*e*SKSac		**SKSac**	**08 40 38.0 +0.3**
CLL			*e*PS		**PnS**	**08 40 59.0 -3.5**
CLL			*e*PPS	PPS		08 41 16.0
CLL			*e*SS		**SS**	**08 45 24.0 -0.2**
CLL			*e*x	x		08 46 18.0
CLL			*e*x	x		08 49 54.0
CLL			AMS	AMS		09 07 00.0
	comp=N,15μm,18.5s					
CLL			AMS	AMS		09 07 00.0
	comp=E,19μm,18.2s					
CLL			AMS	AMS		09 10 00.0
	comp=Z,20μm,18.0s					
CLL			AMS	AMS		09 11 00.0
CLL	**Collm**	78.91 331	*e*P			08 30 23.0
	comp=Z,74nm,1.0s,baz=34,slow=5.4					
CLL			*e*PP			08 33 14.1
	baz=37,slow=9.0					
CLL			*e*S			08 40 17.5
	baz=34,slow=10					
PVCC	**Panska Ves**	78.93 330	AMS	AMS		09 11 30.0
	comp=Z,14μm,15.4s					
DEV	**Deva**	78.94 322	P		**P**	**08 30 24.0 +1.0**
DEV			pmax	pmax		
	comp=Z,51nm,1.0s					
F33A	**5 Mile Ranch,**	78.95	38	IAMs_20	IAMs_20	09 06 46.2
	comp=Z,6μm,20.0s					
NRDL	**Niedersach Rie**	78.98 333	*e*P			08 30 23.7
	comp=Z,62nm,1.2s,baz=34,slow=5.4					
NRDL			*e*PP			08 33 16.1
	baz=37,slow=9.0					
NRDL			*e*S			08 40 16.7
	baz=34,slow=10					
ABTO	**Aybut**	78.99 283	P		**P**	**08 30 22.9 -0.9**
	SNR=28					
ABTO			P		**P**	**08 30 22.9 -0.9**
	SNR=28					
ABTO			S		**S**	**08 40 18.8 -3.6**
ABTO			S		**S**	**08 40 18.8 -3.6**
JAVC	**Velka Javorina**	79.00 327	*e*P		**P**	**08 30 25.1 +1.8**
JAVC			*e*S		**S**	**08 40 22.2 +0.5**
RETH	**Rethem/Aller,**	79.03 334	*e*P			08 30 24.1
	comp=Z,403nm,1.2s,baz=34,slow=5.4					
RETH			*e*PP			08 33 12.0
	baz=37,slow=9.0					
ASSE	**Asse, Remlinge**	79.08 333	*e*P			08 30 24.2
	comp=Z,82nm,1.3s,baz=34,slow=5.4					
ASSE			*e*PP			08 33 14.1
	baz=37,slow=9.0					
ASSE			*e*S			08 40 20.3
	baz=34,slow=10					
VRAC	**Vranov**	79.09 328	P		**P**	**08 30 24.5 +0.7**
	comp=Z,76nm,1.0s,baz=43,slow=5.5,SNR=69					
VRAC			S		**S**	**08 40 14.9 -7.7**
	comp=Z,2.1nm,0.5s,baz=307,slow=21,SNR=1.5					
VRAC			LR	LR		09 08 13.7
	comp=Z,19μm,20.0s,baz=29,slow=38					
	comp=Z,76nm,1.0s					
VRAC	**Vranov**	79.09 328	*e*P		**P**	**08 30 24.7 +0.9**
VRAC			*e*S		**S**	**08 40 22.9 +0.3**
VRAC	**Vranov**	79.09 328	⇑P		**P**	**08 30 25.0 +1.3**
RICC	**Richard**	79.10 330	*e*P		**P**	**08 30 25.4 +1.6**
RICC			AMS	AMS		09 12 00.0
	comp=Z,15μm,14.2s					
COPA	**Copaceanca**	79.11 320	⇑P		**P**	**08 30 24.2 +0.2**
S22A	**4UR Ranch, Cre**	79.16	49	IAMs_20	IAMs_20	09 06 03.0
	comp=Z,4μm,20.0s					
KPL	**Plockton**	79.18 343	*e*P		**P**	**08 30 24.4 +0.3**
KPL			IAMs_20	IAMs_20		09 08 51.7
	comp=Z,6μm,19.2s					
PIX	**Pinacate**	79.20	58	P	**P**	**08 30 25.3 +0.6**
PIX			IAmb	IAmb		08 30 37.1
	comp=Z,77nm,1.0s					
SIRR	**Siria**	79.23 323	⇑P		**P**	**08 30 25.3 +0.7**
Q24A	**Divide**	79.28	48	IAMs_20	IAMs_20	09 04 41.7
	comp=Z,5μm,20.0s					
HSKC	**Hora Svate Kat**	79.31 330	*e*S		**S**	**08 40 24.7 -0.1**
HSKC			AMS	AMS		09 10 10.0
	comp=Z,24μm,17.5s					
ISK	**Istanbul-Kandi**	79.33 315	P		**P**	**08 30 24.5 -0.7**
ISK	**Istanbul-Kandi**	79.33 315	P		**P**	**08 30 25.5 +0.3**
GOPC	**GO Pecny, Ondr**	79.34 329	*e*P		**P**	**08 30 26.4 +1.3**
GOPC	**GO Pecny, Ondr**	79.34 329	*e*P		**P**	**08 30 26.4 +1.3**
PRA	**Prague**	79.35 329	*e*P		**P**	**08 30 26.1 +0.9**
PRA			*e*S		**S**	**08 40 25.4 +0.2**
PRA			AMS	AMS		09 10 40.0
	comp=Z,25μm,15.2s					
PRA	**Prague**	79.35 329	*e*P		**P**	**08 30 26.1 +0.9**
PRA			*e*			08 30 26.7
PRA			*e*S		**S**	**08 40 25.4 +0.2**
PRA			MLR	MLR		
	comp=Z,25μm,15.2s					
GZR	**Gura Zlata**	79.36 322	⇑P		**P**	**08 30 25.9 +0.5**
GZR	**Gura Zlata**	79.36 322	P		**P**	**08 30 25.9 +0.5**
SZH	**Strazhitsa**	79.36 319	*e*P		**P**	**08 30 26.2 +0.8**
KRUC	**Moravsky**	79.37 328	*e*P		**P**	**08 30 26.1 +0.8**
KRUC			*e*S		**S**	**08 40 25.9 +0.5**
KRUC	**Moravsky**	79.37 328	P		**P**	**08 30 26.3 +1.0**
KRUC			pmax	pmax		
	comp=Z,105nm,1.1s					
SMOL	**Smolenice**	79.37 327	*e*P		**P**	**08 30 27.2 +1.9**
SMOL			pmax	pmax		
	comp=Z,36nm,1.0s					
PRU	**Pruhonice**	79.38 329	*e*P		**P**	**08 30 26.3 +1.0**
PRU			*e*pP		**PcP**	**08 30 33.4 0.0**
PRU			*e*S		**S**	**08 40 26.0 +0.5**
PRU			AMS	AMS		09 11 10.0
	comp=Z,24μm,15.2s					
PRU	**Pruhonice**	79.38 329	*e*P		**P**	**08 30 26.3 +1.0**
PRU			*e*			08 30 33.4
PRU			*e*S		**S**	**08 40 26.0 +0.5**
PRU			MLR	MLR		
	comp=Z,24μm,15.2s					
SURR	**Surduc**	79.40 322	⇓P		**P**	**08 30 26.2 +0.7**
BORA	**Eskisehir**	79.40 314	P		**P**	**08 30 25.3 -0.5**
BORA			IAmb	IAmb		08 30 28.6
	comp=Z,97nm,1.3s					
CLZ	**Clausthal**	79.42 332	*e*P			08 30 26.5
	comp=Z,129nm,1.1s,baz=34,slow=5.4					
CLZ			*e*PP			08 33 17.1
	baz=37,slow=9.0					
CLZ			*e*S			08 40 23.9
	baz=34,slow=10					
NEUB	**Neuenburg**	79.44 331	*e*P			08 30 26.1
	comp=Z,111nm,1.0s,baz=34,slow=5.4					
NEUB			*e*PP			08 33 17.1
	baz=37,slow=9.0					
NEUB			*e*S			08 40 21.7
	baz=34,slow=10					
BUD	**Budapest**	79.48 325	P		**P**	**08 30 27.1 +1.2**
BUD			pmax	pmax		
	comp=Z,86nm,1.1s					
EYMN	**Ely**	79.50	34	IAMs_20	IAMs_20	09 12 33.7
	comp=Z,5μm,19.0s					
SRO	**Srobarova**	79.53 326	*e*P		**P**	**08 30 27.9 +1.7**
SRO			pmax	pmax		
	comp=Z,143nm,1.2s					
SRO	**Srobarova**	79.53 326	*e*P		**P**	**08 30 27.9 +1.7**
MODS	**Modra-Piesok**	79.54 327	*e*P		**P**	**08 30 27.4 +1.1**
MODS			pmax	pmax		
	comp=Z,205nm,1.2s					
MODS	**Modra-Piesok**	79.54 327	*e*P		**P**	**08 30 27.4 +1.1**
TREC	**Trest**	79.55 328	*e*P		**P**	**08 30 27.5 +1.2**
TREC			*e*S		**S**	**08 40 28.4 +1.0**
TREC			AMS	AMS		09 09 50.0
	comp=Z,19μm,16.4s					
TREC	**Trest**	79.55 328	*e*P		**P**	**08 30 27.5 +1.2**
TREC			*e*S		**S**	**08 40 28.4 +1.0**
TREC			MLR	MLR		
	comp=Z,19μm,16.4s					
OGNE	**Ogallala**	79.61	44	IAMs_20	IAMs_20	09 06 58.2
	comp=Z,6μm,20.0s					
K30B	**Basset**	79.64	42	IAMs_20	IAMs_20	09 12 41.8
	comp=Z,7μm,18.0s					
INVG	**Invergeldie, C**	79.66 342	*e*P		**P**	**08 30 26.9 +0.2**
INVG			IAMs_20	IAMs_20		09 07 35.5
	comp=Z,4μm,21.8s					
BEIL	**Beino**	79.71 307	*e*P		**P**	**08 30 27.9 +0.4**
BZS	**Buzias**	79.73 323	⇑P		**P**	**08 30 27.5 +0.1**
BZS	**Buzias**	79.73 323	P		**P**	**08 30 27.4 +0.1**
FKH	**Fakeheh**	79.77 306	*e*P		**P**	**08 30 28.5 +0.6**
GTTG	**Gottingen**	79.81 333	*e*P			08 30 28.4
	comp=Z,118nm,1.3s,baz=34,slow=5.4					
GTTG			*e*PP			08 33 21.2
	baz=37,slow=9.0					
TBO	**Thunder Bay**	79.83	32	IAMs_20	IAMs_20	09 11 28.2
	comp=Z,5μm,20.0s					
TANN	**Tannenbergstha**	79.83 331	*e*P			08 30 28.3
	comp=Z,95nm,1.7s,baz=34,slow=5.4					
TANN			*e*PP			08 33 19.2
	baz=37,slow=9.0					
TANN			*e*S			08 40 27.5
	baz=34,slow=10					
PVL	**Pavlikeni**	79.87 319	*e*P		**P**	**08 30 27.3 -0.8**
PLN	**Plauen**	79.89 331	*e*P			08 30 28.8
	comp=Z,34nm,1.5s,baz=34,slow=5.4					
PLN			*e*PP			08 33 22.2
	baz=37,slow=9.0					
PLN			*e*S			08 40 28.4
	baz=34,slow=10					
HERR	**Herculane**	79.91 322	⇑P		**P**	**08 30 28.6 +0.3**
SDCO	**Great Sand Dun**	79.92	49	IAMs_20	IAMs_20	09 08 43.8
	comp=Z,6μm,20.0s					
IBBN	**Ibbenburen**	79.93 334	*e*P			08 30 28.8
	comp=Z,115nm,1.0s,baz=34,slow=5.4					
IBBN			*e*PP			08 33 20.2
	baz=37,slow=9.0					
IBBN			*e*S			08 40 28.3
	baz=34,slow=10					
ZVC	**Zvikov**	79.95 329	*e*P		**P**	**08 30 29.5 +1.1**
ZVC			AMS	AMS		09 10 50.0
	comp=Z,21μm,14.0s					
MOX	**Moxa**	79.96 331	*e*P			08 30 29.1
	comp=Z,74nm,1.2s,baz=34,slow=5.4					
MOX			*e*PP			08 33 23.2
	baz=37,slow=9.0					
MOX			*e*S			08 40 28.6
	baz=34,slow=10					
MOX			*e*L			09 11 21.1
	comp=Z,13μm,18.7s					
NKC	**Novy Kostel**	79.98 330	*e*S		**S**	**08 40 30.1 -1.9**
NKC			AMS	AMS		09 11 20.0
	comp=Z,19μm,15.5s					
EDRB	**Edirne**	79.99 317	P		**P**	**08 30 27.1 -1.7**
HWQ	**Hawqa**	80.03 307	*e*P		**P**	**08 30 28.4 -0.9**
LAWE	**Loch Awe, Argy**	80.12 343	*e*P		**P**	**08 30 29.8 +0.6**
LAWE			IAmb	IAmb		08 30 30.9
	comp=Z,80nm,1.2s					
LAWE			IAMs_20	IAMs_20		09 10 01.9
	comp=Z,8μm,21.0s					
VALD	**Valchedram**	80.31 320	*e*P		**P**	**08 30 30.8 +0.4**
MANZ	**Manzenberg**	80.31 330	*e*P			08 30 31.1
	comp=Z,13nm,1.1s,baz=34,slow=5.4					
MANZ			*e*PP			08 33 20.2
	baz=37,slow=9.0					
MANZ			*e*S			08 40 31.1
	baz=34,slow=10					
MDVR	**Moldovita**	80.32 322	⇑P		**P**	**08 30 30.7 +0.1**
PGBU	**Glenifferbraes**	80.32 342	*e*P		**P**	**08 30 31.0 +0.7**
PGBU			IAmb	IAmb		08 30 32.2
	comp=Z,269nm,1.1s					
PGBU			IAMs_20	IAMs_20		09 07 45.0
	comp=Z,18μm,19.7s					
BAND	**Balkesir-Ban**	80.34 315	⇓P		**P**	**08 30 31.4 +0.6**
SOP	**Sopron**	80.38 327	P		**P**	**08 30 32.3 +1.5**
SOP			pmax	pmax		
	comp=Z,182nm,1.1s					
CKRC	**Cesky Krumlov**	80.40 329	*e*P		**P**	**08 30 31.8 +0.9**
CKRC			*e*S		**S**	**08 40 35.9 -0.5**
CKRC			AMS	AMS		09 11 40.0
	comp=Z,15μm,17.3s					
CKRC	**Cesky Krumlov**	80.40 329	*e*P		**P**	**08 30 31.8 +0.9**
CKRC			*e*S		**S**	**08 40 35.9 -0.5**
CKRC			MLR	MLR		
	comp=Z,15μm,17.3s					
UBBA	**Unterbreizbach**	80.40 332	*e*P			08 30 31.1
	comp=Z,102nm,1.7s,baz=34,slow=5.4					
UBBA			*e*PP			08 33 24.3
	baz=37,slow=9.0					
UBBA			*e*S			08 40 33.1
	baz=34,slow=10					
MPEP	**Malo Peshtene**	80.41 320	*e*P		**P**	**08 30 32.4 +1.4**
TUC	**Tucson**	80.42	56	IAMs_20	IAMs_20	09 03 22.4
	comp=Z,4μm,19.0s					
TUC	**Tucson**	80.42	56	P	**P**	**08 30 32.9 +1.5**
TUC			pmax	pmax		
	comp=Z,20nm,1.2s					
KHC	**Kasperske Hory**	80.44 329	*e*P		**P**	**08 30 32.1 +1.0**
KHC			*e*x	x		08 30 39.3
KHC			*e*S		**S**	**08 40 36.0 -0.8**
KHC			AMS	AMS		09 11 20.0
	comp=Z,23μm,13.9s					
KHC	**Kasperske Hory**	80.44 329	*e*P		**P**	**08 30 32.1 +1.0**
KHC			*e*			08 30 39.3
KHC			*e*S		**S**	**08 40 36.0 -0.8**
KHC			MLR	MLR		
	comp=Z,23μm,13.9s					
EKA	**Eskdalemuir Ar**	80.44 341	P		**P**	**08 30 31.4 +0.4**
	comp=Z,45nm,1.1s,baz=28,slow=4.9,SNR=26					
EKA			PP		**PP**	**08 33 32.5 -0.7**
	comp=Z,6.8nm,1.1s,baz=32,slow=7.0,SNR=2.4					
	comp=Z,45nm,1.1s					
ROTZ	**Rotzenmuhle**	80.45 330	*e*P			08 30 31.9
	comp=Z,27nm,1.3s,baz=34,slow=5.4					
ROTZ			*e*PP			08 33 26.3
	baz=37,slow=9.0					
ROTZ			*e*S			08 40 35.2
	baz=34,slow=10					
BHL	**Bhannes**	80.46 307	*e*P		**P**	**08 30 31.2 -0.5**
ESK	**Eskdalemuir**	80.47 341	*e*P		**P**	**08 30 31.5 +0.4**
ESK			IAMs_20	IAMs_20		09 10 26.6
	comp=Z,9μm,18.1s					
ESK	**Eskdalemuir**	80.47 341	P		**P**	**08 30 32.7 +1.6**
ESK			pmax	pmax		
	comp=Z,45nm,1.4s					
CONA	**Conrad Observa**	80.48 327	*i* pP		**P**	**08 30 32.6 +1.1**
	comp=Z,95nm,1.2s,SNR=54					
EDC	**Edincik**	80.48 316	P		**P**	**08 30 32.1 +0.6**
RONA	**Rosalia, Austr**	80.48 327	*i* pP		**P**	**08 30 32.7 +1.3**
	comp=Z,178nm,1.4s,SNR=46					
DGAR	**Diego Garcia**	80.48 252	P		**P**	**08 30 31.6 -0.2**
DGAR			IAmb	IAmb		08 30 34.8
	comp=Z,152nm,0.9s					
DGAR	**Diego Garcia**	80.48 252	IAMs_20	IAMs_20		09 09 06.0
	comp=Z,7μm,19.0s					
DGAR	**Diego Garcia**	80.48 252	P		**P**	**08 30 33.3 +1.6**
DGAR			P		**P**	**08 30 33.3 +1.6**
DGAR	**Diego Garcia**	80.48 252	P		**P**	**08 30 31.6 -0.2**
DGAR			pmax	pmax		
	comp=Z,152nm,1.0s					
DGAR			MLR	MLR		
	comp=Z,7μm,19.0s					
E38A	**The Farm, Brul**	80.51	35	IAMs_20	IAMs_20	09 13 02.5
	comp=Z,7μm,18.0s					
GERES	**GERESS Array B**	80.62 329	P		**P**	**08 30 32.6 +0.4**
	comp=Z,20nm,0.8s,baz=42,slow=4.2,SNR=57					
GERES			PP		**PP**	**08 33 32.5 -2.5**
	comp=Z,4.6nm,0.9s,baz=34,slow=6.2,SNR=2.7					
GERES			LR	LR		09 09 39.5
	comp=Z,12μm,18.8s,baz=19,slow=38					
	comp=Z,20nm,0.8s					
GEC2	**GERESS Array S**	80.62 329	*e*P			08 30 32.6
	comp=Z,47nm,1.1s,baz=34,slow=5.4					
GEC2			*e*PP			08 33 30.4
	baz=37,slow=9.0					
GEC2			*e*S			08 40 37.2
	baz=34,slow=10					
MORH	**

comp=Z,8µm,20.0s
RAYN Ar Rayn 80.75 293 P **P 08 30 32.9 -0.3**
RAYN S **S 08 40 38.0 -2.9**
RAYN Ar Rayn 80.75 293 P **P 08 30 33.1 -0.1**
RAYN Ar Rayn 80.75 293 *i* P **P 08 30 33.2 0.0**
SNR=72
PGB Panagyurishte 80.81 319 *e*P **P 08 30 33.2 -0.1**
BUG Bochum--Univer 80.83 334 *e*P 08 30 33.4
comp=Z,110nm,1.2s,baz=34,slow=5.4
BUG *e*PP 08 33 35.5
baz=37,slow=9.0
BUG *e*S 08 40 37.1
baz=34,slow=10
ASF Jabal al Asfar 80.85 305 P **P 08 30 34.1 +0.4**
comp=Z,37nm,1.1s,baz=26,slow=1.2,SNR=20
ASF PP **PP 08 33 38.3 +0.8**
comp=Z,10nm,1.0s,baz=45,slow=10.0,SNR=2.7
ASF LR LR 09 11 21.8
comp=Z,8µm,18.1s,baz=91,slow=39
comp=Z,37nm,1.1s
GRA1 Grafenberg Arr 80.88 331 P **P 08 30 33.9 +0.4**
GRA1 IAmb IAmb 08 30 39.4
comp=Z,184nm,1.1s
GRF Grafenberg Arr 80.88 331 P **P 08 30 33.9 +0.4**
GRF pmax pmax
comp=Z,184nm,1.1s
GRF Grafenberg Arr 80.88 331 *e*P 08 30 34.6
comp=Z,204nm,1.1s,baz=34,slow=5.4
GRF *e*PP 08 33 34.5
baz=37,slow=9.0
GRF *e*S 08 40 37.1
baz=34,slow=10
GRF *e*L 09 12 22.5
comp=Z,13µm,18.8s
NEWG New Galloway 80.89 342 *e*P **P 08 30 33.7 +0.4**
NEWG IAmb IAmb 08 30 36.1
comp=Z,94nm,1.3s
NEWG IAMs_20 IAMs_20 09 13 43.5
comp=Z,11µm,15.3s
FRGS Fruska Gora 80.91 323⇑ *i*P **P 08 30 33.7 0.0**
RAR Rarotonga 80.98 128 IAMs_20 IAMs_20 09 02 51.0
comp=Z,8µm,20.0s
RAR Rarotonga 80.98 128 LR LR 09 02 52.2
comp=Z,6µm,19.5s,baz=312,slow=33
SPMN Marine on St. 81.02 36 IAMs_20 IAMs_20 09 04 16.0
comp=Z,4µm,21.0s
ALN Alexandroupoli 81.04 317 P **P 08 30 31.0 -3.4**
ENEZ Enez 81.10 317 P **P 08 30 31.5 -3.3**
KESW Keswick, Cumbr 81.10 341 *e*P **P 08 30 35.3 +0.8**
KESW IAmb IAmb 08 30 37.5
comp=Z,167nm,1.4s
KESW IAMs_20 IAMs_20 09 10 54.5
comp=Z,10µm,17.8s
GLAD Gladstone 81.12 176 P **P 08 30 36.4 +1.9**
RDO Rodhopi 81.12 317 P **P 08 30 33.9 -1.0**
RDO Rodhopi 81.12 317 P **P 08 30 35.0 +0.1**
RDO IAmb IAmb 08 30 50.4
comp=Z,166nm,1.1s
CSS Mathiatis 81.15 309 IAMs_20 IAMs_20 09 10 46.9
comp=Z,4µm,21.0s
ARSA Arzberg 81.15 327 *i* P **P 08 30 35.8 +0.8**
comp=Z,46nm,1.2s,SNR=18
BOVS Bovan 81.18 321 ⇑P **P 08 30 35.3 +0.1**
MOA Molln 81.19 328 *i* P **P 08 30 35.9 +0.7**
comp=Z,21nm,0.7s,SNR=17
VTS Vitosha 81.20 320 *e*P **P 08 30 36.2 +0.7**
MMAI Mount Meron Ar 81.22 306 P **P 08 30 36.3 +0.7**
comp=Z,116nm,1.0s,baz=46,slow=3.6,SNR=51
MMAI S **S 08 40 42.0 -3.6**
comp=Z,0.5nm,0.3s,baz=96,slow=40,SNR=1.4
MMAI LR LR 09 10 35.6
comp=Z,17µm,20.1s,baz=30,slow=38
comp=Z,116nm,1.0s
GAL1 Galloway 81.24 342 *e*P **P 08 30 35.6 +0.4**
GAL1 IAmb IAmb 08 30 37.8
comp=Z,176nm,1.4s
GAL1 IAMs_20 IAMs_20 09 13 54.8
comp=Z,8µm,15.9s
ANMO Albuquerque 81.29 51 IAMs_20 IAMs_20 09 02 31.2
comp=Z,3µm,19.0s
ANMO Albuquerque 81.29 51 IAMs_20 IAMs_20 09 02 31.2
comp=Z,3µm,19.0s
ANMO Albuquerque 81.29 51 LR LR 09 02 32.1
comp=Z,2µm,21.7s,baz=140,slow=33
HPK Haverah Park 81.29 340 *e*P **P 08 30 36.2 +0.7**
HPK IAmb IAmb 08 30 38.7
comp=Z,104nm,1.1s
HPK IAMs_20 IAMs_20 09 16 10.2
comp=Z,11µm,16.1s
BGNE Belgrade 81.31 42 P **P 08 30 36.8 +0.8**
BGNE IAmb IAmb 08 30 47.6
comp=Z,128nm,0.9s
BGNE IAMs_20 IAMs_20 09 13 41.9
comp=Z,7µm,18.0s
DUN6 Lazy B Ranch 81.32 55 P **P 08 30 36.4 +0.2**
CLGH Cloghs, Cushen 81.36 343 *e*P **P 08 30 36.0 +0.2**
CLGH IAmb IAmb 08 30 37.7
comp=Z,102nm,1.1s
CLGH IAMs_20 IAMs_20 09 08 37.5
comp=Z,8µm,20.4s
TNS Taunus Mts 81.45 333 *e*P 08 30 37.1
comp=Z,67nm,1.2s,baz=34,slow=5.4
TNS *e*PP 08 33 38.5
baz=37,slow=9.0
TNS *e*S 08 40 41.4
baz=34,slow=10
KOGS Kog 81.48 326 *i* P **P 08 30 36.7 0.0**
KOGS *i* PP **PP 08 33 45.1 +3.0**
KOGS *i* S **S 08 40 44.6 -3.1**
TEKS Tekeris 81.51 323 ⇑*i*P **P 08 30 36.9 0.0**
CORO Coronation Par 81.55 177 P **P 08 30 38.6 +1.9**
BIOA Bad Ischl, Aus 81.57 328 *i* P **P 08 30 38.0 +0.8**
comp=Z,88nm,1.1s,SNR=28
Y22D IRIS PASSCAL I 81.61 52 IAMs_20 IAMs_20 09 00 23.7
comp=Z,5µm,22.0s
Y22D IRIS PASSCAL I 81.61 52 P **P 08 30 36.7 -1.1**
baz=314
SMTH Samothraki Isl 81.62 317 P **P 08 30 36.2 -1.3**
I37A Lemond, Waseca 81.67 38 IAMs_20 IAMs_20 09 08 19.3
comp=Z,6µm,21.0s
IDGL Inch Island, C 81.68 344 *e*P **P 08 30 37.3 -0.3**
IDGL Inch Island, C 81.68 344 P **P 08 30 38.6 +1.1**
BNM Barren Site 81.74 52 P **P 08 30 38.9 +0.3**
MMB Musomishta 81.74 319 *e*P **P 08 30 38.5 +0.3**
IOMK Kirk Michael 81.76 342 *e*P **P 08 30 39.0 +1.0**
IOMK IAmb IAmb 08 30 40.6
comp=Z,52nm,1.2s
IOMK IAMs_20 IAMs_20 09 14 03.1
comp=Z,4µm,14.7s
KAVA Kavala 81.76 318 P **P 08 30 37.3 -0.9**
WACR West Acre 81.78 338 *e*P **P 08 30 38.0 -0.1**
WACR IAmb IAmb 08 30 43.6
comp=Z,126nm,1.0s
WACR IAMs_20 IAMs_20 09 08 28.6
comp=Z,21µm,21.8s
L34A Svendsen Farm, 81.79 41 IAMs_20 IAMs_20 09 08 08.5
comp=Z,6µm,20.0s
SOKA Soboth 81.81 327 *i* P **P 08 30 39.0 +0.5**
comp=Z,172nm,1.2s,SNR=134
LBWR Ladybower, Pea 81.82 340 *e*P **P 08 30 38.9 +0.6**
LBWR IAmb IAmb 08 30 41.9
comp=Z,290nm,1.2s
LBWR IAMs_20 IAMs_20 09 10 55.9
comp=Z,10µm,19.5s
KKB Krupnik 81.83 319 *e*P **P 08 30 39.8 +1.1**
RJOB Jochberg 81.87 329 *e*P 08 30 39.8
comp=Z,105nm,0.9s,baz=34,slow=5.4
RJOB *e*PP 08 33 41.6
baz=37,slow=9.0
RJOB *e*S 08 40 47.2
baz=34,slow=10
ELL Elmali 81.90 312 P **P 08 30 40.4 +1.1**
ELL pmax pmax
comp=Z,122nm,1.2s
BEBN Eben Emael 81.90 334 *d*P **P 08 30 39.2 +0.4**
BTNL Ternell 81.93 334 *d*P **P 08 30 39.5 +0.5**
comp=Z,37nm,1.1s
THAS Thassos island 81.94 318 P **P 08 30 36.8 -2.4**
COWI Conover 81.95 34 IAMs_20 IAMs_20 09 13 06.5
comp=Z,4µm,20.0s
MEM Membach 81.95 334 *d*P **P 08 30 39.2 +0.2**
comp=Z,46nm,1.1s
319A Douglas 81.99 56 IAMs_20 IAMs_20 09 01 28.0
comp=Z,4µm,19.0s
BBLS Lazi&#263i 82.09 323⇑*i*P **P 08 30 40.6 +0.6**
FUR Furstenfeldbru 82.11 330 *e*P 08 30 40.9
comp=Z,142nm,1.0s,baz=34,slow=5.4
FUR *e*PP 08 33 41.6
baz=37,slow=9.0
FUR *e*S 08 40 50.3
baz=34,slow=10
BSTI Sart Tilman 82.12 334 *d*P **P 08 30 40.4 +0.5**
SRS Serrai 82.14 319 P **P 08 30 37.6 -2.7**
G40A Rib Lake 82.15 35 IAMs_20 IAMs_20 09 14 27.7
comp=Z,5µm,18.0s
OBKA Obir 82.15 327⇑*i*P **P 08 30 40.2 -0.1**
OBKA Obir 82.15 327 *i* P **P 08 30 40.5 +0.2**
comp=Z,39nm,0.8s,SNR=29
KOKK Kokkinochori, 82.15 318 P **P 08 30 39.1 -1.2**
LESA Schwarzleotal 82.17 329 *i* P **P 08 30 41.1 +0.7**
comp=Z,84nm,1.1s,SNR=44
BHOU Houvegnez 82.17 334 *d*P **P 08 30 40.8 +0.5**
comp=Z,40nm,1.1s
KBA Koelnbreinsper 82.18 328 *i* P **P 08 30 41.1 +0.5**
comp=Z,137nm,1.0s,SNR=72
STNC Stoke 82.22 340 *e*P **P 08 30 40.6 +0.1**
STNC IAMs_20 IAMs_20 09 11 07.0
comp=Z,10µm,19.9s
ELMS Elmsett, Ipswi 82.23 338 *e*P **P 08 30 40.2 -0.3**
ELMS IAmb IAmb 08 30 42.0
comp=Z,188nm,1.2s
ELMS IAMs_20 IAMs_20 09 09 20.7
comp=Z,18µm,20.7s
SJES Sjenica 82.29 322⇑*i*P **P 08 30 41.6 +0.5**
RUDO Rudo 82.30 323 *e*P **P 08 30 40.5 -0.6**
CWF Charnwood Fore 82.30 339 *e*P **P 08 30 40.8 0.0**
CWF IAMs_20 IAMs_20 09 15 23.0
comp=Z,12µm,16.1s
CRES Cresnjevec Ost 82.31 326⇑*i*P **P 08 30 40.9 -0.2**
A051A Mrakovica 82.33 325⇑*i*P **P 08 30 40.8 -0.5**
UCC Uccle 82.33 335 *d*P **P 08 30 41.0 0.0**
KUZ Kuaotunu 82.34 154 P **P 08 30 43.3 +2.3**
BCLA Clavier 82.35 334 *d*P **P 08 30 41.6 +0.4**
comp=Z,39nm,1.1s
SIGR SIGRI 82.37 316 P **P 08 30 40.7 -0.8**
CBKS Cedar Bluff 82.37 45 P **P 08 30 42.2 +0.6**
CBKS IAmb IAmb 08 30 52.9
comp=Z,92nm,1.1s
CBKS IAMs_20 IAMs_20 09 10 52.2
comp=Z,5µm,19.0s
CBKS Cedar Bluff 82.37 45 P **P 08 30 42.2 +0.6**
CBKS pmax pmax
comp=Z,92nm,1.1s
CBKS MLR MLR
comp=Z,5µm,19.0s
ILTH Belurgan, Co L 82.39 343 P **P 08 30 42.5 +1.2**
STU Stuttgart 82.39 331 P **P 08 30 41.7 +0.2**
STU Stuttgart 82.39 331 P **P 08 30 41.7 +0.2**
STU pmax pmax
comp=Z,206nm,1.4s
STU Stuttgart 82.39 331 *e*P **P 08 30 42.1 +0.6**
STU Stuttgart 82.39 331 *e*P 08 30 42.0
comp=Z,529nm,1.4s,baz=34,slow=5.4
STU *e*PP 08 33 46.7
baz=37,slow=9.0
STU *e*S 08 40 53.5
baz=34,slow=10
BLY Banja Luka 82.41 325⇑*i*P **P 08 30 41.6 0.0**
MYKA Terra Mystica 82.42 328 *i* P **P 08 30 41.6 -0.1**
comp=Z,71nm,1.1s,SNR=30
BGES Gesves 82.45 335 *d*P **P 08 30 41.7 0.0**
comp=Z,33nm,1.1s
KNT Kendrikon 82.45 319 P **P 08 30 38.9 -3.0**
VAY Valandovo 82.50 319 *i* P **P 08 30 42.7 +0.6**
KSL Kastellorizon 82.51 312 P **P 08 30 40.2 -2.1**
OUR Ouranopolis 82.52 318 P **P 08 30 39.7 -2.5**
WPS Cemaes, Angles 82.53 341 *e*P **P 08 30 40.8 -1.2**
WPS IAMs_20 IAMs_20 09 07 42.9
comp=Z,8µm,22.2s
LJU Ljubljana 82.53 327 *i* P **P 08 30 42.1 -0.1**
LJU *i* 08 30 45.2
comp=Z,42nm,0.8s
LJU *e* 08 35 40.1
LJU *e*S **S 08 40 54.8 -3.7**
LJU *e* 08 41 53.2
WLF1 Llynfaes 82.60 341 *e*P **P 08 30 41.9 -0.5**
WLF1 IAmb IAmb 08 30 47.5
comp=Z,118nm,1.2s
WLF1 IAMs_20 IAMs_20 09 07 55.9
comp=Z,17µm,21.8s
PRED Cave del Predi 82.61 328 P **P 08 30 42.0 -0.7**
BMRD Maredsous 82.63 335 *d*P **P 08 30 42.7 +0.1**
comp=Z,52nm,1.2s
F42A Maple Grove Fa 82.65 34 IAMs_20 IAMs_20 09 09 10.9
comp=Z,4µm,21.0s
BOJS Bojanci 82.66 326⇑*i*P **P 08 30 42.7 -0.2**
FOEL Foel Wylfa 82.67 340 *e*P **P 08 30 43.5 +0.7**
FOEL IAmb IAmb 08 30 48.1
comp=Z,102nm,0.9s
FOEL IAMs_20 IAMs_20 09 09 22.5
comp=Z,16µm,19.9s
WATA Walderalm 82.68 329 *i* P **P 08 30 43.6 +0.5**
comp=Z,78nm,1.2s,SNR=20
YLL Llanberis 82.68 341 *e*P **P 08 30 43.5 +0.7**
WLF Walferdange 82.71 334 P **P 08 30 43.2 +0.1**
WLF Walferdange 82.71 334 *d*P **P 08 30 43.6 +0.5**
comp=Z,23nm,1.0s
WLF Walferdange 82.71 334 *e*P 08 30 43.9
comp=Z,39nm,1.1s,baz=34,slow=5.4
WLF *e*PP 08 33 49.7
baz=37,slow=9.0
WLF *e*S 08 40 56.8
baz=34,slow=10
WTTA Wattenberg 82.71 329 *i* P **P 08 30 43.9 +0.5**
comp=Z,78nm,1.3s,SNR=24
PLG Polygyros 82.76 318 P **P 08 30 42.5 -1.1**
HORT Hortiatis 82.77 318 P **P 08 30 41.0 -2.7**
GIVF Givet 82.78 335 *e*P **P 08 30 42.8 -0.6**
GIVF pmax pmax
comp=Z,48nm,1.2s
ABTA Abfaltersbach 82.79 328 *i* P **P 08 30 43.3 -0.4**
comp=Z,55nm,1.4s,SNR=17
SRIG Santa Rosalia 82.79 60 IAMs_20 IAMs_20 09 01 39.6
comp=Z,6µm,20.0s
CEY Cerknica 82.82 327⇑*i*P **P 08 30 43.4 -0.4**
CEY Cerknica 82.82 327 *i* P **P 08 30 43.5 -0.2**
CEY *e*PP **PP 08 33 57.1 +3.9**
CEY *i* S **S 08 40 58.7 -2.9**
CEY *e* 08 41 56.9
LLW Llanuwychllyn 82.82 341 *e*P **P 08 30 44.1 +0.5**
UPM Unac-Piva 82.83 323⇑*i*P **P 08 30 43.6 -0.5**
MOTA Moosalm 82.85 330 *i* P **P 08 30 44.4 +0.4**
comp=Z,147nm,1.2s
GRG Griva 82.86 319 P P 08 30 38.9 -5.2
DOU Dourbes 82.86 335 *d*P **P 08 30 43.7 -0.2**
comp=Z,19nm,1.1s
RETA Reutte 82.87 330 *i* P **P 08 30 44.8 +0.8**
comp=Z,89nm,0.9s,SNR=33
A050A Klekovaca 82.91 325⇑*i*P **P 08 30 44.2 -0.1**
SQTA Sankt Quirin 82.92 329 *i* P **P 08 30 44.9 +0.5**
comp=Z,94nm,1.5s,SNR=26
HLM1 Long Mynd 82.92 340 *e*P **P 08 30 44.4 +0.3**
HLM1 IAMs_20 IAMs_20 09 09 18.9
comp=Z,12µm,20.0s
UBR Ueberruh 82.96 330 *e*P 08 30 44.9
comp=Z,47nm,1.3s,baz=34,slow=5.4
UBR *e*PP 08 33 48.7
baz=37,slow=9.0
UBR *e*S 08 40 59.7
baz=34,slow=10
PAIG Paliouri 82.98 318 P **P 08 30 42.3 -2.3**
N35A Tabor 82.98 41 IAMs_20 IAMs_20 09 09 43.1
comp=Z,7µm,21.0s
TAU Tasmania Unive 83.01 177 IAMs_20 IAMs_20 09 04 30.4
comp=Z,5µm,20.0s
BAIF Baives 83.02 335 *e*P **P 08 30 44.2 -0.5**
BAIF pmax pmax
comp=Z,48nm,1.2s
I40A Norwalk 83.04 36 IAMs_20 IAMs_20 09 11 15.5
comp=Z,5µm,19.0s
BFO Black Forest 83.08 332 P **P 08 30 45.0 -0.1**
BFO IAmb IAmb 08 30 47.9
comp=Z,106nm,1.3s
BFO Black Forest 83.08 332 P **P 08 30 45.0 -0.1**
BFO pmax pmax
comp=Z,107nm,1.3s
BFO Black Forest 83.08 332 *e*P 08 30 45.6
comp=Z,70nm,1.1s,baz=34,slow=5.4
BFO *e*PP 08 33 52.8
baz=37,slow=9.0
BFO *e*S 08 40 59.7
baz=34,slow=10
DSB Dublin 83.12 342 IAMs_20 IAMs_20 09 11 46.3
comp=Z,7µm,18.0s
DSB Dublin 83.12 342 P **P 08 30 45.2 +0.1**
DSB Dublin 83.12 342 P **P 08 30 45.9 +0.8**
TOZ Tahuroa Road 83.16 155 IAMs_20 IAMs_20 09 09 29.7
comp=Z,5µm,19.0s
R32A Long Quarter, 83.20 44 IAMs_20 IAMs_20 09 08 27.3
comp=Z,5µm,21.0s
PDG Podgorica 83.26 322⇑*i*P **P 08 30 46.1 0.0**
PDG Podgorica 83.26 322⇑P **P 08 30 46.2 +0.2**
FETA Feichten 83.27 330 *i* P **P 08 30 46.7 +0.4**
comp=Z,68nm,1.1s,SNR=38
ARG Arkhangelos 83.29 313 P **P 08 30 43.9 -2.4**
DAVA Damuels 83.37 330 *i* P **P 08 30 47.3 +0.5**
comp=Z,97nm,1.2s,SNR=28
SCIA State Center 83.37 39 IAMs_20 IAMs_20 09 07 29.4
comp=Z,4µm,21.0s
CDF Champ du Feu 83.39 332 *e*P **P 08 30 46.3 -0.4**
CDF pmax pmax
comp=Z,61nm,1.0s
STRD Stroud 83.40 339 *e*P **P 08 30 46.9 +0.3**
STRD IAmb IAmb 08 30 47.6
comp=Z,229nm,1.2s
STRD IAMs_20 IAMs_20 09 16 05.4
comp=Z,10µm,17.1s
MCH1 Michaelchurch 83.42 340 *e*P **P 08 30 47.1 +0.4**
MCH1 IAMs_20 IAMs_20 09 11 53.7
comp=Z,9µm,19.1s
AOS Alonnisos 83.43 317 P **P 08 30 44.1 -2.9**
EPT El Paso 83.45 54 P **P 08 30 47.5 +0.2**
LIT Litokhoron 83.45 318 P **P 08 30 45.4 -1.7**
TREB Trebinje 83.47 323 *e*P **P 08 30 47.1 0.0**
DRME Dracevica, Mon 83.48 322⇑*i*P **P 08 30 46.8 -0.4**
SLE Schleitheim 83.49 331 P **P 08 30 47.3 +0.1**
FNA Florina 83.50 320 P **P 08 30 44.6 -2.8**
HMNX Herstmonceux 83.51 337 *e*P **P 08 30 46.6 -0.5**
HMNX IAMs_20 IAMs_20 09 09 11.9
comp=Z,21µm,22.6s
MONM Monmouth 83.51 340 *e*P **P 08 30 47.3 +0.2**
MONM IAMs_20 IAMs_20 09 11 55.3
comp=Z,10µm,20.3s
OHR Ohrid 83.53 320 *i* P **P 08 30 48.2 +0.7**
ECH Echery 83.59 332 P **P 08 30 47.9 +0.2**
ECH pmax pmax
comp=Z,431nm,1.0s
OLDB Oldbury-Upon-S 83.61 339 *e*P **P 08 30 47.8 +0.2**
OLDB IAMs_20 IAMs_20 09 16 12.0
comp=Z,8µm,17.2s
HCY Herceg Novi 83.61 322⇑*i*P **P 08 30 47.1 -0.8**
IGLA Glengowla, Co 83.62 344 *e*P **P 08 30 47.2 -0.4**
IGLA Glengowla, Co 83.62 344 P **P 08 30 47.7 0.0**
STON Ston 83.64 323⇑*i*P **P 08 30 47.1 -0.9**
XOR Xorichti 83.64 318 P **P 08 30 44.4 -3.7**
KZN Kozani 83.66 319 P P 08 30 29.7 -19
HIZ Hauiti 83.67 156 IAMs_20 IAMs_20 09 03 08.1
comp=Z,7µm,21.0s
NEO Neokhori 83.67 318 P **P 08 30 44.4 -3.9**
E46A Sault Ste Mari 83.71 31 IAMs_20 IAMs_20 09 08 39.9
comp=Z,5µm,21.0s
KYMI Kymi, Euboea I 83.72 317 P **P 08 30 45.4 -3.1**
EIL Elat 83.77 304 P **P 08 30 49.5 +0.5**
comp=Z,120nm,1.1s,baz=38,slow=2.6,SNR=35
EIL S **SKSac 08 41 08.4 -3.2**
comp=Z,2.5nm,0.6s,baz=67,slow=21,SNR=1.2
EIL LR LR 09 12 19.1
comp=Z,8µm,18.9s,baz=48,slow=39
comp=Z,120nm,1.1s
FUORN Ofenpass-Fuorn 83.78 330 P **P 08 30 49.1 +0.1**
DAVOX Davos/Dischmat 83.79 330 LR LR 09 10 50.3
comp=Z,14µm,19.7s,baz=14,slow=38
I42A Draeger Farm, 83.80 35 IAMs_20 IAMs_20 09 15 35.5
comp=Z,4µm,19.0s
KSU1 Kansas State U 83.80 43 IAMs_20 IAMs_20 09 09 50.1
comp=Z,5µm,20.0s
H43A Windswept, Lux 83.83 34 IAMs_20 IAMs_20 09 09 28.3
comp=Z,4µm,20.0s
TYRN Tyrnavos 83.88 318 P **P 08 30 45.2 -4.1**
RSBS Rosebush, Pemb 83.91 341 *e*P **P 08 30 48.9 -0.3**
RSBS IAmb IAmb 08 30 52.0
comp=Z,106nm,1.2s
NEST Nestorio 83.94 320 P **P 08 30 48.0 -1.7**
MXZ Matakaoa Point 83.96 153 IAMs_20 IAMs_20 09 04 40.7
comp=Z,6µm,20.0s
JFWS Jewell Farm 83.97 36 IAMs_20 IAMs_20 09 07 38.2
comp=Z,6µm,21.0s
IWEX Carrickbyrne, 84.02 342 *e*P **P 08 30 50.1 +0.4**
IWEX Carrickbyrne, 84.02 342 P **P 08 30 50.6 +0.9**
HINF Hinteralfeld 84.04 332 *e*P **P 08 30 49.2 -0.8**
HINF pmax pmax
comp=Z,58nm,1.6s
HAU Haudompre 84.06 333 *e*P **P 08 30 49.4 -0.7**
HAU pmax pmax
comp=Z,43nm,0.9s
PENT Pentalofos 84.06 319 P **P 08 30 48.3 -2.1**
THL Klokotos Trika 84.10 318 P **P 08 30 46.7 -3.7**
APE Apeiranthos 84.11 315 P **P 08 30 48.6 -2.0**
AMTX Amarillo 84.12 49 IAMs_20 IAMs_20 09 08 52.9
comp=Z,4µm,20.0s
MSTX Muleshoe 84.15 50 P **P 08 30 51.7 +0.7**
MSTX IAmb IAmb 08 31 03.1
comp=Z,70nm,1.1s
MSTX IAMs_20 IAMs_20 09 15 43.6
comp=Z,3µm,19.0s
URZ Urewera 84.17 154 LR LR 09 05 27.2
comp=Z,7µm,19.9s,baz=45,slow=34
MNTX Cornudas Mount 84.19 53 IAMs_20 IAMs_20 09 10 26.9
comp=Z,4µm,20.0s
L40A Anamosa 84.19 38 IAMs_20 IAMs_20 09 11 29.1
comp=Z,6µm,20.0s
DION Dionisos Attik 84.22 316 P **P 08 30 47.0 -4.1**
N38A Joes South For 84.22 40 IAMs_20 IAMs_20 09 08 49.8
comp=Z,7µm,22.0s
KARP Karpathos 84.31 313 P **P 08 30 51.7 +0.1**
NOKA Waynoka 84.39 46 IAMs_20 IAMs_20 09 11 53.9
comp=Z,5µm,22.0s
RTZ Ruatahuna 84.45 154 IAMs_20 IAMs_20 09 05 44.8
comp=Z,6µm,20.0s
ELIS Ellis County 84.54 46 IAMs_20 IAMs_20 09 11 52.9
comp=Z,5µm,20.0s
OK038 West end E0370 84.61 46 IAMs_20 IAMs_20 09 15 11.7
comp=Z,5µm,19.0s
CLN7 Carlsbad 7 84.64 52 P **P 08 30 53.6 +0.2**
OK032 Salt Plains WL 84.66 45 IAMs_20 IAMs_20 09 09 48.9
comp=Z,6µm,21.0s
EVR Evrytania 84.69 318 P **P 08 30 51.7 -1.9**
CLNB Carlsbad 84.70 52 P **P 08 30 53.0 -0.8**
VLDQ Val d'Or 84.74 26 IAMs_20 IAMs_20 09 11 48.3
comp=Z,6µm,20.0s
BKZ Black Stump Fm 84.79 155 IAMs_20 IAMs_20 09 04 29.7
comp=Z,6µm,20.0s
BKZ Black Stump Fm 84.79 155 P **P 08 30 54.7 +1.1**
I45A Fountain 84.83 33 IAMs_20 IAMs_20 09 11 08.8
comp=Z,5µm,20.0s
PPT Papeete 84.85 118 LR LR 09 03 02.5
comp=Z,15µm,20.2s,baz=276,slow=32
GLMI Grayling 84.86 32 IAMs_20 IAMs_20 09 12 35.1
comp=Z,5µm,19.0s
L42A Oliver, Polo 84.96 37 IAMs_20 IAMs_20 09 14 01.2
comp=Z,7µm,19.0s
IGT Igoumenitsa 84.97 319 P **P 08 30 51.7 -3.1**
P38A Dawn 84.97 40 IAMs_20 IAMs_20 09 16 11.7
comp=Z,6µm,18.0s
K43A Burlington 85.00 35 IAMs_20 IAMs_20 09 12 12.3
comp=Z,4µm,19.0s
CROK Carrier 85.00 45 IAMs_20 IAMs_20 09 09 58.0
comp=Z,5µm,20.0s
EFP Efpalio 85.01 318 P **P 08 30 53.3 -1.7**
DYA Yadsworthy 85.09 340 *e*P **P 08 30 55.3 +0.1**
DYA IAmb IAmb 08 30 56.7
comp=Z,114nm,1.1s
DYA IAMs_20 IAMs_20 09 10 57.1
comp=Z,8µm,17.7s
KEK Kerkira 85.09 320 P **P 08 30 55.1 -0.3**
QRZ Quartz Range 85.10 158 IAMs_20 IAMs_20 09 02 32.0
comp=Z,8µm,22.0s
SENIN Lac Senin/Sane 85.11 331 P **P 08 30 55.3 -0.4**
SENIN IAmb IAmb 08 30 59.1
comp=Z,50nm,0.9s
GUR Goura 85.16 317 P P 08 30 51.2 -4.7
ZKR Zakros 85.16 313 P **P 08 30 51.5 -4.4**
SBD Saint Breward 85.17 340 *e*P **P 08 30 55.0 -0.6**
KLV Kalavryta, Ach 85.17 317 P **P 08 30 53.3 -2.7**
CABF La Chapelle 85.34 332 *e*P **P 08 30 56.4 -0.3**
CABF pmax pmax

comp=Z,68nm,1.2s
LKD2 Lefkada island 85.37 319 P P 08 30 55.6 -1.3
NYDR Nydri-Lefkada 85.41 319 P P 08 30 54.3 -2.7
N41A Harden Midland 85.42 38 IAms_20 IAms_20 09 12 08.7
comp=Z,5µm,20.0s
GUMA Gualdo di Mace 85.44 326 P P 08 30 57.0 -0.2
GUMA IAmb IAmb 08 31 36.2
comp=Z,106nm,1.0s
AXS Araxos 85.46 318 P P 08 30 53.8 -3.5
EVGI Lefkada island 85.50 319 P P 08 30 55.6 -1.9
RLS Riolos of Patr 85.52 318 P P 08 30 55.6 -2.0
LOR Lormes 85.55 334 *eP* **P 08 30 57.2 -0.4**
LOR pmax pmax
comp=Z,132nm,0.9s
L44A Lake County Fo 85.61 36 IAms_20 IAms_20 09 12 32.4
comp=Z,4µm,20.0s
OK051 E0350 and S346 85.62 45 IAms_20 IAms_20 09 13 48.3
comp=Z,6µm,19.0s
FLN La Foliniere 85.62 337 *eP* **P 08 30 57.5 -0.4**
FLN pmax pmax
comp=Z,101nm,1.1s
OK048 Pawnee Station 85.63 45 IAms_20 IAms_20 09 16 39.6
comp=Z,5µm,19.0s
CCA1 Carnmenellis 85.65 340 *eP* **P 08 30 58.2 +0.2**
CCA1 IAmb IAmb 08 31 00.7
comp=Z,134nm,1.3s
CCA1 IAms_20 IAms_20 09 10 49.6
comp=Z,12µm,21.2s
LDF La Druitiere 85.67 337 *eP* **P 08 30 58.8 +0.7**
LDF pmax pmax
comp=Z,76nm,1.2s
NNZ Nelson 85.71 158 IAms_20 IAms_20 09 03 23.0
comp=Z,7µm,21.0s
NRCA Norcia 85.72 326 P P 08 30 58.5 -0.1
JSA Saint Aubin 85.73 338 *eP* **P 08 30 59.1 +0.7**
JSA IAmb IAmb 08 31 01.1
comp=Z,196nm,1.2s
JSA IAms_20 IAms_20 09 14 51.9
comp=Z,12µm,16.7s
DSZ Denniston Nort 85.75 159 IAms_20 IAms_20 09 09 15.2
comp=Z,6µm,20.0s
VLI Velia 85.76 316 P P 08 30 53.0 -5.8
IDI Anoyia 85.77 314 P P 08 30 51.7 -7.3
IDI Anoyia 85.77 314 P P 08 30 57.5 -1.4
IDI Anoyia 85.77 314 P P 08 30 57.7 -1.3
comp=Z,47nm,0.9s,baz=15,slow=5.3,SNR=11
IDI LR LR 09 14 16.5
comp=Z,6µm,18.2s,baz=10.0,slow=39
comp=Z,47nm,0.9s
VLC Villacollemand 85.77 328 P P 08 30 58.1 -0.7
P40A Paris 85.77 40 IAms_20 IAms_20 09 09 26.9
comp=Z,5µm,20.0s
OK029 Liberty Lake 85.81 45 IAms_20 IAms_20 09 13 16.5
comp=Z,4µm,19.0s
MATE Matera 85.85 322 ⇑P **P 08 30 59.0 -0.2**
MATE Matera 85.85 322 *eP* **P 08 30 59.0 -0.2**
SSF Saint Saulge 85.85 334 *eP* **P 08 30 58.8 -0.3**
SSF pmax pmax
comp=Z,60nm,0.8s
MRZ Mangatainoka R 85.86 156 IAms_20 IAms_20 09 02 35.0
comp=Z,6µm,21.0s
RTZL Ratzakli, Kefa 85.86 318 P P 08 30 58.8 -0.5
WMOK Wichita Mounta 85.87 47 IAms_20 IAms_20 09 13 08.0
comp=Z,6µm,21.0s
VLS Valsamata 85.87 318 P P 08 30 56.7 -2.7
PSDA Pessada-Kefalo 85.92 318 P P 08 30 56.2 -3.4
OSSC Osservatorio P 85.94 327 P P 08 30 58.9 -0.7
OSSC IAmb IAmb 08 31 35.1
comp=Z,63nm,1.2s
ITM Ithomi 85.94 317 P P 08 30 57.2 -2.6
AQU L'Aquila 85.98 325 P P 08 30 59.9 +0.1
AQU L'Aquila 85.98 325 P P 08 31 01.3 +1.4
AQU pmax pmax
comp=Z,136nm,1.2s
OK052 Battle Ridge R 86.02 45 IAms_20 IAms_20 09 10 49.9
comp=Z,5µm,20.0s
OK031 S. Brethren Rd 86.03 45 IAms_20 IAms_20 09 17 02.2
comp=Z,6µm,18.0s
LPL La Plagne 86.04 331 *eP* **P 08 31 00.1 -0.2**
LPL pmax pmax
comp=Z,98nm,0.9s
LPG La Plagne 86.05 331 *eP* **P 08 31 00.3 -0.2**
LPG pmax pmax
comp=Z,108nm,0.9s
CHAN Chania 86.06 315 P P 08 30 59.1 -1.2
GRR Gorron 86.07 337 *eP* **P 08 31 00.9 +0.8**
GRR pmax pmax
comp=Z,182nm,1.2s
THZ Tophouse 86.08 158 IAms_20 IAms_20 09 03 56.8
comp=Z,7µm,21.0s
J47A Sunmer 86.08 33 IAms_20 IAms_20 09 15 19.6
comp=Z,5µm,19.0s
BFZ Birch Farm 86.09 156 IAms_20 IAms_20 09 09 46.0
comp=Z,4µm,20.0s
BFZ Birch Farm 86.09 156 P P 08 31 02.8 +2.8
SMF Signal de Mont 86.10 333 *eP* **P 08 31 00.0 -0.3**
SMF pmax pmax
comp=Z,152nm,1.1s
OKCSW OKLAHOMA CITY 86.11 46 IAms_20 IAms_20 09 12 54.5
comp=Z,6µm,22.0s
IMMV Iera Moni Meta 86.14 315 P P 08 30 54.9 -5.8
AVF Avril sur Loir 86.14 334 *eP* **P 08 30 59.4 -1.1**
AVF pmax pmax
comp=Z,157nm,0.8s
M44A Midewin, Midew 86.18 36 IAms_20 IAms_20 09 08 14.6
comp=Z,5µm,20.0s
ANKY Antikythira Is 86.20 315 P P 08 30 56.7 -4.3
LPIG La Paz 86.24 61 LR LR 09 04 48.1
comp=Z,2µm,19.2s,baz=314,slow=32
FNO Franklin 86.25 46 IAms_20 IAms_20 09 11 01.9
comp=Z,5µm,20.0s
HDIL Hopedale 86.27 37 P P 08 31 01.1 -0.2
HDIL IAmb IAmb 08 31 24.0
comp=Z,53nm,0.8s
HDIL IAms_20 IAms_20 09 14 36.1
comp=Z,5µm,19.0s
I49A Point Hope 86.31 31 IAms_20 IAms_20 09 15 02.7
comp=Z,5µm,20.0s
BHW Baring Head 86.33 157 IAms_20 IAms_20 09 03 46.0
comp=Z,7µm,22.0s
L46A Eue Claire 86.45 35 IAms_20 IAms_20 09 14 38.6
comp=Z,5µm,18.0s
BNI Bardonecchia 86.45 331 P P 08 31 02.3 0.0
BNI IAmb IAmb 08 31 33.8
comp=Z,89nm,1.1s
BNI Bardonecchia 86.45 331 P P 08 31 02.3 0.0
BNI pmax pmax
comp=Z,89nm,1.1s
BNI MLR MLR
comp=Z,15µm,20.0s
ICQ Pointe Anglais 86.48 19 IAms_20 IAms_20 09 11 11.5
comp=Z,7µm,21.0s
BGF Bois d'Agland 86.51 334 *eP* **P 08 31 02.2 -0.2**
BGF pmax pmax
comp=Z,75nm,1.2s
GVD Gavdhos 86.54 314 P P 08 30 59.1 -3.6
S39A Bolivar 86.56 42 IAms_20 IAms_20 09 14 52.1
comp=Z,5µm,20.0s
INZ Inchbonnie 86.57 160 IAms_20 IAms_20 09 09 33.8
comp=Z,6µm,20.0s
SGCY Sterling City 86.58 50 P P 08 31 02.7 -0.3
SGCY IAmb IAmb 08 31 13.8
comp=Z,46nm,0.9s
W35A Tecumseh 86.61 45 IAms_20 IAms_20 09 15 13.6
comp=Z,4µm,19.0s
R40A Maddies Statio 86.62 41 IAms_20 IAms_20 09 09 45.5
comp=Z,5µm,21.0s
SGMF Saint Gilles 86.69 338 *eP* **P 08 31 03.2 0.0**
SGMF pmax pmax
comp=Z,89nm,1.0s
MBDF Montbardon 86.70 331 *eP* **P 08 31 02.6 -0.9**
MBDF pmax pmax
comp=Z,71nm,1.2s
ROSF Rostrenen 86.82 338 *eP* **P 08 31 04.9 +1.1**
ROSF pmax pmax
comp=Z,158nm,1.2s
LTZ Lake Taylor 86.85 159 IAms_20 IAms_20 09 09 33.1
comp=Z,6µm,20.0s
ORIF Oris-en-Rattie 86.86 331 *eP* **P 08 31 04.0 -0.2**
ORIF pmax pmax
comp=Z,35nm,0.9s
P43A Skaggs, Pawnee 86.89 38 IAms_20 IAms_20 09 13 11.5
comp=Z,5µm,20.0s
TX31 Lajitas Ar. Si 86.90 54 P P 08 31 04.5 -0.1
TX31 IAmb IAmb 08 31 17.1
comp=Z,63nm,1.1s
TXAR Lajitas Array 86.90 54 P P 08 31 05.1 +0.4
comp=Z,18nm,1.0s,baz=298,slow=2.7,SNR=45
TXAR PP **PP 08 34 28.1 +1.2**
comp=Z,7.5nm,1.2s,baz=312,slow=5.8,SNR=3.0
TXAR S **SKSac 08 41 29.2 -2.4**
comp=Z,0.1nm,0.6s,baz=148,slow=7.4,SNR=0.9
TXAR PKKPbc **PKKPbc 08 48 57.1 +0.7**
comp=Z,1.3nm,1.0s,baz=134,slow=2.0,SNR=5.5
TXAR PKPPKP P'P'df 08 56 58.5 -11
comp=Z,0.2nm,0.7s,baz=131,slow=3.0,SNR=3.6
comp=Z,18nm,1.0s
FOZ Fox Glacier 86.91 161 IAms_20 IAms_20 09 11 39.7
comp=Z,4µm,20.0s
TCF Toulx Ste Croi 86.96 334 *eP* **P 08 31 04.6 0.0**
TCF pmax pmax
comp=Z,111nm,1.2s
U38A Gravette 86.97 43 P P 08 31 04.3 -0.5
U38A IAms_20 IAms_20 09 13 03.8
comp=Z,5µm,21.0s
TIP Timpagrande 86.98 321 ⇓P **P 08 31 05.6 +0.7**
SSB Saint Sauveur 87.04 332 P P 08 31 05.5 +0.5
SSB pmax pmax
comp=Z,49nm,0.9s
QUIF Quistinic 87.17 338 *eP* **P 08 31 05.2 -0.3**
QUIF pmax pmax
comp=Z,48nm,1.2s
SBF Sospel 87.18 330 *eP* **P 08 31 05.7 -0.1**
SBF pmax pmax
comp=Z,58nm,1.1s
GVZ Greta Valley S 87.23 159 IAms_20 IAms_20 09 08 15.2
comp=Z,7µm,20.0s
OXZ Oxford 87.29 159 IAms_20 IAms_20 09 11 45.8
comp=Z,6µm,19.0s
OZNA Ozona 87.30 51 P P 08 31 06.1 -0.5
CCM Cathedral Cave 87.31 40 IAms_20 IAms_20 09 10 24.7
comp=Z,5µm,20.0s
HHAR Hobbs 87.32 43 IAms_20 IAms_20 09 11 54.1
comp=Z,5µm,21.0s
HPIG 87.33 57 IAms_20 IAms_20 09 06 51.5
comp=Z,4µm,20.0s
AAM Ann Arbor 87.33 33 IAms_20 IAms_20 09 15 20.9
comp=Z,6µm,20.0s
SLM Saint Louis 87.35 39 IAms_20 IAms_20 09 11 37.6
comp=Z,5µm,20.0s
VIVF Saint-Julien-l 87.36 332 *eP* **P 08 31 06.4 -0.2**
VIVF pmax pmax
comp=Z,65nm,1.0s
K50A Casco 87.36 32 IAms_20 IAms_20 09 15 28.6
comp=Z,5µm,20.0s
RPZ Rata Peaks 87.39 160 IAms_20 IAms_20 09 05 37.5
comp=Z,5µm,20.0s
RPZ Rata Peaks 87.39 160 LR LR 09 05 28.3
comp=Z,5µm,21.1s,baz=345,slow=32
SFIN Lafayette 87.42 36 IAms_20 IAms_20 09 09 02.3
comp=Z,5µm,20.0s
LMQ La Malbaie 87.46 22 IAms_20 IAms_20 09 11 03.5
comp=Z,7µm,22.0s
FW03 Perrin-Whitt E 87.52 48 IAms_20 IAms_20 09 17 19.8
comp=Z,6µm,18.0s
N47A Urbana 87.64 35 IAms_20 IAms_20 09 09 58.0
comp=Z,5µm,21.0s
Q44A Meyer Farm, Va 87.72 38 P P 08 31 08.1 -0.3
Q44A IAmb IAmb 08 31 19.6
comp=Z,67nm,1.1s
Q44A IAms_20 IAms_20 09 13 49.3
comp=Z,5µm,19.0s
Z35A Perchaven, San 87.76 47 IAms_20 IAms_20 09 13 55.1
comp=Z,5µm,19.0s
FVM French Village 87.77 40 IAms_20 IAms_20 09 10 47.8
comp=Z,5µm,20.0s
LBZ Lake Benmore 87.80 161 IAms_20 IAms_20 09 05 25.3
comp=Z,5µm,21.0s
MQZ McQueen's Vall 87.81 159 IAms_20 IAms_20 09 02 01.5
comp=Z,4µm,22.0s
FW06 Azle 87.86 47 IAms_20 IAms_20 09 14 42.7
comp=Z,4µm,20.0s
LMR La Mourre 87.98 330 *eP* **P 08 31 09.9 +0.4**
LMR pmax pmax
comp=Z,66nm,1.2s
P46A Rosedale 87.98 37 P P 08 31 09.1 -0.5
P46A IAmb IAmb 08 31 23.6
comp=Z,54nm,0.9s
P46A IAms_20 IAms_20 09 15 54.3
comp=Z,6µm,20.0s
RJF Les Rejaudoux 88.06 334 *eP* **P 08 31 10.0 +0.1**
RJF pmax pmax
comp=Z,111nm,1.2s
DCZ Deep Cove 88.12 163 IAms_20 IAms_20 09 06 59.6
comp=Z,4µm,21.0s
CEL Celeste 88.12 321 P P 08 31 09.2 -1.1
CEL IAmb IAmb 08 31 39.9
comp=Z,68nm,1.0s
T42A Van Buren 88.19 41 IAms_20 IAms_20 09 10 43.0
comp=Z,5µm,20.0s
CAF Calviac 88.21 334 *eP* **P 08 31 11.1 +0.5**
CAF pmax pmax
comp=Z,107nm,1.1s
N49A Columbus Grove 88.25 34 IAms_20 IAms_20 09 17 40.3
comp=Z,4µm,18.0s
BRDY Brady 88.28 49 P P 08 31 11.5 +0.3
BRDY IAmb IAmb 08 31 29.6
comp=Z,47nm,1.1s
OLIL Olney 88.28 38 IAms_20 IAms_20 09 14 05.3
comp=Z,6µm,19.0s
MNTQ Montreal, Queb 88.29 25 IAms_20 IAms_20 09 13 10.7
comp=Z,7µm,22.0s
M50A Fremont 88.34 33 IAms_20 IAms_20 09 16 01.4
comp=Z,5µm,20.0s
O48B Farmland 88.38 35 IAms_20 IAms_20 09 10 29.7
comp=Z,5µm,21.0s
JCT Junction City 88.40 50 IAms_20 IAms_20 09 05 10.3
comp=Z,5µm,22.0s
FW14 Alvarado 88.49 47 IAms_20 IAms_20 09 14 47.4
comp=Z,4µm,19.0s
ODZ Otahua Downs 88.53 161 IAms_20 IAms_20 09 04 44.7
comp=Z,4µm,22.0s
S44A Carbondale 88.56 39 IAms_20 IAms_20 09 18 32.1
comp=Z,5µm,19.0s
SIUC Southern Illin 88.56 39 IAms_20 IAms_20 09 12 13.9
comp=Z,5µm,20.0s
LFF La Frestale 88.64 334 *eP* **P 08 31 13.0 +0.4**
LFF pmax pmax
comp=Z,138nm,1.2s
WHTX Lake Whitney, 88.64 48 IAms_20 IAms_20 09 15 11.5
comp=Z,5µm,20.0s
MEDO Medina 88.65 29 IAms_20 IAms_20 09 17 09.6
comp=Z,5µm,20.0s
BLO Bloomington 88.66 36 IAms_20 IAms_20 09 14 46.1
comp=Z,5µm,19.0s
CGM3 Cape Girardeau 88.68 40 IAms_20 IAms_20 09 11 17.0
comp=Z,5µm,20.0s
WHZ Wether Hill Ro 88.70 163 IAms_20 IAms_20 09 07 58.0
comp=Z,6µm,19.0s
PBMO Poplar Bluff 88.71 40 IAms_20 IAms_20 09 11 07.9
comp=Z,4µm,21.0s
O49A Covington 88.79 34 IAms_20 IAms_20 09 18 00.6
comp=Z,5µm,19.0s
J55A Hilton 88.80 29 IAms_20 IAms_20 09 19 03.7
comp=Z,5µm,19.0s
MIAR Mount Ida 88.84 44 IAms_20 IAms_20 09 14 16.4
comp=Z,5µm,19.0s
LCAR Lake Charles 88.91 41 IAms_20 IAms_20 09 18 18.1
comp=Z,5µm,18.0s
M52A Chesterland 88.91 32 IAms_20 IAms_20 09 15 23.5
comp=Z,5µm,20.0s
P48A Milroy 88.91 36 IAms_20 IAms_20 09 14 42.8
comp=Z,5µm,21.0s
WHAR Wooly Hollow 88.94 42 IAms_20 IAms_20 09 13 11.9
comp=Z,6µm,21.0s
ERPA Erie 88.97 31 IAms_20 IAms_20 09 14 19.9
comp=Z,6µm,22.0s
N51A Ashland 89.02 33 IAms_20 IAms_20 09 14 09.4
comp=Z,5µm,21.0s
USIN University of 89.10 38 IAms_20 IAms_20 09 14 30.0
comp=Z,6µm,20.0s
PARMO Parma 89.14 40 IAms_20 IAms_20 09 11 21.1
comp=Z,4µm,20.0s
X40A Basin Creek Fa 89.27 43 IAms_20 IAms_20 09 13 51.9
comp=Z,5µm,20.0s
UALR University of 89.31 43 IAms_20 IAms_20 09 16 22.8
comp=Z,6µm,19.0s
ACSO Alum Creek Sta 89.34 34 IAms_20 IAms_20 09 16 44.9
comp=Z,7µm,20.0s
PVMO Portageville 89.36 40 IAms_20 IAms_20 09 11 28.0
comp=Z,4µm,20.0s
T45A Paducah 89.39 39 IAms_20 IAms_20 09 12 49.9
comp=Z,5µm,20.0s
VAE Valguarnera 89.45 322 LR LR 09 16 14.6
comp=Z,12µm,19.0s,baz=24,slow=39
HICK Hickman 89.49 40 IAms_20 IAms_20 09 11 41.4
comp=Z,5µm,20.0s
G62A West of Eustis 89.51 23 IAms_20 IAms_20 09 15 33.8
comp=Z,6µm,20.0s
PEBM Pemiscott Bayo 89.52 40 IAms_20 IAms_20 09 15 18.2
comp=Z,3µm,19.0s
WCI Wyandotte Cave 89.53 37 IAms_20 IAms_20 09 18 06.1
comp=Z,5µm,18.0s
WCI Wyandotte Cave 89.53 37 P P 08 31 21.8 +4.9
WCI pmax pmax
comp=Z,28nm,0.9s
GNAR Gosnell 89.56 41 IAms_20 IAms_20 09 19 35.3
comp=Z,4µm,19.0s
VT1 Waterbury 89.61 25 IAms_20 IAms_20 09 19 20.0
comp=Z,6µm,18.0s
GLAT Glass 89.68 40 IAms_20 IAms_20 09 11 37.4
comp=Z,5µm,20.0s
LNXT Lenox 89.71 40 IAms_20 IAms_20 09 15 13.3
comp=Z,4µm,19.0s
N53A Lisbon 89.74 32 IAms_20 IAms_20 09 17 26.5
comp=Z,5µm,19.0s
WLAR White Oak Lake 89.74 44 IAms_20 IAms_20 09 14 01.4
comp=Z,5µm,20.0s
UTMT University of 89.83 40 IAms_20 IAms_20 09 15 12.2
comp=Z,6µm,22.0s
L56A Greenwood 89.87 29 IAms_20 IAms_20 09 16 00.9
comp=Z,6µm,19.0s
O52A Adamsville 89.91 33 IAms_20 IAms_20 09 14 24.3
comp=Z,5µm,20.0s
P51A Williamsport 89.93 34 IAms_20 IAms_20 09 16 36.6
comp=Z,5µm,19.0s
HALT Halls 89.94 40 IAms_20 IAms_20 09 15 19.2
comp=Z,4µm,20.0s
R49A Shelbyville 89.98 36 IAms_20 IAms_20 09 10 31.2
comp=Z,6µm,20.0s
O53A New Philadelph 90.06 32 IAms_20 IAms_20 09 19 24.9
comp=Z,6µm,18.0s
T47A Sharon Grove 90.15 38 IAms_20 IAms_20 09 15 22.8
comp=Z,6µm,20.0s
HDBT Hernando Brdge 90.18 41 IAms_20 IAms_20 09 17 41.7
comp=Z,5µm,22.0s
Q51A Peebles 90.18 35 IAms_20 IAms_20 09 18 52.4
comp=Z,5µm,19.0s
P52A Corning 90.19 33 P P 08 31 20.1 +0.1
P52A IAmb IAmb 08 31 42.6
comp=Z,75nm,1.4s
P52A IAms_20 IAms_20 09 17 27.6
comp=Z,4µm,20.0s
Z41A Richland Creek 90.24 44 IAms_20 IAms_20 09 15 19.5
comp=Z,4µm,20.0s
MET Memphis--Engin 90.27 41 IAms_20 IAms_20 09 17 42.0
comp=Z,5µm,18.0s
CCAR Cane Creek 90.27 43 IAms_20 IAms_20 09 14 41.3
comp=Z,6µm,20.0s
R50A Paris 90.37 36 P P 08 31 21.0 +0.1
R50A IAms_20 IAms_20 09 18 57.4
comp=Z,4µm,18.0s
NATX Nacogdoches 90.38 46 IAms_20 IAms_20 09 13 47.4
comp=Z,5µm,19.0s
BINY Binghamton 90.39 28 P P 08 31 20.4 -0.5
BINY IAms_20 IAms_20 09 17 34.6
comp=Z,5µm,20.0s
ATD Arta Tunnel 90.45 285 IAms_20 IAms_20 09 18 48.9
comp=Z,6µm,19.0s
ATD Arta Tunnel 90.45 285 LR LR 09 19 00.6
comp=Z,251nm,18.0s,baz=44,slow=40
ATD Arta Tunnel 90.45 285 P P 08 31 22.4 +0.7
O54A Avella 90.45 32 IAms_20 IAms_20 09 19 55.4
comp=Z,5µm,19.0s
EPF Esparros 90.46 334 *eP* **P 08 31 20.8 -0.5**
EPF pmax pmax
comp=Z,20nm,1.0s
I62A Tamworth 90.47 24 IAms_20 IAms_20 09 16 15.5
comp=Z,5µm,20.0s
WVT Waverly 90.50 39 IAms_20 IAms_20 09 13 23.0
comp=Z,5µm,20.0s
WVT Waverly 90.50 39 P P 08 31 24.6 +3.1
WVT pmax pmax
comp=Z,9.0nm,1.4s
CEST Esterri de Car 90.53 333 P P 08 31 22.6 +0.9
CEST IAmb IAmb 08 31 24.9
comp=Z,93nm,1.2s
I63A Otisfield 90.55 24 P P 08 31 22.6 +1.1
I63A IAmb IAmb 08 31 50.2
comp=Z,94nm,1.2s
I63A IAms_20 IAms_20 09 16 10.4
comp=Z,5µm,21.0s
P53A Whipple 90.63 33 IAms_20 IAms_20 09 19 37.1
comp=Z,5µm,19.0s
Q52A Bidwell 90.70 34 IAms_20 IAms_20 09 17 25.0
comp=Z,6µm,19.0s
M57A Sunshine Farm, 90.73 29 P P 08 31 22.9 +0.4
M57A IAms_20 IAms_20 09 16 47.4
comp=Z,6µm,19.0s
735A Kenedy 90.77 50 IAms_20 IAms_20 09 06 43.0
comp=Z,5µm,22.0s
ETSF Etsaut 90.88 334 *eP* **P 08 31 23.6 +0.4**
ETSF pmax pmax
comp=Z,15nm,0.7s
SJPF Ste Jean 90.91 335 *eP* **P 08 31 25.8 +2.5**
SJPF pmax pmax
comp=Z,30nm,1.0s
OXF Oxford 91.01 41 IAms_20 IAms_20 09 13 44.8
comp=Z,4µm,20.0s
SSPA Standing Stone 91.05 30 IAms_20 IAms_20 09 16 33.0
comp=Z,5µm,19.0s
HKT Hockley 91.09 48 IAms_20 IAms_20 09 18 01.0
comp=Z,6µm,18.0s
U49A Red Boiling Sp 91.16 38 IAms_20 IAms_20 09 15 45.4
comp=Z,5µm,19.0s
T50A Nancy 91.18 37 P P 08 31 24.4 -0.2
T50A IAmb IAmb 08 31 34.7
comp=Z,40nm,1.1s
T50A IAms_20 IAms_20 09 18 02.8
comp=Z,5µm,20.0s
CTZ Chatham Island 91.21 152 IAms_20 IAms_20 09 06 58.7
comp=Z,5µm,20.0s
S51A Beattyville 91.23 35 IAms_20 IAms_20 09 19 33.0
comp=Z,5µm,19.0s
CLTN Cedars of Leba 91.24 38 IAms_20 IAms_20 09 19 54.7
comp=Z,4µm,18.0s
V48A Smith Brothers 91.30 39 IAms_20 IAms_20 09 13 57.1
comp=Z,6µm,20.0s
PLAL Pickwick Lake 91.30 40 IAms_20 IAms_20 09 17 27.3
comp=Z,4µm,21.0s
N58A Sunbury 91.31 29 IAms_20 IAms_20 09 17 04.0
comp=Z,5µm,19.0s
L61B Northampton 91.32 26 IAms_20 IAms_20 09 20 08.8
comp=Z,5µm,19.0s
MSEY Mahe Island 91.36 265 IAms_20 IAms_20 09 12 30.9
comp=Z,7µm,21.0s
MSEY Mahe Island 91.36 265 P P 08 31 26.4 +0.6
MSEY P **P 08 31 26.4 +0.6**
MSEY S **SKSac 08 41 58.3 +0.2**
MSEY S **SKSac 08 41 58.3 +0.2**
MSEY Mahe Island 91.36 265 P P 08 31 25.6 -0.2
143A Socs Landing, 91.41 44 IAms_20 IAms_20 09 15 30.4
comp=Z,4µm,20.0s
Y45A Yeager Farm, C 91.45 42 IAms_20 IAms_20 09 20 10.6
comp=Z,5µm,18.0s
HRV Adam Dziewonsk 91.63 25 IAms_20 IAms_20 09 20 27.2
comp=Z,6µm,19.0s
WES Weston 91.82 25 IAms_20 IAms_20 09 17 07.1
comp=Z,6µm,20.0s
Q56A Snyder Ridge, 91.91 32 IAms_20 IAms_20 09 19 24.9
comp=Z,5µm,19.0s
P57A Homestead Farm 91.99 31 IAms_20 IAms_20 09 16 12.0
comp=Z,5µm,21.0s
S54A Dingess, Beckl 92.08 34 IAms_20 IAms_20 09 11 53.6
comp=Z,4µm,22.0s
SWET Sewanee 92.14 38 IAms_20 IAms_20 09 14 42.5
comp=Z,6µm,20.0s
TZTN Tazewell 92.15 36 IAms_20 IAms_20 09 11 59.6
comp=Z,6µm,22.0s
R55A Marlinton 92.17 33 IAms_20 IAms_20 09 17 27.0
comp=Z,5µm,19.0s
X48A Hartselle 92.23 40 IAms_20 IAms_20 09 16 12.9
comp=Z,5µm,21.0s
VBMS Vicksburg 92.25 43 IAms_20 IAms_20 09 16 13.8
comp=Z,4µm,20.0s
ZAIG Zacatecas 92.26 57 IAms_20 IAms_20 09 07 07.1
comp=Z,5µm,20.0s
N62A Caumsett State 92.40 27 IAms_20 IAms_20 09 16 38.6
comp=Z,6µm,21.0s
W50A Signal Mountai 92.45 38 IAms_20 IAms_20 09 16 33.6
comp=Z,5µm,19.0s

146A **Union** 92.68 42 IAMs_20 IAMs_20 09 15 45.9
comp=Z,5μm,20.0s
Z47A **Carrollton** 92.73 41 IAMs_20 IAMs_20 09 17 08.2
comp=Z,5μm,19.0s
M65A **Busby, Falmout** 92.78 25 P **P** 08 31 32.2 +0.3
baz=335
TKL **Tuckaleechee C** 92.78 37 LR LR 09 18 04.7
comp=Z,3μm,18.0s,baz=341,slow=39
U54A **Nelsons Funny** 92.94 35 IAMs_20 IAMs_20 09 18 32.3
comp=Z,6μm,19.0s
BLA **Blacksburg** 92.96 34 IAMs_20 IAMs_20 09 21 19.7
comp=Z,6μm,18.0s
Y49A **Blount Mountai** 93.02 39 IAMs_20 IAMs_20 09 16 56.7
comp=Z,5μm,20.0s
X51A **Calhoun** 93.18 38 IAMs_20 IAMs_20 09 15 54.0
comp=Z,5μm,19.0s
V53A **Saluda** 93.21 36 IAMs_20 IAMs_20 09 12 42.6
comp=Z,6μm,22.0s
KEST **Kesra** 93.21 324 P **P** 08 31 33.8 -0.4
KEST **Kesra** 93.21 324 P **P** 08 31 34.3 +0.2
comp=Z,20nm,1.1s,baz=319,slow=3.5,SNR=8.6
KEST LR LR 09 18 32.5
comp=Z,13μm,19.5s,baz=12,slow=39
comp=Z,20nm,1.1s
KEST **Kesra** 93.21 324 P **P** 08 31 34.7 +0.6
KEST P **P** 08 31 34.7 +0.6
CBN **Corbin Frederi** 93.35 31 IAMs_20 IAMs_20 09 21 49.9
comp=Z,5μm,18.0s
R58B **Mineral** 93.36 31 IAMs_20 IAMs_20 09 19 22.2
comp=Z,5μm,19.0s
LRAL **Lakeview Retre** 93.39 40 IAMs_20 IAMs_20 09 16 54.7
comp=Z,5μm,21.0s
346A **Big Creek Wild** 93.45 43 IAMs_20 IAMs_20 09 14 30.6
comp=Z,3μm,20.0s
T57A **Hurt** 93.63 33 IAMs_20 IAMs_20 09 12 43.4
comp=Z,6μm,22.0s
ECAL **Calabor** 93.66 338 P **P** 08 31 37.0 +0.9
BG3 **Lake Jocassee** 93.72 36 IAMs_20 IAMs_20 09 12 58.1
comp=Z,5μm,22.0s
ECHE **Chera** 93.97 333 P **P** 08 31 36.8 -0.8
R61A **Willards** 94.02 30 IAMs_20 IAMs_20 09 20 35.6
comp=Z,6μm,19.0s
UCM **Universidad Co** 94.09 335 P **P** 08 31 38.5 +0.4
Y52A **Lilburn** 94.13 38 IAMs_20 IAMs_20 09 17 45.1
comp=Z,6μm,19.0s
KMSC **Kings Mountain** 94.31 35 IAMs_20 IAMs_20 09 16 16.7
comp=Z,4μm,21.0s
T59A **Double "B" Far** 94.34 32 IAMs_20 IAMs_20 09 18 33.3
comp=Z,5μm,20.0s
PAULI **Pauline** 94.36 36 IAMs_20 IAMs_20 09 13 17.2
comp=Z,6μm,21.0s
S61A **Accomac** 94.46 30 IAMs_20 IAMs_20 09 19 01.4
comp=Z,5μm,18.0s
250A **Grady** 94.61 40 IAMs_20 IAMs_20 09 17 40.0
comp=Z,5μm,20.0s
HODGE **Hodges** 94.66 36 IAMs_20 IAMs_20 09 22 43.0
comp=Z,5μm,18.0s
V58A **Windy Hill, Pi** 94.71 33 IAMs_20 IAMs_20 09 14 33.2
comp=Z,6μm,22.0s
152A **Waverly Hall** 94.80 39 IAMs_20 IAMs_20 09 16 06.0
comp=Z,5μm,20.0s
BRAL **Brewton** 94.87 42 IAMs_20 IAMs_20 09 19 44.0
comp=Z,5μm,21.0s
W57A **Gilead** 94.89 34 IAMs_20 IAMs_20 09 22 31.8
comp=Z,5μm,18.0s
ESBB **Sonseca Array** 94.89 335 P **P** 08 31 41.1 -0.7
ESDC **Sonseca Array** 94.89 335 P **P** 08 31 41.4 -0.4
ESDC IAmb IAmb 08 31 44.7
comp=Z,51nm,1.2s
ESDC **Sonseca Array** 94.89 335 P **P** 08 31 41.7 -0.1
comp=Z,8.5nm,1.0s,baz=22,slow=3.0,SNR=24
ESDC PP **PP** 08 35 30.1 +0.4
comp=Z,3.6nm,0.9s,baz=30,slow=6.7,SNR=2.7
ESDC LR LR 09 20 14.7
comp=Z,14μm,19.0s,baz=22,slow=39
comp=Z,8.5nm,1.0s
JSC **Jenkinsville** 95.06 36 IAMs_20 IAMs_20 09 16 29.7
comp=Z,5μm,20.0s
BIRD **Birdtown, Kers** 95.11 35 IAMs_20 IAMs_20 09 20 33.9
comp=Z,6μm,20.0s
PAB **San Pablo** 95.14 335 P **P** 08 31 42.7 -0.2
MTE **Manteigas** 95.31 338 *e*P **P** 08 31 43.4 -0.3
MOIG **Morelia** 95.36 59 IAMs_20 IAMs_20 09 11 46.4
comp=Z,3μm,20.0s
W59A **Clinton** 95.53 33 IAMs_20 IAMs_20 09 18 48.9
comp=Z,5μm,19.0s
154A **Montrose** 95.61 38 IAMs_20 IAMs_20 09 18 40.4
comp=Z,5μm,19.0s
Y57A **Sumter** 95.67 35 IAMs_20 IAMs_20 09 15 05.8
comp=Z,6μm,22.0s
352A **Blakely** 95.67 40 IAMs_20 IAMs_20 09 16 37.1
comp=Z,4μm,21.0s
X58A **Rowland** 95.67 34 IAMs_20 IAMs_20 09 18 05.7
comp=Z,4μm,20.0s
V61A **Roper** 95.76 32 IAMs_20 IAMs_20 09 20 13.7
comp=Z,5μm,19.0s
451A **Vernon** 95.97 41 IAMs_20 IAMs_20 09 19 10.1
comp=Z,5μm,21.0s
Y58A **Scranton** 96.08 35 IAMs_20 IAMs_20 09 14 05.6
comp=Z,5μm,21.0s
TIGA **Tifton** 96.36 39 IAMs_20 IAMs_20 09 18 50.1
comp=Z,4μm,20.0s
NHSC **New Hope** 96.54 36 IAMs_20 IAMs_20 09 14 44.7
comp=Z,6μm,21.0s
Y60A **Bolivia** 96.62 34 IAMs_20 IAMs_20 09 19 01.8
comp=Z,5μm,20.0s
CSU **Charleston Sou** 96.69 36 IAMs_20 IAMs_20 09 14 48.6
comp=Z,5μm,20.0s
UNM **Universidad Na** 96.92 58 IAMs_20 IAMs_20 09 10 15.5
comp=Z,3μm,21.0s
553A **Crawfordville** 96.97 40 IAMs_20 IAMs_20 09 19 11.6
comp=Z,5μm,20.0s
LIS **Lisbon** 97.33 339 *e*PP **PP** 08 35 50.0 +1.6
LIS *e*SKSac **SKSac** 08 42 30.0 +0.3
LIS IAMs_20 IAMs_20 09 14 47.0
comp=E,19μm,24.5s
EMAL **Malaga-Limoner** 97.69 334 P **P** 08 31 52.6 -1.8
MESJ **Messejana** 97.88 338 *e*P Pdif 08 31 55.9 +0.6
MESJ *e*PP **PP** 08 35 54.1 +1.4
MESJ *e*SKSac **SKSac** 08 42 33.2 +0.6
MESJ *e*SS **SS** 08 50 04.6 +4.2
MESJ IAMs_20 IAMs_20 09 20 14.3
comp=Z,14μm,15.1s
MESJ **Messejana** 97.88 338 *e*P Pdif 08 31 55.9 +0.6
MESJ *e* 08 35 54.1
MESJ *e* 08 42 33.2
MESJ *e*SS SS 08 50 04.6 +4.2
MORF **Marmelete** 98.50 338 *e*Pdif Pdif 08 31 58.5 +0.4
MORF *e*PP **PP** 08 35 58.9 +1.5
MORF *e*SKSac **SKSac** 08 42 36.5 +0.6
MORF IAMs_20 IAMs_20 09 15 29.0
comp=E,19μm,18.5s
MORF **Marmelete** 98.50 338 *e*P Pdif 08 31 58.5 +0.3
MORF *e* 08 35 58.9
MORF *e* 08 42 36.5
656A **Willston** 98.58 39 IAMs_20 IAMs_20 09 18 46.0
comp=Z,4μm,20.0s
CNIL **Conil** 98.58 335 P Pdif 08 31 58.9 +0.5
TLIG **Tlapa** 98.60 58 IAMs_20 IAMs_20 09 17 05.2
comp=Z,3μm,20.0s
DWPF **Disney Wildern** 100.16 39 IAMs_20 IAMs_20 09 19 23.8
comp=Z,5μm,20.0s
TEIG **Tepich** 102.91 49 IAMs_20 IAMs_20 09 24 28.6
comp=Z,4μm,21.0s
KMBO **Kilima Mbogo** 102.95 280 P **Pdif** 08 32 18.4 -0.1
comp=Z,6.9nm,0.9s,baz=33,slow=7.3,SNR=12
KMBO PP **PP** 08 36 31.2 -1.5
comp=Z,4.0nm,0.9s,baz=44,slow=9.2,SNR=4.3
KMBO **Kilima Mbogo** 102.95 280 P **Pdif** 08 32 18.7 +0.1
KMBO **Kilima Mbogo** 102.95 280 *i* P **Pdif** 08 32 18.5 0.0
SNR=6.5
BBSR **BB Station** 103.08 24 IAMs_20 IAMs_20 09 22 26.2
comp=Z,5μm,20.0s
KIBK **Kibwezi** 103.14 278 IAMs_20 IAMs_20 09 22 21.9
comp=Z,5μm,21.0s
KIBK **Kibwezi** 103.14 278 P **Pdif** 08 32 16.2 -3.0
KIBK **Kibwezi** 103.14 278 P **Pdif** 08 32 19.9 +0.7
CCIG **Comitan** 103.64 55 IAMs_20 IAMs_20 09 11 52.4
comp=Z,3μm,22.0s
PETF **Flores** 104.55 52 IAMs_20 IAMs_20 09 17 34.3
comp=Z,4μm,20.0s
HUEH **Huehuetenango** 104.77 55 IAMs_20 IAMs_20 09 16 12.3
comp=Z,3μm,21.0s
TAM **Tamanrasset** 105.87 320 IAMs_20 IAMs_20 09 25 35.6
comp=Z,4μm,18.0s
ESQI **Esquipulas** 106.68 53 IAMs_20 IAMs_20 09 20 47.9
comp=Z,3μm,21.0s
TGUH **Tegucigalpa,Un** 108.33 52 IAMs_20 IAMs_20 09 27 58.5
comp=Z,2μm,21.0s
VOI **Vohitsoka** 108.68 257 IAMs_20 IAMs_20 09 26 11.9
comp=Z,3μm,18.0s
MACI **Morro de la Ar** 109.17 341 IAMs_20 IAMs_20 09 20 49.9
comp=Z,5μm,20.0s
CHIV **Chivirico** 109.45 40 IAMs_20 IAMs_20 09 31 29.1
comp=Z,6μm,19.0s
GTBY **Guantanamo Bay** 110.12 39 IAMs_20 IAMs_20 09 31 54.8
comp=Z,4μm,18.0s
FOMA **Nahampoana Res** 110.35 254 IAMs_20 IAMs_20 09 26 24.3
comp=Z,4μm,18.0s
MTDJ **Mount Denham** 110.38 42 IAMs_20 IAMs_20 09 26 05.8
comp=Z,3μm,20.0s
JTS **Las Juntas de** 112.67 53 IAMs_20 IAMs_20 09 21 54.7
comp=Z,2μm,21.0s
PCDR **Punta Cana, DR** 114.37 33 IAMs_20 IAMs_20 09 30 09.9
comp=Z,4μm,20.0s
AGPR **Aguadilla, PR** 114.94 32 IAMs_20 IAMs_20 09 25 06.8
comp=Z,2μm,22.0s
PRSN **Puerto Rico Se** 115.15 32 IAMs_20 IAMs_20 09 25 03.4
comp=Z,3μm,22.0s
EMPR **Esperanza - Ma** 115.16 31 IAMs_20 IAMs_20 09 33 18.7
comp=Z,3μm,20.0s
BRU2 **Volcan** 115.22 52 IAMs_20 IAMs_20 09 35 16.1
comp=Z,2μm,20.0s
CRPR **Cabo Rojo, PR** 115.35 32 IAMs_20 IAMs_20 09 25 03.8
comp=Z,4μm,21.0s
GCPR **Guaynabo City** 115.49 31 IAMs_20 IAMs_20 09 27 14.4
comp=Z,2μm,22.0s
CELP **Cerrillos** 115.50 32 IAMs_20 IAMs_20 09 33 21.8
comp=Z,3μm,19.0s
OBIP **Obispado Ponce** 115.52 32 IAMs_20 IAMs_20 09 33 21.3
comp=Z,3μm,20.0s
SJG **San Juan** 115.64 31 IAMs_20 IAMs_20 09 31 59.5
comp=Z,3μm,20.0s
PDPR **Patillas Dam,** 115.78 31 IAMs_20 IAMs_20 09 28 50.0
comp=Z,3μm,22.0s
IGPR **InterUniversit** 115.79 31 IAMs_20 IAMs_20 09 28 51.4
comp=Z,3μm,21.0s
TORD **Torodi Ar. Bea** 115.93 318 PKP **PKiKP** 08 37 01.9 -0.9
comp=Z,88nm,0.4s,baz=7.8,slow=2.7,SNR=1.5
BCIP **Isla Barro Col** 116.60 49 IAMs_20 IAMs_20 09 35 21.4
comp=Z,2μm,20.0s
SMRT **St. Maarten** 116.86 28 IAMs_20 IAMs_20 09 29 48.6
comp=Z,4μm,20.0s
SABA **Saba** 117.20 29 IAMs_20 IAMs_20 09 30 02.5
comp=Z,4μm,20.0s
SEUS **St. Eustatius** 117.41 28 IAMs_20 IAMs_20 09 30 37.1
comp=Z,4μm,21.0s
ANWB **Willy Bob** 117.67 27 IAMs_20 IAMs_20 09 26 32.0
comp=Z,2μm,22.0s
VNDA **Vanda** 118.21 176 PKP **PKPdf** 08 37 04.7 -0.6
comp=Z,1.9nm,0.8s,baz=314,slow=5.1,SNR=11
VNDA PP **PP** 08 38 21.6 -0.1
comp=Z,4.4nm,1.2s,baz=315,slow=6.1,SNR=3.0
ABD **La Joyeuse, An** 118.88 27 IAMs_20 IAMs_20 09 27 53.1
comp=Z,4μm,22.0s
GDHS **Morne Mazeau,** 118.97 28 IAMs_20 IAMs_20 09 31 39.0
comp=Z,3μm,20.0s
GDSD **La Dsirade Is** 119.18 27 IAMs_20 IAMs_20 09 28 43.9
comp=Z,4μm,22.0s
CBE **Ff, Capester** 119.22 28 IAMs_20 IAMs_20 09 27 05.9
comp=Z,3μm,22.0s
TDBA **Terre de Bas,** 119.41 28 IAMs_20 IAMs_20 09 36 06.9
comp=Z,3μm,18.0s
MAGL **Barre de l'ile** 119.44 27 IAMs_20 IAMs_20 09 28 07.9
comp=Z,4μm,22.0s
SVN **Savane Anatole** 120.51 28 IAMs_20 IAMs_20 09 32 44.2
comp=Z,3μm,20.0s
FDF **Fort de France** 120.61 28 IAMs_20 IAMs_20 09 32 57.9
comp=Z,4μm,20.0s
ILAM **Ilet Lapin Mar** 120.67 27 IAMs_20 IAMs_20 09 30 01.5
comp=Z,3μm,21.0s
BIM **Bigot** 120.84 28 IAMs_20 IAMs_20 09 33 03.0
comp=Z,3μm,20.0s
MPOM **Morne Pois Mar** 120.98 28 IAMs_20 IAMs_20 09 33 25.7
comp=Z,3μm,20.0s
CBOC **Ciudad Bolivar** 121.47 48 P **PKiKP** 08 37 18.7 +4.8
PTBC **PUERTO BERRIO** 121.77 46 P **PKPdf** 08 37 13.2 -0.9
SDV **Santo Domingo** 121.79 40 *e*P **PKiKP** 08 37 14.5 0.0
SDV **Santo Domingo** 121.79 40 P **PKPdf** 08 37 14.2 -0.2
MALC **Bahia Malaga** 122.20 50 P **PKiKP** 08 37 18.9 +3.8
GUY2C **Guyana, Caldas** 122.36 47 P **PKiKP** 08 37 18.4 +2.4
BBGH **Gun Hill** 122.64 27 IAMs_20 IAMs_20 09 32 05.7
comp=Z,4μm,21.0s
YOTC **Yotoco, Valle** 122.81 49 P **PKPdf** 08 37 16.2 -0.1
GRGR **Grenville** 122.83 29 IAMs_20 IAMs_20 09 33 00.7
comp=Z,4μm,21.0s
POGA **Pongola** 123.05 261 IAMs_20 IAMs_20 09 28 45.6
comp=Z,3μm,21.0s
MAW **Mawson** 123.22 207 PKP **PKPdf** 08 37 15.1 0.0
comp=Z,12nm,0.9s,baz=43,slow=4.9,SNR=9.2
ROSC **El Rosal** 123.25 47 PKP **PKPdf** 08 37 17.3 -0.1
comp=Z,3.4nm,0.4s,baz=127,slow=22,SNR=1.5
SACV **Santiago Islan** 123.59 345 IAMs_20 IAMs_20 09 29 52.8
comp=Z,4μm,20.0s
POPC **Popayan, Colom** 123.78 51 P **PKPdf** 08 37 17.1 -1.2
BBAC **Balboa, Cauca** 123.85 52 P **PKPdf** 08 37 18.4 0.0
OTAV **Otavalo** 124.53 54 IAMs_20 IAMs_20 09 29 56.9
comp=Z,2μm,21.0s
OTAV **Otavalo** 124.53 54 *e*P **PKiKP** 08 37 20.6 +0.3
TULM **Tulcn-Chalpat** 124.56 53 P **PKPdf** 08 37 20.0 -0.1
GARC **Garzon, Huila** 124.75 50 P **PKPdf** 08 37 20.1 -0.1
DBIC **Dimbokro** 124.75 320 PKP **PKPdf** 08 37 19.1 -0.7
comp=Z,13nm,0.9s,baz=14,slow=2.2,SNR=8.2
DBIC PP **PP** 08 39 04.5 -1.7
comp=Z,24nm,1.1s,baz=359,slow=6.5,SNR=4.0
FLOC **Florencia** 125.15 50 P **PKPdf** 08 37 20.3 -0.3
BOSA **Boshof** 128.58 263 **PKPdf** 08 37 26.9 +0.1
comp=Z,9.4nm,1.1s,baz=88,slow=3.6,SNR=6.3
BOSA PP **PP** 08 39 31.1 -1.7
comp=Z,4.6nm,1.0s,baz=49,slow=6.6,SNR=2.1
QSPA **South Pole Qui** 130.14 180 IAMs_20 IAMs_20 09 31 42.2
comp=Z,2μm,21.0s
QSPA **South Pole Qui** 130.14 180 PKP **PKPdf** 08 37 28.0 -0.5
comp=Z,13nm,1.0s,baz=295,slow=0.7,SNR=21
ATAH **Atahualpa** 130.19 60 PKP **PKiKP** 08 37 31.6 +0.2
comp=Z,11nm,0.9s,baz=29,slow=2.4,SNR=5.0
SOE **Somerset East** 130.33 258 IAMs_20 IAMs_20 09 33 00.5
comp=Z,3μm,20.0s
SGC2 **Sao Gabriel da** 131.37 42 PKP **PKPdf** 08 37 32.3 -0.1
SYO **Syowa Base** 131.88 208 T *i*Pdiff **Pdif** 08 34 27.6 +2.1
BOAV **Boa Vista** 132.14 33 *e*P **PKPdf** 08 37 34.2 +0.3
TBTG **Tabatinga, AM** 133.14 49 *e*P **PKPdf** 08 37 35.8 +0.1
TBTG **Tabatinga, AM** 133.14 49 PKP **PKPdf** 08 37 34.6 -1.2
CZSB **Cruzeiro do Su** 134.29 55 P **PKPdf** 08 37 35.9 -2.0
CZSB **Cruzeiro do Su** 134.29 55 P **PKPdf** 08 37 37.8 -0.1
NNA **Nana** 134.76 63 IAMs_20 IAMs_20 09 35 21.0
comp=Z,3μm,19.0s
NNA **Nana** 134.76 63 PKP **PKiKP** 08 37 40.3 0.0
comp=Z,24nm,0.7s,baz=276,slow=4.6,SNR=3.9
TEFE **Tefe** 135.44 42 *e*P **PKPdf** 08 37 40.5 +0.5
TEFE **Tefe** 135.44 42 PKP **PKPdf** 08 37 40.3 +0.2
MACA **Manacapuru-AM** 137.04 37 *e*P **PKPdf** 08 37 42.1 -0.9
MACA **Manacapuru-AM** 137.04 37 PKP **PKiKP** 08 37 45.5 +0.6
ELIB **Princess Elisa** 137.09 203 *d*PKPdf **PKPdf** 08 37 42.1 +0.6
ITTB **Itaituba** 140.22 31 *e*P **PKPdf** 08 37 48.8 -0.1
ITTB **Itaituba** 140.22 31 PKP **PKPdf** 08 37 47.1 -1.7
BMO1 **UHE Belo Monte** 140.49 24 PKP **PKiKP** 08 37 51.2 -0.7
BMO2 **UHE Belo Monte** 140.60 25 PKP **PKPdf** 08 37 48.7 -0.9
TMAB **Tom-Au,PA,Br** 140.75 18 *e*P **PKPdf** 08 37 50.3 +0.5
SAML **Samuel** 140.79 44 IAMs_20 IAMs_20 09 49 06.2
comp=Z,3μm,20.0s
SAML **Samuel** 140.79 44 *e*P **PKPdf** 08 37 49.2 -0.6
BELA **Belgrano 2** 142.41 181 IAMs_20 IAMs_20 09 36 50.2
comp=Z,2μm,22.0s
NPGB **Novo Progresso** 142.81 32 *e*P **PKPdf** 08 37 52.8 -0.7
NPGB **Novo Progresso** 142.81 32 PKP **PKPdf** 08 37 50.8 -2.8
TROLL **Troll, Antarti** 142.90 199 ⇓P **PKPdf** 08 37 48.4 -3.6
comp=Z,2μm,1.0s
SBBR **Sobral** 143.36 6 PKP PKPbc 08 37 51.6 +0.1
LPAZ **La Paz** 143.66 58 PKP PKPab 08 37 52.5 +0.2
comp=Z,1.8nm,0.6s,baz=360,slow=4.1,SNR=11
LPAZ **La Paz** 143.66 58 *e*P **PKPdf** 08 37 55.5 -0.2
LPAZ **La Paz** 143.66 58 PKP PKPab 08 37 52.2 -0.1
LPAZ PKP PKPbc 08 37 52.8 -0.3
PB12 **IPOC Station P** 143.87 63 IAMs_20 IAMs_20 09 53 04.2
comp=Z,3μm,20.0s
NBPS **Pedro II - PI** 143.89 8 *e*P PKPbc 08 37 53.4 +0.2
NBPS **Pedro II - PI** 143.89 8 PKP PKPbc 08 37 53.3 +0.1
PRPB **Paraua pebas** 143.93 23 *e*P PKPab 08 37 52.8 +0.1
PRPB **Paraua pebas** 143.93 23 PKP PKPbc 08 37 53.0 -0.2
NBCL **Cascavel-CE** 143.95 3 *e*P PKPbc 08 37 54.0 +0.7
NBCL **Cascavel-CE** 143.95 3 PKP PKPbc 08 37 53.3 0.0
SNAA **Sanae** 144.41 198 IAMs_20 IAMs_20 09 49 11.3
comp=Z,2μm,20.0s
SNAA **Sanae** 144.41 198 ⇓P **PKPab** 08 37 52.6 -0.2
comp=Z,3μm,0.9s
SNAA **Sanae** 144.41 198 PKP **PKPab** 08 37 52.6 -0.2
comp=Z,160nm,1.0s,baz=110,slow=2.5,SNR=51
NBBC **Barra do Corda** 144.42 15 *e*P PKPbc 08 37 55.2 +0.5
NBBC **Barra do Corda** 144.42 15 PKP PKPbc 08 37 55.6 +0.9
PAL01 **Palmeiras do T** 144.99 19 PKP PKPbc 08 37 56.8 +0.2
NBPB **Pedra_Branca-C** 145.19 5 *e*P **PKPbc** 08 37 56.7 -0.5
NBPB **Pedra_Branca-C** 145.19 5 PKP **PKPbc** 08 37 56.9 -0.3
NBPA **Parau_RN** 145.49 1 *e*P **PKPbc** 08 37 57.4 -0.8
NBPA **Parau_RN** 145.49 1 PKP **PKPab** 08 37 58.5 +0.1
RCBR **Riachuelo** 145.57 359 *e*P **PKPdf** 08 37 58.0 -0.4
RCBR **Riachuelo** 145.57 359 PKP **PKPab** 08 37 58.7 0.0
PB08 **IPOC Station P** 145.72 64 PKP **PKiKP** 08 38 01.4 -1.5
VILB **Vilhena** 145.73 44 *e*P **PKPdf** 08 37 57.6 -1.0
VILB **Vilhena** 145.73 44 PKP **PKPab** 08 37 59.4 +0.2
H03N2 **Juan Fernandez** 145.76 92 T T 11 20 49.0
baz=299,slow=76,SNR=15
H03N3 **Juan Fernandez** 145.77 92 T T 11 20 49.1
baz=299,slow=76,SNR=19
H03N1 **Juan Fernandez** 145.78 92 T T 11 20 49.9
baz=299,slow=76,SNR=19
VNA2 **Neumayer--Watz** 145.97 197 ⇓P **PKPbc** 08 37 57.8 -0.3
comp=Z,76nm,0.7s,baz=145,slow=4.0
CLDB **Colider** 146.07 35 *e*P **PKPdf** 08 37 58.2 -1.0
CLDB **Colider** 146.07 35 PKP **PKPbc** 08 38 00.2 +0.2
NBPV **Pedro Velho** 146.14 358 *e*P **PKPdf** 08 37 58.6 -0.7
NBPV **Pedro Velho** 146.14 358 PKP **PKPab** 08 38 00.7 0.0
VNA3 **Neumayer Olymp** 146.21 195 ⇓P **PKPdf** 08 37 58.1 +0.5
comp=Z,45nm,0.7s
PDRB **Porto dos Gac** 146.30 37 *e*P **PKPdf** 08 38 00.0 +0.5
PDRB **Porto dos Gac** 146.30 37 PKP **PKPbc** 08 38 00.6 -0.1
VNA1 **Neumayer--Stat** 146.37 197 ⇓P **PKPbc** 08 37 59.0 -0.2
comp=Z,95nm,1.1s
PB09 **IPOC Station P** 146.76 66 **PKPdf** 08 37 60.0 -0.3
NBMA **Muriti-CE** 147.05 4 *e*P **PKPdf** 08 37 59.6 -1.3
NBMA **Muriti-CE** 147.05 4 PKP **PKPbc** 08 38 02.9 0.0
SMTB **Santa Maria do** 147.12 20 *e*P **PKPdf** 08 37 60.0 -1.0
SMTB **Santa Maria do** 147.12 20 PKP **PKPdf** 08 38 01.8 +0.8
VBST **Vila Bela da S** 147.14 45 *e*P **PKPdf** 08 38 01.0 +0.1
PB14 **IPOC Station P** 147.73 71 **PKPbc** 08 38 03.5 -1.4
PB14 **IPOC Station P** 147.73 71 PKP **PKPdf** 08 38 02.2 +0.2
SIV **San Ignacio** 147.74 48 PKPbc **PKPdf** 08 38 02.6 +0.7
comp=Z,23nm,0.8s,baz=301,slow=1.0,SNR=31
NBCA **Caruaru-PE** 147.95 359 *e*P **PKPdf** 08 38 01.6 -0.8
NBCA **Caruaru-PE** 147.95 359 PKP **PKPbc** 08 38 05.0 -0.4
LAJE **UHE Lajeado** 147.99 22 PKP **PKPdf** 08 38 03.1 +0.7
AF01 **San Pedro de A** 148.26 66 IAMs_20 IAMs_20 09 35 55.0
comp=Z,3μm,21.0s
PTLB **Pontes e Lacer** 148.37 45 *e*P **PKPdf** 08 38 03.0 +0.1
PTLB **Pontes e Lacer** 148.37 45 PKP **PKPdf** 08 38 03.2 +0.3
SNDB **Serra Nova Dou** 148.88 29 *e*P **PKPdf** 08 38 03.8 0.0
SNDB **Serra Nova Dou** 148.88 29 PKP **PKPdf** 08 38 03.9 0.0
BBSD **Serra de San D** 148.96 49 *e*P **PKPdf** 08 38 02.8 -1.1
NBRS **Nobres** 149.11 38 *e*P **PKPdf** 08 38 03.4 -0.8
PTET **Porto Estrela** 149.34 41 *e*P **PKPdf** 08 38 03.5 -0.9
NBAN **Anadia - AL** 149.39 359 *e*P **PKPdf** 08 38 03.9 -0.7
NBAN **Anadia - AL** 149.39 359 PKP **PKPdf** 08 38 04.3 -0.3
SALV **Santo Antonio** 150.51 40 *e*P **PKPdf** 08 38 05.9 -0.4
SALV **Santo Antonio** 150.51 40 PKP **PKPdf** 08 38 08.2 +1.9
SDBA **SAO DESIDERIO** 151.19 17 *e*P **PKPdf** 08 38 06.3 -1.1
SDBA **SAO DESIDERIO** 151.19 17 PKP **PKPdf** 08 38 08.6 +1.1
ARAG **Araguaiana, MT** 152.08 33 *e*P **PKPdf** 08 38 07.9 -0.8
ARAG **Araguaiana, MT** 152.08 33 PKP **PKPdf** 08 38 11.2 +2.5
PP1B **Ponte de Pedra** 152.36 40 *e*P **PKPdf** 08 38 08.3 -0.8
DVLD **Doverlandia** 152.77 34 *e*P **PKPdf** 08 38 08.7 -1.0
CFA **Coronel Fontan** 153.11 81 PKPbc **PKPbc** 08 38 16.4 -0.8
comp=Z,4.8nm,0.4s,baz=272,slow=1.9,SNR=28
LL01 **San Ignacio de** 153.23 106 **PKPdf** 08 38 09.0 -0.6
BDFB **Brasilia** 153.42 25 PKP **PKPdf** 08 38 11.5 +0.7
comp=Z,8.4nm,1.0s,baz=291,slow=3.9,SNR=5.0
BDFB PKPbc **PKPbc** 08 38 18.2 -0.2
comp=Z,10.0nm,1.1s,baz=73,slow=2.2,SNR=7.4
BDFB **Brasilia** 153.42 25 PKP **PKPdf** 08 38 11.9 +1.1
RVDE **Rio Verde (Bra** 153.54 42 *e*P **PKPdf** 08 38 09.7 -1.1
BDQN **Bodoquena, MS** 153.74 47 *e*P **PKPdf** 08 38 10.1 -0.9
JANB **Januaria** 153.88 17 *e*P **PKPdf** 08 38 10.5 -0.9
JANB **Januaria** 153.88 17 PKP **PKPdf** 08 38 11.0 -0.4
ANA01 **Lindo Horizont** 153.98 9 PKP **PKPdf** 08 38 12.2 +0.6
MURT **Porto Murtinho** 154.21 50 *e*P **PKPdf** 08 38 11.1 -0.6
AQDB **Aquidauana** 154.34 45 *e*P **PKPdf** 08 38 11.3 -0.5
AQDB **Aquidauana** 154.34 45 PKP **PKPdf** 08 38 11.6 -0.3
C2SB **Chapadao do Su** 154.34 38 *e*P **PKPdf** 08 38 11.5 -0.4
PLCA **Paso Flores** 154.35 102 PKPbc **PKiKP** 08 38 20.3 +0.6
comp=Z,7.0nm,1.0s,baz=274,slow=1.7,SNR=18
PLCA **Paso Flores** 154.35 102 *e*P **PKPdf** 08 38 10.9 -0.5
PLCA **Paso Flores** 154.35 102 PKP **PKPdf** 08 38 11.8 +0.4
USHA **Ushuaia** 154.46 135 PKPbc **PKiKP** 08 38 20.1 +0.7
comp=Z,9.9nm,1.0s,baz=31,slow=6.7,SNR=1.9
NBIT **Itapeh - BA** 154.50 6 *e*P **PKPdf** 08 38 11.5 -0.7
CMC01 **Camacan, BA** 154.92 6 *e*P **PKPdf** 08 38 12.1 -0.7
CMC01 **Camacan, BA** 154.92 6 PKP **PKPdf** 08 38 13.0 +0.2
RPRD **Ribas do Rio P** 155.38 41 *e*P **PKPdf** 08 38 12.3 -1.0
ITU3 **Corumbazu** 155.52 29 PKP **PKPdf** 08 38 14.7 +1.1
IPMB **Ipameri, GO** 155.53 27 *e*P **PKPdf** 08 38 15.3 +1.6
IPMB **Ipameri, GO** 155.53 27 PKP **PKPdf** 08 38 14.4 +0.8
JQT1 **Jequitai-MG** 155.97 18 PKP **PKPdf** 08 38 14.3 0.0
GUA01 **Guaratinga, BA** 156.11 7 *e*P **PKPdf** 08 38 15.3 +0.9
GUA01 **Guaratinga, BA** 156.11 7 PKP **PKPdf** 08 38 14.2 -0.2
ITRB **Iturama** 156.27 34 *e*P **PKPdf** 08 38 13.5 -1.0
PMNB **Patos De Minas** 156.64 24 *e*P **PKPdf** 08 38 13.3 -1.8
AMBA **Amambai (Brazi** 156.70 47 *e*P **PKPdf** 08 38 15.7 +0.7
DIAM **Diamantina, MG** 157.15 17 *e*P **PKPdf** 08 38 14.9 -1.0
PCMB **Pacaembu** 157.53 38 *e*P **PKPdf** 08 38 14.3 -1.8
SJPY **San Joaquin** 157.64 53 *e*P **PKPdf** 08 38 15.5 -0.7
CPUP **Villa Florida** 157.83 57 PKP **PKPdf** 08 38 15.8 -0.5
comp=Z,11nm,1.1s,baz=229,slow=1.1,SNR=6.8
CPUP PKPab **PKPab** 08 38 48.1 -0.9
comp=Z,12nm,1.0s,baz=324,slow=2.0,SNR=5.5
CPUP **Villa Florida** 157.83 57 *e*P **PKPdf** 08 38 15.9 -0.4
SJMB **Sao Joao De Ma** 158.02 11 *e*P **PKPdf** 08 38 15.7 -1.1
RIB01 **Linhares ES** 158.74 10 *e*P **PKPdf** 08 38 16.7 -0.9
LDASE **Londrina, Braz** 159.12 40 *e*P **PKPdf** 08 38 17.4 -0.6
FRTB **Fartura** 159.81 36 *e*P **PKPdf** 08 38 19.8 +1.0
FRTB **Fartura** 159.81 36 PKP **PKPdf** 08 38 18.5 -0.3
RCLB **Rio Claro- Sao** 159.85 30 *e*P **PKPdf** 08 38 18.3 -0.6
VAS01 **Vassouras-RJ** 161.04 20 *e*P **PKPdf** 08 38 19.5 -0.7
DUB01 **Friburgo-RJ** 161.10 17 *e*P **PKPdf** 08 38 19.1 -1.2
PARB **Paraibuna** 161.38 27 *e*P **PKPdf** 08 38 20.3 -0.3
MAN01 **Angra dos Reis** 161.46 22 *e*P **PKPdf** 08 38 20.3 -0.4
PET01 **Itanhaem-SP** 161.63 32 *e*P **PKPdf** 08 38 21.1 +0.4
CPSB **Cacapava Do Su** 163.10 59 *e*P **PKPdf** 08 38 21.4 -0.5
PLTB **Pedras Altas** 163.84 63 *e*P **PKPdf** 08 38 22.1 -0.6

ISK 11 08:27:24.9,38°.09N×29°.61E,h8km,ML1.9/12
AFAD 11 08:27:24.7,38°.09N×29°.57E,h7km,3km,ML1.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PASA	**Karahalli, USA**	**0.27**	**347**	P	Pg	08 27 30.2	+0.2
PASA				S	Sg	08 27 34.7	+1.1
PASA				*i* AML	AML	08 27 35.0	
comp=N,107nm,0.3s							
PASA				*i* AML	AML	08 27 36.0	
comp=E,107nm,0.2s							
INCE	**Denizli-Bozkur**	**0.38**	**179**	P	Pg	08 27 32.0	-0.1
INCE				*i* AML	AML	08 27 39.0	
comp=E,73nm,0.3s							
INCE				S	Sb	08 27 39.1	-0.8
INCE				*i* AML	AML	08 27 40.0	
comp=N,80nm,0.6s							
BASM	**Basmaki-Afyon**	**0.42**	**114**	Pg	Pg	08 27 32.9	0.0
BASM			

USAK			*i* AML	AML	08 27 50.0	
	comp=N,46nm,0.2s					
ISP	**Isparta**	**0.80 109**	Pg	Pg	08 27 40.4	+0.3
ISP			Sg	Sb	08 27 51.6	-0.5
MANT	**Manisa**	**0.89 297**	P	Pb	08 27 42.7	+0.1
MANT			S	Sb	08 27 54.4	-0.4
MANT			*i* AML	AML	08 27 58.0	
	comp=N,226nm,0.3s					
MANT			*i* AML	AML	08 27 59.0	
	comp=E,151nm,0.4s					
SHUT	**Suhut-Afyon**	**0.90 59**	Pg	Pg	08 27 42.3	+0.2
GEDZ	**Gediz**	**0.96 353**	Pg	Pb	08 27 43.8	0.0
SHAP	**Saphane-Kutahy**	**0.97 344**	Pg	Pb	08 27 44.1	+0.2
SIMA	**Simav-Kutahya**	**1.09 335**	Pn	Pn	08 27 46.5	0.0
CAME	**Cameli-Denizli**	**1.16 190**	Pn	Pn	08 27 47.9	+0.4
ODEM	**Odemis-Izmir**	**1.19 280**	Pn	Pn	08 27 48.1	+0.3
AYDB	**Zeytinkoy-Aydi**	**1.33 264**	Pn	Pg	08 27 50.9	+0.7
TVSB	**Tavsanli**	**1.36 357**	Pn	Pg	08 27 50.9	+0.1
GORD	**Gordes-Manisa**	**1.36 307**	Pn	Pg	08 27 51.4	+0.6

ROM 11 08:29:09.4±0.1, 41°.100N±0°.003×14°.727E±0°.004, h10km, ML1.6/13, 1C-1D, Error ellipse: s-maj=0.3km s-min=0.2km az=222.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VITU	**Vitulano (BN)**	**0.11**	**319**	⇓P	Pg	08 29 12.5	+0.3
VITU				S	Sg	08 29 14.5	+0.3
VITU				AML	AML		
	comp=E,1130μm,0.8s						
VITU				AML	AML		
	comp=N,916μm,0.4s						
VITU				AML	AML		
	comp=E,866μm,1.8s						
VITU				AML	AML		
	comp=E,866μm,0.2s						
VITU				AML	AML		
	comp=N,857μm,0.2s						
VITU				AML	AML		
	comp=E,405μm,0.2s						
VITU				AML	AML		
	comp=N,816μm,0.3s						
PAOL	**Paolisi**	**0.14**	**240**	⇑P	Pg	08 29 13.2	+0.6
PAOL				S	Sg	08 29 15.9	+1.1
PAOL				AML	AML		
	comp=E,351μm,0.2s						
PAOL				AML	AML		
	comp=N,288μm,1.0s						
PAOL				AML	AML		
	comp=N,358μm,1.5s						
PAOL				AML	AML		
	comp=N,358μm,0.5s						
PAOL				AML	AML		
	comp=E,348μm,0.2s						
PAOL				AML	AML		
	comp=E,350μm,0.2s						
PAOL				AML	AML		
	comp=N,288μm,1.0s						
MRB1	**Monte Rocchett**	**0.19**	**82**	P	Pg	08 29 14.1	+0.7
MRB1				S	Sg	08 29 17.4	+1.3
MTMR	**Montemarano**	**0.28**	**131**	P	Pg	08 29 15.5	+0.5
MTMR				S	Sb	08 29 20.2	-1.1
MTMR				AML	AML		
	comp=E,97μm,1.2s						
MTMR				AML	AML		
	comp=N,93μm,1.3s						
MTMR				AML	AML		
	comp=N,93μm,1.3s						
MTMR				AML	AML		
	comp=N,93μm,0.7s						
MTMR				AML	AML		
	comp=E,97μm,1.2s						
SACR	**S. Croce Del S**	**0.30**	**357**	P	Pg	08 29 15.9	+0.5
SACR				S	Sb	08 29 20.9	-1.0
PTRJ	**Pietraroja**	**0.30**	**330**	P	Pb	08 29 16.5	-0.5
PTRJ				S	Sb	08 29 21.5	-0.6
SGG	**Gregorio Mates**	**0.39**	**318**	P	Pg	08 29 17.5	+0.4
CAFE	**Carife**	**0.39**	**100**	P	Pb	08 29 18.0	-0.5
CAFE				S	Sb	08 29 24.0	-0.7
SNAL	**S. Angelo Dei**	**0.40**	**115**	P	Pg	08 29 17.8	+0.4
SNAL				S	Sb	08 29 24.2	-0.8
PIGN	**Pignataro Magg**	**0.42**	**284**	P	Pg	08 29 18.1	+0.4
PIGN				S	Sb	08 29 24.9	-0.7
BSSO	**Busso**	**0.46**	**347**	P	Pg	08 29 18.8	+0.4
BSSO				S	Sb	08 29 26.0	-0.5
MCRV	**Calabrutti - M**	**0.46**	**133**	P	Pg	08 29 18.6	+0.2
MCRV				S	Sb	08 29 25.7	-0.9
MCRV				AML	AML		
	comp=E,75μm,0.9s						
MCRV				AML	AML		
	comp=N,111μm,0.5s						
SGTA	**Sant Agata di**	**0.48**	**86**	P	Pg	08 29 19.5	+0.6
VAGA	**Valle Agricola**	**0.49**	**310**	P	Pg	08 29 19.2	+0.2
VAGA				S	Sb	08 29 26.5	-0.9
COLB	**Campi Flegrei**	**0.52**	**238**	P	Pg	08 29 20.0	+0.4
CIGN	**Sant'Elia a Pi**	**0.57**	**14**	P	Pg	08 29 20.8	+0.4
TRIV	**Trivento**	**0.68**	**349**	P	Pg	08 29 22.6	0.0
CDRU	**Civita di Ruta**	**0.75**	**144**	P	Pg	08 29 24.0	+0.1

ATH 11 08:30:55.6, 39°.68N×24°.05E, h28km±7km, ML2.0/7, Manual Solution by I.Dede First location: 2019/04/11 08:32:07, This location: 2020/10/14 22:09:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 4 km, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.65**	**356**	P	Pb	08 31 08.5	+0.1
OUR				S	Sb	08 31 17.2	0.0
XOR	**Xorichti**	**0.73**	**245**	P	Pb	08 31 08.7	-1.2
XOR				S	Sb	08 31 19.6	+0.1
NEO	**Neokhori**	**0.74**	**240**	P	Pb	08 31 10.1	+0.1
NEO				S	Sb	08 31 19.6	-0.1
THAS	**Thassos island**	**1.05**	**29**	P	Pn	08 31 14.6	0.0
THAS				S	Sb	08 31 29.1	+0.4
KOKK	**Kokkinochori,**	**1.13**	**358**	P	Pb	08 31 16.6	0.0
HORT	**Hortiatis**	**1.17**	**322**	P	Pb	08 31 18.3	+1.1
SMTH	**Samothraki Isl**	**1.38**	**55**	P	Pn	08 31 19.2	+0.1

WEL 11 08:37:39.9±1.2, 34°S±22°×17°9E±3°9, h347km±19km, M3.6/2, mB3.8/2, ML4.4/4, MLv3.6/2, Mw(mB)2.8/2, Error ellipse: s-maj=57.7km s-min=10.7km az=118.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.91**	**191**	P	Pn	08 38 48.2	+0.5
WMGZ				S	S	08 39 43.2	+0.8
HAZ	**Te Kaha**	**3.98**	**199**	P	Pn	08 38 47.8	-0.6
HAZ				S	S	08 39 43.2	-0.5
PUZ	**Puketiti**	**4.18**	**192**	S	S	08 39 47.1	-0.4
TWGZ	**Tauwhareparae**	**4.34**	**195**	P	Pn	08 38 53.0	+0.8
TWGZ				S	S	08 39 50.4	-0.2
CNGZ	**Carnagh Statio**	**4.59**	**192**	P	Pn	08 38 55.9	+1.1
MWZ	**Matawai**	**4.60**	**199**	P	Pn	08 38 55.5	+0.6
MWZ				S	S	08 39 55.3	-0.3
TKGZ	**Te Karaka**	**4.62**	**195**	S	Pn	08 38 55.4	+0.3
URZ	**Urewera**	**4.65**	**203**	P	Pn	08 38 55.2	-0.2
URZ				S	S	08 39 57.9	+1.4
RIGZ	**Rimuhau**	**4.89**	**195**	P	Pn	08 38 58.8	+0.7
BKZ	**Black Stump Fm**	**5.67**	**203**	P	Pn	08 39 07.5	+0.7
BKZ				S	S	08 40 20.7	+3.5
PNHZ	**Pukenui**	**6.45**	**202**	P	Pn	08 39 15.2	-0.5
PNHZ				S	S	08 40 34.2	+0.8
PRHZ	**Porangahau**	**6.65**	**199**	P	Pn	08 39 18.3	+0.3
TSZ	**Takapari Road**	**6.65**	**203**	P	Pn	08 39 15.5	-2.6
BFZ	**Birch Farm**	**7.14**	**200**	P	Pn	08 39 23.5	-0.2
BFZ				S	S	08 40 48.5	+0.3
MRZ	**Mangatainoka R**	**7.32**	**203**	P	Pn	08 39 25.7	-0.1
MRZ				S	S	08 40 49.5	-2.6
TIWZ	**Tintock**	**7.33**	**201**	P	Pn	08 39 26.3	+0.3
TIWZ				S	S	08 40 55.3	+3.0
OGWZ	**Otaki Gorge**	**7.60**	**205**	P	Pn	08 39 28.4	-0.8
OGWZ				S	S	08 40 58.6	+0.5

*KRNET **11** 08:43:02.5±0.1, 39°.47N×72°.97E, h14km, mb3.3*

*SOME **11** 08:43:02.2, 39°.30N×73°.08E, h25km*
*NNC **11** 08:43:04.2±0.8, 39°.48N×73°.11E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=6.2km s-min=3.5km az=0.0*

ISC 11 08:43:02.7±1.1, 39°.52N±0°.05×73°.05E±0°.03, h10km, n32, σ2°38/57, 18C-26D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.61**	**35**	⇓*eP*	**Pb**	**08 43 15.6**	**0.0**
SFK				⇓*eS*	**Sb**	**08 43 25.3**	**+1.0**
DRK	**Karamyk**	**0.97**	**268**	⇑*eP*	**Pg**	**08 43 19.9**	**-1.4**
DRK				⇑*eS*	**Sg**	**08 43 32.7**	**-1.3**
OHH	**Osh**	**1.03**	**349**	⇑*eP*	**Pn**	**08 43 22.7**	**-0.6**
OHH				⇑*eS*	**Sn**	**08 43 37.5**	**-0.3**
SALK	**Salom-Alik**	**1.49**	**23**	⇓*eP*	**Pg**	**08 43 31.7**	**+0.4**
SALK				⇓*iS*	**Sg**	**08 43 52.9**	**+2.3**
BTK	**Batken**	**1.80**	**288**	⇓*eP*	**Pb**	**08 43 35.4**	**-0.4**
BTK				⇓*eS*	**Sg**	**08 43 59.4**	**-1.2**
ARSB	**Arslanbob**	**1.81**	**358**	⇑*eP*	**Pg**	**08 43 36.9**	**-0.5**
ARSB				⇑*eS*	**Sg**	**08 44 02.1**	**+1.3**
GAR	**Garm**	**2.18**	**257**	⇑*eP*	**Pb**	**08 43 41.1**	**-1.3**
GAR				⇑*eS*	**Sb**	**08 44 09.4**	**-0.1**
ARK	**Arkit**	**2.42**	**340**	⇑*eP*	**Pb**	**08 43 45.7**	**-0.8**
ARK				⇑*eS*	**Sb**	**08 44 17.3**	**+0.8**
TRKS	**Terek-Say**	**2.48**	**325**	⇑*eP*	**Pb**	**08 43 45.3**	**-2.2**
TRKS				⇑*eS*	**Sb**	**08 44 16.6**	**-1.6**
ARLS	**Aral**	**2.54**	**22**	⇑*iP*	**Pb**	**08 43 47.8**	**-0.6**
ARLS				⇑*eS*	**Sb**	**08 44 20.9**	**+1.2**
AML	**Almayashu**	**2.66**	**10**	⇓*eP*	**Pb**	**08 43 49.6**	**-1.0**
AML				⇓*eS*	**Sb**	**08 44 24.1**	**+0.6**
UCH	**Uchtor**	**2.93**	**22**	⇓*eP*	**Pb**	**08 43 53.5**	**-1.7**
UCH				⇓*eS*	**Sb**	**08 44 30.7**	**-0.6**
NRN	**Naryn**	**2.96**	**49**	⇓*eP*	**Pb**	**08 43 53.7**	**-1.9**
NRN				⇓*eS*	**Sb**	**08 44 30.9**	**-1.0**
MNAS	**Manas**	**3.00**	**352**	⇓*eP*	**Pb**	**08 43 53.9**	**-2.3**
MNAS				⇓*eS*	**Sb**	**08 44 31.4**	**-1.6**
EKS2	**Erkin-Say**	**3.19**	**10**	⇓*eP*	**Pb**	**08 43 56.8**	**-2.7**
EKS2				⇓*eS*	**Sb**	**08 44 36.4**	**-2.1**
MRKS	**Merke**	**3.23**	**2**	Pg	**Pg**	**08 44 03.6**	**-0.9**
	2.8nm,0.4s						
MRKS				Lg	Lg	08 44 47.8	
	28nm,0.5s						
MRKS	**Merke**	**3.23**	**2**	*eP*	**Pg**	**08 44 03.6**	**-0.9**
	2.8nm,0.4s						
MRKS				*eS*	**Sg**	**08 44 47.8**	**+1.4**
	28nm,0.5s						
KBK	**Karagaybulak**	**3.45**	**24**	⇓*eP*	**Pb**	**08 44 00.6**	**-3.4**
KBK				⇓*eS*	**Sb**	**08 44 43.1**	**-2.9**
BOOM	**Boomskoye usch**	**3.69**	**35**	⇓*eP*	**Pb**	**08 44 04.0**	**-4.1**
BOOM				⇑*eS*	**Sb**	**08 44 49.0**	**-3.9**
CHMS	**Chumysh**	**3.71**	**20**	⇓*eP*	**Pb**	**08 44 04.0**	**-4.3**
CHMS				⇓*eS*	**Sb**	**08 44 49.0**	**-4.3**
TKM2	**Tokmak 2**	**3.91**	**29**	⇓Pn	**Pn**	**08 44 05.8**	**+2.9**
	1.8nm,0.4s						
TKM2				⇑Lg	Lg	08 45 09.1	
	6.4nm,0.7s						
KK31	**Karatay Array**	**4.06**	**333**	⇓Pn	**Pn**	**08 44 08.4**	**+3.5**
	1.0nm,0.3s,baz=87,slow=42,SNR=16						
KK31				⇑Sn	**Sb**	**08 44 58.9**	**-4.6**
	2.5nm,0.3s,baz=154,slow=23,SNR=6.8						
KKAR	**Karatay Array**	**4.06**	**333**	⇓*eP*	**Pn**	**08 44 08.2**	**+3.3**
KKAR				⇓*eS*	**Sn**	**08 44 56.3**	**+3.8**
KDJ	**Kajisay**	**4.08**	**49**	⇓*eP*	**Pn**	**08 44 09.2**	**+3.9**
KDJ				⇓*eS*	**Sn**	**08 44 58.2**	**+5.0**
KST	**Kastek**	**4.15**	**31**	Pg	**Pg**	**08 44 19.9**	**-2.3**
	2.7nm,0.4s						
KST				Lg	Lg	08 45 15.8	
	6.1nm,0.7s						
KST	**Kastek**	**4.15**	**31**	*eP*	**Pg**	**08 44 19.9**	**-2.3**
	2.7nm,0.4s						
KST				*eS*	**Sg**	**08 45 15.8**	**-0.2**
	6.1nm,0.7s						
DGS	**Degeres**	**4.25**	**28**	Pg	**Pg**	**08 44 22.1**	**-2.0**
	3.8nm,0.8s						
DGS				Lg	Lg	08 45 19.5	
	8.0nm,0.7s						
BRLS	**Borolday**	**4.26**	**326**	Pg	**Pb**	**08 44 20.3**	**+2.5**
	2.5nm,0.3s						
BRLS				Lg	Lg	08 45 16.5	
	5.6nm,0.3s						
BRLS	**Borolday**	**4.26**	**326**	*eP*	**Pb**	**08 44 20.3**	**+2.5**
	2.5nm,0.3s						
BRLS				*eS*	**Sg**	**08 45 16.6**	**-3.0**
	5.6nm,0.3s						
TNSS	**Tian-Shan**	**4.58**	**39**	Pg	**Pg**	**08 44 28.1**	**-2.4**
	4.1nm,0.3s						
TNSS				Lg	Lg	08 45 30.1	
	3.5nm,0.5s						
TNSS	**Tian-Shan**	**4.58**	**39**	*eP*	**Pg**	**08 44 28.1**	**-2.4**
	4.1nm,0.3s						
TNSS				*eS*	**Sg**	**08 45 30.1**	**+0.3**
	3.5nm,0.5s						
KTBS	**Karatobe**	**5.00**	**32**	Pg	**Pg**	**08 44 36.4**	**-2.0**
	3.3nm,0.6s						
KTBS				Lg	Lg	08 45 44.2	
	6.4nm,0.6s						

IDC 11 08:43:14.8±1.8, 22°.61S×173°.63W, h0km, mb3.4/2, mbtmp3.9/4, ML5.2/1, Error ellipse: s-maj=72.8km s-min=32.5km az=176.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.20**	**300**	Pn	Pn	08 45 30.2	+1.3
	0.8nm,0.3s,baz=128,slow=16,SNR=9.7						
	7.2nm,0.7s						
RAR	**Rarotonga**	**12.94**	**86**	Pn	Pn	08 46 20.6	+0.6
	6.9nm,0.3s,baz=274,slow=15,SNR=9.6						
RAR				Sn	Sn	08 48 26.8	-18
	0.4nm,0.3s,baz=237,slow=14,SNR=1.8						
ASAR	**Alice Springs**	**48.03**	**258**	P	P	08 51 55.1	-1.1
	0.4nm,0.7s,baz=99,slow=8.0,SNR=8.5						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**48.36**	**263**	P	P	08 51 59.3	+0.5
	0.2nm,0.5s,baz=96,slow=8.0,SNR=12						
	0.2nm,0.5s						
AKASG	**Malin Array Be**	**146.77**	**333**	PKPbc	PKPdf	09 02 57.5	+0.6
	0.3nm,0.4s,baz=34,slow=4.4,SNR=4.4						

*ASRS **11** 08:54:03.0±1.2, 53°.73N×88°.16E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **11** 08:54:06.2±4.3, 55°.97N×84°.81E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=48.7km s-min=27.5km az=67.0, Suspected Mining explosion.*

IDC 11 08:54:04.0±3.8, 53°.73N×88°.34E, h0km, mbtmp2.8/3, ML2.2/3, 6C, Error ellipse: s-maj=37.9km s-min=21.4km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.10**	**277**	I	I	09 08 10.0	
	0.1nm,0.7s,baz=93,slow=334,SNR=26						
ZAA0	**Zalesovo Array**	**2.10**	**277**	⇑P	Pn	08 54 41.0	+0.6
	1.0nm,0.7s						
ZAA0				⇑S	Sb	08 55 08.8	-0.7
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**2.10**	**277**	Pn	Pn	08 54 40.5	+0.2
	0.7nm,0.3s,baz=90,slow=13,SNR=22						
ZALV				Lg	Lg	08 55 09.7	
	1.5nm,0.3s,baz=96,slow=24,SNR=12						
	5.9nm,0.6s						
KURK	**Kurchatov**	**6.69**	**247**	⇑Pn	Pn	08 55 42.8	-0.6
	1.6nm,0.8s						
KURK				⇑Lg	Lg	08 57 28.9	
	4.2nm,0.7s						
KURBB	**Kurchatov Arra**	**6.79**	**247**	Pn	Pn	08 55 46.0	+1.3
	0.1nm,0.3s,baz=61,slow=14,SNR=5.8						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**6.79**	**247**	⇑Pn	Pn	08 55 44.2	-0.6
	3.2nm,1.2s						
KURBB				⇑Lg	Lg	08 57 30.2	
	10nm,0.7s						
MKAR	**Makanchi Array**	**7.95**	**212**	Pn	Pn	08 56 00.9	+0.1
	0.1nm,0.3s,baz=28,slow=14,SNR=2.0						
	0.2nm,0.4s						

*RSNC **11** 08:55:27.1±0.0, 7°.N±1°×7°.3W±°, h113km±1km, M3.3, mb4.4, ML3.0*
*IDC **11** 08:55:28.4±6.2, 7°.31N×75°.61W, h110km±75km, mb3.0/1, mbtmp3.5/2, ML2.4/1, Error ellipse: s-maj=170.7km s-min=41.3km az=80.0*

ISC 11 08:55:25.8±1.0, 7°.48N±0°.02×73°.38W±0°.03, h116km±5km, n43, σ1°44/80, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZNC	**La Esperanza**	**0.15**	**22**	P	**Pn**	**08 55 42.1**	**+0.2**
EZNC				S	**Sn**	**08 55 54.1**	**+0.2**
VMM09	**Lebrija**	**0.36**	**166**	P	**Pn**	**08 55 42.5**	**-0.2**
VMM09				S	**Sn**	**08 55 54.3**	**-1.1**
VMM05	**San Martn**	**0.46**	**337**	P	**Pn**	**08 55 43.9**	**+0.8**
VMM05				S	**Sn**	**08 55 56.5**	**+0.5**
VMM07	**Puerto Wilches**	**0.49**	**256**	P	**Pn**	**08 55 43.7**	**+0.5**
VMM07				S	**Sn**	**08 55 56.3**	**0.0**
BRJC	**Barrancabermej**	**0.62**	**216**	P	**Pn**	**08 55 43.6**	**-0.6**
BRJC				S	**Sn**	**08 55 56.9**	**-1.0**
PAMC	**Pamplona, Colo**	**0.69**	**102**	P	**Pn**	**08 55 45.6**	**+0.4**
PAMC				S	**Sn**	**08 56 00.4**	**+0.7**
OCAC	**Ocana**	**0.75**	**4**	P	**Pn**	**08 55 45.7**	**+0.3**
OCAC				S	**Sn**	**08 56 00.8**	**+0.7**
BARC	**Barichara**	**0.90**	**168**	P	**Pn**	**08 55 46.5**	**-0.3**
BARC				S	**Sn**	**08 56 01.5**	**-1.2**
AGCC	**Aguachica**	**1.04**	**349**	P	**Pn**	**08 55 48.1**	**+0.1**
AGCC				S	**Sn**	**08 56 05.3**	**+0.5**
PTBC	**PUERTO BERRIO,**	**1.42**	**229**	P	**Pn**	**08 55 50.8**	**-1.3**
PTBC				S	**Sn**	**08 56 10.1**	**-2.0**
ZARC	**Zaragoza, Cauc**	**1.47**	**271**	P	**Pn**	**08 55 52.9**	**+0.3**
ZARC				S	**Sn**	**08 56 13.9**	**+0.9**
RUSC	**La Rusia**	**1.61**	**170**	P	**Pn**	**08 55 53.5**	**-1.2**
RUSC				S	**Sn**	**08 56 15.7**	**-1.0**
TAMC	**Tame, Arauca**	**1.89**	**123**	P	**Pn**	**08 55 57.7**	**0.0**
TAMC				S	**Sn**	**08 56 21.1**	**-0.9**
UREC	**San Jos de Ur**	**2.15**	**277**	P	**Pn**	**08 56 00.2**	**-0.8**
UREC				S	**Sn**	**08 56 26.1**	**-1.9**
NORC	**Norcasia**	**2.42**	**218**	P	**Pn**	**08 56 03.4**	**-1.0**
NORC				S	**Sn**	**08 56 34.0**	**-0.1**
ARGC	**Ariguani, Magd**	**2.51**	**340**	P	**Pn**	**08 56 07.2**	**+1.5**
ARGC				S	**Sn**	**08 56 37.9**	**+1.7**
ROSC	**El Rosal**	**2.79**	**200**	P	**Pn**	**08 56 11.5**	**+1.9**
	12nm,0.3s,baz=323,slow=20,SNR=25						
ROSC				S	**Sn**	**08 56 45.4**	**+2.2**
	101nm,0.3s,baz=343,slow=19,SNR=10						
	24nm,0.3s						
ROSC	**El Rosal**	**2.79**	**200**	P	**Pn**	**08 56 11.2**	**+1.6**
ROSC				S	**Sn**	**08 56 45.8**	**+2.6**
DBBC	**Dabeiba**	**2.85**	**261**	P	**Pn**	**08 56 10.0**	**-0.1**
DBBC				S	**Sn**	**08 56 42.2**	**-2.0**
CHIC	**Chingaza**	**2.86**	**187**	P	**Pn**	**08 56 10.8**	**+0.3**
CHIC				S	**Sn**	**08 56 46.8**	**+2.0**
SJCC	**San Jacinto, C**	**2.99**	**324**	P	**Pn**	**08 56 11.7**	**-0.2**
SJCC				S	**Sn**	**08 56 46.2**	**-1.3**
GUY2C	**Guyana, Caldas**	**2.99**	**222**	P	**Pn**	**08 56 12.0**	**-0.3**
GUY2C				S	**Sn**	**08 56 47.7**	**-0.4**
CVER	**Cruz Verde, Cu**	**3.02**	**193**	P	**Pn**	**08 56 12.7**	**-0.1**
SDV	**Santo Domingo**	**3.05**	**63**	P	**Pn**	**08 56 13.5**	**+0.6**
SDV				S	**Sn**	**08 56 46.7**	**-2.4**
CBOC	**Ciudad Bolivar**	**3.07**	**239**	P	**Pn**	**08 56 13.3**	**+0.2**
APAC	**Apartado, Choc**	**3.20**	**278**	P	**Pn**	**08 56 15.0**	**+0.3**
APAC				S	**Sn**	**08 56 51.6**	**-0.8**
LCBC	**Los crdobas,**	**3.26**	**295**	P	**Pn**	**08 56 15.1**	**-0.4**
LCBC				S	**Sn**	**08 56 54.5**	**+0.7**
VILC	**Villavicencio,**	**3.36**	**185**	P	**Pn**	**08 56 16.6**	**-0.4**
VILC				S	**Sn**	**08 56 56.6**	**+0.2**
CRJC	**Cerrejon, Guaj**	**3.55**	**8**	P	**Pn**	**08 56 18.7**	**-0.7**
CRJC				S	**Sn**	**08 56 59.7**	**-1.1**
ANIL	**Santa Ana**	**3.59**	**214**	P	**Pn**	**08 56 21.6**	**+1.5**
ANIL				S	**Sn**	**08 57 05.2**	**+3.1**
SMRC	**Santa Marta, M**	**3.75**	**347**	P	**Pn**	**08 56 23.1**	**+1.1**
SMRC				S	**Sn**	**08 57 05.4**	**-0.1**
PRAC	**Prado**	**4.03**	**202**	P	**Pn**	**08 56 25.3**	**-0.5**
PRAC				S	**Sn**	**08 57 13.7**	**+1.4**
CAPC	**Capurgana**	**4.10**	**287**	P	**Pn**	**08 56 24.2**	**-2.4**
CAPC				S	**Sn**	**08 57 10.6**	**-3.2**
SOLC	**Bahia Solano**	**4.19**	**253**	P	**Pn**	**08 56 27.8**	**-0.1**
SOLC				S	**Sn**	**08 57 16.7**	**+0.6**
URMC	**La Uribe, Meta**	**4.32**	**193**	P	**Pn**	**08 56 29.8**	**0.0**
URMC				S	**Sn**	**08 57 19.9**	**+0.6**
PTAC	**Punta Ardita,**	**4.41**	**266**	P	**Pn**	**08 56 31.5**	**+0.7**
URIC	**Uribia, Colomb**	**4.41**	**18**	P	**Pn**	**08 56 29.9**	**-0.9**
URIC				S	**Sn**	**08 57 18.4**	**-2.9**
YOTC	**Yotoco, Valle**	**4.56**	**221**	P	**Pn**	**08 56 32.1**	**-0.9**
GUVC	**San Jose del G**	**4.96**	**171**	P	**Pn**	**08 56 34.4**	**-3.9**
GUVC				S	**Sn**	**08 57 33.5**	**-1.1**
BETC	**Betania**	**5.19**	**203**	P	**Pn**	**08 56 41.1**	**-0.3**
BETC				S	**Sn**	**08 57 39.4**	**-0.9**
MACC	**Macarena, Meta**	**5.32**	**185**	P	**Pn**	**08 56 41.2**	**-1.9**
MACC				S	**Sn**	**08 57 38.8**	**-4.6**
YKA	**Yellowknife Ar**	**62.56**	**340**	P	**P**	**09 05 36.5**	**-0.7**
	0.3nm,0.7s,baz=136,slow=6.7,SNR=7.2						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**150.42**	**242**	PKPbc	**PKPdf**	**09 15 02.2**	**+2.8**
	0.4nm,0.7s,baz=103,slow=2.7,SNR=2.4						

RSNC 11 09:00:28.8±0.0, 7°N±1°×7°3W±°, h149km±2km, M2.7, mb3.5, ML2.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**183**	P	Pn	09 00 48.7	-0.7
BARC				S	Sn	09 01 02.4	-2.6
BRJC	**Barrancabermej**	**0.59**	**284**	P	Pn	09 00 50.3	-0.2
BRJC				S	Sn	09 01 07.7	+0.7
PAMC	**Pamplona, Colo**	**0.69**	**43**	P	Pn	09 00 51.5	-0.2
PAMC				S	Sn	09 01 08.7	-0.4
RUSC	**La Rusia**	**0.94**	**175**	P	Pn	09 00 52.6	-0.9
RUSC				S	Sn	09 01 11.1	-1.3
PTBC	**PUERTO BERRIO,**	**1.31**	**257**	P	Pn	09 00 54.9	-1.5
PTBC				S	Sn	09 01 16.1	-1.3
OCAC	**Ocana**	**1.41**	**354**	P	Pn	09 00 57.1	-0.4
OCAC				S	Sn	09 01 18.9	-0.6
TAMC	**Tame, Arauca**	**1.43**	**106**	P	Pn	09 00 57.1	-0.5
TAMC				S	Sn	09 01 18.9	-0.6
ZARC	**Zaragoza, Cauc**	**1.80**	**292**	P	Pn	09 01 01.2	-0.4
Z

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMRD	Marand	0.38	47	Pg	Pg	09 15 03.2	+0.7
IMRD				Sg	Sb	09 15 09.4	-1.3
ITBZ	Tabriz	0.67	109	Pg	Pg	09 15 07.5	-0.4
ORD	Ordubad	0.69	47	P	Pb	09 15 09.3	-0.4
ORD				S	Sb	09 15 19.1	-0.5
NAX	Nakhchivan	0.73	9	P	Pb	09 15 10.4	+0.1
NAX				S	Sb	09 15 20.5	-0.2
IAZR	Azarshahr	0.92	147	Pg	Pg	09 15 13.2	+0.4
SBZ	Shahbuz	0.96	10	P	Pb	09 15 14.2	0.0
SBZ				S	Sn	09 15 28.5	-0.8
HYR	Heyderabad	1.32	343	P	Pg	09 15 21.8	+1.3
HYR				S	Sn	09 15 39.6	+1.3
IHRS	Heris	1.34	95	Pg	Pb	09 15 21.0	+0.2
IHRS				Sg	Sg	09 15 40.5	+2.4
IGDI	IGDIR	1.72	325	P	Pg	09 15 29.3	+1.2
QRD	Qoradiz	1.84	56	S	Sg	09 15 55.8	+1.6
IHSH	Hashtrud	1.90	127	Pn	Pb	09 15 29.9	-0.5
AGDM	Agdam	2.14	39	P	Pb	09 15 34.6	+0.2
AGDM				S	Sg	09 16 02.9	-1.1
GDB	GEDABAY	2.29	8	P	Pb	09 15 37.2	+0.3
GDB				S	Sg	09 16 07.6	-0.9
YRD	Yardimli	2.31	78	P	Pb	09 15 37.3	0.0
YRD				S	Sg	09 16 09.1	-0.2
GANJ	Ganja	2.32	19	P	Pb	09 15 37.5	+0.2
GANJ				S	Sg	09 16 08.1	-1.4
LRK	Lerik	2.35	84	P	Pb	09 15 38.2	+0.2
LRK				S	Sg	09 16 11.0	+0.3
GLBA	Clilabad	2.50	71	P	Pb	09 15 40.5	0.0
GLBA				S	Sg	09 16 15.9	+0.4
QZX	Qazax, Azerbai	2.60	0	P	Pb	09 15 40.6	-1.6
QZX				S	Sg	09 16 16.3	-2.4
ASTR	Astara	2.70	87	P	Pb	09 15 42.2	-1.7
ASTR				S	Sb	09 16 18.3	+1.0

*IDC **11** 09:23:42.0±1.5, 24°.19N×121°.04E, h0km, mb3.3/3, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=70.9km s-min=27.2km az=68.0*
*JMA **11** 09:23:51.7±0.3, 25°.N±1°×121°.9E±0°.7, h83km±3km, MV3.0/15, TAIWAN REGION*
*TAP **11** 09:23:51.2, 24°.78N×121°.93E, h88km, ML4.2, B*
ISC 11 09:23:51.2±0.8, 24°.80N±0°.03×121°.92E±0°.02, h91km±4km, n166, σ0s77/260, mb3.3/3, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.04	12	eP	Pn	09 24 04.4	+0.4
ILA	Ilan	0.16	256	eP	Pn	09 24 04.3	+0.1
ILA				i S	Sn	09 24 14.1	+0.2
TIPB	Shuangxi	0.19	332	i P	Pn	09 24 04.2	-0.2
TIPB				i S	Sn	09 24 13.2	-0.9
TWB1	Santiao Chiao	0.21	16	↓i P	Pn	09 24 04.2	-0.2
TWB1				i S	Sn	09 24 13.2	-0.9
ESAO	Su ao	0.24	198	P	Pn	09 24 04.5	0.0
ESAO				S	Sn	09 24 14.0	-0.3
TWE	Neicheng	0.25	250	i P	Pn	09 24 04.7	+0.2
TWE				i S	Sn	09 24 14.4	+0.1
NDS	Dongshan	0.25	228	i P	Pn	09 24 04.6	+0.1
NDS				eS	Sn	09 24 14.8	+0.3
SXI1	Grass Mountain	0.29	352	P	Pn	09 24 04.6	-0.2
SXI1				eS	Sn	09 24 14.0	-0.9
NWF	Wu-fen Shan	0.29	334	i P	Pn	09 24 04.7	-0.2
NWF				S	Sn	09 24 14.0	-1.0
WFSB	Wu-fen Shan	0.29	334	P	Pn	09 24 04.7	-0.1
WFSB				S	Sn	09 24 13.9	-0.9
FUSB	Fushanzhiwuyua	0.31	262	P	Pn	09 24 05.0	+0.1
FUSB				eS	Sn	09 24 15.0	-0.1
TWA	Mucha	0.35	300	i P	Pn	09 24 06.0	+0.9
TWA				i S	Sn	09 24 15.7	+0.3
ENTT	Nioudou	0.36	243	i P	Pn	09 24 05.6	+0.5
ENTT				S	Sn	09 24 16.0	+0.5
TNOU	National Taiwa	0.37	338	eP	Pn	09 24 05.9	+0.7
TNOU				eS	Sn	09 24 15.4	-0.1
EWUT	Wuta	0.38	200	i P	Pn	09 24 05.6	+0.3
EWUT				i S	Sn	09 24 16.2	+0.6
NWLT	Wulai	0.38	266	i P	Pn	09 24 05.3	+0.1
NWLT				eS	Sn	09 24 14.8	-0.9
NHDH	Xindian Distri	0.39	294	P	Pn	09 24 05.4	+0.1
NHDH				S	Sn	09 24 15.4	-0.4
NHY	Taipei	0.40	306	eP	Pn	09 24 05.5	+0.2
ENA	Nanau	0.41	204	i P	Pn	09 24 05.5	+0.1
ENA				eS	Sn	09 24 16.5	+0.6
TAP	Taipei	0.45	302	eP	Pn	09 24 05.8	+0.2
TAP				i S	Sn	09 24 16.0	-0.4
LATG	Datong	0.45	233	P	Pn	09 24 06.2	+0.4
LATG				i S	Sn	09 24 17.3	+0.6
YM01	YM01	0.47	317	i P	Pn	09 24 05.8	0.0
YM01				i S	Sn	09 24 16.0	-0.8
EOS2	EOS2	0.48	144	i P	Pn	09 24 06.3	+0.6
EOS2				eS	Sn	09 24 17.5	+1.0
YM08	YM08	0.49	322	P	Pn	09 24 05.7	-0.3
YM08				eS	Sn	09 24 15.7	-1.3
ZUZH	Zhuzihu	0.49	316	eP	Pn	09 24 06.0	-0.1
ZUZH				S	Sn	09 24 16.3	-0.8
EAHA	Aohua	0.50	199	eP	Pn	09 24 06.0	-0.1
EAHA				S	Sn	09 24 18.1	+1.0
YHNB	Yeheng	0.52	255	P	Pn	09 24 06.0	-0.3
YHNB	Yeheng	0.52	255	S	Sn	09 24 16.9	-0.6
YHNB	Yeheng	0.52	255	i P	Pn	09 24 06.1	-0.1
YHNB				eS	Sn	09 24 16.6	-0.8
ANP	Anpu	0.53	316	eP	Pn	09 24 06.1	-0.2
ANP				eS	Sn	09 24 17.0	-0.6
NSK	Sanguang	0.53	256	i P	Pn	09 24 06.3	-0.1
NSK				i S	Sn	09 24 16.6	-1.1
TWS1	Kuangyinshan	0.55	303	P	Pn	09 24 05.8	-0.7
TWS1				S	Sn	09 24 17.0	-0.7
TWY	Chenhua	0.55	328	eP	Pn	09 24 05.6	-0.9
NTST	Danshui	0.56	310	eP	Pn	09 24 07.0	+0.5
NTST				eS	Sn	09 24 18.4	+0.4
NNSB	Datong	0.62	233	i P	Pn	09 24 07.3	+0.2
NNSB				S	Sn	09 24 18.9	-0.2
EOS3	EOS3	0.63	145	i P	Pn	09 24 07.7	+0.8
EOS3				eS	Sn	09 24 19.9	+1.2
KSHI	Guanxi Townshi	0.68	268	i P	Pn	09 24 07.9	+0.3
KSHI				i S	Sn	09 24 20.0	+0.2
NCUH	Zhongli	0.69	284	P	Pn	09 24 07.9	+0.2
NCUH				eS	Sn	09 24 20.2	+0.2
NACB	Ninganchiao	0.69	206	P	Pn	09 24 07.0	-0.8
NACB	Ninganchiao	0.69	206	i P	Pn	09 24 07.0	-0.7
NACB				eS	Sn	09 24 19.2	-0.9
ETL	Fush Village	0.70	203	eP	Pn	09 24 07.4	-0.5
ETLH	Xiulin Townshi	0.72	214	P	Pn	09 24 08.0	-0.1
ETLH				eS	Sn	09 24 20.4	-0.3
NFF	Wufeng Townshi	0.75	257	i P	Pn	09 24 08.4	0.0
NFF				i S	Sn	09 24 20.7	-0.5
EOS4	EOS4	0.77	152	eP	Pn	09 24 08.1	+0.1
TWD	Chiawan	0.78	203	P	Pn	09 24 08.1	-0.5
TWD				S	Sn	09 24 20.0	-1.6
FUSS	Fushou	0.83	228	i P	Pn	09 24 09.9	+0.5
FUSS				eS	Sn	09 24 23.0	0.0
PCYT	Pengchaiyu	0.83	9	eP	Pn	09 24 09.4	+0.3
LIOB	Emei	0.84	259	i P	Pn	09 24 09.3	+0.1
LIOB				S	Sn	09 24 22.6	-0.1
SBCB	Hsinchu	0.85	269	P	Pn	09 24 09.7	+0.4
SBCB				S	Sn	09 24 22.9	0.0
NSTT	Nanjuang	0.86	259	P	Pn	09 24 09.4	+0.1
NSTT				eS	Sn	09 24 22.4	-0.6
HSN	Hsinchu	0.87	270	i P	Pn	09 24 09.4	0.0
HSN				S	Sn	09 24 22.4	-0.7
HWA	Hwalien	0.87	199	eP	Pn	09 24 09.6	0.0
TWT	Tachien	0.87	231	P	Pn	09 24 10.7	+0.9
TWT				eS	Sn	09 24 24.0	+0.4
TDCB	Techi	0.89	232	P	Pn	09 24 10.7	+0.8
TDCB				i S	Sn	09 24 24.2	+0.4
WHF	Hehuan Shan	0.89	223	eP	Pn	09 24 10.4	+0.2
WHF				S	Sn	09 24 24.1	-0.2
ETM	Tongmen	0.92	205	eP	Pn	09 24 09.2	-0.9
TEYL	Yanliau Villag	0.98	198	eP	Pn	09 24 10.6	-0.1
JYNG	Yonagunijimaku	0.99	110	P	Pn	09 24 10.7	-0.2
JYNG				S	Sn	09 24 25.1	-0.6
WHP	Taichung City	1.03	240	i P	Pn	09 24 12.2	+0.7
WHP				S	Sn	09 24 26.9	+0.2
YOJ	Yonaguni jima	1.05	109	P	Pn	09 24 11.5	0.0
YOJ				S	Sn	09 24 26.1	-0.7
YOJ	Yonaguni jima	1.05	109	P	Pn	09 24 11.4	0.0
YOJ				S	Sn	09 24 26.4	-0.4
NMLH	Miaoli	1.06	256	eP	Pn	09 24 12.0	+0.3
NMLH				eS	Sn	09 24 26.9	-0.2
SHUL	Shoufeng	1.06	198	i P	Pn	09 24 11.8	+0.1
SHUL				eS	Sn	09 24 27.3	+0.2
ESL	Shilin	1.08	204	P	Pn	09 24 10.8	-1.1
OWD	Renai	1.09	219	P	Pn	09 24 12.3	+0.2
OWD				eS	Sn	09 24 27.8	0.0
WUSB	Renai	1.09	222	P	Pn	09 24 12.7	+0.5
WUSB				S	Sn	09 24 28.1	+0.1
NSY	Sanyi	1.13	250	eP	Pn	09 24 10.1	-2.3
NSY				eS	Sn	09 24 26.0	-2.4
TWQ1	Liyutan	1.14	247	eP	Pn	09 24 13.0	+0.4
TWQ1				eS	Sn	09 24 28.4	-0.3
TEGC	Jichi Village	1.15	198	eP	Pn	09 24 12.9	+0.2
WCS	Beigang Elemen	1.18	231	eP	Pn	09 24 13.8	+0.7
WCS				eS	Sn	09 24 29.8	+0.2
WARBT	Fenglin Townsh	1.19	204	eP	Pn	09 24 11.9	-1.3
WARBT				eS	Sn	09 24 27.5	-2.2
EGFH	Guangfu	1.22	202	eP	Pn	09 24 13.9	+0.3
EGFH				eS	Sn	09 24 28.8	-1.6
WDJ	Dajia District	1.25	249	eP	Pn	09 24 14.7	+0.7
WDJ				S	Sn	09 24 31.4	+0.3
VWDT	VWDT	1.27	214	P	Pn	09 24 14.5	+0.4
SMLT	Sun Moon Lake	1.31	226	i P	Pn	09 24 14.7	-0.1
SMLT				eS	Sn	09 24 32.3	-0.2
TCU	Taichung	1.31	240	eP	Pn	09 24 15.1	+0.5
TYC	Yuchr	1.32	228	P	Pn	09 24 15.4	+0.7
TYC				i S	Sn	09 24 33.0	+0.4
SSLB	Suanglung	1.34	221	P	Pn	09 24 15.4	+0.3
SSLB	Suanglung	1.34	221	S	Sn	09 24 34.0	+0.9
SSLB	Suanglung	1.34	221	P	Pn	09 24 15.7	+0.6
SSLB				eS	Sn	09 24 33.9	+0.7
HGSD	Ruisui	1.38	199	eP	Pn	09 24 15.4	-0.2
EHY	Hungye	1.40	203	eP	Pn	09 24 14.7	-1.2
WCHH	Zhanghua	1.44	240	P	Pn	09 24 16.6	+0.4
WCHH				eS	Sn	09 24 35.2	+0.1
WCH1	Changhua City	1.45	240	eS	Sn	09 24 35.7	+0.3
WNT	Mingjian	1.46	231	eP	Pn	09 24 17.0	+0.5
WNT				eS	Sn	09 24 36.2	+0.6
WJS	Zhushan	1.46	228	eP	Pn	09 24 17.6	+1.1
WJS				eS	Sn	09 24 36.3	+0.6
WHYT	Xinyi Township	1.47	222	eP	Pn	09 24 17.7	+1.0
WHYT				eS	Sn	09 24 37.0	+1.0
YULB	Yu-li	1.52	202	P	Pn	09 24 16.5	-0.8
YULB	Yu-li	1.52	202	eP	Pn	09 24 16.0	-1.3
ECBN	Changbin	1.54	196	eP	Pn	09 24 17.4	-0.2
ECBN				eS	Sn	09 24 36.9	-0.5
EYUL	Yuli	1.55	201	eP	Pn	09 24 18.1	+0.5
TWF1	Yuli	1.55	202	eP	Pn	09 24 17.5	-0.2
ALS	Alishan	1.64	219	eP	Pn	09 24 20.0	+0.9
ALS				eS	Sn	09 24 41.6	+1.3
CHN5	Tsauling	1.65	224	eP	Pn	09 24 19.9	+0.8
CHN5				eS	Sn	09 24 40.9	+0.7
WGK	Gukeng	1.67	228	eP	Pn	09 24 20.1	+1.0
WGK				S	Sn	09 24 41.2	+0.9
CHKH	Chenggong	1.68	197	eP	Pn	09 24 19.0	-0.2
CHKH				eS	Sn	09 24 40.0	-0.5
WDLH	Douliu	1.68	229	P	Pn	09 24 20.0	+0.7
WDLH				S	Sn	09 24 40.9	+0.2
FULB	Fuli	1.70	200	eP	Pn	09 24 19.8	+0.2
IRIF	Iriomote-Funau	1.71	105	P	Pn	09 24 19.5	-0.2
WTCT	Ta-ch'eng	1.77	238	eS	Sn	09 24 42.3	-0.3
EHD	Haiduan	1.77	202	eP	Pn	09 24 21.2	+0.6
WTK	Tuku	1.79	232	P	Pn	09 24 21.1	+0.4
WTK				S	Sn	09 24 43.8	+0.7
ELDTW	Lidau	1.81	207	eP	Pn	09 24 21.8	+0.7
WCKO	Fanlu	1.82	222	P	Pn	09 24 22.4	+1.4
WCKO				S	Sn	09 24 44.9	+1.1
HATJ	Hateruma jima	1.87	113	eP	Pn	09 24 22.7	+1.0
CHY	Chiayi	1.89	227	eP	Pn	09 24 22.6	+0.6
CHY				i S	Sn	09 24 45.7	+0.3
CHN4	Tsaushan	1.89	220	eP	Pn	09 24 22.9	+0.9
TPUB	Ta-pu	1.91	219	P	Pn	09 24 23.1	+0.8
TPUB	Ta-pu	1.91	219	S	Sn	09 24 46.9	+1.0
TPUB	Ta-pu	1.91	219	eP	Pn	09 24 23.3	+1.0
TPUB				eS	Sn	09 24 46.7	+0.8
EDH	Donghe	1.91	197	P	Pn	09 24 21.8	-0.4
EDH				i S	Sn	09 24 44.6	-1.3
STYH	Taoyuan	1.94	213	eP	Pn	09 24 22.7	+0.1
STYH				eS	Sn	09 24 47.9	+1.4
WSF	Szhu	1.94	234	eS	Sn	09 24 47.0	+0.5
WTP	Ta-pu	1.96	218	eP	Pn	09 24 24.0	+1.0
WTP				eS	Sn	09 24 48.0	+0.9
JKRS	Kuro-shima	1.98	106	eP	Pn	09 24 23.9	+0.7
JKRS				eS	Sn	09 24 47.8	+0.2
WSL	Shuilin Townsh	2.01	231	eP	Pn	09 24 24.2	+0.7
WSL				S	Sn	09 24 48.1	-0.1
TWK	Hsinying	2.02	221	eP	Pn	09 24 24.2	+0.5
TWK				eS	Sn	09 24 50.2	+1.7
LONT	Longtian	2.02	201	eP	Pn	09 24 23.3	-0.5
LONT				eS	Sn	09 24 47.1	-1.5
SNST	Tainan City	2.05	220	eP	Pn	09 24 24.8	+0.7
CHN1	Nanshi	2.06	219	eP	Pn	09 24 25.1	+0.9
CHN1				eS	Sn	09 24 50.5	+1.1
JIJ	Ishigaki jima	2.07	102	P	Pn	09 24 24.5	+0.2
ICHU	Yijhu	2.08	227	eS	Sn	09 24 50.2	+0.3
SGST	Jiashian	2.11	216	eP	Pn	09 24 25.2	+0.3
SGST				eS	Sn	09 24 50.6	0.0
TWG	Pinlang	2.12	202	eP	Pn	09 24 25.3	+0.2
TWG				eS	Sn	09 24 49.3	-1.6
TWGBT	Beinan	2.12	201	P	Pn	09 24 24.4	-0.7
TWGBT	Beinan	2.12	201	S	Sn	09 24 49.9	-1.0
TWGBT	Beinan	2.12	201	eP	Pn	09 24 24.5	-0.6
TWGBT				eS	Sn	09 24 49.3	-1.6
CHN8	Yiju	2.13	227	eS	Sn	09 24 51.8	+0.6
LDUT	Ludao	2.16	191	eP	Pn	09 24 24.6	-1.0
LDUT				eS	Sn	09 24 49.5	-2.3
JISG	Ishigakijimahi	2.18	95	eP	Pn	09 24 26.4	+0.5
JISG				eS	Sn	09 24 52.1	-0.2
MATB	Ma-tsu	2.23	307	eP	Pn	09 24 26.1	-0.5
VWUC	VWUC	2.25	275	eP	Pn	09 24 26.4	-0.4
SCLT	Jiali	2.27	225	eS	Sn	09 24 55.0	+0.7
SCST	Cishan	2.31	215	eP	Pn	09 24 29.1	+1.4
TSCK	Chigu Township	2.35	226	eP	Pn	09 24 28.5	+0.4
TSCK				eS	Sn	09 24 55.6	-0.8
SSD	Sandimen	2.37	210	eP	Pn	09 24 29.9	+1.6
ECL	Taimali	2.37	202	eP	Pn	09 24 28.1	-0.2
ECL				eS	Sn	09 24 55.3	-1.4
TSMG	Majia	2.40	210	eP	Pn	09 24 29.6	+1.0
MASBT	Mashibuluo	2.48	209	eP	Pn	09 24 30.9	+1.0
PHUB	P'eng-hu	2.50	240	eP	Pn	09 24 29.3	-0.7
PHUB				eS	Sn	09 24 57.6	-2.3
JTJ	Tarama	2.53	93	eP	Pn	09 24 31.4	+0.9
PTMZ	Houxiangcun	2.56	276	eP	Pn	09 24 30.4	-0.3
WDGT	Dungji	2.58	234	eP	Pn	09 24 31.4	+0.3
EAST	Anshuo	2.60	202	eP	Pn	09 24 32.0	+0.5
TAW	Tawu	2.61	201	eS	Sn	09 25 01.4	-1.1
XPSS	Dashiqiu	2.63	324	eP	Pn	09 24 31.7	-0.1
TAWH	Dawu Township	2.63	201	eP	Pn	09 24 32.2	+0.4
TAWH				eS	Sn	09 25 01.7	-1.3
SCZT	Fangliau	2.70	207	eP	Pn	09 24 33.8	+1.1
SCZT				eS	Sn	09 25 04.9	+0.2
LAY	Lan-yu	2.77	187	eP	Pn	09 24 32.7	-1.0
SLIU	Shizi	2.77	202	eP	Pn	09 24 35.1	+1.3
VCHM	Qimei	2.78	236	eS	Sn	09 25 04.9	-1.6
LYUB	Lan-yu	2.81	186	eP	Pn	09 24 32.5	-1.6
MHZQ	Yeshan	2.92	297	eP	Pn	09 24 36.1	+0.5
SMST	Manzhou Townsh	2.94	200	eP	Pn	09 24 36.5	+0.4
TWK1	Hengchun	3.03	200	eP	Pn	09 24 37.9	+0.8
TWKBT	Hengchun	3.03	200	eP	Pn	09 24 37.9	+0.8
KNM	Kinmen	3.20	264	eP	Pn	09 24 40.5	+1.1
KNMB	Chin-men Tao	3.23	265	eP	Pn	09 24 39.2	-0.7
AXDP	Jialang	3.59	272	eP	Pn	09 24 44.6	-0.1
ZPLA	Ao Xicun	3.90	258	eP	Pn	09 24 48.5	-0.4
SXFK	Yanhouchang	4.18	293	eP	Pn	09 24 53.0	+0.3
DSXP	Dongshan	4.25	256	eP	Pn	09 24 53.3	-0.3
KSRS	Korea Array	13.61	21	Pn	P	09 27 07.7	+1.7
	0.2nm,0.3s,baz=202,slow=12,SNR=16 3.2nm,0.7s						
MKAR	Makanchi Array	38.37	315	P	P	09 31 03.7	+0.3
	0.2nm,0.5s,baz=105,slow=8.2,SNR=4.5 0.2nm,0.5s						
WRA	Warramunga Arr	46.09	164	P	P	09 32 05.6	-0.7
	0.3nm,0.4s,baz=342,slow=7.8,SNR=4.7 0.3nm,0.4s						
ASAR	Alice Springs	49.56	166	P	P	09 32 31.3	-1.8
	0.1nm,0.4s,baz=340,slow=8.4,SNR=1.9 0.1nm,0.4s						

IDC 11 09:30:08.4±385.0, 55°.66N×2°.63E, h0km, Error ellipse: s-maj=190.4km s-min=142.9km az=62.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	9.62	131	I	I	10 28 00.0	
	baz=318,slow=330,SNR=0.4						
I37NO	I37NO	15.28	22	I	I	10 58 10.0	
	baz=218,slow=330,SNR=1.3						
I18DK	QAANAAQ INFRAS	32.59	337	I	I	12 51 00.0	
	baz=85,slow=332,SNR=0.8						

IDC 11 09:52:44.0±9.2, 5°.23S×150°.67E, h89km±64km, mb3.0/2, mbtmp3.5/3, ML1.4/1, Error ellipse: s-maj=142.7km s-min=60.7km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.42	220	P	Pn	09 54 02.8	+0.4
	0.9nm,0.3s,baz=277,slow=18,SNR=1.6						
PMG				S	Sn	09 55 03.6	+0.1
	7.7nm,0.6s,baz=208,slow=18,SNR=1.4 6.3nm,0.5s						
WRA	Warramunga Arr	21.60	226	P	P	09 57 27.5	+0.6
	0.6nm,0.6s,baz=52,slow=10,SNR=6.9 0.6nm,0.6s						
ASAR	Alice Springs	24.44	220	P	P	09 57 54.6	0.0
	0.9nm,0.8s,baz=54,slow=9.5,SNR=8.1 0.9nm,0.8s						
TORD	Torodi Ar. Bea	148.41	287	PKPbc	PKPbc	10 12 20.3	-1.1
	73nm,0.2s,baz=66,slow=3.5,SNR=1.1						

WEL 11 09:53:40.3±0.9, 35°S±6°×18°0E±1°.1, h12km, M3.8/13, mB4.5/2, ML4.1/18, MLv3.8/13, Mw(mB)3.6/2, Error ellipse: s-maj=14.8km s-min=6.3km az=107.7, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.78	205	P	Pn	09 54 26.8	+2.2
MXZ				S	Sn	09 54 58.4	+0.2
WMGZ	Waiomatatini S	2.98	201	P	Pn	09 54 29.1	+1.7
WMGZ				S	Sb	09 55 06.7	-3.0
PKGZ	Pakihiroa	3.13	206	P	Pn	09 54 30.7	+1.2
PKGZ				S	Sn	09 55 08.4	+1.5
HAZ	Te Kaha	3.15	210	P	Pn	09 54 31.8	+2.1
HAZ				S	Sn	09 55 09.5	+2.2
PUZ	Puketiti	3.26	202	P	Pn	09 54 32.2	+0.9
PUZ				S	Sn	09 55 12.0	+1.9
RUGZ	Raukumara Rang	3.37	210	P	Pn	09 54 34.6	+1.6
RUGZ				S	Sn	09 55 14.7	+1.7
TWGZ	Tauwhareparae	3.45	204	P	Pn	09 54 35.1	+1.2
TWGZ				S	Sn	09 55 18.2	+3.6
CNGZ	Carnagh Statio	3.66	200	P	Pn	09 54 37.0	+0.2
CNGZ				S	Sn	09 55 21.6	+1.8
KUZ	Kuaotunu	3.71	242	P	Pn	09 54 38.5	+1.0
TKGZ	Te Karaka	3.73	204	P	Pn	09 54 37.0	-0.7
TKGZ				S	Sn	09 55 20.9	-0.6
MWZ	Matawai	3.75	208	P	Pn	09 54 38.2	+0.1
MWZ				S	Sn	09 55 22.9	+0.8
URZ	Urewera	3.86	213	P	Pn	09 54 39.3	-0.3
URZ				S	Sn	09 55 25.1	+0.3
RIGZ	Rimuhau	4.00	203	P	Pn	09 54 40.5	-1.0
RIGZ				S	Sn	09 55 28.5	+0.3
PRGZ	Paritu Road	4.16	201	P	Pn	09 54 43.3	-0.4
PRGZ				S	Sn	09 55 32.0	-0.2
MUGZ	Murupara	4.19	214	S	Sn	09 55 34.7	+1.7
SNGZ	Shannon Statio	4.21	207	P	Pn	09 54 44.4	0.0
SNGZ				S	Sn	09 55 34.8	+1.2
KNZ	Kokohu	4.31	202	P	Pn	09 54 44.2	-1.6
KNZ				S	Sn	09 55 35.3	-0.6
MHGZ	Mahia Peninsul	4.37	200	P	Pn	09 54 44.8	-1.7
TOZ	Tahuroa Road	4.37	231	P	Pn	09 54 47.0	+0.4
RAHZ	Arahi	4.43	208	P	Pn	09 54 46.1	-1.2
RAHZ				S	Sn	09 55 42.4	+3.6
WCZ	Waipu Caves	4.53	257	P	Pn	09 54 49.0	+0.3
BKZ	Black Stump Fm	4.88	212	P	Pn	09 54 52.8	-0.8
KWHZ	Kaweka Forest	5.13	211	P	Pn	09 54 56.1	-0.9
KRHZ	Kereru	5.33	210	P	Pn	09 54 57.6	-2.2
KRHZ				S	Sn	09 55 56.4	-4.8
PXZ	Pawanui	5.49	204	P	Pn	09 54 58.4	-3.5

WEL 11 09:55:19.0±0.9, 38°S±6°×17°7E±°, h127km±9km, M2.5/14, ML2.7/6, MLv2.5/14, Error ellipse: s-maj=8.5km s-min=6.0km az=133.7, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.62	137	P	Pn	09 55 39.2	+0.7
URZ				S	Sn	09 55 54.8	+1.6
RTZ	Ruatahuna	0.87	159	P	Pn	09 55 39.8	-0.7
RUGZ	Raukumara Rang	0.88	101	P	Pn	09 55 41.0	+0.3
RUGZ				S	Sn	09 55 57.2	+0.1
HAZ	Te Kaha	0.95	88	P	Pn	09 55 41.1	-0.1
HAZ				S	Sn	09 55 58.8	+0.8
RAGZ	Rawiri	0.95	137	S

CHIC			S	Sn	09 58 21.2	-0.8
UREC	**San Jos de Ur**	**2.13 299**	P	Pn	09 57 55.2	-1.7
UREC			S	Sn	09 58 21.7	-1.4
CVER	**Cruz Verde, Cu**	**2.20 191**	P	Pn	09 57 57.9	-0.4
GUY2C	**Guyana, Caldas**	**2.24 229**	P	Pn	09 57 58.2	-0.6
GUY2C			S	Sn	09 58 25.6	-0.7
CBOC	**Ciudad Bolivar**	**2.48 251**	P	Pn	09 58 00.8	-0.8
CBOC			S	Sn	09 58 30.0	-1.5
DBBC	**Dabeiba**	**2.55 277**	P	Pn	09 58 01.9	-0.6
DBBC			S	Sn	09 58 31.5	-1.6
APAC	**Apartado, Choc**	**3.13 293**	P	Pn	09 58 08.8	-1.3
APAC			S	Sn	09 58 46.4	-0.4
PRAC	**Prado**	**3.21 202**	P	Pn	09 58 10.2	-1.0
PRAC			S	Sn	09 58 48.6	-0.1
URMC	**La Uribe, Meta**	**3.50 192**	P	Pn	09 58 14.8	-0.4
URMC			S	Sn	09 58 55.5	-0.4
SJCC	**San Jacinto, C**	**3.51 335**	P	Pn	09 58 13.4	-1.9
SJCC			S	Sn	09 58 52.0	-4.1
YOTC	**Yotoco, Valle**	**3.80 225**	P	Pn	09 58 17.8	-1.4
CAPC	**Capurgana**	**4.13 298**	P	Pn	09 58 20.7	-2.9
CAPC			S	Sn	09 59 06.8	-4.1
CRJC	**Cerrejon, Guaj**	**4.36 10**	P	Pn	09 58 27.5	+0.7
CRJC			S	Sn	09 59 15.6	-1.0
URIC	**Uribia, Colomb**	**5.24 18**	P	Pn	09 58 36.5	-2.0

*SOME **11** 10:03:42.5,41°.68N×78°.22E*
*NNC **11** 10:03:43.8±1.1,41°.66N×78°.21E,h0km,mb3.3,mpv2.9,*
Error ellipse: s-maj=8.8km s-min=7.3km az=49.0,
Suspected Mining explosion.

ISC 11 10:03:42.7±2.9,41°.6N±0°.1×78°.19E±0°.07,h0km,n10,
σ0°45/15,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**1.64**	**22**	*eP*	**Pb**	**10 04 13.7**	**-0.2**
	1.7nm,0.1s						
UZB				*eS*	**Sg**	**10 04 36.0**	**+0.6**
	4.9nm,0.5s						
TNSS	**Tian-Shan**	**1.68**	**327**	P	**Pn**	**10 04 14.0**	**+0.3**
	1.5nm,0.1s						
TNSS				S	**Sg**	**10 04 36.7**	**0.0**
	1.4nm,0.2s						
TNSS	**Tian-Shan**	**1.68**	**327**	*eP*	**Pn**	**10 04 14.0**	**+0.3**
	1.5nm,0.1s						
TNSS				*eS*	**Sg**	**10 04 36.7**	**0.0**
	1.4nm,0.2s						
KST	**Kastek**	**2.17**	**311**	Pg	**Pb**	**10 04 23.1**	**+0.1**
	2.4nm,0.2s						
KST				Lg	Lg	10 04 52.2	
	2.7nm,0.2s						
KST	**Kastek**	**2.17**	**311**	*eP*	**Pb**	**10 04 23.1**	**+0.1**
	2.4nm,0.2s						
KST				*eS*	**Sg**	**10 04 52.2**	**-0.2**
	2.7nm,0.2s						
KTBS	**Karatobe**	**2.36**	**332**	Pg	**Pg**	**10 04 27.0**	**-0.9**
	2.1nm,0.3s						
KTBS				Lg	Lg	10 04 59.1	
	8.7nm,0.7s						
CHKK	**Chushkaly**	**2.39**	**339**	Pg	**Pb**	**10 04 27.2**	**+0.6**
	2.9nm,0.3s						
CHKK				Lg	Lg	10 04 59.5	
	7.4nm,0.6s						
CHKK	**Chushkaly**	**2.39**	**339**	*eP*	**Pb**	**10 04 27.2**	**+0.6**
	2.9nm,0.3s						
CHKK				*eS*	**Sg**	**10 04 59.5**	**0.0**
	7.4nm,0.6s						
DGS	**Degeres**	**2.41**	**313**	Pg	**Pb**	**10 04 27.5**	**+0.6**
	2.8nm,0.4s						
DGS				Lg	Lg	10 04 59.8	
	4.6nm,0.6s						
ARXS	**Arharly**	**2.60**	**354**	Pg	**Pb**	**10 04 30.3**	**+0.1**
	2.7nm,0.7s						
ARXS				Lg	Lg	10 05 04.4	
	5.4nm,0.3s						

SOME 11 10:04:29.9,41°.72N×78°.33E,h10km,
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**1.67**	**323**	*eP*	Pg	10 05 02.1	+0.1
	2.5nm,0.1s						
TNSS				*eS*	Sg	10 05 25.3	+1.6
	2.6nm,0.2s						
KST	**Kastek**	**2.20**	**308**	*eP*	Pg	10 05 11.8	-0.3
	0.2nm,0.1s						
KST				*eS*	Sg	10 05 41.9	+1.3
	2.7nm,0.1s						
CHKK	**Chushkaly**	**2.35**	**336**	*eP*	Pg	10 05 14.3	-0.7
	5.6nm,0.3s						
CHKK				*eS*	Sg	10 05 46.4	+0.8
	6.3nm,0.4s						

*OSPL **11** 10:12:48.9±0.3,18°.41N×67°.51W,h0km±999km,ML1.6*
*RSPR **11** 10:12:48.5,18°.42N×67°.50W,h14km,MD2.6/10*
*SDD **11** 10:12:48.7±0.5,18°.43N×67°.49W,h20km±3km,MD2.1,*
ML1.3,MW1.9

ISC 11 10:12:47.3±1.2,18°.43N±0°.06×67°.50W±0°.04,h27km,n24,
σ0°55/29,13C-4D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.05**	**149**	⇑*iP*	**Pb**	**10 12 51.1**	**-0.9**
IDE	**Isla Desecheo**	**0.05**	**149**	*eS*	**Sb**	**10 12 53.3**	**-1.8**
AGPR	**Aguadilla, PR**	**0.37**	**84**	⇑*eP*	**Pb**	**10 12 55.9**	**+0.3**
AGPR	**Aguadilla, PR**	**0.37**	**84**	*eS*	**Sb**	**10 13 01.5**	**+0.4**
AGPR	**Aguadilla, PR**	**0.37**	**84**	*iP*	**Pb**	**10 12 55.9**	**+0.3**
AGPR				IAML		10 13 01.9	
	comp=Z,57nm,1.9s						
LSP	**Las Mesas**	**0.47**	**123**	⇑*eP*	**Pb**	**10 12 56.9**	**-0.2**
LSP	**Las Mesas**	**0.47**	**123**	*eS*	**Sb**	**10 13 04.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.56**	**138**	⇑*iP*	**Pb**	**10 12 59.1**	**+0.4**
CRPR				⇑*iS*	**Sb**	**10 13 06.6**	**+0.3**
CRPR				IAML		10 13 08.9	
	comp=N,21nm,0.2s						
CRPR	**Cabo Rojo, PR**	**0.56**	**138**	⇑*eP*	**Pb**	**10 12 59.0**	**+0.4**
CRPR	**Cabo Rojo, PR**	**0.56**	**138**	*iP*	**Pb**	**10 12 58.9**	**+0.3**
CRPR				*eS*	**Sb**	**10 13 06.1**	**-0.2**
CRPR				IAML		10 13 06.8	
	comp=Z,29nm,0.2s						
MLPR	**Magueyes Islan**	**0.63**	**136**	⇓*iP*	**Pb**	**10 12 60.0**	**+0.2**
MLPR				⇑*iS*	**Sb**	**10 13 08.5**	**+0.2**
MLPR				IAML		10 13 08.8	
	comp=N,5.9nm,0.5s						
MLPR	**Magueyes Islan**	**0.63**	**136**	⇑*eP*	**Pb**	**10 12 59.9**	**+0.2**
AOPR	**Arecibo Observ**	**0.71**	**97**	⇑*iP*	**Pb**	**10 13 01.0**	**-0.2**
AOPR				⇑*iS*	**Sb**	**10 13 11.0**	**+0.3**
	comp=N,20nm,0.8s						
AOPR				IAML		10 13 14.3	
	comp=N,20nm,0.8s						
AOPR	**Arecibo Observ**	**0.71**	**97**	⇓*eP*	**Pb**	**10 13 01.1**	**0.0**
PCDR	**Punta Cana, DR**	**0.84**	**276**	*iP*	**Pb**	**10 13 03.8**	**+0.6**
PCDR	**Punta Cana, DR**	**0.84**	**276**	*iP*	**Pb**	**10 13 03.9**	**+0.6**
PCDR				IAML		10 13 22.3	
	comp=Z,69nm,0.9s						
EMPR	**Esperanza - Ma**	**0.92**	**87**	⇑*eP*	**Pn**	**10 13 04.1**	**-0.3**
EMPR	**Esperanza - Ma**	**0.92**	**87**	*eS*	**Sb**	**10 13 16.4**	**-0.2**
OBIP	**Obispado Ponce**	**0.94**	**114**	⇑*eP*	**Pn**	**10 13 03.5**	**-1.1**
OBIP	**Obispado Ponce**	**0.94**	**114**	*eS*	**Sb**	**10 13 16.7**	**-0.2**
CELP	**Cerrillos**	**0.95**	**112**	⇓*iP*	**Pn**	**10 13 05.0**	**+0.3**
CELP				IAML		10 13 05.4	
	comp=N,11nm,0.7s						
CELP				⇑*iS*	**Sb**	**10 13 17.4**	**+0.3**
CELP	**Cerrillos**	**0.95**	**112**	⇓*eP*	**Pn**	**10 13 05.1**	**+0.3**
ECPR	**Experimental S**	**1.09**	**96**	⇑*eP*	**Pn**	**10 13 07.1**	**+0.4**
ECPR	**Experimental S**	**1.09**	**96**	*eS*	**Sn**	**10 13 20.9**	**0.0**

*SNET **11** 10:41:21.9±1.2,12°.03N×89°.29W,h30km±52km,ML3.2*
*GCG **11** 10:41:23.4±1.2,12°.08N×89°.38W,h36km±999km,MD4.2*

ISC 11 10:41:20.8±2.9,12°.0N±0°.2×89°.36W±0°.09,h33km,n23,
σ1°01/28,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**1.66**	**20**	*eP*	**Pn**	**10 41 47.9**	**+0.2**
LFRS	**El Faro**	**1.67**	**10**	*eP*	**Pn**	**10 41 48.4**	**+0.4**
JAYA	**Jayaque - finc**	**1.68**	**357**	*eP*	**Pn**	**10 41 48.9**	**+0.9**
JAYA				*eS*	**Sn**	**10 42 09.1**	**+0.5**
JAYA				IAML		10 42 10.4	
	comp=Z,669nm,0.2s						
JAYA	**Jayaque - finc**	**1.68**	**357**	*eP*	**Pn**	**10 41 49.0**	**+0.9**
JAYA				*eS*	**Sn**	**10 42 08.6**	**0.0**
TECA	**Tecapa**	**1.73**	**29**	*eP*	**Pn**	**10 41 49.0**	**+0.1**
PMON	**Piamonte**	**1.74**	**1**	*eP*	**Pn**	**10 41 49.3**	**+0.5**
BOQS	**Boqueron**	**1.76**	**2**	*eP*	**Pn**	**10 41 49.7**	**+0.5**
PACA	**Pacayal**	**1.80**	**34**	*eP*	**Pn**	**10 41 49.7**	**-0.1**
BLLM	**Bellamira**	**1.83**	**37**	*eP*	**Pn**	**10 41 50.6**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.83**	**20**	*eP*	**Pn**	**10 41 50.8**	**+0.7**
CEVE	**Cerro Verde**	**1.87**	**352**	*eP*	**Pn**	**10 41 51.2**	**+0.4**
CEVE				*eS*	**Sb**	**10 42 16.3**	**-1.4**
CEVE				IAML		10 42 19.6	
	comp=Z,708nm,0.5s						
SBLS	**San Blas**	**1.88**	**352**	*eP*	**Pn**	**10 41 52.4**	**+1.5**
SNJE	**San Jose**	**1.91**	**353**	*eP*	**Pn**	**10 41 52.3**	**+1.1**
LCND	**La Caada**	**1.96**	**47**	*eP*	**Pn**	**10 41 51.7**	**0.0**
LCND				IAML		10 42 20.1	
	comp=Z,162nm,0.2s						
NUBE	**Las Nubes**	**1.97**	**348**	*eP*	**Pn**	**10 41 53.2**	**+1.2**
NUBE	**Las Nubes**	**1.97**	**348**	*eP*	**Pn**	**10 41 53.3**	**+1.2**
NUBE				*eS*	**Sn**	**10 42 15.8**	**+0.1**
CNCH	**Conchagua**	**1.98**	**49**	*eP*	**Pn**	**10 41 52.9**	**+0.8**
SLOZ	**Alcaldia de Sa**	**2.09**	**349**	*eP*	**Pn**	**10 41 54.7**	**+1.1**
MTO3	**Montecristo**	**2.42**	**360**	*eP*	**Pn**	**10 42 00.1**	**+1.8**
MTO3				IAML		10 42 30.7	
	comp=Z,31nm,0.5s						
MTO3	**Montecristo**	**2.42**	**360**	*eP*	**Pn**	**10 42 00.1**	**+1.8**
MARCA	**Marcala la Paz**	**2.53**	**30**	*eP*	**Pn**	**10 42 00.8**	**+1.0**
MARCA				*eS*	**Sn**	**10 42 31.2**	**+1.6**
STG0	**El Palmar, Qui**	**3.12**	**322**	*eP*	**Pb**	**10 42 14.7**	**-1.0**
STG8	**El Palmar, Qui**	**3.14**	**322**	*eP*	**Pb**	**10 42 15.1**	**-1.0**

IDC 11 10:41:21.5±560.0,53°.80N×34°.56E,h0km,Error ellipse:
s-maj=244.0km s-min=69.9km az=28.0,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.30**	**26**	I	I	11 02 10.0	
	0.2nm,0.8s,baz=210,slow=318,SNR=2.8						
I31KZ	**AKTYUBINSK INF**	**14.80**	**94**	I	I	12 11 20.0	
	baz=290,slow=326,SNR=1.2						
I37NO	**I37NO**	**17.02**	**340**	I	I	12 29 40.0	
	baz=145,slow=333,SNR=1.0						
I46RU	**ZALESOVO INFRA**	**29.13**	**69**	I	I	13 35 50.0	
	baz=292,slow=326,SNR=1.3						

*IDC **11** 10:42:45.2±0.6,65°.03N×149°.03W,h0km,mb3.7/17,*
mbtmp3.8/19,ML3.8/2,Error ellipse: s-maj=16.4km
s-min=7.0km az=24.0
*AEIC **11** 10:42:45.6±1.5,64°.74N±0°.03×149°.18W±0°.07,h19km±5km,*
ML4.4,mb4.4/7(NEIC),ML4.7/202(NEIC),Mww4.4/9(NEIC),
Error ellipse: s-maj=5.1km s-min=2.3km az=129.0
*NEIC **11** 10:42:45.6±1.5,64°.75N±0°.04×149°.18W±0°.07,h18km±2km,*
Error ellipse: s-maj=5.1km s-min=4.6km az=174.0
*NEIC **11** 10:42:45.6,65°.14N×149°.00W,h16km,Moment Tensor*
Solution. Duration: 0 Moment tensor: Scale 10^{15}Nm;
M_{rr}-0.30; $M_{\theta\theta}$-1.52; $M_{\phi\phi}$1.83; $M_{r\theta}$3.96; $M_{\theta\phi}$-3.46; $M_{\phi r}$1.74;
Fault plane solution: $M_0$5.40000×10^{15} NP1:
ϕ_s184.34000°,δ53.60000°,λ-14.58000°. NP2:
ϕ_s283.11000°,δ78.31000°,λ-142.70000°. Principal axes:
T 4.1837, Plg16.0000°, Azm49.0000°; N 2.4264,
Plg51.0000°, Azm298.0000°; P -6.6101, Plg34.0000°,
Azm150.0000°;
*NEIC **11** 10:42:45.6,64°.74N×149°.18W,h16km*

ISC 11 10:42:46.4±0.9,64°.74N±0°.03×149°.19W±0°.03,h19km±3km,
n134,σ1°32/97,mb3.9/24,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEA2	**Nenana**	**0.16**	**161**		**Pg**	**10 42 50.2**	**-0.7**
NEA2					**Sg**	**10 42 53.1**	**-0.9**
NEA2	**Nenana**	**0.16**	**161**	IAML		10 42 53.4	
	comp=N,56μm,0.4s						
NEA2				IAML		10 42 53.7	
	comp=E,36μm,0.4s						
I23K	**Minto, Yukon-K**	**0.41**	**350**		**Sb**	**10 43 00.0**	**-1.0**
I23K	**Minto, Yukon-K**	**0.41**	**350**		**Pg**	**10 42 54.1**	**-0.9**
I23K				IAML		10 43 00.5	
	comp=E,20μm,0.7s						
I23K				IAML		10 43 00.8	
	comp=N,14μm,0.5s						
WRH	**Wood River Hil**	**0.55**	**119**		**Sb**	**10 43 04.1**	**-0.5**
WRH	**Wood River Hil**	**0.55**	**119**		**Pb**	**10 42 56.7**	**-0.5**
WRH				IAML		10 43 05.0	
	comp=E,31μm,0.7s						
WRH				IAML		10 43 07.2	
	comp=N,28μm,0.6s						
I53US	**FAIRBANKS INFR**	**0.58**	**76**	Pg	**Pb**	**10 42 56.9**	**-1.0**
	baz=252,slow=29						
BWN	**Browne**	**0.58**	**192**		**Pg**	**10 42 57.3**	**-0.7**
BWN				IAML		10 43 12.1	
	comp=N,45μm,0.7s						
COLA	**College**	**0.59**	**76**		**Sb**	**10 43 05.1**	**-0.6**
COLA	**College**	**0.59**	**76**		**Pb**	**10 42 56.5**	**-1.4**
COLA				IAML		10 43 10.3	
	comp=N,50μm,0.4s						
COLA				IAML		10 43 12.6	
	comp=N,64μm,0.4s						
CCB	**Clear Creek Bu**	**0.60**	**98**		**Sg**	**10 43 05.9**	**-0.5**
CCB	**Clear Creek Bu**	**0.60**	**98**		**Pg**	**10 42 57.5**	**-0.8**
CCB				IAML		10 43 08.4	
	comp=N,31μm,0.4s						
CCB				IAML		10 43 08.6	
	comp=E,18μm,0.3s						
POKR	**Poker Plat Res**	**0.84**	**62**		**Sg**	**10 43 12.8**	**-1.0**
POKR	**Poker Plat Res**	**0.84**	**62**		**Pg**	**10 43 01.8**	**-0.9**
POKR				IAML		10 43 14.0	
	comp=E,22μm,0.5s						
IL31		**0.99**	**87**		**Pb**	**10 43 03.8**	**-0.9**
ILAR	**Eielson Array**	**0.99**	**87**		**Pb**	**10 43 04.2**	**-0.6**
ILAR	**Eielson Array**	**0.99**	**87**	Pg	**Pn**	**10 43 04.5**	**-0.7**
	comp=E,738nm,0.3s,baz=268,slow=15,SNR=5984						
ILAR				Lg	Lg	10 43 16.9	
	comp=E,2μm,0.3s,baz=269,slow=28,SNR=19						
BPAW	**Bear Paw Mtn.**	**1.01**	**231**		**Pb**	**10 43 03.9**	**-1.4**
BPAW	**Bear Paw Mtn.**	**1.01**	**231**	IAML		10 43 18.6	
	comp=N,17μm,0.3s						
BPAW				IAML		10 43 20.2	
	comp=E,18μm,0.9s						
MCK	**McKinley**	**1.02**	**174**		**Pn**	**10 43 04.8**	**-0.8**
HDA	**Harding Lake**	**1.02**	**108**		**Sb**	**10 43 17.9**	**-0.5**
HDA	**Harding Lake**	**1.02**	**108**		**Pb**	**10 43 04.5**	**-0.9**
HDA				IAML		10 43 19.6	
	comp=E,27μm,0.3s						
H23K	**Yukon River**	**1.10**	**352**		**Pb**	**10 43 05.9**	**-0.8**
H24K	**Noodor Dome**	**1.23**	**26**		**Pn**	**10 43 07.2**	**-1.4**
H24K				IAML		10 43 27.4	
	comp=N,11μm,0.6s						
H24K				IAML		10 43 27.0	
	comp=E,16μm,0.7s						
I21K	**Tanana**	**1.27**	**292**		**Pn**	**10 43 08.1**	**-1.0**
I21K				IAML		10 43 25.9	
	comp=E,14μm,0.6s						
RND	**Reindeer**	**1.35**	**174**		**Pn**	**10 43 09.7**	**-0.5**
TRF	**Thorofare Moun**	**1.38**	**201**	IAML		10 43 29.3	
	comp=E,9μm,0.8s						
KTH	**Kantishna Hill**	**1.42**	**213**		**Pn**	**10 43 10.0**	**-1.1**
KTH				IAML		10 43 34.1	
	comp=E,10μm,0.7s						
J25K	**Salcha River,**	**1.65**	**93**		**Pn**	**10 43 13.1**	**-1.2**
J25K				IAML		10 43 38.4	
	comp=N,8μm,0.8s						
H21K	**Melozitna Rive**	**1.78**	**303**		**Pn**	**10 43 14.8**	**-1.3**
H21K				IAML		10 43 41.6	
	comp=N,7μm,0.5s						
CAST	**Castle Rocks**	**1.84**	**225**		**Pn**	**10 43 15.1**	**-1.8**
CAST				IAML		10 43 44.1	
	comp=E,9μm,0.6s						
CAST				IAML		10 43 46.4	
	comp=N,6μm,0.5s						
G23K	**Bananza Creek**	**2.01**	**350**		**Pn**	**10 43 18.6**	**-0.6**
G24K	**Hadweenzic Riv**	**2.09**	**19**		**Pn**	**10 43 19.4**	**-1.0**
G24K				IAML		10 43 51.6	
	comp=N,6μm,1.0s						
G24K				IAML		10 43 52.5	
	comp=E,4μm,0.7s						
RIDG	**Independent Ri**	**2.15**	**116**		**Pn**	**10 43 20.5**	**-0.6**
RIDG				IAML		10 43 57.2	
	comp=N,6μm,1.1s						
RIDG				IAML		10 44 00.3	
	comp=E,6μm,1.5s						
J20K	**Nowinta River**	**2.22**	**257**		**Pn**	**10 43 20.6**	**-1.6**
PPLA	**Purkeypile**	**2.28**	**217**	IAML		10 43 58.3	
	comp=E,6μm,0.6s						
PPLA				IAML		10 43 60.0	
	comp=N,4μm,0.5s						
SCRK	**Sand Creek**	**2.39**	**106**	IAML		10 44 05.6	
	comp=N,3μm,0.9s						
J26L	**Joseph Creek**	**2.43**	**93**		**Pn**	**10 43 24.2**	**-0.9**
J26L				IAML		10 44 10.2	
	comp=N,3μm,0.8s						
FYU	**Fort Yukon**	**2.46**	**40**	IAML		10 44 05.2	
	comp=N,5μm,1.0s						
FYU				IAML		10 44 07.6	
	comp=E,3μm,1.3s						
DOT	**Dot Lake**	**2.50**	**114**	IAML		10 44 08.1	
	comp=N,4μm,0.6s						
DOT				IAML		10 44 11.3	
	comp=E,3μm,0.8s						
G21K	**Allakaket**	**2.53**	**317**		**Pn**	**10 43 25.6**	**-0.7**
G21K				IAML		10 44 09.6	
	comp=E,4μm,1.0s						
G21K				IAML		10 44 09.8	
	comp=N,4μm,1.0s						
K20K	**Telida**	**2.56**	**239**		**Pn**	**10 43 25.0**	**-1.8**
F24K	**Squaw Lake**	**2.84**	**10**	IAML		10 44 15.3	
	comp=E,3μm,0.6s						
F24K				IAML		10 44 20.1	
	comp=N,2μm,0.8s						
J19K	**Poorman**	**2.90**	**258**		**Pn**	**10 43 29.8**	**-1.6**
J19K				IAML		10 44 20.2	
	comp=E,2μm,0.6s						
M24K	**Tolsona, Glenn**	**2.97**	**152**		**Pn**	**10 43 33.3**	**+0.8**
M24K				IAML		10 44 26.4	
	comp=E,2μm,1.2s						
M24K				IAML		10 44 29.5	
	comp=N,2μm,1.2s						
MENT	**Mentasta**	**3.02**	**124**		**Pn**	**10 43 32.8**	**-0.4**
MENT				IAML		10 44 34.8	
	comp=N,2μm,0.7s						
M22K	**Willow**	**3.03**	**188**		**Pn**	**10 43 33.0**	**-0.2**
L26K	**Log Cabin Wild**	**3.10**	**121**		**Pn**	**10 43 34.0**	**-0.2**
PMR	**Palmer**	**3.16**	**180**		**Pn**	**10 43 35.0**	**0.0**
PMR				IAML		10 44 26.5	
	comp=E,2μm,1.5s						
PMR				IAML		10 44 31.3	
	comp=N,1μm,1.2s						
H19K	**Roundabout Mou**	**3.17**	**288**		**Pn**	**10 43 34.6**	**-0.5**
H19K				IAML		10 44 31.3	
	comp=N,3μm,0.9s						
K27K	**Chicken**	**3.17**	**100**	IAML		10 44 29.5	
	comp=N,2μm,1.1s						
K27K				IAML		10 44 30.1	
	comp=E,2μm,0.8s						
F25K	**Christian Rive**	**3.21**	**25**	IAML		10 44 30.1	
	comp=N,2μm,0.8s						
BMAR	**Burnt Mountain**	**3.29**	**33**		**Pn**	**10 43 35.7**	**-1.1**
E23K	**Chandalar**	**3.34**	**357**	IAML		10 44 34.9	
	comp=N,1μm,0.8s						
E24K	**Your Creek**	**3.36**	**4**	IAML		10 44 34.2	
	comp=N,1μm,0.8s						
E24K				IAML		10 44 34.9	
	comp=E,2μm,1.1s						
M20K	**Styx River**	**3.38**	**214**	IAML		10 44 31.7	
	comp=E,1μm,0.8s						
M20K				IAML		10 44 39.8	
	comp=N,1μm,0.7s						
STLK	**Strandline Lak**	**3.47**	**201**		**Pn**	**10 43 39.3**	**0.0**
H27K	**Steamboat Moun**	**3.52**	**61**		**Pn**	**10 43 38.8**	**-1.3**
H27K				IAML		10 44 42.2	
	comp=N,1μm,1.2s						
H27K				IAML		10 44 43.5	
	comp=E,2μm,0.8s						
F20K	**Avaraart Lake**	**3.54**	**314**	IAML		10 44 39.6	
	comp=N,1μm,0.6s						
J18K	**Innoko River**	**3.54**	**252**		**Pn**	**10 43 38.5**	**-1.7**
J18K				IAML		10 44 41.2	
	comp=E,2μm,0.5s						
E22K	**Anaktuvuk Pass**	**3.57**	**344**		**Pn**	**10 43 41.1**	**+0.4**
G19K	**Purcell Mounta**	**3.59**	**297**	IAML		10 44 44.7	
	comp=E,1μm,0.8s						
F26K	**Sheenjek River**	**3.60**	**32**	IAML		10 44 40.8	
	comp=N,1μm,0.8s						
F26K				IAML		10 44 40.8	
	comp=E,1μm,0.7s						
L19K	**White Mountain**	**3.62**	**227**	IAML		10 44 41.0	
	comp=N,2μm,0.9s						
M26K	**Nabesna, AK**	**3.63**	**128**	IAML		10 44 44.5	
	comp=N,1μm,0.6s						
M26K				IAML		10 44 46.3	
	comp=E,1μm,0.8s						
L27K	**Beaver Creek,**	**3.66**	**114**	IAML		10 44 41.9	
	comp=E,1μm,1.6s						
L27K				IAML		10 44 43.0	
	comp=N,2μm,2.0s						
BCAR	**Beaver Creek A**	**3.68**	**114**		**Pn**	**10 43 41.0**	**-1.2**
M19K	**Big River Lodg**	**3.69**	**222**	IAML		10 44 41.6	
	comp=N,2μm,0.5s						
E25K	**Arctic Village**	**3.69**	**22**		**Pn**	**10 43 41.3**	**-1.0**
E25K				IAML		10 44 45.6	
	comp=N,2μm,0.9s						
E25K				IAML		10 44 48.8	
	comp=E,2μm,1.4s						
TOLK	**Toolik Lake Re**	**3.92**	**358**		**Pn**	**10 43 46.3**	**+0.9**
TOLK				IAML		10 44 55.9	
	comp=N,938nm,1.1s						
TOLK				IAML		10 44 58.6	
	comp=E,975nm,1.5s						
H18K	**Honhosa River**	**3.93**	**280**		**Pn**	**10 43 44.8**	**-0.7**
H18K				IAML		10 44 52.0	
	comp=N,862nm,1.2s						
H18K				IAML		10 44 53.5	
	comp=E,2μm,0.7s						
I28M	**Miner Creek**	**3.98**	**76**		**Pn**	**10 43 45.3**	**-1.0**
I28M				IAML		10 44 56.8	
	comp=N,831nm,1.9s						
I28M				IAML		10 45 02.6	
	comp=E,948nm,0.9s						
M27K	**Edge Creek, AK**	**4.05**	**123**	IAML		10 44 56.4	
	comp=E,980nm,0.8s						
M27K				IAML		10 45 01.1	
	comp=N,1μm,1.0s						
G18K	**Tagagawik**	**4.14**	**291**		**Pn**	**10 43 47.9**	**-0.6**
L18K	**Granite Mounta**	**4.21**	**236**	IAML		10 45 01.4	
	comp=E,1μm,0.6s						
L18K				IAML		10 45 07.7	
	comp=N,1μm,0.9s						
E19K	**Redstone River**	**4.26**	**313**	IAML		10 45 03.9	
	comp=N,742nm,0.7s						
E19K				IAML		10 45 05.5	
	comp=E,849nm,1.1s						
D23K	**Nanushuk River**	**4.28**	**353**	IAML		10 45 16.5	
	comp=E,713nm,1.3s						
**DAW

C24K				IAML		10 45 46.4	
	comp=E,652nm,1.9s						
I17K	**Unalakleet**	**5.08 266**		IAML		10 45 30.0	
	comp=E,615nm,0.8s						
I17K				IAML		10 45 34.2	
	comp=N,432nm,1.0s						
N18K	**Kilae Creek**	**5.11 220**		IAML		10 45 33.0	
	comp=E,627nm,0.8s						
N18K				IAML		10 45 35.4	
	comp=N,604nm,1.0s						
ILSW	**Iliamna Southw**	**5.12 203**			**Pn**	**10 44 03.0**	**+1.0**
C23K	**Itkillik River**	**5.15 354**			**Pn**	**10 44 03.0**	**+0.8**
C23K				IAML		10 45 28.4	
	comp=N,371nm,0.8s						
C23K				IAML		10 46 06.6	
	comp=E,493nm,1.6s						
K29M	**Barlow Dome**	**5.16 95**		IAML		10 45 38.4	
	comp=E,591nm,0.8s						
D19K	**Kuna River**	**5.18 321**		IAML		10 45 40.5	
	comp=E,476nm,1.0s						
D19K				IAML		10 45 44.6	
	comp=N,560nm,1.3s						
J16K	**Anvik River**	**5.23 259**		IAML		10 45 33.9	
	comp=E,587nm,0.8s						
E18K	**Tukpahlearik C**	**5.37 305**		IAML		10 45 45.1	
	comp=E,284nm,1.0s						
I30M	**Mount Dempster**	**5.46 79**			**Pn**	**10 44 05.6**	**-1.1**
E29M	**Blow River**	**5.80 46**			**Pn**	**10 44 09.9**	**-1.3**
F15K	**North Star Dit**	**6.57 285**			**Pn**	**10 44 22.5**	**+0.7**
KDAK	**Kodiak Island**	**7.17 195**			**Pn**	**10 44 28.6**	**-1.5**
KDAK	**Kodiak Island**	**7.17 195**		Pn	**Pn**	**10 44 29.4**	**-0.6**
	comp=E,3.9nm,0.3s,baz=242,slow=6.8,SNR=42						
KDAK				Sn	**Sn**	**10 45 47.4**	**-3.4**
	comp=E,1.8nm,0.3s,baz=237,slow=21,SNR=3.9						
	comp=E,8.1nm,0.3s						
R33M	**Jennings River**	**10.06 114**			**Pn**	**10 45 08.1**	**-1.7**
C36M	**Paulatuk**	**10.78 54**			**Pn**	**10 45 17.0**	**-2.4**
A36M	**Sachs Harbour**	**11.35 40**			**Pn**	**10 45 25.0**	**-2.1**
WRGLY	**Wrigley**	**11.37 86**			**Pn**	**10 45 25.2**	**-2.2**
YKA	**Yellowknife Ar**	**15.41 82**		Pn	**Pn**	**10 46 18.1**	**-4.3**
	comp=E,0.3nm,0.3s,baz=252,slow=20,SNR=26						
	comp=E,1.4nm,0.8s						
BLKN	**Baker Lake**	**22.32 67**		P	**P**	**10 47 42.1**	**-0.3**
BLKN				IAmb	IAmb	10 47 50.1	
	comp=Z,13nm,1.0s						
EUNU	**Eureka**	**22.53 24**		P	**P**	**10 47 46.2**	**+1.7**
EUNU				IAmb	IAmb	10 48 19.3	
	comp=Z,7.9nm,1.1s						
ILON	**Igloolik, Nuna**	**25.42 50**		P	**P**	**10 48 13.1**	**+1.0**
ILON				IAmb	IAmb	10 48 13.8	
	comp=Z,11nm,0.7s						
ULM	**Lac du Bonnet**	**31.00 92**		P	**P**	**10 49 03.5**	**+1.3**
	comp=Z,1.5nm,0.4s,baz=5.9,slow=11,SNR=3.4						
	comp=Z,1.5nm,0.4s						
PDAR	**Pinedale Array**	**31.30 115**		P	**P**	**10 49 06.3**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=319,slow=9.1,SNR=5.0						
	comp=Z,0.8nm,0.9s						
NVAR	**Mina Array Bea**	**31.97 130**		P	**P**	**10 49 13.1**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=310,slow=7.1,SNR=5.7						
	comp=Z,1.0nm,0.7s						
GLA	**Glamis**	**38.02 130**		P	**P**	**10 50 00.7**	**-2.3**
NRIK	**Noril'sk**	**40.45 333**		P	**P**	**10 50 22.8**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=38,slow=8.2,SNR=5.2						
	comp=Z,0.6nm,0.3s						
TXAR	**Lajitas Array**	**45.35 119**		P	**P**	**10 51 04.8**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=346,slow=5.4,SNR=4.3						
	comp=Z,0.5nm,0.7s						
SONM	**Songino Array**	**53.45 306**		P	**P**	**10 52 06.0**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=41,slow=4.1,SNR=4.3						
	comp=Z,0.2nm,0.5s						
KSRS	**Korea Array**	**53.90 282**		P	**P**	**10 52 11.3**	**+3.4**
	comp=Z,0.7nm,0.8s,baz=40,slow=6.2,SNR=1.8						
	comp=Z,0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**54.58 324**		P	**P**	**10 52 14.1**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=16,slow=9.9,SNR=5.5						
	comp=Z,0.5nm,0.4s						
ARTI	**Arti**	**57.37 342**		P	**P**	**10 52 32.3**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=26,slow=8.6,SNR=4.7						
	comp=Z,1.2nm,0.3s						
EKA	**Eskdalemuir Ar**	**57.45 22**		P	**P**	**10 52 32.3**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=347,slow=7.0,SNR=3.9						
	comp=Z,0.7nm,0.6s						
HHC	**Hu-ho-hao-te**	**57.57 297**		*e*P	**P**	**10 52 34.4**	**-0.1**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
BVAR	**Borovoye Array**	**58.66 333**		P	**P**	**10 52 41.6**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=47,slow=6.7,SNR=7.7						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**59.17 327**		P	**P**	**10 52 45.7**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=18,slow=7.4,SNR=1.6						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**61.79 322**		P	**P**	**10 53 02.4**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=23,slow=7.8,SNR=2.1						
	comp=Z,0.3nm,0.4s						
GTA	**Gaotai**	**63.12 306**		P	P	10 53 19.7	+7.2
GTA				sP	sP	10 53 27.4	+6.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKTO	**Aktyubinsk**	**63.23 341**		P	**P**	**10 53 12.8**	**0.0**
	comp=Z,0.4nm,0.3s,baz=326,slow=5.1,SNR=10						
	comp=Z,0.4nm,0.3s						
ABKAR	**Akbulak array**	**64.10 339**		P	**P**	**10 53 18.5**	**0.0**
ABKAR				IAmb	IAmb	10 53 27.3	
	comp=Z,3.6nm,0.8s						
ABKAR	**Akbulak array**	**64.10 339**			**P**	**10 53 18.7**	**+0.2**
AKASG	**Malin Array Be**	**64.89 1**		P	**P**	**10 53 23.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=359,slow=6.0,SNR=2.3						
	comp=Z,0.1nm,0.3s						
ESDC	**Sonseca Array**	**72.40 28**		P	**P**	**10 54 11.8**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=349,slow=5.2,SNR=4.3						
	comp=Z,0.4nm,0.6s						
PZH	**PanZhiHua**	**74.02 298**		P	**P**	**10 54 19.0**	**-1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,150nm,7.1s						
CMAR	**Chiang Mai Arr**	**82.38 297**		P	**P**	**10 55 10.2**	**+3.4**
	comp=Z,0.4nm,0.3s,baz=37,slow=6.6,SNR=4.1						
	comp=Z,0.4nm,0.3s						
QSPA	**South Pole Qui**	**154.56 180**		PKP	**PKPdf**	**11 02 37.0**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=293,slow=1.3,SNR=6.2						

NEIC ***11*** *10:50:06.1±2.4, 5°.73S±0°.08×151°.8E±0°.1, h10km±2km, mb4.4/15, Error ellipse: s-maj=22.7km s-min=11.1km az=113.0*

IDC ***11*** *10:50:10.8±4.0, 5°.54S×151°.48E, h50km±35km, mb3.7/15, mbtmp4.0/16, ML2.1/1, Error ellipse: s-maj=24.1km s-min=17.5km az=89.0*

ISC 11 10:50:11.1±0.6, 5°.66S±0°.07×151°.63E±0°.09, h57km, n38, σ1§00/41, mb4.1/22, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.56**	**20**		**Pn**	**10 50 36.6**	**+0.1**
MANU	**Manus Island**	**5.57**	**310**		**Pn**	**10 51 32.4**	**+0.9**
PMG	**Port Moresby**	**5.79**	**230**		**Pn**	**10 51 35.0**	**+0.5**
PMG	**Port Moresby**	**5.79**	**230**	P	**Pn**	**10 51 34.7**	**+0.3**
	3.8nm,0.3s,baz=35,slow=10,SNR=11						
PMG				S	**Sn**	**10 52 38.2**	**-1.3**
	100nm,0.7s,baz=140,slow=20,SNR=11						
	44nm,0.8s						
MTN	**Manton Dam**	**21.44**	**249**	P	**P**	**10 54 55.2**	**+0.5**
MTN				IAmb	IAmb	10 55 15.6	
	comp=Z,24nm,1.5s						
DZM	**Mont Dzumac**	**21.71**	**140**	P	**P**	**10 54 54.5**	**-3.1**
DZM				IAmb	IAmb	10 55 16.0	
	comp=Z,14nm,1.1s						
DZM	**Mont Dzumac**	**21.71**	**140**	P	**P**	**10 54 59.3**	**+1.7**
	comp=Z,2.4nm,0.6s,baz=214,slow=7.3,SNR=1.6						
	comp=Z,2.4nm,0.6s						
WB0	**Warramunga Arr**	**21.86**	**229**	P	**P**	**10 54 59.4**	**+0.1**
WR0	**Warramunga Arr**	**21.87**	**228**	P	**P**	**10 55 00.3**	**+1.0**
WR0				IAmb	IAmb	10 55 30.8	
	comp=Z,14nm,1.4s						
WR8	**Warramunga Arr**	**21.89**	**228**	P	**P**	**10 55 00.1**	**+0.5**
WR8				IAmb	IAmb	10 55 02.2	
	comp=Z,6.1nm,0.5s						
WRAB	**Tennant Creek**	**21.99**	**228**	P	**P**	**10 55 00.4**	**-0.2**
WRAB				IAmb	IAmb	10 55 03.0	
	comp=Z,7.6nm,0.6s						
WB2	**Warramunga Arr**	**22.00**	**228**	P	**P**	**10 55 00.3**	**-0.3**
WB2				IAmb	IAmb	10 55 03.2	
	comp=Z,9.1nm,0.6s						
WRA	**Warramunga Arr**	**22.00**	**228**	P	**P**	**10 55 00.2**	**-0.6**
WRA	**Warramunga Arr**	**22.00**	**228**	P	**P**	**10 55 00.3**	**-0.4**
	comp=Z,4.6nm,0.5s,baz=53,slow=9.9,SNR=42						
WRA				PcP	**PcP**	**10 58 57.9**	**+0.3**
	comp=Z,0.7nm,1.0s,baz=35,slow=1.9,SNR=2.2						
	comp=Z,4.6nm,0.5s						
KNRA	**Kununurra**	**24.55**	**244**	P	**P**	**10 55 25.2**	**-0.5**
KNRA				IAmb	IAmb	10 55 38.2	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**24.73**	**222**	P	**P**	**10 55 28.4**	**+1.0**
ASAR	**Alice Springs**	**24.73**	**222**	P	**P**	**10 55 27.6**	**+0.2**
ASAR	**Alice Springs**	**24.73**	**222**	P	**P**	**10 55 28.0**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=58,slow=8.5,SNR=68						
ASAR				PcP	**PcP**	**10 59 03.9**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=35,slow=4.8,SNR=1.4						
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**27.72**	**199**	P	**P**	**10 55 56.3**	**+2.1**
	comp=Z,0.7nm,0.3s,baz=32,slow=15,SNR=1.9						
	comp=Z,0.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**28.23**	**242**	P	**P**	**10 55 58.8**	**-0.1**
BBOO	**Buckleboo**	**30.66**	**206**	P	**P**	**10 56 18.9**	**-1.5**
FORT	**Forrest**	**33.39**	**219**	P	**P**	**10 56 43.9**	**-0.4**
MBWA	**Marble Bar**	**34.53**	**240**	P	**P**	**10 56 54.0**	**-0.4**
MBWA				IAmb	IAmb	10 57 00.7	
	comp=Z,9.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**57.20**	**296**	P	**P**	**10 59 52.8**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=102,slow=7.0,SNR=1.2						
	comp=Z,0.4nm,0.3s						
PEA0B	**Petropavlovsk-**	**58.77**	**4**	P	**P**	**11 00 03.1**	**-0.2**
PETK	**Petropavlovsk-**	**58.77**	**4**	P	**P**	**11 00 02.9**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=190,slow=7.1,SNR=7.9						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**66.44**	**329**	P	**P**	**11 00 55.3**	**+0.7**
SONM				IAmb	IAmb	11 01 15.6	
	comp=Z,4.1nm,1.5s						
SONM	**Songino Array**	**66.44**	**329**	P	**P**	**11 00 54.7**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=128,slow=2.8,SNR=4.2						
	comp=Z,0.7nm,0.5s						
VNDA	**Vanda**	**72.02**	**178**	P	**P**	**11 01 29.7**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=335,slow=6.6,SNR=8.4						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**80.21**	**319**	P	**P**	**11 02 14.8**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=104,slow=6.1,SNR=2.0						
	comp=Z,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**81.22**	**327**	P	**P**	**11 02 19.3**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=108,slow=9.3,SNR=2.3						
	comp=Z,0.4nm,0.3s						
ILAR	**Eielson Array**	**83.39**	**22**	P	**P**	**11 02 31.1**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=249,slow=4.9,SNR=8.0						
	comp=Z,0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**83.76**	**322**	P	**P**	**11 02 32.9**	**-1.2**
	comp=Z,0.3nm,0.2s,baz=113,slow=3.8,SNR=1.3						
	comp=Z,0.3nm,0.2s						
MAW	**Mawson**	**84.33**	**203**	P	**P**	**11 02 36.6**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=217,slow=5.1,SNR=1.4						
	comp=Z,1.6nm,0.7s						
BVAR	**Borovoye Array**	**89.23**	**323**	P	**P**	**11 03 00.2**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=90,slow=4.3,SNR=2.2						
	comp=Z,0.6nm,0.5s						
NVAR	**Mina Array Bea**	**93.53**	**52**	P	**P**	**11 03 23.1**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=255,slow=7.1,SNR=7.0						
	comp=Z,1.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.45**	**286**	PKPbc	**PKPbc**	**11 09 54.2**	**-0.7**
	comp=Z,166nm,0.4s,baz=75,slow=2.8,SNR=2.6						
BDFB	**Brasilia**	**151.25**	**138**	PKPbc	**PKiKP**	**11 09 59.9**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=72,slow=3.2,SNR=3.1						

RSNC ***11*** *10:57:17.8±1.2, 2°.5S×8°.1W±°, h0km, M3.1, mb4.2, ML2.7*
IGQ ***11*** *10:57:20.3±0.9, 1°.5S±4°.8°.1W±°, h11km±3km, MLv3.2/7*

ISC 11 10:57:20.1±1.7, 1°.50S±0°.04×80°.94W±0°.06, h4km±13km, n59, σ1§51/71, 10C-21D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMNT	**Manta-Manabi**	**0.59**	**20**	S	**Sg**	**10 57 40.2**	**+1.1**
AMNT				⇑P	**Pg**	**10 57 31.1**	**-0.3**
SALI	**Salinas**	**0.68**	**185**	S	**Sn**	**10 57 49.0**	**+1.3**
SALI				⇓P	**Pn**	**10 57 36.9**	**+0.4**
AQUE	**Quevedo**	**1.51**	**73**	P	**Pn**	**10 57 48.1**	**+0.1**
AQUE				S	**Sg**	**10 58 10.9**	**+2.2**
COHC	**Cochancay**	**1.94**	**120**	P	**Pn**	**10 57 53.5**	**-0.3**
COHC				S	**Sn**	**10 58 18.7**	**+0.1**
JSCH	**Cashca Tororas**	**1.97**	**96**	⇓P	**Pn**	**10 57 55.0**	**+0.4**
JSCH				S	**Sg**	**10 58 23.4**	**-0.1**
CHSH	**Refugio Sur-Vo**	**2.07**	**90**	⇓P	**Pn**	**10 57 57.3**	**+1.2**
CHSH				S	**Sg**	**10 58 27.4**	**+0.8**
TAMH	**Tambohuasha Ch**	**2.16**	**91**	P	**Pb**	**10 57 58.6**	**-1.3**
TAMH				S	**Sg**	**10 58 29.2**	**-0.3**
PORT	**Chimborazo Vol**	**2.16**	**89**	⇓P	**Pn**	**10 57 58.2**	**+0.8**
PORT				S	**Sb**	**10 58 28.2**	**+0.6**
ARNL	**Arenillas**	**2.21**	**157**	⇓P	**Pb**	**10 57 59.7**	**-1.0**
IGUA	**Igualata**	**2.30**	**90**	⇓P	**Pb**	**10 58 01.1**	**-1.4**
ILLI	**Illinizas Sur**	**2.34**	**71**	P	**Pn**	**10 57 57.5**	**-2.3**
BV15	**Puerto Quito-O**	**2.38**	**46**	⇓P	**Pn**	**10 57 59.8**	**0.0**
PAST	**Pastocalle**	**2.43**	**71**	⇑P	**Pb**	**10 58 03.9**	**-0.7**
JUI6	**Juive**	**2.47**	**88**	⇑P	**Pb**	**10 58 04.3**	**-0.9**
ARRY	**Arrayan**	**2.48**	**90**	P	**Pb**	**10 58 04.5**	**-1.0**
POND	**Pondoa**	**2.48**	**88**	⇓P	**Pb**	**10 58 04.2**	**-1.3**
BULB	**Ulba Tungurahu**	**2.53**	**89**	P	**Pb**	**10 58 05.6**	**-0.7**
SLOR	**San Lorenzo -**	**2.56**	**73**	⇓P	**Pn**	**10 58 03.9**	**+1.2**
BRRN	**Barrancas-Volc**	**2.56**	**74**	⇓P	**Pb**	**10 58 05.2**	**-1.7**
CAMI	**Rancho Maria**	**2.56**	**71**	P	**Pb**	**10 58 06.1**	**-0.9**
SUCR	**Mariscal Sucre**	**2.59**	**71**	⇓P	**Pn**	**10 58 04.5**	**+1.4**
PIS1	**Pisayambo**	**2.59**	**80**	⇑P	**Pb**	**10 58 07.1**	**-0.3**
BNAS	**Cotopaxi Volca**	**2.59**	**71**	P	**Pb**	**10 58 07.4**	**0.0**
BMOR	**Cotopaxi Volca**	**2.59**	**73**	P	**Pn**	**10 58 04.1**	**+0.8**
BREF	**Cotopaxi Volca**	**2.63**	**72**	⇓P	**Pb**	**10 58 07.8**	**-0.4**
VCES	**Cotopaxi**	**2.63**	**75**	⇓P	**Pb**	**10 58 06.5**	**-1.6**
GGPT	**Toaza - Volcan**	**2.64**	**61**	P	**Pn**	**10 58 04.8**	**+0.9**
JUA2	**San Juan 2**	**2.66**	**61**	⇓P	**Pn**	**10 58 05.0**	**+0.9**
BVC2	**Cotopaxi Volca**	**2.66**	**72**	P	**Pb**	**10 58 06.9**	**-1.7**
BTAM	**Cotopaxi Volca**	**2.67**	**72**	⇑P	**Pb**	**10 58 07.9**	**-0.9**
PITA	**Cotopaxi Volc**	**2.67**	**70**	⇓P	**Pb**	**10 58 06.9**	**-1.9**
TERV	**Terraza Guagua**	**2.68**	**61**	S	**Sg**	**10 58 48.0**	**+1.8**
TERV				⇓P	**Pn**	**10 58 06.1**	**+1.6**
PINO	**Pino**	**2.68**	**60**	S	**Sg**	**10 58 48.8**	**+2.4**
PINO				⇑P	**Pn**	**10 58 05.0**	**+0.3**
TAMB	**Tambo**	**2.69**	**73**	P	**Pb**	**10 58 07.1**	**-2.0**
TOMA	**Boca Toma-Volc**	**2.69**	**68**	⇑P	**Pn**	**10 58 06.8**	**+2.2**
YANA	**Yana**	**2.73**	**60**	⇓P	**Pn**	**10 58 06.7**	**+1.5**
PAC1	**Pacto, Paraso**	**2.77**	**51**	P	**Pn**	**10 58 05.4**	**-0.1**
PAC1	**Pacto, Paraso**	**2.77**	**51**	P	**Pn**	**10 58 05.5**	**+0.1**
PAC1				S	**Sb**	**10 58 42.0**	**-2.7**
ANTG	**Antisana-Guama**	**2.86**	**70**	⇓P	**Pb**	**10 58 09.6**	**-2.4**
PULU	**Pululahua**	**2.87**	**58**	P	**Pn**	**10 58 08.4**	**+1.4**
ANTM	**Antisana-La Mi**	**2.88**	**71**	P	**Pb**	**10 58 10.6**	**-1.7**
ANTS	**Antisana-Sarah**	**2.94**	**70**	⇓P	**Pb**	**10 58 11.3**	**-2.2**
ANTI	**Antisana**	**2.96**	**69**	P	**Pb**	**10 58 11.9**	**-2.0**
OTAV	**Otavalo**	**3.03**	**55**	⇓P	**Pn**	**10 58 10.3**	**+1.1**
OTAV	**Otavalo**	**3.03**	**55**	P	**Pn**	**10 58 09.9**	**+0.7**
OTAV				S	**Sb**	**10 58 52.4**	**+0.1**
CUSE	**Cuicocha Este**	**3.11**	**55**	P	**Pn**	**10 58 11.7**	**+1.4**
CUSE	**Cuicocha Este**	**3.11**	**55**	P	**Pn**	**10 58 12.3**	**+2.0**
CUIC	**Cuicocha-Domo**	**3.14**	**55**	⇑P	**Pn**	**10 58 12.4**	**+1.7**
COTA	**Cotacachi**	**3.17**	**55**	⇑P	**Pn**	**10 58 12.0**	**+0.7**
ARDO	**Archidona, Ten**	**3.17**	**81**	P	**Pb**	**10 58 14.9**	**-2.3**
CAYR	**Refugio Cayamb**	**3.29**	**63**	⇑P	**Pb**	**10 58 17.0**	**-2.5**
URCU	**Urcuqui**	**3.30**	**54**	P	**Pn**	**10 58 15.7**	**+2.8**
ANGU	**Angureal**	**3.31**	**62**	⇓P	**Pb**	**10 58 16.9**	**-2.8**
AIB2	**Ibarra (Univer**	**3.37**	**57**	P	**Pn**	**10 58 14.4**	**+0.6**
CHMA	**Chilma**	**3.71**	**51**	P	**Pn**	**10 58 21.0**	**+2.5**
CHL1	**Volc¡n Chiles**	**3.76**	**53**	P	**Pn**	**10 58 20.8**	**+1.5**
ECEN	**Cerro Negro**	**3.76**	**52**	P	**Pn**	**10 58 21.1**	**+1.7**
CHL2	**Volc¡n Chiles**	**3.79**	**53**	P	**Pn**	**10 58 22.8**	**+3.0**
BBAC	**Balboa, Cauca**	**5.08**	**47**	P	**Pn**	**10 58 37.8**	**+0.5**
	7.4nm,0.9s						

FUNV ***11*** *11:35:58.1, 9°.98N×71°.22W, h5km, MW2.8*
RSNC ***11*** *11:35:59.2±0.0, 10°.N±8°.×7°.1W±°, h38km±62km, M2.1, ML2.1*

ISC 11 11:35:55.7±1.7, 10°.07N±0°.04×71°.10W±0°.03, h4km±14km, n12, σ1§97/22, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**1.26**	**159**	P	**Pn**	**11 36 19.1**	**-1.1**
SDV				S	**Sb**	**11 36 35.7**	**-1.0**
MCQV	**Machiques**	**1.42**	**269**	*e*P	**Pn**	**11 36 21.5**	**-0.7**
MCQV				*e*S	**Sn**	**11 36 40.8**	**-0.6**
SOCV	**Socops**	**1.79**	**172**	*e*P	**Pn**	**11 36 28.2**	**+0.8**
SOCV				*e*S	**Sn**	**11 36 50.5**	**-0.1**
URIC	**Uribia, Colomb**	**1.85**	**332**	P	**Pb**	**11 36 29.3**	**-0.7**
URIC				S	**Sb**	**11 36 53.8**	**+0.3**
TEPV	**Terepaima**	**1.88**	**93**	*e*P	**Pg**	**11 36 32.0**	**+0.4**
TEPV				*e*S	**Sg**	**11 36 56.7**	**+0.7**
CRJC	**Cerrejon, Guaj**	**2.00**	**298**	P	**Pn**	**11 36 30.2**	**-0.1**
CRJC				S	**Sn**	**11 36 54.1**	**-1.7**
CAPV	**Capacho**	**2.50**	**209**	*e*P	**Pn**	**11 36 37.6**	**+0.3**
OCAC	**Ocana**	**2.85**	**231**	P	**Pb**	**11 36 48.4**	**+1.2**
OCAC				S	**Sb**	**11 37 23.1**	**+0.5**
PAMC	**Pamplona, Colo**	**3.14**	**210**	P	**Pb**	**11 36 53.6**	**+1.2**
BAUV	**El Baul**	**3.21**	**110**	*e*P	**Pn**	**11 36 49.4**	**+2.5**
BAUV				*e*S	**Sn**	**11 37 28.0**	**+2.3**
BENV	**Beln**	**3.44**	**91**	*e*P	**Pn**	**11 36 52.4**	**+2.2**
BENV				*e*S	**Sn**	**11 37 34.5**	**+3.0**
CACV	**CAICARA DEL OR**	**5.14**	**119**	*e*P	**Pb**	**11 37 22.3**	**-3.9**
CACV				*e*S	**Sb**	**11 38 24.1**	**-4.3**

IDC 11 11:42:45.9±3.4, 18°.01S×178°.42W, h622km±24km, mb3.1/4, mbtmp4.1/5, Error ellipse: s-maj=83.1km s-min=38.5km az=24.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.38**	**274**	P	P	11 44 09.1	0.0
	26nm,1.2s,baz=132,slow=16,SNR=5.6						
STKA	**Stephens Creek**	**38.58**	**241**	P	P	11 49 17.7	+0.1
	0.9nm,0.5s,baz=96,slow=9.2,SNR=4.5						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**44.61**	**260**	P	P	11 50 05.0	-0.1
	0.9nm,0.3s,baz=94,slow=7.3,SNR=26						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**44.76**	**254**	P	P	11 50 06.2	0.0
	4.0nm,0.5s,baz=89,slow=8.5,SNR=100						
ASAR				PcP	PcP	11 51 34.5	-0.1
	0.7nm,1.1s,baz=117,slow=3.8,SNR=4.1						
	4.0nm,0.5s						
QSPA	**South Pole Qui**	**72.04**	**180**	P	P	11 53 08.3	0.0
	2.4nm,1.2s,baz=13,slow=3.8,SNR=2.2						
	2.4nm,1.2s						

IDC 11 12:05:12.2±567.0, 53°.62N×34°.38E, h0km, Error ellipse: s-maj=246.0km s-min=72.8km az=29.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.51**	**26**	I	I	12 26 20.0	
	0.7nm,0.8s,baz=211,slow=320,SNR=4.7						
I31KZ	**AKTYUBINSK INF**	**14.89**	**93**	I	I	13 35 10.0	
	baz=290,slow=328,SNR=1.7						
I37NO	**I37NO**	**17.15**	**341**	I	I	13 57 30.0	
	baz=148,slow=332,SNR=0.6						
I46RU	**ZALESOVO INFRA**	**29.29**	**69**	I	I	15 00 50.0	
	baz=292,slow=325,SNR=1.9						

IDC 11 12:06:24.2±3.0, 50°.29N×27°.50E, h0km, mbtmp3.8/2, ML3.0/2, Error ellipse: s-maj=26.4km s-min=14.5km az=32.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**1.18**	**69**	Pg	Pg	12 06 46.5	-0.2
	15nm,0.3s,baz=252,slow=18,SNR=40						
AKASG				Lg	Lg	12 07 03.5	
	9.8nm,0.3s,baz=251,slow=31,SNR=14						
I43RU	**DUBNA INFRASON**	**8.66**	**38**	I	I	12 58 34.3	
	baz=224,slow=319,SNR=2.8						
FINES	**FINESS Array B**	**11.21**	**356**	Pn	Pn	12 09 01.0	-4.5
	0.2nm,0.3s,baz=172,slow=12,SNR=3.8						
	1.5nm,0.

WHF	**Hehuan Shan**	**1.28 253**	P	**Pg**	**12 07 26.8**	**-0.2**
WHF			S	**Sg**	**12 07 43.5**	**-0.1**
ESL	**Shilin**	**1.28 237**	*e*P	**Pn**	**12 07 24.7**	**-1.4**
JKRS	**Kuro-shima**	**1.31 102**	P	**Pg**	**12 07 26.9**	**-0.7**
JKRS			*e*S	**Sg**	**12 07 44.5**	**-0.1**
KSHI	**Guanxi Townshi**	**1.32 281**	*e*P	**Pg**	**12 07 29.2**	**+1.5**
KSHI			*e*S	**Sg**	**12 07 46.6**	**+1.6**
NFF	**Wufeng Townshi**	**1.36 275**	*e*P	**Pg**	**12 07 28.5**	**+0.1**
NFF			*i* S	**Sg**	**12 07 46.3**	**+0.3**
WARBT	**Fenglin Townsh**	**1.37 234**	*e*P	**Pg**	**12 07 29.0**	**+0.3**
WARBT			*e*S	**Sg**	**12 07 46.9**	**+0.3**
OWD	**Renai**	**1.42 247**	P	**Pb**	**12 07 29.0**	**+0.1**
OWD			*e*S	**Sn**	**12 07 46.2**	**-0.7**
LIOB	**Emei**	**1.45 275**	*e*P	**Pg**	**12 07 30.5**	**+0.3**
LIOB			S	**Sb**	**12 07 48.1**	**+0.3**
WUSB	**Renai**	**1.46 249**	P	**Pg**	**12 07 30.1**	**-0.2**
WUSB			*e*S	**Sg**	**12 07 49.4**	**+0.1**
NSTT	**Nanjuang**	**1.46 274**	*e*P	**Pg**	**12 07 30.3**	**-0.1**
NSTT			*e*S	**Sg**	**12 07 49.3**	**-0.1**
HGSD	**Ruisui**	**1.49 227**	*e*P	**Pg**	**12 07 30.2**	**-0.7**
HGSD			*e*S	**Sn**	**12 07 47.3**	**-1.1**
WHP	**Taichung City**	**1.53 261**	*e*P	**Pg**	**12 07 32.4**	**+0.6**
WHP			*e*S	**Sg**	**12 07 52.1**	**+0.4**
VWDT	**VWDT**	**1.54 240**	P	**Pb**	**12 07 30.9**	**0.0**
VWDT			S	**Sn**	**12 07 49.5**	**-0.1**
YULB	**Yu-li**	**1.64 227**	P	**Pn**	**12 07 31.4**	**+0.3**
YULB			S	**Sn**	**12 07 52.3**	**+0.1**
TWF1	**Yuli**	**1.67 226**	P	**Pb**	**12 07 31.9**	**-1.1**
TWF1			S	**Sb**	**12 07 53.3**	**-0.8**
SSLB	**Suanglung**	**1.68 244**	*e*P	**Pg**	**12 07 34.3**	**-0.2**
SSLB			*e*S	**Sg**	**12 07 55.5**	**-0.8**
TYC	**Yuchr**	**1.71 249**	*e*P	**Pg**	**12 07 34.9**	**-0.3**
TYC			*e*S	**Sg**	**12 08 00.6**	**+3.2**
CHKH	**Chenggong**	**1.73 220**	P	**Pn**	**12 07 32.5**	**+0.3**
CHKH			S	**Sn**	**12 07 54.3**	**+0.1**
WHYT	**Xinyi Township**	**1.80 243**	*e*P	**Pg**	**12 07 36.2**	**-0.7**
WHYT			*e*S	**Sg**	**12 08 02.5**	**+2.2**
EDH	**Donghe**	**1.95 218**	P	**Pn**	**12 07 35.8**	**+0.5**
EDH			*e*S	**Sn**	**12 07 59.4**	**-0.4**
TPUB	**Ta-pu**	**2.18 236**	P	**Pn**	**12 07 39.6**	**+1.1**
TPUB			S	**Sn**	**12 08 06.3**	**+0.9**
MATB	**Ma-tsu**	**2.90 304**	*e*P	**Pn**	**12 07 48.5**	**+0.2**
MATB			*e*S	**Sn**	**12 08 20.4**	**-2.8**

*NOU **11** 12:09:34.3, 39.00S×173.77E, h0km, MLv3.5/14, Off W. Coast of N. Island, N.Z.*
*WEL **11** 12:09:34.4±1.1, 39°S±4°×17°4E±°, h5km, M3.2/8, ML3.5/8, MLv3.2/8, Error ellipse: s-maj=8.2km s-min=3.6km az=128.1, confirmed*
ISC 11 12:09:34.6±1.4, **39.01S**±0.03×**173.87E**±0.04, **h5**km±10km, **n57**, σ0°**96**/77, **Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPCS	**New Plymouth C**	**0.17 108**		P	**Pg**	**12 09 37.1**	**-0.8**
NPCS				S	**Sg**	**12 09 40.1**	**-0.1**
NBEZ	**Newall Road No**	**0.26 180**		P	**Pg**	**12 09 40.0**	**+0.4**
NBEZ				S	**Sg**	**12 09 44.1**	**+1.1**
INHS	**Inglewood High**	**0.29 120**		P	**Pg**	**12 09 40.5**	**+0.3**
INHS				S	**Sg**	**12 09 45.1**	**+1.0**
KHEZ	**Kahui Hut**	**0.31 158**		P	**Pg**	**12 09 40.3**	**-0.2**
KHEZ	**Kahui Hut**	**0.31 158**		P	**Pg**	**12 09 40.5**	**0.0**
NEZ	**North Egmont**	**0.32 146**		P	**Pg**	**12 09 40.4**	**-0.3**
DREZ	**Durham Road**	**0.32 124**		P	**Pg**	**12 09 41.0**	**+0.3**
DREZ				S	**Sg**	**12 09 45.5**	**+0.7**
MHEZ	**Mangahewa**	**0.36 101**		P	**Pg**	**12 09 42.2**	**+0.6**
PREZ	**Palmer Road**	**0.40 146**		P	**Pg**	**12 09 42.5**	**+0.1**
NMEZ	**Namu Road**	**0.40 179**		P	**Pg**	**12 09 42.6**	**+0.2**
NMEZ				S	**Sg**	**12 09 48.7**	**+1.1**
OPSS	**Opunake Primar**	**0.44 181**		P	**Pg**	**12 09 41.9**	**-1.1**
OPSS				S	**Sg**	**12 09 48.8**	**+0.1**
LREZ	**Lake Rotokare**	**0.61 137**		P	**Pg**	**12 09 46.5**	**+0.2**
HWHS	**Hawera High Sc**	**0.66 151**		P	**Pg**	**12 09 46.3**	**-0.8**
VRZ	**Vera Road**	**0.70 100**		P	**Pg**	**12 09 48.0**	**-0.1**
HIZ	**Hauiti**	**0.92 58**		P	**Pg**	**12 09 52.3**	**+0.1**
HIZ	**Hauiti**	**0.92 58**		P	**Pg**	**12 09 52.3**	**+0.1**
HIZ				S	**Sg**	**12 10 05.3**	**+1.1**
WAZ	**Wanganui**	**1.14 131**		P	**Pg**	**12 09 55.7**	**-0.8**
WAZ				S	**Sg**	**12 10 11.5**	**+0.2**
PKVZ	**Pokaka**	**1.18 104**		P	**Pg**	**12 09 56.1**	**-1.2**
PKVZ				S	**Sg**	**12 10 12.0**	**-0.7**
TWVZ	**Taurewa**	**1.23 93**		P	**Pg**	**12 09 56.7**	**-1.3**
TWVZ				S	**Sg**	**12 10 13.2**	**-0.8**
MTVZ	**Mangateitei**	**1.30 107**		P	**Pg**	**12 09 57.9**	**-1.6**
MTVZ				S	**Sg**	**12 10 16.3**	**-0.1**
COVZ	**Chateau Observ**	**1.32 99**		P	**Pg**	**12 09 58.4**	**-1.4**
COVZ				S	**Sg**	**12 10 16.6**	**-0.4**
FWVZ	**Far West T-bar**	**1.33 101**		P	**Pg**	**12 09 58.9**	**-1.3**
FWVZ				S	**Sg**	**12 10 16.3**	**-1.2**
TRVZ	**Turoa**	**1.34 103**		P	**Pg**	**12 09 59.1**	**-1.2**
MAVZ	**Matarangi**	**1.34 102**		P	**Pg**	**12 09 59.2**	**-1.1**
MAVZ				S	**Sg**	**12 10 17.4**	**-0.4**
WTVZ	**West Tongariro**	**1.35 95**		P	**Pn**	**12 09 59.0**	**-1.1**
WTVZ				S	**Sg**	**12 10 17.1**	**-0.7**
NGZ	**Ngauruhoe**	**1.36 98**		P	**Pn**	**12 09 59.4**	**-1.0**
NGZ				S	**Sg**	**12 10 17.7**	**-0.6**
NNVZ	**North Ngauruho**	**1.37 96**		P	**Pn**	**12 09 59.3**	**-1.2**
NNVZ				S	**Sg**	**12 10 17.9**	**-0.6**
WNVZ	**Wahianoa**	**1.38 104**		P	**Pn**	**12 09 59.9**	**-0.8**
WNVZ				S	**Sg**	**12 10 17.8**	**-1.2**
KRVZ	**Karewarewa**	**1.39 94**		P	**Pn**	**12 09 59.8**	**-0.9**
KRVZ				S	**Sg**	**12 10 17.9**	**-1.2**
SNVZ	**South Ngauruho**	**1.39 98**		P	**Pn**	**12 09 60.0**	**-0.9**
SNVZ				S	**Sg**	**12 10 17.9**	**-1.4**
OTVZ	**Oturere**	**1.41 97**		P	**Pn**	**12 10 00.3**	**-0.8**
NTVZ	**North Tongarir**	**1.41 94**		P	**Pn**	**12 10 00.5**	**-0.6**
TUVZ	**Tukino**	**1.41 101**		P	**Pn**	**12 10 00.5**	**-0.6**
TMVZ	**Te Maari**	**1.44 95**		P	**Pn**	**12 10 00.5**	**-0.9**
ETVZ	**East Tongariro**	**1.44 96**		P	**Pn**	**12 10 01.0**	**-0.5**
TLZ	**Tolley Road**	**1.48 63**		P	**Pn**	**12 10 01.0**	**-0.9**
WATZ	**Wairara**	**1.49 79**		P	**Pn**	**12 10 02.0**	**0.0**
RATZ	**Rangitukua**	**1.49 85**		P	**Pn**	**12 10 01.9**	**-0.2**
RITZ	**Rihia Road**	**1.55 89**		P	**Pn**	**12 10 03.2**	**+0.2**
KUTZ	**Kaahu Road**	**1.62 72**		P	**Pn**	**12 10 04.1**	**+0.3**
OHWZ	**Ohakea**	**1.64 137**		P	**Pn**	**12 10 04.2**	**+0.2**
DUWZ	**D'Urville Isla**	**1.79 179**		P	**Pn**	**12 10 04.8**	**-1.4**
KIW	**Kapiti Island**	**2.02 157**		P	**Pn**	**12 10 09.3**	**0.0**
PNHZ	**Pukenui**	**2.02 117**		P	**Pn**	**12 10 10.5**	**+1.1**
BKZ	**Black Stump Fm**	**2.05 95**		P	**Pn**	**12 10 11.0**	**+1.2**
BKZ	**Black Stump Fm**	**2.05 95**		S	**Sb**	**12 10 39.2**	**+1.0**
OGWZ	**Otaki Gorge**	**2.06 151**		P	**Pn**	**12 10 11.2**	**+1.2**
QRZ	**Quartz Range**	**2.08 209**		P	**Pn**	**12 10 08.4**	**-1.9**
QRZ	**Quartz Range**	**2.08 209**		S	**Sb**	**12 10 38.0**	**-1.1**
QRZ	**Quartz Range**	**2.08 209**		P	**Pn**	**12 10 08.3**	**-1.9**
SNZO	**South Karori**	**2.39 165**		P	**Pn**	**12 10 14.7**	**+0.4**
SNZO	**South Karori**	**2.39 165**		S	**Sn**	**12 10 45.6**	**+1.6**
BFZ	**Birch Farm**	**2.48 133**		P	**Pn**	**12 10 17.0**	**+1.4**
URZ	**Urewera**	**2.65 75**		P	**Pn**	**12 10 20.3**	**+2.3**
KUZ	**Kuaotunu**	**2.70 34**		P	**Pn**	**12 10 18.1**	**-0.5**
KHZ	**Kahutara**	**3.41 184**		P	**Pn**	**12 10 29.1**	**+0.7**
OUZ	**Omahuta**	**3.79 357**		P	**Pn**	**12 10 34.6**	**+1.0**

*NEIC **11** 12:22:09.0±1.0, 18.94N±0.09×66.89W±0.03, h44km±8km, ML2.5/28, Md2.8/12(RSPR), Error ellipse: s-maj=12.8km s-min=4.6km az=183.0*
*SDD **11** 12:22:08.9±1.2, 19.02N×66.80W, h23km±30km, MD2.7, ML2.3, MW2.8*
*RSPR **11** 12:22:08.9, 19.04N×66.86W, h33km±9km, MD2.8/12*
*OSPL **11** 12:22:10.5±0.8, 18.92N×66.81W, h24km±6km, ML2.3*
ISC 11 12:22:05.4±1.7, **19.00N**±0.07×**66.81W**±0.03, **h7**km±11km, **n60**, σ0°**67**/72, **20C-5D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.58 153**			**Pn**	**12 22 20.7**	**+0.6**
EMPR					**Sn**	**12 22 30.0**	**+0.2**
EMPR	**Esperanza - Ma**	**0.58 153**		IAML		12 22 30.2	
	comp=E,367nm,0.6s						
EMPR				IAML		12 22 33.6	
	comp=N,222nm,0.4s						
EMPR	**Esperanza - Ma**	**0.58 153**		*e*P	**Pn**	**12 22 20.7**	**+0.6**
EMPR	**Esperanza - Ma**	**0.58 153**		*e*S	**Sn**	**12 22 30.0**	**+0.2**
AGPR	**Aguadilla, PR**	**0.60 209**			**Pb**	**12 22 18.1**	**-0.1**
AGPR					**Sb**	**12 22 28.2**	**+1.2**
AGPR	**Aguadilla, PR**	**0.60 209**		IAML		12 22 29.9	
	comp=N,202nm,0.3s						
AGPR	**Aguadilla, PR**	**0.60 209**		*e*Pg	**Pn**	**12 22 20.1**	**-0.3**
AGPR				*e*Sg	**Sn**	**12 22 29.1**	**-1.2**
AGPR				IAML		12 22 30.4	
	comp=N,161nm,0.5s						
AGPR	**Aguadilla, PR**	**0.60 209**		*e*P	**Pb**	**12 22 18.1**	**-0.1**
AGPR	**Aguadilla, PR**	**0.60 209**		*i* P	**Pn**	**12 22 20.1**	**-0.3**
AGPR				*e*S	**Sb**	**12 22 28.1**	**+1.2**
AGPR				IAML		12 22 32.1	
	comp=Z,120nm,0.6s						
AOPR	**Arecibo Observ**	**0.65 176**			**Pn**	**12 22 21.1**	**+0.1**
AOPR					**Sn**	**12 22 30.3**	**-1.3**
AOPR	**Arecibo Observ**	**0.65 176**		IAML		12 22 35.1	
	comp=N,403nm,0.3s						
AOPR	**Arecibo Observ**	**0.65 176**		*e*Pg	**Pn**	**12 22 21.2**	**+0.1**
AOPR				*e*Sg	**Sn**	**12 22 30.3**	**-1.3**
AOPR				IAML		12 22 35.0	
	comp=N,383nm,0.3s						
AOPR	**Arecibo Observ**	**0.65 176**		*e*P	**Pn**	**12 22 21.1**	**+0.1**
AOPR	**Arecibo Observ**	**0.65 176**		*e*S	**Sn**	**12 22 30.3**	**-1.3**
UUPR	**Utuado, UPR, P**	**0.74 174**		Pn	**Pn**	**12 22 23.7**	**+1.4**
ECPR	**Experimental S**	**0.79 148**		*e*P	**Pn**	**12 22 23.5**	**+0.5**
ECPR	**Experimental S**	**0.79 148**		*e*S	**Sb**	**12 22 34.0**	**+1.5**
PRSN	**Puerto Rico Se**	**0.84 203**		Pn	**Pn**	**12 22 23.2**	**-0.4**
LSP	**Las Mesas**	**0.86 198**			**Pb**	**12 22 22.9**	**+0.2**
LSP					**Sb**	**12 22 35.0**	**+0.6**
LSP	**Las Mesas**	**0.86 198**		*e*P	**Pb**	**12 22 22.9**	**+0.2**
LSP	**Las Mesas**	**0.86 198**		*e*S	**Sb**	**12 22 35.0**	**+0.6**
IDE	**Isla Desecheo**	**0.88 226**			**Pb**	**12 22 23.1**	**+0.1**
IDE					**Sg**	**12 22 34.1**	**+0.4**
IDE	**Isla Desecheo**	**0.88 226**		*e*P	**Pb**	**12 22 23.1**	**+0.1**
IDE	**Isla Desecheo**	**0.88 226**		*e*S	**Sg**	**12 22 34.1**	**+0.4**
CELP	**Cerrillos**	**0.94 167**			**Pn**	**12 22 25.6**	**+0.5**
CELP					**Sb**	**12 22 37.6**	**+0.8**
CELP	**Cerrillos**	**0.94 167**		IAML		12 22 41.2	
	comp=E,107nm,0.3s						
CELP				IAML		12 22 41.2	
	comp=N,116nm,0.2s						
CELP	**Cerrillos**	**0.94 167**		*e*Pg	**Pn**	**12 22 25.5**	**+0.5**
CELP				*e*Sg	**Sn**	**12 22 38.4**	**-0.4**
CELP				IAML		12 22 41.2	
	comp=N,128nm,0.2s						
CELP	**Cerrillos**	**0.94 167**		*e*P	**Pn**	**12 22 25.6**	**+0.5**
CELP	**Cerrillos**	**0.94 167**		*e*S	**Sb**	**12 22 37.6**	**+0.8**
GCPR	**Guaynabo City**	**0.97 135**			**Pn**	**12 22 24.9**	**-0.5**
GCPR					**Sb**	**12 22 37.7**	**+0.2**
GCPR	**Guaynabo City**	**0.97 135**		*e*P	**Pn**	**12 22 24.9**	**-0.5**
GCPR	**Guaynabo City**	**0.97 135**		*e*S	**Sb**	**12 22 37.7**	**+0.2**
OBIP	**Obispado Ponce**	**0.97 169**			**Pn**	**12 22 25.1**	**-0.3**
OBIP					**Sb**	**12 22 38.0**	**+0.5**
OBIP	**Obispado Ponce**	**0.97 169**		IAML		12 22 38.1	
	comp=N,108nm,0.4s						
OBIP				IAML		12 22 41.1	
	comp=E,130nm,0.3s						
OBIP	**Obispado Ponce**	**0.97 169**		*e*P	**Pn**	**12 22 25.1**	**-0.3**
OBIP	**Obispado Ponce**	**0.97 169**		*e*S	**Sb**	**12 22 38.0**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.02 184**			**Pn**	**12 22 26.0**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.02 184**		*e*P	**Pn**	**12 22 26.0**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.03 196**			**Pn**	**12 22 26.4**	**+0.1**
CRPR					**Sb**	**12 22 39.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.03 196**		*e*Pg	**Pn**	**12 22 26.4**	**+0.1**
CRPR				*e*Sg	**Sb**	**12 22 40.2**	**+1.0**
CRPR				IAML		12 22 42.1	
	comp=N,68nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.03 196**		*e*P	**Pn**	**12 22 26.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.03 196**		*e*S	**Sb**	**12 22 39.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.03 196**		*i* P	**Pn**	**12 22 26.4**	**+0.1**
CRPR				*e*S	**Sg**	**12 22 38.8**	**+0.3**
CRPR				IAML		12 22 40.4	
	comp=Z,101nm,0.2s						
MLPR	**Magueyes Islan**	**1.05 193**		*e*Pg	**Pn**	**12 22 26.6**	**+0.2**
MLPR				*e*Sg	**Sb**	**12 22 39.9**	**+0.1**
MLPR				IAML		12 22 44.7	
	comp=N,14nm,0.2s						
MLPR	**Magueyes Islan**	**1.05 193**		*e*P	**Pn**	**12 22 26.7**	**+0.2**
MLPR	**Magueyes Islan**	**1.05 193**		*e*S	**Sb**	**12 22 40.1**	**+0.4**
SJG	**San Juan**	**1.08 145**		Pn	**Pn**	**12 22 27.6**	**+0.6**
SJG				IAML		12 22 53.9	
	comp=N,98nm,0.2s						
SJG	**San Juan**	**1.08 145**		*i* P	**Pn**	**12 22 27.9**	**+1.0**
SJG				*e*S	**Sb**	**12 22 40.8**	**+0.1**
SJG				IAML		12 22 45.7	
	comp=Z,56nm,0.2s						
IGPR	**InterUniversit**	**1.22 147**			**Pn**	**12 22 29.6**	**+0.7**
IGPR					**Sg**	**12 22 44.8**	**+0.1**
IGPR	**InterUniversit**	**1.22 147**		IAML		12 22 51.8	
	comp=N,125nm,0.3s						
IGPR	**InterUniversit**	**1.22 147**		*e*P	**Pn**	**12 22 29.6**	**+0.7**
IGPR	**InterUniversit**	**1.22 147**		*e*S	**Sg**	**12 22 44.8**	**+0.1**
PDPR	**Patillas Dam,**	**1.22 143**		Pn	**Pn**	**12 22 29.4**	**+0.5**
PDPR					**Sg**	**12 22 44.7**	**-0.2**
PDPR				IAML		12 22 45.6	
	comp=E,74nm,0.2s						
PDPR				IAML		12 22 53.6	
	comp=N,76nm,0.1s						
PDPR	**Patillas Dam,**	**1.22 143**		*e*P	**Pn**	**12 22 29.6**	**+0.6**
PDPR	**Patillas Dam,**	**1.22 143**		*e*S	**Sg**	**12 22 42.6**	**-2.2**
PCDR	**Punta Cana, DR**	**1.57 252**		Pn	**Pn**	**12 22 32.9**	**-0.8**
PCDR				IAML		12 22 51.0	
	comp=E,82nm,2.3s						
PCDR	**Punta Cana, DR**	**1.57 252**		*i* P	**Pg**	**12 22 35.3**	**-0.3**
PCDR				IAML		12 23 02.9	
	comp=Z,76nm,0.9s						
MIDR	**Miches**	**2.12 270**		IAML		12 23 16.7	
	comp=N,16nm,0.6s						
DR12	**Loma Pena Alta**	**2.45 266**		Pn	**Pn**	**12 22 46.5**	**+0.7**
DR12				IAML		12 23 22.8	
	comp=E,24nm,2.7s						
HATOM	**Hato Mayor del**	**2.45 266**		*i* P	**Pn**	**12 22 46.7**	**+0.8**
HATOM				IAML		12 23 14.0	
	comp=N,16nm,2.0s						

*IDC **11** 12:29:15.4±2.0, 12.26N×147.98E, h0km, mb3.6/6, mbtmp3.6/6, ML5.0/1, MS2.8/2, Error ellipse: s-maj=51.3km s-min=23.4km az=72.0*
ISC 11 12:29:20.6±1.6, **12.2N**±0.2×**148.0E**±0.2, **h35**km, **n8**, σ0°**43**/8, **mb3.7**/6, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.31 294**		Pn	**Pn**	**12 30 09.6**	**-0.4**
	152nm,0.3s,baz=128,slow=6.8,SNR=94						
GUMO				Sn	**Sn**	**12 30 48.4**	**+0.2**
	57nm,0.3s,baz=18,slow=22,SNR=9.0						
GUMO				LR	LR	12 31 34.5	
	comp=Z,47nm,19.2s,baz=148,slow=42						
WRA	**Warramunga Arr**	**34.68 203**		P	**P**	**12 36 07.2**	**0.0**
	0.9nm,0.8s,baz=24,slow=9.6,SNR=5.7						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**38.24 201**		P	**P**	**12 36 37.5**	**0.0**
	0.7nm,1.0s,baz=28,slow=7.2,SNR=4.5						
	0.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**47.57 284**		P	**P**	**12 37 53.6**	**+0.3**
	0.9nm,0.6s,baz=81,slow=6.5,SNR=7.8						
	0.9nm,0.6s						
SONM	**Songino Array**	**49.59 324**		P	**P**	**12 38 08.9**	**+0.4**
	0.2nm,0.4s,baz=118,slow=6.7,SNR=1.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**64.56 316**		P	**P**	**12 39 53.7**	**-0.6**
	0.4nm,0.6s,baz=114,slow=6.8,SNR=2.4						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**67.61 320**		P	**P**	**12 40 13.7**	**-0.1**
	0.5nm,0.7s,baz=103,slow=6.1,SNR=4.3						
	0.5nm,0.7s						
NRIK	**Noril'sk**	**68.40 341**		LR	LR	13 10 01.7	
	comp=Z,24nm,20.5s,baz=339,slow=36						

*NEIC **11** 13:05:28.5±0.8, 34.118N±0.010×117.32W±0.02, h20km±3km, Error ellipse: s-maj=2.3km s-min=1.4km az=78.0*
PAS 11 13:05:29.5±0.8, **34.11N**±0.01×**117.32W**±0.02, **h16**km±3km, **ML3.4**/327, **ML3.2**/48(NEIC), **Error ellipse: s-maj=2.3km s-min=1.8km az=72.0, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLTC	**Calectric**	**0.02 182**			Pg	13 05 32.5	+0.2
CLTC					Sg	13 05 35.4	+1.1
HLNC	**Highland**	**0.08 83**			Pg	13 05 32.6	-0.1
HLNC					Sg	13 05 35.1	+0.2
FON	**Fontana**	**0.10 264**			Pg	13 05 32.9	-0.1
FON					Sg	13 05 35.3	0.0
RVR	**Riverside**	**0.13 203**			Pb	13 05 35.8	+2.2
RSBC	**Riverside Bore**	**0.14 184**			Pg	13 05 33.1	-0.3
RSBC					Sg	13 05 36.0	0.0
RSBC	**Riverside Bore**	**0.14 184**			Pg	13 05 33.2	-0.2
RSBC					Sg	13 05 36.1	+0.2
SS2	**San Sevaine**	**0.18 302**			Pg	13 05 33.9	-0.1
SVD	**Seven Oaks Dam**	**0.18 91**			Pg	13 05 33.7	-0.3
SVD					Sg	13 05 37.2	+0.1
CFT	**Crafton Hills**	**0.19 114**			Pb	13 05 37.6	+3.0
CSP	**Cedar Springs**	**0.19 349**			Pg	13 05 33.8	-0.4
CSP					Sg	13 05 37.0	-0.4
PEC	**Perris**	**0.25 149**			Pg	13 05 34.8	-0.3
PEC					Sg	13 05 38.8	-0.2
BFSC	**Mount Baldy Ra**	**0.31 294**			Pn	13 05 40.2	+0.7
CHNC	**Chino**	**0.32 250**			Pg	13 05 35.7	-0.6
BBSC	**Beaumont Base**	**0.34 124**			Sg	13 05 41.7	+0.3
BBRC	**Big Bear Solar**	**0.36 65**			Sg	13 05 41.7	-0.6
PSRC	**Puddingstone R**	**0.41 267**			Pg	13 05 37.4	-0.4
ADO	**Adelanto Recei**	**0.45 348**			Sg	13 05 44.9	+0.1
ELS	**Elsinore Mount**	**0.47 191**		Pg	Pg	13 05 37.7	-1.3
ELS				IAML		13 05 45.1	
	comp=N,2μm,0.3s						
ELS				IAML		13 05 45.2	
	comp=E,2μm,0.6s						
ELS	**Elsinore Mount**	**0.47 191**			Sg	13 05 44.9	-0.5
HMTC	**Hemet**	**0.48 147**			Pg	13 05 38.4	-0.7
HMTC					Sg	13 05 45.0	-0.6
MURC	**Murrieta**	**0.52 169**			Sg	13 05 46.3	-0.5
DGR	**Domenigoni Val**	**0.53 151**			Pg	13 05 39.1	-0.9
DGR					Sg	13 05 46.2	-0.8
POB	**Polly Butte**	**0.54 142**			Pg	13 05 39.4	-0.8
POB					Sg	13 05 46.7	-0.6
BACC	**Bachelor Mtn.**	**0.55 155**			Sg	13 05 46.9	-0.8
HOLC	**Holcomb Ridge**	**0.56 309**			Pg	13 05 39.8	-0.8
HOLC					Sg	13 05 47.5	-0.7
RHC	**Rose Hills Cem**	**0.59 259**			Pg	13 05 40.8	-0.4
RHC					Sg	13 05 48.2	-0.8
SANC	**Santa Ana**	**0.62 230**			Pg	13 05 41.6	-0.1
MWC	**Mount Wilson**	**0.62 281**			Pg	13 05 41.0	-0.9
MWC					Sg	13 05 49.7	-0.6
JNH	**Juniper Hills**	**0.63 303**			Pg	13 05 41.0	-0.9
JNH					Sg	13 05 49.3	-0.9
CHFC	**Chilao Flat St**	**0.63 291**			Sg	13 05 49.4	-1.0
BREC	**Barre Substati**	**0.63 242**			Pb	13 05 42.1	0.0
BREC					Sb	13 05 51.9	+1.2
DEVC	**Devers**	**0.64 106**			Pg	13 05 41.4	-0.6
DEVC					Sg	13 05 50.4	-0.2
CACC	**Caltech Cellar**	**0.67 272**			Pg	13 05 41.7	-0.9
CACC					Sg	13 05 51.0	-0.6
GVRC	**Garvey Reservo**	**0.67 265**			Sg	13 05 51.4	-0.2
GSA	**Caltech--GSA**	**0.67 272**			Pg	13 05 41.6	-1.2
GSA					Sg	13 05 51.2	-0.5
GVDA	**Garner Valley**	**0.69 129**			Pg	13 05 42.1	-1.0
GVDA					Sg	13 05 51.4	-0.9
DLAC	**Del Amo**	**0.70 248**			Pn	13 05 54.5	+10
SBB	**Saddle Back Bu**	**0.71 324**			Sg	13 05 51.9	-1.1
LRRC	**Littlerock Res**	**0.72 305**			Pg	13 05 42.7	-0.9
LRRC					Sg	13 05 52.7	-0.4
PASC	**Pasadena Art C**	**0.72 275**		Pg	Pg	13 05 42.3	-1.3
PASC				IAML		13 05 55.4	
	comp=N,1μm,0.4s						
PASC	**Pasadena Art C**	**0.72 275**			Sg	13 05 52.1	-1.1
CRY	**Cary Ranch**	**0.73 138**			Sg	13 05 52.3	-1.1
BLAC	**Blackrock camp**	**0.77 93**			Sg	13 05 54.3	-0.5
EW2	**E Wide Canyon**	**0.77 102**			Pg	13 05 43.7	-0.9
EW2					Sg	13 05 54.3	-0.5
HYS	**Haystack Butte**	**0.78 345**			Pg	13 05 43.8	-1.0
HYS					Sg	13 05 53.8	-1.3
WTT2	**Watts, South G**	**0.80 259**			Sn	13 05 57.0	-0.6
CJV	**Casa Juvan**	**0.80 302**			Pb	13 05 44.0	-1.1
CJV					Sg	13 05 54.8	-1.1
RRX	**Edison Barstow**	**0.81 19**			Sb

comp=E,21nm,4.4s
KNB Kanab 4.67 50 Pn 13 06 39.7 +0.2
U15A North Rim 4.72 59 Pn 13 06 40.8 +0.5

IDC 11 13:09:36.9±540.0, 48°68N×39°60E, h0km, Error ellipse: s-maj=234.8km s-min=140.9km az=16.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	8.18	351	I	I	13 57 20.0	
baz=168,slow=328,SNR=2.6							
I31KZ	AKTYUBINSK INF	12.10	75	I	I	14 15 10.0	
baz=268,slow=319,SNR=1.5							
I46RU	ZALESOVO INFRA	28.36	62	I	I	16 07 40.0	
baz=281,slow=323,SNR=1.8							

FUNV 11 13:29:27.8, 5°23N×73°97W, h142km, MW3.6
RSNC 11 13:29:30.3±0.0, 5°N±1°×7°4W±°, h139km±2km, M2.9, mb3.8, ML2.7

ISC 11 13:29:28.0±1.4, 5°43N±0°03×73°79W±0°04, h156km±9km, n33, σ1°38/62, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	0.79	222	P	Pn	13 29 53.3	+1.1
ROSC				S	Sn	13 30 11.3	+0.6
CHIC	Chingaza	0.80	176	P	Pn	13 29 52.5	+0.2
CHIC				S	Sn	13 30 09.1	-1.9
RUSC	La Rusia	0.84	57	P	Pn	13 29 53.3	+0.6
RUSC				S	Sn	13 30 11.0	-0.5
CVER	Cruz Verde, Cu	0.95	197	P	Pn	13 29 54.6	+1.1
CVER				S	Sn	13 30 12.5	-0.5
NORC	Norcasia	1.08	277	P	Pn	13 29 54.4	+0.3
NORC				S	Sn	13 30 13.1	-1.0
PTBC	PUERTO BERRIO,	1.29	329	P	Pn	13 29 55.9	0.0
PTBC				S	Sn	13 30 16.5	-0.9
BARC	Barichara	1.30	28	P	Pn	13 29 57.2	+0.8
VILC	Villavicencio,	1.31	176	P	Pn	13 29 56.6	+0.2
VILC				S	Sn	13 30 17.2	-0.9
BRJC	Barrancabermej	1.53	2	P	Pn	13 29 59.6	+1.2
BRJC				S	Sn	13 30 22.5	+0.7
GUY2C	Guyana, Caldas	1.58	263	P	Pn	13 30 00.0	+0.6
ANIL	Santa Ana	1.86	240	P	Pn	13 30 03.2	+1.0
ANIL				S	Sn	13 30 28.7	+0.2
PRAC	Prado	2.03	213	P	Pn	13 30 04.6	+0.7
PRAC				S	Sn	13 30 31.1	-0.4
PTGC	Puerto Gaitan,	2.05	126	P	Pn	13 30 04.4	+0.3
PTGC				S	Sn	13 30 30.2	-1.8
ORTC	Ortega, Tolima	2.10	224	P	Pn	13 30 05.2	+0.5
ORTC				S	Sn	13 30 32.6	-0.3
PAMC	Pamplona, Colo	2.18	30	P	Pn	13 30 07.8	+1.7
PAMC				S	Sn	13 30 37.0	+1.5
TAMC	Tame, Arauca	2.22	63	P	Pn	13 30 07.3	+1.1
URMC	La Uribe, Meta	2.25	195	P	Pn	13 30 07.6	+1.1
URMC				S	Sn	13 30 36.4	+0.2
CBOC	Ciudad Bolivar	2.25	281	P	Pn	13 30 07.9	+1.3
CBOC				S	Sn	13 30 36.7	+0.3
ZARC	Zaragoza, Cauc	2.31	333	P	Pn	13 30 06.9	-0.2
ZARC				S	Sn	13 30 36.9	-0.5
CAPV	Capacho	2.83	31	eP	Pn	13 30 15.9	+2.2
CAPV				eS	Sn	13 30 50.0	+0.9
OCAC	Ocana	2.83	9	P	Pn	13 30 15.4	+1.8
OCAC				S	Sn	13 30 50.0	+1.0
DBBC	Dabeiba	2.88	303	P	Pn	13 30 15.9	+1.8
DBBC				S	Sn	13 30 51.3	+1.4
UREC	San Jos de Ur	2.88	323	P	Pn	13 30 13.6	-0.6
UREC				S	Sn	13 30 48.0	-2.0
YOTC	Yotoco, Valle	2.92	241	P	Pn	13 30 15.7	+0.9
BETC	Betania	3.19	211	P	Pn	13 30 18.3	+0.2
BETC				S	Sn	13 30 56.0	-0.9
MACC	Macarena, Meta	3.26	181	P	Pn	13 30 18.7	-0.3
MACC				S	Sn	13 30 55.6	-3.0
APAC	Apartado, Choc	3.70	312	P	Pn	13 30 26.3	+1.7
APAC				S	Sn	13 31 10.1	+1.6
SOCV	Socops	4.06	46	eP	Pn	13 30 30.2	+0.9
SOCV				eS	Sn	13 31 17.3	+0.2
FLOC	Florencia	4.25	206	P	Pn	13 30 33.1	+1.3
FLOC				S	Sn	13 31 21.8	+0.4
SJCC	San Jacinto, C	4.65	343	P	Pn	13 30 35.9	-1.0
SJCC				S	Sn	13 31 27.7	-3.1
CAPC	Capurgana	4.76	312	P	Pn	13 30 38.3	0.0
CAPC				S	Sn	13 31 31.1	-2.2
CRJC	Cerrejon, Guaj	5.63	9	P	Pn	13 30 50.1	+0.2
12nm,0.8s							
CRJC				S	Sn	13 31 50.2	-3.8
12nm,0.8s							
URIC	Uribia, Colomb	6.48	16	P	Pn	13 31 01.1	-0.1
URIC				S	Sn	13 32 10.4	-3.8

IDC 11 13:42:58.8±1.3, 7°22N×94°03E, h0km, mb3.8/11, mbtmp3.8/11, MS3.0/1, Error ellipse: s-maj=58.1km s-min=21.7km az=54.0

ISC 11 13:43:02.0±1.3, 7°2N±0°3×94°0E±0°3, h21km, n15, σ0°64/11, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	Diego Garcia H	26.07	236	T	T	14 15 26.5	
baz=55,slow=76,SNR=9.4							
H08S2	Diego Garcia H	26.07	236	T	T	14 15 20.0	
baz=55,slow=76,SNR=8.0							
H08S1	Diego Carcia H	26.09	236	T	T	14 15 15.3	
baz=55,slow=76,SNR=4.4							
MKAR	Makanchi Array	40.71	348	P	P	13 50 40.7	-0.5
1.6nm,0.7s,baz=167,slow=8.3,SNR=18							
1.6nm,0.7s							
SONM	Songino Array	41.82	12	P	P	13 50 50.7	+0.2
0.2nm,0.3s,baz=193,slow=5.9,SNR=1.8							
0.2nm,0.3s							
KURBB	Kurchatov Arra	45.16	346	P	P	13 51 17.2	+0.1
1.2nm,0.6s,baz=168,slow=7.1,SNR=24							
1.2nm,0.6s							
ZALV	Zalesovo Beam	47.19	353	P	P	13 51 32.9	-0.2
0.7nm,0.4s,baz=152,slow=6.5,SNR=3.8							
0.7nm,0.4s							
WRA	Warramunga Arr	47.96	125	P	P	13 51 39.8	+0.1
1.0nm,1.1s,baz=300,slow=11,SNR=1.3							
1.0nm,1.1s							
ASAR	Alice Springs	49.57	129	P	P	13 51 51.7	-0.3
0.3nm,0.5s,baz=319,slow=9.4,SNR=3.3							
0.3nm,0.5s							
BVAR	Borovoye Array	49.58	341	P	P	13 51 50.1	-1.4
0.8nm,0.6s,baz=142,slow=7.5,SNR=5.7							
0.8nm,0.6s							
MJAR	Matsushiro Arr	49.68	47	LR	LR	14 16 54.6	
comp=Z,14nm,19.5s,baz=203,slow=41							
BRTR	Keskin Array B	62.78	311	P	P	13 53 26.2	-0.1
0.6nm,0.7s,baz=117,slow=6.3,SNR=3.5							
0.6nm,0.7s							
FINES	FINESS Array B	73.25	332	P	P	13 54 32.0	+0.6
2.0nm,0.8s,baz=130,slow=8.2,SNR=3.8							
2.0nm,0.8s							
HFS	Hagfors	78.97	330	P	P	13 55 04.4	+0.3
0.9nm,0.6s,baz=90,slow=7.4,SNR=4.5							
0.9nm,0.6s							
NOA	NORSAR Array B	80.25	331	P	P	13 55 11.7	+0.6
0.4nm,0.7s,baz=109,slow=5.3,SNR=2.8							
0.4nm,0.7s							

IDC 11 13:45:05.9±2.0, 7°80N×93°66E, h0km, mb3.9/7, mbtmp3.9/7, MS3.2/2, Error ellipse: s-maj=91.5km s-min=26.1km az=59.0
BKK 11 13:45:12.1±1.1, 8°N±12°×9°5E±°, h10km, M4.4/7, mB4.8/1, mb4.8/1, Mjma3.8/6, ML4.4/7, MLv4.4/6, Mw(mB)4.1/1

ISC 11 13:45:09.7±1.4, 8°1N±0°2×94°2E±0°1, h18km, n11, σ1°09/10, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNTT	Ranong	4.38	72	P	Pn	13 46 15.5	+0.1
RNTT				S	Sn	13 47 05.7	-0.4
SRIT	Nakonsritamara	5.33	84	P	Pn	13 46 27.3	-1.2
PSI	Prapat	7.02	138	LR	LR	13 49 54.2	
comp=Z,125nm,18.4s,baz=300,slow=40							
MKAR	Makanchi Array	39.91	347	P	P	13 52 42.8	+0.1
2.1nm,0.7s,baz=166,slow=8.1,SNR=18							
2.1nm,0.7s							
SONM	Songino Array	40.94	13	P	P	13 52 53.0	+1.7
0.6nm,0.8s,baz=199,slow=7.6,SNR=3.0							
0.6nm,0.8s							
KURBB	Kurchatov Arra	44.37	346	P	P	13 53 19.4	+0.4
2.3nm,0.8s,baz=167,slow=7.0,SNR=21							
2.3nm,0.8s							
ZALV	Zalesovo Beam	46.36	352	P	P	13 53 35.5	+0.7
3.5nm,0.7s,baz=177,slow=8.5,SNR=12							
3.5nm,0.7s							
BVAR	Borovoye Array	48.82	341	P	P	13 53 53.1	-0.8
1.0nm,0.7s,baz=140,slow=7.7,SNR=4.2							
1.0nm,0.7s							
ASAR	Alice Springs	49.97	130	P	P	13 54 04.2	+1.0
0.7nm,0.8s,baz=305,slow=8.4,SNR=6.0							
0.7nm,0.8s							
ARTI	Arti	55.77	337	LR	LR	14 20 48.4	
comp=Z,28nm,18.7s,baz=211,slow=38							
NOA	NORSAR Array B	79.60	331	P	P	13 57 14.4	-1.3
0.7nm,0.8s,baz=95,slow=5.4,SNR=3.6							
0.7nm,0.8s							

IDC 11 13:49:01.7±0.9, 6°71N×93°30E, h0km, mb3.9/10, mbtmp3.8/12, ML3.6/2, MS3.2/1, Error ellipse: s-maj=34.5km s-min=18.8km az=59.0

ISC 11 13:49:06.8±0.9, 6°7N±0°1×93°3E±0°1, h32km, n16, σ1°25/12, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.82	125	Pn	Pn	13 50 45.9	+1.0
1.1nm,0.3s,baz=308,slow=3.3,SNR=3.7							
4.4nm,0.5s							
CMAR	Chiang Mai Arr	12.89	25	Pn	Pn	13 52 08.1	+0.1
0.1nm,0.3s,baz=219,slow=14,SNR=8.1							
0.6nm,0.7s							
H08S3	Diego Garcia H	25.19	236	T	T	14 21 18.2	
baz=55,slow=76,SNR=7.3							
H08S2	Diego Garcia H	25.19	236	T	T	14 21 17.7	
baz=55,slow=76,SNR=8.0							
H08S1	Diego Carcia H	25.21	236	T	T	14 21 17.9	
baz=55,slow=76,SNR=6.2							
MKAR	Makanchi Array	41.03	348	P	P	13 56 46.0	-1.2
1.8nm,0.7s,baz=168,slow=8.3,SNR=20							
1.8nm,0.7s							
JNU	Nakatsue	43.62	48	LR	LR	14 15 08.6	
comp=Z,33nm,21.0s,baz=242,slow=36							
KURBB	Kurchatov Arra	45.46	347	P	P	13 57 22.6	-0.3
2.6nm,0.7s,baz=167,slow=7.3,SNR=14							
2.6nm,0.7s							
ZALV	Zalesovo Beam	47.58	353	P	P	13 57 38.1	-1.4
1.3nm,0.6s,baz=170,slow=9.9,SNR=6.0							
1.3nm,0.6s							
WRA	Warramunga Arr	48.29	124	P	P	13 57 44.0	-1.5
0.7nm,1.0s,baz=301,slow=7.6,SNR=2.6							
0.7nm,1.0s							
BVAR	Borovoye Array	49.81	342	P	P	13 57 55.5	-1.1
1.2nm,0.7s,baz=140,slow=9.4,SNR=6.5							
1.2nm,0.7s							
ASAR	Alice Springs	49.83	129	P	P	13 57 57.0	-0.3
0.2nm,0.4s,baz=304,slow=7.9,SNR=2.8							
0.2nm,0.4s							
BRTR	Keskin Array B	62.55	311	P	P	13 59 29.5	+1.4
0.4nm,0.6s,baz=139,slow=1.8,SNR=2.2							
0.4nm,0.6s							
FINES	FINESS Array B	73.34	332	P	P	14 00 35.5	+0.2
1.3nm,0.7s,baz=174,slow=7.7,SNR=3.9							
1.3nm,0.7s							
BOSA	Boshof	74.28	238	P	P	14 00 40.6	-1.0
1.0nm,0.6s,baz=41,slow=5.0,SNR=3.8							
1.0nm,0.6s							
HFS	Hagfors	79.03	330	P	P	14 01 09.4	+1.8
1.3nm,0.8s,baz=89,slow=6.1,SNR=2.3							
1.3nm,0.8s							

IDC 11 14:09:21.9±4.3, 20°01S×176°46W, h279km±40km, mb3.3/7, mbtmp4.0/8, Error ellipse: s-maj=26.3km s-min=15.5km az=106.0

ISC 11 14:09:20.1±0.8, 20°0S±0°1×176°5W±0°2, h263km, n16, σ0°71/17, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	19.06	196	P	P	14 13 23.6	+0.4
6.0nm,0.3s,baz=22,slow=5.4,SNR=11							
URZ				S	S	14 16 44.4	-0.7
21nm,1.1s,baz=342,slow=20,SNR=1.7							
ASAR	Alice Springs	46.04	256	P	P	14 17 18.7	+0.5
1.8nm,0.6s,baz=97,slow=7.8,SNR=48							
ASAR				PcP	PcP	14 18 50.0	0.0
0.3nm,0.6s,baz=94,slow=4.0,SNR=2.0							
1.8nm,0.6s							
WRA	Warramunga Arr	46.10	261	P	P	14 17 18.7	+0.1
0.4nm,0.3s,baz=100,slow=5.0,SNR=17							
0.4nm,0.3s							
PETK	Petropavlovsk-	76.14	344	P	P	14 20 38.1	-0.7
1.3nm,0.6s,baz=155,slow=5.2,SNR=4.4							
1.3nm,0.6s							
NVAR	Mina Array Bea	79.65	43	P	P	14 20 60.0	+1.2
0.4nm,0.6s,baz=236,slow=4.4,SNR=2.6							
0.4nm,0.6s							
SEY	Seymchan	86.19	346	P	P	14 21 31.3	0.0
1.1nm,0.7s,baz=142,slow=20,SNR=8.2							
1.1nm,0.7s							
ILAR	Eielson Array	87.48	12	P	P	14 21 37.2	-0.3
0.4nm,0.7s,baz=206,slow=5.2,SNR=6.0							
0.4nm,0.7s							
CMAR	Chiang Mai Arr	91.30	289	P	P	14 21 57.5	+1.1
0.3nm,0.3s,baz=114,slow=3.9,SNR=4.3							
0.3nm,0.3s							
MKAR	Makanchi Array	111.88	313	PKiKP	PKiKP	14 27 22.3	-1.5
0.1nm,0.4s,baz=101,slow=1.5,SNR=2.1							
BVAR	Borovoye Array	119.59	320	PKP	PKPdf	14 27 37.8	-0.5
0.4nm,0.3s,baz=86,slow=4.5,SNR=3.4							
ARCES	ARCESS Array B	128.65	350	PKP	PKPdf	14 27 55.5	+0.3
4.0nm,1.0s,baz=10,slow=2.5,SNR=8.3							
FINES	FINESS Array B	135.65	345	PKP	PKiKP	14 28 09.9	-0.3
3.4nm,1.1s,baz=57,slow=5.1,SNR=3.6							
AKASG	Malin Array Be	143.22	333	PKhKP	PKPpre	14 28 19.0	
0.3nm,0.3s,baz=41,slow=3.3,SNR=4.2							
EKA	Eskdalemuir Ar	144.33	7	PKP	PKPab	14 28 23.1	-0.2
0.7nm,0.6s,baz=333,slow=2.6,SNR=4.4							
BRTR	Keskin Array B	147.53	314	PKPbc	PKPbc	14 28 33.1	-0.6
0.4nm,0.5s,baz=90,slow=3.5,SNR=2.8							
GERES	GERESS Array B	150.05	346	PKPbc	PKPbc	14 28 39.7	+0.1
2.4nm,0.7s,baz=19,slow=3.4,SNR=11							

IDC 11 14:28:41.5±3.9, 3°70S×143°53E, h0km, mb3.6/3, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=107.3km s-min=32.0km az=99.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.47	208	P	P	14 32 57.3	-1.8
0.2nm,0.3s,baz=31,slow=12,SNR=7.9							
0.6nm,0.5s							
ASAR	Alice Springs	21.92	204	P	P	14 33 37.4	+0.7
3.1nm,0.7s,baz=26,slow=10,SNR=17							
3.1nm,0.7s							
FITZ	Fitzroy Crossi	22.62	229	P	P	14 33 44.6	+0.4
2.6nm,1.0s,baz=45,slow=10.0,SNR=7.5							
2.6nm,1.0s							
MKAR	Makanchi Array	73.54	321	P	P	14 40 16.3	-0.1
0.2nm,0.6s,baz=110,slow=7.8,SNR=1.9							
0.2nm,0.6s							

IDC 11 14:44:49.1±621.0, 53°86N×1°22E, h0km, Error ellipse: s-maj=259.7km s-min=159.6km az=91.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	9.28	118	I	I	15 39 40.0	
I37NO	I37NO	17.26	21	I	I	16 22 40.0	
baz=213,slow=328,SNR=0.6							
I43RU	DUBNA INFRASON	20.55	67	I	I	16 51 30.0	
baz=276,slow=322,SNR=1.7							
I31KZ	AKTYUBINSK INF	34.25	72	I	I	18 15 50.0	
baz=302,slow=333,SNR=0.6							

NEIC 11 14:52:01.6±2.1, 12°99S±0°09×45°2E±0°2, h10km±1km, mb4.5/9, Error ellipse: s-maj=37.4km s-min=8.6km az=251.0
IDC 11 14:52:02.0±0.8, 12°90S×45°33E, h0km, mb3.8/9, mbtmp3.9/11, ML4.5/3, MS3.0/1, Error ellipse: s-maj=22.2km s-min=19.4km az=108.0

ISC 11 14:52:01.5±0.5, 12°97S±0°05×45°39E±0°07, h10km, n44, σ2°52/50, mb4.5/22, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	Sambava	4.44	97	P	Pn	14 53 09.0	+0.1
SBV				S	Sn	14 53 55.4	-5.3
OPO	Ambohidratompo	5.83	163	Pn	Pn	14 53 30.8	+2.6
5.1nm,0.3s,baz=337,slow=13,SNR=292							
OPO				Sn	Sn	14 54 32.7	-2.5
9.1nm,0.3s,baz=270,slow=20,SNR=21							
OPO	Ambohidratompo	5.83	163	P	Pn	14 53 31.0	+2.8
FIRM	Firavahana	5.88	166	P	Pn	14 53 31.9	+3.0
FIRM				S	Sn	14 54 32.6	-3.8
ATG	Ambohiby	5.92	173	P	Pn	14 53 31.8	+2.3
ATG				S	Sn	14 54 35.3	-2.3
ABPO	Ambohimpanom	6.27	164	P	Pn	14 53 35.9	+1.7
ABPO	Ambohimpanom	6.27	164	P	Pn	14 53 36.6	+2.4
ABPO				S	Sn	14 54 42.5	-3.6
DGRM	Ambatolahisoa	6.33	171	P	Pn	14 53 38.0	+3.0
DGRM				S	Sn	14 54 46.7	-0.8
AVY	Angavokely	6.34	159	P	Pn	14 53 37.3	+2.1
AVY				S	Sn	14 54 43.8	-4.0
ABM	Ambohimiarambe	7.03	165	P	Pn	14 53 47.5	+2.7
ABM				S	Sn	14 55 02.5	-2.4
VOI	Vohitsoka	8.99	172		Pn	14 54 10.8	-0.7
FOMA	Nahampoana Res	12.04	173	Pn	Pn	14 54 51.1	-2.0
KIBK	Kibwezi	12.82	325		Pn	14 54 58.5	-5.6
KMBO	Kilima Mbogo	14.26	325	Pn	Pn	14 55 24.5	+0.6
0.3nm,0.3s,baz=153,slow=16,SNR=1.7							
KMBO				Sn	Sn	14 58 01.8	-0.6
0.2nm,0.3s,baz=81,slow=18,SNR=3.5							
KMBO				LR	LR	15 00 54.6	
comp=Z,64nm,18.9s,baz=86,slow=38							
0.9nm,0.3s							
LSZ	Lusaka	16.84	260	Pn	P	14 55 59.8	0.0
0.7nm,0.3s,baz=88,slow=11,SNR=13							
LSZ				Sn	Sn	14 59 05.7	+0.7
0.6nm,0.3s,baz=135,slow=1.4,SNR=1.7							
6.0nm,0.5s							
LBTB	Lobatse	22.18	234		P	14 56 52.5	-5.6
LBTB				IAmb	IAmb	14 57 15.6	
comp=Z,8.5nm,1.1s							
LBTB	Lobatse	22.18	234	P	P	14 57 00.2	+2.1
comp=Z,6.9nm,0.9s,baz=59,slow=14,SNR=7.1							
comp=Z,6.9nm,0.9s							
BOSA	Boshof	24.36	227	P	P	14 57 21.2	+1.2
BOSA				IAmb	IAmb	14 57 30.4	
comp=Z,12nm,1.4s							
BOSA	Boshof	24.36	227	P	P	14 57 21.9	+1.9
comp=Z,1.8nm,0.4s,baz=56,slow=8.9,SNR=7.4							
comp=Z,1.8nm,0.4s							
SUR	Sutherland	29.66	225	P	P	14 58 06.0	-1.7
RAYN	Ar Rayn	36.27	0	P	P	14 59 04.4	-0.8
CSS	Mathiatis	49.02	347	P	P	15 00 48.2	-0.4
CSS				IAmb	IAmb	15 01 31.4	
comp=Z,16nm,1.1s							
TORD	Torodi Ar. Bea	50.49	299	P	P	15 00 55.9	-4.3
BRTR	Keskin Array B	53.55	349	P	P	15 01 25.2	+2.6
comp=Z,0.3nm,0.5s,baz=168,slow=7.9,SNR=2.0							
comp=Z,0.3nm,0.5s							
FDMO	Fiordimonte	63.10	334	P	P	15 02 28.3	-1.0
FDMO				IAmb	IAmb	15 02 34.3	
comp=Z,6.5nm,1.0s							
AB31	Akbulak array	63.27	11	P	P	15 02 28.7	-1.5
AB31				IAmb	IAmb	15 02 39.0	
comp=Z,3.3nm,1.1s							
ABKAR	Akbulak array	63.27	11	P	P	15 02 30.2	0.0
CASP	Castiglione de	63.88	332	P	P	15 02 34.1	-0.3
OBKA	Obir	65.37	337	eP	P	15 02 42.4	-1.8
comp=Z,8.2nm,1.5s							
ARSA	Arzberg	65.63	338	eP	P	15 02 35.8	-10
comp=Z,2.9nm,0.9s							
KBA	Koelnbreinsper	66.30	337	eP	P	15 02 44.6	-5.6
comp=Z,6.3nm,1.2s							
MOA	Molln	66.59	338	eP	P	15 02 43.0	-8.9
comp=Z,3.7nm,0.8s							
WTTA	Wattenberg	67.12	336	eP	P	15 02 52.1	-3.4
comp=Z,8.9nm,1.2s							
WATA	Walderalm	67.21	336	eP	P	15 02 53.1	-2.9
comp=Z,2.3nm,0.5s							
SQTA	Sankt Quirin	67.26	335	eP	P	15 02 53.1	-3.2
comp=Z,7.6nm,1.0s							
FETA	Feichten	67.30	335	P	P	15 02 56.1	-0.5
comp=Z,3.6nm,0.8s							
MOTA	Moosalm	67.41	335	eP	P	15 02 54.5	-2.8
comp=Z,6.8nm,0.8s							
DAVA	Damuels	67.86	335	eP	P	15 03 00.2	0.0
comp=Z,6.1nm,0.8s							
MKAR	Makanchi Array	68.07	26	P	P	15 03 02.7	+1.4
comp=Z,0.2nm,0.6s,baz=219,slow=6.9,SNR=1.2							
comp=Z,0.2nm,0.6s							
KURBB	Kurchatov Arra	69.64	22	P	P	15 03 13.6	+2.7
comp=Z,0.1nm,0.5s,baz=224,slow=7.2,SNR=1.2							
comp=Z,0.1nm,0.5s							
QSPA	South Pole Qui	77.12	180	P	P	15 03 58.5	+3.4
comp=Z,2.5nm,1.0s,baz=261,slow=3.8,SNR=3.7							
comp=Z,2.5nm,1.0s							
EKA	Eskdalemuir Ar	79.30	334	P	P	15 04 07.7	+0.7
comp=Z,0.4nm,0.5s,baz=140,slow=7.2,SNR=3.7							
comp=Z,0.4nm,0.5s							
ASAR	Alice Springs	83.56	113	P	P	15 04 32.9	+2.3
comp=Z,0.7nm,0.6s,baz=259,slow=4.6,SNR=19							
comp=Z,0.7nm,0.6s							
WRA	Warramunga Arr	84.70	109	P	P	15 04 38.6	+2.2
comp=Z,1.1nm,0.8s,baz=259,slow=3.8,SNR=6.7							
comp=Z,1.1nm,0.8s							

IDC 11 14:54:10.4±1.1, 14°43N×54°14E, h0km, mb3.9/18, mbtmp3.9/18, ML1.1/1, MS3.5/25, Error ellipse: s-maj=26.8km s-min=17.6km az=17.0

ISC 11 14:54:13.8±0.9, 14°5N±0°1×54°2E±0°1, h19km, n42, σ0°64/22, mb3.9/19, MS3.5/25, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	9.65	25	Pn	Pn	14 56 32.3	+0.5
baz=219,slow=20,SNR=1.9							
WSAR				Sn	Sn	14 58 18.9	-0.8
baz=142,slow=19,SNR=1.4							
ATD	Arta Tunnel	11.42	256	LR	LR	15 00 20.6	
comp=Z,6.0nm,19.1s,baz=156,slow=32							
EIL	Elat	23.28	314	LR	LR	15 07 46.4	
comp=Z,112nm,18.2s,baz=77,slow=35							
ASF	Jabal al Safar	23.61	321	LR	LR	15 09 10.0	
comp=Z,169nm,18.5s,baz=173,slow=38							
MMAI	Mount Meron Ar	25.11	320	LR	LR	15 10 17.7	
comp=Z,115nm,18.5s,baz=136,slow=38							
GNI	Garni	26.84	344	LR	LR	15 13 27.3	
comp=Z,56nm,18.6s,baz=151,slow=43							
PALK	Pallekele	27.01	103	LR	LR	15 08 45.5	
comp=Z,54nm,19.0s,baz=280,slow=32							
KBZ	Khabaz	30.67	344

0.8nm,0.8s
KIRV Kirov 44.14 356 LR LR 15 24 32.3
comp=Z,42nm,19.1s,baz=216,slow=41
KEST Kesra 45.27 306 LR LR 15 22 03.0
comp=Z,65nm,18.2s,baz=355,slow=37
CONA Conrad Observa 45.94 325 *eP* **P 15 02 35.0 -0.5**
comp=Z,3.7nm,1.0s
ZALV Zalesovo Beam 46.10 25 P **P 15 02 36.8 +0.2**
1.7nm,0.7s,baz=227,slow=7.7,SNR=7.3
1.7nm,0.7s
VRAC Vranov 46.31 327 LR LR 15 23 55.6
comp=Z,64nm,18.1s,baz=148,slow=38
LBTB Lobatse 48.17 216 LR LR 15 21 59.0
comp=Z,40nm,20.5s,baz=60,slow=35
DAVOX Davos/Dischmat 48.90 320 P **P 15 02 59.4 +0.7**
4.6nm,0.9s,baz=145,slow=18,SNR=7.0
DAVOX LR LR 15 25 06.4
comp=Z,77nm,18.5s,baz=134,slow=38
4.6nm,0.9s
TORD Torodi Ar. Bea 50.88 275 P **P 15 03 14.6 +0.6**
23nm,0.3s,baz=69,slow=7.0,SNR=4.2
FINES FINESS Array B 51.03 343 P **P 15 03 14.5 +0.1**
1.4nm,0.6s,baz=145,slow=8.2,SNR=6.1
FINES LR LR 15 29 51.9
comp=Z,43nm,20.9s,baz=80,slow=42
1.4nm,0.6s
HFS Hagfors 54.24 336 P **P 15 03 37.4 -0.8**
2.0nm,0.8s,baz=141,slow=5.5,SNR=4.2
HFS LR LR 15 29 07.5
comp=Z,49nm,18.5s,baz=145,slow=39
2.0nm,0.8s
SONM Songino Array 54.29 41 P **P 15 03 39.2 +0.3**
0.8nm,0.7s,baz=243,slow=9.5,SNR=5.2
0.8nm,0.7s
NOA NORSAR Array B 55.77 336 P **P 15 03 48.9 -0.4**
0.5nm,0.8s,baz=122,slow=7.5,SNR=4.0
NOA LR LR 15 30 37.0
comp=Z,43nm,19.4s,baz=100,slow=39
0.5nm,0.8s
ESDC Sonseca Array 56.42 308 P **P 15 03 53.8 -0.6**
1.6nm,0.9s,baz=91,slow=6.6,SNR=7.1
1.6nm,0.9s
ARCES ARCESS Array B 57.86 349 P **P 15 04 04.1 +0.1**
1.8nm,0.7s,baz=143,slow=7.1,SNR=5.0
ARCES LR LR 15 31 48.3
comp=Z,45nm,20.1s,baz=184,slow=39
1.8nm,0.7s
NRIK Noril'sk 58.68 13 LR LR 15 32 56.9
comp=Z,34nm,18.7s,baz=250,slow=40
SPITS Spitsbergen Ar 66.33 352 LR LR 15 38 10.1
comp=Z,39nm,18.6s,baz=176,slow=40
KSRS Korea Array 68.51 55 P **P 15 05 13.8 -1.4**
1.1nm,0.8s,baz=272,slow=6.8,SNR=6.6
1.1nm,0.8s
BORG Borgarnes 70.79 334 LR LR 15 38 11.6
comp=Z,13nm,21.6s,baz=127,slow=37
H01W3 Cape Leeuwin H 75.13 133 T T 16 28 04.3
baz=300,slow=75,SNR=25
H01W2 Cape Leeuwin H 75.13 133 T T 16 28 06.4
baz=300,slow=75,SNR=31
H01W1 Cape Leeuwin H 75.14 133 T T 16 28 07.5
baz=300,slow=75,SNR=36
SFJD Kangerlussuaq 82.42 337 LR LR 15 46 42.1
comp=Z,35nm,20.5s,baz=107,slow=38
WRA Warramunga Arr 85.92 112 P **P 15 06 53.2 0.0**
0.5nm,0.8s,baz=288,slow=5.0,SNR=2.6
0.5nm,0.8s
ASAR Alice Springs 86.63 115 P **P 15 06 55.7 -0.9**
0.5nm,0.8s,baz=282,slow=4.8,SNR=5.0
0.5nm,0.8s

*SNET **11** 15:36:30.5±1.1, 11°.92N×88°.11W, h19km±102km, ML3.1*
*IDC **11** 15:36:31.0±1.8, 12°.76N×87°.42W, h0km, mb3.3/3,*
mbtmp3.3/5, ML3.3/2, MS3.9/1, Error ellipse: s-maj=99.1km
s-min=17.2km az=47.0
*CATAC **11** 15:36:31.4±0.8, 12°.N±3°.×8°.8W±°, h22km±8km, M4.1/6,*
MLv4.1/6, Error ellipse: s-maj=7.5km s-min=4.0km az=32.9,
confirmed

ISC 11 15:36:30.1±1.7, **11°.92N**±0°.06×**88°.03W**±0°.04, **h20**km±12km,
n49, σ0°.**75**/63, **mb3.3**/3, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.15**	**23**	P	**Pb**	**15 36 51.6**	**+0.2**
CSGN				S	**Sn**	**15 37 06.3**	**0.0**
POTN	**Potosi Cosigui**	**1.19**	**25**	P	**Pb**	**15 36 52.0**	**-0.1**
POTN				S	**Sn**	**15 37 07.2**	**0.0**
CRIN	**San Cristobal**	**1.23**	**51**	P	**Pb**	**15 36 53.1**	**+0.3**
QUEN	**Al S del Volca**	**1.33**	**60**	P	**Pn**	**15 36 53.8**	**+0.2**
PACN	**Al O del Volca**	**1.34**	**64**	P	**Pn**	**15 36 54.1**	**+0.4**
PACN				S	**Sn**	**15 37 10.2**	**-0.8**
CNCH	**Conchagua**	**1.36**	**8**	*eP*	**Pn**	**15 36 54.2**	**+0.1**
LCND	**La Caada**	**1.39**	**5**	*eP*	**Pn**	**15 36 54.6**	**+0.2**
LCND				IAML		15 37 21.2	
comp=Z,842nm,0.4s							
LCND	**La Caada**	**1.39**	**5**	P	**Pn**	**15 36 54.9**	**+0.4**
LCND	**La Caada**	**1.39**	**5**	S	**Sb**	**15 37 13.9**	**+1.1**
ROCN	**Rota Cerro Neg**	**1.39**	**64**	P	**Pn**	**15 36 54.6**	**+0.2**
ROCN				S	**Sb**	**15 37 12.8**	**0.0**
POLN	**Al Sur del Vol**	**1.39**	**58**	P	**Pn**	**15 36 54.6**	**+0.1**
POLN				S	**Sn**	**15 37 11.3**	**-1.0**
PLRN	**Geotermica Pol**	**1.40**	**62**	P	**Pn**	**15 36 53.9**	**-0.7**
PLRN				S	**Sn**	**15 37 11.7**	**-0.7**
CNGA	**Al SSO del Vol**	**1.42**	**66**	P	**Pn**	**15 36 55.2**	**+0.4**
CNGA				S	**Sn**	**15 37 12.8**	**-0.1**
CNGN	**Cerro Negro**	**1.42**	**66**	P	**Pn**	**15 36 54.9**	**0.0**
CNGN	**Cerro Negro**	**1.42**	**66**	S	**Sn**	**15 37 12.3**	**-0.8**
COPN	**Copaltepe**	**1.43**	**79**	P	**Pn**	**15 36 55.5**	**+0.5**
ILCN	**San Idelfonso**	**1.45**	**63**	P	**Pn**	**15 36 55.3**	**0.0**
ILCN				S	**Sn**	**15 37 13.7**	**-0.1**
LEVN	**Ruinas Leon Vi**	**1.46**	**71**	P	**Pn**	**15 36 55.2**	**-0.1**
LEVN				S	**Sn**	**15 37 14.2**	**+0.3**
LCY	**Lacayo**	**1.52**	**350**	*eP*	**Pn**	**15 36 56.3**	**0.0**
VSM	**San Miguel**	**1.52**	**351**	*eP*	**Pn**	**15 36 56.2**	**-0.2**
VSM				*eS*	**Sb**	**15 37 17.9**	**+1.1**
RANC	**El Ranchito**	**1.53**	**350**	*eP*	**Pn**	**15 36 56.8**	**+0.3**
RANC	**El Ranchito**	**1.53**	**350**	P	**Pn**	**15 36 56.8**	**+0.3**
RANC	**El Ranchito**	**1.53**	**350**	S	**Sb**	**15 37 16.6**	**-0.3**
BLLM	**Bellamira**	**1.53**	**352**	*eP*	**Pn**	**15 36 56.5**	**+0.1**
BLLM				*eS*	**Sb**	**15 37 17.0**	**+0.1**
MOMN	**Momotombo**	**1.53**	**71**	P	**Pn**	**15 36 56.6**	**+0.2**
MOMN				S	**Sb**	**15 37 16.5**	**-0.4**
PACA	**Pacayal**	**1.57**	**349**	*eP*	**Pn**	**15 36 57.6**	**+0.6**
PACA	**Pacayal**	**1.57**	**349**	P	**Pb**	**15 36 57.9**	**-0.7**
PACA	**Pacayal**	**1.57**	**349**	S	**Sb**	**15 37 17.8**	**-0.2**
TECA	**Tecapa**	**1.64**	**344**	*eP*	**Pn**	**15 36 57.7**	**-0.3**
TECA				*eP*	**Pb**	**15 36 58.0**	**-1.7**
APYN	**Apoyeque**	**1.67**	**79**	P	**Pn**	**15 36 56.9**	**-1.4**
TISN	**Laguna Tiscapa**	**1.73**	**82**	P	**Pn**	**15 36 59.4**	**+0.2**
MAS3	**Al N del Volca**	**1.81**	**86**	P	**Pn**	**15 37 00.3**	**0.0**
CAHU	**Cacacuatique**	**1.85**	**354**	*eP*	**Pn**	**15 37 01.9**	**+1.0**
NANN	**Nandasmo**	**1.86**	**89**	P	**Pn**	**15 37 01.7**	**+0.7**
COEG	**Centro de Oper**	**1.89**	**334**	*eP*	**Pn**	**15 37 01.8**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.90**	**339**	*eP*	**Pn**	**15 37 01.9**	**+0.4**
SCLA				*eS*	**Sn**	**15 37 25.4**	**+0.5**
SCLA				IAML		15 37 33.5	
comp=Z,61nm,0.3s							
SCLA	**Alcaldia de Sa**	**1.90**	**339**	P	**Pn**	**15 37 02.2**	**+0.7**
MATN	**Matagalpa**	**2.29**	**64**	P	**Pn**	**15 37 06.3**	**-0.6**
CONN	**Concepcion**	**2.38**	**98**	P	**Pn**	**15 37 08.8**	**+0.8**
RCVN	**Varilla2**	**2.44**	**47**	P	**Pn**	**15 37 09.6**	**+0.6**
SNJE	**San Jose**	**2.48**	**322**	*eP*	**Pn**	**15 37 09.5**	**0.0**
NUBE	**Las Nubes**	**2.61**	**319**	*eP*	**Pn**	**15 37 10.8**	**-0.5**
MTO3	**Montecristo**	**2.79**	**332**	*eP*	**Pn**	**15 37 14.0**	**+0.1**
JTS	**Las Juntas de**	**3.42**	**118**	Pn	**Pn**	**15 37 24.0**	**+1.6**
comp=Z,2.0nm,0.3s,baz=319,slow=18,SNR=6.2							
JTS				Sn	**Sn**	**15 38 00.9**	**-1.6**
comp=Z,3.0nm,0.3s,baz=323,slow=20,SNR=3.5							
JTS				Lg	Lg	15 38 22.4	
comp=Z,2.6nm,0.3s,baz=229,slow=20,SNR=4.2							
comp=Z,4.4nm,0.3s							
CMIG	**Matias Romero**	**8.40**	**309**	Pn	**Pn**	**15 38 33.7**	**+2.9**
comp=Z,0.4nm,0.3s,baz=117,slow=14,SNR=2.0							
comp=Z,1.6nm,0.5s							
TXAR	**Lajitas Array**	**22.64**	**322**	P	**P**	**15 41 31.3**	**+1.2**
comp=Z,1.3nm,0.5s,baz=134,slow=8.2,SNR=7.3							
comp=Z,1.3nm,0.5s							
PDAR	**Pinedale Array**	**35.98**	**333**	P	**P**	**15 43 29.9**	**0.0**
comp=Z,0.1nm,0.4s,baz=148,slow=8.6,SNR=2.4							
comp=Z,0.1nm,0.4s							
CPUP	**Villa Florida**	**48.34**	**142**	LR	LR	16 05 51.4	
comp=Z,140nm,22.0s,baz=308,slow=36							
YKA	**Yellowknife Ar**	**53.98**	**345**	P	**P**	**15 45 51.5**	**-0.8**
comp=Z,0.2nm,0.6s,baz=140,slow=7.8,SNR=4.1							
comp=Z,0.2nm,0.6s							

*NEIC **11** 15:50:31.8±1.5, 13°.68S±0°.06×76°.12W±0°.09, h69km±5km,*
mb5.0/239, Mww4.8/9, Error ellipse: s-maj=13.6km
s-min=8.2km az=67.0
*BJI **11** 15:50:31.7, 14°.27S×75°.99W, h76km, Ms5.2/1, Ms7 4.9/1*
*VAO **11** 15:50:31.6±0.8, 13°.61S×76°.09W, h57km±5km, mb5.0*
*IDC **11** 15:50:32.1±0.4, 13°.77S×76°.20W, h68km±3km, mb4.2/13,*
mbtmp4.5/18, MS3.8/30, Error ellipse: s-maj=17.1km
s-min=6.1km az=68.0
*GCMT **11** 15:50:33.7±0.4, 13°.61S±0°.02×76°.26W±0°.02, h87km±4km,*
MW4.9/75, Moment Tensor Solution. s31,c34; s75,c91;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.43±.12;
$M_{\theta\theta}$0.39±.12; $M_{\phi\phi}$1.04±.16; $M_{r\theta}$0.29±.07; $M_{\phi\phi}$-1.02±.10;
$M_{\theta r}$-1.94±.08; Best double couple: $M_0$2.55500×10^{16}
NP1:ϕ_s345.00000°, δ72.00000°, λ-73.00000°. Principal axes:
T 2.5940, Plg25.0000°, Azm62.0000°; N -0.0780,
Plg16.0000°, Azm160.0000°; P -2.5150, Plg60.0000°,
Azm280.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function

ISC 11 15:50:31.7±0.3, **13°.69S**±0°.04×**76°.13W**±0°.05, **h69**km±2km,
h69km:**pP-P**, **n545**, σ1§**11**/483, **mb5.0**/120, **3D**, **Near coast**
of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.83**	**338**		**Pn**	**15 51 00.3**	**-0.7**
NNA				Sn	**Sn**	**15 51 17.5**	**-5.8**
NNA	**Nana**	**1.83**	**338**	P	**Pn**	**15 51 00.4**	**-0.6**
404nm,0.3s,baz=153,slow=13,SNR=76							
NNA				S	**Sn**	**15 51 26.5**	**+3.2**
5μm,0.3s,baz=136,slow=22,SNR=11							
CZSB	**Cruzeiro do Su**	**6.81**	**30**		**Pn**	**15 52 08.9**	**-0.1**
CZSB				Sn	**Sn**	**15 53 22.6**	**-2.5**
CZSB	**Cruzeiro do Su**	**6.81**	**30**	*eP*	**Pn**	**15 52 07.2**	**-1.8**
ATAH	**Atahualpa**	**6.88**	**341**	P	**Pn**	**15 52 11.4**	**+1.1**
10nm,0.5s,baz=187,slow=8.1,SNR=14							
ATAH				S	**Sn**	**15 53 30.3**	**+2.8**
88nm,0.6s,baz=197,slow=20,SNR=1.2							
AP01	**Chacalluta**	**7.26**	**131**		**Pn**	**15 52 13.4**	**-1.7**
AP01				Sn	**Sn**	**15 53 34.8**	**-1.2**
PB12	**IPOC Station P**	**7.42**	**132**		**Pn**	**15 52 17.3**	**-0.1**
PB12				Sn	**Sn**	**15 53 35.9**	**-4.4**
PB18	**Visviri**	**7.49**	**122**		**Pn**	**15 52 21.8**	**+3.1**
PB16	**IPOC Station P**	**7.87**	**127**		**Pn**	**15 52 24.5**	**+0.5**
PB16				Sn	**Sn**	**15 53 51.0**	**-0.9**
LPAZ	**La Paz**	**8.15**	**109**		**Pn**	**15 52 30.7**	**+2.8**
LPAZ	**La Paz**	**8.15**	**109**	P	**Pn**	**15 52 30.5**	**+2.7**
32nm,0.7s,baz=288,slow=11,SNR=51							
LPAZ	**La Paz**	**8.15**	**109**	*eP*	**Pn**	**15 52 27.7**	**-0.2**
LPAZ	**La Paz**	**8.15**	**109**	P	**Pn**	**15 52 30.6**	**+2.8**
854nm50nm,0.5s							
PB11	**IPOC Station P**	**8.66**	**135**		**Pn**	**15 52 32.3**	**-2.1**
TA02	**Huaiquique**	**8.71**	**140**		**Pn**	**15 52 34.0**	**-0.9**
HMBC	**Humberstone**	**8.87**	**139**	Pn	**Pn**	**15 52 35.2**	**-2.0**
GO01	**Chusmiza**	**8.92**	**133**		**Pn**	**15 52 37.3**	**-0.9**
PATCX	**Punta Patache**	**9.11**	**142**		**Pn**	**15 52 39.8**	**-0.6**
PB08	**IPOC Station P**	**9.26**	**135**		**Pn**	**15 52 42.5**	**-0.3**
PB01	**IPOC Station P**	**9.68**	**140**		**Pn**	**15 52 48.4**	**+0.1**
PB09	**IPOC Station P**	**10.39**	**142**		**Pn**	**15 52 57.6**	**-0.5**
PB10	**IPOC Station P**	**11.11**	**152**	Pn	**Pn**	**15 53 06.3**	**-1.4**
TBTG	**Tabatinga, AM**	**11.26**	**34**		**Pn**	**15 53 08.7**	**-1.2**
TBTG	**Tabatinga, AM**	**11.26**	**34**	*eP*	**Pn**	**15 53 09.0**	**-0.8**
COHC	**Cochancay**	**11.57**	**344**	Pn	**Pn**	**15 53 13.8**	**-0.2**
COHC	**Cochancay**	**11.57**	**344**	P	**Pn**	**15 53 14.9**	**+0.9**
3μm114nm,0.8s							
AF01	**San Pedro de A**	**11.91**	**142**	Pn	**Pn**	**15 53 17.9**	**-1.0**
PB14	**IPOC Station P**	**12.15**	**154**		**Pn**	**15 53 20.3**	**-1.9**
GO02	**Mina Guanaco**	**12.97**	**153**		**Pn**	**15 53 31.4**	**-2.0**
SLOR	**San Lorenzo -**	**13.09**	**349**		**Pn**	**15 53 32.4**	**-2.7**
SAML	**Samuel**	**13.54**	**71**		**Pn**	**15 53 38.2**	**-2.6**
SAML	**Samuel**	**13.54**	**71**	*eP*	**Pn**	**15 53 38.9**	**-1.8**
PTLC	**Puerto Leguiza**	**13.83**	**6**	P	Pn	15 53 38.0	-6.7
2μm65nm,0.5s							
OTAV	**Otavalo**	**14.03**	**350**		**Pn**	**15 53 46.9**	**-0.7**
OTAV	**Otavalo**	**14.03**	**350**	*eP*	**Pn**	**15 53 45.8**	**-1.8**
OTAV	**Otavalo**	**14.03**	**350**	P	**Pn**	**15 53 49.0**	**+1.4**
37nm,0.9s							
PAC1	**Pacto, Paraso**	**14.11**	**349**	P	**P**	**15 53 53.7**	**-0.3**
TULM	**Tulcn-Chalpat**	**14.40**	**353**	P	**Pn**	**15 53 48.2**	**-4.4**
94nm,0.7s							
CMBC	**Cumbal**	**14.63**	**353**	P	**Pn**	**15 53 57.1**	**+1.6**
AC02	**Maricunga**	**14.63**	**154**		**Pn**	**15 53 54.9**	**-0.6**
AC06	**Mina Casimiro**	**14.63**	**159**		**Pn**	**15 53 55.5**	**+0.4**
SIV	**San Ignacio**	**14.74**	**101**	P	**Pn**	**15 53 56.3**	**-0.2**
5.6nm,0.6s,baz=274,slow=14,SNR=23							
SIV				LR	LR	16 00 50.3	
comp=Z,270nm,19.8s,baz=293,slow=42							
GO03	**Copiapo**	**14.89**	**159**		**Pn**	**15 53 58.0**	**-0.5**
FLOC	**Florencia**	**15.18**	**2**		**Pn**	**15 54 01.2**	**-1.0**
AC04	**Llanos de Chal**	**15.19**	**163**		**Pn**	**15 54 00.7**	**-1.6**
TEFE	**Tefe**	**15.20**	**49**	*eP*	**Pn**	**15 54 01.4**	**-1.1**
VILB	**Vilhena**	**15.52**	**89**		**Pn**	**15 54 05.4**	**-1.2**
VILB	**Vilhena**	**15.52**	**89**	*eP*	**Pn**	**15 54 06.3**	**-0.3**
TUMC	**Tumaco**	**15.62**	**350**		**Pn**	**15 54 06.7**	**-1.1**
BBAC	**Balboa, Cauca**	**15.65**	**356**	P	**Pn**	**15 54 08.9**	**+0.6**
1μm37nm,1.1s							
AC05	**El Transito**	**16.03**	**161**		**Pn**	**15 54 11.4**	**-1.6**
LCO	**Las Campanas**	**16.06**	**163**		**Pn**	**15 54 12.1**	**-1.5**
POPC	**Popayan, Colom**	**16.13**	**358**	P	**P**	**15 54 16.4**	**-0.2**
529nm67nm,1.0s							
BETC	**Betania**	**16.28**	**2**	P	**P**	**15 54 18.7**	**+0.7**
PTLB	**Pontes e Lacer**	**16.54**	**98**	P	**Pn**	**15 54 19.6**	**+0.2**
PTLB	**Pontes e Lacer**	**16.54**	**98**	*eP*	**Pn**	**15 54 19.5**	**+0.2**
GR1C	**Gorgona, Isla**	**16.70**	**353**	P	**Pn**	**15 54 16.6**	**-4.8**
CO05	**La Serena**	**16.77**	**165**	P	**Pn**	**15 54 21.7**	**-0.5**
PRAC	**Prado**	**17.33**	**4**	P	**P**	**15 54 31.3**	**+1.6**
34nm,0.8s							
CO06	**Fray Jorge**	**17.41**	**167**	P	**Pn**	**15 54 28.7**	**-1.3**
YOTC	**Yotoco, Valle**	**17.56**	**359**	P	**Pn**	**15 54 30.2**	**-1.8**
29nm,0.9s							
VILC	**Villavicencio,**	**17.85**	**8**	P	**Pn**	**15 54 38.6**	**+3.0**
1μm110nm,0.6s							
CHIC	**Chingaza**	**18.35**	**8**	P	**Pn**	**15 54 43.3**	**+1.3**
54nm,1.1s							
ROSC	**El Rosal**	**18.49**	**6**	P	**P**	**15 54 41.1**	**-1.7**
ROSC	**El Rosal**	**18.49**	**6**	P	**Pn**	**15 54 46.3**	**+2.6**
17nm,0.5s,baz=194,slow=8.3,SNR=11							
MACA	**Manacapuru-AM**	**18.50**	**57**	P	**P**	**15 54 41.5**	**-1.0**
MACA	**Manacapuru-AM**	**18.50**	**57**	*eP*	**P**	**15 54 42.7**	**+0.2**
PDRB	**Porto dos Gac**	**19.04**	**86**	*eP*	**Pn**	**15 54 49.5**	**-0.4**
CFA	**Coronel Fontan**	**19.25**	**159**	P	**Pn**	**15 54 52.2**	**0.0**
3.3nm,0.4s,baz=338,slow=9.8,SNR=2.7							
MURT	**Porto Murtinho**	**19.33**	**117**	*eP*	**P**	**15 54 51.0**	**-0.5**
CBOC	**Ciudad Bolivar**	**19.43**	**0**	P	**P**	**15 54 53.6**	**+0.8**
531nm40nm,0.9s							
RUSC	**La Rusia**	**19.69**	**9**	P	**Pn**	**15 54 57.1**	**-0.8**
RUSC				IAmb	IAmb	15 55 02.2	
comp=Z,120nm,1.0s							
BDQN	**Bodoquena, MS**	**19.70**	**113**	*eP*	**P**	**15 54 56.2**	**+0.7**
H03N1	**Juan Fernandez**	**19.83**	**187**	T	T	16 14 49.0	
baz=8.1,slow=74,SNR=173							
H03N2	**Juan Fernandez**	**19.83**	**187**	T	T	16 14 47.7	
baz=8.1,slow=74,SNR=144							
H03N3	**Juan Fernandez**	**19.84**	**187**	T	T	16 14 47.1	
baz=8.1,slow=74,SNR=232							
SALV	**Santo Antonio**	**19.88**	**99**	*eP*	**P**	**15 54 57.8**	**+0.3**
CLDB	**Colider**	**20.06**	**84**	*eP*	**P**	**15 54 59.4**	**-0.2**
BARC	**Barichara**	**20.36**	**8**	P	Pn	15 55 04.8	-0.8
MT08	**Bocatoma Ro**	**20.44**	**165**	P	**P**	**15 55 02.6**	**-1.1**
TAMC	**Tame, Arauca**	**20.45**	**12**	P	Pn	15 55 06.6	+0.1
comp=Z,134nm,1.1s							
MT09	**Talagante**	**20.54**	**168**	P	**P**	**15 55 03.8**	**-0.9**
MT09				IAmb	IAmb	15 55 21.3	
comp=Z,128nm,1.9s							
AQDB	**Aquidauana**	**20.65**	**112**	P	**P**	**15 55 06.6**	**+0.7**
AQDB				IAmb	IAmb	15 55 09.9	
comp=Z,90nm,1.0s							
AQDB	**Aquidauana**	**20.65**	**112**	*eP*	**P**	**15 55 05.7**	**-0.2**
MT13	**San Alfonso**	**20.66**	**166**	P	**P**	**15 55 05.7**	**-0.3**
LMEL	**Las Melosas**	**20.78**	**166**	P	**P**	**15 55 07.0**	**-0.3**
BO04	**La Punta**	**20.82**	**167**	P	**P**	**15 55 06.7**	**-0.9**
BO01	**Tunca**	**21.11**	**168**	P	**P**	**15 55 09.9**	**-0.9**
APAC	**Apartado, Choc**	**21.45**	**359**	P	**P**	**15 55 18.2**	**+3.8**
comp=Z,60nm,0.8s							
NPGB	**Novo Progresso**	**21.46**	**74**	*eP*	**P**	**15 55 14.6**	**0.0**
BO02	**Sierra Bellavi**	**21.56**	**168**	P	**P**	**15 55 14.3**	**-1.3**
CPUP	**Villa Florida**	**21.65**	**128**	P	**P**	**15 55 16.6**	**0.0**
CPUP	**Villa Florida**	**21.65**	**128**	P	**P**	**15 55 18.7**	**+2.2**
comp=Z,7.4nm,0.8s,baz=308,slow=14,SNR=5.4							
comp=Z,7.4nm,0.8s							
CPUP	**Villa Florida**	**21.65**	**128**	*eP*	**P**	**15 55 18.8**	**+2.2**
AZU	**Azuero**	**21.73**	**349**	P	**P**	**15 55 19.5**	**+2.1**
comp=Z,32nm,1.5s							
GMAL	**Guarumal, Vera**	**21.90**	**346**	P	P	15 55 27.9	+8.6
SJPY	**San Joaquin**	**21.96**	**124**	*eP*	**P**	**15 55 20.7**	**+0.8**
AMBA	**Amambai (Brazi**	**22.05**	**118**	*eP*	**P**	**15 55 21.7**	**+0.8**
ITTB	**Itaituba**	**22.15**	**67**	*eP*	**P**	**15 55 22.0**	**0.0**
BOAV	**Boa Vista**	**22.25**	**45**	P	**P**	**15 55 23.0**	**-0.1**
BOAV				IAmb	IAmb	15 55 25.1	
comp=Z,77nm,0.9s							
BOAV	**Boa Vista**	**22.25**	**45**	*eP*	**P**	**15 55 23.5**	**+0.5**
ML02	**Panimavida**	**22.39**	**170**	P	**P**	**15 55 24.0**	**-0.3**
ML02				IAmb	IAmb	15 55 43.9	
comp=Z,106nm,1.2s							
RPRD	**Ribas do Rio P**	**22.46**	**111**	*eP*	**P**	**15 55 26.7**	**+1.3**
C2SB	**Chapadao do Su**	**22.92**	**106**	*eP*	**P**	**15 55 31.2**	**+1.1**
SDV	**Santo Domingo**	**23.08**	**14**	P	**P**	**15 55 31.7**	**-0.2**
SDV				IAmb	IAmb	15 55 58.5	
comp=Z,50nm,0.8s							
SDV	**Santo Domingo**	**23.08**	**14**	LR	LR	16 05 53.9	
comp=Z,205nm,18.2s,baz=224,slow=40							
SDV	**Santo Domingo**	**23.08**	**14**	*eP*	**P**	**15 55 33.2**	**+1.3**
BRU2	**Volcan**	**23.27**	**343**	P	**P**	**15 55 32.7**	**-0.9**
BRU2				IAmb	IAmb	15 55 56.7	
comp=Z,48nm,0.9s							
BI02	**San Fabin de**	**23.29**	**170**	P	**P**	**15 55 33.6**	**0.0**
SJCC	**San Jacinto, C**	**23.45**	**2**	P	**P**	**15 55 37.9**	**+2.7**
comp=Z,987nmcomp=Z,110nm,0.7s							
ARAG	**Araguaiana, MT**	**23.61**	**98**	*eP*	**P**	**15 55 35.9**	**-0.7**
BAUV	**El Baul**	**23.88**	**20**	P	**P**	**15 55 38.0**	**-1.0**
ITQB	**Itaqui**	**24.05**	**135**	P	**P**	**15 55 39.4**	**-1.1**
ITQB				IAmb	IAmb	15 55 59.8	
comp=Z,74nm,0.9s							
ITQB	**Itaqui**	**24.05**	**135**	*eP*	**P**	**15 55 41.4**	**+0.8**
SNDB	**Serra Nova Dou**	**24.27**	**89**	*eP*	**P**	**15 55 41.4**	**-1.3**
MAL2	**Monte Alegre,**	**24.61**	**64**	P	**P**	**15 55 45.7**	**0.0**
MAL2				IAmb	IAmb	15 55 48.0	
comp=Z,88nm,1.1s							
CRJC	**Cerrejon, Guaj**	**24.76**	**8**	P	**P**	**15 55 45.5**	**-1.6**
comp=Z,568nmcomp=Z,32nm,0.7s							
SMRC	**Santa Marta, M**	**24.76**	**4**	P	**P**	**15 55 46.1**	**-1.0**
SMRC				IAmb	IAmb	15 56 00.6	
comp=Z,41nm,0.6s							
SMRC	**Santa Marta, M**	**24.76**	**4**	P	P	15 55 57.5	+10
comp=Z,67nm,0.5s							
PTGB	**Pitanga**	**25.19**	**119**	*eP*	**P**	**15 55 52.2**	**+1.2**
SOCE	**Pocosol**	**25.35**	**340**	P	**P**	**15 55 51.5**	**-1.0**
JTS	**Las Juntas de**	**25.38**	**339**	P	**P**	**15 55 51.5**	**-1.2**
JTS	**Las Juntas de**	**25.38**	**339**	LR	LR	16 05 36.6	
comp=Z,70nm,20.9s,baz=282,slow=36							
ITRB	**Iturama**	**25.38**	**107**	*eP*	**P**	**15 55 54.1**	**+1.3**
URIC	**Uribia, Colomb**	**25.56**	**9**	P	**P**	**15 55 52.8**	**-1.5**
LDASE	**Londrina, Braz**	**25.57**	**116**	*eP*	**P**	**15 55 56.4**	**+2.0**
ITAB	**Concordia**	**26.15**	**125**	P	**P**	**15 56 00.7**	**+1.1**
ITAB				IAmb	IAmb	15 56 22.1	
comp=Z,43nm,1.3s							
ITAB	**Concordia**	**26.15**	**125**	*eP*	**P**	**15 56 01.2**	**+1.6**
PCRV	**Puerto La Cruz**	**26.31**	**26**	LR	LR	16 07 27.2	
comp=Z,582nm,18.6s,slow=38							
LR05	**Currie**	**26.69**	**173**	P	**P**	**15 56 03.2**	**-1.0**
LR05				IAmb	IAmb	15 56 36.5	
comp=Z,23nm,0.7s							
FRTB	**Fartura**	**26.92**	**115**	*eP*	**P**	**15 56 09.1**	**+2.5**
PRPB	**Parauapebas**	**26.95**	**77**	*eP*	**P**	**15 56 07.1**	**+0.1**
ACON	**Acoyapa**	**27.02**	**340**	P	**P**	**15 56 07.6**	**+0.1**
IPMB	**Ipameri, GO**	**27.18**	**103**	*eP*	**P**	**15 56 09.0**	**-0.1**
BDFB	**Brasilia**	**27.26**	**98**	P	**P**	**15 56 09.6**	**-0.3**
BDFB	**Brasilia**	**27.26**	**98**	P	**P**	**15 56 10.1**	**+0.2**
com

LPIG La Paz 50.26 318 LR LR 16 15 56.4
comp=Z,39nm,21.2s,baz=22,slow=30
TXAR Lajitas Array 50.36 328 P **P 15 59 21.7 -0.3**
TXAR Lajitas Array 50.36 328 P **P 15 59 23.1 +1.1**
comp=Z,12nm,0.8s,baz=142,slow=7.1,SNR=46
comp=Z,12nm,0.8s
TX31 Lajitas Ar. Si 50.36 328 IAmb IAmb 15 59 24.1
comp=Z,16nm,0.8s
OZNA Ozona 50.44 332 IAmb IAmb 15 59 23.9
comp=Z,16nm,0.7s
T57A Hurt 50.50 357 P **P 15 59 22.8 0.0**
T57A IAmb IAmb 15 59 41.1
comp=Z,14nm,0.7s
FW07 Weatherford 50.56 336 P **P 15 59 23.9 +0.5**
UALR University of 50.59 343 IAmb IAmb 15 59 25.7
comp=Z,33nm,1.1s
MIAR Mount Ida 50.75 341 IAmb IAmb 15 59 26.6
comp=Z,18nm,0.8s
WVT Waverly 50.77 348 P **P 15 59 23.9 -0.9**
PLPT Palo Pinto 50.87 336 P **P 15 59 25.6 -0.1**
PLPT IAmb IAmb 15 59 27.6
comp=Z,24nm,0.8s
WHAR Wooly Hollow 51.06 343 P **P 15 59 27.1 +0.1**
WHAR IAmb IAmb 15 59 28.7
comp=Z,24nm,1.0s
ALPN Alpine 51.19 329 IAmb IAmb 15 59 30.4
comp=Z,30nm,1.5s
ABTX Abilene, Hawle 51.25 334 P **P 15 59 27.4 -1.1**
LCAR Lake Charles 51.48 344 P **P 15 59 29.7 -0.5**
LCAR IAmb IAmb 15 59 31.2
comp=Z,11nm,0.8s
SN05 Snyder 5 52.00 333 IAmb IAmb 15 59 36.0
comp=Z,12nm,0.9s
APMT Aspermont 52.05 334 P **P 15 59 34.8 +0.3**
PECS Pecos 52.12 330 P **P 15 59 35.2 +0.1**
SN07 Snyder 07 52.18 334 IAmb IAmb 15 59 37.0
comp=Z,29nm,1.4s
T42A Van Buren 52.38 345 P **P 15 59 36.0 -0.8**
W35A Tecumseh 52.41 339 **P 15 59 36.1 -1.0**
WCI Wyandotte Cave 52.51 350 P **P 15 59 37.6 -0.2**
WCI pP **pP 15 59 55.0 -0.5**
WCI sP **sP 16 00 03.1 -0.1**
DKNS Dickens 52.69 334 P **P 15 59 38.7 -0.6**
WMOK Wichita Mounta 52.74 337 IAmb IAmb 15 59 41.8
comp=Z,44nm,1.8s
U38A Gravette 52.75 341 IAmb IAmb 15 59 41.2
comp=Z,13nm,0.9s
MGMO Mountain Grove 52.80 344 P **P 15 59 39.4 -0.6**
MGMO IAmb IAmb 15 59 41.4
comp=Z,20nm,1.0s
CLN7 Carlsbad 7 52.94 331 P **P 15 59 40.8 -0.4**
CCM Cathedral Cave 53.39 345 P **P 15 59 43.5 -0.7**
CCM IAmb IAmb 16 00 52.0
comp=Z,19nm,1.1s
CCM Cathedral Cave 53.39 345 P **P 15 59 44.1 -0.2**
CCM pP **pP 16 00 01.0 -0.9**
CCM PcP **PcP 16 00 51.3 +0.5**
SMWD Samnorwood 53.65 335 P **P 15 59 46.2 -0.1**
MSTX Muleshoe 53.76 332 IAmb IAmb 15 59 48.5
comp=Z,15nm,0.9s
R40A Maddies Statio 53.87 344 P **P 15 59 47.2 -0.6**
R40A IAmb IAmb 15 59 48.7
comp=Z,18nm,0.7s
T35A Sooner Cattle 53.87 340 **P 15 59 46.6 -1.2**
KAN01 Argonia South 54.51 339 P **P 15 59 51.8 -0.7**
P38A Dawn 55.46 344 IAmb IAmb 16 00 00.4
comp=Z,23nm,1.1s
L59A Walton 55.61 1 P **P 16 00 00.3 0.0**
DUN6 Lazy B Ranch 55.75 326 P **P 16 00 01.6 -0.1**
RTBA Rita Blanca 55.82 334 IAmb IAmb 16 00 03.0
comp=Z,30nm,1.6s
R32A Long Quarter, 55.98 339 P **P 16 00 03.2 +0.1**
ANMO Albuquerque 56.28 330 P **P 16 00 05.2 -0.3**
ANMO IAmb IAmb 16 00 07.7
comp=Z,15nm,1.1s
ANMO Albuquerque 56.28 330 P **P 16 00 06.7 +1.2**
RKT Rikitea 56.30 251 eLR LR 16 16 29.8
comp=Z,948nm,30.2s
TUC Tucson 56.50 325 P **P 16 00 08.1 +1.2**
T25A Trinidad 57.13 333 P **P 16 00 09.5 -2.0**
T25A IAmb IAmb 16 00 13.6
comp=Z,12nm,0.9s
X18A Snowflake 57.72 327 IAmb IAmb 16 00 18.4
comp=Z,14nm,1.3s
SDCO Great Sand Dun 58.12 333 IAmb IAmb 16 00 20.6
comp=Z,13nm,0.9s
FRNY Flat Rock 58.29 2 P **P 16 00 19.4 +0.3**
FRNY IAmb IAmb 16 00 50.8
comp=Z,30nm,1.3s
X16A Lo Mia Camp, P 58.44 326 IAmb IAmb 16 00 23.4
comp=Z,12nm,1.0s
BGNE Belgrade 58.48 341 **P 16 00 19.2 -1.4**
MVCO Mesa Verde 59.08 330 IAmb IAmb 16 00 27.2
comp=Z,15nm,1.1s
WUAZ Wupatki 59.23 327 P **P 16 00 26.4 +0.3**
WUAZ IAmb IAmb 16 00 29.0
comp=Z,26nm,1.1s
ISCO Idaho Springs 59.87 334 P **P 16 00 29.6 -1.0**
ISCO IAmb IAmb 16 00 32.7
comp=Z,14nm,1.4s
PV13 Radium Mtn., P 59.99 331 P **P 16 00 30.6 -0.8**
PV13 IAmb IAmb 16 00 33.6
comp=Z,32nm,1.5s
K30B Basset 60.09 340 P **P 16 00 31.1 -0.6**
PV10 Paradox Valley 60.27 331 IAmb IAmb 16 00 35.7
comp=Z,11nm,1.0s
W13A Hualapai Mount 60.29 325 **P 16 00 33.4 -0.2**
W13A IAmb IAmb 16 00 36.6
comp=Z,21nm,1.5s
U15A North Rim 60.40 327 IAmb IAmb 16 00 37.2
comp=Z,17nm,1.3s
KNB Kanab 61.13 327 P **P 16 00 39.0 -0.1**
KNB IAmb IAmb 16 00 42.2
comp=Z,24nm,1.3s
O20A White River Ci 61.30 332 IAmb IAmb 16 00 42.3
comp=Z,13nm,1.1s
MVU Marysvale 61.93 328 IAmb IAmb 16 00 47.3
comp=Z,9.3nm,1.0s
F33A 5 Mile Ranch, 61.98 344 P **P 16 00 43.8 -0.7**
F33A IAmb IAmb 16 00 44.9
comp=Z,14nm,0.6s
PRN Pahroc Range 62.62 326 P **P 16 00 47.2 -1.8**
K22A Casper 62.62 335 P **P 16 00 49.0 0.0**
K22A IAmb IAmb 16 00 50.7
comp=Z,13nm,0.7s
BSUT Blindstream Ca 62.79 331 **P 16 00 50.1 -0.2**
BSUT IAmb IAmb 16 00 52.8
comp=Z,10nm,0.9s
PSUT Pine Spring 62.80 327 IAmb IAmb 16 00 53.1
comp=Z,11nm,1.1s
TAOE Nuku Hiva Isla 62.82 267 eLR LR 16 19 29.2
comp=Z,332nm,28.3s
WCT Wildcat Mounta 63.06 324 P **P 16 00 52.9 +1.0**
DUG Dugway, Tooele 63.52 329 P **P 16 00 55.5 +0.5**
DUG IAmb IAmb 16 00 57.7
comp=Z,16nm,0.9s
TCUT Toone Canyon 63.55 331 IAmb IAmb 16 00 58.5
comp=Z,39nm,1.5s
HWUT Hardware Ranch 64.00 331 IAmb IAmb 16 00 60.0
comp=Z,14nm,0.9s
PDAR Pinedale Array 64.01 333 P **P 16 00 56.5 -1.7**
PDAR Pinedale Array 64.01 333 P **P 16 00 58.6 +0.4**
comp=Z,2.4nm,0.8s,baz=141,slow=7.4,SNR=22
PDAR pP **pP 16 01 16.1 -0.3**
comp=Z,1.2nm,0.5s,baz=143,slow=7.4,SNR=4.7
comp=Z,2.4nm,0.8s
AHID Auburn Hatcher 64.69 332 P **P 16 01 01.3 -1.4**
EPLO Experimental L 64.97 347 P **P 16 01 03.7 -0.4**
EPLO IAmb IAmb 16 01 05.2
comp=Z,23nm,1.1s
NVAR Mina Array Bea 65.15 324 P **P 16 01 05.2 -0.6**
NVAR Mina Array Bea 65.15 324 P **P 16 01 06.9 +1.1**
comp=Z,2.3nm,0.7s,baz=122,slow=5.7,SNR=11
NVAR pP **pP 16 01 24.4 +0.4**
comp=Z,3.3nm,0.9s,baz=115,slow=5.0,SNR=4.8
comp=Z,2.3nm,0.7s
MOOW Moose Ponds 65.31 333 P **P 16 01 06.3 -0.4**
FXWY Fox Creek 65.35 333 P **P 16 01 06.2 -0.7**
BBTS Babate 65.36 67 LR LR 16 28 17.6
comp=Z,94nm,19.2s,baz=158,slow=35
RLMT Red Lodge 65.78 335 P **P 16 01 09.7 0.0**
RLMT IAmb IAmb 16 01 11.8
comp=Z,24nm,1.5s
YNE Yellowstone No 66.00 334 IAmb IAmb 16 01 13.2
comp=Z,23nm,0.9s

YHL Hebgen Lake 66.38 334 **P 16 01 12.6 -1.0**
YHL IAmb IAmb 16 01 16.6
comp=Z,17nm,0.8s
PAHR Pah Rah Range 66.64 325 P **P 16 01 14.9 -0.4**
PAHR IAmb IAmb 16 01 37.4
comp=Z,12nm,0.9s
DGMT Dagmar 66.72 340 IAmb IAmb 16 01 17.7
comp=Z,26nm,1.0s
BOZ Bozeman (W) 67.16 334 P **P 16 01 18.1 -0.3**
DLMT Dillon 67.40 333 IAmb IAmb 16 01 22.2
comp=Z,14nm,1.1s
MFID Camas Ranch 67.42 330 P **P 16 01 19.8 -0.2**
MFID IAmb IAmb 16 01 22.6
comp=Z,15nm,0.9s
BELA Belgrano 2 67.44 171 IAmb IAmb 16 01 41.9
comp=Z,16nm,1.2s
ORV Oroville 67.74 324 IAmb IAmb 16 01 44.3
comp=Z,14nm,0.9s
PLID Pearl Lake 68.75 331 **P 16 01 28.2 -0.2**
TBI Tubuai 69.58 250 eLR LR 16 22 36.5
comp=Z,1µm,31.0s
I07A Izee 69.75 328 P **P 16 01 35.0 +0.4**
YBH Yreka Blue Hor 69.87 325 LR LR 16 29 46.3
comp=Z,43nm,18.0s,baz=156,slow=34
VNA2 Neumayer--Watz 70.25 161 ⇓P **P 16 01 38.1 +1.0**
comp=Z,5.3nm,0.7s,baz=286,slow=7.2
PPT2 Papeete2 70.44 256 eLR LR 16 23 07.4
comp=Z,110nm,25.8s
PPT2 eLR LR 16 23 09.8
comp=Z,168nm,29.2s
FFC Flin Flon 71.58 345 P **P 16 01 45.2 -0.1**
FFC Flin Flon 71.58 345 P **P 16 01 45.7 +0.4**
FFC pP **PcP 16 02 04.6 +0.3**
NEW Newport 71.62 332 **P 16 01 45.2 -0.5**
NEW Newport 71.62 332 LR LR 16 33 47.5
comp=Z,21nm,18.3s,baz=150,slow=36
E07A Sunnyside 71.67 330 IAmb IAmb 16 01 48.9
comp=Z,15nm,1.0s
SNAA Sanae 71.85 161 P **P 16 01 47.6 +0.7**
SNAA IAmb IAmb 16 02 07.3
comp=Z,62nm,1.7s
SNAA Sanae 71.85 161 ⇓P **P 16 01 47.9 +1.0**
comp=Z,186nm,0.8s
SNAA Sanae 71.85 161 P **P 16 01 47.5 +0.6**
comp=Z,7.3nm,0.7s,baz=282,slow=4.1,SNR=16
SNAA pP **pP 16 02 05.6 +0.1**
comp=Z,10nm,0.7s,baz=280,slow=8.0,SNR=8.7
comp=Z,7.3nm,0.7s
TROLL Troll, Antarti 73.57 161 ⇓P **P 16 01 58.3 +1.2**
comp=Z,199nm,0.9s
DBIC Dimbokro 73.57 79 P **P 16 01 57.8 -0.2**
DBIC IAmb IAmb 16 01 59.9
comp=Z,22nm,0.7s
DBIC Dimbokro 73.57 79 P **P 16 01 58.9 +0.8**
comp=Z,19nm,0.6s,baz=254,slow=7.0,SNR=23
DBIC pP **pP 16 02 16.6 -0.3**
comp=Z,12nm,0.9s,baz=256,slow=8.3,SNR=4.1
DBIC LR LR 16 31 45.2
comp=Z,112nm,21.8s,baz=248,slow=34
comp=Z,19nm,0.6s
QSPA South Pole Qui 76.46 180 P **P 16 02 13.6 -0.3**
QSPA IAmb IAmb 16 02 16.3
comp=Z,16nm,1.0s
QSPA South Pole Qui 76.46 180 P **P 16 02 14.5 +0.6**
comp=Z,8.3nm,0.8s,baz=151,slow=5.3,SNR=19
QSPA pP **pP 16 02 33.7 +1.1**
comp=Z,9.8nm,0.9s,baz=166,slow=4.0,SNR=8.1
comp=Z,8.3nm,0.8s
TORD Torodi Ar. Bea 81.58 74 P **P 16 02 43.8 +1.2**
comp=Z,33nm,0.3s,baz=253,slow=3.4,SNR=1.3
TORD pP **pP 16 03 01.8 -0.2**
comp=Z,68nm,0.3s,baz=244,slow=3.9,SNR=1.4
YKA Yellowknife Ar 81.66 343 **P 16 02 41.3 -0.7**
YKA pP **pP 16 03 00.9 +0.1**
YKA Yellowknife Ar 81.66 343 P **P 16 02 42.2 +0.2**
comp=Z,5.9nm,0.8s,baz=142,slow=5.9,SNR=85
YKA pP **pP 16 03 01.4 +0.5**
comp=Z,6.5nm,0.9s,baz=143,slow=5.9,SNR=11
comp=Z,5.9nm,0.8s
MDT Midelt 82.38 54 LR LR 16 39 56.0
comp=Z,45nm,18.1s,baz=336,slow=36
TOAD Toad River Com 82.53 337 P **P 16 02 47.9 +1.2**
baz=132
SFJD Kangerlussuaq 82.61 10 LR LR 16 41 27.8
comp=Z,27nm,18.2s,baz=183,slow=37
ILON Igloolik, Nuna 82.94 358 P **P 16 02 48.9 +0.4**
KOTAN Kotaneelee Air 82.96 338 P **P 16 02 50.7 +1.8**
baz=134
V35K Ketchikan 83.00 332 P **P 16 02 50.6 +1.4**
baz=126
VNDA Vanda 83.26 191 P **P 16 02 51.6 +1.4**
VNDA Vanda 83.26 191 P **P 16 02 50.0 -0.3**
comp=Z,1.8nm,0.9s,baz=105,slow=3.4,SNR=8.3
VNDA pP **pP 16 03 10.7 +1.5**
comp=Z,2.5nm,0.9s,baz=112,slow=5.4,SNR=6.1
VNDA LR LR 16 35 47.3
comp=Z,63nm,18.4s,baz=216,slow=33
comp=Z,1.8nm,0.9s
T35M Bob Quinn 83.39 333 P **P 16 02 52.6 +1.4**
baz=128
CRAG Craig 83.79 331 P **P 16 02 54.0 +0.8**
baz=125
WRAK Wrangell Islan 83.98 332 P **P 16 02 55.4 +1.3**
baz=126
U33K Whale Pass 84.16 332 P **P 16 02 56.5 +1.5**
baz=125
S34M Telegraph Cree 84.33 334 IAmb IAmb 16 03 17.2
comp=Z,15nm,1.4s
S34M Telegraph Cree 84.33 334 P **P 16 02 56.9 +1.0**
baz=127
R33M Jennings River 85.16 335 **P 16 02 59.4 -0.8**
R33M **pP 16 03 19.5 +0.3**
R33M Jennings River 85.16 335 P **P 16 03 01.5 +1.2**
baz=127
ESDC Sonseca Array 85.40 47 P **P 16 03 03.5 +1.7**
comp=Z,0.8nm,0.7s,baz=246,slow=5.7,SNR=6.2
ESDC pP **pP 16 03 21.7 +0.7**
comp=Z,0.9nm,0.7s,baz=256,slow=4.5,SNR=3.9
ESDC LR LR 16 37 37.8
comp=Z,74nm,20.4s,baz=192,slow=33
comp=Z,0.8nm,0.7s
Q32M Nakina River 85.44 334 P **P 16 03 02.7 +1.0**
baz=126
TGTN Hyland Airport 85.44 338 P **P 16 03 03.1 +1.6**
baz=130
S32K Killisnoo 85.58 332 P **P 16 03 03.2 +1.0**
baz=124
R32K Eaglecrest 86.01 333 P **P 16 03 05.5 +1.2**
baz=124
P33M Teslin, Yukon 86.40 335 **P 16 03 07.0 +0.7**
P33M **pP 16 03 26.6 +1.3**
P33M IAmb IAmb 16 03 27.2
comp=Z,11nm,1.1s
P33M Teslin, Yukon 86.40 335 P **P 16 03 07.9 +1.6**
baz=126
P32M Atlin 86.41 335 P **P 16 03 07.3 +1.0**
baz=125
SKAG Skagway 87.02 334 P **P 16 03 10.6 +1.5**
baz=123
MMPY Sheldon Lake, 87.22 338 P **P 16 03 10.9 +0.6**
MMPY **pP 16 03 29.5 +0.3**
MMPY IAmb IAmb 16 03 31.3
comp=Z,8.1nm,1.0s
MMPY Sheldon Lake, 87.22 338 P **P 16 03 11.3 +1.1**
baz=127
WHY Whitehorse 87.50 335 P **P 16 03 12.1 +0.5**
baz=124
FARO Faro, Yukon 87.78 337 IAmb IAmb 16 03 15.1
comp=Z,12nm,0.9s
FARO Faro, Yukon 87.78 337 P **P 16 03 14.3 +1.4**
baz=125,SNR=7.9
O30N Mendenhall 88.05 335 P **P 16 03 13.8 -0.5**
O30N IAmb IAmb 16 03 16.1
comp=Z,7.9nm,0.9s
O30N **pP 16 03 33.6 +0.4**
O30N Mendenhall 88.05 335 P **P 16 03 15.1 +0.9**
baz=123
P30M Million Dollar 88.07 334 P **P 16 03 15.3 +1.0**
baz=122
P29M Windy Craggy 88.15 333 P **P 16 03 16.0 +1.3**
baz=121
M31M Drury Creek, Y 88.17 336 IAmb IAmb 16 03 36.4
comp=Z,14nm,1.2s
M31M Drury Creek, Y 88.17 336 P **P 16 03 15.8 +1.1**
baz=124,SNR=6.0
N31M Braeburn, Yuko 88.32 336 P **P 16 03 16.9 +1.4**
baz=123,SNR=5.8

BORG Borgarnes 88.40 21 LR LR 16 42 12.1
comp=Z,14nm,19.6s,baz=208,slow=35
SUR Sutherland 88.52 123 LR LR 16 39 22.1
comp=Z,81nm,20.3s,baz=260,slow=33
HYT Haines Junctio 88.67 335 P **P 16 03 18.7 +1.4**
baz=122
N30M Aishikik Lake 88.83 335 P **P 16 03 18.9 +1.0**
N30M **pP 16 03 37.8 +0.8**
N30M Aishikik Lake 88.83 335 P **P 16 03 19.1 +1.2**
baz=122,SNR=7.3
O29M Mount Kennedy 88.86 334 P **P 16 03 19.4 +1.3**
baz=121
PNL Peninsula 88.89 333 P **P 16 03 18.7 +0.5**
baz=120
TSUM Tsumeb 89.01 109 P **P 16 03 19.0 -0.8**
TSUM pP **pP 16 03 38.0 -1.0**
TSUM IAmb IAmb 16 03 40.8
comp=Z,6.8nm,1.1s
TSUM Tsumeb 89.01 109 LR LR 16 41 06.4
comp=Z,50nm,20.8s,baz=336,slow=34
YUK6 Outpost Mounta 89.09 334 P **P 16 03 20.2 +0.8**
baz=121
C36M Paulatuk 89.36 345 P **P 16 03 21.7 +1.7**
baz=134
YUK4 Talbot Arm 89.42 335 P **P 16 03 21.8 +1.0**
baz=121,SNR=11
PINM Pinnacle 89.48 333 P **P 16 03 21.6 +0.7**
baz=119
SUMG Summit 89.57 11 **P 16 03 22.1 +0.5**
SUMG IAmb IAmb 16 03 23.8
comp=Z,8.5nm,0.8s
SUMG **pP 16 03 41.6 +0.9**
O28M Mount Upton 89.78 334 P **P 16 03 23.2 +0.5**
baz=119
YUK8 Steele Glacier 89.85 334 P **P 16 03 23.6 +0.7**
baz=120
M29M Somme Creek 89.90 336 P **P 16 03 23.8 +0.9**
baz=121,SNR=17
L29M L29M 90.11 336 P **P 16 03 24.8 +1.0**
baz=121,SNR=21
H31M Peel River 90.18 339 **P 16 03 24.6 +0.5**
H31M **pP 16 03 43.6 +0.5**
H31M IAmb IAmb 16 03 45.3
comp=Z,18nm,1.1s
H31M Peel River 90.18 339 P **P 16 03 24.6 +0.5**
baz=124,SNR=6.2
J30M Hart River 90.20 338 IAmb IAmb 16 03 46.0
comp=Z,15nm,1.1s
J30M Hart River 90.20 338 P **P 16 03 25.5 +1.2**
baz=123,SNR=8.8
K29M Barlow Dome 90.26 337 P **P 16 03 25.2 +0.6**
baz=122,SNR=15
MESA MESA 90.27 333 P **P 16 03 25.4 +0.6**
baz=118
YUK3 Moose Creek 90.38 335 P **P 16 03 26.1 +0.7**
baz=119,SNR=6.0
I30M Mount Dempster 90.57 339 IAmb IAmb 16 03 28.0
comp=Z,9.9nm,0.8s
I30M Mount Dempster 90.57 339 P **P 16 03 27.1 +1.1**
baz=122,SNR=9.3
G31M Satah River 90.79 340 P **P 16 03 26.6 -0.2**
G31M **pP 16 03 45.5 -0.4**
G31M IAmb IAmb 16 03 47.1
comp=Z,9.8nm,1.1s
G31M Satah River 90.79 340 P **P 16 03 27.8 +1.0**
baz=124
J29N Klondike Camp 90.83 337 P **P 16 03 28.6 +1.4**
baz=121
BVCY Beaver Creek 90.86 335 P **P 16 03 28.1 +0.8**
baz=119
F31M Tsiigehtchic 90.92 341 **pP 16 03 46.2 -0.2**
F31M IAmb IAmb 16 03 48.2
comp=Z,14nm,1.1s
F31M Tsiigehtchic 90.92 341 P **P 16 03 27.6 +0.2**
baz=125,SNR=5.8
DAWY Dawson 91.08 337 **pP 16 03 47.4 0.0**
DAWY IAmb IAmb 16 03 49.2
comp=Z,11nm,1.0s
DAWY Dawson 91.08 337 P **P 16 03 29.1 +0.8**
baz=120
M27K Edge Creek, AK 91.25 335 P **P 16 03 29.9 +0.7**
baz=118
EPYK Eagle Plains 91.31 339 P **P 16 03 29.8 +0.5**
baz=122,SNR=8.4
I29M Ogilvie Camp, 91.33 338 IAmb IAmb 16 03 50.4
comp=Z,11nm,0.9s
I29M Ogilvie Camp, 91.33 338 P **P 16 03 29.8 +0.4**
baz=121,SNR=6.1
A36M Sachs Harbour 91.46 346 P **P 16 03 29.4 -0.5**
A36M **pP 16 03 48.5 -0.4**
A36M Sachs Harbour 91.46 346 P **P 16 03 30.7 +0.9**
baz=133
BCAR Beaver Creek A 91.54 335 **P 16 03 29.9 -0.6**
BCAR **pP 16 03 49.7 +0.1**
L27K Beaver Creek, 91.55 335 IAmb IAmb 16 03 51.3
comp=Z,8.6nm,0.9s
L27K Beaver Creek, 91.55 335 P **P 16 03 31.1 +0.6**
baz=118
F30M Barrier River 91.67 341 IAmb IAmb 16 03 51.1
comp=Z,10nm,1.2s
F30M Barrier River 91.67 341 P **P 16 03 31.8 +0.9**
baz=123
M26K Nabesna, AK 91.73 335 P **P 16 03 32.3 +0.9**
baz=117
H29M Whitestone 91.80 339 P **P 16 03 31.5 -0.1**
H29M **pP 16 03 50.0 -0.6**
H29M IAmb IAmb 16 03 51.9
comp=Z,7.2nm,0.8s
H29M Whitestone 91.80 339 P **P 16 03 32.4 +0.8**
baz=121
I28M Miner Creek 91.97 338 IAmb IAmb 16 04 01.4
comp=Z,12nm,1.3s
I28M Miner Creek 91.97 338 P **P 16 03 33.3 +0.8**
baz=119
G29M Pine Creek 92.03 340 IAmb IAmb 16 03 33.4
comp=Z,5.8nm,0.8s
G29M Pine Creek 92.03 340 P **P 16 03 33.0 +0.3**
baz=121,SNR=5.5
N25K Chitina, Valde 92.06 334 P **P 16 03 33.6 +0.6**
baz=115
L26K Log Cabin Wild 92.16 335 P **P 16 03 34.1 +0.8**
baz=116
KLU Klutina 92.59 333 P **P 16 03 35.9 +0.5**
baz=114
I27K Kandik River 92.66 338 P **P 16 03 36.1 +0.5**
baz=118
P23K Montague Islan 92.66 332 P **P 16 03 36.0 +0.4**
baz=113
DOT Dot Lake 92.72 336 IAmb IAmb 16 03 56.6
comp=Z,9.8nm,1.1s
E29M Blow River 92.75 341 IAmb IAmb 16 03 56.4
comp=Z,11nm,1.0s
E29M Blow River 92.75 341 P **P 16 03 36.2 +0.3**
baz=121,SNR=7.9
SCRK Sand Creek 92.83 336 P **P 16 03 37.1 +0.6**
baz=116
GLI Glacier Island 92.87 332 P **P 16 03 37.4 +0.9**
baz=113
J26L Joseph Creek 92.89 336 P **P 16 03 36.4 -0.3**
J26L **pP 16 03 55.2 -0.6**
J26L IAmb IAmb 16 03 58.2
comp=Z,16nm,1.4s
J26L Joseph Creek 92.89 336 P **P 16 03 37.5 +0.7**
baz=116
H27K Steamboat Moun 92.92 338 IAmb IAmb 16 03 58.9
comp=Z,4.7nm,0.9s
H27K Steamboat Moun 92.92 338 P **P 16 03 37.5 +0.7**
baz=118
M24K Tolsona, Glenn 92.95 334 P **P 16 03 37.6 +0.6**
baz=114
PAX Paxson 93.01 335 pP 16 03 56.5 +0.1
PAX Paxson 93.01 335 P **P 16 03 37.1 -0.2**
baz=114
RIDG Independent Ri 93.07 335 P **P 16 03 37.9 +0.3**
baz=115
I26K Coal Creek Min 93.09 337 P **P 16 03 37.8 +0.3**
baz=116
G27K Doyon Strip 93.23 339 IAmb IAmb 16 05 12.6
comp=Z,20nm,1.9s
G27K Doyon Strip 93.23 339 P **P 16 03 39.0 +0.8**
baz=118
BOSA Boshof 93.25 120 LR LR 16 43 19.5
comp=Z,61nm,21.6s,baz=218,slow=34
E28M Babbage River 93.39 341 P **P 16 03 39.1 +0.3**
baz=120
D28M Stokes Point 93.50 342 P **P 16 03 39.9 +0.7**
baz=120

M23K	Glacier View	93.50	333	P	P	16 03 39.8 +0.3
	baz=113					
J25K	Salcha River,	93.65	336	IAmb	IAmb	16 04 00.3
	comp=Z,5.4nm,0.8s					
J25K	Salcha River,	93.65	336	P	P	16 03 40.7 +0.5
	baz=114					
MAW	Mawson	93.67	165	LR	LR	16 45 54.4
	comp=Z,116nm,18.1s,baz=251,slow=36					
SML	Sawmill	93.77	333	P	P	16 03 41.5 +0.7
	baz=112					
E27K	Coleen River	93.86	340	P	P	16 03 41.8 +0.8
	baz=118					
G26K	Porcupine Rive	94.05	339	P	P	16 03 42.9 +1.0
	baz=116					
D27M	Malcolm River	94.15	341	IAmb	IAmb	16 04 03.3
	comp=Z,12nm,1.2s					
D27M	Malcolm River	94.15	341	P	P	16 03 43.5 +1.1
	baz=118					
KEST	Kesra	94.26	54	LR	LR	16 45 16.2
	comp=Z,27nm,18.6s,baz=296,slow=35					
ILAR	Eielson Array	94.31	336	P	P	16 03 43.0 -0.1
	comp=Z,1.1nm,0.8s,baz=120,slow=5.4,SNR=14					
ILAR				pP	pP	16 04 02.3 0.0
	comp=Z,1.4nm,0.8s,baz=124,slow=5.7,SNR=7.1					
ILAR				PP	PP	16 07 29.6 -1.5
	comp=Z,0.8nm,0.9s,baz=109,slow=8.0,SNR=5.6					
	comp=Z,1.1nm,0.8s					
F26K	Sheenjek River	94.50	339	P	P	16 03 44.7 +0.7
	baz=115					
H25L	Birch Creek	94.50	338	P	P	16 03 44.5 +0.5
	baz=114					
HOM	Homer	94.54	330	P	P	16 03 45.1 +0.8
	baz=109					
M22K	Willow	94.55	333	P	P	16 03 45.1 +0.9
	baz=110					
Q20K	Shuyak Island	94.56	329	P	P	16 03 44.7 +0.3
	baz=109					
OHAK	Old Harbor	94.58	328	P	P	16 03 44.7 +0.3
	baz=108					
LBTB	Lobatse	94.61	117	LR	LR	16 42 27.3
	comp=Z,46nm,20.1s,baz=254,slow=33					
POKR	Poker Plat Res	94.66	336	P	P	16 03 45.2 +0.4
	baz=113					
SUA	Susitna One	94.73	332	P	P	16 03 45.6 +0.3
	baz=110					
G25K	Bearman Lake	94.80	338	P	P	16 03 45.9 +0.5
	baz=114					
F25K	Christian Rive	94.98	339	P	P	16 03 46.9 +0.7
	baz=114					
H24K	Noodor Dome	95.10	337	IAmb	IAmb	16 03 48.0
	comp=Z,5.4nm,0.9s					
H24K	Noodor Dome	95.10	337	P	P	16 03 47.9 +1.1
	baz=112					
E25K	Arctic Village	95.17	339	P	P	16 03 47.6 +0.6
	baz=114					
C27K	Jago River	95.19	341	P	P	16 03 48.1 +1.0
	baz=116					
SKT	Skwentna	95.25	333	P	P	16 03 48.2 +0.6
	baz=109					
G24K	Hadweenzic Riv	95.28	338		pP	16 04 07.7 +1.0
G24K	Hadweenzic Riv	95.28	338	P	P	16 03 48.8 +1.2
	baz=112					
Q19K	Cape Douglas,	95.28	329	P	P	16 03 48.8 +1.1
	baz=108					
P19K	Oil Pt	95.30	330	P	P	16 03 48.4 +0.6
	baz=108					
I23K	Minto, Yukon-K	95.43	336	P	P	16 03 48.8 +0.6
	baz=111					
C26K	Camden Bay	95.69	341	P	P	16 03 50.2 +0.9
	baz=114					
BPAW	Bear Paw Mtn.	95.72	335	P	P	16 03 48.1 -1.6
BPAW				pP	pP	16 04 08.8 0.0
F24K	Squaw Lake	95.74	338	P	P	16 03 50.5 +0.8
	baz=112					
D25K	Kavik River	95.92	340	P	P	16 03 51.3 +0.9
	baz=113					
M20K	Styx River	95.94	332	P	P	16 03 51.5 +0.7
	baz=108					
CAST	Castle Rocks	95.96	334	P	P	16 03 50.5 -0.3
	baz=109					
E24K	Your Creek	96.16	339	P	P	16 03 52.6 +1.0
	baz=111					
P18K	Big Mountain,	96.20	330	P	P	16 03 52.6 +0.7
	baz=106					
Q17K	Contact Creek	96.21	328	P	P	16 03 52.6 +0.5
	baz=106					
G23K	Bananza Creek	96.23	337	P	P	16 03 52.7 +0.8
	baz=110					
O18K	Koktuh Hills	96.32	330	P	P	16 03 52.8 +0.4
	baz=106					
COLD	Coldfoot	96.47	338	P	P	16 03 53.7 +0.7
	baz=110					
E23K	Chandalar	96.55	339	P	P	16 03 54.2 +0.8
	baz=110					
TOLK	Toolik Lake Re	96.74	339	P	P	16 03 54.5 +0.4
	baz=110					
K20K	Telida	96.80	334	P	P	16 03 54.9 +0.4
	baz=107					
C24K	Franklin Bluff	96.83	340	P	P	16 03 55.3 +0.8
	baz=111					
N18K	Kilae Creek	96.87	331	P	P	16 03 55.3 +0.4
	baz=106					
CHGN	Chignik	97.03	326	P	P	16 03 55.5 -0.1
	baz=104					
J20K	Nowinta River	97.06	334	P	P	16 03 55.5 -0.2
	baz=107					
DAVOX	Davos/Dischmat	97.14	44	LR	LR	16 46 59.7
	comp=Z,63nm,18.4s,baz=272,slow=35					
O17K	Koliganek Bris	97.21	330	P	P	16 03 56.1 -0.3
	baz=105					
D23K	Nanushuk River	97.23	339	P	P	16 03 56.4 0.0
	baz=109					
E22K	Anaktuvuk Pass	97.35	339	P	P	16 03 56.9 0.0
	baz=108					
N17K	Nushagak Hills	97.45	330	P	P	16 03 57.5 0.0
	baz=104					
P16K	Nushagak River	97.47	329	P	Pdif	16 03 58.0 +0.3
	baz=104					
G21K	Allakaket	97.49	337	P	Pdif	16 03 57.9 +0.2
	baz=107					
C23K	Itkillik River	97.49	340		pP	16 04 17.2 +0.6
C23K	Itkillik River	97.49	340	P	Pdif	16 03 58.0 +0.5
	baz=109					
TTA	Tatalina	97.52	333	P	Pdif	16 03 58.0 +0.1
	baz=105					
J19K	Poorman	97.64	334	P	Pdif	16 03 58.4 +0.1
	baz=106					
L18K	Granite Mounta	97.64	332	P	Pdif	16 03 59.0 +0.6
	baz=105					
S14K	Fog Glacier	97.65	326	P	P	16 03 58.5 -0.1
	baz=103					
F21K	Alatna River	97.68	337	P	Pdif	16 03 59.1 +0.6
	baz=107					
H20K	Anotleneega Mo	97.73	336	P	Pdif	16 03 59.3 +0.5
	baz=106					
M17K	Holitna River	97.78	331	P	Pdif	16 03 59.3 +0.2
	baz=104					
D22K	Ayikyak River	97.89	339	P	Pdif	16 03 59.5 +0.2
	baz=108					
SDPT	Sand Point	97.95	325	P	Pdif	16 03 59.9 +0.1
	baz=102					
J18K	Innoko River	97.97	333	P	Pdif	16 04 00.2 +0.4
	baz=105					
E21K	Killik River	98.21	339	P	Pdif	16 04 01.1 +0.2
	baz=106					
L17K	Donlin	98.36	332	P	Pdif	16 04 01.7 +0.1
	baz=103					
O15K	Ungalikthiuk R	98.43	329	P	P	16 04 01.9 -0.1
	baz=102					
B22K	Teshekpuk Lake	98.56	340	P	P	16 04 00.7 -1.6
B22K					pP	16 04 21.0 -0.4
B22K	Teshekpuk Lake	98.56	340	P	Pdif	16 04 02.5 +0.3
	baz=107					
C21K	Knifeblade Rid	98.69	339	P	Pdif	16 04 03.1 +0.2
	baz=106					
N15K	Kwethluk River	98.77	330	P	P	16 04 02.7 -0.8
	baz=102					
L16K	Owhat River	98.80	331	P	P	16 04 03.1 -0.5
	baz=102					
E20K	Nigu River	98.96	338	P	P	16 04 03.7 -0.5
	baz=104					
H18K	Honhosa River	99.07	335	P	Pdif	16 04 03.9 -0.8
	baz=103					
E19K	Redstone River	99.15	337	P	Pdif	16 04 04.4 -0.6
	baz=104					
O14K	Tigyukauivet M	99.17	329	P	Pdif	16 04 03.5 -1.7
	baz=101					
D20K	Etivluk River	99.22	339	P	Pdif	16 04 04.5 -0.8
	baz=104					
D19K	Kuna River	99.70	338	P	Pdif	16 04 07.8 +0.3
	baz=102					
B20K	Meade River	99.71	340	P	Pdif	16 04 08.0 +0.7
	baz=103					
I17K	Unalakleet	99.79	333	P	Pdif	16 04 08.6 +0.7
	baz=101					
LSZ	Lusaka	99.81	108	LR	LR	16 47 40.3
	comp=Z,68nm,19.4s,baz=207,slow=34					
CLL	Collm	100.01	40	P	Pdif	16 04 09.6 +0.4
	comp=Z,4.4nm,1.1s					
KHC	Kasperske Hory	100.02	42	P	Pdif	16 04 09.7 +0.3
RNPP5	Staryi Chortor	108.06	40	P	Pdif	16 04 45.4 +0.4
MLR	Muntele Rosu	108.07	46	P	Pdif	16 04 45.3 0.0
KMPD	K-Podol'skiy	108.45	43	P	Pdif	16 04 47.0 +0.2
PLOR5	Plostina Array	108.58	46	P	Pdif	16 04 47.5 0.0
ODBI	Odobesti	108.85	46	P	Pdif	16 04 48.9 +0.3
GHRR		109.10	46	P	Pdif	16 04 49.0 -0.7
DZM	Mont Dzumac	109.11	241	eLR	LR	16 41 01.5
	comp=Z,179nm,31.4s					
AKBB	Malin Array Si	110.19	41	P	Pdif	16 04 54.8 +0.4
H11N3	WAKE ISLAND Hyl	19.60	285	T	T	18 19 46.3
	baz=96,slow=74,SNR=301					
H11N2	WAKE ISLAND Hyl	19.62	285	T	T	18 19 50.8
	baz=96,slow=74,SNR=256					
H11N1	WAKE ISLAND Hyl	19.62	285	T	T	18 19 47.6
	baz=96,slow=74,SNR=165					
H11S2	WAKE ISLAND Hyl	19.69	284	T	T	18 19 58.0
	baz=94,slow=74,SNR=696					
H11S1	WAKE ISLAND Hyl	19.69	284	T	T	18 19 49.7
	baz=94,slow=74,SNR=224					
H11S3	WAKE ISLAND Hyl	19.70	284	T	T	18 19 57.4
	baz=94,slow=74,SNR=196					
KBZ	Khabaz	120.26	47	PKP	PKPdf	16 09 14.9 -0.1
	comp=Z,1.6nm,0.8s,baz=288,slow=6.4,SNR=5.7					
AKTO	Aktyubinsk	127.86	36	PKP	PKPdf	16 09 29.6 +0.1
	comp=Z,0.5nm,0.4s,baz=270,slow=2.0,SNR=4.6					
AKTO				pPKP	pPKPdf	16 09 49.7 +0.4
	comp=Z,1.9nm,0.8s,baz=284,slow=2.5,SNR=3.9					
ASAR	Alice Springs	132.66	219	PKP	PKPdf	16 09 39.1 -0.4
	comp=Z,1.6nm,0.7s,baz=135,slow=2.5,SNR=16					
ASAR				pPKP	pPKPdf	16 09 59.0 -0.3
	comp=Z,1.5nm,0.6s,baz=134,slow=2.7,SNR=5.5					
WRA	Warramunga Arr	135.10	223	PKP	PKPdf	16 09 44.8 +0.7
	comp=Z,3.7nm,0.8s,baz=125,slow=1.8,SNR=19					
WRA				pPKP	pPKPdf	16 10 04.2 +0.3
	comp=Z,3.1nm,0.8s,baz=133,slow=1.6,SNR=8.8					
ZALV	Zalesovo Beam	137.12	16	PKP	PKPdf	16 09 46.8 +0.1
	comp=Z,5.3nm,0.9s,baz=302,slow=2.7,SNR=14					
ZALV				pPKP	pPKPdf	16 10 06.7 0.0
	comp=Z,3.7nm,0.8s,baz=318,slow=1.9,SNR=5.2					
KURBB	Kurchatov Arra	137.80	24	PKP	PKiKP	16 09 49.6 -0.5
	comp=Z,1.9nm,0.9s,baz=321,slow=2.9,SNR=15					
KURBB				pPKP	pPKPdf	16 10 08.5 +0.5
	comp=Z,1.3nm,0.9s,baz=325,slow=3.1,SNR=4.9					
MJAR	Matsushiro Arr	141.79	313	PKhKP	PKPpre	16 09 50.5
	comp=Z,2.9nm,0.9s,baz=47,slow=2.3,SNR=4.5					
FITZ	Fitzroy Crossi	141.81	215	PKPpre	PKPpre	16 09 50.6
KNRA	Kununurra	141.83	221	PKPpre	PKPpre	16 09 49.8
KSH	Kashi	144.44	38	PKP	PKPdf	16 10 01.0 +0.4
ULN	Ulaanbaatar	145.82	356		PKPdf	16 10 02.9 +0.1
ULN					pPKPab	16 10 24.4 +1.1
NIL	Nilore	145.83	49	PKPdf	PKPdf	16 10 02.7 -0.3
SONM	Songino Array	145.89	357		PKPdf	16 10 02.9 0.0
SONM	Songino Array	145.89	357	PKPbc	PKPab	16 10 04.5 +0.5
	comp=Z,9.4nm,0.8s,baz=333,slow=1.9,SNR=21					
SONM				pPKPbc	pPKPab	16 10 23.7 +0.2
	comp=Z,10.0nm,0.5s,baz=349,slow=2.9,SNR=11					
WMQ	Urumqi	146.92	22	ePKPbc	PKPdf	16 10 04.5 -0.1
FAKI	Fak Fak	147.37	242	PKPdf	PKPdf	16 10 04.2 -1.9
KSRS	Korea Array	148.07	322	PKPbc	PKPdf	16 10 07.9 +1.3
	comp=Z,8.2nm,1.1s,baz=43,slow=1.4,SNR=12					
KSRS				pPKPbc	pPKPdf	16 10 27.6 +1.2
	comp=Z,12nm,1.1s,baz=18,slow=1.2,SNR=6.1					
KS19	Wonju Array Si	148.07	322		PKPbc	16 10 10.2 +0.3
KSAR	Wonju Array Be	148.10	322		PKPdf	16 10 05.2 -1.5
KSAR				pPKPdf	pPKPdf	16 10 25.9 -0.6
XLT	XiLinHaoTe	148.12	343	ePKPbc	PKPbc	16 10 10.5 +0.6
JNU	Nakatsue	148.71	313	PKPbc	PKPbc	16 10 10.9 -0.8
	comp=Z,11nm,0.9s,baz=45,slow=2.9,SNR=4.8					
JNU				pPKPbc	pPKPbc	16 10 29.8 -1.6
	comp=Z,10nm,0.9s,baz=55,slow=6.1,SNR=3.3					
HHC	Hu-ho-hao-te	152.12	347	ePKPbc	PKPbc	16 10 16.5 -3.2
HYB	Hyderabad	155.34	78	ePKPbc	PKPdf	16 10 27.4 +9.2
NJ2	Nanjing	157.14	326	ePKP	PKPdf	16 10 19.4 -0.7
PZH	PanZhiHua	167.09	9	PKP	PKPdf	16 10 29.3 -1.2
CMAR	Chiang Mai Arr	173.30	44	PKP	PKPdf	16 10 33.4 -0.6
	comp=Z,1.0nm,0.9s,baz=360,slow=0.2,SNR=5.4					
CMAR				pPKP	pPKPdf	16 10 53.4 -0.6
	comp=Z,1.7nm,0.9s,baz=5.3,slow=1.0,SNR=3.8					

SJA 11 15:51:32.5±0.8, 31°.97S×65°.11W, h30km±5km, ML3.7, MW3.5, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRA	San Martin	0.68	229	eP	Pn	15 51 47.0	+0.8
MRA				eS	Sn	15 51 56.6	+0.7
PIL	Pilar	1.09	74	eP	Pb	15 51 54.7	+1.9
PIL				eS	Sb	15 52 09.0	+2.4
PIL				IAML		15 52 09.5	
	comp=Z,2μm,0.7s						
ACHE	Chepes	1.55	301	eP	Pb	15 52 00.3	-0.4
ACHE				eS	Sn	15 52 12.0	-5.5
APLL	PUNTA DE LOS L	1.99	322	eP	Pn	15 52 05.8	+1.7
APLL				eS	Sb	15 52 32.9	+0.5
AVFE	Valle Fertil	2.40	302	eP	Pb	15 52 12.5	-2.5
AVFE				eS	Sb	15 52 41.6	-2.6
CFA	Coronel Fontan	2.69	277	eP	Pb	15 52 17.0	-2.9
CFA				eS	Sb	15 52 54.6	+2.1
RTLL	Cerro Villicun	2.94	282	eP	Pn	15 52 20.4	+3.2
SJA	San Juan	2.97	278	eP	Pb	15 52 33.4	+8.6
ACLC	CERRO LA CRUZ	2.99	328	eP	Pn	15 52 20.2	+2.1
ACLC				eS	Sb	15 53 08.6	+7.2
ZON	Zonda	3.07	277	eP	Pn	15 52 21.7	+2.7
ASAL	Salagasta	3.21	258	eP	Pn	15 52 24.9	+3.9
AVIZ	Vizcacheras	3.24	242	eP	Pb	15 52 32.1	+2.8
AAGR	Agrelo	3.33	250	eP	Pn	15 52 25.5	+2.9
AAGR				eS	Sb	15 53 17.8	+6.8
ARCO	CERRO ARCO	3.35	254	eP	Pb	15 52 33.9	+2.7
DOCA	Reserva Natura	3.54	286	eP	Pn	15 52 28.9	+3.0
RTLS	Leoncito	3.56	272	eP	Pn	15 52 29.0	+3.0
CYA	Choya	3.57	350	eP	Pn	15 52 28.1	+2.2
CYA				eS	Sb	15 53 21.4	+3.6
ACCO	Cerro Coronel	3.66	291	eP	Pb	15 52 32.2	-4.4
ACCO				eS	Sb	15 53 19.5	-1.1
AGUA	GUANDACOL	3.82	310	eP	Pn	15 52 32.6	+3.2
GUSE	Guasayan	4.08	3	eP	Pn	15 52 34.4	+1.5
AROD	Rodeo	4.15	295	eP	Pn	15 52 38.3	+4.1
CO02	Combarbal	5.08	277	eP	Pn	15 52 51.0	+4.2

BJI **11** *16:03:12.5, 26°.15N×129°.54E, h10km, mB4.7/19, mb4.3/49, Ms4.0/24, MS7 3.9/27*

MOS **11** *16:03:12.5±1.3, 26°.23N×129°.59E, h10km, mb4.8/40, Error ellipse: s-maj=8.1km s-min=4.9km az=100.3*

IDC **11** *16:03:13.1±0.5, 26°.27N×129°.57E, h0km, mb4.2/26, mbtmp4.2/30, ML3.6/3, MS3.5/24, Error ellipse: s-maj=17.5km s-min=12.1km az=75.0*

NIED **11** *16:03:14.9, 26°.27N×129°.60E, h44km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=2.76; Mθθ1.19; Mφφ1.57; Mrθ0.26; Mθφ1.11; Mφr0.62; Fault plane solution: M0 2.72000×10^15 NP1:φs44.00000°, δ38.00000°, λ-84.00000°. NP2:φs216.00000°, δ52.00000°, λ-94.00000°.*

NEIC **11** *16:03:14.5±1.7, 26°.21N±0°.06×129°.55E±0°.05, h10km±1km, mb4.9/176 Error ellipse: s-maj=11.4km s-min=6.4km az=199.0*

JMA **11** *16:03:14.9±0.1, 26°.3N±0°.7×129°.6E±0°.5, h44km, MV3.9/19, NEAR OKINAWAJIMA ISLAND*

ISC 11 16:03:13.3±1.2, 26°.28N±0°.03×129°.58E±0°.03, h5km±7km, n512, σ1§51/490, mb4.8/147, MS3.7/29, 11C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.25	306	iP	Pn	16 03 36.7	-0.9
JYRO				S	Sb	16 03 52.2	-1.7
JOW	Kunigami	1.29	295		Pn	16 03 37.5	-0.6
JOW				Sn	Sb	16 03 52.0	-3.1
JOW	Kunigami	1.29	295	Pn	Pn	16 03 37.5	-0.6
	408nm,0.3s,baz=120,slow=20,SNR=831						
JOW				Sn	Sb	16 03 47.8	-7.3
	473nm,0.3s,baz=120,slow=15,SNR=20						
JOW				LR	LR	16 04 17.9	
	comp=Z,2μm,20.9s,baz=139,slow=50						
JOW	Kunigami	1.29	295	P	Pn	16 03 37.4	-0.6
JOW	Kunigami	1.29	295	iP	Pn	16 03 37.5	-0.6
JOW				S	Sb	16 03 53.0	-2.1
JOKE	Okinoerabujima	1.40	320	iP	Pn	16 03 39.0	-0.6
JOKE				S	Sb	16 03 56.6	-1.8
JNTH	Nagotoyohara	1.42	280	iP	Pn	16 03 39.0	-0.8
JNTH				S	Sb	16 03 55.0	-3.6
JMZ	Minamidaito 2	1.55	107		Pn	16 03 40.5	-1.1
JMZ				Sn	Sn	16 03 57.3	-4.9
JMZ	Minamidaito 2	1.55	107	P	Pn	16 03 40.4	-1.3
JMZ	Minamidaito 2	1.55	107	P	Pn	16 03 40.3	-1.3
JMZ				S	Sn	16 03 57.8	-4.4
JKDJ	Kitadaitoujima	1.58	102	iP	Pn	16 03 41.0	-1.1
JKDJ				S	Sn	16 03 60.0	-2.9
JTK	Tokunoshima	1.60	340	iP	Pn	16 03 41.9	-0.5
JTK				S	Sn	16 04 00.6	-2.8
JJT3	Tamagusuku3	1.62	266	P	Pn	16 03 42.5	-0.2
JJT3				S	Sn	16 04 02.5	-1.4
JIH	Iheya	1.62	298	iP	Pn	16 03 42.4	-0.3
JIH				S	Sn	16 04 01.8	-2.3
JAMN	Amaminishikomi	1.99	350	P	Pn	16 03 47.1	-0.6
JAMN				S	Sn	16 04 10.0	-2.9
JZK	Kikaishima	2.06	10	eP	Pn	16 03 48.9	+0.3
JZK				S	Sn	16 04 13.6	-1.1
JAGN	Aguni-jima	2.12	279	iP	Pn	16 03 49.4	0.0
JAGN				eS	Sn	16 04 13.4	-2.8
JAM	Amami Oshima	2.12	1	eP	Pn	16 03 48.8	-0.7
JAM				S	Sn	16 04 13.3	-3.0
JKE	Kume jima 2	2.51	272	P	Pn	16 03 53.9	-0.9
JKE				eS	Sn	16 04 23.6	-2.3
JTAJ	Takarajima	2.88	353	S	Sn	16 04 31.2	-3.8
YOJ	Yonaguni jima	6.21	254	Pn	Pn	16 04 44.0	-1.8
YOJ	Yonaguni jima	6.21	254	P	Pn	16 04 44.0	-1.8
JNU	Nakatsue	6.91	9		Pn	16 04 56.4	+1.0
JNU				Sn	Sn	16 06 08.0	-6.5
JNU	Nakatsue	6.91	9	Pn	Pn	16 04 56.5	+1.0
	2.1nm,0.3s,baz=205,slow=10,SNR=20						
JNU				Sn	Sn	16 06 07.0	-7.5
	baz=184,slow=19						
	9.1nm,0.5s						
JNU	Nakatsue	6.91	9	P	Pn	16 04 56.4	+1.0
NACB	Ninganchiao	7.53	256	Pn	Pn	16 05 01.1	-2.8
YHNB	Yeheng	7.58	260	Pn	Pn	16 05 04.0	-0.7
YULB	Yu-li	8.05	251	Pn	Pn	16 05 07.1	-4.0
SSLB	Suanglung	8.21	254		Pn	16 05 10.4	-2.9
JMN	Monobe	8.30	26	Pn	Pn	16 05 13.1	-1.4
TWG	Pinlang	8.47	248	Pn	Pn	16 05 12.4	-4.5
TPUB	Ta-pu	8.66	252		Pn	16 05 17.3	-2.1
TJN	Taejon	10.24	350	iP	Pn	16 05 41.3	+0.3
KNMB	Chin-men Tao	10.28	262	Pn	Pn	16 05 39.2	-2.4
NJ2	Nanjing	10.99	304	eP	Pn	16 05 53.2	+1.9
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,170nm,5.7s						
NJ2				LR	LR		
	comp=N,440nm,9.5s						
NJ2				LR	LR		
	comp=E,490nm,9.9s						
NJ2				LR	LR		
	comp=Z,720nm,11.3s						
JHJ	Hachijo jima 2	11.18	50	LR	LR	16 09 12.2	
	comp=Z,90nm,20.1s,baz=280,slow=32						
KSRS	Korea Array	11.23	353	Pn	Pn	16 05 56.8	+2.3
	0.1nm,0.3s,baz=173,slow=13,SNR=12						
KSRS				LR	LR	16 10 31.3	
	comp=Z,128nm,20.0s,baz=175,slow=39						
	3.4nm,0.9s						
JGF	Kuroka	11.43	34	Pn	Pn	16 05 57.9	+0.4
MAJO	Matsushiro	12.60	34	Pn	Pn	16 06 11.5	-1.8
MAJO	Matsushiro	12.60	34	iP	Pn	16 06 14.2	+0.9
MJAR	Matsushiro Arr	12.60	34	Pn	Pn	16 06 15.6	+2.3
	1.9nm,0.9s,baz=229,slow=11,SNR=2.8						
MJB9	Matsu-Tunnel	12.60	34	Pn	Pn	16 06 11.5	-1.9
DL2	Dalian	14.25	334	P	P	16 06 44.2	+0.9
DL2				eS	S	16 09 27.4	-7.9
DL2				pmax	pmax		
	comp=Z,34nm,1.4s						
DL2				LR	LR		
	comp=N,360nm,15.6s						
DL2				LR	LR		
	comp=E,210nm,16.2s						
DL2				LR	LR		
	comp=Z,540nm,21.2s						
HNS	HongShan	16.79	315	⇑P	P	16 07 11.6	+0.1
HNS				pmax	pmax		
	comp=Z,24nm,0.7s						
HNS				LR	LR		
	comp=Z,260nm,14.9s						
HNS				LR	LR		
	comp=Z,210nm,13.0s						
HNS				LR	LR		
	comp=Z,340nm,14.9s						
LYN	LuoYang	16.89	303	⇓P	P	16 07 13.9	+1.2
LYN				pmax	pmax		
	comp=Z,50nm,1.6s						
LYN				pmax	pmax		
	comp=Z,200nm,8.8s						
LYN				LR	LR		
	comp=Z,190nm,6.2s						
LYN				LR	LR		
	comp=Z,520nm,11.5s						
LYN				LR	LR		
	comp=Z,790nm,12.0s						
JTM	Tenmabayashi	17.32	31	P	Pn	16 07 15.6	-0.4
BJT	Baijiatuau	17.68	324		Pn	16 07 21.3	+0.8
BJT	Baijiatuau	17.68	324	P	P	16 07 22.7	+1.3
BJT	Baijiatuau	17.68	324	P	Pn	16 07 21.3	+0.8
BJT				pmax	pmax		
	comp=Z,18nm,0.8s						
BJI	Beijing	17.70	324	P	P	16 07 22.8	+1.3
BJI				pmax	pmax		
	comp=Z,12nm,0.7s						
BJI				pmax	pmax		
	comp=Z,64nm,4.9s						
BJI				LR	LR		
	comp=Z,90nm,19.3s						
BJI				LR	LR		
	comp=Z,110nm,15.5s						
BJI				LR	LR		
	comp=Z,120nm,16.1s						
CN2	Changchun	17.80	350	eP	P	16 07 23.7	+1.0
CN2				LR	LR		
	comp=Z,270nm,12.0s						
CN2				LR	LR		
	comp=Z,130nm,12.0s						
CN2				LR	LR		
	comp=Z,320nm,13.0s						
USRK	Ussuriysk Ar.	17.98	6	P	P	16 07 25.6	+0.9
	comp=Z,0.2nm,0.3s,baz=176,slow=12,SNR=7.3						
USRK				LR	LR	16 14 21.0	
	comp=Z,39nm,18.6s,baz=160,slow=37						
	comp=Z,5.0nm,0.7s						
USA0B	Ussuriysk Arra	17.98	6	P	P	16 07 26.

BNX BinXian 19.50 355 ⇓P **Pn** **16 07 44.7 +2.2**
BNX pmax pmax
comp=Z,8.0nm,0.8s
ASAJ Asahikawa 20.68 27 P **P** **16 07 54.1 -0.1**
comp=Z,3.5nm,0.8s,baz=200,slow=11,SNR=9.1
ASAJ LR LR 16 17 00.2
comp=Z,45nm,18.4s,baz=294,slow=40
comp=Z,3.5nm,0.8s
JKA Kamikawa-asahi 20.69 27 **P** **16 07 53.7 -0.6**
XLT XiLinHaoTe 20.71 332 *e*P Pn 16 07 58.7 +1.7
XLT pmax pmax
comp=Z,13nm,0.7s
HHC Hu-ho-hao-te 20.83 319 *e*P **P** **16 07 56.7 +0.7**
HHC pmax pmax
comp=Z,20nm,0.5s
HHC pmax pmax
comp=Z,74nm,4.0s
HHC LR LR
comp=Z,210nm,13.5s
HHC LR LR
comp=Z,200nm,11.3s
HHC LR LR
comp=Z,280nm,16.0s
BTO Baotou 21.62 316 *e*P **P** **16 08 06.7 +2.2**
BTO pP **pwP** **16 08 10.9 -1.8**
BTO sP sP 16 08 13.8 +10
BTO PP **PnPn** **16 08 32.1 +7.1**
BTO pmax pmax
comp=Z,20nm,0.8s
BTO pmax pmax
comp=Z,250nm,4.8s
BTO LR LR
comp=Z,470nm,10.4s
BTO LR LR
comp=Z,340nm,20.0s
BTO LR LR
comp=Z,410nm,17.4s
KLR Kul'dur 22.97 4 LR LR 16 17 45.8
comp=Z,28nm,19.4s,baz=191,slow=38
KLR Kul'dur 22.97 4*ce*P **P** **16 08 18.1 -0.6**
KLR pmax pmax
comp=Z,18nm,1.3s
CD2 Chengdu 23.11 288 P **P** **16 08 20.0 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,1.1s
YSS Yuzhno-Sakhali 23.12 23 **P** **16 08 19.7 -0.6**
YSS IAmb IAmb 16 08 23.3
comp=Z,23nm,1.0s
YSS Yuzhno-Sakhali 23.12 23 P **P** **16 08 21.4 +1.1**
YSS Yuzhno-Sakhali 23.12 23⇑*e*P **P** **16 08 21.7 +1.4**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS pmax pmax
comp=N,10.0nm,1.3s
YSS MLR MLR
comp=Z,200nm,15.0s
MYLDM Lahad Datu 23.51 209 P **P** **16 08 24.7 +0.3**
SLVN Son La 23.98 264 **P** **16 08 28.4 -0.7**
SLVN IAmb IAmb 16 08 43.7
comp=Z,41nm,1.7s
SLVN Son La 23.98 264 P **P** **16 08 31.6 +2.5**
HEH HeiHe 23.99 357 *e*P **P** **16 08 29.8 +1.0**
HIA Hailar 24.19 344 P **P** **16 08 30.7 0.0**
HIA Hailar 24.19 344 P **P** **16 08 30.7 0.0**
HIA pmax pmax
comp=Z,4.0nm,1.1s
KMI Kunming 24.20 273 P **P** **16 08 34.3 +3.0**
KMI pmax pmax
comp=Z,14nm,0.6s
KMI LR LR
comp=Z,230nm,10.3s
DLV Lat 24.45 238 P **P** **16 08 32.9 -0.7**
PZH PanZhiHua 24.92 277 P **P** **16 08 38.6 +0.9**
PZH S **S** **16 13 06.5 +4.7**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.7s
PZH LR LR
comp=Z,200nm,11.6s
PZH LR LR
comp=Z,210nm,11.0s
PZH LR LR
comp=Z,210nm,11.6s
GRNR Gornyy 25.01 10⇑*i*P **P** **16 08 39.6 +1.5**
GRNR pmax pmax
comp=Z,8.0nm,1.2s
UBPT Khong Chiam 25.01 249 P **P** **16 08 39.1 +0.6**
UBPT Khong Chiam 25.01 249 P **P** **16 08 41.4 +2.9**
TNTI Ternate 25.45 185 P **P** **16 08 41.5 -0.9**
TNTI IAmb IAmb 16 08 52.2
comp=Z,16nm,1.0s
TNTI Ternate 25.45 185 P **P** **16 08 43.7 +1.3**
TNTI Ternate 25.45 185 P **P** **16 08 42.7 +0.3**
comp=Z,17nm,1.0s
NONG Nongkai 25.77 257 P **P** **16 08 47.9 +2.6**
TOLI2 Tolitoli 26.42 200 **P** **16 08 49.9 -1.3**
TOLI2 IAmb IAmb 16 09 03.0
comp=Z,21nm,0.9s
TOLI2 Tolitoli 26.42 200 P **P** **16 08 52.3 +1.1**
TYV Tymovskoe 26.51 19 *e*P **P** **16 08 56.4 +4.7**
TYV pmax pmax
comp=Z,100nm,5.1s
TYV pmax pmax
comp=Z,8.0nm,1.0s
ZEA Zeya 27.48 357 *e*P **P** **16 09 02.6 +2.2**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ULN Ulaanbaatar 27.87 327 P **P** **16 09 03.3 -0.9**
ULN Ulaanbaatar 27.87 327 *i*P **P** **16 09 05.1 +0.9**
ULN pmax pmax
comp=Z,1.0nm,0.4s
GTA Gaotai 28.09 305 *e*P **P** **16 09 06.1 -0.1**
GTA sP pwP 16 09 15.6 +1.3
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA LR LR
comp=Z,100nm,15.9s
GTA LR LR
comp=Z,140nm,16.3s
GTA LR LR
comp=Z,230nm,15.9s
SONM Songino Array 28.18 326 P **P** **16 09 05.8 -1.1**
SONM IAmb IAmb 16 10 06.5
comp=Z,16nm,1.0s
SONM Songino Array 28.18 326 P **P** **16 09 08.0 +1.1**
comp=Z,1.3nm,0.7s,baz=135,slow=9.6,SNR=7.2
SONM LR LR 16 21 59.0
comp=Z,75nm,18.2s,baz=88,slow=40
comp=Z,1.3nm,0.7s
SONM Songino Array 28.18 326 P **P** **16 09 08.0 +1.1**
SANI Sanana 28.38 188 P **P** **16 09 10.3 +1.5**
SANI Sanana 28.38 188 P **P** **16 09 08.8 0.0**
comp=Z,15nm,0.8s
SBUM Sibu 28.97 218 P **P** **16 09 12.7 -1.4**
CHTO Chiang Mai 29.20 262 P **P** **16 09 13.3 -2.8**
CHTO Chiang Mai 29.20 262 P **P** **16 09 18.3 +2.1**
CHTO Chiang Mai 29.20 262 P **P** **16 09 13.4 -2.8**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 29.33 261 P **P** **16 09 14.9 -2.3**
CMAR Chiang Mai Arr 29.33 261 P **P** **16 09 18.7 +1.4**
comp=Z,0.9nm,0.8s,baz=61,slow=7.4,SNR=8.2
CMAR LR LR 16 21 05.7
comp=Z,29nm,20.5s,baz=70,slow=37
comp=Z,0.9nm,0.8s
CMAR Chiang Mai Arr 29.33 261 *i*P **P** **16 09 19.5 +2.2**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CM31 Chiang Mai Arr 29.33 261 P **P** **16 09 15.2 -2.1**
JAY Jayapura 30.58 158 LR LR 16 19 30.3
comp=Z,48nm,19.0s,baz=352,slow=32
GOMU GeErMu 31.18 297 P **P** **16 09 35.9 +1.9**
GOMU pP sP 16 09 39.5 +6.4
GOMU sP pwP 16 09 43.3 +1.3
GOMU pmax pmax
comp=Z,11nm,0.7s
BSSI Bau Bau, Buton 33.42 197 P **P** **16 09 53.5 +0.3**
SHL Shillong 33.83 277 P **P** **16 09 54.7 -2.4**
SHL IAmb IAmb 16 10 49.4
comp=Z,15nm,1.2s
SHL Shillong 33.83 277 P **P** **16 09 54.7 -2.4**
SHL pmax pmax
comp=Z,15nm,1.2s
PEA0B Petropavlovsk- 34.03 31 P **P** **16 09 57.4 -0.8**
PEA0B pmax pmax
comp=Z,45nm,1.7s
PETK Petropavlovsk- 34.03 31 P **P** **16 09 56.7 -1.6**
PETK Petropavlovsk- 34.03 31 P **P** **16 09 56.7 -1.6**
PET Petropavlovsk 34.42 31 P **P** **16 10 00.6 -0.9**
PET IAmb IAmb 16 10 04.7
comp=Z,20nm,1.2s
PET Petropavlovsk 34.42 31 P **P** **16 10 02.0 +0.4**
PET Petropavlovsk 34.42 31 P **P** **16 10 02.0 +0.4**
KULM Kulim 34.63 238 P **P** **16 10 01.9 -2.0**
KULM Kulim 34.63 238 P **P** **16 10 06.5 +2.6**
MYKOM Kota Tinggi 34.71 230 **P** **16 10 02.7 -1.8**
MMRI Maumere 35.43 193 P **P** **16 10 08.5 -2.2**
MMRI Maumere 35.43 193 P **P** **16 10 12.0 +1.3**
EDFI Ende, Flores 35.66 193 P **P** **16 10 12.2 -0.5**
comp=Z,23nm,0.8s
YAK Yakutsk 35.74 0 P **P** **16 10 12.2 -0.7**
YAK IAmb IAmb 16 10 25.1
comp=Z,13nm,0.8s
YAK Yakutsk 35.74 0 LR LR 16 25 02.6
comp=Z,29nm,20.6s,baz=178,slow=37
YAK Yakutsk 35.74 0 *e*P **P** **16 10 12.9 0.0**
YAK pmax pmax
comp=Z,11nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.3s
SOEI Soe 36.19 189 **P** **16 10 14.5 -2.8**
SOEI Soe 36.19 189 P **P** **16 10 17.9 +0.6**
SOEI Soe 36.19 189 P **P** **16 10 17.1 -0.2**
MA2 Magadan 36.38 18 P **P** **16 10 17.2 -1.2**
MA2 IAmb IAmb 16 10 22.2
comp=Z,28nm,1.4s
MA2 Magadan 36.38 18 LR LR 16 26 04.6
comp=Z,29nm,18.9s,baz=230,slow=38
MA2 Magadan 36.38 18 P **P** **16 10 17.2 -1.2**
MA2 pmax pmax
comp=Z,28nm,1.4s
PLAI Plampang 36.73 200 P **P** **16 10 22.2 +0.4**
PSI Prapat 37.55 237 LR LR 16 24 12.8
comp=Z,65nm,19.8s,baz=228,slow=34
PSI Prapat 37.55 237 P **P** **16 10 30.7 +1.7**
PSI Prapat 37.55 237 P **P** **16 10 27.7 -1.3**
PSI pmax pmax
comp=Z,11nm,1.1s
RPSI Rantau Prapat 37.62 237 **P** **16 10 27.7 -1.8**
WMQ Urumqi 38.03 308 *e*P **P** **16 10 35.4 +2.7**
WMQ LR LR
comp=Z,100nm,23.9s
MTN Manton Dam 38.92 178 P **P** **16 10 40.2 -0.1**
SEY Seymchan 39.63 16 *i*P **P** **16 10 46.7 +1.0**
SEY pmax pmax
comp=Z,7.0nm,1.1s
KNRA Kununurra 41.71 181 **P** **16 11 01.6 -1.8**
KNRA IAmb IAmb 16 11 15.0
comp=Z,17nm,0.8s
COEN Coen 42.13 160 P **P** **16 11 05.2 -1.7**
COEN IAmb IAmb 16 11 54.7
comp=Z,42nm,1.6s
MK31 Makanchi Array 42.40 312 **P** **16 11 08.2 -0.8**
MK31 Makanchi Array 42.40 312 *i*P **P** **16 11 09.3 +0.4**
MKAR Makanchi Array 42.40 312 P **P** **16 11 09.6 +0.7**
comp=Z,1.6nm,0.8s,baz=99,slow=11,SNR=0.2
comp=Z,1.6nm,0.8s
MAKZ Makanchi 42.62 311 P **P** **16 11 09.9 -0.8**
MAKZ Makanchi 42.62 311 P **P** **16 11 09.9 -0.8**
MAKZ pmax pmax
comp=Z,5.0nm,1.2s
ZAA0 Zalesovo Array 42.94 322 P **P** **16 11 12.5 -0.6**
ZALV Zalesovo Beam 42.94 322 P **P** **16 11 13.3 +0.2**
ZALV Zalesovo Beam 42.94 322 P **P** **16 11 13.0 -0.1**
comp=Z,1.0nm,0.5s,baz=113,slow=9.7,SNR=2.0
ZALV LR LR 16 31 02.1
comp=Z,83nm,19.0s,baz=74,slow=39
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 42.94 322 P **P** **16 11 13.3 +0.2**
FITZ Fitzroy Crossi 44.28 185 P **P** **16 11 22.6 -1.6**
FITZ Fitzroy Crossi 44.28 185 P **P** **16 11 24.3 +0.1**
comp=Z,5.7nm,0.9s,baz=8.0,slow=14,SNR=3.6
comp=Z,5.7nm,0.9s
TIXI Tiksi 45.41 360 **P** **16 11 33.2 +0.6**
TIXI Tiksi 45.41 360 LR LR 16 30 59.3
comp=Z,56nm,19.5s,baz=198,slow=37
TIXI Tiksi 45.41 360*ce*P **P** **16 11 33.8 +1.2**
TIXI pmax pmax
comp=Z,1.0nm,0.6s
KDJ Kajisay 45.43 304 P **P** **16 11 33.9 +0.4**
KDJ Kajisay 45.43 304 P **P** **16 11 33.9 +0.4**
KDJ pmax pmax
comp=Z,8.0nm,1.2s
KURK Kurchatov 45.62 316 **P** **16 11 34.6 0.0**
KURK Kurchatov 45.62 316 *i*P **P** **16 11 34.4 -0.2**
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURBB Kurchatov Arra 45.65 316 P **P** **16 11 34.8 -0.1**
comp=Z,1.3nm,0.6s,baz=103,slow=8.6,SNR=9.1
KURBB LR LR 16 32 22.8
comp=Z,98nm,18.8s,baz=174,slow=38
comp=Z,1.3nm,0.6s
SAVO Savo Central 45.86 136 P **P** **16 11 37.8 +0.8**
WB0 Warramunga Arr 46.01 174 **P** **16 11 37.5 -0.5**
WB0 IAmb IAmb 16 11 58.7
comp=Z,16nm,1.1s
WRAB Tennant Creek 46.17 174 P **P** **16 11 37.8 -1.4**
WRAB IAmb IAmb 16 12 00.1
comp=Z,11nm,0.9s
WRAB Tennant Creek 46.17 174 P **P** **16 11 37.8 -1.4**
WRAB pmax pmax
comp=Z,11nm,0.9s
WRA Warramunga Arr 46.18 174 **P** **16 11 38.1 -1.2**
WRA Warramunga Arr 46.18 174 P **P** **16 11 39.5 +0.2**
comp=Z,8.3nm,0.9s,baz=348,slow=8.3,SNR=19
comp=Z,8.3nm,0.9s
WB2 Warramunga Arr 46.18 174 **P** **16 11 39.2 -0.2**
WB2 IAmb IAmb 16 11 50.9
comp=Z,13nm,0.9s
WR0 Warramunga Arr 46.22 174 P **P** **16 11 38.7 -0.9**
WR0 IAmb IAmb 16 11 51.4
comp=Z,11nm,0.9s
BILL Bilibino 47.25 18 **P** **16 11 47.9 +0.8**
BILL IAmb IAmb 16 11 49.7
comp=Z,18nm,1.3s
BILL Bilibino 47.25 18*ce*P **P** **16 11 48.8 +1.6**
BILL pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 47.44 305 LR LR 16 33 27.6
comp=Z,41nm,18.8s,baz=96,slow=38
ARLS Aral 47.55 304 P **P** **16 11 51.9 +1.8**
ARLS pmax pmax
comp=Z,6.0nm,0.8s
QIS Mount Isa 47.57 167 P **P** **16 11 51.0 +0.8**
MBWA Marble Bar 48.12 192 P **P** **16 11 53.0 -1.3**
PSA00 Pilbara Seismi 48.50 192 P **P** **16 11 55.8 -1.6**
PSA00 IAmb IAmb 16 12 09.0
comp=Z,8.7nm,0.8s
PSA00 Pilbara Seismi 48.50 192 P **P** **16 11 55.3 -2.1**
PSA00 IAmb IAmb 16 12 09.1
comp=Z,17nm,0.8s
ARSB Arslanbob 48.55 303 P **P** **16 11 55.9 -2.0**
ARSB Arslanbob 48.55 303 P **P** **16 11 55.9 -2.0**
ARSB pmax pmax
comp=Z,7.0nm,1.2s
ATKA Atka Island 49.13 43 P **P** **16 12 01.3 -0.7**
NRIK Noril'sk 49.58 342 P **P** **16 12 04.9 -0.2**
NRIK IAmb IAmb 16 12 17.7
comp=Z,31nm,1.9s
NRIK Noril'sk 49.58 342 P **P** **16 12 06.6 +1.5**
comp=Z,0.6nm,0.3s,baz=116,slow=4.4,SNR=4.1
NRIK LR LR 16 34 59.8
comp=Z,68nm,19.8s,baz=85,slow=38
comp=Z,0.6nm,0.3s
NRIK Noril'sk 49.58 342*ce*P **P** **16 12 04.6 -0.5**
NRIK pmax pmax
comp=Z,6.0nm,1.4s
AS31 Alice Springs 49.83 175 **P** **16 12 07.0 -0.6**
ASAR Alice Springs 49.83 175 **P** **16 12 06.8 -0.7**
ASAR Alice Springs 49.83 175 P **P** **16 12 08.2 +0.6**
comp=Z,4.8nm,1.0s,baz=354,slow=8.8,SNR=31
comp=Z,4.8nm,1.0s
AS01 Alice Springs 49.83 175 P **P** **16 12 08.8 +1.2**
BTK Batken 50.23 301 P **P** **16 12 09.8 -0.9**
BTK Batken 50.23 301 P **P** **16 12 09.8 -0.9**
BTK pmax pmax
comp=Z,9.0nm,1.3s
KK31 Karatay Array 50.37 305 P **P** **16 12 11.4 -0.1**
KK31 Karatay Array 50.37 305 P **P** **16 12 11.4 -0.1**
KK31 pmax pmax
comp=Z,7.0nm,1.3s
KKAR Karatay Array 50.37 305 **P** **16 12 12.1 +0.5**
KKAR Karatay Array 50.37 305 P **P** **16 12 11.9 +0.4**
KKAR IAmb IAmb 16 12 49.9
comp=Z,7.3nm,1.2s
KKAR Karatay Array 50.37 305 P **P** **16 12 12.1 +0.5**
GAR Garm 50.69 300 **P** **16 12 13.9 -0.2**
GAR IAmb IAmb 16 12 36.1
comp=Z,22nm,1.3s
WRKA Warakurna 51.03 181 P **P** **16 12 18.0 +1.3**
BVAR Borovoye Array 51.04 318 P **P** **16 12 17.0 +0.6**
comp=Z,1.5nm,0.7s,baz=90,slow=8.9,SNR=7.8
BVAR LR LR 16 35 56.7
comp=Z,227nm,18.6s,baz=91,slow=38
comp=Z,1.5nm,0.7s
BRVK Borovoye 51.11 318 P **P** **16 12 17.9 +0.9**
BRVK Borovoye 51.11 318*ce*P **P** **16 12 18.5 +1.5**
BRVK pmax pmax
comp=Z,4.0nm,1.1s
SIMJ Simiganj 51.73 300 P **P** **16 12 21.7 -0.3**
DZET Dzherino 51.86 300 P **P** **16 12 24.4 +1.4**
DZET pmax pmax
comp=Z,20nm,0.7s
KBL Kabul 52.19 295 **P** **16 12 25.2 -0.4**
KBL IAmb IAmb 16 12 28.8
comp=Z,14nm,1.1s
KBL Kabul 52.19 295 P **P** **16 12 25.2 -0.4**
KBL pmax pmax
comp=Z,14nm,1.1s
UNV Unalaska Valle 53.94 41 P **P** **16 12 38.0 +0.1**
baz=266
OOD Oodnadatta 54.09 173 P **P** **16 12 40.1 +0.9**
QLP Quilpie 54.42 164 P **P** **16 12 41.7 0.0**
M11K Mekoryuk 54.82 33 P **P** **16 12 44.3 +0.2**
baz=262
TNA Tin City 55.04 27 P **P** **16 12 46.8 +1.1**
EIDS Eidsvold 55.39 156 P **P** **16 12 47.5 -1.2**
ANM Nome 55.89 28 P **P** **16 12 52.6 +0.7**
baz=259
M13K Dall Lake 56.23 33 P **P** **16 12 55.1 +0.8**
baz=264
F15K North Star Dit 56.40 27 P **P** **16 12 56.0 +0.5**
baz=259
L14K Kuka Creek 56.65 32 P **P** **16 12 59.1 +1.8**
baz=264
SVE Sverdlovsk 56.96 322 *e*P **P** **16 13 01.4 +1.8**
SVE pmax pmax
comp=Z,19nm,1.6s
D17K Noatak River 57.38 25 P **P** **16 13 03.4 +1.0**
baz=260
ABKAR Akbulak array 57.49 313 **P** **16 13 03.4 -0.1**
ABKAR Akbulak array 57.49 313 **P** **16 13 03.3 -0.2**
HRA Herat 57.74 296 P **P** **16 13 05.5 -0.3**
E17K Hotham Inlet 57.76 26 P **P** **16 13 05.5 +0.4**
baz=261
F17K Baldwin Pennin 57.89 26 P **P** **16 13 06.3 +0.3**
baz=262
CHNA Chernabura Isl 58.01 40 P **P** **16 13 06.6 -0.4**
baz=271
S14K Fog Glacier 58.02 38 P **P** **16 13 07.8 +0.6**
baz=270
B18K Kokolik River 58.14 23 P **P** **16 13 09.1 +1.4**
baz=260,SNR=7.0
ARTI Arti 58.20 322 P **P** **16 13 08.5 +0.1**
ARTI IAmb IAmb 16 13 20.2
comp=Z,8.5nm,0.7s
ARTI Arti 58.20 322 LR LR 16 40 49.8
comp=Z,101nm,18.5s,baz=57,slow=39
ARTI Arti 58.20 322*c i*P **P** **16 13 08.6 +0.2**
ARTI 16 13 57.7
ARTI S **S** **16 21 10.8 +0.3**
ARTI SS **SS** **16 24 57.5 -4.2**
ARTI pmax pmax
comp=Z,5.0nm,0.8s
L16K Owhat River 58.21 32 P **P** **16 13 09.7 +1.4**
baz=267
C18K Utukok River 58.24 24 **P** **16 13 09.0 +0.5**
C18K IAmb IAmb 16 13 10.6
comp=Z,8.6nm,1.1s
C18K Utukok River 58.24 24 P **P** **16 13 09.3 +0.8**
baz=261
H17K Granite Mounta 58.26 28 P **P** **16 13 09.7 +1.0**
H17K IAmb IAmb 16 14 52.4
comp=Z,7.9nm,0.8s
H17K Granite Mounta 58.26 28 P **P** **16 13 10.4 +1.7**
baz=264
E18K Tukpahlearik C 58.27 25 P **P** **16 13 09.5 +0.7**
baz=262
J17K VABM Dome 58.50 30 P **P** **16 13 11.0 +0.7**
baz=266
A19K Wainwright 58.54 22 P **P** **16 13 11.9 +1.4**
baz=260
F18K Selawik 58.54 26 P **P** **16 13 11.7 +1.1**
baz=264
AKTO Aktyubinsk 58.66 315 P **P** **16 13 12.4 +0.7**
comp=Z,1.7nm,0.8s,baz=76,slow=1.8,SNR=4.3
comp=Z,1.7nm,0.8s
L17K Donlin 58.78 32 P **P** **16 13 14.1 +1.8**
baz=268
K17K Iditarod 58.81 31 P **P** **16 13 13.8 +1.3**
baz=267
G18K Tagagawik 58.88 27 P **P** **16 13 14.4 +1.4**
baz=265
H18K Honhosa River 58.94 28 P **P** **16 13 14.7 +1.3**
baz=266
STKA Stephens Creek 58.96 168 P **P** **16 13 13.6 -0.2**
STKA Stephens Creek 58.96 168 P **P** **16 13 14.4 +0.5**
comp=Z,1.6nm,0.6s,baz=345,slow=3.3,SNR=8.5
comp=Z,1.6nm,0.6s
BBOO Buckleboo 59.09 174 P **P** **16 13 14.4 -0.3**
N17K Nushagak Hills 59.28 33 P **P** **16 13 17.0 +1.1**
baz=270
D19K Kuna River 59.34 24 P **P** **16 13 17.0 +0.9**
D19K IAmb IAmb 16 13 38.1
comp=Z,9.0nm,1.1s
D19K Kuna River 59.34 24 P **P** **16 13 17.3 +1.1**
baz=264
CMSA Cobar Meteorol 59.52 164 P **P** **16 13 19.0 +1.3**
L18K Granite Mounta 59.54 31 P **P** **16 13 18.7 +1.1**
L18K Granite Mounta 59.54 31 P **P** **16 13 19.3 +1.7**
baz=269
E19K Redstone River 59.57 25 **P** **16 13 18.4 +0.7**
E19K Redstone River 59.57 25 P **P** **16 13 18.9 +1.1**
baz=265
H19K Roundabout Mou 59.76 28 P **P** **16 13 20.4 +1.4**
H19K Roundabout Mou 59.76 28 P **P** **16 13 20.8 +1.8**
baz=267
B20K Meade River 59.84 22 P **P** **16 13 20.4 +0.9**
B20K Meade River 59.84 22 P **P** **16 13 21.0 +1.6**
baz=264
TTA Tatalina 59.87 31 P **P** **16 13 21.4 +1.4**
baz=269
D20K Etivluk River 59.91 24 P **P** **16 13 20.8 +0.8**
D20K IAmb IAmb 16 13 22.6
comp=Z,9.4nm,1.0s
D20K Etivluk River 59.91 24 P **P** **16 13 21.4 +1.4**
baz=265
E20K Nigu River 60.03 24 P **P** **16 13 22.0 +1.1**
baz=266
NWAO Narrogin (SRO) 60.04 192 P **P** **16 13 20.7 -0.6**
NWAO Narrogin (SRO) 60.04 192 P **P** **16 13 20.7 -0.6**
NWAO pmax pmax
comp=Z,75nm,1.6s
J19K Poorman 60.06 29 P **P** **16 13 21.8 +0.6**
J19K Poorman 60.06 29 P **P** **16 13 22.5 +1.4**
baz=269
F20K Avaraart Lake 60.13 26 P **P** **16 13 23.3 +1.7**
baz=267
ACHA Angle Creek He 60.27 36 P **P** **16 13 22.7 -0.1**
H20K Anotleneega Mo 60.41 28 P **P** **16 13 24.6 +1.1**
baz=269
C21K Knifeblade Rid 60.60 23 P **P** **16 13 25.7 +0.9**
baz=267
A22K Sinclair Lake 60.66 21 P **P** **16 13 25.8 +0.7**
baz=265,SNR=6.4
B21K Ikpikpuk River 60.69 23 P **P** **16 13 26.8 +1.5**
B21K IAmb IAmb 16 13 28.0
comp=Z,9.0nm,0.9s
B21K Ikpikpuk River 60.69 23 P **P** **16 13 26.6 +1.3**
baz=267
J20K Nowinta River 60.71 29 P **P** **16 13 26.2 +0.6**
J20K IAmb IAmb 16 13 28.5

comp=Z,14nm,1.3s
J20K Nowinta River 60.71 29 P P 16 13 26.4 +0.8
baz=270
K20K Telida 60.75 30 P P 16 13 27.0 +1.1
baz=271
E21K Killik River 60.86 24 P P 16 13 27.6 +1.0
E21K IAmb IAmb 16 13 47.7
comp=Z,10nm,1.2s
E21K Killik River 60.86 24 P P 16 13 27.7 +1.0
baz=268
G21K Allakaket 60.99 27 P P 16 13 28.9 +1.4
baz=269
F21K Alatna River 61.01 26 P P 16 13 28.6 +1.0
baz=269
B22K Teshekpuk Lake 61.13 22 P P 16 13 29.2 +0.9
baz=267
H21K Melozitna Rive 61.28 27 P P 16 13 30.8 +1.3
H21K Melozitna Rive 61.28 27 P P 16 13 30.1 +0.7
baz=270
D22K Ayikyak River 61.34 24 P P 16 13 30.7 +0.9
D22K IAmb IAmb 16 13 51.6
comp=Z,14nm,1.2s
D22K Ayikyak River 61.34 24 P P 16 13 30.5 +0.6
baz=269,SNR=7.8
F22K John River 61.52 25 P P 16 13 32.2 +1.2
baz=270
CHUM Lake Minchumin 61.52 30 P P 16 13 32.4 +1.3
baz=272
I21K Tanana 61.63 28 P P 16 13 32.5 +0.7
baz=272
CAST Castle Rocks 61.64 30 P P 16 13 32.9 +1.0
baz=272
E22K Anaktuvuk Pass 61.66 25 P 16 13 33.6 +1.6
E22K IAmb IAmb 16 13 35.9
comp=Z,8.4nm,0.9s
E22K Anaktuvuk Pass 61.66 25 P P 16 13 33.6 +1.6
baz=270,SNR=5.7
G22K Bettles 61.78 26 P P 16 13 34.1 +1.3
baz=271
Q20K Shuyak Island 61.79 36 P P 16 13 34.3 +1.3
baz=275
H22K Ishtalitna Cre 61.86 27 P P 16 13 34.8 +1.4
baz=272
D23K Nanushuk River 62.07 24 P P 16 13 35.2 +0.5
D23K Nanushuk River 62.07 24 P P 16 13 36.2 +1.4
baz=271,SNR=8.1
C23K Itkillik River 62.09 23 IAmb IAmb 16 13 37.5
comp=Z,11nm,1.2s
C23K Itkillik River 62.09 23 P P 16 13 36.0 +1.3
baz=270
COLD Coldfoot 62.29 26 P P 16 13 38.0 +1.8
baz=272
G23K Bananza Creek 62.38 26 P 16 13 37.6 +0.7
G23K IAmb IAmb 16 14 23.2
comp=Z,15nm,1.6s
G23K Bananza Creek 62.38 26 P P 16 13 38.5 +1.6
baz=272
TOLK Toolik Lake Re 62.48 24 P P 16 13 38.7 +1.2
TOLK Toolik Lake Re 62.48 24 P P 16 13 38.3 +0.8
baz=272
E23K Chandalar 62.48 25 P P 16 13 39.0 +1.4
E23K IAmb IAmb 16 13 41.1
comp=Z,13nm,1.2s
E23K Chandalar 62.48 25 P P 16 13 38.5 +0.9
baz=272,SNR=9.8
H23K Yukon River 62.62 27 P P 16 13 39.3 +0.8
H23K Yukon River 62.62 27 P P 16 13 39.8 +1.3
baz=273
D24K Happy Valley 62.73 23 P P 16 13 40.4 +1.2
D24K Happy Valley 62.73 23 P P 16 13 40.3 +1.2
baz=272
I23K Minto, Yukon-K 62.74 28 P P 16 13 40.5 +1.3
baz=274
C24K Franklin Bluff 62.75 23 P P 16 13 40.6 +1.4
baz=272
NEA2 Nenana 62.90 29 IAmb IAmb 16 13 44.1
comp=Z,9.8nm,1.0s
NEA2 Nenana 62.90 29 P P 16 13 41.8 +1.5
baz=274
KIRV Kirov 62.90 325 P P 16 13 41.4 +1.0
comp=Z,4.9nm,0.5s,baz=78,slow=5.0,SNR=6.0
comp=Z,4.9nm,0.5s
KIRV Kirov 62.90 325 *ceP* **P 16 13 42.2 +1.8**
E24K Your Creek 62.91 25 IAmb IAmb 16 13 43.7
comp=Z,15nm,1.5s
E24K Your Creek 62.91 25 P P 16 13 41.7 +1.3
baz=273,SNR=6.0
MCK McKinley 63.03 30 P P 16 13 42.1 +0.8
baz=275
F24K Squaw Lake 63.17 25 P 16 13 43.4 +1.3
F24K IAmb IAmb 16 13 46.5
comp=Z,5.6nm,0.8s
F24K Squaw Lake 63.17 25 P P 16 13 43.6 +1.5
baz=274
H24K Noodor Dome 63.30 27 P 16 13 44.2 +1.2
H24K Noodor Dome 63.30 27 P P 16 13 44.2 +1.2
baz=275
G24K Hadweenzic Riv 63.39 26 IAmb IAmb 16 14 06.3
comp=Z,6.0nm,0.9s
G24K Hadweenzic Riv 63.39 26 P P 16 13 45.4 +1.8
baz=275
KNK Knik Glacier 63.48 32 P P 16 13 44.6 +0.3
baz=276
POKR Poker Plat Res 63.55 28 P P 16 13 45.1 +0.4
baz=276
D25K Kavik River 63.59 23 IAmb IAmb 16 13 48.0
comp=Z,7.1nm,1.1s
D25K Kavik River 63.59 23 P P 16 13 46.0 +1.1
baz=274
PWL Port Wells 63.61 33 P P 16 13 46.1 +1.0
baz=277
ILAR Eielson Array 63.82 28 P P 16 13 46.1 -0.3
comp=Z,0.8nm,0.8s,baz=263,slow=5.8,SNR=7.2
comp=Z,0.8nm,0.8s
G25K Bearman Lake 63.93 26 P P 16 13 48.2 +1.2
baz=276
E25K Arctic Village 63.99 25 P 16 13 49.3 +1.8
E25K IAmb IAmb 16 13 52.3
comp=Z,9.8nm,1.2s
E25K Arctic Village 63.99 25 P P 16 13 48.1 +0.6
baz=276,SNR=6.8
F25K Christian Rive 64.02 25 IAmb IAmb 16 13 52.7
comp=Z,5.5nm,1.1s
F25K Christian Rive 64.02 25 P P 16 13 48.4 +0.6
baz=276
C26K Camden Bay 64.05 23 P P 16 13 48.0 +0.2
baz=276,SNR=6.0
H25L Birch Creek 64.09 27 P P 16 13 48.4 +0.3
baz=276
P23K Montague Islan 64.18 34 P P 16 13 48.7 -0.1
baz=278
BMAR Burnt Mountain 64.44 25 P P 16 13 51.5 +0.9
J25K Salcha River, 64.48 28 P P 16 13 51.1 +0.2
baz=278
C27K Jago River 64.50 23 IAmb IAmb 16 14 04.1
comp=Z,4.3nm,0.7s
C27K Jago River 64.50 23 P P 16 13 51.1 +0.3
baz=277
F26K Sheenjek River 64.58 25 P P 16 13 52.0 +0.6
baz=277,SNR=11
PAX Paxson 64.67 30 P P 16 13 53.4 +1.3
baz=278
G26K Porcupine Rive 64.81 26 IAmb IAmb 16 13 56.6
comp=Z,13nm,1.4s
G26K Porcupine Rive 64.81 26 P P 16 13 52.4 -0.4
baz=278
RIDG Independent Ri 64.83 29 P P 16 13 53.5 +0.3
baz=278
HARP HAARP 64.90 31 P P 16 13 53.7 +0.1
baz=279
BRAT Ballarat 64.91 167 P P 16 13 55.5 +1.8
SCRK Sand Creek 65.17 29 P P 16 13 55.4 0.0
baz=279
DOT Dot Lake 65.19 29 P P 16 13 55.4 -0.1
DOT IAmb IAmb 16 13 56.9
comp=Z,8.1nm,1.0s
J26L Joseph Creek 65.27 28 P P 16 13 55.9 -0.2
J26L IAmb IAmb 16 14 07.6
comp=Z,5.9nm,0.8s
J26L Joseph Creek 65.27 28 P P 16 13 56.9 +0.8
baz=279
I26K Coal Creek Min 65.31 28 P P 16 13 57.3 +1.1
baz=279
BMRM Bremner River 65.39 32 P P 16 13 57.7 +0.8
baz=280
E27K Coleen River 65.46 24 P 16 13 58.4 +1.3
E27K IAmb IAmb 16 14 00.7
comp=Z,14nm,1.4s
E27K Coleen River 65.46 24 P P 16 13 57.5 +0.4
baz=279,SNR=6.4
MENT Mentasta 65.46 30 P P 16 13 58.2 +1.0
MENT IAmb IAmb 16 14 00.1
comp=Z,9.6nm,1.2s
MENT Mentasta 65.46 30 P P 16 13 59.0 +1.8
D27M Malcolm River 65.51 23 IAmb IAmb 16 14 19.3
comp=Z,9.2nm,1.3s
D27M Malcolm River 65.51 23 P P 16 13 57.8 +0.3
baz=279
G27K Doyon Strip 65.67 26 P P 16 13 59.3 +0.8
baz=280
H27K Steamboat Moun 65.82 26 P P 16 14 00.2 +0.7
baz=280
M26K Nabesna, AK 65.89 31 P P 16 14 01.1 +1.0
M26K IAmb IAmb 16 14 04.3
comp=Z,11nm,1.1s
M26K Nabesna, AK 65.89 31 P P 16 14 00.6 +0.6
baz=281
I27K Kandik River 65.90 27 P P 16 14 01.2 +1.2
baz=280,SNR=7.6
K27K Chicken 65.99 29 IAmb IAmb 16 14 09.2
comp=Z,8.5nm,1.2s
K27K Chicken 65.99 29 P P 16 14 01.1 +0.5
baz=281
E28M Babbage River 66.14 24 P P 16 14 02.4 +1.0
E28M IAmb IAmb 16 14 04.8
comp=Z,8.8nm,1.2s
E28M Babbage River 66.14 24 P P 16 14 02.8 +1.3
baz=281,SNR=6.6
D28M Stokes Point 66.28 23 P P 16 14 02.9 +0.6
baz=281
L27K Beaver Creek, 66.29 30 P P 16 14 02.6 +0.1
baz=281
M27K Edge Creek, AK 66.41 31 P P 16 14 03.0 -0.4
baz=282
I28M Miner Creek 66.61 27 P 16 14 06.2 +1.5
I28M IAmb IAmb 16 14 17.9
comp=Z,4.2nm,0.8s
I28M Miner Creek 66.61 27 P P 16 14 04.1 -0.5
baz=282,SNR=5.7
E29M Blow River 66.77 24 IAmb IAmb 16 14 18.5
comp=Z,7.6nm,1.2s
E29M Blow River 66.77 24 P P 16 14 05.9 +0.4
baz=283
BVCY Beaver Creek 66.86 30 P P 16 14 06.9 +0.7
baz=282
G29M Pine Creek 67.05 25 IAmb IAmb 16 14 11.4
comp=Z,9.4nm,1.1s
G29M Pine Creek 67.05 25 P P 16 14 08.3 +0.9
baz=283
H29M Whitestone 67.08 26 P P 16 14 08.2 +0.7
baz=283
DAWY Dawson 67.14 28 P P 16 14 08.6 +0.6
baz=283
YUK3 Moose Creek 67.19 31 P P 16 14 08.8 +0.3
baz=283
I29M Ogilvie Camp, 67.30 27 P P 16 14 09.4 +0.5
I29M IAmb IAmb 16 14 11.4
comp=Z,5.0nm,0.9s
I29M Ogilvie Camp, 67.30 27 P P 16 14 10.1 +1.1
baz=283
KLMR Klimovskoe 67.45 328 *eP* **P 16 14 06.7 -3.2**
KLMR *e* 16 14 33.7
KLMR pmax pmax
comp=Z,29nm,1.6s
O28M Mount Upton 67.55 32 P P 16 14 11.7 +0.8
baz=284
YUK8 Steele Glacier 67.62 31 P P 16 14 12.1 +0.8
baz=284
PINM Pinnacle 67.68 33 P P 16 14 12.1 +0.6
baz=284
EPYK Eagle Plains 67.69 26 IAmb IAmb 16 14 13.6
comp=Z,10.0nm,1.1s
EPYK Eagle Plains 67.69 26 P P 16 14 12.3 +0.9
baz=284
G30M tAoh Zraii Nji 67.72 25 P P 16 14 11.8 +0.2
baz=285
F30M Barrier River 67.73 24 IAmb IAmb 16 14 14.0
comp=Z,8.9nm,1.2s
F30M Barrier River 67.73 24 P P 16 14 11.9 +0.3
baz=285
L29M L29M 67.92 29 P 16 14 14.1 +1.2
L29M IAmb IAmb 16 14 16.5
comp=Z,13nm,1.3s
L29M L29M 67.92 29 P P 16 14 13.7 +0.8
baz=284
M29M Somme Creek 67.94 30 IAmb IAmb 16 14 17.7
comp=Z,6.1nm,1.1s
M29M Somme Creek 67.94 30 P P 16 14 14.1 +1.0
baz=284
K29M Barlow Dome 68.00 29 P P 16 14 15.1 +1.5
K29M IAmb IAmb 16 14 17.2
comp=Z,5.7nm,1.1s
K29M Barlow Dome 68.00 29 P P 16 14 13.9 +0.4
baz=285
I30M Mount Dempster 68.12 27 P P 16 14 15.3 +1.1
baz=285
YUK4 Talbot Arm 68.13 31 P P 16 14 15.5 +1.0
baz=285
J30M Hart River 68.31 28 P P 16 14 16.3 +0.8
baz=286
O29M Mount Kennedy 68.44 32 P P 16 14 17.3 +1.0
baz=285
G31M Satah River 68.48 25 P P 16 14 17.0 +0.8
baz=286
F31M Tsiigehtchic 68.53 24 P P 16 14 17.1 +0.5
baz=287
VRH Novokhopyorsk 68.69 318 *eP* P 16 14 27.2 +9.4
VRH pmax pmax
comp=Z,17nm,1.8s
H31M Peel River 68.77 26 P P 16 14 19.2 +1.0
baz=287
HYT Haines Junctio 68.81 32 P P 16 14 19.3 +0.7
baz=286
P29M Windy Craggy 69.03 33 P P 16 14 20.6 +0.8
baz=286
N31M Braeburn, Yuko 69.42 31 P P 16 14 22.7 +0.4
baz=287
O30N Mendenhall 69.49 32 P P 16 14 23.2 +0.4
baz=287
M31M Drury Creek, Y 69.83 30 IAmb IAmb 16 14 27.8
comp=Z,4.6nm,0.7s
LPSR Galich'ya Gora 69.95 320 *eP* P 16 14 36.0 +10
LPSR pmax pmax
comp=Z,18nm,1.6s
KBZ Khabaz 70.06 310 P P 16 14 27.6 +1.1
comp=Z,7.4nm,0.9s,baz=74,slow=4.8,SNR=20
comp=Z,7.4nm,0.9s
KBZ Khabaz 70.06 310 *ceP* **P 16 14 27.7 +1.2**
KBZ pmax pmax
comp=Z,13nm,1.0s
VORR Voronezh 70.06 319 P P 16 14 36.5 +10
VORR pmax pmax
comp=Z,25nm,1.6s
WHY Whitehorse 70.09 31 P P 16 14 26.8 +0.3
baz=288
KIV Kislovodsk 70.14 310 P 16 14 27.1 0.0
KIV Kislovodsk 70.14 310 *eP* **P 16 14 27.6 +0.5**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,31nm,18.0s
KIV Kislovodsk 70.14 310 P P 16 14 27.9 +0.8
comp=Z,19nm,1.4s
SHA1 Shidzhatmaz 70.22 310 *i* **P P 16 14 29.8 +2.0**
FARO Faro, Yukon 70.29 30 P P 16 14 28.6 +1.0
FARO IAmb IAmb 16 14 40.5
comp=Z,6.7nm,0.7s
FARO Faro, Yukon 70.29 30 P P 16 14 27.8 +0.2
baz=289,SNR=6.4
OBN Obninsk 70.53 323 *i* **P P 16 14 28.1 -1.0**
OBN *i* 16 14 36.6
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,120nm,18.0s
R32K Eaglecrest 71.03 34 P P 16 14 32.7 +0.5
baz=289
MMPY Sheldon Lake, 71.07 29 P P 16 14 32.9 +0.5
baz=290
P33M Teslin, Yukon 71.20 32 P P 16 14 33.7 +0.4
baz=290
C36M Paulatuk 71.21 21 IAmb IAmb 16 14 35.0
comp=Z,14nm,1.2s
C36M Paulatuk 71.21 21 P P 16 14 33.3 +0.3
baz=294
R33M Jennings River 72.37 32 P P 16 14 40.8 +0.5
baz=292
TGTN Hyland Airport 72.78 29 P P 16 14 43.6 +0.9
baz=293
S34M Telegraph Cree 72.84 33 P P 16 14 44.4 +1.3
baz=292
FINES FINESS Array B 73.41 331 P P 16 14 46.9 +0.5
comp=Z,2.9nm,0.6s,baz=60,slow=5.7,SNR=23
FINES LR LR 16 50 32.8
comp=Z,96nm,18.8s,baz=30,slow=39
comp=Z,2.9nm,0.6s
RAYN Ar Rayn 74.94 289 P P 16 14 55.3 -0.7
RAYN Ar Rayn 74.94 289 P P 16 14 55.3 -0.7
RAYN pmax pmax
comp=Z,30nm,1.8s
TOAD Toad River Com 75.29 31 P P 16 14 58.3 +0.9
baz=296
AK03 Malin Array Si 76.27 320 P P 16 15 03.6 +0.5
AKASG Malin Array Be 76.28 320 P P 16 15 03.5 +0.4
comp=Z,1.2nm,0.5s,baz=57,slow=6.3,SNR=11
AKASG LR LR 16 51 19.9
comp=Z,138nm,18.8s,baz=33,slow=38
comp=Z,1.2nm,0.5s
AKASG Malin Array Be 76.28 320 *i* **P P 16 15 03.5 +0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 76.28 320 P P 16 15 03.5 +0.4
AK01 Malin Array Si 76.28 320 P P 16 15 03.6 +0.4
AK08 Malin Array Si 76.28 320 P P 16 15 03.6 +0.4
KIEV Kiev 76.29 320 P P 16 15 02.7 -0.5
KIEV IAmb IAmb 16 15 40.2
comp=Z,22nm,1.7s
KIEV Kiev 76.29 320 P P 16 15 02.7 -0.5
KIEV pmax pmax
comp=Z,22nm,1.7s
KIEV Kiev 76.29 320 P P 16 15 03.5 +0.3
AK11 Malin Array Si 76.32 320 P P 16 15 04.1 +0.8
RNPP9 Sopachiv 77.86 322 P P 16 15 12.8 +0.8
BRTR Keskin Array B 77.95 308 P P 16 15 12.7 -0.3
comp=Z,3.7nm,1.0s,baz=72,slow=3.0,SNR=14
comp=Z,3.7nm,1.0s
BRTR Keskin Array B 77.95 308 *i* **P P 16 15 13.8 +0.8**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
YKA Yellowknife Ar 77.96 25 P P 16 15 13.0 +0.6
comp=Z,2.0nm,1.0s,baz=302,slow=5.2,SNR=18
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 77.96 25 *i* **P P 16 15 13.5 +1.1**
YKA pmax pmax
comp=Z,2.0nm,1.0s
KMPD K-Podol'skiy 78.82 319 P P 16 15 18.4 +1.0
HFS Hagfors 79.33 333 P P 16 15 20.1 +0.1
comp=Z,3.1nm,0.9s,baz=39,slow=9.3,SNR=5.0
comp=Z,3.1nm,0.9s
NC405 NORSAR Array S 79.56 334 IAmb IAmb 16 15 22.7
comp=Z,13nm,1.0s
NC303 NORSAR Array S 79.63 334 IAmb IAmb 16 15 23.7
comp=Z,18nm,1.2s
NB2 NORSAR Array B 79.80 334 P P 16 15 22.5 -0.1
comp=Z,6.6nm,1.2s,baz=50,slow=5.9
NOA NORSAR Array B 79.80 334 P P 16 15 22.7 +0.1
comp=Z,3.2nm,0.9s,baz=50,slow=5.3,SNR=8.3
NOA LR LR 16 54 16.8
comp=Z,42nm,18.8s,baz=255,slow=38
comp=Z,3.2nm,0.9s
NC204 NORSAR Array S 79.83 335 P P 16 15 23.2 +0.5
NC204 IAmb IAmb 16 15 23.9
comp=Z,12nm,1.1s
VRI Vrincioaia 79.89 316 P P 16 15 25.6 +2.3
VRI pmax pmax
comp=Z,7.0nm,1.1s
BUR08 Bucovina Ar. S 80.00 318 P P 16 15 24.2 +0.2
BURAR Bucovina Array 80.00 318 P P 16 15 23.5 -0.5
BURAR Bucovina Array 80.00 318 P P 16 15 23.5 -0.5
MLR Muntele Rosu 80.55 316 LR LR 16 54 22.3
comp=Z,43nm,21.8s,baz=261,slow=38
EIL Elat 81.15 299 LR LR 16 57 22.2
comp=Z,71nm,20.9s,baz=246,slow=40
SCO Scoresbysund 81.40 351 P P 16 15 31.1 +0.2
SCO IAmb IAmb 16 15 49.0
comp=Z,25nm,1.9s
SCO Scoresbysund 81.40 351 P P 16 15 31.1 +0.2
SCO pmax pmax
comp=Z,25nm,1.9s
OJC Ojcow 81.82 322 P P 16 15 35.5 +2.0
OJC pmax pmax
comp=Z,8.0nm,1.0s
ILON Igloolik, Nuna 81.94 11 P P 16 15 34.0 +0.3
ILON IAmb IAmb 16 15 54.4
comp=Z,12nm,1.2s
NIE Niedzica 81.96 321 P P 16 15 35.4 +1.1
NIE pmax pmax
comp=Z,3.0nm,1.2s
VYHS Vyhne 83.26 321 *eP* **P 16 15 42.8 +1.7**
VYHS pmax pmax
comp=Z,84nm,3.9s
VYHS Vyhne 83.26 321 *eP* **P 16 15 42.8 +1.7**
KSP Ksiaz 83.36 324 P P 16 15 44.0 +2.4
KSP pmax pmax
comp=Z,9.0nm,1.2s
B08A Colville Reser 83.53 39 IAmb IAmb 16 15 45.5
comp=Z,10nm,1.1s
SRO Srobarova 83.92 321 *eP* PP PP 16 18 55.3 -2.1
VRAC Vranov 84.06 323 *eP* **P 16 15 47.2 +2.0**
KRUC Moravsky 84.30 323 *eP* **P 16 15 47.8 +1.4**
KRUC Moravsky 84.30 323 P P 16 15 47.5 +1.1
KRUC pmax pmax
comp=Z,4.0nm,1.9s
BRG Berggiesshubel 84.57 325 *eP* **P 16 15 50.0 +2.2**
BRG Amp 16 15 51.0
comp=Z,4.2nm,1.1s
CLL Collm 84.80 326 P P 16 15 48.9 0.0
CLL IAmb IAmb 16 15 52.2
comp=Z,9.8nm,1.2s
CLL Collm 84.80 326 *eP* **P 16 15 49.0 +0.2**
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 84.80 326 *eP* **P 16 15 49.0 +0.2**
comp=Z,10.0nm,1.2s
PINE Pine Mountain 85.02 43 P P 16 15 51.7 +1.3
J05D Fort Rock, OR 85.10 44 P P 16 15 52.1 +1.4
GERES GERESS Array B 85.88 323 P P 16 15 55.4 +0.9
comp=Z,0.9nm,0.7s,baz=44,slow=4.1,SNR=8.1
comp=Z,0.9nm,0.7s
J08A Circle Bar Ran 86.76 43 IAmb IAmb 16 16 02.4
comp=Z,11nm,1.0s
WVOR Wild Horse Val 87.17 43 IAmb IAmb 16 17 09.9
comp=Z,6.2nm,0.9s
BEKR Beckworth 87.47 46 P P 16 16 03.4 +0.9
BEKR IAmb IAmb 16 16 04.7
comp=Z,6.2nm,1.1s
FFC Flin Flon 88.00 27 P P 16 16 05.0 +0.5
FFC IAmb IAmb 16 16 16.7
comp=Z,4.2nm,0.8s
FFC Flin Flon 88.00 27 P P 16 16 05.0 +0.5
FFC pmax pmax
comp=Z,4.0nm,0.8s
PAHR Pah Rah Range 88.19 46 P P 16 16 06.0 +0.1
PAHR IAmb IAmb 16 16 08.9
comp=Z,10nm,1.3s
MFID Camas Ranch 88.32 42 P P 16 16 06.9 +0.4
CMB Columbia Colle 88.43 48 P P 16 16 07.3 +0.3
CMB IAmb IAmb 16 16 10.3
comp=Z,5.7nm,1.1s
CMB Columbia Colle 88.43 48 P P 16 16 07.3 +0.3
CMB pmax pmax
comp=Z,6.0nm,1.1s
HLID Hailey 89.07 41 IAmb IAmb 16 16 24.4
comp=Z,14nm,1.9s
FUORN Ofenpass-Fuorn 89.08 323 P P 16 16 10.6 +0.5
FUORN IAmb IAmb 16 16 13.1
comp=Z,9.1nm,1.2s
EKA Eskdalemuir Ar 89.24 335 P P 16 16 10.7 +0.4
comp=Z,0.2nm,0.4s,baz=40,slow=3.7,SNR=1.7
comp=Z,0.2nm,0.4s
NVAR Mina Array Bea 89.59 47 P P 16 16 14.0 +1.4
comp=Z,0.4nm,0.5s,baz=286,slow=4.4,SNR=2.6
comp=Z,0.4nm,0.5s
FXWY Fox Creek 90.98 39 IAmb IAmb 16 17 34.5
comp=Z,11nm,1.9s
HVU Hansel Valley 91.10 42 IAmb IAmb 16 16 22.6
comp=Z,4.4nm,1.0s
HWUT Hardware Ranch 91.93 41 IAmb IAmb 16 16 27.1
comp=Z,6.3nm,1.1s
PRN Pahroc Range 92.29 46 P P 16 16 24.2 -0.9
PDAR Pinedale Array 92.36 39 P P 16 16 26.2 +0.7

comp=Z,1.8nm,1.1s,baz=329,slow=1.7,SNR=6.3
comp=Z,1.8nm,1.1s
PSUT Pine Spring 92.39 45 IAmb IAmb 16 16 45.5
comp=Z,2.8nm,0.8s
KMBO Kilima Mbogo 92.58 270 *i* P **P 16 16 29.2 +2.2**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
SHPR Sheep Range 92.74 47 P **P 16 16 26.9 -0.4**
LCMT Little Creek M 93.69 46 IAmb IAmb 16 16 35.1
comp=Z,7.6nm,1.3s
MTPU Mount Pierson 93.73 44 P **P 16 16 31.9 -0.2**
W13A Hualapai Mount 94.41 47 P **P 16 16 34.5 -0.5**
W13A IAmb IAmb 16 16 48.0
comp=Z,2.9nm,0.8s
QSPA South Pole Qui 116.06 180 PKP **PKPdf 16 21 56.5 -0.4**
comp=Z,0.9nm,0.8s,baz=268,slow=1.2,SNR=5.7

---

*NEIC **11** 16:11:56.9±2.5, 26°.13N±0°.07×129°.53E±0°.04, h10km±1km, mb4.4/36, Error ellipse: s-maj=12.2km s-min=5.9km az=187.0*
*IDC **11** 16:11:57.2±0.6, 26°.25N×129°.52E, h0km, mb3.9/21, mbtmp3.8/24, ML3.5/2, MS2.9/3, Error ellipse: s-maj=18.6km s-min=12.8km az=77.0*
*JMA **11** 16:11:59.0±0.1, 26°.3N±0°.6×129°.6E±0°.4, h45km, MV3.6/19, NEAR MINAMI-DAITOJIMA IS*
*NIED **11** 16:11:59.0, 26°.29N×129°.61E, h45km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^15^Nm; M_{rr}-1.70; $M_{\theta\theta}$1.17; $M_{\phi\phi}$0.53; $M_{r\theta}$0.79; $M_{\theta\phi}$0.34; $M_{r\phi}$0.29; Fault plane solution: $M_0$1.73000×10^15^ NP1:ϕ_s66.00000°, δ30.00000°, λ-92.00000°. NP2:ϕ_s248.00000°, δ60.00000°, λ-89.00000°.*

ISC 11 16:11:57.0±0.4, 26°.25N±0°.04×129°.56E±0°.03, h10km, n93, σ1°.71/105, mb4.2/36, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.26**	**308**	*i* P	**Pg**	**16 12 20.8**	**-0.5**
JYRO				S	**Sb**	**16 12 36.1**	**-1.1**
JOW	**Kunigami**	**1.29**	**297**	Pn	**Pg**	**16 12 21.6**	**-0.2**
JOW	222nm,0.3s,baz=122,slow=17,SNR=227			Sn	**Sb**	**16 12 36.8**	**-1.3**
JOW	326nm,0.3s,baz=131,slow=25,SNR=13			LR	LR	16 13 02.0	
JOW	comp=Z,511nm,21.9s,baz=225,slow=52						
JOW	**Kunigami**	**1.29**	**297**	*i* P	**Pg**	**16 12 21.6**	**-0.2**
JOW				S	**Sn**	**16 12 37.3**	**-1.2**
JNTH	**Nagotoyohara**	**1.40**	**282**	*i* P	**Pg**	**16 12 23.1**	**-0.9**
JNTH				S	**Sb**	**16 12 40.3**	**-1.0**
JOKE	**Okinoerabujima**	**1.42**	**322**	*i* P	**Pg**	**16 12 23.1**	**-1.2**
JOKE				S	**Sn**	**16 12 40.3**	**-1.4**
JMZ	**Minamidaito 2**	**1.56**	**105**		**Pb**	**16 12 24.6**	**-1.4**
JMZ	**Minamidaito 2**	**1.56**	**105**	P	**Pb**	**16 12 24.4**	**-1.5**
JMZ				S	**Sn**	**16 12 42.2**	**-2.8**
JKDJ	**Kitadaitoujima**	**1.59**	**100**	P	**Pb**	**16 12 25.0**	**-1.5**
JKDJ				S	**Sn**	**16 12 43.7**	**-2.2**
JJT3	**Tamagusuku3**	**1.60**	**267**	P	**Pg**	**16 12 26.5**	**-1.2**
JJT3				S	**Sb**	**16 12 46.3**	**-0.6**
JIH	**Iheya**	**1.63**	**299**	*i* P	**Pb**	**16 12 26.5**	**-0.6**
JIH				S	**Sn**	**16 12 45.7**	**-1.0**
JTK	**Tokunoshima**	**1.63**	**341**	*i* P	**Pb**	**16 12 25.9**	**-1.3**
JTK				S	**Sn**	**16 12 44.4**	**-2.5**
JAMN	**Amaminishikomi**	**2.02**	**350**	P	**Pb**	**16 12 31.1**	**-2.8**
JAMN				S	**Sn**	**16 12 53.7**	**-2.8**
JZK	**Kikaishima**	**2.09**	**10**	S	**Sn**	**16 12 57.5**	**-0.8**
JAGN	**Aguni-jima**	**2.10**	**280**	*i* P	**Pb**	**16 12 33.5**	**-1.8**
JAGN				S	**Sn**	**16 12 58.2**	**-0.3**
JAM	**Amami Oshima**	**2.16**	**1**	P	**Pn**	**16 12 32.7**	**-0.4**
JAM				S	**Sn**	**16 12 56.5**	**-3.4**
JKE	**Kume jima 2**	**2.49**	**272**	P	**Pn**	**16 12 38.1**	**+0.5**
JKE				S	**Sn**	**16 13 06.5**	**-1.6**
JTAJ	**Takarajima**	**2.91**	**354**	S	**Sn**	**16 13 15.2**	**-3.4**
JNU	**Nakatsue**	**6.95**	**9**	Pn	**Pn**	**16 13 40.1**	**+1.1**
JNU	**Nakatsue**	**6.95**	**9**	Pn	**Pn**	**16 13 40.4**	**+1.4**
JNU	1.4nm,0.3s,baz=130,slow=16,SNR=12			Sn	**Sn**	**16 14 53.3**	**-4.8**
	0.1nm,0.3s,baz=164,slow=23,SNR=1.6						
	4.8nm,0.4s						
NACB	**Ninganchiao**	**7.50**	**256**	Pn	**Pn**	**16 13 45.3**	**-1.2**
YHNB	**Yeheng**	**7.56**	**260**	Pn	**Pn**	**16 13 48.2**	**+0.8**
YULB	**Yu-li**	**8.02**	**251**	Pn	**Pn**	**16 13 50.9**	**-2.9**
SSLB	**Suanglung**	**8.18**	**254**	Pn	**Pn**	**16 13 53.5**	**-2.4**
TPUB	**Ta-pu**	**8.63**	**252**	Pn	**Pn**	**16 14 00.5**	**-1.6**
KSRS	**Korea Array**	**11.26**	**353**	Pn	**Pn**	**16 14 39.7**	**+1.7**
	0.3nm,0.3s,baz=171,slow=12,SNR=2.2						
KSRS				LR	LR	16 19 04.7	
	comp=Z,70nm,18.4s,baz=170,slow=38						
BJT	**Baijiatuau**	**17.70**	**324**	P	**P**	**16 16 02.8**	**-1.8**
USA0B	**Ussuriysk Arra**	**18.02**	**6**	P	**Pn**	**16 16 06.2**	**-1.4**
USRK	**Ussuriysk Ar.**	**18.02**	**6**	P	**Pn**	**16 16 05.3**	**-2.2**
USRK	**Ussuriysk Ar.**	**18.02**	**6**	P	**P**	**16 16 07.6**	**-0.4**
	0.1nm,0.3s,baz=188,slow=12,SNR=4.6						
	0.7nm,0.6s						
GUMO	**Guam**	**19.10**	**128**	LR	LR	16 22 24.1	
	comp=Z,48nm,18.1s,baz=314,slow=33						
ERM	**Erimo**	**19.30**	**32**	P	**P**	**16 16 20.8**	**-1.3**
ERM				IAmb	IAmb	16 16 33.4	
	comp=Z,24nm,1.4s						
ASAJ	**Asahikawa**	**20.73**	**27**	P	Pn	16 16 40.0	0.0
	comp=Z,1.6nm,0.6s,baz=220,slow=9.8,SNR=8.5						
	comp=Z,1.6nm,0.6s						
JKA	**Kamikawa-asahi**	**20.73**	**27**	P	**P**	**16 16 36.1**	**-1.6**
KLR	**Kul'dur**	**23.01**	**4**	LR	LR	16 26 41.5	
	comp=Z,20nm,20.0s,baz=190,slow=38						
YSS	**Yuzhno-Sakhali**	**23.16**	**23**		**P**	**16 17 01.7**	**-1.9**
YSS				IAmb	IAmb	16 17 19.1	
	comp=Z,7.9nm,1.0s						
SLVN	**Son La**	**23.96**	**264**	P	**P**	**16 17 10.1**	**-1.6**
SONM	**Songino Array**	**28.20**	**326**	P	**P**	**16 17 51.8**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=136,slow=10,SNR=3.6						
	comp=Z,0.8nm,0.6s						
FAKI	**Fak Fak**	**29.11**	**174**	P	**P**	**16 17 54.5**	**-3.6**
CMAR	**Chiang Mai Arr**	**29.30**	**261**	P	**P**	**16 17 56.8**	**-3.1**
CMAR	**Chiang Mai Arr**	**29.30**	**261**	P	**P**	**16 18 01.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=63,slow=9.2,SNR=6.1						
	comp=Z,0.2nm,0.3s						
KAPI	**Kappang**	**32.49**	**198**	P	**P**	**16 18 25.7**	**-2.3**
PETK	**Petropavlovsk-**	**34.07**	**31**	P	**P**	**16 18 40.5**	**-0.9**
PETK	**Petropavlovsk-**	**34.07**	**31**	P	**P**	**16 18 42.5**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=170,slow=4.1,SNR=2.7						
	comp=Z,0.8nm,0.9s						
MTN	**Manton Dam**	**38.88**	**178**	P	**P**	**16 19 24.0**	**+1.2**
MTN				IAmb	IAmb	16 19 45.3	
	comp=Z,14nm,1.1s						
KNRA	**Kununurra**	**41.68**	**181**	P	**P**	**16 19 46.1**	**+0.2**
KNRA				IAmb	IAmb	16 19 48.6	
	comp=Z,7.6nm,0.8s						
MKAR	**Makanchi Array**	**42.41**	**312**	P	**P**	**16 19 52.4**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=97,slow=10,SNR=8.1						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**42.96**	**322**	P	**P**	**16 19 56.4**	**+0.3**
ZALV	**Zalesovo Beam**	**42.96**	**322**	P	**P**	**16 19 57.0**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=105,slow=9.8,SNR=2.4						
	comp=Z,0.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**44.24**	**185**	P	**P**	**16 20 04.8**	**-1.9**
FITZ	**Fitzroy Crossi**	**44.24**	**185**	P	**P**	**16 20 08.6**	**+1.9**
	comp=Z,3.4nm,0.8s,baz=19,slow=8.5,SNR=3.7						
	comp=Z,3.4nm,0.8s						
KDJ	**Kajisay**	**45.43**	**304**	P	**P**	**16 20 14.4**	**-2.0**
KURK	**Kurchatov**	**45.63**	**316**	P	**P**	**16 20 15.8**	**-1.7**
KURBB	**Kurchatov Arra**	**45.67**	**316**	P	**P**	**16 20 18.7**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=104,slow=8.9,SNR=7.9						
	comp=Z,0.7nm,0.5s						
WB0	**Warramunga Arr**	**45.98**	**174**		**P**	**16 20 18.6**	**-2.0**
WB0				IAmb	IAmb	16 20 24.4	
	comp=Z,4.8nm,0.9s						
WRA	**Warramunga Arr**	**46.15**	**174**		**P**	**16 20 20.0**	**-1.8**
WRA	**Warramunga Arr**	**46.15**	**174**	P	**P**	**16 20 23.7**	**+1.8**
	comp=Z,4.0nm,0.9s,baz=354,slow=8.5,SNR=12						
	comp=Z,4.0nm,0.9s						
WB2	**Warramunga Arr**	**46.15**	**174**	P	**P**	**16 20 20.1**	**-1.8**
BILL	**Bilibino**	**47.29**	**18**	P	**P**	**16 20 31.6**	**+1.4**
BILL				IAmb	IAmb	16 20 34.2	
	comp=Z,5.9nm,1.3s						
AS31	**Alice Springs**	**49.79**	**175**	P	**P**	**16 20 49.5**	**-0.6**
ASAR	**Alice Springs**	**49.80**	**175**	P	**P**	**16 20 49.9**	**-0.3**
ASAR	**Alice Springs**	**49.80**	**175**	P	**P**	**16 20 51.3**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=352,slow=8.8,SNR=26						
	comp=Z,1.5nm,0.8s						
KK31	**Karatay Array**	**50.37**	**305**	P	**P**	**16 20 53.9**	**-0.6**
KKAR	**Karatay Array**	**50.37**	**305**	P	**P**	**16 20 53.4**	**-1.1**
GAR	**Garm**	**50.69**	**300**	P	**P**	**16 20 55.6**	**-1.4**
GAR				IAmb	IAmb	16 21 02.5	
	comp=Z,7.2nm,1.1s						
BVAR	**Borovoye Array**	**51.06**	**318**	P	**P**	**16 21 01.2**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=72,slow=9.3,SNR=2.0						
	comp=Z,0.4nm,0.5s						
TNA	**Tin City**	**55.08**	**27**	P	**P**	**16 21 29.5**	**+0.6**
AB31	**Akbulak array**	**57.51**	**313**	P	**P**	**16 21 46.8**	**+0.4**
AB31				IAmb	IAmb	16 21 58.9	
	comp=Z,2.9nm,1.2s						
ABKAR	**Akbulak array**	**57.51**	**313**	P	**P**	**16 21 46.6**	**+0.2**
ABKAR	**Akbulak array**	**57.51**	**313**	P	**P**	**16 21 46.8**	**+0.4**
ABKAR				IAmb	IAmb	16 21 58.9	
	comp=Z,3.0nm,1.2s						
C18K	**Utukok River**	**58.28**	**24**	P	**P**	**16 21 51.5**	**-0.1**
C18K				IAmb	IAmb	16 22 17.2	
	comp=Z,7.2nm,1.5s						
STKA	**Stephens Creek**	**58.93**	**168**	P	**P**	**16 21 58.4**	**+2.0**
	comp=Z,1.1nm,0.5s,baz=1.0,slow=9.6,SNR=4.9						
	comp=Z,1.1nm,0.5s						
D19K	**Kuna River**	**59.38**	**24**	P	**P**	**16 22 00.2**	**+1.0**
D19K				IAmb	IAmb	16 22 21.6	
	comp=Z,4.6nm,1.2s						
B20K	**Meade River**	**59.88**	**22**	P	**P**	**16 22 03.2**	**+0.6**
B20K				IAmb	IAmb	16 22 44.1	
	comp=Z,3.8nm,1.1s						
D20K	**Etivluk River**	**59.95**	**24**	P	**P**	**16 22 04.5**	**+1.4**
B21K	**Ikpikpuk River**	**60.73**	**23**	P	**P**	**16 22 10.0**	**+1.6**
B21K				IAmb	IAmb	16 22 12.0	
	comp=Z,4.0nm,0.9s						
E21K	**Killik River**	**60.90**	**24**	P	**P**	**16 22 11.3**	**+1.6**
E21K				IAmb	IAmb	16 22 14.4	
	comp=Z,6.2nm,1.3s						
B22K	**Teshekpuk Lake**	**61.18**	**22**	P	**P**	**16 22 13.2**	**+1.8**
E22K	**Anaktuvuk Pass**	**61.70**	**25**	P	**P**	**16 22 16.2**	**+1.1**
D24K	**Happy Valley**	**62.77**	**23**	P	**P**	**16 22 23.9**	**+1.7**
E24K	**Your Creek**	**62.95**	**25**	P	**P**	**16 22 24.8**	**+1.3**
E24K				IAmb	IAmb	16 22 46.1	
	comp=Z,5.3nm,1.4s						
F24K	**Squaw Lake**	**63.21**	**25**	P	**P**	**16 22 26.4**	**+1.2**
F24K				IAmb	IAmb	16 22 53.8	
	comp=Z,4.2nm,1.1s						
ILAR	**Eielson Array**	**63.86**	**28**	P	**P**	**16 22 30.8**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=254,slow=7.0,SNR=4.8						
	comp=Z,0.4nm,0.8s						
F26K	**Sheenjek River**	**64.62**	**25**	P	**P**	**16 22 36.3**	**+1.8**
F26K				IAmb	IAmb	16 22 38.7	
	comp=Z,2.8nm,1.1s						
KBZ	**Khabaz**	**70.07**	**310**	P	**P**	**16 23 12.1**	**+2.8**
	comp=Z,2.6nm,1.0s,baz=62,slow=4.2,SNR=7.4						
	comp=Z,2.6nm,1.0s						
ARCES	**ARCESS Array B**	**70.43**	**339**	P	**P**	**16 23 13.3**	**+2.2**
	comp=Z,5.2nm,1.0s,baz=352,slow=7.8,SNR=1.9						
	comp=Z,5.2nm,1.0s						
FINES	**FINESS Array B**	**73.43**	**331**	P	**P**	**16 23 30.9**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=90,slow=3.8,SNR=6.7						
	comp=Z,0.9nm,0.5s						
AKASG	**Malin Array Be**	**76.29**	**320**	P	**P**	**16 23 48.1**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=70,slow=6.0,SNR=1.6						
	comp=Z,0.6nm,0.6s						
BRTR	**Keskin Array B**	**77.96**	**308**	P	**P**	**16 23 57.9**	**+2.0**
	comp=Z,0.6nm,0.9s,baz=175,slow=6.2,SNR=3.6						
	comp=Z,0.6nm,0.9s						
YKA	**Yellowknife Ar**	**78.01**	**25**	P	**P**	**16 23 58.0**	**+2.6**
	comp=Z,0.7nm,1.0s,baz=301,slow=5.7,SNR=6.2						
	comp=Z,0.7nm,1.0s						
NB2	**NORSAR Subarra**	**79.82**	**334**	P	**P**	**16 24 06.4**	**+1.0**
	comp=Z,1.7nm,1.0s,baz=54,slow=5.6						
NOA	**NORSAR Array B**	**79.82**	**334**	P	**P**	**16 24 06.5**	**+1.0**
	comp=Z,1.2nm,1.0s,baz=52,slow=5.4,SNR=3.3						
	comp=Z,1.2nm,1.0s						
NVAR	**Mina Array Bea**	**89.63**	**47**	P	**P**	**16 24 57.7**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=304,slow=4.5,SNR=3.8						
	comp=Z,0.6nm,0.6s						
QSPA	**South Pole Qui**	**116.02**	**180**	PKP	**PKPdf**	**16 30 40.6**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=42,slow=4.7,SNR=3.1						

UCR 11 16:15:11.3±0.9, 10°.94N×86°.95W, h0km±8km, MW4.3, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.28**	**16**	*eP*	Pg	16 15 36.1	+0.1
LCRUZ	**La Cruz**	**1.30**	**84**	*eP*	Pn	16 15 36.9	+0.1
LCRUZ				*eS*	Sn	16 15 56.2	+1.2
ELI1	**Hacienda Flor**	**1.40**	**102**	*eP*	Pb	16 15 38.7	+0.3
ALIBA	**Liberia Airpor**	**1.42**	**104**	*eP*	Pb	16 15 39.0	+0.3
VRLE	**La Escondida,**	**1.56**	**95**	*eP*	Pn	16 15 40.3	-0.2
VORI	**VORI**	**1.58**	**94**	*eP*	Pn	16 15 40.4	-0.4
GPS2	**Hotel Rincn d**	**1.58**	**96**	*eP*	Pn	16 15 40.5	-0.2
CRIN	**San Cristobal**	**1.76**	**357**	*eP*	Pn	16 15 43.2	+0.1
HORNC	**Hornillas**	**1.76**	**97**	*eP*	Pn	16 15 43.4	+0.3
CUI	**Cuipilapa**	**1.78**	**99**	*eP*	Pn	16 15 43.7	+0.4
VMAR	**Armenia, Volca**	**1.81**	**94**	*eP*	Pn	16 15 44.0	+0.2
TENO	**El Achiote**	**1.95**	**97**	*eP*	Pn	16 15 46.0	+0.2
ACON	**Acoyapa**	**2.02**	**59**	*eP*	Pn	16 15 45.3	-1.4
QUEB	**Quebradon, Cot**	**2.04**	**99**	*eP*	Pn	16 15 47.7	+0.7
CSGN	**Cosiguina Volc**	**2.11**	**344**	*eP*	Pn	16 15 48.2	+0.2
ARE1	**Arenal 1**	**2.24**	**102**	*eP*	Pn	16 15 50.4	+0.6
CEDE	**Laguna Cedeo**	**2.25**	**101**	*eP*	Pn	16 15 50.7	+0.7
PICV	**PH. Pirrs**	**3.01**	**115**	*eP*	Pn	16 16 03.0	+2.7
ABE2	**San Pablo**	**3.10**	**113**	*eP*	Pn	16 16 01.2	-0.6
LCR2	**La Lucha 2**	**3.13**	**112**	*eP*	Pn	16 16 03.8	+1.7

FUNV 11 16:22:46.0, 10°.19N×66°.91W, h1km, MW3.5, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACV	**Tcata**	**0.12**	**247**	*eP*	Pg	16 22 47.8	-0.7
TACV				*eS*	Sg	16 22 49.8	-0.3
FUNV	**FUNVISIS**	**0.30**	**19**	*eP*	Pg	16 22 51.4	-0.3
FUNV				*eS*	Sg	16 22 56.3	+0.7
BENV	**Beln**	**0.71**	**252**	*eP*	Pg	16 23 00.3	+0.6
BENV				*eS*	Sg	16 23 10.2	+1.2
MAPV	**Macapo**	**1.56**	**257**	*eP*	Pn	16 23 15.1	+0.1
MAPV				*eS*	Sn	16 23 36.0	0.0
BAUV	**El Baul**	**1.67**	**222**	*eP*	Pn	16 23 16.2	-0.1
BAUV				*eS*	Sn	16 23 37.9	-0.5
JACV	**Jacura**	**2.09**	**296**	*eP*	Pn	16 23 21.9	-0.3
JACV				*eS*	Sn	16 23 46.3	-2.5
PCRV	**Puerto La Cruz**	**2.24**	**90**	*eP*	Pn	16 23 24.8	+0.5
PCRV				*eS*	Sn	16 23 52.0	-0.6
TEPV	**Terepaima**	**2.26**	**265**	*eP*	Pn	16 23 24.7	+0.1
TEPV				*eS*	Sn	16 23 52.0	-1.0
CACV	**CAICARA DEL OR**	**2.63**	**172**	*eP*	Pn	16 23 31.0	+1.4
CACV				*eS*	Sn	16 24 04.3	+2.1
SOCV	**Socops**	**4.33**	**244**	*eP*	Pn	16 23 52.0	-1.0
SOCV				*eS*	Sn	16 24 40.3	-4.0
CAPV	**Capacho**	**5.81**	**247**	*eP*	Pn	16 24 12.1	-1.5
CAPV				*eS*	Sn	16 25 15.4	-5.7

TXNET 11 16:24:08.4, 31°.6N±0°.6×103°.7W±0°.8, h2km, ML2.1/6, 2D, Error ellipse: s-maj=1.3km s-min=1.0km az=100.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB07	**Mentone**	**0.02**	**69**	‖P	Pg	16 24 09.4	+0.4
TPB07				S	Sg	16 24 10.0	+0.4
PCOS	**Crockett Middl**	**0.23**	**136**	S	Sg	16 24 17.3	+1.7
PECS	**Pecos**	**0.25**	**216**	‖P	Pg	16 24 13.8	+0.7
PECS				S	Sg	16 24 17.8	+1.4
TPB10	**Southeast of T**	**0.29**	**190**	P	Pb	16 24 15.4	-1.0
TPB10				S	Sg	16 24 19.4	+1.6
TPB06	**Permian Basin**	**0.41**	**79**	S	Sg	16 24 22.8	+1.1
TPB12	**Southwest of T**	**0.42**	**212**	P	Pg	16 24 16.6	+0.1
TPB12				S	Sg	16 24 22.8	+0.8
TPB11	**China Draw**	**0.47**	**322**	S	Sb	16 24 25.6	-1.1
TPB03	**Saragosa**	**0.51**	**162**	S	Sg	16 24 25.7	+1.0
TPB05	**Hovey Rd**	**0.72**	**154**	S	Sg	16 24 32.5	+1.0
NM01	**Eunice**	**0.82**	**18**	P	Pb	16 24 25.3	-0.1
NM01				S	Sb	16 24 36.8	-0.2
MNHN	**Monahans**	**0.83**	**106**	P	Pg	16 24 24.6	+0.4
MNHN				S	Sg	16 24 35.3	+0.3
HTMS	**Hat Mesa**	**0.90**	**3**	S	Sb	16 24 39.5	+0.2
ODSA	**Odessa**	**1.12**	**60**	P	Pb	16 24 30.3	-0.2
ODSA				S	Sb	16 24 45.3	-0.2
ALPN	**Alpine**	**1.19**	**178**	P	Pg	16 24 30.9	-0.3
ALPN				S	Sb	16 24 47.6	-0.1
VHRN	**Van Horn**	**1.35**	**235**	P	Pg	16 24 34.0	-0.3
VHRN				S	Sn	16 24 52.7	-0.3
CPRX	**Cap Rock**	**1.46**	**354**	P	Pg	16 24 36.9	+0.5
SAND	**Sanderson**	**2.10**	**140**	P	Pn	16 24 45.8	+1.2
SAND				S	Sb	16 25 14.4	+0.6
SGCY	**Sterling City**	**2.21**	**80**	S	Sb	16 25 16.8	-0.3
TX31	**Lajitas Ar. Si**	**2.23**	**179**	Pg	Pb	16 24 48.2	-1.2
TX31				S	Sb	16 25 18.0	+0.5
FW09	**Farmers Branch**	**5.90**	**75**	P	Pg	16 26 10.3	+8.9
TREL	**Terrell**	**6.55**	**78**	P	Pb	16 26 05.3	+2.3

RSNC 11 16:26:15.3±0.5, 10°N±4°×7°8W±°, h76km±13km, M2.4, mb3.9, ML2.3, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**1.20**	**142**	P	Pn	16 26 37.3	+0.6
CAPC				S	Sn	16 26 52.1	-0.6
BCIP	**Isla Barro Col**	**1.77**	**256**	P	Pn	16 26 45.5	+1.5
BCIP				S	Sn	16 27 04.4	-1.3
APAC	**Apartado, Choc**	**2.25**	**138**	P	Pn	16 26 52.1	+1.6
SJCC	**San Jacinto, C**	**2.90**	**84**	P	Pn	16 27 03.2	+4.0
SJCC				S	Sn	16 27 34.9	+1.8
DBBC	**Dabeiba**	**3.17**	**144**	P	Pn	16 27 05.4	+2.4
ZARC	**Zaragoza, Cauc**	**3.82**	**123**	P	Pn	16 27 13.3	+1.5
ZARC				S	Sn	16 27 54.1	-1.6
PTBC	**PUERTO BERRIO,**	**4.71**	**130**	P	Pn	16 27 24.9	+0.9
PTBC				S	Sn	16 28 15.8	-1.6
CRJC	**Cerrejon, Guaj**	**5.33**	**74**	P	Pn	16 27 25.4	-7.0
CRJC				S	Sn	16 28 33.0	+0.4

---

*NEIC **11** 16:28:09.0±1.1, 39°.97N±0°.02×119°.57W±0°.01, h8km±8km, Error ellipse: s-maj=2.4km s-min=1.4km az=185.0*

REN 11 16:28:08.9±1.1, 39°.97N±0°.02×119°.56W±0°.02, h11km±7km, ML2.8/6, ML2.6/42(NEIC), Error ellipse: s-maj=2.7km s-min=2.4km az=82.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAHR	**Pah Rah Range**	**0.29**	**152**		Pg	16 28 14.8	-0.2
PAHR				IAML		16 28 19.4	
	comp=N,1μm,0.2s						
PAHR	**Pah Rah Range**	**0.29**	**152**		Sg	16 28 19.0	0.0
PEAR	**Peavine Mounta**	**0.47**	**221**		Pg	16 28 18.3	+0.1
PEAR					Sg	16 28 25.1	+0.5
BABR	**Babbit Peak**	**0.56**	**229**		Pb	16 28 20.6	-0.2
BABR					Sg	16 28 27.6	+0.3
BEKR	**Beckworth**	**0.62**	**261**		Pg	16 28 20.6	-0.4
BEKR				IAML		16 28 29.4	
	comp=N,379nm,0.3s						
BEKR				IAML		16 28 31.2	
	comp=E,198nm,0.3s						
BEKR	**Beckworth**	**0.62**	**261**		Sg	16 28 28.9	-0.4
DONR	**Donner Summit**	**0.85**	**224**		Pg	16 28 25.1	-0.2
DONR					Sg	16 28 36.4	-0.1
PNTR	**Pine Nut**	**0.88**	**182**		Pg	16 28 25.5	-0.4
PNTR				Sg	Sg	16 28 37.5	+0.1
PNTR				IAML		16 28 42.4	
	comp=E,122nm,1.0s						
WAKR	**Walker**	**1.46**	**176**		Pn	16 28 35.3	-0.2
WAKR					Sb	16 28 55.1	+0.2
ORV	**Oroville**	**1.55**	**255**		Pb	16 28 37.8	+0.1
ORV	**Oroville**	**1.55**	**255**		Sb	16 28 57.0	-0.2
ORV	**Oroville**	**1.55**	**255**		Pn	16 28 36.3	-0.1
RYN	**Ryan**	**1.56**	**149**		Pb	16 28 37.4	-0.5
RYN				IAML		16 29 01.1	
	comp=E,144nm,0.3s						
HATC	**Hat Creek Radi**	**1.68**	**301**		Pb	16 28 39.3	-0.6
HATC				IAML		16 29 09.1	
	comp=E,87nm,0.8s						
HATC				IAML		16 29 10.0	
	comp=N,62nm,1.5s						
NV09	**Mina Array Sit**	**1.80**	**148**		Pb	16 28 41.7	-0.4
NVAR	**Mina Array Bea**	**1.82**	**147**		Pb	16 28 41.5	-0.8
NV08	**Mina Array Sit**	**1.84**	**148**		Pb	16 28 42.2	-0.4
NV11	**Mina Array Sit**	**1.88**	**144**		Pb	16 28 42.9	-0.5
NV11				IAML		16 29 09.7	
	comp=N,77nm,0.6s						
NV11				IAML		16 29 10.5	
	comp=E,58nm,0.5s						
LHV	**Little Huntoon**	**1.90**	**154**		Pb	16 28 43.0	-0.6
CMB	**Columbia Colle**	**2.03**	**199**		Pb	16 28 46.1	+0.2
CMB	**Columbia Colle**	**2.03**	**199**	Pn

TECA	Tecapa	1.93	337	*e*P	Pn	16 29 35.3	+0.3
JAPN	Al SSO del Vol	2.02	95	P	Pb	16 29 40.1	+1.3
CONN	Concepcion	2.07	94	P	Pn	16 29 36.9	+0.1
JAYA	Jayaque - finc	2.56	319	*e*P	Pn	16 29 44.1	+0.5
JAYA				*e*S	Sn	16 30 13.2	-1.7
JAYA				IAML		16 30 18.3	
	comp=Z,223nm,0.2s						
NUBE	Las Nubes	2.96	318	*e*P	Pn	16 29 48.7	-0.3
NUBE				*e*S	Sn	16 30 22.3	-2.5
NUBE				IAML		16 30 26.9	
	comp=Z,98nm,0.4s						
JTS	Las Juntas de	3.07	117	Pn	Pn	16 29 50.1	-0.4
	comp=Z,4.6nm,0.3s,baz=309,slow=13,SNR=5.8						
JTS				Sn	Sn	16 30 24.2	-3.3
	comp=Z,9.1nm,0.3s,baz=285,slow=20,SNR=5.7						
	comp=Z,5.7nm,0.4s						
CMIG	Matias Romero	8.75	309	Pn	Pn	16 31 10.9	+2.3
	comp=Z,0.6nm,0.3s,baz=121,slow=12,SNR=4.3						
	comp=Z,1.5nm,0.3s						
SDV	Santo Domingo	17.06	98	LR	LR	16 41 11.4	
	comp=Z,47nm,18.8s,baz=241,slow=44						
TXAR	Lajitas Array	22.98	322	P	P	16 34 08.7	+1.8
	comp=Z,0.8nm,0.5s,baz=125,slow=7.4,SNR=5.8						
	comp=Z,0.8nm,0.5s						
ODSA	Odessa	24.47	328	P	P	16 34 22.7	+1.4
PDAR	Pinedale Array	36.30	332	P	P	16 36 07.1	+1.2
	comp=Z,0.3nm,0.6s,baz=132,slow=8.1,SNR=3.8						
	comp=Z,0.3nm,0.6s						
YKA	Yellowknife Ar	54.25	345	P	P	16 38 26.6	-1.1
	comp=Z,0.3nm,0.8s,baz=154,slow=6.7,SNR=7.0						
	comp=Z,0.3nm,0.8s						

DJA 11 16:33:39.8±1.0, 9°S±4°×11°3E±°, h18km±9km, M3.5/15, mb3.8/3, MLv3.3/15, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	Gumukmas	1.19	44	P	Pn	16 34 00.3	-1.2
JAGI	Jajag, Banyuwa	1.66	67	P	Pn	16 34 07.0	-1.0
PCJI	Pacitan	1.69	303	P	Pn	16 34 08.2	-0.3
ABJI	Asem Bagus	2.08	51	P	Pn	16 34 14.0	+0.1
ABJI				S	Sn	16 34 40.2	+0.9
NGJI	Ngawi	2.09	327	P	Pn	16 34 14.5	+0.6
GRJI	Gresik	2.21	357	P	Pn	16 34 15.3	-0.2
UGM	Wanagama	2.39	300	P	Pn	16 34 18.2	0.0
UGM				S	Sn	16 34 46.8	-0.3
KMMI	Kalianget	2.46	33	P	Pn	16 34 18.0	-1.1
DNP	Denpasar	2.61	80	P	Pn	16 34 21.1	0.0
SRBI	Singaraja	2.77	68	P	Pn	16 34 22.8	-0.6
CMJI	Cimerak	4.33	288	P	Pn	16 34 43.8	-1.0
PLAI	Plampang	5.11	87	P	Pn	16 34 56.6	+1.0
	0.1nm11nm,1.1s						
CGJI	Cibinong	7.29	290	P	Pn	16 35 26.1	+0.6

*BJI **11** 16:51:56.1, 6°.35S×150°.92E, h21km, mB5.1/17, mb4.7/46, Ms4.6/7, Ms7 4.3/9*
*MOS **11** 16:51:56.2±1.3, 6°.34S×150°.43E, h8km, mb5.0/27, Error ellipse: s-maj=8.9km s-min=6.3km az=107.5*
*IDC **11** 16:51:56.2±0.5, 6°.32S×150°.48E, h0km, mb4.6/20, mbtmp4.6/23, ML3.4/3, MS3.8/44, Error ellipse: s-maj=17.1km s-min=10.6km az=99.0*
*NEIC **11** 16:51:57.7±1.3, 6°.39S±0°.04×150°.51E±0°.02, h10km±1km, mb5.1/201, Error ellipse: s-maj=5.9km s-min=3.6km az=187.0*
*GCMT **11** 16:52:01.7±0.2, 6°.66S±0°.01×150°.50E±0°.02, h14km, MW4.9/112, Moment Tensor Solution. s49,c63; s112,c161; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.64±.11; $M_{\theta\theta}$2.07±.07; $M_{\phi\phi}$0.56±.07; $M_{r\theta}$-0.91±.14; $M_{\theta\phi}$-0.06±.05; $M_{\phi r}$-0.80±.17; Best double couple: M_o2.61700×10^{16} NP1:ϕ_s281.00000°, δ35.00000°, λ-69.00000°. NP2:ϕ_s76.00000°, δ57.00000°, λ-104.00000°. Principal axes: T 2.2450, Plg11.0000°, Azm177.0000°; N 0.7380, Plg12.0000°, Azm84.0000°; P -2.9890, Plg74.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **11** 16:52:12.4±0.4, 7°S±3°×15°0E±°, h97km±4km, M5.1/62, mB5.5/28, mb5.2/62, MLv5.5/1, Mw(mB)5.0/28, MwMwp4.7/1, Mwp5.1/1*

ISC 11 16:51:57.9±0.3, 6°38S±0°.04×150°48E±0°.04, h10km, n682, σ1°17/599, mb5.1/201, MS3.9/45, 14C-7D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	Keravat	2.57	37	Pg	Pb	16 52 43.6	-0.6
	baz=188,slow=26						
I40PG				I	I	17 03 40.0	
	76nm,0.4s,baz=227,slow=312,SNR=0.7						
RABL	Rabaul	2.75	38		Pn	16 52 43.9	+1.8
RABL					Sb	16 53 20.0	-0.9
PMG	Port Moresby	4.45	227		Pn	16 53 06.6	+1.1
PMG				Sn	Sn	16 53 54.7	-2.7
PMG	Port Moresby	4.45	227	Pn	Pn	16 53 07.6	+2.1
	54nm,0.3s,baz=55,slow=8.0,SNR=144						
PMG				Sn	Sn	16 53 56.6	-0.8
	88nm,0.3s,baz=78,slow=23,SNR=12						
PMG				LR	LR	16 54 33.0	
	comp=Z,2μm,18.2s,baz=103,slow=35						
	1μm,0.9s						
PMG	Port Moresby	4.45	227	P	Pn	16 53 07.6	+2.1
PMG	Port Moresby	4.45	227	S	Sn	16 53 56.7	-0.8
PMG	Port Moresby	4.45	227	*i* P	Pn	16 53 08.4	+2.9
MANU	Manus Island	5.31	324		Pb	16 53 24.6	-6.2
TATA	Tatamba Isabel	9.46	103	P	Pn	16 54 19.9	+5.5
	92nm,1.6s						
HNR	Honiara	9.86	109	Pn	Pn	16 54 20.2	+0.4
HNR	Honiara	9.86	109	Pn	Pn	16 54 19.1	-0.7
	1.7nm,0.3s,baz=79,slow=20,SNR=1.5						
HNR				LR	LR	16 57 47.0	
	comp=Z,409nm,20.6s,baz=243,slow=36						
	28nm,0.6s						
HNR	Honiara	9.86	109	P	Pn	16 54 20.2	+0.4
COEN	Coen	10.40	223		Pn	16 54 26.7	-0.6
COEN	Coen	10.40	223	P	Pn	16 54 27.7	+0.4
	comp=Z,28nm,0.9s						
COEN	Coen	10.40	223	P	Pn	16 54 27.7	+0.4
	comp=Z,28nm,0.9s						
JAY	Jayapura	10.47	291	Pn	Pn	16 54 26.7	-1.5
	comp=Z,0.2nm,0.3s,baz=100,slow=12,SNR=1.9						
JAY				LR	LR	16 58 50.7	
	comp=Z,983nm,18.2s,baz=102,slow=40						
	comp=Z,9.6nm,0.9s						
JAY	Jayapura	10.47	291	P	Pn	16 54 34.5	+6.3
GENI	Genyem	10.94	290	P	Pn	16 54 41.9	+7.3
	comp=Z,2μmcomp=Z,74nm,1.9s						
MTSU	Mount Surprise	13.14	207	P	Pn	16 55 05.5	+0.8
	comp=Z,17nm,0.8s						
MTSU	Mount Surprise	13.14	207	P	Pn	16 55 06.5	+1.8
	comp=Z,17nm,0.8s						
TV1H	Townsville Har	13.30	195	P	Pn	16 55 08.9	+2.1
	comp=Z,46nm,1.0s						
BAKI	Biak	15.23	289	P	P	16 55 38.7	+0.5
	comp=Z,43nm,0.9s						
LUES	Luesalemba Tem	15.85	107	P	P	16 55 46.9	+1.8
	comp=Z,181nm,1.5s						
RK1H	Rockhampton Ha	16.91	180	P	P	16 55 57.1	+0.3
	comp=Z,46nm,0.9s						
GD1S	Gladstone Soft	17.38	178	P	P	16 56 03.1	+1.2
	comp=Z,124nm,0.8s						
QIS	Mount Isa	17.60	216	P	Pn	16 56 02.1	-1.3
	comp=Z,82nm,1.0s						
QIS	Mount Isa	17.60	216	P	Pn	16 56 03.5	0.0
	comp=Z,82nm,1.0s						
FAKI	Fak Fak	18.49	280	P	P	16 56 14.0	-0.3
FAKI	Fak Fak	18.49	280	P	Pn	16 56 16.9	+2.5
KDU	Kakadu	18.82	249	P	P	16 56 16.8	-1.1
	comp=Z,76nm,1.1s						
KDU	Kakadu	18.82	249	P	Pn	16 56 18.5	+0.1
	comp=Z,76nm,1.1s						
EIDS	Eidsvold	18.89	178		Pn	16 56 18.8	-0.4
EIDS				IAmb	IAmb	16 56 28.3	
	comp=Z,136nm,1.1s						
EIDS	Eidsvold	18.89	178	P	Pn	16 56 18.8	-0.4
	comp=Z,116nm,1.0s						
EIDS	Eidsvold	18.89	178	P	Pn	16 56 19.6	+0.4
	comp=Z,116nm,1.0s						
SWI	Sorong	19.94	285	P	Pn	16 56 32.1	+0.2
	comp=Z,31nm,0.8s						
MTN	Manton Dam	20.11	250		P	16 56 32.5	+0.4
MTN	Manton Dam	20.11	250	P	P	16 56 32.2	+0.1
	comp=Z,180nm,1.3s						
MTN	Manton Dam	20.11	250	P	P	16 56 33.0	+0.9
	comp=Z,180nm,1.3s						
DRS	Darwin Rock St	20.22	251	P	P	16 56 34.1	+0.8
	comp=Z,202nm,0.8s						
WB0	Warramunga Arr	20.52	228		P	16 56 36.3	-0.3
BNDI	Bandanaira	20.56	274	P	Pn	16 56 38.5	-0.7
	comp=Z,452nm,1.0s						
BNDI	Bandanaira	20.56	274	P	P	16 56 38.1	+1.1
GUMO	Guam	20.61	344	P	P	16 56 36.9	-0.5
GUMO	Guam	20.61	344	P	P	16 56 38.1	+0.7
	comp=Z,32nm,0.6s,baz=137,slow=10,SNR=5.5						
GUMO				LR	LR	17 03 10.2	
	comp=Z,284nm,20.5s,baz=168,slow=33						
	comp=Z,32nm,0.6s						
WRAB	Tennant Creek	20.66	228	P	P	16 56 38.2	+0.2
WRAB	Tennant Creek	20.66	228	*i* P	P	16 56 38.2	+0.2
WRAB				pmax	pmax		
	comp=Z,120nm,0.8s						
WB2	Warramunga Arr	20.66	228		P	16 56 37.5	-0.6
WB2				IAmb	IAmb	16 56 46.0	
	comp=Z,141nm,0.9s						
WRA	Warramunga Arr	20.67	228	P	P	16 56 36.5	-1.7
WRA	Warramunga Arr	20.67	228	P	P	16 56 38.1	0.0
	comp=Z,104nm,0.7s,baz=51,slow=11,SNR=95						
WRA				S	S	17 00 25.4	-3.9
	comp=Z,8.1nm,1.1s,baz=54,slow=21,SNR=5.5						
WRA				PcP	PcP	17 00 49.7	+1.2
	comp=Z,2.1nm,0.8s,baz=45,slow=1.7,SNR=5.6						
WRA				ScP	ScP	17 04 26.9	+1.4
	comp=Z,5.0nm,1.1s,baz=42,slow=2.6,SNR=6.3						
WRA				LR	LR	17 04 48.1	
	comp=Z,349nm,19.1s,baz=10,slow=37						
WB1	Warramunga Ar.	20.68	228	P	P	16 56 38.7	+0.4
	comp=Z,178nm,0.8s						
QLP	Quilpie	20.95	196	P	P	16 56 40.8	-0.4
	comp=Z,175nm,0.9s						
QLP	Quilpie	20.95	196	P	Pn	16 56 42.3	-1.4
	comp=Z,175nm,0.9s						
AUWSH	Wavell State H	21.05	174	P	P	16 56 43.7	+1.6
	comp=Z,141nm,1.7s						
MSAI	Masohi	21.68	277	P	P	16 56 50.9	+1.9
	comp=Z,896nmcomp=Z,77nm,0.8s						
GC1S	Gold Coast 1 S	21.86	173	P	P	16 56 53.6	+2.8
	comp=Z,66nm,0.7s						
DZM	Mont Dzumac	21.94	137	P	P	16 56 50.7	-1.2
DZM	Mont Dzumac	21.94	137	*e*P	P	16 56 52.8	+0.9
	comp=Z,115nm,1.3s						
DZM				*e*S	S	17 00 46.9	-7.5
	comp=Z,494nm,23.8s						
DZM				*e*LR	LR	17 02 04.6	
	comp=Z,1μm,26.2s						
DZM	Mont Dzumac	21.94	137	P	P	16 56 51.9	0.0
	comp=Z,18nm,0.8s,baz=289,slow=2.8,SNR=13						
DZM				LR	LR	17 03 59.0	
	comp=Z,778nm,20.2s,baz=323,slow=33						
	comp=Z,18nm,0.8s						
DZM	Mont Dzumac	21.94	137	P	P	16 56 53.8	+1.9
	comp=Z,48nm,1.3s						
YATNC	Mamie plateau,	22.24	136	P	P	16 56 59.2	+4.2
	comp=Z,53nm,0.8s						
AAI	Ambon	22.35	276	P	P	16 56 56.7	+0.4
	comp=Z,1μmcomp=Z,136nm,0.8s						
INKA	Innaminka	23.17	202	P	P	16 57 07.2	+2.5
	comp=Z,256nm,1.0s						
KNRA	Kununurra	23.20	245		P	16 57 03.8	-1.5
KNRA				IAmb	IAmb	16 57 14.8	
	comp=Z,59nm,0.8s						
KNRA	Kununurra	23.20	245	P	P	16 57 04.0	-1.2
	comp=Z,81nm,0.9s						
AS01	Alice Springs	23.41	221	P	P	16 57 07.5	+0.2
	comp=Z,63nm,0.9s						
AS31	Alice Springs	23.44	221	P	P	16 57 06.8	-0.8
AS31	Alice Springs	23.44	221	P	P	16 57 07.0	-0.5
	comp=Z,16nm,0.7s						
ASAR	Alice Springs	23.44	221	P	P	16 57 06.3	-1.3
ASAR	Alice Springs	23.44	221	P	P	16 57 07.2	-0.3
	comp=Z,23nm,0.8s,baz=55,slow=8.0,SNR=137						
ASAR				PcP	PcP	17 00 54.5	+0.5
	comp=Z,2.6nm,0.9s,baz=18,slow=1.5,SNR=3.8						
ASAR				S	S	17 01 24.2	+3.0
	comp=Z,13nm,1.2s,baz=35,slow=23,SNR=6.9						
ASAR				ScP	ScP	17 04 33.2	+0.8
	comp=Z,1.7nm,1.0s,baz=34,slow=4.4,SNR=5.0						
ASAR				LR	LR	17 06 10.9	
	comp=Z,399nm,19.1s,baz=48,slow=36						
	comp=Z,23nm,0.8s						
NLAI	Namlea	23.50	277	P	P	16 57 08.9	+0.7
	comp=Z,1μmcomp=Z,36nm,0.8s						
ARMA	Armidale	23.94	178	P	P	16 57 11.0	-1.4
ARMA	Armidale	23.94	178	P	P	16 57 12.5	+0.1
ARMA	Armidale	23.94	178	P	P	16 57 15.9	+3.5
TNTI	Ternate	24.13	286	P	P	16 57 13.8	-0.6
SANI	Sanana	24.79	279	P	P	16 57 21.0	+0.7
	comp=Z,48nm,1.0s						
SANI	Sanana	24.79	279	P	P	16 57 19.7	-0.6
	comp=Z,742nmcomp=Z,48nm,1.1s						
CMSA	Cobar Meteorol	25.43	190	P	P	16 57 25.8	-0.1
	comp=Z,58nm,1.3s						
CMSA	Cobar Meteorol	25.43	190	P	P	16 57 27.9	+2.0
	comp=Z,58nm,1.3s						
OOD	Oodnadatta	25.51	212	P	P	16 57 28.1	+1.5
	comp=Z,97nm,0.9s						
SOEI	Soe	26.16	261	P	P	16 57 29.9	-3.0
SOEI	Soe	26.16	261	P	P	16 57 34.9	+2.0
	comp=Z,120nm,0.8s						
SOEI	Soe	26.16	261	P	P	16 57 30.7	-2.2
	comp=Z,2μmcomp=Z,119nm,0.8s						
LCRK	Leigh Creek	26.57	204	P	P	16 57 36.6	+0.4
	comp=Z,267nm,0.8s						
STKA	Stephens Creek	26.69	197	P	P	16 57 36.4	-0.9
STKA	Stephens Creek	26.69	197	P	P	16 57 37.2	-0.1
	comp=Z,430nm,1.0s						
STKA	Stephens Creek	26.69	197	P	P	16 57 36.9	-0.4
	comp=Z,34nm,0.8s,baz=9.9,slow=8.7,SNR=37						
STKA				LR	LR	17 08 09.5	
	comp=Z,301nm,20.0s,baz=24,slow=36						
	comp=Z,34nm,0.8s						
STKA	Stephens Creek	26.69	197	P	P	16 57 37.8	+0.5
	comp=Z,21nm,1.0s						
STKA	Stephens Creek	26.69	197	*c i* P	P	16 57 37.6	+0.3
FITZ	Fitzroy Crossi	26.88	242	P	P	16 57 37.6	-1.6
FITZ	Fitzroy Crossi	26.88	242	LR	LR	17 08 46.3	
	comp=Z,334nm,18.6s,baz=52,slow=38						
KMSI	Cibinong	27.33	284	P	P	16 57 45.3	+2.0
	comp=Z,91nm,0.8s						
BBSI	Bau Bau	27.77	270	P	P	16 57 48.2	+1.0
	comp=Z,1μmcomp=Z,101nm,0.9s						
MMRI	Maumere	28.08	264	P	P	16 57 48.7	-1.3
MMRI	Maumere	28.08	264	P	P	16 57 50.5	+0.5
	comp=Z,139nm,1.1s						
MMRI	Maumere	28.08	264	P	P	16 57 48.9	-1.1
	comp=Z,1μmcomp=Z,137nm,1.0s						
WRKA	Warakurna	28.20	226	P	P	16 57 50.4	-0.6
	comp=Z,39nm,0.9s						
WRKA	Warakurna	28.20	226	P	P	16 57 51.7	+0.7
	comp=Z,40nm,0.9s						
EDFI	Ende, Flores	28.63	263	P	P	16 57 53.5	-1.5
	comp=Z,687nmcomp=Z,64nm,1.0s						
CNB	Canberra Magne	28.81	182	P	P	16 57 58.0	+1.6
	comp=Z,24nm,1.0s						
CNB	Canberra Magne	28.81	182	P	P	16 57 57.8	+1.4
	comp=Z,24nm,1.0s						
CAN	Canberra	28.83	183	P	P	16 57 54.8	-1.7
CAN	Canberra	28.83	183	P	P	16 57 55.4	-1.1
CAN	Canberra	28.83	183	P	P	16 57 57.5	+1.0
	comp=Z,36nm,1.0s						
CAN	Canberra	28.83	183	P	P	16 57 54.8	-1.7
CAN				pmax	pmax		
	comp=Z,22nm,1.0s						
HTT	Hallett	28.98	200	P	P	16 58 00.1	+2.3
	comp=Z,51nm,1.0s						
WHYH	Whyalla	29.11	203	P	P	16 58 02.7	+3.8
	comp=Z,34nm,0.7s						
MSVF	Nonsavu	29.18	115	P	P	16 57 58.4	-1.5
MSVF	Nonsavu	29.18	115	LR	LR	17 07 46.1	
	comp=Z,159nm,20.2s,baz=269,slow=32						
MSVF	Nonsavu	29.18	115	*i* P	P	16 57 59.7	-0.2
MSVF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BBOO	Buckleboo	29.52	205	P	P	16 58 01.5	-1.2
BBOO				IAmb	IAmb	16 58 09.5	
	comp=Z,49nm,1.4s						
BBOO	Buckleboo	29.52	205	P	P	16 58 04.5	+1.8
	comp=Z,33nm,1.9s						
BSSI	Bau Bau, Buton	29.80	269	P	P	16 58 06.0	+0.6
	comp=Z,1μmcomp=Z,69nm,1.4s						
WSI	Waingapu	30.05	262	P	P	16 58 07.7	+0.2
BKSI	Bulukumba	30.21	270	P	P	16 58 08.3	-0.6
	comp=Z,23nm,0.8s						
BNSI	Bone	30.30	272	P	P	16 58 10.1	+0.4
	comp=Z,48nm,0.8s						
DGTI	Dogotuki	30.30	111	P	P	16 58 11.9	+2.2
	comp=Z,21nm,1.3s						
TOLI2	Tolitoli	30.56	283	P	P	16 58 11.0	-1.1
KAPI	Kappang	30.60	271	P	P	16 58 11.4	-0.9
KAPI				IAmb	IAmb	16 58 13.5	
	comp=Z,31nm,1.0s						
KAPI	Kappang	30.60	271	LR	LR	17 13 18.3	
	comp=Z,131nm,19.3s,baz=98,slow=42						
KAPI	Kappang	30.60	271	P	P	16 58 12.9	+0.5
	comp=Z,19nm,1.1s						
KAPI	Kappang	30.60	271	*i* P	P	16 58 12.6	+0.2
KAPI				pmax	pmax		
	comp=Z,38nm,1.0s						
SPSI	Sidrap Palu	30.67	273	P	P	16 58 12.0	-1.0
	comp=Z,18nm,0.8s						
WBSI	Waikabubak, Su	30.94	262	P	P	16 58 14.6	-0.9
	comp=Z,964nmcomp=Z,68nm,1.4s						
PCI	Palu	31.04	279	P	P	16 58 17.9	+1.6
	comp=Z,53nm,0.9s						
MPSI	Mapaga	31.24	281	P	P	16 58 18.6	+0.6
ARPS	Mount Arapiles	31.26	193	P	P	16 58 17.6	-0.3
	comp=Z,54nm,1.2s						
ARPS	Mount Arapiles	31.26	193	P	P	16 58 18.1	+0.2
	comp=Z,54nm,1.2s						
TOO	Toolangi	31.38	188	P	P	16 58 17.6	-1.4
TOO	Toolangi	31.38	188	P	P	16 58 18.7	-0.3
	comp=Z,8.5nm,1.2s						
TOO	Toolangi	31.38	188	P	P	16 58 17.6	-1.4
TOO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRAT	Ballarat	31.59	190	P	P	16 58 22.4	+1.6
	comp=Z,11nm,0.9s						
FUTU	Fugatoga	31.85	107	P	P	16 58 21.1	-2.3
FORT	Forrest	32.12	218	P	P	16 58 24.3	-1.2
FORT	Forrest	32.12	218	P	P	16 58 24.9	-0.7
	comp=Z,78nm,0.8s						
FORT	Forrest	32.12	218	P	P	16 58 26.0	+0.4
	comp=Z,78nm,0.8s						
MGBR	Mount Gambier	32.48	195	P	P	16 58 26.7	-1.9
PLAI	Plampang	32.49	264	P	P	16 58 28.8	-0.3
	comp=Z,64nm,0.8s						
PLAI	Plampang	32.49	264	P	P	16 58 27.4	-1.7
	comp=Z,63nm,0.8s						
MBWA	Marble Bar	33.18	241	P	P	16 58 33.8	-1.2
MBWA				IAmb	IAmb	16 58 54.7	
	comp=Z,25nm,0.9s						
MBWA	Marble Bar	33.18	241	P	P	16 58 35.3	+0.3
	comp=Z,28nm,0.9s						
MBWA	Marble Bar	33.18	241	P	P	16 58 36.9	+1.9
PSA00	Pilbara Seismi	33.24	240	P	P	16 58 33.9	-1.7
PSA00				IAmb	IAmb	16 58 37.8	
	comp=Z,65nm,1.6s						
PSA00	Pilbara Seismi	33.24	240	P	P	16 58 34.1	-1.4
PSA00				IAmb	IAmb	16 58 55.9	
	comp=Z,16nm,1.1s						
PSA00	Pilbara Seismi	33.24	240	P	P	16 58 36.9	+1.4
	comp=Z,31nm,1.0s						
GLAD	Gladstone	34.53	183	P	P	16 58 48.3	+1.9
	comp=Z,30nm,1.2s						
SRBI	Singaraja	35.02	265	P	P	16 58 50.8	-0.2
	comp=Z,20nm,0.9s						
TGY	Tagaytay City	35.68	305	LR	LR	17 10 52.3	
	comp=Z,94nm,21.4s,baz=179,slow=32						
MOO	Moorlands	36.03	184	P	P	16 58 59.7	+0.3
	comp=Z,65nm,1.0s						
MOO	Moorlands	36.03	184	P	P	16 59 02.2	+2.8
	comp=Z,64nm,1.0s						
JAGI	Jajag, Banyuwa	36.07	264	P	P	16 58 57.7	-2.4
JAGI	Jajag, Banyuwa	36.07	264	P	P	16 58 58.9	-1.2
	comp=Z,80nm,0.7s						
JAGI	Jajag, Banyuwa	36.07	264	P	P	16 58 58.1	-2.0
MEEK	Meekatharra	36.41	233	P	P	16 59 02.2	-0.7
	comp=Z,37nm,0.8s						
MEEK	Meekatharra	36.41	233	P	P	16 59 04.5	+1.6
	comp=Z,37nm,0.8s						
TAU	Tasmania Unive	36.49	184	P	P	16 59 02.6	-0.6
TAU	Tasmania Unive	36.49	184	P	P	16 59 06.3	+3.0
	comp=Z,125nm,1.4s						
TAU	Tasmania Unive	36.49	184	P	P	16 59 02.6	-0.6
TAU				pmax	pmax		
	comp=Z,133nm,1.3s						
KMBL	Kambalda	36.52	223	P	P	16 59 04.0	+0.3
	comp=Z,45nm,2.1s						
KMBL	Kambalda	36.52	223	P	P	16 59 05.3	+1.6
	comp=Z,58nm,2.1s						
GMJI	Gumukmas	36.77	265	P	P	16 59 06.1	0.0
	comp=Z,24nm,0.8s						
TOZ	Tahuroa Road	38.62	147	P	P	16 59 19.9	-1.6
NGJI	Ngawi	38.74	266	P	P	16 59 22.9	+0.2
	comp=Z,52nm,1.0s						
HIZ	Hauiti	38.87	149	P	P	16 59 23.1	-0.3
PCJI	Pacitan	39.01	265	P	P	16 59 25.0	0.0
SBUM	Sibu	39.19	282	P	P	16 59 24.7	-1.8
SBUM	Sibu	39.19	282	P	P	16 59 28.0	+1.5
	comp=Z,2.8nm,1.0s						
JOW	Kunigami	39.40	328	P	P	16 59 27.4	-0.7
JOW				IAmb	IAmb	16 59 31.7	
	comp=Z,35nm,0.8s						
JOW	Kunigami	39.40	328	LR	LR	17 12 09.0	
	comp=Z,161nm,20.1s,baz=3.5,slow=31						
JOW	Kunigami	39.40	328	P	P	16 59 29.3	+1.2
	comp=Z,53nm,1.5s						
STKI	Sintang	39.44	278	P	P	16 59 29.8	+1.2
KLBR	Kellerberrin	39.55	226	P	P	16 59 28.1	-1.2
	comp=Z,56nm,0.9s						
KLBR	Kellerberrin	39.55	226	P	P	16 59 29.0	-0.3
	comp=Z,56nm,0.9s						
MORW	Morawa	39.56	231	P	P	16 59 28.7	-0.7
MORW				IAmb	IAmb	16 59 34.4	
	comp=Z,70nm,1.7s						
MORW	Morawa	39.56	231	P	P	16 59 29.6	+0.1
	comp=Z,25nm,2.8s						
UGM	Wanagama	39.66	265	P	P	16 59 29.5	-1.0
URZ	Urewera	39.87	147	LR	L

QIZ LR LR
comp=Z,190nm,10.3s
QIZ LR LR
comp=Z,130nm,12.6s
QIZ LR LR
comp=Z,160nm,19.8s
TJN Taejon 47.74 335 P **P 17 00 37.7 +2.6**
comp=Z,76nm,1.2s
TJN Taejon 47.74 335 *i* P **P 17 00 34.5 -0.6**
KSRS Korea Array 48.42 336 P **P 17 00 41.2 +0.9**
comp=Z,10nm,0.9s,baz=152,slow=8.9,SNR=41
KSRS LR LR 17 19 33.6
comp=Z,78nm,20.6s,baz=130,slow=34
comp=Z,10nm,0.9s
KSAR Wonju Array Be 48.43 336 P **P 17 00 40.3 -0.1**
KSAR Wonju Array Be 48.43 336 P **P 17 00 40.3 -0.1**
KS19 Wonju Array Si 48.49 336 P **P 17 00 40.3 -0.6**
KS19 IAmb IAmb 17 00 42.4
comp=Z,21nm,1.1s
NJ2 Nanjing 48.67 324 *e*P **P 17 00 44.0 +1.6**
NJ2 pmax pmax
comp=Z,13nm,0.6s
NJ2 LR LR
comp=Z,290nm,13.3s
NJ2 LR LR
comp=Z,300nm,16.1s
NJ2 LR LR
comp=Z,310nm,20.8s
INCN Inchon 48.98 335 P **P 17 00 46.6 +1.8**
comp=Z,28nm,1.2s
INCN Inchon 48.98 335 P **P 17 00 46.2 +1.4**
INCN pmax pmax
comp=Z,28nm,1.2s
PPI Padang Panjang 50.31 275 P **P 17 00 54.8 -0.5**
JKA Kamikawa-asahi 50.76 353 P **P 17 00 57.8 -0.4**
ASAJ Asahikawa 50.76 353 P **P 17 00 57.8 -0.3**
ASAJ pmax pmax
comp=Z,8.0nm,1.0s
PSTR Posyet 51.98 342 *i* P **P 17 01 06.8 -0.5**
NONG Nongkai 52.64 298 P **P 17 01 13.8 +1.2**
comp=Z,18nm,0.9s
NAYO Nakonayok 52.92 293 P **P 17 01 15.5 +0.8**
comp=Z,82nm,0.9s
USA0B Ussuriysk Arra 53.04 343 P **P 17 01 14.7 -0.4**
USA0B Ussuriysk Arra 53.04 343 *i* P **P 17 01 16.6 +1.5**
USRK Ussuriysk Ar. 53.04 343 P **P 17 01 14.6 -0.5**
USRK Ussuriysk Ar. 53.04 343 P **P 17 01 14.3 -0.8**
comp=Z,3.6nm,0.7s,baz=151,slow=6.2,SNR=13
USRK LR LR 17 20 41.0
comp=Z,63nm,19.3s,baz=192,slow=33
comp=Z,3.6nm,0.7s
USRK Ussuriysk Ar. 53.04 343 P **P 17 01 14.6 -0.5**
YSS Yuzhno-Sakhali 53.54 353 P **P 17 01 19.7 +1.0**
comp=Z,6.1nm,0.9s
YSS Yuzhno-Sakhali 53.54 353 *e*P **P 17 01 19.4 +0.7**
YSS pmax pmax
comp=Z,10.0nm,0.8s
MDJ Mudanjiang 54.13 342 P **P 17 01 22.8 -0.4**
MDJ IAmb IAmb 17 01 25.0
comp=Z,13nm,0.9s
MDJ Mudanjiang 54.13 342 P **P 17 01 23.5 +0.4**
MDJ pmax pmax
comp=Z,18nm,1.3s
MDJ Mudanjiang 54.13 342 P **P 17 01 24.8 +1.7**
comp=Z,16nm,0.9s
CN2 Changchun 54.84 338 *e*P **P 17 01 28.8 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,60nm,3.5s
BNX BinXian 55.84 341 ⇑P **P 17 01 35.8 +0.4**
BNX pP **sP 17 01 39.2 +0.6**
BNX pmax pmax
comp=Z,21nm,1.2s
XAN Xi'an 56.21 318 P **P 17 01 37.1 -1.4**
XAN pmax pmax
comp=Z,10.0nm,0.8s
XAN LR LR
comp=Z,220nm,18.7s
XAN LR LR
comp=Z,200nm,19.6s
XAN LR LR
comp=Z,230nm,19.4s
CMAR Chiang Mai Arr 56.49 297 P **P 17 01 39.4 -1.2**
CMAR **PcP 17 02 38.0 +0.5**
CMAR Chiang Mai Arr 56.49 297 P **P 17 01 42.0 +1.3**
comp=Z,0.7nm,0.5s,baz=121,slow=5.2,SNR=10
CMAR PcP **PcP 17 02 38.1 +0.7**
comp=Z,2.0nm,0.8s,baz=112,slow=2.8,SNR=5.5
CMAR LR LR 17 23 48.9
comp=Z,22nm,21.9s,baz=270,slow=34
comp=Z,0.7nm,0.5s
CMAR Chiang Mai Arr 56.49 297 *i* P **P 17 01 41.9 +1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CHTO Chiang Mai 56.61 297 P **P 17 01 43.1 +1.6**
comp=Z,1.9nm,1.0s
PZH PanZhiHua 57.42 307 P **P 17 01 51.4 +4.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,5.5s
KLR Kul'dur 57.74 346 LR LR 17 27 27.5
comp=Z,24nm,18.3s,baz=175,slow=37
KLR Kul'dur 57.74 346 *e*P **P 17 01 48.2 -0.8**
KLR pmax pmax
comp=Z,4.0nm,1.0s
XLT XiLinHaoTe 58.90 332 *e*P **P 17 01 57.2 0.0**
XLT pmax pmax
comp=Z,7.0nm,0.8s
HHC Hu-ho-hao-te 59.02 326 *e*P **P 17 02 01.2 +3.0**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,160nm,4.2s
PPT2 Papeete2 59.48 107 *e*LR LR 17 19 25.5
comp=Z,117nm,28.0s
PETK Petropavlovsk- 59.58 5 P **P 17 02 00.1 -1.5**
PETK Petropavlovsk- 59.58 5 P **P 17 02 00.4 -1.2**
comp=Z,5.1nm,0.7s,baz=163,slow=6.5,SNR=18
PETK LR LR 17 24 11.9
comp=Z,91nm,21.6s,baz=194,slow=32
comp=Z,5.1nm,0.7s
HEH HeiHe 59.84 343 *e*P **P 17 02 03.2 -0.3**
HEH pmax pmax
comp=Z,7.0nm,0.8s
TBI Tubuai 60.04 113 *e*LR LR 17 19 44.2
comp=Z,1μm,35.0s
DRV Dumont d'Urvil 60.62 185 P **P 17 02 10.5 +1.9**
DRV pmax pmax
comp=Z,88nm,0.9s
SHEM Shemya Is, Ala 62.22 16 LR LR 17 23 37.4
comp=Z,136nm,21.9s,baz=10.0,slow=31
ZEA Zeya 63.01 345 *e*P **P 17 02 25.2 +0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
SHL Shillong 65.14 302 P **P 17 02 39.7 0.0**
GTA Gaotai 65.27 319 *e*P **P 17 02 40.4 +0.2**
GTA pP sP 17 02 44.5 +1.0
GTA sP pwP 17 02 48.1 +1.9
GTA pmax pmax
comp=Z,2.0nm,1.6s
CASY Casey 65.84 197 P **P 17 02 42.8 -0.5**
CASY IAmb IAmb 17 02 59.3
comp=Z,23nm,1.2s
ULN Ulaanbaatar 66.14 330 P **P 17 02 45.1 -0.6**
ULN Ulaanbaatar 66.14 330 *ce*P **P 17 02 46.2 +0.5**
ULN pmax pmax
comp=Z,8.0nm,1.1s
CIT Chita 66.16 336 *e*P **P 17 02 45.6 0.0**
CIT *e* 17 02 53.4
CIT *e* 17 03 19.8
CIT pmax pmax
comp=Z,30nm,3.0s
SONM Songino Array 66.45 329 P **P 17 02 47.1 -0.6**
SONM Songino Array 66.45 329 P **P 17 02 47.6 0.0**
comp=Z,8.1nm,0.9s,baz=140,slow=5.5,SNR=27
SONM LR LR 17 31 52.2
comp=Z,47nm,19.9s,baz=72,slow=36
comp=Z,8.1nm,0.9s
TAOE Nuku Hiva Isla 68.73 97 *e*LR LR 17 23 48.5
comp=Z,62nm,22.7s
SEY Seymchan 69.13 1 *ce*P **P 17 03 04.5 +0.5**
SEY pmax pmax
comp=Z,8.0nm,1.3s
ZAK Zakamensk 69.66 330 *e*P **P 17 03 06.6 -1.1**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
YAK Yakutsk 70.08 350 LR LR 17 41 16.3
comp=Z,19nm,18.0s,baz=247,slow=42
YAK Yakutsk 70.08 350 *e*P **P 17 03 10.5 +0.6**
YAK pmax pmax
comp=Z,11nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,2.2s
PALK Pallekele 70.91 280 P **P 17 03 16.1 0.0**
PALK IAmb IAmb 17 03 17.2
comp=Z,9.3nm,0.8s
PALK Pallekele 70.91 280 P **P 17 03 16.1 0.0**
PALK pmax pmax
comp=Z,9.0nm,0.9s
VNDA Vanda 71.36 177 P **P 17 03 17.4 -0.2**
VNDA Vanda 71.36 177 P **P 17 03 17.8 +0.3**
comp=Z,1.7nm,0.6s,baz=328,slow=7.1,SNR=13
VNDA LR LR 17 30 36.7
comp=Z,91nm,18.9s,baz=346,slow=32
comp=Z,1.7nm,0.6s
MOY Mondy 71.59 330 *e*P **P 17 03 19.1 -0.4**
MOY pmax pmax
comp=Z,15nm,2.3s
HYB Hyderabad 74.83 290 *e*P **P 17 03 38.1 -1.2**
BILL Bilibino 75.08 6 P **P 17 03 39.1 -0.5**
BILL Bilibino 75.08 6 *ce*P **P 17 03 40.1 +0.5**
BILL pmax pmax
comp=Z,8.0nm,0.9s
WMQ Urumqi 75.35 318 *e*P **P 17 03 43.3 +1.5**
M13K Dall Lake 75.78 22 P **P 17 03 45.0 +1.3**
baz=228
R16K Pilot Point 76.28 26 P **P 17 03 48.3 +1.7**
baz=234
O15K Ungalikthiuk R 76.33 24 P **P 17 03 48.3 +1.4**
baz=231
K13K Kusilvak Mount 76.36 20 P **P 17 03 48.7 +1.7**
baz=226
M14K Bethel 76.52 22 P **P 17 03 49.3 +1.4**
baz=229
L14K Kuka Creek 76.64 21 P **P 17 03 48.0 -0.6**
L14K IAmb IAmb 17 03 51.6
comp=Z,18nm,0.8s
L14K Kuka Creek 76.64 21 P **P 17 03 50.0 +1.4**
baz=228
N15K Kwethluk River 76.85 23 P **P 17 03 50.9 +1.0**
baz=231
M15K Kasigluk River 76.95 22 P **P 17 03 52.1 +1.6**
baz=230
J14K Nanvaranak Lak 77.29 20 P **P 17 03 54.2 +2.0**
baz=227
L15K Ungalak Mounta 77.30 21 P **P 17 03 53.4 +1.1**
baz=229
N16K Nishlik Lake 77.55 23 P **P 17 03 55.3 +1.4**
baz=232
R18K Karluk 77.66 27 P **P 17 03 54.6 +0.1**
baz=236
K15K Wolf Creek Mou 77.69 21 P **P 17 03 55.5 +1.0**
baz=229
O17K Koliganek Bris 77.80 24 P **P 17 03 55.7 +0.5**
baz=234
M16K Timber Creek 77.82 23 P **P 17 03 56.7 +1.5**
baz=232
Q18K Katmai Hardscr 78.02 26 P **P 17 03 57.7 +1.1**
baz=236
L16K Owhat River 78.06 22 P **P 17 03 57.9 +1.4**
baz=231
N17K Nushagak Hills 78.21 24 P **P 17 03 57.8 +0.4**
baz=233
KDAK Kodiak Island 78.62 27 LR LR 17 31 11.7
comp=Z,57nm,20.7s,baz=87,slow=30
M17K Holitna River 78.63 23 P **P 17 04 00.9 +1.1**
baz=233
J16K Anvik River 78.66 20 P **P 17 04 01.5 +1.6**
baz=230
L17K Donlin 78.76 22 P **P 17 04 02.0 +1.6**
baz=232
N18K Kilae Creek 78.82 24 P **P 17 04 02.3 +1.5**
baz=235
H16K Elim 79.00 19 P **P 17 04 02.8 +1.1**
baz=228
K17K Iditarod 79.11 21 P **P 17 04 02.1 -0.3**
K17K IAmb IAmb 17 04 06.0
comp=Z,33nm,1.1s
K17K Iditarod 79.11 21 P **P 17 04 03.7 +1.3**
baz=232
TIXI Tiksi 79.17 353 P **P 17 04 01.8 -0.7**
TIXI Tiksi 79.17 353 LR LR 17 39 58.4
comp=Z,28nm,19.3s,baz=197,slow=36
TIXI Tiksi 79.17 353 *ce*P **P 17 04 03.5 +1.0**
TIXI pmax pmax
comp=Z,6.0nm,1.1s
J17K VABM Dome 79.26 21 P **P 17 04 04.6 +1.5**
baz=231
M18K Stony River 79.31 23 P **P 17 04 05.0 +1.5**
baz=234
L18K Granite Mounta 79.41 22 P **P 17 04 05.4 +1.4**
baz=234
N19K Bonanza Creek 79.46 24 P **P 17 04 05.2 +0.8**
baz=236
G16K Koyuk River 79.47 18 P **P 17 04 03.6 -0.7**
G16K IAmb IAmb 17 04 06.9
comp=Z,18nm,1.1s
H17K Granite Mounta 79.95 19 P **P 17 04 08.5 +1.6**
baz=230
MK31 Makanchi Array 80.00 320 P **P 17 04 06.5 -1.1**
MK31 Makanchi Array 80.00 320 *ce*P **P 17 04 07.4 -0.3**
MKAR Makanchi Array 80.00 320 P **P 17 04 06.5 -1.1**
MKAR Makanchi Array 80.00 320 P **P 17 04 06.7 -1.0**
comp=Z,0.9nm,0.5s,baz=96,slow=8.4,SNR=14
MKAR LR LR 17 39 54.8
comp=Z,70nm,18.4s,baz=54,slow=36
comp=Z,0.9nm,0.5s
HOM Homer 80.03 26 P **P 17 04 08.1 +0.7**
baz=239
G17K Kiwalik Mounta 80.08 19 P **P 17 04 08.0 +0.4**
baz=229
TTA Tatalina 80.08 22 P **P 17 04 08.2 +0.4**
baz=234
L19K White Mountain 80.09 23 P **P 17 04 08.7 +1.0**
baz=235
J18K Innoko River 80.14 21 P **P 17 04 08.6 +0.6**
baz=233
MAKZ Makanchi 80.21 320 P **P 17 04 07.3 -1.5**
MAKZ Makanchi 80.21 320 P **P 17 04 07.3 -1.5**
MAKZ pmax pmax
comp=Z,4.0nm,1.2s
F17K Baldwin Pennin 80.51 18 P **P 17 04 09.7 -0.2**
F17K IAmb IAmb 17 04 12.6
comp=Z,20nm,1.2s
F17K Baldwin Pennin 80.51 18 P **P 17 04 10.6 +0.8**
baz=229
M20K Styx River 80.60 24 P **P 17 04 11.3 +0.8**
baz=237
H18K Honhosa River 80.60 19 P **P 17 04 11.2 +0.8**
baz=232
C16K Lisburne Hills 80.62 15 P **P 17 04 11.0 +0.6**
baz=224
E17K Hotham Inlet 80.77 17 P **P 17 04 12.1 +0.8**
baz=228
D17K Noatak River 80.83 16 P **P 17 04 12.3 +0.8**
baz=227
J19K Poorman 80.85 21 P **P 17 04 12.9 +1.2**
baz=234
GCSA Galena City Sc 80.85 20 P **P 17 04 13.1 +1.4**
baz=233
G18K Tagagawik 80.97 19 P **P 17 04 11.8 -0.6**
G18K Tagagawik 80.97 19 P **P 17 04 13.4 +1.0**
baz=231
K20K Telida 81.05 22 P **P 17 04 13.6 +0.8**
baz=236
F18K Selawik 81.11 18 P **P 17 04 14.3 +1.3**
baz=230
ZAA0 Zalesovo Array 81.19 327 P **P 17 04 11.7 -2.1**
ZALV Zalesovo Beam 81.19 327 P **P 17 04 11.6 -2.2**
ZALV Zalesovo Beam 81.19 327 P **P 17 04 11.9 -1.9**
comp=Z,2.5nm,0.6s,baz=107,slow=5.1,SNR=12
ZALV LR LR 17 38 26.1
comp=Z,41nm,21.3s,baz=120,slow=34
comp=Z,2.5nm,0.6s
ZALV Zalesovo Beam 81.19 327 *i* P **P 17 04 11.8 -1.9**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
SEW Seward 81.21 26 P **P 17 04 14.4 +0.7**
baz=241
SUA Susitna One 81.34 25 P **P 17 04 14.9 +0.3**
baz=239
E18K Tukpahlearik C 81.35 17 **P 17 04 14.6 +0.2**
E18K Tukpahlearik C 81.35 17 P **P 17 04 15.1 +0.7**
baz=229
H19K Roundabout Mou 81.47 20 IAmb IAmb 17 04 25.9
comp=Z,34nm,1.6s
H19K Roundabout Mou 81.47 20 P **P 17 04 16.0 +1.0**
baz=233
J20K Nowinta River 81.48 21 IAmb IAmb 17 04 17.9
comp=Z,17nm,1.1s
J20K Nowinta River 81.48 21 P **P 17 04 15.9 +0.8**
baz=236
G19K Purcell Mounta 81.63 19 **P 17 04 15.2 -0.6**
G19K Purcell Mounta 81.63 19 P **P 17 04 16.8 +1.0**
baz=233
I20K Naaghedeneel 81.72 21 P **P 17 04 17.5 +1.2**
baz=235
M22K Willow 81.75 24 P **P 17 04 16.9 +0.4**
baz=240
F19K Shaleruckik Mo 81.83 18 P **P 17 04 17.3 +0.4**
baz=232
CAST Castle Rocks 81.83 23 P **P 17 04 17.5 +0.5**
baz=238
H20K Anotleneega Mo 81.98 20 P **P 17 04 18.5 +0.8**
baz=235
C18K Utukok River 81.99 16 P **P 17 04 18.2 +0.3**
baz=228
CHUM Lake Minchumin 82.00 22 P **P 17 04 18.7 +0.9**
baz=237
KDJ Kajisay 82.03 314 P **P 17 04 18.0 -0.7**
KDJ pmax pmax
comp=Z,8.0nm,0.8s
PWL Port Wells 82.06 26 P **P 17 04 19.0 +0.7**
baz=242
PMR Palmer 82.08 25 P **P 17 04 19.1 +0.8**
baz=241
KSH Kashi 82.21 311 P P 17 04 29.2 +9.5
KSH sP pwP 17 04 40.8 +15
KSH pmax pmax
comp=Z,4.0nm,1.0s
KNK Knik Glacier 82.27 25 P **P 17 04 20.3 +1.0**
baz=241
B18K Kokolik River 82.31 15 P **P 17 04 20.3 +0.9**
baz=228
E19K Redstone River 82.38 18 P **P 17 04 18.8 -1.1**
E19K IAmb IAmb 17 04 22.4
comp=Z,15nm,1.0s
E19K Redstone River 82.38 18 P **P 17 04 20.8 +1.0**
baz=232
SML Sawmill 82.51 25 P **P 17 04 19.5 -1.1**
SML IAmb IAmb 17 04 22.4
comp=Z,22nm,0.9s
SML Sawmill 82.51 25 P **P 17 04 21.0 +0.3**
baz=241
TRF Thorofare Moun 82.54 23 P **P 17 04 21.1 +0.1**
baz=239
GLI Glacier Island 82.60 26 P **P 17 04 21.8 +0.7**
baz=243
BPAW Bear Paw Mtn. 82.61 22 IAmb IAmb 17 04 22.9
comp=Z,43nm,2.0s
BPAW Bear Paw Mtn. 82.61 22 P **P 17 04 21.3 +0.2**
baz=239
F20K Avaraart Lake 82.61 19 P **P 17 04 22.3 +1.3**
baz=234
M23K Glacier View 82.76 25 P **P 17 04 22.9 +0.9**
baz=242
D19K Kuna River 82.76 17 P **P 17 04 22.1 +0.2**
baz=232
H21K Melozitna Rive 82.78 20 P **P 17 04 23.1 +1.2**
baz=237
I21K Tanana 82.81 21 IAmb IAmb 17 04 24.6
comp=Z,12nm,1.1s
I21K Tanana 82.81 21 P **P 17 04 22.9 +0.8**
baz=238
SCM Sheep Creek Mo 82.95 25 P **P 17 04 23.2 +0.3**
baz=242
NIL Nilore 82.97 305 **P 17 04 22.1 -1.5**
NIL IAmb IAmb 17 04 25.8
comp=Z,23nm,1.1s
NIL Nilore 82.97 305 P **P 17 04 22.1 -1.5**
NIL pmax pmax
comp=Z,23nm,1.1s
G21K Allakaket 83.02 20 P **P 17 04 24.2 +1.0**
baz=236
A19K Wainwright 83.06 15 P **P 17 04 23.7 +0.5**
baz=228
E20K Nigu River 83.18 18 P **P 17 04 24.5 +0.4**
baz=233
MCK McKinley 83.21 23 P **P 17 04 23.9 -0.3**
baz=241
MAW Mawson 83.23 203 P **P 17 04 23.4 -0.9**
comp=Z,4.5nm,0.8s,baz=264,slow=3.5,SNR=4.0
MAW LR LR 17 38 44.0
comp=Z,129nm,20.5s,baz=68,slow=34
comp=Z,4.5nm,0.8s
D20K Etivluk River 83.33 17 P **P 17 04 24.5 -0.2**
D20K Etivluk River 83.33 17 P **P 17 04 25.6 +0.8**
baz=233
KLU Klutina 83.39 26 P **P 17 04 25.8 +0.6**
baz=244
H22K Ishtalitna Cre 83.41 21 P **P 17 04 26.1 +0.9**
baz=238
F21K Alatna River 83.42 19 P **P 17 04 25.2 -0.1**
baz=236
M24K Tolsona, Glenn 83.56 25 P **P 17 04 25.9 -0.2**
baz=243
NEA2 Nenana 83.58 22 IAmb IAmb 17 04 34.7
comp=Z,11nm,1.0s
NEA2 Nenana 83.58 22 P **P 17 04 26.5 +0.4**
baz=240
QSPA South Pole Qui 83.59 180 P **P 17 04 25.8 -0.6**
QSPA South Pole Qui 83.59 180 P **P 17 04 26.4 +0.1**
comp=Z,20nm,1.2s,baz=294,slow=0.9,SNR=32
QSPA LR LR 17 38 47.1
comp=Z,81nm,20.4s,baz=345,slow=34
comp=Z,20nm,1.2s
KURK Kurchatov 83.59 323 **P 17 04 24.8 -1.6**
KURK Kurchatov 83.59 323 *ce*P **P 17 04 25.5 -0.9**
KURK pmax pmax
comp=Z,10.0nm,1.3s
KURBB Kurchatov Arra 83.62 322 P **P 17 04 25.2 -1.4**
comp=Z,2.0nm,0.7s,baz=109,slow=3.8,SNR=16
comp=Z,2.0nm,0.7s
BMRM Bremner River 83.73 26 P **P 17 04 27.1 +0.1**
baz=245
I23K Minto, Yukon-K 83.75 22 IAmb IAmb 17 06 20.4
comp=Z,20nm,1.6s
I23K Minto, Yukon-K 83.75 22 P **P 17 04 27.3 +0.4**
baz=240
WRH Wood River Hil 83.89 23 P **P 17 04 26.8 -0.9**
WRH IAmb IAmb 17 04 36.4
comp=Z,11nm,1.0s
G22K Bettles 83.91 20 P **P 17 04 28.7 +1.0**
baz=238
E21K Killik River 83.96 18 IAmb IAmb 17 04 30.8
comp=Z,13nm,0.9s
E21K Killik River 83.96 18 P **P 17 04 29.0 +1.0**
baz=235
B20K Meade River 83.97 16 P **P 17 04 28.2 +0.3**
baz=232
F22K John River 84.00 19 P **P 17 04 29.2 +1.0**
baz=237
N25K Chitina, Valde 84.01 26 P **P 17 04 28.3 -0.1**
baz=245
H23K Yukon River 84.02 21 IAmb IAmb 17 04 30.0
comp=Z,15nm,1.4s
H23K Yukon River 84.02 21 P **P 17 04 28.9 +0.5**
baz=240
AAK Ala-Archa 84.08 314 **P 17 04 28.3 -1.1**
AAK Ala-Archa 84.08 314 LR LR 17 41 29.0
comp=Z,96nm,21.6s,baz=82,slow=35
AAK Ala-Archa 84.08 314 *ce*P **P 17 04 31.3 +2.0**
AAK pmax pmax
comp=Z,6.0nm,0.8s
CCB Clear Creek Bu 84.08 22 **P 17 04 26.8 -1.8**
CCB IAmb IAmb 17 04 29.3
comp=Z,8.8nm,1.0s
HARP HAARP 84.11 25 P **P 17 04 29.2 +0.3**
baz=244
C21K Knifeblade Rid 84.13 17 P **P 17 04 29.0 +0.2**
baz=235
COLA College 84.17 22 *i* P **P 17 04 27.4 -1.6**
COLA pmax pmax
comp=Z,19nm,0.9s
PAX Paxson 84.23 24 P **P 17 04 29.9 +0.3**
baz=244
GLB Gilahina Butte 84.28 26 IAmb IAmb 17 04 31.8

comp=Z,13nm,0.9s
G23K **Bananza Creek** 84.30 20 IAmb IAmb 17 04 32.5
comp=Z,13nm,1.1s
G23K **Bananza Creek** 84.30 20 P **P** 17 04 30.4 +0.6
baz=239
VRDI **Verde Repeater** 84.35 26 IAmb IAmb 17 04 32.4
comp=Z,16nm,1.0s
B21K **Ikpikpuk River** 84.45 17 P **P** 17 04 31.3 +1.0
baz=235
E22K **Anaktuvuk Pass** 84.46 19 IAmb IAmb 17 04 32.9
comp=Z,11nm,0.9s
E22K **Anaktuvuk Pass** 84.46 19 P **P** 17 04 31.2 +0.7
baz=238,SNR=8.0
K24K **Donnelly Dome** 84.48 24 P **P** 17 04 31.3 +0.5
baz=244
IL31 84.49 22 IAmb IAmb 17 04 39.4
comp=Z,11nm,0.8s
ILAR **Eielson Array** 84.49 22 **P** 17 04 28.7 -2.0
ILAR **Eielson Array** 84.49 22 P **P** 17 04 29.1 -1.7
comp=Z,7.7nm,0.8s,baz=248,slow=5.2,SNR=37
ILAR LR LR 17 38 30.6
comp=Z,44nm,20.7s,baz=266,slow=33
comp=Z,7.7nm,0.8s
COLD **Coldfoot** 84.51 20 P **P** 17 04 31.6 +0.8
baz=239
D22K **Ayikyak River** 84.60 18 IAmb IAmb 17 04 34.0
comp=Z,11nm,0.8s
D22K **Ayikyak River** 84.60 18 P **P** 17 04 32.1 +0.8
baz=237,SNR=11
MESA **MESA** 84.61 28 P **P** 17 04 31.8 +0.1
baz=247
H24K **Noodor Dome** 84.62 21 P **P** 17 04 31.9 +0.5
baz=241,SNR=5.4
RIDG **Independent Ri** 84.82 24 P **P** 17 04 32.5 0.0
baz=244
MENT **Mentasta** 84.94 25 P **P** 17 04 32.6 -0.5
J25K **Salcha River,** 85.00 23 IAmb IAmb 17 04 35.3
comp=Z,15nm,0.8s
J25K **Salcha River,** 85.00 23 P **P** 17 04 33.9 +0.5
baz=244,SNR=16
M26K **Nabesna, AK** 85.03 25 P **P** 17 04 33.9 +0.3
baz=246
DOT **Dot Lake** 85.10 24 IAmb IAmb 17 04 36.1
comp=Z,13nm,0.9s
E23K **Chandalar** 85.12 19 IAmb IAmb 17 04 44.2
comp=Z,9.7nm,0.9s
E23K **Chandalar** 85.12 19 P **P** 17 04 34.8 +0.8
baz=240
L26K **Log Cabin Wild** 85.13 25 P **P** 17 04 33.4 -0.6
L26K **Log Cabin Wild** 85.13 25 P **P** 17 04 34.3 +0.3
baz=246
A22K **Sinclair Lake** 85.15 16 P **P** 17 04 35.1 +1.2
baz=234
G24K **Hadweenzic Riv** 85.18 21 IAmb IAmb 17 04 44.1
comp=Z,8.3nm,0.9s
G24K **Hadweenzic Riv** 85.18 21 P **P** 17 04 35.1 +0.9
baz=242
B22K **Teshekpuk Lake** 85.20 16 IAmb IAmb 17 04 37.3
comp=Z,17nm,1.3s
B22K **Teshekpuk Lake** 85.20 16 P **P** 17 04 34.3 +0.1
baz=236
D23K **Nanushuk River** 85.26 18 P **P** 17 04 35.1 +0.6
baz=238
SCRK **Sand Creek** 85.27 24 IAmb IAmb 17 05 37.0
comp=Z,33nm,1.8s
SCRK **Sand Creek** 85.27 24 P **P** 17 04 34.6 -0.2
baz=245
PINM **Pinnacle** 85.37 28 P **P** 17 04 34.6 -0.7
baz=249
F24K **Squaw Lake** 85.43 20 IAmb IAmb 17 04 38.1
comp=Z,12nm,0.8s
F24K **Squaw Lake** 85.43 20 P **P** 17 04 35.8 +0.4
baz=241
TOLK **Toolik Lake Re** 85.43 19 IAmb IAmb 17 04 38.2
comp=Z,9.9nm,0.9s
TOLK **Toolik Lake Re** 85.43 19 P **P** 17 04 35.4 0.0
baz=240,SNR=8.3
M27K **Edge Creek, AK** 85.49 26 P **P** 17 04 35.7 -0.3
M27K IAmb IAmb 17 04 38.5
comp=Z,19nm,0.9s
M27K **Edge Creek, AK** 85.49 26 P **P** 17 04 36.0 +0.1
baz=247,SNR=8.0
E24K **Your Creek** 85.50 19 P **P** 17 04 36.0 +0.1
baz=241,SNR=5.1
H25L **Birch Creek** 85.57 21 P **P** 17 04 36.7 +0.7
baz=243
PNL **Peninsula** 85.62 29 P **P** 17 04 36.3 -0.2
baz=250
O28M **Mount Upton** 85.64 27 IAmb IAmb 17 04 39.8
comp=Z,16nm,0.9s
O28M **Mount Upton** 85.64 27 P **P** 17 04 36.0 -1.0
baz=249,SNR=5.8
J26L **Joseph Creek** 85.66 23 P **P** 17 04 36.2 -0.5
baz=246
G25K **Bearman Lake** 85.69 21 P **P** 17 04 36.7 0.0
baz=243
C23K **Itkillik River** 85.73 17 IAmb IAmb 17 04 39.4
comp=Z,18nm,1.1s
C23K **Itkillik River** 85.73 17 P **P** 17 04 37.2 +0.4
baz=238,SNR=9.0
L27K **Beaver Creek,** 85.78 25 P **P** 17 04 37.6 +0.3
baz=247,SNR=5.7
BCAR **Beaver Creek A** 85.80 25 **P** 17 04 36.6 -0.8
YUK3 **Moose Creek** 85.89 26 P **P** 17 04 38.6 +0.5
baz=248,SNR=5.2
D24K **Happy Valley** 85.93 18 IAmb IAmb 17 04 40.4
comp=Z,10nm,0.8s
D24K **Happy Valley** 85.93 18 P **P** 17 04 38.4 +0.6
baz=240
BVCY **Beaver Creek** 85.95 26 P **P** 17 04 38.8 +0.7
baz=248
YUK8 **Steele Glacier** 86.02 27 P **P** 17 04 38.6 -0.1
baz=249
K27K **Chicken** 86.06 24 IAmb IAmb 17 04 42.1
comp=Z,9.5nm,0.8s
K27K **Chicken** 86.06 24 P **P** 17 04 39.3 +0.8
baz=247,SNR=11
I26K **Coal Creek Min** 86.15 23 IAmb IAmb 17 04 39.4
comp=Z,14nm,1.4s
I26K **Coal Creek Min** 86.15 23 P **P** 17 04 39.0 0.0
baz=246
O29M **Mount Kennedy** 86.23 28 IAmb IAmb 17 04 49.0
comp=Z,31nm,1.6s
O29M **Mount Kennedy** 86.23 28 P **P** 17 04 40.4 +0.8
baz=250
F25K **Christian Rive** 86.23 20 P **P** 17 04 40.3 +0.9
baz=243
C24K **Franklin Bluff** 86.25 18 P **P** 17 04 38.7 -0.6
C24K IAmb IAmb 17 04 42.5
comp=Z,21nm,1.0s
C24K **Franklin Bluff** 86.25 18 P **P** 17 04 40.4 +1.1
baz=240
GAR **Garm** 86.38 310 IAmb IAmb 17 04 42.2
comp=Z,29nm,1.8s
P29M **Windy Craggy** 86.40 29 IAmb IAmb 17 04 43.1
comp=Z,13nm,0.9s
P29M **Windy Craggy** 86.40 29 P **P** 17 04 41.2 +0.8
baz=251
E25K **Arctic Village** 86.49 20 P **P** 17 04 40.8 +0.1
E25K IAmb IAmb 17 05 29.5
comp=Z,15nm,1.6s
E25K **Arctic Village** 86.49 20 P **P** 17 04 41.3 +0.6
baz=243
BMAR **Burnt Mountain** 86.52 21 **P** 17 04 40.7 -0.2
YUK6 **Outpost Mounta** 86.54 28 P **P** 17 04 41.3 0.0
baz=250
YUK4 **Talbot Arm** 86.55 27 P **P** 17 04 42.2 +0.9
baz=250,SNR=6.1
G26K **Porcupine Rive** 86.60 21 IAmb IAmb 17 04 43.9
comp=Z,16nm,0.8s
G26K **Porcupine Rive** 86.60 21 P **P** 17 04 41.9 +0.7
baz=245
S31K **Pelican** 86.62 31 P **P** 17 04 42.1 +0.7
baz=252
NRIK **Noril'sk** 86.71 342 P **P** 17 04 40.0 -1.7
comp=Z,4.8nm,0.8s,baz=107,slow=4.6,SNR=14
NRIK LR LR 17 44 03.5
comp=Z,32nm,18.9s,baz=108,slow=36
comp=Z,4.8nm,0.8s
NRIK **Noril'sk** 86.71 342*ce*P **P** 17 04 40.5 -1.2
NRIK pmax pmax
comp=Z,7.0nm,1.0s
D25K **Kavik River** 86.78 19 IAmb IAmb 17 04 44.6
comp=Z,14nm,1.1s
D25K **Kavik River** 86.78 19 P **P** 17 04 43.2 +1.1
baz=243
F26K **Sheenjek River** 86.79 20 P **P** 17 04 42.6 +0.4
baz=245,SNR=7.3

SIT **Sitka** 86.82 32 P **P** 17 04 42.8 +0.4
baz=253
I27K **Kandik River** 86.86 23 P **P** 17 04 43.0 +0.4
baz=247,SNR=9.3
HYT **Haines Junctio** 86.90 28 P **P** 17 04 43.1 +0.2
baz=251,SNR=17
P30M **Million Dollar** 86.93 29 P **P** 17 04 43.4 +0.4
baz=252
M29M **Somme Creek** 87.00 26 IAmb IAmb 17 04 46.0
comp=Z,13nm,0.8s
M29M **Somme Creek** 87.00 26 P **P** 17 04 43.5 +0.2
baz=250,SNR=13
KKAR **Karatay Array** 87.04 314 **P** 17 04 42.5 -1.4
KKAR **Karatay Array** 87.04 314 IAmb IAmb 17 05 25.1
comp=Z,11nm,1.4s
KKAR **Karatay Array** 87.04 314 P **P** 17 04 42.5 -1.4
H27K **Steamboat Moun** 87.13 22 IAmb IAmb 17 04 46.5
comp=Z,15nm,0.9s
H27K **Steamboat Moun** 87.13 22 P **P** 17 04 44.6 +0.8
baz=247,SNR=14
DAWY **Dawson** 87.17 24 IAmb IAmb 17 04 46.7
comp=Z,13nm,0.8s
DAWY **Dawson** 87.17 24 P **P** 17 04 45.3 +1.2
baz=249,SNR=11
N30M **Aishikik Lake** 87.29 27 IAmb IAmb 17 04 47.5
comp=Z,12nm,1.1s
N30M **Aishikik Lake** 87.29 27 P **P** 17 04 44.6 -0.2
baz=252,SNR=5.7
G27K **Doyon Strip** 87.31 22 P **P** 17 04 45.5 +0.8
baz=247
S32K **Killisnoo** 87.33 31 P **P** 17 04 44.9 +0.1
baz=254
L29M **L29M** 87.37 26 **P** 17 04 45.0 -0.1
L29M **L29M** 87.37 26 P **P** 17 04 45.4 +0.3
baz=250,SNR=13
I28M **Miner Creek** 87.45 23 IAmb IAmb 17 04 47.5
comp=Z,8.1nm,0.8s
I28M **Miner Creek** 87.45 23 P **P** 17 04 45.4 -0.1
baz=249,SNR=14
DZET **Dzherino** 87.48 309 P **P** 17 04 45.5 -0.8
C26K **Camden Bay** 87.50 18 P **P** 17 04 46.2 +0.8
baz=244
SKAG **Skagway** 87.52 29 IAmb IAmb 17 04 56.2
comp=Z,10nm,1.0s
SKAG **Skagway** 87.52 29 P **P** 17 04 46.1 +0.3
baz=253
O30N **Mendenhall** 87.54 28 P **P** 17 04 45.7 -0.2
O30N IAmb IAmb 17 04 48.6
comp=Z,12nm,0.8s
O30N **Mendenhall** 87.54 28 P **P** 17 04 46.7 +0.7
baz=252,SNR=7.3
R32K **Eaglecrest** 87.58 31 P **P** 17 04 46.3 +0.1
baz=254
U33K **Whale Pass** 87.74 33 P **P** 17 04 47.0 +0.1
baz=255
C27K **Jago River** 87.75 19 IAmb IAmb 17 04 57.1
comp=Z,17nm,0.9s
C27K **Jago River** 87.75 19 P **P** 17 04 47.5 +0.8
baz=245
J29N **Klondike Camp** 87.78 24 P **P** 17 04 48.5 +1.5
baz=250,SNR=6.8
E27K **Coleen River** 87.87 20 **P** 17 04 47.3 0.0
E27K IAmb IAmb 17 04 57.7
comp=Z,9.8nm,1.0s
E27K **Coleen River** 87.87 20 P **P** 17 04 49.1 +1.8
baz=247
K29M **Barlow Dome** 87.87 25 P **P** 17 04 48.5 +1.0
baz=251,SNR=30
N31M **Braeburn, Yuko** 87.90 27 P **P** 17 04 48.8 +1.2
baz=253,SNR=9.2
I29M **Ogilvie Camp,** 88.06 23 IAmb IAmb 17 04 50.3
comp=Z,14nm,0.9s
I29M **Ogilvie Camp,** 88.06 23 P **P** 17 04 49.1 +0.9
baz=250,SNR=17
WHY **Whitehorse** 88.08 28 P **P** 17 04 49.5 +0.9
baz=253,SNR=7.3
WRAK **Wrangell Islan** 88.24 33 P **P** 17 04 50.3 +1.1
baz=256
H29M **Whitestone** 88.32 23 P **P** 17 04 50.6 +1.1
baz=250
P32M **Atlin** 88.34 30 P **P** 17 04 50.0 +0.2
baz=254
D27M **Malcolm River** 88.49 19 IAmb IAmb 17 04 53.4
comp=Z,5.6nm,0.8s
D27M **Malcolm River** 88.49 19 P **P** 17 04 50.9 +0.6
baz=248
J30M **Hart River** 88.60 24 **P** 17 04 51.2 +0.3
J30M IAmb IAmb 17 04 53.6
comp=Z,9.8nm,0.8s
J30M **Hart River** 88.60 24 P **P** 17 04 51.3 +0.3
baz=252,SNR=8.9
G29M **Pine Creek** 88.69 22 IAmb IAmb 17 04 53.4
comp=Z,11nm,0.9s
G29M **Pine Creek** 88.69 22 P **P** 17 04 51.9 +0.7
baz=250
E28M **Babbage River** 88.73 20 P **P** 17 04 52.1 +0.7
baz=249
M31M **Drury Creek, Y** 88.74 27 IAmb IAmb 17 04 53.7
comp=Z,8.1nm,0.9s
M31M **Drury Creek, Y** 88.74 27 P **P** 17 04 52.4 +0.8
baz=254
I30M **Mount Dempster** 88.78 24 IAmb IAmb 17 04 53.9
comp=Z,6.3nm,0.8s
I30M **Mount Dempster** 88.78 24 P **P** 17 04 52.4 +0.6
baz=252,SNR=10
Q32M **Nakina River** 88.90 30 P **P** 17 04 53.4 +0.7
baz=256
P33M **Teslin, Yukon** 88.94 29 P **P** 17 04 53.6 +0.9
baz=255
EPYK **Eagle Plains** 89.00 23 P **P** 17 04 52.3 -0.4
EPYK IAmb IAmb 17 04 54.8
comp=Z,13nm,0.8s
EPYK **Eagle Plains** 89.00 23 P **P** 17 04 54.1 +1.4
baz=252,SNR=9.0
BVAR **Borovoye Array** 89.12 323 P **P** 17 04 51.7 -1.8
comp=Z,2.7nm,0.8s,baz=107,slow=5.1,SNR=11
BVAR LR LR 17 45 09.6
comp=Z,33nm,21.1s,baz=336,slow=36
comp=Z,2.7nm,0.8s
BRVK **Borovoye** 89.19 324*ce*P **P** 17 04 52.4 -1.4
BRVK pmax pmax
comp=Z,4.0nm,1.2s
FARO **Faro, Yukon** 89.22 27 IAmb IAmb 17 04 55.9
comp=Z,8.7nm,0.8s
FARO **Faro, Yukon** 89.22 27 P **P** 17 04 54.4 +0.6
baz=255
E29M **Blow River** 89.23 21 P **P** 17 04 54.2 +0.5
baz=250
S34M **Telegraph Cree** 89.23 32 P **P** 17 04 54.8 +0.9
baz=257
D28M **Stokes Point** 89.26 20 P **P** 17 04 54.2 +0.4
baz=250
G30M **tAoh Zraii Nji** 89.38 22 IAmb IAmb 17 04 56.7
comp=Z,9.6nm,1.0s
G30M **tAoh Zraii Nji** 89.38 22 P **P** 17 04 55.1 +0.6
baz=252
T35M **Bob Quinn** 89.49 33 P **P** 17 04 55.4 +0.2
baz=258
R33M **Jennings River** 89.65 30 P **P** 17 04 56.0 -0.1
baz=257
F30M **Barrier River** 89.73 22 IAmb IAmb 17 04 58.1
comp=Z,16nm,0.9s
F30M **Barrier River** 89.73 22 P **P** 17 04 56.5 +0.4
baz=252
H31M **Peel River** 89.76 23 IAmb IAmb 17 04 58.1
comp=Z,7.7nm,0.7s
H31M **Peel River** 89.76 23 P **P** 17 04 56.4 +0.1
baz=254
G31M **Satah River** 90.10 22 IAmb IAmb 17 04 59.9
comp=Z,13nm,0.9s
G31M **Satah River** 90.10 22 P **P** 17 04 58.5 +0.7
baz=254
MMPY **Sheldon Lake,** 90.25 27 P **P** 17 04 59.2 +0.5
baz=257
F31M **Tsiigehtchic** 90.44 22 P **P** 17 04 59.6 +0.2
baz=254
WTLY **Watson Lake, Y** 90.88 30 IAmb IAmb 17 06 05.2
comp=Z,24nm,1.8s
WTLY **Watson Lake, Y** 90.88 30 P **P** 17 05 02.0 +0.3
baz=259
K02D **Willamette Mer** 91.24 47 P **P** 17 05 02.2 -1.6
TGTN **Hyland Airport** 91.40 28 P **P** 17 05 04.6 +0.6
baz=259
SYO **Syowa Base** 91.42 200‖*e*P **P** 17 05 03.6 -0.3
SYO **Syowa Base** 91.42 200‖*es*P sP 17 05 10.7 +3.0
YBH **Yreka Blue Hor** 91.83 48 LR LR 17 45 36.0
comp=Z,44nm,18.1s,baz=274,slow=35
LIRD **Liard River Hi** 92.10 31 P **P** 17 05 08.2 +0.9
baz=261
J04A **Umpqua Nationa** 92.44 47 P **P** 17 05 07.8 -1.8
TOAD **Toad River Com** 92.46 31 P **P** 17 05 09.9 +0.9
baz=262
J05D **Fort Rock, OR** 93.08 47 **P** 17 05 14.3 +1.9
CMB **Columbia Colle** 93.21 52 **P** 17 05 12.5 -0.5
CMB IAmb IAmb 17 05 15.5
comp=Z,9.3nm,0.8s
CMB **Columbia Colle** 93.21 52 P **P** 17 05 12.5 -0.5
CMB pmax pmax
comp=Z,9.0nm,0.9s
KOTAN **Kotaneelee Air** 93.23 30 P **P** 17 05 12.5 +0.1
baz=263
WRGLY **Wrigley** 93.87 27 IAmb IAmb 17 05 18.2
comp=Z,8.3nm,1.0s
WRGLY **Wrigley** 93.87 27 P **P** 17 05 16.1 +0.7
baz=264
WAKR **Walker** 93.99 52 IAmb IAmb 17 05 19.7
comp=Z,12nm,0.8s
PAHR **Pah Rah Range** 94.14 51 IAmb IAmb 17 05 19.9
comp=Z,13nm,1.0s
A36M **Sachs Harbour** 94.25 18 P **P** 17 05 17.5 +0.6
baz=262
PASC **Pasadena Art C** 94.64 56 **P** 17 05 19.1 -0.5
NVAR **Mina Array Bea** 94.87 52 **P** 17 05 20.6 -0.2
NVAR **Mina Array Bea** 94.87 52 P **P** 17 05 22.5 +1.6
comp=Z,17nm,0.8s,baz=255,slow=6.4,SNR=59
NVAR LR LR 17 40 14.9
comp=Z,85nm,21.6s,baz=228,slow=30
WVOR **Wild Horse Val** 94.91 48 P **P** 17 05 21.5 +0.7
WVOR pmax pmax
comp=Z,9.0nm,1.6s
J08A **Circle Bar Ran** 95.09 47 IAmb IAmb 17 07 19.3
comp=Z,7.9nm,0.9s
BMO **Blue Mountains** 96.03 46 IAmb IAmb 17 05 27.8
comp=Z,12nm,1.4s
GWY **Greenwater Val** 96.03 54 **P** 17 05 26.5 +0.4
PFO **Pinyon Flats O** 96.04 57 LR LR 17 39 52.0
comp=Z,62nm,21.3s,baz=225,slow=30
PFO **Pinyon Flats O** 96.04 57 P **P** 17 05 26.0 -0.1
PFO pmax pmax
comp=Z,12nm,1.1s
F10A **Beach Ranch, E** 96.14 44 IAmb IAmb 17 05 28.0
comp=Z,7.5nm,1.1s
NEW **Newport** 96.31 42 LR LR 17 43 04.9
comp=Z,46nm,19.1s,baz=270,slow=32
NEW **Newport** 96.31 42 P **P** 17 05 27.4 +0.5
ARTI **Arti** 96.42 326 LR LR 17 48 50.2
comp=Z,119nm,21.1s,baz=64,slow=35
AKTO **Aktyubinsk** 96.44 320 LR LR 17 48 54.2
comp=Z,99nm,21.1s,baz=318,slow=36
R11B **Troy Canyon, C** 97.00 52 IAmb IAmb 17 05 33.9
comp=Z,4.6nm,1.1s
SHPR **Sheep Range** 97.26 54 Pdif 17 05 31.8 +0.1
SHPR IAmb IAmb 17 05 35.1
comp=Z,6.3nm,1.0s
ELK **Elko** 97.37 50 IAmb IAmb 17 05 37.7
comp=Z,6.8nm,1.2s
ELK **Elko** 97.37 50 P Pdif 17 05 32.6 +0.4
YKA **Yellowknife Ar** 97.89 28 P Pdif 17 05 33.8 +0.1
comp=Z,1.4nm,0.8s,baz=273,slow=4.5,SNR=23
YKA LR LR 17 48 53.2
comp=Z,23nm,18.2s,baz=313,slow=35
comp=Z,1.4nm,0.8s
YKA **Yellowknife Ar** 97.89 28 *i* P Pdif 17 05 33.7 0.0
YKA pmax pmax
comp=Z,1.0nm,0.7s
HLID **Hailey** 98.06 47 IAmb IAmb 17 05 37.3
comp=Z,3.6nm,0.9s
PSUT **Pine Spring** 98.37 52 IAmb IAmb 17 05 50.9
comp=Z,6.4nm,0.9s
HVU **Hansel Valley** 99.24 49 IAmb IAmb 17 05 43.3
comp=Z,7.6nm,0.9s
U15A **North Rim** 99.57 54 IAmb IAmb 17 05 45.2
comp=Z,5.4nm,1.2s
PDAR **Pinedale Array** 101.62 48 P **Pdif** 17 05 51.6 +0.5
comp=Z,3.4nm,0.8s,baz=239,slow=2.3,SNR=26
AKASG **Malin Array Be** 114.40 323 PKP **PKiKP** 17 10 38.0 -0.1
comp=Z,1.3nm,0.5s,baz=59,slow=2.5,SNR=12
AKASG **Malin Array Be** 114.40 323 PKIKP **PKiKP** 17 10 38.0 -0.1
BRTR **Keskin Array B** 114.60 311 PKP **PKiKP** 17 10 38.9 -0.1
comp=Z,0.9nm,1.0s,baz=149,slow=2.6,SNR=5.1
BOSA **Boshof** 116.83 234 PKP **PKiKP** 17 10 43.9 +0.2
comp=Z,3.4nm,0.9s,baz=110,slow=2.0,SNR=5.2
NOA **NORSAR Array B** 117.58 339 PKP **PKiKP** 17 10 44.0 0.0
comp=Z,1.9nm,0.8s,baz=49,slow=1.8,SNR=9.2
NOA **NORSAR Array B** 117.58 339 PKIKP **PKiKP** 17 10 44.0 0.0
MLR **Muntele Rosu** 118.34 319 **PKPdf** 17 10 44.7 -1.4
MLR **Muntele Rosu** 118.34 319 PKIKP **PKPdf** 17 10 44.7 -1.4
KOLS **Kolonicke sedl** 119.23 324 *e*PKIKP **PKiKP** 17 10 48.8 +1.3
KOLS **Kolonicke sedl** 119.23 324 *e*PKP **PKiKP** 17 10 48.8 +1.3
STHS **Stebnicka Huta** 119.61 324 *e*PKIKP **PKiKP** 17 10 50.3 +2.0
STHS **Stebnicka Huta** 119.61 324 *e*PKP **PKiKP** 17 10 50.3 +2.0
STEB **Steborice** 121.32 326 *e*PKPDF **PKiKP** 17 10 52.0 +0.4
STEB *ex* x 17 10 58.7
VYHS **Vyhne** 121.45 324 *e*PKIKP **PKiKP** 17 10 51.7 -0.2
VYHS **Vyhne** 121.45 324 *e*PKP **PKiKP** 17 10 51.7 -0.2
MORC **Moravsky Berou** 121.53 326 *e*PKP **PKiKP** 17 10 52.5 +0.4
KRLC **Kraliky** 121.79 327 *e*PKPDF **PKiKP** 17 10 53.4 +0.8
KRLC *ex* x 17 11 00.6
KRLC **Kraliky** 121.79 327 *e*PKIKP **PKiKP** 17 10 53.4 +0.8
KRLC *e* 17 11 00.6
DPC **Dobruska-Polom** 121.89 327 *e*PKPDF **PKiKP** 17 10 53.6 +0.8
DPC **Dobruska-Polom** 121.89 327 *e*PKIKP **PKiKP** 17 10 53.6 +0.8
JAVC **Velka Javorina** 121.93 325 *e*PKP **PKiKP** 17 10 54.4 +1.5
VRAC **Vranov** 122.30 326 *e*PKP **PKiKP** 17 10 53.9 +0.3
MODS **Modra-Piesok** 122.40 325 *e*PKIKP **PKiKP** 17 10 54.6 +0.8
MODS **Modra-Piesok** 122.40 325 *e*PKP **PKiKP** 17 10 54.6 +0.8
KRUC **Moravsky** 122.54 326 *e*PKP **PKiKP** 17 10 54.2 +0.2
BRG **Berggiesshubel** 122.85 329⇑ *i*PKP **PKiKP** 17 10 55.1 +0.5
BRG Amp 17 10 55.7
comp=Z,8.3nm,0.8s
BRG **Berggiesshubel** 122.85 329 P PKiKP 17 11 02.4 +7.8
BRG Amp 17 11 03.4
comp=Z,5.5nm,0.8s
CLL **Collm** 123.07 330 *i* PKPdf **PKiKP** 17 10 55.1 +0.1
comp=Z,9.0nm,0.8s
CLL *i* pPKPdf **sPKPdf** 17 11 02.5 +4.2
comp=Z,7.0nm,0.8s
CLL AMS AMS 18 04 00.0
comp=Z,100nm,20.4s
FNA **Florina** 123.22 315 **PKPdf** 17 10 54.3 -1.2
FNA **Florina** 123.22 315 PKIKP **PKPdf** 17 10 54.3 -1.2
HSKC **Hora Svate Kat** 123.27 329 *e*PKP **PKiKP** 17 10 55.3 -0.2
RONA **Rosalia, Austr** 123.32 325 *i* PKiKP **PKiKP** 17 10 56.1 +0.4
comp=Z,8.9nm,0.9s
CONA **Conrad Observa** 123.44 325 *i* PKiKP **PKiKP** 17 10 56.2 +0.2
comp=Z,4.7nm,0.7s
ZVC **Zvikov** 123.54 327 *e*PKPDF **PKiKP** 17 10 56.5 +0.5
ZVC *ex* x 17 11 03.6
CKRC **Cesky Krumlov** 123.83 327 *e*PKPDF **PKiKP** 17 10 57.3 +0.7
CKRC **Cesky Krumlov** 123.83 327 *e*PKIKP **PKiKP** 17 10 57.3 +0.7
KHC **Kasperske Hory** 124.05 327 *e*PKPDF **PKiKP** 17 10 57.2 +0.1
KHC *ex* x 17 11 04.8
KHC **Kasperske Hory** 124.05 327*c* *i*PKIKP **PKiKP** 17 10 57.7 +0.6
KHC pmax pmax
comp=Z,43nm,2.5s
GERES **GERESS Array B** 124.14 327 **PKPdf** 17 10 55.5 -1.6
GERES **GERESS Array B** 124.14 327 PKP **PKiKP** 17 10 57.4 +0.1
comp=Z,5.3nm,0.7s,baz=69,slow=1.7,SNR=37
SOKA **Soboth** 124.59 324 *e*PKiKP **PKPdf** 17 10 57.9 0.0
comp=Z,7.7nm,1.0s
BIOA **Bad Ischl, Aus** 124.83 326 *e*PKiKP **PKiKP** 17 10 58.6 -0.1
comp=Z,6.5nm,1.0s
GRF **Grafenberg Arr** 124.95 329 *e*PKP 17 10 58.6
baz=52,slow=1.4
GRF *ep*PKP 17 11 05.5
KBA **Koelnbreinsper** 125.34 325 *e*PKiKP **PKPdf** 17 10 58.9 -0.6
comp=Z,8.4nm,1.2s
LESA **Schwarzleotal** 125.52 326 *e*PKiKP **PKPdf** 17 10 59.7 0.0
comp=Z,8.6nm,0.9s
ABTA **Abfaltersbach** 126.00 325 *i* PKiKP **PKPdf** 17 11 00.3 -0.3
comp=Z,12nm,0.9s,SNR=6.9
WATA **Walderalm** 126.18 326 *e*PKiKP **PKiKP** 17 11 01.1 -0.4
comp=Z,12nm,1.0s
WTTA **Wattenberg** 126.19 326 *i* PKiKP **PKiKP** 17 11 01.5 -0.1
comp=Z,21nm,0.9s,SNR=5.9
CIMO **Cimolais** 126.29 325 **PKPdf** 17 10 59.5 -1.6
MOTA **Moosalm** 126.43 327 *e*PKiKP **PKPdf** 17 11 01.6 0.0
comp=Z,12nm,0.9s
SQTA **Sankt Quirin** 126.45 326 *i* PKiKP **PKiKP** 17 11 01.8 -0.2
comp=Z,14nm,1.0s,SNR=5.4
RETA **Reutte** 126.53 327 *e*PKiKP **PKiKP** 17 11 01.8 -0.3
comp=Z,7.6nm,1.1s
EKA **Eskdalemuir Ar** 126.83 342 PKP **PKiKP** 17 11 02.5 +0.2
comp=Z,5.3nm,0.8s,baz=28,slow=3.1,SNR=13

FETA	Feichten	126.83	326	*i* PKiKP	PKiKP	17 11 02.8	-0.1
	comp=Z,15nm,1.0s,SNR=9.8						
BTNL	Ternell	126.86	332	*d*PKP	PKiKP	17 11 03.1	+0.5
MEM	Membach	126.90	332	*d*PKP	PKiKP	17 11 03.0	+0.4
TIP	Timpagrande	127.11	315		PKPdf	17 11 01.6	-1.4
DAVA	Damuels	127.13	327	*e*PKiKP	PKiKP	17 11 03.3	-0.1
	comp=Z,8.1nm,0.7s						
FUORN	Ofenpass-Fuorn	127.33	326		PKPdf	17 11 01.8	-1.6
BCLA	Clavier	127.35	333	*d*PKPdf	PKiKP	17 11 03.6	+0.1
DAVOX	Davos/Dischmat	127.44	327	PKP	PKiKP	17 11 04.6	+0.5
	comp=Z,6.7nm,0.6s,baz=180,slow=4.0,SNR=15						
WLF	Walferdange	127.48	331	*d*PKP	PKiKP	17 11 04.7	+0.9
BMRD	Maredsous	127.68	333	*d*PKP	PKiKP	17 11 04.5	+0.3
DOU	Dourbes	127.91	333	*d*PKP	PKiKP	17 11 04.6	0.0
NNA	Nana	129.53	111	*i* PKHKP	PKPpre	17 10 48.2	
ESDC	Sonseca Array	139.66	329	PKP	PKPdf	17 11 24.2	-2.3
	comp=Z,1.0nm,0.7s,baz=5.9,slow=3.2,SNR=6.3						
TORD	Torodi Ar. Bea	148.53	285	PKPdf	PKPdf	17 11 40.9	-1.6
TORD					sPKPdf	17 11 45.6	-0.6
TORD	Torodi Ar. Bea	148.53	285	PKPbc	PKPbc	17 11 44.7	-1.4
	comp=Z,85nm,0.3s,baz=46,slow=3.6,SNR=2.4						
BOAV	Boa Vista	148.85	96	PKPdf	PKPdf	17 11 38.8	-4.3
BOAV					PKPbc	17 11 46.5	-0.5

IDC 11 17:04:41.8±310.0, 57°.77N×18°.33E, h0km, Error ellipse: s-maj=131.7km s-min=123.6km az=10.0, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	9.35	199	I	I	18 01 10.0	
	baz=14,slow=330,SNR=0.7						
I43RU	DUBNA INFRASONI	0.29	88	I	I	18 03 40.0	
	baz=284,slow=321,SNR=1.2						
I37NO	I37NO	11.35	1	I	I	18 15 20.0	
	baz=183,slow=331,SNR=0.8						
I31KZ	AKTYUBINSK INF	24.13	91	I	I	19 31 50.0	
	baz=306,slow=336,SNR=0.4						

*VAO **11** 17:07:26.4±0.5, 24°.37S×70°.01W, h10km, mb4.9*
*SJA **11** 17:07:28.3±0.8, 24°.55S×70°.49W, h66km±7km, ML5.1, MW4.7*
*NEIC **11** 17:07:30.5±2.8, 24°.56S±0°.04×70°.10W±0°.08, h62km±4km, mb4.9/100, Mww4.8/17, Mwr4.7(GUC), Error ellipse: s-maj=11.0km s-min=6.4km az=88.0*
*NEIC **11** 17:07:30.7, 24°.57S×70°.09W, h60km*
*NEIC **11** 17:07:30.7, 24°.47S×70°.00W, h60km, Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.03; $M_{\theta\theta}$-0.57; $M_{\phi\phi}$1.60; $M_{r\theta}$0.67; $M_{\theta\phi}$-1.04; $M_{\phi r}$-0.37; Fault plane solution: $M_0$1.84000×10^{16} NP1: ϕ_s193.92000°, δ48.27000°, λ-32.26000°. NP2: ϕ_s306.70000°, δ66.52000°, λ-133.48000°. Principal axes: T 2.1299, Plg11.0000°, Azm66.0000°; N -0.5892, Plg39.0000°, Azm327.0000°; P -1.5407, Plg49.0000°, Azm169.0000°;*
*IDC **11** 17:07:31.5±0.3, 24°.61S×69°.92W, h57km±2km, mb4.1/12, mbtmp4.4/17, MS3.6/17 Error ellipse: s-maj=15.3km s-min=10.1km az=75.0*
*GUC **11** 17:07:32.1±0.7, 24°.58S×70°.11W, h61km±3km, ML4.9*

ISC 11 17:07:30.4±0.3, 24°.56S±0°.02×70°.14W±0°.04, h59km±2km, h59km:pP-P, n289, σ1s80/318, mb4.9/57, MS3.8/16, 7C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	IPOC Station P	0.25	254	Pn	Pn	17 07 41.2	+0.8
PB14				S	Sn	17 07 50.3	+2.7
PB14	IPOC Station P	0.25	254	⇑*i*P	Pn	17 07 42.2	+1.7
PB14				*i* S	Sn	17 07 49.9	+2.2
PB14				IAML		17 07 50.9	
	comp=E,80μm,0.3s						
PB14	IPOC Station P	0.25	254	*e*P	Pn	17 07 42.0	+1.6
PB14				IAML		17 07 55.1	
	comp=Z,46μm,0.5s						
GO02	Mina Guanaco	0.79	140	Pn	Pn	17 07 46.8	+0.9
GO02				Sn	Sn	17 07 57.8	+0.5
GO02	Mina Guanaco	0.79	140	*e*P	Pn	17 07 47.0	+1.0
GO02				*i* S	Sn	17 07 58.8	+1.5
GO02	Mina Guanaco	0.79	140	*e*P	Pn	17 07 47.0	+1.0
PB10	IPOC Station P	1.10	340	Pn	Pn	17 07 51.2	+1.4
PB10	IPOC Station P	1.10	340	⇓*i*P	Pn	17 07 51.4	+1.6
PB10				*i* S	Sn	17 08 07.2	+3.1
PB10				IAML		17 08 12.1	
	comp=E,45μm,0.7s						
PB10	IPOC Station P	1.10	340	*e*P	Pn	17 07 50.7	+0.9
PB10				*e*S	Sn	17 07 51.4	-13
PB10				IAML		17 08 11.5	
	comp=Z,29μm,0.4s						
AC01	Pan de Azucar	1.64	195	Pn	Pn	17 07 57.6	+0.7
AC01	Pan de Azucar	1.64	195	*e*P	Pn	17 07 57.6	+0.7
AC01				*i* S	Sn	17 08 19.1	+2.1
AC01	Pan de Azucar	1.64	195	*e*P	Pn	17 07 56.9	-0.1
AC01				*e*S	Sn	17 08 21.2	+4.2
AC01				IAML		17 08 22.9	
	comp=Z,19μm,0.6s						
PB06	IPOC Station P	1.91	16	⇑*i*P	Pn	17 08 02.2	+1.4
PB06				*i* S	Sn	17 08 27.4	+3.5
PB06				IAML		17 08 33.0	
	comp=E,27μm,0.7s						
PB06	IPOC Station P	1.91	16	*e*P	Pn	17 08 02.3	+1.4
PB06				*e*S	Sn	17 08 28.2	+4.3
PB06				IAML		17 08 31.4	
	comp=Z,14μm,0.2s						
AF01	San Pedro de A	2.40	49		Pn	17 08 08.7	+1.1
AF01	San Pedro de A	2.40	49	*e*P	Pn	17 08 10.2	+2.6
AF01				*i* S	Sn	17 08 39.1	+3.0
AF01	San Pedro de A	2.40	49	*e*P	Pn	17 08 10.9	+3.2
AC02	Maricunga	2.45	158		Pn	17 08 11.1	+2.7
AC02	Maricunga	2.45	158	*e*P	Pn	17 08 11.0	+2.6
AC02				*i* S	Sn	17 08 39.3	+1.9
AC02				IAML		17 08 46.7	
	comp=E,8μm,0.2s						
AC02	Maricunga	2.45	158	*e*P	Pn	17 08 10.6	+2.2
AC02				*e*S	Sn	17 08 42.5	+5.0
PB03	IPOC Station P	2.52	8	⇑*i*P	Pn	17 08 09.7	+0.5
PB03				*i* S	Sn	17 08 42.9	+4.1
PB03	IPOC Station P	2.52	8	*e*P	Pn	17 08 09.1	0.0
PB03				*e*S	Sn	17 08 40.2	+1.4
AC06	Mina Casimiro	2.80	184		Pn	17 08 12.7	-0.1
AC06	Mina Casimiro	2.80	184	*e*P	Pn	17 08 12.9	+0.1
AC06				*i* S	Sn	17 08 47.8	+2.5
PB09	IPOC Station P	2.87	17	Pn	Pn	17 08 14.7	+0.8
PB09	IPOC Station P	2.87	17	*e*P	Pn	17 08 15.7	+1.8
PB09	IPOC Station P	2.87	17	*e*P	Pn	17 08 15.3	+1.5
PB09				*e*S	Sn	17 08 50.2	+2.9
GO03	Copiapo	3.03	182		Pn	17 08 16.1	+0.2
GO03	Copiapo	3.03	182	*e*P	Pn	17 08 16.2	+0.3
GO03				*i* S	Sn	17 08 53.4	+2.4
GO03	Copiapo	3.03	182	*e*P	Pn	17 08 15.7	-0.3
GO03				*e*P		17 08 16.4	
GO03				*e*S	Sn	17 08 53.7	+2.7
SALTA		3.48	85	*e*P	Pn	17 08 25.7	+3.1
PB01	IPOC Station P	3.55	10	Pn	Pn	17 08 23.3	+0.2
PB01	IPOC Station P	3.55	10	*e*P	Pn	17 08 23.4	+0.3
PB01				*e*S	Sn	17 09 16.4	+13
PATCX	Punta Patache	3.72	360		Pn	17 08 23.6	-1.9
AC04	Llanos de Chal	3.73	193		Pn	17 08 23.8	-1.7
AC04	Llanos de Chal	3.73	193	*e*P	Pn	17 08 23.9	-1.7
AC04				*e*S	Sn	17 09 13.7	+5.5
FSA	Cafayete	4.07	113	*e*P	Pn	17 08 32.8	+2.4
SLA	San Lorenzo	4.22	93	*e*P	Pn	17 08 36.0	+3.6
HMBC	Humberstone	4.26	3		Pn	17 08 31.6	-1.4
AC05	El Transito	4.26	182		Pn	17 08 33.0	+0.1
AC05	El Transito	4.26	182	*e*P	Pn	17 08 32.5	-0.5
AC05				*e*S	Sn	17 09 28.2	+6.7
TA02	Huaiquique	4.26	0		Pn	17 08 30.6	-2.2
LCO	Las Campanas	4.47	186		Pn	17 08 34.6	-1.2
LCO	Las Campanas	4.47	186	*e*P	Pn	17 08 35.4	-0.5
PB08	IPOC Station P	4.49	12		Pn	17 08 35.0	-1.2
VCA	Vinchina	4.51	158	*e*P	Pn	17 08 39.9	+3.5
AZAP	Zapla	4.64	87	*e*P	Pn	17 08 41.1	+3.0
PB11	IPOC Station P	4.79	5	Pn	Pn	17 08 39.0	-1.2
AHML	Horco Molle	4.87	118	*e*P	Pn	17 08 44.0	+2.9
AHML				*i* S	Sn	17 09 38.9	+2.6
GO01	Chusmiza	4.94	10		Pn	17 08 42.2	-0.4
GO01	Chusmiza	4.94	10	*e*P	Pn	17 08 42.9	+0.4
AGUA	GUANDACOL	5.13	164	*e*P	Pn	17 08 47.6	+2.8
CO01	Juntas del Tor	5.40	180		Pn	17 08 48.2	-0.4
CO05	La Serena	5.43	190		Pn	17 08 46.3	-2.5
AP01	Chacalluta	6.16	358		Pn	17 08 58.4	-0.4
CO06	Fray Jorge	6.24	192		Pn	17 09 07.7	+7.9
CFA	Coronel Fontan	7.22	167	P	Pn	17 09 13.5	+0.1
	comp=E,25nm,0.3s,baz=342,slow=13,SNR=63						
CFA				S	Sn	17 10 33.6	-0.3
	comp=E,178nm,0.9s,baz=316,slow=18,SNR=3.8						
VA06	Catapilco	8.04	187		Pn	17 09 21.8	-2.8
LPAZ	La Paz	8.44	13	P	Pn	17 09 31.8	+1.2
	comp=E,7.7nm,0.4s,baz=187,slow=6.4,SNR=26						
LPAZ				S	Sn	17 11 15.3	+11
	comp=E,24nm,0.7s,baz=250,slow=14,SNR=1.3						
PEL	Peldehue	8.57	183		Pn	17 09 29.2	-2.6
MT02	Curacav	8.72	186		Pn	17 09 30.2	-3.6
MT05	Renca	8.82	183	Pn	Pn	17 09 29.5	-5.8
MT16	CCHEN	8.85	182		Pn	17 09 30.5	-5.1
MT03	Universidad Ad	8.91	182		Pn	17 09 34.4	-2.2
VA05	Santo Domingo	9.16	188		Pn	17 09 34.4	-5.4
MT09	Talagante	9.22	184		Pn	17 09 37.1	-3.6
LMEL	Las Melosas	9.26	180		Pn	17 09 38.1	-3.2
MT01	Popeta	9.33	186		Pn	17 09 37.7	-4.4
BO04	La Punta	9.41	182		Pn	17 09 40.4	-2.9
BO01	Tunca	9.84	185		Pn	17 09 44.5	-4.6
BO02	Sierra Bellavi	10.22	183		Pn	17 09 50.0	-4.4
ML02	Panimavida	11.22	185		Pn	17 10 04.7	-3.3
CPUP	Villa Florida	11.71	101		Pn	17 10 15.2	+0.5
CPUP	Villa Florida	11.71	101	P	Pn	17 10 12.4	-2.3
	comp=E,2.1nm,0.4s,baz=272,slow=13,SNR=8.1						
CPUP				S	Sn	17 12 19.2	-4.7
	comp=E,2.6nm,0.5s,baz=240,slow=20,SNR=0.7						
CPUP				LR	LR	17 14 57.6	
	comp=E,218nm,21.5s,baz=282,slow=39						
CPUP	Villa Florida	11.71	101	*e*P	Pn	17 10 12.9	-1.8
SIV	San Ignacio	12.04	47	P	Pn	17 10 15.9	-3.4
	comp=E,38nm,0.6s,baz=239,slow=10,SNR=57						
SIV				S	Sn	17 12 19.0	-13
	comp=E,13nm,0.7s,baz=238,slow=16,SNR=1.5						
BI02	San Fabin de	12.11	184		Pn	17 10 15.3	-4.8
SJPY	San Joaquin	12.76	95	*e*P	Pn	17 10 26.8	-2.3
BDQN	Bodoquena, MS	13.03	74	*e*P	Pn	17 10 29.8	-3.0
ITQB	Itaqui	13.07	116	*e*P	Pn	17 10 32.8	-0.5
PTLB	Pontes e Lacer	13.74	51	*e*P	Pn	17 10 39.3	-3.1
AQDB	Aquidauana	13.95	76	*e*P	Pn	17 10 43.0	-2.2
AMBA	Amambai (Brazi	13.97	86	*e*P	Pn	17 10 44.2	-1.3
NNA	Nana	14.02	332	P	Pn	17 10 49.0	+2.8
	comp=E,3.2nm,0.3s,baz=242,slow=19,SNR=1.2						
TBOT	Tacuaremb	14.40	123	*e*P	Pn	17 10 50.7	-0.3
VILB	Vilhena	14.88	41	*e*P	Pn	17 10 54.6	-2.9
TRQA	Tornquist	15.15	155		Pn	17 10 58.8	-2.0
TRQA	Tornquist	15.15	155	*e*P	Pn	17 11 02.3	+1.5
LR04	Corral	15.53	189		Pn	17 11 05.3	-0.3
RPRD	Ribas do Rio P	15.72	78	*e*P	Pn	17 11 06.6	-1.6
CPSB	Cacapava Do Su	15.92	115	*e*P	Pn	17 11 10.2	-0.5
SALV	Santo Antonio	16.05	60	*e*P	Pn	17 11 09.6	-2.8
PLCA	Paso Flores	16.14	181		Pn	17 11 11.4	-2.0
PLCA	Paso Flores	16.14	181	P	Pn	17 11 12.2	-1.3
	comp=E,30nm,0.9s,baz=359,slow=12,SNR=12						
PLCA				LR	LR	17 17 37.4	
	comp=E,354nm,19.9s,baz=4.5,slow=38						
ITAB	Concordia	16.43	103	*e*P	Pn	17 11 15.3	-1.8
PTGB	Pitanga	16.44	94	*e*P	P	17 11 18.4	-0.8
LL03	Petrohue	16.64	186		Pn	17 11 19.2	-0.5
SAML	Samuel	16.88	24		Pn	17 11 23.0	+0.2
SAML	Samuel	16.88	24	*e*P	Pn	17 11 19.2	-3.6
CZSB	Cruzeiro do Su	16.91	351	*e*P	Pn	17 11 22.1	-1.0
C2SB	Chapadao do Su	17.08	74	*e*P	Pn	17 11 24.6	-0.7
LDASE	Londrina, Braz	17.43	90	*e*P	Pn	17 11 28.0	-1.6
CNLB	Canela	17.84	110	*e*P	P	17 11 35.1	+0.6
LL06	Loncomilla	17.85	188	P	P	17 11 33.5	-1.1
LL06				IAmb	IAmb	17 11 37.7	
	comp=Z,55nm,0.9s						
LL01	San Ignacio de	17.88	185	P	P	17 11 32.8	-2.0
LL01				IAmb	IAmb	17 11 38.1	
	comp=Z,49nm,0.9s						
PDRB	Porto dos Gac	18.10	47	*e*P	P	17 11 34.9	-2.6
LL02	Futaleuf	18.64	184		P	17 11 41.3	-2.0
GO07	Milladeo Hill,	18.74	188	P	P	17 11 43.0	-1.3
FRTB	Fartura	18.85	91	*e*P	P	17 11 45.6	-0.2
MAJ01	Sao Joao Batis	19.20	103	*e*P	P	17 11 48.9	-0.7
TER01	Tubaro-SC	19.21	106	*e*P	Pn	17 11 50.4	-0.7
CLDB	Colider	19.26	48	*e*P	P	17 11 47.6	-2.6
AY01	Puyuhuapi	19.92	185		P	17 11 56.8	-0.4
AY01				IAmb	IAmb	17 12 01.4	
	comp=Z,29nm,0.8s						
BB19B	Bebedouro	20.22	84	*e*P	P	17 11 58.9	-1.9
TBTG	Tabatinga, AM	20.25	1	*e*P	P	17 12 01.3	+0.3
PET01	Itanhaem-SP	20.82	94	*e*P	P	17 12 06.5	-0.6
COYC	Coyhaique	21.03	184		P	17 12 08.3	-0.9
COYC				IAmb	IAmb	17 12 17.7	
	comp=Z,41nm,0.9s						
VAO	Valinhos	21.26	91		P	17 12 09.3	-2.7
VAO				IAmb	IAmb	17 12 14.0	
	comp=Z,46nm,0.9s						
VAO	Valinhos	21.26	91	*e*P	P	17 12 10.7	-1.2
TEFE	Tefe	21.59	15	*e*P	P	17 12 16.1	+0.8
SNDB	Serra Nova Dou	21.80	58	*e*P	P	17 12 15.3	-2.4
PARB	Paraibuna	22.44	92	*e*P	P	17 12 24.6	0.0
NPGB	Novo Progresso	22.44	42	*e*P	P	17 12 22.6	-2.1
BDFB	Brasilia	22.57	71	P	P	17 12 23.3	-2.8
BDFB				IAmb	IAmb	17 12 31.1	
	comp=Z,40nm,0.8s						
BDFB	Brasilia	22.57	71	P	P	17 12 23.6	-2.5
	comp=Z,24nm,0.6s,baz=246,slow=9.3,SNR=4.5						
	comp=Z,24nm,0.6s						
PMNB	Patos De Minas	22.83	79	*e*P	P	17 12 28.4	-0.4
MACA	Manacapuru-AM	23.14	25	*e*P	P	17 12 31.4	-0.4
ITTB	Itaituba	24.40	37	*e*P	P	17 12 42.6	-0.7
VAS01	Vassouras-RJ	24.59	90	*e*P	P	17 12 44.7	-0.5
DIAM	Diamantina, MG	25.39	81	*e*P	P	17 12 51.9	-0.7
DUB01	Friburgo-RJ	25.60	90	*e*P	P	17 12 53.8	-0.6
OTAV	Otavalo	25.93	341		pP	17 13 12.5	-0.3
JANB	Januaria	26.03	74	*e*P	P	17 12 56.8	-1.5
SMTB	Santa Maria do	26.58	58	*e*P	P	17 13 03.0	-0.2
PRPB	Parauapebas	26.73	50	*e*P	P	17 13 03.9	-0.6
SDBA	SAO DESIDERIO	26.76	68	*e*P	P	17 13 04.0	-0.8
MAL2	Monte Alegre,	27.20	37	P	P	17 13 07.8	-0.9
MG02	Cerro Sombrero	28.19	179	P	P	17 13 15.9	-1.3
BOAV	Boa Vista	28.37	21	P	P	17 13 19.1	-0.1
MG03	Isla Dawson	29.25	180	P	P	17 13 26.9	+0.3
ROSC	El Rosal	29.50	352	LR	LR	17 25 09.3	
	comp=Z,130nm,20.4s,baz=210,slow=36						
USHA	Ushuaia	30.27	178	LR	LR	17 25 41.2	
	comp=Z,245nm,18.6s,baz=6.0,slow=36						
RUSC	La Rusia	30.40	354	P	P	17 13 37.0	-0.7
RUSC				IAmb	IAmb	17 14 05.0	
	comp=Z,35nm,1.2s						
BAUV	El Baul	33.36	4		P	17 14 02.8	-0.3
MDP	Montagnes des	34.05	32	LR	LR	17 28 57.9	
	comp=Z,93nm,19.4s,baz=265,slow=38						
NBPB	Pedra_Branca-C	34.90	62	*e*P	P	17 14 16.7	+0.1
PCRV	Puerto La Cruz	34.94	9	LR	LR	17 29 29.9	
	comp=Z,144nm,19.6s,slow=38						
NBAN	Anadia - AL	35.47	71	*e*P	P	17 14 20.7	-0.7
JTS	Las Juntas de	37.53	336	LR	LR	17 28 52.4	
	comp=Z,36nm,21.2s,baz=133,slow=34						
RCBR	Riachuelo	37.76	66	P	P	17 14 41.0	0.0
RCBR	Riachuelo	37.76	66	LR	LR	17 32 24.6	
	comp=Z,37nm,20.8s,baz=242,slow=40						
RCBR	Riachuelo	37.76	66	*e*P	P	17 14 41.7	+0.7
RCBR	Riachuelo	37.76	66	P	P	17 14 41.9	+0.9
RCBR				pP	pP	17 14 57.4	+1.1
HOPE	Hope Point	38.81	149	P	P	17 14 50.1	+0.8
HOPE				pP	pP	17 15 06.8	+1.9
PMSA	Palmer Station	40.41	176	LR	LR	17 30 40.0	
	comp=Z,160nm,19.3s,baz=282,slow=34						
SJG	San Juan	42.59	6	LR	LR	17 35 28.4	
	comp=Z,35nm,20.5s,baz=204,slow=39						
MTO3	Montecristo	43.02	332	P	P	17 15 24.5	-0.1
BELA	Belgrano 2	55.90	171		P	17 17 01.1	-0.6
BELA				IAmb	IAmb	17 17 03.7	
	comp=Z,19nm,1.0s						
ZAIG	Zacatecas	56.60	324		P	17 17 08.1	+0.3
ZAIG				IAmb	IAmb	17 17 36.5	
	comp=Z,9.8nm,0.9s						
VNA3	Neumayer Olymp	57.57	161	⇓P	P	17 17 12.6	-1.0
	comp=Z,6.3nm,0.7s						
VNA3				⇑pP	pP	17 17 25.6	-4.5
	comp=Z,8.3nm,0.8s						
VNA2	Neumayer--Watz	58.17	160	⇓P	P	17 17 17.8	0.0
	comp=Z,8.9nm,0.6s,baz=286,slow=8.7						
VNA2				⇑pP	pP	17 17 33.4	-0.9
	comp=Z,7.9nm,0.6s,baz=243,slow=0.2						
152A	Waverly Hall	58.58	346	P	P	17 17 21.5	+0.4
SNAA	Sanae	59.79	160		P	17 17 28.8	-0.3
SNAA				IAmb	IAmb	17 17 30.6	
	comp=Z,13nm,0.9s						
SNAA	Sanae	59.79	160	⇓P	P	17 17 29.3	+0.2
	comp=Z,188nm,0.7s						
SNAA				⇑pP	pP	17 17 46.5	+0.9
	comp=Z,175nm,0.7s						
SNAA	Sanae	59.79	160	P	P	17 17 29.3	+0.2
	comp=Z,5.5nm,0.5s,baz=276,slow=7.8,SNR=39						
SNAA				pP	pP	17 17 44.8	-0.8
	comp=Z,2.6nm,0.6s,baz=294,slow=8.8,SNR=6.2						
	comp=Z,5.5nm,0.5s						
KMSC	Kings Mountain	60.31	349	P	P	17 17 30.8	-2.2
X51A	Calhoun	60.43	346	P	P	17 17 31.7	-2.1
X48A	Hartselle	60.84	344	P	P	17 17 33.9	-2.7
W50A	Signal Mountai	61.14	346		P	17 17 37.3	-1.4
CPCT	Cooper Cave	61.21	347	P	P	17 17 37.3	-1.8
SWET	Sewanee	61.30	345	P	P	17 17 38.1	-1.7
U56A	King	61.34	351	P	P	17 17 39.1	-0.8
TROLL	Troll, Antarti	61.50	160	⇓P	P	17 17 41.3	+0.4
	comp=Z,407nm,0.5s						
TROLL				⇑pP	pP	17 17 58.6	+1.1
	comp=Z,347nm,0.9s						
JCT	Junction City	61.67	331	P	P	17 17 41.6	-0.8
JCT				IAmb	IAmb	17 18 15.2	
	comp=Z,10nm,0.9s						
BRDY	Brady	62.02	332		P	17 17 45.9	+1.3
BRDY				IAmb	IAmb	17 18 03.0	
	comp=Z,9.8nm,1.2s						
CLTN	Cedars of Leba	62.23	345		pP	17 18 03.3	+0.9
SAND	Sanderson	62.29	329		P	17 17 44.5	-2.0
SAND				IAmb	IAmb	17 18 13.5	
	comp=Z,7.7nm,0.8s						
TXAR	Lajitas Array	62.52	327	P	P	17 17 50.6	+2.4
	comp=Z,0.6nm,0.7s,baz=134,slow=7.1,SNR=5.0						
TXAR				pP	pP	17 18 05.5	+0.7
	comp=Z,1.1nm,0.6s,baz=148,slow=9.8,SNR=5.4						
	comp=Z,0.6nm,0.7s						
TX31	Lajitas Ar. Si	62.52	327		P	17 17 46.1	-2.0
TX31				IAmb	IAmb	17 18 18.8	
	comp=Z,16nm,1.9s						
S57A	Dark Hollow, R	62.54	352		pP	17 18 05.9	+1.4
R58B	Mineral	62.61	353	P	P	17 17 47.9	-0.5
R58B				IAmb	IAmb	17 18 14.5	
	comp=Z,17nm,1.0s						
WVT	Waverly	62.63	344		pP	17 18 04.4	-0.7
WVT	Waverly	62.63	344	P	P	17 17 48.8	+0.2
WVT				pP	pP	17 18 04.5	-0.6
WVT				sP	sP	17 18 11.6	-0.3
WHAR	Wooly Hollow	63.11	340		P	17 17 51.3	-0.5
WHAR				IAmb	IAmb	17 18 17.3	
	comp=Z,16nm,0.8s						
ABTX	Abilene, Hawle	63.45	332	P	P	17 17 54.1	0.0
ABTX				IAmb	IAmb	17 18 12.9	
	comp=Z,21nm,1.1s						
LCAR	Lake Charles	63.48	341	P	P	17 17 52.8	-1.4
LCAR				IAmb	IAmb	17 18 19.3	
	comp=Z,13nm,0.7s						
MNHN	Monahans	63.75	329	P	P	17 17 54.9	-1.3
MNHN				IAmb	IAmb	17 18 23.6	
	comp=Z,23nm,1.2s						
SN05	Snyder 5	64.20	331	P	P	17 17 57.0	-2.1
SN05				IAmb	IAmb	17 18 25.2	
	comp=Z,12nm,1.0s						
APMT	Aspermont	64.25	332		P	17 18 00.5	+1.1
APMT					pP	17 18 16.9	+0.8
APMT				IAmb	IAmb	17 18 25.6	
	comp=Z,13nm,0.8s						
T42A	Van Buren	64.36	341	P	P	17 17 59.6	-0.4
T42A				IAmb	IAmb	17 18 24.8	
	comp=Z,8.6nm,0.8s						
VHRN	Van Horn	64.36	327		P	17 18 00.1	-0.3
VHRN				pP	pP	17 18 17.4	+0.4
VHRN				IAmb	IAmb	17 18 28.0	
	comp=Z,32nm,1.6s						
U38A	Gravette	64.84	339	P	P	17 18 02.1	-1.1
U38A				IAmb	IAmb	17 18 28.6	
	comp=Z,9.8nm,0.8s						
BBTS	Babate	65.23	59	LR	LR	17 46 06.8	
	comp=Z,57nm,18.4s,baz=23,slow=36						
OK031	S. Brethren Rd	65.26	336		pP	17 18 23.2	+0.6
CCM	Cathedral Cave	65.36	342	P	P	17 18 06.9	+0.4
CCM				pP	pP	17 18 23.2	+0.2
CCM				s

PRN IAmb IAmb 17 19 32.4
comp=Z,18nm,1.4s
K22A Casper 74.82 333 **P** 17 19 19.2 -2.3
PSUT Pine Spring 74.94 326 **P** **17 19 04.4 -1.0**
PSUT IAmb IAmb 17 19 33.4
comp=Z,14nm,1.3s
TPNV Topopah Spring 75.03 323 P **P** **17 19 05.2 -0.6**
WCT Wildcat Mounta 75.12 323 P **P** **17 19 04.8 -1.5**
DUG Dugway, Tooele 75.69 328 **P** **17 19 10.1 +0.5**
DUG IAmb IAmb 17 20 21.7
comp=Z,8.3nm,0.7s
R11B Troy Canyon, C 75.70 325 **P** **17 19 09.5 -0.2**
PDAR Pinedale Array 76.20 331 P **P** **17 19 14.6 +2.0**
comp=Z,0.2nm,0.5s,baz=186,slow=4.5,SNR=3.7
PDAR pP **pP** **17 19 31.2 +1.6**
comp=Z,1.5nm,0.6s,baz=129,slow=7.2,SNR=9.5
comp=Z,0.2nm,0.5s
MDND Maddock 76.79 340 P **P** **17 19 13.8 -1.6**
NVAR Mina Array Bea 77.22 323 P **P** **17 19 22.7 +4.3**
comp=Z,0.8nm,0.8s,baz=103,slow=5.5,SNR=1.6
NVAR pP **pP** **17 19 36.8 +1.3**
comp=Z,1.8nm,0.8s,baz=160,slow=7.0,SNR=5.2
comp=Z,0.8nm,0.8s
ELK Elko 77.31 327 **P** **17 19 18.5 -0.4**
MOOW Moose Ponds 77.51 331 P **P** **17 19 16.8 -3.0**
MOOW IAmb IAmb 17 20 51.0
comp=Z,15nm,1.1s
FXWY Fox Creek 77.55 331 P **P** **17 19 18.4 -1.7**
FXWY IAmb IAmb 17 20 13.3
comp=Z,12nm,0.8s
PNTR Pine Nut 78.40 323 P **P** **17 19 24.7 -0.2**
PNTR IAmb IAmb 17 19 54.0
comp=Z,12nm,0.7s
YHL Hebgen Lake 78.58 332 P **P** **17 19 26.4 +0.5**
YHL IAmb IAmb 17 19 54.0
comp=Z,38nm,1.7s
PAHR Pah Rah Range 78.72 323 P **P** **17 19 24.6 -2.0**
PAHR IAmb IAmb 17 19 55.2
comp=Z,11nm,0.8s
DGMT Dagmar 78.84 338 **P** **17 19 26.3 -0.5**
HLID Hailey 79.04 329 P **P** **17 19 26.7 -1.6**
HLID IAmb IAmb 17 19 56.9
comp=Z,12nm,0.8s
BOZ Bozeman (W) 79.36 332 P **P** **17 19 28.6 -1.4**
TORD Torodi Ar. Bea 79.45 70 **P** **17 19 30.1 -0.9**
TORD IAmb IAmb 17 19 49.0
comp=Z,8.5nm,0.7s
TORD Torodi Ar. Bea 79.45 70 P **P** **17 19 31.0 +0.1**
comp=Z,32nm,0.3s,baz=265,slow=4.9,SNR=1.2
TORD pP **pP** **17 19 48.3 +0.4**
comp=Z,34nm,0.4s,baz=263,slow=4.9,SNR=1.2
DLMT Dillon 79.60 331 P **P** **17 19 29.9 -1.3**
DLMT IAmb IAmb 17 19 51.7
comp=Z,11nm,0.9s
BMO Blue Mountains 81.38 328 P **P** **17 19 38.5 -2.3**
MAW Mawson 81.74 164 P **P** **17 19 41.8 -0.5**
MAW Mawson 81.74 164 P **P** **17 19 42.7 +0.4**
comp=Z,9.9nm,0.8s,baz=239,slow=7.7,SNR=7.9
MAW pP **pP** **17 19 58.5 -1.0**
comp=Z,8.1nm,0.8s,baz=214,slow=9.1,SNR=1.4
comp=Z,9.9nm,0.8s
F10A Beach Ranch, E 82.17 329 P **P** **17 19 43.6 -1.3**
F10A IAmb IAmb 17 20 15.6
comp=Z,8.6nm,1.0s
BOSA Boshof 83.02 118 P **P** **17 19 49.6 -0.3**
comp=Z,1.6nm,0.6s,baz=283,slow=4.6,SNR=5.2
BOSA pP **pP** **17 20 05.8 -1.4**
comp=Z,3.1nm,0.7s,baz=228,slow=3.3,SNR=3.0
BOSA LR LR 17 55 32.3
comp=Z,54nm,20.3s,baz=133,slow=35
comp=Z,1.6nm,0.6s
FFC Flin Flon 83.56 342 **P** **17 19 53.2 +1.5**
FFC IAmb IAmb 17 20 10.7
comp=Z,18nm,1.5s
LBTB Lobatse 84.77 115 LR LR 17 55 14.8
comp=Z,84nm,19.5s,baz=102,slow=34
ESDC Sonseca Array 88.79 45 P **P** **17 20 18.9 +1.0**
comp=Z,0.4nm,0.8s,baz=251,slow=12,SNR=2.2
ESDC pP **pP** **17 20 34.4 -1.0**
comp=Z,1.0nm,0.8s,baz=234,slow=4.5,SNR=2.1
comp=Z,0.4nm,0.8s
CASY Casey 89.45 180 **P** **17 20 21.8 +1.2**
YKA Yellowknife Ar 93.69 341 P **P** **17 20 41.3 +1.4**
comp=Z,0.4nm,0.6s,baz=141,slow=4.6,SNR=13
YKA pP **pP** **17 20 58.2 +0.8**
comp=Z,1.9nm,0.7s,baz=141,slow=4.5,SNR=18
YKA sP **sP** **17 21 03.9 -0.2**
comp=Z,3.6nm,0.7s,baz=141,slow=4.4,SNR=20
comp=Z,0.4nm,0.6s
KEST Kesra 96.03 54 LR LR 18 06 35.6
comp=Z,51nm,18.4s,baz=313,slow=37
DZM Mont Dzumac 108.11 235 *e*LR LR 17 57 37.7
comp=Z,60nm,26.0s
KBZ Khabaz 122.89 53 pPKP pPKPdf 17 26 37.0 -1.0
comp=Z,1.9nm,0.9s,baz=284,slow=3.6,SNR=4.9
ASAR Alice Springs 126.69 208 PKP **PKiKP** **17 26 28.1 -0.2**
comp=Z,2.1nm,0.7s,baz=127,slow=1.8,SNR=27
ASAR pPKP **pPKPdf** **17 26 46.9 +0.8**
comp=Z,2.7nm,0.5s,baz=130,slow=1.6,SNR=15
H11S2 WAKE ISLAND Hyl 27.08 275 T T 19 46 18.6
baz=108,slow=75,SNR=1079
H11S1 WAKE ISLAND Hyl 27.09 275 T T 19 46 15.1
baz=108,slow=75,SNR=575
H11S3 WAKE ISLAND Hyl 27.09 275 T T 19 46 15.7
baz=108,slow=75,SNR=548
H11N3 WAKE ISLAND Hyl 27.24 277 T T 19 46 28.6
baz=107,slow=75,SNR=83
H11N1 WAKE ISLAND Hyl 27.26 277 T T 19 46 29.9
baz=107,slow=75,SNR=55
H11N2 WAKE ISLAND Hyl 27.26 277 T T 19 46 29.9
baz=107,slow=75,SNR=82
WRA Warramunga Arr 129.76 210 PKP **PKiKP** **17 26 34.4 -0.2**
comp=Z,1.9nm,0.7s,baz=160,slow=1.7,SNR=11
WRA pPKP **pPKPdf** **17 26 52.1 +0.1**
comp=Z,1.4nm,0.4s,baz=157,slow=1.6,SNR=7.0
PETK Petropavlovsk- 134.28 321 PKP **PKiKP** **17 26 42.7 +0.1**
comp=Z,0.4nm,0.6s,baz=53,slow=3.7,SNR=1.8
PETK pPKP **pPKPdf** **17 26 59.5 0.0**
comp=Z,2.9nm,0.9s,baz=77,slow=6.5,SNR=5.8
BVAR Borovoye Array 138.94 36 PKP **PKPdf** **17 26 50.0 +0.1**
comp=Z,0.3nm,0.6s,baz=321,slow=1.8,SNR=2.9
BVAR pPKP **pPKPdf** **17 27 07.7 -0.5**
comp=Z,0.5nm,0.5s,baz=270,slow=1.5,SNR=3.5
KURBB Kurchatov Arra 144.49 35 PKP **PKPdf** **17 27 00.3 +0.5**
comp=Z,2.6nm,0.2s,baz=298,slow=3.5,SNR=8.1
KURBB pPKP **pPKPdf** **17 27 16.6 -1.5**
comp=Z,4.0nm,0.6s,baz=304,slow=3.6,SNR=5.8
ZALV Zalesovo Beam 145.19 26 PKPbc **PKPdf** **17 27 02.1 +1.2**
comp=Z,2.7nm,0.5s,baz=320,slow=5.6,SNR=14
ZALV pPKP pPKPab 17 27 18.1 -0.3
comp=Z,13nm,0.5s,baz=318,slow=3.9,SNR=20
GUMO Guam 145.26 258 PKPbc **PKPab** **17 27 03.2 +1.0**
comp=Z,24nm,0.4s,baz=143,slow=10,SNR=2.2
GUMO pPKP pPKPab 17 27 19.5 -0.4
comp=Z,107nm,1.1s,baz=208,slow=14,SNR=2.7
KSH Kashi 147.85 54 PKPbc **PKPbc** **17 27 09.8 +0.7**
KSH sPKP 17 27 27.2
KSH LR LR
comp=N,1μm,14.3s
KSH LR LR
comp=E,1μm,16.9s
KSH LR LR
comp=Z,990nm,21.5s
MKAR Makanchi Array 148.75 38 PKPbc **PKiKP** **17 27 11.9 -0.5**
comp=Z,1.9nm,0.7s,baz=317,slow=2.7,SNR=23
MKAR pPKPbc **pPKPbc** **17 27 29.1 0.0**
comp=Z,7.3nm,0.6s,baz=315,slow=2.6,SNR=26
HEH HeiHe 150.95 337 PKPbc **PKPbc** **17 27 16.0 -0.3**
MJAR Matsushiro Arr 152.92 303 PKPbc **PKPbc** **17 27 21.1 -0.2**
comp=Z,1.7nm,0.9s,baz=28,slow=5.7,SNR=4.7
MJAR pPKPbc **sPKPdf** **17 27 38.6 -0.1**
comp=Z,3.2nm,0.7s,baz=97,slow=1.9,SNR=6.7
USRK Ussuriysk Ar. 153.36 323 pPKPbc pPKPbc 17 27 41.0 +1.0
comp=Z,5.1nm,0.7s,baz=19,slow=2.0,SNR=7.5
SONM Songino Array 156.60 6 PKP **PKPdf** **17 27 19.8 +1.0**
comp=Z,0.4nm,0.4s,baz=323,slow=2.2,SNR=1.6
SONM pPKPab **PKPab** **17 27 49.0 +1.0**
comp=Z,0.8nm,0.6s,baz=326,slow=0.5,SNR=4.0
SONM pPKPab **pPKPab** **17 28 05.1 -0.3**
comp=Z,0.4nm,0.4s,baz=321,slow=1.9,SNR=2.2
SONM PP **PP** **17 31 22.9 -2.4**
comp=Z,1.3nm,1.0s,baz=318,slow=2.0,SNR=5.8
KSRS Korea Array 159.92 314 PKP **PKPdf** **17 27 24.4 +1.5**
comp=Z,0.3nm,0.3s,baz=102,slow=1.1,SNR=4.2
KSRS pPKP **pPKPdf** **17 27 40.0 -1.3**
comp=Z,0.5nm,0.4s,baz=94,slow=1.6,SNR=4.2
KSRS PKPab **PKPab** **17 28 02.7 +0.2**
comp=Z,0.4nm,0.3s,baz=53,slow=3.7,SNR=2.6
HHC Hu-ho-hao-te 163.69 355 *e*P **PKPdf** **17 27 30.7 +3.8**
CMAR Chiang Mai Arr 168.17 119 pPKP **PKPdf** **17 27 31.9 +0.8**
comp=Z,0.3nm,0.7s,baz=275,slow=1.7,SNR=2.1
NJ2 Nanjing 169.12 315 *e*P **PKPdf** **17 27 31.6 +0.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PZH PanZhiHua 172.42 73 PKP **PKPdf** **17 27 32.7 -0.6**

---

*HEL **11** 17:08:50.3±0.3, 67°.12N×20°.57E, h0km, ML2.2, Explosion*
*UPP **11** 17:08:52.9±0.1, 67°.05N×20°.96E, h0km, ML2.4, Unknown*
*IDC **11** 17:08:54.0±1.0, 67°.04N×21°.15E, h0km, mbtmp3.3/4,*
ML2.2/4, Error ellipse: s-maj=18.4km s-min=8.3km
az=97.0
ISC 11 17:08:53.2±0.7,**67°.09N**±0°.02×**20°.97E**±0°.02,**h0km**,**n46**,
σ1**39**/71,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**281**	P	**Pg**	**17 08 56.3**	**+0.1**
DUNU				S	**Sg**	**17 08 58.7**	**+0.5**
MASU	**Masugnsbyn**	**0.54**	**47**	P	**Pg**	**17 09 03.9**	**+0.3**
MASU				S	**Sg**	**17 09 11.4**	**+0.9**
ERTU	**Ertsjaerv**	**0.72**	**138**	P	**Pg**	**17 09 06.1**	**-0.9**
ERTU	**Ertsjaerv**	**0.72**	**138**	PG	**Pg**	**17 09 06.0**	**-1.1**
ERTU				SG	**Sg**	**17 09 17.2**	**+0.8**
PAJU	**Pajala**	**0.84**	**94**	P	**Pg**	**17 09 08.7**	**-0.6**
PAJU				S	**Sg**	**17 09 20.2**	**0.0**
PAJU	**Pajala**	**0.84**	**94**	PG	**Pg**	**17 09 08.6**	**-0.6**
baz=279							
PAJU				SG	**Sg**	**17 09 21.2**	**+1.0**
KUA	**Kurravaara**	**0.90**	**345**	P	**Pg**	**17 09 10.1**	**-0.3**
KUA				S	**Sb**	**17 09 23.2**	**-0.9**
SALU	**Saltoluokta**	**1.00**	**288**	P	**Pg**	**17 09 11.8**	**-0.5**
SALU				S	**Sg**	**17 09 25.6**	**+0.4**
SALU	**Saltoluokta**	**1.00**	**288**	*e*P	**Pg**	**17 09 12.0**	**-0.3**
LANU	**Lannavaara**	**1.04**	**22**	P	**Pg**	**17 09 12.7**	**-0.3**
LANU	**Lannavaara**	**1.04**	**22**	PN	**Pg**	**17 09 12.5**	**-0.5**
baz=207							
LANU				SG	**Sg**	**17 09 23.2**	**-3.2**
KOVU	**Salmi**	**1.18**	**345**	P	**Pg**	**17 09 15.2**	**-0.5**
KOVU				S	**Sb**	**17 09 32.2**	**0.0**
KLF	**Kolari**	**1.18**	**82**	PG	**Pg**	**17 09 15.0**	**-0.7**
KLF				MSG		17 09 30.5	
comp=Z,20nm,0.2s							
KLF				SG	**Sb**	**17 09 32.7**	**+0.6**
KALU	**Kalix**	**1.57**	**141**	P	**Pn**	**17 09 21.1**	**-1.1**
KALU	**Kalix**	**1.57**	**141**	PN	**Pn**	**17 09 21.3**	**-0.9**
baz=319							
KALU				SN	**Sg**	**17 09 44.0**	**+0.6**
SJUU	**Sjulsmark**	**1.61**	**171**	P	**Pn**	**17 09 21.8**	**-1.0**
HEF	**Hetta**	**1.67**	**37**	*e*P	**Pb**	**17 09 24.6**	**-0.1**
HEF	**Hetta**	**1.67**	**37**	PG	**Pn**	**17 09 23.7**	**+0.1**
HEF				MSG		17 09 42.4	
comp=Z,30nm,0.2s							
HEF				SG	**Sg**	**17 09 47.0**	**+0.1**
TOF	**Tornio**	**1.68**	**126**	PG	**Pn**	**17 09 23.3**	**-0.4**
TOF				MSG		17 09 45.0	
comp=Z,14nm,0.2s							
TOF				SG	**Sg**	**17 09 47.3**	**+0.2**
RNF	**Rovaniemi**	**2.05**	**101**	PG	**Pn**	**17 09 29.4**	**+0.5**
RNF				SG	**Sg**	**17 09 58.3**	**-0.7**
I37NO	**I37NO**	**2.18**	**337**	I	I	17 24 10.0	
baz=154,slow=327,SNR=3.7							
BURU	**Burvik**	**2.52**	**176**	PG	**Pn**	**17 09 36.0**	**+0.6**
baz=354							
BURU				SG	**Sb**	**17 10 09.8**	**-1.0**
RANF	**Ranua**	**2.57**	**112**	PB	**Pn**	**17 09 36.2**	**+0.3**
baz=296							
RANF				SB	**Sb**	**17 10 10.5**	**-1.6**
TRO	**Tromso**	**2.66**	**344**	SG	**Sn**	**17 10 10.1**	**0.0**
OUL	**Oulu**	**2.84**	**133**	PB	**Pn**	**17 09 41.3**	**+1.6**
OUL				SB	**Sn**	**17 10 17.4**	**+2.8**
OBF4	**Vikkela, Lumij**	**2.85**	**142**	PB	**Pn**	**17 09 40.5**	**+0.8**
baz=327							
OBF4				MSG		17 10 17.6	
comp=Z,5.6nm,0.2s							
OBF0	**Syolatti, Pyha**	**2.93**	**151**	PB	**Pn**	**17 09 42.1**	**+1.2**
OBF0				MSG		17 10 19.7	
comp=Z,5.2nm,0.2s							
ARA0	**ARCESS Array S**	**2.98**	**32**	PB	**Pn**	**17 09 42.8**	**+1.2**
ARA0				SG	**Sb**	**17 10 24.4**	**+0.5**
ARCES	**ARCESS Array B**	**2.98**	**32**	Pn	**Pn**	**17 09 42.2**	**+0.6**
comp=Z,0.2nm,0.3s,baz=217,slow=15,SNR=36							
ARCES				Sn	**Sn**	**17 10 20.3**	**+2.4**
comp=Z,1.0nm,0.3s,baz=212,slow=24,SNR=12							
comp=Z,1.2nm,0.2s							
RAJF	**Raja-Jooseppi**	**3.12**	**60**	PB	**Pn**	**17 09 46.2**	**+2.7**
RAJF				SB	**Sb**	**17 10 25.1**	**-2.7**
OUF	**Merijarvi**	**3.15**	**149**	PB	**Pn**	**17 09 45.7**	**+1.8**
OUF				SG	**Sb**	**17 10 28.1**	**-0.6**
KU2	**Taivalkoski**	**3.23**	**112**	PN	**Pn**	**17 09 46.0**	**+0.9**
baz=302							
KU2				SG	**Sg**	**17 10 34.9**	**-2.0**
VRF	**Varrio**	**3.40**	**75**	PB	**Pn**	**17 09 49.3**	**+2.0**
VRF				SG	**Sb**	**17 10 38.4**	**+2.4**
OLKF	**Oulanka, Finla**	**3.44**	**99**	PB	**Pn**	**17 09 50.4**	**+2.5**
OLKF				SN	**Sn**	**17 10 30.6**	**+1.3**
MSF	**Maaselka**	**3.44**	**106**	PN	**Pn**	**17 09 49.0**	**+1.0**
KEV	**Kevo**	**3.48**	**37**	PB	**Pn**	**17 09 49.7**	**+1.2**
KEV				SB	**Sb**	**17 10 35.0**	**-3.4**
KU6	**Riekki**	**3.72**	**103**	PB	**Pn**	**17 09 54.9**	**+3.1**
baz=288							
KU1	**Kurvinen**	**3.79**	**110**	PN	**Pn**	**17 09 53.8**	**+1.1**
HUSU	**Husum**	**3.84**	**192**	PB	**Pn**	**17 09 53.8**	**+0.5**
VAF	**Ylistaro**	**4.13**	**169**	PB	**Pn**	**17 10 00.6**	**+3.2**
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**17 10 24.7**	**+0.4**
comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=9.5							
FINES				Sn	**Sn**	**17 11 32.5**	**-2.1**
comp=Z,0.2nm,0.3s,baz=340,slow=23,SNR=6.3							
FINES				Lg	Lg	17 12 03.9	
comp=Z,0.3nm,0.3s,baz=337,slow=25,SNR=2.0							
comp=Z,0.7nm,0.5s							
FINES	**FINESS Array B**	**6.09**	**156**	PKIKP	**Pn**	**17 10 24.7**	**+0.4**
NB2	**NORSAR Subarra**	**7.42**	**220**	PKPdf	**Pn**	**17 10 43.5**	**+0.9**
comp=Z,0.6nm,0.6s,baz=44,slow=1.9							
HFS	**Hagfors**	**7.69**	**208**	Pn	**Pn**	**17 10 45.1**	**-1.2**
comp=Z,0.1nm,0.3s,baz=26,slow=17,SNR=7.9							
comp=Z,0.8nm,0.7s							
HFS	**Hagfors**	**7.69**	**208**	PKIKP	**Pn**	**17 10 45.1**	**-1.2**
SPITS	**Spitsbergen Ar**	**11.22**	**355**	Pn	**Pn**	**17 11 34.2**	**-0.3**
baz=165,slow=18							
comp=Z,6.4nm,1.1s							

DJA 11 17:43:31.7±0.4,**0°S**±3°×**12°4E**±°,**h132**km±6km,**M3.8**/13,
mB5.0/1,**mb4.0**/2,**MLv3.7**/13,**Mw(mB)4.2**/1,**Minahassa**
Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.75**	**30**	P	Pn	17 43 53.2	+0.5
KMSI				S	Sn	17 44 10.8	+2.3
APSI	**Ampana**	**2.13**	**247**	P	Pn	17 44 07.6	+0.3
APSI				S	Sn	17 44 34.4	-0.3
SANI	**Sanana**	**3.08**	**129**	P	Pn	17 44 18.8	-0.6
MPSI	**Mapaga**	**3.73**	**276**	P	Pn	17 44 28.5	+0.5
TNTI	**Ternate**	**3.85**	**77**	P	Pn	17 44 28.8	-0.7
PCI	**Palu**	**3.86**	**258**	P	Pn	17 44 30.2	+0.5
NLAI	**Namlea**	**4.69**	**132**	P	Pn	17 44 42.3	+1.6
NLAI				S	Sn	17 45 35.3	+0.9

---

*NEIC **11** 17:43:51.2±1.3, 61°.40N±0°.03×150°.00W±0°.08, h45km±6km,*
Error ellipse: s-maj=5.3km s-min=5.0km az=68.0
AEIC 11 17:43:52.2±1.8,**61°.43N**±0°.03×**150°.03W**±0°.08,**h40**km±6km,
ML3.3,**ML3.5**/172(NEIC),**Error ellipse: s-maj=5.4km**
s-min=4.1km az=84.0,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.33**	**352**		Pn	17 43 59.7	-1.1
M22K				IAML		17 44 07.6	
comp=E,5μm,0.6s							
M22K	**Willow**	**0.33**	**352**		Sn	17 44 07.0	+0.3
SUA	**Susitna One**	**0.35**	**276**		Pn	17 44 00.1	-1.1
SUA					Sn	17 44 07.3	-0.1
SUA	**Susitna One**	**0.35**	**276**	IAML		17 44 08.2	
comp=E,5μm,0.8s							
SUA				IAML		17 44 08.2	
comp=N,3μm,0.8s							
PMR	**Palmer**	**0.46**	**69**		Pn	17 44 01.1	-1.3
PMR				IAML		17 44 09.8	
comp=N,3μm,0.5s							
PMR				IAML		17 44 09.9	
comp=E,2μm,0.4s							
PMR	**Palmer**	**0.46**	**69**		Sn	17 44 09.2	-0.4
GHO	**Glory Hole Cre**	**0.63**	**56**		Pn	17 44 03.8	-1.1
GHO					Sn	17 44 13.7	-0.1
GHO	**Glory Hole Cre**	**0.63**	**56**	IAML		17 44 16.2	
comp=E,3μm,0.3s							
GHO				IAML		17 44 16.5	
comp=N,3μm,0.4s							
KNK	**Knik Glacier**	**0.76**	**90**	IAML		17 44 19.3	
comp=E,2μm,0.3s							
KNK				IAML		17 44 20.8	
comp=N,2μm,0.4s							
CAPN	**Captain Cook N**	**0.86**	**220**		Pn	17 44 07.5	-0.3
STLK	**Strandline Lak**	**0.87**	**275**		Pn	17 44 06.9	-1.1
STLK					Sn	17 44 18.9	-0.6
STLK	**Strandline Lak**	**0.87**	**275**	IAML		17 44 20.4	
comp=E,1μm,0.3s							
SML	**Sawmill**	**0.90**	**64**		Pn	17 44 07.2	-1.2
SML				IAML		17 44 22.8	
comp=E,1μm,0.7s							
SML				IAML		17 44 23.4	
comp=N,1μm,0.4s							
SKT	**Skwentna**	**0.91**	**308**		Pn	17 44 07.3	-1.2
SKT	**Skwentna**	**0.91**	**308**		Sn	17 44 20.0	-0.4
SLKM	**Skilak Lake**	**0.93**	**186**		Pn	17 44 06.4	-2.4
SLKM				IAML		17 44 21.6	
comp=E,2μm,0.3s							
SLKM				IAML		17 44 22.0	
comp=N,2μm,0.2s							
O22K	**Cooper Landing**	**0.96**	**171**		Pn	17 44 07.3	-1.9
CUT	**Chulitna**	**0.99**	**354**		Pn	17 44 08.6	-1.0
CUT	**Chulitna**	**0.99**	**354**		Sn	17 44 22.7	+0.4
SPBG	**Spurr Blockage**	**1.14**	**263**		Pn	17 44 10.5	-1.3
SCM	**Sheep Creek Mo**	**1.35**	**71**		Pn	17 44 14.0	-0.6
SCM				IAML		17 44 34.1	
comp=N,1μm,0.8s							
SEW	**Seward**	**1.36**	**168**		Pn	17 44 12.5	-2.2
GLI	**Glacier Island**	**1.52**	**110**		Pn	17 44 15.3	-1.7
GLI				IAML		17 44 40.5	
comp=N,807nm,0.3s							
M20K	**Styx River**	**1.55**	**288**		Pn	17 44 16.6	-0.8
M20K				IAML		17 44 38.6	
comp=E,434nm,0.7s							
RDJH	**Redoubt Jeurge**	**1.59**	**239**		Pn	17 44 16.6	-1.4
BRLK	**Bradley Lake**	**1.72**	**195**		Pn	17 44 18.0	-1.7
BRLK				IAML		17 44 44.3	
comp=N,607nm,0.4s							
BRLK				IAML		17 44 44.4	
comp=E,692nm,0.4s							
PPLA	**Purkeypile**	**1.79**	**326**		Pn	17 44 20.4	-0.3
PPLA				IAML		17 44 59.4	
comp=N,260nm,0.9s							
PPLA				IAML		17 44 59.4	
comp=E,354nm,0.8s							
FID	**Port Fidalgo**	**1.85**	**110**		Pn	17 44 19.4	-2.1
FID				IAML		17 44 49.5	
comp=E,491nm,0.6s							
FID				IAML		17 44 52.9	
comp=N,436nm,0.5s							
P23K	**Montague Islan**	**1.93**	**137**		Pn	17 44 19.9	-2.6
P23K				IAML		17 44 54.5	
comp=N,479nm,0.6s							
P23K				IAML		17 44 55.1	
comp=E,561nm,0.6s							
HOM	**Homer**	**1.95**	**205**		Pn	17 44 21.0	-1.8
M24K	**Tolsona, Glenn**	**1.96**	**68**	IAML		17 45 00.0	
comp=N,454nm,0.9s							
KLU	**Klutina**	**1.97**	**86**	IAML		17 44 53.7	
comp=E,290nm,0.3s							
KLU				IAML		17 44 55.5	
comp=N,383nm,0.4s							
CNPM	**China Poot**	**2.00**	**198**		Pn	17 44 21.8	-1.7
CNPM				IAML		17 44 51.4	
comp=N,464nm,0.4s							
HIN	**Hinchinbrook I**	**2.01**	**119**	IAML		17 44 54.1	
comp=N,531nm,0.9s							
TRF	**Thorofare Moun**	**2.03**	**357**	IAML		17 45 02.4	
comp=N,210nm,0.6s							
DIV	**Divide**	**2.08**	**96**	IAML		17 44 56.0	
comp=N,359nm,0.5s							
DIV				IAML		17 44 58.5	
comp=E,208nm,0.6s							
ILSW	**Iliamna Southw**	**2.11**	**228**		Pn	17 44 23.7	-1.4
EYAK	**Cordova Ski Ar**	**2.27**	**111**		Pn	17 44 25.6	-1.5
EYAK				IAML		17 45 04.3	
comp=N,204nm,0.6s							
MCK	**McKinley**	**2.37**	**12**		Pn	17 44 28.4	-0.1
MCK				IAML		17 45 13.3	
comp=E,192nm,0.8s							
P19K	**Oil Pt**	**2.38**	**223**		Pn	17 44 27.6	-1.2
L19K	**White Mountain**	**2.41**	**290**		Pn	17 44 28.8	-0.4
L19K				IAML		17 45 13.6	
comp=N,146nm,1.1s							
O19K	**Port Alsworth**	**2.44**	**241**		Pn	17 44 28.8	-0.7
O19K				IAML		17 45 03.3	
comp=N,336nm,0.5s							
N25K	**Chitina, Valde**	**2.61**	**84**		Pn	17 44 31.7	-0.3
N25K				IAML		17 45 11.8	
comp=E,119nm,0.5s							
N25K				IAML		17 45 12.4	
comp=N,184nm,0.3s							
PAX	**Paxson**	**2.64**	**52**		Pn	17 44 32.4	+0.1
PAX				IAML		17 45 11.3	
comp=N,162nm,0.7s							
PAX				IAML		17 45 12.0	
comp=E,131nm,1.0s							
BMRM	**Bremner River**	**2.67**	**98**	IAML		17 45 11.9	
comp=N,222nm,0.6s							
BMRM				IAML		17 45 17.3	
comp=E,180nm,0.8s							
GLB	**Gilahina Butte**	**2.99**	**87**	IAML		17 45 22.9	
comp=N,156nm,0.6s							
O18K	**Koktuh Hills**	**3.00**	**241**		Pn	17 44 35.6	-1.6
O18K				IAML		17 45 38.2	
comp=E,129nm,1.1s							
O18K				IAML		17 45 39.4	
comp=N,105nm,1.0s							
SYI	**Shuyak Island**	**3.06**	**204**		Pn	17 44 36.6	-1.4
SYI				IAML		17 45 22.8	
comp=N,114nm,2.0s							
SYI				IAML		17 45 49.1	
comp=E,113nm,2.6s							
Q19K	**Cape Douglas,**	**3.09**	**217**		Pn	17 44 37.4	-1.1
VRDI	**Verde Repeater**	**3.18**	**91**		Pn	17 44 39.6	-0.2
VRDI				IAML		17 45 33.4	
comp=N,88nm,0.9s							
WRH	**Wood River Hil**	**3.18**	**15**		Pn	17 44 39.8	+0.1
WRH				IAML		17 45 38.5	
comp=N,77nm,0.9s							
WRH				IAML		17 45 44.7	
comp=E,81nm,1.5s							
NEA2	**Nenana**	**3.21**	**7**	IAML		17 45 35.4	
comp=N,84nm,1.0s							
L18K	**Granite Mounta**	**3.26**	**287**	IAML		17 45 37.9	
comp=E,68nm,0.7s							
MENT	**Mentasta**	**3.32**	**60**		Pn	17 44 43.9	+2.2
RIDG	**Independent Ri**	**3.34**	**44**		Pn	17 44 42.8	+1.0
RIDG				IAML		17 45 30.4	
comp=N,106nm,0.6s							
J20K	**Nowinta River**	**3.34**	**327**		Pn	17 44 41.4	-0.6
J20K				IAML		17 45 21.5	
comp=N,74nm,0.6s							
M26K	**Nabesna, AK**	**3.47**	**71**	IAML		17 45 43.1	
comp=N,75nm,0.6s							
M26K				IAML		17 45 46.7	
comp=E,70nm,0.5s							
L26K	**Log Cabin Wild**	**3.52**	**

I23K	**Minto, Yukon-K**	**3.75**	**4**	IAML			17 45 57.9	
	comp=N,50nm,1.0s							
I23K				IAML			17 45 59.0	
	comp=E,46nm,0.7s							
SCRK	**Sand Creek**	**3.78**	**45**	IAML			17 45 51.7	
	comp=E,76nm,0.7s							
SCRK				IAML			17 45 55.2	
	comp=N,55nm,0.6s							
J25K	**Salcha River,**	**3.84**	**32**	IAML			17 45 42.1	
	comp=E,82nm,0.6s							
J25K				IAML			17 45 42.4	
	comp=N,76nm,0.6s							
I21K	**Tanana**	**3.87**	**348**	IAML			17 46 06.0	
	comp=N,41nm,0.8s							
K17K	**Iditarod**	**4.10**	**292**			Pn	17 44 51.4	-0.9
K17K				IAML			17 46 06.1	
	comp=N,55nm,1.4s							
K17K				IAML			17 46 12.1	
	comp=E,55nm,1.2s							
L27K	**Beaver Creek,**	**4.17**	**63**	IAML			17 46 03.8	
	comp=N,36nm,1.2s							
BCAR	**Beaver Creek A**	**4.19**	**63**			Pn	17 44 53.2	-0.4
J26L	**Joseph Creek**	**4.27**	**41**	IAML			17 45 51.6	
	comp=E,59nm,0.4s							
J26L				IAML			17 45 53.5	
	comp=N,85nm,0.5s							
M16K	**Timber Creek**	**4.34**	**269**			Pn	17 44 54.5	-1.0
M16K				IAML			17 46 09.2	
	comp=E,44nm,3.8s							
M16K				IAML			17 46 58.7	
	comp=N,39nm,3.0s							
H21K	**Melozitna Rive**	**4.42**	**345**			Pn	17 44 56.5	-0.2
L16K	**Owhat River**	**4.53**	**278**	IAML			17 45 51.5	
	comp=E,39nm,3.4s							
L16K				IAML			17 46 38.7	
	comp=N,33nm,3.4s							
H24K	**Noodor Dome**	**4.53**	**11**	IAML			17 46 19.1	
	comp=E,26nm,0.9s							
J17K	**VABM Dome**	**4.65**	**299**	IAML			17 46 05.9	
	comp=E,31nm,3.7s							
J17K				IAML			17 46 33.6	
	comp=N,42nm,3.8s							
I26K	**Coal Creek Min**	**4.97**	**35**	IAML			17 46 09.0	
	comp=N,49nm,0.6s							
J16K	**Anvik River**	**5.26**	**295**	IAML			17 46 43.7	
	comp=N,23nm,3.0s							
J16K				IAML			17 48 21.3	
	comp=E,23nm,3.8s							
F20K	**Avaraart Lake**	**6.16**	**339**			Pn	17 45 20.3	-0.2

*BJI **11** 17:52:40.8,25°.00N×128°.18E,h9km,mB5.3/60,mb5.1/87, Ms5.1/89,Ms7 4.8/86*

*MOS **11** 17:52:41.2±1.0,24°.90N×128°.19E,h10km,mb5.6/69, MS5.0/13,Error ellipse: s-maj=6.5km s-min=3.7km az=110.9*

*IDC **11** 17:52:41.3±0.5,24°.92N×128°.13E,h0km,mb4.9/28, mbtmp5.0/34,ML5.1/4,MS4.5/66,Error ellipse: s-maj=15.6km s-min=11.4km az=82.0*

*NEIC **11** 17:52:42.9,24°.86N×128°.00E,h26km,Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16^Nm; Mrr=2.87; Mθθ2.87; Mφφ-0.00; Mrθ3.13; Mθφ0.80; Mφr2.97; Fault plane solution: Ms5.24000×10^16^ NP1:φs93.97000°, δ21.26000°,λ-50.62000°. NP2:φs232.60000°,δ73.72000°, λ-103.87000°. Principal axes: T 5.0845, Plg27.0000°, Azm334.0000°; N 0.3098, Plg13.0000°, Azm237.0000°; P -5.3943, Plg59.0000°, Azm123.0000°;*

*NEIC **11** 17:52:42.9±1.4,24°.88N±0°.06×128°.23E±0°.06,h10km±1km, mb5.4/288,Mww5.1/37 Error ellipse: s-maj=10.5km s-min=9.6km az=146.0*

*NEIC **11** 17:52:42.9,24°.86N×128°.25E,h26km*

*NIED **11** 17:52:43.7,24°.93N×128°.16E,h82km,MW5.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr=1.77; Mθθ1.94; Mφφ-0.17; Mrθ2.47; Mθφ0.14; Mφr1.32; Fault plane solution: Ms3.36000×10^16^ NP1: φs105.00000°,δ20.00000°,λ-53.00000°. NP2: φs246.00000°,δ74.00000°,λ-102.00000°.*

*JMA **11** 17:52:43.7±0.2,24°.9N±0°.9×12°.8E±°,h82km,MD5.0/29, MW5.1/29,FAR S OFF OKINAWAJIMA*

JMA Felt I J1 at FAR S OFF OKINAWAJIMA .

*GCMT **11** 17:52:45.9±0.2,24°.83N±0°.01×128°.14E±0°.02,h12km, MW5.0/111,Moment Tensor Solution. s35,c45; s111,c186; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.17±.07; Mθθ2.45±.05; Mφφ-0.27±.06; Mrθ3.03±.17; Mθφ0.96±.05; Mφr2.72±.21; Best double couple: Mo4.78300×10^16^ NP1:φs96.00000°,δ20.00000°, λ-47.00000°. NP2:φs231.00000°,δ76.00000°, λ-104.00000°. Principal axes: T 4.8680, Plg29.0000°, Azm332.0000°; N -0.1650, Plg13.0000°, Azm235.0000°; P -4.6990, Plg57.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **11** 17:52:53.9,25°.63N×127°.29E,h45km±1km,mb5.3, Hypocentre not reviewed by the ISC*

ISC 11 17:52:43.8±0.5,24°.88N±0°.03×128°.21E±0°.03,h17km±2km, h17km:pP-P,n1142,σ1s53/1083,mb5.3/274,MS4.7/95, 73C-30D,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.31**	**343**	P	**Pn**	**17 53 06.4**	**-1.0**
JJT3				*e*S	**Sn**	**17 53 23.1**	**-1.4**
JJT3	**Tamagusuku3**	**1.31**	**343**	A	A	17 53 06.4	
	comp=N,136nm,2.9s,comp=E,145nm,5.0s						
JNTH	**Nagotoyohara**	**1.64**	**354**	P	**Pn**	**17 53 10.4**	**-1.4**
JNTH				*e*S	**Sn**	**17 53 30.1**	**-2.4**
JNTH	**Nagotoyohara**	**1.64**	**354**	A	A	17 53 10.4	
	comp=N,33nm,1.3s,comp=E,21nm,5.3s						
JAGN	**Aguni-jima**	**1.91**	**333**	P	**Pn**	**17 53 14.3**	**-1.3**
JAGN				S	**Sn**	**17 53 36.3**	**-3.0**
JAGN	**Aguni-jima**	**1.91**	**333**	A	A	17 53 14.3	
	comp=N,58nm,5.9s,comp=E,48nm,1.7s						
JKE	**Kume jima 2**	**1.93**	**319**	*i* P	**Pn**	**17 53 14.4**	**-1.4**
JKE				S	**Sn**	**17 53 36.4**	**-3.4**
JKE	**Kume jima 2**	**1.93**	**319**	A	A	17 53 14.4	
	comp=N,30nm,1.1s,comp=E,29nm,5.7s						
JOW	**Kunigami**	**1.94**	**2**	Pn	**Pn**	**17 53 14.9**	**-1.2**
	comp=E,942nm,0.3s,baz=158,slow=18,SNR=3324						
JOW				Sn	**Sn**	**17 53 36.3**	**-3.9**
	comp=E,972nm,0.3s,baz=86,slow=27,SNR=5.5						
JOW	**Kunigami**	**1.94**	**2**	P	**Pn**	**17 53 14.8**	**-1.3**
JOW	**Kunigami**	**1.94**	**2**	P	**Pn**	**17 53 14.9**	**-1.2**
JOW				*e*S	**Sn**	**17 53 37.2**	**-2.9**
JOW	**Kunigami**	**1.94**	**2**	A	A	17 53 14.9	
	comp=N,14nm,0.9s,comp=E,16nm,1.7s						
JYRO	**Yoronjima**	**2.14**	**6**	P	**Pn**	**17 53 17.3**	**-1.5**
JYRO				*e*S	**Sn**	**17 53 41.0**	**-4.1**
JYRO	**Yoronjima**	**2.14**	**6**	A	A	17 53 17.3	
	comp=N,14nm,2.1s,comp=E,12nm,4.2s						
JIH	**Iheya**	**2.15**	**354**	*i* P	**Pn**	**17 53 18.2**	**-0.8**
JIH				S	**Sn**	**17 53 41.5**	**-3.8**
JIH	**Iheya**	**2.15**	**354**	A	A	17 53 18.2	
	comp=N,22nm,6.1s,comp=E,18nm,4.3s						
JOKE	**Okinoerabujima**	**2.49**	**7**	*i* P	**Pn**	**17 53 22.4**	**-1.2**
JOKE				*e*S	**Sn**	**17 53 50.0**	**-3.6**
JOKE	**Okinoerabujima**	**2.49**	**7**	A	A	17 53 22.4	
	comp=N,13nm,6.9s,comp=E,11nm,6.4s						
JOGS	**Gusukube**	**2.55**	**268**	*i* P	**Pn**	**17 53 23.3**	**-1.1**
JOGS				S	**Sn**	**17 53 51.6**	**-3.5**
JOGS	**Gusukube**	**2.55**	**268**	A	A	17 53 23.3	
	comp=N,41nm,5.1s,comp=E,52nm,6.0s						
JMJ2	**Miyako jima3**	**2.62**	**268**	*i* P	**Pn**	**17 53 24.2**	**-1.2**
JMJ2				*e*S	**Sn**	**17 53 52.9**	**-4.0**
JMJ2	**Miyako jima3**	**2.62**	**268**	A	A	17 53 24.2	
	comp=N,35nm,5.5s,comp=E,59nm,5.4s						
JMJ	**Miyako jima 2**	**2.65**	**269**	P	**Pn**	**17 53 24.2**	**-1.6**
JMJ	**Miyako jima 2**	**2.65**	**269**	S	**Sn**	**17 53 53.7**	**-3.8**
JIKM	**Ikemajima**	**2.69**	**271**	P	**Pn**	**17 53 25.3**	**-1.1**
JIKM				*e*S	**Sn**	**17 53 54.2**	**-4.2**
JIKM	**Ikemajima**	**2.69**	**271**	A	A	17 53 25.3	
	comp=N,35nm,5.2s,comp=E,37nm,6.8s						
JIRB	**Irabujima**	**2.76**	**270**	*i* P	**Pn**	**17 53 25.8**	**-1.5**
JIRB				S	**Sn**	**17 53 55.2**	**-5.0**
JIRB	**Irabujima**	**2.76**	**270**	A	A	17 53 25.8	
	comp=N,25nm,7.5s,comp=E,25nm,4.8s						
JMZ	**Minamidaito 2**	**2.88**	**70**		**Pn**	**17 53 26.4**	**-2.6**
JMZ	**Minamidaito 2**	**2.88**	**70**	P	**Pn**	**17 53 27.6**	**-1.4**
JMZ	**Minamidaito 2**	**2.88**	**70**	*i* P	**Pn**	**17 53 26.5**	**-2.5**
JMZ				S	**Sn**	**17 53 59.7**	**-3.6**
JMZ	**Minamidaito 2**	**2.88**	**70**	A	A	17 53 26.5	
	comp=N,56nm,5.3s,comp=E,51nm,6.5s						
JTK	**Tokunoshima**	**2.97**	**13**	*i* P	**Pn**	**17 53 29.0**	**-1.1**
JTK				*e*S	**Sn**	**17 54 01.0**	**-4.4**
JTK	**Tokunoshima**	**2.97**	**13**	A	A	17 53 29.0	
	comp=N,7.0nm,4.3s,comp=E,8.0nm,5.4s						
JKDJ	**Kitadaitoujima**	**2.99**	**69**	*i* P	**Pn**	**17 53 28.3**	**-2.2**
JKDJ				S	**Sn**	**17 54 01.9**	**-4.0**
JKDJ	**Kitadaitoujima**	**2.99**	**69**	A	A	17 53 28.3	
	comp=N,58nm,6.7s,comp=E,34nm,4.8s						
JTJ	**Tarama**	**3.20**	**266**	*i* P	**Pn**	**17 53 31.8**	**-1.5**
JTJ				S	**Sn**	**17 54 06.0**	**-5.0**
JTJ	**Tarama**	**3.20**	**266**	A	A	17 53 31.8	
	comp=N,16nm,5.1s,comp=E,17nm,3.5s						
JAMN	**Amaminishikomi**	**3.46**	**14**	P	**Pn**	**17 53 36.2**	**-0.7**
JAMN				*e*S	**Sn**	**17 54 13.3**	**-4.2**
JAMN	**Amaminishikomi**	**3.46**	**14**	A	A	17 53 36.2	
	comp=E,6.0nm,3.6s						
JISG	**Ishigakijimahi**	**3.56**	**266**	*i* P	**Pn**	**17 53 36.3**	**-2.0**
JISG				S	**Sn**	**17 54 14.3**	**-5.6**
JISG	**Ishigakijimahi**	**3.56**	**266**	A	A	17 53 36.3	
	comp=N,5.0nm,4.2s,comp=E,5.0nm,5.9s						
JAM	**Amami Oshima**	**3.73**	**19**	*i* P	**Pn**	**17 53 39.4**	**-1.3**
JAM				S	**Sn**	**17 54 19.1**	**-5.1**
JAM	**Amami Oshima**	**3.73**	**19**	A	A	17 53 39.4	
	comp=E,6.0nm,5.0s						
JIJ	**Ishigaki jima**	**3.73**	**263**	*i* P	**Pn**	**17 53 38.9**	**-1.9**
JIJ				*e*S	**Sn**	**17 54 17.8**	**-6.5**
JIJ	**Ishigaki jima**	**3.73**	**263**	A	A	17 53 38.9	
	comp=N,6.0nm,6.2s,comp=E,5.0nm,4.8s						
JZK	**Kikaishima**	**3.77**	**24**	*i* P	**Pn**	**17 53 41.3**	**+0.1**
JZK				S	**Sn**	**17 54 22.3**	**-2.8**
JZK	**Kikaishima**	**3.77**	**24**	A	A	17 53 41.3	
	comp=N,22nm,8.8s,comp=E,24nm,5.8s						
JKRS	**Kuro-shima**	**3.88**	**261**	P	**Pn**	**17 53 41.1**	**-1.5**
JKRS				*e*S	**Sn**	**17 54 22.9**	**-4.9**
JKRS	**Kuro-shima**	**3.88**	**261**	A	A	17 53 41.1	
	comp=N,24nm,7.1s,comp=E,20nm,2.3s						
HATJ	**Hateruma jima**	**4.09**	**259**	*e*P	**Pn**	**17 53 43.6**	**-2.1**
HATJ				*e*S	**Sn**	**17 54 26.2**	**-7.1**
HATJ	**Hateruma jima**	**4.09**	**259**	A	A	17 53 43.6	
	comp=N,15nm,5.0s,comp=E,19nm,3.7s						
IRIF	**Iriomote-Funau**	**4.11**	**263**	P	**Pn**	**17 53 44.3**	**-1.6**
IRIF				*e*S	**Sn**	**17 54 29.2**	**-4.4**
JTAJ	**Takarajima**	**4.34**	**12**	P	**Pn**	**17 53 48.2**	**-0.9**
YOJ	**Yonaguni jima**	**4.75**	**266**		**Pn**	**17 53 53.0**	**-1.6**
YOJ	**Yonaguni jima**	**4.75**	**266**	P	**Pn**	**17 53 54.5**	**-0.1**
YOJ	**Yonaguni jima**	**4.75**	**266**	P	**Pn**	**17 53 53.0**	**-1.6**
NACB	**Ninganchiao**	**6.06**	**265**		**Pn**	**17 54 09.8**	**-3.0**
NACB	**Ninganchiao**	**6.06**	**265**	P	**Pn**	**17 54 09.9**	**-2.8**
TATO	**Taipei**	**6.10**	**272**		**Pn**	**17 54 11.5**	**-1.7**
TATO	**Taipei**	**6.10**	**272**	P	**Pn**	**17 54 12.2**	**-1.0**
TATO	**Taipei**	**6.10**	**272**	P	**Pn**	**17 54 13.3**	**+0.1**
YHNB	**Yeheng**	**6.21**	**269**		**Pn**	**17 54 13.8**	**-1.0**
YHNB	**Yeheng**	**6.21**	**269**	P	**Pn**	**17 54 14.7**	**-0.2**
YULB	**Yu-li**	**6.48**	**258**		**Pn**	**17 54 14.3**	**-4.3**
YULB	**Yu-li**	**6.48**	**258**	P	**Pn**	**17 54 14.7**	**-3.9**
SSLB	**Suanglung**	**6.71**	**262**		**Pn**	**17 54 18.3**	**-3.3**
SSLB	**Suanglung**	**6.71**	**262**	P	**Pn**	**17 54 18.6**	**-3.0**
TWGBT	**Beinan**	**6.84**	**254**	P	**Pn**	**17 54 19.5**	**-3.9**
TWG	**Pinlang**	**6.85**	**254**		**Pn**	**17 54 18.9**	**-4.6**
TPUB	**Ta-pu**	**7.10**	**259**		**Pn**	**17 54 24.7**	**-2.4**
TPUB	**Ta-pu**	**7.10**	**259**	P	**Pn**	**17 54 25.2**	**-1.8**
JNU	**Nakatsue**	**8.54**	**15**		**Pn**	**17 54 46.7**	**0.0**
JNU	**Nakatsue**	**8.54**	**15**	Pn	**Pn**	**17 54 46.9**	**+0.2**
	comp=E,15nm,0.3s,baz=189,slow=6.8,SNR=159						
JNU				Sn	**Sn**	**17 56 18.9**	**-3.8**
	comp=E,5.9nm,0.3s,baz=113,slow=22,SNR=8.8						
JNU				LR	LR	17 58 35.6	
	comp=E,960nm,19.4s,baz=200,slow=42						
	comp=E,291nm,0.8s						
JNU	**Nakatsue**	**8.54**	**15**	P	**Pn**	**17 54 46.6**	**-0.1**
QZH	**Quanzhou**	**8.73**	**272**	P	Pn	17 54 42.0	-7.3
QZH				S	Sn	17 56 17.8	-10
QZH				LR	LR		
	comp=N,3μm,10.0s						
QZH				LR	LR		
	comp=E,3μm,11.2s						
QZH				LR	LR		
	comp=Z,3μm,7.6s						
SSE	**Sheshan**	**8.76**	**317**	P	**Pn**	**17 54 50.0**	**+0.2**
SSE				S	**Sn**	**17 56 30.5**	**+2.3**
SSE				pmax	pmax		
	comp=Z,20nm,0.6s						
SSE				pmax	pmax		
	comp=Z,360nm,4.5s						
SSE				LR	LR		
	comp=Z,960nm,15.0s						
SSE				LR	LR		
	comp=Z,2μm,14.2s						
KNMB	**Chin-men Tao**	**8.94**	**269**	Pn	**Pn**	**17 54 49.0**	**-3.3**
JTU	**Tsushima**	**9.66**	**6**	P	**Pn**	**17 55 03.7**	**+1.6**
JMN	**Monobe**	**10.11**	**28**		**Pn**	**17 55 07.2**	**-1.1**
JMN	**Monobe**	**10.11**	**28**	P	**Pn**	**17 55 07.9**	**-0.3**
NJ2	**Nanjing**	**10.89**	**313**	⇑P	**Pn**	**17 55 19.3**	**+0.3**
NJ2				sP		17 55 25.6	
NJ2				pmax	pmax		
	comp=Z,40nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,490nm,4.7s						
NJ2				LR	LR		
	comp=Z,5μm,10.0s						
NJ2				LR	LR		
	comp=Z,5μm,12.8s						
NJ2				LR	LR		
	comp=Z,5μm,13.7s						
TJN	**Taejon**	**11.48**	**357**	Pn	**Pn**	**17 55 25.2**	**-1.8**
TJN	**Taejon**	**11.48**	**357**	P	**Pn**	**17 55 28.1**	**+1.1**
TJN	**Taejon**	**11.48**	**357**	P	**Pn**	**17 55 28.3**	**+1.3**
TJN				pmax	pmax		
	comp=Z,339nm,1.0s						
KSRS	**Korea Array**	**12.54**	**359**	Pn	**Pn**	**17 55 41.3**	**-0.1**
	comp=Z,36nm,1.0s,baz=176,slow=14,SNR=100						
KSRS				LR	LR	18 01 05.1	
	comp=Z,3μm,18.3s,baz=185,slow=40						
KS19	**Wonju Array Si**	**12.58**	**359**		**Pn**	**17 55 41.0**	**-1.1**
INCN	**Inchon**	**12.63**	**354**		**Pn**	**17 55 43.2**	**+0.4**
INCN	**Inchon**	**12.63**	**354**	P	**Pn**	**17 55 43.2**	**+0.4**
INCN	**Inchon**	**12.63**	**354**	P	**Pn**	**17 55 43.4**	**+0.6**
INCN	**Inchon**	**12.63**	**354**	P	**Pn**	**17 55 43.2**	**+0.4**
TGY	**Tagaytay City**	**12.72**	**214**	Pn	**Pn**	**17 55 45.6**	**+1.5**
	comp=Z,26nm,0.3s,baz=53,slow=20,SNR=1.5						
TGY				LR	LR	18 01 19.0	
	comp=Z,882nm,18.1s,baz=40,slow=41						
	comp=Z,69nm,0.3s						
JCJ	**Chichijima**	**12.76**	**77**	LR	LR	18 00 12.4	
	comp=Z,2μm,18.3s,baz=256,slow=35						
INU	**Inuyama**	**12.91**	**34**	P	**Pn**	**17 55 48.5**	**+1.9**
JHJ	**Hachijo jima 2**	**13.03**	**48**	LR	LR	18 00 48.2	
	comp=Z,770nm,18.0s,baz=262,slow=37						
WHN	**Wuhan**	**13.50**	**298**	‖P	**Pn**	**17 55 54.7**	**0.0**
WHN				PP	**P**	**17 56 05.1**	**+1.3**
WHN				S	**Sn**	**17 58 25.9**	**+1.5**
WHN				pmax	pmax		
	comp=Z,180nm,1.1s						
WHN				pmax	pmax		
	comp=Z,1μm,4.4s						
WHN				LR	LR		
	comp=Z,23μm,13.1s						
WHN				LR	LR		
	comp=Z,7μm,12.0s						
WHN				LR	LR		
	comp=Z,18μm,12.1s						
MAJO	**Matsushiro**	**14.45**	**34**		**Pn**	**17 56 04.2**	**-3.4**
MAJO	**Matsushiro**	**14.45**	**34**	P	**Pn**	**17 56 08.7**	**+1.1**
MAJO	**Matsushiro**	**14.45**	**34**	P	**Pn**	**17 56 04.2**	**-3.4**
MJAR	**Matsushiro Arr**	**14.45**	**34**	Pn	**Pn**	**17 56 09.0**	**+1.4**
	comp=Z,4.7nm,0.8s,baz=217,slow=10,SNR=9.3						
MJAR	**Matsushiro Arr**	**14.45**	**34**	P	**Pn**	**17 56 09.0**	**+1.4**
MJB9	**Matsu-Tunnel**	**14.45**	**34**	Pn	**Pn**	**17 56 06.9**	**-0.7**
TIA	**Tai'an**	**14.77**	**322**	P	**Pn**	**17 56 11.3**	**-0.7**
TIA				pP	**P**	**17 56 14.5**	**-3.4**
TIA				S	**Sn**	**17 59 01.9**	**+6.5**
TIA				ScS	**ScS**	**18 08 33.1**	**-1.1**
TIA				pmax	pmax		
	comp=Z,170nm,1.1s						
TIA				pmax	pmax		
	comp=Z,750nm,4.2s						
TIA				LR	LR		
	comp=Z,3μm,12.1s						
TIA				LR	LR		
	comp=Z,5μm,13.2s						
TIA				LR	LR		
	comp=Z,6μm,12.6s						
DL2	**Dalian**	**15.05**	**340**	⇑*i* P	**Pn**	**17 56 15.6**	**-0.1**
DL2				*e*S	**Sn**	**17 59 03.1**	**+1.1**
DL2				pmax	pmax		
	comp=Z,160nm,1.3s						
DL2				pmax	pmax		
	comp=Z,990nm,3.5s						
DL2				LR	LR		
	comp=Z,4μm,12.4s						
DL2				LR	LR		
	comp=Z,1μm,11.4s						
DL2				LR	LR		
	comp=Z,4μm,16.7s						
JSD	**Sado**	**15.65**	**31**		**Pn**	**17 56 23.4**	**-0.2**
JSD	**Sado**	**15.65**	**31**	P	**Pn**	**17 56 24.7**	**+1.1**
GULI	**GuiLin**	**16.17**	**275**	P	**P**	**17 56 32.1**	**-1.4**
GULI				S	**S**	**17 59 36.4**	**-6.1**
GULI				pmax	pmax		
	comp=Z,210nm,1.2s						
GULI				pmax	pmax		
	comp=Z,570nm,9.8s						
GULI				LR	LR		
	comp=Z,2μm,18.1s						
GULI				LR	LR		
	comp=Z,1μm,22.6s						
GULI				LR	LR		
	comp=Z,2μm,18.8s						
LYN	**LuoYang**	**16.71**	**309**	P	**Pn**	**17 56 36.3**	**-0.9**
LYN				PP	**pwP**	**17 56 51.8**	**+0.2**
LYN				S	**Sn**	**17 59 46.3**	**+3.9**
LYN				pmax	pmax		
	comp=Z,1μm,1.4s						
LYN				pmax	pmax		
	comp=Z,1μm,9.8s						
LYN				LR	LR		
	comp=Z,3μm,16.9s						
LYN				LR	LR		
	comp=Z,5μm,16.8s						
LYN				LR	LR		
	comp=Z,9μm,16.9s						
JMM	**Marumori**	**16.80**	**37**		**Pn**	**17 56 37.9**	**-0.4**
JMM	**Marumori**	**16.80**	**37**	P	**P**	**17 56 40.3**	**-0.1**
HNS	**HongShan**	**16.98**	**320**	⇑P	**Pn**	**17 56 40.0**	**-0.6**
HNS				pmax	pmax		
	comp=Z,210nm,1.3s						
HNS				pmax	pmax		
	comp=Z,1μm,3.9s						
HNS				LR	LR		
	comp=Z,4μm,12.3s						
HNS				LR	LR		
	comp=Z,2μm,14.0s						
HNS				LR	LR		
	comp=Z,5μm,12.5s						
ENH	**Enshi**	**17.44**	**292**	P	**Pn**	**17 56 45.6**	**-0.7**
ENH				IAmb	IAmb	17 56 50.4	
	comp=Z,585nm,1.9s						
ENH	**Enshi**	**17.44**	**292**	P	**Pn**	**17 56 46.2**	**-0.2**
MSHR	**Mys Shultsa**	**17.82**	**7**	*ce*P	**Pn**	**17 56 50.8**	**-0.2**
MSHR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PSTR	**Posyet**	**17.85**	**6**	*i* P	**Pn**	**17 56 50.6**	**-0.8**
QIZ	**Qiongzhong**	**18.00**	**255**	P	**Pn**	**17 56 53.2**	**-0.1**
QIZ	**Qiongzhong**	**18.00**	**255**	P	**P**	**17 56 54.3**	**+0.5**
QIZ				S	**Sn**	**18 00 12.5**	**-1.3**
QIZ				pmax	pmax		
	comp=Z,42nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,760nm,5.5s						
QIZ				LR	LR		
	comp=Z,420nm,11.7s						
QIZ				LR	LR		
	comp=Z,940nm,15.8s						
QIZ				LR	LR		
	comp=Z,870nm,15.1s						
QIZ	**Qiongzhong**	**18.00**	**255**	P	**P**	**17 56 53.9**	**+0.1**
BJT	**Baijiatuau**	**18.16**	**329**	P	**Pn**	**17 56 54.9**	**-0.3**
BJT	**Baijiatuau**	**18.16**	**329**	P	**P**	**17 56 55.4**	**-0.1**
BJT	**Baijiatuau**	**18.16**	**329**	P	**Pn**	**17 56 54.9**	**-0.3**
BJT				pmax	pmax		
	comp=Z,174nm,1.1s						
BJI	**Beijing**	**18.18**	**329**	P	**Pn**	**17 56 54.8**	**-0.6**
BJI				pmax	pmax		
	comp=Z,71nm,1.2s						
BJI				pmax	pmax		
	comp=Z,810nm,5.9s						
BJI				LR	LR		
	comp=Z,690nm,15.3s						
BJI				LR	LR		
	comp=Z,480nm,15.7s						
BJI				LR	LR		
	comp=Z,590nm,17.5s						
VLA	**Vladivostok**	**18.44**	**9**	*i* P	**P**	**17 56 58.4**	**-0.1**
VLA				pmax	pmax		
	comp=Z,98nm,1.1s						
TIY	**Taiyuan**	**18.55**	**317**	*e*P	**Pn**	**17 57 00.0**	**0.0**
TIY				S	**Sn**	**18 00 23.7**	**-3.3**
TIY				pmax	pmax		
	comp=Z,170nm,0.9s						
TIY				LR	LR		
	comp=Z,2μm,13.0s						
TIY				LR	LR		
	comp=Z,3μm,12.8s						
TIY				LR	LR		
	comp=Z,3μm,12.2s						
CN2	**Changchun**	**19.01**	**354**	*e*P	**P**	**17 57 04.6**	**-0.1**
CN2				*e*PP	**PnPn**	**17 57 21.1**	**+3.0**
CN2				*e*S	**Sn**	**18 00 33.8**	**-4.1**
CN2				pmax	pmax		
	comp=Z,290nm,1.1s						
CN2				pmax	pmax		
	comp=Z,1μm,3.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,16.0s						
XAN	**Xi'an**	**19.09**	**303**	⇑P	**P**	**17 57 04.5**	**-1.2**
XAN				PP	**PnPn**	**17 57 20.1**	**+0.8**
XAN				S	**Sn**	**18 00 38.4**	**-1.7**
XAN				SS	**SnSn**	**18 01 01.6**	**+7.4**
XAN				pmax	pmax		
	comp=Z,140nm,1.0s						
XAN				pmax	pmax		
	comp=Z,2μm,3.9s						
XAN				LR	LR		
	comp=Z,3μm,13.4s						
XAN				LR	LR		
	comp=Z,5μm,14.3s						
XAN				LR	LR		
	comp=Z,8μm,13.6s						
JTM	**Tenmabayashi**	**19.16**	**31**	P	**P**	**17 57 04.3**	**-2.1**
GUMO	**Guam**	**19.31**	**123**	P	**P**	**17 57 07.8**	**-0.4**
GUMO	**Guam**	**19.31**	**123**	P	**Pn**	**17 57 10.3**	**+1.0**
	comp=Z,11nm,0.3s,baz=339,slow=11,SNR=10						
GUMO				LR	LR	18 04 54.2	
	comp=Z,2μm,18.6s,baz=290,slow=38						
	comp=Z,192nm,1

	comp=Z,590nm,11.0s					
MDJ				LR	LR	
	comp=Z,740nm,11.0s					
MDJ				LR	LR	
	comp=Z,920nm,13.7s					
MDJ	**Mudanjiang**	**19.72**	**3**	P	**Pn**	**17 57 14.3 +0.3**
BNX	**BinXian**	**20.82**	**358**	⇓P	**P**	**17 57 24.3 -0.1**
BNX				pmax	pmax	
	comp=Z,27nm,2.0s					
BNX				pmax	pmax	
	comp=Z,360nm,6.9s					
BNX				LR	LR	
	comp=Z,2μm,15.7s					
BNX				LR	LR	
	comp=Z,3μm,11.7s					
BNX				LR	LR	
	comp=Z,3μm,17.1s					
ERM	**Erimo**	**21.10**	**32**	P	**P**	**17 57 25.9 -1.6**
ERM	**Erimo**	**21.10**	**32**	P	**P**	**17 57 28.2 +0.7**
ERM	**Erimo**	**21.10**	**32**	*ce*P	**P**	**17 57 28.1 +0.6**
ERM				pmax	pmax	
	comp=Z,135nm,1.7s					
JEM	**Erimo**	**21.10**	**32**	P	**P**	**17 57 28.2 +0.7**
HHC	**Hu-ho-hao-te**	**21.13**	**323**	*e*P	**P**	**17 57 28.6 +0.6**
HHC				pP	sP	17 57 32.6 +0.7
HHC				pmax	pmax	
	comp=Z,250nm,1.0s					
HHC				pmax	pmax	
	comp=Z,410nm,4.3s					
HHC				LR	LR	
	comp=Z,1μm,12.6s					
HHC				LR	LR	
	comp=Z,1μm,13.7s					
HHC				LR	LR	
	comp=Z,2μm,12.1s					
TEY	**Ternei**	**21.23**	**17**⇑	*e*P	**P**	**17 57 28.3 -0.5**
TEY				*e*		18 01 25.0
TEY				pmax	pmax	
	comp=N,100nm,2.3s					
TEY				pmax	pmax	
	comp=Z,200nm,2.6s					
TEY				pmax	pmax	
	comp=N,10.0nm,2.3s					
TEY				pmax	pmax	
	comp=Z,10.0nm,2.3s					
SGSI	**Sangihe**	**21.23**	**187**	P	**P**	**17 57 31.1 +2.0**
	comp=Z,2μmcomp=Z,4μmcomp=Z,432nm,1.0s					
XLT	**XiLinHaoTe**	**21.40**	**335**	*e*P	**P**	**17 57 29.4 -1.5**
XLT				S	**S**	**18 01 23.5 -4.4**
XLT				SS	**SnSn**	**18 01 58.4 +7.3**
XLT				pmax	pmax	
	comp=Z,210nm,1.4s					
XLT				LR	LR	
	comp=Z,2μm,14.6s					
XLT				LR	LR	
	comp=Z,3μm,14.2s					
MYLDM	**Lahad Datu**	**21.70**	**207**	P	**P**	**17 57 33.4 -0.7**
MYLDM	**Lahad Datu**	**21.70**	**207**	P	**P**	**17 57 34.9 +0.8**
BTO	**Baotou**	**21.84**	**320**	*e*P	**P**	**17 57 36.6 +1.0**
BTO				pP	**sP**	**17 57 41.3 +1.8**
BTO				sP	**pwP**	**17 57 43.7 -4.1**
BTO				PP	**PnPn**	**17 58 02.9 +6.0**
BTO				sS	Sn	18 01 44.4 -1.9
BTO				SS	**SnSn**	**18 02 11.1 +9.4**
BTO				pmax	pmax	
	comp=Z,34nm,0.8s					
BTO				pmax	pmax	
	comp=Z,1μm,9.1s					
BTO				LR	LR	
	comp=Z,5μm,15.2s					
BTO				LR	LR	
	comp=Z,4μm,14.5s					
BTO				LR	LR	
	comp=Z,6μm,15.2s					
KKM	**Kota Kinabalu**	**21.98**	**214**	P	**P**	**17 57 36.0 -1.2**
CD2	**Chengdu**	**22.41**	**291**	P	**P**	**17 57 39.8 -1.9**
CD2				pP	pP	17 57 43.5 -0.9
CD2				S	**S**	**18 01 42.3 -5.0**
CD2				sS	pS	18 01 48.1 -3.2
CD2				SS	**SnSn**	**18 02 23.1 +7.5**
CD2				pmax	pmax	
	comp=Z,260nm,1.1s					
CD2				LR	LR	
	comp=Z,4μm,14.1s					
CD2				LR	LR	
	comp=Z,6μm,9.4s					
ASAJ	**Asahikawa**	**22.49**	**28**	P	**P**	**17 57 41.7 -0.7**
	comp=Z,13nm,0.8s,baz=236,slow=22,SNR=11					
ASAJ				S	**S**	**18 01 43.9 -4.7**
	comp=Z,3.5nm,0.9s,baz=163,slow=30,SNR=2.5					
ASAJ				LR	LR	18 07 34.5
	comp=Z,813nm,19.9s,baz=218,slow=40					
	comp=Z,13nm,0.8s					
SLVN	**Son La**	**22.62**	**266**	P	**P**	**17 57 43.8 -0.3**
SLVN	**Son La**	**22.62**	**266**	P	**P**	**17 57 44.4 +0.3**
DLV	**Lat**	**22.67**	**239**	P	**P**	**17 57 45.1 +0.3**
DLV	**Lat**	**22.67**	**239**	P	**P**	**17 57 45.5 +0.8**
KMI	**Kunming**	**23.07**	**276**	⇑P	**P**	**17 57 49.7 +0.7**
KMI				S	**S**	**18 01 58.9 -0.7**
KMI				pmax	pmax	
	comp=Z,200nm,0.9s					
KMI				pmax	pmax	
	comp=Z,1μm,3.7s					
KMI				LR	LR	
	comp=Z,720nm,8.3s					
KMI				LR	LR	
	comp=Z,960nm,7.8s					
KMI				LR	LR	
	comp=Z,1μm,19.2s					
UBPT	**Khong Chiam**	**23.36**	**250**	P	**P**	**17 57 50.3 -1.3**
UBPT	**Khong Chiam**	**23.36**	**250**	P	**P**	**17 57 52.2 +0.5**
LZH	**Lanzhou**	**23.72**	**304**	*e*P	**P**	**17 57 53.6 -1.6**
LZH				sP	sP	17 58 01.3 +1.9
LZH				S	**S**	**18 02 07.4 -2.4**
LZH				pmax	pmax	
	comp=Z,290nm,1.3s					
LZH				pmax	pmax	
	comp=Z,1μm,4.1s					
LZH				LR	LR	
	comp=Z,4μm,13.1s					
LZH				LR	LR	
	comp=Z,3μm,14.1s					
LZH				LR	LR	
	comp=Z,4μm,13.4s					
PZH	**PanZhiHua**	**23.89**	**280**	P	**P**	**17 57 56.8 -0.1**
PZH				S	**S**	**18 02 10.2 -2.5**
PZH				pmax	pmax	
	comp=Z,140nm,1.4s					
PZH				pmax	pmax	
	comp=Z,1μm,5.4s					
PZH				LR	LR	
	comp=Z,850nm,13.3s					
PZH				LR	LR	
	comp=Z,1μm,13.5s					
PZH				LR	LR	
	comp=Z,2μm,14.7s					
YUK	**Yuzh-Kuril'sk**	**23.93**	**33**	*i* P	**P**	**17 57 59.5 +2.6**
TNTI	**Ternate**	**23.98**	**182**	P	**P**	**17 57 56.5 -1.1**
TNTI	**Ternate**	**23.98**	**182**	P	**P**	**17 57 58.8 +1.2**
TNTI	**Ternate**	**23.98**	**182**	P	**P**	**17 57 57.6 0.0**
NONG	**Nongkai**	**24.27**	**259**	P	**P**	**17 58 00.4 +0.1**
KLR	**Kul'dur**	**24.46**	**6**	LR	LR	18 07 40.4
	comp=Z,526nm,19.8s,baz=185,slow=37					
KLR	**Kul'dur**	**24.46**	**6**	*ce*P	**P**	**17 58 00.6 -1.2**
KLR				pmax	pmax	
	comp=Z,163nm,1.1s					
TOLI2	**Tolitoli**	**24.70**	**198**	P	**P**	**17 58 03.3 -0.9**
TOLI2				IAmb	IAmb	17 58 06.4
	comp=Z,92nm,1.1s					
TOLI2	**Tolitoli**	**24.70**	**198**	P	**P**	**17 58 04.5 +0.3**
YSS	**Yuzhno-Sakhali**	**24.90**	**24**	P	**P**	**17 58 05.2 -0.6**
YSS	**Yuzhno-Sakhali**	**24.90**	**24**	P	**P**	**17 58 06.8 +1.1**
YSS	**Yuzhno-Sakhali**	**24.90**	**24**	*oe*P	**P**	**17 58 06.5 +0.8**
YSS				*e*S	**S**	**18 02 26.7 -1.5**
YSS				pmax	pmax	
	comp=Z,190nm,1.2s					
YSS				pmax	pmax	
	comp=N,110nm,1.0s					
YSS				pmax	pmax	
	comp=Z,1μm,4.2s					
YSS				pmax	pmax	
	comp=N,700nm,3.9s					
YSS				pmax	pmax	
	comp=E,400nm,4.9s					
YSS				smax	smax	
	comp=N,800nm,7.1s					
YSS				MLR	MLR	
	comp=N,300nm,16.0s					
YSS				MLR	MLR	
	comp=E,200nm,16.0s					
YSS				MLR	MLR	
	comp=Z,500nm,16.0s					
HIA	**Hailar**	**25.23**	**347**	P	**P**	**17 58 08.3 -0.5**
HEH	**HeiHe**	**25.34**	**359**	*e*P	**P**	**17 58 09.6 -0.1**
HEH				pP	**sP**	**17 58 14.0 +0.2**
HEH				S	**S**	**18 02 37.7 +2.6**
HEH				pmax	pmax	
	comp=Z,60nm,1.8s					
HEH				LR	LR	
	comp=Z,920nm,11.5s					
HEH				LR	LR	
	comp=Z,3μm,11.3s					
HEH				LR	LR	
	comp=Z,1μm,12.2s					
UGL	**Uglegorsk**	**26.48**	**21**	*e*P	**P**	**17 58 21.3 +1.2**
UGL				*e*		17 59 08.0
UGL				pmax	pmax	
	comp=Z,1μm,5.7s					
UGL				pmax	pmax	
	comp=Z,200nm,1.3s					
GRNR	**Gornyy**	**26.61**	**12**⇑	*i* P	**P**	**17 58 21.9 +0.6**
GRNR				pmax	pmax	
	comp=N,20nm,1.0s					
GRNR				pmax	pmax	
	comp=Z,40nm,1.0s					
GRNR				MLR	MLR	
	comp=N,370nm,13.0s					
SANI	**Sanana**	**26.86**	**185**	P	**P**	**17 58 22.6 -1.2**
TNCH	**TengChong**	**26.89**	**277**	P	**P**	**17 58 23.9 -0.4**
TNCH				pP	pP	17 58 26.7 -0.6
TNCH				PcP	**PcP**	**18 01 46.7 +0.2**
TNCH				S	**S**	**18 02 58.0 -2.7**
TNCH				SS	**SnSn**	**18 04 11.7 +5.9**
TNCH				pmax	pmax	
	comp=N,120nm,1.7s					
TNCH				pmax	pmax	
	comp=N,770nm,4.2s					
TNCH				LR	LR	
	comp=N,1μm,8.6s					
TNCH				LR	LR	
	comp=N,870nm,8.3s					
TNCH				LR	LR	
	comp=N,2μm,9.9s					
SBUM	**Sibu**	**27.11**	**217**	P	**P**	**17 58 27.7 +1.6**
NAYO	**Nakonayok**	**27.37**	**252**	P	**P**	**17 58 29.7 +1.3**
CHTO	**Chiang Mai**	**27.79**	**263**	P	**P**	**17 58 32.6 +0.4**
CHTO				S	**S**	**18 03 15.4 +0.8**
CHTO	**Chiang Mai**	**27.79**	**263**	P	**P**	**17 58 32.8 +0.6**
CHTO	**Chiang Mai**	**27.79**	**263**	P	**P**	**17 58 32.9 +0.7**
CHTO				pmax	pmax	
	comp=Z,23nm,1.0s					
CM31	**Chiang Mai Arr**	**27.90**	**263**	P	**P**	**17 58 33.8 +0.6**
	SNR=8.4					
CMAR	**Chiang Mai Arr**	**27.90**	**263**	P	**P**	**17 58 32.6 -0.6**
CMAR	**Chiang Mai Arr**	**27.90**	**263**	P	**P**	**17 58 33.2 +0.1**
	comp=Z,3.7nm,0.9s,baz=59,slow=8.0,SNR=24					
CMAR				LR	LR	18 10 38.2
	comp=Z,487nm,19.4s,baz=70,slow=39					
	comp=Z,3.7nm,0.9s					
CMAR	**Chiang Mai Arr**	**27.90**	**263**	*i* P	**P**	**17 58 34.0 +0.8**
CMAR				pmax	pmax	
	comp=Z,4.0nm,0.9s					
FAKI	**Fak Fak**	**27.91**	**171**	P	**P**	**17 58 32.4 -0.9**
FAKI	**Fak Fak**	**27.91**	**171**	P	**P**	**17 58 33.4 +0.2**
GTA	**Gaotai**	**27.92**	**308**	P	**P**	**17 58 32.3 -1.1**
GTA				sP	pwP	17 58 45.2 -0.6
GTA				sS	sS	18 03 29.8 +8.4
GTA				pmax	pmax	
	comp=Z,69nm,1.3s					
GTA				pmax	pmax	
	comp=Z,260nm,6.0s					
GTA				LR	LR	
	comp=Z,2μm,15.5s					
GTA				LR	LR	
	comp=Z,2μm,16.3s					
GTA				LR	LR	
	comp=Z,2μm,20.7s					
TYV	**Tymovskoe**	**28.23**	**20**	*e*P	P	17 58 41.2 +5.5
TYV				pmax	pmax	
	comp=Z,67nm,1.2s					
TYV				pmax	pmax	
	comp=Z,600nm,6.3s					
ULN	**Ulaanbaatar**	**28.39**	**329**	P	**P**	**17 58 35.4 -2.1**
ULN				IAmb	IAmb	17 58 48.4
	comp=Z,48nm,1.1s					
ULN	**Ulaanbaatar**	**28.39**	**329**	P	**P**	**17 58 36.3 -1.1**
ULN				S	**S**	**18 03 22.0 -1.8**
ULN	**Ulaanbaatar**	**28.39**	**329**	*ce*P	**P**	**17 58 36.4 -1.1**
ULN				pmax	pmax	
	comp=Z,67nm,1.7s					
SONM	**Songino Array**	**28.68**	**329**	P	**P**	**17 58 38.1 -1.9**
SONM	**Songino Array**	**28.68**	**329**	P	**P**	**17 58 38.6 -1.4**
	comp=Z,25nm,0.8s,baz=145,slow=9.1,SNR=48					
SONM				LR	LR	18 11 52.2
	comp=Z,1μm,18.9s,baz=115,slow=40					
	comp=Z,25nm,0.8s					
ZEA	**Zeya**	**28.83**	**359**	*e*P	**P**	**17 58 41.1 +0.1**
ZEA				pmax	pmax	
	comp=N,20nm,0.9s					
ZEA				pmax	pmax	
	comp=Z,40nm,1.1s					
ZEA				pmax	pmax	
	comp=N,100nm,6.5s					
ZEA				pmax	pmax	
	comp=Z,200nm,5.9s					
ZEA				MLR	MLR	
	comp=Z,600nm,16.0s					
KSM	**Kuching**	**28.99**	**219**	P	**P**	**17 58 44.0 +1.1**
SRDT	**SRDT**	**29.27**	**254**	P	**P**	**17 58 46.0 +0.6**
BNDI	**Bandanaira**	**29.27**	**177**	P	**P**	**17 58 46.6 +1.3**
CIT	**Chita**	**29.31**	**341**	*e*P	**P**	**17 58 43.6 -1.8**
CIT				*e*		17 59 58.6
CIT				*e*		18 05 23.4
CIT				pmax	pmax	
	comp=Z,55nm,2.1s					
GENI	**Genyem**	**29.68**	**155**	P	**P**	**17 58 49.3 +0.4**
JAY	**Jayapura**	**29.81**	**154**	LR	LR	18 09 02.1
	comp=Z,1μm,19.0s,baz=316,slow=33					
GOMU	**GeErMu**	**30.75**	**299**	P	**P**	**17 58 58.2 -0.5**
GOMU				pP	pP	17 59 01.6 0.0
GOMU				sP	sP	17 59 05.6 +2.6
GOMU				S	**S**	**18 04 06.1 +4.6**
GOMU				pmax	pmax	
	comp=Z,18nm,0.8s					
GOMU				LR	LR	
	comp=Z,2μm,14.0s					
GOMU				LR	LR	
	comp=Z,1μm,13.8s					
GOMU				LR	LR	
	comp=Z,2μm,13.4s					
KAPI	**Kappang**	**30.84**	**197**	LR	LR	18 10 35.3
	comp=Z,466nm,21.2s,baz=17,slow=35					
SRIT	**Nakonsritamara**	**31.71**	**244**	P	**P**	**17 59 07.3 +0.3**
ZAK	**Zakamensk**	**31.92**	**329**	*e*P	**P**	**17 59 05.1 -3.5**
MANU	**Manus Island**	**32.59**	**142**	P	**P**	**17 59 13.8 -0.8**
SHL	**Shillong**	**32.80**	**279**	P	**P**	**17 59 17.0 +0.3**
	SNR=49					
IRK	**Irkutsk**	**32.81**	**333**	*e*P	**P**	**17 59 13.1 -3.2**
IRK				pmax	pmax	
	comp=Z,39nm,1.3s					
KULM	**Kulim**	**32.84**	**238**	P	**P**	**17 59 16.1 -0.8**
KULM				IAmb	IAmb	17 59 22.0
	comp=Z,112nm,1.7s					
KULM	**Kulim**	**32.84**	**238**	P	**P**	**17 59 18.0 +1.1**
MYKOM	**Kota Tinggi**	**32.86**	**229**	IAmb	IAmb	17 59 33.2
	comp=Z,38nm,1.1s					
MYKOM	**Kota Tinggi**	**32.86**	**229**	P	**P**	**17 59 17.3 +0.3**
LSA	**Lhasa**	**33.19**	**287**	IAmb	IAmb	17 59 22.6
	comp=Z,61nm,1.0s					
LSA	**Lhasa**	**33.19**	**287**	P	**P**	**17 59 19.9 -0.5**
LSA				P	**P**	**17 59 19.9 -0.5**
LSA	**Lhasa**	**33.19**	**287**	*i* P	**P**	**17 59 21.6 +1.3**
	SNR=12					
BRDH	**Bariadhala**	**33.47**	**274**	LR	LR	18 14 20.1
	comp=Z,660nm,19.0s,baz=100,slow=39					
SKR	**Severo-Kuril's**	**33.55**	**33**	*i* P	**P**	**17 59 22.1 -0.5**
MMRI	**Maumere**	**33.82**	**191**	IAmb	IAmb	17 59 26.1
	comp=Z,74nm,1.2s					
MMRI	**Maumere**	**33.82**	**191**	P	**P**	**17 59 25.5 +0.2**
PATS	**Pohnpei**	**33.93**	**117**	P	**P**	**17 59 25.2 -1.2**
PATS	**Pohnpei**	**33.93**	**117**	P	**P**	**17 59 26.0 -0.4**
	comp=Z,463nm,1.3s					
PATS	**Pohnpei**	**33.93**	**117**	P	**P**	**17 59 28.1 +1.7**
BOD	**Bodaibo**	**34.44**	**347**	*e*P	**P**	**17 59 30.8 +0.5**
BOD				pmax	pmax	
	comp=Z,28nm,1.9s					
SOEI	**Soe**	**34.64**	**187**	IAmb	IAmb	17 59 43.9
	comp=Z,65nm,0.9s					
SOEI	**Soe**	**34.64**	**187**	P	**P**	**17 59 32.0 -0.6**
PLAI	**Plampang**	**35.02**	**198**	P	**P**	**17 59 35.3 -0.4**
PSI	**Prapat**	**35.75**	**237**	LR	LR	18 15 04.3
	comp=Z,163nm,18.2s,baz=48,slow=38					
PSI	**Prapat**	**35.75**	**237**	P	**P**	**17 59 42.8 +0.6**
RPSI	**Rantau Prapat**	**35.82**	**237**	IAmb	IAmb	17 59 47.0
	comp=Z,88nm,1.8s					
PEA0B	**Petropavlovsk-**	**35.86**	**30**	IAmb	IAmb	17 59 57.5
	comp=Z,48nm,0.9s					
PEA0B	**Petropavlovsk-**	**35.86**	**30**	*ce*P	**P**	**17 59 43.3 +0.7**
PETK	**Petropavlovsk-**	**35.86**	**30**	P	**P**	**17 59 41.8 -0.8**
PETK	**Petropavlovsk-**	**35.86**	**30**	P	**P**	**17 59 42.8 +0.1**
	comp=Z,12nm,0.9s,baz=218,slow=5.4,SNR=26					
PETK				LR	LR	18 16 51.6
	comp=Z,214nm,18.0s,baz=219,slow=40					
	comp=Z,12nm,0.9s					
PET	**Petropavlovsk**	**36.25**	**31**	P	**P**	**17 59 44.4 -1.6**
PET	**Petropavlovsk**	**36.25**	**31**	P	**P**	**17 59 47.1 +1.2**
PET	**Petropavlovsk**	**36.25**	**31**	*e*P	**P**	**17 59 45.5 -0.4**
PET				*e*S	**S**	**18 05 27.2 +1.7**
PET				pmax	pmax	
	comp=Z,100nm,7.9s					
PET				pmax	pmax	
	comp=Z,97nm,0.9s					
PET				MLR	MLR	
	comp=Z,400nm,15.0s					
PET				MLR	MLR	
	comp=Z,300nm,17.0s					
PET	**Petropavlovsk**	**36.25**	**31**	P	**P**	**17 59 46.7 +0.8**
	comp=Z,2μmcomp=Z,103nm,1.4s					
RABL	**Rabaul**	**37.11**	**138**	P	**P**	**17 59 52.7 -1.1**
YAK	**Yakutsk**	**37.15**	**1**	P	**P**	**17 59 52.9 -0.6**
YAK	**Yakutsk**	**37.15**	**1**	LR	LR	18 15 17.8
	comp=Z,472nm,20.9s,baz=190,slow=36					
YAK	**Yakutsk**	**37.15**	**1**	*e*P	**P**	**17 59 53.0 -0.5**
YAK				*e**PP	**sP**	**17 59 58.8 +1.2**
YAK				*e*		18 01 17.5
YAK				*e*		18 02 13.3
YAK				*e*S	**S**	**18 05 40.3 +1.3**
YAK				*e*SS	**SnSn**	**18 08 14.8 +1.0**
YAK				*e*		18 10 08.7
YAK				pmax	pmax	
	comp=Z,72nm,0.7s					
YAK				pmax	pmax	
	comp=N,55nm,0.9s					
YAK				pmax	pmax	
	comp=E,6.0nm,1.0s					
YAK				pmax	pmax	
	comp=Z,104nm,4.3s					
YAK				pmax	pmax	
	comp=N,88nm,3.5s					
YAK				pmax	pmax	
	comp=E,131nm,5.9s					
YAK				smax	smax	
	comp=N,207nm,4.3s					
YAK				smax	smax	
	comp=E,120nm,5.2s					
YAK				MLR	MLR	
	comp=Z,418nm,21.0s					
YAK				MLR	MLR	
	comp=N,219nm,18.0s					
YAK				MLR	MLR	
	comp=E,235nm,17.0s					
DRS	**Darwin Rock St**	**37.18**	**176**	P	**P**	**17 59 53.8 -0.4**
LEM	**Lembang**	**37.36**	**215**	LR	LR	18 18 49.3
	comp=E,188nm,18.4s,baz=15,slow=42					
KDU	**Kakadu**	**37.57**	**173**	P	**P**	**17 59 55.9 -1.6**
	comp=Z,47nm,1.6s					
KDU	**Kakadu**	**37.57**	**173**	P	**P**	**17 59 56.8 -0.7**
MTN	**Manton Dam**	**37.60**	**175**	P	**P**	**17 59 55.5 -2.3**
MTN	**Manton Dam**	**37.60**	**175**	P	**P**	**17 59 56.9 -0.9**
GSI	**Gunungsitoli**	**37.74**	**236**	IAmb	IAmb	18 00 02.8
	comp=Z,153nm,1.5s					
GSI	**Gunungsitoli**	**37.74**	**236**	P	**P**	**17 59 59.7 +0.6**
WMQ	**Urumqi**	**37.95**	**310**	*e*P	**P**	**18 00 00.3 -0.4**
WMQ				sP	pwP	18 00 11.8 -1.4
WMQ				PP	**PnPn**	**18 01 32.1 +3.4**
WMQ				S	**S**	**18 05 53.1 +1.2**
WMQ				pmax	pmax	
	comp=Z,46nm,1.1s					
WMQ				pmax	pmax	
	comp=Z,340nm,3.7s					
WMQ				LR	LR	
	comp=Z,1μm,15.9s					
WMQ				LR	LR	
	comp=Z,1μm,14.9s					
WMQ				LR	LR	
	comp=Z,1μm,16.9s					
MA2	**Magadan**	**38.09**	**18**	P	**P**	**17 59 59.8 -1.7**
MA2	**Magadan**	**38.09**	**18**	LR	LR	18 17 41.7
	comp=Z,178nm,18.2s,baz=210,slow=39					
MA2	**Magadan**	**38.09**	**18**	P	**P**	**18 00 01.6 +0.1**
MA2	**Magadan**	**38.09**	**18**	*ce*P	**P**	**18 00 02.1 +0.6**
MA2				pmax	pmax	
	comp=Z,29nm,1.7s					
MA2	**Magadan**	**38.09**	**18**	P	**P**	**18 00 01.5 +0.1**
	comp=Z,21nm,1.0s					
PMG	**Port Moresby**	**38.77**	**149**	P	**P**	**18 00 07.2 -0.4**
PMG				IAmb	IAmb	18 00 08.6
	comp=Z,84nm,1.1s					
PMG	**Port Moresby**	**38.77**	**149**	LR	LR	18 14 05.7
	comp=Z,1μm,20.2s,baz=320,slow=33					
PMG	**Port Moresby**	**38.77**	**149**	P	**P**	**18 00 07.6 0.0**
PMG	**Port Moresby**	**38.77**	**149**	P	**P**	**18 00 07.7 +0.1**
PMG	**Port Moresby**	**38.77**	**149**	*ce*P	**P**	**18 00 08.4 +0.8**
PMG				pmax	pmax	
	comp=Z,187nm,2.5s					
KNRA	**Kununurra**	**40.32**	**179**	P	**P**	**18 00 20.0 -0.5**
KNRA	**Kununurra**	**40.32**	**179**	P	**P**	**18 00 18.7 -1.8**
	comp=Z,167nm,0.8s					
COEN	**Coen**	**41.27**	**158**	P	**P**	**18 00 28.0 -0.4**
COEN				IAmb	IAmb	18 00 30.3
	comp=Z,76nm,1.1s					
COEN	**Coen**	**41.27**	**158**	P	**P**	**18 00 28.1 -0.4**
	comp=Z,78nm,1.1s					
COEN	**Coen**	**41.27**	**158**	P	**P**	**18 00 29.4 +1.0**
SEY	**Seymchan**	**41.31**	**16**	LR	LR	18 17 40.2
	comp=Z,443nm,20.9s,baz=196,slow=36					
SEY	**Seymchan**	**41.31**	**16**	*ce*P	**P**	**18 00 29.6 +1.4**
SEY				pmax	pmax	
	comp=Z,46nm,1.7s					
MK31	**Makanchi Array**	**42.42**	**313**	*ce*P	**P**	**18 00 36.8 -0.8**
MKAR	**Makanchi Array**	**42.42**	**313**	P	**P**	**18 00 36.8 -0.9**
MKAR	**Makanchi Array**	**42.42**	**313**	P	**P**	**18 00 37.0 -0.7**
	comp=Z,27nm,0.6s,baz=98,slow=10,SNR=197					
MKAR				LR	LR	18 20 04.0
	comp=Z,897nm,18.6s,baz=105,slow=39					
	comp=Z,27nm,0.6s					
MKAR	**Makanchi Array**	**42.42**	**313**	P	**P**	**18 00 37.0 -0.7**
MAKZ	**Makanchi**	**42.64**	**313**	P	**P**	**18 00 38.6 -0.8**
MAKZ				IAmb	IAmb	18 00 41.6
	comp=Z,54nm,0.8s					
MAKZ	**Makanchi**	**42.64**	**313**	P	**P**	**18 00 38.6 -0.8**
MAKZ				pmax	pmax	
	comp=Z,54nm,0.8s					
FITZ	**Fitzroy Crossi**	**42.79**	**184**	P	**P**	**18 00 40.2 -0.6**
	comp=Z,12nm,0.9s					
FITZ	**Fitzroy Crossi**	**42.79**	**184**	LR	LR	18 18 43.4
	comp=Z,186nm,20.5s,baz=22,slow=36					
FITZ	**Fitzroy Crossi**	**42.79**	**184**	P	**P**	**18 00 40.8 0.0**
ZAA0	**Zalesovo Array**	**43.31**	**324**	P	**P**	**18 00 43.3 -1.4**
ZAA0				IAmb	IAmb	18 00 45.5
	comp=Z,52nm,0.7s					
ZALV	**Zalesovo Beam**	**43.31**	**324**	P	**P**	**18 00 43.0 -1.6**
ZALV	**Zalesovo Beam**	**43.31**	**324**	P	**P**	**18 00 44.0 -0.6**
	comp=Z,55nm,0.7s,baz=111,slow=7.9,SNR=138					
ZALV				LR	LR	18 20 29.8
	comp=Z,943nm,18.1s,baz=120,slow=39					
	comp=Z,55nm,0.7s					
ZALV	**Zalesovo Beam**	**43.31**	**324**	*i* P	**P**	**18 00 43.7 -1.0**
ZALV				pmax	pmax	
	comp=Z,55nm,0.7s					
WUS	**Wushi**	**43.59**	**304**	IAmb	IAmb	18 00 49.2
	comp=Z,62nm,1.1s					
SHLS	**Shalkode**	**43.66**	**307**	*c* *i* P	**P**	**18 00 45.1 -2.7**
SHLS	**Shalkode**	**43.66**	**307**⇑	*i* P	**P**	**18 00 45.2 -2.7**
UZB	**Uzynbulak**	**43.98**	**307**	*e*P	**P**	**18 00 50.1 -0.3**
UZB				pmax	pmax	
	comp=Z,65nm,1.3s					

UZB	**Uzynbulak**	**43.98**	**307**	*e*P	**P**	**18 00 50.2**	**-0.3**
	comp=Z,65nm,1.3s						
KPKS	**Kokpek**	**44.27**	**307***c*	*i*P	**P**	**18 00 52.5**	**-0.1**
KPKS	**Kokpek**	**44.27**	**307**⇑	*i*P	**P**	**18 00 52.6**	**-0.1**
ZHN	**Zhinishke**	**44.41**	**307**	*e*P	**P**	**18 00 53.6**	**-0.2**
ZHN	**Zhinishke**	**44.41**	**307**	*e*P	**P**	**18 00 53.6**	**-0.2**
SATY	**Saty**	**44.41**	**307**	*e*P	**P**	**18 00 53.7**	**-0.1**
SATY				*e*S	**S**	**18 07 28.6**	**+0.6**
SATY				pmax	pmax		
	comp=Z,66nm,1.4s						
SATY	**Saty**	**44.41**	**307**	*e*P	**P**	**18 00 53.8**	**-0.1**
	comp=Z,66nm,1.4s						
SATY				*e*S	**S**	**18 07 28.7**	**+0.6**
WRAB	**Tennant Creek**	**44.95**	**172**	P	**P**	**18 00 57.6**	**-0.5**
WRAB	**Tennant Creek**	**44.95**	**172**	*i* P	**P**	**18 00 58.0**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,130nm,1.0s						
WRA	**Warramunga Arr**	**44.95**	**172**	P	**P**	**18 00 57.0**	**-1.2**
WRA	**Warramunga Arr**	**44.95**	**172**	P	**P**	**18 00 58.1**	**-0.1**
	comp=Z,69nm,0.9s,baz=350,slow=8.6,SNR=121						
WRA				LR	LR	18 19 52.3	
	comp=Z,698nm,19.2s,baz=46,slow=36						
	comp=Z,69nm,0.9s						
WRA	**Warramunga Arr**	**44.95**	**172**	*i* P	**P**	**18 00 58.0**	**-0.1**
WRA				pmax	pmax		
	comp=Z,76nm,0.9s						
ARXS	**Arharly**	**44.99**	**308**	*e*P	**P**	**18 00 58.3**	**-0.1**
TATA	**Tatamba Isabel**	**45.19**	**133**	P	**P**	**18 01 01.6**	**+1.5**
MDOK	**Medeo**	**45.41**	**307**	*e*P	**P**	**18 01 01.7**	**-0.1**
MDOK	**Medeo**	**45.41**	**307**	*e*P	**P**	**18 01 01.8**	**-0.1**
TNSS	**Tian-Shan**	**45.47**	**307**	*e*P	**P**	**18 01 02.2**	**-0.4**
TNSS	**Tian-Shan**	**45.47**	**307**	*e*P	**P**	**18 01 02.2**	**-0.4**
AAA	**Alma-Ata**	**45.51**	**307**	*e*P	**P**	**18 01 02.5**	**0.0**
AAA				pmax	pmax		
	comp=Z,44nm,1.1s						
AAA	**Alma-Ata**	**45.51**	**307**	*e*P	**P**	**18 01 02.6**	**0.0**
	comp=Z,44nm,1.1s						
CHKK	**Chushkaly**	**45.54**	**308**	*e*P	**P**	**18 01 02.6**	**-0.1**
CHKK	**Chushkaly**	**45.54**	**308**	*e*P	**P**	**18 01 02.6**	**-0.1**
MTSU	**Mount Surprise**	**45.55**	**158**	P	**P**	**18 01 04.1**	**+1.3**
	comp=Z,35nm,0.9s						
MTSU	**Mount Surprise**	**45.55**	**158**	P	**P**	**18 01 04.2**	**+1.3**
SAVO	**Savo Central**	**45.76**	**134**	P	**P**	**18 01 05.7**	**+1.0**
KURK	**Kurchatov**	**45.79**	**318**	P	**P**	**18 01 03.7**	**-0.8**
KURK				IAmb	IAmb	18 01 05.3	
	comp=Z,86nm,1.4s						
KURK	**Kurchatov**	**45.79**	**318**	P	**P**	**18 01 03.7**	**-0.8**
KURK	**Kurchatov**	**45.79**	**318***ce*	P	**P**	**18 01 03.9**	**-0.6**
KURK				pmax	pmax		
	comp=Z,67nm,1.3s						
KURBB	**Kurchatov Arra**	**45.82**	**317**	P	**P**	**18 01 04.1**	**-0.6**
	comp=Z,18nm,0.6s,baz=104,slow=8.3,SNR=76						
KURBB				PcP	**PcP**	**18 02 41.4**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=110,slow=3.6,SNR=3.3						
KURBB				LR	LR	18 21 49.1	
	comp=Z,750nm,18.6s,baz=156,slow=38						
	comp=Z,18nm,0.6s						
ULHL	**Ulahol**	**45.91**	**305**	P	**P**	**18 01 06.5**	**+0.6**
	SNR=32						
KSH	**Kashi**	**45.94**	**302**	P	**P**	**18 01 09.1**	**+3.1**
KSH				S	**S**	**18 07 55.0**	**+4.8**
KSH				sS	sS	18 08 01.5	+6.4
KSH				pmax	pmax		
	comp=Z,58nm,1.8s						
KSH				pmax	pmax		
	comp=Z,490nm,4.2s						
KSH				LR	LR		
	comp=Z,1μm,15.7s						
KSH				LR	LR		
	comp=Z,1μm,16.7s						
KSH				LR	LR		
	comp=Z,1μm,13.7s						
HNR	**Honiara**	**46.05**	**134**	LR	LR	18 19 15.6	
	comp=Z,325nm,19.0s,baz=338,slow=35						
TKM2	**Tokmak 2**	**46.45**	**306**	P	**P**	**18 01 10.9**	**+0.8**
	SNR=90						
MBWA	**Marble Bar**	**46.50**	**191**	P	**P**	**18 01 08.8**	**-1.6**
MBWA				IAmb	IAmb	18 01 10.7	
	comp=Z,40nm,1.1s						
MBWA	**Marble Bar**	**46.50**	**191**	P	**P**	**18 01 08.8**	**-1.6**
	comp=Z,35nm,1.2s						
MBWA	**Marble Bar**	**46.50**	**191**	P	**P**	**18 01 10.4**	**0.0**
QIS	**Mount Isa**	**46.51**	**165**	P	**P**	**18 01 10.8**	**+0.4**
	comp=Z,74nm,1.0s						
QIS	**Mount Isa**	**46.51**	**165**	P	**P**	**18 01 11.0**	**+0.5**
HYB	**Hyderabad**	**46.70**	**271**	*e*P	**P**	**18 01 12.4**	**+0.3**
HYB				IVmB_BB		18 01 16.0	
	comp=Z,388nm,4.7s						
HYB				*e*PcP	**PcP**	**18 02 44.7**	**-1.0**
HYB				*e*PP	**PP**	**18 03 02.1**	**+0.1**
TIXI	**Tiksi**	**46.80**	**0**	P	**P**	**18 01 11.1**	**-1.1**
TIXI				IAmb	IAmb	18 01 13.7	
	comp=Z,58nm,1.2s						
TIXI	**Tiksi**	**46.80**	**0**	LR	LR	18 21 37.4	
	comp=Z,920nm,20.2s,baz=200,slow=37						
TIXI	**Tiksi**	**46.80**	**0***ce*	P	**P**	**18 01 11.6**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,64nm,1.3s						
PSA00	**Pilbara Seismi**	**46.89**	**191**	P	**P**	**18 01 12.3**	**-1.0**
PSA00	**Pilbara Seismi**	**46.89**	**191**	IAmb	IAmb	18 01 13.8	
	comp=Z,46nm,1.1s						
PSA00	**Pilbara Seismi**	**46.89**	**191**	P	**P**	**18 01 11.7**	**-1.6**
	comp=Z,31nm,0.7s						
PSA00	**Pilbara Seismi**	**46.89**	**191**	P	**P**	**18 01 13.2**	**-0.2**
KBK	**Karagaybulak**	**46.90**	**306**	P	**P**	**18 01 14.4**	**+0.8**
	SNR=6.9						
CHMS	**Chumysh**	**47.07**	**306**	P	**P**	**18 01 15.2**	**+0.5**
	SNR=44						
UCH	**Uchtor**	**47.19**	**305**	P	**P**	**18 01 17.5**	**+1.3**
	SNR=24						
SGDS	**Sogindy**	**47.20**	**307***c*	*i*P	**P**	**18 01 15.7**	**-0.1**
SGDS	**Sogindy**	**47.20**	**307**⇑	*i*P	**P**	**18 01 15.8**	**-0.1**
AAK	**Ala-Archa**	**47.23**	**306**	P	**P**	**18 01 16.2**	**0.0**
AAK				IAmb	IAmb	18 01 18.0	
	comp=Z,54nm,1.4s						
AAK	**Ala-Archa**	**47.23**	**306**	LR	LR	18 24 33.3	
	comp=Z,1μm,18.1s,baz=93,slow=40						
AAK	**Ala-Archa**	**47.23**	**306**	P	**P**	**18 01 16.1**	**0.0**
AAK				S	**S**	**18 08 07.6**	**-1.1**
AAK	**Ala-Archa**	**47.23**	**306***ce*	P	**P**	**18 01 16.6**	**+0.5**
AAK				pmax	pmax		
	comp=Z,58nm,1.7s						
AAK	**Ala-Archa**	**47.23**	**306**	*i* P	**P**	**18 01 16.7**	**+0.5**
	SNR=9.9						
USP	**Ospenovka**	**47.28**	**307**	P	**P**	**18 01 16.6**	**+0.2**
	SNR=44						
EKS2	**Erkin-Say**	**47.76**	**306**	P	**P**	**18 01 20.8**	**+0.5**
	SNR=48						
AML	**Almayashu**	**47.79**	**305**	P	**P**	**18 01 21.9**	**+1.1**
	SNR=81						
NIL	**Nilore**	**48.26**	**294**	P	**P**	**18 01 23.9**	**-0.2**
NIL	**Nilore**	**48.26**	**294**	P	**P**	**18 01 24.2**	**+0.1**
NIL	**Nilore**	**48.26**	**294**	P	**P**	**18 01 23.9**	**-0.2**
NIL				pmax	pmax		
	comp=Z,128nm,1.1s						
AS31	**Alice Springs**	**48.58**	**173**	P	**P**	**18 01 26.0**	**-0.6**
	comp=Z,9.2nm,0.9s						
ASAR	**Alice Springs**	**48.58**	**173**	P	**P**	**18 01 26.3**	**-0.2**
ASAR	**Alice Springs**	**48.58**	**173**	P	**P**	**18 01 26.8**	**+0.3**
	comp=Z,14nm,0.8s,baz=359,slow=7.7,SNR=131						
ASAR				LR	LR	18 21 00.6	
	comp=Z,641nm,20.7s,baz=5.0,slow=35						
	comp=Z,14nm,0.8s						
AS01	**Alice Springs**	**48.58**	**173**	P	**P**	**18 01 27.1**	**+0.6**
PALK	**Pallekele**	**48.60**	**257**	P	**P**	**18 01 27.2**	**+0.2**
PALK	**Pallekele**	**48.60**	**257**	LR	LR	18 22 58.3	
	comp=Z,154nm,19.3s,baz=50,slow=37						
PALK	**Pallekele**	**48.60**	**257**	P	**P**	**18 01 27.1**	**+0.2**
PALK				P	**P**	**18 01 27.1**	**+0.2**
PALK				S	**S**	**18 08 30.4**	**+1.9**
PALK				S	**S**	**18 08 30.4**	**+1.9**
PALK	**Pallekele**	**48.60**	**257**	P	**P**	**18 01 27.2**	**+0.2**
PALK				pmax	pmax		
	comp=Z,23nm,1.2s						
BILL	**Bilibino**	**48.95**	**18**	P	**P**	**18 01 29.4**	**+0.5**
BILL	**Bilibino**	**48.95**	**18***ce*	P	**P**	**18 01 29.8**	**+0.9**
BILL				pmax	pmax		
	comp=Z,40nm,1.7s						
BRZS	**Berezniki**	**49.35**	**315***c*	*i*P	**P**	**18 01 32.2**	**0.0**
BRZS	**Berezniki**	**49.35**	**315**⇑	*i*P	**P**	**18 01 32.3**	**0.0**
WRKA	**Warakurna**	**49.63**	**180**	P	**P**	**18 01 34.1**	**-0.4**
	comp=Z,49nm,0.9s						
WRKA	**Warakurna**	**49.63**	**180**	P	**P**	**18 01 34.9**	**+0.4**
BTK	**Batken**	**49.92**	**302**	P	**P**	**18 01 35.9**	**-0.9**
KKAR	**Karatay Array**	**50.18**	**306**	P	**P**	**18 01 38.5**	**-0.2**
KKAR	**Karatay Array**	**50.18**	**306**	IAmb	IAmb	18 01 41.3	
	comp=Z,163nm,1.1s						
KKAR	**Karatay Array**	**50.18**	**306**	P	**P**	**18 01 38.5**	**-0.2**
IUG	**Iuzhnay**	**50.51**	**305**	*e*P	**P**	**18 01 41.2**	**-0.1**
IUG				*e*S	**S**	**18 08 55.4**	**+0.6**
IUG				pmax	pmax		
	comp=Z,107nm,1.0s						
IUG	**Iuzhnay**	**50.51**	**305**	*e*P	**P**	**18 01 41.2**	**-0.1**
	comp=Z,107nm,1.0s						
IUG				*e*S	**S**	**18 08 55.5**	**+0.6**
NRIK	**Noril'sk**	**50.52**	**343**	P	**P**	**18 01 40.3**	**-0.5**
	comp=Z,97nm,1.1s,baz=121,slow=7.8,SNR=100						
NRIK				LR	LR	18 25 25.8	
	comp=Z,2μm,18.3s,baz=119,slow=39						
	comp=Z,97nm,1.1s						
NRIK	**Noril'sk**	**50.52**	**343***ce*	P	**P**	**18 01 40.5**	**-0.3**
NRIK				pmax	pmax		
	comp=Z,186nm,1.3s						
BRLS	**Boroldoy**	**50.67**	**306***c*	*i*P	**P**	**18 01 43.3**	**+0.9**
BRLS	**Boroldoy**	**50.67**	**306**⇑	*i*P	**P**	**18 01 43.3**	**+0.9**
LUES	**Luesalemba Tem**	**50.99**	**129**	P	**P**	**18 01 46.2**	**+1.2**
BVAR	**Borovoye Array**	**51.27**	**319**	P	**P**	**18 01 46.7**	**0.0**
	comp=Z,143nm,0.9s,baz=88,slow=7.6,SNR=281						
BVAR				LR	LR	18 25 13.9	
	comp=Z,863nm,18.9s,baz=94,slow=38						
	comp=Z,143nm,0.9s						
BRVK	**Borovoye**	**51.34**	**319**	P	**P**	**18 01 47.1**	**-0.1**
BRVK	**Borovoye**	**51.34**	**319**	P	**P**	**18 01 47.6**	**+0.4**
BRVK				S	**S**	**18 09 05.5**	**-0.1**
BRVK	**Borovoye**	**51.34**	**319***ce*	P	**P**	**18 01 47.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,277nm,1.0s						
SIMJ	**Simiganj**	**51.36**	**301**	P	**P**	**18 01 47.9**	**+0.1**
KBL	**Kabul**	**51.65**	**295**	P	**P**	**18 01 49.1**	**-1.0**
KBL	**Kabul**	**51.65**	**295**	P	**P**	**18 01 50.6**	**+0.5**
	SNR=154						
KBL				S	**S**	**18 09 08.7**	**-2.2**
KBL	**Kabul**	**51.65**	**295**	P	**P**	**18 01 49.1**	**-1.0**
KBL				pmax	pmax		
	comp=Z,178nm,0.9s						
MEEK	**Meekatharra**	**52.05**	**191**	P	**P**	**18 01 52.1**	**-0.7**
	comp=Z,44nm,2.7s						
MEEK	**Meekatharra**	**52.05**	**191**	P	**P**	**18 01 52.5**	**-0.3**
OOD	**Oodnadatta**	**52.87**	**172**	P	**P**	**18 01 58.8**	**+0.1**
QLP	**Quilpie**	**53.45**	**162**	P	**P**	**18 02 02.5**	**-0.6**
	comp=Z,55nm,1.1s						
QLP	**Quilpie**	**53.45**	**162**	P	**P**	**18 02 03.7**	**+0.6**
INKA	**Innaminka**	**53.70**	**166**	P	**P**	**18 02 06.1**	**+1.3**
P08K	**Saint George I**	**54.37**	**37**	P	**P**	**18 02 07.8**	**-1.7**
	baz=261						
EIDS	**Eidsvold**	**54.64**	**154**	P	**P**	**18 02 11.8**	**0.0**
EIDS				IAmb	IAmb	18 02 13.0	
	comp=Z,48nm,1.2s						
EIDS	**Eidsvold**	**54.64**	**154**	P	**P**	**18 02 11.7**	**-0.1**
	comp=Z,39nm,1.8s						
EIDS	**Eidsvold**	**54.64**	**154**	P	**P**	**18 02 13.5**	**+1.7**
GAMB	**Gambell**	**54.82**	**28**	P	**P**	**18 02 12.2**	**-0.5**
	baz=254						
MORW	**Morawa**	**54.90**	**193**	IAmb	IAmb	18 02 27.7	
	comp=Z,36nm,1.1s						
MORW	**Morawa**	**54.90**	**193**	P	**P**	**18 02 13.2**	**-0.5**
	comp=Z,35nm,1.5s						
MORW	**Morawa**	**54.90**	**193**	P	**P**	**18 02 13.7**	**+0.1**
FORT	**Forrest**	**55.35**	**180**	P	**P**	**18 02 17.0**	**+0.2**
	comp=Z,100nm,1.0s						
FORT	**Forrest**	**55.35**	**180**	P	**P**	**18 02 18.0**	**+1.2**
UNV	**Unalaska Valle**	**55.80**	**41**	P	**P**	**18 02 18.3**	**-1.6**
	baz=266						
LCRK	**Leigh Creek**	**55.85**	**170**	P	**P**	**18 02 21.5**	**+1.1**
KMBL	**Kambalda**	**56.26**	**187**	P	**P**	**18 02 22.7**	**-0.7**
	comp=Z,37nm,2.0s						
KMBL	**Kambalda**	**56.26**	**187**	P	**P**	**18 02 24.1**	**+0.7**
BLDU	**Ballidu**	**56.27**	**192**	P	**P**	**18 02 23.3**	**-0.2**
	comp=Z,29nm,1.6s						
BLDU	**Ballidu**	**56.27**	**192**	P	**P**	**18 02 23.8**	**+0.3**
M11K	**Mekoryuk**	**56.66**	**33**	P	**P**	**18 02 24.5**	**-1.4**
	baz=262						
TNA	**Tin City**	**56.84**	**26**	P	**P**	**18 02 26.2**	**-1.0**
	baz=257						
KLBR	**Kellerberrin**	**57.04**	**191**	P	**P**	**18 02 28.9**	**0.0**
KOUNC	**Koumac, New Ca**	**57.19**	**139**	P	**P**	**18 02 31.9**	**+1.8**
SVE	**Sverdlovsk**	**57.31**	**323***d*	*i*P	**P**	**18 02 31.0**	**+0.4**
SVE				pmax	pmax		
	comp=Z,173nm,1.4s						
SVE				MLR	MLR		
	comp=Z,1μm,16.0s						
F14K	**Arctic Creek**	**57.47**	**27**	P	**P**	**18 02 30.6**	**-1.1**
	baz=258						
ABKAR	**Akbulak array**	**57.55**	**314**	P	**P**	**18 02 32.4**	**-0.1**
ABKAR	**Akbulak array**	**57.55**	**314**	IAmb	IAmb	18 02 34.2	
	comp=Z,107nm,1.1s						
K13K	**Kusilvak Mount**	**57.62**	**31**	P	**P**	**18 02 31.4**	**-1.3**
K13K				IAmb	IAmb	18 02 47.5	
	comp=Z,38nm,1.1s						
K13K	**Kusilvak Mount**	**57.62**	**31**	P	**P**	**18 02 31.7**	**-1.0**
	baz=262						
FALS	**False Pass**	**57.66**	**40**	P	**P**	**18 02 31.9**	**-1.2**
	baz=268						
BBOO	**Buckleboo**	**57.86**	**172**	IAmb	IAmb	18 02 36.0	
	comp=Z,66nm,1.4s						
BBOO	**Buckleboo**	**57.86**	**172**	P	**P**	**18 02 34.1**	**-0.5**
	comp=Z,37nm,1.5s						
BBOO	**Buckleboo**	**57.86**	**172**	P	**P**	**18 02 35.5**	**+0.8**
STKA	**Stephens Creek**	**57.87**	**167**	P	**P**	**18 02 34.4**	**-0.4**
	comp=Z,92nm,0.9s						
STKA	**Stephens Creek**	**57.87**	**167**	P	**P**	**18 02 34.8**	**0.0**
	comp=Z,12nm,0.9s,baz=346,slow=9.2,SNR=20						
STKA				LR	LR	18 28 47.6	
	comp=Z,387nm,18.6s,baz=5.2,slow=37						
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**57.87**	**167**	P	**P**	**18 02 34.9**	**+0.1**
M13K	**Dall Lake**	**58.07**	**33**	P	**P**	**18 02 34.6**	**-1.3**
	baz=264						
F15K	**North Star Dit**	**58.20**	**27**	P	**P**	**18 02 36.2**	**-0.5**
	baz=260						
J14K	**Nanvaranak Lak**	**58.23**	**30**	P	**P**	**18 02 36.8**	**-0.2**
J14K				IAmb	IAmb	18 02 51.5	
	comp=Z,36nm,1.0s						
J14K	**Nanvaranak Lak**	**58.23**	**30**	P	**P**	**18 02 36.1**	**-0.8**
	baz=263						
G15K	**Niukluk**	**58.34**	**28**	P	**P**	**18 02 36.7**	**-1.0**
	baz=261						
NWAO	**Narrogin (SRO)**	**58.43**	**191**	LR	LR	18 32 11.1	
	comp=Z,119nm,18.9s,baz=324,slow=40						
C16K	**Lisburne Hills**	**58.44**	**24**	IAmb	IAmb	18 02 52.4	
	comp=Z,32nm,1.1s						
C16K	**Lisburne Hills**	**58.44**	**24**	P	**P**	**18 02 37.6**	**-0.7**
	baz=258						
L14K	**Kuka Creek**	**58.48**	**32**	P	**P**	**18 02 40.1**	**+1.3**
L14K	**Kuka Creek**	**58.48**	**32**	P	**P**	**18 02 37.5**	**-1.3**
	baz=264						
ARTI	**Arti**	**58.53**	**322**	P	**P**	**18 02 38.8**	**-0.5**
ARTI	**Arti**	**58.53**	**322**	LR	LR	18 30 20.2	
	comp=Z,1μm,19.2s,baz=92,slow=39						
ARTI	**Arti**	**58.53**	**322***c*	*i*P	**P**	**18 02 38.9**	**-0.3**
ARTI						18 03 26.0	
ARTI						18 04 45.8	
ARTI				S	**S**	**18 10 44.7**	**+2.6**
ARTI				SS	**SS**	**18 14 38.7**	**+4.3**
ARTI				pmax	pmax		
	comp=Z,85nm,1.0s						
ARTI				MLR	MLR		
	comp=Z,1μm,19.0s						
CMSA	**Cobar Meteorol**	**58.54**	**162**	P	**P**	**18 02 40.0**	**+0.5**
	comp=Z,39nm,1.7s						
CMSA	**Cobar Meteorol**	**58.54**	**162**	P	**P**	**18 02 40.4**	**+0.9**
AKTO	**Aktyubinsk**	**58.77**	**315**	LR	LR	18 30 04.1	
	comp=Z,547nm,18.3s,baz=64,slow=38						
M14K	**Bethel**	**58.78**	**33**	P	**P**	**18 02 39.7**	**-1.1**
	baz=266						
N14K	**Kuskokwak Cree**	**58.86**	**34**	P	**P**	**18 02 40.9**	**-0.4**
	baz=266						
HTT	**Hallett**	**58.88**	**170**	P	**P**	**18 02 42.3**	**+0.4**
O14K	**Tigyukauivet M**	**59.03**	**34**	P	**P**	**18 02 41.4**	**-1.2**
	baz=267						
H16K	**Elim**	**59.05**	**28**	P	**P**	**18 02 41.8**	**-0.9**
	baz=263						
L15K	**Ungalak Mounta**	**59.09**	**32**	P	**P**	**18 02 42.4**	**-0.6**
	baz=265						
G16K	**Koyuk River**	**59.10**	**27**	P	**P**	**18 02 42.8**	**-0.2**
	baz=262						
K15K	**Wolf Creek Mou**	**59.12**	**31**	P	**P**	**18 02 42.1**	**-1.1**
	baz=265						
D17K	**Noatak River**	**59.16**	**24**	P	**P**	**18 02 42.2**	**-1.2**
	baz=260,SNR=14						
RDOG	**Red Dog Mine**	**59.29**	**24**	P	**P**	**18 02 43.5**	**-0.8**
	baz=260						
SDPT	**Sand Point**	**59.36**	**39**	P	**P**	**18 02 43.7**	**-1.2**
	baz=270						
ARMA	**Armidale**	**59.40**	**156**	P	**P**	**18 02 44.5**	**-1.1**
ARMA				IAmb	IAmb	18 02 47.6	
	comp=Z,45nm,1.3s						
ARMA	**Armidale**	**59.40**	**156**	P	**P**	**18 02 45.2**	**-0.4**
	comp=Z,31nm,1.4s						
ARMA	**Armidale**	**59.40**	**156**	P	**P**	**18 02 46.9**	**+1.3**
M15K	**Kasigluk River**	**59.40**	**33**	P	**P**	**18 02 44.1**	**-1.1**
	baz=267						
E17K	**Hotham Inlet**	**59.55**	**25**	P	**P**	**18 02 45.3**	**-0.7**
	baz=262,SNR=6.8						
J16K	**Anvik River**	**59.63**	**30**	P	**P**	**18 02 46.0**	**-0.7**
	baz=265						
I17K	**Unalakleet**	**59.64**	**29**	P	**P**	**18 02 45.8**	**-0.9**
	baz=265						
DZM	**Mont Dzumac**	**59.64**	**138**	IAmb	IAmb	18 03 01.3	
	comp=Z,43nm,1.2s						
DZM	**Mont Dzumac**	**59.64**	**138**	*e*P	**P**	**18 02 47.0**	**-0.4**
	comp=Z,84nm,1.2s						
DZM				*e*S	**S**	**18 10 53.5**	**-3.9**
	comp=Z,132nm,24.4s						
DZM				*e*LR	LR	18 20 20.1	
	comp=Z,966nm,23.9s						
DZM	**Mont Dzumac**	**59.64**	**138**	LR	LR	18 24 11.4	
	comp=Z,377nm,21.6s,baz=351,slow=32						
DZM	**Mont Dzumac**	**59.64**	**138**	P	**P**	**18 02 48.7**	**+1.3**
N15K	**Kwethluk River**	**59.67**	**33**	P	**P**	**18 02 46.5**	**-0.5**
	baz=268						
F17K	**Baldwin Pennin**	**59.69**	**26**	IAmb	IAmb	18 03 01.7	
	comp=Z,22nm,0.8s						
F17K	**Baldwin Pennin**	**59.69**	**26**	P	**P**	**18 02 46.5**	**-0.5**
	baz=263						
O15K	**Ungalikthiuk R**	**59.77**	**35**	P	**P**	**18 02 46.5**	**-1.2**
	baz=268						
G17K	**Kiwalik Mounta**	**59.82**	**27**	P	**P**	**18 02 47.6**	**-0.4**
	baz=264,SNR=5.5						
CHNA	**Chernabura Isl**	**59.87**	**40**	P	**P**	**18 02 47.0**	**-1.5**
	baz=271						
S14K	**Fog Glacier**	**59.88**	**38**	P	**P**	**18 02 46.7**	**-2.0**
	baz=270						
YATNC	**Mamie plateau,**	**59.90**	**138**	P	**P**	**18 02 50.9**	**+1.8**
B18K	**Kokolik River**	**59.91**	**23**	P	**P**	**18 02 47.1**	**-1.4**
	baz=260						
C18K	**Utukok River**	**60.01**	**24**	IAmb	IAmb	18 03 03.5	
	comp=Z,27nm,0.9s						
C18K	**Utukok River**	**60.01**	**24**	P	**P**	**18 02 48.8**	**-0.5**
	baz=262,SNR=8.7						
L16K	**Owhat River**	**60.04**	**32**	P	**P**	**18 02 49.3**	**-0.3**
	baz=267						
E18K	**Tukpahlearik C**	**60.06**	**25**	P	**P**	**18 02 49.7**	**+0.1**
	baz=263,SNR=8.3						
H17K	**Granite Mounta**	**60.07**	**28**	IAmb	IAmb	18 03 04.4	
	comp=Z,25nm,1.1s						
H17K	**Granite Mounta**	**60.07**	**28**	P	**P**	**18 02 49.2**	**-0.6**
	baz=265						
NGCH	**Negor - Chabah**	**60.11**	**286**	P	**P**	**18 02 51.2**	**+0.6**
OUENC	**Ouen Island, N**	**60.14**	**138**	P	**P**	**18 02 52.4**	**+1.7**
M16K	**Timber Creek**	**60.26**	**32**	P	**P**	**18 02 49.8**	**-1.3**
	baz=268						
A19K	**Wainwright**	**60.29**	**22**	P	**P**	**18 02 50.3**	**-0.8**
	baz=261						
J17K	**VABM Dome**	**60.32**	**30**	P	**P**	**18 02 51.3**	**-0.1**
J17K				IAmb	IAmb	18 03 06.3	
	comp=Z,31nm,0.9s						
J17K	**VABM Dome**	**60.32**	**30**	P	**P**	**18 02 50.0**	**-1.4**
	baz=266						
F18K	**Selawik**	**60.34**	**26**	P	**P**	**18 02 50.4**	**-1.1**
	baz=264,SNR=13						
N16K	**Nishlik Lake**	**60.34**	**33**	P	**P**	**18 02 49.7**	**-1.9**
	baz=268						
CHGN	**Chignik**	**60.51**	**38**	P	**P**	**18 02 51.5**	**-1.3**
	baz=271						
L17K	**Donlin**	**60.62**	**31**	P	**P**	**18 02 52.4**	**-1.1**
	baz=268						
K17K	**Iditarod**	**60.64**	**30**	IAmb	IAmb	18 03 17.6	
	comp=Z,33nm,1.1s						
K17K	**Iditarod**	**60.64**	**30**	P	**P**	**18 02 51.7**	**-2.0**
	baz=268						
O16K	**Kokwok River B**	**60.66**	**34**	P	**P**	**18 02 52.1**	**-1.7**
	baz=270						
G18K	**Tagagawik**	**60.68**	**27**	IAmb	IAmb	18 03 17.3	
	comp=Z,42nm,1.2s						
G18K	**Tagagawik**	**60.68**	**27**	P	**P**	**18 02 52.8**	**-1.0**
	baz=266,SNR=5.7						
H18K	**Honhosa River**	**60.74**	**28**	IAmb	IAmb	18 03 08.6	
	comp=Z,33nm,1.2s						
H18K	**Honhosa River**	**60.74**	**28**	P	**P**	**18 02 52.9**	**-1.4**
	baz=266						
R16K	**Pilot Point**	**60.95**	**36**	P	**P**	**18 02 54.5**	**-1.2**
	baz=271						
M17K	**Holitna River**	**61.01**	**32**	P	**P**	**18 02 56.0**	**-0.1**
M17K	**Holitna River**	**61.01**	**32**	P	**P**	**18 02 55.0**	**-1.1**
	baz=269						
F19K	**Shaleruckik Mo**	**61.10**	**26**	P	**P**	**18 02 55.8**	**-0.9**
	baz=266						
D19K	**Kuna River**	**61.11**	**24**	IAmb	IAmb	18 03 11.9	
	comp=Z,43nm,1.1s						
D19K	**Kuna River**	**61.11**	**24**	P	**P**	**18 02 56.1**	**-0.7**

Q18K	Katmai Hardscr	62.27	35	P	P	18 03 03.1	-1.8
	baz=273						
C21K	Knifeblade Rid	62.37	23	P	P	18 03 04.4	-0.8
	baz=267,SNR=8.8						
I20K	Naaghedeneel	62.38	28	P	P	18 03 04.5	-0.8
	baz=270						
A22K	Sinclair Lake	62.41	21	P	P	18 03 04.8	-0.6
	baz=266						
N19K	Bonanza Creek	62.45	33	P	P	18 03 05.6	-0.5
	baz=272						
B21K	Ikpikpuk River	62.45	23	IAmb	IAmb	18 03 20.4	
	comp=Z,41nm,1.1s						
B21K	Ikpikpuk River	62.45	23	P	P	18 03 05.7	0.0
	baz=267						
JLN	Jalan Bani Buh	62.52	283	P	P	18 03 07.3	+0.3
JLN				P	P	18 03 07.3	+0.3
J20K	Nowinta River	62.53	29	IAmb	IAmb	18 03 19.9	
	comp=Z,32nm,1.1s						
J20K	Nowinta River	62.53	29	P	P	18 03 06.5	+0.2
	baz=271,SNR=8.3						
O19K	Port Alsworth	62.55	33	P	P	18 03 06.3	-0.3
	baz=272						
K20K	Telida	62.58	30	IAmb	IAmb	18 03 21.1	
	comp=Z,34nm,1.2s						
K20K	Telida	62.58	30	P	P	18 03 06.2	-0.5
	baz=271						
E21K	Killik River	62.64	24	IAmb	IAmb	18 03 31.6	
	comp=Z,30nm,1.1s						
E21K	Killik River	62.64	24	P	P	18 03 06.1	-0.9
	baz=268						
ARPS	Mount Arapiles	62.66	168	P	P	18 03 07.8	+0.4
L20K	Farewell, AK	62.68	31	P	P	18 03 05.9	-1.6
	baz=272						
WBK	Wadi Bani Khal	62.78	284	P	P	18 03 09.0	+0.2
WBK				P	P	18 03 09.0	+0.2
G21K	Allakaket	62.79	26	IAmb	IAmb	18 03 31.4	
	comp=Z,18nm,0.8s						
G21K	Allakaket	62.79	26	P	P	18 03 07.0	-1.1
	baz=270						
F21K	Alatna River	62.80	25	IAmb	IAmb	18 03 43.2	
	comp=Z,22nm,1.1s						
F21K	Alatna River	62.80	25	P	P	18 03 06.8	-1.3
	baz=270						
SII	Sitkinak Islan	62.85	37	P	P	18 03 07.9	-0.8
	baz=274						
B22K	Teshekpuk Lake	62.89	22	IAmb	IAmb	18 03 23.7	
	comp=Z,39nm,1.1s						
B22K	Teshekpuk Lake	62.89	22	P	P	18 03 08.1	-0.5
	baz=268						
WSAR	Wadi Sarin	62.89	284	P	P	18 03 09.7	+0.3
Q19K	Cape Douglas,	62.97	35	P	P	18 03 08.3	-1.1
	baz=274						
CAN	Canberra	63.03	161	P	P	18 03 09.5	-0.5
CAN				IAmb	IAmb	18 03 13.8	
	comp=Z,27nm,1.2s						
CAN	Canberra	63.03	161	P	P	18 03 11.6	+1.6
CAN	Canberra	63.03	161	P	P	18 03 09.5	-0.5
CAN				pmax	pmax		
	comp=Z,27nm,1.2s						
M20K	Styx River	63.06	31	P	P	18 03 09.0	-1.0
	baz=273						
H21K	Melozitna Rive	63.08	27	P	P	18 03 09.9	-0.2
	baz=271,SNR=20						
D22K	Ayikyak River	63.12	24	IAmb	IAmb	18 03 35.4	
	comp=Z,30nm,0.9s						
D22K	Ayikyak River	63.12	24	P	P	18 03 09.5	-0.7
	baz=270						
P19K	Oil Pt	63.13	34	P	P	18 03 09.9	-0.6
	baz=274						
CNB	Canberra Magne	63.13	161	P	P	18 03 12.0	+1.3
BIDO	Bidbid	63.25	285	P	P	18 03 13.1	+1.2
BIDO				S	S	18 11 42.8	-0.5
OHAK	Old Harbor	63.28	37	P	P	18 03 10.7	-0.8
	baz=275						
F22K	John River	63.31	25	P	P	18 03 10.3	-1.2
	baz=271						
KIRV	Kirov	63.33	325	LR	LR	18 34 50.3	
	comp=Z,391nm,19.1s,baz=91,slow=40						
KIRV	Kirov	63.33	325	*e*P	P	18 03 11.9	+0.2
CHUM	Lake Minchumin	63.34	29	P	P	18 03 11.7	0.0
	baz=272						
E22K	Anaktuvuk Pass	63.44	24	IAmb	IAmb	18 03 37.3	
	comp=Z,33nm,1.0s						
E22K	Anaktuvuk Pass	63.44	24	P	P	18 03 12.0	-0.4
	baz=271,SNR=15						
I21K	Tanana	63.44	28	IAmb	IAmb	18 03 31.3	
	comp=Z,28nm,1.1s						
I21K	Tanana	63.44	28	P	P	18 03 11.8	-0.6
	baz=272						
PPLA	Purkeypile	63.45	30	P	P	18 03 12.2	-0.5
	baz=273						
SMDO	Samad	63.45	284	P	P	18 03 12.3	-1.0
SMDO				P	P	18 03 12.3	-1.0
SMDO				S	S	18 11 45.2	-0.8
SMDO				S	S	18 11 45.2	-0.8
CAST	Castle Rocks	63.47	30	IAmb	IAmb	18 03 28.9	
	comp=Z,21nm,1.0s						
CAST	Castle Rocks	63.47	30	P	P	18 03 11.4	-1.3
	baz=273,SNR=8.9						
SPCR	Spurr Chakacha	63.54	32	P	P	18 03 13.7	+0.5
	baz=274						
G22K	Bettles	63.58	26	P	P	18 03 13.5	+0.3
	baz=272						
KDAK	Kodiak Island	63.61	36	P	P	18 03 13.5	-0.1
	baz=275						
Q20K	Shuyak Island	63.64	35	P	P	18 03 13.3	-0.5
	baz=275						
H22K	Ishtalitna Cre	63.66	27	P	P	18 03 13.7	-0.2
	baz=272						
SKT	Skwentna	63.81	31	P	P	18 03 15.0	0.0
SKT				IAmb	IAmb	18 03 28.3	
	comp=Z,30nm,1.2s						
SKT	Skwentna	63.81	31	P	P	18 03 14.9	0.0
	baz=274						
BRAT	Ballarat	63.84	166	P	P	18 03 16.7	+1.5
D23K	Nanushuk River	63.84	23	P	P	18 03 13.9	-1.1
	baz=271,SNR=23						
C23K	Itkillik River	63.85	22	P	P	18 03 15.0	0.0
	baz=271						
BPAW	Bear Paw Mtn.	63.92	29	IAmb	IAmb	18 03 30.7	
	comp=Z,43nm,1.5s						
BPAW	Bear Paw Mtn.	63.92	29	P	P	18 03 15.9	+0.3
	baz=273						
HOM	Homer	63.94	34	P	P	18 03 15.6	-0.1
	baz=275						
HOQ	Hoqain	63.95	285	P	P	18 03 16.8	+0.3
HOQ				P	P	18 03 16.8	+0.3
COLD	Coldfoot	64.08	25	IAmb	IAmb	18 03 31.9	
	comp=Z,38nm,1.6s						
COLD	Coldfoot	64.08	25	P	P	18 03 16.7	+0.1
	baz=273						
CAPN	Captain Cook N	64.08	33	P	P	18 03 16.0	-0.6
	baz=275						
BANOM	Banah	64.16	288	P	P	18 03 18.3	+0.4
BANOM	Banah	64.16	288	P	P	18 03 18.3	+0.4
MHTO	MHTO	64.16	282	P	P	18 03 17.5	-0.3
MHTO				P	P	18 03 17.5	-0.3
G23K	Bananza Creek	64.17	26	IAmb	IAmb	18 03 40.7	
	comp=Z,21nm,0.9s						
G23K	Bananza Creek	64.17	26	P	P	18 03 16.8	-0.4
	baz=273,SNR=9.8						
TOO	Toolangi	64.21	165	P	P	18 03 18.2	+0.4
TOO	Toolangi	64.21	165	P	P	18 03 18.2	+0.4
TOO				pmax	pmax		
	comp=Z,14nm,1.3s						
SUA	Susitna One	64.22	32	P	P	18 03 16.9	-0.8
	baz=275						
TOLK	Toolik Lake Re	64.25	24	IAmb	IAmb	18 03 33.0	
	comp=Z,44nm,1.4s						
TOLK	Toolik Lake Re	64.25	24	P	P	18 03 16.9	-0.9
	baz=272,SNR=10						
E23K	Chandalar	64.26	24	IAmb	IAmb	18 03 33.4	
	comp=Z,43nm,1.1s						
E23K	Chandalar	64.26	24	P	P	18 03 16.7	-1.2
	baz=273,SNR=14						
TRF	Thorofare Moun	64.27	30	P	P	18 03 17.4	-0.7
	baz=274						
BSY	Bisya	64.30	284	P	P	18 03 18.8	+0.1
BSY				P	P	18 03 18.8	+0.1
CUT	Chulitna	64.36	31	P	P	18 03 17.3	-1.2
	baz=275						
BRSE	Bradley Lake S	64.38	34	P	P	18 03 17.0	-1.7
	baz=276						
H23K	Yukon River	64.42	27	P	P	18 03 17.7	-1.2
	baz=274						
MASF	Masafi	64.43	287	P	P	18 03 20.1	+0.4
MASF				P	P	18 03 20.1	+0.4
MSVF	Nonsavu	64.43	126	P	P	18 03 19.1	-0.6
MSVF	Nonsavu	64.43	126	P	P	18 03 21.7	+2.0
MSVF	Nonsavu	64.43	126	P	P	18 03 19.1	-0.6
MSVF				pmax	pmax		
	comp=Z,51nm,1.2s						
SOHO	SOHO	64.47	286	P	P	18 03 20.3	+0.4
SOHO				P	P	18 03 20.3	+0.4
SOHO	SOHO	64.47	286	P	P	18 03 20.2	+0.4
D24K	Happy Valley	64.50	23	IAmb	IAmb	18 03 51.3	
	comp=Z,29nm,0.8s						
D24K	Happy Valley	64.50	23	P	P	18 03 18.7	-0.6
	baz=273,SNR=19						
C24K	Franklin Bluff	64.52	23	P	P	18 03 18.7	-0.7
	baz=273						
UOSS	Minazif	64.52	287	P	P	18 03 20.4	+0.3
UOSS				P	P	18 03 20.4	+0.3
I23K	Minto, Yukon-K	64.55	28	IAmb	IAmb	18 03 35.4	
	comp=Z,18nm,0.9s						
I23K	Minto, Yukon-K	64.55	28	P	P	18 03 19.1	-0.5
	baz=274						
HATD	Hatta, Dubai	64.61	287	P	P	18 03 20.6	-0.2
	SNR=6.9						
HATD				P	P	18 03 20.6	-0.2
	SNR=6.9						
HATD	Hatta, Dubai	64.61	287	*i* P	P	18 03 21.3	+0.5
	SNR=7.1						
E24K	Your Creek	64.69	24	IAmb	IAmb	18 03 36.0	
	comp=Z,25nm,1.1s						
E24K	Your Creek	64.69	24	P	P	18 03 19.9	-0.7
	baz=274						
ARQ	Araqi	64.71	285	P	P	18 03 21.4	-0.1
ARQ				P	P	18 03 21.4	-0.1
NEA2	Nenana	64.71	28	IAmb	IAmb	18 03 45.1	
	comp=Z,41nm,1.2s						
NEA2	Nenana	64.71	28	P	P	18 03 20.7	-0.1
	baz=275						
ASHO	Ashiyiah	64.72	287	P	P	18 03 21.7	+0.1
ASHO				P	P	18 03 21.7	+0.1
DGTI	Dogotuki	64.79	124	P	P	18 03 24.1	+2.1
O22K	Cooper Landing	64.81	33	P	P	18 03 21.1	-0.3
	baz=276						
MCK	McKinley	64.85	29	P	P	18 03 20.7	-1.0
	baz=275						
DQM	DQM	64.87	281	P	P	18 03 21.2	-1.3
F24K	Squaw Lake	64.95	25	IAmb	IAmb	18 03 38.8	
	comp=Z,23nm,0.8s						
F24K	Squaw Lake	64.95	25	P	P	18 03 21.2	-1.2
	baz=275,SNR=14						
NAZ	Nazwa, Dubai	64.97	287	P	P	18 03 22.5	-0.7
NAZ				P	P	18 03 22.5	-0.7
PMR	Palmer	64.98	32	P	P	18 03 24.6	+2.1
PMR	Palmer	64.98	32	P	P	18 03 21.6	-0.9
	baz=276						
SEW	Seward	64.99	33	P	P	18 03 21.9	-0.7
	baz=277						
H24K	Noodor Dome	65.10	27	IAmb	IAmb	18 03 38.1	
	comp=Z,23nm,1.1s						
H24K	Noodor Dome	65.10	27	P	P	18 03 22.1	-1.2
	baz=275,SNR=14						
FAQ	Al Faqa, Dubai	65.11	287	P	P	18 03 24.3	+0.3
FAQ				P	P	18 03 24.3	+0.3
ALNE	Al Ain	65.17	286	P	P	18 03 24.4	-0.1
	SNR=8.4						
ALNE				P	P	18 03 24.4	-0.1
	SNR=8.4						
G24K	Hadweenzic Riv	65.19	26	IAmb	IAmb	18 03 39.2	
	comp=Z,26nm,1.1s						
G24K	Hadweenzic Riv	65.19	26	P	P	18 03 23.3	-0.5
	baz=275,SNR=8.5						
COLA	College	65.21	28	P	P	18 03 25.5	+1.6
COLA	College	65.21	28	P	P	18 03 27.2	+3.3
COLA	College	65.21	28	P	P	18 03 23.7	-0.3
	baz=276						
KNK	Knik Glacier	65.32	32	P	P	18 03 24.2	-0.6
	baz=277						
SML	Sawmill	65.33	31	P	P	18 03 24.3	-0.6
	baz=277						
D25K	Kavik River	65.36	23	IAmb	IAmb	18 03 40.1	
	comp=Z,40nm,1.4s						
D25K	Kavik River	65.36	23	P	P	18 03 24.7	-0.3
	baz=275,SNR=13						
POKR	Poker Plat Res	65.36	28	P	P	18 03 26.6	+1.6
POKR				IAmb	IAmb	18 03 40.2	
	comp=Z,51nm,1.3s						
POKR	Poker Plat Res	65.36	28	P	P	18 03 24.2	-0.7
	baz=276						
ASUD	Al Ashush, Dub	65.37	287	P	P	18 03 24.7	-1.0
ASUD				P	P	18 03 24.7	-1.0
PWL	Port Wells	65.45	32	P	P	18 03 24.7	-1.0
	baz=277						
M23K	Glacier View	65.62	31	P	P	18 03 25.9	-0.8
	baz=277						
ILAR	Eielson Array	65.63	28	P	P	18 03 25.8	-0.9
	comp=Z,1.0nm,0.8s,baz=255,slow=4.3,SNR=8.1						
G25K	Bearman Lake	65.72	26	P	P	18 03 26.2	-1.1
	baz=276						
E25K	Arctic Village	65.77	24	IAmb	IAmb	18 03 51.4	
	comp=Z,24nm,1.1s						
E25K	Arctic Village	65.77	24	P	P	18 03 27.0	-0.7
	baz=276,SNR=11						
SCM	Sheep Creek Mo	65.80	31	P	P	18 03 27.5	-0.5
	baz=278						
F25K	Christian Rive	65.80	25	IAmb	IAmb	18 03 51.9	
	comp=Z,20nm,1.0s						
F25K	Christian Rive	65.80	25	P	P	18 03 27.5	-0.4
	baz=277,SNR=13						
C26K	Camden Bay	65.81	22	P	P	18 03 27.2	-0.6
	baz=276,SNR=13						
H25L	Birch Creek	65.89	26	P	P	18 03 28.1	-0.3
	baz=277						
P23K	Montague Islan	66.02	33	P	P	18 03 28.5	-0.8
	baz=278						
UMZA	Um Al Zommool	66.10	285	P	P	18 03 27.9	-2.5
UMZA				P	P	18 03 27.9	-2.5
BMAR	Burnt Mountain	66.23	25	P	P	18 03 31.9	+1.3
C27K	Jago River	66.26	22	IAmb	IAmb	18 04 08.1	
	comp=Z,61nm,1.6s						
C27K	Jago River	66.26	22	P	P	18 03 30.5	-0.2
	baz=277,SNR=11						
J25K	Salcha River,	66.30	28	P	P	18 03 31.0	-0.1
J25K	Salcha River,	66.30	28	P	P	18 03 30.7	-0.4
	baz=278						
M24K	Tolsona, Glenn	66.30	31	P	P	18 03 30.8	-0.4
M24K	Tolsona, Glenn	66.30	31	P	P	18 03 30.9	-0.2
	baz=278						
F26K	Sheenjek River	66.36	25	IAmb	IAmb	18 03 46.6	
	comp=Z,34nm,1.0s						
F26K	Sheenjek River	66.36	25	P	P	18 03 31.5	+0.1
	baz=278						
PAX	Paxson	66.50	30	IAmb	IAmb	18 03 46.1	
	comp=Z,70nm,1.8s						
PAX	Paxson	66.50	30	P	P	18 03 31.6	-0.8
	baz=279						
KLU	Klutina	66.51	31	P	P	18 03 32.0	-0.6
	baz=279						
G26K	Porcupine Rive	66.61	25	P	P	18 03 32.5	-0.4
	baz=278,SNR=9.3						
RIDG	Independent Ri	66.65	29	P	P	18 03 33.8	+0.4
RIDG				IAmb	IAmb	18 03 38.0	
	comp=Z,66nm,1.8s						
RIDG	Independent Ri	66.65	29	P	P	18 03 33.2	-0.2
	baz=279						
EYAK	Cordova Ski Ar	66.75	32	P	P	18 03 32.8	-1.2
	baz=280						
MAK	Makhachkala	66.93	308	*e*P	P	18 03 32.7	-2.7
MAK				*e*PPP	PPP	18 07 35.0	
MAK				*e*S	S	18 12 25.4	-2.5
MAK				*e*		18 16 41.3	
MAK				pmax	pmax		
	comp=Z,128nm,1.8s						
SCRK	Sand Creek	66.99	29	IAmb	IAmb	18 03 40.6	
	comp=Z,59nm,1.8s						
SCRK	Sand Creek	66.99	29	P	P	18 03 34.5	-1.2
	baz=280						
LKBA	Tubou, Lakemba	67.07	125	P	P	18 03 38.4	+1.9
J26L	Joseph Creek	67.08	28	IAmb	IAmb	18 03 51.6	
	comp=Z,22nm,1.1s						
J26L	Joseph Creek	67.08	28	P	P	18 03 34.9	-1.3
	baz=280,SNR=9.9						
I26K	Coal Creek Min	67.12	27	P	P	18 03 37.9	+1.6
I26K				IAmb	IAmb	18 04 20.5	
	comp=Z,53nm,2.0s						
I26K	Coal Creek Min	67.12	27	P	P	18 03 34.9	-1.4
	baz=280						
N25K	Chitina, Valde	67.12	31	P	P	18 03 35.0	-1.4
	baz=280						
BMRM	Bremner River	67.23	32	P	P	18 03 35.7	-1.4
	baz=280						
E27K	Coleen River	67.23	24	IAmb	IAmb	18 03 51.7	
	comp=Z,21nm,0.9s						
E27K	Coleen River	67.23	24	P	P	18 03 36.2	-0.8
	baz=280,SNR=12						
D27M	Malcolm River	67.28	23	IAmb	IAmb	18 04 00.8	
	comp=Z,18nm,0.9s						
D27M	Malcolm River	67.28	23	P	P	18 03 36.7	-0.6
	baz=280						
MENT	Mentasta	67.29	30	IAmb	IAmb	18 03 56.5	
	comp=Z,22nm,1.1s						
MENT	Mentasta	67.29	30	P	P	18 03 39.8	+2.4
L26K	Log Cabin Wild	67.44	30	P	P	18 03 37.7	-0.6
	baz=281						
G27K	Doyon Strip	67.46	25	P	P	18 03 36.6	-1.9
	baz=280						
MZR	Muzera	67.48	286	P	P	18 03 39.3	0.0
	SNR=8.4						
MZR				P	P	18 03 39.3	0.0
	SNR=8.4						
MZR	Muzera	67.48	286	*i* P	P	18 03 38.7	-0.5
	SNR=13						
KAIM	Kayak Island	67.51	33	P	P	18 03 37.9	-1.0
	baz=281						
H27K	Steamboat Moun	67.62	26	P	P	18 03 38.9	-0.5
	baz=281						
I27K	Kandik River	67.70	27	P	P	18 03 38.8	-1.2
	baz=281,SNR=15						
M26K	Nabesna, AK	67.72	30	IAmb	IAmb	18 03 54.1	
	comp=Z,31nm,1.0s						
M26K	Nabesna, AK	67.72	30	P	P	18 03 38.9	-1.3
	baz=281,SNR=5.1						
K27K	Chicken	67.81	28	IAmb	IAmb	18 04 17.6	
	comp=Z,25nm,1.3s						
K27K	Chicken	67.81	28	P	P	18 03 40.8	+0.1
	baz=281						
E28M	Babbage River	67.91	23	IAmb	IAmb	18 03 55.9	
	comp=Z,28nm,0.9s						
E28M	Babbage River	67.91	23	P	P	18 03 40.9	-0.3
	baz=282,SNR=15						
KLMR	Klimovskoe	67.97	328	*e*P	P	18 03 35.4	-6.3
KLMR				*e*		18 04 02.3	
KLMR				pmax	pmax		
	comp=Z,114nm,1.4s						
D28M	Stokes Point	68.04	22	P	P	18 03 41.7	-0.2
	baz=282						
L27K	Beaver Creek,	68.11	29	P	P	18 03 42.4	-0.3
L27K	Beaver Creek,	68.11	29	P	P	18 03 42.0	-0.6
	baz=282						
BCAR	Beaver Creek A	68.13	29	P	P	18 03 42.6	-0.1
M27K	Edge Creek, AK	68.24	30	P	P	18 03 43.2	-0.4
	baz=282						
DOK	Doka	68.34	281	P	P	18 03 43.8	-1.0
I28M	Miner Creek	68.42	27	P	P	18 03 44.1	-0.5
	baz=282,SNR=12						
E29M	Blow River	68.54	23	IAmb	IAmb	18 04 00.2	
	comp=Z,22nm,1.1s						
E29M	Blow River	68.54	23	P	P	18 03 44.0	-1.2
	baz=283,SNR=10.0						
RBK	Rabkut	68.66	280	P	P	18 03 47.0	+0.2
RBK				P	P	18 03 47.0	+0.2
MESA	MESA	68.67	32	P	P	18 03 45.1	-1.3
	baz=283						
SLWR	Sila	68.70	287	P	P	18 03 47.3	+0.5
SLWR				P	P	18 03 47.3	+0.5
G29M	Pine Creek	68.84	25	P	P	18 03 46.8	-0.3
	baz=284,SNR=11						
H29M	Whitestone	68.87	26	P	P	18 03 46.7	-0.6
	baz=284						
VRH	Novokhopyorsk	68.88	318⇑	*i*P	P	18 03 47.4	-0.1
VRH				pmax	pmax		
	comp=Z,123nm,1.2s						
WHFO	Wadi Hawf	68.90	281	P	P	18 03 47.8	-0.5
WHFO				P	P	18 03 47.8	-0.5
DAWY	Dawson	68.96	28	P	P	18 03 48.6	+0.8
DAWY	Dawson	68.96	28	P	P	18 03 47.5	-0.3
	baz=284						
YUK3	Moose Creek	69.02	31	P	P	18 03 47.6	-0.9
	baz=284						
APA	Apatity	69.07	336⇓	*i*P	P	18 03 46.3	-2.1
APA				*i*		18 04 09.2	
APA				*i*		18 06 18.0	
APA				*i* S	S	18 12 51.0	-1.7
APA				*i*		18 13 44.0	
APA				*i* SS	SS	18 17 20.0	+2.0
APA				pmax	pmax		
	comp=Z,18nm,0.9s						
I29M	Ogilvie Camp,	69.10	27	IAmb	IAmb	18 04 13.4	
	comp=Z,21nm,1.0s						
I29M	Ogilvie Camp,	69.10	27	P	P	18 03 48.5	-0.2
	baz=284						
J29N	Klondike Camp	69.36	28	IAmb	IAmb	18 04 13.6	
	comp=Z,13nm,0.7s						
J29N	Klondike Camp	69.36	28	P	P	18 03 49.7	-0.7
	baz=284						
O28M	Mount Upton	69.38	32	P	P	18 03 50.1	-0.8
	baz=284						
YUK8	Steele Glacier	69.46	31	P	P	18 03 50.1	-1.2
	baz=284						
EPYK	Eagle Plains	69.48	25	IAmb	IAmb	18 04 15.2	
	comp=Z,46nm,1.2s						
EPYK	Eagle Plains	69.48	25	P	P	18 03 51.1	0.0
	baz=285,SNR=8.2						
F30M	Barrier River	69.51	24	IAmb	IAmb	18 04 05.5	
	comp=Z,45nm,1.1s						
F30M	Barrier River	69.51	24	P	P	18 03 50.6	-0.6
	baz=285,SNR=11						
G30M	tAoh Zrail Nji	69.51	25	P	P	18 03 50.6	-0.6
	baz=285,SNR=11						
PINM	Pinnacle	69.52	32	P	P	18 03 51.2	-0.3
	baz=284						
ABTO	Aybut	69.52	280	P	P	18 03 52.0	-0.1
	SNR=5.8						
ABTO				P	P	18 03 52.0	-0.1
	SNR=5.8						
GOF	Gofitskoye	69.55	311	*c i*P	P	18 03 52.4	+0.6
NCK	Nalchik	69.57	309	*i* P	P	18 03 52.3	+0.3
NCK				pmax	pmax		
	comp=Z,26nm,0.6s						
GNI	Garni	69.64	306	LR	LR	18 38 52.0	
	comp=Z,398nm,18.2s,baz=64,slow=40						
TRLG	Trialeti	69.73	307	P	P	18 03 54.1	+0.9
L29M	L29M	69.74	29	IAmb	IAmb	18 04 07.6	
	comp=Z,38nm,1.2s						
L29M	L29M	69.74	29	P	P	18 03 52.2	-0.6
	baz=285						
M29M	Somme Creek	69.76	30	IAmb	IAmb	18 04 07.7	
	comp=Z,25nm,1.1s						
M29M	Somme Creek	69.76	30	P	P	18 03 52.0	-1.0
	baz=285,SNR=5.9						
K29M	Barlow Dome	69.81	28	P	P	18 03 53.6	+0.3
	baz=285						
I30M	Mount Dempster	69.92	27	P	P	18 03 53.8	-0.1
	baz=286						
YUK4	Talbot Arm	69.97	31	P	P	18 03 54.5	+0.1
	baz=285						
KBZ	Khabaz	70.00	310	P	P	18 03 54.9	+0.4
	comp=Z,49nm,0.8s,baz=84,slow=5.1,SNR=156						
KBZ				LR	LR	18 39 13.3	
	comp=Z,403nm,19.9s,baz=65,slow=40						
	comp=Z,49nm,0.8s						
KBZ	Khabaz	70.00	310	*c e*P	P	18 03 55.2	+0.6
KBZ				pmax	pmax		
	comp=Z,83nm,0.9s						
PNL	Peninsula	70.05	33	P	P	18 03 54.4	-0.3
	baz=285						
KVAR	Kislovodsk Arr	70.08	310	LR	LR	18 37 26.7	
	comp=Z,289nm,19.8s,baz=274,slow=38						
KIV	Kislovodsk	70.08	310	P	P	18 03 55.6	+0.3
KIV	Kislovodsk	70.08	310	P	P	18 03 56.2	+0.9
KIV				P	P	18 03 56.2	+0.9
KIV	Kislovodsk	70.08	310	⇑P	P	18 03 56.0	+0.7
KIV	Kislovodsk	70.08	310	*e*P	P	18 03 55.3	0.0
KIV				*e*S	S	18 13 06.5	+0.9
KIV				pmax	pmax		
	comp=Z,97nm,1.1s						
KIV				pmax	pmax		
	comp=Z,55nm,3.5s						
KIV				MLR

MOS e 18 04 16.3
MOS eS S 18 13 03.2 -2.3
MOS pmax pmax
comp=Z,400nm,1.7s
MOS pmax pmax
comp=Z,151nm,1.4s
MOS MLR MLR
comp=Z,800nm,21.0s
SPITS Spitsbergen Ar 70.14 348 P P **18 03 54.7 -0.2**
comp=Z,16nm,0.9s,baz=82,slow=6.8,SNR=10
SPITS LR LR 18 38 08.2
comp=Z,290nm,20.1s,baz=4.5,slow=39
comp=Z,16nm,0.9s
SHA1 Shidzhatmaz 70.16 310 *i* P P **18 03 56.5 +0.6**
YUK6 Outpost Mounta 70.20 31 P P **18 03 54.9 -0.9**
baz=286
LPSR Galich'ya Gora 70.21 320⇑ *i* P P **18 03 55.8 +0.1**
LPSR pmax pmax
comp=Z,124nm,1.0s
G31M Satah River 70.26 25 P P **18 03 54.6 -1.2**
baz=287
O29M Mount Kennedy 70.28 32 P P **18 03 55.4 -0.8**
baz=286
VORR Voronezh 70.29 319 *e*P P **18 03 56.7 +0.5**
VORR pmax pmax
comp=Z,153nm,1.0s
F31M Tsiigehtchic 70.31 24 IAmb IAmb 18 04 10.3
comp=Z,76nm,1.6s
F31M Tsiigehtchic 70.31 24 P P **18 03 55.3 -0.7**
baz=287,SNR=9.5
VORD Divnogorie 70.42 318 *e*P P **18 03 54.9 -2.2**
VORD pmax pmax
comp=Z,40nm,1.0s
VSR Storozhevoye 70.44 318 *e*P P **18 03 55.1 -2.0**
VSR pmax pmax
comp=Z,40nm,1.0s
KBS Kingsbay 70.56 349*ce*P P **18 03 59.1 +1.7**
KBS pmax pmax
comp=Z,80nm,2.5s
H31M Peel River 70.57 26 IAmb IAmb 18 04 11.6
comp=Z,27nm,0.9s
H31M Peel River 70.57 26 P P **18 03 57.3 -0.4**
baz=287,SNR=16
HYT Haines Junctio 70.64 31 P P **18 03 56.5 -1.9**
baz=286
N30M Aishikik Lake 70.66 30 P P **18 03 57.5 -0.9**
baz=286
KARS Kars 70.72 307 P P **18 04 01.4 +2.1**
KARS pmax pmax
comp=Z,52nm,1.1s
P29M Windy Craggy 70.87 32 P P **18 03 59.4 -0.3**
baz=286
OBN Obninsk 70.88 323 P P **18 03 58.8 -0.9**
OBN Obninsk 70.88 323 LR LR 18 37 14.7
comp=Z,688nm,19.2s,baz=11,slow=38
OBN Obninsk 70.88 323 ⇓P P **18 04 00.3 +0.6**
OBN Obninsk 70.88 323*c i* P P **18 03 59.8 +0.1**
OBN *i* 18 04 21.2
OBN pmax pmax
comp=Z,146nm,1.6s
OBN MLR MLR
comp=Z,504nm,16.0s
ERBR Yeremizino-Bor 71.11 312 *e*P P **18 04 00.4 -0.9**
ERBR pmax pmax
comp=Z,71nm,1.0s
JOF Joensuu 71.21 331 *e*P P **18 04 02.3 +0.7**
LABN Labinsk 71.25 311 *e*P P **18 04 01.4 -0.8**
LABN *e*S S **18 13 19.6 +0.6**
LABN pmax pmax
comp=Z,35nm,1.6s
ARCES ARCESS Array B 71.25 339 P P **18 04 01.9 +0.1**
comp=Z,6.9nm,0.8s,baz=62,slow=7.6,SNR=10.0
ARCES LR LR 18 41 31.1
comp=Z,443nm,18.4s,baz=78,slow=41
comp=Z,6.9nm,0.8s
N31M Braeburn, Yuko 71.25 30 IAmb IAmb 18 04 19.5
comp=Z,26nm,1.1s
N31M Braeburn, Yuko 71.25 30 P P **18 04 00.8 -1.1**
baz=288
O30N Mendenhall 71.32 31 P P **18 04 02.1 -0.3**
baz=288
GEVA Gevas 71.41 304 IAmb IAmb 18 04 05.5
comp=Z,35nm,1.0s
A36M Sachs Harbour 71.51 18 IAmb IAmb 18 04 18.3
comp=Z,42nm,0.9s
A36M Sachs Harbour 71.51 18 P P **18 04 03.2 -0.1**
baz=293,SNR=13
M31M Drury Creek, Y 71.65 29 P P **18 04 03.5 -0.9**
baz=288
WHY Whitehorse 71.92 31 P P **18 04 06.5 +0.3**
WHY Whitehorse 71.92 31 P P **18 04 05.5 -0.6**
baz=288
VSLR Vesyoloye 72.07 310 *i* P P **18 04 07.6 +0.4**
VSLR pmax pmax
comp=Z,104nm,1.1s
SKAG Skagway 72.09 32 P P **18 04 07.6 +0.7**
SKAG Skagway 72.09 32 P P **18 04 08.6 +1.6**
SKAG Skagway 72.09 32 P P **18 04 06.8 -0.2**
baz=288
FARO Faro, Yukon 72.11 29 IAmb IAmb 18 04 21.5
comp=Z,37nm,1.1s
FARO Faro, Yukon 72.11 29 P P **18 04 06.6 -0.5**
baz=289,SNR=5.1
S31K Pelican 72.11 34 P P **18 04 06.2 -0.9**
baz=288
SOC Sochi 72.25 310 *e*P P **18 04 07.7 -0.6**
SOC *e* 18 06 43.6
SOC *e*PPP PPP 18 08 33.4
SOC *e*S S **18 13 32.1 +1.6**
SOC *e*SS SS **18 18 07.0 -0.9**
SOC pmax pmax
comp=Z,57nm,1.1s
NOR Nord 72.26 355 *i* P P **18 04 07.8 +0.1**
NOR IAmb IAmb 18 04 08.6
comp=Z,22nm,1.2s
PUL Pulkovo 72.67 328*ce*P P **18 04 12.2 +1.8**
PUL pmax pmax
comp=Z,150nm,0.7s
P32M Atlin 72.82 32 P P **18 04 10.6 -0.9**
baz=290
SIT Sitka 72.87 35 P P **18 04 10.5 -1.1**
baz=289
R32K Eaglecrest 72.87 33 P P **18 04 11.2 -0.5**
baz=290
MMPY Sheldon Lake, 72.89 28 P P **18 04 10.8 -1.0**
baz=291
JIS Juneau Island 72.94 33 P P **18 04 13.8 +1.8**
C36M Paulatuk 72.95 21 IAmb IAmb 18 04 26.2
comp=Z,60nm,1.3s
C36M Paulatuk 72.95 21 P P **18 04 11.8 -0.1**
baz=295,SNR=18
P33M Teslin, Yukon 73.03 31 P P **18 04 12.9 +0.2**
P33M Teslin, Yukon 73.03 31 P P **18 04 12.2 -0.6**
baz=290
S32K Killisnoo 73.11 34 P P **18 04 12.4 -0.7**
baz=290
ANN Anapa 73.44 312 *e*P P **18 04 13.9 -1.3**
ANN pmax pmax
comp=Z,59nm,1.1s
MARD Mardin 73.44 304 P P **18 04 15.6 -0.1**
MARD IAmb IAmb 18 04 17.4
comp=Z,34nm,0.9s
Q32M Nakina River 73.74 32 P P **18 04 15.9 -1.2**
baz=291
FIA1 FINESS Array S 74.02 331 P P **18 04 18.4 0.0**
FINES FINESS Array B 74.02 331 P P **18 04 18.7 +0.3**
comp=Z,14nm,0.7s,baz=61,slow=4.9,SNR=35
FINES LR LR 18 41 01.6
comp=Z,1μm,18.3s,baz=70,slow=39
comp=Z,14nm,0.7s
R33M Jennings River 74.20 31 P P **18 04 18.7 -1.0**
baz=292
RAYN Ar Rayn 74.22 289 P P **18 04 19.7 -0.6**
RAYN IAmb IAmb 18 04 21.6
comp=Z,43nm,1.4s
RAYN Ar Rayn 74.22 289 P P **18 04 20.5 +0.2**
RAYN Ar Rayn 74.22 289 P P **18 04 19.9 -0.4**
RAYN Ar Rayn 74.22 289 *i* P P **18 04 20.2 -0.2**
SNR=11
KEF Keuruu 74.27 332 *e*P P **18 04 20.1 +0.3**
CRAG Craig 74.57 36 P P **18 04 19.9 -1.8**
baz=291
TGTN Hyland Airport 74.60 29 P P **18 04 20.9 -1.0**
baz=294
VAF Ylistaro 74.84 333 *e*P P **18 04 22.8 -0.2**
ARBE Arbavere 74.85 329 *e*P P **18 04 23.5 +0.3**

VSU Vasula 74.87 328*ce*P P **18 04 23.3 -0.1**
VSU pmax pmax
comp=Z,68nm,1.3s
VSU Vasula 74.87 328 *e*P P **18 04 23.3 -0.1**
MEF Metsahovi 75.27 330 *e*P P **18 04 25.9 +0.3**
V35K Ketchikan 75.42 36 P P **18 04 25.4 -1.2**
baz=293
T35M Bob Quinn 75.48 34 P P **18 04 26.2 -0.8**
baz=293
TOKA Tokat 75.60 308 IAmb IAmb 18 04 32.2
comp=Z,85nm,1.7s
SIM Simferopol' 75.61 313*ce*P P **18 04 28.0 +0.1**
MNK Minsk 75.82 324 *i* P P **18 04 29.9 +1.0**
MNK *i* 18 04 42.5
MNK *i* 18 07 20.5
MNK *i* PPP PPP 18 09 06.3
MNK *i* S S **18 14 13.3 +3.0**
MNK *i* SS SS **18 19 08.0 +6.4**
MNK pmax pmax
comp=Z,42nm,0.8s
MNK pmax pmax
comp=N,39nm,1.1s
MNK pmax pmax
comp=E,16nm,1.0s
MNK MLR MLR
comp=N,418nm,17.0s
MNK MLR MLR
comp=Z,830nm,19.0s
MNK MLR MLR
comp=E,577nm,18.0s
DIKM Dikmen 75.99 310 ⇓P P **18 04 30.8 +0.7**
RAF Rauma 76.10 331 *e*P P **18 04 29.7 -0.6**
IDID Didziasalis 76.11 325 *e*P P 18 04 24.6 -5.9
GAZ Gaziantep 76.16 305 IAmb IAmb 18 04 36.7
comp=Z,64nm,1.3s
MTSE Matsula 76.17 329 *e*P P **18 04 31.3 +0.5**
ISAL Salakas 76.32 325 *e*P P **18 04 33.1 +1.3**
IIGN Ignalina 76.36 325 *e*P P **18 04 29.3 -2.7**
LIRD Liard River Hi 76.47 30 P P **18 04 31.6 -1.0**
baz=296
AKASG Malin Array Be 76.54 320 P P **18 04 32.1 -1.0**
AKASG Malin Array Be 76.54 320 P P **18 04 32.8 -0.3**
comp=Z,19nm,0.9s,baz=57,slow=6.1,SNR=79
AKASG LR LR 18 40 38.6
comp=Z,804nm,20.4s,baz=70,slow=38
comp=Z,19nm,0.9s
AKASG Malin Array Be 76.54 320 *i* P P **18 04 32.7 -0.4**
AKASG pmax pmax
comp=Z,18nm,0.8s
AKBB Malin Array Si 76.54 320 IAmb IAmb 18 04 34.1
comp=Z,37nm,1.0s
AKBB Malin Array Si 76.54 320*ce*P P **18 04 32.8 -0.3**
AKBB pmax pmax
comp=Z,41nm,1.0s
KIEV Kiev 76.55 320 P P **18 04 32.5 -0.6**
KIEV IAmb IAmb 18 04 34.1
comp=Z,33nm,1.0s
KIEV Kiev 76.55 320 ⇓P P **18 04 32.7 -0.4**
KIEV Kiev 76.55 320 P P **18 04 32.7 -0.4**
KIEV Kiev 76.55 320 *i* P P **18 04 32.6 -0.6**
SNR=20
BZK Bozkurt 76.76 310 ⇑P P **18 04 34.9 +0.4**
TOAD Toad River Com 77.12 31 P P **18 04 35.2 -1.1**
baz=297
PABE Paberze 77.47 326 P P **18 04 38.2 +0.1**
PABE Paberze 77.47 326 *e*P P **18 04 38.7 +0.5**
URZ Urewera 77.76 143 LR LR 18 34 59.6
comp=Z,220nm,22.0s,baz=64,slow=33
BR131 Keskin Array S 77.84 308 IAmb IAmb 18 04 44.8
comp=Z,58nm,1.1s
BR131 Keskin Array S 77.84 308 P P **18 04 41.2 +0.4**
SNR=46
BR131 Keskin Array S 77.84 308 *i* P P **18 04 40.7 -0.2**
BRTR Keskin Array B 77.84 308 P P **18 04 39.8 -1.0**
BRTR Keskin Array B 77.84 308 P P **18 04 40.6 -0.2**
comp=Z,32nm,1.1s,baz=96,slow=5.0,SNR=72
BRTR LR LR 18 42 36.7
comp=Z,110nm,19.2s,baz=83,slow=38
comp=Z,32nm,1.1s
BRTR Keskin Array B 77.84 308 *i* P P **18 04 40.9 +0.1**
BRTR pmax pmax
comp=Z,32nm,1.1s
KIRS Kirsehir-Merke 77.87 308 ⇓P P **18 04 40.4 -0.5**
NEEM North Greenlan 77.90 360 *i* P P **18 04 40.7 +0.1**
NEEM IAmb IAmb 18 04 44.5
comp=Z,38nm,1.0s
SORM Soroca 78.08 318 ⇑P P **18 04 41.1 -0.6**
SORM Soroca 78.08 318 P P **18 04 41.1 -0.6**
RNPP9 Sopachiv 78.18 321 P P **18 04 42.1 -0.1**
RNPP9 pP pP **18 04 45.7 0.0**
ASF Jabal al Asfar 78.22 300 LR LR 18 45 23.3
comp=Z,228nm,18.3s,baz=140,slow=40
PBUR Paburge 78.27 327 *e*P P **18 04 43.6 +0.9**
ANTO Ankara 78.39 309 P P **18 04 43.5 -0.3**
ANTO IAmb IAmb 18 04 47.9
comp=Z,84nm,1.6s
ANTO Ankara 78.39 309 P P **18 04 44.2 +0.4**
ANTO Ankara 78.39 309 ⇑P P **18 04 45.0 +1.2**
ANTO Ankara 78.39 309 P P **18 04 45.0 +1.2**
SUW Suwalki 78.53 324 *e*P P **18 04 44.8 +0.6**
SUW Suwalki 78.53 324 *e*P P **18 04 45.1 +1.0**
RPZ Rata Peaks 78.77 150 P P **18 04 45.4 -0.1**
RPZ Rata Peaks 78.77 150 LR LR 18 36 13.3
comp=Z,320nm,20.8s,baz=330,slow=33
DBG Daneborg 78.93 352 *i* P P **18 04 45.3 -0.7**
DBG IAmb IAmb 18 04 46.1
comp=Z,26nm,1.0s
TLCR 78.99 315 ⇓P P **18 04 47.9 +1.0**
TLCR 78.99 315 P P **18 04 47.8 +1.0**
KMPD K-Podol'skiy 79.05 319 P P **18 04 46.8 -0.3**
MMAI Mount Meron Ar 79.07 301 P P **18 04 48.1 +0.4**
comp=Z,5.2nm,0.8s,baz=77,slow=9.0,SNR=4.5
MMAI LR LR 18 46 42.1
comp=Z,234nm,18.2s,baz=76,slow=41
comp=Z,5.2nm,0.8s
JURR Jurilovca 79.12 314 ⇑P P **18 04 48.1 +0.5**
VLDR Vladesti 79.19 316 ⇓P P **18 04 48.4 +0.5**
BALJ Balqa 79.24 300 IAmb IAmb 18 04 50.5
comp=Z,34nm,0.9s
TPGR Topolog 79.38 315 ⇑P P **18 04 49.2 +0.2**
CFR Carcaliu 79.43 315 ⇑P P **18 04 49.2 -0.1**
CFR Carcaliu 79.43 315 P P **18 04 49.1 -0.1**
TIRR Tirgusor 79.55 314 ⇑P P **18 04 50.9 +1.0**
TIRR Tirgusor 79.55 314 P P **18 04 50.9 +1.0**
JMIC Jan Mayen 79.71 347 LR LR 18 45 01.9
comp=Z,83nm,18.7s,baz=76,slow=39
TLBR Topalu 79.75 314 ⇓P P **18 04 51.6 +0.6**
YKA Yellowknife Ar 79.75 25 P P **18 04 50.8 +0.2**
YKA Yellowknife Ar 79.75 25 P P **18 04 51.3 +0.6**
comp=Z,2.8nm,0.8s,baz=299,slow=5.1,SNR=40
comp=Z,2.8nm,0.8s
HARR Harsova 79.76 315 ⇓P P **18 04 50.9 -0.2**
HARR Harsova 79.76 315 P P **18 04 50.9 -0.2**
TESR Tescani 79.81 317 ⇑P P **18 04 51.6 +0.3**
CSS Mathiatis 79.91 304 IAmb IAmb 18 04 53.3
comp=Z,27nm,0.8s
HFS Hagfors 80.00 332 P P **18 04 51.8 -0.3**
comp=Z,11nm,0.8s,baz=72,slow=4.8,SNR=19
HFS LR LR 18 44 05.2
comp=Z,506nm,18.6s,baz=62,slow=39
comp=Z,11nm,0.8s
VRI Vrincioaia 80.04 316 ⇓P P **18 04 54.2 +1.6**
VRI Vrincioaia 80.04 316 P P **18 04 54.1 +1.6**
PSN Preselentsi 80.07 313 P P **18 04 52.9 +0.1**
ICOR Ion Corvin 80.09 314 ⇑P P **18 04 53.6 +0.8**
PLOR Plostina 80.09 316 ⇑P P **18 04 53.6 +0.7**
PLOR Plostina 80.09 316 P P **18 04 53.6 +0.7**
BUR08 Bucovina Ar. S 80.21 318 IAmb IAmb 18 04 58.0
comp=Z,38nm,1.1s
BURAR Bucovina Array 80.21 318 P P **18 04 52.9 -0.7**
BURAR Bucovina Array 80.21 318 ⇓P P **18 04 54.1 +0.5**
BURAR Bucovina Array 80.21 318 P P **18 04 54.1 +0.5**
NC405 NORSAR Array S 80.27 334 IAmb IAmb 18 04 54.4
comp=Z,45nm,1.0s
NC303 NORSAR Array S 80.34 334 IAmb IAmb 18 05 10.1
comp=Z,39nm,1.1s
COVR Voineasa-Covas 80.37 316 ⇑P P **18 04 54.9 +0.4**
NB201 NORSAR Array S 80.47 334 IAmb IAmb 18 05 12.9
comp=Z,32nm,0.9s
NEHR Nehoiu 80.50 316 ⇓P P **18 04 55.3 +0.2**
NB2 NORSAR Subarra 80.51 334 P P **18 04 54.2 -0.7**
comp=Z,28nm,0.9s,baz=54,slow=5.3
NB2 NORSAR Subarra 80.51 334 P P **18 04 51.5 -3.4**
NB2 pmax pmax
comp=Z,9.0nm,1.0s

NB2 NORSAR Subarra 80.51 334 P P **18 04 54.2 -0.7**
baz=54,slow=5.3
NOA NORSAR Array B 80.51 334 P P **18 04 54.4 -0.5**
comp=Z,14nm,0.9s,baz=52,slow=5.4,SNR=66
NOA LR LR 18 44 27.9
comp=Z,384nm,19.7s,baz=50,slow=39
comp=Z,14nm,0.9s
OZUR 80.53 316 ⇓P P **18 04 56.4 +1.2**
NC204 NORSAR Array S 80.55 334 IAmb IAmb 18 04 56.0
comp=Z,28nm,0.9s
NORES NORESS Array B 80.55 334 P P **18 04 54.8 -0.2**
NORES pmax pmax
comp=Z,2.0nm,1.0s
MLR Muntele Rosu 80.69 316 IAmb IAmb 18 05 22.2
comp=Z,48nm,1.3s
MLR Muntele Rosu 80.69 316 LR LR 18 43 51.1
comp=Z,378nm,21.6s,baz=60,slow=38
MLR Muntele Rosu 80.69 316 ⇓P P **18 04 56.5 +0.2**
MLR Muntele Rosu 80.69 316 P P **18 04 56.5 +0.2**
EIL Elat 80.72 298 LR LR 18 46 41.3
comp=Z,228nm,19.0s,baz=65,slow=40
PRD Provadia 80.75 313 P P **18 04 57.1 +0.7**
NEF NEVSHA 80.80 313 P P **18 04 57.2 +0.5**
BEL Belsk 80.83 323 *e*P P **18 04 57.8 +1.2**
ISP Isparta 80.83 307*ce*P P **18 04 57.0 -0.1**
ISP pmax pmax
comp=Z,35nm,1.3s
ISP Isparta 80.83 307 *e*P P **18 04 56.7 -0.4**
DOPR Dopca 80.83 316 ⇓P P **18 04 57.7 +0.8**
SULR 80.85 315 ⇓P P **18 04 58.0 +1.1**
ARCR ARCALIA 80.97 318 ⇓P P **18 04 59.4 +1.8**
BMR Baia Mare 81.23 319 ⇑P P **18 05 00.2 +1.3**
BMR Baia Mare 81.23 319 P P **18 05 00.2 +1.3**
VOIR 81.28 316 ⇑P P **18 05 01.4 +2.1**
VOIR 81.28 316 P P **18 05 01.4 +2.1**
KOLS Kolonicke sedl 81.36 320 *e*P P **18 04 59.6 0.0**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 81.36 320 *e*P P **18 04 59.6 0.0**
ARR Arges 81.58 316 ⇓P P **18 05 02.1 +1.2**
JMB Yambol 81.62 313 P P **18 05 01.4 +0.3**
SZH Strazhitsa 81.65 314 P P **18 05 01.7 +0.5**
TNR Turnu Rosu 81.67 317 ⇓P P **18 05 03.0 +1.6**
TNR Turnu Rosu 81.67 317 P P **18 05 02.9 +1.6**
ELL Elmali 81.72 307 P P **18 05 02.2 +0.3**
ELL pmax pmax
comp=Z,56nm,1.2s
STHS Stebnicka Huta 81.73 321 *e*P P **18 05 05.3 +3.7**
STHS pmax pmax
comp=Z,10.0nm,1.3s
STHS Stebnicka Huta 81.73 321 *e*P P **18 05 05.3 +3.7**
HUMR Humele 81.73 315 ⇑P P **18 05 01.7 +0.1**
MARR Marisel-Cluj 81.91 318 ⇑P P **18 05 03.6 +0.9**
GKP Gorka Klasztor 81.99 326 *e*P P **18 05 03.7 +0.9**
GKP Gorka Klasztor 81.99 326 *e*P P **18 05 03.7 +0.9**
LOT Lotru 82.08 317 ⇓P P **18 05 04.3 +0.7**
DRGR 82.11 318 P P **18 05 05.9 +2.2**
OJC Ojcow 82.16 322 *e*P P **18 05 04.9 +1.1**
OJC Ojcow 82.16 322 P P **18 05 04.9 +1.1**
BSD Bornholm Skovb 82.17 328 *i* P P **18 05 04.0 +0.3**
BSD IAmb IAmb 18 05 08.3
comp=Z,43nm,1.1s
PVL Pavlikeni 82.24 314 P P **18 05 04.6 +0.3**
NIE Niedzica 82.27 321 *e*P P **18 05 05.9 +1.5**
NIE Niedzica 82.27 321 P P **18 05 05.9 +1.5**
SUMG Summit 82.37 356 IAmb IAmb 18 05 06.8
comp=Z,39nm,1.0s
SUMG Summit 82.37 356 *i* P P **18 05 05.7 +0.7**
SUMG IAmb IAmb 18 05 07.1
comp=Z,37nm,1.0s
DIM Dimitrovgrad 82.46 313 P P **18 05 06.3 +0.8**
UPNV Upernavik 82.55 1 *i* P P **18 05 04.7 -0.6**
UPNV IAmb IAmb 18 05 05.6
comp=Z,21nm,1.0s
SCO Scoresbysund 82.57 350 IAmb IAmb 18 05 20.2
comp=Z,37nm,1.2s
SCO Scoresbysund 82.57 350 *i* P P **18 05 05.7 +0.2**
SCO IAmb IAmb 18 05 07.5
comp=Z,34nm,1.2s
GZR Gura Zlata 82.72 317 ⇑P P **18 05 07.3 +0.4**
GZR Gura Zlata 82.72 317 P P **18 05 07.3 +0.4**
YER Yerkesik 82.74 307 P P **18 05 07.6 +0.5**
RDO Rodhopi 82.89 312 IAmb IAmb 18 05 09.2
comp=Z,31nm,1.3s
SURR Surduc 82.96 317 ⇓P P **18 05 08.0 0.0**
PLD Plovdiv 82.96 313 P P **18 05 08.4 +0.3**
SIRR Siria 83.00 318 ⇑P P **18 05 08.7 +0.4**
MPEP Malo Peshtene 83.06 315 P P **18 05 09.4 +0.8**
VALD Valchedram 83.11 315 P P **18 05 09.4 +0.6**
PUNG Punghina 83.15 316 ⇑P P **18 05 09.5 +0.5**
PGB Panagyurishte 83.17 314 *e*P P **18 05 10.1 +0.8**
RZN Rozhen 83.17 313 P P **18 05 09.9 +0.4**
HERR Herculane 83.19 316 ⇓P P **18 05 09.5 +0.3**
PSZ Piszkesteto 83.24 320 ⇑P P **18 05 11.2 +1.6**
PSZ Piszkesteto 83.24 320 P P **18 05 11.2 +1.6**
PSZ Piszkesteto 83.24 320 *e*P P **18 05 10.1 +0.6**
OKC Ostrava-Krasne 83.27 322 AMS AMS 18 44 40.0
comp=Z,600nm,18.2s
BZS Buzias 83.34 317 ⇑P P **18 05 09.5 -0.5**
BZS Buzias 83.34 317 P P **18 05 09.5 -0.5**
STEB Steborice 83.43 322 *e*P P **18 05 11.7 +1.3**
ILON Igloolik, Nuna 83.53 10 IAmb IAmb 18 05 33.3
comp=Z,43nm,1.4s
VYHS Vyhne 83.57 321 *e*P P **18 05 11.9 +0.8**
VYHS pmax pmax
comp=Z,20nm,1.1s
VYHS Vyhne 83.57 321 *e*P P **18 05 11.9 +0.8**
MORC Moravsky Berou 83.64 322 IAmb IAmb 18 05 17.2
comp=Z,29nm,1.4s
MORC Moravsky Berou 83.64 322 *e*P P **18 05 11.9 +0.4**
MORC Moravsky Berou 83.64 322 ⇓P P **18 05 12.6 +1.0**
MORC Moravsky Berou 83.64 322 P P **18 05 12.5 +1.0**
MDVR Moldovita 83.68 317 ⇑P P **18 05 12.2 +0.4**
PLNA Plana 83.68 314 P P **18 05 13.1 +1.1**
GOET G??ttrup 83.70 331 *i* P P **18 05 12.4 +0.9**
GOET IAmb IAmb 18 05 12.5
comp=Z,58nm,1.0s
VTS Vitosha 83.74 314 P P **18 05 13.0 +0.7**
SNART Snartemo 83.75 333 *i* P P **18 05 11.0 -0.8**
KSP Ksiaz 83.76 324 *e*P P **18 05 13.1 +1.0**
MMB Musomishta 83.90 313 P P **18 05 13.1 +0.1**
KRLC Kraliky 83.90 323 AMS AMS 18 45 40.0
comp=Z,700nm,17.8s
OSTC Ostas 83.95 324 AMS AMS 18 45 50.0
comp=Z,800nm,15.8s
DPC Dobruska-Polom 84.01 323 *e*P P **18 05 15.4 +2.0**
DPC *e*PP PP 18 08 42.5 +16
DPC AMS AMS 18 45 50.0
comp=Z,700nm,16.2s
DPC Dobruska-Polom 84.01 323 *e*P P **18 05 15.4 +2.0**
DPC MLR MLR
comp=Z,700nm,16.2s
CHVC Chvalec 84.02 324 AMS AMS 18 45 50.0
comp=Z,800nm,17.5s
JAVC Velka Javorina 84.04 322 *e*P P **18 05 15.1 +1.5**
MUD Monsted U'grnd 84.07 331 *i* P P **18 05 13.0 -0.5**
MUD IAmb IAmb 18 05 15.2
comp=Z,46nm,1.4s
UPC Upice 84.09 324 *e*P P **18 05 16.2 +2.4**
UPC AMS AMS 18 45 50.0
comp=Z,800nm,16.8s
UPC Upice 84.09 324 *e*P P **18 05 16.2 +2.4**
UPC MLR MLR
comp=Z,800nm,16.8s
KKB Krupnik 84.17 314 P P **18 05 14.5 +0.1**
RUE Ruedersdorf 84.19 326 *e*P 18 05 15.4
comp=Z,116nm,1.4s,baz=54,slow=5.0
BOVS Bovan 84.24 316 ⇓P P **18 05 14.8 +0.1**
VRAC Vranov 84.41 322 LR LR 18 45 48.8
comp=Z,615nm,18.8s,baz=68,slow=38
VRAC Vranov 84.41 322 *e*P P **18 05 16.1 +0.7**
VRAC Vranov 84.41 322 ⇑P P **18 05 16.6 +1.2**
VRAC Vranov 84.41 322 P P **18 05 16.6 +1.2**
MODS Modra-Piesok 84.52 321 *e*P P **18 05 17.1 +1.1**
MODS pmax pmax
comp=Z,93nm,1.4s
MODS Modra-Piesok 84.52 321 *e*P P **18 05 17.1 +1.1**
KRUC Moravsky 84.65 322 *e*P P **18 05 17.2 +0.6**
UMMG Uummannaq 84.71 0 *i* P P **18 05 14.2 -2.2**
UMMG IAmb IAmb 18 05 16.4
comp=Z,9.9nm,0.9s
VAY Valandovo 84.79 313 *i* P P **18 05 17.6 +0.2**
MORH Mrgy, Hungar 84.84 319 ⇑P P **18 05 17.7 +0.1**

BRG	**Berggiesshubel**	**84.99 325**	*i* P		**P**	**18 05 19.0 +0.7**
BRG			Amp			18 05 20.4
comp=Z,27nm,1.3s						
BRG	**Berggiesshubel**	**84.99 325**	P		**P**	**18 05 22.7 +4.4**
BRG			Amp			18 05 24.4
comp=Z,14nm,1.2s						
BRG	**Berggiesshubel**	**84.99 325**	S		**S**	**18 15 49.0 +2.4**
BRG	**Berggiesshubel**	**85.00 325**	*e*P			18 05 18.8
comp=Z,28nm,1.3s,baz=54,slow=5.0						
BRG			*e*pP			18 05 32.2
TREC	**Trest**	**85.03 323**	*e*P		**P**	**18 05 19.4 +0.8**
TREC			AMS		AMS	18 45 40.0
comp=Z,600nm,17.2s						
TREC	**Trest**	**85.03 323**	*e*P		**P**	**18 05 19.4 +0.8**
TREC			MLR		MLR	
comp=Z,600nm,17.2s						
BSEG	**Bad Segeberg**	**85.05 328**	*e*P			18 05 19.2
BSEG			*e*pP			18 05 32.4
comp=Z,70nm,1.6s,baz=54,slow=5.0						
GOPC	**GO Pecny, Ondr**	**85.07 323**	AMS		AMS	18 46 40.0
comp=Z,800nm,14.9s						
GORT1	**Trebel**	**85.13 327**	*e*P			18 05 20.4
comp=Z,75nm,1.4s,baz=54,slow=5.0						
GORT1			*e*pP			18 05 33.3
PRU	**Pruhonice**	**85.17 324**	AMS		AMS	18 46 40.0
comp=Z,800nm,14.9s						
PRA	**Prague**	**85.18 324**	AMS		AMS	18 46 30.0
comp=Z,800nm,15.2s						
CLL	**Collm**	**85.24 325**	IAmb		IAmb	18 05 21.2
comp=Z,30nm,1.1s						
CLL	**Collm**	**85.24 325**	*i* P		**P**	**18 05 20.0 +0.5**
CLL			*e*S		**S**	**18 15 50.0 +1.0**
CLL			pmax		pmax	
comp=Z,36nm,1.2s						
CLL			MLR		MLR	
comp=Z,1μm,19.7s						
CLL	**Collm**	**85.24 325**	*i* P		**P**	**18 05 20.0 +0.5**
comp=Z,36nm,1.2s						
CLL			*e*Pmax			18 05 25.0
CLL			*i* x		x	18 05 32.5
comp=Z,28nm,1.1s						
CLL			*e*PP		**PP**	**18 08 36.0 -0.6**
CLL			*e*S		**S**	**18 15 50.0 +1.0**
CLL			*e*x		x	18 16 31.0
CLL			*e*PPS		PPS	18 17 10.0
CLL			*e*SS		**SS**	**18 21 18.0 -4.3**
CLL			*e*x		x	18 26 18.0
CLL			AMS		AMS	18 46 00.0
comp=N,500nm,19.7s						
CLL			AMS		AMS	18 46 00.0
comp=E,600nm,19.9s						
CLL			AMS		AMS	18 46 00.0
comp=Z,1μm,19.7s						
CLL			AMS		AMS	18 50 00.0
CLL	**Collm**	**85.24 325**	*e*P			18 05 20.2
comp=Z,31nm,1.1s,baz=54,slow=5.0						
CLL			*e*pP			18 05 33.1
HSKC	**Hora Svate Kat**	**85.41 325**	AMS		AMS	18 46 10.0
comp=Z,900nm,17.5s						
RONA	**Rosalia, Austr**	**85.43 321**	*e*PcP		**P**	**18 05 21.6 +1.0**
comp=Z,22nm,2.0s						
FLTG	**Flechtingen**	**85.55 327**	*e*P			18 05 21.6
comp=Z,28nm,1.2s,baz=54,slow=5.0						
FLTG			*e*pP			18 05 34.6
CONA	**Conrad Observa**	**85.56 321**	*i* PcP		**P**	**18 05 22.4 +1.1**
comp=Z,26nm,1.0s,SNR=16						
ZVC	**Zvikov**	**85.66 323**	*e*P		**P**	**18 05 23.1 +1.4**
FNA	**Florina**	**85.84 313**	IAmb		IAmb	18 05 23.1
comp=Z,49nm,1.8s						
NEUB	**Neuenburg**	**85.93 326**	*e*P			18 05 24.0
comp=Z,52nm,1.4s,baz=54,slow=5.0						
CKRC	**Cesky Krumlov**	**85.94 323**	*e*P		**P**	**18 05 24.1 +1.0**
CKRC			AMS		AMS	18 46 50.0
comp=Z,600nm,17.9s						
CKRC	**Cesky Krumlov**	**85.94 323**	*e*P		**P**	**18 05 24.1 +1.0**
CKRC			MLR		MLR	
comp=Z,600nm,17.9s						
ASSE	**Asse, Remlinge**	**85.95 327**	*e*P			18 05 24.2
comp=Z,21nm,1.3s,baz=54,slow=5.0						
NRDL	**Niedersach Rie**	**86.01 327**	*e*P			18 05 24.7
comp=Z,32nm,1.6s,baz=54,slow=5.0						
TANN	**Tannenbergstha**	**86.03 325**	*e*P			18 05 24.5
comp=Z,16nm,1.1s,baz=54,slow=5.0						
ARSA	**Arzberg**	**86.12 321**	IAmb		IAmb	18 05 28.3
comp=Z,28nm,1.4s						
ARSA	**Arzberg**	**86.12 321**	*i* PcP		**P**	**18 05 24.8 +0.7**
comp=Z,18nm,1.6s,SNR=7.0						
NKC	**Novy Kostel**	**86.14 325**	AMS		AMS	18 46 40.0
comp=Z,900nm,17.7s						
PLN	**Plauen**	**86.15 325**	*e*P			18 05 25.1
comp=Z,5.9nm,1.2s,baz=54,slow=5.0						
KHC	**Kasperske Hory**	**86.16 323**	*e*P		**P**	**18 05 25.3 +1.1**
KHC			*e*x		x	18 05 37.8
KHC			AMS		AMS	18 47 10.0
comp=Z,700nm,12.7s						
KHC	**Kasperske Hory**	**86.16 323**	*e*P		**P**	**18 05 25.3 +1.1**
KHC			MLR		MLR	
comp=Z,700nm,12.7s						
RETH	**Rethem/Aller,**	**86.23 328**	*e*P			18 05 25.5
comp=Z,178nm,1.8s,baz=54,slow=5.0						
GERES	**GERESS Array B**	**86.26 323**	P		**P**	**18 05 24.4 -0.4**
GERES	**GERESS Array B**	**86.26 323**	P		**P**	**18 05 24.9 +0.1**
comp=Z,5.8nm,0.8s,baz=49,slow=4.1,SNR=33						
GERES			LR		LR	18 46 56.8
comp=Z,696nm,20.1s,baz=11,slow=38						
comp=Z,5.8nm,0.8s						
GEC2	**GERESS Array S**	**86.26 323**	*e*P			18 05 25.6
comp=Z,22nm,1.2s,baz=54,slow=5.0						
GEC2			*e*pP			18 05 38.4
CLZ	**Clausthal**	**86.27 327**	*e*P			18 05 26.1
comp=Z,24nm,1.0s,baz=54,slow=5.0						
MOX	**Moxa**	**86.34 325**	*e*P			18 05 26.0
comp=Z,24nm,1.5s,baz=54,slow=5.0						
PDG	**Podgorica**	**86.39 315**	IAmb		IAmb	18 05 47.1
comp=Z,21nm,0.9s						
PDG	**Podgorica**	**86.39 315**	||P	**P**	**18 05 25.3 -0.1**
MANZ	**Manzenberg**	**86.47 324**	*e*P			18 05 26.8
comp=Z,4.5nm,1.1s,baz=54,slow=5.0						
MANZ			*e*pP			18 05 39.7
MOA	**Molln**	**86.50 322**	*i* PcP		**P**	**18 05 26.8 +0.9**
comp=Z,9.3nm,0.9s,SNR=7.5						
WET	**Wettzell**	**86.54 324**	*e*P			18 05 27.2
comp=Z,28nm,1.6s,baz=54,slow=5.0						
ROTZ	**Rotzenmuhle**	**86.54 324**	*e*P			18 05 27.3
comp=Z,5.6nm,1.1s,baz=54,slow=5.0						
GTTG	**Gottingen**	**86.65 327**	*e*P			18 05 27.9
comp=Z,21nm,1.1s,baz=54,slow=5.0						
PERS	**Pernice**	**86.69 321**	*e*P		**P**	**18 05 26.7 -0.2**
SOKA	**Soboth**	**86.71 321**	*i* PcP		**P**	**18 05 27.2 +0.2**
comp=Z,26nm,1.3s,SNR=8.9						
L04D	**Klamath Falls**	**86.84 45**	P		**P**	**18 05 29.2 +1.3**
BIOA	**Bad Ischl, Aus**	**86.94 322**	*i* PcP		**PcP**	**18 05 29.3 -1.0**
comp=Z,11nm,1.2s						
J05D	**Fort Rock, OR**	**86.96 43**	P		**P**	**18 05 29.9 +1.5**
J05D			IAmb		IAmb	18 05 43.1
comp=Z,28nm,1.0s						
UBBA	**Unterbreizbach**	**87.07 326**	*e*P			18 05 29.8
comp=Z,23nm,1.6s,baz=54,slow=5.0						
OBKA	**Obir**	**87.08 321**	*e*PcP		**P**	**18 05 28.9 0.0**
comp=Z,15nm,1.2s						
GRA1	**Grafenberg Arr**	**87.10 325**	IAmb		IAmb	18 05 48.0
comp=Z,36nm,1.1s						
GRF	**Grafenberg Arr**	**87.10 325**	*e*P			18 05 30.3
comp=Z,24nm,1.0s,baz=54,slow=5.0						
GRFO	**Grafenberg**	**87.10 325**	P		**P**	**18 05 29.6 +0.8**
GRFO			IAmb		IAmb	18 05 48.0
comp=Z,34nm,1.1s						
GRFO	**Grafenberg**	**87.10 325**	P		**P**	**18 05 29.6 +0.8**
GRFO			pmax		pmax	
comp=Z,34nm,1.1s						
BOJS	**Bojanci**	**87.23 320**	*i* P		**P**	**18 05 29.8 +0.3**
RJOB	**Jochberg**	**87.38 322**	*e*P			18 05 31.1
comp=Z,16nm,0.9s,baz=54,slow=5.0						
KBA	**Koelnbreinsper**	**87.45 322**	*e*P		**P**	**18 05 30.1 -0.6**
comp=Z,8.7nm,1.2s						
MYKA	**Terra Mystica**	**87.54 321**	PcP		**PcP**	**18 05 32.5 -0.4**
comp=Z,1.7nm,0.5s						
BORG	**Borgarnes**	**87.58 347**	LR		LR	18 46 17.8
comp=Z,120nm,20.9s,baz=2.6,slow=37						
LESA	**Schwarzleotal**	**87.63 322**	*e*pP		pP	18 05 33.3 -1.6
comp=Z,9.2nm,1.1s						
PRED	**Cave del Predi**	**87.69 321**	IAmb		IAmb	18 05 35.1
comp=Z,24nm,1.6s						
FUR	**Furstenfeldbru**	**87.97 323**	*e*P			18 05 34.4
comp=Z,24nm,0.7s,baz=54,slow=5.0						
BUG	**Bochum--Univer**	**88.05 328**	*e*P			18 05 34.6
comp=Z,15nm,1.1s,baz=54,slow=5.0						
ABTA	**Abfaltersbach**	**88.11 322**	*e*PcP		**P**	**18 05 34.0 +0.2**
comp=Z,11nm,1.2s						
TNS	**Taunus Mts**	**88.22 326**	*e*P			18 05 35.5
comp=Z,26nm,1.6s,baz=54,slow=5.0						
WATA	**Walderalm**	**88.29 323**	*i* pP		pP	18 05 37.2 -1.0
comp=Z,8.1nm,1.3s						
WTTA	**Wattenberg**	**88.30 322**	*i* PcP		**P**	**18 05 34.4 -0.4**
comp=Z,9.2nm,1.1s						
SFJD	**Kangerlussuaq**	**88.40 360**	LR		LR	18 45 09.8
comp=Z,182nm,21.8s,baz=1.0,slow=36						
MOTA	**Moosalm**	**88.55 323**	*i* PcP		**PcP**	**18 05 36.9 -0.7**
comp=Z,7.2nm,1.5s						
SQTA	**Sankt Quirin**	**88.56 323**	*i* PcP		**PcP**	**18 05 36.9 -0.7**
comp=Z,5.3nm,1.3s						
STU	**Stuttgart**	**88.72 325**	*e*P			18 05 37.5
comp=Z,38nm,1.1s,baz=54,slow=5.0						
FETA	**Feichten**	**88.94 323**	*i* pP		**P**	**18 05 39.2 +1.4**
comp=Z,8.1nm,1.8s						
DAVA	**Damuels**	**89.25 323**	*i* PcP		**P**	**18 05 39.7 +0.5**
comp=Z,7.1nm,0.9s						
BEKR	**Beckworth**	**89.33 46**	P		**P**	**18 05 39.8 0.0**
BFO	**Black Forest**	**89.44 325**	P		**P**	**18 05 39.4 -0.6**
BFO	**Black Forest**	**89.44 325**	P		**P**	**18 05 39.4 -0.6**
BFO			pmax		pmax	
comp=Z,11nm,1.2s						
BFO	**Black Forest**	**89.44 325**	*e*P			18 05 41.0
comp=Z,10nm,1.2s,baz=54,slow=5.0						
DAVOX	**Davos/Dischmat**	**89.55 323**	P		**P**	**18 05 39.8 -0.9**
comp=Z,4.4nm,0.8s,baz=52,slow=6.2,SNR=9.3						
DAVOX			LR		LR	18 49 13.9
comp=Z,606nm,19.9s,baz=80,slow=38						
comp=Z,4.4nm,0.8s						
FFC	**Flin Flon**	**89.80 26**	P		**P**	**18 05 41.3 -0.1**
FFC			IAmb		IAmb	18 05 55.6
comp=Z,28nm,1.3s						
FFC	**Flin Flon**	**89.80 26**	P		**P**	**18 05 41.3 -0.1**
FFC			pmax		pmax	
comp=Z,28nm,1.3s						
FDMO	**Fiordimonte**	**89.89 318**	IAmb		IAmb	18 05 43.9
comp=Z,22nm,0.9s						
EKA	**Eskdalemuir Ar**	**89.97 335**	P		**P**	**18 05 41.9 -0.4**
comp=Z,0.9nm,0.6s,baz=39,slow=5.9,SNR=3.6						
comp=Z,0.9nm,0.6s						
CAMP	**Campotosto**	**89.98 318**	IAmb		IAmb	18 06 01.5
comp=Z,22nm,1.1s						
NRCA	**Norcia**	**89.99 318**	IAmb		IAmb	18 05 44.4
comp=Z,26nm,1.3s						
AQU	**L'Aquila**	**90.09 318**	P		**P**	**18 05 47.5 +4.4**
AQU			pmax		pmax	
comp=Z,12nm,1.0s						
ECH	**Echery**	**90.13 325**	P		**P**	**18 05 47.0 +3.9**
ECH			pmax		pmax	
comp=Z,41nm,2.9s						
PPT	**Papeete**	**90.47 109**	LR		LR	18 38 14.4
comp=Z,262nm,21.6s,baz=286,slow=30						
PPT2	**Papeete2**	**90.48 109**	*e*LR		LR	18 34 34.0
comp=Z,653nm,23.2s						
PPT2			*e*LR		LR	18 34 35.9
comp=Z,599nm,29.8s						
OSSC	**Osservatorio P**	**90.71 320**	IAmb		IAmb	18 05 58.9
comp=Z,23nm,1.2s						
CEL	**Celeste**	**90.77 313**	IAmb		IAmb	18 05 47.8
comp=Z,34nm,1.1s						
KIBK	**Kibwezi**	**91.12 268**	P		**P**	**18 05 49.1 +0.7**
KMBO	**Kilima Mbogo**	**91.34 269**	P		**P**	**18 05 49.5 -0.2**
KMBO	**Kilima Mbogo**	**91.34 269**	P		**P**	**18 05 50.3 +0.7**
comp=Z,1.1nm,0.4s,baz=75,slow=1.3,SNR=4.1						
comp=Z,1.1nm,0.4s						
KMBO	**Kilima Mbogo**	**91.34 269**	P		**P**	**18 05 50.8 +1.2**
NVAR	**Mina Array Bea**	**91.45 46**	P		**P**	**18 05 51.2 +1.5**
comp=Z,1.9nm,0.8s,baz=278,slow=6.4,SNR=8.3						
comp=Z,1.9nm,0.8s						
VAE	**Valguarnera**	**92.18 313**	LR		LR	18 53 44.4
comp=Z,178nm,18.2s,baz=117,slow=40						
BNI	**Bardonecchia**	**92.38 323**	IAmb		IAmb	18 06 14.5
comp=Z,26nm,1.4s						
TBI	**Tubuai**	**93.07 114**	*e*LR		LR	18 35 43.5
comp=Z,730nm,25.5s						
R11B	**Troy Canyon, C**	**93.26 45**	P		**P**	**18 05 57.6 -0.5**
TPNV	**Topopah Spring**	**93.63 46**	IAmb		IAmb	18 06 14.5
comp=Z,16nm,1.1s						
GWY	**Greenwater Val**	**93.78 47**	P		**P**	**18 05 59.0 -1.5**
GWY			IAmb		IAmb	18 06 15.9
comp=Z,26nm,1.3s						
PDAR	**Pinedale Array**	**94.22 39**	P		**P**	**18 06 02.8 +0.3**
comp=Z,0.7nm,0.9s,baz=214,slow=0.5,SNR=5.2						
comp=Z,0.7nm,0.9s						
TAOE	**Nuku Hiva Isla**	**95.15 97**	*e*LR		LR	18 36 42.5
comp=Z,272nm,26.4s						
PFO	**Pinyon Flats O**	**95.38 49**	LR		LR	18 49 08.0
comp=Z,137nm,18.1s,baz=250,slow=36						
KEST	**Kesra**	**96.51 314**	LR		LR	18 56 16.6
comp=Z,135nm,18.9s,baz=358,slow=40						
ESDC	**Sonseca Array**	**101.80 324**	P		**Pdif**	**18 06 34.9 -1.5**
comp=Z,0.9nm,1.0s,baz=2.3,slow=3.7,SNR=4.4						
RKT	**Rikitea**	**105.23 109**	*e*LR		LR	18 41 26.5
comp=Z,2μm,33.8s						
SYO	**Syowa Base**	**112.48 203**	||*i*Pdiff	**Pdif**	**18 07 23.2 +0.3**
SYO	**Syowa Base**	**112.48 203**	||*e*pPdiff	pPdif	18 07 27.6 +1.3
SYO	**Syowa Base**	**112.48 203**	||*e*pPKiKP	**PKiKP**	**18 11 23.6 +5.3**
QSPA	**South Pole Qui**	**114.67 180**	PKP		**PKiKP**	**18 11 22.0 -0.6**
comp=Z,0.5nm,0.5s,baz=326,slow=1.4,SNR=7.2						
HDC	**Heredia**	**133.14 46**	*e*P		**PKiKP**	**18 12 00.9 +0.1**
BOAV	**Boa Vista**	**151.59 19**	P		**PKPdf**	**18 12 34.4 +2.5**
BOAV	**Boa Vista**	**151.59 19**	*e*P		**PKPdf**	**18 12 32.9 +1.0**
NPGB	**Novo Progresso**	**161.94 11**	*e*P		**PKPdf**	**18 12 46.5 +1.4**
LPAZ	**La Paz**	**162.49 64**	PKP		**PKPdf**	**18 12 47.5 +1.1**
comp=Z,0.7nm,0.7s,baz=285,slow=2.8,SNR=1.6						
LPAZ	**La Paz**	**162.49 64**	*e*P		**PKPdf**	**18 12 46.9 +0.6**
GDU01	**Guandu, BA**	**164.00 312**	*e*P		**PKPdf**	**18 12 48.6 +1.6**
SDBA	**SAO DESIDERIO**	**165.99 331**	*e*P		**PKPdf**	**18 12 50.0 +1.2**
ARAG	**Araguaiana, MT**	**170.87 0**	*e*P		**PKPdf**	**18 12 55.9 +4.0**
C2SB	**Chapadao do Su**	**173.84 9**	*e*P		**PKPdf**	**18 12 55.5 +2.3**
LDASE	**Londrina, Braz**	**178.39 337**	*e*P		**PKPdf**	**18 12 57.6 +3.4**
PTGB	**Pitanga**	**179.70 56**	*e*P		**PKPdf**	**18 12 55.9 +1.7**

JMA 11 17:54:14.9±0.1, 33°.1N±0°.2×130°.5E±0°.3, h11km±1km, MV0.3/13, NORTHERN ARIAKEKAI REG, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.18**	**157**	P	Pg	17 54 18.7	-0.1
JFI	**Itaya**	**0.30**	**350**	*e*P	Pg	17 54 21.1	0.0
JFI				*e*S	Sg	17 54 25.4	+0.2

TXNET 11 18:07:17.3, 31°.1N±0°.9×10°.5W±°, h5km±2km, ML2.2/5, 1C, Error ellipse: s-maj=1.8km s-min=1.2km az=68.0, final, Texas-Mexico border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHRN	**Van Horn**	**0.34**	**174**	||P	Pg	18 07 23.8	-0.1
VHRN				S	Sg	18 07 28.7	+0.4
VHRN	**Van Horn**	**0.34**	**174**	P	Pg	18 07 23.8	0.0
VHRN				S	Sg	18 07 28.8	+0.5
VHRN	**Van Horn**	**0.34**	**174**	P	Pg	18 07 23.9	0.0
MNTX	**Cornudas Mount**	**0.65**	**332**	P	Pg	18 07 29.8	0.0
MNTX				S	Sg	18 07 39.1	+0.7
TPB12	**Southwest of T**	**0.92**	**84**	P	Pg	18 07 34.6	-0.4
TPB12				S	Sb	18 07 48.2	-0.1
PECS	**Pecos**	**1.02**	**76**	P	Pg	18 07 37.0	+0.1
PECS				S	Sb	18 07 50.8	-0.6
TPB03	**Saragosa**	**1.30**	**91**	S	Sn	18 08 00.4	+0.4
ALPN	**Alpine**	**1.41**	**122**	P	Pn	18 07 43.2	-0.6
ALPN				S	Sn	18 08 02.9	+0.2
TPB05	**Hovey Rd**	**1.47**	**97**	S	Sg	18 08 07.0	+2.3
CLN7	**Carlsbad 7**	**1.65**	**38**	P	Pb	18 07 48.2	-0.2
HTMS	**Hat Mesa**	**1.79**	**41**	P	Pb	18 07 51.0	+0.2
HTMS				S	Sg	18 08 15.6	+0.7
TPB08	**Permian Basin**	**1.83**	**97**	P	Pn	18 07 50.2	+0.7
TPB08				S	Sg	18 08 16.1	-0.1
MNHN	**Monahans**	**1.95**	**83**	P	Pn	18 07 52.1	+0.9
MNHN				S	Sb	18 08 18.4	+0.4
TX31	**Lajitas Ar. Si**	**2.13**	**146**	P	Pb	18 07 56.8	+0.3
TX31				S	Sg	18 08 25.7	-0.2
ODSA	**Odessa**	**2.33**	**64**	S	Sb	18 08 29.5	+0.3
TMB04	**Seminole**	**2.63**	**55**	P	Pn	18 08 02.4	+1.9

*IDC **11** 18:07:15.6±0.9, 35°.81S×104°.44W, h0km, mb4.1/8, mbtmp4.1/8, MS3.7/10, Error ellipse: s-maj=35.3km s-min=24.5km az=67.0*

ISC 11 18:07:17.1±0.9, 35°.8S±0°.2×104°.5W±0°.2, h10km, n24, σ1°01/15, mb4.0/8, MS3.7/10, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**21.11**	**91**	T	T	18 33 27.7	
baz=247,slow=72,SNR=3.1							
H03N3	**Juan Fernandez**	**21.12**	**91**	T	T	18 33 28.2	
baz=247,slow=72,SNR=5.3							
H03N1	**Juan Fernandez**	**21.13**	**91**	T	T	18 33 20.4	
baz=247,slow=72,SNR=7.0							
PLCA	**Paso Flores**	**26.96**	**111**	P	**P**	**18 12 59.5 +0.6**	
2.5nm,1.0s,baz=266,slow=7.5,SNR=3.4							
PLCA				LR	LR	18 21 22.9	
comp=Z,67nm,19.9s,baz=241,slow=31							
2.5nm,1.0s							
ATAH	**Atahualpa**	**37.19**	**46**	LR	LR	18 26 00.6	
comp=Z,50nm,19.5s,baz=245,slow=30							
LPAZ	**La Paz**	**37.68**	**68**	P	**P**	**18 14 33.6 +0.1**	
4.4nm,1.1s,baz=22,slow=6.1,SNR=3.7							
LPAZ				LR	LR	18 26 54.9	
comp=Z,66nm,19.7s,baz=211,slow=31							
4.4nm,1.1s							
CPUP	**Villa Florida**	**41.12**	**90**	LR	LR	18 29 37.1	
comp=Z,148nm,20.4s,baz=282,slow=33							
SIV	**San Ignacio**	**43.30**	**74**	LR	LR	18 30 09.8	
comp=Z,66nm,20.3s,baz=149,slow=32							
ROSC	**El Rosal**	**49.32**	**41**	P	**P**	**18 16 06.6 -0.4**	
5.6nm,0.4s,baz=285,slow=23,SNR=1.6							
ROSC				LR	LR	18 33 06.3	
comp=Z,83nm,19.3s,baz=228,slow=31							
5.6nm,0.4s							
JTS	**Las Juntas de**	**49.40**	**26**	LR	LR	18 31 39.3	
comp=Z,72nm,19.2s,baz=278,slow=30							
BDFB	**Brasilia**	**53.91**	**83**	LR	LR	18 37 13.3	
comp=Z,123nm,19.8s,baz=203,slow=33							
QSPA	**South Pole Qui**	**54.41**	**180**	P	**P**	**18 16 44.5 +0.3**	
1.3nm,0.8s,baz=150,slow=0.9,SNR=5.2							
1.3nm,0.8s							
PCRV	**Puerto La Cruz**	**59.16**	**47**	LR	LR	18 40 08.8	
comp=Z,68nm,19.1s,slow=33							
MDP	**Montagnes des**	**63.30**	**61**	LR	LR	18 42 05.3	
comp=Z,100nm,20.2s,baz=296,slow=33							
TXAR	**Lajitas Array**	**64.79**	**1**	P	**P**	**18 17 57.1 +1.1**	
0.7nm,0.7s,baz=190,slow=6.1,SNR=4.1							
0.7nm,0.7s							
NVAR	**Mina Array Bea**	**74.96**	**349**	P	**P**	**18 18 59.8 +1.2**	
1.5nm,0.8s,baz=177,slow=7.6,SNR=6.6							
1.5nm,0.8s							
PDAR	**Pinedale Array**	**78.33**	**356**	P	**P**	**18 19 17.8 +0.3**	
2.2nm,0.9s,baz=159,slow=6.1,SNR=12							
2.2nm,0.9s							
YKA	**Yellowknife Ar**	**98.29**	**355**	P	**P**	**18 20 54.1 0.0**	
0.2nm,0.8s,baz=174,slow=4.9,SNR=2.2							
0.2nm,0.8s							
NRIK	**Noril'sk**	**145.76**	**352**	PKPbc	**PKPdf**	**18 26 53.8 -1.1**	
3.3nm,0.8s,baz=73,slow=1.8,SNR=8.6							
BRTR	**Keskin Array B**	**146.85**	**70**	PKPbc	**PKPdf**	**18 26 59.0 +1.2**	
1.7nm,1.1s,baz=192,slow=3.5,SNR=7.2							
KBZ	**Khabaz**	**153.81**	**62**	PKPbc	**PKPbc**	**18 27 15.4 -0.8**	
1.5nm,1.0s,baz=261,slow=2.5,SNR=3.8							
BVAR	**Borovoye Array**	**162.39**	**10**	PKP	**PKPdf**	**18 27 17.4 -1.1**	
0.3nm,0.7s,baz=318,slow=1.9,SNR=3.7							
BVAR				PKPab	**PKPab**	**18 28 04.0 -2.0**	
0.3nm,0.6s,baz=323,slow=3.8,SNR=4.0							
KURBB	**Kurchatov Arra**	**165.03**	**353**	PKPab	**PKPab**	**18 28 17.8 +0.2**	
0.2nm,0.2s,baz=31,slow=4.1,SNR=3.0							
MKAR	**Makanchi Array**	**167.91**	**337**	PKPab	**PKPab**	**18 28 30.0 -0.5**	
0.1nm,0.6s,baz=10,slow=1.6,SNR=1.9							

*BER **11** 18:15:08.6±2.9, 82°.48N×6°.82W, h10km, mb(Pn)3.6, ML1.7(DNK), Confirmed Earthquake*
*DNK **11** 18:15:09.5±2.5, 82°.38N×6°.05W, h23km±27km, ML1.7*

ISC 11 18:15:06.7±1.4, 82°.2N±0°.1×6°.68W±0°.05, h10km, n13, σ2°77/21, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.54**	**252**	*e*P	**Pg**	**18 15 37.0 +0.9**	
NOR				*e*S	**Sn**	**18 15 54.4 +0.3**	
NOR	**Nord**	**1.54**	**252**	*i* P	**Pg**	**18 15 37.0 +0.9**	
NOR				*i* S	**Sn**	**18 15 56.2 +2.1**	
NOR				IAML		18 15 57.7	
comp=Z,27nm,0.2s							
KBS	**Kingsbay**	**4.47**	**128**	*i* P	**Pn**	**18 16 16.4 +2.1**	
KBS				*e*S	**Sn**	**18 17 04.6 -1.7**	
KBS	**Kingsbay**	**4.47**	**128**	*i* P	**Pn**	**18 16 16.4 +2.1**	
KBS				*i* S	**Sn**	**18 17 04.2 -2.1**	
BRBB	**Barentsburg B**	**5.42**	**128**	*e*P	**Pn**	**18 16 30.5 +3.1**	
BRBA	**Barentsburg A**	**5.45**	**129**	*e*P	**Pn**	**18 16 31.2 +3.4**	
BRBA				IAML		18 16 33.1	
comp=Z,11nm,0.1s							
SPA0	**Spitsbergen Ar**	**5.59**	**124**	*e*P	**Pn**	**18 16 31.7 +2.0**	
SPA0				IAML		18 16 33.1	
comp=Z,2.1nm,0.2s							
HSPB	**Hornsund (broa**	**6.52**	**131**	*e*P	**Pn**	**18 16 45.6 +3.2**	
HSPB				IAML		18 16 47.3	
comp=Z,6.3nm,0.3s							
HOPEN	**Hopen**	**8.02**	**118**	*e*P	**Pn**	**18 17 03.5 +0.5**	
HOPE

0.2nm,0.7s
WRA Warramunga Arr 66.36 100 P P 18 52 43.9 -0.2
0.4nm,0.8s,baz=246,slow=5.3,SNR=1.5
0.4nm,0.8s
YKA Yellowknife Ar 146.56 356 PKPbc PKPdf 19 01 34.9 +0.7
0.1nm,0.3s,baz=357,slow=3.5,SNR=2.2

---

*NEIC **11** 18:46:52.6±2.4, 20°.56S×0°.10×173°.9W×0°.1, h10km±1km, mb4.9/44, Error ellipse: s-maj=18.8km s-min=16.1km az=60.0*
*IDC **11** 18:46:52.6±0.6, 20°.60S×174°.16W, h0km, mb4.3/18, mbtmp4.3/20, ML4.4/2, MS3.7/19, Error ellipse: s-maj=23.1km s-min=16.4km az=131.0*
*NOU **11** 18:46:59.9, 20°.37S×173°.52W, h92km, mb4.6/9, Tonga Islands*
ISC 11 18:46:55.7±0.3, 20°.55S±0°.08×173°.95W±0°.06, h27km, n175, σ1°.95/155, mb4.7/30, MS3.7/15, 16C-16D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.06**	**70**		**Pn**	**18 47 52.8**	**-3.2**
NIUE	**Niue**	**4.06**	**70**	P	**Pn**	**18 47 53.1**	**-3.0**
TAVE	**Taveuni**	**6.82**	**303**	P	Pn	18 48 41.0	+7.0
AFI	**Afiamalu**	**6.92**	**18**		**Pn**	**18 48 32.0**	**-3.5**
MSVF	**Nonsavu**	**8.07**	**289**		Pn	18 48 57.7	+6.5
MSVF	**Nonsavu**	**8.07**	**289**	Pn	Pn	18 48 58.1	+6.9
MSVF	0.9nm,0.3s,baz=126,slow=12,SNR=22			LR	LR	18 51 50.1	
	comp=Z,1μm,18.3s,baz=108,slow=38						
MSVF	**Nonsavu**	**8.07**	**289**	P	Pn	18 48 58.4	+7.2
RAR	**Rarotonga**	**13.27**	**95**		**Pn**	**18 49 58.3**	**-4.0**
RAR	**Rarotonga**	**13.27**	**95**	Pn	**Pn**	**18 49 59.0**	**-3.3**
RAR	7.2nm,0.3s,baz=251,slow=8.0,SNR=16			Sn	Sn	18 52 11.1	-18
	0.7nm,0.3s,baz=301,slow=19,SNR=1.5						
RAR				LR	LR	18 55 34.9	
	comp=Z,121nm,18.1s,baz=272,slow=39						
RAR	**Rarotonga**	**13.27**	**95**	P	**Pn**	**18 50 00.5**	**-1.8**
YATNC	**Mamie plateau,**	**17.92**	**262**	P	**P**	**18 51 07.1**	**+3.6**
DZM	**Mont Dzumac**	**18.33**	**262**		**P**	**18 51 01.9**	**-6.2**
DZM	**Mont Dzumac**	**18.33**	**262**	*e*P	**Pn**	**18 51 08.2**	**0.0**
DZM	67nm,1.4s			*e*S	**Sn**	**18 54 25.2**	**-7.2**
	110nm,27.9s						
DZM				*e*LR	LR	18 55 22.1	
	416nm,22.2s						
DZM	**Mont Dzumac**	**18.33**	**262**	P	**P**	**18 51 07.2**	**-1.0**
	0.6nm,0.3s,baz=80,slow=20,SNR=7.0						
DZM				LR	LR	18 57 13.7	
	comp=Z,507nm,18.8s,baz=110,slow=34						
	8.4nm,0.7s						
DZM	**Mont Dzumac**	**18.33**	**262**	P	**Pn**	**18 51 12.5**	**+4.3**
URZ	**Urewera**	**19.27**	**202**	P	**P**	**18 51 17.7**	**-0.5**
	1.8nm,0.3s,baz=341,slow=3.0,SNR=9.1						
URZ				LR	LR	18 58 02.6	
	comp=Z,116nm,20.6s,baz=96,slow=35						
	4.5nm,0.3s						
URZ	**Urewera**	**19.27**	**202**	P	**Pn**	**18 51 20.4**	**+1.1**
TBI	**Tubuai**	**22.88**	**101**	*e*S	**S**	**18 56 03.3**	**-2.1**
TBI	3μm,27.2s			*e*LR	LR	18 57 21.5	
	1μm,25.5s						
PPT2	**Papeete2**	**23.22**	**87**	*e*S	**S**	**18 56 07.8**	**-3.6**
	320nm,26.5s						
PPT2				*e*LR	LR	18 57 40.1	
	213nm,23.8s						
PPT2				*e*LR	LR	18 57 41.7	
	171nm,25.8s						
PPT	**Papeete**	**23.22**	**87**	LR	LR	19 00 37.6	
	comp=Z,103nm,18.0s,baz=260,slow=35						
QRZ	**Quartz Range**	**23.26**	**207**	P	**P**	**18 52 01.6**	**+0.6**
HNR	**Honiara**	**27.49**	**290**	LR	LR	19 02 46.8	
	comp=Z,121nm,18.3s,baz=199,slow=35						
TATA	**Tatamba Isabel**	**28.09**	**292**	P	**P**	**18 52 45.4**	**0.0**
TAOE	**Nuku Hiva Isla**	**34.62**	**75**	*e*LR	LR	19 02 54.3	
	149nm,22.9s						
CAN	**Canberra**	**35.66**	**238**	P	**P**	**18 53 50.1**	**-1.6**
CAN				IAmb	IAmb	18 55 12.8	
	comp=Z,20nm,1.5s						
RKT	**Rikitea**	**36.20**	**101**	*e*LR	LR	19 03 27.8	
	comp=Z,880nm,26.5s						
TOO	**Toolangi**	**38.96**	**235**	P	**P**	**18 54 18.1**	**-1.6**
PMG	**Port Moresby**	**39.07**	**281**	LR	LR	19 07 40.0	
	comp=Z,92nm,19.8s,baz=152,slow=32						
STKA	**Stephens Creek**	**41.19**	**245**	P	**P**	**18 54 37.4**	**-0.8**
STKA	**Stephens Creek**	**41.19**	**245**	P	**P**	**18 54 37.1**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=49,slow=12,SNR=3.2						
STKA				LR	LR	19 10 16.7	
	comp=Z,147nm,18.4s,baz=36,slow=34						
	comp=Z,2.0nm,0.8s						
MANU	**Manus Island**	**41.98**	**291**	P	**P**	**18 54 45.4**	**+0.6**
MANU				IAmb	IAmb	18 54 54.6	
	comp=Z,28nm,1.6s						
BBOO	**Buckleboo**	**45.93**	**244**	P	**P**	**18 55 15.1**	**-1.3**
BBOO				IAmb	IAmb	18 55 43.5	
	comp=Z,24nm,1.3s						
AS31	**Alice Springs**	**48.20**	**256**		**P**	**18 55 33.2**	**-1.0**
ASAR	**Alice Springs**	**48.20**	**256**	P	**P**	**18 55 32.6**	**-1.6**
ASAR	**Alice Springs**	**48.20**	**256**	P	**P**	**18 55 32.8**	**-1.4**
	comp=Z,2.4nm,0.7s,baz=98,slow=8.0,SNR=49						
ASAR				PcP	**PcP**	**18 57 01.7**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=101,slow=4.0,SNR=7.7						
ASAR				S	**S**	**19 02 24.6**	**-7.6**
	comp=Z,0.9nm,0.9s,baz=96,slow=14,SNR=4.5						
ASAR				LR	LR	19 13 52.5	
	comp=Z,95nm,19.9s,baz=100,slow=34						
	comp=Z,2.4nm,0.7s						
WR8	**Warramunga Arr**	**48.20**	**261**	P	**P**	**18 55 32.6**	**-1.7**
WR8				IAmb	IAmb	18 56 21.0	
	comp=Z,16nm,1.6s						
WB0	**Warramunga Arr**	**48.33**	**261**	P	**P**	**18 55 33.2**	**-2.0**
WRA	**Warramunga Arr**	**48.35**	**261**	P	**P**	**18 55 33.7**	**-1.7**
WRA	**Warramunga Arr**	**48.35**	**261**	P	**P**	**18 55 33.9**	**-1.5**
	comp=Z,1.5nm,0.5s,baz=98,slow=7.9,SNR=18						
WRA				PcP	**PcP**	**18 57 03.0**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=96,slow=3.4,SNR=4.5						
	comp=Z,1.5nm,0.5s						
FORT	**Forrest**	**52.76**	**246**	P	**P**	**18 56 09.1**	**+0.5**
MTN	**Manton Dam**	**52.96**	**269**	P	**P**	**18 56 08.3**	**-1.9**
MTN				IAmb	IAmb	18 56 32.3	
	comp=Z,22nm,1.2s						
KNRA	**Kununurra**	**54.44**	**265**	P	**P**	**18 56 20.2**	**-0.8**
KNRA				IAmb	IAmb	18 58 11.3	
	comp=Z,35nm,1.7s						
FITZ	**Fitzroy Crossi**	**56.78**	**261**	P	**P**	**18 56 36.9**	**-1.0**
SBA	**Scott Base**	**58.10**	**185**	P	**P**	**18 56 49.4**	**+3.1**
SBA				IAmb	IAmb	18 57 28.4	
	comp=Z,15nm,1.8s						
VNDA	**Vanda**	**58.23**	**186**	P	**P**	**18 56 50.1**	**+2.9**
	comp=Z,0.7nm,0.9s,baz=190,slow=2.2,SNR=3.4						
VNDA				LR	LR	19 16 49.9	
	comp=Z,34nm,21.5s,baz=263,slow=31						
JCJ	**Chichijima**	**63.63**	**316**	LR	LR	19 18 39.0	
	comp=Z,52nm,19.4s,baz=142,slow=30						
QSPA	**South Pole Qui**	**69.52**	**180**	P	**P**	**18 58 04.5**	**+2.7**
QSPA				IAmb	IAmb	18 58 09.8	
	comp=Z,21nm,1.4s						
QSPA	**South Pole Qui**	**69.52**	**180**	P	**P**	**18 58 03.7**	**+1.9**
	comp=Z,3.5nm,0.9s,baz=11,slow=2.3,SNR=6.2						
	comp=Z,3.5nm,0.9s						
MJAR	**Matsushiro Arr**	**72.56**	**321**	P	**P**	**18 58 21.5**	**+1.1**
	comp=Z,6.2nm,0.8s,baz=156,slow=6.3,SNR=12						
MJAR				LR	LR	19 24 52.5	
	comp=Z,26nm,20.1s,baz=147,slow=32						
	comp=Z,6.2nm,0.8s						
TGY	**Tagaytay City**	**72.66**	**293**	LR	LR	19 27 37.3	
	comp=Z,21nm,21.0s,baz=204,slow=34						
JNU	**Nakatsue**	**74.97**	**314**	P	**P**	**18 58 34.4**	**-0.3**
	comp=Z,8.9nm,0.8s,baz=51,slow=1.5,SNR=6.0						
	comp=Z,8.9nm,0.8s						
JKA	**Kamikawa-asahi**	**75.64**	**329**		**P**	**18 58 39.6**	**+1.3**
ASAJ	**Asahikawa**	**75.65**	**329**	P	**P**	**18 58 40.2**	**+1.9**
	comp=Z,4.5nm,0.8s,baz=196,slow=3.5,SNR=8.0						
ASAJ				LR	LR	19 28 27.2	
	comp=Z,44nm,18.8s,baz=183,slow=33						
	comp=Z,4.5nm,0.8s						
KSM	**Kuching**	**77.19**	**276**	P	**P**	**18 58 46.8**	**-0.9**
KSM				IAmb	IAmb	18 58 50.0	
	comp=Z,8.2nm,0.9s						
PETK	**Petropavlovsk-**	**77.36**	**343**		**P**	**18 58 46.9**	**-0.9**
PETK	**Petropavlovsk-**	**77.36**	**343**	P	**P**	**18 58 48.4**	**+0.6**
	comp=Z,7.6nm,0.9s,baz=181,slow=6.5,SNR=16						
PETK				LR	LR	19 26 04.7	
	comp=Z,58nm,22.0s,baz=106,slow=30						
	comp=Z,7.6nm,0.9s						
YBH	**Yreka Blue Hor**	**78.01**	**37**	LR	LR	19 28 14.3	
	comp=Z,37nm,18.5s,baz=354,slow=32						
NVAR	**Mina Array Bea**	**78.50**	**41**	P	**P**	**18 58 57.4**	**+2.6**
	comp=Z,2.0nm,0.7s,baz=222,slow=9.8,SNR=9.1						
	comp=Z,2.0nm,0.7s						
KSRS	**Korea Array**	**79.49**	**317**	P	**P**	**18 59 01.8**	**+1.9**
	comp=Z,2.6nm,0.9s,baz=137,slow=5.6,SNR=11						
	comp=Z,2.6nm,0.9s						
KSAR	**Wonju Array Be**	**79.50**	**317**	P	**P**	**18 59 00.2**	**+0.2**
KDAK	**Kodiak Island**	**80.05**	**11**	LR	LR	19 30 21.2	
	comp=Z,127nm,19.8s,baz=74,slow=33						
USRK	**Ussuriysk Ar.**	**81.19**	**324**	P	**P**	**18 59 10.0**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=149,slow=4.5,SNR=4.9						
	comp=Z,2.0nm,0.7s						
MAW	**Mawson**	**82.77**	**199**	P	**P**	**18 59 17.4**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=29,slow=4.3,SNR=2.7						
	comp=Z,3.5nm,0.8s						
MDJ	**Mudanjiang**	**82.79**	**323**	P	**P**	**18 59 17.4**	**+0.1**
MDJ				IAmb	IAmb	18 59 20.6	
	comp=Z,22nm,1.6s						
H03S2	**Juan Fernandez**	**82.81**	**123**	T	T	20 31 43.9	
	baz=248,slow=74,SNR=40						
H03S1	**Juan Fernandez**	**82.83**	**123**	T	T	20 31 20.0	
	baz=248,slow=74,SNR=40						
H03S3	**Juan Fernandez**	**82.83**	**123**	T	T	20 31 28.2	
	baz=248,slow=74,SNR=34						
H03N2	**Juan Fernandez**	**82.94**	**123**	T	T	20 31 58.4	
	baz=257,slow=71,SNR=38						
H03N3	**Juan Fernandez**	**82.94**	**123**	T	T	20 31 59.6	
	baz=257,slow=71,SNR=24						
H03N1	**Juan Fernandez**	**82.96**	**123**	T	T	20 31 39.5	
	baz=257,slow=71,SNR=23						
K15K	**Wolf Creek Mou**	**83.15**	**6**		**P**	**18 59 17.6**	**-1.1**
TXAR	**Lajitas Array**	**83.92**	**56**	P	**P**	**18 59 25.0**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=249,slow=4.4,SNR=2.1						
	comp=Z,0.1nm,0.4s						
J18K	**Innoko River**	**84.82**	**8**	P	**P**	**18 59 28.4**	**+1.2**
MA2	**Magadan**	**84.90**	**343**	LR	LR	19 32 38.8	
	comp=Z,46nm,21.7s,baz=110,slow=32						
CAST	**Castle Rocks**	**85.43**	**10**	IAmb	IAmb	19 02 19.1	
	comp=Z,21nm,1.7s						
PDAR	**Pinedale Array**	**86.44**	**42**	P	**P**	**18 59 38.1**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=220,slow=4.5,SNR=5.1						
	comp=Z,0.4nm,0.6s						
CCB	**Clear Creek Bu**	**87.29**	**11**	IAmb	IAmb	18 59 42.1	
	comp=Z,8.1nm,1.0s						
SYO	**Syowa Base**	**87.47**	**191**	⫫*e*sP	P	18 59 45.4	+4.9
ILAR	**Eielson Array**	**87.57**	**11**	P	**P**	**18 59 42.6**	**+1.8**
	comp=Z,1.8nm,0.7s,baz=215,slow=5.0,SNR=15						
	comp=Z,1.8nm,0.7s						
DAWY	**Dawson**	**88.51**	**14**	IAmb	IAmb	18 59 49.0	
	comp=Z,6.4nm,0.9s						
K29M	**Barlow Dome**	**88.78**	**15**		**P**	**18 59 44.9**	**-1.8**
ENH	**Enshi**	**89.24**	**303**		**P**	**18 59 51.9**	**+2.4**
NNA	**Nana**	**92.37**	**104**	LR	LR	19 31 40.5	
	comp=Z,68nm,19.1s,baz=4.0,slow=29						
CMAR	**Chiang Mai Arr**	**93.72**	**288**		**P**	**19 00 11.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**93.72**	**288**	P	**P**	**19 00 11.0**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=119,slow=3.2,SNR=21						
	comp=Z,3.5nm,0.9s						
YKA	**Yellowknife Ar**	**95.00**	**24**	P	**P**	**19 00 16.7**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=235,slow=4.2,SNR=13						
	comp=Z,0.9nm,0.8s						
SONM	**Songino Array**	**98.31**	**318**	P	Pdif	19 00 31.9	+1.0
	comp=Z,0.2nm,0.4s,baz=121,slow=5.4,SNR=1.7						
SONM				PP	**PP**	**19 04 35.2**	**+4.0**
	comp=Z,0.6nm,0.9s,baz=122,slow=5.2,SNR=3.7						
	comp=Z,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**112.92**	**321**	PKiKP	**PKiKP**	**19 05 30.8**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=122,slow=1.9,SNR=2.9						
ZALV				PP	**PP**	**19 06 19.6**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=103,slow=5.3,SNR=4.3						
MKAR	**Makanchi Array**	**114.00**	**313**	PKiKP	**PKiKP**	**19 05 32.8**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=62,slow=2.9,SNR=7.5						
KURBB	**Kurchatov Arra**	**116.66**	**317**	PKP	**PKiKP**	**19 05 37.6**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=92,slow=1.8,SNR=8.4						
KURBB				PP	**PP**	**19 06 45.5**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=77,slow=6.2,SNR=4.5						
BVAR	**Borovoye Array**	**121.55**	**320**	PKP	**PKiKP**	**19 05 47.5**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=92,slow=0.4,SNR=11						
BVAR				PP	**PP**	**19 07 19.9**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=77,slow=6.5,SNR=2.8						
SPITS	**Spitsbergen Ar**	**122.11**	**358**	PKP	**PKiKP**	**19 05 47.1**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=132,slow=2.1,SNR=1.4						
NRS	**Narsarsuaq**	**126.03**	**28**	*i* P	**PKPdf**	**19 05 49.4**	**-5.5**
ARCES	**ARCESS Array B**	**129.60**	**351**	PKP	**PKiKP**	**19 06 02.9**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=339,slow=3.0,SNR=7.2						
FINES	**FINESS Array B**	**136.81**	**346**	PKP	**PKiKP**	**19 06 17.3**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=36,slow=7.1,SNR=3.7						
HFS	**Hagfors**	**140.08**	**354**	PKhKP	PKPpre	19 06 13.5	
	comp=Z,1.1nm,0.7s,baz=48,slow=4.7,SNR=2.4						
EKA	**Eskdalemuir Ar**	**144.58**	**9**	PKP	PKPbc	19 06 28.6	+0.4
	comp=Z,3.3nm,0.7s,baz=344,slow=3.4,SNR=14						
AKASG	**Malin Array Be**	**144.80**	**334**	PKP	**PKPdf**	**19 06 29.6**	**-0.3**
	comp=Z,6.4nm,0.6s,baz=42,slow=4.4,SNR=40						
AKBB	**Malin Array Si**	**144.80**	**334**		**PKPab**	**19 06 27.9**	**-1.0**
KIEV	**Kiev**	**144.81**	**334**		**PKPab**	**19 06 28.3**	**-0.6**
KIEV	**Kiev**	**144.81**	**334**	⇑P	**PKPdf**	**19 06 29.4**	**-0.5**
RNPP9	**Sopachiv**	**145.50**	**338**	PKP	**PKPdf**	**19 06 30.1**	**-1.0**
MARD	**Mardin**	**145.56**	**307**	PKPdf	**PKPdf**	**19 06 30.4**	**-1.5**
RNPP8	**Varash**	**145.58**	**338**	PKP	**PKPdf**	**19 06 30.3**	**-1.0**
SORM	**Soroca**	**147.13**	**332**	⇓P	**PKPab**	**19 06 37.0**	**-0.7**
SORM	**Soroca**	**147.13**	**332**	PKP	**PKPdf**	**19 06 32.5**	**-1.5**
KMPD	**K-Podol'skiy**	**147.60**	**334**	PKP	**PKPdf**	**19 06 33.2**	**-1.6**
MILM	**Milestii Mici**	**147.83**	**330**	⇓P	**PKPbc**	**19 06 38.2**	**+0.1**
BZK	**Bozkurt**	**148.20**	**318**		**PKiKP**	**19 06 40.6**	**-0.4**
BZK	**Bozkurt**	**148.20**	**318**	⇑P	**PKPab**	**19 06 41.8**	**-0.5**
GAZ	**Gaziantep**	**148.27**	**308**		**PKPbc**	**19 06 38.9**	**-0.9**
BNN	**Bunyan**	**148.54**	**312**		**PKPbc**	**19 06 40.9**	**+0.4**
CLL	**Collm**	**148.82**	**352**		**PKPbc**	**19 06 41.0**	**+0.4**
BURAR	**Bucovina Array**	**148.86**	**335**		**PKiKP**	**19 06 42.3**	**0.0**
BURAR	**Bucovina Array**	**148.86**	**335**	⇑P	**PKPab**	**19 06 44.1**	**-0.7**
VLDR	**Vladesti**	**148.96**	**329**	⇑P	**PKiKP**	**19 06 43.0**	**+0.5**
OSTC	**Ostas**	**149.00**	**347**	*e*PKP	**PKPab**	**19 06 43.9**	**-1.3**
BRG	**Berggiesshubel**	**149.11**	**350**	*i* P	**PKiKP**	**19 06 43.4**	**+0.8**
BRG				Amp		19 06 44.3	
	comp=Z,6.8nm,0.8s						
GHRR		**149.12**	**330**	⇓P	**PKPab**	**19 06 44.5**	**-1.3**
DPC	**Dobruska-Polom**	**149.17**	**347**	*e*PKP	**PKiKP**	**19 06 44.0**	**+1.2**
STEB	**Steborice**	**149.24**	**345**	*e*PKP	**PKiKP**	**19 06 43.9**	**+1.0**
KRLC	**Kraliky**	**149.33**	**346**	*e*PKP	**PKiKP**	**19 06 43.5**	**+0.3**
CFR	**Carcaliu**	**149.42**	**328**	⇓P	**PKiKP**	**19 06 43.7**	**+0.3**
MORC	**Moravsky Berou**	**149.44**	**345**		**PKiKP**	**19 06 43.8**	**+0.4**
MORC	**Moravsky Berou**	**149.44**	**345**	*e*PKP	**PKiKP**	**19 06 44.1**	**+0.7**
MORC	**Moravsky Berou**	**149.44**	**345**	⇑P	**PKiKP**	**19 06 43.8**	**+0.4**
HSKC	**Hora Svate Kat**	**149.44**	**351**	*e*PKP	**PKPab**	**19 06 45.5**	**-1.5**
BMR	**Baia Mare**	**149.48**	**336**	⇓P	**PKiKP**	**19 06 44.7**	**+1.2**
TPGR	**Topolog**	**149.51**	**328**	⇓P	**PKiKP**	**19 06 44.7**	**+1.0**
LANS	**Liptovska Anna**	**149.51**	**343**	*e*PKP	**PKPab**	**19 06 45.4**	**-2.0**
VRI	**Vrincioaia**	**149.57**	**331**	⇑P	**PKiKP**	**19 06 43.2**	**-0.5**
PLOR	**Plostina**	**149.62**	**331**	⇑P	**PKiKP**	**19 06 45.5**	**+1.6**
BRTR	**Keskin Array B**	**149.62**	**315**	PKPbc	**PKiKP**	**19 06 44.5**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=96,slow=2.5,SNR=4.8						
KIRS	**Kirsehir-Merke**	**149.74**	**314**	⇑P	**PKiKP**	**19 06 44.8**	**+0.4**
OZUR		**149.82**	**332**	⇑P	**PKPab**	**19 06 49.9**	**+1.2**
PRU	**Pruhonice**	**149.86**	**349**	*e*PKP	**PKiKP**	**19 06 45.4**	**+1.2**
HARR	**Harsova**	**149.87**	**328**	⇑P	**PKiKP**	**19 06 46.0**	**+1.7**
GOPC	**GO Pecny, Ondr**	**149.89**	**349**	*e*PKP	**PKiKP**	**19 06 45.8**	**+1.5**
DOPR	**Dopca**	**150.09**	**332**	⇓P	**PKiKP**	**19 06 44.3**	**-0.6**
ANTO	**Ankara**	**150.10**	**316**	⇑P	**PKiKP**	**19 06 46.3**	**+1.2**
MLR	**Muntele Rosu**	**150.22**	**331**		**PKPdf**	**19 06 38.3**	**-1.0**
MLR	**Muntele Rosu**	**150.22**	**331**	⇓P	**PKiKP**	**19 06 45.5**	**+0.3**
ISR	**Istrita**	**150.22**	**330**	⇑P	**PKPab**	**19 06 57.7**	**+7.2**
JAVC	**Velka Javorina**	**150.26**	**344**	*e*PKP	**PKiKP**	**19 06 47.2**	**+2.1**
VYHS	**Vyhne**	**150.28**	**343**	*e*PKP	**PKiKP**	**19 06 46.2**	**+1.1**
KRUC	**Moravsky**	**150.37**	**346**	*e*PKP	**PKiKP**	**19 06 46.2**	**+0.9**
MARR	**Marisel-Cluj**	**150.45**	**336**	⇓P	**PKiKP**	**19 06 46.0**	**+0.4**
PSZ	**Piszkesteto**	**150.49**	**341**	⇑P	**PKiKP**	**19 06 46.5**	**+0.9**
VOIR		**150.66**	**332**	⇓P	**PKiKP**	**19 06 47.9**	**+1.8**
MODS	**Modra-Piesok**	**150.81**	**345**	*e*PKP	**PKiKP**	**19 06 48.0**	**+1.8**
KHC	**Kasperske Hory**	**150.85**	**350**	*e*PKP	**PKiKP**	**19 06 47.9**	**+1.6**
ARR	**Arges**	**150.89**	**332**	⇓P	**PKiKP**	**19 06 48.4**	**+1.8**
CKRC	**Cesky Krumlov**	**151.03**	**349**	*e*PKP	**PKiKP**	**19 06 47.9**	**+1.2**
SRO	**Srobarova**	**151.05**	**343**	*e*PKP	**PKPdf**	**19 06 40.1**	**-0.2**
MMAI	**Mount Meron Ar**	**151.11**	**302**	PKPbc	**PKiKP**	**19 06 48.5**	**+1.1**
	comp=Z,5.1nm,0.7s,baz=77,slow=5.2,SNR=7.1						
GERES	**GERESS Array B**	**151.11**	**350**	PKPbc	**PKiKP**	**19 06 47.8**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=7.6,slow=2.0,SNR=22						
SIRR	**Siria**	**151.34**	**337**	⇑P	**PKiKP**	**19 06 48.9**	**+1.5**
RAZG	**Razgrad**	**151.39**	**328**	⇓P	**PKPdf**	**19 06 43.6**	**+2.6**
CONA	**Conrad Observa**	**151.56**	**346**	*e*PKiKP	**PKiKP**	**19 06 49.6**	**+1.7**
	comp=Z,6.5nm,0.8s						
SURR	**Surduc**	**151.60**	**336**	⇓P	**PKiKP**	**19 06 48.7**	**+0.8**
GZR	**Gura Zlata**	**151.64**	**335**	⇓P	**PKiKP**	**19 06 48.7**	**+0.6**
RONA	**Rosalia, Austr**	**151.67**	**345**	*e*PKiKP	**PKiKP**	**19 06 49.8**	**+1.7**
	comp=Z,7.2nm,0.6s						
BZS	**Buzias**	**151.91**	**336**	⇓P	**PKiKP**	**19 06 49.2**	**+0.7**
HERR	**Herculane**	**152.21**	**335**	⇑P	**PKiKP**	**19 06 50.2**	**+1.0**
BIOA	**Bad Ischl, Aus**	**152.24**	**349**	*e*PKP	**PKiKP**	**19 06 50.3**	**+1.1**
	comp=Z,2.4nm,0.7s						
MORH	**Mrgy, Hungar**	**152.40**	**341**	⇑P	**PKiKP**	**19 06 50.6**	**+1.1**
LESA	**Schwarzleotal**	**152.66**	**350**	*e*PKP	**PKiKP**	**19 06 51.2**	**+1.1**
	comp=Z,4.6nm,1.2s						
WATA	**Walderalm**	**152.91**	**352**	*e*PKP	**PKiKP**	**19 06 52.0**	**+1.3**
	comp=Z,2.5nm,0.6s						
MOTA	**Moosalm**	**152.96**	**352**	*e*PKiKP	**PKiKP**	**19 06 52.7**	**+1.8**
	comp=Z,4.6nm,0.9s						
WTTA	**Wattenberg**	**152.97**	**352**	*e*PKP	**PKiKP**	**19 06 52.2**	**+1.2**
	comp=Z,7.0nm,0.6s						
SQTA	**Sankt Quirin**	**153.07**	**352**	*e*PKP	**PKiKP**	**19 06 52.3**	**+1.3**
	comp=Z,3.8nm,0.8s						
DAVA	**Damuels**	**153.15**	**354**	*e*PKiKP	**PKiKP**	**19 06 53.5**	**+2.2**
	comp=Z,4.9nm,0.9s						
FETA	**Feichten**	**153.32**	**353**	*e*PKP	**PKiKP**	**19 06 53.1**	**+1.5**
	comp=Z,6.8nm,1.0s						
ABTA	**Abfaltersbach**	**153.34**	**350**	*e*PKP	**PKiKP**	**19 06 52.5**	**+0.9**
	comp=Z,5.3nm,0.7s						
ESDC	**Sonseca Array**	**159.09**	**22**	PKPab	**PKPab**	**19 07 30.2**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=349,slow=4.6,SNR=2.1						

---

*JMA **11** 18:50:28.0±0.1, 37°.8N±0°.1×141°.1E±0°.4, h69km, MV3.7/39, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **11** 18:50:28.0, 37°.76N×141°.12E, h69km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.36; $M_{\theta\theta}$4.01; $M_{\phi\phi}$-2.66; $M_{r\theta}$-3.42; $M_{\theta\phi}$1.72; $M_{\phi r}$1.79; Fault plane solution: $M_0$5.50000×10^{14} NP1: ϕ_s215.00000°, δ42.00000°, λ-166.00000°. NP2: ϕ_s115.00000°, δ81.00000°, λ-49.00000°.*
*IDC **11** 18:50:27.8±1.9, 37°.80N×141°.14E, h71km±16km, mb3.3/15, mbtmp3.6/21, MS2.5/2 Error ellipse: s-maj=19.8km s-min=13.1km az=106.0*
ISC 11 18:50:27.5±0.8, 37°.74N±0°.04×141°.17E±0°.06, h70km±6km, n51, σ0°.76/53, mb3.6/15, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.23**	**266**	⇓P	**Pn**	**18 50 38.5**	**+0.3**
JMST				⇓S	**Sn**	**18 50 45.9**	**-0.2**
JMM	**Marum

mbtmp3.7/12, ML4.8/3, MS3.0/1, Error ellipse: s-maj=23.3km s-min=20.8km az=21.0
*DNK **11** 18:54:35.7±1.9, 80°.91N×3°.48W, h10km, ML2.6*
*BER **11** 18:54:37.3±3.8, 80°.95N×3°.48W, h15km±34km, mb(Pn)4.2, ML3.6(NAO), Confirmed Earthquake*
*KOLA **11** 18:54:38.3, 81°.10N×1°.84W, h0km, ML3.0, Greenland sea, Knipovich ridge, north*
*FCIAR **11** 18:54:40.0, 80°.85N×2°.52W, h10km, station OMEGA has station magnitude of 3.60 station ZFI2 has station magnitude of 3.60 station KLMR has station magnitude of 4.42*

ISC 11 18:54:35.3±0.7, 80°.90N±0°.07×3°.58W±0°.05, h10km, n67, σ2°.78/80, mb3.6/9, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.12**	**296**	Pn	**Pn**	**18 55 10.2**	**-0.5**
NOR				Sn	**Sn**	**18 55 35.3**	**-1.8**
NOR	**Nord**	**2.12**	**296**	*e*P	**Pn**	**18 55 10.3**	**-0.4**
NOR	**Nord**	**2.12**	**296**	*i* P	**Pn**	**18 55 10.6**	**-0.2**
NOR				IAML		18 55 48.0	
comp=Z,44nm,0.5s							
KBS	**Kingsbay**	**3.36**	**118**	Pn	**Pn**	**18 55 27.3**	**-0.5**
KBS				Sn	**Sn**	**18 56 02.0**	**-5.6**
KBS	**Kingsbay**	**3.36**	**118**	P	**Pn**	**18 55 26.9**	**-0.9**
KBS				S	**Sn**	**18 56 02.0**	**-5.6**
KBS	**Kingsbay**	**3.36**	**118**	*e*P	**Pn**	**18 55 27.2**	**-0.5**
KBS				*e*S	**Sn**	**18 56 02.9**	**-4.8**
KBS	**Kingsbay**	**3.36**	**118**	*i* P	**Pn**	**18 55 27.4**	**-0.5**
KBS				*e*S	**Sn**	**18 56 02.4**	**-5.3**
BRBB	**Barentsburg B**	**4.28**	**122**	Pn	**Pn**	**18 55 41.0**	**+0.6**
BRBB				Sn	**Sn**	**18 56 28.9**	**-1.4**
BRBB	**Barentsburg B**	**4.28**	**122**	P	**Pn**	**18 55 41.1**	**+0.7**
BRBB				S	**Sn**	**18 56 27.3**	**-3.0**
BRBB	**Barentsburg B**	**4.28**	**122**	*e*P	**Pn**	**18 55 41.2**	**+0.8**
BRBB				*e*S	**Sn**	**18 56 27.3**	**-3.0**
BRBA	**Barentsburg A**	**4.31**	**122**	Pn	**Pn**	**18 55 41.4**	**+0.6**
BRBA				Sn	**Sn**	**18 56 27.8**	**-3.2**
BRBA	**Barentsburg A**	**4.31**	**122**	*e*P	**Pn**	**18 55 41.8**	**+1.0**
BRBA				IAML		18 55 42.8	
comp=Z,71nm,0.2s							
BRBA				*e*S	**Sn**	**18 56 26.7**	**-4.3**
SPA0	**Spitsbergen Ar**	**4.52**	**117**	Pn	**Pn**	**18 55 43.6**	**-0.1**
baz=310,slow=7.4							
SPA0				Sn	**Sn**	**18 56 32.7**	**-3.5**
baz=327,slow=18							
SPA0	**Spitsbergen Ar**	**4.52**	**117⇑**	*i* P	**Pn**	**18 55 43.6**	**-0.1**
SPA0				*i* S	**Sn**	**18 56 30.8**	**-5.4**
SPA0	**Spitsbergen Ar**	**4.52**	**117**	*e*P	**Pn**	**18 55 44.0**	**+0.3**
SPA0				IAML		18 55 45.5	
comp=Z,105nm,0.3s							
SPA0				*e*S	**Sn**	**18 56 31.9**	**-4.4**
SPITS	**Spitsbergen Ar**	**4.52**	**117**	Pn	**Pn**	**18 55 43.8**	**+0.1**
baz=320,slow=15							
SPITS				Sn	**Sn**	**18 56 31.7**	**-4.5**
baz=326,slow=31							
comp=Z,72nm,0.3s							
SPITS	**Spitsbergen Ar**	**4.52**	**117**	P	**Pn**	**18 55 43.3**	**-0.4**
SPITS				S	**Sn**	**18 56 33.0**	**-3.2**
HSPB	**Hornsund (broa**	**5.33**	**127**	Pn	**Pn**	**18 55 55.6**	**+0.8**
HSPB				Sn	**Sn**	**18 56 54.0**	**-2.2**
HSPB	**Hornsund (broa**	**5.33**	**127**	P	**Pn**	**18 55 54.6**	**-0.2**
HSPB				S	**Sn**	**18 56 53.4**	**-2.8**
HSPB	**Hornsund (broa**	**5.33**	**127**	*e*P	**Pn**	**18 55 55.6**	**+0.8**
HSPB				IAML		18 55 56.3	
comp=Z,28nm,0.4s							
HSPB				*e*S	**Sn**	**18 56 54.0**	**-2.2**
HOPEN	**Hopen**	**7.03**	**113**	Pn	**Pn**	**18 56 17.3**	**-0.8**
HOPEN				Sn	**Sn**	**18 57 33.5**	**-4.4**
HOPEN	**Hopen**	**7.03**	**113**	*e*P	**Pn**	**18 56 17.0**	**-1.1**
HOPEN				*e*S	Sn	18 57 29.9	-8.1
HOPEN	**Hopen**	**7.03**	**113**	*e*P	**Pn**	**18 56 17.7**	**-0.4**
HOPEN				IAML		18 56 20.1	
comp=Z,10nm,0.4s							
HOPEN				*e*S	**Sn**	**18 57 32.0**	**-5.9**
DBG	**Daneborg**	**7.48**	**217**	Pn	**Pn**	**18 56 24.3**	**0.0**
DBG				Sn	Sn	18 57 42.0	-7.0
DBG	**Daneborg**	**7.48**	**217**	*e*P	**Pn**	**18 56 25.1**	**+0.8**
DBG				*e*S	Sn	18 57 41.0	-8.0
DBG	**Daneborg**	**7.48**	**217**	*i* P	**Pn**	**18 56 24.3**	**0.0**
DBG				*i* S	Sn	18 57 41.5	-7.5
DBG				IAML		18 57 45.2	
comp=Z,29nm,0.4s							
ZFI2	**Zemlya Franca-**	**7.93**	**65**	*e*P	**Pn**	**18 56 29.8**	**-0.6**
ZFI2				*e*S	Sn	18 57 50.7	-9.3
comp=Z,15nm,2.1s							
OMEGA	**Omega**	**7.96**	**65**	*e*P	**Pn**	**18 56 29.8**	**-0.9**
OMEGA				*e*S	Sn	18 57 50.8	-10
comp=Z,15nm,2.0s							
NEEM	**North Greenlan**	**9.30**	**273**	*i* P	**Pn**	**18 56 47.1**	**-2.3**
NEEM	**North Greenlan**	**9.30**	**273**	*i* P	**Pn**	**18 56 47.1**	**-2.3**
NEEM				*e*S	Sn	18 58 24.3	-10
NEEM				IAML		18 58 37.0	
comp=Z,12nm,0.4s							
JNW	**Jan Mayen West**	**9.99**	**189**	*e*P	**Pn**	**18 57 00.8**	**+2.1**
JNW				IAML		18 57 01.9	
comp=Z,15nm,0.3s							
JNW				*e*S	**Sn**	**18 58 45.4**	**-5.1**
JMIC	**Jan Mayen**	**10.04**	**189**	Pn	**Pn**	**18 57 01.2**	**+1.9**
JMIC	**Jan Mayen**	**10.04**	**189**	Pn	**Pn**	**18 57 00.8**	**+1.6**
comp=Z,3.7nm,0.3s,baz=208,slow=2.3,SNR=11							
JMIC				Sn	Sn	18 58 42.8	-8.9
baz=78,slow=20							
JMIC	**Jan Mayen**	**10.04**	**189**	*e*P	**Pn**	**18 57 01.1**	**+1.8**
JMI	**Jan Mayen**	**10.10**	**190**	Pn	**Pn**	**18 57 02.7**	**+2.6**
SUMG	**Summit**	**11.27**	**242**	*i* P	**Pn**	**18 57 14.4**	**-2.0**
SUMG	**Summit**	**11.27**	**242**	*i* P	**Pn**	**18 57 14.4**	**-2.0**
KULLO	**Kullorsuaq**	**12.45**	**269**	*i* P	Pn	18 57 28.2	-3.9
KULLO	**Kullorsuaq**	**12.45**	**269**	*i* P	Pn	18 57 28.2	-3.9
KEV	**Kevo**	**13.29**	**130**	Pn	**Pn**	**18 57 46.1**	**+2.4**
KEV	**Kevo**	**13.29**	**130**	Pn	**Pn**	**18 57 46.1**	**+2.4**
ARA0	**ARCESS Array S**	**13.32**	**132**	Pn	**Pn**	**18 57 47.0**	**+2.9**
baz=353,slow=7.4							
ARA0	**ARCESS Array S**	**13.32**	**132**	Pn	**Pn**	**18 57 47.0**	**+2.9**
baz=353,slow=7.4							
ARCES	**ARCESS Array B**	**13.32**	**132**	Pn	**Pn**	**18 57 46.5**	**+2.5**
comp=Z,3.9nm,0.9s,baz=350,slow=9.5,SNR=11							
UPNV	**Upernavik**	**13.77**	**264**	*i* P	Pn	18 57 45.9	-4.2
UPNV	**Upernavik**	**13.77**	**264**	*i* P	Pn	18 57 45.9	-4.2
UPNV				IAML		19 00 14.5	
comp=Z,13nm,0.5s							
NUUG	**Nuugaatsiaq**	**14.38**	**258**	*i* P	Pn	18 57 55.7	-2.8
NUUG	**Nuugaatsiaq**	**14.38**	**258**	*i* P	Pn	18 57 55.7	-2.8
ICESG	**Greenland Ices**	**14.62**	**237**	*i* P	Pn	18 57 58.7	-3.4
ICESG	**Greenland Ices**	**14.62**	**237**	*i* P	Pn	18 57 58.7	-3.4
SFJD	**Kangerlussuaq**	**18.11**	**248**	P	**Pn**	**18 58 43.5**	**-3.0**
comp=Z,2.1nm,0.3s,baz=18,slow=12,SNR=16							
comp=Z,4.2nm,0.3s							
SFJD	**Kangerlussuaq**	**18.11**	**248**	*i* P	**Pn**	**18 58 43.5**	**-3.0**
SFJD	**Kangerlussuaq**	**18.11**	**248**	*i* P	**Pn**	**18 58 43.5**	**-3.0**
NOA	**NORSAR Array B**	**20.39**	**159**	P	**P**	**18 59 14.6**	**+2.8**
comp=Z,0.2nm,0.8s,baz=347,slow=9.7,SNR=4.9							
NOA				LR	LR	19 06 22.1	
comp=Z,34nm,18.0s,baz=55,slow=34							
comp=Z,0.2nm,0.8s							
FIA0	**FINESS Array S**	**21.21**	**139**	P	**P**	**18 59 24.4**	**+3.8**
FIA0	**FINESS Array S**	**21.21**	**139**	P	**P**	**18 59 24.4**	**+3.8**
FINES	**FINESS Array B**	**21.21**	**139**	P	**P**	**18 59 23.1**	**+2.5**
comp=Z,1.5nm,0.8s,baz=353,slow=9.6,SNR=6.7							
comp=Z,1.5nm,0.8s							
HFS	**Hagfors**	**21.44**	**156**	P	**P**	**18 59 27.6**	**+4.5**
slow=14							
HFS	**Hagfors**	**21.44**	**156**	P	**P**	**18 59 26.9**	**+3.7**
comp=Z,3.2nm,0.9s,baz=352,slow=9.4,SNR=5.7							
comp=Z,3.2nm,0.9s							
HFS	**Hagfors**	**21.44**	**156**	P	**P**	**18 59 27.6**	**+4.5**
slow=14							
KLMR	**Klimovskoe**	**23.40**	**123**	*e*P	**P**	**18 59 46.8**	**+3.1**
comp=Z,15nm,1.4s							
KURBB	**Kurchatov Arra**	**39.20**	**87**	P	**P**	**19 02 05.0**	**+2.1**
comp=Z,0.6nm,0.8s,baz=348,slow=8.2,SNR=5.5							
comp=Z,0.6nm,0.8s							
KBZ	**Khabaz**	**40.58**	**126**	P	**P**	**19 02 17.4**	**+3.0**
comp=Z,1.1nm,0.8s,baz=349,slow=10.0,SNR=3.8							
comp=Z,1.1nm,0.8s							
MKAR	**Makanchi Array**	**43.51**	**84**	P	**P**	**19 02 40.3**	**+1.9**
comp=Z,0.7nm,0.7s,baz=339,slow=7.1,SNR=8.1							
comp=Z,0.7nm,0.7s							
SONM	**Songino Array**	**46.14**	**61**	P	**P**	**19 02 59.8**	**+0.4**
comp=Z,0.4nm,0.6s,baz=347,slow=5.9,SNR=2.0							
comp=Z,0.4nm,0.6s							
PDAR	**Pinedale Array**	**50.53**	**294**	P	**P**	**19 03 31.2**	**-2.3**
comp=Z,0.1nm,0.4s,baz=356,slow=7.2,SNR=1.9							
comp=Z,0.1nm,0.4s							
CMAR	**Chiang Mai Arr**	**73.86**	**75**	P	**P**	**19 06 10.5**	**+0.6**
comp=Z,0.5nm,0.9s,baz=358,slow=6.7,SNR=3.1							
comp=Z,0.5nm,0.9s							

*SJA **11** 19:10:34.5±0.6, 21°.19S×69°.12W, h124km±5km, ML3.6, MW3.6*
*GUC **11** 19:10:36.9±0.6, 21°.17S×69°.04W, h108km±3km, ML3.6*

ISC 11 19:10:35.3±1.6, 21°.19S±0°.03×69°.1W±0°.1, h121km±9km, n22, σ0°.77/37, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.40**	**292**	*e*P	**Pn**	**19 10 52.7**	**-0.2**
PB01				*i* S	**Sn**	**19 11 05.0**	**-1.1**
PB01				IAML		19 11 05.7	
comp=E,6μm,0.2s							
PB01	**IPOC Station P**	**0.40**	**292**	*e*P	**Pn**	**19 10 52.6**	**-0.2**
PB01				IAML		19 11 06.8	
comp=Z,1μm,0.2s							
PB09	**IPOC Station P**	**0.61**	**193⇑**	*i* P	**Pn**	**19 10 54.5**	**+0.2**
PB09				*i* S	**Sn**	**19 11 08.7**	**+0.1**
PB09	**IPOC Station P**	**0.61**	**193**	*e*P	**Pn**	**19 10 54.5**	**+0.2**
PB09				IAML		19 11 11.2	
comp=Z,669nm,0.2s							
PB03	**IPOC Station P**	**1.05**	**216**	*e*P	**Pn**	**19 10 58.8**	**+0.8**
PB03				*i* S	**Sn**	**19 11 15.7**	**+0.5**
PB03				IAML		19 11 16.0	
comp=N,727nm,0.3s							
PB03	**IPOC Station P**	**1.05**	**216**	*e*P	**Pn**	**19 10 58.2**	**+0.2**
PB03				IAML		19 11 17.2	
comp=Z,774nm,0.1s							
PB08	**IPOC Station P**	**1.05**	**357**	*e*P	**Pn**	**19 10 58.4**	**0.0**
PB08				*i* S	**Sn**	**19 11 14.6**	**-1.0**
PB08				IAML		19 11 16.2	
comp=E,1μm,0.2s							
HMBC	**Humberstone**	**1.18**	**321**	*e*P	**Pn**	**19 10 59.5**	**+0.2**
HMBC				*i* S	**Sn**	**19 11 17.2**	**-0.3**
HMBC	**Humberstone**	**1.18**	**321**	*e*P	**Pn**	**19 10 59.2**	**-0.1**
HMBC				IAML		19 11 19.2	
comp=Z,1μm,0.2s							
TA02	**Huaiquique**	**1.34**	**313**	*e*P	**Pn**	**19 11 01.4**	**+0.5**
TA02				*i* S	**Sn**	**19 11 19.9**	**-0.4**
TA02	**Huaiquique**	**1.34**	**313**	*e*P	**Pn**	**19 11 00.9**	**0.0**
TA02				*e*S	**Sn**	**19 11 21.7**	**+1.4**
TA02				IAML		19 11 25.9	
comp=Z,1μm,0.1s							
GO01	**Chusmiza**	**1.52**	**356**	*e*P	**Pn**	**19 11 03.8**	**+0.3**
GO01				*i* S	**Sn**	**19 11 24.8**	**-0.1**
GO01				IAML		19 11 27.3	
comp=E,2μm,0.2s							
GO01	**Chusmiza**	**1.52**	**356**	*e*P	**Pn**	**19 11 03.9**	**+0.3**
GO01				*e*S	**Sn**	**19 11 25.5**	**+0.6**
GO01				IAML		19 11 26.2	
comp=Z,492nm,0.3s							
PB11	**IPOC Station P**	**1.52**	**340**	*e*P	**Pn**	**19 11 03.4**	**+0.2**
PB11				*i* S	**Sn**	**19 11 24.3**	**-0.1**
PB06	**IPOC Station P**	**1.57**	**196**	*e*P	**Pn**	**19 11 04.9**	**+1.2**
PB06				*i* S	**Sn**	**19 11 26.5**	**+1.1**
PB06				IAML		19 11 27.4	
comp=N,608nm,0.4s							
PB10	**IPOC Station P**	**2.67**	**210**	*e*P	**Pn**	**19 11 18.1**	**+0.7**
PB10	**IPOC Station P**	**2.67**	**210**	*e*P	**Pn**	**19 11 18.6**	**+1.2**
PB10				*e*S	**Sn**	**19 11 48.1**	**-1.7**
PB12	**IPOC Station P**	**2.82**	**335**	*e*P	**Pn**	**19 11 18.9**	**-0.4**
PB12				*e*S	**Sn**	**19 11 52.8**	**-0.4**
PB12				IAML		19 11 57.2	
comp=Z,85nm,0.5s							
PB16	**IPOC Station P**	**2.87**	**352**	*e*P	**Pn**	**19 11 21.4**	**+1.0**
PB16				*e*S	Sn	19 11 44.3	-11
PB14	**IPOC Station P**	**3.62**	**199**	*e*P	**Pn**	**19 11 30.8**	**+0.7**
PB14				*e*S	**Sn**	**19 12 12.3**	**-0.2**
GO02	**Mina Guanaco**	**3.98**	**187**	*e*P	**Pn**	**19 11 35.0**	**+0.2**
GO02				*e*S	Sn	19 12 34.3	+13
GO02				IAML		19 12 40.1	
comp=Z,90nm,0.8s							
AC01	**Pan de Azucar**	**5.12**	**195**	*e*P	**Pn**	**19 11 49.1**	**-0.8**
AC01				*e*S	**Sn**	**19 12 46.1**	**-1.8**

*IDC **11** 19:31:32.1±0.7, 19°.19N×66°.74W, h0km, mb3.8/9, mbtmp3.9/12, ML3.2/3, MS3.1/3, Error ellipse: s-maj=21.9km s-min=15.2km az=74.0*
*OSPL **11** 19:31:37.8±3.0, 19°.14N×66°.73W, h31km±101km, ML3.6*
*NEIC **11** 19:31:37.2±1.3, 18°.96N±0°.06×66°.80W±0°.03, h38km±14km, mb4.3/12, ML3.9/32, Md3.5/16(RSPR), Error ellipse: s-maj=8.7km s-min=3.6km az=174.0*
*RSPR **11** 19:31:37.3, 19°.11N×66°.80W, h38km±8km, MD3.5/16*

ISC 11 19:31:33.7±1.3, 19°.15N±0°.04×66°.78W±0°.03, h15km±8km, n120, σ2°.00/133, mb4.1/16, 7C-13D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.71**	**160**		**Pn**	**19 31 48.4**	**-0.8**
EMPR				IAML		19 31 59.5	
comp=E,11μm,0.7s							
EMPR				IAML		19 32 03.7	
comp=N,7μm,0.6s							
EMPR	**Esperanza - Ma**	**0.71**	**160**		**Sn**	**19 31 59.2**	**-0.7**
EMPR	**Esperanza - Ma**	**0.71**	**160⇑**	*e*P	**Pn**	**19 31 49.4**	**+0.2**
EMPR	**Esperanza - Ma**	**0.71**	**160**	*e*S	**Sn**	**19 31 59.2**	**-0.7**
AGPR	**Aguadilla, PR**	**0.74**	**205**		**Pb**	**19 31 48.4**	**0.0**
AGPR	**Aguadilla, PR**	**0.74**	**205**		**Sb**	**19 31 58.7**	**+0.3**
AGPR	**Aguadilla, PR**	**0.74**	**205⇓**	*e*P	**Pb**	**19 31 48.9**	**+0.5**
AGPR	**Aguadilla, PR**	**0.74**	**205**	*e*S	**Sb**	**19 31 58.7**	**+0.3**
AGPR	**Aguadilla, PR**	**0.74**	**205**	*i* P	**Pb**	**19 31 48.8**	**+0.5**
AGPR				IAML		19 32 04.3	
comp=Z,1μm,0.5s							
AOPR	**Arecibo Observ**	**0.80**	**178**		**Pb**	**19 31 49.4**	**+0.1**
AOPR				IAML		19 32 08.3	
comp=E,10μm,0.4s							
AOPR				IAML		19 32 11.9	
comp=N,9μm,0.4s							
AOPR	**Arecibo Observ**	**0.80**	**178**		**Sb**	**19 32 00.2**	**+0.3**
AOPR	**Arecibo Observ**	**0.80**	**178⇓**	*e*P	**Pn**	**19 31 50.0**	**-0.5**
AOPR	**Arecibo Observ**	**0.80**	**178**	*e*S	**Sb**	**19 32 00.2**	**+0.3**
AOPR	**Arecibo Observ**	**0.80**	**178**	*e*P	**Pn**	**19 31 50.0**	**-0.5**
UUPR	**Utuado, UPR, P**	**0.89**	**176**		**Pg**	**19 31 50.0**	**-0.5**
UUPR	**Utuado, UPR, P**	**0.89**	**176**		**Sb**	**19 32 02.7**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.89**	**176⇓**	*e*P	**Pn**	**19 31 51.3**	**-0.4**
UUPR	**Utuado, UPR, P**	**0.89**	**176**	*e*S	**Sb**	**19 32 02.7**	**+0.1**
ECPR	**Experimental S**	**0.91**	**154⇓**	*e*P	**Pn**	**19 31 51.9**	**-0.1**
ECPR	**Experimental S**	**0.91**	**154**	*e*S	**Sn**	**19 32 04.0**	**-0.9**
PRSN	**Puerto Rico Se**	**0.99**	**201**		**Pg**	**19 31 52.1**	**-0.6**
PRSN	**Puerto Rico Se**	**0.99**	**201**		**Sg**	**19 32 05.4**	**-0.3**
PRSN	**Puerto Rico Se**	**0.99**	**201⇑**	*e*P	**Pb**	**19 31 52.5**	**0.0**
PRSN	**Puerto Rico Se**	**0.99**	**201**	*e*S	**Sg**	**19 32 05.4**	**-0.3**
IDE	**Isla Desecheo**	**1.00**	**221**		**Pb**	**19 31 53.2**	**+0.4**
IDE					**Sg**	**19 32 06.0**	**-0.1**
IDE	**Isla Desecheo**	**1.00**	**221⇑**	*e*P	**Pb**	**19 31 53.2**	**+0.4**
IDE	**Isla Desecheo**	**1.00**	**221**	*e*S	**Sg**	**19 32 06.0**	**-0.1**
LSP	**Las Mesas**	**1.01**	**197**		**Pn**	**19 31 53.3**	**-0.1**
LSP					**Sb**	**19 32 06.3**	**+0.3**
LSP	**Las Mesas**	**1.01**	**197⇓**	*e*P	**Pn**	**19 31 53.3**	**-0.1**
LSP	**Las Mesas**	**1.01**	**197**	*e*S	**Sb**	**19 32 06.3**	**+0.3**
GCPR	**Guaynabo City**	**1.06**	**142**		**Pn**	**19 31 53.6**	**-0.5**
GCPR				IAML		19 32 08.3	
comp=N,2μm,0.3s							
GCPR				IAML		19 32 10.8	
comp=E,2μm,0.5s							
GCPR	**Guaynabo City**	**1.06**	**142**		**Sn**	**19 32 08.0**	**-0.6**
GCPR	**Guaynabo City**	**1.06**	**142⇑**	*e*P	**Pn**	**19 31 54.0**	**-0.1**
GCPR	**Guaynabo City**	**1.06**	**142**	*e*S	**Sn**	**19 32 08.0**	**-0.6**
CELP	**Cerrillos**	**1.08**	**170**		**Pb**	**19 31 53.9**	**-0.3**
CELP				IAML		19 32 17.8	
comp=E,2μm,0.8s							
CELP	**Cerrillos**	**1.08**	**170**		**Sb**	**19 32 08.1**	**-0.1**
CELP	**Cerrillos**	**1.08**	**170⇓**	*e*P	**Pn**	**19 31 54.3**	**0.0**
CELP	**Cerrillos**	**1.08**	**170**	*e*S	**Sb**	**19 32 08.1**	**-0.1**
OBIP	**Obispado Ponce**	**1.11**	**171**		**Pb**	**19 31 53.4**	**-1.2**
OBIP				IAML		19 32 19.2	
comp=N,2μm,0.5s							
OBIP	**Obispado Ponce**	**1.11**	**171**		**Sb**	**19 32 07.2**	**-1.7**
OBIP	**Obispado Ponce**	**1.11**	**171⇓**	*e*P	**Pb**	**19 31 53.8**	**-0.8**
OBIP	**Obispado Ponce**	**1.11**	**171**	*e*S	**Sb**	**19 32 07.2**	**-1.7**
GBPR	**Guanica, Bosqu**	**1.17**	**185**		**Pg**	**19 31 56.1**	**-0.1**
GBPR					**Sb**	**19 32 10.7**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.17**	**185⇓**	*e*P	**Pg**	**19 31 56.1**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.17**	**185**	*e*S	**Sb**	**19 32 10.7**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.18**	**195**		**Pb**	**19 31 55.1**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.18**	**195**		**Sb**	**19 32 09.0**	**-1.8**
CRPR	**Cabo Rojo, PR**	**1.18**	**195⇓**	*e*P	**Pb**	**19 31 55.5**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.18**	**195**	*e*S	**Sb**	**19 32 09.0**	**-1.8**
CRPR	**Cabo Rojo, PR**	**1.18**	**195**	*i* P	**Pb**	**19 31 55.5**	**-0.3**
CRPR				*e*S	**Sb**	**19 32 08.8**	**-2.0**
CRPR				IAML		19 32 13.0	
comp=Z,1μm,0.7s							
SJG	**San Juan**	**1.19**	**150**	Pn	**Pb**	**19 31 55.2**	**-0.8**
SJG				IAML		19 32 21.5	
comp=Z,2μm,0.5s							
SJG				IAML		19 32 25.1	
comp=Z,2μm,0.4s							
SJG	**San Juan**	**1.19**	**150**	Pn	**Pg**	**19 31 55.8**	**-0.8**
comp=Z,57nm,0.3s,baz=324,slow=11,SNR=29							
SJG				Sn	**Sb**	**19 32 08.9**	**-2.3**
comp=Z,132nm,0.3s,baz=58,slow=23,SNR=10							
SJG				LR	LR	19 32 22.8	
comp=Z,93nm,20.9s,baz=261,slow=42							
SJG	**San Juan**	**1.19**	**150**	*e*P	**Pg**	**19 31 56.2**	**-0.4**
SJG	**San Juan**	**1.19**	**150**	*i* P	**Pg**	**19 31 56.0**	**-0.7**
SJG				*e*S	**Sb**	**19 32 09.7**	**-1.5**
SJG				IAML		19 32 20.2	
comp=Z,892nm,0.8s							
MLPR	**Magueyes Islan**	**1.20**	**192⇓**	*e*P	**Pn**	**19 31 55.8**	**-0.2**
MLPR	**Magueyes Islan**	**1.20**	**192**	*e*S	**Sb**	**19 32 10.1**	**-1.4**
PDPR	**Patillas Dam,**	**1.33**	**147**		**Pn**	**19 31 57.5**	**-0.3**
PDPR	**Patillas Dam,**	**1.33**	**147⇓**	*e*P	**Pb**	**19 31 57.9**	**-0.5**
PDPR	**Patillas Dam,**	**1.33**	**147**	*e*S	**Sb**	**19 32 14.6**	**-0.7**
IGPR	**InterUniversit**	**1.34**	**151**		**Pn**	**19 31 57.8**	**-0.1**
IGPR				IAML		19 32 22.4	
comp=E,3μm,0.3s							
IGPR				IAML		19 32 24.1	
comp=N,3μm,0.3s							
IGPR	**InterUniversit**	**1.34**	**151**		**Sb**	**19 32 13.6**	**-1.8**
IGPR	**InterUniversit**	**1.34**	**151⇓**	*e*P	**Pb**	**19 31 58.2**	**-0.3**
IGPR	**InterUniversit**	**1.34**	**151**	*e*S	**Sb**	**19 32 13.6**	**-1.8**
PCDR	**Punta Cana, DR**	**1.64**	**248**		**Pn**	**19 32 02.9**	**+0.9**
PCDR				IAML		19 32 36.1	
comp=N,2μm,1.1s							
PCDR				IAML		19 32 49.7	
comp=E,935nm,0.8s							
PCDR	**Punta Cana, DR**	**1.64**	**248**		**Sg**	**19 32 27.0**	**+0.4**
PCDR	**Punta Cana, DR**	**1.64**	**248⇓**	*e*P	**Pb**	**19 32 04.0**	**+0.3**
PCDR	**Punta Cana, DR**	**1.64**	**248**	*e*S	**Sg**	**19 32 27.0**	**+0.4**
PCDR	**Punta Cana, DR**	**1.64**	**248**	*i* P	**Pb**	**19 32 03.8**	**+0.1**
PCDR				IAML		19 32 35.1	
comp=Z,785nm,1.1s							
HIDR	**Higuey Centro**	**1.92**	**254⇓**	*e*P	**Pb**	**19 32 08.5**	**+0.1**
SMDR	**Samana, DR**	**2.28**	**274⇓**	*e*P	**Pn**	**19 32 11.3**	**+0.5**
DR12	**Loma Pena Alta**	**2.49**	**262**		**Pn**	**19 32 14.6**	**+0.9**
BANI	**BANI**	**3.47**	**258**		**Pn**	**19 32 29.4**	**+2.0**
SC01	**Santiago de lo**	**3.74**	**275**		**Pn**	**19 32 32.0**	**+1.1**
SDDR	**Presa de Saban**	**4.27**	**269**		**Pn**	**19 32 39.5**	**+1.3**
SDDR	**Presa de Saban**	**4.27**	**269**	*e*P	**Pn**	**19 32 40.8**	**+2.5**
SDDR				*e*S	**Sn**	**19 33 31.0**	**+3.2**
SDDR				IAML		19 33 54.2	
comp=Z,405nm,1.4s							
SDDR				IAML		19 33 55.6	
comp=Z,466nm,1.2s							
SDDR	**Presa de Saban**	**4.27**	**269⇑**	*e*P	**Pn**	**19 32 41.0**	**+2.8**
SDDR	**Presa de Saban**	**4.27**	**269**	*e*P	**Pn**	**19 32 40.4**	**+2.1**
SDDR	**Presa de Saban**	**4.27**	**269**	*i* P	**Pn**	**19 32 40.8**	**+2.5**
SDDR				IAML		19 33 57.2	
comp=Z,172nm,0.8s							
PODR	**Polo**	**4.38**	**258**	*i* P	**Pn**	**19 32 42.6**	**+2.7**
LOVI	**El Cajuil, Ovi**	**4.56**	**254**	*i* P	**Pn**	**19 32 44.2**	**+2.0**
LOVI	

LOHW	Long Hollow	43.99	314	P		P	19 39 41.2 +0.4
CPUP	Villa Florida	46.13	168	P		P	19 39 58.6 +1.0
	comp=Z,0.7nm,0.4s,baz=317,slow=16,SNR=1.4						
	comp=Z,0.7nm,0.4s						
NEW	Newport	49.78	318	P		P	19 40 25.7 -0.1
YKA	Yellowknife Ar	54.31	335	P		P	19 40 59.5 +0.3
	comp=Z,0.6nm,0.8s,baz=112,slow=7.5,SNR=8.1						
	comp=Z,0.6nm,0.8s						
ESDC	Sonseca Array	57.27	55	P		P	19 41 21.7 +0.7
	comp=Z,0.9nm,0.8s,baz=270,slow=8.0,SNR=7.5						
	comp=Z,0.9nm,0.8s						
EKA	Eskdalemuir Ar	59.50	36	P		P	19 41 36.6 +0.4
	comp=Z,0.4nm,0.6s,baz=254,slow=5.3,SNR=2.7						
	comp=Z,0.4nm,0.6s						
TORD	Torodi Ar. Bea	65.70	84	P		P	19 42 18.7 +0.5
	comp=Z,103nm,0.2s,baz=285,slow=5.3,SNR=1.5						
ILAR	Eielson Array	68.64	333	P		P	19 42 36.3 +0.2
	comp=Z,1.0nm,1.0s,baz=99,slow=3.5,SNR=5.8						
	comp=Z,1.0nm,1.0s						
ARCES	ARCESS Array B	73.03	22	P		P	19 43 02.7 0.0
	comp=Z,2.2nm,0.8s,baz=324,slow=5.6,SNR=3.5						
	comp=Z,2.2nm,0.8s						
FINES	FINESS Array B	74.73	30	P		P	19 43 14.4 +1.6
	comp=Z,1.6nm,0.9s,baz=279,slow=12,SNR=2.0						
	comp=Z,1.6nm,0.9s						

IDC 11 19:35:28.1±5.9, 7°.71S×129°.16E, h235km±64km, mb2.8/1, mbtmp3.4/4, Error ellipse: s-maj=57.5km s-min=29.3km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.88	198	P		Pn	19 37 59.2 +1.1
	1.6nm,0.9s,baz=23,slow=13,SNR=17						
FITZ				S		S	19 39 58.5 -1.5
	2.1nm,0.6s,baz=170,slow=21,SNR=6.8						
WRA	Warramunga Arr	13.16	158	P		Pn	19 38 25.3 -1.2
	0.6nm,0.4s,baz=340,slow=13,SNR=20						
WRA				S		S	19 40 50.0 -2.3
	0.3nm,0.3s,baz=332,slow=22,SNR=6.0						
ASAR	Alice Springs	16.51	165	P		Pn	19 39 07.0 0.0
	0.3nm,0.5s,baz=342,slow=9.8,SNR=5.9						
ASAR				S		S	19 42 08.6 +2.3
	0.4nm,0.8s,baz=349,slow=25,SNR=1.8						
MKAR	Makanchi Array	68.36	327	P		P	19 46 04.1 -0.2
	0.2nm,0.4s,baz=114,slow=6.7,SNR=4.1						
	0.2nm,0.4s						

IDC 11 19:51:33.6±3.1, 21°.69N×122°.11E, h0km, mb3.4/5, mbtmp3.4/5, MS4.2/1, Error ellipse: s-maj=267.7km s-min=22.3km az=63.0

TAP 11 19:51:36.7, 21°.15N×121°.22E, h48km±1km, ML3.4, D

ISC 11 19:51:38.7±2.0, 21°.26N±0°.08×121°.24E±0°.06, h26km±13km, n86, σ1s05/102, mb3.3/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	Hengchuen, Pin	0.71	334	*i* P		Pb	19 51 52.0 -0.5
TSEB				S		Sn	19 52 05.1 +1.8
TWKBT	Hengchun	0.79	330	*e*P		Pn	19 51 52.5 -1.6
TWKBT				S		Sb	19 52 05.1 +0.9
TWK1	Hengchun	0.80	329	*i* P		Pn	19 51 53.4 -0.8
TWK1				S		Sn	19 52 05.8 +0.5
LYUB	Lan-yu	0.81	23	P		Pn	19 51 54.1 -0.2
LYUB				*e*S		Sn	19 52 06.8 +1.2
LAY	Lan-yu	0.83	20	*e*P		Pn	19 51 54.3 -0.4
LAY				S		Sn	19 52 06.6 +0.4
SMST	Manzhou Townsh	0.85	334	P		Pn	19 51 54.5 -0.4
SMST				S		Sn	19 52 07.0 +0.4
HEN	Hengchun	0.88	328	*e*P		Pn	19 51 55.0 -0.4
HEN				S		Sb	19 52 07.6 +0.9
SLIU	Shizi	1.04	337	*e*P		Pn	19 51 56.0 -1.6
SLIU				S		Sn	19 52 11.2 -0.1
TAWH	Dawu Township	1.13	343	*e*P		Pn	19 51 57.3 -1.5
TAWH				*e*S		Sn	19 52 13.9 +0.5
TAW	Tawu	1.14	344	*e*P		Pn	19 51 56.9 -2.1
TAW				*e*S		Sn	19 52 14.2 +0.4
EAST	Anshuo	1.18	342	*e*P		Pn	19 51 58.0 -1.6
EAST				S		Sn	19 52 15.0 +0.2
SCZT	Fangliau	1.25	333	*e*P		Pn	19 51 59.5 -1.0
SCZT				*e*S		Sn	19 52 15.4 -1.1
ECL	Taimali	1.36	349	*e*P		Pn	19 51 59.9 -2.2
ECL				*e*S		Sn	19 52 18.7 -0.5
LDUT	Ludao	1.43	8	*e*P		Pn	19 52 02.4 -0.5
MASBT	Mashibuluo	1.46	337	*e*P		Pn	19 52 02.7 -0.7
MASBT				*e*S		Sn	19 52 21.6 -0.1
TTN	Taitung	1.49	357	*e*P		Pn	19 52 03.0 -0.8
TSMG	Majia	1.54	339	*e*P		Pn	19 52 04.0 -0.6
TWGBT	Beinan	1.56	355	P		Pn	19 52 02.9 -1.9
TWGBT	Beinan	1.56	355	*e*P		Pn	19 52 02.6 -2.1
TWG	Pinlang	1.56	354	*e*P		Pn	19 52 03.7 -1.1
SSD	Sandimen	1.59	339	*e*P		Pn	19 52 04.7 -0.4
LONT	Longtian	1.65	356	*e*P		Pn	19 52 04.1 -1.9
EDH	Donghe	1.71	2	*e*P		Pn	19 52 05.4 -1.4
EDH				*e*S		Sn	19 52 27.4 -0.4
ECS	Chishang	1.83	359	*e*P		Pn	19 52 06.3 -2.2
EHD	Haiduan	1.88	359	*e*P		Pn	19 52 06.5 -2.8
SGST	Jiashian	1.92	342	*e*P		Pn	19 52 08.9 -0.8
CHKH	Chenggong	1.93	4	*e*P		Pn	19 52 09.1 -0.7
CHKH				*e*S		Sn	19 52 33.2 -0.1
FULB	Fuli	1.93	1	*e*P		Pn	19 52 09.0 -0.9
FULB				*e*S		Sn	19 52 34.3 +0.9
ELDTW	Lidau	1.94	354	*e*P		Pn	19 52 08.4 -1.7
STYH	Taoyuan	1.95	347	*e*P		Pn	19 52 09.1 -1.0
CHN1	Nanshi	2.03	341	*e*P		Pn	19 52 10.7 -0.6
WTP	Ta-pu	2.06	344	*e*P		Pn	19 52 11.2 -0.5
SNST	Tainan City	2.07	341	*e*P		Pn	19 52 11.1 -0.7
EYUL	Yuli	2.08	2	*e*P		Pn	19 52 10.4 -1.5
TWF1	Yuli	2.09	1	*e*P		Pn	19 52 10.4 -1.6
TPUB	Ta-pu	2.11	345	P		Pn	19 52 13.6 +1.2
TPUB	Ta-pu	2.11	345	*e*P		Pn	19 52 11.9 -0.4
TWK	Hsinying	2.12	341	*e*P		Pn	19 52 11.4 -1.1
YULB	Yu-li	2.13	1	P		Pn	19 52 11.0 -1.6
YULB	Yu-li	2.13	1	*e*P		Pn	19 52 10.5 -2.1
CHN4	Tsaushan	2.17	344	*e*P		Pn	19 52 12.4 -0.7
HGSD	Ruisui	2.23	4	*e*P		Pn	19 52 13.7 -0.3
EHY	Hungye	2.24	2	*e*P		Pn	19 52 12.2 -1.9
WCKO	Fanlu	2.25	345	*e*P		Pn	19 52 14.4 +0.2
ALS	Alishan	2.28	350	*e*P		Pn	19 52 15.4 +0.4
CHN5	Tsauling	2.39	347	*e*P		Pn	19 52 16.0 -0.2
WANBT	Fenglin Townsh	2.45	3	*e*P		Pn	19 52 15.8 -1.3
WHYT	Xinyi Township	2.46	352	*e*P		Pn	19 52 17.4 +0.3
VWDT	VWDT	2.49	358	*e*P		Pn	19 52 16.9 -0.6
SSLB	Suanglung	2.53	354	P		Pn	19 52 18.9 +0.7
SSLB	Suanglung	2.53	354	*e*P		Pn	19 52 18.7 +0.5
ESL	Shilin	2.55	4	*e*P		Pn	19 52 18.6 +0.2
SMLT	Sun Moon Lake	2.63	353	*e*P		Pn	19 52 19.7 +0.1
TYC	Yuchr	2.66	352	*e*P		Pn	19 52 20.7 +0.9
OWD	Renai	2.69	359	*e*P		Pn	19 52 20.2 -0.1
WUSB	Renai	2.73	358	*e*P		Pn	19 52 20.5 -0.4
LXIB	Xiulin Townshi	2.76	3	*e*P		Pn	19 52 19.2 -2.1
WCS	Beigang Elemen	2.80	354	*e*P		Pn	19 52 22.4 +0.6
TWD	Chiawan	2.83	7	*e*P		Pn	19 52 23.2 +1.0
WHF	Hehuan Shan	2.88	0	*e*P		Pn	19 52 23.7 +0.5
NACB	Ninganchiao	2.92	6	P		Pn	19 52 24.5 +1.0
NACB	Ninganchiao	2.92	6	*e*P		Pn	19 52 22.7 -0.8
ETLH	Xiulin Townshi	2.94	4	*e*P		Pn	19 52 22.8 -1.1
FUSS	Fushou	2.98	0	*e*P		Pn	19 52 24.5 +0.1
TWT	Tachien	2.98	359	*e*P		Pn	19 52 24.8 +0.3
TDCB	Techi	2.98	359	*e*P		Pn	19 52 24.7 +0.2
WHP	Taichung City	3.02	355	*e*P		Pn	19 52 25.7 +0.7
NNSB	Datong	3.16	2	*e*P		Pn	19 52 26.8 -0.1
EOS3	EOS3	3.17	18	*e*P		Pn	19 52 25.9 -0.9
ENA	Nanau	3.19	8	*e*P		Pn	19 52 26.4 -0.8
EWUT	Wuta	3.21	9	*e*P		Pn	19 52 27.2 -0.3
LATG	Datong	3.27	5	*e*P		Pn	19 52 27.5 -1.0
NFF	Wufeng Townshi	3.36	358	*e*P		Pn	19 52 29.4 -0.2
LIOB	Emei	3.38	357	*e*P		Pn	19 52 30.8 +1.0
ENTT	Nioudou	3.38	5	*e*P		Pn	19 52 29.0 -0.8
YHNB	Yeheng	3.40	2	P		Pn	19 52 31.2 +1.1
YHNB	Yeheng	3.40	2	*e*P		Pn	19 52 30.7 +0.6
NSK	Sanguang	3.41	2	*e*P		Pn	19 52 30.6 +0.4
FUSB	Fushanzhiwuyua	3.50	5	*e*P		Pn	19 52 32.0 +0.4
NWLT	Wulai	3.51	4	*e*P		Pn	19 52 31.3 -0.4
MJAR	Matsushiro Arr	21.22	40	LR		LR	20 03 22.2
	comp=Z,592nm,18.9s,baz=224,slow=35						
MKAR	Makanchi Array	40.51	318	P		P	19 59 16.1 +0.6
	0.2nm,0.6s,baz=105,slow=9.5,SNR=2.3						
	0.2nm,0.6s						
ZALV	Zalesovo Beam	42.74	329	P		P	19 59 32.8 -0.9
	0.4nm,0.5s,baz=115,slow=6.8,SNR=1.7						
	0.4nm,0.5s						
WRA	Warramunga Arr	42.90	162	P		P	19 59 35.2 -0.1
	0.6nm,1.0s,baz=344,slow=8.4,SNR=1.3						
	0.6nm,1.0s						
KURBB	Kurchatov Arra	44.40	322	P		P	19 59 47.3 +0.3
	0.2nm,0.3s,baz=118,slow=7.4,SNR=2.7						
	0.2nm,0.3s						
ASAR	Alice Springs	46.32	164	P		P	20 00 03.1 +0.5
	0.1nm,0.3s,baz=346,slow=9.3,SNR=6.0						
	0.1nm,0.3s						

BJI 11 19:53:43.1, 26°.35N×129°.55E, h9km, mB5.0/50, mb4.7/78, Ms4.7/82, Ms7 4.5/80

MOS 11 19:53:43.6±1.2, 26°.34N×129°.53E, h10km, mb5.2/62, MS4.7/11, Error ellipse: s-maj=7.4km s-min=4.0km az=113.4

IDC 11 19:53:43.4±0.4, 26°.29N×129°.54E, h0km, mb4.6/31, mbtmp4.6/37, ML4.3/5, MS4.1/50, Error ellipse: s-maj=13.7km s-min=9.8km az=83.0

NEIC 11 19:53:45.2, 26°.31N×129°.61E, h12km

JMA 11 19:53:45.4±0.1, 26°.3N±0°.6×129°.6E±0°.4, h45km, MD4.9/21, MW4.9/21, NEAR MINAMI-DAITOJIMA IS

NIED 11 19:53:45.4, 26°.30N×129°.61E, h45km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr=2.07; Mθθ=1.16; Mφφ=0.91; Mrθ=0.24; Mθφ=0.87; Mφr=1.04; Fault plane solution: M0=2.25000×10^16 NP1:φs=61.00000°, δ=34.00000°, λ=-68.00000°. NP2:φs=215.00000°, δ=58.00000°, λ=-105.00000°.

NEIC 11 19:53:45.2, 26°.31N×129°.61E, h12km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^16Nm; Mrr=2.69; Mθθ=1.71; Mφφ=0.99; Mrθ=1.19; Mθφ=1.35; Mφr=0.20; Fault plane solution: M0=2.97000×10^16 NP1:φs=37.33000°, δ=38.64000°, λ=-115.29000°. NP2:φs=248.51000°, δ=55.62000°, λ=-71.14000°. Principal axes: T 2.8686, Plg9.0000°, Azm325.0000°; N 0.1960, Plg15.0000°, Azm58.0000°; P -3.0646, Plg72.0000°, Azm207.0000°;

NEIC 11 19:53:45.2±2.0, 26°.31N±0°.07×129°.60E±0°.05, h10km±1km, mb5.2/286, Mww4.9/18 Error ellipse: s-maj=12.0km s-min=7.1km az=200.0

GCMT 11 19:53:48.2±0.2, 26°.30N±0°.01×129°.51E±0°.02, h12km, MW4.9/116, Moment Tensor Solution. s39,c49; s116,c184; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.97±.06; Mθθ=1.87±.06; Mφφ=1.10±.07; Mrθ=0.72±.22; Mθφ=1.34±.05; Mφr=0.95±.25; Best double couple: M0=3.15800×10^16 NP1:φs=59.00000°, δ=35.00000°, λ=-81.00000°. NP2:φs=227.00000°, δ=56.00000°, λ=-96.00000°. Principal axes: T 3.0970, Plg11.0000°, Azm322.0000°; N 0.1210, Plg5.0000°, Azm231.0000°; P -3.2180, Plg78.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

BGR 11 19:53:50.6, 25°.74N×128°.56E, h33km, mb4.7, Ms4.7, Hypocentre not reviewed by the ISC

ISC 11 19:53:45.1±0.6, 26°.30N±0°.03×129°.60E±0°.03, h10km±3km, h9km: pP-P, n841, σ1s47/742, mb5.2/259, MS4.3/72, 30C-22D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.26	305	*i* P		Pn	19 54 07.0 -1.8
JYRO				*e*S		Sb	19 54 22.6 -2.7
JYRO	Yoronjima	1.26	305	A		A	19 54 07.0
	comp=N,25nm,5.9s,comp=E,47nm,5.4s						
JOW	Kunigami	1.30	294			Pn	19 54 07.5 -1.9
JOW	Kunigami	1.30	294	Pn		Pn	19 54 07.8 -1.6
	comp=E,1μm,0.3s,baz=118,slow=20,SNR=1532						
JOW				Sn		Sb	19 54 21.9 -4.6
	comp=E,702nm,0.3s,baz=127,slow=13,SNR=20						
JOW	Kunigami	1.30	294	P		Pn	19 54 07.7 -1.7
JOW	Kunigami	1.30	294	P		Pn	19 54 07.8 -1.7
JOW				*e*S		Sb	19 54 23.2 -3.3
JOW	Kunigami	1.30	294	A		A	19 54 07.8
	comp=N,29nm,3.9s,comp=E,30nm,5.5s						
JOKE	Okinoerabujima	1.40	319	*i* P		Pn	19 54 09.3 -1.5
JOKE				*e*S		Sn	19 54 26.3 -3.1
JOKE	Okinoerabujima	1.40	319	A		A	19 54 09.3
	comp=N,38nm,4.8s,comp=E,24nm,4.0s						
JNTH	Nagotoyohara	1.43	279	*i* P		Pn	19 54 09.4 -1.8
JNTH				*e*S		Sn	19 54 27.0 -3.1
JNTH	Nagotoyohara	1.43	279	A		A	19 54 09.4
	comp=N,29nm,6.0s,comp=E,27nm,4.1s						
JMZ	Minamidaito 2	1.54	108			Pn	19 54 10.4 -2.2
JMZ	Minamidaito 2	1.54	108	P		Pn	19 54 12.3 -0.3
JMZ	Minamidaito 2	1.54	108	P		Pn	19 54 10.8 -1.8
JMZ				S		Sn	19 54 28.3 -4.3
JMZ	Minamidaito 2	1.54	108	A		A	19 54 10.8
	comp=N,111nm,4.6s,comp=E,61nm,4.8s						
JKDJ	Kitadaitoujima	1.56	103	P		Pn	19 54 11.4 -1.6
JKDJ				*e*S		Sn	19 54 30.4 -3.0
JKDJ	Kitadaitoujima	1.56	103	A		A	19 54 11.4
	comp=N,62nm,4.5s,comp=E,58nm,3.4s						
JTK	Tokunoshima	1.59	339	P		Pn	19 54 12.1 -1.3
JTK				*e*S		Sn	19 54 31.1 -2.9
JTK	Tokunoshima	1.59	339	A		A	19 54 12.1
	comp=N,14nm,5.8s,comp=E,19nm,6.0s						
JIH	Iheya	1.64	297	P		Pn	19 54 12.8 -1.2
JIH				S		Sn	19 54 31.9 -3.2
JIH	Iheya	1.64	297	A		A	19 54 12.8
	comp=N,16nm,6.3s,comp=E,32nm,4.6s						
JJT3	Tamagusuku3	1.64	265	P		Pn	19 54 12.9 -1.2
JJT3				*e*S		Sn	19 54 32.8 -2.4
JJT3	Tamagusuku3	1.64	265	A		A	19 54 12.9
	comp=N,95nm,1.1s,comp=E,75nm,3.0s						
JAMN	Amaminishikomi	1.97	349	P		Pn	19 54 17.2 -1.4
JAMN				*e*S		Sn	19 54 39.7 -3.7
JAMN	Amaminishikomi	1.97	349	A		A	19 54 17.2
	comp=N,10.0nm,6.1s,comp=E,11nm,6.5s						
JZK	Kikaishima	2.03	9	P		Pn	19 54 18.7 -0.8
JZK	Kikaishima	2.03	9	A		A	19 54 18.7
	comp=N,65nm,5.2s,comp=E,50nm,5.5s						
JAM	Amami Oshima	2.10	0	P		Pn	19 54 18.9 -1.6
JAM				*e*S		Sn	19 54 42.7 -3.9
JAM	Amami Oshima	2.10	0	A		A	19 54 18.9
	comp=N,10.0nm,5.9s,comp=E,10.0nm,5.4s						
JAGN	Aguni-jima	2.13	278	P		Pn	19 54 19.7 -1.1
JAGN				*e*S		Sn	19 54 44.4 -3.1
JAGN	Aguni-jima	2.13	278	A		A	19 54 19.7
	comp=N,35nm,4.4s,comp=E,24nm,5.5s						
JKE	Kume jima 2	2.53	271	P		Pn	19 54 24.3 -2.0
JKE				*e*S		Sn	19 54 52.6 -4.5
JKE	Kume jima 2	2.53	271	A		A	19 54 24.3
	comp=N,11nm,9.6s,comp=E,8.0nm,6.9s						
JTAJ	Takarajima	2.86	353	*e*P		Pn	19 54 29.4 -1.4
JTAJ				*e*S		Sn	19 55 01.4 -4.0
JTAJ	Takarajima	2.86	353	A		A	19 54 29.4
	comp=N,9.0nm,4.1s,comp=E,9.0nm,3.5s						
JNN	Nakanoshima	3.54	4	P		Pn	19 54 38.7 -1.5
JNN				*e*S		Sn	19 55 17.8 -4.3
JYAK	Yakushimahirau	4.00	11	*e*P		Pn	19 54 46.6 +0.1
JOGS	Gusukube	4.09	249	A		A	19 54 47.2
	comp=N,18nm,3.7s,comp=E,16nm,3.9s						
JMJ	Miyako jima 2	4.16	250	P		Pn	19 54 47.3 -1.5
JNU	Nakatsue	6.89	9			Pn	19 55 25.5 -0.8
JNU	Nakatsue	6.89	9	Pn		Pn	19 55 26.5 +0.3
	comp=E,4.0nm,0.3s,baz=179,slow=4.2,SNR=25						
JNU				Sn		Sn	19 56 38.4 -6.4
	comp=E,4.5nm,0.3s,baz=224,slow=15,SNR=1.4						
	comp=E,39nm,0.6s						
JNU	Nakatsue	6.89	9	P		Pn	19 55 26.8 +0.6
JMN	Monobe	8.28	26			Pn	19 55 44.5 -0.8
JMN	Monobe	8.28	26	P		Pn	19 55 45.3 0.0
SSE	Sheshan	8.80	305	P		Pn	19 55 49.6 -2.8
SSE				S		Sn	19 57 37.7 +6.0
SSE				pmax	pmax		
	comp=E,6.0nm,0.7s						
SSE				pmax	pmax		
	comp=E,200nm,10.4s						
SSE				LR	LR		
	comp=E,1μm,11.9s						
SSE				LR	LR		
	comp=E,1μm,11.7s						
QZH	Quanzhou	10.03	265	*e*P		Pn	19 56 17.5 +8.2
QZH				S		Sn	19 58 14.8 +13
QZH				LR	LR		
	comp=N,1μm,7.6s						
QZH				LR	LR		
	comp=E,1μm,9.2s						
QZH				LR	LR		
	comp=Z,2μm,11.9s						
TJN	Taejon	10.22	350			Pn	19 56 11.7 -0.2
TJN	Taejon	10.22	350	P		Pn	19 56 13.0 +1.0
TJN	Taejon	10.22	350	*i* P		Pn	19 56 11.7 -0.2
NJ2	Nanjing	11.00	304	*e*P		Pn	19 56 20.8 -1.8
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,290nm,4.7s						
NJ2				LR	LR		
	comp=Z,2μm,10.4s						
NJ2				LR	LR		
	comp=Z,3μm,13.7s						
NJ2				LR	LR		
	comp=Z,4μm,12.3s						
INU	Inuyama	11.04	33	P		Pn	19 56 25.5 +2.4
JHJ	Hachijo jima 2	11.15	50	Pn		Pn	19 56 27.1 +2.5
	comp=Z,37nm,0.3s,baz=6.3,slow=18,SNR=1.4						
JHJ				LR	LR		20 00 17.0
	comp=Z,564nm,18.1s,baz=262,slow=35						
	comp=Z,86nm,0.3s						
KSAR	Wonju Array Be	11.20	353			Pn	19 56 24.5 -0.8
KSAR	Wonju Array Be	11.20	353	P		Pn	19 56 24.5 -0.8
KSRS	Korea Array	11.21	353	Pn		Pn	19 56 26.2 +0.8
	comp=Z,0.6nm,0.3s,baz=171,slow=13,SNR=35						
	comp=Z,7.8nm,0.8s						
KS19	Wonju Array Si	11.26	353			Pn	19 56 26.5 +0.3
JCJ	Chichijima	11.28	83	Pn		Pn	19 56 25.7 -0.7
	comp=Z,7.1nm,0.3s,baz=265,slow=21,SNR=1.6						
JCJ				LR	LR		20 00 26.8
	comp=Z,374nm,18.6s,baz=262,slow=36						
	comp=Z,29nm,0.4s						
MAJO	Matsushiro	12.57	34	P		Pn	19 56 45.7 +1.6
MJAR	Matsushiro Arr	12.57	34	Pn		Pn	19 56 45.2 +1.1
	comp=Z,1.3nm,0.8s,baz=206,slow=11,SNR=5.2						
WHN	Wuhan	14.07	291	P		Pn	19 57 03.0 -1.6
WHN				pmax	pmax		
	comp=Z,110nm,1.1s						
WHN				LR	LR		
	comp=Z,5μm,8.0s						
WHN				LR	LR		
	comp=Z,2μm,17.1s						
WHN				LR	LR		
	comp=Z,4μm,9.8s						
DL2	Dalian	14.24	334	P		Pn	19 57 07.3 +0.4
DL2				S		Sn	19 59 46.9 +1.9
DL2				pmax	pmax		
	comp=Z,73nm,1.0s						
DL2				pmax	pmax		
	comp=Z,450nm,5.9s						
DL2				LR	LR		
	comp=Z,1μm,19.9s						
DL2				LR	LR		
	comp=Z,750nm,24.2s						
DL2				LR	LR		
	comp=Z,2μm,22.1s						
TIA	Tai'an	14.53	316	P		Pn	19 57 07.6 -3.3
TIA				S		Sn	19 59 54.3 +2.3
TIA				pmax	pmax		
	comp=Z,14nm,1.0s						
TIA				pmax	pmax		
	comp=Z,580nm,6.1s						
TIA				LR	LR		
	comp=Z,2μm,15.4s						
TIA				LR	LR		
	comp=Z,1μm,12.0s						
TIA				LR	LR		
	comp=Z,3μm,10.9s						
CNSH	ChangSha	14.95	281	P		Pn	19 57 16.5 -0.1
CNSH				LR	LR		
	comp=Z,2μm,11.8s						
CNSH				LR	LR		
	comp=Z,2μm,13.5s						
CNSH				LR	LR		
	comp=Z,2μm,12.8s						
HNS	HongShan	16.79	315	*e*P		Pn	19 57 39.3 -1.0
HNS				pmax	pmax		
	comp=Z,110nm,1.0s						
HNS				pmax	pmax		
	comp=Z,690nm,9.2s						
HNS				LR	LR		
	comp=Z,1μm,12.9s						
HNS				LR	LR		
	comp=Z,2μm,12.2s						
HNS				LR	LR		
	comp=Z,2μm,12.6s						
VLA	Vladivostok	16.88	6	*i* P		Pn	19 57 40.5 -1.0
LYN	LuoYang	16.90	303	⇑P		Pn	19 57 39.8 -2.0
LYN				PP		pwP	19 57 54.2 +1.8
LYN				S		Sn	20 00 51.4 +1.8
LYN				pmax	pmax		
	comp=Z,200nm,1.1s						
LYN				pmax	pmax		
	comp=Z,1μm,8.1s						
LYN				LR	LR		
	comp=Z,1μm,10.9s						
LYN				LR	LR		
	comp=Z,3μm,11.7s						
LYN				LR	LR		
	comp=Z,5μm,12.7s						
BJT	Baijiatuau	17.68	324			Pn	19 57 51.3 -0.2
BJT	Baijiatuau	17.68	324	P		P	19 57 52.5 +0.1
BJT	Baijiatuau	17.68	324	P		Pn	19 57 51.3 -0.2
BJT				pmax	pmax		
	comp=Z,99nm,0.9s						
BJI	Beijing	17.69	324	P		P	19 57 52.4 -0.1
BJI				S		Sn	20 01 11.0 +2.2
BJI				pmax	pmax		
	comp=Z,60nm,0.9s						
BJI				pmax	pmax		
	comp=Z,310nm,5.9s						
BJI				LR	LR		
	comp=Z,480nm,18.7s						
BJI				LR	LR		
	comp=Z,520nm,16.3s						
BJI				LR	LR		
	comp=Z,480nm,19.0s						
CN2	Changchun	17.78	350	*e*P		Pn	19 57 53.0 +0.2
CN2				pmax	pmax		
	comp=Z,20nm,1.5s						
CN2				pmax	pmax		
	comp=Z,400nm,6.0s						
CN2				LR	LR		
	comp=Z,2μm,11.0s						
CN2				LR	LR		
	comp=Z,430nm,11.0s						
CN2				LR	LR		
	comp=Z,2μm,12.0s						
USRK	Ussuriysk Ar.	17.96	6	P		Pn	19 57 55.0 0.0

XAN S **S** **20 01 51.9 -0.1**
XAN pmax pmax
comp=Z,150nm,1.0s
XAN pmax pmax
comp=Z,790nm,3.5s
XAN LR LR
comp=Z,2μm,12.0s
XAN LR LR
comp=Z,1μm,13.2s
XAN LR LR
comp=Z,2μm,13.2s
BNX BinXian 19.48 355 ⇓P **Pn** **19 58 13.5 +0.1**
BNX S **Sn** **20 01 48.4 -3.5**
BNX pmax pmax
comp=Z,41nm,1.0s
BNX pmax pmax
comp=Z,270nm,6.9s
BNX LR LR
comp=Z,930nm,13.2s
BNX LR LR
comp=Z,400nm,10.7s
BNX LR LR
comp=Z,1μm,13.0s
DAV Davao City (W) 19.51 192 LR LR 20 05 30.5
comp=Z,392nm,20.2s,baz=15,slow=36
TEY Ternei 19.53 15 *e*P **Pn** **19 58 19.4 +5.5**
QIZ Qiongzhong 19.60 252 **P** **19 58 11.1 -2.6**
QIZ Qiongzhong 19.60 252 P **Pn** **19 58 15.6 +0.5**
QIZ PP **PnPn** **19 58 28.2 -0.4**
QIZ S **Sn** **20 01 55.4 +0.1**
QIZ pmax pmax
comp=Z,19nm,1.3s
QIZ pmax pmax
comp=Z,470nm,4.7s
QIZ LR LR
comp=Z,540nm,10.3s
QIZ LR LR
comp=Z,460nm,8.9s
QIZ LR LR
comp=Z,360nm,11.5s
QIZ Qiongzhong 19.60 252 P **Pn** **19 58 15.4 +0.3**
GYA Guiyang 20.55 276 ⇓P **P** **19 58 24.5 +0.4**
GYA S **S** **20 02 10.8 -3.4**
GYA sS pS 20 02 20.6 -1.2
GYA pmax pmax
comp=Z,20nm,1.4s
GYA LR LR
comp=Z,610nm,14.8s
GYA LR LR
comp=Z,1μm,11.2s
GYA LR LR
comp=Z,1μm,15.7s
ASAJ Asahikawa 20.66 27 P **P** **19 58 24.1 -0.9**
comp=Z,3.0nm,0.5s,baz=221,slow=12,SNR=11
comp=Z,3.0nm,0.5s
JKA Kamikawa-asahi 20.66 27 P **P** **19 58 23.4 -1.6**
XLT XiLinHaoTe 20.70 331 *e*P **P** **19 58 24.2 -1.4**
XLT PP **PnPn** **19 58 49.0 +5.4**
XLT S **S** **20 02 13.6 -3.3**
XLT pmax pmax
comp=Z,110nm,0.9s
XLT pmax pmax
comp=Z,240nm,3.7s
XLT LR LR
comp=Z,780nm,11.4s
XLT LR LR
comp=Z,1μm,13.0s
HHC Hu-ho-hao-te 20.83 319 *e*P **P** **19 58 27.6 +0.5**
HHC pP Pn 19 58 31.2 +1.7
HHC sS Sn 20 02 25.8 +1.0
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,260nm,4.1s
HHC LR LR
comp=Z,1μm,16.8s
HHC LR LR
comp=Z,1μm,16.0s
HHC LR LR
comp=Z,2μm,19.3s
BTO Baotou 21.62 316 *e*P **P** **19 58 36.6 +1.0**
BTO pP **pwP** **19 58 40.9 -3.2**
BTO sP **sP** **19 58 43.7 +6.5**
BTO PP **PnPn** **19 59 01.8 +5.6**
BTO pmax pmax
comp=Z,30nm,1.2s
BTO pmax pmax
comp=Z,610nm,9.8s
BTO LR LR
comp=Z,3μm,17.1s
BTO LR LR
comp=Z,2μm,15.8s
BTO LR LR
comp=Z,3μm,20.0s
KLR Kul'dur 22.95 4 LR LR 20 08 17.3
comp=Z,196nm,18.2s,baz=184,slow=38
KLR Kul'dur 22.95 4*ce*P **P** **19 58 46.8 -2.7**
KLR pmax pmax
comp=Z,13nm,0.9s
YSS Yuzhno-Sakhali 23.10 23 **P** **19 58 50.7 -0.3**
YSS Yuzhno-Sakhali 23.10 23 P **P** **19 58 53.5 +2.5**
YSS Yuzhno-Sakhali 23.10 23⇑*e*P **P** **19 58 51.7 +0.7**
YSS *e*S **S** **20 02 57.7 -4.5**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS pmax pmax
comp=Z,300nm,5.5s
YSS MLR MLR
comp=Z,400nm,15.0s
CD2 Chengdu 23.13 287 P **P** **19 58 49.3 -2.3**
CD2 sP sP 19 58 54.9 +2.1
CD2 S **S** **20 03 02.3 -0.9**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,330nm,5.4s
CD2 LR LR
comp=Z,1μm,13.0s
CD2 LR LR
comp=Z,2μm,9.5s
MYLDM Lahad Datu 23.53 209 **P** **19 58 56.5 +0.8**
MYLDM IAmb IAmb 19 59 19.2
comp=Z,76nm,1.2s
MYLDM Lahad Datu 23.53 209 P **P** **19 58 56.9 +1.2**
HEH HeiHe 23.98 357 *e*P **P** **19 58 59.0 -0.7**
HEH sP **pwP** **19 59 07.5 -1.5**
HEH S **S** **20 03 14.8 -1.6**
HEH pmax pmax
comp=Z,10.0nm,1.0s
HEH LR LR
comp=Z,470nm,10.4s
HEH LR LR
comp=Z,790nm,10.6s
HEH LR LR
comp=Z,800nm,14.4s
SLVN Son La 24.00 264 **P** **19 59 00.7 +0.4**
SLVN IAmb IAmb 19 59 15.7
comp=Z,159nm,1.9s
SLVN Son La 24.00 264 P **P** **19 59 02.5 +2.2**
LZH Lanzhou 24.04 300 *e*P **P** **19 58 59.2 -1.4**
LZH sP pwP 19 59 07.4 -3.0
LZH S **S** **20 03 15.1 -2.9**
LZH pmax pmax
comp=Z,22nm,1.5s
LZH pmax pmax
comp=Z,390nm,4.5s
LZH LR LR
comp=Z,1μm,14.4s
LZH LR LR
comp=Z,1μm,15.8s
LZH LR LR
comp=Z,1μm,15.5s
KMI Kunming 24.22 273 ⇑P **P** **19 59 02.6 +0.1**
KMI S **S** **20 03 22.1 +0.9**
KMI pmax pmax
comp=Z,26nm,1.0s
KMI pmax pmax
comp=Z,350nm,7.1s
KMI LR LR
comp=Z,510nm,8.8s
KMI LR LR
comp=Z,1μm,10.3s
KMI LR LR
comp=Z,1μm,10.1s
DLV Lat 24.48 238 **P** **19 59 04.5 -0.4**
DLV IAmb IAmb 19 59 17.5
comp=Z,112nm,1.8s
DLV Lat 24.48 238 P **P** **19 59 05.8 +0.9**
UGL Uglegorsk 24.72 20⇑*i*P **P** **19 59 08.8 +2.3**
UGL *e*S **S** **20 03 32.8 +4.5**
UGL pmax pmax
comp=Z,100nm,0.9s
UGL pmax pmax
comp=Z,800nm,2.9s
UGL smax smax
comp=E,700nm,11.0s
UGL smax smax
comp=N,1μm,9.1s
PZH PanZhiHua 24.94 277 P **P** **19 59 08.3 -0.6**
PZH S **S** **20 03 29.3 -3.3**
PZH pmax pmax
comp=N,30nm,1.0s
PZH pmax pmax
comp=N,250nm,5.1s
PZH LR LR
comp=N,450nm,11.8s
PZH LR LR
comp=N,850nm,11.0s
PZH LR LR
comp=N,920nm,10.8s
GRNR Gornyy 24.98 10 *e*P **P** **19 59 09.4 +0.5**
UBPT Khong Chiam 25.04 249 IAmb IAmb 19 59 24.3
comp=Z,119nm,1.7s
UBPT Khong Chiam 25.04 249 P **P** **19 59 11.7 +2.0**
TNTI Ternate 25.47 185 P **P** **19 59 12.7 -0.9**
TNTI IAmb IAmb 19 59 33.2
comp=Z,114nm,1.4s
TNTI Ternate 25.47 185 P **P** **19 59 15.3 +1.7**
TNTI Ternate 25.47 185 P **P** **19 59 13.9 +0.3**
comp=Z,669nmcomp=Z,56nm,1.1s
NONG Nongkai 25.80 257 P **P** **19 59 18.1 +1.5**
KMSI Cibinong 26.14 193 P **P** **19 59 21.5 +1.8**
TOLI2 Tolitoli 26.45 200 **P** **19 59 21.9 -0.5**
TOLI2 IAmb IAmb 19 59 34.2
comp=Z,63nm,0.9s
TOLI2 Tolitoli 26.45 200 P **P** **19 59 22.8 +0.4**
TYV Tymovskoe 26.48 19 *e*P **P** **19 59 28.1 +5.7**
TYV pmax pmax
comp=Z,28nm,1.1s
TYV pmax pmax
comp=Z,200nm,3.7s
MRSI Marisa 26.71 197 P **P** **19 59 27.3 +2.5**
comp=Z,566nmcomp=Z,31nm,1.3s
MPSI Mapaga 27.45 201 P **P** **19 59 29.0 -2.5**
comp=Z,30nm,0.5s
ZEA Zeya 27.46 357 *e*P **P** **19 59 30.7 -0.5**
ZEA pmax pmax
comp=N,100nm,5.5s
ZEA pmax pmax
comp=Z,200nm,5.9s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=E,200nm,10.0s
ZEA MLR MLR
comp=N,400nm,11.0s
ZEA MLR MLR
comp=Z,300nm,12.0s
ULN Ulaanbaatar 27.87 326 **P** **19 59 34.8 -0.3**
ULN Ulaanbaatar 27.87 326*ce*P **P** **19 59 35.7 +0.6**
ULN pmax pmax
comp=Z,16nm,1.0s
TNCH TengChong 28.01 274 P **P** **19 59 37.4 +0.7**
TNCH S **S** **20 04 19.8 -1.6**
TNCH pmax pmax
comp=Z,31nm,0.8s
TNCH pmax pmax
comp=Z,220nm,3.8s
TNCH LR LR
comp=Z,600nm,8.0s
TNCH LR LR
comp=Z,1μm,9.9s
TNCH LR LR
comp=Z,2μm,12.2s
GTA Gaotai 28.09 305 P **P** **19 59 36.0 -1.2**
GTA pmax pmax
comp=Z,31nm,0.9s
GTA LR LR
comp=Z,800nm,18.3s
GTA LR LR
comp=Z,410nm,19.1s
GTA LR LR
comp=Z,830nm,22.7s
SONM Songino Array 28.17 326 **P** **19 59 37.8 0.0**
SONM Songino Array 28.17 326 P **P** **19 59 37.5 -0.3**
comp=Z,11nm,0.9s,baz=142,slow=9.1,SNR=31
SONM LR LR 20 12 21.9
comp=Z,554nm,18.7s,baz=92,slow=40
comp=Z,11nm,0.9s
SONM Songino Array 28.17 326 P **P** **19 59 37.8 0.0**
SONM pmax pmax
comp=Z,12nm,0.9s
SANI Sanana 28.40 188 P **P** **19 59 41.3 +1.4**
SANI Sanana 28.40 188 P **P** **19 59 36.4 -3.5**
comp=Z,35nm,1.1s
CIT Chita 28.41 339 *e*P **P** **19 59 38.6 -1.2**
CIT *e* 20 00 35.6
CIT *e* 20 02 54.4
CIT pmax pmax
comp=Z,43nm,4.0s
PCI Palu 28.64 201 P **P** **19 59 40.6 -1.5**
comp=Z,33nm,1.3s
SBUM Sibu 29.00 218 P **P** **19 59 46.8 +1.5**
NAYO Nakonayok 29.01 251 P **P** **19 59 47.3 +1.9**
FAKI Fak Fak 29.16 175 P **P** **19 59 45.6 -1.1**
FAKI IAmb IAmb 19 59 47.4
comp=Z,58nm,0.9s
FAKI Fak Fak 29.16 175 P **P** **19 59 47.0 +0.3**
FAKI Fak Fak 29.16 175 P **P** **19 59 45.8 -0.9**
CHTO Chiang Mai 29.23 262 **P** **19 59 47.6 +0.2**
CHTO Chiang Mai 29.23 262 P **P** **19 59 48.6 +1.2**
CHTO Chiang Mai 29.23 262 P **P** **19 59 47.6 +0.2**
CHTO pmax pmax
comp=Z,26nm,1.1s
CMAR Chiang Mai Arr 29.35 261 **P** **19 59 48.3 -0.2**
CMAR Chiang Mai Arr 29.35 261 P **P** **19 59 49.0 +0.6**
comp=Z,3.0nm,1.0s,baz=54,slow=6.9,SNR=18
CMAR LR LR 20 11 37.0
comp=Z,146nm,20.4s,baz=70,slow=37
comp=Z,3.0nm,1.0s
CMAR Chiang Mai Arr 29.35 261 *i* P **P** **19 59 49.4 +0.9**
CMAR pmax pmax
comp=Z,3.0nm,0.9s
SMPI Sarmi 29.47 161 P **P** **19 59 50.6 +1.1**
comp=Z,58nm,1.2s
MSAI Masohi 29.48 181 P **P** **19 59 50.6 +1.1**
comp=Z,62nm,0.9s
AAI Ambon 29.84 183 P **P** **19 59 54.3 +1.5**
comp=Z,743nmcomp=Z,34nm,1.3s
JAY Jayapura 30.59 158 LR LR 20 09 21.7
comp=Z,370nm,21.1s,baz=320,slow=31
SRDT SRDT 30.87 253 P **P** **20 00 03.1 +1.2**
KSM Kuching 30.88 220 P **P** **20 00 03.1 +1.1**
comp=Z,28nm,1.4s
GOMU GeErMu 31.19 297 P **P** **20 00 05.3 +0.3**
GOMU sP pwP 20 00 13.0 -1.8
GOMU S **S** **20 05 18.0 +6.5**
GOMU pmax pmax
comp=Z,43nm,0.9s
GOMU LR LR
comp=Z,500nm,15.7s
GOMU LR LR
comp=Z,460nm,15.3s
GOMU LR LR
comp=Z,710nm,15.3s
BBSI Bau Bau 32.33 193 P **P** **20 00 16.5 +1.8**
comp=Z,36nm,1.0s
KAPI Kappang 32.56 198 P **P** **20 00 15.5 -1.2**
comp=Z,2.6nm,0.3s,baz=67,slow=4.4,SNR=4.5
KAPI LR LR 20 15 42.7
comp=Z,17nm,18.5s,baz=22,slow=41
comp=Z,2.6nm,0.3s
MOY Mondy 33.32 327 *e*P P 20 00 31.5 +8.3
MOY pmax pmax
comp=Z,19nm,2.4s
BSSI Bau Bau, Buton 33.44 197 P **P** **20 00 23.6 -0.8**
comp=Z,34nm,0.9s
SRIT Nakonsritamara 33.47 244 IAmb IAmb 20 00 38.4
comp=Z,46nm,1.2s
SRIT Nakonsritamara 33.47 244 P **P** **20 00 26.2 +1.5**
SHL Shillong 33.85 277 IAmb IAmb 20 00 30.7
comp=Z,45nm,1.0s
SHL Shillong 33.85 277 P **P** **20 00 28.1 -0.1**
SHL pmax pmax
comp=Z,42nm,1.0s
PETK Petropavlovsk- 34.00 31 **P** **20 00 28.0 -1.0**
PETK Petropavlovsk- 34.00 31 P **P** **20 00 28.6 -0.3**
comp=Z,1.9nm,0.7s,baz=231,slow=7.1,SNR=6.8
comp=Z,1.9nm,0.7s
LSA Lhasa 34.02 285 **P** **20 00 29.2 -0.8**
LSA Lhasa 34.02 285 P **P** **20 00 29.2 -0.8**
LSA pmax pmax
comp=Z,11nm,0.8s
BRDH Bariadhala 34.65 272 LR LR 20 14 39.2
comp=Z,338nm,19.2s,baz=116,slow=36
KULM Kulim 34.66 238 P **P** **20 00 36.0 +0.9**
MMRI Maumere 35.46 193 **P** **20 00 39.4 -2.5**
MMRI Maumere 35.46 193 P **P** **20 00 42.8 +0.9**
MMRI Maumere 35.46 193 P **P** **20 00 41.5 -0.4**
comp=Z,847nmcomp=Z,41nm,1.3s
EDFI Ende, Flores 35.68 193 P **P** **20 00 42.0 -1.9**
comp=Z,21nm,1.1s
YAK Yakutsk 35.72 0 **P** **20 00 42.6 -1.1**
YAK IAmb IAmb 20 00 56.2
comp=Z,45nm,1.1s
YAK Yakutsk 35.72 0 LR LR 20 15 10.5
comp=Z,161nm,21.5s,baz=182,slow=36
YAK Yakutsk 35.72 0 *e*P **P** **20 00 43.6 -0.1**
YAK *e**PP **pwP** **20 00 50.5 -2.5**
YAK *e* 20 02 03.1
YAK *e*PPP PPP 20 02 16.5
YAK *e* 20 03 11.4
YAK *e*S **S** **20 06 22.3 +2.0**
YAK *e*SS **SnSn** **20 08 44.3 +2.4**
YAK *e*SSS SSS 20 09 01.6
YAK *e* 20 11 03.1
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,1.0nm,0.7s
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,21nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK smax smax
comp=N,54nm,2.9s
YAK smax smax
comp=E,54nm,3.7s
SOEI Soe 36.21 189 P **P** **20 00 49.2 +0.7**
SOEI Soe 36.21 189 P **P** **20 00 47.1 -1.4**
comp=E,66nm,1.0s
MA2 Magadan 36.35 18 **P** **20 00 47.0 -2.2**
MA2 Magadan 36.35 18 P **P** **20 00 51.0 +1.9**
MA2 Magadan 36.35 18 *i* P **P** **20 00 48.5 -0.7**
MA2 pmax pmax
comp=Z,16nm,1.2s
MA2 Magadan 36.35 18 P **P** **20 00 48.4 -0.7**
comp=Z,19nm,1.1s
PLAI Plampang 36.76 200 P **P** **20 00 52.4 -0.6**
PLAI Plampang 36.76 200 P **P** **20 00 52.3 -0.7**
PSI Prapat 37.58 237 LR LR 20 16 14.8
comp=Z,58nm,18.7s,baz=48,slow=36
PSI Prapat 37.58 237 P **P** **20 01 02.4 +2.2**
WMQ Urumqi 38.03 308 *e*P **P** **20 01 05.9 +2.1**
WMQ LR LR
comp=Z,630nm,14.1s
WMQ LR LR
comp=Z,680nm,13.5s
WMQ LR LR
comp=Z,600nm,20.1s
MNSI Mandailing Nat 38.44 234 P **P** **20 01 07.8 +0.4**
comp=Z,40nm,1.1s
DRS Darwin Rock St 38.52 178 P **P** **20 01 07.3 -0.6**
PPI Padang Panjang 38.74 231 P **P** **20 01 11.1 +1.3**
comp=Z,40nm,1.5s
MTN Manton Dam 38.94 178 IAmb IAmb 20 01 22.0
comp=Z,54nm,0.9s
MTN Manton Dam 38.94 178 P **P** **20 01 09.7 -1.7**
comp=Z,62nm,0.9s
MTN Manton Dam 38.94 178 P **P** **20 01 11.5 +0.1**
LEM Lembang 39.24 216 P **P** **20 01 12.9 -1.3**
comp=Z,9.0nm,0.4s,baz=138,slow=21,SNR=3.6
comp=Z,9.0nm,0.4s
PMG Port Moresby 39.38 152 LR LR 20 15 09.8
comp=Z,419nm,21.1s,baz=319,slow=33
PMG Port Moresby 39.38 152*ce*P **P** **20 01 17.8 +2.6**
PMG pmax pmax
comp=Z,39nm,1.7s
GSI Gunungsitoli 39.57 236 P **P** **20 01 18.1 +1.2**
SEY Seymchan 39.60 16 LR LR 20 18 24.0
comp=Z,132nm,18.3s,baz=199,slow=37
SEY Seymchan 39.60 16*ce*P **P** **20 01 16.8 +0.3**
SEY pmax pmax
comp=Z,29nm,0.9s
KNRA Kununurra 41.73 181 **P** **20 01 33.8 -0.8**
KNRA IAmb IAmb 20 01 46.1
comp=Z,59nm,0.8s
KNRA Kununurra 41.73 181 P **P** **20 01 34.1 -0.4**
comp=Z,85nm,1.1s
COEN Coen 42.14 160 IAmb IAmb 20 01 39.6
comp=Z,101nm,1.8s
COEN Coen 42.14 160 P **P** **20 01 38.2 +0.3**
comp=Z,32nm,1.4s
COEN Coen 42.14 160 P **P** **20 01 39.2 +1.3**
MK31 Makanchi Array 42.41 312 *i* P **P** **20 01 38.1 -1.8**
MK31 pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 42.41 312 **P** **20 01 38.4 -1.5**
MKAR Makanchi Array 42.41 312 P **P** **20 01 38.6 -1.3**
comp=Z,4.0nm,0.7s,baz=101,slow=9.7,SNR=24
MKAR PP **PP** **20 03 18.5 +0.4**
comp=Z,2.3nm,0.9s,baz=104,slow=11,SNR=2.1
MKAR ScP **ScP** **20 07 24.5 +0.5**
comp=Z,0.1nm,0.4s,baz=111,slow=3.2,SNR=1.2
MKAR LR LR 20 21 50.3
comp=Z,324nm,18.1s,baz=96,slow=40
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 42.41 312 *i* P **P** **20 01 38.5 -1.4**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 42.62 311 **P** **20 01 40.2 -1.4**
MAKZ Makanchi 42.62 311 P **P** **20 01 40.2 -1.4**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
ZAA0 Zalesovo Array 42.94 322 **P** **20 01 41.3 -2.8**
ZALV Zalesovo Beam 42.94 322 **P** **20 01 42.1 -1.9**
ZALV Zalesovo Beam 42.94 322 P **P** **20 01 42.4 -1.7**
comp=Z,1.9nm,0.5s,baz=107,slow=9.3,SNR=12
ZALV PcP **PcP** **20 03 34.5 -0.1**
comp=Z,3.9nm,1.0s,baz=108,slow=4.7,SNR=2.6
ZALV LR LR 20 21 33.6
comp=Z,590nm,20.2s,baz=110,slow=39
comp=Z,1.9nm,0.5s
PDGK Podgornoye 43.83 306 *i* P **P** **20 01 49.4 -2.2**
PDGK pmax pmax
comp=Z,21nm,1.0s
SHLS Shalkode 43.83 306 *e*P **P** **20 01 47.9 -3.7**
SHLS Shalkode 43.83 306 *e*P **P** **20 01 47.9 -3.7**
UZB Uzynbulak 44.15 306 *e*P **P** **20 01 53.0 -1.2**
UZB Uzynbulak 44.15 306 *e*P **P** **20 01 53.1 -1.2**
FITZ Fitzroy Crossi 44.30 185 **P** **20 01 55.1 -0.2**
FITZ Fitzroy Crossi 44.30 185 P **P** **20 01 55.1 -0.2**
comp=Z,21nm,0.9s,baz=16,slow=7.3,SNR=18
FITZ LR LR 20 21 20.0
comp=Z,46nm,21.8s,baz=9.0,slow=37
comp=Z,21nm,0.9s
KPKS Kokpek 44.43 306 *e*P **P** **20 01 55.4 -0.9**
KPKS Kokpek 44.43 306 *e*P **P** **20 01 55.5 -0.9**
ZHN Zhinishke 44.58 306 *e*P **P** **20 01 56.7 -0.9**
ZHN Zhinishke 44.58 306 *e*P **P** **20 01 56.8 -0.9**
SATY Saty 44.59 306 *e*P **P** **20 01 56.7 -1.0**
SATY Saty 44.59 306 *e*P **P** **20 01 56.8 -1.0**
TATA Tatamba Isabel 45.27 136 P **P** **20 02 04.1 +0.9**
TIXI Tiksi 45.39 360 **P** **20 02 03.3 -0.1**
TIXI IAmb IAmb 20 02 27.9
comp=Z,29nm,1.4s
TIXI Tiksi 45.39 360*ce*P **P** **20 02 03.4 -0.1**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
KDJ Kajisay 45.43 304 P **P** **20 02 03.3 -1.2**
MDOK Medeo 45.59 306 *e*P **P** **20 02 04.7 -1.0**
MDOK Medeo 45.59 306 *e*P **P** **20 02 04.8 -1.0**
KURK Kurchatov 45.62 316 **P** **20 02 03.6 -1.9**

KURK **Kurchatov** 45.62 316 *i* P **P** 20 02 04.1 -1.5
KURK pmax pmax
comp=Z,12nm,0.8s
KURBB **Kurchatov Arra** 45.65 316 P **P** 20 02 04.8 -1.1
comp=Z,7.3nm,0.8s,baz=102,slow=8.5,SNR=37
KURBB PcP **PcP** 20 03 43.6 -0.3
comp=Z,1.4nm,0.9s,baz=101,slow=5.8,SNR=1.5
KURBB PP **PP** 20 03 53.5 +0.9
comp=Z,2.3nm,0.9s,baz=110,slow=11,SNR=4.3
KURBB LR LR 20 23 03.5
comp=Z,688nm,18.5s,baz=152,slow=39
comp=Z,7.3nm,0.8s
TNSS **Tian-Shan** 45.66 305 *e*P **P** 20 02 05.3 -1.2
TNSS **Tian-Shan** 45.66 305 *e*P **P** 20 02 05.4 -1.2
CHKK **Chushkaly** 45.69 307 *e*P **P** 20 02 05.5 -0.8
CHKK **Chushkaly** 45.69 307 *e*P **P** 20 02 05.5 -0.8
AAA **Alma-Ata** 45.69 306 *e*P **P** 20 02 05.6 -0.8
AAA pmax pmax
comp=Z,12nm,0.9s
AAA **Alma-Ata** 45.69 306 *e*P **P** 20 02 05.6 -0.8
comp=Z,12nm,0.9s
SAVO **Savo Central** 45.86 136 P **P** 20 02 08.6 +0.7
WRAB **Tennant Creek** 46.19 174 P **P** 20 02 09.0 -1.3
WRAB IAmb IAmb 20 02 11.1
comp=Z,41nm,1.1s
WRAB **Tennant Creek** 46.19 174 *i* P **P** 20 02 09.2 -1.1
WRAB pmax pmax
comp=Z,32nm,1.0s
WRA **Warramunga Arr** 46.20 174 **P** 20 02 08.9 -1.5
WRA **Warramunga Arr** 46.20 174 P **P** 20 02 09.9 -0.4
comp=Z,26nm,0.9s,baz=348,slow=8.3,SNR=75
WRA LR LR 20 19 55.8
comp=Z,153nm,21.2s,baz=2.0,slow=34
comp=Z,26nm,0.9s
WRA **Warramunga Arr** 46.20 174 P **P** 20 02 10.0 -0.4
WB2 **Warramunga Arr** 46.20 174 **P** 20 02 07.5 -2.9
KSH **Kashi** 46.29 300 P P 20 02 17.7 +6.5
KSH sP pwP 20 02 27.4 +6.4
KSH S **S** 20 09 04.9 +6.6
KSH pmax pmax
comp=Z,15nm,1.0s
KSH LR LR
comp=Z,360nm,16.7s
KSH LR LR
comp=Z,370nm,15.7s
KSH LR LR
comp=Z,570nm,14.3s
MTSU **Mount Surprise** 46.43 161 P **P** 20 02 13.0 +0.7
comp=Z,20nm,0.9s
MTSU **Mount Surprise** 46.43 161 P **P** 20 02 13.3 +1.0
TKM2 **Tokmak 2** 46.64 305 *i* P **P** 20 02 12.4 -1.6
TKM2 pmax pmax
comp=Z,14nm,0.8s
BILL **Bilibino** 47.22 18 **P** 20 02 18.0 +0.1
BILL IAmb IAmb 20 02 30.5
comp=Z,41nm,1.3s
BILL **Bilibino** 47.22 18 *ce*P **P** 20 02 18.3 +0.4
BILL pmax pmax
comp=Z,22nm,1.4s
SGDS **Sogindy** 47.37 306 *e*P **P** 20 02 18.7 -0.8
SGDS **Sogindy** 47.37 306 *e*P **P** 20 02 18.8 -0.8
AAK **Ala-Archa** 47.44 305 **P** 20 02 18.7 -1.5
AAK **Ala-Archa** 47.44 305 LR LR 20 25 43.8
comp=Z,342nm,18.1s,baz=87,slow=40
AAK **Ala-Archa** 47.44 305 *ce*P **P** 20 02 20.4 +0.2
AAK pmax pmax
comp=Z,4.0nm,1.0s
QIS **Mount Isa** 47.58 167 P **P** 20 02 20.7 -0.6
comp=Z,72nm,0.9s
QIS **Mount Isa** 47.58 167 P **P** 20 02 20.9 -0.3
MBWA **Marble Bar** 48.14 192 P **P** 20 02 24.9 -0.6
comp=Z,40nm,1.8s
PSA00 **Pilbara Seismi** 48.52 192 P **P** 20 02 27.2 -1.3
PSA00 IAmb IAmb 20 02 29.1
comp=Z,18nm,0.8s
PSA00 **Pilbara Seismi** 48.52 192 IAmb IAmb 20 02 29.2
comp=Z,36nm,0.8s
PSA00 **Pilbara Seismi** 48.52 192 P **P** 20 02 27.8 -0.7
comp=Z,66nm,0.8s
PSA00 **Pilbara Seismi** 48.52 192 P **P** 20 02 28.5 0.0
ARSB **Arslanbob** 48.56 303 IAmb IAmb 20 02 43.3
comp=Z,25nm,1.1s
NIL **Nilore** 48.85 293 **P** 20 02 30.2 -0.9
NIL IAmb IAmb 20 02 44.4
comp=Z,17nm,0.9s
NIL **Nilore** 48.85 293 P **P** 20 02 30.2 -0.9
NIL pmax pmax
comp=Z,17nm,0.9s
BRZS **Berezniki** 49.24 314 *e*P **P** 20 02 33.0 -0.8
BRZS **Berezniki** 49.24 314 *e*P **P** 20 02 33.0 -0.8
OTUK **Ortayu** 49.29 312 *i* P **P** 20 02 33.1 -1.1
OTUK pmax pmax
comp=Z,9.0nm,1.0s
NRIK **Noril'sk** 49.56 342 P **P** 20 02 36.1 +0.2
comp=Z,4.7nm,0.6s,baz=126,slow=8.2,SNR=14
NRIK LR LR 20 25 40.8
comp=Z,425nm,18.6s,baz=127,slow=39
comp=Z,4.7nm,0.6s
NRIK **Noril'sk** 49.56 342 *ce*P **P** 20 02 35.1 -0.9
NRIK pmax pmax
comp=Z,29nm,2.3s
AS31 **Alice Springs** 49.85 175 P **P** 20 02 38.4 -0.3
comp=Z,4.9nm,0.9s
ASAR **Alice Springs** 49.85 175 **P** 20 02 37.5 -1.2
ASAR **Alice Springs** 49.85 175 P **P** 20 02 38.6 0.0
comp=Z,11nm,0.8s,baz=359,slow=8.0,SNR=98
ASAR LR LR 20 24 23.8
comp=Z,84nm,18.9s,baz=6.5,slow=37
comp=Z,11nm,0.8s
AS01 **Alice Springs** 49.85 175 P **P** 20 02 39.2 +0.5
comp=Z,19nm,1.2s
BTK **Batken** 50.24 301 P **P** 20 02 40.9 -0.8
KKAR **Karatay Array** 50.37 305 **P** 20 02 41.3 -1.3
KKAR **Karatay Array** 50.37 305 P **P** 20 02 41.3 -1.3
GAR **Garm** 50.69 300 IAmb IAmb 20 02 48.6
comp=Z,32nm,1.0s
IUG **Iuzhnay** 50.75 304 *e*P **P** 20 02 44.4 -1.1
IUG pmax pmax
comp=Z,10.0nm,0.8s
IUG **Iuzhnay** 50.75 304 *e*P **P** 20 02 44.5 -1.1
comp=Z,10.0nm,0.8s
BRLS **Borolday** 50.87 305 *e*P **P** 20 02 46.3 0.0
BRLS **Borolday** 50.87 305 *e*P **P** 20 02 46.4 0.0
BVAR **Borovoye Array** 51.04 318 P **P** 20 02 46.8 -0.6
comp=Z,5.8nm,0.5s,baz=77,slow=7.9,SNR=29
BVAR PcP **PcP** 20 04 03.1 -0.2
comp=Z,7.9nm,1.0s,baz=102,slow=6.2,SNR=3.6
comp=Z,5.8nm,0.5s
WRKA **Warakurna** 51.05 182 P **P** 20 02 47.8 0.0
comp=Z,50nm,1.1s
WRKA **Warakurna** 51.05 182 P **P** 20 02 48.6 +0.8
BRVK **Borovoye** 51.11 318 **P** 20 02 47.3 -0.6
BRVK **Borovoye** 51.11 318 *i* P **P** 20 02 46.0 -1.9
BRVK pmax pmax
comp=Z,17nm,1.2s
SIMJ **Simiganj** 51.74 300 **P** 20 02 53.0 -0.1
KBL **Kabul** 52.20 295 **P** 20 02 56.6 0.0
KBL IAmb IAmb 20 03 09.0
comp=Z,37nm,1.1s
KBL **Kabul** 52.20 295 P **P** 20 02 56.6 0.0
KBL pmax pmax
comp=Z,37nm,1.1s
UNV **Unalaska Valle** 53.91 41 P **P** 20 03 08.4 -0.3
baz=266
OOD **Oodnadatta** 54.10 173 P **P** 20 03 12.5 +2.3
QLP **Quilpie** 54.44 164 P **P** 20 03 11.9 -0.8
comp=Z,53nm,1.0s
QLP **Quilpie** 54.44 164 P **P** 20 03 13.3 +0.6
INKA **Innaminka** 54.79 168 P **P** 20 03 15.8 +0.6
EIDS **Eidsvold** 55.40 156 P **P** 20 03 19.8 +0.1
comp=Z,26nm,1.6s
F14K **Arctic Creek** 55.65 27 P **P** 20 03 20.9 -0.1
baz=258
K13K **Kusilvak Mount** 55.76 31 P **P** 20 03 21.4 -0.4
baz=262
ANM **Nome** 55.86 28 P **P** 20 03 21.6 -1.0
baz=259
M13K **Dall Lake** 56.20 33 P **P** 20 03 24.9 -0.2
baz=264
F15K **North Star Dit** 56.38 27 P **P** 20 03 25.7 -0.6
baz=259
J14K **Nanvaranak Lak** 56.38 31 P **P** 20 03 25.5 -0.8
baz=262
G15K **Niukluk** 56.50 28 P **P** 20 03 26.2 -1.0
baz=260
L14K **Kuka Creek** 56.62 32 P **P** 20 03 27.9 -0.2
baz=264
C16K **Lisburne Hills** 56.63 24 P **P** 20 03 28.0 0.0
baz=257
FORT **Forrest** 56.78 182 P **P** 20 03 29.3 -0.2
comp=Z,113nm,0.9s
FORT **Forrest** 56.78 182 P **P** 20 03 30.1 +0.6
M14K **Bethel** 56.91 33 P **P** 20 03 29.3 -0.9
baz=265
SVE **Sverdlovsk** 56.96 322 *de*P **P** 20 03 30.7 +0.1
SVE *e*S **S** 20 11 23.1 -1.5
SVE pmax pmax
comp=Z,28nm,1.1s
SVE MLR MLR
comp=Z,706nm,13.0s
N14K **Kuskokwak Cree** 56.98 34 P **P** 20 03 29.9 -0.8
baz=266
LCRK **Leigh Creek** 57.03 171 P **P** 20 03 32.7 +1.5
H16K **Elim** 57.21 28 P **P** 20 03 32.2 0.0
baz=262
L15K **Ungalak Mounta** 57.22 32 P **P** 20 03 32.5 +0.1
baz=265
G16K **Koyuk River** 57.27 27 P **P** 20 03 33.0 +0.5
baz=262
D17K **Noatak River** 57.35 25 P **P** 20 03 34.2 +1.1
baz=260
KOUNC **Koumac, New Ca** 57.46 141 P **P** 20 03 35.9 +1.4
RDOG **Red Dog Mine** 57.48 24 P **P** 20 03 34.9 +0.8
RDOG IAmb IAmb 20 03 47.4
comp=Z,30nm,1.5s
RDOG **Red Dog Mine** 57.48 24 P **P** 20 03 34.4 +0.3
baz=260
AB31 **Akbulak array** 57.49 313 *i* P **P** 20 03 33.9 -0.6
AB31 pmax pmax
comp=Z,9.0nm,0.8s
ABKAR **Akbulak array** 57.49 313 **P** 20 03 33.9 -0.6
ABKAR **Akbulak array** 57.49 313 IAmb IAmb 20 03 37.6
comp=Z,12nm,0.9s
M15K **Kasigluk River** 57.53 33 P **P** 20 03 35.0 +0.5
baz=266
E17K **Hotham Inlet** 57.73 26 P **P** 20 03 36.4 +0.6
baz=261
J16K **Anvik River** 57.77 30 P **P** 20 03 37.1 +0.8
baz=265
I17K **Unalakleet** 57.79 29 P **P** 20 03 36.6 +0.3
baz=264
N15K **Kwethluk River** 57.80 34 P **P** 20 03 37.1 +0.6
baz=267
F17K **Baldwin Pennin** 57.86 26 P **P** 20 03 36.5 -0.2
baz=262
O15K **Ungalikthiuk R** 57.89 35 P **P** 20 03 37.1 0.0
baz=268
CHNA **Chernabura Isl** 57.98 40 P **P** 20 03 38.6 +0.8
baz=271
G17K **Kiwalik Mounta** 57.98 27 P **P** 20 03 37.8 +0.1
baz=263
S14K **Fog Glacier** 57.99 38 P **P** 20 03 37.9 -0.1
baz=270
B18K **Kokolik River** 58.12 23 P **P** 20 03 39.6 +1.1
baz=260
L16K **Owhat River** 58.18 32 P **P** 20 03 39.7 +0.6
baz=267
ARTI **Arti** 58.20 322 **P** 20 03 38.2 -1.1
ARTI IAmb IAmb 20 03 50.5
comp=Z,18nm,0.5s
ARTI **Arti** 58.20 322 LR LR 20 31 20.8
comp=Z,567nm,19.2s,baz=86,slow=39
ARTI **Arti** 58.20 322 *c i* P **P** 20 03 38.6 -0.7
ARTI 20 04 29.4
ARTI 20 05 46.3
ARTI S **S** 20 11 44.1 +3.2
ARTI SS **SS** 20 15 36.9 +4.8
ARTI pmax pmax
comp=Z,14nm,0.9s
ARTI MLR MLR
comp=Z,607nm,16.0s
C18K **Utukok River** 58.21 24 **P** 20 03 39.5 +0.3
C18K IAmb IAmb 20 03 51.7
comp=Z,21nm,1.1s
C18K **Utukok River** 58.21 24 P **P** 20 03 39.2 -0.1
baz=261,SNR=7.3
H17K **Granite Mounta** 58.23 28 P **P** 20 03 39.5 0.0
baz=264
E18K **Tukpahlearik C** 58.25 25 IAmb IAmb 20 04 08.4
comp=Z,37nm,2.0s
E18K **Tukpahlearik C** 58.25 25 P **P** 20 03 40.1 +0.7
baz=262
M16K **Timber Creek** 58.40 33 P **P** 20 03 41.0 +0.4
baz=268
N16K **Nishlik Lake** 58.47 33 P **P** 20 03 41.4 +0.3
baz=268
J17K **VABM Dome** 58.47 30 P **P** 20 03 41.7 +0.7
baz=266
A19K **Wainwright** 58.51 22 P **P** 20 03 40.9 -0.4
baz=260
F18K **Selawik** 58.52 26 P **P** 20 03 42.5 +1.1
baz=264
CHGN **Chignik** 58.62 38 P **P** 20 03 42.2 0.0
baz=271
AKTO **Aktyubinsk** 58.66 315 LR LR 20 29 08.8
comp=Z,214nm,21.7s,baz=12,slow=36
KLBR **Kellerberrin** 58.67 192 P **P** 20 03 42.5 -0.3
comp=Z,47nm,0.9s
KLBR **Kellerberrin** 58.67 192 P **P** 20 03 43.9 +1.1
L17K **Donlin** 58.76 32 P **P** 20 03 42.6 -0.5
baz=268
K17K **Iditarod** 58.78 31 P **P** 20 03 43.4 +0.1
baz=267
O16K **Kokwok River B** 58.79 35 P **P** 20 03 43.2 -0.1
baz=269
G18K **Tagagawik** 58.85 27 P **P** 20 03 44.4 +0.7
baz=265
H18K **Honhosa River** 58.91 28 P **P** 20 03 44.5 +0.4
baz=266
STKA **Stephens Creek** 58.97 168 P **P** 20 03 44.4 -0.4
comp=Z,72nm,1.5s
STKA **Stephens Creek** 58.97 168 P **P** 20 03 44.8 -0.1
comp=Z,6.1nm,0.6s,baz=348,slow=6.9,SNR=13
comp=Z,6.1nm,0.6s
STKA **Stephens Creek** 58.97 168 P **P** 20 03 46.0 +1.1
R16K **Pilot Point** 59.06 37 P **P** 20 03 44.4 -0.8
baz=271
F19K **Shaleruckik Mo** 59.28 26 P **P** 20 03 47.1 +0.4
baz=265
O17K **Koliganek Bris** 59.30 34 P **P** 20 03 46.9 0.0
baz=270
D19K **Kuna River** 59.31 24 P **P** 20 03 47.4 +0.5
baz=264
G19K **Purcell Mounta** 59.51 27 P **P** 20 03 49.2 +0.9
baz=266
GCSA **Galena City Sc** 59.51 29 P **P** 20 03 47.8 -0.5
baz=267
L18K **Granite Mounta** 59.52 31 P **P** 20 03 48.8 +0.4
baz=269
CMSA **Cobar Meteorol** 59.53 164 P **P** 20 03 49.2 +0.5
comp=Z,23nm,1.5s
CMSA **Cobar Meteorol** 59.53 164 P **P** 20 03 50.7 +1.9
J18K **Innoko River** 59.53 30 P **P** 20 03 47.7 -0.8
baz=268
E19K **Redstone River** 59.55 25 P **P** 20 03 48.8 +0.3
baz=265
H19K **Roundabout Mou** 59.73 28 P **P** 20 03 48.9 -0.8
baz=267
B20K **Meade River** 59.81 22 IAmb IAmb 20 04 03.5
comp=Z,24nm,1.1s
B20K **Meade River** 59.81 22 P **P** 20 03 50.7 +0.5
baz=264
TTA **Tatalina** 59.84 31 P **P** 20 03 49.9 -0.8
baz=269
D20K **Etivluk River** 59.88 24 IAmb IAmb 20 04 04.2
comp=Z,30nm,1.1s
D20K **Etivluk River** 59.88 24 P **P** 20 03 50.6 -0.2
baz=265
DZM **Mont Dzumac** 59.88 140 **P** 20 03 51.6 +0.1
DZM **Mont Dzumac** 59.88 140 *e*LR LR 20 21 28.1
comp=Z,453nm,22.9s
DZM **Mont Dzumac** 59.88 140 P **P** 20 03 53.2 +1.7
N18K **Kilae Creek** 59.89 33 P **P** 20 03 51.3 +0.3
baz=270
M18K **Stony River** 59.92 32 P **P** 20 03 51.5 +0.3
baz=270
Q17K **Contact Creek** 59.95 36 P **P** 20 03 51.6 +0.1
baz=272
E20K **Nigu River** 60.00 24 P **P** 20 03 51.8 +0.1
baz=266
J19K **Poorman** 60.03 29 P **P** 20 03 51.7 -0.2
baz=269
HTT **Hallett** 60.06 171 P **P** 20 03 53.9 +1.5
NWAO **Narrogin (SRO)** 60.07 192 P **P** 20 03 51.6 -0.8
comp=Z,10nm,0.7s,baz=45,slow=4.9,SNR=8.1
NWAO LR LR 20 33 39.3
comp=Z,40nm,18.2s,baz=0.0,slow=40
comp=Z,10nm,0.7s
F20K **Avaraart Lake** 60.10 26 P **P** 20 03 52.1 -0.1
baz=267
A21K **Barrow** 60.13 21 P **P** 20 03 52.7 +0.2
baz=264
CHIR **Chirikof Islan** 60.21 39 P **P** 20 03 52.3 -0.9
baz=274
ARMA **Armidale** 60.21 158 **P** 20 03 53.6 0.0
ARMA **Armidale** 60.21 158 P **P** 20 03 53.9 +0.3
comp=Z,30nm,1.1s
ARMA **Armidale** 60.21 158 P **P** 20 03 54.2 +0.6
O18K **Koktuh Hills** 60.25 34 P **P** 20 03 53.5 0.0
baz=272
L19K **White Mountain** 60.38 32 P **P** 20 03 54.6 +0.3
baz=271
H20K **Anotleneega Mo** 60.38 28 P **P** 20 03 54.1 -0.2
baz=269
I20K **Naaghedeneel** 60.54 28 P **P** 20 03 54.9 -0.5
baz=269
C21K **Knifeblade Rid** 60.57 23 P **P** 20 03 55.7 +0.2
baz=267,SNR=6.8
N19K **Bonanza Creek** 60.58 33 P **P** 20 03 55.3 -0.5
baz=272
M19K **Big River Lodg** 60.60 32 P **P** 20 03 56.0 +0.2
baz=271
A22K **Sinclair Lake** 60.63 21 P **P** 20 03 56.4 +0.5
baz=265
B21K **Ikpikpuk River** 60.66 23 P **P** 20 03 56.6 +0.6
baz=267,SNR=11
J20K **Nowinta River** 60.68 29 IAmb IAmb 20 04 09.5
comp=Z,24nm,1.2s
J20K **Nowinta River** 60.68 29 P **P** 20 03 56.5 +0.1
baz=270
K20K **Telida** 60.72 30 P **P** 20 03 56.9 +0.3
baz=271
R18K **Karluk** 60.74 37 P **P** 20 03 57.4 +0.6
baz=274
L20K **Farewell, AK** 60.83 31 P **P** 20 03 57.9 +0.5
baz=271
E21K **Killik River** 60.83 24 P **P** 20 03 57.4 +0.1
baz=268
G21K **Allakaket** 60.97 27 IAmb IAmb 20 04 11.6
comp=Z,22nm,1.4s
G21K **Allakaket** 60.97 27 P **P** 20 03 58.2 0.0
baz=269
F21K **Alatna River** 60.98 26 P **P** 20 03 58.7 +0.3
baz=269
B22K **Teshekpuk Lake** 61.11 22 P **P** 20 03 59.3 +0.2
baz=267
H21K **Melozitna Rive** 61.25 28 IAmb IAmb 20 04 13.9
comp=Z,26nm,1.3s
H21K **Melozitna Rive** 61.25 28 P **P** 20 04 00.3 +0.1
baz=270
D22K **Ayikyak River** 61.32 24 P **P** 20 04 01.2 +0.6
baz=269,SNR=10
F22K **John River** 61.49 25 P **P** 20 04 02.4 +0.6
baz=270,SNR=9.1
CHUM **Lake Minchumin** 61.49 30 P **P** 20 04 02.4 +0.6
baz=272
PPLA **Purkeypile** 61.59 31 P **P** 20 04 02.4 -0.3
baz=272
I21K **Tanana** 61.60 28 P **P** 20 04 02.5 0.0
baz=272
CAST **Castle Rocks** 61.62 30 IAmb IAmb 20 04 25.0
comp=Z,21nm,1.2s
CAST **Castle Rocks** 61.62 30 P **P** 20 04 03.0 +0.3
baz=272,SNR=5.5
E22K **Anaktuvuk Pass** 61.63 25 IAmb IAmb 20 04 06.8
comp=Z,23nm,1.2s
E22K **Anaktuvuk Pass** 61.63 25 P **P** 20 04 03.2 +0.4
baz=270,SNR=10
SPCR **Spurr Chakacha** 61.67 33 P **P** 20 04 03.6 +0.5
baz=273
KDAK **Kodiak Island** 61.73 36 P **P** 20 04 03.5 0.0
baz=275
G22K **Bettles** 61.76 26 P **P** 20 04 04.2 +0.7
baz=271
H22K **Ishtalitna Cre** 61.83 27 P **P** 20 04 05.0 +0.9
baz=272,SNR=7.2
SKT **Skwentna** 61.95 32 P **P** 20 04 05.7 +0.7
baz=274
D23K **Nanushuk River** 62.04 24 P **P** 20 04 06.1 +0.7
baz=271
C23K **Itkillik River** 62.06 23 P **P** 20 04 06.1 +0.5
baz=270,SNR=9.0
HOM **Homer** 62.06 34 P **P** 20 04 06.5 +0.8
baz=275
BPAW **Bear Paw Mtn.** 62.07 29 P **P** 20 04 06.0 +0.3
baz=273
CAPN **Captain Cook N** 62.21 33 P **P** 20 04 06.7 0.0
baz=275
COLD **Coldfoot** 62.26 26 IAmb IAmb 20 04 09.4
comp=Z,36nm,1.8s
COLD **Coldfoot** 62.26 26 P **P** 20 04 07.0 +0.1
baz=272
G23K **Bananza Creek** 62.35 26 IAmb IAmb 20 04 21.2
comp=Z,20nm,1.3s
G23K **Bananza Creek** 62.35 26 P **P** 20 04 08.4 +0.7
baz=272,SNR=6.1
SUA **Susitna One** 62.35 32 P **P** 20 04 07.6 -0.2
baz=274
TOLK **Toolik Lake Re** 62.45 24 IAmb IAmb 20 04 29.1
comp=Z,21nm,1.3s
TOLK **Toolik Lake Re** 62.45 24 P **P** 20 04 09.2 +0.9
baz=272,SNR=6.0
E23K **Chandalar** 62.45 25 IAmb IAmb 20 04 12.6
comp=Z,23nm,1.1s
E23K **Chandalar** 62.45 25 P **P** 20 04 07.9 -0.4
baz=272,SNR=14
CUT **Chulitna** 62.51 31 P **P** 20 04 08.3 -0.4
baz=274
BRSE **Bradley Lake S** 62.51 34 P **P** 20 04 07.8 -0.9
baz=275
H23K **Yukon River** 62.59 27 P **P** 20 04 08.4 -0.9
baz=273
M22K **Willow** 62.63 32 P **P** 20 04 09.3 -0.1
baz=275
D24K **Happy Valley** 62.70 23 P **P** 20 04 10.8 +1.0
baz=272
I23K **Minto, Yukon-K** 62.71 28 IAmb IAmb 20 04 32.6
comp=Z,15nm,1.2s
I23K **Minto, Yukon-K** 62.71 28 P **P** 20 04 09.7 -0.2
baz=274
C24K **Franklin Bluff** 62.73 23 P **P** 20 04 10.8 +0.8
baz=272
NEA2 **Nenana** 62.87 29 IAmb IAmb 20 04 24.2
comp=Z,19nm,0.9s
NEA2 **Nenana** 62.87 29 P **P** 20 04 11.6 +0.5
baz=274
E24K **Your Creek** 62.88 25 P **P** 20 04 11.3 +0.2
baz=273
KIRV **Kirov** 62.90 325 *ce*P **P** 20 04 11.7 +0.4
MCK **McKinley** 63.00 30 IAmb IAmb 20 04 36.2
comp=Z,16nm,1.0s
MCK **McKinley** 63.00 30 P **P** 20 04 12.5 +0.5
baz=275,SNR=6.0
RND **Reindeer** 63.07 30 IAmb IAmb 20 04 13.4
comp=Z,20nm,0.9s
PMR **Palmer** 63.11 32 P **P** 20 04 12.2 -0.5
baz=276
SEW **Seward** 63.12 34 P **P** 20 04 12.1 -0.6
baz=276
F24K **Squaw Lake** 63.14 25 IAmb IAmb 20 04 40.1
comp=Z,12nm,0.8s
F24K **Squaw Lake** 63.14 25 P **P** 20 04 12.4 -0.5
baz=274,SNR=9.8
H24K **Noodor Dome** 63.27 27 IAmb IAmb 20 04 36.3
comp=Z,27nm,1.4s
H24K **Noodor Dome** 63.27 27 P **P** 20 04 14.2 +0.4
baz=275
G24K **Hadweenzic Riv** 63.36 26 IAmb IAmb 20 04 28.2
comp=Z,19nm,1.1s
G24K **Hadweenzic Riv** 63.36 26 P **P** 20 04 14.9 +0.6
baz=275
COLA **College** 63.37 28 P **P** 20 04 14.7 +0.3
baz=275
KNK **Knik Glacier** 63.45 32 P **P** 20 04 15.8 +0.8
baz=276
SML **Sawmill** 63.47 32 P **P** 20 04 15.6 +0.4
baz=276
POKR **Poker Plat Res** 63.52 28 IAmb IAmb 20 04 28.8
comp=Z,21nm,1.0s
POKR **Poker Plat Res** 63.52 28 P **P** 20 04 15.6 +0.2
baz=276

ARPS	Mount Arapiles	63.78	169	P	P	20 04 17.8	+0.4
	comp=Z,55nm,0.9s						
ARPS	Mount Arapiles	63.78	169	P	P	20 04 17.4	+0.1
IL31		63.79	28	IAmb	IAmb	20 04 37.9	
	comp=Z,37nm,1.9s						
ILAR	Eielson Array	63.79	28	P	P	20 04 16.7	-0.5
	comp=Z,1.5nm,0.7s,baz=264,slow=6.4,SNR=15						
	comp=Z,1.5nm,0.7s						
G25K	Bearman Lake	63.90	26	P	P	20 04 18.5	+0.7
	baz=276						
SCM	Sheep Creek Mo	63.94	32	P	P	20 04 18.7	+0.4
	baz=277						
E25K	Arctic Village	63.97	25	IAmb	IAmb	20 04 32.3	
	comp=Z,23nm,1.4s						
E25K	Arctic Village	63.97	25	P	P	20 04 18.9	+0.6
	baz=276,SNR=11						
CAN	Canberra	63.98	162		P	20 04 19.6	+0.9
CAN	Canberra	63.98	162	P	P	20 04 19.4	+0.7
	comp=Z,24nm,1.8s						
CAN	Canberra	63.98	162	P	P	20 04 19.7	+0.9
CAN	Canberra	63.98	162	P	P	20 04 19.6	+0.9
CAN				pmax	pmax		
	comp=Z,117nm,1.9s						
F25K	Christian Rive	63.99	25	IAmb	IAmb	20 04 32.6	
	comp=Z,17nm,1.1s						
F25K	Christian Rive	63.99	25	P	P	20 04 18.5	0.0
	baz=276,SNR=7.2						
C26K	Camden Bay	64.03	23	P	P	20 04 19.9	+1.3
	baz=276,SNR=8.6						
H25L	Birch Creek	64.07	27	P	P	20 04 19.6	+0.7
	baz=276						
CNB	Canberra Magne	64.07	162	P	P	20 04 19.9	+0.6
	comp=Z,27nm,1.1s						
CNB	Canberra Magne	64.07	162	P	P	20 04 20.5	+1.1
MSVF	Nonsavu	64.27	128		P	20 04 21.8	+0.7
MSVF	Nonsavu	64.27	128	P	P	20 04 23.3	+2.2
MSVF	Nonsavu	64.27	128	P	P	20 04 21.8	+0.7
MSVF				pmax	pmax		
	comp=Z,45nm,1.4s						
K24K	Donnelly Dome	64.39	29	P	P	20 04 20.2	-0.9
	baz=278						
BMAR	Burnt Mountain	64.42	25		P	20 04 22.1	+0.8
M24K	Tolsona, Glenn	64.44	31	P	P	20 04 22.0	+0.4
	baz=278						
J25K	Salcha River,	64.46	28	P	P	20 04 21.8	+0.2
	baz=278						
C27K	Jago River	64.47	23	IAmb	IAmb	20 04 34.8	
	comp=Z,14nm,1.0s						
C27K	Jago River	64.47	23	P	P	20 04 22.0	+0.5
	baz=277,SNR=6.6						
F26K	Sheenjek River	64.55	25	IAmb	IAmb	20 04 36.3	
	comp=Z,28nm,1.2s						
F26K	Sheenjek River	64.55	25	P	P	20 04 23.2	+1.1
	baz=277,SNR=13						
DGTI	Dogotuki	64.56	125	P	P	20 04 24.6	+1.8
PAX	Paxson	64.64	30	P	P	20 04 23.3	+0.4
	baz=278						
KLU	Klutina	64.65	32	P	P	20 04 23.2	+0.2
	baz=279						
G26K	Porcupine Rive	64.79	26	IAmb	IAmb	20 04 37.8	
	comp=Z,42nm,1.6s						
G26K	Porcupine Rive	64.79	26	P	P	20 04 24.2	+0.6
	baz=278,SNR=12						
RIDG	Independent Ri	64.81	29	P	P	20 04 24.7	+0.8
	baz=278						
HARP	HAARP	64.87	31	P	P	20 04 24.6	+0.3
	baz=279						
EYAK	Cordova Ski Ar	64.88	33	P	P	20 04 24.6	+0.3
	baz=279						
SCRK	Sand Creek	65.15	29	IAmb	IAmb	20 04 51.9	
	comp=Z,12nm,1.0s						
SCRK	Sand Creek	65.15	29	P	P	20 04 25.7	-0.5
	baz=279						
DOT	Dot Lake	65.17	29	IAmb	IAmb	20 04 49.5	
	comp=Z,13nm,0.9s						
J26L	Joseph Creek	65.25	28	P	P	20 04 26.7	-0.1
	baz=279,SNR=8.0						
N25K	Chitina, Valde	65.26	32	P	P	20 04 26.5	-0.5
	baz=280						
TOO	Toolangi	65.27	166		P	20 04 27.4	+0.3
TOO	Toolangi	65.27	166	P	P	20 04 28.1	+1.0
	comp=Z,11nm,1.1s						
TOO	Toolangi	65.27	166	P	P	20 04 27.4	+0.3
TOO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
I26K	Coal Creek Min	65.29	28	P	P	20 04 26.1	-0.9
	baz=279						
BMRM	Bremner River	65.36	32	P	P	20 04 27.7	+0.1
	baz=280						
E27K	Coleen River	65.43	24	IAmb	IAmb	20 04 41.6	
	comp=Z,19nm,1.2s						
E27K	Coleen River	65.43	24	P	P	20 04 28.3	+0.4
	baz=279,SNR=9.3						
MENT	Mentasta	65.44	30	P	P	20 04 29.5	+1.5
D27M	Malcolm River	65.49	23	IAmb	IAmb	20 04 42.0	
	comp=Z,21nm,1.2s						
D27M	Malcolm River	65.49	23	P	P	20 04 27.7	-0.6
	baz=279,SNR=9.9						
L26K	Log Cabin Wild	65.59	30	P	P	20 04 28.7	-0.3
	baz=280						
G27K	Doyon Strip	65.64	26	P	P	20 04 30.3	+1.0
	baz=280,SNR=6.3						
KAIM	Kayak Island	65.64	33	P	P	20 04 29.3	0.0
	baz=281						
H27K	Steamboat Moun	65.79	26	IAmb	IAmb	20 04 52.2	
	comp=Z,19nm,1.4s						
H27K	Steamboat Moun	65.79	26	P	P	20 04 31.0	+0.8
	baz=280						
M26K	Nabesna, AK	65.86	31	IAmb	IAmb	20 04 52.6	
	comp=Z,29nm,1.2s						
M26K	Nabesna, AK	65.86	31	P	P	20 04 31.8	+1.0
	baz=281,SNR=8.3						
I27K	Kandik River	65.87	27	P	P	20 04 31.5	+0.8
	baz=280,SNR=9.3						
K27K	Chicken	65.97	29	IAmb	IAmb	20 04 53.5	
	comp=Z,17nm,1.1s						
K27K	Chicken	65.97	29	P	P	20 04 32.5	+1.1
	baz=281						
E28M	Babbage River	66.11	24	IAmb	IAmb	20 04 59.1	
	comp=Z,13nm,0.9s						
E28M	Babbage River	66.11	24	P	P	20 04 32.7	+0.5
	baz=281						
D28M	Stokes Point	66.25	23	P	P	20 04 34.0	+0.9
	baz=281						
L27K	Beaver Creek,	66.26	30	P	P	20 04 33.8	+0.5
	baz=281						
BCAR	Beaver Creek A	66.28	30		P	20 04 33.5	0.0
M27K	Edge Creek, AK	66.38	31	IAmb	IAmb	20 04 57.0	
	comp=Z,12nm,1.0s						
M27K	Edge Creek, AK	66.38	31	P	P	20 04 34.5	+0.3
	baz=282						
I28M	Miner Creek	66.59	27	IAmb	IAmb	20 04 48.4	
	comp=Z,16nm,1.0s						
I28M	Miner Creek	66.59	27	P	P	20 04 35.6	+0.1
	baz=282,SNR=9.6						
E29M	Blow River	66.74	24	P	P	20 04 36.2	0.0
	baz=283						
G29M	Pine Creek	67.03	25	P	P	20 04 39.3	+1.1
	baz=283,SNR=7.7						
H29M	Whitestone	67.05	26	P	P	20 04 39.1	+0.8
	baz=283						
DAWY	Dawson	67.12	29	P	P	20 04 39.5	+0.7
	baz=283						
YUK3	Moose Creek	67.16	31	P	P	20 04 39.2	-0.1
	baz=283						
I29M	Ogilvie Camp,	67.27	27	IAmb	IAmb	20 04 52.4	
	comp=Z,17nm,1.1s						
I29M	Ogilvie Camp,	67.27	27	P	P	20 04 40.5	+0.8
	baz=284,SNR=6.7						
KLMR	Klimovskoe	67.44	328	*e*P	P	20 04 39.9	-0.9
KLMR				pmax	pmax		
	comp=Z,58nm,1.3s						
KLMR				MLR	MLR		
	comp=Z,429nm,20.0s						
O28M	Mount Upton	67.52	32	IAmb	IAmb	20 04 57.0	
	comp=Z,16nm,1.0s						
O28M	Mount Upton	67.52	32	P	P	20 04 42.3	+0.7
	baz=284						
YUK8	Steele Glacier	67.60	31	P	P	20 04 43.0	+0.9
	baz=284						
PINM	Pinnacle	67.65	33	P	P	20 04 42.7	+0.4
	baz=284						
EPYK	Eagle Plains	67.66	26	IAmb	IAmb	20 04 55.2	
	comp=Z,26nm,1.3s						
EPYK	Eagle Plains	67.66	26	P	P	20 04 43.1	+1.0
	baz=284,SNR=5.4						
G30M	tAoh Zraii Nji	67.70	25	IAmb	IAmb	20 04 55.1	
	comp=Z,27nm,1.1s						
G30M	tAoh Zraii Nji	67.70	25	P	P	20 04 42.4	0.0
	baz=285,SNR=8.6						
F30M	Barrier River	67.70	24	IAmb	IAmb	20 04 55.7	
	comp=Z,34nm,1.4s						
F30M	Barrier River	67.70	24	P	P	20 04 42.9	+0.5
	baz=285						
L29M	L29M	67.89	29	IAmb	IAmb	20 04 57.0	
	comp=Z,16nm,1.1s						
L29M	L29M	67.89	29	P	P	20 04 44.3	+0.6
	baz=284,SNR=5.9						
M29M	Somme Creek	67.91	30	P	P	20 04 44.4	+0.5
	baz=284						
K29M	Barlow Dome	67.97	29	P	P	20 04 44.1	-0.2
	baz=285						
I30M	Mount Dempster	68.09	27	IAmb	IAmb	20 05 07.1	
	comp=Z,17nm,1.3s						
I30M	Mount Dempster	68.09	27	P	P	20 04 44.9	-0.1
	baz=285,SNR=5.8						
YUK4	Talbot Arm	68.11	31	P	P	20 04 45.0	-0.3
	baz=285						
PNL	Peninsula	68.17	33	P	P	20 04 44.7	-0.8
	baz=285						
J30M	Hart River	68.28	28	IAmb	IAmb	20 05 47.3	
	comp=Z,25nm,1.6s						
J30M	Hart River	68.28	28	P	P	20 04 46.3	0.0
	baz=286						
APA	Apatity	68.30	336	⇓*i*P	P	20 04 44.9	-1.2
APA				*i*		20 05 14.9	
APA				*i*		20 07 14.0	
APA				pmax	pmax		
	comp=Z,28nm,1.0s						
APA				MLR	MLR		
	comp=Z,500nm,15.0s						
YUK6	Outpost Mounta	68.34	32	P	P	20 04 47.1	+0.3
	baz=285						
O29M	Mount Kennedy	68.41	32	P	P	20 04 47.2	+0.1
	baz=285						
G31M	Satah River	68.45	25	IAmb	IAmb	20 05 38.9	
	comp=Z,42nm,1.9s						
G31M	Satah River	68.45	25	P	P	20 04 47.3	+0.3
	baz=286						
F31M	Tsiigehtchic	68.50	24	IAmb	IAmb	20 04 60.0	
	comp=Z,25nm,1.4s						
F31M	Tsiigehtchic	68.50	24	P	P	20 04 47.9	+0.5
	baz=287,SNR=6.1						
VRH	Novokhopyorsk	68.69	318	*e*P	P	20 04 48.9	+0.1
VRH				pmax	pmax		
	comp=Z,54nm,1.7s						
H31M	Peel River	68.75	26	P	P	20 04 49.6	+0.6
	baz=287,SNR=5.6						
HYT	Haines Junctio	68.78	32	IAmb	IAmb	20 05 11.8	
	comp=Z,20nm,1.4s						
HYT	Haines Junctio	68.78	32	P	P	20 04 49.4	0.0
	baz=286						
N30M	Aishikik Lake	68.80	31	P	P	20 04 48.7	-0.7
	baz=286						
P29M	Windy Craggy	69.00	33	IAmb	IAmb	20 04 52.6	
	comp=Z,13nm,0.8s						
P29M	Windy Craggy	69.00	33	P	P	20 04 50.8	+0.2
	baz=286						
SPITS	Spitsbergen Ar	69.01	348	P	P	20 04 50.6	+0.2
	comp=Z,9.8nm,0.9s,baz=69,slow=8.1,SNR=6.2						
SPITS				LR	LR	20 37 56.4	
	comp=Z,168nm,19.4s,baz=2.0,slow=38						
	comp=Z,9.8nm,0.9s						
P30M	Million Dollar	69.23	32	P	P	20 04 52.0	-0.2
	baz=287						
N31M	Braeburn, Yuko	69.39	31	IAmb	IAmb	20 05 21.9	
	comp=Z,29nm,1.4s						
N31M	Braeburn, Yuko	69.39	31	P	P	20 04 52.9	-0.1
	baz=287						
O30N	Mendenhall	69.46	32	P	P	20 04 53.5	0.0
	baz=287						
GOF	Gofitskoye	69.57	311	*ce*P	P	20 04 56.6	+2.2
MOS	Moscow	69.76	323	*e*P	P	20 04 52.6	-2.8
MOS				pmax	pmax		
	comp=Z,32nm,1.3s						
MOS				MLR	MLR		
	comp=E,600nm,18.0s						
MOS				MLR	MLR		
	comp=Z,600nm,18.0s						
MOS				MLR	MLR		
	comp=E,2μm,20.0s						
MOS				MLR	MLR		
	comp=Z,2μm,20.0s						
A36M	Sachs Harbour	69.77	19	P	P	20 04 55.7	+0.6
	baz=293						
M31M	Drury Creek, Y	69.80	30	P	P	20 04 55.5	-0.1
	baz=288						
GNI	Garni	69.84	306	LR	LR	20 40 04.2	
	comp=Z,156nm,18.7s,baz=62,slow=40						
TRLG	Trialeti	69.88	307	P	P	20 04 57.3	+0.7
LPSR	Galich'ya Gora	69.95	320	*e*P	P	20 04 57.4	+0.8
LPSR				pmax	pmax		
	comp=Z,59nm,1.6s						
WHY	Whitehorse	70.06	31	P	P	20 04 57.4	+0.1
	baz=288						
KBZ	Khabaz	70.06	310	P	P	20 04 57.9	+0.4
	comp=Z,22nm,0.9s,baz=147,slow=2.1,SNR=45						
	comp=Z,22nm,0.9s						
KBZ	Khabaz	70.06	310	*ce*P	P	20 04 58.6	+1.2
KBZ				pmax	pmax		
	comp=Z,57nm,0.9s						
VORR	Voronezh	70.06	319	*e*P	P	20 04 58.1	+0.8
VORR				pmax	pmax		
	comp=Z,64nm,1.5s						
KVAR	Kislovodsk Arr	70.14	310	LR	LR	20 38 19.0	
	comp=Z,112nm,20.4s,baz=280,slow=38						
KIV	Kislovodsk	70.14	310		P	20 04 58.4	+0.3
KIV	Kislovodsk	70.14	310	⇓P	P	20 04 59.5	+1.4
KIV	Kislovodsk	70.14	310	*e*P	P	20 04 59.0	+0.9
KIV				*e*S	S	20 14 10.0	+0.5
KIV				pmax	pmax		
	comp=Z,28nm,1.0s						
KIV				MLR	MLR		
	comp=Z,144nm,18.0s						
SKAG	Skagway	70.22	33	IAmb	IAmb	20 05 11.6	
	comp=Z,32nm,1.5s						
SKAG	Skagway	70.22	33	P	P	20 05 00.5	+2.4
SKAG	Skagway	70.22	33	P	P	20 04 58.9	+0.8
	baz=288						
VORD	Divnogorie	70.22	318	*e*P	P	20 04 58.1	-0.2
VORD				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VSR	Storozhevoye	70.22	318	*e*P	P	20 04 58.1	-0.2
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
SHA1	Shidzhatmaz	70.23	310	*i*P	P	20 04 58.9	+0.1
FARO	Faro, Yukon	70.26	30	IAmb	IAmb	20 05 11.6	
	comp=Z,16nm,1.0s						
FARO	Faro, Yukon	70.26	30	P	P	20 04 59.2	+0.8
	baz=289,SNR=11						
ARCES	ARCESS Array B	70.39	339	P	P	20 04 58.8	-0.3
	comp=Z,4.5nm,0.8s,baz=77,slow=5.3,SNR=4.1						
ARCES				LR	LR	20 43 42.4	
	comp=Z,159nm,18.1s,baz=61,slow=43						
	comp=Z,4.5nm,0.8s						
OBN	Obninsk	70.52	323	LR	LR	20 38 52.7	
	comp=Z,837nm,18.8s,baz=14,slow=38						
OBN	Obninsk	70.52	323	*e*P	P	20 05 01.0	+1.0
OBN				*i*		20 05 08.0	
OBN				*i*		20 05 18.8	
OBN				pmax	pmax		
	comp=Z,24nm,1.3s						
OBN				MLR	MLR		
	comp=Z,772nm,18.0s						
JOF	Joensuu	70.57	331	*e*P	P	20 05 00.7	+0.4
P32M	Atlin	70.96	32	P	P	20 05 03.3	+0.6
	baz=289						
NOR	Nord	70.97	355	*i*P	P	20 04 59.4	-2.9
NOR				IAmb	IAmb	20 05 13.2	
	comp=Z,7.0nm,0.9s						
SIT	Sitka	70.99	35	P	P	20 05 03.6	+0.8
	baz=289						
R32K	Eaglecrest	71.00	34	P	P	20 05 02.9	0.0
	baz=289						
MMPY	Sheldon Lake,	71.04	29	P	P	20 05 03.9	+0.7
	baz=290						
ERBR	Yeremizino-Bor	71.09	312	*e*P	P	20 05 04.2	+0.5
ERBR				pmax	pmax		
	comp=Z,34nm,1.0s						
P33M	Teslin, Yukon	71.17	32	IAmb	IAmb	20 05 25.5	
	comp=Z,22nm,1.5s						
P33M	Teslin, Yukon	71.17	32	P	P	20 05 04.4	+0.3
	baz=290						
C36M	Paulatuk	71.19	21	IAmb	IAmb	20 05 26.3	
	comp=Z,19nm,0.9s						
C36M	Paulatuk	71.19	21	P	P	20 05 05.2	+1.4
	baz=294						
S32K	Killisnoo	71.24	35	P	P	20 05 05.6	+1.3
	baz=289						
GEVA	Gevas	71.66	304	IAmb	IAmb	20 05 20.2	
	comp=Z,18nm,1.0s						
Q32M	Nakina River	71.87	33	P	P	20 05 09.1	+0.7
	baz=291						
EUNU	Eureka	72.08	6	IAmb	IAmb	20 05 47.1	
	comp=Z,56nm,1.9s						
VSLR	Vesyoloye	72.12	310	*i*P	P	20 05 12.0	+2.0
VSLR				pmax	pmax		
	comp=Z,58nm,1.3s						
SOC	Sochi	72.30	310	*e*P	P	20 05 09.6	-1.4
SOC				*e*		20 07 45.6	
SOC				*e*PPP	PPP	20 09 33.0	
SOC				*e*S	S	20 14 32.9	-1.4
SOC				*e*SS	SS	20 19 05.9	-5.8
SOC				pmax	pmax		
	comp=Z,24nm,0.9s						
SOC				MLR	MLR		
	comp=Z,253nm,16.0s						
R33M	Jennings River	72.34	32	P	P	20 05 11.4	+0.3
	baz=292						
U33K	Whale Pass	72.46	36	P	P	20 05 12.5	+0.8
	baz=291						
CRAG	Craig	72.69	36	P	P	20 05 13.7	+0.7
	baz=291						
WRAK	Wrangell Islan	72.75	35	P	P	20 05 13.9	+0.4
	baz=292						
TGTN	Hyland Airport	72.76	29	P	P	20 05 13.2	-0.3
	baz=293,SNR=7.0						
S34M	Telegraph Cree	72.81	33	P	P	20 05 14.7	+0.9
	baz=292						
KOPT	Kop Dagi	72.96	307		P	20 05 14.5	-0.9
WTLY	Watson Lake, Y	73.08	31	P	P	20 05 15.7	+0.3
	baz=293,SNR=8.5						
FIA1	FINESS Array S	73.40	331		P	20 05 17.4	+0.2
FINES	FINESS Array B	73.40	331		P	20 05 17.0	-0.2
FINES	FINESS Array B	73.40	331	P	P	20 05 17.3	+0.1
	comp=Z,8.3nm,0.8s,baz=72,slow=5.6,SNR=21						
FINES				LR	LR	20 41 34.7	
	comp=Z,537nm,19.1s,baz=70,slow=39						
	comp=Z,8.3nm,0.8s						
ANN	Anapa	73.42	312	*e*P	P	20 05 16.6	-1.0
ANN				pmax	pmax		
	comp=Z,33nm,1.0s						
ANN				MLR	MLR		
	comp=Z,383nm,21.0s						
V35K	Ketchikan	73.54	36	P	P	20 05 17.9	-0.2
	baz=292						
T35M	Bob Quinn	73.61	34	P	P	20 05 18.9	+0.3
	baz=293						
KEF	Keuruu	73.62	332	*e*P	P	20 05 19.1	+0.6
VAF	Ylistaro	74.15	333	*e*P	P	20 05 22.1	+0.6
ARBE	Arbavere	74.29	329	*e*P	P	20 05 22.8	+0.4
VSU	Vasula	74.34	328	*ce*P	P	20 05 22.1	-0.7
VSU				pmax	pmax		
	comp=Z,30nm,1.0s						
VSU	Vasula	74.34	328	*e*P	P	20 05 23.1	+0.3
MEF	Metsahovi	74.67	330	*e*P	P	20 05 24.9	+0.3
RAYN	Ar Rayn	74.95	289		P	20 05 27.0	0.0
RAYN				IAmb	IAmb	20 05 40.6	
	comp=Z,22nm,1.0s						
RAYN	Ar Rayn	74.95	289	P	P	20 05 27.0	0.0
RAYN				pmax	pmax		
	comp=Z,22nm,1.0s						
TOAD	Toad River Com	75.26	31	P	P	20 05 28.5	+0.3
	baz=296						
MNK	Minsk	75.43	324	*i*P	P	20 05 31.5	+2.4
MNK				*i*		20 05 44.1	
MNK				*i*		20 08 20.2	
MNK				*i*PPP	PPP	20 10 05.1	
MNK				*i*S	S	20 15 12.3	+3.2
MNK				*i*SS	SS	20 20 04.9	+6.2
MNK				*i*SSS	SSS	20 23 21.7	
MNK				pmax	pmax		
	comp=N,16nm,1.0s						
MNK				pmax	pmax		
	comp=Z,21nm,1.1s						
MNK				pmax	pmax		
	comp=E,10.0nm,1.1s						
MNK				MLR	MLR		
	comp=N,402nm,17.0s						
MNK				MLR	MLR		
	comp=Z,563nm,18.0s						
MNK				MLR	MLR		
	comp=E,361nm,19.0s						
RAF	Rauma	75.46	331	*e*P	P	20 05 28.9	-0.2
SIM	Simferopol'	75.56	313	*e*P	P	20 05 32.5	+2.4
SIM				pmax	pmax		
	comp=Z,17nm,0.8s						
MTSE	Matsula	75.61	329	*e*P	P	20 05 30.1	0.0
ISAL	Salakas	75.88	325	*e*P	P	20 05 31.8	+0.1
AKASG	Malin Array Be	76.27	320	P	P	20 05 33.0	-1.0
AKASG				IAmb	IAmb	20 05 46.1	
	comp=Z,50nm,2.0s						
AKASG	Malin Array Be	76.27	320	P	P	20 05 34.1	0.0
	comp=Z,4.1nm,0.7s,baz=58,slow=6.2,SNR=24						
AKASG				LR	LR	20 41 51.8	
	comp=Z,934nm,19.1s,baz=63,slow=38						
	comp=Z,4.1nm,0.7s						
AKASG	Malin Array Be	76.27	320	*i*P	P	20 05 34.0	0.0
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKBB	Malin Array Si	76.27	320	IAmb	IAmb	20 05 47.7	
	comp=Z,38nm,1.5s						
AKBB	Malin Array Si	76.27	320	*i*P	P	20 05 34.6	+0.6
AKBB				pmax	pmax		
	comp=Z,17nm,1.3s						
AKBB	Malin Array Si	76.27	320	P	P	20 05 33.3	-0.7
KIEV	Kiev	76.29	320		P	20 05 33.6	-0.5
KIEV				IAmb	IAmb	20 05 47.7	
	comp=Z,34nm,1.5s						
KIEV	Kiev	76.29	320	⇑P	P	20 05 34.1	0.0
KIEV	Kiev	76.29	320	P	P	20 05 33.6	-0.5
KIEV				pmax	pmax		
	comp=Z,34nm,1.5s						
AK11	Malin Array Si	76.32	320	P	P	20 05 33.6	-0.7
AK05	Malin Array Si	76.32	320	P	P	20 05 33.6	-0.7
NEEM	North Greenlan	76.49	0	*i*P	P	20 05 34.9	-0.3
NEEM				IAmb	IAmb	20 05 46.5	
	comp=Z,19nm,1.0s						
PABE	Paberze	77.01	326		P	20 05 36.9	-1.2
PABE	Paberze	77.01	326	*e*P	P	20 05 38.7	+0.7
RNPP9	Sopachiv	77.86	322	P	P	20 05 42.3	-0.6
YKA	Yellowknife Ar	77.94	25	P	P	20 05 43.5	+0.4
	comp=Z,2.5nm,1.0s,baz=298,slow=5.4,SNR=22						
YKA				LR	LR	20 44 31.0	
	comp=Z,98nm,18.1s,baz=330,slow=39						
	comp=Z,2.5nm,1.0s						
BR131	Keskin Array S	77.96	308	IAmb	IAmb	20 05 57.1	
	comp=Z,19nm,1.0s						
BR131	Keskin Array S	77.96	308	*i*P	P	20 05 44.2	+0.3
BRTR	Keskin Array B	77.96	308		P	20 05 43.8	-0.2
BRTR	Keskin Array B	77.96	308	P	P	20 05 44.1	+0.2
	comp=Z,5.7nm,0.8s,baz=93,slow=5.1,SNR=30						
BRTR				LR	LR	20 44 17.0	
	comp=Z,153nm,21.4s,baz=47,slow=39						
	comp=Z,5.7nm,0.8s						
BRTR	Keskin Array B	77.96	308	*i*P	P	20 05 44.5	+0.6
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIRS	Kirsehir-Merke	78.00	308	⇓P	P	20 05 44.9	+0.8
SUW	Suwalki	78.11	325	*e*P	P	20 05 44.7	+0.4
SUW	Suwalki	78.11	325	*e*P	P	20 05 45.5	+1.2
URZ	Urewera	78.14	144	LR	LR	20 33 57.9	
	comp=Z,67nm,21.7s,baz=11,slow=31						
RTZ	Ruatahuna	78.33	144		P	20 05 43.8	-1.8
ANTO	Ankara	78.49	309	P	P	20 05 47.0	+0.2
ANTO	Ankara	78.49	309	P	P	20 05 47.0	+0.2
ANTO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ASF	Jabal al Asfar	78.60	300	LR	LR	20 47 12.6	
	comp=Z,79nm,18.7s,baz=89,slow=41						
JMIC	Jan Mayen	78.62	347	LR	LR	20 45 13.3	
	comp=Z,53nm,18.0s,baz=78,slow=39						
KULLO	Kullorsuaq	79.27	2	*i*P	P	20 05 49.1

comp=Z,10nm,0.9s
RPZ Rata Peaks 79.38 151 LR LR 20 37 37.1
comp=Z,82nm,21.8s,baz=340,slow=33
MMAI Mount Meron Ar 79.41 302 P **P 20 05 52.2 +0.3**
comp=Z,3.5nm,0.9s,baz=72,slow=9.3,SNR=2.3
MMAI LR LR 20 46 43.8
comp=Z,124nm,19.0s,baz=60,slow=40
comp=Z,3.5nm,0.9s
NC405 NORSAR Array S 79.55 334 IAmb IAmb 20 06 03.6
comp=Z,21nm,0.8s
BALJ Balqa 79.61 301 IAmb IAmb 20 06 06.2
comp=Z,22nm,0.8s
NC303 NORSAR Array S 79.62 334 IAmb IAmb 20 06 06.0
comp=Z,21nm,1.1s
TESR Tescani 79.64 317 ⇓P **P 20 05 53.5 +0.6**
TLBR Topalu 79.66 315 ⇑P **P 20 05 52.8 -0.2**
HARR Harsova 79.67 315 ⇓P **P 20 05 54.1 +1.1**
NB2 NORSAR Subarra 79.79 334 P **P 20 05 52.5 -0.9**
comp=Z,14nm,0.8s,baz=52,slow=5.9
NB2 NORSAR Subarra 79.79 334 P **P 20 05 50.7 -2.7**
NB2 NORSAR Subarra 79.79 334 P **P 20 05 52.5 -0.9**
baz=52,slow=5.9
NOA NORSAR Array B 79.79 334 P **P 20 05 52.8 -0.6**
comp=Z,7.5nm,1.0s,baz=51,slow=5.5,SNR=20
comp=Z,7.5nm,1.0s
NC204 NORSAR Array S 79.82 335 IAmb IAmb 20 06 05.1
comp=Z,15nm,0.8s
NORES NORESS Array B 79.84 334 P **P 20 05 55.3 +1.6**
NORES pmax pmax
comp=Z,2.0nm,1.0s
VRI Vrincioaia 79.89 316 ⇓P **P 20 05 55.8 +1.6**
PLOR Plostina 79.95 316 ⇑P **P 20 05 56.9 +2.4**
BURAR Bucovina Array 80.00 318 **P 20 05 55.0 +0.1**
BURAR Bucovina Array 80.00 318 ⇓P **P 20 05 54.5 -0.4**
BURAR Bucovina Array 80.00 318 P **P 20 05 55.5 +0.6**
ICOR Ion Corvin 80.01 314 ⇑P **P 20 05 55.8 +0.9**
CSS Mathiatis 80.16 304 IAmb IAmb 20 06 07.7
comp=Z,15nm,0.7s
COVR Voineasa-Covas 80.23 316 ⇓P **P 20 05 57.2 +1.1**
BEL Belsk 80.45 323 *e*P **P 20 05 59.1 +2.0**
MLR Muntele Rosu 80.55 316 LR LR 20 44 41.0
comp=Z,339nm,20.7s,baz=56,slow=38
MLR Muntele Rosu 80.55 316 ⇓P **P 20 05 59.8 +1.8**
DOPR Dopca 80.67 317 ⇓P **P 20 05 59.5 +1.1**
SUMG Summit 81.05 356 **P 20 06 00.2 -0.2**
SUMG IAmb IAmb 20 06 14.7
comp=Z,27nm,1.0s
SUMG Summit 81.05 356 P **P 20 06 00.2 -0.2**
SUMG pmax pmax
comp=Z,27nm,1.0s
SUMG Summit 81.05 356 *i* P **P 20 06 00.2 -0.2**
SUMG IAmb IAmb 20 06 12.4
comp=Z,34nm,1.1s
KOLS Kolonicke sedl 81.08 320 *e*P **P 20 06 01.6 +1.0**
KOLS pmax pmax
comp=Z,4.0nm,1.2s
KOLS Kolonicke sedl 81.08 320 *e*P **P 20 06 01.6 +1.0**
EIL Elat 81.16 299 LR LR 20 47 34.7
comp=Z,92nm,18.5s,baz=64,slow=40
SCO Scoresbysund 81.38 351 *i* P **P 20 06 00.9 -0.9**
SCO IAmb IAmb 20 06 26.4
comp=Z,23nm,1.3s
ARR Arges 81.42 316 ⇑P **P 20 06 03.6 +1.0**
BAND Balkesir-Ban 81.52 311 ⇑P **P 20 06 01.5 -1.6**
HUMR Humele 81.61 316 ⇓P **P 20 06 03.3 -0.1**
MARR Marisel-Cluj 81.71 318 ⇓P **P 20 06 04.3 +0.2**
ELL Elmali 81.89 307 P **P 20 06 07.3 +2.1**
ELL pmax pmax
comp=Z,23nm,1.0s
ILON Igloolik, Nuna 81.92 11 IAmb IAmb 20 06 25.1
comp=Z,15nm,0.8s
LOT Lotru 81.92 317 ⇑P **P 20 06 06.5 +1.2**
NIE Niedzica 81.95 322 *e*P **P 20 06 08.0 +2.7**
GZR Gura Zlata 82.55 317 ⇓P **P 20 06 08.2 -0.3**
GZR Gura Zlata 82.55 317 ⇓P **P 20 06 08.2 -0.3**
SURR Surduc 82.77 318 ⇓P **P 20 06 10.1 +0.6**
BLKN Baker Lake 82.93 18 IAmb IAmb 20 06 21.9
comp=Z,26nm,1.6s
HERR Herculane 83.03 317 ⇓P **P 20 06 11.1 +0.2**
SNART Snartemo 83.06 333 *i* P **P 20 06 11.0 +0.2**
BZS Buzias 83.14 318 ⇓P **P 20 06 12.5 +1.0**
BZS Buzias 83.14 318 ⇓P **P 20 06 12.5 +1.0**
RAR Rarotonga 83.15 118 LR LR 20 35 14.4
comp=Z,58nm,21.7s,baz=286,slow=30
VYHS Vyhne 83.26 321 *e*P **P 20 06 13.1 +1.1**
VYHS pmax pmax
comp=Z,10.0nm,1.0s
VYHS Vyhne 83.26 321 *e*P **P 20 06 13.1 +1.1**
KSP Ksiaz 83.36 324 *e*P **P 20 06 14.3 +1.8**
MUD Monsted U'grnd 83.45 331 *i* P **P 20 06 14.0 +1.3**
MUD IAmb IAmb 20 06 24.4
comp=Z,29nm,1.3s
MDVR Moldovita 83.51 317 ⇑P **P 20 06 14.0 +0.5**
DPC Dobruska-Polom 83.62 324 *e*P **P 20 06 16.3 +2.4**
DPC Dobruska-Polom 83.62 324 *e*P **P 20 06 16.3 +2.4**
CHVC Chvalec 83.63 324 *e*P **P 20 06 15.7 +1.8**
CHVC Chvalec 83.63 324 *e*P **P 20 06 15.7 +1.8**
MXC Moxie City 83.90 41 IAmb IAmb 20 06 28.9
comp=Z,21nm,1.1s
VRAC Vranov 84.06 323 LR LR 20 47 19.5
comp=Z,506nm,19.2s,baz=66,slow=38
BOVS Bovan 84.10 316 ⇑P **P 20 06 16.6 +0.2**
MODS Modra-Piesok 84.20 322 *e*P **P 20 06 19.6 +2.8**
MODS pmax pmax
comp=Z,75nm,1.7s
MODS Modra-Piesok 84.20 322 *e*P **P 20 06 19.6 +2.8**
KRUC Moravsky 84.30 323 *e*P **P 20 06 17.9 +0.6**
ICESG Greenland Ices 84.56 356 *i* P **P 20 06 17.3 -1.4**
ICESG IAmb IAmb 20 06 21.2
comp=Z,25nm,1.3s
BRG Berggiesshubel 84.57 325 *e*P **P 20 06 20.6 +2.0**
BRG Amp 20 06 21.9
comp=Z,8.0nm,1.0s
MORH Mrgy, Hungar 84.60 319 ⇑P **P 20 06 19.9 +1.1**
CLL Collm 84.79 326 IAmb IAmb 20 06 32.0
comp=Z,15nm,0.8s
CLL Collm 84.79 326 *i* P **P 20 06 20.2 +0.5**
CLL *e*S **S 20 16 46.0 -1.8**
CLL pmax pmax
comp=Z,13nm,1.1s
CLL MLR MLR
comp=Z,500nm,18.0s
CLL Collm 84.79 326 *i* P **P 20 06 20.2 +0.5**
comp=Z,13nm,1.1s
CLL *i* x x 20 06 30.7
comp=Z,20nm,1.1s
CLL *e*S **S 20 16 46.0 -1.8**
CLL *e*PS **PnS 20 17 36.0 -5.7**
CLL *ex* x 20 23 42.0
CLL AMS AMS 20 48 00.0
comp=Z,500nm,18.0s
YBH Yreka Blue Hor 84.94 46 P **P 20 06 21.8 +0.9**
YBH IAmb IAmb 20 06 23.4
comp=Z,26nm,1.4s
YBH Yreka Blue Hor 84.94 46 LR LR 20 45 24.6
comp=Z,25nm,18.2s,baz=322,slow=36
YBH Yreka Blue Hor 84.94 46 P **P 20 06 21.8 +0.9**
YBH pmax pmax
comp=Z,26nm,1.5s
HSKC Hora Svate Kat 84.99 325 *e*P **P 20 06 23.2 +2.4**
J05D Fort Rock, OR 85.07 44 **P 20 06 22.4 +0.9**
J05D IAmb IAmb 20 06 24.1
comp=Z,19nm,1.0s
ZVC Zvikov 85.27 324 *e*P **P 20 06 23.0 +0.8**
ZVC *ex* x 20 06 33.8
G08A Pilot Rock 85.38 41 IAmb IAmb 20 06 27.0
comp=Z,20nm,1.6s
CKRC Cesky Krumlov 85.57 323 *e*P **P 20 06 24.3 +0.6**
CKRC *ex* x 20 06 35.1
CKRC Cesky Krumlov 85.57 323 *e*P **P 20 06 24.3 +0.6**
I07A Izee 85.71 42 IAmb IAmb 20 06 51.2
comp=Z,21nm,1.5s
KHC Kasperske Hory 85.78 324 *e*P **P 20 06 25.8 +1.0**
KHC Kasperske Hory 85.78 324 *e*P **P 20 06 25.8 +1.0**
GERES GERESS Array B 85.88 323 **P 20 06 25.1 -0.3**
GERES GERESS Array B 85.88 323 P **P 20 06 25.6 +0.3**
comp=Z,3.4nm,0.9s,baz=57,slow=4.9,SNR=16
comp=Z,3.4nm,0.9s
MOX Moxa 85.89 326 *e*L 20 49 24.1
comp=Z,232nm,18.1s
PDG Podgorica 86.26 316 IAmb IAmb 20 06 38.9
comp=Z,25nm,1.1s
BORG Borgarnes 86.47 348 LR LR 20 46 58.4
comp=Z,39nm,20.1s,baz=2.1,slow=37
GRF Grafenberg Arr 86.67 325 *e*P 20 06 29.8
comp=Z,7.4nm,1.1s,baz=61,slow=4.8
GRF *e*L 20 49 19.6
comp=Z,416nm,18.7s
SFJD Kangerlussuaq 86.99 0 LR LR 20 47 34.9
comp=Z,58nm,18.3s,baz=3.5,slow=37
WVOR Wild Horse Val 87.14 44 IAmb IAmb 20 07 38.1
comp=Z,18nm,0.8s
MSO Missoula 87.38 38 IAmb IAmb 20 06 45.9
comp=Z,9.2nm,0.8s
BEKR Beckworth 87.44 46 IAmb IAmb 20 06 35.0
comp=Z,20nm,1.2s
FFC Flin Flon 87.97 27 **P 20 06 35.0 -0.3**
FFC IAmb IAmb 20 06 36.7
comp=Z,14nm,1.1s
FFC Flin Flon 87.97 27 P **P 20 06 35.0 -0.3**
FFC pmax pmax
comp=Z,14nm,1.1s
PAHR Pah Rah Range 88.16 46 IAmb IAmb 20 06 38.6
comp=Z,16nm,1.2s
CMB Columbia Colle 88.41 48 IAmb IAmb 20 06 39.6
comp=Z,17nm,1.2s
WAKR Walker 88.78 47 IAmb IAmb 20 06 41.5
comp=Z,13nm,1.3s
HLID Hailey 89.04 41 IAmb IAmb 20 06 44.6
comp=Z,29nm,1.6s
DAVOX Davos/Dischmat 89.18 323 LR LR 20 50 43.6
comp=Z,604nm,18.5s,baz=80,slow=38
EKA Eskdalemuir Ar 89.23 335 P **P 20 06 40.5 -0.8**
comp=Z,1.3nm,0.7s,baz=58,slow=5.0,SNR=6.1
comp=Z,1.3nm,0.7s
BOZ Bozeman (W) 89.40 38 IAmb IAmb 20 06 55.8
comp=Z,19nm,1.7s
LHV Little Huntoon 89.53 47 IAmb IAmb 20 06 47.0
comp=Z,26nm,1.5s
NVAR Mina Array Bea 89.56 47 **P 20 06 43.9 +0.5**
NVAR Mina Array Bea 89.56 47 P **P 20 06 44.1 +0.6**
comp=Z,2.2nm,0.8s,baz=275,slow=5.4,SNR=9.0
comp=Z,2.2nm,0.8s
TUE Stuetta 89.66 323 IAmb IAmb 20 07 00.1
comp=Z,45nm,2.0s
FDMO Fiordimonte 89.67 319 IAmb IAmb 20 06 56.1
comp=Z,19nm,0.9s
PPT Papeete 89.75 110 LR LR 20 39 36.9
comp=Z,67nm,20.3s,baz=302,slow=31
PPT2 Papeete2 89.76 110 *e*LR LR 20 35 18.1
comp=Z,266nm,26.0s
PPT2 *e*LR LR 20 35 20.7
comp=Z,231nm,29.2s
NRCA Norcia 89.77 319 IAmb IAmb 20 06 47.2
comp=Z,16nm,1.1s
CAMP Campotosto 89.77 318 IAmb IAmb 20 06 56.4
comp=Z,14nm,0.9s
INTR Introdacqua 89.78 318 IAmb IAmb 20 06 57.0
comp=Z,11nm,0.8s
AQU L'Aquila 89.88 318 P **P 20 06 47.5 +2.9**
AQU pmax pmax
comp=Z,26nm,1.0s
YHL Hebgen Lake 90.11 38 IAmb IAmb 20 06 48.9
comp=Z,40nm,1.9s
YMR Madison River 90.34 38 IAmb IAmb 20 06 50.9
comp=Z,13nm,1.1s
YMP Mirror Lake Pl 90.75 38 IAmb IAmb 20 07 03.5
comp=Z,22nm,1.5s
RLMT Red Lodge 90.99 37 IAmb IAmb 20 07 04.3
comp=Z,30nm,1.9s
HVU Hansel Valley 91.08 42 IAmb IAmb 20 06 54.9
comp=Z,26nm,1.6s
R11B Troy Canyon, C 91.37 46 IAmb IAmb 20 07 05.3
comp=Z,15nm,1.4s
BGU Big Grassy Mou 91.44 42 IAmb IAmb 20 06 55.8
comp=Z,15nm,1.5s
WCT Wildcat Mounta 91.58 47 IAmb IAmb 20 06 55.0
comp=Z,33nm,2.0s
GWY Greenwater Val 91.90 48 IAmb IAmb 20 06 58.0
comp=Z,25nm,1.5s
DUG Dugway, Tooele 92.01 43 IAmb IAmb 20 06 57.3
comp=Z,16nm,1.2s
PRN Pahroc Range 92.26 46 IAmb IAmb 20 07 26.6
comp=Z,15nm,1.3s
PD31 Pinedale Array 92.33 39 IAmb IAmb 20 06 58.7
comp=Z,23nm,2.0s
PDAR Pinedale Array 92.33 39 P **P 20 06 55.5 -0.8**
PDAR Pinedale Array 92.33 39 P **P 20 06 56.7 +0.4**
comp=Z,2.1nm,1.1s,baz=299,slow=3.1,SNR=7.8
comp=Z,2.1nm,1.1s
PSUT Pine Spring 92.36 45 IAmb IAmb 20 07 00.3
comp=Z,9.4nm,1.0s
TBI Tubuai 92.51 115 *e*LR LR 20 36 34.9
comp=Z,1μm,34.5s
BSUT Blindstream Ca 93.04 42 IAmb IAmb 20 07 13.7
comp=Z,16nm,1.5s
V12A Nelson 93.37 47 IAmb IAmb 20 07 03.4
comp=Z,16nm,1.2s
PFO Pinyon Flats O 93.50 50 P **P 20 07 01.9 +0.2**
PFO Pinyon Flats O 93.50 50 LR LR 20 53 22.2
comp=Z,66nm,18.1s,baz=234,slow=38
PFO Pinyon Flats O 93.50 50 P **P 20 07 01.9 +0.2**
PFO pmax pmax
comp=Z,18nm,1.1s
LCMT Little Creek M 93.66 46 IAmb IAmb 20 07 04.9
comp=Z,11nm,1.1s
MTPU Mount Pierson 93.71 44 IAmb IAmb 20 07 08.3
comp=Z,16nm,1.4s
P18A Preston Nutter 93.91 42 IAmb IAmb 20 09 08.9
comp=Z,6.6nm,0.7s
TAOE Nuku Hiva Isla 94.09 98 *e*LR LR 20 37 15.6
comp=Z,154nm,25.3s
U15A North Rim 94.62 46 IAmb IAmb 20 07 11.5
comp=Z,10nm,1.2s
BLYC Blythe 94.74 49 IAmb IAmb 20 07 09.7
comp=Z,14nm,1.1s
Y14A Wickenburg 95.65 48 IAmb IAmb 20 07 13.8
comp=Z,12nm,1.3s
113A Mohawk Valley, 95.83 49 IAmb IAmb 20 07 15.3
comp=Z,14nm,1.4s
KEST Kesra 96.42 315 LR LR 20 56 11.6
comp=Z,162nm,19.2s,baz=343,slow=39
ESDC Sonseca Array 101.38 325 P **Pdif 20 07 36.9 -0.1**
comp=Z,0.2nm,0.3s,baz=44,slow=6.0,SNR=2.7
QSPA South Pole Qui 116.08 180 PKP **PKPdf 20 12 27.1 -0.7**
comp=Z,2.2nm,0.7s,baz=322,slow=1.2,SNR=15
PLCA Paso Flores 157.95 136 PKP **PKPdf 20 13 42.1 -0.3**
comp=Z,1.9nm,1.0s,baz=233,slow=7.6,SNR=3.0
PLCA PKPab **PKPab 20 14 14.9 -0.6**
comp=Z,1.7nm,0.9s,baz=209,slow=7.3,SNR=2.6
LPAZ La Paz 160.73 62 PKP **PKPdf 20 13 46.5 -0.5**
comp=Z,0.9nm,0.4s,baz=30,slow=3.0,SNR=4.8
LPAZ PKPab **PKPab 20 14 28.2 -0.7**
comp=Z,2.6nm,0.9s,baz=323,slow=4.8,SNR=5.2

TAP 11 19:55:13.5, 24°.18N×122°.65E, h66km±1km, ML2.8, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.31**	**259**	*e*P	Pn	19 55 24.7	+0.8
EOS4				*e*S	Sn	19 55 33.0	+1.5
EOS3	**EOS3**	**0.32**	**289**	*e*P	Pn	19 55 25.6	+1.4
EOS3				*e*S	Sn	19 55 33.4	+1.2
EOS2	**EOS2**	**0.45**	**302**	*e*P	Pn	19 55 26.1	+0.7
EOS2				*e*S	Sn	19 55 35.0	+0.9
ENA	**Nanau**	**0.87**	**287**	*e*P	Pn	19 55 30.7	+0.5
ENA				*e*S	Sn	19 55 42.6	+0.2
ETL	**Fush Village**	**0.94**	**269**	*e*P	Pn	19 55 30.4	-0.7
NACB	**Ninganchiao**	**0.97**	**270**	Pn	Pn	19 55 31.2	-0.2
NACB	**Ninganchiao**	**0.97**	**270**	P	Pn	19 55 31.3	-0.1
TWD	**Chiawan**	**0.97**	**264**	*e*P	Pn	19 55 31.9	+0.4
TWD				*e*S	Sn	19 55 44.1	-0.6
TWE	**Neicheng**	**1.05**	**301**	*e*P	Pn	19 55 31.9	-0.6
ETLH	**Xiulin Townshi**	**1.07**	**272**	*e*P	Pn	19 55 33.7	+0.9
SHUL	**Shoufeng**	**1.07**	**249**	*e*P	Pn	19 55 33.0	+0.3
ETM	**Tongmen**	**1.08**	**259**	*e*P	Pn	19 55 32.8	-0.1
LATG	**Datong**	**1.09**	**289**	P	Pn	19 55 33.2	+0.1
LATG				*e*S	Sn	19 55 48.4	+0.9
ENTT	**Nioudou**	**1.09**	**295**	*e*P	Pn	19 55 33.4	+0.4
TEGC	**Jichi Village**	**1.12**	**246**	*e*P	Pn	19 55 33.7	+0.4
FUSB	**Fushanzhiwuyua**	**1.13**	**301**	*e*P	Pn	19 55 33.0	-0.6
LXIB	**Xiulin Townshi**	**1.14**	**262**	P	Pn	19 55 34.0	+0.2
ESL	**Shilin**	**1.17**	**252**	P	Pn	19 55 33.7	-0.4
NNSB	**Datong**	**1.19**	**282**	*e*P	Pn	19 55 34.5	+0.2
NWLT	**Wulai**	**1.21**	**300**	*e*P	Pn	19 55 33.9	-0.6
WARBT	**Fenglin Townsh**	**1.25**	**249**	P	Pn	19 55 34.6	-0.4
YHNB	**Yeheng**	**1.26**	**293**		Pn	19 55 35.0	-0.3
YHNB	**Yeheng**	**1.26**	**293**	P	Pn	19 55 36.8	+1.5
YHNB	**Yeheng**	**1.26**	**293**	*e*P	Pn	19 55 35.3	0.0
WHF	**Hehuan Shan**	**1.27**	**269**	*e*P	Pn	19 55 36.7	+1.0
NSK	**Sanguang**	**1.28**	**293**	*e*P	Pn	19 55 35.7	+0.2
FUSS	**Fushou**	**1.29**	**273**	P	Pn	19 55 37.0	+1.2
FUSS				*e*S	Sn	19 55 53.5	+1.1
HGSD	**Ruisui**	**1.32**	**239**	*e*P	Pn	19 55 34.9	-1.0
TWT	**Tachien**	**1.35**	**273**	P	Pn	19 55 38.2	+1.7
TDCB	**Techi**	**1.37**	**273**	P	Pn	19 55 37.8	+1.1
OWD	**Renai**	**1.37**	**261**	P	Pn	19 55 37.7	+1.0
OWD				*e*S	Sn	19 55 54.1	-0.1
EHY	**Hungye**	**1.39**	**241**	*e*P	Pn	19 55 36.9	0.0
EHY				*e*S	Sn	19 55 53.4	-1.1
WUSB	**Renai**	**1.42**	**263**	*e*P	Pn	19 55 38.0	+0.6
VWDT	**VWDT**	**1.45**	**253**	P	Pn	19 55 38.5	+0.9
YULB	**Yu-li**	**1.47**	**238**		Pn	19 55 37.7	-0.3
YULB	**Yu-li**	**1.47**	**238**	*e*P	Pn	19 55 37.5	-0.4
KSHI	**Guanxi Townshi**	**1.47**	**294**	*e*P	Pn	19 55 39.5	+1.5
NFF	**Wufeng Townshi**	**1.47**	**288**	*e*P	Pn	19 55 39.2	+1.2
NFF				*e*S	Sn	19 55 57.5	+1.1
EYUL	**Yuli**	**1.48**	**236**	*e*P	Pn	19 55 37.5	-0.5
EYUL				*e*S	Sn	19 55 56.4	-0.1
TWF1	**Yuli**	**1.49**	**237**	*e*P	Pn	19 55 37.3	-0.9
WHP	**Taichung City**	**1.56**	**274**	*e*P	Pn	19 55 41.5	+2.2
WHP				*e*S	Sn	19 56 00.7	+2.0
LIOB	**Emei**	**1.56**	**288**	*e*P	Pn	19 55 39.8	+0.6
NSTT	**Nanjuang**	**1.57**	**287**	*e*P	Pn	19 55 40.7	+1.4
FULB	**Fuli**	**1.58**	**232**	*e*P	Pn	19 55 37.9	-1.6
WCS	**Beigang Elemen**	**1.60**	**266**	*e*P	Pn	19 55 41.0	+1.4
WCS				*e*S	Sn	19 56 00.2	+0.9
SSLB	**Suanglung**	**1.60**	**256**		Pn	19 55 39.8	+0.1
SSLB	**Suanglung**	**1.60**	**256**	*e*P	Pn	19 55 40.6	+0.8
SMLT	**Sun Moon Lake**	**1.63**	**260**	*e*P	Pn	19 55 41.3	+1.1
SMLT				*e*S	Sn	19 56 01.4	+1.0
TYC	**Yuchr**	**1.67**	**261**	P	Pn	19 55 42.0	+1.4
WHYT	**Xinyi Township**	**1.72**	**254**	*e*P	Pn	19 55 42.7	+1.4
WHYT				*e*S	Sn	19 56 02.6	+0.3
EDH	**Donghe**	**1.73**	**226**	*e*P	Pn	19 55 41.8	+0.4
ELDTW	**Lidau**	**1.79**	**237**	*e*P	Pn	19 55 41.5	-0.9
WJS	**Zhushan**	**1.80**	**259**	*e*P	Pn	19 55 45.2	+2.9
ALS	**Alishan**	**1.82**	**249**	P	Pn	19 55 44.4	+1.5
WNT	**Mingjian**	**1.82**	**261**	*e*P	Pn	19 55 45.5	+2.8
LONT	**Longtian**	**1.89**	**228**	*e*P	Pn	19 55 43.0	-0.6
CHN5	**Tsauling**	**1.90**	**253**	*e*P	Pn	19 55 46.5	+2.7
WGK	**Gukeng**	**1.98**	**256**	*e*P	Pn	19 55 47.0	+2.3
TWGBT	**Beinan**	**1.98**	**227**	*e*P	Pn	19 55 42.3	-2.5
TWG	**Pinlang**	**1.98**	**227**		Pn	19 55 42.7	-2.2
TWG	**Pinlang**	**1.98**	**227**	*e*P	Pn	19 55 42.5	-2.3
STYH	**Taoyuan**	**1.99**	**240**	*e*P	Pn	19 55 44.3	-0.7
WDLH	**Douliu**	**2.00**	**256**	*e*P	Pn	19 55 46.1	+1.1
WCKO	**Fanlu**	**2.02**	**249**	*e*P	Pn	19 55 47.9	+2.7
TPUB	**Ta-pu**	**2.05**	**245**		Pn	19 55 47.4	+1.7
TPUB	**Ta-pu**	**2.05**	**245**	*e*P	Pn	19 55 47.6	+1.9
CHN4	**Tsaushan**	**2.06**	**247**	*e*P	Pn	19 55 48.0	+2.1
WTP	**Ta-pu**	**2.09**	**244**	*e*P	Pn	19 55 48.6	+2.3
TWK	**Hsinying**	**2.18**	**246**	*e*P	Pn	19 55 48.9	+1.4
CHN1	**Nanshi**	**2.19**	**244**	*e*P	Pn	19 55 49.6	+2.0
SGST	**Jiashian**	**2.19**	**241**	*e*P	Pn	19 55 48.8	+1.1
SNST	**Tainan City**	**2.19**	**245**	*e*P	Pn	19 55 50.5	+2.8
ECL	**Taimali**	**2.22**	**225**	*e*P	Pn	19 55 49.1	+1.1
SSD	**Sandimen**	**2.34**	**233**	*e*P	Pn	19 55 51.1	+1.4
SCST	**Cishan**	**2.36**	**237**	*e*P	Pn	19 55 52.4	+2.5
MASBT	**Mashibuluo**	**2.42**	**230**	*e*P	Pn	19 55 49.6	-1.2
EAST	**Anshuo**	**2.44**	**223**	*e*P	Pn	19 55 49.0	-2.1
SLIU	**Shizi**	**2.59**	**221**	*e*P	Pn	19 55 50.0	-3.1

PRU 11 20:05:51.5, 50°.07N×18°.84E, h0km, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.64**	**76**	*e*P	Pb	20 06 06.0	+0.5
STEB	**Steborice**	**0.70**	**259**	*e*PG	Pg	20 06 05.7	+0.8
STEB				*e*SG	Sg	20 06 14.2	+0.2
MORC	**Moravsky Berou**	**0.89**	**251**	*e*P	Pn	20 06 13.8	+2.5
MORC	**Moravsky Berou**	**0.89**	**251**	⇑P	Pn	20 06 13.8	+2.5
MORC	**Moravsky Berou**	**0.89**	**251**	⇑P	Pn	20 06 13.8	+2.5
KRLC	**Kraliky**	**1.33**	**271**	*e*SG	Sg	20 06 33.2	-0.9
JAVC	**Velka Javorina**	**1.43**	**213**	*e*P	Pn	20 06 17.4	-1.4
DPC	**Dobruska-Polom**	**1.64**	**281**	*e*SG	Sn	20 06 43.4	-0.1
VRAC	**Vranov**	**1.65**	**243**	*e*P	Pn	20 06 17.8	-3.9
VRAC	**Vranov**	**1.65**	**243**	⇓P	Pn	20 06 19.4	-2.3
VRAC	**Vranov**	**1.65**	**243**	⇓P	Pn	20 06 19.4	-2.3

NCEDC ***11*** *20:10:59.5±1.1, 37°.10N±0°.04×121°.49W±0°.07, h-0km±1km, Mwr3.1/3, ML2.9/60(NEIC), Error ellipse: s-maj=8.6km s-min=3.4km az=62.0*

NEIC 11 20:10:59.1±1.1, 37°.11N±0°.02×121°.490W±0°.009, h5km±2km, Error ellipse: s-maj=4.2km s-min=2.9km az=182.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHS	**Gilroy Hot Spr**	**0.04**	**108**		Pg	20 11 00.1	-0.2
CDC	**Canada Road**	**0.08**	**177**		Pg	20 11 01.1	+0.2
HCAM	**Canada Road**	**0.08**	**177**		Pg	20 11 01.1	+0.2
CADM	**Anderson Res.**	**0.12**	**298**		Pg	20 11 02.1	+0.5
CADM					Sg	20 11 04.7	+1.4
HLPM	**Lions Peak**	**0.13**	**240**		Pg	20 11 02.2	+0.4
HLPM					Sg	20 11 05.1	+1.6
HFEM	**San Felipe**	**0.14**	**150**		Pg	20 11 02.3	+0.3
HPCM	**Pacheco Lake**	**0.18**	**105**		Pg	20 11 03.0	+0.4
HPCM					Sg	20 11 06.2	+1.2
PACP	**Pacheco Peak**	**0.19**	**121**		Pg	20 11 03.3	+0.5
PACP					Sg	20 11 06.8	+1.4
PACP	**Pacheco Peak**	**0.19**	**121**	IAML		20 11 07.2	
	comp=N,11μm,0.3s						
PACP				IAML		20 11 07.3	
	comp=E,12μm,0.5s						
JLAB	**Laurel Hill**	**0.20**	**284**		Pg	20 11 03.8	+0.7
JLAB					Sg	20 11 07.1	+1.4
CCOB	**Coe Ranch Numb**	**0.21**	**316**		Pg	20 11 04.2	+0.9
SLD	**San Luis Dam**	**0.22**	**98**		Pg	20 11 03.8	+0.4
SLD					Sg	20 11 07.4	+1.2
HCBM	**Chamberlain**	**0.22**	**218**		Pg	20 11 04.3	+0.8
HCBM					Sg	20 11 08.3	+1.9
ARN	**Arnold Ranch**	**0.24**	**352**		Pg	20 11 04.5	+0.7
ARN					Sg	20 11 09.1	+2.0
MHC	**Mount Hamilton**	**0.26**	**333**		Pg	20 11 05.0	+0.7
MHC					Sg	20 11 09.4	+1.6
CMPM	**Mikes Peak**	**0.28**	**29**		Pg	20 11 05.4	+0.7
HSFM	**Saint Francis**	**0.29**	**181**		Pb	20 11 06.0	-0.8
HTUM	**Tustin Road**	**0.30**	**204**		Pg	20 11 05.8	+0.7
JELB	**Elliott, Sant**	**0.32**	**237**		Pb	20 11 06.4	-0.9
SAO	**San Andreas Ge**	**0.34**	**174**	Pg	Pb	20 11 06.8	-1.0
SAO	**San Andreas Ge**	**0.34**	**174**		Sb	20 11 12.9	-0.6
SCKWR	**San Luis Creek**	**0.34**	**77**		Pb	20 11 06.9	-0.8
SCCB	**Santa Clara Co**	**0.35**	**301**		Pb	20 11 06.8	-0.9
BSLM	**Silva Ranch**	**0.35**	**161**		Pg	20 11 06.8	+1.0
FRP	**Fremont Peak**	**0.35**	**180**		Pg	20 11 06.9	+0.9
HERM	**Elkhorn Road**	**0.35**	**210**		Pg	20 11 06.9	+1.0
CMLM	**Mount Lewis**	**0.39**	**341**		Pg	20 11 07.6	+0.9
CMLM					Sb	20 11 14.1	-0.9
JJOM	**Saint Joseph's**	**0.40**	**284**		Pg	20 11 07.3	+0.4
MTOS	**Mt Oso, Westle**	**0.42**	**18**		Pg	20 11 07.9	+0.7
MTOS	**Mt Oso, Westle**	**0.42**	**18**	IAML		20 11 17.2	
	comp=N,847nm,0.3s						
MTOS				IAML		20 11 17.5	
	comp=E,973nm,0.7s						
BSRM	**Salinas Radio**	**0.44**	**183**		Pg	20 11 08.2	+0.7
BJOM	**Mount Johnson**	**0.50**	**163**		Pb	20 11 09.6	-0.7
SCZ	**Santa Cruz**	**0.51**	**172**		Pg	20 11 09.4	+0.4
SCZ	**Santa Cruz**	**0.51**	**172**	IAML		20 11 18.0	
	comp=N,363nm,0.6s						
SCZ				IAML		20 11 21.7	
	comp=E,280nm,0.7s						
JSJM	**St Joseph**	**0.53**	**295**		Pb	20 11 10.3	-0.6
CSTL	**Corral Hollow**	**0.53**	**359**	

BGH Bear Gulch 0.72 289 Pg 20 11 13.4 +0.6
BSGM Shirttail Gulc 0.72 165 Pg 20 11 13.0 +0.1
CBSNC Byron Hot Spri 0.72 350 Pb 20 11 14.3 +0.2
BSMM Soledad Missio 0.72 176 Pg 20 11 13.6 +0.6
BPRM Ponciano Ridge 0.72 195 Pg 20 11 13.4 +0.4
CMOB Morgan Territo 0.74 341 Pb 20 11 15.2 +0.6
CLCB Lake Chabot 0.78 324 Pb 20 11 15.2 0.0
LRV Little Rabbit 0.78 151 Pb 20 11 15.2 +0.1
CSLM San Leandro Hi 0.79 321 Pb 20 11 15.2 -0.2
JCHM Cahill Ridge 0.82 300 Pg 20 11 15.1 +0.3
JCPM Coyote Point 0.82 306 Pb 20 11 15.7 -0.1
BGC Bolinger Road 0.84 327 Pb 20 11 16.6 +0.3
SAC San Andreas 0.88 303 Pg 20 11 16.0 +0.1
SMCB Saint Mary's C 0.88 326 Pb 20 11 16.9 0.0
BDM Black Diamond 0.90 341 Pn 20 11 17.8 -0.6
BPOM Post Ranch 0.90 194 Pg 20 11 16.6 +0.2
JSBM San Bruno Moun 0.92 309 Pg 20 11 17.1 +0.4
BAPM Anderson Peak 0.94 188 Pg 20 11 17.3 +0.2
JMGM Milagra Ridge 0.94 304 Pg 20 11 17.1 -0.1
BKS Berkeley--Byer 0.97 323 Pb 20 11 18.1 -0.3
BL67 Building 67, L 0.98 322 Pb 20 11 18.9 +0.3
VAK Adit at Lawren 0.98 322 Pb 20 11 18.7 +0.2
BRK Berkeley--Havi 0.98 322 Pb 20 11 18.5 0.0
CYBM Yerba Buena Is 0.99 316 Pg 20 11 18.2 +0.2
JPRM Presidio of Sa 1.04 312 Pg 20 11 19.2 +0.1
PMPB Monarch Peak 1.05 148 Pb 20 11 19.6 -0.2
PMPB Monarch Peak 1.05 148 IAML 20 11 41.2
comp=E,427nm,0.7s
PCCM Crazy Canyon 1.05 165 Pg 20 11 19.3 +0.1
CPIM Pinole Ridge 1.05 327 Pb 20 11 19.6 -0.2
CSPM San Pablo Ridg 1.07 323 Pb 20 11 20.4 +0.3
LEGD La Grand CA 1.08 84 Pg 20 11 19.0 -0.8
HULI Fort Hunter Li 1.10 169 Pg 20 11 19.9 -0.4
HULI Fort Hunter Li 1.10 169 IAML 20 11 40.2
comp=N,274nm,1.1s
HULI IAML 20 11 40.7
comp=E,174nm,0.8s
CPMM Point Molate 1.11 319 Pg 20 11 20.6 +0.1
PJUM Juniper Ridge 1.14 140 Pg 20 11 20.7 -0.2
PSAM San Ardo 1.18 156 Pg 20 11 21.1 -0.7
PDRM Domengine Ranc 1.19 130 Pg 20 11 21.0 -0.8
PAPM Alder Peak 1.20 175 Pg 20 11 21.7 -0.3
PSMM Smith Mountain 1.26 145 Pg 20 11 23.0 -0.3
CMB Columbia Colle 1.27 43 Pg 20 11 23.1 -0.5
CMB Columbia Colle 1.27 43 Pg Pg 20 11 22.8 -0.8
CMB IAML 20 11 41.2
comp=E,312nm,0.7s
CMB IAML 20 11 41.3
comp=N,247nm,0.7s
PKD Bear Valley Ra 1.39 146 Pn 20 11 24.4 -0.8
NOLM Olema 1.39 312 Pn 20 11 23.8 -1.4
NADM Allendale 1.40 344 Pn 20 11 24.4 -0.9
PVCM Vineyard Canyo 1.41 147 Pn 20 11 25.0 -0.5
PSTM Stockdale Moun 1.42 146 Pn 20 11 24.6 -1.0
PPO Portuguese Can 1.42 150 Pn 20 11 24.9 -0.7
FRI Friant 1.43 94 Pn 20 11 25.0 -0.7
CVS Carmenet Viney 1.46 328 Pn 20 11 25.7 -0.3
QRG Quail Ridge Na 1.47 339 Pn 20 11 25.4 -0.9
CTM Castle Mountai 1.50 141 Pn 20 11 26.2 -0.5
PHFM Heflinger Ranc 1.50 144 Pn 20 11 26.5 -0.2
PWKM Work Ranch 1.51 148 Pn 20 11 25.9 -0.9
MCCM Marconi Confer 1.51 314 Pn 20 11 25.9 -0.9
MCCM IAML 20 11 51.3
comp=N,145nm,1.4s
MCCM IAML 20 11 54.6
comp=E,171nm,0.9s
MCCM Marconi Confer 1.51 314 Pn 20 11 26.1 -0.7
GHC Gold Hill 1.57 144 Pn 20 11 27.1 -0.5
PKLM Kerr Lake 1.62 145 Pn 20 11 27.0 -1.4
KARE Kearney REC, C 1.67 107 Pn 20 11 28.1 -0.9
KCC Kaiser Creek 1.75 82 Pn 20 11 30.3 +0.2
TSCN Private Proper 1.81 149 Pn 20 11 30.2 -0.8
GAXM Alexander Vall 1.89 328 Pn 20 11 31.5 -0.5
PBPM Bitterwater Pu 1.90 143 Pn 20 11 31.9 -0.3
MDPB Devils Postpil 1.99 74 Pn 20 11 34.7 +1.0
MDPB Devils Postpil 1.99 74 IAML 20 12 04.0
comp=E,123nm,0.3s
MDPB IAML 20 12 07.1
comp=N,119nm,0.4s
MRDM Red Cones 2.00 75 Pn 20 11 34.8 +1.0
GSGM Seigler Mounta 2.00 332 Pn 20 11 33.9 +0.3
MINS Minaret Summit 2.01 74 Pn 20 11 34.9 +0.9
MMPM Mammoth Pass 2.02 75 Pn 20 11 35.3 +1.1
MDCM Deadman Creek 2.04 72 Pb 20 11 35.6 -1.2
MDYM Dry Creek 2.05 74 Pb 20 11 36.7 -0.3
MMLB Mammoth Lakes 2.08 74 Pb 20 11 36.7 -0.7
MEMM East Mammoth H 2.11 74 Pb 20 11 36.8 -1.1
MLCM Laurel Creek C 2.11 75 Pb 20 11 36.8 -1.3
MGPM Gravel Pit 2.13 75 Pb 20 11 37.6 -0.7
MCSM Casa Diablo Ho 2.13 74 Pb 20 11 37.8 -0.5
MCBM Casa Benchmark 2.13 75 Pb 20 11 37.8 -0.7
WAKR Walker 2.14 49 Pb 20 11 37.2 -1.3
WAKR Walker 2.14 49 IAML 20 12 06.3
comp=N,83nm,0.8s
SFRE Sierra Foothil 2.15 3 Pn 20 11 36.2 +0.6
MCVM Convict Lake 2.17 76 Pn 20 11 37.6 +1.4
MDRNC Doe Ridge 2.18 75 Pb 20 11 38.2 -1.0
MLHM Little Hot Cre 2.21 74 Pb 20 11 38.7 -0.9
HOPS Hopland Field 2.26 327 Pn Pn 20 11 36.5 -0.6
HOPS IAML 20 12 09.4
comp=E,45nm,2.3s
HOPS Hopland Field 2.26 327 Pn 20 11 36.9 -0.2
BENR Benton 2.40 74 Pb 20 11 41.6 -1.4
BHPR Bishop 2.41 85 Pn 20 11 41.1 +1.8
DONR Donner Summit 2.42 22 Pn 20 11 41.2 +1.6
MRCM Red Rock Canyo 2.44 76 Pb 20 11 42.4 -1.3
ORV Oroville 2.44 360 Pn 20 11 39.2 -0.5
MCDM Chidago Canyon 2.47 79 Pb 20 11 42.5 -1.6
PNTR Pine Nut 2.48 36 Pb 20 11 42.9 -1.3
LHV Little Huntoon 2.63 63 Pn 20 11 43.9 +1.7
LHV Little Huntoon 2.63 63 IAML 20 12 30.6
comp=N,48nm,0.9s
LHV IAML 20 12 35.2
comp=E,60nm,0.7s
RYN Ryan 2.80 56 Pn 20 11 44.3 -0.4
RYN IAML 20 12 29.5
comp=E,38nm,0.6s
RYN IAML 20 12 31.0
comp=N,42nm,0.9s
DSP Deep Springs 2.82 84 Pn 20 11 46.5 +1.6
DSP IAML 20 12 32.8
comp=E,37nm,0.9s
DSP IAML 20 12 34.8
comp=N,38nm,0.8s
NVAR Mina Array Bea 2.85 61 Pn 20 11 45.8 +0.4
BEKR Beckworth 2.90 18 Pn 20 11 46.6 +0.6
BEKR IAML 20 12 35.9
comp=E,29nm,0.6s
PAHR Pah Rah Range 3.08 32 Pn 20 11 49.2 +0.7
PAHR IAML 20 12 42.9
comp=N,22nm,1.2s
WCT Wildcat Mounta 3.91 93 IAML 20 13 09.2
comp=E,11nm,0.8s
WCT IAML 20 13 18.4
comp=N,16nm,4.9s
GWY Greenwater Val 3.98 102 Pb 20 12 09.8 -0.1
GWY IAML 20 13 18.4
comp=E,13nm,1.2s
GWY IAML 20 13 26.9
comp=N,12nm,1.8s
TPNV Topopah Spring 4.20 91 IAML 20 13 29.3
comp=N,18nm,1.4s
PRN Pahroc Range 5.15 85 IAML 20 13 51.4
comp=N,8.4nm,0.9s

---

*IDC **11** 20:16:57.4±5.7,29°.62N×81°.80E,h47km±54km,mb3.5/9, mbtmp3.6/12,ML3.4/3,Error ellipse: s-maj=51.1km s-min=18.3km az=52.0*

ISC 11 20:16:52.7±1.4,29°.6N±0°.2×81°.8E±0°.2,h10km,n12, σ0°98/11,mb3.5/9,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**14.31**	**338**	P	**Pn**	**20 20 17.5**	**+2.0**
	0.1nm,0.3s,baz=178,slow=11,SNR=2.1						
AAK				S	Sn	20 22 44.0	-10
	0.2nm,0.3s,baz=302,slow=14,SNR=1.7						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**17.22**	**1**	P	**Pn**	**20 20 53.8**	**+0.5**
	0.2nm,0.3s,baz=184,slow=12,SNR=10						
	0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.16**	**121**	P	**P**	**20 21 17.0**	**+0.7**
	0.1nm,0.3s,baz=309,slow=11,SNR=7.0						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**21.19**	**354**	P	**P**	**20 21 37.1**	**-1.1**
	1.5nm,0.8s,baz=178,slow=10,SNR=15						
	1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**24.48**	**4**	P	**P**	**20 22 11.2**	**-0.6**
	0.8nm,0.4s,baz=190,slow=10,SNR=5.2						
	0.8nm,0.4s						
BVAR	**Borovoye Array**	**24.90**	**344**	P	**P**	**20 22 15.5**	**-0.1**
	0.6nm,0.6s,baz=150,slow=12,SNR=4.0						
	0.6nm,0.6s						
SONM	**Songino Array**	**26.32**	**39**	P	**P**	**20 22 28.7**	**0.0**
	0.5nm,0.9s,baz=206,slow=9.6,SNR=2.1						
	0.5nm,0.9s						
FINES	**FINESS Array B**	**48.22**	**328**	P	**P**	**20 25 32.5**	**-0.8**
	1.3nm,0.8s,baz=86,slow=5.9,SNR=4.8						
	1.3nm,0.8s						
ARCES	**ARCESS Array B**	**50.98**	**338**	P	**P**	**20 25 53.4**	**-0.8**
	8.3nm,1.1s,baz=107,slow=6.0,SNR=2.2						
	8.3nm,1.1s						
HFS	**Hagfors**	**54.01**	**325**	P	**P**	**20 26 16.3**	**-0.5**
	1.3nm,0.6s,baz=91,slow=14,SNR=4.4						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**70.61**	**128**	P	P	20 28 08.0	-0.6
	0.3nm,0.7s,baz=318,slow=5.8,SNR=1.3						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**72.87**	**131**	P	**P**	**20 28 22.2**	**+0.1**
	0.1nm,0.4s,baz=311,slow=6.2,SNR=4.1						
	0.1nm,0.4s						

IDC 11 20:18:39.2±2.8,6°.21S×150°.11E,h0km,mb3.7/3, mbtmp3.8/4,ML1.7/1,Error ellipse: s-maj=76.1km s-min=39.8km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.32**	**222**	Pn	Pn	20 19 47.4	+1.2
	3.1nm,0.3s,baz=48,slow=9.5,SNR=6.3						
PMG				Sn	Sn	20 20 39.8	+2.5
	3.0nm,0.3s,baz=203,slow=22,SNR=3.9						
	12nm,0.6s						
WRA	**Warramunga Arr**	**20.52**	**227**	P	P	20 23 19.9	+0.6
	3.6nm,0.7s,baz=52,slow=11,SNR=21						
	3.6nm,0.7s						
ASAR	**Alice Springs**	**23.33**	**220**	P	P	20 23 48.2	-1.1
	1.0nm,0.8s,baz=51,slow=9.2,SNR=9.2						
	1.0nm,0.8s						
STKA	**Stephens Creek**	**26.75**	**196**	P	P	20 24 20.4	-0.4
	1.5nm,0.7s,baz=11,slow=16,SNR=3.4						
	1.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.14**	**285**	PKPbc	PKPbc	20 38 28.0	-0.2
	140nm,0.4s,baz=96,slow=3.7,SNR=1.8						

---

*IDC **11** 20:54:44.7±6.3,26°.27N×129°.45E,h0km,mb3.3/5, mbtmp3.3/5,MS2.4/1,Error ellipse: s-maj=342.7km s-min=24.3km az=64.0*
*JMA **11** 20:54:46.6±0.1,26°.3N±0°.6×129°.6E±0°.4,h45km,MV3.2/19, NEAR OKINAWAJIMA ISLAND*

ISC 11 20:54:44.0±1.7,26°.30N±0°.05×129°.58E±0°.04,h4km±11km, n20,σ1°.22/30,mb3.4/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.25**	**306**	*i* P	**Pg**	**20 55 08.2**	**+0.3**
JYRO				S	**Sg**	**20 55 23.8**	**-0.2**
JOW	**Kunigami**	**1.29**	**295**	*i* P	**Pg**	**20 55 08.9**	**+0.2**
JOW				S	**Sg**	**20 55 24.0**	**-1.4**
JOKE	**Okinoerabujima**	**1.39**	**320**	*i* P	**Pn**	**20 55 10.6**	**+0.5**
JOKE				S	**Sb**	**20 55 27.7**	**-1.0**
JNTH	**Nagotoyohara**	**1.42**	**279**	P	**Pn**	**20 55 10.4**	**-0.1**
JNTH				S	**Sb**	**20 55 27.8**	**-1.5**
JMZ	**Minamidaito 2**	**1.55**	**107**	P	**Pn**	**20 55 12.2**	**-0.1**
JMZ				S	**Sn**	**20 55 30.0**	**-2.8**
JKDJ	**Kitadaitoujima**	**1.58**	**102**	P	**Pn**	**20 55 12.8**	**+0.1**
JKDJ				S	**Sn**	**20 55 31.9**	**-1.7**
JTK	**Tokunoshima**	**1.59**	**339**	P	**Pn**	**20 55 13.5**	**+0.7**
JTK				S	**Sn**	**20 55 32.4**	**-1.4**
JIH	**Iheya**	**1.62**	**297**	P	**Pn**	**20 55 13.8**	**+0.5**
JIH				S	**Sn**	**20 55 33.2**	**-1.4**
JJT3	**Tamagusuku3**	**1.62**	**265**	P	**Pn**	**20 55 13.8**	**+0.4**
JJT3				S	**Sn**	**20 55 33.6**	**-1.1**
JAMN	**Amaminishikomi**	**1.97**	**349**	P	**Pn**	**20 55 18.8**	**+0.7**
JAM	**Amami Oshima**	**2.11**	**1**	P	**Pn**	**20 55 20.5**	**+0.5**
JAM				S	**Sn**	**20 55 45.4**	**-1.2**
JAGN	**Aguni-jima**	**2.12**	**278**	P	**Pn**	**20 55 20.8**	**+0.7**
JAGN				S	**Sn**	**20 55 45.1**	**-1.8**
JKE	**Kume jima 2**	**2.51**	**271**	P	**Pn**	**20 55 25.2**	**-0.3**
JTAJ	**Takarajima**	**2.87**	**353**	S	**Sn**	**20 56 03.0**	**-2.3**
KSRS	**Korea Array**	**11.21**	**353**	LR	LR	21 01 16.5	
	comp=Z,22nm,20.8s,baz=20,slow=35						
MKAR	**Makanchi Array**	**42.40**	**312**	P	**P**	**21 02 40.3**	**+0.7**
	0.3nm,0.9s,baz=110,slow=8.3,SNR=2.1						
	0.3nm,0.9s						
KURBB	**Kurchatov Arra**	**45.64**	**316**	P	**P**	**21 03 06.2**	**+0.7**
	0.3nm,0.7s,baz=105,slow=9.7,SNR=2.2						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**46.20**	**174**	P	**P**	**21 03 10.8**	**+0.7**
	0.5nm,0.8s,baz=355,slow=8.2,SNR=2.7						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**49.84**	**175**	P	**P**	**21 03 40.0**	**+1.7**
	0.4nm,0.7s,baz=357,slow=7.5,SNR=4.3						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**51.03**	**318**	P	**P**	**21 03 48.1**	**+1.0**
	0.2nm,0.5s,baz=81,slow=12,SNR=2.3						
	0.2nm,0.5s						

---

*IDC **11** 20:55:33.0±0.9,32°.41N×88°.39E,h0km,mb3.4/9, mbtmp3.4/12,ML3.3/2,Error ellipse: s-maj=35.2km s-min=17.8km az=55.0*

ISC 11 20:55:38.1±0.8,32°.6N±0°.2×88°.6E±0°.2,h35km,n13, σ1°.11/12,mb3.7/8,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.01**	**343**	Pn	**Pn**	**20 59 05.1**	**-2.5**
	baz=158,slow=14,SNR=4.6						
	0.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.85**	**144**	Pn	**Pn**	**20 59 30.0**	**-1.3**
	0.1nm,0.3s,baz=322,slow=10,SNR=4.5						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**19.52**	**341**	P	**P**	**21 00 02.2**	**0.0**
	0.4nm,0.6s,baz=158,slow=9.5,SNR=4.3						
SONM	**Songino Array**	**20.38**	**36**	P	Pn	21 00 14.2	+0.3
	0.6nm,0.7s,baz=218,slow=9.1,SNR=4.9						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**21.55**	**354**	P	**P**	**21 00 24.5**	**+0.3**
	0.7nm,0.6s,baz=163,slow=11,SNR=3.5						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**24.30**	**333**	P	**P**	**21 00 51.7**	**-0.3**
	0.3nm,0.5s,baz=148,slow=9.8,SNR=4.7						
	0.3nm,0.5s						
AKASG	**Malin Array Be**	**46.60**	**311**	P	**P**	**21 04 02.8**	**+0.3**
	0.7nm,0.6s,baz=81,slow=6.9,SNR=5.1						
	0.7nm,0.6s						
FINES	**FINESS Array B**	**48.93**	**326**	P	**P**	**21 04 21.0**	**+0.7**
	1.0nm,0.9s,baz=102,slow=10,SNR=1.2						
	1.0nm,0.9s						
GERES	**GERESS Array B**	**56.80**	**310**	P	**P**	**21 05 19.3**	**+0.5**
	0.5nm,0.6s,baz=78,slow=8.6,SNR=3.8						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**68.12**	**133**	P	**P**	**21 06 34.9**	**+0.2**
	0.6nm,0.8s,baz=326,slow=6.7,SNR=5.0						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**70.69**	**136**	P	**P**	**21 06 51.0**	**+0.5**
	0.5nm,0.7s,baz=325,slow=7.1,SNR=5.1						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**80.46**	**279**	P	**P**	**21 07 46.1**	**-0.6**
	67nm,0.3s,baz=59,slow=4.2,SNR=1.4						
YKA	**Yellowknife Ar**	**83.46**	**11**	P	**P**	**21 08 02.9**	**+1.2**
	0.2nm,0.8s,baz=336,slow=5.5,SNR=2.5						
	0.2nm,0.8s						

---

*IDC **11** 21:03:51.8±1.0,7°.18N×94°.03E,h0km,mb3.8/11, mbtmp3.8/12,ML3.7/1,MS3.2/4,Error ellipse: s-maj=39.9km s-min=19.9km az=59.0*
*NEIC **11** 21:03:54.4±1.4,7°.29N±0°.09×94°.3E±0°.1,h10km±2km, mb4.3/11,Error ellipse: s-maj=24.9km s-min=14.4km az=260.0*
*NDI **11** 21:03:55.6±2.6,7°.21N×94°.26E,h10km,ML4.1,MW4.1, MW5.1*

ISC 11 21:03:55.4±0.6,7°.22N±0°.06×94°.22E±0°.07,h21km,n44, σ0°91/34,mb4.0/17,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.36**	**234**	*e*P	**Pb**	**21 04 02.2**	**-0.8**
CMBY				*e*S	**Sb**	**21 04 07.2**	**-0.9**
CMBY				IAML		21 04 19.2	
	comp=E,14μm,0.2s						
CMBY				IAML		21 04 19.3	
	comp=N,20μm,0.2s						
LHMI	**Lhok Sumawe**	**3.36**	**126**		**Pn**	**21 04 46.5**	**-0.2**
PBA	**Port Blair**	**4.64**	**342**	*e*P	**Pn**	**21 05 06.5**	**+2.2**
PBA				IAML		21 05 26.4	
	comp=E,822nm,0.4s						
PBA				*e*S	**Sn**	**21 05 57.4**	**-0.2**
PBA				IAML		21 05 58.1	
	comp=N,466nm,0.4s						
SRIT	**Nakonsritamara**	**5.50**	**75**		**Pn**	**21 05 15.7**	**-0.5**
PSI	**Prapat**	**6.42**	**133**	LR	LR	21 08 13.3	
	comp=N,202nm,19.0s,baz=300,slow=40						
KULM	**Kulim**	**6.68**	**106**		**Pn**	**21 05 31.6**	**-0.7**
GSI	**Gunungsitoli**	**6.76**	**150**	Pn	**Pn**	**21 05 35.5**	**+1.9**
CM31	**Chiang Mai Arr**	**12.08**	**22**	Pn	**Pn**	**21 06 47.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**12.08**	**22**	Pn	**Pn**	**21 06 47.1**	**+0.7**
	comp=N,0.1nm,0.3s,baz=214,slow=14,SNR=5.2						
CMAR				LR	LR	21 10 39.7	
	comp=N,50nm,21.1s,baz=230,slow=34						
	comp=N,0.7nm,0.5s						
MDRS	**Chennai**	**14.93**	**294**	*e*P	**Pn**	**21 07 27.1**	**+1.8**
LEM	**Lembang**	**19.32**	**136**	LR	LR	21 16 28.9	
	comp=N,137nm,18.5s,baz=216,slow=39						
H08S3	**Diego Garcia H**	**26.22**	**236**	T	T	21 36 09.9	
	baz=55,slow=75,SNR=83						
H08S2	**Diego Garcia H**	**26.22**	**236**	T	T	21 36 16.6	
	baz=55,slow=75,SNR=75						
H08S1	**Diego Garcia H**	**26.23**	**236**	T	T	21 36 16.1	
	baz=55,slow=75,SNR=58						
KAPI	**Kappang**	**28.23**	**115**	LR	LR	21 20 50.3	
	comp=N,35nm,18.6s,baz=285,slow=36						
DRK	**Karamyk**	**37.91**	**331**	P	**P**	**21 11 11.4**	**-0.3**
SIMJ	**Simiganj**	**38.69**	**328**	P	**P**	**21 11 17.1**	**-0.9**
SIMJ				IAmb	IAmb	21 11 25.7	
	comp=Z,2.7nm,0.7s						
BTK	**Batken**	**38.84**	**331**	P	**P**	**21 11 19.2**	**0.0**
BTK				IAmb	IAmb	21 11 26.8	
	comp=Z,2.2nm,0.8s						
ARSB	**Arslanbob**	**38.86**	**334**	P	**P**	**21 11 18.9**	**-0.4**
ARSB				IAmb	IAmb	21 11 26.2	
	comp=Z,4.4nm,0.6s						
MK31	**Makanchi Array**	**40.74**	**347**	P	**P**	**21 11 33.7**	**-1.1**
MKAR	**Makanchi Array**	**40.74**	**347**	P	**P**	**21 11 33.9**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=165,slow=7.4,SNR=28						
	comp=Z,1.2nm,0.4s						
MAKZ	**Makanchi**	**40.82**	**347**	P	**P**	**21 11 34.3**	**-1.2**
MAKZ				IAmb	IAmb	21 11 35.3	
	comp=Z,2.1nm,0.5s						
KKAR	**Karatay Array**	**41.38**	**334**	P	**P**	**21 11 39.8**	**-0.3**
SONM	**Songino Array**	**41.78**	**12**	P	**P**	**21 11 43.7**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=177,slow=7.2,SNR=3.6						
	comp=Z,0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**45.19**	**346**	P	**P**	**21 12 10.4**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=172,slow=7.0,SNR=41						
	comp=Z,1.5nm,0.4s						
KURK	**Kurchatov**	**45.26**	**346**		**P**	**21 12 10.2**	**-1.0**
KURK				IAmb	IAmb	21 12 13.0	
	comp=Z,6.7nm,1.4s						
H01W3	**Cape Leeuwin H**	**45.91**	**157**	T	T	22 01 55.3	
	baz=330						
H01W2	**Cape Leeuwin H**	**45.92**	**157**	T	T	22 01 41.5	
	baz=330						
H01W1	**Cape Leeuwin H**	**45.93**	**157**	T	T	22 02 06.3	
	baz=330						
ZAA0	**Zalesovo Array**	**47.21**	**352**	P	**P**	**21 12 25.4**	**-1.1**
ZAA0				IAmb	IAmb	21 12 33.9	
	comp=Z,2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**47.21**	**352**	P	**P**	**21 12 26.3**	**-0.3**
ZALV	**Zalesovo Beam**	**47.21**	**352**	P	**P**	**21 12 26.0**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=170,slow=7.4,SNR=4.9						
	comp=Z,0.8nm,0.4s						
WRA	**Warramunga Arr**	**47.82**	**125**	P	**P**	**21 12 32.6**	**+0.7**
	comp=Z,0.8nm,1.1s,baz=304,slow=7.4,SNR=2.2						
	comp=Z,0.8nm,1.1s						
ASAR	**Alice Springs**	**49.44**	**130**	P	**P**	**21 12 44.7**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=310,slow=9.3,SNR=6.1						
	comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**49.63**	**341**	P	**P**	**21 12 44.1**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=143,slow=11,SNR=6.2						
	comp=Z,0.7nm,0.6s						
BRTR	**Keskin Array B**	**62.91**	**311**	P	**P**	**21 14 19.5**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=133,slow=6.1,SNR=4.2						
	comp=Z,0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**65.21**	**211**	T	T	22 25 29.6	
	baz=47,slow=75,SNR=14						
H04N1	**CROZET ISLANDS**	**65.22**	**211**	T	T	22 25 06.1	
	baz=47,slow=75,SNR=12						
H04N3	**CROZET ISLANDS**	**65.23**	**211**	T	T	22 25 13.3	
	baz=47,slow=75,SNR=15						
FINES	**FINESS Array B**	**73.32**	**332**	P	**P**	**21 15 25.0**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=97,slow=3.3,SNR=9.9						
	comp=Z,0.7nm,0.4s						
HFS	**Hagfors**	**79.05**	**330**	P	**P**	**21 15 57.8**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=89,slow=9.5,SNR=7.6						
	comp=Z,0.7nm,0.4s						
NB2	**NORSAR Subarra**	**80.33**	**331**	P	**P**	**21 16 04.4**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=92,slow=5.9						
NOA	**NORSAR Array B**	**80.33**	**331**	P	**P**	**21 16 05.0**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=94,slow=5.2,SNR=2.4						
	comp=Z,0.6nm,0.9s						
CPUP	**Villa Florida**	**146.92**	**232**	PKPbc	**PKPdf**	**21 23 35.4**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=276,slow=13,SNR=1.5						

---

*NEIC **11** 21:13:28.2±2.5,38°.53N±0°.02×115°.68W±0°.02,h6km±5km, Error ellipse: s-maj=2.9km s-min=2.5km az=155.0*

REN 11 21:13:27.7±2.6,38°.53N±0°.02×115°.69W±0°.02,h5km±5km, ML2.6/6,ML2.7/80(NEIC),Error ellipse: s-maj=2.5km s-min=2.4km az=153.0,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R11B	**Troy Canyon, C**	**0.20**	**155**		Pg	21 13 32.1	+0.4
R11B				Sg	Sg	21 13 34.9	+0.5
R11B				IAML		21 13 35.1	
	comp=E,2μm,0.2s						
R11B				IAML		21 13 35.6	
	comp=N,2μm,0.2s						
Q12A	**Willow Creek R**	**0.84**	**53**		Pg	21 13 44.0	+0.1
Q12A					Sg	21 13 55.5	+0.6
S11A	**Rachel**	**0.89**	**183**		Pg	21 13 44.3	-0.5
S11A					Pn	21 13 56.1	+9.1
Q09A	**Carvers**	**1.21**	**285**		Pg	21 13 50.6	-0.2
Q09A	**Carvers**	**1.21**	**285**		Sg	21 14 06.6	+0.1
PRN	**Pahroc Range**	**1.23**	**156**		Pg	21 13 51.4	0.0
PRN				Sg	Sb	21 14 07.6	-0.2
PSUT	**Pine Spring**	**1.44**	**89**		Pn	21 13 53.5	-1.2
PSUT				Sg	Sb	21 14 13.3	-0.7
PSUT				IAML		21 14 14.0	
	comp=N,158nm,0.2s						
PSUT				IAML		21 14 14.9	
	comp=E,161nm,0.3s						
MZP	**Montezuma Peak**	**1.57**	**239**	

ELK				IAML		21 14 39.7	
	comp=N,38nm,0.5s						
LCMT	**Little Creek M**	**2.46 127**			Pb	21 14 12.3	-0.3
LCMT				IAML		21 14 46.5	
	comp=E,28nm,0.2s						
LCMT				IAML		21 14 48.2	
	comp=N,31nm,0.2s						
TCRU	**Three Creeks R**	**2.54 87**			Pg	21 14 15.4	-1.1
TCRU				IAML		21 14 52.1	
	comp=N,29nm,0.8s						
MVU	**Marysvale**	**2.73 89**			Pg	21 14 18.7	-1.4
KNB	**Kanab**	**2.73 123**			Pb	21 14 18.1	+1.0
DUG	**Dugway, Tooele**	**2.78 52**			Pn	21 14 11.8	-1.3
DUG				IAML		21 14 58.2	
	comp=N,38nm,0.6s						
DUG				IAML		21 15 04.8	
	comp=N,24nm,0.5s						
MTPU	**Mount Pierson**	**2.80 99**			Pn	21 14 12.1	-1.5
MTPU				Pg	Pg	21 14 20.4	-1.1
V12A	**Nelson**	**2.88 166**			Pn	21 14 12.0	-2.4
PKCU	**Pink Cliffs**	**2.88 111**			Pn	21 14 11.5	-3.2
PKCU				IAML		21 15 10.3	
	comp=N,29nm,0.4s						
WAKR	**Walker**	**2.94 271**			Pb	21 14 22.3	+1.5
WAKR				IAML		21 15 00.5	
	comp=E,19nm,3.5s						
PAHR	**Pah Rah Range**	**3.10 293**			Pb	21 14 24.6	+1.1
PAHR				IAML		21 15 06.3	
	comp=N,19nm,0.7s						
PAHR				IAML		21 15 07.6	
	comp=E,22nm,0.3s						
PNTR	**Pine Nut**	**3.10 282**			Pn	21 14 16.4	-1.2
PNTR				IAML		21 15 18.7	
	comp=N,30nm,0.8s						
BGU	**Big Grassy Mou**	**3.15 40**		IAML		21 15 11.2	
	comp=E,21nm,0.8s						
BGU				IAML		21 15 12.2	
	comp=N,16nm,0.7s						
U15A	**North Rim**	**3.42 127**		IAML		21 15 17.2	
	comp=E,23nm,0.7s						
TMUT	**Trail Mountain**	**3.58 76**		IAML		21 15 28.1	
	comp=N,19nm,0.7s						
TMUT				IAML		21 15 29.3	
	comp=E,16nm,0.6s						
BEKR	**Beckworth**	**3.87 292**		IAML		21 15 33.2	
	comp=N,8.9nm,0.8s						
BEKR				IAML		21 15 43.5	
	comp=E,9.3nm,4.5s						
SRU	**San Rafael Swe**	**4.08 80**		IAML		21 15 33.5	
	comp=E,11nm,0.8s						
SRU				IAML		21 15 37.4	
	comp=N,9.4nm,0.7s						
P18A	**Preston Nutter**	**4.38 74**		IAML		21 15 38.5	
	comp=E,9.4nm,2.8s						
P18A				IAML		21 15 54.6	
	comp=N,6.4nm,3.6s						

*IDC **11** 21:19:50.9±1.3, 26°.22N×129°.50E, h0km, mb3.5/8, mbtmp3.5/9, ML3.0/1, Error ellipse: s-maj=46.5km s-min=18.8km az=64.0*

*JMA **11** 21:19:52.7±0.1, 26°.3N±0°.5×129°.6E±0°.3, h45km, MV3.1/18, NEAR MINAMI-DAITOJIMA IS*

ISC 11 21:19:52.3±0.8, 26°.31N±0°.04×129°.62E±0°.03, h15km, n24, σ1§62/38, mb3.4/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.26**	**305**	*i* P		**Pn**		**21 20 14.4**	**-1.0**
JYRO				S		**Sb**		**21 20 30.3**	**-1.5**
JOW	**Kunigami**	**1.31**	**294**	Pn		**Pn**		**21 20 15.3**	**-0.7**
	143nm,0.3s,baz=118,slow=20,SNR=470								
JOW				LR		LR		21 20 18.3	
	comp=Z,15nm,18.9s,baz=238,slow=22								
JOW				Sn		**Sb**		**21 20 30.8**	**-2.4**
	100nm,0.3s,baz=102,slow=30,SNR=20								
JOW	**Kunigami**	**1.31**	**294**	*i* P		**Pn**		**21 20 15.3**	**-0.7**
JOW				S		**Sb**		**21 20 31.0**	**-2.2**
JOKE	**Okinoerabujima**	**1.40**	**318**	*i* P		**Pn**		**21 20 16.6**	**-0.7**
JNTH	**Nagotoyohara**	**1.44**	**279**	P		**Pn**		**21 20 16.9**	**-1.0**
JNTH				S		**Sn**		**21 20 34.4**	**-2.2**
JMZ	**Minamidaito 2**	**1.53**	**108**	P		**Pn**		**21 20 18.0**	**-1.1**
JMZ				S		**Sn**		**21 20 35.2**	**-3.4**
JKDJ	**Kitadaitoujima**	**1.55**	**103**	P		**Pn**		**21 20 18.6**	**-0.8**
JKDJ				S		**Sn**		**21 20 37.1**	**-2.2**
JTK	**Tokunoshima**	**1.58**	**338**	*i* P		**Pn**		**21 20 19.3**	**-0.5**
JTK				*e*S		**Sn**		**21 20 38.2**	**-1.8**
JIH	**Iheya**	**1.64**	**296**	P		**Pn**		**21 20 20.2**	**-0.4**
JIH				*e*S		**Sn**		**21 20 39.3**	**-2.2**
JJT3	**Tamagusuku3**	**1.65**	**265**	P		**Pn**		**21 20 20.5**	**-0.3**
JJT3				S		**Sn**		**21 20 40.8**	**-1.0**
JAMN	**Amaminishikomi**	**1.96**	**349**	P		**Pn**		**21 20 24.5**	**-0.6**
JAMN				*e*S		**Sn**		**21 20 48.0**	**-1.4**
JZK	**Kikaishima**	**2.02**	**9**	P		**Pn**		**21 20 25.6**	**-0.2**
JZK				S		**Sn**		**21 20 49.8**	**-1.0**
JAM	**Amami Oshima**	**2.09**	**360**	P		**Pn**		**21 20 26.0**	**-0.8**
JAM				*e*S		**Sn**		**21 20 49.5**	**-3.0**
JAGN	**Aguni-jima**	**2.15**	**278**	P		**Pn**		**21 20 27.4**	**-0.2**
JAGN				S		**Sn**		**21 20 52.1**	**-1.8**
JTAJ	**Takarajima**	**2.85**	**353**	*e*S		**Sn**		**21 21 08.6**	**-2.8**
JNU	**Nakatsue**	**6.87**	**9**	Pn		**Pn**		**21 21 33.8**	**+1.2**
	0.3nm,0.3s,baz=259,slow=13,SNR=2.4								
JNU				Sn		**Sn**		**21 22 48.5**	**-2.1**
	0.2nm,0.3s,baz=315,slow=22,SNR=1.9								
	4.0nm,0.8s								
SONM	**Songino Array**	**28.17**	**326**	P		**P**		**21 25 46.8**	**+2.6**
	0.3nm,0.4s,baz=147,slow=6.2,SNR=1.9								
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**42.41**	**311**	P		**P**		**21 27 47.1**	**+0.8**
	0.2nm,0.5s,baz=106,slow=11,SNR=2.7								
	0.2nm,0.5s								
KURBB	**Kurchatov Arra**	**45.65**	**316**	P		**P**		**21 28 11.9**	**-0.3**
	0.2nm,0.5s,baz=109,slow=9.1,SNR=2.1								
	0.2nm,0.5s								
WRA	**Warramunga Arr**	**46.21**	**174**	P		**P**		**21 28 16.9**	**+0.1**
	0.9nm,0.8s,baz=350,slow=8.0,SNR=5.5								
	0.9nm,0.8s								
ASAR	**Alice Springs**	**49.86**	**175**	P		**P**		**21 28 45.4**	**+0.3**
	0.6nm,0.9s,baz=2.1,slow=12,SNR=5.3								
	0.6nm,0.9s								
BVAR	**Borovoye Array**	**51.04**	**318**	P		**P**		**21 28 55.3**	**+1.5**
	0.3nm,0.5s,baz=81,slow=9.2,SNR=2.9								
	0.3nm,0.5s								
FINES	**FINESS Array B**	**73.40**	**331**	P		**P**		**21 31 24.2**	**+0.7**
	0.8nm,0.8s,baz=56,slow=10,SNR=3.6								
	0.8nm,0.8s								
BRTR	**Keskin Array B**	**77.96**	**308**	P		**P**		**21 31 51.6**	**+1.4**
	0.2nm,0.7s,baz=88,slow=3.3,SNR=1.5								
	0.2nm,0.7s								

*IDC **11** 21:30:57.6±2.1, 54°.59N×160°.29E, h0km, mb3.4/3, mbtmp3.4/4, ML2.8/1, MS4.0/1, Error ellipse: s-maj=60.8km s-min=23.4km az=133.0*

*KRSC **11** 21:30:58.5±1.2, 53°.82N×161°.24E, h41km±21km, Ml4.0*

ISC 11 21:31:00.0±1.1, 53°.81N±0°.04×161°.23E±0°.05, h48km±13km, n45, σ1§57/73, mb3.4/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.81**	**21**	*e*P		**Pn**		**21 31 14.5**	**-0.6**
MKZ				*e*S		**Sn**		**21 31 24.7**	**-1.3**
SPN	**Mys Shipunski**	**1.01**	**226**	*e*P		**Pn**		**21 31 17.7**	**-0.1**
SPN				*e*S		**Sn**		**21 31 30.4**	**-0.5**
KII	**Karymskiy**	**1.08**	**283**	*e*P		**Pn**		**21 31 18.3**	**-0.5**
KII				*e*S		**Sn**		**21 31 30.7**	**-2.0**
NLC	**Nalytchevo**	**1.29**	**241**	*e*P		**Pn**		**21 31 21.7**	**0.0**
NLC				*e*S		**Sn**		**21 31 37.8**	**+0.1**
TUMD	**Tumrok D**	**1.48**	**341**	*e*P		**Pn**		**21 31 23.6**	**-0.6**
TUMD				*e*S		**Sn**		**21 31 39.7**	**-2.7**
SDLR	**Sedlovina**	**1.50**	**250**	*e*P		**Pn**		**21 31 25.2**	**+0.6**
SDLR				*e*S		**Sn**		**21 31 42.7**	**-0.3**
UGLR	**Uglovaya**	**1.56**	**248**	*e*P		**Pn**		**21 31 26.2**	**+0.8**
UGLR				*e*S		**Sn**		**21 31 45.8**	**+1.4**
KRER	**Koryakskii**	**1.56**	**252**	*e*P		**Pn**		**21 31 26.5**	**+1.0**
KRER				*e*S		**Sn**		**21 31 45.3**	**+0.6**
AVH	**Avacha**	**1.58**	**251**	*e*P		**Pn**		**21 31 26.7**	**+1.0**
AVH				*e*S		**Sn**		**21 31 46.9**	**+1.9**
KRX	**Arik**	**1.60**	**255**	*e*P		**Pn**		**21 31 26.7**	**+0.7**
KRX				*e*S		**Sn**		**21 31 45.4**	**-0.2**
KOK	**Koryaka**	**1.63**	**253**	*e*P		**Pn**		**21 31 27.2**	**+0.9**
KOK				*e*S		**Sn**		**21 31 48.4**	**+2.2**
DALK	**Dalny**	**1.67**	**243**	*e*P		**Pn**		**21 31 27.4**	**+0.6**
DALK				*e*S		**Sn**		**21 31 47.6**	**+0.6**
PET	**Petropavlovsk**	**1.73**	**244**	*e*P		**Pn**		**21 31 28.4**	**+0.8**
INSR	**Institute**	**1.74**	**246**	*e*P		**Pn**		**21 31 28.5**	**+0.8**
INSR				*e*S		**Sn**		**21 31 49.9**	**+1.3**
GNL	**Ganaly**	**1.96**	**268**	*e*P		**Pn**		**21 31 31.9**	**+1.1**
KMNR	**Kamenistaya**	**2.04**	**344**	*e*P		**Pn**		**21 31 33.2**	**+1.3**
KMNR				*e*S		**Sn**		**21 31 57.9**	**+1.8**
KRMR	**Karymshinskiy**	**2.10**	**244**	*e*P		**Pn**		**21 31 33.8**	**+1.1**
KRMR				*e*S		**Sn**		**21 31 58.6**	**+1.0**
RUS	**Russkaya**	**2.14**	**231**	*e*P		**Pn**		**21 31 33.6**	**+0.5**
RUS				*e*S		**Sn**		**21 31 58.8**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**2.16**	**352**	*e*P		**Pn**		**21 31 34.5**	**+0.9**
BZGR				*e*S		**Sn**		**21 31 58.6**	**-0.6**
BZWR	**Bezymyannyi-We**	**2.21**	**349**	*e*P		**Pn**		**21 31 35.6**	**+1.4**
KIRR	**Kirishev**	**2.21**	**347**	*e*P		**Pn**		**21 31 35.6**	**+1.2**
KIRR				*e*S		**Sn**		**21 32 02.1**	**+1.6**
PETK	**Petropavlovsk-**	**2.23**	**253**	Pn		**Pn**		**21 31 35.0**	**+0.6**
	14nm,0.3s,baz=70,slow=17,SNR=405								
PETK				Sn		**Sn**		**21 32 03.2**	**+2.6**
	15nm,0.3s,baz=57,slow=26,SNR=6.6								
	15nm,0.3s								
ZLN	**Zelenaya**	**2.23**	**354**	*e*P		**Pn**		**21 31 35.8**	**+1.3**
ZLN				*e*S		**Sn**		**21 32 02.8**	**+1.9**
KPT	**Kopyto**	**2.24**	**345**	*e*P		**Pn**		**21 31 36.0**	**+1.3**
GRL	**Gorelyy**	**2.28**	**238**	*e*P		**Pn**		**21 31 36.8**	**+1.6**
GRL				*e*S		**Sn**		**21 32 04.5**	**+2.4**
LGNR	**Loginova**	**2.30**	**352**	*e*P		**Pn**		**21 31 37.4**	**+1.7**
LGNR				*e*S		**Sn**		**21 32 05.7**	**+2.8**
CIRR	**Tsirk**	**2.33**	**353**	*e*P		**Pn**		**21 31 37.6**	**+1.6**
CIRR				*e*S		**Sn**		**21 32 06.2**	**+2.7**
KOZ	**Kozyrevsk**	**2.39**	**341**	*e*P		**Pn**		**21 31 37.7**	**+1.0**
KOZ				*e*S		**Sn**		**21 32 04.0**	**-0.7**
KRSR	**Krestovskiy**	**2.45**	**351**	*e*P		**Pn**		**21 31 38.5**	**+1.0**
KRSR				*e*S		**Sn**		**21 32 08.1**	**+1.9**
KLY	**Klyuchi**	**2.54**	**353**	*e*P		**Pn**		**21 31 39.7**	**+1.1**
KLY				*e*S		**Sn**		**21 32 08.0**	**-0.2**
KBTR	**Krutoberegovo**	**2.58**	**20**	*e*P		**Pn**		**21 31 40.4**	**+1.2**
KBTR				*e*S		**Sn**		**21 32 10.8**	**+1.6**
ESO	**Esso**	**2.58**	**326**	*e*P		**Pn**		**21 31 39.7**	**+0.4**
ESO				*e*S		**Sn**		**21 32 08.8**	**-0.5**
APC	**Apacha**	**2.59**	**252**	*e*P		**Pn**		**21 31 41.6**	**+2.2**
KBG	**Krutoberegovo**	**2.60**	**18**	*e*P		**Pn**		**21 31 42.1**	**+2.7**
KBG				*e*S		**Sn**		**21 32 11.8**	**+2.1**
KDTR	**Khodutka, Kamc**	**2.77**	**225**	*e*P		**Pn**		**21 31 43.5**	**+1.7**
KDTR				*e*S		**Sn**		**21 32 15.3**	**+1.4**
SMKR	**Semkarok**	**2.79**	**3**	*e*P		**Pn**		**21 31 43.7**	**+1.5**
SMKR				*e*S		**Sn**		**21 32 16.0**	**+1.4**
SRKR	**Sorokina**	**2.85**	**359**	*e*S		**Sn**		**21 32 19.8**	**+3.6**
BKI	**Bering**	**3.10**	**61**	*e*P		**Pn**		**21 31 47.1**	**+0.8**
BKI				*e*S		**Sn**		**21 32 19.8**	**-2.2**
TIXI	**Tiksi**	**22.73**	**334**	LR		LR		21 44 27.5	
	comp=Z,349nm,19.1s,baz=18,slow=37								
H11N2	**WAKE ISLAND Hy**	**34.29**	**170**	T		T		22 14 27.4	
	baz=354,slow=76,SNR=12								
H11N3	**WAKE ISLAND Hy**	**34.31**	**170**	T		T		22 14 25.8	
	baz=354,slow=76,SNR=8.7								
H11N1	**WAKE ISLAND Hy**	**34.31**	**171**	T		T		22 14 35.3	
	baz=354,slow=76,SNR=14								
YKA	**Yellowknife Ar**	**42.18**	**43**	P		**P**		**21 38 49.3**	**+1.9**
	0.2nm,0.7s,baz=298,slow=8.0,SNR=3.6								
	0.2nm,0.7s								
MKAR	**Makanchi Array**	**48.46**	**296**	P		**P**		**21 39 33.1**	**-4.3**
	0.3nm,0.8s,baz=56,slow=9.2,SNR=2.7								
	0.3nm,0.8s								
FINES	**FINESS Array B**	**59.73**	**337**	P		**P**		**21 40 58.5**	**-0.7**
	0.7nm,0.6s,baz=24,slow=7.1,SNR=3.9								
	0.7nm,0.6s								

*BJI **11** 21:31:44.6, 6°.75S×149°.09E, h31km, mB5.3/64, mb4.6/53, Ms5.3/74, Ms7 5.2/74*

*IDC **11** 21:31:45.5±0.4, 6°.40S×148°.69E, h0km, mb4.4/24, mbtmp4.5/28, ML4.9/2, MS5.2/50, Error ellipse: s-maj=17.3km s-min=10.9km az=91.0*

*MOS **11** 21:31:46.8±1.0, 6°.38S×148°.58E, h17km, mb5.4/26, MS5.3/19, Error ellipse: s-maj=8.1km s-min=5.5km az=109.4*

*NEIC **11** 21:31:50.0±1.7, 6°.49S±0°.06×148°.64E±0°.06, h20km±3km, mb5.3/166, Ms_20 5.6/850, Mwb5.5/56, Mww5.6/30, Error ellipse: s-maj=9.1km s-min=8.0km az=119.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.98; $M_{\theta\theta}$-1.47; $M_{\phi\phi}$-0.51; $M_{r\theta}$1.64; $M_{\theta\phi}$0.07; $M_{\phi r}$-0.45; Fault plane solution: M_o2.47000×10^{17} NP1: ϕ_s271.71000°, δ23.01000°, λ80.88000°. NP2: ϕ_s101.61000°, δ67.30000°, λ93.85000°. Principal axes: T 2.6885, Plg67.0000°, Azm19.0000°; N -0.5269, Plg4.0000°, Azm280.0000°; P -2.1615, Plg22.0000°, Azm189.0000°;*

*ISC-PP **11** 21:31:49, 6°.49S×148°.64E, h15km, Mwppsm6.2, Moment Tensor Solution. s43 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.43±.10; $M_{\theta\theta}$0.27±.21; $M_{\phi\phi}$0.18±.16; $M_{r\theta}$0.49±.13; $M_{\theta\phi}$0.10±.22; $M_{\phi r}$-0.32±.16; Fault plane solution: M_o2.57000×10^{18} NP1:ϕ_s156.20000°, δ34.80000°, λ320.90000°. NP2:ϕ_s279.90000°, δ68.90000°, λ-118.30000°.*

*NEIC **11** 21:31:50.1, 6°.51S×148°.66E, h22km*

*IPGP **11** 21:31:50.0, 6°.52S×148°.66E, h30km, Mw5.7, Fault plane solution: NP1:ϕ_s317.00000°, δ18.00000°, λ125.00000°. NP2:ϕ_s100.00000°, δ76.00000°, λ79.00000°.*

*NEIC **11** 21:31:50.7, 6°.51S×149°.00E, h22km, Moment Tensor Solution. Duration: 3s4 Moment tensor: Scale 10^{17}Nm; M_{rr}2.73; $M_{\theta\theta}$-3.27; $M_{\phi\phi}$0.54; $M_{r\theta}$1.50; $M_{\theta\phi}$-0.22; $M_{\phi r}$-0.33; Fault plane solution: M_o3.38000×10^{17} NP1: ϕ_s256.57000°, δ32.69000°, λ74.20000°. NP2:ϕ_s95.16000°, δ58.69000°, λ99.91000°. Principal axes: T 3.1336, Plg74.0000°, Azm32.0000°; N 0.4912, Plg8.0000°, Azm270.0000°; P -3.6248, Plg13.0000°, Azm178.0000°;*

*NEIC **11** 21:31:50.7, 6°.51S×148°.65E, h22km*

*GCMT **11** 21:31:55.0±0.1, 6°.73S×148°.75E, h23km, MW5.7/155, Moment Tensor Solution. s155,c299; s142,c297; Duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}2.94±.04; $M_{\theta\theta}$-3.33±.03; $M_{\phi\phi}$0.39±.03; $M_{r\theta}$2.69±.06; $M_{\theta\phi}$-0.15±.02; $M_{\phi r}$-0.72±.06; Best double couple: M_o4.20400×10^{17} NP1:ϕ_s254.00000°, δ26.00000°, λ67.00000°. NP2:ϕ_s100.00000°, δ66.00000°, λ101.00000°. Principal axes: T 4.0790, Plg67.0000°, Azm30.0000°; N 0.2500, Plg10.0000°, Azm275.0000°; P -4.3280, Plg20.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **11** 21:31:58.6±0.6, 7°.5±5°×14°.9E±°, h72km±8km, M5.3/12, mb5.1/12, mB5.6/12, MLv5.5/1, Mw(mB)5.1/12, MwMwp5.4/8, Mwp5.5/8*

ISC 11 21:31:49.9±0.5, 6°.51S±0°.03×148°.68E±0°.03, h25km±3km, h27km:pP-P, n931, σ1§85/591, mb5.2/152, MS5.5/488, 9C-6D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.25**	**208**			**Pn**		**21 32 41.6**	**+2.2**
PMG	**Port Moresby**	**3.25**	**208**	Pn		**Pn**		**21 32 40.9**	**+1.5**
	1μm,0.5s,baz=10.0,slow=7.2,SNR=241								
PMG				Sn		**Sn**		**21 33 21.8**	**+4.4**
	742nm,0.3s,baz=308,slow=21,SNR=14								
PMG				LR		LR		21 33 45.0	
	comp=Z,14μm,20.2s,baz=341,slow=36								
PMG	**Port Moresby**	**3.25**	**208**	P		**Pn**		**21 32 43.0**	**+3.6**
PMG	**Port Moresby**	**3.25**	**208**	P		**Pn**		**21 32 41.6**	**+2.2**
I40PG	**Keravat**	**3.97**	**57**	I		I		21 52 00.0	
	73nm,0.4s,baz=243,slow=311,SNR=0.7								
RABL	**Rabaul**	**4.16**	**57**	Pn		**Pn**		**21 32 54.2**	**+2.3**
MANU	**Manus Island**	**4.62**	**343**	Pn		**Pn**		**21 33 00.6**	**+2.4**
JAY	**Jayapura**	**8.88**	**296**	Pn		**Pn**		**21 33 55.7**	**-1.2**
	7.5nm,1.0s,baz=122,slow=14,SNR=1.4								
JAY	**Jayapura**	**8.88**	**296**	P		Pn		21 34 07.0	+10
	2μm62nm,1.1s								
COEN	**Coen**	**9.18**	**216**			**Pn**		**21 34 02.2**	**+1.3**
COEN	**Coen**	**9.18**	**216**	P		**Pn**		**21 34 02.5**	**+1.6**
	comp=Z,0.0nmcomp=Z,81nm,1.7s								
COEN	**Coen**	**9.18**	**216**	P		**Pn**		**21 34 02.5**	**+1.6**
GENI	**Genyem**	**9.33**	**294**	P		**Pn**		**21 34 07.0**	**+4.0**
GENI	**Genyem**	**9.33**	**294**	P		Pn		21 34 14.3	+11
	comp=Z,15μmcomp=Z,3μmcomp=Z,216nm,1.1s								
SMPI	**Sarmi**	**10.91**	**294**	P		Pn		21 34 47.5	+23
TATA	**Tatamba Isabel**	**11.19**	**100**	P		Pn		21 34 35.0	+6.6
SAVO	**Savo Central**	**11.34**	**104**	P		Pn		21 34 37.3	+6.8
HNR	**Honiara**	**11.53**	**105**			**Pn**		**21 34 33.6**	**+0.5**
HNR	**Honiara**	**11.53**	**105**	Pn		**Pn**		**21 34 32.2**	**-0.9**
	comp=Z,5.1nm,0.3s,baz=207,slow=18,SNR=9.6								
HNR				LR		LR		21 38 42.5	
	comp=Z,4μm,19.1s,baz=284,slow=36								
	comp=Z,19nm,0.3s								
HNR	**Honiara**	**11.53**	**105**	P		Pn		21 34 39.3	+6.2
HNR	**Honiara**	**11.53**	**105**	P		**Pn**		**21 34 33.6**	**+0.5**
NGOA	**Tingoa Renbel**	**12.31**	**115**	P		Pn		21 34 49.7	+6.0
MTSU	**Mount Surprise**	**12.32**	**200**	P		**Pn**		**21 34 46.4**	**+2.5**
	comp=Z,47nm,0.7s								
MTSU	**Mount Surprise**	**12.32**	**200**	P		**Pn**		**21 34 47.0**	**+3.1**
BAKI	**Biak**	**13.61**	**292**	P		P		21 35 22.2	+12
RKPI	**Ransiki, Papua**	**15.29**	**288**	P		P		21 35 37.6	+8.6
PATS	**Pohnpei**	**16.37**	**36**			**P**		**21 35 46.6**	**+5.7**
QIS	**Mount Isa**	**16.51**	**211**	P		**Pn**		**21 35 40.5**	**+0.4**
	comp=Z,0.0nmcomp=Z,202nm,1.8s								
QIS	**Mount Isa**	**16.51**	**211**	P		**Pn**		**21 35 40.9**	**+0.9**
FAKI	**Fak Fak**	**16.76**	**282**			**P**		**21 35 47.8**	**+2.6**
FAKI	**Fak Fak**	**16.76**	**282**	P		**P**		**21 35 45.7**	**+0.4**
FAKI	**Fak Fak**	**16.76**	**282**	P		**P**		**21 35 50.1**	**+4.8**
	comp=Z,5μmcomp=Z,2μmcomp=Z,65nm,1.0s								
RK1H	**Rockhampton Ha**	**16.88**	**174**	P		**P**		**21 35 47.5**	**+1.0**
KDU	**Kakadu**	**17.12**	**248**	P		**Pn**		**21 35 47.7**	**0.0**
	comp=Z,0.0nmcomp=Z,96nm,1.0s								
KDU	**Kakadu**	**17.12**	**248**	P		**P**		**21 35 48.5**	**-0.7**
SAUI	**Saumlaki**	**17.31**	**264**	P		**P**		**21 35 55.4**	**+4.1**
GD1S	**Gladstone Soft**	**17.40**	**172**	P		**P**		**21 35 53.5**	**+1.2**
LUES	**Luesalemba Tem**	**17.53**	**105**	P		**P**		**21 35 57.8**	**+4.0**
SWI	**Sorong**	**18.26**	**287**	P		**P**		**21 36 08.4**	**+6.5**
	comp=Z,5μmcomp=Z,2μmcomp=Z,90nm,0.9s								
MTN	**Manton Dam**	**18.40**	**249**			**Pn**		**21 36 05.7**	**+2.1**
MTN	**Manton Dam**	**18.40**	**249**	P		**Pn**		**21 36 06.4**	**+2.8**
MTN	**Manton Dam**	**18.40**	**249**	P		**Pn**		**21 36 05.6**	**+2.0**
DRS	**Darwin Rock St**	**18.50**	**250**	P		**Pn**		**21 36 06.7**	**+2.0**
BNDI	**Bandanaira**	**18.79**	**275**	P		**Pn**		**21 36 10.3**	**+2.0**
BNDI	**Bandanaira**	**18.79**	**275**	P		**Pn**		**21 36 13.3**	**+5.0**
EIDS	**Eidsvold**	**18.90**	**173**			**P**		**21 36 09.7**	**+0.9**
EIDS	**Eidsvold**	**18.90**	**173**	P		**P**		**21 36 09.5**	**+0.8**
	comp=Z,0.0nmcomp=Z,236nm,2.7s								
EIDS	**Eidsvold**	**18.90**	**173**	P		**P**		**21 36 09.4**	**+0.6**
WB0	**Warramunga Arr**	**19.14**	**225**			**Pn**		**21 36 13.2**	**+0.6**
WR0	**Warramunga Arr**	**19.17**	**224**	P		**Pn**		**21 36 13.0**	**+0.2**
WRAB	**Tennant Creek**	**19.29**	**225**	P		**P**		**21 36 13.7**	**+0.5**
WRAB	**Tennant Creek**	**19.29**	**225**	*i* P		**P**		**21 36 13.6**	**+0.5**
WRAB				pmax		pmax			
	comp=Z,331nm,2.5s								
WB2	**Warramunga Arr**	**19.29**	**225**			**P**		**21 36 13.8**	**+0.6**
WB2				IAmb		IAmb		21 36 16.0	
	comp=Z,330nm,1.9s								
WRA	**Warramunga Arr**	**19.30**	**225**			**P**		**21 36 13.1**	**-0.2**
WRA	**Warramunga Arr**	**19.30**	**225**	P		**P**		**21 36 12.9**	**-0.3**
	comp=Z,4.1nm,0.3s,baz=52,slow=11,SNR=110								
WRA				S		**Sn**		**21 39 42.8**	**-7.5**
	comp=Z,25nm,0.9s,baz=42,slow=22,SNR=4.8								
WRA				ScP		**ScP**		**21 44 10.5**	**+0.4**
	comp=Z,9.4nm,1.2s,baz=46,slow=2.5,SNR=8.3								
WRA				LR		LR		21 44 29.1	
	comp=Z,11μm,19.8s,baz=36,slow=39								
	comp=Z,24nm,0.6s								
WRA	**Warramunga Arr**	**19.30**	**225**	*i* P		**P**		**21 36 13.0**	**-0.3**
WRA				pmax		pmax			
	comp=Z,18nm,0.5s								
RMQ	**Roma**	**19.87**	**180**	P		**P**		**21 36 20.9**	**+1.5**
	comp=Z,56nm,0.9s								
MSAI	**Masohi**	**19.93**	**278**	P		Pn		21 36 37.0	+15
GUMO	**Guam**	**20.32**	**349**	P		**P**		**21 36 24.1**	**-0.2**
GUMO	**Guam**	**20.32**	**349**	LR		LR		21 43 21.4	
	comp=Z,5μm,19.6s,baz=151,slow=34								
GUMO	**Guam**	**20.32**	**349**	P		**P**		**21 36 24.1**	**-0.2**
GUMO				pmax		pmax		

RIV	**Riverview**	**27.29 176**	P	**P**	**21 37 34.9 +2.4**
RIV			pmax	pmax	
comp=Z,116nm,1.4s					
WOLH	**Wollongong Har**	**27.84 176**	P	**P**	**21 37 39.5 +2.0**
HTT	**Hallett**	**28.28 197**	P	**P**	**21 37 43.1 +1.6**
HTT	**Hallett**	**28.28 197**	P	**P**	**21 37 42.1 +0.6**
WHYH	**Whyalla**	**28.34 200**	P	**P**	**21 37 43.1 +1.1**
CAN	**Canberra**	**28.68 179**	P	**P**	**21 37 44.7 -0.3**
CAN			IAmb	IAmb	21 38 03.9
comp=Z,94nm,1.8s					
CAN	**Canberra**	**28.68 179**	P	**P**	**21 37 45.6 +0.5**
comp=Z,0.0nmcomp=Z,20nm,0.9s					
CAN	**Canberra**	**28.68 179**	P	**P**	**21 37 46.9 +1.9**
CAN	**Canberra**	**28.68 179**	P	**P**	**21 37 44.7 -0.3**
CAN			pmax	pmax	
comp=Z,94nm,1.8s					
CAN			MLR	MLR	
comp=Z,9µm,18.0s					
CNB	**Canberra Magne**	**28.68 179**	P	**P**	**21 37 44.4 -0.7**
comp=Z,0.0nmcomp=Z,24nm,1.8s					
CNB	**Canberra Magne**	**28.68 179**	P	**P**	**21 37 47.6 +2.5**
BBOO	**Buckleboo**	**28.69 203**	P	**P**	**21 37 45.0 -0.1**
BBOO	**Buckleboo**	**28.69 203**	P	**P**	**21 37 44.5 -0.6**
comp=Z,0.0nmcomp=Z,74nm,1.9s					
BBOO	**Buckleboo**	**28.69 203**	P	**P**	**21 37 47.0 +1.9**
KAPI	**Kappang**	**28.82 271**	P	**P**	**21 37 45.9 -0.6**
KAPI			IAmb	IAmb	21 38 00.8
comp=Z,138nm,1.5s					
KAPI	**Kappang**	**28.82 271**	P	**P**	**21 37 46.6 +0.1**
comp=Z,35nm,1.0s,baz=78,slow=5.0,SNR=33					
comp=Z,35nm,1.0s					
KAPI	**Kappang**	**28.82 271**	P	**P**	**21 37 48.2 +1.7**
KAPI	**Kappang**	**28.82 271**	⇓*i*P	**P**	**21 37 47.3 +0.8**
KAPI			pmax	pmax	
comp=Z,93nm,1.4s					
TOLI2	**Tolitoli**	**28.86 284**	P	**P**	**21 37 45.7 -1.2**
TOLI2			IAmb	IAmb	21 38 22.4
comp=Z,82nm,1.7s					
TOLI2	**Tolitoli**	**28.86 284**	P	**P**	**21 37 48.4 +1.6**
PLAI	**Plampang**	**30.71 264**	P	**P**	**21 38 04.1 +0.8**
MSVF	**Nonsavu**	**30.75 114**	P	**P**	**21 38 03.3 -0.4**
MSVF			IAmb	IAmb	21 38 51.4
comp=Z,60nm,1.4s					
MSVF	**Nonsavu**	**30.75 114**	P	**P**	**21 38 06.9 +3.2**
MSVF	**Nonsavu**	**30.75 114**	P	**P**	**21 38 03.3 -0.4**
MSVF			pmax	pmax	
comp=Z,60nm,1.4s					
MSVF			MLR	MLR	
comp=Z,4µm,18.0s					
ARPS	**Mount Arapiles**	**30.77 191**	P	**P**	**21 38 03.9 +0.5**
comp=Z,28nm,0.9s					
ARPS	**Mount Arapiles**	**30.77 191**	P	**P**	**21 38 06.0 +2.6**
FORT	**Forrest**	**30.94 216**	P	**P**	**21 38 04.1 -0.9**
FORT	**Forrest**	**30.94 216**	P	**P**	**21 38 05.2 +0.1**
comp=Z,0.0nmcomp=Z,132nm,0.8s					
FORT	**Forrest**	**30.94 216**	P	**P**	**21 38 07.4 +2.3**
TOO	**Toolangi**	**31.06 185**	P	**P**	**21 38 06.7 +0.6**
comp=Z,0.0nmcomp=Z,16nm,1.0s					
BRAT	**Ballarat**	**31.20 187**	P	**P**	**21 38 09.0 +1.7**
MBWA	**Marble Bar**	**31.58 240**	P	**P**	**21 38 10.6 -0.2**
MBWA	**Marble Bar**	**31.58 240**	P	**P**	**21 38 12.3 +1.5**
comp=Z,89nm,1.3s					
MBWA	**Marble Bar**	**31.58 240**	P	**P**	**21 38 12.8 +2.0**
PSA00	**Pilbara Seismi**	**31.64 239**	P	**P**	**21 38 11.6 +0.2**
PSA00	**Pilbara Seismi**	**31.64 239**	P	**P**	**21 38 12.1 +0.7**
comp=Z,90nm,0.9s					
PSA00	**Pilbara Seismi**	**31.64 239**	P	**P**	**21 38 13.2 +1.8**
DGTI	**Dogotuki**	**31.91 110**	P	**P**	**21 38 14.9 +1.1**
TAVE	**Taveuni**	**32.35 111**	P	**P**	**21 38 21.5 +3.9**
JCJ	**Chichijima**	**33.99 350**	LR	LR	21 51 31.6
comp=Z,2µm,18.3s,baz=177,slow=35					
JAGI	**Jajag, Banyuwa**	**34.28 265**	P	**P**	**21 38 31.9 -2.7**
JAGI	**Jajag, Banyuwa**	**34.28 265**	P	**P**	**21 38 33.4 -1.2**
MEEK	**Meekatharra**	**34.93 232**	P	**P**	**21 38 40.9 +0.8**
comp=Z,375nm,1.0s					
MEEK	**Meekatharra**	**34.93 232**	P	**P**	**21 38 41.6 +1.6**
KMBL	**Kambalda**	**35.22 222**	P	**P**	**21 38 42.6 +0.2**
comp=Z,180nm,1.0s					
KMBL	**Kambalda**	**35.22 222**	P	**P**	**21 38 44.0 +1.5**
MOO	**Moorlands**	**35.81 182**	P	**P**	**21 38 46.4 -1.0**
comp=Z,81nm,1.1s					
MOO	**Moorlands**	**35.81 182**	P	**P**	**21 38 49.6 +2.2**
TAU	**Tasmania Unive**	**36.28 182**	P	**P**	**21 38 51.1 -0.2**
TAU			IAmb	IAmb	21 39 12.3
comp=Z,77nm,1.1s					
TAU	**Tasmania Unive**	**36.28 182**	IAMs_20	IAMs_20	21 53 47.5
comp=Z,9µm,20.0s					
TAU	**Tasmania Unive**	**36.28 182**	P	**P**	**21 38 51.1 -0.2**
TAU			pmax	pmax	
comp=Z,77nm,1.2s					
TAU			MLR	MLR	
comp=Z,9µm,20.0s					
SBUM	**Sibu**	**37.47 283**	P	**P**	**21 39 01.5 -0.4**
SBUM	**Sibu**	**37.47 283**	P	**P**	**21 39 03.4 +1.5**
UGM	**Wanagama**	**37.88 265**	P	**P**	**21 39 04.9 -0.4**
UGM	**Wanagama**	**37.88 265**	P	**P**	**21 39 07.0 +1.6**
SMRI	**Semarang**	**37.97 267**	P	**P**	**21 39 05.3 -0.8**
SMRI			IAmb	IAmb	21 39 20.1
comp=Z,80nm,1.0s					
MORW	**Morawa**	**38.11 230**	P	**P**	**21 39 07.3 +0.2**
MORW			IAMs_20	IAMs_20	21 56 01.2
comp=Z,9µm,18.0s					
MORW	**Morawa**	**38.11 230**	P	**P**	**21 39 08.9 +1.8**
comp=Z,109nm,2.1s					
MORW	**Morawa**	**38.11 230**	P	**P**	**21 39 08.4 +1.3**
KLBR	**Kellerberrin**	**38.18 225**	P	**P**	**21 39 07.5 -0.2**
comp=Z,248nm,1.0s					
KLBR	**Kellerberrin**	**38.18 225**	P	**P**	**21 39 09.1 +1.4**
BLDU	**Ballidu**	**38.40 227**	P	**P**	**21 39 11.7 +2.2**
comp=Z,83nm,1.8s					
BLDU	**Ballidu**	**38.40 227**	P	**P**	**21 39 11.2 +1.6**
JOW	**Kunigami**	**38.59 330**	LR	LR	21 52 30.9
comp=Z,6µm,20.6s,baz=145,slow=32					
KSM	**Kuching**	**39.12 280**	P	**P**	**21 39 15.7 -0.1**
KSM	**Kuching**	**39.12 280**	P	**P**	**21 39 16.6 +0.8**
NWAO	**Narrogin (SRO)**	**39.30 224**	P	**P**	**21 39 16.0 -1.1**
NWAO			IAmb	IAmb	21 39 31.2
comp=Z,105nm,1.4s					
NWAO	**Narrogin (SRO)**	**39.30 224**	IAMs_20	IAMs_20	21 56 20.7
comp=Z,9µm,19.0s					
NWAO	**Narrogin (SRO)**	**39.30 224**	LR	LR	21 56 31.8
comp=Z,8µm,18.9s,baz=50,slow=38					
NWAO	**Narrogin (SRO)**	**39.30 224**	P	**P**	**21 39 18.4 +1.3**
NWAO	**Narrogin (SRO)**	**39.30 224**	P	**P**	**21 39 16.0 -1.1**
NWAO			pmax	pmax	
comp=Z,105nm,1.4s					
NWAO			MLR	MLR	
comp=Z,8µm,19.0s					
MUN	**Mundaring**	**39.49 226**	P	**P**	**21 39 19.1 +0.4**
comp=Z,106nm,1.4s					
MUN	**Mundaring**	**39.49 226**	P	**P**	**21 39 20.1 +1.4**
AFI	**Afiamalu**	**39.56 104**	P	**P**	**21 39 21.7 +2.2**
AFI	**Afiamalu**	**39.56 104**	P	**P**	**21 39 20.6 +1.1**
HIZ	**Hauiti**	**39.70 147**	IAMs_20	IAMs_20	21 54 51.7
comp=Z,6µm,18.0s					
QRZ	**Quartz Range**	**40.27 152**	P	**P**	**21 39 25.3 +0.3**
JHJ	**Hachijo jima 2**	**40.30 348**	LR	LR	21 53 51.9
comp=Z,3µm,21.4s,baz=172,slow=33					
TPUB	**Ta-pu**	**40.36 318**	P	**P**	**21 39 24.4 -1.6**
DSZ	**Denniston Nort**	**40.67 153**	IAMs_20	IAMs_20	21 56 47.2
comp=Z,7µm,18.0s					
BBJI	**Bungbulang**	**40.73 266**	P	**P**	**21 39 29.2 -0.1**
URZ	**Urewera**	**40.77 145**	LR	LR	21 55 17.1
comp=Z,6µm,18.5s,baz=41,slow=35					
LEM	**Lembang**	**40.78 267**	LR	LR	21 59 52.6
comp=Z,1µm,19.8s,baz=92,slow=41					
RTZ	**Ruatahuna**	**40.95 145**	P	**P**	**21 39 31.0 +0.3**
RTZ			IAmb	IAmb	21 39 53.2
comp=Z,47nm,1.0s					
BKZ	**Black Stump Fm**	**41.06 146**	P	**P**	**21 39 31.1 -0.6**
INZ	**Inchbonnie**	**41.30 154**	IAMs_20	IAMs_20	21 56 56.9
comp=Z,6µm,18.0s					
TUWZ	**Tuamarina**	**41.41 151**	P	**P**	**21 39 34.8 +0.4**
MRZ	**Mangatainoka R**	**41.65 149**	IAMs_20	IAMs_20	21 56 24.3
comp=Z,6µm,19.0s					
SNZO	**South Karori**	**41.70 150**	IAMs_20	IAMs_20	21 56 54.4
comp=Z,5µm,18.0s					
LTZ	**Lake Taylor**	**41.70 154**	IAMs_20	IAMs_20	21 57 37.6
comp=Z,7µm,18.0s					
RPZ	**Rata Peaks**	**41.95 156**	LR	LR	21 55 46.7
comp=Z,3µm,19.7s,baz=324,slow=34					
BFZ	**Birch Farm**	**42.01 148**	P	**P**	**21 39 39.3 -0.1**
GVZ	**Greta Valley S**	**42.19 153**	P	**P**	**21 39 41.5 +0.7**
GVZ			IAMs_20	IAMs_20	21 57 45.5
comp=Z,7µm,18.0s					
JMN	**Monobe**	**42.40 342**	P	**P**	**21 39 42.4 -0.2**
JMN			IAmb	IAmb	21 39 58.8
comp=Z,47nm,1.0s					
JMN	**Monobe**	**42.40 342**	P	**P**	**21 39 44.1 +1.5**
XMI	**Christmas Isla**	**42.68 262**	P	**P**	**21 39 46.2 +1.0**
QZH	**Quanzhou**	**42.84 318**	P	**P**	**21 39 46.1 -0.1**
QZH			S	**S**	**21 46 07.2 -2.2**
QZH			pmax	pmax	
comp=Z,450nm,4.9s					
QZH			LR	LR	
comp=Z,1µm,18.2s					
QZH			LR	LR	
comp=Z,2µm,17.0s					
QZH			LR	LR	
comp=Z,2µm,19.2s					
JNU	**Nakatsue**	**42.89 338**	P	**P**	**21 39 45.3 -1.2**
JNU			IAmb	IAmb	21 40 01.7
comp=Z,149nm,2.0s					
JNU	**Nakatsue**	**42.89 338**	P	**P**	**21 39 46.6 +0.1**
INU	**Inuyama**	**43.06 346**		**P**	**21 39 48.5 +0.6**
INU	**Inuyama**	**43.06 346**	P	**P**	**21 39 50.6 +2.8**
JGF	**Kuroka**	**43.22 346**		**P**	**21 39 49.4 +0.2**
JGF			IAmb	IAmb	21 40 03.0
comp=Z,108nm,1.6s					
JGF	**Kuroka**	**43.22 346**	P	**P**	**21 39 51.4 +2.2**
MJAR	**Matsushiro Arr**	**43.93 348**	P	**P**	**21 39 53.1 -1.8**
comp=Z,8.8nm,1.0s,baz=166,slow=8.5,SNR=13					
MJAR			LR	LR	21 57 01.6
comp=Z,3µm,18.2s,baz=160,slow=35					
comp=Z,8.8nm,1.0s					
MAJO	**Matsushiro**	**43.93 348**		**P**	**21 39 54.2 -0.7**
MAJO	**Matsushiro**	**43.93 348**	IAMs_20	IAMs_20	21 57 49.2
comp=Z,5µm,18.0s					
MAJO	**Matsushiro**	**43.93 348**	P	**P**	**21 39 57.7 +2.8**
MAJO	**Matsushiro**	**43.93 348**	*i* P	**P**	**21 39 52.4 -2.5**
MAJO			pmax	pmax	
comp=Z,114nm,1.4s					
MJB9	**Matsu-Tunnel**	**43.94 348**	P	**P**	**21 39 54.9 -0.1**
MYKOM	**Kota Tinggi**	**45.51 279**		**P**	**21 40 07.8 -0.1**
MYKOM			IAmb	IAmb	21 40 32.8
comp=Z,27nm,1.0s					
MYKOM	**Kota Tinggi**	**45.51 279**	P	**P**	**21 40 09.2 +1.4**
SSE	**Sheshan**	**45.71 326**	P	**P**	**21 40 08.9 -0.2**
SSE			S	**S**	**21 46 49.9 -1.1**
SSE			pmax	pmax	
comp=Z,9.0nm,0.8s					
SSE			pmax	pmax	
comp=Z,220nm,5.4s					
SSE			LR	LR	
comp=Z,1µm,18.5s					
SSE			LR	LR	
comp=Z,900nm,18.9s					
QIZ	**Qiongzhong**	**45.92 304**	P	**P**	**21 40 10.3 -0.7**
QIZ			IAmb	IAmb	21 40 43.7
comp=Z,96nm,1.9s					
QIZ	**Qiongzhong**	**45.92 304**	P	**P**	**21 40 10.9 -0.1**
QIZ			S	**S**	**21 46 54.8 +0.4**
QIZ			sS	sS	21 47 13.0 +8.4
QIZ			pmax	pmax	
comp=Z,15nm,1.5s					
QIZ			pmax	pmax	
comp=Z,280nm,5.4s					
QIZ			LR	LR	
comp=Z,710nm,17.0s					
QIZ			LR	LR	
comp=Z,1µm,20.4s					
QIZ			LR	LR	
comp=Z,2µm,20.4s					
NJ2	**Nanjing**	**47.74 325**	⇓P	**P**	**21 40 24.6 -0.4**
NJ2			sP	**pwP**	**21 40 36.3 -1.7**
NJ2			S	**S**	**21 47 22.5 +2.5**
NJ2			pmax	pmax	
comp=Z,15nm,0.7s					
NJ2			pmax	pmax	
comp=Z,490nm,7.1s					
NJ2			LR	LR	
comp=Z,1µm,21.8s					
NJ2			LR	LR	
comp=Z,1µm,15.2s					
NJ2			LR	LR	
comp=Z,2µm,20.6s					
KSRS	**Korea Array**	**47.84 338**	P	**P**	**21 40 24.1 -1.6**
comp=Z,5.9nm,0.9s,baz=152,slow=9.1,SNR=25					
comp=Z,5.9nm,0.9s					
KSAR	**Wonju Array Be**	**47.84 338**		**P**	**21 40 24.6 -1.1**
KSAR	**Wonju Array Be**	**47.84 338**	P	**P**	**21 40 24.6 -1.1**
CTZ	**Chatham Island**	**47.96 146**	IAMs_20	IAMs_20	21 59 34.2
comp=Z,5µm,20.0s					
BKNI	**Bangkinang**	**48.02 276**	P	**P**	**21 40 25.8 -1.8**
BKNI			S	**S**	**21 47 22.1 -2.7**
CNSH	**ChangSha**	**48.78 317**	P	**P**	**21 40 34.0 +0.9**
CNSH			S	**S**	**21 47 37.5 +2.6**
CNSH			LR	LR	
comp=Z,1µm,19.6s					
CNSH			LR	LR	
comp=Z,1µm,21.6s					
CNSH			LR	LR	
comp=Z,2µm,19.6s					
KULM	**Kulim**	**49.36 283**		**P**	**21 40 37.2 -0.6**
KULM	**Kulim**	**49.36 283**	P	**P**	**21 40 39.4 +1.6**
WHN	**Wuhan**	**49.38 320**	⇑P	**P**	**21 40 36.0 -1.7**
WHN			S	**S**	**21 47 41.9 -1.4**
WHN			SS	**SS**	**21 51 09.3 -6.2**
WHN			LR	LR	
comp=Z,2µm,14.8s					
WHN			LR	LR	
comp=Z,4µm,20.8s					
WHN			LR	LR	
comp=Z,3µm,17.3s					
RPSI	**Rantau Prapat**	**50.51 279**		**P**	**21 40 45.9 -0.7**
RPSI			IAmb	IAmb	21 41 00.7
comp=Z,57nm,1.5s					
PSI	**Prapat**	**50.53 279**	LR	LR	22 04 31.2
comp=Z,1µm,21.8s,baz=118,slow=39					
PSI	**Prapat**	**50.53 279**	P	**P**	**21 40 47.5 +0.6**
PSI	**Prapat**	**50.53 279**	P	**P**	**21 40 45.9 -1.0**
PSI			pmax	pmax	
comp=Z,57nm,1.5s					
PSI			MLR	MLR	
comp=Z,2µm,22.0s					
JKA	**Kamikawa-asahi**	**50.68 354**		**P**	**21 40 48.2 +0.8**
ASAJ	**Asahikawa**	**50.69 354**	P	**P**	**21 40 46.3 -1.0**
comp=Z,3.5nm,0.9s,baz=191,slow=7.7,SNR=4.7					
ASAJ			LR	LR	22 00 31.5
comp=Z,2µm,21.6s,baz=184,slow=34					
comp=Z,3.5nm,0.9s					
ASAJ	**Asahikawa**	**50.69 354**	P	**P**	**21 40 48.2 +0.9**
ASAJ			pmax	pmax	
comp=Z,134nm,1.9s					
ASAJ			MLR	MLR	
comp=Z,3µm,21.0s					
NONG	**Nongkai**	**51.14 299**	P	**P**	**21 40 52.3 +1.1**
SRIT	**Nakonsritamara**	**51.18 286**	P	**P**	**21 40 50.7 -0.9**
SRIT			IAmb	IAmb	21 41 28.4
comp=Z,64nm,1.8s					
PSTR	**Posyet**	**51.56 343**	*i* P	**P**	**21 40 51.7 -2.2**
GSI	**Gunungsitoli**	**51.60 277**	P	**P**	**21 40 53.3 -1.5**
GSI			IAmb	IAmb	21 41 08.3
comp=Z,48nm,0.9s					
DL2	**Dalian**	**51.68 333**	P	**P**	**21 40 55.8 +0.9**
DL2			S	**S**	**21 48 14.7 -0.2**
DL2			pmax	pmax	
comp=Z,12nm,1.0s					
DL2			pmax	pmax	
comp=Z,490nm,6.3s					
DL2			LR	LR	
comp=Z,2µm,19.4s					
DL2			LR	LR	
comp=Z,2µm,18.8s					
DL2			LR	LR	
comp=Z,4µm,20.1s					
TIA	**Tai'an**	**51.79 327**	P	**P**	**21 40 54.4 -1.4**
TIA			sP	**pwP**	**21 41 06.3 -2.5**
TIA			S	**S**	**21 48 16.6 0.0**
TIA			pmax	pmax	
comp=Z,6.0nm,0.9s					
TIA			pmax	pmax	
comp=Z,410nm,9.5s					
TIA			LR	LR	
comp=Z,2µm,20.4s					
TIA			LR	LR	
comp=Z,2µm,21.9s					
TIA			LR	LR	
comp=Z,5µm,20.5s					
RAR	**Rarotonga**	**51.90 112**	P	**P**	**21 40 57.3 +0.4**
RAR			IAmb	IAmb	21 41 31.6
comp=Z,40nm,1.1s					
RAR	**Rarotonga**	**51.90 112**	LR	LR	21 59 19.0
comp=Z,499nm,21.6s,baz=284,slow=32					
RAR	**Rarotonga**	**51.90 112**	P	**P**	**21 40 57.3 +0.4**
RAR			pmax	pmax	
comp=Z,40nm,1.2s					
GYA	**Guiyang**	**52.27 311**	P	**P**	**21 40 57.5 -2.2**
GYA			S	**S**	**21 48 19.5 -4.3**
GYA			SS	**SS**	**21 51 55.1 -6.8**
GYA			pmax	pmax	
comp=Z,350nm,7.7s					
GYA			LR	LR	
comp=Z,560nm,17.7s					
GYA			LR	LR	
comp=Z,570nm,16.0s					
GYA			LR	LR	
comp=Z,1µm,19.6s					
ENH	**Enshi**	**52.43 316**	P	**P**	**21 40 59.7 -1.0**
TEY	**Ternei**	**52.44 349**	*e*P	**P**	**21 40 58.6 -1.8**
USRK	**Ussuriysk Ar.**	**52.67 345**	P	**P**	**21 41 01.6 -0.6**
comp=Z,1.2nm,0.6s,baz=182,slow=6.6,SNR=4.7					
USRK			LR	LR	22 02 33.6
comp=Z,1µm,18.5s,baz=149,slow=35					
comp=Z,1.2nm,0.6s					
USA0B	**Ussuriysk Arra**	**52.67 345**		**P**	**21 41 02.0 -0.2**
USA0B			IAmb	IAmb	21 41 14.5
comp=Z,69nm,2.0s					
USA0B	**Ussuriysk Arra**	**52.67 345**	P	**P**	**21 41 02.0 -0.2**
USA0B			pmax	pmax	
comp=Z,69nm,2.0s					
LYN	**LuoYang**	**53.26 323**	P	**P**	**21 41 05.0 -1.7**
LYN			S	**S**	**21 48 34.3 -2.5**
LYN			sS	sS	21 48 56.3 +8.0
LYN			pmax	pmax	
comp=Z,450nm,11.3s					
LYN			LR	LR	
comp=Z,4µm,19.6s					
LYN			LR	LR	
comp=Z,2µm,18.2s					
LYN			LR	LR	
comp=Z,5µm,19.2s					
SNY	**Shenyang**	**53.30 337**	⇑P	**P**	**21 41 05.8 -1.0**
SNY			S	**S**	**21 48 37.6 +0.7**
SNY			pmax	pmax	
comp=Z,12nm,1.1s					
SNY			LR	LR	
comp=Z,2µm,16.5s					
YSS	**Yuzhno-Sakhali**	**53.48 355**	P	**P**	**21 41 08.3 +0.2**
YSS			IAmb	IAmb	21 41 36.7
comp=Z,62nm,1.6s					
YSS	**Yuzhno-Sakhali**	**53.48 355**	*ce*P	**P**	**21 41 08.4 +0.3**
YSS			*e*		21 42 08.9
YSS			*e*S	**S**	**21 48 39.9 +0.6**
YSS			pmax	pmax	
comp=Z,700nm,13.6s					
YSS			pmax	pmax	
comp=Z,20nm,1.0s					
MDJ	**Mudanjiang**	**53.71 343**	P	**P**	**21 41 09.9 0.0**
MDJ	**Mudanjiang**	**53.71 343**	P	P	21 41 14.8 +4.9
MDJ			pP	pwP	21 41 23.3 +1.9
MDJ			PP	PP	21 43 18.6 +7.6
MDJ			S	**S**	**21 48 48.0 +5.5**
MDJ			pmax	pmax	
comp=Z,5.0nm,1.0s					
MDJ			pmax	pmax	
comp=Z,640nm,8.5s					
MDJ			LR	LR	
comp=N,2µm,21.3s					
MDJ			LR	LR	
comp=E,800nm,22.0s					
MDJ			LR	LR	
comp=Z,3µm,22.7s					
HNS	**HongShan**	**53.97 327**	⇑P	**P**	**21 41 10.2 -1.7**
HNS			S	**S**	**21 48 43.7 -2.6**
HNS			pmax	pmax	
comp=Z,10.0nm,1.1s					
HNS			pmax	pmax	
comp=Z,400nm,10.2s					
HNS			LR	LR	
comp=Z,2µm,20.1s					
HNS			LR	LR	
comp=Z,1µm,20.4s					
HNS			LR	LR	
comp=Z,3µm,19.9s					
CN2	**Changchun**	**54.30 339**	*e*P	**P**	**21 41 14.7 +0.5**
CN2			*e*S	**S**	**21 48 46.6 -4.0**
CN2			*e*SS	**SKiKP**	**21 52 29.1 +5.2**
CN2			pmax	pmax	
comp=Z,410nm,12.0s					
CN2			LR	LR	
comp=Z,2µm,18.0s					
CN2			LR	LR	
comp=Z,2µm,18.0s					
CN2			LR	LR	
comp=Z,3µm,19.0s					
XMAS	**Kiritimati**	**54.44 83**	P	**P**	**21 41 15.6 -0.2**
KMI	**Kunming**	**54.63 307**	P	**P**	**21 41 14.7 -2.5**
KMI			sP	pwP	21 41 30.1 -0.1
KMI			S	**S**	**21 48 51.6 -4.5**
KMI			pmax	pmax	
comp=Z,270nm,11.0s					
KMI			LR	LR	
comp=Z,580nm,17.5s					
KMI			LR	LR	
comp=Z,650nm,18.2s					
KMI			LR	LR	
comp=Z,1µm,17.7s					
CM31	**Chiang Mai Arr**	**54.96 298**	P	**P**	**21 41 18.9 -0.5**
CMAR	**Chiang Mai Arr**	**54.96 298**		**P**	**21 41 18.1 -1.4**
CMAR	**Chiang Mai Arr**	**54.96 298**	P	**P**	**21 41 19.4 0.0**
comp=Z,2.2nm,1.0s,baz=124,slow=6.1,SNR=12					
comp=Z,2.2nm,1.0s					
CMAR	**Chiang Mai Arr**	**54.96 298**	*i* P	**P**	**21 41 20.1 +0.6**
CMAR			pmax	pmax	
comp=Z,7.0nm,1.2s					
CHTO	**Chiang Mai**	**55.10 298**	P	**P**	**21 41 22.4 +2.0**
CHTO	**Chiang Mai**	**55.10 298**	P	**P**	**21 41 19.8 -0.6**
XAN	**Xi'an**	**55.14 320**	P	**P**	**21 41 18.8 -1.7**
XAN			pP	pwP	21 41 30.9 -2.6
XAN			sP	sP	21 41 38.0 +9.1
XAN			S	**S**	**21 48 56.9 -5.4**
XAN			sS	sS	21 49 16.9 +2.8
XAN			SS	**SS**	**21 52 40.8 -5.9**
XAN			pmax	pmax	
comp=Z,15nm,1.3s					
XAN			pmax	pmax	
comp=Z,520nm,5.7s					
XAN			LR	LR	
comp=Z,2µm,19.6s					
XAN			LR	LR	
comp=Z,2µm,19.2s					
XAN			LR	LR	
comp=Z,3µm,19.4s					
BJI	**Beijing**	**55.17 330**	P	**P**	**21 41 19.4 -1.1**
BJI			S	**S**	**21 48 57.1 -5.1**
BJI			pmax	pmax	
comp=Z,2.0nm,0.7s					
BJI			pmax	pmax	
comp=Z,170nm,10.3s					
BJI			LR	LR	
comp=Z,1µm,19.2s					
BJI			LR	LR	
comp=Z,880nm,21.6s					
BJI			LR	LR	
comp=Z,2µm,21.4s					
BNX	**BinXian**	**55.38 342**	⇓P	**P**	**21 41 21.2 -0.8**
BNX			pP	**pwP**	**21 41 33.3 -1.7**
BNX			S	**S**	**21 49 03.1 -1.9**
BNX			pmax	pmax	
comp=Z,17nm,2.1s					
BNX			pmax	pmax	
comp=Z,600nm,10.4s					
BNX			LR	LR	
comp=Z,910nm,22.7s					
BNX			LR	LR	
comp=Z,850nm,18.5s					
BNX			LR	LR	
comp=Z,1µm,24.9s					
PZH	**PanZhiHua**	**56.08 308**	P	**P**	**21 41 28.8 +1.3**
PZH			S	**S**	**21 49 15.4 +0.1**
PZH			SS	**SS**	**21 53 06.3 +4.3**
PZH			pmax	pmax	
comp=Z,10.0nm,0.6s					
PZH			pmax	pmax	
comp=Z,250nm,9.4s					
PZH			LR	LR	

comp=Z,500nm,17.7s
PZH LR LR
comp=Z,680nm,18.6s
PZH LR LR
comp=Z,960nm,18.6s
CD2 Chengdu 56.83 314 P **P 21 41 32.7 0.0**
CD2 Chengdu 56.83 314 P **P 21 41 33.7 +1.0**
CD2 pmax pmax
comp=Z,310nm,10.4s
CD2 LR LR
comp=Z,1μm,18.4s
CD2 LR LR
comp=Z,1μm,18.5s
SKR Severo-Kuril's 57.32 6 *e*P **P 21 41 34.6 -1.0**
SKR *e*S S 21 49 52.3 +22
SKR pmax pmax
comp=Z,500nm,7.8s
TYV Tymovskoe 57.37 355 *e*P P 21 41 47.7 +12
TYV *e*S S 21 49 51.7 +21
TYV pmax pmax
comp=Z,19nm,1.6s
TYV pmax pmax
comp=Z,300nm,5.1s
TYV smax smax
comp=N,300nm,5.8s
KLR Kul'dur 57.44 347 P **P 21 41 35.8 -0.8**
comp=N,2.3nm,0.9s,baz=165,slow=6.5,SNR=12
KLR LR LR 22 04 34.7
comp=N,2μm,20.9s,baz=171,slow=34
comp=N,2.3nm,0.9s
KLR Kul'dur 57.44 347 *e*P **P 21 41 34.4 -2.2**
KLR pmax pmax
comp=Z,32nm,1.5s
TNCH TengChong 57.99 305 P **P 21 41 42.5 +1.4**
TNCH pP pwP 21 41 51.2 -2.9
TNCH PP **PP 21 43 53.5 +3.6**
TNCH S **S 21 49 40.5 -0.1**
TNCH sS sS 21 49 54.0 +2.9
TNCH ScS **ScS 21 51 27.4 -2.4**
TNCH pmax pmax
comp=Z,6.0nm,0.9s
TNCH pmax pmax
comp=Z,290nm,7.3s
TNCH LR LR
comp=Z,470nm,19.9s
TNCH LR LR
comp=Z,460nm,16.3s
TNCH LR LR
comp=Z,1μm,22.1s
GRNR Gornyy 58.02 351 *e*P **P 21 41 40.1 -0.5**
HHC Hu-ho-hao-te 58.15 327 *e*P **P 21 41 45.4 +3.5**
BTO Baotou 58.82 326 *e*P P 21 41 50.8 +4.3
BTO S **S 21 49 55.4 +4.7**
BTO pmax pmax
comp=Z,7.0nm,0.9s
BTO pmax pmax
comp=Z,910nm,9.4s
BTO LR LR
comp=Z,4μm,19.0s
BTO LR LR
comp=Z,3μm,23.8s
BTO LR LR
comp=Z,6μm,21.1s
HEH HeiHe 59.46 344 *e*P **P 21 41 49.2 -1.4**
HEH pP **pwP 21 42 03.0 -0.8**
HEH S **S 21 50 02.2 +3.8**
HEH pmax pmax
comp=Z,12nm,2.2s
HEH pmax pmax
comp=Z,540nm,10.8s
HEH LR LR
comp=Z,2μm,17.1s
HEH LR LR
comp=Z,890nm,16.8s
HEH LR LR
comp=Z,2μm,17.9s
LZH Lanzhou 59.69 319 *e*P **P 21 41 51.8 -0.9**
LZH pP sP 21 41 59.8 -1.4
LZH PP **PP 21 44 11.5 +6.8**
LZH S **S 21 50 02.6 +0.3**
LZH pmax pmax
comp=Z,13nm,1.3s
LZH pmax pmax
comp=Z,360nm,5.4s
LZH LR LR
comp=Z,1μm,16.2s
LZH LR LR
comp=Z,1μm,14.8s
LZH LR LR
comp=Z,2μm,15.5s
PEA0B Petropavlovsk- 59.88 6 **P 21 41 52.8 -0.6**
PEA0B Petropavlovsk- 59.88 6 *i* P **P 21 41 52.5 -1.0**
PETK Petropavlovsk- 59.88 6 *e*P **P 21 41 53.7 +0.2**
PETK Petropavlovsk- 59.88 6 P **P 21 41 52.7 -0.7**
comp=Z,15nm,1.0s,baz=164,slow=7.2,SNR=20
PETK LR LR 22 03 53.5
comp=Z,2μm,21.9s,baz=202,slow=32
comp=Z,15nm,1.0s
PETK Petropavlovsk- 59.88 6 P **P 21 41 53.7 +0.2**
PET Petropavlovsk 59.90 7 P **P 21 41 54.1 +0.6**
PET Petropavlovsk 59.90 7 *e*P **P 21 41 54.3 +0.7**
PET *e*S **S 21 50 09.0 +5.0**
PET *e* 21 51 40.1
PET *e*SS **SS 21 54 05.9 +5.1**
PET pmax pmax
comp=Z,500nm,16.1s
PET pmax pmax
comp=Z,300nm,9.1s
PET pmax pmax
comp=Z,30nm,1.5s
PET MLR MLR
comp=Z,1μm,19.0s
MWH Mokuaweoweo 60.62 63 IAMs_20 IAMs_20 22 04 26.5
comp=Z,5μm,19.0s
HATHI Halema'uma'u T 60.89 64 IAMs_20 IAMs_20 22 05 14.9
comp=Z,4μm,21.0s
STCH Steam Cracks 61.00 64 IAMs_20 IAMs_20 22 03 04.8
comp=Z,4μm,22.0s
PPT Papeete 61.15 106 LR LR 22 06 24.8
comp=Z,421nm,18.1s,baz=268,slow=34
PPT2 Papeete2 61.15 106 *e*P **P 21 42 00.3 -2.7**
comp=Z,312nm,24.0s
PPT2 *e*S **S 21 50 16.1 -5.3**
comp=Z,439nm,24.5s
PPT2 *e*SS **SS 21 54 13.7 -8.0**
comp=Z,390nm,25.8s
PPT2 *e*LQ LQ 21 57 29.4
comp=Z,5μm,32.0s
PPT2 *e*LR LR 21 59 58.3
comp=Z,2μm,24.2s
PPT2 *e*LR LR 22 00 05.1
comp=Z,1μm,24.8s
TBI Tubuai 61.63 113 *e*P P 21 42 01.2 -4.8
comp=Z,1μm,26.8s
TBI *e*S **S 21 50 23.1 -4.2**
comp=Z,2μm,25.0s
TBI *e*SS **SS 21 54 21.2 -7.8**
comp=Z,2μm,25.5s
TBI *e*LQ LQ 21 57 42.0
comp=Z,8μm,29.2s
TBI *e*LR LR 22 00 14.0
comp=Z,1μm,27.2s
TBI *e*LR LR 22 00 20.9
comp=Z,3μm,29.8s
ZEA Zeya 62.68 346 *e*P **P 21 42 12.4 0.0**
ZEA *e*S **S 21 50 40.9 +1.6**
ZEA pmax pmax
comp=Z,200nm,2.3s
ZEA pmax pmax
comp=N,20nm,1.9s
ZEA pmax pmax
comp=Z,30nm,1.5s
ZEA smax smax
comp=N,500nm,16.0s
SHEM Shemya Is, Ala 62.84 17 LR LR 22 04 53.8
comp=N,1μm,21.1s,baz=214,slow=32
BRDH Bariadhala 62.86 299 LR LR 22 11 59.4
comp=N,434nm,18.1s,baz=130,slow=38
SHL Shillong 63.70 303 **P 21 42 19.8 -0.2**
SHL IAmb IAmb 21 42 50.2
comp=Z,23nm,1.2s
SHL Shillong 63.70 303 P **P 21 42 19.8 -0.2**
SHL pmax pmax
comp=Z,23nm,1.2s
GTA Gaotai 64.20 320 *e*P **P 21 42 23.1 +0.1**
GTA sP pwP 21 42 36.0 -0.1
GTA S **S 21 50 58.1 -1.1**
GTA sS sS 21 51 12.4 +2.7
GTA SS **SS 21 55 06.7 -2.3**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,280nm,11.2s
GTA LR LR
comp=Z,400nm,21.1s
GTA LR LR
comp=Z,510nm,19.9s
GTA LR LR
comp=Z,800nm,19.5s
CASY Casey 65.22 196 P **P 21 42 27.7 -1.3**
CASY Casey 65.22 196 IAMs_20 IAMs_20 22 08 31.0
comp=Z,4μm,20.0s
ADK Adak 65.26 23 IAMs_20 IAMs_20 22 08 33.0
comp=Z,3μm,20.0s
ULN Ulaanbaatar 65.36 331 P **P 21 42 28.9 -1.5**
ULN IAmb IAmb 21 42 58.4
comp=Z,24nm,1.5s
ULN Ulaanbaatar 65.36 331 IAMs_20 IAMs_20 22 09 25.7
comp=Z,3μm,22.0s
ULN Ulaanbaatar 65.36 331 *ce*P **P 21 42 29.4 -1.0**
ULN pmax pmax
comp=Z,19nm,1.6s
CIT Chita 65.56 337 *e*P **P 21 42 31.2 -0.3**
CIT *e* 21 43 06.8
CIT pmax pmax
comp=Z,74nm,3.2s
SONM Songino Array 65.66 330 P **P 21 42 31.0 -1.3**
SONM Songino Array 65.66 330 P **P 21 42 31.5 -0.8**
comp=Z,1.7nm,0.9s,baz=160,slow=4.2,SNR=8.4
SONM LR LR 22 09 59.4
comp=Z,4μm,21.9s,baz=130,slow=35
comp=Z,1.7nm,0.9s
MA2 Magadan 65.89 1 P **P 21 42 32.1 -1.3**
MA2 IAmb IAmb 21 42 51.5
comp=Z,58nm,1.5s
MA2 Magadan 65.89 1 P **P 21 42 33.3 -0.1**
comp=Z,2.0nm,0.2s,baz=172,slow=9.4,SNR=4.2
MA2 LR LR 22 12 47.9
comp=Z,1μm,18.3s,baz=198,slow=37
comp=Z,2.0nm,0.2s
MA2 Magadan 65.89 1 *i* P **P 21 42 32.9 -0.5**
MA2 pmax pmax
comp=Z,44nm,1.5s
ZAK Zakamensk 68.89 331 *e*P **P 21 42 50.7 -2.0**
ZAK pmax pmax
comp=Z,9.0nm,2.0s
PALK Pallekele 69.18 280 P **P 21 42 54.2 -1.0**
PALK IAmb IAmb 21 43 10.2
comp=Z,18nm,0.9s
PALK Pallekele 69.18 280 LR LR 22 19 16.4
comp=Z,430nm,18.7s,baz=108,slow=41
PALK Pallekele 69.18 280 P **P 21 42 54.2 -1.0**
PALK pmax pmax
comp=Z,18nm,0.9s
SEY Seymchan 69.30 2 P **P 21 42 54.3 -0.5**
comp=Z,0.6nm,0.3s,baz=189,slow=5.9,SNR=5.3
SEY LR LR 22 14 28.4
comp=Z,2μm,18.5s,baz=180,slow=37
comp=Z,0.6nm,0.3s
SEY Seymchan 69.30 2 *e*P **P 21 42 56.0 +1.2**
SEY pmax pmax
comp=Z,15nm,1.5s
MALK Mahakanadarawa 69.53 281 P **P 21 42 56.0 -1.3**
MALK S **S 21 51 58.8 -5.3**
YAK Yakutsk 69.90 351 P **P 21 42 58.3 -0.2**
YAK IAmb IAmb 21 44 44.8
comp=Z,24nm,0.6s
YAK Yakutsk 69.90 351 LR LR 22 15 47.3
comp=Z,879nm,18.1s,baz=140,slow=38
YAK Yakutsk 69.90 351 *e*P **P 21 43 01.3 +2.8**
YAK pmax pmax
comp=Z,24nm,1.4s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.5s
TAOE Nuku Hiva Isla 70.48 97 *e*P **P 21 43 00.4 -2.8**
comp=E,287nm,24.4s
TAOE *e*S **S 21 52 15.3 -0.2**
comp=E,266nm,28.7s
TAOE *e*LQ LQ 22 01 35.9
comp=E,2μm,30.3s
TAOE *e*LR LR 22 04 30.2
comp=E,913nm,22.3s
MOY Mondy 70.82 331 *e*P P 21 42 59.8 -4.8
MOY pmax pmax
comp=Z,14nm,3.6s
VNDA Vanda 71.32 177 P **P 21 43 07.5 +0.5**
VNDA IAmb IAmb 21 43 23.2
comp=Z,75nm,1.9s
VNDA Vanda 71.32 177 P **P 21 43 07.7 +0.6**
comp=Z,3.2nm,0.8s,baz=320,slow=6.3,SNR=21
VNDA LR LR 22 11 02.8
comp=Z,1μm,19.8s,baz=359,slow=33
comp=Z,3.2nm,0.8s
SBA Scott Base 71.94 176 P **P 21 43 11.1 +0.4**
SBA IAmb IAmb 21 43 47.7
comp=Z,63nm,1.6s
SBA Scott Base 71.94 176 P **P 21 43 11.1 +0.4**
SBA pmax pmax
comp=Z,63nm,1.7s
HYB Hyderabad 73.20 290 *e*P **P 21 43 18.8 -0.6**
WMQ Urumqi 74.27 319 *e*P **P 21 43 27.7 +2.5**
WMQ LR LR
comp=Z,770nm,20.1s
WMQ LR LR
comp=Z,710nm,20.1s
WMQ LR LR
comp=Z,510nm,20.1s
RKT Rikitea 74.94 112 *e*P P 21 43 19.2 -10
comp=Z,713nm,25.2s
RKT *e*S **SKiKP 21 53 00.3 +7.5**
comp=Z,996nm,25.0s
RKT *e*SS SS 21 57 43.5 -11
comp=Z,1μm,38.8s
RKT *e*LQ LQ 22 03 00.8
comp=Z,2μm,28.2s
RKT *e*LR LR 22 06 28.7
comp=Z,4μm,28.5s
BILL Bilibino 75.40 7 **P 21 43 32.3 +1.1**
BILL IAmb IAmb 21 43 51.5
comp=Z,38nm,1.7s
BILL Bilibino 75.40 7 *i* P **P 21 43 32.2 +1.1**
BILL pmax pmax
comp=Z,22nm,1.6s
DGAR Diego Garcia 75.58 264 P **P 21 43 32.6 -0.7**
DGAR Diego Garcia 75.58 264 *i* P **P 21 43 33.0 -0.3**
KAAM Kaadhehdhoo 75.84 272 P **P 21 43 34.6 -0.2**
CHGN Chignik 76.08 27 P **P 21 43 35.7 +0.5**
GAMB Gambell 76.16 17 IAMs_20 IAMs_20 22 10 43.2
comp=Z,3μm,22.0s
O14K Tigyukauivet M 76.63 24 IAMs_20 IAMs_20 22 12 59.9
comp=Z,2μm,20.0s
K13K Kusilvak Mount 77.09 21 IAMs_20 IAMs_20 22 13 18.0
comp=Z,3μm,19.0s
O15K Ungalikthiuk R 77.17 24 IAMs_20 IAMs_20 22 13 36.2
comp=Z,2μm,20.0s
N15K Kwethluk River 77.66 24 IAMs_20 IAMs_20 22 11 32.2
comp=Z,2μm,21.0s
P16K Nushagak River 77.84 25 IAMs_20 IAMs_20 22 11 48.1
comp=Z,3μm,21.0s
J14K Nanvaranak Lak 78.02 20 IAMs_20 IAMs_20 22 17 16.6
comp=Z,2μm,19.0s
O16K Kokwok River B 78.13 25 IAMs_20 IAMs_20 22 12 08.6
comp=Z,3μm,21.0s
K15K Wolf Creek Mou 78.44 21 IAMs_20 IAMs_20 22 12 13.7
comp=Z,2μm,22.0s
TNA Tin City 78.58 17 IAMs_20 IAMs_20 22 11 18.2
comp=Z,2μm,22.0s
ANM Nome 78.64 18 IAMs_20 IAMs_20 22 16 28.9
comp=Z,2μm,20.0s
MK31 Makanchi Array 78.95 320 **P 21 43 50.2 -1.4**
MK31 Makanchi Array 78.95 320 *ce*P **P 21 43 49.3 -2.3**
MKAR Makanchi Array 78.95 320 **P 21 43 50.0 -1.6**
MKAR Makanchi Array 78.95 320 P **P 21 43 49.5 -2.1**
comp=Z,0.8nm,0.5s,baz=98,slow=8.2,SNR=18
MKAR PKKPbc **PKKPbc 22 02 47.2 +0.5**
comp=Z,0.1nm,0.6s,baz=264,slow=2.9,SNR=1.8
MKAR LR LR 22 19 02.4
comp=Z,755nm,20.4s,baz=85,slow=36
comp=Z,0.8nm,0.5s
MKAR Makanchi Array 78.95 320 P **P 21 43 50.0 -1.6**
N17K Nushagak Hills 79.04 24 IAMs_20 IAMs_20 22 13 00.7
comp=Z,3μm,21.0s
TIXI Tiksi 79.08 354 LR LR 22 16 01.2
comp=Z,629nm,22.0s,baz=177,slow=34
MAKZ Makanchi 79.16 320 P **P 21 43 50.9 -1.8**
MAKZ Makanchi 79.16 320 P **P 21 43 50.9 -1.8**
MAKZ pmax pmax
comp=Z,20nm,1.6s
MAKZ MLR MLR
comp=Z,1μm,22.0s
P18K Big Mountain, 79.22 26 IAMs_20 IAMs_20 22 12 17.6
comp=Z,3μm,22.0s
J16K Anvik River 79.40 21 IAMs_20 IAMs_20 22 15 51.0
comp=Z,2μm,20.0s
O18K Koktuh Hills 79.48 25 IAMs_20 IAMs_20 22 13 11.5
comp=Z,3μm,21.0s
SHLS Shalkode 79.56 316 *e*P **P 21 43 51.4 -3.7**
SHLS Shalkode 79.56 316 *e*P **P 21 43 51.5 -3.7**
KDAK Kodiak Island 79.56 28 LR LR 22 16 03.0
comp=Z,978nm,19.1s,baz=105,slow=33
F15K North Star Dit 79.65 18 IAMs_20 IAMs_20 22 16 50.6
comp=Z,2μm,20.0s
N18K Kilae Creek 79.66 24 IAMs_20 IAMs_20 22 13 17.0
comp=Z,3μm,21.0s
I17K Unalakleet 79.74 20 IAMs_20 IAMs_20 22 16 32.1
comp=Z,3μm,20.0s
UZB Uzynbulak 79.86 316 *e*P **P 21 43 54.8 -2.0**
UZB Uzynbulak 79.86 316 *e*P **P 21 43 54.8 -2.0**
J17K VABM Dome 80.01 21 IAMs_20 IAMs_20 22 13 35.2
comp=Z,2μm,22.0s
O19K Port Alsworth 80.04 25 IAMs_20 IAMs_20 22 14 12.3
comp=Z,3μm,20.0s
G16K Koyuk River 80.16 19 IAMs_20 IAMs_20 22 17 55.9
comp=Z,2μm,20.0s
KPKS Kokpek 80.19 316 *e*P **P 21 43 56.7 -1.8**
KPKS Kokpek 80.19 316 *e*P **P 21 43 56.7 -1.8**
SATY Saty 80.26 316 *e*P **P 21 43 57.0 -1.9**
SATY Saty 80.26 316 *e*P **P 21 43 57.1 -1.9**
N19K Bonanza Creek 80.31 25 IAMs_20 IAMs_20 22 13 49.2
comp=Z,3μm,21.0s
ZALV Zalesovo Beam 80.33 327 P **P 21 43 57.2 -1.6**
ZALV Zalesovo Beam 80.33 327 P **P 21 43 56.4 -2.5**
comp=Z,1.8nm,0.7s,baz=120,slow=5.8,SNR=7.0
ZALV LR LR 22 19 05.9
comp=Z,3μm,21.0s,baz=122,slow=35
comp=Z,1.8nm,0.7s
ZALV Zalesovo Beam 80.33 327 *i* P **P 21 43 56.9 -2.0**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ILSW Iliamna Southw 80.44 26 IAMs_20 IAMs_20 22 13 16.6
comp=Z,3μm,22.0s
H17K Granite Mounta 80.67 20 P **P 21 44 01.0 +0.5**
H17K IAMs_20 IAMs_20 22 14 05.4
comp=Z,3μm,22.0s
KDJ Kajisay 80.83 314 **P 21 44 01.2 -0.9**
KDJ IAmb IAmb 21 44 27.6
comp=Z,36nm,1.7s
KDJ Kajisay 80.83 314 P **P 21 44 01.2 -0.9**
KDJ pmax pmax
comp=Z,36nm,1.7s
L19K White Mountain 80.90 23 IAMs_20 IAMs_20 22 18 03.8
comp=Z,2μm,19.0s
M19K Big River Lodg 80.93 24 IAMs_20 IAMs_20 22 13 59.0
comp=Z,2μm,21.0s
KSH Kashi 80.96 312 P **P 21 44 02.9 +0.1**
KSH sP pwP 21 44 14.8 -1.1
KSH S **S 21 54 11.4 +0.9**
KSH pmax pmax
comp=Z,4.0nm,1.8s
KSH pmax pmax
comp=Z,280nm,9.0s
KSH LR LR
comp=Z,660nm,18.5s
KSH LR LR
comp=Z,390nm,15.9s
KSH LR LR
comp=Z,560nm,18.4s
F17K Baldwin Pennin 81.18 18 IAMs_20 IAMs_20 22 17 50.0
comp=Z,2μm,19.0s
MDOK Medeo 81.24 315 *e*P **P 21 44 02.2 -2.0**
MDOK Medeo 81.24 315 *e*P **P 21 44 02.2 -2.0**
TNSS Tian-Shan 81.27 315 *e*P **P 21 44 02.5 -2.2**
TNSS Tian-Shan 81.27 315 *e*P **P 21 44 02.5 -2.2**
H18K Honhosa River 81.32 20 IAMs_20 IAMs_20 22 14 36.0
comp=Z,3μm,22.0s
AAA Alma-Ata 81.34 315 *e*P **P 21 44 02.7 -1.9**
AAA Alma-Ata 81.34 315 *e*P **P 21 44 02.7 -1.9**
M20K Styx River 81.43 24 IAMs_20 IAMs_20 22 16 10.8
comp=Z,2μm,20.0s
NIL Nilore 81.58 305 **P 21 44 05.5 -0.6**
NIL Nilore 81.58 305 P **P 21 44 05.5 -0.6**
NIL pmax pmax
comp=Z,15nm,0.9s
G18K Tagagawik 81.67 19 IAMs_20 IAMs_20 22 14 22.9
comp=Z,3μm,22.0s
RDOG Red Dog Mine 81.74 17 IAMs_20 IAMs_20 22 14 18.7
comp=Z,2μm,22.0s
STLK Strandline Lak 81.76 25 IAMs_20 IAMs_20 22 14 34.6
comp=Z,2μm,22.0s
KUU Kurty 81.94 316 *e*P **P 21 44 05.9 -1.8**
KUU Kurty 81.94 316 *e*P **P 21 44 05.1 -2.6**
E18K Tukpahlearik C 82.00 18 IAMs_20 IAMs_20 22 14 49.9
comp=Z,2μm,22.0s
SEW Seward 82.11 26 IAMs_20 IAMs_20 22 18 55.9
comp=Z,2μm,20.0s
SKT Skwentna 82.13 24 IAMs_20 IAMs_20 22 16 33.3
comp=Z,3μm,20.0s
O22K Cooper Landing 82.17 26 IAMs_20 IAMs_20 22 14 48.4
comp=Z,2μm,20.0s
H19K Roundabout Mou 82.19 20 IAMs_20 IAMs_20 22 15 13.8
comp=Z,2μm,21.0s
SUA Susitna One 82.20 25 IAMs_20 IAMs_20 22 14 25.2
comp=Z,2μm,22.0s
PPLA Purkeypile 82.33 23 IAMs_20 IAMs_20 22 19 35.6
comp=Z,2μm,20.0s
G19K Purcell Mounta 82.33 19 **P 21 44 08.8 -0.4**
G19K IAMs_20 IAMs_20 22 18 24.5
comp=Z,2μm,20.0s
MAW Mawson 82.43 203 **P 21 44 10.3 +0.6**
MAW Mawson 82.43 203 P **P 21 44 10.2 +0.4**
comp=Z,4.9nm,0.8s,baz=26,slow=13,SNR=4.2
MAW LR LR 22 21 04.1
comp=Z,1μm,18.1s,baz=81,slow=36
comp=Z,4.9nm,0.8s
F19K Shaleruckik Mo 82.52 19 **P 21 44 10.8 +0.6**
F19K IAmb IAmb 21 44 24.1
comp=Z,34nm,1.6s
F19K IAMs_20 IAMs_20 22 19 27.6
comp=Z,2μm,20.0s
M22K Willow 82.60 25 IAMs_20 IAMs_20 22 14 36.8
comp=Z,2μm,22.0s
C18K Utukok River 82.61 16 **P 21 44 10.8 +0.1**
C18K IAMs_20 IAMs_20 22 16 46.0
comp=Z,2μm,20.0s
KURK Kurchatov 82.62 323 **P 21 44 10.3 -0.8**
KURK Kurchatov 82.62 323 *ce*P **P 21 44 09.2 -1.8**
KURK pmax pmax
comp=Z,15nm,1.6s
CAST Castle Rocks 82.64 23 **P 21 44 12.2 +1.3**
CAST IAMs_20 IAMs_20 22 19 05.7
comp=Z,2μm,20.0s
KURBB Kurchatov Arra 82.64 323 P **P 21 44 10.0 -1.2**
comp=Z,0.9nm,0.6s,baz=110,slow=4.0,SNR=9.1
KURBB LR LR 22 20 22.1
comp=Z,942nm,21.5s,baz=142,slow=35
comp=Z,0.9nm,0.6s
CUT Chulitna 82.85 24 P **P 21 44 12.0 0.0**
CUT IAMs_20 IAMs_20 22 16 45.6
comp=Z,3μm,20.0s
AAK Ala-Archa 82.89 314 **P 21 44 12.6 -0.3**
AAK Ala-Archa 82.89 314 *ce*P **P 21 44 11.0 -1.9**
AAK pmax pmax
comp=Z,12nm,2.3s
PMR Palmer 82.94 25 IAMs_20 IAMs_20 22 15 53.9
comp=Z,2μm,22.0s
PWL Port Wells 82.95 26 IAMs_20 IAMs_20 22 14 48.0
comp=Z,2μm,22.0s
SGDS Sogindy 83.01 315 *e*P **P 21 44 11.3 -2.1**
SGDS Sogindy 83.01 315 *e*P **P 21 44 11.3 -2.1**
E19K Redstone River 83.06 18 P **P 21 44 14.2 +1.2**
E19K IAmb IAmb 21 44 40.2
comp=Z,46nm,1.8s
E19K IAMs_20 IAMs_20 22 18 56.9
comp=Z,2μm,21.0s
GHO Glory Hole Cre 83.11 25 IAMs_20 IAMs_20 22 16 09.3
comp=Z,2μm,20.0s
KNK Knik Glacier 83.14 26 IAMs_20 IAMs_20 22 15 09.4

comp=Z,2µm,22.0s
KTH Kantishna Hill 83.16 23 IAMs_20 IAMs_20 22 20 19.4
comp=Z,2µm,20.0s
F20K Avaraart Lake 83.30 19 **P** **21 44 15.3 +1.1**
F20K IAMs_20 IAMs_20 22 19 14.0
comp=Z,2µm,20.0s
TRF Thorofare Moun 83.35 23 IAMs_20 IAMs_20 22 20 16.6
comp=Z,2µm,19.0s
SML Sawmill 83.38 25 P **P** **21 44 14.8 0.0**
SML Sawmill 83.38 25 P **P** **21 44 14.8 0.0**
SML pmax pmax
comp=Z,133nm,1.9s
D19K Kuna River 83.41 17 IAMs_20 IAMs_20 22 15 59.4
comp=Z,3µm,22.0s
QSPA South Pole Qui 83.47 180 P **P** **21 44 15.6 +0.2**
QSPA South Pole Qui 83.47 180 IAMs_20 IAMs_20 22 22 09.5
comp=Z,2µm,19.0s
QSPA South Pole Qui 83.47 180 P **P** **21 44 15.6 +0.2**
comp=Z,3.9nm,0.6s,baz=343,slow=1.1,SNR=25
QSPA LR LR 22 20 43.7
comp=Z,2µm,19.2s,baz=14,slow=35
comp=Z,3.9nm,0.6s
GLI Glacier Island 83.50 26 IAMs_20 IAMs_20 22 14 38.6
comp=Z,2µm,21.0s
H21K Melozitna Rive 83.53 21 IAMs_20 IAMs_20 22 16 06.2
comp=Z,2µm,20.0s
I21K Tanana 83.58 21 IAMs_20 IAMs_20 22 17 30.3
comp=Z,2µm,18.0s
ARSB Arslanbob 83.64 313 **P** **21 44 15.6 -1.2**
ARSB Arslanbob 83.64 313 P **P** **21 44 15.6 -1.2**
ARSB pmax pmax
comp=Z,88nm,1.8s
G21K Allakaket 83.74 20 P **P** **21 44 17.2 +0.7**
G21K IAMs_20 IAMs_20 22 18 37.1
comp=Z,2µm,20.0s
SCM Sheep Creek Mo 83.82 25 IAMs_20 IAMs_20 22 15 52.0
comp=Z,2µm,22.0s
RND Reindeer 83.90 24 IAMs_20 IAMs_20 22 19 37.8
comp=Z,3µm,20.0s
EYAK Cordova Ski Ar 83.96 27 IAMs_20 IAMs_20 22 23 31.8
comp=Z,2µm,18.0s
D20K Etivluk River 83.98 17 IAMs_20 IAMs_20 22 16 16.6
comp=Z,3µm,22.0s
MCK McKinley 84.02 23 **P** **21 44 17.8 -0.3**
MCK IAmb IAmb 21 44 30.9
comp=Z,21nm,1.0s
MCK IAMs_20 IAMs_20 22 16 09.2
comp=Z,2µm,22.0s
MCK McKinley 84.02 23 P **P** **21 44 17.8 -0.3**
MCK pmax pmax
comp=Z,21nm,1.0s
MCK MLR MLR
comp=Z,2µm,22.0s
BWN Browne 84.02 23 IAMs_20 IAMs_20 22 25 01.0
comp=Z,2µm,18.0s
DRK Karamyk 84.07 311 P **P** **21 44 18.7 -0.5**
DRK Karamyk 84.07 311 P **P** **21 44 18.7 -0.5**
F21K Alatna River 84.13 19 IAMs_20 IAMs_20 22 19 49.9
comp=Z,2µm,19.0s
NEA2 Nenana 84.37 23 IAMs_20 IAMs_20 22 20 10.5
comp=Z,2µm,19.0s
M24K Tolsona, Glenn 84.43 25 IAMs_20 IAMs_20 22 15 36.1
comp=Z,3µm,21.0s
B20K Meade River 84.58 16 **P** **21 44 21.9 +1.3**
B20K IAmb IAmb 21 44 38.3
comp=Z,39nm,1.8s
B20K IAMs_20 IAMs_20 22 15 48.1
comp=Z,2µm,22.0s
E21K Killik River 84.63 18 P **P** **21 44 21.7 +0.7**
E21K IAmb IAmb 21 44 42.6
comp=Z,47nm,1.9s
E21K IAMs_20 IAMs_20 22 20 10.1
comp=Z,2µm,20.0s
SUCK Suckling Hills 84.67 28 P **P** **21 44 19.8 -1.6**
WRH Wood River Hil 84.69 23 **P** **21 44 20.9 -0.5**
WRH IAmb IAmb 21 44 34.1
comp=Z,16nm,1.1s
BERG Berg Lake 84.82 27 IAMs_20 IAMs_20 22 25 54.8
comp=Z,2µm,19.0s
CCB Clear Creek Bu 84.88 23 P **P** **21 44 22.3 0.0**
CCB IAmb IAmb 21 44 34.8
comp=Z,14nm,1.1s
CCB IAMs_20 IAMs_20 22 24 29.0
comp=Z,2µm,18.0s
BTK Batken 84.94 311 **P** **21 44 22.6 -0.8**
BTK IAmb IAmb 21 44 38.9
comp=Z,22nm,1.6s
BTK Batken 84.94 311 P **P** **21 44 22.6 -0.8**
BTK pmax pmax
comp=Z,22nm,1.6s
COLA College 84.97 23 IAMs_20 IAMs_20 22 24 41.1
comp=Z,2µm,19.0s
COLA College 84.97 23 *i* P **P** **21 44 23.1 +0.4**
COLA pmax pmax
comp=Z,9.0nm,1.0s
G23K Bananza Creek 85.04 20 **P** **21 44 23.1 -0.1**
G23K IAmb IAmb 21 44 37.3
comp=Z,15nm,1.2s
G23K IAMs_20 IAMs_20 22 16 41.0
comp=Z,3µm,22.0s
B21K Ikpikpuk River 85.09 17 P **P** **21 44 24.5 +1.2**
B21K IAmb IAmb 21 45 05.6
comp=Z,39nm,1.9s
B21K IAMs_20 IAMs_20 22 16 52.4
comp=Z,3µm,22.0s
GAR Garm 85.09 310 P **P** **21 44 23.6 -0.6**
GAR IAmb IAmb 21 45 08.6
comp=Z,33nm,1.5s
KBU Kabul Universi 85.10 305 P P 21 44 19.7 -4.7
E22K Anaktuvuk Pass 85.15 19 **P** **21 44 24.4 +0.7**
E22K IAMs_20 IAMs_20 22 17 42.9
comp=Z,2µm,21.0s
COLD Coldfoot 85.23 20 **P** **21 44 23.9 -0.1**
COLD IAmb IAmb 21 44 38.4
comp=Z,36nm,1.6s
COLD IAMs_20 IAMs_20 22 16 59.0
comp=Z,3µm,22.0s
POKR Poker Plat Res 85.23 22 IAMs_20 IAMs_20 22 24 59.3
comp=Z,2µm,19.0s
D22K Ayikyak River 85.26 18 P **P** **21 44 24.8 +0.6**
D22K IAmb IAmb 21 44 43.5
comp=Z,9.8nm,0.8s
D22K IAMs_20 IAMs_20 22 20 30.9
comp=Z,2µm,20.0s
IL31 85.29 23 P **P** **21 44 25.1 +0.7**
IL31 IAmb IAmb 21 44 43.4
comp=Z,14nm,1.1s
ILAR Eielson Array 85.29 23 **P** **21 44 24.6 +0.2**
ILAR Eielson Array 85.29 23 P **P** **21 44 22.9 -1.6**
comp=Z,2.9nm,0.9s,baz=256,slow=4.9,SNR=17
ILAR LR LR 22 18 19.3
comp=Z,866nm,21.8s,baz=237,slow=33
comp=Z,2.9nm,0.9s
ILAR Eielson Array 85.29 23 P **P** **21 44 24.6 +0.2**
H24K Noodor Dome 85.39 22 IAMs_20 IAMs_20 22 22 35.5
comp=Z,2µm,20.0s
RIDG Independent Ri 85.66 24 **P** **21 44 26.5 +0.2**
RIDG IAmb IAmb 21 44 40.6
comp=Z,46nm,1.5s
RIDG IAMs_20 IAMs_20 22 16 58.7
comp=Z,3µm,21.0s
MENT Mentasta 85.81 25 IAMs_20 IAMs_20 22 18 17.6
comp=Z,2µm,20.0s
J25K Salcha River, 85.81 23 **P** **21 44 26.7 -0.4**
J25K IAmb IAmb 21 44 44.9
comp=Z,14nm,0.8s
B22K Teshekpuk Lake 85.82 17 IAMs_20 IAMs_20 22 18 00.9
comp=Z,2µm,21.0s
E23K Chandalar 85.83 19 **P** **21 44 27.0 -0.1**
E23K IAMs_20 IAMs_20 22 21 43.8
comp=Z,2µm,20.0s
KK31 Karatay Array 85.84 314 **P** **21 44 26.8 -0.9**
KK31 IAmb IAmb 21 45 12.3
comp=Z,33nm,1.6s
KK31 Karatay Array 85.84 314 P **P** **21 44 26.8 -0.9**
KK31 pmax pmax
comp=Z,33nm,1.7s
KKAR Karatay Array 85.84 314 **P** **21 44 26.1 -1.6**
KKAR Karatay Array 85.84 314 **P** **21 44 27.0 -0.6**
KKAR IAmb IAmb 21 45 12.3
comp=Z,35nm,1.6s
KKAR Karatay Array 85.84 314 P **P** **21 44 27.0 -0.6**
D23K Nanushuk River 85.93 18 **P** **21 44 28.4 +0.9**
D23K IAmb IAmb 21 44 47.5
comp=Z,21nm,0.7s
D23K IAMs_20 IAMs_20 22 22 29.5
comp=Z,2µm,19.0s
DOT Dot Lake 85.94 24 P **P** **21 44 28.6 +0.9**
DOT IAmb IAmb 21 44 46.5
comp=Z,15nm,1.0s
DOT IAMs_20 IAMs_20 22 19 24.8
comp=Z,2µm,20.0s
IUG Iuzhnay 85.98 313 *e*P **P** **21 44 26.3 -2.1**
IUG pmax pmax
comp=Z,25nm,1.7s
IUG Iuzhnay 85.98 313 *e*P **P** **21 44 26.4 -2.1**
comp=Z,25nm,1.7s
L26K Log Cabin Wild 86.00 25 IAMs_20 IAMs_20 22 18 12.6
comp=Z,3µm,22.0s
SIMJ Simiganj 86.02 309 **P** **21 44 28.3 -0.5**
BRZS Berezniki 86.03 321 *e*P **P** **21 44 26.5 -1.9**
BRZS Berezniki 86.03 321 *e*P **P** **21 44 26.6 -1.9**
SCRK Sand Creek 86.11 24 P **P** **21 44 29.0 +0.3**
SCRK IAmb IAmb 21 44 48.2
comp=Z,29nm,1.6s
SCRK IAMs_20 IAMs_20 22 17 11.4
comp=Z,3µm,22.0s
TOLK Toolik Lake Re 86.12 19 **P** **21 44 29.6 +1.1**
TOLK IAmb IAmb 21 44 47.4
comp=Z,29nm,1.4s
TOLK IAMs_20 IAMs_20 22 18 45.6
comp=Z,3µm,20.0s
F24K Squaw Lake 86.16 20 **P** **21 44 29.5 +0.8**
E24K Your Creek 86.21 20 P **P** **21 44 29.9 +0.9**
E24K IAMs_20 IAMs_20 22 18 36.9
comp=Z,2µm,22.0s
NRIK Noril'sk 86.27 342 P **P** **21 44 29.5 +0.4**
NRIK Noril'sk 86.27 342 P **P** **21 44 28.0 -1.2**
comp=Z,1.7nm,0.6s,baz=134,slow=4.8,SNR=2.0
NRIK LR LR 22 23 19.1
comp=Z,608nm,18.8s,baz=120,slow=36
comp=Z,1.7nm,0.6s
NRIK Noril'sk 86.27 342 *i* P **P** **21 44 28.5 -0.7**
NRIK pmax pmax
comp=Z,12nm,1.4s
BRLS Borolday 86.31 314 *e*P **P** **21 44 28.2 -1.8**
BRLS Borolday 86.31 314 *e*P **P** **21 44 28.2 -1.8**
M27K Edge Creek, AK 86.38 26 **P** **21 44 29.8 -0.3**
M27K IAmb IAmb 21 44 45.0
comp=Z,25nm,1.2s
M27K IAMs_20 IAMs_20 22 17 57.7
comp=Z,2µm,22.0s
C23K Itkillik River 86.39 18 P **P** **21 44 28.5 -1.2**
C23K IAmb IAmb 21 44 48.9
comp=Z,44nm,1.6s
C23K IAMs_20 IAMs_20 22 18 05.8
comp=Z,3µm,22.0s
J26L Joseph Creek 86.48 24 P **P** **21 44 30.3 -0.2**
J26L IAMs_20 IAMs_20 22 17 24.3
comp=Z,3µm,22.0s
D24K Happy Valley 86.61 19 IAMs_20 IAMs_20 22 19 54.6
comp=Z,2µm,20.0s
L27K Beaver Creek, 86.65 25 P **P** **21 44 32.1 +0.9**
L27K IAMs_20 IAMs_20 22 16 43.9
comp=Z,3µm,22.0s
BCAR Beaver Creek A 86.67 25 **P** **21 44 30.4 -1.0**
K27K Chicken 86.90 24 P **P** **21 44 32.6 +0.2**
K27K IAmb IAmb 21 44 47.1
comp=Z,16nm,1.1s
K27K IAMs_20 IAMs_20 22 19 43.9
comp=Z,3µm,21.0s
C24K Franklin Bluff 86.91 18 P **P** **21 44 32.4 +0.1**
C24K IAmb IAmb 21 44 51.5
comp=Z,47nm,1.4s
C24K IAMs_20 IAMs_20 22 18 43.8
comp=Z,2µm,21.0s
F25K Christian Rive 86.96 20 IAMs_20 IAMs_20 22 20 37.1
comp=Z,2µm,20.0s
E25K Arctic Village 87.21 20 IAMs_20 IAMs_20 22 18 11.5
comp=Z,2µm,22.0s
BMAR Burnt Mountain 87.27 21 P **P** **21 44 34.7 +0.5**
G26K Porcupine Rive 87.36 21 **P** **21 44 35.0 +0.5**
G26K IAmb IAmb 21 45 25.8
comp=Z,22nm,1.2s
D25K Kavik River 87.46 19 P **P** **21 44 34.9 -0.2**
D25K IAmb IAmb 21 44 53.7
comp=Z,7.9nm,0.7s
D25K IAMs_20 IAMs_20 22 21 11.2
comp=Z,2µm,20.0s
F26K Sheenjek River 87.53 21 P **P** **21 44 34.9 -0.5**
F26K IAmb IAmb 21 44 54.7
comp=Z,16nm,1.4s
F26K IAMs_20 IAMs_20 22 18 31.8
comp=Z,2µm,22.0s
S31K Pelican 87.64 31 IAMs_20 IAMs_20 22 25 37.4
comp=Z,2µm,19.0s
HYT Haines Junctio 87.84 28 **P** **21 44 37.5 +0.3**
HYT IAmb IAmb 21 44 52.2
comp=Z,18nm,1.0s
SIT Sitka 87.87 32 IAMs_20 IAMs_20 22 17 09.4
comp=Z,2µm,21.0s
M29M Somme Creek 87.90 26 P **P** **21 44 38.0 +0.6**
M29M IAmb IAmb 21 44 55.9
comp=Z,15nm,1.3s
H27K Steamboat Moun 87.92 22 **P** **21 44 36.8 -0.5**
H27K IAmb IAmb 21 44 51.8
comp=Z,14nm,1.1s
DAWY Dawson 88.02 25 **P** **21 44 38.3 +0.4**
DAWY **pwP** **21 44 50.8 -0.3**
DAWY IAmb IAmb 21 44 53.5
comp=Z,24nm,1.2s
DAWY IAMs_20 IAMs_20 22 17 49.1
comp=Z,3µm,22.0s
G27K Doyon Strip 88.08 22 P **P** **21 44 39.6 +1.5**
G27K IAmb IAmb 21 45 44.9
comp=Z,28nm,2.0s
G27K IAMs_20 IAMs_20 22 18 01.6
comp=Z,2µm,22.0s
BVAR Borovoye Array 88.16 324 P **P** **21 44 36.5 -2.2**
comp=Z,3.0nm,0.8s,baz=100,slow=6.6,SNR=11
BVAR LR LR 22 24 18.0
comp=Z,530nm,20.6s,baz=89,slow=36
comp=Z,3.0nm,0.8s
N30M Aishikik Lake 88.22 28 P **P** **21 44 39.5 +0.7**
N30M IAmb IAmb 21 44 53.2
comp=Z,15nm,1.2s
L29M L29M 88.25 26 P **P** **21 44 39.8 +0.9**
L29M IAmb IAmb 21 44 53.5
comp=Z,17nm,1.1s
L29M IAMs_20 IAMs_20 22 17 46.3
comp=Z,2µm,22.0s
I28M Miner Creek 88.26 23 **P** **21 44 40.3 +1.3**
I28M IAmb IAmb 21 46 00.2
comp=Z,24nm,1.6s
I28M IAMs_20 IAMs_20 22 18 52.4
comp=Z,2µm,21.0s
S32K Killisnoo 88.37 32 IAMs_20 IAMs_20 22 21 50.6
comp=Z,2µm,19.0s
C27K Jago River 88.44 19 P **P** **21 44 38.9 -0.8**
C27K IAMs_20 IAMs_20 22 21 52.9
comp=Z,2µm,20.0s
O30N Mendenhall 88.49 28 P **P** **21 44 40.0 -0.2**
O30N IAmb IAmb 21 45 07.8
comp=Z,14nm,1.2s
BESE Bessie Mountai 88.51 31 P **P** **21 44 41.8 +1.5**
BESE IAmb IAmb 21 44 52.7
comp=Z,29nm,1.5s
E27K Coleen River 88.61 21 **P** **21 44 40.2 -0.3**
E27K IAmb IAmb 21 45 00.3
comp=Z,33nm,1.6s
E27K IAMs_20 IAMs_20 22 18 05.5
comp=Z,2µm,22.0s
K29M Barlow Dome 88.74 25 **P** **21 44 42.4 +1.1**
K29M IAmb IAmb 21 45 00.4
comp=Z,16nm,1.1s
K29M IAMs_20 IAMs_20 22 17 58.0
comp=Z,2µm,22.0s
MOBC Moresby Island 88.81 36 IAMs_20 IAMs_20 22 20 47.5
comp=Z,3µm,19.0s
U33K Whale Pass 88.82 33 IAMs_20 IAMs_20 22 18 34.5
comp=Z,2µm,20.0s
N31M Braeburn, Yuko 88.83 28 P **P** **21 44 42.5 +0.7**
N31M IAmb IAmb 21 45 15.3
comp=Z,29nm,1.4s
I29M Ogilvie Camp, 88.88 24 P **P** **21 44 42.2 +0.4**
I29M IAmb IAmb 21 45 00.3
comp=Z,23nm,1.5s
I29M IAMs_20 IAMs_20 22 22 52.7
comp=Z,2µm,20.0s
WHY Whitehorse 89.04 29 P **P** **21 44 42.7 -0.1**
WHY IAMs_20 IAMs_20 22 28 41.0
comp=Z,2µm,19.0s
H29M Whitestone 89.12 23 IAMs_20 IAMs_20 22 19 21.1
comp=Z,2µm,20.0s
D27M Malcolm River 89.20 20 **P** **21 44 44.6 +1.3**
WRAK Wrangell Islan 89.31 33 IAMs_20 IAMs_20 22 19 32.5
comp=Z,2µm,20.0s
J30M Hart River 89.45 25 P **P** **21 44 44.8 +0.1**
J30M IAmb IAmb 21 45 08.1
comp=Z,15nm,1.3s
J30M IAMs_20 IAMs_20 22 21 12.8
comp=Z,3µm,20.0s
E28M Babbage River 89.47 20 **P** **21 44 44.4 -0.1**
E28M IAmb IAmb 21 44 59.6
comp=Z,24nm,1.6s
V35K Ketchikan 89.47 34 IAMs_20 IAMs_20 22 19 52.0
comp=Z,3µm,20.0s
I30M Mount Dempster 89.61 24 P **P** **21 44 46.8 +1.4**
I30M IAMs_20 IAMs_20 22 21 37.1
comp=Z,2µm,20.0s
M31M Drury Creek, Y 89.66 27 IAMs_20 IAMs_20 22 22 59.4
comp=Z,2µm,20.0s
EPYK Eagle Plains 89.81 23 P **P** **21 44 46.6 +0.4**
G30M tAoh Zraii Nji 90.17 22 **P** **21 44 48.8 +1.0**
G30M IAMs_20 IAMs_20 22 21 39.9
comp=Z,2µm,22.0s
S34M Telegraph Cree 90.27 32 IAMs_20 IAMs_20 22 18 56.9
comp=Z,2µm,21.0s
F30M Barrier River 90.51 22 P **P** **21 44 50.4 +1.0**
T35M Bob Quinn 90.56 33 IAMs_20 IAMs_20 22 19 11.5
comp=Z,2µm,20.0s
H31M Peel River 90.59 24 IAMs_20 IAMs_20 22 20 45.8
comp=Z,2µm,22.0s
SYO Syowa Base 90.69 200 ‖ *e*pP pP 21 44 55.3 -1.3
HRA Herat 90.70 304 P **P** **21 44 49.3 -2.0**
HRA IAmb IAmb 21 45 05.4
comp=Z,13nm,1.2s
G31M Satah River 90.89 23 **P** **21 44 50.9 -0.2**
G31M IAmb IAmb 21 45 09.3
comp=Z,24nm,1.4s
G31M IAMs_20 IAMs_20 22 21 59.9
comp=Z,2µm,21.0s
F31M Tsiigehtchic 91.22 22 **P** **21 44 52.3 -0.3**
F31M IAmb IAmb 21 45 44.9
comp=Z,37nm,1.9s
KMPM Mount Pierce 92.04 50 IAMs_20 IAMs_20 22 28 55.7
comp=Z,2µm,19.0s
JCC Jacoby Creek, 92.15 49 IAMs_20 IAMs_20 22 23 38.8
comp=Z,1µm,19.0s
KBO Bosley Butte 92.17 48 IAMs_20 IAMs_20 22 19 12.1
comp=Z,3µm,22.0s
KRPM Rodgers 92.20 49 IAMs_20 IAMs_20 22 20 37.9
comp=Z,2µm,20.0s
KHMM Horse Mountain 92.39 49 IAMs_20 IAMs_20 22 32 49.8
comp=Z,1µm,18.0s
J01E Myrtle Point 92.50 47 IAMs_20 IAMs_20 22 21 34.6
comp=Z,2µm,20.0s
MCCM Marconi Confer 92.74 52 IAMs_20 IAMs_20 22 23 01.5
comp=Z,2µm,18.0s
HEBO Mount Hebo 92.85 45 IAMs_20 IAMs_20 22 19 25.9
comp=Z,2µm,21.0s
RADR Rader Ridge 92.95 44 IAMs_20 IAMs_20 22 17 52.5
comp=Z,2µm,21.0s
DBO Dodson Butte 92.99 47 IAMs_20 IAMs_20 22 21 50.8
comp=Z,2µm,20.0s
F03A Seaside 93.06 44 IAMs_20 IAMs_20 22 17 55.5
comp=Z,2µm,22.0s
E03A Lebam 93.13 44 IAMs_20 IAMs_20 22 18 00.2
comp=Z,2µm,22.0s
G03D McMinnville, O 93.19 45 IAMs_20 IAMs_20 22 20 07.0
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 93.24 49 LR LR 22 20 26.9
comp=Z,3µm,20.3s,baz=266,slow=31
F04D Rainier, OR 93.46 44 IAMs_20 IAMs_20 22 18 31.0
comp=Z,2µm,22.0s
H04D Lebanon 93.50 46 IAMs_20 IAMs_20 22 20 57.1
comp=Z,2µm,20.0s
L04D Klamath Falls 93.59 48 IAMs_20 IAMs_20 22 20 48.7
comp=Z,2µm,20.0s
GNW Green Mountain 93.73 43 IAMs_20 IAMs_20 22 21 50.1
comp=Z,2µm,20.0s
SAO San Andreas Ge 93.74 54 IAMs_20 IAMs_20 22 20 42.0
comp=Z,2µm,20.0s
J04A Umpqua Nationa 93.83 47 IAMs_20 IAMs_20 22 22 45.9
comp=Z,2µm,20.0s
H04A Detroit Lake 93.91 46 IAMs_20 IAMs_20 22 20 38.9
comp=Z,2µm,20.0s
ORV Oroville 93.95 51 IAMs_20 IAMs_20 22 20 55.4
comp=Z,2µm,21.0s
K04D Chiloquin, OR 94.03 48 IAMs_20 IAMs_20 22 21 13.4
comp=Z,2µm,20.0s
BBGB Big Mountain B 94.05 54 IAMs_20 IAMs_20 22 22 01.2
comp=Z,2µm,20.0s
ABKAR Akbulak array 94.05 319 P **P** **21 45 03.3 -2.8**
ABKAR Akbulak array 94.05 319 P **P** **21 45 04.4 -1.8**
ABKAR IAmb IAmb 21 46 11.3
comp=Z,12nm,1.8s
HATC Hat Creek Radi 94.09 50 IAMs_20 IAMs_20 22 28 33.1
comp=Z,1µm,18.0s
ELIB Princess Elisa 94.14 195 *d*P **P** **21 45 07.1 +0.7**
comp=Z,10nm,1.5s
HOOD Mount Hood Mea 94.34 45 IAMs_20 IAMs_20 22 20 55.3
comp=Z,2µm,20.0s
J05D Fort Rock, OR 94.47 47 IAMs_20 IAMs_20 22 18 58.9
comp=Z,2µm,22.0s
I05D Terrebonne, OR 94.48 46 IAMs_20 IAMs_20 22 21 58.1
comp=Z,2µm,20.0s
CMB Columbia Colle 94.69 52 IAMs_20 IAMs_20 22 24 02.1
comp=Z,2µm,19.0s
WRGLY Wrigley 94.79 27 IAMs_20 IAMs_20 22 25 53.1
comp=Z,1µm,20.0s
G06A Carlson Farm, 95.05 45 IAMs_20 IAMs_20 22 21 07.1
comp=Z,2µm,20.0s
BCW Bitter Crk WRg 95.24 56 IAMs_20 IAMs_20 22 20 46.7
comp=Z,2µm,20.0s
PNTR Pine Nut 95.39 51 IAMs_20 IAMs_20 22 22 17.4
comp=Z,2µm,20.0s
AKTO Aktyubinsk 95.39 320 LR LR 22 28 06.8
comp=Z,893nm,21.9s,baz=55,slow=36
WAKR Walker 95.47 52 IAMs_20 IAMs_20 22 22 08.7
comp=Z,2µm,21.0s
ARTI Arti 95.53 326 LR LR 22 30 09.1
comp=Z,1µm,19.4s,baz=98,slow=37
F07A Phinny Hill Vi 95.59 45 IAMs_20 IAMs_20 22 33 52.3
comp=Z,1µm,18.0s
PAHR Pah Rah Range 95.59 51 IAMs_20 IAMs_20 22 22 26.8
comp=Z,2µm,20.0s
BELA Belgrano 2 95.72 179 **P** **21 45 12.2 -1.1**
I07A Izee 95.78 46 IAMs_20 IAMs_20 22 22 10.5
comp=Z,2µm,21.0s
HAWA Hanford 95.89 44 IAMs_20 IAMs_20 22 21 16.3
comp=Z,1µm,19.0s
ISA Isabella, Lake 96.05 55 IAMs_20 IAMs_20 22 24 37.3
comp=Z,2µm,19.0s
LHV Little Huntoon 96.19 52 IAMs_20 IAMs_20 22 24 43.7
comp=Z,2µm,19.0s
G08A Pilot Rock 96.23 45 IAMs_20 IAMs_20 22 22 22.4
comp=Z,2µm,20.0s
NVAR Mina Array Bea 96.36 52 P **P** **21 45 16.5 -0.8**
comp=Z,0.3nm,0.3s,baz=269,slow=3.5,SNR=1.6
NVAR LR LR 22 25 23.6
comp=Z,1µm,18.5s,baz=281,slow=33
comp=Z,0.3nm,0.3s
CCAC Calif City Air 96.39 55 IAMs_20 IAMs_20 22 20 20.4
comp=Z,2µm,20.0s
J08A Circle Bar Ran 96.48 47 IAMs_20 IAMs_20 22 25 20.2
comp=Z,2µm,19.0s
DSP Deep Springs 96.56 53 IAMs_20 IAMs_20 22 26 35.5
comp=Z,2µm,19.0s
E09A Wood Farm, Sta 96.86 44 IAMs_20 IAMs_20 22 29 05.8
comp=Z,1µm,18.0s
GRAC Grapevine Rang 97.02 54 IAMs_20 IAMs_20 22 23 17.9
comp=Z,2µm,20.0s
Q09A Carvers 97.25 52 IAMs_20 IAMs_20 22 23 15.9
comp=Z,2µm,20.0s
BMO Blue Mountains 97.39 46 IAMs_20 IAMs_20 22 22 39.9
comp=Z,2µm,20.0s
GSC Goldstone, Bar 97.39 55 IAMs_20 IAMs_20 22 21 33.8
comp=Z,2µm,20.0s
GWY Greenwater Val 97.54 54 IAMs_20 IAMs_20 22 25 31.2
comp=Z,2µm,21.0s
PFO Pinyon Flats O 97.60 57 LR LR 22 21 56.1
comp=Z,4µm,20.8s,baz=260,slow=31
NEW Newport 97.60 42 IAMs_20 IAMs_20 22 24 39.4
comp=Z,2µm,19.0s
NEW Newport 97.60 42 LR LR 22 25 09.8
comp=Z,2µm,19.1s,baz=264,slow=33
TPNV Topopah Spring 97.91 54 IAMs_20 IAMs_20 22 23 56.0
comp=Z,2µm,20.0s
VTX Valle De La Tr 98.06 59 IAMs_20 IAMs_20 22 23 05.8

comp=Z,2µm,20.0s
PLID Pearl Lake 98.32 45 IAMs_20 IAMs_20 22 23 09.6
comp=Z,2µm,20.0s
S11A Rachel 98.34 53 IAMs_20 IAMs_20 22 28 34.6
comp=Z,2µm,18.0s
MFID Camas Ranch 98.42 47 IAMs_20 IAMs_20 22 22 09.3
comp=Z,1µm,21.0s
TROLL Troll, Antarti 98.60 190 ⇑P Pdif 21 45 28.1 +1.5
comp=Z,166nm,0.7s
SHPR Sheep Range 98.77 54 IAMs_20 IAMs_20 22 25 49.3
comp=Z,1µm,18.0s
ELK Elko 98.81 50 IAMs_20 IAMs_20 22 23 50.9
comp=Z,2µm,20.0s
ELK Elko 98.81 50 LR LR 22 24 13.1
comp=Z,2µm,20.4s,baz=284,slow=32
YKA Yellowknife Ar 98.83 28 P **P 21 45 26.9 -0.7**
comp=Z,0.5nm,1.1s,baz=279,slow=6.2,SNR=3.9
YKA PKiKP **PKiKP 21 49 58.0 -0.5**
comp=Z,0.3nm,0.7s,baz=288,slow=1.5,SNR=3.9
YKA PKKPbc **PKKPbc 22 01 55.5 -2.1**
comp=Z,0.2nm,0.7s,baz=88,slow=3.1,SNR=5.4
YKA LR LR 22 27 32.9
comp=Z,2µm,20.3s,baz=273,slow=34
comp=Z,0.5nm,1.1s
SFX San Felipe 98.85 60 IAMs_20 IAMs_20 22 24 08.5
comp=Z,2µm,20.0s
PRN Pahroc Range 98.88 53 IAMs_20 IAMs_20 22 25 18.1
comp=Z,2µm,20.0s
V12A Nelson 99.00 55 IAMs_20 IAMs_20 22 23 18.4
comp=Z,2µm,19.0s
HLID Hailey 99.44 47 IAMs_20 IAMs_20 22 22 08.5
comp=Z,2µm,22.0s
SNAA Sanae 99.76 189 LR LR 22 31 08.5
comp=Z,3µm,18.9s,baz=151,slow=36
W13A Hualapai Mount 99.78 56 IAMs_20 IAMs_20 22 23 28.7
comp=Z,2µm,20.0s
PSUT Pine Spring 99.85 52 IAMs_20 IAMs_20 22 30 04.6
comp=Z,1µm,18.0s
PIX Pinacate 100.05 59 IAMs_20 IAMs_20 22 20 44.5
comp=Z,2µm,21.0s
LCMT Little Creek M 100.32 54 IAMs_20 IAMs_20 22 26 01.2
comp=Z,2µm,20.0s
BGU Big Grassy Mou 100.48 50 IAMs_20 IAMs_20 22 24 54.2
comp=Z,1µm,20.0s
DUG Dugway, Tooele 100.66 50 IAMs_20 IAMs_20 22 25 48.8
comp=Z,2µm,20.0s
KNB Kanab 100.66 54 IAMs_20 IAMs_20 22 26 51.1
comp=Z,2µm,20.0s
HVU Hansel Valley 100.67 49 IAMs_20 IAMs_20 22 36 12.0
comp=Z,1µm,18.0s
DLMT Dillon 100.72 45 IAMs_20 IAMs_20 22 24 38.2
comp=Z,2µm,20.0s
TCRU Three Creeks R 100.95 52 IAMs_20 IAMs_20 22 25 40.8
comp=Z,2µm,20.0s
PKCU Pink Cliffs 101.07 53 IAMs_20 IAMs_20 22 26 28.9
comp=Z,2µm,20.0s
MVU Marysvale 101.14 52 IAMs_20 IAMs_20 22 25 36.7
comp=Z,2µm,20.0s
MTPU Mount Pierson 101.16 53 IAMs_20 IAMs_20 22 30 13.4
comp=Z,2µm,19.0s
BOZ Bozeman (W) 101.39 45 IAMs_20 IAMs_20 22 24 27.9
comp=Z,1µm,21.0s
MPU Maple Canyon 101.56 51 IAMs_20 IAMs_20 22 26 37.9
comp=Z,2µm,20.0s
TCUT Toone Canyon 101.71 49 IAMs_20 IAMs_20 22 26 15.6
comp=Z,2µm,20.0s
YHB Horse Butte 101.73 46 IAMs_20 IAMs_20 22 25 53.0
comp=Z,2µm,20.0s
YHL Hebgen Lake 101.74 46 IAMs_20 IAMs_20 22 25 52.2
comp=Z,2µm,20.0s
FXWY Fox Creek 101.90 47 IAMs_20 IAMs_20 22 27 23.6
comp=Z,1µm,20.0s
YMR Madison River 101.90 46 IAMs_20 IAMs_20 22 25 58.5
comp=Z,2µm,20.0s
TPAW Teton Pass 101.96 47 IAMs_20 IAMs_20 22 24 03.1
comp=Z,2µm,22.0s
YNM Yellowstone No 102.09 46 IAMs_20 IAMs_20 22 25 43.3
comp=Z,2µm,20.0s
MOOW Moose Ponds 102.10 47 IAMs_20 IAMs_20 22 26 53.9
comp=Z,2µm,20.0s
YNR Norris Junctio 102.10 46 IAMs_20 IAMs_20 22 25 35.5
comp=Z,2µm,20.0s
SNOW Snow King Moun 102.11 47 IAMs_20 IAMs_20 22 24 20.0
comp=Z,2µm,21.0s
LOHW Long Hollow 102.21 47 IAMs_20 IAMs_20 22 24 12.7
comp=Z,2µm,21.0s
BSUT Blindstream Ca 102.22 50 IAMs_20 IAMs_20 22 27 00.1
comp=Z,2µm,20.0s
HMU Henry Mountain 102.30 53 IAMs_20 IAMs_20 22 27 39.6
comp=Z,2µm,19.0s
YMP Mirror Lake Pl 102.47 46 IAMs_20 IAMs_20 22 26 08.6
comp=Z,2µm,20.0s
YNE Yellowstone No 102.56 45 IAMs_20 IAMs_20 22 26 07.0
comp=Z,1µm,20.0s
MAK Makhachkala 102.58 312 *i* P **Pdif 21 45 40.8 -3.9**
MAK *i* 21 50 01.9
MAK *e* 21 56 17.4
MAK *e*PS **PS 21 59 02.6 -2.9**
MAK *e*SS SS 22 04 38.9 +3.2
MAK pmax pmax
comp=Z,13nm,0.3s
PDAR Pinedale Array 103.02 48 P **Pdif 21 45 46.1 -0.9**
comp=Z,0.1nm,0.5s,baz=279,slow=7.7,SNR=1.3
RLMT Red Lodge 103.08 45 IAMs_20 IAMs_20 22 33 04.6
comp=Z,1µm,18.0s
RDMU Red Mountain 103.12 50 IAMs_20 IAMs_20 22 27 52.1
comp=Z,2µm,19.0s
319A Douglas 103.62 59 IAMs_20 IAMs_20 22 23 56.0
comp=Z,2µm,22.0s
MVCO Mesa Verde 104.11 53 IAMs_20 IAMs_20 22 28 35.6
comp=Z,2µm,19.0s
O20A White River Ci 104.16 50 IAMs_20 IAMs_20 22 26 53.5
comp=Z,2µm,20.0s
LAO LASA Array 105.06 43 IAMs_20 IAMs_20 22 28 25.7
comp=Z,1µm,20.0s
K22A Casper 105.26 48 IAMs_20 IAMs_20 22 32 51.4
comp=Z,1µm,19.0s
S22A 4UR Ranch, Cre 105.41 53 IAMs_20 IAMs_20 22 31 21.2
comp=Z,2µm,19.0s
Y22D IRIS PASSCAL I 105.53 57 IAMs_20 IAMs_20 22 25 33.4
comp=Z,2µm,21.0s
ANMO Albuquerque 105.87 56 IAMs_20 IAMs_20 22 27 02.3
comp=Z,2µm,20.0s
ANMO Albuquerque 105.87 56 IAMs_20 IAMs_20 22 27 02.3
comp=Z,2µm,20.0s
ANMO Albuquerque 105.87 56 IAMs_20 IAMs_20 22 27 02.3
comp=Z,2µm,20.0s
DGMT Dagmar 106.18 41 IAMs_20 IAMs_20 22 36 57.3
comp=Z,1µm,20.0s
FFC Flin Flon 106.41 35 IAMs_20 IAMs_20 22 32 38.9
comp=Z,2µm,19.0s
TULEG Thule 107.10 9 IAMs_20 IAMs_20 22 38 31.7
comp=Z,2µm,21.0s
BRIGG Briggsdale 107.11 50 IAMs_20 IAMs_20 22 29 41.5
comp=Z,2µm,20.0s
TXAR Lajitas Array 108.54 61 PKiKP **PKiKP 21 50 17.6 +0.3**
comp=Z,0.7nm,0.9s,baz=328,slow=4.1,SNR=3.4
KSCO Kaye Shedlock' 108.58 51 IAMs_20 IAMs_20 22 29 39.6
comp=Z,1µm,21.0s
OGNE Ogallala 108.79 49 IAMs_20 IAMs_20 22 29 53.9
comp=Z,2µm,22.0s
E28A Huff 108.84 43 IAMs_20 IAMs_20 22 29 46.8
comp=Z,1µm,20.0s
MSTX Muleshoe 108.98 56 IAMs_20 IAMs_20 22 29 06.6
comp=Z,2µm,20.0s
MDND Maddock 109.32 42 IAMs_20 IAMs_20 22 31 45.3
comp=Z,1µm,20.0s
AMTX Amarillo 109.79 55 IAMs_20 IAMs_20 22 29 39.4
comp=Z,2µm,20.0s
K30B Basset 110.30 47 IAMs_20 IAMs_20 22 34 02.3
comp=Z,2µm,19.0s
FINES FINESS Array B 110.85 334 PKiKP **PKiKP 21 50 19.2 -1.4**
comp=Z,2.5nm,1.1s,baz=202,slow=2.1,SNR=3.4
BGNE Belgrade 111.61 48 IAMs_20 IAMs_20 22 33 42.9
comp=Z,1µm,20.0s
R32A Long Quarter, 111.69 51 IAMs_20 IAMs_20 22 32 08.6
comp=Z,2µm,20.0s
ABTX Abilene, Hawle 111.72 58 IAMs_20 IAMs_20 22 36 15.8
comp=Z,1µm,18.0s
OK038 West end E0370 111.97 53 IAMs_20 IAMs_20 22 31 22.0
comp=Z,2µm,20.0s
F33A 5 Mile Ranch, 111.98 43 IAMs_20 IAMs_20 22 35 22.3
comp=Z,2µm,20.0s
WMOK Wichita Mounta 112.18 55 IAMs_20 IAMs_20 22 30 53.7
comp=Z,2µm,21.0s
ECSD EROS Data Cent 112.24 45 IAMs_20 IAMs_20 22 33 04.7
comp=Z,2µm,20.0s
OK032 Salt Plains WL 112.34 53 IAMs_20 IAMs_20 22 31 11.8
comp=Z,2µm,22.0s
CROK Carrier 112.57 53 IAMs_20 IAMs_20 22 31 16.8
comp=Z,2µm,21.0s
MNK Minsk 112.84 327 *i* P **Pdif 21 46 29.3 -0.7**
MNK *i* 21 51 13.3
MNK *i* PPP PPP 21 53 33.0
MNK *i* 21 57 33.9
MNK *i* SS SS 22 06 58.0 +4.4
MNK *i* SSS SSS 22 11 02.0
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,1.0s
MNK MLR MLR
comp=N,1µm,21.0s
MNK MLR MLR
comp=E,818nm,21.0s
MNK MLR MLR
comp=Z,1µm,18.0s
KSU1 Kansas State U 113.19 50 IAMs_20 IAMs_20 22 34 07.2
comp=Z,2µm,20.0s
FW07 Weatherford 113.27 57 IAMs_20 IAMs_20 22 37 32.7
comp=Z,2µm,19.0s
FW06 Azle 113.42 57 IAMs_20 IAMs_20 22 29 46.8
comp=Z,1µm,21.0s
AKASG Malin Array Be 113.43 323 PKiKP **PKiKP 21 50 24.5 -1.3**
comp=Z,0.3nm,0.3s,baz=70,slow=1.7,SNR=4.1
N35A Tabor 113.57 48 IAMs_20 IAMs_20 22 30 53.9
comp=Z,2µm,22.0s
Z35A Perchaven, San 113.62 57 IAMs_20 IAMs_20 22 37 39.2
comp=Z,1µm,19.0s
WHTX Lake Whitney, 113.63 58 IAMs_20 IAMs_20 22 30 25.5
comp=Z,1µm,22.0s
T35A Sooner Cattle 113.67 53 IAMs_20 IAMs_20 22 32 02.9
comp=Z,1µm,21.0s
W35A Tecumseh 113.67 55 IAMs_20 IAMs_20 22 30 53.1
comp=Z,2µm,22.0s
EYMN Ely 114.55 40 IAMs_20 IAMs_20 22 34 25.0
comp=Z,2µm,21.0s
SCIA State Center 115.10 47 IAMs_20 IAMs_20 22 45 32.3
comp=Z,1µm,18.0s
BOSA Boshof 115.32 234 PKP **PKiKP 21 50 30.1 -0.2**
comp=Z,1.1nm,0.9s,baz=329,slow=0.9,SNR=1.4
U38A Gravette 115.43 53 **PKiKP 21 50 29.8 -0.4**
U38A IAMs_20 IAMs_20 22 33 26.7
comp=Z,1µm,20.0s
Z38A Mt. Pleasant 115.51 56 IAMs_20 IAMs_20 22 31 06.2
comp=Z,1µm,21.0s
HHAR Hobbs 115.82 53 IAMs_20 IAMs_20 22 32 56.9
comp=Z,2µm,21.0s
S39A Bolivar 116.01 51 **PKPdf 21 50 31.0 -0.2**
NATX Nacogdoches 116.02 58 IAMs_20 IAMs_20 22 37 34.7
comp=Z,2µm,20.0s
ILULI Ilulissat 116.03 8 IAMs_20 IAMs_20 22 39 32.6
comp=Z,1µm,20.0s
G40A Rib Lake 116.25 42 IAMs_20 IAMs_20 22 36 41.2
comp=Z,2µm,20.0s
I40A Norwalk 116.39 44 PKPdf **PKiKP 21 50 32.9 +1.2**
I40A IAMs_20 IAMs_20 22 35 24.1
comp=Z,1µm,21.0s
L40A Anamosa 116.50 46 IAMs_20 IAMs_20 22 35 15.1
comp=Z,2µm,21.0s
HFS Hagfors 116.68 337 PKP **PKPdf 21 50 31.9 +0.1**
comp=Z,1.9nm,0.9s,baz=132,slow=8.4,SNR=2.2
COWI Conover 116.68 41 IAMs_20 IAMs_20 22 36 58.5
comp=Z,1µm,21.0s
ELL Elmali 116.82 308 IAMs_20 IAMs_20 22 45 14.2
comp=Z,1µm,22.0s
JFWS Jewell Farm 116.94 45 IAMs_20 IAMs_20 22 39 38.8
comp=Z,2µm,19.0s
MGMO Mountain Grove 116.95 52 IAMs_20 IAMs_20 22 35 54.6
comp=Z,2µm,20.0s
WLAR White Oak Lake 116.98 56 IAMs_20 IAMs_20 22 39 04.9
comp=Z,2µm,20.0s
NOA NORSAR Array B 117.04 338 PKP **PKPdf 21 50 31.1 -1.4**
comp=Z,0.3nm,0.7s,baz=251,slow=3.1,SNR=3.6
X40A Basin Creek Fa 117.06 55 IAMs_20 IAMs_20 22 34 18.8
comp=Z,2µm,20.0s
N41A Harden Midland 117.13 47 IAMs_20 IAMs_20 22 43 42.1
comp=Z,1µm,20.0s
LSZ Lusaka 117.20 249 IAMs_20 IAMs_20 22 45 09.2
comp=Z,1µm,19.0s
Z41A Richland Creek 117.31 56 IAMs_20 IAMs_20 22 39 15.8
comp=Z,1µm,19.0s
F42A Maple Grove Fa 117.46 41 IAMs_20 IAMs_20 22 35 58.0
comp=Z,1µm,20.0s
I42A Draeger Farm, 117.56 44 IAMs_20 IAMs_20 22 42 22.1
comp=Z,1µm,19.0s
L42A Oliver, Polo 117.62 46 IAMs_20 IAMs_20 22 35 57.9
comp=Z,1µm,20.0s
T42A Van Buren 117.89 51 IAMs_20 IAMs_20 22 39 45.6
comp=Z,2µm,20.0s
CCAR Cane Creek 118.03 55 IAMs_20 IAMs_20 22 38 26.7
comp=Z,2µm,20.0s
H43A Windswept, Lux 118.14 43 IAMs_20 IAMs_20 22 36 28.4
comp=Z,2µm,21.0s
SLM Saint Louis 118.15 50 IAMs_20 IAMs_20 22 34 55.2
comp=Z,2µm,21.0s
K43A Burlington 118.35 45 IAMs_20 IAMs_20 22 36 31.9
comp=Z,1µm,21.0s
P43A Skaggs, Pawnee 118.41 48 IAMs_20 IAMs_20 22 33 55.0
comp=Z,1µm,21.0s
PBMO Poplar Bluff 118.47 52 IAMs_20 IAMs_20 22 36 59.8
comp=Z,1µm,19.0s
143A Socs Landing, 118.58 56 IAMs_20 IAMs_20 22 39 31.2
comp=Z,1µm,19.0s
L44A Lake County Fo 118.81 45 IAMs_20 IAMs_20 22 36 48.3
comp=Z,2µm,21.0s
Q44A Meyer Farm, Va 118.99 49 IAMs_20 IAMs_20 22 41 32.5
comp=Z,1µm,20.0s
LNXT Lenox 119.36 52 IAMs_20 IAMs_20 22 36 17.7
comp=Z,2µm,20.0s
VBMS Vicksburg 119.40 57 IAMs_20 IAMs_20 22 34 54.2
comp=Z,1µm,21.0s
KECS Kecovo 119.53 323 *e*PDIFF **Pdif 21 47 02.0 +2.1**
OLIL Olney 119.73 49 IAMs_20 IAMs_20 22 43 02.9
comp=Z,1µm,19.0s
CCIG Comitan 119.78 75 IAMs_20 IAMs_20 22 32 56.5
comp=Z,1µm,20.0s
SFIN Lafayette 119.97 47 IAMs_20 IAMs_20 22 39 54.1
comp=Z,1µm,21.0s
P46A Rosedale 120.12 48 IAMs_20 IAMs_20 22 46 40.3
comp=Z,2µm,19.0s
PSZ Piszkesteto 120.13 323 IAMs_20 IAMs_20 22 47 02.5
comp=Z,1µm,19.0s
RGN Rugen 120.22 332 IAMs_20 IAMs_20 22 46 47.2
comp=Z,1µm,19.0s
OKC Ostrava-Krasne 120.26 325 AMS AMS 22 43 00.0
comp=Z,1µm,21.3s
HUEH Huehuetenango 120.42 76 IAMs_20 IAMs_20 22 33 24.4
comp=Z,1µm,19.0s
346A Big Creek Wild 120.45 57 IAMs_20 IAMs_20 22 42 12.0
comp=Z,1µm,20.0s
VYHS Vyhne 120.50 324 *e*P **Pdif 21 47 03.3 -1.0**
VYHS Vyhne 120.50 324 *e*PDIFF **Pdif 21 47 03.3 -1.0**
146A Union 120.52 56 IAMs_20 IAMs_20 22 40 05.8
comp=Z,1µm,19.0s
MORC Moravsky Berou 120.63 325 IAMs_20 IAMs_20 22 43 32.4
comp=Z,1µm,21.0s
MORC Moravsky Berou 120.63 325 *e*PKP **PKPdf 21 50 40.1 +0.3**
PLCA Paso Flores 120.78 146 PKP **PKPdf 21 50 40.5 0.0**
comp=Z,1.0nm,0.7s,baz=55,slow=9.3,SNR=3.3
N47A Urbana 120.81 46 IAMs_20 IAMs_20 22 44 49.3
comp=Z,1µm,20.0s
KRLC Kraliky 120.91 326 *e*PKPDF **PKiKP 21 50 41.2 +0.8**
KRLC Kraliky 120.91 326 *e*PKIKP **PKiKP 21 50 41.2 +0.8**
OSTC Ostas 120.97 327 AMS AMS 22 41 10.0
comp=Z,1µm,25.1s
JAVC Velka Javorina 121.01 324 *e*PKP **PKiKP 21 50 41.7 +1.0**
DPC Dobruska-Polom 121.02 326 AMS AMS 22 43 30.0
comp=Z,900nm,20.0s
UPC Upice 121.11 327 AMS AMS 22 41 20.0
comp=Z,1µm,23.7s
SRO Srobarova 121.13 323 *e*P **Pdif 21 47 06.0 -1.0**
SRO Srobarova 121.13 323 *e*PDIFF **Pdif 21 47 06.0 -1.0**
Z47A Carrollton 121.20 55 IAMs_20 IAMs_20 22 39 34.7
comp=Z,1µm,22.0s
WCI Wyandotte Cave 121.23 49 IAMs_20 IAMs_20 22 45 31.7
comp=Z,1µm,19.0s
VRAC Vranov 121.40 325 *e*PKP **PKPdf 21 50 41.8 +0.6**
O48B Farmland 121.41 46 IAMs_20 IAMs_20 22 38 48.2
comp=Z,1µm,20.0s
BORG Borgarnes 121.43 355 *i* PKIKP **PKPdf 21 50 38.0 -2.8**
P48A Milroy 121.48 47 IAMs_20 IAMs_20 22 49 59.2
comp=Z,1µm,18.0s
V48A Smith Brothers 121.55 52 IAMs_20 IAMs_20 22 38 44.5
comp=Z,2µm,20.0s
KRUC Moravsky 121.64 325 *e*PKP **PKPdf 21 50 42.0 +0.3**
X48A Hartselle 121.72 53 IAMs_20 IAMs_20 22 36 03.2
comp=Z,1µm,21.0s
AAM Ann Arbor 121.72 44 IAMs_20 IAMs_20 22 45 05.2
comp=Z,1µm,20.0s
CLTN Cedars of Leba 121.83 51 IAMs_20 IAMs_20 22 38 53.0
comp=Z,1µm,20.0s
N49A Columbus Grove 121.87 45 IAMs_20 IAMs_20 22 39 09.3
comp=Z,2µm,21.0s
PETF Flores 121.93 74 IAMs_20 IAMs_20 22 38 28.4
comp=Z,1µm,20.0s
BRG Berggiesshubel 122.02 328 *e*PKP **PKPdf 21 50 42.9 +0.6**
BRG Amp 21 50 43.7
comp=Z,4.5nm,0.9s
BRG Berggiesshubel 122.02 328 PS PS 22 02 10.0 -1.0
O49A Covington 122.02 46 IAMs_20 IAMs_20 22 44 29.4
comp=Z,1µm,20.0s
TREC Trest 122.03 326 AMS AMS 22 41 20.0
comp=Z,2µm,24.4s
R49A Shelbyville 122.05 49 IAMs_20 IAMs_20 22 42 10.4
comp=Z,1µm,20.0s
GOPC GO Pecny, Ondr 122.09 327 AMS AMS 22 44 30.0
comp=Z,1µm,20.5s
LRAL Lakeview Retre 122.12 55 **PKPdf 21 50 43.2 +0.1**
LRAL IAMs_20 IAMs_20 22 43 58.8
comp=Z,1µm,20.0s
U49A Red Boiling Sp 122.14 51 PKPdf **PKPdf 21 50 42.0 -1.0**
PRU Pruhonice 122.18 327 AMS AMS 22 44 30.0
comp=Z,1µm,20.8s
PRA Prague 122.20 327 AMS AMS 22 44 20.0
comp=Z,1µm,21.0s
K50A Casco 122.24 43 IAMs_20 IAMs_20 22 43 09.9
comp=Z,1µm,20.0s
CLL Collm 122.27 329 **PKPdf 21 50 42.4 -0.4**
CLL Collm 122.27 329 *i* PKIKP **PKPdf 21 50 42.2 -0.6**
CLL *e* 21 50 52.0
CLL *e* 21 52 17.0
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL MLR MLR
comp=Z,2µm,19.5s
Y49A Blount Mountai 122.38 54 IAMs_20 IAMs_20 22 37 35.8
comp=Z,2µm,20.0s
HSKC Hora Svate Kat 122.44 328 AMS AMS 22 46 00.0
comp=Z,1µm,20.8s
M50A Fremont 122.49 44 IAMs_20 IAMs_20 22 41 34.6
comp=Z,2µm,21.0s
BRAL Brewton 122.52 57 IAMs_20 IAMs_20 22 39 49.6
comp=Z,1µm,20.0s
ESQI Esquipulas 122.52 77 IAMs_20 IAMs_20 22 38 45.3
comp=Z,1µm,18.0s
ZVC Zvikov 122.67 326 *e*PKPDF **PKiKP 21 50 44.4 +0.5**
W50A Signal Mountai 122.89 52 **PKPdf 21 50 44.6 +0.1**
CKRC Cesky Krumlov 122.94 326 *e*PKPDF **PKPdf 21 50 44.2 0.0**
CKRC AMS AMS 22 45 50.0
comp=Z,1µm,21.8s
CKRC Cesky Krumlov 122.94 326 *e*PKIKP **PKPdf 21 50 44.2 0.0**
CKRC MLR MLR
comp=Z,1µm,21.8s
ACSO Alum Creek Sta 122.97 46 IAMs_20 IAMs_20 22 37 07.5
comp=Z,1µm,22.0s
N51A Ashland 123.14 45 IAMs_20 IAMs_20 22 39 16.9
comp=Z,1µm,21.0s
Q51A Peebles 123.15 47 IAMs_20 IAMs_20 22 45 02.3
comp=Z,1µm,19.0s
NKC Novy Kostel 123.17 328 AMS AMS 22 47 10.0
comp=Z,2µm,17.7s
KHC Kasperske Hory 123.18 326 *e*PKPDF **PKPdf 21 50 44.7 0.0**
KHC AMS AMS 22 45 00.0
comp=Z,1µm,21.4s
KHC Kasperske Hory 123.18 326 *e*PKIKP **PKPdf 21 50 44.7 0.0**
KHC MLR MLR
comp=Z,1µm,21.4s
P51A Williamsport 123.19 47 IAMs_20 IAMs_20 22 39 38.4
comp=Z,1µm,20.0s
GERES GERESS Array B 123.26 326 **PKPdf 21 50 43.8 -1.1**
GERES GERESS Array B 123.26 326 PKP **PKPdf 21 50 44.1 -0.9**
comp=Z,2.0nm,0.6s,baz=69,slow=1.4,SNR=19
GERES GERESS Array B 123.26 326 PKIKP **PKPdf 21 50 43.8 -1.1**
X51A Calhoun 123.43 53 IAMs_20 IAMs_20 22 46 59.3
comp=Z,1µm,19.0s
451A Vernon 123.73 57 IAMs_20 IAMs_20 22 40 37.9
comp=Z,1µm,20.0s
P52A Corning 123.80 46 IAMs_20 IAMs_20 22 42 19.0
comp=Z,1µm,20.0s
O52A Adamsville 123.83 45 IAMs_20 IAMs_20 22 43 41.7
comp=Z,1µm,20.0s
Q52A Bidwell 123.95 47 IAMs_20 IAMs_20 22 38 55.6
comp=Z,985nm,21.0s
152A Waverly Hall 124.06 55 IAMs_20 IAMs_20 22 38 48.4
comp=Z,2µm,20.0s
GRA1 Grafenberg Arr 124.13 328 IAMs_20 IAMs_20 22 48 44.7
comp=Z,1µm,18.0s
GRFO Grafenberg 124.13 328 IAMs_20 IAMs_20 22 48 44.8
comp=Z,1µm,18.0s
352A Blakely 124.20 56 IAMs_20 IAMs_20 22 45 34.5
comp=Z,1µm,19.0s
N53A Lisbon 124.26 44 IAMs_20 IAMs_20 22 40 35.3
comp=Z,1µm,21.0s
P53A Whipple 124.39 46 IAMs_20 IAMs_20 22 43 38.0
comp=Z,989nm,20.0s
TGUH Tegucigalpa,Un 124.54 77 IAMs_20 IAMs_20 22 41 09.8
comp=Z,962nm,18.0s
LESA Schwarzleotal 124.61 325 *e*PKP **PKPdf 21 50 46.8 -0.8**
comp=Z,5.8nm,0.9s
PRED Cave del Predi 124.62 324 IAMs_20 IAMs_20 22 50 16.2
comp=Z,1µm,19.0s
O54A Avella 124.83 45 IAMs_20 IAMs_20 22 43 28.6
comp=Z,1µm,20.0s
SABO M.te Sabotino 124.84 323 IAMs_20 IAMs_20 22 51 03.4
comp=Z,1µm,20.0s
GOGA Godfrey 124.87 54 IAMs_20 IAMs_20 22 46 54.5
comp=Z,1µm,19.0s
ABTA Abfaltersbach 125.07 324 *e*PKP **PKPdf 21 50 47.6 -0.8**
comp=Z,4.9nm,0.9s
S54A Dingess, Beckl 125.08 48 IAMs_20 IAMs_20 22 41 02.5
comp=Z,1µm,21.0s
WATA Walderalm 125.28 325 *e*PKP **PKPdf 21 50 48.8 -0.1**
comp=Z,6.7nm,0.9s
WTTA Wattenberg 125.29 325 *e*PKP **PKPdf 21 50 48.5 -0.5**
comp=Z,12nm,1.2s
TIGA Tifton 125.32 56 IAMs_20 IAMs_20 22 41 41.7
comp=Z,1µm,20.0s
MMNY Mt. Morris Dam 125.40 41 IAMs_20 IAMs_20 22 45 50.1
comp=Z,2µm,20.0s
TSUM Tsumeb 125.49 241 IAMs_20 IAMs_20 22 42 33.9
comp=Z,1µm,20.0s
MOTA Moosalm 125.55 326 *e*PKP **PKPdf 21 50 48.8 -0.6**
comp=Z,7.7nm,0.7s
SQTA Sankt Quirin 125.56 326 *e*PKP **PKPdf 21 50 49.1 -0.3**
comp=Z,6.5nm,0.9s
STU Stuttgart 125.74 328 IAMs_20 IAMs_20 22 47 12.5
comp=Z,1µm,22.0s
R55A Marlinton 125.77 47 IAMs_20 IAMs_20 22 43 21.6
comp=Z,1µm,20.0s
FETA Feichten 125.94 326 *e*PKP **PKPdf 21 50 50.1 -0.2**
comp=Z,4.4nm,0.9s
BTNL Ternell 126.13 331 *d*PKiKP **PKPdf 21 50 50.8 +0.5**
Q56A Snyder Ridge, 126.14 46 IAMs_20 IAMs_20 22 45 46.2
comp=Z,1µm,20.0s
DAVA Damuels 126.26 326 *e*PKP **PKPdf 21 50 50.5 -0.3**
comp=Z,8.2nm,1.1s
U56A King 126.30 49 IAMs_20 IAMs_20 22 43 57.0
comp=Z,1µm,20.0s
EKA Eskdalemuir Ar 126.36 340 PKP **PKPdf 21 50 49.6 -1.0**
comp=Z,0.9nm,0.5s,baz=11,slow=2.0,SNR=6.7
FUORN Ofenpass-Fuorn 126.43 325 **PKPdf 21 50 51.9 +0.6**
FUORN IAMs_20 IAMs_20 22 47 28.9
comp=Z,1µm,21.0s
BFO Black Forest 126.47 328 IAMs_20 IAMs_20 22 47 32.7
comp=Z,1µm,20.0s
656A Willston 126.74 58 IAMs_20 IAMs_20 22 39 25.6
comp=Z,1µm,22.0s
S57A Dark Hollow, R 126.82 47 IAMs_20 IAMs_20 22 39 40.4
comp=Z,1µm,21.0s
TUE Stuetta 127.03 326 **PKPdf 21 50 52.3 -0.1**
TUE IAMs_20 IAMs_20 22 47 57.8
comp=Z,2µm,22.0s
N58A Sunbury 127.06 43 IAMs_20 IAMs_20 22 44 03.3
comp=Z,1µm,20.0s
257A Skidaway Islan 127.26 55 IAMs_20 IAMs_20 22 38 49.9
comp=Z,2µm,22.0s
ZCCA Zocca 127.28 323 IAMs_20 IAMs_20 22 53 30.6
comp=Z,1µm,21.0s
V58A Windy Hill, Pi 127.46 49 IAMs_20 IAMs_20 22 39 17.6

comp=Z,2μm,22.0s
NHSC New Hope 127.58 53 IAMs_20 IAMs_20 22 52 11.3
comp=Z,1μm,20.0s
SDMD Soldier's Deli 127.62 44 IAMs_20 IAMs_20 22 41 47.5
comp=Z,923nm,21.0s
MVL Millersville 127.70 43 IAMs_20 IAMs_20 22 47 29.2
comp=Z,1μm,19.0s
CSU Charleston Sou 127.70 53 IAMs_20 IAMs_20 22 39 50.6
comp=Z,2μm,21.0s
SOR Soroa 127.72 66 IAMs_20 IAMs_20 22 42 27.3
comp=Z,1μm,20.0s
CBN Corbin Frederi 127.77 46 IAMs_20 IAMs_20 22 43 09.6
comp=Z,1μm,20.0s
DWPF Disney Wildern 128.00 59 IAMs_20 IAMs_20 22 45 28.0
comp=Z,923nm,20.0s
LUPA Lehigh Univers 128.08 42 IAMs_20 IAMs_20 22 44 02.1
comp=Z,2μm,20.0s
W59A Clinton 128.20 50 IAMs_20 IAMs_20 22 51 26.4
comp=Z,1μm,19.0s
BRNJ Basking Ridge 128.57 42 IAMs_20 IAMs_20 22 46 49.2
comp=Z,1μm,20.0s
061Z Ochoppi 128.99 62 IAMs_20 IAMs_20 22 41 54.6
comp=Z,1μm,22.0s
060A Indiantown 129.18 60 IAMs_20 IAMs_20 22 47 12.6
comp=Z,960nm,20.0s
AC02 Maricunga 130.61 134 IAMs_20 IAMs_20 22 40 32.9
comp=Z,887nm,20.0s
OTAV Otavalo 132.56 96 PKiKP 21 51 06.1 +0.8
OTAV Otavalo 132.56 96 PKIKP **PKiKP 21 51 06.1 +0.8**
OTAV MLR MLR
comp=Z,500nm,19.0s
KEST Kesra 132.74 314 PKP **PKPdf 21 51 02.6 -0.8**
comp=Z,4.0nm,0.9s,baz=58,slow=23,SNR=2.1
CHIV Chivirico 134.26 68 IAMs_20 IAMs_20 22 46 56.4
comp=Z,1μm,22.0s
GO01 Chusmiza 134.54 126 PKPpre 21 50 59.2
GO01 PKPdf **PKPdf 21 51 04.4 -3.3**
NMDO Nuevo Mundo 135.47 67 IAMs_20 IAMs_20 22 48 12.2
comp=Z,970nm,20.0s
FLOC Florencia 135.52 94 PKPdf **PKPdf 21 51 09.5 +0.3**
CZSB Cruzeiro do Su 136.37 108 PKPdf **PKPdf 21 51 10.3 -0.4**
LPAZ La Paz 137.11 122 PKPdf 21 51 13.7 +1.0
LPAZ La Paz 137.11 122 PKP **PKPdf 21 51 12.0 -0.7**
comp=Z,3.3nm,0.9s,baz=188,slow=2.1,SNR=6.4
LPAZ SKPbc **SKPbc 21 54 45.4 +0.9**
comp=Z,2.2nm,0.7s,baz=253,slow=3.4,SNR=6.0
ROSC El Rosal 137.19 90 PKP **PKPdf 21 51 13.2 +0.6**
baz=82,slow=4.2,SNR=4.3
ROSC SKPbc **SKPbc 21 54 46.8 +2.3**
comp=Z,4.2nm,0.4s,baz=270,slow=19,SNR=4.1
SMRC Santa Marta, M 137.38 81 PKPdf 21 51 12.8 +0.2
RUSC La Rusia 138.48 88 PKPdf 21 51 11.5 -3.7
CPUP Villa Florida 138.74 143 PKP **PKPdf 21 51 14.1 -0.6**
comp=Z,0.8nm,0.4s,baz=84,slow=11,SNR=2.0
ESDC Sonseca Array 138.82 327 PKP **PKPdf 21 51 14.2 -0.4**
comp=Z,0.8nm,1.0s,baz=27,slow=4.2,SNR=4.1
SDDR Presa de Saban 139.20 68 IAMs_20 IAMs_20 22 48 44.2
comp=Z,809nm,20.0s
SDV Santo Domingo 140.98 84 PKPdf 21 51 17.0 -2.3
MESJ Messejana 142.41 329 *e*PKPdf **PKPdf 21 51 18.6 -2.4**
MESJ *e*PP **PP 21 54 26.5 -0.8**
MESJ IAMs_20 IAMs_20 22 58 02.3
comp=Z,1μm,19.2s
MORF Marmelete 143.04 329 *e*PKPdf PKPbc 21 51 19.9 +0.9
MORF *e*PP **PP 21 54 30.5 -0.6**
MORF IAMs_20 IAMs_20 22 58 32.8
comp=Z,1μm,21.2s
MORF Marmelete 143.04 329 *e*PKIKP PKPbc 21 51 19.9 +0.9
MORF *e* 21 54 30.5
BAUV El Baul 143.54 84 PKPab 21 51 19.7 -0.4
OBIP Obispado Ponce 143.74 68 IAMs_20 IAMs_20 22 54 55.5
comp=Z,732nm,19.0s
CELP Cerrillos 143.75 68 PKPab 21 51 21.0 +0.2
IFR Ifrane 143.78 321 PKP PKPbc 21 51 22.6 +1.2
IGPR InterUniversit 144.22 68 IAMs_20 IAMs_20 22 55 40.2
comp=Z,692nm,19.0s
SAML Samuel 144.72 115 PKPab 21 51 24.2 -0.3
SAML Samuel 144.72 115 PKIKP **PKPab 21 51 24.2 -0.3**
PTLB Pontes e Lacer 144.85 129 PKPab 21 51 25.3 +0.4
AVE Averroes 145.32 323 PKP **PKPbc 21 51 23.3 -2.7**
VILB Vilhena 145.40 124 PKPbc 21 51 27.4 +0.6
TORD Torodi Ar. Bea 146.84 284 PKPdf 21 51 28.6 -0.7
TORD Torodi Ar. Bea 146.84 284 PKPbc **PKPdf 21 51 30.8 +1.5**
comp=Z,61nm,0.3s,baz=64,slow=1.7,SNR=1.5
TIO Tiouine 146.85 320 PKP **PKPdf 21 51 29.8 +0.7**
SMRT St. Maarten 146.98 67 PKPdf 21 51 30.5 +1.0
SMRT IAMs_20 IAMs_20 23 03 41.2
comp=Z,802nm,19.0s
ACRG Accra 149.06 270 PKPbc 21 51 37.4 +0.3
MACA Manacapuru-AM 149.15 107 PKiKP 21 51 38.9 +0.2
GDSD La Dsirade Is 149.30 69 IAMs_20 IAMs_20 22 55 16.8
comp=Z,817nm,21.0s
GRGR Grenville 149.56 77 IAMs_20 IAMs_20 23 03 25.5
comp=Z,831nm,20.0s
FDF Fort de France 149.59 72 IAMs_20 IAMs_20 23 04 12.9
comp=Z,773nm,20.0s
BIM Bigot 149.71 72 IAMs_20 IAMs_20 22 56 30.2
comp=Z,799nm,20.0s
MPOM Morne Pois Mar 149.93 72 IAMs_20 IAMs_20 22 56 32.8
comp=Z,843nm,20.0s
BOAV Boa Vista 150.60 97 PKPdf 21 51 36.4 +0.9
BDFB Brasilia 152.47 143 PKPbc 21 51 45.8 +0.5
BDFB PKPab **PKPab 21 51 56.1 +0.8**
BDFB Brasilia 152.47 143 PKP **PKPdf 21 51 38.6 +0.2**
comp=Z,1.9nm,0.3s,baz=53,slow=2.1,SNR=4.5
BDFB PKPbc **PKPbc 21 51 45.3 0.0**
comp=Z,1.9nm,0.3s,baz=135,slow=1.4,SNR=3.0
BDFB PKPab **PKPab 21 51 54.9 -0.5**
comp=Z,16nm,0.7s,baz=160,slow=1.2,SNR=8.4
DBIC Dimbokro 153.71 272 PKP **PKPdf 21 51 38.9 -1.2**
comp=Z,10nm,1.1s,baz=167,slow=1.5,SNR=3.1
DBIC PKPbc **sPKPdf 21 51 47.1 -1.8**
comp=Z,14nm,0.8s,baz=49,slow=3.5,SNR=7.6
DBIC PKPab **PKPab 21 51 59.4 -1.3**
comp=Z,10nm,0.6s,baz=151,slow=4.1,SNR=5.0

---

*MEX **11** 21:44:55.5±1.0, 15°.83N×95°.13W, h9km±13km, MD4.3*
*GCG **11** 21:44:55.4±3.4, 15°.66N×95°.26W, h58km±278km, MD4.5*
ISC 11 21:44:52.4±1.3, 15°.82N±0°.04×95°.15W±0°.02, h16km±10km, n47, σ2°71/85, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.92**	**267**	*e*P	**Pn**	**21 45 11.1**	**+0.4**
HUIG				*e*S	**Sg**	**21 45 23.0**	**+0.6**
HUIG	**Huatulco**	**0.92**	**267**	*i* P	**Pn**	**21 45 11.1**	**+0.4**
HUIG				*i* S	**Sg**	**21 45 23.0**	**+0.6**
PANG	**Puerto Angel**	**1.28**	**263**	*e*P	**Pg**	**21 45 17.6**	**+0.4**
PANG				*e*S	**Sg**	**21 45 34.4**	**+0.5**
CMIG	**Matias Romero**	**1.29**	**11**	*e*P	**Pn**	**21 45 15.3**	**-0.5**
CMIG				*e*S	**Sn**	**21 45 30.0**	**-2.8**
UXUV	**UXUV**	**1.77**	**33**	*e*P	**Pn**	**21 45 23.0**	**+0.5**
UXUV				*e*S	**Sn**	**21 45 43.5**	**-1.2**
PCIG		**1.86**	**93**	*e*P	**Pn**	**21 45 24.4**	**+0.7**
PCIG				*e*S	**Sn**	**21 45 46.4**	**-0.5**
PEIG	**Puerto Escondi**	**1.93**	**276**	*e*P	**Pn**	**21 45 24.9**	**+0.3**
PEIG				*e*S	**Sn**	**21 45 47.9**	**-0.6**
OXLC	**Oaxaca**	**1.94**	**310**	*e*S	**Sn**	**21 45 49.8**	**+0.8**
OXBJ	**Oaxaca**	**1.95**	**310**	*e*P	**Pb**	**21 45 28.4**	**+0.6**
OXBJ				*e*S	**Sn**	**21 45 49.8**	**+0.3**
VHO	**Vista Hermosa**	**1.96**	**310**	*e*P	**Pn**	**21 45 26.2**	**+0.9**
VHO				*e*S	**Sn**	**21 45 49.5**	**-0.2**
NEUV	**Arroyo Zacate**	**1.98**	**342**	*e*P	**Pn**	**21 45 22.5**	**-2.8**
NEUV				*e*S	**Sn**	**21 45 49.4**	**-0.4**
TGIG		**2.17**	**64**	*e*P	**Pb**	**21 45 31.9**	**+0.5**
TGIG				*e*S	**Sn**	**21 45 54.9**	**+0.3**
TGIG		**2.17**	**64**	*e*P	**Pb**	**21 45 31.7**	**+0.3**
TGBT	**Tuxtla Gutierr**	**2.20**	**64**	*e*S	**Sn**	**21 45 55.8**	**+0.6**
YOIG	**Yosondua**	**2.52**	**294**	*e*P	**Pb**	**21 45 35.6**	**-1.9**
YOIG				*e*S	**Sb**	**21 46 05.9**	**-2.4**
PMUV	**Sontecomapan**	**2.71**	**1**	*e*P	**Pn**	**21 45 35.8**	**+0.4**
PMUV				*e*S	**Sn**	**21 46 07.8**	**-0.1**
TXIG	**Tlaxiaco**	**2.89**	**300**	*e*P	**Pn**	**21 45 40.7**	**+2.6**
TXIG				*e*S	**Sn**	**21 46 13.4**	**+0.8**
PATR	**El Naranjo**	**2.90**	**104**	*e*P	**Pn**	**21 45 39.5**	**+1.4**
PATR				*e*S	**Sn**	**21 46 12.1**	**-0.7**
TOIG	**Toxpalan**	**2.91**	**321**	*e*P	**Pb**	**21 45 42.1**	**-1.9**
TOIG				*e*S	**Sn**	**21 46 15.3**	**+2.4**
CCIG	**Comitan**	**2.94**	**81**	*e*P	**Pb**	**21 45 43.8**	**-0.7**
CCIG				*e*S	**Sn**	**21 46 14.7**	**+1.1**
CCIG	**Comitan**	**2.94**	**81**	*e*P	**Pb**	**21 45 44.9**	**+0.4**
PAVE	**Pavencul**	**2.94**	**102**	*e*P	**Pn**	**21 45 40.5**	**+1.8**
PAVE				*e*S	**Sn**	**21 46 14.9**	**+1.2**
HLIG	**Huajuapan de L**	**3.23**	**309**	*e*P	**Pb**	**21 45 47.8**	**-1.8**
HLIG				*e*S	**Sb**	**21 46 27.4**	**-1.5**
TPIG	**Tehuac#an**	**3.34**	**321**	*e*P	**Pn**	**21 45 45.9**	**+1.7**
TPIG				*e*S	**Sb**	**21 46 31.0**	**-0.9**
FTIG	**Fresnillo de T**	**3.53**	**306**	*e*P	**Pn**	**21 45 50.0**	**+3.3**
FTIG				*e*S	**Sb**	**21 46 36.7**	**-0.6**
MGIG	**Malinaltepec**	**3.62**	**293**	*e*P	**Pn**	**21 45 50.2**	**+2.1**
MGIG				*e*S	**Sn**	**21 46 30.2**	**-0.4**
TLIG	**Tlapa**	**3.70**	**298**	*e*P	**Pb**	**21 45 57.6**	**0.0**
TLIG				*e*S	**Sb**	**21 46 39.6**	**-2.7**
POHV	**Veracruz**	**3.82**	**328**	*e*P	**Pn**	**21 45 54.7**	**+3.7**
POHV				*e*S	**Sn**	**21 46 36.9**	**+1.0**
JAUV	**Jalcomulco**	**3.86**	**336**	*e*P	**Pn**	**21 45 47.4**	**-3.8**
JAUV				*e*S	**Sn**	**21 46 34.9**	**-1.5**
STG8	**El Palmar, Qui**	**3.92**	**110**	*e*P	**Pn**	**21 45 50.2**	**-1.9**
STG8				*e*S	**Sn**	**21 46 30.8**	**-7.1**
CRIG	**Cruz Grande**	**3.93**	**284**	*e*P	**Pn**	**21 45 52.1**	**0.0**
CRIG				*e*S	**Sn**	**21 46 31.8**	**-6.1**
LVIG	**Laguna Verde**	**4.07**	**343**	*e*P	**Pb**	**21 46 02.5**	**-1.1**
LVIG				*e*S	**Sn**	**21 46 41.6**	**+0.4**
DAIG	**Los Arroyos**	**4.48**	**286**	*e*P	**Pn**	**21 46 01.9**	**+2.2**
DAIG				*e*S	**Sn**	**21 46 45.0**	**-6.6**
PBCV	**Popocatepetl**	**4.53**	**315**	*e*P	**Pn**	**21 46 01.8**	**+1.2**
PBCV				*e*S	**Sb**	**21 47 03.3**	**-3.0**
PBXN	**Popocatepetl**	**4.61**	**314**	*e*P	**Pn**	**21 46 03.7**	**+1.8**
PBXN				*e*P	Pb	21 46 08.8	-4.4
PBXN				*e*S	**Sn**	**21 46 58.0**	**+2.5**
PBXN				*e*S	**Sb**	**21 47 05.1**	**-3.7**
PBPN	**Popocatepetl**	**4.61**	**314**	*e*P	Pn	21 46 06.0	+4.0
PBPN				*e*P	Pb	21 46 06.5	-6.8
PBPN				*e*S	**Sn**	**21 46 56.6**	**+1.0**
PBPN				*e*S	**Sb**	**21 47 05.0**	**-3.8**
PPM	**Popocatepetl**	**4.63**	**315**	*e*P	**Pn**	**21 46 04.9**	**+2.7**
PPM				*e*S	**Sn**	**21 47 01.4**	**+5.5**
MEIG	**Mezcala**	**4.76**	**297**	*e*P	**Pn**	**21 46 05.0**	**+1.3**
MEIG				*e*S	**Sn**	**21 46 57.2**	**-1.4**
YAIG	**Yautepec**	**4.81**	**310**	*e*P	Pn	21 46 10.3	+5.9
YAIG				*e*S	**Sn**	**21 46 58.0**	**-1.9**
PLIG	**Platanillo**	**4.88**	**302**	*e*P	**Pn**	**21 46 08.5**	**+3.2**
PLIG				*e*S	**Sn**	**21 47 04.4**	**+2.8**
CXUV	**Coxquihui**	**4.91**	**332**	*e*P	Pn	21 46 10.2	+4.6
CXUV				*e*S	**Sn**	**21 47 07.9**	**+5.7**
SCIG	**Sabancuy**	**4.91**	**50**	*e*P	**Pn**	**21 46 06.7**	**+1.1**
SCIG				*e*S	**Sn**	**21 46 58.5**	**-3.7**
CAIG	**El Cayaco**	**5.06**	**285**	*e*S	**Sn**	**21 46 58.8**	**-7.0**
MAVM	**Malinalco, Edo**	**5.19**	**308**	*e*S	**Sn**	**21 47 05.6**	**-3.7**
AOVM	**Tlapan**	**5.25**	**311**	*e*P	Pb	21 46 18.4	-5.7
AOVM				*e*S	**Sn**	**21 47 17.5**	**+6.2**
ARIG	**Puente Sto Nin**	**5.54**	**297**	*e*P	**Pn**	**21 46 16.9**	**+2.6**
ARIG				*e*S	**Sn**	**21 47 12.1**	**-5.6**
CTUV	**Llano Grande**	**6.39**	**332**	*e*S	**Sn**	**21 47 44.2**	**+5.6**

IDC 11 21:48:17.8±1.6, 14°.56N×143°.70E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=45.5km s-min=32.0km az=95.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**22.38**	**77**	T	T	22 16 03.3	
baz=263							
H11S1	**WAKE ISLAND Hy**	**22.39**	**77**	T	T	22 16 06.0	
baz=263,slow=74							
H11S2	**WAKE ISLAND Hy**	**22.39**	**77**	T	T	22 16 07.7	
baz=263							
WRA	**Warramunga Arr**	**35.50**	**195**	P	P	21 55 16.0	-0.4
1.1nm,0.9s,baz=14,slow=8.2,SNR=4.3							
1.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**43.01**	**282**	P	P	21 56 20.3	+0.8
0.7nm,0.3s,baz=91,slow=11,SNR=6.9							
0.7nm,0.3s							
MKAR	**Makanchi Array**	**60.01**	**316**	P	P	21 58 24.9	-1.5
0.3nm,0.8s,baz=97,slow=7.4,SNR=2.7							
0.3nm,0.8s							
KURBB	**Kurchatov Arra**	**63.16**	**320**	P	P	21 58 47.6	+0.1
0.5nm,0.7s,baz=101,slow=6.9,SNR=4.8							
0.5nm,0.7s							
ILAR	**Eielson Array**	**68.19**	**26**	P	P	21 59 20.2	+0.4
0.9nm,1.1s,baz=259,slow=5.5,SNR=2.7							
0.9nm,1.1s							

---

*IDC **11** 21:53:43.8±1.0, 14°.57N×144°.16E, h0km, mb3.8/15, mbtmp3.8/15, MS4.3/2, Error ellipse: s-maj=35.4km s-min=16.7km az=86.0*
ISC 11 21:53:49.1±0.9, 14°.6N±0°.1×144°.1E±0°.2, h35km, n22, σ0°75/15, mb3.8/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**21.97**	**77**	T	T	22 21 35.7	
baz=262,slow=75,SNR=22							
H11S1	**WAKE ISLAND Hy**	**21.98**	**77**	T	T	22 21 36.6	
baz=262,slow=75,SNR=25							
H11S2	**WAKE ISLAND Hy**	**21.98**	**77**	T	T	22 21 33.5	
baz=262,slow=75,SNR=30							
H11N1	**WAKE ISLAND Hy**	**22.33**	**74**	T	T	22 22 05.9	
baz=259,slow=75							
H11N2	**WAKE ISLAND Hy**	**22.34**	**73**	T	T	22 22 03.8	
baz=259							
H11N3	**WAKE ISLAND Hy**	**22.35**	**74**	T	T	22 22 06.3	
baz=259,slow=75							
MJAR	**Matsushiro Arr**	**22.53**	**347**	P	**P**	**21 58 46.4**	**+0.4**
2.0nm,0.9s,baz=167,slow=12,SNR=5.0							
2.0nm,0.9s							
KSRS	**Korea Array**	**26.98**	**331**	P	**P**	**21 59 27.6**	**+0.1**
0.9nm,0.7s,baz=144,slow=9.3,SNR=4.7							
0.9nm,0.7s							
WRA	**Warramunga Arr**	**35.61**	**196**	P	**P**	**22 00 43.3**	**-0.4**
2.0nm,0.8s,baz=16,slow=9.4,SNR=8.3							
WRA				LR	LR	22 16 41.1	
comp=Z,486nm,18.3s,baz=354,slow=39							
2.0nm,0.8s							
ASAR	**Alice Springs**	**39.28**	**195**	P	**P**	**22 01 15.4**	**+0.7**
0.4nm,0.7s,baz=16,slow=10,SNR=4.8							
0.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**43.42**	**282**	P	**P**	**22 01 49.2**	**+0.3**
0.4nm,0.3s,baz=85,slow=7.0,SNR=5.1							
0.4nm,0.3s							
SONM	**Songino Array**	**45.54**	**325**	P	**P**	**22 02 05.8**	**+0.3**
1.1nm,0.9s,baz=141,slow=9.6,SNR=4.6							
1.1nm,0.9s							
STKA	**Stephens Creek**	**46.23**	**183**	P	**P**	**22 02 10.8**	**-0.1**
2.0nm,0.9s,baz=325,slow=8.4,SNR=3.2							
2.0nm,0.9s							
MKAR	**Makanchi Array**	**60.31**	**316**	P	**P**	**22 03 55.2**	**+0.8**
0.9nm,0.8s,baz=94,slow=9.9,SNR=6.9							
0.9nm,0.8s							
ZALV	**Zalesovo Beam**	**60.43**	**324**	P	**P**	**22 03 55.6**	**+0.6**
0.5nm,0.6s,baz=87,slow=9.2,SNR=1.7							
0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**63.43**	**320**	P	**P**	**22 04 14.0**	**-1.2**
1.3nm,0.7s,baz=104,slow=6.8,SNR=10.0							
1.3nm,0.7s							
NRIK	**Noril'sk**	**64.99**	**341**	P	**P**	**22 04 24.8**	**-0.4**
1.2nm,0.4s,baz=121,slow=8.3,SNR=2.2							
1.2nm,0.4s							
ILAR	**Eielson Array**	**68.01**	**26**	P	**P**	**22 04 44.5**	**0.0**
0.4nm,0.8s,baz=264,slow=6.6,SNR=1.7							
0.4nm,0.8s							
BVAR	**Borovoye Array**	**68.73**	**322**	P	**P**	**22 04 47.6**	**-1.7**
0.7nm,0.7s,baz=106,slow=11,SNR=2.0							
0.7nm,0.7s							
PPT	**Papeete**	**72.75**	**114**	LR	LR	22 31 10.1	
comp=Z,177nm,19.1s,baz=306,slow=31							
YKA	**Yellowknife Ar**	**82.33**	**27**	P	**P**	**22 06 07.4**	**+0.3**
0.2nm,0.7s,baz=288,slow=5.2,SNR=3.9							
0.2nm,0.7s							
FINES	**FINESS Array B**	**89.99**	**335**	P	**P**	**22 06 44.6**	**-0.2**
1.8nm,1.0s,baz=10,slow=7.0,SNR=1.7							
1.8nm,1.0s							

---

*SLM **11** 22:10:17.1±0.8, 36°.535N±0°.008×89°.59W±0°.01, h9km±1km, Error ellipse: s-maj=1.5km s-min=1.2km az=96.0*
NEIC 11 22:10:17.5±1.2, 36°.533N±0°.004×89°.59W±0°.01, h5km±1km, mb_Lg2.1/8, ML2.3/26, Md2.0/21(SLM), Error ellipse: s-maj=2.7km s-min=1.5km az=252.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WALK	**Watson Lake**	**0.04**	**80**		Pg	22 10 20.9	+2.2
NMEM	**New Madrid Sch**	**0.04**	**5**		Pg	22 10 20.9	+2.2
NMMO	**New Madrid**	**0.06**	**29**		Pg	22 10 19.4	+0.4
NMMO					Sg	22 10 21.4	+1.3
MARMO	**Marston**	**0.06**	**268**		Pg	22 10 21.2	+2.2
PENMO	**Penman**	**0.09**	**201**		Pg	22 10 19.7	+0.3
PENMO					Sg	22 10 21.8	+1.1
CATM	**Catron**	**0.09**	**330**		Pg	22 10 19.7	+0.2
CATM					Sg	22 10 21.9	+1.1
SJMO	**Saint John's B**	**0.13**	**43**		Pg	22 10 20.4	+0.2
SJMO					Sg	22 10 23.1	+1.1
PGVM	**Portageville**	**0.13**	**237**		Pg	22 10 20.3	+0.1
PGVM					Sg	22 10 23.2	+1.2
POBM	**Portage Bay**	**0.14**	**205**		Pg	22 10 20.4	+0.1
POBM					Sg	22 10 23.1	+1.0
PVMO	**Portageville**	**0.15**	**217**		Pg	22 10 20.5	0.0
PVMO					Sg	22 10 23.4	+0.9
PVMO	**Portageville**	**0.15**	**217**	Pg	Pg	22 10 20.3	-0.1
PVMO				IAML		22 10 23.5	
comp=E,3μm,0.5s							
PVMO				IAML		22 10 23.6	
comp=N,2μm,0.4s							
KEWM	**Kewanee**	**0.17**	**359**		Pg	22 10 20.9	+0.1
KEWM					Sg	22 10 23.8	+0.7
PARMO	**Parma**	**0.18**	**315**	Pg	Pg	22 10 20.5	-0.7
PARMO					Sg	22 10 24.4	+0.8
HENM	**Henderson Moun**	**0.21**	**27**		Pg	22 10 21.6	0.0
HENM					Sg	22 10 25.0	+0.7
COKM	**Charter Oak**	**0.21**	**328**		Pg	22 10 21.7	+0.1
COKM					Sg	22 10 25.0	+0.7
WADM	**Wardell**	**0.23**	**225**		Pg	22 10 22.1	0.0
WADM					Sg	22 10 25.9	+0.8
TOPM	**Tallapoosa**	**0.24**	**268**		Sg	22 10 26.1	+0.7
FLPT	**Flippin**	**0.25**	**119**		Pg	22 10 22.5	+0.1
FLPT					Sg	22 10 26.7	+1.0
EPRM	**East Prairie**	**0.26**	**45**		Pg	22 10 22.7	0.0
DWDM	**Dogwood**	**0.27**	**16**		Pg	22 10 22.8	-0.1
DWDM					Sg	22 10 27.1	+0.6
HICK	**Hickman**	**0.29**	**88**		Pg	22 10 23.0	-0.2
HICK					Sg	22 10 27.6	+0.6
HICK				IAML		22 10 29.7	
comp=N,669nm,0.2s							
GLAT	**Glass**	**0.36**	**137**	Pg	Pg	22 10 23.3	-1.1
GLAT				Sg	Sg	22 10 29.1	-0.1
GLAT				IAML		22 10 30.3	
comp=N,309nm,0.1s							
LNXT	**Lenox**	**0.44**	**170**	Pg	Pg	22 10 25.6	-0.3
LNXT				IAML		22 10 33.4	
comp=E,391nm,0.5s							
LNXT				IAML		22 10 38.8	
comp=N,303nm,0.4s							
HALT	**Halls**	**0.65**	**162**	Pg	Pg	22 10 29.0	-1.0
HALT				IAML		22 10 48.2	
comp=N,123nm,0.5s							
PBMO	**Poplar Bluff**	**0.72**	**290**	Pg	Pg	22 10 30.4	-0.9
PBMO				IAML		22 10 40.3	
comp=N,110nm,0.4s							
PBMO				IAML		22 10 49.8	
comp=E,102nm,0.8s							
CGM3	**Cape Girardeau**	**0.77**	**356**	Pg	Pg	22 10 31.6	-0.6
CGM3				IAML		22 10 46.8	
comp=E,131nm,0.2s							
CGM3				IAML		22 10 48.6	
comp=N,134nm,0.2s							
T45A	**Paducah**	**0.90**	**57**	Pg	Pg	22 10 33.6	-1.1
T45A				IAML		22 10 50.2	
comp=N,109nm,0.2s							
T45A				IAML		22 10 51.1	
comp=N,89nm,0.3s							
SIUC	**Southern Illin**	**1.22**	**14**		Pg	22 10 39.2	-1.6
SIUC				IAML		22 10 58.6	
comp=E,90nm,0.3s							
HBAR	**Harrisburg**	**1.30**	**222**		Pn	22 10 40.6	-1.8
T42A	**Van Buren**	**1.30**	**293**		Pn	22 10 40.3	-2.1
T42A				IAML		22 11 01.1	
comp=E,47nm,0.4s							
LCAR	**Lake Charles**	**1.35**	**250**		Pn	22 10 41.1	-1.8
LCAR				IAML		22 11 01.7	
comp=N,51nm,0.4s							
WVT	**Waverly**	**1.48**	**105**		Pn	22 10 43.1	-1.6
FVM	**French Village**	**1.59**	**336**		Pn	22 10 45.1	-1.3
FVM				IAmb_Lg		22 11 07.2	
comp=Z,8.7nm,0.8s							
PLAL	**Pickwick Lake**	**1.98**	**141**	Pn	Pn	22 10 51.3	-0.3
CCM	**Cathedral Cave**	**2.01**	**320**		Pn	22 10 51.3	-0.9
CCM	**Cathedral Cave**	**2.01**	**320**		Pn	22 10 51.4	-0.7
T47A	**Sharon Grove**	**2.05**	**76**		Pn	22 10 52.1	-0.5
T47A				IAmb_Lg		22 11 27.6	
comp=Z,9.6nm,0.7s							
MGMO	**Mountain Grove**	**2.24**	**287**		Pn	22 10 53.8	-1.5
MGMO				IAmb_Lg		22 11 33.1	
comp=Z,8.5nm,0.8s							
V48A	**Smith Brothers**	**2.38**	**109**	Pn	Pn	22 10 55.4	-1.7
WHAR	**Wooly Hollow**	**2.52**	**241**		Pn	22 10 57.8	-1.3
CLTN	**Cedars of Leba**	**2.67**	**99**		Pn	22 10 59.5	-1.6
R40A	**Maddies Statio**	**2.76**	**310**	Pn	Pn	22 11 01.4	-1.0
T50A	**Nancy**	**3.84**	**81**		Pn	22 11 16.5	-0.8
T50A				IAmb_Lg		22 12 21.5	
comp=Z,5.9nm,0.9s							

---

*NEIC **11** 22:12:23.6±1.3, 16°.1S±0°.1×173°.9W±0°.1, h117km±8km, mb4.4/14, Error ellipse: s-maj=15.1km s-min=13.2km az=144.0*
*IDC **11** 22:12:29.2±3.5, 16°.08S×174°.17W, h186km±31km, mb3.6/13, mbtmp4.1/15, Error ellipse: s-maj=22.3km s-min=13.8km az=132.0*
ISC 11 22:12:21.6±0.5, 16°.08S±0°.09×174°.1W±0°.1, h115km, n40, σ0°90/40, mb4.0/19, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.10**	**46**	Pn	**Pn**	**22 13 09.8**	**+0.8**
NIUE	**Niue**	**4.95**	**128**	Pn	**Pn**	**22 13 33.9**	**+0.1**
MSVF	**Nonsavu**	**7.71**	**257**		Pn	22 14 19.3	+8.0
MSVF	**Nonsavu**	**7.71**

WAKR Walker 74.58 42 P P 22 23 48.7 +0.4
NVAR Mina Array Bea 75.27 42 P P 22 23 51.8 -0.5
comp=Z,1.4nm,0.7s,baz=231,slow=9.6,SNR=5.9
comp=Z,1.4nm,0.7s
ELK Elko 78.52 42 P P 22 24 10.8 +0.3
comp=Z,0.9nm,0.9s,baz=240,slow=5.4,SNR=4.1
comp=Z,0.9nm,0.9s
VHRN Van Horn 81.08 54 P P 22 24 25.6 +1.2
VHRN IAmb IAmb 22 24 26.3
comp=Z,3.5nm,0.7s
TXAR Lajitas Array 81.53 56 P P 22 24 25.0 -1.8
comp=Z,0.5nm,0.7s,baz=282,slow=7.8,SNR=4.0
comp=Z,0.5nm,0.7s
ANMO Albuquerque 81.73 50 P P 22 24 28.1 +0.3
comp=Z,0.7nm,0.5s,baz=127,slow=4.8,SNR=3.3
comp=Z,0.7nm,0.5s
PDAR Pinedale Array 83.20 42 P P 22 24 35.6 +0.3
comp=Z,1.4nm,0.7s,baz=208,slow=3.2,SNR=14
comp=Z,1.4nm,0.7s
YHL Hebgen Lake 83.22 40 P P 22 24 36.3 +0.9
YHL IAmb IAmb 22 24 37.8
comp=Z,3.7nm,0.8s
ILAR Eielson Array 83.23 11 P P 22 24 34.7 0.0
comp=Z,0.3nm,0.5s,baz=226,slow=5.4,SNR=4.9
comp=Z,0.3nm,0.5s
ARCES ARCESS Array B 125.19 352 PKP PKPdf 22 31 07.1 -0.9
comp=Z,4.7nm,1.0s,baz=23,slow=4.0,SNR=4.6
FINES FINESS Array B 132.46 347 PKP PKPdf 22 31 21.4 -0.5
comp=Z,2.6nm,1.0s,baz=6.8,slow=3.5,SNR=1.9
NOA NORSAR Array B 134.94 356 PKP PKPdf 22 31 25.4 -1.4
comp=Z,0.2nm,0.5s,baz=153,slow=11,SNR=3.3
BRTR Keskin Array B 146.26 320 PKPbc PKPdf 22 31 47.8 -0.2
comp=Z,0.3nm,0.6s,baz=142,slow=2.3,SNR=4.3
GERES GERESS Array B 146.71 351 PKPbc PKPdf 22 31 48.8 +0.5
comp=Z,0.6nm,0.8s,baz=316,slow=3.7,SNR=4.5
FUORN Ofenpass-Fuorn 149.33 354 PKiKP 22 31 58.5 0.0
TORD Torodi Ar. Bea 174.97 125 PKPab PKPab 22 33 53.4 -1.0
comp=Z,52nm,0.4s,baz=235,slow=5.1,SNR=1.5

*NOU **11** 22:20:20.1, 37°.85S×179°.96W, h80km, mb4.2/12, East of North Island, N.Z.*
*WEL **11** 22:20:21.0±0.9, 38°.S±7°.×18°.0W±°, h33km, M4.1/22, ML4.4/24, MLv4.1/22, Error ellipse: s-maj=9.9km s-min=6.8km az=17.9, confirmed*
*IDC **11** 22:20:28.5±2.6, 36°.89S×178°.35E, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=58.6km s-min=27.8km az=112.0*
ISC 11 22:20:20.4±1.9, 37°.96S±0°.05×179°.98E±0°.07, h19km±6km, n76, σ1§53/92, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.25**	**276**	P	**Pn**	**22 20 42.5**	**-0.2**
WMGZ				S	**Sg**	**22 21 00.1**	**-0.8**
PUZ	**Puketiti**	**1.37**	**265**	P	**Pn**	**22 20 44.6**	**+0.3**
PUZ				S	**Sb**	**22 21 03.1**	**+0.7**
MXZ	**Matakaoa Point**	**1.39**	**286**	P	**Pn**	**22 20 43.8**	**-0.8**
MXZ	**Matakaoa Point**	**1.39**	**286**	S	**Sn**	**22 21 02.1**	**-0.2**
MXZ	**Matakaoa Point**	**1.39**	**286**	P	**Pn**	**22 20 44.0**	**-0.6**
MXZ				S	**Sn**	**22 21 01.7**	**-0.6**
CNGZ	**Carnagh Statio**	**1.49**	**249**	P	**Pb**	**22 20 47.2**	**-0.3**
PKGZ	**Pakihiroa**	**1.51**	**273**	P	**Pn**	**22 20 46.3**	**0.0**
PKGZ				S	**Sb**	**22 21 05.9**	**-0.4**
TWGZ	**Tauwhareparae**	**1.59**	**261**	P	**Pn**	**22 20 48.3**	**+0.8**
TWGZ				S	**Sb**	**22 21 09.6**	**+0.6**
TKGZ	**Te Karaka**	**1.75**	**253**	P	**Pn**	**22 20 50.4**	**+0.8**
TKGZ				S	**Sb**	**22 21 13.2**	**-0.1**
HAZ	**Te Kaha**	**1.75**	**276**	P	**Pn**	**22 20 49.6**	**0.0**
RUGZ	**Raukumara Rang**	**1.82**	**269**	P	**Pn**	**22 20 50.8**	**+0.1**
RIGZ	**Rimuhau**	**1.90**	**246**	P	**Pn**	**22 20 52.8**	**+1.1**
RIGZ				S	**Sb**	**22 21 18.0**	**+0.3**
PRGZ	**Paritu Road**	**1.91**	**239**	P	**Pn**	**22 20 53.2**	**+1.4**
PRGZ				S	**Sb**	**22 21 18.5**	**+0.5**
MWZ	**Matawai**	**1.97**	**258**	P	**Pn**	**22 20 53.1**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.02**	**233**	P	**Pn**	**22 20 54.6**	**+1.2**
RAGZ	**Rawiri**	**2.09**	**254**	P	**Pn**	**22 20 55.2**	**+0.8**
KNZ	**Kokohu**	**2.10**	**239**	P	**Pn**	**22 20 55.7**	**+1.3**
SNGZ	**Shannon Statio**	**2.23**	**248**	P	**Pn**	**22 20 57.3**	**+1.0**
URZ	**Urewera**	**2.28**	**262**	Pn	**Pn**	**22 20 57.9**	**+1.0**
	22nm,0.3s,baz=330,slow=6.1,SNR=105						
URZ				Sn	**Sn**	**22 21 24.3**	**-0.2**
	124nm,0.3s,baz=19,slow=22,SNR=45						
URZ	**Urewera**	**2.28**	**262**	P	**Pn**	**22 20 58.0**	**+1.0**
URZ	**Urewera**	**2.28**	**262**	S	**Sn**	**22 21 26.3**	**+1.8**
URZ	**Urewera**	**2.28**	**262**	P	**Pn**	**22 20 57.9**	**+1.0**
RTZ	**Ruatahuna**	**2.45**	**254**	P	**Pn**	**22 21 00.9**	**+1.5**
RAHZ	**Arahi**	**2.47**	**246**	P	**Pn**	**22 21 01.2**	**+1.7**
MTHZ	**Maungataniwha**	**2.62**	**249**	P	**Pn**	**22 21 02.8**	**+1.1**
ARHZ	**Aropaoanui**	**2.68**	**240**	P	**Pn**	**22 21 04.5**	**+2.1**
ARHZ				S	**Sn**	**22 21 36.6**	**+2.3**
NMHZ	**Naumai**	**2.74**	**244**	P	**Pn**	**22 21 04.7**	**+1.4**
TARZ	**Mount Tarawera**	**2.76**	**263**	P	**Pn**	**22 21 04.4**	**+0.8**
MRHZ	**Matea Rd**	**2.93**	**252**	P	**Pn**	**22 21 07.1**	**+1.2**
MCHZ	**McNeill Hill**	**2.97**	**239**	P	**Pn**	**22 21 07.7**	**+1.3**
BKZ	**Black Stump Fm**	**2.99**	**245**	P	**Pn**	**22 21 07.9**	**+1.2**
BKZ	**Black Stump Fm**	**2.99**	**245**	S	**Sn**	**22 21 44.1**	**+2.1**
BKZ	**Black Stump Fm**	**2.99**	**245**	P	**Pn**	**22 21 07.9**	**+1.2**
KAHZ	**Kahuranaki**	**3.04**	**232**	P	**Pn**	**22 21 09.3**	**+1.9**
KWHZ	**Kaweka Forest**	**3.15**	**241**	P	**Pn**	**22 21 10.0**	**+1.1**
KRHZ	**Kereru**	**3.29**	**238**	P	**Pn**	**22 21 11.3**	**+0.5**
WPHZ	**Waipukurau**	**3.47**	**232**	P	**Pn**	**22 21 13.8**	**+0.5**
PNHZ	**Pukenui**	**3.54**	**235**	P	**Pn**	**22 21 14.5**	**+0.3**
TMVZ	**Te Maari**	**3.55**	**250**	P	**Pn**	**22 21 16.0**	**+1.5**
TOZ	**Tahuroa Road**	**3.55**	**272**	P	**Pn**	**22 21 14.6**	**+0.2**
NTVZ	**North Tongarir**	**3.56**	**250**	P	**Pn**	**22 21 15.9**	**+1.2**
KRVZ	**Karewarewa**	**3.59**	**250**	P	**Pn**	**22 21 16.0**	**+1.0**
OTVZ	**Oturere**	**3.59**	**249**	P	**Pn**	**22 21 16.8**	**+1.7**
KUZ	**Kuaotunu**	**3.60**	**288**	P	**Pn**	**22 21 14.0**	**-1.1**
KUZ	**Kuaotunu**	**3.60**	**288**	S	**Sn**	**22 21 54.3**	**-2.8**
KUZ	**Kuaotunu**	**3.60**	**288**	P	**Pn**	**22 21 14.0**	**-1.1**
MOVZ	**Moawhango**	**3.61**	**245**	P	**Pn**	**22 21 16.4**	**+1.1**
SNVZ	**South Ngauruho**	**3.62**	**249**	P	**Pn**	**22 21 16.4**	**+0.9**
NNVZ	**North Ngauruho**	**3.62**	**250**	P	**Pn**	**22 21 18.0**	**+2.6**
NGZ	**Ngauruhoe**	**3.64**	**249**	P	**Pn**	**22 21 18.1**	**+2.3**
WNVZ	**Wahianoa**	**3.69**	**247**	P	**Pn**	**22 21 20.2**	**+3.7**
TSZ	**Takapari Road**	**3.77**	**235**	P	**Pn**	**22 21 17.6**	**+0.2**
DVHZ	**Dannevirke**	**3.78**	**231**	P	**Pn**	**22 21 17.2**	**-0.3**
MKAZ	**Moumakai**	**3.92**	**281**	P	**Pn**	**22 21 19.1**	**-0.4**
BFZ	**Birch Farm**	**3.97**	**226**	P	**Pn**	**22 21 18.5**	**-1.7**
BFZ	**Birch Farm**	**3.97**	**226**	S	**Sn**	**22 22 05.5**	**-0.7**
PRWZ	**Pori Road**	**4.05**	**229**	P	**Pn**	**22 21 21.2**	**-0.1**
PRWZ				S	**Sn**	**22 22 05.9**	**-2.2**
HIZ	**Hauiti**	**4.07**	**261**	P	**Pn**	**22 21 22.7**	**+1.1**
POWZ	**Post Office Ro**	**4.08**	**232**	P	**Pn**	**22 21 23.3**	**+1.7**
POWZ				S	**Sn**	**22 22 08.8**	**0.0**
MBAZ	**Motutapu North**	**4.22**	**285**	P	**Pn**	**22 21 24.4**	**+0.9**
TIWZ	**Tintock**	**4.24**	**227**	P	**Pn**	**22 21 24.2**	**+0.3**
TIWZ				S	**Sn**	**22 22 12.8**	**-0.1**
MRZ	**Mangatainoka R**	**4.35**	**230**	P	**Pn**	**22 21 24.6**	**-0.8**
MRZ				S	**Sn**	**22 22 14.6**	**-1.0**
KIW	**Kapiti Island**	**4.88**	**232**	P	**Pn**	**22 21 32.7**	**0.0**
KIW				S	**Sn**	**22 22 26.5**	**-2.1**
CAW	**Cannon Point**	**4.93**	**229**	P	**Pn**	**22 21 32.8**	**-0.6**
CAW				S	**Sn**	**22 22 27.6**	**-2.2**
DUWZ	**D'Urville Isla**	**5.49**	**237**	P	**Pn**	**22 21 41.3**	**+0.3**
DUWZ				S	**Sn**	**22 22 42.3**	**-1.3**
CTZ	**Chatham Island**	**6.32**	**157**	S		22 21 53.8	
CTZ				S	**Sn**	**22 22 58.8**	**-5.3**
QRZ	**Quartz Range**	**6.44**	**241**	P	**Pn**	**22 21 52.2**	**-1.9**
MRNZ	**Matariki Terra**	**6.55**	**236**	P	**Pn**	**22 21 54.6**	**-1.0**
MRNZ				S	**Sn**	**22 23 06.6**	**-3.0**
THZ	**Tophouse**	**6.64**	**233**	P	**Pn**	**22 21 56.6**	**-0.2**
THZ				S	**Sn**	**22 23 09.5**	**-2.4**
ASAR	**Alice Springs**	**41.65**	**276**	P	**P**	**22 28 06.8**	**-0.7**
	1.2nm,0.8s,baz=121,slow=6.9,SNR=7.5						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**43.32**	**281**	P	**P**	**22 28 20.4**	**-0.7**
	1.6nm,0.4s,baz=121,slow=7.8,SNR=22						
	1.6nm,0.4s						
H03N3	**Juan Fernandez**	**77.94**	**123**	T	T	23 58 45.1	
	baz=234,slow=74						
H03N2	**Juan Fernandez**	**77.94**	**123**	T	T	23 58 36.7	
	baz=234						
H03N1	**Juan Fernandez**	**77.96**	**123**	T	T	23 58 43.7	
	baz=234,slow=74						
ARCES	**ARCESS Array B**	**145.51**	**344**	PKP	**PKiKP**	**22 40 05.5**	**+5.5**
	2.8nm,0.8s,baz=33,slow=2.6,SNR=4.1						
FINES	**FINESS Array B**	**151.43**	**334**	PKPbc	**PKPab**	**22 40 19.4**	**-0.9**
	1.2nm,0.8s,baz=56,slow=5.2,SNR=3.4						

IDC 11 22:20:56.7±3.9, 6°.15S×147°.94E, h0km, mb2.8/1, mbtmp3.2/3, ML3.6/1, Error ellipse: s-maj=112.9km s-min=44.2km az=102.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.33**	**193**	Pn	Pn	22 21 50.2	+0.2
	9.9nm,0.3s,baz=294,slow=8.1,SNR=6.9						
WRA	**Warramunga Arr**	**19.04**	**223**	P	Pn	22 25 21.6	+0.3
	0.2nm,0.3s,baz=49,slow=11,SNR=6.8						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**22.04**	**216**	P	P	22 25 52.5	-0.6
	0.3nm,0.7s,baz=49,slow=9.5,SNR=4.5						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**146.03**	**284**	PKPbc	PKPdf	22 40 38.6	-0.3
	85nm,0.3s,baz=74,slow=3.0,SNR=1.3						

IDC 11 22:21:26.0±8.0, 6°.30S×147°.86E, h51km±61km, mb3.5/2, mbtmp3.7/4, ML3.0/2, Error ellipse: s-maj=86.7km s-min=49.1km az=93.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.17**	**193**	P	Pn	22 22 12.3	-1.1
	20nm,0.3s,baz=6.4,slow=8.6,SNR=17						
PMG				S	Sn	22 22 50.8	+0.9
	118nm,0.3s,baz=155,slow=21,SNR=12						
	41nm,0.3s						
WRA	**Warramunga Arr**	**18.88**	**223**	P	P	22 25 42.7	+0.3
	0.2nm,0.3s,baz=44,slow=10,SNR=2.9						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**21.87**	**216**	P	P	22 26 14.9	+0.1
	1.0nm,0.6s,baz=52,slow=9.2,SNR=11						
	1.0nm,0.6s						
STKA	**Stephens Creek**	**26.11**	**192**	P	P	22 26 55.0	-0.3
	1.5nm,0.5s,baz=18,slow=6.6,SNR=3.1						
	1.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**146.00**	**284**	PKPbc	PKPdf	22 41 00.5	+0.1
	54nm,0.3s,baz=90,slow=2.7,SNR=1.3						

GCG 11 22:23:27.9±0.3, 14°.33N×91°.54W, h48km±43km, MD4.3, Guatemala

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.21**	**62**	*eP*	Pn	22 23 38.4	+2.1
STG8	**El Palmar, Qui**	**0.22**	**55**	*eP*	Pn	22 23 38.9	+2.5

*NEIC **11** 22:24:20.6±1.6, 5°.64S±0°.06×152°.4E±0°.1, h10km±1km, mb4.8/47, Error ellipse: s-maj=20.1km s-min=10.3km az=100.0*
*IDC **11** 22:24:27.4±2.3, 5°.59S×152°.12E, h60km±19km, mb4.0/16, mbtmp4.3/16, ML3.2/1, MS3.7/4, Error ellipse: s-maj=22.4km s-min=10.7km az=119.0*
*DJA **11** 22:24:28.4±2.6, 6°.S±11°.×15°.2E±1°.8, h79km±16km, M5.4/13, mb5.2/13, mB5.9/7, MLv5.6/1, Mw(mB)5.5/7*
ISC 11 22:24:25.9±0.5, 5°.56S±0°.06×152°.21E±0°.07, h45km, n116, σ1§13/114, mb4.8/52, New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.36**	**358**	Pn	**Pn**	**22 24 48.5**	**-0.1**
MANU	**Manus Island**	**5.97**	**306**	Pn	**Pn**	**22 25 53.3**	**+1.5**
PMG	**Port Moresby**	**6.30**	**232**	Pn	**Pn**	**22 25 57.0**	**+0.6**
PMG	**Port Moresby**	**6.30**	**232**	P	**Pn**	**22 25 57.2**	**+0.9**
	32nm,0.3s,baz=38,slow=7.8,SNR=43						
PMG				S	**Sn**	**22 27 05.8**	**-1.2**
	145nm,0.6s,baz=52,slow=8.1,SNR=4.4						
PMG	**Port Moresby**	**6.30**	**232**	S	**Sn**	**22 27 08.0**	**+0.9**
PMG	**Port Moresby**	**6.30**	**232**	P	**Pn**	**22 25 57.2**	**+0.9**
PMG	**Port Moresby**	**6.30**	**232**	S	**Sn**	**22 27 07.9**	**+0.9**
TATA	**Tatamba Isabel**	**8.04**	**111**	P	**Pn**	**22 26 21.5**	**+1.2**
HNR	**Honiara**	**8.58**	**117**	LR	LR	22 29 33.1	
	comp=Z,489nm,19.6s,baz=298,slow=35						
JAY	**Jayapura**	**11.87**	**284**	LR	LR	22 31 10.4	
	comp=Z,513nm,18.2s,baz=124,slow=34						
COEN	**Coen**	**12.20**	**226**	Pn	**Pn**	**22 27 17.0**	**-0.2**
COEN	**Coen**	**12.20**	**226**	P	**Pn**	**22 27 17.7**	**+0.5**
SMPI	**Sarmi**	**13.93**	**284**	P	**P**	**22 27 51.1**	**+3.2**
MTSU	**Mount Surprise**	**14.68**	**211**	P	**P**	**22 27 57.1**	**+0.9**
BAKI	**Biak**	**16.65**	**285**	P	**P**	**22 28 19.7**	**+1.6**
	53nm,1.3s						
QIS	**Mount Isa**	**19.29**	**218**	P	**Pn**	**22 28 48.3**	**-0.2**
QIS	**Mount Isa**	**19.29**	**218**	P	**Pn**	**22 28 48.6**	**+0.1**
EIDS	**Eidsvold**	**19.72**	**183**		**P**	**22 28 51.3**	**-0.5**
EIDS				IAmb	IAmb	22 28 56.7	
	comp=Z,98nm,1.8s						
EIDS	**Eidsvold**	**19.72**	**183**	P	**P**	**22 28 52.3**	**+0.5**
FAKI	**Fak Fak**	**20.08**	**277**	P	**P**	**22 28 55.6**	**-0.2**
KDU	**Kakadu**	**20.72**	**249**	P	**P**	**22 29 02.1**	**-0.7**
	comp=Z,153nm,1.1s						
DZM	**Mont Dzumac**	**21.42**	**141**	P	**P**	**22 29 11.0**	**+0.7**
	comp=Z,7.6nm,0.6s,baz=331,slow=19,SNR=3.4						
	comp=Z,7.6nm,0.6s						
DZM	**Mont Dzumac**	**21.42**	**141**	P	**P**	**22 29 12.6**	**+2.2**
SWI	**Sorong**	**21.43**	**282**	P	**P**	**22 29 10.7**	**+0.3**
	comp=Z,1μmcomp=Z,58nm,1.0s						
MTN	**Manton Dam**	**22.02**	**249**		**P**	**22 29 17.4**	**+0.7**
MTN	**Manton Dam**	**22.02**	**249**	P	**P**	**22 29 16.8**	**0.0**
	comp=Z,76nm,1.1s						
MTN	**Manton Dam**	**22.02**	**249**	P	**P**	**22 29 18.5**	**+1.8**
DRS	**Darwin Rock St**	**22.12**	**251**	P	**P**	**22 29 19.1**	**+1.3**
BNDI	**Bandanaira**	**22.25**	**272**	P	P	22 29 27.3	+8.1
WB0	**Warramunga Arr**	**22.36**	**229**		**P**	**22 29 20.1**	**-0.3**
WB0				IAmb	IAmb	22 29 22.5	
	comp=Z,34nm,0.7s						
WR0	**Warramunga Arr**	**22.36**	**229**	P	**P**	**22 29 20.1**	**-0.3**
WR0				IAmb	IAmb	22 29 22.6	
	comp=Z,19nm,0.8s						
WRAB	**Tennant Creek**	**22.49**	**229**	P	**P**	**22 29 20.7**	**-1.1**
WRAB				IAmb	IAmb	22 29 23.7	
	comp=Z,32nm,0.8s						
WB2	**Warramunga Arr**	**22.50**	**229**		**P**	**22 29 21.2**	**-0.6**
WB2				IAmb	IAmb	22 29 23.9	
	comp=Z,30nm,0.7s						
WRA	**Warramunga Arr**	**22.50**	**229**		**P**	**22 29 21.1**	**-0.8**
WRA	**Warramunga Arr**	**22.50**	**229**	P	**P**	**22 29 21.2**	**-0.8**
	comp=Z,25nm,0.7s,baz=53,slow=9.8,SNR=90						
WRA				PcP	**PcP**	**22 33 15.4**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=42,slow=2.1,SNR=4.8						
WRA				S	**S**	**22 33 24.4**	**-1.7**
	comp=Z,2.3nm,1.0s,baz=54,slow=19,SNR=5.5						
	comp=Z,25nm,0.7s						
KNRA	**Kununurra**	**25.11**	**245**		**P**	**22 29 46.7**	**-0.1**
KNRA	**Kununurra**	**25.11**	**245**	P	**P**	**22 29 46.8**	**-0.1**
	comp=Z,171nm,1.1s						
AS31	**Alice Springs**	**25.19**	**223**		**P**	**22 29 46.7**	**-0.8**
AS31	**Alice Springs**	**25.19**	**223**	P	**P**	**22 29 48.7**	**+1.2**
ASAR	**Alice Springs**	**25.20**	**223**	P	**P**	**22 29 47.3**	**-0.3**
	comp=Z,23nm,0.7s,baz=56,slow=9.0,SNR=101						
ASAR				S	**S**	**22 34 08.5**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=40,slow=16,SNR=1.4						
	comp=Z,23nm,0.7s						
SANI	**Sanana**	**26.39**	**277**	P	P	22 30 18.5	+20
MGCD	**Mangrove Creek**	**27.53**	**182**	P	**P**	**22 30 04.0**	**-4.4**
	comp=Z,217nm,0.8s						
STKA	**Stephens Creek**	**28.00**	**200**	P	**P**	**22 30 11.3**	**-1.4**
STKA	**Stephens Creek**	**28.00**	**200**	P	**P**	**22 30 12.3**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=45,slow=5.5,SNR=4.3						
	comp=Z,2.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.78**	**242**		**P**	**22 30 19.0**	**-0.8**
FITZ				IAmb	IAmb	22 30 23.4	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**28.78**	**242**	P	**P**	**22 30 19.4**	**-0.4**
	comp=Z,12nm,0.9s						
DAV	**Davao City (W)**	**29.39**	**295**	LR	LR	22 41 50.5	
	comp=Z,125nm,18.3s,baz=145,slow=36						
MMRI	**Maumere**	**29.89**	**262**	P	**P**	**22 30 28.2**	**-1.6**
MMRI	**Maumere**	**29.89**	**262**	P	**P**	**22 30 29.2**	**-0.6**
	comp=Z,54nm,0.9s						
WRKA	**Warakurna**	**30.01**	**227**	P	**P**	**22 30 30.0**	**-0.7**
	comp=Z,26nm,1.0s						
EDFI	**Ende, Flores**	**30.44**	**262**	P	**P**	**22 30 32.8**	**-1.9**
	comp=Z,40nm,0.8s						
WBSI	**Waikabubak, Su**	**32.77**	**261**	P	**P**	**22 30 54.1**	**-1.0**
	comp=Z,74nm,0.8s						
MBWA	**Marble Bar**	**35.09**	**241**	P	**P**	**22 31 15.4**	**+0.3**
JAGI	**Jajag, Banyuwa**	**37.87**	**263**	P	**P**	**22 31 36.1**	**-2.9**
JAGI				IAmb	IAmb	22 31 37.7	
	comp=Z,16nm,0.7s						
MEEK	**Meekatharra**	**38.28**	**233**	P	**P**	**22 31 40.3**	**-1.9**
	comp=Z,23nm,0.5s						
LEM	**Lembang**	**44.34**	**266**	LR	LR	22 54 48.0	
	comp=Z,85nm,18.2s,baz=344,slow=41						
DLV	**Lat**	**46.83**	**292**	P	**P**	**22 32 51.8**	**-0.3**
DLV				IAmb	IAmb	22 32 53.4	
	comp=Z,10nm,0.8s						
KSRS	**Korea Array**	**48.42**	**334**	P	**P**	**22 33 03.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=134,slow=5.2,SNR=1.3						
	comp=Z,0.3nm,0.3s						
NJ2	**Nanjing**	**49.07**	**322**	*eP*	**P**	**22 33 09.9**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**52.78**	**342**	P	**P**	**22 33 37.3**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=184,slow=8.1,SNR=2.7						
	comp=Z,1.1nm,0.9s						
CN2	**Changchun**	**54.76**	**336**	*eP*	**P**	**22 33 52.3**	**+1.3**
XAN	**Xi'an**	**56.77**	**317**	P	**P**	**22 34 04.8**	**-0.9**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR	**Chiang Mai**	**57.67**	**296**		**P**	**22 34 11.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**57.67**	**296**	P	**P**	**22 34 12.7**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=118,slow=5.5,SNR=21						
	comp=Z,2.5nm,0.7s						
CHTO	**Chiang Mai**	**57.79**	**296**	P	**P**	**22 34 12.6**	**-0.5**
PZH	**PanZhiHua**	**58.33**	**306**	P	**P**	**22 34 16.6**	**-0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,6.5s						
PET	**Petropavlovsk**	**58.62**	**5**	P	**P**	**22 34 17.7**	**-0.5**
PET				IAmb	IAmb	22 34 23.3	
	comp=Z,10nm,0.9s						
PEA0B	**Petropavlovsk-**	**58.63**	**4**	P	**P**	**22 34 17.5**	**-0.9**
CD2	**Chengdu**	**58.79**	**311**	P	**P**	**22 34 19.7**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**59.33**	**325**	*i* P	**P**	**22 34 27.0**	**+3.4**
LZH	**Lanzhou**	**61.37**	**316**	*eP*	**P**	**22 34 38.3**	**+0.6**
LZH				pP	pP	22 34 42.7	-7.1
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
GTA	**Gaotai**	**65.82**	**318**	*eP*	**P**	**22 35 07.8**	**+0.8**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SHL	**Shillong**	**66.19**	**301**		**P**	**22 35 08.7**	**-1.0**
SHL				IAmb	IAmb	22 35 09.7	
	comp=Z,7.2nm,0.7s						
ULN	**Ulaanbaatar**	**66.33**	**329**	P	**P**	**22 35 10.1**	**0.0**
SONM	**Songino Array**	**66.66**	**328**	P	**P**	**22 35 11.9**	**-0.3**
SONM	**Songino Array**	**66.66**	**328**	P	**P**	**22 35 12.2**	**0.0**
	comp=Z,1.3nm,0.6s,baz=153,slow=5.2,SNR=8.7						
	comp=Z,1.3nm,0.6s						
WMQ	**Urumqi**	**75.91**	**318**	*eP*	**P**	**22 36 10.7**	**+2.6**
F17K	**Baldwin Pennin**	**79.22**	**17**		**P**	**22 36 26.8**	**+0.8**
F17K				IAmb	IAmb	22 36 43.2	
	comp=Z,10nm,0.8s						
CAST	**Castle Rocks**	**80.43**	**22**	P	**P**	**22 36 31.7**	**-1.0**
CAST				IAmb	IAmb	22 36 41.0	
	comp=Z,11nm,1.1s						
MK31	**Makanchi Array**	**80.51**	**319**		**P**	**22 36 32.6**	**-0.9**
MKAR	**Makanchi Array**	**80.51**	**319**		**P**	**22 36 32.5**	**-0.9**
MKAR	**Makanchi Array**	**80.51**	**319**	P	**P**	**22 36 33.2**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=98,slow=7.2,SNR=15						
	comp=Z,0.8nm,0.6s						
MAKZ	**Makanchi**	**80.72**	**319**		**P**	**22 36 34.3**	**-0.3**
ZALV	**Zalesovo Beam**	**81.46**	**327**	P	**P**	**22 36 36.7**	**-1.6**
ZALV	**Zalesovo Beam**	**81.46**	**327**	P	**P**	**22 36 37.3**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=100,slow=5.7,SNR=6.2						
	comp=Z,1.0nm,0.5s						
KDJ	**Kajisay**	**82.71**	**314**		**P**	**22 36 45.0**	**-0.4**
KDJ				IAmb	IAmb	22 36 47.2	
	comp=Z,7.8nm,1.2s						
ILAR	**Eielson Array**	**83.08**	**22**	P	**P**	**22 36 45.3**	**-1.3**
ILAR	**Eielson Array**	**83.08**	**22**	P	**P**	**22 36 46.0**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=240,slow=4.9,SNR=9.3						
	comp=Z,1.3nm,0.7s						
J25K	**Salcha River,**	**83.58**	**23**		**P**	**22 36 48.6**	**-0.6**
J25K				IAmb	IAmb	22 37 06.1	
	comp=Z,6.5nm,0.8s						
D23K	**Nanushuk River**	**83.95**	**18**		**P**	**22 36 51.5**

FOMA Nahampoana Res 11.23 305 Pn 22 30 50.2 -1.4
VOI Vohitsoka 13.51 315 Pn 22 31 21.9 -1.0
VOI Vohitsoka 13.51 315 P **Pn 22 31 21.1 -1.8**
H04N2 CROZET ISLANDS 14.87 194 T T 22 46 47.3
baz=19,slow=75,SNR=4387
H04N1 CROZET ISLANDS 14.87 195 T T 22 46 48.5
baz=19,slow=75,SNR=1563
H04N3 CROZET ISLANDS 14.88 195 T T 22 46 47.3
baz=19,slow=75,SNR=1919
ABPO Ambohimpanom 15.57 323 Pn 22 31 51.6 +0.8
ABPO IAmb IAmb 22 31 52.0
comp=Z,35nm,0.6s
ABPO Ambohimpanom 15.57 323 P **Pn 22 31 51.6 +0.8**
ABPO pmax pmax
comp=Z,35nm,0.6s
OPO Ambohidratompo 15.97 324 Pn **Pn 22 31 56.5 +0.6**
comp=Z,0.8nm,0.3s,baz=158,slow=11,SNR=81
OPO Sn **Sn 22 34 44.0 -8.5**
comp=Z,0.2nm,0.3s,baz=81,slow=17,SNR=4.1
comp=Z,33nm,0.6s
AIS Amsterdam Isla 17.81 115 Pn 22 32 17.9 -0.9
POGA Pongola 22.51 275 P 22 33 10.7 -0.1
POGA IAmb IAmb 22 33 14.0
comp=Z,35nm,0.9s
GRHM Grahamstown, E 25.89 259 P **P 22 33 44.8 +1.9**
GRHM IAmb IAmb 22 33 56.1
comp=Z,31nm,0.9s
BOSA Boshof 27.65 268 P **P 22 33 59.3 +0.4**
BOSA Boshof 27.65 268 P **P 22 33 59.2 +0.4**
comp=Z,2.0nm,0.8s,baz=92,slow=9.3,SNR=3.9
comp=Z,2.0nm,0.8s
BOSA Boshof 27.65 268 P **P 22 33 59.3 +0.4**
BOSA pmax pmax
comp=Z,32nm,1.9s
H08S1 Diego Carcia H 28.02 34 T T 23 03 18.3
baz=208,slow=76,SNR=193
H08S2 Diego Garcia H 28.03 34 T T 23 03 19.1
baz=208,slow=76,SNR=130
H08S3 Diego Garcia H 28.04 34 T T 23 03 19.8
baz=208,slow=76,SNR=206
LBTB Lobatse 28.46 276 P **P 22 34 05.7 -0.5**
LBTB Lobatse 28.46 276 P **P 22 34 05.7 -0.5**
LBTB pmax pmax
comp=Z,7.0nm,1.0s
LSZ Lusaka 31.08 295 P 22 34 29.2 -0.2
LSZ Lusaka 31.08 295 LR LR 22 45 30.4
comp=Z,1μm,18.4s,baz=132,slow=34
LSZ Lusaka 31.08 295 P **P 22 34 29.2 -0.2**
LSZ Lusaka 31.08 295 P **P 22 34 29.2 -0.2**
LSZ pmax pmax
comp=Z,9.0nm,1.0s
KIBK Kibwezi 34.41 325 P **P 22 34 59.0 +0.5**
KIBK Kibwezi 34.41 325 P **P 22 34 59.5 +1.1**
KMBO Kilima Mbogo 35.85 325 P 22 35 11.1 0.0
KMBO IAmb IAmb 22 35 16.9
comp=Z,11nm,1.6s
KMBO Kilima Mbogo 35.85 325 P **P 22 35 12.1 +1.0**
comp=Z,1.1nm,0.7s,baz=116,slow=8.9,SNR=3.6
KMBO LR LR 22 47 54.9
comp=Z,151nm,19.0s,baz=101,slow=33
comp=Z,1.1nm,0.7s
KMBO Kilima Mbogo 35.85 325 P **P 22 35 09.2 -1.9**
KMBO Kilima Mbogo 35.85 325 *i* P **P 22 35 12.6 +1.5**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 35.85 325 P **P 22 35 09.8 -1.3**
MAW Mawson 35.95 176 P **P 22 35 10.4 -0.6**
MAW Mawson 35.95 176 P **P 22 35 09.7 -1.4**
comp=Z,8.7nm,0.9s,baz=324,slow=11,SNR=8.3
comp=Z,8.7nm,0.9s
MAW Mawson 35.95 176 P **P 22 35 10.5 -0.6**
MAW pmax pmax
comp=Z,3.0nm,1.1s
TSUM Tsumeb 37.62 280 P **P 22 35 25.0 -1.0**
SYO Syowa Base 38.53 190 || *e*P **P 22 35 32.6 -0.3**
SYO Syowa Base 38.53 190 || *e*pP pP 22 35 36.6 -1.1
MBAR Mbarara 39.83 316 P **P 22 35 45.3 +0.7**
MBAR Mbarara 39.83 316 P **P 22 35 46.5 +1.9**
MBAR Mbarara 39.83 316 *i* P **P 22 35 47.1 +2.5**
MBAR pmax pmax
comp=Z,7.0nm,1.4s
LODK Lodwar 40.72 325 P **P 22 35 52.1 +0.3**
LODK Lodwar 40.72 325 P **P 22 35 53.8 +2.0**
ELIB Princess Elisa 43.98 194 *d*P **P 22 36 17.6 -0.3**
comp=Z,11nm,1.1s
PALK Pallekele 44.96 34 P **P 22 36 26.4 +0.2**
PALK Pallekele 44.96 34 P **P 22 36 26.4 +0.2**
PALK pmax pmax
comp=Z,13nm,1.2s
ATD Arta Tunnel 45.25 340 LR LR 22 52 20.8
comp=Z,12nm,19.0s,baz=105,slow=32
H01W2 Cape Leeuwin H 47.18 110 T T 23 27 20.0
baz=256,slow=75,SNR=874
H01W3 Cape Leeuwin H 47.18 110 T T 23 27 20.0
baz=256,slow=75,SNR=880
H01W1 Cape Leeuwin H 47.19 110 T T 23 27 20.0
baz=256,slow=75,SNR=971
TROLL Troll, Antarti 49.27 200 ⇑P **P 22 36 59.1 -0.2**
comp=Z,262nm,0.6s
DOK Doka 50.26 356 P **P 22 37 06.9 -0.3**
SNAA Sanae 50.72 201 P 22 37 09.4 -0.8
SNAA IAmb IAmb 22 37 10.7
comp=Z,18nm,0.9s
SNAA Sanae 50.72 201 ⇑P **P 22 37 09.6 -0.6**
comp=Z,412nm,0.9s
SNAA Sanae 50.72 201 P **P 22 37 09.5 -0.8**
comp=Z,17nm,0.8s,baz=98,slow=4.7,SNR=42
comp=Z,17nm,0.8s
SNAA Sanae 50.72 201 *ce*P **P 22 37 09.0 -1.3**
SNAA pmax pmax
comp=Z,19nm,0.9s
DQM DQM 51.49 1 P **P 22 37 15.5 -0.9**
VNA2 Neumayer--Watz 51.94 202 ⇑P **P 22 37 19.0 -0.3**
comp=Z,14nm,0.6s,baz=85,slow=6.7
MHTO MHTO 52.55 1 P **P 22 37 24.0 -0.3**
VNA3 Neumayer Olymp 52.73 202 ⇑P **P 22 37 24.6 -0.6**
comp=Z,12nm,0.7s
HYB Hyderabad 53.13 26 *e*P **P 22 37 29.0 +0.2**
JLN Jalan Bani Buh 53.74 3 P **P 22 37 31.7 -1.4**
WBK Wadi Bani Khal 54.18 2 P **P 22 37 36.3 -0.1**
BSY Bisya 54.29 0 P **P 22 37 37.2 +0.1**
SNR=6.3
UMZA Um Al Zommool 54.29 358 P **P 22 37 36.9 -0.2**
SMDO Samad 54.61 1 P **P 22 37 39.6 +0.1**
MZR Muzera 54.65 356 P **P 22 37 40.2 +0.5**
SNR=5.3
MZR Muzera 54.65 356 P **P 22 37 39.5 -0.2**
ARQ Araqi 54.88 359 P **P 22 37 41.4 0.0**
BIDO Bidbid 55.07 1 P **P 22 37 42.4 -0.3**
PBA Port Blair 55.10 44 P **P 22 37 39.7 -3.4**
HOQ Hoqain 55.12 0 P **P 22 37 42.4 -0.7**
MZWR Madinat Zayed 55.38 356 P **P 22 37 44.8 -0.2**
ALNE Al Ain 55.61 359 P **P 22 37 46.9 +0.3**
ALNE Al Ain 55.61 359 P **P 22 37 46.9 +0.3**
GHWR Ruwais 55.65 355 P **P 22 37 47.0 +0.1**
SOHO SOHO 55.67 359 P **P 22 37 47.2 +0.2**
RAYN Ar Rayn 56.17 347 P 22 37 51.4 +0.7
RAYN Ar Rayn 56.17 347 P **P 22 37 51.7 +1.0**
RAYN Ar Rayn 56.17 347 P **P 22 37 51.4 +0.7**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
RAYN Ar Rayn 56.17 347 P **P 22 37 51.6 +1.0**
ASUD Al Ashush, Dub 56.19 358 P **P 22 37 50.8 +0.1**
ASUD Al Ashush, Dub 56.19 358 P **P 22 37 52.4 +1.7**
ASHO Ashiyiah 56.23 359 P **P 22 37 50.7 -0.4**
ASHO Ashiyiah 56.23 359 P **P 22 37 50.1 -1.0**
HATD Hatta, Dubai 56.37 359 P **P 22 37 52.2 +0.2**
HATD Hatta, Dubai 56.37 359 P **P 22 37 52.2 +0.2**
NAZ Nazwa, Dubai 56.54 358 P **P 22 37 53.2 -0.1**
NAZ Nazwa, Dubai 56.54 358 P **P 22 37 53.1 -0.1**
MSFE Esma-Masafi 56.90 359 P **P 22 37 55.7 -0.2**
MASF Masafi 56.91 359 P **P 22 37 55.7 -0.3**
QSPA South Pole Qui 58.32 180 P 22 38 04.4 -1.1
QSPA South Pole Qui 58.32 180 P **P 22 38 04.5 -1.1**
comp=Z,20nm,0.6s,baz=263,slow=0.9,SNR=70
comp=Z,20nm,0.6s
VNDA Vanda 62.26 166 P **P 22 38 31.5 -0.7**
VNDA IAmb IAmb 22 38 51.7
comp=Z,14nm,1.6s
VNDA Vanda 62.26 166 P **P 22 38 31.5 -0.7**
comp=Z,1.4nm,0.8s,baz=260,slow=7.9,SNR=5.1
comp=Z,1.4nm,0.8s
FITZ Fitzroy Crossi 62.72 95 P **P 22 38 36.3 +0.1**
FITZ Fitzroy Crossi 62.72 95 P **P 22 38 37.1 +0.9**
comp=Z,3.4nm,0.6s,baz=294,slow=12,SNR=12
comp=Z,3.4nm,0.6s
CM31 Chiang Mai Arr 64.12 45 P **P 22 38 45.5 +0.3**
CMAR Chiang Mai Arr 64.12 45 P **P 22 38 45.3 0.0**
CMAR Chiang Mai Arr 64.12 45 P **P 22 38 45.9 +0.6**
comp=Z,13nm,0.8s,baz=230,slow=7.2,SNR=90
CMAR LR LR 23 01 59.9
comp=Z,80nm,21.0s,baz=205,slow=32
comp=Z,13nm,0.8s
CHTO Chiang Mai 64.39 44 P 22 38 46.7 -0.4
CHTO IAmb IAmb 22 38 48.4
comp=Z,6.9nm,1.0s
CHTO Chiang Mai 64.39 44 P **P 22 38 45.8 -1.3**
CHTO Chiang Mai 64.39 44 P **P 22 38 46.7 -0.4**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
DLV Lat 65.68 57 P **P 22 38 55.0 -0.8**
DLV IAmb IAmb 22 39 24.8
comp=Z,12nm,0.8s
GHAJ Ghor Haditha 66.04 340 P **P 22 38 56.8 -0.7**
SHL Shillong 66.05 34 P **P 22 38 57.8 -0.1**
SHL Shillong 66.05 34 P **P 22 38 57.8 -0.1**
SHL pmax pmax
comp=Z,26nm,1.4s
HRA Herat 66.06 5 P **P 22 38 57.3 -0.5**
BALJ Balqa 66.76 340 P **P 22 39 03.0 +0.9**
NIL Nilore 66.91 15 P **P 22 39 03.1 +0.1**
NIL Nilore 66.91 15 P **P 22 39 03.1 +0.1**
NIL pmax pmax
comp=Z,41nm,2.0s
KBL Kabul 66.99 11 P **P 22 39 03.9 +0.1**
KBL IAmb IAmb 22 39 15.4
comp=Z,7.4nm,0.8s
KBL Kabul 66.99 11 P **P 22 39 05.1 +1.3**
KBL Kabul 66.99 11 P **P 22 39 03.9 +0.1**
KBL pmax pmax
comp=Z,7.0nm,0.8s
ASAR Alice Springs 67.18 104 P 22 39 04.2 -1.0
ASAR Alice Springs 67.18 104 P **P 22 39 04.8 -0.5**
comp=Z,3.6nm,0.9s,baz=239,slow=5.9,SNR=25
comp=Z,3.6nm,0.9s
AS31 Alice Springs 67.19 104 P **P 22 39 04.5 -0.7**
MMAI Mount Meron Ar 67.69 340 P **P 22 39 09.2 +1.1**
comp=Z,5.9nm,0.7s,baz=159,slow=8.1,SNR=8.8
MMAI LR LR 23 04 40.1
comp=Z,197nm,20.2s,baz=205,slow=32
comp=Z,5.9nm,0.7s
WRAB Tennant Creek 69.22 101 *i* P **P 22 39 16.2 -1.8**
WRAB pmax pmax
comp=Z,16nm,0.4s
TORD Torodi Ar. Bea 69.39 301 P **P 22 39 19.1 +0.1**
STKA Stephens Creek 69.79 116 P **P 22 39 20.0 -1.4**
comp=Z,4.9nm,0.7s,baz=267,slow=4.9,SNR=9.3
comp=Z,4.9nm,0.7s
STKA Stephens Creek 69.79 116 P **P 22 39 20.0 -1.4**
CSS Mathiatis 70.12 339 P **P 22 39 23.3 +0.2**
CSS IAmb IAmb 22 39 27.7
comp=Z,15nm,0.9s
CSS Mathiatis 70.12 339 P **P 22 39 22.1 -1.0**
comp=Z,20nm,1.0s
DBIC Dimbokro 70.32 291 P **P 22 39 24.0 -0.8**
comp=Z,5.3nm,0.9s,baz=86,slow=3.8,SNR=2.1
comp=Z,5.3nm,0.9s
MARD Mardin 70.48 346 P **P 22 39 23.9 -1.5**
MARD IAmb IAmb 22 39 29.7
comp=Z,10nm,0.8s
SIMJ Simiganj 71.02 10 P **P 22 39 29.5 +0.9**
SIMJ IAmb IAmb 22 39 45.2
comp=Z,12nm,1.0s
GEVA Gevas 71.02 348 P **P 22 39 30.1 +1.4**
GEVA IAmb IAmb 22 39 41.6
comp=Z,11nm,0.9s
DZET Dzherino 71.14 10 P **P 22 39 30.6 +1.3**
DZET pmax pmax
comp=Z,14nm,1.5s
GAZ Gaziantep 71.14 343 P **P 22 39 30.1 +0.8**
GAZ IAmb IAmb 22 39 34.3
comp=Z,19nm,1.0s
GURO Guroymak-BITLI 71.44 348 P **P 22 39 32.1 +0.9**
GURO IAmb IAmb 22 39 36.2
comp=Z,8.5nm,1.0s
GAR Garm 71.56 11 P **P 22 39 31.7 -0.1**
GAR IAmb IAmb 22 39 42.9
comp=Z,12nm,1.0s
PZH PanZhiHua 71.97 41 P **P 22 39 34.3 -0.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,9.0s
DRK Karamyk 72.27 12 P **P 22 39 36.3 0.0**
DRK IAmb IAmb 22 39 47.7
comp=Z,14nm,0.8s
DRK Karamyk 72.27 12 P **P 22 39 36.3 0.0**
DRK pmax pmax
comp=Z,14nm,0.8s
BTK Batken 72.67 11 P **P 22 39 38.4 0.0**
BTK IAmb IAmb 22 39 50.2
comp=Z,7.6nm,0.8s
BTK Batken 72.67 11 P **P 22 39 38.4 0.0**
BTK pmax pmax
comp=Z,8.0nm,0.8s
KARP Karpathos 72.70 335 P **P 22 39 39.1 +0.4**
KARP Karpathos 72.70 335 P **P 22 39 37.7 -1.0**
comp=Z,51nm,1.0s
BNN Bunyan 73.07 343 P **P 22 39 40.7 -0.2**
KSH Kashi 73.14 15 P **P 22 39 39.5 -1.8**
KSH pP pP 22 39 42.6 -3.6
KSH sP sP 22 39 48.6 +0.8
KSH pmax pmax
comp=Z,8.0nm,0.9s
KOPT Kop Dagi 73.15 347 P **P 22 39 42.1 +0.6**
KOPT IAmb IAmb 22 39 48.6
comp=Z,13nm,1.1s
CAN Canberra 73.78 122 P **P 22 39 44.1 -1.3**
ARSB Arslanbob 74.27 12 P **P 22 39 48.8 +0.9**
ARSB IAmb IAmb 22 39 59.8
comp=Z,9.7nm,0.9s
ARSB Arslanbob 74.27 12 P **P 22 39 48.8 +0.9**
ARSB pmax pmax
comp=Z,10.0nm,0.9s
TOKA Tokat 74.31 344 P **P 22 39 48.4 +0.3**
TOKA IAmb IAmb 22 39 52.3
comp=Z,12nm,1.1s
BR104 Keskin Array S 74.45 341 P **P 22 39 48.4 -0.6**
comp=Z,51nmcomp=Z,6.4nm,1.1s
BRTR Keskin Array B 74.47 341 P 22 39 49.2 +0.1
BRTR Keskin Array B 74.47 341 P **P 22 39 48.8 -0.3**
comp=Z,4.9nm,0.9s,baz=167,slow=7.6,SNR=18
comp=Z,4.9nm,0.9s
BRTR Keskin Array B 74.47 341 *i* P **P 22 39 49.5 +0.4**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BR131 Keskin Array S 74.47 341 P **P 22 39 49.0 -0.1**
BR131 Keskin Array S 74.47 341 P **P 22 39 48.7 -0.5**
SNR=8.8
BR131 Keskin Array S 74.47 341 *i* P **P 22 39 48.3 -0.8**
BR106 Keskin Array S 74.48 341 P **P 22 39 48.6 -0.6**
comp=Z,56nmcomp=Z,7.3nm,1.0s
IUG Iuzhnay 74.59 10 *e*P **P 22 39 49.9 +0.2**
IUG pmax pmax
comp=Z,9.0nm,0.9s
IUG Iuzhnay 74.59 10 *e*P **P 22 39 49.9 +0.2**
comp=Z,8.7nm,0.9s
ANTO Ankara 74.84 341 P **P 22 39 50.6 -0.6**
ANTO IAmb IAmb 22 39 54.8
comp=Z,8.9nm,0.9s
ANTO Ankara 74.84 341 P **P 22 39 51.9 +0.8**
ANTO Ankara 74.84 341 P **P 22 39 50.6 -0.6**
ANTO pmax pmax
comp=Z,9.0nm,1.0s
ANTO Ankara 74.84 341 P **P 22 39 50.6 -0.6**
comp=Z,5.1nm,0.9s
MANT Manisa 74.86 337 P **P 22 39 52.4 +0.8**
MANT IAmb IAmb 22 39 56.1
comp=Z,14nm,1.0s
BRLS Borolday 75.43 10 *e*P **P 22 39 53.3 -1.1**
BRLS Borolday 75.43 10 *e*P **P 22 39 53.3 -1.1**
BORA Eskisehir 75.53 339 P **P 22 39 56.0 +0.8**
BORA IAmb IAmb 22 39 59.5
comp=Z,9.4nm,0.9s
KK31 Karatay Array 75.60 10 P **P 22 39 56.6 +1.2**
KK31 IAmb IAmb 22 40 08.0
comp=Z,14nm,1.1s
KK31 Karatay Array 75.60 10 P **P 22 39 56.6 +1.2**
KK31 pmax pmax
comp=Z,14nm,1.1s
KKAR Karatay Array 75.60 10 P 22 39 56.1 +0.7
KKAR Karatay Array 75.60 10 P **P 22 39 56.1 +0.7**
KKAR IAmb IAmb 22 40 08.0
comp=Z,14nm,1.1s
KKAR Karatay Array 75.60 10 P **P 22 39 56.1 +0.7**
ILGA Ilgaz 75.69 342 P **P 22 39 57.4 +1.1**
ILGA IAmb IAmb 22 39 59.8
comp=Z,35nm,1.4s
AAK Ala-Archa 75.83 13 P 22 39 58.4 +1.4
AAK IAmb IAmb 22 40 09.4
comp=Z,17nm,1.1s
AAK Ala-Archa 75.83 13 P **P 22 39 57.9 +1.0**
comp=Z,4.1nm,1.0s,baz=229,slow=4.0,SNR=11
comp=Z,4.1nm,1.0s
AAK Ala-Archa 75.83 13 P **P 22 39 57.7 +0.8**
AAK Ala-Archa 75.83 13 *ce*P **P 22 39 58.3 +1.4**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 75.83 13 P **P 22 39 58.2 +1.4**
MDUB Mudurnu 75.85 340 P **P 22 39 57.6 +0.6**
DIKM Dikmen 75.86 343 P **P 22 39 56.3 -0.6**
comp=Z,17nm,1.1s
DIKM pP **pP 22 40 00.1 -1.7**
comp=Z,17nm,1.1s
KDJ Kajisay 75.90 15 P **P 22 39 57.8 +0.4**
KDJ IAmb IAmb 22 40 09.3
comp=Z,19nm,0.9s
KDJ Kajisay 75.90 15 P **P 22 39 57.8 +0.4**
KDJ pmax pmax
comp=Z,19nm,0.9s
FRU1 Bishkek 76.02 13 P **P 22 39 59.5 +1.6**
FRU1 IAmb IAmb 22 40 10.9
comp=Z,17nm,1.0s
FRU1 Bishkek 76.02 13 P **P 22 39 59.5 +1.6**
FRU1 pmax pmax
comp=Z,17nm,1.0s
KBZ Khabaz 76.33 349 P **P 22 40 00.5 +1.0**
comp=Z,3.9nm,1.0s,baz=190,slow=2.5,SNR=8.9
comp=Z,3.9nm,1.0s
KBZ Khabaz 76.33 349 *ce*P **P 22 39 58.7 -0.8**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
SHA1 Shidzhatmaz 76.38 349 *i* P **P 22 40 01.6 +1.5**
BZK Bozkurt 76.47 342 P **P 22 40 00.2 -0.1**
comp=Z,11nm,0.8s
YLV Yalova 76.49 339 P **P 22 40 00.5 -0.1**
comp=Z,23nm,1.2s
CD2 Chengdu 76.49 40 P **P 22 40 00.9 +0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
PRZ Przheval'sk 76.52 16 P **P 22 40 01.7 +0.8**
PRZ Przheval'sk 76.52 16 P **P 22 40 01.7 +0.8**
PRZ pmax pmax
comp=Z,31nm,0.8s
VSLR Vesyoloye 76.56 347 *i* P **P 22 40 00.2 -0.7**
VSLR pmax pmax
comp=Z,16nm,1.2s
KIV Kislovodsk 76.59 349 P 22 40 00.9 -0.2
KIV IAmb IAmb 22 40 12.9
comp=Z,14nm,0.9s
KIV Kislovodsk 76.59 349 P **P 22 40 01.4 +0.3**
KIV Kislovodsk 76.59 349 *e*P **P 22 40 00.5 -0.6**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 76.59 349 P **P 22 40 01.0 -0.1**
KIV Kislovodsk 76.59 349 P **P 22 40 00.9 -0.2**
comp=Z,11nm,0.9s
SGDS Sogindy 76.64 13 *e*P **P 22 40 01.4 +0.1**
SGDS Sogindy 76.64 13 *e*P **P 22 40 01.5 +0.1**
TNSS Tian-Shan 76.72 15 *e*P **P 22 40 02.0 -0.2**
TNSS Tian-Shan 76.72 15 *e*P **P 22 40 02.1 -0.2**
SOC Sochi 76.74 347 *e*P **P 22 40 01.1 -0.7**
SOC *e* 22 50 12.7
SOC *e*SS SS 22 54 49.9 +5.3
SOC pmax pmax
comp=Z,7.0nm,0.8s
MDOK Medeo 76.86 15 *e*P **P 22 40 02.9 +0.2**
MDOK Medeo 76.86 15 *e*P **P 22 40 02.9 +0.2**
AAA Alma-Ata 76.87 15 *e*P **P 22 40 02.8 +0.1**
AAA pmax pmax
comp=Z,11nm,0.7s
AAA Alma-Ata 76.87 15 *e*P **P 22 40 02.8 +0.1**
comp=Z,11nm,0.7s
SATY Saty 77.07 16 *e*P **P 22 40 03.8 0.0**
SATY Saty 77.07 16 *e*P **P 22 40 03.9 0.0**
KLYT Kilyos 77.22 339 P **P 22 40 04.5 -0.1**
comp=Z,24nm,1.3s
UZB Uzynbulak 77.29 16 *e*P **P 22 40 05.3 +0.1**
UZB pmax pmax
comp=Z,6.0nm,1.0s
UZB Uzynbulak 77.29 16 *e*P **P 22 40 05.3 +0.1**
comp=Z,6.1nm,1.0s
KUU Kurty 77.41 14 *e*P **P 22 40 06.0 +0.4**
KUU Kurty 77.41 14 *e*P **P 22 40 06.0 +0.4**
SHLS Shalkode 77.41 17 *e*P **P 22 40 06.5 +0.7**
SHLS pmax pmax
comp=Z,13nm,1.6s
SHLS Shalkode 77.41 17 *e*P **P 22 40 06.5 +0.7**
comp=Z,13nm,1.6s
KPKS Kokpek 77.52 16 *e*P **P 22 40 06.4 +0.1**
KPKS pmax pmax
comp=Z,7.0nm,1.1s
KPKS Kokpek 77.52 16 *e*P **P 22 40 06.5 +0.1**
comp=Z,7.0nm,1.1s
CTYL Yalikoy Yolu 77.66 338 P **P 22 40 07.0 0.0**
comp=Z,468nmcomp=Z,8.0nm,0.7s
SIM Simferopol' 79.25 344 *e*P **P 22 40 19.2 +3.5**
SIM *e* 22 40 26.0
SIM pmax pmax
comp=Z,21nm,1.1s
TIRR Tirgusor 80.33 340 P 22 40 22.7 +1.1
TIRR IAmb IAmb 22 40 24.9
comp=Z,14nm,1.1s
TIRR Tirgusor 80.33 340 P **P 22 40 22.7 +1.1**
TIRR pmax pmax
comp=Z,14nm,1.1s
WMQ Urumqi 80.34 22 *e*P **P 22 40 24.2 +2.4**
ABKAR Akbulak array 80.78 2 P 22 40 24.3 +0.3
ABKAR IAmb IAmb 22 40 35.3
comp=Z,12nm,1.0s
ABKAR Akbulak array 80.78 2 P 22 40 24.0 +0.1
GTA Gaotai 81.24 32 *e*P **P 22 40 27.8 +1.0**
GTA sP pwP 22 40 37.7 +0.5
GTA pmax pmax
comp=Z,10.0nm,0.8s
MAKZ Makanchi 81.45 17 P **P 22 40 28.0 +0.4**
MAKZ Makanchi 81.45 17 P **P 22 40 28.0 +0.4**
MAKZ pmax pmax
comp=Z,6.0nm,1.2s
MK31 Makanchi Array 81.52 17 P 22 40 28.1 +0.1
MK31 Makanchi Array 81.52 17 *ce*P **P 22 40 28.1 +0.1**
MKAR Makanchi Array 81.52 17 P **P 22 40 27.4 -0.6**
MKAR Makanchi Array 81.52 17 P **P 22 40 27.7 -0.3**
comp=Z,1.2nm,0.8s,baz=212,slow=4.6,SNR=9.8
comp=Z,1.2nm,0.8s
XAN Xi'an 81.71 41 P **P 22 40 29.8 +0.5**
XAN pP pwP 22 40 43.3 +3.6
XAN pmax pmax
comp=Z,14nm,0.9s
AKTO Aktyubinsk 81.93 1 P **P 22 40 29.4 -0.6**
comp=Z,1.4nm,0.6s,baz=186,slow=2.9,SNR=4.9
comp=Z,1.4nm,0.6s
MLR Muntele Rosu 82.01 338 P **P 22 40 31.2 +0.5**
MLR IAmb IAmb 22 40 34.8
comp=Z,26nm,1.5s
MLR Muntele Rosu 82.01 338 P **P 22 40 31.2 +0.5**
MLR pmax pmax
comp=Z,26nm,1.5s
MLR Muntele Rosu 82.01 338 P **P 22 40 30.3 -0.4**
comp=Z,7.8nm,1.1s
VRI Vrincioaia 82.11 339 P **P 22 40 31.8 +0.7**
VRI pmax pmax
comp=Z,17nm,1.0s
VRI Vrincioaia 82.11 339 P **P 22 40 30.8 -0.3**
comp=Z,17nm,1.0s
PLOR5 Plostina Array 82.11 339 P **P 22 40 30.8 -0.3**
comp=Z,14nm,0.9s
VOIR 82.25 338 P **P 22 40 31.6 -0.3**
VOIR 82.25 338 P **P 22 40 31.6 -0.3**
comp=Z,6.3nm,1.1s
BRZS Berezniki 82.64 10 *e*P **P 22 40 34.3 +0.6**
BRZS Berezniki 82.64 10 *e*P **P 22 40 34.4 +0.6**
PLTM Poltava 83.54 345 P **P 22 40 37.6 -0.8**
VRH Novokhopyorsk 83.80 350 *i* P **P 22 40 39.5 -0.1**
VRH pmax pmax

comp=Z,15nm,1.6s
BUR08 Bucovina Ar. S 84.17 339 P P 22 40 42.8 +1.0
BUR08 IAmb IAmb 22 40 55.4
comp=Z,16nm,1.8s
CAMP Campotosto 84.20 329 P P 22 40 42.1 0.0
CAMP IAmb IAmb 22 40 45.5
comp=Z,17nm,1.5s
KURBB Kurchatov Arra 84.28 14 P P 22 40 42.7 +0.6
comp=Z,0.8nm,0.3s,baz=208,slow=5.7,SNR=14
comp=Z,0.8nm,0.3s
KURK Kurchatov 84.38 14 P P 22 40 43.0 +0.4
KURK IAmb IAmb 22 40 54.5
comp=Z,14nm,1.0s
KURK Kurchatov 84.38 14 P P 22 40 41.9 -0.7
KURK Kurchatov 84.38 14 *ce*P **P 22 40 43.9 +1.3**
KURK pmax pmax
comp=Z,20nm,2.5s
OXZ Oxford 84.42 138 P P 22 40 43.8 +0.4
KMPD K-Podol'skiy 84.62 340 P P 22 40 43.4 -0.5
VORR Voronezh 84.64 349 *e*P **P 22 40 44.0 +0.1**
VORR pmax pmax
comp=Z,13nm,1.6s
BVAR Borovoye Array 85.31 8 P P 22 40 48.0 +0.7
comp=Z,5.4nm,0.9s,baz=183,slow=5.3,SNR=17
comp=Z,5.4nm,0.9s
BRVK Borovoye 85.33 8 P P 22 40 47.5 +0.2
BRVK IAmb IAmb 22 40 59.1
comp=Z,18nm,1.2s
BRVK Borovoye 85.33 8 P P 22 40 46.9 -0.5
BRVK Borovoye 85.33 8 *ce*P **P 22 40 48.9 +1.5**
BRVK pmax pmax
comp=Z,13nm,1.7s
AKASG Malin Array Be 85.81 343 P P 22 40 49.5 -0.3
comp=Z,0.6nm,0.4s,baz=159,slow=4.4,SNR=5.2
comp=Z,0.6nm,0.4s
AKASG Malin Array Be 85.81 343 *i* P **P 22 40 52.0 +2.2**
AKBB Malin Array Si 85.81 343 *ce*P **P 22 40 50.3 +0.5**
AKBB pmax pmax
comp=Z,4.0nm,1.0s
AKBB Malin Array Si 85.81 343 P P 22 40 49.0 -0.8
KOLS Kolonicke sedl 86.22 338 *e*P **P 22 40 54.1 +2.2**
KOLS pmax pmax
comp=Z,2.0nm,0.8s
KOLS Kolonicke sedl 86.22 338 *e*P **P 22 40 54.1 +2.2**
NJ2 Nanjing 86.29 49 *e*P **P 22 40 54.3 +1.6**
NJ2 pmax pmax
comp=Z,6.0nm,0.8s
NJ2 pmax pmax
comp=Z,15nm,0.9s
SOKA Soboth 86.90 332 *e*PcP **PcP 22 40 58.9 +1.2**
comp=Z,5.9nm,1.0s
VYHS Vyhne 87.00 336 *e*P **P 22 40 57.8 +2.0**
VYHS pmax pmax
comp=Z,9.0nm,1.7s
VYHS Vyhne 87.00 336 *e*P **P 22 40 57.8 +2.0**
VYHS *e*PP **PP 22 44 21.9 +2.3**
BTO Baotou 87.12 37 *e*P **P 22 40 55.8 -0.9**
BTO pP **pP 22 41 00.8 -0.9**
BTO sP **sP 22 41 02.8 -0.2**
BTO pmax pmax
comp=Z,14nm,1.4s
BTO pmax pmax
comp=Z,240nm,6.9s
RONA Rosalia, Austr 87.26 334 *e*P **P 22 41 00.1 +3.0**
comp=Z,6.3nm,1.2s
MODS Modra-Piesok 87.46 335 *e*P **P 22 41 01.5 +3.5**
MODS pmax pmax
comp=Z,19nm,1.4s
MODS Modra-Piesok 87.46 335 *e*P **P 22 41 01.5 +3.5**
CONA Conrad Observa 87.61 334 *e*P **P 22 41 01.8 +3.0**
comp=Z,10.0nm,1.5s
JAVC Velka Javorina 87.72 335 *e*P **P 22 41 02.2 +2.9**
KBA Koelnbreinsper 87.90 332 *e*PcP **PcP 22 41 04.3 +2.2**
comp=Z,6.8nm,1.4s
ARTI Arti 87.90 1 P **P 22 41 00.2 +0.4**
ARTI Arti 87.90 1 *c i*P **P 22 41 00.8 +1.0**
ARTI S **SKSac 22 51 29.0 +2.4**
ARTI SS **SS 22 57 31.5 +1.5**
ARTI pmax pmax
comp=Z,14nm,1.3s
ABTA Abfaltersbach 87.97 331 *e*PcP **PcP 22 41 04.1 +1.8**
comp=Z,5.0nm,0.8s
HHC Hu-ho-hao-te 88.11 38 *e*P **P 22 41 01.0 -0.4**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.3s
KRUC Moravsky 88.35 335 *e*P **P 22 41 04.1 +1.9**
SVE Sverdlovsk 88.38 2 *e*P P 22 41 12.2 +10
SVE pmax pmax
comp=Z,9.0nm,1.0s
OBN Obninsk 88.39 348 *i* P **P 22 41 01.9 -0.3**
OBN *i* 22 41 09.3
OBN pmax pmax
comp=Z,7.0nm,0.9s
LESA Schwarzleotal 88.44 332 *e*P **P 22 41 04.5 +1.7**
comp=Z,11nm,1.1s
VRAC Vranov 88.49 335 *e*P **P 22 41 04.9 +2.0**
MORC Moravsky Berou 88.54 336 *e*P **P 22 41 05.4 +2.3**
ZALV Zalesovo Beam 88.76 16 P P 22 41 04.7 +0.8
comp=Z,0.4nm,0.5s,baz=176,slow=2.3,SNR=2.0
comp=Z,0.4nm,0.5s
WATA Walderalm 88.82 331 *e*PcP **PcP 22 41 07.7 +1.5**
comp=Z,5.2nm,0.9s
SQTA Sankt Quirin 88.89 331 *e*PcP **PcP 22 41 08.3 +1.8**
comp=Z,9.0nm,0.9s
FETA Feichten 88.93 330 *e*PcP **PcP 22 41 08.1 +1.4**
comp=Z,7.6nm,1.0s
MOTA Moosalm 89.03 331 *e*P **P 22 41 07.2 +1.6**
comp=Z,8.1nm,1.0s
DAVOX Davos/Dischmat 89.10 330 LR LR 23 22 08.9
comp=Z,249nm,20.5s,baz=245,slow=36
GERES GERESS Array B 89.19 333 P P 22 41 06.2 -0.1
comp=Z,0.5nm,0.7s,baz=102,slow=6.2,SNR=4.4
comp=Z,0.5nm,0.7s
RETA Reute 89.28 331 *e*PcP **PcP 22 41 09.8 +1.7**
comp=Z,9.6nm,1.5s
URZ Urewera 90.64 137 LR LR 23 14 17.7
comp=Z,113nm,19.6s,baz=330,slow=31
SONM Songino Array 90.81 31 P P 22 41 13.4 -0.5
comp=Z,1.1nm,1.0s,baz=197,slow=4.5,SNR=4.9
comp=Z,1.1nm,1.0s
GRF Grafenberg Arr 90.84 332 *e*P 22 41 16.7
comp=Z,6.6nm,1.1s,baz=142,slow=5.5
ESDC Sonseca Array 90.93 318 P **P 22 41 14.4 -0.2**
ESDC Sonseca Array 90.93 318 P **P 22 41 15.1 +0.5**
comp=Z,2.3nm,1.0s,baz=132,slow=4.0,SNR=11
comp=Z,2.3nm,1.0s
ULN Ulaanbaatar 91.12 31 *ce*P **P 22 41 15.2 -0.2**
ULN pmax pmax
comp=Z,1.0nm,0.8s
KLMR Klimovskoe 93.49 351 *e*P **P 22 41 24.0 -1.8**
KLMR pmax pmax
comp=Z,16nm,1.8s
KSRS Korea Array 95.48 49 LR LR 23 22 07.7
comp=Z,24nm,20.6s,baz=35,slow=34
HEH HeiHe 102.63 38 *e*P **Pdif 22 42 10.8 +3.5**
BLKN Baker Lake 143.46 341 PKiKP 22 47 50.9 +3.1
ILAR Eielson Array 143.87 17 PKhKP PKPpre 22 47 41.2
comp=Z,1.1nm,0.8s,baz=304,slow=1.8,SNR=6.6
SKT Skwentna 144.65 23 PKPab 22 47 45.3 -0.1
I28M Miner Creek 144.79 12 PKPbc 22 47 46.2 +0.2
J26L Joseph Creek 144.89 15 PKPdf 22 47 47.1 -0.1
SCRK Sand Creek 145.24 16 PKPdf 22 47 48.6 +0.8
SUA Susitna One 145.28 23 PKPdf 22 47 48.4 +0.5
O53A New Philadelph 145.53 296 PKPdf 22 47 48.3 -0.6
BCAR Beaver Creek A 146.53 16 PKPab 22 47 52.2 -0.2
FPAL Fort Paine 148.80 285 PKPab 22 48 01.2 -1.2
YKA Yellowknife Ar 148.88 353 PKPbc **PKPbc 22 47 57.5 -0.2**
comp=Z,6.5nm,0.8s,baz=10,slow=2.1,SNR=30
T47A Sharon Grove 150.15 290 PKiKP 22 48 04.0 +1.4
R33M Jennings River 151.93 9 PKiKP 22 48 07.6 +2.0
FFC Flin Flon 152.73 333 PKiKP 22 48 08.5 +1.2
YNE Yellowstone No 163.46 326 PKPab 22 49 07.5 +2.7
PDAR Pinedale Array 164.81 320 PKP **PKPdf 22 48 15.4 +0.5**
comp=Z,1.0nm,1.0s,baz=107,slow=3.6,SNR=6.3

*IDC **11** 22:34:19.5±0.5, 0°.76N×125°.96E, h0km, mb4.3/25, mbtmp4.3/27, ML4.8/2, MS3.4/1, Error ellipse: s-maj=19.7km s-min=11.1km az=75.0*
*DJA **11** 22:34:23.1±0.2, 1°.N±2°.×12°.6E±°, h10km, M4.3/16, mB4.5/4, mb4.7/8, MLv4.4/16, Mw(mB)3.7/4*
*NEIC **11** 22:34:26.1±1.4, 0°.76N±0°.09×126°.23E±0°.06, h47km±1km, mb4.6/30, Error ellipse: s-maj=13.0km s-min=9.1km az=189.0*

ISC 11 22:34:25.8±0.4, **0°.72N**±0°.05×**126°.10E**±0°.06, **h44**km, **n93**, σ1§**08**/94, **mb4.5**/42, **1D, Northern Moluccca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.26**	**88**		**Pn**	**22 34 45.9**	**-1.2**
TNTI	**Ternate**	**1.26**	**88**	P	**Pn**	**22 34 46.0**	**-1.1**
KMSI	**Cibinong**	**2.13**	**266**	P	**Pn**	**22 34 58.2**	**-0.7**
SANI	**Sanana**	**2.75**	**182**	P	**Pn**	**22 35 07.3**	**-0.2**
NLAI	**Namlea**	**4.05**	**166**	P	**Pn**	**22 35 26.0**	**+0.6**
MRSI	**Marisa**	**4.17**	**267**	P	**Pn**	**22 35 26.0**	**-1.0**
APSI	**Ampana**	**4.74**	**250**	P	**Pn**	**22 35 35.0**	**+0.2**
TOLI2	**Tolitoli**	**5.33**	**274**		**Pn**	**22 35 44.6**	**+1.6**
MPSI	**Mapaga**	**6.22**	**267**	P	**Pn**	**22 35 54.6**	**-0.5**
	0.2nm36nm,0.8s						
FAKI	**Fak Fak**	**7.13**	**120**	P	**Pn**	**22 36 09.1**	**+1.5**
	0.1nm19nm,0.8s						
TTSI	**Tana Toraja**	**7.31**	**239**	P	**Pn**	**22 36 09.7**	**-0.4**
BNSI	**Bone**	**7.86**	**230**	P	**Pn**	**22 36 17.3**	**-0.3**
	0.2nm50nm,0.6s						
BKSI	**Bulukumba**	**8.47**	**225**	P	**Pn**	**22 36 25.7**	**-0.3**
KAPI	**Kappang**	**8.52**	**228**		**Pn**	**22 36 28.2**	**+1.4**
KAPI	**Kappang**	**8.52**	**228**	Pn	**Pn**	**22 36 25.2**	**-1.6**
	8.2nm,0.3s,baz=33,slow=9.2,SNR=15						
KAPI				Sn	**Sn**	**22 38 02.7**	**+0.9**
	0.9nm,0.3s,baz=218,slow=21,SNR=1.7						
KAPI				LR	LR	22 40 10.8	
	comp=Z,276nm,20.8s,baz=66,slow=42						
	15nm,0.6s						
MYLDM	**Lahad Datu**	**8.79**	**300**		**Pn**	**22 36 32.1**	**+1.7**
BSSI	**Bau Bau, Buton**	**8.82**	**219**	P	**Pn**	**22 36 31.1**	**+0.2**
SBUM	**Sibu**	**13.98**	**277**		**Pn**	**22 37 42.3**	**+0.8**
JAGI	**Jajag, Banyuwa**	**15.01**	**232**	Pn	**Pn**	**22 37 56.7**	**+1.6**
JAGI				IAmb	IAmb	22 38 06.4	
	comp=Z,36nm,1.3s						
KSM	**Kuching**	**15.81**	**273**		**P**	**22 38 07.5**	**-1.3**
KNRA	**Kununurra**	**16.50**	**171**		**Pn**	**22 38 13.4**	**-0.9**
KNRA				IAmb	IAmb	22 38 18.1	
	comp=Z,42nm,1.1s						
LEM	**Lembang**	**19.91**	**248**	P	**P**	**22 38 50.8**	**-3.4**
	comp=Z,3.9nm,0.3s,baz=315,slow=21,SNR=4.1						
	comp=Z,18nm,0.5s						
WB0	**Warramunga Arr**	**21.92**	**159**		**P**	**22 39 14.7**	**-0.9**
WRAB	**Tennant Creek**	**22.06**	**159**	P	**P**	**22 39 16.8**	**-0.3**
WRA	**Warramunga Arr**	**22.06**	**159**	P	**P**	**22 39 16.7**	**-0.4**
	comp=Z,16nm,0.5s,baz=337,slow=11,SNR=78						
	comp=Z,16nm,0.5s						
WRA	**Warramunga Arr**	**22.06**	**159**	P	**P**	**22 39 17.0**	**-0.2**
WRA	**Warramunga Arr**	**22.06**	**159**	P	**P**	**22 39 17.0**	**-0.2**
WB2	**Warramunga Arr**	**22.07**	**159**		**P**	**22 39 17.0**	**-0.2**
WR0	**Warramunga Arr**	**22.15**	**159**	P	**P**	**22 39 17.2**	**-0.9**
WR0				IAmb	IAmb	22 39 25.9	
	comp=Z,37nm,1.4s						
COEN	**Coen**	**22.33**	**131**		**P**	**22 39 18.4**	**-1.6**
COEN				IAmb	IAmb	22 39 27.7	
	comp=Z,23nm,0.8s						
XMIS	**Christmas Isla**	**23.19**	**241**	P	**P**	**22 39 29.1**	**+0.1**
AS31	**Alice Springs**	**25.39**	**163**		**P**	**22 39 49.2**	**-0.1**
AS31				IAmb	IAmb	22 39 52.3	
	comp=Z,6.5nm,0.4s						
ASAR	**Alice Springs**	**25.40**	**163**		**P**	**22 39 48.7**	**-0.7**
ASAR	**Alice Springs**	**25.40**	**163**	P	**P**	**22 39 49.8**	**+0.5**
	comp=Z,7.3nm,0.4s,baz=345,slow=11,SNR=82						
ASAR				PcP	**PcP**	**22 43 21.9**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=328,slow=1.9,SNR=4.0						
	comp=Z,7.3nm,0.4s						
NJ2	**Nanjing**	**31.91**	**348**	*e*P	**P**	**22 40 48.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**31.96**	**305**	P	**P**	**22 40 46.2**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=76,slow=7.6,SNR=1.8						
	comp=Z,0.5nm,0.3s						
PZH	**PanZhiHua**	**34.74**	**320**	P	**P**	**22 41 14.4**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,8.0s						
STKA	**Stephens Creek**	**35.58**	**157**	P	**P**	**22 41 18.7**	**-0.5**
STKA	**Stephens Creek**	**35.58**	**157**	P	**P**	**22 41 19.8**	**+0.6**
	comp=Z,4.4nm,0.3s,baz=339,slow=8.2,SNR=26						
	comp=Z,4.4nm,0.3s						
KSRS	**Korea Array**	**36.59**	**2**	P	**P**	**22 41 27.6**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=181,slow=9.6,SNR=7.7						
	comp=Z,1.3nm,0.5s						
KSRS	**Korea Array**	**36.59**	**2**	P	**P**	**22 41 27.6**	**-0.1**
MJAR	**Matsushiro Arr**	**37.37**	**16**	P	**P**	**22 41 33.8**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=182,slow=9.2,SNR=7.9						
	comp=Z,1.4nm,0.5s						
HHC	**Hu-ho-hao-te**	**42.07**	**343**	*e*P	**P**	**22 42 17.4**	**+3.9**
CN2	**Changchun**	**42.90**	**359**	*e*P	**P**	**22 42 20.7**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**43.57**	**64**	T	T	23 30 02.6	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**43.58**	**64**	T	T	23 30 05.3	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**43.58**	**64**	T	T	23 29 49.0	
	baz=252						
USA0B	**Ussuriysk Arra**	**43.61**	**6**	P	**P**	**22 42 25.3**	**-0.5**
USRK	**Ussuriysk Ar.**	**43.61**	**6**	P	**P**	**22 42 24.9**	**-1.0**
USRK	**Ussuriysk Ar.**	**43.61**	**6**	P	**P**	**22 42 26.1**	**+0.3**
	comp=Z,4.3nm,0.6s,baz=186,slow=7.9,SNR=25						
	comp=Z,4.3nm,0.6s						
MDJ	**Mudanjiang**	**43.82**	**4**	P	**P**	**22 42 28.7**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,13nm,0.9s						
BNX	**BinXian**	**44.85**	**1**	⇓P	**P**	**22 42 35.6**	**-0.1**
BNX				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SONM	**Songino Array**	**49.95**	**343**	P	**P**	**22 43 15.6**	**0.0**
	comp=Z,0.6nm,0.5s,baz=169,slow=8.0,SNR=3.5						
SONM				PcP	**PcP**	**22 44 35.5**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=161,slow=4.0,SNR=5.4						
	comp=Z,0.6nm,0.5s						
PETK	**Petropavlovsk-**	**58.44**	**22**	P	**P**	**22 44 17.9**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=158,slow=3.6,SNR=7.3						
	comp=Z,2.6nm,0.6s						
MK31	**Makanchi Array**	**59.68**	**327**		**P**	**22 44 24.4**	**-1.4**
MKAR	**Makanchi Array**	**59.68**	**327**	P	**P**	**22 44 25.3**	**-0.6**
MKAR	**Makanchi Array**	**59.68**	**327**	P	**P**	**22 44 24.5**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=124,slow=8.4,SNR=19						
MKAR				PKKP	**PKKPdf**	**23 05 36.8**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=343,slow=1.5,SNR=3.7						
	comp=Z,1.4nm,0.5s						
MAKZ	**Makanchi**	**59.87**	**326**		**P**	**22 44 26.1**	**-1.0**
MAKZ				IAmb	IAmb	22 44 31.3	
	comp=Z,2.1nm,0.6s						
URZ	**Urewera**	**60.81**	**136**	P	**P**	**22 44 33.6**	**-0.1**
	comp=Z,10nm,0.8s,baz=234,slow=14,SNR=1.9						
	comp=Z,10nm,0.8s						
AAK	**Ala-Archa**	**62.19**	**319**	P	**P**	**22 44 42.2**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=207,slow=7.5,SNR=1.7						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**62.99**	**334**	P	**P**	**22 44 46.7**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=134,slow=8.3,SNR=3.8						
	comp=Z,0.8nm,0.5s						
GAR	**Garm**	**63.52**	**314**		**P**	**22 44 52.1**	**+0.1**
GAR				IAmb	IAmb	22 44 56.2	
	comp=Z,6.0nm,0.8s						
BTK	**Batken**	**63.58**	**315**	P	**P**	**22 44 51.6**	**-0.7**
BTK				IAmb	IAmb	22 44 56.5	
	comp=Z,7.4nm,1.4s						
KURBB	**Kurchatov Arra**	**63.94**	**328**	P	**P**	**22 44 52.6**	**-1.8**
	comp=Z,1.7nm,0.5s,baz=130,slow=6.3,SNR=12						
	comp=Z,1.7nm,0.5s						
KURK	**Kurchatov**	**63.95**	**329**		**P**	**22 44 53.7**	**-0.8**
KURK				IAmb	IAmb	22 44 57.9	
	comp=Z,4.4nm,0.6s						
KKAR	**Karatay Array**	**65.02**	**318**	P	**P**	**22 45 01.3**	**-0.3**
BVAR	**Borovoye Array**	**69.50**	**328**	P	**P**	**22 45 28.1**	**-1.7**
	comp=Z,1.6nm,0.8s,baz=130,slow=8.1,SNR=9.8						
	comp=Z,1.6nm,0.8s						
BRVK	**Borovoye**	**69.58**	**328**		**P**	**22 45 30.5**	**+0.3**
TIXI	**Tiksi**	**70.84**	**1**		**P**	**22 45 36.3**	**-1.3**
TIXI				IAmb	IAmb	22 45 37.9	
	comp=Z,4.5nm,0.8s						
NRIK	**Noril'sk**	**73.19**	**347**	P	**P**	**22 45 51.2**	**-0.5**
NRIK	**Noril'sk**	**73.19**	**347**	P	**P**	**22 45 51.8**	**0.0**
	comp=Z,1.7nm,0.6s,baz=118,slow=8.0,SNR=4.2						
	comp=Z,1.7nm,0.6s						
ABKAR	**Akbulak array**	**74.09**	**321**		**P**	**22 45 56.4**	**-1.0**
RAR	**Rarotonga**	**75.48**	**112**	P	**P**	**22 46 06.8**	**+0.8**
	comp=Z,4.6nm,0.4s,baz=187,slow=21,SNR=1.5						
	comp=Z,4.6nm,0.4s						
AKTO	**Aktyubinsk**	**75.63**	**322**	P	**P**	**22 46 06.6**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=93,slow=6.8,SNR=4.5						
	comp=Z,1.3nm,0.4s						
ARTI	**Arti**	**77.22**	**328**		**P**	**22 46 13.8**	**-1.4**
ARTI				IAmb	IAmb	22 46 17.3	
	comp=Z,6.3nm,1.0s						
VNDA	**Vanda**	**80.54**	**173**		**P**	**22 46 33.5**	**+0.5**
VNDA	**Vanda**	**80.54**	**173**	P	**P**	**22 46 33.7**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=318,slow=6.7,SNR=21						
	comp=Z,2.0nm,0.6s						
G19K	**Purcell Mounta**	**84.02**	**23**	P	**P**	**22 46 51.3**	**-0.1**
G19K				IAmb	IAmb	22 46 54.0	
	comp=Z,6.3nm,0.9s						
GEVA	**Gevas**	**84.09**	**308**		**P**	**22 46 51.8**	**-0.8**
GEVA				IAmb	IAmb	22 46 58.4	
	comp=Z,4.9nm,0.7s						
KBZ	**Khabaz**	**84.59**	**314**	P	**P**	**22 46 54.4**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=68,slow=4.4,SNR=4.0						
	comp=Z,0.9nm,0.6s						
GURO	**Guroymak-BITLI**	**84.91**	**308**		**P**	**22 46 56.0**	**-0.7**
GURO				IAmb	IAmb	22 46 58.1	
	comp=Z,4.5nm,0.9s						
KOPT	**Kop Dagi**	**86.17**	**310**	P	**P**	**22 47 02.7**	**-0.4**
KOPT				IAmb	IAmb	22 47 05.7	
	comp=Z,5.0nm,1.0s						
ILAR	**Eielson Array**	**88.08**	**25**	P	**P**	**22 47 10.1**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=246,slow=5.0,SNR=4.5						
	comp=Z,0.3nm,0.6s						
KMBO	**Kilima Mbogo**	**88.86**	**269**	P	**P**	**22 47 16.4**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=56,slow=6.5,SNR=4.9						
	comp=Z,1.8nm,0.8s						
QSPA	**South Pole Qui**	**90.64**	**180**	P	**P**	**22 47 24.4**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=173,slow=0.7,SNR=18						
	comp=Z,1.3nm,0.6s						
BRTR	**Keskin Array B**	**91.45**	**310**	P	**P**	**22 47 27.4**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=134,slow=5.6,SNR=6.1						
	comp=Z,0.8nm,0.8s						
H29M	**Whitestone**	**91.59**	**24**	P	**P**	**22 47 28.9**	**+1.1**
HYT	**Haines Junctio**	**92.51**	**29**	P	**P**	**22 47 30.2**	**-2.1**
FINES	**FINESS Array B**	**94.17**	**332**	P	**P**	**22 47 40.5**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=90,slow=2.8,SNR=1.4						
	comp=Z,0.7nm,0.7s						
MMPY	**Sheldon Lake,**	**95.17**	**27**		**P**	**22 47 43.5**	**-0.9**
BUR08	**Bucovina Ar. S**	**96.82**	**318**		**P**	**22 47 50.9**	**-1.5**
BUR08				IAmb	IAmb	22 47 56.1	
	comp=Z,2.1nm,0.8s						
WRGLY	**Wrigley**	**98.46**	**25**		**P**	**22 47 57.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**123.20**	**286**	PKP	**PKPdf**	**22 53 18.9**	**0.0**
	comp=Z,52nm,0.3s,baz=83,slow=3.4,SNR=1.2						

*IDC **11** 22:45:47.8±2.6, 25°.68S×179°.81E, h497km±29km, mb3.2/5, mbtmp4.1/7, Error ellipse: s-maj=28.2km s-min=23.2km az=140.0*
*NEIC **11** 22:45:50.0±2.0, 25°.7S±0°.1×179°.5E±0°.2, h498km±12km, mb4.4/13, Error ellipse: s-maj=24.2km s-min=16.0km az=134.0*

ISC 11 22:45:49.3±0.7, **25°.7S**±0°.1×**179°.6E**±0°.1, **h507**km, **n31**, σ1§**22**/28, **mb4.0**/12, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.05**	**350**	P	**P**	**22 47 45.8**	**-0.9**
MSVF	**Nonsavu**	**8.05**	**350**	P	**P**	**22 47 45.4**	**-1.2**
	2.0nm,0.4s,baz=238,slow=23,SNR=1.7						
PINNC	**Pines Island,**	**11.48**	**283**	P	**P**	**22 48 19.4**	**-2.9**
NIUE	**Niue**	**11.75**	**58**	P	**P**	**22 48 25.7**	**+0.4**
URZ	**Urewera**	**12.69**	**189**	P	**P**	**22 48 32.8**	**-2.1**
	5.2nm,0.3s,baz=340,slow=1.9,SNR=9.4						
BKZ	**Black Stump Fm**	**13.67**	**190**	P	**P**	**22 48 45.3**	**+0.1**
QRZ	**Quartz Range**	**16.18**	**199**	P	**P**	**22 49 10.6**	**-0.9**
PLWZ	**Palliser**	**16.22**	**192**	P	**P**	**22 49 13.0**	**+1.1**
LBZ	**Lake Benmore**	**20.13**	**200**	P	**P**	**22 49 48.9**	**+0.4**
EIDS	**Eidsvold**	**25.68**	**265**	P	**P**	**22 50 39.3**	**+0.9**
EIDS				IAmb	IAmb	22 51 15.0	
	comp=Z,24nm,1.5s						
TOO	**Toolangi**	**31.16**	**239**	P	**P**	**22 51 24.3**	**-1.9**
STKA	**Stephens Creek**	**33.71**	**251**	P	**P**	**22 51 49.3**	**+1.3**
STKA	**Stephens Creek**	**33.71**	**251**	P	**P**	**22 51 49.2**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=118,slow=9.0,SNR=4.1						
	comp=Z,1.1nm,0.5s						
COEN	**Coen**	**36.05**	**282**	P	**P**	**22 52 09.4**	**+1.7**
COEN				IAmb	IAmb	22 52 40.3	
	comp=Z,29nm,1.4s						
BBOO	**Buckleboo**	**38.40**	**249**	P	**P**	**22 52 27.3**	**+0.6**
BBOO				IAmb	IAmb	22 52 55.2	
	comp=Z,24nm,1.3s						
AS31	**Alice Springs**	**41.38**	**263**	P	**P**	**22 52 51.8**	**+0.9**
ASAR	**Alice Springs**	**41.38**	**263**	P	**P**	**22 52 51.0**	**+0.1**
ASAR	**Alice Springs**	**41.38**	**263**	P	**P**	**22 52 52.2**	**+1.3**
	comp=Z,1.6nm,0.4s,baz=95,slow=8.9,SNR=4.3						
	comp=Z,1.6nm,0.4s						
WR8	**Warramunga Arr**	**41.77**	**268**	P	**P**	**22 52 54.6**	**+0.6**
WR8				IAmb	IAmb	22 52 59.1	
	comp=Z,5.2nm,1.1s						
WRA	**Warramunga Arr**	**41.92**	**268**	P	**P**	**22 52 55.7**	**+0.5**
WRA	**Warramunga Arr**	**41.92**	**268**	P	**P**	**22 52 56.0**	**+0.8**
	comp=Z,2.1nm,0.4s,baz=100,slow=6.8,SNR=40						
	comp=Z,2.1nm,0.4s						
WB0	**Warramunga Arr**	**41.92**	**269**	P	**P**	**22 52 55.6**	**+0.4**
WB0				IAmb	IAmb	22 52 56.2	
	comp=Z,6.9nm,1.1s						
KNRA	**Kununurra**	**48.30**	**272**	P	**P**	**22 53 45.2**	**+0.9**
KNRA				IAmb	IAmb	22 53 49.0	
	comp=Z,17nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.31**	**267**	P	**P**	**22 54 00.3**	**+1.2**
QSPA	**South Pole Qui**	**64.39**	**180**	P	**P**	**22 55 34.2**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=255,slow=17,SNR=1.6						
	comp=Z,1.0nm,0.9s						
ACHA	**Angle Creek He**	**86.19**	**13**	P	**P**	**22 57 37.2**	**+1.1**
ACHA				IAmb	IAmb	22 58 15.1	
	comp=Z,13nm,1.2s						
TXAR	**Lajitas Array**	**91.72**	**58**	P	**P**	**22 58 02.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=236,slow=2.7,SNR=2.6						
	comp=Z,0.4nm,0.6s						
NB2	**NORSAR Subarra**	**143.79**	**350**	PKP	PKPbc	23 04 24.0	-0.8
	comp=Z,0.8nm,0.9s,baz=18,slow=3.2						
NOA	**NORSAR Array B**	**143.79**	**350**	PKP	PKPbc	23 04 23.9	-0.9
	comp=Z,0.8nm,0.8s,baz=7.7,slow=3.6,SNR=6.4						
HFS	**Hagfors**	**144.22**	**348**	PKP	PKPbc	23 04 25.4	-0.7
	comp=Z,1.2nm,0.5s,baz=43,slow=3.0,SNR=12						
EKA	**Eskdalemuir Ar**	**150.33**	**3**	PKPbc	**PKPb

*NEIC **11** 23:23:20.7±1.2,57°.95N±0°.03×152°.64W±0°.05, h35km±1km, Error ellipse: s-maj=6.1km s-min=3.8km az=313.0*

AEIC 11 23:23:21.6±1.2,57°.94N±0°.03×152.63W±0°.08,h38km±7km, ML3.2,mb3.5/4(NEIC),ML3.5/108(NEIC),Error ellipse: s-maj=6.0km s-min=3.8km az=98.0,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.16**	**172**		Pn	23 23 26.9	-4.9
KDAK					Sn	23 23 32.8	-8.9
SYI	**Shuyak Island**	**0.68**	**10**		Pn	23 23 33.3	-1.5
SYI				Sn	Sn	23 23 43.0	-1.1
OHAK	**Old Harbor**	**0.81**	**207**		Pn	23 23 35.5	-0.9
OHAK				Sn	Sn	23 23 47.2	+0.2
OHAK				IAML		23 23 50.5	
	comp=N,1μm,0.8s						
Q19K	**Cape Douglas,**	**1.13**	**332**		Pn	23 23 39.1	-1.7
Q19K				Sn	Sn	23 23 54.9	-0.1
KAHG	**Katmai Hook Gl**	**1.16**	**299**		Pn	23 23 40.2	-1.1
KAHG					Sn	23 23 54.9	-1.0
KAHC	**Katmai Hardscr**	**1.44**	**300**		Pn	23 23 44.0	-1.3
KAHC					Sn	23 24 02.3	-0.7
ACHA	**Angle Creek He**	**1.46**	**282**		Pn	23 23 44.3	-1.1
ACHA				Sn	Sn	23 24 02.4	-0.9
AUCH	**Augustine Cone**	**1.49**	**344**		Pn	23 23 46.0	+0.2
SII	**Sitkinak Islan**	**1.62**	**212**		Pn	23 23 47.3	-0.4
SII				Sn	Sn	23 24 07.8	+0.5
SII				IAML		23 24 25.5	
	comp=N,598nm,0.8s						
P19K	**Oil Pt**	**1.75**	**350**		Pn	23 23 48.4	-0.9
P19K	**Oil Pt**	**1.75**	**350**		Sn	23 24 11.4	+1.1
CNPM	**China Poot**	**1.75**	**24**		Pn	23 23 48.5	-0.8
CNPM				IAML		23 24 18.6	
	comp=E,458nm,0.7s						
HOM	**Homer**	**1.80**	**16**	Pn	Pn	23 23 49.8	-0.1
P18K	**Big Mountain,**	**1.99**	**318**		Pn	23 23 50.9	-1.8
BRLK	**Bradley Lake**	**2.04**	**26**		Pn	23 23 51.5	-1.8
BRLK				IAML		23 24 25.6	
	comp=E,318nm,0.8s						
BRLK				IAML		23 24 32.5	
	comp=N,271nm,0.9s						
ILSW	**Iliamna Southw**	**2.06**	**353**	Pn	Pn	23 23 52.5	-1.2
ILSW				IAML		23 24 31.4	
	comp=E,317nm,0.7s						
ILSW				IAML		23 24 36.7	
	comp=N,222nm,0.8s						
O18K	**Koktuh Hills**	**2.34**	**326**		Pn	23 23 56.0	-1.5
O18K				IAML		23 24 37.0	
	comp=N,216nm,0.9s						
O18K				IAML		23 24 37.9	
	comp=E,175nm,0.8s						
O19K	**Port Alsworth**	**2.42**	**340**		Pn	23 23 56.9	-1.6
SEW	**Seward**	**2.72**	**36**		Pn	23 24 01.2	-1.5
SLKM	**Skilak Lake**	**2.85**	**25**		Pn	23 24 03.1	-1.4
SLKM				IAML		23 24 53.0	
	comp=E,174nm,1.2s						
SLKM				IAML		23 24 53.1	
	comp=N,132nm,1.0s						
CAPN	**Captain Cook N**	**2.93**	**14**	Pn	Pn	23 24 04.0	-1.6
O22K	**Cooper Landing**	**2.95**	**29**	Pn	Pn	23 24 04.6	-1.2
P16K	**Nushagak River**	**3.02**	**293**		Pn	23 24 06.1	-0.7
P16K				IAML		23 24 53.1	
	comp=E,152nm,1.0s						
P16K				IAML		23 25 05.9	
	comp=N,174nm,0.7s						
N19K	**Bonanza Creek**	**3.03**	**343**		Pn	23 24 06.0	-1.0
N19K				IAML		23 24 59.9	
	comp=E,127nm,0.7s						
N19K				IAML		23 25 00.1	
	comp=N,117nm,0.6s						
N18K	**Kilae Creek**	**3.22**	**330**		Pn	23 24 08.7	-0.8
N18K				IAML		23 25 06.7	
	comp=E,113nm,0.8s						
O16K	**Kokwok River B**	**3.29**	**302**		Pn	23 24 09.1	-1.4
P23K	**Montague Islan**	**3.40**	**50**	Pn	Pn	23 24 11.3	-0.6
P23K				IAML		23 24 49.9	
	comp=E,126nm,1.2s						
P23K				IAML		23 26 20.7	
	comp=N,99nm,1.1s						
RC01	**Rabbit Creek A**	**3.48**	**24**		Pn	23 24 11.7	-1.4
RC01				IAML		23 24 50.7	
	comp=N,63nm,0.9s						
RC01				IAML		23 24 51.2	
	comp=E,82nm,0.4s						
N17K	**Nushagak Hills**	**3.50**	**320**		Pn	23 24 13.1	-0.2
N17K				IAML		23 25 09.5	
	comp=E,77nm,0.7s						
STLK	**Strandline Lak**	**3.59**	**6**		Pn	23 24 13.8	-0.9
PWL	**Port Wells**	**3.66**	**35**		Pn	23 24 14.2	-1.3
PWL				IAML		23 25 23.6	
	comp=N,87nm,1.0s						
PWL				IAML		23 25 28.1	
	comp=E,100nm,0.8s						
SUA	**Susitna One**	**3.66**	**14**		Pn	23 24 14.2	-1.4
SUA				IAML		23 25 26.3	
	comp=E,92nm,0.9s						
SUA				IAML		23 26 44.6	
	comp=N,66nm,1.1s						
M20K	**Styx River**	**3.96**	**357**		Pn	23 24 18.5	-1.3
O15K	**Ungalikthiuk R**	**3.97**	**291**	Pn	Pn	23 24 18.7	-1.1
HIN	**Hinchinbrook I**	**4.00**	**49**	Pn	Pn	23 24 19.0	-1.3
PMR	**Palmer**	**4.07**	**24**	Pn	Pn	23 24 20.0	-1.1
KNK	**Knik Glacier**	**4.07**	**29**	Pn	Pn	23 24 19.9	-1.4
KNK				IAML		23 25 36.6	
	comp=N,58nm,0.7s						
GLI	**Glacier Island**	**4.08**	**41**	Pn	Pn	23 24 20.8	-0.6
GLI				IAML		23 25 38.2	
	comp=N,55nm,0.9s						
GLI				IAML		23 25 54.8	
	comp=E,60nm,1.2s						
SKT	**Skwentna**	**4.09**	**7**		Pn	23 24 20.5	-0.9
SKT				IAML		23 25 29.1	
	comp=E,47nm,0.7s						
FID	**Port Fidalgo**	**4.22**	**46**	Pn	Pn	23 24 20.6	-2.6
FID				IAML		23 25 06.2	
	comp=N,68nm,0.5s						
FID				IAML		23 25 41.8	
	comp=E,42nm,1.1s						
M17K	**Holitna River**	**4.24**	**327**		Pn	23 24 22.4	-1.2
GHO	**Glory Hole Cre**	**4.27**	**24**		Pn	23 24 22.5	-1.5
GHO				IAML		23 25 45.2	
	comp=N,59nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.39**	**51**	Pn	Pn	23 24 24.3	-1.3
L19K	**White Mountain**	**4.40**	**346**		Pn	23 24 24.3	-1.4
L19K				IAML		23 25 45.5	
	comp=E,47nm,0.9s						
L19K				IAML		23 25 45.7	
	comp=N,41nm,0.8s						
SML	**Sawmill**	**4.44**	**27**	Pn	Pn	23 24 25.3	-1.0
SML				IAML		23 25 42.4	
	comp=E,47nm,1.1s						
SML				IAML		23 25 50.0	
	comp=N,54nm,1.2s						
N15K	**Kwethluk River**	**4.46**	**303**		Pn	23 24 26.2	-0.3
N15K				IAML		23 25 51.8	
	comp=N,32nm,0.9s						
N15K				IAML		23 25 57.1	
	comp=E,44nm,1.0s						
CUT	**Chulitna**	**4.63**	**14**	Pn	Pn	23 24 28.6	-0.3
O14K	**Tigyukauivet M**	**4.71**	**290**	Pn	Pn	23 24 29.9	0.0
O14K				IAML		23 26 02.1	
	comp=N,25nm,1.1s						
SCM	**Sheep Creek Mo**	**4.73**	**32**		Pn	23 24 28.9	-1.4
SCM				IAML		23 25 49.3	
	comp=N,52nm,1.1s						
SCM				IAML		23 25 58.4	
	comp=E,55nm,0.9s						
DIV	**Divide**	**4.73**	**45**	Pn	Pn	23 24 28.4	-2.0
DIV				IAML		23 25 20.1	
	comp=N,26nm,0.8s						
L18K	**Granite Mounta**	**4.75**	**336**		Pn	23 24 29.9	-0.6
L18K				IAML		23 25 54.1	
	comp=E,44nm,1.1s						
L18K				IAML		23 26 00.5	
	comp=N,37nm,0.7s						
KLU	**Klutina**	**4.92**	**41**		Pn	23 24 31.8	-1.1
KLU				IAML		23 27 52.1	
	comp=N,39nm,0.4s						
PPLA	**Purkeypile**	**4.98**	**2**	Pn	Pn	23 24 33.3	-0.5
N14K	**Kuskokwak Cree**	**5.10**	**297**	Pn	Pn	23 24 34.5	-0.8
N14K				IAML		23 25 58.0	
	comp=N,39nm,1.1s						
N14K				IAML		23 26 39.5	
	comp=E,43nm,1.0s						
L16K	**Owhat River**	**5.12**	**320**		Pn	23 24 34.9	-0.7
L16K				IAML		23 26 05.5	
	comp=N,41nm,1.1s						
L16K				IAML		23 26 10.7	
	comp=E,29nm,0.8s						
TTA	**Tatalina**	**5.28**	**343**		Pn	23 24 36.9	-1.0
TTA				IAML		23 26 15.1	
	comp=E,20nm,1.2s						
TTA				IAML		23 26 17.4	
	comp=N,23nm,1.0s						
M24K	**Tolsona, Glenn**	**5.28**	**35**		Pn	23 24 36.9	-0.9
M24K				IAML		23 26 12.2	
	comp=N,34nm,1.1s						
M24K				IAML		23 26 18.7	
	comp=E,35nm,1.1s						
N25K	**Chitina, Valde**	**5.47**	**44**	Pn	Pn	23 24 39.9	-0.6
K20K	**Telida**	**5.48**	**353**		Pn	23 24 40.0	-0.5
CAST	**Castle Rocks**	**5.50**	**3**		Pn	23 24 40.0	-0.9
SNH	**Sunshine Point**	**5.53**	**62**	Pn	Pn	23 24 40.1	-1.1
M14K	**Bethel**	**5.54**	**304**	Pn	Pn	23 24 39.7	-1.7
WAX	**Waxell Ridge**	**5.62**	**59**	Pn	Pn	23 24 41.5	-1.0
TRF	**Thorofare Moun**	**5.64**	**11**	Pn	Pn	23 24 42.2	-0.7
GLB	**Gilahina Butte**	**5.68**	**48**	Pn	Pn	23 24 41.9	-1.4
KTH	**Kantishna Hill**	**5.69**	**8**	Pn	Pn	23 24 43.0	-0.5
VRDI	**Verde Repeater**	**5.71**	**51**	Pn	Pn	23 24 42.6	-1.2
RND	**Reindeer**	**5.79**	**17**	Pn	Pn	23 24 43.5	-1.4
J18K	**Innoko River**	**5.89**	**342**		Pn	23 24 46.2	-0.1
MESA	**MESA**	**5.95**	**63**	Pn	Pn	23 24 46.2	-1.0
M13K	**Dall Lake**	**6.04**	**299**	Pn	Pn	23 24 48.6	+0.3
MCK	**McKinley**	**6.08**	**16**	Pn	Pn	23 24 48.1	-0.7
YAH	**Yahtse**	**6.10**	**62**	Pn	Pn	23 24 48.2	-1.1
PAX	**Paxson**	**6.16**	**32**	Pn	Pn	23 24 48.8	-1.1
K15K	**Wolf Creek Mou**	**6.23**	**318**	Pn	Pn	23 24 50.9	0.0
J19K	**Poorman**	**6.25**	**348**		Pn	23 24 50.3	-0.8
J20K	**Nowinta River**	**6.30**	**354**		Pn	23 24 51.7	0.0
J17K	**VABM Dome**	**6.32**	**333**	Pn	Pn	23 24 52.2	+0.1
BWN	**Browne**	**6.44**	**12**	Pn	Pn	23 24 53.2	-0.4
M26K	**Nabesna, AK**	**6.56**	**43**	Pn	Pn	23 24 54.7	-0.7
J16K	**Anvik River**	**6.64**	**327**	Pn	Pn	23 24 55.9	-0.5
PCA	**Pinnacle**	**6.74**	**66**	Pn	Pn	23 24 57.3	-0.6
K24K	**Donnelly Dome**	**6.76**	**27**	Pn	Pn	23 24 57.5	-0.7
NEA2	**Nenana**	**6.89**	**13**	Pn	Pn	23 24 57.8	-2.1
WRH	**Wood River Hil**	**6.91**	**17**	Pn	Pn	23 24 58.4	-1.6
RIDG	**Independent Ri**	**6.94**	**30**	Pn	Pn	23 24 59.9	-0.8
M27K	**Edge Creek, AK**	**6.95**	**46**	Pn	Pn	23 24 59.5	-1.3
O28M	**Mount Upton**	**6.96**	**61**		Pn	23 25 00.5	-0.6
BCPM	**Bancas Point**	**7.02**	**68**	Pn	Pn	23 25 00.6	-1.0
HDA	**Harding Lake**	**7.04**	**21**		Pn	23 25 00.6	-1.4
DOT	**Dot Lake**	**7.09**	**33**	Pn	Pn	23 25 03.0	+0.3
CCB	**Clear Creek Bu**	**7.12**	**17**	Pn	Pn	23 25 01.7	-1.2
J14K	**Nanvaranak Lak**	**7.25**	**316**	Pn	Pn	23 25 04.7	0.0
SCRK	**Sand Creek**	**7.37**	**31**	Pn	Pn	23 25 05.8	-0.7
IL31		**7.38**	**19**		Pn	23 25 05.4	-1.2
ILAR	**Eielson Array**	**7.38**	**19**	Pn	Pn	23 25 06.0	-0.7
L27K	**Beaver Creek,**	**7.39**	**42**	Pn	Pn	23 25 05.6	-1.3
I23K	**Minto, Yukon-K**	**7.40**	**11**		Pn	23 25 04.7	-2.0
BCAR	**Beaver Creek A**	**7.41**	**42**	Pn	Pn	23 25 06.1	-1.0
J25K	**Salcha River,**	**7.55**	**24**		Pn	23 25 07.1	-1.8
O29M	**Mount Kennedy**	**7.61**	**66**		Pn	23 25 09.2	-0.6
POKR	**Poker Plat Res**	**7.61**	**17**	Pn	Pn	23 25 08.3	-1.5
H21K	**Melozitna Rive**	**7.74**	**359**	Pn	Pn	23 25 10.4	-1.1
H19K	**Roundabout Mou**	**7.83**	**348**	Pn	Pn	23 25 11.1	-1.5
H17K	**Granite Mounta**	**7.83**	**337**	Pn	Pn	23 25 10.8	-2.0
J26L	**Joseph Creek**	**7.89**	**30**	Pn	Pn	23 25 12.5	-1.2
P29M	**Windy Craggy**	**7.92**	**71**	Pn	Pn	23 25 12.6	-1.4
H24K	**Noodor Dome**	**8.23**	**14**	Pn	Pn	23 25 16.9	-1.4
HYT	**Haines Junctio**	**8.24**	**63**	Pn	Pn	23 25 16.8	-1.7
M29M	**Somme Creek**	**8.37**	**51**	Pn	Pn	23 25 19.8	-0.4
N30M	**Aishikik Lake**	**8.60**	**59**	Pn	Pn	23 25 22.5	-1.0
S31K	**Pelican**	**8.72**	**83**	Pn	Pn	23 25 23.9	-1.1
L29M	**L29M**	**8.81**	**48**	Pn	Pn	23 25 25.7	-0.6
G23K	**Bananza Creek**	**8.88**	**7**		Pn	23 25 26.3	-0.9
O30N	**Mendenhall**	**8.90**	**64**	Pn	Pn	23 25 26.1	-1.5
N31M	**Braeburn, Yuko**	**9.21**	**60**	Pn	Pn	23 25 30.1	-1.6
F20K	**Avaraart Lake**	**9.25**	**352**	Pn	Pn	23 25 32.6	+0.5
F21K	**Alatna River**	**9.32**	**358**	Pn	Pn	23 25 33.1	-0.1
COLD	**Coldfoot**	**9.39**	**6**	Pn	Pn	23 25 34.2	+0.2
K29M	**Barlow Dome**	**9.43**	**45**	Pn	Pn	23 25 34.0	-0.7
I28M	**Miner Creek**	**9.62**	**33**	Pn	Pn	23 25 36.6	-0.8
S32K	**Killisnoo**	**9.67**	**85**	Pn	Pn	23 25 36.8	-1.2
H27K	**Steamboat Moun**	**9.79**	**27**	Pn	Pn	23 25 39.5	-0.2
P32M	**Atlin**	**9.96**	**72**	Pn	Pn	23 25 40.5	-1.4
M31M	**Drury Creek, Y**	**10.05**	**57**	Pn	Pn	23 25 41.6	-1.5
E18K	**Tukpahlearik C**	**10.18**	**342**	Pn	Pn	23 25 45.0	+0.1
BMAR	**Burnt Mountain**	**10.20**	**18**	Pn	Pn	23 25 44.9	-0.4
E22K	**Anaktuvuk Pass**	**10.24**	**2**	Pn	Pn	23 25 45.5	-0.3
E24K	**Your Creek**	**10.34**	**9**	Pn	Pn	23 25 47.9	+0.7
P33M	**Teslin, Yukon**	**10.44**	**69**	Pn	Pn	23 25 47.0	-1.6
I30M	**Mount Dempster**	**10.61**	**40**	Pn	Pn	23 25 50.0	-0.9
H29M	**Whitestone**	**10.63**	**33**	Pn	Pn	23 25 51.5	+0.5
Q32M	**Nakina River**	**10.71**	**76**	Pn	Pn	23 25 51.3	-1.1
U33K	**Whale Pass**	**10.78**	**91**	Pn	Pn	23 25 51.3	-1.8
TOLK	**Toolik Lake Re**	**10.83**	**6**	Pn	Pn	23 25 54.1	+0.3
R33M	**Jennings River**	**11.36**	**73**	Pn	Pn	23 25 59.8	-1.4
C18K	**Utukok River**	**11.40**	**344**	Pn	Pn	23 26 01.2	-0.4
E27K	**Coleen River**	**11.41**	**21**	Pn	Pn	23 26 00.7	-1.0
E29M	**Blow River**	**12.37**	**26**	Pn	Pn	23 26 13.4	-1.3
C36M	**Paulatuk**	**16.85**	**36**	Pn	Pn	23 27 14.0	-0.1
A36M	**Sachs Harbour**	**17.96**	**28**		Pn	23 27 27.7	-0.2
YKAW3	**Yellowknife Wh**	**19.21**	**60**	P	P	23 27 41.4	-0.5
YKAW3				IAmb	IAmb	23 27 43.7	
	comp=Z,3.4nm,1.0s						
YKAW1	**Yellowknife Wh**	**19.27**	**60**	P	P	23 27 42.1	-0.5
YKAW1				IAmb	IAmb	23 27 57.8	
	comp=Z,2.9nm,1.1s						

*NEIC **11** 23:26:09.5±1.4,59°.86N±0°.04×153°.18W±0°.07, h119km±6km, Error ellipse: s-maj=5.6km s-min=5.2km az=178.0*

AEIC 11 23:26:10.2±1.3,59°.90N±0°.04×153°.22W±0°.07, h116km±5km,ML2.9,ML3.0/127(NEIC),Error ellipse: s-maj=5.3km s-min=5.1km az=185.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILSW	**Iliamna Southw**	**0.10**	**23**		Pn	23 26 26.1	-0.2
ILSW				Sn	Sn	23 26 38.3	-0.1
ILSW				IAML		23 26 39.1	
	comp=E,184nm,0.6s						
ILSW				IAML		23 26 39.5	
	comp=N,151nm,0.5s						
P19K	**Oil Pt**	**0.24**	**182**	Pn	Pn	23 26 26.3	-0.2
P19K				Sn	Sn	23 26 38.9	+0.1
P19K				IAML		23 26 39.5	
	comp=E,556nm,0.5s						
P19K				IAML		23 26 40.4	
	comp=N,439nm,0.7s						
O19K	**Port Alsworth**	**0.63**	**299**	Pn	Pn	23 26 28.6	0.0
O19K				Sn	Sn	23 26 42.5	+0.1
O19K				IAML		23 26 43.3	
	comp=E,249nm,0.4s						
HOM	**Homer**	**0.83**	**106**	Pn	Pn	23 26 30.1	-0.1
HOM				Sn	Sn	23 26 44.5	-0.9
HOM				IAML		23 26 46.7	
	comp=N,464nm,0.8s						
HOM				IAML		23 26 57.2	
	comp=E,372nm,1.3s						
Q19K	**Cape Douglas,**	**0.99**	**193**	Pn	Pn	23 26 31.1	-0.7
Q19K				Sn	Sn	23 26 47.6	-0.6
Q19K				IAML		23 26 52.8	
	comp=N,363nm,0.9s						
Q19K				IAML		23 26 55.5	
	comp=E,349nm,1.3s						
O18K	**Koktuh Hills**	**1.00**	**268**	Pn	Pn	23 26 31.4	-0.5
O18K				Sn	Sn	23 26 48.1	-0.2
CNPM	**China Poot**	**1.07**	**109**		Pn	23 26 32.2	-0.4
CNPM				Sn	Sn	23 26 48.6	-0.9
CNPM				IAML		23 26 49.0	
	comp=E,282nm,0.3s						
CNPM				IAML		23 26 49.1	
	comp=N,256nm,0.5s						
N19K	**Bonanza Creek**	**1.11**	**326**	Pn	Pn	23 26 33.2	+0.1
N19K				Sn	Sn	23 26 50.5	0.0
P18K	**Big Mountain,**	**1.14**	**245**	Pn	Pn	23 26 32.7	-0.6
P18K				Sn	Sn	23 26 50.3	-0.6
BRLK	**Bradley Lake**	**1.19**	**95**		Pn	23 26 33.4	-0.3
BRLK				Sn	Sn	23 26 50.9	-0.8
CAPN	**Captain Cook N**	**1.35**	**49**	Pn	Pn	23 26 35.7	+0.2
CAPN				Sn	Sn	23 26 57.7	+2.9
SYI	**Shuyak Island**	**1.36**	**161**	Pn	Pn	23 26 35.5	-0.1
SYI				Sn	Sn	23 26 54.4	-0.6
SYI				IAML		23 26 54.9	
	comp=E,211nm,1.1s						
SYI				IAML		23 26 55.6	
	comp=N,128nm,0.2s						
N18K	**Kilae Creek**	**1.55**	**302**	Pn	Pn	23 26 37.4	-0.4
SLKM	**Skilak Lake**	**1.62**	**66**		Pn	23 26 38.3	-0.4
STLK	**Strandline Lak**	**1.75**	**22**		Pn	23 26 41.4	+1.0
O22K	**Cooper Landing**	**1.84**	**70**	Pn	Pn	23 26 40.7	-0.7
SEW	**Seward**	**1.90**	**82**	Pn	Pn	23 26 41.9	-0.2
SEW				IAML		23 27 06.0	
	comp=N,80nm,0.5s						
SEW				IAML		23 27 07.7	
	comp=E,84nm,1.4s						
SUA	**Susitna One**	**1.99**	**37**	Pn	Pn	23 26 43.7	+0.4
SUA				IAML		23 27 10.9	
	comp=E,100nm,1.1s						
SUA				IAML		23 27 11.2	
	comp=N,50nm,0.5s						
M20K	**Styx River**	**1.99**	**1**	Pn	Pn	23 26 43.8	+0.4
ACHA	**Angle Creek He**	**2.01**	**214**	Pn	Pn	23 26 43.4	-0.2
N17K	**Nushagak Hills**	**2.08**	**289**	Pn	Pn	23 26 44.9	+0.5
RC01	**Rabbit Creek A**	**2.10**	**54**	Pn	Pn	23 26 44.5	-0.1
RC01				IAML		23 27 10.7	
	comp=N,130nm,0.2s						
KDAK	**Kodiak Island**	**2.15**	**171**	Pn	Pn	23 26 43.5	-1.7
KDAK				IAML		23 27 11.2	
	comp=N,80nm,1.4s						
KDAK				IAML		23 27 19.4	
	comp=N,71nm,1.4s						
SKT	**Skwentna**	**2.25**	**21**	Pn	Pn	23 26 45.8	-0.7
M22K	**Willow**	**2.40**	**38**	Pn	Pn	23 26 48.1	-0.4
M22K				IAML		23 27 20.4	
	comp=N,94nm,0.4s						
M22K				IAML		23 27 23.7	
	comp=E,75nm,1.3s						
L19K	**White Mountain**	**2.43**	**342**	Pn	Pn	23 26 48.3	-0.6
O16K	**Kokwok River B**	**2.49**	**265**	Pn	Pn	23 26 49.3	-0.2
P16K	**Nushagak River**	**2.59**	**252**	Pn	Pn	23 26 51.0	+0.2
P16K				IAML		23 28 23.7	
	comp=N,70nm,1.4s						
P16K				IAML		23 28 28.3	
	comp=E,90nm,1.3s						
PWL	**Port Wells**	**2.61**	**66**	Pn	Pn	23 26 51.2	0.0
PWL				IAML		23 27 22.4	
	comp=N,68nm,0.2s						
PWL				IAML		23 27 24.6	
	comp=E,74nm,1.0s						
PMR	**Palmer**	**2.63**	**48**	Pn	Pn	23 26 51.9	+0.5
PMR				IAML		23 27 23.9	
	comp=E,30nm,0.7s						
OHAK	**Old Harbor**	**2.68**	**181**	Pn	Pn	23 26 50.2	-1.9
OHAK				IAML		23 28 22.6	
	comp=N,52nm,0.9s						
OHAK				IAML		23 28 22.7	
	comp=E,35nm,0.9s						
KNK	**Knik Glacier**	**2.79**	**55**		Pn	23 26 52.9	-0.7
KNK				IAML		23 27 25.2	
	comp=E,48nm,0.7s						
KNK				IAML		23 27 31.6	
	comp=N,62nm,0.4s						
GHO	**Glory Hole Cre**	**2.82**	**46**	Pn	Pn	23 26 52.9	-1.0
GHO				IAML		23 27 32.2	
	comp=E,45nm,0.9s						
GHO				IAML		23 27 34.7	
	comp=N,36nm,0.4s						
CUT	**Chulitna**	**2.89**	**28**	Pn	Pn	23 26 54.0	-0.9
CUT				IAML		23 27 21.3	
	comp=E,46nm,0.4s						
CUT				IAML		23 27 43.9	
	comp=N,50nm,1.4s						
P23K	**Montague Islan**	**2.93**	**85**	Pn	Pn	23 26 53.9	-1.4
PPLA	**Purkeypile**	**3.05**	**9**	Pn	Pn	23 26 58.2	+1.2
SML	**Sawmill**	**3.06**	**49**	Pn	Pn	23 26 55.6	-1.6
SML				IAML		23 27 33.4	
	comp=E,27nm,0.7s						
SML				IAML		23 27 38.0	
	comp=N,33nm,1.0s						
GLI	**Glacier Island**	**3.19**	**69**	Pn	Pn	23 26 59.1	+0.3
GLI				IAML		23 27 44.9	
	comp=E,51nm,1.3s						
GLI				IAML		23 28 21.3	
	comp=N,51nm,1.3s						
SII	**Sitkinak Islan**	**3.39**	**189**	Pn	Pn	23 27 00.3	-1.1
HIN	**Hinchinbrook I**	**3.40**	**79**	Pn	Pn	23 27 01.1	-0.4
O15K	**Ungalikthiuk R**	**3.44**	**261**	Pn	Pn	23 27 03.0	+0.9
O15K				IAML		23 27 33.2	
	comp=E,14nm,1.4s						
O15K				IAML		23 28 31.3	
	comp=N,13nm,1.4s						
FID	**Port Fidalgo**	**3.46**	**73**	Pn	Pn	23 27 01.4	-0.9
SCM	**Sheep Creek Mo**	**3.47**	**53**	Pn	Pn	23 27 01.6	-1.0
SCM				IAML		23 27 44.8	
	comp=N,29nm,0.9s						
SCM				IAML		23 27 46.3	
	comp=E,35nm,1.2s						
CAST	**Castle Rocks**	**3.58**	**8**	Pn	Pn	23 27 03.9	0.0
EYAK	**Cordova Ski Ar**	**3.78**	**77**	Pn	Pn	23 27 05.4	-1.2
EYAK				IAML		23 27 50.3	
	comp=N,39nm,1.2s						
EYAK				IAML		23 27 50.8	
	comp=E,36nm,1.3s						
KTH	**Kantishna Hill**	**3.83**	**16**	Pn	Pn	23 27 07.1	-0.2
KTH				IAML		23 27 45.6	
	comp=N,8.4nm,1.4s						
TRF	**Thorofare Moun**	**3.83**	**20**	Pn	Pn	23 27 07.4	0.0
TRF				IAML		23 27 58.7	
	comp=E,9.7nm,1.4s						
TRF				IAML		23 28 56.9	
	comp=N,10nm,1.4s						
KLU	**Klutina**	**3.93**	**63**	Pn	Pn	23 27 07.6	-1.0
KLU				IAML		23 27 53.3	
	comp=E,29nm,0.5s						
M24K	**Tolsona, Glenn**	**4.08**	**54**

BCAR	Beaver Creek A	6.33	55	Pn	Pn	23 27 40.8	-0.1
J26L	Joseph Creek	6.46	40	Pn	Pn	23 27 42.1	-0.5
PCA	Pinnacle	6.51	83	Pn	Pn	23 27 42.6	-0.8
O28M	Mount Upton	6.53	77	Pn	Pn	23 27 43.8	0.0
G23K	Bananza Creek	6.99	10	Pn	Pn	23 27 49.2	-0.6
F20K	Avaraart Lake	7.27	352	Pn	Pn	23 27 53.7	+0.2
G24K	Hadweenzic Riv	7.30	18	Pn	Pn	23 27 53.3	-0.7
O29M	Mount Kennedy	7.33	80	Pn	Pn	23 27 56.2	+1.7
F21K	Alatna River	7.36	359	Pn	Pn	23 27 55.5	+0.7
COLD	Coldfoot	7.48	9	Pn	Pn	23 27 55.9	-0.5
M29M	Somme Creek	7.57	64		Pn	23 27 58.0	+0.2
P29M	Windy Craggy	7.82	85	Pn	Pn	23 28 01.6	+0.5
L29M	L29M	7.90	59	Pn	Pn	23 28 02.5	+0.4
F24K	Squaw Lake	8.01	15	Pn	Pn	23 28 02.6	-0.9
N30M	Aishikik Lake	8.07	72	Pn	Pn	23 28 03.3	-1.1
I28M	Miner Creek	8.26	42	Pn	Pn	23 28 06.5	-0.4
H27K	Steamboat Moun	8.27	35	Pn	Pn	23 28 06.4	-0.7
F25K	Christian Rive	8.42	20	Pn	Pn	23 28 07.7	-1.4
E24K	Your Creek	8.47	12	Pn	Pn	23 28 09.3	-0.5
BMAR	Burnt Mountain	8.47	23	Pn	Pn	23 28 09.4	-0.4
G27K	Doyon Strip	8.65	32	Pn	Pn	23 28 11.5	-0.8
F26K	Sheenjek River	8.79	23	Pn	Pn	23 28 12.7	-1.3
E25K	Arctic Village	8.90	19	Pn	Pn	23 28 14.6	-1.0
TOLK	Toolik Lake Re	8.92	9	Pn	Pn	23 28 16.0	+0.1
D23K	Nanushuk River	9.17	6	Pn	Pn	23 28 19.0	-0.3
M31M	Drury Creek, Y	9.41	68	Pn	Pn	23 28 21.8	-0.8
BESE	Bessie Mountai	9.50	90	Pn	Pn	23 28 24.8	+1.0
D25K	Kavik River	9.90	14	Pn	Pn	23 28 27.2	-1.9
C23K	Itkillik River	10.04	5	Pn	Pn	23 28 30.7	-0.2
F30M	Barrier River	10.88	37	Pn	Pn	23 28 41.5	-0.9
U33K	Whale Pass	11.30	101	Pn	Pn	23 28 47.5	-0.4

IDC 11 23:35:39.7±320.0, 37°.91N×136°.02E, h0km, Error ellipse: s-maj=118.8km s-min=82.7km az=128.0, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	ISUMI INFRASON	4.32	126	I	I	00 02 20.0	
	0.1nm,0.7s,baz=308,slow=324,SNR=2.3						
I45RU	USSURIYSK INFR	6.99	335	I	I	00 17 00.0	
	baz=152,slow=330,SNR=4.2						
I44RU	PETROPAVLOVSK	21.37	38	I	I	01 46 10.0	
	baz=235,slow=337,SNR=1.4						

IDC 11 23:39:24.1±9.8, 7°.81N×93°.26E, h0km, mb3.7/4, mbtmp3.7/5, ML4.3/1, MS2.7/1, Error ellipse: s-maj=212.8km s-min=69.8km az=139.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.94	27	Pn	Pn	23 42 16.6	+0.8
	0.6nm,0.3s,baz=205,slow=13,SNR=2.4						
CMAR				LR	LR	23 46 15.1	
	comp=Z,31nm,18.7s,baz=215,slow=34						
	0.8nm,0.3s						
H08S3	Diego Garcia H	25.77	234	T	T	00 11 40.0	
	baz=55,slow=75,SNR=9.4						
H08S2	Diego Garcia H	25.77	234	T	T	00 11 45.5	
	baz=55,slow=75,SNR=12						
H08S1	Diego Carcia H	25.79	234	T	T	00 11 38.2	
	baz=55,slow=75,SNR=8.0						
MKAR	Makanchi Array	39.97	348	P	P	23 47 00.3	-0.1
	0.6nm,0.6s,baz=170,slow=7.3,SNR=9.5						
	0.6nm,0.6s						
KURBB	Kurchatov Arra	44.40	347	P	P	23 47 36.3	-0.1
	0.5nm,0.4s,baz=164,slow=6.8,SNR=9.3						
	0.5nm,0.4s						
ZALV	Zalesovo Beam	46.51	353	P	P	23 47 52.7	-0.4
	0.4nm,0.3s,baz=163,slow=7.1,SNR=4.1						
	0.4nm,0.3s						
NOA	NORSAR Array B	79.36	331	P	P	23 51 31.8	+0.1
	0.3nm,0.7s,baz=88,slow=6.1,SNR=2.5						
	0.3nm,0.7s						

IDC 11 23:51:05.8±8.0, 19°.79S×177°.56W, h580km±85km, mb2.9/5, mbtmp3.9/6, Error ellipse: s-maj=50.2km s-min=31.6km az=66.0

ISC 11 23:51:07.0±1.2, 19°.7S±0°.2×177°.7W±0°.2, h600km, n9, σ0s83/9, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.05	258	P	P	23 54 15.7	-0.1
	3.8nm,0.8s,baz=277,slow=20,SNR=1.3						
STKA	Stephens Creek	38.43	243	P	P	23 57 38.9	-0.1
	2.0nm,0.8s,baz=78,slow=9.3,SNR=3.7						
	2.0nm,0.8s						
ASAR	Alice Springs	45.02	256	P	P	23 58 31.4	+0.6
	1.1nm,0.5s,baz=93,slow=7.7,SNR=22						
	1.1nm,0.5s						
WRA	Warramunga Arr	45.04	261	P	P	23 58 31.4	+0.4
	0.3nm,0.4s,baz=97,slow=8.6,SNR=8.3						
	0.3nm,0.4s						
QSPA	South Pole Qui	70.36	180	P	P	00 01 21.5	+0.1
	1.1nm,0.7s,baz=21,slow=0.2,SNR=7.0						
	1.1nm,0.7s						
ILAR	Eielson Array	87.47	13	P	P	00 02 52.5	+1.1
	0.2nm,0.4s,baz=207,slow=5.0,SNR=1.6						
	0.2nm,0.4s						
AKASG	Malin Array Be	142.47	332	PKP	PKPdf	00 09 31.6	-0.7
	0.8nm,0.6s,baz=48,slow=4.9,SNR=6.7						
BRTR	Keskin Array B	146.54	313	PKPbc	PKPab	00 09 44.4	-1.1
	0.3nm,0.5s,baz=90,slow=2.9,SNR=2.9						
GERES	GERESS Array B	149.52	345	PKPbc	PKiKP	00 09 49.5	-0.9
	0.8nm,0.8s,baz=47,slow=5.9,SNR=2.7						

TEH 12 00:16:27.4, 38°.42N×45°.33E, h6km±50km
IDC 12 00:16:28.6±1.3, 38°.48N×45°.28E, h0km, mb3.7/7, mbtmp3.6/11, ML3.2/3, MS3.0/5, Error ellipse: s-maj=17.0km s-min=14.8km az=173.0
NSSP 12 00:16:28.2, 38°.60N×45°.28E, h10km, Ms3.7

ISC 12 00:16:28.6±0.7, 38°.43N±0°.03×45°.30E±0°.03, h10km, n56, σ1s79/65, mb3.6/7, 1C-3D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	Shabestar	0.29	119	Pg	Pg	00 16 32.4	-2.2
IMRD	Marand	0.43	48	Pg	Pg	00 16 35.8	-1.3
ITBZ	Tabriz	0.69	106	Pg	Pg	00 16 39.9	-2.3
IAZR	Azarshahr	0.92	144	Pg	Pb	00 16 45.3	-1.6
MAKU	Maku	1.04	333	Pg	Pg	00 16 47.3	-1.4
EGVZ	Egvard	1.26	50	⇓*i*P	Pn	00 16 50.9	-1.5
EGVZ				⇑*i*S	Sg	00 17 07.6	-1.6
VAYK	Vayk	1.27	4	*i* P	Pg	00 16 51.7	-1.4
VAYK				*i* S	Sb	00 17 08.2	-1.1
IHRS	Heris	1.38	94	Pg	Pb	00 16 53.1	-1.5
NRKZ	NAREK	1.65	343	*e*P	Pb	00 16 58.0	-1.2
NRKZ				*e*S	Sb	00 17 19.3	-0.8
AYRK	Ayrk	1.73	13	⇓*i*P	Pb	00 16 59.6	-1.1
AYRK				⇓*i*S	Sb	00 17 21.7	-0.9
GNI	Garni	1.78	346	Pn	Pb	00 17 00.7	-0.7
	83nm,0.3s,baz=280,slow=2.0,SNR=260						
GNI				Lg	Lg	00 17 26.2	
	75nm,0.3s,baz=345,slow=22,SNR=5.9						
GNI				LR	LR	00 17 36.0	
	comp=Z,81nm,21.0s,baz=152,slow=39						
IHSH	Hashtrud	1.92	125	Pn	Pb	00 17 02.1	-1.7
KAPZ	Kaputan	1.95	346	*e*P	Pb	00 17 03.5	-0.9
KAPZ				*e*S	Sb	00 17 28.6	-0.2
METS	Metsamor	1.96	332	*e*P	Pb	00 17 02.7	-1.8
METS				*e*S	Sb	00 17 27.3	-1.9
VNNZ	Vanand	2.03	326	*e*P	Pg	00 17 05.7	-1.8
VNNZ				*e*S	Sg	00 17 32.4	-1.5
ARUZ	Aruch	2.08	334	*e*P	Pb	00 17 05.2	-1.3
ARUZ				*e*S	Sb	00 17 31.7	-0.7
AMBZ	Amberd	2.12	338	*e*P	Pb	00 17 06.0	-1.3
AMBZ				*e*S	Sb	00 17 33.1	-0.6
SDS1	Sardasht. Az.	2.28	176	Pn	Pb	00 17 08.2	-1.8
LSVT	Lusahovit	2.49	358	*e*P	Pb	00 17 11.7	-1.8
LSVT				*e*S	Sb	00 17 43.1	-1.2
KMOZ	Kamo	2.61	337	*e*P	Pb	00 17 13.9	-1.7
KMOZ				*e*S	Sb	00 17 47.0	-0.8
SRTK	Saratovka	2.74	344	*e*P	Pb	00 17 15.3	-2.6
SRTK				*e*S	Sb	00 17 49.3	-2.3
GAS1	Astara - Iran	2.78	90	Pn	Pb	00 17 14.8	-3.6
KARS	Kars	2.79	323	Pn	Pb	00 17 15.1	-3.5
VSHL	Vashlovani	2.93	16	P	Pg	00 17 22.3	-2.4
VSHL				S	Sg	00 18 03.3	+0.7
DGRG	David-gareji	3.02	1	P	Pb	00 17 23.4	+0.8
KZRT	Kazreti	3.04	347	P	Pb	00 17 23.6	+0.8
KZRT				S	Sg	00 18 04.0	-2.2
TRLG	Trialeti	3.24	344	P	Pb	00 17 27.2	+0.8
TBLG	Delisi	3.33	353	P	Pb	00 17 28.5	+0.7
TBLG				S	Sg	00 18 12.5	-3.0
LGD	Lagodekhi	3.48	12	P	Pb	00 17 31.2	+0.8
IDHR	Dehrash	3.82	166	Pn	Pb	00 17 31.0	-5.2
CHRG	Chargali	3.91	356	P	Pb	00 17 38.4	+0.7
KGS1	Ghasr-e-Shirin	3.92	176	Pn	Pb	00 17 32.2	-5.7
JIR1	Jirandeh	3.97	114	Pn	Pn	00 17 31.5	+1.8
HGHA	Hamedan- Ghaye	4.09	135	Pn	Pn	00 17 33.4	+2.0
IGHG	Ghaleghazi	4.21	166	Pn	Pn	00 17 36.1	+3.0
MTEO	Meteo	4.29	352	P	Pb	00 17 46.2	+1.8
TKB	Tkibuli	4.30	337	P	Pg	00 17 47.5	-3.4
GLG1	Gilan-e-Gharb	4.33	173	Pn	Pn	00 17 36.5	+1.8
QABG	Abgarm-Qazvin	4.37	127	Pn	Pn	00 17 37.6	+2.3
IGZV	Ghazvin	4.41	116	Pn	Pn	00 17 37.7	+1.8
IRAZ	Razeghan	4.78	128	Pn	Pn	00 17 43.1	+2.2
KBZ	Khabaz	5.60	342	Pn	Pn	00 17 54.0	+2.0
	1.7nm,0.9s,baz=168,slow=6.8,SNR=5.4						
KBZ				Pg	Pb	00 18 08.7	+2.2
	0.2nm,0.3s,baz=146,slow=10,SNR=8.9						
KBZ				LR	LR	00 20 12.3	
	comp=Z,95nm,19.9s,baz=133,slow=40						
BRTR	Keskin Array B	9.16	282	Pn	Pn	00 18 45.9	+4.9
	0.1nm,0.3s,baz=105,slow=14,SNR=10						
	1.0nm,0.7s						
EIL	Elat	12.23	228	LR	LR	00 24 05.3	
	comp=Z,31nm,20.2s,baz=246,slow=37						
AKTO	Aktyubinsk	15.03	33	Pn	Pn	00 20 01.2	+0.2
	0.1nm,0.3s,baz=207,slow=4.5,SNR=2.7						
	0.6nm,0.5s						
AKASG	Malin Array Be	16.74	322	Pn	Pn	00 20 22.2	-0.9
	0.4nm,0.3s,baz=124,slow=14,SNR=6.9						
	0.7nm,0.7s						
ARTI	Arti	19.97	22	LR	LR	00 30 27.9	
	comp=Z,90nm,19.0s,baz=42,slow=42						
BVAR	Borovoye Array	22.64	42	P	P	00 21 31.8	+2.2
	0.8nm,0.8s,baz=236,slow=11,SNR=3.8						
	0.8nm,0.8s						
GERES	GERESS Array B	24.96	305	P	P	00 21 53.8	+1.6
	1.2nm,0.8s,baz=108,slow=8.6,SNR=8.7						
	1.2nm,0.8s						
FINES	FINESS Array B	25.95	339	P	P	00 22 02.5	+1.5
	2.2nm,0.9s,baz=165,slow=9.8,SNR=4.9						
	2.2nm,0.9s						
KURBB	Kurchatov Arra	26.41	52	P	P	00 22 06.6	+1.4
	0.7nm,0.6s,baz=262,slow=9.3,SNR=8.4						
	0.7nm,0.6s						
MKAR	Makanchi Array	28.27	61	P	P	00 22 23.8	+1.9
	0.3nm,0.6s,baz=260,slow=9.6,SNR=3.2						
	0.3nm,0.6s						
HFS	Hagfors	29.47	328	P	P	00 22 33.5	+1.1
	1.5nm,0.8s,baz=129,slow=14,SNR=2.1						
	1.5nm,0.8s						
NOA	NORSAR Array B	30.99	328	LR	LR	00 35 56.7	
	comp=Z,14nm,19.0s,baz=290,slow=38						
EKA	Eskdalemuir Ar	36.33	314	P	P	00 23 32.0	-0.4
	1.8nm,0.8s,baz=99,slow=10,SNR=6.4						
	1.8nm,0.8s						
TORD	Torodi Ar. Bea	46.06	249	LR	LR	00 47 11.8	
	comp=Z,48nm,18.4s,baz=176,slow=40						

IDC 12 00:31:25.0±0.6, 47°.28S×13°.35W, h0km, mb4.2/10, mbtmp4.1/10, MS4.3/39, Error ellipse: s-maj=22.0km s-min=19.3km az=54.0
NEIC 12 00:31:27.6±1.3, 47°.24S±0°.09×13°.3W±0°.1, h10km±1km, mb5.0/52, Error ellipse: s-maj=17.1km s-min=13.9km az=247.0
GCMT 12 00:31:28.6±0.2, 47°.52S±0°.02×13°.08W±0°.01, h12km, MW5.0/113, Moment Tensor Solution. s37,c44; s113,c180; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.57±.07; Mθθ0.18±.09; Mφφ3.39±.06; Mrθ-1.09±.30; Mrφ0.21±.06; Mθφ0.08±.27; Best double couple: M∘3.63500×1016 NP1:φs18.00000°, δ47.00000°, λ-69.00000°. NP2:φs169.00000°, δ47.00000°, λ-111.00000°. Principal axes: T 3.4030, Plg0.0000°, Azm274.0000°; N 0.4620, Plg15.0000°, Azm184.0000°; P -3.8660, Plg75.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 12 00:31:26.7±0.3, 47°.24S±0°.08×13°.27W±0°.08, h10km, n302, σ0s93/255, mb4.9/36, MS4.2/40, 1C-5D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	Tristan da Cun	10.19	4	Pn	Pn	00 33 53.0	0.0
VNA2	Neumayer--Watz	23.93	175	⇓P	P	00 36 41.2	+0.7
	comp=Z,5.0nm,0.7s,baz=342,slow=12						
VNA3	Neumayer Olymp	24.14	177	⇓P	P	00 36 42.9	+0.4
	comp=Z,6.9nm,0.8s						
SNAA	Sanae	25.00	172	P	P	00 36 51.1	+0.8
SNAA	Sanae	25.00	172	⇓P	P	00 36 52.2	+1.9
	comp=Z,82nm,0.9s						
SNAA	Sanae	25.00	172	P	P	00 36 50.7	+0.4
	comp=Z,4.6nm,1.0s,baz=345,slow=11,SNR=4.3						
SNAA				LR	LR	00 44 04.9	
	comp=Z,208nm,20.1s,baz=356,slow=30						
	comp=Z,4.6nm,1.0s						
TROLL	Troll, Antarti	25.92	169	⇓P	P	00 36 59.0	+0.2
	comp=Z,185nm,0.8s						
SUR	Sutherland	29.82	72	LR	LR	00 46 34.6	
	comp=Z,810nm,21.4s,baz=228,slow=30						
BELA	Belgrano 2	31.84	188	P	P	00 37 50.9	-0.3
PMSA	Palmer Station	32.23	218	LR	LR	00 48 03.0	
	comp=Z,455nm,21.4s,baz=342,slow=31						
SYO	Syowa Base	33.80	149	⇑*es*P	sP	00 38 11.2	-0.5
SYO	Syowa Base	33.80	149	⇓*e*PnPn	PnPn	00 39 18.4	-2.1
USHA	Ushuaia	34.70	237	LR	LR	00 49 28.2	
	comp=Z,660nm,20.9s,baz=93,slow=31						
BOSA	Boshof	35.18	72	P	P	00 38 20.7	-0.2
	comp=Z,1.3nm,0.7s,baz=242,slow=12,SNR=3.6						
BOSA				LR	LR	00 49 39.8	
	comp=Z,863nm,21.1s,baz=226,slow=31						
	comp=Z,1.3nm,0.7s						
MG03	Isla Dawson	36.06	238	P	P	00 38 28.2	+0.1
TSUM	Tsumeb	37.62	53	P	P	00 38 42.5	+0.7
TSUM	Tsumeb	37.62	53	LR	LR	00 50 35.6	
	comp=Z,464nm,18.5s,baz=148,slow=30						
ITQB	Itaqui	37.66	282	P	P	00 38 42.9	+1.0
LBTB	Lobatse	37.90	68	LR	LR	00 51 47.4	
	comp=Z,611nm,18.8s,baz=219,slow=32						
AY03	Cochrane	39.41	247	P	P	00 38 56.7	+0.2
AY03				IAmb	IAmb	00 39 58.6	
	comp=Z,74nm,2.0s						
CPUP	Villa Florida	40.33	285	P	P	00 39 03.9	-0.4
	comp=Z,2.9nm,0.8s,baz=135,slow=7.1,SNR=7.6						
CPUP				LR	LR	00 53 12.6	
	comp=Z,348nm,20.9s,baz=144,slow=32						
	comp=Z,2.9nm,0.8s						
LL02	Futaleuf	40.63	253		P	00 39 06.8	+0.2
PLCA	Paso Flores	40.92	257	P	P	00 39 08.4	-0.8
	comp=Z,2.0nm,1.1s,baz=152,slow=16,SNR=2.9						
PLCA				LR	LR	00 54 46.0	
	comp=Z,313nm,19.1s,baz=131,slow=34						
	comp=Z,2.0nm,1.1s						
LL07	Hotel Espejo d	41.85	253	P	P	00 39 17.2	+0.5
LL03	Petrohue	41.95	256	P	P	00 39 17.1	-0.4
LL03				IAmb	IAmb	00 39 19.8	
	comp=Z,21nm,0.8s						
MAW	Mawson	42.39	147	LR	LR	00 53 18.2	
	comp=Z,292nm,21.0s,baz=276,slow=31						
BDFB	Brasilia	42.65	306	P	P	00 39 24.0	+0.5
	comp=Z,3.6nm,0.8s,baz=132,slow=5.9,SNR=6.5						
BDFB				LR	LR	00 53 57.8	
	comp=Z,663nm,18.1s,baz=147,slow=32						
	comp=Z,3.6nm,0.8s						
QSPA	South Pole Qui	43.02	180		P	00 39 26.4	+0.3
QSPA	South Pole Qui	43.02	180	P	P	00 39 25.9	-0.2
	comp=Z,6.5nm,1.0s,baz=178,slow=1.4,SNR=11						
QSPA				LR	LR	00 55 12.8	
	comp=Z,173nm,21.4s,baz=198,slow=33						
	comp=Z,6.5nm,1.0s						
H04S2	CROZET ISLANDS	43.22	115	T	T	01 26 06.0	
	baz=245,slow=75,SNR=143						
H04S3	CROZET ISLANDS	43.22	115	T	T	01 26 05.9	
	baz=245,slow=75,SNR=149						
H04S1	CROZET ISLANDS	43.24	115	T	T	01 26 06.9	
	baz=245,slow=75,SNR=177						
MT08	Bocatoma Ro	44.45	267	P	P	00 39 39.2	+1.1
MT08				IAmb	IAmb	00 39 50.6	
	comp=Z,46nm,1.9s						
BO01	Tunca	44.63	265		P	00 39 38.8	-0.4
BO01				IAmb	IAmb	00 39 55.7	
	comp=Z,30nm,1.2s						
ZON	Zonda	44.66	270	P	P	00 39 40.4	+0.8
ZON				IAmb	IAmb	00 40 12.2	
	comp=Z,54nm,2.0s						
MT16	CCHEN	44.80	267	P	P	00 39 40.3	-0.4
MT16				IAmb	IAmb	00 40 07.8	
	comp=Z,42nm,1.3s						
MT09	Talagante	44.91	266	P	P	00 39 41.8	+0.1
MT09				IAmb	IAmb	00 39 42.8	
	comp=Z,15nm,0.8s						
MT01	Popeta	45.04	266	P	P	00 39 42.5	0.0
MT01				IAmb	IAmb	00 39 49.5	
	comp=Z,39nm,1.1s						
PEL	Peldehue	45.08	267		P	00 39 42.1	-0.8
PEL				IAmb	IAmb	00 39 44.7	
	comp=Z,26nm,0.9s						
VA03	San Esteban	45.21	267	P	P	00 39 44.6	+0.6
VA03				IAmb	IAmb	00 40 09.9	
	comp=Z,24nm,1.2s						
RCBR	Riachuelo	45.61	328	P	P	00 39 47.6	+0.4
RCBR				IAmb	IAmb	00 39 49.0	
	comp=Z,22nm,0.9s						
RCBR	Riachuelo	45.61	328	LR	LR	00 55 30.1	
	comp=Z,96nm,18.1s,baz=141,slow=32						
CO01	Juntas del Tor	46.58	271		P	00 39 55.7	+0.7
CO01				IAmb	IAmb	00 40 08.4	
	comp=Z,14nm,1.1s						
LSZ	Lusaka	46.80	61	P	P	00 39 57.1	+0.4
LSZ				IAmb	IAmb	00 39 60.0	
	comp=Z,14nm,1.6s						
LSZ	Lusaka	46.80	61	LR	LR	00 57 08.5	
	comp=Z,688nm,19.6s,baz=224,slow=33						
GO04	Tololo Observa	46.94	270	P	P	00 39 58.5	+0.7
AC05	El Transito	47.41	272		P	00 40 01.6	+0.3
AC05				IAmb	IAmb	00 40 03.6	
	comp=Z,15nm,0.7s						
LCO	Las Campanas	47.59	271	P	P	00 40 02.9	0.0
LCO				IAmb	IAmb	00 40 04.1	
	comp=Z,14nm,0.9s						
AC02	Maricunga	47.91	275		P	00 40 05.9	+0.2
AC06	Mina Casimiro	48.40	273	P	P	00 40 09.5	+0.5
GO02	Mina Guanaco	49.31	276		P	00 40 16.3	0.0
GO02				IAmb	IAmb	00 40 18.7	
	comp=Z,20nm,0.7s						
PTLB	Pontes e Lacer	49.36	294		P	00 40 16.8	+0.5
SIV	San Ignacio	50.16	292	LR	LR	01 00 37.7	
	comp=Z,656nm,18.1s,baz=136,slow=35						
PB09	IPOC Station P	51.35	280	P	P	00 40 31.0	-0.5
VILB	Vilhena	51.93	295		P	00 40 36.1	+0.3
VILB				IAmb	IAmb	00 40 52.9	
	comp=Z,13nm,0.8s						
PB01	IPOC Station P	52.03	280	P	P	00 40 37.0	+0.4
PB01				IAmb	IAmb	00 40 49.2	
	comp=Z,15nm,1.0s						
FOMA	Nahampoana Res	52.11	87	P	P	00 40 37.2	+0.2
PB08	IPOC Station P	52.44	281	P	P	00 40 40.8	+0.9
PB08				IAmb	IAmb	00 40 49.2	
	comp=Z,54nm,2.0s						
GO01	Chusmiza	52.79	281		P	00 40 43.6	+0.9
HMBC	Humberstone	52.83	280	P	P	00 40 42.8	+0.2
HMBC				IAmb	IAmb	00 40 44.3	
	comp=Z,15nm,0.9s						
PB11	IPOC Station P	53.04	281		P	00 40 44.3	+0.2
PB11				IAmb	IAmb	00 40 45.8	
	comp=Z,25nm,0.9s						
DBIC	Dimbokro	54.19	10	LR	LR	00 57 54.4	
	comp=Z,176nm,20.2s,baz=155,slow=29						
LPAZ	La Paz	54.50	285	P	P	00 40 53.9	-1.5
	comp=Z,1.1nm,0.8s,baz=133,slow=4.4,SNR=3.8						
LPAZ				LR	LR	01 02 44.4	
	comp=Z,379nm,21.4s,baz=116,slow=34						
	comp=Z,1.1nm,0.8s						
SBA	Scott Base	55.18	180	P	P	00 41 00.6	+1.7
VNDA	Vanda	55.48	179	P	P	00 41 02.0	+1.0
VNDA	Vanda	55.48	179	P	P	00 41 00.3	-0.7
	comp=Z,2.1nm,0.9s,baz=216,slow=7.4,SNR=11						
VNDA				LR	LR	01 02 27.5	
	comp=Z,136nm,21.8s,baz=168,slow=34						
	comp=Z,2.1nm,0.9s						
OPO	Ambohidratompo	56.61	81	LR	LR	01 01 10.5	
	comp=Z,213nm,21.5s,baz=333,slow=32						
MBAR	Mbarara	60.15	53	P	P	00 41 35.0	+0.2
TORD	Torodi Ar. Bea	61.59	17		P	00 41 43.8	-0.4
TORD				IAmb	IAmb	00 41 46.9	
	comp=Z,7.3nm,1.1s						
TORD	Torodi Ar. Bea	61.59	17	LR	LR	01 04 22.4	
	comp=Z,116nm,19.0s,baz=189,slow=32						
BBTS	Babate	61.68	356	LR	LR	01 03 51.5	
	comp=Z,104nm,19.0s,baz=44,slow=32						
MDP	Montagnes des	62.61	315	LR	LR	01 05 22.2	
	comp=Z,329nm,21.6s,baz=145,slow=32						
NNA	Nana	63.40	281	LR	LR	01 08 32.0	
	comp=Z,211nm,21.3s,baz=148,slow=35						
KMBO	Kilima Mbogo	63.42	60	LR	LR	01 06 56.3	
	comp=Z,206nm,20.7s,baz=262,slow=34						
ATAH	Atahualpa	67.99	284	LR	LR	01 09 53.7	
	comp=Z,138nm,19.3s,baz=150,slow=34						
TAM	Tamanrasset	71.74	18	P	P	00 42 49.5	+0.5
PCRV	Puerto La Cruz	73.12	307	LR	LR	01 12 31.5	
	comp=Z,735nm,19.9s,slow=34						
OTAV	Otavalo	73.56	289	P	P	00 43 01.5	+0.9
ROSC	El Rosal	74.49	295	LR	LR	01 14 26.0	
	comp=Z,392nm,18.9s,baz=166,slow=35						
RUSC	La Rusia	74.56	297	P	P	00 43 05.4	-1.0
MPOM	Morne Pois Mar	74.70	312

CLL	Collm	100.73	16	eSdif	Sdif	00 56 51.0	-0.4
PPT2	Papeete2	104.48	223	eLR	LR	01 19 47.3	
	comp=Z,228nm,30.5s						
PPT2				eLR	LR	01 19 53.2	
	comp=Z,122nm,34.0s						
TAOE	Nuku Hiva Isla	106.99	236	eLR	LR	01 21 03.5	
	comp=Z,178nm,26.2s						
DZM	Mont Dzumac	111.02	180	eLR	LR	01 22 52.5	
	comp=Z,116nm,23.8s						
CMAR	Chiang Mai Arr	118.35	93	PKP	PKiKP	00 50 14.1	-0.4
	comp=Z,1.1nm,0.3s,baz=236,slow=3.3,SNR=4.7						
PDAR	Pinedale Array	123.38	299	PKP	PKPdf	00 50 22.6	-1.1
	comp=Z,1.1nm,0.8s,baz=120,slow=3.6,SNR=11						
HWUT	Hardware Ranch	123.91	297		PKiKP	00 50 25.4	+0.4
MOOW	Moose Ponds	124.65	299	PKPdf	PKiKP	00 50 26.1	-0.3
HVU	Hansel Valley	124.75	296	PKPdf	PKPdf	00 50 25.9	-0.4
FXWY	Fox Creek	124.75	299	PKPdf	PKiKP	00 50 26.5	-0.2
MKAR	Makanchi Array	125.25	57	PKP	PKPdf	00 50 25.9	-1.0
	comp=Z,0.8nm,1.0s,baz=270,slow=2.4,SNR=5.4						
KURBB	Kurchatov Arra	125.30	51	PKP	PKPdf	00 50 26.4	-0.3
	comp=Z,1.0nm,0.8s,baz=238,slow=2.5,SNR=9.8						
PZH	PanZhiHua	125.67	88	PKP	PKiKP	00 50 28.8	0.0
ELK	Elko	125.68	294		PKiKP	00 50 29.5	+0.9
WMQ	Urumqi	126.79	63	ePKP	PKiKP	00 50 31.0	+0.6
WMQ				sPKP		00 50 47.1	
BLKN	Baker Lake	128.40	327		PKPdf	00 50 32.1	-0.1
BEKR	Beckworth	128.42	290	PKPdf	PKiKP	00 50 34.3	+0.3
PLID	Pearl Lake	128.53	298	PKPdf	PKiKP	00 50 33.8	-0.3
BMO	Blue Mountains	129.20	297		PKiKP	00 50 35.5	+0.2
YKA	Yellowknife Ar	135.27	320	PKP	PKPdf	00 50 44.7	-0.6
	comp=Z,1.5nm,0.8s,baz=114,slow=2.5,SNR=20						
SONM	Songino Array	140.18	66	PKP	PKPdf	00 50 55.4	+0.3
	comp=Z,0.9nm,0.8s,baz=199,slow=3.1,SNR=5.0						
HHC	Hu-ho-hao-te	140.55	78	eP	PKPdf	00 50 53.4	-2.5
NJ2	Nanjing	140.77	95	eP	PKPdf	00 50 56.1	-0.3
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
F31M	Tsiigehtchic	143.95	326		PKPpre	00 50 58.3	
WHY	Whitehorse	144.38	314		PKPdf	00 51 01.1	-1.0
F30M	Barrier River	144.72	326	P	PKPab	00 50 58.5	-2.7
	baz=84						
S31K	Pelican	144.77	309	P	PKPab	00 51 00.6	-1.0
	baz=98						
N31M	Braeburn, Yuko	144.87	315	P	PKPab	00 51 00.9	-1.1
	baz=93						
XLT	XiLinHaoTe	144.89	76	ePKP	PKPdf	00 51 02.9	-0.6
G30M	tAoh Zraii Nji	144.95	325	P	PKPab	00 51 01.9	-0.2
	baz=85						
O30N	Mendenhall	144.98	314	P	PKPbc	00 51 02.0	-0.4
	baz=94						
PLBC	Pleasant Camp	145.01	312	P	PKPdf	00 51 03.3	+0.3
	baz=95						
I30M	Mount Dempster	145.14	322	P	PKPdf	00 51 03.6	+0.4
	baz=87						
J30M	Hart River	145.15	321	P	PKPdf	00 51 03.9	+0.6
	baz=88						
EPYK	Eagle Plains	145.21	324	P	PKPdf	00 51 03.5	+0.3
	baz=85,SNR=13						
P30M	Million Dollar	145.37	313	P	PKPab	00 51 04.3	+0.5
	baz=94						
E29M	Blow River	145.41	328	P	PKPab	00 51 04.2	+0.6
	baz=81						
N30M	Aishikik Lake	145.50	315	P	PKPdf	00 51 03.4	-0.5
	baz=92						
D28M	Stokes Point	145.55	329	P	PKPab	00 51 04.0	-0.1
	baz=79						
G29M	Pine Creek	145.66	325	P	PKPbc	00 51 04.0	-0.3
	baz=83,SNR=9.4						
HYT	Haines Junctio	145.67	314		PKiKP	00 51 06.4	-1.9
HYT	Haines Junctio	145.67	314	P	PKPdf	00 51 03.9	-0.4
	baz=92						
K29M	Barlow Dome	145.69	319	P	PKPab	00 51 05.1	+0.1
	baz=88,SNR=6.6						
P29M	Windy Craggy	145.72	312	P	PKPab	00 51 04.8	-0.3
	baz=94						
H29M	Whitestone	145.88	324	P	PKPab	00 51 05.6	+0.1
	baz=84,SNR=14						
E28M	Babbage River	145.97	328	P	PKPab	00 51 05.6	-0.2
	baz=79						
J29N	Klondike Camp	145.97	321	P	PKPab	00 51 05.5	-0.5
	baz=86,SNR=11						
L29M	L29M	145.99	318	P	PKPab	00 51 05.5	-0.6
	baz=89,SNR=7.9						
M29M	Somme Creek	146.16	317	P	PKPab	00 51 06.3	-0.5
	baz=89,SNR=10						
YUK4	Talbot Arm	146.24	315	P	PKPbc	00 51 06.1	-0.4
	baz=91,SNR=6.0						
D27M	Malcolm River	146.34	329	P	PKPdf	00 51 05.3	+0.2
	baz=77						
DAWY	Dawson	146.51	320		PKPab	00 51 07.5	-0.6
DAWY	Dawson	146.51	320	P	PKPbc	00 51 06.1	-0.9
	baz=86,SNR=5.2						
PNL	Peninsula	146.57	312	P	PKPdf	00 51 06.0	+0.2
	baz=93						
I28M	Miner Creek	146.61	322	P	PKPdf	00 51 05.8	0.0
	baz=83,SNR=9.4						
YUK8	Steele Glacier	146.78	315	P	PKPdf	00 51 06.3	0.0
	baz=90,SNR=10						
E27K	Coleen River	146.80	328	P	PKPab	00 51 08.2	-0.8
	baz=78						
O28M	Mount Upton	146.99	314	P	PKPbc	00 51 07.7	-1.1
	baz=90						
PINM	Pinnacle	147.01	313	P	PKPdf	00 51 06.4	-0.1
	baz=91						
G27K	Doyon Strip	147.10	325	P	PKPbc	00 51 07.6	-1.0
	baz=80						
YUK3	Moose Creek	147.11	316	P	PKPbc	00 51 07.9	-1.1
	baz=88						
H27K	Steamboat Moun	147.15	324		PKPbc	00 51 08.4	-0.4
H27K	Steamboat Moun	147.15	324	P	PKPbc	00 51 07.7	-1.1
	baz=80,SNR=16						
C27K	Jago River	147.18	331	P	PKPbc	00 51 07.5	-1.2
	baz=73						
BVCY	Beaver Creek	147.27	317	P	PKPbc	00 51 08.2	-1.0
	baz=87						
I27K	Kandik River	147.28	323	P	PKPdf	00 51 07.4	+0.6
	baz=81,SNR=15						
C26K	Camden Bay	147.48	331	P	PKPbc	00 51 08.5	-1.0
	baz=71						
BCAR	Beaver Creek A	147.65	318		PKPbc	00 51 08.6	-1.7
L27K	Beaver Creek,	147.67	318	P	PKPbc	00 51 09.6	-0.7
	baz=85						
K27K	Chicken	147.69	320	P	PKPbc	00 51 09.7	-0.6
	baz=83						
F26K	Sheenjek River	147.85	327	P	PKiKP	00 51 11.7	-0.9
	baz=76						
G26K	Porcupine Rive	147.90	326	P	PKiKP	00 51 11.4	-1.2
	baz=77						
I26K	Coal Creek Min	147.97	323	P	PKiKP	00 51 11.7	-1.0
	baz=80						
BMAR	Burnt Mountain	148.08	327		PKPbc	00 51 11.1	-0.1
D25K	Kavik River	148.16	331	P	PKiKP	00 51 12.4	-0.8
	baz=71						
E25K	Arctic Village	148.26	328	P	PKiKP	00 51 12.2	-1.2
	baz=73						
M26K	Nabesna, AK	148.27	317	P	PKPbc	00 51 12.2	+0.3
	baz=85						
J26L	Joseph Creek	148.27	321	P	PKiKP	00 51 12.4	-1.1
	baz=81,SNR=9.2						
L26K	Log Cabin Wild	148.37	318	P	PKiKP	00 51 13.0	-0.8
	baz=84						
F25K	Christian Rive	148.43	327	P	PKPbc	00 51 12.6	+0.4
	baz=74,SNR=11						
SCRK	Sand Creek	148.53	320	P	PKiKP	00 51 13.1	-1.1
	baz=82						
BGLC	Bering Glacier	148.53	313	P	PKiKP	00 51 13.2	-0.8
	baz=89						
C24K	Franklin Bluff	148.78	332	P	PKPbc	00 51 11.4	-1.5
	baz=67						
G25K	Bearman Lake	148.83	326	P	PKPbc	00 51 12.3	-0.8
	baz=75						
H25L	Birch Creek	148.84	325	P	PKPbc	00 51 12.3	-0.9
	baz=76						
RIDG	Independent Ri	148.94	320	P	PKPbc	00 51 11.9	-1.7
	baz=81						
J25K	Salcha River,	149.02	322	P	PKPbc	00 51 12.6	-1.2
	baz=79						
D24K	Happy Valley	149.04	331	P	PKPbc	00 51 12.6	-1.0
	baz=68						
N25K	Chitina, Valde	149.09	316	P	PKPbc	00 51 13.5	-0.6
	baz=85						
BMRM	Bremner River	149.14	314	P	PKPbc	00 51 13.9	-0.3
	baz=86						
F24K	Squaw Lake	149.28	328	P	PKiKP	00 51 14.6	-0.9
	baz=72,SNR=12						
E24K	Your Creek	149.31	329	P	PKiKP	00 51 15.0	-0.6
	baz=70						
PAX	Paxson	149.34	318	P	PKPbc	00 51 14.7	0.0
	baz=82						
C23K	Itkillik River	149.34	333	P	PKPbc	00 51 13.1	-1.2
	baz=65						
G24K	Hadweenzic Riv	149.37	326	P	PKPbc	00 51 13.4	-1.1
	baz=74						
TOLK	Toolik Lake Re	149.49	330	P	PKPbc	00 51 14.1	-0.7
	baz=68						
ILAR	Eielson Array	149.62	322		PKPbc	00 51 14.2	-1.0
ILAR	Eielson Array	149.62	322	PKPbc	PKPbc	00 51 14.6	-0.6
	comp=Z,8.9nm,0.7s,baz=2.7,slow=1.2,SNR=75						
E23K	Chandalar	149.72	329	P	PKPbc	00 51 15.0	-0.4
	baz=69						
HDA	Harding Lake	149.73	321	P	PKPbc	00 51 15.2	-0.3
	baz=78,SNR=8.3						
D23K	Nanushuk River	149.73	331	P	PKPbc	00 51 15.3	0.0
	baz=66						
KLU	Klutina	149.73	316	P	PKiKP	00 51 16.1	-0.5
	baz=84						
EYAK	Cordova Ski Ar	149.73	314	P	PKiKP	00 51 15.9	-0.7
	baz=86						
H24K	Noodor Dome	149.77	324	P	PKiKP	00 51 16.0	-0.6
	baz=74						
POKR	Poker Plat Res	149.77	323	P	PKiKP	00 51 16.3	-0.2
	baz=76						
M24K	Tolsona, Glenn	149.78	317	P	PKPbc	00 51 14.9	-0.9
	baz=82						
KSAR	Wonju Array Be	149.94	95		PKPbc	00 51 16.4	-0.4
B22K	Teshekpuk Lake	149.97	334	P	PKPbc	00 51 14.9	-1.0
	baz=61						
KSRS	Korea Array	149.97	95	PKPbc	PKPbc	00 51 16.5	-0.4
	comp=Z,4.7nm,0.8s,baz=250,slow=3.1,SNR=16						
COLA	College	150.00	323	P	PKPbc	00 51 14.7	-1.4
	baz=76						
A22K	Sinclair Lake	150.07	336	P	PKPbc	00 51 16.1	0.0
	baz=58						
COLD	Coldfoot	150.22	328	P	PKPbc	00 51 16.3	-0.2
	baz=70,SNR=11						
G23K	Bananza Creek	150.33	327	P	PKPbc	00 51 16.8	-0.1
	baz=71						
A21K	Barrow	150.34	337	P	PKPbc	00 51 16.5	-0.2
	baz=55						
SCM	Sheep Creek Mo	150.35	316	P	PKPbc	00 51 16.3	-0.9
	baz=82						
GLI	Glacier Island	150.36	314	P	PKPbc	00 51 16.3	-0.8
	baz=84						
D22K	Ayikyak River	150.42	331	P	PKPbc	00 51 15.8	-1.2
	baz=64						
H23K	Yukon River	150.43	325	P	PKPbc	00 51 16.4	-0.8
	baz=73						
E22K	Anaktuvuk Pass	150.45	330		PKPbc	00 51 16.9	-0.3
E22K	Anaktuvuk Pass	150.45	330	P	PKiKP	00 51 17.9	0.0
	baz=66						
M23K	Glacier View	150.55	316	P	PKPbc	00 51 17.1	-0.4
	baz=82						
I23K	Minto, Yukon-K	150.55	323	P	PKiKP	00 51 17.6	-0.5
	baz=74						
NEA2	Nenana	150.58	322	P	PKiKP	00 51 17.8	-0.4
	baz=75						
P23K	Montague Islan	150.60	313	P	PKPbc	00 51 16.7	-1.0
	baz=85						
B21K	Ikpikpuk River	150.68	333	P	PKiKP	00 51 17.8	-0.4
	baz=60						
MCK	McKinley	150.73	321		PKiKP	00 51 19.6	+1.1
MCK	McKinley	150.73	321	P	PKPbc	00 51 17.7	-0.3
	baz=77,SNR=5.2						
G22K	Bettles	150.81	327	P	PKPbc	00 51 17.8	-0.2
	baz=68						
F22K	John River	150.83	329	P	PKiKP	00 51 18.1	-0.6
	baz=67						
SML	Sawmill	150.83	317	P	PKPbc	00 51 17.8	-0.4
	baz=81						
KNK	Knik Glacier	150.95	316	P	PKPbc	00 51 18.0	-0.5
	baz=82						
C21K	Kniefelade Rid	150.96	333	P	PKPbc	00 51 18.0	-0.3
	baz=61						
PWL	Port Wells	150.97	315	P	PKPbc	00 51 16.2	-2.4
	baz=83						
E21K	Killik River	151.04	331	P	PKPbc	00 51 17.3	-1.2
	baz=63						
H22K	Ishtalitna Cre	151.12	325	P	PKPbc	00 51 18.2	-0.5
	baz=70						
B20K	Meade River	151.23	335	P	PKiKP	00 51 19.2	-0.1
	baz=56						
PMR	Palmer	151.24	316	P	PKPbc	00 51 18.4	-0.7
	baz=80						
TRF	Thorofare Moun	151.38	320	P	PKPbc	00 51 18.4	-1.3
	baz=76,SNR=9.2						
F21K	Alatna River	151.40	329	P	PKPbc	00 51 17.6	-1.8
	baz=66						
BPAW	Bear Paw Mtn.	151.51	322	P	PKPbc	00 51 17.5	-2.2
	baz=74						
RC01	Rabbit Creek A	151.61	315	P	PKPbc	00 51 17.7	-2.3
	baz=81						
SEW	Seward	151.61	313	P	PKPbc	00 51 17.4	-2.6
	baz=83						
M22K	Willow	151.68	317	P	PKPbc	00 51 18.3	-1.8
	baz=79						
O22K	Cooper Landing	151.69	314	P	PKPbc	00 51 19.4	-0.8
	baz=82						
G21K	Allakaket	151.70	327	P	PKPbc	00 51 18.6	-1.5
	baz=67						
H21K	Melozitna Rive	151.76	325	P	PKPbc	00 51 19.7	-0.5
	baz=69,SNR=11						
D20K	Etivluk River	151.76	333		PKiKP	00 51 20.4	-0.2
D20K	Etivluk River	151.76	333	P	PKPbc	00 51 19.5	-0.7
	baz=59						
E20K	Nigu River	151.85	332	P	PKPbc	00 51 19.9	-0.6
	baz=60						
SUA	Susitna One	152.02	316	P	PKPbc	00 51 20.1	-1.0
	baz=79						
CHUM	Lake Minchumin	152.14	322	P	PKPbc	00 51 19.2	-1.9
	baz=73,SNR=6.0						
CAST	Castle Rocks	152.17	321	P	PKPbc	00 51 20.9	-0.4
	baz=74						
A19K	Wainwright	152.20	337	P	PKPbc	00 51 19.6	-1.5
	baz=51						
F20K	Avaraart Lake	152.27	329	P	PKPbc	00 51 20.2	-1.1
	baz=63						
SKT	Skwentna	152.28	317	P	PKPbc	00 51 20.3	-1.3
	baz=77						
BRSE	Bradley Lake S	152.30	313	P	PKPbc	00 51 20.0	-1.6
	baz=82						
D19K	Kuna River	152.34	333	P	PKPbc	00 51 20.9	-0.7
	baz=58						
PPLA	Purkeypile	152.36	320	P	PKPbc	00 51 20.9	-0.9
	baz=75						
E19K	Redstone River	152.59	330		PKiKP	00 51 22.3	0.0
E19K	Redstone River	152.59	330	P	PKPbc	00 51 21.2	-0.8
	baz=60						
H20K	Amoneneega Mo	152.62	326	P	PKPbc	00 51 19.9	-2.2
	baz=67,SNR=6.8						
I20K	Naaghedeneel	152.72	324	P	PKPbc	00 51 20.6	-1.7
	baz=69						
J20K	Nowinta River	152.81	323	P	PKiKP	00 51 22.6	-0.2
	baz=70						
B18K	Kokolik River	152.92	336	P	PKiKP	00 51 23.0	+0.2
	baz=51						
M20K	Styx River	153.04	318	P	PKPbc	00 51 21.9	-1.4
	baz=76						
K20K	Telida	153.04	321	P	PKPbc	00 51 22.2	-1.0
	baz=72						
F19K	Shaleruckik Mo	153.08	330		PKiKP	00 51 22.9	-0.4
F19K	Shaleruckik Mo	153.08	330	P	PKPbc	00 51 22.2	-0.9
	baz=61						
G19K	Purcell Mounta	153.17	328	P	PKPbc	00 51 22.1	-1.3
	baz=63						
C18K	Utukok River	153.19	334	P	PKPbc	00 51 22.9	-0.5
	baz=53						
H19K	Roundabout Mou	153.20	326		PKiKP	00 51 24.7	+1.1
H19K	Roundabout Mou	153.20	326	P	PKiKP	00 51 23.7	+0.2
	baz=65						
L20K	Farewell, AK	153.22	319	P	PKiKP	00 51 23.5	-0.3
	baz=74						
Q20K	Shuyak Island	153.29	310	P	PKiKP	00 51 23.6	-0.4
	baz=83						
J19K	Poorman	153.48	323	P	PKiKP	00 51 24.8	+0.6
	baz=69						
KDAK	Kodiak Island	153.49	309	P	PKPbc	00 51 22.8	-1.5
	baz=84						
M19K	Big River Lodg	153.61	318	P	PKPbc	00 51 22.4	-2.0
	baz=74						
GCSA	Galena City Sc	153.69	325	P	PKPbc	00 51 21.8	-2.7
	baz=66						
E18K	Tukpahlearik C	153.72	332	P	PKPbc	00 51 21.5	-3.0
	baz=56						
L19K	White Mountain	153.74	319	P	PKPbc	00 51 23.7	-1.1
	baz=73						
F18K	Selawik	153.85	330	P	PKPbc	00 51 23.6	-1.2
	baz=59						
G18K	Tagagawik	153.85	328	P	PKPbc	00 51 23.3	-1.6
	baz=61						
Q19K	Cape Douglas,	153.89	311	P	PKPbc	00 51 24.2	-1.0
	baz=81						
OHAK	Old Harbor	153.92	307	P	PKPbc	00 51 24.7	-0.4
	baz=85						
N19K	Bonanza Creek	153.93	316	P	PKPbc	00 51 24.5	-0.8
	baz=76						
O19K	Port Alsworth	154.00	314	P	PKPbc	00 51 24.3	-0.9
	baz=78						
TTA	Tatalina	154.02	321	P	PKPbc	00 51 24.1	-1.3
	baz=70						
H18K	Honhosa River	154.09	326	P	PKPbc	00 51 24.7	-0.7
	baz=63						
J18K	Innoko River	154.13	322	P	PKPbc	00 51 24.5	-1.0
	baz=68						
E17K	Hotham Inlet	154.30	332	P	PKPbc	00 51 24.2	-1.6
	baz=55						
D17K	Noatak River	154.33	334	P	PKiKP	00 51 25.6	-0.2
	baz=52						
SII	Sitkinak Islan	154.46	306	P	PKiKP	00 51 26.3	-0.2
	baz=85						
P18K	Big Mountain,	154.61	313	P	PKiKP	00 51 27.3	+0.6
	baz=78						
G17K	Kiwalik Mounta	154.76	328	P	PKiKP	00 51 27.8	+1.0
	baz=60						

UPA **12** *00:48:31.8±6.0, 7°.55N×82°.79W, h0km±33km, MW5.0*
UCR **12** *00:48:31.8±1.1, 7°.49N×82°.61W, h1km±7km, MW5.0*
NEIC **12** *00:48:37.2±1.9, 7°.83N±0°.07×82°.66W±0°.07, h10km±1km, mb4.6/11, Error ellipse: s-maj=15.0km s-min=7.9km az=227.0*
IDC **12** *00:48:37.6±1.1, 8°.54N×82°.23W, h0km, mb3.9/8, mbtmp3.9/11, ML4.0/2, MS3.5/13, Error ellipse: s-maj=35.3km s-min=16.1km az=32.0*
CATAC **12** *00:48:38.2±2.2, 8°N±17°×8°3W±°, h10km, M4.9/14, mb5.1/5, mB5.1/5, MLv5.0/14, Mw(mB)4.4/5, confirmed*
ISC 12 00:48:33.2±1.6,**7°.60N**±0°.05×**82°.58W**±0°.03,**h3**km±10km,
n225,σ1$**31**/221,**mb4.5**/56,**MS3.7**/8,**8C-9D**,**South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	David	0.84	8	*i* P	Pb	00 48 50.4	-0.1
DVD				*e*S	Sn	00 49 07.2	+2.3
LOMA3	Las Lomas, Chi	0.85	12⇑	*e*P	Pn	00 48 50.6	-1.5
LPPC	Paso Canoas	0.96	344	*e*P	Pg	00 48 51.6	-0.1
CDITO	Canoas	1.01	343	P	Pb	00 48 52.7	-0.7
PTAR3	Potrerillos Ar	1.09	4⇑	*i*P	Pb	00 48 54.2	-0.6
PTAR3				*i* S	Sn	00 49 11.4	+0.2
PIRO	Carate, Puerto	1.10	317⇑	*i*P	Pb	00 48 53.2	-1.7
PIRO				*e*S	Sn	00 49 09.7	-1.6
JIME	Puerto Jimenez	1.19	322	*e*P	Pb	00 48 55.2	-1.3
JIME				*e*S	Sn	00 49 11.9	-1.6
LNBQ3	Los Naranjos,	1.19	6	*e*P	Pb	00 48 55.5	-1.1
LNBQ3				*e*S	Sb	00 49 10.9	-1.6
BRU2	Volcan	1.19	355		Pb	00 48 55.7	-0.9
BRU2	Volcan	1.19	355	*e*P	Pb	00 48 55.6	-0.9
BRU2	Volcan	1.19	355⇑	*i*P	Pb	00 48 55.7	-0.9
BRU2				*i* S	Sn	00 49 17.6	+3.8
BRU2	Volcan	1.19	355	P	Pb	00 48 55.7	-0.9
EDAD	Golfito	1.20	331	*e*P	Pb	00 48 54.6	-2.0
BC3P	Paso Ancho	1.21	358⇑	*e*P	Pb	00 48 55.8	-1.1
BC3P				*i* S	Sn	00 49 15.0	+0.8
GMAL	Guarumal, Vera	1.34	83	*e*P	Pn	00 48 56.5	-2.4
GMAL	Guarumal, Vera	1.34	83	*e*P	Pn	00 48 56.6	-2.3
ALCO	Alturas Coton,	1.37	349	*e*P	Pn	00 48 57.9	-1.5
CHGR2	Aguacate	1.40	18	*e*P	Pn	00 48 58.4	-1.2
CHGR2				*i* S	Sn	00 49 15.7	-3.0
MESA3	La Mesa, Verag	1.48	68⇓	*e*P	Pb	00 49 00.5	-1.0
EDP2	Potrero Grande	1.53	337	*e*P	Pn	00 49 00.9	-0.5
MARI3	Mariato, Verag	1.57	88⇓	*e*P	Pn	00 49 01.2	-0.8
FIMO	Fila Mora	1.58	331	*e*P	Pn	00 49 01.3	-1.0
STIA3	Santiago, Vera	1.67	72	*e*P	Pb	00 49 03.5	-1.1
CACAO	El Cacao, Vera	1.72	98	*e*P	Pn	00 49 02.6	-1.4
CACAO				*e*S	Sn	00 49 23.0	-3.5
BURE	Buenos Aires	1.74	334	*e*P	Pn	00 49 04.2	-0.1
OCHAL	Ojochal	1.83	325	P	Pn	00 49 04.7	-0.9
CALO3	Calobre, Verag	1.86	67	*e*P	Pb	00 49 06.7	-1.3
CALO3				*i* S	Sb	00 49 31.4	-0.2
SAJE	San Jernim	1.97	332	*e*P	Pn	00 49 06.5	-1.1
PESE3	Pese, Herrera	1.97	81⇓	*i*P	Pn	00 49 07.2	-0.3
BRIBI	Bribri	2.02	353	*e*P	Pb	00 49 09.0	-1.7
CEUA	Cerro Uatsi, L	2.04	350	*e*P	Pb	00 49 10.2	-0.9
CHIT3	Chitre	2.17	80	*e*P	Pn	00 49 09.8	-0.4
BUS1	Rivas	2.26	329	*e*P	Pn	00 49 11.3	-0.6
AZU	Azuero	2.29	85	*e*P	Pn	00 49 11.0	-0.9
AZU	Azuero	2.29	85⇑	*e*P	Pn	00 49 11.3	-0.6
AZU				*i* S	Sg	00 49 47.6	+0.7
ACHO3	Achotines, Los	2.39	94⇓	*e*P	Pn	00 49 12.5	-0.8
ACHO3				*e*S	Sg	00 49 51.7	+1.7
PIEC	Cerro El Cedra	2.43	326	*e*P	Pn	00 49 13.6	-0.5
PCRI3	Pocri, Los San	2.44	88	*e*P	Pb	00 49 17.5	-0.2
PEDA3	Pedasi	2.53	91	*e*P	Pb	00 49 18.2	-1.1
PISJ	San Jernim	2.54	323	*e*P	Pn	00 49 14.9	-0.5
LCR2	La Lucha 2	2.56	327	*e*P	Pn	00 49 15.2	-0.6
VTCV	VTCV, Calle Va	2.63	334	*e*P	Pn	00 49 17.0	+0.3
CVTV	Tajo	2.66	334	*e*P	Pn	00 49 17.7	+0.4
VICA	Volcano Irazu	2.68	332	*e*P	Pn	00 49 17.4	-0.3
CVTG	V. Turrialba,	2.80	335	*e*P	Pn	00 49 19.6	+0.7
HDC	Heredia	2.83	328		Pn	00 49 19.2	-0.3
HEME	Heredia, Merce	2.84	327	*e*P	Pn	00 49 19.9	+0.3
VBV1	V. Barva	2.92	329	*e*P	Pn	00 49 20.8	-0.1
TCS1	Tacares	2.97	325	P	Pn	00 49 22.2	+0.9
VPS8	V Poas	3.05	327	*e*P	Pn	00 49 23.0	+0.3
CHOR3	La Chorrera	3.07	65	*e*P	Pb	00 49 27.2	-1.3
CHOR3				*e*S	Sb	00 50 05.6	-0.7
BCIP	Isla Barro Col	3.13	60		Pb	00 49 26.5	-3.0
B

comp=Z,259nm,18.6s,baz=314,slow=45
MTO3 Montecristo 9.49 316 Pn Pn 00 50 50.6 -0.4
RUSC La Rusia 9.58 100 Pn Pn 00 50 56.0 +3.4
ESQI Esquipulas 9.59 317 Pn **Pn 00 50 52.2 -0.1**
SDV Santo Domingo 11.89 83 Pn Pn 00 51 27.7 +3.7
SDV Santo Domingo 11.89 83 Pn **Pn 00 51 23.9 -0.1**
2.2nm,0.8s,baz=252,slow=9.3,SNR=7.1
SDV LR LR 00 56 50.5
comp=Z,257nm,18.5s,baz=264,slow=43
BAUV El Baul 14.45 84 P P 00 52 03.1 -2.7
ATAH Atahualpa 15.22 164 LR LR 00 57 24.0
comp=Z,315nm,18.0s,baz=334,slow=33
CMIG Matias Romero 15.27 309 Pn **P 00 52 12.0 -3.0**
0.3nm,0.3s,baz=77,slow=3.8,SNR=7.3
2.2nm,0.7s
SDDR Presa de Saban 15.76 43 Pn 00 52 16.1 -0.2
SDDR IAmb IAmb 00 52 45.4
comp=Z,20nm,0.9s
BANI BANI 16.01 47 Pn **P 00 52 20.7 -2.6**
BANI IAmb IAmb 00 52 49.2
comp=Z,34nm,0.9s
CZSB Cruzeiro do Su 18.13 147 P **P 00 52 51.2 +4.6**
UUPR Utuado, UPR, P 18.72 54 P **Pn 00 52 54.0 +0.6**
UUPR IAmb IAmb 00 52 55.8
comp=Z,27nm,0.3s
SJG San Juan 19.10 55 LR LR 00 59 50.5
comp=Z,90nm,19.0s,baz=237,slow=37
HNDO Hondo 26.89 326 P **P 00 54 15.4 -0.1**
DRIO Del Rio 27.56 324 P **P 00 54 22.1 +0.5**
TKL Tuckaleechee C 27.95 358 LR LR 01 04 49.9
comp=Z,147nm,20.5s,baz=198,slow=36
V48A Smith Brothers 28.28 353 P **P 00 54 28.0 +0.1**
V48A IAmb IAmb 00 54 29.2
comp=Z,7.6nm,1.0s
SAND Sanderson 28.84 323 P 00 54 32.0 -1.0
WHAR Wooly Hollow 28.97 343 P 00 54 33.2 -0.9
WHAR IAmb IAmb 00 54 45.6
comp=Z,10nm,1.0s
PLPT Palo Pinto 29.03 332 P 00 54 34.1 -0.5
PLPT IAmb IAmb 00 54 42.5
comp=Z,11nm,0.8s
FW03 Perrin-Whitt E 29.11 333 P **P 00 54 34.7 -0.6**
FW03 IAmb IAmb 00 54 43.0
comp=Z,7.9nm,0.9s
TXAR Lajitas Array 29.35 320 P **P 00 54 39.0 +1.4**
comp=Z,0.1nm,0.4s,baz=119,slow=7.7,SNR=6.1
TXAR LR LR 01 06 55.2
comp=Z,43nm,19.8s,baz=88,slow=38
comp=Z,0.1nm,0.4s
LCAR Lake Charles 29.41 346 P 00 54 36.9 -1.0
LCAR IAmb IAmb 00 54 37.7
comp=Z,9.5nm,0.9s
ALPN Alpine 30.05 322 P **P 00 54 44.6 +0.7**
S54A Dingess, Beckl 30.09 2 P **P 00 54 45.0 +1.0**
S54A IAmb IAmb 00 55 19.9
comp=Z,11nm,0.8s
T42A Van Buren 30.31 346 P 00 54 44.7 -1.2
T42A IAmb IAmb 00 54 56.3
comp=Z,8.8nm,1.0s
DKNS Dickens 31.00 329 P **P 00 54 51.8 -0.4**
DKNS IAmb IAmb 00 54 59.9
comp=Z,7.3nm,1.1s
VHRN Van Horn 31.17 321 P **P 00 54 54.8 +1.0**
VHRN IAmb IAmb 00 55 02.5
comp=Z,6.4nm,1.2s
OK029 Liberty Lake 31.20 336 P **P 00 54 52.1 -1.7**
CCM Cathedral Cave 31.32 347 P **P 00 54 53.5 -1.3**
CCM IAmb IAmb 00 54 54.7
comp=Z,5.9nm,0.7s
RTBA Rita Blanca 34.09 330 P 00 55 18.5 -0.8
RTBA IAmb IAmb 00 55 27.4
comp=Z,7.6nm,1.0s
319A Douglas 34.36 317 P **P 00 55 23.1 +1.4**
N38A Joes South For 34.40 346 P **P 00 55 20.6 -1.1**
CRNM Carthage 34.42 323 P **P 00 55 19.8 -2.5**
ANMO Albuquerque 34.96 325 P **P 00 55 27.4 +0.5**
ANMO IAmb IAmb 00 55 36.7
comp=Z,5.4nm,0.9s
ANMO Albuquerque 34.96 325 P **P 00 55 27.9 +1.0**
ANMO IAmb IAmb 00 55 36.7
comp=Z,6.0nm,0.9s
ANMO Albuquerque 34.96 325 P **P 00 55 28.2 +1.3**
ANMO IAmb IAmb 00 55 36.8
comp=Z,5.8nm,0.9s
DUN6 Lazy B Ranch 34.97 319 P **P 00 55 28.5 +1.5**
T25A Trinidad 35.48 329 P **P 00 55 31.1 -0.3**
T25A IAmb IAmb 00 55 40.5
comp=Z,5.3nm,0.9s
SDCO Great Sand Dun 36.50 329 P **P 00 55 40.9 +0.7**
S22A 4UR Ranch, Cre 37.20 327 P **P 00 55 42.9 -3.2**
X16A Lo Mia Camp, P 37.66 319 P **P 00 55 51.3 +1.2**
MVCO Mesa Verde 37.73 325 P **P 00 55 50.8 +0.2**
MVCO IAmb IAmb 00 56 02.4
comp=Z,8.0nm,1.0s
WUAZ Wupatki 38.31 321 P **P 00 55 56.6 +1.2**
WUAZ IAmb IAmb 00 56 06.3
comp=Z,8.6nm,0.9s
Y14A Wickenburg 38.41 317 P **P 00 55 56.4 +0.3**
Y14A IAmb IAmb 00 56 07.0
comp=Z,6.3nm,0.7s
PV13 Radium Mtn., P 38.58 326 P **P 00 55 57.5 -0.3**
PV13 IAmb IAmb 00 56 07.9
comp=Z,11nm,1.0s
PV07 Paradox Valley 38.68 326 P **P 00 55 58.8 +0.2**
PV11 David Mesa, Pa 38.71 326 P **P 00 55 59.1 +0.3**
PV11 IAmb IAmb 00 56 10.5
comp=Z,12nm,0.9s
PV10 Paradox Valley 38.85 326 P **P 00 56 00.6 +0.4**
PV10 IAmb IAmb 00 56 09.3
comp=Z,13nm,1.0s
GLA Glamis 39.16 315 P **P 00 56 02.2 -0.2**
GLA IAmb IAmb 00 56 11.8
comp=Z,10.0nm,1.2s
GO04 Tololo Observa 39.22 164 P P 00 56 07.4 +4.2
GO04 IAmb IAmb 00 56 29.3
comp=Z,35nm,1.2s
W13A Hualapai Mount 39.67 318 P **P 00 56 07.4 +0.4**
PKCU Pink Cliffs 40.12 322 P **P 00 56 12.3 +1.5**
PKCU IAmb IAmb 00 56 21.0
comp=Z,14nm,1.3s
KNB Kanab 40.16 321 P **P 00 56 12.1 +1.1**
SRU San Rafael Swe 40.20 326 P **P 00 56 11.7 +0.5**
SRU IAmb IAmb 00 56 20.5
comp=Z,8.6nm,0.9s
Q16A Castle Valley 40.43 325 P **P 00 56 13.1 -0.1**
V12A Nelson 40.68 318 P **P 00 56 16.4 +1.2**
V12A IAmb IAmb 00 56 26.2
comp=Z,8.3nm,1.0s
MSU Marysvale 40.74 324 P **P 00 56 16.8 +1.0**
BSUT Blindstream Ca 41.32 327 P **P 00 56 20.8 0.0**
SHPR Sheep Range 41.34 319 P **P 00 56 21.8 +1.1**
GSC Goldstone, Bar 41.76 316 P **P 00 56 24.7 +0.7**
GSC IAmb IAmb 00 56 36.4
comp=Z,10nm,1.1s
PSUT Pine Spring 41.76 322 P **P 00 56 24.9 +0.8**
TCUT Toone Canyon 42.08 327 P **P 00 56 27.8 +1.0**
TCUT IAmb IAmb 00 56 40.3
comp=Z,7.0nm,1.0s
GWY Greenwater Val 42.15 317 P **P 00 56 27.4 +0.1**
DUG Dugway, Tooele 42.23 325 P **P 00 56 28.1 +0.2**
TPNV Topopah Spring 42.31 319 P **P 00 56 29.6 +0.9**
TPNV IAmb IAmb 00 56 41.0
comp=Z,11nm,1.2s
PD31 Pinedale Array 42.32 330 P **P 00 56 28.9 +0.2**
PDAR Pinedale Array 42.32 330 P **P 00 56 28.4 -0.2**
PDAR Pinedale Array 42.32 330 P **P 00 56 28.2 -0.5**
comp=Z,0.4nm,0.7s,baz=149,slow=6.9,SNR=4.7
comp=Z,0.4nm,0.7s
S11A Rachel 42.39 320 P **P 00 56 30.3 +1.0**
S11A IAmb IAmb 00 56 40.1
comp=Z,15nm,1.0s
WCT Wildcat Mounta 42.47 318 pP 00 56 31.1 +0.9
HWUT Hardware Ranch 42.51 327 P **P 00 56 29.6 -0.6**
HWUT IAmb IAmb 00 56 39.1
comp=Z,11nm,1.1s
R11B Troy Canyon, C 42.71 321 P **P 00 56 32.5 +0.6**
BGU Big Grassy Mou 42.84 326 P **P 00 56 33.6 +0.8**
GRAC Grapevine Rang 43.07 318 P **P 00 56 34.8 +0.1**
DSP Deep Springs 43.68 318 P **P 00 56 40.5 +1.0**
DSP IAmb IAmb 00 56 50.8
comp=Z,12nm,1.2s
LAO LASA Array 43.91 337 P **P 00 56 43.4 +2.1**
LAO IAmb IAmb 00 56 54.3
comp=Z,12nm,1.2s
ELK Elko 43.99 324 P **P 00 56 43.3 +1.1**

NV11 Mina Array Sit 44.40 319 P **P 00 56 46.7 +1.2**
NV11 IAmb IAmb 00 56 56.4
comp=Z,13nm,1.1s
NVAR Mina Array Bea 44.49 319 P **P 00 56 47.4 +1.1**
NVAR Mina Array Bea 44.49 319 P **P 00 56 48.1 +1.8**
comp=Z,1.9nm,0.7s,baz=129,slow=7.4,SNR=9.9
comp=Z,1.9nm,0.7s
HLID Hailey 45.38 327 P **P 00 56 53.4 +0.2**
BOZ Bozeman (W) 45.42 331 P **P 00 56 53.1 -0.3**
BEKR Beckworth 46.62 320 P **P 00 57 04.0 +1.0**
BEKR IAmb IAmb 00 57 14.3
comp=Z,6.3nm,0.9s
WVOR Wild Horse Val 47.03 323 P **P 00 57 06.4 +0.2**
ORV Oroville 47.19 319 P **P 00 57 08.1 +0.7**
ORV IAmb IAmb 00 57 18.1
comp=Z,9.2nm,0.9s
RCBR Riachuelo 48.43 105 LR LR 01 19 24.4
comp=Z,52nm,20.3s,baz=328,slow=38
PLCA Paso Flores 49.35 168 P P 00 57 35.4 +11
comp=Z,0.9nm,0.7s,baz=316,slow=10,SNR=3.8
comp=Z,0.9nm,0.7s
FFC Flin Flon 49.50 345 P **P 00 57 23.7 -1.2**
FFC IAmb IAmb 00 57 24.3
comp=Z,6.5nm,1.2s
J04A Umpqua Nationa 49.58 322 P **P 00 57 26.4 +0.4**
YKA Yellowknife Ar 59.57 343 P **P 00 58 36.9 -1.0**
comp=Z,2.2nm,0.8s,baz=141,slow=7.2,SNR=42
comp=Z,2.2nm,0.8s
M29M Somme Creek 67.98 335 P **P 00 59 34.8 +1.2**
L29M L29M 68.16 336 P **P 00 59 34.8 +0.1**
J30M Hart River 68.19 338 P **P 00 59 35.7 +0.8**
J30M IAmb IAmb 00 59 44.7
comp=Z,8.2nm,1.1s
K29M Barlow Dome 68.28 337 P **P 00 59 35.8 +0.3**
K29M IAmb IAmb 00 59 44.6
comp=Z,7.9nm,1.0s
I30M Mount Dempster 68.54 339 P **P 00 59 36.8 -0.2**
G31M Satah River 68.72 341 P **P 00 59 37.8 -0.1**
F31M Tsiigehtchic 68.84 341 P **P 00 59 39.0 +0.3**
F31M IAmb IAmb 00 59 39.4
comp=Z,8.2nm,0.9s
J29N Klondike Camp 68.84 337 P **P 00 59 39.2 +0.3**
DAWY Dawson 69.11 337 P **P 00 59 40.6 +0.1**
DAWY IAmb IAmb 00 59 49.4
comp=Z,10.0nm,1.2s
EPYK Eagle Plains 69.25 340 P **P 00 59 41.7 +0.3**
I29M Ogilvie Camp, 69.31 338 P **P 00 59 41.8 +0.1**
A36M Sachs Harbour 69.42 347 P **P 00 59 41.3 -0.9**
BCAR Beaver Creek A 69.63 335 P **P 00 59 44.7 +0.9**
L27K Beaver Creek, 69.65 335 P **P 00 59 44.6 +0.7**
RAGM Ragged Mountai 69.86 332 P **P 00 59 45.5 +0.3**
MENT Mentasta 70.39 335 P **P 00 59 49.0 +0.6**
MENT IAmb IAmb 00 59 56.3
comp=Z,6.9nm,0.7s
PPT Papeete 70.73 248 LR LR 01 24 37.0
comp=Z,39nm,21.2s,baz=117,slow=30
DOT Dot Lake 70.81 335 P **P 00 59 51.0 0.0**
H27K Steamboat Moun 70.89 338 P 00 59 52.2 +0.8
H27K IAmb IAmb 01 00 01.8
comp=Z,8.9nm,1.2s
J26L Joseph Creek 70.94 336 P **P 00 59 52.2 +0.4**
BORG Borgarnes 71.14 23 LR LR 01 27 14.4
comp=Z,60nm,21.4s,baz=199,slow=33
E28M Babbage River 71.31 341 P **P 00 59 53.8 0.0**
E28M IAmb IAmb 00 59 54.8
comp=Z,5.5nm,0.9s
J25K Salcha River, 71.71 336 P **P 00 59 56.3 -0.2**
IL31 72.37 336 IAmb IAmb 01 00 08.8
comp=Z,12nm,1.1s
ILAR Eielson Array 72.37 336 P 01 00 00.2 -0.2
ILAR Eielson Array 72.37 336 P **P 01 00 00.6 +0.3**
comp=Z,2.3nm,0.8s,baz=109,slow=4.0,SNR=16
comp=Z,2.3nm,0.8s
BMAR Burnt Mountain 72.49 339 P **P 01 00 01.9 +0.8**
E25K Arctic Village 73.11 340 IAmb IAmb 01 00 14.3
comp=Z,8.7nm,1.1s
I23K Minto, Yukon-K 73.49 336 pP 01 00 11.8 +4.4
E23K Chandalar 74.51 339 IAmb IAmb 01 00 25.5
comp=Z,7.5nm,0.9s
G21K Allakaket 75.51 337 IAmb IAmb 01 00 27.6
comp=Z,6.1nm,0.9s
F21K Alatna River 75.69 338 IAmb IAmb 01 00 29.4
comp=Z,11nm,1.1s
ESDC Sonseca Array 76.43 51 P 01 00 25.5 +0.9
ESDC Sonseca Array 76.43 51 P **P 01 00 24.9 +0.3**
comp=Z,3.4nm,0.9s,baz=276,slow=5.7,SNR=19
comp=Z,3.4nm,0.9s
D20K Etivluk River 77.18 339 IAmb IAmb 01 00 37.0
comp=Z,12nm,1.1s
BTNL Ternell 83.37 40 *d*P **P 01 01 04.4 +2.5**
SPITS Spitsbergen Ar 84.45 12 LR LR 01 39 00.1
comp=Z,60nm,21.7s,baz=257,slow=36
GERES GERESS Array B 88.45 41 P **P 01 01 27.0 -0.2**
comp=Z,0.4nm,0.7s,baz=207,slow=2.7,SNR=3.9
comp=Z,0.4nm,0.7s
ARCES ARCESS Array B 89.16 20 LR LR 01 40 47.4
comp=Z,65nm,18.3s,baz=264,slow=36
VRAC Vranov 90.23 40 LR LR 01 34 52.9
comp=Z,38nm,20.3s,baz=248,slow=31
HHC Hu-ho-hao-te 130.06 346 *e*P **PKPdf 01 07 42.8 -2.4**
NJ2 Nanjing 135.58 334 *e*P **PKiKP 01 07 56.2 -1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
ASAR Alice Springs 141.56 241 PKhKP PKPpre 01 08 04.3
comp=Z,1.0nm,0.7s,baz=158,slow=4.3,SNR=4.9
ASAR PKP sPKPdf 01 08 13.3 +5.7
comp=Z,0.5nm,0.6s,baz=113,slow=2.9,SNR=4.7
WRA Warramunga Arr 142.20 247 PKP **PKiKP 01 08 11.5 +0.4**
comp=Z,0.9nm,0.8s,baz=100,slow=2.4,SNR=4.6
PZH PanZhiHua 145.84 353 PKPbc **PKPab 01 08 14.2 -1.1**
CMAR Chiang Mai Arr 154.07 357 PKPbc **PKiKP 01 08 37.8 +2.2**
comp=Z,0.8nm,0.8s,baz=328,slow=2.5,SNR=5.0

TAP ***12*** *01:03:07.1,24.°69N×121.°14E,h7km,ML2.6,B*
ISC 12 01:03:07.7±0.8,24.°68N±0.°02×121.°14E±0.°02,h9km±4km,
n75,σ0°71/124,7C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NFF	**Wufeng Townshi**	**0.05**	**207**	⇓*i*P	**Pg**	**01 03 09.4**	**-0.3**
NFF				*i* S	**Sg**	**01 03 10.9**	**-0.2**
KSHI	**Guanxi Townshi**	**0.10**	**17**	*e*P	**Pg**	**01 03 09.9**	**-0.4**
KSHI				S	**Sg**	**01 03 12.1**	**0.0**
LIOB	**Emei**	**0.12**	**255**	⇑*i*P	**Pg**	**01 03 10.4**	**-0.1**
LIOB				S	**Sg**	**01 03 13.2**	**+0.7**
NSTT	**Nanjuang**	**0.14**	**250**	⇑*i*P	**Pg**	**01 03 10.7**	**-0.1**
NSTT				S	**Sg**	**01 03 13.5**	**+0.5**
SBCB	**Hsinchu**	**0.18**	**309**	*e*P	**Pg**	**01 03 11.8**	**+0.2**
SBCB				*e*S	**Sg**	**01 03 15.3**	**+1.1**
NSK	**Sanguang**	**0.20**	**90**	⇑*i*P	**Pg**	**01 03 12.0**	**+0.2**
NSK				S	**Sg**	**01 03 15.3**	**+0.7**
HSN	**Hsinchu**	**0.20**	**308**	*i* P	**Pg**	**01 03 11.9**	**0.0**
HSN				*i* S	**Sg**	**01 03 15.7**	**+1.0**
YHNB	**Yeheng**	**0.21**	**92**	P	**Pg**	**01 03 11.9**	**-0.2**
YHNB	**Yeheng**	**0.21**	**92**	P	**Pb**	**01 03 15.6**	**+3.5**
YHNB	**Yeheng**	**0.21**	**92**	⇑*i*P	**Pg**	**01 03 12.2**	**+0.1**
YHNB				*i* S	**Pb**	**01 03 15.6**	**+3.5**
NCUH	**Zhongli**	**0.29**	**8**	*e*P	**Pg**	**01 03 14.1**	**+0.5**
NCUH				S	**Sb**	**01 03 19.4**	**-0.6**
NNSB	**Datong**	**0.33**	**138**	⇓*i*P	**Pg**	**01 03 14.8**	**+0.5**
NNSB				*e*S	**Sg**	**01 03 19.7**	**+1.0**
NWLT	**Wulai**	**0.34**	**73**	⇑*i*P	**Pg**	**01 03 14.5**	**0.0**
NWLT				*i* S	**Sg**	**01 03 19.7**	**+0.6**
NMLH	**Miaoli**	**0.35**	**247**	*e*P	**Pb**	**01 03 15.6**	**-0.5**
NMLH				*e*S	**Sb**	**01 03 21.3**	**-0.4**
LATG	**Datong**	**0.38**	**112**	P	**Pg**	**01 03 15.8**	**+0.7**
LATG				S	**Sg**	**01 03 21.1**	**+1.0**
ENTT	**Nioudou**	**0.39**	**95**	*e*P	**Pg**	**01 03 15.8**	**+0.5**
ENTT				*e*S	**Sg**	**01 03 20.8**	**+0.3**
FUSB	**Fushanzhiwuyua**	**0.41**	**78**	⇑*i*P	**Pg**	**01 03 15.8**	**0.0**
FUSB				*e*S	**Sg**	**01 03 21.5**	**+0.2**
TDCB	**Techi**	**0.42**	**178**	*e*P	**Pg**	**01 03 16.3**	**+0.3**
TDCB				*e*S	**Sg**	**01 03 22.1**	**+0.5**
TWT	**Tachien**	**0.42**	**176**	*e*P	**Pg**	**01 03 16.4**	**+0.4**
TWT				*e*S	**Sg**	**01 03 22.7**	**+1.1**
TATO	**Taipei**	**0.43**	**46**	P	**Pb**	**01 03 16.8**	**-0.7**
TATO	**Taipei**	**0.43**	**46**	S	**Sb**	**01 03 24.1**	**0.0**
WHP	**Taichung City**	**0.44**	**204**	*e*P	**Pg**	**01 03 16.8**	**+0.6**
WHP				S	**Sg**	**01 03 23.0**	**+1.0**
FUSS	**Fushou**	**0.44**	**168**	⇓*e*P	**Pg**	**01 03 17.0**	**+0.6**
FUSS				*e*S	**Sb**	**01 03 23.6**	**-0.9**
NHDH	**Xindian Distri**	**0.45**	**51**	*e*P	**Pg**	**01 03 16.9**	**+0.5**
NHDH				*e*S	**Sb**	**01 03 24.3**	**-0.2**

TWQ1	**Liyutan**	**0.47**	**226**	*e*P	**Pb**	**01 03 17.9**	**-0.2**
TWQ1				*e*S	**Sb**	**01 03 24.7**	**-0.4**
TWE	**Neicheng**	**0.48**	**85**	P	**Pg**	**01 03 17.6**	**+0.6**
TWE				*e*S	**Sg**	**01 03 24.1**	**+0.8**
TWS1	**Kuangyinshan**	**0.49**	**31**	*e*P	**Pg**	**01 03 17.4**	**+0.1**
TWS1				*e*S	**Sb**	**01 03 25.0**	**-0.8**
TWA	**Mucha**	**0.50**	**53**	*e*P	**Pb**	**01 03 19.1**	**+0.4**
TWA				*e*S	**Sb**	**01 03 26.0**	**-0.1**
WHF	**Hehuan Shan**	**0.54**	**168**	P	**Pb**	**01 03 19.3**	**-0.3**
WHF				S	**Sb**	**01 03 27.0**	**-0.6**
ETLH	**Xiulin Townshi**	**0.56**	**146**	P	**Pb**	**01 03 19.5**	**-0.2**
ETLH				*i* S	**Sb**	**01 03 27.2**	**-0.6**
WDJ	**Dajia District**	**0.56**	**234**	*e*P	**Pb**	**01 03 20.1**	**+0.4**
WDJ				*e*S	**Sb**	**01 03 29.2**	**+1.4**
ENA	**Nanau**	**0.60**	**114**	*e*P	**Pg**	**01 03 19.7**	**+0.4**
ENA				*e*S	**Sg**	**01 03 27.7**	**+0.5**
ZUZH	**Zhuzihu**	**0.60**	**37**	*e*P	**Pb**	**01 03 20.2**	**-0.3**
YM01	**YM01**	**0.61**	**40**	*e*P	**Pb**	**01 03 20.1**	**-0.4**
YM01				*e*S	**Sb**	**01 03 29.8**	**+0.6**
EWUT	**Wuta**	**0.62**	**112**	*e*P	**Pb**	**01 03 20.6**	**-0.1**
EWUT				*e*S	**Sg**	**01 03 27.8**	**-0.1**
NACB	**Ninganchiao**	**0.65**	**140**	P	**Pb**	**01 03 20.8**	**-0.3**
NACB	**Ninganchiao**	**0.65**	**140**	S	**Sb**	**01 03 30.0**	**-0.3**
NACB	**Ninganchiao**	**0.65**	**140**	P	**Pb**	**01 03 20.9**	**-0.3**
NACB				*e*S	**Sg**	**01 03 29.1**	**+0.4**
WCS	**Beigang Elemen**	**0.65**	**199**	*e*P	**Pb**	**01 03 20.8**	**-0.5**
WCS				*e*S	**Sg**	**01 03 28.9**	**0.0**
WUSB	**Renai**	**0.68**	**182**	P	**Pg**	**01 03 21.0**	**+0.1**
WUSB				*e*S	**Sg**	**01 03 29.8**	**-0.1**
TIPB	**Shuangxi**	**0.69**	**65**	P	**Pg**	**01 03 21.2**	**+0.2**
TIPB				*e*S	**Sg**	**01 03 30.1**	**+0.2**
LXIB	**Xiulin Townshi**	**0.70**	**159**	*e*P	**Pb**	**01 03 21.8**	**-0.3**
LXIB				*e*S	**Sg**	**01 03 31.1**	**+0.7**
NWF	**Wu-fen Shan**	**0.70**	**56**	*e*P	**Pb**	**01 03 21.9**	**-0.2**
NWF				*e*S	**Sb**	**01 03 31.8**	**-0.1**
WFSB	**Wu-fen Shan**	**0.70**	**56**	*e*P	**Pb**	**01 03 22.0**	**0.0**
WFSB				*e*S	**Sb**	**01 03 31.6**	**-0.1**
OWD	**Renai**	**0.72**	**178**	*i* P	**Pg**	**01 03 21.7**	**+0.1**
OWD				*e*S	**Sg**	**01 03 30.7**	**-0.3**
TWD	**Chiawan**	**0.72**	**145**	*e*P	**Pb**	**01 03 22.5**	**0.0**
TWD				*e*S	**Sb**	**01 03 32.0**	**-0.4**
TWY	**Chenhua**	**0.73**	**35**	*e*P	**Pb**	**01 03 22.3**	**-0.2**
EGS		**0.74**	**77**	*e*P	**Pb**	**01 03 22.3**	**-0.4**
SXI1	**Grass Mountain**	**0.79**	**58**	⇑*i*P	**Pb**	**01 03 23.4**	**-0.1**
SXI1				*e*S	**Sn**	**01 03 35.6**	**-1.3**
TYC	**Yuchr**	**0.81**	**199**	*e*P	**Pb**	**01 03 24.4**	**+0.5**
TYC				*e*S	**Sb**	**01 03 35.1**	**+0.1**
SMLT	**Sun Moon Lake**	**0.82**	**196**	*e*P	**Pg**	**01 03 23.2**	**-0.3**
SMLT				*e*S	**Sn**	**01 03 37.1**	**-0.6**
TWB1	**Santiao Chiao**	**0.84**	**67**	*e*P	**Pg**	**01 03 23.9**	**+0.1**
TWB1				*e*S	**Sg**	**01 03 34.8**	**+0.1**
ESL	**Shilin**	**0.90**	**163**	*e*P	**Pn**	**01 03 25.9**	**-0.6**
SSLB	**Suanglung**	**0.90**	**191**	P	**Pg**	**01 03 23.1**	**-2.0**
SSLB	**Suanglung**	**0.90**	**191**	S	**Sg**	**01 03 36.4**	**-0.4**
SSLB	**Suanglung**	**0.90**	**191**	*e*P	**Pg**	**01 03 24.9**	**-0.2**
SSLB				*e*S	**Sg**	**01 03 36.4**	**-0.4**
VWDT	**VWDT**	**0.92**	**180**	*e*P	**Pg**	**01 03 24.7**	**-0.7**
SHUL	**Shoufeng**	**0.96**	**156**	*e*P	**Pn**	**01 03 27.2**	**-0.1**
SHUL				*e*S	**Sb**	**01 03 39.5**	**+0.2**
WARBT	**Fenglin Townsh**	**0.98**	**167**	*e*P	**Pb**	**01 03 26.7**	**-0.1**
WARBT				*e*S	**Sg**	**01 03 38.2**	**-1.1**
WHYT	**Xinyi Township**	**1.01**	**195**	*e*P	**Pn**	**01 03 28.1**	**+0.1**
EOS2	**EOS2**	**1.02**	**104**	*e*P	**Pg**	**01 03 27.4**	**+0.1**
EOS3	**EOS3**	**1.14**	**110**	*e*P	**Pb**	**01 03 28.2**	**-1.2**
CHN5	**Tsauling**	**1.16**	**202**	*e*P	**Pg**	**01 03 30.3**	**+0.4**
CHN5				*e*S	**Sn**	**01 03 46.6**	**+0.6**
ALS	**Alishan**	**1.20**	**195**	*e*P	**Pg**	**01 03 31.7**	**+0.9**
ALS				*e*S	**Sn**	**01 03 48.3**	**+1.0**
HGSD	**Ruisui**	**1.21**	**168**	*e*P	**Pg**	**01 03 31.2**	**+0.3**
YULB	**Yu-li**	**1.29**	**174**	P	**Pb**	**01 03 32.0**	**-0.1**
YULB	**Yu-li**	**1.29**	**174**	S	**Sg**	**01 03 49.8**	**+0.7**
YULB	**Yu-li**	**1.29**	**174**	*e*P	**Pn**	**01 03 31.5**	**-0.3**
TWF1	**Yuli**	**1.33**	**174**	*e*P	**Pn**	**01 03 32.4**	**+0.1**
CHN4	**Tsaushan**	**1.41**	**201**	*e*P	**Pb**	**01 03 34.0**	**-0.2**
TPUB	**Ta-pu**	**1.45**	**199**	*e*P	**Pn**	**01 03 33.7**	**-0.4**
ELDTW	**Lidau**	**1.49**	**184**	*e*P	**Pg**	**01 03 36.5**	**+0.3**
WTP	**Ta-pu**	**1.50**	**199**	*e*P	**Pg**	**01 03 37.4**	**+0.8**
STYH	**Taoyuan**	**1.54**	**193**	*e*P	**Pb**	**01 03 36.7**	**+0.4**
STYH				*e*S	**Sb**	**01 03 56.1**	**+0.3**
MATB	**Ma-tsu**	**1.82**	**324**	*e*P	**Pn**	**01 03 38.8**	**-0.4**

NAO ***12*** *01:07:13.6±4.6,72.°54N×3.°23E,ML2.9*
BER ***12*** *01:07:17.6±3.1,72.°65N×3.°22E,h10km,mb(Pn)4.1,*
ML2.9(NAO),Confirmed Earthquake
KOLA ***12*** *01:07:33.3,72.°03N×7.°10E,h0km,ML1.5,Error ellipse:*
s-maj=20.9km s-min=12.3km az=120.0,Norwegian sea
ISC 12 01:07:13.9±1.0,72.°64N±0.°07×3.°51E±0.°07,h10km,n39,
σ2.°19/49,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**4.07**	**252**	*e*P	**Pn**	**01 08 15.7**	**-0.4**
JMI	**Jan Mayen**	**4.21**	**252**	*e*P	**Pn**	**01 08 17.7**	**-0.2**
LOF	**Lofoten**	**5.64**	**138**	Pn	**Pn**	**01 08 39.3**	**+1.7**
LOF				Sn	Sn	01 09 38.1	-4.2
LOF	**Lofoten**	**5.64**	**138**	*e*P	**Pn**	**01 08 39.9**	**+2.3**
LOF				IAML		01 08 41.8	
comp=Z,2.8nm,0.7s							
TRO	**Tromso**	**5.83**	**114**	Pn	**Pn**	**01 08 41.9**	**+1.7**
TRO				Sn	Sn	01 09 43.7	-3.3
TRO	**Tromso**	**5.83**	**114**	*e*P	**Pn**	**01 08 42.3**	**+2.1**
TRO				IAML		01 08 44.3	
comp=Z,11nm,0.2s							
TRO				*e*S	**Sn**	**01 09 44.0**	**-3.0**
STEI	**Steigen**	**6.16**	**134**	*e*P	**Pn**	**01 08 46.7**	**+1.9**
STEI				*e*S	**Sn**	**01 09 52.6**	**-2.5**
JETT	**Jettan, Norway**	**6.29**	**111**	Pn	**Pn**	**01 08 48.9**	**+2.4**
JETT				Sn	**Sn**	**01 09 57.5**	**-0.8**
JETT	**Jettan, Norway**	**6.29**	**111**	Pn	**Pn**	**01 08 48.9**	**+2.4**
JETT				Sn	**Sn**	**01 09 57.5**	**-0.8**
SPA0	**Spitsbergen Ar**	**6.43**	**24**	Pn	**Pn**	**01 08 50.4**	**+2.0**
baz=211,slow=22							
SPA0				Sn	**Sn**	**01 10 01.8**	**+0.2**
baz=204,slow=28							
SPA0	**Spitsbergen Ar**	**6.43**	**24**	Pn	**Pn**	**01 08 50.4**	**+2.0**
baz=211,slow=22							
SPA0				Sn	**Sn**	**01 10 01.8**	**+0.2**
baz=204,slow=28							
FAUS	**Fauske**	**6.63**	**137**	P	**Pn**	**01 08 53.9**	**+2.7**
FAUS				S	Sn	01 09 55.2	-11
FAUS	**Fauske**	**6.63**	**137**	*e*P	**Pn**	**01 08 53.9**	**+2.7**
KBS	**Kingsbay**	**6.65**	**14**	Pn	**Pn**	**01 08 52.0**	**+0.6**
KBS	**Kingsbay**	**6.65**	**14**	Pn	**Pn**	**01 08 52.0**	**+0.6**
HAMF	**Hammerfest**	**6.66**	**98**	Pn	**Pn**	**01 08 54.0**	**+2.4**
HAMF	**Hammerfest**	**6.66**	**98**	*e*P	**Pn**	**01 08 53.1**	**+1.5**
KIF	**Kilpisjarvi**	**6.74**	**114**	Pn	**Pn**	**01 08 54.7**	**+1.9**
KIF				Sn	**Sn**	**01 10 07.0**	**-2.5**
KIF	**Kilpisjarvi**	**6.74**	**114**	*e*P	**Pn**	**01 08 55.2**	**+2.5**
KIF				*e*S	**Sn**	**01 10 07.5**	**-2.0**
VAGH	**Vaagaholmen**	**6.83**	**145**	*e*P	**Pn**	**01 08 56.1**	**+2.2**

TRN 12 01:14:29.3, 14°.14N×61°.14W, h28km, MD3.6, 1D, North-west of Saint Lucia. Felt in Saint Lucia, MMI IV, V., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBI	**Saint Lucia, B**	**0.20**	**126**	↓↓*iP*	Pn	01 14 36.8	+0.4
SLBI				*eS*	Sb	01 14 40.2	+1.0
SLAC	**Saint Lucia, A**	**0.34**	**136**	*eP*	Pn	01 14 39.0	+0.7
SLAC				*eS*	Sn	01 14 44.3	0.0
BIM	**Bigot**	**0.38**	**10**	*eP*	Pn	01 14 39.5	+0.4
BIM				*eS*	Sn	01 14 47.0	+1.6
ILAM	**Ilet Lapin Mar**	**0.68**	**22**	*eP*	Pn	01 14 44.1	+1.0
ILAM				*eS*	Sn	01 14 54.3	+1.4
SVN	**Savane Anatole**	**0.70**	**358**	*eP*	Pn	01 14 44.6	+1.2
SVN				*eS*	Sn	01 14 54.5	+1.1
SVB	**Belmont**	**0.87**	**187**	*eP*	Pb	01 14 47.6	+1.8
SVB				*eS*	Sn	01 15 01.1	+3.6
SVT	**Saint Vincent**	**0.97**	**186**	*eP*	Pb	01 14 49.2	+1.7
SVT				*eS*	Sb	01 15 00.6	+0.7
SVOC	**Richmond Hill,**	**0.98**	**185**	*eP*	Pb	01 14 48.7	+1.0
SVOC				*eS*	Sb	01 15 01.0	+0.7
DSLB	**Salisbury**	**1.32**	**348**	*eP*	Pn	01 14 52.3	+0.4
DSLB				*eS*	Sb	01 15 10.8	+0.8
GCMP	**Grenada, Carri**	**1.67**	**190**	*eP*	Pb	01 14 59.1	-0.2
GCMP				*eS*	Sb	01 15 19.1	-0.8
BBGH	**Gun Hill**	**1.82**	**123**	*eP*	Pb	01 15 01.4	-0.7
GRGR	**Grenville**	**2.06**	**194**	*eP*	Pn	01 15 03.3	+1.2
GRGR				*eS*	Sn	01 15 27.6	+0.7
ANBD	**Bethesda, Anti**	**2.96**	**348**	*e*	Pn	01 15 10.9	-3.5
BAUV	**El Baul**	**8.51**	**233**	*eS*	Sn	01 18 02.2	-3.8

*IDC **12** 01:56:56.0±0.8, 10°.32N×93°.58E, h0km, mb3.9/16, mbtmp3.9/17, ML4.0/1, MS3.5/7, Error ellipse: s-maj=28.1km s-min=17.4km az=54.0*
*NEIC **12** 01:56:59.7±2.2, 10°.6N±0°.1×93°.8E±0°.1, h10km±1km, mb4.2/8, Error ellipse: s-maj=28.3km s-min=7.1km az=217.0*
*NDI **12** 01:57:02.1±0.8, 10°.56N×93°.78E, h10km, ML3.5, MW3.8, mb4.2(NEIC)*
ISC 12 01:56:59.6±0.5, 10°.22N±0°.05×93°.5E±0°.1, h24km, n39, σ1§34/39, mb4.0/20, MS3.5/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.63**	**331**		**Pn**	**01 57 26.4**	**-0.4**
PBA	**Port Blair**	**1.63**	**331**	*eP*	**Pb**	**01 57 29.2**	**+0.2**
PBA				*eS*	**Sb**	**01 57 49.3**	**+0.1**
PBA				IAML		01 57 57.2	
	comp=E,666nm,0.6s						
PBA				IAML		01 57 59.5	
	comp=N,671nm,0.5s						
DGPR	**DIGLIPUR**	**3.00**	**349**	*eP*	**Pn**	**01 57 46.4**	**+0.7**
DGPR				*eS*	**Sn**	**01 58 19.4**	**-1.5**
CMBY	**CAMPBELL BAY**	**3.21**	**173**	*eP*	**Pb**	**01 57 54.5**	**-1.4**
CMBY				*eS*	**Sb**	**01 58 32.9**	**-1.7**
CMBY				IAML		01 58 40.2	
	comp=N,201nm,0.7s						
SRIT	**Nakonsritamara**	**6.20**	**105**		**Pn**	**01 58 29.0**	**-0.7**
PSI	**Prapat**	**9.10**	**144**	Pn	**Pn**	**01 59 14.5**	**+4.8**
	comp=N,1.0nm,0.3s,baz=338,slow=19,SNR=2.2						
PSI				LR	LR	02 02 52.2	
	comp=N,158nm,20.3s,baz=292,slow=38						
RPSI	**Rantau Prapat**	**9.19**	**144**		**Pn**	**01 59 14.5**	**+3.7**
CMAR	**Chiang Mai Arr**	**9.72**	**32**	Pn	**Pn**	**01 59 17.8**	**-0.3**
	comp=N,0.4nm,0.3s,baz=226,slow=13,SNR=5.6						
	comp=N,0.5nm,0.4s						
BRDH	**Bariadhala**	**12.52**	**352**	LR	LR	02 06 03.9	
	comp=N,120nm,18.5s,baz=140,slow=44						
GAR	**Garm**	**35.38**	**328**	P	**P**	**02 03 54.4**	**+0.7**
BTK	**Batken**	**35.92**	**330**		**P**	**02 03 58.9**	**+0.6**
BTK				IAmb	IAmb	02 04 02.3	
	comp=Z,5.7nm,1.1s						
MKAR	**Makanchi Array**	**37.69**	**347**	P	**P**	**02 04 12.2**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=157,slow=7.9,SNR=11						
	comp=Z,1.1nm,0.8s						
KKAR	**Karatay Array**	**38.42**	**333**	P	**P**	**02 04 20.0**	**+0.6**
SONM	**Songino Array**	**39.03**	**14**	P	**P**	**02 04 23.3**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=189,slow=8.6,SNR=3.8						
	comp=Z,0.5nm,0.6s						
KSRS	**Korea Array**	**41.13**	**43**	P	**P**	**02 04 40.0**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=264,slow=11,SNR=4.7						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**42.14**	**346**	P	**P**	**02 04 49.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=163,slow=7.2,SNR=8.9						
	comp=Z,0.9nm,0.8s						
MTN	**Manton Dam**	**43.80**	**121**	P	**P**	**02 05 05.7**	**+1.7**
ZALV	**Zalesovo Beam**	**44.17**	**353**		**P**	**02 05 06.0**	**-0.3**
ZALV	**Zalesovo Beam**	**44.17**	**353**	P	**P**	**02 05 06.2**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=175,slow=8.6,SNR=11						
ZALV				LR	LR	02 24 30.9	
	comp=Z,47nm,18.8s,baz=35,slow=38						
	comp=Z,2.7nm,0.6s						
BVAR	**Borovoye Array**	**46.59**	**341**	P	**P**	**02 05 23.7**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=98,slow=7.6,SNR=4.6						
	comp=Z,1.1nm,0.7s						
ABKAR	**Akbulak array**	**47.91**	**331**		**P**	**02 05 36.6**	**+0.7**
ABKAR				IAmb	IAmb	02 05 36.7	
	comp=Z,1.8nm,0.7s						
ABKAR	**Akbulak array**	**47.91**	**331**		**P**	**02 05 36.3**	**+0.4**
JAY	**Jayapura**	**48.63**	**103**	LR	LR	02 28 48.9	
	comp=Z,49nm,19.2s,baz=358,slow=39						
WB0	**Warramunga Arr**	**50.06**	**127**	P	**P**	**02 05 52.8**	**-0.1**
WB0				IAmb	IAmb	02 06 17.2	
	comp=Z,3.0nm,1.1s						
WRA	**Warramunga Arr**	**50.12**	**127**	P	**P**	**02 05 53.5**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=305,slow=8.7,SNR=6.5						
	comp=Z,0.5nm,0.5s						
WB2	**Warramunga Arr**	**50.13**	**127**	P	**P**	**02 05 53.9**	**+0.5**
WB2				IAmb	IAmb	02 05 57.2	
	comp=Z,2.7nm,1.0s						
ASAR	**Alice Springs**	**51.88**	**131**	P	**P**	**02 06 06.5**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=309,slow=7.4,SNR=8.1						
	comp=Z,0.8nm,0.8s						
ARTI	**Arti**	**53.55**	**337**	LR	LR	02 30 42.8	
	comp=Z,73nm,19.3s,baz=50,slow=38						
KBZ	**Khabaz**	**54.97**	**317**	P	**P**	**02 06 28.9**	**0.0**
	comp=Z,1.4nm,0.9s,baz=208,slow=3.2,SNR=5.5						
	comp=Z,1.4nm,0.9s						
BRTR	**Keskin Array B**	**60.47**	**310**	P	**P**	**02 07 07.2**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=112,slow=11,SNR=8.5						
	comp=Z,0.9nm,0.8s						
BURAR	**Bucovina Array**	**67.93**	**317**	P	**P**	**02 07 56.0**	**-0.6**
FINES	**FINESS Array B**	**70.38**	**332**	P	**P**	**02 08 10.1**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=101,slow=9.5,SNR=2.2						
	comp=Z,1.7nm,0.9s						
ARCES	**ARCESS Array B**	**72.87**	**340**	P	**P**	**02 08 26.7**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=74,slow=8.9,SNR=3.7						
ARCES				LR	LR	02 43 11.3	
	comp=Z,24nm,18.6s,baz=136,slow=38						
	comp=Z,1.4nm,0.8s						
GERES	**GERESS Array B**	**75.70**	**318**	P	**P**	**02 08 43.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=106,slow=4.9,SNR=4.7						
	comp=Z,0.5nm,0.6s						
HFS	**Hagfors**	**76.15**	**330**	P	**P**	**02 08 45.7**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=115,slow=12,SNR=1.6						
	comp=Z,0.8nm,0.7s						
SPITS	**Spitsbergen Ar**	**77.44**	**348**	P	**P**	**02 08 52.2**	**-0.3**
	comp=Z,8.3nm,1.0s,baz=113,slow=10,SNR=4.7						
SPITS				LR	LR	02 49 31.2	
	comp=Z,44nm,18.0s,baz=347,slow=41						
	comp=Z,8.3nm,1.0s						
KEST	**Kesra**	**79.42**	**305**	P	**P**	**02 09 04.7**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=122,slow=13,SNR=2.0						
	comp=Z,3.7nm,0.9s						
TXAR	**Lajitas Array**	**137.32**	**22**	PKP	**PKiKP**	**02 16 23.3**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=341,slow=2.6,SNR=4.5						
PLCA	**Paso Flores**	**146.50**	**202**	PKPbc	**PKPab**	**02 16 40.0**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=31,slow=4.6,SNR=4.8						

WEL 12 02:00:32.9±0.9, 37°S±7°×18°0E±°, h33km, M3.3/11, ML3.7/16, MLv3.3/11, Error ellipse: s-maj=8.9km s-min=6.4km az=164.4, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.31**	**251**	P	Pn	02 00 55.2	+0.4
WMGZ				S	Sb	02 01 13.5	+0.1
MXZ	**Matakaoa Point**	**1.34**	**262**	P	Pn	02 00 55.0	-0.3
MXZ				S	Sn	02 01 11.4	-0.5
PUZ	**Puketiti**	**1.52**	**243**	P	Pn	02 00 58.0	+0.2
PUZ				S	Sn	02 01 17.4	+0.9
PKGZ	**Pakihiroa**	**1.58**	**252**	P	Pn	02 00 58.6	+0.1
PKGZ				S	Sn	02 01 18.8	+0.9
TWGZ	**Tauwhareparae**	**1.76**	**243**	P	Pn	02 01 01.6	+0.4
TWGZ				S	Sn	02 01 24.0	+1.5
CNGZ	**Carnagh Statio**	**1.77**	**232**	P	Pn	02 01 02.0	+0.8
HAZ	**Te Kaha**	**1.78**	**258**	P	Pn	02 01 01.5	+0.2
HAZ				S	Sn	02 01 23.5	+0.7
RUGZ	**Raukumara Rang**	**1.91**	**252**	P	Pn	02 01 03.3	+0.1
RUGZ				S	Sn	02 01 26.5	+0.3
TKGZ	**Te Karaka**	**1.98**	**238**	P	Pn	02 01 04.4	+0.3
TKGZ				S	Sn	02 01 28.9	+1.2
MWZ	**Matawai**	**2.15**	**243**	P	Pn	02 01 06.3	-0.2
MWZ				S	Sn	02 01 32.6	+0.6
RIGZ	**Rimuhau**	**2.18**	**233**	P	Pn	02 01 07.2	+0.3
RIGZ				S	Sn	02 01 34.2	+1.3
PRGZ	**Paritu Road**	**2.25**	**227**	P	Pn	02 01 07.7	-0.1
PRGZ				S	Sn	02 01 34.7	+0.3
RAGZ	**Rawiri**	**2.30**	**241**	P	Pn	02 01 08.2	-0.4
RAGZ				S	Sn	02 01 36.2	+0.4
MHGZ	**Mahia Peninsul**	**2.40**	**222**	P	Pn	02 01 09.6	-0.2
MHGZ				S	Sn	02 01 39.0	+1.0
URZ	**Urewera**	**2.43**	**248**	P	Pn	02 01 10.7	+0.5
URZ				S	Sn	02 01 38.4	-0.4
KNZ	**Kokohu**	**2.44**	**227**	P	Pn	02 01 09.8	-0.5
KNZ				S	Sn	02 01 39.1	+0.1
SNGZ	**Shannon Statio**	**2.50**	**236**	P	Pn	02 01 11.2	-0.1
SNGZ				S	Sn	02 01 41.1	+0.5
RTZ	**Ruatahuna**	**2.66**	**242**	P	Pn	02 01 13.6	+0.1
RTZ				S	Sn	02 01 45.2	+0.5
RAHZ	**Arahi**	**2.74**	**235**	P	Pn	02 01 14.7	+0.2
RAHZ				S	Sn	02 01 47.4	+0.9
MUGZ	**Murupara**	**2.76**	**246**	P	Pn	02 01 15.2	+0.4
MTHZ	**Maungataniwha**	**2.87**	**239**	P	Pn	02 01 16.4	0.0
MTHZ				S	Sn	02 01 50.0	+0.2
ARHZ	**Aropaoanui**	**3.00**	**231**	P	Pn	02 01 18.0	0.0
ARHZ				S	Sn	02 01 53.8	+1.0
NMHZ	**Naumai**	**3.02**	**235**	P	Pn	02 01 18.6	+0.2
BKZ	**Black Stump Fm**	**3.26**	**236**	P	Pn	02 01 21.7	0.0
BKZ				S	Sn	02 01 59.3	-0.2
MCHZ	**McNeill Hill**	**3.29**	**231**	P	Pn	02 01 21.7	-0.4
KAHZ	**Kahuranaki**	**3.41**	**224**	P	Pn	02 01 23.0	-0.8
KRHZ	**Kereru**	**3.61**	**230**	P	Pn	02 01 25.4	-1.1
KRHZ				S	Sn	02 02 05.5	-2.6
WAZ	**Wanganui**	**4.57**	**237**	S	Sn	02 02 30.0	-1.6
WCZ	**Waipu Caves**	**4.75**	**286**	P	Pn	02 01 42.6	+0.4
CTZ	**Chatham Island**	**6.84**	**159**	P	Pn	02 02 10.3	-0.5

*IDC **12** 02:04:39.1±3.7, 12°.50N×88°.22W, h0km, mb3.7/4, mbtmp3.8/5, ML3.9/1, MS2.9/1, Error ellipse: s-maj=114.9km s-min=41.3km az=29.0*
*GCG **12** 02:04:40.8±1.4, 12°.24N×89°.39W, h1km±15km, MD4.5*
*CATAC **12** 02:04:43.8±0.7, 12°N±4°×8°.9W±°, h1km, M4.0/12, MLv4.0/12, Error ellipse: s-maj=9.5km s-min=5.9km az=30.7, confirmed*
*NEIC **12** 02:04:44.7±2.3, 12°.43N±0°.07×89°.20W±0°.06, h10km±2km, mb4.4/24, Error ellipse: s-maj=15.4km s-min=3.3km az=221.0*
*SNET **12** 02:04:45.0±1.4, 12°.46N×89°.32W, h10km±13km, ML4.0*
ISC 12 02:04:43.5±0.9, 12°.43N±0°.05×89°.28W±0°.04, h10km, n93, σ1§69/93, mb4.3/14, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.06**	**358**	*eP*	**Pg**	**02 05 03.9**	**+0.1**
LALI				*eS*	**Sg**	**02 05 14.8**	**-2.8**
LALI	**Alcalda de L**	**1.06**	**358**	*eP*	**Pg**	**02 05 03.5**	**-0.3**
LALI	**Alcalda de L**	**1.06**	**358**	P	**Pg**	**02 05 04.4**	**+0.6**
LALI	**Alcalda de L**	**1.06**	**358**	S	**Sg**	**02 05 15.2**	**-2.3**
TECO	**Alcaldia de Te**	**1.21**	**24**	S	**Sg**	**02 05 22.6**	**+0.2**
TECO	**Alcaldia de Te**	**1.21**	**24**	P	**Pb**	**02 05 06.2**	**-0.2**
LFRS	**El Faro**	**1.21**	**10**	*eP*	**Pb**	**02 05 06.5**	**0.0**
LOMA	**Loma Larga**	**1.22**	**5**	*eP*	**Pb**	**02 05 06.6**	**-0.1**
LOMA	**Loma Larga**	**1.22**	**5**	S	**Sn**	**02 05 25.3**	**+2.0**
LOMA	**Loma Larga**	**1.22**	**5**	P	**Pb**	**02 05 07.0**	**+0.3**
JAYA	**Jayaque - finc**	**1.23**	**352**	*eP*	**Pn**	**02 05 05.8**	**-1.2**
JAYA	**Jayaque - finc**	**1.23**	**352**	*eP*	**Pn**	**02 05 06.0**	**-0.9**
JAYA	**Jayaque - finc**	**1.23**	**352**	P	**Pn**	**02 05 07.2**	**+0.3**
JAYA	**Jayaque - finc**	**1.23**	**352**	S	**Sb**	**02 05 18.6**	**-4.4**
COEG	**Centro de Oper**	**1.25**	**18**	*eP*	**Pn**	**02 05 07.5**	**+0.4**
COEG	**Centro de Oper**	**1.25**	**18**	P	**Pn**	**02 05 07.5**	**+0.4**
COEG	**Centro de Oper**	**1.25**	**18**	S	**Sb**	**02 05 21.3**	**-2.1**
PMON	**Piamonte**	**1.28**	**358**	*eP*	**Pn**	**02 05 06.6**	**-0.9**
PMON	**Piamonte**	**1.28**	**358**	P	**Pn**	**02 05 08.5**	**+0.9**
PMON	**Piamonte**	**1.28**	**358**	S	**Sb**	**02 05 20.5**	**-3.8**
BOQS	**Boqueron**	**1.30**	**360**	*eP*	**Pn**	**02 05 08.0**	**0.0**
TECA	**Tecapa**	**1.30**	**35**	*eP*	**Pn**	**02 05 07.9**	**-0.1**
PIC2	**El Picacho**	**1.31**	**1**	*eP*	**Pn**	**02 05 08.1**	**0.0**
PAVA	**Las Pavas**	**1.32**	**15**	*eP*	**Pn**	**02 05 08.2**	**0.0**
PAVA	**Las Pavas**	**1.32**	**15**	S	**Sb**	**02 05 22.1**	**-3.4**
PAVA	**Las Pavas**	**1.32**	**15**	P	**Pn**	**02 05 08.6**	**+0.5**
LFU	**La Fuente**	**1.32**	**7**	*eP*	**Pn**	**02 05 08.5**	**+0.3**
CEDA	**San Andres**	**1.37**	**355**	*eP*	**Pn**	**02 05 09.1**	**+0.3**
CEDA	**San Andres**	**1.37**	**355**	S	**Sn**	**02 05 28.7**	**+1.7**
CEDA	**San Andres**	**1.37**	**355**	P	**Pn**	**02 05 09.7**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.38**	**23**	P	**Pb**	**02 05 10.1**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.38**	**23**	S	**Sb**	**02 05 25.2**	**-1.8**
PACA	**Pacayal**	**1.39**	**42**	*eP*	**Pn**	**02 05 09.4**	**+0.3**
PACA	**Pacayal**	**1.39**	**42**	S	**Sg**	**02 05 28.1**	**-0.3**
PACA	**Pacayal**	**1.39**	**42**	P	**Pg**	**02 05 11.2**	**+0.9**
BLLM	**Bellamira**	**1.43**	**45**	*eP*	**Pn**	**02 05 10.0**	**+0.4**
CEVE	**Cerro Verde**	**1.43**	**346**	*eP*	**Pn**	**02 05 09.4**	**-0.4**
CEVE	**Cerro Verde**	**1.43**	**346**	P	**Pn**	**02 05 09.8**	**0.0**
CEVE	**Cerro Verde**	**1.43**	**346**	S	**Sn**	**02 05 26.4**	**-2.4**
SBLS	**San Blas**	**1.44**	**347**	*eP*	**Pn**	**02 05 09.5**	**-0.5**
UNIC	**Universidad Ca**	**1.57**	**350**	S	**Sg**	**02 05 35.6**	**+1.7**
UNIC	**Universidad Ca**	**1.57**	**350**	P	**Pn**	**02 05 11.8**	**+0.3**
LCND	**La Caada**	**1.61**	**57**	P	**Pn**	**02 05 12.2**	**+0.2**
CNCH	**Conchagua**	**1.64**	**59**	*eP*	**Pn**	**02 05 12.7**	**+0.1**
CNCH	**Conchagua**	**1.64**	**59**	P	**Pb**	**02 05 14.0**	**0.0**
CNCH	**Conchagua**	**1.64**	**59**	S	**Sg**	**02 05 39.0**	**+2.6**
CSGN	**Cosiguina Volc**	**1.77**	**72**	P	**Pb**	**02 05 15.4**	**-0.6**
CSGN				S	**Sb**	**02 05 37.7**	**-0.5**
MTO3	**Montecristo**	**1.96**	**358**		**Pn**	**02 05 17.7**	**+0.7**
MTO3				Sn	**Sn**	**02 05 42.9**	**+1.0**
MTO3	**Montecristo**	**1.96**	**358**	*eP*	**Pn**	**02 05 18.3**	**+1.3**
MTO3	**Montecristo**	**1.96**	**358**	S	**Sb**	**02 05 46.0**	**+1.9**
MTO3	**Montecristo**	**1.96**	**358**	P	**Pn**	**02 05 18.4**	**+1.3**
MARCA	**Marcala la Paz**	**2.11**	**35**	*eP*	**Pn**	**02 05 19.9**	**+1.0**
ESQI	**Esquipulas**	**2.12**	**358**		**Pn**	**02 05 20.8**	**+1.7**
ESQI	**Esquipulas**	**2.12**	**358**	P	**Pn**	**02 05 21.7**	**+2.6**
ESQI	**Esquipulas**	**2.12**	**358**	S	**Sb**	**02 05 49.5**	**+0.9**
CRIN	**San Cristobal**	**2.19**	**83**		**Pn**	**02 05 21.1**	**+1.0**
POLN	**Al Sur del Vol**	**2.42**	**84**	P	**Pn**	**02 05 23.2**	**+0.1**
POLN				S	**Sn**	**02 05 48.3**	**-4.5**
CNGN	**Cerro Negro**	**2.52**	**88**		**Pn**	**02 05 24.9**	**+0.3**
TGUH	**Tegucigalpa,Un**	**2.54**	**50**		**Pn**	**02 05 25.7**	**+0.8**
STG8	**El Palmar, Qui**	**2.85**	**315**	*eP*	**Pn**	**02 05 33.7**	**+4.5**
HUEH	**Huehuetenango**	**3.59**	**323**		**Pn**	**02 05 41.2**	**+1.7**
PETF	**Flores**	**4.50**	**353**		**Pn**	**02 05 54.7**	**+2.9**
CCIG	**Comitan**	**4.73**	**324**		**Pn**	**02 05 57.6**	**+2.6**
CMIG	**Matias Romero**	**7.13**	**311**	Pn	Pn	02 06 33.4	+5.5
	1.6nm,0.3s,baz=126,slow=17,SNR=20						
CMIG				Sn	**Sb**	**02 08 08.1**	**-4.6**
	1.1nm,0.3s,baz=160,slow=18,SNR=2.4						
	12nm,0.5s						
BRU2	**Volcan**	**7.41**	**118**		**Pn**	**02 06 33.3**	**+1.4**
TEIG	**Tepich**	**7.82**	**7**	Pn	**Pn**	**02 06 39.8**	**+2.5**
FLOC	**Florencia**	**17.28**	**128**		**P**	**02 08 46.8**	**+0.3**
FLOC				IAmb	IAmb	02 08 53.1	
	comp=Z,48nm,1.5s						
HNDO	**Hondo**	**19.39**	**333**	P	**P**	**02 09 10.2**	**+0.5**
BRDY	**Brady**	**20.80**	**336**		**P**	**02 09 24.6**	**-0.4**
WHTX	**Lake Whitney,**	**20.88**	**340**	P	**P**	**02 09 25.4**	**-0.4**
WHTX				IAmb	IAmb	02 09 33.7	
	comp=Z,13nm,0.8s						
BAUV	**El Baul**	**21.15**	**97**	P	**P**	**02 09 27.6**	**-1.4**
BAUV				IAmb	IAmb	02 10 09.1	
	comp=Z,13nm,1.1s						
OZNA	**Ozona**	**21.42**	**331**	P	**P**	**02 09 34.6**	**+2.8**
TXAR	**Lajitas Array**	**21.50**	**324**	P	**P**	**02 09 34.2**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=131,slow=8.0,SNR=17						
	comp=Z,1.5nm,0.6s						
PLPT	**Palo Pinto**	**21.92**	**339**		**P**	**02 09 36.0**	**-1.0**
PLPT				IAmb	IAmb	02 09 44.9	
	comp=Z,18nm,1.1s						
MIAR	**Mount Ida**	**22.36**	**351**		**P**	**02 09 42.7**	**+0.9**
MIAR				IAmb	IAmb	02 09 51.3	
	comp=Z,11nm,1.0s						
MNHN	**Monahans**	**22.56**	**329**	P	**P**	**02 09 46.0**	**+1.9**
SN05	**Snyder 5**	**22.97**	**334**	P	**P**	**02 09 48.9**	**+0.6**
SN05				IAmb	IAmb	02 09 56.8	
	comp=Z,9.3nm,0.7s						
APMT	**Aspermont**	**23.04**	**336**		**P**	**02 09 47.0**	**-2.0**
APMT				IAmb	IAmb	02 09 57.0	
	comp=Z,16nm,1.2s						
LPIG	**La Paz**	**23.06**	**303**	LR	LR	02 17 52.6	
	comp=Z,30nm,19.6s,baz=158,slow=33						
LCAR	**Lake Charles**	**23.60**	**356**	P	**P**	**02 09 54.1**	**-0.4**
TKL	**Tuckaleechee C**	**23.66**	**11**	P	**P**	**02 09 55.2**	**0.0**
TKL				IAmb	IAmb	02 10 37.9	
	comp=Z,16nm,1.4s						
DKNS	**Dickens**	**23.66**	**335**	P	**P**	**02 09 55.2**	**-0.1**
WMOK	**Wichita Mounta**	**23.83**	**340**	IAmb	IAmb	02 10 03.7	
	comp=Z,5.7nm,0.8s						
T42A	**Van Buren**	**24.55**	**357**		**P**	**02 10 03.6**	**+0.2**
T42A				IAmb	IAmb	02 10 10.6	
	comp=Z,7.7nm,0.8s						
MSTX	**Muleshoe**	**24.72**	**332**		**P**	**02 10 07.1**	**+1.9**
CCM	**Cathedral Cave**	**25.58**	**356**	P	**P**	**02 10 12.6**	**-0.2**
R40A	**Maddies Statio**	**25.90**	**355**	IAmb	IAmb	02 10 24.2	
	comp=Z,6.4nm,0.8s						
RTBA	**Rita Blanca**	**26.80**	**335**	IAmb	IAmb	02 10 32.1	
	comp=Z,5.6nm,0.7s						
PDAR	**Pinedale Array**	**34.97**	**334**	P	**P**	**02 11 38.0**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=133,slow=11,SNR=4.8						
	comp=Z,0.4nm,0.6s						
TPAW	**Teton Pass**	**36.16**	**333**	P	**P**	**02 11 46.5**	**0.0**
NVAR	**Mina Array Bea**	**36.56**	**320**	P	**P**	**02 11 53.8**	**+4.0**
	comp=Z,1.4nm,0.8s,baz=136,slow=9.0,SNR=4.7						
	comp=Z,1.4nm,0.8s						
YKA	**Yellowknife Ar**	**53.18**	**346**	P	**P**	**02 13 59.7**	**-1.8**
	comp=Z,1.4nm,0.7s,baz=145,slow=8.0,SNR=20						
	comp=Z,1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**148.26**	**345**	PKPbc	**PKPdf**	**02 24 27.5**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=349,slow=4.1,SNR=5.5						

*NOU **12** 02:28:51.9, 18°.03S×179°.20W, h629km, mb4.8/41, Fiji Islands Region*
*NEIC **12** 02:28:52.7±2.3, 18°.0S±0°.1×179°.4W±0°.1, h619km±7km, mb4.6/40, Error ellipse: s-maj=16.8km s-min=15.2km az=191.0*
*IDC **12** 02:28:52.9±1.1, 17°.92S×179°.44W, h624km±13km, mb3.5/17, mbtmp4.4/20, Error ellipse: s-maj=12.6km s-min=11.6km az=118.0*
ISC 12 02:28:52.5±0.3, 18°.01S±0°.07×179°.39W±0°.06, h622km, n261, σ1§11/257, mb4.5/48, 26C-28D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.58**	**112**	P	**P**	**02 30 04.7**	**-0.5**
LKBA	**Tubou, Lakemba**	**0.58**	**112**	S	**S**	**02 31 04.2**	**-0.2**
TAVE	**Taveuni**	**1.39**	**339**	P	**P**	**02 30 07.3**	**+0.3**
TAVE	**Taveuni**	**1.39**	**339**	S	**S**	**02 31 09.8**	**+2.5**
DGTI	**Dogotuki**	**1.90**	**334**	P	**P**	**02 30 08.3**	**-0.3**
DGTI	**Dogotuki**	**1.90**	**334**	S	**S**	**02 31 11.5**	**+1.2**
MSVF	**Nonsavu**	**2.46**	**276**	P	**P**	**02 30 11.6**	**+0.6**
	105nm,0.6s,baz=111,slow=1.7,SNR=117						
MSVF				S	**S**	**02 31 17.4**	**+2.7**
	104nm,1.1s,baz=53,slow=21,SNR=25						
MSVF	**Nonsavu**	**2.46**	**276**	P	**P**	**02 30 11.4**	**+0.5**
MSVF	**Nonsavu**	**2.46**	**276**	S	**S**	**02 31 17.2**	**+2.5**
FUTU	**Fugatoga**	**3.88**	**18**	P	**P**	**02 30 17.8**	**-1.2**
NIUE	**Niue

MBWA Marble Bar 57.15 256 P P 02 37 41.7 -0.4
KLBR Kellerberrin 57.95 244 P P 02 37 47.6 +0.2
MORW Morawa 59.59 246 P P 02 37 58.0 -0.5
VNDA Vanda 60.26 185 P 02 38 03.6 +1.6
VNDA Vanda 60.26 185 P P 02 38 03.4 +1.4
comp=Z,1.2nm,0.7s,baz=357,slow=7.5,SNR=12
comp=Z,1.2nm,0.7s
PLAI Plampang 61.56 270 P P 02 38 11.8 +0.2
TOLI2 Tolitoli 61.82 281 P P 02 38 13.0 -0.3
JAGI Jajag, Banyuwa 65.11 269 P 02 38 32.3 -1.8
JAGI IAmb IAmb 02 38 33.4
comp=Z,30nm,0.8s
JAGI Jajag, Banyuwa 65.11 269 P P 02 38 34.1 0.0
CASY Casey 65.65 205 P P 02 38 36.8 +0.3
MJAR Matsushiro Arr 67.44 324 P P 02 38 47.3 -0.8
comp=Z,6.1nm,0.6s,baz=155,slow=5.8,SNR=15
comp=Z,6.1nm,0.6s
UGM Wanagama 68.71 268 P P 02 38 55.0 -1.3
JKA Kamikawa-asahi 70.93 332 P 02 39 09.6 +1.0
JKA IAmb IAmb 02 39 10.6
comp=Z,12nm,1.0s
SSLB Suanglung 71.52 304 P P 02 39 10.8 -1.8
BBJI Bungbulang 71.57 268 P P 02 39 12.8 -0.3
KSM Kuching 71.78 278 P 02 39 14.8 +0.5
KSM Kuching 71.78 278 P P 02 39 14.5 +0.3
QSPA South Pole Qui 72.04 180 P P 02 39 15.8 +0.9
QSPA IAmb IAmb 02 39 16.3
comp=Z,7.4nm,0.7s
QSPA South Pole Qui 72.04 180 P P 02 39 15.8 +0.9
comp=Z,5.8nm,0.6s,baz=299,slow=0.5,SNR=50
comp=Z,5.8nm,0.6s
PEA0B Petropavlovsk- 73.55 346 P 02 39 23.4 0.0
PEA0B IAmb IAmb 02 39 24.0
comp=Z,12nm,0.9s
PETK Petropavlovsk- 73.55 346 P 02 39 22.4 -1.1
PETK Petropavlovsk- 73.55 346 P P 02 39 23.2 -0.2
comp=Z,7.5nm,0.8s,baz=131,slow=8.1,SNR=16
comp=Z,7.5nm,0.8s
KSRS Korea Array 74.17 319 P P 02 39 27.4 +0.2
comp=Z,1.5nm,0.7s,baz=132,slow=7.0,SNR=9.4
comp=Z,1.5nm,0.7s
KSAR Wonju Array Be 74.18 319 P P 02 39 26.4 -1.0
USRK Ussuriysk Ar. 76.18 326 P P 02 39 38.6 +0.3
comp=Z,2.4nm,0.6s,baz=170,slow=3.3,SNR=8.3
comp=Z,2.4nm,0.6s
NJ2 Nanjing 77.29 310 *eP* **P 02 39 45.4 +0.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
MDJ Mudanjiang 77.74 325 P P 02 39 47.7 +0.9
MDJ pmax pmax
comp=Z,18nm,0.8s
CN2 Changchun 79.54 323 *eP* **P 02 39 56.5 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,180nm,5.0s
BNX BinXian 79.65 325 ⇓P **P 02 39 56.6 -0.2**
BNX pmax pmax
comp=Z,15nm,1.0s
NVAR Mina Array Bea 80.15 44 P P 02 40 00.6 +0.7
comp=Z,1.1nm,0.7s,baz=207,slow=7.6,SNR=4.0
comp=Z,1.1nm,0.7s
M17K Holitna River 81.07 10 P P 02 40 03.6 -0.2
M17K IAmb IAmb 02 40 47.4
comp=Z,34nm,1.4s
K15K Wolf Creek Mou 81.28 8 P P 02 40 05.7 +0.8
K15K IAmb IAmb 02 40 06.5
comp=Z,18nm,0.8s
BELA Belgrano 2 82.18 173 P 02 40 09.3 0.0
BELA IAmb IAmb 02 40 10.0
comp=Z,11nm,0.8s
RPSI Rantau Prapat 82.93 275 P 02 40 13.7 -0.6
RPSI IAmb IAmb 02 40 14.7
comp=Z,14nm,0.9s
PSI Prapat 82.97 275 P P 02 40 14.1 -0.6
MAW Mawson 83.44 200 P P 02 40 16.8 +1.0
MAW Mawson 83.44 200 P P 02 40 16.6 +0.9
comp=Z,5.6nm,0.6s,baz=121,slow=7.7,SNR=6.5
comp=Z,5.6nm,0.6s
SCM Sheep Creek Mo 83.56 15 P P 02 40 15.7 -0.7
SCM IAmb IAmb 02 40 33.3
comp=Z,40nm,1.4s
NONG Nongkai 84.16 291 P P 02 40 19.9 -0.4
NAYO Nakonayok 84.50 287 P P 02 40 21.9 -0.1
XAN Xi'an 85.59 308 P P 02 40 28.0 +1.1
XAN pmax pmax
comp=Z,22nm,0.9s
ILAR Eielson Array 86.20 13 P P 02 40 27.9 -1.1
comp=Z,1.1nm,0.7s,baz=236,slow=6.0,SNR=11
comp=Z,1.1nm,0.7s
BILL Bilibino 86.45 355 P P 02 40 30.1 +0.1
HHC Hu-ho-hao-te 86.69 315 *eP* **P 02 40 35.5 +3.5**
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.3s
TXAR Lajitas Array 86.84 58 P P 02 40 34.8 +1.8
comp=Z,1.1nm,1.0s,baz=241,slow=4.1,SNR=7.0
comp=Z,1.1nm,1.0s
COLD Coldfoot 87.69 11 P 02 40 36.2 +0.3
CMAR Chiang Mai Arr 88.05 290 P 02 40 39.5 +0.8
CMAR Chiang Mai Arr 88.05 290 P P 02 40 40.0 +1.3
comp=Z,4.4nm,0.9s,baz=113,slow=2.9,SNR=24
comp=Z,4.4nm,0.9s
PDAR Pinedale Array 88.07 44 P P 02 40 38.8 +0.3
PDAR Pinedale Array 88.07 44 P P 02 40 39.1 +0.6
comp=Z,0.3nm,0.6s,baz=171,slow=2.7,SNR=3.8
comp=Z,0.3nm,0.6s
CHTO Chiang Mai 88.16 290 P 02 40 39.5 +0.3
CHTO IAmb IAmb 02 40 40.8
comp=Z,5.4nm,0.9s
CHTO Chiang Mai 88.16 290 P P 02 40 39.5 +0.3
PZH PanZhiHua 88.39 298 P P 02 40 39.7 -0.6
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,5.3s
MMPY Sheldon Lake, 88.79 20 P P 02 40 41.7 +0.5
MMPY IAmb IAmb 02 40 42.4
comp=Z,3.6nm,0.7s
ELIB Princess Elisa 88.94 187 *dP* **P 02 40 41.5 -0.5**
ELIB *dP* **pP 02 42 53.8 -0.6**
TROLL Troll, Antarti 90.19 181 ⇓P **P 02 40 47.8 -0.1**
comp=Z,505nm,0.8s
LZH Lanzhou 90.22 308 *eP* **P 02 40 49.2 +0.6**
LZH pP PcP 02 41 03.0 +14
LZH pmax pmax
comp=Z,30nm,1.2s
SNAA Sanae 90.51 179 P P 02 40 48.9 -0.3
SNAA IAmb IAmb 02 41 01.5
comp=Z,7.8nm,1.3s
SNAA Sanae 90.51 179 ⇓P **P 02 40 49.2 -0.1**
comp=Z,44nm,0.5s
SNAA Sanae 90.51 179 P P 02 40 48.6 -0.6
comp=Z,2.3nm,0.6s,baz=201,slow=10.0,SNR=12
comp=Z,2.3nm,0.6s
VNA3 Neumayer Olymp 90.69 177 ⇓P **P 02 40 50.1 +0.2**
comp=Z,14nm,0.7s
VNA2 Neumayer--Watz 91.12 177 ⇓P **P 02 40 51.9 -0.1**
comp=Z,4.6nm,0.6s,baz=181,slow=4.9
GTA Gaotai 94.39 310 *eP* **P 02 41 08.6 +1.0**
GTA pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 94.82 25 P P 02 41 07.8 -0.9
comp=Z,0.2nm,0.7s,baz=242,slow=4.2,SNR=3.2
comp=Z,0.2nm,0.7s
LMEL Las Melosas 95.15 128 P P 02 41 10.0 -1.3
ZALV Zalesovo Beam 107.74 322 PKiKP PKiKP 02 46 08.9 -1.1
comp=Z,0.7nm,0.4s,baz=191,slow=0.8,SNR=5.9
MKAR Makanchi Array 108.54 314 PKiKP PKiKP 02 46 10.6 -1.3
comp=Z,0.9nm,0.5s,baz=206,slow=0.4,SNR=14
KURBB Kurchatov Arra 111.34 318 PKiKP PKiKP 02 46 15.7 -1.3
comp=Z,1.2nm,0.6s,baz=97,slow=1.8,SNR=14
BVAR Borovoye Array 116.34 321 PKP PKPdf 02 46 25.6 -0.9
comp=Z,3.8nm,0.7s,baz=64,slow=3.4,SNR=16
ARTI Arti 122.53 326 PKP PKPdf 02 46 37.5 -0.8
comp=Z,2.1nm,0.4s,baz=192,slow=3.0,SNR=5.2
AKTO Aktyubinsk 124.34 319 PKP PKPdf 02 46 41.3 -0.7
comp=Z,2.5nm,0.7s,baz=66,slow=1.6,SNR=10
ARCES ARCESS Array B 126.25 349 PKP PKPdf 02 46 45.0 -0.1
comp=Z,2.7nm,0.7s,baz=11,slow=2.5,SNR=12
FINES FINESS Array B 133.03 344 PKP PKPdf 02 46 55.6 -2.5
comp=Z,1.5nm,0.5s,baz=64,slow=4.4,SNR=8.7
NB2 NORSAR Subarra136.37 353 PKP PKPdf 02 47 05.3 +0.9
comp=Z,0.7nm,0.6s,baz=14,slow=4.0
NOA NORSAR Array B136.37 353 PKP PKPdf 02 47 03.0 -1.4
comp=Z,0.6nm,0.6s,baz=14,slow=4.0,SNR=4.6
AKASG Malin Array Be 140.22 332 PKhKP PKPpre 02 47 04.0
comp=Z,1.1nm,0.5s,baz=42,slow=4.2,SNR=10
AKASG PKP **PKPdf 02 47 11.0 -0.7**
comp=Z,1.6nm,0.6s,baz=55,slow=2.3,SNR=8.2
KIEV Kiev 140.23 332 ⇓P **PKPdf 02 47 04.4 -7.3**
SORM Soroca 142.41 329 ⇑P **PKPdf 02 47 11.6 -4.1**
GKP Gorka Klasztor 142.51 344 *ePKP* **PKPdf 02 47 13.6 -2.1**
EKA Eskdalemuir Ar 142.64 4 PKhKP PKPpre 02 47 12.7
comp=Z,2.1nm,0.7s,baz=17,slow=3.5,SNR=8.2
BEL Belsk 142.68 339 *ePKP* **PKPdf 02 47 14.4 -1.6**
BZK Bozkurt 142.88 317 ⇑P **PKPdf 02 47 14.5 -2.2**
LODK Lodwar 143.01 251 PKPbc 02 47 16.7 +0.4
BNN Bunyan 143.03 311 PKPab 02 47 15.4 +0.1
ILGA Ilgaz 143.51 316 PKPdf 02 47 18.1 -0.1
TLCR 144.13 325 ⇓P PKPbc 02 47 18.4 -0.2
BRTR Keskin Array B 144.19 314 PKPbc 02 47 18.8 -0.4
BRTR Keskin Array B 144.19 314 PKP PKPbc 02 47 18.7 -0.5
comp=Z,8.1nm,0.9s,baz=101,slow=2.6,SNR=52
BURAR Bucovina Array 144.26 331 PKPdf 02 47 18.9 -0.2
BURAR Bucovina Array 144.26 331 ⇓P **PKPab 02 47 19.7 +0.1**
KIRS Kirsehir-Merke 144.27 313 ⇓P **PKPdf 02 47 19.2 -0.1**
GHRR 144.30 327 ⇑P **PKPab 02 47 19.7 +0.1**
JURR Jurilovca 144.37 325 ⇑P **PKPdf 02 47 19.2 0.0**
TESR Tescani 144.37 329 ⇓P **PKPdf 02 47 19.1 -0.1**
CFR Carcaliu 144.51 326 ⇓P **PKPdf 02 47 18.7 -0.7**
TPGR Topolog 144.56 325 ⇑P PKPbc 02 47 20.4 +0.4
WLF1 Llynfaes 144.58 5 *eP* **PKPdf 02 47 17.9 -1.3**
ANTO Ankara 144.70 315 PKPbc 02 47 20.8 +0.2
ANTO Ankara 144.70 315 ⇓P **PKPdf 02 47 20.4 +0.3**
VRI Vrincioaia 144.78 328 ⇓P PKPbc 02 47 20.6 0.0
PLOR Plostina 144.83 328 ⇑P PKPbc 02 47 20.7 -0.1
HARR Harsova 144.93 325 ⇓P PKPbc 02 47 21.1 0.0
TLBR Topalu 144.97 325 ⇑P PKPbc 02 47 21.3 +0.2
COVR Voineasa-Covas 145.06 328 ⇑P **PKPbc 02 47 21.4 0.0**
FOEL Foel Wylfa 145.07 4 *eP* **PKPdf 02 47 19.5 -0.7**
LLW Llanuwychllyn 145.08 5 *eP* **PKPdf 02 47 20.0 -0.2**
OSTC Ostas 145.22 342 *ePKP* **PKPbc 02 47 22.0 +0.2**
CHVC Chvalec 145.24 343 *ePKP* **PKPbc 02 47 22.2 +0.4**
STEB Steborice 145.30 340 *ePKP* **PKPbc 02 47 21.9 -0.1**
NEHR Nehoiu 145.30 328 ⇓P **PKPbc 02 47 22.1 -0.1**
AMRR Amara 145.31 326 ⇓P **PKPdf 02 47 18.2 -2.6**
CWF Charnwood Fore 145.32 2 *eP* **PKPdf 02 47 21.3 +0.7**
UPC Upice 145.32 343 *ePKP* **PKPbc 02 47 22.5 +0.5**
DPC Dobruska-Polom 145.37 342 *ePKP* **PKPbc 02 47 22.7 +0.4**
ISR Istrita 145.38 327 ⇓P **PKPbc 02 47 22.3 -0.2**
LANS Liptovska Anna 145.40 338 *ePKP* **PKPab 02 47 23.3 -0.6**
MMAI Mount Meron Ar 145.42 302 PKPbc **PKPbc 02 47 23.4 +0.4**
comp=Z,11nm,0.6s,baz=69,slow=4.6,SNR=18
MLR Muntele Rosu 145.44 328 ⇑P **PKPdf 02 47 21.2 0.0**
KRLC Kraliky 145.48 342 *ePKP* **PKPbc 02 47 22.7 +0.1**
MORC Moravsky Berou 145.51 341 *ePKP* **PKPbc 02 47 22.6 -0.1**
MORC Moravsky Berou 145.51 341 ⇑P **PKPbc 02 47 22.1 -0.5**
PVCC Panska Ves 145.69 344 *ePKP* **PKPbc 02 47 23.4 +0.3**
HSKC Hora Svate Kat 145.91 345 *ePKP* **PKPbc 02 47 23.8 +0.1**
MCH1 Michaelchurch 145.97 4 *eP* **PKPdf 02 47 22.7 +1.0**
MONM Monmouth 146.14 4 *eP* **PKPbc 02 47 23.4 -0.9**
VYHS Vyhne 146.18 338 *ePKP* **PKPbc 02 47 25.0 +0.5**
PRU Pruhonice 146.19 344 *ePKP* **PKPbc 02 47 24.3 -0.2**
GOPC GO Pecny, Ondr 146.20 343 *ePKP* **PKPbc 02 47 24.8 +0.3**
VRAC Vranov 146.22 341 *ePKP* **PKPbc 02 47 24.6 0.0**
JAVC Velka Javorina 146.26 340 *ePKP* **PKPbc 02 47 25.9 +1.1**
CSS Mathiatis 146.40 307 PKPbc 02 47 25.3 -0.2
KRUC Moravsky 146.50 341 *ePKP* **PKPbc 02 47 25.3 0.0**
TREC Trest 146.56 342 *ePKP* **PKPbc 02 47 25.7 +0.2**
ZVC Zvikov 146.79 344 *ePKP* **PKPbc 02 47 26.4 +0.3**
ZVC *ex* x 02 47 29.5
MODS Modra-Piesok 146.82 340 *ePKP* **PKPbc 02 47 27.1 +0.8**
SIRR Siria 146.88 333 ⇑P **PKPbc 02 47 26.7 +0.2**
SRO Srobarova 146.94 338 *ePKP* **PKPbc 02 47 27.1 +0.6**
UCC Uccle 147.16 356 *dPKP* **PKPbc 02 47 26.0 -1.0**
MEM Membach 147.20 354 *dPKP* **PKPbc 02 47 27.0 -0.1**
BTNL Ternell 147.21 354 *dPKP* **PKPbc 02 47 26.4 -0.8**
KHC Kasperske Hory 147.23 344 *ePKP* **PKPbc 02 47 27.6 +0.3**
KHC *ex* x 02 47 31.2
CKRC Cesky Krumlov 147.32 343 *ePKP* **PKPbc 02 47 27.7 +0.1**
BZS Buzias 147.40 332 ⇑P **PKPbc 02 47 27.0 -0.8**
BHOU Houvegnez 147.45 354 *dPKP* **PKPbc 02 47 27.8 0.0**
GERES GERESS Array B 147.46 344 PKPbc 02 47 28.0 0.0
GERES GERESS Array B 147.46 344 PKPbc **PKPbc 02 47 27.7 -0.3**
comp=Z,6.0nm,0.7s,baz=72,slow=4.3,SNR=6.6
BAND Balkesir-Ban 147.50 319 ⇓P **PKPbc 02 47 27.4 -0.9**
BMRD Maredsous 147.62 355 *dPKP* **PKPbc 02 47 28.3 +0.1**
CONA Conrad Observa 147.66 341 *ePKP* **PKPdf 02 47 25.0 +0.2**
comp=Z,0.5nm,0.5s
CONA *i* PKP **PKPbc 02 47 28.6 +0.1**
comp=Z,9.3nm,0.7s,SNR=10.0
CONA Conrad Observa 147.66 341 *eP* **PKPbc 02 47 28.6 +0.1**
comp=Z,9.3nm,0.7s,SNR=10.0
RONA Rosalia, Austr 147.73 340 *ePKP* **PKPbc 02 47 28.9 +0.2**
comp=Z,9.4nm,0.7s
DOU Dourbes 147.84 355 *dPKP* **PKPbc 02 47 28.8 0.0**
MDVR Moldovita 148.00 331 ⇓P **PKPbc 02 47 29.2 -0.2**
WLF Walferdange 148.11 353 *dPKP* **PKPbc 02 47 30.1 +0.6**
MORH Mrgy, Hungar 148.16 336 ⇑P **PKPbc 02 47 29.6 -0.1**
MOA Molln 148.22 342 *ePKiKP* **PKiKP 02 47 31.4 +0.4**
comp=Z,6.7nm,1.2s
ARSA Arzberg 148.37 340 *ePKP* **PKPbc 02 47 30.7 +0.4**
comp=Z,3.8nm,1.0s
BIOA Bad Ischl, Aus 148.54 343 *ePKP* **PKPbc 02 47 30.3 -0.3**
comp=Z,5.9nm,1.1s
FRGS Fruska Gora 148.55 334 ⇑*iP* **PKPbc 02 47 29.3 -1.4**
SOKA Soboth 149.03 341 *i* PKP **PKPbc 02 47 31.4 -0.6**
comp=Z,8.6nm,1.0s,SNR=6.4
LESA Schwarzleotal 149.04 344 *ePKP* **PKPbc 02 47 31.6 -0.4**
comp=Z,4.2nm,0.5s
BFO Black Forest 149.12 350 PKPbc 02 47 31.1 -0.9
TEKS Tekeris 149.15 333 ⇑*iP* **PKPbc 02 47 31.8 -0.4**
KBA Koelnbreinsper 149.18 343 *ePKP* **PKPbc 02 47 31.7 -0.7**
comp=Z,6.7nm,0.6s
WATA Walderalm 149.40 345 *i* PKP **PKPbc 02 47 32.6 -0.3**
comp=Z,8.9nm,0.7s,SNR=4.6
RETA Reutte 149.45 346 *ePKP* **PKPbc 02 47 32.8 -0.2**
comp=Z,8.1nm,1.1s
WTTA Wattenberg 149.45 345 *i* PKP **PKPbc 02 47 33.0 -0.1**
comp=Z,17nm,0.8s,SNR=12
MYKA Terra Mystica 149.50 342 *ePKP* **PKPbc 02 47 31.9 -1.1**
comp=Z,8.4nm,0.7s
MOTA Mosalm 149.50 346 *ePKP* **PKPbc 02 47 32.9 -0.3**
comp=Z,9.9nm,0.9s
SQTA Sankt Quirin 149.60 346 *ePKP* **PKPbc 02 47 33.3 -0.1**
comp=Z,12nm,0.7s
CRES Cresnjevec Ost 149.65 339 ⇑*iP* **PKPbc 02 47 32.0 -1.4**
ABTA Abfaltersbach 149.71 344 *i* PKP **PKPbc 02 47 32.8 -0.8**
comp=Z,14nm,0.7s,SNR=14
BBLS Lazi&#263i 149.75 332 ⇑*iP* **PKPbc 02 47 32.3 -1.4**
DAVA Damuels 149.83 347 *ePKP* **PKPbc 02 47 33.1 -0.8**
comp=Z,7.5nm,0.9s
A051A Mrakovica 149.83 337 ⇑*iP* **PKPbc 02 47 32.5 -1.4**
FETA Feichten 149.90 346 *i* PKP **PKPbc 02 47 34.1 0.0**
comp=Z,9.5nm,0.8s,SNR=9.5
FETA Feichten 149.90 346 *eP* **PKPbc 02 47 34.1 0.0**
comp=Z,9.5nm,0.8s,SNR=9.5
BLY Banja Luka 149.95 336 ⇑*iP* **PKPbc 02 47 31.5 -2.6**
RUDO Rudo 149.96 332 *eP* **PKPbc 02 47 32.8 -1.4**
SJES Sjenica 149.97 331 ⇑*iP* **PKPbc 02 47 32.0 -2.3**
BOJS Bojanci 150.00 339 ⇑*iP* **PKPbc 02 47 33.3 -0.9**
CEY Cerknica 150.06 340 ⇑*iP* **PKPbc 02 47 32.7 -1.7**
SKDS Skadanscina 150.36 341 ⇑*iP* **PKPbc 02 47 34.2 -0.9**
TUE Stuetta 150.72 348 PKPbc 02 47 36.0 -0.1
PDG Podgorica 150.95 331 ⇑*iP* **PKPbc 02 47 35.1 -1.3**
TREB Trebinje 151.13 332 *eP* **PKPbc 02 47 35.6 -1.3**
DRME Dracevica, Mon 151.17 331 ⇑*iP* **PKPbc 02 47 35.6 -1.4**
STON Ston 151.29 333 ⇑*iP* **PKPdf 02 47 26.2 -4.3**

IDC ***12*** *02:43:56.4±0.9, 24°.03N×124°.84E, h0km, mb3.9/13, mbtmp3.9/16, ML3.5/3, MS3.4/9, Error ellipse: s-maj=24.9km s-min=18.7km az=66.0*
NEIC ***12*** *02:43:58.2±1.9, 23°.9N±0°.1×124°.89E±0°.07, h10km±1km, mb4.5/13, Error ellipse: s-maj=17.5km s-min=10.0km az=169.0*
JMA ***12*** *02:43:59.6±0.2, 23°.9N±0°.8×124°.9E±0°.5, h60km, MV3.8/14, NEAR ISHIGAKIJIMA ISLAND*
NIED ***12*** *02:43:59.6, 23°.88N×124°.93E, h60km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr=0.31; Mθθ0.58; Mφφ=0.27; Mrθ0.81; Mθφ1.15; Mrφ0.30; Fault plane solution: M0 1.44000×10^15 NP1:φs7.00000°, δ58.00000°, λ179.00000°. NP2:φs98.00000°, δ89.00000°, λ32.00000°.*

ISC 12 02:43:57.6±2.0, 23°.86N±0°.06×124°.94E±0°.04, h11km±12km, n77, σ1s25/81, mb4.1/22, MS3.6/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.80**	**345**	*i* P	**Pn**	**02 44 15.2**	**+0.3**
JTJ				S	**Sn**	**02 44 26.4**	**-0.5**
JIJ	**Ishigaki jima**	**0.88**	**305**	*i* P	**Pn**	**02 44 16.0**	**+0.1**
JIJ				*e*S	**Sn**	**02 44 29.0**	**+0.3**
JISG	**Ishigakijimahi**	**0.92**	**322**	*i* P	**Pn**	**02 44 16.5**	**0.0**
JISG				S	**Sn**	**02 44 28.5**	**-1.2**
JKRS	**Kuro-shima**	**0.93**	**294**	*i* P	**Pn**	**02 44 17.0**	**+0.4**
JMJ2	**Miyako jima3**	**0.94**	**22**	P	**Pn**	**02 44 16.8**	**0.0**
JMJ2				*e*S	**Sn**	**02 44 30.2**	**-0.2**
JIRB	**Irabujima**	**0.98**	**13**	P	**Pn**	**02 44 17.3**	**-0.1**
JIRB				S	**Sn**	**02 44 30.5**	**-0.8**
JOGS	**Gusukube**	**0.99**	**26**	P	**Pn**	**02 44 17.7**	**+0.2**
JOGS				*e*S	**Sn**	**02 44 31.3**	**-0.2**
JMJ	**Miyako jima 2**	**1.00**	**19**	P	**Pb**	**02 44 16.8**	**-0.2**
HATJ	**Hateruma jima**	**1.05**	**281**	P	**Pn**	**02 44 18.6**	**+0.2**
HATJ				S	**Sn**	**02 44 32.5**	**-0.6**
JIKM	**Ikemajima**	**1.09**	**15**	P	**Pn**	**02 44 19.3**	**+0.4**
JIKM				*e*S	**Sn**	**02 44 33.8**	**-0.2**
IRIF	**Iriomote-Funau**	**1.20**	**293**	P	**Pn**	**02 44 20.6**	**+0.3**
IRIF				*e*S	**Sn**	**02 44 36.3**	**-0.3**
YOJ	**Yonaguni jima**	**1.86**	**289**		**Pn**	**02 44 29.6**	**+0.2**
YOJ	**Yonaguni jima**	**1.86**	**289**	P	**Pg**	**02 44 33.2**	**0.0**
YOJ	**Yonaguni jima**	**1.86**	**289**	*e*P	**Pn**	**02 44 29.8**	**+0.4**
JYNG	**Yonaguni jima**	**1.91**	**288**	P	**Pn**	**02 44 30.6**	**+0.4**
JYNG				S	**Sn**	**02 44 53.0**	**-1.3**
NACB	**Ninganchiao**	**3.07**	**276**		**Pn**	**02 44 45.2**	**-0.9**
YHNB	**Yeheng**	**3.35**	**285**		**Pn**	**02 44 51.4**	**+1.4**
YHNB	**Yeheng**	**3.35**	**285**	P	**Pn**	**02 44 50.9**	**+0.9**
YULB	**Yu-li**	**3.37**	**263**		**Pn**	**02 44 49.1**	**-1.2**
YULB	**Yu-li**	**3.37**	**263**	P	**Pn**	**02 44 49.3**	**-1.0**
SSLB	**Suanglung**	**3.65**	**270**		**Pn**	**02 44 54.6**	**+0.5**
SSLB	**Suanglung**	**3.65**	**270**	P	**Pn**	**02 44 54.6**	**+0.5**
TWGBT	**Beinan**	**3.69**	**254**	P	**Pn**	**02 44 53.5**	**-1.2**
TWG	**Pinlang**	**3.70**	**254**		**Pn**	**02 44 52.9**	**-1.9**
TPUB	**Ta-pu**	**3.99**	**263**		**Pn**	**02 44 59.6**	**+0.7**
TPUB	**Ta-pu**	**3.99**	**263**	P	**Pn**	**02 44 59.5**	**+0.7**
JOW	**Kunigami**	**4.23**	**45**	Pn	**Pn**	**02 45 01.5**	**-0.6**
JOW	**Kunigami**	**4.23**	**45**	Pn	**Pn**	**02 45 01.0**	**-1.1**
	7.1nm,0.3s,baz=116,slow=27,SNR=7.1						
	14nm,0.3s						
JOW	**Kunigami**	**4.23**	**45**	P	Pn	02 44 50.3	-12
NJ2	**Nanjing**	**9.77**	**328**	*e*P	**Pn**	**02 46 20.6**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=N,250nm,7.1s						
NJ2				LR	LR		
	comp=E,240nm,5.2s						
NJ2				LR	LR		
	comp=Z,150nm,7.1s						
KSRS	**Korea Array**	**13.79**	**10**	Pn	**Pn**	**02 47 09.8**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=192,slow=13,SNR=7.6						
KSRS				LR	LR	02 52 46.3	
	comp=Z,56nm,18.2s,baz=185,slow=39						
	comp=Z,1.2nm,0.5s						
MJAR	**Matsushiro Arr**	**17.04**	**39**	Pn	**Pn**	**02 47 56.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=232,slow=10,SNR=9.3						
MJAR				LR	LR	02 53 43.1	
	comp=Z,42nm,20.2s,baz=192,slow=35						
	comp=Z,2.0nm,0.4s						
XAN	**Xi'an**	**17.28**	**310**	P	**P**	**02 48 01.1**	**+0.7**
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC	**Hu-ho-hao-te**	**20.32**	**330**	*e*P	Pn	02 48 37.1	+1.3
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,5.3s						
BTO	**Baotou**	**20.87**	**327**	*e*P	Pn	02 48 43.8	+1.4
BTO				PP	**PnPn**	**02 49 04.2**	**+5.9**
BTO				S	Sn	02 52 38.3	+0.2
BTO				pmax	pmax		
	comp=Z,13nm,0.7s						
BTO				pmax	pmax		
	comp=Z,270nm,5.9s						
BTO				LR	LR		
	comp=N,250nm,5.4s						
BTO				LR	LR		
	comp=E,430nm,5.7s						
BTO				LR	LR		
	comp=Z,350nm,5.0s						
PZH	**PanZhiHua**	**21.15**	**282**	P	**P**	**02 48 42.9**	**-0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.9s						
CMAR	**Chiang Mai Arr**	**24.81**	**262**	LR	LR	03 00 34.0	
	comp=Z,41nm,19.3s,baz=55,slow=40						
KLR	**Kul'dur**	**25.88**	**10**	LR	LR	03 00 18.3	
	comp=Z,80nm,18.4s,baz=8.5,slow=38						
GTA	**Gaotai**	**26.29**	**312**	*e*P	**P**	**02 49 33.2**	**-0.2**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				LR	LR		
	comp=N,94nm,13.1s						
GTA				LR	LR		
	comp=E,84nm,15.9s						
GTA				LR	LR		
	comp=Z,90nm,17.5s						
SONM	**Songino Array**	**28.10**	**333**	P	**P**	**02 49 48.6**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=142,slow=7.3,SNR=3.1						
	comp=Z,0.6nm,0.6s						
PETK	**Petropavlovsk-**	**38.27**	**32**	P	**P**	**02 51 18.3**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=218,slow=7.1,SNR=2.9						
PETK				LR	LR	03 07 56.1	
	comp=Z,45nm,19.8s,baz=159,slow=38						
	comp=Z,0.7nm,0.5s						
MK31	**Makanchi Array**	**40.98**	**315**		**P**	**02 51 39.4**	**-1.1**
MKAR	**Makanchi Array**	**40.98**	**315**		**P**	**02 51 40.0**	**-0.6**
MKAR	**Makanchi Array**	**40.98**	**315**	P	**P**	**02 51 40.0**	**-0.6**
	comp=Z,2.7nm,0.6s,baz=100,slow=10,SNR=33						
	comp=Z,2.7nm,0.6s						
MAKZ	**Makanchi**	**41.18**	**315**		**P**	**02 51 42.0**	**-0.3**
MAKZ				IAmb	IAmb	02 51 42.6	
	comp=Z,4.4nm,0.7s						
ZAA0	**Zalesovo Array**	**42.41**	**326**	P	**P**	**02 51 50.6**	**-1.5**
ZALV	**Zalesovo Beam**	**42.41**	**326**		**P**	**02 51 50.9**	**-1.3**
ZALV	**Zalesovo Beam**	**42.41**	**326**	P	**P**	**02 51 50.4**	**-1.7**
	comp=Z,3.1nm,0.5s,baz=117,slow=8.1,SNR=16						
ZALV				LR	LR	03 10 56.9	
	comp=Z,82nm,19.1s,baz=46,slow=38						
	comp=Z,3.1nm,0.5s						
KSH	**Kashi**	**43.95**	**303**	P	**P**	**02 52 08.3**	**+3.3**
WRA	**Warramunga Arr**	**44.50**	**167**	P	**P**	**02 52 12.2**	**+2.9**
	comp=Z,1.2nm,0.8s,baz=347,slow=8.2,SNR=3.3						
	comp=Z,1.2nm,0.8s						
WB2	**Warramunga Arr**	**44.50**	**167**	P	**P**	**02 52 09.6**	**+0.3**
WB2				IAmb	IAmb	02 52 28.3	
	comp=Z,14nm,1.4s						
KURK	**Kurchatov**	**44.56**	**319**		**P**	**02 52 08.3**	**-1.2**
KURK				IAmb	IAmb	02 52 09.6	
	comp=Z,8.1nm,1.5s						
KURBB	**Kurchatov Arra**	**44.58**	**319**	P	**P

```
FINES FINESS Array B   73.44 330  P        P        02 55 29.8  0.0
FINES FINESS Array B   73.44 330  P        P        02 55 28.9 -0.8
      comp=Z,1.3nm,0.8s,baz=45,slow=7.2,SNR=3.3
      comp=Z,1.3nm,0.8s
C36M Paulatuk          74.94  20  P        P        02 55 38.4  0.0
C36M                              IAmb     IAmb     02 56 08.6
      comp=Z,7.8nm,1.5s
BRTR Keskin Array B    76.11 307  P        P        02 55 45.2 -0.7
BRTR Keskin Array B    76.11 307  P        P        02 55 45.0 -0.9
      comp=Z,0.6nm,0.7s,baz=101,slow=5.2,SNR=4.6
BRTR                              LR       LR       03 32 33.7
      comp=Z,41nm,21.8s,baz=324,slow=38
      comp=Z,0.6nm,0.7s
NC405 NORSAR Array S   79.84 333  P        P        02 56 05.4 -0.6
NC405                             IAmb     IAmb     02 56 32.8
      comp=Z,9.5nm,1.2s
NB2  NORSAR Subarra    80.08 333  P        P        02 56 06.7 -0.7
      comp=Z,0.3nm,0.6s,baz=57,slow=5.3
NOA  NORSAR Array B    80.08 333  P        P        02 56 06.8 -0.5
      comp=Z,0.9nm,0.8s,baz=58,slow=5.5,SNR=5.1
NOA                               LR       LR       03 35 25.6
      comp=Z,32nm,18.3s,baz=320,slow=39
      comp=Z,0.9nm,0.8s
KOLS Kolonicke sedl    80.21 319  eP       P        02 56 10.1 +1.8
YKA  Yellowknife Ar    81.90  24  P        P        02 56 16.4 -0.6
      comp=Z,0.5nm,0.8s,baz=306,slow=5.1,SNR=5.9
      comp=Z,0.5nm,0.8s
MODS Modra-Piesok      83.42 320  eP       P        02 56 31.7 +6.5
```

NOU 12 02:53:02.4, 20°.21S×178°.11W, h49km, mb3.8/7, Fiji Islands Region, Fiji Islands region

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
LKBA Tubou, Lakemba    2.08 341  P     Pn          02 53 34.8  0.0
MARNC Mare, Loyalty    13.02 262 P     Pn          02 56 04.4 -0.4
YATNC Mamie plateau,   14.12 260 P     Pn          02 56 19.8 +0.1
OUENC Ouen Island, N   14.20 258 P     Pn          02 56 20.8  0.0
DZM  Mont Dzumac       14.53 260 P     Pn          02 56 25.3  0.0
KOUNC Koumac, New Ca   16.51 266 P     Pn          02 56 50.6 -0.1
URZ  Urewera           18.46 192 P     P           02 57 13.9 -0.1
```

IDC 12 02:59:41.6±17.0, 19°.94S×179°.02E, h473km±132km, mb3.2/3, mbtmp4.0/4, Error ellipse: s-maj=441.5km s-min=112.9km az=85.0, South of Fiji Islands

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
MSVF Nonsavu           2.38 337  P     P           03 00 46.6 -0.1
      12nm,0.4s,baz=130,slow=16,SNR=24
STKA Stephens Creek    35.53 243 P     P           03 05 57.2 -0.6
      1.8nm,0.8s,baz=101,slow=12,SNR=3.2
      1.8nm,0.8s
WRA  Warramunga Arr    41.90 262 P     P           03 06 49.6 -0.3
      0.8nm,0.3s,baz=96,slow=7.7,SNR=28
      0.8nm,0.3s
ASAR Alice Springs     41.92 256 P     P           03 06 50.1 +0.1
      2.6nm,0.7s,baz=93,slow=8.0,SNR=25
      2.6nm,0.7s
```

*KRSC **12** 03:06:32.5±2.0, 51°.04N×159°.54E, h58km±24km, Ml3.8*
*MOS **12** 03:06:37.6±1.0, 51°.22N×159°.11E, h60km, mb4.3/8, Error ellipse: s-maj=16.3km s-min=5.2km az=99.1*
*NEIC **12** 03:06:41.5±1.0, 51°.4N±0°.1×158°.6E±0°.2, h52km±10km, mb4.3/8, Error ellipse: s-maj=21.5km s-min=18.3km az=213.0*
*IDC **12** 03:06:46.5±3.3, 51°.68N×158°.14E, h80km±20km, mb3.7/12, mbtmp4.0/13, MS3.1/2, Error ellipse: s-maj=38.9km s-min=21.8km az=146.0*

ISC 12 03:06:35.5±0.8, 51°.10N±0°.06×159°.31E±0°.06, h27km, n79, σ1$27/82, mb4.2/19, 8C, Off east of Kamchatka Peninsula

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
KDTR Khodutka, Kamc    1.05 313  PN    Pn          03 06 54.4  0.0
KDTR                              S     Sb          03 07 10.0 +1.6
KDTR Khodutka, Kamc    1.05 313  eP    Pn          03 06 54.5  0.0
KDTR                              eS    Sb          03 07 10.0 +1.6
RUS  Russkaya          1.43 340  PN    Pn          03 06 59.1 -0.5
RUS                               S     Sn          03 07 18.1 +0.6
RUS  Russkaya          1.43 340  eP    Pn          03 06 59.2 -0.5
RUS                               eS    Sn          03 07 18.1 +0.6
PAU  Pauzhetka         1.61 284  PN    Pn          03 07 03.3 +1.2
PAU  Pauzhetka         1.61 284  eP    Pn          03 07 03.3 +1.2
GRL  Gorelyy           1.65 333  PN    Pn          03 07 03.1 +0.3
GRL  Gorelyy           1.65 333  eP    Pn          03 07 03.1 +0.3
KRMR Karymshinskiy     1.89 338  PN    Pn          03 07 06.0 +0.2
KRMR Karymshinskiy     1.89 338  eP    Pn          03 07 06.1 +0.2
DALK Dalny             1.97 350  PN    Pn          03 07 06.7 -0.3
DALK Dalny             1.97 350  eP    Pn          03 07 06.7 -0.3
PET  Petropavlovsk     1.97 348  P     Pn          03 07 05.8 -1.3
PET  Petropavlovsk     1.97 348  ePN   Pb          03 07 09.3 -1.4
PET                               eS    Sn          03 07 32.2 +1.3
PET                               smax  smax
      comp=N,275nm,0.6s
PET                               smax  smax
      comp=E,161nm,0.6s
SKR  Severo-Kuril's    2.07 260  ePN   Pn          03 07 08.7 +0.4
SKR                               eS    Sn          03 07 33.6 +0.4
SKR                               pmax  pmax
      comp=Z,120nm,0.7s
SKR                               smax  smax
      comp=E,182nm,0.7s
SKR                               smax  smax
      comp=N,309nm,0.8s
SKR  Severo-Kuril's    2.07 260  eP    Pn          03 07 08.1 -0.2
UGLR Uglovaya          2.14 352  PN    Pn          03 07 09.3 -0.1
UGLR Uglovaya          2.14 352  eP    Pn          03 07 09.4 -0.1
AVH  Avacha            2.20 351  PN    Pn          03 07 11.1 +0.8
AVH  Avacha            2.20 351  eP    Pn          03 07 11.1 +0.8
SDLR Sedlovina         2.20 353  PN    Pn          03 07 10.0 -0.3
SDLR Sedlovina         2.20 353  eP    Pn          03 07 10.0 -0.3
KOK  Koryaka           2.24 350  PN    Pn          03 07 11.2 +0.4
KOK  Koryaka           2.24 350  eP    Pn          03 07 11.2 +0.4
PEA0B Petropavlovsk-   2.25 334        Pn          03 07 09.7 -1.2
PEA0B Petropavlovsk-   2.25 334  cePN  Pn          03 07 11.6 +0.7
PETK Petropavlovsk-    2.25 334        Pn          03 07 11.2 +0.3
PETK Petropavlovsk-    2.25 334  P     Pn          03 07 10.9  0.0
      comp=N,19nm,0.6s,baz=135,slow=16,SNR=58
APC  Apacha            2.27 325  PN    Pn          03 07 12.0 +0.9
APC  Apacha            2.27 325  eP    Pn          03 07 12.1 +0.9
KRX  Arik              2.30 350  PN    Pn          03 07 11.9 +0.2
KRX  Arik              2.30 350  eP    Pn          03 07 12.0 +0.2
GNL  Ganaly            2.74 343  PN    Pn          03 07 18.4 +0.8
GNL  Ganaly            2.74 343  eP    Pn          03 07 18.5 +0.8
TUMD Tumrok D          4.17  9   PN    Pn          03 07 39.5 +2.3
TUMD Tumrok D          4.17  9   eP    Pn          03 07 39.5 +2.3
KMNR Kamenistaya       4.70  6   PN    Pn          03 07 41.9 -2.7
KMNR Kamenistaya       4.70  6   eP    Pn          03 07 42.0 -2.7
KBTR Krutoberegovo     5.53 21   PN    Pn          03 07 55.5 -0.4
KBTR Krutoberegovo     5.53 21   eP    Pn          03 07 55.6 -0.4
BILL Bilibino          17.34  9  i P   P           03 10 37.9 +1.5
BILL                              pmax  pmax
      comp=Z,1.0nm,0.4s
KLR  Kul'dur           17.72 275 P     Pn          03 10 39.7 -0.3
      comp=Z,1.3nm,0.7s,baz=80,slow=12,SNR=6.0
KLR  Kul'dur           17.72 275 i P   Pn          03 10 36.5 -3.6
JHJ  Hachijo jima 2    22.96 226 LR    LR          03 22 03.4
      comp=Z,20nm,19.5s,baz=300,slow=40
TIXI Tiksi             24.72 337 P     P           03 11 53.2 -0.8
TIXI                              IAmb    IAmb     03 11 55.2
      comp=Z,9.5nm,0.9s
TIXI Tiksi             24.72 337 ceP   P           03 11 53.6 -0.4
TIXI                              pmax  pmax
      comp=Z,11nm,1.0s
HIA  Hailar            25.20 281 P     P           03 11 56.7 -1.9
HIA                               IAmb    IAmb     03 11 59.1
      comp=Z,6.3nm,0.5s
HIA  Hailar            25.20 281 P     P           03 11 56.7 -1.9
HIA                               pmax  pmax
      comp=Z,6.0nm,0.5s
KSRS Korea Array       26.06 251 P     P           03 12 07.9 +1.5
      comp=Z,1.9nm,0.9s,baz=53,slow=11,SNR=7.1
      comp=Z,1.9nm,0.9s
SONM Songino Array     33.93 286 LR    LR          03 27 41.5
      comp=Z,81nm,18.1s,baz=324,slow=38
KURK Kurchatov         48.40 303 P     P           03 15 13.5 -1.2
KURK                              IAmb    IAmb     03 15 14.3
      comp=Z,3.1nm,0.9s
KURK Kurchatov         48.40 303 ceP   P           03 15 13.2 -1.6
KURK                              pmax  pmax
      comp=Z,3.0nm,0.9s
KURBB Kurchatov Arra   48.50 303 P     P           03 15 13.8 -1.7
      comp=Z,1.3nm,0.7s,baz=61,slow=7.5,SNR=7.0
      comp=Z,1.3nm,0.7s
MK31 Makanchi Array    48.61 297 P     P           03 15 15.1 -1.4
MK31 Makanchi Array    48.61 297 ceP   P           03 15 15.3 -1.2
MKAR Makanchi Array    48.61 297 P     P           03 15 14.9 -1.6
MKAR Makanchi Array    48.61 297 P     P           03 15 15.2 -1.3
      comp=Z,0.9nm,0.5s,baz=61,slow=6.3,SNR=17
      comp=Z,0.9nm,0.5s
MKAR Makanchi Array    48.61 297 P     P           03 15 14.9 -1.6
SPITS Spitsbergen Ar   49.03 351 P     P           03 15 19.0 -0.2
      comp=Z,5.8nm,0.9s,baz=59,slow=6.9,SNR=7.1
      comp=Z,5.8nm,0.9s
BVAR Borovoye Array    51.27 309 P     P           03 15 33.5 -3.0
      comp=Z,1.6nm,0.5s,baz=69,slow=9.5,SNR=7.2
      comp=Z,1.6nm,0.5s
BRVK Borovoye          51.30 309 ceP   P           03 15 34.8 -2.0
BRVK                              pmax  pmax
      comp=Z,1.0nm,0.4s
FIA1 FINESS Array S    61.76 337 P     P           03 16 50.9 -0.1
FINES FINESS Array B   61.76 337 P     P           03 16 50.9 -0.1
FINES FINESS Array B   61.76 337 P     P           03 16 50.5 -0.6
      comp=Z,1.4nm,0.6s,baz=36,slow=7.5,SNR=6.6
      comp=Z,1.4nm,0.6s
FINES FINESS Array B   61.76 337 ceP   P           03 16 51.2 +0.2
FINES                             pmax  pmax
      comp=Z,1.0nm,0.5s
NB2  NORSAR Subarra    65.33 344 P     P           03 17 14.3 -0.3
      comp=Z,3.0nm,1.1s,baz=21,slow=6.9
NOA  NORSAR Array B    65.33 344 P     P           03 17 14.0 -0.6
      comp=Z,0.8nm,0.7s,baz=21,slow=6.5,SNR=7.3
      comp=Z,0.8nm,0.7s
NOA  NORSAR Array B    65.33 344 eP    P           03 17 14.6  0.0
NOA                               pmax  pmax
      comp=Z,1.0nm,0.7s
HFS  Hagfors           65.70 342 P     P           03 17 16.8 -0.3
      comp=Z,0.8nm,0.5s,baz=55,slow=5.6,SNR=8.7
      comp=Z,0.8nm,0.5s
AKASG Malin Array Be   70.08 329 P     P           03 17 44.0 -0.7
      comp=Z,1.6nm,0.5s,baz=32,slow=6.3,SNR=10.0
      comp=Z,1.6nm,0.5s
AKASG Malin Array Be   70.08 329 P     P           03 17 44.0 -0.7
KBZ  Khabaz            70.66 317 ceP   P           03 17 48.6 +0.3
KBZ                               pmax  pmax
      comp=Z,1.0nm,0.9s
TXAR Lajitas Array     71.88  66 P     P           03 18 03.5 +7.4
      comp=Z,0.1nm,0.5s,baz=309,slow=6.0,SNR=3.5
      comp=Z,0.1nm,0.5s
EKA  Eskdalemuir Ar    72.94 350 P     P           03 18 04.5 +2.6
      comp=Z,2.8nm,1.1s,baz=14,slow=5.2,SNR=3.4
      comp=Z,2.8nm,1.1s
BUR08 Bucovina Ar. S   74.04 330 P     P           03 18 07.6 -1.0
BUR08                             IAmb    IAmb     03 18 09.5
      comp=Z,4.5nm,1.1s
BURAR Bucovina Array   74.06 330 P     P           03 18 08.2 -0.5
BURAR                             IAmb    IAmb     03 18 09.9
      comp=Z,2.1nm,0.8s
BRTR Keskin Array B    77.85 320 P     P           03 18 30.5  0.0
      comp=Z,0.9nm,1.0s,baz=25,slow=3.3,SNR=4.5
      comp=Z,0.9nm,1.0s
BRTR Keskin Array B    77.85 320 ceP   P           03 18 31.2 +0.7
BRTR                              pmax  pmax
      comp=Z,1.0nm,0.9s
JSC  Jenkinsville      79.71  47 P     P           03 18 44.2 +3.6
```

*OSPL **12** 03:08:54.9±0.4, 18°.87N×67°.19W, h31km±2km, ML1.8*

RSPR 12 03:08:54.7, 18°.84N×67°.30W, h46km±5km, MD2.6/12, 10C-2D, Mona Passage

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
AGPR Aguadilla, PR     0.41 154  eP    Pn          03 09 03.2 -1.4
AGPR Aguadilla, PR     0.41 154  i P   Pn          03 09 03.1 -1.5
AGPR                              eS    Sn          03 09 09.5 -2.2
AGPR                              IAML                03 09 10.1
      comp=Z,85nm,1.5s
IDE  Isla Desecheo     0.48 200  ⇓eP   Pn          03 09 04.9 -0.5
IDE  Isla Desecheo     0.48 200  eS    Sn          03 09 12.5 -0.6
LSP  Las Mesas         0.69 163  ⇑eP   Pn          03 09 07.3 -0.9
LSP  Las Mesas         0.69 163  eS    Sn          03 09 17.4 -0.6
AOPR Arecibo Observ    0.71 133  ⇑eP   Pn          03 09 07.1 -1.4
AOPR Arecibo Observ    0.71 133  eS    Sn          03 09 17.9 -0.6
UUPR Utuado, UPR, P    0.80 136  ⇑eP   Pn          03 09 08.8 -0.9
UUPR Utuado, UPR, P    0.80 136  eS    Sn          03 09 19.2 -1.3
EMPR Esperanza - Ma    0.82 116  ⇑eP   Pn          03 09 09.2 -0.6
EMPR Esperanza - Ma    0.82 116  eS    Sn          03 09 20.5 -0.4
CRPR Cabo Rojo, PR     0.85 167  ⇑eP   Pn          03 09 08.3 -1.9
CRPR Cabo Rojo, PR     0.85 167  i P   Pn          03 09 09.7 -0.6
CRPR                              eS    Sn          03 09 20.3 -1.3
CRPR                              IAML                03 09 24.2
      comp=Z,28nm,1.2s
MLPR Magueyes Islan    0.90 164  ⇓eP   Pn          03 09 10.2 -0.8
MLPR Magueyes Islan    0.90 164  eS    Sn          03 09 22.2 -0.6
CELP Cerrillos         1.02 138  ⇑eP   Pn          03 09 12.2 -0.5
CELP Cerrillos         1.02 138  eS    Sn          03 09 24.5 -1.4
ECPR Experimental S    1.03 120  ⇑eP   Pn          03 09 11.7 -1.0
ECPR Experimental S    1.03 120  eS    Sn          03 09 24.5 -1.5
OBIP Obispado Ponce    1.03 140  ⇑eP   Pn          03 09 11.2 -1.6
OBIP Obispado Ponce    1.03 140  eS    Sn          03 09 24.4 -1.7
PCDR Punta Cana, DR    1.07 253  i P   Pn          03 09 14.0 +0.7
PDPR Patillas Dam,     1.47 124  ⇓eP   Pn          03 09 18.4 -0.3
PDPR Patillas Dam,     1.47 124  eS    Sn          03 09 36.0 -0.6
```

*WEL **12** 03:34:32.0±0.4, 34°.5S×18°.0E±°, h12km, M5.0/22, mB5.6/7, ML5.2/23, MLv5.0/22, Mw(mB)5.1/7, Error ellipse: s-maj=10.4km s-min=2.9km az=109.4, confirmed*
*NEIC **12** 03:34:33.4±1.0, 33°.75S±0°.07×179°.4E±0°.2, h189km±6km, mb4.6/13, Error ellipse: s-maj=20.6km s-min=3.6km az=116.0*
*IDC **12** 03:34:33.8±2.3, 33°.81S×179°.39E, h201km±19km, mb4.1/10, mbtmp4.7/13, Error ellipse: s-maj=21.1km s-min=11.6km az=66.0*
*NOU **12** 03:35:23.4, 37°.60S×176°.71E, h226km, mb4.0/5, North Island, New Zealand*

ISC 12 03:34:33.1±0.4, 33°.91S±0°.05×179°.70E±0°.08, h200km, n116, σ1$69/130, mb4.6/19, 5C, South of Kermadec Islands

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
MXZ  Matakaoa Point    3.82 197  Pn    Pn          03 35 32.5  0.0
MXZ  Matakaoa Point    3.82 197  P     Pn          03 35 32.8 +0.3
MXZ                               S     Sn          03 36 17.1 -2.3
WMGZ Waiomatatini S    4.04 195  P     Pn          03 35 35.5 +0.2
WMGZ                              S     Sn          03 36 23.8 -0.5
HAZ  Te Kaha           4.14 202  P     Pn          03 35 36.2 -0.3
HAZ                               S     Sn          03 36 26.0 -0.6
WIZ  White Island      4.15 209  P     Pn          03 35 39.2 +2.6
PKGZ Pakihiroa         4.16 198  P     Pn          03 35 36.7 -0.1
PKGZ                              S     Sn          03 36 25.1 -2.0
PUZ  Puketiti          4.32 195  P     Pn          03 35 38.2 -0.6
PUZ                               S     Sn          03 36 28.1 -2.4
RUGZ Raukumara Rang    4.37 201  P     Pn          03 35 39.2 -0.3
RUGZ                              S     Sn          03 36 28.1 -3.8
TWGZ Tauwhareparae     4.48 198  P     Pn          03 35 42.0 +1.1
TWGZ                              S     Sn          03 36 33.4 -1.0
WHRZ Whale Island      4.52 209  P     Pn          03 35 44.0 +2.7
WHRZ                              S     Sn          03 36 34.4 -0.7
WIAZ Waiheke Island    4.71 231  P     Pn          03 35 44.9 +1.1
CNGZ Carnagh Statio    4.72 194  P     Pn          03 35 43.8 -0.1
CNGZ                              S     Sn          03 36 38.0 -1.7
MWZ  Matawai           4.75 201  P     Pn          03 35 43.8 -0.5
MWZ                               S     Sn          03 36 37.1 -3.5
TKGZ Te Karaka         4.76 198  P     Pn          03 35 43.2 -1.2
TKGZ                              S     Sn          03 36 38.1 -2.5
URZ  Urewera           4.82 205  P     Pn          03 35 45.5 +0.4
      55nm,0.3s,baz=352,slow=4.0,SNR=117
URZ                               S     Sn          03 36 39.4 -2.6
      375nm,0.4s,baz=22,slow=21,SNR=14
URZ  Urewera           4.82 205  P     Pn          03 35 45.9 +0.7
URZ                               S     Sn          03 36 38.6 -3.3
WCZ  Waipu Caves       4.84 244  P     Pn          03 35 46.2 +0.8
MBAZ Motutapu North    4.85 233  P     Pn          03 35 46.9 +1.3
MKAZ Moumakai          4.88 228  P     Pn          03 35 47.1 +1.2
RAGZ Rawiri            4.94 201  P     Pn          03 35 46.7  0.0
RAGZ                              S     Sn          03 36 41.9 -2.8
EPAZ Eden Park BICE    5.01 232  P     Pn          03 35 49.7 +2.1
RIGZ Rimuhau           5.04 198  P     Pn          03 35 48.1 +0.2
RIGZ                              S     Sn          03 36 43.2 -3.8
KBAZ Karaka Road Bo    5.05 230  P     Pn          03 35 50.1 +2.1
GLKZ Green Lake        5.06  24  P     Pn          03 35 46.6 -1.7
GLKZ                              S     Sn          03 36 44.4 -3.1
RVAZ Riverhead Bore    5.07 234  P     Pn          03 35 49.9 +1.6
RIZ  Raoul Island      5.07  24  P     Pn          03 35 47.3 -1.1
RIZ                               S     Sn          03 36 46.5 -1.4
TOZ  Tahuroa Road      5.12 221        Pn          03 35 49.3 +0.4
MUGZ Murupara          5.14 207  P     Pn          03 35 49.4 +0.2
MUGZ                              S     Sn          03 36 46.1 -3.1
RTZ  Ruatahuna         5.18 204        Pn          03 35 47.7 -2.2
AWAZ Awhitu Peninsu    5.19 231  P     Pn          03 35 51.2 +1.4
OUZ  Omahuta           5.20 254  P     Pn          03 35 51.0 +1.0
PRGZ Paritu Road       5.21 196  P     Pn          03 35 50.0 -0.2
PRGZ                              S     Sn          03 36 48.1 -3.0
SNGZ Shannon Statio    5.22 201  P     Pn          03 35 50.3 +0.1
SNGZ                              S     Sn          03 36 48.5 -2.8
MHGZ Mahia Peninsul    5.43 195  P     Pn          03 35 53.4 +0.5
MHGZ                              S     Sn          03 36 51.6 -4.5
BKZ  Black Stump Fm    5.85 205        Pn          03 35 56.1 -2.2
HIZ  Hauiti            6.04 219  P     Pn          03 36 01.4 +0.7
NGZ  Ngauruhoe         6.20 211  P     Pn          03 36 02.8 -0.3
BFZ  Birch Farm        7.30 201  Pn    Pn          03 36 13.3 -3.8
MRZ  Mangatainoka R    7.50 205        Pn          03 36 15.0 -4.7
MSWZ Moikau Station    8.28 204  Pn    Pn          03 36 26.3 -3.6
SNZO South Karori      8.38 207  Pn    Pn          03 36 28.1 -3.1
TUWZ Tuamarina         8.78 210        Pn          03 36 31.4 -5.0
QRZ  Quartz Range      8.95 217  P     Pn          03 36 33.1 -5.6
THZ  Tophouse          9.50 212        Pn          03 36 41.2 -4.6
KHZ  Kahutara          9.78 208        Pn          03 36 44.0 -5.3
KHZ  Kahutara          9.78 208  P     Pn          03 36 43.2 -6.1
OXZ  Oxford            11.14 210       Pn          03 37 00.5 -6.4
RPZ  Rata Peaks        11.88 212 P     Pn          03 37 10.2 -6.1
      8.2nm,0.5s,baz=262,slow=3.0,SNR=8.5
RPZ                               S     Sn          03 39 12.7  -16
      27nm,0.3s,baz=106,slow=24,SNR=14
RPZ  Rata Peaks        11.88 212 P     Pn          03 37 09.5 -6.8
ODZ  Otahua Downs      13.12 209 P     Pn          03 37 25.8 -6.2
MSVF Nonsavu           16.18 354 P     Pn          03 38 09.9 +0.1
      7.7nm,0.8s,baz=287,slow=23,SNR=7.7
DZM  Mont Dzumac       16.60 312 P     P           03 38 13.6 -0.2
      9.1nm,0.7s,baz=114,slow=16,SNR=3.2
STKA Stephens Creek    31.94 263 P     P           03 40 39.7 -0.4
      0.7nm,0.3s,baz=85,slow=12,SNR=3.9
      0.7nm,0.3s
AS31 Alice Springs     41.12 272       P           03 41 56.7 -1.1
ASAR Alice Springs     41.12 272 P     P           03 41 56.6 -1.1
      3.1nm,0.6s,baz=113,slow=7.6,SNR=31
      3.1nm,0.6s
WB2  Warramunga Arr    42.43 277       P           03 42 07.0 -1.3
WB2                               IAmb    IAmb     03 42 11.6
      comp=Z,12nm,0.5s
WRA  Warramunga Arr    42.44 277 P     P           03 42 07.2 -1.3
      comp=Z,4.4nm,0.4s,baz=118,slow=7.7,SNR=38
      comp=Z,4.4nm,0.4s
WB0  Warramunga Arr    42.48 278       P           03 42 07.4 -1.4
WB0                               IAmb    IAmb     03 42 12.0
      comp=Z,6.9nm,0.5s
FORT Forrest           43.37 259 P     P           03 42 13.8 -2.0
SBA  Scott Base        44.41 184       P           03 42 27.2 +3.8
SBA                               IAmb    IAmb     03 42 28.4
      comp=Z,12nm,0.9s
VNDA Vanda             44.42 185       P           03 42 26.2 +2.7
VNDA Vanda             44.42 185 P     P           03 42 25.3 +1.8
      comp=Z,1.7nm,0.9s,baz=10,slow=8.4,SNR=13
      comp=Z,1.7nm,0.9s
QSPA South Pole Qui    56.21 180       P           03 43 54.8 +2.8
QSPA South Pole Qui    56.21 180 P     P           03 43 54.9 +2.8
      comp=Z,48nm,0.5s,baz=212,slow=1.4,SNR=473
      comp=Z,48nm,0.5s
BELA Belgrano 2        66.57 173 P     P           03 45 02.6 +1.5
BELA                              IAmb    IAmb     03 45 03.5
      comp=Z,14nm,0.8s
MAW  Mawson            68.34 202       P           03 45 12.7 +0.4
MAW  Mawson            68.34 202 P     P           03 45 12.9 +0.6
      comp=Z,6.8nm,0.4s,baz=137,slow=5.5,SNR=20
      comp=Z,6.8nm,0.4s
TROLL Troll, Antarti   74.36 181 ⇑P     P           03 45 49.3 +0.9
      comp=Z,290nm,0.3s
SNAA Sanae             74.70 179 P     P           03 45 51.2 +0.9
SNAA                              IAmb    IAmb     03 45 52.2
      comp=Z,17nm,1.0s
SNAA Sanae             74.70 179 ⇑P     P           03 45 51.2 +0.9
      comp=Z,80nm,0.2s
SNAA Sanae             74.70 179 P     P           03 45 51.2 +0.9
      comp=Z,5.6nm,0.3s,baz=208,slow=5.1,SNR=116
      comp=Z,5.6nm,0.3s
VNA3 Neumayer Olymp    74.93 177 ⇑P     P           03 45 52.7 +1.1
      comp=Z,13nm,0.3s
VNA2 Neumayer--Watz    75.34 178 ⇑P     P           03 45 55.3 +1.4
      comp=Z,32nm,0.6s,baz=197,slow=5.5
VNA1 Neumayer--Stat    75.58 177 ⇑P     P           03 45 55.8 +0.5
      comp=Z,24nm,0.7s
AY01 Puyuhuapi         78.08 136 P     P           03 46 12.4 +2.7
AY01                              IAmb    IAmb     03 46 13.3
      comp=Z,14nm,1.5s
LL02 Futaleuf          79.27 135 P     P           03 46 19.6 +3.4
LL02                              IAmb    IAmb     03 46 20.3
      comp=Z,8.3nm,0.7s
PLCA Paso Flores       81.52 134 P     P           03 46 31.2 +2.8
      comp=Z,3.1nm,0.5s,baz=253,slow=4.6,SNR=12
      comp=Z,3.1nm,0.5s
KSRS Korea Array       85.80 321 P     P           03 46 50.4 +0.7
      comp=Z,1.2nm,0.5s,baz=131,slow=5.4,SNR=7.1
      comp=Z,1.2nm,0.5s
PEA0B Petropavlovsk-   88.75 347 P     P           03 47 04.0 +0.6
PETK Petropavlovsk-    88.75 347       P           03 47 04.0 +0.5
PETK Petropavlovsk-    88.75 347 P     P           03 47 03.7 +0.2
      comp=Z,9.0nm,0.8s,baz=131,slow=6.5,SNR=25
      comp=Z,9.0nm,0.8s
ILAR Eielson Array     101.78  14 PKiKP PKiKP      03 52 24.1 -0.4
      comp=Z,0.4nm,0.7s,baz=284,slow=1.6,SNR=5.0
YKA  Yellowknife Ar    109.44  27 PKiKP PKiKP      03 52 39.2 +0.6
      comp=Z,0.4nm,0.6s,baz=265,slow=1.6,SNR=16
YKA                               PKKPbc PKKPbc    04 03 43.1 -2.8
      comp=Z,0.1nm,0.6s,baz=46,slow=3.4,SNR=6.8
BOSA Boshof            113.27 204 PKiKP PKiKP      03 52 47.7 +0.3
      comp=Z,0.7nm,0.5s,baz=99,slow=4.9,SNR=5.2
MKAR Makanchi Array    118.50 309 PKP   PKPdf      03 52 55.0 -1.5
      comp=Z,0.7nm,0.4s,baz=203,slow=1.1,SNR=9.8
MKAR                              PKKPbc PKKPab    04 03 16.8 +1.4
      comp=Z,0.4nm,0.5s,baz=296,slow=3.4,SNR=4.4
ZALV Zalesovo Beam     119.32 318 PKP   PKPdf      03 52 56.4 -1.5
      comp=Z,1.5nm,0.5s,baz=142,slow=1.3,SNR=9.2
NRIK Noril'sk          122.02 335 PKP   PKPdf      03 53 02.1 -0.5
      comp=Z,2.2nm,0.4s,baz=109,slow=4.9,SNR=4.6
KURBB Kurchatov Arra   122.05 312 PKP   PKPdf      03 53 01.8 -1.4
      comp=Z,3.5nm,0.6s,baz=118,slow=1.7,SNR=29
BVAR Borovoye Array    127.49 314 PKP   PKPdf      03 53 12.7 -0.9
      comp=Z,2.8nm,0.6s,baz=85,slow=1.2,SNR=14
SPITS Spitsbergen Ar   135.04 355 PKP   PKPdf      03 53 27.5 +0.3
      comp=Z,2.1nm,0.5s,baz=82,slow=6.1,SNR=12
ARCES ARCESS Array B   141.55 346 PKhKP PKPpre     03 53 33.9
      comp=Z,3.2nm,0.8s,baz=73,slow=2.8,SNR=9.2
ARCES                             PKP   PKiKP      03 53 41.0 -1.2
      comp=Z,1.3nm,0.5s,baz=98,slow=1.8,SNR=8.2
KBZ  Khabaz            145.28 299 PKPbc PKPdf      03 53 45.9 -0.7
      comp=Z,2.2nm,0.6s,baz=118,slow=3.8,SNR=9.5
VAGH Vaagaholmen       146.18 350 eP    PKPbc      03 53 48.3 -0.5
LEIR Leirfjorden       146.78 350 eP    PKPbc      03 53 49.8 -0.8
FIA1 FINESS Array S    147.67 336       PKPbc      03 53 52.6 -0.5
FINES FINESS Array B   147.67 336       PKPbc      03 53 52.2 -0.9
FINES FINESS Array B   147.67 336 PKPbc PKPbc      03 53 52.4 -0.8
      comp=Z,9.4nm,0.5s,baz=33,slow=4.2,SNR=97
NSS  Namsos            148.44 350 eP    PKPbc      03 53 54.4 -0.6
MMAI Mount Meron Ar    150.29 278 PKPbc PKPbc      03 54 00.8 +0.1
      comp=Z,2.5nm,0.4s,baz=100,slow=4.3,SNR=10.0
DOMB Dombas            151.22 351 eP    PKPbc      03 54 01.6 -0.3
AKN  Aaknes            151.33 353 eP    PKPbc      03 54 02.4 +0.3
NB2  NORSAR Subarra151.85 348 PKP   PKPbc      03 54 02.6 -0.8
      comp=Z,3.0nm,0.5s,baz=15,slow=2.5
NB2  NORSAR Subarra151.85 348 PKP   PKPbc      03 54 02.6 -0.8
      baz=15,slow=2.5
NOA  NORSAR Array B151.85 348 PKPbc PKPbc      03 54 03.2 -0.2
      comp=Z,1.7nm,0.4s,baz=12,slow=4.5,SNR=32
NC602 NORSAR Array S 152.08 348 eP    PKPbc      03 54 03.1 -0.7
FOO  Floro             152.08 355 eP    PKPbc      03 54 03.7  0.0
HFS  Hagfors           152.21 345 PKPbc PKPbc      03 54 03.3 -0.8
      comp=Z,7.1nm,0.6s,baz=111,slow=3.3,SNR=31
ILGA Ilgaz             152.21 295       PKPbc      03 54 04.3 -0.8
BRTR Keskin Array B    152.32 292 PKPbc PKPbc      03 54 03.8 -1.5
      comp=Z,2.3nm,0.5s,baz=149,slow=4.0,SNR=21
DBIC Dimbokro          152.57 170 PKP   PKPdf      03 53 58.8 -0.5
      comp=Z,6.5nm,0.8s,baz=118,slow=3.4,SNR=7.0
DBIC                              PKPbc PKiKP      03 54 07.0 +0.5
      comp=Z,6.9nm,0.6s,baz=192,slow=1.8,SNR=31
SKAR Skarslia          152.63 351 eP    PKPbc      03 54 04.9 -0.2
```

AKASG	Malin Array Be	152.72 317	PKPbc	PKPbc	03 54 04.6	-0.9
	comp=Z,4.1nm,0.5s,baz=55,slow=2.5,SNR=31					
AKBB	Malin Array Si	152.72 317		PKPbc	03 54 04.7	-0.8
ASK	Askoy	153.17 354	*e*P	PKPbc	03 54 06.4	+0.2
TORD	Torodi Ar. Bea	159.25 185	PKPdf	PKPdf	03 54 08.4	+0.4
CLL	Collm	160.10 335	*e*PKPab	PKPab	03 54 48.0	-0.9

BJI ***12*** *03:46:33.8, 19.96N×121.52E, h7km, mB4.9/23, mb4.5/60, ML4.3/4, Ms4.1/48, Ms7 4.0/49*

IDC ***12*** *03:46:40.1±1.9, 19.95N×121.62E, h47km±19km, mb4.2/26, mbtmp4.4/29, ML4.5/4, MS3.9/37, Error ellipse: s-maj=15.9km s-min=11.6km az=81.0*

GCMT ***12*** *03:46:40.4±0.4, 20.06N±0.02×121.33E±0.03, h40km±2km, MW4.8/73, Moment Tensor Solution. s14,c14; s73,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.39±.19; $M_{\theta\theta}$1.26±.11; $M_{\phi\phi}$-1.64±.12; $M_{r\theta}$-1.05±.10; $M_{\theta\phi}$-0.67±.09; $M_{\phi r}$-0.48±.11; Best double couple: $M_0$1.99600×10^{16} NP1:ϕ_s331.00000°, δ54.00000°, λ11.00000°. NP2: ϕ_s234.00000°, δ81.00000°, λ143.00000°. Principal axes: T 1.9850, Plg32.0000°, Azm186.0000°; N 0.0280, Plg52.0000°, Azm42.0000°; P -2.0070, Plg18.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *03:46:40.4±2.0, 20.01N±0.04×121.44E±0.08, h35km±1km, mb4.8/108 Error ellipse: s-maj=13.3km s-min=7.2km az=75.0*

DJA ***12*** *03:46:42.7±0.4, 20°N±2°×12°2E±°, h67km±5km, M4.9/38, mb4.9/38, mB5.4/17, MLv5.2/5, Mw(mB)4.8/17, MwMwp6.4/1, Mwp6.3/1*

ISC 12 03:46:38.5±0.6, 19.98N±0.04×121.52E±0.05, h30km±3km, h30km:pP-P, n259, σ1s28/210, mb4.8/103, MS3.9/40, 13C-7D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	2.86	352		Pn	03 47 20.4	-1.8
YULB	Yu-li	3.41	357		Pn	03 47 30.6	+0.9
TPUB	Ta-pu	3.41	346		Pn	03 47 29.3	-0.5
SSLB	Suanglung	3.83	352		Pn	03 47 36.1	+0.6
NACB	Ninganchiao	4.18	1		Pn	03 47 40.9	+0.6
YHNB	Yeheng	4.67	358		Pn	03 47 49.6	+2.5
YOJ	Yonaguni jima	4.67	17		Pn	03 47 46.8	-0.3
TATO	Taipei	4.97	360		Pn	03 47 52.8	+1.5
KNMB	Chin-men Tao	5.32	328		Pn	03 47 54.5	-1.6
QZH	Quanzhou	5.63	332	Pn	Pn	03 47 58.3	-2.0
QZH				Sn	Sn	03 48 57.2	-6.9
QZH				smax	smax		
	comp=N,130nm,0.8s						
QZH				smax	smax		
	comp=E,320nm,0.8s						
QZH				LR	LR		
	comp=N,1μm,11.0s						
QZH				LR	LR		
	comp=E,950nm,12.7s						
QZH				LR	LR		
	comp=Z,940nm,12.0s						
TGY	Tagaytay City	5.87	186	P	Pn	03 48 05.1	+1.5
	62nm,0.3s,baz=145,slow=6.5,SNR=3.4						
TGY				LR	LR	03 50 50.9	
	comp=Z,942nm,20.8s,baz=21,slow=43						
JOW	Kunigami	9.22	41		Pn	03 48 49.9	+0.4
JOW	Kunigami	9.22	41	P	Pn	03 48 49.7	+0.2
	21nm,0.3s,baz=148,slow=14,SNR=20						
JOW				S	Sn	03 50 27.4	-5.0
	13nm,0.4s,baz=121,slow=27,SNR=1.6						
	46nm,0.3s						
QIZ	Qiongzhong	11.05	267	P	Pn	03 49 13.3	-1.4
QIZ				S	Sn	03 51 17.6	+0.2
QIZ				pmax	pmax		
	comp=Z,24nm,0.9s						
QIZ				pmax	pmax		
	comp=Z,130nm,3.5s						
QIZ				LR	LR		
	comp=N,340nm,12.5s						
QIZ				LR	LR		
	comp=E,210nm,10.7s						
QIZ				LR	LR		
	comp=Z,490nm,17.0s						
NJ2	Nanjing	12.26	349	*e*P	Pn	03 49 32.3	+1.1
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				LR	LR		
	comp=N,480nm,20.8s						
NJ2				LR	LR		
	comp=E,440nm,18.0s						
NJ2				LR	LR		
	comp=Z,1μm,18.0s						
WHN	Wuhan	12.36	330	P	Pn	03 49 34.5	+2.1
WHN				pmax	pmax		
	comp=Z,34nm,0.8s						
DAV	Davao City (W)	13.42	162	LR	LR	03 55 07.7	
	comp=Z,721nm,21.9s,baz=337,slow=38						
KKM	Kota Kinabalu	14.78	201		Pn	03 50 05.6	-0.1
MYLDM	Lahad Datu	15.00	192	P	P	03 50 13.4	-0.3
GYA	Guiyang	15.10	298	P	Pn	03 50 09.4	-0.5
GYA				sP	P	03 50 16.4	+1.5
GYA				pmax	pmax		
	comp=Z,24nm,1.3s						
GYA				LR	LR		
	comp=Z,510nm,20.8s						
JNU	Nakatsue	15.53	31		P	03 50 20.1	+0.5
JNU	Nakatsue	15.53	31	P	Pn	03 50 16.4	+1.0
	0.5nm,0.3s,baz=190,slow=20,SNR=6.6						
JNU				LR	LR	03 56 31.8	
	comp=Z,233nm,19.1s,baz=213,slow=38						
	7.1nm,0.7s						
LYN	LuoYang	16.58	333	*e*P	Pn	03 50 29.8	+0.9
LYN				pP	P	03 50 33.2	+2.0
LYN				pmax	pmax		
	comp=Z,71nm,1.1s						
LYN				LR	LR		
	comp=N,390nm,14.4s						
LYN				LR	LR		
	comp=E,420nm,12.4s						
LYN				LR	LR		
	comp=Z,600nm,15.5s						
TIA	Tai'an	16.63	347	P	Pn	03 50 30.7	+1.2
TIA				pmax	pmax		
	comp=Z,35nm,1.3s						
TIA				LR	LR		
	comp=N,500nm,21.0s						
TIA				LR	LR		
	comp=E,430nm,15.7s						
TIA				LR	LR		
	comp=Z,750nm,22.4s						
TJN	Taejon	17.12	16	P	P	03 50 37.0	-0.2
TJN				IAmb	IAmb	03 50 44.3	
	comp=Z,70nm,0.9s						
XAN	Xi'an	17.93	324	⇑P	Pn	03 50 46.2	+0.5
XAN				pP	pP	03 50 52.9	-0.2
XAN				S	Sn	03 54 07.6	+2.8
XAN				pmax	pmax		
	comp=Z,22nm,1.3s						
XAN				pmax	pmax		
	comp=Z,230nm,6.2s						
XAN				LR	LR		
	comp=Z,720nm,14.4s						
XAN				LR	LR		
	comp=Z,570nm,11.2s						
XAN				LR	LR		
	comp=Z,740nm,13.7s						
KMI	Kunming	18.08	290	P	P	03 50 50.2	+2.1
KMI				pmax	pmax		
	comp=Z,18nm,1.3s						
KMI				LR	LR		
	comp=Z,330nm,16.6s						
KMI				LR	LR		
	comp=Z,240nm,11.4s						
KMI				LR	LR		
	comp=Z,360nm,19.6s						
KSAR	Wonju Array Be	18.27	16	P	P	03 50 49.6	-0.2
KSRS	Korea Array	18.29	16	P	Pn	03 50 50.4	+0.3
	comp=Z,1.0nm,0.3s,baz=198,slow=12,SNR=22						
KSRS				LR	LR	03 57 41.9	
	comp=Z,234nm,22.0s,baz=185,slow=36						
	comp=Z,5.9nm,0.6s						
KS19	Wonju Array Si	18.32	16	P	P	03 50 50.4	0.0
HNS	HongShan	18.35	343	⇑P	Pn	03 50 52.3	+1.5
HNS				PP	PnPn	03 51 02.9	+0.3
HNS				S	S	03 54 20.9	+2.1
HNS				pmax	pmax		
	comp=Z,41nm,1.2s						
HNS				LR	LR		
	comp=Z,530nm,18.4s						
HNS				LR	LR		
	comp=Z,300nm,16.9s						
HNS				LR	LR		
	comp=Z,750nm,18.0s						
TOLI2	Tolitoli	18.76	182		P	03 50 54.3	-1.1
PZH	PanZhiHua	19.29	293	P	Pn	03 51 03.0	+0.6
PZH				S	S	03 54 39.2	+1.1
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,350nm,5.1s						
PZH				LR	LR		
	comp=Z,310nm,14.5s						
PZH				LR	LR		
	comp=Z,220nm,16.0s						
PZH				LR	LR		
	comp=Z,250nm,18.0s						
CD2	Chengdu	19.36	308	P	P	03 51 02.6	+0.7
CD2				pmax	pmax		
	comp=Z,60nm,0.9s						
CD2				pmax	pmax		
	comp=Z,310nm,2.6s						
CD2				LR	LR		
	comp=Z,390nm,14.6s						
CD2				LR	LR		
	comp=Z,650nm,13.5s						
TIY	Taiyuan	19.36	338	P	Pn	03 51 07.4	+4.3
TIY				S	Sn	03 54 40.8	+1.3
TIY				pmax	pmax		
	comp=Z,220nm,9.8s						
TIY				LR	LR		
	comp=Z,600nm,20.9s						
TIY				LR	LR		
	comp=Z,290nm,18.9s						
TIY				LR	LR		
	comp=Z,600nm,18.9s						
MPSI	Mapaga	19.58	185	P	P	03 51 04.0	-0.3
SBUM	Sibu	19.65	209		Pn	03 51 06.6	0.0
BJT	Baijiatuau	20.50	348		P	03 51 13.6	-0.5
BJT				IAmb	IAmb	03 51 15.9	
	comp=Z,45nm,1.0s						
BJI	Beijing	20.52	348	P	P	03 51 14.8	+0.5
BJI				pmax	pmax		
	comp=Z,23nm,1.0s						
BJI				pmax	pmax		
	comp=Z,54nm,3.5s						
BJI				LR	LR		
	comp=Z,170nm,19.3s						
BJI				LR	LR		
	comp=Z,100nm,14.4s						
BJI				LR	LR		
	comp=Z,190nm,16.8s						
INU	Inuyama	20.52	39		Pn	03 51 18.9	+2.1
APSI	Ampana	20.76	180	P	Pn	03 51 19.5	-0.1
	comp=Z,77μmcomp=Z,1μmcomp=Z,98nm,0.9s						
CHTO	Chiang Mai	21.32	271		P	03 51 23.9	+0.6
CHTO				IAmb	IAmb	03 51 25.2	
	comp=Z,40nm,1.4s						
CM31	Chiang Mai Arr	21.37	270	P	P	03 51 24.5	+0.7
CMAR	Chiang Mai Arr	21.37	270	P	P	03 51 23.9	+0.2
CMAR	Chiang Mai Arr	21.37	270	P	P	03 51 24.9	+1.1
	comp=Z,8.1nm,0.9s,baz=73,slow=8.8,SNR=43						
CMAR				LR	LR	03 59 49.0	
	comp=Z,224nm,20.4s,baz=90,slow=37						
	comp=Z,8.1nm,0.9s						
KSM	Kuching	21.41	212	P	P	03 51 24.6	+0.4
BKB	Balikpapan	21.59	193	P	P	03 51 28.0	+2.0
MAJO	Matsushiro	22.05	38		P	03 51 36.9	+6.0
MAJO				IAmb	IAmb	03 51 54.4	
	comp=Z,19nm,0.7s						
MJAR	Matsushiro Arr	22.05	38	P	P	03 51 31.0	+0.2
	comp=Z,1.2nm,0.8s,baz=223,slow=6.3,SNR=12						
	comp=Z,1.2nm,0.8s						
STKI	Sintang	22.10	208	P	P	03 51 32.5	+0.9
LZH	Lanzhou	22.32	320	*e*P	P	03 51 34.5	+0.5
LZH				pP	pP	03 51 43.1	+2.0
LZH				pmax	pmax		
	comp=Z,30nm,1.3s						
LZH				LR	LR		
	comp=Z,330nm,13.7s						
LZH				LR	LR		
	comp=Z,250nm,16.2s						
LZH				LR	LR		
	comp=Z,400nm,13.5s						
SANI	Sanana	22.32	168	P	P	03 51 35.4	+1.4
	comp=Z,30nm,0.8s						
HHC	Hu-ho-hao-te	22.48	340	*e*P	P	03 51 36.9	+1.4
HHC				sP	pP	03 51 43.7	+0.9
HHC				S	S	03 55 38.9	-1.6
HHC				sS	Sn	03 55 47.6	-6.7
HHC				pmax	pmax		
	comp=Z,27nm,0.8s						
HHC				pmax	pmax		
	comp=Z,79nm,3.8s						
HHC				LR	LR		
	comp=Z,450nm,18.3s						
HHC				LR	LR		
	comp=Z,420nm,18.3s						
HHC				LR	LR		
	comp=Z,650nm,19.7s						
SWI	Sorong	22.81	154	P	P	03 51 39.8	+0.7
	comp=Z,24nm,0.8s						
GUMO	Guam	23.23	102	LR	LR	04 00 48.5	
	comp=Z,214nm,19.4s,baz=307,slow=37						
NLAI	Namlea	23.71	166	P	P	03 51 49.3	+1.2
	comp=Z,835nmcomp=Z,75nm,1.3s						
SPSI	Sidrap Palu	23.85	184	P	P	03 51 49.6	+0.1
	comp=Z,2μmcomp=Z,36nm,1.1s						
BNSI	Bone	24.27	183	P	P	03 51 53.4	+0.1
XLT	XiLinHaoTe	24.28	350	*e*P	P	03 51 52.7	-0.6
XLT				pmax	pmax		
	comp=Z,21nm,0.8s						
XLT				pmax	pmax		
	comp=Z,240nm,5.0s						
XLT				LR	LR		
	comp=Z,440nm,22.6s						
XLT				LR	LR		
	comp=Z,250nm,20.8s						
AAI	Ambon	24.41	164	P	P	03 51 54.2	-0.4
	comp=Z,60nm,0.8s						
KAPI	Kappang	24.89	184	P	P	03 51 59.5	+0.5
KAPI				IAmb	IAmb	03 52 02.8	
	comp=Z,21nm,0.9s						
KAPI	Kappang	24.89	184	LR	LR	04 02 04.7	
	comp=Z,179nm,21.2s,baz=350,slow=37						
BKSI	Bulukumba	25.18	183	P	P	03 52 00.8	-0.7
	comp=Z,26nm,0.9s						
BBSI	Bau Bau	25.33	178	P	P	03 52 02.9	0.0
	comp=Z,56nm,0.9s						
MDJ	Mudanjiang	25.47	13	P	P	03 52 04.2	+0.2
MDJ				pmax	pmax		
	comp=Z,12nm,1.0s						
USRK	Ussuriysk Ar.	25.69	18		P	03 52 05.5	-0.5
USRK	Ussuriysk Ar.	25.69	18	P	P	03 52 04.8	-1.1
	comp=Z,1.6nm,0.5s,baz=202,slow=11,SNR=5.9						
USRK				LR	LR	04 03 19.7	
	comp=Z,173nm,18.3s,baz=196,slow=39						
	comp=Z,1.6nm,0.5s						
BSSI	Bau Bau, Buton	25.98	182	P	P	03 52 07.7	-1.1
	comp=Z,17nm,0.8s						
BNX	BinXian	26.15	9	⇑P	P	03 52 10.5	+0.4
BNX				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GTA	Gaotai	26.91	321	P	P	03 52 18.4	+1.2
GTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GTA				LR	LR		
	comp=Z,130nm,20.7s						
GTA				LR	LR		
	comp=Z,220nm,20.7s						
GTA				LR	LR		
	comp=Z,220nm,23.5s						
KMMI	Kalianget	27.87	196	P	P	03 52 28.2	+2.4
	comp=Z,38nm,1.1s						
BRDH	Bariadhala	27.94	281	LR	LR	04 05 34.1	
	comp=Z,309nm,18.5s,baz=131,slow=40						
MMRI	Maumere	28.44	179	P	P	03 52 31.4	+0.4
EDFI	Ende, Flores	28.55	180	P	P	03 52 30.7	-1.3
PLAI	Plampang	28.86	188	P	P	03 52 35.1	+0.4
	comp=Z,807nmcomp=Z,33nm,0.8s						
TWSI	Taliwang, Sumb	28.90	190	P	P	03 52 35.7	+0.7
	comp=Z,632nmcomp=Z,29nm,1.3s						
NGJI	Ngawi	28.92	201	P	P	03 52 38.5	+3.3
	comp=Z,44nm,1.0s						
JAY	Jayapura	29.23	138	LR	LR	04 01 49.5	
	comp=Z,223nm,21.7s,baz=12,slow=31						
ASAJ	Asahikawa	29.81	31	P	P	03 52 41.9	-1.0
	comp=Z,1.8nm,0.4s,baz=212,slow=17,SNR=7.5						
	comp=Z,1.8nm,0.4s						
JKA	Kamikawa-asahi	29.81	31	P	P	03 52 45.2	+2.4
JKA				IAmb	IAmb	03 52 55.9	
	comp=Z,13nm,0.7s						
ULN	Ulaanbaatar	30.19	340	P	P	03 52 46.8	+0.4
ULN				IAmb	IAmb	03 52 48.4	
	comp=Z,32nm,1.6s						
ULN	Ulaanbaatar	30.19	340	P	P	03 52 47.2	+0.8
ULN				pP	pP	03 52 54.2	0.0
KLR	Kul'dur	30.32	13	P	P	03 52 46.7	-0.6
	comp=Z,4.7nm,0.7s,baz=237,slow=8.5,SNR=16						
	comp=Z,4.7nm,0.7s						
SONM	Songino Array	30.38	340	P	P	03 52 48.2	+0.2
SONM	Songino Array	30.38	340	P	P	03 52 48.2	+0.2
	comp=Z,3.4nm,0.7s,baz=162,slow=9.6,SNR=27						
SONM				LR	LR	04 06 07.8	
	comp=Z,598nm,20.4s,baz=131,slow=38						
	comp=Z,3.4nm,0.7s						
HEH	HeiHe	30.57	7	*e*P	P	03 52 49.7	+0.2
HEH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SKJI	Sukabumi	30.59	210	P	P	03 52 51.1	+1.1
WMQ	Urumqi	36.88	318	*e*P	P	03 53 46.8	+2.3
WMQ				LR	LR		
	comp=Z,110nm,18.9s						
PMG	Port Moresby	38.60	137	LR	LR	04 08 55.4	
	comp=Z,64nm,21.6s,baz=332,slow=35						
PSA00	Pilbara Seismi	41.33	182	P	P	03 54 20.9	-0.8
WB0	Warramunga Arr	41.46	162	IAmb	IAmb	03 54 22.4	
	comp=Z,23nm,1.0s						
WRA	Warramunga Arr	41.61	162	P	P	03 54 21.7	-2.4
WRA	Warramunga Arr	41.61	162	P	P	03 54 22.9	-1.2
	comp=Z,18nm,0.8s,baz=343,slow=9.1,SNR=66						
	comp=Z,18nm,0.8s						
MK31	Makanchi Array	41.64	319	P	P	03 54 24.6	+0.4
MK31				IAmb	IAmb	03 54 25.7	
	comp=Z,19nm,1.3s						
MKAR	Makanchi Array	41.64	319	P	P	03 54 24.5	+0.3
MKAR	Makanchi Array	41.64	319	P	P	03 54 25.0	+0.8
	comp=Z,4.5nm,0.5s,baz=114,slow=9.2,SNR=71						
MKAR				LR	LR	04 14 00.8	
	comp=Z,90nm,18.6s,baz=108,slow=39						
	comp=Z,4.5nm,0.5s						
WR0	Warramunga Arr	41.69	161	P	P	03 54 23.8	-0.9
MAKZ	Makanchi	41.84	319	P	P	03 54 26.6	+0.8
MAKZ				IAmb	IAmb	03 54 27.5	
	comp=Z,23nm,1.3s						
MAKZ	Makanchi	41.84	319	P	P	03 54 26.6	+0.8
MAKZ				pP	pP	03 54 33.6	-0.3
SHLS	Shalkode	42.05	313	*e*P	P	03 54 25.8	-2.0
UZB	Uzynbulak	42.35	313	*e*P	P	03 54 30.4	+0.1
H11S3	WAKE ISLAND Hy	42.58	84	T	T	04 39 51.6	
	baz=281,slow=74,SNR=91						
H11N1	WAKE ISLAND Hy	42.58	82	T	T	04 40 17.3	
	baz=278,slow=75,SNR=98						
H11N2	WAKE ISLAND Hy	42.58	82	T	T	04 40 18.7	
	baz=278,slow=75,SNR=73						
H11S1	WAKE ISLAND Hy	42.59	84	T	T	04 39 52.7	
	baz=281,slow=74,SNR=76						
H11N3	WAKE ISLAND Hy	42.59	82	T	T	04 40 20.3	
	baz=278,slow=75,SNR=80						
H11S2	WAKE ISLAND Hy	42.59	84	T	T	04 39 53.2	
	baz=281,slow=74,SNR=65						
KPKS	Kokpek	42.69	313	*e*P	P	03 54 33.0	0.0
SATY	Saty	42.75	312	*e*P	P	03 54 33.6	+0.1
ZHN	Zhinishke	42.77	313	*e*P	P	03 54 33.8	+0.2
PEA0B	Petropavlovsk-	43.23	31	P	P	03 54 36.6	-0.3
PEA0B				IAmb	IAmb	03 55 24.8	
	comp=Z,29nm,1.5s						
PETK	Petropavlovsk-	43.23	31	P	P	03 54 36.7	-0.3
	comp=Z,7.6nm,0.8s,baz=224,slow=4.1,SNR=14						
PETK				LR	LR	04 14 06.0	
	comp=Z,73nm,18.6s,baz=233,slow=38						
	comp=Z,7.6nm,0.8s						
MDOK	Medeo	43.73	312	*e*P	P	03 54 41.5	+0.1
TNSS	Tian-Shan	43.76	312	*e*P	P	03 54 41.9	-0.1
AAA	Alma-Ata	43.84	312	*e*P	P	03 54 42.3	+0.1
	comp=Z,8.7nm,0.4s						
ZAA0	Zalesovo Array	43.97	329	P	P	03 54 43.0	+0.1
ZAA0				IAmb	IAmb	03 54 43.6	
	comp=Z,12nm,0.8s						
ZALV	Zalesovo Beam	43.97	329	P	P	03 54 43.0	+0.1
	comp=Z,8.6nm,0.6s,baz=116,slow=8.0,SNR=38						
ZALV				LR	LR	04 13 53.8	
	comp=Z,103nm,20.2s,baz=128,slow=37						
	comp=Z,8.6nm,0.6s						
CHKK	Chushkaly	43.98	313	*e*P	P	03 54 43.4	+0.2
BOOM	Boomskoye usch	44.32	311	P	P	03 54 46.4	+0.2
KUU	Kurty	44.44	313	*e*P	P	03 54 47.1	+0.2
	comp=Z,17nm,1.0s						
MA2	Magadan	44.77	21	LR	LR	04 15 54.3	
	comp=Z,96nm,18.4s,baz=244,slow=39						
AS31	Alice Springs	45.03	164	IAmb	IAmb	03 54 52.3	
	comp=Z,7.5nm,0.5s						
ASAR	Alice Springs	45.03	164	P	P	03 54 50.9	-0.8
ASAR	Alice Springs	45.03	164	P	P	03 54 51.3	-0.4
	comp=Z,9.9nm,0.5s,baz=339,slow=7.1,SNR=120						
ASAR				ScP	ScP	04 00 21.4	-1.5
	comp=Z,0.9nm,0.9s,baz=344,slow=4.2,SNR=4.1						
ASAR				S	S	04 01 24.6	-4.2
	comp=Z,1.0nm,0.8s,baz=0.8,slow=18,SNR=5.2						
	comp=Z,9.9nm,0.5s						
AAK	Ala-Archa	45.38	311	LR	LR	04 16 31.5	
	comp=Z,244nm,19.2s,baz=98,slow=39						
SGDS	Sogindy	45.50	312	*e*P	P	03 54 55.6	+0.1
KURK	Kurchatov	45.56	323	P	P	03 54 55.7	+0.1
KURK				IAmb	IAmb	03 54 57.0	
	comp=Z,20nm,1.4s						
KURK	Kurchatov	45.56	323	P	P	03 54 55.8	+0.2
KURBB	Kurchatov Arra	45.57	323	P	P	03 54 56.0	+0.3
	comp=Z,6.7nm,0.8s,baz=121,slow=7.5,SNR=43						
	comp=Z,6.7nm,0.8s						
DZA	Taraz	47.71	310	*e*P	P	03 55 12.9	+0.3
	comp=Z,6.8nm,0.9s						
HNR	Honiara	47.80	124	LR	LR	04 13 02.9	
	comp=Z,60nm,21.1s,baz=312,slow=33						
KKAR	Karatay Array	48.34	310	P	P	03 55 17.9	+0.3
KKAR	Karatay Array	48.34	310	IAmb	IAmb	03 55 19.0	
	comp=Z,6.7nm,0.9s						
KBL	Kabul	48.35	299	P	P	03 55 18.3	+0.3
KBL				IAmb	IAmb	03 55 19.7	
	comp=Z,12nm,1.0s						
IUG	Iuzhnay	48.50	309	*e*P	P	03 55 19.2	+0.3
	comp=Z,7.5nm,0.9s						
BRZS	Berezniki	48.78	320	*e*P	P	03 55 20.1	-0.7
BRLS	Borolday	48.81	310	*e*P	P	03 55 21.7	+0.6
BVAR	Borovoye Array	51.16	323	P	P	03 55 39.4	+0.6
	comp=Z,2.2nm,0.5s,baz=112,slow=10,SNR=13						
	comp=Z,2.2nm,0.5s						
BRVK	Borovoye	51.23	323	P	P	03 55 40.3	+1.0
BRVK				IAmb	IAmb	03 55 40.8	
	comp=Z,7.3nm,0.8s						
BRVK	Borovoye	51.23	323	P	P	03 55 39.9	+0.6
BRVK				pP	pP	03 55 47.0	-0.5
TIXI	Tiksi	51.86	3	P	P	03 55 43.1	-0.6
TIXI				IAmb	IAmb	03 55 53.5	
	comp=Z,6.7nm,0.8s						
NWAO	Narrogin (SRO)	52.77	185	LR	LR	04 20 50.3	
	comp=Z,60nm,18.2s,baz=27,slow=39						
NRIK	Noril'sk	53.53	346	P	P	03 55 56.1	0.0
	comp=Z,9.7nm,0.7s,baz=128,slow=7.4,SNR=15						
NRIK				LR	LR	04 21 12.5	
	comp=Z,197nm,18.1s,baz=148,slow=39						
	comp=Z,9.7nm,0.7s						
HRA	Herat	53.96	298	IAmb	IAmb	03 56 01.4	
	comp=Z,10.0nm,1.1s						
STKA	Stephens Creek	55.03	159	P	P	03 56 05.7	-1.9
	comp=Z,3.1nm,0.7s,baz=359,slow=7.7,SNR=6.7						
STKA				LR	LR	04 22 22.1	
	comp=Z,25nm,19.8s,baz=23,slow=39						
	comp=Z,3.1nm,0.7s						
BILL	Bilibino	55.53	19	P	P	03 56 10.3	-0.4
ABKAR	Akbulak array	56.64	316	P	P	03 56 19.1	+0.3
ABKAR	Akbulak array	56.64	316	P	P	03 56 19.2	+0.3
ABKAR				IAmb	IAmb	03 56 33.8	
	comp=Z,5.7nm,0.9s						
AKTO	Aktyubinsk	58.03	318	LR	LR	04 23 20.4	
	comp=Z,82nm,19.9s,baz=224,slow=38						
ARTI	Arti	58.76	325	P	P	03 56 33.2	-0.5
ARTI	Arti	58.76	325	L

comp=Z,177nm,22.5s
CAN Canberra 60.86 154 P **P 03 56 49.4 +1.0**
CAN Canberra 60.86 154 P **P 03 56 49.7 +1.3**
KIRV Kirov 63.85 326 LR LR 04 27 01.3
comp=Z,88nm,18.7s,baz=72,slow=38
L14K Kuka Creek 65.87 31 P **P 03 57 22.2 +1.0**
K15K Wolf Creek Mou 66.45 30 P **P 03 57 26.5 +1.6**
C18K Utukok River 66.93 23 IAmb IAmb 03 57 33.1
comp=Z,7.5nm,0.9s
MSVF Nonsavu 66.95 120 LR LR 04 25 36.6
comp=Z,67nm,18.3s,baz=359,slow=35
E18K Tukpahlearik C 67.07 24 IAmb IAmb 03 57 34.3
comp=Z,8.1nm,1.1s
J17K VABM Dome 67.60 29 P **P 03 57 33.5 +1.3**
G18K Tagagawik 67.80 26 IAmb IAmb 03 58 11.0
comp=Z,10nm,1.1s
D19K Kuna River 68.05 23 IAmb IAmb 03 57 40.5
comp=Z,11nm,0.9s
E19K Redstone River 68.38 24 IAmb IAmb 03 57 43.2
comp=Z,8.6nm,0.8s
KBZ Khabaz 68.38 310 P **P 03 57 37.6 +0.2**
comp=Z,3.2nm,0.9s,baz=149,slow=3.7,SNR=7.1
KBZ LR LR 04 31 40.9
comp=Z,69nm,18.9s,baz=88,slow=39
comp=Z,3.2nm,0.9s
KIV Kislovodsk 68.50 310 P **P 03 57 38.3 0.0**
comp=Z,12nm,1.0s
KIV Kislovodsk 68.50 310 P **P 03 57 39.1 +0.8**
KIV pP **pP 03 57 46.6 -0.3**
KIV sP **sP 03 57 49.8 -0.2**
F20K Avaraart Lake 68.97 25 IAmb IAmb 03 57 58.6
comp=Z,9.7nm,1.1s
GEVA Gevas 69.04 304 P **P 03 57 42.2 +0.3**
GEVA IAmb IAmb 03 57 43.4
comp=Z,9.9nm,0.9s
B21K Ikpikpuk River 69.31 22 IAmb IAmb 03 57 48.4
comp=Z,13nm,1.1s
E21K Killik River 69.58 23 IAmb IAmb 03 58 04.5
comp=Z,6.9nm,0.7s
J20K Nowinta River 69.76 28 IAmb IAmb 03 58 00.4
comp=Z,8.2nm,0.7s
GURO Guroymak-BITLI 69.80 305 P **P 03 57 47.5 +1.0**
G21K Allakaket 69.87 25 IAmb IAmb 03 57 51.6
comp=Z,11nm,1.1s
E22K Anaktuvuk Pass 70.41 23 IAmb IAmb 03 57 54.3
comp=Z,6.2nm,0.9s
C23K Itkillik River 70.69 22 **P 03 57 52.3 +1.1**
C23K IAmb IAmb 03 58 00.5
comp=Z,8.5nm,0.8s
D23K Nanushuk River 70.75 22 IAmb IAmb 03 58 01.4
comp=Z,10nm,0.8s
MARD Mardin 70.99 304 P **P 03 57 54.3 +0.4**
MARD IAmb IAmb 03 57 55.2
comp=Z,9.2nm,0.8s
COLD Coldfoot 71.11 24 P **P 03 57 54.3 +0.5**
E23K Chandalar 71.23 23 IAmb IAmb 03 58 03.9
comp=Z,10.0nm,0.9s
G23K Bananza Creek 71.23 25 IAmb IAmb 03 58 09.3
comp=Z,13nm,1.4s
E24K Your Creek 71.65 23 IAmb IAmb 03 58 17.4
comp=Z,6.1nm,0.7s
NEA2 Nenana 71.91 27 IAmb IAmb 03 58 12.7
comp=Z,7.5nm,0.8s
F24K Squaw Lake 71.96 24 IAmb IAmb 03 58 19.3
comp=Z,6.4nm,0.8s
D25K Kavik River 72.23 22 IAmb IAmb 03 58 09.0
comp=Z,5.9nm,0.7s
G24K Hadweenzic Riv 72.24 25 IAmb IAmb 03 58 15.2
comp=Z,7.4nm,0.9s
F25K Christian Rive 72.79 24 P **P 03 58 04.7 +0.7**
ILAR Eielson Array 72.81 27 P **P 03 58 03.8 -0.3**
comp=Z,1.6nm,0.9s,baz=278,slow=5.3,SNR=7.3
ILAR LR LR 04 31 40.5
comp=Z,158nm,18.1s,baz=224,slow=37
comp=Z,1.6nm,0.9s
ARCES ARCESS Array B 73.55 339 P **P 03 58 08.4 +0.1**
comp=Z,5.5nm,0.9s,baz=65,slow=8.2,SNR=6.2
ARCES LR LR 04 32 09.1
comp=Z,86nm,20.3s,baz=91,slow=37
comp=Z,5.5nm,0.9s
SPITS Spitsbergen Ar 73.64 348 P **P 03 58 08.4 -0.3**
comp=Z,15nm,1.1s,baz=83,slow=9.3,SNR=8.9
comp=Z,15nm,1.1s
D27M Malcolm River 74.13 22 IAmb IAmb 03 58 45.6
comp=Z,12nm,1.4s
E27K Coleen River 74.17 23 **P 03 58 12.6 +0.6**
I26K Coal Creek Min 74.25 26 IAmb IAmb 03 58 19.0
comp=Z,11nm,1.1s
J26L Joseph Creek 74.26 27 IAmb IAmb 03 58 26.0
comp=Z,18nm,1.4s
K27K Chicken 75.00 27 IAmb IAmb 03 58 31.0
comp=Z,12nm,1.2s
FIA1 FINESS Array S 75.23 330 P **P 03 58 17.6 -0.6**
FINES FINESS Array B 75.23 330 P **P 03 58 18.1 -0.1**
comp=Z,4.7nm,0.8s,baz=46,slow=6.7,SNR=16
FINES LR LR 04 35 22.8
comp=Z,110nm,20.1s,baz=78,slow=39
comp=Z,4.7nm,0.8s
E29M Blow River 75.44 22 P **P 03 58 19.7 +0.4**
G29M Pine Creek 75.83 24 IAmb IAmb 03 58 30.8
comp=Z,11nm,1.0s
BRTR Keskin Array B 75.94 307 P **P 03 58 21.3 -1.6**
BRTR Keskin Array B 75.94 307 P **P 03 58 22.8 -0.1**
comp=Z,0.8nm,1.0s,baz=99,slow=7.9,SNR=6.6
comp=Z,0.8nm,1.0s
AKASG Malin Array Be 76.22 319 P **P 03 58 23.4 -0.8**
comp=Z,4.6nm,0.8s,baz=64,slow=5.7,SNR=9.9
AKASG LR LR 04 33 16.8
comp=Z,64nm,20.0s,baz=53,slow=37
comp=Z,4.6nm,0.8s
KIEV Kiev 76.23 319 P **P 03 58 22.9 -1.3**
KIEV Kiev 76.23 319 ⇓P **P 03 58 23.2 -1.0**
MMAI Mount Meron Ar 76.25 300 LR LR 04 35 46.2
comp=Z,48nm,18.4s,baz=59,slow=39
F30M Barrier River 76.44 23 IAmb IAmb 03 58 39.1
comp=Z,16nm,1.2s
EPYK Eagle Plains 76.50 24 IAmb IAmb 03 58 33.2
comp=Z,8.5nm,0.9s
I30M Mount Dempster 77.00 25 IAmb IAmb 03 59 12.8
comp=Z,23nm,1.8s
G31M Satah River 77.23 23 IAmb IAmb 03 58 35.3
comp=Z,6.6nm,0.7s
F31M Tsiigehtchic 77.23 22 IAmb IAmb 03 58 37.6
comp=Z,6.0nm,0.7s
SORM Soroca 77.45 317 ⇓P **P 03 58 29.9 -1.2**
TLCR 77.95 314 ⇑P **P 03 58 33.7 -0.2**
A36M Sachs Harbour 78.03 17 IAmb IAmb 03 58 42.2
comp=Z,9.6nm,0.8s
RNPP9 Sopachiv 78.05 320 P **P 03 58 33.6 -0.8**
CFR Carcaliu 78.41 314 ⇑P **P 03 58 36.5 0.0**
HARR Harsova 78.69 313 ⇑P **P 03 58 38.5 +0.5**
SUW Suwalki 78.83 323 *eP* **P 03 58 38.1 -0.5**
SUW Suwalki 78.83 323 P **P 03 58 37.7 -0.9**
VRI Vrincioaia 79.16 315 ⇓P **P 03 58 41.5 +0.9**
PLOR Plostina 79.22 315 ⇑P **P 03 58 41.8 +0.7**
FARO Faro, Yukon 79.34 27 IAmb IAmb 03 58 47.1
comp=Z,9.1nm,1.2s
BURAR Bucovina Array 79.62 317 P **P 03 58 43.5 +0.3**
BURAR Bucovina Array 79.62 317 ⇓P **P 03 58 43.2 0.0**
C36M Paulatuk 79.65 19 IAmb IAmb 03 59 03.1
comp=Z,17nm,1.5s
MLR Muntele Rosu 79.80 315 LR LR 04 37 11.8
comp=Z,96nm,21.6s,baz=64,slow=38
MLR Muntele Rosu 79.80 315 ⇓P **P 03 58 45.1 +0.8**
DOPR Dopca 80.02 315 ⇓P **P 03 58 45.6 +0.3**
VOIR 80.41 315 ⇑P **P 03 58 49.5 +2.0**
KOLS Kolonicke sedl 81.05 319 *eP* **P 03 58 50.9 +0.1**
LOT Lotru 81.26 315 ⇑P **P 03 58 52.4 +0.3**
MARR Marisel-Cluj 81.28 316 ⇓P **P 03 58 52.2 +0.1**
HFS Hagfors 81.38 331 P **P 03 58 51.0 -1.2**
comp=Z,2.5nm,0.8s,baz=97,slow=6.3,SNR=6.6
HFS LR LR 04 38 52.2
comp=Z,117nm,18.0s,baz=69,slow=38
comp=Z,2.5nm,0.8s
NB2 NORSAR Subarra 82.08 333 P **P 03 58 54.8 -1.2**
comp=Z,1.8nm,0.8s,baz=62,slow=5.1
NOA NORSAR Array B 82.08 333 P **P 03 58 54.9 -1.2**
comp=Z,1.3nm,0.8s,baz=63,slow=5.2,SNR=13
NOA LR LR 04 39 10.6
comp=Z,136nm,19.2s,baz=60,slow=38
comp=Z,1.3nm,0.8s
NIE Niedzica 82.09 320 *eP* **P 03 58 57.3 +1.0**
OJC Ojcow 82.09 321 *eP* **P 03 58 56.7 +0.4**
OJC Ojcow 82.09 321 P **P 03 58 56.4 +0.2**
SURR Surduc 82.24 316 ⇑P **P 03 58 56.6 -0.5**
SIRR Siria 82.36 316 ⇑P P 03 58 47.9 -10
LANS Liptovska Anna 82.69 320 *eP* **P 03 58 59.5 0.0**

MDVR Moldovita 82.86 315 ⇑P **P 03 58 59.8 -0.6**
VYHS Vyhne 83.33 319 *eP* **P 03 59 03.1 +0.4**
MORC Moravsky Berou 83.61 321 *eP* **P 03 59 04.4 +0.2**
JAVC Velka Javorina 83.89 320 *eP* **P 03 59 07.1 +1.4**
KSP Ksiaz 83.91 322 *eP* **P 03 59 05.2 -0.4**
DPC Dobruska-Polom 84.10 322 *eP* **P 03 59 06.6 -0.1**
CHVC Chvalec 84.16 322 *eP* **P 03 59 06.4 -0.6**
VRAC Vranov 84.36 321 LR LR 04 40 51.4
comp=Z,98nm,19.0s,baz=67,slow=38
VRAC Vranov 84.36 321 *eP* **P 03 59 08.6 +0.6**
VRAC Vranov 84.36 321 ⇑P **P 03 59 09.0 +1.0**
KRUC Moravsky 84.58 320 *eP* **P 03 59 09.5 +0.4**
PVCC Panska Ves 85.04 322 *eP* **P 03 59 12.7 +1.3**
CLL Collm 85.59 323 *eP* **P 03 59 13.0 -1.1**
CLL *epP* **sP 03 59 25.0 -0.8**
comp=Z,4.0nm,0.9s
CLL AMS AMS 04 42 00.0
comp=N,100nm,18.8s
CLL AMS AMS 04 42 00.0
comp=E,100nm,20.2s
ZVC Zvikov 85.73 321 *eP* **P 03 59 17.5 +2.6**
GERES GERESS Array B 86.28 321 P **P 03 59 16.9 -0.9**
comp=E,0.3nm,0.3s,baz=47,slow=5.9,SNR=4.1
comp=E,0.3nm,0.3s
YKA Yellowknife Ar 86.71 23 P **P 03 59 19.0 -0.4**
comp=E,2.2nm,0.7s,baz=311,slow=4.4,SNR=24
YKA LR LR 04 41 45.6
comp=E,83nm,18.0s,baz=344,slow=38
comp=E,2.2nm,0.7s
PPT2 Papeete2 94.87 107 *e*LR LR 04 30 33.0
comp=E,120nm,26.5s
PPT2 *e*LR LR 04 30 34.6
comp=E,83nm,26.2s
LSZ Lusaka 98.14 257 LR LR 04 45 45.3
comp=E,58nm,18.4s,baz=38,slow=36
TAOE Nuku Hiva Isla 100.76 96 *e*LR LR 04 33 15.8
comp=E,80nm,25.5s

NEIC ***12*** *03:47:46.9±1.6, 20°.03N±0°.08×145°.6E±0°.2, h89km±6km, mb4.5/41, Error ellipse: s-maj=22.0km s-min=10.9km az=77.0*
IDC ***12*** *03:47:47.4±0.8, 20°.04N×145°.63E, h101km±5km, mb4.1/16, mbtmp4.5/20, Error ellipse: s-maj=18.4km s-min=13.3km az=76.0*
ISC 12 03:47:48.0±0.5, 20°.05N±0°.07×145°.6E±0°.1, h109km, n74, σ0°94/65, mb4.4/28, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.45**	**186**	P	**Pn**	**03 49 21.0**	**+0.4**
	72nm,0.3s,baz=176,slow=14,SNR=3.7						
JCJ	**Chichijima**	**7.67**	**337**	Pn	**Pn**	**03 49 34.7**	**-2.4**
JCJ	**Chichijima**	**7.67**	**337**	P	**Pn**	**03 49 35.6**	**-1.4**
	71nm,0.3s,baz=72,slow=23,SNR=6.7						
JCJ				S	**Sn**	**03 50 59.0**	**-3.3**
	279nm,0.6s,baz=315,slow=23,SNR=7.8						
JGF	**Kuroka**	**17.10**	**337**	P	**Pn**	**03 51 42.3**	**+1.9**
JGF				IAmb	IAmb	03 51 53.2	
	comp=Z,42nm,1.1s						
MJAR	**Matsushiro Arr**	**17.66**	**340**	P	**P**	**03 51 46.9**	**+0.5**
	comp=Z,10nm,1.0s,baz=163,slow=10,SNR=7.5						
MJB9	**Matsu-Tunnel**	**17.66**	**340**	P	**P**	**03 51 47.4**	**+0.9**
MJB9				IAmb	IAmb	03 52 03.7	
	comp=Z,23nm,0.9s						
PATS	**Pohnpei**	**18.04**	**135**	P	**P**	**03 51 49.7**	**-1.1**
JMM	**Marumori**	**18.24**	**348**		**Pn**	**03 51 54.8**	**+0.9**
JMM				IAmb	IAmb	03 51 59.3	
	comp=Z,29nm,0.8s						
JNU	**Nakatsue**	**18.47**	**318**	P	**P**	**03 51 56.4**	**+1.0**
	comp=Z,8.4nm,0.6s,baz=102,slow=9.1,SNR=2.2						
JSD	**Sado**	**19.02**	**342**		**P**	**03 52 02.6**	**+1.3**
JSD				IAmb	IAmb	03 52 04.0	
	comp=Z,36nm,1.1s						
H11S3	**WAKE ISLAND Hy 20.00**	**91**		T	T	04 13 03.1	
	baz=275,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy 20.01**	**91**		T	T	04 13 10.5	
	baz=275,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy 20.02**	**91**		T	T	04 13 07.7	
	baz=275,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy 20.06**	**87**		T	T	04 13 32.8	
	baz=274,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy 20.06**	**87**		T	T	04 13 32.2	
	baz=274,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy 20.07**	**87**		T	T	04 13 33.3	
	baz=274,slow=75,SNR=7.2						
KSRS	**Korea Array**	**23.17**	**322**	P	**P**	**03 52 45.6**	**+0.5**
	comp=Z,10nm,0.8s,baz=151,slow=9.2,SNR=21						
	comp=Z,10nm,0.8s						
KSAR	**Wonju Array Be**	**23.19**	**322**		**P**	**03 52 45.9**	**+0.7**
KLR	**Kul'dur**	**31.15**	**342**	P	**P**	**03 53 57.4**	**+1.0**
	comp=Z,16nm,0.7s,baz=162,slow=6.6,SNR=20						
	comp=Z,16nm,0.7s						
PETK	**Petropavlovsk-**	**34.31**	**13**	P	**P**	**03 54 25.2**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=201,slow=13,SNR=6.0						
	comp=Z,2.1nm,0.8s						
WRAB	**Tennant Creek**	**41.22**	**196**	P	**P**	**03 55 22.3**	**0.0**
WRA	**Warramunga Arr**	**41.23**	**196**	P	**P**	**03 55 21.2**	**-1.2**
WRA	**Warramunga Arr**	**41.23**	**196**	P	**P**	**03 55 22.4**	**0.0**
	comp=Z,9.2nm,0.6s,baz=16,slow=8.9,SNR=12						
	comp=Z,9.2nm,0.6s						
SONM	**Songino Array**	**42.02**	**321**	P	**P**	**03 55 30.6**	**+1.9**
SONM	**Songino Array**	**42.02**	**321**	P	**P**	**03 55 29.4**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=137,slow=7.2,SNR=4.9						
	comp=Z,1.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**42.65**	**209**		**P**	**03 55 34.7**	**+0.8**
ASAR	**Alice Springs**	**44.91**	**195**	P	**P**	**03 55 51.6**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=10,slow=7.5,SNR=4.2						
	comp=Z,3.0nm,0.7s						
DZM	**Mont Dzumac**	**46.56**	**153**	P	**P**	**03 56 04.2**	**-0.9**
ZALV	**Zalesovo Beam**	**56.88**	**322**		**P**	**03 57 21.7**	**+0.4**
ZALV	**Zalesovo Beam**	**56.88**	**322**	P	**P**	**03 57 21.5**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=110,slow=7.6,SNR=6.2						
	comp=Z,4.4nm,0.6s						
MK31	**Makanchi Array**	**57.45**	**313**	P	**P**	**03 57 25.4**	**-0.1**
MKAR	**Makanchi Array**	**57.45**	**313**	P	**P**	**03 57 25.1**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=101,slow=13,SNR=3.7						
MKAR				pP	**pP**	**03 57 50.4**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=93,slow=8.9,SNR=3.6						
	comp=Z,1.7nm,0.8s						
CAST	**Castle Rocks**	**59.96**	**27**	P	**P**	**03 57 42.9**	**+0.3**
KURBB	**Kurchatov Arra**	**60.24**	**318**	P	**P**	**03 57 45.4**	**+0.7**
	comp=Z,6.1nm,0.6s,baz=92,slow=7.5,SNR=25						
KURBB				pP	**pP**	**03 58 10.0**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=94,slow=7.6,SNR=4.6						
	comp=Z,6.1nm,0.6s						
H21K	**Melozitna Rive**	**60.31**	**25**	P	**P**	**03 57 45.8**	**+0.8**
BPAW	**Bear Paw Mtn.**	**60.61**	**27**		**P**	**03 57 47.4**	**+0.4**
ILAR	**Eielson Array**	**62.50**	**27**	P	**P**	**03 57 58.5**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=259,slow=4.8,SNR=24						
	comp=Z,1.8nm,0.7s						
J26L	**Joseph Creek**	**63.86**	**27**		**P**	**03 58 05.0**	**-0.3**
F26K	**Sheenjek River**	**64.15**	**24**	P	**P**	**03 58 10.2**	**-0.4**
BVAR	**Borovoye Array**	**65.37**	**320**	P	**P**	**03 58 19.6**	**+0.9**
	comp=Z,8.9nm,0.5s,baz=86,slow=7.3,SNR=20						
BVAR				pP	**pP**	**03 58 45.1**	**+0.1**
	comp=Z,2.8nm,0.4s,baz=88,slow=7.2,SNR=3.5						
	comp=Z,8.9nm,0.5s						
BRVK	**Borovoye**	**65.43**	**320**	P	**P**	**03 58 20.1**	**+1.0**
BRVK				IAmb	IAmb	03 58 20.8	
	comp=Z,5.9nm,0.8s						
I28M	**Miner Creek**	**65.51**	**26**		**P**	**03 58 19.8**	**+0.3**
M29M	**Somme Creek**	**65.94**	**30**	P	**P**	**03 58 22.8**	**+0.5**
L29M	**L29M**	**66.13**	**29**		**P**	**03 58 24.3**	**+0.8**
ABKAR	**Akbulak array**	**72.28**	**317**		**P**	**03 59 02.2**	**+0.6**
ABKAR	**Akbulak array**	**72.28**	**317**		**P**	**03 59 02.4**	**+0.8**
J05D	**Fort Rock, OR**	**78.79**	**48**	P	**P**	**03 59 39.2**	**+0.2**
J05D				IAmb	IAmb	03 59 40.4	
	comp=Z,6.8nm,0.9s						
ARCES	**ARCESS Array B**	**81.18**	**342**	P	**P**	**03 59 52.5**	**+1.2**
	comp=Z,2.5nm,0.8s,baz=63,slow=6.2,SNR=1.3						
	comp=Z,2.5nm,0.8s						
PNTR	**Pine Nut**	**81.24**	**52**		**P**	**03 59 52.9**	**+0.4**
NVAR	**Mina Array Bea**	**82.41**	**52**	P	**P**	**03 59 59.0**	**+0.4**
	comp=Z,5.0nm,0.7s,baz=267,slow=6.1,SNR=16						
NVAR				pP	**pP**	**04 00 25.5**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=273,slow=6.3,SNR=3.5						
	comp=Z,5.0nm,0.7s						
NV11	**Mina Array Sit**	**82.52**	**52**	IAmb	IAmb	03 59 60.0	
	comp=Z,4.4nm,0.9s						
ELK	**Elko**	**83.83**	**49**	IAmb	IAmb	04 00 06.8	
	comp=Z,3.5nm,0.8s						
GWY	**Greenwater Val**	**84.40**	**54**	IAmb	IAmb	04 00 52.6	
	comp=Z,7.6nm,1.4s						
FINES	**FINESS Array B**	**85.62**	**335**	P	**P**	**04 00 13.5**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=68,slow=6.0,SNR=4.7						
FINES				pP	**pP**	**04 00 39.9**	**-1.7**
	comp=Z,1.9nm,0.5s,baz=60,slow=4.2,SNR=3.5						
	comp=Z,1.0nm,0.5s						
PSUT	**Pine Spring 85.64 51**			IAmb	IAmb	04 00 15.7	
	comp=Z,4.1nm,1.0s						
TPAW	**Teton Pass 85.75 45**			P	**P**	**04 00 14.9**	**-0.6**
TPAW				IAmb	IAmb	04 00 15.6	
	comp=Z,7.3nm,1.4s						
V12A	**Nelson 85.94 54**			IAmb	IAmb	04 00 17.2	
	comp=Z,3.5nm,0.8s						
HWUT	**Hardware Ranch 86.08 47**			IAmb	IAmb	04 00 17.9	
	comp=Z,5.2nm,0.8s						
RLMT	**Red Lodge 86.19 43**			IAmb	IAmb	04 00 20.0	
	comp=Z,4.4nm,0.7s						
KNB	**Kanab 86.97 52**			P	**P**	**04 00 21.9**	**+0.3**
KNB				IAmb	IAmb	04 00 22.9	
	comp=Z,6.0nm,1.0s						
PDAR	**Pinedale Array 86.97 45**			P	**P**	**04 00 21.0**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=278,slow=4.0,SNR=8.1						
	comp=Z,0.4nm,0.5s						
SRU	**San Rafael Swe 87.81 49**			IAmb	IAmb	04 00 26.0	
	comp=Z,4.6nm,0.7s						
PV17	**East Wray Mesa 89.27 49**			P	**P**	**04 00 32.4**	**0.0**
TXAR	**Lajitas Array 97.18 55**			P	**P**	**04 01 08.5**	**-0.4**
	comp=Z,0.2nm,0.8s,baz=311,slow=4.5,SNR=2.0						
	comp=Z,0.2nm,0.8s						
DBIC	**Dimbokro 140.61 309**			PKP	**PKPdf**	**04 07 05.8**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=162,slow=4.6,SNR=1.5						
BI02	**San Fabin de 143.86 125**			PKPdf	PKPab	04 07 08.3	+0.1
MT01	**Popeta 144.61 121**				**PKPab**	**04 07 11.1**	**0.0**
BO02	**Sierra Bellavi 144.76 122**				**PKPab**	**04 07 11.2**	**-0.4**
CO02	**Combarbal 145.35 116**			PKPbc	**PKPdf**	**04 07 13.2**	**-0.4**
LCO	**Las Campanas 145.93 112**				**PKPbc**	**04 07 15.9**	**+0.1**
AC01	**Pan de Azucar 146.26 107**			PKPbc	**PKPbc**	**04 07 16.6**	**+0.1**
AC05	**El Transito 146.32 112**			PKPbc	**PKPbc**	**04 07 16.7**	**-0.1**
LPAZ	**La Paz 147.80 89**			PKPbc	**PKPbc**	**04 07 22.2**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=273,slow=3.6,SNR=8.7						
TRQA	**Tornquist 150.13 133**			PKPbc	**PKPbc**	**04 07 25.6**	**-0.8**

NEIC ***12*** *03:48:00.2±2.0, 18°.84S±0°.10×175°.06W±0°.06, h237km±7km, mb4.4/13, Error ellipse: s-maj=15.9km s-min=5.1km az=154.0*
IDC ***12*** *03:48:02.0±3.3, 19°.20S×175°.54W, h223km±28km, mb3.6/10, mbtmp4.1/11, MS3.3/1, Error ellipse: s-maj=25.0km s-min=17.7km az=91.0*
ISC 12 03:48:00.7±0.6, 19°.0S±0°.1×175°.13W±0°.09, h237km, n35, σ1°93/34, mb4.0/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.92**	**92**		**Pn**	**03 49 14.9**	**-0.2**
FUTU	**Fugatoga**	**5.47**	**328**	Pn	**Pn**	**03 49 21.9**	**-0.1**
AFI	**Afiamalu**	**6.00**	**33**	Pn	**Pn**	**03 49 24.4**	**-4.3**
MSVF	**Nonsavu**	**6.60**	**280**		**Pn**	**03 49 35.3**	**-0.9**
MSVF	**Nonsavu**	**6.60**	**280**	P	**Pn**	**03 49 34.3**	**-1.9**
	36nm,0.8s,baz=111,slow=11,SNR=30						
PINNC	**Pines Island,**	**16.68**	**255**		**P**	**03 51 39.3**	**-0.5**
URZ	**Urewera**	**20.35**	**198**	P	**P**	**03 52 16.7**	**-2.5**
	2.9nm,0.3s,baz=13,slow=3.7,SNR=7.8						
URZ				LR	LR	03 59 03.8	
	comp=Z,80nm,18.8s,baz=99,slow=33						
	2.9nm,0.3s						
COEN	**Coen**	**40.23**	**271**	P	**P**	**03 55 14.4**	**-0.3**
COEN				IAmb	IAmb	03 55 48.6	
	comp=Z,9.3nm,1.1s						
STKA	**Stephens Creek**	**40.87**	**243**	P	**P**	**03 55 18.0**	**-1.8**
STKA	**Stephens Creek**	**40.87**	**243**	P	**P**	**03 55 20.2**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=85,slow=12,SNR=5.1						
	comp=Z,1.0nm,0.4s						
BBOO	**Buckleboo**	**45.63**	**242**	P	**P**	**03 55 56.6**	**-1.3**
BBOO				IAmb	IAmb	03 56 06.0	
	comp=Z,27nm,1.2s						
WB0	**Warramunga Arr**	**47.48**	**260**	P	**P**	**03 56 10.9**	**-1.4**
WRA	**Warramunga Arr**	**47.50**	**260**	P	**P**	**03 56 11.5**	**-1.0**
WRA	**Warramunga Arr**	**47.50**	**260**	P	**P**	**03 56 11.1**	**-1.4**
	comp=Z,3.0nm,0.4s,baz=99,slow=8.4,SNR=8.8						
	comp=Z,3.0nm,0.4s						
ASAR	**Alice Springs**	**47.50**	**255**	P	**P**	**03 56 11.9**	**-0.6**
	comp=Z,7.6nm,0.6s,baz=87,slow=8.6,SNR=22						
	comp=Z,7.6nm,0.6s						
KNRA	**Kununurra**	**53.48**	**264**	P	**P**	**03 56 56.5**	**-0.5**
KNRA				IAmb	IAmb	03 56 56.9	
	comp=Z,9.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**55.92**	**261**	P	**P**	**03 57 13.8**	**-0.8**
QSPA	**South Pole Qui**	**71.06**	**180**	P	**P**	**03 58 55.5**	**+2.5**
QSPA	**South Pole Qui**	**71.06**	**180**	P	**P**	**03 58 55.4**	**+2.5**
	comp=Z,1.9nm,1.0s,baz=35,slow=0.4,SNR=5.8						
	comp=Z,1.9nm,1.0s						
PETK	**Petropavlovsk-**	**75.56**	**343**	P	**P**	**03 59 21.5**	**+2.5**
PETK	**Petropavlovsk-**	**75.56**	**343**	P	**P**	**03 59 21.4**	**+2.4**
	comp=Z,1.5nm,0.7s,baz=119,slow=8.6,SNR=5.9						
	comp=Z,1.5nm,0.7s						
KSRS	**Korea Array**	**77.60**	**317**	P	**P**	**03 59 32.4**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=143,slow=5.7,SNR=5.9						
	comp=Z,1.2nm,0.8s						
DBO	**Dodson Butte**	**78.04**	**36**	P	**P**	**03 59 31.7**	**-1.5**
PINE	**Pine Mountain**	**79.76**	**37**	P	**P**	**03 59 40.2**	**-2.4**
TXAR	**Lajitas Array**	**83.98**	**56**	P	P	04 00 11.0	+6.2
	comp=Z,0.3nm,0.8s,baz=244,slow=4.6,SNR=3.8						
	comp=Z,0.3nm,0.8s						
YHL	**Hebgen Lake**	**86.09**	**40**		**P**	**04 00 12.4**	**-2.8**
YHL				IAmb	IAmb	04 00 13.6	
	comp=Z,4.0nm,0.8s						
YMR	**Madison River**	**86.13**	**40**	P	**P**	**04 00 13.8**	**-1.5**
YMR				IAmb	IAmb	04 00 14.7	
	comp=Z,5.8nm,0.8s						
ILAR	**Eielson Array**	**86.28**	**12**	P	**P**	**04 00 18.4**	**+3.2**
	comp=Z,0.3nm,0.5s,baz=207,slow=5.1,SNR=1.9						
	comp=Z,0.3nm,0.5s						
YMP	**Mirror Lake Pl**	**86.66**	**40**	P	**P**	**04 00 16.7**	**-1.3**
YMP				IAmb	IAmb	04 00 17.6	
	comp=Z,5.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**92.18**	**289**	P	**P**	**04 00 46.3**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=91,slow=5.2,SNR=2.0						
	comp=Z,0.4nm,0.3s						
ARCES	**ARCESS Array B**	**127.90**	**351**	PKP	**PKiKP**	**04 06 40.4**	**+2.2**
	comp=Z,1.4nm,0.6s,baz=56,slow=4.5,SNR=4.4						
BURAR	**Bucovina Array**	**146.98**	**334**	PKPab	**PKiKP**	**04 07 18.6**	**+0.8**
BRTR	**Keskin Array B**	**147.74**	**316**	PKPab	**PKPab**	**04 07 20.1**	**-0.7**
BRTR	**Keskin Array B**	**147.74**	**316**	PKPbc	**PKPab**	**04 07 19.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=141,slow=5.0,SNR=5.7						
GERES	**GERESS Array B**	**149.38**	**349**	P

ULHL	**Ulahol**	**2.37**	**338**	⇑*iP*	**Pn**	**04 02 29.2**	**-0.4**
ULHL				⇑*iS*	**Sb**	**04 03 00.9**	**-1.9**
PRZ	**Przheval'sk**	**2.54**	**17**	⇓*eP*	**Pn**	**04 02 30.8**	**-1.2**
PRZ				⇓*eS*	**Sn**	**04 03 03.8**	**+0.2**
BOOM	**Boomskoye usch**	**2.68**	**336**	⇑*iP*	**Pn**	**04 02 33.5**	**-0.4**
BOOM				⇑*iS*	**Sb**	**04 03 08.1**	**-3.7**
ANVS	**Anan'yevo**	**2.74**	**4**	⇓*iP*	**Pn**	**04 02 33.8**	**-0.9**
ANVS				⇓*iS*	**Sn**	**04 03 08.8**	**+0.3**
SALK	**Salom-Alik**	**2.87**	**288**	⇑*iP*	**Pn**	**04 02 36.2**	**-0.3**
SALK				⇑*iS*	**Sn**	**04 03 12.7**	**+1.0**
ARLS	**Aral**	**2.96**	**309**	⇑*eP*	**Pn**	**04 02 37.3**	**-0.4**
ARLS				⇑*eS*	**Sn**	**04 03 15.0**	**+1.0**
TNSS	**Tian-Shan**	**3.01**	**353**	Pg	**Pb**	**04 02 42.3**	**-1.7**
	19nm,0.4s						
TNSS				Lg	Lg	04 03 22.4	
	20nm,0.8s						
TNSS	**Tian-Shan**	**3.01**	**353**	*eP*	**Pb**	**04 02 42.3**	**-1.7**
	19nm,0.3s						
TNSS				*eS*	**Sb**	**04 03 21.6**	**+0.2**
	29nm,0.6s						
SFK	**Sufi-Kurgan**	**3.01**	**271**	⇑*iP*	**Pn**	**04 02 37.9**	**-0.5**
SFK				⇑*iS*	**Sn**	**04 03 16.0**	**+0.8**
SATY	**Saty**	**3.10**	**13**	Pg	**Pb**	**04 02 44.3**	**-1.1**
	6.1nm,0.3s						
SATY				Lg	Lg	04 03 25.3	
	32nm,0.6s						
MDOK	**Medeo**	**3.13**	**355**	⇑Pg	**Pb**	**04 02 43.4**	**-2.5**
	8.1nm,0.5s						
MDOK				Pg	Pg	04 02 44.8	-4.6
	12nm,0.3s						
MDOK				Lg	Lg	04 03 26.4	
	21nm,0.7s						
MDOK				⇑Lg	Lg	04 03 26.8	
	28nm,0.6s						
MTBS	**Maitube**	**3.17**	**347**	Pg	**Pb**	**04 02 45.5**	**-1.0**
	6.4nm,0.2s						
MTBS				Lg	Lg	04 03 27.4	
	15nm,0.3s						
MTBS	**Maitube**	**3.17**	**347**	*eP*	**Pb**	**04 02 45.5**	**-1.0**
	6.4nm,0.2s						
MTBS				*eS*	**Sb**	**04 03 27.4**	**+1.7**
	15nm,0.3s						
TKM2	**Tokmak 2**	**3.18**	**335**	⇓Pg	**Pb**	**04 02 44.4**	**-2.4**
	2.2nm,0.3s						
TKM2				⇑Lg	Lg	04 03 27.8	
	9.0nm,0.5s						
TKM2	**Tokmak 2**	**3.18**	**335**	⇓*iP*	**Pn**	**04 02 40.6**	**-0.2**
TKM2				⇓*iS*	**Sn**	**04 03 20.5**	**+1.1**
AAA	**Alma-Ata**	**3.18**	**353**	Pg	**Pb**	**04 02 46.5**	**-0.3**
	56nm,0.3s						
AAA				Lg	Lg	04 03 28.7	
	42nm,0.4s						
AAA	**Alma-Ata**	**3.18**	**353**	*eP*	**Pb**	**04 02 44.9**	**-1.9**
	25nm,0.1s						
AAA				*eS*	**Sb**	**04 03 26.2**	**+0.2**
	14nm,0.1s						
KST	**Kastek**	**3.19**	**340**	Pg	**Pb**	**04 02 46.0**	**-0.9**
	3.8nm,0.2s						
KST				Lg	Lg	04 03 28.1	
	18nm,0.4s						
KST	**Kastek**	**3.19**	**340**	*eP*	**Pb**	**04 02 45.0**	**-1.9**
	2.6nm,0.3s						
KST				*eS*	**Sb**	**04 03 26.6**	**+0.3**
	35nm,0.6s						
KBK	**Karagaybulak**	**3.20**	**325**	⇓*iP*	**Pn**	**04 02 40.9**	**-0.1**
KBK				⇓*iS*	**Sn**	**04 03 21.1**	**+1.2**
ZHN	**Zhinishke**	**3.21**	**13**	Pg	**Pb**	**04 02 46.2**	**-1.1**
	7.3nm,0.1s						
ZHN				Lg	Lg	04 03 28.7	
	24nm,0.3s						
ZHN	**Zhinishke**	**3.21**	**13**	*eP*	**Pb**	**04 02 46.2**	**-1.1**
	7.3nm,0.1s						
ZHN				*eS*	**Sb**	**04 03 28.7**	**+1.8**
	24nm,0.3s						
UZB	**Uzynbulak**	**3.32**	**21**	Pg	**Pb**	**04 02 48.0**	**-1.2**
	6.0nm,0.3s						
UZB				Lg	Lg	04 03 31.8	
	11nm,0.4s						
UZB	**Uzynbulak**	**3.32**	**21**	*eP*	**Pb**	**04 02 48.0**	**-1.2**
	6.0nm,0.3s						
UZB				*eS*	**Sb**	**04 03 31.8**	**+1.7**
	11nm,0.4s						
KURS	**Kuram**	**3.48**	**9**	Pg	**Pb**	**04 02 51.3**	**-0.6**
	6.8nm,0.5s						
KURS				Lg	Lg	04 03 37.2	
	13nm,0.5s						
KURS	**Kuram**	**3.48**	**9**	*eP*	**Pg**	**04 02 56.8**	**+0.6**
	4.1nm,0.3s						
KURS				*eS*	**Sg**	**04 03 47.1**	**+5.8**
	42nm,0.4s						
AML	**Almayashu**	**3.50**	**308**	⇑*iP*	**Pn**	**04 02 45.4**	**+0.1**
AML				⇑*iS*	**Sn**	**04 03 28.2**	**+0.6**
CHKK	**Chushkaly**	**3.82**	**355**	Pg	**Pb**	**04 02 56.8**	**-0.8**
	4.1nm,0.3s						
CHKK				Lg	Lg	04 03 47.2	
	42nm,0.4s						
CHKK	**Chushkaly**	**3.82**	**355**	*eP*	**Pb**	**04 02 56.8**	**-0.8**
	4.1nm,0.3s						
CHKK				*eS*	**Sb**	**04 03 47.1**	**+2.9**
	42nm,0.4s						
KUU	**Kurty**	**3.93**	**348**	Pg	**Pb**	**04 02 58.2**	**-1.2**
	2.3nm,0.3s						
KUU				Lg	Lg	04 03 49.0	
	28nm,0.6s						
KUU	**Kurty**	**3.93**	**348**	*eP*	**Pb**	**04 02 58.3**	**-1.2**
	2.3nm,0.2s						
KUU				*eS*	**Sb**	**04 03 49.4**	**+2.0**
	24nm,0.5s						
MRKS	**Merke**	**4.15**	**312**	Pg	**Pb**	**04 03 02.4**	**-0.9**
	0.9nm,0.1s						
MRKS				Lg	Lg	04 03 56.2	
	3.8nm,0.2s						
MRKS	**Merke**	**4.15**	**312**	*eP*	**Pb**	**04 03 02.4**	**-0.9**
	0.9nm,0.1s						
MRKS				*eS*	**Sb**	**04 03 56.2**	**+2.3**
	3.8nm,0.2s						
ARXS	**Arharly**	**4.17**	**4**	Pg	**Pb**	**04 03 03.7**	**+0.1**
	4.7nm,0.4s						
ARXS				Lg	Lg	04 03 58.3	
	14nm,0.3s						
DJR	**Jarkent**	**4.63**	**22**	Pg	**Pb**	**04 03 13.3**	**+1.9**
	1.7nm,0.1s						
DJR				Lg	Lg	04 04 15.3	
	8.5nm,0.4s						
DJR	**Jarkent**	**4.63**	**22**	*eP*	**Pb**	**04 03 12.5**	**+1.0**
	1.5nm,0.1s						
DJR				*eS*	**Sg**	**04 04 13.4**	**-4.7**
	5.5nm,0.3s						

AZER ***12*** *04:12:45.0,38°.48N×45°.35E,h13km,ml4.0*
IDC ***12*** *04:12:44.8±1.2,38°.36N×45°.11E,h0km,mb3.6/6,*
mbtmp3.5/10,ML3.0/4,MS3.4/4,Error ellipse:
s-maj=16.5km s-min=12.6km az=54.0
NSSP ***12*** *04:12:45.6,38°.52N×45°.33E,h10km,Ms4.0*
TEH ***12*** *04:12:45.7,38°.43N×45°.35E,h6km±43km*
THR ***12*** *04:12:47.4±0.5,38°.53N×45°.23E,h5km,mb4.2*
ISC 12 04:12:45.8±1.2,38°.46N±0°.03×45°.34E±0°.03,h1km±9km,
n64,σ1ˢ59/81,mb3.5/6,MS3.5/3,3C-1D,
Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.28**	**128**	Pg	**Pg**	**04 12 50.5**	**-0.7**
IMRD	**Marand**	**0.39**	**48**	Pg	**Pg**	**04 12 53.9**	**+0.6**
ITBZ	**Tabriz**	**0.68**	**109**	Pg	**Pg**	**04 12 57.9**	**-0.9**
ORD	**Ordubad**	**0.70**	**47**	P	**Pb**	**04 12 59.9**	**-1.0**
ORD				S	Sb	**04 13 10.3**	**-0.7**
NAX	**Nakhchivan**	**0.73**	**10**	P	**Pb**	**04 13 00.7**	**-0.6**
NAX				S	Sn	**04 13 12.3**	**-2.8**
IAZR	**Azarshahr**	**0.93**	**147**	Pg	**Pg**	**04 13 03.4**	**-0.2**
SBZ	**Shahbuz**	**0.95**	**10**	P	**Pb**	**04 13 04.5**	**-0.7**
SBZ				S	Sn	**04 13 20.5**	**-0.2**
MAKU	**Maku**	**1.03**	**331**	Pg	**Pg**	**04 13 05.4**	**-0.3**
MAKU	**Maku**	**1.03**	**331**	*e*Pg	**Pg**	**04 13 05.3**	**-0.3**
EGVZ	**Egvard**	**1.22**	**50**	⇑*iP*	**Pb**	**04 13 08.7**	**-1.0**
EGVZ				⇑*iS*	**Sn**	**04 13 25.4**	**-1.8**
VAYK	**Vayk**	**1.24**	**3**	*i P*	**Pn**	**04 13 09.5**	**-0.9**
VAYK				*i S*	**Sn**	**04 13 26.5**	**-1.2**
HYR	**Heyderabad**	**1.32**	**344**	P	**Pn**	**04 13 10.7**	**-0.7**
HYR				S	**Sg**	**04 13 30.0**	**+1.9**
IHRS	**Heris**	**1.35**	**95**	Pg	**Pb**	**04 13 11.2**	**-0.8**
NRKZ	**NAREK**	**1.63**	**341**	*eP*	**Pn**	**04 13 15.3**	**-0.4**
NRKZ				*eS*	**Sb**	**04 13 37.3**	**-0.4**
AYRK	**Ayrk**	**1.69**	**12**	⇓*iP*	**Pb**	**04 13 17.6**	**-0.3**
AYRK				⇑*iS*	**Sg**	**04 13 40.9**	**+0.6**
IGDI	**IGDIR**	**1.72**	**326**	P	**Pg**	**04 13 18.4**	**-0.3**
IGDI				S	**Sg**	**04 13 42.2**	**+1.2**
GNI	**Garni**	**1.75**	**345**	Pg	**Pb**	**04 13 18.6**	**-0.3**
	97nm,0.3s,baz=202,slow=2.2,SNR=137						
GNI				Lg	Lg	04 13 43.4	
	61nm,0.3s,baz=329,slow=18,SNR=6.9						
QRD	**Qoradiz**	**1.84**	**56**	P	**Pb**	**04 13 19.7**	**-0.7**
QRD				S	**Sg**	**04 13 45.0**	**-0.1**
IHSH	**Hashtrud**	**1.91**	**126**	Pn	**Pb**	**04 13 20.0**	**-1.6**
KAPZ	**Kaputan**	**1.93**	**345**	*e*P	**Pb**	**04 13 21.5**	**-0.4**
KAPZ				*e*S	**Sg**	**04 13 47.8**	**0.0**
METS	**Metsamor**	**1.95**	**330**	*e*P	**Pb**	**04 13 20.7**	**-1.5**
METS				*e*S	**Sb**	**04 13 46.6**	**-0.5**
VNNZ	**Vanand**	**2.02**	**325**	*e*P	**Pb**	**04 13 23.5**	**+0.1**
VNNZ				*e*S	**Sg**	**04 13 51.4**	**+0.6**
GRMI	**Germi**	**2.04**	**79**	Pn	**Pb**	**04 13 22.6**	**-1.0**
GRMI	**Germi**	**2.04**	**79**	*e*Pn	**Pb**	**04 13 22.9**	**-0.7**
GRMI				*e*Sg	**Sg**	**04 13 50.3**	**-0.9**
GRMI				IAML		04 13 51.2	
	comp=Z,2μm,1.0s						
ARUZ	**Aruch**	**2.06**	**333**	*e*P	**Pb**	**04 13 23.4**	**-0.7**
ARUZ				*e*S	**Sg**	**04 13 51.3**	**-0.9**
AMBZ	**Amberd**	**2.10**	**337**	*e*P	**Pb**	**04 13 23.9**	**-1.0**
AMBZ				*e*S	**Sb**	**04 13 51.9**	**+0.4**
SRSL	**SARDASHT**	**2.24**	**178**	*e*Pn	**Pb**	**04 13 25.4**	**-1.8**
SRSL				IAML		04 14 04.1	
	comp=Z,780nm,1.0s						
SDS1	**Sardasht. Az.**	**2.31**	**177**	Pn	**Pb**	**04 13 26.5**	**-1.8**
LSVT	**Lusahovit**	**2.46**	**357**	*e*P	**Pb**	**04 13 29.7**	**-1.2**
KMOZ	**Kamo**	**2.59**	**336**	*e*P	**Pb**	**04 13 32.0**	**-1.2**
KMOZ				*e*S	**Sb**	**04 14 05.9**	**+0.3**
SRTK	**Saratovka**	**2.72**	**344**	*e*P	**Pb**	**04 13 34.8**	**-0.6**
SRTK				*e*S	**Sg**	**04 14 11.2**	**-2.0**
GAS1	**Astara - Iran**	**2.75**	**90**	Pn	**Pb**	**04 13 32.7**	**-3.1**
KARS	**Kars**	**2.78**	**322**	Pn	**Pb**	**04 13 33.5**	**-2.9**
ZNJK	**Zanjan**	**3.20**	**123**	*e*Pn	**Pn**	**04 13 39.3**	**+1.8**
ZNJK				IAML		04 14 36.6	
	comp=Z,360nm,1.0s						
SNGE	**Sanandaj**	**3.73**	**154**	*e*Pn	**Pn**	**04 13 47.6**	**+3.0**
SNGE				IAML		04 14 55.0	
	comp=Z,180nm,1.0s						
ILIN	**Lien**	**3.77**	**159**	Pn	**Pn**	**04 13 47.4**	**+2.2**
IDHR	**Dehrash**	**3.84**	**167**	Pn	**Pn**	**04 13 48.9**	**+2.7**
GIDE	**GILAN DEYLAMAN**	**3.94**	**111**	*e*Pn	**Pn**	**04 13 49.8**	**+2.3**
GIDE				IAML		04 15 14.7	
	comp=Z,1μm,1.0s						
KGS1	**Ghasr-e-Shirin**	**3.95**	**177**	Pn	**Pn**	**04 13 49.9**	**+2.4**
JIR1	**Jirandeh**	**3.95**	**115**	Pn	**Pn**	**04 13 49.8**	**+2.1**
SNQR	**Sonqor, Kerman**	**4.04**	**152**	Pn	**Pn**	**04 13 51.8**	**+2.8**
HGHA	**Hamedan- Ghaye**	**4.09**	**135**	Pn	**Pn**	**04 13 51.6**	**+2.0**
IGHG	**Ghaleghazi**	**4.24**	**166**	Pn	**Pn**	**04 13 54.1**	**+2.5**
QABG	**Abgarm-Qazvin**	**4.37**	**128**	Pn	**Pn**	**04 13 55.5**	**+2.1**
IGZV	**Ghazvin**	**4.40**	**116**	Pn	**Pn**	**04 13 54.7**	**+0.8**
HAGD	**Aghdareh**	**4.74**	**139**	Pn	**Pn**	**04 14 00.6**	**+1.9**
IRAZ	**Razeghan**	**4.78**	**128**	Pn	**Pn**	**04 14 01.2**	**+2.1**
ASAO	**Ashtian**	**5.43**	**134**	*e*Pn	**Pn**	**04 14 10.9**	**+2.8**
ASAO				IAML		04 15 54.8	
	comp=Z,62nm,1.0s						
KBZ	**Khabaz**	**5.58**	**342**	Pn	**Pn**	**04 14 13.2**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=162,slow=11,SNR=4.4						
KBZ				Pg	**Pb**	**04 14 26.3**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=147,slow=13,SNR=6.4						
KBZ				Lg	Lg	04 15 46.0	
	comp=Z,0.1nm,0.3s,baz=64,slow=21,SNR=4.0						
KBZ				LR	LR	04 16 47.5	
	comp=Z,122nm,21.7s,baz=145,slow=43						
	comp=Z,0.6nm,0.3s						
IQOM	**Qom**	**5.85**	**126**	Pn	**Pn**	**04 14 15.9**	**+2.0**
IPRN	**Peran**	**6.00**	**109**	Pn	**Pn**	**04 14 18.3**	**+2.5**
ISFB	**Sefidab**	**6.91**	**124**	Pn	**Pn**	**04 14 30.0**	**+1.7**
MRVT	**Maraveh tapeh**	**8.52**	**92**	*e*Pn	**Pn**	**04 14 52.3**	**+1.9**
BRTR	**Keskin Array B**	**9.18**	**282**	Pn	**Pn**	**04 14 58.8**	**-0.7**
	baz=99,slow=12,SNR=1.3						
	comp=Z,0.2nm,0.3s						
AKTO	**Aktyubinsk**	**14.99**	**33**	Pn	**Pn**	**04 16 20.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=249,slow=9.0,SNR=4.1						
	comp=Z,1.7nm,0.5s						
AKASG	**Malin Array Be**	**16.73**	**222**	Pn	**Pn**	**04 16 39.2**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=135,slow=11,SNR=8.0						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**22.60**	**42**	P	**P**	**04 17 48.8**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=224,slow=8.3,SNR=5.7						
	comp=Z,1.1nm,0.7s						
GERES	**GERESS Array B**	**24.97**	**305**	P	**P**	**04 18 09.2**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=105,slow=9.0,SNR=4.9						
	comp=Z,0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**26.37**	**52**	P	**P**	**04 18 23.3**	**0.0**
	comp=Z,1.0nm,0.8s,baz=263,slow=9.4,SNR=9.3						
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**28.23**	**61**	P	**P**	**04 18 39.5**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=250,slow=6.3,SNR=5.5						
MKAR				LR	LR	04 30 29.9	
	comp=Z,67nm,18.1s,baz=42,slow=38						
	comp=Z,0.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**36.33**	**314**	P	**P**	**04 19 50.3**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=107,slow=8.2,SNR=3.9						
	comp=Z,1.7nm,0.8s						
NRIK	**Noril'sk**	**38.24**	**23**	LR	LR	04 39 49.0	
	comp=Z,67nm,18.3s,baz=356,slow=42						
KMBO	**Kilima Mbogo**	**40.09**	**193**	LR	LR	04 36 15.4	
	comp=Z,76nm,18.8s,baz=126,slow=35						
CMAR	**Chiang Mai Arr**	**50.43**	**98**	P	**P**	**04 21 47.0**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=304,slow=8.2,SNR=4.2						
	comp=Z,0.4nm,0.4s						

JMA ***12*** *04:20:41.6±0.1,24°.3N±0°.6×122°.3E±0°.2,h57km±1km,*
TAIWAN REGION
TAP ***12*** *04:20:41.5,24°.33N×122°.22E,h65km,ML2.6,C*
ISC 12 04:20:41.5±1.4,24°.34N±0°.03×122°.25E±0°.03,h64km±7km,
n58,σ0ˢ76/103,5D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.08**	**350**	*e*P	**Pn**	**04 20 51.2**	**+0.3**
EOS2				*e*S	**Sn**	**04 20 58.5**	**+0.9**
EOS3	**EOS3**	**0.08**	**129**	P	**Pn**	**04 20 51.2**	**+0.4**
EOS3				*e*S	**Sn**	**04 20 58.2**	**+0.7**
EOS4	**EOS4**	**0.23**	**163**	P	**Pn**	**04 20 51.1**	**-0.1**
EOS4				S	**Sn**	**04 20 58.1**	**-0.1**
EWUT	**Wuta**	**0.44**	**284**	*e*P	**Pn**	**04 20 53.2**	**0.0**
EWUT				*e*S	**Sn**	**04 21 01.8**	**0.0**
EAHA	**Aohua**	**0.46**	**269**	*e*P	**Pn**	**04 20 53.4**	**0.0**
EAHA				*e*S	**Sn**	**04 21 02.9**	**+0.7**
ENA	**Nanau**	**0.47**	**281**	*e*P	**Pn**	**04 20 53.6**	**+0.1**
ENA				*e*S	**Sn**	**04 21 02.2**	**-0.1**
NDS	**Dongshan**	**0.57**	**301**	*e*S	**Sn**	**04 21 03.8**	**-0.3**
ETL	**Fush Village**	**0.60**	**253**	*e*P	**Pn**	**04 20 54.5**	**-0.4**
NACB	**Ninganchiao**	**0.62**	**255**	P	**Pn**	**04 20 54.7**	**-0.4**
NACB				*e*S	**Sn**	**04 21 04.3**	**-0.8**
JYNG	**Yonagunijimaku**	**0.65**	**80**	P	**Pn**	**04 20 55.4**	**+0.1**
JYNG				*e*S	**Sn**	**04 21 05.2**	**-0.3**
TWD	**Chiawan**	**0.65**	**247**	P	**Pn**	**04 20 55.2**	**-0.2**
TWD				S	**Sn**	**04 21 05.1**	**-0.5**
TWE	**Neicheng**	**0.65**	**306**	*e*P	**Pn**	**04 20 55.9**	**+0.4**
TWE				*e*S	**Sn**	**04 21 06.3**	**+0.6**
LATG	**Datong**	**0.69**	**287**	⇓P	**Pn**	**04 20 56.2**	**+0.2**
LATG				*e*S	**Sn**	**04 21 06.8**	**+0.2**
ENTT	**Nioudou**	**0.69**	**296**	*e*P	**Pn**	**04 20 56.4**	**+0.5**
ENTT				*e*S	**Sn**	**04 21 06.8**	**+0.3**
TWB1	**Santiao Chiao**	**0.71**	**341**	P	**Pn**	**04 20 55.7**	**-0.4**
TWB1				S	**Sn**	**04 21 05.4**	**-1.5**
YOJ	**Yonaguni jima**	**0.71**	**80**	*e*P	**Pn**	**04 20 56.1**	**0.0**
YOJ				*e*S	**Sn**	**04 21 06.6**	**-0.2**
ETLH	**Xiulin Townshi**	**0.71**	**259**	P	**Pn**	**04 20 56.1**	**-0.2**
ETLH				S	**Sn**	**04 21 06.5**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.73**	**305**	P	**Pn**	**04 20 57.1**	**+0.6**
FUSB				S	**Sn**	**04 21 07.6**	**+0.1**
TIPB	**Shuangxi**	**0.74**	**329**	*e*P	**Pn**	**04 20 56.3**	**-0.2**
TIPB				*e*S	**Sn**	**04 21 06.4**	**-1.1**
ETM	**Tongmen**	**0.78**	**242**	*e*P	**Pn**	**04 20 56.7**	**-0.3**
ETM				*e*S	**Sn**	**04 21 07.8**	**-0.6**
NNSB	**Datong**	**0.79**	**277**	⇓P	**Pn**	**04 20 57.3**	**+0.1**
NNSB				*e*S	**Sn**	**04 21 08.6**	**-0.3**
NWLT	**Wulai**	**0.81**	**303**	*e*P	**Pn**	**04 20 58.3**	**+0.9**
NWLT				*e*S	**Sn**	**04 21 09.3**	**+0.3**
LXIB	**Xiulin Townshi**	**0.82**	**248**	*e*P	**Pn**	**04 20 57.4**	**-0.3**
LXIB				*e*S	**Sn**	**04 21 08.3**	**-1.3**
SXI1	**Grass Mountain**	**0.82**	**336**	*e*P	**Pn**	**04 20 57.2**	**-0.5**
SXI1				*e*S	**Sn**	**04 21 08.4**	**-1.1**
SHUL	**Shoufeng**	**0.83**	**229**	*e*P	**Pn**	**04 20 58.0**	**+0.3**
SHUL				*e*S	**Sn**	**04 21 09.6**	**+0.1**
NWF	**Wu-fen Shan**	**0.84**	**330**	*e*P	**Pn**	**04 20 57.7**	**-0.2**
NWF				*e*S	**Sn**	**04 21 09.0**	**-0.9**
WFSB	**Wu-fen Shan**	**0.84**	**330**	*e*S	**Sn**	**04 21 08.8**	**-1.0**
YHNB	**Yeheng**	**0.86**	**293**	⇓P	**Pn**	**04 20 58.5**	**+0.5**
YHNB				*e*S	**Sn**	**04 21 10.4**	**+0.2**
NSK	**Sanguang**	**0.88**	**293**	*e*P	**Pn**	**04 20 58.8**	**+0.5**
NSK				*e*S	**Sn**	**04 21 10.8**	**+0.2**
WHF	**Hehuan Shan**	**0.92**	**258**	*e*P	**Pn**	**04 20 59.1**	**+0.1**
WHF				*e*S	**Sn**	**04 21 11.7**	**-0.3**
FUSS	**Fushou**	**0.92**	**265**	*e*P	**Pn**	**04 20 59.2**	**+0.2**
FUSS				*e*S	**Sn**	**04 21 11.8**	**-0.1**
TWT	**Tachien**	**0.98**	**265**	*e*P	**Pn**	**04 21 00.6**	**+0.9**
TDCB	**Techi**	**1.00**	**265**	*e*P	**Pn**	**04 21 00.5**	**+0.7**
TDCB				*e*S	**Sn**	**04 21 13.2**	**-0.2**
WARBT	**Fenglin Townsh**	**1.00**	**232**	⇓P	**Pn**	**04 20 59.2**	**-0.6**
WARBT				*e*S	**Sn**	**04 21 12.1**	**-1.2**
EGFH	**Guangfu**	**1.00**	**228**	*e*P	**Pn**	**04 20 59.6**	**-0.2**
EGFH				*e*S	**Sn**	**04 21 12.9**	**-0.4**
YM01	**YM01**	**1.01**	**323**	*e*P	**Pn**	**04 20 59.9**	**-0.1**
OWD	**Renai**	**1.05**	**249**	*e*P	**Pn**	**04 21 00.7**	**+0.1**
OWD				*e*S	**Sn**	**04 21 14.0**	**-0.6**
NFF	**Wufeng Townshi**	**1.07**	**286**	*e*P	**Pn**	**04 21 01.7**	**+1.0**
NFF				*e*S	**Sn**	**04 21 15.4**	**+0.5**
WUSB	**Renai**	**1.09**	**252**	⇓P	**Pn**	**04 21 01.4**	**+0.4**
WUSB				*e*S	**Sn**	**04 21 15.0**	**-0.4**
HGSD	**Ruisui**	**1.13**	**222**	*e*P	**Pn**	**04 21 02.5**	**+1.0**
HGSD				*e*S	**Sn**	**04 21 14.9**	**-1.4**
LIOB	**Emei**	**1.16**	**285**	*e*P	**Pn**	**04 21 02.9**	**+1.0**
VWDT	**VWDT**	**1.17**	**240**	*e*P	**Pn**	**04 21 02.2**	**+0.3**
VWDT				*e*S	**Sn**	**04 21 16.5**	**-0.6**
EHY	**Hungye**	**1.19**	**226**	*e*P	**Pn**	**04 21 01.5**	**-0.7**
WHP	**Taichung City**	**1.19**	**267**	*e*P	**Pn**	**04 21 03.3**	**+1.1**
WCS	**Beigang Elemen**	**1.25**	**257**	*e*P	**Pn**	**04 21 03.8**	**+0.8**
YULB	**Yu-li**	**1.28**	**223**	*e*P	**Pn**	**04 21 02.8**	**-0.6**
YULB				*e*S	**Sn**	**04 21 18.5**	**-1.4**
SSLB	**Suanglung**	**1.30**	**245**	*e*P	**Pn**	**04 21 04.0**	**+0.2**
SSLB				*e*S	**Sn**	**04 21 20.3**	**0.0**
SMLT	**Sun Moon Lake**	**1.31**	**250**	*e*P	**Pn**	**04 21 03.9**	**0.0**
TWF1	**Yuli**	**1.31**	**222**	*e*P	**Pn**	**04 21 03.4**	**-0.5**
TWF1				*e*S	**Sn**	**04 21 19.3**	**-1.3**
TYC	**Yuchr**	**1.34**	**251**	*e*P	**Pn**	**04 21 05.1**	**+0.9**
WHYT	**Xinyi Township**	**1.43**	**244**	*e*P	**Pn**	**04 21 06.5**	**+1.1**
WHYT				*e*S	**Sn**	**04 21 24.2**	**+0.9**
ALS	**Alishan**	**1.56**	**238**	*e*P	**Pn**	**04 21 08.8**	**+1.4**
ALS				*e*S	**Sn**	**04 21 27.8**	**+1.0**
JKRS	**Kuro-shima**	**1.61**	**93**	*e*P	**Pn**	**04 21 08.5**	**+0.7**
JKRS				*e*S	**Sn**	**04 21 28.2**	**+0.6**
EDH	**Donghe**	**1.61**	**213**	*e*S	**Sn**	**04 21 25.8**	**-1.9**
CHN5	**Tsauling**	**1.61**	**243**	*e*P	**Pn**	**04 21 09.1**	**+1.2**
STYH	**Taoyuan**	**1.78**	**230**	*e*P	**Pn**	**04 21 09.9**	**-0.2**
STYH				*e*S	**Sn**	**04 21 31.0**	**-0.7**
CHN4	**Tsaushan**	**1.81**	**237**	*e*P	**Pn**	**04 21 12.1**	**+1.7**
CHN4				*e*S	**Sn**	**04 21 34.8**	**+2.4**
VWUC	**VWUC**	**2.63**	**285**	*e*P	**Pn**	**04 21 21.6**	**0.0**
VWUC				S	**Sn**	**04 21 50.2**	**-2.1**

IDC ***12*** *04:32:38.1±1.0,19°.69S×172°.57W,h0km,mb4.0/8,*
mbtmp4.1/10,ML4.0/2,MS3.3/3,Error ellipse:
s-maj=39.6km s-min=19.8km az=155.0
ISC 12 04:32:42.9±0.8,19°.8S±0°.2×172°.5W±0°.1,h35km,n12,
σ1ˢ43/10,mb3.9/7,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.23**	**282**	LR	LR	04 37 58.2	
	comp=Z,157nm,20

CNCH Conchagua 0.65 13 ||iP Pn 05 12 47.4 +1.5
CNCH eS Sn 05 12 57.7 +2.3
CNCH Conchagua 0.65 13 P Pn 05 12 47.4 +1.5
LCND La Caada 0.67 8 ||iP Pn 05 12 47.5 +1.4
LCND eS Sn 05 12 57.5 +1.7
LCND La Caada 0.67 8 P Pn 05 12 47.5 +1.4
BLLM Bellamira 0.83 343 ⇑iP Pn 05 12 49.3 +1.0
LCY Lacayo 0.83 339 ||iP Pn 05 12 49.3 +1.0
RANC El Ranchito 0.84 339 eP Pn 05 12 49.5 +1.0
CNRM Centro Naciona 0.85 348 eP Pn 05 12 49.5 +1.1
CNRM Centro Naciona 0.85 348 P Pn 05 12 49.7 +1.3
PACA Pacayal 0.89 338 eP Pn 05 12 50.1 +1.1
PACA eS Sn 05 13 02.3 +1.3
PACA Pacayal 0.89 338 P Pn 05 12 50.1 +1.1
ALJI Alcalda de J 0.89 320||eP Pn 05 12 49.7 +0.8
ALJI Alcalda de J 0.89 320 P Pn 05 12 49.7 +0.8
CRIN San Cristobal 0.91 86 Pn 05 12 51.1 +1.8
CRIN San Cristobal 0.91 86 P Pn 05 12 51.2 +1.9
TECA Tecapa 0.99 329 eP Pn 05 12 51.2 +0.8
QUEN Al S del Volca 1.10 92 P Pn 05 12 53.3 +1.4
HERN Volcan Telica 1.12 92 Pn 05 12 52.8 +0.7
HERN Volcan Telica 1.12 92 P Pn 05 12 53.3 +1.1
PQSS Presa 15 de Se 1.13 330⇑eP Pn 05 12 53.2 +1.1
PQSS Presa 15 de Se 1.13 330 P Pn 05 12 53.3 +1.1
POLN Al Sur del Vol 1.14 89 P Pn 05 12 53.5 +1.2
CAHU Cacacuatique 1.14 349⇑eP Pn 05 12 53.9 +1.3
TECO Alcaldia de Te 1.18 319 eP Pn 05 12 53.4 +0.5
TECO Alcaldia de Te 1.18 319 P Pn 05 12 53.4 +0.5
PLRN Geotermica Pol 1.19 93 P Pn 05 12 54.0 +1.1
ROCN Rota Cero Neg 1.22 96 P Pn 05 12 54.6 +1.2
ILCN San Idelfonso 1.25 93 P Pn 05 12 55.0 +1.1
CNGA Al SSO del Vol 1.26 97 P Pn 05 12 55.0 +1.1
CNGN Cerro Negro 1.26 96 Pn 05 12 54.5 +0.5
CNGN Cerro Negro 1.26 96 P Pn 05 12 55.0 +1.0
UESV Universidad de 1.26 322 eP Pn 05 12 54.9 +0.9
UESV Universidad de 1.26 322 P Pn 05 12 54.9 +0.9
SNVI San Vicente 1.27 319 eP Pn 05 12 55.2 +1.0
SCLA Alcaldia de Sa 1.28 326||iP Pn 05 12 55.4 +1.2
SCLA Alcaldia de Sa 1.28 326 P Pn 05 12 55.5 +1.2
COEG Centro de Oper 1.31 318 eP Pn 05 12 55.3 +0.6
COEG Centro de Oper 1.31 318 P Pn 05 12 55.4 +0.7
LEVN Ruinas Leon Vi 1.36 100 P Pn 05 12 56.2 +1.0
PAVA Las Pavas 1.41 319 eP Pn 05 12 57.1 +1.0
PAVA Las Pavas 1.41 319 P Pn 05 12 57.2 +1.0
MOMN Momotombo 1.43 99 P Pn 05 12 57.3 +1.0
AESN El Sauce Leon 1.43 80 P Pn 05 12 57.8 +1.5
BC84 Volcan Momotom 1.43 100 P Pn 05 12 58.4 +2.1
LFRS El Faro 1.43 313||iP Pn 05 12 57.3 +0.9
COPN Copaltepe 1.44 108 P Pn 05 12 57.2 +0.9
BC86 Nagarote 1.44 105 P Pn 05 12 57.4 +1.0
MARCA Marcala la Paz 1.51 358 iP Pn 05 12 59.1 +1.7
MARCA eS Sn 05 13 18.5 +2.5
PANCS Alcalda de 1.51 310 P Pn 05 12 58.1 +0.7
LOMA Loma Larga 1.53 311⇑eP Pn 05 12 58.5 +0.8
LOMA Loma Larga 1.53 311 P Pn 05 12 58.5 +0.8
LALI Alcalda de L 1.55 303 eP Pn 05 12 58.2 +0.3
LALI Alcalda de L 1.55 303 eP Pn 05 12 58.3 +0.4
LALI Alcalda de L 1.55 303 P Pn 05 12 58.4 +0.5
TGUH Tegucigalpa,Un 1.57 26 Pn 05 12 59.3 +1.1
TGUH Tegucigalpa,Un 1.57 26 P Pn 05 12 59.9 +1.7
AMTN Mateare 1.57 105 P Pn 05 12 59.7 +1.6
UTEC Universidad Te 1.59 312 P Pn 05 12 59.5 +1.0
SEMO Seminario San 1.60 311 P Pn 05 13 00.8 +2.1
UEES Universidad Ev 1.62 311 P Pn 05 13 00.2 +1.2
ITCA Escuela Especi 1.63 309 P Pn 05 13 00.1 +1.0
LIMN Finca el Limon 1.63 75 P Pn 05 13 00.3 +1.2
APYN Apoyeque 1.65 104 P Pn 05 13 00.8 +1.6
PIC2 El Picacho 1.66 112 eP Pn 05 13 00.8 +1.3
BOQS Boqueron 1.67 311 eP Pn 05 13 00.8 +1.1
APQ2 Apoyeque 1.68 105 P Pn 05 13 01.0 +1.4
PMON Piamonte 1.68 310 eP Pn 05 13 00.5 +0.8
PMON Piamonte 1.68 310 P Pn 05 13 00.7 +1.0
ABCN Banco Central 1.71 107 P Pn 05 13 02.3 +2.2
TISN Laguna Tiscapa 1.75 106 P Pn 05 13 01.9 +1.3
JAYA Jayaque - finc 1.75 305 eP Pn 05 13 01.0 +0.3
JAYA Jayaque - finc 1.75 305 eP Pn 05 13 01.0 +0.3
JAYA Jayaque - finc 1.75 305 P Pn 05 13 01.1 +0.3
USIM UNAN 1.75 107 Pn 05 13 01.6 +1.0
UNAN Cigeo UNAN 1.75 107 P Pn 05 13 01.9 +1.2
ENAN Enatrel Managu 1.76 107 P Pn 05 13 03.2 +2.4
R4DEC Barrio San Lui 1.76 106 P Pn 05 13 02.2 +1.4
MGAN Managua 1.77 106 Pn 05 13 01.5 +0.7
MGAN Managua 1.77 106 P Pn 05 13 02.2 +1.4
CRUN El Crucero 1.77 112 P Pn 05 13 03.6 +2.6
LLGN La Laguna 1.78 328 eP Pn 05 13 01.9 +0.8
LLGN La Laguna 1.78 328 P Pn 05 13 02.0 +0.9
CEDA San Andres 1.79 310 eP Pn 05 13 02.4 +1.1
MAS3 Al N del Volca 1.87 109 P Pn 05 13 03.3 +1.0
MASN Masaya 1.91 110 P Pn 05 13 04.2 +1.4
SABN Sabanita 1.91 111 P Pn 05 13 00.9 -1.8
SBEN San Benito 1.91 100 P Pn 05 13 14.7 +12
NANN Nandasmo 1.95 111 P Pn 05 13 05.6 +2.2
RCVN Varillal2 1.98 62 P Pn 05 13 05.6 +1.7
CEVE Cerro Verde 1.99 307 eP Pn 05 13 05.4 +1.4
CEVE Cerro Verde 1.99 307 P Pn 05 13 05.3 +1.2
UNIC Universidad Ca 2.02 311 P Pn 05 13 05.3 +0.9
MATN Matagalpa 2.03 82 P Pn 05 13 05.6 +1.1
RCPN Sur Rio San Ju 2.04 64 P Pn 05 13 06.6 +1.9
MTO3 Montecristo 2.20 323 Pn 05 13 07.8 +0.8
MTO3 Montecristo 2.20 323 eP Pn 05 13 08.1 +1.1
MTO3 Montecristo 2.20 323 P Pn 05 13 08.1 +1.1
SLOZ Alcaldia de Sa 2.23 308 P Pn 05 13 08.5 +1.3
ESQI Esquipulas 2.32 325 Pn 05 13 09.8 +1.3
ESQI Esquipulas 2.32 325 P Pn 05 13 10.2 +1.7
JAPN Al SSO del Vol 2.51 116 P Pn 05 13 13.5 +2.4
CONN Concepcion 2.54 115 P Pn 05 13 13.1 +1.6
CARN Rivas 2.81 121 P Pn 05 13 16.8 +1.6
ACON Acoyapa 2.83 103 Pn 05 13 15.6 +0.2
ACON Acoyapa 2.83 103 P Pn 05 13 16.0 +0.7
ALIBA Liberia Airpor 3.14 130 eP Pn 05 13 22.6 +2.9
PEJA Penjamo Buenos 3.14 123 eP Pn 05 13 20.7 +1.0
VRLE La Escondida, 3.16 125 eP Pn 05 13 21.8 +1.8
GPS2 Hotel Rincn d 3.19 126 eP Pn 05 13 23.6 +3.2
ESSG Sabana Grande 3.27 302 iS Sn 05 13 59.9 +0.7
SACU Santa Cruz 3.33 135 eP Pn 05 13 24.6 +2.2
VMAR Armenia, Volca 3.35 123 eP Pn 05 13 24.1 +1.5
CUI Cuipilapa 3.39 125 eP Pn 05 13 25.4 +2.2
TENO El Achiote 3.52 123 eP Pn 05 13 27.7 +2.7
NICO Nicoya 3.52 135 eP Pn 05 13 27.0 +2.1
INVE Universidad In 3.58 127 eP Pn 05 13 29.3 +3.5
CMAR4 Lajas Hojancha 3.62 136 eP Pn 05 13 28.2 +1.9
ESPN Las Esperanzas 3.62 97 Pn 05 13 27.5 +1.2
ESPN Las Esperanzas 3.62 97 eP Pn 05 13 27.5 +1.2
QUEB Quebradon, Cot 3.63 123 eP Pn 05 13 28.8 +2.4
INDI Punta indio, G 3.68 138 P Pn 05 13 29.3 +2.2
STG0 El Palmar, Qui 3.72 299 iP Pn 05 13 34.1 +6.3
STG0 iS Sn 05 14 17.2 +6.8
STG8 El Palmar, Qui 3.74 299 iP Pn 05 13 35.0 +6.9
STG8 iS Sn 05 14 20.1 +9.2
JTS Las Juntas de 3.78 128 Pn 05 13 31.2 +2.7
JTS Las Juntas de 3.78 128 P Pn 05 13 30.5 +2.0
23nm,0.3s,baz=311,slow=17,SNR=32
JTS S Sn 05 14 13.1 +1.4
81nm,0.4s,baz=186,slow=4.3,SNR=4.4
JTS Las Juntas de 3.78 128 eP Pn 05 13 30.1 +1.6
CEDE Laguna Cedeo 3.86 123 eP Pn 05 13 32.9 +3.2
ARE1 Arenal 1 3.86 124 eP Pn 05 13 32.9 +3.3
VARE2 V. Arenal 3.86 124 eP Pn 05 13 33.0 +3.3
SOKI Kika Raxquin 3.97 303 iS Sn 05 14 19.2 +2.4
SOCE Pocosol 3.99 124 Pn 05 13 34.0 +2.6
SOCE Pocosol 3.99 124 P Pn 05 13 35.8 +4.5
BLUN Bluefields 4.16 98 P Pn 05 13 50.0 +16
HUEH Huehuetenango 4.33 308 Pn Pn 05 13 39.0 +2.8
VBV1 V. Barva 4.56 123 eP Pn 05 13 45.7 +6.2
HDC Heredia 4.61 124 Pn 05 13 42.5 +2.5
PETF Flores 4.62 337 Pn 05 13 42.5 +2.5
PETF Flores 4.62 337 eP Pn 05 13 43.0 +2.9
ACOS Acosta 4.69 127 eP Pn 05 13 45.2 +4.1
BILN Bilwi Airport 4.70 72 P Pn 05 13 42.1 +1.0
CORON Coronado 4.72 124 eP Pn 05 13 48.3 +6.8
CVIMO Finca Echandi 4.74 123 eP Pn 05 13 47.9 +6.1
PICV PH. Pirrs 4.77 128 eP Pn 05 13 46.0 +3.8
CVTG V. Turrialba, 4.81 121 eP Pn 05 13 45.7 +2.9
PISJ San Jernim 4.83 128 eP Pn 05 13 47.0 +4.0
ABE2 San Pablo 4.83 127 eP Pn 05 13 47.5 +4.3
VICA Volcano Irazu 4.84 123 eP Pn 05 13 48.1 +4.6
LCR2 La Lucha 2 4.85 126 eP Pn 05 13 48.3 +4.9
VTLA Turrialba Volc 4.89 122 eP Pn 05 13 47.3 +3.3
CVTQ Turrialba Volc 4.89 122 eP Pn 05 13 47.3 +3.2

CVTV Tajo 4.91 122 eP Pn 05 13 51.0 +6.8
REPA Paraso 4.91 124 eP Pn 05 13 49.3 +5.2
VTCV VTCV, Calle Va 4.94 122 eP Pn 05 13 48.8 +4.2
LLNJ Naranjito 4.94 129 eP Pn 05 13 48.3 +3.9
PIEC Cerro El Cedra 4.96 127 eP Pn 05 13 48.7 +3.8
RVLA Villa Bonita 4.99 120 eP Pn 05 13 49.5 +4.4
CCIG Comitan 5.41 312 Pn 05 13 54.2 +3.2
CCIG Comitan 5.41 312 eP Pn 05 13 54.6 +3.6
CCIG Comitan 5.41 312 P Pn 05 13 55.2 +4.1
SAJE San Jernim 5.48 126 eP Pn 05 13 55.9 +3.9
OCHAL Ojochal 5.53 129 P Pn 05 13 56.4 +4.0
BRIBI Bribri 5.89 120 eP Pn 05 14 02.9 +5.9
PIRO Carate, Puerto 6.21 132 eP Pn 05 14 05.2 +3.3
BRU2 Volcan 6.45 126 Pn 05 14 07.7 +2.4
PRVC Isla de Provid 6.49 83 Pn 05 14 06.4 +0.7
TEIG Tepich 7.55 358 Pn 05 14 22.0 +1.9
TEIG Tepich 7.55 358 P Pn 05 14 21.1 +1.0
0.2nm,0.5s,baz=9.9,slow=24,SNR=15
CMIG Matias Romero 8.00 304 P Pn 05 14 29.3 +2.9
3.4nm,0.3s,baz=159,slow=10.0,SNR=21
CMIG S Sn 05 15 53.0 -2.6
3.2nm,0.4s,baz=317,slow=8.0,SNR=1.4
SOR Soroa 11.15 24 Pn Pn 05 15 10.9 +1.4
TLIG Tlapa 11.33 297 Pn 05 15 10.5 +2.9
TLIG Tlapa 11.33 297 P Pn 05 15 16.3 +4.3
MTDJ Mount Denham 11.50 60 Pn Pn 05 15 13.3 -1.1
FLOC Florencia 16.43 131 P P 05 16 21.8 -0.3
SDV Santo Domingo 17.45 101 P Pn 05 16 32.2 -0.7
SDV Santo Domingo 17.45 101 P Pn 05 16 31.0 -1.8
3.0nm,0.6s,baz=352,slow=9.0,SNR=7.4
SDV LR LR 05 23 21.3
comp=Z,63nm,20.8s,baz=258,slow=38
451A Vernon 18.01 6 P Pn 05 16 40.0 +0.6
DR12 Loma Pena Alta 18.91 69 P P 05 16 49.4 -0.1
DR12 IAmb IAmb 05 17 20.2
comp=Z,33nm,1.4s
352A Blakely 18.96 8 P Pn 05 16 50.9 0.0
352A IAmb IAmb 05 17 11.4
comp=Z,30nm,0.9s
TIGA Tifton 19.14 12 P Pn 05 16 53.3 +0.2
TIGA IAmb IAmb 05 16 58.4
comp=Z,32nm,1.1s
VBMS Vicksburg 19.62 354 P Pn 05 16 59.0 +0.2
HNDO Hondo 19.81 330 P P 05 16 59.8 +0.7
HNDO IAmb IAmb 05 17 04.5
comp=Z,10nm,0.5s
BAUV El Baul 19.93 99 P 05 16 58.4 -2.1
BAUV IAmb IAmb 05 17 01.6
comp=Z,14nm,0.6s
152A Waverly Hall 20.16 8 P P 05 17 04.1 +1.2
152A IAmb IAmb 05 17 23.8
comp=Z,13nm,0.8s
154A Montrose 20.38 12 P Pn 05 17 06.6 -1.1
DRIO Del Rio 20.41 327 P P 05 17 06.6 +0.9
JCT Junction City 20.85 330 P 05 17 11.6 +1.2
JCT IAmb IAmb 05 17 14.8
comp=Z,8.4nm,0.6s
GOGA Godfrey 21.08 11 P 05 17 13.2 +0.4
Y49A Blount Mountai 21.17 4 P P 05 17 14.6 +0.8
Y49A IAmb IAmb 05 17 16.0
comp=Z,8.7nm,0.8s
Y52A Lilburn 21.43 9 P P 05 17 17.3 +0.8
Y52A IAmb IAmb 05 17 20.1
comp=Z,12nm,0.9s
SAND Sanderson 21.65 325 P 05 17 18.6 -0.4
SJG San Juan 21.73 73 LR LR 05 24 29.2
comp=Z,64nm,21.9s,baz=276,slow=33
OZNA Ozona 21.87 328 P 05 17 21.0 -0.4
OZNA IAmb IAmb 05 17 39.4
comp=Z,6.8nm,0.7s
FPAL Fort Paine 21.91 5 P P 05 17 21.2 -0.5
TXAR Lajitas Array 22.10 321 P 05 17 24.1 +0.2
TXAR Lajitas Array 22.10 321 P P 05 17 24.6 +0.7
comp=Z,3.9nm,0.5s,baz=141,slow=11,SNR=78
comp=Z,3.9nm,0.5s
TX31 Lajitas Ar. Si 22.10 321 P 05 17 24.0 0.0
HODGE Hodges 22.11 13 P P 05 17 24.4 +0.5
HODGE IAmb IAmb 05 17 44.8
comp=Z,16nm,0.8s
PLPT Palo Pinto 22.20 336 P 05 17 24.4 -0.4
PLPT IAmb IAmb 05 17 55.0
comp=Z,24nm,1.2s
Y57A Sumter 22.37 17 P P 05 17 26.7 0.0
MIAR Mount Ida 22.39 348 P 05 17 26.8 -0.1
MIAR IAmb IAmb 05 17 29.5
comp=Z,21nm,1.2s
ABTX Abilene, Hawle 22.58 334 P 05 17 29.1 +0.1
SGCY Sterling City 22.67 330 P 05 17 30.6 +0.6
BG3 Lake Jocassee 22.72 11 P P 05 17 30.6 +0.2
BG3 IAmb IAmb 05 17 32.2
comp=Z,12nm,0.6s
PAULI Pauline 22.78 13 P P 05 17 31.1 +0.1
ALPN Alpine 22.83 323 P 05 17 32.1 +0.4
MNHN Monahans 23.06 326 P P 05 17 34.0 0.0
KMSC Kings Mountain 23.20 14 P P 05 17 35.4 +0.2
KMSC IAmb IAmb 05 17 36.4
comp=Z,11nm,0.6s
TKL Tuckaleechee C 23.23 9 LR LR 05 25 42.2
comp=Z,69nm,21.6s,baz=248,slow=34
SN05 Snyder 5 23.35 332 P P 05 17 37.3 +0.5
APMT Aspermont 23.39 334 P 05 17 36.2 -0.9
APMT IAmb IAmb 05 17 39.7
comp=Z,6.8nm,0.6s
SN07 Snyder 07 23.53 332 P P 05 17 38.1 -0.4
SN07 IAmb IAmb 05 17 39.5
comp=Z,9.2nm,0.5s
ODSA Odessa 23.55 328 P 05 17 37.9 -0.9
X34A Smith Ranch, M 23.62 339 P 05 17 39.8 +0.5
X34A IAmb IAmb 05 17 41.0
comp=Z,16nm,0.7s
POST Post 23.80 331 P 05 17 40.4 -0.6
POST IAmb IAmb 05 17 44.8
comp=Z,11nm,0.7s
U49A Red Boiling Sp 23.85 4 P P 05 17 40.8 -0.5
VHRN Van Horn 23.93 322 P 05 17 42.3 -0.1
LPIG La Paz 24.02 301 LR LR 05 28 22.9
comp=Z,44nm,20.7s,baz=134,slow=39
FNO Franklin 24.08 341 P P 05 17 42.8 -0.6
WMOK Wichita Mounta 24.08 338 P P 05 17 42.9 -0.7
PBMO Poplar Bluff 24.14 355 P P 05 17 42.7 -1.2
PBMO IAmb IAmb 05 17 44.6
comp=Z,8.5nm,0.6s
T47A Sharon Grove 24.26 2 P 05 17 43.4 -1.7
T47A IAmb IAmb 05 17 45.0
comp=Z,10nm,0.6s
CLNB Carlsbad 24.38 326 P P 05 17 46.0 -0.4
V58A Windy Hill, Pi 24.40 18 P P 05 17 46.4 0.0
T42A Van Buren 24.45 354 P P 05 17 45.7 -1.1
T42A IAmb IAmb 05 17 46.9
comp=Z,11nm,1.2s
SMWD Samnorwood 24.97 336 P 05 17 51.4 -0.3
MSTX Muleshoe 25.14 330 P 05 17 52.8 -0.5
MSTX IAmb IAmb 05 17 53.9
comp=Z,9.7nm,0.5s
R40A Maddies Statio 25.83 352 P P 05 17 57.8 -1.5
R40A IAmb IAmb 05 17 58.6
comp=Z,5.8nm,0.5s
ANMO Albuquerque 27.81 326 P P 05 18 18.3 +0.8
comp=Z,0.8nm,0.5s,baz=297,slow=9.0,SNR=5.1
comp=Z,0.8nm,0.5s
SAML Samuel 32.67 130 P P 05 18 58.6 -1.7
SRU San Rafael Swe 33.07 327 P P 05 19 04.0 +0.1
SRU IAmb IAmb 05 19 05.2
comp=Z,3.5nm,0.6s
PFO Pinyon Flats O 33.30 314 LR LR 05 33 04.3
comp=Z,50nm,19.7s,baz=218,slow=37
P18A Preston Nutter 33.30 328 P P 05 19 06.2 +0.1
P18A IAmb IAmb 05 19 11.8
comp=Z,2.6nm,0.8s
LPAZ La Paz 34.81 145 P P 05 19 20.1 +0.5
comp=Z,0.7nm,0.7s,baz=78,slow=1.9,SNR=5.2
LPAZ LR LR 05 33 18.7
comp=Z,64nm,18.4s,baz=49,slow=36
comp=Z,0.7nm,0.7s
PD31 Pinedale Array 35.36 332 P 05 19 23.8 +0.1
PD31 IAmb IAmb 05 19 26.3
comp=Z,2.2nm,0.8s
PDAR Pinedale Array 35.36 332 P P 05 19 23.7 0.0
comp=Z,1.5nm,0.6s,baz=127,slow=10,SNR=20
PDAR PcP PcP 05 21 50.5 -2.5
comp=Z,0.4nm,0.6s,baz=149,slow=1.4,SNR=3.3
PDAR LR LR 05 36 06.6
comp=Z,18nm,19.1s,baz=122,slow=40
comp=Z,1.5nm,0.6s

SNOW Snow King Moun 36.45 332 P P 05 19 33.3 +0.2
NVAR Mina Array Bea 37.22 319 P P 05 19 40.6 +1.0
comp=Z,0.8nm,0.6s,baz=135,slow=7.5,SNR=7.1
NVAR PcP PcP 05 21 58.7 0.0
comp=Z,0.8nm,0.6s,baz=137,slow=2.8,SNR=5.9
NVAR LR LR 05 38 08.0
comp=Z,30nm,21.3s,baz=218,slow=41
comp=Z,0.8nm,0.6s
YHL Hebgen Lake 37.72 333 P 05 19 44.2 +0.3
YHL IAmb IAmb 05 19 46.0
comp=Z,3.8nm,0.7s
HLID Hailey 38.31 329 P 05 19 48.7 0.0
NEW Newport 42.99 332 P P 05 20 25.7 -1.4
comp=Z,2.6nm,0.8s,baz=155,slow=15,SNR=3.7
comp=Z,2.6nm,0.8s
CPUP Villa Florida 48.88 143 P P 05 21 12.2 -1.4
comp=Z,1.7nm,0.6s,baz=316,slow=6.3,SNR=4.7
comp=Z,1.7nm,0.6s
YKA Yellowknife Ar 53.29 345 P P 05 21 43.5 -2.8
comp=Z,0.9nm,0.6s,baz=145,slow=7.5,SNR=30
comp=Z,0.9nm,0.6s
PLCA Paso Flores 55.51 164 P P 05 22 02.4 -0.3
comp=Z,1.3nm,0.7s,baz=338,slow=7.5,SNR=8.5
comp=Z,1.3nm,0.7s
SFJD Kangerlussuaq 59.68 16 LR LR 05 47 12.9
comp=Z,34nm,18.2s,baz=253,slow=35
ILAR Eielson Array 65.64 336 P P 05 23 09.8 -1.6
comp=Z,0.6nm,0.8s,baz=173,slow=5.1,SNR=11
comp=Z,0.6nm,0.8s
SPITS Spitsbergen Ar 80.62 12 LR LR 06 03 45.1
comp=Z,48nm,18.3s,baz=323,slow=38
WRA Warramunga Arr 138.82 254 PKP PKPdf 05 31 53.5 -0.8
comp=Z,0.3nm,0.4s,baz=89,slow=2.8,SNR=7.0
ASAR Alice Springs 138.85 248 PKP PKPdf 05 31 53.2 -1.1
comp=Z,0.6nm,0.6s,baz=100,slow=2.7,SNR=5.4

IDC ***12*** *05:12:47.7±7.3, 36°.13S×177°.59E, h0km, mb3.9/1, mbtmp3.9/1, Error ellipse: s-maj=424.7km s-min=69.8km az=175.0*
NOU ***12*** *05:13:04.0, 37°.54S×177°.21E, h177km, MLv4.0/12, Off E. Coast of N. Island, N.Z.*
NEIC ***12*** *05:13:07.3±1.4, 37°.50S±0°.07×177°.10E±0°.09, h153km±6km, mb4.3/3, Error ellipse: s-maj=12.4km s-min=7.7km az=139.0*
WEL ***12*** *05:13:07.5±0.7, 37°S±4°×17°7E±°, h148km±6km, M3.4/49, ML3.4/10, MLv3.4/49, Error ellipse: s-maj=5.8km s-min=4.4km az=56.3, confirmed*
ISC 12 05:13:06.3±0.8, **37°.55S**±0°.05×**177°.08E**±0°.05, **h170**km±6km, **n158,** σ1$**48**/179, **mb4.1**/3, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.09	75	P	Pn	05 13 27.3	-1.6
WHRZ	Whale Island	0.32	195	P	Pn	05 13 28.7	-0.6
HAZ	Te Kaha	0.60	110	P	Pn	05 13 29.0	-1.4
HAZ				S	Sn	05 13 46.4	-2.5
RUGZ	Raukumara Rang	0.63	131	P	Pn	05 13 29.1	-1.7
RUGZ				S	Sn	05 13 45.9	-3.8
TGRZ	Tauranga	0.67	254	P	Pn	05 13 30.2	-0.6
URZ	Urewera	0.71	178	P	Pn	05 13 30.0	-1.0
URZ	Urewera	0.71	178	P	Pn	05 13 30.3	-0.7
URZ				S	Sn	05 13 48.2	-2.0
LIRZ	Lichensteins R	0.71	230	P	Pn	05 13 30.9	-0.2
OMRZ	Omania	0.79	225	P	Pn	05 13 31.5	0.0
KARZ	Kaharoa	0.81	234	P	Pn	05 13 31.5	-0.2
TARZ	Mount Tarawera	0.82	213	P	Pn	05 13 32.1	+0.3
PKGZ	Pakihiroa	0.86	112	P	Pn	05 13 31.5	-0.6
MWZ	Matawai	0.86	156	P	Pn	05 13 31.5	-0.6
MWZ				S	Sn	05 13 50.5	-1.5
NGRZ	Ngongotaha	0.89	232	P	Pn	05 13 32.6	+0.3
RRRZ	Republican Roa	0.90	209	P	Pn	05 13 32.7	+0.3
HLRZ	Highlands Stat	0.90	219	P	Pn	05 13 32.7	+0.3
TWGZ	Tauwhareparae	0.95	131	P	Pn	05 13 32.5	-0.2
TWGZ				S	Sn	05 13 53.5	+0.4
MUGZ	Murupara	0.96	194	P	Pn	05 13 32.6	-0.1
MUGZ				S	Sn	05 13 51.8	-1.4
MXZ	Matakaoa Point	0.98	91	P	Pn	05 13 31.5	-1.4
MXZ				Sn	Sn	05 13 50.8	-2.5
MXZ	Matakaoa Point	0.98	91	P	Pn	05 13 31.5	-1.4
MXZ	Matakaoa Point	0.98	91	P	Pn	05 13 31.8	-1.0
MXZ				S	Sn	05 13 51.2	-2.0
RAGZ	Rawiri	0.98	164	P	Pn	05 13 33.0	0.0
RAGZ				S	Sn	05 13 53.3	-0.4
RTZ	Ruatahuna	1.07	184	P	Pn	05 13 32.9	-0.8
RTZ				Sn	Sn	05 13 53.7	-1.2
RTZ	Ruatahuna	1.07	184	P	Pn	05 13 33.7	0.0
RTZ				S	Sn	05 13 54.1	-0.8
PUZ	Puketiti	1.07	119	P	Pn	05 13 33.0	-0.6
PUZ				S	Sn	05 13 52.4	-2.3
TKGZ	Te Karaka	1.08	146	P	Pn	05 13 33.3	-0.3
TKGZ				S	Sn	05 13 53.5	-1.2
PRRZ	Plateau Road	1.09	209	P	Pn	05 13 33.9	+0.2
WMGZ	Waiomatatini S	1.10	105	P	Pn	05 13 33.3	-0.5
WMGZ				S	Sn	05 13 53.4	-1.5
GRRZ	Galatos Road	1.10	223	P	Pn	05 13 34.6	+0.7
ALRZ	Allen Road	1.16	210	P	Pn	05 13 34.9	+0.5
WPRZ	Whakapatararin	1.21	216	P	Pn	05 13 35.6	+0.8
SNGZ	Shannon Statio	1.25	170	P	Pn	05 13 35.3	+0.2
SNGZ				S	Sn	05 13 56.9	-0.6
TOZ	Tahuroa Road	1.26	261		Pn	05 13 35.0	-0.2
TOZ	Tahuroa Road	1.26	261	P	Pn	05 13 35.4	+0.2
RIGZ	Rimuhau	1.27	155	P	Pn	05 13 35.8	+0.4
RIGZ				S	Sn	05 13 58.0	+0.1
CNGZ	Carnagh Statio	1.29	137	P	Pn	05 13 36.1	+0.6
CNGZ				S	Sn	05 13 58.3	+0.2
MTHZ	Maungataniwha	1.31	188	P	Pn	05 13 35.8	+0.1
MTHZ				S	Sn	05 13 58.6	0.0
KUZ	Kuaotunu	1.35	306	P	Pn	05 13 34.2	-1.8
KUZ	Kuaotunu	1.35	306	P	Pn	05 13 34.5	-1.5
KUTZ	Kaahu Road	1.36	226	P	Pn	05 13 37.1	+1.0
RAHZ	Arahi	1.36	180	P	Pn	05 13 36.7	+0.6
RAHZ				S	Sn	05 13 59.2	-0.2
MRHZ	Matea Rd	1.38	202	P	Pn	05 13 36.8	+0.4
TLZ	Tolley Road	1.44	237	P	Pn	05 13 37.7	+0.8
PRGZ	Paritu Road	1.51	155	P	Pn	05 13 37.9	+0.3
WHHZ	Waihua	1.53	175	P	Pn	05 13 38.6	+0.9
KNZ	Kokohu	1.54	162	P	Pn	05 13 38.1	+0.2
NMHZ	Naumai	1.56	188	P	Pn	05 13 39.1	+1.0
WATZ	Wairara	1.57	222	P	Pn	05 13 39.1	+0.9
MKAZ	Moumakai	1.59	286	P	Pn	05 13 38.1	-0.2
RATZ	Rangitukua	1.67	218	P	Pn	05 13 39.9	+0.7
BKZ	Black Stump Fm	1.68	196		Pn	05 13 38.7	-0.6
BKZ				Sn	Sn	05 14 03.8	-1.1
BKZ	Black Stump Fm	1.68	196	P	Pn	05 13 39.3	0.0
BKZ	Black Stump Fm	1.68	196	S	Sn	05 14 04.3	-0.6
BKZ	Black Stump Fm	1.68	196	P	Pn	05 13 39.4	0.0
ARHZ	Aropaoanui	1.71	182	P	Pn	05 13 40.4	+0.8
WIAZ	Waiheke Island	1.73	295	P	Pn	05 13 39.2	-0.5
MHGZ	Mahia Peninsul	1.73	158	P	Pn	05 13 40.5	+0.7
KATZ	Kakaramea	1.79	217	P	Pn	05 13 41.7	+1.1
ETAZ	East Tamaki Re	1.81	289	P	Pn	05 13 40.7	0.0
GRZ	Great Barrier	1.83	315	P	Pn	05 13 39.6	-1.4
TMVZ	Te Maari	1.90	214	P	Pn	05 13 42.6	+0.9
MBAZ	Motutapu North	1.91	294	P	Pn	05 13 41.5	-0.2
MCHZ	McNeill Hill	1.91	189	P	Pn	05 13 42.7	+0.9
KWHZ	Kaweka Forest	1.94	195	P	Pn	05 13 42.6	+0.5
WTVZ	West Tongariro	1.95	216	P	Pn	05 13 43.1	+0.8
NNVZ	North Ngauruho	1.95	216	P	Pn	05 13 43.2	+0.9
OTVZ	Oturere	1.96	214	P	Pn	05 13 43.1	+0.7
SNVZ	South Ngauruho	1.98	214	P	Pn	05 13 43.3	+0.6
TWVZ	Taurewa	1.99	220	P	Pn	05 13 43.3	+0.6
NGZ	Ngauruhoe	1.99	215	P	Pn	05 13 44.0	+1.2
AWAZ	Awhitu Peninsu	2.00	283	P	Pn	05 13 42.8	+0.1
HIZ	Hauiti	2.00	241		Pn	05 13 43.4	+0.7
HIZ	Hauiti	2.00	241	P	Pn	05 13 43.6	+0.9
HIZ	Hauiti	2.00	241	P	Pn	05 13 43.9	+1.3
ABAZ	Army Bay	2.03	297	P	Pn	05 13 42.8	-0.2
TUVZ	Tukino	2.05	213	P	Pn	05 13 43.9	+0.6
FWVZ	Far West T-bar	2.08	215	P	Pn	05 13 44.3	+0.5
MAVZ	Matarangi	2.09	214	P	Pn	05 13 45.0	+1.0
WHVZ	Whangaehu Hut	2.09	214	P	Pn	05 13 44.7	+0.8
WTAZ	Waiatarua	2.09	286	P	Pn	05 13 44.0	+0.2
CKHZ	Cape Kidnapper	2.10	180	P	Pn

KAHZ	Kahuranaki	2.25 184	P	Pn	05 13 46.2	+0.7
VRZ	Vera Road	2.41 229	P	Pn	05 13 48.6	+1.2
PNHZ	Pukenui	2.46 196	P	Pn	05 13 47.8	-0.2
PXZ	Pawanui	2.48 184	P	Pn	05 13 48.1	-0.1
WPHZ	Waipukurau	2.56 191	P	Pn	05 13 49.1	-0.1
TSZ	Takapari Road	2.65 199	P	Pn	05 13 49.9	-0.4
PRHZ	Porangahau	2.73 187	P	Pn	05 13 51.2	-0.1
WAZ	Wanganui	2.74 216	P	Pn	05 13 52.0	+0.6
DVHZ	Dannevirke	2.83 194	P	Pn	05 13 51.8	-0.7
NEZ	North Egmont	2.90 233	P	Pn	05 13 55.2	+1.9
ANWZ	Angora Road	2.94 189	P	Pn	05 13 53.6	-0.2
POWZ	Post Office Ro	3.01 199	P	Pn	05 13 54.1	-0.5
PRWZ	Pori Road	3.12 196	P	Pn	05 13 55.7	-0.3
BFZ	Birch Farm	3.19 191		Pn	05 13 55.7	-1.1
BFZ	Birch Farm	3.19 191	P	Pn	05 13 55.8	-1.1
BFZ	Birch Farm	3.19 191	P	Pn	05 13 56.1	-0.8
MRZ	Mangatainoka R	3.32 200		Pn	05 13 57.3	-1.1
MRZ			Sn	Sn	05 14 36.3	-2.8
MRZ	Mangatainoka R	3.32 200	P	Pn	05 13 57.4	-1.1
TIWZ	Tintock	3.35 196	P	Pn	05 13 58.2	-0.7
CPWZ	Castlepoint	3.42 191	P	Pn	05 13 59.6	-0.1
HOWZ	Holdsworth Sta	3.56 199	P	Pn	05 14 00.0	-1.4
OGWZ	Otaki Gorge	3.58 204	P	Pn	05 14 00.6	-1.1
OUZ	Omahuta	3.65 309	P	Pn	05 14 02.0	-0.6
TMWZ	Te Maipa	3.67 194	P	Pn	05 14 01.8	-1.0
KIW	Kapiti Island	3.71 206	P	Pn	05 14 02.1	-1.3
MTW	Mount Morrison	3.80 198	P	Pn	05 14 02.8	-1.8
TRWZ	Traveller	3.99 195	P	Pn	05 14 05.6	-1.3
PAWZ	Paruwai Farm	4.03 198	P	Pn	05 14 04.4	-3.2
DUWZ	D'Urville Isla	4.07 216	P	Pn	05 14 06.3	-1.7
MSWZ	Moikau Station	4.11 200	Pn	Pn	05 14 06.3	-2.2
MSWZ	Moikau Station	4.11 200	P	Pn	05 14 06.6	-2.0
WEL	Wellington	4.13 205	P	Pn	05 14 07.3	-1.5
SNZO	South Karori	4.18 205	Pn	Pn	05 14 07.8	-1.6
SNZO	South Karori	4.18 205	P	Pn	05 14 07.4	-1.9
TCW	Tory Channel	4.25 210	P	Pn	05 14 08.3	-2.0
PLWZ	Palliser	4.25 199	P	Pn	05 14 08.3	-2.1
TUWZ	Tuamarina	4.57 211		Pn	05 14 12.7	-1.6
TUWZ	Tuamarina	4.57 211	P	Pn	05 14 12.8	-1.6
NNZ	Nelson	4.65 217	P	Pn	05 14 13.3	-2.1
TKNZ	Takaka Hill	4.72 221	P	Pn	05 14 14.4	-2.0
QRZ	Quartz Range	4.81 226	P	Pn	05 14 15.2	-2.4
QRZ	Quartz Range	4.81 226	P	Pn	05 14 15.5	-2.1
BSWZ	Blackbirch Sta	4.84 210	Pn	Pn	05 14 16.7	-1.2
BSWZ	Blackbirch Sta	4.84 210	P	Pn	05 14 16.4	-1.5
MRNZ	Matariki Terra	5.09 220	P	Pn	05 14 18.8	-2.4
THZ	Tophouse	5.29 216	P	Pn	05 14 20.9	-3.1
KHZ	Kahutara	5.57 208	P	Pn	05 14 25.1	-2.3
KHZ	Kahutara	5.57 208	P	Pn	05 14 25.0	-2.4
DSZ	Denniston Nort	5.84 223	P	Pn	05 14 27.9	-3.2
GVZ	Greta Valley S	6.23 208	P	Pn	05 14 34.0	-2.2
LTZ	Lake Taylor	6.39 214	P	Pn	05 14 34.8	-3.5
AMCZ	Amberley	6.56 210	P	Pn	05 14 37.8	-2.7
INZ	Inchbonnie	6.73 218	P	Pn	05 14 39.1	-3.7
OKCZ	Okains Bay	6.88 205	P	Pn	05 14 42.1	-2.6
OXZ	Oxford	6.93 212	P	Pn	05 14 41.9	-3.5
MQZ	McQueen's Vall	7.01 207	P	Pn	05 14 42.4	-4.0
RPZ	Rata Peaks	7.67 215	P	Pn	05 14 52.5	-2.7
GCSZ	Gaunt Creek Bo	7.72 220	P	Pn	05 14 54.1	-1.7
ARCZ	Arundel	7.80 213	P	Pn	05 14 54.2	-2.7
FOZ	Fox Glacier	8.14 220	P	Pn	05 14 59.0	-2.4
TMZ	Timaru	8.22 212	P	Pn	05 14 59.5	-3.0
JCZ	Jackson Bay	9.05 221	P	Pn	05 15 10.5	-3.0
TUZ	Tuapeka	10.07 211	P	Pn	05 15 24.6	-2.1
ONTNC	Ouen Toro	17.74 326	P	Pn	05 17 01.6	-1.4
ONTNC			IAmb	IAmb	05 17 20.6	
	comp=Z,27nm,0.9s					
AS31	Alice Springs	39.31 278	P	P	05 20 21.7	+2.7
AS31			IAmb	IAmb	05 20 25.1	
	comp=Z,1.9nm,0.3s					
ASAR	Alice Springs	39.31 278	P	P	05 20 20.8	+1.9
WRA	Warramunga Arr	40.98 283	P	P	05 20 33.1	+0.5
	comp=Z,1.1nm,0.6s,baz=123,slow=7.7,SNR=4.8					
	comp=Z,1.1nm,0.6s					
QSPA	South Pole Qui	52.57 180	P	P	05 22 05.8	+3.7
QSPA			IAmb	IAmb	05 22 27.4	
	comp=Z,6.5nm,1.5s					
ARCES	ARCESS Array B	144.48 343	PKP	PKPdf	05 32 20.3	-0.9
	comp=Z,4.5nm,1.1s,baz=31,slow=2.8,SNR=5.1					
FINES	FINESS Array B	150.03 332	PKPbc	PKiKP	05 32 36.7	+0.2
	comp=Z,2.9nm,1.1s,baz=62,slow=3.3,SNR=4.1					

IDC ***12*** *05:16:12.7±2.4, 6°.15S×130°.29E, h0km, mb3.9/1, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=108.5km s-min=27.6km az=77.0*

ISC 12 05:16:24.0±1.1, 6°.65S±0°.08×130°.3E±0°.2, h100km, n12, σ3§96/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak	4.20	28	P	Pn	05 17 24.0	-1.9
DRS	Darwin Rock St	5.77	174	P	Pn	05 17 52.2	+4.9
MTN	Manton Dam	6.21	172	P	Pn	05 17 57.8	+4.6
KDU	Kakadu	6.37	160	P	Pn	05 17 58.9	+3.5
FITZ	Fitzroy Crossi	12.24	201	Pn	Pn	05 19 15.4	+0.4
	1.3nm,0.3s,baz=28,slow=11,SNR=34						
FITZ				Sn	Sn	05 21 24.8	-4.9
	0.9nm,0.3s,baz=129,slow=16,SNR=6.1						
	2.5nm,0.3s						
FITZ	Fitzroy Crossi	12.24	201	P	P	05 19 15.7	-7.5
WRA	Warramunga Arr	13.79	164	Pn	Pn	05 19 35.4	+0.1
	0.8nm,0.3s,baz=340,slow=15,SNR=26						
WRA				Sn	Sn	05 22 02.7	-4.4
	1.3nm,0.3s,baz=335,slow=22,SNR=8.1						
	1.1nm,0.4s						
ASAR	Alice Springs	17.27	169	P	Pn	05 20 21.6	+2.5
	0.6nm,0.3s,baz=346,slow=10,SNR=13						
ASAR				S	Sn	05 23 27.7	-3.6
	0.5nm,0.5s,baz=351,slow=23,SNR=4.4						
	1.1nm,0.3s						
AS01	Alice Springs	17.28	169	P	Pn	05 20 23.5	+4.4
OOD	Oodnadatta	21.64	167	P	P	05 21 10.3	+3.9
LCRK	Leigh Creek	24.82	164	P	P	05 21 41.8	+4.9
MKAR	Makanchi Array	68.09	327	P	P	05 27 11.9	-1.3
	0.8nm,0.6s,baz=121,slow=8.2,SNR=8.6						
	0.8nm,0.6s						

MCSM ***12*** *05:25:12.7±0.2, 46°.N±2°.×2°.6E±°, h130km, mb3.9, mB4.7, MLv3.8, Mw(mB)3.9*
BUC ***12*** *05:25:13.3±0.2, 45°.50N×26°.38E, h133km±1km, ml4.0/74, Error ellipse: s-maj=1.5km s-min=1.2km az=178.0*
IDC ***12*** *05:25:13.2±1.2, 45°.70N×26°.11E, h131km±5km, mb3.4/4, mbtmp3.7/8, Error ellipse: s-maj=48.2km s-min=12.0km az=115.0*
SIGU ***12*** *05:25:13.5, 45°.50N×26°.33E, h131km, mb3.8*
CFUSG ***12*** *05:25:14.8, 45°.37N×26°.64E, h100km, mb2.9/2, Romania Magtype MSH 3.6 from 2 stations*
SOF ***12*** *05:25:14.4, 45°.42N±0°.01×26°.31E±0°.01, h120km±2km, MD3.8/8*
BEO ***12*** *05:25:17.3±0.9, 45°.46N×26°.13E, h92km±4km, ML3.2/9*

ISC 12 05:25:12.6±0.7, 45°.52N±0°.02×26°.38E±0°.02, h142km±4km, n184, σ0§83/243, mb3.6/4, 75C-56D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEHR	Nehoiu	0.11	213	⇑P	Pn	05 25 32.2	+0.5
NEHR				⇑S	Sn	05 25 45.7	-0.5
BISRR	Bisoca	0.23	83	⇓P	Pn	05 25 32.6	+0.6
BISRR				⇑S	Sn	05 25 46.7	0.0
BISRR	Bisoca	0.23	83	P	Pn	05 25 32.0	0.0
MLR	Muntele Rosu	0.31	265	⇑P	Pn	05 25 32.6	+0.3
MLR				⇑S	Sn	05 25 46.6	-0.7
MLR	Muntele Rosu	0.31	265	P	Pn	05 25 32.6	+0.3
	659nm,0.7s,baz=196,slow=0.5,SNR=819						
MLR				S	Sn	05 25 46.5	-0.7
	849nm,0.5s,baz=280,slow=22,SNR=28						
MLR	Muntele Rosu	0.31	265	*e*Pg	Pn	05 25 32.5	+0.3
MLR				*e*Sg	Sn	05 25 44.8	-2.4
MLR	Muntele Rosu	0.31	265	P	Pn	05 25 31.4	-0.9
SPBR	Spulber	0.34	48	⇑P	Pn	05 25 32.9	+0.6
SPBR				⇑S	Sn	05 25 47.0	-0.3
COVR	Voineasa-Covas	0.35	339	⇑P	Pn	05 25 32.4	0.0
COVR				⇑S	Sn	05 25 46.6	-0.8
PLOR	Plostina	0.38	30	⇑P	Pn	05 25 32.6	+0.2
PLOR				⇓S	Sn	05 25 47.0	-0.6
PLOR5	Plostina Array	0.38	31	P	Pn	05 25 31.5	-0.9
ISR	Istrita	0.42	164	⇑P	Pn	05 25 33.2	+0.5
ISR				⇑S	Sn	05 25 47.5	-0.3
ISR	Istrita	0.42	164	P	Pn	05 25 31.8	-0.9
VRI	Vrincioaia	0.42	35	⇑P	Pn	05 25 33.0	+0.4
VRI				⇑S	Sn	05 25 46.9	-0.9
VRI	Vrincioaia	0.42	35	P	Pn	05 25 31.7	-0.9
ODBI	Odobesti	0.53	63	P	Pn	05 25 32.2	-0.9
PANC	Panciu	0.64	57	⇑P	Pn	05 25 34.5	+0.8
PANC				⇑S	Sn	05 25 49.9	+0.1
PLAR	PLOIESTI	0.66	203	⇑S	Sn	05 25 50.4	+0.4
OZUR		0.71	324	⇑P	Pn	05 25 34.3	0.0
OZUR				⇑S	Sn	05 25 49.7	-1.1
COSR	Cosmesti PH	0.73	63	⇑P	Pn	05 25 34.7	+0.4
COSR				⇑S	Sn	05 25 50.9	0.0
ONER	Baraj Valea Uz	0.81	1	⇑P	Pn	05 25 34.8	-0.2
ONER				⇓S	Sn	05 25 51.5	-0.7
DOPR	Dopca	0.83	303	⇓P	Pn	05 25 35.2	0.0
DOPR				⇑S	Sn	05 25 51.3	-1.0
SULR		0.85	186	⇑P	Pn	05 25 35.9	+0.7
SULR				⇑S	Sn	05 25 52.8	+0.3
GHRR		0.90	53	⇑P	Pn	05 25 36.5	+0.9
GHRR				⇓S	Sn	05 25 53.4	+0.2
GHRR		0.90	53	P	Pn	05 25 34.9	-0.7
TUDR		0.91	85	⇑P	Pn	05 25 35.8	+0.1
TUDR				⇓S	Sn	05 25 52.3	-1.0
VOIR		0.94	265	⇓P	Pn	05 25 36.1	0.0
VOIR				⇑S	Sn	05 25 52.6	-1.4
VOIR		0.94	265	P	Pn	05 25 35.8	-0.3
IZVR	Izvoarele	0.97	88	⇑P	Pn	05 25 36.2	-0.1
IZVR				⇑S	Sn	05 25 53.1	-1.2
SCHL	Schela	1.02	91	⇑P	Pn	05 25 36.6	0.0
SCHL				⇓S	Sn	05 25 53.9	-1.1
SCHLR	Schela	1.02	92	⇑S	Sn	05 25 53.9	-1.1
SCHLR				⇑P	Pn	05 25 36.7	+0.1
NEGRR	Negrea	1.05	89	⇑P	Pn	05 25 37.4	+0.5
NEGRR				⇑S	Sn	05 25 54.9	+0.6
INCR	INCERC-Sediu C	1.09	188	⇑P	Pn	05 25 37.8	+0.5
INCR				⇑S	Sn	05 25 56.0	-0.2
LEHL	Lehliu	1.09	163	⇑P	Pn	05 25 38.0	+0.6
LEHL				⇑S	Sn	05 25 56.5	+0.3
VARL	Varlezi	1.10	69	⇑P	Pn	05 25 37.3	-0.1
VARL				⇑S	Sn	05 25 55.7	-0.5
CIOR	Ciorogarla	1.13	199	⇑S	Sn	05 25 56.5	-0.3
AMRR	Amara	1.13	143	⇑P	Pn	05 25 38.3	+0.6
AMRR				⇑S	Sn	05 25 57.1	+0.2
SCTR	Scanteiesti	1.14	82	⇑P	Pn	05 25 38.6	+0.8
SCTR				⇓S	Sn	05 25 56.8	-0.3
BIR	Birlad	1.15	49	⇑P	Pn	05 25 38.5	+0.7
BIR				⇑S	Sn	05 25 56.8	-0.4
GISR	Galati	1.18	93	⇓S	Sn	05 25 57.3	-0.3
BUC1	Bucharest	1.20	192	⇓P	Pn	05 25 39.0	+0.7
BUC1				⇑S	Sn	05 25 57.8	-0.3
STFAR	Stefanesti-Arg	1.20	237	⇓S	Sn	05 25 58.5	+0.4
VLDR	Vladesti	1.23	74	⇑P	Pn	05 25 39.4	+0.7
VLDR				⇑S	Sn	05 25 58.6	-0.1
ARR	Arges	1.24	264	⇓P	Pn	05 25 39.2	+0.3
ARR				⇑S	Sn	05 25 57.6	-1.2
CFR	Carcaliu	1.28	105	⇑P	Pn	05 25 39.3	+0.1
CFR				⇓S	Sn	05 25 58.2	-1.2
GIUM	Giurgiulesti	1.28	91	⇓P	Pn	05 25 40.1	+0.9
GIUM				⇑S	Sn	05 25 59.4	-0.1
GIUM	Giurgiulesti	1.28	91	P	Pn	05 25 40.0	+0.8
GIUM				S	Sn	05 25 59.4	-0.1
SGRR	Singureni	1.33	193	⇓P	Pn	05 25 40.1	+0.4
SGRR				⇑S	Sn	05 25 59.4	-0.9
HARR	Harsova	1.38	127	⇑P	Pn	05 25 40.5	+0.4
CICN	Ciocanesti	1.40	161	⇑P	Pn	05 25 40.8	+0.4
CICN				⇑S	Sn	05 26 00.7	-0.9
HUMR	Humele	1.40	226	⇓P	Pn	05 25 40.6	+0.1
HUMR				⇑S	Sn	05 26 01.0	-0.7
BIZ	Bicaz	1.43	352	⇑S	Sn	05 26 02.4	+0.1
TNR	Turnu Rosu	1.49	276	⇓P	Pn	05 25 41.4	+0.1
MDB	Medias	1.53	295	⇑P	Pn	05 25 42.9	+1.1
TPGR	Topolog	1.59	114	⇑P	Pn	05 25 42.5	0.0
TPGR				⇑S	Sn	05 26 04.3	-1.0
COPA	Copaceanca	1.61	211	⇓P	Pn	05 25 42.9	+0.1
COPA				⇓S	Sn	05 26 04.7	-1.1
CVDA	Cernavoda	1.67	135	⇓P	Pn	05 25 43.9	+0.6
CVDA				⇓S	Sn	05 26 05.9	-1.0
ICOR	Ion Corvin	1.73	144	⇑P	Pn	05 25 44.7	+0.7
ICOR				⇑S	Sn	05 26 07.4	-0.7
TLCR		1.75	100	⇓P	Pn	05 25 44.6	+0.4
TLCR				⇑S	Sn	05 26 08.0	-0.4
TIRR	Tirgusor	1.79	126	⇓P	Pn	05 25 45.1	+0.4
TIRR				⇓S	Sn	05 26 08.4	-0.9
TIRR	Tirgusor	1.79	126	P	Pn	05 25 44.4	-0.3
LOT	Lotru	1.84	269	⇓P	Pn	05 25 45.4	0.0
LOT				⇑S	Sn	05 26 09.6	-0.9
IASR	Iasi	1.85	26	⇓P	Pn	05 25 45.8	+0.4
RAZG	Razgrad	1.96	177	⇓P	Pn	05 25 47.2	+0.5
RAZG				⇓S	Sn	05 26 11.7	-1.1
MFTR	Murfatlar	1.98	132	⇓P	Pn	05 25 47.5	+0.6
ZIMR		2.00	202	⇑P	Pn	05 25 46.8	-0.3
VLAD	Vladila	2.07	223	⇓P	Pn	05 25 47.9	-0.1
TSCT	Constanta Port	2.11	129	⇓P	Pn	05 25 49.0	+0.5
TSCT				⇑S	Sn	05 26 15.3	-0.8
EFOR	EFORIE	2.15	131	⇑P	Pn	05 25 49.6	+0.6
EFOR				⇓S	Sn	05 26 16.3	-0.7
MILM	Milestii Mici	2.19	50	⇓P	Pn	05 25 49.9	+0.5
MILM	Milestii Mici	2.19	50	⇓P	Pn	05 25 49.9	+0.5
	140nm,0.1s						
MILM				*i* S	Sn	05 26 16.0	-1.8
	1μm,1.1s						
MILM	Milestii Mici	2.19	50	P	Pn	05 25 49.9	+0.5
BURAR	Bucovina Array	2.24	339	⇓P	Pn	05 25 52.1	+1.9
KIS	Kishinev	2.25	48	⇓P	Pn	05 25 50.6	+0.5
KIS	Kishinev	2.25	48	⇓*i*P	Pn	05 25 50.6	+0.5
	140nm,0.2s						
KIS				*i* S	Sn	05 26 17.3	-1.6
	1μm,0.6s						
KIS	Kishinev	2.25	48	P	Pn	05 25 49.8	-0.3
PSN	Preselentsi	2.26	146	⇑*i*P	Pn	05 25 51.1	+0.8
PSN				*e*S	Sn	05 26 18.9	-0.4
CJR	Cluj-Napoca	2.27	303	⇓P	Pn	05 25 51.0	+0.5
SZH	Strazhitsa	2.27	187	P	Pn	05 25 50.8	+0.3
SZH				S	Sn	05 26 16.3	-3.3
TSMN	Mangalia Port-	2.33	137	⇓P	Pn	05 25 51.6	+0.4
TSMN				⇑S	Sn	05 26 20.7	-0.2
NEF	NEVSHA	2.34	164	P	Pn	05 25 51.9	+0.5
SRE	Strehaia	2.41	250	⇓P	Pn	05 25 52.1	0.0
DEV	Deva	2.46	280	⇓P	Pn	05 25 53.5	+0.7
PRD	Provadia	2.47	162	⇑*i*P	Pn	05 25 53.5	+0.6
ROIA	ROIAK	2.53	163	P	Pn	05 25 54.4	+0.7
GZR	Gura Zlata	2.54	268	⇓P	Pn	05 25 54.3	+0.5
GZR				⇓S	Sn	05 26 25.5	-0.1
GZR	Gura Zlata	2.54	268	*e*Pn	Pn	05 25 54.0	+0.2
GZR				*e*Sn	Sn	05 26 15.1	-10
MARR	Marisel-Cluj	2.55	298	⇑P	Pn	05 25 54.4	+0.5
BAIL	Bailesti	2.63	236	⇓P	Pn	05 25 54.9	0.0
BAIL				⇓S	Sn	05 26 27.1	-0.3
PURM	Purcari	2.63	66	⇑S	Sn	05 26 27.0	-0.4
PUNG	Punghina	2.75	244	⇓P	Pn	05 25 55.6	-0.7
PUNG	Punghina	2.75	244	*e*Pn	Pn	05 25 55.3	-1.0
VALD	Valchedram	2.79	230	P	Pn	05 25 56.9	0.0
DRGR		2.85	298	⇑P	Pn	05 25 57.7	0.0
DRGR		2.85	298	*e*Pn	Pn	05 25 57.7	0.0
DJES	Djerdap	2.87	254	*e*Pn	Pn	05 25 56.3	-1.6
HERR	Herculane	2.88	259	⇓P	Pn	05 25 57.5	-0.5
MPEP	Malo Peshtene	2.88	222	⇓*i*P	Pn	05 25 58.3	+0.3
RAKU	Rahkiv	2.93	330	*e*Pg	Pn	05 26 00.0	+1.3
RAKU				Pm		05 26 00.3	
RAKU				*e*Sn	Sn	05 26 35.7	+1.4
RAKU				Sm		05 27 19.7	
KSV	Kosov	2.94	343	*e*Pn	Pn	05 26 00.0	+1.3
SORM	Soroca	2.94	27	⇓P	Pn	05 25 58.8	-0.1
SORM	Soroca	2.94	27	P	Pn	05 25 58.7	-0.1
SORM	Soroca	2.94	27	P	Pn	05 25 58.7	-0.1
NSLU	Nyzhne Selyshc	2.98	334	*e*Pg	Pn	05 26 05.1	+5.8
SURR	Surduc	3.00	276	⇓P	Pn	05 25 59.7	+0.3
JMB	Yambol	3.03	178	P	Pn	05 26 00.4	+0.4
KMPD	K-Podol'skiy	3.04	1	*e*Pn	Pn	05 26 00.0	-0.1
KMPD	K-Podol'skiy	3.04	1	P	Pn	05 26 00.2	+0.1
KMPD				P	Pn	05 26 00.2	+0.1
NDNU	Novodnistrovsk	3.15	12	*e*Pn	Pn	05 26 01.7	+0.3
NDNU	Novodnistrovsk	3.15	12	P	Pn	05 26 01.5	+0.1
BLKB	Belogradchik	3.26	236	*e*Pn	Pn	05 26 02.1	-0.8
BLKB				*e*Sn	Sn	05 26 31.8	-10
BZS	Buzias	3.35	273	⇓P	Pn	05 26 03.7	-0.4
BZS	Buzias	3.35	273	*e*Pn	Pn	05 26 03.6	-0.4
SIRR	Siria	3.38	284	⇓P	Pn	05 26 04.9	+0.5
SIRR	Siria	3.38	284	*e*Pn	Pn	05 26 04.8	+0.3
MDVR	Moldovita	3.38	259	⇓P	Pn	05 26 04.1	-0.5
MDVR	Moldovita	3.38	259	*e*Pn	Pn	05 26 04.0	-0.5
PGB	Panagyurishte	3.40	209	P	Pn	05 26 05.0	+0.2
ZAGS	Zajecar	3.42	241	*e*Pn	Pn	05 26 04.1	-0.8
ZAGS				*e*Sn	Sn	05 26 32.5	-13
BORS2	Bor- Borsko je	3.42	247	*e*Pn	Pn	05 26 02.6	-2.4
STNU	Starunia	3.44	339	P	Pn	05 26 05.7	+0.5
ZAPS	Zavoj	3.50	231	*e*Pn	Pn	05 26 05.0	-1.1
ZAPS				*e*Sn	Sn	05 26 37.3	-10
KUBS	Kucevo	3.52	253	*e*Pn	Pn	05 26 04.1	-2.2
PLD	Plovdiv	3.57	200	*e*Sn	Sn	05 26 39.8	-9.4
VRSS	Vrsac	3.59	265	*e*Pn	Pn	05 26 06.6	-0.6
BRIU	Brid	3.64	322	P	Pn	05 26 08.3	+0.5
VTS	Vitosha	3.68	219	P	Pn	05 26 08.8	+0.2
VTS	Vitosha	3.68	219	*e*Pn	Pn	05 26 08.7	+0.2
HORU	Horodok	3.69	0	*e*Pn	Pn	05 26 10.7	+2.2
HORU	Horodok	3.69	0	P	Pn	05 26 08.7	+0.2
PLNA	Plana	3.72	216	P	Pn	05 26 09.9	+0.9
BERU	Beregovo	3.73	318	P	Pn	05 26 08.7	-0.3
BOVS	Bovan	3.84	242	*e*Pn	Pn	05 26 10.1	-0.3
SVIS	Svilajnac	3.88	253	*e*Pn	Pn	05 26 10.8	-0.2
RZN	Rozhen	4.01	198	⇓*i*P	Pn	05 26 13.5	+0.6
HOLU	Holmets	4.06	319	P	Pn	05 26 13.2	-0.1
BOSS	Bosilegrad	4.13	224	*e*Pn	Pn	05 26 14.6	+0.3
AVAS	Avala Beograd	4.24	261	*e*Pn	Pn	05 26 14.9	-0.8
BARS	Barje	4.25	232	*e*Pn	Pn	05 26 16.1	+0.2
BARS				*e*Sn	Sn	05 26 55.2	-10
CTYL	Yalikoy Yolu	4.28	160	P	Pn	05 26 15.9	-0.3
TARU	Tarkhankut	4.33	90	*e*P	Pn	05 26 17.6	+0.7
TARU				Pm		05 26 18.0	
	comp=Z,13nm,0.4s						
TARU				*e*S	Sn	05 27 05.9	-1.0
TARU				Sm		05 27 07.7	
	comp=N,6.0nm,0.3s						
TARU				Sm		05 27 07.7	
	comp=E,20nm,0.5s						
STZU	Stuzhytsa	4.33	325	*e*Pg	Pn	05 26 18.8	+1.9
GRUS	Gruza	4.36	250	*e*Pn	Pn	05 26 16.7	-0.6
KKB	Krupnik	4.37	214	P	Pn	05 26 17.9	+0.4
GOCS	Kraljevo Serbi	4.40	246	*e*Pn	Pn	05 26 17.6	-0.3
KOLS	Kolonicke sedl	4.41	322	*e*P	Pn	05 26 19.5	+1.5
SELS	Selova	4.42	240	*e*Pn	Pn	05 26 18.0	-0.1
SELS				*e*Sn	Sn	05 26 57.3	-12
TRUS	Trudelj	4.44	255	*e*Pn	Pn	05 26 17.9	-0.5
LUBAR	Lubar, Ukraine	4.50	11	P	Pn	05 26 18.9	-0.2
LUBAR				Sn	Sn	05 27 08.5	-2.4
DIVS	Divibare	4.76	255	*e*Pn	Pn	05 26 22.0	-0.7
DNZ2	Donuzlav2	4.81	89	*e*S	Sn	05 27 16.1	-2.1
DNZ2				Sm		05 27 18.3	
	comp=N,64nm,0.5s						
DNZ2				Sm		05 27 18.3	
	comp=E,10.0nm,0.3s						
IVAS	Ivanjica	4.86	249	*e*Pn	Pn	05 26 23.2	-0.8
TEKS	Tekeris	4.95	261	*e*Pn	Pn	05 26 24.2	-1.0
SJES	Sjenica	5.12	246	*e*Pn	Pn	05 26 27.7	+0.2
BBLS	Lazi&#263i	5.24	254	*e*Pn	Pn	05 26 27.8	-1.3
SEV	Sevastopol'	5.26	98	P	Pn	05 26 30.0	+0.8
SEV				Pm		05 26 30.3	
SEV				S	Sn	05 27 27.3	-1.6
SEV				Sm		05 27 31.6	
SEV	Sevastopol'	5.26	98	⇑*i*P	Pn	05 26 30.0	+0.8
SEV				Pm		05 26 30.3	
	comp=Z,5.0nm,0.5s						
SEV				*i* S	Sn	05 27 27.3	-1.6
SEV				Sm		05 27 31.6	
	comp=N,31nm,0.9s						
SEV			

84nm,0.6s,baz=311,slow=0.0
PKI Pulchoki 8.88 303 Pn **Pn** **05 52 14.6 +2.7**
baz=307,slow=0.0
PKI Sn **Sn** **05 53 49.5 -1.2**
40nm,0.6s,baz=307,slow=0.0
PKIN Phulchoki 8.89 303 Pn **Pn** **05 52 13.6 +1.6**
baz=307,slow=0.0
PKIN Sn **Sn** **05 53 49.5 -1.4**
33nm,0.4s,baz=307,slow=0.0
KKN Kakani 9.09 303 Sn **Sn** **05 53 55.2 -0.4**
31nm,0.4s,baz=308,slow=0.0
DMN Daman 9.13 302 Pn **Pn** **05 52 16.6 +1.3**
baz=307,slow=0.0
DMN Sn **Sn** **05 53 56.2 -0.6**
27nm,0.6s,baz=307,slow=0.0
KOLN Koldanda 10.40 299 Sn **Sn** **05 54 25.2 -2.5**
32nm,0.4s,baz=303,slow=0.0
PYUN Piuthan 11.03 300 Pn **Pn** **05 52 41.8 +0.6**
baz=304,slow=0.0
PYUN Sn **Sn** **05 54 39.9 -3.2**
18nm,0.5s,baz=304,slow=0.0
MKAR Makanchi Array 25.51 341 P **P** **05 55 28.2 -0.7**
1.4nm,0.7s,baz=147,slow=11,SNR=14
1.4nm,0.7s
KURBB Kurchatov Arra 30.05 340 P **P** **05 56 07.8 -1.6**
0.2nm,0.3s,baz=153,slow=7.8,SNR=4.5
0.2nm,0.3s
WRA Warramunga Arr 58.17 134 P **P** **05 59 54.9 +0.7**
0.6nm,0.5s,baz=321,slow=7.4,SNR=12
0.6nm,0.5s
ASAR Alice Springs 60.56 137 P **P** **06 00 11.8 +1.2**
0.7nm,0.4s,baz=319,slow=6.8,SNR=17
0.7nm,0.4s

---

*TIR **12** 05:51:22.6, 40.°35N×21.°25E, h24km±2km, Md3.5/5, Ml3.4/9*
*PDG **12** 05:51:23.7±0.5, 40.°23N×21.°19E, h20km±3km, ML3.2/11, Error ellipse: s-maj=2.0km s-min=1.4km az=90.0*
*SKO **12** 05:51:23.2, 40.°25N×21.°21E, h0km, ML3.5*
*BEO **12** 05:51:24.6±0.3, 40.°38N×21.°27E, h17km±2km, ML3.0/14*
*ATH **12** 05:51:24.1, 40.°37N×21.°27E, h8km±3km, ML3.2/15, Manual Solution by F.Xalaris First location: 2019/04/12 05:52:25, This location: 2019/04/12 06:16:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*THE **12** 05:51:24.4, 40.°36N×21.°30E, h2km±1km, ML3.2/15, Error ellipse: s-maj=1.7km s-min=0.6km az=339.0*
*NAO **12** 05:51:26.1, 40.°37N×19.°39E, h10km, mb3.2*
ISC 12 05:51:23.9±0.8, 40.°39N±0.°01×21.°29E±0.°02, h12km±6km, n143, σ1§22/209, 35C-14D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.19**	**278**	P	**Pg**	**05 51 27.9**	**-0.2**
NEST				S	**Sg**	**05 51 30.9**	**-0.1**
26μm,0.2s							
NEST	**Nestorio**	**0.19**	**278**	⇓*i*Pg	**Pg**	**05 51 27.9**	**-0.2**
NEST				Sg	**Sg**	**05 51 31.2**	**+0.2**
NEST				AML	AML	05 51 31.4	
49nm,0.2s							
NEST				AMd		05 53 31.3	
NEST	**Nestorio**	**0.19**	**278**	P	**Pg**	**05 51 27.9**	**-0.2**
NEST				S	**Sg**	**05 51 30.9**	**-0.1**
PENT	**Pentalofos**	**0.23**	**211**	P	**Pg**	**05 51 28.4**	**-0.4**
PENT	**Pentalofos**	**0.23**	**211**	P	**Pg**	**05 51 28.3**	**-0.4**
PENT				S	**Sg**	**05 51 32.3**	**+0.2**
FNA	**Florina**	**0.40**	**9**	P	**Pb**	**05 51 32.8**	**-0.3**
FNA				S	**Sb**	**05 51 38.5**	**-0.6**
13μm,0.3s							
FNA	**Florina**	**0.40**	**9**	⇑*i*Pg	**Pb**	**05 51 32.8**	**-0.3**
FNA				Sg	**Sb**	**05 51 38.6**	**-0.6**
FNA				AML	AML	05 51 41.4	
16nm,0.3s							
FNA				AMd		05 53 16.9	
FNA	**Florina**	**0.40**	**9**	⇑*i*Pg	**Pb**	**05 51 32.8**	**-0.3**
FNA				*i*Sg	**Sb**	**05 51 40.5**	**+1.4**
FNA	**Florina**	**0.40**	**9**	*e*Pg	**Pb**	**05 51 32.7**	**-0.3**
FNA				*e*Sg	**Sb**	**05 51 39.9**	**+0.8**
FNA	**Florina**	**0.40**	**9**	P	**Pb**	**05 51 32.7**	**-0.3**
FNA				S	**Sb**	**05 51 38.7**	**-0.5**
KBN	**Korca**	**0.45**	**302**	⇑*i*Pg	**Pg**	**05 51 32.1**	**-0.7**
KBN				Sg	**Sg**	**05 51 39.1**	**+0.3**
KBN				AML	AML	05 51 42.5	
13nm,0.5s							
KBN				AMd		05 53 02.2	
LSK	**Leskovik**	**0.58**	**246**	⇑*e*Pg	**Pg**	**05 51 33.2**	**-2.1**
LSK				Sg	**Sg**	**05 51 41.4**	**-1.6**
LSK				AML	AML	05 51 45.0	
29nm,0.5s							
LSK				AMd		05 53 48.0	
JAN	**Janina**	**0.81**	**205**	P	**Pg**	**05 51 37.7**	**-1.8**
JAN				S	**Sb**	**05 51 50.7**	**-0.1**
2μm,0.5s							
JAN	**Janina**	**0.81**	**205**	P	**Pg**	**05 51 37.8**	**-1.8**
JAN				S	**Sg**	**05 51 50.0**	**-0.1**
OHR	**Ohrid**	**0.81**	**333**	*i*Pg	**Pg**	**05 51 39.6**	**0.0**
OHR				*i*Sg	**Sb**	**05 51 52.5**	**+1.5**
OHR				*e*Lg	Lg	05 51 52.7	
comp=N,2μm,0.8s							
OHR				*e*Lg	Lg	05 51 53.0	
comp=E,2μm,0.5s							
OHR	**Ohrid**	**0.81**	**333**	*e*Pg	**Pg**	**05 51 39.5**	**-0.2**
OHR				*e*Sg	**Sb**	**05 51 52.2**	**+1.2**
LIT	**Litokhoron**	**0.96**	**107**	P	**Pb**	**05 51 42.8**	**+0.3**
LIT				S	**Sb**	**05 51 55.7**	**+0.4**
comp=E,858nm,0.4s							
LIT	**Litokhoron**	**0.96**	**107**	P	**Pb**	**05 51 42.9**	**+0.3**
LIT				S	**Sb**	**05 51 56.0**	**+0.7**
THL	**Klokotos Trika**	**0.99**	**146**	P	**Pg**	**05 51 42.2**	**-0.9**
THL				S	**Sb**	**05 51 56.5**	**+0.4**
comp=E,1μm,0.5s							
THL	**Klokotos Trika**	**0.99**	**146**	P	**Pg**	**05 51 42.1**	**-0.9**
THL				S	**Sb**	**05 51 56.4**	**+0.2**
GRG	**Griva**	**1.02**	**56**	P	**Pb**	**05 51 43.8**	**+0.3**
GRG				S	**Sn**	**05 51 58.8**	**+0.5**
comp=E,1μm,0.5s							
GRG	**Griva**	**1.02**	**56**	*i*Pg	**Pn**	**05 51 44.2**	**+0.2**
GRG				*i*Sg	**Sn**	**05 52 01.1**	**+2.7**
GRG	**Griva**	**1.02**	**56**	P	**Pn**	**05 51 44.1**	**0.0**
GRG				S	**Sb**	**05 51 58.1**	**+1.3**
SRN	**Sarande**	**1.11**	**243**	⇑*i*Pn	**Pg**	**05 51 43.9**	**-1.4**
SRN				Sn	**Sg**	**05 51 59.8**	**-0.1**
SRN				AML	AML	05 52 03.9	
comp=E,3.3nm,0.6s							
IGT	**Igoumenitsa**	**1.13**	**221**	P	**Pg**	**05 51 44.4**	**-1.3**
IGT				S	**Sb**	**05 52 01.7**	**+1.6**
comp=E,680nm,0.6s							
IGT	**Igoumenitsa**	**1.13**	**221**	⇓*e*Pg	**Pg**	**05 51 43.2**	**-2.4**
IGT				Sg	**Sg**	**05 51 58.5**	**-1.9**
IGT				AML	AML	05 52 04.5	
comp=E,2.2nm,0.6s							
IGT				AMd		05 53 48.5	
IGT	**Igoumenitsa**	**1.13**	**221**	*e*Pg	**Pg**	**05 51 43.4**	**-2.3**
IGT				*e*Sg	**Sb**	**05 52 01.0**	**+0.9**
IGT	**Igoumenitsa**	**1.13**	**221**	P	**Pg**	**05 51 43.3**	**-2.4**
IGT				S	**Sb**	**05 52 00.7**	**+0.7**
THE	**Thessaloniki**	**1.30**	**79**	P	**Pn**	**05 51 48.5**	**+0.6**
THE				S	**Sn**	**05 52 06.9**	**+1.7**
comp=E,202nm,0.6s							
THE	**Thessaloniki**	**1.30**	**79**	*i*Pg	**Pb**	**05 51 48.3**	**+0.1**
THE				*i*Sg	**Sn**	**05 52 06.8**	**+1.5**
THE	**Thessaloniki**	**1.30**	**79**	P	**Pb**	**05 51 48.4**	**+0.1**
THE				S	**Sn**	**05 52 06.5**	**+1.3**
KEK	**Kerkira**	**1.33**	**240**	P	**Pb**	**05 51 49.4**	**+0.6**
KEK				S	**Sn**	**05 52 08.7**	**+2.7**
comp=E,732nm,0.6s							
KEK	**Kerkira**	**1.33**	**240**	P	**Pn**	**05 51 49.2**	**+0.9**
VAY	**Valandovo**	**1.34**	**46**	*i*Pg	**Pb**	**05 51 50.0**	**+1.0**
VAY				*i*Sg	**Sn**	**05 52 10.0**	**+3.6**
VAY				*e*Lg	Lg	05 52 12.5	
comp=E,185nm,0.6s							
VAY				*e*Lg	Lg	05 52 13.2	
comp=N,367nm,0.5s							
VAY	**Valandovo**	**1.34**	**46**	*e*Pg	**Pn**	**05 51 49.0**	**+0.5**
VAY				*e*Sg	**Sn**	**05 52 08.3**	**+1.9**
VLO	**Vlora**	**1.37**	**274**	P	**Pb**	**05 51 51.0**	**+1.5**
HORT	**Hortiatis**	**1.40**	**81**	P	**Pg**	**05 51 49.5**	**-1.2**
HORT				S	**Sn**	**05 52 09.8**	**+2.1**
comp=N,380nm,0.7s							
HORT	**Hortiatis**	**1.40**	**81**	P	**Pg**	**05 51 49.6**	**-1.2**
TIR	**Tirane**	**1.44**	**312**	⇓*i*Pn	**Pb**	**05 51 51.4**	**+0.6**
TIR				Sn	**Sn**	**05 52 13.8**	**+4.9**
TIR				AML	AML	05 52 19.1	
comp=N,1.0nm,0.6s							
TIR	**Tirane**	**1.44**	**312**	⇑P	**Pn**	**05 51 49.5**	**-0.4**
TIR	**Tirane**	**1.44**	**312**	*e*Pg	**Pb**	**05 51 51.3**	**+0.5**
TIR				*e*Sg	**Sn**	**05 52 10.5**	**+1.7**
TIR	**Tirane**	**1.44**	**312**	P	**Pn**	**05 51 50.8**	**+0.9**
PHP	**Peshkopia**	**1.45**	**334**	⇑*e*Pn	**Pn**	**05 51 49.8**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.52**	**154**	P	**Pn**	**05 51 51.6**	**+0.6**
MAKR				S	**Sn**	**05 52 12.6**	**+1.9**
comp=N,2μm,0.4s							
MAKR	**Makrakomi, Fth**	**1.52**	**154**	P	**Pn**	**05 51 51.3**	**+0.3**
EVR	**Evrytania**	**1.52**	**165**	P	**Pn**	**05 51 51.8**	**+0.7**
EVR				S	**Sn**	**05 52 12.6**	**+1.7**
comp=N,385nm,0.5s							
EVR	**Evrytania**	**1.52**	**165**	P	**Pn**	**05 51 51.8**	**+0.7**
AGG	**Agios Georgios**	**1.58**	**149**	P	**Pn**	**05 51 51.9**	**0.0**
AGG				S	**Sn**	**05 52 13.2**	**+0.9**
comp=N,470nm,0.4s							
SOH	**Sokhos**	**1.63**	**74**	P	**Pb**	**05 51 53.8**	**-0.2**
SOH	**Sokhos**	**1.63**	**74**	*i*Pn	**Pb**	**05 51 53.7**	**-0.3**
SOH	**Sokhos**	**1.63**	**74**	P	**Pb**	**05 51 53.5**	**-0.4**
TSLK	**Tsoukalades, L**	**1.64**	**198**	P	**Pb**	**05 51 54.1**	**0.0**
TSLK				S	**Sb**	**05 52 15.8**	**+1.1**
comp=N,665nm,0.6s							
TSLK	**Tsoukalades, L**	**1.64**	**198**	P	**Pb**	**05 51 54.1**	**0.0**
PLG	**Polygyros**	**1.65**	**90**	P	**Pb**	**05 51 53.8**	**-0.4**
LKD2	**Lefkada island**	**1.67**	**197**	P	**Pn**	**05 51 54.4**	**+1.3**
LKD2				S	**Sn**	**05 52 16.1**	**+1.6**
comp=N,525nm,0.7s							
LKD2	**Lefkada island**	**1.67**	**197**	⇑*i*Pg	**Pn**	**05 51 54.4**	**+1.3**
LKD2				Sg	**Sn**	**05 52 14.6**	**+0.1**
LKD2				AML	AML	05 52 20.4	
comp=N,1.9nm,0.7s							
LKD2	**Lefkada island**	**1.67**	**197**	P	**Pn**	**05 51 54.3**	**+1.2**
NYDR	**Nydri-Lefkada**	**1.73**	**196**	P	**Pb**	**05 51 56.0**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.73**	**196**	P	**Pn**	**05 51 54.3**	**+0.4**
PVO	**Paravola**	**1.78**	**174**	P	**Pn**	**05 51 55.6**	**+1.1**
XOR	**Xorichti**	**1.78**	**124**	P	**Pn**	**05 51 55.1**	**+0.5**
XOR	**Xorichti**	**1.78**	**124**	P	**Pn**	**05 51 55.1**	**+0.5**
EVGI	**Lefkada island**	**1.83**	**196**	P	**Pb**	**05 51 57.0**	**-0.4**
EVGI	**Lefkada island**	**1.83**	**196**	P	**Pn**	**05 51 56.1**	**+0.8**
NEO	**Neokhori**	**1.84**	**125**	P	**Pn**	**05 51 56.1**	**+0.7**
NEO	**Neokhori**	**1.84**	**125**	P	**Pn**	**05 51 56.0**	**+0.7**
ANX	**Ano Chora**	**1.86**	**165**	P	**Pn**	**05 51 56.7**	**+1.0**
ANX	**Ano Chora**	**1.86**	**165**	P	**Pn**	**05 51 56.8**	**+1.0**
PAIG	**Paliouri**	**1.89**	**103**	P	**Pn**	**05 51 56.5**	**+0.5**
SRS	**Serrai**	**1.89**	**67**	P	**Pn**	**05 51 56.4**	**+0.3**
SRS	**Serrai**	**1.89**	**67**	*i*Pn	**Pn**	**05 51 56.3**	**+0.3**
SRS	**Serrai**	**1.89**	**67**	*e*Pn	**Pn**	**05 51 56.1**	**0.0**
SRS				*e*Sn	**Sn**	**05 52 20.1**	**+0.2**
AXAR	**Agios Charalam**	**1.94**	**146**	P	**Pn**	**05 51 57.7**	**+1.0**
PUK	**Puka**	**1.96**	**328**	⇑*e*Pn	**Pn**	**05 51 58.2**	**+1.1**
PUK				Sn	**Sn**	**05 52 24.0**	**+2.3**
PUK				AML	AML	05 52 30.7	
comp=N,1.5nm,0.6s							
KKB	**Krupnik**	**2.01**	**43**	*i*Pn	**Pn**	**05 51 58.7**	**+1.0**
EFP	**Efpalio**	**2.02**	**166**	P	**Pn**	**05 51 59.0**	**+1.2**
OUR	**Ouranopolis**	**2.06**	**91**	P	**Pn**	**05 51 59.5**	**+1.2**
KALE	**Kalithea**	**2.10**	**161**	P	**Pn**	**05 51 59.9**	**+0.8**
KOKK	**Kokkinochori,**	**2.11**	**77**	P	**Pn**	**05 52 00.0**	**+1.0**
BCI	**Bajram Curri**	**2.18**	**335**	*e*Pn	**Pn**	**05 52 00.9**	**+0.9**
LKR	**Lokris**	**2.18**	**142**	P	**Pn**	**05 52 00.7**	**+0.7**
SCTE	**Santa Cesarea**	**2.19**	**263**	⇑*e*Pn	**Pn**	**05 51 60.0**	**-0.1**
SCTE				Sn	**Sb**	**05 52 30.9**	**+0.5**
SCTE	**Santa Cesarea**	**2.19**	**263**	P	**Pn**	**05 52 00.3**	**+0.2**
MMB	**Musomishta**	**2.19**	**57**	*i*Pn	**Pn**	**05 52 01.1**	**+0.8**
ULC	**Ulcinj**	**2.21**	**316**	⇓*e*Pn	**Pn**	**05 52 01.6**	**+1.2**
ULC	**Ulcinj**	**2.21**	**316**	⇑*i*Pn	**Pn**	**05 52 00.7**	**+0.3**
ULC				*i*Sn	**Sn**	**05 52 29.7**	**+2.1**
BOSS	**Bosilegrad**	**2.29**	**23**	*e*Pn	**Pn**	**05 52 02.5**	**+1.0**
BOSS				*e*Sn	**Sn**	**05 52 29.7**	**0.0**
DRME	**Dracevica, Mon**	**2.40**	**319**	⇑*e*Pn	**Pn**	**05 52 04.2**	**+1.2**
DRME	**Dracevica, Mon**	**2.40**	**319**	⇑*i*Pn	**Pn**	**05 52 04.5**	**+1.5**
DRME				*i*Sn	**Sn**	**05 52 33.4**	**+1.1**
PVY	**Plav**	**2.42**	**336**	⇓*e*Pn	**Pn**	**05 52 04.5**	**+1.0**
PVY	**Plav**	**2.42**	**336**	⇑*i*Pn	**Pn**	**05 52 04.5**	**+1.0**
PVY				*i*Sn	**Sn**	**05 52 35.6**	**+2.5**
BARS	**Barje**	**2.46**	**9**	*i*Pn	**Pn**	**05 52 04.8**	**+0.9**
BARS	**Barje**	**2.46**	**9**	*e*Pn	**Pn**	**05 52 04.8**	**+0.9**
BARS				*e*Sn	**Sn**	**05 52 34.3**	**+0.5**
PDG	**Podgorica**	**2.55**	**324**	⇑P	**Pn**	**05 52 04.6**	**-0.5**
PDG	**Podgorica**	**2.55**	**324**	*e*Pn	**Pn**	**05 52 06.0**	**+0.9**
PDG	**Podgorica**	**2.55**	**324**	⇓*i*Pn	**Pn**	**05 52 05.4**	**+0.3**
PDG				*i*Sn	**Sn**	**05 52 38.2**	**+2.1**
BUM	**Brajici-Budva**	**2.63**	**317**	⇑*e*Pn	**Pn**	**05 52 07.0**	**+0.8**
BUM	**Brajici-Budva**	**2.63**	**317**	⇑*i*Pn	**Pn**	**05 52 06.4**	**+0.1**
BUM				*i*Sn	**Sn**	**05 52 39.6**	**+1.5**
VTS	**Vitosha**	**2.66**	**33**	*e*Pn	**Pn**	**05 52 07.8**	**+1.0**
VTS				*e*Sn	**Sn**	**05 52 39.2**	**+0.1**
BEY	**Berane**	**2.69**	**338**	⇑*e*Pn	**Pn**	**05 52 08.3**	**+1.1**
BEY	**Berane**	**2.69**	**338**	*i*Pn	**Pn**	**05 52 08.3**	**+1.1**
IVA	**Berane**	**2.69**	**338**	⇑*i*Pn	**Pn**	**05 52 08.3**	**+1.1**
IVA				*i*Sn	**Sn**	**05 52 42.2**	**+2.4**
KOME	**Kolasin**	**2.80**	**332**	⇓*e*Pn	**Pb**	**05 52 11.9**	**-2.0**
KOME	**Kolasin**	**2.80**	**332**	⇑*i*Pn	**Pn**	**05 52 09.6**	**+1.0**
KOME				*i*Sn	**Sn**	**05 52 44.6**	**+2.3**
CEME	**Cevo**	**2.80**	**321**	⇓*e*Pn	**Pn**	**05 52 09.6**	**+1.0**
CEME	**Cevo**	**2.80**	**321**	⇑*i*Pn	**Pn**	**05 52 08.5**	**-0.1**
CEME				*i*Sn	**Sn**	**05 52 44.9**	**+2.6**
SELS	**Selova**	**2.83**	**357**	*e*Pn	**Pn**	**05 52 09.4**	**+0.4**
SELS				*e*Sn	**Sn**	**05 52 42.7**	**-0.4**
HCY	**Herceg Novi**	**2.94**	**315**	P	**Pn**	**05 52 12.6**	**+2.1**
HCY	**Herceg Novi**	**2.94**	**315**	⇓*i*Pn	**Pn**	**05 52 11.5**	**+1.0**
HCY				*i*Sn	**Sn**	**05 52 47.3**	**+1.5**
NKME	**Niksic**	**2.95**	**324**	*i*Pn	**Pb**	**05 52 15.1**	**-1.5**
NKME	**Niksic**	**2.95**	**324**	⇑*i*Pn	**Pb**	**05 52 16.0**	**-0.5**
NKME				*i*Sn	**Sn**	**05 52 46.4**	**+0.3**
SJES	**Sjenica**	**3.03**	**341**	*e*Pn	**Pn**	**05 52 12.6**	**+0.7**
ZAPS	**Zavoj**	**3.05**	**19**	*e*Pn	**Pn**	**05 52 13.3**	**+1.2**
ZAPS				*e*Sn	**Sn**	**05 52 49.3**	**+0.8**
GOCS	**Kraljevo Serbi**	**3.19**	**355**	*e*Pn	**Pn**	**05 52 14.4**	**+0.4**
BOVS	**Bovan**	**3.26**	**5**	⇑P	**Pn**	**05 52 15.5**	**+0.6**
BOVS	**Bovan**	**3.26**	**5**	*e*Pn	**Pn**	**05 52 15.4**	**+0.6**
BOVS				*e*Sn	**Sn**	**05 52 52.7**	**-0.9**
IVAS	**Ivanjica**	**3.30**	**345**	*e*Pn	**Pn**	**05 52 14.5**	**-0.9**
UPM	**Unac-Piva**	**3.33**	**328**	⇓*i*Pn	**Pn**	**05 52 19.6**	**+3.6**
UPM	**Unac-Piva**	**3.33**	**328**	⇓*i*Pn	**Pn**	**05 52 17.0**	**+1.0**
UPM				*i*Sn	**Sn**	**05 52 56.6**	**+1.0**
ZAGS	**Zajecar**	**3.49**	**11**	*e*Pn	**Pn**	**05 52 18.6**	**+0.5**
ZAGS				*e*Sn	**Sn**	**05 52 58.5**	**-0.8**
MATE	**Matera**	**3.51**	**276**	⇑P	**Pn**	**05 52 17.8**	**-0.5**
GRUS	**Gruza**	**3.52**	**353**	*e*Pn	**Pn**	**05 52 18.9**	**+0.4**
STON	**Ston**	**3.66**	**314**	*e*Pn	**Pn**	**05 52 19.8**	**-0.6**
STON				*e*Sn	**Sn**	**05 53 02.5**	**-0.9**
TIP	**Timpagrande**	**3.70**	**252**	⇓P	**Pn**	**05 52 20.5**	**-0.4**
DIVS	**Divibare**	**3.83**	**346**	*e*Pn	**Pn**	**05 52 22.2**	**-0.6**
TRUS	**Trudelj**	**3.89**	**351**	*e*Pn	**Pn**	**05 52 22.6**	**-0.9**
AVAS	**Avala Beograd**	**4.34**	**353**	*e*Pn	**Pn**	**05 52 28.2**	**-1.6**
MDVR	**Moldovita**	**4.40**	**4**	⇑P	**Pn**	**05 52 30.7**	**+0.1**
MDVR	**Moldovita**	**4.40**	**4**	*e*Pn	**Pn**	**05 52 30.0**	**-0.6**
SGRT	**San Giovanni R**	**4.41**	**290**	⇑*i*Pn	**Pn**	**05 52 30.4**	**-0.4**
SGRT				Sn	**Sn**	**05 53 18.3**	**-3.8**
SRE	**Strehaia**	**4.50**	**18**	⇑P	**Pn**	**05 52 32.5**	**+0.6**
HERR	**Herculane**	**4.56**	**10**	⇓P	**Pn**	**05 52 33.4**	**+0.6**
APE	**Apeiranthos**	**4.69**	**134**	⇑P	**Pn**	**05 52 36.0**	**+1.4**
GZR	**Gura Zlata**	**5.12**	**12**	⇑P	**Pn**	**05 52 41.3**	**+0.9**
BZS	**Buzias**	**5.23**	**3**	⇑P	**Pn**	**05 52 41.6**	**-0.3**
BZS	**Buzias**	**5.23**	**3**	*e*Pn	**Pn**	**05 52 41.1**	**-0.8**
BZS				*e*Sn	**Sn**	**05 53 39.0**	**-3.2**
VOIR		**5.75**	**27**	⇑P	**Pn**	**05 52 49.0**	**-0.2**
SIRR	**Siria**	**5.88**	**2**	⇑P	**Pn**	**05 52 52.2**	**+1.3**
MORH	**Mrgy, Hungar**	**6.13**	**343**	⇓P	**Pn**	**05 52 54.8**	**+0.4**
MLR	**Muntele Rosu**	**6.14**	**32**	⇑P	**Pn**	**05 52 55.5**	**+1.0**
PLOR	**Plostina**	**6.72**	**34**	⇑P	**Pn**	**05 53 03.7**	**+1.2**
VRI	**Vrincioaia**	**6.76**	**34**	⇑P	**Pn**	**05 53 02.6**	**-0.4**
NB2	**NORSAR Subarra**	**21.59**	**347**	P	**P**	**05 56 12.3**	**-1.1**
comp=Z,0.5nm,0.4s,baz=163,slow=11							

---

*IDC **12** 06:05:32.4±3.3, 54.°18N×87.°40E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=27.2km s-min=18.6km az=57.0*
ASRS 12 06:05:32.0±1.0, 54.°25N×87.°06E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**258**	I	I	06 15 10.0	
baz=79,slow=332,SNR=2.1							
ZALV	**Zalesovo Beam**	**1.35**	**258**	Pg	Pb	06 05 59.4	+1.1
0.4nm,0.3s,baz=77,slow=15,SNR=6.3							
ZALV				Lg	Lg	06 06 21.9	
0.7nm,0.3s,baz=79,slow=28,SNR=5.5							
KURBB	**Kurchatov Arra**	**6.36**	**239**	Pn	Pn	06 07 10.2	+3.4
0.1nm,0.3s,baz=54,slow=14,SNR=4.2							
KURBB				Lg	Lg	06 08 57.6	
baz=62,slow=35							
0.6nm,0.3s							
MKAR	**Makanchi Array**	**8.06**	**204**	Pn	Pn	06 07 32.2	+1.9
0.1nm,0.3s,baz=16,slow=11,SNR=1.9							
MKAR				Lg	Lg	06 09 44.8	
0.1nm,0.3s,baz=27,slow=30,SNR=6.8							
0.1nm,0.4s							

---

*IDC **12** 06:11:44.6±1.0, 8.°86S×109.°61W, h0km, mb3.8/6, mbtmp3.8/6, MS3.8/16, Error ellipse: s-maj=68.3km s-min=22.6km az=80.0*
*NEIC **12** 06:11:50.2±1.2, 8.°9S±0.°1×108.°8W±0.°2, h10km±1km, mb4.4/17, Error ellipse: s-maj=26.5km s-min=21.8km az=289.0*
ISC 12 06:11:48.1±0.7, 8.°8S±0.°1×109.°0W±0.°1, h10km, n49, σ1§46/26, mb4.3/13, MS3.7/16, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**18.26**	**181**		**Pn**	**06 16 01.2**	**-0.5**
PAYG	**Puerto Ayora**	**20.27**	**68**	P	**P**	**06 16 24.0**	**-0.1**
PAYG				IAmb	IAmb	06 16 33.5	
comp=Z,29nm,0.9s							
PTCN	**Pitcairn Islan**	**25.84**	**229**	P	**P**	**06 17 22.0**	**+2.1**
COHC	**Cochancay**	**30.21**	**80**	P	**P**	**06 17 59.6**	**+0.5**
ATAH	**Atahualpa**	**30.32**	**89**	LR	LR	06 27 13.3	
comp=Z,169nm,20.4s,baz=248,slow=30							
JTS	**Las Juntas de**	**30.50**	**52**	LR	LR	06 27 47.0	
comp=Z,74nm,20.0s,baz=230,slow=31							
NNA	**Nana**	**31.75**	**99**	P	**P**	**06 18 12.6**	**-0.3**
NNA	**Nana**	**31.75**	**99**	LR	LR	06 27 34.3	
comp=Z,198nm,20.6s,baz=302,slow=29							
ZAIG	**Zacatecas**	**31.97**	**11**	P	**P**	**06 18 16.1**	**+1.3**
ZAIG				IAmb	IAmb	06 18 18.7	
comp=Z,5.9nm,1.4s							
H03N2	**Juan Fernandez**	**37.00**	**136**	T	T	06 58 14.4	
baz=307,slow=77,SNR=77							
H03N1	**Juan Fernandez**	**37.02**	**136**	T	T	06 58 15.0	
baz=307,slow=77,SNR=145							
H03N3	**Juan Fernandez**	**37.02**	**136**	T	T	06 58 16.3	
baz=307,slow=77,SNR=75							
TXAR	**Lajitas Array**	**38.23**	**7**	P	**P**	**06 19 08.4**	**-0.1**
comp=Z,0.7nm,1.1s,baz=231,slow=4.8,SNR=2.7							
comp=Z,0.7nm,1.1s							
DRIO	**Del Rio**	**38.82**	**12**	P	**P**	**06 19 14.4**	**+1.0**
DRIO				IAmb	IAmb	06 19 15.8	
comp=Z,5.9nm,1.1s							
SAND	**Sanderson**	**39.06**	**9**	P	**P**	**06 19 17.2**	**+1.8**
SAND				IAmb	IAmb	06 19 18.4	
comp=Z,6.9nm,1.2s							
VHRN	**Van Horn**	**39.52**	**5**	P	**P**	**06 19 21.0**	**+1.7**
JCT	**Junction City**	**40.01**	**12**	P	**P**	**06 19 25.0**	**+1.6**
OZNA	**Ozona**	**40.18**	**10**	P	**P**	**06 19 26.5**	**+1.7**
LPAZ	**La Paz**	**40.50**	**105**	LR	LR	06 32 35.9	
comp=Z,139nm,19.9s,baz=282,slow=30							
BRDY	**Brady**	**40.96**	**13**	P	**P**	**06 19 32.4**	**+1.2**
BRDY				IAmb	IAmb	06 19 33.7	
comp=Z,11nm,1.2s							
PFO	**Pinyon Flats O**	**42.75**	**351**	LR	LR	06 33 18.6	
comp=Z,79nm,18.6s,baz=194,slow=30							
WTFS	**Witchita Falls**	**43.47**	**13**	P	**P**	**06 19 53.2**	**+1.7**
WTFS				IAmb	IAmb	06 19 54.1	
comp=Z,13nm,1.1s							
Z41A	**Richland Creek**	**44.54**	**19**	P	**P**	**06 20 02.2**	**+2.0**
SAML	**Samuel**	**45.22**	**94**	P	**P**	**06 20 06.2**	**+0.2**

comp=Z,71nm,20.8s,baz=22,slow=38
MKAR Makanchi Array 70.01 322 P **P 06 26 23.3 +0.4**
0.8nm,0.6s,baz=108,slow=7.8,SNR=9.3
0.8nm,0.6s
KURBB Kurchatov Arra 73.94 325 P **P 06 26 45.3 -1.0**
0.5nm,0.8s,baz=108,slow=6.2,SNR=5.7
0.5nm,0.8s
BVAR Borovoye Array 79.52 325 P **P 06 27 17.8 0.0**
1.3nm,0.7s,baz=124,slow=4.4,SNR=5.5
1.3nm,0.7s
ILAR Eielson Array 85.78 24 P **P 06 27 49.8 -0.3**
0.4nm,0.7s,baz=268,slow=4.1,SNR=5.6
0.4nm,0.7s
QSPA South Pole Qui 87.17 180 P **P 06 27 57.7 +0.6**
2.6nm,0.9s,baz=252,slow=2.0,SNR=5.6
2.6nm,0.9s

---

*ISU **12** 06:18:13, 40.°96N×69.°39E, h5km*
*SOME **12** 06:18:15.6, 41.°05N×68.°92E*
*KRNET **12** 06:18:21.1±0.1, 41.°07N×69.°90E, mb2.6*
ISC 12 06:18:16.0±2.4, 41.°02N±0.°05×69.°6E±0.°1, h0km, n10, σ1§31/20, 13C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMG	**Chimgan**	**0.64**	**33**	P	**Pg**	**06 18 28.9**	**+0.7**
CHMG				S	**Sb**	**06 18 40.3**	**+0.7**
TRKS	**Terek-Say**	**1.30**	**66**	⇑*e*P	**Pg**	**06 18 40.6**	**-0.3**
TRKS				⇑*e*S	**Sg**	**06 18 55.2**	**-2.6**
CHMI	**Chimion**	**1.68**	**116**	P	**Pb**	**06 18 47.2**	**-0.5**
CHMI				S	**Sg**	**06 19 11.9**	**+2.1**
FRG	**Fergana**	**1.81**	**110**	P	**Pb**	**06 18 49.9**	**-0.2**
FRG				S	**Sg**	**06 19 16.5**	**+2.2**
ARK	**Arkit**	**1.98**	**66**	⇑*e*P	**Pb**	**06 18 53.0**	**+0.1**
ARK				⇑*e*S	**Sn**	**06 19 15.9**	**-0.4**
KK31	**Karatay Array**	**2.21**	**19**	⇓P	**Pg**	**06 18 57.8**	**-0.5**
KK31	1.1nm,0.5s,baz=198,slow=16,SNR=10			⇑S	**Sg**	**06 19 27.6**	**+0.7**
	8.2nm,0.8s,baz=201,slow=28,SNR=13						
DRK	**Karamyk**	**2.31**	**131**	⇑*e*P	**Pg**	**06 19 00.1**	**-0.1**
DRK				⇑*e*S	**Sb**	**06 19 27.5**	**-0.3**
OHH	**Osh**	**2.50**	**100**	⇑*e*P	**Pb**	**06 19 00.8**	**-1.1**
OHH				⇑*e*S	**Sn**	**06 19 30.1**	**+0.8**
MNAS	**Manas**	**2.65**	**55**	⇑*e*P	**Pb**	**06 19 03.8**	**-0.7**
MNAS				⇑*e*S	**Sn**	**06 19 34.6**	**+1.5**
SFK	**Sufi-Kurgan**	**3.17**	**107**	⇑*e*P	**Pb**	**06 19 11.0**	**-2.4**
SFK				⇑*e*S	**Sn**	**06 19 45.9**	**-0.2**

---

*IDC **12** 06:26:00.9±0.6, 26.°28N×129.°47E, h0km, mb4.3/27, mbtmp4.3/31, ML3.6/4, MS3.9/44, Error ellipse: s-maj=16.1km s-min=13.4km az=72.0*
*BJI **12** 06:26:00.5, 26.°21N×129.°57E, h12km, mB4.9/25, mb4.5/65, Ms4.5/57, Ms7 4.3/53*
*MOS **12** 06:26:00.9±1.0, 26.°29N×129.°49E, h10km, mb5.0/43, Error ellipse: s-maj=8.0km s-min=4.6km az=114.0*
*JMA **12** 06:26:02.8±0.1, 26.°3N±0.°6×129.°6E±0.°4, h46km, MD4.5/26, MV4.2/26, NEAR OKINAWAJIMA ISLAND*
*NIED **12** 06:26:02.8, 26.°29N×129.°58E, h46km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.71; $M_{\theta\theta}$0.24; $M_{\phi\phi}$0.47; $M_{r\theta}$-0.57; $M_{\theta\phi}$0.46; $M_{\phi r}$-0.69; Fault plane solution: M_o1.18000×10^{16} NP1: ϕ_s216.00000°, δ20.00000°, λ-93.00000°. NP2: ϕ_s39.00000°, δ70.00000°, λ-89.00000°.*
*NEIC **12** 06:26:02.5±1.8, 26.°19N±0.°07×129.°53E±0.°03, h10km±1km, mb4.9/72 Error ellipse: s-maj=11.7km s-min=4.6km az=187.0*
ISC 12 06:26:01.8±0.7, 26.°30N±0.°03×129.°55E±0.°03, h6km±3km, n373, σ1§74/369, mb4.8/112, MS4.2/59, 33C-9D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.22**	**307**	*i* P	**Pg**	**06 26 24.3**	**-0.9**
JYRO				*e*S	**Sg**	**06 26 39.7**	**-1.3**
JYRO	**Yoronjima**	**1.22**	**307**	A	A	06 26 24.3	
	comp=N,12nm,4.4s,comp=E,13nm,3.7s						
JOW	**Kunigami**	**1.26**	**295**		**Pn**	**06 26 25.3**	**-0.6**
JOW	**Kunigami**	**1.26**	**295**	Pn	**Pn**	**06 26 25.1**	**-0.8**
	comp=E,1μm,0.3s,baz=117,slow=19,SNR=16						
JOW				Sn	**Sg**	**06 26 40.1**	**-2.1**
	comp=E,1μm,0.3s,baz=113,slow=28,SNR=14						
JOW				LR	LR	06 27 05.3	
	comp=E,8μm,18.4s,baz=125,slow=53						
JOW	**Kunigami**	**1.26**	**295**	P	**Pn**	**06 26 24.9**	**-1.0**
JOW	**Kunigami**	**1.26**	**295**	P	**Pn**	**06 26 25.1**	**-0.8**
JOW				*e*S	**Sg**	**06 26 40.0**	**-2.2**
JOW	**Kunigami**	**1.26**	**295**	A	A	06 26 25.1	
	comp=N,13nm,4.8s,comp=E,12nm,3.1s						
JOKE	**Okinoerabujima**	**1.37**	**321**	P	**Pn**	**06 26 26.6**	**-0.8**
JOKE				*e*S	**Sb**	**06 26 43.0**	**-2.6**
JOKE	**Okinoerabujima**	**1.37**	**321**	A	A	06 26 26.6	
	comp=N,13nm,3.5s,comp=E,12nm,10.4s						
JNTH	**Nagotoyohara**	**1.38**	**280**	P	**Pn**	**06 26 26.6**	**-1.0**
JNTH				*e*S	**Sb**	**06 26 42.6**	**-3.3**
JNTH	**Nagotoyohara**	**1.38**	**280**	A	A	06 26 26.6	
	comp=N,17nm,4.7s,comp=E,11nm,4.5s						
JTK	**Tokunoshima**	**1.58**	**340**	P	**Pn**	**06 26 29.5**	**-0.8**
JTK				*e*S	**Sn**	**06 26 47.8**	**-3.1**
JTK	**Tokunoshima**	**1.58**	**340**	A	A	06 26 29.5	
	comp=N,9.0nm,6.1s,comp=E,9.0nm,7.1s						
JMZ	**Minamidaito 2**	**1.58**	**107**		**Pn**	**06 26 28.8**	**-1.6**
JMZ	**Minamidaito 2**	**1.58**	**107**	P	**Pn**	**06 26 28.4**	**-1.9**
JMZ	**Minamidaito 2**	**1.58**	**107**	S	**Sn**	**06 26 47.4**	**-3.7**
JMZ	**Minamidaito 2**	**1.58**	**107**	P	**Pn**	**06 26 28.4**	**-1.9**
JMZ				*e*S	**Sn**	**06 26 47.0**	**-4.1**
JMZ	**Minamidaito 2**	**1.58**	**107**	A	A	06 26 28.4	
	comp=N,32nm,4.2s,comp=E,29nm,4.7s						
JJT3	**Tamagusuku3**	**1.59**	**265**	P	**Pn**	**06 26 29.8**	**-0.6**
JJT3				*e*S	**Sn**	**06 26 49.3**	**-2.0**
JJT3	**Tamagusuku3**	**1.59**	**265**	A	A	06 26 29.8	
	comp=N,40nm,11.6s,comp=E,47nm,5.0s						
JIH	**Iheya**	**1.59**	**298**	P	**Pn**	**06 26 30.0**	**-0.5**
JIH				*e*S	**Sn**	**06 26 49.0**	**-2.4**
JIH	**Iheya**	**1.59**	**298**	A	A	06 26 30.0	
	comp=N,9.0nm,1.8s,comp=E,13nm,5.0s						
JKDJ	**Kitadaitoujima**	**1.61**	**102**	P	**Pn**	**06 26 29.0**	**-1.7**
JKDJ				*e*S	**Sn**	**06 26 47.9**	**-3.9**
JKDJ	**Kitadaitoujima**	**1.61**	**102**	A	A	06 26 29.0	
	comp=N,21nm,2.9s,comp=E,16nm,7.4s						
JAMN	**Amaminishikomi**	**1.97**	**350**	*e*P	**Pn**	**06 26 34.8**	**-0.8**
JAMN				*e*S	**Sn**	**06 26 57.7**	**-2.9**
JZK	**Kikaishima**	**2.05**	**11**	*e*P	**Pn**	**06 26 36.4**	**-0.3**
JZK				*e*S	**Sn**	**06 27 00.9**	**-1.7**
JAGN	**Aguni-jima**	**2.08**	**279**	P	**Pn**	**06 26 37.0**	**-0.2**
JAGN				*e*S	**Sn**	**06 27 01.6**	**-1.9**
JAM	**Amami Oshima**	**2.11**	**1**	*e*P	**Pn**	**06 26 36.4**	**-1.2**
JAM				*e*S	**Sn**	**06 27 00.0**	**-4.0**
JKE	**Kume jima 2**	**2.48**	**271**	*e*P	**Pn**	**06 26 41.1**	**-1.5**
JKE				*e*S	**Sn**	**06 27 09.2**	**-3.9**
JTAJ	**Takarajima**	**2.86**	**354**	*e*P	**Pn**	**06 26 46.7**	**-1.3**
JTAJ				*e*S	**Sn**	**06 27 18.8**	**-3.9**
JNN	**Nakanoshima**	**3.54**	**5**	*e*P	**Pn**	**06 26 57.1**	**-0.2**
JYAK	**Yakushimahirau**	**4.02**	**12**	*e*P	**Pn**	**06 27 03.2**	**-0.6**
JYAK				*e*S	**Sn**	**06 27 46.3**	**-4.9**
JOGS	**Gusukube**	**4.04**	**249**	*e*P	**Pn**	**06 27 03.3**	**-0.9**
JOGS				*e*S	**Sn**	**06 27 48.5**	**-3.2**
JIKM	**Ikemajima**	**4.11**	**252**	*e*P	**Pn**	**06 27 04.4**	**-0.7**
JMJ2	**Miyako jima3**	**4.11**	**249**	*e*P	**Pn**	**06 27 04.3**	**-0.8**
JMJ	**Miyako jima 2**	**4.11**	**250**	P	**Pn**	**06 27 02.7**	**-2.4**
JIRB	**Irabujima**	**4.21**	**251**	*e*P	**Pn**	**06 27 05.3**	**-1.2**
YOJ	**Yonaguni jima**	**6.19**	**254**	Pn	**Pn**	**06 27 31.0**	**-2.6**
YOJ	**Yonaguni jima**	**6.19**	**254**	P	**Pn**	**06 27 31.7**	**-1.9**
YOJ	**Yonaguni jima**	**6.19**	**254**	P	**Pn**	**06 27 31.0**	**-2.6**
JNU	**Nakatsue**	**6.90**	**9**		**Pn**	**06 27 43.7**	**+0.2**
JNU	**Nakatsue**	**6.90**	**9**	Pn	**Pn**	**06 27 44.3**	**+0.8**
	comp=E,3.3nm,0.3s,baz=250,slow=5.4,SNR=13						
JNU				LR	LR	06 30 58.5	
	comp=E,406nm,19.8s,baz=248,slow=43						
	comp=E,11nm,0.4s						
JNU	**Nakatsue**	**6.90**	**9**	P	**Pn**	**06 27 44.3**	**+0.8**
NACB	**Ninganchiao**	**7.50**	**255**	Pn	**Pn**	**06 27 48.6**	**-3.1**
NACB	**Ninganchiao**	**7.50**	**255**	P	**Pn**	**06 27 48.7**	**-3.0**
YHNB	**Yeheng**	**7.56**	**259**		**Pn**	**06 27 52.3**	**-0.2**
YULB	**Yu-li**	**8.03**	**251**		**Pn**	**06 27 54.6**	**-4.3**
YULB	**Yu-li**	**8.03**	**251**	P	**Pn**	**06 27 54.9**	**-4.1**
SSLB	**Suanglung**	**8.18**	**254**		**Pn**	**06 27 58.1**	**-3.0**
SSLB	**Suanglung**	**8.18**	**254**	P	**Pn**	**06 27 58.0**	**-3.0**
JMN	**Monobe**	**8.30**	**26**	Pn	**Pn**	**06 28 04.4**	**+1.7**
TPUB	**Ta-pu**	**8.63**	**252**		**Pn**	**06 28 04.9**	**-2.4**
TPUB	**Ta-pu**	**8.63**	**252**	P	**Pn**	**06 28 05.1**	**-2.2**
SSE	**Sheshan**	**8.76**	**305**	P	**Pn**	**06 28 09.4**	**+0.5**
SSE				S	**Sn**	**06 29 49.4**	**+1.4**
SSE				pmax	pmax		
	comp=E,18nm,0.8s						
SSE				pmax	pmax		
	comp=E,100nm,4.6s						
SSE				LR	LR		
	comp=E,640nm,10.8s						
SSE				LR	LR		
	comp=E,430nm,10.5s						
JWT	**Wachi**	**10.27**	**28**	P	**Pn**	**06 28 29.6**	**-0.1**
NJ2	**Nanjing**	**10.96**	**304**	*e*P	**Pn**	**06 28 39.8**	**+0.7**
NJ2				pP		06 28 51.6	
NJ2				pmax	pmax		
	comp=E,10.0nm,0.5s						
NJ2				LR	LR		
	comp=E,1μm,12.3s						
NJ2				LR	LR		
	comp=E,2μm,12.8s						
NJ2				LR	LR		
	comp=E,2μm,13.7s						
JHJ	**Hachijo jima 2**	**11.20**	**50**	LR	LR	06 32 40.8	
	comp=E,249nm,19.5s,baz=280,slow=36						
KSRS	**Korea Array**	**11.21**	**353**	Pn	**Pn**	**06 28 42.8**	**+0.3**
	comp=E,0.2nm,0.3s,baz=163,slow=13,SNR=9.4						
KSRS				LR	LR	06 33 17.1	
	comp=E,495nm,18.1s,baz=175,slow=39						
	comp=E,1.0nm,0.6s						
MAJO	**Matsushiro**	**12.60**	**34**	*i* P	**Pn**	**06 29 02.6**	**+1.0**
MJAR	**Matsushiro Arr**	**12.60**	**34**	Pn	**Pn**	**06 29 03.8**	**+2.2**
	baz=214,slow=10.0,SNR=1.6						
	comp=E,0.6nm,0.3s						
DL2	**Dalian**	**14.22**	**334**	P	**P**	**06 29 32.1**	**+0.9**
DL2				S	**S**	**06 32 21.5**	**-1.2**
DL2				pmax	pmax		
	comp=Z,38nm,0.9s						
DL2				pmax	pmax		
	comp=Z,230nm,5.2s						
DL2				LR	LR		
	comp=N,630nm,14.7s						
DL2				LR	LR		
	comp=E,620nm,11.4s						
DL2				LR	LR		
	comp=Z,1μm,17.4s						
CNSH	**ChangSha**	**14.90**	**281**	P	**P**	**06 29 39.5**	**+0.7**
CNSH				S	**Sn**	**06 32 26.4**	**+8.0**
CNSH				pmax	pmax		
	comp=Z,30nm,1.3s						
CNSH				LR	LR		
	comp=N,730nm,12.2s						
CNSH				LR	LR		
	comp=E,1μm,12.9s						
CNSH				LR	LR		
	comp=Z,2μm,15.1s						
HNS	**HongShan**	**16.75**	**315**	⇓P	**P**	**06 29 58.9**	**-0.4**
HNS				PP	**pwP**	**06 30 11.0**	**+2.9**
HNS				SS	**S**	**06 33 22.8**	**+8.3**
HNS				pmax	pmax		
	comp=Z,33nm,1.2s						
HNS				LR	LR		
	comp=Z,860nm,13.0s						
HNS				LR	LR		
	comp=Z,820nm,13.8s						
HNS				LR	LR		
	comp=Z,950nm,14.0s						
LYN	**LuoYang**	**16.86**	**303**	⇑P	**P**	**06 30 01.4**	**+0.9**
LYN				SS	S	06 33 27.4	+11
LYN				pmax	pmax		
	comp=Z,110nm,1.0s						
LYN				pmax	pmax		
	comp=Z,440nm,4.7s						
LYN				LR	LR		
	comp=Z,2μm,14.4s						
LYN				LR	LR		
	comp=Z,1μm,17.2s						
LYN				LR	LR		
	comp=Z,3μm,15.1s						
BJT	**Baijiatuau**	**17.65**	**324**		**P**	**06 30 09.3**	**+0.1**
BJT	**Baijiatuau**	**17.65**	**324**	P	**P**	**06 30 09.4**	**+0.1**
BJT				pmax	pmax		
	comp=Z,29nm,0.8s						
BJI	**Beijing**	**17.67**	**324**	P	**P**	**06 30 10.3**	**+0.9**
BJI				pmax	pmax		
	comp=Z,12nm,0.9s						
BJI				pmax	pmax		
	comp=Z,190nm,3.8s						
BJI				LR	LR		
	comp=Z,310nm,13.9s						
BJI				LR	LR		
	comp=Z,190nm,14.9s						
BJI				LR	LR		
	comp=Z,380nm,16.3s						
CN2	**Changchun**	**17.78**	**350**	*e*P	**P**	**06 30 11.1**	**+0.5**
CN2				*e*S	**Sn**	**06 33 28.8**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2				pmax	pmax		
	comp=Z,320nm,4.0s						
CN2				LR	LR		
	comp=Z,780nm,12.0s						
CN2				LR	LR		
	comp=Z,1μm,12.0s						
USA0B	**Ussuriysk Arra**	**17.97**	**6**		**P**	**06 30 13.7**	**+0.9**
USA0B	**Ussuriysk Arra**	**17.97**	**6**	P	**P**	**06 30 13.7**	**+0.9**
USA0B				pmax	pmax		
	comp=Z,20nm,1.4s						
USRK	**Ussuriysk Ar.**	**17.97**	**6**		**P**	**06 30 12.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**17.97**	**6**	P	**P**	**06 30 12.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=178,slow=9.5,SNR=9.7						
USRK				LR	LR	06 36 52.0	
	comp=Z,152nm,20.6s,baz=185,slow=36						
	comp=Z,4.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**17.97**	**6**	P	**P**	**06 30 12.8**	**+0.1**
ENH	**Enshi**	**18.10**	**287**	P	**Pn**	**06 30 13.4**	**-0.5**
TIY	**Taiyuan**	**18.41**	**312**	P	**P**	**06 30 20.0**	**+2.3**
TIY				S	**Sn**	**06 33 39.6**	**-4.1**
TIY				pmax	pmax		
	comp=Z,40nm,0.6s						
TIY				pmax	pmax		
	comp=Z,330nm,3.6s						
GUMO	**Guam**	**19.14**	**128**	LR	LR	06 36 13.3	
	comp=Z,189nm,20.9s,baz=338,slow=32						
XAN	**Xi'an**	**19.41**	**298**	P	**P**	**06 30 28.0**	**-0.7**
XAN				sP	pwP	06 30 34.9	-2.6
XAN				S	**S**	**06 34 07.5**	**-1.0**
XAN				pmax	pmax		
	comp=Z,88nm,1.3s						
XAN				pmax	pmax		
	comp=Z,310nm,3.7s						
XAN				LR	LR		
	comp=Z,1μm,14.4s						
XAN				LR	LR		
	comp=Z,1μm,17.5s						
XAN				LR	LR		
	comp=Z,2μm,17.0s						
BNX	**BinXian**	**19.48**	**356**	⇓P	**Pn**	**06 30 31.7**	**+1.2**
BNX				pmax	pmax		
	comp=Z,16nm,1.1s						
DAV	**Davao City (W)**	**19.49**	**192**	LR	LR	06 37 19.2	
	comp=Z,149nm,21.5s,baz=342,slow=35						
TEY	**Ternei**	**19.54**	**15**	*e*P	**Pn**	**06 30 31.8**	**+0.6**
QIZ	**Qiongzhong**	**19.55**	**252**	P	**P**	**06 30 29.3**	**-1.0**
QIZ				S	**Sn**	**06 34 10.7**	**-0.7**
QIZ				LR	LR		
	comp=Z,190nm,10.2s						
QIZ				LR	LR		
	comp=Z,320nm,11.6s						
QIZ				LR	LR		
	comp=Z,440nm,16.6s						
GYA	**Guiyang**	**20.50**	**276**	P	Pn	06 30 42.0	-0.9
GYA				LR	LR		
	comp=Z,1μm,15.2s						
XLT	**XiLinHaoTe**	**20.68**	**332**	*e*P	Pn	06 30 43.1	-1.7
XLT				pP	pwP	06 30 46.4	-5.0
XLT				pmax	pmax		
	comp=Z,18nm,0.7s						
XLT				LR	LR		
	comp=Z,510nm,14.9s						
XLT				LR	LR		
	comp=Z,620nm,16.6s						
ASAJ	**Asahikawa**	**20.69**	**27**	P	Pn	06 30 44.0	-0.8
	comp=Z,9.3nm,0.3s,baz=348,slow=26,SNR=8.6						
	comp=Z,9.3nm,0.3s						
ASAJ	**Asahikawa**	**20.69**	**27**	P	Pn	06 30 44.0	-0.7
JKA	**Kamikawa-asahi**	**20.69**	**27**	P	**P**	**06 30 42.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**20.80**	**319**	*e*P	Pn	06 30 47.4	+1.1
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,18nm,4.2s						
BTO	**Baotou**	**21.59**	**316**	*e*P	**P**	**06 30 55.0**	**+2.7**
BTO				pP	**pwP**	**06 30 58.7**	**-2.5**
BTO				sP	sP	06 31 02.1	+10
BTO				PP	**PnPn**	**06 31 20.8**	**+8.0**
BTO				pmax	pmax		
	comp=Z,43nm,0.8s						
BTO				pmax	pmax		
	comp=Z,260nm,3.6s						
BTO				LR	LR		
	comp=Z,1μm,16.3s						
BTO				LR	LR		
	comp=Z,1μm,14.1s						
BTO				LR	LR		
	comp=Z,2μm,13.6s						
KLR	**Kul'dur**	**22.96**	**4**	LR	LR	06 40 42.7	
	comp=Z,155nm,18.9s,baz=200,slow=38						
KLR	**Kul'dur**	**22.96**	**4**	*ce*P	**P**	**06 31 04.7**	**-2.0**
KLR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CD2	**Chengdu**	**23.08**	**287**	P	**P**	**06 31 07.7**	**-0.6**
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CD2				LR	LR		
	comp=Z,720nm,11.4s						
CD2				LR	LR		
	comp=Z,990nm,15.9s						
YSS	**Yuzhno-Sakhali**	**23.12**	**23**	P	**P**	**06 31 08.4**	**0.0**
YSS				IAmb	IAmb	06 31 31.5	
	comp=Z,89nm,1.6s						
YSS	**Yuzhno-Sakhali**	**23.12**	**23**	*e*P	**P**	**06 31 09.6**	**+1.2**
YSS				*e*S	**S**	**06 35 18.4**	**-1.7**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				pmax	pmax		
	comp=Z,100nm,3.6s						
YSS				MLR	MLR		
	comp=N,200nm,15.0s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
SLVN	**Son La**	**23.95**	**264**		**P**	**06 31 17.5**	**+0.5**
SLVN				IAmb	IAmb	06 31 21.3	
	comp=Z,28nm,1.2s						
HEH	**HeiHe**	**23.98**	**357**	*e*P	**P**	**06 31 17.2**	**+0.4**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
HEH				LR	LR		
	comp=Z,450nm,11.1s						
HEH				LR	LR		
	comp=Z,430nm,10.0s						
HEH				LR	LR		
	comp=Z,590nm,10.7s						
LZH	**Lanzhou**	**23.99**	**300**	*e*P	**P**	**06 31 20.7**	**+3.3**
LZH				S	**S**	**06 35 39.8**	**+5.0**
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,260nm,6.2s						
LZH				LR	LR		
	comp=Z,580nm,14.4s						
LZH				LR	LR		
	comp=Z,810nm,15.1s						
LZH				LR	LR		
	comp=Z,900nm,16.1s						
KMI	**Kunming**	**24.17**	**273**	P	**P**	**06 31 19.9**	**+0.7**
KMI				pmax	pmax		
	comp=Z,23nm,1.0s						
KMI				pmax	pmax		
	comp=Z,250nm,4.6s						
KMI				LR	LR		
	comp=Z,390nm,15.6s						
KMI				LR	LR		
	comp=Z,600nm,11.0s						
KMI				LR	LR		
	comp=Z,830nm,11.0s						
DLV	**Lat**	**24.43**	**238**	P	**P**	**06 31 21.2**	**-0.4**
PZH	**PanZhiHua**	**24.89**	**277**	P	**P**	**06 31 26.1**	**+0.5**
PZH				S	**S**	**06 35 47.2**	**-2.1**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,160nm,3.7s						
PZH				LR	LR		
	comp=Z,740nm,16.0s						
PZH				LR	LR		
	comp=Z,820nm,14.1s						
PZH				LR	LR		
	comp=Z,940nm,14.7s						
GRNR	**Gornyy**	**25.00**	**10**	⇓*i*P	**P**	**06 31 26.4**	**+0.2**
GRNR				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GRNR				MLR	MLR		
	comp=Z,310nm,15.0s						
TOLI2	**Tolitoli**	**26.42**	**200**	P	**P**	**06 31 39.0**	**-0.4**
TYV	**Tymovskoe**	**26.50**	**19**	*e*P	P	06 31 47.4	+7.6
TYV				pmax	pmax		
	comp=Z,14nm,1.4s						
TYV				pmax	pmax		
	comp=Z,100nm,2.7s						
ZEA	**Zeya**	**27.46**	**357**	*e*P	**P**	**06 31 49.2**	**+0.8**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZEA				MLR	MLR		
	comp=Z,200nm,11.0s						
ULN	**Ulaanbaatar**	**27.84**	**327**		**P**	**06 31 52.3**	**+0.2**
ULN	**Ulaanbaatar**	**27.84**	**327**	*ce*P	**P**	**06 31 53.1**	**+1.0**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA	**Gaotai**	**28.05**	**305**	*e*P	**P**	**06 31 53.1**	**-0.9**
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
GTA				LR	LR		
	comp=Z,390nm,13.5s						
GTA				LR	LR		
	comp=Z,550nm,16.3s						
GTA				LR	LR		
	comp=Z,810nm,16.7s						
SONM	**Songino Array**	**28.15**	**326**	P	**P**	**06 31 54.0**	**-0.8**
SONM	**Songino Array**	**28.15**	**326**	P	**P**	**06 31 55.1**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=137,slow=8.9,SNR=11						
SONM				LR	LR	06 44 17.9	
	comp=Z,212nm,18.9s,baz=94,slow=39						
	comp=Z,2.7nm,0.8s						
SRPI	**Serui, Papua**	**28.74**	**166**	P	**P**	**06 32 03.1**	**+3.0**
SBUM	**Sibu**	**28.97**	**218**	P	**P**	**06 32 00.2**	**-1.9**
CHTO	**Chiang Mai**	**29.17**	**262**		**P**	**06 32 04.1**	**0.0**
CHTO	**Chiang Mai**	**29.17**	**262**	P	**P**	**06 32 04.1**	**0.0**
CHTO				pmax	pmax		
	comp=Z,14nm,1.1s						
CM31	**Chiang Mai Arr**	**29.30**	**261**	P	**P**	**06 32 04.9**	**-0.2**
CM31				IAmb	IAmb	06 32 07.9	
	comp=Z,23nm,1.6s						
CMAR	**Chiang Mai Arr**	**29.30**	**261**	P	**P**	**06 32 05.7**	**+0.5**
	comp=Z,4.1nm,1.1s,baz=67,slow=7.9,SNR=15						
CMAR				LR	LR	06 44 44.5	
	comp=Z,138nm,18.5s,baz=65,slow=38						
	comp=Z,4.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**29.30**	**261**	P	**P**	**06 32 05.8**	**+0.6**
JAY	**Jayapura**	**30.61**	**158**	LR	LR	06 45 43.8	
	comp=Z,97nm,18.0s,baz=342,slow=39						
KSM	**Kuching**	**30.85**	**220**	P	**P**	**06 32 17.4**	**-1.4**
KSM				IAmb	IAmb	06 32 47.0	
	comp=Z,17nm,1.2s						
GOMU	**GeErMu**	**31.15**	**297**	P	**P**	**06 32 22.2**	**+0.4**
GOMU				pP	pwP	06 32 26.5	-4.1
GOMU				sP	sP	06 32 30.1	+8.4
GOMU				S	**S**	**06 37 34.8**	**+6.5**
GOMU				pmax	pmax		
	comp=Z,11nm,0.9s						
GOMU				LR	LR		
	comp=Z,490nm,14.3s						
GOMU			

SHL Shillong 33.80 277 P **P 06 32 43.7 -1.2**
SHL Shillong 33.80 277 P **P 06 32 43.7 -1.2**
SHL pmax pmax
comp=Z,30nm,1.1s
PETK Petropavlovsk- 34.03 31 P **P 06 32 47.1 +0.7**
PETK Petropavlovsk- 34.03 31 P **P 06 32 47.4 +1.0**
comp=Z,0.8nm,0.4s,baz=134,slow=4.3,SNR=6.6
comp=Z,0.8nm,0.4s
BRDH Bariadhala 34.60 272 LR LR 06 47 57.9
comp=Z,165nm,19.0s,baz=130,slow=38
YAK Yakutsk 35.73 0 LR LR 06 47 03.2
comp=Z,120nm,20.4s,baz=191,slow=35
YAK Yakutsk 35.73 0 *e*P **P 06 33 00.5 -0.4**
YAK *e* 06 35 35.7
YAK *e*S **S 06 38 29.3 -8.6**
YAK *e* 06 43 18.2
YAK pmax pmax
comp=Z,21nm,1.5s
YAK pmax pmax
comp=N,15nm,1.6s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax smax
comp=E,128nm,6.4s
YAK smax smax
comp=N,106nm,7.8s
YAK MLR MLR
comp=Z,187nm,17.0s
YAK MLR MLR
comp=N,100nm,19.0s
YAK MLR MLR
comp=E,46nm,22.0s
MA2 Magadan 36.37 18 LR LR 06 50 09.7
comp=E,71nm,18.5s,baz=250,slow=40
MA2 Magadan 36.37 18*ce*P **P 06 33 07.6 +1.1**
MA2 pmax pmax
comp=Z,19nm,1.6s
WMQ Urumqi 38.00 308 *e*P **P 06 33 22.0 +1.4**
WMQ LR LR
comp=Z,530nm,21.9s
WMQ LR LR
comp=Z,580nm,24.3s
WMQ LR LR
comp=Z,250nm,23.9s
MTN Manton Dam 38.94 178 P **P 06 33 27.6 -1.0**
MTN IAmb IAmb 06 33 39.9
comp=Z,20nm,0.8s
PMG Port Moresby 39.40 152 LR LR 06 47 11.0
comp=Z,101nm,21.8s,baz=290,slow=32
SEY Seymchan 39.62 16*ce*P **P 06 33 35.1 +1.3**
SEY pmax pmax
comp=Z,13nm,1.0s
KNRA Kununurra 41.73 181 P **P 06 33 51.0 -0.7**
KNRA IAmb IAmb 06 34 04.0
comp=Z,22nm,0.9s
MK31 Makanchi Array 42.37 312 P **P 06 33 55.2 -1.6**
MK31 Makanchi Array 42.37 312*ce*P **P 06 33 55.8 -1.0**
MKAR Makanchi Array 42.37 312 P **P 06 33 55.0 -1.8**
MKAR Makanchi Array 42.37 312 P **P 06 33 56.4 -0.4**
comp=Z,1.7nm,0.6s,baz=88,slow=8.8,SNR=14
MKAR LR LR 06 54 21.9
comp=Z,132nm,18.6s,baz=80,slow=40
comp=Z,1.7nm,0.6s
MKAR Makanchi Array 42.37 312 *i* P **P 06 33 56.5 -0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MAKZ Makanchi 42.59 311 P **P 06 33 58.0 -0.5**
MAKZ Makanchi 42.59 311 P **P 06 33 58.0 -0.5**
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
ZAA0 Zalesovo Array 42.91 322 P **P 06 33 60.0 -1.1**
ZALV Zalesovo Beam 42.91 322 P **P 06 33 59.8 -1.2**
ZALV Zalesovo Beam 42.91 322 P **P 06 34 00.5 -0.5**
comp=Z,1.3nm,0.4s,baz=106,slow=9.5,SNR=5.6
ZALV LR LR 06 53 49.7
comp=Z,261nm,20.2s,baz=108,slow=39
comp=Z,1.3nm,0.4s
ZALV Zalesovo Beam 42.91 322 *i* P **P 06 33 59.7 -1.3**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
SHLS Shalkode 43.79 306 *e*P **P 06 34 05.5 -3.0**
SHLS Shalkode 43.79 306 *e*P **P 06 34 05.5 -3.0**
UZB Uzynbulak 44.11 306 *e*P **P 06 34 10.7 -0.4**
UZB Uzynbulak 44.11 306 *e*P **P 06 34 10.7 -0.4**
KPKS Kokpek 44.39 306 *e*P **P 06 34 12.7 -0.5**
KPKS Kokpek 44.39 306 *e*P **P 06 34 12.8 -0.5**
ZHN Zhinishke 44.54 306 *e*P **P 06 34 14.0 -0.5**
ZHN pmax pmax
comp=Z,8.0nm,0.9s
ZHN Zhinishke 44.54 306 *e*P **P 06 34 14.0 -0.5**
comp=Z,8.4nm,0.9s
SATY Saty 44.55 306 *e*P **P 06 34 14.1 -0.5**
SATY pmax pmax
comp=Z,13nm,1.4s
SATY Saty 44.55 306 *e*P **P 06 34 14.2 -0.5**
comp=Z,12nm,1.4s
TARG Taragay, Kyrgy 44.91 304 P **P 06 34 17.3 -0.5**
TARG IAmb IAmb 06 34 35.3
comp=Z,12nm,1.0s
TARG Taragay, Kyrgy 44.91 304 P **P 06 34 17.3 -0.5**
TARG pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 45.39 360 P **P 06 34 20.7 0.0**
TIXI IAmb IAmb 06 34 37.5
comp=Z,32nm,1.7s
TIXI Tiksi 45.39 360 LR LR 06 53 34.5
comp=Z,180nm,18.9s,baz=196,slow=36
TIXI Tiksi 45.39 360*ce*P **P 06 34 20.6 0.0**
TIXI pmax pmax
comp=Z,6.0nm,1.4s
KDJ Kajisay 45.39 304 P **P 06 34 20.3 -1.0**
KDJ IAmb IAmb 06 34 38.6
comp=Z,13nm,1.0s
KDJ Kajisay 45.39 304 P **P 06 34 20.3 -1.0**
KDJ pmax pmax
comp=Z,13nm,1.0s
MDOK Medeo 45.55 306 *e*P **P 06 34 22.1 -0.5**
MDOK Medeo 45.55 306 *e*P **P 06 34 22.1 -0.5**
KURK Kurchatov 45.59 316 P **P 06 34 21.3 -1.2**
KURK Kurchatov 45.59 316*ce*P **P 06 34 21.7 -0.8**
KURK pmax pmax
comp=Z,10.0nm,1.3s
TNSS Tian-Shan 45.62 305 *e*P **P 06 34 22.7 -0.7**
TNSS Tian-Shan 45.62 305 *e*P **P 06 34 22.7 -0.7**
KURBB Kurchatov Arra 45.62 316 P **P 06 34 22.0 -0.7**
comp=Z,4.7nm,0.8s,baz=102,slow=8.6,SNR=16
KURBB LR LR 06 55 19.3
comp=Z,365nm,18.3s,baz=168,slow=39
comp=Z,4.7nm,0.8s
CHKK Chushkaly 45.65 307 *e*P **P 06 34 22.8 -0.3**
CHKK Chushkaly 45.65 307 *e*P **P 06 34 22.9 -0.3**
AAA Alma-Ata 45.66 306 *e*P **P 06 34 23.0 -0.3**
AAA pmax pmax
comp=Z,13nm,0.9s
AAA Alma-Ata 45.66 306 *e*P **P 06 34 23.0 -0.3**
comp=Z,13nm,0.9s
HNR Honiara 46.20 136 LR LR 06 53 15.9
comp=Z,76nm,18.9s,baz=348,slow=35
WRA Warramunga Arr 46.20 174 P **P 06 34 27.0 -0.6**
WRA Warramunga Arr 46.20 174 P **P 06 34 27.3 -0.3**
comp=Z,1.9nm,0.4s,baz=354,slow=8.6,SNR=26
comp=Z,1.9nm,0.4s
WB2 Warramunga Arr 46.20 174 P **P 06 34 27.0 -0.6**
WB2 IAmb IAmb 06 34 40.0
comp=Z,20nm,0.9s
KSH Kashi 46.24 300 P **P 06 34 31.9 +3.9**
KSH pmax pmax
comp=Z,5.0nm,1.7s
KSH LR LR
comp=Z,440nm,23.5s
KSH LR LR
comp=Z,320nm,20.6s
KSH LR LR
comp=Z,330nm,16.7s
BILL Bilibino 47.24 18 P **P 06 34 36.1 +0.8**
BILL IAmb IAmb 06 34 53.1
comp=Z,13nm,1.1s
BILL Bilibino 47.24 18*ce*P **P 06 34 36.8 +1.5**
BILL pmax pmax
comp=Z,14nm,1.3s
KIWB Kanaga Island 47.29 43 P **P 06 34 36.5 +0.7**
SGDS Sogindy 47.33 306 *e*P **P 06 34 36.1 -0.3**
SGDS pmax pmax
comp=Z,7.0nm,1.2s
SGDS Sogindy 47.33 306 *e*P **P 06 34 36.1 -0.3**
comp=Z,6.6nm,1.2s

AAK Ala-Archa 47.40 305 P **P 06 34 36.0 -1.1**
comp=Z,0.9nm,0.4s,baz=130,slow=7.9,SNR=4.7
AAK LR LR 06 58 00.2
comp=Z,253nm,18.5s,baz=74,slow=40
comp=Z,0.9nm,0.4s
AAK Ala-Archa 47.40 305*ce*P **P 06 34 39.9 +2.8**
AAK pmax pmax
comp=Z,8.0nm,2.5s
ARSB Arslanbob 48.52 303 P **P 06 34 46.5 +0.8**
ARSB IAmb IAmb 06 34 48.7
comp=Z,17nm,1.4s
ARSB Arslanbob 48.52 303 P **P 06 34 46.5 +0.8**
ARSB pmax pmax
comp=Z,17nm,1.4s
BRZS Berezniki 49.21 314 *e*P **P 06 34 50.4 -0.3**
BRZS Berezniki 49.21 314 *e*P **P 06 34 50.5 -0.3**
DRK Karamyk 49.47 301 P **P 06 34 54.0 +0.7**
DRK Karamyk 49.47 301 P **P 06 34 54.0 +0.7**
NRIK Noril'sk 49.55 342 P **P 06 34 53.1 +0.1**
NRIK IAmb IAmb 06 34 54.3
comp=Z,31nm,1.9s
NRIK Noril'sk 49.55 342 P **P 06 34 52.8 -0.3**
comp=Z,2.2nm,0.7s,baz=118,slow=7.3,SNR=6.4
NRIK LR LR 06 57 54.4
comp=Z,237nm,18.4s,baz=130,slow=39
comp=Z,2.2nm,0.7s
NRIK Noril'sk 49.55 342*ce*P **P 06 34 53.7 +0.7**
NRIK pmax pmax
comp=Z,14nm,1.7s
DZA Taraz 49.73 305 *e*P **P 06 34 54.7 -0.2**
DZA Taraz 49.73 305 *e*P **P 06 34 54.8 -0.2**
ASAR Alice Springs 49.85 175 **P 06 34 55.3 -0.5**
ASAR Alice Springs 49.85 175 P **P 06 34 55.9 +0.1**
comp=Z,2.1nm,0.9s,baz=4.9,slow=13,SNR=16
ASAR LR LR 06 57 47.2
comp=Z,51nm,18.5s,baz=347,slow=38
comp=Z,2.1nm,0.9s
KK31 Karatay Array 50.34 305 P **P 06 34 59.3 -0.1**
KK31 IAmb IAmb 06 35 12.7
comp=Z,24nm,1.6s
KK31 Karatay Array 50.34 305 P **P 06 34 59.3 -0.1**
KK31 pmax pmax
comp=Z,24nm,1.7s
KKAR Karatay Array 50.34 305 P **P 06 34 59.5 0.0**
KKAR Karatay Array 50.34 305 P **P 06 34 59.0 -0.4**
KKAR IAmb IAmb 06 35 12.7
comp=Z,25nm,1.6s
KKAR Karatay Array 50.34 305 P **P 06 34 59.5 0.0**
GAR Garm 50.65 300 P **P 06 35 01.5 -0.5**
IUG Iuzhnay 50.71 304 *e*P **P 06 35 02.0 -0.4**
IUG Iuzhnay 50.71 304 *e*P **P 06 35 02.1 -0.4**
BRLS Borolday 50.83 305 *e*P **P 06 35 03.9 +0.7**
BRLS Borolday 50.83 305 *e*P **P 06 35 03.9 +0.7**
BVAR Borovoye Array 51.01 318 P **P 06 35 04.9 +0.5**
comp=Z,5.7nm,0.7s,baz=81,slow=9.2,SNR=13
BVAR LR LR 06 58 44.2
comp=Z,692nm,18.2s,baz=86,slow=38
comp=Z,5.7nm,0.7s
BRVK Borovoye 51.08 318 P **P 06 35 04.4 -0.5**
BRVK IAmb IAmb 06 35 08.7
comp=Z,8.8nm,0.8s
BRVK Borovoye 51.08 318*ce*P **P 06 35 07.4 +2.5**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
SIMJ Simiganj 51.70 300 P **P 06 35 09.6 -0.3**
SIMJ IAmb IAmb 06 35 12.4
comp=Z,17nm,1.2s
DZET Dzherino 51.83 300 P **P 06 35 11.6 +0.8**
DZET pmax pmax
comp=Z,14nm,1.2s
KBL Kabul 52.15 295 P **P 06 35 13.9 +0.5**
KBL Kabul 52.15 295 P **P 06 35 13.9 +0.5**
KBL pmax pmax
comp=Z,34nm,1.4s
ABKAR Akbulak array 57.46 313 P **P 06 35 51.2 -0.2**
HRA Herat 57.71 296 P **P 06 35 53.9 +0.2**
HRA IAmb IAmb 06 35 56.2
comp=Z,14nm,1.1s
ARTI Arti 58.17 322 P **P 06 35 55.8 -0.5**
ARTI Arti 58.17 322 P **P 06 35 55.9 -0.4**
comp=Z,7.0nm,0.7s,baz=86,slow=2.3,SNR=14
ARTI LR LR 07 03 29.0
comp=Z,246nm,19.1s,baz=78,slow=39
comp=Z,7.0nm,0.7s
ARTI Arti 58.17 322*d i*P **P 06 35 55.9 -0.4**
ARTI 06 36 47.9
ARTI 06 38 04.1
ARTI S **S 06 43 58.9 +0.9**
ARTI SS **SS 06 47 48.4 -0.7**
ARTI pmax pmax
comp=Z,12nm,0.8s
ARTI MLR MLR
comp=Z,502nm,15.0s
AKTO Aktyubinsk 58.62 315 P **P 06 35 59.4 -0.2**
comp=Z,2.6nm,0.6s,baz=69,slow=4.7,SNR=6.3
AKTO LR LR 07 01 35.4
comp=Z,79nm,19.5s,baz=37,slow=36
comp=Z,2.6nm,0.6s
STKA Stephens Creek 58.98 168 P **P 06 36 02.2 +0.1**
comp=Z,1.2nm,0.5s,baz=352,slow=10,SNR=3.6
comp=Z,1.2nm,0.5s
D19K Kuna River 59.34 24 **P 06 36 06.3 +2.0**
D19K IAmb IAmb 06 36 18.7
comp=Z,18nm,1.3s
D20K Etivluk River 59.91 24 **P 06 36 09.2 +1.1**
D20K IAmb IAmb 06 36 21.3
comp=Z,12nm,1.1s
DZM Mont Dzumac 59.91 140 *e*S **S 06 44 21.9 +0.4**
comp=Z,61nm,27.2s
DZM *e*SS **SS 06 48 16.6 -1.7**
comp=Z,217nm,26.8s
DZM *e*LR LR 06 53 48.2
comp=Z,162nm,23.8s
J19K Poorman 60.06 29 P **P 06 36 10.2 +1.0**
B21K Ikpikpuk River 60.69 23 **P 06 36 14.6 +1.1**
J20K Nowinta River 60.71 29 P **P 06 36 14.8 +1.1**
H21K Melozitna River 61.28 27 P **P 06 36 18.9 +1.4**
H21K IAmb IAmb 06 36 45.4
comp=Z,21nm,1.5s
E22K Anaktuvuk Pass 61.66 25 P **P 06 36 21.4 +1.2**
E22K IAmb IAmb 06 36 34.2
comp=Z,10nm,1.1s
TOLK Toolik Lake Re 62.48 24 P **P 06 36 26.7 +1.1**
TOLK IAmb IAmb 06 37 03.3
comp=Z,21nm,1.6s
KIRV Kirov 62.87 325 P **P 06 36 28.4 +0.1**
comp=Z,17nm,0.8s,baz=93,slow=6.4,SNR=9.7
KIRV LR LR 07 06 51.9
comp=Z,216nm,18.9s,baz=82,slow=39
comp=Z,17nm,0.8s
KIRV Kirov 62.87 325*ce*P **P 06 36 29.6 +1.3**
RND Reindeer 63.10 30 P **P 06 36 30.0 +0.1**
RND Reindeer 63.10 30 P **P 06 36 30.0 +0.1**
RND pmax pmax
comp=Z,53nm,1.8s
H24K Noodor Dome 63.30 27 P **P 06 36 32.6 +1.4**
H24K IAmb IAmb 06 36 50.7
comp=Z,14nm,1.4s
ILAR Eielson Array 63.82 28 P **P 06 36 34.6 +0.1**
comp=Z,0.5nm,0.8s,baz=270,slow=8.1,SNR=6.0
comp=Z,0.5nm,0.8s
SCM Sheep Creek Mo 63.97 32 P **P 06 36 35.9 +0.2**
SCM Sheep Creek Mo 63.97 32 P **P 06 36 35.9 +0.2**
SCM pmax pmax
comp=Z,106nm,1.6s
MSVF Nonsavu 64.31 128 LR LR 07 02 32.3
comp=Z,84nm,18.3s,baz=301,slow=34
BMAR Burnt Mountain 64.44 25 P **P 06 36 38.9 +0.2**
RIDG Independent Ri 64.84 29 P **P 06 36 41.0 -0.2**
SCRK Sand Creek 65.18 29 P **P 06 36 42.8 -0.8**
SCRK IAmb IAmb 06 37 19.2
comp=Z,16nm,1.7s
J26L Joseph Creek 65.27 28 P **P 06 36 44.3 +0.1**
J26L IAmb IAmb 06 39 04.6
comp=Z,26nm,1.9s
H27K Steamboat Moun 65.82 26 P **P 06 36 48.4 +0.7**
H27K IAmb IAmb 06 36 53.2
comp=Z,18nm,1.6s
I28M Miner Creek 66.61 27 P **P 06 36 53.6 +0.8**
I30M Mount Dempster 68.12 27 P **P 06 37 02.9 +0.5**
I30M IAmb IAmb 06 37 22.9
comp=Z,12nm,1.4s
APA Apatity 68.28 336⇓*i*P **P 06 37 02.2 -1.0**
APA pmax pmax
comp=Z,17nm,1.1s
APA MLR MLR

comp=Z,400nm,14.0s
VRH Novokhopyorsk 68.66 318 *e*P **P 06 37 06.0 +0.2**
VRH pmax pmax
comp=Z,29nm,1.5s
GOF Gofitskoye 69.53 311*ce*P **P 06 37 12.1 +0.7**
MOS Moscow 69.73 323 *e*P P 06 37 20.0 +7.6
A36M Sachs Harbour 69.79 19 **P 06 37 13.8 +1.4**
A36M IAmb IAmb 06 37 38.0
comp=Z,11nm,0.9s
LPSR Galich'ya Gora 69.92 320 *e*P **P 06 37 14.0 +0.4**
LPSR pmax pmax
comp=Z,49nm,2.0s
KBZ Khabaz 70.03 310 P **P 06 37 15.3 +0.9**
comp=Z,12nm,1.0s,baz=85,slow=7.0,SNR=22
KBZ LR LR 07 12 27.3
comp=Z,138nm,18.1s,baz=47,slow=40
comp=Z,12nm,1.0s
KBZ Khabaz 70.03 310*ce*P **P 06 37 15.1 +0.7**
KBZ pmax pmax
comp=Z,20nm,1.1s
VORR Voronezh 70.03 319 *e*P **P 06 37 15.0 +0.7**
VORR pmax pmax
comp=Z,14nm,0.6s
KIV Kislovodsk 70.11 310 **P 06 37 14.9 -0.1**
KIV Kislovodsk 70.11 310 *e*P **P 06 37 14.7 -0.3**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,94nm,18.0s
KIV Kislovodsk 70.11 310 P **P 06 37 15.3 +0.3**
comp=Z,385nmcomp=Z,35nm,1.5s
SHA1 Shidzhatmaz 70.19 310 *i* P **P 06 37 16.6 +0.9**
ARCES ARCESS Array B 70.37 339 LR LR 07 14 02.1
comp=Z,84nm,18.1s,baz=41,slow=41
OBN Obninsk 70.50 323 LR LR 07 10 50.9
comp=Z,279nm,18.1s,baz=16,slow=38
OBN Obninsk 70.50 323 *e*P **P 06 37 18.0 +1.0**
OBN pmax pmax
comp=Z,7.0nm,0.8s
C36M Paulatuk 71.21 21 **P 06 37 21.4 +0.2**
C36M IAmb IAmb 06 37 33.7
comp=Z,8.7nm,0.8s
GEVA Gevas 71.62 304 **P 06 37 24.2 -0.3**
GEVA IAmb IAmb 06 37 37.4
comp=Z,20nm,1.3s
SOC Sochi 72.26 310 *e*P **P 06 37 25.3 -2.7**
SOC *e* 06 40 06.4
SOC *e*PPP PPP 06 41 50.5
SOC *e*S **S 06 46 48.0 -3.4**
SOC *e*SS **SS 06 51 32.4 +3.8**
SOC pmax pmax
comp=Z,8.0nm,0.4s
SOC MLR MLR
comp=Z,122nm,17.0s
FIA1 FINESS Array S 73.38 331 **P 06 37 34.2 0.0**
FINES FINESS Array B 73.38 331 P **P 06 37 34.3 0.0**
comp=Z,3.7nm,0.4s,baz=64,slow=5.6,SNR=46
FINES LR LR 07 13 40.8
comp=Z,323nm,18.1s,baz=66,slow=39
comp=Z,3.7nm,0.4s
ANN Anapa 73.39 312 *e*P **P 06 37 32.2 -2.4**
ANN *e*PP **sP 06 37 35.3 +0.8**
ANN *e*S **S 06 47 01.7 -2.4**
ANN pmax pmax
comp=Z,36nm,1.0s
VSU Vasula 74.32 328*ce*P **P 06 37 40.0 +0.2**
VSU pmax pmax
comp=Z,19nm,1.3s
RAYN Ar Rayn 74.91 289 **P 06 37 43.8 -0.1**
RAYN IAmb IAmb 06 37 56.6
comp=Z,14nm,1.2s
RAYN Ar Rayn 74.91 289 ⇓P **P 06 37 45.3 +1.3**
MNK Minsk 75.40 324 *i* P **P 06 37 47.7 +1.5**
MNK *i* 06 40 36.5
MNK *i* PPP PPP 06 42 22.5
MNK *i* S **S 06 47 26.1 -0.3**
MNK *i* SS **SS 06 52 20.0 +4.2**
MNK pmax pmax
comp=E,36nm,1.1s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK MLR MLR
comp=Z,349nm,16.0s
MNK MLR MLR
comp=N,391nm,16.0s
MNK MLR MLR
comp=E,292nm,22.0s
AKASG Malin Array Be 76.24 320 P **P 06 37 50.5 -0.5**
comp=E,1.3nm,0.4s,baz=54,slow=5.8,SNR=17
AKASG LR LR 07 14 08.2
comp=E,418nm,18.6s,baz=58,slow=38
comp=E,1.3nm,0.4s
AKASG Malin Array Be 76.24 320 *i* P **P 06 37 51.4 +0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 76.24 320*ce*P **P 06 37 52.3 +1.2**
AKBB Malin Array Si 76.24 320 P **P 06 37 49.9 -1.2**
AK09 Malin Array Si 76.25 320 P **P 06 37 51.1 0.0**
AK01 Malin Array Si 76.25 320 P **P 06 37 50.9 -0.2**
KIEV Kiev 76.26 320 ⇓P **P 06 37 48.0 -3.1**
KIEV Kiev 76.26 320 P **P 06 37 53.2 +2.1**
KIEV pmax pmax
comp=Z,37nm,1.4s
KIEV Kiev 76.26 320 pP pP 06 37 54.6 +3.6
comp=Z,38nm,1.4s
AK04 Malin Array Si 76.27 320 P **P 06 37 51.4 +0.2**
AK10 Malin Array Si 76.27 320 P **P 06 37 51.2 0.0**
AK02 Malin Array Si 76.27 320 P **P 06 37 51.1 -0.1**
AK23 Malin Array Si 76.28 320 P **P 06 37 51.2 0.0**
AK11 Malin Array Si 76.29 320 P **P 06 37 51.2 -0.1**
AK21 Malin Array Si 76.32 320 P **P 06 37 51.0 -0.5**
AK07 Malin Array Si 76.32 320 P **P 06 37 52.3 +0.8**
MI28 Mi28,Pidlybu 77.04 321 P **P 06 37 56.0 +0.4**
LUBAR Lubar, Ukraine 77.43 320 P **P 06 37 57.6 -0.2**
RNPP9 Sopachiv 77.83 321 P **P 06 38 00.3 +0.3**
SORM Soroca 77.85 318 P **P 06 37 59.8 -0.3**
SORM Soroca 77.85 318 P **P 06 37 59.8 -0.3**
comp=Z,9.5nm,0.7s
BR131 Keskin Array S 77.92 308 **P 06 38 00.8 -0.1**
BR131 Keskin Array S 77.92 308 *i* P **P 06 38 01.6 +0.7**
BRTR Keskin Array B 77.92 308 **P 06 38 00.7 -0.2**
BRTR Keskin Array B 77.92 308 P **P 06 38 01.4 +0.5**
comp=Z,3.6nm,0.9s,baz=92,slow=5.3,SNR=21
comp=Z,3.6nm,0.9s
BR104 Keskin Array S 77.93 308 P **P 06 38 01.7 +0.8**
comp=Z,70nmcomp=Z,7.4nm,1.0s
BR106 Keskin Array S 77.93 308 P **P 06 38 01.7 +0.7**
comp=Z,62nmcomp=Z,6.7nm,1.0s
BR105 Keskin Array S 77.94 308 P **P 06 38 01.8 +0.8**
comp=Z,65nmcomp=Z,7.3nm,1.1s
YKA Yellowknife Ar 77.96 25 P **P 06 38 00.9 +0.4**
comp=Z,2.1nm,1.1s,baz=298,slow=5.0,SNR=11
comp=Z,2.1nm,1.1s
YKA Yellowknife Ar 77.96 25 *i* P **P 06 38 01.2 +0.7**
YKA pmax pmax
comp=Z,2.0nm,1.1s
JMIC Jan Mayen 78.61 347 LR LR 07 15 38.9
comp=Z,37nm,18.2s,baz=76,slow=38
TPGR Topolog 79.25 315 ⇑P P 06 37 59.2 -8.8
HFS Hagfors 79.31 333 P **P 06 38 07.6 -0.3**
comp=Z,2.3nm,0.7s,baz=94,slow=5.9,SNR=9.7
HFS LR LR 07 17 24.4
comp=Z,178nm,19.2s,baz=58,slow=39
comp=Z,2.3nm,0.7s
MMAI Mount Meron Ar 79.37 302 LR LR 07 18 18.2
comp=Z,64nm,19.1s,baz=40,slow=40
TESR Tescani 79.61 317 ⇑P **P 06 38 08.3 -1.6**
NB2 NORSAR Subarra 79.77 334 P **P 06 38 09.9 -0.6**
comp=Z,1.1nm,0.6s,baz=52,slow=5.9
NOA NORSAR Array B 79.77 334 P **P 06 38 09.6 -0.9**
comp=Z,4.0nm,0.9s,baz=50,slow=5.4,SNR=9.8
NOA LR LR 07 16 52.9
comp=Z,94nm,20.0s,baz=55,slow=38
comp=Z,4.0nm,0.9s
VRI Vrincioaia 79.86 316 ⇑P **P 06 38 11.3 0.0**
VRI Vrincioaia 79.86 316 ⇑P **P 06 38 11.3 0.0**
VRI Vrincioaia 79.86 316 P **P 06 38 12.0 +0.7**
comp=Z,15nm,1.3s
PLOR Plostina 79.92 316 ⇑P **P 06 38 10.4 -1.2**
PLOR Plostina 79.92 316 ⇑P **P 06 38 10.4 -1.2**
BUR08 Bucovina Ar. S 79.97 318 **P 06 38 12.0 +0.1**
BURAR Bucovina Array 79.97 318 **P 06 38 12.4 +0.5**
MLR Muntele Rosu 80.52 316 LR LR 07 17 08.2

comp=Z,150nm,19.4s,baz=52,slow=38
MLR Muntele Rosu 80.52 316 ⇓P **P 06 38 12.2 -2.8**
MLR Muntele Rosu 80.52 316 ⇓P **P 06 38 12.2 -2.8**
SUMG Summit 81.05 356 P 06 38 18.6 +1.0
SUMG IAmb IAmb 06 38 30.5
comp=Z,15nm,1.1s
SUMG Summit 81.05 356 P **P 06 38 18.6 +1.0**
SUMG pmax pmax
comp=Z,15nm,1.1s
SUMG Summit 81.05 356 *i* P P 06 38 27.0 +9.4
VOIR 81.10 316 P **P 06 38 15.8 -2.2**
VOIR 81.10 316 P **P 06 38 15.8 -2.2**
EIL Elat 81.12 299 LR LR 07 19 35.5
comp=Z,36nm,19.7s,baz=254,slow=40
ARR Arges 81.39 316 ⇑P **P 06 38 18.3 -1.3**
MARR Marisel-Cluj 81.68 318 ⇑P **P 06 38 22.8 +1.7**
OJC Ojcow 81.79 322 *e*P **P 06 38 22.6 +1.2**
OJC Ojcow 81.79 322 P 06 38 22.2 +0.7
OJC Ojcow 81.79 322 P **P 06 38 22.2 +0.7**
OJC Ojcow 81.79 322 P **P 06 38 22.3 +0.8**
comp=Z,13nm,1.1s
NIE Niedzica 81.93 321 *e*P **P 06 38 23.6 +1.4**
GZR Gura Zlata 82.52 317 ⇑P **P 06 38 27.2 +1.7**
GZR Gura Zlata 82.52 317 ⇑P **P 06 38 27.2 +1.7**
RDO Rodhopi 82.84 312 P 06 38 27.7 +0.6
RDO IAmb IAmb 06 38 30.5
comp=Z,18nm,1.3s
HERR Herculane 83.00 317 ⇑P **P 06 38 29.5 +1.6**
BZS Buzias 83.11 318 ⇑P **P 06 38 29.8 +1.3**
BZS Buzias 83.11 318 ⇑P **P 06 38 29.8 +1.3**
VYHS Vyhne 83.23 321 *e*P **P 06 38 30.8 +1.7**
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 83.23 321 *e*P **P 06 38 30.8 +1.7**
VYHS *e* 06 38 42.3
MORC Moravsky Berou 83.25 323 *e*P **P 06 38 30.4 +1.2**
KSP Ksiaz 83.33 324 *e*P **P 06 38 31.1 +1.6**
KSP Ksiaz 83.33 324 P **P 06 38 30.7 +1.2**
KSP Ksiaz 83.33 324 P **P 06 38 30.7 +1.2**
comp=Z,18nm,1.3s
MDVR Moldovita 83.48 317 ⇑P **P 06 38 31.3 +0.8**
JAVC Velka Javorina 83.69 322 *e*P **P 06 38 33.9 +2.4**
SMOL Smolenice 84.01 322 *e*P **P 06 38 35.0 +1.9**
SMOL pmax pmax
comp=Z,25nm,1.9s
VRAC Vranov 84.03 323 LR LR 07 18 59.7
comp=Z,96nm,18.1s,baz=66,slow=38
VRAC Vranov 84.03 323 *e*P **P 06 38 34.6 +1.4**
BOVS Bovan 84.07 316 ⇑P **P 06 38 30.5 -2.9**
MODS Modra-Piesok 84.17 322 *e*P **P 06 38 35.7 +1.8**
MODS pmax pmax
comp=Z,34nm,1.4s
MODS Modra-Piesok 84.17 322 *e*P **P 06 38 35.7 +1.8**
KRUC Moravsky 84.28 323 *e*P **P 06 38 35.9 +1.5**
BRG Berggiesshubel 84.54 325 *e*P **P 06 38 37.1 +1.4**
BRG Amp 06 38 38.5
comp=Z,3.6nm,0.7s
CLL Collm 84.77 326 P 06 38 36.7 -0.1
CLL IAmb IAmb 06 38 38.6
comp=Z,14nm,1.2s
CLL Collm 84.77 326 *i* P **P 06 38 37.5 +0.7**
CLL pmax pmax
comp=Z,13nm,1.0s
CLL MLR MLR
comp=Z,300nm,18.6s
CLL Collm 84.77 326 P **P 06 38 37.5 +0.7**
comp=Z,13nm,1.5s
CLL Collm 84.77 326 *i* P **P 06 38 37.5 +0.7**
comp=Z,13nm,1.0s
CLL *i* x x 06 38 48.2
comp=Z,13nm,1.1s
CLL AMS AMS 07 20 00.0
comp=Z,300nm,18.6s
KHC Kasperske Hory 85.75 324 *c*e**P P 06 38 44.4 +2.5**
KHC pmax pmax
comp=Z,9.0nm,1.3s
GERES GERESS Array B 85.86 323 P **P 06 38 42.4 0.0**
comp=Z,1.7nm,0.7s,baz=64,slow=3.1,SNR=7.4
comp=Z,1.7nm,0.7s
J08A Circle Bar Ran 86.77 43 P 06 38 48.4 +1.3
SFJD Kangerlussuaq 87.00 0 LR LR 07 18 38.0
comp=Z,23nm,19.7s,baz=332,slow=36
FFC Flin Flon 88.00 27 P 06 38 52.8 +0.2
FFC IAmb IAmb 06 39 12.3
comp=Z,6.9nm,1.1s
FFC Flin Flon 88.00 27 P **P 06 38 52.8 +0.2**
FFC pmax pmax
comp=Z,7.0nm,1.1s
DAVOX Davos/Dischmat 89.16 323 LR LR 07 23 17.1
comp=Z,238nm,18.3s,baz=69,slow=39
NVAR Mina Array Bea 89.61 47 P **P 06 39 01.6 +0.7**
comp=Z,0.7nm,0.9s,baz=297,slow=3.7,SNR=2.5
comp=Z,0.7nm,0.9s
PPT Papeete 89.80 110 LR LR 07 11 04.5
comp=Z,33nm,21.3s,baz=310,slow=30
PPT2 Papeete2 89.81 110 *e*LR LR 07 07 34.8
comp=Z,152nm,31.2s
PPT2 *e*LR LR 07 07 36.5
comp=Z,97nm,26.0s
VAE Valguarnera 92.08 314 LR LR 07 28 34.3
comp=Z,81nm,18.6s,baz=232,slow=41
PDAR Pinedale Array 92.37 39 P **P 06 39 13.2 -0.4**
comp=Z,0.6nm,0.9s,baz=7.4,slow=3.4,SNR=4.0
comp=Z,0.6nm,0.9s
TBI Tubuai 92.55 115 *e*LR LR 07 08 55.7
comp=Z,582nm,33.8s
TAOE Nuku Hiva Isla 94.14 98 *e*LR LR 07 09 38.9
comp=Z,71nm,24.7s

---

*IDC **12** 06:40:19.3±3.4, 54°.25N×87°.11E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=31.7km s-min=19.6km az=58.0*
ASRS 12 06:40:17.0±0.9, 54°.20N×87°.15E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**261**	I		I	06 50 10.0	
	baz=78,slow=330,SNR=2.0							
ZALV	**Zalesovo Beam**	**1.40**	**261**	Pg		Pn	06 40 43.4	-0.4
	0.8nm,0.3s,baz=76,slow=16,SNR=9.7							
ZALV				Lg		Lg	06 41 03.3	
	0.8nm,0.3s,baz=79,slow=24,SNR=3.5							
KURBB	**Kurchatov Arra**	**6.37**	**239**	Pn		Pn	06 41 55.6	+3.5
	0.1nm,0.3s,baz=55,slow=14,SNR=4.1							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**8.03**	**205**	Pn		Pn	06 42 19.1	+4.2
	0.1nm,0.3s,baz=24,slow=14,SNR=2.5							
	0.2nm,0.4s							

---

*ISK **12** 06:48:25.4, 37°.14N×35°.59E, h15km, ML3.5/40*
*AFAD **12** 06:48:26.5, 37°.13N×35°.60E, h5km±1km, ML3.1*
ISC 12 06:48:26.3±0.9, 37°.13N±0°.02×35°.61E±0°.02, h14km±7km, n71, σ1°.04/96, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.16**	**137**	Pg		**Pg**	**06 48 30.4**	**+0.2**
CEYT				Sg		**Sg**	**06 48 33.9**	**+1.0**
AKO	**Adana**	**0.35**	**339**	P		**Pg**	**06 48 32.8**	**-0.7**
AKO				*i* AML		AML	06 48 38.0	
	comp=N,3μm,0.3s							
AKO				S		**Sg**	**06 48 38.0**	**-0.4**
KOZT	**Kozan**	**0.39**	**26**	Pg		**Pg**	**06 48 33.4**	**-0.8**
KOZT				Sg		**Sb**	**06 48 40.1**	**-0.8**
KARA	**Karaisali**	**0.46**	**287**	Pg		**Pg**	**06 48 34.6**	**-0.9**
DED	**Mersin**	**0.67**	**256**	P		**Pg**	**06 48 38.5**	**-0.9**
DED				S		**Sb**	**06 48 49.0**	**+0.1**
DED				*i* AML		AML	06 48 55.0	
	comp=E,742nm,0.4s							
GULE	**Gulek**	**0.68**	**283**	P		**Pg**	**06 48 39.0**	**-0.7**
GULE				S		**Sb**	**06 48 50.4**	**+1.0**
GULE				*i* AML		AML	06 48 52.0	
	comp=N,2μm,0.3s							
CMRD	**Camardi-Nigde**	**0.72**	**317**	Pg		**Pg**	**06 48 39.3**	**-1.1**
ANDN	**Andirin**	**0.74**	**52**	P		**Pg**	**06 48 40.1**	**-0.5**
ANDN				S		**Sn**	**06 48 53.7**	**+0.1**
HASA	**Hatay-Hassa-Ha**	**0.80**	**118**	P		**Pg**	**06 48 40.9**	**-0.9**
HASA				S		**Sg**	**06 48 52.7**	**+0.4**
HASA				*i* AML		AML	06 48 56.0	
	comp=E,2μm,0.5s							
KAMA	**Osmaniye**	**0.85**	**86**	P		**Pg**	**06 48 42.0**	**-0.7**
KAMA				S		**Sb**	**06 48 54.3**	**+0.2**
KAMA				*i* AML		AML	06 49 00.0	
	comp=E,635nm,0.6s							
TAHT	**Tahtakopru-Hat**	**0.88**	**148**	Pg		**Pb**	**06 48 43.5**	**+0.1**
MERS	**Mersin**	**0.91**	**254**	Pg		**Pg**	**06 48 43.0**	**-0.9**
NIDE	**Nigde/Merkez-G**	**1.09**	**323**	P		**Pg**	**06 48 46.2**	**-1.1**
NIDE				S		**Sb**	**06 49 01.4**	**+0.1**
NIDE				*i* AML		AML	06 49 05.0	
	comp=N,1μm,0.6s							
KMRS	**Kahramanmaras**	**1.09**	**70**	Pn		**Pb**	**06 48 46.2**	**-0.9**
KAHM	**Kahramanmaras,**	**1.16**	**70**	P		**Pb**	**06 48 47.6**	**-0.6**
KAHM				S		**Sb**	**06 49 03.2**	**0.0**
KAHM				*i* AML		AML	06 49 16.0	
	comp=N,178nm,1.0s							
RHAN	**Hatay/Reyhanl**	**1.18**	**137**	P		**Pb**	**06 48 47.3**	**-1.2**
RHAN				S		**Sn**	**06 49 05.7**	**+1.4**
RHAN				*i* AML		AML	06 49 07.0	
	comp=E,578nm,0.7s							
KERG	**Konya-Eregli**	**1.22**	**284**	P		**Pb**	**06 48 47.6**	**-1.6**
KUZU	**Kuzuini**	**1.23**	**106**	P		**Pn**	**06 48 49.2**	**+0.1**
KHMN	**Narli-Kahraman**	**1.26**	**78**	Pn		**Pn**	**06 48 49.2**	**-0.4**
GAZ	**Gaziantep**	**1.28**	**88**	Pn		**Pn**	**06 48 49.5**	**-0.4**
KIZK	**Mersin**	**1.34**	**242**	Pn		**Pn**	**06 48 50.3**	**-0.3**
KIZK	**Mersin**	**1.34**	**242**	P		**Pb**	**06 48 51.1**	**-0.1**
SARI	**SarD1z-Kayseri**	**1.43**	**26**	Pn		**Pn**	**06 48 51.4**	**-0.6**
SLFK	**Silifke-Mersin**	**1.52**	**242**	Pn		**Pn**	**06 48 52.1**	**-1.0**
BSIR	**Belisirma, Guz**	**1.54**	**318**	P		**Pb**	**06 48 54.7**	**-0.1**
BSIR				S		**Sg**	**06 49 16.4**	**+0.3**
BSIR				*i* AML		AML	06 49 21.0	
	comp=N,808nm,0.8s							
SILI	**Silifke-Mersin**	**1.55**	**241**	Pn		**Pn**	**06 48 52.9**	**-0.6**
GZT	**Gaziantep**	**1.58**	**81**	P		**Pn**	**06 48 53.9**	**-0.1**
GZT				S		**Sn**	**06 49 14.7**	**+0.4**
GZT				*i* AML		AML	06 49 28.0	
	comp=N,387nm,0.5s							
YESY	**Yesilyurt**	**1.62**	**294**	Pn		**Pn**	**06 48 54.1**	**-0.5**
GULA	**Gulagac**	**1.63**	**318**	Pn		**Pn**	**06 48 54.3**	**-0.4**
NZIP	**Nizip/Gaziante**	**1.65**	**92**	P		**Pn**	**06 48 54.5**	**-0.5**
KEBE	**Keben-Mersin**	**1.67**	**246**	Pn		**Pn**	**06 48 55.2**	**0.0**
ELBS	**KAHRAMANMARAS**	**1.70**	**45**	P		**Pn**	**06 48 56.3**	**+0.7**
BNN	**Bunyan**	**1.73**	**6**	Pn		**Pn**	**06 48 56.0**	**-0.1**
GUNE	**Kayseri**	**1.77**	**0**	P		**Pb**	**06 48 58.4**	**-0.2**
GUNE				S		**Sg**	**06 49 22.3**	**-0.9**
GUNE				*i* AML		AML	06 49 25.0	
	comp=N,478nm,0.7s							
AVNS	**Nevsehir-Avano**	**1.78**	**340**	P		**Pb**	**06 48 58.3**	**-0.5**
AKCA	**Adyaman/G¶l**	**1.78**	**68**	P		**Pb**	**06 48 59.4**	**+0.6**
AKCA				S		**Sg**	**06 49 25.6**	**+1.9**
AKCA				*i* AML		AML	06 49 31.0	
	comp=N,430nm,0.6s							
IKL	**Isikli**	**1.78**	**241**	Pn		**Pn**	**06 48 56.6**	**-0.1**
TISA	**Tisan-Mersin**	**1.83**	**239**	Pn		**Pn**	**06 48 57.0**	**-0.3**
YESI	**Yesilovacik-Me**	**1.84**	**240**	Pn		**Pn**	**06 48 56.8**	**-0.6**
TEVE	**Tevekalti-Mers**	**1.87**	**249**	Pn		**Pn**	**06 48 57.9**	**-0.1**
KRMN	**Karaman**	**1.87**	**272**	Pn		**Pn**	**06 48 57.1**	**-1.0**
TEPK	**Tepekoy-MERSIN**	**1.89**	**242**	Pn		**Pn**	**06 48 57.9**	**-0.3**
GULN	**MERSIN_Gulnar**	**1.91**	**241**	P		**Pn**	**06 48 58.5**	**+0.1**
GULN				S		**Sn**	**06 49 22.1**	**-0.2**
GULN				*i* AML		AML	06 49 45.0	
	comp=N,113nm,0.9s							
AKKU	**Akkuyu-Mersin**	**1.92**	**240**	Pn		**Pn**	**06 48 58.3**	**-0.2**
AKK1	**Akkuyu-Mersin**	**1.93**	**240**	Pn		**Pn**	**06 48 57.9**	**-0.8**
OREN	**Orenkoy-Mersin**	**1.96**	**243**	Pn		**Pn**	**06 48 58.2**	**-0.9**
SULT	**Sultanhani-AKS**	**1.97**	**303**	Pn		**Pn**	**06 48 59.1**	**-0.3**
EREN	**Erenkoy**	**1.98**	**216**	Pn		**Pn**	**06 48 59.4**	**+0.1**
CUGUR	**Gurin_SVAS**	**2.06**	**39**	P		**Pb**	**06 49 02.6**	**-1.0**
CUGUR				S		**Sg**	**06 49 32.1**	**-0.6**
CUGUR				*i* AML		AML	06 49 43.0	
	comp=E,383nm,0.6s							
DARE	**Darende-Malaty**	**2.07**	**45**	Pn		**Pn**	**06 49 01.1**	**+0.4**
BERE	**Bereket-Mersin**	**2.07**	**249**	Pn		**Pn**	**06 49 00.5**	**-0.3**
AKSY	**AKSARAY - Alti**	**2.11**	**317**	P		**Pn**	**06 49 02.6**	**+1.4**
KKBE	**Karaman, Kazim**	**2.13**	**273**	P		**Pb**	**06 49 04.0**	**-0.8**
KKBE				S		**Sb**	**06 49 32.2**	**+1.0**
KKBE				*i* AML		AML	06 49 42.0	
	comp=E,220nm,0.7s							
MCUR	**KIREHR**	**2.20**	**338**	P		**Pn**	**06 49 02.9**	**+0.3**
MCUR				S		**Sn**	**06 49 30.9**	**+1.3**
MCUR				*i* AML		AML	06 49 41.0	
	comp=E,90nm,0.5s							
SIRC	**Yozgat**	**2.23**	**351**	P		**Pn**	**06 49 03.7**	**+0.7**
SIRC				S		**Sb**	**06 49 33.2**	**-0.8**
SIRC				*i* AML		AML	06 49 47.0	
	comp=E,63nm,0.7s							
TEKE	**Tekeli-Mersin**	**2.24**	**245**	Pn		**Pn**	**06 49 03.5**	**+0.6**
CUSAR	**Sarkisla-SIVAS**	**2.34**	**12**	P		**Pn**	**06 49 05.9**	**+1.4**
SERE	**Sereflikochisa**	**2.43**	**319**	Pn		**Pn**	**06 49 05.7**	**0.0**
LFK	**Lefkose**	**2.50**	**223**	Pn		**Pn**	**06 49 06.5**	**-0.1**
HDMB	**Hadim**	**2.50**	**267**	Pn		**Pn**	**06 49 06.9**	**+0.1**
URFA	**Urfa**	**2.58**	**82**	Pn		**Pn**	**06 49 07.7**	**-0.1**
CHBY	**Cihanbeyli**	**2.59**	**305**	Pn		**Pn**	**06 49 08.1**	**+0.1**
AKPI	**Kirsehir/Akpin**	**2.69**	**332**	P		**Pn**	**06 49 10.5**	**+1.2**
AKPI				S		**Sb**	**06 49 48.7**	**+1.6**
AKPI				*i* AML		AML	06 49 58.0	
	comp=N,58nm,1.0s							
KONT	**Konya-Tatoy**	**2.71**	**288**	Pn		**Pn**	**06 49 09.9**	**+0.5**
YOZG	**Bozok Univ. Me**	**2.72**	**347**	P		**Pn**	**06 49 10.7**	**+1.0**
YOZG				S		**Sg**	**06 49 51.0**	**-2.8**
YOZG				*i* AML		AML	06 49 56.0	
	comp=N,62nm,0.7s							
CBEY	**Konya-Cihanbey**	**2.72**	**306**	P		**Pb**	**06 49 15.2**	**+0.4**
CBEY				S		**Sg**	**06 49 59.2**	**+5.3**
CBEY				*i* AML		AML	06 50 03.0	
	comp=N,34nm,0.8s							
GAZI	**Gazipasa**	**2.79**	**252**	Pn		**Pn**	**06 49 11.1**	**+0.5**
CSS	**Mathiatis**	**2.84**	**221**	Pn		**Pn**	**06 49 11.6**	**+0.3**
KKUL	**Konya-Kulu**	**2.94**	**315**	P		**Pn**	**06 49 14.4**	**+1.6**
KKUL				S		**Sg**	**06 50 01.2**	**+0.3**
KKUL				*i* AML		AML	06 50 09.0	
	comp=E,94nm,0.8s							
LEF	**Lefka**	**2.98**	**228**	Pn		**Pn**	**06 49 12.3**	**-0.8**
KEPZ	**Antalya-Kepez**	**3.21**	**267**	P		**Pn**	**06 49 19.5**	**+3.1**
KEPZ				S		**Sg**	**06 50 07.7**	**-1.8**
KEPZ				*i* AML		AML	06 50 21.0	
	comp=N,112nm,1.2s							

---

*SJA **12** 06:54:38.9±2.1, 21°.18S×68°.99W, h117km±10km, ML3.6, MW3.6*
*GUC **12** 06:54:40.3±0.6, 21°.18S×68°.94W, h114km±3km, ML3.5*
ISC 12 06:54:40.8±1.6, 21°.17S±0°.04×68°.99W±0°.08, h108km±10km, n29, σ0°.85/39, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.48**	**285**	*e*P		**Pn**	**06 54 57.1**	**-0.4**
PB01				*e*S		**Sn**	**06 55 10.0**	**+0.1**
PB01				IAML			06 55 11.5	
	comp=N,3μm,0.1s							
PB01	**IPOC Station P**	**0.48**	**285**	*i* P		**Pn**	**06 54 56.5**	**-0.9**
PB01				*e*S		**Sn**	**06 55 10.2**	**+0.3**
PB01				IAML			06 55 11.1	
	comp=Z,2μm,0.3s							
PB09	**IPOC Station P**	**0.66**	**201**	*e*P		**Pn**	**06 54 58.7**	**-0.2**
PB09				*e*S		**Sn**	**06 55 12.8**	**+0.3**
PB09				IAML			06 55 14.5	
	comp=E,988nm,0.3s							
PB09	**IPOC Station P**	**0.66**	**201**	*i* P		**Pn**	**06 54 58.4**	**-0.5**
PB09				*e*S		**Sn**	**06 55 14.0**	**+1.5**
PB09				IAML			06 55 15.0	
	comp=Z,1000nm,0.2s							
PB08	**IPOC Station P**	**1.04**	**351**	*e*P		**Pn**	**06 55 02.5**	**-0.2**
PB08				IAML			06 55 20.4	
	comp=E,1μm,0.4s							
PB08	**IPOC Station P**	**1.04**	**351**	*i* P		**Pn**	**06 55 02.0**	**-0.7**
PB08				*e*S		**Sn**	**06 55 19.4**	**+0.2**
PB08				IAML			06 55 20.4	
	comp=Z,1μm,0.5s							
PB03	**IPOC Station P**	**1.12**	**219**	⇑*e*P		**Pn**	**06 55 03.5**	**+0.1**
PB03				*e*S		**Sn**	**06 55 20.8**	**+0.4**
PB03				IAML			06 55 21.2	
	comp=E,2μm,0.3s							
PB03	**IPOC Station P**	**1.12**	**219**	*i* P		**Pn**	**06 55 02.9**	**-0.5**
PB03				IAML			06 55 22.4	
	comp=Z,955nm,0.5s							
PATCX	**Punta Patache**	**1.14**	**288**	*i* P		**Pn**	**06 55 03.5**	**+0.1**
PATCX				IAML			06 55 24.8	
	comp=Z,766nm,0.5s							
HMBC	**Humberstone**	**1.23**	**316**	⇑*e*P		**Pn**	**06 55 04.4**	**-0.1**
HMBC				*e*S		**Sn**	**06 55 22.9**	**+0.6**
HMBC	**Humberstone**	**1.23**	**316**	*i* P		**Pn**	**06 55 03.8**	**-0.7**
HMBC				IAML			06 55 23.5	
	comp=Z,2μm,0.3s							
TA02	**Huaiquique**	**1.40**	**310**	⇑*e*P		**Pn**	**06 55 06.3**	**0.0**
TA02				*e*S		**Sn**	**06 55 26.0**	**+0.4**
TA02	**Huaiquique**	**1.40**	**310**	*i* P		**Pn**	**06 55 05.8**	**-0.5**
TA02				IAML			06 55 30.9	
	comp=Z,887nm,0.3s							
GO01	**Chusmiza**	**1.51**	**353**	*e*P		**Pn**	**06 55 07.9**	**-0.2**
GO01				*e*S		**Sn**	**06 55 29.0**	**+0.2**
GO01	**Chusmiza**	**1.51**	**353**	*i* P		**Pn**	**06 55 07.2**	**-0.9**
GO01				IAML			06 55 32.9	
	comp=Z,355nm,0.4s							
PB11	**IPOC Station P**	**1.54**	**336**	*e*P		**Pn**	**06 55 08.0**	**-0.2**
PB11				*e*S		**Sn**	**06 55 29.2**	**+0.3**
PB11				IAML			06 55 31.0	
	comp=E,2μm,0.2s							
PB11	**IPOC Station P**	**1.54**	**336**	*i* P		**Pn**	**06 55 07.4**	**-0.7**
PB11				IAML			06 55 30.5	
	comp=Z,760nm,0.3s							
PB06	**IPOC Station P**	**1.62**	**199**	*e*P		**Pn**	**06 55 09.2**	**+0.1**
PB06				IAML			06 55 33.2	
	comp=N,998nm,0.1s							
PB06	**IPOC Station P**	**1.62**	**199**	*i* P		**Pn**	**06 55 08.9**	**-0.2**
PB06				IAML			06 55 32.3	
	comp=Z,624nm,0.3s							
AF01	**San Pedro de A**	**1.92**	**157**	*e*P		**Pn**	**06 55 13.3**	**+0.3**
AF01	**San Pedro de A**	**1.92**	**157**	*i* P		**Pn**	**06 55 12.7**	**-0.3**
AF01				IAML			06 55 49.6	
	comp=Z,185nm,0.5s							
PB10	**IPOC Station P**	**2.74**	**212**	*e*P		**Pn**	**06 55 24.0**	**+0.6**
PB10				IAML			06 55 54.3	
	comp=N,58nm,0.2s							
PB10	**IPOC Station P**	**2.74**	**212**	*i* P		**Pn**	**06 55 23.7**	**+0.3**
PB10				IAML			06 56 10.5	
	comp=Z,47nm,0.5s							
PB12	**IPOC Station P**	**2.84**	**333**	*e*P		**Pn**	**06 55 23.4**	**-1.4**
PB12				IAML			06 56 02.4	
	comp=N,236nm,0.4s							
PB12	**IPOC Station P**	**2.84**	**333**	*i* P		**Pn**	**06 55 23.3**	**-1.4**
PB12				IAML			06 56 20.6	
	comp=Z,162nm,0.7s							
AP01	**Chacalluta**	**3.07**	**335**	*i* P		**Pn**	**06 55 29.3**	**+1.7**
AP01				IAML			06 56 24.6	
	comp=Z,187nm,0.2s							
GO02	**Mina Guanaco**	**4.01**	**188**	*i* P		**Pn**	**06 55 39.5**	**-1.1**
GO02				IAML			06 56 29.1	
	comp=Z,102nm,0.7s							
LPAZ	**La Paz**	**4.93**	**10**	*i* P		**Pn**	**06 55 54.0**	**+0.8**
AC01	**Pan de Azucar**	**5.17**	**196**	*i* P		**Pn**	**06 55 53.0**	**-2.9**
AC01				IAML			06 57 26.7	
	comp=Z,24nm,1.6s							

IDC 12 06:55:54.7±2.4, 6°.65S×130°.08E, h0km, mb3.6/1, mbtmp3.7/4, ML3.9/3, Error ellipse: s-maj=86.4km s-min=30.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.18**	**200**	Pn		Pn	06 58 48.4	-1.2
	0.7nm,0.3s,baz=24,slow=9.9,SNR=29							
FITZ				Sn		Sn	07 00 52.4	-14
	0.3nm,0.3s,baz=83,slow=9.0,SNR=2.1							
	2.4nm,0.2s							
WRA	**Warramunga Arr**	**13.85**	**163**	Pn		Pn	06 59 12.4	0.0
	0.7nm,0.3s,baz=348,slow=14,SNR=27							
WRA				Sn		Sn	07 01 35.8	-11
	1.0nm,0.3s,baz=341,slow=20,SNR=9.5							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**17.32**	**168**	P		P	06 59 59.1	-0.4
	0.4nm,0.3s,baz=347,slow=10,SNR=25							
ASAR				S		Sn	07 03 01.1	-10
	0.6nm,0.6s,baz=349,slow=23,SNR=6.2							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**67.97**	**327**	P		P	07 06 55.7	0.0
	0.4nm,0.7s,baz=116,slow=6.6,SNR=2.8							
	0.4nm,0.7s							

---

*KRNET **12** 06:58:23.9±0.1, 41°.14N×69°.80E, mb2.6*
ISC 12 06:58:23.7±2.3, 41°.05N±0°.05×69°.8E±0°.1, h7km±19km, n6, σ1°.16/12, 6C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**1.10**	**64**	⇑*e*P		**Pg**	**06 58 44.3**	**-0.5**
TRKS				⇑*e*S		**Sb**	**06 58 59.9**	**+0.1**
ARK	**Arkit**	**1.77**	**64**	⇑*e*P		**Pb**	**06 58 56.7**	**+0.1**
ARK				⇑*e*S		**Sg**	**06 59 20.7**	**+0.1**
KK31	**Karatay Array**	**2.12**	**14**	⇓P		**Pg**	**06 59 04.0**	**-0.2**
	1.3nm,0.5s,baz=200,slow=15,SNR=13							
KK31				⇓S		**Sg**	**06 59 33.6**	**+1.9**
	10nm,0.6s,baz=196,slow=27							
DRK	**Karamyk**	**2.17**	**135**	⇑*e*P		**Pg**	**06 59 04.7**	**-0.7**
DRK				⇑*e*S		**Sg**	**06 59 34.2**	**+0.7**
OHH	**Osh**	**2.30**	**102**	⇓*e*P		**Pb**	**06 59 05.5**	**-0.1**
OHH				⇓*e*S		**Sb**	**06 59 36.2**	**+1.8**
MNAS	**Manas**	**2.46**	**53**	⇓*e*P		**Pb**	**06 59 07.1**	**-1.3**
MNAS				⇓*e*S		**Sb**	**06 59 38.2**	**-0.8**

---

*NNC **12** 07:05:01.7±4.5, 54°.34N×87°.30E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=37.1km s-min=25.9km az=9.0, Suspected Mining explosion.*
*ASRS **12** 07:05:02.0±0.9, 54°.40N×86°.90E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **12** 07:05:03.0±3.0, 54°.47N×87°.13E, h0km, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=26.4km s-min=19.0km az=52.0.*
ISC 12 07:05:05.3±4.5, 54°.4N±0°.2×86°.8E±0°.2, h0km, n8, σ1°.78/11, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**249**	I		I	07 14 30.0	
	baz=70,slow=331,SNR=9.6							
ZAA0	**Zalesovo Array**	**1.25**	**249**	⇓P		**Pb**	**07 05 28.3**	**-1.4**
	0.2nm,0.2s							
ZAA0				⇓S		**Sn**	**07 05 51.0**	**+3.6**
	0.8nm,0.3s							
ZALV	**Zalesovo Beam**	**1.25**	**249**	Pg		**Pg**	**07 05 27.8**	**-1.4**
	1.9nm,0.3s,baz=65,slow=17,SNR=20					

TNTI	Ternate	1.70 164	P	Pn	07 12 16.2	-0.3
SGSI	Sangihe	1.87 313	P	Pn	07 12 18.4	-0.4
LBMI	Labuha	3.09 169	P	Pn	07 12 34.9	-0.7
SANI	Sanana	4.53 192	P	Pn	07 12 54.8	-0.5
FITZ	Fitzroy Crossi	20.42 183	P	P	07 16 22.9	+0.8
	1.2nm,0.4s,baz=359,slow=11,SNR=8.9					
	1.2nm,0.4s					
WRA	Warramunga Arr	23.39 162	P	P	07 16 52.8	-0.7
	1.0nm,0.4s,baz=340,slow=11,SNR=24					
	1.0nm,0.4s					
ASAR	Alice Springs	26.81 166	P	P	07 17 24.9	+0.2
	0.3nm,0.3s,baz=342,slow=9.4,SNR=10					
	0.3nm,0.3s					
STKA	Stephens Creek	36.85 159	P	P	07 18 52.9	+0.4
	1.1nm,0.5s,baz=343,slow=13,SNR=2.9					
	1.1nm,0.5s					
MKAR	Makanchi Array	58.73 326	P	P	07 21 41.6	-0.1
	0.3nm,0.4s,baz=131,slow=8.3,SNR=4.6					
	0.3nm,0.4s					

*IDC **12** 07:14:20.6±3.4, 55°.64N×86°.12E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=30.4km s-min=25.0km az=43.0.*

ASRS 12 07:14:15.0±1.1, 55°.72N×86°.09E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.92	203	I	I	07 27 00.0	
	baz=25,slow=334,SNR=2.2						
ZALV	Zalesovo Beam	1.92	203	Pn	Pg	07 14 52.6	+0.8
	1.6nm,0.3s,baz=24,slow=16,SNR=20						
ZALV				Lg	Lg	07 15 19.1	
	1.2nm,0.3s,baz=22,slow=28,SNR=9.1						
KURBB	Kurchatov Arra	6.83	225	Pn	Pn	07 16 00.9	+4.5
	0.1nm,0.3s,baz=42,slow=14,SNR=13						
	0.9nm,0.5s						
MKAR	Makanchi Array	9.25	196	Pn	Pn	07 16 34.9	+5.3
	0.1nm,0.3s,baz=20,slow=13,SNR=3.5						
	0.2nm,0.5s						

TXNET 12 07:14:31.5, 31°.7N±0°.6×104°.4W±0°.7, h5km±2km, ML1.9/7, 1C-1D, Error ellipse: s-maj=1.0km s-min=0.9km az=126.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.40	44	⇑P	Pg	07 14 39.1	0.0
TPB11				S	Sg	07 14 44.4	0.0
PECS	Pecos	0.51	123	⇓P	Pg	07 14 41.5	+0.3
PECS				S	Sg	07 14 48.1	+0.3
PECS	Pecos	0.51	123	P	Pg	07 14 41.5	+0.3
GDL2	Guadalupe Moun	0.55	360	P	Pg	07 14 42.3	+0.2
TPB12	Southwest of T	0.56	142	P	Pg	07 14 41.7	-0.4
TPB12				S	Sg	07 14 49.4	0.0
TPB12	Southwest of T	0.56	142	P	Pg	07 14 41.8	-0.3
TPB07	Mentone	0.59	97	S	Sg	07 14 51.7	+1.0
TPB10	Southeast of T	0.63	125	P	Pg	07 14 43.7	+0.1
TPB10				S	Sg	07 14 52.8	+0.9
TPB10	Southeast of T	0.63	125	P	Pg	07 14 43.9	+0.2
CLNB	Carlsbad	0.73	34	P	Pg	07 14 45.8	+0.1
CLNB				S	Sg	07 14 55.9	+0.7
TPB01	Permian Basin	0.86	145	P	Pg	07 14 47.4	-0.6
TPB01	Permian Basin	0.86	145	P	Pg	07 14 38.9	-9.1
TPB01				S	Pg	07 14 47.8	-0.3
MNTX	Cornudas Mount	0.87	273	P	Pg	07 14 48.5	+0.2
MNTX				S	Sg	07 15 00.2	+0.6
TPB03	Saragosa	0.92	128	S	Sg	07 15 01.2	+0.2
VHRN	Van Horn	1.01	212	P	Pg	07 14 50.9	-0.1
VHRN				S	Sb	07 15 05.3	0.0
HTMS	Hat Mesa	1.02	37	P	Pg	07 14 51.1	0.0
TPB05	Hovey Rd	1.15	129	S	Sg	07 15 08.2	-0.1
MNHN	Monahans	1.40	102	P	Pn	07 14 57.6	-0.1
MNHN				S	Sn	07 15 16.7	0.0
ALPN	Alpine	1.42	154	P	Pn	07 14 57.0	-1.0
ALPN				S	Sb	07 15 15.4	-1.4
CPRX	Cap Rock	1.44	17	P	Pn	07 14 58.2	-0.1
TMB04	Seminole	1.86	58	P	Pn	07 15 05.0	+0.9
TMB04				S	Sb	07 15 30.4	+0.7

*IDC **12** 07:22:31.3±4.0, 48°.56N×77°.81E, h0km, mbtmp2.9/1, ML2.0/1, Error ellipse: s-maj=46.2km s-min=11.0km az=66.0*

NNC 12 07:22:31.9±3.0, 48°.59N×78°.00E, h0km, mb3.0, mpv2.5, 4C-2D, Error ellipse: s-maj=35.2km s-min=10.2km az=70.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.06	10	Pg	Pb	07 23 09.7	-0.5
	0.4nm,0.3s,baz=200,slow=16,SNR=18						
KURBB				Lg	Lg	07 23 37.0	
	0.3nm,0.3s,baz=197,slow=29,SNR=9.2						
KURBB	Kurchatov Arra	2.06	10	⇑Pg	Pb	07 23 09.5	-0.7
	4.3nm,0.6s						
KURBB				⇓Lg	Lg	07 23 37.5	
	9.9nm,0.6s						
KURK	Kurchatov	2.16	11	⇑Pg	Pb	07 23 11.7	-0.2
	3.0nm,0.6s						
KURK				⇑Lg	Lg	07 23 40.1	
	7.7nm,0.6s						
MK31	Makanchi Array	3.42	120	⇓Pg	Pb	07 23 32.1	-1.2
	0.4nm,0.5s,baz=304,slow=12,SNR=5.9						
MK31				⇑Lg	Lg	07 24 22.6	
	1.4nm,0.6s,baz=305,slow=27,SNR=6.1						
MKAR	Makanchi Array	3.42	120	Pg	Pb	07 23 32.3	-1.0
	0.1nm,0.3s,baz=304,slow=12,SNR=5.7						
MKAR				Lg	Lg	07 24 22.8	
	0.3nm,0.3s,baz=310,slow=28,SNR=9.0						
I46RU	ZALESOVO INFRA	6.86	36	I	I	08 06 00.0	
	baz=221,slow=316,SNR=2.8						
ZALV	Zalesovo Beam	6.86	36	Pn	Pn	07 24 16.4	+2.7
	0.1nm,0.3s,baz=240,slow=13,SNR=2.6						
	0.6nm,0.5s						

*IDC **12** 07:23:48.7±3.1, 53°.58N×87°.93E, h0km, mbtmp2.8/2, ML2.4/1, Error ellipse: s-maj=27.6km s-min=18.4km az=60.0*

ASRS 12 07:23:45.0±0.8, 53°.59N×87°.92E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.88	282	I	I	07 36 36.6	
	baz=99,slow=331,SNR=1.6						
ZALV	Zalesovo Beam	1.88	282	Pn	Pg	07 24 22.1	+1.2
	0.7nm,0.3s,baz=100,slow=14,SNR=10						
ZALV				Lg	Lg	07 24 48.6	
	1.3nm,0.3s,baz=102,slow=24,SNR=8.4						
KURBB	Kurchatov Arra	6.50	247	Pn	Pn	07 25 25.5	+3.6
	0.1nm,0.3s,baz=64,slow=14,SNR=5.1						
KURBB				Lg	Lg	07 27 14.7	
	baz=64,slow=31,SNR=4.2						
	0.5nm,0.5s						
MKAR	Makanchi Array	7.70	210	Pn	Pn	07 25 43.5	+5.2
	0.2nm,0.4s,baz=21,slow=13,SNR=1.3						
MKAR				Lg	Lg	07 27 52.6	
	0.1nm,0.3s,baz=35,slow=23,SNR=4.2						

*NNC **12** 07:27:43.4±0.4, 50°.01N×78°.83E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=12.5km s-min=2.1km az=70.0, Suspected Mining explosion.*
*IDC **12** 07:27:44.0±1.1, 50°.01N×78°.75E, h0km, mbtmp2.5/2, ML2.0/2, Error ellipse: s-maj=15.6km s-min=6.9km az=65.0*

ISC 12 07:27:43.2±1.7, 49°.93N±0°.08×78°.7E±0°.2, h0km, n16, σ0s87/25, 18C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.66	350	⇓P	Pg	07 27 55.0	-0.8
KUR07				⇑S	Sg	07 28 03.9	-0.6
KUR06	Kurchatov Arra	0.68	350	⇑P	Pg	07 27 55.4	-0.8
KUR06				⇑S	Sg	07 28 04.4	-0.6
KUR14	Kurchatov Arra	0.69	354	⇑P	Pg	07 27 55.4	-0.9
KUR14				⇑S	Sg	07 28 04.3	-0.9
KUR15	Kurchatov Arra	0.69	353	⇑P	Pg	07 27 55.7	-0.8
KUR15				⇑S	Sg	07 28 04.9	-0.6
KURBB	Kurchatov Arra	0.70	351	Pg	Pg	07 27 56.1	-0.4
	1.0nm,0.3s,baz=166,slow=18,SNR=47						
KURBB				Lg	Lg	07 28 05.3	
	1.2nm,0.3s,baz=166,slow=32,SNR=9.1						
KURBB	Kurchatov Arra	0.70	351	⇑P	Pg	07 27 56.0	-0.6
	19nm,0.6s						
KURBB				⇑S	Sg	07 28 05.1	-0.6
	53nm,0.6s						
KUR16	Kurchatov Arra	0.71	350	⇑P	Pg	07 27 56.1	-0.6
KUR16				⇓S	Sg	07 28 05.4	-0.5
KUR17	Kurchatov Arra	0.71	348	⇑P	Pg	07 27 56.5	-0.4
KUR17				⇑S	Sg	07 28 06.3	+0.1
KUR05	Kurchatov Arra	0.72	352	⇑P	Pg	07 27 56.2	-0.8
KUR05				⇑S	Sg	07 28 05.2	-1.0
KUR04	Kurchatov Arra	0.74	352	⇓P	Pg	07 27 56.6	-0.7
KUR04				⇑S	Sg	07 28 05.8	-1.1
KURK	Kurchatov	0.79	356	⇓P	Pg	07 27 57.6	-0.7
	6.5nm,0.5s						
KURK				⇑S	Sg	07 28 07.8	-0.7
	28nm,0.9s						
MK31	Makanchi Array	3.95	141	⇑Pg	Pg	07 28 57.1	-1.8
	0.2nm,0.2s,baz=328,slow=15,SNR=9.8						
MK31				⇑Lg	Lg	07 29 48.9	
	7.7nm,0.7s,baz=332,slow=25,SNR=18						
MKAR	Makanchi Array	3.95	141	Pn	Pn	07 28 45.8	+0.8
	0.1nm,0.3s,baz=326,slow=10,SNR=5.8						
MKAR				Pg	Pb	07 28 54.8	+1.1
	0.3nm,0.3s,baz=322,slow=15,SNR=10						
MKAR				Lg	Lg	07 29 48.7	
	0.2nm,0.3s,baz=329,slow=22,SNR=3.7						
	0.3nm,0.6s						
I46RU	ZALESOVO INFRA	5.52	41	I	I	08 00 00.0	
	baz=222,slow=318,SNR=3.6						
ZALV	Zalesovo Beam	5.52	41	Pn	Pn	07 29 07.7	+1.1
	0.3nm,0.3s,baz=224,slow=12,SNR=5.1						
	0.7nm,0.4s						
BVAR	Borovoye Array	6.04	304	Lg	Lg	07 30 53.1	
	baz=108,slow=23,SNR=4.2						

*BJI **12** 07:30:03.8, 25°.88N×141°.38E, h546km, mB4.8/21, mb5.1/69*
*MOS **12** 07:30:04.5±0.8, 25°.77N×141°.25E, h551km, mb4.7/58, Error ellipse: s-maj=8.5km s-min=4.4km az=111.3*
*IDC **12** 07:30:04.5±0.4, 25°.80N×141°.31E, h533km±3km, mb4.0/29, mbtmp5.0/37, Error ellipse: s-maj=10.4km s-min=7.0km az=73.0*
*NEIC **12** 07:30:05.4±1.2, 25°.83N±0°.09×141°.3E±0°.1, h540km±8km, mb4.6/143, Error ellipse: s-maj=16.1km s-min=12.1km az=107.0*
*JMA **12** 07:30:05.2±0.1, 26°.N±1°.×14°.1E±°., h547km, MD5.6/36, MV5.8/36, IOTO ISLANDS REGION*
JMA Felt I J1 at IOTO ISLANDS REGION .

ISC 12 07:30:05.2±0.3, 25°.77N±0°.03×141°.23E±0°.05, h542km±3km, h543km: pP-P, n775, σ0s83/830, mb4.7/180, 25C-22D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	1.21	45	*i* P	P	07 31 11.9	+0.8
JHH2				S	S	07 32 04.3	-0.7
JHH2	Haha-jima-NKT2	1.21	45	A	A	07 31 11.9	
	comp=N,43nm,0.3s,comp=E,43nm,0.3s						
CBIJ	Chichi jima	1.57	33	⇓*i* P	P	07 31 12.4	+0.1
CBIJ				⇓S	S	07 32 05.3	-1.8
CBIJ	Chichi jima	1.57	33	A	A	07 31 12.4	
	comp=N,21nm,1.9s,comp=E,24nm,0.7s						
JCJ	Chichijima	1.57	33	P	P	07 31 11.8	-0.6
	comp=E,876nm,0.3s,baz=5.5,slow=20,SNR=212						
JCJ				S	S	07 32 04.5	-2.7
	comp=E,7μm,0.5s,baz=291,slow=22,SNR=45						
JCJ	Chichijima	1.57	33	P	P	07 31 12.6	+0.2
JCJ	Chichijima	1.57	33	S	S	07 32 05.8	-1.4
JHCJ	Hachijojimakas	7.38	351	*e*P	P	07 31 56.3	-0.1
JHJ2	Mitsune	7.42	351		P	07 31 55.6	-1.2
JHJ2	Mitsune	7.42	351	P	P	07 31 56.3	-0.5
JHJ2	Mitsune	7.42	351	P	P	07 31 56.0	-0.8
JHJ	Hachijo jima 2	7.43	351	P	P	07 31 56.1	-0.8
	comp=E,577nm,0.3s,baz=68,slow=23,SNR=32						
JHJ				S	S	07 33 25.7	-2.9
	comp=E,579nm,0.4s,baz=116,slow=23,SNR=5.6						
JMZ	Minamidaito 2	9.02	272	P	P	07 32 13.7	+0.7
BSO3	Boso 3	9.02	356	P	P	07 32 12.3	-0.2
BSO3				S	S	07 33 55.6	-1.7
BSO4	Boso 4	9.22	355	P	P	07 32 14.7	-0.1
BSO4				*e*S	S	07 33 60.0	-1.3
JKN2	Miekihoku	9.47	334	P	P	07 32 17.5	+0.1
HMMJ	Hamamatsu 2	9.55	342	P	P	07 32 17.4	-0.9
JNY	Yasuok	9.99	344	P	P	07 32 21.8	-1.0
JMN	Monobe	10.18	323		P	07 32 25.4	+0.6
JMN	Monobe	10.18	323	P	P	07 32 26.2	+1.4
INU	Inuyama	10.21	340		P	07 32 23.9	-1.1
INU	Inuyama	10.21	340	P	P	07 32 24.7	-0.3
JGF	Kuroka	10.35	342		P	07 32 24.9	-1.5
JGF	Kuroka	10.35	342	P	P	07 32 26.0	-0.5
JYT	Yasato	10.46	355	P	P	07 32 26.7	-0.9
JYT				*e*S	S	07 34 21.1	-3.6
JHO	Hitachi	10.82	357	P	P	07 32 30.7	-0.6
MJAR	Matsushiro Arr	11.04	347	P	P	07 32 31.9	-1.7
	comp=E,37nm,0.3s,baz=165,slow=9.4,SNR=88						
MAJO	Matsushiro	11.04	347		P	07 32 32.2	-1.5
MAJO	Matsushiro	11.04	347	P	P	07 32 33.0	-0.7
MAJO	Matsushiro	11.04	347	*c i* P	P	07 32 32.2	-1.5
MJB9	Matsu-Tunnel	11.05	347	P	P	07 32 32.9	-0.8
JNU	Nakatsue	11.61	312	P	P	07 32 39.5	-0.1
JNU	Nakatsue	11.61	312	P	P	07 32 40.0	+0.3
	comp=E,176nm,1.1s,baz=106,slow=5.2,SNR=38						
JOW	Kunigami	11.67	278		P	07 32 40.9	+0.5
JOW	Kunigami	11.67	278	P	P	07 32 41.4	+1.1
	comp=E,82nm,0.5s,baz=116,slow=7.7,SNR=12						
JMM	Marumori	12.06	358		P	07 32 44.0	-0.2
JMM	Marumori	12.06	358	P	P	07 32 44.4	+0.2
JMM	Marumori	12.06	358	S	S	07 34 56.3	+1.2
JSD	Sado	12.49	349		P	07 32 47.2	-1.3
JSD	Sado	12.49	349	P	P	07 32 47.6	-1.0
GUMO	Guam	12.59	164	P	P	07 32 49.8	-0.2
GUMO	Guam	12.59	164	P	P	07 32 49.9	-0.1
	comp=E,80nm,0.4s,baz=347,slow=2.9,SNR=13						
GUMO	Guam	12.59	164	P	P	07 32 50.1	+0.1
GUMO	Guam	12.59	164	S	S	07 35 05.5	-0.2
JTU	Tsushima	13.44	313	P	P	07 32 57.8	-0.7
JTM	Tenmabayashi	14.98	360	P	P	07 33 15.0	+0.7
TJN	Taejon	15.88	315		P	07 33 23.0	-0.7
TJN	Taejon	15.88	315	P	P	07 33 24.7	+1.0
TJN	Taejon	15.88	315	*d i* P	P	07 33 24.1	+0.4
KSRS	Korea Array	16.23	319	P	P	07 33 26.6	-0.3
	comp=E,74nm,0.6s,baz=148,slow=8.8,SNR=166						
KSRS				S	S	07 36 14.7	+2.9
	comp=E,20nm,1.0s,baz=145,slow=16,SNR=21						
KSAR	Wonju Array Be	16.25	319	P	P	07 33 25.3	-1.9
KSAR	Wonju Array Be	16.25	319	P	P	07 33 25.3	-1.9
ERM	Erimo	16.28	5		P	07 33 27.2	-0.2
ERM	Erimo	16.28	5	P	P	07 33 28.9	+1.5
ERM	Erimo	16.28	5	*ce*P	P	07 33 27.6	+0.2
ERM				pmax	pmax		
	comp=Z,45nm,0.8s						
JEM	Erimo	16.28	5	P	P	07 33 29.0	+1.6
KS19	Wonju Array Si	16.30	319	P	P	07 33 27.3	-0.3
INCN	Inchon	17.03	317		P	07 33 34.2	-0.2
INCN	Inchon	17.03	317	P	P	07 33 35.0	+0.5
INCN	Inchon	17.03	317	P	P	07 33 34.2	-0.2
INCN				pmax	pmax		
	comp=Z,251nm,0.7s						
NACB	Ninganchiao	17.87	269	P	P	07 33 41.4	-1.0
NACB	Ninganchiao	17.87	269	P	P	07 33 42.7	+0.4
YHNB	Yeheng	18.00	271		P	07 33 42.6	-1.0
YHNB	Yeheng	18.00	271	P	P	07 33 43.9	+0.3
YULB	Yu-li	18.28	267	P	P	07 33 46.5	+0.4
YULB	Yu-li	18.28	267	P	P	07 33 46.9	+0.8
ASAJ	Asahikawa	18.34	3	P	P	07 33 47.2	+1.0
	comp=Z,42nm,0.8s,baz=228,slow=12,SNR=43						
ASAJ	Asahikawa	18.34	3	P	P	07 33 46.6	+0.3
ASAJ				pmax	pmax		
	comp=Z,46nm,0.8s						
JKA	Kamikawa-asahi	18.34	3		P	07 33 46.6	+0.4
SSLB	Suanglung	18.52	268	P	P	07 33 48.9	+0.6
SSLB	Suanglung	18.52	268	P	P	07 33 49.2	+0.9
TWGBT	Beinan	18.60	265	P	P	07 33 49.5	+0.5
TWG	Pinlang	18.61	265	P	P	07 33 49.0	-0.1
MSHR	Mys Shultsa	18.70	336	⇑*e*P	P	07 33 49.6	0.0
MSHR				pmax	pmax		
	comp=Z,97nm,1.1s						
PSTR	Posyet	18.89	336	*de*P	P	07 33 52.2	+0.9
TPUB	Ta-pu	18.90	267	P	P	07 33 52.1	+0.4
TPUB	Ta-pu	18.90	267	P	P	07 33 52.9	+1.1
VLA	Vladivostok	18.92	338	*de*P	P	07 33 52.7	+1.1
VLA				pmax	pmax		
	comp=Z,40nm,0.7s						
TEY	Ternei	19.58	350	*e*P	P	07 33 56.4	-1.2
USRK	Ussuriysk Ar.	19.86	340	P	P	07 34 00.8	+0.6
	comp=Z,12nm,0.5s,baz=156,slow=10.0,SNR=29						
NJ2	Nanjing	20.55	293	⇑P	P	07 34 07.3	+0.8
NJ2				pmax	pmax		
	comp=Z,55nm,0.7s						
MDJ	Mudanjiang	21.03	336		P	07 34 10.4	-0.3
MDJ				IAmb	IAmb	07 34 12.0	
	comp=Z,17nm,0.8s						
MDJ	Mudanjiang	21.03	336	P	P	07 34 11.4	+0.7
MDJ				S	S	07 37 30.0	+0.7
MDJ				pmax	pmax		
	comp=Z,32nm,1.2s						
DL2	Dalian	21.06	313	P	P	07 34 12.8	+1.8
DL2				pmax	pmax		
	comp=Z,47nm,0.8s						
YSS	Yuzhno-Sakhali	21.18	3	P	P	07 34 11.5	-0.5
YSS	Yuzhno-Sakhali	21.18	3	*e*P	P	07 34 12.6	+0.6
YSS				*e*S	S	07 37 32.4	+0.9
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
YSS				pmax	pmax		
	comp=Z,200nm,4.3s						
YSS				smax	smax		
	comp=E,20nm,0.4s						
CN2	Changchun	22.10	328	*e*P	P	07 34 20.2	-0.2
CN2				pmax	pmax		
	comp=E,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=E,210nm,5.0s						
BNX	BinXian	22.80	334	⇓P	P	07 34 27.1	+0.5
BNX				pmax	pmax		
	comp=E,61nm,1.0s						
WHN	Wuhan	24.14	288	P	P	07 34 39.9	+1.1
WHN				pmax	pmax		
	comp=E,52nm,0.6s						
KLR	Kul'dur	24.56	345	P	P	07 34 42.5	+0.3
	comp=E,11nm,0.3s,baz=165,slow=7.2,SNR=70						
KLR				S	S	07 38 23.6	-1.2
	comp=E,3.3nm,1.0s,baz=309,slow=19,SNR=7.5						
KLR				ScP	ScP	07 40 47.9	-1.1
	comp=E,4.0nm,0.8s,baz=299,slow=1.9,SNR=6.8						
	comp=E,11nm,0.3s						
KLR	Kul'dur	24.56	345	*c i* P	P	07 34 42.4	+0.3
KLR				pmax	pmax		
	comp=Z,59nm,1.6s						
TYV	Tymovskoe	25.08	2	*e*P	P	07 34 47.6	+0.9
TYV				*e*S	S	07 38 39.2	+6.3
TYV				pmax	pmax		
	comp=Z,18nm,0.7s						
TYV				pmax	pmax		
	comp=Z,200nm,4.0s						
TYV				smax	smax		
	comp=N,200nm,4.7s						
TYV				smax	smax		
	comp=E,200nm,4.7s						
BJI	Beijing	25.29	310	P	P	07 34 47.8	-0.9
BJI				pmax	pmax		
	comp=E,4.0nm,0.8s						
BJI				pmax	pmax		
	comp=E,29nm,4.6s						
HNS	HongShan	25.31	304	⇑P	P	07 34 49.0	+0.1
HNS				pmax	pmax		
	comp=E,91nm,1.0s						
LYN	LuoYang	26.29	296	⇓P	P	07 34 58.1	+0.4
LYN				pmax	pmax		
	comp=E,52nm,0.9s						
LYN				pmax	pmax		
	comp=E,200nm,6.0s						
HEH	HeiHe	26.67	340	⇑*i* P	P	07 35 01.1	+0.4
HEH				S	S	07 38 57.9	+0.1
HEH				ScP	ScP	07 40 54.6	-0.6
HEH				pmax	pmax		
	comp=E,81nm,1.3s						
TIY	Taiyuan	27.12	303	P	P	07 35 06.0	+1.0
TIY				pmax	pmax		
	comp=E,41nm,0.6s						
XLT	XiLinHaoTe	27.28	318	*e*P	P	07 35 06.9	+0.6
XLT				pmax	pmax		
	comp=E,16nm,0.9s						
XLT				pmax	pmax		
	comp=E,140nm,6.1s						
SKR	Severo-Kuril's	27.38	21	⇑*i* P	P	07 35 07.4	+0.5
SMPI	Sarmi	27.70	185	P	P	07 35 09.4	-0.9
ENH	Enshi	28.32	286		P	07 35 15.3	-0.4
HIA	Hailar	28.80	330		P	07 35 19.2	-0.3
HIA	Hailar	28.80	330	P	P	07 35 19.2	-0.3
HIA				pmax	pmax		
	comp=Z,49nm,1.2s						
HHC	Hu-ho-hao-te	28.82	309	*e*P	P	07 35 20.1	+0.2
HHC				S	S	07 39 33.0	+1.1
HHC				pmax	pmax		
	comp=Z,49nm,0.9s						
HHC				pmax	pmax		
	comp=Z,77nm,5.5s						
XAN	Xi'an	29.10	294	⇓P	P	07 35 22.7	+0.4
XAN				S	S	07 39 35.1	-1.2
XAN				ScP	ScP	07 41 02.6	-0.6
XAN				pmax	pmax		
	comp=Z,34nm,0.9s						
XAN				pmax	pmax		
	comp=Z,71nm,4.0s						
ZEA	Zeya	29.82	343	*e*P	P	07 35 28.3	+0.2
ZEA				pmax	pmax		
	comp=N,20nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,40nm,0.7s						
FAKI	Fak Fak	29.82	198	P	P	07 35 28.6	-0.1
MYLDM	Lahad Datu	29.88	231	P	P	07 35 30.3	+1.1
MYLDM	Lahad Datu	29.88	231	P	P	07 35 29.3	+0.1
PEA0B	Petropavlovsk-	29.97	20		P	07 35 29.7	+0.2
PEA0B				IAmb	IAmb	07 35 30.8	
	comp=Z,18nm,1.1s						
PEA0B	Petropavlovsk-	29.97	20	⇑*e*P	P	07 35 29.9	+0.4
PETK	Petropavlovsk-	29.97	20	P	P	07 35 29.2	-0.3
PETK	Petropavlovsk-	29.97	20	P	P	07 35 29.9	+0.4
	comp=Z,8.9nm,0.9s,baz=194,slow=5.4,SNR=16						
	comp=Z,8.9nm,0.9s						
PET	Petropavlovsk	30.20	21	P	P	07 35 31.4	0.0
PET				IAmb	IAmb	07 35 32.7	
	comp=Z,24nm,1.1s						
PET	Petropavlovsk	30.20	21	*e*P	P	07 35 31.9	+0.5
PET				pmax	pmax		
	comp=Z,26nm,1.6s						
PET	Petropavlovsk	30.20	21	P	P	07 35 31.6	+0.2
	comp=Z,22nm,1.4s						
TABU	Tabubil	30.85	180	P	P	07 35 38.3	+0.7
KKM	Kota Kinabalu	30.92	235		P	07 35 38.7	+0.4
KKM	Kota Kinabalu	30.92	235	P	P	07 35

comp=Z,19nm,0.8s
MA2 Magadan 34.44 9 P P 07 36 07.2 -0.1
MA2 IAmb IAmb 07 36 08.7
comp=Z,14nm,0.8s
MA2 Magadan 34.44 9ceP P 07 36 07.7 +0.4
MA2 pmax pmax
comp=Z,30nm,1.6s
MA2 Magadan 34.44 9 P **P 07 36 07.6 +0.3**
comp=Z,24nm,1.1s
KMI Kunming 34.68 277 ⇓P **P 07 36 11.7 +1.5**
KMI pmax pmax
comp=Z,39nm,1.0s
ULN Ulaanbaatar 34.72 318 P 07 36 10.1 +0.1
ULN Ulaanbaatar 34.72 318 P **P 07 36 10.8 +0.7**
ULN Ulaanbaatar 34.72 318c iP **P 07 36 10.7 +0.7**
ULN pmax pmax
comp=Z,55nm,0.9s
SONM Songino Array 35.10 318 P 07 36 13.0 -0.2
SONM Songino Array 35.10 318 P **P 07 36 13.8 +0.6**
comp=Z,22nm,0.6s,baz=132,slow=8.2,SNR=116
SONM PcP **PcP 07 38 30.2 +0.7**
comp=Z,3.3nm,0.8s,baz=105,slow=2.6,SNR=3.7
SONM ScP **ScP 07 41 22.9 -0.9**
comp=Z,1.7nm,1.0s,baz=139,slow=4.2,SNR=4.4
comp=Z,22nm,0.6s
PZH PanZhiHua 35.36 280 P **P 07 36 16.9 +1.2**
PZH S **S 07 41 10.7 -1.3**
PZH pmax pmax
comp=Z,140nm,0.9s
PZH pmax pmax
comp=Z,160nm,5.7s
PMG Port Moresby 35.44 170⇓eP **P 07 36 14.9 -1.3**
PMG pmax pmax
comp=Z,37nm,1.7s
SPSI Sidrap Palu 36.15 218 P **P 07 36 21.8 -0.4**
comp=Z,9μmcomp=Z,57nm,1.2s
SBUM Sibu 36.27 235 P 07 36 23.0 -0.2
SBUM IAmb IAmb 07 36 25.0
comp=Z,16nm,1.3s
BNSI Bone 36.32 217 P **P 07 36 25.3 +1.7**
comp=Z,38nm,1.3s
KAPI Kappang 37.03 217 P 07 36 29.4 0.0
KAPI IAmb IAmb 07 36 31.1
comp=Z,30nm,1.1s
KAPI Kappang 37.03 217 P **P 07 36 29.7 +0.3**
KAPI Kappang 37.03 217 P **P 07 36 29.4 0.0**
KAPI pmax pmax
comp=Z,29nm,1.2s
YAK Yakutsk 37.08 351⇓iP **P 07 36 28.6 -0.5**
YAK pmax pmax
comp=Z,88nm,1.7s
BKSI Bulukumba 37.08 216 P **P 07 36 28.5 -1.3**
comp=Z,23nm,1.1s
GTA Gaotai 37.13 302 P **P 07 36 31.0 +0.9**
GTA S **S 07 41 37.3 -0.7**
GTA pmax pmax
comp=Z,28nm,0.9s
BSSI Bau Bau, Buton 37.58 215 P **P 07 36 34.9 +1.0**
comp=Z,21nm,1.2s
SEY Seymchan 37.89 8 eP **P 07 36 35.1 -0.6**
SEY pmax pmax
comp=Z,16nm,1.1s
ZAK Zakamensk 38.06 320 eP **P 07 36 37.5 0.0**
ZAK pmax pmax
comp=Z,34nm,1.3s
STKI Sintang 38.43 233 P **P 07 36 41.9 +1.0**
TATA Tatamba Isabel 38.46 150 P **P 07 36 40.5 -0.6**
SOEI Soe 38.98 207 P **P 07 36 45.1 -0.3**
SOEI Soe 38.98 207 P **P 07 36 44.7 -0.7**
comp=Z,22nm,0.5s
NAYO Nakonayok 39.04 261 P **P 07 36 47.1 +1.3**
SAVO Savo Central 39.14 150 P **P 07 36 45.7 -0.9**
KDU Kakadu 39.16 194 P **P 07 36 46.7 0.0**
EDFI Ende, Flores 39.23 212 P **P 07 36 45.5 -1.9**
comp=Z,42nm,1.1s
DRS Darwin Rock St 39.28 196 P **P 07 36 47.7 +0.1**
COEN Coen 39.53 177 P 07 36 50.4 +0.7
COEN IAmb IAmb 07 36 50.8
comp=Z,10nm,0.7s
COEN Coen 39.53 177 P **P 07 36 49.8 +0.1**
CHTO Chiang Mai 39.60 269 P 07 36 50.3 0.0
CHTO IAmb IAmb 07 36 52.0
comp=Z,28nm,1.0s
CHTO Chiang Mai 39.60 269 P **P 07 36 51.1 +0.8**
CHTO Chiang Mai 39.60 269 P **P 07 36 50.6 +0.3**
CHTO Chiang Mai 39.60 269 P **P 07 36 50.3 0.0**
CHTO pmax pmax
comp=Z,28nm,1.0s
MTN Manton Dam 39.62 196 P **P 07 36 49.8 -0.6**
MTN Manton Dam 39.62 196 P **P 07 36 50.2 -0.2**
CM31 Chiang Mai Arr 39.71 268 P **P 07 36 51.2 0.0**
CM31 Chiang Mai Arr 39.71 268 P **P 07 36 52.1 +0.9**
SNR=8.3
CMAR Chiang Mai Arr 39.71 268 P 07 36 51.5 +0.2
CMAR Chiang Mai Arr 39.71 268 P **P 07 36 52.0 +0.8**
comp=Z,13nm,0.6s,baz=58,slow=8.2,SNR=84
CMAR PcP **PcP 07 38 45.6 +1.3**
comp=Z,2.0nm,0.7s,baz=74,slow=1.7,SNR=6.3
CMAR ScP **ScP 07 41 43.2 +1.6**
comp=Z,0.4nm,0.3s,baz=113,slow=1.3,SNR=4.5
CMAR S **S 07 42 15.4 -0.8**
comp=Z,0.3nm,0.3s,baz=60,slow=17,SNR=4.5
comp=Z,13nm,0.6s
WSI Waingapu 40.69 213 P **P 07 36 59.3 +0.3**
GOMU GeErMu 40.79 296 P **P 07 37 00.1 +0.1**
GOMU pmax pmax
comp=Z,8.0nm,0.8s
PLAI Plampang 41.27 217 P **P 07 37 03.1 -0.5**
NGOA Tingoa Renbel 41.39 151 P **P 07 37 03.7 -0.8**
SRBI Singaraja 42.10 220 P **P 07 37 11.2 +1.1**
comp=Z,26nm,0.8s
ABJI Asem Bagus 42.45 222 P **P 07 37 14.0 +1.1**
comp=Z,115nm,1.3s
ATKA Atka Island 42.60 40 P **P 07 37 13.2 -0.3**
JAGI Jajag, Banyuwa 43.03 221 P **P 07 37 16.9 -0.5**
JAGI Jajag, Banyuwa 43.03 221 P **P 07 37 17.6 +0.1**
JAGI Jajag, Banyuwa 43.03 221 P **P 07 37 17.2 -0.3**
comp=Z,56nm,0.9s
SRIT Nakonsritamara 43.05 254 P **P 07 37 18.1 +0.5**
TPI Tanjungpandan 43.14 234 P **P 07 37 18.1 -0.2**
comp=Z,33nm,0.9s
MYKOM Kota Tinggi 43.15 243 P 07 37 18.9 +0.5
MYKOM IAmb IAmb 07 37 21.6
comp=Z,12nm,0.6s
KULM Kulim 43.82 249 P **P 07 37 23.7 +0.1**
KULM IAmb IAmb 07 37 25.5
comp=Z,15nm,0.6s
KULM Kulim 43.82 249 P **P 07 37 24.3 +0.7**
LSA Lhasa 44.23 287 P 07 37 27.8 +0.6
LSA IAmb IAmb 07 37 31.1
comp=Z,19nm,0.7s
LSA Lhasa 44.23 287 P **P 07 37 27.8 +0.6**
LSA pmax pmax
comp=Z,19nm,0.7s
SHL Shillong 44.26 281 P 07 37 27.2 +0.1
SHL Shillong 44.26 281 P **P 07 37 27.9 +0.7**
SNR=35
SHL Shillong 44.26 281 P **P 07 37 27.2 +0.1**
SHL pmax pmax
comp=Z,102nm,0.8s
UGM Wanagama 44.86 226 P **P 07 37 31.4 -0.2**
BILL Biliibino 44.93 13 P 07 37 31.1 -0.3
BILL Biliibino 44.93 13c iP **P 07 37 31.7 +0.3**
BILL pmax pmax
comp=Z,32nm,0.9s
WB0 Warramunga Arr 45.75 189 P **P 07 37 37.6 -0.7**
WRAB Tennant Creek 45.92 189ceP **P 07 37 39.2 -0.4**
WRAB pmax pmax
comp=Z,9.0nm,0.6s
WRA Warramunga Arr 45.93 189 P **P 07 37 38.9 -0.8**
WRA Warramunga Arr 45.93 189 P **P 07 37 39.3 -0.4**
comp=Z,13nm,0.4s,baz=6.4,slow=7.6,SNR=156
WRA PcP **PcP 07 39 06.3 +0.9**
comp=Z,3.1nm,0.6s,baz=5.5,slow=3.6,SNR=7.7
WRA ScP **ScP 07 42 05.8 -1.0**
comp=Z,1.7nm,0.8s,baz=4.5,slow=4.4,SNR=5.2
WRA S **S 07 43 41.1 -3.8**
comp=Z,3.0nm,0.7s,baz=5.8,slow=13,SNR=7.7
comp=Z,13nm,0.4s
LEM Lembang 46.00 230 P **P 07 37 40.5 0.0**
comp=Z,69nm,1.2s
QIS Mount Isa 46.08 182 P **P 07 37 40.6 -0.2**
FITZ Fitzroy Crossi 46.17 201 P 07 37 41.4 -0.1
FITZ Fitzroy Crossi 46.17 201 S **S 07 43 46.1 -2.0**
comp=Z,5.4nm,1.1s,baz=92,slow=22,SNR=3.1

BBJI Bungbulang 46.44 229 P **P 07 37 42.7 -1.0**
TIXI Tiksi 46.44 355 P 07 37 42.6 -0.2
TIXI IAmb IAmb 07 38 10.1
comp=Z,13nm,1.1s
TIXI Tiksi 46.44 355⇑iP **P 07 37 41.9 -0.9**
TIXI pmax pmax
comp=Z,15nm,1.5s
SPIA Saint Paul Isl 46.54 34 P **P 07 37 42.5 -1.2**
baz=248
PSI Prapat 46.60 248 P **P 07 37 45.7 +0.6**
PSI Prapat 46.60 248 P **P 07 37 44.7 -0.4**
PSI pmax pmax
comp=Z,39nm,0.5s
RPSI Rantau Prapat 46.66 248 P 07 37 44.7 -0.6
WMQ Urumqi 46.66 307 eP **P 07 37 46.0 +0.9**
WMQ pmax pmax
comp=Z,38nm,1.1s
P08K Saint George I 46.69 35 P **P 07 37 44.2 -0.7**
baz=250
MDSI Maura Dua 46.85 235 P **P 07 37 46.3 -0.5**
comp=Z,44nm,0.9s
UNV Unalaska Valle 47.52 39 P **P 07 37 50.4 -0.8**
baz=255
MNAI Manna 47.69 237 P **P 07 37 52.9 -0.1**
AKUT Akutan 48.02 39 P **P 07 37 55.1 +0.2**
GAMB Gambell 48.68 26 P **P 07 37 59.3 -0.4**
baz=242
FALS False Pass 49.52 39 P **P 07 38 05.5 -0.6**
baz=257
AS01 Alice Springs 49.65 189 P **P 07 38 07.1 -0.3**
M11K Mekoryuk 49.65 31 P **P 07 38 06.7 -0.2**
baz=250
AS31 Alice Springs 49.65 189 P 07 38 06.7 -0.8
ASAR Alice Springs 49.65 189 P **P 07 38 06.9 -0.6**
comp=Z,2.0nm,0.4s,baz=1.7,slow=3.8,SNR=58
ASAR PcP **PcP 07 39 19.3 +0.5**
comp=Z,2.2nm,0.8s,baz=9.6,slow=4.3,SNR=9.2
ASAR S **S 07 44 33.1 -3.0**
comp=Z,1.5nm,0.8s,baz=16,slow=16,SNR=6.5
comp=Z,2.0nm,0.4s
ZAA0 Zalesovo Array 49.94 320 P 07 38 08.4 -0.7
ZAA0 IAmb IAmb 07 38 09.6
comp=Z,19nm,0.9s
ZALV Zalesovo Beam 49.94 320 P 07 38 08.2 -0.9
ZALV Zalesovo Beam 49.94 320 P **P 07 38 08.8 -0.4**
comp=Z,17nm,0.6s,baz=101,slow=6.9,SNR=39
ZALV PcP **PcP 07 39 18.8 -0.6**
comp=Z,3.5nm,0.5s,baz=99,slow=3.8,SNR=6.6
comp=Z,17nm,0.6s
MK31 Makanchi Array 50.67 310 P 07 38 14.5 -0.1
MK31 IAmb IAmb 07 38 16.0
comp=Z,20nm,0.9s
MK31 Makanchi Array 50.67 310c iP **P 07 38 14.8 +0.2**
MKAR Makanchi Array 50.67 310 P 07 38 14.6 0.0
MKAR Makanchi Array 50.67 310 P **P 07 38 15.0 +0.3**
comp=Z,18nm,0.8s,baz=91,slow=9.4,SNR=104
MKAR PcP **PcP 07 39 22.7 +0.3**
comp=Z,4.5nm,0.5s,baz=73,slow=5.5,SNR=7.5
MKAR ScP **ScP 07 42 26.6 -0.2**
comp=Z,2.3nm,0.6s,baz=91,slow=4.9,SNR=7.8
MKAR S **S 07 44 50.1 +0.8**
comp=Z,1.2nm,1.1s,baz=97,slow=15,SNR=4.3
comp=Z,18nm,0.8s
K13K Kusilvak Mount 50.88 30 P **P 07 38 16.4 +0.6**
baz=250
MAKZ Makanchi 50.88 310 P 07 38 16.2 0.0
MAKZ IAmb IAmb 07 38 17.7
comp=Z,32nm,0.9s
MAKZ Makanchi 50.88 310 P **P 07 38 16.7 +0.5**
TNA Tin City 50.95 25 P **P 07 38 15.5 -0.8**
baz=244
M13K Dall Lake 51.00 32 P **P 07 38 15.8 -0.9**
baz=253
MBWA Marble Bar 51.10 206 P **P 07 38 18.1 0.0**
MBWA Marble Bar 51.10 206 P **P 07 38 18.2 +0.2**
SDPT Sand Point 51.27 39 P **P 07 38 18.3 -0.5**
SDPT Sand Point 51.27 39 P **P 07 38 18.1 -0.7**
baz=260
PSA00 Pilbara Seismi 51.43 206 P **P 07 38 20.7 +0.3**
F14K Arctic Creek 51.51 25 P **P 07 38 20.0 -0.4**
baz=246
ANM Nome 51.52 26 P **P 07 38 20.4 -0.1**
baz=248
L14K Kuka Creek 51.59 31 P 07 38 21.6 +0.6
L14K IAmb IAmb 07 38 22.7
comp=Z,25nm,0.8s
L14K Kuka Creek 51.59 31 P **P 07 38 21.0 0.0**
baz=253
J14K Nanvaranak Lak 51.64 29 P **P 07 38 21.3 +0.1**
baz=251
N14K Kuskokwak Cree 51.66 33 P **P 07 38 21.6 +0.1**
baz=255
CHNA Chernabura Isl 51.69 39 P **P 07 38 21.3 -0.5**
baz=261
O14K Tigyukauivet M 51.70 34 P **P 07 38 20.8 -1.0**
baz=256
M14K Bethel 51.75 32 P 07 38 22.8 +0.6
M14K IAmb IAmb 07 38 24.0
comp=Z,27nm,0.8s
M14K Bethel 51.75 32 P **P 07 38 22.2 0.0**
baz=254
S14K Fog Glacier 51.96 37 P **P 07 38 23.3 -0.6**
baz=260
WRKA Warakurna 52.03 195 P **P 07 38 24.5 -0.3**
G15K Niukluk 52.22 26 P **P 07 38 25.3 -0.2**
baz=249
L15K Ungalak Mounta 52.23 31 P **P 07 38 26.1 +0.4**
baz=254
F15K North Star Dit 52.25 25 P **P 07 38 25.8 +0.1**
F15K IAmb IAmb 07 38 27.5
comp=Z,25nm,1.0s
F15K North Star Dit 52.25 25 P **P 07 38 25.8 +0.1**
baz=248,SNR=6.3
M15K Kasigluk River 52.34 32 P **P 07 38 26.6 +0.2**
baz=255
K15K Wolf Creek Mou 52.39 30 P **P 07 38 27.4 +0.6**
K15K IAmb IAmb 07 38 29.1
comp=Z,25nm,1.1s
K15K Wolf Creek Mou 52.39 30 P **P 07 38 25.8 -0.9**
baz=253
O15K Ungalixthiuk R 52.40 34 P **P 07 38 25.9 -1.0**
baz=257
N15K Kwethluk River 52.50 33 P **P 07 38 27.0 -0.6**
baz=256
PDGK Podgornoye 52.61 306 P **P 07 38 28.5 -0.4**
H16K Elim 52.81 27 P **P 07 38 29.0 -0.8**
baz=251
WUS Wushi 52.91 303 P 07 38 31.4 +0.3
WUS IAmb IAmb 07 38 33.1
comp=Z,25nm,1.2s
G16K Koyuk River 53.02 26 P **P 07 38 30.9 -0.3**
baz=250
C16K Lisburne Hills 53.03 22 P **P 07 38 31.0 -0.2**
baz=245
J16K Anvik River 53.08 29 P **P 07 38 31.3 -0.4**
baz=253
L16K Owhat River 53.17 31 P **P 07 38 31.3 -1.0**
baz=256
N16K Nishlik Lake 53.21 32 P **P 07 38 32.0 -0.7**
baz=257,SNR=8.7
I17K Unalakleet 53.22 28 P **P 07 38 31.8 -0.8**
baz=253
M16K Timber Creek 53.24 32 P **P 07 38 33.2 +0.3**
M16K Timber Creek 53.24 32 P **P 07 38 32.4 -0.4**
baz=257
R16K Pilot Point 53.25 36 P **P 07 38 32.8 -0.1**
baz=260
P16K Nushagak River 53.29 34 P **P 07 38 33.5 +0.3**
baz=259
KURK Kurchatov 53.31 315 P 07 38 33.2 -0.3
KURK IAmb IAmb 07 38 34.4
comp=Z,56nm,1.2s
KURK Kurchatov 53.31 315 P **P 07 38 33.5 0.0**
KURK Kurchatov 53.31 315c iP **P 07 38 33.4 -0.1**
KURK pmax pmax
comp=Z,52nm,1.2s
O16K Kokwok River B 53.35 34 P **P 07 38 33.7 0.0**
baz=258
KURBB Kurchatov Arra 53.36 315 P **P 07 38 33.9 0.0**
comp=Z,31nm,0.6s,baz=93,slow=7.8,SNR=107
KURBB S **S 07 45 23.6 -1.4**
comp=Z,0.5nm,0.4s,baz=92,slow=11,SNR=9.3
comp=Z,31nm,0.6s
PRZ Przheval'sk 53.45 305 P 07 38 36.1 +1.2
PRZ Przheval'sk 53.45 305 P **P 07 38 36.1 +1.2**
PRZ pmax pmax
comp=Z,58nm,0.9s

DZM Mont Dzumac 53.48 151 P **P 07 38 36.3 +1.1**
OOD Oodnadatta 53.52 186 P **P 07 38 35.0 -0.2**
NRIK Noril'sk 53.57 339 P **P 07 38 34.9 -0.2**
comp=Z,6.4nm,0.3s,baz=113,slow=8.5,SNR=21
comp=Z,6.4nm,0.3s
NRIK Noril'sk 53.57 339c iP **P 07 38 34.4 -0.6**
NRIK pmax pmax
comp=Z,12nm,0.8s
D17K Noatak River 53.58 23 P **P 07 38 34.0 -1.2**
baz=248,SNR=14
G17K Kiwalik Mounta 53.73 26 P **P 07 38 35.2 -1.0**
baz=252
J17K VABM Dome 53.78 29 P **P 07 38 36.6 0.0**
baz=255
RDOG Red Dog Mine 53.78 23 P **P 07 38 37.1 +0.5**
baz=248
F17K Baldwin Pennin 53.80 25 P **P 07 38 37.5 +0.8**
baz=250
L17K Donlin 53.81 30 P **P 07 38 37.1 +0.3**
baz=256,SNR=6.7
E17K Hotham Inlet 53.81 24 P **P 07 38 36.8 +0.1**
baz=249,SNR=13
H17K Granite Mounta 53.85 27 P **P 07 38 37.2 +0.1**
baz=253,SNR=7.9
Q16K King Salmon 53.91 35 P **P 07 38 36.7 -0.9**
baz=260
K17K Iditarod 53.95 30 P **P 07 38 37.6 -0.2**
baz=256,SNR=5.9
N17K Nushagak Hills 53.98 33 P **P 07 38 37.8 -0.3**
baz=259,SNR=6.3
M17K Holitna River 54.04 31 P **P 07 38 39.2 +0.7**
M17K IAmb IAmb 07 38 40.4
comp=Z,28nm,1.0s
M17K Holitna River 54.04 31 P **P 07 38 38.9 +0.4**
baz=258
CHIR Chirikof Islan 54.07 38 P **P 07 38 38.7 -0.1**
baz=263
P17K Kvichak River 54.11 34 P **P 07 38 38.9 -0.1**
baz=260
Q17K Contact Creek 54.25 35 P **P 07 38 40.1 -0.1**
baz=262
E18K Tukpahlearik C 54.37 24 P 07 38 40.8 +0.1
E18K Tukpahlearik C 54.37 24 P **P 07 38 40.9 +0.1**
baz=250,SNR=12
KDJ Kajisay 54.37 305 P **P 07 38 41.9 +0.5**
KDJ Kajisay 54.37 305 P **P 07 38 41.9 +0.5**
KDJ pmax pmax
comp=Z,14nm,0.9s
MDOK Medeo 54.40 306 P **P 07 38 42.3 +0.7**
F18K Selawik 54.46 25 P **P 07 38 40.5 -0.8**
baz=252,SNR=14
H18K Honhosa River 54.55 27 P **P 07 38 42.1 +0.1**
baz=254,SNR=5.3
L18K Granite Mounta 54.56 31 P **P 07 38 42.1 -0.1**
baz=258
C18K Utukok River 54.59 22 P **P 07 38 42.1 -0.3**
C18K Utukok River 54.59 22 P **P 07 38 42.4 +0.1**
baz=249,SNR=6.2
G18K Tagagawik 54.64 26 P **P 07 38 42.5 -0.1**
baz=253,SNR=12
N18K Kilae Creek 54.64 32 P **P 07 38 42.3 -0.5**
baz=260
B18K Kokolik River 54.65 21 P **P 07 38 42.1 -0.6**
baz=248,SNR=5.5
P18K Big Mountain, 54.76 34 P **P 07 38 43.0 -0.7**
baz=261
Q18K Katmai Hardscr 54.76 35 P **P 07 38 43.4 -0.3**
baz=262
GIRL Giralia 54.78 211 P **P 07 38 44.3 +0.1**
M18K Stony River 54.82 32 P **P 07 38 43.9 -0.1**
baz=259,SNR=5.7
J18K Innoko River 54.82 29 P **P 07 38 43.4 -0.5**
baz=257
O18K Koktuh Hills 54.84 34 P **P 07 38 43.3 -0.8**
baz=261,SNR=7.2
R18K Karluk 54.91 36 P **P 07 38 44.2 -0.5**
baz=263
SII Sitkinak Islan 54.95 38 P **P 07 38 43.9 -1.0**
baz=264
TTA Tatalina 55.02 30 P **P 07 38 45.7 +0.3**
TTA Tatalina 55.02 30 P **P 07 38 44.6 -0.9**
baz=258
GCSA Galena City Sc 55.05 27 P **P 07 38 45.3 -0.2**
baz=256
ULHL Ulahol 55.06 305 P **P 07 38 47.7 +1.4**
SNR=5.1
A19K Wainwright 55.20 21 P **P 07 38 46.1 -0.3**
baz=248
F19K Shaleruckik Mo 55.24 25 P **P 07 38 46.7 -0.1**
baz=254,SNR=5.1
BOOM Boomskoye usch 55.26 305 P **P 07 38 48.1 +0.4**
BOOM IAmb IAmb 07 38 49.5
comp=Z,22nm,0.7s
BOOM Boomskoye usch 55.26 305 P **P 07 38 48.1 +0.4**
BOOM pmax pmax
comp=Z,22nm,0.7s
G19K Purcell Mounta 55.32 26 P **P 07 38 47.3 -0.1**
baz=255,SNR=6.3
O19K Port Alsworth 55.33 33 P **P 07 38 47.7 +0.2**
O19K Port Alsworth 55.33 33 P **P 07 38 47.5 0.0**
baz=262,SNR=8.5
N19K Bonanza Creek 55.34 32 P **P 07 38 47.7 0.0**
baz=261
L19K White Mountain 55.40 31 P **P 07 38 47.8 -0.3**
baz=260
J19K Poorman 55.41 29 P **P 07 38 47.8 -0.3**
baz=258
H19K Roundabout Mou 55.42 27 P 07 38 48.4 +0.4
H19K IAmb IAmb 07 38 49.7
comp=Z,28nm,0.8s
H19K Roundabout Mou 55.42 27 P **P 07 38 47.9 -0.1**
baz=256,SNR=16
TKM2 Tokmak 2 55.48 306 P **P 07 38 50.3 +1.1**
SNR=21
TKM2 Tokmak 2 55.48 306 iP **P 07 38 49.4 +0.2**
TKM2 pmax pmax
comp=Z,25nm,1.0s
Q19K Cape Douglas, 55.50 35 P **P 07 38 48.6 -0.2**
baz=263
OHAK Old Harbor 55.50 37 P **P 07 38 48.1 -0.6**
baz=264
KSH Kashi 55.53 302 P **P 07 38 53.4 +3.9**
KSH pmax pmax
comp=Z,26nm,0.8s
M19K Big River Lodg 55.57 31 P **P 07 38 48.5 -0.7**
baz=260
D19K Kuna River 55.61 23 P 07 38 49.2 -0.2
D19K IAmb IAmb 07 38 50.6
comp=Z,23nm,1.1s
D19K Kuna River 55.61 23 P **P 07 38 49.4 0.0**
baz=252
E19K Redstone River 55.62 24 P **P 07 38 49.0 -0.5**
baz=254
P19K Oil Pt 55.80 34 P **P 07 38 50.5 -0.3**
baz=263
L20K Farewell, AK 55.90 31 P **P 07 38 51.4 -0.1**
baz=260
KDAK Kodiak Island 55.94 36 P **P 07 38 51.6 -0.2**
baz=265
K20K Telida 55.97 29 P **P 07 38 51.8 -0.1**
baz=260,SNR=5.3
LCRK Leigh Creek 55.97 183 P **P 07 38 52.4 0.0**
KBK Karagaybulak 55.98 305 P **P 07 38 53.6 +1.0**
SNR=9.8
H20K Anotleneega Mo 56.05 27 P **P 07 38 51.5 -1.0**
baz=257,SNR=11
I20K Naaghedeneel 56.07 28 P **P 07 38 52.6 +0.1**
baz=258
F20K Avaraart Lake 56.08 25 P 07 38 52.7 +0.1
F20K Avaraart Lake 56.08 25 P **P 07 38 52.5 -0.1**
baz=256,SNR=16
J20K Nowinta River 56.09 28 P 07 38 53.1 +0.4
J20K IAmb IAmb 07 38 54.5
comp=Z,19nm,0.9s
J20K Nowinta River 56.09 28 P **P 07 38 53.1 +0.4**
baz=259,SNR=10.0
Q20K Shuyak Island 56.11 35 P **P 07 38 52.6 -0.4**
baz=264
MSVF Nonsavu 56.15 137 P **P 07 38 54.9 +1.0**
comp=Z,3.3nm,0.5s,baz=309,slow=18,SNR=6.5
comp=Z,3.3nm,0.5s
MSVF Nonsavu 56.15 137 P P 07 38 54.8 +0.9
M20K Styx River 56.15 31 P **P 07 38 53.3 0.0**
baz=262
D20K Etivluk River 56.20 23 P **P 07 38 53.4 0.0**
D20K IAmb IAmb 07 38 54.8
comp=Z,46nm,0.8s

D20K	Etivluk River	56.20	23	P		P	07 38 53.3	-0.1
	baz=254,SNR=38							
E20K	Nigu River	56.22	23	P		P	07 38 53.6	-0.1
	baz=254,SNR=17							
USP	Ospenovka	56.25	306	P		P	07 38 55.2	+0.9
	SNR=10							
AAK	Ala-Archa	56.31	305			P	07 38 55.0	+0.1
AAK	Ala-Archa	56.31	305	P		P	07 38 55.3	+0.5
AAK	Ala-Archa	56.31	305	P		P	07 38 55.9	+1.0
	SNR=9.4							
AAK	Ala-Archa	56.31	305	*c iP*		P	07 38 55.4	+0.5
AAK				pmax		pmax		
	comp=Z,12nm,0.9s							
AAK	Ala-Archa	56.31	305	*i* P		P	07 38 55.4	+0.5
	SNR=10							
UCH	Uchtor	56.34	305	P		P	07 38 57.3	+1.9
	SNR=5.8							
B20K	Meade River	56.40	21	P		P	07 38 54.8	+0.1
	baz=252,SNR=9.1							
MEEK	Meekatharra	56.48	204	P		P	07 38 55.8	-0.2
SPCR	Spurr Chakacha	56.50	32	P		P	07 38 55.6	-0.1
	baz=263							
HOM	Homer	56.60	34	P		P	07 38 55.9	-0.4
	baz=264							
PPLA	Purkeypile	56.73	30	P		P	07 38 57.1	-0.3
	baz=262							
G21K	Allakaket	56.81	26			P	07 38 57.5	-0.2
G21K	Allakaket	56.81	26	P		P	07 38 57.7	0.0
	baz=258,SNR=12							
CHUM	Lake Minchumin	56.83	29	P		P	07 38 57.9	0.0
	baz=261							
EKS2	Erkin-Say	56.84	306	P		P	07 38 59.0	+0.6
	SNR=9.7							
CAST	Castle Rocks	56.86	30	P		P	07 38 57.9	-0.1
	baz=261,SNR=12							
SKT	Skwentna	56.91	31	P		P	07 38 58.4	-0.1
	baz=263							
H21K	Melozitna Rive	56.93	27	P		P	07 38 58.9	+0.4
	baz=259,SNR=16							
AML	Almayashu	56.95	305	P		P	07 39 00.8	+1.2
	SNR=32							
C21K	Knifeblade Rid	56.96	23	P		P	07 38 59.1	+0.5
	baz=255,SNR=8.6							
CAPN	Captain Cook N	56.96	33	P		P	07 38 58.8	+0.1
	baz=264							
F21K	Alatna River	56.97	25	P		P	07 38 59.2	+0.5
	baz=258,SNR=7.4							
BRSE	Bradley Lake S	57.06	34	P		P	07 38 59.7	+0.1
	baz=265							
E21K	Killik River	57.07	23	P		P	07 38 59.6	+0.2
	baz=256							
B21K	Ikpikpuk River	57.13	22			P	07 39 00.1	+0.4
B21K				IAmb		IAmb	07 39 01.3	
	comp=Z,23nm,0.9s							
B21K	Ikpikpuk River	57.13	22	P		P	07 39 00.2	+0.4
	baz=255							
SUA	Susitna One	57.23	32	P		P	07 39 00.6	-0.2
	baz=264							
STKA	Stephens Creek	57.33	180	P		P	07 39 01.4	-0.2
	comp=Z,3.1nm,0.4s,baz=349,slow=7.9,SNR=22							
	comp=Z,3.1nm,0.4s							
STKA	Stephens Creek	57.33	180	P		P	07 39 01.3	-0.3
A22K	Sinclair Lake	57.39	20	P		P	07 39 01.6	+0.1
	baz=254,SNR=12							
BPAW	Bear Paw Mtn.	57.44	29	P		P	07 39 02.2	+0.2
	baz=262,SNR=12							
F22K	John River	57.52	25	P		P	07 39 01.9	-0.6
	baz=259							
H22K	Ishtalitna Cre	57.55	27	P		P	07 39 02.3	-0.4
	baz=260,SNR=8.7							
CUT	Chulitna	57.55	31	P		P	07 39 02.7	-0.1
	baz=264							
M22K	Willow	57.55	32	P		P	07 39 02.5	-0.3
	baz=264							
ARSB	Arslanbob	57.58	304			P	07 39 03.6	0.0
ARSB				IAmb		IAmb	07 39 05.4	
	comp=Z,22nm,0.8s							
ARSB	Arslanbob	57.58	304	P		P	07 39 03.6	0.0
ARSB				pmax		pmax		
	comp=Z,22nm,0.8s							
D22K	Ayikyak River	57.62	23	P		P	07 39 03.5	+0.3
	baz=257							
FORT	Forrest	57.62	193	P		P	07 39 03.4	-0.3
O22K	Cooper Landing	57.63	33	P		P	07 39 03.6	+0.2
	baz=266							
TRF	Thorofare Moun	57.66	30	P		P	07 39 03.4	-0.3
	baz=263,SNR=5.5							
G22K	Bettles	57.67	25	P		P	07 39 03.6	+0.1
	baz=260							
RC01	Rabbit Creek A	57.68	32	P		P	07 39 04.0	+0.3
	baz=265							
B22K	Teshekpuk Lake	57.71	21	P		P	07 39 03.6	-0.2
	baz=256							
SEW	Seward	57.74	34	P		P	07 39 03.9	-0.1
	baz=266							
E22K	Anaktuvuk Pass	57.78	24			P	07 39 04.9	+0.6
E22K	Anaktuvuk Pass	57.78	24	P		P	07 39 04.3	-0.1
	baz=259,SNR=8.7							
PMR	Palmer	58.01	32	P		P	07 39 05.2	-0.7
PMR	Palmer	58.01	32	P		P	07 39 05.3	-0.6
	baz=265							
G23K	Bananza Creek	58.22	26			P	07 39 07.3	0.0
G23K				IAmb		IAmb	07 39 09.1	
	comp=Z,26nm,1.2s							
G23K	Bananza Creek	58.22	26	P		P	07 39 07.3	0.0
	baz=261,SNR=12							
COLD	Coldfoot	58.23	25	P		P	07 39 07.8	+0.5
	baz=261,SNR=14							
I23K	Minto, Yukon-K	58.27	28	P		P	07 39 07.7	+0.1
	baz=263,SNR=7.5							
H23K	Yukon River	58.28	27	P		P	07 39 08.2	+0.5
	baz=262							
MCK	McKinley	58.30	29			P	07 39 07.1	-0.7
MCK				IAmb		IAmb	07 39 08.4	
	comp=Z,30nm,0.8s							
MCK	McKinley	58.30	29	P		P	07 39 07.1	-0.7
MCK				pmax		pmax		
	comp=Z,30nm,0.8s							
MCK	McKinley	58.30	29	P		P	07 39 07.5	-0.4
	baz=264,SNR=13							
RND	Reindeer	58.30	30			P	07 39 07.1	-0.8
RND	Reindeer	58.30	30	P		P	07 39 07.1	-0.8
RND				pmax		pmax		
	comp=Z,13nm,0.8s							
KNK	Knik Glacier	58.32	32	P		P	07 39 07.5	-0.5
	baz=266							
NEA2	Nenana	58.33	28	P		P	07 39 08.3	+0.2
	baz=264,SNR=18							
PWL	Port Wells	58.34	33	P		P	07 39 07.8	-0.4
	baz=266							
D23K	Nanushuk River	58.35	23			P	07 39 08.9	+0.8
D23K				IAmb		IAmb	07 39 10.0	
	comp=Z,30nm,1.0s							
D23K	Nanushuk River	58.35	23	P		P	07 39 08.1	0.0
	baz=259							
SML	Sawmill	58.41	32	P		P	07 39 08.5	-0.1
	baz=266							
BVA0	Borovoye Array	58.44	318	*i* P		P	07 39 09.2	+0.2
BVAR	Borovoye Array	58.44	318	P		P	07 39 09.2	+0.3
	comp=Z,110nm,0.8s,baz=90,slow=7.7,SNR=245							
BVAR				S		S	07 46 29.5	-1.2
	comp=Z,2.1nm,0.8s,baz=91,slow=12,SNR=7.5							
	comp=Z,110nm,0.8s							
BBOO	Buckleboo	58.46	185	P		P	07 39 08.9	-0.4
BRVK	Borovoye	58.50	318			P	07 39 09.5	+0.2
BRVK	Borovoye	58.50	318	P		P	07 39 09.8	+0.4
BRVK	Borovoye	58.50	318	*c iP*		P	07 39 09.6	+0.2
BRVK				pmax		pmax		
	comp=Z,68nm,0.8s							
C23K	Itkillik River	58.54	22			P	07 39 09.2	-0.1
C23K				IAmb		IAmb	07 39 10.9	
	comp=Z,29nm,0.9s							
C23K	Itkillik River	58.54	22	P		P	07 39 09.7	+0.4
	baz=259,SNR=17							
E23K	Chandalar	58.58	24	P		P	07 39 09.8	0.0
E23K				IAmb		IAmb	07 39 11.7	
	comp=Z,24nm,0.9s							
E23K	Chandalar	58.58	24	P		P	07 39 10.1	+0.3
	baz=261,SNR=20							
NIL	Nilore	58.63	295			P	07 39 10.6	-0.1
NIL				IAmb		IAmb	07 39 13.1	
	comp=Z,50nm,0.9s							
NIL	Nilore	58.63	295	P		P	07 39 10.6	-0.1
NIL				pmax		pmax		
	comp=Z,50nm,1.0s							
M23K	Glacier View	58.69	32	P		P	07 39 10.5	-0.1
	baz=266							
TOLK	Toolik Lake Re	58.69	24	P		P	07 39 10.6	+0.1
	baz=261,SNR=8.0							
COLA	College	58.88	28	P		P	07 39 11.9	+0.2
COLA	College	58.88	28	*i iP*		P	07 39 12.2	+0.5
COLA				pmax		pmax		
	comp=Z,12nm,0.8s							
COLA	College	58.88	28	P		P	07 39 11.5	-0.2
	baz=264							
SCM	Sheep Creek Mo	58.88	32	P		P	07 39 11.4	-0.5
	baz=267							
HTT	Hallett	58.91	182	P		P	07 39 12.4	0.0
GLI	Glacier Island	58.95	33	P		P	07 39 11.8	-0.4
	baz=268							
H24K	Noodor Dome	58.97	27	P		P	07 39 12.1	-0.3
	baz=264,SNR=12							
E24K	Your Creek	59.00	24			P	07 39 12.6	0.0
E24K	Your Creek	59.00	24	P		P	07 39 12.6	0.0
	baz=262,SNR=19							
D24K	Happy Valley	59.04	23	P		P	07 39 12.7	0.0
	baz=261							
POKR	Poker Plat Res	59.08	28	P		P	07 39 13.2	+0.1
	baz=265,SNR=5.9							
F24K	Squaw Lake	59.16	25	P		P	07 39 13.5	-0.1
	baz=263,SNR=12							
KK31	Karatay Array	59.17	306	*i* P		P	07 39 14.2	+0.1
KKAR	Karatay Array	59.17	306	P		P	07 39 14.1	0.0
KKAR	Karatay Array	59.17	306	P		P	07 39 14.1	0.0
C24K	Franklin Bluff	59.17	22	P		P	07 39 13.8	+0.3
	baz=261							
G24K	Hadweenzic Riv	59.22	26	P		P	07 39 13.8	-0.2
	baz=264,SNR=9.6							
HDA	Harding Lake	59.23	29	P		P	07 39 13.4	-0.7
	baz=266,SNR=8.5							
IL31		59.28	28			P	07 39 13.0	-1.3
IL31				IAmb		IAmb	07 39 14.2	
	comp=Z,19nm,0.9s							
ILAR	Eielson Array	59.28	28	P		P	07 39 12.8	-1.6
ILAR	Eielson Array	59.28	28	P		P	07 39 13.2	-1.3
	comp=Z,12nm,0.9s,baz=251,slow=5.1,SNR=67							
ILAR				pP		pP	07 40 58.0	-0.7
	comp=Z,1.9nm,0.9s,baz=251,slow=5.6,SNR=5.7							
	comp=Z,12nm,0.9s							
M24K	Tolsona, Glenn	59.44	31	P		P	07 39 15.0	-0.6
	baz=268							
KLU	Klutina	59.54	32	P		P	07 39 16.3	0.0
KLU				IAmb		IAmb	07 39 17.1	
	comp=Z,31nm,1.1s							
KLU	Klutina	59.54	32	P		P	07 39 16.0	-0.3
	baz=268,SNR=5.8							
MORW	Morawa	59.65	206	P		P	07 39 17.3	0.0
K24K	Donnelly Dome	59.70	29	P		P	07 39 16.9	-0.4
	baz=267							
G25K	Bearman Lake	59.77	26	P		P	07 39 17.6	0.0
	baz=265							
PAX	Paxson	59.80	30	P		P	07 39 17.8	-0.3
	baz=268,SNR=6.3							
H25L	Birch Creek	59.84	27	P		P	07 39 18.3	+0.2
	baz=266							
PRP	Porcupine Dome	59.91	27	P		P	07 39 17.4	-1.4
PRP	Porcupine Dome	59.91	27	P		P	07 39 17.6	-1.2
	baz=266,SNR=5.7							
J25K	Salcha River,	59.92	29	P		P	07 39 17.6	-1.1
	baz=267							
HARP	HAARP	59.93	31	P		P	07 39 18.2	-0.5
	baz=268,SNR=5.8							
F25K	Christian Rive	60.02	25	P		P	07 39 19.8	+0.4
	baz=265,SNR=15							
E25K	Arctic Village	60.10	24			P	07 39 19.6	-0.2
E25K	Arctic Village	60.10	24	P		P	07 39 19.8	0.0
	baz=265,SNR=9.5							
RIDG	Independent Ri	60.11	30	P		P	07 39 19.9	-0.1
	baz=268,SNR=6.6							
BMRM	Bremner River	60.17	33	P		P	07 39 20.4	0.0
BMRM				IAmb		IAmb	07 39 21.5	
	comp=Z,45nm,1.0s							
BMRM	Bremner River	60.17	33	P		P	07 39 20.2	-0.3
	baz=270							
N25K	Chitina, Valde	60.17	32	P		P	07 39 20.0	-0.5
	baz=269							
KAIM	Kayak Island	60.26	34	P		P	07 39 20.7	-0.3
	baz=270							
PALK	Pallekele	60.36	264			P	07 39 22.2	-0.3
PALK				IAmb		IAmb	07 39 24.1	
	comp=Z,18nm,0.9s							
PALK	Pallekele	60.36	264	P		P	07 39 23.3	+0.8
PALK	Pallekele	60.36	264	P		P	07 39 23.0	+0.5
BMAR	Burnt Mountain	60.41	25	P		P	07 39 22.5	+0.6
SCRK	Sand Creek	60.50	29			P	07 39 21.8	-0.9
SCRK				IAmb		IAmb	07 39 23.2	
	comp=Z,26nm,0.7s							
SCRK	Sand Creek	60.50	29	P		P	07 39 21.8	-0.9
	baz=269,SNR=21							
C26K	Camden Bay	60.50	22	P		P	07 39 21.7	-0.7
	baz=264,SNR=6.3							
F26K	Sheenjek River	60.60	25	P		P	07 39 22.5	-0.7
	baz=266,SNR=18							
G26K	Porcupine Rive	60.70	26			P	07 39 24.1	+0.4
G26K	Porcupine Rive	60.70	26	P		P	07 39 23.2	-0.5
	baz=267							
J26L	Joseph Creek	60.70	29	P		P	07 39 23.5	-0.4
	baz=269,SNR=26							
L26K	Log Cabin Wild	60.77	30	P		P	07 39 23.7	-0.7
	baz=270,SNR=6.1							
BLDU	Ballidu	60.78	204	P		P	07 39 24.9	+0.1
I26K	Coal Creek Min	60.89	28	P		P	07 39 24.6	-0.5
	baz=269							
C27K	Jago River	60.89	23	P		P	07 39 24.3	-0.7
	baz=266							
M26K	Nabesna, AK	60.93	31	P		P	07 39 24.6	-0.8
	baz=270							
SIMJ	Simiganj	61.02	302			P	07 39 26.8	+0.2
SIMJ				IAmb		IAmb	07 39 28.4	
	comp=Z,34nm,0.9s							
CAN	Canberra	61.20	173	P		P	07 39 28.1	+0.6
KLBR	Kellerberrin	61.29	203	P		P	07 39 28.1	0.0
K27K	Chicken	61.34	29	P		P	07 39 28.0	0.0
	baz=270							
M27K	Edge Creek, AK	61.45	31	P		P	07 39 28.1	-0.9
	baz=271							
L27K	Beaver Creek,	61.46	30	P		P	07 39 29.3	+0.4
L27K	Beaver Creek,	61.46	30	P		P	07 39 28.5	-0.5
	baz=271,SNR=5.1							
MESA	MESA	61.49	34	P		P	07 39 28.2	-1.2
	baz=272							
G27K	Doyon Strip	61.53	26	P		P	07 39 29.0	-0.3
	baz=269							
I27K	Kandik River	61.54	27	P		P	07 39 29.0	-0.3
	baz=270,SNR=7.1							
H27K	Steamboat Moun	61.58	27	P		P	07 39 29.7	+0.1
H27K				IAmb		IAmb	07 39 32.0	
	comp=Z,43nm,1.4s							
H27K	Steamboat Moun	61.58	27	P		P	07 39 29.5	-0.1
	baz=270,SNR=16							
E27K	Coleen River	61.59	24			P	07 39 30.4	+0.8
E27K	Coleen River	61.59	24	P		P	07 39 29.7	+0.1
	baz=268,SNR=9.5							
D27M	Malcolm River	61.84	23	P		P	07 39 31.0	-0.3
	baz=268,SNR=9.4							
KBL	Kabul	61.85	297	P		P	07 39 32.7	+0.5
	SNR=23							
KBL	Kabul	61.85	297	P		P	07 39 32.6	+0.5
KBL				pmax		pmax		
	comp=Z,70nm,0.9s							
BVCY	Beaver Creek	61.93	31	P		P	07 39 32.3	+0.3
	baz=272							
YUK3	Moose Creek	62.14	32	P		P	07 39 33.2	-0.4
	baz=273							
I28M	Miner Creek	62.24	28	P		P	07 39 34.0	+0.1
I28M				IAmb		IAmb	07 39 35.2	
	comp=Z,17nm,0.7s							
I28M	Miner Creek	62.24	28	P		P	07 39 33.9	0.0
	baz=271,SNR=15							
O28M	Mount Upton	62.33	33	P		P	07 39 34.3	-0.6
	baz=274							
PINM	Pinnacle	62.35	34	P		P	07 39 34.4	-0.3
	baz=274							
E28M	Babbage River	62.35	24			P	07 39 34.8	+0.3
E28M				IAmb		IAmb	07 39 36.3	
	comp=Z,21nm,0.9s							
E28M	Babbage River	62.35	24	P		P	07 39 34.5	-0.1
	baz=270,SNR=19							
YUK8	Steele Glacier	62.51	32	P		P	07 39 35.7	-0.3
	baz=274							
DAWY	Dawson	62.52	29	P		P	07 39 35.5	-0.2
	baz=273,SNR=5.7							
D28M	Stokes Point	62.64	23	P		P	07 39 35.9	-0.4
	baz=270							
NWAO	Narrogin (SRO)	62.69	203	P		P	07 39 37.4	+0.2
PNL	Peninsula	62.81	34	P		P	07 39 37.3	-0.4
	baz=275							
H29M	Whitestone	62.86	27			P	07 39 38.3	+0.5
H29M	Whitestone	62.86	27	P		P	07 39 37.9	+0.1
	baz=272,SNR=7.5							
I29M	Ogilvie Camp,	62.92	28	P		P	07 39 38.5	+0.2
I29M				IAmb		IAmb	07 39 39.5	
	comp=Z,20nm,1.1s							
I29M	Ogilvie Camp,	62.92	28	P		P	07 39 38.2	-0.1
	baz=273,SNR=12							
E29M	Blow River	62.96	24	P		P	07 39 38.8	+0.4
	baz=272							
G29M	Pine Creek	62.97	26	P		P	07 39 39.1	+0.5
	baz=272,SNR=23							
J29N	Klondike Camp	63.01	29	P		P	07 39 39.2	+0.2
J29N				IAmb		IAmb	07 39 40.5	
	comp=Z,14nm,0.8s							
J29N	Klondike Camp	63.01	29	P		P	07 39 39.1	+0.2
	baz=274,SNR=8.8							
M29M	Somme Creek	63.04	31	P		P	07 39 39.3	+0.1
	baz=274,SNR=13							
YUK4	Talbot Arm	63.04	32	P		P	07 39 39.9	+0.6
	baz=275,SNR=7.1							
L29M	L29M	63.14	30			P	07 39 40.5	+0.7
L29M				IAmb		IAmb	07 39 41.8	
	comp=Z,21nm,0.8s							
L29M	L29M	63.14	30	P		P	07 39 40.0	+0.2
	baz=274,SNR=9.9							
O29M	Mount Kennedy	63.16	33	P		P	07 39 39.8	-0.3
	baz=275							
YUK6	Outpost Mounta	63.21	33	P		P	07 39 40.0	-0.5
	baz=275							
K29M	Barlow Dome	63.36	29	P		P	07 39 41.4	+0.1
	baz=274,SNR=12							
EPYK	Eagle Plains	63.52	26	P		P	07 39 41.7	-0.4
EPYK				IAmb		IAmb	07 39 43.9	
	comp=Z,36nm,1.1s							
EPYK	Eagle Plains	63.52	26	P		P	07 39 41.6	-0.5
	baz=274,SNR=18							
HYT	Haines Junctio	63.64	33			P	07 39 42.9	-0.2
HYT				IAmb		IAmb	07 39 45.0	
	comp=Z,17nm,1.0s							
HYT	Haines Junctio	63.64	33	P		P	07 39 43.6	+0.5
	baz=276							
P29M	Windy Craggy	63.65	34	P		P	07 39 42.7	-0.4
	baz=276							
G30M	tAoh Zraii Nji	63.67	26	P		P	07 39 42.8	-0.3
	baz=274,SNR=6.5							
I30M	Mount Dempster	63.74	28	P		P	07 39 43.3	-0.3
	baz=275,SNR=11							
SVE	Sverdlovsk	63.75	323	*e*P		P	07 39 44.2	+0.5
SVE				pmax		pmax		
	comp=Z,38nm,0.9s							
N30M	Aishikik Lake	63.77	32	P		P	07 39 43.6	-0.3
	baz=276							
F30M	Barrier River	63.79	25	P		P	07 39 43.8	0.0
	baz=274,SNR=14							
M30M	Minto, Yukon	63.80	31	P		P	07 39 44.4	+0.4
M30M	Minto, Yukon	63.80	31	P		P	07 39 44.1	+0.1
	baz=276,SNR=6.1							
J30M	Hart River	63.82	28	P		P	07 39 44.5	+0.3
J30M	Hart River	63.82	28	P		P	07 39 44.5	+0.3
	baz=275							
P30M	Million Dollar	63.99	33	P		P	07 39 45.4	+0.1
	baz=277							
O30N	Mendenhall	64.33	33	P		P	07 39 47.7	+0.2
	baz=277							
N31M	Braeburn, Yuko	64.40	32	P		P	07 39 48.0	+0.2
N31M				IAmb		IAmb	07 39 50.0	
	comp=Z,19nm,0.9s							
N31M	Braeburn, Yuko	64.40	32	P		P	07 39 47.6	-0.2
	baz=277							
G31M	Satah River	64.44	26			P	07 39 47.2	-0.7
G31M				IAmb		IAmb	07 39 48.6	
	comp=Z,26nm,1.0s							
G31M	Satah River	64.44	26	P		P	07 39 47.7	-0.2
	baz=276,SNR=14							
H31M	Peel River	64.53	27	P		P	07 39 48.6	+0.1
H31M				IAmb		IAmb	07 39 50.1	
	comp=Z,18nm,0.9s							
H31M	Peel River	64.53	27	P		P	07 39 48.2	-0.3
	baz=276,SNR=8.6							
F31M	Tsiigehtchic	64.59	25	P		P	07 39 48.3	-0.5
F31M	Tsiigehtchic	64.59	25	P		P	07 39 48.7	-0.2
	baz=276,SNR=5.2							
S31K	Pelican	64.64	36	P		P	07 39 49.0	-0.4
	baz=278							
WHY	Whitehorse	64.94	33	P		P	07 39 50.3	-1.0
	baz=278							
M31M	Drury Creek, Y	64.95	31	P		P	07 39 51.3	0.0
M31M				IAmb		IAmb	07 39 52.6	
	comp=Z,15nm,0.9s							
M31M	Drury Creek, Y	64.95	31	P		P	07 39 50.9	-0.4
	baz=278,SNR=9.8							
ARTI	Arti	65.05	323	*c iP*		P	07 39 51.5	-0.4
ARTI							07 40 15.9	
ARTI				*PP		pP	07 41 42.2	+1.5
ARTI				S		S	07 47 51.7	0.0
ARTI				SS		SS	07 52 12.8	-4.0
ARTI				pmax		pmax		
	comp=Z,43nm,0.9s							
AB31	Akbulak array	65.41	315	*e*P		P	07 39 53.7	-0.6
ABKAR	Akbulak array	65.41	315			P	07 39 53.7	-0.7
ABKAR				IAmb		IAmb	07 39 54.9	
	comp=Z,19nm,0.8s							
ABKAR	Akbulak array	65.41	315			P	07 39 53.3	-1.1
FARO	Faro, Yukon	65.44	31	P		P	07 39 54.0	-0.3
FARO				IAmb		IAmb	07 39 55.6	
	comp=Z,14nm,1.1s							
FARO	Faro, Yukon	65.44	31	P		P	07 39 53.5	-0.9
	baz=279,SNR=5.8							
R32K	Eaglecrest	65.49	35	P		P	07 39 55.0	+0.3
	baz=280							
JIS	Juneau Island	65.56	35	P		P	07 39 56.0	+0.9
S32K	Killisnoo	65.60	36	P		P	07 39 55.5	+0.2
	baz=280							
P32M	Atlin	65.68	34	P		P	07 39 56.0	+0.1
	baz=280							
N32M	Quiet Lake	65.73	32	P		P	07 39 55.9	-0.3
	baz=280							
P33M	Teslin, Yukon	66.02	33	P		P	07 39 58.8	+0.7
P33M	Teslin, Yukon	66.02	33	P		P	07 39 58.0	-0.1
	baz=280							
AKTO	Aktyubinsk	66.39	316	P		P	07 39 59.4	-1.0
U33K	Whale Pass	66.64	37	P		P	07 40 02.1	+0.3
	baz=282							
CRAG	Craig	66.77	38	P		P	07 40 02.9	+0.3
	baz=282							
A36M	Sachs Harbour	66.81	20	P		P	07 40 02.2	-0.4
	baz=282,SNR=21							
R33M	Jennings River	67.10	34	P		P	07 40 04.3	-0.5
	baz=282							
S34M	Telegraph Cree	67.33	35	P		P	07 40 06.4	+0.4
	baz=282							
C36M	Paulatuk	67.79	22	P		P	07 40 07.9	-0.8
C36M				IAmb		IAmb	07 40 09.0	
	comp=Z,15nm,1.1s							
C36M	Paulatuk	67.79	22	P		P	07 40 07.8	-0.8
	baz=284,SNR=16							
TGTN	Hyland Airport	67.93	31	P		P	07 40 10.3	+0.5
	baz=283,SNR=14							
WTLY	Watson Lake, Y	68.01	33	P		P	07 40 10.2	0.

WSAR	Wadi Sarin	73.95	288	P		P	07 40 44.7 -1.1
BIDO	Bidbid	74.28	289	P		P	07 40 48.6 +1.0
DGAR	Diego Garcia	74.44	254	P		P	07 40 50.0 +1.4
ARCES	ARCESS Array B	74.51	341	P		P	07 40 48.3 +0.3
	comp=Z,8.8nm,0.8s,baz=76,slow=8.5,SNR=30						
	comp=Z,8.8nm,0.8s						
SMDO	Samad	74.51	288	P		P	07 40 49.7 +0.6
JMDO	Jabal Madar	74.72	288	P		P	07 40 50.8 +0.6
BANOM	Banah	74.94	292	P		P	07 40 52.5 +1.2
BANOM	Banah	74.94	292	P		P	07 40 52.3 +1.0
HOQ	Hoqain	74.95	289	P		P	07 40 52.1 +0.7
SHME	Shamm	75.03	292	P		P	07 40 52.6 +0.8
SHME	Shamm	75.03	292	*i* P		P	07 40 52.7 +1.0
	SNR=11						
MDH	Madha	75.17	291	P		P	07 40 54.2 +1.6
MASF	Masafi	75.26	291	P		P	07 40 54.0 +0.8
MSFE	Esma-Masafi	75.27	291	P		P	07 40 53.7 +0.5
BSY	Bisya	75.36	288	P		P	07 40 54.4 +0.7
UOSS	Minazif	75.38	291	P		P	07 40 54.3 +0.5
UOSS	Minazif	75.38	291	P		P	07 40 54.1 +0.3
SOHO	SOHO	75.41	290	P		P	07 40 54.5 +0.6
SOHO	SOHO	75.41	290	*i* P		P	07 40 54.4 +0.6
	SNR=16						
HATD	Hatta, Dubai	75.49	291	P		P	07 40 55.0 +0.6
HATD	Hatta, Dubai	75.49	291	P		P	07 40 54.8 +0.5
ASHO	Ashiyiah	75.60	291	P		P	07 40 55.8 +0.7
ASHO	Ashiyiah	75.60	291	P		P	07 40 55.6 +0.5
ARQ	Araqi	75.71	289	P		P	07 40 56.2 +0.5
VRH	Novokhopyorsk	75.97	320	*eP*		P	07 40 56.2 -0.3
VRH				pmax	pmax		
	comp=Z,22nm,1.0s						
ALNE	Al Ain	76.10	290	P		P	07 40 58.5 +0.8
	SNR=5.5						
ALNE	Al Ain	76.10	290	*i* P		P	07 40 58.6 +0.8
	SNR=6.3						
DQM	DQM	76.13	286	P		P	07 40 58.6 +0.7
ASUD	Al Ashush, Dub	76.24	291	P		P	07 40 59.2 +0.7
ASUD	Al Ashush, Dub	76.24	291	P		P	07 40 58.5 0.0
AJN	Ajban	76.55	291	P		P	07 41 00.8 +0.6
LPSR	Galich'ya Gora	76.97	322	*eP*		P	07 41 01.7 -0.2
LPSR				pmax	pmax		
	comp=Z,37nm,1.2s						
B08A	Colville Reser	77.08	42	P		P	07 41 02.5 -0.2
B08A				IAmb	IAmb		07 41 04.0
	comp=Z,16nm,0.8s						
UMZA	Um Al Zommool	77.11	289	P		P	07 41 03.6 +0.3
OBN	Obninsk	77.13	325	*eP*		P	07 41 02.3 -0.4
OBN				*e*			07 44 04.7
OBN				*eS*	S		07 49 57.1 -10
OBN				pmax	pmax		
	comp=Z,11nm,0.3s						
VORR	Voronezh	77.21	321	*eP*		P	07 41 04.0 +0.7
VORR				pmax	pmax		
	comp=Z,33nm,1.2s						
VSR	Storozhevoye	77.43	321	*eP*		P	07 41 02.9 -1.6
VSR				pmax	pmax		
	comp=Z,30nm,1.0s						
VORD	Divnogorie	77.46	321	*eP*		P	07 41 01.6 -3.1
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PINE	Pine Mountain	77.92	47	P		P	07 41 08.3 +0.7
PINE				IAmb	IAmb		07 41 09.5
	comp=Z,24nm,0.7s						
JRN	Qarnain Island	78.20	292	P		P	07 41 09.2 +0.1
KBZ	Khabaz	78.28	313	P		P	07 41 09.7 +0.5
	comp=Z,41nm,0.8s,baz=90,slow=3.5,SNR=105						
	comp=Z,41nm,0.8s						
KBZ	Khabaz	78.28	313	*d i* P		P	07 41 09.3 +0.1
KBZ				pmax	pmax		
	comp=Z,46nm,0.8s						
KIV	Kislovodsk	78.33	313	P		P	07 41 10.6 +1.0
KIV	Kislovodsk	78.33	313	*eP*		P	07 41 10.0 +0.4
KIV				pmax	pmax		
	comp=Z,26nm,1.0s						
MZR	Muzera	78.42	290	P		P	07 41 10.9 +0.5
	SNR=5.8						
MZR	Muzera	78.42	290	*i* P		P	07 41 10.8 +0.4
	SNR=6.7						
SHA1	Shidzhatmaz	78.43	313	*d i* P		P	07 41 11.1 +0.7
NEW	Newport	78.46	42	P		P	07 41 10.1 -0.1
NEW				IAmb	IAmb		07 41 11.4
	comp=Z,13nm,0.8s						
NEW	Newport	78.46	42	P		P	07 41 10.1 -0.1
NEW				pmax	pmax		
	comp=Z,13nm,0.8s						
GHWR	Ruwais	78.56	291	P		P	07 41 11.7 +0.6
FINES	FINESS Array B	78.75	334	P		P	07 41 10.2 -1.1
FINES	FINESS Array B	78.75	334	P		P	07 41 10.6 -0.8
	comp=Z,6.1nm,0.3s,baz=65,slow=5.0,SNR=105						
	comp=Z,6.1nm,0.3s						
DMTO	DMTO	79.25	284	P		P	07 41 15.1 +0.3
F10A	Beach Ranch, E	79.39	44	P		P	07 41 15.3 +0.1
DOK	Doka	79.60	286	P		P	07 41 16.9 +0.2
TRNA	Turayna	79.65	292	P		P	07 41 17.2 +0.3
SMRA	Abu-Samra	79.97	293	P		P	07 41 18.7 +0.2
RBK	Rabkut	79.98	285	P		P	07 41 18.9 +0.1
VSU	Vasula	80.13	331	⇓*eP*		P	07 41 17.5 -1.2
VSU				pmax	pmax		
	comp=Z,19nm,0.9s						
WHFO	Wadi Hawf	80.19	285	P		P	07 41 19.7 -0.2
VSLR	Vesyoloye	80.28	314	⇓*eP*		P	07 41 19.7 -0.1
VSLR				pmax	pmax		
	comp=Z,59nm,0.9s						
SOC	Sochi	80.43	314	*eP*		P	07 41 18.9 -1.7
SOC				*e**PP		pP	07 43 13.2 -2.3
SOC				*e**SP		sP	07 44 10.4 -0.3
SOC				*e*			07 44 31.7
SOC				*e*PPP	PPP		07 46 26.2
SOC				*eS*	S		07 50 41.2 -1.1
SOC				*e*SS	SS		07 56 10.0 +1.0
SOC				*e*SSS	SSS		07 59 40.0
SOC				pmax	pmax		
	comp=Z,16nm,0.8s						
KBD	Kabd	80.73	298	P		P	07 41 22.7 +0.3
PNTR	Pine Nut	80.81	51	P		P	07 41 23.0 0.0
ABTO	Aybut	80.84	285	P		P	07 41 23.5 +0.3
ANN	Anapa	81.34	316	*eP*		P	07 41 22.9 -2.3
ANN				*e*			07 44 37.4
ANN				*eS*	S		07 50 47.9 -3.6
ANN				pmax	pmax		
	comp=Z,35nm,0.9s						
KOPT	Kop Dagi	81.49	310			P	07 41 26.1 -0.4
KOPT				IAmb	IAmb		07 41 29.0
	comp=Z,28nm,1.1s						
MNK	Minsk	81.79	327	*i* P		P	07 41 26.9 -0.4
MNK				*i* *PP		pP	07 43 22.3 -0.5
MNK				*i* *SP		sP	07 44 18.7 +0.8
MNK				*i*			07 44 44.0
MNK				*i* PPP	PPP		07 46 39.2
MNK				*i* S	S		07 50 52.6 -3.0
MNK				*i* SS	SS		07 56 31.0 +2.7
MNK				*i* SSS	SSS		08 00 05.5
MNK				pmax	pmax		
	comp=N,10.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,34nm,1.4s						
MNK				pmax	pmax		
	comp=E,16nm,0.9s						
NVAR	Mina Array Bea	82.01	51	P		P	07 41 29.3 +0.1
	comp=E,5.5nm,0.9s,baz=303,slow=6.0,SNR=14						
NVAR				pP		pP	07 43 23.6 +0.4
	comp=E,0.8nm,0.8s,baz=265,slow=4.6,SNR=2.7						
	comp=E,5.5nm,0.9s						
DLMT	Dillon	82.56	43	P		P	07 41 31.8 +0.1
ELK	Elko	83.06	48	P		P	07 41 34.6 +0.2
ELK	Elko	83.06	48	P		P	07 41 34.6 +0.2
ELK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AK03	Malin Array Si	83.16	324	P		P	07 41 33.3 -1.0
AKASG	Malin Array Be	83.17	324	P		P	07 41 34.0 -0.4
AKASG	Malin Array Be	83.17	324	*eP*		P	07 41 33.5 -0.9
	comp=Z,1.3nm,0.3s,baz=49,slow=4.7,SNR=31						
AKASG				pP		pP	07 43 29.2 -1.1
	comp=Z,0.2nm,0.3s,baz=45,slow=6.1,SNR=1.4						
	comp=Z,1.3nm,0.3s						
AKASG	Malin Array Be	83.17	324	P		P	07 41 34.0 -0.4
AKASG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AKBB	Malin Array Si	83.17	324	P		P	07 41 33.5 -1.0
AKBB				IAmb	IAmb		07 41 34.8
	comp=Z,14nm,0.9s						
AKBB	Malin Array Si	83.17	324	*ceP*		P	07 41 33.4 -1.0
AKBB				pmax	pmax		
	comp=Z,15nm,0.9s						
AKBB	Malin Array Si	83.17	324	P		P	07 41 33.4 -1.0
AK01	Malin Array Si	83.18	324	P		P	07 41 33.2 -1.3
KIEV	Kiev	83.19	324	⇓P		P	07 41 33.3 -1.1
KIEV	Kiev	83.19	324	P		P	07 41 33.3 -1.1
KIEV	Kiev	83.19	324	*i* P		P	07 41 33.4 -1.1
	SNR=8.7						
KIEV	Kiev	83.19	324	P		P	07 41 33.4 -1.1
	comp=Z,60nm,0.9s						
AK09	Malin Array Si	83.19	323	P		P	07 41 33.6 -0.9
AK04	Malin Array Si	83.19	324	P		P	07 41 33.7 -0.8
FFC	Flin Flon	83.31	31	P		P	07 41 34.5 -0.6
FFC	Flin Flon	83.31	31	P		P	07 41 34.5 -0.6
FFC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YHL	Hebgen Lake	83.68	43	P		P	07 41 38.2 +0.8
YHL				IAmb	IAmb		07 41 39.3
	comp=Z,12nm,0.8s						
MI28	Mi28,Pidlybu	83.87	324	P		P	07 41 37.5 -0.4
R11B	Troy Canyon, C	83.95	50	P		P	07 41 38.6 -0.2
TPNV	Topopah Spring	84.14	52	P		P	07 41 39.4 -0.3
TPNV				IAmb	IAmb		07 41 41.2
	comp=Z,13nm,0.8s						
TPNV	Topopah Spring	84.14	52	P		P	07 41 39.4 -0.3
TPNV				pmax	pmax		
	comp=Z,13nm,0.8s						
NC405	NORSAR Array S	84.29	338	P		P	07 41 38.6 -1.2
NC405				IAmb	IAmb		07 41 39.9
	comp=Z,11nm,1.0s						
HFS	Hagfors	84.30	336	P		P	07 41 38.6 -1.2
	comp=Z,2.0nm,0.4s,baz=52,slow=5.8,SNR=15						
	comp=Z,2.0nm,0.4s						
SUW	Suwalki	84.33	328	*eP*		P	07 41 39.4 -0.6
LUBAR	Lubar, Ukraine	84.39	323	P		P	07 41 39.5 -0.9
NB201	NORSAR Array S	84.48	338	P		P	07 41 39.0 -1.7
NB201				IAmb	IAmb		07 41 40.7
	comp=Z,20nm,1.3s						
NC204	NORSAR Array S	84.50	338	P		P	07 41 39.7 -1.1
NC204				IAmb	IAmb		07 41 41.1
	comp=Z,11nm,1.0s						
NB2	NORSAR Subarra	84.52	338	P		P	07 41 39.6 -1.3
	comp=Z,2.4nm,0.9s,baz=54,slow=5.1						
NB2	NORSAR Subarra	84.52	338	P		P	07 41 40.0 -0.9
NOA	NORSAR Array B	84.52	338	P		P	07 41 39.8 -1.1
	comp=Z,8.6nm,1.1s,baz=54,slow=6.6,SNR=14						
	comp=Z,8.6nm,1.1s						
RNPP8	Varash	84.58	325	P		P	07 41 41.0 -0.4
NORES	NORESS Array B	84.62	338	P		P	07 41 40.3 -1.1
RAYN	Ar Rayn	84.89	294	P		P	07 41 44.0 +0.5
RAYN	Ar Rayn	84.89	294	*i* P		P	07 41 43.9 +0.4
	SNR=18						
PSUT	Pine Spring	85.05	50	P		P	07 41 43.6 -0.6
PDAR	Pinedale Array	85.75	44	P		P	07 41 47.5 -0.1
	comp=Z,1.7nm,0.9s,baz=267,slow=1.8,SNR=11						
PDAR				pP		pP	07 43 43.5 0.0
	comp=Z,0.8nm,1.0s,baz=222,slow=2.0,SNR=2.5						
PDAR				PP		PP	07 45 14.8 -1.4
	comp=Z,0.6nm,0.9s,baz=294,slow=7.4,SNR=4.0						
	comp=Z,1.7nm,0.9s						
BR131	Keskin Array S	86.27	313	*d i* P		P	07 41 48.9 -1.0
BRTR	Keskin Array B	86.27	313	P		P	07 41 49.0 -0.9
	comp=Z,9.1nm,0.8s,baz=92,slow=3.6,SNR=47						
BRTR				pP		pP	07 43 47.0 +0.1
	comp=Z,1.1nm,0.8s,baz=116,slow=2.9,SNR=3.8						
	comp=Z,9.1nm,0.8s						
BR104	Keskin Array S	86.27	313	P		P	07 41 49.0 -0.9
	comp=Z,94nmcomp=Z,13nm,0.8s						
BR106	Keskin Array S	86.28	313	P		P	07 41 49.0 -1.0
	comp=Z,86nmcomp=Z,13nm,0.8s						
BR105	Keskin Array S	86.28	313	P		P	07 41 49.0 -1.0
	comp=Z,97nmcomp=Z,14nm,0.8s						
KIRS	Kirsehir-Merke	86.38	312	⇑P		P	07 41 49.2 -1.2
ANTO	Ankara	86.75	313	P		P	07 41 51.9 -0.2
TPGR	Topolog	86.83	319	⇓P		P	07 41 52.0 -0.3
SRU	San Rafael Swe	87.02	48	P		P	07 41 53.0 -0.5
SRU	San Rafael Swe	87.02	48	P		P	07 41 53.0 -0.5
SRU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BURAR	Bucovina Array	87.08	322	P		P	07 41 53.2 -0.4
BURAR	Bucovina Array	87.08	322	⇑P		P	07 41 53.4 -0.1
BURAR	Bucovina Array	87.08	322	P		P	07 41 53.4 -0.1
VRI	Vrincioaia	87.25	320	⇑P		P	07 41 53.7 -0.6
VRI	Vrincioaia	87.25	320	P		P	07 41 53.6 -0.6
KOLS	Kolonicke sedl	87.87	325	*eP*		P	07 41 57.9 +0.8
KOLS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KOLS	Kolonicke sedl	87.87	325	*eP*		P	07 41 57.9 +0.8
HOLU	Holmets	88.06	324	P		P	07 41 57.6 -0.3
BERU	Beregovo	88.10	324	P		P	07 41 57.6 -0.5
OJC	Ojcow	88.32	327	*eP*		P	07 41 58.7 -0.4
PV23	Carpenter Ridg	88.37	48	P		P	07 41 59.4 -0.6
PV23				IAmb	IAmb		07 42 01.0
	comp=Z,8.8nm,0.7s						
MMAI	Mount Meron Ar	88.40	306	P		P	07 42 00.5 +0.5
	comp=Z,1.3nm,0.5s,baz=28,slow=7.8,SNR=3.8						
	comp=Z,1.3nm,0.5s						
VOIR		88.45	321	⇓P		P	07 41 59.9 -0.1
VOIR		88.45	321	P		P	07 41 59.8 -0.1
NIE	Niedzica	88.58	326	*eP*		P	07 42 00.2 -0.2
NIE	Niedzica	88.58	326	P		P	07 42 00.4 0.0
	comp=Z,4.8nm,1.2s						
KSP	Ksiaz	89.60	329	*eP*		P	07 42 04.8 -0.3
PSZ	Piszkesteto	89.74	325	P		P	07 42 07.1 +1.2
PSZ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SURR	Surduc	89.90	322	⇑P		P	07 42 05.9 -0.7
VYHS	Vyhne	89.91	326	*eP*		P	07 42 06.5 -0.1
VYHS				pmax	pmax		
	comp=Z,11nm,1.0s						
VYHS	Vyhne	89.91	326	*eP*		P	07 42 06.5 -0.1
DPC	Dobruska-Polom	89.92	328	P		P	07 42 06.3 -0.3
DPC	Dobruska-Polom	89.92	328	P		P	07 42 06.3 -0.3
CLL	Collm	90.78	330	*i* P		P	07 42 09.6 -0.9
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CLL	Collm	90.78	330	*i* P		P	07 42 09.6 -0.9
	comp=Z,5.0nm,0.9s						
SDCO	Great Sand Dun	91.08	47	P		P	07 42 13.0 +0.4
SDCO				IAmb	IAmb		07 42 13.8
	comp=Z,3.8nm,0.8s						
ANMO	Albuquerque	91.99	50	⇓*eP*		P	07 42 15.9 -0.8
KHC	Kasperske Hory	92.05	329	⇓*eP*		P	07 42 15.3 -1.2
KHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GERES	GERESS Array B	92.19	328	P		P	07 42 16.6 -0.6
	comp=Z,1.3nm,0.8s,baz=82,slow=2.8,SNR=7.5						
	comp=Z,1.3nm,0.8s						
TXAR	Lajitas Array	97.08	53	P		Pdif	07 42 40.6 +0.9
	comp=Z,0.7nm,0.7s,baz=316,slow=2.8,SNR=10.0						
TXAR				pP		pP	07 44 38.8 +1.0
	comp=Z,0.5nm,0.9s,baz=270,slow=2.5,SNR=3.6						
	comp=Z,0.7nm,0.7s						
ESDC	Sonseca Array	107.24	333	PP		PP	07 47 58.6 +0.2
	comp=Z,0.7nm,0.9s,baz=47,slow=7.2,SNR=4.0						
QSPA	South Pole Qui	115.55	180	PKP		PKPdf	07 47 44.8 -0.2
	comp=Z,1.2nm,0.6s,baz=283,slow=1.0,SNR=10						
TORD	Torodi Ar. Bea	124.78	310	PKP		PKPdf	07 48 04.3 0.0
	comp=Z,103nm,0.4s,baz=12,slow=3.8,SNR=1.7						
SNAA	Sanae	129.88	194	PKP		PKPdf	07 48 12.7 +0.3
	comp=Z,1.3nm,0.9s,baz=189,slow=22,SNR=1.5						
SNAA				SKPbc	SKPbc		07 50 42.9 -1.5
	comp=Z,3.3nm,0.8s,baz=220,slow=1.8,SNR=9.0						
DBIC	Dimbokro	133.90	310	PKP		PKPdf	07 48 21.9 +0.3
	comp=Z,2.8nm,0.7s,baz=223,slow=11,SNR=1.8						
DBIC				SKPbc		SKPbc	07 50 59.0 -1.1
	comp=Z,4.5nm,0.7s,baz=342,slow=3.2,SNR=4.9						
PLCA	Paso Flores	149.72	127	PKPbc		PKPbc	07 48 54.4 +0.3
	comp=Z,4.7nm,0.6s,baz=237,slow=2.7,SNR=47						
PLCA	Paso Flores	149.72	127	*eP*		PKPdf	07 48 51.0 +2.2
LPAZ	La Paz	151.07	77	PKPbc		PKiKP	07 48 59.0 +0.1
	comp=Z,6.7nm,0.5s,baz=352,slow=3.1,SNR=47						
LPAZ	La Paz	151.07	77	PKIKP		PKiKP	07 48 59.0 +0.1
LPAZ	La Paz	151.07	77	*eP*		PKPdf	07 48 54.5 +2.4
SAML	Samuel	151.41	59	*eP*		PKPdf	07 48 54.5 +2.5
VAO	Valinhos	172.04	71	*eP*		PKPdf	07 49 14.6 +2.2
DUB01	Friburgo-RJ	175.07	43	*eP*		PKPdf	07 49 15.8 +2.3
CAM01	Campos-RJ	175.27	35	*eP*		PKPdf	07 49 16.2 +2.7

JMA 12 07:30:35.2±0.1, 26°N±1°×129°6E±0°7, h43km, MV2.7/13, NEAR OKINAWAJIMA ISLAND, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.28	307	P	Pn	07 30 57.0	+0.5
JYRO				S	Sn	07 31 11.8	-0.7
JOW	Kunigami	1.31	296	P	Pn	07 30 57.8	+0.7
JOW				S	Sn	07 31 13.1	-0.3
JNTH	Nagotoyohara	1.43	281	P	Pn	07 30 59.4	+0.7
JNTH				*eS*	Sn	07 31 16.2	-0.1
JOKE	Okinoerabujima	1.43	321	P	Pn	07 30 59.8	+1.1
JMZ	Minamidaito 2	1.53	106	P	Pn	07 31 01.0	+1.0
JKDJ	Kitadaitoujima	1.56	101	*eP*	Pn	07 31 00.6	+0.1
JTK	Tokunoshima	1.63	340	P	Pn	07 31 02.3	+0.8
JIH	Iheya	1.65	299	P	Pn	07 31 02.7	+1.0
JIH				*eS*	Sn	07 31 21.5	-0.1
JAMN	Amaminishikomi	2.02	350	*eP*	Pn	07 31 07.5	+0.8
JAGN	Aguni-jima	2.13	280	P	Pn	07 31 09.9	+1.6
JAGN				*eS*	Sn	07 31 35.1	+1.6
JKE	Kume jima 2	2.52	272	*eP*	Pn	07 31 14.5	+0.9

IDC 12 07:34:58.7±3.6, 54°23N×87°35E, h0km, mbtmp2.8/2, ML2.0/1, Error ellipse: s-maj=31.3km s-min=19.7km az=51.0

ASRS 12 07:34:58.0±1.0, 54°18N×87°10E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.36	261	I	I	07 44 50.0	
	baz=78,slow=334,SNR=2.7						
ZALV	Zalesovo Beam	1.36	261	Pg	Pb	07 35 25.2	+0.8
	0.8nm,0.3s,baz=77,slow=17,SNR=10.0						
ZALV				Lg	Lg	07 35 47.2	
	1.8nm,0.3s,baz=82,slow=29,SNR=8.4						
KURBB	Kurchatov Arra	6.34	239	Pn	Pn	07 36 36.2	+3.6
	baz=55,slow=13,SNR=2.4						
	0.6nm,0.5s						
MKAR	Makanchi Array	8.00	204	Pn	Pn	07 36 59.0	+3.5
	0.1nm,0.3s,baz=16,slow=12,SNR=1.3						

RSNC 12 07:48:52.1±0.7, 3°N±4°×8°0W±°, h10km, M2.3, mb3.6, ML2.1, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	Tumaco	1.14	134	P	Pb	07 49 12.3	-1.6
TUMC				S	Sn	07 49 29.5	-0.4
GR1C	Gorgona, Isla	1.43	75	P	Pn	07 49 16.6	-1.6
GR1C				S	Sn	07 49 36.4	-0.7
BBAC	Balboa, Cauca	2.38	104	P	Pn	07 49 30.6	-0.8
BBAC				S	Sn	07 50 01.1	+0.4
GCUF	Volcan Galeras	2.60	122	P	Pn	07 49 34.3	-0.4
GCUF				S	Sn	07 50 01.4	-5.3
MALC	Bahia Malaga	2.61	58	P	Pn	07 49 33.6	-0.8
POPC	Popayan, Colom	2.87	92	P	Pn	07 49 37.7	-0.5
POPC				S	Sn	07 50 12.4	-0.6
YOTC	Yotoco, Valle	3.48	67	P	Pn	07 49 45.5	-0.9
YOTC				S	Sn	07 50 25.3	-2.4
GARC	Garzon, Huila	4.08	96	P	Pn	07 49 55.8	+1.0
PRAC	Prado	4.78	77	P	Pn	07 50 06.2	+1.9
PRAC				S	Sn	07 50 58.2	-1.7
GUY2C	Guyana, Caldas	4.91	58	P	Pn	07 50 08.6	+2.1
COHC	Cochancay	5.06	177	P	Pn	07 50 07.0	-1.1
	1.6nm,0.6s						
MACC	Macarena, Meta	5.72	95	P	Pn	07 50 19.1	+1.9

IDC 12 07:50:12.6±2.1, 8°69S×108°53E, h0km, mb3.7/3, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=74.7km s-min=20.7km az=54.0
DJA 12 07:50:20.0±0.3, 9°S±4°×10°8E±°, h45km±14km, M4.1/15, mB5.4/2, mb4.3/3, MLv4.0/15, Mw(mB)4.8/2

ISC 12 07:50:18.4±1.2, 8°64S±0°09×108°33E±0°06, h55km, n21, σ0°98/18, mb3.1/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.86	8	P	Pn	07 50 34.8	+0.3
CMJI				S	Sn	07 50 46.2	0.0
CNJI	Cibinong	1.78	318	P	Pn	07 50 46.1	-0.7
LEM	Lembang	1.94	339	Pn	Pn	07 50 49.2	+0.1
	56nm,0.3s,baz=153,slow=23,SNR=11						
LEM				Sn	Sn	07 51 14.0	+1.6
	28nm,0.3s,baz=223,slow=20,SNR=9.2						
	82nm,0.4s						
LEM	Lembang	1.94	339	P	Pn	07 50 49.3	+0.1
YOGI	Yogyakarta	2.11	67	S	Sn	07 51 15.5	-1.0
UGM	Wanagama	2.29	72	P	Pn	07 50 54.5	+0.7
SKJI	Sukabumi	2.39	313	P	Pn	07 50 56.1	+0.8
SMRI	Semarang	2.62	53	P	Pn	07 50 58.7	+0.3
PCJI	Pacitan	2.85	81	P	Pn	07 51 02.6	+1.1
PCJI				S	Sn	07 51 33.3	-1.3
CGJI	Cibinong	3.30	307	P	Pn	07 51 08.3	+0.6
GMJI	Gumukmas	5.07	86	P	Pn	07 51 32.8	+0.8
	0.1nm862nm13nm,1.0s						
JAGI	Jajag, Banyuwa	5.76	89	P	Pn	07 51 43.1	+1.7
	0.2nm13nm,0.6s						
WRA	Warramunga Arr	27.55	117	P	P	07 55 59.1	-1.3
	0.5nm,0.9s,baz=286,slow=11,SNR=5.9						
	0.5nm,0.9s						
ASAR	Alice Springs	28.67	124	P	P	07 56 09.8	-0.6
	0.3nm,0.7s,baz=300,slow=9.2,SNR=3.9						
	0.3nm,0.7s						
H08S2	Diego Garcia H	35.48	269	T	T	08 34 40.5	
	baz=93,slow=76,SNR=9.3						
H08S3	Diego Garcia H	35.49	269	T	T	08 34 38.1	
	baz=93,slow=76,SNR=9.6						
H08S1	Diego Carcia H	35.50	269	T	T	08 34 40.9	
	baz=93,slow=76,SNR=3.1						
STKA	Stephens Creek	38.57	132	P	P	07 57 36.2	+0.1
	1.5nm,0.5s,baz=319,slow=11,SNR

SJG	San Juan	26.43	19	LR	LR	08 11 17.8	
	comp=Z,140nm,19.1s,baz=276,slow=38						
TEIG	Tepich	30.18	334	LR	LR	08 13 56.1	
	comp=Z,6.6nm,21.8s,baz=48,slow=38						
TXAR	Lajitas Array	45.62	324	P	P	08 02 59.2	0.0
	0.4nm,0.6s,baz=141,slow=7.2,SNR=4.1						
	0.4nm,0.6s						
YKA	Yellowknife Ar	75.77	342	P	P	08 06 22.6	-1.2
	0.3nm,0.7s,baz=144,slow=6.3,SNR=3.3						
	0.3nm,0.7s						
QSPA	South Pole Qui	83.04	180	P	P	08 07 03.1	-0.6
	2.4nm,1.0s,baz=150,slow=8.1,SNR=3.2						
	2.4nm,1.0s						

GCG ***12*** *07:55:08.3±1.7, 12°.95N×90°.44W, h1km±15km, MD4.6, MW3.9*
NEIC ***12*** *07:55:09.2±2.1, 12°.93N±0°.07×90°.30W±0°.07, h10km±1km, mb4.4/81, Error ellipse: s-maj=14.7km s-min=9.1km az=222.0*
IDC ***12*** *07:55:09.4±0.8, 13°.75N×89°.74W, h0km, mb4.1/12, mbtmp4.1/15, ML3.6/3, MS3.6/16, Error ellipse: s-maj=33.1km s-min=15.5km az=44.0*
CATAC ***12*** *07:55:11.3±1.1, 13°N±3°.9°0W±°, h31km±20km, M4.6/36, mb5.2/2, mB4.4/1, MLv4.3/36, Mw(mB)3.5/1, Error ellipse: s-maj=9.8km s-min=5.3km az=61.9, confirmed*
SNET ***12*** *07:55:12.0±0.7, 13°.00N×90°.33W, h35km±4km, ML4.3*
UCR ***12*** *07:55:25.8±1.5, 12°.87N×89°.16W, h10km, MW3.8*

ISC 12 07:55:13.3±1.0, 12°.99N±0°.05×90°.26W±0°.04, h51km±9km, n276, σ19°46/272, mb4.3/38, MS3.6/16, 10C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	San Jos, E	0.62	338	eP	Pn	07 55 30.5	+4.4
JAYA	Jayaque - finc	1.03	50	⇑iP	Pn	07 55 31.0	-0.7
JAYA	Jayaque - finc	1.03	50	⇑eP	Pn	07 55 31.0	-0.7
JAYA	Jayaque - finc	1.03	50	P	Pn	07 55 31.2	-0.4
JAYA	Jayaque - finc	1.03	50	S	Sn	07 55 44.8	-0.3
CEVE	Cerro Verde	1.04	36	eP	Pn	07 55 31.4	-0.4
CEVE				eS	Sn	07 55 47.1	+1.6
CEVE	Cerro Verde	1.04	36	P	Pn	07 55 31.4	-0.4
LALI	Alcalda de L	1.04	61	⇑iP	Pn	07 55 30.9	-0.7
LALI	Alcalda de L	1.04	61	P	Pn	07 55 31.0	-0.6
LALI	Alcalda de L	1.04	61	S	Sn	07 55 43.5	-1.6
SBLS	San Blas	1.05	36	⇑iP	Pn	07 55 31.4	-0.6
SBLS				⇑iP	Pn	07 55 31.4	-0.6
SNJE	San Jose	1.08	36	⇑iP	Pn	07 55 31.8	-0.5
SLOZ	Alcaldia de Sa	1.13	24	⇑eP	Pn	07 55 32.2	-0.7
SLOZ	Alcaldia de Sa	1.13	24	S	Sn	07 55 45.6	-1.9
SLOZ	Alcaldia de Sa	1.13	24	P	Pn	07 55 32.5	-0.5
CEDA	San Andres	1.17	46	eP	Pn	07 55 32.9	-0.5
CEDA	San Andres	1.17	46	S	Sn	07 55 53.3	+5.0
CEDA	San Andres	1.17	46	P	Pn	07 55 33.3	-0.1
PMON	Piamonte	1.17	52	eP	Pn	07 55 32.9	-0.5
PMON	Piamonte	1.17	52	P	Pn	07 55 33.4	0.0
PMON	Piamonte	1.17	52	S	Sn	07 55 59.0	+11
ITCA	Escuela Especi	1.18	54	P	Pn	07 55 33.0	-0.5
ITCA	Escuela Especi	1.18	54	S	Sn	07 55 49.4	+0.9
UNIC	Universidad Ca	1.21	35	eP	Pn	07 55 33.5	-0.5
UNIC	Universidad Ca	1.21	35	P	Pn	07 55 33.6	-0.3
BOQS	Boqueron	1.21	52	eP	Pn	07 55 33.8	-0.3
PANCS	Alcalda de	1.22	59	P	Pn	07 55 32.0	-2.2
PANCS	Alcalda de	1.22	59	S	Sn	07 55 53.3	+3.7
UEES	Universidad Ev	1.23	54	S	Sn	07 55 49.5	-0.4
UEES	Universidad Ev	1.23	54	P	Pn	07 55 34.1	-0.1
PIC2	El Picacho	1.23	52	eP	Pn	07 55 34.2	-0.2
SEMO	Seminario San	1.23	55	P	Pn	07 55 34.1	-0.2
SEMO	Seminario San	1.23	55	S	Sn	07 55 52.6	+2.6
LOMA	Loma Larga	1.25	58	eP	Pn	07 55 33.9	-0.6
LOMA	Loma Larga	1.25	58	P	Pn	07 55 33.9	-0.6
UTEC	Universidad Te	1.25	55	P	Pn	07 55 34.3	-0.3
UTEC	Universidad Te	1.25	55	S	Sn	07 55 52.8	+2.5
UDBS	Universidad Do	1.30	56	S	Sn	07 55 49.1	-2.3
UDBS	Universidad Do	1.30	56	P	Pn	07 55 34.7	-0.4
FG8	Yepocapa, Chim	1.30	347	eP	Pn	07 55 36.0	+0.7
FG8				eS	Sn	07 56 00.2	+8.6
LFRS	El Faro	1.33	61	eP	Pn	07 55 35.0	-0.6
PAVA	Las Pavas	1.48	60	eP	Pn	07 55 37.5	-0.1
PAVA	Las Pavas	1.48	60	P	Pn	07 55 37.8	+0.2
COEG	Centro de Oper	1.48	65	eP	Pn	07 55 37.3	-0.4
COEG	Centro de Oper	1.48	65	P	Pn	07 55 37.6	-0.1
ESSG	Sabana Grande	1.50	338	eP	Pn	07 55 36.5	-1.4
ESSG				iS	Sn	07 55 56.0	-0.4
TECO	Alcaldia de Te	1.54	69	eP	Pn	07 55 37.5	-0.9
TECO	Alcaldia de Te	1.54	69	P	Pn	07 55 37.8	-0.6
TECO	Alcaldia de Te	1.54	69	S	Sn	07 56 05.7	+8.4
UESV	Universidad de	1.57	66	P	Pn	07 55 38.6	-0.2
UESV	Universidad de	1.57	66	S	Sn	07 56 06.3	+8.2
GCG4	OSOP	1.61	351	eP	Pn	07 55 38.1	-1.4
SCLA	Alcaldia de Sa	1.65	64	⇑eP	Pn	07 55 40.1	+0.2
SCLA	Alcaldia de Sa	1.65	64	P	Pn	07 55 40.4	+0.4
MTO3	Montecristo	1.66	32		Pn	07 55 40.0	-0.2
MTO3	Montecristo	1.66	32	⇑eP	Pn	07 55 40.1	0.0
MTO3	Montecristo	1.66	32	⇑iP	Pn	07 55 40.0	-0.2
MTO3				eS	Sn	07 56 05.3	+4.9
MTO3	Montecristo	1.66	32	P	Pn	07 55 40.3	+0.1
ALJI	Alcalda de J	1.68	78	eP	Pn	07 55 39.5	-0.8
ALJI	Alcalda de J	1.68	78	P	Pn	07 55 40.1	-0.1
ALJI	Alcalda de J	1.68	78	S	Sn	07 55 57.5	-3.2
LLGN	La Laguna	1.73	47	P	Pn	07 55 41.7	+0.5
LLGN	La Laguna	1.73	47	S	Sn	07 56 03.1	+0.9
PQSS	Presa 15 de Se	1.77	69	eP	Pn	07 55 41.4	-0.1
PQSS	Presa 15 de Se	1.77	69	S	Sn	07 55 59.5	-3.4
PQSS	Presa 15 de Se	1.77	69	P	Pn	07 55 41.6	+0.1
STG0	El Palmar, Qui	1.78	324	eP	Pn	07 55 43.7	+2.0
STG0				eS	Sn	07 56 11.6	+8.2
ESQI	Esquipulas	1.80	30		Pn	07 55 41.7	-0.4
ESQI	Esquipulas	1.80	30	eP	Pn	07 55 42.3	+0.3
ESQI	Esquipulas	1.80	30	P	Pn	07 55 42.4	+0.4
ESQI	Esquipulas	1.80	30	S	Sn	07 55 58.2	-5.6
STG8	El Palmar, Qui	1.80	324	eP	Pn	07 55 43.6	+1.4
STG8				iS	Sn	07 56 12.1	+8.0
PACA	Pacayal	1.95	75	eP	Pn	07 55 44.3	+0.2
PACA	Pacayal	1.95	75	P	Pn	07 55 44.9	+0.8
RANC	El Ranchito	1.97	77	P	Pn	07 55 45.0	+0.6
BLLM	Bellamira	2.02	77	eP	Pn	07 55 44.9	-0.1
RTAL	Retalhuleu	2.07	318		Pn	07 55 42.2	-3.4
SOKI	Kika Raxquin	2.14	329	eP	Pn	07 55 45.1	-1.8
SOKI				eS	Sn	07 56 12.6	+0.1
LCND	La Caada	2.33	82	eP	Pn	07 55 48.7	-0.4
LCND	La Caada	2.33	82	P	Pn	07 55 49.2	+0.1
CNCH	Conchagua	2.38	83	eP	Pn	07 55 49.7	-0.2
CNCH	Conchagua	2.38	83	P	Pn	07 55 49.7	-0.2
MARCA	Marcala la Paz	2.46	61	eP	Pn	07 55 51.0	-0.1
AVCB	Coban	2.48	357	eP	Pn	07 55 52.5	+1.2
AVCB				eS	Sn	07 56 22.9	+2.5
HUEH	Huehuetenango	2.61	333	Pn	Pn	07 55 52.1	-1.2
HUEH	Huehuetenango	2.61	333	eP	Pn	07 55 53.0	-0.3
CSGN	Cosiguina Volc	2.63	90	P	Pn	07 55 53.5	+0.1
POTN	Potosi Cosigui	2.68	89	P	Pn	07 55 54.3	+0.3
THIG		2.73	315	eP	Pn	07 55 51.6	-3.0
THIG				iS	Sn	07 56 25.8	-0.6
TGUH	Tegucigalpa,Un	3.09	70		Pn	07 55 59.5	-0.3
TGUH	Tegucigalpa,Un	3.09	70	P	Pn	07 56 00.4	+0.6
CRIN	San Cristobal	3.14	95		Pn	07 56 00.1	-0.3
CRIN	San Cristobal	3.14	95	P	Pn	07 56 00.3	-0.1
QUEN	Al S del Volca	3.35	96	P	Pn	07 56 03.2	0.0
HERN	Volcan Telica	3.37	96		Pn	07 56 02.3	-1.1
POLN	Al Sur del Vol	3.38	95	P	Pn	07 56 03.0	-0.6
POLN				S	Sn	07 56 42.6	+0.1
PLRN	Geotermica Pol	3.43	96	P	Pn	07 56 03.5	-0.8
PLRN				S	Sn	07 56 42.0	-1.7
ROCN	Rota Cerro Neg	3.46	97	P	Pn	07 56 04.4	-0.3
ROCN				S	Sn	07 56 44.4	-0.1
ILCN	San Idelfonso	3.50	96	P	Pn	07 56 03.9	-1.3
ILCN				S	Sn	07 56 45.0	-0.4
CNGA	Al SSO del Vol	3.51	98	P	Pn	07 56 05.6	+0.3
CNGN	Cerro Negro	3.51	98		Pn	07 56 04.4	-0.9
CNGN	Cerro Negro	3.51	98	P	Pn	07 56 05.4	+0.1
LEVN	Ruinas Leon Vi	3.60	99	P	Pn	07 56 07.2	+0.6
COPN	Copaltepe	3.67	102	P	Pn	07 56 06.6	-1.0
MOMN	Momotombo	3.67	99	P	Pn	07 56 07.7	0.0
CCIG	Comitan	3.75	331		Pn	07 56 08.8	0.0
CCIG	Comitan	3.75	331	eP	Pn	07 56 08.9	+0.1
CCIG	Comitan	3.75	331	P	Pn	07 56 09.7	+0.9
LIMN	Finca el Limon	3.79	88	P	Pn	07 56 08.6	-0.7
PETF	Flores	3.93	6		Pn	07 56 11.4	+0.3
TISN	Laguna Tiscapa	3.98	102	P	Pn	07 56 11.2	-0.7
RCVN	Varillal2	4.00	81	P	Pn	07 56 11.9	-0.4
MGAN	Managua	4.00	102		Pn	07 56 10.5	-1.6
RCPN	Sur Rio San Ju	4.09	82	P	Pn	07 56 15.3	+1.8
MATN	Matagalpa	4.23	90	P	Pn	07 56 14.3	-1.0
ACON	Acoyapa	5.07	101		Pn	07 56 26.2	-0.6
CUI	Cuipilapa	5.50	114	eP	Pn	07 56 33.3	+0.6
INDI	Punta indio, G	5.60	123	P	Pn	07 56 34.0	-0.1
TENO	El Achiote	5.65	113	eP	Pn	07 56 35.7	+0.9
NYURE	Nandayure	5.74	121	eP	Pn	07 56 35.8	-0.1
NYURE				eS	Sn	07 57 35.2	-5.3
QUEB	Quebradon, Cot	5.75	114	eP	Pn	07 56 37.2	+1.0
JUNT	Juntas	5.85	117	eP	Pn	07 56 39.9	+2.4
JTS	Las Juntas de	5.85	117		Pn	07 56 36.9	-0.6
JTS	Las Juntas de	5.85	117	Pn	Pn	07 56 38.0	+0.6
	5.0nm,0.3s,baz=311,slow=15,SNR=31						
	9.6nm,0.3s						
JTS	Las Juntas de	5.85	117	eP	Pn	07 56 38.0	+0.6
ESPN	Las Esperanzas	5.87	97		Pn	07 56 37.4	-0.3
MTEVE	Monteverde	5.95	116	eP	Pn	07 56 40.5	+1.6
ARE1	Arenal 1	5.98	114	eP	Pn	07 56 40.1	+0.8
VARE2	V. Arenal	5.98	114	eP	Pn	07 56 40.1	+0.8
CEDE	Laguna Cedeo	5.98	114	eP	Pn	07 56 40.2	+0.9
VACR	Volcan Arenal	6.01	114	eP	Pn	07 56 41.1	+1.4
CMIG	Matias Romero	6.05	313	Pn	Pn	07 56 38.8	-1.4
	1.1nm,0.3s,baz=116,slow=11,SNR=11						
CMIG				Sn	Sn	07 57 47.8	-0.4
	1.4nm,0.3s,baz=120,slow=9.7,SNR=3.8						
	12nm,0.7s						
SOCE	Pocosol	6.10	114		Pn	07 56 40.1	-0.9
SOCE	Pocosol	6.10	114	eP	Pn	07 56 42.5	+1.5
SOCE	Pocosol	6.10	114	P	Pn	07 56 41.5	+0.5
VPL2	V. Platanar	6.34	114	eP	Pn	07 56 45.2	+0.7
SRA1	San Ramn	6.36	116	eP	Pn	07 56 47.1	+2.5
TRB2	Turrubares	6.46	118	eP	Pn	07 56 47.6	+1.7
TCS1	Tacares	6.53	116	eP	Pn	07 56 49.7	+2.8
TCS1				iP	Pn	07 56 49.7	+2.8
VBV1	V. Barva	6.68	115	eP	Pn	07 56 52.3	+3.2
HDC	Heredia	6.71	116	Pn	Pn	07 56 47.8	-1.7
ACOS	Acosta	6.76	117	eP	Pn	07 56 53.1	+2.9
PICV	PH. Pirrs	6.82	119	eP	Pn	07 56 53.2	+2.4
PISJ	San Jernim	6.88	118	eP	Pn	07 56 53.6	+1.8
ABE2	San Pablo	6.90	118	eP	Pn	07 56 54.5	+2.3
LCR2	La Lucha 2	6.93	117	eP	Pn	07 56 53.5	+1.0
CVTG	V. Turrialba,	6.95	113	eP	Pn	07 56 57.0	+4.3
VICA	Volcano Irazu	6.96	115	eP	Pn	07 56 55.8	+2.7
PCAYA	Pacayas	7.02	115	eP	Pn	07 56 58.7	+4.9
CVTQ	Turrialba Volc	7.02	114	eP	Pn	07 56 55.8	+1.9
PIEC	Cerro El Cedra	7.03	118	eP	Pn	07 56 55.9	+2.1
CVTV	Tajo	7.04	114	eP	Pn	07 56 57.8	+3.8
IRES	Siquirres	7.21	113	eP	Pn	07 56 49.4	-6.9
TEIG	Tepich	7.45	15		Pn	07 56 59.7	+0.4
SAJE	San Jernim	7.55	118	eP	Pn	07 57 02.8	+1.9
BURE	Buenos Aires	7.78	118	iP	Pn	07 57 07.5	+3.6
BURE				eP	Pn	07 57 07.5	+3.6
FIMO	Fila Mora	7.86	120	eP	Pn	07 57 08.8	+3.7
EDP2	Potrero Grande	7.99	119	eP	Pn	07 57 11.0	+4.1
EDAD	Golfito	8.19	121	eP	Pn	07 57 12.5	+2.9
ALCO	Alturas Coton,	8.32	118	eP	Pn	07 57 12.8	+1.3
BRU2	Volcan	8.52	119		Pn	07 57 14.8	+0.6
BRU2	Volcan	8.52	119	eP	Pn	07 57 16.5	+2.3
TLIG	Tlapa	9.22	301		Pn	07 57 22.4	-1.3
SOR	Soroa	11.94	34	Pn	Pn	07 58 01.8	+0.8
MTDJ	Mount Denham	13.32	65	Pn	Pn	07 58 19.2	-0.6
ZAIG	Zacatecas	15.22	311	Pn	Pn	07 58 44.8	-0.5
OTAV	Otavalo	17.25	136	P	Pn	07 59 10.8	-0.3
OTAV				IAmb	IAmb	07 59 40.4	
	comp=Z,37nm,1.4s						
553A	Crawfordville	17.95	17		P	07 59 19.5	+0.3
553A				IAmb	IAmb	07 59 30.8	
	comp=Z,46nm,1.2s						
FLOC	Florencia	18.37	127	P	P	07 59 23.8	-0.3
HNDO	Hondo	18.47	334	P	Pn	07 59 25.8	+0.2
DRIO	Del Rio	18.98	331		P	07 59 30.4	-0.1
352A	Blakely	19.05	14	P	Pn	07 59 31.7	-0.8
352A				IAmb	IAmb	07 59 50.8	
	comp=Z,27nm,1.2s						
NATX	Nacogdoches	19.12	348	P	Pn	07 59 32.7	-0.7
NATX				IAmb	IAmb	07 59 34.3	
	comp=Z,17nm,0.8s						
VBMS	Vicksburg	19.15	359	P	Pn	07 59 33.6	-0.1
VBMS				IAmb	IAmb	07 59 50.1	
	comp=Z,38nm,1.1s						
JCT	Junction City	19.52	335	P	P	07 59 36.9	+0.4
143A	Socs Landing,	19.66	357	P	Pn	07 59 39.7	0.0
SDV	Santo Domingo	19.69	100	P	P	07 59 39.1	+0.4
SDV	Santo Domingo	19.69	100	P	P	07 59 38.7	0.0
	comp=Z,0.6nm,0.3s,baz=328,slow=8.4,SNR=4.5						
	comp=Z,4.0nm,0.5s						
BRDY	Brady	19.91	338	P	P	07 59 41.3	+0.5
SAND	Sanderson	20.15	329		P	07 59 43.5	+0.1
LRAL	Lakeview Retre	20.18	8	P	P	07 59 43.5	-0.2
Z47A	Carrollton	20.22	5	P	P	07 59 44.3	+0.2
Z47A				IAmb	IAmb	07 59 49.3	
	comp=Z,20nm,0.7s						
152A	Waverly Hall	20.24	14	P	P	07 59 44.8	+0.5
FW14	Alvarado	20.34	343	P	P	07 59 44.9	-0.5
FW14				IAmb	IAmb	07 59 50.5	
	comp=Z,19nm,0.8s						
OZNA	Ozona	20.47	332		P	07 59 47.7	+0.8
TX31	Lajitas Ar. Si	20.49	325	P	P	07 59 47.6	+0.4
TXAR	Lajitas Array	20.49	325	P	P	07 59 48.1	+1.0
TXAR	Lajitas Array	20.49	325	P	P	07 59 47.7	+0.6
	comp=Z,7.9nm,0.9s,baz=152,slow=12,SNR=60						
	comp=Z,7.9nm,0.9s						
Z38A	Mt. Pleasant	20.64	349		P	07 59 48.4	-0.2
Z38A				IAmb	IAmb	07 59 53.5	
	comp=Z,14nm,0.6s						
WLAR	White Oak Lake	20.77	353	P	P	07 59 50.8	+0.8
WLAR				IAmb	IAmb	08 00 22.5	
	comp=Z,15nm,0.8s						
PLPT	Palo Pinto	21.07	341		P	07 59 53.4	+0.1
Y49A	Blount Mountai	21.07	9	P	P	07 59 53.9	+0.6
Y49A				IAmb	IAmb	08 00 02.6	
	comp=Z,17nm,1.1s						
GOGA	Godfrey	21.26	16	P	P	07 59 55.1	-0.2
GOGA				IAmb	IAmb	08 00 09.2	
	comp=Z,18nm,1.4s						
ALPN	Alpine	21.27	327		P	07 59 56.3	+0.7
ALPN				IAmb	IAmb	07 59 58.1	
	comp=Z,18nm,0.8s						
OXF	Oxford	21.45	2	P	P	07 59 58.4	+1.2
Y52A	Lilburn	21.54	14	P	P	07 59 58.4	+0.1
Y52A				IAmb	IAmb	07 59 59.0	
	comp=Z,9.4nm,0.8s						
MNHN	Monahans	21.59	330	P	P	07 59 59.4	+0.4
MNHN				IAmb	IAmb	08 00 01.1	
	comp=Z,18nm,0.8s						
MIAR	Mount Ida	21.68	353		P	07 59 59.0	-0.7
UALR	University of	21.78	355	P	P	08 00 01.2	+0.4
UALR				IAmb	IAmb	08 00 04.6	
	comp=Z,9.8nm,0.7s						
FPAL	Fort Paine	21.87	10	P	P	08 00 01.6	-0.2
LPIG	La Paz	21.96	303	LR	LR	08 08 54.4	
	comp=Z,82nm,19.3s,baz=138,slow=38						
APMT	Aspermont	22.16	338	P	P	08 00 04.0	-1.0
APMT				IAmb	IAmb	08 00 44.0	
	comp=Z,14nm,1.1s						
PECS	Pecos	22.18	328	P	P	08 00 05.9	+0.6
PECS				IAmb	IAmb	08 00 07.6	
	comp=Z,8.9nm,0.7s						
WHAR	Wooly Hollow	22.28	356	P	P	08 00 06.9	+0.6
WHAR				IAmb	IAmb	08 00 39.5	
	comp=Z,29nm,1.4s						
VHRN	Van Horn	22.33	325	P	P	08 00 07.2	+0.2
VHRN				IAmb	IAmb	08 00 08.1	
	comp=Z,17nm,0.8s						
SWET	Sewanee	22.48	9	P	P	08 00 08.0	-0.5
SWET				IAmb	IAmb	08 00 09.3	
	comp=Z,12nm,0.7s						
W50A	Signal Mountai	22.57	11	P	P	08 00 08.8	-0.6
W50A				IAmb	IAmb	08 00 44.3	
	comp=Z,14nm,1.3s						
DKNS	Dickens	22.77	336	P	P	08 00 10.5	-1.0
DKNS				IAmb	IAmb	08 00 13.2	
	comp=Z,17nm,1.1s						
W35A	Tecumseh	22.87	346	P	P	08 00 10.4	-2.0
CPCT	Cooper Cave	22.96	12	P	P	08 00 12.1	-1.3
WMOK	Wichita Mounta	22.99	342	P	P	08 00 13.1	-0.7
WVT	Waverly	23.15	5	P	P	08 00 14.3	-0.9
WVT				IAmb	IAmb	08 00 15.4	
	comp=Z,12nm,1.1s						
CLTN	Cedars of Leba	23.28	8	P	P	08 00 16.7	+0.1
CLTN				IAmb	IAmb	08 00 17.1	
	comp=Z,12nm,1.1s						
TKL	Tuckaleechee C	23.32	13	P	P	08 00 16.1	-0.9
TKL				IAmb	IAmb	08 00 44.9	
	comp=Z,15nm,1.0s						
TKL	Tuckaleechee C	23.32	13	LR	LR	08 09 43.7	
	comp=Z,219nm,21.9s,baz=181,slow=39						
OK031	S. Brethren Rd	23.63	347	P	P	08 00 17.8	-2.0
OK031				IAmb	IAmb	08 00 46.1	
	comp=Z,10nm,1.0s						
U49A	Red Boiling Sp	23.77	9	P	P	08 00 20.4	-0.8
T47A	Sharon Grove	24.07	6	P	P	08 00 23.4	-0.5
T50A	Nancy	24.42	11	P	P	08 00 26.5	-0.7
T50A				IAmb	IAmb	08 00 28.6	
	comp=Z,5.6nm,0.7s						
CCM	Cathedral Cave	24.98	358	P	P	08 00 30.9	-1.3
CCM				IAmb	IAmb	08 00 33.1	
	comp=Z,9.3nm,0.7s						
WCI	Wyandotte Cave	25.39	7	P	P	08 00 35.0	-0.9
DUN6	Lazy B Ranch	26.01	322	P	P	08 00 43.4	+1.6
R32A	Long Quarter,	26.43	345	P	P	08 00 45.7	+0.4
PV11	David Mesa, Pa	30.16	330	P	P	08 01 19.7	+0.9
PV11				IAmb	IAmb	08 01 20.5	
	comp=Z,7.6nm,0.8s						
PV10	Paradox Valley	30.30	330	P	P	08 01 19.9	-0.2
PV10				IAmb	IAmb	08 01 21.2	
	comp=Z,7.1nm,0.8s						
U15A	North Rim	30.60	324	P	P	08 01 24.6	+1.8
HMU	Henry Mountain	30.83	327	P	P	08 01 25.1	+0.2
HMU				IAmb	IAmb	08 01 31.8	
	comp=Z,5.8nm,1.1s						
LCMT	Little Creek M	31.56	323	P	P	08 01 32.4	+1.3
V12A	Nelson	31.68	320	P	P	08 01 32.9	+0.7
MSU	Marysvale	32.02	326	P	P	08 01 36.5	+1.3
PSUT	Pine Spring	32.96	325	P	P	08 01 43.6	+0.2
PSUT				IAmb	IAmb	08 01 53.7	
	comp=Z,5.1nm,0.9s						
PDAR	Pinedale Array	34.05	334	P	P	08 01 52.5	-0.5
	comp=Z,1.1nm,1.0s,baz=122,slow=11,SNR=5.4						
PDAR				PcP	PcP	08 04 30.6	+0.9
	comp=Z,0.3nm,0.6s,baz=129,slow=4.6,SNR=3.9						
	comp=Z,1.1nm,1.0s						
SNOW	Snow King Moun	35.13	334	P	P	08 02 02.0	-0.2
NVAR	Mina Array Bea	35.52	321	P	P	08 02 06.8	+1.2
NVAR	Mina Array Bea	35.52	321	P	P	08 02 08.2	+2.5
	comp=Z,5.4nm,0.7s,baz=135,slow=8.3,SNR=34						
NVAR				PcP	PcP	08 04 36.2	+2.1
	comp=Z,1.5nm,0.8s,baz=128,slow=4.6,SNR=5.0						
NVAR				LR	LR	08 18 17.4	
	comp=Z,132nm,18.8s,baz=252,slow=40						
	comp=Z,5.4nm,0.7s						
DGMT	Dagmar	37.23	345	P	P	08 02 19.3	-0.5
BEKR	Beckworth	37.66	321	P	P	08 02 24.4	+0.6
BEKR				IAmb	IAmb	08 02 27.4	
	comp=Z,5.6nm,0.9s						
YBH	Yreka Blue Hor	40.21	322	LR	LR	08 20 16.3	
	comp=Z,44nm,19.2s,baz=198,slow=38						
SIV	San Ignacio	40.77	134	LR	LR	08 20 17.1	
	comp=Z,72nm,19.5s,baz=308,slow=37						
NEW	Newport	41.66	333	LR	LR	08 22 17.3	
	comp=Z,59nm,19.4s,baz=128,slow=40						
FFC	Flin Flon	42.65	350	P	P	08 03 03.6	-1.0
FFC				IAmb	IAmb	08 03 05.6	
	comp=Z,5.0nm,0.8s						
KUQ	Kuujjuuaa	47.97	15	P	P	08 03 44.8	-2.0
BDFB	Brasilia	50.55	123	P	P	08 04 10.5	+3.3
	comp=Z,0.9nm,0.4s,baz=341,slow=7.9,SNR=3.8						
	comp=Z,0.9nm,0.4s						
YKA	Yellowknife Ar	52.41	346	P	P	08 04 17.9	-2.4
	comp=Z,2.6nm,0.7s,baz=150,slow=7.9,SNR=53						
	comp=Z,2.6nm,0.7s						
PLCA	Paso Flores	56.48	162	P	P	08 04 57.3	+7.1
	comp=Z,1.4nm,0.9s,baz=35,slow=5.6,SNR=3.3						
	comp=Z,1.4nm,0.9s						
ILON	Igloolik, Nuna	56.60	4		P	08 04 49.0	-1.5

baz=63,slow=12,SNR=4.4
0.8nm,0.4s

IDC 12 08:06:47.2±1.7, 18°.49S×71°.61W, h0km, mb3.4/2, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=44.3km s-min=31.9km az=119.0
GUC 12 08:06:48.9±0.9, 18°.56S×71°.28W, h21km±10km, ML3.2
ISC 12 08:06:53.4±1.3, 18°.62S±0°.06×71°.04W±0°.10, h34km, n20, σ2§14/18, 6C-3D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.68**	**90**	⇓*i*P	**Pn**	**08 07 03.9**	**-2.8**
PB12				IAML		08 07 18.3	
	comp=N,544nm,0.2s						
PB12				IAML		08 07 29.2	
	comp=E,598nm,0.5s						
AP01	**Chacalluta**	**0.71**	**70**	⇓*i*P	**Pn**	**08 07 04.4**	**-2.6**
AP01				*i* S	**Sn**	**08 07 12.7**	**-4.1**
AP01				IAML		08 07 30.1	
	comp=E,2μm,0.4s						
PB11	**IPOC Station P**	**1.73**	**131**	⇑*i*P	**Pn**	**08 07 20.9**	**-0.5**
PB11				*i* S	**Sn**	**08 07 43.3**	**+1.0**
PB11				IAML		08 07 48.0	
	comp=N,530nm,0.1s						
PB18	**Visviri**	**1.81**	**56**	⇓*i*P	**Pn**	**08 07 23.8**	**+1.2**
PB18				*i* S	**Sb**	**08 07 49.2**	**+0.5**
PB18				IAML		08 07 57.5	
	comp=E,697nm,0.3s						
TA02	**Huaiquique**	**1.85**	**152**	⇑*i*P	**Pn**	**08 07 21.7**	**-1.1**
TA02				IAML		08 07 56.2	
	comp=E,244nm,0.6s						
HMBC	**Humberstone**	**1.98**	**147**	⇑*i*P	**Pn**	**08 07 23.6**	**-1.1**
HMBC				IAML		08 08 02.2	
	comp=N,314nm,0.7s						
GO01	**Chusmiza**	**2.04**	**121**	⇑*i*P	**Pn**	**08 07 25.9**	**+0.1**
GO01				IAML		08 08 00.6	
	comp=E,259nm,0.4s						
PB08	**IPOC Station P**	**2.34**	**131**	⇑*i*P	**Pn**	**08 07 29.5**	**-0.3**
PB08				*e*S	**Sn**	**08 07 59.3**	**+1.7**
PB08				IAML		08 08 05.3	
	comp=N,152nm,0.4s						
PATCX	**Punta Patache**	**2.34**	**159**	⇑*i*P	**Pn**	**08 07 27.7**	**-1.9**
PATCX				IAML		08 08 19.1	
	comp=E,102nm,1.0s						
PATCX				IAML		08 08 19.6	
	comp=N,116nm,0.4s						
LPAZ	**La Paz**	**3.62**	**51**	Pn	**Pn**	**08 07 50.4**	**+2.7**
	comp=N,0.4nm,0.3s,baz=234,slow=8.3,SNR=9.8						
	comp=N,1.8nm,0.5s						
SIV	**San Ignacio**	**9.88**	**76**	Pn	**Pn**	**08 09 15.6**	**+2.5**
	baz=269,slow=13,SNR=2.5						
	comp=N,0.7nm,0.4s						
H03N1	**Juan Fernandez**	**16.36**	**204**	T	T	08 27 40.5	
	baz=27,slow=73,SNR=27						
H03N2	**Juan Fernandez**	**16.36**	**204**	T	T	08 27 39.7	
	baz=27,slow=73,SNR=17						
H03N3	**Juan Fernandez**	**16.37**	**204**	T	T	08 27 39.3	
	baz=27,slow=73,SNR=17						
PLCA	**Paso Flores**	**22.04**	**179**	P	**P**	**08 11 45.0**	**-0.2**
	comp=N,1.4nm,0.9s,baz=334,slow=10,SNR=4.4						
	comp=N,1.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**78.32**	**72**	P	**P**	**08 18 53.1**	**+2.4**
	comp=N,107nm,0.3s,baz=261,slow=6.9,SNR=1.3						
YKA	**Yellowknife Ar**	**87.82**	**341**	P	**P**	**08 19 36.2**	**-2.6**
	comp=N,0.3nm,0.8s,baz=142,slow=4.7,SNR=5.1						
	comp=N,0.3nm,0.8s						
H11S2	**WAKE ISLAND Hyd**	**25.47**	**280**	T	T	10 43 36.1	
	baz=100,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hyd**	**25.48**	**280**	T	T	10 43 36.8	
	baz=100,slow=74,SNR=13						
H11S3	**WAKE ISLAND Hyd**	**25.49**	**280**	T	T	10 43 35.5	
	baz=100,slow=74,SNR=12						

SOME 12 08:09:21.2, 43°.40N×69°.93E
NNC 12 08:09:22.3±1.6, 43°.38N×69°.89E, h0km, mb3.5, mpv2.9, 1C-1D, Error ellipse: s-maj=11.6km s-min=3.9km az=128.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.35**	**186**	P	Pn	08 09 33.4	-1.3
	8.0nm,0.2s						
BRLS				S	Sb	08 09 42.5	+4.9
	15nm,0.2s						
KK31	**Karatay Array**	**0.54**	**121**	⇓P	Pg	08 09 32.4	-0.2
	1.5nm,0.2s,baz=299,slow=16,SNR=206						
KK31				⇑S	Sg	08 09 40.2	+0.7
	5.2nm,0.2s,baz=301,slow=30,SNR=135						
IUG	**Iuzhnay**	**1.24**	**175**	P	Pn	08 09 47.0	+0.1
	26nm,0.2s						
IUG				S	Sn	08 10 04.0	-0.4
	40nm,0.5s						
MRKS	**Merke**	**2.53**	**103**	Pg	Pb	08 10 08.3	-0.3
	0.8nm,0.2s						
MRKS				Lg	Lg	08 10 42.5	
	8.9nm,0.6s						
KST	**Kastek**	**4.46**	**92**	Pg	Pb	08 10 42.8	+1.3
	1.4nm,0.4s						
KST				Lg	Lg	08 11 40.6	
	3.7nm,0.9s						

IDC 12 08:10:52.2±7.6, 7°.04S×149°.27E, h88km±52km, mb2.8/1, mbtmp3.2/3, ML2.6/2, Error ellipse: s-maj=118.1km s-min=55.6km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.15**	**221**	P	Pn	08 11 39.3	-0.4
	6.8nm,0.3s,baz=348,slow=6.0,SNR=9.6						
PMG				S	Sn	08 12 17.5	+1.1
	19nm,0.3s,baz=141,slow=18,SNR=8.6						
	16nm,0.4s						
WRA	**Warramunga Arr**	**19.35**	**227**	P	P	08 15 09.9	-1.1
	0.1nm,0.3s,baz=52,slow=11,SNR=5.3						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**22.16**	**220**	P	P	08 15 40.5	-0.6
	0.4nm,0.6s,baz=55,slow=9.2,SNR=6.9						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**147.53**	**283**	PKPbc	PKPbc	08 30 27.7	+0.3
	124nm,0.3s,baz=82,slow=2.4,SNR=1.5						

IDC 12 08:25:41.2±1.9, 2°.45N×123°.84E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=211.7km s-min=27.3km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.52**	**156**	P	P	08 31 02.6	0.0
	0.3nm,0.3s,baz=334,slow=10,SNR=16						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**27.75**	**160**	P	P	08 31 32.0	+0.3
	0.1nm,0.5s,baz=343,slow=8.3,SNR=2.1						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**57.01**	**327**	P	P	08 35 28.6	-0.2
	0.3nm,0.4s,baz=117,slow=6.9,SNR=4.8						
	0.3nm,0.4s						

IDC 12 08:26:26.9±3.5, 54°.28N×87°.20E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=31.3km s-min=19.7km az=55.0
ASRS 12 08:26:25.0±1.1, 54°.27N×87°.04E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**257**	I	I	08 36 10.0	
	baz=78,slow=330,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.35**	**257**	Pg	Pb	08 26 52.0	+0.9
	0.8nm,0.3s,baz=73,slow=17,SNR=8.0						
ZALV				Lg	Lg	08 27 12.9	
	0.8nm,0.3s,baz=76,slow=27,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.36**	**238**	Pn	Pn	08 28 03.9	+4.0
	0.1nm,0.3s,baz=53,slow=14,SNR=3.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.07**	**204**	Pn	Pn	08 28 27.4	+4.0
	0.1nm,0.3s,baz=19,slow=18,SNR=1.7						
	0.1nm,0.3s						

IDC 12 08:35:03.6±0.7, 31°.29S×178°.62W, h0km, mb4.2/8, mbtmp4.2/8, MS3.5/6, Error ellipse: s-maj=26.1km s-min=24.5km az=12.0
WEL 12 08:35:04.2±0.6, 31°S±7°×17°8W±2°2, h12km, M4.4/6, mB4.8/6, ML5.0/11, MLv4.7/6, Mw(mB)4.1/6, Error ellipse: s-maj=30.0km s-min=3.2km az=108.0, confirmed
ISC 12 08:35:04.7±0.6, 31°.44S±0°.06×178°.5W±0°.1, h10km, n54, σ1§22/52, mb4.3/10, MS3.5/4, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.23**	**13**	P	**Pn**	**08 35 41.0**	**-0.8**
GLKZ				S	**Sn**	**08 36 08.2**	**-1.2**
RIZ	**Raoul Island**	**2.25**	**13**	P	**Pn**	**08 35 42.2**	**+0.2**
RIZ				S	**Sn**	**08 36 08.7**	**-1.1**
WMGZ	**Waiomatatini S**	**6.84**	**201**	P	**Pn**	**08 36 44.2**	**-0.9**
WMGZ				S	**Sn**	**08 38 02.6**	**-0.5**
PKGZ	**Pakihiroa**	**6.99**	**203**	P	**Pn**	**08 36 46.5**	**-0.7**
PKGZ				S	**Sn**	**08 38 05.8**	**-1.0**
HAZ	**Te Kaha**	**7.00**	**205**	P	**Pn**	**08 36 47.5**	**+0.3**
HAZ				S	**Sn**	**08 38 06.8**	**0.0**
PUZ	**Puketiti**	**7.12**	**201**	P	**Pn**	**08 36 48.9**	**-0.1**
PUZ				S	**Sn**	**08 38 08.5**	**-1.6**
RUGZ	**Raukumara Rang**	**7.22**	**205**	P	**Pn**	**08 36 50.6**	**+0.2**
TWGZ	**Tauwhareparae**	**7.31**	**202**	P	**Pn**	**08 36 49.4**	**-2.1**
TWGZ				S	**Sn**	**08 38 13.4**	**-1.2**
WCZ	**Waipu Caves**	**7.45**	**231**	P	Pn	08 36 59.1	+5.7
TKGZ	**Te Karaka**	**7.59**	**202**	P	**Pn**	**08 36 57.0**	**+1.7**
OUZ	**Omahuta**	**7.60**	**238**	P	**Pn**	**08 36 57.5**	**+2.1**
MWZ	**Matawai**	**7.60**	**204**	P	**Pn**	**08 36 55.5**	**-0.1**
URZ	**Urewera**	**7.69**	**207**	Pn	**Pn**	**08 36 54.2**	**-2.5**
	1.3nm,0.3s,baz=339,slow=4.0,SNR=14						
URZ				Sn	**Sn**	**08 38 23.0**	**-0.9**
	1.9nm,0.3s,baz=262,slow=21,SNR=6.1						
URZ	**Urewera**	**7.69**	**207**	P	**Pn**	**08 36 56.9**	**+0.1**
RIGZ	**Rimuhau**	**7.86**	**202**	P	**Pn**	**08 36 58.9**	**-0.3**
RIGZ				S	**Sn**	**08 38 27.4**	**-0.8**
SNGZ	**Shannon Statio**	**8.07**	**204**	P	**Pn**	**08 37 02.5**	**+0.5**
SNGZ				S	**Sn**	**08 38 31.9**	**-1.4**
RAHZ	**Arahi**	**8.28**	**205**	P	**Pn**	**08 37 04.5**	**-0.4**
RAHZ				S	**Sn**	**08 38 35.8**	**-2.6**
MTHZ	**Maungataniwha**	**8.31**	**206**	P	**Pn**	**08 37 06.0**	**+0.7**
MTHZ				S	**Sn**	**08 38 37.9**	**-1.3**
NMHZ	**Naumai**	**8.54**	**205**	P	**Pn**	**08 37 08.5**	**0.0**
NMHZ				S	**Sn**	**08 38 41.7**	**-3.2**
DZM	**Mont Dzumac**	**16.34**	**301**	*e*LR	LR	08 42 50.7	
	221nm,24.4s						
DZM	**Mont Dzumac**	**16.34**	**301**	LR	LR	08 43 43.0	
	comp=Z,133nm,20.8s,baz=164,slow=32						
RAR	**Rarotonga**	**19.62**	**63**	LR	LR	08 46 53.2	
	comp=Z,59nm,18.9s,baz=210,slow=36						
TBI	**Tubuai**	**26.97**	**80**	*e*LR	LR	08 47 19.5	
	577nm,28.5s						
PPT2	**Papeete2**	**29.62**	**69**	*e*LR	LR	08 48 41.9	
	82nm,27.2s						
STKA	**Stephens Creek**	**33.82**	**259**	P	**P**	**08 41 48.5**	**+1.2**
	2.0nm,0.7s,baz=81,slow=9.0,SNR=4.6						
STKA				LR	LR	08 54 07.1	
	comp=Z,73nm,18.1s,baz=31,slow=34						
	2.0nm,0.7s						
TAOE	**Nuku Hiva Isla**	**42.13**	**66**	*e*LR	LR	08 54 14.5	
	61nm,27.3s						
ASAR	**Alice Springs**	**42.62**	**268**	P	**P**	**08 43 01.0**	**-0.5**
	2.0nm,0.9s,baz=105,slow=7.5,SNR=15						
ASAR				LR	LR	08 58 45.9	
	comp=Z,64nm,19.0s,baz=114,slow=33						
	2.0nm,0.9s						
WRA	**Warramunga Arr**	**43.70**	**274**	P	**P**	**08 43 09.7**	**-0.5**
	2.1nm,0.5s,baz=114,slow=7.6,SNR=16						
	2.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**51.92**	**271**	LR	LR	09 05 06.9	
	comp=Z,94nm,18.6s,baz=76,slow=35						
QSPA	**South Pole Qui**	**58.67**	**180**	P	**P**	**08 45 03.7**	**+1.6**
	3.9nm,0.9s,baz=267,slow=1.7,SNR=14						
	3.9nm,0.9s						
TROLL	**Troll, Antarti**	**76.83**	**180**	⇑P	**P**	**08 46 57.1**	**+0.6**
	comp=Z,271nm,0.8s						
SNAA	**Sanae**	**77.13**	**179**	⇑P	**P**	**08 46 58.8**	**+0.7**
	comp=Z,56nm,0.9s						
SNAA	**Sanae**	**77.13**	**179**	P	**P**	**08 46 58.6**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=183,slow=4.8,SNR=2.7						
	comp=Z,2.0nm,0.8s						
VNA3	**Neumayer Olymp**	**77.30**	**176**	⇑P	**P**	**08 46 59.6**	**+0.7**
	comp=Z,7.9nm,0.7s						
VNA2	**Neumayer--Watz**	**77.72**	**177**	⇑P	**P**	**08 47 02.5**	**+1.2**
	comp=Z,6.8nm,0.7s,baz=153,slow=5.6						
H03S2	**Juan Fernandez**	**80.26**	**124**	T	T	10 15 42.1	
	baz=237,slow=74,SNR=56						
H03S1	**Juan Fernandez**	**80.27**	**124**	T	T	10 15 43.6	
	baz=237,slow=74,SNR=59						
H03S3	**Juan Fernandez**	**80.28**	**124**	T	T	10 15 43.6	
	baz=237,slow=74,SNR=54						
H03N3	**Juan Fernandez**	**80.46**	**123**	T	T	10 15 58.8	
	baz=240,slow=72,SNR=49						
H03N2	**Juan Fernandez**	**80.46**	**123**	T	T	10 16 01.9	
	baz=240,slow=72,SNR=34						
H03N1	**Juan Fernandez**	**80.47**	**123**	T	T	10 15 58.1	
	baz=240,slow=72,SNR=107						
PLCA	**Paso Flores**	**82.12**	**133**	P	**P**	**08 47 28.1**	**+2.2**
	comp=Z,1.8nm,1.0s,baz=230,slow=8.3,SNR=3.1						
	comp=Z,1.8nm,1.0s						
PETK	**Petropavlovsk-**	**86.71**	**346**	P	**P**	**08 47 48.1**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=152,slow=6.7,SNR=4.8						
	comp=Z,2.0nm,1.0s						
NVAR	**Mina Array Bea**	**89.30**	**43**	P	**P**	**08 48 02.5**	**+1.1**
	comp=Z,1.7nm,1.0s,baz=218,slow=10.0,SNR=6.8						
	comp=Z,1.7nm,1.0s						
JTS	**Las Juntas de**	**98.30**	**83**	LR	LR	09 27 25.2	
	comp=Z,17nm,18.8s,baz=294,slow=32						
KURBB	**Kurchatov Arra**	**121.48**	**313**	PKP	**PKPdf**	**08 53 56.3**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=99,slow=1.8,SNR=4.4						
BVAR	**Borovoye Array**	**126.84**	**315**	PKP	**PKiKP**	**08 54 08.5**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=106,slow=5.4,SNR=3.5						
ARCES	**ARCESS Array B**	**139.51**	**347**	PKP	**PKiKP**	**08 54 32.3**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=25,slow=3.2,SNR=3.8						
FINES	**FINESS Array B**	**145.96**	**339**	PKPbc	**PKPdf**	**08 54 42.6**	**-0.5**
	comp=Z,7.2nm,0.7s,baz=49,slow=3.8,SNR=19						
NB2	**NORSAR Subarra**	**149.71**	**351**	PKP	**PKPbc**	**08 54 53.4**	**-0.7**
	comp=Z,3.6nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.71**	**351**	PKPbc	**PKPbc**	**08 54 52.9**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=16,slow=4.2,SNR=8.9						
HFS	**Hagfors**	**150.17**	**348**	PKPbc	**PKiKP**	**08 54 55.7**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=353,slow=5.1,SNR=5.6						
MMAI	**Mount Meron Ar**	**151.33**	**282**	PKPbc	**PKiKP**	**08 54 59.4**	**0.0**
	comp=Z,1.4nm,0.4s,baz=76,slow=7.0,SNR=4.0						
AKASG	**Malin Array Be**	**151.84**	**321**	PKPbc	**PKiKP**	**08 54 59.6**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=55,slow=2.5,SNR=8.1						

IDC 12 08:39:37.7±4.2, 53°.51N×90°.04E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=35.3km s-min=23.4km az=67.0
ASRS 12 08:39:25.0±1.6, 53°.42N×91°.14E, h0km, M3.1, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.80**	**281**	I	I	08 58 04.5	
	0.1nm,0.9s,baz=98,slow=335,SNR=12						
ZALV	**Zalesovo Beam**	**3.80**	**281**	Pn	Pb	08 40 29.5	-3.3
	1.4nm,0.3s,baz=99,slow=12,SNR=9.5						
ZALV				Lg	Lg	08 41 16.6	
	1.5nm,0.3s,baz=95,slow=30,SNR=8.5						
	3.8nm,0.3s						
MKAR	**Makanchi Array**	**8.73**	**224**	Pn	Pn	08 41 40.3	+7.8
	0.2nm,0.3s,baz=33,slow=14,SNR=6.0						
MKAR				Sn	Sn	08 43 15.8	+4.3
	0.1nm,0.3s,baz=38,slow=24,SNR=5.0						
MKAR				Lg	Lg	08 44 01.7	
	0.1nm,0.3s,baz=27,slow=32,SNR=2.3						
	0.3nm,0.4s						

IDC 12 08:39:30.4±3.6, 53°.83N×88°.15E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=35.4km s-min=20.8km az=47.0
ASRS 12 08:39:28.0±1.1, 53°.80N×88°.22E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.02**	**276**	I	I	08 53 10.0	
	baz=92,slow=332,SNR=0.4						
ZALV	**Zalesovo Beam**	**2.02**	**276**	Pn	Pb	08 40 05.2	-0.4
	1.1nm,0.3s,baz=94,slow=14,SNR=14						
ZALV				Lg	Lg	08 40 33.1	
	2.4nm,0.3s,baz=93,slow=28,SNR=13						
KURBB	**Kurchatov Arra**	**6.75**	**246**	Pn	Pn	08 41 10.4	+2.2
	0.2nm,0.3s,baz=63,slow=14,SNR=4.7						
	1.4nm,0.2s						
MKAR	**Makanchi Array**	**7.97**	**211**	Pn	Pn	08 41 29.0	+4.0
	0.1nm,0.3s,baz=30,slow=13,SNR=3.0						
	0.2nm,0.5s						

IDC 12 08:50:31.9±3.1, 54°.00N×86°.70E, h0km, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=25.7km s-min=15.1km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.11**	**268**	I	I	08 56 20.0	
	baz=86,slow=332,SNR=0.9						
ZALV	**Zalesovo Beam**	**1.11**	**268**	Pg	Pg	08 50 51.7	-1.5
	0.6nm,0.3s,baz=86,slow=17,SNR=9.2						
ZALV				Lg	Lg	08 51 09.7	
	1.3nm,0.3s,baz=91,slow=31,SNR=7.5						
KURBB	**Kurchatov Arra**	**6.04**	**239**	Pn	Pn	08 52 02.8	+0.4
	0.1nm,0.3s,baz=56,slow=13,SNR=5.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.74**	**203**	Pn	Pn	08 52 27.4	+1.6
	0.1nm,0.3s,baz=25,slow=12,SNR=2.9						
	0.1nm,0.3s						

BER 12 08:50:55.0±0.8, 71°.18N×7°.51W, h22km±43km, ML1.6, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.32**	**233**	*e*P	Pb	08 51 02.3	+0.3
JNE				*e*S	Sb	08 51 06.5	-0.2
JNW	**Jan Mayen West**	**0.34**	**243**	*e*P	Pb	08 51 02.0	-0.2
JNW				*e*S	Sb	08 51 07.4	+0.2
JNW				IAML		08 51 07.5	
	comp=Z,39nm,0.2s						
JMIC	**Jan Mayen**	**0.38**	**239**	*e*P	Pb	08 51 02.2	-0.7
JMIC				*e*S	Sb	08 51 07.9	-0.5
JMIC				IAML		08 51 08.9	
	comp=Z,20nm,0.2s						
JMI	**Jan Mayen**	**0.47**	**238**	*e*P	Pb	08 51 03.8	-0.8
JMI				*e*S	Sb	08 51 10.6	-0.5

BER 12 08:51:34.8±0.8, 77°.96N×7°.46E, h10km, mb(Pn)2.6, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBB	**Barentsburg B**	**1.42**	**81**	*e*P	Pn	08 51 58.3	-2.2
BRBA	**Barentsburg A**	**1.42**	**83**	*e*P	Pn	08 51 58.3	-2.2
SPA0	**Spitsbergen Ar**	**1.87**	**79**	*e*P	Pn	08 52 05.6	-1.1
SPA0				IAML		08 52 06.5	
	comp=Z,8.6nm,0.4s						
SPA0				*e*S	Sn	08 52 27.3	-3.0
HSPB	**Hornsund (broa**	**2.00**	**115**	*e*P	Pn	08 52 06.9	-1.8
HOPEN	**Hopen**	**4.15**	**102**	*e*P	Pn	08 52 36.3	-1.7
HOPEN				IAML		08 52 36.8	
	comp=Z,0.7nm,0.1s						

MOS 12 08:57:50.3±1.0, 43°.72N×139°.95E, h218km, mb4.2/22, Error ellipse: s-maj=7.9km s-min=5.6km az=105.9
NIED 12 08:57:51.8, 43°.64N×139°.95E, h214km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.77; Mθθ-1.69; Mφφ0.93; Mrθ-0.99; Mθφ-0.49; Mφr-1.23; Fault plane solution: M0 2.21000×10^15 NP1: φs118.00000°, δ39.00000°, λ159.00000°. NP2: φs225.00000°, δ77.00000°, λ53.00000°.
NEIC 12 08:57:51.0±1.6, 43°.66N±0°.08×139°.9E±0°.1, h211km±7km, mb4.2/40 Error ellipse: s-maj=13.3km s-min=10.4km az=135.0
IDC 12 08:57:51.4±0.6, 43°.73N×139°.92E, h215km±5km, mb3.8/26, mbtmp4.3/31, Error ellipse: s-maj=8.6km s-min=8.1km az=7.0
JMA 12 08:57:51.8±0.2, 43°.6N±0°.7×14°0E±°, h214km±1km, MV3.8/38, NW OFF SHAKOTAN PEN
SKHL 12 08:57:52.5±0.1, 43°.80N×140°.40E, h211km±4km, mb4.7/9, mbv4.4/2, msh4.8/3, msha5.1/8
ISC 12 08:57:51.2±0.4, 43°.72N±0°.04×139°.96E±0°.04, h216km±3km, h216km; pP-P, n212, σ1§28/253, mb4.1/50, 9C-32D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**1.07**	**177**	⇓P	**Pn**	**08 58 23.0**	**-0.1**
JSH				⇓*e*S	**S**	**08 58 46.7**	**-1.3**
JISS	**Ishikarishitsu**	**1.15**	**112**	*e*P	**Pn**	**08 58 24.2**	**+0.6**
JISS				S	**S**	**08 58 48.8**	**+0.1**
JYG	**Yagishiri**	**1.27**	**56**	P	**Pn**	**08 58 24.9**	**+0.4**
JYG				S	**S**	**08 58 50.3**	**0.0**
JHR	**Hokuryu**	**1.28**	**88**	⇓P	**Pn**	**08 58 25.4**	**+0.8**
JHR				⇓*e*S	**S**	**08 58 51.2**	**+0.8**
JHST	**Hiyamasetana**	**1.29**	**183**	⇓P	**Pn**	**08 58 24.6**	**-0.1**
JHST				⇓S	**S**	**08 58 49.5**	**-1.2**
JEW	**Eniwo**	**1.40**	**128**	⇓P	**Pn**	**08 58 26.0**	**+0.4**
JEW				⇓S	**S**	**08 58 52.3**	**+0.3**
JNB	**Noboribetsu**	**1.48**	**147**	⇓P	**Pn**	**08 58 25.9**	**-0.3**
JNB				⇓S	**S**	**08 58 53.2**	**0.0**
JOSM	**Okushiri--Mats**	**1.67**	**192**	⇓P	**Pn**	**08 58 27.9**	**0.0**
JOSM				⇓S	**S**	**08 58 54.7**	**-1.5**
JRBN	**Rebuntou**	**1.88**	**24**	⇓P	**Pn**	**08 58 30.5**	**+0.8**
ASAJ	**Asahikawa**	**1.95**	**77**	P	**Pn**	**08 58 31.1**	**+0.8**
	48nm,0.4s,baz=253,slow=7.3,SNR=146						
ASAJ				S	**S**	**08 59 01.9**	**+1.2**
	73nm,0.8s,baz=6.5,slow=31,SNR=24						
ASAJ	**Asahikawa**	**1.95**	**77**	PN	**Pn**	**08 58 30.7**	**+0.3**
JKA	**Kamikawa-asahi**	**1.95**	**77**		**Pn**	**08 58 30.7**	**+0.3**
JKA	**Kamikawa-asahi**	**1.95**	**77**	*e*P	**Pn**	**08 58 30.7**	**+0.3**
JKK2	**Kamakawa 2**	**2.02**	**85**	⇓P	**Pn**	**08 58 32.1**	**+0.9**
JKK2				⇓S	**S**	**08 59 02.9**	**+0.7**
JWK2	**Keihoku**	**2.12**	**40**	P	**Pn**	**08 58 33.8**	**+1.8**
JOMM	**Oshimamatsumae**	**2.19**	**179**	⇓P	**Pn**	**08 58 32.5**	**-0.4**
JOMM				⇓S	**S**	**08 59 03.4**	**-1.7**
JSE	**Soyaes

comp=E,100nm,5.2s
YSS smax smax
comp=N,90nm,0.7s
YSS smax smax
comp=E,60nm,0.6s
YSS smax smax
comp=N,200nm,2.3s
YSS smax smax
comp=E,300nm,3.0s
YSS Yuzhno-Sakhali 3.79 30 *i* P **Pn 08 58 52.0 +1.1**
YSS AMB AMB 08 58 52.3
comp=E,40nm,0.5s
YSS AMB AMB 08 58 55.4
comp=E,210nm,6.0s
YSS *i* S **S 08 59 38.2 +0.5**
YSS A A 08 59 39.0
comp=E,90nm,0.6s
YSS A A 08 59 39.0
comp=E,70nm,0.6s
YSS A A 08 59 40.1
comp=E,230nm,3.0s
YSS A A 08 59 40.1
comp=E,300nm,3.0s
NMR Nemuro--Hokkai 4.21 93 *e*PN **Pn 08 58 54.6 -1.5**
NMR *i* S **S 08 59 42.8 -4.1**
NMR Nemuro--Hokkai 4.21 93 *e*P **Pn 08 58 54.7 -1.4**
NMR *i* S **S 08 59 43.3 -3.6**
YUK Yuzh-Kuril'sk 4.28 84 *e*PN **Pn 08 58 57.8 +0.9**
YUK *i* S **S 08 59 49.3 +0.8**
YUK pmax pmax
comp=Z,29nm,0.2s
YUK pmax pmax
comp=N,39nm,0.4s
YUK pmax pmax
comp=E,83nm,0.5s
YUK smax smax
comp=E,213nm,0.4s
YUK smax smax
comp=N,124nm,0.2s
YUK Yuzh-Kuril'sk 4.28 84 *e*P **Pn 08 58 56.1 -0.8**
YUK AMB AMB 08 58 57.9
comp=N,40nm,0.3s
YUK *i* S **S 08 59 46.7 -1.8**
YUK A A 08 59 50.3
comp=N,1μm,2.0s
YUK A A 08 59 50.3
comp=N,600nm,2.0s
YUK A A 08 59 50.6
comp=N,330nm,0.7s
YUK A A 08 59 50.6
comp=N,230nm,0.7s
SHO Shikotan 4.98 86 *e*PN **Pn 08 59 04.5 -1.1**
SHO *i* S **S 08 59 59.6 -4.7**
SHO pmax pmax
comp=E,29nm,0.3s
SHO pmax pmax
comp=Z,47nm,0.3s
SHO pmax pmax
comp=N,7.0nm,0.2s
SHO smax smax
comp=N,326nm,0.4s
SHO smax smax
comp=E,260nm,0.3s
SHO Shikotan 4.98 86 *i* S **S 09 00 00.6 -3.7**
SHO *e*P **Pn 08 59 05.0 -0.6**
SHO AMB AMB 08 59 05.1
comp=E,50nm,0.3s
SHO A A 09 00 04.1
comp=E,230nm,0.3s
SHO A A 09 00 04.1
comp=E,240nm,0.3s
UGL Uglegorsk 5.56 14 *e*PN **Pn 08 59 11.2 -1.7**
UGL S **S 09 00 11.3 -6.3**
UGL pmax pmax
comp=Z,92nm,0.8s
UGL Uglegorsk 5.56 14 *e*S **S 09 00 17.0 -0.6**
UGL *e*P **Pn 08 59 14.3 +1.4**
UGL AMB AMB 08 59 14.8
comp=Z,80nm,0.6s
UGL AMB AMB 08 59 17.9
comp=Z,450nm,6.0s
UGL A A 09 00 17.9
comp=Z,30nm,0.5s
UGL A A 09 00 17.9
comp=Z,70nm,0.5s
UGL A A 09 00 25.9
comp=Z,340nm,7.0s
UGL A A 09 00 25.9
comp=Z,600nm,7.0s
USA0B Ussuriysk Arra 5.77 278*c i*PN **Pn 08 59 15.8 0.0**
USRK Ussuriysk Ar. 5.77 278 Pn 08 59 15.4 -0.3
USRK Ussuriysk Ar. 5.77 278 P **Pn 08 59 16.1 +0.3**
comp=Z,3.4nm,0.4s,baz=85,slow=14,SNR=18
JSD Sado 5.82 193 Pn 08 59 15.4 -1.0
JSD Sado 5.82 193 P **Pn 08 59 16.1 -0.3**
KUR Kuril'sk 5.86 72 *e*PN **Pn 08 59 17.8 +1.0**
KUR pmax pmax
comp=Z,41nm,0.4s
KUR Kuril'sk 5.86 72 *e*S **S 09 00 22.6 -1.9**
KUR *e*P **Pn 08 59 15.8 -1.0**
KUR AMB AMB 08 59 18.7
comp=Z,50nm,0.4s
KUR A A 09 00 26.1
comp=Z,30nm,0.6s
KUR A A 09 00 26.1
comp=Z,30nm,0.6s
JMM Marumori 5.88 174 Pn 08 59 14.7 -2.4
JMM Marumori 5.88 174 P **Pn 08 59 14.8 -2.4**
MJB9 Matsu-Tunnel 7.29 191 Pn 08 59 34.8 -0.5
MAJO Matsushiro 7.29 191 Pn 08 59 34.0 -1.4
MAJO Matsushiro 7.29 191 P **Pn 08 59 34.7 -0.6**
MAJO Matsushiro 7.29 191*d i*PN **Pn 08 59 34.2 -1.1**
MJAR Matsushiro Arr 7.29 191 P **Pn 08 59 34.6 -0.7**
comp=Z,25nm,0.8s,baz=348,slow=15,SNR=58
TYV Tymovskoe 7.38 13 *e*PN **Pn 08 59 38.1 +1.8**
TYV *e*S **S 09 01 00.2 +0.1**
TYV pmax pmax
comp=Z,100nm,3.3s
TYV pmax pmax
comp=Z,26nm,0.9s
TYV smax smax
comp=N,10.0nm,1.8s
TYV smax smax
comp=E,9.0nm,1.8s
TYV smax smax
comp=N,200nm,3.1s
TYV smax smax
comp=E,200nm,3.1s
TYV Tymovskoe 7.38 13 *e*S **S 09 01 00.2 +0.1**
TYV *e*P **Pn 08 59 37.9 +1.6**
TYV AMB AMB 08 59 38.8
comp=E,30nm,0.8s
GRNR Gornyy 7.45 342⇓*i*PN **Pn 08 59 38.0 +0.7**
GRNR pmax pmax
comp=N,30nm,0.9s
GRNR pmax pmax
comp=Z,30nm,0.8s
GRNR Gornyy 7.45 342 *e*P **Pn 08 59 38.0 +0.7**
KLR Kul'dur 7.90 317 P **Pn 08 59 43.5 +0.4**
comp=Z,43nm,1.0s,baz=133,slow=13,SNR=89
KLR Kul'dur 7.90 317 *e*PN **Pn 08 59 40.8 -2.3**
KLR pmax pmax
comp=Z,75nm,1.3s
JGF Kuroka 8.35 195 Pn 08 59 47.5 -1.5
JGF Kuroka 8.35 195 P **Pn 08 59 47.7 -1.3**
INU Inuyama 8.66 196 Pn 08 59 50.9 -2.0
INU Inuyama 8.66 196 P **Pn 08 59 51.8 -1.2**
BNX BinXian 9.16 287⇑P **Pn 08 59 59.9 +0.5**
BNX pmax pmax
comp=Z,24nm,0.9s
KSRS Korea Array 11.08 240 P **Pn 09 00 24.7 +0.7**
comp=Z,0.5nm,0.5s,baz=57,slow=13,SNR=4.1
JNU Nakatsue 12.74 217 Pn **Pn 09 00 43.2 -1.8**
ZEA Zeya 13.05 325 *e*PN **Pn 09 00 48.6 0.0**
ZEA pmax pmax
comp=E,20nm,0.7s
ZEA pmax pmax
comp=N,30nm,0.6s
ZEA pmax pmax
comp=Z,30nm,0.6s
ZEA Zeya 13.05 325 *e*P **Pn 09 00 48.6 0.0**
HIA Hailar 14.97 299 Pn 09 01 11.6 -0.7
HIA Hailar 14.97 299 P **Pn 09 01 11.6 -0.7**
PETK Petropavlovsk- 15.03 45 P **Pn 09 01 12.6 -0.3**
PETK Petropavlovsk- 15.03 45 P **Pn 09 01 12.9 0.0**
comp=Z,2.5nm,0.8s,baz=210,slow=8.6,SNR=8.0
PET Petropavlovsk 15.48 46 P **P 09 01 17.9 -0.2**
PET Petropavlovsk 15.48 46 *e*P **P 09 01 17.9 -0.2**
PET Petropavlovsk 15.48 46 P **P 09 01 17.9 -0.2**
comp=Z,7.3nm,1.0s
MA2 Magadan 17.20 19 P **P 09 01 36.0 -0.9**
MA2 IAmb IAmb 09 01 40.8
comp=Z,6.0nm,0.7s
MA2 Magadan 17.20 19 P **P 09 01 36.5 -0.5**
comp=Z,4.7nm,0.5s,baz=213,slow=11,SNR=7.3
YAK Yakutsk 19.32 345 *e*P **P 09 01 56.4 -3.4**
YAK *e*S **S 09 05 22.5 -3.9**
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.6s
YAK smax smax
comp=N,108nm,3.5s
YAK smax smax
comp=E,40nm,2.8s
SEY Seymchan 20.56 16 P **P 09 02 12.0 -1.1**
comp=E,4.2nm,0.5s,baz=188,slow=8.6,SNR=34
comp=E,4.2nm,0.5s
SEY Seymchan 20.56 16⇑*i*P **P 09 02 12.3 -0.8**
SEY pmax pmax
comp=Z,10.0nm,1.3s
SEY Seymchan 20.56 16 *e*P **P 09 02 12.3 -0.8**
ULN Ulaanbaatar 23.21 292⇑*e*P **P 09 02 39.2 +0.2**
ULN pmax pmax
comp=Z,2.0nm,0.6s
ULN Ulaanbaatar 23.21 292 *e*P **P 09 02 39.2 +0.2**
SONM Songino Array 23.66 292 P **P 09 02 42.7 -0.4**
SONM Songino Array 23.66 292 P **P 09 02 42.4 -0.6**
comp=Z,2.5nm,0.5s,baz=89,slow=9.8,SNR=12
comp=Z,2.5nm,0.5s
SONM Songino Array 23.66 292 *e*P **P 09 02 43.0 -0.1**
SONM pmax pmax
comp=Z,3.0nm,0.5s
MOY Mondy 27.14 301 *e*P **P 09 03 14.7 +0.4**
MOY Mondy 27.14 301 *e*P **P 09 03 14.7 +0.4**
TIXI Tiksi 28.53 353⇓*e*P **P 09 03 26.4 +0.2**
TIXI pmax pmax
comp=Z,16nm,4.0s
TIXI Tiksi 28.53 353 *e*P **P 09 03 26.4 +0.2**
NRIK Noril'sk 36.79 332 P **P 09 04 36.2 -1.5**
comp=Z,1.6nm,0.3s,baz=116,slow=9.7,SNR=5.1
comp=Z,1.6nm,0.3s
NRIK Noril'sk 36.79 332⇓*i*P **P 09 04 35.5 -2.3**
NRIK pmax pmax
comp=Z,6.0nm,1.8s
ZAA0 Zalesovo Array 36.83 306 P **P 09 04 38.8 +0.6**
ZAA0 IAmb IAmb 09 04 40.1
comp=Z,7.1nm,0.8s
ZALV Zalesovo Beam 36.83 306 P **P 09 04 39.2 +1.0**
ZALV Zalesovo Beam 36.83 306 P **P 09 04 39.0 +0.8**
comp=Z,4.2nm,0.3s,baz=88,slow=8.5,SNR=10
ZALV ScP **ScP 09 10 21.6 +0.5**
comp=Z,1.9nm,0.6s,baz=92,slow=4.0,SNR=8.2
comp=Z,4.2nm,0.3s
ZALV Zalesovo Beam 36.83 306 *e*P **P 09 04 39.4 +1.1**
ZALV pmax pmax
comp=Z,4.0nm,0.3s
C16K Lisburne Hills 37.33 30 P **P 09 04 41.7 -0.6**
L14K Kuka Creek 37.64 42 P **P 09 04 45.8 +0.8**
MK31 Makanchi Array 39.93 295 P 09 05 04.4 +0.1
MK31 Makanchi Array 39.93 295⇑*i*P **P 09 05 04.6 +0.4**
MKAR Makanchi Array 39.93 295 P 09 05 04.5 +0.3
MKAR Makanchi Array 39.93 295 P **P 09 05 04.7 +0.4**
comp=Z,2.6nm,0.6s,baz=84,slow=9.5,SNR=27
comp=Z,2.6nm,0.6s
MAKZ Makanchi 40.13 295 P 09 05 04.9 -1.0
MAKZ IAmb IAmb 09 05 07.6
comp=Z,4.6nm,0.7s
MAKZ Makanchi 40.13 295 P **P 09 05 04.9 -1.0**
MAKZ pmax pmax
comp=Z,5.0nm,0.7s
E19K Redstone River 40.26 32 P **P 09 05 06.7 +0.1**
H19K Roundabout Mou 40.50 35 P **P 09 05 08.9 +0.3**
H19K IAmb IAmb 09 05 10.4
comp=Z,8.3nm,1.0s
J19K Poorman 40.87 37 P 09 05 12.5 +0.8
J19K IAmb IAmb 09 05 38.8
comp=Z,9.7nm,1.5s
KURK Kurchatov 41.18 302 P 09 05 14.4 +0.1
KURK Kurchatov 41.18 302*d i*P **P 09 05 14.6 +0.3**
KURK pmax pmax
comp=Z,15nm,0.7s
KURK Kurchatov 41.18 302 *e*P **P 09 05 14.6 +0.3**
KURBB Kurchatov Arra 41.26 302 P **P 09 05 15.3 +0.4**
comp=Z,14nm,0.5s,baz=75,slow=8.8,SNR=87
comp=Z,14nm,0.5s
G21K Allakaket 41.70 34 P 09 05 18.8 +0.4
G21K IAmb IAmb 09 05 20.1
comp=Z,3.5nm,0.8s
E22K Anaktuvuk Pass 42.33 31 P **P 09 05 23.7 +0.2**
D24K Happy Valley 43.40 30 P 09 05 32.4 +0.5
IL31 44.58 36 P 09 05 41.8 +0.5
ILAR Eielson Array 44.58 36 P **P 09 05 41.1 -0.2**
comp=Z,0.7nm,0.5s,baz=265,slow=6.0,SNR=17
comp=Z,0.7nm,0.5s
ILAR Eielson Array 44.58 36 *e*P **P 09 05 41.9 +0.5**
ILAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 45.44 307 P **P 09 05 48.9 +0.6**
comp=Z,8.2nm,0.3s,baz=81,slow=10,SNR=68
comp=Z,8.2nm,0.3s
BRVK Borovoye 45.49 307 P 09 05 48.6 -0.1
BRVK IAmb IAmb 09 05 51.4
comp=Z,16nm,1.2s
BRVK Borovoye 45.49 307*c i*P **P 09 05 49.6 +0.9**
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 45.49 307 *e*P **P 09 05 49.6 +0.9**
AAK Ala-Archa 46.61 293 P **P 09 05 57.8 +0.1**
AAK Ala-Archa 46.61 293 P **P 09 05 58.0 +0.3**
comp=Z,1.4nm,0.3s,baz=45,slow=9.9,SNR=4.8
comp=Z,1.4nm,0.3s
AAK Ala-Archa 46.61 293⇓*i*P **P 09 05 57.9 +0.1**
AAK pmax pmax
comp=Z,5.0nm,1.6s
AAK Ala-Archa 46.61 293 *e*P **P 09 05 57.9 +0.1**
ARSB Arslanbob 48.20 292 P 09 06 10.8 +0.8
ARSB IAmb IAmb 09 06 11.7
comp=Z,8.0nm,0.6s
ARSB Arslanbob 48.20 292 P **P 09 06 10.8 +0.8**
ARSB pmax pmax
comp=Z,8.0nm,0.6s
F30M Barrier River 48.40 31 P 09 06 12.2 +1.2
F30M IAmb IAmb 09 06 29.1
comp=Z,9.9nm,1.4s
I30M Mount Dempster 48.83 34 P **P 09 06 15.8 +1.3**
I30M IAmb IAmb 09 06 17.6
comp=Z,6.0nm,1.1s
KKAR Karatay Array 49.06 295 P 09 06 16.3 0.0
KKAR Karatay Array 49.06 295 P **P 09 06 16.3 0.0**
KKAR Karatay Array 49.06 295 P **P 09 06 16.3 0.0**
ARTI Arti 50.84 315 P 09 06 29.6 +0.1
ARTI Arti 50.84 315 P **P 09 06 29.8 +0.3**
comp=Z,6.3nm,0.4s,baz=65,slow=4.3,SNR=14
comp=Z,6.3nm,0.4s
ARTI Arti 50.84 315*d i*P **P 09 06 30.2 +0.7**
ARTI *PP **pP 09 07 14.4 -1.8**
ARTI 09 08 31.4
ARTI S **S 09 13 31.2 +2.8**
ARTI SS **SS 09 17 06.8 +1.5**
ARTI pmax pmax
comp=Z,9.0nm,0.6s
C36M Paulatuk 51.90 27 P 09 06 37.7 +0.6
SIMJ Simiganj 52.14 290 P 09 06 39.4 -0.1
SIMJ IAmb IAmb 09 06 40.2
comp=Z,3.9nm,0.7s
ABKAR Abkulak array 52.94 306 P 09 06 45.5 +0.4
ABKAR Abkulak array 52.94 306 P 09 06 45.4 +0.3
AKTO Aktyubinsk 53.53 308 P 09 06 49.5 +0.1
comp=Z,2.1nm,0.3s,baz=57,slow=4.9,SNR=5.0
comp=Z,2.1nm,0.3s
EUNU Eureka 53.76 9 P 09 06 50.5 -0.2
EUNU IAmb IAmb 09 06 59.3
comp=Z,6.9nm,1.4s
SPITS Spitsbergen Ar 53.76 348 P **P 09 06 50.1 -0.5**
comp=Z,2.5nm,0.6s,baz=76,slow=7.0,SNR=11
comp=Z,2.5nm,0.6s
KIRV Kirov 54.34 320*de*P **P 09 06 55.1 +0.1**
ARCES ARCESS Array B 57.38 338 P **P 09 07 16.2 -0.2**
comp=Z,2.9nm,0.7s,baz=42,slow=7.8,SNR=11
comp=Z,2.9nm,0.7s
ARCES ARCESS Array B 57.38 338 *e*P **P 09 07 16.7 +0.3**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 58.65 32 P **P 09 07 25.6 +0.3**
comp=Z,1.0nm,0.6s,baz=315,slow=14,SNR=39
YKA PcP **PcP 09 08 13.2 +0.4**
comp=Z,0.4nm,0.5s,baz=313,slow=3.5,SNR=11
comp=Z,1.0nm,0.6s
FIA1 FINESS Array S 62.42 330 P 09 07 50.6 -0.1
FINES FINESS Array B 62.43 330 P 09 07 50.5 -0.3
FINES FINESS Array B 62.43 330 P **P 09 07 50.8 0.0**
comp=Z,7.5nm,0.6s,baz=53,slow=7.6,SNR=61
comp=Z,7.5nm,0.6s
WRA Warramunga Arr 63.55 186 P **P 09 07 58.2 -0.5**
comp=Z,0.5nm,0.4s,baz=5.4,slow=6.9,SNR=16
WRA PcP **PcP 09 08 32.6 -0.5**
comp=Z,0.6nm,0.6s,baz=360,slow=4.6,SNR=6.0
comp=Z,0.5nm,0.4s
WRA Warramunga Arr 63.55 186 *e*P **P 09 07 57.6 -1.1**
WRA pmax pmax
comp=Z,1.0nm,0.4s
KIV Kislovodsk 65.79 308 *e*P **P 09 08 13.4 +0.3**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 65.79 308 *e*P **P 09 08 14.9 +1.8**
KBZ Khabaz 65.81 308 P **P 09 08 14.4 +1.4**
comp=Z,1.4nm,0.6s,baz=78,slow=0.8,SNR=4.5
comp=Z,1.4nm,0.6s
KBZ Khabaz 65.81 308⇓*e*P **P 09 08 13.8 +0.7**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 65.81 308 *e*P **P 09 08 13.8 +0.7**
SHA1 Shidzhatmaz 65.94 308⇑*e*P **P 09 08 16.7 +2.5**
MNK Minsk 66.39 324 *i* P **P 09 08 16.4 -0.2**
MNK *i* *PP **pP 09 09 07.1 +0.9**
MNK *i* *SP **sP 09 09 31.2 +1.8**
MNK *i* 09 10 45.6
MNK *i* PPP PPP 09 12 24.5
MNK *i* S **S 09 16 49.1 +0.5**
MNK *i* SS **SS 09 21 12.0 +3.5**
MNK pmax pmax
comp=N,14nm,0.6s
MNK pmax pmax
comp=E,36nm,0.8s
MNK pmax pmax
comp=Z,11nm,0.6s
PINE Pine Mountain 66.93 51 P 09 08 22.1 +1.6
ASAR Alice Springs 67.28 186 P **P 09 08 22.4 -0.1**
comp=Z,1.2nm,0.6s,baz=5.5,slow=6.6,SNR=19
comp=Z,1.2nm,0.6s
NC405 NORSAR Array S 67.41 336 P 09 08 23.2 +0.3
HFS Hagfors 67.57 334 P **P 09 08 23.8 -0.1**
comp=Z,3.9nm,0.4s,baz=46,slow=6.4,SNR=30
comp=Z,3.9nm,0.4s
NB201 NORSAR Array S 67.59 336 P **P 09 08 24.1 0.0**
NB2 NORSAR Subarra 67.62 336 P **P 09 08 24.1 -0.2**
comp=Z,0.9nm,0.4s,baz=36,slow=6.5
NB2 NORSAR Subarra 67.62 336 P P 09 08 24.8 +0.5
NOA NORSAR Array B 67.62 336 P **P 09 08 24.4 +0.1**
comp=Z,1.6nm,0.6s,baz=38,slow=6.4,SNR=17
comp=Z,1.6nm,0.6s
NORES NORESS Array B 67.76 335 P **P 09 08 26.3 +1.2**
ANN Anapa 68.18 312 *e*P **P 09 08 25.1 -2.9**
ANN *e* 09 08 48.4
ANN *e**PP **pP 09 09 16.3 -0.9**
ANN *e*S **S 09 17 06.0 -4.2**
ANN pmax pmax
comp=Z,53nm,1.3s
AK03 Malin Array Si 68.38 320 P **P 09 08 30.6 +1.5**
AKASG Malin Array Be 68.39 320 P **P 09 08 29.1 -0.1**
comp=Z,0.8nm,0.3s,baz=44,slow=6.5,SNR=16
comp=Z,0.8nm,0.3s
AKBB Malin Array Si 68.39 320⇑*e*P **P 09 08 31.1 +1.9**
AKBB pmax pmax
comp=Z,6.0nm,1.0s
AKBB Malin Array Si 68.39 320 P P 09 08 29.2 0.0
AK01 Malin Array Si 68.41 320 P P 09 08 29.3 +0.1
AK04 Malin Array Si 68.41 320 P P 09 08 28.8 -0.5
KIEV Kiev 68.41 320 P 09 08 30.1 +0.9
KIEV IAmb IAmb 09 08 32.3
comp=Z,5.6nm,1.1s
KIEV Kiev 68.41 320 P P 09 08 30.1 +0.9
KIEV pmax pmax
comp=Z,6.0nm,1.1s
KIEV Kiev 68.41 320 P **P 09 08 29.0 -0.2**
comp=Z,24nm,0.9s
FFC Flin Flon 68.71 33 P 09 08 31.5 +0.4
FFC IAmb IAmb 09 08 32.8
comp=Z,4.1nm,0.8s
FFC Flin Flon 68.71 33 P **P 09 08 31.5 +0.4**
FFC pmax pmax
comp=Z,4.0nm,0.8s
LUBAR Lubar, Ukraine 69.61 320 P **P 09 08 38.5 +1.8**
LUBAR pP **pwP 09 09 28.0 -1.6**
DLMT Dillon 70.42 46 P **P 09 08 43.1 +1.2**
PAHR Pah Rah Range 70.44 54 P **P 09 08 42.9 +0.8**
PAHR IAmb IAmb 09 08 43.8
comp=Z,3.5nm,0.6s
BOZ Bozeman (W) 70.75 45 P **P 09 08 45.0 +1.1**
BOZ IAmb IAmb 09 08 45.9
comp=Z,2.0nm,0.7s
BOZ Bozeman (W) 70.75 45 P **P 09 08 45.0 +1.1**
BOZ pmax pmax
comp=Z,2.0nm,0.7s
NVAR Mina Array Bea 71.92 54 P **P 09 08 52.3 +1.2**
NVAR Mina Array Bea 71.92 54 P **P 09 08 52.6 +1.5**
comp=Z,3.4nm,0.7s,baz=299,slow=5.7,SNR=28
comp=Z,3.4nm,0.7s
BUR08 Bucovina Ar. S 72.42 320 P 09 08 53.9 +0.2
PD31 Pinedale Array 73.80 46 P 09 09 02.6 +0.6
PD31 IAmb IAmb 09 09 03.7
comp=Z,4.1nm,0.9s
PDAR Pinedale Array 73.80 46 P **P 09 09 02.5 +0.4**
PDAR Pinedale Array 73.80 46 P **P 09 09 02.9 +0.8**
comp=Z,3.2nm,0.7s,baz=278,slow=1.2,SNR=31
comp=Z,3.2nm,0.7s
LANS Liptovska Anna 73.87 324 *e*P **P 09 09 03.7 +1.6**
LANS Liptovska Anna 73.87 324 *e*P **P 09 09 03.6 +1.5**
CLL Collm 74.78 329 *i* P **P 09 09 08.2 +0.9**
CLL pmax pmax
comp=Z,4.0nm,0.5s
CLL Collm 74.78 329 *i* P **P 09 09 08.2 +0.9**
comp=Z,4.0nm,0.5s
STKA Stephens Creek 75.24 179 P **P 09 09 11.6 +1.7**
comp=Z,0.7nm,0.5s,baz=21,slow=4.1,SNR=6.8
comp=Z,0.7nm,0.5s
MODS Modra-Piesok 75.39 325 *e*P **P 09 09 13.1 +2.3**
MODS Modra-Piesok 75.39 325 *e*P **P 09 09 13.1 +2.3**
KHC Kasperske Hory 76.30 327*de*P **P 09 09 18.0 +2.0**
KHC pmax pmax
comp=Z,5.0nm,0.6s
EKA Eskdalemuir Ar 76.48 339 P **P 09 09 18.1 +1.3**
comp=Z,1.2nm,0.5s,baz=29,slow=5.5,SNR=6.5
comp=Z,1.2nm,0.5s
HMU Henry Mountain 76.58 50 P **P 09 09 18.9 +0.8**
HMU IAmb IAmb 09 09 20.1
comp=Z,5.9nm,0.8s
U15A North Rim 76.77 52 P 09 09 20.5 +1.3
U15A IAmb IAmb 09 09 21.8
comp=Z,3.5nm,0.8s
TXAR Lajitas Array 86.88 52 P **P 09 10 12.7 +0.9**
comp=Z,0.5nm,0.6s,baz=278,slow=3.3,SNR=12
comp=Z,0.5nm,0.6s
SNAA Sanae 146.72 200 PKPbc **PKPbc 09 17 05.6 -0.7**
comp=Z,1.4nm,0.5s,baz=193,slow=2.9,SNR=12
BDFB Brasilia 151.20 16 PKPbc **PKiKP 09 17 19.4 -0.3**
comp=Z,1.0nm,0.3s,baz=270,slow=2.0,SNR=3.6

GCG **12** *08:58:34.2±0.3, 13°.03N×89°.65W, h202km±16km, MD3.4*
SNET **12** *08:58:52.9±0.6, 13°.70N×89°.03W, h1km±2km, ML1.9*
CATAC **12** *08:58:53.6±0.5, 14°.N±3°.×8°.9W±°, h4km±1km, M1.8/7,*
MLv1.8/7, Error ellipse: s-maj=7.0km s-min=2.5km
az=177.3, confirmed
ISC 12 08:58:52.5±0.9, 13°.68N±0°.05×89°.01W±0°.02, h13km±6km,
n24, σ0.34/29, 3C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAVA	**Las Pavas**	**0.08**	**67**	⇑*i*P	**Pg**	**08 58 55.9**	**+0.5**
PAVA				*e*S	**Sg**	**08 58 57.3**	**-0.2**
PAVA				IAML		08 58 59.1	
comp=Z,858nm,0.3s							
PAVA	**Las Pavas**	**0.08**	**67**	P	**Pg**	**08 58 55.9**	**+0.5**

LFRS	El Faro	0.08	220⇑	*i*P	Pg	08 58 55.6	+0.4
LFRS				*e*S	Sg	08 58 57.1	-0.4
LFU	La Fuente	0.12	303	*e*P	Pg	08 58 55.8	0.0
LFU				*e*S	Sg	08 58 57.4	-0.8
COEG	Centro de Oper	0.14	117⇑	*i*P	Pb	08 58 57.0	-0.1
COEG	comp=Z,362nm,0.2s			IAML		08 58 57.8	
COEG				*e*S	Sb	08 58 59.9	-0.2
COEG	Centro de Oper	0.14	117	P	Pb	08 58 57.0	-0.1
LOMA	Loma Larga	0.16	256	P	Pb	08 58 57.2	-0.2
LOMA	Loma Larga	0.16	256	S	Sb	08 59 00.3	-0.5
PANCS	Alcalda de	0.18	247	S	Sg	08 58 59.8	+0.2
UESV	Universidad de	0.22	102	P	Pb	08 58 58.3	-0.1
UEES	Universidad Ev	0.23	278	*e*P	Pb	08 58 58.4	-0.1
UEES				*e*S	Sb	08 59 02.1	-0.4
UEES	Universidad Ev	0.23	278	P	Pb	08 58 58.5	0.0
TECO	Alcaldia de Te	0.27	123	P	Pb	08 58 59.0	-0.2
TECO	Alcaldia de Te	0.27	123	S	Sb	08 59 03.1	-0.5
SCLA	Alcaldia de Sa	0.28	86	P	Pb	08 58 59.6	+0.3
SCLA	Alcaldia de Sa	0.28	86	S	Sb	08 59 03.6	-0.3
PMON	Piamonte	0.30	276	*e*P	Pb	08 58 59.9	+0.1
PMON	Piamonte	0.30	276	P	Pb	08 58 59.8	+0.1
LALI	Alcalda de L	0.36	237	S	Sg	08 59 05.4	+0.7
JAYA	Jayaque - finc	0.43	266	*e*P	Pb	08 59 02.3	+0.3
JAYA	Jayaque - finc	0.43	266	P	Pb	08 59 02.2	+0.3
JAYA	Jayaque - finc	0.43	266	S	Sb	08 59 08.4	0.0
MTO3	Montecristo	0.79	334	*e*P	Pb	08 59 08.3	+0.1
MARCA	Marcala la Paz	1.06	63	*e*P	Pn	08 59 13.2	0.0

MOS ***12*** *09:03:48.4±0.8, 49°.25N×156°.09E, h46km, mb4.0/1, Error ellipse: s-maj=22.8km s-min=4.4km az=75.3*
KRSC ***12*** *09:03:51.6±2.1, 49°.53N×156°.58E, h48km±25km, Ml4.3*
IDC ***12*** *09:03:55.0±2.9, 49°.83N×155°.44E, h105km±27km, mb3.3/6, mbtmp3.7/9, MS3.3/1, Error ellipse: s-maj=42.6km s-min=18.9km az=138.0*
ISC 12 09:03:49.0±0.8,**49°.27N**±0°.08×**156°.20E**±0°.08,**h35**km,**n65**, σ2§**03**/72,**mb3.8/6,5C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.42**	**358**	*ce*PN	**Pn**	**09 04 12.9**	**+0.7**
SKR				*e*S	**Sn**	**09 04 31.1**	**+1.5**
SKR	**Severo-Kuril's**	**1.42**	**358**	*e*P	**Pn**	**09 04 13.1**	**+0.9**
SKR				*e*S	**Sn**	**09 04 27.6**	**-2.0**
PAU	**Pauzhetka**	**2.23**	**10**	PN	**Pn**	**09 04 24.1**	**+0.7**
PAU				S	**Sn**	**09 04 47.1**	**-2.7**
PAU	**Pauzhetka**	**2.23**	**10**	*e*P	**Pn**	**09 04 24.1**	**+0.7**
PAU				*e*S	**Sn**	**09 04 47.1**	**-2.7**
KDTR	**Khodutka, Kamc**	**2.81**	**24**	PN	**Pn**	**09 04 32.6**	**+1.3**
KDTR				S	**Sn**	**09 05 03.7**	**-0.2**
KDTR	**Khodutka, Kamc**	**2.81**	**24**	*e*P	**Pn**	**09 04 32.7**	**+1.3**
KDTR				*e*S	**Sn**	**09 05 03.8**	**-0.2**
RUS	**Russkaya**	**3.49**	**24**	PN	**Pn**	**09 04 42.0**	**+1.3**
RUS	**Russkaya**	**3.49**	**24**	*e*P	**Pn**	**09 04 42.1**	**+1.3**
RUS				*e*S	**Sn**	**09 05 19.3**	**-1.4**
GRL	**Gorelyy**	**3.50**	**19**	PN	**Pn**	**09 04 43.3**	**+2.5**
GRL				S	**Sn**	**09 05 20.2**	**-0.8**
GRL	**Gorelyy**	**3.50**	**19**	*e*P	**Pn**	**09 04 43.4**	**+2.5**
GRL				*e*S	**Sn**	**09 05 20.2**	**-0.8**
APC	**Apacha**	**3.71**	**9**	PN	**Pn**	**09 04 44.2**	**+0.5**
APC	**Apacha**	**3.71**	**9**	*e*P	**Pn**	**09 04 44.3**	**+0.5**
KRMR	**Karymshinskiy**	**3.77**	**18**	PN	**Pn**	**09 04 46.6**	**+2.1**
KRMR	**Karymshinskiy**	**3.77**	**18**	*e*P	**Pn**	**09 04 46.7**	**+2.1**
PEA0B	**Petropavlovsk-**	**3.96**	**13**	*c i*PN	**Pn**	**09 04 49.1**	**+1.9**
PEA0B				*e*S	**Sn**	**09 05 34.3**	**+2.0**
PETK	**Petropavlovsk-**	**3.96**	**13**	P	**Pn**	**09 04 48.1**	**+0.9**
	28nm,0.5s,baz=185,slow=12,SNR=78						
PET	**Petropavlovsk**	**4.07**	**21**	*e*PN	**Pn**	**09 04 50.7**	**+2.1**
PET				*e*S	**Sn**	**09 05 37.9**	**+3.0**
PET				pmax	pmax		
	comp=Z,44nm,0.5s						
PET				smax	smax		
	comp=N,157nm,0.5s						
PET				smax	smax		
	comp=E,117nm,0.5s						
PET	**Petropavlovsk**	**4.07**	**21**	*e*P	**Pn**	**09 04 50.5**	**+2.0**
INSR	**Institute**	**4.09**	**21**	PN	**Pn**	**09 04 51.6**	**+2.6**
INSR	**Institute**	**4.09**	**21**	*e*P	**Pn**	**09 04 51.6**	**+2.6**
DALK	**Dalny**	**4.10**	**22**	PN	**Pn**	**09 04 50.7**	**+1.7**
DALK	**Dalny**	**4.10**	**22**	*e*P	**Pn**	**09 04 50.8**	**+1.7**
DALK				*e*S	**Sn**	**09 05 34.2**	**-1.4**
UGLR	**Uglovaya**	**4.28**	**22**	PN	**Pn**	**09 04 54.2**	**+2.6**
UGLR	**Uglovaya**	**4.28**	**22**	*e*P	**Pn**	**09 04 54.2**	**+2.6**
AVH	**Avacha**	**4.31**	**21**	PN	**Pn**	**09 04 55.2**	**+3.2**
AVH	**Avacha**	**4.31**	**21**	*e*P	**Pn**	**09 04 55.2**	**+3.2**
KOK	**Koryaka**	**4.31**	**20**	PN	**Pn**	**09 04 54.8**	**+2.8**
KOK	**Koryaka**	**4.31**	**20**	*e*P	**Pn**	**09 04 54.8**	**+2.8**
KRER	**Koryakskii**	**4.35**	**21**	PN	**Pn**	**09 04 55.7**	**+3.1**
KRER	**Koryakskii**	**4.35**	**21**	*e*P	**Pn**	**09 04 55.8**	**+3.1**
SDLR	**Sedlovina**	**4.35**	**22**	PN	**Pn**	**09 04 54.7**	**+2.1**
SDLR	**Sedlovina**	**4.35**	**22**	*e*P	**Pn**	**09 04 54.8**	**+2.1**
KRX	**Arik**	**4.37**	**20**	PN	**Pn**	**09 04 55.5**	**+2.5**
KRX	**Arik**	**4.37**	**20**	*e*P	**Pn**	**09 04 55.5**	**+2.5**
NLC	**Nalytchevo**	**4.38**	**26**	PN	**Pn**	**09 04 53.6**	**+0.8**
NLC	**Nalytchevo**	**4.38**	**26**	*e*P	**Pn**	**09 04 53.7**	**+0.8**
SPN	**Mys Shipunski**	**4.53**	**31**	PN	**Pn**	**09 04 56.9**	**+2.0**
SPN	**Mys Shipunski**	**4.53**	**31**	*e*P	**Pn**	**09 04 56.9**	**+2.0**
GNL	**Ganaly**	**4.56**	**13**	PN	**Pn**	**09 04 57.4**	**+1.8**
GNL	**Ganaly**	**4.56**	**13**	*e*P	**Pn**	**09 04 57.4**	**+1.8**
MKZ	**Mys Kozlova**	**6.30**	**31**	PN	**Pn**	**09 05 19.6**	**+0.3**
MKZ	**Mys Kozlova**	**6.30**	**31**	*e*P	**Pn**	**09 05 19.6**	**+0.3**
KMNR	**Kamenistaya**	**6.95**	**19**	PN	**Pn**	**09 05 30.3**	**+2.1**
KMNR	**Kamenistaya**	**6.95**	**19**	*e*P	**Pn**	**09 05 30.4**	**+2.1**
KPT	**Kopyto**	**7.14**	**18**	PN	**Pn**	**09 05 33.7**	**+2.8**
KPT	**Kopyto**	**7.14**	**18**	*e*P	**Pn**	**09 05 33.7**	**+2.8**
KBTR	**Krutoberegovo**	**8.02**	**27**	PN	**Pn**	**09 05 44.5**	**+1.6**
KBTR	**Krutoberegovo**	**8.02**	**27**	*e*P	**Pn**	**09 05 44.6**	**+1.6**
ASAJ	**Asahikawa**	**10.67**	**246**	P	**Pn**	**09 06 21.9**	**+2.8**
	comp=E,3.5nm,0.6s,baz=75,slow=13,SNR=9.7						
ASAJ	**Asahikawa**	**10.67**	**246**	PN	**Pn**	**09 06 22.0**	**+2.8**
ERM	**Erimo**	**11.65**	**236**⇑	*e*PN	**Pn**	**09 06 32.9**	**+0.3**
KLR	**Kul'dur**	**15.95**	**279**	P	**Pn**	**09 07 27.8**	**-2.7**
	comp=E,0.9nm,0.8s,baz=82,slow=11,SNR=4.1						
KLR	**Kul'dur**	**15.95**	**279**⇑	*e*P	**Pn**	**09 07 28.8**	**-1.7**
KLR				pmax	pmax		
	comp=Z,8.0nm,2.8s						
BILL	**Biiibino**	**19.49**	**11**⇑	*e*P	**Pn**	**09 08 14.9**	**+0.9**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.9s						
H11S1	**WAKE ISLAND Hy 31.83**		**161**	T	T	09 44 11.2	
	baz=346,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy 31.84**		**161**	T	T	09 44 13.9	
	baz=346,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy 31.85**		**161**	T	T	09 44 13.1	
	baz=346,slow=76,SNR=22						
ILAR	**Eielson Array**	**33.28**	**41**	P	**P**	**09 10 20.6**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=264,slow=6.2,SNR=12						
	comp=Z,0.9nm,0.7s						
YKA	**Yellowknife Ar**	**47.66**	**39**	P	**P**	**09 12 18.9**	**-2.4**
	comp=Z,0.6nm,0.8s,baz=299,slow=7.2,SNR=9.7						
	comp=Z,0.6nm,0.8s						
YKA	**Yellowknife Ar**	**47.66**	**39**	*i*P	**P**	**09 12 24.0**	**+2.7**
HNR	**Honiara**	**58.54**	**176**	LR	LR	09 39 26.2	
	comp=Z,24nm,18.2s,baz=214,slow=36						
PDAR	**Pinedale Array**	**61.61**	**57**	P	**P**	**09 14 02.6**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=240,slow=1.2,SNR=6.2						
	comp=Z,0.5nm,0.7s						
FINES	**FINESS Array B**	**62.62**	**336**	P	P	09 14 02.4	-6.8
	comp=Z,0.8nm,0.9s,baz=25,slow=6.3,SNR=1.1						
	comp=Z,0.8nm,0.9s						
TXAR	**Lajitas Array**	**74.47**	**63**	P	**P**	**09 15 23.2**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=295,slow=4.6,SNR=14						
	comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**75.28**	**201**	P	**P**	**09 15 27.8**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=19,slow=5.8,SNR=1.8						
	comp=Z,0.3nm,0.7s						

IDC ***12*** *09:07:54.1±2.1, 7°.25N×94°.03E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=117.7km s-min=29.9km az=58.0*
ISC 12 09:07:57.4±2.2,**7°.3N**±0°.6×**94°.2E**±0°.8,**h20**km,**n9**, σ0§**47**/6, **mb4.0**/6,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.21**	**236**	T	T	09 40 09.6	
	baz=54,slow=75,SNR=12						
H08S2	**Diego Garcia H**	**26.22**	**236**	T	T	09 40 07.0	
	baz=54,slow=75,SNR=7.4						
H08S1	**Diego Carcia H**	**26.23**	**236**	T	T	09 40 10.1	
	baz=54,slow=75,SNR=6.6						
MKAR	**Makanchi Array**	**40.63**	**347**	P	**P**	**09 15 35.6**	**-0.5**
	1.2nm,0.6s,baz=165,slow=7.8,SNR=11						
	1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**45.08**	**346**	P	**P**	**09 16 12.5**	**+0.4**
	1.4nm,0.6s,baz=168,slow=7.0,SNR=14						
	1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**47.10**	**352**	P	**P**	**09 16 28.2**	**+0.3**
	0.7nm,0.4s,baz=188,slow=7.0,SNR=4.2						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**49.55**	**130**	P	**P**	**09 16 47.4**	**0.0**
	0.3nm,0.8s,baz=308,slow=9.2,SNR=2.4						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**73.20**	**332**	P	**P**	**09 19 26.4**	**-0.4**
	1.1nm,0.8s,baz=98,slow=5.9,SNR=4.6						
	1.1nm,0.8s						
HFS	**Hagfors**	**78.94**	**330**	P	**P**	**09 19 59.8**	**+0.3**
	0.8nm,0.5s,baz=108,slow=9.3,SNR=4.4						
	0.8nm,0.5s						

NNC ***12*** *09:08:34.8±2.6, 49°.50N×82°.01E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=33.9km s-min=5.1km az=60.0, Suspected Mining explosion.*
IDC ***12*** *09:08:35.9±1.9, 49°.54N×82°.02E, h0km, mbtmp2.6/1, ML1.7/1, Error ellipse: s-maj=26.3km s-min=9.7km az=58.0*
ISC 12 09:08:33.9±1.3,**49°.49N**±0°.08×**81°.9E**±0°.1,**h0**km,**n7**, σ0§**68**/6,**3C-2D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.45**	**301**	⇓Pg	**Pg**	**09 09 20.5**	**-0.3**
	0.9nm,0.4s						
KURK				⇓Lg	Lg	09 09 53.9	
	3.0nm,0.5s						
KURBB	**Kurchatov Arra**	**2.45**	**299**	Pg	**Pg**	**09 09 20.5**	**-0.4**
	0.1nm,0.3s,baz=116,slow=19,SNR=7.1						
KURBB				Lg	Lg	09 09 55.6	
	0.2nm,0.3s,baz=130,slow=26,SNR=5.8						
MAKZ	**Makanchi**	**2.68**	**179**	⇑Pg	**Pb**	**09 09 23.4**	**+0.7**
	2.3nm,0.9s						
MAKZ				⇑Lg	Lg	09 10 00.6	
	1.1nm,0.5s						
MK31	**Makanchi Array**	**2.71**	**174**	Pg	**Pg**	**09 09 25.4**	**-0.4**
	0.3nm,0.3s,baz=353,slow=13,SNR=6.9						
MK31				⇑Lg	Lg	09 10 01.9	
	3.7nm,0.6s,baz=4.1,slow=28,SNR=16						
MKAR	**Makanchi Array**	**2.71**	**174**	Pg	**Pg**	**09 09 25.0**	**-0.7**
	0.4nm,0.3s,baz=354,slow=14,SNR=9.0						
MKAR				Lg	Lg	09 10 01.7	
	0.9nm,0.3s,baz=353,slow=28,SNR=24						
I46RU	**ZALESOVO INFRA**	**4.82**	**21**	I	I	09 36 30.0	
	baz=200,slow=319,SNR=2.8						
ZALV	**Zalesovo Beam**	**4.82**	**21**	Pn	**Pn**	**09 09 47.7**	**0.0**
	0.2nm,0.3s,baz=210,slow=11,SNR=2.0						
	0.4nm,0.3s						

RSNC ***12*** *09:09:12.5±1.0, 10°.N±3°.3×7°.1W±°.1, h26km±14km, M2.6, mB3.6, mb3.1, ML2.5, Mw(mB)2.6*
FUNV ***12*** *09:09:14.5, 9°.85N×70°.67W, h5km, MW3.3*
ISC 12 09:09:13.5±1.0,**9°.81N**±0°.04×**70°.72W**±0°.03,**h22**km±8km, **n19**, σ1§**78**/33,**Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEPV	**Terepaima**	**1.52**	**84**	*e*P	**Pb**	**09 09 40.6**	**-0.3**
TEPV				*e*S	**Sb**	**09 10 00.7**	**+0.9**
SOCV	**Socops**	**1.52**	**185**	*e*P	**Pb**	**09 09 42.4**	**+1.4**
SOCV				*e*S	**Sb**	**09 10 03.3**	**+3.5**
MCQV	**Machiques**	**1.80**	**278**	*e*P	**Pb**	**09 09 45.7**	**-0.2**
MCQV				*e*S	**Sb**	**09 10 10.8**	**+2.7**
URIC	**Uribia, Colomb**	**2.26**	**327**	P	**Pn**	**09 09 48.6**	**-1.0**
URIC				S	**Sn**	**09 10 15.9**	**-0.9**
CRJC	**Cerrejon, Guaj**	**2.44**	**300**	P	**Pn**	**09 09 51.6**	**-0.6**
CRJC				S	**Sn**	**09 10 20.9**	**-0.6**
CAPV	**Capacho**	**2.49**	**219**	*e*P	**Pb**	**09 09 56.4**	**-1.3**
CAPV				*e*S	**Sb**	**09 10 27.0**	**-1.0**
BAUV	**El Baul**	**2.78**	**108**	*e*P	**Pn**	**09 09 58.0**	**+1.3**
BAUV				*e*S	**Sn**	**09 10 31.6**	**+2.0**
OCAC	**Ocana**	**3.00**	**239**	P	**Pn**	**09 10 02.1**	**+2.2**
OCAC				S	**Sn**	**09 10 37.1**	**+1.7**
BENV	**Beln**	**3.08**	**87**	*e*P	**Pn**	**09 10 02.4**	**+1.5**
BENV				*e*S	**Sn**	**09 10 37.4**	**+0.2**
PAMC	**Pamplona, Colo**	**3.14**	**219**	P	**Pn**	**09 10 02.7**	**+0.6**
PAMC				S	**Sb**	**09 10 43.3**	**-3.6**
ARGC	**Ariguani, Magd**	**3.47**	**271**	P	Pn	09 09 59.5	-6.8
ARGC				S	**Sn**	**09 10 48.4**	**+1.6**
TACV	**Tcata**	**3.65**	**85**	*e*P	**Pn**	**09 10 09.9**	**+1.1**
TACV				*e*S	**Sn**	**09 10 51.2**	**-0.1**
BARC	**Barichara**	**4.02**	**218**	P	**Pn**	**09 10 11.2**	**-2.8**
SJCC	**San Jacinto, C**	**4.39**	**272**	P	**Pn**	**09 10 20.2**	**+1.2**
SJCC				S	**Sn**	**09 11 11.4**	**+1.8**
RUSC	**La Rusia**	**4.54**	**211**	P	**Pn**	**09 10 20.1**	**-1.3**
ZARC	**Zaragoza, Cauc**	**4.69**	**241**	P	**Pn**	**09 10 24.0**	**+0.9**
ZARC				S	**Sn**	**09 11 15.3**	**-1.6**
CACV	**CAICARA DEL OR**	**4.70**	**118**	*e*P	**Pb**	**09 10 31.5**	**-3.7**
PTBC	**PUERTO BERRIO,**	**4.92**	**229**	P	**Pn**	**09 10 25.8**	**-0.4**
	67nm1.7nm,1.0s						
PTBC				S	**Sn**	**09 11 22.0**	**-0.5**
	67nm1.7nm,1.0s						
GUY2C	**Guyana, Caldas**	**6.47**	**226**	P	**Pn**	**09 10 48.0**	**0.0**

MDD ***12*** *09:14:44.9±0.3, 37°.01N×5°.29W, h9km±2km, mb_Lg3.0/16, Error ellipse: s-maj=2.5km s-min=1.5km az=177.0*
SFS ***12*** *09:14:45.0, 37°.03N×5°.26W, h0km, ML2.8/13, ML2.6/17, MLv2.6/17*
IGIL ***12*** *09:14:45.1, 37°.01N×5°.29W, h9km*
CNRM ***12*** *09:14:47.0, 36°.71N×5°.50W, h82km, ML2.5*
ISC 12 09:14:43.8±1.0,**36°.99N**±0°.02×**5°.28W**±0°.02,**h15**km±8km, **n55**, σ1§**22**/101,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESTP	**Estepa**	**0.44**	**49**	Pg	**Pb**	**09 14 53.4**	**+0.1**
ESTP				Sg	**Sg**	**09 14 58.6**	**+0.1**
ESPR	**Espera**	**0.48**	**256**	Pg	**Pb**	**09 14 55.1**	**+1.3**
ESPR				Sg	**Sb**	**09 15 02.8**	**+2.1**
ESPR	**Espera**	**0.48**	**256**	Pg	**Pb**	**09 14 55.3**	**+1.5**
ESPR				Sg	**Sn**	**09 15 06.3**	**+2.2**
ESPR				*i* Vmb_Lg		09 15 10.8	
EJIF	**Jimena Fronter**	**0.55**	**196**	Pg	**Pg**	**09 14 54.9**	**+0.2**
EJIF				Sg	**Sb**	**09 15 05.4**	**+2.4**
EMAL	**Malaga-Limoner**	**0.72**	**108**	Pg	**Pg**	**09 14 56.4**	**-1.3**
EMAL				Sg	**Sg**	**09 15 05.8**	**-1.4**
EGOR	**Sierra Gorda,**	**0.94**	**82**	Pg	**Pn**	**09 15 03.0**	**+0.4**
EGOR	**Sierra Gorda,**	**0.94**	**82**	Pg	**Pn**	**09 15 03.2**	**+0.5**
EGOR				Sg	**Sn**	**09 15 17.1**	**+1.2**
EGOR				*i* Vmb_Lg		09 15 23.5	
EXCBR	**El Cabril**	**1.09**	**354**	Pg	**Pn**	**09 15 05.4**	**+0.8**
EXCBR				Sg	**Sn**	**09 15 20.6**	**+1.1**
ECAB	**El Cabril**	**1.09**	**354**	Pg	**Pn**	**09 15 04.6**	**-0.1**
ECAB				Sg	**Sn**	**09 15 19.6**	**0.0**
ECAB	**El Cabril**	**1.09**	**354**	Pg	**Pn**	**09 15 05.1**	**+0.5**
ECAB				Sg	**Sn**	**09 15 21.6**	**+2.0**
ECAB				*i* Vmb_Lg		09 15 22.3	
ARNO	**Arenosillo**	**1.17**	**276**	Pg	**Pg**	**09 15 06.9**	**+0.6**
ARNO				Sg	**Sn**	**09 15 23.2**	**+2.0**
ANER	**Nerja**	**1.17**	**101**	Pg	**Pn**	**09 15 05.3**	**-0.3**
ANER				Sg	**Sg**	**09 15 22.5**	**+0.9**
SMIR	**Smir Dam**	**1.30**	**184**	P	**Pn**	**09 15 07.4**	**-0.1**
SMIR	**Smir Dam**	**1.30**	**184**	S	**Sn**	**09 15 22.0**	**-2.5**
EADA	**Adamuz**	**1.31**	**25**	Pn	**Pb**	**09 15 07.9**	**-0.1**
EADA				Sg	**Sg**	**09 15 25.0**	**-1.0**
EADA	**Adamuz**	**1.31**	**25**	Pg	**Pb**	**09 15 07.9**	**-0.1**
EADA				Sg	**Sg**	**09 15 26.0**	**0.0**
EADA				*i* Vmb_Lg		09 15 28.2	
ELGU	**Los Guajares,**	**1.33**	**95**	Pn	**Pb**	**09 15 09.2**	**+0.8**
ELGU				Sg	**Sg**	**09 15 28.3**	**+1.6**
ELGU	**Los Guajares,**	**1.33**	**95**	Pg	**Pb**	**09 15 08.9**	**+0.5**
ELGU				Sg	**Sg**	**09 15 27.5**	**+0.8**
ELGU				*i* Vmb_Lg		09 15 34.0	
EMIN	**Mina Concepcio**	**1.36**	**306**	Pn	**Pn**	**09 15 08.2**	**0.0**
EMIN				Sn	**Sg**	**09 15 27.9**	**+0.4**
EMIN	**Mina Concepcio**	**1.36**	**306**	Pg	**Pn**	**09 15 08.2**	**0.0**
EMIN				Sg	**Sg**	**09 15 28.4**	**+0.9**
EMIN				*i* Vmb_Lg		09 15 32.7	
EQTA	**Presa de Quent**	**1.48**	**81**	Pn	**Pb**	**09 15 12.0**	**+0.8**
EQTA				Sn	**Sg**	**09 15 32.3**	**+0.6**
EQUE	**Quentar**	**1.49**	**81**	Pg	**Pg**	**09 15 12.4**	**0.0**
EQUE				Sg	**Sg**	**09 15 33.3**	**+1.6**
EQUE				*i* Vmb_Lg		09 15 35.4	
JAND	**Jandula**	**1.61**	**40**	Pn	**Pn**	**09 15 12.0**	**+0.2**
JAND				Pg	**Pb**	**09 15 13.4**	**+0.1**
JAND				Sn	**Sn**	**09 15 32.4**	**+0.1**
JAND				Sg	**Sg**	**09 15 34.9**	**-0.8**
JAND				*i* Vmb_Lg		09 15 36.0	
E0803	**Jimena (Jaen)**	**1.67**	**59**	Pg	**Pb**	**09 15 13.8**	**-0.5**
E0803				Sg	**Sg**	**09 15 39.4**	**+1.8**
PBAR	**Barrancos**	**1.83**	**311**	Pn	**Pn**	**09 15 15.0**	**+0.3**
PBAR				Sn	**Sb**	**09 15 40.5**	**+0.7**
EGRO	**El Granado**	**1.84**	**288**	Pn	**Pn**	**09 15 15.0**	**+0.1**
EGRO				Sn	**Sg**	**09 15 41.5**	**-1.5**
EGRO	**El Granado**	**1.84**	**288**	Pn	**Pn**	**09 15 14.8**	**0.0**
EGRO				Pg	**Pg**	**09 15 19.1**	**0.0**
EGRO				Sg	**Sg**	**09 15 41.9**	**-1.1**
EGRO				*i* Vmb_Lg		09 15 44.3	
EBER	**Berja**	**1.92**	**92**	Pn	**Pb**	**09 15 18.9**	**+0.4**
EQES	**Quesada**	**1.94**	**64**	Pn	**Pn**	**09 15 17.5**	**+1.2**
EQES				Pg	**Pg**	**09 15 20.3**	**-0.7**
EQES				Sg	**Sg**	**09 15 46.6**	**+0.4**
EQES				*i* Vmb_Lg		09 15 51.5	
PVAQ	**Vaqueiros**	**1.99**	**283**	Pn	**Pn**	**09 15 16.9**	**0.0**
PVAQ	**Vaqueiros**	**1.99**	**283**	P	**Pn**	**09 15 16.9**	**0.0**
PVAQ	**Vaqueiros**	**1.99**	**283**	S	**Sn**	**09 15 41.2**	**-0.4**
PSIM	**Granatula de C**	**2.19**	**33**	Pn	**Pn**	**09 15 19.9**	**+0.1**
PSIM				Pg	**Pg**	**09 15 24.3**	**-1.6**
PSIM				Sn	**Sn**	**09 15 45.6**	**-1.1**
PSIM				Sg	**Sg**	**09 15 54.6**	**+0.3**
EBAD	**Badajoz**	**2.24**	**323**	Pn	**Pn**	**09 15 20.4**	**+0.1**
EBAD	**Badajoz**	**2.24**	**323**	Pn	**Pn**	**09 15 20.3**	**0.0**
EBAD				Sn	**Sn**	**09 15 47.1**	**-0.6**
EBAD				Sg	**Sg**	**09 15 54.9**	**-0.8**
EBAD				*i* Vmb_Lg		09 15 57.8	
PCVE	**Castro Verde**	**2.29**	**287**	Pn	**Pn**	**09 15 21.2**	**+0.1**
MESJ	**Messejana**	**2.49**	**291**	*e*P	**Pn**	**09 15 23.9**	**+0.1**
GOG	**Mont Gurugu**	**2.55**	**133**	P	**Pn**	**09 15 26.4**	**+1.7**
GOG	**Mont Gurugu**	**2.55**	**133**	S	**Sn**	**09 15 55.7**	**+0.1**
PESTR	**Estremoz**	**2.62**	**317**	Pn	**Pn**	**09 15 25.9**	**+0.3**
PESTR	**Estremoz**	**2.62**	**317**	P	**Pb**	**09 15 28.8**	**-1.7**
PESTR	**Estremoz**	**2.62**	**317**	S	**Sb**	**09 16 01.5**	**-1.0**
EVO	**Evora**	**2.66**	**306**	Sn	**Sn**	**09 16 00.2**	**+2.1**
EVO				Pn	**Pn**	**09 15 26.3**	**+0.2**
PAB	**San Pablo**	**2.66**	**16**	Pn	**Pn**	**09 15 27.9**	**+1.7**
PAB				Pg	**Pg**	**09 15 34.7**	**-0.1**
PAB				Sn	**Sn**	**09 15 58.2**	**0.0**
PAB				Sg	**Sg**	**09 16 08.5**	**-0.8**
PAB				*i* Vmb_Lg		09 16 12.4	
MORF	**Marmelete**	**2.71**	**278**	*e*P	**Pn**	**09 15 27.0**	**+0.1**
AKLM	**AKL**	**2.73**	**155**	P	**Pn**	**09 15 24.5**	**-2.6**
PFVI	**Vila Bisbo**	**2.84**	**274**	P	**Pn**	**09 15 28.4**	**-0.2**
PFVI	**Vila Bisbo**	**2.84**	**274**	S	**Sn**	**09 15 59.9**	**-2.6**
EPLA	**Plasencia**	**3.14**	**349**	Pn	**Pn**	**09 15 34.0**	**+1.3**
EPLA				Pg	**Pg**	**09 15 42.8**	**-1.1**
EPLA				Sn	**Sn**	**09 16 08.0**	**-1.9**
EPLA				Sg	**Sg**	**09 16 22.7**	**-1.8**
JBK	**JBK**	**3.44**	**139**	P	**Pn**	**09 15 37.2**	**+0.1**
JBK	**JBK**	**3.44**	**139**	S	**Sn**	**09 16 16.1**	**-1.6**
GUD	**Guadarrama**	**3.76**	**13**	Pn	**Pn**	**09 15 42.0**	**+0.7**
GUD				Pg	**Pg**	**09 15 53.8**	**-2.0**
GUD				Sn	**Sn**	**09 16 24.2**	**-1.

CMAR Chiang Mai Arr 15.62 136 Pn **Pn** **09 31 28.2 -2.7**
comp=Z,0.2nm,0.3s,baz=320,slow=12,SNR=11
CMAR LR LR 09 38 02.0
comp=Z,65nm,19.8s,baz=320,slow=40
comp=Z,0.8nm,0.4s
CMAR Chiang Mai Arr 15.62 136 P **Pn** **09 31 29.6 -1.3**
DRK Karamyk 15.89 310 Pn **Pn** **09 31 32.1 -2.5**
DRK IAmb IAmb 09 31 47.2
comp=Z,18nm,1.0s
DRK Karamyk 15.89 310 P **Pn** **09 31 32.1 -2.5**
DRK pmax pmax
comp=Z,18nm,1.0s
ARSB Arslanbob 16.20 317 Pn **Pn** **09 31 36.2 -2.3**
ARSB IAmb IAmb 09 31 52.5
comp=Z,24nm,1.5s
ARSB Arslanbob 16.20 317 P **Pn** **09 31 36.2 -2.3**
ARSB pmax pmax
comp=Z,24nm,1.5s
KBL Kabul 16.21 290 Pn **Pn** **09 31 35.6 -3.1**
KBL Kabul 16.21 290 P **Pn** **09 31 35.6 -3.1**
KBL pmax pmax
comp=Z,11nm,0.7s
AAK Ala-Archa 16.25 324 Pn **Pn** **09 31 36.6 -2.5**
AAK Ala-Archa 16.25 324 Pn **Pn** **09 31 38.1 -1.0**
comp=Z,0.2nm,0.3s,baz=144,slow=11,SNR=7.0
AAK LR LR 09 38 56.1
comp=Z,71nm,20.3s,baz=138,slow=41
comp=Z,0.7nm,0.4s
AAK Ala-Archa 16.25 324 *de*P **P** **09 31 44.2 +2.0**
AAK pmax pmax
comp=Z,7.0nm,1.3s
GAR Garm 16.66 306 Pn **Pn** **09 31 41.1 -3.3**
GAR IAmb IAmb 09 31 48.1
comp=Z,16nm,0.7s
MK31 Makanchi Array 17.09 348 **Pn** **09 31 48.4 -1.2**
MK31 Makanchi Array 17.09 348⇓ *e*P **Pn** **09 31 49.0 -0.6**
MKAR Makanchi Array 17.09 348 **Pn** **09 31 47.9 -1.7**
MKAR Makanchi Array 17.09 348 P **P** **09 31 50.4 -0.9**
comp=Z,0.2nm,0.3s,baz=155,slow=12,SNR=13
MKAR LR LR 09 39 34.6
comp=Z,137nm,18.6s,baz=106,slow=41
comp=Z,1.9nm,0.7s
MAKZ Makanchi 17.16 347 **Pn** **09 31 50.9 +0.4**
MAKZ Makanchi 17.16 347 P **Pn** **09 31 50.9 +0.4**
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
SLVN Son La 17.16 117 **Pn** **09 31 51.2 +0.4**
SIMJ Simiganj 17.45 304 Pn **Pn** **09 31 53.0 -1.2**
NONG Nongkai 18.64 127 P **Pn** **09 32 09.9 +0.9**
KK31 Karatay Array 18.74 318 P **P** **09 32 08.8 -0.8**
KK31 Karatay Array 18.74 318 P **P** **09 32 08.8 -0.8**
KK31 pmax pmax
comp=Z,4.0nm,1.1s
KKAR Karatay Array 18.74 318 **P** **09 32 08.8 -0.8**
KKAR Karatay Array 18.74 318 P **P** **09 32 08.9 -0.7**
KKAR IAmb IAmb 09 32 22.0
comp=Z,4.3nm,1.1s
KKAR Karatay Array 18.74 318 P **P** **09 32 08.9 -0.7**
KKAR pmax pmax
comp=Z,4.0nm,1.1s
NAYO Nakonayok 20.27 138 P Pn 09 32 27.9 -0.5
KURBB Kurchatov Arra 21.51 344 P **P** **09 32 39.5 -0.1**
comp=Z,4.1nm,0.9s,baz=160,slow=10,SNR=14
comp=Z,4.1nm,0.9s
KURK Kurchatov 21.58 344 **P** **09 32 40.2 -0.1**
KURK Kurchatov 21.58 344⇑ *e*P **P** **09 32 40.6 +0.3**
KURK pmax pmax
comp=Z,10.0nm,1.1s
HRA Herat 21.77 288 P **P** **09 32 42.6 -0.1**
UBPT Khong Chiam 22.17 128 P **P** **09 32 46.4 -0.6**
HHC Hu-ho-hao-te 22.21 55 *e*P **P** **09 32 47.4 0.0**
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,62nm,4.9s
SONM Songino Array 22.83 34 P **P** **09 32 51.7 -2.2**
SONM Songino Array 22.83 34 P **P** **09 32 53.4 -0.5**
comp=Z,1.4nm,0.7s,baz=222,slow=9.9,SNR=8.7
comp=Z,1.4nm,0.7s
QIZ Qiongzhong 23.08 114 P **P** **09 32 56.6 0.0**
QIZ S **S** **09 37 08.4 +0.6**
QIZ LR LR
comp=Z,120nm,7.8s
QIZ LR LR
comp=Z,100nm,10.8s
ULN Ulaanbaatar 23.18 35 P **P** **09 32 56.0 -1.5**
ULN Ulaanbaatar 23.18 35⇓ *i*P **P** **09 33 00.1 +2.6**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ZAA0 Zalesovo Array 23.84 356 **P** **09 33 03.5 -0.3**
ZALV Zalesovo Beam 23.84 356 **P** **09 33 03.5 -0.3**
ZALV Zalesovo Beam 23.84 356 P **P** **09 33 03.2 -0.6**
comp=Z,2.6nm,0.7s,baz=185,slow=10,SNR=12
ZALV LR LR 09 43 32.2
comp=Z,58nm,19.6s,baz=114,slow=40
comp=Z,2.6nm,0.7s
ZALV Zalesovo Beam 23.84 356 P **P** **09 33 03.5 -0.3**
BVAR Borovoye Array 26.05 336 P **P** **09 33 24.9 +0.9**
comp=Z,1.7nm,0.8s,baz=155,slow=11,SNR=8.1
comp=Z,1.7nm,0.8s
BRVK Borovoye 26.11 336 P **P** **09 33 23.8 -0.7**
BRVK Borovoye 26.11 336⇓ *i*P **P** **09 33 26.8 +2.2**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
NJ2 Nanjing 26.84 78 *e*P **P** **09 33 32.5 +1.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
KULM Kulim 27.67 151 P **P** **09 33 36.6 -2.3**
KULM IAmb IAmb 09 33 40.6
comp=Z,5.4nm,0.9s
AB31 Akbulak array 28.27 320 P **P** **09 33 44.4 +0.3**
ABKAR Akbulak array 28.27 320 **P** **09 33 44.2 +0.2**
AKTO Aktyubinsk 29.95 321 LR LR 09 48 17.7
comp=Z,60nm,19.7s,baz=329,slow=41
HIA Hailar 30.93 43⇑ *e*P **P** **09 34 09.0 +1.4**
HIA pmax pmax
comp=Z,9.0nm,1.0s
ARTI Arti 33.25 330 P **P** **09 34 25.5 -2.4**
ARTI Arti 33.25 330 P **P** **09 34 27.3 -0.5**
comp=Z,3.5nm,0.5s,baz=124,slow=3.4,SNR=5.4
comp=Z,3.5nm,0.5s
ARTI Arti 33.25 330 *d i*P **P** **09 34 28.2 +0.3**
ARTI S **S** **09 39 49.7 +1.9**
ARTI SS **SnSn** **09 41 48.7 +1.1**
ARTI pmax pmax
comp=Z,6.0nm,0.9s
KSAR Wonju Array Be 34.11 67 P **P** **09 34 33.9 -1.7**
KSAR Wonju Array Be 34.11 67 P **P** **09 34 33.9 -1.7**
KSRS Korea Array 34.14 67 LR LR 09 48 49.4
comp=Z,4.0nm,21.8s,baz=205,slow=37
JNU Nakatsue 36.83 74 LR LR 09 52 32.3
comp=Z,15nm,18.2s,baz=334,slow=40
KLR Kul'dur 38.33 47 P **P** **09 35 11.1 -0.4**
comp=Z,1.9nm,0.7s,baz=272,slow=11,SNR=5.3
comp=Z,1.9nm,0.7s
KLR Kul'dur 38.33 47⇓ *i*P **P** **09 35 12.9 +1.4**
KLR pmax pmax
comp=Z,4.0nm,1.0s
KIRV Kirov 38.47 329⇓ *e*P **P** **09 35 16.7 +4.2**
NRIK Noril'sk 39.20 0 **P** **09 35 19.0 +0.5**
NRIK IAmb IAmb 09 35 22.7
comp=Z,5.1nm,1.1s
NRIK Noril'sk 39.20 0 P **P** **09 35 19.1 +0.6**
comp=Z,3.2nm,0.8s,baz=172,slow=9.0,SNR=6.8
comp=Z,3.2nm,0.8s
NRIK Noril'sk 39.20 0⇓ *i*P **P** **09 35 20.5 +1.9**
ILGA Ilgaz 44.45 299 P **P** **09 36 01.1 -1.1**
BR131 Keskin Array S 44.60 297 P **P** **09 36 01.5 -1.8**
BR131 IAmb IAmb 09 36 07.1
comp=Z,6.2nm,1.4s
BR131 Keskin Array S 44.60 297 P **P** **09 36 01.5 -1.8**
BR131 pmax pmax
comp=Z,6.0nm,1.4s
BRTR Keskin Array B 44.60 297 P **P** **09 36 01.7 -1.6**
BRTR Keskin Array B 44.60 297 P **P** **09 36 04.0 +0.7**
comp=Z,0.9nm,0.6s,baz=92,slow=11,SNR=7.8
comp=Z,0.9nm,0.6s
MSEY Mahe Island 46.28 227 P **P** **09 36 15.9 -0.8**
MSEY IAmb IAmb 09 36 38.4
comp=Z,11nm,1.2s
MSEY Mahe Island 46.28 227 P **P** **09 36 15.9 -0.8**
MSEY pmax pmax
comp=Z,11nm,1.2s
KAPI Kappang 46.66 133 LR LR 10 00 17.5
comp=Z,24nm,18.7s,baz=286,slow=42
BORA Eskisehir 47.03 298 **P** **09 36 22.3 -0.1**

TIXI Tiksi 47.13 17 P **P** **09 36 22.0 -0.6**
TIXI IAmb IAmb 09 36 41.1
comp=Z,2.4nm,0.8s
TIXI Tiksi 47.13 17 *ce*P **P** **09 36 23.1 +0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
MLR Muntele Rosu 49.81 306 LR LR 10 03 22.3
comp=Z,34nm,18.9s,baz=95,slow=43
BURAR Bucovina Array 50.17 309 P **P** **09 36 45.6 -0.9**
FIA1 FINESS Array S 50.40 327 P **P** **09 36 47.6 -0.2**
FINES FINESS Array B 50.40 327 P **P** **09 36 47.3 -0.5**
FINES FINESS Array B 50.40 327 P **P** **09 36 47.5 -0.3**
comp=Z,2.0nm,0.6s,baz=112,slow=8.0,SNR=13
comp=Z,2.0nm,0.6s
PABE Paberze 50.90 319 P **P** **09 36 51.7 0.0**
KEV Kevo 51.89 337 P **P** **09 36 59.0 +0.1**
KEV Kevo 51.89 337 P **P** **09 36 59.0 +0.1**
KEV pmax pmax
comp=Z,17nm,1.2s
SEY Seymchan 52.19 32 *ce*P **P** **09 37 04.7 +3.4**
SEY pmax pmax
comp=Z,9.0nm,2.5s
ARCES ARCESS Array B 52.34 337 P **P** **09 37 01.3 -1.0**
comp=Z,2.4nm,0.8s,baz=134,slow=10,SNR=6.6
comp=Z,2.4nm,0.8s
AGG Agios Georgios 53.38 298 P **P** **09 37 09.9 -0.6**
AGG IAmb IAmb 09 37 12.8
comp=Z,10nm,0.9s
AGG Agios Georgios 53.38 298 P **P** **09 37 09.9 -0.6**
AGG pmax pmax
comp=Z,10.0nm,0.9s
ITM Ithomi 54.08 296 P **P** **09 37 15.2 -0.4**
VRAC Vranov 55.72 312 LR LR 10 03 54.4
comp=Z,38nm,19.0s,baz=101,slow=39
HFS Hagfors 56.38 325 P **P** **09 37 30.9 -0.9**
comp=Z,4.5nm,0.6s,baz=72,slow=9.5,SNR=12
comp=Z,4.5nm,0.6s
NC405 NORSAR Array S 57.30 326 P **P** **09 37 38.2 -0.2**
NC405 IAmb IAmb 09 37 53.1
comp=Z,4.7nm,0.9s
NC602 NORSAR Array S 57.41 326 P **P** **09 37 39.5 +0.3**
NC602 IAmb IAmb 09 37 48.2
comp=Z,7.7nm,1.1s
NC303 NORSAR Array S 57.46 326 P **P** **09 37 38.8 -0.6**
NC303 IAmb IAmb 09 37 41.9
comp=Z,9.6nm,1.4s
NB2 NORSAR Subarra 57.55 326 P **P** **09 37 38.7 -1.5**
comp=Z,1.0nm,0.5s,baz=85,slow=6.9
NOA NORSAR Array B 57.55 326 P **P** **09 37 39.0 -1.2**
comp=Z,1.6nm,0.7s,baz=86,slow=6.9,SNR=8.5
NOA LR LR 10 04 49.8
comp=Z,18nm,21.4s,baz=0.0,slow=39
comp=Z,1.6nm,0.7s
NOA NORSAR Array B 57.55 326 P **P** **09 37 39.0 -1.2**
GERES GERESS Array B 57.67 311 P **P** **09 37 41.3 0.0**
comp=Z,0.2nm,0.3s,baz=81,slow=8.2,SNR=3.6
comp=Z,0.2nm,0.3s
NC204 NORSAR Array S 57.75 326 P **P** **09 37 40.7 -0.8**
NC204 IAmb IAmb 09 37 44.4
comp=Z,9.5nm,1.1s
WB0 Warramunga Arr 67.08 132 P **P** **09 38 42.9 -1.6**
WB0 IAmb IAmb 09 38 44.2
comp=Z,5.0nm,0.9s
WRA Warramunga Arr 67.17 132 P **P** **09 38 43.8 -1.3**
WRA Warramunga Arr 67.17 132 P **P** **09 38 44.0 -1.1**
comp=Z,1.6nm,0.6s,baz=323,slow=6.4,SNR=20
comp=Z,1.6nm,0.6s
WRA Warramunga Arr 67.17 132 P **P** **09 38 44.0 -1.1**
WRAB Tennant Creek 67.17 132 P **P** **09 38 43.8 -1.3**
WRAB IAmb IAmb 09 39 22.2
comp=Z,6.7nm,1.2s
WRAB Tennant Creek 67.17 132 P **P** **09 38 43.8 -1.3**
WRAB pmax pmax
comp=Z,7.0nm,1.2s
WB2 Warramunga Arr 67.18 132 P **P** **09 38 43.0 -2.1**
WB2 IAmb IAmb 09 38 53.1
comp=Z,7.0nm,1.2s
WR8 Warramunga Arr 67.28 132 P **P** **09 38 44.1 -1.7**
WR0 Warramunga Arr 67.31 132 P **P** **09 38 43.5 -2.5**
WR0 IAmb IAmb 09 39 01.5
comp=Z,5.3nm,1.4s
GAMB Gambell 67.91 28 P **P** **09 38 47.6 -1.5**
C18K Utukok River 69.50 21 P **P** **09 38 59.5 +0.5**
C18K IAmb IAmb 09 39 38.1
comp=Z,4.0nm,1.3s
AS31 Alice Springs 69.62 135 P **P** **09 38 59.0 -1.4**
ASAR Alice Springs 69.62 135 P **P** **09 38 59.5 -0.9**
ASAR Alice Springs 69.62 135 P **P** **09 38 59.6 -0.8**
comp=Z,1.0nm,0.5s,baz=319,slow=6.3,SNR=13
comp=Z,1.0nm,0.5s
EUNU Eureka 69.95 359 P **P** **09 39 01.1 -0.6**
EUNU IAmb IAmb 09 39 04.4
comp=Z,1.9nm,0.8s
KIWB Kanaga Island 69.97 41 P **P** **09 39 00.8 -1.4**
F17K Baldwin Pennin 70.61 23 P **P** **09 39 06.4 +0.6**
E19K Redstone River 71.39 22 P **P** **09 39 09.4 -1.1**
E19K IAmb IAmb 09 39 26.9
comp=Z,3.0nm,1.1s
F19K Shaleruckik Mo 71.57 22 P **P** **09 39 10.8 -0.8**
F19K IAmb IAmb 09 39 29.1
comp=Z,2.6nm,1.1s
C23K Itkillik River 71.91 18 P **P** **09 39 12.8 -0.8**
C23K IAmb IAmb 09 39 22.7
comp=Z,7.3nm,1.2s
H18K Honhosa River 72.31 24 P **P** **09 39 16.3 +0.2**
K15K Wolf Creek Mou 72.70 27 P **P** **09 39 18.9 +0.4**
F21K Alatna River 72.71 21 P **P** **09 39 18.6 +0.1**
F21K IAmb IAmb 09 39 40.3
comp=Z,2.6nm,1.1s
TOLK Toolik Lake Re 72.96 19 P **P** **09 39 19.1 -0.9**
TOLK IAmb IAmb 09 39 40.6
comp=Z,4.8nm,1.4s
J19K Poorman 73.95 24 P **P** **09 39 25.7 -0.2**
J19K IAmb IAmb 09 39 37.8
comp=Z,14nm,1.5s
J20K Nowinta River 74.36 24 P **P** **09 39 28.0 -0.2**
J20K IAmb IAmb 09 39 44.3
comp=Z,13nm,1.5s
K20K Telida 74.89 24 P **P** **09 39 31.5 +0.2**
K20K IAmb IAmb 09 39 37.4
comp=Z,8.9nm,1.2s
BMAR Burnt Mountain 75.17 18 P **P** **09 39 32.4 -0.5**
BPAW Bear Paw Mtn. 75.48 23 P **P** **09 39 33.2 -1.5**
BPAW IAmb IAmb 09 39 41.5
comp=Z,7.5nm,1.4s
CAST Castle Rocks 75.55 24 P **P** **09 39 35.0 -0.1**
CAST IAmb IAmb 09 40 03.7
comp=Z,5.3nm,1.3s
A36M Sachs Harbour 75.60 10 P **P** **09 39 36.1 +0.9**
A36M IAmb IAmb 09 39 40.3
comp=Z,2.7nm,0.7s
O16K Kokwok River B 75.60 29 P **P** **09 39 36.6 +1.1**
PPLA Purkeypile 75.84 24 P **P** **09 39 36.7 -0.3**
ILAR Eielson Array 76.36 21 P **P** **09 39 37.8 -2.0**
comp=Z,0.4nm,0.7s,baz=322,slow=5.2,SNR=2.5
comp=Z,0.4nm,0.7s
SKT Skwentna 76.67 25 P **P** **09 39 41.4 -0.1**
SKT IAmb IAmb 09 40 06.9
comp=Z,7.5nm,1.3s
I26K Coal Creek Min 77.09 19 P **P** **09 39 44.5 +0.7**
I26K IAmb IAmb 09 39 50.2
comp=Z,5.6nm,1.4s
Q19K Cape Douglas, 77.82 28 P **P** **09 39 47.8 -0.3**
SFJD Kangerlussuaq 78.09 344 P **P** **09 39 48.8 -0.6**
SFJD Kangerlussuaq 78.09 344 P **P** **09 39 48.8 -0.6**
SFJD pmax pmax
comp=Z,34nm,1.4s
SCM Sheep Creek Mo 78.25 23 P **P** **09 39 50.7 +0.3**
SCM Sheep Creek Mo 78.25 23 P **P** **09 39 50.7 +0.3**
SCM pmax pmax
comp=Z,31nm,1.2s
I30M Mount Dempster 79.01 17 P **P** **09 39 54.9 +0.2**
I30M IAmb IAmb 09 40 00.5
comp=Z,5.6nm,1.4s
L27K Beaver Creek, 79.15 21 P **P** **09 39 55.8 +0.5**
L27K IAmb IAmb 09 40 31.3
comp=Z,3.8nm,1.3s
BCAR Beaver Creek A 79.16 21 P **P** **09 39 55.1 -0.3**
N25K Chitina, Valde 79.33 23 P **P** **09 39 56.3 -0.1**
K29M Barlow Dome 79.80 19 P **P** **09 39 58.1 -0.8**
K29M IAmb IAmb 09 40 00.2
comp=Z,8.9nm,1.4s
HNR Honiara 79.83 107 P **P** **09 39 58.9 -0.8**
HNR Honiara 79.83 107 P **P** **09 39 58.9 -0.8**
TORD Torodi Ar. Bea 79.96 279 P **P** **09 40 00.0 -0.5**

comp=Z,95nm,0.3s,baz=47,slow=5.4,SNR=1.3
BOSA Boshof 83.34 232 P **P** **09 40 18.6 +0.4**
comp=Z,2.5nm,0.9s,baz=116,slow=4.1,SNR=4.2
comp=Z,2.5nm,0.9s
YKA Yellowknife Ar 85.96 10 P **P** **09 40 31.1 +0.4**
comp=Z,0.3nm,0.7s,baz=341,slow=5.0,SNR=5.7
comp=Z,0.3nm,0.7s
S34M Telegraph Cree 86.45 20 P **P** **09 40 33.6 +0.4**
TXAR Lajitas Array 119.87 11 PKP **PKPdf** **09 46 40.4 -1.4**
comp=Z,0.1nm,0.3s,baz=283,slow=0.6,SNR=5.4
CPUP Villa Florida 148.88 268 PKPbc **PKPbc** **09 47 37.7 -1.4**
comp=Z,2.5nm,0.6s,baz=74,slow=3.5,SNR=8.1

IDC ***12*** *09:28:35.6±0.7,30°.55N×131°.94E,h0km,mb3.8/8,*
mbtmp3.8/13,ML3.3/5,MS2.9/3,Error ellipse:
s-maj=32.1km s-min=14.9km az=94.0
NEIC ***12*** *09:28:38.0±2.1,30°.58N±0°.06×132°.06E±0°.05,h10km±1km,*
mb4.5/51,Error ellipse: s-maj=10.2km s-min=6.5km
az=201.0
JMA ***12*** *09:28:38.5±0.1,30°.6N±0°.4×132°.1E±0°.9,h59km±3km,*
MV3.5/40,E OFF TANEGASHIMA ISLAND
ISC 12 09:28:37.6±1.7,30°.61N±0°.04×132°.07E±0°.04,h12km±11km,
n102,σ1°32/114,mb4.5/35,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.94**	**273**	P	**Pg**	**09 28 55.7**	**0.0**
JTN				S	**Sb**	**09 29 09.1**	**+0.8**
JMTN	**Minamitane**	**1.03**	**259**	P	**Pg**	**09 28 57.2**	**-0.2**
JMTN				*e*S	**Sb**	**09 29 11.8**	**+1.0**
JTSR	**Tashiro 2**	**1.13**	**300**	P	**Pb**	**09 28 58.1**	**-1.0**
JTSR				*e*S	**Sb**	**09 29 12.6**	**-1.2**
JNAR	**Kushima--Naru**	**1.14**	**323**	P	**Pb**	**09 28 58.9**	**-0.3**
JNAR				*e*S	**Sb**	**09 29 14.0**	**0.0**
JNKG	**Nichinankitago**	**1.21**	**331**	P	**Pn**	**09 28 59.7**	**-0.6**
JNKG				S	**Sb**	**09 29 15.2**	**-0.7**
JYAK	**Yakushimahirau**	**1.40**	**255**	P	**Pn**	**09 29 02.1**	**-0.7**
JYAK				S	**Sb**	**09 29 19.8**	**-1.6**
JTZ	**Takazaki**	**1.54**	**327**	P	**Pn**	**09 29 04.3**	**-0.5**
JTZ				*e*S	**Sn**	**09 29 23.6**	**-1.2**
JKC	**Kuchinoerabu**	**1.62**	**265**	P	**Pn**	**09 29 05.5**	**-0.4**
JKC				S	**Sn**	**09 29 26.0**	**-0.7**
JSU	**Suzuyama**	**1.65**	**303**	*e*P	**Pn**	**09 29 05.8**	**-0.6**
JSU				S	**Sn**	**09 29 26.5**	**-1.0**
JTSN	**Tsuno**	**1.70**	**344**	P	**Pn**	**09 29 06.7**	**-0.4**
JTSN				S	**Sn**	**09 29 26.9**	**-1.9**
JNN	**Nakanoshima**	**2.05**	**249**	*e*P	**Pn**	**09 29 11.6**	**-0.2**
JNN				S	**Sn**	**09 29 35.9**	**-1.4**
JIU3	**Izumi3**	**2.21**	**331**	P	**Pn**	**09 29 14.2**	**+0.1**
JIU3				*e*S	**Sn**	**09 29 40.9**	**-0.5**
JSJ	**Shimokoshiki**	**2.28**	**298**	*e*P	**Pn**	**09 29 13.9**	**-1.2**
JSJ				*e*S	**Sn**	**09 29 41.1**	**-2.0**
JTO	**Tosashimizu**	**2.33**	**15**	P	**Pn**	**09 29 14.1**	**-1.7**
JTO				S	**Sn**	**09 29 39.0**	**-5.3**
UWA2	**Uwa jima 2**	**2.64**	**10**	*e*P	**Pn**	**09 29 19.0**	**-1.0**
UWA2				*e*S	**Sn**	**09 29 48.2**	**-3.7**
JNU	**Nakatsue**	**2.70**	**338**		**Pn**	**09 29 21.4**	**+0.5**
JNU	**Nakatsue**	**2.70**	**338**	Pn	**Pn**	**09 29 21.1**	**+0.2**
	9.1nm,0.3s,baz=200,slow=9.5,SNR=95						
JNU				Sn	**Sn**	**09 29 52.5**	**-1.1**
	6.5nm,0.3s,baz=133,slow=9.9,SNR=7.5						
	30nm,0.4s						
JNU	**Nakatsue**	**2.70**	**338**	P	**Pn**	**09 29 21.3**	**+0.5**
JMN	**Monobe**	**3.47**	**26**		**Pn**	**09 29 31.4**	**0.0**
JMN	**Monobe**	**3.47**	**26**	P	**Pn**	**09 29 31.0**	**-0.4**
JTU	**Tsushima**	**4.51**	**331**	P	**Pn**	**09 29 46.0**	**+0.4**
JMZ	**Minamidaito 2**	**4.83**	**189**	Pn	**Pn**	**09 29 49.5**	**-0.6**
JMZ	**Minamidaito 2**	**4.83**	**189**	P	**Pn**	**09 29 50.7**	**+0.6**
JOW	**Kunigami**	**5.03**	**222**	Pn	**Pn**	**09 29 53.1**	**+0.3**
JOW	**Kunigami**	**5.03**	**222**	Pn	**Pn**	**09 29 52.2**	**-0.5**
	4.3nm,0.3s,baz=99,slow=20,SNR=16						
JOW				Sn	**Sn**	**09 30 46.6**	**-4.2**
	6.9nm,0.3s,baz=136,slow=28,SNR=12						
	13nm,0.3s						
JOW	**Kunigami**	**5.03**	**222**	P	**Pn**	**09 29 53.2**	**+0.4**
INU	**Inuyama**	**6.29**	**40**		**Pn**	**09 30 10.4**	**+0.2**
JGF	**Kuroka**	**6.67**	**40**		**Pn**	**09 30 15.8**	**+0.5**
KSRS	**Korea Array**	**7.64**	**334**	Pn	**Pn**	**09 30 29.8**	**+1.0**
	0.2nm,0.3s,baz=153,slow=14,SNR=7.1						
	0.4nm,0.3s						
MAJO	**Matsushiro**	**7.83**	**39**	Pn	**Pn**	**09 30 32.9**	**+1.7**
MJAR	**Matsushiro Arr**	**7.83**	**39**	Pn	**Pn**	**09 30 33.1**	**+1.9**
	0.3nm,0.3s,baz=245,slow=14,SNR=9.4						
	2.0nm,0.3s						
MJB9	**Matsu-Tunnel**	**7.83**	**39**	Pn	**Pn**	**09 30 33.9**	**+2.6**
KLR	**Kul'dur**	**18.60**	**359**	P	**P**	**09 32 55.4**	**+0.8**
	0.1nm,0.3s,baz=178,slow=7.0,SNR=7.6						
KLR				LR	LR	09 40 42.5	
	comp=Z,43nm,18.1s,baz=176,slow=39						
	2.1nm,0.8s						
DAV	**Davao City (W)**	**24.20**	**196**	LR	LR	09 44 38.1	
	comp=Z,36nm,19.1s,baz=316,slow=40						
CMAR	**Chiang Mai Arr**	**32.35**	**256**	LR	LR	09 48 00.8	
	comp=Z,17nm,20.1s,baz=0.0,slow=36						
H11N2	**WAKE ISLAND Hy**	**33.21**	**101**	T	T	10 10 20.6	
	baz=296,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**33.21**	**101**	T	T	10 10 20.6	
	baz=296,slow=75,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**33.22**	**101**	T	T	10 10 21.8	
	baz=296,slow=75,SNR=4.7						
FAKI	**Fak Fak**	**33.34**	**180**	P	**P**	**09 35 16.8**	**+1.2**
FAKI				IAmb	IAmb	09 35 17.3	
	comp=Z,8.0nm,0.8s						
ATKA	**Atka Island**	**44.51**	**45**	P	**P**	**09 36 48.5**	**-0.2**
KNRA	**Kununurra**	**46.13**	**184**	P	**P**	**09 37 02.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**48.82**	**188**	P	**P**	**09 37 23.9**	**+1.2**
BRVK	**Borovoye**	**49.46**	**316**	P	**P**	**09 37 27.7**	**+0.3**
WB0	**Warramunga Arr**	**50.13**	**177**	P	**P**	**09 37 33.2**	**+0.4**
WB0				IAmb	IAmb	09 37 45.0	
	comp=Z,7.7nm,1.4s						
WRAB	**Tennant Creek**	**50.30**	**177**	P	**P**	**09 37 32.8**	**-1.3**
WRAB				IAmb	IAmb	09 37 35.9	
	comp=Z,7.5nm,1.3s						
WRA	**Warramunga Arr**	**50.31**	**177**	P	**P**	**09 37 32.4**	**-1.7**
WRA	**Warramunga Arr**	**50.31**	**177**	P	**P**	**09 37 34.0**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=354,slow=8.3,SNR=8.1						
	comp=Z,1.2nm,0.8s						
WR8	**Warramunga Arr**	**50.33**	**177**	P	**P**	**09 37 34.5**	**+0.1**
WR8				IAmb	IAmb	09 38 04.4	
	comp=Z,12nm,1.4s						
F17K	**Baldwin Pennin**	**53.05**	**28**	P	**P**	**09 37 53.9**	**-0.2**
F17K				IAmb	IAmb	09 38 08.6	
	comp=Z,17nm,1.5s						
PSA00	**Pilbara Seismi**	**53.19**	**194**	P	**P**	**09 37 55.1**	**-0.5**
C18K	**Utukok River**	**53.41**	**25**	P	**P**	**09 37 56.9**	**+0.1**
E18K	**Tukpahlearik C**	**53.44**	**26**	P	**P**	**09 37 57.0**	**0.0**
E18K				IAmb	IAmb	09 38 36.2	
	comp=Z,5.1nm,1.1s						
ASAR	**Alice Springs**	**53.99**	**178**	P	**P**	**09 38 01.0**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=1.0,slow=5.8,SNR=9.0						
	comp=Z,0.8nm,0.7s						
D19K	**Kuna River**	**54.51**	**25**	P	**P**	**09 38 05.4**	**+0.6**
D19K				IAmb	IAmb	09 38 19.0	
	comp=Z,7.4nm,1.4s						
B20K	**Meade River**	**55.01**	**23**	P	**P**	**09 38 08.7**	**+0.3**
B20K				IAmb	IAmb	09 38 51.5	
	comp=Z,12nm,1.4s						
D20K	**Etivluk River**	**55.08**	**25**	P	**P**	**09 38 10.7**	**+1.7**
D20K				IAmb	IAmb	09 38 34.3	
	comp=Z,5.8nm,1.4s						
J19K	**Poorman**	**55.23**	**31**	P	**P**	**09 38 11.7**	**+1.6**
J19K				IAmb	IAmb	09 38 29.8	
	comp=Z,11nm,1.5s						
N19K	**Bonanza Creek**	**55.81**	**35**	P	**P**	**09 38 14.6**	**+0.1**
B21K	**Ikpikpuk River**	**55.86**	**24**	P	**P**	**09 38 14.7**	**+0.2**
B21K				IAmb	IAmb	09 38 38.9	
	comp=Z,6.9nm,1.4s						
K20K	**Telida**	**55.93**	**32**	P	**P**	**09 38 16.7**	**+1.5**
K20K				IAmb	IAmb	09 38 23.6	
	comp=Z,7.3nm,1.4s						
E21K	**Killik River**	**56.03**	**25**	P	**P**	**09 38 16.0**	**+0.2**
E21K				IAmb	IAmb	09 38 35.0	
	comp=Z,8.1nm,1.4s						
B22K	**Teshekpuk Lake**	**56.31**	**23**	P	**P**	**09 38 17.5**	**-0.2**
B22K				IAmb	IAmb	09 38 41.5	
	comp=Z,6.0nm,1.2s						
H21K	**Melozitna River**	**56.44**	**29**	P	**P**	**09 38 19.8**	**+1.0**
D22K	**Ayikyak River**	**56.51**	**25**	P	**P**	**09 38 21.4**	**+2.1**
PPLA	**Purkeypile**	**56.80**	**32**	P	**P**	**09 38 23.4**	**+1.9**
E22K	**Anaktuvuk Pass**	**56.82**	**26**	P	**P**	**09 38 23.2**	**+1.7**
C23K	**Itkillik River**	**57.26**	**24**	P	**P**	**09 38 25.1**	**+0.6**
E23K	**Chandalar**	**57.65**	**26**	P	**P**	**09 38 28.8**	**+1.4**
E23K				IAmb	IAmb	09 38 31.8	

comp=Z,4.0nm,1.0s
H23K Yukon River 57.78 28 P **P 09 38 28.9 +0.6**
H23K IAmb IAmb 09 38 32.5
comp=Z,3.3nm,0.8s
D24K Happy Valley 57.90 25 P **P 09 38 29.8 +0.8**
D24K IAmb IAmb 09 38 52.1
comp=Z,5.4nm,1.2s
E24K Your Creek 58.07 26 P **P 09 38 32.4 +2.1**
MCK McKinley 58.20 31 P **P 09 38 31.6 +0.3**
RND Reindeer 58.27 31 P **P 09 38 31.6 -0.1**
H24K Noodor Dome 58.47 28 P **P 09 38 33.8 +0.7**
H24K IAmb IAmb 09 38 42.4
comp=Z,9.7nm,1.4s
ILAR Eielson Array 58.98 30 P **P 09 38 37.0 +0.4**
ILAR Eielson Array 58.98 30 P **P 09 38 37.8 +1.1**
comp=Z,0.7nm,0.8s,baz=280,slow=6.6,SNR=8.8
comp=Z,0.7nm,0.8s
F25K Christian Rive 59.19 26 P **P 09 38 40.1 +2.1**
F26K Sheenjek River 59.74 26 P **P 09 38 44.4 +2.5**
SCRK Sand Creek 60.34 30 P **P 09 38 46.7 +0.5**
DOT Dot Lake 60.37 31 P **P 09 38 47.3 +1.0**
DOT IAmb IAmb 09 39 04.7
comp=Z,8.0nm,1.5s
J26L Joseph Creek 60.44 30 P **P 09 38 47.9 +1.0**
D27M Malcolm River 60.69 24 P **P 09 38 50.2 +1.8**
D27M IAmb IAmb 09 38 52.0
comp=Z,3.6nm,1.2s
M26K Nabesna, AK 61.07 32 P **P 09 38 52.7 +1.6**
K27K Chicken 61.16 30 P **P 09 38 52.3 +0.6**
BCAR Beaver Creek A 61.48 31 P **P 09 38 56.0 +2.1**
M27K Edge Creek, AK 61.59 32 P **P 09 38 56.3 +1.6**
I28M Miner Creek 61.78 28 P **P 09 38 58.2 +2.3**
I28M IAmb IAmb 09 38 58.5
comp=Z,4.9nm,1.1s
H29M Whitestone 62.24 27 P **P 09 39 00.7 +1.8**
H29M IAmb IAmb 09 39 12.9
comp=Z,9.5nm,1.5s
STKA Stephens Creek 62.80 171 P **P 09 39 03.9 +1.0**
STKA Stephens Creek 62.80 171 P **P 09 39 02.3 -0.6**
comp=Z,1.9nm,0.6s,baz=349,slow=5.4,SNR=10
comp=Z,1.9nm,0.6s
EPYK Eagle Plains 62.85 27 P **P 09 39 04.7 +1.7**
EPYK IAmb IAmb 09 39 05.1
comp=Z,3.4nm,0.8s
L29M L29M 63.09 31 P **P 09 39 06.2 +1.6**
I30M Mount Dempster 63.28 28 P **P 09 39 07.2 +1.3**
I30M IAmb IAmb 09 39 49.3
comp=Z,3.2nm,1.2s
G31M Satah River 63.65 26 P **P 09 39 08.9 +0.8**
G31M IAmb IAmb 09 39 51.2
comp=Z,5.8nm,1.1s
FIA1 FINESS Array S 70.72 331 P **P 09 39 53.0 -0.1**
FINES FINESS Array B 70.72 331 P **P 09 39 52.9 -0.2**
FINES FINESS Array B 70.72 331 P **P 09 39 51.7 -1.4**
comp=Z,1.5nm,0.6s,baz=46,slow=8.2,SNR=7.4
comp=Z,1.5nm,0.6s
YKA Yellowknife Ar 73.13 26 P **P 09 40 08.2 +0.6**
comp=Z,0.4nm,0.8s,baz=301,slow=5.6,SNR=7.7
comp=Z,0.4nm,0.8s
YKAW1 Yellowknife Wh 73.18 26 P **P 09 40 08.0 +0.1**
YKAW1 IAmb IAmb 09 40 49.6
comp=Z,5.8nm,1.4s
ILON Igloolik, Nuna 77.28 12 P **P 09 40 31.6 +0.2**
ILON IAmb IAmb 09 40 50.2
comp=Z,6.7nm,1.5s
NVAR Mina Array Bea 85.06 48 P **P 09 41 14.3 +0.7**
comp=Z,0.6nm,0.7s,baz=284,slow=5.8,SNR=5.3
comp=Z,0.6nm,0.7s
PDAR Pinedale Array 87.65 40 P **P 09 41 26.2 0.0**
comp=Z,0.3nm,0.8s,baz=225,slow=1.9,SNR=3.7
comp=Z,0.3nm,0.8s

---

*FUNV **12** 09:32:30.5, 11˚.28N×64˚.59W, h17km, MW3.5*
ISC 12 09:32:29.7±1.7, 11˚.22N±0˚.09×64˚.62W±0˚.09, h18km, n9, σ1§88/15, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**1.04**	**181**	*e*P	**Pg**	**09 32 51.4**	**+1.5**
PCRV				*e*S	**Sn**	**09 33 05.3**	**+1.8**
FUNV	**FUNVISIS**	**2.27**	**251**	*e*P	**Pn**	**09 33 07.3**	**+0.8**
FUNV				*e*S	**Sn**	**09 33 34.0**	**-0.1**
TACV	**Tcata**	**2.59**	**246**	*e*P	**Pn**	**09 33 12.1**	**+1.2**
TACV				*e*S	**Sn**	**09 33 42.6**	**+0.6**
BENV	**Beln**	**3.18**	**247**	*e*P	**Pn**	**09 33 20.4**	**+1.4**
BENV				*e*S	**Sn**	**09 33 56.1**	**-0.4**
BAUV	**El Baul**	**4.05**	**236**	*e*P	**Pn**	**09 33 30.6**	**-0.3**
BAUV				*e*S	**Sn**	**09 34 16.7**	**-1.3**
CACV	**CAICARA DEL OR**	**4.09**	**208**	*e*P	**Pn**	**09 33 30.5**	**-0.9**
CACV				*e*S	**Sn**	**09 34 13.9**	**-5.0**
TEPV	**Terepaima**	**4.66**	**255**	*e*P	**Pn**	**09 33 39.5**	**+0.2**
ANBD	**Bethesda, Anti**	**6.42**	**25**	*e*P	**Pn**	**09 34 01.6**	**-1.9**
SOCV	**Socops**	**6.80**	**245**	*e*P	**Pn**	**09 34 08.0**	**-0.7**

---

*ISN **12** 09:46:02.5±0.9, 34˚.32N×45˚.69E, h19km±32km, ML2.6*
*TEH **12** 09:46:02.0, 34˚.37N×45˚.67E, h11km±33km*
ISC 12 09:46:02.1±1.1, 34˚.37N±0˚.04×45˚.67E±0˚.04, h13km±11km, n10, σ0§48/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**334**	Pg	**Pg**	**09 46 05.5**	**-0.2**
KGS1				Sg	**Sg**	**09 46 08.6**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.33**	**142**	Pg	**Pg**	**09 46 08.5**	**-0.2**
IDHR	**Dehrash**	**0.68**	**61**	Pg	**Pg**	**09 46 14.9**	**-0.4**
IGHG	**Ghaleghazi**	**0.75**	**93**	Pg	**Pb**	**09 46 17.1**	**0.0**
KCHF	**Cheshme Sefid,**	**1.14**	**94**	Pg	**Pg**	**09 46 24.4**	**+0.3**
IBDR	**Badra**	**1.28**	**170**	*e*Pn	**Pg**	**09 46 27.0**	**+0.4**
IBDR				*e*Sn	**Sg**	**09 46 44.0**	**+0.8**
IKRK	**Kirkuk**	**1.50**	**314**	*e*Pg	**Pb**	**09 46 30.0**	**+0.2**
IKRK				*e*Sg	**Sg**	**09 46 51.0**	**+0.6**
IKRK				AML	AML	09 46 53.6	
	comp=E,115nm,0.3s						
IKRK				AML	AML	09 47 00.5	
	comp=N,72nm,0.5s						
BHD	**Baghdad**	**1.54**	**225**	*e*Pn	**Pb**	**09 46 30.0**	**-0.4**
BHD				*e*Sn	**Sg**	**09 46 51.0**	**-0.5**
SNQR	**Sonqor, Kerman**	**1.69**	**73**	Pg	**Pg**	**09 46 34.2**	**-0.3**
IKFM	**Kafar-mosalman**	**2.00**	**114**	Pn	**Pb**	**09 46 37.9**	**-0.4**

---

*IDC **12** 09:59:58.6±2.7, 53˚.54N×87˚.64E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=24.6km s-min=14.6km az=65.0*
ASRS 12 09:59:57.0±1.5, 53˚.56N×87˚.71E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**284**	I	I	10 12 15.0	
	0.1nm,0.8s,baz=99,slow=330,SNR=5.0						
ZALV	**Zalesovo Beam**	**1.76**	**284**	Pn	Pg	10 00 30.5	-0.2
	1.2nm,0.3s,baz=105,slow=15,SNR=10						
ZALV				Lg	Lg	10 00 53.5	
	1.8nm,0.3s,baz=103,slow=22,SNR=15						
KURBB	**Kurchatov Arra**	**6.38**	**246**	Pn	Pn	10 01 32.3	+0.2
	0.1nm,0.3s,baz=64,slow=14,SNR=6.3						
KURBB				Lg	Lg	10 03 18.1	
	0.1nm,0.3s,baz=63,slow=32,SNR=8.8						
	0.4nm,0.2s						
MKAR	**Makanchi Array**	**7.61**	**209**	Pn	Pn	10 01 52.2	+3.0
	0.4nm,0.3s,baz=32,slow=14,SNR=12						
MKAR				Sn	Sn	10 03 16.1	0.0
	0.1nm,0.3s,baz=30,slow=26,SNR=5.7						
MKAR				Lg	Lg	10 03 58.8	
	baz=26,slow=28,SNR=8.6						
	0.5nm,0.3s						

---

*IDC **12** 10:21:23.4±0.5, 3˚.76S×131˚.58E, h0km, mb4.3/16, mbtmp4.3/20, ML3.7/3, MS4.1/36, Error ellipse: s-maj=23.4km s-min=13.1km az=71.0*
*NEIC **12** 10:21:25.3±1.6, 3˚.85S±0˚.05×131˚.55E±0˚.06, h10km±1km, mb4.8/79, Error ellipse: s-maj=11.5km s-min=8.6km az=116.0*
*GCMT **12** 10:21:27.3±0.3, 3˚.66S±0˚.02×131˚.65E±0˚.02, h24km±1km, MW5.0/71, Moment Tensor Solution. s39,c45; s71,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.97±.18; $M_{\theta\theta}$-0.66±.11; $M_{\phi\phi}$-2.31±.11; $M_{r\theta}$-1.27±.17; $M_{\theta\phi}$1.15±.07; $M_{r\phi}$1.09±.14; Best double couple: $M_0$3.37600×10^{16}*

NP1:ϕ_S162.00000°, δ32.00000°, λ107.00000°. NP2: ϕ_S322.00000°, δ60.00000°, λ80.00000°. Principal axes: T 3.4600, Plg73.0000°, Azm207.0000°; N -0.1710, Plg9.0000°, Azm328.0000°; P -3.2920, Plg14.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*DJA **12** 10:21:28.3±0.2, 4˚.5±2˚×13˚.2E±˚, h35km±2km, M4.8/67, mb4.8/67, mB5.4/25, MLv5.0/18, Mw(mB)4.8/25, MwMwp4.7/14, Mwp5.0/14*
ISC 12 10:21:27.3±0.3, 3˚.87S±0˚.04×131˚.53E±0˚.05, h29km, n249, σ1§41/226, mb4.7/61, MS4.1/40, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.19**	**37**		**Pb**	**10 21 47.5**	**-1.7**
FAKI	**Fak Fak**	**1.19**	**37**	P	**Pb**	**10 21 47.5**	**-1.7**
FAKI	**Fak Fak**	**1.19**	**37**	P	**Pn**	**10 21 47.3**	**-0.7**
BNDI	**Bandanaira**	**1.75**	**248**	P	**Pn**	**10 21 55.1**	**-0.6**
BNDI	**Bandanaira**	**1.75**	**248**	P	**Pn**	**10 21 56.7**	**+1.0**
KMPI	**Kaimana, Papua**	**2.18**	**85**	P	**Pn**	**10 22 02.5**	**+0.9**
MSAI	**Masohi**	**2.65**	**281**	P	**Pn**	**10 22 08.9**	**+0.8**
SWI	**Sorong**	**3.00**	**355**	P	**Pn**	**10 22 10.6**	**-2.4**
AAI	**Ambon**	**3.34**	**273**	P	**Pn**	**10 22 18.8**	**+1.2**
RKPI	**Ransiki, Papua**	**3.53**	**48**	P	**Pn**	**10 22 20.3**	**0.0**
SAUI	**Saumlaki**	**4.09**	**183**	Pn	**Pn**	**10 22 26.8**	**-1.2**
SAUI	**Saumlaki**	**4.09**	**183**	P	**Pn**	**10 22 31.9**	**+4.0**
NLAI	**Namlea**	**4.47**	**278**	P	**Pn**	**10 22 34.4**	**+1.3**
SRPI	**Serui, Papua**	**5.10**	**67**	P	**Pn**	**10 22 42.0**	**+0.1**
BAKI	**Biak**	**5.29**	**60**	P	**Pn**	**10 22 44.6**	**+0.2**
SANI	**Sanana**	**5.83**	**288**	P	**Pn**	**10 22 49.8**	**-2.0**
SANI	**Sanana**	**5.83**	**288**	P	**Pn**	**10 22 50.1**	**-1.7**
TNTI	**Ternate**	**6.21**	**318**	Pn	**Pn**	**10 22 56.8**	**-0.4**
TNTI	**Ternate**	**6.21**	**318**	P	**Pn**	**10 22 55.2**	**-2.0**
	48nm,1.0s						
SMPI	**Sarmi**	**7.41**	**76**	P	**Pn**	**10 23 15.6**	**+2.1**
	0.4nm3µm49nm,1.1s						
DRS	**Darwin Rock St**	**8.53**	**184**	P	**Pn**	**10 23 28.9**	**0.0**
GENI	**Genyem**	**8.71**	**82**	P	**Pn**	**10 23 33.6**	**+2.1**
	2µm103nm,1.1s						
KDU	**Kakadu**	**8.81**	**174**	P	**Pn**	**10 23 32.2**	**-0.5**
MTN	**Manton Dam**	**8.92**	**183**		**Pn**	**10 23 34.5**	**+0.1**
MTN	**Manton Dam**	**8.92**	**183**	P	**Pn**	**10 23 34.0**	**-0.3**
BBSI	**Bau Bau**	**9.08**	**259**	P	**Pn**	**10 23 39.4**	**+2.9**
JAY	**Jayapura**	**9.26**	**82**	Pn	**Pn**	**10 23 38.8**	**-0.2**
	1.5nm,0.3s,baz=208,slow=11,SNR=7.9						
	6.1nm,0.4s						
JAY	**Jayapura**	**9.26**	**82**	P	**Pn**	**10 23 39.1**	**+0.1**
SOEI	**Soe**	**9.28**	**231**		**Pn**	**10 23 38.6**	**-0.8**
SOEI	**Soe**	**9.28**	**231**	P	**Pn**	**10 23 42.3**	**+2.9**
	4µm302nm,1.3s						
APSI	**Ampana**	**10.30**	**286**	P	**Pn**	**10 23 53.3**	**0.0**
	1µm57nm,0.9s						
MMRI	**Maumere**	**10.38**	**242**	Pn	**Pn**	**10 23 55.8**	**+1.5**
MMRI	**Maumere**	**10.38**	**242**	P	**Pn**	**10 23 57.7**	**+3.4**
	3µm2µm144nm,1.2s						
EDFI	**Ende, Flores**	**10.91**	**243**	P	**Pn**	**10 24 04.4**	**+2.6**
	3µm1µm65nm,1.4s						
BSSI	**Bau Bau, Buton**	**11.23**	**258**	P	**Pn**	**10 24 07.4**	**+1.4**
	3µm99nm,1.3s						
BNSI	**Bone**	**11.41**	**267**	P	**Pn**	**10 24 10.3**	**+1.9**
	2µm845nm58nm,1.2s						
BKSI	**Bulukumba**	**11.46**	**262**	P	**Pn**	**10 24 11.0**	**+1.8**
	1µm60nm,1.1s						
SPSI	**Sidrap Palu**	**11.74**	**269**	P	**Pn**	**10 24 14.2**	**+1.3**
KAPI	**Kappang**	**11.80**	**264**		**Pn**	**10 24 13.2**	**-0.6**
KAPI	**Kappang**	**11.80**	**264**	Pn	**Pn**	**10 24 15.2**	**+1.4**
	3.4nm,0.3s,baz=112,slow=5.0,SNR=19						
KAPI				LR	LR	10 29 05.5	
	comp=Z,2µm,21.8s,baz=92,slow=39						
	10nm,0.7s						
TOLI2	**Tolitoli**	**11.83**	**295**		**Pn**	**10 24 12.8**	**-1.4**
TOLI2	**Tolitoli**	**11.83**	**295**	P	**Pn**	**10 24 13.5**	**-0.7**
KNRA	**Kununurra**	**12.04**	**193**		**Pn**	**10 24 14.8**	**-2.3**
PCI	**Palu**	**12.05**	**284**	P	**Pn**	**10 24 18.8**	**+1.6**
	61nm,0.9s						
MPSI	**Mapaga**	**12.36**	**290**	P	**Pn**	**10 24 21.9**	**+0.5**
	1µm554nm21nm,0.9s						
WSI	**Wangagu**	**12.55**	**242**	P	**Pn**	**10 24 26.2**	**+2.1**
	114nm,0.7s						
WBSI	**Waikabubak, Su**	**13.35**	**244**	P	**Pn**	**10 24 35.2**	**+0.2**
PLAI	**Plampang**	**14.53**	**250**	P	**Pn**	**10 24 49.9**	**-1.2**
PLAI	**Plampang**	**14.53**	**250**	P	**Pn**	**10 24 50.4**	**-0.7**
	1µm1µm92nm,2.0s						
COEN	**Coen**	**15.24**	**132**		**Pn**	**10 24 57.2**	**-3.4**
COEN	**Coen**	**15.24**	**132**	P	**Pn**	**10 25 00.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**15.27**	**202**	Pn	**Pn**	**10 24 56.7**	**-4.3**
FITZ	**Fitzroy Crossi**	**15.27**	**202**	Pn	**Pn**	**10 24 56.2**	**-4.7**
	8.1nm,0.3s,baz=21,slow=8.4,SNR=60						
FITZ				Sn	Sn	10 27 39.0	-10
	3.2nm,0.3s,baz=124,slow=21,SNR=8.7						
TWSI	**Taliwang, Sumb**	**15.34**	**251**	P	**Pn**	**10 25 00.1**	**-1.8**
	28nm,1.0s						
MYLDM	**Lahad Datu**	**15.82**	**305**	Pn	**Pn**	**10 25 06.4**	**-1.8**
MYLDM				IAmb	IAmb	10 25 25.6	
	comp=Z,77nm,1.3s						
MANU	**Manus Island**	**15.91**	**84**	Pn	**Pn**	**10 25 06.6**	**-2.8**
WB0	**Warramunga Arr**	**16.04**	**170**		**Pn**	**10 25 08.8**	**-2.2**
WB0				IAmb	IAmb	10 25 24.7	
	comp=Z,67nm,1.3s						
WRAB	**Tennant Creek**	**16.20**	**170**	Pn	**Pn**	**10 25 10.9**	**-2.1**
WRAB				IAmb	IAmb	10 25 28.0	
	comp=Z,90nm,1.4s						
WRA	**Warramunga Arr**	**16.20**	**171**		**Pn**	**10 25 10.8**	**-2.3**
WRA	**Warramunga Arr**	**16.20**	**171**	Pn	**Pn**	**10 25 09.3**	**-3.8**
	comp=Z,1.3nm,0.3s,baz=355,slow=13,SNR=41						
WRA				Sn	Sn	10 28 00.8	-11
	comp=Z,3.3nm,0.3s,baz=359,slow=23,SNR=6.6						
WB2	**Warramunga Arr**	**16.21**	**170**		**Pn**	**10 25 10.6**	**-2.5**
WR0	**Warramunga Arr**	**16.26**	**170**		**Pn**	**10 25 12.6**	**-1.1**
PMG	**Port Moresby**	**16.46**	**110**	Pn	**Pn**	**10 25 14.9**	**-1.4**
PMG	**Port Moresby**	**16.46**	**110**	Pn	**Pn**	**10 25 15.9**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=306,slow=8.0,SNR=7.8						
	comp=Z,43nm,1.0s						
SRBI	**Singaraja**	**16.76**	**255**	P	**Pn**	**10 25 20.1**	**0.0**
ABJI	**Asem Bagus**	**17.64**	**256**	P	**Pn**	**10 25 31.4**	**+0.3**
	comp=Z,71nm,0.9s						
KMMI	**Kalianget**	**17.77**	**259**	P	**Pn**	**10 25 33.9**	**+1.2**
	comp=Z,64nm,1.2s						
JAGI	**Jajag, Banyuwa**	**17.87**	**254**	Pn	**Pn**	**10 25 32.0**	**-2.0**
JAGI	**Jajag, Banyuwa**	**17.87**	**254**	P	**Pn**	**10 25 33.0**	**-1.0**
JAGI	**Jajag, Banyuwa**	**17.87**	**254**	P	**Pn**	**10 25 31.8**	**-2.2**
	comp=Z,860nmcomp=Z,42nm,0.9s						
KKM	**Kota Kinabalu**	**18.20**	**303**		**Pn**	**10 25 38.2**	**+0.2**
KKM				IAmb	IAmb	10 25 48.6	
	comp=Z,72nm,1.2s						
QIS	**Mount Isa**	**18.35**	**155**	P	**P**	**10 25 39.3**	**-0.4**
GMJI	**Gumukmas**	**18.51**	**255**	P	**P**	**10 25 40.0**	**-1.4**
	comp=Z,25nm,1.0s						
AS31	**Alice Springs**	**19.81**	**174**	P	**P**	**10 25 56.6**	**+0.9**
AS31				IAmb	IAmb	10 26 04.2	
	comp=Z,23nm,0.4s						
ASAR	**Alice Springs**	**19.81**	**174**		**P**	**10 25 56.3**	**+0.6**
ASAR	**Alice Springs**	**19.81**	**174**	P	**P**	**10 25 57.3**	**+1.6**
	comp=Z,25nm,0.6s,baz=350,slow=11,SNR=204						
ASAR				S	**S**	**10 29 30.3**	**-7.2**
	comp=Z,17nm,0.8s,baz=358,slow=24,SNR=8.1						
AS01	**Alice Springs**	**19.81**	**173**	P	**P**	**10 25 56.1**	**+0.3**
SBUM	**Sibu**	**20.30**	**288**		**P**	**10 26 02.4**	**+1.3**
SBUM	**Sibu**	**20.30**	**288**	P	**P**	**10 26 00.9**	**-0.2**
STKI	**Sintang**	**20.42**	**281**	P	**P**	**10 26 02.7**	**+0.3**
	comp=Z,55nm,1.2s						
MBWA	**Marble Bar**	**20.66**	**213**	P	**P**	**10 26 04.7**	**-0.2**
PSA00	**Pilbara Seismi**	**20.94**	**212**		**P**	**10 26 06.7**	**-1.2**
PSA00	**Pilbara Seismi**	**20.94**	**212**	P	**P**	**10 26 07.6**	**-0.3**
WRKA	**Warakurna**	**21.27**	**188**	P	**P**	**10 26 11.7**	**+0.2**
GUMO	**Guam**	**21.82**	**37**	LR	LR	10 34 42.6	
	comp=Z,406nm,20.3s,baz=234,slow=37						
KSM	**Kuching**	**21.87**	**284**		**P**	**10 26 18.4**	**+0.4**
KSM				IAmb	IAmb	10 26 35.4	
	comp=Z,43nm,1.2s						
TPI	**Tanjungpandan**	**23.86**	**272**	P	**P**	**10 26 38.7**	**+0.2**
	comp=Z,542nmcomp=Z,26nm,1.3s						
LEM	**Lembang**	**23.99**	**262**	LR	LR	10 37 16.1	
	comp=Z,2µm,19.8s,baz=135,slow=40						
OOD	**Oodnadatta**	**24.12**	**171**	P	**P**	**10 26 41.5**	**+0.8**
INKA	**Innaminka**	**25.31**	**161**	P	**P**	**10 26 52.5**	**+1.0**
PPBI	**Pangkal Pinang**	**25.42**	**273**	P	**P**	**10 26 53.1**	**+0.4**
QLP	**Quilpie**	**25.65**	**153**	P	**P**	**10 26 55.9**	**+1.3**
MEEK	**Meekatharra**	**25.80**	**207**	P	**P**	**10 26 56.6**	**+0.6**
FORT	**Forrest**	**26.96**	**187**	P	**P**	**10 27 06.6**	**+0.1**
FORT	**Forrest**	**26.96**	**187**	P	**P**	**10 27 06.8**	**+0.3**
LCRK	**Leigh Creek**	**27.18**	**167**	P	**P**	**10 27 09.7**	**+1.3**
MDSI	**Maura Dua**	**27.29**	**268**	P	**P**	**10 27 09.2**	**-0.4**
MYKOM	**Kota Tinggi**	**28.23**	**281**		**P**	**10 27 18.8**	**+0.7**
MYKOM				IAmb	IAmb	10 27 35.6	
	comp=Z,18nm,1.1s						
KMBL	**Kambalda**	**28.82**	**197**	P	**P**	**10 27 23.5**	**+0.4**
MORW	**Morawa**	**29.06**	**209**	P	**P**	**10 27 25.4**	**+0.2**
MORW				IAmb	IAmb	10 27 33.2	
	comp=Z,11nm,0.9s						
MORW	**Morawa**	**29.06**	**209**	P	**P**	**10 27 26.1**	**+0.9**
BBOO	**Buckleboo**	**29.10**	**172**	P	**P**	**10 27 26.2**	**+0.6**
BBOO				IAmb	IAmb	10 27 34.0	
	comp=Z,12nm,1.0s						
BBOO	**Buckleboo**	**29.10**	**172**	P	**P**	**10 27 26.2**	**+0.6**
STKA	**Stephens Creek**	**29.42**	**162**		**P**	**10 27 28.6**	**+0.2**
STKA	**Stephens Creek**	**29.42**	**162**	P	**P**	**10 27 29.3**	**+0.9**
	comp=Z,17nm,1.0s,baz=339,slow=8.7,SNR=22						
STKA				LR	LR	10 40 57.6	
	comp=Z,1µm,19.0s,baz=330,slow=40						
	comp=Z,17nm,1.0s						
BLDU	**Ballidu**	**30.06**	**206**	P	**P**	**10 27 34.4**	**+0.3**
HTT	**Hallett**	**30.20**	**168**	P	**P**	**10 27 36.6**	**+1.2**
KLBR	**Kellerberrin**	**30.47**	**204**	P	**P**	**10 27 38.2**	**+0.5**
CMSA	**Cobar Meteorol**	**30.57**	**156**	P	**P**	**10 27 40.1**	**+1.5**
JOW	**Kunigami**	**30.69**	**354**	LR	LR	10 40 47.3	
	comp=Z,386nm,19.5s,baz=134,slow=38						
QIZ	**Qiongzhong**	**31.21**	**318**	P	**P**	**10 27 45.3**	**+1.0**
QIZ				S	**S**	**10 32 53.1**	**+4.1**
QIZ				LR	LR		
	comp=N,270nm,8.8s						
QIZ				LR	LR		
	comp=E,230nm,8.0s						
QIZ				LR	LR		
	comp=Z,210nm,16.7s						
MUN	**Mundaring**	**31.45**	**206**	P	**P**	**10 27 46.9**	**+0.6**
NWAO	**Narrogin (SRO)**	**31.85**	**203**	P	**P**	**10 27 50.6**	**+0.8**
NWAO	**Narrogin (SRO)**	**31.85**	**203**	LR	LR	10 43 21.7	
	comp=Z,504nm,18.4s,baz=54,slow=41						
NWAO	**Narrogin (SRO)**	**31.85**	**203**	P	**P**	**10 27 50.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**31.85**	**203**	P	**P**	**10 27 50.3**	**+0.4**
UBPT	**Khong Chiam**	**32.07**	**307**	P	**P**	**10 27 52.3**	**+0.4**
UBPT				IAmb	IAmb	10 28 02.9	
	comp=Z,19nm,1.4s						
KULM	**Kulim**	**32.16**	**286**	P	**P**	**10 27 51.5**	**-1.3**
KULM	**Kulim**	**32.16**	**286**	P	**P**	**10 27 53.4**	**+0.5**
MNSI	**Mandailing Nat**	**32.27**	**278**	P	**P**	**10 27 53.6**	**-0.2**
JCJ	**Chichijima**	**32.46**	**18**	LR	LR	10 40 17.7	
	comp=Z,413nm,18.4s,baz=144,slow=35						
RPSI	**Rantau Prapat**	**33.24**	**281**		**P**	**10 28 01.2**	**-1.0**
RPSI				IAmb	IAmb	10 28 04.2	
	comp=Z,12nm,1.0s						
PSI	**Prapat**	**33.26**	**281**	LR	LR	10 43 10.7	
	comp=Z,414nm,18.4s,baz=137,slow=39						
ARPS	**Mount Arapiles**	**34.08**	**165**	P	**P**	**10 28 10.4**	**+1.1**
SRIT	**Nakonsritamara**	**34.16**	**291**	P	**P**	**10 28 11.1**	**+0.8**
GSI	**Gunungsitoli**	**34.33**	**278**	P	**P**	**10 28 11.0**	**-0.7**
GSI	**Gunungsitoli**	**34.33**	**278**	P	**P**	**10 28 10.4**	**-1.4**
	comp=Z,50nm,1.4s						
CAN	**Canberra**	**35.22**	**155**	P	**P**	**10 28 19.3**	**0.0**
CAN				IAmb	IAmb	10 28 22.8	
	comp=Z,17nm,1.1s						
CAN	**Canberra**	**35.22**	**155**	P	**P**	**10 28 20.5**	**+1.2**
TOO	**Toolangi**	**35.89**	**161**		**P**	**10 28 27.0**	**+2.0**
MLSI	**Meulaboh, Aceh**	**36.02**	**283**	P	**P**	**10 28 25.7**	**-0.6**
JNU	**Nakatsue**	**36.80**	**359**	P	**P**	**10 28 31.9**	**-0.8**
JNU				IAmb	IAmb	10 28 56.2	
	comp=Z,28nm,1.4s						
JNU	**Nakatsue**	**36.80**	**359**	LR	LR	10 43 22.8	
	comp=Z,306nm,20.1s,baz=174,slow=36						
NJ2	**Nanjing**	**37.71**	**342**	*e*P	**P**	**10 28 41.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
DZM	**Mont Dzumac**	**38.37**	**121**	*e*P	**P**	**10 28 48.1**	**+1.8**
	comp=Z,37nm,24.6s						
DZM				*e*S	**S**	**10 34 37.3**	**-2.2**
	comp=Z,117nm,30.8s						
DZM				*e*LR	LR	10 39 08.9	
	comp=Z,328nm,23.6s						
CMAR	**Chiang Mai Arr**	**39.03**	**306**		**P**	**10 28 51.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**39.03**	**306**	P	**P**	**10 28 52.2**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=136,slow=7.4,SNR=25						
	comp=Z,2.5nm,0.6s						
CHTO	**Chiang Mai**	**39.22**	**306**		**P**	**10 28 53.5**	**+0.1**
CHTO				IAmb	IAmb	10 28 55.9	
	comp=Z,23nm,1.4s						
CHTO	**Chiang Mai**	**39.22**	**306**	P	**P**	**10 28 53.8**	**+0.5**
KMI	**Kunming**	**40.16**	**317**	P	**P**	**10 29 03.5**	**+2.2**
KMI				pmax	pmax		
	comp=Z,15nm,1.0s						
MJAR	**Matsushiro Arr**	**40.69**	**8**	P	**P**	**10 29 03.6**	**-1.7**
	comp=Z,1.4nm,0.7s,baz=182,slow=8.3,SNR=4.1						
MJAR				LR	LR	10 42 22.7	
	comp=Z,192nm,20.0s,baz=180,slow=31						
	comp=Z,1.4nm,0.7s					

PETK LR LR 10 55 51.4
comp=Z,66nm,21.6s,baz=200,slow=34
comp=Z,1.6nm,0.7s
WMQ Urumqi 61.66 325 *eP* **P 10 31 45.7 +3.0**
WMQ LR LR
comp=Z,190nm,24.1s
MA2 Magadan 65.06 11 LR LR 10 59 59.1
comp=Z,94nm,20.6s,baz=175,slow=36
YAK Yakutsk 65.73 359 LR LR 11 01 04.3
comp=Z,142nm,19.8s,baz=168,slow=36
SHLS Shalkode 66.23 321 *eP* **P 10 32 11.0 -1.8**
comp=Z,9.0nm,1.1s
MK31 Makanchi Array 66.50 325 P 10 32 15.0 +0.6
MKAR Makanchi Array 66.50 325 P 10 32 14.2 -0.2
MKAR Makanchi Array 66.50 325 P **P 10 32 14.8 +0.5**
comp=Z,1.2nm,0.4s,baz=112,slow=7.9,SNR=19
MKAR LR LR 11 04 56.7
comp=Z,93nm,18.4s,baz=128,slow=39
comp=Z,1.2nm,0.4s
UZB Uzynbulak 66.50 321 *eP* **P 10 32 14.4 -0.2**
comp=Z,6.5nm,0.8s
TARG Taragay, Kyrgy 66.59 319 P **P 10 32 15.2 -0.3**
TARG IAmb IAmb 10 32 33.8
comp=Z,6.8nm,1.0s
MAKZ Makanchi 66.68 325 P 10 32 15.6 +0.1
MAKZ IAmb IAmb 10 32 26.4
comp=Z,7.7nm,1.1s
KPKS Kokpek 66.88 321 *eP* **P 10 32 16.9 -0.1**
comp=Z,12nm,1.7s
ZHN Zhinishke 66.89 320 *eP* **P 10 32 16.9 -0.1**
comp=Z,5.4nm,1.0s
KDJ Kajisay 67.19 319 P 10 32 19.1 0.0
KDJ IAmb IAmb 10 32 32.9
comp=Z,5.1nm,1.0s
MDOK Medeo 67.77 320 *eP* **P 10 32 22.4 -0.3**
TNSS Tian-Shan 67.77 320 *eP* **P 10 32 22.6 -0.5**
AAA Alma-Ata 67.88 320 *eP* **P 10 32 23.2 0.0**
CHKK Chushkaly 68.14 321 *eP* **P 10 32 24.7 -0.1**
SEY Seymchan 68.48 10 LR LR 11 01 46.3
comp=Z,83nm,20.6s,baz=180,slow=35
KUU Kurty 68.57 320 *eP* **P 10 32 27.5 -0.1**
comp=Z,7.1nm,0.9s
AAK Ala-Archa 69.19 319 P **P 10 32 33.0 +1.4**
AAK IAmb IAmb 10 32 58.1
comp=Z,5.4nm,1.0s
AAK Ala-Archa 69.19 319 LR LR 11 06 34.9
comp=Z,76nm,20.5s,baz=104,slow=39
SGDS Sogindy 69.47 319 *eP* **P 10 32 33.0 -0.2**
ZAA0 Zalesovo Array 69.50 333 P **P 10 32 33.7 +0.7**
ZAA0 IAmb IAmb 10 32 56.6
comp=Z,5.8nm,1.1s
ZALV Zalesovo Beam 69.50 333 P **P 10 32 32.2 -0.8**
comp=Z,1.1nm,0.6s,baz=93,slow=5.9,SNR=5.2
ZALV LR LR 11 04 19.6
comp=Z,69nm,19.6s,baz=138,slow=37
comp=Z,1.1nm,0.6s
ARSB Arslanbob 69.64 317 P 10 32 35.1 +0.7
KBL Kabul 69.97 309 P **P 10 32 35.8 -0.8**
KBL IAmb IAmb 10 32 45.3
comp=Z,4.9nm,0.7s
BTK Batken 70.64 315 P **P 10 32 42.1 +1.7**
BTK IAmb IAmb 10 32 53.9
comp=Z,5.5nm,0.7s
KURBB Kurchatov Arra 70.69 327 P **P 10 32 40.5 +0.1**
comp=Z,2.5nm,0.5s,baz=128,slow=5.5,SNR=35
comp=Z,2.5nm,0.5s
KURK Kurchatov 70.69 327 P 10 32 40.5 +0.2
KURK IAmb IAmb 10 32 51.6
comp=Z,8.7nm,0.8s
CHGR Chuyangaron 71.31 313 P **P 10 32 43.3 -1.3**
DZA Taraz 71.41 318 *eP* **P 10 32 44.9 -0.1**
SIMJ Simiganj 71.42 313 P **P 10 32 45.0 -0.3**
SIMJ IAmb IAmb 10 33 03.7
comp=Z,5.5nm,0.9s
IUG Iuzhnay 71.99 317 *eP* **P 10 32 48.6 0.0**
comp=Z,6.0nm,1.0s
KK31 Karatay Array 72.04 318 P **P 10 32 48.6 -0.2**
KKAR Karatay Array 72.04 318 P 10 32 48.7 -0.1
BRLS Borolday 72.47 317 *eP* **P 10 32 51.5 +0.1**
BRZS Berezniki 73.63 325 *eP* **P 10 32 58.0 0.0**
HRA Herat 75.28 307 P **P 10 33 07.7 -0.5**
HRA IAmb IAmb 10 33 20.4
comp=Z,8.0nm,1.2s
VNDA Vanda 75.35 173 P 10 33 09.3 +1.7
VNDA IAmb IAmb 10 33 09.8
comp=Z,11nm,1.1s
VNDA Vanda 75.35 173 P **P 10 33 09.1 +1.6**
comp=Z,4.7nm,0.8s,baz=309,slow=5.7,SNR=24
VNDA LR LR 11 07 14.3
comp=Z,147nm,19.0s,baz=323,slow=36
comp=Z,4.7nm,0.8s
TIXI Tiksi 75.40 359 P 10 33 07.7 -0.1
TIXI IAmb IAmb 10 33 09.5
comp=Z,11nm,1.4s
MSEY Mahe Island 75.81 266 P **P 10 33 12.9 +1.4**
MSEY IAmb IAmb 10 33 35.4
comp=Z,17nm,1.4s
SBA Scott Base 76.22 173 P 10 33 15.1 +2.6
SBA IAmb IAmb 10 33 15.9
comp=Z,11nm,1.2s
BVAR Borovoye Array 76.27 327 P **P 10 33 13.6 +0.3**
comp=Z,2.1nm,0.4s,baz=129,slow=11,SNR=9.5
BVAR LR LR 11 10 27.0
comp=Z,59nm,18.3s,baz=115,slow=39
comp=Z,2.1nm,0.4s
BRVK Borovoye 76.34 327 P **P 10 33 13.0 -0.6**
BRVK IAmb IAmb 10 33 33.3
comp=Z,5.9nm,0.8s
PPT2 Papeete2 78.26 107 *e*LR LR 10 57 33.4
comp=Z,180nm,25.2s
PPT2 *e*LR LR 10 57 41.1
comp=Z,172nm,24.0s
PPT Papeete 78.26 107 LR LR 11 08 20.1
comp=Z,30nm,18.2s,baz=306,slow=36
TBI Tubuai 78.39 113 *e*LR LR 10 57 39.3
comp=Z,565nm,29.8s
MAW Mawson 78.40 201 LR LR 11 07 05.3
comp=Z,169nm,19.6s,baz=56,slow=35
NRIK Noril'sk 78.92 345 P **P 10 33 26.5 -1.2**
NRIK Noril'sk 78.92 345 P **P 10 33 28.3 +0.6**
comp=Z,1.9nm,0.5s,baz=175,slow=7.6,SNR=4.9
NRIK LR LR 11 10 49.6
comp=Z,230nm,19.5s,baz=140,slow=38
comp=Z,1.9nm,0.5s
ABKAR Akbulak array 81.04 321 P 10 33 39.5 -0.1
AKTO Aktyubinsk 82.56 322 LR LR 11 14 29.5
comp=Z,57nm,19.4s,baz=78,slow=39
O16K Kokwok River B 83.53 29 P **P 10 33 52.3 -0.1**
M16K Timber Creek 83.60 27 P **P 10 33 54.1 +1.4**
L16K Owhat River 83.60 27 P **P 10 33 52.4 -0.3**
VOI Vohitsoka 83.69 248 P **P 10 33 53.6 -0.6**
ARTI Arti 83.97 328 P **P 10 33 55.8 +1.1**
ARTI Arti 83.97 328 LR LR 11 15 15.3
comp=Z,40nm,18.5s,baz=150,slow=38
K17K Iditarod 84.46 26 P **P 10 33 58.0 +0.9**
H17K Granite Mounta 84.57 23 P **P 10 33 58.3 +0.7**
H17K IAmb IAmb 10 34 18.5
comp=Z,5.2nm,0.9s
F17K Baldwin Pennin 84.61 22 P **P 10 33 59.5 +1.8**
F17K IAmb IAmb 10 34 13.6
comp=Z,11nm,1.4s
L18K Granite Mounta 85.01 27 P **P 10 34 00.4 +0.5**
J18K Innoko River 85.39 25 P **P 10 34 01.6 -0.1**
J18K IAmb IAmb 10 34 21.3
comp=Z,8.9nm,1.2s
C18K Utukok River 85.48 20 P **P 10 34 02.0 -0.2**
TTA Tatalina 85.53 26 P **P 10 34 03.5 +1.0**
TTA IAmb IAmb 10 34 15.1
comp=Z,8.4nm,1.1s
ILSW Iliamna Southw 86.04 29 P **P 10 34 04.2 -0.9**
QSPA South Pole Qui 86.08 180 P **P 10 34 05.8 +0.5**
QSPA IAmb IAmb 10 34 13.4
comp=Z,10nm,1.1s
QSPA South Pole Qui 86.08 180 P **P 10 34 05.7 +0.5**
comp=Z,4.5nm,0.9s,baz=172,slow=2.6,SNR=26
QSPA LR LR 11 13 15.7
comp=Z,149nm,20.4s,baz=7.5,slow=36
comp=Z,4.5nm,0.9s
E19K Redstone River 86.45 21 P **P 10 34 08.0 +1.1**
D19K Kuna River 86.48 20 P **P 10 34 08.1 +1.0**
J20K Nowinta River 86.69 25 P **P 10 34 09.2 +1.1**
J20K IAmb IAmb 10 34 15.2
comp=Z,6.6nm,1.1s
D20K Etivluk River 87.08 20 P **P 10 34 10.3 +0.4**
TAOE Nuku Hiva Isla 87.75 99 *e*LR LR 11 02 05.1
comp=Z,107nm,22.2s

RAYN Ar Rayn 87.89 294 P 10 34 14.6 -0.3
RAYN IAmb IAmb 10 34 25.4
comp=Z,3.9nm,0.9s
I23K Minto, Yukon-K 88.92 25 P **P 10 34 19.5 +0.8**
ILAR Eielson Array 89.89 25 P **P 10 34 22.9 -0.4**
comp=Z,0.4nm,0.6s,baz=257,slow=5.1,SNR=5.4
ILAR LR LR 11 09 16.2
comp=Z,111nm,20.4s,baz=248,slow=32
comp=Z,0.4nm,0.6s
GNI Garni 90.02 310 LR LR 11 22 55.1
comp=Z,43nm,18.0s,baz=74,slow=41
KMBO Kilima Mbogo 94.19 269 LR LR 11 13 35.0
comp=Z,222nm,21.2s,baz=89,slow=33
MMAI Mount Meron Ar 97.23 303 LR LR 11 27 18.0
comp=Z,59nm,19.5s,baz=99,slow=41
SPITS Spitsbergen Ar 98.81 349 LR LR 11 22 51.8
comp=Z,70nm,21.1s,baz=26,slow=37
SNAA Sanae 99.04 193 LR LR 11 21 44.2
comp=Z,196nm,18.6s,baz=141,slow=36
ARCES ARCESS Array B 99.19 340 P **Pdif 10 35 05.2 -0.6**
comp=Z,1.4nm,0.7s,baz=79,slow=6.3,SNR=9.3
comp=Z,1.4nm,0.7s
TXAR Lajitas Array 122.00 58 PKP **PKiKP 10 40 20.6 +0.6**
comp=Z,0.2nm,0.5s,baz=200,slow=3.0,SNR=6.8
CPUP Villa Florida 148.77 165 PKPbc **PKPbc 10 41 12.5 -0.3**
comp=Z,2.8nm,0.8s,baz=147,slow=4.1,SNR=4.0
LPAZ La Paz 152.08 136 PKPbc **PKiKP 10 41 24.1 +2.0**
comp=Z,1.1nm,0.5s,baz=225,slow=1.4,SNR=7.0

*NEIC **12** 10:43:33.9±2.7, 44°.58N±0°.02×114°.29W±0°.02, h5km±1km, ML3.4/106, ML3.7/32(BUT), Error ellipse: s-maj=3.7km s-min=2.9km az=333.0*
*BUT **12** 10:43:34.6±2.2, 44°.59N±0°.03×114°.30W±0°.02, h8km±8km, Error ellipse: s-maj=3.9km s-min=2.3km az=178.0*
*IDC **12** 10:43:34.4±0.7, 44°.55N×114°.72W, h0km, mb3.1/1, mbtmp3.2/8, ML3.3/7, Error ellipse: s-maj=10.4km s-min=7.5km az=79.0*
ISC 12 10:43:34.5±0.7, 44°.59N±0°.03×114°.33W±0°.03, h5km, n98, σ1§22/100, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCYI	**Bear Canyon**	**0.72**	**113**		**Pg**	**10 43 47.7**	**-0.6**
BCYI					**Sg**	**10 43 56.6**	**-1.1**
HLID	**Hailey**	**1.03**	**183**		**Pg**	**10 43 53.7**	**-0.6**
HLID					**Sg**	**10 44 06.8**	**-0.9**
HLID				IAML		10 44 07.4	
	2μm,0.2s						
MCMT	**McKenzie Canyo**	**1.08**	**77**		**Pg**	**10 43 54.5**	**-0.8**
PLID	**Pearl Lake**	**1.29**	**293**		**Pg**	**10 43 59.1**	**-0.1**
PLID					**Sg**	**10 44 16.4**	**+0.5**
PLID				IAML		10 44 20.5	
	908nm,0.2s						
PLID				IAML		10 44 20.5	
	757nm,0.2s						
MOMT	**Monida**	**1.38**	**89**		**Pn**	**10 44 00.1**	**-0.6**
DLMT	**Dillon**	**1.45**	**57**		**Pn**	**10 44 01.2**	**-0.4**
DLMT				IAML		10 44 23.4	
	778nm,0.2s						
MFID	**Camas Ranch**	**1.60**	**223**		**Pn**	**10 44 03.6**	**0.0**
HBMT	**Mount Humbug**	**1.71**	**45**		**Pn**	**10 44 04.8**	**-0.4**
BGMT	**Barton Gulch**	**1.75**	**68**		**Pn**	**10 44 05.1**	**-0.6**
LRM	**Limekiln Ridge**	**1.81**	**47**		**Pn**	**10 44 06.1**	**-0.5**
VCMT	**Victor**	**1.85**	**3**		**Pn**	**10 44 06.7**	**-0.3**
BUT	**Butte**	**1.89**	**41**		**Pn**	**10 44 07.0**	**-0.6**
TPMT	**Tepee Creek**	**1.91**	**85**		**Pb**	**10 44 09.3**	**-0.6**
CMI	**Centennial Mou**	**1.94**	**91**		**Pn**	**10 44 08.4**	**0.0**
BPMT	**Black Pine Rid**	**1.94**	**18**		**Pn**	**10 44 07.9**	**-0.6**
QLMT	**Earthquake Lak**	**2.08**	**82**		**Pn**	**10 44 08.9**	**-1.4**
BMO	**Blue Mountains**	**2.14**	**278**		**Pn**	**10 44 10.7**	**-0.2**
BMO				IAML		10 44 44.4	
	254nm,0.3s						
BMO				IAML		10 44 44.5	
	232nm,0.3s						
BOZ	**Bozeman (W)**	**2.16**	**61**		**Pn**	**10 44 10.7**	**-0.6**
YHB	**Horse Butte**	**2.24**	**85**		**Pn**	**10 44 12.8**	**+0.3**
YHB				IAML		10 44 46.1	
	comp=E,401nm,0.6s						
YHB				IAML		10 44 46.9	
	comp=N,364nm,0.7s						
MSO	**Missoula**	**2.25**	**7**		**Pn**	**10 44 12.4**	**-0.2**
MSO				IAML		10 44 48.8	
	comp=N,233nm,0.3s						
MSO				IAML		10 44 54.7	
	comp=N,270nm,0.6s						
YHL	**Hebgen Lake**	**2.26**	**82**		**Pn**	**10 44 13.9**	**+1.1**
MCID	**Moose Creek**	**2.29**	**99**		**Pn**	**10 44 13.8**	**+0.7**
YPWB	**West Boundary**	**2.31**	**89**		**Pb**	**10 44 16.3**	**-0.4**
YMC	**Maple Creek**	**2.38**	**85**		**Pn**	**10 44 15.1**	**+0.7**
YMR	**Madison River**	**2.40**	**87**		**Pb**	**10 44 16.4**	**-2.0**
CHMT	**Chamberlain Mo**	**2.44**	**18**		**Pn**	**10 44 14.7**	**-0.5**
F10A	**Beach Ranch, E**	**2.47**	**305**		**Pn**	**10 44 16.2**	**+0.7**
YPM	**Purple Mountai**	**2.47**	**87**		**Pb**	**10 44 19.6**	**0.0**
YHH	**Holmes Hill**	**2.49**	**84**	Pn	**Pn**	**10 44 15.1**	**-0.9**
YFT	**Old Faithful**	**2.50**	**92**	Pn	**Pn**	**10 44 15.6**	**-0.5**
YFT				IAML		10 44 58.6	
	comp=N,129nm,0.9s						
FXWY	**Fox Creek**	**2.56**	**111**		**Pn**	**10 44 17.3**	**+0.3**
MKMT	**Mink Peak**	**2.57**	**348**		**Pn**	**10 44 17.2**	**+0.3**
BEMT	**Mount Belmont**	**2.57**	**32**		**Pn**	**10 44 16.2**	**-0.8**
YNM	**Yellowstone No**	**2.59**	**86**	Pn	**Pn**	**10 44 16.7**	**-0.6**
YNM				IAML		10 44 54.7	
	comp=E,235nm,0.7s						
YNM				IAML		10 45 01.9	
	comp=N,150nm,0.3s						
YNR	**Norris Junctio**	**2.61**	**86**	Pn	**Pn**	**10 44 16.9**	**-0.6**
YNR				IAML		10 44 57.6	
	comp=N,219nm,0.9s						
YNR				IAML		10 45 02.2	
	comp=E,165nm,0.4s						
YML	**Mary Lake**	**2.63**	**88**		**Pb**	**10 44 22.4**	**0.0**
OVMT	**Ovando**	**2.64**	**20**		**Pn**	**10 44 17.0**	**-0.9**
TPAW	**Teton Pass**	**2.67**	**113**		**Pn**	**10 44 19.4**	**+0.9**
TPAW				IAML		10 45 03.2	
	comp=E,122nm,0.6s						
H17A	**Grant Village**	**2.69**	**93**		**Pn**	**10 44 17.2**	**-1.5**
SXM	**Sixmile**	**2.69**	**54**		**Pn**	**10 44 18.7**	**0.0**
NDMT	**Ninemile Divid**	**2.70**	**353**		**Pn**	**10 44 18.9**	**+0.2**
BZMT	**Bozeman Pass**	**2.71**	**66**		**Pb**	**10 44 22.8**	**-0.9**
MOOW	**Moose Ponds**	**2.71**	**107**		**Pn**	**10 44 20.1**	**+1.1**
HRY	**Holter Researc**	**2.75**	**39**		**Pn**	**10 44 18.7**	**-0.7**
FBMT	**Ferry Basin**	**2.81**	**359**		**Pn**	**10 44 20.5**	**+0.2**
SNOW	**Snow King Moun**	**2.81**	**112**		**Pb**	**10 44 23.6**	**-1.8**
LOHW	**Long Hollow**	**2.86**	**109**		**Pn**	**10 44 21.9**	**+0.9**
SWMT	**Swartz Lake**	**2.92**	**4**		**Pn**	**10 44 21.5**	**-0.3**
AHID	**Auburn Hatcher**	**2.97**	**127**		**Pn**	**10 44 24.4**	**+1.9**
AHID				IAML		10 45 08.0	
	comp=E,85nm,1.0s						
AHID				IAML		10 45 13.1	
	comp=E,89nm,0.8s						
YMP	**Mirror Lake Pl**	**2.98**	**86**	Pn	**Pn**	**10 44 21.4**	**-1.3**
YMP				IAML		10 45 15.5	
	comp=E,77nm,0.8s						
YMP				IAML		10 45 15.8	
	comp=N,91nm,0.7s						
MSMT	**Mission Creek**	**3.00**	**68**		**Pn**	**10 44 23.5**	**+0.6**
BHMT	**Big Hole Peak**	**3.03**	**351**		**Pn**	**10 44 23.8**	**+0.5**
HVU	**Hansel Valley**	**3.03**	**157**		**Pn**	**10 44 24.0**	**+0.6**
LNOR	**Lincton Mounta**	**3.07**	**296**		**Pn**	**10 44 23.5**	**-0.2**
LNOR				IAML		10 45 17.8	
	comp=N,66nm,0.9s						
CRMT	**Chrome Mountai**	**3.09**	**72**		**Pn**	**10 44 24.9**	**+0.7**
YNE	**Yellowstone No**	**3.10**	**81**		**Pn**	**10 44 25.8**	**+1.4**
YNE				IAML		10 45 14.3	
	comp=E,158nm,0.6s						
JTMT	**Jette**	**3.15**	**1**		**Pn**	**10 44 24.4**	**-0.5**
J08A	**Circle Bar Ran**	**3.24**	**249**		**Pn**	**10 44 26.4**	**+0.4**
J08A				IAML		10 45 07.2	
	comp=N,109nm,0.4s						
J08A				IAML		10 45 23.1	
	comp=E,100nm,0.5s						
BSMT	**Bassoo Peak**	**3.27**	**355**		**Pn**	**10 44 27.5**	**+0.9**
YBMT	**Yellow Bay**	**3.28**	**4**		**Pn**	**10 44 27.1**	**+0.5**
E09A	**Wood Farm, Sta**	**3.30**	**307**	Pn	**Pn**	**10 44 25.7**	**-1.1**
E09A				IAML		10 45 24.7	
	comp=E,142nm,0.9s						
E09A				IAML		10 45 25.6	
	comp=N,92nm,0.5s						
G08A	**Pilot Rock**	**3.36**	**284**		**Pn**	**10 44 27.1**	**-0.7**
G08A				IAML		10 45 20.0	
	comp=E,65nm,0.6s						
G08A				IAML		10 45 22.8	
	comp=N,53nm,0.9s						
BLMT	**Blacktail Moun**	**3.42**	**360**		**Pn**	**10 44 29.4**	**+0.8**
GCMT	**Greycliff**	**3.51**	**68**		**Pn**	**10 44 30.8**	**+1.0**
HWUT	**Hardware Ranch**	**3.61**	**145**		**Pn**	**10 44 34.4**	**+3.2**
HWUT				IAML		10 45 30.9	
	comp=N,45nm,0.8s						
HWUT				IAML		10 45 36.2	
	comp=N,57nm,0.6s						
RLMT	**Red Lodge**	**3.64**	**80**		**Pn**	**10 44 33.2**	**+1.6**
RLMT				IAML		10 45 29.6	
	comp=N,103nm,0.4s						
I07A	**Izee**	**3.75**	**264**		**Pn**	**10 44 34.1**	**+1.0**
I07A				IAML		10 45 37.0	
	comp=E,38nm,0.8s						
I07A				IAML		10 45 40.3	
	comp=N,49nm,1.7s						
BGU	**Big Grassy Mou**	**3.79**	**165**		**Pn**	**10 44 35.0**	**+1.3**
BGU				IAML		10 45 33.9	
	comp=N,49nm,0.7s						
BGU				IAML		10 45 40.6	
	comp=E,68nm,0.8s						
WVOR	**Wild Horse Val**	**3.81**	**237**	Pn	**Pn**	**10 44 33.5**	**-0.4**
ELK	**Elko**	**3.91**	**190**		**Pn**	**10 44 36.2**	**+0.9**
ELK	**Elko**	**3.91**	**190**	Pn	**Pn**	**10 44 36.6**	**+1.3**
	comp=E,4.4nm,0.3s,baz=0.5,slow=13,SNR=42						
ELK				Lg	Lg	10 45 32.1	
	comp=E,8.7nm,0.3s,baz=101,slow=8.4,SNR=8.0						
	comp=E,6.9nm,0.4s						
PDAR	**Pinedale Array**	**3.91**	**116**	Pn	**Pb**	**10 44 40.5**	**-3.6**
	comp=E,0.9nm,0.3s,baz=312,slow=13,SNR=22						
PDAR				Sn	**Sb**	**10 45 31.8**	**-0.1**
	baz=295,slow=24						
	comp=E,1.4nm,0.4s						
LDM	**Libby Dam**	**3.92**	**350**		**Pn**	**10 44 36.0**	**+0.6**
D08A	**Wollman Farm,**	**4.05**	**309**	Pn	**Pn**	**10 44 34.9**	**-2.2**
D08A				IAML		10 45 44.7	
	comp=E,40nm,1.0s						
D08A				IAML		10 45 44.9	
	comp=N,56nm,1.1s						
HAWA	**Hanford**	**4.08**	**298**		**Pn**	**10 44 38.2**	**+0.7**
HAWA				IAML		10 45 47.1	
	comp=N,28nm,0.5s						
HAWA				IAML		10 45 49.8	
	comp=N,37nm,0.7s						
OD2	**Odessa Site #2**	**4.14**	**314**		**Pn**	**10 44 38.3**	**-0.1**
NEW	**Newport**	**4.15**	**333**		**Pn**	**10 44 38.5**	**-0.1**
NEW				IAML		10 45 49.2	
	comp=N,71nm,0.6s						
NEW	**Newport**	**4.15**	**333**	Pn	**Pn**	**10 44 38.8**	**+0.3**
	comp=N,2.9nm,0.3s,baz=142,slow=12,SNR=40						
NEW				Lg	Lg	10 45 40.2	
	comp=N,4.9nm,0.3s,baz=132,slow=19,SNR=3.2						
	comp=N,11nm,0.4s						
WAH2	**Wahluke Slope**	**4.26**	**302**		**Pn**	**10 44 40.5**	**+0.6**
E07A	**Sunnyside**	**4.35**	**299**		**Pn**	**10 44 41.8**	**+0.5**
E07A				IAML		10 46 05.6	
	comp=E,53nm,0.5s						
DUG	**Dugway, Tooele**	**4.54**	**165**		**Pn**	**10 44 45.1**	**+1.2**
DUG				IAML		10 46 08.1	
	comp=E,44nm,1.2s						
DUG				IAML		10 46 15.6	
	comp=E,41nm,1.6s						
MXC	**Moxie City**	**4.63**	**297**		**Pn**	**10 44 46.2**	**+1.0**
MXC				IAML		10 46 15.0	
	comp=N,24nm,1.6s						
MXC				IAML		10 46 24.7	
	comp=E,24nm,0.7s						
EGMT	**Eagleton**	**4.67**	**41**		**Pn**	**10 44 45.1**	**-0.6**
PINE	**Pine Mountain**	**4.82**	**263**	IAML		10 46 15.8	
	comp=E,32nm,3.9s						
PINE				IAML		10 46 19.0	
	comp=N,29nm,4.9s						
BSUT	**Blindstream Ca**	**4.83**	**146**	IAML		10 46 13.8	
	comp=E,18nm,1.7s						
J05D	**Fort Rock, OR**	**5.16**	**258**		**Pn**	**10 44 51.9**	**-0.6**
J05D				IAML		10 46 43.3	
	comp=N,27nm,5.0s						
J05D				IAML		10 47 24.0	
	comp=E,23nm,4.0s						
LTY	**Liberty**	**5.16**	**303**	IAML		10 46 30.8	
	comp=N,18nm,0.8s						
LTY				IAML		10 46 33.1	
	comp=E,24nm,1.2s						
LAO	**LASA Array**	**6.06**	**67**	Pn	**Pn**	**10 45 03.4**	**-1.4**
PSUT	**Pine Spring**	**6.07**	**176**	Pn	**Pn**	**10 45 02.6**	**-2.4**
TCRU	**Three Creeks R**	**6.14**	**166**		**Pn**	**10 45 02.1**	**-4.0**
SRU	**San Rafael Swe**	**6.17**	**151**		**Pn**	**10 45 05.2**	**-1.3**
RYN	**Ryan**	**6.74**	**209**	Pn	**Pn**	**10 45 12.6**	**-1.6**
YBH	**Yreka Blue Hor**	**6.76**	**248**	Pn	**Pn**	**10 45 14.3**	**-0.2**
	comp=E,0.2nm,0.3s,baz=62,slow=13,SNR=7.6						
	comp=E,0.7nm,0.6s						
NV11	**Mina Array Sit**	**6.79**	**206**	Pn	**Pn**	**10 45 12.7**	**-2.2**
NVAR	**Mina Array Bea**	**6.84**	**207**	Pn	**Pn**	**10 45 17.5**	**+1.8**
	comp=E,0.1nm,0.3s,baz=16,slow=15,SNR=1.9						
NVAR				Pg	**Pb**	**10 45 30.3**	**-3.7**
	comp=E,0.6nm,0.3s,baz=19,slow=13,SNR=9.6						
	comp=E,0.2nm,0.4s						
	comp=E,1.9nm,0.4s						
ULM	**Lac du Bonnet**	**13.70**	**59**	Pn	**Pn**	**10 46 52.3**	**+3.0**
	comp=E,0.5nm,0.3s,baz=248,slow=16,SNR=4.9						
	comp=E,1.9nm,0.4s						
YKA	**Yellowknife Ar**	**17.93**	**360**	P	**Pn**	**10 47 44.4**	**0.0**
	comp=E,0.1nm,0.3s,baz=181,slow=12,SNR=10						
	comp=E,0.2nm,0.6s						
ILAR	**Eielson Array**	**27.10**	**330**	P	**P**	**10 49 19.5**	**+1.7**
	comp=E,0.2nm,0.5s,baz=126,slow=8.1,SNR=2.6						
	comp=E,0.2nm,0.5s						

*IDC **12** 10:43:40.3±1.6, 63°.02N×28°.23E, h0km, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=21.5km s-min=7.1km az=108.0*
*HEL **12** 10:43:41.5±0.1, 63°.13N×27°.72E, h0km, ML2.0, Suspected explosion*
ISC 12 10:43:41.1±0.8, 63°.07N±0°.02×27°.77E±0°.03, h0km, n34, σ1§58/57, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.32**	**3**	PG	**Pg**	**10 43 46.1**	**-1.1**
NIF				SG	**Sg**	**10 43 50.5**	**-0.8**
SUF	**Sumiainen**	**0.82**	**245**	PG	**Pg**	**10 43 56.5**	**-0.3**
SUF				MSG		10 44 07.2	
	comp=Z,6.4nm,0.2s						
SUF				SB	**Sg**	**10 44 07.9**	**+0.5**
KAF	**Kangasniemi**	**1.18**	**216**	PG	**Pg**	**10 44 03.2**	**-0.4**
KAF				MSG		10 44 18.3	
	comp=Z,7.8nm,0.2s						
KAF				SG	**Sn**	**10 44 20.4**	**-1.1**
RMF	**Romuvaara**	**1.50**	**39**	PG	**Pn**	**10 44 08.0**	**-1.2**
RMF				MSG		10 44 25.6	
	comp=Z,9.8nm,0.2s						
KEF	**Keuruu**	**1.62**	**237**	PG	**Pn**	**10 44 10.9**	**+0.1**
	baz=50						
KEF				MSG		10 44 30.5	
	comp=Z,9.3nm,0.2s						
KEF				SN	**Sg**	**10 44 33.3**	**+0.3**
JOF	**Joensuu**	**1.62**	**94**	PG	**Pn**	**10 44 11.0**	**+0.1**
JOF				SN	**Sn**	**10 44 33.2**	**+0.7**
RUF	**Ruokolahti**	**1.74**	**161**	PG	**Pb**	**10 44 13.7**	**-0.2**
	baz=339						
RUF				MSG		10 44 35.4	
	comp=Z,8.6nm,0.2s						
RUF				SG	**Sg**	**10 44 37.5**	**+0.5**
FIA0	**FINESS Array S**	**1.82**	**207**	PG	**Pb**	**10 44 14.9**	**-0.2**
FIA0				MSG		10 44 37.0	
	comp=Z,14nm,0.2s						
FIA0				SG	**Sg**	**10 44 39.7**	**+0.4**
FINES	**FINESS Array B**	**1.82**	**207**	Pn	**Pg**	**10 44 15.3**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=27,slow=19,SNR=16						
FINES				Lg	Lg	10 44 39.3	
	comp=Z,0.8nm,0.3s,baz=33,slow=29,SNR=12						
OUF	**Merijarvi**	**1.88**	**315**	PG	**Pn**	**10 44 14.2**	**-0.1**
OUF				MSG		10 44 35.7	
	comp=Z,15nm,0.2s						
OUF				SN	**Sn**	**10 44 39.8**	**+1.2**
OBF4	**Vikkela, Lumij**	**2.11**	**327**	PG	**Pn**	**10 44 18.1**	**+0.6**
OBF4				MSG		10 44 42.1	
	comp=Z,9.9nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.12**	**314**	PG	**Pn**	**10

VAF MSG 10 44 49.6
comp=Z,11nm,0.2s
VAF SG **Sb** **10 44 52.4 -0.5**
VJF Virojoki 2.54 182 PB **Pb** **10 44 26.8 -0.8**
baz=359
VJF MSG 10 44 58.2
comp=Z,7.0nm,0.2s
VJF SB **Sb** **10 44 59.2 -0.1**
KU1 Kurvinen 2.62 17 PG **Pn** **10 44 25.8 +1.2**
KU1 SG **Sb** **10 45 00.8 -0.7**
KU2 Taivalkoski 2.66 4 PG **Pn** **10 44 26.6 +1.5**
baz=181
KU2 SG **Sn** **10 45 01.2 +3.2**
PVF Pernaja 2.69 200 PB **Pb** **10 44 29.4 -0.7**
PVF MSG 10 45 02.3
comp=Z,4.2nm,0.2s
PVF SG **Sg** **10 45 06.0 -1.5**
MSF Maaselka 2.90 10 PB **Pn** **10 44 29.4 +0.9**
baz=189
MSF SB **Sn** **10 45 06.6 +2.6**
KPF Kankaanpaa 2.92 247 PB **Pb** **10 44 32.0 -2.0**
KPF SG **Sb** **10 45 10.1 -0.2**
NUR Nurmijarvi 2.97 211 MSG 10 45 09.9
comp=Z,2.6nm,0.2s
NUR SG **Sb** **10 45 12.6 +1.1**
RANF Ranua 2.98 352 PB **Pn** **10 44 30.4 +0.8**
baz=170
RANF SG **Sn** **10 45 09.2 +3.2**
KU6 Riekki 3.10 16 PB **Pn** **10 44 32.0 +0.8**
baz=203
KU6 MSG 10 45 11.2
comp=Z,2.7nm,0.2s
KU6 SG **Sn** **10 45 12.7 +3.8**
BURU Burvik 3.21 301 PB **Pn** **10 44 36.2 +3.5**
BURU SG **Sb** **10 45 19.8 +1.2**
OLKF Oulanka, Finla 3.34 11 PB **Pn** **10 44 35.5 +1.1**
OLKF SG **Sb** **10 45 19.9 -2.2**
TOF Tornio 3.37 335 PB **Pn** **10 44 36.0 +1.2**
KALU Kalix 3.39 328 PB **Pn** **10 44 36.5 +1.4**
RAF Rauma 3.50 237 PB **Pb** **10 44 41.9 -1.8**
RNF Rovaniemi 3.63 349 PN **Pn** **10 44 39.2 +0.8**
RNF SG **Sb** **10 45 29.2 -1.3**
HUSU Husum 3.88 278 SB **Sn** **10 45 32.0 +4.0**
KLF Kolari 4.48 341 PN **Pn** **10 44 50.6 +0.5**
ARCES ARCESS Array B 6.55 353 Pn **Pn** **10 45 17.9 -0.7**
comp=Z,0.1nm,0.3s,baz=164,slow=14,SNR=7.2
ARCES Sn **Sn** **10 46 30.4 -3.5**
comp=Z,0.1nm,0.3s,baz=172,slow=22,SNR=1.6
comp=Z,1.6nm,0.8s
HFS Hagfors 7.33 253 Pn **Pn** **10 45 29.8 +0.7**
baz=57,slow=16,SNR=1.2
HFS Sn **Sn** **10 46 50.5 -2.4**
comp=Z,0.1nm,0.3s,baz=67,slow=26,SNR=1.5
comp=Z,0.3nm,0.4s
NOA NORSAR Array B 8.04 263 Pn **Pn** **10 45 38.4 -0.5**
baz=62,slow=11,SNR=1.3
comp=Z,0.2nm,0.7s

*ASRS **12** 10:54:02.0±1.8, 51°.38N×82°.00E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **12** 10:54:05.6±4.0, 51°.36N×81°.93E, h0km, mb2.8, mpv2.3, Error ellipse: s-maj=32.6km s-min=11.2km az=35.0, Suspected Mining explosion.*
*IDC **12** 10:54:07.3±1.5, 51°.38N×81°.85E, h0km, mbtmp2.0/1, ML1.9/1, Error ellipse: s-maj=14.7km s-min=12.6km az=138.0*
ISC 12 10:54:07.7±1.3,**51°.34N**±0°.07×**81°.80E**±0°.07,**h0**km,**n7,**
σ**1**ŝ**14/7,6C,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.10**	**254**	⇑Pg	**Pn**	**10 54 45.6**	**+1.4**
KURK	1.1nm,0.5s			⇑Lg	Lg	10 55 15.4	
	3.9nm,0.7s						
KURBB	**Kurchatov Arra**	**2.19**	**252**	Pg	**Pb**	**10 54 47.4**	**-0.7**
KURBB	0.1nm,0.3s,baz=71,slow=18,SNR=5.7			Lg	Lg	10 55 17.9	
KURBB	**Kurchatov Arra**	**2.19**	**252**	⇑Pg	**Pb**	**10 54 47.1**	**-1.1**
KURBB	1.3nm,0.5s			⇑Lg	Lg	10 55 17.2	
	12nm,0.8s						
ZALV	**Zalesovo Beam**	**3.19**	**34**	Pg	**Pb**	**10 55 04.8**	**-0.6**
ZALV	0.2nm,0.3s,baz=217,slow=14,SNR=2.9			Lg	Lg	10 55 46.6	
	0.3nm,0.3s,baz=219,slow=24,SNR=4.4						
I46RU	**ZALESOVO INFRA**	**3.20**	**34**	I	I	11 12 00.0	
	baz=213,slow=313,SNR=2.5						
MK31	**Makanchi Array**	**4.56**	**176**	⇑Sn	**Sn**	**10 56 10.8**	**-0.9**
MK31	0.2nm,0.4s			⇑Lg	Lg	10 56 32.8	
	1.0nm,0.5s,baz=7.3,slow=28,SNR=3.6						
MKAR	**Makanchi Array**	**4.56**	**176**	Pn	**Pn**	**10 55 18.6**	**+0.6**
MKAR	0.1nm,0.3s,baz=345,slow=11,SNR=2.3			Pg	**Pb**	**10 55 28.6**	**-0.1**
MKAR	0.1nm,0.3s,baz=17,slow=15,SNR=4.2			Lg	Lg	10 56 30.0	
	0.2nm,0.3s,baz=6.9,slow=25,SNR=5.9						
	0.2nm,0.5s						

*IDC **12** 10:59:14.1±0.5, 6°.38S×150°.57E, h0km, mb4.3/18, mbtmp4.3/20, ML3.1/2, MS3.7/17, Error ellipse: s-maj=19.0km s-min=13.6km az=102.0*
*NEIC **12** 10:59:17.5±1.3, 6°.53S±0°.08×150°.52E±0°.08, h10km±1km, mb4.9/37, Error ellipse: s-maj=16.3km s-min=10.8km az=131.0*
*DJA **12** 10:59:28.2±1.4, 7°.S±7°×15°.0E±1°.0, h78km±8km, M4.9/32, mb4.9/32, mB5.4/5, MLv4.9/1, Mw(mB)4.8/5, MwMwp5.4/1, Mwp5.5/1*
ISC 12 10:59:20.0±0.4,**6°.51S**±0°.06×**150°.57E**±0°.07,**h33**km,**n131,**
σ**1**ŝ**36/111,mb4.8/45,MS3.7/15,3D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.80**	**35**		**Pn**	**11 00 03.2**	**+0.7**
PMG	**Port Moresby**	**4.44**	**229**		**Pn**	**11 00 24.4**	**-0.6**
PMG	**Port Moresby**	**4.44**	**229**	Pn	**Pn**	**11 00 25.3**	**+0.3**
	30nm,0.3s,baz=55,slow=8.9,SNR=52						
PMG				Sn	**Sn**	**11 01 16.7**	**+1.1**
	44nm,0.3s,baz=333,slow=22,SNR=8.9						
	172nm,0.6s						
PMG	**Port Moresby**	**4.44**	**229**	P	**Pn**	**11 00 25.4**	**+0.4**
MANU	**Manus Island**	**5.47**	**324**		**Pn**	**11 00 40.6**	**+1.4**
HNR	**Honiara**	**9.73**	**108**	LR	LR	11 04 39.1	
	comp=Z,532nm,21.2s,baz=256,slow=33						
COEN	**Coen**	**10.38**	**224**		**Pn**	**11 01 45.5**	**-1.1**
COEN	**Coen**	**10.38**	**224**	P	**Pn**	**11 01 47.8**	**+1.2**
JAY	**Jayapura**	**10.60**	**292**	Pn	**Pn**	**11 01 48.5**	**-1.3**
	0.4nm,0.3s,baz=44,slow=6.5,SNR=4.4						
JAY				LR	LR	11 05 42.6	
	comp=Z,362nm,18.3s,baz=114,slow=37						
	1.9nm,0.6s						
JAY	**Jayapura**	**10.60**	**292**	P	Pn	11 01 54.2	+4.5
BAKI	**Biak**	**15.36**	**290**	P	**P**	**11 02 57.8**	**-1.0**
	8μm77nm,0.6s						
QIS	**Mount Isa**	**17.55**	**216**	P	**P**	**11 03 23.5**	**+0.4**
FAKI	**Fak Fak**	**18.60**	**280**	P	**Pn**	**11 03 34.4**	**-0.7**
EIDS	**Eidsvold**	**18.76**	**179**	P	**P**	**11 03 36.4**	**+0.1**
EIDS	**Eidsvold**	**18.76**	**179**	P	**Pn**	**11 03 37.9**	**+0.9**
KDU	**Kakadu**	**18.86**	**250**	P	**P**	**11 03 36.7**	**-0.9**
MTN	**Manton Dam**	**20.16**	**250**		**P**	**11 03 51.9**	**+0.1**
MTN				IAmb	IAmb	11 04 00.9	
	comp=Z,67nm,1.1s						
MTN	**Manton Dam**	**20.16**	**250**	P	**P**	**11 03 51.8**	**+0.1**
DRS	**Darwin Rock St**	**20.27**	**252**	P	**P**	**11 03 52.7**	**-0.2**
WB0	**Warramunga Arr**	**20.51**	**228**		**P**	**11 03 55.3**	**-0.3**
WB0				IAmb	IAmb	11 04 03.7	
	comp=Z,87nm,0.9s						
WR0	**Warramunga Arr**	**20.52**	**228**	P	**P**	**11 03 54.8**	**-0.8**
WR0				IAmb	IAmb	11 04 03.9	
	comp=Z,80nm,0.9s						
WRAB	**Tennant Creek**	**20.64**	**228**	P	**P**	**11 03 56.1**	**-0.9**
WRAB				IAmb	IAmb	11 04 05.1	
	comp=Z,67nm,0.9s						
WB2	**Warramunga Arr**	**20.65**	**228**		**P**	**11 03 56.4**	**-0.6**
WB2				IAmb	IAmb	11 04 05.2	
	comp=Z,75nm,1.0s						
WRA	**Warramunga Arr**	**20.66**	**228**		**P**	**11 03 56.0**	**-1.2**
WRA	**Warramunga Arr**	**20.66**	**228**	P	**P**	**11 03 56.1**	**-1.0**
	comp=Z,29nm,0.7s,baz=52,slow=11,SNR=145						
WRA				S	**S**	**11 07 44.5**	**-1.9**
	comp=Z,1.8nm,0.9s,baz=45,slow=23,SNR=6.0						
WRA				LR	LR	11 11 46.3	
	comp=Z,257nm,21.8s,baz=54,slow=36						
	comp=Z,29nm,0.7s						
BNDI	**Bandanaira**	**20.66**	**274**	P	Pn	11 03 58.3	-1.4
BNDI	**Bandanaira**	**20.66**	**274**	P	**P**	**11 03 56.8**	**-0.4**
GUMO	**Guam**	**20.75**	**344**	LR	LR	11 10 28.4	
	comp=Z,70nm,19.7s,baz=144,slow=33						
QLP	**Quilpie**	**20.86**	**196**	P	Pn	11 04 00.7	-1.1
DZM	**Mont Dzumac**	**21.78**	**137**	P	**P**	**11 04 08.8**	**-0.5**
DZM	**Mont Dzumac**	**21.78**	**137**	*e*P	**P**	**11 04 09.8**	**+0.5**
	comp=Z,95nm,23.5s						
DZM				*e*LR	LR	11 09 20.3	
	comp=Z,464nm,25.9s						
DZM	**Mont Dzumac**	**21.78**	**137**	P	**P**	**11 04 09.4**	**+0.1**
	comp=Z,9.7nm,0.6s,baz=132,slow=18,SNR=8.3						
DZM				LR	LR	11 11 05.5	
	comp=Z,323nm,19.8s,baz=301,slow=32						
	comp=Z,9.7nm,0.6s						
INKA	**Innaminka**	**23.08**	**203**	P	**P**	**11 04 24.2**	**+1.3**
KNRA	**Kununurra**	**23.23**	**245**		**P**	**11 04 22.9**	**-1.7**
KNRA				IAmb	IAmb	11 04 31.8	
	comp=Z,31nm,0.8s						
AS01	**Alice Springs**	**23.37**	**221**	P	**P**	**11 04 25.5**	**-0.4**
AS31	**Alice Springs**	**23.40**	**221**		**P**	**11 04 25.6**	**-0.6**
ASAR	**Alice Springs**	**23.40**	**221**	P	**P**	**11 04 26.6**	**+0.4**
ASAR	**Alice Springs**	**23.40**	**221**	P	**P**	**11 04 25.2**	**-1.0**
	comp=Z,11nm,0.8s,baz=55,slow=8.7,SNR=66						
ASAR				S	**S**	**11 08 41.7**	**+4.4**
	comp=Z,1.8nm,0.9s,baz=37,slow=20,SNR=5.2						
ASAR				LR	LR	11 13 39.4	
	comp=Z,262nm,18.1s,baz=66,slow=37						
	comp=Z,11nm,0.8s						
ARMA	**Armidale**	**23.81**	**178**	P	**P**	**11 04 30.3**	**+0.3**
ARMA				IAmb	IAmb	11 04 41.1	
	comp=Z,21nm,0.8s						
ARMA	**Armidale**	**23.81**	**178**	P	**P**	**11 04 30.8**	**+0.7**
SANI	**Sanana**	**24.90**	**279**	P	**P**	**11 04 40.9**	**+0.7**
SANI	**Sanana**	**24.90**	**279**	P	**P**	**11 04 41.8**	**+1.6**
	comp=Z,22nm,1.0s						
CMSA	**Cobar Meteorol**	**25.32**	**190**	P	**P**	**11 04 43.5**	**-0.2**
OOD	**Oodnadatta**	**25.45**	**212**	P	**P**	**11 04 45.4**	**+0.4**
SOEI	**Soe**	**26.23**	**261**	P	**P**	**11 04 51.3**	**-1.1**
SOEI				IAmb	IAmb	11 05 04.7	
	comp=Z,34nm,0.8s						
SOEI	**Soe**	**26.23**	**261**	P	**P**	**11 04 52.3**	**-0.1**
LCRK	**Leigh Creek**	**26.49**	**204**	P	**P**	**11 04 54.8**	**+0.4**
STKA	**Stephens Creek**	**26.60**	**197**	P	**P**	**11 04 54.8**	**-0.6**
STKA	**Stephens Creek**	**26.60**	**197**	P	**P**	**11 04 54.6**	**-0.7**
	comp=Z,17nm,0.7s,baz=0.2,slow=9.7,SNR=32						
STKA				LR	LR	11 16 01.7	
	comp=Z,255nm,18.1s,baz=21,slow=38						
	comp=Z,17nm,0.7s						
STKA	**Stephens Creek**	**26.60**	**197**	P	**P**	**11 04 55.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**26.90**	**242**	P	**P**	**11 04 57.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**26.90**	**242**	P	**P**	**11 04 57.3**	**-0.9**
	comp=Z,10nm,0.5s,baz=58,slow=8.5,SNR=69						
FITZ				LR	LR	11 16 05.2	
	comp=Z,330nm,18.6s,baz=68,slow=38						
	comp=Z,10nm,0.5s						
BBSI	**Bau Bau**	**27.86**	**271**	P	**P**	11 05 16.5	+10
MMRI	**Maumere**	**28.16**	**264**	P	**P**	**11 05 08.7**	**-0.9**
WRKA	**Warakurna**	**28.18**	**227**	P	**P**	**11 05 09.4**	**-0.3**
DAV	**Davao City (W)**	**28.35**	**298**	LR	LR	11 16 40.3	
	comp=Z,48nm,18.3s,baz=134,slow=37						
EDFI	**Ende, Flores**	**28.71**	**264**	P	**P**	**11 05 12.8**	**-1.8**
	comp=Z,20nm,0.9s						
MSVF	**Nonsavu**	**29.04**	**115**	LR	LR	11 15 02.7	
	comp=Z,97nm,19.5s,baz=11,slow=33						
BBOO	**Buckleboo**	**29.45**	**205**	P	**P**	**11 05 19.7**	**-1.2**
BBOO				IAmb	IAmb	11 05 33.9	
	comp=Z,20nm,1.2s						
BSSI	**Bau Bau, Buton**	**29.90**	**269**	P	**P**	**11 05 24.9**	**-0.1**
	comp=Z,43nm,1.1s						
KAPI	**Kappang**	**30.70**	**271**	LR	LR	11 20 49.1	
	comp=Z,101nm,18.6s,baz=94,slow=42						
WBSI	**Waikabubak, Su**	**31.02**	**262**	P	**P**	**11 05 35.9**	**+0.9**
FORT	**Forrest**	**32.07**	**218**	P	**P**	**11 05 44.2**	**+0.2**
PLAI	**Plampang**	**32.58**	**264**	P	**P**	**11 05 46.2**	**-2.4**
	comp=Z,24nm,0.8s						
TWSI	**Taliwang, Sumb**	**33.46**	**264**	P	**P**	**11 05 55.2**	**-1.1**
	comp=Z,11nm,0.6s						
JAGI	**Jajag, Banyuwa**	**36.15**	**265**	P	**P**	**11 06 17.1**	**-2.5**
KMMI	**Kalianget**	**36.34**	**267**	P	**P**	**11 06 23.3**	**+2.0**
	comp=Z,25nm,1.0s						
PCJI	**Pacitan**	**39.09**	**265**	P	**P**	**11 06 44.1**	**-0.4**
	comp=Z,54nm,1.1s						
JOW	**Kunigami**	**39.56**	**328**	LR	LR	11 21 49.4	
	comp=Z,100nm,19.4s,baz=86,slow=34						
URZ	**Urewera**	**39.72**	**147**	LR	LR	11 21 08.2	
	comp=Z,150nm,18.3s,baz=36,slow=33						
NWAO	**Narrogin (SRO)**	**40.62**	**225**	LR	LR	11 24 08.8	
	comp=Z,228nm,18.8s,baz=68,slow=37						
CMJI	**Cimerak**	**41.80**	**266**	P	**P**	**11 07 07.2**	**+0.3**
LEM	**Lembang**	**42.65**	**267**	LR	LR	11 27 11.1	
	comp=Z,90nm,18.3s,baz=88,slow=39						
LEM	**Lembang**	**42.65**	**267**	P	**P**	**11 07 16.2**	**+2.1**
TPI	**Tanjungpandan**	**42.92**	**273**	P	**P**	**11 07 16.2**	**+0.1**
	comp=Z,27nm,1.0s						
CNJI	**Cibinong**	**43.12**	**266**	P	**P**	**11 07 16.3**	**-1.4**
	comp=Z,661nmcomp=Z,44nm,1.0s						
JNU	**Nakatsue**	**43.63**	**336**	LR	LR	11 24 00.7	
	comp=Z,14nm,18.6s,baz=150,slow=34						
CGJI	**Cibinong**	**44.57**	**267**	P	**P**	**11 07 28.1**	**-1.2**
MDSI	**Maura Dua**	**46.21**	**270**	P	**P**	**11 07 41.9**	**-0.4**
	comp=Z,28nm,1.0s						
KSRS	**Korea Array**	**48.58**	**336**	P	**P**	**11 07 59.2**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=155,slow=8.7,SNR=7.0						
	comp=Z,1.5nm,0.7s						
NJ2	**Nanjing**	**48.83**	**324**	*e*P	**P**	**11 08 05.8**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
RAR	**Rarotonga**	**50.16**	**112**	LR	LR	11 26 07.2	
	comp=Z,65nm,19.7s,baz=166,slow=32						
PPI	**Padang Panjang**	**50.41**	**275**	P	**P**	**11 08 14.6**	**-0.2**
CN2	**Changchun**	**54.99**	**338**	*e*P	P	11 08 53.2	+5.1
BNX	**BinXian**	**55.99**	**341**	⇓P	**P**	**11 08 58.1**	**+2.9**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**56.63**	**297**	P	**P**	**11 09 00.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=113,slow=7.0,SNR=1.7						
	comp=Z,0.3nm,0.3s						
PZH	**PanZhiHua**	**57.57**	**307**	P	**P**	**11 09 10.3**	**+3.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,150nm,4.7s						
HHC	**Hu-ho-hao-te**	**59.18**	**326**	*e*P	**P**	**11 09 21.2**	**+3.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,47nm,4.2s						
PPT2	**Papeete2**	**59.35**	**107**	*e*LR	LR	11 26 44.1	
	comp=Z,81nm,28.0s						
PETK	**Petropavlovsk-**	**59.70**	**5**	P	**P**	**11 09 18.7**	**-2.4**
	comp=Z,1.0nm,0.7s,baz=166,slow=5.7,SNR=5.3						
	comp=Z,1.0nm,0.7s						
BTO	**Baotou**	**59.88**	**325**	*e*P	P	11 09 28.9	+6.1
BTO				PP	PP	11 11 43.6	+8.4
BTO				pmax	pmax		
	comp=Z,23nm,0.6s						
BTO				pmax	pmax		
	comp=Z,180nm,6.0s						
BTO				LR	LR		
	comp=Z,170nm,4.9s						
BTO				LR	LR		
	comp=Z,230nm,5.5s						
BTO				LR	LR		
	comp=Z,190nm,6.3s						
TBI	**Tubuai**	**59.91**	**113**	*e*LR	LR	11 27 05.0	
	comp=Z,760nm,36.8s						
SONM	**Songino Array**	**66.61**	**329**	P	**P**	**11 10 06.0**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=142,slow=5.0,SNR=4.6						
	comp=Z,0.6nm,0.4s						
VNDA	**Vanda**	**71.22**	**177**	P	**P**	**11 10 36.2**	**+0.8**
VNDA	**Vanda**	**71.22**	**177**	P	**P**	**11 10 35.7**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=330,slow=6.1,SNR=13						
	comp=Z,1.4nm,0.7s						
AIS	**Amsterdam Isla**	**72.61**	**233**	P	**P**	**11 10 42.8**	**-1.6**
RKT	**Rikitea**	**73.20**	**112**	*e*LR	LR	11 33 12.8	
	comp=Z,1μm,39.8s						
WMQ	**Urumqi**	**75.51**	**318**	*e*P	**P**	**11 11 04.9**	**+3.6**
MKAR	**Makanchi Array**	**80.16**	**320**	P	**P**	**11 11 27.3**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=112,slow=6.2,SNR=6.0						
	comp=Z,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**81.35**	**327**	P	**P**	**11 11 30.8**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=137,slow=7.3,SNR=2.3						
	comp=Z,0.5nm,0.3s						
KDJ	**Kajisay**	**82.18**	**314**	P	**P**	**11 11 38.3**	**+0.2**
QSPA	**South Pole Qui**	**83.46**	**180**	P	**P**	**11 11 44.9**	**+0.7**
QSPA				IAmb	IAmb	11 11 53.4	
	comp=Z,7.0nm,0.9s						
QSPA	**South Pole Qui**	**83.46**	**180**	P	**P**	**11 11 44.7**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=318,slow=0.9,SNR=28						
	comp=Z,3.6nm,0.7s						
KURBB	**Kurchatov Arra**	**83.78**	**322**	P	**P**	**11 11 43.6**	**-2.3**
	comp=Z,0.8nm,0.8s,baz=119,slow=4.0,SNR=6.0						
	comp=Z,0.8nm,0.8s						
AAK	**Ala-Archa**	**84.23**	**314**	P	**P**	**11 11 46.9**	**-1.7**
	comp=Z,1.6nm,0.6s,baz=168,slow=8.1,SNR=4.2						
	comp=Z,1.6nm,0.6s						
ILAR	**Eielson Array**	**84.57**	**22**	P	**P**	**11 11 46.5**	**-3.1**
	comp=Z,1.9nm,0.8s,baz=255,slow=5.3,SNR=15						
	comp=Z,1.9nm,0.8s						
J25K	**Salcha River,**	**85.08**	**23**		**P**	**11 11 51.7**	**-0.6**
J25K				IAmb	IAmb	11 12 01.1	
	comp=Z,4.6nm,0.8s						
D23K	**Nanushuk River**	**85.35**	**18**	IAmb	IAmb	11 12 04.0	
	comp=Z,11nm,1.1s						
G26K	**Porcupine Rive**	**86.68**	**21**	IAmb	IAmb	11 12 02.2	
	comp=Z,4.9nm,0.8s						
C27K	**Jago River**	**87.84**	**19**	IAmb	IAmb	11 12 07.3	
	comp=Z,4.6nm,0.9s						
K29M	**Barlow Dome**	**87.95**	**25**	P	**P**	**11 12 07.4**	**+1.0**
K29M				IAmb	IAmb	11 12 08.6	
	comp=Z,7.9nm,0.8s						
N31M	**Braeburn, Yuko**	**87.97**	**27**	P	**P**	**11 12 06.9**	**+0.5**
J05D	**Fort Rock, OR**	**93.10**	**47**	P	**P**	**11 12 31.4**	**+0.5**
ELIB	**Princess Elisa**	**94.61**	**194**	*d*P	**P**	**11 12 37.6**	**+0.2**
LHV	**Little Huntoon**	**94.71**	**52**	P	**P**	**11 12 39.7**	**+1.4**
NVAR	**Mina Array Bea**	**94.88**	**52**	P	**P**	**11 12 40.9**	**+1.6**
NVAR	**Mina Array Bea**	**94.88**	**52**	P	**P**	**11 12 40.2**	**+0.8**
	comp=Z,4.1nm,0.7s,baz=250,slow=6.5,SNR=30						
	comp=Z,4.1nm,0.7s						
NV11	**Mina Array Sit**	**95.00**	**52**	P	**P**	**11 12 41.2**	**+1.4**
NV11				IAmb	IAmb	11 12 42.5	
	comp=Z,4.5nm,0.8s						
DSP	**Deep Springs**	**95.06**	**53**	P	**P**	**11 12 40.5**	**+0.7**
DSP				IAmb	IAmb	11 12 42.7	
	comp=Z,4.4nm,0.9s						
WCT	**Wildcat Mounta**	**96.09**	**54**	P	**P**	**11 12 45.8**	**+1.0**
WCT				IAmb	IAmb	11 12 47.2	
	comp=Z,4.8nm,0.9s						
TPNV	**Topopah Spring**	**96.41**	**54**	P	**P**	**11 12 47.5**	**+1.2**
TPNV				IAmb	IAmb	11 12 49.1	
	comp=Z,4.5nm,0.9s						
YKA	**Yellowknife Ar**	**97.96**	**28**	P	**P**	**11 12 50.4**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=274,slow=4.5,SNR=7.9						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**101.63**	**48**	P	**Pdif**	**11 13 09.8**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=225,slow=1.9,SNR=7.3						
MOR8	**Moi Rana**	**113.20**	**342**	*e*P	**Pdif**	**11 14 01.4**	**+1.2**
GERES	**GERESS Array B**	**124.30**	**327**	PKP	**PKPdf**	**11 18 14.8**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=90,slow=1.3,SNR=11						
EKA	**Eskdalemuir Ar**	**126.98**	**342**	PKP	**PKPdf**	**11 18 20.2**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=12,slow=2.0,SNR=3.8						
BMRD	**Maredsous**	**127.84**	**333**	*d*PKPdf	**PKiKP**	**11 18 22.8**	**-0.1**
MDT	**Midelt**	**145.10**	**322**	PKP	**PKPbc**	**11 18 53.5**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=96,slow=6.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**148.65**	**285**	PKPbc	**PKPbc**	**11 19 03.9**	**-1.0**
	comp=Z,52nm,0.3s,baz=48,slow=2.5,SNR=1.3						
BDFB	**Brasilia**	**151.31**	**140**	PKPbc	**PKPbc**	**11 19 10.4**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=75,slow=10,SNR=4.5						
DBIC	**Dimbokro**	**155.59**	**272**	PKPab	**PKPab**	**11 19 36.8**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=97,slow=1.8,SNR=3.2						

*NDI **12** 11:22:56.4±1.4, 11°.60N×93°.09E, h72km±7km, ML4.4, MW4.6, mb4.7(NEIC)*
*NEIC **12** 11:23:00.0±1.8, 11°.85N±0°.06×92°.87E±0°.06, h48km±4km, mb4.7/131, Error ellipse: s-maj=10.1km s-min=6.8km az=144.0*
*DJA **12** 11:23:00.5±0.4, 12°.N±3°.3°×9°.3E±°, h27km±4km, M4.9/16, mb4.7/16, mB5.4/7, MLv5.0/6, Mw(mB)4.8/7*
*IDC **12** 11:23:02.2±3.1, 11°.86N×93°.07E, h75km±26km, mb3.9/21, mbtmp4.2/23, MS3.2/3, Error ellipse: s-maj=20.3km s-min=12.1km az=61.0*
*BKK **12** 11:23:03.4±1.6, 12°.N±3°.3°×9°.3E±°, h19km±15km, M4.3/21, mB4.9/16, mb4.7/15, Mjma3.9/21, ML4.4/8, MLv4.6/11, Mw(mB)4.2/16*
ISC 12 11:22:58.5±0.3,**11°.82N**±0°.05×**92°.88E**±0°.05,**h41**km,**n231,**
σ**1**ŝ**31/232,mb4.7/90,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.21**	**220**		**Pn**	**11 23 08.4**	**+2.4**
PBA					**Sn**	**11 23 14.4**	**+3.1**
PBA	**Port Blair**	**0.21**	**220**	*e*P	**Pn**	**11 23 08.5**	**+2.5**
PBA				*e*S	**Sn**	**11 23 16.6**	**+5.3**
PBA				IAML		11 23 17.4	
	comp=E,23μm,0.4s						
PBA				IAML		11 23 17.5	
	comp=N,38μm,0.3s						
DGPR	**DIGLIPUR**	**1.35**	**2**	*e*P	**Pn**	**11 23 23.6**	**+2.7**
DGPR				*e*S	**Sn**	**11 23 40.8**	**+3.2**
DGPR				IAML		11 23 42.4	
	comp=E,3μm,0.5s						
DGPR				IAML		11 23 48.5	
	comp=N,4μm,0.7s						
CMBY	**CAMPBELL BAY**	**4.89**	**168**	*e*P	Pn	11 24 00.9	-8.6
RNTT	**Ranong**	**6.01**	**113**	P	**Pn**	**11 24 27.0**	**+2.1**
	comp=N,0.2nmcomp=N,0.2nmcomp=N,2μmcomp=N,54nm,0.6s						
KHLT	**Khaolaem Dam**	**6.29**	**61**	P	**Pn**	**11 24 30.7**	**+1.9**
SRDT	**SRDT**	**6.58**	**

KSM	Kuching	20.11	119		P	P	11 27 28.8	-0.2
KSM	Kuching	20.11	119	P	P	P	11 27 29.9	+0.9
SBUM	Sibu	21.31	114		P	P	11 27 40.7	-1.2
SBUM	Sibu	21.31	114	P	P	P	11 27 42.9	+0.9
KKM	Kota Kinabalu	23.74	102	P	P	P	11 28 07.7	+0.3
ENH	Enshi	23.97	37	P	P	P	11 28 07.9	-1.3
ENH				IAmb	IAmb	IAmb	11 28 09.7	
comp=Z,26nm,0.9s								
LZH	Lanzhou	26.11	20	eP	P	P	11 28 27.8	-1.0
LZH				pP	pP	pP	11 28 34.8	-5.1
LZH				pmax	pmax	pmax		
comp=Z,17nm,1.3s								
MYLDM	Lahad Datu	26.16	102		P	P	11 28 29.9	+0.6
MYLDM				IAmb	IAmb	IAmb	11 28 32.9	
comp=Z,17nm,0.9s								
XAN	Xi'an	26.52	31	P	P	P	11 28 30.6	-1.8
XAN				pmax	pmax	pmax		
comp=Z,16nm,0.7s								
H08S3	Diego Garcia H	28.02	227	T	T	T	11 57 34.5	
baz=45,slow=75,SNR=162								
H08S2	Diego Garcia H	28.02	227	T	T	T	11 57 33.6	
baz=45,slow=75,SNR=46								
H08S1	Diego Garcia H	28.04	227	T	T	T	11 57 39.1	
baz=45,slow=75,SNR=82								
GTA	Gaotai	28.16	11	eP	P	P	11 28 48.7	+1.6
GTA				sP	sP	sP	11 29 03.0	-0.2
GTA				pmax	pmax	pmax		
comp=Z,5.0nm,1.0s								
TARG	Taragay, Kyrgy	32.59	339	P	P	P	11 29 27.5	+1.0
KDJ	Kajisay	33.16	338	P	P	P	11 29 31.2	-0.1
ARSB	Arslanbob	34.18	333		P	P	11 29 38.7	-1.4
ARSB				IAmb	IAmb	IAmb	11 30 04.5	
comp=Z,8.3nm,0.9s								
BJT	Baijiatuau	34.81	32	P	P	P	11 29 46.0	+0.6
BJT				IAmb	IAmb	IAmb	11 29 46.5	
comp=Z,5.6nm,0.5s								
MK31	Makanchi Array	35.99	348		P	P	11 29 55.8	+0.3
MKAR	Makanchi Array	35.99	348		P	P	11 29 55.8	+0.3
MKAR	Makanchi Array	35.99	348	P	P	P	11 29 56.1	+0.6
comp=Z,3.0nm,0.6s,baz=166,slow=8.0,SNR=31								
MKAR				PcP	PcP	PcP	11 32 22.1	+0.6
comp=Z,0.5nm,0.6s,baz=164,slow=3.7,SNR=3.1								
comp=Z,3.0nm,0.6s								
MAKZ	Makanchi	36.07	347		P	P	11 29 55.4	-0.7
JOW	Kunigami	36.43	61	P	P	P	11 29 58.8	-0.7
KK31	Karatay Array	36.71	332	P	P	P	11 30 00.3	-1.4
KKAR	Karatay Array	36.71	332	P	P	P	11 30 03.1	+1.4
SONM	Songino Array	37.65	15		P	P	11 30 10.2	+0.5
SONM	Songino Array	37.65	15	P	P	P	11 30 09.8	+0.1
comp=Z,1.5nm,0.4s,baz=202,slow=7.9,SNR=17								
SONM				PcP	PcP	PcP	11 32 27.2	+0.6
comp=Z,1.4nm,0.7s,baz=214,slow=3.3,SNR=6.0								
comp=Z,1.5nm,0.4s								
KS19	Wonju Array Si	40.41	45	P	P	P	11 30 32.5	-0.4
KSRS	Korea Array	40.43	45	P	P	P	11 30 31.0	-1.9
comp=Z,1.7nm,0.6s,baz=244,slow=8.6,SNR=10								
comp=Z,1.7nm,0.6s								
KURBB	Kurchatov Arra	40.44	346	P	P	P	11 30 33.4	+0.6
comp=Z,3.8nm,0.8s,baz=163,slow=7.8,SNR=18								
comp=Z,3.8nm,0.8s								
MBWA	Marble Bar	42.07	141	P	P	P	11 30 46.0	-0.6
MBWA				IAmb	IAmb	IAmb	11 30 47.3	
comp=Z,19nm,1.4s								
PSA00	Pilbara Seismi	42.45	141	P	P	P	11 30 49.4	-0.3
PSA00				IAmb	IAmb	IAmb	11 31 11.6	
comp=Z,35nm,1.4s								
ZAA0	Zalesovo Array	42.51	353	P	P	P	11 30 50.5	+0.8
ZALV	Zalesovo Beam	42.51	353		P	P	11 30 50.2	+0.5
ZALV	Zalesovo Beam	42.51	353	P	P	P	11 30 50.1	+0.4
comp=Z,3.1nm,0.6s,baz=175,slow=9.4,SNR=13								
comp=Z,3.1nm,0.6s								
FITZ	Fitzroy Crossi	43.92	132	P	P	P	11 30 59.8	-1.8
KNRA	Kununurra	44.81	127	P	P	P	11 31 07.5	-1.2
KNRA				IAmb	IAmb	IAmb	11 31 41.8	
comp=Z,14nm,1.4s								
BVAR	Borovoye Array	44.88	341	P	P	P	11 31 08.3	-0.5
comp=Z,6.9nm,1.0s,baz=120,slow=7.7,SNR=9.9								
comp=Z,6.9nm,1.0s								
BRVK	Borovoye	44.94	341	P	P	P	11 31 08.3	-1.0
AB31	Akbulak array	46.20	330	P	P	P	11 31 18.0	-1.4
ABKAR	Akbulak array	46.20	330		P	P	11 31 18.1	-1.2
MORW	Morawa	46.40	152	P	P	P	11 31 20.6	-0.6
MORW				IAmb	IAmb	IAmb	11 31 58.2	
comp=Z,17nm,1.3s								
HEH	HeiHe	47.63	30	eP	P	P	11 31 29.8	-0.7
HEH				pmax	pmax	pmax		
comp=Z,4.0nm,0.9s								
KLR	Kul'dur	49.20	33	P	P	P	11 31 41.0	-1.5
comp=Z,0.7nm,0.6s,baz=254,slow=14,SNR=3.7								
comp=Z,0.7nm,0.6s								
NWAO	Narrogin (SRO)	50.20	153	P	P	P	11 31 49.7	-0.7
JTM	Tenmabayashi	51.09	47	P	P	P	11 31 56.4	-0.7
WB0	Warramunga Arr	51.53	127		P	P	11 31 58.9	-1.8
WB0				IAmb	IAmb	IAmb	11 31 59.2	
comp=Z,4.1nm,0.6s								
WRA	Warramunga Arr	51.59	127	P	P	P	11 31 59.2	-1.9
WRA	Warramunga Arr	51.59	127	P	P	P	11 31 59.4	-1.7
comp=Z,3.5nm,0.6s,baz=306,slow=8.5,SNR=66								
WRA				PcP	PcP	PcP	11 33 14.3	-0.4
comp=Z,1.2nm,0.7s,baz=312,slow=3.3,SNR=6.4								
comp=Z,3.5nm,0.6s								
WB2	Warramunga Arr	51.60	127		P	P	11 31 59.3	-1.9
WB2				IAmb	IAmb	IAmb	11 32 00.1	
comp=Z,6.3nm,0.7s								
WR8	Warramunga Arr	51.72	127	P	P	P	11 32 00.2	-1.9
WR8				IAmb	IAmb	IAmb	11 32 25.6	
comp=Z,12nm,1.3s								
WR0	Warramunga Arr	51.76	127	P	P	P	11 32 00.7	-1.6
WR0				IAmb	IAmb	IAmb	11 32 01.0	
comp=Z,4.0nm,0.6s								
ASAJ	Asahikawa	53.33	43	P	P	P	11 32 13.7	0.0
comp=Z,2.3nm,0.7s,baz=258,slow=9.1,SNR=4.9								
comp=Z,2.3nm,0.7s								
JKA	Kamikawa-asahi	53.33	43	P	P	P	11 32 13.5	-0.2
JKA				IAmb	IAmb	IAmb	11 32 29.1	
comp=Z,6.3nm,1.0s								
AS31	Alice Springs	53.41	131	P	P	P	11 32 13.0	-1.6
ASAR	Alice Springs	53.41	131	P	P	P	11 32 12.8	-1.8
comp=Z,1.6nm,0.6s,baz=307,slow=6.6,SNR=19								
ASAR				PcP	PcP	PcP	11 33 21.3	-0.2
comp=Z,0.7nm,0.6s,baz=306,slow=2.4,SNR=6.0								
comp=Z,1.6nm,0.6s								
BRTR	Keskin Array B	58.95	309	P	P	P	11 32 54.0	-0.1
BRTR	Keskin Array B	58.95	309	P	P	P	11 32 54.6	+0.5
comp=Z,0.8nm,0.7s,baz=107,slow=6.6,SNR=5.9								
comp=Z,0.8nm,0.7s								
BBOO	Buckleboo	60.56	139	P	P	P	11 33 03.9	-1.1
TIXI	Tiksi	63.64	12		P	P	11 33 24.1	-0.9
TIXI				IAmb	IAmb	IAmb	11 33 26.8	
comp=Z,6.6nm,0.8s								
TIXI	Tiksi	63.64	12	P	P	P	11 33 24.4	-0.6
comp=Z,5.1nm,0.4s,baz=199,slow=3.7,SNR=22								
comp=Z,5.1nm,0.4s								
PETK	Petropavlovsk-	65.57	37	P	P	P	11 33 36.3	-1.6
comp=Z,0.8nm,0.7s,baz=242,slow=3.1,SNR=2.1								
comp=Z,0.8nm,0.7s								
SEY	Seymchan	65.90	26	P	P	P	11 33 38.8	-1.1
comp=Z,1.0nm,0.3s,baz=244,slow=7.1,SNR=5.7								
comp=Z,1.0nm,0.3s								
PET	Petropavlovsk	66.11	37	P	P	P	11 33 41.6	+0.2
PET				IAmb	IAmb	IAmb	11 33 52.7	
comp=Z,7.5nm,1.1s								
BURAR	Bucovina Array	66.32	317	P	P	P	11 33 42.5	-0.5
BUR08	Bucovina Ar. S	66.34	317	P	P	P	11 33 44.1	+0.9
FIA1	FINESS Array S	68.67	332	P	P	P	11 33 57.9	+0.5
FIA1				IAmb	IAmb	IAmb	11 33 58.8	
comp=Z,12nm,0.9s								
FINES	FINESS Array B	68.67	332	P	P	P	11 33 57.7	+0.3
FINES	FINESS Array B	68.67	332	P	P	P	11 33 57.5	+0.1
comp=Z,3.3nm,0.8s,baz=103,slow=8.6,SNR=11								
comp=Z,3.3nm,0.8s								
TOO	Toolangi	69.58	138	P	P	P	11 34 04.2	+0.7
ARCES	ARCESS Array B	71.16	340	P	P	P	11 34 12.5	-0.1
comp=Z,1.5nm,0.7s,baz=81,slow=7.7,SNR=3.6								
comp=Z,1.5nm,0.7s								
BILL	Bilibino	72.91	22	P	P	P	11 34 22.9	-0.3
GERES	GERESS Array B	74.08	318	P	P	P	11 34 31.1	+0.6
GERES	GERESS Array B	74.08	318	P	P	P	11 34 31.0	+0.4
comp=Z,1.3nm,0.8s,baz=90,slow=5.3,SNR=7.0								
comp=Z,1.3nm,0.8s								
HFS	Hagfors	74.45	329	P	P	P	11 34 32.3	0.0
comp=Z,2.5nm,0.7s,baz=116,slow=6.8,SNR=7.9								
comp=Z,2.5nm,0.7s								
CIMO	Cimolais	74.97	315	P	P	P	11 34 36.7	+1.0
NC405	NORSAR Array S	75.47	330	P	P	P	11 34 37.6	-0.6
NC602	NORSAR Array S	75.54	330	P	P	P	11 34 38.4	-0.2
NC602				IAmb	IAmb	IAmb	11 34 47.6	
comp=Z,16nm,1.4s								
NB2	NORSAR Subarra	75.71	330	P	P	P	11 34 38.5	-1.1
comp=Z,2.5nm,1.0s,baz=97,slow=5.3								
NOA	NORSAR Array B	75.71	330	P	P	P	11 34 39.2	-0.4
comp=Z,1.1nm,0.8s,baz=91,slow=5.7,SNR=8.2								
comp=Z,1.1nm,0.8s								
BOSA	Boshof	76.66	237	P	P	P	11 34 44.4	-1.3
BOSA				IAmb	IAmb	IAmb	11 34 49.4	
comp=Z,13nm,1.4s								
CASY	Casey	78.97	173	P	P	P	11 34 57.8	+0.3
CASY				IAmb	IAmb	IAmb	11 35 28.0	
comp=Z,14nm,1.4s								
EKA	Eskdalemuir Ar	83.79	325	P	P	P	11 35 23.3	-0.1
comp=Z,0.9nm,0.6s,baz=72,slow=4.7,SNR=2.6								
comp=Z,0.9nm,0.6s								
C18K	Utukok River	84.78	21	P	P	P	11 35 28.0	-0.3
C18K				IAmb	IAmb	IAmb	11 35 28.8	
comp=Z,3.7nm,0.8s								
F17K	Baldwin Pennin	85.48	23	P	P	P	11 35 32.3	+0.6
F17K				IAmb	IAmb	IAmb	11 36 05.4	
comp=Z,6.2nm,1.1s								
B20K	Meade River	85.63	19	P	P	P	11 35 32.6	+0.2
B20K				IAmb	IAmb	IAmb	11 35 49.4	
comp=Z,11nm,1.4s								
D19K	Kuna River	85.89	20	P	P	P	11 35 34.2	+0.4
D19K				IAmb	IAmb	IAmb	11 35 35.8	
comp=Z,4.5nm,1.0s								
D20K	Etivluk River	86.31	20		P	P	11 35 36.3	+0.4
D20K				IAmb	IAmb	IAmb	11 36 09.4	
comp=Z,5.4nm,1.3s								
H17K	Granite Mounta	86.51	24	P	P	P	11 35 37.7	+0.8
E19K	Redstone River	86.59	21	P	P	P	11 35 37.5	+0.2
E19K				IAmb	IAmb	IAmb	11 35 39.1	
comp=Z,4.4nm,0.7s								
B21K	Ikpikpuk River	86.59	19	P	P	P	11 35 37.9	+0.7
F19K	Shaleruckik Mo	86.64	22	P	P	P	11 35 37.3	-0.2
F19K				IAmb	IAmb	IAmb	11 35 38.5	
comp=Z,3.0nm,0.8s								
B22K	Teshekpuk Lake	86.65	18	P	P	P	11 35 37.8	+0.4
B22K				IAmb	IAmb	IAmb	11 35 38.2	
comp=Z,4.5nm,0.7s								
G18K	Tagagawik	86.66	23	P	P	P	11 35 37.9	+0.3
J16K	Anvik River	86.80	26	P	P	P	11 35 39.4	+1.0
SCO	Scoresbysund	86.93	342	P	P	P	11 35 37.4	-1.5
H18K	Honhosa River	87.05	24	P	P	P	11 35 39.8	+0.2
H18K				IAmb	IAmb	IAmb	11 35 45.6	
comp=Z,9.8nm,1.3s								
G19K	Purcell Mounta	87.16	22	P	P	P	11 35 40.2	+0.2
G19K				IAmb	IAmb	IAmb	11 35 40.9	
comp=Z,4.1nm,0.8s								
F20K	Avaraart Lake	87.29	21	P	P	P	11 35 41.1	+0.5
F20K				IAmb	IAmb	IAmb	11 35 41.6	
comp=Z,4.5nm,0.9s								
E21K	Killik River	87.31	20	P	P	P	11 35 40.9	+0.1
E21K				IAmb	IAmb	IAmb	11 35 41.5	
comp=Z,4.4nm,0.7s								
J17K	VABM Dome	87.41	25	P	P	P	11 35 42.0	+0.7
D22K	Ayikyak River	87.54	19	P	P	P	11 35 42.5	+0.7
D22K				IAmb	IAmb	IAmb	11 36 03.1	
comp=Z,7.9nm,1.4s								
H19K	Roundabout Mou	87.64	23	P	P	P	11 35 42.1	-0.2
K17K	Iditarod	87.99	26	P	P	P	11 35 44.8	+0.7
D23K	Nanushuk River	88.14	19	P	P	P	11 35 45.2	+0.5
D23K				IAmb	IAmb	IAmb	11 35 45.9	
comp=Z,4.8nm,0.9s								
E22K	Anaktuvuk Pass	88.17	20	P	P	P	11 35 45.6	+0.7
E22K				IAmb	IAmb	IAmb	11 36 10.8	
comp=Z,6.2nm,1.4s								
EUNU	Eureka	88.27	360	P	P	P	11 35 45.9	+0.8
EUNU				IAmb	IAmb	IAmb	11 36 00.9	
comp=Z,8.2nm,1.3s								
G21K	Allakaket	88.32	22	P	P	P	11 35 45.8	+0.2
G21K				IAmb	IAmb	IAmb	11 35 47.9	
comp=Z,9.4nm,1.4s								
M16K	Timber Creek	88.33	28	P	P	P	11 35 46.5	+0.8
J18K	Innoko River	88.36	25	P	P	P	11 35 45.9	0.0
J18K				IAmb	IAmb	IAmb	11 36 02.1	
comp=Z,9.3nm,1.4s								
J19K	Poorman	88.59	24	P	P	P	11 35 47.1	+0.2
D24K	Happy Valley	88.63	18	P	P	P	11 35 47.4	+0.4
D24K				IAmb	IAmb	IAmb	11 35 47.8	
comp=Z,3.2nm,0.8s								
TOLK	Toolik Lake Re	88.65	19	P	P	P	11 35 47.6	+0.4
TOLK				IAmb	IAmb	IAmb	11 35 48.0	
comp=Z,3.4nm,0.8s								
L18K	Granite Mounta	88.87	26	P	P	P	11 35 48.8	+0.6
E23K	Chandalar	88.93	19	P	P	P	11 35 49.1	+0.6
E23K				IAmb	IAmb	IAmb	11 36 27.1	
comp=Z,4.8nm,1.5s								
H21K	Melozitna Rive	88.96	22	P	P	P	11 35 49.4	+0.8
H21K				IAmb	IAmb	IAmb	11 36 04.2	
comp=Z,6.5nm,1.5s								
J20K	Nowinta River	89.10	24	P	P	P	11 35 50.4	+1.1
J20K				IAmb	IAmb	IAmb	11 36 32.0	
comp=Z,6.6nm,1.4s								
D25K	Kavik River	89.28	18	P	P	P	11 35 50.5	+0.4
E24K	Your Creek	89.28	19	P	P	P	11 35 50.7	+0.5
G23K	Bananza Creek	89.46	21	P	P	P	11 35 51.3	+0.3
K20K	Telida	89.49	25	P	P	P	11 35 52.1	+0.9
F24K	Squaw Lake	89.77	20	P	P	P	11 35 53.2	+0.8
F24K				IAmb	IAmb	IAmb	11 36 28.2	
comp=Z,6.4nm,1.4s								
C27K	Jago River	89.89	17	P	P	P	11 35 53.8	+0.9
C27K				IAmb	IAmb	IAmb	11 36 18.9	
comp=Z,3.1nm,1.1s								
H23K	Yukon River	90.06	21	P	P	P	11 35 54.6	+0.8
H23K				IAmb	IAmb	IAmb	11 36 08.7	
comp=Z,4.5nm,1.1s								
E25K	Arctic Village	90.19	19	P	P	P	11 35 54.9	+0.5
E25K				IAmb	IAmb	IAmb	11 36 11.5	
comp=Z,5.0nm,1.4s								
CAST	Castle Rocks	90.26	24		P	P	11 35 55.5	+0.7
G24K	Hadweenzic Riv	90.33	20	P	P	P	11 35 55.9	+0.9
BPAW	Bear Paw Mtn.	90.37	23	P	P	P	11 35 55.7	+0.4
BPAW				IAmb	IAmb	IAmb	11 35 56.3	
comp=Z,3.4nm,0.8s								
N19K	Bonanza Creek	90.42	27	P	P	P	11 35 56.7	+1.1
F25K	Christian Rive	90.46	19	P	P	P	11 35 56.9	+1.2
PPLA	Purkeypile	90.46	25	P	P	P	11 35 55.9	0.0
I23K	Minto, Yukon-K	90.47	22	P	P	P	11 35 56.3	+0.6
I23K				IAmb	IAmb	IAmb	11 36 15.9	
comp=Z,8.7nm,1.5s								
M20K	Styx River	90.53	26	P	P	P	11 35 56.9	+0.7
KTH	Kantishna Hill	90.66	24	P	P	P	11 35 57.5	+0.8
F26K	Sheenjek River	90.87	19	P	P	P	11 35 58.4	+0.8
F26K				IAmb	IAmb	IAmb	11 35 58.8	
comp=Z,3.2nm,0.7s								
BMAR	Burnt Mountain	90.89	19	P	P	P	11 35 58.6	+1.0
D27M	Malcolm River	90.90	17	P	P	P	11 35 58.2	+0.5
D27M				IAmb	IAmb	IAmb	11 36 19.8	
comp=Z,5.3nm,1.5s								
SKT	Skwentna	91.16	25	P	P	P	11 35 59.1	+0.2
CCB	Clear Creek Bu	91.30	22	P	P	P	11 35 59.2	-0.3
E27K	Coleen River	91.36	18	P	P	P	11 36 00.0	+0.2
E27K				IAmb	IAmb	IAmb	11 36 00.6	
comp=Z,5.5nm,1.5s								
IL31		91.57	22	P	P	P	11 35 59.8	-0.9
IL31				IAmb	IAmb	IAmb	11 36 12.5	
comp=Z,6.7nm,1.3s								
ILAR	Eielson Array	91.57	22	P	P	P	11 35 59.6	-1.1
comp=Z,1.1nm,0.7s,baz=298,slow=4.1,SNR=12								
comp=Z,1.1nm,0.7s								
SUA	Susitna One	91.73	25	P	P	P	11 36 01.3	-0.5
M22K	Willow	91.86	25	P	P	P	11 36 02.4	+0.3
J25K	Salcha River,	92.20	22	P	P	P	11 36 03.4	-0.5
J25K				IAmb	IAmb	IAmb	11 36 43.7	
comp=Z,2.3nm,1.1s								
E29M	Blow River	92.31	17	P	P	P	11 36 04.5	+0.3
E29M				IAmb	IAmb	IAmb	11 36 05.7	
comp=Z,7.9nm,1.4s								
BRLK	Bradley Lake	92.49	27	P	P	P	11 36 05.0	-0.2
SML	Sawmill	92.56	25	P	P	P	11 36 05.9	+0.3
H27K	Steamboat Moun	92.57	19	P	P	P	11 36 06.1	+0.6
H27K				IAmb	IAmb	IAmb	11 36 06.3	
comp=Z,3.5nm,1.1s								
I26K	Coal Creek Min	92.58	20	P	P	P	11 36 06.0	+0.5
A36M	Sachs Harbour	92.64	11	P	P	P	11 36 05.8	+0.2
KNK	Knik Glacier	92.72	25	P	P	P	11 36 06.0	-0.2
J26L	Joseph Creek	92.91	21	P	P	P	11 36 06.6	-0.5
J26L				IAmb	IAmb	IAmb	11 36 23.3	
comp=Z,5.8nm,1.3s								
SEW	Seward	92.95	26	P	P	P	11 36 05.2	-2.0
SCM	Sheep Creek Mo	92.96	24	P	P	P	11 36 06.7	-0.6
SCRK	Sand Creek	93.06	22	P	P	P	11 36 07.9	0.0
SCRK				IAmb	IAmb	IAmb	11 36 24.9	
comp=Z,6.9nm,1.4s								
M24K	Tolsona, Glenn	93.27	24	P	P	P	11 36 09.9	+1.1
F30M	Barrier River	93.42	17	P	P	P	11 36 09.5	+0.2
I28M	Miner Creek	93.57	19	P	P	P	11 36 10.2	0.0
I28M				IAmb	IAmb	IAmb	11 36 24.9	
comp=Z,7.3nm,1.4s								
H29M	Whitestone	93.58	18	P	P	P	11 36 09.9	-0.2
H29M				IAmb	IAmb	IAmb	11 36 10.0	
comp=Z,7.9nm,1.4s								
K27K	Chicken	93.71	21	P	P	P	11 36 11.9	+1.2
K27K				IAmb	IAmb	IAmb	11 36 47.6	
comp=Z,7.8nm,1.4s								
F31M	Tsiigehtchic	94.11	16	P	P	P	11 36 12.2	-0.2
F31M				IAmb	IAmb	IAmb	11 36 13.5	
comp=Z,4.9nm,1.3s								
G31M	Satah River	94.32	17	P	P	P	11 36 12.5	-0.9
G31M				IAmb	IAmb	IAmb	11 36 41.8	
comp=Z,5.1nm,1.4s								
BCAR	Beaver Creek A	94.39	22	P	P	P	11 36 15.0	+1.0
DAWY	Dawson	94.62	20	P	P	P	11 36 14.5	-0.4
I30M	Mount Dempster	94.86	19	P	P	P	11 36 15.8	-0.3
I30M				IAmb	IAmb	IAmb	11 36 16.5	
comp=Z,2.4nm,0.8s								
C36M	Paulatuk	95.01	12		P	P	11 36 16.0	-0.5
C36M				IAmb	IAmb	IAmb	11 36 16.2	
comp=Z,3.1nm,0.8s								
K29M	Barlow Dome	95.40	20	P	P	P	11 36 19.1	+0.5
K29M				IAmb	IAmb	IAmb	11 36 20.2	
comp=Z,4.9nm,1.1s								
M30M	Minto, Yukon	96.48	21	P	P	P	11 36 23.7	+0.2
M30M				IAmb	IAmb	IAmb	11 36 51.8	
comp=Z,3.8nm,1.1s								
SBA	Scott Base	98.12	168	P	P	P	11 36 30.2	-0.1
NVAR	Mina Array Bea	122.13	29	PKP	PKPdf	PKPdf	11 41 49.2	-0.3
comp=Z,0.3nm,0.5s,baz=358,slow=5.1,SNR=2.8								
R11B	Troy Canyon, C	123.43	27	PKPdf	PKiKP	PKiKP	11 41 52.9	+0.6
ECSD	EROS Data Cent	124.04	8	PKPdf	PKPdf	PKPdf	11 41 52.7	-0.1
P18A	Preston Nutter	124.47	22	PKPdf	PKiKP	PKiKP	11 41 54.8	+0.4
MSU	Marysvale	124.72	24	PKPdf	PKiKP	PKiKP	11 41 56.0	+1.1
SNCC	San Nicolas Is	125.56	34	PKPdf	PKPdf	PKPdf	11 41 56.2	+0.2
TXAR	Lajitas Array	136.08	21	PKP	PKPdf	PKPdf	11 42 16.2	+0.1
comp=Z,0.3nm,0.5s,baz=308,slow=0.6,SNR=7.4								
ILAM	Ilet Lapin Mar	142.93	315	PKPdf	PKPdf	PKPdf	11 42 27.5	-1.2
AY01	Puyuhuapi	145.22	198	PKPbc	PKPbc	PKPbc	11 42 31.3	-0.2
SOR	Soroa	145.37	353	PKPbc	PKPbc	PKPbc	11 42 32.7	0.0
TRQA	Tornquist	145.55	216	PKPbc	PKPab	PKPab	11 42 33.4	+0.2
LL02	Futaleuf	146.06	200	PKPbc	PKPab	PKPab	11 42 35.1	+0.2
LL01	San Ignacio de	146.97	200	PKPbc	PKPbc	PKPbc	11 42 37.2	+0.3
PLCA	Paso Flores	147.72	204	PKPbc	PKPbc	PKPbc	11 42 40.1	+0.9
PLCA	Paso Flores	147.72	204	PKPbc	PKiKP	PKiKP	11 42 40.5	-0.7
comp=Z,1.3nm,0.7s,baz=113,slow=2.9,SNR=7.1								
TEIG	Tepich	148.13	2	PKPbc	PKPdf	PKPdf	11 42 39.2	+1.7
BI02	San Fabin de	151.44	207	PKPbc	PKPbc	PKPbc	11 42 48.8	+0.2

IDC **12** *11:40:45.8±0.3, 1°.70S×122°.56E, h0km, mb5.5/40, mbtmp5.5/43, ML4.6/2, MS6.6/59, Error ellipse: s-maj=13.1km s-min=8.9km az=78.0*

MOS **12** *11:40:46.1±0.9, 1°.71S×122°.55E, h15km, mb6.3/67, MS6.6/50, Error ellipse: s-maj=6.8km s-min=4.4km az=110.0*

BJI **12** *11:40:46.3, 1°.90S×122°.60E, h10km, mB6.5/81, mb5.7/89, Ms6.8/99, Ms7 6.7/99*

NEIC **12** *11:40:49.6, 2°.03S×123°.00E, h20km, Moment Tensor Solution. Duration: 15s4 Moment tensor: Scale 10^19Nm; Mrr0.38; Mθθ1.69; Mφφ-2.07; Mrθ0.19; Mθφ0.10; Mφr-0.98; Fault plane solution: M0 2.07000×10^19 NP1:φs45.63000°, δ69.99000°, λ-172.12000°. NP2:φs312.92000°, δ82.59000°, λ-20.18000°. Principal axes: T 1.7151, Plg9.0000°, Azm1.0000°; N 0.7016, Plg69.0000°, Azm114.0000°; P -2.4167, Plg19.0000°, Azm268.0000°;*

IPGP **12** *11:40:49.0, 1°.85S×122°.55E, h18km, Mw6.9, Fault plane solution: NP1:φs319.00000°, δ75.00000°, λ12.00000°. NP2:φs225.00000°, δ78.00000°, λ164.00000°.*

NEIC **12** *11:40:49.4±2.4,

40nm696µm100µm6µm,0.6s
TNTI Ternate 5.44 62 ⇓P Pn 11 42 09.7 +0.1
SMKI Samarinda 5.53 284 P Pn 11 42 12.0 +1.1
BKB Balikpapan 5.70 275 Pn 11 42 14.0 +0.8
BKB Balikpapan 5.70 275 P Pn 11 42 14.1 +0.8
BKB Balikpapan 5.70 275 ⇓P Pn 11 42 14.3 +1.0
AAI Ambon 5.92 109 P Pn 11 42 16.8 +0.6
SGSI Sangihe 6.21 28 P Pn 11 42 22.7 +2.5
MSAI Masohi 6.53 104 P Pn 11 42 26.6 +1.9
MMRI Maumere 6.79 183 Pn 11 42 28.1 -0.1
MMRI Maumere 6.79 183 P Pn 11 42 28.4 +0.2
MMRI Maumere 6.79 183 P Pn 11 42 28.1 -0.1
MMRI Maumere 6.79 183 ⇑P Pn 11 42 28.0 -0.3
EDFI Ende, Flores 6.95 187 P Pn 11 42 30.0 -0.5
84µm5µm,0.8s
BNDI Bandanaira 7.80 110 P Pn 11 42 44.0 +1.9
BNDI Bandanaira 7.80 110 P Pn 11 42 43.6 +1.5
37nm844µm7µm,1.5s
BNDI Bandanaira 7.80 110 ⇓P Pn 11 42 43.6 +1.5
MYLDM Lahad Datu 8.04 330 Pn 11 42 45.2 -0.2
MYLDM Lahad Datu 8.04 330 P Pn 11 42 48.0 +2.5
MYLDM Lahad Datu 8.04 330 ⇑P Pn 11 42 47.5 +2.1
SOEI Soe 8.07 168 Pn 11 42 47.0 +1.0
SOEI Soe 8.07 168 P Pn 11 42 48.3 +2.3
SOEI S Sn 11 44 23.2 +6.3
SOEI Soe 8.07 168 P Pn 11 42 47.9 +1.9
SOEI Soe 8.07 168 P Pn 11 42 47.9 +1.9
SOEI Soe 8.07 168 ⇑P Pn 11 42 46.6 +0.6
WSI Waingapu 8.13 196 P Pn 11 42 47.1 +0.5
WBSI Waikabubak, Su 8.40 202 P Pn 11 42 50.5 +0.1
776µm47µm3µm,0.7s
PLAI Plampang 8.45 214 P Pn 11 42 51.2 +0.2
PLAI Plampang 8.45 214 P Pn 11 42 51.2 +0.2
692µm980nm,1.1s
BASI Baing, Sumba 8.59 193 P Pn 11 42 53.5 +0.6
SWI Sorong 8.74 84 P Pn 11 42 54.7 -0.3
924µm50µm2µm,0.5s
TWSI Taliwang, Sumb 8.91 219 P Pn 11 42 56.9 -0.5
391µm2µm,1.4s
DAV Davao City (W) 9.32 19 Pn 11 43 02.9 0.0
DAV Davao City (W) 9.32 19 Pn Pn 11 43 04.9 +2.0
14nm,0.3s,baz=129,slow=3.8,SNR=9.5
DAV Davao City (W) 9.32 19 P Pn 11 43 06.5 +3.6
DAV P Pn 11 43 06.5 +3.6
DAV S Sn 11 44 47.6 +0.3
DAV S Sn 11 44 47.6 +0.3
DAV Davao City (W) 9.32 19 P Pn 11 43 03.8 +0.9
DAV Davao City (W) 9.32 19 P Pn 11 43 11.0 +8.1
DAV Davao City (W) 9.32 19 ⇑P Pn 11 43 05.8 +2.9
DAV Davao City (W) 9.32 19 P Pn 11 43 08.0 +5.1
SRBI Singaraja 9.62 229 P Pn 11 43 06.8 -0.3
454µm29µm1µm,0.8s
FAKI Fak Fak 9.73 97 Pn 11 43 07.9 -0.7
FAKI Fak Fak 9.73 97 P Pn 11 43 08.7 +0.1
FAKI Fak Fak 9.73 97 P Pn 11 43 07.9 -0.7
40µm2µm,0.8s
FAKI Fak Fak 9.73 97 ⇓P Pn 11 43 07.9 -0.7
KMMI Kalianget 10.03 238 P Pn 11 43 15.2 +2.5
744µm40µm3µm,1.1s
KKM Kota Kinabalu 10.06 321 Pn 11 43 12.9 -0.3
KKM Kota Kinabalu 10.06 321 P Pn 11 43 14.5 +1.3
KKM Kota Kinabalu 10.06 321 ⇑P Pn 11 43 14.1 +1.0
ABJI Asem Bagus 10.21 234 P Pn 11 43 16.7 +1.5
638µm37µm997nm,1.0s
SAUI Saumlaki 10.64 126 Pn Pn 11 43 21.7 +0.6
SAUI Saumlaki 10.64 126 P Pn 11 43 21.8 +0.7
SAUI Saumlaki 10.64 126 P Pn 11 43 19.5 -1.6
428µm4µm,2.0s
SAUI Saumlaki 10.64 126 ⇓P Pn 11 43 25.4 +4.4
JAGI Jajag, Banyuwa 10.68 231 Pn 11 43 21.8 +0.1
JAGI Jajag, Banyuwa 10.68 231 P Pn 11 43 23.0 +1.4
JAGI Jajag, Banyuwa 10.68 231 P Pn 11 43 21.9 +0.3
453µm28µm1µm,0.8s
JAGI Jajag, Banyuwa 10.68 231 ⇑P Pn 11 43 21.7 +0.1
GMJI Gumukmas 11.13 234 P Pn 11 43 28.2 +0.5
477µm22µm959nm,1.1s
SBUM Sibu 11.18 292 Pn 11 43 29.6 +1.1
SBUM Sibu 11.18 292 P Pn 11 43 30.9 +2.4
SBUM Sibu 11.18 292 ⇓P Pn 11 43 30.3 +1.8
STKI Sintang 11.25 279 P Pn 11 43 30.7 +1.3
39µm806nm,0.8s
GRJI Gresik 11.27 243 P Pn 11 43 30.3 +0.7
44µm3µm,1.0s
KMPI Kaimana, Papua 11.27 100 P Pn 11 43 29.4 -0.3
598µm80µm5µm,1.3s
RKPI Ransiki, Papua 11.60 89 P Pn 11 43 35.7 +1.4
638µm28µm1µm,0.7s
TBJI Tambak Boyo 11.79 245 P Pn 11 43 38.1 +1.3
706µm51µm2µm,1.6s
NGJI Ngawi 12.37 243 P Pn 11 43 46.6 +1.8
46µm983nm,1.1s
KSM Kuching 12.69 285 Pn Pn 11 43 49.7 +0.6
KSM Kuching 12.69 285 ⇓P Pn 11 43 48.9 -0.2
PCJI Pacitan 13.00 240 P Pn 11 43 54.3 +0.9
507µm43µm2µm,1.4s
SMRI Semarang 13.16 246 Pn Pn 11 43 54.8 -0.9
SMRI Semarang 13.16 246 P Pn 11 43 55.7 +0.1
748nm,1.0s
SMRI Semarang 13.16 246 ⇑P Pn 11 43 58.3 +2.7
DRS Darwin Rock St 13.40 142 P Pn 11 43 59.7 +0.9
UGM Wanagama 13.45 243 Pn Pn 11 44 00.6 +1.1
UGM Wanagama 13.45 243 P Pn 11 44 01.8 +2.3
UGM Wanagama 13.45 243 P Pn 11 43 59.5 0.0
404µm40µm1µm,1.6s
BAKI Biak 13.54 88 P Pn 11 44 00.2 -0.6
481µm41µm2µm,1.0s
YOGI Yogyakarta 13.61 244 P Pn 11 44 01.5 -0.2
252µm45µm3µm,1.0s
SRPI Serui, Papua 13.66 90 P Pn 11 44 01.5 -0.9
MTN Manton Dam 13.86 143 Pn 11 44 04.1 -1.0
MTN Manton Dam 13.86 143 P Pn 11 44 03.4 -1.8
comp=Z,789nm,0.9s,comp=Z,0.0nm
MTN Manton Dam 13.86 143 P Pn 11 44 05.7 +0.6
MTN Manton Dam 13.86 143 ⇑P Pn 11 44 03.5 -1.6
KDU Kakadu 14.60 138 P Pn 11 44 14.1 -1.1
comp=Z,1µm,1.6s,comp=Z,0.0nm
KDU Kakadu 14.60 138 P Pn 11 44 14.9 -0.3
KDU Kakadu 14.60 138 ⇑P Pn 11 44 13.9 -1.3
TPI Tanjungpandan 14.94 266 P Pn 11 44 20.2 +0.4
comp=Z,529µm0.7s,comp=Z,2µm,1.7s
JCJI Jatiwangi 15.00 252 P Pn 11 44 22.6 +1.9
comp=Z,395µmcomp=Z,2µm,2.1s
KNRA Kununurra 15.07 156 Pn 11 44 18.5 -3.1
KNRA Kununurra 15.07 156 P Pn 11 44 17.4 -4.2
I39PW PALAU INFRASON 15.13 52 I I 13 00 20.0
baz=232,slow=317,SNR=2.7
CMJI Cimerak 15.27 247 P Pn 11 44 24.1 -0.1
comp=Z,334µmcomp=Z,44µmcomp=Z,1µm,1.0s
LEM Lembang 15.72 251 Pn Pn 11 44 30.7 +0.4
comp=Z,3.3nm,0.3s,baz=58,slow=9.5,SNR=9.8
LEM LR LR 11 51 19.2
comp=Z,901µm,19.0s,baz=56,slow=40
comp=Z,26nm,0.5s
LEM Lembang 15.72 251 P Pn 11 44 31.1 +0.8
comp=Z,345µmcomp=Z,59µmcomp=Z,2µm,2.2s
TGY Tagaytay City 15.89 354 Pn P 11 44 35.0 -0.9
comp=Z,35nm,0.3s,baz=200,slow=4.0,SNR=32
TGY LR LR 11 50 18.6
comp=Z,233µm,20.2s,baz=166,slow=36
BBJI Bungbulang 15.89 249 P P 11 44 34.8 -1.2
SMPI Sarmi 16.13 91 P Pn 11 44 35.4 0.0
comp=Z,404µmcomp=Z,3µm,1.5s
CNJI Cibinong 16.33 250 P Pn 11 44 38.6 +0.7
comp=Z,149µmcomp=Z,32µmcomp=Z,744nm,1.0s
PPBI Pangkal Pinang 16.43 268 P Pn 11 44 40.2 +1.0
TNG Tangerang 16.46 254 P Pn 11 44 40.2 +0.5
comp=Z,232µmcomp=Z,50µmcomp=Z,1µm,0.9s
TNG P Pn 11 44 40.2 +0.5
comp=Z,328µmcomp=Z,85µmcomp=Z,2µm,0.9s
FITZ Fitzroy Crossi 16.47 170 Pn Pn 11 44 35.9 -3.8
FITZ Fitzroy Crossi 16.47 170 Pn Pn 11 44 35.5 -4.1
comp=Z,1.9nm,0.3s,baz=2.9,slow=8.4,SNR=54
FITZ LR LR 11 53 12.2
comp=Z,189µm,18.3s,baz=346,slow=45
SKJI Sukabumi 16.78 252 P Pn 11 44 44.6 +1.0
comp=Z,358µmcomp=Z,98µmcomp=Z,3µm,1.6s
SBJI Serang 16.95 255 P Pn 11 44 46.7 +0.9
comp=Z,352µmcomp=Z,3µm,1.5s
CGJI Cibinong 17.49 254 P Pn 11 44 51.0 -1.6
comp=Z,350µmcomp=Z,104µmcomp=Z,1µm,1.7s
GENI Genyem 17.60 93 P P 11 44 54.9 0.0
GENI Genyem 17.60 93 P Pn 11 44 52.9 -1.0
comp=Z,449µmcomp=Z,64µmcomp=Z,3µm,1.3s
GENI Genyem 17.60 93 ⇓P Pn 11 44 54.0 0.0

BLSI Bandar Lampung 17.65 258 P P 11 44 56.0 +0.6
comp=Z,84µmcomp=Z,2µm,1.1s
PMBI Palembang 17.82 266 P P 11 44 58.5 +1.2
PMBI IAmb IAmb 11 45 06.0
comp=Z,4µm,1.2s
PMBI Palembang 17.82 266 P P 11 44 59.2 +1.9
comp=Z,358µmcomp=Z,106µmcomp=Z,5µm,1.2s
PMBI Palembang 17.82 266 ⇓P P 11 44 58.2 +0.9
JAY Jayapura 18.13 93 P Pn 11 44 58.5 -2.0
comp=Z,1.5nm,0.3s,baz=265,slow=5.0,SNR=16
JAY LR LR 11 53 29.1
comp=Z,226µm,19.6s,baz=284,slow=42
comp=Z,14nm,0.9s
JAY Jayapura 18.13 93 P Pn 11 45 00.1 -0.5
comp=Z,317µmcomp=Z,43µmcomp=Z,969nm,1.3s
TPRI Tanjung Pinang 18.25 278 P Pn 11 45 01.6 -0.3
comp=Z,323µmcomp=Z,91µmcomp=Z,2µm,2.4s
MDSI Maura Dua 18.56 261 P Pn 11 45 06.6 +0.9
comp=Z,440µmcomp=Z,95µmcomp=Z,2µm,1.1s
LWLI Liwa 18.75 260 P P 11 45 07.3 -0.4
comp=Z,429µmcomp=Z,4µm,0.9s
XMI Christmas Isla 18.84 242 P Pn 11 45 10.1 +1.0
XMI Christmas Isla 18.84 242 ⇑P P 11 45 07.5 -1.0
XMIS Christmas Isla 18.89 242 P P 11 45 06.5 -2.6
XMIS Christmas Isla 18.89 242 P Pn 11 45 10.3 +0.6
MMPI Merauke 18.92 111 P Pn 11 45 10.3 +0.2
comp=Z,321µmcomp=Z,81µmcomp=Z,2µm,0.6s
MYKOM Kota Tinggi 19.06 281 P P 11 45 11.3 +0.4
MYKOM IAmb IAmb 11 45 20.9
comp=Z,3µm,1.6s
MYKOM Kota Tinggi 19.06 281 P Pn 11 45 13.0 +1.2
MYKOM Kota Tinggi 19.06 281 ⇓P P 11 45 10.5 -0.4
SZP Santa 19.35 354 ⇑P Pn 11 45 18.2 +3.0
MBWA Marble Bar 19.43 188 P P 11 45 14.2 -0.7
MBWA Marble Bar 19.43 188 P P 11 45 14.3 -0.7
comp=Z,922nm,1.8s,comp=Z,0.0nm
MBWA Marble Bar 19.43 188 P P 11 45 14.4 -0.6
MBWA P P 11 45 14.4 -0.6
MBWA P P 11 45 14.4 -0.6
MBWA S Sn 11 48 53.2 -0.6
MBWA S Sn 11 48 53.2 -0.6
MBWA S Sn 11 48 53.2 -0.6
MBWA Marble Bar 19.43 188 P P 11 45 14.4 -0.6
MBWA Marble Bar 19.43 188 ⇑P P 11 45 14.3 -0.6
DLV Lat 19.56 315 P Pn 11 45 18.2 +0.3
DLV IAmb IAmb 11 45 29.8
comp=Z,2µm,1.4s
MNAI Manna 19.75 262 P P 11 45 18.6 +0.1
MNAI IAmb IAmb 11 45 30.8
comp=Z,3µm,1.0s
MNAI Manna 19.75 262 P Pn 11 45 20.8 +0.7
MNAI Manna 19.75 262 P Pn 11 45 19.3 -0.8
comp=Z,4µm,1.2s
MNAI Manna 19.75 262 ⇑P Pn 11 45 19.7 -0.4
PSA00 Pilbara Seismi 19.82 188 P P 11 45 17.4 -1.8
PSA00 Pilbara Seismi 19.82 188 P P 11 45 17.6 -1.6
comp=Z,581nm,1.4s
PSA00 Pilbara Seismi 19.82 188 P P 11 45 19.0 -0.2
KSI Kapahiang 20.04 264 P Pn 11 45 22.7 -0.9
comp=Z,4µm,1.0s
WB0 Warramunga Arr 21.27 148 P P 11 45 34.0 -0.9
WB0 IAmb IAmb 11 45 45.9
comp=Z,2µm,1.0s
I07AU WARRAMUNGA INF 21.37 148 I I 13 55 20.0
baz=321,slow=328,SNR=1.2
WRAB Tennant Creek 21.38 148 P P 11 45 35.0 -1.1
WRAB IAmb IAmb 11 45 50.3
comp=Z,1µm,1.1s
WRAB Tennant Creek 21.38 148 *c iP* P 11 45 35.4 -0.7
WRAB pmax pmax
comp=Z,2µm,1.1s
WRAB MLR MLR
comp=Z,281µm,15.0s
WRA Warramunga Arr 21.38 148 P P 11 45 34.7 -1.5
WRA Warramunga Arr 21.38 148 P P 11 45 35.0 -1.2
comp=Z,55nm,0.7s,baz=321,slow=11,SNR=140
WRA S Sn 11 49 38.1 -2.7
comp=Z,42nm,1.0s,baz=334,slow=14,SNR=4.9
comp=Z,55nm,0.7s
WRA Warramunga Arr 21.38 148 *i* P P 11 45 33.4 -2.8
WRA pmax pmax
comp=Z,56nm,0.7s
WB2 Warramunga Arr 21.39 148 P P 11 45 35.5 -0.8
WB2 IAmb IAmb 11 45 44.6
comp=Z,1µm,0.9s
WR8 Warramunga Arr 21.48 148 P P 11 45 36.0 -1.2
WR0 Warramunga Arr 21.50 148 P P 11 45 36.7 -0.8
BKNI Bangkinang 21.63 275 P P 11 45 40.8 +1.8
BKNI Bangkinang 21.63 275 P P 11 45 40.2 +1.2
BKNI Bangkinang 21.63 275 P P 11 45 40.3 +1.4
comp=Z,335µmcomp=Z,66µmcomp=Z,3µm,1.1s
BKNI Bangkinang 21.63 275 ⇑P P 11 45 40.0 +1.1
PPI Padang Panjang 22.21 273 P P 11 45 46.3 +1.2
comp=Z,322µmcomp=Z,82µmcomp=Z,3µm,1.0s
GIRL Giralia 22.24 201 P P 11 45 45.0 -0.3
comp=Z,3µm,1.7s,comp=Z,0.0nm
GIRL Giralia 22.24 201 P P 11 45 45.6 +0.3
GIRL Giralia 22.24 201 ⇑P P 11 45 45.2 -0.1
PPSI Pulau Pagai 22.56 267 P P 11 45 49.2 +0.3
comp=Z,2µm,1.4s
KULM Kulim 23.00 288 P P 11 45 54.1 +0.6
KULM IAmb IAmb 11 46 04.5
comp=Z,1µm,1.2s
KULM IAMs_20 IAMs_20 11 55 28.4
comp=Z,333µm,22.0s
KULM Kulim 23.00 288 P P 11 45 56.0 +2.5
KULM Kulim 23.00 288 ⇑P P 11 45 53.4 -0.1
MNSI Mandailing Nat 23.13 276 P P 11 45 55.4 +0.5
comp=Z,263µmcomp=Z,4µm,1.0s
SISI Saibi 23.48 271 P P 11 45 57.3 -1.0
comp=Z,210µmcomp=Z,45µmcomp=Z,2µm,1.0s
COEN Coen 23.68 122 P P 11 45 59.3 -1.0
COEN IAmb IAmb 11 46 24.6
comp=Z,2µm,1.9s
COEN Coen 23.68 122 P P 11 45 59.2 -1.0
comp=Z,446nm,1.3s,comp=Z,0.0nm
COEN Coen 23.68 122 P P 11 45 59.6 -0.6
COEN Coen 23.68 122 ⇑P P 11 45 58.6 -1.6
WRKA Warakurna 23.75 167 P P 11 45 59.3 -1.5
comp=Z,2µm,2.0s,comp=Z,0.0nm
WRKA Warakurna 23.75 167 P P 11 45 59.9 -0.9
WRKA Warakurna 23.75 167 ⇑P P 11 45 59.5 -1.3
UBPT Khong Chiam 23.97 316 P P 11 46 03.3 +0.3
UBPT Khong Chiam 23.97 316 P P 11 46 03.7 +0.7
UBPT Khong Chiam 23.97 316 ⇑P P 11 46 05.3 +2.3
RPSI Rantau Prapat 24.06 281 P P 11 46 03.4 -0.5
PSI Prapat 24.08 281 LR LR 11 57 06.2
comp=Z,315µm,18.8s,baz=105,slow=41
PSI Prapat 24.08 281 P P 11 46 05.6 +1.4
PSI Prapat 24.08 281 P P 11 46 03.4 -0.8
PSI pmax pmax
comp=Z,3µm,1.0s
QIZ Qiongzhong 24.19 329 P P 11 46 05.5 +0.4
QIZ Qiongzhong 24.19 329 P P 11 46 05.4 +0.4
QIZ SS SnSn 11 51 12.2 +7.0
QIZ ScP ScP 11 53 24.4 +1.0
QIZ pmax pmax
comp=Z,2µm,1.1s
QIZ pmax pmax
comp=Z,14µm,4.9s
QIZ LR LR
comp=Z,112µm,19.7s
QIZ LR LR
comp=Z,37µm,20.5s
QIZ LR LR
comp=Z,135µm,16.3s
QIZ Qiongzhong 24.19 329 P P 11 46 05.8 +0.8
AS31 Alice Springs 24.34 154 P P 11 46 05.9 -0.6
AS31 Alice Springs 24.34 154 P P 11 46 05.9 -0.6
comp=Z,0.0nmcomp=Z,273nm,0.8s
ASAR Alice Springs 24.34 154 P P 11 46 06.2 -0.3
comp=Z,137nm,0.7s,baz=327,slow=7.0,SNR=511
ASAR PcP PcP 11 49 46.8 +0.8
comp=Z,12nm,0.5s,baz=348,slow=1.7,SNR=5.5
ASAR LR LR 11 56 13.3
comp=Z,316µm,19.5s,baz=325,slow=38
comp=Z,137nm,0.7s
AS01 Alice Springs 24.36 154 P P 11 46 07.2 +0.6
TWGBT Beinan 24.52 357 P P 11 46 08.4 +0.4
TWG Pinlang 24.52 357 P P 11 46 08.6 +0.6
TWG IAmb IAmb 11 46 32.2
comp=Z,1µm,1.3s
TSI Tuntungan 24.57 282 P P 11 46 10.1 +1.6
MANU Manus Island 24.78 91 IAmb IAmb 11 46 21.0
comp=Z,1µm,1.1s

QIS Mount Isa 24.98 139 P P 11 46 10.9 -1.3
comp=Z,0.0nmcomp=Z,978nm,0.9s
QIS Mount Isa 24.98 139 P P 11 46 11.1 -1.1
MEEK Meekatharra 24.98 188 P P 11 46 10.6 -1.6
comp=Z,1µm,1.5s,comp=Z,0.0nm
MEEK Meekatharra 24.98 188 P P 11 46 10.5 -1.6
TPUB Ta-pu 25.03 356 P P 11 46 12.6 +0.1
TPUB Ta-pu 25.03 356 P P 11 46 13.5 +0.9
YULB Yu-li 25.08 357 P P 11 46 13.0 -0.1
YULB Yu-li 25.08 357 P P 11 46 13.0 -0.1
SRIT Nakonsritamara 25.12 295 P P 11 46 14.4 +0.9
SRIT IAmb IAmb 11 46 22.3
comp=Z,804nm,1.2s
GSI Gunungsitoli 25.18 277 P P 11 46 13.2 -0.9
GSI Gunungsitoli 25.18 277 P P 11 46 15.7 +1.6
GSI Gunungsitoli 25.18 277 P P 11 46 14.8 +0.7
comp=Z,162µmcomp=Z,3µm,1.1s
GSI Gunungsitoli 25.18 277 ⇑P P 11 46 13.2 -0.9
HKPS Hong Kong Po S 25.31 341 P P 11 46 16.3 +1.1
HKPS IAmb IAmb 11 46 33.0
comp=Z,916nm,1.1s
MCO Taipa Grande 25.36 340 P P 11 46 18.0 +2.4
SSLB Suanglung 25.49 357 P P 11 46 17.9 +1.1
SSLB IAmb IAmb 11 46 46.6
comp=Z,1µm,1.0s
SSLB Suanglung 25.49 357 P P 11 46 16.5 -0.3
PMG Port Moresby 25.59 108 P P 11 46 18.4 +0.6
PMG IAmb IAmb 11 46 32.4
comp=Z,1µm,0.9s
PMG Port Moresby 25.59 108 P P 11 46 18.3 +0.5
comp=Z,501nm,1.0s,baz=308,slow=6.1,SNR=27
PMG LR LR 11 58 28.3
comp=Z,187µm,20.8s,baz=298,slow=41
comp=Z,501nm,1.0s
PMG Port Moresby 25.59 108 P P 11 46 19.0 +1.2
PMG Port Moresby 25.59 108 P P 11 46 18.6 +0.8
PMG Port Moresby 25.59 108 *c iP* P 11 46 18.2 +0.5
PMG pmax pmax
comp=Z,2µm,1.2s
PMG MLR MLR
comp=Z,190µm,21.0s
PMG Port Moresby 25.59 108 ⇑P P 11 46 17.7 -0.1
NACB Ninganchiao 25.84 358 P P 11 46 19.6 -0.4
NACB IAmb IAmb 11 46 40.0
comp=Z,811nm,1.4s
NACB Ninganchiao 25.84 358 P P 11 46 22.5 +2.6
YOJ Yonaguni jima 26.12 1 P P 11 46 22.9 +0.5
YOJ Yonaguni jima 26.12 1 P P 11 46 24.6 +2.2
YOJ Yonaguni jima 26.12 1 P P 11 46 22.9 +0.5
YOJ pmax pmax
comp=Z,2µm,1.4s
YOJ Yonaguni jima 26.12 1 ⇓P P 11 46 24.2 +1.8
GZH Guangzhou 26.33 341 P P 11 46 27.9 +3.6
GZH LR LR
comp=Z,208µm,20.6s
GZH LR LR
comp=Z,127µm,19.8s
GZH LR LR
comp=Z,156µm,23.1s
YHNB Yeheng 26.35 358 P P 11 46 25.1 +0.5
YHNB Yeheng 26.35 358 P P 11 46 23.9 -0.7
KNMB Chin-men Tao 26.43 351 P P 11 46 25.4 +0.2
KNMB IAmb IAmb 11 47 03.5
comp=Z,1µm,1.3s
NAYO Nakonayok 26.45 308 P P 11 46 27.4 +1.8
LHMI Lhok Sumawe 26.53 285 P P 11 46 27.1 +0.7
LHMI Lhok Sumawe 26.53 285 P P 11 46 28.0 +1.6
comp=Z,146µmcomp=Z,36µmcomp=Z,1µm,1.1s
LHMI Lhok Sumawe 26.53 285 ⇑P P 11 46 26.9 +0.5
TATO Taipei 26.64 358 P P 11 46 28.0 +0.8
TATO IAmb IAmb 11 46 55.1
comp=Z,1µm,1.2s
TATO Taipei 26.64 358 P P 11 46 23.8 -3.4
TATO P P 11 46 23.8 -3.4
TATO P P 11 46 23.8 -3.4
TATO S S 11 51 02.7 +1.3
TATO S S 11 51 02.7 +1.3
TATO S S 11 51 02.7 +1.3
MTSU Mount Surprise 26.81 129 P P 11 46 28.6 -0.2
comp=Z,90nm,0.8s
MTSU Mount Surprise 26.81 129 P P 11 46 29.8 +1.0
MLSI Meulaboh, Aceh 26.84 283 P P 11 46 29.8 +0.7
QZH Quanzhou 26.87 352 ⇑*iP* P 11 46 28.8 -0.4
QZH S S 11 51 04.4 -0.6
QZH pmax pmax
comp=Z,880nm,1.3s
QZH pmax pmax
comp=Z,6µm,5.4s
QZH LR LR
comp=Z,82µm,16.5s
QZH LR LR
comp=Z,145µm,19.2s
QZH LR LR
comp=Z,124µm,17.7s
GUMO Guam 26.89 55 P P 11 46 29.1 -0.4
GUMO IAmb IAmb 11 46 54.4
comp=Z,804nm,1.1s
GUMO Guam 26.89 55 P P 11 46 28.6 -0.9
comp=Z,65nm,0.6s,baz=187,slow=13,SNR=8.9
comp=Z,65nm,0.6s
GUMO Guam 26.89 55 P P 11 46 31.4 +1.9
GUMO Guam 26.89 55 P P 11 46 29.1 -0.4
GUMO pmax pmax
comp=Z,804nm,1.2s
GUMO Guam 26.89 55 ⇓P P 11 46 31.1 +1.6
COCO West Island 27.52 247 P P 11 46 33.5 -1.6
COCO West Island 27.52 247 IAMs_20 IAMs_20 11 57 44.3
comp=Z,213µm,20.0s
COCO West Island 27.52 247 P P 11 46 37.0 +1.9
COCO P P 11 46 37.0 +1.9
COCO P P 11 46 37.0 +1.9
COCO S S 11 51 17.8 +2.3
COCO S S 11 51 17.8 +2.3
COCO S S 11 51 17.8 +2.3
COCO West Island 27.52 247 P P 11 46 33.5 -1.6
COCO pmax pmax
comp=Z,458nm,1.1s
COCO MLR MLR
comp=Z,212µm,20.0s
COCO West Island 27.52 247 ⇓P P 11 46 37.1 +1.9
MORW Morawa 27.81 192 P P 11 46 36.3 -1.5
MORW IAMs_20 IAMs_20 11 58 39.2
comp=Z,297µm,20.0s
MORW Morawa 27.81 192 P P 11 46 35.9 -1.8
comp=Z,0.0nmcomp=Z,337nm,0.9s
MORW Morawa 27.81 192 P P 11 46 36.2 -1.5
MORW Morawa 27.81 192 ⇑P P 11 46 35.0 -2.7
BSI Banda Aceh 28.19 285 P P 11 46 41.7 +0.4
comp=Z,109µmcomp=Z,12µmcomp=Z,290nm,1.1s
JMZ Minamidaito 2 28.71 16 P P 11 46 45.0 -0.7
JMZ IAmb IAmb 11 47 07.0
comp=Z,955nm,1.2s
JMZ Minamidaito 2 28.71 16 P P 11 46 47.1 +1.4
OOD Oodnadatta 28.73 155 P P 11 46 45.4 -0.4
JOW Kunigami 29.00 11 P P 11 46 48.0 -0.2
comp=Z,12nm,0.4s,baz=135,slow=8.0,SNR=6.1
JOW LR LR 11 58 58.4
comp=Z,124µm,21.0s,baz=190,slow=38
comp=Z,12nm,0.4s
BLDU Ballidu 29.18 190 P P 11 46 48.8 -1.1
comp=Z,0.0nmcomp=Z,379nm,1.1s
BLDU Ballidu 29.18 190 P P 11 46 48.8 -1.1
FORT Forrest 29.28 170 P P 11 46 49.9 -0.8
FORT IAmb IAmb 11 46 57.9
comp=Z,887nm,1.1s
FORT IAMs_20 IAMs_20 12 00 39.0
comp=Z,272µm,20.0s
FORT Forrest 29.28 170 P P 11 46 49.5 -1.2
comp=Z,0.0nmcomp=Z,775nm,1.8s
FORT Forrest 29.28 170 P P 11 46 49.5 -1.2
FORT Forrest 29.28 170 ⇑P P 11 46 49.8 -0.8
SLVN Son La 29.37 323 P P 11 46 52.5 +0.8
SLVN IAmb IAmb 11 47 00.7
comp=Z,672nm,1.4s
TV1H Townsville Har 29.38 128 P P 11 46 52.6 +0.9
KMBL Kambalda 29.41 181 P P 11 46 50.3 -1.6
comp=Z,398nm,2.0s,comp=Z,0.0nm
KMBL Kambalda 29.41 181 P P 11 46 50.4 -1.5
GULI GuiLin 29.42 337 P P 11 46 54.9 +2.9
GULI pmax pmax
comp=Z,100nm,1.8s
GULI LR LR
comp=Z,63µm,19.5s
GULI LR LR
comp=Z,67µm,18.4s

GULI LR LR
comp=Z,125μm,19.2s
KRVT Keravat (AS076 29.51 96 LR LR 12 00 59.1
comp=Z,6.2nm,19.5s,baz=203,slow=41
RABL Rabaul 29.64 95 P **P** **11 46 55.1 +0.9**
RABL IAmb IAmb 11 47 09.9
comp=Z,1μm,1.2s
RABL Rabaul 29.64 95 ⇑P **P** **11 46 55.1 +0.9**
CMBY CAMPBELL BAY 29.90 287 *e*P **P** **11 46 54.0 -2.4**
CMBY IAmb IAmb 11 52 36.7
comp=Z,27μm,21.4s
MUN Mundaring 30.60 191 P **P** **11 47 00.5 -1.9**
comp=Z,0.0nmcomp=Z,108nm,1.0s
MUN Mundaring 30.60 191 P **P** **11 47 03.5 +1.1**
CM31 Chiang Mai Arr 30.76 312 P **P** **11 47 04.9 +0.9**
CM31 Chiang Mai Arr 30.76 312 P **P** **11 47 05.1 +1.1**
SNR=126
CM31 P **P** **11 47 05.1 +1.1**
SNR=126
CMAR Chiang Mai Arr 30.76 312 P **P** **11 47 04.4 +0.5**
CMAR Chiang Mai Arr 30.76 312 P **P** **11 47 04.2 +0.2**
comp=Z,118nm,0.9s,baz=139,slow=6.9,SNR=116
CMAR PcP **PcP** **11 50 01.8 +0.3**
comp=Z,24nm,0.9s,baz=174,slow=1.6,SNR=6.5
CMAR LR LR 12 00 24.8
comp=Z,87μm,21.9s,baz=115,slow=38
comp=Z,118nm,0.9s
CMAR Chiang Mai Arr 30.76 312 *i*P **P** **11 47 05.0 +1.0**
CMAR pmax pmax
comp=Z,125nm,0.9s
CHTO Chiang Mai 30.98 312 P **P** **11 47 06.4 +0.5**
CHTO IAmb IAmb 11 47 22.6
comp=Z,533nm,1.2s
CHTO Chiang Mai 30.98 312 P **P** **11 47 07.3 +1.3**
CHTO P **P** **11 47 07.3 +1.3**
CHTO P **P** **11 47 07.3 +1.3**
CHTO S **S** **11 52 10.9 +1.0**
CHTO S **S** **11 52 10.9 +1.0**
CHTO S **S** **11 52 10.9 +1.0**
CHTO Chiang Mai 30.98 312 P **P** **11 47 06.8 +0.9**
CHTO Chiang Mai 30.98 312 P **P** **11 47 06.4 +0.5**
CHTO pmax pmax
comp=Z,533nm,1.2s
CHTO MLR MLR
comp=Z,85μm,20.0s
CHTO Chiang Mai 30.98 312 ⇑P **P** **11 47 06.8 +0.9**
CHTO Chiang Mai 30.98 312 P **P** **11 47 07.1 +1.1**
INKA Innaminka 31.11 148 P **P** **11 47 08.2 +1.3**
CNSH ChangSha 31.22 343 P **P** **11 47 07.7 -0.2**
CNSH S **S** **11 52 19.3 +5.9**
CNSH pmax pmax
comp=Z,110nm,1.4s
CNSH pmax pmax
comp=Z,5μm,5.3s
CNSH LR LR
comp=Z,95μm,22.1s
CNSH LR LR
comp=Z,216μm,21.6s
CNSH LR LR
comp=Z,127μm,22.8s
NWAO Narrogin (SRO) 31.36 189 P **P** **11 47 08.1 -1.0**
NWAO IAmb IAmb 11 48 05.0
comp=Z,466nm,1.3s
NWAO Narrogin (SRO) 31.36 189 LR LR 12 01 07.0
comp=Z,75μm,18.8s,baz=358,slow=39
NWAO Narrogin (SRO) 31.36 189 P **P** **11 47 08.0 -1.0**
NWAO P **P** **11 47 08.0 -1.0**
NWAO P **P** **11 47 08.0 -1.0**
NWAO S **S** **11 52 17.0 +1.6**
NWAO S **S** **11 52 17.0 +1.6**
NWAO S **S** **11 52 17.0 +1.6**
NWAO Narrogin (SRO) 31.36 189 P **P** **11 47 09.9 +0.8**
NWAO Narrogin (SRO) 31.36 189 P **P** **11 47 08.1 -1.0**
NWAO pmax pmax
comp=Z,466nm,1.3s
NWAO MLR MLR
comp=Z,134μm,22.0s
GYA Guiyang 32.03 332 P **P** **11 47 17.0 +1.8**
GYA pP sP 11 47 22.8 -0.5
GYA S **S** **11 52 28.5 +2.2**
GYA SS **SnSn** **11 54 19.9 +3.6**
GYA pmax pmax
comp=Z,60nm,0.9s
GYA pmax pmax
comp=Z,7μm,5.2s
GYA LR LR
comp=Z,89μm,23.3s
GYA LR LR
comp=Z,127μm,24.5s
GYA LR LR
comp=Z,78μm,20.7s
LCRK Leigh Creek 32.12 154 P **P** **11 47 15.4 -0.4**
QLP Quilpie 32.24 142 P **P** **11 47 16.7 -0.3**
comp=Z,0.0nmcomp=Z,696nm,1.7s
QLP Quilpie 32.24 142 P **P** **11 47 18.2 +1.2**
QLP Quilpie 32.24 142 ⇑P **P** **11 47 16.7 -0.3**
PBA Port Blair 32.53 295 P **P** **11 47 19.6 0.0**
PBA IAmb IAmb 11 47 51.4
comp=Z,582nm,1.1s
PBA Port Blair 32.53 295 P **P** **11 47 18.7 -0.9**
SNR=9.8
PBA Port Blair 32.53 295 *e*P **P** **11 47 17.9 -1.6**
PBA IAmb IAmb 11 57 35.9
comp=Z,44μm,39.2s
SSE Sheshan 32.75 358 P **P** **11 47 22.8 +1.5**
SSE S **S** **11 52 41.1 +4.0**
SSE pmax pmax
comp=Z,85nm,1.3s
SSE pmax pmax
comp=Z,2μm,5.3s
SSE LR LR
comp=Z,3μm,23.0s
SSE LR LR
comp=Z,7μm,23.0s
KMI Kunming 32.96 326 ⇑P **P** **11 47 24.9 +1.4**
KMI S **S** **11 52 42.2 +1.2**
KMI pmax pmax
comp=Z,150nm,1.2s
KMI LR LR
comp=Z,87μm,18.9s
KMI LR LR
comp=Z,46μm,28.0s
KMI LR LR
comp=Z,89μm,21.4s
DGPR DIGLIPUR 32.96 298 *e*P **P** **11 47 23.4 0.0**
DGPR IAmb IAmb 11 48 06.0
comp=Z,204nm,1.0s
RKGY Rocky Gully 33.05 188 P **P** **11 47 23.4 -0.5**
comp=Z,292nm,2.0s
WHN Wuhan 33.11 347 ⇑*i*P **P** **11 47 24.9 +0.4**
WHN sP **sP** **11 47 31.6 -1.0**
WHN S **S** **11 52 39.6 -3.2**
WHN sS **pS** **11 52 50.0 +0.3**
WHN pmax pmax
comp=Z,20μm,5.1s
WHN LR LR
comp=Z,241μm,20.2s
WHN LR LR
comp=Z,133μm,10.6s
WHN LR LR
comp=Z,381μm,18.3s
BBOO Buckleboo 33.34 159 P **P** **11 47 25.9 -0.6**
BBOO IAmb IAmb 11 47 36.8
comp=Z,448nm,0.7s
BBOO Buckleboo 33.34 159 P **P** **11 47 25.7 -0.8**
comp=Z,0.0nmcomp=Z,733nm,0.8s
BBOO Buckleboo 33.34 159 P **P** **11 47 25.7 -0.8**
NJ2 Nanjing 33.86 354 ⇑P **P** **11 47 30.7 -0.2**
NJ2 pP **pP** **11 47 37.5 +0.8**
NJ2 sP **sP** **11 47 43.1 +4.0**
NJ2 PP **PP** **11 48 47.8 0.0**
NJ2 S **S** **11 52 51.5 -2.8**
NJ2 pmax pmax
comp=Z,88nm,0.8s
NJ2 pmax pmax
comp=Z,3μm,4.0s
NJ2 LR LR
comp=Z,91μm,19.4s
NJ2 LR LR
comp=Z,106μm,21.8s
NJ2 LR LR
comp=Z,179μm,22.7s
ENH Enshi 34.26 340 **P** **11 47 35.0 +0.5**
ENH IAmb IAmb 11 48 17.6
comp=Z,416nm,0.9s
ENH Enshi 34.26 340 P **P** **11 47 36.0 +1.5**
JCJ Chichijima 34.40 32 P **P** **11 47 35.3 -0.4**
JCJ Chichijima 34.40 32 P **P** **11 47 34.1 -1.6**
comp=Z,507nm,0.8s,baz=22,slow=0.8,SNR=13
JCJ LR LR 11 58 57.3
comp=Z,47μm,21.4s,baz=212,slow=32
comp=Z,507nm,0.8s
JCJ Chichijima 34.40 32 P **P** **11 47 34.6 -1.1**
JCJ Chichijima 34.40 32 ⇑P **P** **11 47 35.0 -0.7**
PZH PanZhiHua 34.59 326 P **P** **11 47 38.2 +0.6**
PZH S **S** **11 53 09.7 +3.6**
PZH ScP **ScP** **11 53 58.8 +2.3**
PZH pmax pmax
comp=Z,340nm,1.0s
PZH pmax pmax
comp=Z,5μm,5.1s
PZH LR LR
comp=Z,58μm,17.8s
PZH LR LR
comp=Z,102μm,18.6s
PZH LR LR
comp=Z,77μm,20.6s
STKA Stephens Creek 34.88 151 P **P** **11 47 39.6 -0.2**
STKA Stephens Creek 34.88 151 P **P** **11 47 39.8 0.0**
comp=Z,3μm,1.7s,comp=Z,0.0nm
STKA Stephens Creek 34.88 151 P **P** **11 47 39.7 -0.1**
comp=Z,94nm,0.8s,baz=319,slow=9.3,SNR=104
STKA LR LR 12 03 15.6
comp=Z,171μm,18.1s,baz=321,slow=39
comp=Z,94nm,0.8s
STKA Stephens Creek 34.88 151 P **P** **11 47 39.4 -0.4**
HTT Hallett 34.99 156 P **P** **11 47 40.4 -0.4**
HTT Hallett 34.99 156 P **P** **11 47 40.5 -0.4**
HTT Hallett 34.99 156 ⇑P **P** **11 47 40.8 -0.1**
RMQ Roma 35.14 137 P **P** **11 47 43.1 +0.9**
comp=Z,57nm,1.4s
TNCH TengChong 35.43 320 P **P** **11 47 47.3 +2.4**
TNCH pP sP 11 47 52.4 -0.6
TNCH sP pP 11 47 55.2 +4.5
TNCH PP **PnPn** **11 49 03.7 -0.1**
TNCH S **S** **11 53 21.5 +2.3**
TNCH sS sS 11 53 30.1 +1.5
TNCH PcS **PcS** **11 54 02.6 +0.6**
TNCH SS **SnSn** **11 55 40.6 +1.6**
TNCH ScS **ScS** **11 58 00.7 -3.7**
TNCH pmax pmax
comp=Z,600nm,1.6s
TNCH pmax pmax
comp=Z,8μm,5.2s
TNCH LR LR
comp=Z,57μm,16.9s
TNCH LR LR
comp=Z,90μm,20.7s
TNCH LR LR
comp=Z,75μm,20.9s
JNU Nakatsue 35.62 12 P **P** **11 47 44.6 -1.6**
JNU Nakatsue 35.62 12 P **P** **11 47 44.1 -2.1**
comp=Z,28nm,0.8s,baz=193,slow=3.6,SNR=12
comp=Z,28nm,0.8s
JNU Nakatsue 35.62 12 P **P** **11 47 44.4 -1.8**
JNU Nakatsue 35.62 12 ⇑P **P** **11 47 43.8 -2.5**
EIDS Eidsvold 36.10 133 P **P** **11 47 49.6 -0.9**
EIDS Eidsvold 36.10 133 P **P** **11 47 49.3 -1.1**
comp=Z,0.0nmcomp=Z,131nm,1.2s
EIDS Eidsvold 36.10 133 P **P** **11 47 52.2 +1.7**
EIDS Eidsvold 36.10 133 ⇑P **P** **11 47 48.9 -1.6**
PATS Pohnpei 36.69 76 IAMs_20 IAMs_20 12 00 54.1
comp=Z,162μm,22.0s
PATS Pohnpei 36.69 76 P **P** **11 47 57.0 +1.4**
comp=Z,0.0nmcomp=Z,522nm,1.4s
JTU Tsushima 36.71 9 P **P** **11 47 57.1 +1.7**
JTU Tsushima 36.71 9 ⇑P **P** **11 47 53.4 -2.1**
CMSA Cobar Meteorol 36.75 146 P **P** **11 47 56.2 +0.2**
comp=Z,0.0nmcomp=Z,615nm,1.4s
CMSA Cobar Meteorol 36.75 146 P **P** **11 47 55.8 -0.1**
JMN Monobe 36.92 16 P **P** **11 47 56.3 -1.0**
JMN Monobe 36.92 16 P **P** **11 47 55.5 -1.8**
JMN Monobe 36.92 16 ⇑P **P** **11 47 55.8 -1.6**
CD2 Chengdu 37.14 333 P **P** **11 47 59.9 +0.6**
CD2 PP **PnPn** **11 49 31.0 +6.4**
CD2 S **S** **11 53 48.0 +3.1**
CD2 pmax pmax
comp=Z,120nm,1.0s
CD2 pmax pmax
comp=Z,7μm,4.0s
CD2 LR LR
comp=Z,107μm,19.0s
CD2 LR LR
comp=Z,106μm,17.8s
LYN LuoYang 37.39 346 ⇓P **P** **11 48 01.8 +0.5**
LYN pP pP 11 48 06.1 -0.9
LYN S **S** **11 53 49.9 +1.4**
LYN sS sS 11 53 58.9 +0.9
LYN SS **SnSn** **11 56 18.6 -7.4**
LYN pmax pmax
comp=Z,190nm,1.0s
LYN pmax pmax
comp=Z,8μm,4.6s
LYN LR LR
comp=Z,90μm,22.0s
LYN LR LR
comp=Z,94μm,19.1s
LYN LR LR
comp=Z,224μm,21.6s
TATA Tatamba Isabel 37.63 101 P **P** **11 48 04.8 +1.2**
XAN Xi'an 37.90 341 P **P** **11 48 04.2 -1.5**
XAN sP pP 11 48 10.8 -0.6
XAN PP **PP** **11 49 37.5 +5.0**
XAN S **S** **11 53 57.1 +0.7**
XAN sS pS 11 54 04.3 +1.1
XAN pmax pmax
comp=Z,470nm,1.5s
XAN pmax pmax
comp=Z,10μm,5.3s
XAN LR LR
comp=Z,142μm,22.0s
XAN LR LR
comp=Z,85μm,17.0s
XAN LR LR
comp=Z,184μm,21.0s
JHS Saijyo 37.92 14 P **P** **11 48 04.9 -1.0**
HNR Honiara 37.93 103 P **P** **11 48 05.9 -0.2**
HNR Honiara 37.93 103 LR LR 12 04 59.6
comp=Z,46μm,21.5s,baz=276,slow=38
HNR Honiara 37.93 103 P **P** **11 48 07.1 +1.0**
HNR Honiara 37.93 103 P **P** **11 48 05.9 -0.2**
HNR pmax pmax
comp=Z,1μm,1.0s
HNR MLR MLR
comp=Z,77μm,22.0s
HNR Honiara 37.93 103 ⇑P **P** **11 48 05.6 -0.5**
TIA Tai'an 38.16 353 P **P** **11 48 07.0 -0.8**
TIA pmax pmax
comp=Z,190nm,1.6s
TIA pmax pmax
comp=Z,4μm,11.7s
TIA LR LR
comp=Z,118μm,22.6s
TIA LR LR
comp=Z,25μm,19.6s
TIA LR LR
comp=Z,226μm,24.5s
TJN Taejon 38.25 6 P **P** **11 48 07.9 -0.6**
TJN IAmb IAmb 11 48 20.8
comp=Z,612nm,1.3s
TJN Taejon 38.25 6*d*i*P* **P** **11 48 07.9 -0.6**
JHJ Hachijo jima 2 38.35 24 LR LR 12 03 44.9
comp=Z,54μm,22.0s,baz=228,slow=36
IMP Imphal 38.36 315 *e*P **P** **11 48 08.2 -1.5**
JIE Ise 38.38 19 P **P** **11 48 08.3 -1.3**
NGOA Tingoa Renbel 38.42 106 P **P** **11 48 11.2 +0.9**
AZL Aizawl 38.59 313 *e*P **P** **11 48 11.5 -0.2**
BRDH Bariadhala 38.75 311 LR LR 12 05 16.6
comp=Z,179μm,21.9s,baz=124,slow=38
JWT Wachi 38.80 17 P **P** **11 48 11.4 -1.7**
KOHI KOHIMA 38.82 317 *e*P **P** **11 48 12.4 -1.3**
ARPS Mount Arapiles 39.08 155 P **P** **11 48 15.5 0.0**
comp=Z,1μm,0.8s
ARPS Mount Arapiles 39.08 155 P **P** **11 48 15.0 -0.5**
JSG Sagara 39.14 21 IAMs_20 IAMs_20 12 04 03.2
comp=Z,114μm,20.0s
INCN Inchon 39.27 5 P **P** **11 48 20.3 +3.1**
INCN P **P** **11 48 20.3 +3.1**
INCN P **P** **11 48 20.3 +3.1**
INCN S **S** **11 54 18.1 +1.1**
INCN S **S** **11 54 18.1 +1.1**
INCN S **S** **11 54 18.1 +1.1**
INU Inuyama 39.36 19 P **P** **11 48 16.2 -1.6**
INU Inuyama 39.36 19 P **P** **11 48 16.4 -1.4**
INU Inuyama 39.36 19 ⇑P **P** **11 48 16.2 -1.6**
KSAR Wonju Array Be 39.36 7 P **P** **11 48 16.5 -1.3**
KSAR Wonju Array Be 39.36 7 P **P** **11 48 16.5 -1.3**
KSRS Korea Array 39.38 7 P **P** **11 48 16.6 -1.4**
comp=Z,19nm,0.8s,baz=185,slow=9.8,SNR=56
KSRS PcP **PcP** **11 50 26.8 +0.7**
comp=Z,16nm,0.9s,baz=176,slow=2.8,SNR=4.4
KSRS LR LR 12 03 43.5
comp=Z,80μm,21.5s,baz=195,slow=35
comp=Z,19nm,0.8s
MGBR Mount Gambier 39.39 157 P **P** **11 48 17.7 -0.4**
KS19 Wonju Array Si 39.42 7 P **P** **11 48 17.0 -1.3**
ARMA Armidale 39.60 139 P **P** **11 48 20.4 +0.4**
ARMA Armidale 39.60 139 P **P** **11 48 20.5 +0.4**
comp=Z,0.0nmcomp=Z,385nm,1.3s
ARMA Armidale 39.60 139 P **P** **11 48 21.3 +1.2**
ARMA Armidale 39.60 139 ⇑P **P** **11 48 20.9 +0.8**
HNS HongShan 39.69 350 ⇑P **P** **11 48 19.3 -1.2**
HNS pP **pP** **11 48 26.1 -0.2**
HNS sP **sP** **11 48 31.3 +2.6**
HNS pmax pmax
comp=Z,91nm,1.4s
HNS LR LR
comp=Z,74μm,19.8s
HNS LR LR
comp=Z,79μm,18.2s
HNS LR LR
comp=Z,125μm,19.5s
JGF Kuroka 39.70 19 P **P** **11 48 19.2 -1.5**
JGF Kuroka 39.70 19 P **P** **11 48 22.0 +1.3**
JGF Kuroka 39.70 19 P **P** **11 48 18.6 -2.1**
JGF Kuroka 39.70 19 ⇑P **P** **11 48 18.6 -2.1**
AGT Agartala 39.74 312 *e*P **P** **11 48 20.4 -0.7**
HJU Haeju 39.76 4 P **P** **11 48 17.9 -3.2**
HJU AmB
comp=Z,7μm,6.0s
HJU AMS AMS
comp=Z,169μm,23.8s
ZIRO ZIRO 40.18 319 *e*P **P** **11 48 24.8 -0.2**
SHL Shillong 40.28 315 P **P** **11 48 25.9 0.0**
SHL Shillong 40.28 315 P **P** **11 48 24.9 -1.0**
SNR=127
SHL Shillong 40.28 315 *e*P **P** **11 48 25.9 0.0**
SHL IAmb IAmb 11 48 52.9
comp=Z,257nm,0.8s
SHL Shillong 40.28 315 P **P** **11 48 25.9 0.0**
SHL pmax pmax
comp=Z,369nm,0.9s
TIY Taiyuan 40.43 348 P **P** **11 48 26.9 +0.1**
TIY pP **sP** **11 48 37.5 +2.5**
TIY S **S** **11 54 38.5 +4.1**
TIY pmax pmax
comp=Z,45nm,1.1s
TIY pmax pmax
comp=Z,4μm,6.2s
TIY LR LR
comp=Z,105μm,23.4s
TIY LR LR
comp=Z,36μm,21.3s
TIY LR LR
comp=Z,104μm,21.3s
DL2 Dalian 40.52 359 P **P** **11 48 26.0 -1.4**
DL2 PcS **PcS** **11 54 20.4 +0.1**
DL2 S **S** **11 54 35.4 -0.2**
DL2 pmax pmax
comp=Z,66nm,0.8s
DL2 pmax pmax
comp=Z,2μm,6.9s
DL2 LR LR
comp=Z,103μm,21.6s
DL2 LR LR
comp=Z,90μm,21.8s
DL2 LR LR
comp=Z,141μm,33.5s
JRY Ryogami san 40.60 21 P **P** **11 48 25.7 -2.5**
BRAT Ballarat 40.64 154 P **P** **11 48 29.1 +0.7**
PYAG Pyongyang 40.76 4 P **P** **11 48 26.5 -2.9**
PYAG S **S** **11 54 37.5 -1.6**
PYAG AmB
comp=Z,3μm,3.9s
PYAG AMS AMS
comp=Z,158μm,27.7s
MAJO Matsushiro 40.84 19 P **P** **11 48 28.2 -1.9**
MAJO IAmb IAmb 11 48 36.3
comp=Z,2μm,1.9s
MAJO Matsushiro 40.84 19 IAMs_20 IAMs_20 12 06 10.2
comp=Z,113μm,22.0s
MAJO Matsushiro 40.84 19 P **P** **11 48 28.3 -1.9**
MAJO Matsushiro 40.84 19*c i*P **P** **11 48 28.0 -2.1**
MAJO pmax pmax
comp=Z,803nm,1.9s
MAJO MLR MLR
comp=Z,104μm,20.0s
MAJO Matsushiro 40.84 19 ⇑P **P** **11 48 27.4 -2.7**
MAJO Matsushiro 40.84 19 P **P** **11 48 28.0 -2.1**
MAT Matsushiro 40.84 19 P **P** **11 48 27.0 -3.1**
MJAR Matsushiro Arr 40.84 19 P **P** **11 48 27.3 -2.8**
comp=Z,80nm,0.8s,baz=192,slow=8.8,SNR=122
MJAR LR LR 12 05 42.4
comp=Z,93μm,20.4s,baz=207,slow=37
comp=Z,80nm,0.8s
MJB9 Matsu-Tunnel 40.84 19 P **P** **11 48 29.0 -1.1**
MJB9 IAmb IAmb 11 48 37.3
comp=Z,2μm,2.0s
MGCD Mangrove Creek 41.13 142 P **P** **11 48 33.4 +0.8**
comp=Z,75nm,0.7s
MGCD Mangrove Creek 41.13 142 P **P** **11 48 34.0 +1.4**
CAL Calcutta 41.24 308 *e*P **P** **11 48 32.5 -1.1**
GEXS Deakin Univers 41.33 154 P **P** **11 48 35.4 +1.2**
TOO Toolangi 41.37 152 P **P** **11 48 35.2 +0.7**
TOO Toolangi 41.37 152 P **P** **11 48 35.4 +0.9**
comp=Z,0.0nmcomp=Z,172nm,1.7s
TOO Toolangi 41.37 152 P **P** **11 48 35.2 +0.7**
TOO pmax pmax
comp=Z,177nm,1.1s
TOO MLR MLR
comp=Z,49μm,18.0s
TOO Toolangi 41.37 152 ⇑P **P** **11 48 35.5 +0.9**
CAN Canberra 41.41 147 P **P** **11 48 35.6 +0.6**
CAN IAmb IAmb 11 48 46.8
comp=Z,2μm,1.7s
CAN IAMs_20 IAMs_20 12 08 26.8
comp=Z,134μm,18.0s
CAN Canberra 41.41 147 P **P** **11 48 35.3 +0.4**
comp=Z,0.0nmcomp=Z,552nm,1.9s
CAN Canberra 41.41 147 P **P** **11 48 35.7 +0.8**
CAN Canberra 41.41 147 P **P** **11 48 35.6 +0.6**
CAN pmax pmax
comp=Z,2μm,1.7s
CAN MLR MLR
comp=Z,134μm,18.0s
CAN Canberra 41.41 147 ⇑P **P** **11 48 35.5 +0.6**
LZH Lanzhou 41.55 337 ⇑P **P** **11 48 36.6 +0.4**
LZH pP pP 11 48 42.8 +0.8
LZH sP sP 11 48 47.4 +3.0
LZH S **S** **11 54 55.5 +4.2**
LZH pmax pmax
comp=Z,110nm,1.3s
LZH pmax pmax
comp=Z,5μm,5.4s
LZH LR LR
comp=Z,88μm,15.5s
LZH LR LR
comp=Z,64μm,16.8s
LZH LR LR
comp=Z,135μm,17.2s
TAWA Tawang 41.56 317 *e*P **P** **11 48 34.8 -1.8**
RIV Riverview 41.59 143 P **P** **11 48 37.4 +1.1**
comp=Z,365nm,1.4s
RIV Riverview 41.59 143 ⇑P **P** **11 48 37.6 +1.3**
RIV Riverview 41.59 143 ⇑P **P** **11 48 37.6 +1.3**
CNB Canberra Magne 41.61 146 P **P** **11 48 36.8 +0.2**
comp=Z,0.0nmcomp=Z,364nm,1.6s
CNB Canberra Magne 41.61 146 P **P** **11 48 37.5 +0.9**
SUJ Sinuiju 41.75 2 P **P** **11 48 34.9 -2.5**
SUJ S **S** **11 54 51.5 -2.2**
SUJ AmB
comp=Z,4μm,4.6s
SUJ AMS AMS
comp=Z,118μm,21.4s
HHU Hamhung 41.78 6 P **P** **11 48 36.1 -1.6**

HHU S **S** **11 54 53.4 -0.9**
HHU AmB
comp=Z,1μm,2.3s
HHU AMS AMS
comp=Z,133μm,38.8s
BJT Baijiatuau 42.04 353 P **P** **11 48 41.4 +1.5**
BJI Beijing 42.06 353 P **P** **11 48 38.3 -1.7**
BJI S **S** **11 55 04.2 +5.9**
BJI pmax pmax
comp=Z,40nm,0.9s
BJI pmax pmax
comp=Z,2μm,5.7s
BJI LR LR
comp=Z,33μm,22.0s
BJI LR LR
comp=Z,19μm,20.4s
BJI LR LR
comp=Z,64μm,23.0s
JSD Sado 42.22 19 P **P** **11 48 39.7 -1.7**
JSD Sado 42.22 19 P **P** **11 48 39.8 -1.6**
JSD Sado 42.22 19 P **P** **11 48 39.1 -2.2**
JSD Sado 42.22 19 ⇑P **P** **11 48 39.2 -2.2**
HALK Hakmana 42.56 281 ⇑P **P** **11 48 42.6 -1.9**
PALK Pallekele 42.74 283 P **P** **11 48 45.4 -0.7**
PALK Pallekele 42.74 283 IAMs_20 IAMs_20 12 06 43.8
comp=Z,100μm,20.0s
PALK Pallekele 42.74 283 LR LR 12 06 56.0
comp=Z,90μm,20.8s,baz=100,slow=37
PALK Pallekele 42.74 283 P **P** **11 48 44.7 -1.4**
PALK S **S** **11 55 09.2 -0.1**
PALK Pallekele 42.74 283 P **P** **11 48 45.4 -0.7**
PALK pmax pmax
comp=Z,363nm,1.7s
PALK MLR MLR
comp=Z,100μm,20.0s
PALK Pallekele 42.74 283 ⇑P **P** **11 48 44.3 -1.8**
PALK Pallekele 42.74 283 P **P** **11 48 46.0 -0.1**
MILA Mila 42.79 148 P **P** **11 48 46.6 +0.5**
comp=Z,63nm,1.6s
JMM Marumori 42.93 21 P **P** **11 48 46.6 -0.5**
JMM IAmb IAmb 11 48 56.2
comp=Z,2μm,1.7s
JMM Marumori 42.93 21 P **P** **11 48 47.3 +0.2**
JMM Marumori 42.93 21 ⇑P **P** **11 48 46.5 -0.7**
MALK Mahakanadarawa 43.11 284 P **P** **11 48 48.9 -0.1**
MALK Mahakanadarawa 43.11 284 ⇑P **P** **11 48 48.1 -0.9**
JPG JALPAIGURI 43.15 313 *e*P **P** **11 48 49.5 +0.3**
JYA Atsumi 43.20 20 P **P** **11 48 48.1 -1.3**
VIS Vishakhapatnam 43.25 298 *e*P **P** **11 48 47.0 -3.1**
VIS IAmb IAmb 11 48 59.0
comp=Z,247nm,1.0s
LSA Lhasa 43.39 319 **P** **11 48 52.4 +0.8**
LSA IAmb IAmb 11 49 24.9
comp=Z,1μm,1.9s
LSA Lhasa 43.39 319 P **P** **11 48 53.0 +1.4**
LSA S **S** **11 55 16.0 -3.3**
LSA LR LR
comp=Z,61μm,18.7s
LSA LR LR
comp=Z,41μm,21.6s
LSA Lhasa 43.39 319 P **P** **11 48 52.0 +0.4**
LSA P **P** **11 48 52.0 +0.4**
LSA P **P** **11 48 52.0 +0.4**
LSA Lhasa 43.39 319 P **P** **11 48 52.4 +0.8**
LSA pmax pmax
comp=Z,1μm,1.9s
LSA MLR MLR
comp=Z,47μm,22.0s
LSA Lhasa 43.39 319 P **P** **11 48 51.5 -0.2**
SNY Shenyang 43.44 1 ⇓P **P** **11 48 49.5 -1.7**
SNY S **S** **11 55 20.7 +2.1**
SNY pmax pmax
comp=Z,10.0nm,0.8s
SNY pmax pmax
comp=Z,2μm,5.2s
SNY LR LR
comp=Z,58μm,22.1s
SNY LR LR
comp=Z,29μm,18.2s
SNY LR LR
comp=Z,93μm,23.0s
HHC Hu-ho-hao-te 43.63 348⇑*i*P **P** **11 48 50.6 -2.3**
HHC sP pP 11 48 58.6 -0.1
HHC S **S** **11 55 22.5 +0.9**
HHC sS sS 11 55 33.5 +2.3
HHC pmax pmax
comp=Z,190nm,1.5s
HHC pmax pmax
comp=Z,3μm,6.1s
HHC LR LR
comp=Z,87μm,21.0s
HHC LR LR
comp=Z,53μm,16.8s
HHC LR LR
comp=Z,140μm,21.6s
GTK Tadong 43.68 314 *e*P **P** **11 48 51.4 -2.2**
GTK IAmb IAmb 11 49 15.8
comp=Z,930nm,1.9s
BTO Baotou 43.74 346 *e*P **P** **11 48 54.5 +0.7**
BTO pP **pP** **11 48 59.9 +0.2**
BTO sP **sP** **11 49 04.8 +2.7**
BTO PP **PcP** **11 50 39.4 -1.2**
BTO S **S** **11 55 25.4 +2.1**
BTO pmax pmax
comp=Z,83nm,1.7s
BTO pmax pmax
comp=Z,8μm,5.9s
BTO LR LR
comp=Z,211μm,21.4s
BTO LR LR
comp=Z,126μm,18.8s
BTO LR LR
comp=Z,341μm,22.0s
RAGD RAYAGADA 43.74 300 *e*P **P** **11 48 51.9 -2.1**
RAGD IAmb IAmb 11 49 02.8
comp=Z,321nm,1.0s
BOK Bokaro 43.81 308 *e*P **P** **11 48 53.4 -1.2**
BOK IAmb IAmb 11 49 31.7
comp=Z,1μm,2.4s
KNTI KHUNTI 43.93 306 *e*P **P** **11 48 55.4 -0.2**
KNTI IAmb IAmb 11 49 03.9
comp=Z,562nm,1.5s
MDRS Chennai 44.52 291 *e*P **P** **11 48 59.8 -0.5**
MDRS IAmb IAmb 11 49 09.1
comp=Z,702nm,0.2s
JOM Ohasama 44.53 21 P **P** **11 48 59.2 -0.8**
JHSG JHARSUGUGA 44.56 304 *e*P **P** **11 48 59.2 -1.3**
KOUNC Koumac, New Ca 44.75 118 P **P** **11 49 03.4 +1.3**
KOUNC Koumac, New Ca 44.75 118 ⇓P **P** **11 49 03.5 +1.3**
MSHR Mys Shultsa 44.86 9*ce*P **P** **11 49 00.5 -2.1**
MSHR pmax pmax
comp=Z,190nm,1.2s
MSHR MLR MLR
comp=Z,33μm,18.0s
PSTR Posyet 44.88 9⇓*e*P **P** **11 49 01.9 -0.8**
VJD Vijayawada 45.21 295 *e*P **P** **11 49 02.9 -2.9**
VJD IAmb IAmb 11 49 14.2
comp=Z,556nm,1.2s
GLAD Gladstone 45.27 153 P **P** **11 49 06.8 +0.9**
EVN Everest 45.34 313 ⇑P **P** **11 49 09.1 +1.6**
LHI Lord Howe Isla 45.37 134 P **P** **11 49 04.3 -2.6**
LHI IAMs_20 IAMs_20 12 08 57.3
comp=Z,103μm,18.0s
LHI Lord Howe Isla 45.37 134 P **P** **11 49 07.4 +0.6**
comp=Z,0.0nmcomp=Z,130nm,1.2s
CN2 Changchun 45.48 3 *e*P **P** **11 49 09.2 +1.7**
CN2 *ep*P pP 11 49 13.3 -0.1
CN2 *e*PP **PP** **11 50 56.4 +2.2**
CN2 *e*SS SS 11 59 05.5 -6.7
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,2μm,8.0s
CN2 LR LR
comp=Z,76μm,22.0s
CN2 LR LR
comp=Z,51μm,22.0s
CN2 LR LR
comp=Z,71μm,24.0s
VLA Vladivostok 45.50 10⇑*e*P **P** **11 49 07.2 -0.5**
VLA pmax pmax
comp=Z,60nm,1.0s
VLA MLR MLR
comp=Z,23μm,17.0s
JTM Tenmabayashi 45.63 20 P **P** **11 49 08.2 -0.5**

JTM IAmb IAmb 11 49 17.0
comp=Z,534nm,0.9s
JTM IAMs_20 IAMs_20 12 05 47.6
comp=Z,125μm,22.0s
JTM Tenmabayashi 45.63 20 P **P** **11 49 08.4 -0.3**
JTM Tenmabayashi 45.63 20 P **P** **11 49 07.8 -0.9**
JTM Tenmabayashi 45.63 20 ⇓P **P** **11 49 07.8 -0.9**
GOMU GeErMu 45.81 328 P **P** **11 49 11.2 +0.4**
GOMU pP pP 11 49 15.4 -1.2
GOMU sP sP 11 49 19.0 0.0
GOMU pmax pmax
comp=Z,74nm,1.4s
GOMU LR LR
comp=Z,85μm,19.6s
GOMU LR LR
comp=Z,202μm,18.8s
GOMU LR LR
comp=Z,130μm,19.0s
XLT XiLinHaoTe 45.87 353 *e*P **P** **11 49 09.8 -1.0**
XLT sP pP 11 49 16.6 0.0
XLT S **S** **11 55 52.9 -1.2**
XLT pmax pmax
comp=Z,59nm,1.3s
XLT pmax pmax
comp=Z,4μm,5.2s
XLT LR LR
comp=Z,6μm,25.8s
XLT LR LR
comp=Z,43μm,22.9s
XLT LR LR
comp=Z,103μm,25.7s
GTA Gaotai 46.03 335 P **P** **11 49 12.6 +0.4**
GTA pP pP 11 49 19.2 +1.2
GTA PcP **PcP** **11 50 51.5 +3.0**
GTA S **S** **11 56 03.0 +6.3**
GTA SS **SS** **11 59 14.7 -7.3**
GTA pmax pmax
comp=Z,130nm,1.2s
GTA LR LR
comp=Z,59μm,20.7s
GTA LR LR
comp=Z,43μm,21.5s
GTA LR LR
comp=Z,53μm,23.1s
MOO Moorlands 46.08 155 P **P** **11 49 12.4 +0.1**
comp=Z,0.0nmcomp=Z,251nm,1.6s
MOO Moorlands 46.08 155 P **P** **11 49 13.4 +1.1**
SALM Salem 46.08 288 *e*P **P** **11 49 10.3 -2.4**
SALM IAmb IAmb 11 49 22.6
comp=Z,470nm,1.3s
BLSP Bilaspur 46.08 303 *e*P **P** **11 49 10.4 -2.3**
BLSP IAmb IAmb 11 49 20.6
comp=Z,306nm,1.1s
JOT Ohata 46.15 19 P **P** **11 49 12.0 -0.8**
KOD Kodaikanal 46.46 286 *e*P **P** **11 49 13.8 -2.3**
TAU Tasmania Unive 46.52 155 P **P** **11 49 15.4 -0.2**
TAU IAmb IAmb 11 49 23.0
comp=Z,439nm,1.4s
TAU Tasmania Unive 46.52 155 P **P** **11 49 17.0 +1.3**
TAU Tasmania Unive 46.52 155 P **P** **11 49 15.5 -0.2**
TAU pmax pmax
comp=Z,439nm,1.5s
TAU MLR MLR
comp=Z,192μm,20.0s
USA0B Ussuriysk Arra 46.57 9 P **P** **11 49 14.2 -1.9**
USA0B Ussuriysk Arra 46.57 9 P **P** **11 49 14.2 -1.9**
USA0B pmax pmax
comp=Z,147nm,1.0s
USRK Ussuriysk Ar. 46.57 9 P **P** **11 49 14.1 -2.0**
USRK Ussuriysk Ar. 46.57 9 P **P** **11 49 14.2 -1.9**
comp=Z,42nm,0.7s,baz=198,slow=7.6,SNR=66
USRK LR LR 12 10 16.5
comp=Z,32μm,19.6s,baz=188,slow=38
comp=Z,42nm,0.7s
TRD Trivandrum 46.61 283 *e*P **P** **11 49 13.5 -3.5**
TRD IAmb IAmb 11 49 25.4
comp=Z,300nm,1.1s
MDJ Mudanjiang 46.64 7 **P** **11 49 14.8 -1.9**
MDJ Mudanjiang 46.64 7 P **P** **11 49 14.7 -2.0**
MDJ PcP **PcP** **11 50 52.2 +1.8**
MDJ ScS ScS 11 59 11.9 +1.2
MDJ pmax pmax
comp=Z,25nm,0.8s
MDJ pmax pmax
comp=Z,3μm,6.2s
MDJ LR LR
comp=Z,43μm,19.9s
MDJ LR LR
comp=Z,19μm,15.8s
MDJ LR LR
comp=Z,123μm,24.7s
MDJ Mudanjiang 46.64 7 P **P** **11 49 16.1 -0.6**
VAR Varanasi 46.82 308 *e*P **P** **11 49 17.7 -0.7**
JSH Shimam 46.98 18 P **P** **11 49 19.1 -0.2**
DZM Mont Dzumac 47.15 119 P **P** **11 49 21.6 +0.4**
DZM IAmb IAmb 11 49 28.8
comp=Z,519nm,1.4s
DZM IAMs_20 IAMs_20 12 09 52.0
comp=Z,75μm,19.0s
DZM Mont Dzumac 47.15 119 LR LR 12 12 49.9
comp=Z,37μm,18.3s,baz=296,slow=41
DZM Mont Dzumac 47.15 119 P **P** **11 49 22.3 +1.1**
DZM Mont Dzumac 47.15 119 ⇑P **P** **11 49 22.1 +0.9**
ONTNC Ouen Toro 47.24 119 P **P** **11 49 20.8 -1.0**
ONTNC IAmb IAmb 11 49 29.0
comp=Z,278nm,1.0s
ONTNC IAMs_20 IAMs_20 12 09 52.2
comp=Z,97μm,19.0s
ONTNC Ouen Toro 47.24 119 ⇑P **P** **11 49 22.0 +0.3**
ERM Erimo 47.44 21 P **P** **11 49 23.8 +0.8**
ERM IAmb IAmb 11 49 34.2
comp=Z,625nm,1.6s
ERM Erimo 47.44 21 P **P** **11 49 23.4 +0.5**
ERM Erimo 47.44 21*ce*P **P** **11 49 22.0 -0.9**
ERM pmax pmax
comp=Z,227nm,1.7s
ERM Erimo 47.44 21 P **P** **11 49 23.5 +0.6**
JEM Erimo 47.44 21 P **P** **11 49 23.7 +0.8**
JEM Erimo 47.44 21 P **P** **11 49 22.9 0.0**
DVP Devils Point 47.48 112 P **P** **11 49 24.9 +1.2**
BNX BinXian 47.54 5 ⇓P **P** **11 49 21.7 -1.9**
BNX S **S** **11 56 16.8 -0.8**
BNX pmax pmax
comp=Z,81nm,1.1s
BNX pmax pmax
comp=Z,2μm,5.2s
BNX LR LR
comp=Z,74μm,23.9s
BNX LR LR
comp=Z,91μm,22.2s
BNX LR LR
comp=Z,113μm,22.8s
YATNC Mamie plateau, 47.54 119 P **P** **11 49 25.5 +1.4**
OUENC Ouen Island, N 47.61 119 P **P** **11 49 26.1 +1.5**
ALBI Allahabad 47.79 307 *e*P **P** **11 49 24.7 -1.3**
ALBI IAmb IAmb 11 49 47.3
comp=Z,845nm,1.8s
PINNC Pines Island, 48.20 119 P **P** **11 49 29.6 +0.4**
PINNC IAmb IAmb 11 49 38.1
comp=Z,560nm,1.3s
PINNC IAMs_20 IAMs_20 12 13 36.8
comp=Z,84μm,18.0s
TEY Ternei 48.28 13⇓*e*P **P** **11 49 26.6 -2.8**
NGP Nagpur 48.30 301 *e*P **P** **11 49 27.1 -2.8**
NGP IAmb IAmb 11 50 06.4
comp=Z,342nm,1.1s
ASAJ Asahikawa 49.11 19 P **P** **11 49 35.1 -0.7**
comp=Z,80nm,0.7s,baz=233,slow=11,SNR=128
ASAJ LR LR 12 07 57.6
comp=Z,63μm,21.6s,baz=220,slow=33
comp=Z,80nm,0.7s
ASAJ Asahikawa 49.11 19 P **P** **11 49 34.5 -1.2**
JKA Kamikawa-asahi 49.11 19 P **P** **11 49 34.8 -1.0**
JKA IAmb IAmb 11 49 43.5
comp=Z,346nm,0.9s
JKA IAMs_20 IAMs_20 12 10 40.8
comp=Z,70μm,21.0s
LKN LUCKNOW 49.21 308 *e*P **P** **11 49 32.3 -4.6**
LKN IAmb IAmb 11 49 44.2
comp=Z,507nm,0.6s
JMP Maruseppu 49.26 20 P **P** **11 49 36.4 -0.7**
MNGI Mangalore 49.59 289 *e*P **P** **11 49 36.9 -3.0**
KAAM Kaadhehdhoo 49.62 272 IAMs_20 IAMs_20 12 09 32.6
comp=Z,106μm,21.0s
KAAM Kaadhehdhoo 49.62 272 P **P** **11 49 38.9 -1.4**
SNR=8.3
KAAM Kaadhehdhoo 49.62 272 ⇑P **P** **11 49 39.9 -0.4**
AKL Akola 49.89 299 *e*P **P** **11 49 39.4 -2.8**
AKL IAmb IAmb 11 49 49.5
comp=Z,377nm,1.1s
JWK2 Keihoku 49.96 18 P **P** **11 49 41.6 -0.7**
HMDM Hanimaadhoo 50.03 280 P **P** **11 49 40.9 -2.4**
YUK Yuzh-Kuril'sk 50.17 22 *e*P **P** **11 49 40.2 -3.7**
YUK *i* 11 51 01.8
YUK *i* S **S** **11 56 55.6 +0.8**
YUK *i* SS **SS** **12 00 24.7 -3.8**
YUK pmax pmax
comp=Z,1μm,1.2s
YUK pmax pmax
comp=Z,1μm,1.1s
YUK pmax pmax
comp=N,158nm,0.8s
YUK pmax pmax
comp=E,100nm,0.7s
H08S2 Diego Garcia H 50.21 262 P **P** **11 49 45.1 +0.7**
baz=59,slow=9.0,SNR=32
H08S3 Diego Garcia H 50.22 262 P **P** **11 49 45.1 +0.6**
baz=59,slow=9.0,SNR=42
H08S1 Diego Carcia H 50.23 262 P **P** **11 49 44.6 0.0**
baz=59,slow=9.0,SNR=23
DGAR Diego Garcia 50.24 262 P **P** **11 49 44.2 -0.7**
DGAR Diego Garcia 50.24 262 IAMs_20 IAMs_20 12 08 44.7
comp=Z,124μm,22.0s
DGAR Diego Garcia 50.24 262 P **P** **11 49 44.2 -0.7**
DGAR P **P** **11 49 44.2 -0.7**
DGAR P **P** **11 49 44.2 -0.7**
DGAR S **S** **11 56 57.9 +1.2**
DGAR S **S** **11 56 57.9 +1.2**
DGAR S **S** **11 56 57.9 +1.2**
DGAR Diego Garcia 50.24 262*c i*P **P** **11 49 44.2 -0.7**
DGAR pmax pmax
comp=Z,1μm,1.7s
JHNI Jhansi 50.49 305 *e*P **P** **11 49 42.8 -3.9**
BHPL Bhopal 50.50 302 *e*P **P** **11 49 44.9 -1.9**
BHPL IAmb IAmb 11 49 54.1
comp=Z,536nm,1.6s
NRDN NARMADA NAGAR 50.51 302 *e*P **P** **11 49 47.8 +0.9**
FRKB FARRUKHABAD 50.54 308 *e*P **P** **11 49 45.5 -1.5**
HIA Hailar 50.93 358 P **P** **11 49 51.4 +1.8**
LGTI Lohaghat 51.01 311 *e*P **P** **11 49 48.8 -1.7**
LGTI IAmb IAmb 11 49 56.8
comp=Z,160nm,1.0s
PTH Pithoragarh 51.08 311 *e*P **P** **11 49 48.4 -2.9**
PTH IAmb IAmb 11 50 27.9
comp=Z,206nm,1.0s
GUNA GUNA 51.14 304 *e*P **P** **11 49 48.4 -3.2**
GUNA IAmb IAmb 11 50 01.1
comp=Z,243nm,0.8s
ULN Ulaanbaatar 51.30 347 P **P** **11 49 52.2 -0.3**
ULN Ulaanbaatar 51.30 347 IAMs_20 IAMs_20 12 13 19.5
comp=Z,93μm,20.0s
ULN Ulaanbaatar 51.30 347 P **P** **11 49 51.1 -1.4**
ULN P **P** **11 49 51.1 -1.4**
ULN P **P** **11 49 51.1 -1.4**
ULN S **S** **11 57 10.6 -0.1**
ULN S **S** **11 57 10.6 -0.1**
ULN S **S** **11 57 10.6 -0.1**
ULN Ulaanbaatar 51.30 347 P **P** **11 49 52.5 0.0**
ULN Ulaanbaatar 51.30 347 ⇑P **P** **11 49 51.2 -1.4**
KAD Karad 51.33 294 *e*P **P** **11 49 49.5 -3.7**
KAD IAmb IAmb 11 49 59.5
comp=Z,270nm,1.5s
SONM Songino Array 51.42 346 P **P** **11 49 52.8 -0.6**
SONM Songino Array 51.42 346 P **P** **11 49 51.5 -2.0**
comp=Z,14nm,0.8s,baz=162,slow=6.9,SNR=46
SONM LR LR 12 13 26.7
comp=Z,91μm,20.5s,baz=162,slow=38
SONM PKPPKP **P'P'df** **12 20 39.9 +7.7**
comp=Z,4.4nm,1.1s,baz=327,slow=2.4,SNR=4.9
comp=Z,14nm,0.8s
SONM Songino Array 51.42 346 P **P** **11 49 52.8 -0.6**
SONM pmax pmax
comp=Z,176nm,1.0s
KLR Kul'dur 51.45 8 P **P** **11 49 50.8 -2.7**
comp=Z,14nm,0.7s,baz=214,slow=4.2,SNR=40
KLR LR LR 12 12 16.9
comp=Z,49μm,21.9s,baz=196,slow=37
comp=Z,14nm,0.7s
KLR Kul'dur 51.45 8 *e*P **P** **11 49 49.6 -3.9**
KLR pmax pmax
comp=Z,156nm,1.5s
YSS Yuzhno-Sakhali 51.70 18 P **P** **11 49 54.3 -0.9**
YSS IAmb IAmb 11 50 02.4
comp=Z,437nm,1.3s
YSS Yuzhno-Sakhali 51.70 18 P **P** **11 49 54.4 -0.9**
YSS Yuzhno-Sakhali 51.70 18*α i*P **P** **11 49 53.6 -1.7**
YSS *e*S **S** **11 57 12.6 -3.2**
YSS pmax pmax
comp=Z,150nm,0.9s
YSS pmax pmax
comp=N,90nm,1.1s
YSS pmax pmax
comp=E,70nm,1.3s
YSS pmax pmax
comp=Z,3μm,5.4s
YSS pmax pmax
comp=N,900nm,5.5s
YSS pmax pmax
comp=E,900nm,5.0s
YSS smax smax
comp=E,1μm,4.7s
YSS Yuzhno-Sakhali 51.70 18 ⇑P **P** **11 49 53.6 -1.7**
TKRD Thakurdwara 51.92 310 *e*P **P** **11 49 54.7 -2.6**
KUR Kuril'sk 51.95 23 *e*P **P** **11 49 57.7 +0.5**
KUR *e*S **S** **11 57 21.0 +1.7**
KUR pmax pmax
comp=N,272nm,1.2s
KUR pmax pmax
comp=Z,610nm,1.2s
KUR pmax pmax
comp=E,143nm,1.1s
KUR MLR MLR
comp=E,34μm,20.0s
KUR MLR MLR
comp=Z,35μm,20.0s
KUR MLR MLR
comp=N,6μm,15.0s
HEH HeiHe 52.03 4 *e*P **P** **11 49 55.5 -2.2**
HEH S **S** **11 57 21.5 +1.2**
HEH SS **SS** **12 01 00.5 +2.8**
HEH pmax pmax
comp=N,300nm,1.4s
HEH pmax pmax
comp=N,5μm,5.1s
HEH LR LR
comp=N,68μm,21.3s
HEH LR LR
comp=N,40μm,21.0s
HEH LR LR
comp=N,143μm,22.9s
JOSI Joshimath 52.08 312 *e*P **P** **11 49 57.0 -1.8**
JOSI IAmb IAmb 11 50 04.5
comp=Z,226nm,1.1s
UGON Onchagaon 52.26 308 *e*P **P** **11 49 57.0 -2.9**
MERT Meerut 52.70 309 *e*P P 11 49 57.4 -5.7
JMIU JAMIA UNIVERSI 52.87 308 IAmb IAmb 11 50 34.1
comp=Z,273nm,1.1s
SONA Sohna 52.88 308 *e*P **P** **11 50 02.2 -2.3**
SONA IAmb IAmb 11 50 33.6
comp=Z,207nm,0.8s
LDR Lodi Road 52.93 308 *e*P **P** **11 50 02.2 -2.6**
LDR IAmb IAmb 11 50 34.4
comp=Z,190nm,0.6s
AYAN Aya Nagar 52.95 308 *e*P **P** **11 50 02.3 -2.7**
AYAN IAmb IAmb 11 50 11.8
comp=Z,88μm,4.3s
NDI New Delhi 52.98 308⇑*e*P P 11 49 59.5 -5.7
NDI IAmb IAmb 11 50 42.5
comp=Z,116nm,0.9s
DDI Dehra Dun 53.09 311 *e*P **P** **11 50 03.0 -3.1**
DDI IAmb IAmb 11 51 02.7
comp=Z,276nm,0.9s
BHGR Bahadurgarh 53.20 308 *e*P **P** **11 50 04.6 -2.2**
BHGR IAmb IAmb 11 50 09.5
comp=Z,254nm,0.4s
KUDL Kundal 53.31 308 *e*P **P** **11 50 04.0 -3.6**
UGL Uglegorsk 53.42 16⇓*i*P **P** **11 50 08.0 0.0**
UGL *e*S **S** **11 57 42.6 +3.3**
UGL pmax pmax
comp=Z,700nm,1.1s

UGL smax smax
comp=E,7μm,10.0s
UGL smax smax
comp=N,12μm,11.0s
KLP Kalpa 53.54 312 *e*P **P 11 50 07.8 -1.9**
HNLY HANLEY 53.64 314 *e*P **P 11 50 09.1 -1.5**
HNLY IAmb IAmb 11 50 17.4
comp=Z,164nm,1.2s
HNLY ⇑*i*x x 12 08 11.4
GRNR Gornyy 53.70 11⇑*i*P **P 11 50 08.9 -1.2**
GRNR pmax pmax
comp=Z,50nm,0.9s
KKR Kurukshetra 53.87 310 *e*P **P 11 50 09.7 -2.0**
KKR IAmb IAmb 11 50 17.1
comp=Z,290nm,1.0s
AJM Ajmer 54.10 305 *e*P **P 11 50 11.8 -1.7**
SMLA Simla 54.15 311 *e*P **P 11 50 13.0 -0.7**
CIT Chita 54.17 353 *e*P **P 11 50 12.2 -1.4**
CIT *e* 11 51 19.2
CIT *e* 11 52 22.4
CIT *e* 11 53 32.6
CIT *e* 11 57 57.4
CIT *e*S **ScS 12 00 05.2 +3.3**
CIT *e* 12 01 31.4
CIT pmax pmax
comp=Z,323nm,3.6s
ZAK Zakamensk 54.56 345 *e*P **P 11 50 15.4 -1.1**
ZAK pmax pmax
comp=Z,75nm,1.4s
AIS Amsterdam Isla 54.62 223 IAMs_20 IAMs_20 12 13 06.3
comp=Z,67μm,19.0s
BHK Bhakra 54.85 311 *e*P P 11 50 13.9 -5.0
BHK IAmb IAmb 11 50 48.6
comp=Z,240nm,0.8s
WMQ Urumqi 55.12 330 P **P 11 50 20.7 +0.1**
WMQ S **S 11 58 06.2 +3.6**
WMQ pmax pmax
comp=Z,150nm,1.7s
WMQ pmax pmax
comp=Z,5μm,6.5s
WMQ LR LR
comp=Z,63μm,19.5s
WMQ LR LR
comp=Z,49μm,22.9s
WMQ LR LR
comp=Z,48μm,21.7s
TYV Tymovskoe 55.20 15 *e*P **P 11 50 21.1 +0.1**
TYV *e*S **S 11 58 03.6 +0.3**
TYV pmax pmax
comp=Z,2μm,3.7s
TYV pmax pmax
comp=Z,127nm,1.4s
TYV smax smax
comp=N,2μm,6.1s
TYV smax smax
comp=E,2μm,6.1s
DHRM DHARAMSHALA 55.34 312 *e*P **P 11 50 19.2 -3.4**
ZEA Zeya 55.49 3 *e*P **P 11 50 22.0 -1.0**
ZEA *e* 11 52 26.7
ZEA *e*S **S 11 58 10.8 +3.7**
ZEA *e*SS **SS 12 01 48.3 -3.9**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,40nm,1.1s
ZEA pmax pmax
comp=N,900nm,5.8s
ZEA pmax pmax
comp=Z,1μm,6.6s
ZEA smax smax
comp=E,2μm,15.0s
ZEA smax smax
comp=N,3μm,16.0s
BKNR BIKANER 55.83 306 *e*P **P 11 50 22.8 -3.2**
BKNR IAmb IAmb 11 50 30.8
comp=Z,263nm,1.1s
THN Thein Dam 55.86 312 *e*P **P 11 50 23.4 -2.7**
IRK Irkutsk 56.03 347 *e*P **P 11 50 24.0 -3.0**
IRK *e*S **S 11 58 15.4 +1.0**
IRK pmax pmax
comp=Z,439nm,3.1s
MOY Mondy 56.34 344 *e*P **P 11 50 27.4 -1.9**
MOY pmax pmax
comp=Z,535nm,3.1s
JMU Jammu 56.60 312 *e*P **P 11 50 28.0 -3.4**
MSVF Nonsavu 56.68 110 P **P 11 50 32.8 +0.5**
MSVF Nonsavu 56.68 110 LR LR 12 15 53.7
comp=Z,39μm,20.1s,baz=283,slow=37
MSVF Nonsavu 56.68 110 P **P 11 50 33.6 +1.3**
MSVF Nonsavu 56.68 110 P **P 11 50 32.8 +0.5**
MSVF pmax pmax
comp=Z,284nm,1.5s
NKL Nikolayevsk 56.83 13 *e*P **P 11 50 29.1 -3.5**
NKL pmax pmax
comp=E,366nm,1.2s
NKL pmax pmax
comp=Z,1μm,1.2s
NKL pmax pmax
comp=N,411nm,1.1s
BHUJ Bhuj 57.18 299 *e*P **P 11 50 31.4 -4.3**
BHUJ IAmb IAmb 11 50 41.9
comp=Z,99nm,1.0s
SRNI Srinagar 57.28 313 *e*P **P 11 50 33.9 -2.3**
JASL Jaisalmer 57.36 304 *e*P **P 11 50 36.3 -0.6**
JASL IAmb IAmb 11 50 44.1
comp=Z,119nm,0.9s
OUZ Omahuta 57.81 131 P **P 11 50 40.9 +1.0**
DGTI Dogotuki 58.05 108 P **P 11 50 43.4 +1.5**
WUS Wushi 58.14 322 IAMs_20 IAMs_20 12 20 18.2
comp=Z,64μm,22.0s
NIL Nilore 58.25 312 P **P 11 50 41.7 -1.4**
NIL IAmb IAmb 11 51 56.9
comp=Z,377nm,1.3s
NIL Nilore 58.25 312 P **P 11 50 41.7 -1.4**
NIL pmax pmax
comp=Z,377nm,1.3s
NIL MLR MLR
comp=Z,39μm,18.0s
DCZ Deep Cove 58.45 145 P **P 11 50 43.4 -0.8**
DCZ IAMs_20 IAMs_20 12 17 57.4
comp=Z,56μm,19.0s
MSZ Milford Sound 58.46 143 P **P 11 50 44.9 +0.7**
JCZ Jackson Bay 58.65 142 P **P 11 50 47.1 +1.3**
JCZ Jackson Bay 58.65 142 P **P 11 50 46.3 +0.5**
MLZ Mavora Lakes 58.96 144 P **P 11 50 47.2 -0.6**
MLZ Mavora Lakes 58.96 144 P **P 11 50 48.2 +0.4**
FOZ Fox Glacier 59.00 141 P **P 11 50 48.9 +0.9**
WHZ Wether Hill Ro 59.15 145 IAMs_20 IAMs_20 12 16 44.9
comp=Z,81μm,22.0s
WHZ Wether Hill Ro 59.15 145 P **P 11 50 49.0 -0.1**
SHLS Shalkode 59.16 324 *e*P **P 11 50 46.4 -3.0**
SHLS *e*S **S 11 58 53.3 -2.8**
SHLS pmax pmax
comp=Z,310nm,1.9s
SHLS Shalkode 59.16 324 *e*P **P 11 50 46.4 -3.0**
comp=Z,310nm,1.9s
SHLS *e*S **S 11 58 53.3 -2.8**
WKZ Wanaka 59.20 143 P **P 11 50 51.0 +1.6**
KSH Kashi 59.24 319 P **P 11 50 53.1 +3.1**
KSH S **S 11 59 01.4 +4.1**
KSH SS **SS 12 02 58.8 +6.7**
KSH pmax pmax
comp=Z,110nm,1.1s
KSH LR LR
comp=Z,40μm,22.0s
KSH LR LR
comp=Z,74μm,23.0s
KSH LR LR
comp=Z,86μm,24.3s
PDGK Podgornoye 59.25 325 P **P 11 50 48.4 -1.6**
TARG Taragay, Kyrgy 59.31 322 IAmb IAmb 11 51 37.1
comp=Z,495nm,1.6s
WVZ Waitaha Valley 59.35 141 P **P 11 50 51.9 +1.4**
PRZ Przheval'sk 59.39 323 P **P 11 50 51.1 +0.1**
PRZ IAmb IAmb 11 51 28.3
comp=Z,676nm,1.6s
PRZ Przheval'sk 59.39 323 P **P 11 50 51.1 +0.1**
PRZ pmax pmax
comp=Z,676nm,1.6s
PRZ MLR MLR
comp=Z,45μm,22.0s
DSZ Denniston Nort 59.39 139 IAmb IAmb 11 51 05.7
comp=Z,486nm,1.4s

UZB Uzynbulak 59.41 324*c i*P **P 11 50 49.8 -1.3**
UZB *e*S **S 11 58 59.7 +0.3**
UZB pmax pmax
comp=Z,451nm,2.4s
UZB Uzynbulak 59.41 324⇑*i*P **P 11 50 49.9 -1.3**
comp=Z,451nm,2.4s
UZB *e*S **S 11 58 59.8 +0.3**
QRZ Quartz Range 59.44 138 P **P 11 50 53.3 +2.1**
QRZ Quartz Range 59.44 138 P **P 11 50 53.8 +2.6**
QRZ ScP **ScP 11 55 41.8 +2.9**
EAZ Earnscleugh 59.59 143 P **P 11 50 53.8 +1.7**
SKR Severo-Kuril's 59.62 24 *e*P **P 11 50 51.0 -1.1**
SKR *e*S **S 11 58 55.9 -5.5**
SKR pmax pmax
comp=Z,2μm,6.3s
SKR smax smax
comp=E,14μm,17.8s
SKR smax smax
comp=N,5μm,16.6s
SKR MLR MLR
comp=Z,48μm,23.0s
INZ Inchbonnie 59.63 140 P **P 11 50 52.3 -0.2**
INZ IAmb IAmb 11 51 11.0
comp=Z,317nm,1.4s
INZ Inchbonnie 59.63 140 P **P 11 50 53.0 +0.6**
LBZ Lake Benmore 59.67 142 P **P 11 50 52.6 -0.1**
LBZ IAmb IAmb 11 51 03.0
comp=Z,286nm,1.4s
LBZ Lake Benmore 59.67 142 P **P 11 50 52.6 -0.1**
APZ The Paps 59.70 146 P **P 11 50 53.3 +0.4**
KPKS Kokpek 59.80 324*c i*P **P 11 50 52.4 -1.3**
KPKS *e*S **S 11 59 04.9 +0.6**
KPKS pmax pmax
comp=Z,568nm,2.7s
KPKS Kokpek 59.80 324⇑*i*P **P 11 50 52.5 -1.3**
comp=Z,568nm,2.7s
KPKS *e*S **S 11 59 04.9 +0.6**
BOD Bodaibo 59.84 355 *e*P **P 11 50 51.8 -1.7**
BOD pmax pmax
comp=Z,360nm,1.5s
FUTU Fugatoga 59.85 105 P **P 11 50 53.5 -0.9**
FUTU IAmb IAmb 11 51 39.8
comp=Z,532nm,1.6s
RPZ Rata Peaks 59.87 141 LR LR 12 16 53.4
comp=Z,178μm,20.9s,baz=300,slow=36
RPZ Rata Peaks 59.87 141 P **P 11 50 55.7 +1.6**
RPZ Rata Peaks 59.87 141 P **P 11 50 54.7 +0.6**
KDJ Kajisay 59.92 322 P **P 11 50 54.4 -0.3**
MK31 Makanchi Array 59.93 329*c i*P **P 11 50 53.0 -1.4**
MKAR Makanchi Array 59.93 329 P **P 11 50 53.8 -0.7**
MKAR Makanchi Array 59.93 329 P **P 11 50 53.0 -1.4**
comp=Z,89nm,0.9s,baz=124,slow=6.9,SNR=86
MKAR PKPPKP **P'P'df 12 20 23.1 +2.7**
comp=Z,1.4nm,0.9s,baz=289,slow=3.7,SNR=4.8
comp=Z,89nm,0.9s
MKAR Makanchi Array 59.93 329 P **P 11 50 53.8 -0.7**
KUZ Kuaotunu 59.99 132 P **P 11 50 56.0 +1.0**
KUZ Kuaotunu 59.99 132 P **P 11 50 56.7 +1.7**
HIZ Hauiti 60.06 134 IAMs_20 IAMs_20 12 19 03.5
comp=Z,84μm,20.0s
HIZ Hauiti 60.06 134 P **P 11 50 57.0 +1.5**
MAKZ Makanchi 60.10 329 P **P 11 50 54.1 -1.5**
MAKZ IAmb IAmb 11 51 49.3
comp=Z,408nm,1.4s
MAKZ IAMs_20 IAMs_20 12 17 28.4
comp=Z,52μm,21.0s
MAKZ Makanchi 60.10 329 P **P 11 50 55.5 -0.1**
THZ Tophouse 60.12 138 P **P 11 50 55.1 -0.8**
THZ Tophouse 60.12 138 P **P 11 50 57.2 +1.2**
TUZ Tuapeka 60.17 144 P **P 11 50 56.5 +0.5**
LTZ Lake Taylor 60.19 140 P **P 11 50 55.9 -0.4**
NNZ Nelson 60.19 138 P **P 11 50 58.7 +2.4**
TOZ Tahuroa Road 60.21 133 IAmb IAmb 11 51 08.1
comp=Z,788nm,2.0s
TOZ IAMs_20 IAMs_20 12 13 29.6
comp=Z,89μm,22.0s
VRZ Vera Road 60.24 135 P **P 11 51 01.2 +4.5**
ODZ Otahua Downs 60.29 143 P **P 11 50 58.8 +1.8**
ODZ Otahua Downs 60.29 143 P **P 11 50 57.6 +0.7**
OXZ Oxford 60.30 140 IAMs_20 IAMs_20 12 19 53.6
comp=Z,76μm,20.0s
OXZ Oxford 60.30 140 P **P 11 50 55.6 -1.4**
TNSS Tian-Shan 60.58 323 *e*P **P 11 50 57.8 -1.6**
TNSS Tian-Shan 60.58 323 *e*P **P 11 50 57.9 -1.6**
MDOK Medeo 60.59 323 *e*P **P 11 50 57.7 -1.5**
MDOK *e*S **S 11 59 14.7 +0.2**
MDOK MLR MLR
comp=Z,20μm,25.0s
MDOK Medeo 60.59 323 *e*P **P 11 50 57.8 -1.5**
MDOK *e*S **S 11 59 14.8 +0.2**
MDOK LR LR 12 19 40.6
comp=Z,20μm,24.5s
AAA Alma-Ata 60.70 323 *e*P **P 11 50 58.5 -1.3**
AAA pmax pmax
comp=Z,264nm,1.2s
AAA MLR MLR
comp=Z,60μm,17.0s
AAA Alma-Ata 60.70 323 *e*P **P 11 50 58.5 -1.3**
comp=Z,264nm,1.2s
AAA LR LR 12 19 43.1
comp=Z,60μm,17.2s
ARXS Arharly 60.74 325 *e*P **P 11 50 59.0 -1.2**
GVZ Greta Valley S 60.77 140 P **P 11 50 59.1 -1.2**
GVZ Greta Valley S 60.77 140 P **P 11 51 01.6 +1.3**
KHZ Kahutara 60.84 139 IAmb IAmb 11 51 19.2
comp=Z,462nm,1.5s
KHZ Kahutara 60.84 139 P **P 11 51 02.5 +1.8**
KHZ Kahutara 60.84 139 P **P 11 51 01.8 +1.0**
MQZ McQueen's Vall 60.88 140 IAmb IAmb 11 51 12.0
comp=Z,426nm,1.5s
MQZ McQueen's Vall 60.88 140 P **P 11 51 01.9 +1.0**
BOOM Boomskoye usch 60.88 322 P **P 11 51 01.1 -0.2**
CHKK Chushkaly 61.03 324 *e*P **P 11 50 00.7 -1.3**
CHKK Chushkaly 61.03 324 *e*P **P 11 50 00.7 -1.3**
SNZO South Karori 61.13 137 P **P 11 51 04.9 +2.2**
BHW Baring Head 61.29 137 IAMs_20 IAMs_20 12 17 06.8
comp=Z,71μm,19.0s
TKM2 Tokmak 2 61.33 322 P **P 11 51 04.3 0.0**
SNR=26
TKM2 Tokmak 2 61.33 322 *i*P **P 11 51 02.2 -2.2**
TKM2 pmax pmax
comp=Z,304nm,1.7s
KUU Kurty 61.43 324 *e*P **P 11 51 03.6 -1.2**
KUU *e*S **S 11 59 25.6 +0.6**
KUU pmax pmax
comp=Z,147nm,1.3s
KUU MLR MLR
comp=Z,63μm,20.0s
KUU Kurty 61.43 324 *e*P **P 11 51 03.6 -1.2**
comp=Z,147nm,1.3s
KUU *e*S **S 11 59 25.7 +0.6**
KUU LR LR 12 20 09.1
comp=Z,63μm,20.2s
MRZ Mangatainoka R 61.45 136 P **P 11 51 05.7 +0.7**
TSZ Takapari Road 61.47 135 P **P 11 51 01.6 -3.5**
BKZ Black Stump Fm 61.49 134 P **P 11 51 05.1 -0.2**
BKZ Black Stump Fm 61.49 134 P **P 11 51 06.9 +1.6**
BKZ Black Stump Fm 61.49 134 P **P 11 51 06.5 +1.2**
URZ Urewera 61.59 133 LR LR 12 20 35.5
comp=Z,71μm,18.1s,baz=29,slow=39
URZ Urewera 61.59 133 P **P 11 51 07.7 +1.8**
URZ Urewera 61.59 133 P **P 11 51 06.7 +0.9**
KBK Karagaybulak 61.59 322 P **P 11 51 05.9 -0.1**
SNR=11
RTZ Ruatahuna 61.63 134 IAmb IAmb 11 51 36.5
comp=Z,302nm,1.0s
KBU Kabul Universi 61.71 311 P **P 11 51 06.1 -0.9**
KBL Kabul 61.79 311 P **P 11 51 06.4 -1.2**
KBL IAmb IAmb 11 52 01.9
comp=Z,343nm,0.9s
KBL Kabul 61.79 311 P **P 11 51 06.1 -1.5**
SNR=128
KBL P **P 11 51 06.1 -1.5**
SNR=128
KBL P **P 11 51 06.1 -1.5**
SNR=128
KBL S **S 11 59 30.2 0.0**
KBL S **S 11 59 30.2 0.0**
KBL S **S 11 59 30.2 0.0**
KBL Kabul 61.79 311 P **P 11 51 06.4 -1.2**
KBL pmax pmax
comp=Z,343nm,0.9s
AAK Ala-Archa 61.86 321 P **P 11 51 07.3 -0.5**
AAK Ala-Archa 61.86 321 P **P 11 51 06.9 -0.9**

AAK P **P 11 51 06.9 -0.9**
AAK S **S 11 59 33.1 +2.4**
AAK S **S 11 59 33.1 +2.4**
AAK Ala-Archa 61.86 321 P **P 11 51 08.0 +0.2**
SNR=30
AAK Ala-Archa 61.86 321*c i*P **P 11 51 06.9 -0.9**
AAK pmax pmax
comp=Z,136nm,1.2s
AAK Ala-Archa 61.86 321 *i*P **P 11 51 06.4 -1.5**
SNR=51
AAK Ala-Archa 61.86 321 P **P 11 51 07.8 0.0**
HAZ Te Kaha 61.89 132 P **P 11 51 09.4 +1.5**
MWZ Matawai 61.92 133 P **P 11 51 08.2 0.0**
BFZ Birch Farm 61.92 136 P **P 11 51 09.8 +1.7**
DRK Karamyk 62.01 317 IAMs_20 IAMs_20 12 22 15.1
comp=Z,53μm,22.0s
DRK Karamyk 62.01 317 P **P 11 51 08.9 -0.2**
AML Almayashu 62.09 321 P **P 11 51 09.8 +0.1**
SNR=29
PXZ Pawanui 62.09 135 P **P 11 51 11.7 +2.5**
PEA0B Petropavlovsk- 62.11 23 IAmb IAmb 11 51 58.0
comp=Z,351nm,1.1s
PEA0B Petropavlovsk- 62.11 23*c e*P **P 11 51 08.6 -0.5**
PETK Petropavlovsk- 62.11 23 P **P 11 51 09.3 +0.3**
PETK Petropavlovsk- 62.11 23 P **P 11 51 09.6 +0.6**
comp=Z,20nm,1.0s,baz=210,slow=5.0,SNR=28
PETK LR LR 12 18 34.8
comp=Z,44μm,20.8s,baz=215,slow=37
PETK PKPPKP **P'P'df 12 20 23.3 +6.9**
comp=Z,2.7nm,0.9s,baz=98,slow=4.4,SNR=6.9
comp=Z,20nm,1.0s
PETK Petropavlovsk- 62.11 23 P **P 11 51 09.4 +0.3**
ARSB Arslanbob 62.13 320 P **P 11 51 08.8 -0.9**
ARSB IAmb IAmb 11 51 50.9
comp=Z,490nm,1.2s
ARSB Arslanbob 62.13 320 P **P 11 51 08.8 -0.9**
ARSB pmax pmax
comp=Z,490nm,1.2s
ARSB MLR MLR
comp=Z,33μm,21.0s
USP Ospenovka 62.20 322 P **P 11 51 09.6 -0.3**
SNR=20
MXZ Matakaoa Point 62.21 132 P **P 11 51 11.8 +1.7**
MXZ Matakaoa Point 62.21 132 P **P 11 51 09.2 -0.9**
SGDS Sogindy 62.22 322 *e*P **P 11 51 08.7 -1.4**
SGDS Sogindy 62.22 322 *e*P **P 11 51 08.8 -1.4**
EKS2 Erkin-Say 62.32 321 P **P 11 51 11.1 +0.2**
SNR=35
PUZ Puketiti 62.36 133 P **P 11 51 15.6 +4.4**
PET Petropavlovsk 62.42 24 P **P 11 51 11.4 +0.3**
PET IAmb IAmb 11 51 20.0
comp=Z,605nm,1.4s
PET Petropavlovsk 62.42 24 P **P 11 51 11.7 +0.6**
PET Petropavlovsk 62.42 24 *e*P **P 11 51 11.4 +0.3**
PET *e* 11 51 48.9
PET *e*S **S 11 59 38.3 +1.3**
PET *e* 12 00 57.6
PET pmax pmax
comp=Z,3μm,7.8s
PET pmax pmax
comp=Z,2μm,6.2s
PET pmax pmax
comp=Z,340nm,1.4s
PET smax smax
comp=N,3μm,16.0s
PET smax smax
comp=E,11μm,20.3s
PET smax smax
comp=N,5μm,18.8s
PET MLR MLR
comp=Z,19μm,18.0s
PET Petropavlovsk 62.42 24 P **P 11 51 11.4 +0.3**
comp=Z,7μmcomp=Z,299nm,1.5s
GAR Garm 62.80 316 P **P 11 51 13.5 -0.6**
GAR IAmb IAmb 11 52 09.4
comp=Z,497nm,1.2s
BTK Batken 62.95 317 P **P 11 51 14.2 -0.9**
SIMJ Simiganj 63.56 315 P **P 11 51 17.9 -1.3**
SIMJ IAmb IAmb 11 52 22.1
comp=Z,681nm,1.9s
ZAA0 Zalesovo Array 63.78 336 P **P 11 51 18.6 -1.5**
ZAA0 IAmb IAmb 11 52 07.8
comp=Z,270nm,1.2s
ZALV Zalesovo Beam 63.78 336 P **P 11 51 18.2 -1.9**
ZALV Zalesovo Beam 63.78 336 P **P 11 51 18.4 -1.7**
comp=Z,44nm,0.8s,baz=129,slow=5.3,SNR=59
ZALV PKPPKP 12 20 17.9
comp=Z,13nm,1.1s,baz=278,slow=4.3,SNR=12
comp=Z,44nm,0.8s
ZALV Zalesovo Beam 63.78 336 *i*P **P 11 51 18.5 -1.7**
ZALV pmax pmax
comp=Z,45nm,0.8s
YAK Yakutsk 63.90 4 P **P 11 51 19.8 -1.0**
YAK Yakutsk 63.90 4 IAMs_20 IAMs_20 12 18 23.5
comp=Z,51μm,22.0s
YAK Yakutsk 63.90 4 LR LR 12 20 19.7
comp=Z,34μm,20.8s,baz=186,slow=37
YAK PKPPKP 12 20 20.9
comp=Z,31nm,0.9s,baz=110,slow=2.1,SNR=9.7
YAK Yakutsk 63.90 4 *e*P **P 11 51 18.9 -1.9**
YAK *e* 11 51 54.0
YAK *e* 11 53 36.0
YAK *e*PPP PPP 11 55 07.4
YAK *e*S **S 11 59 55.5 +0.3**
YAK *e* 12 01 12.5
YAK *e*SS **SS 12 04 01.8 -2.1**
YAK pmax pmax
comp=Z,285nm,1.2s
YAK pmax pmax
comp=N,172nm,1.9s
YAK pmax pmax
comp=E,82nm,1.8s
YAK pmax pmax
comp=Z,6μm,10.9s
YAK pmax pmax
comp=E,2μm,8.4s
YAK pmax pmax
comp=N,3μm,7.3s
DZA Taraz 63.98 320 *e*P **P 11 51 20.5 -1.3**
DZA Taraz 63.98 320 *e*P **P 11 51 20.5 -1.3**
KURBB Kurchatov Arra 64.31 331 P **P 11 51 21.6 -2.1**
comp=N,70nm,0.9s,baz=131,slow=6.0,SNR=71
KURBB PKPPKP 12 20 15.7
comp=N,4.7nm,1.1s,baz=301,slow=2.9,SNR=7.0
comp=N,70nm,0.9s
KURK Kurchatov 64.33 331 P **P 11 51 23.0 -0.9**
KURK Kurchatov 64.33 331 P **P 11 51 22.0 -1.8**
KURK P **P 11 51 22.0 -1.8**
KURK P **P 11 51 22.0 -1.8**
KURK S **S 12 00 01.2 +0.2**
KURK S **S 12 00 01.2 +0.2**
KURK S **S 12 00 01.2 +0.2**
KURK Kurchatov 64.33 331*c i*P **P 11 51 21.5 -2.3**
KURK pmax pmax
comp=Z,199nm,1.0s
IUG Iuzhnay 64.46 319 *e*P **P 11 51 23.6 -1.4**
IUG pmax pmax
comp=Z,140nm,1.0s
IUG Iuzhnay 64.46 319 *e*P **P 11 51 23.7 -1.4**
comp=Z,140nm,1.0s
KK31 Karatay Array 64.61 320 P **P 11 51 25.9 0.0**
KK31 Karatay Array 64.61 320 P **P 11 51 25.9 0.0**
KK31 pmax pmax
comp=Z,147nm,1.2s
KKAR Karatay Array 64.61 320 P **P 11 51 24.5 -1.4**
KKAR Karatay Array 64.61 320 P **P 11 51 24.5 -1.4**
MIDW Midway 64.82 58 P **P 11 51 26.9 -0.6**
CASY Casey 64.91 185 P **P 11 51 26.4 -0.9**
CASY IAmb IAmb 11 51 34.7
comp=Z,228nm,1.1s
PAF Port-aux-Franc 64.98 215 IAMs_20 IAMs_20 12 14 52.2
comp=Z,59μm,21.0s
BRLS Borolday 65.01 320*c i*P **P 11 51 26.8 -1.7**
BRLS *e*S **S 12 00 10.2 +0.5**
BRLS Borolday 65.01 320⇑*i*P **P 11 51 26.9 -1.7**
BRLS *e*S **S 12 00 10.2 +0.5**
MA2 Magadan 65.08 15 P **P 11 51 28.2 -0.4**
MA2 Magadan 65.08 15 LR LR 12 20 12.1
comp=Z,22μm,20.5s,baz=210,slow=36
MA2 Magadan 65.08 15 P **P 11 51 29.6 +1.0**
MA2 Magadan 65.08 15*c i*P **P 11 51 28.0 -0.6**
MA2 pmax pmax
comp=Z,803nm,1.6s
MA2 MLR MLR
comp=Z,36μm,20.0s

MA2	Magadan	65.08	15	P	P	11 51 28.5	-0.1
	comp=Z,10μmcomp=Z,485nm,1.3s						
NGCH	Negor - Chabah	65.23	299	P	P	11 51 28.7	-1.5
AFI	Afiamalu	65.94	104	P	P	11 51 34.6	-0.5
AFI				IAmb	IAmb	11 51 44.7	
	comp=Z,519nm,1.4s						
AFI	Afiamalu	65.94	104	P	P	11 51 34.6	-0.5
AFI				pmax	pmax		
	comp=Z,519nm,1.4s						
JLN	Jalan Bani Buh	66.01	295	P	P	11 51 33.1	-2.2
	SNR=5.6						
JLN				P	P	11 51 33.1	-2.2
	SNR=5.6						
JLN				P	P	11 51 33.1	-2.2
	SNR=5.6						
JLN				S	S	12 00 21.1	-1.5
JLN				S	S	12 00 21.1	-1.5
JLN				S	S	12 00 21.1	-1.5
OTUK	Ortayu	66.17	326	P	P	11 51 33.1	-2.8
WBK	Wadi Bani Khal	66.51	296	P	P	11 51 36.3	-2.2
	SNR=7.8						
WBK				P	P	11 51 36.3	-2.2
	SNR=7.8						
WBK				P	P	11 51 36.3	-2.2
	SNR=7.8						
WBK				S	S	12 00 30.2	+1.4
WBK				S	S	12 00 30.2	+1.4
WBK				S	S	12 00 30.2	+1.4
BRZS	Berezniki	66.94	328*c*	*i* P	P	11 51 39.3	-1.4
BRZS	Berezniki	66.94	328⇑	*i* P	P	11 51 39.4	-1.4
HRA	Herat	66.95	309	P	P	11 51 39.8	-1.6
WSAR	Wadi Sarin	66.95	296	LR	LR	12 21 46.6	
	comp=Z,292nm,22.0s,baz=116,slow=37						
WSAR	Wadi Sarin	66.95	296	P	P	11 51 39.4	-1.9
	SNR=8.1						
WSAR				S	S	12 00 33.6	-0.5
MSEY	Mahe Island	67.03	266	P	P	11 51 42.2	+0.1
MSEY				IAmb	IAmb	11 51 51.1	
	comp=Z,489nm,1.4s						
MSEY	Mahe Island	67.03	266	P	P	11 51 42.1	+0.1
MSEY	Mahe Island	67.03	266	P	P	11 51 42.2	+0.1
MSEY				pmax	pmax		
	comp=Z,489nm,1.4s						
MSEY	Mahe Island	67.03	266	*i* P	P	11 51 40.2	-1.9
	SNR=59						
MHTO	MHTO	67.08	294	P	P	11 51 40.0	-2.2
	SNR=38						
MHTO				P	P	11 51 40.0	-2.2
	SNR=38						
MHTO				P	P	11 51 40.0	-2.2
	SNR=38						
MHTO				S	S	12 00 35.5	-0.1
MHTO				S	S	12 00 35.5	-0.1
MHTO				S	S	12 00 35.5	-0.1
JMDO	Jabal Madar	67.24	295	P	P	11 51 40.6	-2.6
	SNR=28						
JMDO				P	P	11 51 40.6	-2.6
	SNR=28						
JMDO				P	P	11 51 40.6	-2.6
	SNR=28						
JMDO				S	S	12 00 36.0	-1.6
JMDO				S	S	12 00 36.0	-1.6
JMDO				S	S	12 00 36.0	-1.6
DQM	DQM	67.27	292	P	P	11 51 41.1	-2.4
	SNR=23						
DQM				P	P	11 51 41.1	-2.4
	SNR=23						
DQM				S	S	12 00 39.1	+1.1
DQM				S	S	12 00 39.1	+1.1
SMDO	Samad	67.43	296	P	P	11 51 42.5	-2.0
	SNR=7.0						
SMDO				P	P	11 51 42.5	-2.0
	SNR=7.0						
SMDO				P	P	11 51 42.5	-2.0
	SNR=7.0						
SMDO				S	S	12 00 39.0	-1.1
SMDO				S	S	12 00 39.0	-1.1
SMDO				S	S	12 00 39.0	-1.1
BIDO	Bidbid	67.46	296	P	P	11 51 42.2	-2.4
	SNR=11						
BIDO				S	S	12 00 38.6	-1.6
RER	Riviere de l'E	67.77	248	IAmb	IAmb	11 51 54.9	
	comp=Z,214nm,0.8s						
RER				IAMs_20	IAMs_20	12 17 22.8	
	comp=Z,54μm,21.0s						
BSY	Bisya	68.13	295	P	P	11 51 46.7	-2.1
	SNR=28						
BSY				P	P	11 51 46.7	-2.1
	SNR=28						
BSY				P	P	11 51 46.7	-2.1
	SNR=28						
BSY				S	S	12 00 48.0	-0.3
BSY				S	S	12 00 48.0	-0.3
BSY				S	S	12 00 48.0	-0.3
NIUE	Niue	68.17	110	P	P	11 51 50.5	+1.4
	comp=Z,0.0nmcomp=Z,422nm,1.3s						
NIUE	Niue	68.17	110	P	P	11 51 51.0	+1.9
HOQ	Hoqain	68.20	296	P	P	11 51 47.3	-2.0
	SNR=31						
HOQ				P	P	11 51 47.3	-2.0
	SNR=31						
HOQ				S	S	12 00 48.5	-0.6
HOQ				S	S	12 00 48.5	-0.6
SEY	Seymchan	68.35	14	PKPPKP		12 20 05.4	
	comp=Z,8.4nm,1.0s,baz=65,slow=2.8,SNR=7.6						
SEY				LR	LR	12 21 13.7	
	comp=Z,33μm,21.9s,baz=219,slow=36						
SEY	Seymchan	68.35	14⇑	*i* P	P	11 51 48.9	-0.5
SEY				pmax	pmax		
	comp=Z,430nm,1.4s						
SEY				MLR	MLR		
	comp=Z,29μm,19.0s						
ARQ	Araqi	68.86	296	P	P	11 51 51.3	-2.2
	SNR=22						
ARQ				P	P	11 51 51.3	-2.2
	SNR=22						
ARQ				P	P	11 51 51.3	-2.2
	SNR=22						
ARQ				S	S	12 00 56.7	-0.3
ARQ				S	S	12 00 56.7	-0.3
ARQ				S	S	12 00 56.7	-0.3
SOHO	SOHO	69.02	297	P	P	11 51 51.9	-2.5
SOHO				S	S	12 00 57.6	-1.0
SOHO	SOHO	69.02	297	*i* P	P	11 51 50.9	-3.4
	SNR=17						
SHEM	Shemya Is, Ala	69.31	31	LR	LR	12 22 43.9	
	comp=Z,5μm,18.9s,baz=240,slow=36						
DMTO	DMTO	69.32	290	P	P	11 51 54.4	-1.9
DMTO				P	P	11 51 54.4	-1.9
DMTO				P	P	11 51 54.4	-1.9
DMTO				S	S	12 01 00.0	-2.4
DMTO				S	S	12 01 00.0	-2.4
DMTO				S	S	12 01 00.0	-2.4
JOHN	Johnston Islan	69.43	71	IAMs_20	IAMs_20	12 19 58.0	
	comp=Z,45μm,20.0s						
MDH	Madha	69.47	298	P	P	11 51 53.1	-4.0
MDH				S	S	12 01 02.2	-1.8
MDH	Madha	69.47	298	*i* P	P	11 51 52.2	-4.9
	SNR=8.6						
UOSS	Minazif	69.48	297	P	P	11 51 56.0	-1.1
UOSS	Minazif	69.48	297	P	P	11 51 54.7	-2.5
UOSS	Minazif	69.48	297	*i* P	P	11 51 54.3	-2.9
	SNR=20						
UOSS	Minazif	69.48	297	P	P	11 51 55.8	-1.4
HATD	Hatta, Dubai	69.52	297	P	P	11 51 54.9	-2.6
	SNR=31						
HATD				S	S	12 01 03.7	-1.0
HATD	Hatta, Dubai	69.52	297	*i* P	P	11 51 54.9	-2.6
	SNR=17						
ASHO	Ashiyiah	69.55	297	P	P	11 51 55.5	-2.2
	SNR=42						
ASHO				S	S	12 01 03.9	-1.3
ASHO	Ashiyiah	69.55	297	*i* P	P	11 51 55.5	-2.2
	SNR=43						
BANOM	Banah	69.60	298	P	P	11 51 55.4	-2.6
BANOM				S	S	12 01 03.6	-2.1
BANOM	Banah	69.60	298	*i* P	P	11 51 55.0	-2.9
	SNR=11						
MSFE	Esma-Masafi	69.60	298	*i* P	P	11 51 55.1	-2.9
	SNR=27						
MASF	Masafi	69.61	298	P	P	11 51 56.0	-2.1
	SNR=13						
MASF				P	P	11 51 56.0	-2.1
	SNR=13						
MASF				S	S	12 01 05.4	-0.4
ALNE	Al Ain	69.70	296	P	P	11 51 56.7	-1.9
	SNR=156						
ALNE				P	P	11 51 56.7	-1.9
	SNR=156						
ALNE				P	P	11 51 56.7	-1.9
	SNR=156						
ALNE				S	S	12 01 04.8	-2.1
ALNE				S	S	12 01 04.8	-2.1
ALNE				S	S	12 01 04.8	-2.1
ALNE	Al Ain	69.70	296	*i* P	P	11 51 56.2	-2.4
	SNR=82						
SHME	Shamm	69.77	299	P	P	11 51 56.9	-2.0
	SNR=13						
SHME				P	P	11 51 56.9	-2.0
	SNR=13						
SHME				S	S	12 01 04.6	-2.9
SHME				S	S	12 01 04.6	-2.9
SHME	Shamm	69.77	299	*i* P	P	11 51 57.4	-1.6
	SNR=28						
BVA0	Borovoye Array	69.81	329	*i* P	P	11 51 56.2	-2.4
BVAR	Borovoye Array	69.81	329	P	P	11 51 57.3	-1.3
	comp=Z,52nm,1.0s,baz=131,slow=8.1,SNR=68						
BVAR				PKPPKP	P'P'df	12 20 03.8	-0.3
	comp=Z,0.7nm,0.4s,baz=298,slow=6.6,SNR=6.9						
BVAR				LR	LR	12 25 50.5	
	comp=Z,27μm,21.1s,baz=143,slow=39						
	comp=Z,52nm,1.0s						
BRVK	Borovoye	69.88	329	P	P	11 51 57.8	-1.2
BRVK	Borovoye	69.88	329	P	P	11 51 57.1	-2.0
BRVK				P	P	11 51 57.1	-2.0
BRVK				S	S	12 01 07.8	0.0
BRVK				S	S	12 01 07.8	0.0
BRVK	Borovoye	69.88	329*c*	*i* P	P	11 51 57.0	-2.0
BRVK				pmax	pmax		
	comp=Z,226nm,1.1s						
BRVK				MLR	MLR		
	comp=Z,38μm,25.0s						
NAZ	Nazwa, Dubai	69.97	297	P	P	11 51 58.0	-2.2
	SNR=43						
NAZ				S	S	12 01 07.6	-2.3
NAZ	Nazwa, Dubai	69.97	297	*i* P	P	11 51 57.7	-2.6
	SNR=30						
UMZA	Um Al Zommool	69.97	295	P	P	11 51 58.1	-2.2
UMZA				P	P	11 51 58.1	-2.2
UMZA				S	S	12 01 05.9	-4.2
UMZA				S	S	12 01 05.9	-4.2
FAQ	Al Faqa, Dubai	69.98	297	P	P	11 51 58.1	-2.2
	SNR=42						
FAQ				S	S	12 01 08.3	-1.8
FAQ	Al Faqa, Dubai	69.98	297	*i* P	P	11 51 58.1	-2.2
	SNR=38						
RBK	Rabkut	69.99	289	P	P	11 51 57.9	-2.5
	SNR=6.5						
RBK				P	P	11 51 57.9	-2.5
	SNR=6.5						
RBK				S	S	12 01 08.2	-2.2
RBK				S	S	12 01 08.2	-2.2
UMQ	Umm Al-Quwin	70.08	298	P	P	11 51 59.6	-1.2
UMQ				S	S	12 01 11.8	+0.6
UMQ	Umm Al-Quwin	70.08	298	*i* P	P	11 51 59.2	-1.6
	SNR=10						
ASUD	Al Ashush, Dub	70.19	297	P	P	11 52 00.1	-1.5
	SNR=88						
ASUD				P	P	11 52 00.1	-1.5
	SNR=88						
ASUD				S	S	12 01 09.5	-3.0
ASUD				S	S	12 01 09.5	-3.0
ASUD	Al Ashush, Dub	70.19	297	*i* P	P	11 52 00.1	-1.5
	SNR=24						
DOK	Doka	70.23	290	P	P	11 51 59.6	-2.3
	SNR=20						
DOK				P	P	11 51 59.6	-2.3
	SNR=20						
DOK				S	S	12 01 09.7	-3.4
DOK				S	S	12 01 09.7	-3.4
WHFO	Wadi Hawf	70.46	290	P	P	11 52 00.8	-2.6
	SNR=9.6						
WHFO				P	P	11 52 00.8	-2.6
	SNR=9.6						
WHFO				S	S	12 01 12.9	-3.1
WHFO				S	S	12 01 12.9	-3.1
AJN	Ajban	70.48	297	P	P	11 52 01.3	-2.1
	SNR=47						
AJN				P	P	11 52 01.3	-2.1
	SNR=47						
AJN				S	S	12 01 13.0	-2.9
AJN				S	S	12 01 13.0	-2.9
AJN	Ajban	70.48	297	*i* P	P	11 52 00.8	-2.6
	SNR=52						
ABTO	Aybut	70.82	289	P	P	11 52 03.4	-2.2
	SNR=27						
ABTO				P	P	11 52 03.4	-2.2
	SNR=27						
ABTO				S	S	12 01 15.1	-5.1
ABTO				S	S	12 01 15.1	-5.1
MZWR	Madinat Zayed	71.32	296	P	P	11 52 07.2	-1.3
MZWR				P	P	11 52 07.2	-1.3
MZWR				S	S	12 01 24.6	-1.1
MZWR				S	S	12 01 24.6	-1.1
MZR	Muzera	71.55	295	P	P	11 52 08.2	-1.7
	SNR=38						
MZR				P	P	11 52 08.2	-1.7
	SNR=38						
MZR				S	S	12 01 27.1	-1.3
MZR				S	S	12 01 27.1	-1.3
MZR	Muzera	71.55	295	*i* P	P	11 52 07.6	-2.3
	SNR=39						
GHWR	Ruwais	72.27	296	P	P	11 52 12.2	-1.9
GHWR				P	P	11 52 12.2	-1.9
GHWR				S	S	12 01 33.7	-2.8
GHWR				S	S	12 01 33.7	-2.8
JRN	Qarnain Island	72.46	297	P	P	11 52 13.4	-1.9
	SNR=17						
JRN				P	P	11 52 13.4	-1.9
	SNR=17						
JRN				S	S	12 01 36.1	-2.7
JRN				S	S	12 01 36.1	-2.7
SBV	Sambava	72.71	257	P	P	11 52 17.0	+0.1
	SNR=12						
SLWR	Sila	73.35	296	P	P	11 52 17.5	-3.1
SLWR				P	P	11 52 17.5	-3.1
SLWR				S	S	12 01 46.6	-2.4
SLWR				S	S	12 01 46.6	-2.4
TIXI	Tiksi	73.44	2	LR	LR	12 29 27.2	
	comp=Z,35μm,18.0s,baz=203,slow=40						
TIXI	Tiksi	73.44	2*c*	*i* P	P	11 52 17.9	-2.2
TIXI				pmax	pmax		
	comp=Z,495nm,1.4s						
TIXI				MLR	MLR		
	comp=Z,59μm,18.0s						
ADK	Adak	73.85	34	P	P	11 52 22.7	-0.2
ADK	Adak	73.85	34	IAMs_20	IAMs_20	12 19 44.4	
	comp=Z,51μm,22.0s						
ADK	Adak	73.85	34	P	P	11 52 22.7	-0.2
ADK				pmax	pmax		
	comp=Z,1μm,1.6s						
TRNA	Turayna	73.89	296	P	P	11 52 21.9	-1.8
	SNR=19						
AB31	Akbulak array	73.89	323	P	P	11 52 21.7	-1.5
AB31	Akbulak array	73.89	323	P	P	11 52 21.6	-1.7
ABKAR	Akbulak array	73.89	323	P	P	11 52 21.7	-1.5
SMRA	Abu-Samra	74.24	296	P	P	11 52 23.8	-2.0
	SNR=28						
SMRA				S	S	12 01 57.0	-1.9
SHMA	Al-Shehemyia	74.30	297	P	P	11 52 24.1	-2.0
	SNR=8.1						
SHMA				S	S	12 01 58.6	-1.0
SAKB	Bahrain	74.70	297	P	P	11 52 25.4	-3.1
SAKB				S	S	12 02 00.9	-3.2
NRIK	Noril'sk	74.86	348	P	P	11 52 26.7	-1.8
NRIK	Noril'sk	74.86	348	P	P	11 52 26.1	-2.4
	comp=Z,37nm,0.8s,baz=130,slow=5.4,SNR=18						
NRIK				LR	LR	12 26 43.2	
	comp=Z,54μm,21.2s,baz=148,slow=37						
	comp=Z,37nm,0.8s						
NRIK	Noril'sk	74.86	348*c*	*i* P	P	11 52 26.0	-2.4
NRIK				pmax	pmax		
	comp=Z,139nm,0.9s						
NRIK				MLR	MLR		
	comp=Z,59μm,21.0s						
ATKA	Atka Island	75.38	35	P	P	11 52 31.8	0.0
ATKA				IAMs_20	IAMs_20	12 20 28.2	
	comp=Z,39μm,22.0s						
ATKA	Atka Island	75.38	35	P	P	11 52 33.3	+1.5
CRZF	Crozet Islands	75.46	222	IAMs_20	IAMs_20	12 19 30.0	
	comp=Z,47μm,22.0s						
AKTO	Aktyubinsk	75.49	323	LR	LR	12 29 48.3	
	comp=Z,16μm,20.0s,baz=126,slow=39						
AKTO	Aktyubinsk	75.49	323	P	P	11 52 29.3	-3.2
ABPO	Ambohimpanom	75.56	251	P	P	11 52 32.6	-1.2
ABPO	Ambohimpanom	75.56	251	IAMs_20	IAMs_20	12 22 57.2	
	comp=Z,59μm,21.0s						
ABPO	Ambohimpanom	75.56	251	P	P	11 52 32.6	-1.2
ABPO				pmax	pmax		
	comp=Z,246nm,1.6s						
BILL	Bilibino	75.95	16	P	P	11 52 34.0	-0.8
BILL				IAMs_20	IAMs_20	12 28 43.9	
	comp=Z,34μm,21.0s						
BILL	Bilibino	75.95	16*ce*	P	P	11 52 33.7	-1.1
BILL				pmax	pmax		
	comp=Z,183nm,1.7s						
BILL				MLR	MLR		
	comp=Z,33μm,20.0s						
VOI	Vohitsoka	76.13	248	P	P	11 52 36.7	-0.3
	SNR=14						
SVE	Sverdlovsk	76.56	330*de*	P	P	11 52 36.7	-1.8
SVE				*e*S	S	12 02 22.6	-0.9
SVE				*e*SS	SS	12 07 23.6	+4.7
SVE				pmax	pmax		
	comp=Z,302nm,1.1s						
SVE				MLR	MLR		
	comp=Z,33μm,24.0s						
MAW	Mawson	77.16	200	P	P	11 52 41.2	-0.4
	comp=Z,0.0nmcomp=Z,44nm,2.0s						
MAW	Mawson	77.16	200	P	P	11 52 40.2	-1.4
	comp=Z,46nm,1.0s,baz=67,slow=8.5,SNR=22						
MAW				LR	LR	12 25 54.4	
	comp=Z,68μm,18.3s,baz=53,slow=35						
	comp=Z,46nm,1.0s						
ARTI	Arti	77.53	329	P	P	11 52 41.8	-2.2
ARTI	Arti	77.53	329*d*	*i* P	P	11 52 40.8	-3.1
ARTI				PPP	PPP	11 57 20.3	
ARTI				S	S	12 02 33.1	-0.9
ARTI				SS	SS	12 07 29.7	-3.7
ARTI				pmax	pmax		
	comp=Z,50nm,1.0s						
KBD	Kabd	77.71	300	P	P	11 52 44.0	-1.5
RAR	Rarotonga	77.84	111	P	P	11 52 44.7	-1.6
	comp=Z,19nm,0.8s,baz=212,slow=3.5,SNR=6.0						
	comp=Z,19nm,0.8s						
VNDA	Vanda	78.53	172	P	P	11 52 48.5	-0.6
VNDA	Vanda	78.53	172	P	P	11 52 48.6	-0.6
	comp=Z,49nm,0.8s,baz=315,slow=5.9,SNR=102						
VNDA				PKKPbc	PKKPbc	12 11 50.5	+1.6
	comp=Z,0.9nm,0.8s,baz=239,slow=2.1,SNR=4.5						
VNDA				PKPPKP		12 19 47.1	
	comp=Z,1.5nm,1.1s,baz=215,slow=6.0,SNR=3.7						
VNDA				LR	LR	12 28 29.9	
	comp=Z,56μm,18.6s,baz=330,slow=36						
	comp=Z,49nm,0.8s						
RAYN	Ar Rayn	78.88	294	P	P	11 52 50.4	-1.8
RAYN	Ar Rayn	78.88	294	P	P	11 52 50.6	-1.5
RAYN	Ar Rayn	78.88	294	P	P	11 52 51.4	-0.8
RAYN	Ar Rayn	78.88	294	*i* P	P	11 52 49.3	-2.9
	SNR=52						
KEKH	Kekaha	79.30	67	IAMs_20	IAMs_20	12 23 21.9	
	comp=Z,48μm,21.0s						
SPIA	Saint Paul Isl	79.35	31	P	P	11 52 54.5	+0.5
SPIA	Saint Paul Isl	79.35	31	P	P	11 52 54.1	+0.2
	baz=250						
SBA	Scott Base	79.49	171	P	P	11 52 54.8	+0.4
SBA	Scott Base	79.49	171	P	P	11 52 54.8	+0.4
SBA				pmax	pmax		
	comp=Z,314nm,1.3s						
P08K	Saint George I	79.51	31	P	P	11 52 53.9	-0.9
	baz=250						
XMAS	Kiritimati	80.06	88	IAMs_20	IAMs_20	12 24 56.1	
	comp=Z,38μm,21.0s						
ATD	Arta Tunnel	80.30	282	IAMs_20	IAMs_20	12 26 20.7	
	comp=Z,35μm,21.0s						
ATD	Arta Tunnel	80.30	282	LR	LR	12 26 41.7	
	comp=Z,2μm,21.1s,baz=84,slow=34						
UNV	Unalaska Valle	80.31	35	IAMs_20	IAMs_20	12 23 30.5	
	comp=Z,41μm,22.0s						
UNV	Unalaska Valle	80.31	35	P	P	11 52 59.0	-0.2
	baz=253,SNR=10						
MAK	Makhachkala	80.34	314	*e*P	P	11 52 56.3	-3.3
MAK				*e*PPP	PPP	11 57 47.2	
MAK				*e*S	S	12 03 00.5	-4.1
MAK				*e*SS	SS	12 08 18.5	+2.2
MAK				*e*		12 11 43.9	
MAK				pmax	pmax		
	comp=Z,3μm,3.6s						
MAK				pmax	pmax		
	comp=Z,227nm,1.3s						
AKUT	Akutan	80.81	34	IAMs_20	IAMs_20	12 28 03.7	
	comp=Z,39μm,22.0s						
AKUT	Akutan	80.81	34	P	P	11 53 04.1	+2.2
KIP	Kipapa	80.81	68	IAMs_20	IAMs_20	12 22 41.0	
	comp=Z,45μm,21.0s						
GAMB	Gambell	81.11	24	IAmb	IAmb	11 53 15.4	
	comp=Z,380nm,1.1s						
GAMB	Gambell	81.11	24	P	P	11 53 03.1	-0.2
	baz=247,SNR=27						
KHLH	Kahului Airpor	82.24	69	IAMs_20	IAMs_20	12 23 42.8	
	comp=Z,44μm,22.0s						
FALS	False Pass	82.32	34	P	P	11 53 10.1	+0.2
	baz=256,SNR=20						
M11K	Mekoryuk	82.38	28	P	P	11 53 11.0	+0.9
	baz=253						
HLK	Haleakala	82.39	69	IAMs_20	IAMs_20	12 23 35.9	
	comp=Z,49μm,22.0s						
HUH	Hualalai	82.69	70	IAMs_20	IAMs_20	12 23 55.8	
	comp=Z,37μm,22.0s						
KIRV	Kirov	82.82	330*c*	*i* P	P	11 53 09.8	-2.6
HPAH	Hawaii Prepara	82.85	70	IAMs_20	IAMs_20	12 23 48.0	
	comp=Z,45μm,22.0s						
GEVA	Gevas	82.89	309	IAmb	IAmb	11 54 15.4	
	comp=Z,184nm,1.0s						
MWH	Mokuaweoweo	82.90	70	IAMs_20	IAMs_20	12 23 51.4	
	comp=Z,34μm,22.0s						
POHA	Pohakuloa	82.98	70	IAMs_20	IAMs_20	12 24 04.5	
	comp=Z,45μm,22.0s						
HMH	Humu'ula Sheep	83.02	70	IAMs_20	IAMs_20	12 23 54.5	
	comp=Z,41μm,22.0s						
MLH	Mauna Loa	83.10	70	IAMs_20	IAMs_20	12 23 45.6	
	comp=Z,36μm,22.0s						
HLP	Hilina Pali	83.16	70	IAMs_20	IAMs_20	12 23 59.2	
	comp=Z,35μm,22.0s						
UWE	Uwekahuna	83.18	70	IAMs_20	IAMs_20	12 23 59.9	
	comp=Z,35μm,22.0s						
KARS	Kars	83.20	311	IAMs_20	IAMs_20	12 37 29.4	
	comp=Z,47μm,22.0s						
BYL	Byron's Ledge	83.21	70	IAMs_20	IAMs_20	12 24 11.6	
	comp=Z,33μm,22.0s						
HATHI	Halema'uma'u T	83.21	70	IAMs_20	IAMs_20	12 23 49.6	
	comp=Z,34μm,22.0s						
NCK	Nalchik	83.25	314	*i* P	P	11 53 12.3	-2.7
NCK				pmax	pmax		
	comp=Z,97nm,0.7s						
PUH	Pauahi	83.25	70	IAMs_20	IAMs_20	12 24 13.7	
	comp=Z,32μm,22.0s						
TNA	Tin City	83.28	23	IAmb	IAmb	11 53 22.6	
	comp=Z,450nm,1.2s						
TNA	Tin City	83.28	23	P	P	11 53 15.7	+1.1
	baz=250						
STCH	Steam Cracks	83.34	70	IAMs_20	IAMs_20	12 24 26.9	
	comp=Z,28μm,21.0s						
JOKA	Jonika Flow	83.45	70	IAMs_20	IAMs_20	12 25 19.0	
	comp=Z,33μm,22.0s						
K13K	Kusilvak Mount	83.55	27	P	P	11 53 17.4	+1.3
	baz=254,SNR=156						
GURO	Guroymak-BITLI	83.72	309	IAmb	IAmb	11 53 25.5	
	comp=Z,213nm,1.2s						
M13K	Dall Lake	83.75	29	P	P	11 53 18.0	+0.9
	baz=255,SNR=45						
KBZ	Khabaz	83.78	314	P	P	11 53 16.5	-1.2
	comp=Z,28nm,0.7s,baz=347,slow=20,SNR=8.9						
KBZ				PKKPbc	PKKPbc	12 11 36.6	+0.9
	comp=Z,3.0nm,1.0s,baz=224,slow=5.6,SNR=5.0						
KBZ				LR	LR	12 38 26.2	
	comp=Z,10μm,19.4s,baz=96,slow=41						
	comp=Z,28nm,0.7s						
KBZ	Khabaz	83.78	314*c*	*i* P	P	11 53 15.4	-2.3
KBZ				pmax	pmax		
	comp=Z,113nm,1.1s						
KBZ				MLR	MLR		
	comp=Z,25μm,22.0s						
F14K	Arctic Creek	83.88	23	P	P	11 53 19.3	+1.6
	baz=252						
GOF	Gofitskoye	83.88	315*ce*	P	P	11 53 16.1	-2.1

GOF *e*S **S** **12 03 44.7 +3.8**
KVAR Kislovodsk Arr 83.96 314 P **P** **11 53 19.4 +0.6**
comp=Z,9.6nm,0.4s,baz=108,slow=20,SNR=2.6
KVAR LR LR 12 37 06.9
comp=Z,11µm,19.6s,baz=158,slow=40
comp=Z,9.6nm,0.4s
KIV Kislovodsk 83.97 314 IAMs_20 IAMs_20 12 37 48.9
comp=Z,31µm,22.0s
KIV Kislovodsk 83.97 314 *e*P **P** **11 53 15.8 -3.0**
KIV *e* 11 56 30.0
KIV *e*PPP PPP 11 58 20.0
KIV *e* 12 03 38.0
KIV *e*SS SS 12 09 08.6 -1.8
KIV *e*SSS SSS 12 12 39.2
KIV pmax pmax
comp=Z,224nm,3.8s
KIV pmax pmax
comp=Z,51nm,1.0s
KIV Kislovodsk 83.97 314 *i* P **P** **11 53 17.0 -1.8**
SNR=14
ANM Nome 83.99 24 P **P** **11 53 19.3 +1.0**
baz=253,SNR=28
SDPT Sand Point 84.08 34 IAMs_20 IAMs_20 12 25 36.2
comp=Z,50µm,22.0s
SDPT Sand Point 84.08 34 P **P** **11 53 21.1 +2.2**
SDPT Sand Point 84.08 34 P **P** **11 53 19.7 +0.8**
baz=258
FURI Furi 84.25 279 IAMs_20 IAMs_20 12 30 42.3
comp=Z,47µm,20.0s
J14K Nanvaranak Lak 84.26 26 P **P** **11 53 20.8 +1.1**
baz=255
L14K Kuka Creek 84.30 28 P **P** **11 53 21.2 +1.3**
baz=256,SNR=162
N14K Kuskokwak Cree 84.44 29 P **P** **11 53 21.5 +0.8**
baz=257,SNR=64
KIBK Kibwezi 84.46 268 IAmb IAmb 11 53 31.7
comp=Z,407nm,1.5s
KIBK IAMs_20 IAMs_20 12 27 25.9
comp=Z,47µm,22.0s
KIBK Kibwezi 84.46 268 P **P** **11 53 22.1 +0.2**
KIBK Kibwezi 84.46 268 P **P** **11 53 22.2 +0.2**
SNR=79
CHNA Chernabura Isl 84.48 35 P **P** **11 53 22.9 +1.9**
baz=259
O14K Tigyukauivet M 84.50 30 P **P** **11 53 22.3 +1.4**
baz=257,SNR=56
M14K Bethel 84.50 29 P **P** **11 53 22.2 +1.3**
baz=256,SNR=180
F15K North Star Dit 84.61 23 P **P** **11 53 23.1 +1.6**
baz=254,SNR=97
G15K Niukluk 84.66 24 P **P** **11 53 22.2 +0.6**
baz=254,SNR=86
S14K Fog Glacier 84.78 33 P **P** **11 53 23.5 +0.9**
baz=259,SNR=13
L15K Ungalak Mounta 84.94 28 P **P** **11 53 23.9 +0.7**
baz=257
K15K Wolf Creek Mou 85.06 27 P **P** **11 53 25.0 +1.3**
baz=257,SNR=67
KOPT Kop Dagi 85.08 310 IAmb IAmb 11 53 43.3
comp=Z,278nm,1.4s
M15K Kasigluk River 85.09 29 P **P** **11 53 24.6 +0.7**
baz=258,SNR=103
C16K Lisburne Hills 85.10 21 P **P** **11 53 24.6 +0.7**
baz=253,SNR=77
O15K Ungalikthiuk R 85.20 30 P **P** **11 53 25.1 +0.5**
baz=258,SNR=56
N15K Kwethluk River 85.27 29 P **P** **11 53 25.9 +0.9**
baz=258,SNR=89
KMBO Kilima Mbogo 85.29 269 P **P** **11 53 25.8 -0.5**
KMBO IAmb IAmb 11 53 35.4
comp=Z,771nm,1.9s
KMBO Kilima Mbogo 85.29 269 IAMs_20 IAMs_20 12 31 58.8
comp=Z,34µm,20.0s
KMBO Kilima Mbogo 85.29 269 P **P** **11 53 26.6 +0.4**
comp=Z,67nm,1.0s,baz=76,slow=5.4,SNR=78
KMBO LR LR 12 28 14.4
comp=Z,34µm,21.9s,baz=86,slow=33
comp=Z,67nm,1.0s
KMBO Kilima Mbogo 85.29 269 P **P** **11 53 26.8 +0.5**
KMBO P **P** **11 53 26.8 +0.5**
KMBO Kilima Mbogo 85.29 269 P **P** **11 53 25.8 -0.5**
KMBO pmax pmax
comp=Z,771nm,1.9s
KMBO MLR MLR
comp=Z,34µm,20.0s
KMBO Kilima Mbogo 85.29 269 *i* P **P** **11 53 26.1 -0.2**
SNR=55
H16K Elim 85.31 25 P **P** **11 53 25.6 +0.6**
baz=256,SNR=42
CHGN Chignik 85.40 33 P **P** **11 53 25.9 +0.4**
CHGN IAMs_20 IAMs_20 12 26 41.2
comp=Z,41µm,22.0s
CHGN Chignik 85.40 33 P **P** **11 53 25.3 -0.2**
baz=260
G16K Koyuk River 85.45 24 P **P** **11 53 26.8 +1.1**
G16K IAmb IAmb 11 53 38.8
comp=Z,307nm,0.9s
G16K Koyuk River 85.45 24 P **P** **11 53 26.1 +0.4**
baz=256
LABN Labinsk 85.46 315 *e*P **P** **11 53 22.3 -3.9**
LABN *e**PP **PcP** **11 53 25.6 -3.5**
LABN *e*S **SKSac** **12 03 46.5 -4.0**
LABN pmax pmax
comp=Z,45nm,0.7s
LABN MLR MLR
comp=Z,30µm,21.0s
LABN MLR MLR
comp=N,42µm,17.0s
LABN MLR MLR
comp=E,53µm,20.0s
VRH Novokhopyorsk 85.66 321 ⇓*i*P **P** **11 53 25.7 -1.3**
VRH *e*S **SKSac** **12 03 53.4 +1.9**
VRH pmax pmax
comp=Z,396nm,1.4s
J16K Anvik River 85.70 26 P **P** **11 53 27.8 +0.9**
J16K IAmb IAmb 11 53 36.9
comp=Z,204nm,1.0s
J16K Anvik River 85.70 26 P **P** **11 53 27.4 +0.5**
baz=257,SNR=63
ERBR Yeremizino-Bor 85.75 316 *e*P **P** **11 53 26.4 -1.2**
ERBR *e**PP **PcP** **11 53 30.3 -0.1**
ERBR *e*S **SKSac** **12 03 51.5 -0.8**
ERBR pmax pmax
comp=Z,54nm,1.0s
ERBR MLR MLR
comp=Z,29µm,23.0s
ERBR MLR MLR
comp=N,35µm,22.0s
ERBR MLR MLR
comp=E,53µm,22.0s
D17K Noatak River 85.76 22 P **P** **11 53 27.9 +0.8**
baz=255,SNR=185
I17K Unalakleet 85.79 26 IAmb IAmb 11 53 34.8
comp=Z,332nm,1.1s
I17K Unalakleet 85.79 26 P **P** **11 53 28.0 +0.6**
baz=257,SNR=42
SYO Syowa Base 85.80 201 ⇑*i*P **P** **11 53 26.4 -0.9**
SYO Syowa Base 85.80 201 ⇓*i*PcP **P** **11 53 28.3 +1.0**
SYO Syowa Base 85.80 201 ⇓*i*pP pP 11 53 31.2 -2.4
VSLR Vesyoloye 85.81 314 *d*P **P** **11 53 26.9 -1.1**
VSLR pmax pmax
comp=Z,690nm,1.3s
L16K Owhat River 85.88 28 IAmb IAmb 11 53 40.3
comp=Z,438nm,1.4s
L16K Owhat River 85.88 28 P **P** **11 53 28.0 +0.1**
baz=258,SNR=26
RDOG Red Dog Mine 85.92 21 P **P** **11 53 28.5 +0.5**
baz=255,SNR=12
N16K Nishlik Lake 85.98 29 P **P** **11 53 28.7 +0.2**
baz=259,SNR=84
M16K Timber Creek 85.99 29 IAmb IAmb 11 53 37.2
comp=Z,517nm,1.5s
M16K Timber Creek 85.99 29 P **P** **11 53 28.8 +0.4**
baz=259,SNR=25
SOC Sochi 86.05 314 *c* *i*P **P** **11 53 27.5 -1.6**
SOC *e* 11 56 44.8
SOC *e*PPP PPP 11 58 38.3
SOC *e*S **SKSac** **12 03 53.1 -1.2**
SOC *e*SSS SSS 12 13 12.5
SOC pmax pmax
comp=Z,109nm,1.1s
SOC MLR MLR
comp=Z,13µm,18.0s
E17K Hotham Inlet 86.07 22 P **P** **11 53 29.1 +0.4**
baz=256,SNR=31
R16K Pilot Point 86.07 32 P **P** **11 53 28.1 -0.8**
baz=260
P16K Nushagak River 86.11 31 P **P** **11 53 29.6 +0.6**
baz=260,SNR=42
F17K Baldwin Pennin 86.14 23 IAmb IAmb 11 54 27.9
comp=Z,271nm,1.2s
F17K Baldwin Pennin 86.14 23 P **P** **11 53 29.4 +0.3**
baz=257
O16K Kokwok River B 86.15 30 P **P** **11 53 29.5 +0.3**
baz=260,SNR=77
H17K Granite Mounta 86.35 25 IAmb IAmb 11 53 37.2
comp=Z,587nm,1.4s
H17K Granite Mounta 86.35 25 P **P** **11 53 30.8 +0.6**
baz=258,SNR=95
J17K VABM Dome 86.39 26 IAmb IAmb 11 53 43.8
comp=Z,157nm,0.9s
J17K VABM Dome 86.39 26 P **P** **11 53 30.8 +0.4**
baz=259,SNR=49
L17K Donlin 86.51 28 P **P** **11 53 31.4 +0.4**
baz=260,SNR=17
K17K Iditarod 86.61 27 IAmb IAmb 11 53 38.5
comp=Z,296nm,1.1s
K17K Iditarod 86.61 27 P **P** **11 53 32.2 +0.7**
baz=260,SNR=67
E18K Tukpahlearik C 86.61 22 IAmb IAmb 11 53 41.1
comp=Z,306nm,1.1s
E18K Tukpahlearik C 86.61 22 P **P** **11 53 32.2 +0.8**
baz=257
B18K Kokolik River 86.64 20 P **P** **11 53 32.7 +1.2**
baz=256
C18K Utukok River 86.68 21 IAmb IAmb 11 53 44.0
comp=Z,263nm,1.1s
C18K Utukok River 86.68 21 P **P** **11 53 32.5 +0.8**
baz=256
Q16K King Salmon 86.73 31 P **P** **11 53 31.6 -0.4**
baz=261,SNR=9.1
N17K Nushagak Hills 86.76 29 IAmb IAmb 11 53 43.1
comp=Z,541nm,1.9s
N17K Nushagak Hills 86.76 29 P **P** **11 53 32.9 +0.7**
baz=261,SNR=8.0
M17K Holitna River 86.78 28 P **P** **11 53 33.4 +1.0**
baz=260,SNR=25
F18K Selawik 86.80 23 P **P** **11 53 32.3 +0.1**
baz=258,SNR=24
CHIR Chirikof Islan 86.87 34 IAMs_20 IAMs_20 12 27 14.1
comp=Z,37µm,22.0s
CHIR Chirikof Islan 86.87 34 P **P** **11 53 33.1 +0.2**
baz=262
P17K Kvichak River 86.92 31 P **P** **11 53 33.2 +0.2**
baz=261
H18K Honhosa River 87.04 25 IAmb IAmb 11 53 40.6
comp=Z,315nm,1.2s
H18K Honhosa River 87.04 25 P **P** **11 53 33.9 +0.4**
baz=259,SNR=82
G18K Tagagawik 87.06 24 P **P** **11 53 33.6 0.0**
baz=259
Q17K Contact Creek 87.07 32 P **P** **11 53 33.4 -0.5**
baz=262,SNR=52
A19K Wainwright 87.08 19 P **P** **11 53 34.7 +1.2**
baz=256,SNR=37
VORD Divnogorie 87.15 321 *e*P **P** **11 53 31.9 -2.4**
VORD *e* 11 53 33.2
VORD *e*S **S** **12 04 07.6 -5.3**
VORD pmax pmax
comp=Z,130nm,0.3s
VORD smax smax
comp=N,340nm,5.6s
VORD MLR MLR
comp=Z,5µm,15.0s
VSR Storozhevoye 87.26 321 *e*P **P** **11 53 30.6 -4.3**
VSR *e* 11 53 32.9
VSR *e*S **S** **12 04 12.4 -1.5**
VSR pmax pmax
comp=Z,330nm,1.3s
VSR smax smax
comp=N,9µm,19.2s
VSR MLR MLR
comp=Z,48µm,24.0s
L18K Granite Mounta 87.27 28 IAmb IAmb 11 53 41.4
comp=Z,297nm,1.3s
L18K Granite Mounta 87.27 28 P **P** **11 53 35.1 +0.5**
baz=261,SNR=45
VORR Voronezh 87.28 322 *e*P **P** **11 53 34.6 -0.4**
VORR S **SKSac** **12 04 05.7 +4.2**
VORR pmax pmax
comp=Z,492nm,1.1s
ASF Jabal al Asfar 87.29 302 LR LR 12 38 55.0
comp=Z,36µm,19.1s,baz=121,slow=40
LODK Lodwar 87.32 273 IAMs_20 IAMs_20 12 30 47.8
comp=Z,35µm,20.0s
LODK Lodwar 87.32 273 P **P** **11 53 36.7 +0.6**
SNR=54
GAZ Gaziantep 87.38 307 IAmb IAmb 11 53 43.5
comp=Z,684nm,1.9s
GAZ IAMs_20 IAMs_20 12 39 51.5
comp=Z,36µm,22.0s
PPT Papeete 87.41 107 P **P** **11 53 34.8 -1.6**
comp=Z,7.8nm,0.6s,baz=236,slow=22,SNR=5.7
comp=Z,7.8nm,0.6s
N18K Kilae Creek 87.42 29 P **P** **11 53 36.0 +0.5**
baz=262,SNR=19
J18K Innoko River 87.45 26 IAmb IAmb 11 53 44.1
comp=Z,630nm,1.7s
J18K Innoko River 87.45 26 P **P** **11 53 35.2 -0.3**
baz=261,SNR=90
LPSR Galich'ya Gora 87.56 323 ⇓*i*P **P** **11 53 35.0 -1.2**
LPSR *e*S **SKSac** **12 04 05.7 +2.6**
LPSR pmax pmax
comp=Z,486nm,1.3s
LPSR MLR MLR
comp=Z,31µm,22.0s
M18K Stony River 87.56 28 P **P** **11 53 36.4 +0.3**
baz=262,SNR=48
P18K Big Mountain, 87.56 30 P **P** **11 53 35.4 -0.8**
baz=262,SNR=7.3
F19K Shaleruckik Mo 87.58 23 P **P** **11 53 35.8 -0.2**
baz=260,SNR=42
Q18K Katmai Hardscr 87.58 31 P **P** **11 53 35.6 -0.8**
baz=263,SNR=21
GCSA Galena City Sc 87.59 25 P **P** **11 53 36.5 +0.4**
baz=261,SNR=113
O18K Koktuh Hills 87.64 30 IAmb IAmb 11 53 51.0
comp=Z,348nm,1.6s
O18K Koktuh Hills 87.64 30 P **P** **11 53 36.6 0.0**
baz=262,SNR=13
TTA Tatalina 87.69 27 P **P** **11 53 38.6 +1.8**
TTA Tatalina 87.69 27 P **P** **11 53 37.0 +0.2**
baz=262,SNR=38
G19K Purcell Mounta 87.73 24 P **P** **11 53 37.1 +0.3**
baz=260,SNR=281
R18K Karluk 87.74 32 P **P** **11 53 36.5 -0.5**
baz=263
D19K Kuna River 87.75 21 IAmb IAmb 11 53 50.5
comp=Z,166nm,0.8s
D19K Kuna River 87.75 21 P **P** **11 53 37.1 +0.2**
baz=259
SII Sitkinak Islan 87.77 33 IAMs_20 IAMs_20 12 28 17.6
comp=Z,45µm,22.0s
SII Sitkinak Islan 87.77 33 P **P** **11 53 38.2 +1.0**
SII Sitkinak Islan 87.77 33 P **P** **11 53 37.5 +0.3**
baz=263
ANN Anapa 87.81 315 *e*P **P** **11 53 34.7 -2.9**
ANN *e**PP **PcP** **11 53 37.5 -2.0**
ANN *e*PPP PPP 11 58 54.8
ANN *e*S **SKSac** **12 04 02.4 -2.6**
ANN pmax pmax
comp=Z,96nm,0.9s
ANN MLR MLR
comp=Z,32µm,21.0s
ANN MLR MLR
comp=N,14µm,23.0s
ANN MLR MLR
comp=E,35µm,22.0s
FKH Fakeheh 87.83 304 *e*P **P** **11 53 38.2 0.0**
H19K Roundabout Mou 87.89 24 P **P** **11 53 38.1 +0.5**
baz=261,SNR=194
E19K Redstone River 87.90 22 IAmb IAmb 11 53 49.2
comp=Z,269nm,0.9s
E19K Redstone River 87.90 22 P **P** **11 53 37.9 +0.3**
baz=260,SNR=138
J19K Poorman 88.01 26 IAmb IAmb 11 53 45.5
comp=Z,377nm,1.2s
J19K Poorman 88.01 26 P **P** **11 53 38.7 +0.5**
baz=262,SNR=133
BEIL Beino 88.03 304 *e*P **P** **11 53 38.9 -0.1**
L19K White Mountain 88.11 28 IAmb IAmb 11 53 45.4
comp=Z,257nm,1.2s
L19K White Mountain 88.11 28 P **P** **11 53 39.0 +0.3**
baz=263,SNR=62
N19K Bonanza Creek 88.12 29 P **P** **11 53 39.2 +0.3**
baz=263,SNR=86
O19K Port Alsworth 88.12 30 IAmb IAmb 11 53 45.6
comp=Z,254nm,1.4s
O19K Port Alsworth 88.12 30 P **P** **11 53 38.8 +0.1**
baz=263,SNR=10
QSPA South Pole Qui 88.14 180 P **P** **11 53 38.1 -0.8**
QSPA IAmb IAmb 11 53 45.0
comp=Z,207nm,1.2s
QSPA South Pole Qui 88.14 180 P **P** **11 53 38.3 -0.7**
comp=Z,39nm,0.9s,baz=335,slow=1.2,SNR=58
QSPA LR LR 12 34 12.9
comp=Z,67µm,18.3s,baz=344,slow=36
comp=Z,39nm,0.9s
TOKA Tokat 88.17 310 IAmb IAmb 11 53 47.0
comp=Z,222nm,1.3s
KLMR Klimovskoe 88.17 331 *e*P **P** **11 53 35.4 -3.6**
KLMR S **SKSac** **12 04 02.9 -3.6**
KLMR 12 04 28.6
KLMR pmax pmax
comp=Z,392nm,1.4s
HWQ Hawqa 88.22 304 *e*P **P** **11 53 38.5 -1.5**
RCY Rachaya 88.26 303 *e*P **P** **11 53 40.9 +0.6**
M19K Big River Lodg 88.30 28 IAmb IAmb 11 53 46.4
comp=Z,168nm,1.1s
M19K Big River Lodg 88.30 28 P **P** **11 53 40.1 +0.5**
baz=263
Q19K Cape Douglas, 88.32 31 IAmb IAmb 11 53 45.5
comp=Z,212nm,0.8s
Q19K IAMs_20 IAMs_20 12 28 44.6
comp=Z,31µm,22.0s
Q19K Cape Douglas, 88.32 31 P **P** **11 53 39.3 -0.5**
baz=264
OHAK Old Harbor 88.33 33 P **P** **11 53 39.7 -0.1**
baz=264
SHBL Chebaa 88.33 303 *e*P **P** **11 53 40.5 -0.1**
D20K Etivluk River 88.33 21 IAmb IAmb 11 53 51.1
comp=Z,192nm,1.1s
D20K Etivluk River 88.33 21 P **P** **11 53 40.1 +0.4**
baz=261
BALJ Balqa 88.35 302 IAmb IAmb 11 53 50.5
comp=Z,191nm,1.1s
B20K Meade River 88.36 20 IAmb IAmb 11 53 52.0
comp=Z,154nm,1.0s
B20K Meade River 88.36 20 P **P** **11 53 40.3 +0.6**
baz=260
GHAJ Ghor Haditha 88.37 301 IAmb IAmb 11 53 50.7
comp=Z,412nm,1.4s
F20K Avaraart Lake 88.41 23 IAmb IAmb 11 53 51.8
comp=Z,151nm,1.1s
F20K Avaraart Lake 88.41 23 P **P** **11 53 40.3 +0.3**
baz=262
E20K Nigu River 88.42 22 P **P** **11 53 40.8 +0.7**
baz=261
BHL Bhannes 88.44 304 *e*P **P** **11 53 40.2 -0.8**
H20K Anotleneega Mo 88.53 24 P **P** **11 53 41.0 +0.3**
baz=262,SNR=129
MMAI Mount Meron Ar 88.60 303 P **P** **11 53 41.2 -0.6**
comp=Z,9.9nm,0.7s,baz=189,slow=4.2,SNR=16
MMAI LR LR 12 41 31.0
comp=Z,33µm,18.3s,baz=92,slow=41
comp=Z,9.9nm,0.7s
L20K Farewell, AK 88.60 27 P **P** **11 53 41.1 0.0**
baz=263,SNR=20
P19K Oil Pt 88.61 30 P **P** **11 53 40.7 -0.5**
baz=264
I20K Naaghedeneel 88.61 25 P **P** **11 53 41.7 +0.7**
baz=263
K20K Telida 88.62 27 IAmb IAmb 11 53 48.7
comp=Z,430nm,1.4s
K20K Telida 88.62 27 P **P** **11 53 41.5 +0.4**
baz=263,SNR=58
MOS Moscow 88.63 326 *e*P **P** **11 53 38.1 -3.2**
MOS *e* 11 57 06.6
MOS *e* 12 04 07.5
MOS *e*S **S** **12 04 27.9 +1.1**
MOS *e*PS **PS** **12 05 34.0 +1.2**
MOS *e*SS **SS** **12 10 09.6 -8.3**
MOS pmax pmax
comp=Z,262nm,1.5s
MOS pmax pmax
comp=Z,3µm,4.8s
MOS pmax pmax
comp=E,2µm,4.8s
MOS pmax pmax
comp=N,1µm,4.4s
J20K Nowinta River 88.68 26 IAmb IAmb 11 53 48.8
comp=Z,334nm,1.2s
J20K Nowinta River 88.68 26 P **P** **11 53 42.0 +0.7**
baz=263,SNR=95
A21K Barrow 88.75 19 P **P** **11 53 41.5 -0.1**
baz=261
KDAK Kodiak Island 88.76 32 P **P** **11 53 41.0 -0.8**
KDAK IAmb IAmb 11 53 54.5
comp=Z,592nm,1.8s
KDAK Kodiak Island 88.76 32 LR LR 12 29 29.0
comp=Z,10µm,21.8s,baz=96,slow=33
KDAK Kodiak Island 88.76 32 P **P** **11 53 41.0 -0.8**
KDAK pmax pmax
comp=Z,593nm,1.8s
KDAK Kodiak Island 88.76 32 P **P** **11 53 41.6 -0.2**
baz=265
EIL Elat 88.81 300 LR LR 12 38 36.7
comp=Z,36µm,20.1s,baz=106,slow=39
M20K Styx River 88.89 28 P **P** **11 53 41.9 -0.6**
M20K IAmb IAmb 11 53 49.6
comp=Z,337nm,1.2s
M20K Styx River 88.89 28 P **P** **11 53 42.2 -0.3**
baz=264
Q20K Shuyak Island 88.94 31 P **P** **11 53 42.8 +0.1**
baz=265,SNR=6.6
SYI Shuyak Island 88.94 31 IAmb IAmb 11 53 51.4
comp=Z,263nm,1.1s
C21K Knifeblade Rid 89.05 21 P **P** **11 53 43.3 +0.3**
baz=262,SNR=31
B21K Ikpikpuk River 89.17 20 IAmb IAmb 11 53 55.2
comp=Z,226nm,0.9s
B21K IAMs_20 IAMs_20 12 34 39.0
comp=Z,28µm,22.0s
B21K Ikpikpuk River 89.17 20 P **P** **11 53 44.3 +0.8**
baz=263
OBN Obninsk 89.18 325 P **P** **11 53 43.1 -0.7**
OBN IAmb IAmb 11 53 51.2
comp=Z,253nm,1.2s
OBN IAMs_20 IAMs_20 12 41 25.1
comp=Z,25µm,19.0s
OBN Obninsk 89.18 325 P **P** **11 53 41.3 -2.5**
comp=Z,17nm,0.5s,baz=27,slow=4.8,SNR=17
OBN LR LR 12 39 15.3
comp=Z,10µm,19.7s,baz=40,slow=39
comp=Z,17nm,0.5s
OBN Obninsk 89.18 325 *c* *i*P **P** **11 53 41.2 -2.6**
OBN *i* 11 53 48.0
OBN *e* 11 57 11.0
OBN *i*S **S** **12 04 24.8 -7.1**
OBN *e*SS **SS** **12 10 25.7 -0.2**
OBN pmax pmax
comp=Z,313nm,1.4s
OBN MLR MLR
comp=Z,54µm,26.0s
OBN Obninsk 89.18 325 P **P** **11 53 42.8 -1.0**
comp=Z,5µmcomp=Z,136nm,1.4s
DIKM Dikmen 89.18 312 ⇑P **P** **11 53 44.3 +0.1**
DIKM Dikmen 89.18 312 P **P** **11 53 44.6 +0.4**
comp=Z,3µmcomp=Z,49nm,1.4s
G21K Allakaket 89.22 23 P **P** **11 53 43.4 -0.4**
G21K IAmb IAmb 11 53 51.1
comp=Z,296nm,1.1s
G21K Allakaket 89.22 23 P **P** **11 53 44.2 +0.3**
baz=264
A22K Sinclair Lake 89.23 19 P **P** **11 53 44.5 +0.7**
baz=262
E21K Killik River 89.26 22 P **P** **11 53 44.3 +0.3**
E21K IAmb IAmb 11 53 53.1
comp=Z,237nm,1.4s
E21K Killik River 89.26 22 P **P** **11 53 44.2 +0.1**
baz=263
SPCR Spurr Chakacha 89.26 29 P **P** **11 53 43.7 -0.5**
baz=265,SNR=33
F21K Alatna River 89.30 23 P **P** **11 53 44.1 -0.1**
baz=264
H21K Melozitna Rive 89.41 24 IAmb IAmb 11 53 52.1
comp=Z,397nm,1.2s
H21K Melozitna Rive 89.41 24 P **P** **11 53 45.6 +0.8**
baz=264,SNR=215
HOM Homer 89.41 30 P **P** **11 53 45.8 +0.9**
baz=265

PPLA	**Purkeypile**	89.42	27	IAmb	IAmb	11 53 57.0	
	comp=Z,564nm,1.6s						
PPLA	**Purkeypile**	89.42	27	P	P	11 53 44.8	-0.3
	baz=265,SNR=28						
CHUM	**Lake Minchumin**	89.45	26	P	P	11 53 45.2	+0.2
	baz=265,SNR=99						
CAST	**Castle Rocks**	89.51	27	P	P	11 53 45.5	+0.2
	baz=265,SNR=23						
CNPM	**China Poot**	89.61	31	IAmb	IAmb	11 53 52.9	
	comp=Z,549nm,1.5s						
SKT	**Skwentna**	89.65	28	IAmb	IAmb	11 53 51.6	
	comp=Z,224nm,1.3s						
SKT				IAMs_20	IAMs_20	12 35 58.5	
	comp=Z,27µm,21.0s						
SKT	**Skwentna**	89.65	28	P	P	11 53 45.1	-0.9
	baz=266,SNR=48						
B22K	**Teshekpuk Lake**	89.67	20	IAmb	IAmb	11 53 57.4	
	comp=Z,327nm,1.1s						
B22K	**Teshekpuk Lake**	89.67	20	P	P	11 53 45.7	-0.1
	baz=264,SNR=105						
CAPN	**Captain Cook N**	89.74	29	P	P	11 53 46.3	-0.1
	baz=266						
D22K	**Ayikyak River**	89.77	21	IAmb	IAmb	11 53 58.2	
	comp=Z,410nm,1.9s						
D22K	**Ayikyak River**	89.77	21	P	P	11 53 46.9	+0.5
	baz=264						
BRLK	**Bradley Lake**	89.80	30	IAmb	IAmb	11 53 52.8	
	comp=Z,299nm,1.1s						
F22K	**John River**	89.83	23	P	P	11 53 47.2	+0.4
	baz=265						
BRSE	**Bradley Lake S**	89.87	30	P	P	11 53 47.8	+0.7
	baz=266,SNR=7.1						
POGA	**Pongola**	89.95	243	IAmb	IAmb	11 54 34.0	
	comp=Z,194nm,0.9s						
SUA	**Susitna One**	89.98	29	IAmb	IAmb	11 53 53.5	
	comp=Z,249nm,1.1s						
SUA	**Susitna One**	89.98	29	P	P	11 53 48.1	+0.4
	baz=266,SNR=37						
H22K	**Ishtalitna Cre**	90.02	24	P	P	11 53 48.1	+0.5
	baz=266,SNR=108						
E22K	**Anaktuvuk Pass**	90.03	22	P	P	11 53 48.1	+0.4
	baz=265						
KTH	**Kantishna Hill**	90.04	27	IAmb	IAmb	11 53 54.2	
	comp=Z,238nm,1.2s						
G22K	**Bettles**	90.04	23	P	P	11 53 47.8	+0.1
	baz=266						
BPAW	**Bear Paw Mtn.**	90.05	26	P	P	11 53 48.0	+0.1
	baz=266,SNR=63						
KIRS	**Kirsehir-Merke**	90.08	309	⇑P	P	11 53 47.6	-1.1
BZK	**Bozkurt**	90.13	312	IAMs_20	IAMs_20	12 41 46.0	
	comp=Z,39µm,21.0s						
SIM	**Simferopol'**	90.17	315	*e*P	P	11 53 49.1	+0.3
CUT	**Chulitna**	90.27	28	IAmb	IAmb	11 53 57.3	
	comp=Z,520nm,1.4s						
CUT	**Chulitna**	90.27	28	P	P	11 53 48.3	-0.5
	baz=267,SNR=7.5						
M22K	**Willow**	90.30	28	P	P	11 53 48.3	-0.6
	baz=267,SNR=50						
BR104	**Keskin Array S**	90.32	310	P	P	11 53 48.1	-1.7
	comp=Z,315nmcomp=Z,26nm,1.4s						
BRTR	**Keskin Array B**	90.32	310	P	P	11 53 47.5	-2.3
BRTR	**Keskin Array B**	90.32	310	P	P	11 53 48.1	-1.7
	comp=Z,8.7nm,0.9s,baz=123,slow=4.6,SNR=33						
BRTR				PKPPbc	PKKPbc	12 11 20.1	+0.1
	comp=Z,1.2nm,0.8s,baz=205,slow=5.5,SNR=4.2						
BRTR				PKPPKP	P'P'df	12 19 33.0	+4.3
	comp=Z,1.2nm,1.0s,baz=90,slow=1.2,SNR=4.1						
BRTR				LR	LR	12 43 03.3	
	comp=Z,9µm,18.6s,baz=108,slow=41						
	comp=Z,8.7nm,0.9s						
BRTR	**Keskin Array B**	90.32	310	*i* P	P	11 53 48.0	-1.7
BRTR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TRF	**Thorofare Moun**	90.32	27	IAmb	IAmb	11 53 57.0	
	comp=Z,442nm,1.7s						
TRF	**Thorofare Moun**	90.32	27	P	P	11 53 48.8	-0.4
	baz=267,SNR=40						
BR131	**Keskin Array S**	90.32	310	P	P	11 53 48.1	-1.7
	SNR=29						
BR131				P	P	11 53 48.1	-1.7
	SNR=29						
BR131	**Keskin Array S**	90.32	310	*c i* P	P	11 53 48.8	-1.0
BR105	**Keskin Array S**	90.34	310	P	P	11 53 48.2	-1.7
	comp=Z,341nmcomp=Z,30nm,0.9s						
BR106	**Keskin Array S**	90.34	310	P	P	11 53 48.4	-1.5
	comp=Z,286nmcomp=Z,28nm,0.9s						
CSS	**Mathiatis**	90.40	305	P	P	11 53 49.0	-1.2
CSS				IAMs_20	IAMs_20	12 41 22.6	
	comp=Z,30µm,21.0s						
CSS	**Mathiatis**	90.40	305	P	P	11 53 48.8	-1.3
	comp=Z,4µmcomp=Z,110nm,1.1s						
O22K	**Cooper Landing**	90.42	30	P	P	11 53 49.5	-0.1
	baz=267,SNR=6.7						
RC01	**Rabbit Creek A**	90.45	29	P	P	11 53 49.7	0.0
RC01				IAmb	IAmb	11 53 55.1	
	comp=Z,180nm,1.2s						
RC01	**Rabbit Creek A**	90.45	29	P	P	11 53 48.9	-0.8
	baz=267,SNR=7.2						
D23K	**Nanushuk River**	90.50	21	IAmb	IAmb	11 54 06.8	
	comp=Z,168nm,1.1s						
D23K				IAMs_20	IAMs_20	12 35 22.2	
	comp=Z,26µm,21.0s						
D23K	**Nanushuk River**	90.50	21	P	P	11 53 50.6	+0.8
	baz=266						
SEW	**Seward**	90.54	30	IAmb	IAmb	11 54 00.2	
	comp=Z,422nm,1.3s						
SEW	**Seward**	90.54	30	P	P	11 53 50.0	-0.1
	baz=267,SNR=8.7						
COLD	**Coldfoot**	90.58	23	IAmb	IAmb	11 53 57.6	
	comp=Z,240nm,1.1s						
COLD	**Coldfoot**	90.58	23	P	P	11 53 50.7	+0.5
	baz=267,SNR=112						
C23K	**Itkillik River**	90.58	20	IAmb	IAmb	11 53 57.3	
	comp=Z,327nm,1.1s						
C23K	**Itkillik River**	90.58	20	P	P	11 53 50.5	+0.4
	baz=266						
G23K	**Bananza Creek**	90.62	23	IAmb	IAmb	11 53 58.0	
	comp=Z,374nm,1.1s						
G23K	**Bananza Creek**	90.62	23	P	P	11 53 51.0	+0.6
	baz=267,SNR=166						
PMR	**Palmer**	90.76	29	IAmb	IAmb	11 54 02.7	
	comp=Z,282nm,1.4s						
PMR	**Palmer**	90.76	29	P	P	11 53 51.0	-0.1
	baz=268,SNR=28						
H23K	**Yukon River**	90.77	24	IAmb	IAmb	11 53 58.5	
	comp=Z,218nm,0.9s						
H23K	**Yukon River**	90.77	24	P	P	11 53 51.6	+0.5
	baz=267						
I23K	**Minto, Yukon-K**	90.81	25	P	P	11 53 51.4	+0.1
	baz=268,SNR=194						
E23K	**Chandalar**	90.84	22	IAmb	IAmb	11 54 00.9	
	comp=Z,195nm,1.1s						
E23K	**Chandalar**	90.84	22	P	P	11 53 51.4	-0.1
	baz=267,SNR=124						
GHO	**Glory Hole Cre**	90.87	28	IAmb	IAmb	11 54 00.8	
	comp=Z,215nm,1.4s						
LVZ	**Lovozero**	90.88	338	P	P	11 53 52.5	+0.8
LVZ	**Lovozero**	90.88	338	*d i* P	P	11 53 53.4	+1.8
LVZ				pmax	pmax		
	comp=Z,90nm,0.9s						
TOLK	**Toolik Lake Re**	90.89	21	P	P	11 53 51.8	+0.1
TOLK				IAmb	IAmb	11 54 02.8	
	comp=Z,164nm,1.1s						
TOLK	**Toolik Lake Re**	90.89	21	P	P	11 53 52.0	+0.4
	baz=267,SNR=63						
NEA2	**Nenana**	90.91	26	IAmb	IAmb	11 53 59.8	
	comp=Z,191nm,1.2s						
NEA2	**Nenana**	90.91	26	P	P	11 53 51.5	-0.3
	baz=268,SNR=54						
MCK	**McKinley**	90.94	26	IAmb	IAmb	11 53 58.0	
	comp=Z,320nm,1.1s						
MCK	**McKinley**	90.94	26	P	P	11 53 51.1	-0.8
	baz=268,SNR=78						
RND	**Reindeer**	90.96	27	IAmb	IAmb	11 53 57.9	
	comp=Z,296nm,1.0s						
ANTO	**Ankara**	90.98	310	P	P	11 53 51.6	-1.1
ANTO	**Ankara**	90.98	310	P	P	11 53 51.6	-1.1
	comp=Z,1µmcomp=Z,12nm,1.2s						
ANTO	**Ankara**	90.98	310	P	P	11 53 51.7	-1.1
KNK	**Knik Glacier**	91.08	29	P	P	11 53 52.5	-0.2
	baz=268,SNR=31						
PWL	**Port Wells**	91.12	29	IAmb	IAmb	11 54 09.4	
	comp=Z,230nm,1.1s						
PWL	**Port Wells**	91.12	29	P	P	11 53 52.9	0.0
	baz=268,SNR=6.2						
SML	**Sawmill**	91.15	28	P	P	11 53 52.5	-0.6
	baz=268,SNR=50						
ELIB	**Princess Elisa**	91.16	198	*d*P	P	11 53 53.3	+0.3
D24K	**Happy Valley**	91.18	21	IAmb	IAmb	11 53 59.8	
	comp=Z,224nm,1.2s						
D24K				IAMs_20	IAMs_20	12 36 05.1	
	comp=Z,37µm,22.0s						
D24K	**Happy Valley**	91.18	21	P	P	11 53 53.6	+0.7
	baz=268						
C24K	**Franklin Bluff**	91.24	20	IAmb	IAmb	11 53 59.7	
	comp=Z,252nm,1.1s						
C24K	**Franklin Bluff**	91.24	20	P	P	11 53 53.9	+0.7
	baz=268						
E24K	**Your Creek**	91.27	22	IAmb	IAmb	11 54 02.5	
	comp=Z,202nm,1.6s						
E24K	**Your Creek**	91.27	22	P	P	11 53 53.5	0.0
	baz=268						
WRH	**Wood River Hil**	91.33	26	IAmb	IAmb	11 54 05.8	
	comp=Z,378nm,1.3s						
APA	**Apatity**	91.34	337	⇓*i* P	P	11 53 54.6	+0.9
APA				*i*		11 57 28.2	
APA				*i*		12 04 20.0	
APA				*i* S	S	12 04 53.0	+1.6
APA				*i* SS	SS	12 10 54.0	-2.6
APA				pmax	pmax		
	comp=Z,46nm,0.9s						
M23K	**Glacier View**	91.44	28	P	P	11 53 54.0	-0.3
	baz=269,SNR=21						
COLA	**College**	91.44	25	P	P	11 53 53.8	-0.4
COLA	**College**	91.44	25	P	P	11 53 56.0	+1.8
COLA	**College**	91.44	25	*c i* P	P	11 53 52.8	-1.4
COLA				pmax	pmax		
	comp=Z,114nm,1.1s						
COLA	**College**	91.44	25	P	P	11 53 55.0	+0.8
	baz=269						
COLA	**College**	91.44	25	P	P	11 53 53.2	-1.0
H24K	**Noodor Dome**	91.45	24	P	P	11 53 54.5	+0.2
H24K	**Noodor Dome**	91.45	24	P	P	11 53 54.5	+0.2
	baz=269,SNR=173						
CCB	**Clear Creek Bu**	91.46	26	P	P	11 53 53.6	-0.7
CCB				IAmb	IAmb	11 54 00.1	
	comp=Z,313nm,1.3s						
F24K	**Squaw Lake**	91.48	23	P	P	11 53 54.8	+0.4
F24K				IAmb	IAmb	11 54 08.2	
	comp=Z,172nm,1.0s						
F24K	**Squaw Lake**	91.48	23	P	P	11 53 55.1	+0.7
	baz=269,SNR=89						
P23K	**Montague Islan**	91.56	30	P	P	11 53 55.3	+0.4
	baz=269						
POKR	**Poker Plat Res**	91.62	25	P	P	11 53 54.4	-0.7
	baz=269,SNR=6.8						
SCM	**Sheep Creek Mo**	91.63	28	P	P	11 53 55.1	-0.2
	baz=269,SNR=29						
G24K	**Hadweenzic Riv**	91.63	23	P	P	11 53 55.5	+0.4
	baz=269,SNR=103						
GLI	**Glacier Island**	91.73	29	IAmb	IAmb	11 54 07.6	
	comp=Z,186nm,1.1s						
GLI	**Glacier Island**	91.73	29	P	P	11 53 55.8	+0.1
	baz=269						
MBAR	**Mbarara**	91.81	269	P	P	11 53 55.7	-1.6
MBAR				IAmb	IAmb	11 54 06.2	
	comp=Z,176nm,1.6s						
MBAR	**Mbarara**	91.81	269	P	P	11 53 57.0	-0.3
MBAR				P	P	11 53 57.0	-0.3
MBAR	**Mbarara**	91.81	269	P	P	11 53 55.7	-1.6
MBAR				pmax	pmax		
	comp=Z,176nm,1.6s						
HDA	**Harding Lake**	91.83	26	IAMs_20	IAMs_20	12 32 54.0	
	comp=Z,27µm,22.0s						
HDA	**Harding Lake**	91.83	26	P	P	11 53 54.8	-1.3
	baz=270,SNR=50						
IL31		91.86	25	IAmb	IAmb	11 54 01.4	
	comp=Z,168nm,1.4s						
ILAR	**Eielson Array**	91.86	25	P	P	11 53 54.4	-1.8
ILAR	**Eielson Array**	91.86	25	P	P	11 53 55.0	-1.2
	comp=Z,40nm,1.1s,baz=259,slow=3.9,SNR=43						
ILAR				PKiKP	PKiKP	11 58 45.4	-1.4
	comp=Z,4.3nm,0.7s,baz=249,slow=3.8,SNR=6.8						
ILAR				PKKPbc	PKKPdf	12 11 15.0	+1.1
	comp=Z,2.8nm,0.9s,baz=91,slow=1.1,SNR=9.8						
	comp=Z,40nm,1.1s						
ILAR	**Eielson Array**	91.86	25	P	P	11 53 55.0	-1.2
FID	**Port Fidalgo**	92.03	29	IAmb	IAmb	11 54 06.5	
	comp=Z,329nm,1.4s						
D25K	**Kavik River**	92.05	21	IAMs_20	IAMs_20	12 36 44.2	
	comp=Z,30µm,21.0s						
D25K	**Kavik River**	92.05	21	P	P	11 53 57.1	0.0
	baz=270						
M24K	**Tolsona, Glenn**	92.17	28	P	P	11 53 58.4	+0.6
	baz=270,SNR=47						
G25K	**Bearman Lake**	92.17	23	P	P	11 53 58.1	+0.5
	baz=270						
H25L	**Birch Creek**	92.29	24	P	P	11 53 58.6	+0.5
	baz=271						
KLU	**Klutina**	92.30	29	IAmb	IAmb	11 54 18.6	
	comp=Z,124nm,1.1s						
KLU				IAMs_20	IAMs_20	12 37 33.6	
	comp=Z,30µm,21.0s						
KLU	**Klutina**	92.30	29	P	P	11 53 58.4	0.0
	baz=270,SNR=6.2						
K24K	**Donnelly Dome**	92.34	26	IAmb	IAmb	11 54 04.7	
	comp=Z,156nm,0.9s						
K24K				IAMs_20	IAMs_20	12 36 51.7	
	comp=Z,23µm,20.0s						
K24K	**Donnelly Dome**	92.34	26	P	P	11 53 58.9	+0.3
	baz=271,SNR=9.5						
F25K	**Christian Rive**	92.34	23	P	P	11 53 58.3	-0.2
F25K	**Christian Rive**	92.34	23	P	P	11 53 59.1	+0.6
	baz=271,SNR=71						
E25K	**Arctic Village**	92.36	22	P	P	11 53 57.7	-0.8
E25K	**Arctic Village**	92.36	22	P	P	11 53 59.2	+0.7
	baz=271,SNR=98						
EYAK	**Cordova Ski Ar**	92.39	30	P	P	11 54 00.9	+2.2
EYAK	**Cordova Ski Ar**	92.39	30	P	P	11 53 58.4	-0.3
	baz=271,SNR=6.5						
PRP	**Porcupine Dome**	92.43	25	P	P	11 53 58.4	-0.6
PRP	**Porcupine Dome**	92.43	25	P	P	11 53 59.7	+0.7
	baz=271,SNR=23						
NE56	**Odesa**	92.45	316	P	P	11 53 57.5	-1.8
PAX	**Paxson**	92.49	27	P	P	11 53 59.1	-0.2
PAX	**Paxson**	92.49	27	P	P	11 53 59.1	-0.2
PAX				pmax	pmax		
	comp=Z,473nm,1.4s						
PAX	**Paxson**	92.49	27	P	P	11 53 59.4	+0.1
	baz=271,SNR=88						
J25K	**Salcha River,**	92.51	26	P	P	11 53 57.7	-1.6
J25K				IAmb	IAmb	11 54 10.3	
	comp=Z,310nm,1.8s						
J25K				IAMs_20	IAMs_20	12 33 24.0	
	comp=Z,25µm,22.0s						
J25K	**Salcha River,**	92.51	26	P	P	11 53 58.7	-0.6
	baz=271,SNR=50						
FYU	**Fort Yukon**	92.52	24	P	P	11 53 59.1	-0.1
C26K	**Camden Bay**	92.55	20	P	P	11 54 00.3	+1.0
	baz=272						
HARP	**HAARP**	92.65	28	P	P	11 54 00.2	+0.3
	baz=271,SNR=35						
PUL	**Pulkovo**	92.69	330	⇑*e*P	P	11 54 00.3	+0.2
PUL				pmax	pmax		
	comp=Z,182nm,0.6s						
BMAR	**Burnt Mountain**	92.76	23	P	P	11 54 00.6	+0.3
RIDG	**Independent Ri**	92.76	26	P	P	11 54 00.2	-0.2
RIDG				IAMs_20	IAMs_20	12 37 45.6	
	comp=Z,27µm,21.0s						
RIDG	**Independent Ri**	92.76	26	P	P	11 53 59.7	-0.7
	baz=272,SNR=67						
BORA	**Eskisehir**	92.78	310	IAMs_20	IAMs_20	12 40 04.2	
	comp=Z,23µm,20.0s						
VADS	**Vadso**	92.79	340	*e*P	P	11 54 01.7	+1.4
VADS				IVmB_BB		11 54 03.6	
	comp=Z,1µm,3.2s						
VADS				*e*SKSac	SKSac	12 04 38.1	+5.3
VADS				IVMs_BB	IVMs_BB	12 40 07.7	
	comp=Z,14µm,22.2s						
F26K	**Sheenjek River**	92.91	22	P	P	11 54 00.2	-0.8
F26K				IAmb	IAmb	11 54 09.0	
	comp=Z,257nm,1.7s						
F26K	**Sheenjek River**	92.91	22	P	P	11 54 01.4	+0.3
	baz=272,SNR=56						
RAGM	**Ragged Mountai**	92.93	30	IAMs_20	IAMs_20	12 30 48.3	
	comp=Z,30µm,22.0s						
N25K	**Chitina, Valde**	92.93	29	IAMs_20	IAMs_20	12 31 34.3	
	comp=Z,31µm,22.0s						
N25K	**Chitina, Valde**	92.93	29	P	P	11 54 01.8	+0.4
	baz=272,SNR=39						
BMRM	**Bremner River**	92.94	29	P	P	11 54 02.5	+1.1
BMRM	**Bremner River**	92.94	29	P	P	11 54 01.7	+0.4
	baz=272,SNR=28						
C27K	**Jago River**	92.98	20	IAmb	IAmb	11 54 12.7	
	comp=Z,269nm,1.2s						
C27K	**Jago River**	92.98	20	P	P	11 54 02.0	+0.7
	baz=273						
KAIM	**Kayak Island**	93.07	30	IAMs_20	IAMs_20	12 31 11.1	
	comp=Z,34µm,22.0s						
KAIM	**Kayak Island**	93.07	30	P	P	11 54 02.6	+0.8
	baz=272						
G26K	**Porcupine Rive**	93.08	23	P	P	11 54 02.4	+0.6
	baz=273						
MSF	**Maaselka**	93.09	336	P	P	11 54 00.9	-0.9
DOT	**Dot Lake**	93.11	26	P	P	11 54 01.4	-0.6
DOT				IAmb	IAmb	11 54 08.8	
	comp=Z,247nm,1.3s						
DOT				IAMs_20	IAMs_20	12 31 38.9	
	comp=Z,26µm,22.0s						
SCRK	**Sand Creek**	93.13	26	IAmb	IAmb	11 54 14.4	
	comp=Z,469nm,1.8s						
SCRK	**Sand Creek**	93.13	26	P	P	11 54 02.5	+0.2
	baz=272,SNR=47						
MATP	**Matopo**	93.19	250	LR	LR	12 34 57.2	
	comp=Z,22µm,18.7s,baz=95,slow=35						
J26L	**Joseph Creek**	93.29	26	P	P	11 54 02.3	-0.7
J26L				IAmb	IAmb	11 54 08.9	
	comp=Z,187nm,1.1s						
J26L	**Joseph Creek**	93.29	26	P	P	11 54 02.9	-0.1
	baz=273,SNR=113						
MENT	**Mentasta**	93.29	27	IAmb	IAmb	11 54 13.8	
	comp=Z,123nm,1.0s						
SUCK	**Suckling Hills**	93.38	30	IAMs_20	IAMs_20	12 31 10.4	
	comp=Z,33µm,22.0s						
I26K	**Coal Creek Min**	93.42	25	P	P	11 54 03.3	-0.1
	baz=273						
L26K	**Log Cabin Wild**	93.46	27	IAmb	IAmb	11 54 10.8	
	comp=Z,164nm,1.2s						
L26K	**Log Cabin Wild**	93.46	27	P	P	11 54 04.1	+0.4
	baz=273,SNR=60						
AK09	**Malin Array Si**	93.48	320	P	P	11 54 01.6	-2.4
VRDI	**Verde Repeater**	93.50	29	P	P	11 54 04.3	+0.2
VRDI				IAmb	IAmb	11 54 11.0	
	comp=Z,274nm,1.4s						
AK08	**Malin Array Si**	93.50	320	P	P	11 54 01.9	-2.1
AKASG	**Malin Array Be**	93.52	321	P	P	11 54 01.8	-2.3
AKASG	**Malin Array Be**	93.52	321	P	P	11 54 01.9	-2.1
	comp=Z,8.4nm,0.8s,baz=76,slow=4.5,SNR=34						
AKASG				PP	PP	11 57 56.0	+7.4
	comp=Z,4.4nm,0.8s,baz=76,slow=6.8,SNR=4.0						
AKASG				PKKPbc	PKKPbc	12 11 11.4	-0.6
	comp=Z,1.2nm,0.6s,baz=272,slow=3.5,SNR=4.4						
AKASG				LR	LR	12 42 42.3	
	comp=Z,20µm,19.2s,baz=98,slow=40						
	comp=Z,8.4nm,0.8s						
AKASG	**Malin Array Be**	93.52	321	P	P	11 54 02.0	-2.1
AKBB	**Malin Array Si**	93.52	321	*c i* P	P	11 54 02.3	-1.8
AKBB				pmax	pmax		
	comp=Z,75nm,1.3s						
AKBB				MLR	MLR		
	comp=Z,47µm,23.0s						
HOPEN	**Hopen**	93.52	347	*e*P	P	11 54 06.2	+2.6
HOPEN				IVmB_BB		11 54 13.1	
	comp=Z,2µm,3.7s						
HOPEN				*e*		12 04 51.5	
HOPEN				*e*PS	PS	12 06 30.8	+4.5
HOPEN				IVMs_BB	IVMs_BB	12 40 49.0	
	comp=Z,13µm,20.8s						
KIEV	**Kiev**	93.53	320	P	P	11 54 02.3	-1.8
KIEV	**Kiev**	93.53	320	IAMs_20	IAMs_20	12 38 23.1	
	comp=Z,33µm,22.0s						
KIEV	**Kiev**	93.53	320	⇑P	P	11 54 03.3	-0.8
KIEV	**Kiev**	93.53	320	P	P	11 54 03.3	-0.8
KIEV	**Kiev**	93.53	320	*i* P	P	11 54 01.3	-2.8
	SNR=14						
AK05	**Malin Array Si**	93.53	320	P	P	11 54 02.1	-2.1
AK07	**Malin Array Si**	93.53	320	P	P	11 54 02.1	-2.1
AK06	**Malin Array Si**	93.53	320	P	P	11 54 02.2	-2.0
AK04	**Malin Array Si**	93.55	321	P	P	11 54 02.2	-2.1
AK11	**Malin Array Si**	93.55	320	P	P	11 54 02.2	-2.1
KEV	**Kevo**	93.62	340	P	P	11 54 03.9	-0.3
KEV				IAmb	IAmb	11 54 46.0	
	comp=Z,210nm,2.0s						
KEV	**Kevo**	93.62	340	P	P	11 54 03.9	-0.3
KEV				pmax	pmax		
	comp=Z,210nm,2.0s						
BGLC	**Bering Glacier**	93.63	30	P	P	11 54 05.3	+0.9
	baz=273						
M26K	**Nabesna, AK**	93.65	28	P	P	11 54 04.8	+0.2
M26K				IAmb	IAmb	11 54 13.3	
	comp=Z,333nm,1.4s						
M26K	**Nabesna, AK**	93.65	28	P	P	11 54 04.8	+0.2
	baz=273,SNR=67						
LSZ	**Lusaka**	93.76	255	P	P	11 54 05.0	-1.1
LSZ				IAmb	IAmb	11 54 15.5	
	comp=Z,114nm,0.9s						
LSZ	**Lusaka**	93.76	255	LR	LR	12 33 54.1	
	comp=Z,109µm,19.7s,baz=102,slow=34						
LSZ	**Lusaka**	93.76	255	P	P	11 54 05.6	-0.6
LSZ				P	P	11 54 05.6	-0.6
LSZ	**Lusaka**	93.76	255	P	P	11 54 05.0	-1.1
LSZ				pmax	pmax		
	comp=Z,114nm,1.0s						
WAX	**Waxell Ridge**	93.83	30	P	P	11 54 06.0	+0.5
ISK	**Istanbul-Kandi**	93.83	311	P	P	11 54 03.9	-1.9
E27K	**Coleen River**	93.84	22	P	P	11 54 05.8	+0.4
E27K				IAmb	IAmb	11 54 17.0	
	comp=Z,157nm,1.1s						
E27K	**Coleen River**	93.84	22	P	P	11 54 05.6	+0.2
	baz=275,SNR=124						
SNH	**Sunshine Point**	93.85	30	IAMs_20	IAMs_20	12 32 09.7	
	comp=Z,23µm,21.0s						
MILM	**Milestii Mici**	93.88	317	*e*P	P	11 54 02.7	-3.2
	comp=Z,980nm,5.0s						
MILM	**Milestii Mici**	93.88	317	*i* PP	PP	11 57 59.0	+7.4
MILM	**Milestii Mici**	93.88	317	*e*P	P	11 54 02.7	-3.2
MILM				*i*		11 57 59.0	
MILM				*e*PPP	PPP	11 59 52.0	
MILM				*i*		12 04 37.0	
MILM				*e*S	S	12 05 08.0	-6.9
MILM				pmax	pmax		
	comp=Z,980nm,5.0s						
G27K	**Doyon Strip**	93.93	23	P	P	11 54 06.5	+0.7
G27K				IAmb	IAmb	11 54 17.8	
	comp=Z,204nm,1.2s						
G27K	**Doyon Strip**	93.93	23	P	P	11 54 06.5	+0.7
	baz=275,SNR=138						
K27K	**Chicken**	93.97	26	IAMs_20	IAMs_20	12 35 05.9	

MNK *i* S **SKSac** **12 04 39.3 -1.9**
MNK *i* SS **SS** **12 11 40.7 +2.6**
MNK *i* SSS SSS 12 15 21.5
MNK pmax pmax
comp=E,18nm,0.6s
MNK pmax pmax
comp=N,28nm,0.8s
MNK pmax pmax
comp=Z,40nm,1.2s
MNK MLR MLR
comp=E,42μm,23.0s
MNK MLR MLR
comp=N,22μm,21.0s
MNK MLR MLR
comp=Z,30μm,22.0s
GRHM Grahamstown, E 94.20 237 P **P** **11 54 07.6 -0.2**
TPGR Topolog 94.22 315 ⇑P **P** **11 54 06.1 -1.5**
TIRR Tirgusor 94.23 314 P **P** **11 54 06.1 -1.4**
TIRR Tirgusor 94.23 314 ⇑P **P** **11 54 07.3 -0.3**
TIRR Tirgusor 94.23 314 P **P** **11 54 06.1 -1.4**
TIRR pmax pmax
comp=Z,40nm,1.2s
TIRR MLR MLR
comp=Z,16μm,22.0s
TIRR Tirgusor 94.23 314 P **P** **11 54 06.2 -1.4**
comp=Z,1μmcomp=Z,30nm,1.2s
MANT Manisa 94.26 308 P **P** **11 54 06.7 -1.5**
MESA MESA 94.29 30 IAMs_20 IAMs_20 12 31 50.4
comp=Z,26μm,22.0s
MESA MESA 94.29 30 P **P** **11 54 08.4 +0.7**
baz=274,SNR=6.9
CTYL Yalikoy Yolu 94.40 311 P **P** **11 54 07.1 -1.3**
comp=Z,2μmcomp=Z,50nm,1.1s
CFR Carcaliu 94.41 315 ⇑P **P** **11 54 07.6 -0.7**
CFR Carcaliu 94.41 315 P **P** **11 54 07.6 -0.7**
OUL Oulu 94.45 335 P **P** **11 54 07.2 -0.9**
OUL pmax pmax
comp=Z,105nm,1.3s
PSN Preselentsi 94.45 313 *e*P **P** **11 54 06.4 -2.2**
LUBAR Lubar, Ukraine 94.48 320 P **P** **11 54 06.5 -2.1**
MI28 Mi28,Pidlybu 94.49 321 P **P** **11 54 06.4 -2.2**
E28M Babbage River 94.56 21 IAmb IAmb 11 54 19.5
comp=Z,208nm,1.2s
E28M IAMs_20 IAMs_20 12 41 12.1
comp=Z,22μm,20.0s
E28M Babbage River 94.56 21 P **P** **11 54 08.9 +0.3**
baz=277
BAND Balkesir-Ban 94.58 310 ⇑P **P** **11 54 08.2 -1.1**
NEGRR Negrea 94.58 315 ⇓P **P** **11 54 07.7 -1.4**
VSU Vasula 94.59 328*c* *i*P **P** **11 54 05.3 -3.6**
VSU pmax pmax
comp=Z,170nm,1.3s
VSU MLR MLR
comp=Z,31μm,22.0s
BVCY Beaver Creek 94.64 28 P **P** **11 54 10.3 +1.1**
baz=275,SNR=44
HAMF Hammerfest 94.65 341 *e*P **P** **11 54 09.1 +0.2**
HAMF IVmB_BB 11 54 15.3
comp=Z,2μm,4.6s
HAMF *e*PS **PS** **12 06 41.1 +2.2**
HAMF IVMs_BB IVMs_BB 12 39 35.7
comp=Z,17μm,21.3s
FINES FINESS Array B 94.69 331 P **P** **11 54 07.0 -2.3**
FINES FINESS Array B 94.69 331 P **P** **11 54 07.6 -1.7**
comp=Z,13nm,0.8s,baz=92,slow=5.7,SNR=22
comp=Z,13nm,0.8s
D28M Stokes Point 94.76 21 P **P** **11 54 10.1 +0.7**
baz=278,SNR=62
I28M Miner Creek 94.76 25 P **P** **11 54 10.1 +0.5**
I28M Miner Creek 94.76 25 P **P** **11 54 10.2 +0.5**
baz=276,SNR=147
YUK3 Moose Creek 94.89 28 P **P** **11 54 11.0 +0.5**
baz=275,SNR=28
SOE Somerset East 94.93 237 P **P** **11 54 09.6 -1.6**
PRD Provadia 95.00 313 *e*P **P** **11 54 10.5 -0.6**
KTK1 Kautokeino 95.03 339 *e*P **P** **11 54 11.3 +0.7**
KTK1 *e*SKSac **SKSac** **12 04 46.4 +1.2**
KTK1 IVMs_BB IVMs_BB 12 47 54.9
comp=Z,10μm,19.0s
NVL N'lazarevskaya 95.03 198 *e*P **P** **11 54 11.9 +1.2**
NVL pmax pmax
comp=Z,71nm,1.6s
SPB2 Spitsbergen Ar 95.06 349 P **P** **11 54 09.6 -1.1**
SPB2 IAmb IAmb 11 54 47.9
comp=Z,216nm,1.0s
SPA0 Spitsbergen Ar 95.06 349 *e*P **P** **11 54 12.5 +1.8**
SPA0 *e*SKSac **SKSac** **12 04 43.5 -1.6**
SPA0 IVMs_BB IVMs_BB 12 38 23.0
comp=Z,18μm,22.5s
SPITS Spitsbergen Ar 95.06 349 P **P** **11 54 08.1 -2.7**
comp=Z,35nm,0.8s,baz=97,slow=6.8,SNR=20
SPITS LR LR 12 41 22.3
comp=Z,29μm,21.2s,baz=51,slow=38
comp=Z,35nm,0.8s
SPITS Spitsbergen Ar 95.06 349 P **P** **11 54 09.8 -0.9**
SPITS pmax pmax
comp=Z,239nm,1.2s
NEF NEVSHA 95.09 313 *e*P **P** **11 54 10.5 -1.1**
O28M Mount Upton 95.11 29 P **P** **11 54 12.8 +1.2**
O28M IAmb IAmb 11 54 19.2
comp=Z,265nm,1.1s
O28M Mount Upton 95.11 29 P **P** **11 54 12.5 +0.9**
baz=275,SNR=48
DAWY Dawson 95.14 26 P **P** **11 54 11.5 +0.1**
DAWY IAmb IAmb 11 54 18.5
comp=Z,272nm,1.1s
DAWY Dawson 95.14 26 P **P** **11 54 11.9 +0.5**
baz=276,SNR=124
PCA Pinnacle 95.14 30 P **P** **11 54 11.9 +0.4**
PCA IAmb IAmb 11 54 19.0
comp=Z,293nm,1.2s
PINM Pinnacle 95.14 30 P **P** **11 54 12.0 +0.4**
baz=275,SNR=7.9
E29M Blow River 95.19 22 P **P** **11 54 11.2 -0.3**
E29M Blow River 95.19 22 P **P** **11 54 11.8 +0.4**
baz=278
YUK8 Steele Glacier 95.27 29 P **P** **11 54 13.0 +0.7**
baz=276,SNR=42
H29M Whitestone 95.31 24 P **P** **11 54 12.0 -0.1**
baz=278,SNR=136
G29M Pine Creek 95.35 23 P **P** **11 54 12.1 -0.1**
baz=278,SNR=154
BJO1 Bjornoya 95.35 345 *e*P **P** **11 54 10.4 -1.7**
BJO1 IVMs_BB IVMs_BB 12 47 42.5
comp=Z,12μm,18.9s
VRI Vrincioaia 95.37 316 ⇑P **P** **11 54 11.3 -1.5**
VRI Vrincioaia 95.37 316 P **P** **11 54 11.3 -1.5**
VRI Vrincioaia 95.37 316 P **P** **11 54 11.2 -1.6**
comp=Z,2μmcomp=Z,40nm,1.0s
TESR Tescani 95.39 316 ⇑P **P** **11 54 12.9 +0.1**
TESR Tescani 95.39 316 P **P** **11 54 11.5 -1.3**
comp=Z,2μmcomp=Z,41nm,1.1s
KMPD K-Podol'skiy 95.40 318 P **P** **11 54 10.5 -2.3**
KMPD P **PcP** **11 54 10.9 -2.2**
PLOR5 Plostina Array 95.41 316 P **P** **11 54 11.3 -1.7**
comp=Z,2μmcomp=Z,32nm,1.8s
PLOR Plostina 95.42 316 ⇑P **P** **11 54 11.9 -1.2**
PLOR Plostina 95.42 316 P **P** **11 54 11.9 -1.2**
I29M Ogilvie Camp, 95.44 25 P **P** **11 54 12.6 -0.1**
baz=278,SNR=169
KARP Karpathos 95.45 305 IAmb IAmb 11 54 26.1
comp=Z,206nm,0.9s
KARP IAMs_20 IAMs_20 12 44 54.3
comp=Z,23μm,20.0s
KARP Karpathos 95.45 305 P **P** **11 54 12.3 -1.1**
comp=Z,4μmcomp=Z,241nm,0.9s
HSPB Hornsund (broa 95.56 347 *e*P **P** **11 54 15.0 +2.0**
LBTB Lobatse 95.56 245 LR LR 12 36 06.9
comp=Z,28μm,18.7s,baz=88,slow=35
BOSA Boshof 95.56 241 P **P** **11 54 13.6 -0.7**
comp=Z,11nm,0.9s,baz=104,slow=4.9,SNR=14
BOSA LR LR 12 32 03.4
comp=Z,73μm,20.5s,baz=96,slow=32
comp=Z,11nm,0.9s
BOSA Boshof 95.56 241 P **P** **11 54 13.7 -0.5**
ONER Baraj Valea Uz 95.57 316 ⇑P **P** **11 54 12.8 -0.9**
J29N Klondike Camp 95.60 25 P **P** **11 54 14.5 +1.0**
baz=278,SNR=106
PNL Peninsula 95.62 30 P **P** **11 54 15.9 +2.3**
PNL Peninsula 95.62 30 P **P** **11 54 14.3 +0.7**
baz=276
KBS Kingsbay 95.67 350 *e*P **P** **11 54 13.1 -0.4**
KBS IVmB_BB 11 54 22.9
comp=Z,2μm,4.9s
KBS *e*SKSac **SKSac** **12 04 49.6 +1.3**
KBS *e*PS **PS** **12 06 52.1 +2.1**
KBS IVMs_BB IVMs_BB 12 39 25.9
comp=Z,18μm,21.6s
JMB Yambol 95.68 312 *e*P **P** **11 54 14.9 +0.7**
NEHR Nehoiu 95.69 315 ⇑P **P** **11 54 14.5 +0.2**
M29M Somme Creek 95.75 27 IAmb IAmb 11 54 22.1
comp=Z,222nm,1.1s
M29M Somme Creek 95.75 27 P **P** **11 54 15.1 +0.9**
baz=277,SNR=82
YUK4 Talbot Arm 95.80 29 P **P** **11 54 15.4 +0.7**
baz=277,SNR=46
L29M L29M 95.82 27 P **P** **11 54 15.5 +1.0**
baz=278,SNR=139
JETT Jettan, Norway 95.93 340 *e*P **P** **11 54 15.1 +0.2**
JETT IVmB_BB 11 54 19.9
comp=Z,2μm,1.9s
JETT IVMs_BB IVMs_BB 12 45 51.5
comp=Z,11μm,18.9s
MLR Muntele Rosu 95.94 315 LR LR 12 43 30.2
comp=Z,24μm,21.1s,baz=76,slow=39
MLR Muntele Rosu 95.94 315 ⇑P **P** **11 54 14.0 -1.5**
MLR Muntele Rosu 95.94 315 P **P** **11 54 14.0 -1.5**
EPYK Eagle Plains 95.94 23 P **P** **11 54 14.7 -0.3**
baz=279,SNR=137
O29M Mount Kennedy 95.96 30 IAmb IAmb 11 54 26.7
comp=Z,213nm,1.2s
O29M Mount Kennedy 95.96 30 P **P** **11 54 15.8 +0.6**
baz=277,SNR=13
YUK6 Outpost Mounta 95.98 29 P **P** **11 54 16.4 +0.9**
baz=277,SNR=9.3
K29M Barlow Dome 95.99 26 IAmb IAmb 11 54 23.6
comp=Z,156nm,1.1s
K29M Barlow Dome 95.99 26 P **P** **11 54 15.6 +0.3**
baz=278,SNR=87
G30M tAoh Zraii Nji 96.04 23 IAmb IAmb 11 54 26.0
comp=Z,265nm,1.2s
G30M tAoh Zraii Nji 96.04 23 P **P** **11 54 14.8 -0.6**
baz=280,SNR=45
SZH Strazhitsa 96.04 313 *e*P **P** **11 54 15.9 0.0**
F30M Barrier River 96.10 22 IAmb IAmb 11 54 21.7
comp=Z,166nm,1.1s
F30M Barrier River 96.10 22 P **P** **11 54 15.4 -0.2**
baz=280,SNR=106
VAF Ylistaro 96.10 333 P **P** **11 54 14.6 -1.0**
VAF pmax pmax
comp=Z,93nm,1.1s
ALN Alexandroupoli 96.12 311 IAMs_20 IAMs_20 12 42 38.6
comp=Z,26μm,22.0s
I30M Mount Dempster 96.27 25 IAmb IAmb 11 54 23.3
comp=Z,199nm,1.1s
I30M Mount Dempster 96.27 25 P **P** **11 54 16.7 +0.1**
baz=279,SNR=117
BURAR Bucovina Array 96.30 318 P **P** **11 54 15.0 -2.1**
BURAR Bucovina Array 96.30 318 ⇓P **P** **11 54 17.3 +0.2**
BURAR Bucovina Array 96.30 318 P **P** **11 54 17.2 +0.2**
KSV Kosov 96.34 318 P **P** **11 54 14.2 -3.0**
PABE Paberze 96.36 326 P **P** **11 54 16.6 -0.4**
PABE IAMs_20 IAMs_20 12 40 44.1
comp=Z,30μm,22.0s
J30M Hart River 96.39 25 P **P** **11 54 17.3 +0.2**
J30M Hart River 96.39 25 P **P** **11 54 17.5 +0.3**
baz=279,SNR=107
HYT Haines Junctio 96.42 29 P **P** **11 54 17.6 +0.2**
HYT IAmb IAmb 11 54 24.3
comp=Z,194nm,1.1s
HYT Haines Junctio 96.42 29 P **P** **11 54 17.7 +0.3**
baz=278,SNR=52
TRO Tromso 96.42 340 *e*P **P** **11 54 16.4 -0.6**
TRO *e*PP **PP** **11 58 12.4 +1.7**
TRO *e*SKSac **SKSac** **12 04 55.3 +2.9**
TRO IVMs_BB IVMs_BB 12 41 56.8
comp=Z,15μm,22.7s
P29M Windy Craggy 96.46 30 P **P** **11 54 18.2 +0.8**
baz=278
M30M Minto, Yukon 96.50 27 P **P** **11 54 18.9 +1.3**
baz=279,SNR=110
N30M Aishikik Lake 96.53 28 IAmb IAmb 11 54 24.9
comp=Z,243nm,1.1s
N30M Aishikik Lake 96.53 28 P **P** **11 54 18.4 +0.6**
baz=278,SNR=70
VOIR 96.57 315 ⇑P **P** **11 54 17.8 -0.6**
VOIR 96.57 315 P **P** **11 54 17.7 -0.6**
KDZ Kurdzhali 96.61 312 *e*P **P** **11 54 15.1 -3.4**
PVL Pavlikeni 96.64 313 *e*P **P** **11 54 18.2 -0.4**
P30M Million Dollar 96.78 30 P **P** **11 54 19.6 +0.7**
baz=278
G31M Satah River 96.81 23 IAmb IAmb 11 54 29.5
comp=Z,177nm,1.1s
G31M Satah River 96.81 23 P **P** **11 54 18.6 -0.2**
baz=281,SNR=87
ARR Arges 96.86 315 ⇑P **P** **11 54 19.4 -0.2**
LVV L'vov 96.89 320 P **P** **11 54 17.1 -2.5**
F31M Tsiigehtchic 96.90 22 P **P** **11 54 18.6 -0.6**
baz=282,SNR=90
TAOE Nuku Hiva Isla 96.91 99 IAMs_20 IAMs_20 12 38 55.5
comp=Z,22μm,21.0s
SUW Suwalki 96.98 324 *e*P **P** **11 54 19.8 -0.1**
SUW *e*PP PP 11 58 24.2 +8.8
SUW *e*S **S** **12 05 38.1 -3.4**
SUW *e*L L 12 42 43.9
comp=Z,35μm,25.7s
SUW Suwalki 96.98 324 IAMs_20 IAMs_20 12 45 31.4
comp=Z,30μm,21.0s
H31M Peel River 97.00 24 P **P** **11 54 19.5 -0.3**
baz=281,SNR=89
PLD Plovdiv 97.02 312 *e*P **P** **11 54 19.9 -0.4**
RZN Rozhen 97.05 312 *e*P **P** **11 54 20.2 -0.6**
O30N Mendenhall 97.11 29 IAmb IAmb 11 54 27.4
comp=Z,158nm,1.2s
O30N Mendenhall 97.11 29 P Pdif 11 54 20.9 +0.4
baz=279,SNR=30
N31M Braeburn, Yuko 97.14 28 P Pdif 11 54 21.2 +0.5
baz=279,SNR=65
PLBC Pleasant Camp 97.17 30 P Pdif 11 54 21.3 +0.6
baz=279
TROLL Troll, Antarti 97.22 196 ⇓P **P** **11 54 20.5 -0.3**
comp=Z,443nm,0.8s
TROLL ⇓x x 12 11 00.3
comp=Z,163nm,0.8s
IDI Anoyia 97.31 305 IAmb IAmb 11 54 50.0
comp=Z,214nm,1.9s
IDI Anoyia 97.31 305 P **P** **11 54 21.6 -0.3**
IDI Anoyia 97.31 305 P **P** **11 54 20.6 -1.3**
comp=Z,19nm,1.0s,baz=108,slow=6.9,SNR=6.5
IDI LR LR 12 44 33.9
comp=Z,13μm,21.9s,baz=86,slow=39
comp=Z,19nm,1.0s
PGB Panagyurishte 97.41 312 *e*P **P** **11 54 22.0 -0.2**
LOT Lotru 97.47 315 ⇑P **P** **11 54 21.2 -1.2**
S31K Pelican 97.47 32 IAMs_20 IAMs_20 12 33 11.5
comp=Z,30μm,22.0s
S31K Pelican 97.47 32 P Pdif 11 54 22.5 +0.5
baz=279
R31K City Hall, Gus 97.66 31 P Pdif 11 54 23.7 +0.8
baz=279
MPEP Malo Peshtene 97.66 313 *e*P **P** **11 54 21.5 -1.8**
M31M Drury Creek, Y 97.67 27 IAmb IAmb 11 54 30.1
comp=Z,142nm,1.2s
M31M IAMs_20 IAMs_20 12 34 22.5
comp=Z,24μm,22.0s
M31M Drury Creek, Y 97.67 27 P Pdif 11 54 23.6 +0.7
baz=281,SNR=47
SKAG Skagway 97.70 30 IAmb IAmb 11 54 30.7
comp=Z,136nm,1.1s
SKAG Skagway 97.70 30 P Pdif 11 54 25.2 +2.2
SKAG Skagway 97.70 30 P Pdif 11 54 24.1 +1.1
baz=280
WHY Whitehorse 97.71 29 P Pdif 11 54 23.9 +0.7
baz=280,SNR=70
MARR Marisel-Cluj 97.80 317 ⇑P **P** **11 54 22.8 -1.1**
MMB Musomishta 97.80 312 *e*P **P** **11 54 22.3 -1.7**
VALD Valchedram 97.86 314 *e*P Pdif 11 54 27.8 +3.7
BESE Bessie Mountai 98.09 31 IAmb IAmb 11 54 36.4
comp=Z,232nm,1.6s
SIT Sitka 98.09 33 P Pdif 11 54 25.5 +0.7
baz=279
VTS Vitosha 98.10 313 *e*P **P** **11 54 21.3 -4.1**
KOLS Kolonicke sedl 98.13 319 *e*P Pdif 11 54 27.6 +2.3
KOLS Kolonicke sedl 98.13 319 *e*PDIFF Pdif 11 54 27.6 +2.3
STEI Steigen 98.14 339 *e*P Pdif 11 54 24.9 +0.1
STEI IVmB_BB 11 54 31.7
comp=Z,2μm,3.4s
STEI IVMs_BB IVMs_BB 12 48 21.7
comp=Z,12μm,18.9s
FARO Faro, Yukon 98.14 27 P Pdif 11 54 25.6 +0.5
baz=282,SNR=126
GZR Gura Zlata 98.17 315 ⇑P **P** **11 54 24.0 -1.6**
GZR Gura Zlata 98.17 315 P **P** **11 54 23.9 -1.6**
NOR Nord 98.18 354 *e*P **P** **11 54 24.5 -0.3**
KKB Krupnik 98.24 312 *e*P **P** **11 54 22.8 -3.1**
FAUS Fauske 98.27 338 *e*P Pdif 11 54 25.4 +0.1
FAUS *e*SKSac **SKSac** **12 05 03.2 +1.3**
FAUS IVMs_BB IVMs_BB 12 43 25.2
comp=Z,13μm,23.2s
R32K Eaglecrest 98.31 31 P **P** **11 54 25.3 -0.5**
baz=280
JIS Juneau Island 98.39 31 P Pdif 11 54 27.7 +1.6
S32K Killisnoo 98.42 32 IAMs_20 IAMs_20 12 33 24.8
comp=Z,23μm,22.0s
S32K Killisnoo 98.42 32 Pdiff **P** **11 54 25.9 -0.3**
baz=280
A36M Sachs Harbour 98.46 17 IAmb IAmb 11 54 36.3
comp=Z,87nm,1.1s
A36M Sachs Harbour 98.46 17 Pdiff **P** **11 54 25.6 -0.5**
baz=291
HERR Herculane 98.47 315 ⇑P **P** **11 54 25.7 -1.2**
N32M Quiet Lake 98.48 28 Pdiff Pdif 11 54 27.0 +0.4
baz=282
P32M Atlin 98.48 30 IAmb IAmb 11 54 41.6
comp=Z,102nm,1.4s
P32M Atlin 98.48 30 Pdiff Pdif 11 54 26.9 +0.2
baz=281
LOF Lofoten 98.69 339 *e*Pdif **P** **11 54 26.4 -0.8**
LOF IVmB_BB 11 54 31.4
comp=Z,1μm,3.4s
LOF *e*SKSac **SKSac** **12 05 10.1 +6.0**
LOF IVMs_BB IVMs_BB 12 45 18.4
comp=Z,8μm,23.5s
BEL Belsk 98.70 322 *e*P Pdif 11 54 28.1 +0.4
BEL *e*PP **PP** **11 58 31.4 +2.7**
BEL *e*S **S** **12 06 04.6 +8.4**
BEL *e*L L 12 41 44.6
comp=Z,143μm,28.0s
STHS Stebnicka Huta 98.74 320 *e*P Pdif 11 54 32.0 +4.0
STHS *e* 11 58 33.2
STHS Stebnicka Huta 98.74 320 *e*PDIFF Pdif 11 54 32.0 +4.0
STHS *e*PP **PP** **11 58 33.2 +4.1**
P33M Teslin, Yukon 98.80 29 IAmb IAmb 11 54 34.8
comp=Z,82nm,1.2s
P33M Teslin, Yukon 98.80 29 Pdiff **P** **11 54 27.9 -0.1**
baz=282
SNAA Sanae 98.83 195 ⇓P Pdif 11 54 29.0 +1.0
comp=Z,139nm,0.7s
SNAA ⇓x x 12 10 57.1
comp=Z,77nm,0.8s
SNAA Sanae 98.83 195 P **P** **11 54 26.6 -1.4**
comp=Z,5.3nm,0.8s,baz=104,slow=3.4,SNR=10
SNAA PP **PP** **11 58 32.5 +3.4**
comp=Z,8.5nm,1.1s,baz=154,slow=9.0,SNR=4.7
SNAA PKKPbc **PKKPbc** **12 10 57.3 -1.0**
comp=Z,3.6nm,0.8s,baz=0.3,slow=3.8,SNR=6.1
SNAA LR LR 12 37 22.5
comp=Z,66μm,20.1s,baz=110,slow=34
comp=Z,5.3nm,0.8s
SNAA Sanae 98.83 195 ⇑*i*P **P** **11 54 27.3 -0.7**
SNAA pmax pmax
comp=Z,30nm,1.1s
MOR8 Moi Rana 98.92 337 *e*Pdif **P** **11 54 25.2 -3.1**
MOR8 IVmB_BB 11 54 32.0
comp=Z,1μm,3.3s
MOR8 *e*SKSac **SKSac** **12 05 05.6 +0.2**
MOR8 *e* 12 12 57.9
MOR8 IVMs_BB IVMs_BB 12 40 34.3
comp=Z,13μm,20.2s
SUR Sutherland 98.95 237 LR LR 12 34 23.9
comp=Z,48μm,20.1s,baz=104,slow=32
SUR Sutherland 98.95 237 P **P** **11 54 27.9 -1.7**
MDVR Moldovita 98.98 315 ⇑P **P** **11 54 28.1 -1.1**
BOVS Bovan 99.11 314 ⇑P **Pdif** **11 54 28.0 -1.7**
VAGH Vaagaholmen 99.21 338 *e*Pdif **Pdif** **11 54 29.3 -0.3**
VAGH *e* 12 05 17.5
VAGH IVMs_BB IVMs_BB 12 42 10.5
comp=Z,12μm,19.8s
KONS Konsvik 99.33 337 *e*Pdif **Pdif** **11 54 32.0 +1.9**
Q32M Nakina River 99.34 30 IAmb IAmb 11 54 43.2
comp=Z,162nm,1.6s
Q32M Nakina River 99.34 30 Pdiff **Pdif** **11 54 30.0 -0.7**
baz=282
NIE Niedzica 99.35 320 *e*P **Pdif** **11 54 34.7 +4.0**
NIE *e*S S 12 06 11.7 +10
NIE *e*L L 12 41 31.4
comp=Z,25μm,24.3s
T33K Petersburg 99.42 33 Pdiff **Pdif** **11 54 30.4 -0.3**
baz=281
STOK Stokkvaagen 99.42 337 *e*Pdif **Pdif** **11 54 31.0 +0.5**
STOK *e*SKSac **SKSac** **12 05 09.8 +2.0**
STOK IVMs_BB IVMs_BB 12 40 52.3
comp=Z,12μm,21.7s
LEIR Leirfjorden 99.45 337 *e*Pdif **Pdif** **11 54 30.9 +0.2**
LEIR *e*SKSac **SKSac** **12 05 09.8 +1.9**
LEIR *e*SS **SS** **12 12 54.8 +3.2**
LEIR IVMs_BB IVMs_BB 12 40 52.2
comp=Z,13μm,23.4s
U33K Whale Pass 99.46 33 IAMs_20 IAMs_20 12 35 51.8
comp=Z,23μm,21.0s
U33K Whale Pass 99.46 33 Pdiff **Pdif** **11 54 30.6 -0.3**
baz=281
OJC Ojcow 99.55 321 *e*P **Pdif** **11 54 29.9 -1.7**
OJC *e*PP **PP** **11 58 30.5 -4.7**
OJC *e*S **S** **12 06 10.5 +6.9**
OJC *e*L L 12 43 32.0
comp=Z,36μm,25.2s
CRAG Craig 99.58 34 IAMs_20 IAMs_20 12 36 21.0
comp=Z,23μm,22.0s
CRAG Craig 99.58 34 Pdiff **Pdif** **11 54 30.4 -1.1**
baz=281
C36M Paulatuk 99.78 19 Pdiff **Pdif** **11 54 31.6 -0.5**
baz=291
WRAK Wrangell Islan 99.82 33 Pdiff **Pdif** **11 54 32.5 -0.1**
baz=282
PSZ Piszkesteto 99.83 318 IAMs_20 IAMs_20 12 46 14.3
comp=Z,25μm,22.0s
R33M Jennings River 99.89 30 Pdiff **Pdif** **11 54 33.0 0.0**
baz=283
LANS Liptovska Anna 99.93 320 *e*P **Pdif** **11 54 37.9 +4.6**
LANS Liptovska Anna 99.93 320 *e*PDIFF **Pdif** **11 54 37.9 +4.6**
S34M Telegraph Cree 100.15 31 IAMs_20 IAMs_20 12 34 44.4
comp=Z,23μm,22.0s
S34M Telegraph Cree 100.15 31 Pdiff **Pdif** **11 54 34.4 +0.4**
baz=283
NSS Namsos 100.39 336 *e*Pdif **Pdif** **11 54 34.7 -0.2**
NSS IVmB_BB 11 54 43.5
comp=Z,1μm,3.9s
NSS *e*SKSac **SKSac** **12 05 14.0 +1.4**
NSS IVMs_BB IVMs_BB 12 41 33.6
comp=Z,13μm,27.5s
VYHS Vyhne 100.44 319 *e*P **Pdif** **11 54 40.4 +4.8**
VYHS *e* 11 58 46.9
VYHS Vyhne 100.44 319 *e*PDIFF **Pdif** **11 54 40.4 +4.8**
VYHS *e*PP **PP** **11 58 46.9 +4.8**
VYHS *e* 12 10 55.3
V35K Ketchikan 100.45 34 IAMs_20 IAMs_20 12 36 45.1
comp=Z,23μm,22.0s
V35K Ketchikan 100.45 34 Pdiff **Pdif** **11 54 34.9 -0.5**
baz=282
VNA2 Neumayer--Watz 100.45 195 ⇓P **Pdif** **11 54 34.9 -0.2**
comp=Z,5.0nm,0.8s,baz=102,slow=3.8
VNA2 ⇓x x 12 10 54.9
comp=Z,2.3nm,0.7s,baz=318,slow=4.0
TGTN Hyland Airport 100.64 27 Pdiff **Pdif** **11 54 36.3 +0.1**
baz=286
OKC Ostrava-Krasne 100.67 320 AMS AMS 12 48 50.0
comp=Z,26μm,20.3s
TIR Tirane 100.73 312 IAMs_20 IAMs_20 12 43 58.6
comp=Z,21μm,22.0s
WTLY Watson Lake, Y 100.78 29 Pdiff **Pdif** **11 54 37.5 +0.6**
baz=285
VNA3 Neumayer Olymp 100.82 194 ⇑P **Pdif** **11 54 38.1 +1.3**
comp=Z,4.2nm,0.8s
VNA3 ⇓x x 12 10 56.2
comp=Z,3.8nm,1.0s
T35M Bob Quinn 100.83 32 Pdiff **Pdif** **11 54 37.9 +0.8**
baz=284
HFS Hagfors 100.89 331 P **Pdif** **11 54 34.2 -3.0**
comp=Z,11nm,0.9s,baz=87,slow=6.1,SNR=16
HFS PP **PP** **11 58 48.9 +3.8**
comp=Z,14nm,1.0s,baz=101,slow=7.7,SNR=3.6
HFS PKKPbc **PKKPdf** **12 10 56.2 -1.3**
comp=Z,1.5nm,0.7s,baz=180,slow=2.4,SNR=3.6
PDG Podgorica 101.04 313 IAMs_20 IAMs_20 12 44 28.7
comp=Z,27μm,22.0s
MORC Moravsky Berou 101.06 320 IAMs_20 IAMs_20 12 47 29.8
comp=Z,29μm,21.0s

MORC Moravsky Berou 101.06 320 *e*PDIFF **Pdif** **11 54 37.5 -0.8**
JAVC Velka Javorina 101.14 319 *e*PDIFF **Pdif** **11 54 38.7 0.0**
U35K Hyder 101.20 33 IAMs_20 IAMs_20 12 37 03.8
comp=Z,27μm,21.0s
U35K Hyder 101.20 33 Pdiff **Pdif** **11 54 38.8 +0.1**
baz=284
HG4B Hotspring 101.32 37 IAMs_20 IAMs_20 12 37 26.4
comp=Z,21μm,21.0s
MODS Modra-Piesok 101.49 319 *e*PDIFF **Pdif** **11 54 46.6 +6.4**
MODS *e* 12 10 50.1
KRLC Kraliky 101.49 321 *e*PDIFF **Pdif** **11 54 38.3 -1.9**
KRLC *e*SDIF **Sdif** **12 06 21.5 +1.6**
KRLC AMS AMS 12 44 10.0
comp=Z,38μm,27.3s
KRLC Kraliky 101.49 321 *e*P **Pdif** **11 54 38.3 -1.9**
KRLC *e*S **Sdif** **12 06 21.5 +1.6**
KRLC MLR MLR
comp=Z,38μm,27.0s
TBLU Trondheim 101.52 335 *e*Pdif **Pdif** **11 54 40.5 +0.5**
TBLU *e* 12 05 27.3
TBLU IVMs_BB IVMs_BB 12 41 07.6
comp=Z,15μm,20.8s
BSD Bornholm Skovb 101.53 326 *i* P **Pdif** **11 54 42.3 +2.2**
BSD IAmb IAmb 11 54 47.5
comp=Z,54nm,1.2s
DPC Dobruska-Polom 101.73 321 *e*PDIFF **Pdif** **11 54 39.6 -1.7**
DPC AMS AMS 12 44 10.0
comp=Z,32μm,23.6s
DPC Dobruska-Polom 101.73 321 *e*P **Pdif** **11 54 39.6 -1.7**
DPC MLR MLR
comp=Z,32μm,23.6s
NC602 NORSAR Array S 101.74 332 *e*Pdif **Pdif** **11 54 40.9 -0.2**
NC602 IVmB_BB 11 54 45.4
comp=Z,648nm,5.3s
NC602 *e*SKSac **SKSac** **12 05 21.8 +2.4**
NC602 IVMs_BB IVMs_BB 12 42 07.2
comp=Z,17μm,25.0s
OSTC Ostas 101.75 321 AMS AMS 12 44 10.0
comp=Z,30μm,22.0s
VRAC Vranov 101.76 320 *e*PDIFF **Pdif** **11 54 40.8 -0.6**
NB2 NORSAR Subarra101.80 332 P **Pdif** **11 54 38.9 -2.5**
comp=Z,26nm,1.1s,baz=73,slow=4.4
NB2 PP **PP** **11 58 53.6 +1.7**
comp=Z,420nm,2.5s,baz=76,slow=7.9
NB2 NORSAR Subarra101.80 332 P **Pdif** **11 54 38.9 -2.5**
baz=73,slow=4.4
NOA NORSAR Array B 101.80 332 P **Pdif** **11 54 39.1 -2.2**
comp=Z,10nm,0.9s,baz=74,slow=4.6,SNR=24
NOA PP **PP** **11 58 51.8 -0.1**
comp=Z,13nm,1.1s,baz=73,slow=7.7,SNR=4.7
UPC Upice 101.89 321 *e*SDIF **Sdif** **12 06 17.2 -5.9**
UPC AMS AMS 12 44 10.0
comp=Z,35μm,22.4s
KRUC Moravsky 101.93 320 *e*PDIFF **Pdif** **11 54 41.2 -1.0**
KRUC *e*PP **PP** **11 58 52.5 -0.8**
KRUC *e*PKKP **PKKPbc** **12 10 47.9 -0.8**
WRGLY Wrigley 102.23 25 Pdiff **Pdif** **11 54 43.4 +0.3**
baz=291
RONA Rosalia, Austr 102.26 318 *e*pPdiff **Pdif** **11 54 46.0 +2.3**
comp=Z,6.7nm,1.0s
RONA Rosalia, Austr 102.26 318 *e*Pdiff **Pdif** **11 54 46.0 +2.3**
comp=Z,6.7nm,1.0s
RONA *e*PKKP **PKKPdf** **12 10 56.3 +1.5**
comp=Z,3.9nm,0.7s
LIRD Liard River Hi 102.29 29 Pdiff **Pdif** **11 54 43.9 +0.4**
baz=288
OSL Oslo 102.38 331 *e*Pdif **Pdif** **11 54 44.9 +1.1**
OSL IVMs_BB IVMs_BB 12 45 50.8
comp=Z,14μm,21.4s
DOMB Dombas 102.45 334 *e*Pdif **Pdif** **11 54 44.8 +0.6**
DOMB IVmB_BB 11 54 51.5
comp=Z,888nm,4.3s
DOMB *e* 12 05 35.1
DOMB IVMs_BB IVMs_BB 12 41 28.9
comp=Z,14μm,25.6s
CONA Conrad Observa 102.50 319 *e*pPdiff **Pdif** **11 54 46.0 +1.2**
comp=Z,3.8nm,1.0s
CONA Conrad Observa 102.50 319 *e*Pdiff **Pdif** **11 54 46.0 +1.2**
comp=Z,3.8nm,1.0s
CONA *e*PKKP **PKKPbc** **12 10 47.4 +0.3**
comp=Z,5.4nm,1.2s
COP Copenhagen 102.75 327 *i* P **Pdif** **11 54 49.3 +3.8**
GOPC GO Pecny, Ondr 102.78 321 AMS AMS 12 45 30.0
comp=Z,25μm,21.3s
PVCC Panska Ves 102.78 322 AMS AMS 12 43 00.0
comp=Z,34μm,24.5s
ARSA Arzberg 102.86 318 *i* PKKP **PKKPbc** **12 10 46.6 +0.7**
comp=Z,14nm,1.5s
TOAD Toad River Com 102.89 30 Pdiff **Pdif** **11 54 46.3 +0.1**
baz=288
MOL Molde 102.92 334 *e*Pdif **Pdif** **11 54 47.2 +1.0**
MOL IVmB_BB 11 54 54.1
comp=Z,1μm,3.6s
MOL IVMs_BB IVMs_BB 12 41 26.3
comp=Z,13μm,27.2s
PRU Pruhonice 102.92 321 *e*PDIFF **Pdif** **11 54 40.8 -5.7**
PRU AMS AMS 12 43 10.0
comp=Z,32μm,22.4s
PRU Pruhonice 102.92 321 *e*P **Pdif** **11 54 40.8 -5.7**
PRU MLR MLR
comp=Z,32μm,22.4s
LLD Lille Linde 102.97 327 *i* P **Pdif** **11 54 49.3 +2.8**
PRA Prague 102.97 321 *e*PDIFF **Pdif** **11 54 46.5 -0.2**
PRA AMS AMS 12 48 30.0
comp=Z,31μm,19.7s
PRA Prague 102.97 321 *e*P **Pdif** **11 54 46.5 -0.2**
PRA MLR MLR
comp=Z,31μm,19.7s
KONO Kongsberg 103.01 331 **Pdif** **11 54 45.8 -0.9**
KONO Kongsberg 103.01 331 IAMs_20 IAMs_20 12 46 53.5
comp=Z,22μm,21.0s
KONO Kongsberg 103.01 331 P **Pdif** **11 54 45.8 -0.9**
KONO Kongsberg 103.01 331 *e*Pdif **Pdif** **11 54 46.1 -0.5**
KONO IVMs_BB IVMs_BB 12 42 48.8
comp=Z,16μm,23.4s
KOTAN Kotaneelee Air 103.04 28 Pdiff **Pdif** **11 54 47.3 +0.5**
baz=290
RICC Richard 103.07 322 AMS AMS 12 43 20.0
comp=Z,29μm,23.2s
BRG Berggiesshubel 103.09 322 *e*Pif **Pdif** **11 54 47.0 -0.3**
BRG Amp 11 54 48.9
comp=Z,7.4nm,1.0s
BRG Berggiesshubel 103.09 322 P **Pdif** **11 54 52.9 +5.6**
BRG Amp 11 54 54.5
comp=Z,22nm,1.2s
BRG PP **PKiKP** **11 59 12.0 +5.0**
BRG Amp 11 59 13.1
comp=Z,36nm,1.2s
BRG Berggiesshubel 103.09 322 SS SS 12 13 46.0 +3.0
BRG PKPPKP 12 18 51.6
BRG Amp 12 18 55.7
comp=Z,3.9nm,1.0s
SKAR Skarslia 103.27 333 *e*Pdif **Pdif** **11 54 49.0 +1.1**
SKAR IVmB_BB 11 54 53.5
comp=Z,623nm,4.4s
SKAR *e*PP **PP** **11 59 04.6 +1.7**
SKAR IVMs_BB IVMs_BB 12 42 51.4
comp=Z,16μm,24.6s
ZVC Zvikov 103.27 320 *e*SDIF **Sdif** **12 06 34.2 -0.4**
ZVC AMS AMS 12 45 40.0
comp=Z,31μm,23.6s
AKN Aaknes 103.30 334 *e*Pdif **Pdif** **11 54 49.4 +1.4**
AKN *e*SKSac **SKSac** **12 05 30.4 +3.6**
AKN IVMs_BB IVMs_BB 12 42 06.9
comp=Z,18μm,25.1s
SOKA Soboth 103.30 318 *e*pPdiff **Pdif** **11 54 50.4 +2.0**
comp=Z,9.1nm,1.4s
SOKA Soboth 103.30 318 *e*Pdiff **Pdif** **11 54 50.4 +2.0**
comp=Z,9.1nm,1.4s
SOKA *e*PKKP **PKKPdf** **12 10 50.5 -2.4**
comp=Z,7.0nm,1.4s
CKRC Cesky Krumlov 103.33 320 *e*PDIFF **Pdif** **11 54 48.5 +0.1**
CKRC *e*SDIF **SKSac** **12 05 38.1 +11**
CKRC AMS AMS 12 45 20.0
comp=Z,41μm,24.6s
CKRC Cesky Krumlov 103.33 320 *e*P **Pdif** **11 54 48.5 +0.1**
HSKC Hora Svate Kat 103.47 322 *e*SDIF **Sdif** **12 06 34.8 -1.5**
HSKC AMS AMS 12 46 50.0
comp=Z,32μm,23.4s
CLL Collm 103.56 323 Pdif **Pdif** **11 54 49.2 -0.1**
CLL Collm 103.56 323 *e*P **Pdif** **11 54 49.0 -0.3**
CLL *e* 11 59 06.0
CLL pmax pmax
comp=Z,29nm,1.7s
MOA Molln 103.57 319 *e*pPdiff **Pdif** **11 54 51.1 +1.6**
comp=Z,4.0nm,0.9s
MOA *e*PKKP **PKKPbc** **12 10 47.1 +3.2**
comp=Z,12nm,1.2s
OBKA Obir 103.67 317 *e*pPdiff **Pdif** **11 54 52.0 +1.9**
comp=Z,3.4nm,0.6s
OBKA Obir 103.67 317 *e*Pdiff **Pdif** **11 54 52.0 +1.9**
comp=Z,3.4nm,0.6s
OBKA *i* PKKP **PKKPbc** **12 10 46.5 +2.9**
comp=Z,9.0nm,1.0s
GEC2 GERESS Array S 103.71 320 Pdif **Pdif** **11 54 49.8 -0.4**
GERES GERESS Array B 103.71 320 Pdif **Pdif** **11 54 49.2 -1.0**
GERES GERESS Array B 103.71 320 Pdiff **Pdif** **11 54 48.5 -1.7**
comp=Z,0.7nm,0.6s,baz=64,slow=3.1,SNR=5.6
GERES PP **PKiKP** **11 59 12.3 +4.0**
comp=Z,3.1nm,0.9s,baz=81,slow=7.7,SNR=4.6
GERES PKKPbc **PKKPbc** **12 10 41.6 -1.9**
comp=Z,1.7nm,0.8s,baz=267,slow=2.4,SNR=6.1
GERES GERESS Array B 103.71 320 P **Pdif** **11 54 49.2 -1.0**
KHC Kasperske Hory 103.73 320 *e*PDIFF **Pdif** **11 54 52.4 +2.2**
KHC *e*PP **PP** **11 59 04.9 -1.9**
KHC *e*SDIF 12 06 37.4
KHC *e*x x 12 08 50.0
KHC AMS AMS 12 45 50.0
comp=Z,42μm,25.1s
KHC Kasperske Hory 103.73 320 *e*P **Pdif** **11 54 52.4 +2.2**
KHC *e* 11 59 04.9
KHC *e*S **Sdif** **12 06 37.4 -1.2**
KHC MLR MLR
comp=Z,42μm,25.1s
CUC Castrocucco 103.97 311 Pdif **Pdif** **11 54 51.0 -0.5**
HOMB Homborsund 104.00 330 *e*Pdif **Pdif** **11 54 53.5 +2.5**
HOMB IVmB_BB 11 54 56.0
comp=Z,648nm,4.9s
HOMB *e* 11 59 55.0
HOMB *e* 12 05 20.5
HOMB IVMs_BB IVMs_BB 12 46 57.3
comp=Z,12μm,23.2s
BIOA Bad Ischl, Aus 104.02 319 *e*pPdiff **Pdif** **11 54 54.6 +3.1**
comp=Z,1.1nm,0.3s
BIOA *e*PKKP **PKKPdf** **12 10 47.5 -4.0**
comp=Z,2.6nm,0.4s
NKC Novy Kostel 104.17 322 AMS AMS 12 47 10.0
comp=Z,34μm,24.4s
MYKA Terra Mystica 104.25 318 *e*pPdiff **Pdif** **11 54 54.4 +1.8**
comp=Z,1.5nm,0.5s
MYKA Terra Mystica 104.25 318 *e*Pdiff **Pdif** **11 54 54.4 +1.8**
comp=Z,1.5nm,0.5s
MYKA *i* PKKP **PKKPdf** **12 10 47.4 -3.7**
comp=Z,3.7nm,0.8s
JMI Jan Mayen 104.27 345 *e*Pdif **Pdif** **11 54 53.0 +1.0**
JMI IVMs_BB IVMs_BB 12 41 56.0
comp=Z,9μm,26.5s
ODD1 Odda 104.32 332 *e*Pdif **Pdif** **11 54 52.9 +0.3**
ODD1 IVmB_BB 11 54 56.3
comp=Z,482nm,3.2s
ODD1 IVMs_BB IVMs_BB 12 43 24.7
comp=Z,15μm,21.3s
PRED Cave del Predi 104.34 318 IAMs_20 IAMs_20 12 50 05.8
comp=Z,25μm,22.0s
KBA Koelnbreinsper 104.35 318 *e*pPdiff **pPdif** **11 54 57.4 -2.1**
comp=Z,5.5nm,1.5s
KBA *i* PKKP **PKKPbc** **12 10 45.8 +4.2**
comp=Z,12nm,1.3s
NEEM North Greenlan 104.35 359 *e*P **Pdif** **11 54 55.4 +2.7**
SABO M.te Sabotino 104.42 317 IAMs_20 IAMs_20 12 49 01.2
comp=Z,35μm,22.0s
BLS5 Blasjo 104.59 332 *e*Pdif **Pdif** **11 54 53.1 -0.6**
BLS5 IVmB_BB 11 55 06.3
comp=Z,648nm,4.7s
BLS5 *e*PP **PP** **11 59 16.6 +3.8**
BLS5 *e*SKSac **SKSac** **12 05 29.9 -2.8**
BLS5 IVMs_BB IVMs_BB 12 43 44.7
comp=Z,17μm,23.8s
SNART Snartemo 104.62 330 *e*Pdif **Pdif** **11 54 57.0 +3.2**
SNART IVmB_BB 11 54 59.1
comp=Z,909nm,4.4s
SNART *e*PP **PP** **11 59 14.3 +1.3**
SNART IVMs_BB IVMs_BB 12 47 01.6
comp=Z,21μm,22.1s
LESA Schwarzleotal 104.71 319 *e*pPdiff **pPdif** **11 54 57.8 -3.1**
comp=Z,8.3nm,1.2s
LESA *i* PKKP **PKKPbc** **12 10 43.1 +2.6**
comp=Z,12nm,1.0s
SUE Sulen 104.73 334 IVMs_BB IVMs_BB 12 48 10.0
comp=Z,15μm,20.0s
BER Bergen 104.74 333 IVMs_BB IVMs_BB 12 43 45.3
comp=Z,12μm,25.0s
ABTA Abfaltersbach 104.98 318 *e*pPdiff **pPdif** **11 54 59.7 -2.5**
comp=Z,5.0nm,0.9s
ABTA *i* PKKP **PKKPbc** **12 10 43.2 +3.6**
comp=Z,8.3nm,1.2s
INTR Introdacqua 105.03 313 Pdif **Pdif** **11 54 53.9 -2.3**
TULEG Thule 105.07 3 Pdif **Pdif** **11 54 56.4 +0.8**
GRA1 Grafenberg Arr 105.08 321 IAMs_20 IAMs_20 12 49 50.0
comp=Z,26μm,22.0s
GRFO Grafenberg 105.08 321 IAMs_20 IAMs_20 12 49 50.0
comp=Z,27μm,22.0s
GUMA Gualdo di Mace 105.23 314 IAMs_20 IAMs_20 12 52 01.5
comp=Z,23μm,22.0s
KMY Karmoy 105.24 332 *e*Pdif **Pdif** **11 54 57.6 +1.0**
KMY *e* 12 05 56.0
KMY IVMs_BB IVMs_BB 12 47 14.4
comp=Z,15μm,23.7s
WTTA Wattenberg 105.44 319 *e*pPdiff **pPdif** **11 55 02.2 -2.1**
comp=Z,12nm,1.2s
WTTA *i* PKKP **PKKPbc** **12 10 42.7 +4.3**
comp=Z,17nm,1.3s
WATA Walderalm 105.46 319 *e*pPdiff **Pdif** **11 55 00.1 +2.0**
comp=Z,7.9nm,0.9s
WATA Walderalm 105.46 319 *e*Pdiff **Pdif** **11 55 00.1 +2.0**
comp=Z,7.9nm,0.9s
WATA *e*PKKP **PKKPbc** **12 10 37.4 -0.9**
comp=Z,8.4nm,0.9s
SQTA Sankt Quirin 105.73 319 *e*pPdiff **pPdif** **11 55 05.9 +0.3**
comp=Z,6.4nm,0.9s
SQTA *i* PKKP **PKKPbc** **12 10 37.7 +0.3**
comp=Z,6.1nm,0.7s
MOTA Moosalm 105.77 319 *e*pPdiff **Pdif** **11 55 02.3 +2.9**
comp=Z,12nm,1.2s
MOTA *i* PKKP **PKKPbc** **12 10 38.3 +0.9**
comp=Z,8.0nm,0.9s
FETA Feichten 106.10 319 *e*pPdiff **Pdif** **11 55 02.5 +1.6**
comp=Z,6.7nm,1.3s
FETA Feichten 106.10 319 *e*Pdiff **Pdif** **11 55 02.5 +1.6**
comp=Z,6.7nm,1.3s
FETA *i* PKKP **PKKPbc** **12 10 36.8 +0.5**
comp=Z,11nm,1.4s
YKA Yellowknife Ar 106.22 24 Pdiff **Pdif** **11 55 00.4 -0.5**
comp=Z,3.5nm,0.9s,baz=302,slow=4.6,SNR=19
YKA PKiKP **PKiKP** **11 59 12.3 -0.1**
comp=Z,2.9nm,0.9s,baz=318,slow=2.0,SNR=6.4
YKA PP PP 11 59 34.0 +9.4
comp=Z,5.9nm,1.2s,baz=288,slow=8.1,SNR=3.8
YKA PKKPbc **PKKPbc** **12 10 32.7 -3.5**
comp=Z,7.6nm,0.8s,baz=116,slow=2.7,SNR=39
FUORN Ofenpass-Fuorn 106.51 318 IAMs_20 IAMs_20 12 53 26.1
comp=Z,21μm,22.0s
C03A Quillayute Air 106.52 40 IAMs_20 IAMs_20 12 38 08.0
comp=Z,33μm,21.0s
CLRS Cowichan Lake 106.55 39 IAMs_20 IAMs_20 12 35 16.7
comp=Z,24μm,22.0s
DAVA Damuels 106.59 319 *e*pPdiff **Pdif** **11 55 05.9 +2.8**
comp=Z,9.8nm,1.2s
DAVA *e*PKKP **PKKPbc** **12 10 38.3 +3.5**
comp=Z,7.7nm,0.9s
STU Stuttgart 106.61 321 IAMs_20 IAMs_20 12 51 16.5
comp=Z,22μm,20.0s
OSSC Osservatorio P 106.61 315 IAMs_20 IAMs_20 12 52 43.1
comp=Z,25μm,21.0s
DAVOX Davos/Dischmat 106.72 319 PKKPbc PKKPbc 12 10 33.8 -0.6
comp=Z,5.6nm,0.9s,baz=314,slow=7.3,SNR=7.7
PRMA PARMA 106.96 316 IAMs_20 IAMs_20 12 50 00.1
comp=Z,25μm,22.0s
PGC Sidney 107.03 39 IAMs_20 IAMs_20 12 38 37.4
comp=Z,19μm,20.0s
NLWA Neilton Lookou 107.12 41 IAMs_20 IAMs_20 12 38 25.1
comp=Z,19μm,21.0s
SCO Scoresbysund 107.64 348 IAMs_20 IAMs_20 12 49 37.0
comp=Z,18μm,20.0s
F03A Seaside 107.74 42 IAMs_20 IAMs_20 12 42 03.6
comp=Z,19μm,21.0s
GNW Green Mountain 107.75 40 IAMs_20 IAMs_20 12 38 58.7
comp=Z,31μm,21.0s
MEM Membach 108.00 323 *d*PP **PP** **11 59 38.9 +0.8**
WLF Walferdange 108.23 322 IAMs_20 IAMs_20 12 52 18.2
comp=Z,32μm,22.0s
J01E Myrtle Point 108.24 45 IAMs_20 IAMs_20 12 41 25.9
comp=Z,25μm,21.0s
SUMG Summit 108.34 354 IAMs_20 IAMs_20 12 45 43.8
comp=Z,28μm,22.0s
BCLA Clavier 108.48 323 *d*PKiKP **PKiKP** **11 59 18.0 +1.0**
BCLA *d*PP **PP** **11 59 41.8 +0.2**
K02D Willamette Mer 108.55 45 IAMs_20 IAMs_20 12 40 50.2
comp=Z,21μm,21.0s
SENIN Lac Senin/Sane 108.55 319 IAMs_20 IAMs_20 12 54 42.0
comp=Z,21μm,20.0s
BGES Gesves 108.63 323 *d*PKiKP **PKiKP** **11 59 19.2 +1.9**
KRPM Rodgers 108.68 47 IAMs_20 IAMs_20 12 40 24.9
comp=Z,27μm,21.0s
JCC Jacoby Creek, 108.76 47 IAMs_20 IAMs_20 12 40 11.1
comp=Z,20μm,21.0s
L02F Cave Junction 108.77 46 IAMs_20 IAMs_20 12 42 38.0
comp=Z,21μm,20.0s
KMPM Mount Pierce 108.80 48 IAMs_20 IAMs_20 12 39 57.9
comp=Z,23μm,22.0s
KHMM Horse Mountain 108.97 47 IAMs_20 IAMs_20 12 40 30.4
comp=Z,25μm,22.0s
DOU Dourbes 109.02 323 *d*PP PP 11 59 53.6 +8.0
KMRM Mail Ridge 109.15 48 IAMs_20 IAMs_20 12 34 55.4
comp=Z,29μm,22.0s
LTY Liberty 109.24 40 IAMs_20 IAMs_20 12 40 05.1
comp=Z,29μm,20.0s
BNI Bardonecchia 109.36 317 IAMs_20 IAMs_20 12 54 13.5
comp=Z,31μm,22.0s
KCPM Cahto Peak 109.38 48 IAMs_20 IAMs_20 12 35 31.3
comp=Z,32μm,22.0s
YBH Yreka Blue Hor 109.49 46 IAMs_20 IAMs_20 12 40 49.1
comp=Z,25μm,21.0s
J04A Umpqua Nationa 109.50 44 IAMs_20 IAMs_20 12 42 28.2
comp=Z,22μm,21.0s
KEST Kesra 109.81 307 Pdiff **Pdif** **11 55 15.5 -2.1**
comp=Z,4.7nm,0.4s,baz=30,slow=3.5,SNR=9.4
O02D Mt. Diablo Mer 109.84 48 IAMs_20 IAMs_20 12 36 03.6
comp=Z,34μm,22.0s
HOPS Hopland Field 109.93 49 IAMs_20 IAMs_20 12 38 25.1
comp=Z,22μm,20.0s
J05D Fort Rock, OR 110.10 44 IAMs_20 IAMs_20 12 42 49.0
comp=Z,20μm,20.0s
F07A Phinny Hill Vi 110.17 41 IAMs_20 IAMs_20 12 44 23.7
comp=Z,18μm,19.0s
GDXM Geysers 110.19 49 IAMs_20 IAMs_20 12 38 32.8
comp=Z,29μm,20.0s
MCCM Marconi Confer 110.28 50 IAMs_20 IAMs_20 12 44 49.5
comp=Z,20μm,20.0s
D08A Wollman Farm, 110.43 40 IAMs_20 IAMs_20 12 41 22.5
comp=Z,22μm,20.0s
E08A Dider Farm, El 110.53 40 IAMs_20 IAMs_20 12 39 36.3
comp=Z,19μm,21.0s
C09A Chrisman Ranch 110.57 39 IAMs_20 IAMs_20 12 40 38.1
comp=Z,23μm,21.0s
SSB Saint Sauveur 110.72 318 IAMs_20 IAMs_20 12 53 46.5
comp=Z,20μm,22.0s
I07A Izee 111.04 43 IAMs_20 IAMs_20 12 43 32.0
comp=Z,20μm,21.0s
EKA Eskdalemuir Ar 111.05 330 PKiKP **PKiKP** **11 59 22.7 +1.0**
comp=Z,0.4nm,0.4s,baz=45,slow=3.7,SNR=5.2
EKA PP **PP** **12 00 06.2 +6.3**
comp=Z,5.3nm,0.9s,baz=67,slow=6.5,SNR=5.4
E09A Wood Farm, Sta 111.12 40 IAMs_20 IAMs_20 12 39 30.8
comp=Z,24μm,22.0s
CLF Chambon-Foret 111.22 322 IAMs_20 IAMs_20 12 51 10.2
comp=Z,25μm,22.0s
SAO San Andreas Ge 111.73 51 IAMs_20 IAMs_20 12 42 37.0
comp=Z,24μm,20.0s
J08A Circle Bar Ran 111.98 43 IAMs_20 IAMs_20 12 43 15.0
comp=Z,16μm,20.0s
BORG Borgarnes 112.01 344 IAMs_20 IAMs_20 12 51 48.6
comp=Z,23μm,20.0s
BBGB Big Mountain B 112.10 51 IAMs_20 IAMs_20 12 40 11.6
comp=Z,24μm,21.0s
CMB Columbia Colle 112.21 49 IAMs_20 IAMs_20 12 45 51.5
comp=Z,20μm,19.0s
PAHR Pah Rah Range 112.49 47 IAMs_20 IAMs_20 12 40 07.5
comp=Z,18μm,21.0s
ILULI Ilulissat 112.58 358 IAMs_20 IAMs_20 12 54 16.6
comp=Z,24μm,22.0s
WAKR Walker 112.80 49 IAMs_20 IAMs_20 12 38 53.8
comp=Z,25μm,22.0s
LHV Little Huntoon 113.57 49 IAMs_20 IAMs_20 12 39 59.3
comp=Z,27μm,22.0s
MSO Missoula 113.67 39 IAMs_20 IAMs_20 12 43 13.9
comp=Z,19μm,20.0s
NVAR Mina Array Bea 113.67 49 Pdiff **Pdif** **11 55 34.6 -0.3**
comp=Z,1.0nm,0.8s,baz=282,slow=1.4,SNR=4.2
NVAR PKiKP **PKiKP** **11 59 28.1 +0.6**
comp=Z,4.6nm,0.7s,baz=268,slow=1.5,SNR=12
NVAR PP PP 12 00 31.0 +11
comp=Z,6.7nm,0.9s,baz=252,slow=4.9,SNR=4.3
NVAR PKKPbc **PKKPbc** **12 10 11.8 +0.1**
comp=Z,1.5nm,0.8s,baz=178,slow=3.2,SNR=5.6
DSB Dublin 113.74 329 IAMs_20 IAMs_20 12 52 34.0
comp=Z,29μm,22.0s
MFID Camas Ranch 113.77 43 IAMs_20 IAMs_20 12 49 41.0
comp=Z,17μm,19.0s
DSP Deep Springs 114.24 50 IAMs_20 IAMs_20 12 42 20.0
comp=Z,29μm,21.0s
Q09A Carvers 114.38 48 IAMs_20 IAMs_20 12 40 21.6
comp=Z,24μm,22.0s
HLID Hailey 114.67 42 IAMs_20 IAMs_20 12 45 38.7
comp=Z,25μm,22.0s
SFJD Kangerlussuaq 114.76 357 IAMs_20 IAMs_20 12 50 28.7
comp=Z,20μm,22.0s
ANGG Ammassalik, Gr 114.77 351 IAMs_20 IAMs_20 12 57 17.0
comp=Z,18μm,20.0s
PASC Pasadena Art C 114.98 53 IAMs_20 IAMs_20 12 46 00.0
comp=Z,25μm,20.0s
DLMT Dillon 115.13 40 IAMs_20 IAMs_20 12 43 59.7
comp=Z,21μm,21.0s
ELK Elko 115.15 45 IAMs_20 IAMs_20 12 44 50.6
comp=Z,26μm,21.0s
TAM Tamanrasset 115.56 294 IAMs_20 IAMs_20 12 55 22.3
comp=Z,19μm,21.0s
GWY Greenwater Val 115.59 50 IAMs_20 IAMs_20 12 42 24.9
comp=Z,24μm,21.0s
BOZ Bozeman (W) 115.64 39 IAMs_20 IAMs_20 12 44 36.2
comp=Z,24μm,21.0s
TPNV Topopah Spring 115.68 50 IAMs_20 IAMs_20 12 43 16.1
comp=Z,28μm,22.0s
ELS Elsinore Mount 115.73 53 IAMs_20 IAMs_20 12 41 51.9
comp=Z,28μm,21.0s
S11A Rachel 115.83 49 IAMs_20 IAMs_20 12 48 10.1
comp=Z,22μm,20.0s
FFC Flin Flon 116.02 27 **PKiKP** **11 59 31.0 -0.2**
FFC Flin Flon 116.02 27 PKIKP **PKiKP** **11 59 31.0 -0.2**
YHL Hebgen Lake 116.26 40 IAMs_20 IAMs_20 12 44 14.5
comp=Z,19μm,20.0s
YHB Horse Butte 116.29 40 IAMs_20 IAMs_20 12 44 25.4
comp=Z,19μm,21.0s
PRN Pahroc Range 116.43 49 IAMs_20 IAMs_20 12 48 48.0
comp=Z,23μm,20.0s
YMR Madison River 116.47 40 IAMs_20 IAMs_20 12 44 43.3
comp=Z,20μm,21.0s
HVU Hansel Valley 116.48 43 IAMs_20 IAMs_20 12 45 26.7
comp=Z,16μm,20.0s
PFO Pinyon Flats O 116.52 53 IAMs_20 IAMs_20 12 40 20.7
comp=Z,30μm,21.0s
PFO Pinyon Flats O 116.52 53 PKIKP **PKiKP** **11 59 33.7 +0.7**
YNM Yellowstone No 116.62 40 IAMs_20 IAMs_20 12 50 30.0
comp=Z,22μm,20.0s
BGU Big Grassy Mou 116.64 44 IAMs_20 IAMs_20 12 45 32.0
comp=Z,15μm,19.0s
YNR Norris Junctio 116.64 40 IAMs_20 IAMs_20 12 50 30.6
comp=Z,22μm,20.0s
SHPR Sheep Range 116.65 50 IAMs_20 IAMs_20 12 43 33.8
comp=Z,16μm,21.0s
FXWY Fox Creek 116.88 41 IAMs_20 IAMs_20 12 46 20.2
comp=Z,22μm,20.0s
YNE Yellowstone No 116.93 39 IAMs_20 IAMs_20 12 51 28.3
comp=Z,18μm,21.0s
PSUT Pine Spring 116.93 47 IAMs_20 IAMs_20 12 43 47.1
comp=Z,21μm,21.0s
YMP Mirror Lake Pl 116.96 40 IAMs_20 IAMs_20 12 47 30.1
comp=Z,21μm,22.0s
TPAW Teton Pass 117.00 41 IAMs_20 IAMs_20 12 46 31.1
comp=Z,21μm,20.0s
MOOW Moose Ponds 117.02 41 IAMs_20 IAMs_20 12 46 05.8
comp=Z,21μm,21.0s
DUG Dugway, Tooele 117.07 45 IAMs_20 IAMs_20 12 51 41.5
comp=Z,18μm,20.0s
SNOW Snow King Moun 117.14 41 IAMs_20 IAMs_20 12 51 50.0
comp=Z,23μm,20.0s
LOHW Long Hollow 117.17 41 IAMs_20 IAMs_20 12 46 29.8
comp=Z,21μm,20.0s
AHID Auburn Hatcher 117.21 42 IAMs_20 IAMs_20 12 46 23.9

comp=Z,19µm,22.0s
RLMT Red Lodge 117.35 39 IAMs_20 IAMs_20 12 47 16.2
comp=Z,18µm,21.0s
HWUT Hardware Ranch 117.38 43 IAMs_20 IAMs_20 12 46 25.5
comp=Z,16µm,20.0s
TCUT Toone Canyon 117.69 44 IAMs_20 IAMs_20 12 44 13.7
comp=Z,25µm,22.0s
LCMT Little Creek M 117.92 49 IAMs_20 IAMs_20 12 44 23.5
comp=Z,20µm,20.0s
TCRU Three Creeks R 117.93 47 IAMs_20 IAMs_20 12 47 32.5
comp=Z,28µm,22.0s
W13A Hualapai Mount 118.09 51 IAMs_20 IAMs_20 12 52 55.8
comp=Z,17µm,19.0s
MVU Marysvale 118.14 47 IAMs_20 IAMs_20 12 42 49.0
comp=Z,25µm,22.0s
BW06 Boulder Array 118.23 41 IAMs_20 IAMs_20 12 48 12.9
comp=Z,16µm,21.0s
PDAR Pinedale Array 118.23 41 PKPdf 11 59 35.2 -1.0
PDAR Pinedale Array 118.23 41 PKP PKPdf 11 59 34.6 -1.6
comp=Z,3.6nm,0.8s,baz=48,slow=0.4,SNR=8.7
PDAR PKKPbc PKKPbc 12 09 55.9 -0.1
comp=Z,8.3nm,0.9s,baz=119,slow=6.2,SNR=14
KNB Kanab 118.24 48 IAMs_20 IAMs_20 12 44 32.8
comp=Z,25µm,21.0s
MTPU Mount Pierson 118.34 47 IAMs_20 IAMs_20 12 47 29.2
comp=Z,15µm,20.0s
LAO LASA Array 118.42 36 IAMs_20 IAMs_20 12 54 42.5
comp=Z,17µm,21.0s
PKCU Pink Cliffs 118.46 48 IAMs_20 IAMs_20 12 44 46.7
comp=Z,27µm,22.0s
DGMT Dagmar 118.62 34 IAMs_20 IAMs_20 12 46 33.5
comp=Z,17µm,22.0s
ESDC Sonseca Array 118.63 315 PKP PKPdf 11 59 36.1 -0.6
comp=Z,13nm,1.3s,baz=9.9,slow=2.5,SNR=10.0
ESDC PKKPbc PKKPbc 12 09 54.7 +0.5
comp=Z,3.4nm,1.1s,baz=266,slow=4.1,SNR=5.8
Q16A Castle Valley 118.73 46 IAMs_20 IAMs_20 13 00 27.6
comp=Z,20µm,22.0s
U15A North Rim 118.85 49 IAMs_20 IAMs_20 12 45 06.9
comp=Z,28µm,21.0s
PAB San Pablo 118.95 315 PKPdf 11 59 36.0 -1.4
PAB San Pablo 118.95 315 IAMs_20 IAMs_20 13 00 18.4
comp=Z,21µm,20.0s
PAB San Pablo 118.95 315 PKIKP PKPdf 11 59 36.0 -1.4
P18A Preston Nutter 119.11 45 IAMs_20 IAMs_20 12 53 47.4
comp=Z,19µm,21.0s
SRU San Rafael Swe 119.12 45 PKPdf 11 59 37.3 -0.6
SRU San Rafael Swe 119.12 45 PKIKP PKPdf 11 59 37.3 -0.6
Y14A Wickenburg 119.15 52 IAMs_20 IAMs_20 12 43 54.3
comp=Z,29µm,22.0s
HMU Henry Mountain 119.43 47 IAMs_20 IAMs_20 12 42 37.1
comp=Z,21µm,22.0s
WUAZ Wupatki 119.87 50 IAMs_20 IAMs_20 12 44 50.0
comp=Z,24µm,22.0s
NRS Narsarsuaq 120.09 353 IAMs_20 IAMs_20 12 54 28.7
comp=Z,28µm,21.0s
X16A Lo Mia Camp, P 120.21 51 IAMs_20 IAMs_20 12 48 54.2
comp=Z,20µm,20.0s
K22A Casper 120.27 40 IAMs_20 IAMs_20 12 46 57.6
comp=Z,16µm,21.0s
O20A White River Ci 120.28 43 IAMs_20 IAMs_20 12 47 55.4
comp=Z,21µm,22.0s
PV21 Cone Mtn., Par 120.45 45 PKPdf PKPdf 11 59 39.1 -1.5
TORD Torodi Ar. Bea 120.45 284 PKPdf 11 59 39.6 -1.3
TORD Torodi Ar. Bea 120.45 284 PKP PKiKP 11 59 41.2 +0.3
comp=Z,98nm,0.5s,baz=24,slow=3.2,SNR=2.5
TORD PKKPbc PKKPab 12 09 49.1 +0.8
comp=Z,60nm,0.3s,baz=300,slow=2.6,SNR=1.7
PV14 Lion Creek, Pa 120.49 46 PKPdf PKPdf 11 59 39.8 -0.8
MTE Manteigas 120.80 317 IAMs_20 IAMs_20 12 59 59.1
comp=Z,20µm,22.0s
X18A Snowflake 121.32 50 IAMs_20 IAMs_20 12 45 44.5
comp=Z,25µm,22.0s
MDND Maddock 121.47 32 IAMs_20 IAMs_20 12 47 19.8
comp=Z,16µm,21.0s
COI Coimbra 121.48 317 IAMs_20 IAMs_20 13 00 19.0
comp=Z,26µm,22.0s
SFS San Fernando 121.55 312 IAMs_20 IAMs_20 13 02 47.2
comp=Z,25µm,20.0s
E28A Huff 121.65 34 IAMs_20 IAMs_20 12 57 06.7
comp=Z,19µm,21.0s
SRIG Santa Rosalia 121.79 59 IAMs_20 IAMs_20 12 42 30.7
comp=Z,21µm,22.0s
ISCO Idaho Springs 122.23 43 IAMs_20 IAMs_20 12 56 04.9
comp=Z,17µm,20.0s
VA02 Isla de Pascua 122.27 124 IAMs_20 IAMs_20 12 49 46.3
comp=Z,21µm,20.0s
S22A 4UR Ranch, Cre 122.33 45 IAMs_20 IAMs_20 12 44 02.7
comp=Z,24µm,21.0s
RPN Rapa Nui 122.37 124 IAMs_20 IAMs_20 12 49 48.8
comp=Z,20µm,21.0s
HSIG 122.38 57 IAMs_20 IAMs_20 12 45 44.3
comp=Z,26µm,20.0s
MESJ Messejana 122.42 315 *e*PKPdf PKPdf 11 59 43.7 -0.3
MESJ *e*PP PP 12 01 19.9 0.0
MESJ *e*SS SS 12 18 01.3 +1.5
MESJ IAMs_20 IAMs_20 12 44 39.7
comp=N,43µm,39.9s
LIS Lisbon 122.68 316 *e*PP PP 12 01 21.8 +0.2
LIS IAMs_20 IAMs_20 12 39 30.1
comp=N,55µm,36.4s
MORF Marmelete 122.97 314 *e*PKPdf PKPdf 11 59 44.7 -0.5
MORF *e*PP PP 12 01 23.9 +0.1
MORF IAMs_20 IAMs_20 12 56 21.5
comp=E,32µm,24.6s
MORF Marmelete 122.97 314 PKIKP PKiKP 11 59 47.5 +2.1
TRIS Tristan da Cun 123.05 223 IAMs_20 IAMs_20 12 42 08.2
comp=Z,25µm,22.0s
AGMN Agassiz Nation 123.10 30 IAMs_20 IAMs_20 12 54 26.7
comp=Z,21µm,21.0s
EPLO Experimental L 123.17 27 IAMs_20 IAMs_20 12 50 28.3
comp=Z,17µm,21.0s
SDCO Great Sand Dun 123.27 45 IAMs_20 IAMs_20 12 51 02.5
comp=Z,25µm,20.0s
ANMO Albuquerque 123.80 48 PKPdf 11 59 46.7 -0.3
ANMO Albuquerque 123.80 48 IAMs_20 IAMs_20 12 48 46.9
comp=Z,16µm,22.0s
ANMO Albuquerque 123.80 48 IAMs_20 IAMs_20 12 52 51.9
comp=Z,15µm,21.0s
ANMO Albuquerque 123.80 48 IAMs_20 IAMs_20 12 52 51.9
comp=Z,15µm,21.0s
ANMO Albuquerque 123.80 48 PKIKP PKPdf 11 59 46.7 -0.3
Y22D IRIS PASSCAL I 123.81 49 IAMs_20 IAMs_20 12 55 57.2
comp=Z,24µm,19.0s
Y22D IRIS PASSCAL I 123.81 49 PKiKP PKPdf 11 59 46.2 -0.8
baz=294
SUSD Miller 123.91 35 IAMs_20 IAMs_20 12 46 15.5
comp=Z,16µm,22.0s
OGNE Ogallala 124.02 40 IAMs_20 IAMs_20 12 47 50.0
comp=Z,17µm,22.0s
T25A Trinidad 124.32 45 IAMs_20 IAMs_20 12 44 58.4
comp=Z,22µm,22.0s
F33A 5 Mile Ranch, 124.50 32 IAMs_20 IAMs_20 12 57 03.0
comp=Z,18µm,20.0s
K30B Basset 124.57 37 IAMs_20 IAMs_20 12 58 13.1
comp=Z,15µm,21.0s
KSCO Kaye Shedlock' 124.64 42 IAMs_20 IAMs_20 12 48 45.5
comp=Z,24µm,21.0s
SLBS Sierra La Lagu 124.76 62 IAMs_20 IAMs_20 12 48 55.7
comp=Z,19µm,20.0s
EYMN Ely 125.44 28 IAMs_20 IAMs_20 13 00 06.3
comp=Z,17µm,20.0s
ECSD EROS Data Cent 125.67 34 IAMs_20 IAMs_20 13 02 44.1
comp=Z,13µm,19.0s
TBO Thunder Bay 125.85 26 IAMs_20 IAMs_20 13 06 18.1
comp=Z,15µm,22.0s
BGNE Belgrade 126.19 37 IAMs_20 IAMs_20 12 53 00.1
comp=Z,16µm,20.0s
E38A The Farm, Brul 126.38 29 IAMs_20 IAMs_20 12 57 15.3
comp=Z,17µm,21.0s
CBKS Cedar Bluff 126.66 41 IAMs_20 IAMs_20 13 00 33.8
comp=Z,22µm,20.0s
SPMN Marine on St. 126.74 31 IAMs_20 IAMs_20 12 52 16.9
comp=Z,18µm,22.0s
L34A Svendsen Farm, 126.91 36 IAMs_20 IAMs_20 13 00 16.1
comp=Z,15µm,21.0s
MSTX Muleshoe 126.96 48 IAMs_20 IAMs_20 12 51 32.6
comp=Z,20µm,21.0s
AMTX Amarillo 127.33 46 IAMs_20 IAMs_20 12 55 37.2
comp=Z,18µm,22.0s
DBIC Dimbokro 127.38 277 PKPdf 11 59 53.8 -0.4
DBIC Dimbokro 127.38 277 PKP PKPdf 11 59 54.0 -0.1
comp=Z,16nm,0.9s,baz=99,slow=2.9,SNR=10.0
DBIC Dimbokro 127.38 277 PKIKP PKPdf 11 59 53.8 -0.4
DBIC Dimbokro 127.38 277 PKP PKPdf 11 59 53.6 -0.5
R32A Long Quarter, 127.54 41 IAMs_20 IAMs_20 12 53 09.3
comp=Z,16µm,20.0s
COWI Conover 127.89 28 IAMs_20 IAMs_20 13 02 02.2
comp=Z,23µm,22.0s
G40A Rib Lake 128.00 29 IAMs_20 IAMs_20 13 00 59.2
comp=Z,22µm,22.0s
N35A Tabor 128.03 37 IAMs_20 IAMs_20 12 51 42.7
comp=Z,19µm,22.0s
TXAR Lajitas Array 128.24 53 PKPdf 11 59 55.9 +0.3
TXAR Lajitas Array 128.24 53 PKP PKPdf 11 59 54.7 -0.9
comp=Z,4.7nm,0.9s,baz=264,slow=1.3,SNR=9.5
TXAR SKKPbc SKKPbc 12 13 08.6 -0.1
comp=Z,2.4nm,1.0s,baz=132,slow=3.1,SNR=4.7
ELIS Ellis County 128.34 44 IAMs_20 IAMs_20 12 51 24.6
comp=Z,25µm,22.0s
NOKA Waynoka 128.37 43 IAMs_20 IAMs_20 13 05 34.4
comp=Z,19µm,21.0s
OK038 West end E0370 128.58 43 IAMs_20 IAMs_20 13 07 15.0
comp=Z,20µm,22.0s
F42A Maple Grove Fa 128.61 27 IAMs_20 IAMs_20 13 02 10.2
comp=Z,21µm,22.0s
SCIA State Center 128.76 34 IAMs_20 IAMs_20 12 55 46.8
comp=Z,24µm,22.0s
OK032 Salt Plains WL 128.77 42 IAMs_20 IAMs_20 12 51 00.8
comp=Z,24µm,22.0s
I40A Norwalk 128.78 31 IAMs_20 IAMs_20 13 01 41.1
comp=Z,21µm,21.0s
CROK Carrier 129.08 42 IAMs_20 IAMs_20 13 04 44.2
comp=Z,21µm,22.0s
WMOK Wichita Mounta 129.47 45 IAMs_20 IAMs_20 12 47 49.7
comp=Z,19µm,22.0s
N38A Joes South For 129.48 35 IAMs_20 IAMs_20 13 08 55.0
comp=Z,15µm,21.0s
I42A Draeger Farm, 129.63 29 IAMs_20 IAMs_20 12 58 25.5
comp=Z,17µm,22.0s
JFWS Jewell Farm 129.67 31 IAMs_20 IAMs_20 12 57 22.5
comp=Z,19µm,21.0s
L40A Anamosa 129.75 33 IAMs_20 IAMs_20 13 02 34.9
comp=Z,17µm,20.0s
OK029 Liberty Lake 129.83 43 IAMs_20 IAMs_20 12 52 43.0
comp=Z,21µm,20.0s
OK048 Pawnee Station 129.83 42 IAMs_20 IAMs_20 12 53 43.9
comp=Z,24µm,20.0s
T35A Sooner Cattle 129.83 41 IAMs_20 IAMs_20 13 00 11.9
comp=Z,18µm,20.0s
OK051 E0350 and S346 129.85 42 IAMs_20 IAMs_20 12 53 55.5
comp=Z,25µm,22.0s
ABTX Abilene, Hawle 129.90 48 IAMs_20 IAMs_20 13 05 12.5
comp=Z,20µm,22.0s
P38A Dawn 130.06 36 IAMs_20 IAMs_20 13 04 35.5
comp=Z,17µm,22.0s
QUOK Quay 130.12 42 IAMs_20 IAMs_20 12 53 51.7
comp=Z,23µm,21.0s
OK052 Battle Ridge R 130.16 42 IAMs_20 IAMs_20 12 53 19.7
comp=Z,19µm,20.0s
L42A Oliver, Polo 130.62 32 IAMs_20 IAMs_20 12 57 16.7
comp=Z,22µm,22.0s
VLDQ Val d'Or 130.74 18 IAMs_20 IAMs_20 13 04 57.5
comp=Z,24µm,22.0s
K43A Burlington 130.79 30 IAMs_20 IAMs_20 12 59 23.2
comp=Z,19µm,21.0s
FW03 Perrin-Whitt E 130.85 46 IAMs_20 IAMs_20 12 56 32.5
comp=Z,22µm,21.0s
N41A Harden Midland 130.88 34 IAMs_20 IAMs_20 13 01 11.9
comp=Z,16µm,20.0s
GLMI Grayling 130.90 25 IAMs_20 IAMs_20 12 59 50.6
comp=Z,24µm,22.0s
P40A Paris 131.00 36 IAMs_20 IAMs_20 13 04 01.1
comp=Z,21µm,20.0s
FW07 Weatherford 131.22 47 IAMs_20 IAMs_20 12 51 54.4
comp=Z,22µm,21.0s
FW06 Azle 131.25 46 IAMs_20 IAMs_20 12 52 10.1
comp=Z,26µm,22.0s
L44A Lake County Fo 131.39 30 IAMs_20 IAMs_20 12 59 05.1
comp=Z,21µm,22.0s
S39A Bolivar 131.41 38 IAMs_20 IAMs_20 12 57 59.6
comp=Z,20µm,20.0s
U38A Gravette 131.50 40 IAMs_20 IAMs_20 13 02 18.9
comp=Z,21µm,20.0s
ZAIG Zacatecas 131.51 61 IAMs_20 IAMs_20 12 52 03.6
comp=Z,19µm,20.0s
HQIL Hanson Quary C 131.70 30 IAMs_20 IAMs_20 12 57 13.2
comp=Z,24µm,22.0s
ICQ Pointe Anglais 131.72 9 IAMs_20 IAMs_20 13 05 59.4
comp=Z,17µm,21.0s
FW14 Alvarado 131.81 47 IAMs_20 IAMs_20 12 52 15.9
comp=Z,15µm,22.0s
WHTX Lake Whitney, 131.82 47 IAMs_20 IAMs_20 12 51 54.4
comp=Z,23µm,22.0s
HDIL Hopedale 131.84 33 IAMs_20 IAMs_20 12 57 45.2
comp=Z,19µm,22.0s
HHAR Hobbs 131.88 40 IAMs_20 IAMs_20 12 53 40.0
comp=Z,20µm,21.0s
M44A Midewin, Midew 131.90 31 IAMs_20 IAMs_20 13 05 22.7
comp=Z,18µm,21.0s
AY01 Puyuhuapi 132.01 165 IAMs_20 IAMs_20 13 05 42.3
comp=Z,17µm,20.0s
J47A Sunmer 132.06 27 IAMs_20 IAMs_20 13 02 39.5
comp=Z,21µm,21.0s
L46A Eue Claire 132.31 29 IAMs_20 IAMs_20 13 04 36.4
comp=Z,23µm,21.0s
P43A Skaggs, Pawnee 132.36 34 IAMs_20 IAMs_20 13 08 34.0
comp=Z,17µm,21.0s
I49A Point Hope 132.37 25 IAMs_20 IAMs_20 13 02 17.5
comp=Z,17µm,20.0s
CCM Cathedral Cave 132.44 37 PKPdf 12 00 02.7 -0.4
CCM Cathedral Cave 132.44 37 PKIKP PKPdf 12 00 02.7 -0.4
CCM MLR MLR
comp=Z,26µm,22.0s
BUKO Buck Lake 132.44 21 PKPdf 12 00 03.1 +0.1
LDAQ Lac Daran 132.50 13 PKPdf 12 00 02.2 -0.8
SLM Saint Louis 132.64 35 IAMs_20 IAMs_20 12 55 47.6
comp=Z,17µm,22.0s
Z38A Mt. Pleasant 132.92 44 IAMs_20 IAMs_20 12 58 59.1
comp=Z,23µm,21.0s
SFIN Lafayette 133.13 31 IAMs_20 IAMs_20 13 05 23.2
comp=Z,17µm,22.0s
MIAR Mount Ida 133.15 42 IAMs_20 IAMs_20 13 00 01.8
comp=Z,22µm,21.0s
Q44A Meyer Farm, Va 133.15 34 IAMs_20 IAMs_20 12 54 49.0
comp=Z,16µm,22.0s
T42A Van Buren 133.20 37 IAMs_20 IAMs_20 13 06 03.6
comp=Z,18µm,20.0s
LL07 Hotel Espejo d 133.26 164 IAMs_20 IAMs_20 12 58 13.7
comp=Z,15µm,20.0s
TRQ Mont Tremblant 133.29 16 IAMs_20 IAMs_20 13 12 00.4
comp=Z,16µm,22.0s
AAM Ann Arbor 133.33 27 IAMs_20 IAMs_20 13 01 54.0
comp=Z,24µm,22.0s
LL02 Futaleuf 133.36 165 PKPdf 12 00 05.0 +0.3
K50A Casco 133.40 26 IAMs_20 IAMs_20 13 01 41.9
comp=Z,19µm,22.0s
N47A Urbana 133.47 30 IAMs_20 IAMs_20 13 04 44.9
comp=Z,19µm,21.0s
WHAR Wooly Hollow 133.55 40 IAMs_20 IAMs_20 13 01 55.2
comp=Z,22µm,21.0s
P46A Rosedale 133.63 32 IAMs_20 IAMs_20 13 05 33.5
comp=Z,21µm,22.0s
X40A Basin Creek Fa 133.68 41 IAMs_20 IAMs_20 13 02 29.7
comp=Z,20µm,20.0s
PBMO Poplar Bluff 133.76 37 IAMs_20 IAMs_20 12 55 54.6
comp=Z,16µm,22.0s
LCAR Lake Charles 133.78 39 IAMs_20 IAMs_20 12 53 44.1
comp=Z,23µm,22.0s
OLIL Olney 133.78 34 IAMs_20 IAMs_20 13 10 24.6
comp=Z,18µm,22.0s
LL06 Loncomilla 133.79 163 IAMs_20 IAMs_20 13 04 28.7
comp=Z,19µm,20.0s
S44A Carbondale 133.85 35 IAMs_20 IAMs_20 13 02 55.7
comp=Z,18µm,20.0s
SIUC Southern Illin 133.86 35 IAMs_20 IAMs_20 13 02 55.8
comp=Z,19µm,20.0s
DELO Deloro Mine 133.87 20 IAMs_20 IAMs_20 13 02 47.7
comp=Z,23µm,21.0s
BATG Bathurst New B 134.09 8 IAMs_20 IAMs_20 13 05 19.1
comp=Z,14µm,20.0s
N49A Columbus Grove 134.17 28 IAMs_20 IAMs_20 13 04 02.4
comp=Z,19µm,20.0s
WBO Williamsburg 134.19 18 IAMs_20 IAMs_20 13 12 28.2
comp=Z,17µm,21.0s
MNTQ Montreal, Queb 134.21 16 IAMs_20 IAMs_20 13 09 36.6
comp=Z,23µm,21.0s
PARMO Parma 134.25 37 IAMs_20 IAMs_20 13 04 38.4
comp=Z,17µm,21.0s
BLO Bloomington 134.32 32 IAMs_20 IAMs_20 13 06 22.6
comp=Z,22µm,21.0s
M50A Fremont 134.32 27 IAMs_20 IAMs_20 13 03 00.2
comp=Z,14µm,22.0s
HBAR Harrisburg 134.42 39 IAMs_20 IAMs_20 12 55 01.0
comp=Z,20µm,22.0s
PVMO Portageville 134.45 37 IAMs_20 IAMs_20 12 56 24.6
comp=Z,20µm,22.0s
PEBM Pemiscott Bayo 134.55 38 IAMs_20 IAMs_20 12 58 54.3
comp=Z,20µm,21.0s
GNAR Gosnell 134.55 38 IAMs_20 IAMs_20 12 54 18.4
comp=Z,22µm,22.0s
USIN University of 134.56 34 IAMs_20 IAMs_20 13 00 11.4
comp=Z,21µm,21.0s
LL05 Los Muermos 134.58 163 IAMs_20 IAMs_20 13 04 03.1
comp=Z,17µm,21.0s
HICK Hickman 134.64 37 IAMs_20 IAMs_20 12 57 37.8
comp=Z,17µm,20.0s
P48A Milroy 134.67 31 IAMs_20 IAMs_20 13 06 18.9
comp=Z,17µm,20.0s
CCAR Cane Creek 134.72 41 IAMs_20 IAMs_20 12 59 04.4
comp=Z,22µm,21.0s
LONY Lake Ozonia 134.75 17 IAMs_20 IAMs_20 13 04 48.8
comp=Z,18µm,21.0s
MEDO Medina 134.75 22 IAMs_20 IAMs_20 13 05 40.1
comp=Z,19µm,20.0s
LNXT Lenox 134.78 37 IAMs_20 IAMs_20 12 58 35.5
comp=Z,22µm,22.0s
GLAT Glass 134.79 37 IAMs_20 IAMs_20 12 58 36.7
comp=Z,21µm,22.0s
FRNY Flat Rock 134.84 16 IAMs_20 IAMs_20 13 03 48.1
comp=Z,16µm,22.0s
HALT Halls 135.00 37 IAMs_20 IAMs_20 13 04 35.2
comp=Z,19µm,20.0s
N51A Ashland 135.01 27 IAMs_20 IAMs_20 13 02 27.5
comp=Z,19µm,22.0s
WCI Wyandotte Cave 135.13 33 IAMs_20 IAMs_20 13 09 35.2
comp=Z,20µm,20.0s
LL03 Petrohue 135.13 164 IAMs_20 IAMs_20 13 02 45.6
comp=Z,19µm,20.0s
ACSO Alum Creek Sta 135.28 28 IAMs_20 IAMs_20 13 01 25.7
comp=Z,22µm,22.0s
MMNY Mt. Morris Dam 135.32 22 IAMs_20 IAMs_20 13 08 11.4
comp=Z,23µm,22.0s
NCB Newcomb 135.44 17 IAMs_20 IAMs_20 13 08 17.2
comp=Z,18µm,21.0s
T47A Sharon Grove 135.57 34 IAMs_20 IAMs_20 12 56 15.1
comp=Z,22µm,22.0s
441A DeRidder 135.58 46 IAMs_20 IAMs_20 13 03 57.6
comp=Z,17µm,20.0s
LMN Caledonia Moun 135.66 7 IAMs_20 IAMs_20 13 06 18.5
comp=Z,21µm,21.0s
R49A Shelbyville 135.68 32 IAMs_20 IAMs_20 13 00 36.6
comp=Z,19µm,21.0s
H62A Milan 135.71 14 IAMs_20 IAMs_20 13 09 10.2
comp=Z,21µm,22.0s
N53A Lisbon 135.78 26 IAMs_20 IAMs_20 13 03 20.8
comp=Z,20µm,20.0s
J59A Piesco 135.82 18 IAMs_20 IAMs_20 13 10 50.2
comp=Z,20µm,22.0s
K57A Scipio Center 135.82 20 IAMs_20 IAMs_20 13 00 59.4
comp=Z,22µm,22.0s
G65A Princeton 135.87 10 IAMs_20 IAMs_20 13 10 19.3
comp=Z,16µm,21.0s
L56A Greenwood 135.97 22 IAMs_20 IAMs_20 13 04 59.4
comp=Z,21µm,21.0s
ASCN Ascension 135.97 257 IAMs_20 IAMs_20 12 52 07.6
comp=Z,22µm,21.0s
LR04 Corral 136.00 162 IAMs_20 IAMs_20 13 00 08.7
comp=Z,21µm,19.0s
PLCA Paso Flores 136.00 166 PKP PKPdf 12 00 10.6 +0.7
comp=Z,1.4nm,0.7s,baz=213,slow=2.3,SNR=4.8
PLCA Paso Flores 136.00 166 *e*P PKiKP 12 00 11.4 -0.2
PLCA Paso Flores 136.00 166 PKP PKiKP 12 00 11.5 0.0
O53A New Philadelph 136.07 26 IAMs_20 IAMs_20 13 02 13.5
comp=Z,17µm,22.0s
GGN Saint George 136.08 10 IAMs_20 IAMs_20 13 09 20.6
comp=Z,16µm,22.0s
LR05 Currie 136.09 164 IAMs_20 IAMs_20 13 01 51.9
comp=Z,18µm,21.0s
R50A Paris 136.12 31 IAMs_20 IAMs_20 13 01 23.4
comp=Z,23µm,22.0s
ACCN Adirondack Com 136.14 17 IAMs_20 IAMs_20 13 04 49.8
comp=Z,18µm,20.0s
Y45A Yeager Farm, C 136.20 40 IAMs_20 IAMs_20 13 00 21.4
comp=Z,23µm,22.0s
I62A Tamworth 136.33 15 IAMs_20 IAMs_20 13 02 10.4
comp=Z,18µm,21.0s
I63A Otisfield 136.34 14 IAMs_20 IAMs_20 13 09 40.9
comp=Z,20µm,21.0s
PLAL Pickwick Lake 136.38 37 IAMs_20 IAMs_20 13 05 24.9
comp=Z,19µm,19.0s
GBN Guysborough 136.43 4 IAMs_20 IAMs_20 13 04 41.9
comp=Z,20µm,22.0s
BINY Binghamton 136.47 20 IAMs_20 IAMs_20 12 58 54.7
comp=Z,20µm,22.0s
J61A Chester 136.50 16 IAMs_20 IAMs_20 13 02 13.0
comp=Z,20µm,22.0s
LR03 Panguipulli 136.55 163 IAMs_20 IAMs_20 12 58 15.1
comp=Z,19µm,20.0s
V48A Smith Brothers 136.61 36 IAMs_20 IAMs_20 13 03 56.7
comp=Z,19µm,21.0s
Q52A Bidwell 136.62 28 IAMs_20 IAMs_20 13 01 41.2
comp=Z,19µm,22.0s
U49A Red Boiling Sp 136.65 34 IAMs_20 IAMs_20 13 08 31.7
comp=Z,23µm,21.0s
TRY Troy 136.74 17 IAMs_20 IAMs_20 12 57 41.6
comp=Z,17µm,22.0s
L59A Walton 136.80 19 IAMs_20 IAMs_20 13 00 14.2
comp=Z,20µm,22.0s
S51A Beattyville 136.99 31 IAMs_20 IAMs_20 13 05 54.2
comp=Z,18µm,20.0s
SSPA Standing Stone 137.14 23 IAMs_20 IAMs_20 13 05 13.5
comp=Z,19µm,20.0s
MCWV Mont Chateau 137.16 26 IAMs_20 IAMs_20 13 03 03.2
comp=Z,24µm,22.0s
K62A Royalston 137.22 16 IAMs_20 IAMs_20 13 10 56.1
comp=Z,18µm,21.0s
L61B Northampton 137.29 17 IAMs_20 IAMs_20 13 05 41.0
comp=Z,18µm,20.0s
X48A Hartselle 137.37 37 IAMs_20 IAMs_20 12 59 06.9
comp=Z,18µm,22.0s
N58A Sunbury 137.41 22 IAMs_20 IAMs_20 13 06 30.5
comp=Z,17µm,21.0s
SWET Sewanee 137.49 35 IAMs_20 IAMs_20 13 04 33.1
comp=Z,17µm,20.0s
HRV Adam Dziewonsk 137.55 16 IAMs_20 IAMs_20 12 57 55.8
comp=Z,19µm,22.0s
Z47A Carrollton 137.57 39 IAMs_20 IAMs_20 13 03 01.6
comp=Z,17µm,22.0s
WES Weston 137.72 15 IAMs_20 IAMs_20 13 02 10.5
comp=Z,21µm,22.0s
346A Big Creek Wild 137.81 42 IAMs_20 IAMs_20 12 56 20.1
comp=Z,14µm,22.0s
BCX Boston College 137.81 15 IAMs_20 IAMs_20 13 02 01.7
comp=Z,21µm,22.0s
W50A Signal Mountai 137.86 35 IAMs_20 IAMs_20 13 09 31.7
comp=Z,17µm,20.0s
ODNJ Ogdensburg 137.94 19 IAMs_20 IAMs_20 12 59 38.3
comp=Z,19µm,21.0s
Q56A Snyder Ridge, 137.95 26 IAMs_20 IAMs_20 13 01 00.3
comp=Z,19µm,21.0s
S54A Dingess, Beckl 138.00 29 IAMs_20 IAMs_20 13 04 29.7
comp=Z,19µm,22.0s
UCCT U. Connecticut 138.02 17 IAMs_20 IAMs_20 13 11 42.5
comp=Z,17µm,21.0s
LUPA Lehigh Univers 138.10 21 IAMs_20 IAMs_20 13 11 26.9
comp=Z,20µm,20.0s
Y49A Blount Mountai 138.16 37 IAMs_20 IAMs_20 13 13 18.8
comp=Z,21µm,21.0s
FPAL Fort Paine 138.16 36 IAMs_20 IAMs_20 13 00 27.7
comp=Z,15µm,22.0s
R55A Marlinton 138.16 27 IAMs_20 IAMs_20 13 04 19.0
comp=Z,22µm,22.0s
L64A Middleborough 138.27 15 IAMs_20 IAMs_20 13 03 08.9
comp=Z,14µm,20.0s
LRAL Lakeview Retre 138.35 39 IAMs_20 IAMs_20 13 02 58.1
comp=Z,19µm,22.0s
CPNY Central Park 138.41 19 IAMs_20 IAMs_20 13 06 13.9
comp=Z,19µm,22.0s
M63A Gales Ferry 138.44 17 IAMs_20 IAMs_20 13 01 17.4
comp=Z,15µm,22.0s
N62A Caumsett State 138.44 18 IAMs_20 IAMs_20 13 01 16.6
comp=Z,19µm,22.0s
WUPA West Chester U 138.61 21 IAMs_20 IAMs_20 13 07 15.3
comp=Z,15µm,21.0s
U54A Nelsons Funny 138.75 30 IAMs_20 IAMs_20 13 01 24.9
comp=Z,22µm,21.0s
V53A Saluda 138.89 32 IAMs_20 IAMs_20 13 15 02.8
comp=Z,21µm,21.0s
S57A Dark Hollow, R 139.12 26 IAMs_20 IAMs_20 13 14 33.1
comp=Z,23µm,22.0s
P61A Hammonton 139.13 21 IAMs_20 IAMs_20 13 02 57.0
comp=Z,16µm,21.0s

VA04 Juan Fernndez 139.38 152 IAMs_20 IAMs_20 12 56 56.1
comp=Z,20µm,21.0s
R58B Mineral 139.41 25 IAMs_20 IAMs_20 13 04 32.9
comp=Z,17µm,20.0s
CBN Corbin Frederi 139.42 24 IAMs_20 IAMs_20 13 07 26.0
comp=Z,20µm,20.0s
250A Grady 139.52 39 IAMs_20 IAMs_20 13 02 57.1
comp=Z,23µm,22.0s
BRAL Brewton 139.55 41 IAMs_20 IAMs_20 12 58 30.1
comp=Z,16µm,21.0s
V55A Taylorsville 139.58 30 IAMs_20 IAMs_20 13 06 12.8
comp=Z,18µm,21.0s
152A Waverly Hall 140.00 37 IAMs_20 IAMs_20 12 57 52.6
comp=Z,18µm,22.0s
KMSC Kings Mountain 140.07 31 IAMs_20 IAMs_20 13 06 56.9
comp=Z,19µm,21.0s
TRQA Tornquist 140.11 174 PKPdf 12 00 16.4 -1.1
TRQA Tornquist 140.11 174 PKIKP **PKPdf 12 00 16.4 -1.1**
TRQA MLR MLR
comp=Z,33µm,20.0s
TRQA Tornquist 140.11 174 *eP* **PKPdf 12 00 18.3 +0.9**
TRQA Tornquist 140.11 174 PKP **PKPdf 12 00 17.2 -0.3**
GOGA Godfrey 140.21 35 IAMs_20 IAMs_20 13 07 50.9
comp=Z,18µm,20.0s
T59A Double "B" Far 140.39 26 IAMs_20 IAMs_20 13 05 20.7
comp=Z,20µm,21.0s
V58A Windy Hill, Pi 140.65 28 IAMs_20 IAMs_20 13 04 24.0
comp=Z,21µm,22.0s
352A Blakely 140.69 39 IAMs_20 IAMs_20 12 59 38.8
comp=Z,21µm,22.0s
W57A Gilead 140.74 30 IAMs_20 IAMs_20 13 03 36.5
comp=Z,21µm,21.0s
451A Vernon 140.75 40 IAMs_20 IAMs_20 12 58 58.0
comp=Z,22µm,22.0s
Y58A Scranton 141.89 31 IAMs_20 IAMs_20 13 06 38.0
comp=Z,22µm,22.0s
Y60A Bolivia 142.53 29 IAMs_20 IAMs_20 13 07 40.9
comp=Z,17µm,22.0s
MT16 CCHEN 142.84 162 PKPdf 12 00 21.1 -1.5
CCIG Comitan 142.93 65 IAMs_20 IAMs_20 12 59 43.3
comp=Z,14µm,20.0s
VA06 Catapilco 143.38 160 IAMs_20 IAMs_20 13 03 18.3
comp=Z,21µm,22.0s
HUEH Huehuetenango 143.81 66 IAMs_20 IAMs_20 12 57 47.9
comp=Z,13µm,20.0s
RTAL Retalhuleu 143.88 68 IAMs_20 IAMs_20 13 00 04.8
comp=Z,12µm,19.0s
PETF Flores 144.74 63 IAMs_20 IAMs_20 13 03 54.2
comp=Z,14µm,21.0s
TEIG Tepich 144.75 57 IAMs_20 IAMs_20 12 58 57.7
comp=Z,20µm,22.0s
CFA Coronel Fontan 145.22 164 PKPbc **PKPbc 12 00 26.3 0.0**
comp=Z,52nm,0.8s,baz=202,slow=3.0,SNR=100
GO04 Tololo Observa 145.73 159 IAMs_20 IAMs_20 13 10 01.6
comp=Z,18µm,20.0s
ESQI Esquipulas 146.03 66 IAMs_20 IAMs_20 12 56 21.7
comp=Z,14µm,21.0s
MTO3 Montecristo 146.07 67 IAMs_20 IAMs_20 12 55 58.7
comp=Z,14µm,22.0s
PLTB Pedras Altas 146.42 186 *eP* **PKPab 12 00 30.4 -0.4**
PLTB Pedras Altas 146.42 186 PKP **PKPbc 12 00 30.0 0.0**
060A Indiantown 146.64 39 IAMs_20 IAMs_20 13 12 50.7
comp=Z,17µm,20.0s
TBOT Tacuaremb 146.66 182 *eP* **PKPbc 12 00 30.5 -0.1**
LCO Las Campanas 146.82 158 PKPbc **PKPbc 12 00 31.0 -0.5**
LCO Las Campanas 146.82 158 PKP2 **PKPbc 12 00 31.0 -0.5**
LCO MLR MLR
comp=Z,23µm,22.0s
PAYG Puerto Ayora 147.05 94 IAMs_20 IAMs_20 13 07 05.7
comp=Z,18µm,20.0s
AC05 El Transito 147.13 159 PKPbc **PKPbc 12 00 31.4 -0.9**
SOR Soroa 147.57 48 PKPbc 12 00 32.6 -0.9
SOR IAMs_20 IAMs_20 13 16 28.4
comp=Z,11µm,21.0s
SOR Soroa 147.57 48 PKP2 **PKPbc 12 00 32.6 -0.9**
CPSB Cacapava Do Su 147.74 186 *eP* **PKPbc 12 00 32.4 -1.3**
CPSB Cacapava Do Su 147.74 186 PKP **PKPbc 12 00 34.1 +0.3**
CNLB Canela 148.42 191 *eP* **PKPbc 12 00 35.1 -0.6**
CNLB Canela 148.42 191 PKP **PKPbc 12 00 36.3 +0.7**
TER01 Tubaro-SC 148.80 194 *eP* **PKPbc 12 00 36.6 +0.1**
TER01 Tubaro-SC 148.80 194 PKP **PKPbc 12 00 37.1 +0.6**
BBSR BB Station 148.84 12 PKPbc **PKPbc 12 00 35.6 -0.9**
BBSR BB Station 148.84 12 IAMs_20 IAMs_20 13 12 34.5
comp=Z,15µm,20.0s
HERN Volcan Telica 148.96 68 IAMs_20 IAMs_20 13 10 28.5
comp=Z,8µm,20.0s
AC01 Pan de Azucar 149.43 156 PKPbc **PKPbc 12 00 37.3 -0.9**
MGAN Managua 149.65 69 IAMs_20 IAMs_20 13 07 31.6
comp=Z,12µm,22.0s
MAJ01 Sao Joao Batis 149.85 195 *eP* **PKPdf 12 00 35.4 +0.9**
ITAB Concordia 150.68 190 *eP* **PKPdf 12 00 38.2 +2.5**
JTS Las Juntas de 151.39 72 PKPdf 12 00 39.9 +2.7
JTS Las Juntas de 151.39 72 IAMs_20 IAMs_20 12 54 17.0
comp=Z,13µm,21.0s
JTS Las Juntas de 151.39 72 PKIKP **PKPdf 12 00 39.9 +2.7**
ESPN Las Esperanzas 151.44 68 IAMs_20 IAMs_20 13 02 31.1
comp=Z,11µm,22.0s
PB10 IPOC Station P 151.77 154 PKPbc 12 00 41.1 -2.8
CAM01 Campos-RJ 151.91 212 *eP* **PKPdf 12 00 38.2 +0.5**
CPUP Villa Florida 152.03 180 PKP **PKPdf 12 00 37.9 0.0**
comp=Z,6.5nm,0.8s,baz=196,slow=1.4,SNR=11
CPUP PKPbc **PKiKP 12 00 45.5 +0.9**
comp=Z,70nm,0.9s,baz=147,slow=1.3,SNR=27
CPUP Villa Florida 152.03 180 *eP* **PKPdf 12 00 39.1 +1.3**
CPUP Villa Florida 152.03 180 PKP **PKPdf 12 00 40.0 +2.2**
DUB01 Friburgo-RJ 152.07 211 *eP* **PKPdf 12 00 38.5 +0.5**
PET01 Itanhaem-SP 152.25 200 *eP* **PKPdf 12 00 40.1 +1.9**
PET01 Itanhaem-SP 152.25 200 PKP **PKPdf 12 00 40.9 +2.7**
HDC Heredia 152.26 72 IAMs_20 IAMs_20 12 59 36.2
comp=Z,16µm,20.0s
HDC Heredia 152.26 72 *eP* **PKPdf 12 00 40.4 +1.8**
VAS01 Vassouras-RJ 152.44 209 *eP* **PKPdf 12 00 40.2 +1.7**
VAS01 Vassouras-RJ 152.44 209 PKP **PKPdf 12 00 38.1 -0.4**
PARB Paraibuna 152.49 204 *eP* **PKPdf 12 00 39.9 +1.2**
PTGB Pitanga 153.12 191 *eP* **PKPdf 12 00 40.8 +1.2**
PTGB Pitanga 153.12 191 PKP **PKPdf 12 00 41.7 +2.1**
RIB01 Linhares ES 153.16 218 *eP* **PKPdf 12 00 41.2 +1.5**
AF01 San Pedro de A 153.25 158 IAMs_20 IAMs_20 13 04 06.9
comp=Z,19µm,21.0s
VAO Valinhos 153.31 202 *eP* **PKPdf 12 00 41.3 +1.4**
VABB Valinhos 153.32 202 PKP **PKPdf 12 00 41.5 +1.6**
SJPY San Joaquin 153.32 183 *eP* **PKPdf 12 00 41.3 +1.6**
RGM0 Gandoca 153.80 72 IAMs_20 IAMs_20 13 00 32.0
comp=Z,13µm,21.0s
FRTB Fartura 153.85 197 *eP* **PKPdf 12 00 42.2 +1.6**
FRTB Fartura 153.85 197 PKP **PKPdf 12 00 43.0 +2.4**
BRU2 Volcan 153.92 74 IAMs_20 IAMs_20 13 01 28.4
comp=Z,17µm,20.0s
SJMB Sao Joao De Ma 154.10 217 *eP* **PKPdf 12 00 42.5 +1.6**
SJMB Sao Joao De Ma 154.10 217 PKP **PKPdf 12 00 42.6 +1.6**
CHIV Chivirico 154.11 44 IAMs_20 IAMs_20 13 14 42.2
comp=Z,14µm,22.0s
LDASE Londrina, Braz 154.21 193 *eP* **PKPdf 12 00 42.9 +1.8**
MTDJ Mount Denham 154.40 49 IAMs_20 IAMs_20 13 01 06.5
comp=Z,12µm,22.0s
NMDO Nuevo Mundo 154.68 41 IAMs_20 IAMs_20 13 06 27.0
comp=Z,14µm,21.0s
GUA01 Guaratinga, BA 154.77 223 *eP* **PKPdf 12 00 43.5 +1.5**
GUA01 Guaratinga, BA 154.77 223 PKP **PKPdf 12 00 43.1 +1.2**
GTBY Guantanamo Bay 155.04 43 IAMs_20 IAMs_20 13 15 28.6
comp=Z,11µm,21.0s
CMC01 Camacan, BA 155.41 225 *eP* **PKPdf 12 00 44.4 +1.5**
CMC01 Camacan, BA 155.41 225 PKP **PKPdf 12 00 43.5 +0.6**
CAR01 Carai MG 155.44 220 PKP **PKPdf 12 00 44.4 +1.5**
NBIT Itapeh - BA 155.63 226 PKP **PKPdf 12 00 43.8 +0.7**
BB19B Bebedouro 155.65 201 *eP* **PKPdf 12 00 45.0 +1.8**
BB19B Bebedouro 155.65 201 PKP **PKPdf 12 00 46.1 +2.9**
DIAM Diamantina, MG 155.87 214 *eP* **PKPdf 12 00 44.7 +1.0**
DIAM Diamantina, MG 155.87 214 PKP **PKPdf 12 00 45.6 +2.0**
NBAN Anadia - AL 156.04 241 *eP* **PKPdf 12 00 45.1 +1.3**
NBAN Anadia - AL 156.04 241 PKP **PKPdf 12 00 44.2 +0.4**
PB12 IPOC Station P 156.06 149 IAMs_20 IAMs_20 13 11 33.5
comp=Z,14µm,21.0s
NNA Nana 156.34 126 PKP **PKPdf 12 00 44.6 +0.3**
comp=Z,11nm,0.5s,baz=309,slow=3.9,SNR=5.7
NBCA Caruaru-PE 156.43 245 *eP* **PKPdf 12 00 46.2 +1.8**
NBPV Pedro Velho 156.44 250 PKP **PKPdf 12 00 44.6 +0.3**
GDU01 Guandu, BA 156.52 228 *eP* **PKPdf 12 00 46.0 +1.7**
MURT Porto Murtinho 156.68 180 *eP* **PKPdf 12 00 45.6 +1.2**
NBLA Lagarto - SE 156.69 237 PKP **PKPdf 12 00 45.7 +1.0**
ANA01 Lindo Horizont 156.84 225 PKP **PKPdf 12 00 45.7 +0.8**
PMNB Patos De Minas 157.07 208 *eP* **PKPdf 12 00 46.7 +1.5**
PMNB Patos De Minas 157.07 208 PKP **PKPdf 12 00 45.9 +0.8**
RCBR Riachuelo 157.20 250 *eP* **PKPdf 12 00 46.9 +1.5**
RCBR Riachuelo 157.20 250 PKP **PKPdf 12 00 44.9 -0.5**
ATAH Atahualpa 157.27 113 PKP **PKPdf 12 00 45.7 -0.2**
comp=Z,20nm,1.1s,baz=206,slow=2.8,SNR=14
PB18 Visviri 157.36 149 IAMs_20 IAMs_20 13 25 07.8
comp=Z,17µm,20.0s
AQDB Aquidauana 157.79 184 *eP* **PKPdf 12 00 46.7 +0.9**
AQDB Aquidauana 157.79 184 PKP **PKPdf 12 00 46.2 +0.4**
BDQN Bodoquena, MS 157.87 182 *eP* **PKPdf 12 00 47.2 +1.3**
SDDR Presa de Saban 158.19 38 *eP* **PKPdf 12 00 44.5 -1.9**
IPMB Ipameri, GO 158.34 204 *eP* **PKPdf 12 00 47.6 +1.0**
IPMB Ipameri, GO 158.34 204 PKP **PKPdf 12 00 47.6 +1.0**
NBPA Parau_RN 158.37 250 PKP **PKPdf 12 00 48.1 +1.4**
ITU3 Corumbazu 158.39 203 PKP **PKPdf 12 00 46.1 -0.6**
BAT3 Ipameri 158.57 207 PKP **PKPdf 12 00 47.5 +0.6**
BAT2 UHE Batalha 158.57 207 PKP **PKPdf 12 00 47.7 +0.7**
SLOR San Lorenzo - 158.78 97 IAMs_20 IAMs_20 13 29 04.5
comp=Z,17µm,21.0s
JANB Januaria 158.80 217 *eP* **PKPdf 12 00 47.0 -0.3**
JANB Januaria 158.80 217 PKP **PKPdf 12 00 48.0 +0.7**
OTAV Otavalo 158.92 94 IAMs_20 IAMs_20 13 27 21.3
comp=Z,17µm,22.0s
OTAV Otavalo 158.92 94 *eP* **PKPdf 12 00 48.9 +0.8**
OTAV Otavalo 158.92 94 PKP **PKPdf 12 00 49.1 +1.1**
C2SB Chapadao do Su 159.06 192 *eP* **PKPdf 12 00 49.0 +1.6**
LPAZ La Paz 159.14 150 PKP **PKPdf 12 00 49.2 +0.9**
comp=Z,17nm,1.0s,baz=51,slow=1.0,SNR=24
LPAZ PKPab **PKPab 12 01 24.9 0.0**
comp=Z,53nm,1.1s,baz=37,slow=0.1,SNR=8.8
LPAZ La Paz 159.14 150 *eP* **PKPdf 12 00 49.2 +0.9**
LPAZ La Paz 159.14 150 PKP **PKPdf 12 00 49.6 +1.2**
NBMA Muriti-CE 159.27 244 PKP **PKPdf 12 00 48.5 +0.7**
NBCL Cascavel-CE 159.96 253 PKP **PKPdf 12 00 49.8 +1.2**
BDFB Brasilia 160.32 208 PKP **PKPdf 12 00 48.3 -0.8**
comp=Z,10nm,1.0s,baz=32,slow=1.7,SNR=9.4
BDFB PKPab **PKPab 12 01 29.7 +0.3**
comp=Z,15nm,0.9s,baz=120,slow=5.1,SNR=4.5
BDFB Brasilia 160.32 208 PKP **PKPdf 12 00 49.9 +0.8**
NBPB Pedra_Branca-C 160.74 248 *eP* **PKPdf 12 00 50.5 +1.0**
NBPB Pedra_Branca-C 160.74 248 PKP **PKPdf 12 00 49.5 0.0**
SDBA SAO DESIDERIO 161.18 221 *eP* **PKPdf 12 00 50.8 +0.8**
SDBA SAO DESIDERIO 161.18 221 PKP **PKPdf 12 00 50.4 +0.4**
ARAG Araguaiana, MT 161.73 198 *eP* **PKPdf 12 00 51.3 +0.8**
ARAG Araguaiana, MT 161.73 198 PKP **PKPdf 12 00 50.7 +0.2**
NBMO Morrinhos-CE 161.89 254 PKP **PKPdf 12 00 51.6 +0.9**
SIV San Ignacio 161.95 169 PKP **PKPdf 12 00 49.8 -0.9**
comp=Z,12nm,0.9s,baz=192,slow=1.6,SNR=35
SIV PKPab **PKPab 12 01 37.6 +1.2**
comp=Z,26nm,0.9s,baz=207,slow=1.0,SNR=4.5
SIV PP **PP 12 05 21.5 +3.0**
comp=Z,9.7nm,0.9s,baz=231,slow=7.1,SNR=3.2
SBBR Sobral 161.99 252 PKP **PKPdf 12 00 51.6 +0.8**
CZSB Cruzeiro do Su 162.06 122 PKP **PKPdf 12 00 50.9 0.0**
SALV Santo Antonio 162.32 186 PKP **PKPdf 12 00 51.5 +0.5**
CAN3 Cana Brava 162.63 211 PKP **PKPdf 12 00 52.9 +1.5**
PTLB Pontes e Lacer 162.77 174 PKP **PKPdf 12 00 51.9 +0.4**
SSV2 Sao Salvador 162.80 212 PKP **PKPdf 12 00 54.2 +2.6**
ROSC El Rosal 162.87 79 PKP **PKPdf 12 00 52.0 -0.2**
comp=Z,13nm,0.6s,baz=34,slow=2.2,SNR=13
NBPS Pedro II - PI 162.88 249 PKP **PKPdf 12 00 51.8 0.0**
ANWB Willy Bob 163.67 15 *eP* **PKPdf 12 00 49.9 -2.3**
SKI Saint Kitts 163.71 18 *eP* **PKPdf 12 00 52.4 0.0**
ANBD Bethesda, Anti 164.27 15 *eP* **PKPdf 12 00 48.8 -4.0**
MBFL Flemmings, Mon 164.43 17 *eP* **PKPdf 12 00 45.8 -7.2**
MBWH 164.44 17 *eP* **PKPdf 12 00 51.1 -1.9**
MLYT Lee's Yard 164.46 17 *eP* **PKPdf 12 00 49.8 -3.3**
SNDB Serra Nova Dou 165.01 204 PKP **PKPdf 12 00 53.7 +0.1**
VILB Vilhena 165.08 169 *eP* **PKPdf 12 00 56.6 +2.9**
VILB Vilhena 165.08 169 PKP **PKPdf 12 00 53.9 +0.2**
SDV Santo Domingo 165.10 61 PKPdf 12 00 52.9 -1.0
SDV PKPab **PKPab 12 01 48.3 -2.5**
SDV Santo Domingo 165.10 61 PKP **PKPdf 12 00 52.6 -1.4**
comp=Z,24nm,0.9s,baz=205,slow=1.1,SNR=18
SDV PKPab **PKPab 12 01 51.4 +0.7**
comp=Z,24nm,0.8s,baz=92,slow=1.1,SNR=4.3
SDV PP **PP 12 05 40.7 +3.5**
comp=Z,13nm,0.8s,baz=300,slow=9.9,SNR=3.8
SDV Santo Domingo 165.10 61 *eP* **PKPdf 12 00 55.2 +1.3**
SDV Santo Domingo 165.10 61 PKP **PKPdf 12 00 53.0 -0.9**
GDSD La Dsirade Is 165.15 14 PKPdf **PKPdf 12 00 50.4 -3.3**
GDSD **PKPab 12 01 49.3 -1.0**
LAJE UHE Lajeado 165.19 218 PKP **PKPdf 12 00 54.4 +0.7**
TBG Guadaloupe-3 165.44 16 *eP* **PKPdf 12 00 55.7 +1.8**
TDBA Terre de Bas, 165.44 16 PKPdf **PKPdf 12 00 52.1 -1.8**
TDBA PKPab **PKPab 12 01 51.1 -0.6**
SMTB Santa Maria do 165.56 223 *eP* **PKPdf 12 00 55.7 +1.6**
SMTB Santa Maria do 165.56 223 PKP **PKPdf 12 00 54.7 +0.6**
DWS Wesley 165.80 15 *eP* **PKPdf 12 00 46.5 -7.6**
NBBC Barra do Corda 165.85 239 PKP **PKPdf 12 00 55.3 +0.9**
DSLB Salisbury 165.90 16 *eP* **PKPdf 12 00 53.9 -0.3**
ROSB Rosrio 165.90 251 *eP* **PKPdf 12 00 56.1 +1.7**
DLPL La Plaine 166.04 15 *eP* **PKPdf 12 00 54.7 +0.3**
TBTG Tabatinga, AM 166.18 116 PKPdf **PKPdf 12 00 54.3 -0.3**
TBTG PKPab **PKPab 12 01 53.7 -1.7**
TBTG Tabatinga, AM 166.18 116 PKP **PKPdf 12 00 55.5 +0.9**
SVN Savane Anatole 166.53 16 *eP* **PKPdf 12 00 51.4 -3.5**
PDRB Porto dos Gac 166.65 183 PKP **PKPdf 12 00 54.6 -0.4**
ILAM Ilet Lapin Mar 166.67 15 *eP* **PKPdf 12 00 49.8 -5.1**
PAL2 UHE Estreito - 166.81 230 PKP **PKPdf 12 00 55.6 +0.5**
BIM Bigot 166.87 16 *eP* **PKPdf 12 00 48.7 -6.4**
BAUV El Baul 167.28 56 PKPdf 12 00 53.1 -2.3
BAUV PKPab **PKPab 12 01 57.2 -2.9**
BAUV El Baul 167.28 56 *eP* **PKPdf 12 00 50.4 -5.0**
SLBI Saint Lucia, B 167.37 16 *eP* **PKPdf 12 00 57.2 +1.9**
SAML Samuel 167.87 152 PKPdf **PKPdf 12 00 55.8 0.0**
SAML PKPab **PKPab 12 01 59.0 -3.5**
SAML Samuel 167.87 152 PKP2 **PKPab 12 01 59.0 -3.5**
SAML 13 00 55.8
SAML Samuel 167.87 152 *eP* **PKPdf 12 00 57.7 +1.9**
SVB Belmont 168.00 18 *eP* **PKPdf 12 00 53.5 -2.4**
BBGH Gun Hill 168.54 11 *eP* **PKPdf 12 00 50.6 -5.6**
GCMP Grenada, Carri 168.68 20 *eP* **PKPdf 12 00 55.6 -0.7**
GRGR Grenville 168.92 22 *eP* **PKPdf 12 00 51.5 -5.0**
PRPB Parauapebas 169.02 224 PKP **PKPdf 12 00 56.0 -0.6**
PCRV Puerto La Cruz 169.03 40 PKP **PKPdf 12 00 54.3 -2.4**
comp=Z,25nm,1.1s,baz=283,slow=5.4,SNR=3.4
PCRV Puerto La Cruz 169.03 40 *eP* **PKPdf 12 00 49.5 -7.1**
TMAB Tom-Au,PA,Br 169.79 246 *eP* **PKPdf 12 00 59.1 +2.0**
SGC2 Sao Gabriel da 170.26 101 PKP **PKPdf 12 00 56.3 -1.0**
TRN Trinidad (W) 170.37 24 *eP* **PKPdf 12 00 50.8 -6.5**
NPGB Novo Progresso 170.97 193 *eP* **PKPdf 12 00 59.8 +2.1**
NPGB Novo Progresso 170.97 193 PKP **PKPdf 12 00 56.7 -1.0**
BMO1 UHE Belo Monte 172.49 229 PKP **PKPdf 12 00 59.4 +1.0**
BMO2 UHE Belo Monte 172.53 227 PKP **PKPdf 12 00 57.9 -0.6**
ITTB Itaituba 173.64 195 *eP* **PKPdf 12 00 59.6 +0.6**
ITTB Itaituba 173.64 195 PKP **PKPdf 12 00 57.4 -1.5**
MACA Manacapuru-AM 174.09 147 PKPdf **PKPdf 12 00 58.1 -1.0**
MACA PKPab **PKPab 12 02 26.1 -4.0**
MDP Montagnes des 174.21 305 PKP **PKPdf 12 00 56.7 -2.4**
comp=Z,22nm,1.0s,baz=78,slow=1.7,SNR=3.8
MAL2 Monte Alegre, 175.00 221 PKPdf **PKPdf 12 00 57.6 -1.8**
MAL2 PKPab **PKPab 12 02 32.8 -1.5**
BOAV Boa Vista 176.85 79 PKPdf **PKPdf 12 00 57.9 -1.9**
BOAV PKPab **PKPab 12 02 40.1 -2.7**
BOAV Boa Vista 176.85 79 *eP* **PKPdf 12 01 01.8 +2.0**
BOAV Boa Vista 176.85 79 PKP **PKPdf 12 00 59.5 -0.3**

BUT ***12*** *11:40:55.1±1.1, 44.70N±0.02×112.49W±0.02, h10km±8km, Error ellipse: s-maj=2.7km s-min=2.5km az=206.0*
NEIC 12 11:40:54.7±1.2, 44.72N±0.02×112.51W±0.03, h12km±11km, ML3.0/58, ML3.2/33(BUT), Error ellipse: s-maj=2.8km s-min=2.5km az=73.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMT	**Monida**	**0.15**	**146**		Pg	11 40 58.7	+0.3
MCMT	**McKenzie Canyo**	**0.26**	**295**		Pb	11 41 01.4	-0.2
ICI	**Italian Canyon**	**0.50**	**218**		Pg	11 41 04.6	+0.1
TPMT	**Tepee Creek**	**0.60**	**89**		Pg	11 41 06.6	0.0
BGMT	**Barton Gulch**	**0.61**	**33**		Pg	11 41 06.9	+0.2
DLMT	**Dillon**	**0.65**	**355**		Pb	11 41 08.0	-0.1
DLMT				Sg	Sg	11 41 15.8	0.0
DLMT				IAML		11 41 19.0	
	635nm,0.2s						
DLMT				IAML		11 41 19.1	
	620nm,0.3s						
CMI	**Centennial Mou**	**0.67**	**107**		Pg	11 41 07.3	-0.3
BCYI	**Bear Canyon**	**0.76**	**238**		Pg	11 41 09.3	0.0
QLMT	**Earthquake Lak**	**0.78**	**81**		Pg	11 41 09.4	-0.4
YPDC	**Denny Creek**	**0.91**	**90**		Pg	11 41 11.8	-0.4
YHB	**Horse Butte**	**0.94**	**88**		Pg	11 41 12.3	-0.5
YHB				Sg	Sg	11 41 24.2	-0.9
YHB				IAML		11 41 25.4	
	comp=N,313nm,0.4s						
YHB				IAML		11 41 27.5	
	comp=E,307nm,0.5s						
YHL	**Hebgen Lake**	**0.96**	**82**		Pg	11 41 12.6	-0.6
YHL				Sg	Sg	11 41 24.4	-1.2
YHL				IAML		11 41 26.6	
	comp=E,578nm,0.4s						
YHL				IAML		11 41 29.1	
	comp=N,436nm,0.6s						
GCR	**Grayling Creek**	**1.00**	**85**		Pb	11 41 14.3	+0.1
YPWB	**West Boundary**	**1.01**	**96**		Pg	11 41 14.2	-0.1
CNCI	**Crows Nest Can**	**1.04**	**221**		Pg	11 41 14.3	-0.4
YMC	**Maple Creek**	**1.07**	**87**		Pb	11 41 15.0	-0.4
HBMT	**Mount Humbug**	**1.08**	**356**		Pg	11 41 15.4	0.0
BOZ	**Bozeman (W)**	**1.08**	**35**		Pb	11 41 14.9	-0.5
BOZ				Sg	Sg	11 41 28.5	-1.0
BOZ				IAML		11 41 32.1	
	comp=N,335nm,0.5s						
MCID	**Moose Creek**	**1.09**	**119**		Pb	11 41 15.3	-0.4
LRM	**Limekiln Ridge**	**1.10**	**2**		Pb	11 41 15.8	-0.1
YMR	**Madison River**	**1.10**	**92**		Pb	11 41 15.5	-0.4
YMR				Sg	Sg	11 41 30.4	0.0
YPM	**Purple Mountai**	**1.18**	**92**		Pg	11 41 17.3	0.0
YHH	**Holmes Hill**	**1.19**	**86**		Pb	11 41 16.8	-0.5
YHH	**Holmes Hill**	**1.19**	**86**		Pb	11 41 16.9	-0.4
YFT	**Old Faithful**	**1.23**	**102**		Pb	11 41 18.1	+0.1
YFT				Sg	Sb	11 41 33.6	-0.3
YNM	**Yellowstone No**	**1.29**	**89**		Pg	11 41 19.3	-0.2
YNM				IAML		11 41 37.0	
	comp=E,309nm,0.2s						
YNM				IAML		11 41 37.2	
	comp=N,242nm,0.2s						
BUT	**Butte**	**1.29**	**358**		Pg	11 41 19.5	-0.1
YNR	**Norris Junctio**	**1.31**	**90**		Pn	11 41 19.1	+0.1
YNR				IAML		11 41 39.5	
	comp=E,262nm,0.3s						
YNR				IAML		11 41 41.2	
	comp=N,274nm,0.5s						
YMV	**Mammoth Vault**	**1.32**	**78**		Pb	11 41 19.5	-0.1
YML	**Mary Lake**	**1.34**	**94**		Pb	11 41 20.0	0.0
YLT	**Little Thumb C**	**1.40**	**101**		Pg	11 41 22.0	+0.3
H17A	**Grant Village**	**1.42**	**102**		Pg	11 41 22.1	0.0
YUF	**Upper Falls**	**1.43**	**90**		Pg	11 41 22.1	0.0
FXWY	**Fox Creek**	**1.52**	**135**		Pn	11 41 22.0	0.0
BZMT	**Bozeman Pass**	**1.53**	**52**		Pb	11 41 23.5	+0.4
YJC	**Joseph's Coat**	**1.54**	**88**		Pb	11 41 23.7	+0.3
MOOW	**Moose Ponds**	**1.60**	**127**		Pn	11 41 23.3	+0.2
YPLA	**Lake Butte**	**1.62**	**97**		Pb	11 41 24.9	+0.3
YTP	**The Promontory**	**1.63**	**101**		Pb	11 41 24.3	-0.5
TPAW	**Teton Pass**	**1.67**	**137**		Pn	11 41 23.7	-0.3
TPAW				IAML		11 41 47.8	
	comp=N,150nm,0.4s						
TPAW				IAML		11 41 48.1	
	comp=N,189nm,0.5s						
YMP	**Mirror Lake Pl**	**1.68**	**88**		Pb	11 41 25.9	+0.2
YMP				IAML		11 42 04.7	
	comp=E,75nm,0.7s						
YPSB	**Soda Butte**	**1.69**	**84**		Pb	11 41 25.6	-0.2
SXM	**Sixmile**	**1.70**	**32**		Pn	11 41 25.2	+0.7
LOHW	**Long Hollow**	**1.76**	**128**		Pn	11 41 26.1	+0.8
LOHW				IAML		11 41 53.4	
	comp=E,75nm,0.3s						
MSMT	**Mission Creek**	**1.78**	**58**		Pb	11 41 26.7	-0.7
SNOW	**Snow King Moun**	**1.78**	**134**		Pb	11 41 26.8	-0.7
SNOW				IAML		11 41 53.5	
	comp=E,84nm,0.5s						
SNOW				IAML		11 41 59.6	
	comp=E,71nm,1.1s						
HLID	**Hailey**	**1.79**	**230**		Pb	11 41 27.2	-0.4
HLID	**Hailey**	**1.79**	**230**	IAML		11 41 52.3	
	comp=E,200nm,0.3s						
HLID				IAML		11 41 53.5	
	comp=E,187nm,0.3s						
YNE	**Yellowstone No**	**1.81**	**80**		Pb	11 41 27.2	-0.6
YNE				IAML		11 41 53.2	
	comp=E,174nm,0.3s						
CRMT	**Chrome Mountai**	**1.83**	**66**		Pb	11 41 27.5	-0.9
BPMT	**Black Pine Rid**	**1.84**	**339**		Pn	11 41 26.8	+0.4
BEMT	**Mount Belmont**	**2.03**	**4**		Pn	11 41 29.5	+0.5
HRY	**Holter Researc**	**2.05**	**13**		Pn	11 41 29.7	+0.5
VCMT	**Victor**	**2.09**	**326**		Pn	11 41 30.2	+0.6
AHID	**Auburn Hatcher**	**2.21**	**152**		Pb	11 41 33.3	-1.3
AHID				IAML		11 42 07.6	
	comp=E,71nm,0.5s						
CHMT	**Chamberlain Mo**	**2.25**	**347**		Pn	11 41 32.9	+0.8
GCMT	**Greycliff**	**2.28**	**61**		Pn	11 41 33.6	+1.3
MSO	**Missoula**	**2.33**	**335**		Pn	11 41 32.9	-0.1
RLMT	**Red Lodge**	**2.34**	**79**		Pn	11 41 34.6	+1.3
RLMT				IAML		11 42 16.1	
	comp=E,93nm,0.4s						
RLMT				IAML		11 42 17.6	
	comp=E,110nm,0.3s						
OVMT	**Ovando**	**2.37**	**352**		Pn	11 41 33.1	-0.4
PLID	**Pearl Lake**	**2.50**	**280**		Pn	11 41 36.3	+0.8
ALMT	**Alberton, Mont**	**2.68**	**330**		Pn	11 41 39.8	+2.0
MFID	**Camas Ranch**	**2.72**	**243**		Pn	11 41 40.0	+1.6
PD31	**Pinedale Array**	**2.90**	**131**		Pn	11 41 40.5	-0.4
PDAR	**Pinedale Array**	**2.90**	**131**	Pn	Pn	11 41 42.7	+1.8
HVU	**Hansel Valley**	**2.94**	**184**	Pn	Pn	11 41 42.5	+1.0
HVU				IAML		11 42 31.9	
	comp=E,56nm,0.6s						
HVU				IAML		11 42 32.9	
	comp=N,55nm,0.7s						
SWMT	**Swartz Lake**	**2.98**	**340**		Pn	11 41 42.7	+0.8
MKMT	**Mink Peak**	**3.00**	**324**		Pn	11 41 43.6	+1.4
FBMT	**Ferry Basin**	**3.00**	**334**		Pn	11 41 43.0	+0.8
NDMT	**Ninemile Divid**	**3.01**	**329**		Pn	11 41 43.8	+1.4
HWUT	**Hardware Ranch**	**3.19**	**167

KKM Kota Kinabalu 10.14 321 Pn Pn 11 48 00.4 -2.3
JAGI Jajag, Banyuwa 10.69 232 Pn Pn 11 48 08.4 -1.7
SBUM Sibu 11.26 292 Pn Pn 11 48 16.4 -1.5
KSM Kuching 12.76 285 Pn Pn 11 48 37.6 -0.9
UGM Wanagama 13.47 243 Pn Pn 11 48 45.9 -2.3
MTN Manton Dam 13.78 143 Pn Pn 11 48 50.4 -2.0
KNRA Kununurra 14.99 157 Pn Pn 11 49 07.2 -1.6
KNRA IAmb IAmb 11 49 33.2
comp=Z,271nm,1.3s
LEM Lembang 15.76 251 Pn Pn 11 49 20.6 +1.6
comp=Z,3,3nm,0.3s,baz=45,slow=13,SNR=3.9
comp=Z,282nm,1.1s
XMIS Christmas Isla 18.91 242 P P 11 49 57.0 -0.3
XMIS IAmb IAmb 11 49 59.5
comp=Z,496nm,1.3s
MYKOM Kota Tinggi 19.13 281 P P 11 49 59.1 -0.5
MBWA Marble Bar 19.38 188 P P 11 50 00.8 -1.5
DLV Lat 19.64 315 P P 11 50 05.0 -0.5
PSA00 Pilbara Seismi 19.77 188 P P 11 50 05.3 -1.3
MNAI Manna 19.80 262 P P 11 50 05.4 -1.7
WB0 Warramunga Arr 21.18 148 P P 11 50 20.8 -1.2
WB0 IAmb IAmb 11 50 35.5
comp=Z,327nm,1.1s
WRA Warramunga Arr 21.30 148 P P 11 50 22.2 -1.1
WRA Warramunga Arr 21.30 148 P P 11 50 23.7 +0.5
comp=Z,77nm,0.7s,baz=333,slow=9.8,SNR=12
comp=Z,77nm,0.7s
WB2 Warramunga Arr 21.30 148 P P 11 50 22.5 -0.8
WB2 IAmb IAmb 11 50 31.3
comp=Z,207nm,0.8s
WR8 Warramunga Arr 21.39 148 P P 11 50 24.2 0.0
WR8 IAmb IAmb 11 50 32.8
comp=Z,302nm,0.9s
KULM Kulim 23.08 288 P P 11 50 40.9 -1.3
KULM IAmb IAmb 11 50 57.0
comp=Z,319nm,1.5s
COEN Coen 23.59 122 P P 11 50 46.2 -1.1
COEN IAmb IAmb 11 50 56.7
comp=Z,201nm,1.4s
UBPT Khong Chiam 24.05 316 P 11 50 51.6 +0.1
UBPT IAmb IAmb 11 50 53.3
comp=Z,396nm,1.3s
RPSI Rantau Prapat 24.13 281 P P 11 50 52.5 +0.2
RPSI IAmb IAmb 11 50 54.4
comp=Z,302nm,1.1s
AS31 Alice Springs 24.26 154 P P 11 50 54.8 +1.3
ASAR Alice Springs 24.26 154 P P 11 50 53.9 +0.4
ASAR Alice Springs 24.26 154 P P 11 50 54.6 +1.2
comp=Z,74nm,0.6s,baz=325,slow=8.1,SNR=17
comp=Z,74nm,0.6s
QIZ Qiongzhong 24.28 329 P P 11 50 54.0 +0.5
QIZ IAmb IAmb 11 50 54.9
comp=Z,259nm,1.3s
TWG Pinlang 24.59 357 P P 11 50 55.6 -0.7
TWG IAmb IAmb 11 51 07.5
comp=Z,274nm,1.4s
TPUB Ta-pu 25.09 356 P P 11 50 59.9 -1.1
YULB Yu-li 25.14 357 P P 11 51 00.2 -1.2
SRIT Nakonsritamara 25.20 295 P P 11 51 02.6 +0.6
SRIT IAmb IAmb 11 51 05.0
comp=Z,150nm,1.2s
GSI Gunungsitoli 25.25 277 P P 11 51 01.8 -0.7
PMG Port Moresby 25.52 108 P 11 51 04.7 -0.2
PMG IAmb IAmb 11 51 12.2
comp=Z,204nm,1.0s
PMG Port Moresby 25.52 108 P P 11 51 05.2 +0.3
comp=Z,127nm,0.8s,baz=326,slow=2.4,SNR=9.0
comp=Z,127nm,0.8s
SSLB Suanglung 25.56 356 P P 11 51 04.2 -1.0
SSLB IAmb IAmb 11 51 30.8
comp=Z,188nm,1.1s
NACB Ninganchiao 25.91 358 P P 11 51 08.1 -0.2
YOJ Yonaguni jima 26.18 1 P P 11 51 10.5 -0.2
YOJ IAmb IAmb 11 51 40.4
comp=Z,365nm,1.5s
YHNB Yeheng 26.41 357 P P 11 51 13.7 +0.7
LHMI Lhok Sumawe 26.61 285 P P 11 51 14.1 -0.7
CM31 Chiang Mai Arr 30.84 312 P P 11 51 52.8 +0.2
CM31 IAmb IAmb 11 51 55.6
comp=Z,62nm,0.9s
CMAR Chiang Mai Arr 30.84 312 P P 11 51 52.9 +0.4
CMAR Chiang Mai Arr 30.84 312 P P 11 51 53.2 +0.8
comp=Z,32nm,0.8s,baz=140,slow=7.1,SNR=17
comp=Z,32nm,0.8s
CHTO Chiang Mai 31.07 312 P P 11 51 54.8 +0.4
CHTO IAmb IAmb 11 51 57.4
comp=Z,82nm,0.9s
JCJ Chichijima 34.42 32 P P 11 52 23.2 -0.4
STKA Stephens Creek 34.80 151 P P 11 52 27.2 +0.4
STKA Stephens Creek 34.80 151 P P 11 52 27.4 +0.5
comp=Z,33nm,0.8s,baz=326,slow=7.8,SNR=4.0
comp=Z,33nm,0.8s
JMN Monobe 36.96 16 P P 11 52 46.1 +0.6
HNR Honiara 37.86 103 P P 11 52 53.4 +0.1
INU Inuyama 39.40 19 P P 11 53 05.8 -0.1
KSAR Wonju Array Be 39.42 7 P P 11 53 05.2 -0.8
KSRS Korea Array 39.43 7 P P 11 53 03.4 -2.7
comp=Z,4.1nm,0.8s,baz=182,slow=10,SNR=2.1
comp=Z,4.1nm,0.8s
KS19 Wonju Array Si 39.47 7 P P 11 53 06.4 -0.1
JGF Kuroka 39.74 19 P P 11 53 08.4 -0.4
MAJO Matsushiro 40.88 19 P P 11 53 17.3 -0.9
MJAR Matsushiro Arr 40.88 19 P P 11 53 15.5 -2.7
comp=Z,28nm,0.9s,baz=192,slow=8.3,SNR=5.9
comp=Z,28nm,0.9s
MJB9 Matsu-Tunnel 40.88 19 P P 11 53 18.1 -0.1
TOO Toolangi 41.28 152 P P 11 53 21.3 -0.3
CAN Canberra 41.33 147 P P 11 53 22.4 +0.5
CAN IAmb IAmb 11 53 26.8
comp=Z,126nm,1.3s
JSD Sado 42.26 18 P P 11 53 29.2 -0.3
JMM Marumori 42.96 21 P P 11 53 34.8 -0.4
LSA Lhasa 43.48 319 P P 11 53 41.0 +1.0
JTM Tenmabayashi 45.66 20 P P 11 53 56.0 -0.7
JTM IAmb IAmb 11 53 58.8
comp=Z,102nm,1.1s
USA0B Ussuriysk Arra 46.62 9 P P 11 54 04.1 -0.1
USA0B IAmb IAmb 11 54 07.0
comp=Z,70nm,1.4s
USRK Ussuriysk Ar. 46.62 9 P P 11 54 04.1 -0.1
USRK Ussuriysk Ar. 46.62 9 P P 11 54 01.8 -2.4
comp=Z,12nm,0.5s,baz=196,slow=5.9,SNR=9.9
comp=Z,12nm,0.5s
MDJ Mudanjiang 46.70 7 P P 11 54 04.0 -0.8
MDJ IAmb IAmb 11 54 07.7
comp=Z,66nm,1.3s
ONTNC Ouen Toro 47.16 119 P P 11 54 08.8 +0.1
ONTNC IAmb IAmb 11 54 22.5
comp=Z,88nm,1.1s
ERM Erimo 47.48 21 P P 11 54 11.1 +0.2
ERM IAmb IAmb 11 54 15.1
comp=Z,79nm,1.5s
PINNC Pines Island, 48.12 119 P P 11 54 16.1 -0.1
JKA Kamikawa-asahi 49.15 19 P P 11 54 23.4 -0.4
JKA IAmb IAmb 11 54 27.4
comp=Z,37nm,0.7s
DGAR Diego Garcia 50.29 262 P P 11 54 31.8 -1.2
DGAR IAmb IAmb 11 54 34.2
comp=Z,68nm,0.8s
HIA Hailar 50.99 358 P P 11 54 38.4 +0.7
SONM Songino Array 51.49 346 P P 11 54 42.0 +0.3
comp=Z,9.9nm,0.8s,baz=162,slow=10.0,SNR=3.0
comp=Z,9.9nm,0.8s
KLR Kul'dur 51.51 8 P P 11 54 40.9 -0.7
comp=Z,5.3nm,0.7s,baz=204,slow=5.7,SNR=4.1
comp=Z,5.3nm,0.7s
YSS Yuzhno-Sakhali 51.74 17 P P 11 54 43.7 +0.4
YSS IAmb IAmb 11 54 46.6
comp=Z,101nm,1.5s
MSVF Nonsavu 56.60 110 P P 11 55 18.7 -0.7
MLZ Mavora Lakes 58.87 144 P P 11 55 35.6 +0.7
MLZ IAmb IAmb 11 55 38.3
comp=Z,46nm,1.2s
WHZ Wether Hill Ro 59.06 145 P P 11 55 36.4 +0.2
RPZ Rata Peaks 59.78 141 P P 11 55 41.7 +0.6
MK31 Makanchi Array 60.01 329 P P 11 55 42.8 +0.2
MKAR Makanchi Array 60.01 329 P P 11 55 42.4 -0.3
comp=Z,7.9nm,0.5s,baz=120,slow=8.5,SNR=5.3
comp=Z,7.9nm,0.5s
TUWZ Tuamarina 60.58 138 P P 11 55 48.0 +1.4
PEA0B Petropavlovsk- 62.14 23 P P 11 55 58.0 +1.1
PEA0B IAmb IAmb 11 55 59.5
comp=Z,72nm,1.5s
PETK Petropavlovsk- 62.14 23 P P 11 55 56.8 -0.1
PETK Petropavlovsk- 62.14 23 P P 11 55 57.3 +0.4
comp=Z,6.4nm,0.8s,baz=223,slow=7.5,SNR=3.1
comp=Z,6.4nm,0.8s
ZAA0 Zalesovo Array 63.86 336 P P 11 56 08.0 -0.3
ZAA0 IAmb IAmb 11 56 12.1
comp=Z,84nm,1.5s
ZALV Zalesovo Beam 63.86 336 P P 11 56 07.3 -1.0
ZALV Zalesovo Beam 63.86 336 P P 11 56 07.6 -0.7
comp=Z,21nm,1.0s,baz=118,slow=8.5,SNR=2.4
comp=Z,21nm,1.0s
KURBB Kurchatov Arra 64.39 331 P P 11 56 10.4 -1.5
comp=Z,15nm,0.9s,baz=143,slow=6.3,SNR=4.2
comp=Z,15nm,0.9s
KURK Kurchatov 64.41 331 P P 11 56 10.2 -1.7
KURK IAmb IAmb 11 56 15.3
comp=Z,43nm,0.8s
CASY Casey 64.85 185 P P 11 56 15.5 +0.9
CASY IAmb IAmb 11 56 16.6
comp=Z,40nm,1.2s
MA2 Magadan 65.12 15 P P 11 56 16.9 +0.4
MA2 IAmb IAmb 11 56 26.2
comp=Z,39nm,1.1s
MSEY Mahe Island 67.08 266 P 11 56 29.5 -0.5
MSEY IAmb IAmb 11 56 32.3
comp=Z,50nm,1.1s
UOSS Minazif 69.56 297 P P 11 56 46.6 +1.4
BVAR Borovoye Array 69.89 329 P P 11 56 46.0 -0.8
comp=Z,14nm,0.9s,baz=148,slow=15,SNR=3.1
comp=Z,14nm,0.9s
TIXI Tiksi 73.50 2 P P 11 57 09.5 +1.4
TIXI IAmb IAmb 11 57 13.7
comp=Z,62nm,1.4s
AB31 Akbulak array 73.98 323 P P 11 57 12.4 +1.0
NRIK Noril'sk 74.93 348 P P 11 57 17.2 +0.7
ATKA Atka Island 75.40 35 P P 11 57 19.9 +0.4
ATKA IAmb IAmb 11 57 24.2
comp=Z,92nm,0.8s
ABPO Ambohimpanom 75.59 251 P P 11 57 21.9 +0.4
VOI Vohitsoka 76.17 248 P P 11 57 24.6 -0.1
MAW Mawson 77.12 200 P 11 57 29.5 +0.5
MAW Mawson 77.12 200 P P 11 57 29.1 +0.2
comp=Z,40nm,1.3s,baz=41,slow=8.2,SNR=3.6
comp=Z,40nm,1.3s
VNDA Vanda 78.46 172 P P 11 57 37.5 +1.2
VNDA Vanda 78.46 172 P P 11 57 36.5 +0.2
comp=Z,11nm,0.7s,baz=282,slow=7.1,SNR=3.7
comp=Z,11nm,0.7s
SBA Scott Base 79.42 171 P P 11 57 42.8 +1.2
SBA IAmb IAmb 11 57 52.0
comp=Z,77nm,1.4s
AKUT Akutan 80.82 34 P P 11 57 50.6 +1.1
FALS False Pass 82.34 34 P P 11 57 57.3 -0.2
GEVA Gevas 82.97 309 P P 11 58 00.9 -0.5
K13K Kusilvak Mount 83.58 27 P P 11 58 04.9 +1.1
M13K Dall Lake 83.78 29 P P 11 58 06.5 +1.7
J14K Nanvaranak Lak 84.29 26 P P 11 58 08.7 +1.3
L14K Kuka Creek 84.33 28 P 11 58 09.1 +1.5
N14K Kuskokwak Cree 84.46 29 P P 11 58 09.6 +1.3
O14K Tigyukauivet M 84.52 30 P P 11 58 10.0 +1.4
M14K Bethel 84.53 29 P P 11 58 10.3 +1.7
F15K North Star Dit 84.65 23 P P 11 58 11.0 +1.8
C16K Lisburne Hills 85.14 21 P P 11 58 12.5 +1.0
O15K Ungalikthiuk R 85.23 30 P P 11 58 13.2 +1.0
N15K Kwethluk River 85.30 29 P P 11 58 13.6 +1.1
KMBO Kilima Mbogo 85.34 269 P 11 58 14.8 +0.7
KMBO IAmb IAmb 11 58 17.3
comp=Z,55nm,1.2s
KMBO Kilima Mbogo 85.34 269 P P 11 58 15.2 +1.1
comp=Z,38nm,1.2s,baz=81,slow=6.1,SNR=6.2
comp=Z,38nm,1.2s
G16K Koyuk River 85.48 24 P P 11 58 14.8 +1.5
G16K IAmb IAmb 11 58 18.8
comp=Z,52nm,1.1s
SYO Syowa Base 85.76 201 eP P 11 58 16.2 +1.5
SYO Syowa Base 85.76 201 epP pP 11 58 20.6 -4.9
P16K Nushagak River 86.13 31 P P 11 58 16.8 +0.1
O16K Kokwok River B 86.18 30 P 11 58 17.7 +0.8
O16K IAmb IAmb 11 58 23.6
comp=Z,81nm,1.1s
H17K Granite Mounta 86.38 25 P P 11 58 18.8 +1.0
H17K IAmb IAmb 11 58 23.8
comp=Z,45nm,0.8s
E18K Tukpahlearik C 86.65 22 P P 11 58 20.0 +0.9
E18K IAmb IAmb 11 58 26.3
comp=Z,38nm,1.1s
G18K Tagagawik 87.09 24 P P 11 58 21.9 +0.6
ACHA Angle Creek He 87.38 32 P P 11 58 23.0 +0.1
J18K Innoko River 87.48 26 P P 11 58 23.8 +0.5
J18K IAmb IAmb 11 58 28.4
comp=Z,53nm,1.1s
G19K Purcell Mounta 87.77 24 P P 11 58 25.5 +1.0
G19K IAmb IAmb 11 58 30.8
comp=Z,62nm,1.1s
H19K Roundabout Mou 87.92 24 P P 11 58 26.1 +0.9
QSPA South Pole Qui 88.08 180 P P 11 58 26.4 +0.2
QSPA IAmb IAmb 11 58 40.1
comp=Z,76nm,1.4s
N19K Bonanza Creek 88.14 29 P 11 58 27.3 +0.8
N19K IAmb IAmb 11 58 32.7
comp=Z,50nm,0.9s
M19K Big River Lodg 88.32 28 P P 11 58 28.0 +0.8
M19K IAmb IAmb 11 58 31.5
comp=Z,54nm,1.3s
B20K Meade River 88.39 20 P P 11 58 28.0 +0.6
B20K IAmb IAmb 11 58 33.1
comp=Z,51nm,1.2s
MMAI Mount Meron Ar 88.68 303 P P 11 58 29.3 -0.4
comp=Z,14nm,1.1s,baz=76,slow=12,SNR=3.2
comp=Z,14nm,1.1s
ILSW Iliamna Southw 88.71 30 P P 11 58 29.6 +0.3
ILSW IAmb IAmb 11 58 57.9
comp=Z,34nm,1.4s
J20K Nowinta River 88.71 26 P P 11 58 30.4 +1.4
M20K Styx River 88.91 28 P P 11 58 31.1 +0.9
M20K IAmb IAmb 11 58 37.9
comp=Z,54nm,1.2s
B21K Ikpikpuk River 89.21 20 P P 11 58 32.1 +0.8
B21K IAmb IAmb 11 58 32.7
comp=Z,55nm,1.4s
G21K Allakaket 89.25 23 P P 11 58 32.4 +0.9
G21K IAmb IAmb 11 58 35.5
comp=Z,30nm,1.0s
CAST Castle Rocks 89.54 27 P P 11 58 33.5 +0.5
CAST IAmb IAmb 11 58 57.6
comp=Z,46nm,1.5s
B22K Teshekpuk Lake 89.70 20 P P 11 58 34.4 +0.8
B22K IAmb IAmb 11 58 55.2
comp=Z,83nm,1.4s
POGA Pongola 89.97 243 P P 11 58 34.7 -1.1
POGA IAmb IAmb 11 58 40.7
comp=Z,26nm,0.9s
SUA Susitna One 90.01 29 P P 11 58 35.0 -0.3
KTH Kantishna Hill 90.07 27 P P 11 58 36.0 +0.4
KTH IAmb IAmb 11 58 40.7
comp=Z,51nm,1.1s
BPAW Bear Paw Mtn. 90.08 26 P P 11 58 35.2 -0.3
SLKM Skilak Lake 90.20 30 P P 11 58 37.9 +1.8
SLKM IAmb IAmb 11 58 40.5
comp=Z,69nm,1.4s
RC01 Rabbit Creek A 90.47 29 P P 11 58 37.3 -0.1
RC01 IAmb IAmb 11 58 42.3
comp=Z,69nm,1.4s
COLD Coldfoot 90.61 23 P P 11 58 38.9 +1.0
COLD IAmb IAmb 11 58 42.1
comp=Z,39nm,1.2s
G23K Bananza Creek 90.65 23 P P 11 58 39.3 +1.2
G23K IAmb IAmb 11 58 42.4
comp=Z,48nm,1.1s
E23K Chandalar 90.88 22 P P 11 58 40.4 +1.2
E23K IAmb IAmb 11 58 44.9
comp=Z,27nm,1.0s
MCK McKinley 90.97 26 P P 11 58 39.7 +0.1
MCK IAmb IAmb 11 58 42.5
comp=Z,56nm,1.1s
ELIB Princess Elisa 91.12 198 dP P 11 58 40.7 +0.4
comp=Z,11nm,1.1s
SML Sawmill 91.18 28 P P 11 58 40.4 -0.3
SML IAmb IAmb 11 58 45.5
comp=Z,40nm,0.9s
H24K Noodor Dome 91.48 24 P P 11 58 42.9 +0.9
H24K IAmb IAmb 11 58 47.0
comp=Z,34nm,1.0s
G24K Hadweenzic Riv 91.66 23 P P 11 58 43.6 +0.8
G24K IAmb IAmb 11 58 48.5
comp=Z,67nm,1.2s
M24K Tolsona, Glenn 92.20 28 P P 11 58 46.1 +0.7
K24K Donnelly Dome 92.37 26 P P 11 58 46.2 +0.1
K24K IAmb IAmb 11 58 53.7
comp=Z,54nm,1.2s
J25K Salcha River, 92.54 26 P P 11 58 46.2 -0.8
J25K IAmb IAmb 11 59 08.1
comp=Z,32nm,1.4s
BMAR Burnt Mountain 92.79 23 P P 11 58 49.0 +0.9
C27K Jago River 93.02 20 P P 11 58 49.9 +0.9
C27K IAmb IAmb 11 58 54.9
comp=Z,42nm,1.2s
I26K Coal Creek Min 93.46 25 P P 11 58 51.9 +0.8
E27K Coleen River 93.88 22 P P 11 58 54.0 +1.0
E27K IAmb IAmb 11 58 58.7
comp=Z,44nm,1.2s
G27K Doyon Strip 93.97 23 P P 11 58 54.4 +0.9
G27K IAmb IAmb 11 59 12.6
comp=Z,40nm,1.5s
H27K Steamboat Moun 94.06 24 P P 11 58 55.4 +1.4
H27K IAmb IAmb 11 59 00.6
comp=Z,61nm,1.3s
BCAR Beaver Creek A 94.19 27 P P 11 58 56.0 +1.4
FINES FINESS Array B 94.78 331 P P 11 58 58.5 +1.4
FINES FINESS Array B 94.78 331 P P 11 58 58.1 +0.9
comp=Z,4.8nm,0.7s,baz=90,slow=3.8,SNR=4.3
comp=Z,4.8nm,0.7s
I28M Miner Creek 94.79 25 P P 11 58 58.3 +1.0
SPB2 Spitsbergen Ar 95.13 349 P P 11 58 58.0 -0.5
SPITS Spitsbergen Ar 95.13 349 P P 11 58 58.9 +0.3
comp=Z,13nm,0.8s,baz=96,slow=8.5,SNR=4.7
comp=Z,13nm,0.8s
H29M Whitestone 95.34 24 P P 11 58 59.7 0.0
G29M Pine Creek 95.38 23 P P 11 59 00.2 +0.3
L29M L29M 95.85 27 P P 11 59 02.3 +0.1
K29M Barlow Dome 96.02 26 P P 11 59 03.8 +0.8
M30M Minto, Yukon 96.53 27 P P 11 59 06.3 +1.1
G31M Satah River 96.84 23 P P 11 59 06.8 +0.3
G31M IAmb IAmb 11 59 09.1
comp=Z,39nm,1.2s
WHY Whitehorse 97.74 29 P Pdif 11 59 11.5 +0.6
C36M Paulatuk 99.82 19 Pdif Pdif 11 59 20.0 +0.2
BRG Berggiesshubel 103.18 322 P Pdif 11 59 29.4 -5.8
BRG Amp 11 59 43.1
comp=Z,26nm,1.2s
PLCA Paso Flores 135.93 166 PKPdf PKPdf 12 04 55.6 -1.6
PLTB Pedras Altas 146.36 186 PKPbc PKPab 12 05 18.5 +0.4
SOR Soroa 147.57 48 PKPbc PKPbc 12 05 21.8 +0.9
ITQB Itaqui 148.63 181 PKPbc PKiKP 12 05 24.8 -0.2
AC01 Pan de Azucar 149.35 156 PKPbc PKiKP 12 05 26.7 0.0
CPUP Villa Florida 151.96 180 PKPbc PKPbc 12 05 31.0 -0.7
CPUP Villa Florida 151.96 180 PKPbc PKiKP 12 05 32.5 +0.5
comp=Z,16nm,0.9s,baz=160,slow=3.2,SNR=3.1

IDC **12** *11:50:06.9±0.6, 1°.58S×122°.77E, h0km, mb4.7/14, mbtmp4.7/16, ML4.8/2, Error ellipse: s-maj=22.1km s-min=14.0km az=60.0*
DJA **12** *11:50:11.0±0.2, 2°.S±2°.×12°.3E±°, h10km, M5.5/20, mb5.2/11, MLv5.7/20*
NEIC **12** *11:50:11.5±1.6, 1°.66S±0°.06×122°.61E±0°.06, h10km±1km, mb5.3/98, Error ellipse: s-maj=10.9km s-min=9.7km az=249.0*
ISC 12 11:50:13.8±0.3,**1°.71S**±0°.04×**122°.62E**±0°.05,**h35**km,**n182,**
σ1°**23**/178,**mb5.2**/63,**2D,Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
LUWI	Luwuk	0.68	13	Pg	Pn	11 50 22.2	-4.7
LUWI	Luwuk	0.68	13	P	Pn	11 50 25.3	-1.7
LUWI				S	Sn	11 50 36.5	+0.1
APSI	Ampana	1.26	309	P	Pn	11 50 34.7	-0.2
KDI	Kendari	2.23	180	P	Pn	11 50 46.1	-2.2
KMSI	Cibinong	2.65	31	P	Pn	11 50 55.2	+1.2
PCI	Palu	2.90	286	P	Pn	11 50 57.3	-0.2
TOLI2	Tolitoli	3.36	327	Pn	Pn	11 51 01.1	-2.6
MPSI	Mapaga	3.40	307	P	Pn	11 51 04.7	+0.3
SPSI	Sidrap Palu	3.62	232	P	Pn	11 51 07.0	-0.4
BNSI	Bone	3.67	223	P	Pn	11 51 06.6	-1.4
BBSI	Bau Bau	3.75	181	P	Pn	11 51 07.0	-2.2
KAPI	Kappang	4.36	221	Pn	Pn	11 51 17.0	-0.5
KAPI	Kappang	4.36	221	Pn	Pn	11 51 16.2	-1.3
	84nm,0.3s,baz=55,slow=4.8,SNR=7.9						
KAPI				Sn	Sn	11 52 06.9	-0.2
	49nm,0.3s,baz=201,slow=23,SNR=2.5						
	264nm,0.4s						
BKSI	Bulukumba	4.37	215	P	Pn	11 51 16.7	-1.0
NLAI	Namlea	4.72	109	P	Pn	11 51 23.2	+0.7
BSSI	Bau Bau, Buton	4.89	206	P	Pn	11 51 23.0	-1.8
TNTI	Ternate	5.35	63	Pn	Pn	11 51 30.0	-1.2
TNTI	Ternate	5.35	63	P	Pn	11 51 31.7	+0.6
	2.3nm207nm,1.0s						
BKB	Balikpapan	5.74	274	Pn	Pn	11 51 34.5	-2.1
MMRI	Maumere	6.89	183	Pn	Pn	11 51 50.7	-1.7
EDFI	Ende, Flores	7.05	188	P	Pn	11 51 52.9	-1.8
MYLDM	Lahad Datu	7.99	329	Pn	Pn	11 52 05.7	-1.8
SOEI	Soe	8.15	169	Pn	Pn	11 52 08.7	-1.2
SOEI	Soe	8.15	169	P	Pn	11 52 08.9	-0.9
	194nm,0.9s						
WBSI	Waikabubak, Su	8.51	202	P	Pn	11 52 13.1	-1.5
SWI	Sorong	8.68	85	P	Pn	11 52 16.7	-0.2
DAV	Davao City (W)	9.21	19	Pn	Pn	11 52 21.1	-3.1
FAKI	Fak Fak	9.69	97	Pn	Pn	11 52 28.7	-2.1
FAKI	Fak Fak	9.69	97	P	Pn	11 52 31.4	+0.6
KKM	Kota Kinabalu	10.02	320	Pn	Pn	11 52 33.6	-1.8
JAGI	Jajag, Banyuwa	10.78	231	Pn	Pn	11 52 43.9	-1.8
LEM	Lembang	15.80	251	Pn	Pn	11 53 54.0	+0.1
	1.7nm,0.3s,baz=86,slow=9.1,SNR=6.0						
	17nm,0.6s						
WB0	Warramunga Arr	21.32	148	P	P	11 54 59.3	+1.5
WB0				IAmb	IAmb	11 54 59.8	
	comp=Z,79nm,0.9s						
WRAB	Tennant Creek	21.43	148	P	P	11 55 00.2	+1.2
WRA	Warramunga Arr	21.44	148	P	P	11 54 57.4	-1.7
	comp=Z,24nm,0.7s,baz=332,slow=9.8,SNR=10						
	comp=Z,24nm,0.7s						
WR8	Warramunga Arr	21.53	148	P	P	11 55 00.1	0.0
WR0	Warramunga Arr	21.56	148	P	P	11 55 01.1	+0.7
KULM	Kulim	23.02	288	P	P	11 55 15.8	-0.3
UBPT	Khong Chiam	23.94	315	P	P	11 55 25.3	+0.5
UBPT				IAmb	IAmb	11 55 27.4	
	comp=Z,101nm,1.2s						
PSI	Prapat	24.11	281	P	P	11 55 25.4	-1.2
	comp=Z,65nm,1.0s,baz=117,slow=5.9,SNR=12						
	comp=Z,65nm,1.0s						
QIZ	Qiongzhong	24.14	329	P	P	11 55 27.4	+0.7
QIZ				IAmb	IAmb	11 55 29.3	
	comp=Z,85nm,1.3s						
AS31	Alice Springs	24.41	154	P	P	11 55 28.9	-0.2
ASAR	Alice Springs	24.41	154	P	P	11 55 28.8	-0.4
ASAR	Alice Springs	24.41	154	P	P	11 55 27.6	-1.5
	comp=Z,18nm,0.7s,baz=326,slow=7.4,SNR=8.8						
	comp=Z,18nm,0.7s						
TWG	Pinlang	24.43	357	P	P	11 55 28.7	-0.6
MANU	Manus Island	24.73	91	P	P	11 55 32.5	+0.3
MANU				IAmb	IAmb	11 55 37.0	
	comp=Z,67nm,1.1s						
TPUB	Ta-pu	24.94	356	P	P	11 55 33.7	-0.2
TPUB				IAmb	IAmb	11 55 55.0	
	comp=Z,83nm,1.0s						
YULB	Yu-li	24.99	357	P	P	11 55 33.6	-0.8
GSI	Gunungsitoli	25.22	277	P	P	11 55 36.4	-0.3
GSI				IAmb	IAmb	11 55 46.1	
	comp=Z,51nm,0.9s						
GSI	Gunungsitoli	25.22	277	P	P	11 55 35.9	-0.8
SSLB	Suanglung	25.40	356	P	P	11 55 37.7	-0.4
SSLB				IAmb	IAmb	11 55 59.9	
	comp=Z,48nm,1.2s						
PMG	Port Moresby	25.57	108	P	P	11 55 41.5	+1.8
PMG				IAmb	IAmb	11 55 42.8	
	comp=Z,108nm,1.4s						
PMG	Port Moresby	25.57	108	P	P	11 55 37.8	-1.9
	comp=Z,46nm,1.0s,baz=270,slow=4.9,SNR=4.5						
	comp=Z,46nm,1.0s						
YHNB	Yeheng	26.25	357	P	P	11 55 45.6	-0.3
MLSI	Meulaboh, Aceh	26.87	283	P	P	11 55 51.0	-0.5
	comp=Z,87nm,1.0s						
CM31	Chiang Mai Arr	30.73	312	P	P	11 56 26.9	+1.0
CMAR	Chiang Mai Arr	30.73	312	P	P	11 56 27.6	+1.7
CMAR	Chiang Mai Arr	30.73	312	P	P	11 56 26.2	+0.3
	comp=Z,11nm,0.7s,baz=142,slow=7.3,SNR=19						
	comp=Z,11nm,0.7s						
CHTO	Chiang Mai	30.95	312	P	P	11 56 29.8	+2.0
JCJ	Chichijima	34.29	32	P	P	11 56 57.0	+0.1
STKA	Stephens Creek	34.94	151	P	P	11 57 01.5	-1.0

comp=Z,21nm,1.0s,baz=325,slow=12,SNR=3.1
comp=Z,21nm,1.0s
JGF Kuroka 39.59 19 P **P 11 57 43.5 +1.5**
ARMA Armidale 39.64 139 P **P 11 57 43.8 +1.3**
MJAR Matsushiro Arr 40.73 19 P **P 11 57 48.6 -2.8**
comp=Z,10nm,1.0s,baz=198,slow=9.0,SNR=5.3
comp=Z,10nm,1.0s
TOO Toolangi 41.42 152 P **P 11 57 56.9 -0.2**
CAN Canberra 41.46 147 P **P 11 57 57.7 +0.3**
JSD Sado 42.11 19 P **P 11 58 02.4 -0.2**
USRK Ussuriysk Ar. 46.47 9 P **P 11 58 37.2 -0.1**
USRK Ussuriysk Ar. 46.47 9 P **P 11 58 33.8 -3.6**
comp=Z,2.6nm,0.6s,baz=204,slow=5.4,SNR=5.4
comp=Z,2.6nm,0.6s
HYB Hyderabad 47.41 296 *e*P **P 11 58 44.9 -0.3**
JKA Kamikawa-asahi 49.00 19 P **P 11 58 56.8 -0.2**
JKA IAmb IAmb 11 58 59.6
comp=Z,31nm,1.4s
MK31 Makanchi Array 59.87 329 P **P 12 00 16.7 +0.7**
MKAR Makanchi Array 59.87 329 P **P 12 00 15.7 -0.3**
MKAR Makanchi Array 59.87 329 P **P 12 00 14.7 -1.4**
comp=Z,4.9nm,0.7s,baz=123,slow=9.0,SNR=5.1
comp=Z,4.9nm,0.7s
TCW Tory Channel 60.83 137 P **P 12 00 24.8 +2.1**
KHZ Kahutara 60.88 139 P **P 12 00 24.2 +1.2**
ZALV Zalesovo Beam 63.71 336 P **P 12 00 37.8 -3.9**
comp=Z,5.0nm,0.9s,baz=110,slow=8.1,SNR=3.6
comp=Z,5.0nm,0.9s
KURBB Kurchatov Arra 64.25 331 P **P 12 00 42.8 -2.5**
comp=Z,4.2nm,0.8s,baz=137,slow=5.5,SNR=4.8
comp=Z,4.2nm,0.8s
KURK Kurchatov 64.27 331 P **P 12 00 45.3 -0.1**
KURK IAmb IAmb 12 01 12.3
comp=Z,32nm,1.4s
BVAR Borovoye Array 69.75 329 P **P 12 01 18.7 -1.6**
comp=Z,4.1nm,0.9s,baz=142,slow=7.3,SNR=3.5
comp=Z,4.1nm,0.9s
ABKAR Akbulak array 73.85 323 P **P 12 01 45.5 +0.5**
CRZF Crozet Islands 75.57 222 P **P 12 01 56.0 +1.1**
VOI Vohitsoka 76.22 248 P **P 12 01 59.5 +0.1**
VNDA Vanda 78.61 172 P **P 12 02 09.8 -1.7**
comp=Z,3.7nm,0.8s,baz=307,slow=7.4,SNR=5.4
comp=Z,3.7nm,0.8s
SBA Scott Base 79.57 171 P **P 12 02 17.5 +0.7**
K13K Kusilvak Mount 83.44 27 P **P 12 02 38.4 +0.9**
K13K IAmb IAmb 12 02 43.2
comp=Z,28nm,1.1s
ANM Nome 83.88 24 P **P 12 02 41.3 +1.7**
J14K Nanvaranak Lak 84.16 26 P **P 12 02 42.8 +1.8**
L14K Kuka Creek 84.19 28 P **P 12 02 43.2 +1.9**
O14K Tigyukauivet M 84.39 30 P **P 12 02 44.0 +1.7**
M14K Bethel 84.39 29 P **P 12 02 44.3 +2.0**
F15K North Star Dit 84.51 23 P **P 12 02 44.7 +1.9**
F15K IAmb IAmb 12 02 47.2
comp=Z,25nm,1.2s
KIBK Kibwezi 84.52 268 P **P 12 02 44.6 +0.5**
KIBK IAmb IAmb 12 02 45.4
comp=Z,12nm,1.0s
C16K Lisburne Hills 85.00 21 P **P 12 02 46.4 +1.2**
C16K IAmb IAmb 12 02 49.9
comp=Z,15nm,1.1s
O15K Ungalikthiuk R 85.09 30 P **P 12 02 47.9 +2.0**
N15K Kwethluk River 85.17 29 P **P 12 02 47.5 +1.2**
KMBO Kilima Mbogo 85.34 269 P **P 12 02 48.8 +0.4**
KMBO IAmb IAmb 12 02 50.1
comp=Z,14nm,1.1s
KMBO Kilima Mbogo 85.34 269 P **P 12 02 48.2 -0.3**
comp=Z,7.9nm,0.9s,baz=30,slow=4.8,SNR=9.6
comp=Z,7.9nm,0.9s
J16K Anvik River 85.59 26 P **P 12 02 50.5 +2.2**
J16K IAmb IAmb 12 03 18.8
comp=Z,18nm,1.3s
L16K Owhat River 85.77 28 P **P 12 02 50.3 +1.1**
L16K IAmb IAmb 12 02 52.0
comp=Z,27nm,1.4s
M16K Timber Creek 85.88 29 P **P 12 02 51.5 +1.7**
M16K IAmb IAmb 12 02 58.9
comp=Z,38nm,1.5s
SYO Syowa Base 85.91 201 ‖*e*P **P 12 02 51.4 +1.7**
SYO Syowa Base 85.91 201 ‖*es*P sP 12 02 57.2 -7.3
O16K Kokwok River B 86.04 30 P **P 12 02 51.1 +0.5**
H17K Granite Mounta 86.24 25 P **P 12 02 52.8 +1.3**
K17K Iditarod 86.51 27 P **P 12 02 54.0 +1.2**
K17K IAmb IAmb 12 02 57.2
comp=Z,26nm,1.2s
C18K Utukok River 86.57 21 P **P 12 02 54.0 +0.9**
L18K Granite Mounta 87.16 28 P **P 12 02 57.4 +1.3**
L18K IAmb IAmb 12 03 00.2
comp=Z,37nm,1.5s
J18K Innoko River 87.34 26 P **P 12 02 57.6 +0.7**
J18K IAmb IAmb 12 03 00.1
comp=Z,14nm,1.2s
TTA Tatalina 87.58 27 P **P 12 02 59.0 +0.8**
H19K Roundabout Mou 87.78 24 **P 12 03 00.1 +1.2**
E19K Redstone River 87.79 22 P **P 12 03 00.1 +1.1**
E19K IAmb IAmb 12 03 04.8
comp=Z,16nm,1.2s
L19K White Mountain 88.00 28 P **P 12 03 01.3 +1.1**
L19K IAmb IAmb 12 03 04.6
comp=Z,19nm,1.1s
N19K Bonanza Creek 88.01 29 P **P 12 03 01.8 +1.5**
M19K Big River Lodg 88.19 28 P **P 12 03 01.9 +0.9**
M19K IAmb IAmb 12 03 05.8
comp=Z,18nm,1.3s
F20K Avaraart Lake 88.30 23 P **P 12 03 02.1 +0.7**
J20K Nowinta River 88.57 26 P **P 12 03 03.5 +0.7**
J20K IAmb IAmb 12 03 07.5
comp=Z,10nm,1.0s
M20K Styx River 88.78 28 P **P 12 03 05.7 +1.8**
M20K IAmb IAmb 12 03 07.9
comp=Z,22nm,1.4s
B21K Ikpikpuk River 89.07 20 P **P 12 03 05.7 +0.8**
B21K IAmb IAmb 12 03 27.4
comp=Z,14nm,1.3s
H21K Melozitna Rive 89.30 24 P **P 12 03 07.2 +1.0**
H21K IAmb IAmb 12 03 10.9
comp=Z,18nm,1.2s
BPAW Bear Paw Mtn. 89.94 26 P **P 12 03 10.2 +0.9**
BPAW IAmb IAmb 12 03 12.5
comp=Z,29nm,1.5s
G23K Bananza Creek 90.51 23 P **P 12 03 12.8 +0.9**
G23K IAmb IAmb 12 03 16.2
comp=Z,23nm,1.2s
H23K Yukon River 90.66 24 P **P 12 03 13.3 +0.8**
H23K IAmb IAmb 12 03 17.2
comp=Z,14nm,1.1s
I23K Minto, Yukon-K 90.70 25 P **P 12 03 13.3 +0.6**
I23K IAmb IAmb 12 03 17.2
comp=Z,27nm,1.1s
E23K Chandalar 90.73 22 P **P 12 03 14.1 +1.2**
E23K IAmb IAmb 12 03 17.2
comp=Z,11nm,1.1s
MCK McKinley 90.83 26 P **P 12 03 12.9 -0.4**
MCK IAmb IAmb 12 03 16.7
comp=Z,21nm,1.3s
RND Reindeer 90.86 27 P **P 12 03 13.2 -0.4**
RND IAmb IAmb 12 03 16.1
comp=Z,19nm,1.2s
SML Sawmill 91.04 28 P **P 12 03 14.5 0.0**
H24K Noodor Dome 91.34 24 P **P 12 03 16.7 +1.0**
H24K IAmb IAmb 12 03 18.1
comp=Z,14nm,1.2s
ILAR Eielson Array 91.75 25 P **P 12 03 18.4 +0.8**
M24K Tolsona, Glenn 92.07 28 P **P 12 03 19.4 +0.2**
E25K Arctic Village 92.25 22 P **P 12 03 21.1 +1.2**
E25K IAmb IAmb 12 03 24.8
comp=Z,17nm,1.4s
BMAR Burnt Mountain 92.65 23 P **P 12 03 23.1 +1.4**
RIDG Independent Ri 92.65 26 P **P 12 03 22.2 +0.4**
RIDG IAmb IAmb 12 03 25.0
comp=Z,21nm,1.3s
I26K Coal Creek Min 93.32 25 P **P 12 03 25.8 +1.0**
I26K IAmb IAmb 12 03 27.8
comp=Z,12nm,1.0s
G27K Doyon Strip 93.83 23 P **P 12 03 28.3 +1.2**
G27K IAmb IAmb 12 03 31.0
comp=Z,9.5nm,1.2s
K27K Chicken 93.86 26 P **P 12 03 29.0 +1.7**
K27K IAmb IAmb 12 03 32.8
comp=Z,24nm,1.2s
H27K Steamboat Moun 93.92 24 P **P 12 03 29.0 +1.4**
H27K IAmb IAmb 12 03 31.7
comp=Z,24nm,1.4s
L27K Beaver Creek, 94.04 27 P **P 12 03 29.7 +1.5**
L27K IAmb IAmb 12 03 33.3
comp=Z,16nm,1.2s
BCAR Beaver Creek A 94.06 27 P **P 12 03 29.8 +1.5**
FIA1 FINESS Array S 94.63 331 P **P 12 03 30.8 -0.1**
FINES FINESS Array B 94.63 331 P **P 12 03 30.7 -0.2**
I28M Miner Creek 94.65 25 P **P 12 03 32.2 +1.1**
I28M IAmb IAmb 12 03 34.8
comp=Z,14nm,1.0s
DAWY Dawson 95.03 26 **P 12 03 33.9 +1.1**
DAWY IAmb IAmb 12 03 37.2
comp=Z,13nm,1.0s
PCA Pinnacle 95.03 30 P **P 12 03 34.2 +1.3**
H29M Whitestone 95.20 24 P **P 12 03 34.5 +1.0**
H29M IAmb IAmb 12 03 34.6
comp=Z,18nm,1.1s
G29M Pine Creek 95.24 23 P **P 12 03 34.6 +1.0**
I29M Ogilvie Camp, 95.34 25 P **P 12 03 34.8 +0.7**
M29M Somme Creek 95.64 27 P **P 12 03 37.0 +1.3**
M29M IAmb IAmb 12 03 40.2
comp=Z,17nm,1.3s
L29M L29M 95.71 27 P **P 12 03 37.8 +1.9**
K29M Barlow Dome 95.88 26 P **P 12 03 38.0 +1.3**
K29M IAmb IAmb 12 03 49.0
comp=Z,10.0nm,1.2s
F30M Barrier River 95.99 22 P **P 12 03 37.7 +0.7**
M30M Minto, Yukon 96.39 27 P **P 12 03 40.3 +1.3**
M30M IAmb IAmb 12 03 43.7
comp=Z,17nm,1.2s
F31M Tsiigehtchic 96.79 22 P **P 12 03 40.4 -0.2**
F31M IAmb IAmb 12 03 48.4
comp=Z,16nm,1.4s
WHY Whitehorse 97.61 29 P Pdif 12 03 46.2 +1.5
FARO Faro, Yukon 98.03 27 Pdif 12 03 48.1 +1.6
N32M Quiet Lake 98.38 28 P Pdif 12 03 49.2 +1.2
HOLB Holberg 103.45 38 Pdif **Pdif 12 04 10.7 -0.1**
TEOL Teolo 105.85 317 Pdif **Pdif 12 04 21.9 +0.3**
SRU San Rafael Swe 119.02 45 PKPdf **PKiKP 12 09 00.8 +1.2**
HMU Henry Mountain 119.33 47 PKPdf **PKiKP 12 09 01.2 +0.9**
PV10 Paradox Valley 120.38 46 PKPdf **PKiKP 12 09 03.4 +1.1**
PV13 Radium Mtn., P 120.62 46 PKPdf **PKPdf 12 09 02.4 -0.3**
HOPE Hope Point 121.57 194 PKPdf **PKiKP 12 09 04.7 +0.9**
RTBA Rita Blanca 125.73 45 PKPdf **PKPdf 12 09 12.4 0.0**
MNTX Cornudas Mount 125.84 51 PKPdf **PKPdf 12 09 13.2 +0.5**
I49A Point Hope 132.26 25 PKPdf **PKPdf 12 09 24.9 +0.5**
P49A Miami Univ. Ec 134.87 30 PKPdf **PKPdf 12 09 30.3 +0.8**
TEIG Tepich 144.65 56 PKPdf **PKPdf 12 09 47.9 +0.2**
CO06 Fray Jorge 145.04 158 PKPbc **PKPdf 12 09 48.5 +0.3**
CO03 El Pedregal 145.24 160 **PKPbc 12 09 48.1 -0.1**
CFA Coronel Fontan 145.30 164 PKPbc **PKPbc 12 09 47.3 -1.1**
comp=Z,6.1nm,0.8s,baz=209,slow=2.3,SNR=4.5
CO01 Juntas del Tor 146.23 160 **PKPab 12 09 52.4 +0.1**
PLTB Pedras Altas 146.51 186 **PKPbc 12 09 52.0 0.0**
LCO Las Campanas 146.89 158 **PKPbc 12 09 54.1 +0.5**
061Z Ochoppi 146.99 41 PKPdf **PKPdf 12 09 49.6 -2.0**
AC05 El Transito 147.20 159 **PKPbc 12 09 54.9 +0.6**
AC04 Llanos de Chal 147.47 157 PKPbc **PKPbc 12 09 55.0 +0.2**
AC02 Maricunga 149.44 159 **PKiKP 12 10 01.6 -0.2**
AC01 Pan de Azucar 149.50 156 PKPbc **PKiKP 12 10 01.1 -0.2**
GO02 Mina Guanaco 150.78 157 **PKiKP 12 10 04.5 +0.2**
CPUP Villa Florida 152.12 180 PKPbc **PKPbc 12 10 05.3 -1.0**
comp=Z,11nm,1.1s,baz=174,slow=2.4,SNR=3.1

*NORS **12** 11:52:02.1, 42°.95N×45°.18E, h5km, MPVA3.7*
*MOS **12** 11:52:02.1, 43°.00N×45°.19E, h6km, MPVA3.7*
*TIF **12** 11:52:03.3, 43°.01N×45°.19E, h3km*
*DRS **12** 11:52:03.8, 43°.01N×45°.16E, h18km*
ISC 12 11:52:04.4±1.0, 43°.05N±0°.02×45°.19E±0°.01, h10km±9km, n47, σ0s98/91, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLKR	**Vladikavkaz**	**0.38**	**269**	*e*Pg	**Pg**	**Pg**	**11 52 11.7**	**-0.1**
VLKR				*e*Sg		**Sg**	**11 52 17.5**	**+0.7**
SHTL	**Shatili**	**0.40**	**184**	P	**Pg**	**Pg**	**11 52 11.3**	**-1.0**
SHTL				S		**Sg**	**11 52 17.4**	**-0.1**
SHTL	**Shatili**	**0.40**	**184**	*i* Pg	**Pg**	**Pg**	**11 52 11.3**	**-1.0**
SHTL				*e*Sg		**Sg**	**11 52 17.4**	**-0.1**
GROC	**Groznyy**	**0.47**	**71**	*e*Pg	**Pb**	**Pb**	**11 52 15.2**	**+0.5**
GROC				*e*Sg		**Sb**	**11 52 24.2**	**+2.4**
BTKR	**Batakoyurt**	**0.57**	**304**	*e*Pg	**Pb**	**Pb**	**11 52 16.6**	**+0.1**
BTKR				*e*Sg		**Sb**	**11 52 26.3**	**+1.5**
MTEO	**Meteo**	**0.61**	**233**	P	**Pg**	**Pg**	**11 52 16.4**	**+0.1**
MTEO				S		**Sb**	**11 52 26.1**	**-0.1**
ARNR	**Ardon**	**0.68**	**281**	*e*Pg	**Pb**	**Pb**	**11 52 18.4**	**+0.1**
ARNR				*i* Sg		**Sb**	**11 52 28.5**	**+0.8**
LACR	**Lac**	**0.69**	**251**	*i* Pg	**Pg**	**Pg**	**11 52 17.3**	**-0.5**
LACR				*e*Sg		**Sb**	**11 52 28.6**	**+0.3**
DVE	**Vedeno**	**0.69**	**98**	*e*Pg	**Pg**	**Pg**	**11 52 17.7**	**-0.1**
DVE				*e*Sg		**Sb**	**11 52 28.7**	**+0.4**
CHRG	**Chargali**	**0.75**	**195**	P	**Pg**	**Pg**	**11 52 17.6**	**-1.2**
TRKR	**Terskaya**	**0.75**	**334**	*e*Pg	**Pn**	**Pn**	**11 52 20.5**	**-0.6**
TRKR				*e*Sg		**Sn**	**11 52 32.0**	**-0.5**
KORR	**Kora**	**0.82**	**273**	*e*Pg	**Pn**	**Pn**	**11 52 22.1**	**0.0**
KORR				*e*Sg		**Sn**	**11 52 34.4**	**0.0**
BTLR	**Botlikh**	**0.85**	**117**	*e*Pg	**Pg**	**Pg**	**11 52 20.9**	**+0.1**
BTLR				*e*Sg		**Sb**	**11 52 33.1**	**+0.2**
STDR	**Stavd-Durt**	**0.88**	**291**	*e*Pg	**Pb**	**Pb**	**11 52 22.0**	**+0.1**
STDR				*e*Sg		**Sn**	**11 52 35.7**	**-0.1**
LSNR	**Lesken**	**1.02**	**283**	*i* Pg	**Pb**	**Pb**	**11 52 24.3**	**0.0**
LSNR				*e*Sg		**Sn**	**11 52 39.9**	**+0.6**
DLMR	**Dylym**	**1.06**	**89**	*e*Pg	**Pb**	**Pb**	**11 52 24.6**	**-0.2**
DLMR				*i* Sg		**Sb**	**11 52 38.8**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.19**	**263**	*e*Pg	**Pb**	**Pb**	**11 52 25.9**	**-1.3**
DIGR				*e*Sg		**Sb**	**11 52 42.8**	**0.0**
DBC	**Dubki**	**1.20**	**91**	*e*Pg	**Pn**	**Pn**	**11 52 26.8**	**-0.6**
DBC				*e*Sg		**Sn**	**11 52 44.5**	**+0.6**
UNCR	**Uncukul**	**1.23**	**105**	*e*Pg	**Pn**	**Pn**	**11 52 27.3**	**-0.4**
UNCR				*e*Sg		**Sg**	**11 52 45.2**	**+1.3**
XNZR	**Khunzakh**	**1.23**	**114**	*e*Pg	**Pn**	**Pn**	**11 52 27.8**	**0.0**
XNZR				*e*Sg		**Sn**	**11 52 44.8**	**+0.3**
KRNR	**Karanay**	**1.28**	**100**	*e*Pg	**Pn**	**Pn**	**11 52 28.0**	**-0.5**
KRNR				*e*Sg		**Sg**	**11 52 46.1**	**+0.5**
GARIG	**Gari**	**1.34**	**251**	P	**Pn**	**Pn**	**11 52 28.9**	**-0.5**
GARIG				S		**Sn**	**11 52 47.6**	**+0.3**
ARKR	**Arakani**	**1.40**	**108**	*e*Pg	**Pn**	**Pn**	**11 52 30.2**	**+0.1**
ARKR				*e*Sg		**Sg**	**11 52 50.6**	**+1.2**
BUJR	**Buynaksk**	**1.43**	**99**	*e*Pg	**Pb**	**Pb**	**11 52 31.1**	**-0.1**
BUJR				*i* Sg		**Sg**	**11 52 51.3**	**+1.0**
LGD	**Lagodekhi**	**1.45**	**147**	P	**Pn**	**Pn**	**11 52 30.9**	**+0.3**
GNBR	**Gunib**	**1.47**	**116**	*e*Pg	**Pb**	**Pb**	**11 52 31.7**	**-0.1**
GNBR				*e*Sg		**Sg**	**11 52 52.1**	**+0.6**
DGRG	**David-gareji**	**1.61**	**175**	P	**Pb**	**Pb**	**11 52 34.7**	**+0.5**
DGRG				S		**Sg**	**11 52 59.5**	**+3.5**
KMKR	**Kumukh**	**1.68**	**122**	*i* Pg	**Pb**	**Pb**	**11 52 35.9**	**+0.2**
KMKR				*e*Sg		**Sb**	**11 52 58.1**	**+1.1**
TRLG	**Trialeti**	**1.71**	**208**	P	**Pn**	**Pn**	**11 52 35.0**	**+0.6**
TRLG				S		**Sg**	**11 52 59.8**	**+0.3**
TRLG	**Trialeti**	**1.71**	**208**	*e*Pg	**Pn**	**Pn**	**11 52 35.0**	**+0.6**
TRLG				*e*Sg		**Sg**	**11 52 59.8**	**+0.3**
KZRT	**Kazreti**	**1.77**	**200**	P	**Pn**	**Pn**	**11 52 35.4**	**+0.3**
KZRT				S		**Sb**	**11 53 00.2**	**+1.1**
KZRT	**Kazreti**	**1.77**	**200**	*e*Pg	**Pn**	**Pn**	**11 52 35.4**	**+0.3**
KZRT				*e*Sg		**Sb**	**11 53 00.2**	**+1.1**
KBZ	**Khabaz**	**1.80**	**293**	*i* Pg	**Pn**	**Pn**	**11 52 36.1**	**+0.6**
KBZ				*e*Sg		**Sb**	**11 53 00.8**	**+0.7**
PYA1	**Pyatigorsk**	**1.83**	**304**	*e*Pg	**Pn**	**Pn**	**11 52 36.1**	**+0.2**
PYA1				*e*Sg		**Sb**	**11 53 00.8**	**-0.1**
SGKR	**Sergokala**	**1.91**	**107**	*e*Pg	**Pn**	**Pn**	**11 52 34.3**	**-2.8**
SGKR				*e*Sg		**Sn**	**11 53 01.8**	**+0.5**
SHA1	**Shidzhatmaz**	**1.97**	**291**	*e*Pg	**Pn**	**Pn**	**11 52 38.0**	**0.0**
SHA1				*e*Sg		**Sb**	**11 53 04.5**	**-0.7**
BEYR	**Belyy Ugol+**	**1.97**	**300**	*e*Pg	**Pn**	**Pn**	**11 52 38.4**	**+0.5**
BEYR				*e*Sg		**Sb**	**11 53 04.0**	**-1.2**
URKR	**Urkarakh**	**2.01**	**115**	*e*Pg	**Pn**	**Pn**	**11 52 35.4**	**-3.1**
URKR				*e*Sg		**Sn**	**11 53 01.7**	**-2.1**
KIV0	**Kislovodsk Arr**	**2.03**	**297**	*e*Pg	**Pn**	**Pn**	**11 52 38.7**	**0.0**
KIV0				*e*Sg		**Sb**	**11 53 05.5**	**-1.2**
VSHL	**Vashlovani**	**2.03**	**153**	P	**Pb**	**Pb**	**11 52 41.5**	**0.0**
KIV	**Kislovodsk**	**2.03**	**297**	*e*Pg	**Pn**	**Pn**	**11 52 39.1**	**+0.3**
KIV				*i* Sg		**Sb**	**11 53 05.5**	**-1.3**
ALER	**Alexandrovskoy**	**2.37**	**317**	*e*Pn	**Pb**	**Pb**	**11 52 46.6**	**-0.7**
ALER				*i* Sn		**Sb**	**11 53 17.3**	**+0.7**
AKT	**Akhty**	**2.46**	**129**	*e*Pn	**Pb**	**Pb**	**11 52 47.2**	**-1.5**
AKT				*e*Sn		**Sb**	**11 53 18.6**	**-0.4**
DRN	**Derbent**	**2.54**	**113**	*e*Pn	**Pn**	**Pn**	**11 52 45.8**	**+0.1**
DRN				*e*Sn		**Sn**	**11 53 15.8**	**-0.8**
KSMR	**Kasumkent**	**2.62**	**123**	*e*Pn	**Pn**	**Pn**	**11 52 45.9**	**-0.9**
KSMR				*e*Sn		**Sn**	**11 53 18.4**	**-0.2**
DOMR	**Dombai**	**2.62**	**276**	*e*Pn	**Pn**	**Pn**	**11 52 48.2**	**+1.2**
DOMR				*e*Sn		**Sn**	**11 53 20.6**	**+1.7**
SOC	**Sochi**	**4.03**	**279**	*e*Pn	**Pn**	**Pn**	**11 53 03.8**	**-2.3**
SOC				*e*Sn		**Sn**	**11 53 53.5**	**+0.1**

IDC 12 11:55:16.8±1.4, 1°.63S×122°.77E, h0km, mb3.9/4, mbtmp4.0/5, ML4.5/1, Error ellipse: s-maj=51.2km s-min=21.9km az=59.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.51**	**222**	Pn	Pn	Pn	11 56 26.4	0.0
22nm,0.3s,baz=88,slow=3.1,SNR=6.6								
KAPI				Sn		Sn	11 57 15.2	-4.5
18nm,0.3s,baz=48,slow=24,SNR=6.7								
69nm,0.4s								
WRA	**Warramunga Arr**	**21.42**	**149**	P		P	12 00 07.2	+0.6
4.1nm,0.7s,baz=332,slow=9.9,SNR=8.8								
4.1nm,0.7s								
ASAR	**Alice Springs**	**24.41**	**155**	P		P	12 00 36.4	-0.8
4.2nm,0.7s,baz=327,slow=7.4,SNR=14								
4.2nm,0.7s								
CMAR	**Chiang Mai Arr**	**30.80**	**311**	P		P	12 01 34.7	+0.2
0.5nm,0.6s,baz=137,slow=6.4,SNR=4.5								
0.5nm,0.6s								
MKAR	**Makanchi Array**	**59.88**	**329**	P		P	12 05 24.7	+0.2
0.7nm,0.6s,baz=134,slow=7.0,SNR=3.8								
0.7nm,0.6s								

IDC 12 12:00:47.3±5.8, 2°.04S×147°.74E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=176.3km s-min=33.7km az=99.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.10**	**215**	P		P	12 05 43.0	-1.4
0.6nm,0.5s,baz=39,slow=10.0,SNR=6.6								
0.6nm,0.5s								
ASAR	**Alice Springs**	**25.34**	**211**	P		P	12 06 16.6	+0.4
0.4nm,0.7s,baz=39,slow=7.0,SNR=7.9								
0.4nm,0.7s								
FITZ	**Fitzroy Crossi**	**26.93**	**232**	P		P	12 06 31.4	+0.9
7.3nm,1.3s,baz=68,slow=11,SNR=1.6								
7.3nm,1.3s								
MKAR	**Makanchi Array**	**74.95**	**320**	P		P	12 12 30.4	-0.1
0.7nm,0.6s,baz=104,slow=4.6,SNR=4.2								
0.7nm,0.6s								

*IDC **12** 12:01:38.1±1.4, 1°.69S×122°.87E, h0km, mb3.7/4, mbtmp3.9/6, ML3.9/2, Error ellipse: s-maj=48.9km s-min=20.3km az=60.0*
ISC 12 12:01:43.5±1.2, 1°.8S±0°.1×122°.7E±0°.1, h35km, n6, σ0s53/7, mb3.8/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.32**	**223**	Pn		**Pn**	**12 02 46.4**	**-0.3**
50nm,0.3s,baz=22,slow=7.9,SNR=26								
KAPI				Sn		**Sn**	**12 03 36.1**	**+0.2**
21nm,0.3s,baz=207,slow=22,SNR=8.8								
173nm,0.5s								
FITZ	**Fitzroy Crossi**	**16.43**	**170**	Pn		**Pn**	**12 05 31.5**	**0.0**
0.1nm,0.3s,baz=142,slow=14,SNR=3.2								
1.5nm,0.8s								
WRA	**Warramunga Arr**	**21.30**	**148**	P		**P**	**12 06 27.7**	**+0.4**
2.6nm,0.8s,baz=336,slow=9.8,SNR=8.5								
2.6nm,0.8s								
ASAR	**Alice Springs**	**24.28**	**154**	P		**P**	**12 06 57.5**	**-0.2**
1.2nm,0.7s,baz=335,slow=10.0,SNR=7.9								
1.2nm,0.7s								
CMAR	**Chiang Mai Arr**	**30.86**	**312**	P		**P**	**12 07 57.4**	**+0.7**
2.0nm,0.8s,baz=138,slow=6.9,SNR=16								
2.0nm,0.8s								
MKAR	**Makanchi Array**	**60.00**	**329**	P		**P**	**12 11 46.0**	**-0.6**
0.7nm,0.8s,baz=131,slow=8.3,SNR=4.3								
0.7nm,0.8s								

*SJA **12** 12:02:51.0±0.7, 32°.16S×71°.73W, h40km±11km, ML3.9, MW4.0*
*GUC **12** 12:02:53.5±0.8, 32°.24S×71°.63W, h61km±3km, ML4.0*
*IDC **12** 12:02:53.8±3.9, 32°.20S×71°.60W, h72km±28km, mb4.1/3, mbtmp4.3/6, Error ellipse: s-maj=42.9km s-min=23.4km az=134.0*
ISC 12 12:02:52.1±1.0, 32°.19S±0°.03×71°.74W±0°.05, h57km±9km, n81, σ1s61/108, mb4.2/3, 17D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.53**	**135**	‖*i*P		**Pn**	**12 03 04.8**	**+0.6**
VA06				*i* S		**Sn**	**12 03 13.0**	**+0.1**
VA06				IAML			12 03 13.6	
comp=N,43μm,0.3s								
VA01	**Torpederas**	**0.84**	**175**	‖*i*P		**Pn**	**12 03 09.0**	**+1.1**
VA01				*i* S		**Sn**	**12 03 20.7**	**+1.1**
VA01	**Torpederas**	**0.84**	**175**	*e*P		**Pn**	**12 03 09.0**	**+1.1**
VA01				IAML			12 03 23.7	
comp=Z,2μm,0.4s								
ROCH	**El Roble**	**1.00**	**142**	‖*i*P		**Pn**	**12 03 10.3**	**+0.1**
ROCH				*i* S		**Sn**	**12 03 22.7**	**-0.8**
ROCH				IAML			12 03 30.0	
comp=N,2μm,0.5s								
ROC1	**El Roble**	**1.00**	**142**	*e*P		**Pn**	**12 03 10.3**	**+0.1**
ROC1				*e*S		**Sn**	**12 03 23.2**	**-0.4**
VA03	**San Esteban**	**1.16**	**120**	‖*i*P		**Pn**	**12 03 12.0**	**-0.3**
VA03				*i* S		**Sn**	**12 03 26.0**	**-1.2**
VA03				IAML			12 03 26.8	
comp=E,8μm,0.2s								
VA03	**San Esteban**	**1.16**	**120**	*e*P		**Pn**	**12 03 11.9**	**-0.3**
VA03				*e*S		**Sn**	**12 03 25.8**	**-1.4**
VA03				IAML			12 03 26.7	
comp=Z,3μm,0.3s								
CO02	**Combarbal**	**1.17**	**33**	*e*P		**Pn**	**12 03 12.4**	**+0.1**
CO02				*e*S		**Sn**	**12 03 27.4**	**0.0**
CO02				IAML			12 03 27.6	
comp=Z,4μm,0.2s								
MT02	**Curacav**	**1.19**	**155**	‖*i*P		**Pn**	**12 03 12.8**	**+0.3**
MT02				IAML			12 03 29.1	
comp=E,1μm,0.3s								
MT02	**Curacav**	**1.19**	**155**	*e*P		**Pn**	**12 03 12.8**	**+0.3**
MT02				*e*S		**Sn**	**12 03 26.7**	**-1.0**
MT02				IAML			12 03 29.7	
comp=Z,1μm,0.4s								
PEL	**Peldehue**	**1.31**	**137**	‖*i*P		**Pn**	**12 03 14.5**	**+0.4**
PEL				*i* S		**Sn**	**12 03 30.2**	**-0.4**
PEL				IAML			12 03 33.3	
comp=E,3μm,0.2s								
PEL	**Peldehue**	**1.31**	**137**	*e*P		**Pn**	**12 03 14.5**	**+0.4**
PEL				*e*S		**Sn**	**12 03 31.3**	**+0.7**
MT05	**Renca**	**1.47**	**145**	‖*i*P		**Pn**	**12 03 16.9**	**+0.6**
MT05				*i* S		**Sn**	**12 03 34.8**	**+0.2**
MT05				IAML			12

comp=Z,4μm,0.5s
MT09 Talagante 1.71 158 ⇓iP **Pn 12 03 20.8 +1.1**
MT09 *i* S **Sn 12 03 41.8 +1.3**
MT01 Popeta 1.72 166 ⇓iP **Pn 12 03 20.7 +1.0**
MT01 IAML 12 03 44.1
comp=E,1μm,0.2s
MT01 Popeta 1.72 166 *e*P **Pn 12 03 20.7 +1.0**
MT01 IAML 12 03 44.3
comp=Z,810nm,0.5s
MT15 Las Vizcachas 1.75 144 ⇓iP **Pn 12 03 20.8 +0.6**
MT15 *i* S **Sn 12 03 41.7 +0.3**
MT04 Ro Olivares 1.82 132 ⇓iP **Pn 12 03 21.6 +0.4**
MT04 *i* S **Sn 12 03 43.6 +0.3**
MT04 IAML 12 03 45.2
comp=E,2μm,0.5s
MT04 Ro Olivares 1.82 132 *e*P **Pn 12 03 21.6 +0.3**
MT04 *e*S **Sn 12 03 45.0 +1.7**
MT04 IAML 12 03 46.6
comp=Z,949nm,0.2s
MT08 Bocatoma Ro 1.92 131 ⇓iP **Pn 12 03 23.5 +0.9**
MT08 *i* S **Sn 12 03 47.5 +1.7**
MT08 IAML 12 03 49.3
comp=E,2μm,0.6s
MT08 Bocatoma Ro 1.92 131 *e*P **Pn 12 03 23.7 +1.1**
MT08 *e*S **Sn 12 03 47.7 +1.9**
MT08 IAML 12 03 53.6
comp=Z,826nm,0.3s
MT13 San Alfonso 1.98 142 ⇓iP **Pn 12 03 24.2 +0.9**
MT13 *i* S **Sn 12 03 47.5 +0.5**
MT13 IAML 12 03 48.1
comp=E,3μm,0.4s
MT13 San Alfonso 1.98 142 *e*P **Pn 12 03 24.2 +0.9**
MT13 *e*S **Sn 12 03 48.4 +1.4**
MT13 IAML 12 03 48.7
comp=Z,927nm,0.7s
LMEL Las Melosas 2.10 142 *e*P **Pn 12 03 26.0 +1.0**
LMEL *e*S **Sn 12 03 51.3 +1.2**
RTLS Leoncito 2.11 80 *e*P **Pn 12 03 26.8 +1.5**
RTLS *e*S **Sn 12 03 53.5 +2.9**
RTLS IAML 12 04 02.5
comp=Z,2μm,0.7s
GO04 Tololo Observa 2.16 22 *e*P **Pn 12 03 26.3 +0.3**
GO04 *e*S **Sn 12 03 52.0 +0.2**
BO01 Tunca 2.27 166 *e*P **Pn 12 03 28.0 +0.9**
BO01 IAML 12 04 11.5
comp=Z,306nm,0.5s
ARCO CERRO ARCO 2.46 106 *e*P **Pn 12 03 28.5 -1.5**
ARCO *e*S **Sn 12 03 50.3 -8.7**
ARCO IAML 12 04 03.5
comp=Z,770nm,0.5s
ASAL Salagasta 2.49 100 *e*P **Pn 12 03 33.4 +3.1**
ASAL *e*S **Sn 12 04 06.0 +6.4**
ASAL IAML 12 04 10.0
comp=Z,364nm,0.6s
DOCA Reserva Natura 2.58 62 *e*P **Pn 12 03 28.7 -3.1**
DOCA *e*S **Sn 12 04 04.2 +2.0**
DOCA IAML 12 04 06.0
comp=Z,361nm,1.2s
AAGR Agrelo 2.62 111 *e*P **Pn 12 03 35.3 +3.3**
AAGR *e*S Sn 12 03 53.5 -9.2
AAGR IAML 12 03 53.5
comp=Z,713nm,0.5s
CO01 Juntas del Tor 2.62 33 *e*P **Pn 12 03 32.7 +0.5**
CO01 *e*S **Sn 12 04 03.1 +0.3**
CO01 IAML 12 04 03.5
comp=Z,325nm,0.3s
ZON Zonda 2.68 77 *e*P **Pn 12 03 34.5 +1.7**
ZON *e*S Sn 12 03 47.6 -17
ZON IAML 12 03 55.8
comp=Z,284nm,0.4s
BO02 Sierra Bellavi 2.72 163 *e*P **Pn 12 03 34.5 +1.1**
BO02 IAML 12 04 24.6
comp=Z,639nm,0.4s
SJA San Juan 2.79 77 *e*P **Pn 12 03 37.5 +3.3**
SJA IAML 12 04 26.6
comp=Z,157nm,0.9s
ACCO Cerro Coronel 2.79 56 *e*P Pn 12 03 38.2 +3.6
ACCO *e*S Sn 12 03 55.8 -11
AROD Rodeo 2.80 45 *e*P **Pn 12 03 36.9 +2.2**
AROD *e*S Sn 12 03 54.9 -13
RTLL Cerro Villicun 2.91 74 *e*P **Pn 12 03 37.4 +1.4**
RTLL *e*S **Sn 12 04 06.8 -3.0**
AVIZ Vizcacheras 3.00 116 *e*P **Pn 12 03 39.4 +2.1**
ACDV Cuesta del Vie 3.01 49 *e*P **Pn 12 03 39.4 +1.9**
ACDV IAML 12 04 38.9
comp=Z,166nm,1.1s
CFA Coronel Fontan 3.04 80 P **Pn 12 03 38.8 +1.2**
comp=Z,47nm,0.5s,baz=241,slow=8.9,SNR=54
CFA S **Sn 12 04 12.7 -0.2**
comp=Z,96nm,0.6s,baz=258,slow=16,SNR=5.7
CFA Coronel Fontan 3.04 80 *e*P **Pn 12 03 38.9 +1.2**
CFA *e*S **Sn 12 04 13.5 +0.7**
CFA IAML 12 04 18.1
comp=Z,1μm,0.3s
LCO Las Campanas 3.29 16 *e*P **Pn 12 03 41.7 +0.3**
LCO *e*S **Sn 12 04 19.0 -0.4**
LCO IAML 12 04 35.7
comp=Z,695nm,0.7s
AC05 El Transito 3.57 21 *e*P **Pn 12 03 45.7 +0.6**
AC05 *e*S **Sn 12 04 26.6 +0.5**
AC05 IAML 12 04 52.5
comp=Z,239nm,0.9s
AGUA GUANDACOL 3.88 47 *e*P **Pn 12 03 51.3 +2.0**
AGUA IAML 12 05 03.5
comp=Z,209nm,0.6s
AVFE Valle Fertil 3.97 69 *e*P **Pn 12 03 51.4 +0.9**
AVFE IAML 12 05 00.3
comp=Z,123nm,0.6s
AC04 Llanos de Chal 4.01 8 *e*P Pn 12 03 39.0 -12
AC04 IAML 12 05 00.1
comp=Z,167nm,0.6s
ACHE Chepes 4.45 78 *e*P **Pn 12 03 57.7 +0.6**
BI02 San Fabin de 4.48 175 *e*P **Pn 12 03 58.1 +0.6**
BI02 IAML 12 05 29.4
comp=Z,49nm,0.7s
VCA Vinchina 4.60 43 *e*P **Pn 12 04 01.0 +1.8**
VCA IAML 12 05 18.5
comp=Z,196nm,1.2s
BI05 Punta Hualpn 4.71 194 *e*P **Pn 12 04 00.4 -0.1**
GO03 Copiapo 4.76 16 *e*P **Pn 12 04 01.2 -0.1**
GO03 *e*S **Sn 12 04 56.5 +1.2**
APLL PUNTA DE LOS L 4.81 70 *e*P **Pn 12 04 02.4 +0.4**
APLL *e*S **Sn 12 04 56.4 0.0**
ACLC CERRO LA CRUZ 4.95 58 *e*P **Pn 12 04 04.8 +0.7**
ACLC *e*S **Sn 12 05 02.1 +2.0**
ACLC IAML 12 05 22.7
comp=Z,76nm,0.7s
H03N1 Juan Fernandez 6.17 256 T T 12 11 04.3
baz=86,slow=74,SNR=836
H03N3 Juan Fernandez 6.18 256 T T 12 11 03.8
baz=86,slow=74,SNR=2070
H03N2 Juan Fernandez 6.18 256 T T 12 11 06.6
baz=86,slow=74,SNR=628
H03S3 Juan Fernandez 6.24 253 T T 12 10 57.8
baz=86,slow=74,SNR=29
H03S1 Juan Fernandez 6.24 253 T T 12 10 57.9
baz=86,slow=74,SNR=35
H03S2 Juan Fernandez 6.26 253 T T 12 10 57.4
baz=86,slow=74,SNR=42
PLCA Paso Flores 9.58 174 P **Pn 12 04 54.2 +0.5**
comp=Z,5.3nm,0.5s,baz=340,slow=11,SNR=27
LPAZ La Paz 16.16 13 P **Pn 12 06 35.9 -0.3**
comp=Z,10nm,0.9s,baz=197,slow=7.5,SNR=2.7
BDFB Brasilia 27.14 58 P **P 12 08 28.6 -1.6**
comp=Z,2.1nm,0.4s,baz=233,slow=5.1,SNR=1.6
comp=Z,2.1nm,0.4s
DBIC Dimbokro 74.37 72 P **P 12 14 22.5 -1.6**
comp=Z,4.3nm,0.7s,baz=230,slow=4.7,SNR=5.9
comp=Z,4.3nm,0.7s
BOSA Boshof 80.69 118 P **P 12 14 59.1 -0.3**
comp=Z,2.2nm,0.8s,baz=213,slow=3.8,SNR=3.2
comp=Z,2.2nm,0.8s
TORD Torodi Ar. Bea 83.36 70 P **P 12 15 12.8 -0.5**
comp=Z,62nm,0.2s,baz=222,slow=1.7,SNR=1.0
H11S2 WAKE ISLAND Hyl26.03 270 T T 14 41 01.0
baz=118,slow=75,SNR=149
H11S1 WAKE ISLAND Hyl26.04 270 T T 14 41 02.2
baz=118,slow=75,SNR=148
H11S3 WAKE ISLAND Hyl26.05 270 T T 14 41 02.3
baz=118,slow=75,SNR=145
H11N3 WAKE ISLAND Hyl26.40 272 T T 14 41 25.8
baz=121,slow=74,SNR=22
H11N1 WAKE ISLAND Hyl26.41 272 T T 14 41 31.9
baz=121,slow=74,SNR=12
H11N2 WAKE ISLAND Hyl26.41 272 T T 14 41 30.9
baz=121,slow=74,SNR=26
BVAR Borovoye Array 145.77 41 PKPbc **PKPdf 12 22 25.1 +1.5**
comp=Z,1.3nm,0.4s,baz=293,slow=2.6,SNR=5.2

GCG 12 12:03:27.5±0.6, 14°.65N×91°.94W, h99km±8km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.41**	**309**	*e*P	Pn	12 03 42.7	+0.1
THIG				*e*S	Sn	12 03 54.9	+1.0
STG8	**El Palmar, Qui**	**0.60**	**109**	*e*P	Pn	12 03 43.1	-1.2
STG8				*e*S	Sn	12 03 55.1	-1.7
STG0	**El Palmar, Qui**	**0.62**	**111**	*e*P	Pn	12 03 42.8	-1.6
STG0				*e*S	Sn	12 03 53.9	-3.1

---

*IDC **12** 12:03:52.4±0.7, 1°.95S×122°.73E, h0km, mb4.3/13, mbtmp4.3/15, ML4.1/2, Error ellipse: s-maj=22.6km s-min=13.6km az=68.0*
*NEIC **12** 12:03:54.4±2.2, 1°.99S±0°.05×122°.52E±0°.07, h10km±1km, mb4.7/30, Error ellipse: s-maj=11.7km s-min=7.9km az=276.0*
*DJA **12** 12:03:54.9±0.2, 2°.5S±2°×12°2E±°, h10km, M5.1/22, mb5.0/9, MLv5.2/22*
ISC 12 12:03:57.4±0.4, 2°.05S±0°.05×122°.53E±0°.06, h35km, n98, σ1§49/98, mb4.7/35, 1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.03**	**13**		**Pn**	**12 04 13.0**	**-2.4**
APSI	**Ampana**	**1.44**	**322**	P	**Pn**	**12 04 18.2**	**-2.8**
PCI	**Palu**	**2.92**	**293**	P	**Pn**	**12 04 40.5**	**-1.0**
KMSI	**Cibinong**	**2.98**	**29**	P	**Pn**	**12 04 42.3**	**0.0**
SPSI	**Sidrap Palu**	**3.35**	**235**	P	**Pn**	**12 04 46.7**	**-0.7**
BNSI	**Bone**	**3.37**	**226**	P	**Pn**	**12 04 47.6**	**0.0**
BBSI	**Bau Bau**	**3.42**	**179**	P	**Pn**	**12 04 48.3**	**0.0**
SANI	**Sanana**	**3.45**	**90**	P	**Pn**	**12 04 49.7**	**+0.9**
MPSI	**Mapaga**	**3.54**	**312**	P	**Pn**	**12 04 50.7**	**+0.7**
TOLI2	**Tolitoli**	**3.59**	**331**		**Pn**	**12 04 50.8**	**+0.1**
BKSI	**Bulukumba**	**4.04**	**216**	P	**Pn**	**12 04 57.2**	**+0.3**
KAPI	**Kappang**	**4.05**	**223**		**Pn**	**12 04 57.4**	**+0.4**
KAPI	**Kappang**	**4.05**	**223**	Pn	**Pn**	**12 04 57.0**	**+0.1**
	22nm,0.3s,baz=334,slow=9.6,SNR=6.8						
KAPI				Sn	**Sn**	**12 05 42.5**	**-0.7**
	14nm,0.3s,baz=64,slow=23,SNR=2.0						
	64nm,0.4s						
BSSI	**Bau Bau, Buton**	**4.55**	**207**	P	**Pn**	**12 05 03.9**	**0.0**
NLAI	**Namlea**	**4.71**	**105**	P	**Pn**	**12 05 07.2**	**+1.1**
SMKI	**Samarinda**	**5.56**	**287**	P	Pn	12 05 28.0	+10
TNTI	**Ternate**	**5.59**	**60**		**Pn**	**12 05 17.8**	**-0.4**
TNTI	**Ternate**	**5.59**	**60**	P	**Pn**	**12 05 17.0**	**-1.1**
	0.9nm110nm,0.6s						
BKB	**Balikpapan**	**5.69**	**278**		**Pn**	**12 05 18.9**	**-0.7**
BKB	**Balikpapan**	**5.69**	**278**	P	**Pn**	**12 05 18.7**	**-0.8**
	308nm,1.3s						
MMRI	**Maumere**	**6.55**	**183**		**Pn**	**12 05 31.2**	**-0.2**
MMRI	**Maumere**	**6.55**	**183**	P	**Pn**	**12 05 31.0**	**-0.4**
EDFI	**Ende, Flores**	**6.71**	**187**	P	**Pn**	**12 05 33.1**	**-0.6**
SOEI	**Soe**	**7.85**	**167**		**Pn**	**12 05 50.3**	**+1.0**
SOEI	**Soe**	**7.85**	**167**	P	**Pn**	**12 05 50.5**	**+1.2**
	168nm,0.9s						
MYLDM	**Lahad Datu**	**8.23**	**331**	Pn	**Pn**	**12 05 52.0**	**-2.4**
SWI	**Sorong**	**8.80**	**82**	P	**Pn**	**12 06 02.5**	**+0.2**
FAKI	**Fak Fak**	**9.74**	**95**	Pn	**Pn**	**12 06 14.9**	**-0.3**
FAKI	**Fak Fak**	**9.74**	**95**	P	**Pn**	**12 06 16.3**	**+1.1**
SBUM	**Sibu**	**11.24**	**293**	Pn	**Pn**	**12 06 35.9**	**+0.2**
MTN	**Manton Dam**	**13.69**	**142**	Pn	**Pn**	**12 07 09.8**	**+0.5**
KDU	**Kakadu**	**14.44**	**138**	P	**Pn**	**12 07 18.9**	**-0.6**
KNRA	**Kununurra**	**14.87**	**156**	P	**Pn**	**12 07 22.0**	**-3.3**
FITZ	**Fitzroy Crossi**	**16.24**	**169**	Pn	**Pn**	**12 07 41.6**	**-1.4**
FITZ	**Fitzroy Crossi**	**16.24**	**169**	P	**Pn**	**12 07 41.3**	**-1.7**
FITZ	**Fitzroy Crossi**	**16.24**	**169**	Pn	**Pn**	**12 07 43.8**	**+0.8**
	0.4nm,0.3s,baz=15,slow=8.2,SNR=10						
	8.5nm,0.7s						
WB0	**Warramunga Arr**	**21.09**	**147**		**P**	**12 08 38.6**	**-0.4**
WB0				IAmb	IAmb	12 08 42.8	
	comp=Z,39nm,0.8s						
WRAB	**Tennant Creek**	**21.20**	**148**	P	**P**	**12 08 39.8**	**-0.4**
WRAB				IAmb	IAmb	12 08 44.1	
	comp=Z,26nm,1.0s						
WRA	**Warramunga Arr**	**21.20**	**148**	P	**P**	**12 08 39.5**	**-0.7**
	comp=Z,14nm,0.7s,baz=325,slow=11,SNR=48						
	comp=Z,14nm,0.7s						
WB2	**Warramunga Arr**	**21.21**	**148**		**P**	**12 08 39.5**	**-0.8**
WB2				IAmb	IAmb	12 08 44.2	
	comp=Z,37nm,1.1s						
WR0	**Warramunga Arr**	**21.32**	**147**	P	**P**	**12 08 41.0**	**-0.5**
WR0				IAmb	IAmb	12 08 44.7	
	comp=Z,25nm,0.8s						
WRKA	**Warakurna**	**23.52**	**167**	P	**P**	**12 09 04.3**	**-0.2**
	comp=Z,39nm,1.3s						
RPSI	**Rantau Prapat**	**24.07**	**281**	P	**P**	**12 09 07.3**	**-2.5**
RPSI				IAmb	IAmb	12 09 13.9	
	comp=Z,28nm,0.9s						
RPSI	**Rantau Prapat**	**24.07**	**281**	P	**P**	**12 09 12.6**	**+2.8**
PSI	**Prapat**	**24.09**	**281**	P	**P**	**12 09 12.6**	**+2.5**
	comp=Z,24nm,0.8s,baz=103,slow=8.6,SNR=12						
	comp=Z,24nm,0.8s						
UBPT	**Khong Chiam**	**24.11**	**316**	P	**P**	**12 09 09.4**	**-0.8**
AS31	**Alice Springs**	**24.15**	**154**	P	**P**	**12 09 10.9**	**+0.4**
AS31	**Alice Springs**	**24.15**	**154**	P	**P**	**12 09 10.5**	**+0.1**
	comp=Z,8.0nm,0.7s						
ASAR	**Alice Springs**	**24.15**	**154**	P	**P**	**12 09 10.8**	**+0.3**
ASAR	**Alice Springs**	**24.15**	**154**	P	**P**	**12 09 10.6**	**+0.1**
	comp=Z,9.6nm,0.6s,baz=342,slow=14,SNR=54						
	comp=Z,9.6nm,0.6s						
QIZ	**Qiongzhong**	**24.38**	**330**		**PcP**	**12 12 52.5**	**+0.9**
MEEK	**Meekatharra**	**24.74**	**188**	P	**P**	**12 09 15.6**	**-0.1**
QIS	**Mount Isa**	**24.82**	**139**	P	**P**	**12 09 16.3**	**-0.3**
	comp=Z,33nm,0.6s						
PMG	**Port Moresby**	**25.55**	**108**	P	**P**	**12 09 24.2**	**+0.9**
PMG				IAmb	IAmb	12 09 25.8	
	comp=Z,17nm,0.8s						
PMG	**Port Moresby**	**25.55**	**108**	P	**P**	**12 09 22.7**	**-0.5**
	comp=Z,18nm,0.8s,baz=183,slow=8.0,SNR=5.0						
	comp=Z,18nm,0.8s						
FORT	**Forrest**	**29.05**	**170**	P	**P**	**12 09 52.8**	**-1.7**
FORT				IAmb	IAmb	12 10 28.5	
	comp=Z,25nm,1.1s						
JOW	**Kunigami**	**29.24**	**11**	P	**P**	**12 09 55.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**30.89**	**312**	P	**P**	**12 10 10.6**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=134,slow=7.0,SNR=9.5						
	comp=Z,1.3nm,0.6s						
BBOO	**Buckleboo**	**33.13**	**159**	P	**P**	**12 10 30.3**	**-0.2**
BBOO	**Buckleboo**	**33.13**	**159**	P	**P**	**12 10 30.1**	**-0.4**
	comp=Z,40nm,0.7s						
NJ2	**Nanjing**	**34.09**	**354**	*e*P	**P**	**12 10 40.9**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
STKA	**Stephens Creek**	**34.69**	**151**	P	**P**	**12 10 44.2**	**+0.2**
STKA				IAmb	IAmb	12 10 58.2	
	comp=Z,4.1nm,0.7s						
STKA	**Stephens Creek**	**34.69**	**151**	P	**P**	**12 10 44.1**	**+0.1**
STKA	**Stephens Creek**	**34.69**	**151**	P	**P**	**12 10 43.8**	**-0.2**
	comp=Z,9.3nm,0.9s,baz=314,slow=8.4,SNR=13						
	comp=Z,9.3nm,0.9s						
PZH	**PanZhiHua**	**34.77**	**326**	P	**P**	**12 10 48.8**	**+3.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CMSA	**Cobar Meteorol**	**36.58**	**146**	P	**P**	**12 11 00.5**	**+0.3**
ARPS	**Mount Arapiles**	**38.88**	**155**	P	**P**	**12 11 20.1**	**+0.5**
	comp=Z,64nm,0.7s						
JGF	**Kuroka**	**39.94**	**19**	P	**P**	**12 11 29.0**	**+0.5**
JGF				IAmb	IAmb	12 12 11.4	
	comp=Z,21nm,1.4s						
MJAR	**Matsushiro Arr**	**41.08**	**19**	P	**P**	**12 11 35.0**	**-2.8**
	comp=Z,3.4nm,0.8s,baz=196,slow=8.4,SNR=7.8						
	comp=Z,3.4nm,0.8s						
TOO	**Toolangi**	**41.17**	**152**	P	**P**	**12 11 40.3**	**+1.6**
TOO	**Toolangi**	**41.17**	**152**	P	**P**	**12 11 39.8**	**+1.1**
CAN	**Canberra**	**41.23**	**146**	P	**P**	**12 11 40.3**	**+1.1**
CAN				IAmb	IAmb	12 11 41.1	
	comp=Z,12nm,0.9s						
CAN	**Canberra**	**41.23**	**146**	P	**P**	**12 11 39.5**	**+0.3**
HHC	**Hu-ho-hao-te**	**43.85**	**348**	*e*P	**P**	**12 12 00.4**	**-0.1**
GTA	**Gaotai**	**46.24**	**336**	*e*P	**P**	**12 12 23.6**	**+4.1**
GTA				pP	pP	12 12 27.2	-2.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**46.81**	**9**	P	**P**	**12 12 22.4**	**-1.3**
	comp=Z,1.7nm,0.5s,baz=186,slow=6.2,SNR=9.2						
	comp=Z,1.7nm,0.5s						
PINNC	**Pines Island,**	**48.12**	**119**	P	**P**	**12 12 34.1**	**-0.2**
ASAJ	**Asahikawa**	**49.35**	**19**	P	**P**	**12 12 42.5**	**-0.9**
	comp=Z,3.6nm,0.8s,baz=250,slow=13,SNR=7.0						
	comp=Z,3.6nm,0.8s						
JKA	**Kamikawa-asahi**	**49.35**	**19**	P	**P**	**12 12 42.4**	**-0.9**
JKA				IAmb	IAmb	12 12 45.6	
	comp=Z,8.7nm,1.1s						
SONM	**Songino Array**	**51.64**	**346**	P	**P**	**12 13 00.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=168,slow=7.4,SNR=2.4						
	comp=Z,0.5nm,0.3s						
MKAR	**Makanchi Array**	**60.11**	**329**	P	**P**	**12 14 02.1**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=119,slow=7.7,SNR=3.5						
	comp=Z,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**63.98**	**336**	P	**P**	**12 14 26.3**	**-0.9**
ZALV	**Zalesovo Beam**	**63.98**	**336**	P	**P**	**12 14 29.3**	**+2.2**
	comp=Z,0.8nm,0.6s,baz=107,slow=5.0,SNR=2.6						
	comp=Z,0.8nm,0.6s						
VNDA	**Vanda**	**78.30**	**172**	P	**P**	**12 15 53.4**	**-0.1**
VNDA	**Vanda**	**78.30**	**172**	P	**P**	**12 15 53.1**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=330,slow=5.0,SNR=4.5						
	comp=Z,1.3nm,0.7s						
H17K	**Granite Mounta**	**86.58**	**25**	P	**P**	**12 16 37.2**	**+0.3**
H17K				IAmb	IAmb	12 17 18.9	
	comp=Z,6.6nm,1.1s						
L18K	**Granite Mounta**	**87.50**	**28**	P	**P**	**12 16 41.7**	**+0.3**
L18K				IAmb	IAmb	12 17 08.9	
	comp=Z,11nm,1.4s						
TTA	**Tatalina**	**87.92**	**27**	P	**P**	**12 16 44.8**	**+1.3**
TTA				IAmb	IAmb	12 17 13.6	
	comp=Z,7.8nm,1.4s						
H19K	**Roundabout Mou**	**88.12**	**24**	P	**P**	**12 16 46.8**	**+2.6**
J19K	**Poorman**	**88.25**	**26**	P	**P**	**12 16 43.8**	**-1.1**
J20K	**Nowinta River**	**88.91**	**26**	P	**P**	**12 16 47.7**	**-0.3**
J20K				IAmb	IAmb	12 17 22.5	
	comp=Z,4.4nm,1.1s						
I23K	**Minto, Yukon-K**	**91.05**	**25**	P	**P**	**12 16 57.5**	**-0.4**
H24K	**Noodor Dome**	**91.69**	**24**	P	**P**	**12 17 00.1**	**-0.8**
M24K	**Tolsona, Glenn**	**92.40**	**28**	P	**P**	**12 17 04.5**	**+0.1**
BMAR	**Burnt Mountain**	**92.99**	**23**	P	**P**	**12 17 05.6**	**-1.4**
SCHLR	**Schela**	**94.75**	**315**	⇓S	**S**	**12 28 18.8**	**-7.8**
I28M	**Miner Creek**	**94.99**	**25**	P	**P**	**12 17 15.2**	**-1.1**
H29M	**Whitestone**	**95.54**	**24**	P	**P**	**12 17 18.2**	**-0.5**
H29M				IAmb	IAmb	12 17 29.3	
	comp=Z,5.3nm,1.3s						

---

*BJI **12** 12:12:03.1, 2°.56S×123°.38E, h10km, mb5.1/50, Ms5.9/5, Ms7 5.5/5*
*IDC **12** 12:12:10.2±0.4, 1°.67S×122°.69E, h0km, mb4.8/32, mbtmp4.8/36, ML4.1/3, MS5.3/1, Error ellipse: s-maj=15.1km s-min=10.3km az=78.0*
*MOS **12** 12:12:10.9±1.2, 1°.69S×122°.67E, h15km, mb5.2/35, Error ellipse: s-maj=9.2km s-min=5.9km az=105.7*
*NEIC **12** 12:12:13.0±2.3, 1°.85S±0°.04×122°.58E±0°.06, h10km±1km, mb5.4/140, Error ellipse: s-maj=10.2km s-min=6.7km az=274.0*
*DJA **12** 12:12:14.7±0.1, 2°S±1°×12°3E±°, h10km, M5.3/40, mb5.0/40, mB3.3/1, MLv5.4/28, Mw(mB)2.1/1*
ISC 12 12:12:12.3±0.8, 1°.80S±0°.03×122°.63E±0°.03, h11km±4km, n633, σ1§30/609, mb5.2/150, MS5.5/3, 12C-15D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.77**	**11**	Pg	**Pn**	**12 12 29.0**	**-0.1**
LUWI	**Luwuk**	**0.77**	**11**	P	**Pn**	**12 12 29.7**	**+0.6**
LUWI	**Luwuk**	**0.77**	**11**	S	**Sn**	**12 12 40.5**	**-0.1**
APSI	**Ampana**	**1.32**	**312**	P	**Pg**	**12 12 38.7**	**+1.0**
KDI	**Kendari**	**2.14**	**180**	P	**Pb**	**12 12 50.5**	**-0.7**
KMSI	**Cibinong**	**2.72**	**30**	P	**Pb**	**12 12 59.3**	**-1.7**
KMSI				S	**Sb**	**12 13 35.5**	**+1.1**
PCI	**Palu**	**2.93**	**288**	P	**Pb**	**12 13 03.6**	**-1.0**
PCI				S	**Sn**	**12 13 37.1**	**+3.0**
SANI	**Sanana**	**3.37**	**94**	P	**Pn**	**12 13 05.4**	**+0.6**
SANI	**Sanana**	**3.37**	**94**	S	**Sn**	**12 13 45.3**	**+0.5**
SANI	**Sanana**	**3.37**	**94**	P	**Pn**	**12 13 05.5**	**+0.6**
TOLI2	**Tolitoli**	**3.43**	**327**		**Pn**	**12 13 08.6**	**+2.8**
TOLI2				Sn	**Sn**	**12 13 45.2**	**-1.3**
TOLI2	**Tolitoli**	**3.43**	**327**	P	**Pn**	**12 13 09.6**	**+3.8**
TOLI2	**Tolitoli**	**3.43**	**327**	S	**Sn**	**12 13 49.7**	**+3.2**
MPSI	**Mapaga**	**3.46**	**308**	P	**Pb**	**12 13 11.2**	**-2.4**
SPSI	**Sidrap Palu**	**3.58**	**233**	P	**Pn**	**12 13 09.1**	**+1.4**
SPSI				S	**Sn**	**12 13 51.1**	**+1.1**
BNSI	**Bone**	**3.61**	**224**	P	**Pn**	**12 13 09.0**	**+0.8**
BNSI				S	**Sn**	**12 13 51.9**	**+1.1**
BBSI	**Bau Bau**	**3.66**	**181**	P	**Pn**	**12 13 10.0**	**+1.0**
KAPI	**Kappang**	**4.29**	**222**		**Pn**	**12 13 18.5**	**+0.9**
KAPI				Sn	**Sn**	**12 14 06.5**	**-1.2**
KAPI	**Kappang**	**4.29**	**222**	Pn	**Pn**	**12 13 18.9**	**+1.3**
	918nm,0.5s,baz=7.1,slow=4.1,SNR=107						
KAPI				Sn	**Sn**	**12 14 07.0**	**-0.8**
	165nm,0.3s,baz=106,slow=23,SNR=8.9						
KAPI	**Kappang**	**4.29**	**222**	P	**Pn**	**12 13 19.2**	**+1.6**
KAPI	**Kappang**	**4.29**	**222**	P	**Pn**	**12 13 19.0**	**+1.3**
KAPI	**Kappang**	**4.29**	**222**	*de*P	**Pn**	**12 13 18.2**	**+0.6**
BKSI	**Bulukumba**	**4.30**	**216**	P	**Pn**	**12 13 18.6**	**+0.9**
NLAI	**Namlea**	**4.69**	**108**	P	**Pn**	**12 13 26.2**	**+3.1**
BSSI	**Bau Bau, Buton**	**4.81**	**206**	P	**Pn**	**12 13 25.3**	**+0.5**
TNTI	**Ternate**	**5.38**	**62**		**Pn**	**12 13 35.2**	**+2.6**
TNTI	**Ternate**	**5.38**	**62**	P	**Pn**	**12 13 35.6**	**+3.0**
TNTI	**Ternate**	**5.38**	**62**	P	**Pn**	**12 13 35.6**	**+3.0**
	1.9nm233nm,0.8s						
SMKI	**Samarinda**	**5.58**	**284**	P	**Pn**	**12 13 37.3**	**+1.9**
	2.7nm202nm,0.5s						
BKB	**Balikpapan**	**5.76**	**275**		**Pn**	**12 13 38.0**	**+0.2**
BKB	**Balikpapan**	**5.76**	**275**	P	**Pn**	**12 13 38.5**	**+0.7**
	2.6nm354nm,1.0s						
AAI	**Ambon**	**5.87**	**109**	P	**Pn**	**12 13 43.7**	**+4.4**
MSAI	**Masohi**	**6.48**	**104**	P	**Pn**	**12 13 52.2**	**+4.5**
	1.4nm351nm,0.9s						
MMRI	**Maumere**	**6.80**	**183**		**Pn**	**12 13 53.1**	**+1.0**
MMRI	**Maumere**	**6.80**	**183**	P	**Pn**	**12 13 53.1**	**+1.0**
	1.3nm187nm,0.9s						
EDFI	**Ende, Flores**	**6.97**	**188**	P	**Pn**	**12 13 55.0**	**+0.5**
	0.9nm136nm,0.7s						
BNDI	**Bandanaira**	**7.75**	**111**	P	**Pn**	**12 14 09.6**	**+4.4**
SOEI	**Soe**	**8.07**	**168**	Pn	**Pn**	**12 14 09.3**	**-0.3**
SOEI	**Soe**	**8.07**	**168**	P	**Pn**	**12 14 11.5**	**+1.9**
	1.1nm334nm,1.0s						
MYLDM	**Lahad Datu**	**8.07**	**329**		**Pn**	**12 14 09.0**	**-0.5**
MYLDM	**Lahad Datu**	**8.07**	**329**	P	**Pn**	**12 14 13.4**	**+3.9**
WSI	**Waingapu**	**8.15**	**196**	P	**Pn**	**12 14 12.1**	**+1.4**
	129nm,0.7s	

comp=Z,53nm,1.1s
TGY Tagaytay City 15.89 354 Pn **Pn 12 15 57.0 +0.9**
TGY comp=Z,68nm,0.3s,baz=227,slow=4.8,SNR=13 LR LR 12 21 44.9
comp=Z,9µm,18.5s,baz=254,slow=36
SMPI Sarmi 16.07 91 P **P 12 16 02.1 +0.3**
comp=Z,52nm,1.0s
CNJI Cibinong 16.39 250 P **Pn 12 16 03.6 +1.1**
comp=Z,49nm,1.2s
FITZ Fitzroy Crossi 16.46 170 Pn **Pn 12 16 01.9 -1.5**
FITZ Fitzroy Crossi 16.46 170 P **Pn 12 16 02.4 -1.0**
comp=Z,4.3nm,1.1s
FITZ Fitzroy Crossi 16.46 170 Pn **Pn 12 16 03.2 -0.3**
comp=Z,0.3nm,0.3s,baz=25,slow=9.0,SNR=12
comp=Z,4.8nm,0.8s
FITZ Fitzroy Crossi 16.46 170 P **Pn 12 16 03.6 +0.2**
PPBI Pangkal Pinang 16.49 268 P **Pn 12 16 05.7 +1.9**
GENI Genyem 17.54 93 P **P 12 16 20.7 +2.5**
comp=Z,85nm,1.3s
CGJI Cibinong 17.55 254 P **P 12 16 19.0 +0.8**
comp=Z,83nm,1.3s
JAY Jayapura 18.08 93 P **Pn 12 16 22.6 -1.1**
comp=Z,0.2nm,0.3s,baz=190,slow=17,SNR=2.1
comp=Z,6.8nm,0.9s
JAY Jayapura 18.08 93 P **P 12 16 27.2 +3.1**
comp=Z,28nm,1.0s
TPRI Tanjung Pinang 18.30 278 P **P 12 16 29.0 +2.5**
MDSI Maura Dua 18.61 261 P **Pn 12 16 31.9 +1.7**
comp=Z,112nm,1.1s
LWLI Liwa 18.81 260 P **Pn 12 16 33.9 +1.2**
comp=Z,146nm,0.7s
XMIS Christmas Isla 18.94 242 **P 12 16 31.7 -1.9**
MYKOM Kota Tinggi 19.11 281 P **P 12 16 34.9 -0.6**
MBWA Marble Bar 19.45 188 P **Pn 12 16 40.8 +0.6**
PSA00 Pilbara Seismi 19.84 188 P **P 12 16 42.2 -1.1**
PSA00 Pilbara Seismi 19.84 188 P **P 12 16 42.8 -0.5**
PSA00 IAmb IAmb 12 16 49.8
comp=Z,22nm,1.3s
PSA00 Pilbara Seismi 19.84 188 P **Pn 12 16 44.7 -0.2**
WB0 Warramunga Arr 21.24 148 **P 12 16 58.2 -0.4**
WB0 IAmb IAmb 12 17 06.4
comp=Z,101nm,0.9s
WRAB Tennant Creek 21.36 148 P **P 12 16 59.8 0.0**
WRAB Tennant Creek 21.36 148⇑ *e*P **P 12 16 59.7 -0.1**
WRAB pmax pmax
comp=Z,92nm,1.0s
WRA Warramunga Arr 21.36 148 P **P 12 16 59.5 -0.4**
WRA Warramunga Arr 21.36 148 P **P 12 16 60.0 +0.1**
comp=Z,24nm,0.8s,baz=331,slow=10.0,SNR=55
WRA S **S 12 20 58.4 +1.3**
comp=Z,4.6nm,1.1s,baz=332,slow=17,SNR=4.7
comp=Z,24nm,0.8s
WRA Warramunga Arr 21.36 148 P **P 12 17 00.0 +0.1**
WB2 Warramunga Arr 21.36 148 P **P 12 16 59.7 -0.2**
WB2 IAmb IAmb 12 17 07.7
comp=Z,85nm,0.9s
WR0 Warramunga Arr 21.48 148 P **P 12 17 01.2 +0.1**
BKNI Bangkinang 21.69 275 P **P 12 17 03.9 +0.5**
KULM Kulim 23.06 288 **P 12 17 18.6 +0.6**
COEN Coen 23.63 122 P **P 12 17 24.6 +0.8**
WRKA Warakurna 23.74 167 P **P 12 17 25.6 +0.9**
comp=Z,88nm,0.9s
WRKA Warakurna 23.74 167 P **P 12 17 25.8 +1.0**
UBPT Khong Chiam 24.00 316 P **P 12 17 27.4 +0.1**
UBPT IAmb IAmb 12 17 29.8
comp=Z,145nm,1.5s
UBPT Khong Chiam 24.00 316 P **P 12 17 29.3 +2.0**
RPSI Rantau Prapat 24.12 281 **P 12 17 28.7 +0.3**
RPSI IAmb IAmb 12 17 33.8
comp=Z,106nm,1.2s
RPSI Rantau Prapat 24.12 281 P **P 12 17 29.0 +0.6**
PSI Prapat 24.14 281 P **P 12 17 29.0 +0.2**
comp=Z,75nm,1.1s,baz=130,slow=5.4,SNR=29
comp=Z,75nm,1.1s
QIZ Qiongzhong 24.22 329 P **P 12 17 29.5 +0.2**
QIZ IAmb IAmb 12 17 31.4
comp=Z,94nm,1.0s
QIZ Qiongzhong 24.22 329 P **P 12 17 29.9 +0.6**
QIZ S **S 12 21 50.1 +2.4**
QIZ pmax pmax
comp=Z,91nm,0.9s
QIZ LR LR
comp=Z,13µm,12.7s
QIZ LR LR
comp=Z,6µm,18.6s
QIZ LR LR
comp=Z,10µm,14.4s
AS31 Alice Springs 24.33 154 **P 12 17 29.7 -0.6**
AS31 Alice Springs 24.33 154 P **P 12 17 30.6 +0.3**
comp=Z,11nm,1.2s
ASAR Alice Springs 24.33 154 P **P 12 17 31.0 +0.7**
ASAR Alice Springs 24.33 154 P **P 12 17 31.1 +0.8**
comp=Z,16nm,0.7s,baz=325,slow=7.5,SNR=62
ASAR PcP **PcP 12 21 10.8 +0.6**
comp=Z,2.1nm,0.7s,baz=348,slow=1.9,SNR=5.2
comp=Z,16nm,0.7s
AS01 Alice Springs 24.34 154 P **P 12 17 31.1 +0.6**
TWG Pinlang 24.52 357 P **P 12 17 32.5 +0.5**
TWG IAmb IAmb 12 17 34.4
comp=Z,72nm,1.3s
MANU Manus Island 24.72 91 P **P 12 17 33.8 -0.2**
QIS Mount Isa 24.94 140 P **P 12 17 36.3 +0.4**
comp=Z,24nm,0.6s
QIS Mount Isa 24.94 140 P **P 12 17 36.6 +0.7**
MEEK Meekatharra 24.99 189 P **P 12 17 37.3 +1.0**
comp=Z,76nm,1.4s
MEEK Meekatharra 24.99 189 P **P 12 17 37.5 +1.2**
TPUB Ta-pu 25.03 356 P **P 12 17 36.9 +0.3**
TPUB IAmb IAmb 12 17 44.2
comp=Z,69nm,0.8s
TPUB Ta-pu 25.03 356 P **P 12 17 37.7 +1.1**
YULB Yu-li 25.07 357 P **P 12 17 39.5 +2.5**
GSI Gunungsitoli 25.24 277 **P 12 17 38.1 -0.6**
GSI IAmb IAmb 12 17 54.6
comp=Z,93nm,1.0s
SSLB Suanglung 25.49 356 P **P 12 17 41.0 +0.2**
SSLB IAmb IAmb 12 17 42.6
comp=Z,90nm,1.3s
SSLB Suanglung 25.49 356 P **P 12 17 41.4 +0.6**
PMG Port Moresby 25.54 108 **P 12 17 41.9 +0.6**
PMG Port Moresby 25.54 108 P **P 12 17 40.6 -0.8**
comp=Z,37nm,0.9s,baz=88,slow=4.6,SNR=5.8
comp=Z,37nm,0.9s
PMG Port Moresby 25.54 108⇓ *i*P **P 12 17 42.8 +1.5**
PMG pmax pmax
comp=Z,43nm,0.9s
OOD Oodnadatta 28.71 155 P **P 12 18 10.5 +0.8**
JOW Kunigami 28.98 10 P **P 12 18 12.7 +0.6**
FORT Forrest 29.28 170 P **P 12 18 14.2 -0.5**
comp=Z,44nm,1.9s
FORT Forrest 29.28 170 P **P 12 18 15.6 +0.9**
CM31 Chiang Mai Arr 30.80 312 P **P 12 18 29.1 +0.7**
CM31 Chiang Mai Arr 30.80 312 P **P 12 18 30.2 +1.9**
CMAR Chiang Mai Arr 30.80 312 P **P 12 18 28.8 +0.5**
CMAR Chiang Mai Arr 30.80 312 P **P 12 18 29.1 +0.8**
comp=Z,12nm,0.8s,baz=137,slow=7.1,SNR=82
CMAR PcP **PcP 12 21 25.9 +0.2**
comp=Z,1.2nm,0.4s,baz=199,slow=1.5,SNR=5.2
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 30.80 312 *i*P **P 12 18 30.1 +1.8**
CMAR pmax pmax
comp=Z,14nm,0.7s
CHTO Chiang Mai 31.02 312 P **P 12 18 31.0 +0.7**
CHTO IAmb IAmb 12 18 32.7
comp=Z,24nm,0.8s
CHTO Chiang Mai 31.02 312 P **P 12 18 32.0 +1.7**
CHTO Chiang Mai 31.02 312 P **P 12 18 31.9 +1.6**
CHTO Chiang Mai 31.02 312 P **P 12 18 31.0 +0.7**
CHTO pmax pmax
comp=Z,24nm,0.8s
INKA Innaminka 31.08 148 P **P 12 18 32.5 +1.8**
LCRK Leigh Creek 32.10 154 P **P 12 18 40.6 +1.0**
QLP Quilpie 32.21 142 P **P 12 18 41.4 +0.7**
comp=Z,37nm,1.6s
KMI Kunming 32.98 325 P **P 12 18 50.2 +2.5**
KMI pmax pmax
comp=Z,14nm,0.8s
RKGY Rocky Gully 33.06 189 P **P 12 18 48.9 +0.9**
comp=Z,30nm,1.1s
WHN Wuhan 33.12 347 P **P 12 18 51.0 +2.5**
WHN pmax pmax
comp=Z,330nm,1.7s
BBOO Buckleboo 33.33 159 P **P 12 18 50.5 +0.1**
comp=Z,37nm,2.4s
BBOO Buckleboo 33.33 159 P **P 12 18 50.8 +0.4**

NJ2 Nanjing 33.86 354⇑ P **P 12 18 56.8 +1.8**
NJ2 pmax pmax
comp=Z,25nm,0.7s
JCJ Chichijima 34.36 32 P **P 12 18 57.2 -2.2**
comp=Z,60nm,0.5s,baz=275,slow=16,SNR=4.4
comp=Z,60nm,0.5s
PZH PanZhiHua 34.62 326 P **P 12 19 03.3 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.9s
STKA Stephens Creek 34.85 151 P **P 12 19 03.6 -0.1**
STKA Stephens Creek 34.85 151 P **P 12 19 04.2 +0.5**
comp=Z,153nm,1.0s
STKA Stephens Creek 34.85 151 P **P 12 19 03.9 +0.2**
comp=Z,31nm,1.0s,baz=312,slow=7.6,SNR=20
comp=Z,31nm,1.0s
STKA Stephens Creek 34.85 151 P **P 12 19 04.5 +0.8**
STKA Stephens Creek 34.85 151⇑ *e*P **P 12 19 04.0 +0.3**
JNU Nakatsue 35.60 12 P **P 12 19 07.9 -2.2**
comp=Z,5.4nm,0.8s,baz=272,slow=6.7,SNR=4.2
comp=Z,5.4nm,0.8s
CMSA Cobar Meteorol 36.73 146 P **P 12 19 20.5 +0.7**
comp=Z,33nm,1.0s
CMSA Cobar Meteorol 36.73 146 P **P 12 19 21.1 +1.3**
JMN Monobe 36.90 16 P **P 12 19 21.0 -0.2**
JMN IAmb IAmb 12 19 23.4
comp=Z,40nm,0.9s
JMN Monobe 36.90 16 P **P 12 19 21.1 -0.1**
CD2 Chengdu 37.16 333 P **P 12 19 24.4 +0.9**
CD2 pmax pmax
comp=Z,20nm,0.7s
LYN LuoYang 37.40 346 *e*P **P 12 19 25.8 +0.4**
LYN pmax pmax
comp=Z,70nm,0.9s
XAN Xi'an 37.91 341 P **P 12 19 30.3 +0.5**
XAN pmax pmax
comp=Z,26nm,1.2s
ARPS Mount Arapiles 39.06 155 P **P 12 19 40.2 +0.9**
comp=Z,87nm,0.9s
ARPS Mount Arapiles 39.06 155 P **P 12 19 39.9 +0.5**
INU Inuyama 39.33 19 P **P 12 19 40.7 -1.0**
INU Inuyama 39.33 19 P **P 12 19 41.1 -0.6**
KSRS Korea Array 39.37 7 P **P 12 19 40.4 -1.5**
comp=Z,4.1nm,0.7s,baz=187,slow=9.8,SNR=20
comp=Z,4.1nm,0.7s
ARMA Armidale 39.57 139 P **P 12 19 43.9 0.0**
ARMA Armidale 39.57 139 P **P 12 19 44.2 +0.3**
comp=Z,35nm,1.1s
JGF Kuroka 39.67 19 P **P 12 19 42.9 -1.7**
JGF Kuroka 39.67 19 P **P 12 19 43.6 -1.0**
HNS HongShan 39.69 350 ⇓P **P 12 19 45.0 +0.4**
HNS pmax pmax
comp=Z,32nm,1.2s
SHL Shillong 40.32 314 P **P 12 19 50.2 -0.1**
SHL Shillong 40.32 314 P **P 12 19 52.4 +2.2**
SNR=5.4
SHL Shillong 40.32 314 P **P 12 19 50.2 -0.1**
SHL pmax pmax
comp=Z,14nm,0.8s
MAJO Matsushiro 40.81 19 P **P 12 19 51.8 -2.2**
MAJO Matsushiro 40.81 19⇑ *i*P **P 12 19 52.0 -2.0**
MAJO pmax pmax
comp=Z,33nm,0.8s
MJAR Matsushiro Arr 40.81 19 P **P 12 19 52.1 -1.8**
comp=Z,26nm,0.8s,baz=193,slow=8.8,SNR=57
comp=Z,26nm,0.8s
MJB9 Matsu-Tunnel 40.81 19 P **P 12 19 53.2 -0.8**
TOO Toolangi 41.34 152 P **P 12 19 58.5 +0.1**
TOO Toolangi 41.34 152 P **P 12 19 59.6 +1.2**
comp=Z,8.7nm,1.3s
TOO Toolangi 41.34 152 P **P 12 19 58.5 +0.1**
TOO pmax pmax
comp=Z,13nm,1.3s
CAN Canberra 41.38 147 P **P 12 19 59.5 +0.7**
CAN Canberra 41.38 147 P **P 12 19 59.4 +0.6**
CAN Canberra 41.38 147 P **P 12 19 59.5 +0.7**
CAN pmax pmax
comp=Z,40nm,1.2s
BJI Beijing 42.06 353 P **P 12 20 03.4 -0.7**
BJI pmax pmax
comp=Z,15nm,1.1s
BJI LR LR
comp=Z,4µm,15.5s
BJI LR LR
comp=Z,4µm,18.8s
BJI LR LR
comp=Z,4µm,19.2s
PALK Pallekele 42.80 283 P **P 12 20 11.0 +0.4**
JMM Marumori 42.90 21 P **P 12 20 10.8 -0.2**
JMM IAmb IAmb 12 20 12.2
comp=Z,36nm,0.9s
JMM Marumori 42.90 21 P **P 12 20 12.1 +1.1**
HHC Hu-ho-hao-te 43.63 348 *e*P **P 12 20 21.3 +4.3**
BTO Baotou 43.75 346 *e*P **P 12 20 21.1 +3.2**
BTO PP **PcP 12 22 06.1 +1.3**
BTO S **S 12 26 54.8 +6.5**
BTO pmax pmax
comp=Z,23nm,0.7s
BTO LR LR
comp=Z,20µm,14.7s
BTO LR LR
comp=Z,14µm,15.9s
BTO LR LR
comp=Z,16µm,19.6s
JTM Tenmabayashi 45.60 20 P **P 12 20 32.3 -0.3**
JTM Tenmabayashi 45.60 20 P **P 12 20 33.5 +0.9**
GTA Gaotai 46.05 335 P **P 12 20 38.5 +2.1**
GTA pP sP 12 20 43.6 +2.7
GTA PcP **PcP 12 22 14.2 +1.4**
GTA pmax pmax
comp=Z,44nm,0.9s
USA0B Ussuriysk Arra 46.56 9 P **P 12 20 38.7 -1.4**
USA0B IAmb IAmb 12 20 39.7
comp=Z,17nm,0.7s
USA0B Ussuriysk Arra 46.56 9 P **P 12 20 38.7 -1.4**
USA0B pmax pmax
comp=Z,17nm,0.7s
USRK Ussuriysk Ar. 46.56 9 **P 12 20 39.0 -1.0**
USRK Ussuriysk Ar. 46.56 9 P **P 12 20 38.8 -1.3**
comp=Z,14nm,0.6s,baz=197,slow=7.0,SNR=31
comp=Z,14nm,0.6s
USRK Ussuriysk Ar. 46.56 9 P **P 12 20 39.0 -1.0**
MDJ Mudanjiang 46.63 7 P **P 12 20 39.8 -0.9**
MDJ IAmb IAmb 12 20 40.7
comp=Z,24nm,0.7s
MDJ Mudanjiang 46.63 7 P **P 12 20 39.4 -1.2**
MDJ pmax pmax
comp=Z,39nm,0.7s
HYB Hyderabad 47.45 296 *e*P **P 12 20 47.4 -0.2**
BNX BinXian 47.52 5⇑ P **P 12 20 48.2 +0.6**
BNX pmax pmax
comp=Z,10.0nm,1.5s
ASAJ Asahikawa 49.08 19 P **P 12 20 59.2 -0.5**
comp=Z,26nm,0.7s,baz=233,slow=13,SNR=60
comp=Z,26nm,0.7s
JKA Kamikawa-asahi 49.08 19 P **P 12 20 59.5 -0.2**
JKA IAmb IAmb 12 21 00.2
comp=Z,32nm,0.7s
HIA Hailar 50.93 358 P **P 12 21 12.9 -0.7**
HIA PcP **PcP 12 22 30.7 +0.7**
HIA Hailar 50.93 358 P **P 12 21 12.9 -0.7**
HIA 12 22 30.7
HIA pmax pmax
comp=Z,15nm,0.9s
ULN Ulaanbaatar 51.30 347 P **P 12 21 16.5 -0.2**
ULN Ulaanbaatar 51.30 347 P **P 12 21 17.7 +1.1**
ULN Ulaanbaatar 51.30 347⇓ *e*P **P 12 21 17.0 +0.4**
ULN pmax pmax
comp=Z,54nm,3.8s
SONM Songino Array 51.43 346 P **P 12 21 17.1 -0.4**
SONM PcP **PcP 12 22 32.1 +0.1**
SONM Songino Array 51.43 346 P **P 12 21 17.0 -0.6**
comp=Z,6.3nm,1.0s,baz=287,slow=1.1,SNR=3.7
SONM PcP **PcP 12 22 32.0 0.0**
comp=Z,6.8nm,0.8s,baz=157,slow=5.4,SNR=6.0
comp=Z,6.3nm,1.0s
KLR Kul'dur 51.44 8 P **P 12 21 15.4 -2.1**
comp=Z,2.8nm,0.5s,baz=240,slow=3.2,SNR=11
comp=Z,2.8nm,0.5s
KLR Kul'dur 51.44 8⇓ *i*P **P 12 21 15.8 -1.6**
KLR pmax pmax
comp=Z,26nm,1.9s
YSS Yuzhno-Sakhali 51.67 17 P **P 12 21 18.4 -0.7**
YSS Yuzhno-Sakhali 51.67 17⇓ *i*P **P 12 21 18.5 -0.7**
YSS pmax pmax
comp=Z,15nm,0.7s

HEH HeiHe 52.02 4 *e*P **P 12 21 20.1 -1.6**
HEH pmax pmax
comp=Z,23nm,0.7s
WMQ Urumqi 55.14 330 *e*P **P 12 21 47.6 +2.7**
ZEA Zeya 55.48 3 *e*P **P 12 21 45.5 -1.5**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
RPZ Rata Peaks 59.84 141 P **P 12 22 17.9 -0.1**
MK31 Makanchi Array 59.95 329 P **P 12 22 18.1 -0.6**
MK31 Makanchi Array 59.95 329 *d*i*P* **P 12 22 19.0 +0.3**
MKAR Makanchi Array 59.95 329 P **P 12 22 17.9 -0.8**
MKAR PcP **PcP 12 23 03.9 -1.0**
MKAR Makanchi Array 59.95 329 P **P 12 22 18.2 -0.5**
comp=Z,9.5nm,0.7s,baz=129,slow=7.4,SNR=24
MKAR PcP **PcP 12 23 04.4 -0.5**
comp=Z,8.2nm,0.7s,baz=107,slow=4.2,SNR=7.6
comp=Z,9.5nm,0.7s
MAKZ Makanchi 60.12 329 P **P 12 22 19.9 0.0**
MAKZ Makanchi 60.12 329 P **P 12 22 19.9 0.0**
MAKZ pmax pmax
comp=Z,10.0nm,0.9s
BKZ Black Stump Fm 61.45 134 P **P 12 22 28.9 -0.2**
KBL Kabul 61.83 311 P **P 12 22 31.0 -0.9**
AAK Ala-Archa 61.89 321 P **P 12 22 32.9 +0.7**
AAK Ala-Archa 61.89 321⇓ *e*P **P 12 22 32.9 +0.7**
PEA0B Petropavlovsk- 62.08 23⇓ *e*P **P 12 22 33.9 +0.9**
PETK Petropavlovsk- 62.08 23 P **P 12 22 33.0 0.0**
PETK Petropavlovsk- 62.08 23 P **P 12 22 32.1 -0.9**
comp=Z,2.0nm,0.5s,baz=203,slow=3.2,SNR=21
PETK PcP **PcP 12 23 12.2 -1.1**
comp=Z,6.6nm,0.9s,baz=204,slow=3.3,SNR=5.4
comp=Z,2.0nm,0.5s
PETK Petropavlovsk- 62.08 23 P **P 12 22 33.0 0.0**
PET Petropavlovsk 62.39 24⇓ *i*P **P 12 22 35.5 +0.5**
PET pmax pmax
comp=Z,21nm,1.3s
ZAA0 Zalesovo Array 63.80 336 P **P 12 22 42.1 -2.3**
ZAA0 IAmb IAmb 12 22 44.6
comp=Z,18nm,1.0s
ZALV Zalesovo Beam 63.80 336 P **P 12 22 42.4 -2.0**
ZALV Zalesovo Beam 63.80 336 P **P 12 22 42.0 -2.4**
comp=Z,15nm,0.9s,baz=136,slow=2.0,SNR=12
comp=Z,15nm,0.9s
ZALV Zalesovo Beam 63.80 336 *i*P **P 12 22 42.0 -2.4**
ZALV pmax pmax
comp=Z,15nm,0.9s
YAK Yakutsk 63.89 4 P **P 12 22 42.8 -2.0**
comp=Z,31nm,0.5s,baz=29,slow=0.8,SNR=5.1
comp=Z,31nm,0.5s
YAK Yakutsk 63.89 4⇑ *i*P **P 12 22 44.2 -0.6**
YAK pmax pmax
comp=Z,16nm,0.5s
KURBB Kurchatov Arra 64.33 331 P **P 12 22 46.8 -1.2**
comp=Z,12nm,0.8s,baz=134,slow=5.9,SNR=38
comp=Z,12nm,0.8s
KURK Kurchatov 64.35 331 P **P 12 22 47.6 -0.5**
KURK IAmb IAmb 12 22 49.1
comp=Z,33nm,0.9s
KURK Kurchatov 64.35 331 P **P 12 22 47.3 -0.7**
KURK Kurchatov 64.35 331 P **P 12 22 47.6 -0.5**
KURK pmax pmax
comp=Z,33nm,0.9s
CASY Casey 64.92 185 P **P 12 22 50.9 -0.6**
CASY IAmb IAmb 12 22 56.1
comp=Z,13nm,0.9s
MA2 Magadan 65.06 15 **P 12 22 52.0 -0.5**
MA2 IAmb IAmb 12 22 54.0
comp=Z,49nm,1.4s
MA2 Magadan 65.06 15 P **P 12 22 51.8 -0.8**
comp=Z,12nm,0.7s,baz=194,slow=7.0,SNR=9.5
comp=Z,12nm,0.7s
MA2 Magadan 65.06 15 *d*e*P* **P 12 22 52.9 +0.4**
MA2 pmax pmax
comp=Z,22nm,1.0s
MA2 Magadan 65.06 15 P **P 12 22 52.9 +0.4**
comp=Z,33nm,1.1s
MA2 pP **sP 12 22 56.1 -1.0**
comp=Z,33nm,1.1s
SEY Seymchan 68.33 14 P **P 12 23 12.7 -0.6**
comp=Z,4.5nm,0.8s,baz=214,slow=4.5,SNR=12
comp=Z,4.5nm,0.8s
SEY Seymchan 68.33 14⇑ *i*P **P 12 23 13.1 -0.3**
SEY pmax pmax
comp=Z,19nm,1.6s
BVAR Borovoye Array 69.83 329 P **P 12 23 21.3 -1.6**
comp=Z,8.6nm,0.9s,baz=132,slow=8.2,SNR=16
comp=Z,8.6nm,0.9s
BRVK Borovoye 69.90 329 P **P 12 23 22.4 -0.9**
BRVK Borovoye 69.90 329⇓ *e*P **P 12 23 22.0 -1.3**
BRVK pmax pmax
comp=Z,23nm,1.7s
DOK Doka 70.28 290 P **P 12 23 24.4 -1.9**
WHFO Wadi Hawf 70.51 290 P **P 12 23 25.6 -2.2**
TIXI Tiksi 73.44 2⇑ *e*P **P 12 23 42.1 -2.1**
TIXI pmax pmax
comp=Z,21nm,1.1s
NRIK Noril'sk 74.86 348 P **P 12 23 51.6 -1.0**
comp=Z,8.1nm,0.7s,baz=127,slow=4.4,SNR=12
comp=Z,8.1nm,0.7s
NRIK Noril'sk 74.86 348⇓ *e*P **P 12 23 51.7 -0.9**
NRIK pmax pmax
comp=Z,8.0nm,0.7s
ATKA Atka Island 75.34 35 P **P 12 23 55.6 -0.1**
BILL Bilibino 75.93 16⇑ *i*P **P 12 23 59.0 +0.2**
BILL pmax pmax
comp=Z,3.0nm,1.1s
ARTI Arti 77.55 329 *c*i*P* **P 12 24 06.0 -2.2**
ARTI S **S 12 33 57.2 -2.1**
ARTI pmax pmax
comp=Z,14nm,1.3s
VNDA Vanda 78.53 172 P **P 12 24 13.2 0.0**
VNDA Vanda 78.53 172 P **P 12 24 13.1 -0.2**
comp=Z,4.5nm,0.7s,baz=314,slow=8.1,SNR=14
comp=Z,4.5nm,0.7s
VNDA Vanda 78.53 172 P **P 12 24 13.2 0.0**
VNDA pmax pmax
comp=Z,7.0nm,0.9s
SPIA Saint Paul Isl 79.31 31 P **P 12 24 19.6 +1.8**
baz=250
P08K Saint George I 79.47 31 P **P 12 24 19.5 +0.7**
baz=250
UNV Unalaska Valle 80.27 35 P **P 12 24 24.5 +1.4**
baz=253
AKUT Akutan 80.77 34 P **P 12 24 26.4 +0.6**
FALS False Pass 82.28 34 P **P 12 24 34.4 +0.6**
baz=256
TNA Tin City 83.25 23 P **P 12 24 39.6 +1.0**
baz=250
K13K Kusilvak Mount 83.51 27 P **P 12 24 41.0 +0.9**
K13K Kusilvak Mount 83.51 27 P **P 12 24 42.3 +2.2**
baz=254,SNR=11
M13K Dall Lake 83.72 29 P **P 12 24 42.7 +1.6**
baz=255
KBZ Khabaz 83.82 314 P **P 12 24 42.0 0.0**
comp=Z,4.2nm,0.9s,baz=225,slow=4.6,SNR=7.6
comp=Z,4.2nm,0.9s
F14K Arctic Creek 83.85 23 P **P 12 24 44.0 +2.3**
baz=252
ANM Nome 83.96 24 P **P 12 24 43.2 +0.9**
baz=253
SDPT Sand Point 84.04 34 P **P 12 24 42.8 -0.1**
J14K Nanvaranak Lak 84.23 26 P **P 12 24 44.8 +1.1**
baz=255,SNR=8.0
L14K Kuka Creek 84.27 28 P **P 12 24 45.9 +2.0**
baz=256,SNR=10
N14K Kuskokwak Cree 84.40 29 P **P 12 24 46.2 +1.6**
N14K Kuskokwak Cree 84.40 29 P **P 12 24 46.0 +1.4**
baz=257
CHNA Chernabura Isl 84.44 35 P **P 12 24 46.7 +1.8**
baz=259
O14K Tigyukauivet M 84.46 30 P **P 12 24 46.6 +1.7**
baz=257
M14K Bethel 84.47 29 P **P 12 24 46.6 +1.7**
baz=256,SNR=22
KIBK Kibwezi 84.52 268 P **P 12 24 47.1 +0.7**
F15K North Star Dit 84.58 23 P **P 12 24 47.4 +1.9**
baz=254,SNR=8.6
G15K Niukluk 84.63 24 P **P 12 24 47.4 +1.7**
baz=254
S14K Fog Glacier 84.74 33 P **P 12 24 48.2 +1.6**
baz=259
L15K Ungalak Mounta 84.90 28 P **P 12 24 48.9 +1.7**
baz=257
K15K Wolf Creek Mou 85.03 27 P **P 12 24 49.7 +1.9**
baz=257,SNR=6.5
M15K Kasigluk River 85.06 29 P **P 12 24 48.7 +0.8**

baz=258,SNR=11
C16K Lisburne Hills 85.08 21 P P 12 24 48.6 +0.7
baz=253
O15K Ungalikthiuk R 85.17 30 P P 12 24 49.8 +1.3
baz=258
N15K Kwethluk River 85.24 29 P P 12 24 50.8 +1.9
baz=258,SNR=8.0
H16K Elim 85.28 25 P P 12 24 50.1 +1.1
baz=256
KMBO Kilima Mbogo 85.35 269 P 12 24 49.3 -1.4
KMBO Kilima Mbogo 85.35 269 P P 12 24 51.2 +0.5
comp=Z,1.5nm,0.3s,baz=31,slow=7.0,SNR=5.9
comp=Z,1.5nm,0.3s
KMBO Kilima Mbogo 85.35 269 P P 12 24 51.8 +1.1
KMBO Kilima Mbogo 85.35 269 P P 12 24 49.3 -1.4
KMBO pmax pmax
comp=Z,14nm,1.4s
CHGN Chignik 85.36 33 P P 12 24 50.3 +0.7
baz=260
G16K Koyuk River 85.42 24 P P 12 24 50.7 +1.1
G16K IAmb IAmb 12 24 53.0
comp=Z,20nm,0.9s
G16K Koyuk River 85.42 24 P P 12 24 50.8 +1.1
baz=256
J16K Anvik River 85.67 26 P P 12 24 52.3 +1.3
baz=257
VRH Novokhopyorsk 85.69 321 *e*P P 12 24 48.2 -3.1
VRH pmax pmax
comp=Z,20nm,1.6s
D17K Noatak River 85.73 22 P P 12 24 52.8 +1.6
baz=255,SNR=9.3
I17K Unalakleet 85.76 26 P P 12 24 53.0 +1.6
baz=257
L16K Owhat River 85.85 28 P P 12 24 53.2 +1.3
baz=258
RDOG Red Dog Mine 85.89 21 P P 12 24 54.1 +2.2
baz=255
N16K Nishlik Lake 85.94 29 P P 12 24 54.4 +2.0
baz=259
M16K Timber Creek 85.96 29 P P 12 24 53.7 +1.3
baz=259
E17K Hotham Inlet 86.04 22 P P 12 24 54.4 +1.7
baz=256,SNR=6.1
P16K Nushagak River 86.07 31 P P 12 24 54.8 +1.8
baz=260
F17K Baldwin Pennin 86.11 23 P P 12 24 54.5 +1.4
baz=257
O16K Kokwok River B 86.12 30 P P 12 24 54.8 +1.5
baz=260,SNR=6.9
G17K Kiwalik Mounta 86.14 24 P P 12 24 54.6 +1.4
baz=257
H17K Granite Mounta 86.32 25 P P 12 24 55.5 +1.4
baz=258,SNR=19
J17K VABM Dome 86.36 26 P P 12 24 55.6 +1.2
baz=259
L17K Donlin 86.48 28 P P 12 24 56.5 +1.5
baz=260
K17K Iditarod 86.58 27 P P 12 24 57.0 +1.6
baz=260,SNR=6.6
E18K Tukpahlearik C 86.59 22 P P 12 24 56.5 +1.1
baz=257,SNR=12
B18K Kokolik River 86.61 20 P P 12 24 57.4 +1.9
baz=256,SNR=9.3
C18K Utukok River 86.65 21 P P 12 24 56.6 +0.8
baz=256
N17K Nushagak Hills 86.72 29 P P 12 24 57.2 +1.0
baz=261
M17K Holitna River 86.75 28 P P 12 24 57.6 +1.2
baz=260
F18K Selawik 86.77 23 P P 12 24 57.3 +1.0
baz=258,SNR=5.2
P17K Kvichak River 86.89 31 P P 12 24 58.5 +1.5
baz=261
H18K Honhosa River 87.00 25 P P 12 24 58.5 +1.0
baz=259,SNR=6.4
G18K Tagagawik 87.03 24 P P 12 24 57.6 0.0
G18K IAmb IAmb 12 24 59.9
comp=Z,51nm,1.9s
G18K Tagagawik 87.03 24 P P 12 24 57.9 +0.3
baz=259
Q17K Contact Creek 87.03 32 P P 12 24 57.9 0.0
baz=262
A19K Wainwright 87.06 19 P P 12 24 58.8 +1.2
baz=256
L18K Granite Mounta 87.23 28 P P 12 24 59.5 +0.9
L18K IAmb IAmb 12 25 00.6
comp=Z,18nm,0.7s
L18K Granite Mounta 87.23 28 P P 12 25 00.5 +1.9
baz=261,SNR=7.4
VORR Voronezh 87.31 322 *e*P P 12 24 57.8 -1.4
VORR pmax pmax
comp=Z,18nm,1.2s
N18K Kilae Creek 87.38 29 P P 12 25 00.6 +1.2
baz=262
J18K Innoko River 87.42 26 IAmb IAmb 12 25 01.0
comp=Z,13nm,0.7s
J18K Innoko River 87.42 26 P P 12 25 00.0 +0.4
baz=261,SNR=6.3
M18K Stony River 87.53 28 P P 12 25 00.3 +0.2
baz=262
P18K Big Mountain, 87.53 30 P P 12 24 59.3 -0.9
baz=262
F19K Shaleruckik Mo 87.55 23 P P 12 25 00.4 +0.3
baz=260
GCSA Galena City Sc 87.56 25 P P 12 25 01.0 +0.9
baz=261,SNR=21
LPSR Galich'ya Gora 87.58 323 *e*P P 12 24 58.1 -2.4
LPSR pmax pmax
comp=Z,22nm,1.6s
O18K Koktuh Hills 87.60 30 P P 12 25 01.4 +0.9
baz=262
TTA Tatalina 87.65 27 IAmb IAmb 12 25 02.3
comp=Z,10nm,0.8s
TTA Tatalina 87.65 27 P P 12 25 01.8 +1.0
baz=262,SNR=5.7
R18K Karluk 87.70 32 P P 12 25 00.6 -0.3
baz=263
G19K Purcell Mounta 87.70 24 P P 12 25 01.5 +0.7
baz=260,SNR=24
D19K Kuna River 87.72 21 IAmb IAmb 12 25 02.6
comp=Z,11nm,0.7s
D19K Kuna River 87.72 21 P P 12 25 01.7 +0.8
baz=259
H19K Roundabout Mou 87.86 24 P P 12 25 02.7 +1.1
baz=261,SNR=34
E19K Redstone River 87.87 22 IAmb IAmb 12 25 03.5
comp=Z,19nm,0.8s
E19K Redstone River 87.87 22 P P 12 25 02.5 +0.9
baz=260,SNR=21
J19K Poorman 87.98 26 IAmb IAmb 12 25 04.0
comp=Z,21nm,0.9s
J19K Poorman 87.98 26 P P 12 25 03.4 +1.2
baz=262,SNR=9.8
L19K White Mountain 88.08 28 P P 12 25 04.0 +1.2
baz=263,SNR=5.9
N19K Bonanza Creek 88.08 29 P P 12 25 04.1 +1.2
baz=263,SNR=7.7
O19K Port Alsworth 88.09 30 P P 12 25 03.9 +1.2
baz=263
QSPA South Pole Qui 88.14 180 P P 12 25 03.3 +0.1
QSPA IAmb IAmb 12 25 07.6
comp=Z,12nm,1.1s
QSPA South Pole Qui 88.14 180 P P 12 25 02.7 -0.5
comp=Z,8.4nm,1.0s,baz=282,slow=2.3,SNR=9.0
comp=Z,8.4nm,1.0s
KLMR Klimovskoe 88.20 331 *e*P P 12 24 57.6 -5.7
KLMR pmax pmax
comp=Z,23nm,1.6s
M19K Big River Lodg 88.26 28 P P 12 25 04.6 +0.9
M19K IAmb IAmb 12 25 05.6
comp=Z,18nm,0.9s
M19K Big River Lodg 88.26 28 P P 12 25 04.5 +0.9
baz=263
D20K Etivluk River 88.31 21 P P 12 25 04.8 +1.1
baz=261,SNR=5.5
B20K Meade River 88.33 20 P P 12 25 04.3 +0.6
baz=260
F20K Avaraart Lake 88.38 23 P P 12 25 05.1 +1.1
baz=262
E20K Nigu River 88.39 22 P P 12 25 04.3 +0.2
baz=261
H20K Anotleneega Mo 88.50 24 P P 12 25 05.8 +1.2
baz=262,SNR=11
L20K Farewell, AK 88.57 27 P P 12 25 05.8 +0.7
baz=263,SNR=5.9
I20K Naaghedeneel 88.58 25 P P 12 25 06.5 +1.5
baz=263
K20K Telida 88.58 27 IAmb IAmb 12 25 07.0
comp=Z,39nm,1.6s
K20K Telida 88.58 27 P P 12 25 05.5 +0.4
baz=263
J20K Nowinta River 88.65 26 IAmb IAmb 12 25 07.3
comp=Z,19nm,0.8s
J20K Nowinta River 88.65 26 P P 12 25 06.7 +1.3
baz=263,SNR=9.9
MOS Moscow 88.66 326 *e*P P 12 25 02.5 -3.0
MOS pmax pmax
comp=Z,32nm,0.7s
KDAK Kodiak Island 88.72 32 P P 12 25 06.4 +0.6
baz=265
A21K Barrow 88.73 19 P P 12 25 06.2 +0.6
baz=261
M20K Styx River 88.85 28 IAmb IAmb 12 25 08.2
comp=Z,33nm,1.1s
M20K Styx River 88.85 28 P P 12 25 07.3 +0.8
baz=264
Q20K Shuyak Island 88.90 31 P P 12 25 07.0 +0.3
baz=265
C21K Knifeblade Rid 89.03 21 P P 12 25 07.1 0.0
baz=262
B21K Ikpikpuk River 89.15 20 P P 12 25 08.1 +0.6
baz=263
G21K Allakaket 89.19 23 IAmb IAmb 12 25 09.6
comp=Z,22nm,1.0s
G21K Allakaket 89.19 23 P P 12 25 08.6 +0.7
baz=264
OBN Obninsk 89.20 325⇑ *i*P P 12 25 08.5 +0.4
OBN pmax pmax
comp=Z,38nm,1.8s
A22K Sinclair Lake 89.21 19 P P 12 25 08.9 +1.1
baz=262
SPCR Spurr Chakacha 89.23 29 P P 12 25 08.5 +0.2
baz=265
E21K Killik River 89.23 22 IAmb IAmb 12 26 13.0
comp=Z,41nm,1.9s
E21K Killik River 89.23 22 P P 12 25 08.7 +0.7
baz=263
F21K Alatna River 89.27 23 P P 12 25 08.2 -0.1
baz=264
H21K Melozitna Rive 89.38 24 IAmb IAmb 12 25 10.6
comp=Z,23nm,1.1s
H21K Melozitna Rive 89.38 24 P P 12 25 09.8 +0.9
baz=264,SNR=13
PPLA Purkeypile 89.39 27 P P 12 25 09.7 +0.6
baz=265
CHUM Lake Minchumin 89.42 26 P P 12 25 10.2 +1.2
baz=265,SNR=6.3
CAST Castle Rocks 89.48 27 P P 12 25 10.7 +1.4
baz=265
SKT Skwentna 89.61 28 P P 12 25 09.8 -0.2
baz=266
B22K Teshekpuk Lake 89.64 20 IAmb IAmb 12 25 13.1
comp=Z,47nm,1.6s
B22K Teshekpuk Lake 89.64 20 P P 12 25 11.2 +1.3
baz=264
D22K Ayikyak River 89.75 21 IAmb IAmb 12 25 12.4
comp=Z,34nm,1.9s
D22K Ayikyak River 89.75 21 P P 12 25 12.1 +1.6
baz=264
F22K John River 89.80 23 P P 12 25 11.9 +1.1
baz=265
BRSE Bradley Lake S 89.84 30 P P 12 25 13.1 +2.1
baz=266
SUA Susitna One 89.95 29 P P 12 25 11.9 +0.2
baz=266
H22K Ishtalitna Cre 89.99 24 P P 12 25 13.1 +1.4
baz=266,SNR=13
E22K Anaktuvuk Pass 90.00 22 IAmb IAmb 12 25 14.3
comp=Z,23nm,1.2s
E22K Anaktuvuk Pass 90.00 22 P P 12 25 12.9 +1.2
baz=265,SNR=15
G22K Bettles 90.02 23 P P 12 25 12.4 +0.7
baz=266
BPAW Bear Paw Mtn. 90.02 26 P P 12 25 12.3 +0.5
baz=266,SNR=6.9
CUT Chulitna 90.23 28 P P 12 25 14.2 +1.4
baz=267
M22K Willow 90.27 28 P P 12 25 14.4 +1.4
baz=267
TRF Thorofare Moun 90.29 27 P P 12 25 13.4 +0.1
baz=267
BR104 Keskin Array S 90.36 310 P P 12 25 11.8 -2.3
comp=Z,1.2nm,0.8s
BR131 Keskin Array S 90.36 310‖ *e*P P 12 25 14.9 +0.8
BRTR Keskin Array B 90.36 310 P P 12 25 12.2 -1.9
comp=Z,1.1nm,0.8s,baz=99,slow=7.6,SNR=5.1
comp=Z,1.1nm,0.8s
BR105 Keskin Array S 90.38 310 P P 12 25 12.4 -1.8
comp=Z,1.4nm,1.0s
BR106 Keskin Array S 90.38 310 P P 12 25 12.5 -1.7
comp=Z,1.5nm,0.6s
RC01 Rabbit Creek A 90.41 29 P P 12 25 14.0 +0.3
baz=267
D23K Nanushuk River 90.47 21 P P 12 25 15.3 +1.4
baz=266,SNR=7.9
SEW Seward 90.50 30 P P 12 25 15.2 +1.1
baz=267
COLD Coldfoot 90.55 23 P 12 25 15.1 +0.9
COLD IAmb IAmb 12 25 16.1
comp=Z,16nm,0.7s
COLD Coldfoot 90.55 23 P P 12 25 14.9 +0.7
baz=267
C23K Itkillik River 90.55 20 P P 12 25 15.1 +1.0
C23K Itkillik River 90.55 20 P P 12 25 14.9 +0.8
baz=266
G23K Bananza Creek 90.59 23 P P 12 25 15.6 +1.1
baz=267,SNR=21
PMR Palmer 90.73 29 P P 12 25 15.7 +0.6
baz=268
H23K Yukon River 90.74 24 P P 12 25 16.0 +0.9
baz=267
I23K Minto, Yukon-K 90.78 25 P P 12 25 16.0 +0.7
baz=268,SNR=18
E23K Chandalar 90.81 22 IAmb IAmb 12 25 17.4
comp=Z,15nm,0.8s
E23K Chandalar 90.81 22 P P 12 25 16.1 +0.6
baz=267
TOLK Toolik Lake Re 90.86 21 IAmb IAmb 12 25 17.5
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 90.86 21 P P 12 25 16.9 +1.2
baz=267,SNR=6.8
NEA2 Nenana 90.88 26 IAmb IAmb 12 25 17.7
comp=Z,31nm,1.6s
NEA2 Nenana 90.88 26 P P 12 25 17.5 +1.6
baz=268
MCK McKinley 90.91 26 IAmb IAmb 12 25 16.6
comp=Z,26nm,1.0s
MCK McKinley 90.91 26 P P 12 25 16.0 0.0
baz=268,SNR=6.7
RND Reindeer 90.93 27 P P 12 25 15.2 -1.0
KNK Knik Glacier 91.05 29 P P 12 25 17.7 +1.0
baz=268
PWL Port Wells 91.09 29 P P 12 25 17.7 +0.8
baz=268
SML Sawmill 91.12 28 IAmb IAmb 12 25 18.5
comp=Z,25nm,1.0s
SML Sawmill 91.12 28 P P 12 25 16.8 -0.3
baz=268
D24K Happy Valley 91.15 21 IAmb IAmb 12 25 18.9
comp=Z,12nm,0.8s
D24K Happy Valley 91.15 21 P P 12 25 16.6 -0.3
baz=268
C24K Franklin Bluff 91.21 20 IAmb IAmb 12 25 18.8
comp=Z,13nm,1.0s
C24K Franklin Bluff 91.21 20 P P 12 25 17.7 +0.5
baz=268
E24K Your Creek 91.24 22 P P 12 25 18.3 +0.8
baz=268
WRH Wood River Hil 91.30 26 P P 12 25 17.4 -0.4
WRH IAmb IAmb 12 25 18.2
comp=Z,16nm,0.9s
APA Apatity 91.36 337‖ *i*P P 12 25 18.3 +0.4
APA pmax pmax
comp=Z,8.0nm,1.2s
M23K Glacier View 91.41 28 P P 12 25 18.9 +0.5
baz=269
COLA College 91.41 25⇑ *e*P P 12 25 18.6 +0.4
H24K Noodor Dome 91.42 24 IAmb IAmb 12 25 21.1
comp=Z,34nm,1.4s
H24K Noodor Dome 91.42 24 P P 12 25 19.6 +1.2
baz=269,SNR=11
CCB Clear Creek Bu 91.43 26 IAmb IAmb 12 25 18.6
comp=Z,13nm,0.8s
F24K Squaw Lake 91.45 23 IAmb IAmb 12 25 20.6
comp=Z,38nm,1.6s
F24K Squaw Lake 91.45 23 P P 12 25 19.2 +0.8
baz=269,SNR=11
P23K Montague Islan 91.53 30 P P 12 25 20.5 +1.6
baz=269
SCM Sheep Creek Mo 91.59 28 P P 12 25 20.2 +0.9
baz=269
G24K Hadweenzic Riv 91.60 23 P P 12 25 20.1 +0.9
baz=269,SNR=8.6
GLI Glacier Island 91.69 29 P P 12 25 20.9 +1.3
baz=269
HDA Harding Lake 91.80 26 P P 12 25 19.1 -1.0
baz=270
IL31 91.82 25 P 12 25 19.1 -1.0
IL31 IAmb IAmb 12 25 26.6
comp=Z,29nm,1.9s
ILAR Eielson Array 91.82 25 P P 12 25 18.8 -1.4
ILAR Eielson Array 91.82 25 P P 12 25 17.5 -2.7
comp=Z,2.2nm,0.6s,baz=237,slow=5.4,SNR=37
comp=Z,2.2nm,0.6s
ILAR Eielson Array 91.82 25 P P 12 25 18.8 -1.4
D25K Kavik River 92.03 21 IAmb IAmb 12 25 22.5
comp=Z,46nm,1.9s
D25K Kavik River 92.03 21 P P 12 25 20.9 -0.2
baz=270
M24K Tolsona, Glenn 92.14 28 P P 12 25 22.0 +0.2
baz=270
G25K Bearman Lake 92.14 23 P P 12 25 22.0 +0.4
baz=270
H25L Birch Creek 92.26 24 P P 12 25 22.5 +0.4
baz=271
KLU Klutina 92.26 29 P P 12 25 22.5 +0.1
baz=270
K24K Donnelly Dome 92.31 26 P P 12 25 22.7 +0.2
baz=271
F25K Christian Rive 92.31 23 P P 12 25 24.0 +1.5
baz=271,SNR=8.5
E25K Arctic Village 92.33 22 P P 12 25 23.6 +1.1
baz=271,SNR=11
EYAK Cordova Ski Ar 92.36 30 P P 12 25 22.5 -0.2
baz=271
PRP Porcupine Dome 92.39 25 P P 12 25 23.1 +0.1
baz=271
PAX Paxson 92.46 27 P P 12 25 24.0 +0.8
baz=271,SNR=6.4
J25K Salcha River, 92.48 26 P P 12 25 23.0 -0.3
baz=271
C26K Camden Bay 92.53 20 P P 12 25 25.5 +2.2
baz=272
HARP HAARP 92.61 28 P P 12 25 23.9 0.0
baz=271
RIDG Independent Ri 92.72 26 IAmb IAmb 12 25 25.4
comp=Z,20nm,0.9s
RIDG Independent Ri 92.72 26 P P 12 25 24.9 +0.4
baz=272,SNR=6.1
BMAR Burnt Mountain 92.73 23 P 12 25 24.9 +0.6
F26K Sheenjek River 92.88 22 P P 12 25 26.1 +1.1
baz=272
N25K Chitina, Valde 92.90 29 P P 12 25 26.5 +1.1
baz=272
BMRM Bremner River 92.91 29 P P 12 25 26.8 +1.4
baz=272
C27K Jago River 92.96 20 IAmb IAmb 12 25 27.5
comp=Z,15nm,0.9s
C27K Jago River 92.96 20 P P 12 25 26.5 +1.1
baz=273
G26K Porcupine Rive 93.06 23 P P 12 25 27.4 +1.6
baz=273,SNR=8.1
DOT Dot Lake 93.08 26 IAmb IAmb 12 25 27.3
comp=Z,33nm,1.5s
SCRK Sand Creek 93.10 26 IAmb IAmb 12 25 27.5
comp=Z,18nm,1.4s
SCRK Sand Creek 93.10 26 P P 12 25 26.7 +0.4
baz=272,SNR=5.7
J26L Joseph Creek 93.26 26 P P 12 25 27.2 +0.3
baz=273,SNR=10
I26K Coal Creek Min 93.39 25 P P 12 25 28.0 +0.5
baz=273
L26K Log Cabin Wild 93.43 27 IAmb IAmb 12 25 29.3
comp=Z,8.7nm,0.9s
L26K Log Cabin Wild 93.43 27 P P 12 25 28.6 +1.0
baz=273
AKASG Malin Array Be 93.55 321 P P 12 25 26.5 -1.9
comp=Z,1.2nm,0.8s,baz=74,slow=3.5,SNR=4.4
AKBB Malin Array Si 93.55 321 P P 12 25 27.7 -0.7
KIEV Kiev 93.56 320 P P 12 25 27.7 -0.8
KIEV Kiev 93.56 320 P P 12 25 27.7 -0.8
AK12 Malin Array Si 93.59 320 P P 12 25 29.3 +0.7
M26K Nabesna, AK 93.62 28 P P 12 25 29.2 +0.6
baz=273
E27K Coleen River 93.81 22 IAmb IAmb 12 25 31.2
comp=Z,13nm,0.9s
E27K Coleen River 93.81 22 P P 12 25 30.1 +0.8
baz=275,SNR=10
LSZ Lusaka 93.81 255 P P 12 25 30.2 -0.3
LSZ Lusaka 93.81 255 P P 12 25 30.9 +0.3
LSZ pmax pmax
comp=Z,14nm,0.9s
G27K Doyon Strip 93.90 23 IAmb IAmb 12 25 31.9
comp=Z,9.5nm,0.9s
G27K Doyon Strip 93.90 23 P P 12 25 30.9 +1.1
baz=275,SNR=9.7
K27K Chicken 93.94 26 P P 12 25 31.4 +1.5
baz=274
D27M Malcolm River 93.95 21 P P 12 25 31.0 +1.0
baz=275
H27K Steamboat Moun 94.00 24 IAmb IAmb 12 25 32.5
comp=Z,19nm,1.0s
H27K Steamboat Moun 94.00 24 P P 12 25 31.5 +1.2
baz=275,SNR=15
I27K Kandik River 94.02 24 P P 12 25 31.6 +1.2
baz=274,SNR=25
L27K Beaver Creek, 94.11 27 IAmb IAmb 12 25 33.0
comp=Z,18nm,0.9s
L27K Beaver Creek, 94.11 27 P P 12 25 32.1 +1.3
baz=274,SNR=9.0
BCAR Beaver Creek A 94.13 27 P 12 25 31.9 +0.9
M27K Edge Creek, AK 94.14 28 P P 12 25 31.6 +0.5
baz=274
ARCES ARCESS Array B 94.18 340 P P 12 25 30.3 -0.6
comp=Z,5.3nm,1.1s,baz=76,slow=5.1,SNR=5.5
comp=Z,5.3nm,1.1s
MNK Minsk 94.22 324 *i* P P 12 25 29.5 -1.9
MNK *i* 12 29 14.3
MNK *i* S **SKSac** **12 36 04.2 -2.3**
MNK *i* SS **SS** **12 43 04.5 +1.1**
MNK *i* SSS SSS 12 46 45.2
MNK pmax pmax
comp=E,23nm,0.8s
MNK pmax pmax
comp=Z,17nm,0.8s
MNK pmax pmax
comp=N,20nm,0.9s
MNK pmax pmax
comp=N,3μm,18.0s
MNK pmax pmax
comp=E,4μm,17.0s
MNK pmax pmax
comp=Z,7μm,18.0s
MI28 Mi28,Pidlybu 94.52 321 P P 12 25 32.2 -0.7
E28M Babbage River 94.53 21 IAmb IAmb 12 25 34.3
comp=Z,17nm,1.1s
E28M Babbage River 94.53 21 P P 12 25 33.6 +1.0
baz=277
BVCY Beaver Creek 94.61 28 P P 12 25 34.6 +1.5
baz=275,SNR=5.0
FINES FINESS Array B 94.71 331 P P 12 25 31.2 -2.3
comp=Z,2.4nm,0.9s,baz=98,slow=3.9,SNR=4.5
comp=Z,2.4nm,0.9s
FINES FINESS Array B 94.71 331 *i* P P 12 25 32.5 -1.0
FINES pmax pmax
comp=Z,2.0nm,0.9s
I28M Miner Creek 94.73 25 P P 12 25 34.6 +1.0
baz=276,SNR=28
D28M Stokes Point 94.73 21 P P 12 25 34.0 +0.6
baz=278
YUK3 Moose Creek 94.86 28 P P 12 25 34.8 +0.3
baz=275
SPITS Spitsbergen Ar 95.06 349 P P 12 25 32.6 -2.3
comp=Z,10nm,0.9s,baz=112,slow=10.0,SNR=6.2
comp=Z,10nm,0.9s
O28M Mount Upton 95.08 29 P P 12 25 36.6 +1.0
baz=275
DAWY Dawson 95.11 26 IAmb IAmb 12 25 37.1
comp=Z,16nm,0.9s
DAWY Dawson 95.11 26 P P 12 25 36.5 +1.1
baz=276,SNR=13
PINM Pinnacle 95.11 30 P P 12 25 37.3 +1.8
baz=275
E29M Blow River 95.16 22 IAmb IAmb 12 25 36.8

comp=Z,18nm,1.4s
E29M Blow River 95.16 22 P **P 12 25 36.5 +1.0**
baz=278
YUK8 Steele Glacier 95.23 29 P **P 12 25 37.0 +0.7**
baz=276
H29M Whitestone 95.28 24 P **P 12 25 37.0 +0.9**
baz=278,SNR=8.2
G29M Pine Creek 95.32 23 P **P 12 25 37.1 +0.9**
baz=278,SNR=15
I29M Ogilvie Camp, 95.41 25 P **P 12 25 37.3 +0.6**
I29M Ogilvie Camp, 95.41 25 P **P 12 25 37.3 +0.6**
baz=278,SNR=24
J29N Klondike Camp 95.57 25 P **P 12 25 39.1 +1.6**
baz=278,SNR=10
M29M Somme Creek 95.72 28 P **P 12 25 40.1 +1.8**
baz=277,SNR=12
YUK4 Talbot Arm 95.76 29 P **P 12 25 39.9 +1.3**
baz=277
L29M L29M 95.78 27 P **P 12 25 40.2 +1.7**
baz=278,SNR=16
EPYK Eagle Plains 95.91 23 P **P 12 25 39.5 +0.4**
baz=279,SNR=10
YUK6 Outpost Mounta 95.95 29 P **P 12 25 38.8 -0.7**
baz=277
K29M Barlow Dome 95.96 26 P **P 12 25 40.5 +1.1**
baz=278,SNR=8.8
G30M tAoh Zrail Nji 96.01 23 P **P 12 25 40.1 +0.6**
baz=280
F30M Barrier River 96.07 22 IAmb IAmb 12 25 40.9
comp=Z,15nm,0.9s
F30M Barrier River 96.07 22 P **P 12 25 40.3 +0.7**
baz=280,SNR=8.8
I30M Mount Dempster 96.24 25 IAmb IAmb 12 25 41.9
comp=Z,12nm,0.8s
I30M Mount Dempster 96.24 25 P **P 12 25 41.0 +0.4**
baz=279,SNR=14
J30M Hart River 96.36 25 **P 12 25 41.8 +0.6**
J30M IAmb IAmb 12 25 43.0
comp=Z,24nm,1.5s
J30M Hart River 96.36 25 P **P 12 25 42.4 +1.2**
baz=279,SNR=6.6
HYT Haines Junctio 96.38 29 **P 12 25 42.4 +1.0**
HYT Haines Junctio 96.38 29 P **P 12 25 42.8 +1.5**
baz=278,SNR=5.9
P29M Windy Craggy 96.42 30 P **P 12 25 42.2 +0.7**
baz=277
M30M Minto, Yukon 96.47 27 P **P 12 25 43.5 +1.9**
baz=279,SNR=10
N30M Aishikik Lake 96.49 28 P **P 12 25 43.5 +1.7**
baz=278,SNR=7.2
P30M Million Dollar 96.75 30 P **P 12 25 44.4 +1.5**
baz=278
G31M Satah River 96.78 23 P **P 12 25 42.8 0.0**
baz=281,SNR=8.5
F31M Tsiigehtchic 96.87 22 IAmb IAmb 12 25 44.0
comp=Z,11nm,0.8s
F31M Tsiigehtchic 96.87 22 P **P 12 25 43.5 +0.2**
baz=282,SNR=6.9
H31M Peel River 96.97 24 P **P 12 25 44.1 +0.3**
baz=281
O30N Mendenhall 97.07 29 P Pdif 12 25 45.9 +1.4
baz=279
N31M Braeburn, Yuko 97.11 28 P Pdif 12 25 46.5 +1.9
baz=279,SNR=5.5
PLBC Pleasant Camp 97.14 30 P Pdif 12 25 46.9 +2.2
baz=279
M31M Drury Creek, Y 97.63 27 IAmb IAmb 12 25 48.7
comp=Z,12nm,1.1s
M31M Drury Creek, Y 97.63 27 P **P 12 25 47.6 +0.7**
baz=281
WHY Whitehorse 97.68 29 P Pdif 12 25 48.6 +1.3
baz=280
SIT Sitka 98.05 33 P Pdif 12 25 50.2 +1.4
baz=279
FARO Faro, Yukon 98.11 27 P Pdif 12 25 50.2 +1.1
FARO Faro, Yukon 98.11 27 P Pdif 12 25 50.9 +1.8
baz=282,SNR=16
A36M Sachs Harbour 98.44 17 **P 12 25 49.8 -0.4**
A36M IAmb IAmb 12 25 51.5
comp=Z,6.6nm,0.8s
A36M Sachs Harbour 98.44 17 P **P 12 25 50.8 +0.6**
baz=291
P32M Atlin 98.45 30 P **P 12 25 50.7 +0.1**
baz=281
N32M Quiet Lake 98.45 28 P **P 12 25 50.7 +0.1**
baz=282
P33M Teslin, Yukon 98.77 29 P Pdif 12 25 53.6 +1.5
baz=282
Q32M Nakina River 99.30 30 P **Pdif 12 25 54.9 +0.2**
baz=282
U33K Whale Pass 99.42 33 P **Pdif 12 25 54.7 -0.2**
baz=281
CRAG Craig 99.54 34 P **Pdif 12 25 56.3 +0.8**
baz=281
C36M Paulatuk 99.76 19 P **Pdif 12 25 56.4 +0.3**
baz=291,SNR=10.0
WRAK Wrangell Islan 99.78 33 P **Pdif 12 25 57.1 +0.6**
baz=282
R33M Jennings River 99.86 30 P **Pdif 12 25 56.7 -0.4**
baz=283
S34M Telegraph Cree 100.11 31 P **Pdif 12 25 57.1 -0.9**
baz=283
V35K Ketchikan 100.41 34 P **Pdif 12 25 59.6 +0.3**
baz=282
TGTN Hyland Airport 100.61 27 P **Pdif 12 26 00.7 +0.5**
baz=286
WTLY Watson Lake, Y 100.75 29 P **Pdif 12 26 00.8 0.0**
baz=285
T35M Bob Quinn 100.79 32 P **Pdif 12 26 01.0 0.0**
baz=284
U35K Hyder 101.16 33 P **Pdif 12 26 02.4 -0.2**
baz=284
NOA NORSAR Array B 101.82 332 P **Pdif 12 26 03.2 -2.4**
comp=Z,1.0nm,0.8s,baz=74,slow=4.5,SNR=5.0
WRGLY Wrigley 102.20 25 P **Pdif 12 26 07.2 +0.1**
baz=291
KOTAN Kotaneelee Air 103.01 28 P **Pdif 12 26 10.0 -0.8**
baz=290
YKA Yellowknife Ar 106.19 24 Pdiff **Pdif 12 26 22.9 -2.0**
comp=Z,0.5nm,0.9s,baz=305,slow=5.0,SNR=7.4
PDAR Pinedale Array 118.19 41 PKP **PKPdf 12 31 00.4 +0.1**
comp=Z,0.2nm,0.5s,baz=348,slow=1.0,SNR=4.0
O20A White River Ci 120.24 44 **PKPdf 12 31 04.5 +0.2**
PV10 Paradox Valley 120.43 46 PKPdf **PKPdf 12 31 03.9 -0.9**
PV14 Lion Creek, Pa 120.45 46 PKPdf **PKPdf 12 31 04.6 -0.1**
PV02 Paradox Valley 120.72 46 PKPdf **PKPdf 12 31 04.9 -0.4**
TXAR Lajitas Array 128.19 53 PKP **PKiKP 12 31 20.8 +0.5**
comp=Z,0.5nm,0.7s,baz=347,slow=2.4,SNR=7.7
KAN09 Caldwell North 128.93 42 PKPdf **PKPdf 12 31 19.4 -1.3**
PETF Flores 144.69 63 PKPdf **PKPab 12 31 47.6 -1.3**
TEIG Tepich 144.69 57 PKPdf PKPbc 12 31 49.9 +0.9
CO02 Combarbal 144.71 160 **PKPab 12 31 49.5 +0.7**
ZON Zonda 145.14 163 PKPbc **PKPdf 12 31 51.4 +0.6**
ZON Zonda 145.14 163 PKIKP **PKPdf 12 31 51.4 +0.6**
CO03 El Pedregal 145.15 160 PKPbc **PKPbc 12 31 50.9 +0.6**
GO04 Tololo Observa 145.72 159 PKPdf **PKPdf 12 31 50.3 -1.8**
CO05 La Serena 145.79 158 PKPdf **PKPdf 12 31 51.2 -0.6**
ESQI Esquipulas 145.98 66 PKPdf **PKPdf 12 31 50.4 -2.3**
MTO3 Montecristo 146.01 67 PKPdf **PKPdf 12 31 51.0 -1.9**
CO01 Juntas del Tor 146.14 160 PKPdf **PKPdf 12 31 51.0 -1.8**
PLTB Pedras Altas 146.43 186 PKPdf **PKPdf 12 31 52.8 -0.1**
LCO Las Campanas 146.81 158 PKPbc **PKPbc 12 31 56.6 +0.9**
LCO Las Campanas 146.81 158 PKP2 **PKPbc 12 31 56.6 +0.9**
AC05 El Transito 147.12 159 PKPbc **PKPbc 12 31 57.4 +1.0**
AC04 Llanos de Chal 147.39 157 PKPbc **PKPbc 12 31 58.0 +1.0**
GO03 Copiapo 148.26 158 **PKPbc 12 32 00.2 +0.8**
AC01 Pan de Azucar 149.41 156 PKPbc **PKPbc 12 32 03.4 +1.0**
ACON Acoyapa 150.64 69 PKPbc **PKPbc 12 32 06.5 +0.9**
GO02 Mina Guanaco 150.70 157 PKPbc **PKPbc 12 32 06.8 +0.9**
PB14 IPOC Station P 150.84 155 PKPbc **PKPbc 12 32 06.6 +0.4**
CPUP Villa Florida 152.03 180 PKPbc **PKPbc 12 32 08.4 -0.1**
CPUP Villa Florida 152.03 180 PKP **PKPdf 12 32 01.8 -0.2**
comp=Z,0.9nm,0.7s,baz=110,slow=4.1,SNR=3.0
CPUP PKPbc **PKPbc 12 32 08.1 -0.4**
comp=Z,6.4nm,0.9s,baz=196,slow=2.6,SNR=10
DR12 Loma Pena Alta 159.42 34 PKPab **PKPab 12 32 49.3 -0.3**
EMPR Esperanza - Ma 161.15 28 PKPdf **PKPdf 12 32 12.2 -1.7**
EMPR PKPab **PKPab 12 32 57.5 +0.6**
AOPR Arecibo Observ 161.16 29 PKPdf **PKPdf 12 32 11.2 -2.8**
AOPR PKPab **PKPab 12 32 56.7 -0.3**
CRPR Cabo Rojo, PR 161.27 30 PKPdf **PKPdf 12 32 12.6 -1.4**

NNC 12 12:14:27.7±7.1, 37°.69N×72°.05E, h142km±116km, mb3.0, mpv3.6, 5C-1D, Error ellipse: s-maj=68.8km

s-min=45.4km az=168.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 4.6nm,0.4s	**5.28**	**20**	P	Pn	12 15 44.9	0.0
AAK 9.3nm,0.6s				S	Sn	12 16 45.6	+0.6
KK31	**Karatay Array** 1.1nm,0.2s,baz=164,slow=14,SNR=28	**5.53**	**348**	⇑P	Pn	12 15 49.3	+1.4
KK31 12nm,0.3s,baz=173,slow=23,SNR=7.8				⇑S	Sn	12 16 51.8	+1.1
TKM2	**Tokmak 2** 3.6nm,0.6s	**5.88**	**26**	⇑P	Pn	12 15 52.2	-0.8
TKM2 4.8nm,0.7s				⇑S	Sn	12 16 59.0	-0.5
AB31	**Akbulak array** 1.7nm,0.6s,baz=130,slow=11,SNR=15	**14.49**	**327**	⇑P	Pn	12 17 46.4	+0.4
AKTO	**Aktyubinsk** 2.2nm,0.5s	**16.21**	**326**	⇓P	Pn	12 18 06.7	-0.5

*IDC **12** 12:14:55.3±0.9, 1°.83S×122°.44E, h0km, mb4.1/11, mbtmp4.1/13, ML4.1/2, Error ellipse: s-maj=26.2km s-min=17.4km az=80.0*
*NEIC **12** 12:14:57.6±1.5, 1°.83S±0°.04×122°.45E±0°.06, h10km±1km, mb4.7/16, Error ellipse: s-maj=10.2km s-min=4.8km az=65.0*
*DJA **12** 12:14:57.8±0.2, 2°S±2°×12°3E±°, h10km, M4.8/18, mb4.8/5, MLv4.8/18*
ISC 12 12:15:00.6±0.5, **1°.95**±0°.04×**122°.49E**±0°.05, **h35**km, **n50**, σ1§**54**/52, **mb4.4**/19, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.95**	**17**		**Pn**	**12 15 13.9**	**-3.5**
APSI	**Ampana**	**1.33**	**321**	P	**Pn**	**12 15 23.8**	**+1.0**
KDI	**Kendari**	**2.00**	**176**	P	**Pn**	**12 15 31.2**	**-0.7**
PCI	**Palu**	**2.85**	**291**	P	**Pn**	**12 15 44.7**	**+1.1**
PCI				S	**Sn**	**12 16 19.6**	**+2.9**
KMSI	**Cibinong**	**2.92**	**31**	S	**Sn**	**12 16 22.8**	**+4.3**
SPSI	**Sidrap Palu**	**3.37**	**234**	P	**Pn**	**12 15 50.0**	**-0.9**
BNSI	**Bone**	**3.40**	**224**	P	**Pn**	**12 15 49.5**	**-1.8**
MPSI	**Mapaga**	**3.45**	**311**	P	**Pn**	**12 15 52.5**	**+0.6**
TOLI2	**Tolitoli**	**3.49**	**331**	Pn	**Pn**	**12 15 51.5**	**-1.0**
SANI	**Sanana**	**3.50**	**92**	P	**Pn**	**12 15 52.8**	**+0.2**
BBSI	**Bau Bau**	**3.52**	**179**	P	**Pn**	**12 15 51.9**	**-0.9**
KAPI	**Kappang**	**4.09**	**222**	Pn	**Pn**	**12 16 00.2**	**-0.5**
KAPI	**Kappang**	**4.09**	**222**	Pn	**Pn**	**12 16 00.4**	**-0.3**
KAPI	51nm,0.3s,baz=37,slow=2.4,SNR=10			Sn	**Sn**	**12 16 46.3**	**-1.1**
	8.5nm,0.3s,baz=212,slow=23,SNR=1.8						
	127nm,0.3s						
BKSI	**Bulukumba**	**4.10**	**215**	P	**Pn**	**12 16 00.0**	**-0.8**
BSSI	**Bau Bau, Buton**	**4.62**	**206**	P	**Pn**	**12 16 07.0**	**-1.0**
TNTI	**Ternate**	**5.58**	**61**	Pn	**Pn**	**12 16 19.3**	**-1.9**
TNTI	**Ternate**	**5.58**	**61**	P	**Pn**	**12 16 19.8**	**-1.4**
BKB	**Balikpapan**	**5.63**	**277**	Pn	**Pn**	**12 16 19.1**	**-2.9**
MMRI	**Maumere**	**6.65**	**182**	Pn	**Pn**	**12 16 35.4**	**-0.5**
EDFI	**Ende, Flores**	**6.80**	**187**	P	**Pn**	**12 16 35.8**	**-2.3**
	0.6nm36nm,0.5s						
FITZ	**Fitzroy Crossi**	**16.34**	**169**	Pn	**Pn**	**12 18 47.5**	**0.0**
FITZ	**Fitzroy Crossi**	**16.34**	**169**	Pn	**P**	**12 18 49.2**	**-0.9**
	0.2nm,0.3s,baz=6.5,slow=16,SNR=1.3						
	5.0nm,0.7s						
WB0	**Warramunga Arr**	**21.19**	**147**	P	**P**	**12 19 44.3**	**+1.0**
WB0				IAmb	IAmb	12 19 50.5	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**21.31**	**148**	P	**P**	**12 19 45.3**	**+0.8**
	comp=Z,6.2nm,0.8s,baz=326,slow=11,SNR=7.7						
	comp=Z,6.2nm,0.8s						
WR8	**Warramunga Arr**	**21.40**	**148**	P	**P**	**12 19 46.6**	**+1.0**
RPSI	**Rantau Prapat**	**24.01**	**281**	P	**P**	**12 20 12.5**	**+0.1**
RPSI				IAmb	IAmb	12 20 16.7	
	comp=Z,37nm,1.3s						
RPSI	**Rantau Prapat**	**24.01**	**281**	P	**P**	**12 20 10.9**	**-1.5**
PSI	**Prapat**	**24.03**	**281**	P	**P**	**12 20 10.9**	**-1.8**
	comp=Z,7.9nm,0.6s,baz=131,slow=6.7,SNR=3.8						
	comp=Z,7.9nm,0.6s						
AS31	**Alice Springs**	**24.25**	**154**	P	**P**	**12 20 16.3**	**+1.7**
ASAR	**Alice Springs**	**24.25**	**154**	P	**P**	**12 20 16.3**	**+1.7**
ASAR	**Alice Springs**	**24.25**	**154**	P	**P**	**12 20 15.2**	**+0.6**
	comp=Z,3.8nm,0.6s,baz=323,slow=7.7,SNR=6.2						
	comp=Z,3.8nm,0.6s						
FORT	**Forrest**	**29.15**	**170**	P	**P**	**12 20 59.8**	**+1.2**
FORT				IAmb	IAmb	12 21 09.4	
	comp=Z,19nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.79**	**312**	P	**P**	**12 21 11.0**	**-2.2**
	comp=Z,0.4nm,0.4s,baz=129,slow=8.3,SNR=1.1						
	comp=Z,0.4nm,0.4s						
BBOO	**Buckleboo**	**33.24**	**159**	P	**P**	**12 21 36.4**	**+1.8**
BBOO				IAmb	IAmb	12 21 36.6	
	comp=Z,18nm,1.1s						
MJAR	**Matsushiro Arr**	**41.00**	**19**	P	**P**	**12 22 39.8**	**-0.6**
	comp=Z,3.8nm,0.9s,baz=192,slow=8.1,SNR=3.5						
	comp=Z,3.8nm,0.9s						
CAN	**Canberra**	**41.34**	**146**	P	**P**	**12 22 44.2**	**+0.9**
CAN				IAmb	IAmb	12 22 49.9	
	comp=Z,22nm,1.4s						
JSD	**Sado**	**42.38**	**19**	P	**P**	**12 22 50.6**	**-1.0**
LHI	**Lord Howe Isla**	**45.33**	**134**	P	**P**	**12 23 18.0**	**+2.5**
USRK	**Ussuriysk Ar.**	**46.73**	**9**	P	**P**	**12 23 25.4**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=181,slow=5.4,SNR=4.0						
	comp=Z,1.8nm,0.5s						
ASAJ	**Asahikawa**	**49.27**	**19**	P	**P**	**12 23 43.9**	**-2.0**
	comp=Z,2.5nm,0.5s,baz=226,slow=17,SNR=4.6						
	comp=Z,2.5nm,0.5s						
JKA	**Kamikawa-asahi**	**49.27**	**19**	P	**P**	**12 23 44.2**	**-1.8**
JKA				IAmb	IAmb	12 24 10.0	
	comp=Z,8.7nm,1.3s						
SONM	**Songino Array**	**51.54**	**346**	P	**P**	**12 24 02.1**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=160,slow=8.9,SNR=1.8						
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**60.01**	**329**	P	**P**	**12 25 03.4**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=120,slow=7.4,SNR=2.0						
	comp=Z,1.0nm,0.8s						
PEA0B	**Petropavlovsk-**	**62.27**	**23**	P	**P**	**12 25 18.6**	**-0.4**
PEA0B				IAmb	IAmb	12 25 36.6	
	comp=Z,9.7nm,1.4s						
PETK	**Petropavlovsk-**	**62.27**	**23**	P	**P**	**12 25 18.4**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=228,slow=8.2,SNR=5.3						
	comp=Z,0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**63.87**	**336**	P	**P**	**12 25 29.9**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=132,slow=4.3,SNR=1.8						
	comp=Z,1.6nm,0.6s						
C16K	**Lisburne Hills**	**85.26**	**21**	P	**P**	**12 27 33.7**	**+0.3**
C18K	**Utukok River**	**86.84**	**21**	P	**P**	**12 27 41.2**	**-0.2**
C18K				IAmb	IAmb	12 28 01.7	
	comp=Z,6.4nm,1.3s						
QSPA	**South Pole Qui**	**88.00**	**180**	P	**P**	**12 27 48.4**	**+1.4**
H19K	**Roundabout Mou**	**88.05**	**24**	P	**P**	**12 27 47.1**	**0.0**

*IDC **12** 12:23:01.7±0.3, 15°.41S×172°.95W, h0km, mb5.0/33, mbtmp5.0/34, ML4.3/1, MS5.7/27, Error ellipse: s-maj=12.8km s-min=11.5km az=115.0*
*MOS **12** 12:23:03.0±1.2, 15°.40S×172°.94W, h16km, mb5.6/36, Error ellipse: s-maj=7.7km s-min=7.1km az=72.7*
*BJI **12** 12:23:03.9, 14°.71S×172°.42W, h15km, mB6.6/9, mb5.3/60, Ms6.1/17, Ms7 5.8/16*
*NEIC **12** 12:23:04.9±1.8, 15°.41S±0°.06×172°.8W±0°.1, h15km±3km, mb5.8/609, Ms_20 6.3/28, Mww6.0/15, Error ellipse: s-maj=14.7km s-min=8.6km az=108.0*
*NEIC **12** 12:23:05.7, 15°.41S×172°.00W, h50km, Moment Tensor Solution. Duration: 4s8 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.02; $M_{\theta\theta}$1.08; $M_{\phi\phi}$-0.06; $M_{r\theta}$0.19; $M_{\theta\phi}$-0.30; $M_{\phi r}$0.53; Fault plane solution: $M_0$1.23000×10^{18} NP1: ϕ_s127.36000°, δ49.04000°, λ-54.81000°. NP2: ϕ_s260.27000°, δ51.89000°, λ-123.58000°. Principal axes: T 1.1572, Plg2.0000°, Azm13.0000°; N 0.1400, Plg26.0000°, Azm283.0000°; P -1.2972, Plg64.0000°, Azm107.0000°;*
*NEIC **12** 12:23:05.7, 15°.41S×172°.70W, h50km*
*NOU **12** 12:23:07.9, 15°.38S×172°.57W, h36km, mb5.5/27, Samoa Islands Region*
*GCMT **12** 12:23:12.9±0.2, 15°.36S±0°.01×172°.70W±0°.01, h61km, MW6.1/129, Moment Tensor Solution. s92, c154; s129, c299; Duration: 2s6 Moment tensor: Scale 10^{18} Nm; M_{rr}-1.33±.04; $M_{\theta\theta}$1.49±.03; $M_{\phi\phi}$-0.15±.03; $M_{r\theta}$-0.32±.02; $M_{\theta\phi}$-0.40±.02; $M_{\phi r}$0.52±.02; Best double couple: $M_0$1.59100×10^{18} NP1:ϕ_s265.00000°, δ40.00000°, λ-119.00000°. NP2:ϕ_s120.00000°, δ56.00000°, λ-68.00000°. Principal axes: T 1.6460, Plg8.0000°, Azm195.0000°; N -0.1080, Plg18.0000°, Azm288.0000°; P -1.5350, Plg70.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 12 12:23:06.2±0.2, **15°.42S**±0°.04×**172°.76W**±0°.04, **h29**km, **h29**km:**pP-P**, **n1171**, σ1§**33**/975, **mb5.8**/375, **MS6.0**/47, **49C-48D**, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.77**	**32**	Pn	**Pn**	**12 23 34.9**	**-0.1**
AFI	**Afiamalu**	**1.77**	**32**	Sn	**Sn**	**12 23 54.7**	**-2.0**
AFI	**Afiamalu**	**1.77**	**32**	P	**Pn**	**12 23 34.9**	**-0.1**
AFI	**Afiamalu**	**1.77**	**32**	P	**Pn**	**12 23 34.9**	**-0.1**
AFI						12 23 54.7	
NIUE	**Niue**	**4.53**	**144**	Pn	**Pn**	**12 24 13.1**	**+0.2**
NIUE	**Niue**	**4.53**	**144**	P	**Pn**	**12 24 13.1**	**+0.2**
NIUE				S	**Sn**	**12 25 00.5**	**-4.1**
NIUE	**Niue**	**4.53**	**144**	P	**Pn**	**12 24 13.1**	**+0.2**
FUTU	**Fugatoga**	**5.30**	**281**		**Pn**	**12 24 21.9**	**-1.6**
MSVF	**Nonsavu**	**9.11**	**254**	Pn	**Pn**	**12 25 20.2**	**+4.3**
	4.2nm,0.3s,baz=102,slow=12,SNR=44						
MSVF				LR	LR	12 28 17.9	
	comp=Z,58μm,21.8s,baz=80,slow=35						
MSVF	**Nonsavu**	**9.11**	**254**	P	**Pn**	**12 25 20.2**	**+4.3**
RAR	**Rarotonga**	**13.61**	**117**		**Pn**	**12 26 15.6**	**-1.7**
RAR	**Rarotonga**	**13.61**	**117**	Pn	**Pn**	**12 26 17.2**	**-0.1**
	15nm,0.3s,baz=250,slow=5.8,SNR=33						
RAR				Sn	**Sn**	**12 28 40.9**	**-6.6**
	50nm,0.3s,baz=33,slow=19,SNR=6.3						
RAR				LR	LR	12 30 04.3	
	comp=Z,25μm,21.3s,baz=281,slow=31						
	92nm,0.5s						
RAR	**Rarotonga**	**13.61**	**117**	P	**Pn**	**12 26 16.1**	**-1.2**
RAR	**Rarotonga**	**13.61**	**117**	P	**Pn**	**12 26 18.8**	**+1.5**
RAR				pmax	pmax		
	comp=Z,440nm,1.0s						
PINNC	**Pines Island,**	**20.03**	**246**	P	**P**	**12 27 35.7**	**-1.2**
PINNC	**Pines Island,**	**20.03**	**246**	P	Pn	12 27 39.6	+0.8
YATNC	**Mamie plateau,**	**20.36**	**248**	P	Pn	12 27 43.7	+0.9
DZM	**Mont Dzumac**	**20.77**	**248**	P	**P**	**12 27 43.8**	**-1.3**
DZM	**Mont Dzumac**	**20.77**	**248**	*e*P	Pn	12 27 48.3	+0.7
	comp=Z,950nm,1.4s						
DZM				*e*LR	LR	12 32 44.9	
	comp=Z,59μm,25.9s						
DZM	**Mont Dzumac**	**20.77**	**248**	P	**P**	**12 27 44.1**	**-0.9**
	comp=Z,37nm,0.9s,baz=97,slow=17,SNR=12						
	comp=Z,37nm,0.9s						
DZM	**Mont Dzumac**	**20.77**	**248**	P	Pn	12 27 46.9	-0.7
ONTNC	**Ouen Toro**	**20.82**	**248**		**P**	**12 27 43.9**	**-1.6**
PAE	**Paea**	**22.33**	**99**	*e*P	**P**	**12 28 01.8**	**0.0**
	comp=Z,154nm,1.4s						
PAE				*e*LR	LR	12 33 26.8	
	comp=Z,5μm,23.2s						
PPT	**Papeete**	**22.33**	**99**	P	**P**	**12 28 03.9**	**+2.1**
	comp=Z,225nm,1.0s,baz=317,slow=10,SNR=21						
PPT				S	**S**	**12 32 12.2**	**+6.3**
	comp=Z,52nm,0.7s,baz=154,slow=21,SNR=5.9						
PPT				LR	LR	12 34 16.1	
	comp=Z,7μm,21.6s,baz=251,slow=30						
	comp=Z,225nm,1.0s						
PPT2	**Papeete2**	**22.33**	**99**	*e*P	**P**	**12 28 02.4**	**+0.5**
	comp=Z,306nm,1.4s						
PPT2				*e*LR	LR	12 33 18.9	
	comp=Z,29μm,27.0s						
PPT2				*e*LR	LR	12 33 20.0	
	comp=Z,35μm,25.0s						
PPTF	**Pamatai, Papee**	**22.34**	**99**		**P**	**12 27 59.8**	**-2.2**
PPTF				IAmb	IAmb	12 28 14.3	
	comp=Z,663nm,1.5s						
PPTF	**Pamatai, Papee**	**22.34**	**99**	P	**P**	**12 28 01.4**	**-0.6**
NFK	**Norfolk Island**	**22.39**	**229**	P	**P**	**12 28 01.2**	**-1.1**
	comp=Z,98nm,0.9s						
KOUNC	**Koumac, New Ca**	**22.41**	**253**	P	**P**	**12 28 05.6**	**+2.9**
TVO	**Taravao**	**22.64**	**99**	*e*P	**P**	**12 28 05.6**	**+0.4**
	comp=Z,273nm,1.4s						
TVO				*e*LR	LR	12 33 36.1	
	comp=Z,4μm,23.1s						
XMAS	**Kiritimati**	**23.03**	**42**	P	**P**	**12 28 07.1**	**-2.1**
OUZ	**Omahuta**	**23.21**	**209**	P	**P**	**12 28 12.6**	**+1.8**
OUZ	**Omahuta**	**23.21**	**209**	P	**P**	**12 28 12.4**	**+1.6**
TBI	**Tubuai**	**23.32**	**113**	*e*P	**P**	**12 28 13.0**	**+0.9**
	comp=Z,532nm,1.1s						
TBI				*e*LR	LR	12 33 52.4	
	comp=Z,88μm,24.0s						
MXZ	**Matakaoa Point**	**23.43**	**198**	P	**P**	**12 28 14.9**	**+1.9**
WCZ	**Waipu Caves**	**23.46**	**207**	P	**P**	**12 28 12.6**	**-0.7**
KUZ	**Kuaotunu**	**23.59**	**204**	P	**P**	**12 28 15.6**	**+1.1**
ABAZ	**Army Bay**	**23.82**	**205**	P	**P**	**12 28 16.0**	**-0.7**
MBAZ	**Motutapu North**	**23.93**	**205**	P	**P**	**12 28 19.6**	**+1.8**
PMOR	**Pomariorio Ree**	**23.99**	**92**	*e*P	**P**	**12 28 19.5**	**+0.9**
	comp=Z,941nm,1.2s						
PMOR				*e*LR	LR	12 34 13.4	
	comp=Z,28μm,23.1s						
RVAZ	**Riverhead Bore**	**24.07**	**206**	P	**P**	**12 28 18.5**	**-0.6**
HBAZ	**Herne Bay Bore**	**24.07**	**205**	P	**P**	**12 28 18.3**	**-0.8**
ETAZ	**East Tamaki Re**	**24.08**	**205**	P	**P**	**12 28 20.3**	**+1.1**
MKAZ	**Moumakai**	**24.12**	**204**	P	**P**	**12 28 21.2**	**+1.7**
WTAZ	**Waiatarua**	**24.21**	**205**	P	**P**	**12 28 19.8**	**-0.6**
KBAZ	**Karaka Road Bo**	**24.22**	**205**	P	**P**	**12 28 20.0**	**-0.4**
VAH	**Vaihoa**	**24.23**	**93**	*e*P	**P**	**12 28 20.9**	**+0.1**
	comp=Z,516nm,1.2s						
VAH				*e*LR	LR	12 34 20.2	
	comp=Z,30μm,22.3s						
AWAZ	**Awhitu Peninsu**	**24.29**	**205**	P	**P**	**12 28 20.8**	**-0.3**
CNGZ	**Carnagh Statio**	**24.32**	**197**	P	**P**	**12 28 19.0**	**-2.4**
MWZ	**Matawai**	**24.38**	**199**	P	**P**	**12 28 24.0**	**+2.0**
URZ	**Urewera**	**24.45**	**200**	P	**P**	**12 28 22.6**	**+0.1**
	comp=Z,246nm,0.6s,baz=155,slow=5.7,SNR=18						
URZ				S	**S**	**12 32 41.3**	**+0.5**
	comp=Z,10nm,0.5s,baz=258,slow=2.1,SNR=1.5						
	comp=Z,246nm,0.6s						
URZ	**Urewera**	**24.45**	**200**	P	**P**	**12 28 24.6**	**+2.1**
URZ	**Urewera**	**24.45**	**200**	S	**P**	**12 28 24.7**	**+2.2**
TOZ	**Tahuroa Road**	**24.54**	**203**	P	**P**	**12 28 24.3**	**+0.9**
RAGZ	**Rawiri**	**24.57**	**199**	P	**P**	**12 28 26.2**	**+2.5**
RIGZ	**Rimuhau**	**24.66**	**198**	S	**P**	**12 28 28.9**	**+4.4**
MUGZ	**Murupara**	**24.76**	**200**	P	**P**	**12 28 24.0**	**-1.3**
RTZ	**Ruatahuna**	**24.81**	**199**	P	**P**	**12 28 27.2**	**+1.3**
PRGZ	**Paritu Road**	**24.82**	**198**	S	**P**	**12 28 30.6**	**+4.7**
SNGZ	**Shannon Statio**	**24.85**	**199**	P	**P**	**12 28 27.9**	**+1.7**
MHGZ	**Mahia Peninsul**	**25.03**	**197**	P	**P**	**12 28 30.7**	**+2.9**
RAHZ	**Arahi**	**25.05**	**199**	P	**P**	**12 28 28.0**	**0.0**
MTHZ	**Maungataniwha**	**25.07**	**199**	P	**P**	**12 28 33.1**	**+4.8**
HIZ	**Hauiti**	**25.46**	**203**	P	**P**	**12 28 33.7**	**+1.9**
BKZ	**Black Stump Fm**	**25.47**	**200**	P	**P**

CAN	Canberra	39.51	233	P	P	12 30 33.6	-1.0
CAN	Canberra	39.51	233	P	P	12 30 33.6	-1.0
CAN				pmax	pmax		
comp=Z,150nm,1.6s							
PMG	Port Moresby	39.55	274	P	P	12 30 36.2	+1.1
PMG	Port Moresby	39.55	274	P	P	12 30 36.2	+1.1
PMG				pmax	pmax		
comp=Z,59nm,1.1s							
CMSA	Cobar Meteorol	41.08	240	P	P	12 30 44.3	-3.2
comp=Z,65nm,1.4s							
MTSU	Mount Surprise	41.12	260	P	P	12 30 46.6	-1.5
comp=Z,31nm,0.8s							
MTSU	Mount Surprise	41.12	260	P	P	12 30 50.5	+2.4
QLP	Quilpie	41.48	247	P	P	12 30 49.4	-1.5
comp=Z,54nm,1.3s							
QLP	Quilpie	41.48	247	P	P	12 30 53.0	+2.1
COEN	Coen	42.60	266	P	P	12 30 59.5	-0.6
COEN	Coen	42.60	266	P	P	12 30 59.5	-0.6
COEN							
comp=Z,72nm,1.2s							
COEN	Coen	42.60	266	P	P	12 31 02.6	+2.4
TOO	Toolangi	42.94	231	P	P	12 31 00.8	-1.8
TOO	Toolangi	42.94	231	P	P	12 31 00.6	-2.1
comp=Z,31nm,1.7s							
TOO	Toolangi	42.94	231	P	P	12 31 00.9	-1.8
TOO				pmax	pmax		
comp=Z,39nm,1.2s							
STKA	Stephens Creek	44.56	240	P	P	12 31 13.9	-1.9
STKA	Stephens Creek	44.56	240	P	P	12 31 13.5	-2.3
comp=Z,462nm,1.1s							
STKA	Stephens Creek	44.56	240	P	P	12 31 13.0	-2.8
comp=Z,14nm,0.7s,baz=90,slow=9.4,SNR=13							
STKA				LR	LR	12 47 28.7	
comp=Z,6μm,22.0s,baz=71,slow=33							
comp=Z,14nm,0.7s							
STKA	Stephens Creek	44.56	240	P	P	12 31 17.4	+1.6
STKA	Stephens Creek	44.56	240⇑	*e*P	P	12 31 12.9	-2.9
ARPS	Mount Arapiles	45.48	233	P	P	12 31 20.7	-2.3
comp=Z,55nm,1.0s							
JAY	Jayapura	47.60	281	P	P	12 31 37.1	-2.8
comp=Z,5.7nm,0.7s,baz=346,slow=3.7,SNR=4.3							
comp=Z,5.7nm,0.7s							
BBOO	Buckleboo	49.34	240	P	P	12 31 50.9	-2.3
BBOO	Buckleboo	49.34	240	P	P	12 31 50.4	-2.7
comp=Z,109nm,1.6s							
WR0	Warramunga Arr	50.25	257	P	P	12 31 57.3	-3.0
WR8	Warramunga Arr	50.29	257	P	P	12 31 58.5	-2.0
WB0	Warramunga Arr	50.41	257	P	P	12 31 59.5	-1.9
WB2	Warramunga Arr	50.43	257	P	P	12 31 59.3	-2.3
WRAB	Tennant Creek	50.43	257	P	P	12 31 59.6	-2.0
WRAB	Tennant Creek	50.43	257	*i*P	P	12 31 59.2	-2.4
WRAB				pmax	pmax		
comp=Z,70nm,1.3s							
WRA	Warramunga Arr	50.44	257	P	P	12 31 59.4	-2.3
WRA	Warramunga Arr	50.44	257	P	P	12 31 58.3	-3.4
comp=Z,6.7nm,0.9s,baz=92,slow=7.5,SNR=29							
comp=Z,6.7nm,0.9s							
WRA	Warramunga Arr	50.44	257	P	P	12 31 59.4	-2.3
WRA				pmax	pmax		
comp=Z,8.0nm,1.4s							
AS31	Alice Springs	50.69	252	P	P	12 32 01.4	-2.2
AS31	Alice Springs	50.69	252	P	P	12 32 01.1	-2.5
comp=Z,36nm,0.8s							
ASAR	Alice Springs	50.70	252	P	P	12 32 01.2	-2.4
ASAR	Alice Springs	50.70	252	P	P	12 32 00.5	-3.1
comp=Z,20nm,0.6s,baz=90,slow=7.8,SNR=95							
ASAR				LR	LR	12 52 06.9	
comp=Z,19μm,20.6s,baz=97,slow=34							
comp=Z,20nm,0.6s							
ASAR	Alice Springs	50.70	252	P	P	12 32 01.2	-2.4
MTN	Manton Dam	54.35	265	P	P	12 32 28.9	-1.8
MTN	Manton Dam	54.35	265	P	P	12 32 30.0	-0.7
comp=Z,44nm,0.8s							
WRKA	Warakurna	55.77	250	P	P	12 32 38.1	-2.8
comp=Z,107nm,1.9s							
FORT	Forrest	55.96	243	P	P	12 32 39.7	-2.4
FORT				IAmb	IAmb	12 32 55.2	
comp=Z,65nm,0.8s							
FORT	Forrest	55.96	243	P	P	12 32 37.1	-5.1
KNRA	Kununurra	56.18	261	P	P	12 32 42.4	-1.5
KNRA	Kununurra	56.18	261	P	P	12 32 42.5	-1.4
comp=Z,40nm,2.1s							
FITZ	Fitzroy Crossi	58.81	258	P	P	12 33 02.2	-0.2
FITZ	Fitzroy Crossi	58.81	258	P	P	12 32 59.9	-2.5
comp=Z,3.1nm,1.0s,baz=307,slow=18,SNR=2.6							
comp=Z,3.1nm,1.0s							
JCJ	Chichijima	60.81	314	LR	LR	12 53 15.5	
comp=Z,3μm,20.7s,baz=128,slow=30							
SBA	Scott Base	63.28	185	P	P	12 33 33.3	+1.5
SBA	Scott Base	63.28	185	P	P	12 33 33.3	+1.5
SBA				pmax	pmax		
comp=Z,392nm,1.9s							
VNDA	Vanda	63.42	186	P	P	12 33 33.6	+0.9
VNDA				IAmb	IAmb	12 33 57.6	
comp=Z,74nm,1.2s							
VNDA	Vanda	63.42	186	P	P	12 33 32.8	0.0
comp=Z,6.0nm,0.9s,baz=10,slow=6.1,SNR=29							
comp=Z,6.0nm,0.9s							
VNDA	Vanda	63.42	186	P	P	12 33 33.6	+0.9
VNDA				pmax	pmax		
comp=Z,73nm,1.2s							
PSA00	Pilbara Seismi	63.79	253	P	P	12 33 35.6	-0.6
NWAO	Narrogin (SRO)	65.15	241	P	P	12 33 44.2	-0.7
comp=Z,14nm,1.0s,baz=107,slow=6.6,SNR=4.1							
NWAO				LR	LR	13 00 30.5	
comp=Z,4μm,20.0s,baz=72,slow=35							
comp=Z,14nm,1.0s							
MUN	Mundaring	66.07	242	P	P	12 33 49.5	-1.3
comp=Z,50nm,0.9s							
JHJ	Hachijo jima 2	66.20	317	LR	LR	12 57 58.4	
comp=Z,3μm,19.9s,baz=139,slow=32							
MORW	Morawa	66.44	245	P	P	12 33 52.1	-1.1
MORW				IAmb	IAmb	12 34 16.2	
comp=Z,110nm,1.7s							
KIWB	Kanaga Island	67.10	357	P	P	12 33 57.0	+0.2
ATKA	Atka Island	67.35	359	P	P	12 33 58.5	+0.2
JMM	Marumori	68.63	322	P	P	12 34 06.6	-0.1
JMM				IAmb	IAmb	12 34 39.2	
comp=Z,107nm,1.3s							
SHEM	Shemya Is, Ala	68.81	351	LR	LR	12 57 48.6	
comp=Z,11μm,21.8s,baz=182,slow=30							
UNV	Unalaska Valle	69.19	4	P	P	12 34 09.9	+0.1
baz=186							
MJAR	Matsushiro Arr	69.36	319	P	P	12 34 10.6	-0.7
comp=Z,12nm,1.0s,baz=154,slow=5.5,SNR=19							
MJAR				LR	LR	12 59 03.6	
comp=Z,5μm,21.8s,baz=116,slow=31							
comp=Z,12nm,1.0s							
MAJO	Matsushiro	69.36	319	P	P	12 34 11.1	-0.2
MAJO				IAmb	IAmb	12 34 52.0	
comp=Z,152nm,1.8s							
MAJO	Matsushiro	69.36	319	*e*P	P	12 34 10.5	-0.8
MAJO				pmax	pmax		
comp=Z,15nm,1.0s							
MJB9	Matsu-Tunnel	69.36	319	P	P	12 34 10.7	-0.6
MJB9				IAmb	IAmb	12 34 53.0	
comp=Z,144nm,1.8s							
JSD	Sado	70.27	321	P	P	12 34 17.1	+0.3
FALS	False Pass	70.44	6	P	P	12 34 17.9	+0.4
baz=190							
CASY	Casey	70.65	205	P	P	12 34 19.1	+0.3
CNBA	Chernabura Isl	70.85	8	IAMs_20	IAMs_20	12 57 59.7	
comp=Z,13μm,21.0s							
CHNA	Chernabura Isl	70.86	8	P	P	12 34 20.8	+0.7
baz=193							
SAO	San Andreas Ge	70.93	42	IAmb	IAmb	12 34 54.4	
comp=Z,70nm,1.1s							
JOW	Kunigami	71.00	306	LR	LR	13 00 22.0	
comp=Z,2μm,19.4s,baz=350,slow=32							
PMPB	Monarch Peak	71.02	42	IAmb	IAmb	12 34 55.1	
comp=Z,127nm,1.2s							
SDPT	Sand Point	71.25	7	P	P	12 34 22.9	+0.5
baz=192							
SKR	Severo-Kuril's	71.25	340	*de*P	P	12 34 22.8	+0.3
KMPM	Mount Pierce	71.58	37	IAmb	IAmb	12 34 57.7	
comp=Z,138nm,1.4s							
CBX	Cerro Bola	71.64	48	P	P	12 34 27.4	+1.9
CBX				IAmb	IAmb	12 35 00.4	
comp=Z,87nm,1.3s							
KMRM	Mail Ridge	71.69	38	P	P	12 34 27.7	+2.1
VTX	Valle De La Tr	71.78	49	P	P	12 34 26.9	+0.6
P08K	Saint George I	71.80	2	P	P	12 34 26.0	+0.3
baz=183							
ELS	Elsinore Mount	71.82	46	IAmb	IAmb	12 34 58.5	
comp=Z,168nm,1.8s							
JKA	Kamikawa-asahi	71.88	328	P	P	12 34 27.3	+0.8
ASAJ	Asahikawa	71.89	328	P	P	12 34 26.8	+0.2
comp=Z,18nm,1.1s,baz=206,slow=6.8,SNR=17							
ASAJ				LR	LR	12 59 38.5	
comp=Z,4μm,21.9s,baz=278,slow=31							
comp=Z,18nm,1.1s							
ESJX	Sierra Juarez	71.99	48	P	P	12 34 29.6	+1.9
ESJX				IAmb	IAmb	12 34 30.9	
comp=Z,245nm,2.0s							
O02D	Mt. Diablo Mer	72.21	38	P	P	12 34 31.1	+2.4
O02D				IAMs_20	IAMs_20	12 56 32.1	
comp=Z,21μm,21.0s							
JNU	Nakatsue	72.27	313	P	P	12 34 29.6	+0.5
JNU	Nakatsue	72.27	313	P	P	12 34 27.9	-1.2
comp=Z,17nm,0.9s,baz=88,slow=3.1,SNR=7.6							
comp=Z,17nm,0.9s							
S14K	Fog Glacier	72.28	8	P	P	12 34 28.7	0.0
baz=193							
YUH	Yuha Desert	72.34	48	P	P	12 34 31.3	+1.8
SPIA	Saint Paul Isl	72.35	1	P	P	12 34 29.6	+0.6
baz=182							
CMB	Columbia Colle	72.37	41	P	P	12 34 31.4	+1.7
CMB	Columbia Colle	72.37	41	P	P	12 34 31.4	+1.7
CMB				pmax	pmax		
comp=Z,35nm,1.0s							
CHIR	Chirikof Islan	72.42	10	IAMs_20	IAMs_20	12 58 34.7	
comp=Z,17μm,20.0s							
CHIR	Chirikof Islan	72.42	10	P	P	12 34 29.7	+0.3
baz=197							
CHGN	Chignik	72.45	8	P	P	12 34 30.6	+1.0
baz=194							
PFO	Pinyon Flats O	72.48	47	P	P	12 34 32.1	+1.6
PFO	Pinyon Flats O	72.48	47	LR	LR	12 59 56.3	
comp=Z,10μm,19.2s,baz=302,slow=30							
PFO	Pinyon Flats O	72.48	47	P	P	12 34 32.1	+1.6
PFO				pmax	pmax		
comp=Z,107nm,1.9s							
PET	Petropavlovsk	72.48	342	P	P	12 34 30.7	+0.8
PET				IAmb	IAmb	12 34 58.1	
comp=Z,91nm,1.3s							
PET	Petropavlovsk	72.48	342⇑	*i*P	P	12 34 30.2	+0.3
PET				pmax	pmax		
comp=Z,54nm,1.8s							
PET	Petropavlovsk	72.48	342	P	P	12 34 29.4	-0.5
comp=Z,55nm,1.4s							
ORV	Oroville	72.60	39	IAmb	IAmb	12 35 03.1	
comp=Z,171nm,2.0s							
SLBS	Sierra La Lagu	72.64	59	P	P	12 34 32.2	+0.6
SLBS				IAmb	IAmb	12 34 34.8	
comp=Z,238nm,1.7s							
PEA0B	Petropavlovsk-	72.84	342	IAmb	IAmb	12 35 01.2	
comp=Z,154nm,1.2s							
PEA0B	Petropavlovsk-	72.84	342	*de*P	P	12 34 31.5	-0.5
PETK	Petropavlovsk-	72.84	342	P	P	12 34 31.7	-0.3
comp=Z,46nm,0.9s,baz=124,slow=7.1,SNR=98							
PETK				LR	LR	13 02 00.9	
comp=Z,3μm,21.0s,baz=306,slow=32							
comp=Z,46nm,0.9s							
L02F	Cave Junction	73.00	36	P	P	12 34 35.4	+2.1
GSC	Goldstone, Bar	73.16	45	IAmb	IAmb	12 35 06.4	
comp=Z,174nm,1.7s							
YBH	Yreka Blue Hor	73.24	37	LR	LR	12 59 16.7	
comp=Z,7μm,21.5s,baz=321,slow=30							
WAKR	Walker	73.25	41	P	P	12 34 36.6	+1.6
WAKR				IAmb	IAmb	12 35 07.5	
comp=Z,143nm,1.6s							
GLA	Glamis	73.34	48	P	P	12 34 36.6	+1.0
GLA	Glamis	73.34	48	P	P	12 34 36.6	+1.0
GLA				pmax	pmax		
comp=Z,52nm,1.1s							
SII	Sitkinak Islan	73.37	11	P	P	12 34 35.7	+0.6
baz=199							
HATC	Hat Creek Radi	73.40	38	IAmb	IAmb	12 35 36.2	
comp=Z,117nm,1.2s							
BEKR	Beckworth	73.48	39	P	P	12 34 37.9	+1.5
BEKR				IAmb	IAmb	12 34 39.3	
comp=Z,180nm,2.0s							
PNTR	Pine Nut	73.49	41	P	P	12 34 38.1	+1.5
DSP	Deep Springs	73.54	43	P	P	12 34 37.2	+0.7
PIX	Pinacate	73.57	50	P	P	12 34 38.1	+1.2
LHV	Little Huntoon	73.70	42	P	P	12 34 38.9	+1.5
GWY	Greenwater Val	73.74	44	P	P	12 34 38.5	+0.5
GWY				IAmb	IAmb	12 35 09.6	
comp=Z,218nm,1.9s							
L04D	Klamath Falls	73.78	37	IAmb	IAmb	12 35 24.4	
comp=Z,211nm,1.5s							
R16K	Pilot Point	73.80	8	P	P	12 34 38.7	+1.1
baz=195							
YSS	Yuzhno-Sakhali	73.81	330	P	P	12 34 38.2	+0.3
YSS				IAmb	IAmb	12 35 11.7	
comp=Z,102nm,1.1s							
YSS	Yuzhno-Sakhali	73.81	330	*e*P	P	12 34 37.3	-0.6
YSS				pmax	pmax		
comp=Z,40nm,1.1s							
RYN	Ryan	73.90	41	P	P	12 34 39.3	+0.4
BLYC	Blythe	73.92	47	P	P	12 34 40.2	+1.3
NVAR	Mina Array Bea	73.93	42	P	P	12 34 39.5	+0.5
NVAR	Mina Array Bea	73.93	42	P	P	12 34 39.8	+0.7
comp=Z,26nm,0.8s,baz=228,slow=9.6,SNR=84							
NVAR				LR	LR	13 00 43.5	
comp=Z,8μm,20.0s,baz=307,slow=30							
comp=Z,26nm,0.8s							
113A	Mohawk Valley,	73.96	49	P	P	12 34 39.8	+0.7
113A				IAmb	IAmb	12 34 41.9	
comp=Z,135nm,1.7s							
PAHR	Pah Rah Range	73.99	40	P	P	12 34 40.2	+0.9
BBOR	Butler Butte	73.99	36	IAmb	IAmb	12 35 11.0	
comp=Z,148nm,1.7s							
NV11	Mina Array Sit	74.03	42	IAmb	IAmb	12 34 42.5	
comp=Z,132nm,1.4s							
MZP	Montezuma Peak	74.11	43	P	P	12 34 40.5	+0.3
OHAK	Old Harbor	74.16	11	P	P	12 34 40.0	+0.3
OHAK	Old Harbor	74.16	11	P	P	12 34 39.5	-0.2
baz=199							
R18K	Karluk	74.28	10	P	P	12 34 40.7	+0.3
baz=198							
K04D	Chiloquin, OR	74.36	37	IAmb	IAmb	12 35 22.1	
comp=Z,170nm,1.4s							
TPNV	Topopah Spring	74.44	44	P	P	12 34 42.7	+0.7
TPNV				IAmb	IAmb	12 35 14.5	
comp=Z,205nm,1.9s							
TPNV				IAMs_20	IAMs_20	12 58 18.7	
comp=Z,19μm,22.0s							
TPNV	Topopah Spring	74.44	44	P	P	12 34 42.7	+0.7
TPNV				pmax	pmax		
comp=Z,205nm,1.9s							
J04A	Umpqua Nationa	74.54	36	P	P	12 34 43.0	+0.4
J04A				IAmb	IAmb	12 34 45.7	
comp=Z,141nm,1.0s							
QSPA	South Pole Qui	74.63	180	P	P	12 34 43.4	+0.7
QSPA	South Pole Qui	74.63	180	P	P	12 34 43.1	+0.5
comp=Z,22nm,0.9s,baz=31,slow=2.2,SNR=22							
QSPA				PKiKP	PKiKP	12 40 32.2	-2.2
comp=Z,1.9nm,1.0s,baz=14,slow=7.9,SNR=3.2							
QSPA				LR	LR	13 01 06.8	
comp=Z,6μm,21.8s,baz=0.5,slow=31							
comp=Z,22nm,0.9s							
BUCK	Buck Mountain	74.66	35	IAmb	IAmb	12 35 16.1	
comp=Z,281nm,1.8s							
Q17K	Contact Creek	74.72	9	P	P	12 34 42.7	-0.3
baz=197,SNR=8.2							
V12A	Nelson	74.73	46	P	P	12 34 44.4	+0.7
KDAK	Kodiak Island	74.82	11	LR	LR	13 00 42.7	
comp=Z,8μm,20.5s,baz=74,slow=30							
KDAK	Kodiak Island	74.82	11	P	P	12 34 43.6	+0.1
baz=200							
Q09A	Carvers	74.88	42	P	P	12 34 46.2	+1.6
Q09A				IAmb	IAmb	12 35 23.2	
comp=Z,98nm,1.0s							
SHPR	Sheep Range	74.93	45	P	P	12 34 45.7	+0.8
O14K	Tigyukauivet M	74.99	6	P	P	12 34 44.2	-0.2
baz=191							
Q16K	King Salmon	75.00	9	P	P	12 34 44.3	-0.2
baz=196,SNR=8.0							
J05D	Fort Rock, OR	75.06	36	IAmb	IAmb	12 34 48.8	
comp=Z,103nm,1.0s							
O15K	Ungalikthiuk R	75.08	7	P	P	12 34 45.8	+0.8
O15K				IAmb	IAmb	12 34 46.7	
comp=Z,128nm,1.4s							
O15K	Ungalikthiuk R	75.08	7	P	P	12 34 44.4	-0.6
baz=193							
Y14A	Wickenburg	75.10	48	P	P	12 34 47.2	+1.4
S11A	Rachel	75.16	44	IAmb	IAmb	12 35 18.6	
comp=Z,71nm,1.0s							
P16K	Nushagak River	75.16	8	P	P	12 34 45.5	+0.1
baz=195,SNR=13							
Q18K	Katmai Hardscr	75.22	9	P	P	12 34 45.9	-0.1
baz=198,SNR=6.8							
H04A	Detroit Lake	75.42	35	P	P	12 34 48.2	+0.9
H04A				IAmb	IAmb	12 35 34.4	
comp=Z,250nm,1.8s							
PRN	Pahroc Range	75.49	44	IAmb	IAmb	12 35 12.5	
comp=Z,174nm,1.5s							
P17K	Kvichak River	75.53	9	P	P	12 34 48.4	+0.9
baz=196,SNR=14							
PINE	Pine Mountain	75.55	36	P	P	12 34 49.7	+1.4
PINE				IAmb	IAmb	12 34 51.6	
comp=Z,122nm,1.1s							
G04A	Mulino	75.59	34	P	P	12 34 48.4	+0.2
G04A				IAmb	IAmb	12 35 21.1	
comp=Z,119nm,1.1s							
N14K	Kuskokwak Cree	75.61	6	P	P	12 34 48.7	+0.7
baz=191							
Q20K	Shuyak Island	75.63	11	P	P	12 34 48.1	-0.1
baz=200							
SYI	Shuyak Island	75.63	11	IAmb	IAmb	12 35 17.6	
comp=Z,113nm,0.9s							
I05D	Terrebonne, OR	75.67	35	IAmb	IAmb	12 34 51.9	
comp=Z,326nm,1.7s							
O16K	Kokwok River B	75.69	8	P	P	12 34 48.5	0.0
baz=194,SNR=6.8							
Q19K	Cape Douglas,	75.72	10	P	P	12 34 49.0	+0.3
baz=199							
M11K	Mekoryuk	75.72	3	P	P	12 34 49.0	+0.4
baz=186							
P18K	Big Mountain,	75.90	9	P	P	12 34 49.6	-0.1
P18K	Big Mountain,	75.90	9	P	P	12 34 49.3	-0.5
baz=197,SNR=27							
TUC	Tucson	75.92	50	P	P	12 34 51.6	+1.0
TUC				pmax	pmax		
comp=Z,72nm,2.2s							
M13K	Dall Lake	75.95	5	P	P	12 34 51.3	+1.4
M13K	Dall Lake	75.95	5	P	P	12 34 50.5	+0.6
baz=189,SNR=9.9							
N15K	Kwethluk River	76.02	6	P	P	12 34 50.2	-0.2
baz=192							
WVOR	Wild Horse Val	76.06	38	IAmb	IAmb	12 34 54.2	
comp=Z,100nm,1.3s							
WVOR	Wild Horse Val	76.06	38	P	P	12 34 51.9	+0.7
HOOD	Mount Hood Mea	76.11	34	IAmb	IAmb	12 34 54.1	
comp=Z,110nm,1.1s							
NLWA	Neilton Lookou	76.29	32	IAmb	IAmb	12 34 55.5	
comp=Z,90nm,1.1s							
O18K	Koktuh Hills	76.35	9	P	P	12 34 53.2	+1.0
O18K				IAmb	IAmb	12 34 54.1	
comp=Z,171nm,1.4s							
O18K	Koktuh Hills	76.35	9	P	P	12 34 52.5	+0.2
baz=197,SNR=9.6							
M14K	Bethel	76.40	5	P	P	12 34 52.4	-0.1
baz=191,SNR=37							
HG4B	Hotspring	76.42	25	P	P	12 34 54.0	+1.2
HG4B				IAmb	IAmb	12 34 55.5	
comp=Z,71nm,0.9s							
X16A	Lo Mia Camp, P	76.46	48	P	P	12 34 54.8	+1.1
N16K	Nishlik Lake	76.47	7	P	P	12 34 53.3	+0.3
baz=194,SNR=6.2							
M15K	Kasigluk River	76.47	6	P	P	12 34 53.3	+0.4
baz=192,SNR=29							
P19K	Oil Pt	76.47	10	P	P	12 34 52.7	-0.3
baz=199							
I07A	Izee	76.55	36	IAmb	IAmb	12 34 57.0	
comp=Z,116nm,1.3s							
KSRS	Korea Array	76.61	315	P	P	12 34 55.2	+1.0
comp=Z,9.6nm,0.9s,baz=128,slow=6.4,SNR=36							
KSRS				LR	LR	13 02 35.1	
comp=Z,2μm,21.9s,baz=120,slow=31							
comp=Z,9.6nm,0.9s							
G06A	Carlson Farm,	76.62	35	IAmb	IAmb	12 34 56.9	
comp=Z,144nm,1.4s							
KSAR	Wonju Array Be	76.63	315	P	P	12 34 54.7	+0.4
KSAR	Wonju Array Be	76.63	315	P	P	12 34 54.7	+0.4
TYV	Tymovskoe	76.65	333	*e*P	P	12 34 53.6	-0.5
TYV				*e*S	S	12 44 38.0	-0.7
TYV				pmax	pmax		
comp=Z,36nm,1.2s							
TYV				pmax	pmax		
comp=Z,700nm,3.2s							
TYV				smax	smax		
comp=N,600nm,4.9s							
TYV				smax	smax		
comp=E,1μm,4.9s							
J08A	Circle Bar Ran	76.71	37	P	P	12 34 54.8	0.0
J08A				IAmb	IAmb	12 34 57.8	
comp=Z,157nm,1.4s							
N17K	Nushagak Hills	76.71	8	P	P	12 34 54.6	+0.3
baz=195							
HOM	Homer	76.75	11	P	P	12 34 54.4	-0.1
baz=201							
O19K	Port Alsworth	76.81	9	P	P	12 34 55.5	+0.7
baz=198,SNR=16							
U15A	North Rim	76.87	46	P	P	12 34 56.4	+0.3
PSUT	Pine Spring	76.89	44	P	P	12 34 55.9	-0.2
L14K	Kuka Creek	76.92	5	P	P	12 34 56.6	+1.3
L14K				IAmb	IAmb	12 34 58.3	
comp=Z,130nm,1.1s							
L14K	Kuka Creek	76.92	5	P	P	12 34 56.8	+1.3
baz=190,SNR=18							
GNW	Green Mountain	76.94	32	IAmb	IAmb	12 34 58.8	
comp=Z,108nm,1.4s							
LON	Longmire	76.94	33	IAmb	IAmb	12 34 58.5	
comp=Z,161nm,1.8s							
M16K	Timber Creek	76.98	7	IAmb	IAmb	12 34 58.7	
comp=Z,188nm,1.4s							
M16K	Timber Creek	76.98	7	P	P	12 34 56.7	+0.9
baz=194,SNR=16							
BRSE	Bradley Lake S	77.00	11	P	P	12 34 56.7	+0.7
baz=202							
N18K	Kilae Creek	77.04	8	P	P	12 34 56.4	+0.2
baz=197,SNR=5.5							
WUAZ	Wupatki	77.05	47	IAmb	IAmb	12 35 00.3	
comp=Z,129nm,1.5s							
CLRS	Cowichan Lake	77.11	31	IAmb	IAmb	12 34 59.6	
comp=Z,123nm,1.4s							
D05A	Enumclaw	77.12	33	P	P	12 34 58.1	+1.2
ELK	Elko	77.19	41	P	P	12 34 57.9	+0.2
ELK	Elko	77.19	41	LR	LR	13 04 27.6	
comp=Z,7μm,18.3s,baz=328,slow=32							
ELK	Elko	77.19	41	P	P	12 34 57.9	+0.2
ELK				pmax	pmax		
comp=Z,88nm,1.5s							
DUN6	Lazy B Ranch	77.30	51	P	P	12 34 59.0	+0.6
PGC	Sidney	77.33	31	P	P	12 34 59.0	+1.0
PGC				IAmb	IAmb	12 35 00.7	
comp=Z,84nm,1.0s							
CBB	Campbell River	77.34	29	IAmb	IAmb	12 35 00.9	
comp=Z,98nm,1.2s							
L15K	Ungalak Mounta	77.36	5

KSM IAmb IAmb 12 35 43.9
comp=Z,186nm,1.8s
SLKM Skilak Lake 77.81 11 IAmb IAmb 12 35 02.3
comp=Z,134nm,1.1s
M18K Stony River 77.83 8 P **P 12 35 01.0 +0.5**
baz=197,SNR=8.5
LTY Liberty 77.86 33 IAmb IAmb 12 35 03.6
comp=Z,84nm,1.2s
E07A Sunnyside 77.86 34 IAmb IAmb 12 35 04.0
comp=Z,128nm,1.1s
TCRU Three Creeks R 77.87 44 IAmb IAmb 12 35 05.1
comp=Z,80nm,1.0s
O22K Cooper Landing 77.88 11 P **P 12 35 01.4 +0.6**
baz=203
CAPN Captain Cook N 77.88 11 P **P 12 35 01.4 +0.6**
baz=201
P23K Montague Islan 77.90 13 P **P 12 35 01.8 +0.9**
baz=205
HAWA Hanford 77.94 35 P **P 12 35 01.9 +0.4**
HAWA IAmb IAmb 12 35 04.3
comp=Z,147nm,1.3s
K15K Wolf Creek Mou 77.96 5 P **P 12 35 01.7 +0.5**
baz=191,SNR=37
MVU Marysvale 77.98 44 IAmb IAmb 12 35 05.7
comp=Z,90nm,1.1s
YPT Yellepit 78.04 35 P **P 12 35 02.2 +0.1**
YPT IAmb IAmb 12 35 04.7
comp=Z,171nm,1.6s
GRNB Grenville Isla 78.08 24 P **P 12 35 02.0 -0.2**
GRNB IAmb IAmb 12 35 04.8
comp=Z,220nm,1.9s
SPCR Spurr Chakacha 78.10 10 P **P 12 35 02.3 +0.1**
baz=200,SNR=6.2
BUTB Butedale 78.11 26 P **P 12 35 03.1 +0.7**
CRAG Craig 78.12 22 P **P 12 35 02.7 +0.4**
baz=219
L17K Donlin 78.14 7 P **P 12 35 03.8 +1.6**
baz=194,SNR=26
WAH2 Wahluke Slope 78.14 34 IAmb IAmb 12 35 05.3
comp=Z,139nm,1.3s
J14K Nanvaranak Lak 78.25 4 P **P 12 35 03.7 +0.9**
baz=189
LEM Lembang 78.25 266 P **P 12 35 03.6 -0.5**
comp=Z,6.7nm,0.3s,baz=202,slow=4.9,SNR=3.9
comp=Z,6.7nm,0.3s
E08A Dider Farm, El 78.26 35 IAmb IAmb 12 35 06.0
comp=Z,210nm,1.5s
BMO Blue Mountains 78.27 37 IAmb IAmb 12 35 06.0
comp=Z,103nm,1.3s
LNOR Lincton Mounta 78.31 35 P **P 12 35 03.2 -0.4**
MFID Camas Ranch 78.31 39 P **P 12 35 04.1 +0.3**
MFID IAmb IAmb 12 35 06.4
comp=Z,83nm,1.2s
L18K Granite Mounta 78.42 8 IAmb IAmb 12 35 06.9
comp=Z,131nm,1.1s
L18K Granite Mounta 78.42 8 P **P 12 35 04.9 +1.1**
baz=196,SNR=23
M19K Big River Lodg 78.43 9 P **P 12 35 04.3 +0.4**
baz=198,SNR=9.5
RC01 Rabbit Creek A 78.44 11 P **P 12 35 04.1 +0.2**
baz=203
DUG Dugway, Tooele 78.45 43 P **P 12 35 04.7 0.0**
DUG Dugway, Tooele 78.45 43 P **P 12 35 04.7 0.0**
DUG pmax pmax
comp=Z,62nm,1.1s
ZAIG Zacatecas 78.46 62 P **P 12 35 04.9 -0.4**
PWL Port Wells 78.50 12 P **P 12 35 03.1 -1.2**
PWL IAmb IAmb 12 35 05.8
comp=Z,134nm,1.3s
PWL Port Wells 78.50 12 P **P 12 35 04.3 0.0**
baz=204
KAIM Kayak Island 78.51 14 P **P 12 35 04.8 +0.5**
baz=208
V35K Ketchikan 78.56 23 P **P 12 35 05.5 +0.8**
baz=220,SNR=9.3
M20K Styx River 78.60 9 P **P 12 35 05.8 +0.9**
baz=199
SUA Susitna One 78.60 11 P **P 12 35 04.3 -0.6**
SUA Susitna One 78.60 11 P **P 12 35 05.5 +0.5**
baz=202,SNR=11
L19K White Mountain 78.63 8 P **P 12 35 05.0 +0.1**
L19K White Mountain 78.63 8 P **P 12 35 05.2 +0.2**
baz=198,SNR=10
SIT Sitka 78.63 20 P **P 12 35 05.4 +0.4**
baz=217
U33K Whale Pass 78.63 21 P **P 12 35 05.5 +0.5**
baz=219,SNR=5.8
D08A Wollman Farm, 78.68 34 P **P 12 35 06.6 +1.0**
D08A IAmb IAmb 12 35 08.3
comp=Z,139nm,1.1s
HMU Henry Mountain 78.69 45 IAmb IAmb 12 35 09.0
comp=Z,126nm,1.3s
K17K Iditarod 78.70 7 P **P 12 35 06.7 +1.3**
K17K IAmb IAmb 12 35 08.5
comp=Z,128nm,1.2s
K17K Iditarod 78.70 7 P **P 12 35 06.5 +1.2**
baz=194,SNR=21
EYAK Cordova Ski Ar 78.76 13 P **P 12 35 05.7 +0.1**
baz=206
GLI Glacier Island 78.77 12 P **P 12 35 06.3 +0.6**
GLI IAmb IAmb 12 35 07.2
comp=Z,113nm,1.0s
GLI Glacier Island 78.77 12 P **P 12 35 06.1 +0.4**
baz=205,SNR=5.3
E09A Wood Farm, Sta 78.78 35 P **P 12 35 06.7 +0.6**
E09A IAmb IAmb 12 35 08.4
comp=Z,159nm,1.4s
Q16A Castle Valley 78.89 44 IAmb IAmb 12 35 39.4
comp=Z,189nm,1.6s
EPT El Paso 78.91 53 IAmb IAmb 12 35 10.3
comp=Z,135nm,1.7s
GAMB Gambell 78.95 0 P **P 12 35 07.0 +0.3**
baz=181
SKT Skwentna 78.95 10 P **P 12 35 06.8 +0.1**
SKT IAmb IAmb 12 35 07.5
comp=Z,133nm,1.5s
SKT Skwentna 78.95 10 P **P 12 35 06.0 -0.8**
baz=201,SNR=11
F10A Beach Ranch, E 78.97 36 P **P 12 35 07.8 +0.4**
F10A IAmb IAmb 12 35 09.5
comp=Z,100nm,1.0s
KNK Knik Glacier 78.98 12 P **P 12 35 06.4 -0.6**
baz=204,SNR=7.0
M22K Willow 78.98 11 P **P 12 35 06.5 -0.3**
baz=202,SNR=12
PMR Palmer 79.02 11 P **P 12 35 06.9 -0.1**
baz=203,SNR=9.8
J16K Anvik River 79.02 6 P **P 12 35 07.7 +0.6**
baz=192,SNR=37
L20K Farewell, AK 79.05 9 P **P 12 35 07.4 +0.1**
baz=198,SNR=12
TMUT Trail Mountain 79.05 44 IAmb IAmb 12 35 11.6
comp=Z,147nm,1.0s
S31K Pelican 79.07 19 P **P 12 35 07.8 +0.4**
baz=216
WRAK Wrangell Islan 79.14 22 P **P 12 35 08.9 +1.1**
WRAK Wrangell Islan 79.14 22 P **P 12 35 08.9 +1.1**
baz=219,SNR=7.0
PLID Pearl Lake 79.16 37 P **P 12 35 08.6 +0.1**
TTA Tatalina 79.19 8 IAmb IAmb 12 35 10.8
comp=Z,98nm,1.1s
TTA Tatalina 79.19 8 P **P 12 35 08.8 +0.7**
baz=196,SNR=35
S32K Killisnoo 79.20 20 P **P 12 35 08.6 +0.5**
baz=217
GHO Glory Hole Cre 79.22 11 P **P 12 35 08.3 0.0**
GHO IAmb IAmb 12 35 37.0
comp=Z,66nm,0.8s
T33K Petersburg 79.23 21 P **P 12 35 09.5 +1.1**
baz=219
HLID Hailey 79.25 39 P **P 12 35 10.1 +1.1**
HLID IAmb IAmb 12 35 12.1
comp=Z,124nm,1.2s
B08A Colville Reser 79.25 33 P **P 12 35 08.8 0.0**
B08A IAmb IAmb 12 35 10.7
comp=Z,103nm,1.1s
DIV Divide 79.27 13 IAmb IAmb 12 35 10.3
comp=Z,176nm,1.2s
J17K VABM Dome 79.28 6 IAmb IAmb 12 35 11.7
comp=Z,104nm,1.1s
J17K VABM Dome 79.28 6 P **P 12 35 09.8 +1.3**
baz=193,SNR=21
HVU Hansel Valley 79.31 41 P **P 12 35 10.6 +1.2**
HVU Hansel Valley 79.31 41 P **P 12 35 10.6 +1.2**
HVU pmax pmax
comp=Z,64nm,0.9s
MESA MESA 79.33 15 IAmb IAmb 12 35 11.4
comp=Z,137nm,0.9s
MESA MESA 79.33 15 P **P 12 35 09.9 +0.8**
baz=210,SNR=6.7
WAX Waxell Ridge 79.34 15 P **P 12 35 09.7 +0.7**
WAX IAmb IAmb 12 35 11.2
comp=Z,145nm,1.0s
SML Sawmill 79.37 12 IAmb IAmb 12 36 03.2
comp=Z,139nm,1.6s
SML Sawmill 79.37 12 P **P 12 35 10.1 +1.0**
baz=204
BMRM Bremner River 79.39 14 P **P 12 35 09.5 +0.3**
BMRM IAmb IAmb 12 35 11.1
comp=Z,154nm,1.0s
BMRM Bremner River 79.39 14 P **P 12 35 09.5 +0.3**
baz=208,SNR=18
MDJ Mudanjiang 79.42 322 P **P 12 35 09.3 -0.4**
MDJ Mudanjiang 79.42 322 P **P 12 35 10.6 +0.9**
MDJ pmax pmax
comp=Z,21nm,1.8s
SRU San Rafael Swe 79.42 44 P **P 12 35 11.1 +1.0**
SRU IAmb IAmb 12 35 12.9
comp=Z,101nm,1.2s
SRU San Rafael Swe 79.42 44 P **P 12 35 11.1 +1.0**
SRU pmax pmax
comp=Z,101nm,1.2s
M23K Glacier View 79.47 12 P **P 12 35 10.6 +1.0**
baz=204
C09A Chrisman Ranch 79.48 34 P **P 12 35 10.8 +0.8**
C09A IAmb IAmb 12 35 12.3
comp=Z,79nm,1.0s
YAH Yahtse 79.54 15 P **P 12 35 11.0 +0.7**
YAH IAmb IAmb 12 35 12.6
comp=Z,111nm,0.9s
PNL Peninsula 79.56 16 P **P 12 35 10.5 +0.3**
baz=213
CUT Chulitna 79.56 10 P **P 12 35 10.6 +0.6**
CUT Chulitna 79.56 10 P **P 12 35 10.1 0.0**
baz=202,SNR=13
KLU Klutina 79.57 13 P **P 12 35 10.7 +0.5**
baz=206,SNR=11
SCM Sheep Creek Mo 79.59 12 P **P 12 35 10.4 +0.1**
SCM IAmb IAmb 12 35 11.5
comp=Z,72nm,0.7s
SCM Sheep Creek Mo 79.59 12 P **P 12 35 10.4 +0.1**
SCM pmax pmax
comp=Z,72nm,0.7s
SCM Sheep Creek Mo 79.59 12 P **P 12 35 10.9 +0.6**
baz=205,SNR=9.7
R31K City Hall, Gus 79.59 19 P **P 12 35 10.6 +0.4**
baz=216
I17K Unalakleet 79.60 5 IAmb IAmb 12 35 13.6
comp=Z,99nm,1.2s
I17K Unalakleet 79.60 5 P **P 12 35 11.9 +1.7**
baz=192,SNR=7.7
Y22D IRIS PASSCAL I 79.61 50 IAmb IAmb 12 35 16.8
comp=Z,189nm,1.4s
Y22D IRIS PASSCAL I 79.61 50 P **P 12 35 12.3 +1.2**
baz=243
J18K Innoko River 79.61 7 P **P 12 35 11.2 +0.9**
J18K IAmb IAmb 12 35 13.0
comp=Z,102nm,1.0s
J18K Innoko River 79.61 7 P **P 12 35 11.0 +0.6**
baz=196,SNR=53
VHRN Van Horn 79.66 54 IAmb IAmb 12 35 14.6
comp=Z,198nm,1.6s
PINM Pinnacle 79.69 16 P **P 12 35 11.2 +0.3**
baz=212
PPLA Purkeypile 79.70 9 P **P 12 35 10.4 -0.6**
PPLA Purkeypile 79.70 9 P **P 12 35 11.8 +0.8**
baz=200
MNTX Cornudas Mount 79.74 53 P **P 12 35 12.3 +0.6**
MNTX IAmb IAmb 12 35 14.8
comp=Z,158nm,1.6s
TCUT Toone Canyon 79.84 42 P **P 12 35 13.4 +0.9**
K20K Telida 79.86 8 IAmb IAmb 12 35 13.9
comp=Z,86nm,1.1s
K20K Telida 79.86 8 P **P 12 35 12.2 +0.5**
baz=198,SNR=29
R32K Eaglecrest 79.86 19 IAMs_20 IAMs_20 13 01 11.1
comp=Z,17µm,22.0s
R32K Eaglecrest 79.86 19 P **P 12 35 12.6 +0.8**
baz=217,SNR=5.3
VRDI Verde Repeater 79.88 14 IAmb IAmb 12 35 14.0
comp=Z,94nm,1.1s
ANM Nome 79.94 3 P **P 12 35 12.6 +0.6**
baz=187
N25K Chitina, Valde 79.96 13 IAmb IAmb 12 35 14.3
comp=Z,91nm,1.1s
N25K Chitina, Valde 79.96 13 P **P 12 35 12.4 +0.1**
baz=208,SNR=17
BSUT Blindstream Ca 79.97 43 IAmb IAmb 12 35 18.1
comp=Z,199nm,1.8s
GLB Gilahina Butte 79.99 14 P **P 12 35 11.8 -0.6**
GLB IAmb IAmb 12 35 14.4
comp=Z,114nm,1.2s
HWUT Hardware Ranch 79.99 42 IAmb IAmb 12 35 15.7
comp=Z,165nm,1.8s
P29M Windy Craggy 79.99 17 IAmb IAmb 12 35 15.1
comp=Z,93nm,1.1s
P29M Windy Craggy 79.99 17 P **P 12 35 13.6 +1.1**
baz=214,SNR=11
M24K Tolsona, Glenn 80.07 12 P **P 12 35 14.0 +1.1**
baz=206,SNR=18
TX31 Lajitas Ar. Si 80.11 56 IAmb IAmb 12 35 17.1
comp=Z,182nm,1.4s
TXAR Lajitas Array 80.11 56 P **P 12 35 14.5 +0.6**
TXAR Lajitas Array 80.11 56 P **P 12 35 14.7 +0.8**
comp=Z,36nm,1.0s,baz=216,slow=7.1,SNR=108
comp=Z,36nm,1.0s
TXAR Lajitas Array 80.11 56 P **P 12 35 14.5 +0.6**
PV13 Radium Mtn., P 80.12 46 P **P 12 35 14.2 +0.3**
PV13 IAmb IAmb 12 35 16.8
comp=Z,105nm,1.1s
TLIG Tlapa 80.13 69 IAmb IAmb 12 35 36.1
comp=Z,191nm,1.7s
PV11 David Mesa, Pa 80.16 46 IAmb IAmb 12 35 18.2
comp=Z,162nm,1.2s
CAST Castle Rocks 80.21 9 P **P 12 35 12.7 -0.9**
baz=200,SNR=12
H16K Elim 80.22 5 P **P 12 35 14.7 +1.2**
baz=190,SNR=10.0
PLBC Pleasant Camp 80.25 18 P **P 12 35 15.1 +1.2**
baz=215
J19K Poorman 80.26 8 IAmb IAmb 12 35 35.7
comp=Z,210nm,1.8s
J19K Poorman 80.26 8 P **P 12 35 14.5 +0.7**
baz=197,SNR=17
O28M Mount Upton 80.29 16 IAMs_20 IAMs_20 13 03 51.7
comp=Z,14µm,21.0s
O28M Mount Upton 80.29 16 P **P 12 35 14.9 +0.5**
baz=212,SNR=16
T35M Bob Quinn 80.32 22 P **P 12 35 15.7 +1.3**
baz=221,SNR=8.2
O29M Mount Kennedy 80.32 16 IAmb IAmb 12 35 16.9
comp=Z,128nm,1.4s
O29M IAMs_20 IAMs_20 13 02 11.5
comp=Z,15µm,20.0s
O29M Mount Kennedy 80.32 16 P **P 12 35 15.0 +0.6**
baz=213,SNR=14
ANMO Albuquerque 80.34 50 P **P 12 35 15.7 +0.5**
ANMO Albuquerque 80.34 50 P **P 12 35 15.5 +0.4**
ANMO IAmb IAmb 12 35 21.6
comp=Z,59nm,1.1s
ANMO Albuquerque 80.34 50 *d iP* **P 12 35 16.1 +0.9**
ANMO pmax pmax
comp=Z,37nm,1.4s
MA2 Magadan 80.37 342 P **P 12 35 14.1 -0.4**
MA2 Magadan 80.37 342 P **P 12 35 14.2 -0.2**
comp=Z,20nm,0.9s,baz=134,slow=5.7,SNR=12
MA2 LR LR 13 07 15.3
comp=Z,3µm,20.6s,baz=222,slow=33
comp=Z,20nm,0.9s
MA2 Magadan 80.37 342 *d iP* **P 12 35 14.5 0.0**
MA2 pmax pmax
comp=Z,50nm,1.4s
MA2 Magadan 80.37 342 P **P 12 35 13.7 -0.8**
comp=Z,49nm,1.3s
MA2 pP **PcP 12 35 17.0 -4.5**
comp=Z,49nm,1.3s
NEW Newport 80.38 34 P **P 12 35 15.6 +0.7**
G15K Niukluk 80.44 4 P **P 12 35 15.2 +0.5**
baz=188
PV15 Paradox Valley 80.45 46 P **P 12 35 16.3 +0.5**
PV15 IAmb IAmb 12 35 18.4
comp=Z,84nm,1.0s
KTH Kantishna Hill 80.52 10 IAmb IAmb 12 35 17.2
comp=Z,91nm,1.1s
TRF Thorofare Moun 80.53 10 IAmb IAmb 12 35 18.0
comp=Z,117nm,1.2s
TRF Thorofare Moun 80.53 10 P **P 12 35 15.7 +0.1**
baz=202,SNR=26
HARP HAARP 80.54 13 P **P 12 35 15.7 +0.3**
baz=207
ALPN Alpine 80.55 55 IAmb IAmb 12 35 19.1
comp=Z,124nm,1.3s
SKAG Skagway 80.56 18 P **P 12 35 17.3 +1.8**
baz=216
CHUM Lake Minchumin 80.61 9 P **P 12 35 15.6 0.0**
baz=200,SNR=26
P30M Million Dollar 80.62 17 P **P 12 35 16.6 +0.7**
baz=215
J20K Nowinta River 80.63 8 IAmb IAmb 12 35 18.1
comp=Z,151nm,1.1s
J20K Nowinta River 80.63 8 P **P 12 35 16.5 +0.7**
baz=198,SNR=57
NJ2 Nanjing 80.67 307 *e*P **P 12 35 18.9 +2.2**
NJ2 pmax pmax
comp=Z,20nm,0.8s
H17K Granite Mounta 80.71 6 P **P 12 35 17.3 +1.1**
baz=192,SNR=8.6
S34M Telegraph Cree 80.71 21 P **P 12 35 17.1 +0.7**
S34M IAmb IAmb 12 35 19.1
comp=Z,88nm,1.1s
S34M Telegraph Cree 80.71 21 P **P 12 35 17.1 +0.7**
baz=220,SNR=17
RND Reindeer 80.74 11 IAmb IAmb 12 35 18.4
comp=Z,124nm,1.1s
F14K Arctic Creek 80.80 3 P **P 12 35 17.8 +1.1**
baz=186
TNA Tin City 80.82 2 P **P 12 35 17.9 +1.2**
baz=185
YUK8 Steele Glacier 80.83 15 P **P 12 35 17.6 +0.3**
baz=212,SNR=14
GCSA Galena City Sc 80.83 7 P **P 12 35 17.6 +0.8**
baz=195,SNR=16
KLR Kul'dur 80.87 327 P **P 12 35 17.6 +0.2**
comp=Z,4.5nm,0.9s,baz=104,slow=4.8,SNR=12
comp=Z,4.5nm,0.9s
KLR Kul'dur 80.87 327 *e*P **P 12 35 16.0 -1.4**
KLR pmax pmax
comp=Z,17nm,1.6s
YUK6 Outpost Mounta 80.91 16 P **P 12 35 18.0 +0.3**
baz=213,SNR=9.1
G16K Koyuk River 80.95 4 P **P 12 35 17.7 +0.2**
baz=190,SNR=8.9
PAX Paxson 80.99 12 P **P 12 35 17.3 -0.5**
baz=206,SNR=10
M26K Nabesna, AK 81.02 14 IAmb IAmb 12 35 20.1
comp=Z,143nm,1.2s
M26K Nabesna, AK 81.02 14 P **P 12 35 18.0 0.0**
baz=209,SNR=37
BPAW Bear Paw Mtn. 81.03 9 P **P 12 35 17.1 -0.8**
baz=201,SNR=9.5
MCK McKinley 81.03 10 P **P 12 35 17.6 -0.3**
MCK McKinley 81.03 10 P **P 12 35 17.6 -0.3**
MCK pmax pmax
comp=Z,176nm,1.0s
MCK McKinley 81.03 10 P **P 12 35 17.7 -0.3**
baz=203,SNR=54
HYT Haines Junctio 81.05 17 IAmb IAmb 12 35 20.9
comp=Z,111nm,1.1s
HYT Haines Junctio 81.05 17 P **P 12 35 18.9 +0.6**
baz=214,SNR=30
H18K Honhosa River 81.07 6 P **P 12 35 18.3 +0.2**
baz=194,SNR=12
YUK3 Moose Creek 81.08 15 P **P 12 35 18.5 0.0**
baz=211,SNR=22
F15K North Star Dit 81.11 3 P **P 12 35 19.8 +1.5**
baz=188
Q32M Nakina River 81.13 20 P **P 12 35 19.5 +0.7**
baz=219,SNR=12
P32M Atlin 81.16 19 P **P 12 35 19.4 +0.6**
baz=218,SNR=6.5
YUK4 Talbot Arm 81.17 16 P **P 12 35 20.3 +1.3**
baz=213,SNR=11
I20K Naaghedeneel 81.18 8 IAmb IAmb 12 36 19.5
comp=Z,96nm,1.1s
I20K Naaghedeneel 81.18 8 P **P 12 35 19.3 +0.7**
baz=198
G17K Kiwalik Mounta 81.19 5 P **P 12 35 19.2 +0.5**
baz=192,SNR=11
M27K Edge Creek, AK 81.24 14 P **P 12 35 19.6 +0.3**
M27K IAmb IAmb 12 35 21.9
comp=Z,163nm,1.1s
M27K Edge Creek, AK 81.24 14 P **P 12 35 19.7 +0.5**
baz=210,SNR=34
DLMT Dillon 81.32 38 P **P 12 35 20.8 +0.7**
DLMT IAmb IAmb 12 35 22.9
comp=Z,142nm,1.2s
MSO Missoula 81.33 36 IAmb IAmb 12 35 22.0
comp=Z,124nm,1.2s
S22A 4UR Ranch, Cre 81.33 47 IAmb IAmb 12 35 23.9
comp=Z,131nm,1.1s
BNX BinXian 81.33 322 ⇓P **P 12 35 19.5 -0.4**
BNX pmax pmax
comp=Z,31nm,1.0s
MENT Mentasta 81.33 13 IAmb IAmb 12 35 21.9
comp=Z,101nm,1.3s
BWN Browne 81.34 10 IAmb IAmb 12 36 04.1
comp=Z,184nm,1.0s
FXWY Fox Creek 81.38 40 IAmb IAmb 12 35 23.5
comp=Z,104nm,1.4s
O30N Mendenhall 81.40 17 IAmb IAmb 12 35 22.6
comp=Z,146nm,1.2s
O30N Mendenhall 81.40 17 P **P 12 35 20.7 +0.6**
baz=216,SNR=27
SNOW Snow King Moun 81.46 41 IAmb IAmb 12 35 52.7
comp=Z,130nm,1.4s
O20A White River Ci 81.46 44 P **P 12 35 19.7 -1.3**
O20A IAmb IAmb 12 35 43.4
comp=Z,183nm,1.7s
L26K Log Cabin Wild 81.49 13 P **P 12 35 20.8 +0.4**
baz=208,SNR=20
CN2 Changchun 81.50 320 *e*P **P 12 35 20.6 -0.3**
CN2 pmax pmax
comp=Z,30nm,1.0s
BVCY Beaver Creek 81.53 14 P **P 12 35 20.9 +0.3**
baz=211,SNR=26
MOOW Moose Ponds 81.61 40 IAmb IAmb 12 35 24.6
comp=Z,130nm,1.6s
MNHN Monahans 81.63 54 IAmb IAmb 12 35 24.4
comp=Z,195nm,1.8s
DL2 Dalian 81.64 314 P **P 12 35 22.1 +0.4**
DL2 pmax pmax
comp=Z,43nm,1.1s
H19K Roundabout Mou 81.64 7 IAmb IAmb 12 35 23.9
comp=Z,93nm,1.1s
H19K Roundabout Mou 81.64 7 P **P 12 35 21.8 +0.7**
baz=196,SNR=30
WHY Whitehorse 81.66 18 P **P 12 35 21.9 +0.4**
WHY IAmb IAmb 12 35 24.0
comp=Z,150nm,1.3s
WHY Whitehorse 81.66 18 P **P 12 35 22.4 +0.9**
baz=217,SNR=11
K24K Donnelly Dome 81.68 12 P **P 12 35 21.1 -0.4**
K24K IAmb IAmb 12 35 23.6
comp=Z,180nm,1.2s
K24K Donnelly Dome 81.68 12 P **P 12 35 22.0 +0.6**
baz=206,SNR=10
N30M Aishikik Lake 81.69 16 P **P 12 35 22.6 +1.0**
baz=215,SNR=14
SNY Shenyang 81.71 317 ⇓P **P 12 35 22.0 0.0**
SNY pmax pmax
comp=Z,10.0nm,0.9s
G18K Tagagawik 81.76 6 P **P 12 35 22.4 +0.6**
baz=194,SNR=27
H20K Anotleneega Mo 81.79 7 P **P 12 35 22.8 +0.8**
baz=197,SNR=23
NEA2 Nenana 81.80 10 IAMs_20 IAMs_20 13 05 39.6
comp=Z,16µm,20.0s
NEA2 Nenana 81.80 10 P **P 12 35 22.4 +0.4**
baz=203,SNR=29
RIDG Independent Ri 81.81 12 IAmb IAmb 12 35 24.1
comp=Z,121nm,1.3s
RIDG Independent Ri 81.81 12 P **P 12 35 22.6 +0.4**
baz=207,SNR=20
YHB Horse Butte 81.84 39 IAmb IAmb 12 35 26.4
comp=Z,137nm,1.1s
L27K Beaver Creek, 81.86 14 P **P 12 35 23.2 +0.8**
baz=210,SNR=18
PD31 Pinedale Array 81.87 42 P **P 12 35 23.2 0.0**
PD31 IAmb IAmb 12 35 25.5
comp=Z,248nm,1.8s
PDAR Pinedale Array 81.87 42 P **P 12 35 22.8 -0.3**
PDAR Pinedale Array 81.87 42 P **P 12 35 23.1 0.0**

comp=Z,23nm,0.9s,baz=211,slow=3.3,SNR=96
PDAR PKKPbc **PKKPbc** **12 53 59.9 +4.1**
comp=Z,0.6nm,0.8s,baz=52,slow=2.4,SNR=3.9
comp=Z,23nm,0.9s
BCAR **Beaver Creek A** **81.87 14** P **P** **12 35 22.1 -0.4**
DOT **Dot Lake** **81.89 12** P **P** **12 35 22.3 -0.2**
DOT IAmb IAmb 12 35 24.4
comp=Z,130nm,1.2s
R33M **Jennings River** **81.90 20** IAmb IAmb 12 35 25.4
comp=Z,95nm,1.4s
R33M **Jennings River** **81.90 20** P **P** **12 35 23.8 +1.0**
baz=220,SNR=15
YFT **Old Faithful** **81.91 40** IAmb IAmb 12 35 27.5
comp=Z,106nm,1.4s
P33M **Teslin, Yukon** **81.93 19** P **P** **12 35 23.4 +0.5**
baz=219,SNR=13
HDA **Harding Lake** **82.00 11** P **P** **12 35 22.3 -0.8**
HDA IAmb IAmb 12 35 24.7
comp=Z,99nm,1.0s
HDA **Harding Lake** **82.00 11** P **P** **12 35 24.0 +0.9**
baz=205,SNR=52
BOZ **Bozeman (W)** **82.02 38** P **P** **12 35 23.8 0.0**
BOZ IAmb IAmb 12 35 26.6
comp=Z,222nm,1.6s
BOZ **Bozeman (W)** **82.02 38** P **P** **12 35 23.8 0.0**
BOZ pmax pmax
comp=Z,222nm,1.6s
H17A **Grant Village** **82.04 40** IAmb IAmb 12 35 28.0
comp=Z,208nm,1.8s
CCB **Clear Creek Bu** **82.07 11** IAmb IAmb 12 35 24.9
comp=Z,136nm,1.0s
F17K **Baldwin Pennin** **82.07 5** P **P** **12 35 24.5 +1.1**
baz=191
N31M **Braeburn, Yuko** **82.07 17** IAmb IAmb 12 35 26.0
comp=Z,118nm,1.1s
N31M **Braeburn, Yuko** **82.07 17** P **P** **12 35 24.5 +0.9**
baz=216,SNR=15
ODSA **Odessa** **82.11 54** IAmb IAmb 12 35 26.9
comp=Z,156nm,1.3s
YNR **Norris Junctio** **82.14 39** IAmb IAmb 12 35 30.7
comp=Z,110nm,1.3s
M29M **Somme Creek** **82.14 15** P **P** **12 35 24.1 +0.1**
M29M IAmb IAmb 12 35 26.1
comp=Z,64nm,1.0s
M29M **Somme Creek** **82.14 15** P **P** **12 35 24.2 +0.2**
baz=213,SNR=31
G19K **Purcell Mounta** **82.17 6** IAmb IAmb 12 35 44.7
comp=Z,68nm,0.9s
G19K **Purcell Mounta** **82.17 6** P **P** **12 35 24.9 +1.0**
baz=195,SNR=13
SCRK **Sand Creek** **82.19 12** IAmb IAmb 12 35 26.3
comp=Z,77nm,1.2s
SCRK **Sand Creek** **82.19 12** P **P** **12 35 24.2 0.0**
baz=208,SNR=34
H21K **Melozitna Rive** **82.22 8** IAmb IAmb 12 35 26.8
comp=Z,91nm,1.2s
H21K **Melozitna Rive** **82.22 8** P **P** **12 35 24.6 +0.3**
baz=199,SNR=38
I23K **Minto, Yukon-K** **82.26 10** IAmb IAmb 12 35 26.0
comp=Z,96nm,1.1s
I23K **Minto, Yukon-K** **82.26 10** P **P** **12 35 23.8 -0.6**
baz=203,SNR=29
COLA **College** **82.27 10** P **P** **12 35 23.9 -0.5**
COLA **College** **82.27 10** *d*P **P** **12 35 24.6 +0.2**
COLA pmax pmax
comp=Z,214nm,1.0s
COLA **College** **82.27 10** P **P** **12 35 24.6 +0.2**
baz=204
SDCO **Great Sand Dun** **82.27 48** IAmb IAmb 12 35 28.2
comp=Z,106nm,1.3s
ILAR **Eielson Array** **82.34 11** P **P** **12 35 24.1 -0.8**
comp=Z,15nm,0.9s,baz=212,slow=5.3,SNR=85
ILAR LR LR 13 04 51.1
comp=Z,9μm,21.2s,baz=293,slow=30
comp=Z,15nm,0.9s
F18K **Selawik** **82.36 5** P **P** **12 35 24.8 0.0**
baz=193,SNR=17
J25K **Salcha River,** **82.49 12** IAmb IAmb 12 35 27.6
comp=Z,127nm,1.2s
J25K **Salcha River,** **82.49 12** P **P** **12 35 25.5 -0.2**
baz=206,SNR=36
POKR **Poker Plat Res** **82.56 11** P **P** **12 35 26.5 +0.5**
baz=204,SNR=25
DRIO **Del Rio** **82.59 57** IAmb IAmb 12 35 29.3
comp=Z,101nm,1.1s
N32M **Quiet Lake** **82.59 18** IAmb IAmb 12 35 28.8
comp=Z,90nm,1.1s
N32M **Quiet Lake** **82.59 18** P **P** **12 35 26.4 +0.1**
baz=218
K27K **Chicken** **82.65 13** IAmb IAmb 12 35 29.3
comp=Z,83nm,1.4s
K27K **Chicken** **82.65 13** P **P** **12 35 27.5 +1.1**
baz=210
H22K **Ishtalitna Cre** **82.65 9** P **P** **12 35 26.4 0.0**
baz=201,SNR=30
E17K **Hotham Inlet** **82.66 4** P **P** **12 35 26.7 +0.3**
baz=191,SNR=24
M30M **Minto, Yukon** **82.69 16** P **P** **12 35 25.8 -1.0**
M30M **Minto, Yukon** **82.69 16** P **P** **12 35 26.7 -0.1**
baz=215,SNR=20
SEY **Seymchan** **82.70 345** LR LR 13 06 55.6
comp=Z,8μm,21.3s,baz=154,slow=32
SEY **Seymchan** **82.70 345** *e*P **P** **12 35 24.7 -2.0**
SEY pmax pmax
comp=Z,64nm,1.8s
YNE **Yellowstone No** **82.70 39** P **P** **12 35 28.5 +1.0**
YNE IAmb IAmb 12 35 32.7
comp=Z,126nm,1.1s
J26L **Joseph Creek** **82.75 12** P **P** **12 35 27.5 +0.4**
baz=208,SNR=55
F19K **Shaleruckik Mo** **82.76 6** IAmb IAmb 12 35 47.5
comp=Z,77nm,0.9s
F19K **Shaleruckik Mo** **82.76 6** P **P** **12 35 27.2 +0.2**
baz=194,SNR=38
T25A **Trinidad** **82.79 48** P **P** **12 35 28.6 +0.5**
T25A IAmb IAmb 12 35 30.6
comp=Z,87nm,1.1s
L29M **L29M** **82.79 15** P **P** **12 35 27.7 +0.4**
baz=214,SNR=77
H23K **Yukon River** **82.86 9** P **P** **12 35 27.3 -0.3**
H23K **Yukon River** **82.86 9** P **P** **12 35 27.3 -0.3**
baz=202
G21K **Allakaket** **82.94 8** P **P** **12 35 28.4 +0.4**
baz=199,SNR=37
M31M **Drury Creek, Y** **83.04 17** P **P** **12 35 28.7 +0.1**
baz=217,SNR=18
E18K **Tukpahlearik C** **83.09 5** IAmb IAmb 12 35 50.1
comp=Z,117nm,1.2s
E18K **Tukpahlearik C** **83.09 5** P **P** **12 35 29.4 +0.7**
baz=192
ISCO **Idaho Springs** **83.10 46** IAmb IAmb 12 37 01.7
comp=Z,62nm,0.9s
H24K **Noodor Dome** **83.14 10** P **P** **12 35 28.4 -0.7**
baz=204,SNR=7.8
WTLY **Watson Lake, Y** **83.17 20** P **P** **12 35 29.6 +0.3**
WTLY IAmb IAmb 12 35 31.6
comp=Z,69nm,1.2s
WTLY **Watson Lake, Y** **83.17 20** P **P** **12 35 29.6 +0.3**
baz=222,SNR=22
D17K **Noatak River** **83.19 4** P **P** **12 35 29.9 +0.7**
baz=189,SNR=15
F20K **Avaraart Lake** **83.19 7** P **P** **12 35 30.0 +0.8**
baz=196
PRP **Porcupine Dome** **83.27 11** P **P** **12 35 29.8 0.0**
baz=206,SNR=69
DAWY **Dawson** **83.29 14** P **P** **12 35 30.2 +0.3**
baz=212,SNR=44
FARO **Faro, Yukon** **83.36 17** P **P** **12 35 30.6 +0.3**
baz=218,SNR=12
E19K **Redstone River** **83.42 6** IAmb IAmb 12 35 51.3
comp=Z,83nm,0.9s
E19K **Redstone River** **83.42 6** P **P** **12 35 31.1 +0.7**
baz=195
QIZ **Qiongzhong** **83.49 292** P **P** **12 35 32.5 +0.7**
QIZ PP **PP** **12 38 43.0 -1.5**
QIZ S **SKSac** **12 45 54.8 +2.0**
QIZ SS **SS** **12 51 22.5 +3.8**
QIZ LR LR
comp=Z,2μm,11.3s
QIZ LR LR
comp=Z,3μm,16.7s
QIZ LR LR
comp=Z,4μm,15.2s
TOAD **Toad River Com** **83.52 23** P **P** **12 35 31.4 +0.2**
baz=226,SNR=88
I26K **Coal Creek Min** **83.54 12** IAmb IAmb 12 35 33.5
comp=Z,127nm,1.3s
I26K **Coal Creek Min** **83.54 12** P **P** **12 35 31.4 +0.4**
baz=209
RDOG **Red Dog Mine** **83.55 4** IAmb IAmb 12 35 33.7
comp=Z,77nm,1.3s
RDOG **Red Dog Mine** **83.55 4** P **P** **12 35 32.4 +1.4**
baz=190,SNR=6.0
K29M **Barlow Dome** **83.55 15** P **P** **12 35 31.1 -0.2**
K29M IAmb IAmb 12 35 33.8
comp=Z,82nm,1.0s
K29M **Barlow Dome** **83.55 15** P **P** **12 35 31.7 +0.4**
baz=214,SNR=41
G22K **Bettles** **83.59 8** P **P** **12 35 31.9 +0.7**
baz=200
LIRD **Liard River Hi** **83.60 22** P **P** **12 35 31.9 +0.4**
baz=225,SNR=25
G23K **Bananza Creek** **83.61 9** IAmb IAmb 12 35 33.8
comp=Z,81nm,1.1s
G23K **Bananza Creek** **83.61 9** P **P** **12 35 31.6 +0.2**
baz=202,SNR=42
F21K **Alatna River** **83.62 7** IAmb IAmb 12 35 33.8
comp=Z,103nm,1.4s
F21K **Alatna River** **83.62 7** P **P** **12 35 32.2 +0.7**
baz=199,SNR=29
WHN **Wuhan** **83.62 304** P **P** **12 35 33.8 +1.6**
C16K **Lisburne Hills** **83.64 3** P **P** **12 35 32.3 +0.9**
baz=187,SNR=8.9
HNDO **Hondo** **83.71 57** P **P** **12 35 32.9 +0.1**
HNDO IAmb IAmb 12 35 53.9
comp=Z,100nm,1.1s
RTBA **Rita Blanca** **83.71 50** IAmb IAmb 12 35 34.5
comp=Z,112nm,1.1s
HEH **HeiHe** **83.77 326** *e*P **P** **12 35 33.2 +0.7**
HEH pP **PcP** **12 35 38.0 +1.4**
HEH pmax pmax
comp=Z,18nm,1.8s
HEH LR LR
comp=Z,2μm,18.8s
HEH LR LR
comp=Z,5μm,17.9s
HEH LR LR
comp=Z,6μm,17.6s
BELA **Belgrano 2** **83.89 172** P **P** **12 35 32.6 -0.3**
BELA IAmb IAmb 12 35 48.2
comp=Z,136nm,1.6s
J29N **Klondike Camp** **83.89 14** P **P** **12 35 33.8 +0.8**
baz=213,SNR=34
H25L **Birch Creek** **83.89 11** P **P** **12 35 32.3 -0.5**
baz=206
CNSH **ChangSha** **83.91 301** P **P** **12 35 32.5 -1.3**
DKNS **Dickens** **83.97 53** IAmb IAmb 12 35 37.1
comp=Z,89nm,1.1s
G24K **Hadweenzic Riv** **84.00 10** P **P** **12 35 33.3 -0.1**
baz=204
F22K **John River** **84.06 8** P **P** **12 35 34.1 +0.4**
baz=200
COLD **Coldfoot** **84.07 9** IAmb IAmb 12 35 36.6
comp=Z,96nm,1.2s
COLD **Coldfoot** **84.07 9** P **P** **12 35 34.4 +0.7**
baz=202,SNR=50
I27K **Kandik River** **84.11 12** P **P** **12 35 34.0 -0.1**
baz=210,SNR=23
C18K **Utukok River** **84.25 4** P **P** **12 35 34.5 -0.2**
C18K IAmb IAmb 12 36 06.3
comp=Z,125nm,1.6s
C18K **Utukok River** **84.25 4** P **P** **12 35 34.7 0.0**
baz=191,SNR=16
FYU **Fort Yukon** **84.27 11** IAmb IAmb 12 36 40.9
comp=Z,102nm,1.7s
G25K **Bearman Lake** **84.29 10** P **P** **12 35 35.2 +0.4**
baz=206
E20K **Nigu River** **84.31 6** P **P** **12 35 36.0 +1.0**
baz=196
BRIGG **Briggsdale** **84.33 45** IAmb IAmb 12 35 38.3
comp=Z,96nm,1.1s
I28M **Miner Creek** **84.34 13** IAmb IAmb 12 35 37.3
comp=Z,97nm,1.4s
I28M **Miner Creek** **84.34 13** P **P** **12 35 35.1 -0.2**
baz=212,SNR=26
D19K **Kuna River** **84.35 5** IAmb IAmb 12 36 09.6
comp=Z,80nm,1.1s
D19K **Kuna River** **84.35 5** P **P** **12 35 36.2 +1.1**
baz=194
TGTN **Hyland Airport** **84.38 20** P **P** **12 35 36.1 +0.6**
baz=223,SNR=63
J30M **Hart River** **84.45 15** IAmb IAmb 12 35 38.1
comp=Z,84nm,1.3s
J30M **Hart River** **84.45 15** P **P** **12 35 36.1 +0.2**
baz=215,SNR=26
BRDY **Brady** **84.58 56** IAmb IAmb 12 35 41.4
comp=Z,64nm,1.2s
BILL **Bilibino** **84.61 352** P **P** **12 35 36.1 -0.3**
BILL IAmb IAmb 12 36 07.7
comp=Z,80nm,1.3s
BILL **Bilibino** **84.61 352** *de*P **P** **12 35 36.1 -0.3**
BILL pmax pmax
comp=Z,49nm,1.1s
I29M **Ogilvie Camp,** **84.63 14** IAmb IAmb 12 35 38.5
comp=Z,117nm,1.4s
I29M **Ogilvie Camp,** **84.63 14** P **P** **12 35 36.5 -0.2**
baz=213,SNR=40
H27K **Steamboat Moun** **84.68 12** P **P** **12 35 36.4 -0.5**
H27K IAmb IAmb 12 35 39.5
comp=Z,80nm,1.2s
H27K **Steamboat Moun** **84.68 12** P **P** **12 35 37.3 +0.4**
baz=210,SNR=43
F24K **Squaw Lake** **84.69 9** IAmb IAmb 12 36 03.7
comp=Z,143nm,1.6s
F24K **Squaw Lake** **84.69 9** P **P** **12 35 37.4 +0.5**
baz=204,SNR=42
E22K **Anaktuvuk Pass** **84.70 8** P **P** **12 35 37.2 +0.3**
baz=200,SNR=74
D20K **Etivluk River** **84.70 6** P **P** **12 35 37.8 +0.8**
baz=196
E21K **Killik River** **84.72 7** IAmb IAmb 12 35 39.2
comp=Z,112nm,1.1s
E21K **Killik River** **84.72 7** P **P** **12 35 37.6 +0.6**
baz=198
KOTAN **Kotaneelee Air** **84.84 22** P **P** **12 35 37.8 0.0**
baz=227,SNR=27
G26K **Porcupine Rive** **84.87 11** P **P** **12 35 38.4 +0.7**
baz=208,SNR=67
B18K **Kokolik River** **84.92 4** P **P** **12 35 38.4 +0.5**
baz=191,SNR=24
E23K **Chandalar** **84.92 9** P **P** **12 35 37.1 -1.1**
E23K IAmb IAmb 12 35 40.8
comp=Z,82nm,1.2s
E23K **Chandalar** **84.92 9** P **P** **12 35 38.7 +0.6**
baz=202
I30M **Mount Dempster** **84.97 15** P **P** **12 35 38.5 0.0**
baz=215,SNR=54
SMWD **Samnorwood** **85.05 52** IAmb IAmb 12 35 41.6
comp=Z,83nm,1.3s
GULI **GuiLin** **85.07 298** P **P** **12 35 41.0 +1.3**
E24K **Your Creek** **85.11 9** IAmb IAmb 12 36 10.9
comp=Z,134nm,1.6s
E24K **Your Creek** **85.11 9** P **P** **12 35 40.2 +1.2**
baz=203
F25K **Christian Rive** **85.12 10** P **P** **12 35 39.9 +0.8**
F25K **Christian Rive** **85.12 10** P **P** **12 35 39.9 +0.8**
baz=206,SNR=42
BMAR **Burnt Mountain** **85.16 11** P **P** **12 35 40.0 +0.7**
G27K **Doyon Strip** **85.16 12** IAmb IAmb 12 36 06.0
comp=Z,90nm,1.5s
G27K **Doyon Strip** **85.16 12** P **P** **12 35 39.8 +0.5**
baz=210,SNR=29
D22K **Ayikyak River** **85.29 7** P **P** **12 35 40.5 +0.6**
baz=199,SNR=74
C21K **Knifeblade Rid** **85.32 6** P **P** **12 35 40.5 +0.5**
baz=197,SNR=49
H29M **Whitestone** **85.34 13** IAmb IAmb 12 35 42.4
comp=Z,108nm,1.1s
H29M **Whitestone** **85.34 13** P **P** **12 35 40.3 +0.2**
baz=213,SNR=41
F26K **Sheenjek River** **85.47 11** IAmb IAmb 12 36 08.1
comp=Z,86nm,1.2s
F26K **Sheenjek River** **85.47 11** P **P** **12 35 41.7 +0.9**
baz=208,SNR=54
TOLK **Toolik Lake Re** **85.47 8** P **P** **12 35 41.1 +0.3**
TOLK IAmb IAmb 12 36 07.3
comp=Z,100nm,1.2s
TOLK **Toolik Lake Re** **85.47 8** P **P** **12 35 41.3 +0.5**
baz=202,SNR=20
435B **Jarrell** **85.53 57** IAmb IAmb 12 35 44.5
comp=Z,135nm,1.2s
E25K **Arctic Village** **85.61 10** P **P** **12 35 42.1 +0.6**
E25K IAmb IAmb 12 35 44.3
comp=Z,90nm,1.2s
E25K **Arctic Village** **85.61 10** P **P** **12 35 42.2 +0.8**
baz=206,SNR=42
D23K **Nanushuk River** **85.62 8** IAmb IAmb 12 35 44.3
comp=Z,81nm,1.1s
D23K **Nanushuk River** **85.62 8** P **P** **12 35 42.1 +0.6**
baz=201,SNR=42
ZEA **Zeya** **85.76 329** *e*P **P** **12 35 42.0 -0.5**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
B21K **Ikpikpuk River** **85.78 6** P **P** **12 35 43.2 +1.0**
baz=198
A19K **Wainwright** **85.79 4** P **P** **12 35 42.8 +0.6**
baz=191
LAO **LASA Array** **85.83 39** P **P** **12 35 42.9 -0.2**
EPYK **Eagle Plains** **85.84 14** IAmb IAmb 12 35 44.7
comp=Z,140nm,1.4s
EPYK **Eagle Plains** **85.84 14** P **P** **12 35 42.6 0.0**
baz=215,SNR=36
B20K **Meade River** **85.91 5** IAmb IAmb 12 36 14.7
comp=Z,112nm,1.2s
B20K **Meade River** **85.91 5** P **P** **12 35 43.5 +0.7**
baz=195
BJT **Baijiatuau** **85.93 313** P **P** **12 35 44.5 +0.9**
BJT IAmb IAmb 12 36 29.8
comp=Z,112nm,1.5s
BJT **Baijiatuau** **85.93 313** P **P** **12 35 44.5 +0.9**
BJT pmax pmax
comp=Z,112nm,1.5s
BJI **Beijing** **85.93 313** P **P** **12 35 44.3 +0.6**
BJI pmax pmax
comp=Z,14nm,1.5s
BJI pmax pmax
comp=Z,3μm,11.8s
BJI LR LR
comp=Z,1μm,17.9s
BJI LR LR
comp=Z,1μm,18.0s
BJI LR LR
comp=Z,820nm,22.0s
H31M **Peel River** **85.94 15** IAmb IAmb 12 35 44.9
comp=Z,116nm,1.4s
H31M **Peel River** **85.94 15** P **P** **12 35 43.5 +0.3**
baz=217,SNR=17
HNS **HongShan** **85.94 310** ⇓P **P** **12 35 44.6 +0.8**
HNS pmax pmax
comp=Z,36nm,1.4s
G29M **Pine Creek** **86.00 13** IAmb IAmb 12 35 45.5
comp=Z,74nm,1.0s
G29M **Pine Creek** **86.00 13** P **P** **12 35 44.0 +0.6**
baz=213
D24K **Happy Valley** **86.05 8** P **P** **12 35 44.4 +0.7**
D24K **Happy Valley** **86.05 8** P **P** **12 35 44.3 +0.7**
baz=203
WHTX **Lake Whitney,** **86.06 55** P **P** **12 35 44.7 +0.2**
E27K **Coleen River** **86.36 11** IAmb IAmb 12 35 48.0
comp=Z,66nm,1.1s
E27K **Coleen River** **86.36 11** P **P** **12 35 45.8 +0.6**
baz=210,SNR=41
C23K **Itkillik River** **86.45 8** P **P** **12 35 46.2 +0.7**
C23K IAmb IAmb 12 35 48.1
comp=Z,82nm,1.2s
C23K **Itkillik River** **86.45 8** P **P** **12 35 46.2 +0.7**
baz=201,SNR=26
G30M **tAoh Zraii Nji** **86.45 14** P **P** **12 35 46.1 +0.4**
baz=215,SNR=27
D25K **Kavik River** **86.56 9** P **P** **12 35 46.2 0.0**
baz=205
LYN **LuoYang** **86.57 307** *e*P **P** **12 35 47.6 +0.7**
LYN pmax pmax
comp=Z,51nm,1.2s
C24K **Franklin Bluff** **86.59 8** IAmb IAmb 12 36 11.8
comp=Z,142nm,1.5s
C24K **Franklin Bluff** **86.59 8** P **P** **12 35 46.8 +0.6**
baz=203
B22K **Teshekpuk Lake** **86.59 6** IAmb IAmb 12 36 07.6
comp=Z,95nm,1.4s
B22K **Teshekpuk Lake** **86.59 6** P **P** **12 35 47.2 +1.0**
baz=199,SNR=9.6
NOKA **Waynoka** **86.61 51** IAmb IAmb 12 36 19.3
comp=Z,102nm,1.3s
HKT **Hockley** **86.67 58** P **P** **12 35 47.6 +0.1**
HKT **Hockley** **86.67 58** P **P** **12 35 47.6 +0.1**
HKT pmax pmax
comp=Z,255nm,1.9s
OK038 **West end E0370** **86.69 51** P **P** **12 35 47.8 +0.2**
CBKS **Cedar Bluff** **86.84 48** IAmb IAmb 12 35 52.3
comp=Z,75nm,1.2s
G31M **Satah River** **86.86 14** P **P** **12 35 47.2 -0.4**
G31M **Satah River** **86.86 14** P **P** **12 35 47.3 -0.2**
baz=217,SNR=54
F30M **Barrier River** **87.07 13** IAmb IAmb 12 36 35.9
comp=Z,71nm,1.3s
F30M **Barrier River** **87.07 13** P **P** **12 35 49.2 +0.6**
baz=215
A22K **Sinclair Lake** **87.07 6** P **P** **12 35 49.3 +0.7**
baz=197
E28M **Babbage River** **87.12 12** P **P** **12 35 49.1 +0.2**
E28M IAmb IAmb 12 36 14.5
comp=Z,117nm,1.9s
E28M **Babbage River** **87.12 12** P **P** **12 35 49.6 +0.7**
baz=212
WRGLY **Wrigley** **87.18 20** IAmb IAmb 12 35 51.3
comp=Z,70nm,1.1s
WRGLY **Wrigley** **87.18 20** P **P** **12 35 49.4 +0.2**
baz=227,SNR=18
OK032 **Salt Plains WL** **87.21 51** IAmb IAmb 12 36 19.2
comp=Z,74nm,1.2s
A21K **Barrow** **87.23 5** P **P** **12 35 50.0 +0.7**
baz=196
C27K **Jago River** **87.26 10** P **P** **12 35 50.5 +1.0**
baz=208
E29M **Blow River** **87.26 12** IAmb IAmb 12 36 14.7
comp=Z,109nm,1.8s
E29M **Blow River** **87.26 12** P **P** **12 35 49.5 -0.1**
baz=213,SNR=14
FNO **Franklin** **87.27 52** P **P** **12 35 51.5 +1.1**
CROK **Carrier** **87.27 51** P **P** **12 35 50.9 +0.5**
C26K **Camden Bay** **87.33 9** P **P** **12 35 50.8 +1.0**
baz=207,SNR=7.5
D27M **Malcolm River** **87.40 11** IAmb IAmb 12 36 22.2
comp=Z,97nm,1.7s
D27M **Malcolm River** **87.40 11** P **P** **12 35 51.0 +0.7**
baz=210
F31M **Tsiigehtchic** **87.40 14** P **P** **12 35 50.5 +0.4**
baz=217,SNR=96
R32A **Long Quarter,** **87.44 49** P **P** **12 35 51.5 +0.4**
R32A IAmb IAmb 12 35 53.2
comp=Z,63nm,0.9s
ENH **Enshi** **87.45 302** P **P** **12 35 52.1 +0.7**
ENH IAmb IAmb 12 36 23.9
comp=Z,58nm,1.1s
XLT **XiLinHaoTe** **87.56 317** *e*P **P** **12 35 52.6 +0.9**
XLT pP PcP 12 35 55.1 +1.5
XLT pmax pmax
comp=Z,25nm,1.3s
MTO3 **Montecristo** **87.58 74** P **P** **12 35 52.6 0.0**
MTO3 IAmb IAmb 12 36 14.0
comp=Z,66nm,1.2s
KAN17 **Caldwell West** **87.63 51** IAmb IAmb 12 35 53.7
comp=Z,41nm,1.0s
TIY **Taiyuan** **87.74 310** P **P** **12 35 54.7 +2.1**
TIY pmax pmax
comp=Z,46nm,0.9s
KAN09 **Caldwell North** **87.77 51** IAmb IAmb 12 38 15.2
comp=Z,36nm,0.7s
D28M **Stokes Point** **87.89 11** P **P** **12 35 53.5 +1.0**
baz=213,SNR=14
MAW **Mawson** **87.97 198** P **P** **12 35 53.6 +0.5**
comp=Z,16nm,1.1s
MAW **Mawson** **87.97 198** P **P** **12 35 53.5 +0.5**
comp=Z,14nm,0.9s,baz=68,slow=2.9,SNR=8.4
MAW LR LR 13 11 24.3
comp=Z,7μm,22.0s,baz=124,slow=33
comp=Z,14nm,0.9s
DEOK **Depew** **88.16 52** P **P** **12 35 54.2 -0.4**
K30B **Basset** **88.41 45** P **P** **12 35 56.2 +0.5**
BGNE **Belgrade** **88.94 46** IAmb IAmb 12 36 01.8
comp=Z,101nm,1.2s
PLCA **Paso Flores** **89.04 132** P **P** **12 35 58.8 -0.1**
PLCA **Paso Flores** **89.04 132** P **P** **12 36 00.3 +1.4**
comp=Z,12nm,1.0s,baz=251,slow=6.8,SNR=13
comp=Z,12nm,1.0s
PLCA **Paso Flores** **89.04 132** P **P** **12 35 58.8 -0.1**
PLCA pmax pmax
comp=Z,51nm,1.4s
PSI **Prapat** **89.12 273** P **P** **12 35 59.6 -0.1**
comp=Z,3.6nm,0.4s,baz=156,slow=1.8,SNR=7.5
comp=Z,3.6nm,0.4s
XAN **Xi'an** **89.15 306** P **P** **12 36 00.2 +0.8**

XAN S **S** **12 46 50.2 +3.5**
XAN pmax pmax
comp=Z,30nm,1.4s
XAN LR LR
comp=Z,3µm,16.7s
XAN LR LR
comp=Z,4µm,18.0s
XAN LR LR
comp=Z,5µm,19.6s
KSU1 Kansas State U 89.21 49 P **P** **12 35 58.6 -0.9**
YAK Yakutsk 89.38 337 *e*P **P** **12 35 58.6 -1.1**
YAK pmax pmax
comp=Z,44nm,1.5s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,9.0nm,1.6s
HHC Hu-ho-hao-te 89.50 313 *e*P **P** **12 36 01.5 +0.6**
HHC pmax pmax
comp=E,40nm,1.3s
HHC pmax pmax
comp=E,2µm,4.5s
BI02 San Fabin de 89.84 128 IAmb IAmb 12 36 24.3
comp=Z,64nm,1.4s
YKA Yellowknife Ar 89.87 23 P **P** **12 36 01.6 -0.4**
comp=Z,22nm,0.9s,baz=237,slow=4.5,SNR=196
YKA PP PP 12 39 43.2 +8.2
comp=Z,1.6nm,1.0s,baz=235,slow=7.6,SNR=4.1
YKA PKKPbc PKKPbc 12 53 49.3 +12
comp=Z,0.2nm,0.8s,baz=49,slow=2.3,SNR=3.7
comp=Z,22nm,0.9s
ML02 Panimavida 90.03 127 P **P** **12 36 03.0 -0.5**
Z41A Richland Creek 90.19 56 P **P** **12 36 03.9 -0.2**
Z41A IAmb IAmb 12 36 06.6
comp=Z,92nm,1.2s
TEIG Tepich 90.21 69 P **P** **12 36 03.5 -1.1**
HHAR Hobbs 90.26 52 P **P** **12 36 03.9 -0.6**
MDND Maddock 90.40 40 P **P** **12 36 04.8 -0.1**
MDND IAmb IAmb 12 36 07.3
comp=Z,73nm,1.2s
BTO Baotou 90.51 312 *e*P **P** **12 36 07.0 +1.3**
BTO pmax pmax
comp=Z,68nm,0.8s
BTO pmax pmax
comp=Z,18µm,10.8s
BTO LR LR
comp=Z,6µm,16.1s
BTO LR LR
comp=Z,5µm,18.2s
BTO LR LR
comp=Z,3µm,15.4s
VA05 Santo Domingo 90.56 125 IAmb IAmb 12 36 09.2
comp=Z,81nm,1.4s
JTS Las Juntas de 90.60 80 P **P** **12 36 04.8 -1.7**
JTS Las Juntas de 90.60 80 P **P** **12 36 04.9 -1.7**
JTS pmax pmax
comp=Z,115nm,1.1s
BO01 Tunca 90.73 126 P **P** **12 36 04.3 -2.5**
BO01 IAmb IAmb 12 36 10.9
comp=Z,89nm,1.4s
VA01 Torpederas 90.73 124 IAmb IAmb 12 36 11.6
comp=Z,77nm,1.3s
BO02 Sierra Bellavi 90.84 126 IAmb IAmb 12 36 56.7
comp=Z,56nm,1.4s
MT09 Talagante 91.01 125 P **P** **12 36 07.2 -1.2**
UALR University of 91.02 54 IAmb IAmb 12 36 10.5
comp=Z,42nm,0.9s
143A Socs Landing, 91.14 56 P **P** **12 36 08.7 +0.1**
VA06 Catapilco 91.16 124 P **P** **12 36 08.6 -0.3**
C36M Paulatuk 91.21 15 IAmb IAmb 12 36 09.7
comp=Z,59nm,1.3s
C36M IAMs_20 IAMs_20 13 09 35.4
comp=Z,10µm,20.0s
C36M Paulatuk 91.21 15 P **P** **12 36 08.9 +0.8**
baz=226,SNR=27
WHAR Wooly Hollow 91.22 54 IAmb IAmb 12 36 11.8
comp=Z,92nm,1.4s
BO04 La Punta 91.24 126 IAmb IAmb 12 36 31.7
comp=Z,80nm,1.6s
PEL Peldehue 91.46 125 P **P** **12 36 10.3 0.0**
PEL Peldehue 91.46 125 P **P** **12 36 10.3 0.0**
PEL pmax pmax
comp=Z,133nm,1.3s
MT03 Universidad Ad 91.48 125 IAmb IAmb 12 36 45.5
comp=Z,83nm,1.2s
CO06 Fray Jorge 91.50 122 P **P** **12 36 10.5 +0.1**
CO06 IAmb IAmb 12 36 21.7
comp=Z,77nm,1.7s
MT13 San Alfonso 91.57 126 IAmb IAmb 12 36 14.4
comp=Z,85nm,1.4s
KMI Kunming 91.59 295 P **P** **12 36 12.2 +1.0**
KMI pmax pmax
comp=Z,17nm,0.6s
LMEL Las Melosas 91.60 126 IAmb IAmb 12 36 16.5
comp=Z,68nm,1.4s
P38A Dawn 91.64 49 IAmb IAmb 12 36 11.7
comp=Z,35nm,1.0s
VA03 San Esteban 91.69 125 IAmb IAmb 12 36 14.4
comp=Z,98nm,1.4s
FFC Flin Flon 91.78 33 P **P** **12 36 10.2 -0.8**
FFC IAmb IAmb 12 36 12.5
comp=Z,79nm,1.5s
FFC Flin Flon 91.78 33 P **P** **12 36 10.2 -0.8**
FFC pmax pmax
comp=Z,79nm,1.5s
F33A 5 Mile Ranch, 91.78 43 P **P** **12 36 11.3 0.0**
MGMO Mountain Grove 91.81 52 P **P** **12 36 11.4 -0.3**
MT08 Bocatoma Ro 91.89 125 IAmb IAmb 12 36 17.6
comp=Z,66nm,1.2s
ELIB Princess Elisa 92.17 185 *d*P **P** **12 36 12.3 -0.5**
ELIB *dx* x 12 36 28.5
CO03 El Pedregal 92.22 123 IAmb IAmb 12 36 17.7
comp=Z,42nm,1.2s
CIT Chita 92.31 324 *e*P **P** **12 36 14.6 +0.9**
CIT *e* 12 39 54.0
CIT *e* 12 41 58.6
CIT *e* 12 47 19.6
CIT pmax pmax
comp=Z,169nm,2.6s
LCAR Lake Charles 92.34 53 P **P** **12 36 13.9 -0.2**
LCAR IAmb IAmb 12 36 15.7
comp=Z,70nm,1.3s
GO04 Tololo Observa 92.34 122 P **P** **12 36 14.9 +0.2**
CD2 Chengdu 92.35 301 P **P** **12 36 15.7 +1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
NNA Nana 92.45 103 *de*P **P** **12 36 16.1 +0.9**
NNA pmax pmax
comp=Z,95nm,1.6s
HBAR Harrisburg 92.57 54 P **P** **12 36 15.5 +0.3**
SCIA State Center 92.59 47 IAmb IAmb 12 37 56.9
comp=Z,46nm,0.9s
T42A Van Buren 92.67 52 IAmb IAmb 12 36 16.8
comp=Z,38nm,1.0s
P40A Paris 92.70 50 IAmb IAmb 12 36 16.8
comp=Z,77nm,1.3s
TROLL Troll, Antarti 92.73 179 ⇓P **P** **12 36 15.8 +0.4**
comp=Z,338nm,0.7s
AC04 Llanos de Chal 92.76 120 IAmb IAmb 12 36 19.2
comp=Z,54nm,1.4s
A36M Sachs Harbour 92.78 13 P **P** **12 36 15.8 +0.6**
baz=225
VNA3 Neumayer Olymp 92.78 175 ⇓P **P** **12 36 16.0 +0.4**
comp=Z,7.1nm,0.8s
LCO Las Campanas 92.81 121 P **P** **12 36 17.4 +0.5**
LCO Las Campanas 92.81 121 P **P** **12 36 17.4 +0.5**
LCO pmax pmax
comp=Z,77nm,1.2s
SNAA Sanae 92.85 177 P **P** **12 36 16.2 +0.2**
SNAA IAmb IAmb 12 36 31.7
comp=Z,82nm,1.6s
SNAA Sanae 92.85 177 ⇓P **P** **12 36 16.3 +0.4**
comp=Z,91nm,0.9s
SNAA Sanae 92.85 177 P **P** **12 36 15.3 -0.6**
comp=Z,5.5nm,0.9s,baz=310,slow=4.6,SNR=6.8
comp=Z,5.5nm,0.9s
SNAA Sanae 92.85 177 ⇑*i*P **P** **12 36 16.2 +0.2**
SNAA pmax pmax
comp=Z,51nm,1.6s
CCM Cathedral Cave 92.86 51 P **P** **12 36 15.9 -0.5**
CCM IAmb IAmb 12 36 17.9
comp=Z,39nm,1.1s
CCM Cathedral Cave 92.86 51 P **P** **12 36 15.9 -0.5**
CCM pmax pmax
comp=Z,39nm,1.1s
AGMN Agassiz Nation 92.90 41 P **P** **12 36 16.5 +0.1**
AGMN IAmb IAmb 12 36 17.1
comp=Z,54nm,1.4s
CMAR Chiang Mai Arr 93.21 288 P **P** **12 36 18.1 -0.4**
CMAR Chiang Mai Arr 93.21 288 P **P** **12 36 18.8 +0.2**
comp=Z,0.8nm,0.2s,baz=105,slow=3.7,SNR=4.2
CMAR PKiKP **PKiKP** **12 41 06.0 +0.6**
comp=Z,0.4nm,0.4s,baz=137,slow=1.2,SNR=4.2
CMAR LR LR 13 17 48.0
comp=Z,503nm,18.8s,baz=110,slow=35
comp=Z,0.8nm,0.2s
CMAR Chiang Mai Arr 93.21 288 *i*P **P** **12 36 15.8 -2.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
AC05 El Transito 93.22 121 IAmb IAmb 12 36 23.1
comp=Z,80nm,1.2s
VNA2 Neumayer--Watz 93.28 175 ⇓P **P** **12 36 18.5 +0.6**
comp=Z,12nm,0.6s,baz=179,slow=6.6
CHTO Chiang Mai 93.30 288 P **P** **12 36 21.5 +2.6**
CHTO pmax pmax
comp=Z,11nm,1.1s
FVM French Village 93.45 52 P **P** **12 36 18.0 -1.2**
FVM IAmb IAmb 12 36 20.7
comp=Z,69nm,1.2s
FVM French Village 93.45 52 P **P** **12 36 18.0 -1.2**
VNA1 Neumayer--Stat 93.48 175 ⇓P **P** **12 36 19.6 +0.9**
comp=Z,37nm,1.3s
PARMO Parma 93.59 53 P **P** **12 36 20.0 +0.2**
ZON Zonda 93.60 124 IAmb IAmb 12 36 23.4
comp=Z,65nm,1.7s
LZH Lanzhou 93.73 306 *e*P **P** **12 36 22.8 +2.0**
LZH sP sP 12 36 32.8 +1.1
LZH pmax pmax
comp=Z,23nm,1.3s
CGM3 Cape Girardeau 93.84 53 IAmb IAmb 12 36 22.4
comp=Z,56nm,0.9s
SPMN Marine on St. 93.90 44 IAmb IAmb 12 36 23.3
comp=Z,68nm,1.2s
P43A Skaggs, Pawnee 94.60 50 P **P** **12 36 22.9 -1.5**
EPLO Experimental L 94.68 40 P **P** **12 36 23.9 -0.7**
Q44A Meyer Farm, Va 94.77 51 P **P** **12 36 25.4 +0.1**
Q44A IAmb IAmb 12 36 26.7
comp=Z,36nm,0.9s
ULN Ulaanbaatar 94.86 318 ⇑*e*P **P** **12 36 25.7 +0.1**
ULN pmax pmax
comp=Z,11nm,1.0s
WVT Waverly 94.94 54 P **P** **12 36 26.6 +0.5**
WVT pmax pmax
comp=Z,7.0nm,1.4s
HDIL Hopedale 95.02 49 IAmb IAmb 12 36 27.5
comp=Z,41nm,0.8s
L42A Oliver, Polo 95.14 48 P **P** **12 36 26.5 -0.3**
E38A The Farm, Brul 95.14 43 P **P** **12 36 26.5 -0.2**
E38A IAmb IAmb 12 36 27.9
comp=Z,53nm,1.2s
TIXI Tiksi 95.19 344 P **P** **12 36 25.4 -0.9**
TIXI Tiksi 95.19 344 LR LR 13 15 56.2
comp=Z,4µm,20.6s,baz=286,slow=33
TIXI Tiksi 95.19 344 ⇑*e*P **P** **12 36 25.7 -0.7**
TIXI pmax pmax
comp=Z,10.0nm,1.5s
SONM Songino Array 95.27 318 P **P** **12 36 27.6 +0.1**
SONM Songino Array 95.27 318 P **P** **12 36 27.6 +0.1**
comp=Z,2.2nm,1.0s,baz=111,slow=3.3,SNR=8.9
comp=Z,2.2nm,1.0s
Y49A Blount Mountai 95.47 57 P **P** **12 36 29.3 +0.7**
Y49A IAmb IAmb 12 36 31.9
comp=Z,72nm,1.9s
G40A Rib Lake 95.67 45 IAmb IAmb 12 36 30.5
comp=Z,61nm,1.2s
T47A Sharon Grove 95.72 53 IAmb IAmb 12 36 31.3
comp=Z,26nm,0.9s
SWET Sewanee 96.20 55 P **P** **12 36 30.5 -1.4**
SWET IAmb IAmb 12 36 53.1
comp=Z,45nm,1.4s
152A Waverly Hall 96.55 58 IAmb IAmb 12 36 37.1
comp=Z,31nm,1.3s
U49A Red Boiling Sp 96.64 54 IAmb IAmb 12 36 53.6
comp=Z,33nm,1.1s
PB11 IPOC Station P 96.72 113 P **P** **12 36 33.0 -1.8**
PB11 IAmb IAmb 12 36 37.8
comp=Z,35nm,1.2s
X51A Calhoun 96.89 56 IAmb IAmb 12 36 38.0
comp=Z,48nm,1.3s
R49A Shelbyville 97.53 52 IAmb IAmb 12 36 41.2
comp=Z,44nm,1.4s
L46A Eue Claire 97.57 49 P Pdif 12 36 38.3 +0.3
GTA Gaotai 97.67 309 *e*P **P** **12 36 38.6 0.0**
GTA pmax pmax
comp=Z,5.0nm,1.1s
IRK Irkutsk 97.81 322 *e*P Pdif 12 36 50.2 +11
IRK pmax pmax
comp=Z,37nm,2.0s
ZAK Zakamensk 97.93 320 *e*P Pdif 12 36 39.8 +0.3
ZAK pmax pmax
comp=Z,7.0nm,1.4s
BLKN Baker Lake 98.14 25 IAmb IAmb 12 36 40.9
comp=Z,36nm,1.0s
LPAZ La Paz 99.22 110 P **Pdif** **12 36 48.6 +1.9**
comp=Z,3.0nm,0.8s,baz=224,slow=3.0,SNR=6.6
comp=Z,3.0nm,0.8s
GOMU GeErMu 100.86 305 Pdif **Pdif** **12 36 54.3 +1.1**
GOMU LR LR
comp=Z,3µm,19.0s
GOMU LR LR
comp=Z,1µm,19.4s
GOMU LR LR
comp=Z,4µm,19.1s
WMQ Urumqi 107.34 312 Pdif **Pdif** **12 37 22.6 +1.1**
ZALV Zalesovo Beam 109.62 322 Pdiff **Pdif** **12 37 31.1 -0.2**
comp=Z,0.3nm,0.4s,baz=128,slow=4.3,SNR=4.2
ZALV PKiKP **PKiKP** **12 41 33.3 -0.7**
comp=Z,1.4nm,0.6s,baz=84,slow=1.2,SNR=8.0
MK31 Makanchi Array 111.28 315 ⇑*i*PKIKP **PKiKP** **12 41 35.6 -1.8**
MKAR Makanchi Array 111.28 315 PKiKP **PKiKP** **12 41 36.4 -1.0**
comp=Z,1.5nm,0.7s,baz=98,slow=1.0,SNR=11
MKAR PKKPbc **PKKPbc** **12 52 36.6 +2.1**
comp=Z,0.2nm,0.6s,baz=305,slow=7.1,SNR=4.1
MKAR PKKP **PKKPdf** **12 52 58.0 +4.9**
comp=Z,0.9nm,0.7s,baz=260,slow=3.5,SNR=4.6
MAKZ Makanchi 111.50 315 ⇑PKIKP **PKiKP** **12 41 35.7 -2.1**
SHLS Shalkode 113.30 311 *i*PKIKP **PKiKP** **12 41 38.8 -2.7**
SHLS Shalkode 113.30 311 *e*PKIKP **PKiKP** **12 41 38.9 -2.7**
KURK Kurchatov 113.56 319 *i*PKIKP **PKiKP** **12 41 40.4 -1.2**
UZB Uzynbulak 113.63 311 *i*PKIKP **PKiKP** **12 41 39.9 -2.2**
UZB Uzynbulak 113.63 311 *e*PKIKP **PKiKP** **12 41 40.0 -2.2**
KURBB Kurchatov Arra 113.63 319 PKiKP **PKiKP** **12 41 40.4 -1.3**
comp=Z,3.0nm,0.8s,baz=93,slow=1.9,SNR=21
KURBB PKKPbc **PKKPbc** **12 52 28.3 +1.6**
comp=Z,1.3nm,1.1s,baz=268,slow=4.4,SNR=5.4
KURBB PKKP **PKKPdf** **12 52 52.8 +4.1**
comp=Z,2.9nm,0.9s,baz=269,slow=4.3,SNR=9.3
KPKS Kokpek 113.87 311 *i*PKIKP **PKiKP** **12 41 40.4 -2.1**
KPKS Kokpek 113.87 311 *e*PKIKP **PKiKP** **12 41 40.5 -2.1**
MDOK Medeo 115.07 311 *e*PKIKP **PKiKP** **12 41 42.8 -2.1**
MDOK Medeo 115.07 311 *e*PKP **PKiKP** **12 41 42.8 -2.1**
CHKK Chushkaly 115.09 311 *e*PKIKP **PKiKP** **12 41 42.7 -2.0**
CHKK Chushkaly 115.09 311 *e*PKP **PKiKP** **12 41 42.8 -2.0**
TNSS Tian-Shan 115.15 311 *e*PKIKP **PKiKP** **12 41 43.0 -2.4**
TNSS Tian-Shan 115.15 311 *e*PKP **PKiKP** **12 41 43.0 -2.4**
AAA Alma-Ata 115.17 311 *e*PKIKP **PKiKP** **12 41 42.8 -2.2**
AAA Alma-Ata 115.17 311 *e*PKP **PKiKP** **12 41 42.9 -2.2**
KUU Kurty 115.55 312 *e*PKIKP **PKiKP** **12 41 43.6 -2.0**
KUU Kurty 115.55 312 *e*PKP **PKiKP** **12 41 43.7 -2.0**
KSH Kashi 115.98 307 PKP **PKiKP** **12 41 48.0 +1.2**
SGDS Sogindy 116.82 311 *e*PKIKP **PKPdf** **12 41 46.2 -2.0**
SGDS Sogindy 116.82 311 *e*PKP **PKPdf** **12 41 46.2 -2.0**
AAK Ala-Archa 116.97 310 ⇓*i*PKIKP **PKPdf** **12 41 48.1 -0.5**
AAK pmax pmax
comp=Z,6.0nm,1.7s
BRZS Berezniki 117.43 319 *e*PKIKP **PKPdf** **12 41 47.5 -1.6**
BRZS Berezniki 117.43 319 *e*PKP **PKPdf** **12 41 47.5 -1.6**
BVAR Borovoye Array 118.28 322 PKP **PKPdf** **12 41 49.5 -1.1**
comp=Z,5.3nm,0.7s,baz=75,slow=1.7,SNR=22
BVAR PKKP **PKKPdf** **12 52 39.4 -0.5**
comp=Z,0.9nm,0.7s,baz=242,slow=4.7,SNR=3.7
BRVK Borovoye 118.33 322 ⇑*i*PKIKP **PKPdf** **12 41 49.7 -1.0**
BRVK pmax pmax
comp=Z,11nm,1.7s
DZA Taraz 119.27 311 *e*PKIKP **PKPdf** **12 41 50.7 -2.1**
DZA Taraz 119.27 311 *e*PKP **PKPdf** **12 41 50.8 -2.1**
IUG Iuzhnay 120.31 310 *e*PKIKP **PKPdf** **12 41 52.6 -2.3**
IUG Iuzhnay 120.31 310 *e*PKP **PKPdf** **12 41 52.7 -2.3**
BRLS Borolday 120.34 311 *e*PKIKP **PKPdf** **12 41 53.1 -1.8**
BRLS Borolday 120.34 311 *e*PKP **PKPdf** **12 41 53.2 -1.8**
KBL Kabul 121.69 301 PKIKP **PKPdf** **12 41 57.9 -0.1**
ARTI Arti 123.79 329 PKP **PKPdf** **12 42 00.4 -0.6**
comp=Z,9.7nm,0.9s,baz=55,slow=2.1,SNR=9.1
ARTI Arti 123.79 329 *i*PKIKP **PKPdf** **12 41 59.7 -1.4**
ARTI 12 43 42.4
ARTI 12 49 11.2
ARTI SS SS 13 00 28.2 -2.5
ARCES ARCESS Array B 124.71 352 PKP **PKPdf** **12 42 02.0 -0.5**
comp=Z,7.4nm,0.7s,baz=4.8,slow=1.3,SNR=19
APA Apatity 125.18 348 ⇓*i*PKIKP **PKPdf** **12 42 00.9 -2.5**
APA pmax pmax
comp=Z,6.0nm,0.9s
KIRV Kirov 126.83 334 PKP **PKPdf** **12 42 06.2 -0.5**
comp=Z,12nm,0.5s,baz=57,slow=1.8,SNR=7.0
OPO Ambohidratompo 128.15 231 PKP **PKPdf** **12 42 10.5 -0.3**
comp=Z,2.1nm,0.8s,baz=90,slow=1.0,SNR=3.4
KLMR Klimovskoe 129.02 340 *e*PKIKP **PKPdf** **12 42 05.9 -5.0**
KLMR pmax pmax
comp=Z,34nm,1.5s
FINES FINESS Array B 132.09 348 PKP **PKPdf** **12 42 16.3 -0.4**
comp=Z,4.2nm,0.7s,baz=64,slow=4.4,SNR=14
BOSA Boshof 132.89 202 PKP **PKPdf** **12 42 19.6 0.0**
comp=Z,3.8nm,0.8s,baz=157,slow=5.8,SNR=5.8
MOS Moscow 133.51 337 *i*PKIKP **PKPdf** **12 42 18.1 -1.5**
NB2 NORSAR Subarra 134.35 357 PKP PKPdf 12 42 11.1 -10
comp=Z,1.1nm,0.8s,baz=17,slow=2.6
NB2 pPKP **SKPbc** **12 45 38.6 -10**
comp=Z,0.7nm,0.6s,baz=17,slow=2.5
NOA NORSAR Array B 134.35 357 PKP **PKPdf** **12 42 21.1 0.0**
comp=Z,2.5nm,0.9s,baz=14,slow=4.0,SNR=6.3
OBN Obninsk 134.38 337 PKP **PKPdf** **12 42 20.7 -0.5**
comp=Z,14nm,0.3s,baz=352,slow=24,SNR=3.5
OBN Obninsk 134.38 337 ⇓*i*PKIKP **PKPdf** **12 42 19.9 -1.3**
OBN *e* 12 45 03.2
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN Obninsk 134.38 337 PKP **PKPdf** **12 42 20.5 -0.7**
VSU Vasula 134.64 346 ⇓*i*PKIKP **PKPdf** **12 42 20.3 -1.3**
VSU pmax pmax
comp=Z,13nm,0.8s
VRH Novokhopyorsk 134.88 330 PKIKP **PKPdf** **12 42 22.1 -0.2**
VRH pmax pmax
comp=Z,37nm,2.0s
HFS Hagfors 135.10 355 PKP **PKPdf** **12 42 21.9 -0.6**
comp=Z,4.8nm,0.8s,baz=56,slow=2.7,SNR=9.3
LPSR Galich'ya Gora 135.23 333 PKIKP **PKPdf** **12 42 19.9 -3.0**
LPSR pmax pmax
comp=Z,50nm,1.5s
VORR Voronezh 135.75 332 PKIKP **PKiKP** **12 42 25.7 +0.2**
VORR pmax pmax
comp=Z,38nm,1.3s
VSR Storozhevoye 136.08 331 *e*PKIKP **PKPdf** **12 42 23.0 -1.5**
VSR pmax pmax
comp=Z,6.0nm,1.2s
VORD Divnogorie 136.19 331 *e*PKIKP **PKPdf** **12 42 23.6 -1.1**
VORD pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 138.60 320 ⇑*e*PKIKP **PKiKP** **12 42 30.7 -0.8**
KIV Kislovodsk 138.61 321 *i*PKIKP **PKPdf** **12 42 28.9 -0.7**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,1µm,24.0s
MATP Matopo 138.71 211 PKP **PKPdf** **12 42 31.6 +1.1**
comp=Z,1.4nm,0.9s,baz=250,slow=3.0,SNR=5.2
SHA1 Shidzhatmaz 138.74 320 ⇑*e*PKIKP **PKPdf** **12 42 30.4 +0.4**
EKA Eskdalemuir Ar 139.36 9 PKP **PKPdf** **12 42 31.4 +1.0**
comp=Z,1.9nm,0.8s,baz=110,slow=0.8,SNR=3.4
AK23 Malin Array Si 140.58 338 PKP **PKPdf** **12 42 31.7 -1.1**
AKASG Malin Array Be 140.59 338 PKhKP PKPpre 12 42 26.6
comp=Z,3.2nm,0.7s,baz=39,slow=3.9,SNR=8.8
AKASG PKP **PKPdf** **12 42 33.1 +0.3**
comp=Z,3.9nm,0.6s,baz=35,slow=3.2,SNR=5.9
AKBB Malin Array Si 140.59 338 PKP **PKPdf** **12 42 31.8 -1.0**
AK04 Malin Array Si 140.59 338 PKP **PKPdf** **12 42 32.1 -0.7**
AK21 Malin Array Si 140.59 338 PKP **PKPdf** **12 42 32.2 -0.6**
KIEV Kiev 140.60 338 PKP **PKPdf** **12 42 31.9 -0.9**
MI28 Mi28,Pidlybu 140.94 339 PKP **PKPdf** **12 42 32.9 -0.6**
RNPP9 Sopachiv 141.10 341 PKP **PKPdf** **12 42 32.8 -0.9**
RAYN Ar Rayn 143.13 289 ⇓PKIKP PKPbc 12 42 36.5 +1.3
LSZ Lusaka 143.14 215 PKP PKPbc 12 42 36.0 +0.6
comp=Z,3.4nm,0.4s,baz=114,slow=4.3,SNR=6.8
OJC Ojcow 143.83 346 *e*PKP PKPab 12 42 35.8 +0.1
CLL Collm 143.90 354 *i*PKIKP PKPbc 12 42 36.7 +0.2
CLL *i* 12 42 40.6
CLL pmax pmax
comp=Z,22nm,1.0s
CLL MLR MLR
comp=Z,4µm,21.0s
CLL Collm 143.90 354 *i*PKPpre PKPpre 12 42 36.7
comp=Z,22nm,1.0s
CLL *i*PKPdf **PKPdf** **12 42 38.5 -0.2**
CLL *i*x x 12 42 56.3
comp=Z,29nm,1.0s
CLL *e*PP **PP** **12 45 53.0 +1.7**
CLL *e*SKPdf **SKPbc** **12 46 15.0 -0.6**
CLL AMS AMS 13 57 00.0
comp=Z,4µm,21.0s
CLL AMS AMS 14 00 00.0
comp=Z,4µm,22.0s
KSP Ksiaz 143.92 350 *e*PKP PKPbc 12 42 37.4 +0.9
TSUM Tsumeb 144.12 197 IAMs_20 IAMs_20 13 49 10.1
comp=Z,6µm,21.0s
TSUM Tsumeb 144.12 197 PKP **PKPab** **12 42 37.7 -0.1**
comp=Z,9.1nm,0.8s,baz=129,slow=3.8,SNR=13
OSTC Ostas 144.21 350 *e*PKP PKPbc 12 42 37.6 +0.1
OSTC Ostas 144.21 350 *e*PKIKP PKPbc 12 42 37.6 +0.1
STHS Stebnicka Huta 144.22 344 *e*PKIKP **PKPab** **12 42 36.5 -0.7**
STHS Stebnicka Huta 144.22 344 *e* PKiKP 12 42 56.2 +13
STHS Stebnicka Huta 144.22 344 *e*PKP **PKPab** **12 42 36.5 -0.7**
BRG Berggiesshubel 144.22 353 Amp 12 42 38.7
comp=Z,3.3nm,0.7s
BRG Berggiesshubel 144.22 353 P **PKiKP** **12 42 43.3 +0.4**
BRG Amp 12 42 45.0
comp=Z,11nm,1.0s
BRG Berggiesshubel 144.22 353 Amp 12 43 00.8
comp=Z,6.9nm,0.8s
BRG Berggiesshubel 144.22 353 *e*PKP PKPbc 12 42 37.4 -0.1
BRG Berggiesshubel 144.22 353 P sPKiKP 12 42 58.0 +3.9
UPC Upice 144.29 350 *e*PKP PKPbc 12 42 38.2 +0.5
UPC Upice 144.29 350 *e*PKIKP PKPbc 12 42 38.2 +0.5
KOLS Kolonicke sedl 144.38 343 *e*PKIKP PKPbc 12 42 38.6 +0.6
KOLS Kolonicke sedl 144.38 343 *e*PKP PKPbc 12 42 38.6 +0.6
KOLS *e* 12 42 55.1
DPC Dobruska-Polom 144.39 350 *e*PKP PKPbc 12 42 38.4 +0.3
DPC Dobruska-Polom 144.39 350 *e*PKIKP PKPbc 12 42 38.4 +0.3
DIKM Dikmen 144.39 323 ⇑P **PKPdf** **12 42 39.6 -0.3**
NIE Niedzica 144.46 345 *e*PKP PKPbc 12 42 38.8 +0.5
STEB Steborice 144.53 348 *e*PKP **PKPab** **12 42 38.0 -0.3**
STEB *ex* x 12 42 58.4
KRLC Kraliky 144.58 349 *e*PKP PKPbc 12 42 38.7 0.0
KRLC Kraliky 144.58 349 *e*PKIKP PKPbc 12 42 38.7 0.0
BURAR Bucovina Array 144.61 339 ⇑P PKPbc 12 42 39.4 +0.4
BURAR Bucovina Array 144.61 339 ⇑PKIKP PKPbc 12 42 39.4 +0.4
UCC Uccle 144.63 3 *d*PKPdf PKPbc 12 42 38.8 +0.1
BEBN Eben Emael 144.69 2 *d*PKPdf PKPbc 12 42 39.5 +0.6
MORC Moravsky Berou 144.72 348 *e*PKP **PKPab** **12 42 38.3 -0.7**
MORC Moravsky Berou 144.72 348 ⇓P **PKPdf** **12 42 39.9 -0.4**
MORC Moravsky Berou 144.72 348 ⇓PKIKP **PKPdf** **12 42 39.9 -0.4**
MEM Memba **144.89 1** *d*PKPdf **PKPab** **12 42 38.5 -1.0**
BSTI Sart Tilman 144.90 2 *d*PKPdf **PKPab** **12 42 39.5 -0.1**
LANS Liptovska Anna 144.90 346 *e*PKIKP **PKPdf** **12 42 40.3 -0.4**
LANS Liptovska Anna 144.90 346 *e* PKiKP 12 43 00.0 +16
LANS Liptovska Anna 144.90 346 *e*PKP **PKPdf** **12 42 40.2 -0.4**
BTNL Ternell 144.91 1 *d*PKPdf **PKPab** **12 42 38.6 -1.1**
BZK Bozkurt 144.91 324 ⇑P **PKPdf** **12 42 40.6 -0.2**
BZK Bozkurt 144.91 324 PKP **PKPab** **12 42 39.5 -0.4**
PRU Pruhonice 145.01 352 *e*PKP **PKPab** **12 42 40.1 +0.1**
PRU *ex* x 12 42 56.7
PRU Pruhonice 145.01 352 *e*PKIKP **PKPab** **12 42 40.1 +0.1**
GOPC GO Pecny, Ondr 145.05 351 *e*PKP **PKPab** **12 42 40.2 0.0**
GOPC GO Pecny, Ondr 145.05 351 *e*PKIKP **PKPab** **12 42 40.2 0.0**
BCLA Clavier 145.05 2 *d*PKPdf **PKPdf** **12 42 40.6 -0.1**
BGES Gesves 145.08 2 *d*PKPdf **PKPab** **12 42 40.3 0.0**
GHRR **145.09 335** ⇓P **PKPdf** **12 42 41.3 +0.4**
BMR Baia Mare 145.13 341 ⇑P **PKPdf** **12 42 41.1 +0.1**
BMR Baia Mare 145.13 341 ⇑PKIKP **PKPdf** **12 42 41.1 +0.1**
BHOU Houvegnez 145.14 1 *d*PKPdf **PKPbc** **12 42 40.2 -0.2**
BMRD Maredsous 145.15 3 *d*PKPdf **PKPbc** **12 42 39.6 -0.8**
TLCR **145.19 333** ⇓P **PKPab** **12 42 40.9 +0.1**
TLCR **145.19 333** ⇓PKIKP **PKPab** **12 42 40.9 +0.1**
ONER Baraj Valea Uz 145.26 336 ⇓P **PKPab** **12 42 41.1 0.0**
KECS Kecovo 145.27 344 *e*PKIKP **PKPdf** **12 42 41.5 +0.3**
KECS Kecovo 145.27 344 *e*PKP **PKPdf** **12 42 41.5 +0.3**

KECS				*e*		12 43 00.9	
DOU	**Dourbes**	**145.35**	**3**	*d*PKPdf	**PKPbc**	**12 42 40.3**	**-0.8**
VRAC	**Vranov**	**145.35 349**		PKPbc	**PKPbc**	**12 42 40.7**	**-0.4**
	comp=Z,47nm,1.1s,baz=12,slow=2.8,SNR=45						
VRAC	**Vranov**	**145.35 349**		*e*PKP	**PKPbc**	**12 42 40.2**	**-0.9**
VRAC	**Vranov**	**145.35 349**		⇑P	**PKPdf**	**12 42 42.1**	**+0.7**
IZVR	**Izvoarele**	**145.36 334**		⇓P	**PKPab**	**12 42 41.9**	**+0.5**
CFR	**Carcaliu**	**145.50 334**		⇑P	**PKPdf**	**12 42 41.4**	**-0.3**
CFR	**Carcaliu**	**145.50 334**		⇑PKIKP	**PKPdf**	**12 42 41.4**	**-0.3**
VRI	**Vrincioaia**	**145.52 336**		⇑P	**PKPdf**	**12 42 41.4**	**-0.3**
VRI	**Vrincioaia**	**145.52 336**		⇑PKIKP	**PKPdf**	**12 42 41.4**	**-0.3**
VRI	**Vrincioaia**	**145.52 336**		PKP	**PKPdf**	**12 42 40.3**	**-1.4**
PLOR5	**Plostina Array**	**145.56 336**		PKP	**PKPdf**	**12 42 40.5**	**-1.3**
PLOR	**Plostina**	**145.56 336**		⇑P	**PKPdf**	**12 42 41.5**	**-0.3**
PLOR	**Plostina**	**145.56 336**		⇑PKIKP	**PKPdf**	**12 42 41.5**	**-0.3**
JAVC	**Velka Javorina**	**145.57 348**		*e*PKP	**PKPab**	**12 42 42.1**	**-0.1**
ZVC	**Zvikov**	**145.60 352**		*e*PKP	**PKPbc**	**12 42 41.9**	**0.0**
ZVC				*ex*	x	12 43 01.4	
KRUC	**Moravsky**	**145.62 349**		*e*PKP	**PKPdf**	**12 42 41.0**	**-0.8**
TPGR	**Topolog**	**145.63 333**		⇑P	**PKPbc**	**12 42 42.3**	**+0.1**
VYHS	**Vyhne**	**145.66 346**		*e*PKIKP	**PKPbc**	**12 42 42.2**	**0.0**
VYHS	**Vyhne**	**145.66 346**		*e*PKP	**PKPbc**	**12 42 42.2**	**0.0**
VYHS				*e*		12 43 01.7	
VYHS				*e*		12 43 11.9	
GRFO	**Grafenberg**	**145.67 355**			**PKPab**	**12 42 42.3**	**-0.1**
GRFO	**Grafenberg**	**145.67 355**		PKIKP	**PKPab**	**12 42 42.3**	**-0.1**
WLF	**Walferdange**	**145.83**	**1**	PKPdf	**PKPdf**	**12 42 41.9**	**-0.2**
WLF	**Walferdange**	**145.83**	**1**	*d*PKPdf	**PKPbc**	**12 42 42.6**	**0.0**
WLF	**Walferdange**	**145.83**	**1**	PKP2	**PKPdf**	**12 42 41.9**	**-0.2**
TIRR	**Tirgusor**	**145.94 332**		PKPdf	**PKPdf**	**12 42 42.4**	**0.0**
TIRR	**Tirgusor**	**145.94 332**		⇑P	**PKPbc**	**12 42 43.1**	**0.0**
TIRR	**Tirgusor**	**145.94 332**		PKP2	**PKPdf**	**12 42 42.4**	**0.0**
PSZ	**Piszkesteto**	**145.95 345**		⇑P	**PKPbc**	**12 42 43.2**	**0.0**
PSZ	**Piszkesteto**	**145.95 345**		⇑PKP2	**PKPbc**	**12 42 43.2**	**0.0**
SMOL	**Smolenice**	**145.95 348**		*e*PKP2	**PKPab**	**12 42 44.7**	**+1.2**
DOPR	**Dopca**	**145.95 337**		⇓P	**PKPab**	**12 42 43.5**	**-0.1**
HARR	**Harsova**	**145.97 333**		⇑P	**PKPbc**	**12 42 43.2**	**0.0**
HARR	**Harsova**	**145.97 333**		⇑PKP2	**PKPbc**	**12 42 43.2**	**0.0**
KHC	**Kasperske Hory**	**145.98 353**		*e*PKP	**PKPab**	**12 42 43.6**	**-0.1**
KHC				*ex*	x	12 43 03.4	
KHC	**Kasperske Hory**	**145.98 353**		*e*PKP2	**PKPab**	**12 42 43.6**	**-0.1**
KMBO	**Kilima Mbogo**	**146.08 244**		PKPbc	**PKPdf**	**12 42 44.1**	**+0.2**
	comp=Z,6.1nm,0.7s,baz=88,slow=3.6,SNR=23						
MODS	**Modra-Piesok**	**146.11 348**		*e*PKP2	**PKPab**	**12 42 45.1**	**+0.9**
MODS	**Modra-Piesok**	**146.11 348**		*e*PKP	**PKPab**	**12 42 45.1**	**+0.9**
MODS				*e*		12 43 04.0	
MODS				*e*		12 43 13.1	
MARR	**Marisel-Cluj**	**146.14 340**		⇑P	**PKPdf**	**12 42 43.3**	**+0.4**
MLR	**Muntele Rosu**	**146.14 336**		PKPbc	**PKPbc**	**12 42 44.0**	**+0.1**
	comp=Z,22nm,1.0s,baz=11,slow=2.9,SNR=36						
MLR	**Muntele Rosu**	**146.14 336**		⇓P	**PKPbc**	**12 42 44.1**	**+0.1**
MLR	**Muntele Rosu**	**146.14 336**		PKP2	**PKPbc**	**12 42 44.0**	**+0.1**
MFTR	**Murfatlar**	**146.16 332**		⇑P	**PKPbc**	**12 42 43.8**	**0.0**
CKRC	**Cesky Krumlov**	**146.19 352**		*e*PKP	**PKPab**	**12 42 44.4**	**-0.1**
CKRC	**Cesky Krumlov**	**146.19 352**		*e*PKP2	**PKPab**	**12 42 44.4**	**-0.1**
ISR	**Istrita**	**146.21 335**		⇑P	**PKPbc**	**12 42 44.0**	**0.0**
ISR	**Istrita**	**146.21 335**		⇑PKP2	**PKPbc**	**12 42 44.0**	**0.0**
GERES	**GERESS Array B**	**146.25 352**			**PKPbc**	**12 42 43.9**	**-0.2**
GERES	**GERESS Array B**	**146.25 352**		PKPbc	**PKPdf**	**12 42 43.5**	**+0.5**
	comp=Z,19nm,1.0s,baz=17,slow=1.8,SNR=59						
ICOR	**Ion Corvin**	**146.48 333**		⇑P	**PKPdf**	**12 42 43.8**	**+0.4**
VOIR		**146.53 337**		⇑P	**PKPdf**	**12 42 43.5**	**-0.1**
VOIR		**146.53 337**		⇑PKP2	**PKPdf**	**12 42 43.5**	**-0.1**
VOIR		**146.53 337**		PKP	**PKPdf**	**12 42 43.2**	**-0.3**
BR131	**Keskin Array S**	**146.56 322**		PKPbc	**PKPbc**	**12 42 45.2**	**-0.2**
BR131	**Keskin Array S**	**146.56 322**		PKP2	**PKPbc**	**12 42 45.2**	**-0.2**
BRTR	**Keskin Array B**	**146.56 322**		PKPbc	**PKPbc**	**12 42 44.9**	**-0.5**
	comp=Z,24nm,0.9s,baz=125,slow=2.2,SNR=89						
BR106	**Keskin Array S**	**146.57 322**		PKP	**PKPdf**	**12 42 43.6**	**-0.3**
BR104	**Keskin Array S**	**146.57 321**		PKP	**PKPdf**	**12 42 43.6**	**-0.3**
BR105	**Keskin Array S**	**146.58 322**		PKP	**PKPdf**	**12 42 43.8**	**-0.1**
STU	**Stuttgart**	**146.70 358**		PKPbc	**PKPbc**	**12 42 44.8**	**-0.5**
STU	**Stuttgart**	**146.70 358**		PKP2	**PKPbc**	**12 42 44.8**	**-0.5**
ARR	**Arges**	**146.74 337**		⇑P	**PKPdf**	**12 42 44.7**	**+0.8**
KIRS	**Kirsehir-Merke**	**146.76 320**		⇑P	**PKPbc**	**12 42 45.2**	**-0.7**
CONA	**Conrad Observa**	**146.81 349**		*i* PKP	**PKPbc**	**12 42 45.0**	**-0.7**
	comp=Z,22nm,1.0s,SNR=25						
CONA				*i* sPKP		12 43 04.8	
	comp=Z,58nm,1.0s						
RONA	**Rosalia, Austr**	**146.95 349**		*i* PKP	**PKPbc**	**12 42 46.1**	**0.0**
	comp=Z,60nm,1.4s,SNR=13						
RONA				*es*PKP		12 43 05.2	
	comp=Z,103nm,1.1s						
SIRR	**Siria**	**146.96 342**		⇓P	**PKPdf**	**12 42 44.7**	**+0.5**
ANTO	**Ankara**	**146.97 322**		PKPbc	**PKPbc**	**12 42 45.8**	**-0.6**
ANTO	**Ankara**	**146.97 322**		⇑P	**PKPdf**	**12 42 44.1**	**-0.3**
ANTO	**Ankara**	**146.97 322**		PKP2	**PKPbc**	**12 42 45.8**	**-0.6**
ANTO	**Ankara**	**146.97 322**		PKP	**PKPdf**	**12 42 44.4**	**-0.1**
LOT	**Lotru**	**146.99 338**		⇓P	**PKPdf**	**12 42 44.0**	**-0.2**
MOA	**Molln**	**147.14 351**		*e*PKP	**PKPbc**	**12 42 46.5**	**-0.1**
	comp=Z,24nm,0.7s						
MOA				*i* sPKiKP	**sPKiKP**	**12 43 06.3**	**+6.1**
	comp=Z,106nm,1.1s						
BFO	**Black Forest**	**147.17 359**			**PKPbc**	**12 42 46.4**	**-0.3**
BFO	**Black Forest**	**147.17 359**		PKP2	**PKPbc**	**12 42 46.4**	**-0.3**
MPLH	**Magyarpolny**	**147.20 347**		PKP	**PKPdf**	**12 42 44.4**	**-0.1**
CLF	**Chambon-Foret**	**147.23**	**6**		**PKPbc**	**12 42 46.2**	**-0.5**
SURR	**Surduc**	**147.27 341**		⇑P	**PKPdf**	**12 42 45.6**	**+0.9**
ECH	**Echery**	**147.29**	**0**		**PKPbc**	**12 42 46.6**	**-0.3**
ECH	**Echery**	**147.29**	**0**	PKP2	**PKPbc**	**12 42 46.7**	**-0.3**
GZR	**Gura Zlata**	**147.38 340**		⇑P	**PKPdf**	**12 42 45.7**	**+0.8**
GZR	**Gura Zlata**	**147.38 340**		⇑PKP2	**PKPdf**	**12 42 45.7**	**+0.8**
BIOA	**Bad Ischl, Aus**	**147.39 352**		*i* PKP	**PKPbc**	**12 42 47.5**	**+0.2**
	comp=Z,29nm,1.1s,SNR=15						
BIOA				*es*PKP		12 43 05.9	
MDUB	**Mudurnu**	**147.48 325**		PKPbc	**PKPbc**	**12 42 47.9**	**0.0**
ARSA	**Arzberg**	**147.52 349**		PKPbc	**PKPbc**	**12 42 47.9**	**+0.3**
ARSA	**Arzberg**	**147.52 349**		*e*PKP	**PKPbc**	**12 42 48.2**	**+0.6**
	comp=Z,20nm,1.2s,SNR=12						
ARSA				*i* sPKP		12 43 06.6	
	comp=Z,37nm,1.1s						
BZS	**Buzias**	**147.56 341**		⇑P	**PKPdf**	**12 42 45.5**	**+0.3**
BZS	**Buzias**	**147.56 341**		⇑PKIKP	**PKPdf**	**12 42 45.5**	**+0.3**
LESA	**Schwarzleotal**	**147.77 353**		*e*PKP	**PKPdf**	**12 42 46.2**	**+0.6**
	comp=Z,36nm,1.6s,SNR=11						
LESA				*i* sPKiKP	**sPKPab**	**12 43 08.7**	**+6.8**
	comp=Z,63nm,1.3s						
MORH	**Mrgy, Hungar**	**147.85 345**		⇑P	**PKPdf**	**12 42 46.5**	**+0.9**
MORH	**Mrgy, Hungar**	**147.85 345**		PKP	**PKPdf**	**12 42 45.5**	**-0.1**
RETA	**Reutte**	**147.89 356**		*i* PKP	**PKPbc**	**12 42 48.7**	**-0.1**
	comp=Z,50nm,1.4s,SNR=11						
RETA				*es*PKiKP	**sPKPab**	**12 43 08.0**	**+5.6**
HERR	**Herculane**	**147.95 339**		⇑P	**PKPbc**	**12 42 48.4**	**-0.5**
WATA	**Walderalm**	**147.97 354**		*i* PKP	**PKPbc**	**12 42 49.2**	**+0.1**
	comp=Z,40nm,1.4s,SNR=8.8						
WATA				*es*PKP		12 43 09.0	
	comp=Z,103nm,1.2s						
MOTA	**Moosalm**	**148.01 355**		*i* PKP	**PKPdf**	**12 42 46.7**	**+0.6**
	comp=Z,43nm,1.1s						
MOTA				*i* sPKiKP	**sPKPab**	**12 43 08.0**	**+5.1**
	comp=Z,41nm,1.1s						
KBA	**Koelnbreinsper**	**148.03 352**		*e*PKP	**PKPbc**	**12 42 48.7**	**-0.6**
	comp=Z,23nm,1.4s,SNR=12						
KBA				*i* sPKP		12 43 07.0	
	comp=Z,44nm,1.2s						
WTTA	**Wattenberg**	**148.04 354**		*i* PKP	**PKPbc**	**12 42 48.7**	**-0.6**
	comp=Z,27nm,0.8s,SNR=12						
WTTA				*i* sPKP		12 43 09.2	
	comp=Z,100nm,1.4s						
SQTA	**Sankt Quirin**	**148.12 355**		*i* PKP	**PKPbc**	**12 42 48.8**	**-0.6**
	comp=Z,20nm,0.8s,SNR=7.8						
SQTA				*i* sPKP		12 43 09.3	
	comp=Z,47nm,1.1s						
DAVA	**Damuels**	**148.15 357**		*i* PKP	**PKPbc**	**12 42 48.9**	**-0.6**
	comp=Z,54nm,1.1s,SNR=12						
DAVA				*i* sPKP		12 43 09.3	
SOKA	**Soboth**	**148.16 350**		*i* PKP	**PKPdf**	**12 42 47.1**	**+0.9**
	comp=Z,42nm,1.3s,SNR=11						
SOKA				*i* sPKiKP	**sPKPab**	**12 43 08.5**	**+5.0**
	comp=Z,84nm,1.2s						
MDVR	**Moldovita**	**148.27 340**		⇓P	**PKPdf**	**12 42 47.4**	**+1.0**
GROS	**Grobnik**	**148.29 349**		*e*PKPdf	**PKPdf**	**12 42 46.2**	**-0.2**
GROS				*e*		12 43 03.0	
BORA	**Eskisehir**	**148.30 325**			**PKPbc**	**12 42 49.4**	**-0.7**
FETA	**Feichten**	**148.36 355**		*i* PKP	**PKPdf**	**12 42 46.1**	**-0.5**
	comp=Z,36nm,1.0s,SNR=11						
FETA				*i* sPKiKP	**sPKPab**	**12 43 08.9**	**+4.6**
	comp=Z,42nm,1.2s						
OBKA	**Obir**	**148.41 350**		*e*P	**PKPdf**	**12 42 48.3**	**+1.6**
OBKA	**Obir**	**148.41 350**		*i* PKP	**PKPbc**	**12 42 50.1**	**-0.1**
	comp=Z,12nm,1.0s						
OBKA				*i* sPKiKP	**sPKPab**	**12 43 08.8**	**+4.3**
	comp=Z,34nm,1.2s						
MYKA	**Terra Mystica**	**148.43 352**		*i* PKP	**PKPbc**	**12 42 48.5**	**-1.7**
	comp=Z,23nm,1.0s,SNR=8.3						
MYKA				*i* sPKiKP	**sPKPab**	**12 43 08.3**	**+3.8**
	comp=Z,34nm,1.2s						
ABTA	**Abfaltersbach**	**148.46 353**		*e*PKP	**PKPdf**	**12 42 46.1**	**-0.6**
	comp=Z,36nm,0.9s,SNR=10						
ABTA				*es*PKiKP	**sPKPab**	**12 43 08.5**	**+3.8**
	comp=Z,53nm,1.3s						
FRGS	**Fruska Gora**	**148.51 343**		*e*P	**PKPbc**	**12 42 48.6**	**-1.8**
DAVOX	**Davos/Dischmat**	**148.65 357**		PKP	**PKPdf**	**12 42 47.7**	**+0.5**
	comp=Z,19nm,0.8s,baz=36,slow=7.2,SNR=6.5						
DAVOX				PKPbc	**PKPbc**	**12 42 51.6**	**+0.7**
	comp=Z,19nm,0.8s,baz=304,slow=3.1,SNR=14						
CRNS	**Crni Vrh**	**148.87 351**		*e*PKPdf	**PKPdf**	**12 42 47.2**	**-0.1**
CIMO	**Cimolais**	**148.90 353**			**PKPbc**	**12 42 50.4**	**-0.9**
CRES	**Cresnjevec Ost**	**148.91 349**		*e*P	**PKPbc**	**12 42 50.1**	**-1.2**
TUE	**Stuetta**	**148.99 357**			**PKPdf**	**12 42 49.1**	**+1.4**
MMAI	**Mount Meron Ar**	**149.06 310**		PKPbc	**PKPbc**	**12 42 52.5**	**+0.3**
	comp=Z,28nm,0.8s,baz=53,slow=3.2,SNR=25						
SENIN	**Lac Senin/Sane**	**149.15 360**			**PKPbc**	**12 42 52.4**	**+0.2**
TEKS	**Tekeris**	**149.15 343**		*e*P	**PKPdf**	**12 42 47.6**	**-0.2**
CEY	**Cerknica**	**149.18 350**		*e*P	**PKPbc**	**12 42 51.1**	**-0.9**
BAND	**Balkesir-Ban**	**149.22 328**		⇑P	**PKPdf**	**12 42 49.1**	**+1.0**
CTI	**Castel Tesino**	**149.24 354**			**PKPbc**	**12 42 51.8**	**-0.5**
CTI	**Castel Tesino**	**149.24 354**		PKP2	**PKPbc**	**12 42 51.8**	**-0.5**
BOJS	**Bojanci**	**149.26 349**		*e*P	**PKPbc**	**12 42 51.7**	**-0.5**
BOVS	**Bovan**	**149.29 339**		⇑P	**PKPdf**	**12 42 48.8**	**+0.7**
BALJ	**Balqa**	**149.30 308**		PKPbc	**PKPbc**	**12 42 52.9**	**+0.1**
A051A	**Mrakovica**	**149.39 346**		*e*P	**PKPdf**	**12 42 49.2**	**+0.9**
SKDS	**Skadanscina**	**149.43 351**		*e*P	**PKPdf**	**12 42 50.2**	**+2.0**
CSS	**Mathiatis**	**149.56 315**			**PKPbc**	**12 42 52.9**	**-0.4**
BLY	**Banja Luka**	**149.57 346**		*e*P	**PKPbc**	**12 42 52.0**	**-1.0**
GHAJ	**Ghor Haditha**	**149.69 306**		PKPbc	**PKPbc**	**12 42 53.9**	**+0.2**
BBLS	**Lazi&#263i**	**149.81 342**		*e*P	**PKPdf**	**12 42 50.0**	**+1.0**
RDO	**Rodhopi**	**149.85 332**			**PKPbc**	**12 42 53.0**	**-0.8**
TEOL	**Teolo**	**149.92 354**		PKPbc	**PKiKP**	**12 42 54.5**	**-0.3**
A050A	**Klekovaca**	**149.98 347**		*e*P	**PKPdf**	**12 42 48.8**	**-0.4**
RUDO	**Rudo**	**150.05 342**		*e*P	**PKPbc**	**12 42 52.3**	**-1.9**
SSB	**Saint Sauveur**	**150.15**	**4**		**PKiKP**	**12 42 55.3**	**0.0**
SSB	**Saint Sauveur**	**150.15**	**4**	IAMs_20	IAMs_20	13 47 01.1	
	comp=Z,6µm,20.0s						
SSB	**Saint Sauveur**	**150.15**	**4**	PKIKP	**PKiKP**	**12 42 55.3**	**0.0**
SJES	**Sjenica**	**150.19 341**		*e*P	**PKiKP**	**12 42 55.3**	**-0.3**
SACV	**Santiago Islan**	**150.23**	**87**	PKPbc	**PKPbc**	**12 42 54.4**	**-1.1**
MANT	**Manisa**	**150.32 325**			**PKPbc**	**12 42 54.4**	**-1.0**
UPM	**Unac-Piva**	**150.56 342**		*e*P	**PKPbc**	**12 42 54.2**	**-1.5**
PDG	**Podgorica**	**151.17 341**		*e*P	**PKPbc**	**12 42 56.0**	**-0.9**
PDG	**Podgorica**	**151.17 341**		⇑P	**PKPbc**	**12 42 55.6**	**-1.2**
STON	**Ston**	**151.21 344**		*e*P	**PKPdf**	**12 42 48.8**	**-2.2**
DRME	**Dracevica, Mon**	**151.41 341**		*e*P	**PKPdf**	**12 42 54.0**	**+2.6**
NRCA	**Norcia**	**152.22 351**		IAMs_20	IAMs_20	13 55 49.2	
	comp=Z,4µm,20.0s						
CASP	**Castiglione de**	**152.54 354**		IAMs_20	IAMs_20	13 51 26.7	
	comp=Z,4µm,21.0s						
MESJ	**Messejana**	**153.81**	**29**	*e*PKPdf	**PKPdf**	**12 42 54.9**	**-0.2**
MESJ				*e*PKPab	**PKPab**	**12 43 16.1**	**+0.2**
ESDC	**Sonseca Array**	**153.92**	**20**	PKP	**PKPdf**	**12 42 55.6**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=332,slow=2.5,SNR=14						
ESDC				PKPbc	**pPKPdf**	**12 43 02.9**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=329,slow=2.7,SNR=22						
MORF	**Marmelete**	**154.04**	**30**	*e*PKPdf	**PKPdf**	**12 42 55.1**	**-0.4**
MORF				*e*PKPab	**PKPab**	**12 43 17.0**	**+0.1**
CEL	**Celeste**	**156.00 343**		IAMs_20	IAMs_20	13 46 45.9	
	comp=Z,5µm,22.0s						
KEST	**Kesra**	**159.68 355**		PKPab	**PKPab**	**12 43 40.4**	**-0.8**
	comp=Z,20nm,1.0s,baz=8.6,slow=5.1,SNR=8.1						
DBIC	**Dimbokro**	**165.29 125**		PKP	**PKPdf**	**12 43 09.2**	**+0.4**
	comp=Z,6.2nm,1.1s,baz=45,slow=1.4,SNR=2.8						
DBIC				PKPab	**PKPab**	**12 44 07.1**	**+0.7**
	comp=Z,37nm,1.3s,baz=214,slow=7.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**174.17 112**		PKPab	**PKPab**	**12 44 45.2**	**-0.6**
	comp=Z,81nm,0.3s,baz=263,slow=4.0,SNR=2.3						

*IDC **12** 12:23:29.1±1.7, 1°.89S×122°.54E, h0km, mb3.3/3, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=38.9km s-min=27.9km az=67.0*
*DJA **12** 12:23:41.1±1.2, 2°S±2°×12°2E±°, h22km±10km, M4.1/13, MLv4.1/13*
ISC 12 12:23:30.8±0.9,**2°21S**±0°.04×**121°.96E**±0°.06,**h10**km,**n13**, σ1°**08**/14,**mb3.4**/3,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.32 346**		P	Pg	12 24 03.1	+6.9
PCI	**Palu**	**2.48 301**		P	**Pg**	**12 24 20.1**	**+1.7**
SPSI	**Sidrap Palu**	**2.80 231**		P	**Pg**	**12 24 24.7**	**+0.2**
BNSI	**Bone**	**2.86 220**		P	**Pg**	**12 24 26.0**	**+0.4**
MPSI	**Mapaga**	**3.26 321**		P	**Pb**	**12 24 27.1**	**-1.7**
BBSI	**Bau Bau**	**3.32 169**		P	**Pg**	**12 24 34.7**	**+0.3**
KMSI	**Cibinong**	**3.42**	**36**	P	**Pb**	**12 24 32.3**	**+0.8**
KMSI				S	**Sb**	**12 25 12.3**	**-0.9**
KAPI	**Kappang**	**3.56 218**		Pn	**Pb**	**12 24 34.1**	**+0.3**
	5.9nm,0.3s,baz=296,slow=1.7,SNR=5.4						
KAPI				Sn	**Sg**	**12 25 24.4**	**-0.6**
	8.8nm,0.3s,baz=74,slow=21,SNR=7.3						
	12nm,0.3s						
BKSI	**Bulukumba**	**3.60 211**		P	**Pb**	**12 24 36.4**	**+1.9**
BSSI	**Bau Bau, Buton**	**4.18 200**		P	**Pb**	**12 24 43.3**	**-1.1**
WRA	**Warramunga Arr**	**21.38 146**		P	**P**	**12 28 18.4**	**-0.3**
	1.6nm,0.9s,baz=329,slow=9.1,SNR=10.0						
	1.6nm,0.9s						
ASAR	**Alice Springs**	**24.27 153**		P	**P**	**12 28 48.0**	**-0.4**
	0.6nm,0.6s,baz=333,slow=9.3,SNR=12						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**59.95 330**		P	**P**	**12 33 37.4**	**+0.1**
	0.2nm,0.7s,baz=120,slow=8.8,SNR=2.0						
	0.2nm,0.7s						

*WEL **12** 12:25:31.8±1.3, 33°S±6°×17°7W±2°2, h12km, M4.5/14, mB4.8/6, ML5.4/16, MLv4.7/14, Mw(mB)4.1/6, Error ellipse: s-maj=29.5km s-min=5.4km az=100.2, confirmed*
*IDC **12** 12:25:35.6±2.4, 32°.42S×178°.39W, h0km, mb4.7/2, mbtmp4.6/3, ML4.0/1, Error ellipse: s-maj=69.6km s-min=37.7km az=129.0*
ISC 12 12:25:33.5±1.4,**32°61S**±0°.08×**177°5W**±0°.2,**h21**km,**n32**, σ2°**20**/34,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.36 354**		P	**Pn**	**12 26 23.3**	**-1.3**
GLKZ				S	**Sn**	**12 27 00.6**	**-3.2**
WMGZ	**Waiomatatini S**	**6.17 211**		P	**Pn**	**12 27 05.3**	**+2.0**
WMGZ	**Waiomatatini S**	**6.17 211**		S	**Sn**	**12 28 14.4**	**+1.2**
PKGZ	**Pakihiroa**	**6.36 213**		P	**Pn**	**12 27 06.5**	**+0.5**
PKGZ				S	**Sn**	**12 28 17.6**	**-0.3**
PKGZ	**Pakihiroa**	**6.36 213**		S	**Sn**	**12 28 16.9**	**-0.9**
HAZ	**Te Kaha**	**6.41 216**		P	**Pn**	**12 27 07.7**	**+1.1**
HAZ	**Te Kaha**	**6.41 216**		S	**Sn**	**12 28 17.6**	**-1.5**
PUZ	**Puketiti**	**6.45 211**		P	**Pn**	**12 27 08.8**	**+1.6**
PUZ	**Puketiti**	**6.45 211**		S	**Sn**	**12 28 19.9**	**-0.2**
RUGZ	**Raukumara Rang**	**6.63 215**		P	**Pn**	**12 27 10.8**	**+1.1**
RUGZ	**Raukumara Rang**	**6.63 215**		S	**Sn**	**12 28 20.2**	**-4.5**
TWGZ	**Tauwhareparae**	**6.66 212**		P	**Pn**	**12 27 10.3**	**+0.3**
TWGZ	**Tauwhareparae**	**6.66 212**		S	**Sn**	**12 28 22.9**	**-2.4**
CNGZ	**Carnagh Statio**	**6.81 210**		P	**Pn**	**12 27 13.1**	**+1.0**
TKGZ	**Te Karaka**	**6.93 212**		P	**Pn**	**12 27 13.8**	**0.0**
TKGZ	**Te Karaka**	**6.93 212**		S	**Sn**	**12 28 26.3**	**-5.6**
MWZ	**Matawai**	**6.99 214**		P	**Pn**	**12 27 14.1**	**-0.6**
URZ	**Urewera**	**7.14 216**		Pn	**Pn**	**12 27 17.2**	**+0.7**
	2.7nm,0.3s,baz=0.7,slow=3.1,SNR=16						
	6.3nm,0.3s						
URZ	**Urewera**	**7.14 216**		P	**Pn**	**12 27 16.8**	**+0.2**
RIGZ	**Rimuhau**	**7.19 211**		P	**Pn**	**12 27 17.2**	**-0.2**
PRGZ	**Paritu Road**	**7.32 209**		P	**Pn**	**12 27 18.9**	**-0.2**
SNGZ	**Shannon Statio**	**7.44 213**		P	**Pn**	**12 27 22.6**	**+1.8**
RTZ	**Ruatahuna**	**7.48 215**		P	**Pn**	**12 27 22.6**	**+1.2**
TOZ	**Tahuroa Road**	**7.66 226**		P	**Pn**	**12 27 27.1**	**+3.4**
RAHZ	**Arahi**	**7.67 213**		P	**Pn**	**12 27 26.3**	**+2.4**
MTHZ	**Maungataniwha**	**7.73 215**		P	**Pn**	**12 27 27.2**	**+2.4**
OUZ	**Omahuta**	**7.83 248**		P	**Pn**	**12 27 28.7**	**+2.7**
BKZ	**Black Stump Fm**	**8.14 215**		P	**Pn**	**12 27 31.1**	**+0.6**
ASAR	**Alice Springs**	**43.44 269**		P	**P**	**12 33 34.8**	**-0.3**
	14nm,0.8s,baz=114,slow=8.1,SNR=0.7						
	14nm,0.8s						
WRA	**Warramunga Arr**	**44.62 274**		P	**P**	**12 33 43.9**	**-0.8**
	4.4nm,0.5s,baz=113,slow=7.8,SNR=7.9						
	4.4nm,0.5s						
FINES	**FINESS Array B**	**147.35 339**		PKPbc	**PKiKP**	**12 45 17.5**	**+0.6**
	3.3nm,0.5s,baz=49,slow=4.7,SNR=12						
NOA	**NORSAR Array B**	**150.99 351**		PKPab	**PKPab**	**12 45 36.8**	**+5.2**
	0.3nm,0.5s,baz=14,slow=2.5,SNR=3.8						

*IDC **12** 12:25:45.7±1.5, 1°.83S×122°.66E, h0km, mb3.5/4, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=52.8km s-min=22.5km az=59.0*
*DJA **12** 12:25:49.6±0.5, 2°S±2°×12°2E±°, h10km, M4.1/11, mb4.1/2, MLv4.1/11*
ISC 12 12:25:51.0±1.2,**1°95S**±0°.06×**122°5E**±0°.1,**h35**km,**n13**, σ0°**74**/16,**mb3.6**/4,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.35 320**		P	**Pn**	**12 26 12.9**	**-0.5**
PCI	**Palu**	**2.88 291**		P	**Pn**	**12 26 34.3**	**-0.2**
PCI				S	**Sn**	**12 27 07.9**	**0.0**
SPSI	**Sidrap Palu**	**3.40 234**		P	**Pn**	**12 26 41.0**	**-0.6**
BNSI	**Bone**	**3.43 225**		P	**Pn**	**12 26 41.6**	**-0.4**
MPSI	**Mapaga**	**3.47 311**		P	**Pn**	**12 26 43.1**	**+0.5**
MPSI				S	**Sn**	**12 27 23.6**	**+1.1**
KAPI	**Kappang**	**4.11 222**		Pn	**Pn**	**12 26 51.5**	**+0.1**
	5.7nm,0.3s,baz=346,slow=1.6,SNR=2.9						
KAPI				Sn	**Sn**	**12 27 37.8**	**-0.5**
	4.5nm,0.3s,baz=202,slow=21,SNR=1.9

PETK Petropavlovsk- 43.68 304 P **P 12 47 38.9 -0.5**
0.4nm,0.6s,baz=64,slow=8.8,SNR=5.1
0.4nm,0.6s
H11N2 WAKE ISLAND Hy 57.86 263 T T 13 51 57.5
baz=43,slow=76,SNR=107
H11N3 WAKE ISLAND Hy 57.87 263 T T 13 51 57.7
baz=43,slow=76,SNR=134
H11N1 WAKE ISLAND Hy 57.88 263 T T 13 51 58.8
baz=43,slow=76,SNR=127
H11S1 WAKE ISLAND Hy 58.88 262 T T 13 53 20.4
baz=33,slow=76,SNR=4.8
H11S2 WAKE ISLAND Hy 58.89 262 T T 13 53 15.5
baz=33,slow=76,SNR=4.4
H11S3 WAKE ISLAND Hy 58.90 262 T T 13 53 17.0
baz=33,slow=76,SNR=4.2

*IDC **12** 12:40:06.8±10.0, 2°.25S×122°.72E, h0km, mb3.7/3, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=166.2km s-min=36.3km az=169.0*
*DJA **12** 12:40:09.5±1.2, 2°S±4°×12°2E±°, h13km±11km, M3.7/6, MLv3.7/6*
ISC 12 12:40:08.0±1.3, **1°.88S**±0°.07×**122°.6E**±0°.1, **h35**km, **n10, σ0°81/11, mb3.5/3, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.32**	**317**	P	**Pn**	**12 40 30.3**	**+0.4**
KDI	**Kendari**	**2.06**	**178**	P	Pn	12 40 44.5	+4.3
MPSI	**Mapaga**	**3.45**	**310**	P	**Pn**	**12 40 59.1**	**-0.1**
SPSI	**Sidrap Palu**	**3.46**	**233**	P	**Pn**	**12 40 59.5**	**+0.1**
BNSI	**Bone**	**3.50**	**224**	P	**Pn**	**12 40 59.9**	**0.0**
BNSI				S	**Sn**	**12 41 38.5**	**-1.5**
KAPI	**Kappang**	**4.18**	**222**	Pn	**Pn**	**12 41 10.2**	**+0.9**
	3.3nm,0.3s,baz=31,slow=5.9,SNR=2.7						
KAPI				Sn	**Sn**	**12 41 58.1**	**+1.1**
	6.6nm,0.3s,baz=23,slow=22,SNR=5.9						
	8.3nm,0.3s						
BKSI	**Bulukumba**	**4.19**	**215**	P	**Pn**	**12 41 09.5**	**+0.1**
WRA	**Warramunga Arr**	**21.33**	**148**	P	**P**	**12 44 51.4**	**-0.8**
	1.7nm,0.7s,baz=334,slow=7.7,SNR=8.6						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**24.29**	**154**	P	**P**	**12 45 22.5**	**+0.2**
	1.1nm,0.6s,baz=333,slow=9.6,SNR=14						
	1.1nm,0.6s						
STKA	**Stephens Creek**	**34.83**	**151**	P	**P**	**12 46 55.9**	**+0.2**
	1.0nm,0.5s,baz=326,slow=11,SNR=2.8						
	1.0nm,0.5s						

IDC 12 12:40:27.8±353.0, **58°.07N**×**17°.96E, h0**km, **Error ellipse: s-maj=138.4km s-min=134.4km az=27.0, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**9.58**	**197**	I	I	13 38 50.0	
	baz=16,slow=335,SNR=0.6						
I43RU	**DUBNA INFRASONI**	**0.48**	**89**	I	I	13 41 10.0	
	baz=286,slow=321,SNR=1.2						
I37NO	**I37NO**	**11.05**	**1**	I	I	13 47 20.0	
	baz=187,slow=330,SNR=0.8						

*IDC **12** 12:47:32.8±5.4, 28°.66S×68°.15W, h122km±38km, mb3.5/1, mbtmp3.8/3, Error ellipse: s-maj=83.4km s-min=22.5km az=124.0*
*SJA **12** 12:47:33.2±0.7, 28°.78S×67°.50W, h133km±3km, ML3.2, MW3.5*
ISC 12 12:47:34.1±0.9, **28°.74S**±0°.04×**67°.53W**±0°.04, **h130**km±7km, **n35, σ1°11/49, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.59**	**271**	*eP*	**Pn**	**12 47 54.3**	**+0.4**
VCA				*eS*	**Sn**	**12 48 08.6**	**-0.3**
ACLC	**CERRO LA CRUZ**	**0.85**	**143**	*eP*	**Pn**	**12 47 55.7**	**-0.2**
ACLC				*eS*	**Sn**	**12 48 11.6**	**-0.8**
ACLC				IAML		12 48 12.0	
	comp=Z,434nm,0.3s						
AGUA	**GUANDACOL**	**1.12**	**228**	*eP*	**Pn**	**12 47 58.1**	**-0.2**
AGUA				*eS*	**Sn**	**12 48 16.5**	**-0.1**
AGUA				IAML		12 48 16.8	
	comp=Z,590nm,0.2s						
CYA	**Choya**	**1.55**	**79**	*eP*	**Pn**	**12 48 03.1**	**+0.3**
CYA				*eS*	**Sn**	**12 48 24.3**	**-0.4**
CYA				IAML		12 48 24.8	
	comp=Z,190nm,0.8s						
APLL	**PUNTA DE LOS L**	**1.86**	**152**	*eP*	**Pn**	**12 48 06.3**	**-0.2**
APLL				*eS*	**Sn**	**12 48 30.2**	**-1.0**
AVFE	**Valle Fertil**	**1.91**	**178**	*eP*	**Pn**	**12 48 06.6**	**-0.4**
AVFE				*eS*	**Sn**	**12 48 31.8**	**-0.5**
AVFE				IAML		12 48 32.4	
	comp=Z,140nm,0.9s						
ACDV	**Cuesta del Vie**	**1.99**	**224**	*eP*	**Pn**	**12 48 08.2**	**+0.2**
ACDV				IAML		12 48 35.7	
	comp=Z,53nm,0.3s						
AROD	**Rodeo**	**2.21**	**230**	*eP*	**Pn**	**12 48 11.4**	**+0.4**
AROD				*eS*	**Sn**	**12 48 40.3**	**+1.1**
ACCO	**Cerro Coronel**	**2.27**	**216**	*eP*	**Pn**	**12 48 13.3**	**+1.6**
ACCO				*eS*	**Sn**	**12 48 43.5**	**+2.8**
AC02	**Maricunga**	**2.37**	**323**	*eP*	**Pn**	**12 48 14.4**	**+1.2**
AC02				*eS*	Sn	12 48 54.2	+11
AC05	**El Transito**	**2.41**	**267**	*eP*	**Pn**	**12 48 13.8**	**+0.6**
AC05				*eS*	**Sn**	**12 48 43.8**	**+0.4**
AC05				IAML		12 48 44.9	
	comp=Z,96nm,0.5s						
ACHE	**Chepes**	**2.52**	**163**	*eP*	**Pn**	**12 48 14.7**	**0.0**
CO01	**Juntas del Tor**	**2.55**	**241**	*eP*	**Pn**	**12 48 15.7**	**+0.5**
CO01				IAML		12 48 49.5	
	comp=Z,36nm,0.7s						
DOCA	**Reserva Natura**	**2.58**	**211**	*eP*	**Pn**	**12 48 15.2**	**-0.4**
DOCA				IAML		12 48 50.2	
	comp=Z,43nm,0.8s						
GO03	**Copiapo**	**2.65**	**295**	*eP*	**Pn**	**12 48 16.2**	**-0.1**
GO03				*eS*	**Sn**	**12 48 47.3**	**-1.4**
RTLL	**Cerro Villicun**	**2.70**	**197**	*eP*	**Pn**	**12 48 16.8**	**-0.1**
RTLL				*eS*	**Sn**	**12 48 52.0**	**+2.1**
AHML	**Horco Molle**	**2.75**	**45**	*eP*	**Pn**	**12 48 17.6**	**0.0**
AHML				*eS*	**Sn**	**12 48 49.4**	**-1.7**
AHML				IAML		12 48 51.7	
	comp=Z,57nm,0.5s						
LCO	**Las Campanas**	**2.79**	**264**	*eP*	**Pn**	**12 48 18.0**	**-0.2**
LCO				*eS*	**Sn**	**12 48 51.7**	**-0.6**
LCO				IAML		12 48 54.3	
	comp=Z,250nm,0.5s						
SJA	**San Juan**	**2.92**	**198**	*eP*	**Pn**	**12 48 20.0**	**+0.4**
SJA				IAML		12 49 22.3	
	comp=Z,76nm,0.6s						
CFA	**Coronel Fontan**	**2.92**	**192**	P	**Pn**	**12 48 19.2**	**-0.4**
	comp=Z,20nm,0.2s,baz=11,slow=15,SNR=172						
CFA				S	**Sn**	**12 48 53.3**	**-1.5**
	comp=Z,39nm,0.4s,baz=8.7,slow=13,SNR=14						
CFA	**Coronel Fontan**	**2.92**	**192**	*eP*	**Pn**	**12 48 19.3**	**-0.4**
CFA				*eS*	**Sn**	**12 48 53.6**	**-1.3**
CFA				*eS*		12 49 11.4	
FSA	**Cafayete**	**2.96**	**28**	*eP*	**Pn**	**12 48 22.3**	**+1.8**
ZON	**Zonda**	**2.96**	**199**	*eP*	**Pn**	**12 48 20.2**	**-0.1**
ZON				*eS*	**Sn**	**12 48 54.9**	**-1.0**
ZON				IAML		12 48 56.0	
	comp=Z,49nm,0.6s						
AC04	**Llanos de Chal**	**3.17**	**279**	*eP*	**Pn**	**12 48 21.9**	**-1.0**
AC04				*eS*	**Sn**	**12 48 57.0**	**-3.5**
AC04				IAML		12 49 09.4	
	comp=Z,42nm,0.4s						
GO04	**Tololo Observa**	**3.19**	**243**	*eP*	**Pn**	**12 48 22.8**	**-0.5**
RTLS	**Leoncito**	**3.41**	**206**	*eP*	**Pn**	**12 48 26.3**	**0.0**
RTLS				IAML		12 49 39.5	
	comp=Z,74nm,0.5s						
CO03	**El Pedregal**	**3.45**	**232**	*eP*	Pn	12 48 17.6	-9.1
CO03				*eP*		12 48 26.4	
CO03				IAML		12 49 03.5	
	comp=Z,61nm,0.5s						
AC01	**Pan de Azucar**	**3.76**	**313**	*eP*	Pn	12 48 15.8	-15
AC01				IAML		12 49 17.0	
	comp=Z,18nm,1.2s						
ASAL	**Salagasta**	**4.00**	**196**	*eP*	**Pn**	**12 48 33.5**	**-0.4**
ASAL				IAML		12 49 56.1	
	comp=Z,20nm,0.8s						
AAGR	**Agrelo**	**4.47**	**194**	*eP*	**Pn**	**12 48 40.0**	**-0.1**
AAGR				IAML		12 49 54.8	
	comp=Z,26nm,2.2s						
CPUP	**Villa Florida**	**9.37**	**78**	P	Pn	12 49 53.5	+7.6
	comp=Z,1.1nm,0.4s,baz=253,slow=12,SNR=5.2						
QSPA	**South Pole Qui**	**61.48**	**180**	P	**P**	**12 57 38.0**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=173,slow=1.2,SNR=6.0						
	comp=Z,1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.74**	**68**	P	**P**	**12 59 23.6**	**+1.1**
	comp=Z,66nm,0.3s,baz=277,slow=5.4,SNR=2.4						
WRA	**Warramunga Arr**	**127.19**	**206**	PKP	**PKiKP**	**13 06 23.3**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=163,slow=1.8,SNR=5.5						
MKAR	**Makanchi Array**	**150.36**	**44**	PKPbc	**PKiKP**	**13 07 09.0**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=323,slow=2.2,SNR=4.2						

*IDC **12** 13:00:13.8±0.9, 1°.69S×122°.82E, h0km, mb3.8/7, mbtmp3.8/9, ML3.6/2, Error ellipse: s-maj=36.3km s-min=17.2km az=69.0*
*DJA **12** 13:00:17.6±0.2, 2°S±2°×12°3E±°, h10km, M4.4/21, mB6.6/1, mb4.5/11, MLv4.4/21, Mw(mB)6.4/1*
ISC 12 13:00:19.6±0.7, **1°.93S**±0°.04×**122°.61E**±0°.05, **h35**km, **n25, σ1°63/31, mb3.8/7, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.40**	**316**	P	**Pn**	**13 00 41.7**	**-1.0**
KDI	**Kendari**	**2.01**	**180**	P	**Pn**	**13 00 51.6**	**+0.5**
KMSI	**Cibinong**	**2.84**	**29**	P	**Pn**	**13 01 04.3**	**+1.8**
KMSI				S	**Sn**	**13 01 39.5**	**+4.0**
PCI	**Palu**	**2.96**	**290**	P	**Pn**	**13 01 05.9**	**+1.8**
PCI				S	**Sn**	**13 01 39.8**	**+1.4**
SANI	**Sanana**	**3.38**	**92**	P	**Pn**	**13 01 08.5**	**-1.4**
SPSI	**Sidrap Palu**	**3.48**	**235**	P	**Pn**	**13 01 12.1**	**+0.7**
SPSI				S	**Sn**	**13 01 53.0**	**+1.6**
BNSI	**Bone**	**3.50**	**226**	P	**Pn**	**13 01 12.1**	**+0.4**
BNSI				S	**Sn**	**13 01 53.5**	**+1.6**
MPSI	**Mapaga**	**3.53**	**310**	P	**Pn**	**13 01 10.5**	**-1.5**
MPSI				S	**Sn**	**13 01 54.5**	**+2.0**
BBSI	**Bau Bau**	**3.53**	**181**	P	**Pn**	**13 01 13.4**	**+1.3**
BKSI	**Bulukumba**	**4.19**	**216**	P	**Pn**	**13 01 21.7**	**+0.7**
KAPI	**Kappang**	**4.19**	**223**	Pn	**Pn**	**13 01 21.9**	**+0.8**
	12nm,0.3s,baz=19,slow=3.0,SNR=39						
KAPI				Sn	**Sn**	**13 02 11.0**	**+2.3**
	20nm,0.3s,baz=45,slow=19,SNR=11						
	55nm,0.4s						
NLAI	**Namlea**	**4.67**	**106**	P	**Pn**	**13 01 29.1**	**+1.4**
BSSI	**Bau Bau, Buton**	**4.69**	**207**	P	**Pn**	**13 01 28.2**	**+0.2**
TNTI	**Ternate**	**5.46**	**61**	P	**Pn**	**13 01 39.7**	**+1.1**
	0.3nm56nm,0.8s						
EDFI	**Ende, Flores**	**6.84**	**188**	P	**Pn**	**13 01 56.9**	**-0.7**
	0.1nm11nm,0.7s						
FAKI	**Fak Fak**	**9.68**	**96**	P	**Pn**	**13 02 37.4**	**+0.9**
	15nm,0.9s						
DNP	**Denpasar**	**9.96**	**227**	P	**Pn**	**13 02 39.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**16.34**	**170**	Pn	**Pn**	**13 04 07.5**	**+1.0**
	0.1nm,0.3s,baz=12,slow=9.3,SNR=1.2						
	1.2nm,0.9s						
WRA	**Warramunga Arr**	**21.26**	**148**	P	**P**	**13 05 02.8**	**-0.2**
	3.8nm,0.8s,baz=333,slow=9.8,SNR=22						
	3.8nm,0.8s						
ASAR	**Alice Springs**	**24.22**	**154**	P	**P**	**13 05 34.2**	**+0.9**
	1.8nm,0.6s,baz=335,slow=9.4,SNR=38						
	1.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.87**	**312**	P	**P**	**13 06 32.9**	**-0.1**
	0.2nm,0.3s,baz=138,slow=7.1,SNR=9.0						
	0.2nm,0.3s						
MJAR	**Matsushiro Arr**	**40.94**	**19**	P	**P**	**13 07 55.0**	**-3.9**
	1.5nm,0.8s,baz=192,slow=9.5,SNR=4.4						
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**60.05**	**329**	P	**P**	**13 10 22.0**	**-1.2**
	0.5nm,0.6s,baz=116,slow=8.2,SNR=6.6						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**63.91**	**336**	P	**P**	**13 10 47.7**	**-1.2**
	1.1nm,0.9s,baz=145,slow=5.4,SNR=4.6						
	1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**64.44**	**331**	P	**P**	**13 10 50.8**	**-1.6**
	0.9nm,0.8s,baz=138,slow=6.1,SNR=8.4						
	0.9nm,0.8s						

*IDC **12** 13:03:45.1±1.2, 40°.62N×30°.44E, h0km, mb3.6/8, mbtmp3.8/12, ML4.0/3, Error ellipse: s-maj=25.6km s-min=9.7km az=34.0*
*MCSM **12** 13:03:47.7±0.4, 41°N±3°×3°1E±°, h4km±6km, mb4.5, mB4.4, MLv4.1, Mw(mB)3.6*
*AFAD **12** 13:03:47.7, 40°.69N×30°.61E, h7km±2km, MW3.8*
*ISK **12** 13:03:47.5, 40°.69N×30°.62E, h12km, ML4.0/36*
*NEIC **12** 13:03:48.1±1.8, 40°.71N±0°.04×30°.64E±0°.07, h10km±1km, mb4.4/21, Error ellipse: s-maj=8.8km s-min=7.2km az=245.0*
*THE **12** 13:03:49.5, 40°.79N×30°.55E, h5km±2km, ML3.5/5, Error ellipse: s-maj=4.0km s-min=1.3km az=62.0*
*CFUSG **12** 13:03:50.7, 41°.10N×30°.72E, h1km, mb3.5/6, North Turkey Magtype MSH 3.2 from 6 stations*
*NAO **12** 13:03:52.6, 41°.79N×33°.38E, h33km, mb3.6*
*ATH **12** 13:04:26.9, 40°.20N×26°.79E, h16km±3km, ML2.9/5, Manual Solution by A.Agalos First location: 2019/04/12 13:05:55, This location: 2019/04/12 13:31:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*
ISC 12 13:03:47.8±0.8, **40°.70N**±0°.02×**30°.64E**±0°.01, **h14**km±5km, **n209, σ1°24/249, mb4.2/17, 16C-17D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAHE	**Sakarya_HENDEK**	**0.22**	**46**	P	**Pg**	**13 03 53.0**	**+0.2**
SAUV	**Serdivan-Sakar**	**0.24**	**280**	Pg	**Pg**	**13 03 53.1**	**+0.1**
SAUV				Sg	**Sg**	**13 03 57.1**	**+0.5**
GULT	**Gulveren**	**0.28**	**200**	Pg	**Pb**	**13 03 54.2**	**-0.5**
GULT				Sg	**Sg**	**13 03 57.9**	**+0.1**
BTAS	**Taskesti**	**0.30**	**115**	P	**Pg**	**13 03 54.2**	**+0.2**
BTAS				S	**Sg**	**13 03 58.8**	**+0.4**
GEYV	**SAKARYA_Geyve**	**0.34**	**231**	P	**Pg**	**13 03 54.8**	**+0.1**
GEYV				S	**Sg**	**13 03 59.5**	**+0.1**
KAYN	**Sakarya, Kayna**	**0.35**	**320**	P	**Pg**	**13 03 55.2**	**+0.3**
KAYN				S	**Sg**	**13 04 00.1**	**+0.3**
SUSU	**Bolu-G¶ynk-**	**0.39**	**157**	P	**Pg**	**13 03 56.0**	**+0.4**
SUSU				S	**Sg**	**13 04 01.6**	**+0.6**
GPA	**Golpazari**	**0.48**	**212**	Pg	**Pg**	**13 03 57.0**	**-0.3**
GPA				Sg	**Sg**	**13 04 03.9**	**+0.2**
MDUB	**Mudurnu**	**0.48**	**118**	Pg	**Pb**	**13 03 57.9**	**-0.2**
MDUB				Sg	**Sb**	**13 04 04.8**	**-0.2**
MDUB	**Mudurnu**	**0.48**	**118**		**Pb**	**13 03 57.9**	**-0.2**
KAND	**Kocaeli-Kandir**	**0.52**	**319**	P	**Pg**	**13 03 58.2**	**+0.1**
KAND				S	**Sb**	**13 04 05.4**	**-0.7**
HISA	**Bilecik-Osmane**	**0.59**	**247**	P	**Pg**	**13 03 58.7**	**-0.8**
HISA				S	**Sg**	**13 04 07.6**	**+0.2**
SEMS	**Kocaeli-K¶rfe**	**0.71**	**284**	P	**Pg**	**13 04 01.2**	**-0.3**
SEMS				S	**Sb**	**13 04 11.2**	**-0.3**
OSMT	**Osmaniye**	**0.72**	**263**	Pg	**Pg**	**13 04 01.3**	**-0.6**
ADVT	**Abdulvahap**	**0.74**	**249**	Pg	**Pg**	**13 04 01.4**	**-0.7**
HRT	**Hereke**	**0.75**	**280**	Pg	**Pg**	**13 04 01.9**	**-0.5**
CAVI	**Cavuskoy**	**0.79**	**231**	Pg	**Pg**	**13 04 02.9**	**-0.1**
BOLU	**Bolu-Merkez-Mu**	**0.79**	**84**	P	**Pg**	**13 04 02.8**	**-0.4**
BOLU				S	**Sb**	**13 04 14.2**	**+0.2**
BILE	**Bilecik/Merkez**	**0.79**	**228**	P	**Pg**	**13 04 02.8**	**-0.4**
BILE				S	**Sb**	**13 04 14.6**	**+0.5**
BORA	**Eskisehir**	**0.83**	**190**		**Pg**	**13 04 03.9**	**0.0**
BORA	**Eskisehir**	**0.83**	**190**	P	**Pg**	**13 04 03.8**	**0.0**
YUVA	**Yuva-Kibriscik**	**0.85**	**111**	Pg	**Pb**	**13 04 04.8**	**+0.3**
AUBOZ	**BOZOYUK**	**0.91**	**211**	P	**Pb**	**13 04 05.1**	**-0.4**
AUBOZ				S	**Sb**	**13 04 18.0**	**+0.6**
KIBS	**BOLU**	**0.96**	**106**	P	**Pg**	**13 04 06.5**	**+0.1**
KIBS				S	**Sn**	**13 04 21.0**	**+0.4**
YLV	**Yalova**	**0.97**	**263**	Pg	**Pb**	**13 04 05.8**	**-0.7**
YLV	**Yalova**	**0.97**	**263**	P	**Pb**	**13 04 05.8**	**-0.7**
YLV				S	**Sn**	**13 04 20.7**	**-0.1**
AUMIH	**MIHALICIK**	**1.05**	**142**	P	**Pb**	**13 04 07.8**	**-0.1**
AUMIH				S	**Sn**	**13 04 22.5**	**-0.3**
BCAM	**Yenicaga**	**1.09**	**83**	P	**Pb**	**13 04 07.8**	**-0.7**
BCAM				S	**Sn**	**13 04 23.5**	**-0.1**
KURT	**Yalova, Merkez**	**1.09**	**265**	P	**Pb**	**13 04 07.8**	**-0.7**
KURT				P	**Pn**	**13 04 08.0**	**-0.7**
DOMA	**Ktahya-Doman**	**1.16**	**219**	P	**Pb**	**13 04 09.3**	**-0.4**
DOMA				S	**Sn**	**13 04 25.6**	**+0.1**
SGAZ	**Eskisehir, Sey**	**1.18**	**173**	P	**Pg**	**13 04 10.3**	**-0.2**
SGAZ				S	**Sg**	**13 04 27.6**	**+1.8**
IGD	**Bursa**	**1.18**	**249**	P	**Pn**	**13 04 09.1**	**-0.8**
KAVV	**Kandilli-Istan**	**1.25**	**287**	Pn	**Pn**	**13 04 10.7**	**-0.2**
ISK	**Istanbul-Kandi**	**1.25**	**288**	P	**Pn**	**13 04 10.9**	**0.0**
ISK				S	**Sn**	**13 04 27.4**	**-0.2**
	4μm,0.6s						
ISK	**Istanbul-Kandi**	**1.25**	**288**	Pn	**Pn**	**13 04 10.8**	**-0.1**
ULDT	**Uludag**	**1.28**	**245**	P	**Pn**	**13 04 11.3**	**0.0**
ANDZ	**Kutahya, Merke**	**1.32**	**206**	P	**Pb**	**13 04 12.2**	**-0.1**
KLYT	**Kilyos**	**1.33**	**295**	Pn	**Pb**	**13 04 12.4**	**-0.1**
KLYT	**Kilyos**	**1.33**	**295**	S	**Sn**	**13 04 29.4**	**-0.1**
ARMT	**Armutlu**	**1.36**	**265**	Pn	**Pn**	**13 04 12.4**	**0.0**
CIFT	**Cifteler, Eski**	**1.37**	**166**	Pn	**Pb**	**13 04 13.7**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.38**	**257**	Pn	**Pb**	**13 04 13.1**	**-0.2**
CMDR	**Camlidere-ANKA**	**1.41**	**98**	P	**Pb**	**13 04 14.4**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.42**	**151**	Pn	**Pb**	**13 04 14.1**	**0.0**
DERS	**Karabk-Eskip**	**1.46**	**83**	P	**Pb**	**13 04 14.7**	**0.0**
ORLT	**Orhaneli**	**1.48**	**245**	Pn	**Pn**	**13 04 14.4**	**+0.3**
AVCI	**Avcilar-stanb**	**1.49**	**282**	Pn	**Pn**	**13 04 14.4**	**+0.3**
BGKT	**Bogazkoy**	**1.50**	**289**	Pn	**Pb**	**13 04 14.8**	**-0.5**
TVSB	**Tavsanli**	**1.54**	**216**	Pn	**Pb**	**13 04 15.6**	**-0.6**
SAFT	**Safranbolu**	**1.64**	**70**	Pn	**Pb**	**13 04 17.4**	**-0.4**
CTKS	**Kestanelik-??a**	**1.70**	**289**	Pn	**Pn**	**13 04 17.8**	**+0.8**
KCTX	**Karacabey (Bur**	**1.79**	**257**	Pn	**Pn**	**13 04 18.9**	**+0.5**
LOD	**Lodumlu**	**1.81**	**116**	Pn	**Pn**	**13 04 19.5**	**+0.8**
GDZ	**Gediz**	**1.84**	**209**	P	**Pg**	**13 04 22.2**	**-0.8**
ANTO	**Ankara**	**1.84**	**116**	Pn	**Pn**	**13 04 20.2**	**+1.1**
ANTO	**Ankara**	**1.84**	**116**	Pn	**Pb**	**13 04 21.0**	**-0.3**
ANTO	**Ankara**	**1.84**	**116**	⇑P	**Pg**	**13 04 23.3**	**+0.2**
ANTO	**Ankara**	**1.84**	**116**	Pn	**Pb**	**13 04 22.2**	**+0.9**
DST	**Dursunbey**	**1.90**	**235**	Pn	**Pn**	**13 04 20.3**	**+0.5**
SLVT	**Silivri**	**1.92**	**287**	Pn	**Pn**	**13 04 20.7**	**+0.7**
CTYL	**Yalikoy Yolu**	**1.94**	**294**	Pn	**Pn**	**13 04 21.0**	**+0.7**
CTYL	**Yalikoy Yolu**	**1.94**	**294**	Pn	**Pb**	**13 04 21.6**	**-1.3**
KURC	**Kurucasile-Bar**	**1.96**	**53**	Pn	**Pb**	**13 04 21.9**	**-1.3**
SUSR	**Susurluk-Balik**	**2.09**	**250**	Pn	**Pn**	**13 04 23.2**	**+0.8**
CIDE	**Kastamonu/Cide**	**2.10**	**55**	⇓P	**Pn**	**13 04 24.1**	**+1.6**
EDC	**Edincik**	**2.15**	**262**	Pn	**Pn**	**13 04 24.1**	**+0.9**
AFSR	**Afar-Bala (An**	**2.24**	**123**	Pn	**Pn**	**13 04 25.8**	**+1.2**
CANT	**Cankiri**	**2.27**	**91**	Pn	**Pn**	**13 04 26.2**	**+1.3**
ILGA	**Ilgaz**	**2.36**	**80**		**Pn**	**13 04 27.5**	**+1.2**
BR106	**Keskin Array S**	**2.47**	**112**	Pb	**Pg**	**13 04 34.4**	**-0.8**
BR106				Pn	**Pn**	**13 04 29.2**	**+1.4**
BR105	**Keskin Array S**	**2.48**	**112**	Pb	**Pg**	**13 04 34.4**	**-0.9**
BR105				Pn	**Pn**	**13 04 29.5**	**+1.6**
BR131	**Keskin Array S**	**2.49**	**112**	Pn	**Pn**	**13 04 29.4**	**+1.3**
BR131	**Keskin Array S**	**2.49**	**112**		**Pn**	**13 04 29.0**	**+1.0**
BRTR	**Keskin Array B**	**2.49**	**112**		**Pn**	**13 04 29.1**	**+1.1**
BRTR	**Keskin Array B**	**2.49**	**112**	Pn	**Pn**	**13 04 29.3**	**+1.2**
	7.2nm,0.3s,baz=284,slow=13,SNR=41						
BRTR				Sn	**Sn**	**13 04 59.0**	**+0.7**
	8.4nm,0.3s,baz=56,slow=30,SNR=12						
BRTR				Lg	Lg	13 05 08.8	
	13nm,0.3s,baz=289,slow=25,SNR=8.8						
	8.9nm,0.5s						
BR104	**Keskin Array S**	**2.50**	**112**	Pb	**Pb**	**13 04 33.6**	**+1.0**
BR104				Pn	**Pn**	**13 04 29.7**	**+1.5**
KAMT	**Kaman**	**2.71**	**118**	Pn	**Pn**	**13 04 32.6**	**+1.6**
MANT	**Manisa**	**2.73**	**217**		**Pn**	**13 04 31.7**	**+0.4**
BZK	**Bozkurt**	**2.83**	**62**	Pn	**Pn**	**13 04 34.4**	**+1.9**
BZK	**Bozkurt**	**2.83**	**62**		**Pn**	**13 04 32.9**	**+0.3**
BZK	**Bozkurt**	**2.83**	**62**	⇑P	**Pn**	**13 04 33.5**	**+1.0**
ISP	**Isparta**	**2.87**	**182**	Pn	**Pn**	**13 04 35.1**	**+1.8**
KIRS	**Kirsehir-Merke**	**2.96**	**121**	⇓P	**Pb**	**13 04 39.3**	**-1.2**
EDRB	**Edirne**	**3.15**	**293**	P	**Pn**	**13 04 37.5**	**+0.5**
EDRB				S	**Sn**	**13 05 14.3**	**-0.1**
DKL	**Dikili**	**3.30**	**242**	P	**Pb**	**13 04 48.0**	**+1.9**
EZN	**Ezine**	**3.42**	**257**	Pn	**Pn**	**13 04 41.6**	**+1.0**
TRGA	**Dikaia**	**3.43**	**288**	P	**Pg**	**13 04 54.0**	**+0.5**
ALN	**Alexandroupoli**	**3.49**	**275**	P	**Pn**	**13 04 42.0**	**+0.3**
ALN				S	**Sn**	**13 05 23.1**	**+0.3**
	152nm,1.0s						
ALN	**Alexandroupoli**	**3.49**	**275**	Pn	**Pn**	**13 04 42.0**	**+0.3**
MFTR	**Murfatlar**	**3.85**	**335**	⇓P	**Pn**	**13 04 48.3**	**+1.8**
RDO	**Rodhopi**	**3.89**	**278**	P	**Pn**	**13 04 48.2**	**+1.1**
RDO				S	**Sn**	**13 05 33.4**	**+0.8**
	128nm,0.5s						
RDO	**Rodhopi**	**3.89**	**278**		**Pn**	**13 04 48.2**	**+1.1**
SMTH	**Samothraki Isl**	**3.90**	**268**	P	**Pn**	**13 04 47.7**	**+0.4**
SMTH				S	**Sn**	**13 05 33.5**	**+0.7**
	128nm,0.6s						
SMTH	**Samothraki Isl**	**3.90**	**268**	P	**Pn**	**13 04 46.0**	**-1.3**
SMTH				S	**Pb**	**13 04 58.8**	**+2.5**
SIGR	**SIGRI**	**3.97**	**250**

COVR	Voineasa-Covas	6.08 329	⇑P		Pn	13 05 19.0	+1.8
MTUR	Matau	6.10 320	⇓P		Pn	13 05 20.2	+2.6
CSS	Mathiatis	6.11 159	Pn		Pn	13 05 17.6	0.0
LIT	Litokhoron	6.25 267	Pn		Pn	13 05 20.6	+1.0
VOIR		6.26 321	⇑P		Pn	13 05 22.1	+2.4
ARR	Arges	6.41 319	⇓P		Pn	13 05 23.8	+1.9
ONER	Baraj Valea Uz	6.42 333	⇑P		Pn	13 05 23.0	+1.1
OZUR		6.45 328	⇓P		Pn	13 05 24.4	+2.1
TESR	Tescani	6.49 335	⇓P		Pn	13 05 23.5	+0.6
TESR	Tescani	6.49 335	P		Pn	13 05 22.3	-0.6
	comp=E,0.1nmcomp=E,11nm,0.5s						
AGG	Agios Georgios	6.61 258	Pn		Pn	13 05 25.1	+0.6
GZR	Gura Zlata	7.43 312	⇑P		Pn	13 05 38.5	+2.7
SORM	Soroca	7.61 348	⇓P		Pn	13 05 37.8	-0.4
SORM	Soroca	7.61 348	P		Pn	13 05 37.2	-1.0
BURAR	Bucovina Array	7.94 332	Pn		Pn	13 05 41.0	-1.8
BURAR	Bucovina Array	7.94 332	⇓P		Pn	13 05 44.0	+1.2
BUR08	Bucovina Ar. S	7.97 332			Pn	13 05 43.8	+0.6
MARR	Marisel-Cluj	8.09 320	⇑P		Pn	13 05 47.0	+2.1
TIR	Tirane	8.17 278	Pn		Pn	13 05 45.5	-0.5
BZS	Buzias	8.22 310	⇑P		Pn	13 05 49.7	+3.1
NDNU	Novodnistrovsk	8.23 345	P		Pn	13 05 44.4	-2.3
KSV	Kosov	8.59 334	Pn		Pn	13 05 51.1	-0.6
AK06	Malin Array Si	9.94 355	P		Pn	13 06 08.5	-1.6
AK10	Malin Array Si	9.95 355	P		Pn	13 06 08.2	-2.0
AK09	Malin Array Si	9.96 355	P		Pn	13 06 08.8	-1.6
AK05	Malin Array Si	9.97 355	P		Pn	13 06 09.1	-1.5
AK13	Malin Array Si	9.98 354	P		Pn	13 06 09.2	-1.4
AK08	Malin Array Si	9.98 355	P		Pn	13 06 09.6	-1.1
AK14	Malin Array Si	9.99 354	P		Pn	13 06 09.6	-1.2
AK12	Malin Array Si	10.00 355	P		Pn	13 06 09.5	-1.4
AK02	Malin Array Si	10.01 355	P		Pn	13 06 09.6	-1.5
AK16	Malin Array Si	10.03 354	P		Pn	13 06 09.9	-1.4
AK11	Malin Array Si	10.04 355	P		Pn	13 06 09.9	-1.5
AK01	Malin Array Si	10.04 355	P		Pn	13 06 10.1	-1.4
KIEV	Kiev	10.05 355			Pn	13 06 10.6	-1.0
AK17	Malin Array Si	10.05 354	P		Pn	13 06 10.1	-1.5
AKASG	Malin Array Be	10.05 355			Pn	13 06 08.9	-2.8
AKASG	Malin Array Be	10.05 355	Pn		Pn	13 06 10.1	-1.6
	comp=E,5.5nm,0.3s,baz=166,slow=14,SNR=26						
AKASG			Sn		Sn	13 08 08.2	+4.1
	comp=E,3.6nm,0.3s,baz=184,slow=26,SNR=6.4						
	comp=E,2.7nm,0.4s						
AKBB	Malin Array Si	10.05 355			Pn	13 06 10.6	-1.1
AKBB	Malin Array Si	10.05 355	P		Pn	13 06 10.2	-1.4
MI28	Mi28,Pidlybu	10.44 350	P		Pn	13 06 14.7	-2.3
RNPP5	Staryi Chortor	11.04 344	P		Pn	13 06 23.1	-2.0
VAE	Valguarnera	13.01 261	Pn		Pn	13 06 47.7	-4.5
	comp=E,15nm,0.5s,baz=107,slow=7.6,SNR=3.8						
FINES	FINESS Array B	20.96 354	P		P	13 08 30.1	0.0
FINES	FINESS Array B	20.96 354	P		P	13 08 29.5	-0.6
	comp=E,2.2nm,0.7s,baz=152,slow=8.6,SNR=8.2						
	comp=E,2.2nm,0.7s						
FIA1	FINESS Array S	20.96 354	P		P	13 08 29.1	-1.0
FIA1			IAmb		IAmb	13 08 36.2	
	comp=Z,25nm,1.4s						
HFS	Hagfors	22.13 337	P		P	13 08 43.0	+0.4
	comp=Z,1.8nm,0.7s,baz=144,slow=13,SNR=5.2						
	comp=Z,1.8nm,0.7s						
ABKAR	Akbulak array	22.31 58	P		P	13 08 45.0	+0.3
NC602	NORSAR Array S	23.26 336	P		P	13 08 54.0	-0.4
NC602			IAmb		IAmb	13 08 59.0	
	comp=Z,12nm,1.4s						
NC405	NORSAR Array S	23.50 337	P		P	13 08 57.1	+0.2
NC405			IAmb		IAmb	13 09 11.3	
	comp=Z,18nm,1.5s						
NB2	NORSAR Subarra	23.59 336	P		P	13 08 58.5	+0.6
	comp=Z,1.6nm,0.6s,baz=135,slow=10						
NOA	NORSAR Array B	23.59 336	P		P	13 08 57.7	-0.2
	comp=Z,1.4nm,0.8s,baz=137,slow=9.1,SNR=16						
	comp=Z,1.4nm,0.8s						
NBO00	NORSAR Array S	23.72 336	P		P	13 08 59.0	-0.2
ESDC	Sonseca Array	26.36 279	P		P	13 09 22.6	-0.8
	comp=Z,0.5nm,0.7s,baz=75,slow=8.2,SNR=2.2						
	comp=Z,0.5nm,0.7s						
BOOM	Boomskoye usch	33.62 72	P		P	13 10 27.4	-0.5
KURBB	Kurchatov Arra	34.36 57	P		P	13 10 34.8	+0.8
	comp=Z,0.6nm,0.5s,baz=276,slow=8.6,SNR=6.6						
	comp=Z,0.6nm,0.5s						
TARG	Taragay, Kyrgy	35.15 72	P		P	13 10 40.1	-1.3
MK31	Makanchi Array	37.24 63	P		P	13 11 00.4	+1.6
MKAR	Makanchi Array	37.24 63	P		P	13 11 00.5	+1.7
MKAR	Makanchi Array	37.24 63	P		P	13 11 00.3	+1.5
	comp=Z,2.7nm,0.7s,baz=275,slow=8.2,SNR=20						
	comp=Z,2.7nm,0.7s						
SONM	Songino Array	52.70 55	P		P	13 13 03.3	+1.5
	comp=Z,0.4nm,0.4s,baz=301,slow=8.9,SNR=2.6						
	comp=Z,0.4nm,0.4s						
C36M	Paulatuk	68.69 351	P		P	13 14 51.3	+1.0
C36M			IAmb		IAmb	13 15 03.7	
	comp=Z,2.2nm,1.1s						
B20K	Meade River	69.46 3	P		P	13 14 57.3	+2.3
B21K	Ikpikpuk River	69.93 2	P		P	13 14 59.6	+1.7
B21K			IAmb		IAmb	13 15 08.9	
	comp=Z,6.0nm,1.4s						
C18K	Utukok River	70.62 5	P		P	13 15 04.1	+1.9
C18K			IAmb		IAmb	13 15 40.8	
	comp=Z,5.5nm,1.4s						
E29M	Blow River	70.89 356	P		P	13 15 05.5	+1.7
D19K	Kuna River	70.93 3	P		P	13 15 05.9	+1.8
F30M	Barrier River	71.53 355	P		P	13 15 08.9	+1.2
F30M			IAmb		IAmb	13 15 43.7	
	comp=Z,5.5nm,1.4s						
F31M	Tsiigehtchic	71.53 354	P		P	13 15 08.7	+1.0
F31M			IAmb		IAmb	13 15 47.3	
	comp=Z,4.6nm,1.4s						
E19K	Redstone River	72.00 3	P		P	13 15 12.3	+1.7
E19K			IAmb		IAmb	13 15 17.6	
	comp=Z,1.9nm,0.9s						
G31M	Satah River	72.09 354	P		P	13 15 11.6	+0.5
G31M			IAmb		IAmb	13 15 23.0	
	comp=Z,3.5nm,1.2s						
F21K	Alatna River	72.36 2	P		P	13 15 14.2	+1.5
F21K			IAmb		IAmb	13 15 15.4	
	comp=Z,7.6nm,1.4s						
H29M	Whitestone	73.08 355	P		P	13 15 18.5	+1.5
YKA	Yellowknife Ar	73.43 344	P		P	13 15 18.5	-0.5
	comp=Z,0.3nm,0.8s,baz=26,slow=5.6,SNR=4.4						
	comp=Z,0.3nm,0.8s						
I30M	Mount Dempster	73.93 354	P		P	13 15 23.4	+1.2
ILAR	Eielson Array	74.85 359	P		P	13 15 27.5	+0.1
PPLA	Purkeypile	76.73 1	P		P	13 15 39.9	+1.6

DJA 12 13:06:15.7±0.2,**2°S**±2°×**12°3E**±°,**h10**km,**M3.9**/15,**mb4.1**/5,
MLv3.8/15,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.93	11	P	Pg	13 06 32.9	-0.7
LUWI				S	Sb	13 06 46.0	-0.3
APSI	Ampana	1.41	318	P	Pn	13 06 40.2	-1.3
KDI	Kendari	1.98	179	P	Pn	13 06 48.9	-0.5
PCI	Palu	2.95	291	P	Pn	13 07 03.3	+0.6
SANI	Sanana	3.39	92	P	Pn	13 07 07.7	-1.0
SPSI	Sidrap Palu	3.46	235	P	Pn	13 07 10.0	+0.4
BNSI	Bone	3.48	226	P	Pn	13 07 09.9	0.0
BBSI	Bau Bau	3.50	180	P	Pn	13 07 10.0	-0.3
MPSI	Mapaga	3.54	310	P	Pn	13 07 11.3	+0.6
BKSI	Bulukumba	4.16	216	P	Pn	13 07 19.3	+0.1
BSSI	Bau Bau, Buton	4.66	207	P	Pn	13 07 26.8	+0.6
EDFI	Ende, Flores	6.81	188	P	Pn	13 07 55.6	-0.2

*IDC **12** 13:10:06.0±0.8, 1°.62S×122°.77E, h0km, mb4.0/9,*
mbtmp4.0/11, ML3.9/2, MS4.8/2, Error ellipse:
s-maj=43.7km s-min=14.4km az=65.0
*NEIC **12** 13:10:09.0±1.6, 1°.76S±0°.03×122°.57E±0°.09, h10km±2km,*
mb4.3/12, Error ellipse: s-maj=14.7km s-min=3.7km
az=101.0
*DJA **12** 13:10:09.2±0.6, 2°S±2°×12°3E±°, h11km±4km, M4.5/21,*
mb4.5/8, MLv4.5/21
ISC 12 13:10:11.6±0.6,**1°.78S**±0°.04×**122°.62E**±0°.06,**h35**km,**n51,**
σ1°11/54,**mb4.2**/14,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.75	12		Pn	13 10 23.8	-1.9
LUWI	Luwuk	0.75	12	P	Pn	13 10 24.0	-1.7
LUWI				S	Sn	13 10 37.8	+1.9
APSI	Ampana	1.30	312	P	Pn	13 10 32.5	-0.7
KDI	Kendari	2.16	180	P	Pn	13 10 43.8	-1.3
KMSI	Cibinong	2.71	30	P	Pn	13 10 53.0	+0.4
KMSI				S	Sn	13 11 28.1	+3.9
PCI	Palu	2.91	287	P	Pn	13 10 55.6	+0.1
SANI	Sanana	3.38	95	P	Pn	13 11 00.3	-1.6
TOLI2	Tolitoli	3.41	327		Pn	13 11 03.3	+1.0
MPSI	Mapaga	3.44	308	P	Pn	13 11 02.0	-0.7
SPSI	Sidrap Palu	3.58	233	P	Pn	13 11 05.1	+0.5
SPSI				S	Sn	13 11 47.4	+1.7
BNSI	Bone	3.61	224	P	Pn	13 11 05.1	0.0
BBSI	Bau Bau	3.68	181	P	Pn	13 11 05.7	-0.3
KAPI	Kappang	4.30	222		Pn	13 11 14.8	+0.3
KAPI	Kappang	4.30	222	Pn	Pn	13 11 15.1	+0.6
	22nm,0.3s,baz=356,slow=4.7,SNR=41						
KAPI				Sn	Sn	13 12 03.7	+0.2
	23nm,0.3s,baz=155,slow=21,SNR=13						
	54nm,0.3s						
BKSI	Bulukumba	4.31	215	P	Pn	13 11 14.4	-0.3
NLAI	Namlea	4.71	108	P	Pn	13 11 21.0	+0.9
BSSI	Bau Bau, Buton	4.82	206	P	Pn	13 11 21.7	-0.1
TNTI	Ternate	5.38	62	Pn	Pn	13 11 29.7	+0.3
TNTI	Ternate	5.38	62	P	Pn	13 11 30.4	+1.0
	0.2nm40nm,0.6s						
MMRI	Maumere	6.82	183		Pn	13 11 49.1	-0.1
MMRI	Maumere	6.82	183	P	Pn	13 11 48.1	-1.1
	0.2nm30nm,0.9s						
EDFI	Ende, Flores	6.98	188	P	Pn	13 11 50.6	-0.9
	0.1nm28nm,0.8s						
MYLDM	Lahad Datu	8.05	329	Pn	Pn	13 12 03.5	-2.5
SOEI	Soe	8.09	168		Pn	13 12 06.8	+0.1
FAKI	Fak Fak	9.69	97	P	Pn	13 12 28.4	-0.2
MTN	Manton Dam	13.85	143	Pn	Pn	13 13 24.9	-0.7
KNRA	Kununurra	15.08	157	Pn	Pn	13 13 41.7	-0.4
KNRA				IAmb	IAmb	13 13 46.3	
	comp=Z,8.4nm,1.2s						
FITZ	Fitzroy Crossi	16.48	170	Pn	Pn	13 14 01.0	+0.8
FITZ	Fitzroy Crossi	16.48	170	Pn	P	13 14 02.2	-0.4
	comp=Z,0.1nm,0.3s,baz=340,slow=5.0,SNR=5.0						
	comp=Z,2.3nm,0.9s						
WB0	Warramunga Arr	21.26	148		P	13 14 55.9	+0.8
WB0				IAmb	IAmb	13 15 00.7	
	comp=Z,15nm,0.8s						
WRAB	Tennant Creek	21.38	148	P	P	13 14 56.6	+0.4
WRAB				IAmb	IAmb	13 15 02.0	
	comp=Z,13nm,0.8s						
WRA	Warramunga Arr	21.38	148		P	13 14 57.2	+1.0
WRA	Warramunga Arr	21.38	148	P	P	13 14 57.6	+1.3
	comp=Z,12nm,0.9s,baz=333,slow=9.8,SNR=42						
	comp=Z,12nm,0.9s						
WB2	Warramunga Arr	21.39	148		P	13 14 56.8	+0.5
WR8	Warramunga Arr	21.48	148	P	P	13 14 59.0	+1.7
WR0	Warramunga Arr	21.50	148	P	P	13 14 57.2	-0.3
WR0				IAmb	IAmb	13 15 03.0	
	comp=Z,14nm,0.8s						
AS31	Alice Springs	24.35	154		P	13 15 25.5	-1.0
ASAR	Alice Springs	24.35	154	P	P	13 15 26.7	+0.3
ASAR	Alice Springs	24.35	154	P	P	13 15 25.9	-0.5
	comp=Z,5.5nm,0.6s,baz=334,slow=8.8,SNR=70						
	comp=Z,5.5nm,0.6s						
CMAR	Chiang Mai Arr	30.78	312	P	P	13 16 25.0	+0.9
	comp=Z,2.6nm,0.7s,baz=138,slow=7.2,SNR=27						
	comp=Z,2.6nm,0.7s						
JCJ	Chichijima	34.35	32	LR	LR	13 31 32.5	
	comp=Z,442nm,18.9s,baz=298,slow=38						
STKA	Stephens Creek	34.88	151		P	13 17 00.1	+0.3
STKA	Stephens Creek	34.88	151	P	P	13 17 00.0	+0.3
	comp=Z,7.6nm,0.9s,baz=322,slow=8.2,SNR=12						
	comp=Z,7.6nm,0.9s						
SONM	Songino Array	51.41	346	P	P	13 19 12.7	-0.5
	comp=Z,0.3nm,0.4s,baz=147,slow=8.2,SNR=2.2						
	comp=Z,0.3nm,0.4s						
MKAR	Makanchi Array	59.93	329	P	P	13 20 13.6	-0.7
	comp=Z,0.8nm,0.7s,baz=127,slow=8.9,SNR=6.5						
MKAR				PcP	PcP	13 20 59.9	-0.4
	comp=Z,0.6nm,0.6s,baz=132,slow=5.1,SNR=4.8						
	comp=Z,0.8nm,0.7s						
ZAA0	Zalesovo Array	63.77	336	P	P	13 20 39.0	-0.9
ZAA0				IAmb	IAmb	13 20 50.5	
	comp=Z,1.4nm,0.8s						
ZALV	Zalesovo Beam	63.77	336	P	P	13 20 38.0	-1.9
	comp=Z,0.4nm,0.4s,baz=140,slow=4.7,SNR=2.0						
	comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	64.31	331	P	P	13 20 42.3	-1.2
	comp=Z,0.7nm,0.8s,baz=137,slow=6.1,SNR=8.0						
	comp=Z,0.7nm,0.8s						
KURK	Kurchatov	64.33	331	P	P	13 20 43.5	-0.1
KURK				IAmb	IAmb	13 20 44.2	
	comp=Z,2.1nm,0.8s						
VNDA	Vanda	78.55	172	P	P	13 22 09.0	+0.1
	comp=Z,0.8nm,0.8s,baz=284,slow=7.5,SNR=5.1						
	comp=Z,0.8nm,0.8s						
PPT	Papeete	87.38	107	LR	LR	14 00 10.3	
	comp=Z,1μm,20.8s,baz=61,slow=34						

DJA 12 13:20:25.2±0.3,**2°S**±3°×**12°3E**±°,**h10**km,**M3.7**/12,**mb3.8**/3,
MLv3.6/12,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.89	15	P	Pg	13 20 41.3	-1.1
APSI	Ampana	1.33	318	P	Pn	13 20 48.5	-1.4
KDI	Kendari	2.04	178	P	Pn	13 21 00.5	+0.9
PCI	Palu	2.88	290	P	Pn	13 21 12.0	+0.8
SPSI	Sidrap Palu	3.44	234	P	Pn	13 21 19.2	+0.3
MPSI	Mapaga	3.46	310	P	Pn	13 21 21.1	+1.9
BNSI	Bone	3.47	224	P	Pn	13 21 19.1	-0.2
BSSI	Bau Bau, Buton	4.67	206	P	Pn	13 21 34.7	-1.2
TNTI	Ternate	5.51	61	P	Pn	13 21 47.3	-0.1
	0.1nm19nm,1.0s						
EDFI	Ende, Flores	6.85	187	P	Pn	13 22 05.5	-0.4

*IDC **12** 13:23:37.7±0.6, 1°.74S×122°.79E, h0km, mb4.0/11,*
mbtmp4.0/13, ML3.8/2, Error ellipse: s-maj=42.0km
s-min=13.2km az=66.0
*NEIC **12** 13:23:40.6±1.7, 1°.83S±0°.04×122°.64E±0°.07, h10km±1km,*
mb4.3/14, Error ellipse: s-maj=11.7km s-min=5.6km
az=248.0
*DJA **12** 13:23:41.4±0.2, 2°S±2°×12°3E±°, h10km, M4.5/20, mb4.5/7,*
MLv4.5/20
ISC 12 13:23:43.9±0.8,**1°.89S**±0°.05×**122°.61E**±0°.06,**h37**km±2km,
n55,σ1°07/62,**mb4.2**/19,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.86	11		Pn	13 23 58.3	-1.2
APSI	Ampana	1.37	315	P	Pn	13 24 05.3	-1.2
KDI	Kendari	2.05	180	P	Pn	13 24 14.9	-1.0
KMSI	Cibinong	2.81	29	P	Pn	13 24 27.7	+1.4
PCI	Palu	2.94	289	P	Pn	13 24 29.0	+0.8
SANI	Sanana	3.38	93	P	Pn	13 24 32.6	-1.5
TOLI2	Tolitoli	3.50	328		Pn	13 24 36.3	+0.5
MPSI	Mapaga	3.50	309	P	Pn	13 24 34.5	-1.4
SPSI	Sidrap Palu	3.51	234	P	Pn	13 24 35.8	-0.1
SPSI				S	Sn	13 25 16.9	+0.7
BNSI	Bone	3.53	225	P	Pn	13 24 34.8	-1.4
BBSI	Bau Bau	3.57	181	P	Pn	13 24 36.3	-0.5
KAPI	Kappang	4.22	223		Pn	13 24 46.2	+0.6
KAPI	Kappang	4.22	223	Pn	Pn	13 24 45.5	-0.2
	8.2nm,0.3s,baz=330,slow=2.2,SNR=15						
KAPI				Sn	Sn	13 25 31.9	-1.7
	19nm,0.3s,baz=265,slow=23,SNR=16						
	28nm,0.3s						
BKSI	Bulukumba	4.22	216	P	Pn	13 24 45.4	-0.3
NLAI	Namlea	4.68	107	P	Pn	13 24 53.4	+1.4
BSSI	Bau Bau, Buton	4.72	207	P	Pn	13 24 51.0	-1.6
TNTI	Ternate	5.44	61		Pn	13 25 02.6	+0.1
TNTI	Ternate	5.44	61	P	Pn	13 25 03.8	+1.3
	0.3nm46nm,0.8s						
BKB	Balikpapan	5.75	276	Pn	Pn	13 25 07.2	+0.4
MMRI	Maumere	6.71	183	Pn	Pn	13 25 19.7	-0.2
EDFI	Ende, Flores	6.87	188	P	Pn	13 25 20.9	-1.4
SOEI	Soe	7.98	168	Pn	Pn	13 25 37.6	+0.1
FAKI	Fak Fak	9.68	96	P	Pn	13 26 01.0	+0.3
FITZ	Fitzroy Crossi	16.38	170	Pn	Pn	13 27 31.8	+0.7
FITZ	Fitzroy Crossi	16.38	170	Pn	Pn	13 27 31.9	+0.7
	0.2nm,0.3s,baz=346,slow=8.0,SNR=6.2						
	4.2nm,1.0s						
WB0	Warramunga Arr	21.17	148	P	P	13 28 25.8	-0.4
WB0				IAmb	IAmb	13 28 30.0	
	comp=Z,13nm,0.8s						
WRAB	Tennant Creek	21.29	148	P	P	13 28 28.2	+0.7
WRAB				IAmb	IAmb	13 28 30.8	
	comp=Z,9.5nm,0.9s						
WRA	Warramunga Arr	21.29	148	P	P	13 28 27.4	0.0
WRA	Warramunga Arr	21.29	148	P	P	13 28 26.6	-0.8
	comp=Z,7.7nm,0.9s,baz=330,slow=9.8,SNR=26						
	comp=Z,7.7nm,0.9s						
WR8	Warramunga Arr	21.38	148	P	P	13 28 28.3	-0.1
WR8				IAmb	IAmb	13 28 31.6	
	comp=Z,10.0nm,0.8s						
WR0	Warramunga Arr	21.41	148	P	P	13 28 28.2	-0.5
WR0				IAmb	IAmb	13 28 31.8	
	comp=Z,8.9nm,0.8s						
RPSI	Rantau Prapat	24.12	281	P	P	13 28 57.1	+0.6
RPSI				IAmb	IAmb	13 28 59.3	
	comp=Z,19nm,1.1s						
AS31	Alice Springs	24.25	154	P	P	13 28 58.0	+0.3
ASAR	Alice Springs	24.25	154	P	P	13 28 57.1	-0.6
ASAR	Alice Springs	24.25	154	P	P	13 28 57.8	+0.1
	comp=Z,2.6nm,0.6s,baz=336,slow=10,SNR=62						
ASAR				PcP	PcP	13 32 36.6	-0.9
	comp=Z,0.5nm,0.6s,baz=341,slow=2.0,SNR=8.9						
	comp=Z,2.6nm,0.6s						
CMAR	Chiang Mai Arr	30.85 312	P		P	13 29 57.9	+1.1
	comp=Z,2.0nm,0.8s,baz=138,slow=7.2,SNR=22						
	comp=Z,2.0nm,0.8s						
BBOO	Buckleboo	33.25 159	P		P	13 30 16.8	-0.9
STKA	Stephens Creek	34.78 151	P		P	13 30 31.0	-0.1
	comp=Z,3.4nm,0.9s,baz=336,slow=8.3,SNR=5.5						
	comp=Z,3.4nm,0.9s						
TOO	Toolangi	41.27 152	P		P	13 31 26.9	+1.2
GTA	Gaotai	46.13 335	eP		P	13 32 07.4	+2.5
GTA			PcP		PcP	13 33 42.5	+1.9
GTA			pmax		pmax		
	comp=Z,5.0nm,1.0s						
SONM	Songino Array	51.51 346	P		P	13 32 45.3	-0.8
	comp=Z,0.5nm,0.4s,baz=167,slow=8.9,SNR=4.5						
SONM			PcP		PcP	13 33 59.1	-0.8
	comp=Z,1.2nm,0.7s,baz=159,slow=3.5,SNR=4.3						
	comp=Z,0.5nm,0.4s						
MK31	Makanchi Array	60.02 329	P		P	13 33 46.1	-0.9
MK31				IAmb	IAmb	13 33 48.4	
	comp=Z,1.3nm,0.8s						
MKAR	Makanchi Array	60.02 329	P		P	13 33 46.2	-0.8
MKAR	Makanchi Array	60.02 329	P		P	13 33 45.6	-1.4
	comp=Z,1.6nm,0.8s,baz=119,slow=7.7,SNR=14						
MKAR			PcP		PcP	13 34 32.4	-0.4
	comp=Z,1.0nm,0.6s,baz=117,slow=5.0,SNR=8.1						
	comp=Z,1.6nm,0.8s						
ZAA0	Zalesovo Array	63.87 336	P		P	13 34 10.8	-1.9
ZAA0				IAmb	IAmb	13 34 12.5	
	comp=Z,2.2nm,0.9s						
ZALV	Zalesovo Beam	63.87 336	P		P	13 34 10.8	-1.9
ZALV	Zalesovo Beam	63.87 336	P		P	13 34 10.6	-2.1
	comp=Z,0.5nm,0.4s,baz=112,slow=6.6,SNR=6.8						
	comp=Z,0.5nm,0.4s						
KURBB	Kurchatov Arra	64.41 331	P		P	13 34 14.9	-1.4
	comp=Z,1.6nm,0.9s,baz=137,slow=6.0,SNR=15						
KURBB			PcP		PcP	13 34 49.9	-0.6
	comp=Z,0.4nm,0.6s,baz=130,slow=4.7,SNR=4.7						
	comp=Z,1.6nm,0.9s						
KURK	Kurchatov	64.42 331			P	13 34 15.6	-0.7
KKAR	Karatay Array	64.70 320	P		P	13 34 17.8	-0.6
BVAR	Borovoye Array	69.90 329	P		P	13 34 49.5	-1.6
	comp=Z,0.4nm,0.4s,baz=133,slow=10,SNR=2.8						
	comp=Z,0.4nm,0.4s						
VNDA	Vanda	78.44 172	P		P	13 35 40.9	+0.4
VNDA				IAmb	IAmb	13 35 50.6	
	comp=Z,5.8nm,1.4s						
VNDA	Vanda	78.44 172	P		P	13 35 40.4	-0.1
	comp=Z,0.9nm,0.7s,baz=293,slow=6.6,SNR=6.7						
	comp=Z,0.9nm,0.7s						
QSPA	South Pole Qui	88.05 180	P		P	13 36 30.2	-0.2
	comp=Z,1.3nm,0.9s,baz=196,slow=1.7,SNR=6.6						
	comp=Z,1.3nm,0.9s						
CPUP	Villa Florida	151.94 180	PKPbc		PKiKP	13 43 35.5	-0.7
	comp=Z,2.1nm,0.7s,baz=195,slow=3.4,SNR=5.0						

*IDC **12** 13:26:09.9±1.1, 50°.01N×78°.73E, h0km, mbtmp2.4/2,*
ML1.9/2, Error ellipse: s-maj=14.0km s-min=6.6km
az=67.0
*NNC **12** 13:26:09.4±0.7, 49°.99N×78°.72E, h0km, mb3.0, mpv2.6,*
Error ellipse: s-maj=12.1km s-min=3.5km az=77.0,
Suspected Mining explosion.
ISC 12 13:26:09.1±1.0,**49°.93N**±0°.04×**78°.59E**±0°.07,**h0**km,**n17,**
σ0°80/27,**14C-11D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.66	356	⇑P	Pg	13 26 20.9	-0.8
KUR07				⇓S	Sg	13 26 30.0	-0.2
KUR06	Kurchatov Arra	0.68	357	⇓P	Pg	13 26 21.2	-0.9
KUR06				⇑S	Sg	13 26 30.7	-0.2
KUR14	Kurchatov Arra	0.69	0	⇑P	Pg	13 26 21.2	-1.1
KUR14				⇓S	Sg	13 26 30.4	-0.8
KUR15	Kurchatov Arra

KAPI Sn **Sn** 13 31 31.0 +1.3
9.6nm,0.3s,baz=249,slow=20,SNR=7.0
11nm,0.3s
BSSI Bau Bau, Buton 4.64 207 P **Pn** 13 30 48.8 -0.6
NLAI Namlea 4.67 106 P **Pn** 13 30 52.4 +2.6
TNTI Ternate 5.50 60 P **Pn** 13 31 01.1 0.0
0.3nm15nm,0.4s
EDFI Ende, Flores 6.79 188 P **Pn** 13 31 18.7 -0.3
0.1nm11nm,0.6s
WRA Warramunga Arr 21.23 148 P **P** 13 34 23.7 -1.1
1.7nm,0.9s,baz=332,slow=8.7,SNR=8.9
1.7nm,0.9s
ASAR Alice Springs 24.19 154 P **P** 13 34 55.0 -0.1
1.1nm,0.6s,baz=333,slow=9.3,SNR=21
1.1nm,0.6s
MKAR Makanchi Array 60.08 329 P **P** 13 39 45.0 -0.4
0.3nm,0.8s,baz=115,slow=6.5,SNR=2.1
0.3nm,0.8s

---

*IDC **12** 13:31:32.3±0.7, 1°.81S×122°.71E, h0km, mb4.0/12, mbtmp4.0/14, ML3.6/2, Error ellipse: s-maj=29.1km s-min=14.5km az=73.0*
*NEIC **12** 13:31:34.9±2.7, 1°.93S±0°.05×122°.77E±0°.07, h10km±2km, mb4.4/13, Error ellipse: s-maj=12.5km s-min=7.9km az=85.0*
*DJA **12** 13:31:36.4±0.2, 2°.S±2°.×12°.3E±°, h10km, M4.7/24, mB5.3/5, mb4.9/14, MLv4.7/24, Mw(mB)4.7/5*
ISC 12 13:31:37.5±0.5, **1°.91S**±0°.05×**122°.64E**±0°.06, **h35**km, **n65**, σ1°**51**/67, **mb4.2**/21, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.87**	**9**	Pg	**Pn**	**13 31 53.1**	**-0.2**
LUWI	**Luwuk**	**0.87**	**9**	P	**Pn**	**13 31 53.6**	**+0.3**
APSI	**Ampana**	**1.40**	**315**	P	**Pn**	**13 32 01.1**	**+0.5**
KDI	**Kendari**	**2.04**	**181**	P	**Pn**	**13 32 10.4**	**+1.1**
KMSI	**Cibinong**	**2.81**	**29**	P	**Pn**	**13 32 22.3**	**+2.3**
PCI	**Palu**	**2.97**	**290**	P	**Pn**	**13 32 23.0**	**+0.8**
SANI	**Sanana**	**3.35**	**92**	P	**Pn**	**13 32 28.1**	**+0.6**
SPSI	**Sidrap Palu**	**3.52**	**234**	P	**Pn**	**13 32 30.0**	**+0.3**
TOLI2	**Tolitoli**	**3.53**	**328**	Pn	**Pn**	**13 32 31.1**	**+1.2**
MPSI	**Mapaga**	**3.53**	**309**	P	**Pn**	**13 32 28.9**	**-1.1**
BNSI	**Bone**	**3.54**	**226**	P	**Pn**	**13 32 30.3**	**+0.3**
BBSI	**Bau Bau**	**3.56**	**181**	P	**Pn**	**13 32 30.7**	**+0.4**
BKSI	**Bulukumba**	**4.22**	**216**	P	**Pn**	**13 32 40.0**	**+0.6**
KAPI	**Kappang**	**4.22**	**223**		**Pn**	**13 32 40.1**	**+0.7**
KAPI	**Kappang**	**4.22**	**223**	Pn	**Pn**	**13 32 39.4**	**0.0**
KAPI	14nm,0.3s,baz=43,slow=9.6,SNR=12			Sn	**Sn**	**13 33 27.0**	**-0.5**
	16nm,0.3s,baz=166,slow=12,SNR=6.4						
	34nm,0.4s						
NLAI	**Namlea**	**4.65**	**107**	P	**Pn**	**13 32 47.2**	**+1.9**
BSSI	**Bau Bau, Buton**	**4.72**	**207**	P	**Pn**	**13 32 46.4**	**+0.1**
TNTI	**Ternate**	**5.43**	**61**	Pn	**Pn**	**13 32 53.5**	**-2.5**
TNTI	**Ternate**	**5.43**	**61**	P	**Pn**	**13 32 58.8**	**+2.8**
	0.7nm66nm,0.7s						
BKB	**Balikpapan**	**5.78**	**276**	Pn	**Pn**	**13 33 03.3**	**+2.5**
BKB	**Balikpapan**	**5.78**	**276**	P	**Pn**	**13 33 03.6**	**+2.8**
	0.5nm133nm,0.9s						
MSAI	**Masohi**	**6.44**	**103**	P	**Pn**	**13 33 12.9**	**+2.9**
	0.4nm90nm,0.7s						
MMRI	**Maumere**	**6.69**	**183**		**Pn**	**13 33 12.3**	**-1.1**
MMRI	**Maumere**	**6.69**	**183**	P	**Pn**	**13 33 13.7**	**+0.3**
	0.3nm58nm,0.9s						
EDFI	**Ende, Flores**	**6.86**	**188**	P	**Pn**	**13 33 15.9**	**+0.1**
	0.1nm38nm,0.6s						
SOEI	**Soe**	**7.96**	**168**	Pn	**Pn**	**13 33 28.7**	**-2.2**
SOEI	**Soe**	**7.96**	**168**	P	**Pn**	**13 33 34.0**	**+3.0**
	0.2nm66nm,0.8s						
MYLDM	**Lahad Datu**	**8.16**	**330**	Pn	**Pn**	**13 33 31.8**	**-1.8**
WBSI	**Waikabubak, Su**	**8.33**	**203**	P	**Pn**	**13 33 37.4**	**+1.4**
SWI	**Sorong**	**8.68**	**83**	P	**Pn**	**13 33 43.0**	**+2.3**
FAKI	**Fak Fak**	**9.65**	**96**		**Pn**	**13 33 50.1**	**-4.0**
FAKI	**Fak Fak**	**9.65**	**96**	P	**Pn**	**13 33 55.7**	**+1.6**
KKM	**Kota Kinabalu**	**10.18**	**321**	Pn	**Pn**	**13 33 57.5**	**-3.9**
KNRA	**Kununurra**	**14.95**	**157**	Pn	**Pn**	**13 35 04.5**	**-1.9**
FITZ	**Fitzroy Crossi**	**16.36**	**170**	Pn	**Pn**	**13 35 21.9**	**-2.6**
FITZ	**Fitzroy Crossi**	**16.36**	**170**	Pn	**Pn**	**13 35 24.7**	**+0.1**
	0.1nm,0.3s,baz=330,slow=4.4,SNR=3.6						
	3.1nm,0.8s						
WB0	**Warramunga Arr**	**21.15**	**148**		**P**	**13 36 18.9**	**-0.8**
WB0				IAmb	IAmb	13 36 24.8	
	comp=Z,25nm,1.1s						
WRAB	**Tennant Creek**	**21.26**	**148**	P	**P**	**13 36 21.4**	**+0.5**
WRAB				IAmb	IAmb	13 36 29.1	
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**21.26**	**148**	P	**P**	**13 36 21.1**	**+0.1**
	comp=Z,7.3nm,0.9s,baz=331,slow=9.9,SNR=11						
	comp=Z,7.3nm,0.9s						
WB2	**Warramunga Arr**	**21.27**	**148**		**P**	**13 36 21.8**	**+0.7**
WB2				IAmb	IAmb	13 36 29.1	
	comp=Z,28nm,1.5s						
WR8	**Warramunga Arr**	**21.36**	**148**	P	**P**	**13 36 22.9**	**+0.9**
WR8				IAmb	IAmb	13 36 26.4	
	comp=Z,10nm,0.8s						
WR0	**Warramunga Arr**	**21.38**	**148**	P	**P**	**13 36 22.6**	**+0.3**
KULM	**Kulim**	**23.10**	**288**	P	**P**	**13 36 41.1**	**+0.6**
KULM				IAmb	IAmb	13 37 21.4	
	comp=Z,18nm,1.4s						
UBPT	**Khong Chiam**	**24.09**	**316**	P	**P**	**13 36 51.3**	**+1.3**
RPSI	**Rantau Prapat**	**24.14**	**281**	P	**P**	**13 36 50.7**	**+0.1**
AS31	**Alice Springs**	**24.23**	**154**		**P**	**13 36 50.2**	**-1.1**
ASAR	**Alice Springs**	**24.23**	**154**		**P**	**13 36 51.4**	**+0.2**
ASAR	**Alice Springs**	**24.23**	**154**	P	**P**	**13 36 52.0**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=329,slow=8.5,SNR=36						
	comp=Z,3.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.88**	**312**	P	**P**	**13 37 52.4**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=140,slow=6.5,SNR=8.2						
	comp=Z,1.1nm,0.8s						
BBOO	**Buckleboo**	**33.23**	**159**	P	**P**	**13 38 11.0**	**-0.3**
STKA	**Stephens Creek**	**34.76**	**151**	P	**P**	**13 38 24.4**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=337,slow=11,SNR=3.9						
	comp=Z,1.4nm,0.7s						
KSRS	**Korea Array**	**39.47**	**7**	P	**P**	**13 39 03.6**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=185,slow=12,SNR=4.9						
	comp=Z,0.7nm,0.8s						
JGF	**Kuroka**	**39.77**	**19**	P	**P**	**13 39 07.1**	**-0.1**
MJAR	**Matsushiro Arr**	**40.91**	**19**	P	**P**	**13 39 15.4**	**-1.1**
	comp=Z,4.1nm,0.8s,baz=193,slow=8.8,SNR=9.3						
	comp=Z,4.1nm,0.8s						
GTA	**Gaotai**	**46.15**	**335**	*eP*	**P**	**13 40 01.2**	**+2.3**
GTA				pP	pP	13 40 05.8	-3.3
GTA				pmax	pmax		
	comp=Z,11nm,1.0s						
USRK	**Ussuriysk Ar.**	**46.66**	**9**	P	**P**	**13 40 02.2**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=166,slow=9.6,SNR=4.3						
	comp=Z,2.8nm,0.7s						
SONM	**Songino Array**	**51.53**	**346**	P	**P**	**13 40 40.1**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=163,slow=8.5,SNR=5.3						
SONM				PcP	**PcP**	**13 41 54.2**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=171,slow=4.4,SNR=3.5						
	comp=Z,1.1nm,0.8s						
HEH	**HeiHe**	**52.12**	**4**	*eP*	**P**	**13 40 43.6**	**-0.6**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MK31	**Makanchi Array**	**60.05**	**329**		**P**	**13 41 41.8**	**+0.8**
MK31				IAmb	IAmb	13 41 42.8	
	comp=Z,2.3nm,1.1s						
MKAR	**Makanchi Array**	**60.05**	**329**	P	**P**	**13 41 42.4**	**+1.3**
MKAR	**Makanchi Array**	**60.05**	**329**	P	**P**	**13 41 40.1**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=128,slow=8.5,SNR=11						
	comp=Z,1.1nm,0.8s						
MAKZ	**Makanchi**	**60.22**	**329**	P	**P**	**13 41 43.5**	**+1.4**
MAKZ				IAmb	IAmb	13 41 44.5	
	comp=Z,5.6nm,1.5s						
PETK	**Petropavlovsk-**	**62.17**	**23**	P	**P**	**13 41 54.6**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=224,slow=10,SNR=4.0						
	comp=Z,0.9nm,0.9s						
ZALV	**Zalesovo Beam**	**63.90**	**336**	P	**P**	**13 42 05.3**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=151,slow=3.4,SNR=7.2						
	comp=Z,1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**64.43**	**331**	P	**P**	**13 42 09.7**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=131,slow=6.1,SNR=16						
	comp=Z,2.0nm,0.9s						

---

*NEIC **12** 13:31:45.6±2.0, 14°.28N±0°.05×93°.13W±0°.04, h10km±1km, mb4.6/163, Md5.0/97(MEX), Error ellipse: s-maj=8.3km s-min=6.0km az=171.0*
*IDC **12** 13:31:45.7±0.9, 14°.60N×92°.53W, h0km, mb4.3/17, mbtmp4.3/20, ML4.7/3, Error ellipse: s-maj=36.0km s-min=13.7km az=43.0*
*GCG **12** 13:31:47.6±1.6, 14°.23N×93°.13W, h22km±12km, MD4.5*
*SNET **12** 13:31:50.5±0.8, 14°.24N×93°.00W, h56km±30km, ML5.3*
*CATAC **12** 13:31:50.5±0.7, 14°.N±3°.×9°.3W±°, h8km±5km, M5.0/21, mb5.3/6, mB5.3/7, MLv5.1/21, Mw(mB)4.7/7, MwMwp4.6/1, Mwp4.9/1, Error ellipse: s-maj=8.9km s-min=6.9km az=74.7, confirmed*
*MEX **12** 13:31:50.0±1.1, 14°.39N×93°.20W, h15km±24km, MD5.0*
ISC 12 13:31:49.1±1.3, **14°.37N**±0°.04×**93°.04W**±0°.04, **h32**km±8km, **n305**, σ2°**12**/332, **mb4.6**/78, **2C-7D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.92**	**55**		**Pn**	**13 32 06.2**	**+0.4**
THIG					**Sb**	**13 32 18.6**	**+0.1**
THIG		**0.92**	**55**	*eP*	**Pn**	**13 32 06.2**	**+0.4**
THIG				*eS*	**Sb**	**13 32 18.6**	**+0.1**
THIG		**0.92**	**55**	*eP*	**Pb**	**13 32 06.4**	**-0.2**
THIG				*i* S	**Sb**	**13 32 20.0**	**+1.4**
PATR	**El Naranjo**	**1.08**	**46**	*eP*	**Pn**	**13 32 08.1**	**-0.1**
PATR				*eS*	**Sb**	**13 32 23.6**	**+0.3**
PAVE	**Pavencul**	**1.17**	**46**	*eP*	**Pn**	**13 32 09.6**	**+0.1**
PAVE				*eS*	**Sn**	**13 32 24.6**	**+0.2**
RTAL	**Retalhuleu**	**1.31**	**83**		**Pb**	**13 32 12.3**	**-0.9**
RTAL				Sn	**Sb**	**13 32 30.1**	**+0.4**
RTAL	**Retalhuleu**	**1.31**	**83**	‖*eP*	**Pb**	**13 32 12.3**	**-0.9**
RTAL				*eS*	**Sb**	**13 32 29.6**	**-0.1**
RTAL	**Retalhuleu**	**1.31**	**83**	*eP*	**Pb**	**13 32 12.2**	**-0.9**
RTAL				*eS*	**Sb**	**13 32 29.7**	**-0.1**
RTAL	**Retalhuleu**	**1.31**	**83**	P	**Pb**	**13 32 12.3**	**-0.9**
PCIG		**1.34**	**353**		**Pn**	**13 32 10.8**	**-0.8**
PCIG		**1.34**	**353**	‖*eP*	**Pn**	**13 32 10.8**	**-0.8**
PCIG				*eS*	**Sn**	**13 32 24.2**	**-4.0**
STG8	**El Palmar, Qui**	**1.64**	**87**	*i* P	**Pn**	**13 32 13.8**	**-2.1**
SOKI	**Kika Raxquin**	**1.65**	**74**	*eP*	**Pn**	**13 32 17.5**	**+1.3**
HUEH	**Huehuetenango**	**1.76**	**58**		**Pb**	**13 32 20.0**	**-0.9**
HUEH	**Huehuetenango**	**1.76**	**58**	‖*eP*	**Pb**	**13 32 20.2**	**-0.7**
HUEH				*eS*	**Sb**	**13 32 45.5**	**+2.7**
HUEH	**Huehuetenango**	**1.76**	**58**	*eP*	**Pb**	**13 32 20.0**	**-0.9**
HUEH				*eS*	**Sb**	**13 32 43.5**	**+0.7**
HUEH	**Huehuetenango**	**1.76**	**58**	*i* P	**Pb**	**13 32 20.2**	**-0.7**
HUEH	**Huehuetenango**	**1.76**	**58**	P	**Pb**	**13 32 20.2**	**-0.7**
CCIG	**Comitan**	**2.09**	**25**		**Pb**	**13 32 24.7**	**-1.8**
CCIG	**Comitan**	**2.09**	**25**	‖*eP*	**Pb**	**13 32 24.9**	**-1.6**
CCIG				*eS*	**Sb**	**13 32 52.8**	**+0.6**
CCIG	**Comitan**	**2.09**	**25**	*i* P	**Pb**	**13 32 24.9**	**-1.6**
CCIG	**Comitan**	**2.09**	**25**	P	**Pb**	**13 32 26.1**	**-0.4**
CCIG	**Comitan**	**2.09**	**25**	S	**Sb**	**13 32 53.1**	**+0.9**
ESSG	**Sabana Grande**	**2.15**	**89**	*eP*	**Pn**	**13 32 23.4**	**+0.7**
TGBT	**Tuxtla Gutierr**	**2.39**	**359**		**Pn**	**13 32 27.4**	**+1.3**
TGBT					**Sn**	**13 32 56.5**	**+2.2**
TGBT	**Tuxtla Gutierr**	**2.39**	**359**	*eP*	**Pn**	**13 32 27.4**	**+1.3**
TGBT				*eS*	**Sn**	**13 32 56.5**	**+2.2**
TGIG		**2.39**	**358**		**Pn**	**13 32 27.9**	**+1.7**
TGIG					**Sn**	**13 32 57.1**	**+2.6**
TGIG		**2.39**	**358**	‖*eP*	**Pn**	**13 32 27.9**	**+1.7**
TGIG				*eS*	**Sn**	**13 32 57.1**	**+2.6**
FG8	**Yepocapa, Chim**	**2.41**	**92**	*i* P	**Pn**	**13 32 22.3**	**-4.1**
UXUV	**UXUV**	**3.12**	**340**	*eP*	**Pn**	**13 32 37.5**	**+1.5**
UXUV				*eS*	**Sn**	**13 33 15.6**	**+3.4**
CMIG	**Matias Romero**	**3.23**	**327**		**Pn**	**13 32 37.2**	**-0.4**
CMIG					**Sn**	**13 33 14.9**	**-0.2**
CMIG	**Matias Romero**	**3.23**	**327**	Pn	**Pn**	**13 32 37.6**	**-0.1**
	23nm,0.3s,baz=166,slow=13,SNR=152						
CMIG				Sn	**Sn**	**13 33 15.4**	**+0.4**
	56nm,0.3s,baz=169,slow=17,SNR=7.3						
	67nm,0.2s						
CMIG	**Matias Romero**	**3.23**	**327**	*eP*	**Pn**	**13 32 37.2**	**-0.4**
CMIG				*eS*	**Sn**	**13 33 14.9**	**-0.2**
HUIG	**Huatulco**	**3.27**	**296**		**Pn**	**13 32 35.8**	**-2.4**
HUIG					**Sn**	**13 33 08.7**	**-7.4**
HUIG	**Huatulco**	**3.27**	**296**	*eP*	**Pn**	**13 32 35.8**	**-2.4**
HUIG				*eS*	**Sn**	**13 33 08.7**	**-7.4**
HUIG	**Huatulco**	**3.27**	**296**	*eP*	**Pn**	**13 32 36.9**	**-1.3**
SBLS	**San Blas**	**3.36**	**99**	*eP*	**Pn**	**13 32 41.2**	**+1.5**
CEVE	**Cerro Verde**	**3.36**	**99**	*eP*	**Pn**	**13 32 41.1**	**+1.5**
CEVE				IAML		13 33 36.2	
	comp=Z,4μm,0.4s						
CEVE	**Cerro Verde**	**3.36**	**99**	P	**Pn**	**13 32 41.2**	**+1.6**
CEVE	**Cerro Verde**	**3.36**	**99**	S	**Sb**	**13 33 23.7**	**-5.0**
SNJE	**San Jose**	**3.37**	**98**	*eP*	**Pn**	**13 32 41.1**	**+1.4**
JAYA	**Jayaque - finc**	**3.56**	**101**	*eP*	**Pn**	**13 32 43.0**	**+0.7**
JAYA	**Jayaque - finc**	**3.56**	**101**	P	**Pn**	**13 32 44.1**	**+1.8**
JAYA	**Jayaque - finc**	**3.56**	**101**	S	**Sn**	**13 33 23.0**	**-0.4**
MTO3	**Montecristo**	**3.57**	**89**	Pn	**Pn**	**13 32 43.2**	**+0.7**
MTO3	**Montecristo**	**3.57**	**89**	*eP*	**Pn**	**13 32 43.6**	**+1.1**
MTO3	**Montecristo**	**3.57**	**89**	P	**Pn**	**13 32 43.9**	**+1.5**
ESQI	**Esquipulas**	**3.59**	**87**	Pn	**Pn**	**13 32 42.9**	**+0.2**
ESQI	**Esquipulas**	**3.59**	**87**	*eP*	**Pn**	**13 32 44.2**	**+1.5**
ESQI	**Esquipulas**	**3.59**	**87**	P	**Pn**	**13 32 44.6**	**+1.9**
VHSA	**Villahermosa**	**3.59**	**2**	*eP*	**Pb**	**13 32 47.8**	**-4.1**
VHSA				*eS*	**Sn**	**13 33 28.4**	**+4.5**
PMON	**Piamonte**	**3.68**	**100**	*eP*	**Pn**	**13 32 45.0**	**+1.1**
PMON				*eS*	**Sn**	**13 33 26.9**	**+0.7**
PMON	**Piamonte**	**3.68**	**100**	P	**Pn**	**13 32 45.4**	**+1.5**
PMON	**Piamonte**	**3.68**	**100**	S	**Sn**	**13 33 21.9**	**-4.3**
LALI	**Alcalda de L**	**3.72**	**103**	*eS*	**Sn**	**13 33 29.7**	**+2.6**
LOMA	**Loma Larga**	**3.83**	**100**	P	**Pn**	**13 32 47.7**	**+1.8**
LOMA	**Loma Larga**	**3.83**	**100**	S	**Sn**	**13 33 32.6**	**+2.7**
LFRS	**El Faro**	**3.94**	**100**	*eP*	**Pn**	**13 32 47.8**	**+0.4**
PETF	**Flores**	**3.97**	**50**		**Pn**	**13 32 48.8**	**+1.0**
PETF	**Flores**	**3.97**	**50**	‖*eP*	**Pn**	**13 32 50.4**	**+2.6**
PETF				*eS*	**Sb**	**13 33 43.0**	**-3.0**
PETF	**Flores**	**3.97**	**50**	*eP*	**Pn**	**13 32 50.1**	**+2.3**
PETF	**Flores**	**3.97**	**50**	*i* P	**Pn**	**13 32 50.1**	**+2.3**
PAVA	**Las Pavas**	**4.04**	**99**	P	**Pn**	**13 32 50.6**	**+1.7**
PAVA	**Las Pavas**	**4.04**	**99**	S	**Sn**	**13 33 40.4**	**+5.3**
COEG	**Centro de Oper**	**4.11**	**100**	*eP*	**Pn**	**13 32 51.2**	**+1.4**
COEG	**Centro de Oper**	**4.11**	**100**	P	**Pn**	**13 32 52.4**	**+2.6**
COEG	**Centro de Oper**	**4.11**	**100**	S	**Sn**	**13 33 39.0**	**+2.1**
SCLA	**Alcaldia de Sa**	**4.24**	**99**	*eP*	**Pn**	**13 32 53.0**	**+1.5**
NEUV	**Arroyo Zacate**	**4.25**	**322**	*eP*	**Pn**	**13 32 50.8**	**-0.9**
NEUV				*eS*	**Sn**	**13 33 43.1**	**+2.9**
PEIG	**Puerto Escondi**	**4.28**	**293**		**Pn**	**13 32 51.7**	**-0.4**
PEIG	**Puerto Escondi**	**4.28**	**293**	*eP*	**Pn**	**13 32 51.7**	**-0.4**
PEIG				*eS*	**Sn**	**13 33 32.3**	**-8.6**
OXLC	**Oaxaca**	**4.43**	**308**	*eS*	**Sn**	**13 33 42.0**	**-2.8**
OXBJ	**Oaxaca**	**4.44**	**308**		**Sn**	**13 33 45.8**	**+0.5**
OXBJ	**Oaxaca**	**4.44**	**308**	*eS*	**Sn**	**13 33 45.8**	**+0.5**
OXIG	**Oaxaca**	**4.45**	**308**		**Pn**	**13 32 55.8**	**+1.2**
OXIG					**Sn**	**13 33 43.6**	**-1.9**
VHO	**Vista Hermosa**	**4.45**	**308**	*eP*	**Pn**	**13 32 55.8**	**+1.2**
VHO				*eS*	**Sn**	**13 33 43.6**	**-1.9**
PMUV	**Sontecomapan**	**4.60**	**335**	*eP*	**Pn**	**13 32 55.1**	**-1.4**
PMUV				*eS*	**Sn**	**13 33 49.6**	**+0.6**
PACA	**Pacayal**	**4.67**	**101**	IAML		13 34 20.0	
	comp=Z,5μm,0.8s						
PACA	**Pacayal**	**4.67**	**101**	P	**Pn**	**13 33 00.9**	**+3.4**
SCIG	**Sabancuy**	**4.90**	**21**	*eP*	**Pn**	**13 33 02.2**	**+1.6**
SCIG				*eS*	**Sn**	**13 33 56.0**	**-0.3**
SCIG	**Sabancuy**	**4.90**	**21**	*i* P	**Pn**	**13 33 02.6**	**+2.0**
YOIG	**Yosondua**	**4.99**	**300**		**Pn**	**13 33 04.3**	**+2.2**
YOIG					**Sn**	**13 33 56.1**	**-2.8**
YOIG	**Yosondua**	**4.99**	**300**	*eP*	**Pn**	**13 33 04.3**	**+2.2**
YOIG				*eS*	**Sn**	**13 33 56.1**	**-2.8**
LCND	**La Caada**	**5.12**	**101**	*eP*	**Pn**	**13 33 05.0**	**+1.4**
LCND	**La Caada**	**5.12**	**101**	P	**Pn**	**13 33 08.3**	**+4.7**
CNCH	**Conchagua**	**5.18**	**102**	*eP*	**Pn**	**13 33 05.4**	**+0.9**
CNCH	**Conchagua**	**5.18**	**102**	P	**Pn**	**13 33 07.2**	**+2.7**
PNIG	**Pinotepa**	**5.30**	**293**		**Pn**	**13 33 06.3**	**+0.2**
PNIG	**Pinotepa**	**5.30**	**293**	‖*eP*	**Pn**	**13 33 06.3**	**+0.2**
PNIG				*eS*	Sn	13 33 56.5	-10
TXIG	**Tlaxiaco**	**5.38**	**303**		**Pn**	**13 33 09.5**	**+2.1**
TXIG					**Sn**	**13 34 05.1**	**-3.2**
TXIG	**Tlaxiaco**	**5.38**	**303**	*eP*	**Pn**	**13 33 09.5**	**+2.1**
TXIG				*eS*	**Sn**	**13 34 05.1**	**-3.2**
CSGN	**Cosiguina Volc**	**5.51**	**104**	P	**Pn**	**13 33 11.1**	**+2.1**
TGUH	**Tegucigalpa,Un**	**5.60**	**92**	Pn	**Pn**	**13 33 11.1**	**+0.7**
HLIG	**Huajuapan de L**	**5.72**	**308**		**Pn**	**13 33 15.4**	**+3.3**
HLIG					**Sn**	**13 34 16.6**	**-0.2**
HLIG	**Huajuapan de L**	**5.72**	**308**	*eP*	**Pn**	**13 33 15.4**	**+3.3**
HLIG				*eS*	**Sn**	**13 34 16.6**	**-0.2**
TPIG	**Tehuac#an**	**5.78**	**315**		**Pn**	**13 33 15.4**	**+2.6**
TPIG	**Tehuac#an**	**5.78**	**315**	*eP*	**Pn**	**13 33 15.4**	**+2.6**
TPIG				*eS*	**Sn**	**13 34 09.2**	**-8.9**
FTIG	**Fresnillo de T**	**6.02**	**306**		**Pn**	**13 33 18.4**	**+2.2**
FTIG	**Fresnillo de T**	**6.02**	**306**	*eP*	**Pn**	**13 33 18.4**	**+2.2**
CRIN	**San Cristobal**	**6.06**	**105**	Pn	**Pn**	**13 33 17.9**	**+1.3**
MGIG	**Malinaltepec**	**6.09**	**299**		**Pn**	**13 33 18.7**	**+1.6**
MGIG	**Malinaltepec**	**6.09**	**299**	*eP*	**Pn**	**13 33 18.7**	**+1.6**
MGIG				*eS*	**Sn**	**13 34 28.8**	**+3.1**
JAUV	**Jalcomulco**	**6.13**	**325**	*eP*	**Pn**	**13 33 15.1**	**-2.5**
JAUV				*eS*	**Sn**	**13 34 24.2**	**-2.5**
TLIG	**Tlapa**	**6.19**	**302**	Pn	**Pn**	**13 33 16.3**	**-2.1**
TLIG	**Tlapa**	**6.19**	**302**	*eP*	**Pn**	**13 33 19.7**	**+1.3**
TLIG				*eS*	**Sn**	**13 34 27.0**	**-1.1**
POHV	**Veracruz**	**6.19**	**320**	*eP*	Pn	13 33 24.4	+5.6
POHV				*eS*	**Sn**	**13 34 22.3**	**-6.4**
LVIG	**Laguna Verde**	**6.22**	**329**	*eP*	**Pn**	**13 33 19.2**	**+0.5**
LVIG				*eS*	**Sn**	**13 34 23.8**	**-5.1**
HERN	**Volcan Telica**	**6.29**	**105**	Pn	**Pn**	**13 33 21.1**	**+1.3**
POLN	**Al Sur del Vol**	**6.30**	**105**	P	**Pn**	**13 33 19.4**	**-0.4**
POLN				S	**Sn**	**13 34 27.9**	**-2.8**
CRIG	**Cruz Grande**	**6.32**	**293**		**Pn**	**13 33 19.4**	**-0.7**
CRIG	**Cruz Grande**	**6.32**	**293**	*eP*	**Pn**	**13 33 19.4**	**-0.7**
CRIG				*eS*	Sn	13 34 20.7	-11
ROCN	**Rota Cerro Neg**	**6.40**	**106**	P	**Pn**	**13 33 23.3**	**+2.1**
ROCN				S	**Sn**	**13 34 30.3**	**-2.9**
CNGA	**Al SSO del Vol**	**6.45**	**106**	P	**Pn**	**13 33 25.3**	**+3.4**
CNGN	**Cerro Negro**	**6.45**	**106**		**Pn**	**13 33 21.9**	**0.0**
CNGN	**Cerro Negro**	**6.45**	**106**	P	**Pn**	**13 33 25.1**	**+3.2**
CNGN	**Cerro Negro**	**6.45**	**106**	S	**Sn**	**13 34 32.0**	**-2.5**
LIMN	**Finca el Limon**	**6.62**	**101**	P	**Pn**	**13 33 26.0**	**+1.7**
MOMN	**Momotombo**	**6.62**	**106**	P	**Pn**	**13 33 26.8**	**+2.5**
MOMN				S	**Sn**	**13 34 35.5**	**-3.3**
COPN	**Copaltepe**	**6.65**	**108**	P	**Pn**	**13 33 28.5**	**+3.9**
RCVN	**Varillal2**	**6.70**	**96**	P	**Pn**	**13 33 26.6**	**+1.2**
DAIG	**Los Arroyos**	**6.89**	**293**		**Pn**	**13 33 28.7**	**+0.8**
DAIG	**Los Arroyos**	**6.89**	**293**	*eP*	**Pn**	**13 33 28.7**	**+0.8**
DAIG				*eS*	**Sn**	**13 34 42.5**	**-2.7**
MGAN	**Managua**	**6.98**	**108**	Pn	**Pn**	**13 33 29.3**	**+0.1**
PBCV	**Popocatepetl**	**7.00**	**312**	*eP*	**Pn**	**13 33 33.0**	**+3.3**
PBCV				*eS*	**Sn**	**13 34 48.1**	**-0.3**
PBXN	**Popocatepetl**	**7.08**	**311**	*eP*	**Pn**	**13 33 34.6**	**+3.5**
PBXN				*eP*	**Pn**	**13 33 35.2**	**+4.1**
PBXN				*eS*	**Sn**	**13 34 50.5**	**-0.3**
PBXN				*eS*	**Sn**	**13 34 51.6**	**+0.8**
PPM	**Popocatepetl**	**7.10**	**312**	*eP*	**Pn**	**13 33 34.4**	**+3.1**
PPM				*eS*	**Sn**	**13 34 51.8**	**+0.7**
PPIG	**Popocatepetl**	**7.10**	**312**		**Pn**	**13 33 34.4**	**+3.1**
PPIG					**Sn**	**13 34 51.8**	**+0.7**
CXUV	**Coxquihui**	**7.22**	**324**	*eP*	**Pn**	**13 33 31.7**	**-0.8**
CXUV				*eS*	**Sn**	**13 34 54.1**	**+0.6**
MEIG	**Mezcala**	**7.24**	**300**		**Pn**	**13 33 35.3**	**+2.5**
MEI

SMWD IAmb IAmb 13 36 41.2
comp=Z,27nm,0.7s
LCAR Lake Charles 21.67 4 P P 13 36 36.1 -1.0
SWET Sewanee 21.72 16 P P 13 36 37.8 +0.1
OK052 Battle Ridge R 21.79 352 P P 13 36 36.7 -1.7
HHAR Hobbs 21.83 358 P 13 36 37.2 -1.6
AMTX Amarillo 21.86 341 P P 13 36 38.8 -0.4
QUOK Quay 21.96 352 P P 13 36 39.9 -0.3
QUOK IAmb IAmb 13 36 43.1
comp=Z,14nm,0.7s
U38A Gravette 22.01 357 P 13 36 40.1 -0.6
HODGE Hodges 22.05 24 P P 13 36 39.4 -1.7
ELIS Ellis County 22.35 346 P 13 36 43.6 -0.8
ELIS IAmb IAmb 13 36 47.6
comp=Z,18nm,0.8s
PBMO Poplar Bluff 22.44 6 P P 13 36 45.1 -0.2
T42A Van Buren 22.63 4 P P 13 36 46.5 -0.9
T35A Sooner Cattle 22.66 353 P P 13 36 46.4 -1.3
T35A IAmb IAmb 13 37 07.2
comp=Z,20nm,1.2s
MGMO Mountain Grove 22.70 2 P P 13 36 46.9 -1.3
TKL Tuckaleechee C 22.77 20 P P 13 36 48.0 -0.9
TKL IAmb IAmb 13 37 09.6
comp=Z,24nm,1.1s
OK032 Salt Plains WL 22.81 349 P P 13 36 48.7 -0.6
OK032 IAmb IAmb 13 36 54.4
comp=Z,19nm,0.7s
KAN13 South Haven SW 22.89 351 P P 13 36 48.8 -1.4
KAN13 IAmb IAmb 13 37 01.6
comp=Z,19nm,1.0s
KAN17 Caldwell West 22.97 350 P P 13 36 50.3 -0.6
KAN17 IAmb IAmb 13 36 53.8
comp=Z,16nm,0.8s
U49A Red Boiling Sp 22.99 15 P P 13 36 49.8 -1.3
BNM Barren Site 23.21 330 P P 13 36 53.8 +0.1
SIUC Southern Illin 23.50 8 IAmb IAmb 13 37 24.6
comp=Z,20nm,0.8s
CCM Cathedral Cave 23.64 4 P P 13 36 56.0 -1.5
CCM IAmb IAmb 13 36 58.5
comp=Z,29nm,1.5s
ANMO Albuquerque 23.79 332 P 13 36 59.7 +0.4
ANMO Albuquerque 23.79 332 P P 13 37 01.3 +2.1
comp=Z,4.0nm,0.8s,baz=320,slow=12,SNR=10
comp=Z,4.0nm,0.8s
W57A Gilead 23.80 27 P P 13 36 57.5 -1.5
W57A IAmb IAmb 13 37 24.4
comp=Z,31nm,1.4s
R40A Maddies Statio 23.83 2 P P 13 36 59.0 -0.4
R40A IAmb IAmb 13 37 01.3
comp=Z,24nm,1.5s
T25A Trinidad 24.84 338 P 13 37 08.8 0.0
T25A IAmb IAmb 13 37 14.5
comp=Z,16nm,0.8s
BAUV El Baul 25.06 100 P 13 37 09.0 -1.8
SDCO Great Sand Dun 25.78 337 IAmb IAmb 13 37 21.8
comp=Z,12nm,1.1s
MVCO Mesa Verde 26.59 332 IAmb IAmb 13 37 30.8
comp=Z,10.0nm,0.8s
PV13 Radium Mtn., P 27.51 332 P P 13 37 32.9 -0.1
PV13 IAmb IAmb 13 37 44.5
comp=Z,6.9nm,0.8s
PV02 Paradox Valley 27.51 333 P P 13 37 31.6 -1.5
PV02 IAmb IAmb 13 37 45.2
comp=Z,22nm,1.2s
PV05 Paradox Valley 27.57 332 P P 13 37 32.5 -1.1
PV05 IAmb IAmb 13 37 39.0
comp=Z,9.4nm,1.0s
PV11 David Mesa, Pa 27.65 332 IAmb IAmb 13 37 41.6
comp=Z,12nm,1.0s
PV07 Paradox Valley 27.66 333 IAmb IAmb 13 37 40.5
comp=Z,9.1nm,0.8s
PV10 Paradox Valley 27.79 332 IAmb IAmb 13 37 46.7
comp=Z,13nm,0.9s
ECSD EROS Data Cent 29.42 355 P 13 37 47.6 -2.1
ECSD IAmb IAmb 13 37 52.7
comp=Z,5.0nm,0.7s
TCUT Toone Canyon 31.08 333 IAmb IAmb 13 38 15.2
comp=Z,6.9nm,0.7s
PDAR Pinedale Array 31.67 337 P P 13 38 11.7 +1.8
comp=Z,1.1nm,0.7s,baz=134,slow=8.6,SNR=12
comp=Z,1.1nm,0.7s
HVU Hansel Valley 32.22 332 P 13 38 14.3 -0.4
HVU IAmb IAmb 13 38 17.8
comp=Z,5.7nm,1.1s
AHID Auburn Hatcher 32.29 335 P P 13 38 15.2 -0.1
AHID IAmb IAmb 13 38 19.3
comp=Z,17nm,1.4s
ELK Elko 32.64 328 P P 13 38 20.6 +2.3
comp=Z,2.0nm,0.9s,baz=113,slow=5.7,SNR=8.0
comp=Z,2.0nm,0.9s
NV11 Mina Array Sit 32.66 322 IAmb IAmb 13 38 23.0
comp=Z,7.8nm,0.8s
NVAR Mina Array Bea 32.75 322 P P 13 38 19.5 +0.1
NVAR Mina Array Bea 32.75 322 P P 13 38 22.7 +3.3
comp=Z,6.4nm,0.7s,baz=136,slow=8.7,SNR=46
NVAR PcP **PcP 13 41 06.5 +2.1**
comp=Z,1.5nm,0.7s,baz=136,slow=2.7,SNR=5.2
comp=Z,6.4nm,0.7s
LOHW Long Hollow 32.79 336 IAmb IAmb 13 38 24.3
comp=Z,9.1nm,0.8s
TPAW Teton Pass 32.83 336 IAmb IAmb 13 38 27.2
comp=Z,12nm,0.9s
MOOW Moose Ponds 32.96 336 IAmb IAmb 13 38 26.0
comp=Z,5.3nm,0.9s
FXWY Fox Creek 32.98 336 IAmb IAmb 13 38 26.0
comp=Z,5.3nm,0.8s
PMPB Monarch Peak 33.01 316 P P 13 38 20.1 -1.4
RLMT Red Lodge 33.59 339 IAmb IAmb 13 38 30.7
comp=Z,3.8nm,0.7s
YNE Yellowstone No 33.76 338 IAmb IAmb 13 38 33.2
comp=Z,9.7nm,0.9s
MDND Maddock 33.82 352 P 13 38 28.7 +0.4
PNTR Pine Nut 33.95 321 P P 13 38 28.9 -1.0
PNTR IAmb IAmb 13 38 38.4
comp=Z,7.6nm,0.9s
YHL Hebgen Lake 34.06 337 IAmb IAmb 13 38 34.9
comp=Z,8.0nm,1.1s
BOZ Bozeman (W) 34.86 337 IAmb IAmb 13 38 43.2
comp=Z,11nm,1.4s
DLMT Dillon 35.04 336 P P 13 38 38.4 -0.7
DLMT IAmb IAmb 13 38 42.9
comp=Z,11nm,1.1s
J08A Circle Bar Ran 36.19 328 IAmb IAmb 13 38 52.4
comp=Z,9.0nm,0.8s
F10A Beach Ranch, E 37.50 332 IAmb IAmb 13 39 05.0
comp=Z,11nm,0.8s
NEW Newport 39.22 334 P P 13 39 15.8 +1.4
comp=Z,1.3nm,0.6s,baz=121,slow=3.9,SNR=3.3
comp=Z,1.3nm,0.6s
YKA Yellowknife Ar 50.44 347 P P 13 40 44.4 +1.0
comp=Z,6.4nm,0.7s,baz=154,slow=7.5,SNR=103
YKA PcP **PcP 13 42 01.4 +0.1**
comp=Z,0.9nm,0.6s,baz=152,slow=3.8,SNR=8.7
comp=Z,6.4nm,0.7s
CPUP Villa Florida 53.32 139 P P 13 41 05.7 +0.3
comp=Z,1.1nm,0.6s,baz=291,slow=6.9,SNR=4.4
comp=Z,1.1nm,0.6s
BDFB Brasilia 53.57 122 P P 13 41 07.5 -0.1
comp=Z,2.6nm,0.6s,baz=288,slow=11,SNR=5.7
comp=Z,2.6nm,0.6s
ILON Igloolik, Nuna 55.42 5 P 13 41 20.1 +0.1
ILON IAmb IAmb 13 41 21.8
comp=Z,9.1nm,1.0s
M29M Somme Creek 57.68 337 P P 13 41 36.6 +0.2
I30M Mount Dempster 58.62 340 P P 13 41 42.8 -0.2
I30M IAmb IAmb 13 41 50.3
comp=Z,5.7nm,1.1s
DOT Dot Lake 60.48 337 IAmb IAmb 13 42 02.9
comp=Z,8.7nm,1.2s
A36M Sachs Harbour 60.69 349 P 13 41 57.4 +0.5
PAX Paxson 60.70 335 P P 13 41 58.5 +1.2
I26K Coal Creek Min 60.99 338 IAmb IAmb 13 42 10.3
comp=Z,7.8nm,1.3s
G27K Doyon Strip 61.30 340 IAmb IAmb 13 42 04.2
comp=Z,4.3nm,0.9s
J25K Salcha River, 61.45 337 IAmb IAmb 13 42 08.4
comp=Z,7.0nm,1.1s
E28M Babbage River 61.69 342 IAmb IAmb 13 42 05.4
comp=Z,4.8nm,0.8s
PRP Porcupine Dome 61.95 338 IAmb IAmb 13 42 08.5
comp=Z,4.8nm,0.7s
ILAR Eielson Array 62.10 337 P P 13 42 06.6 0.0
ILAR Eielson Array 62.10 337 P P 13 42 07.7 +1.1
comp=Z,3.6nm,0.9s,baz=143,slow=4.6,SNR=29
ILAR PcP **PcP 13 42 49.8 +3.1**
comp=Z,0.7nm,0.7s,baz=125,slow=1.8,SNR=4.5
comp=Z,3.6nm,0.9s
D27M Malcolm River 62.49 343 IAmb IAmb 13 42 19.2
comp=Z,4.0nm,0.8s
BMAR Burnt Mountain 62.60 340 P 13 42 10.1 +0.2
H24K Noodor Dome 62.97 338 P 13 42 13.0 +0.5
H24K IAmb IAmb 13 42 14.8
comp=Z,5.5nm,0.8s
E25K Arctic Village 63.28 341 IAmb IAmb 13 42 16.9
comp=Z,3.3nm,0.8s
COLD Coldfoot 64.42 339 IAmb IAmb 13 42 24.6
comp=Z,4.1nm,1.0s
E23K Chandalar 64.58 340 P P 13 42 23.9 +0.8
E23K IAmb IAmb 13 42 38.6
comp=Z,7.0nm,1.0s
D24K Happy Valley 64.82 341 P P 13 42 24.9 +0.4
TOLK Toolik Lake Re 64.83 340 IAmb IAmb 13 42 29.6
comp=Z,4.4nm,0.7s
D23K Nanushuk River 65.34 340 P 13 42 28.4 +0.5
EUNU Eureka 65.78 1 P 13 42 31.0 +0.4
H19K Roundabout Mou 66.11 336 IAmb IAmb 13 42 35.2
comp=Z,6.1nm,0.9s
E21K Killik River 66.22 339 IAmb IAmb 13 42 35.6
comp=Z,4.2nm,0.8s
B21K Ikpikpuk River 66.88 340 IAmb IAmb 13 42 39.7
comp=Z,6.0nm,0.9s
E19K Redstone River 67.03 338 P P 13 42 39.0 +0.2
E19K IAmb IAmb 13 42 44.7
comp=Z,7.7nm,1.2s
F19K Shaleruckik Mo 67.03 337 P P 13 42 39.6 +0.9
D19K Kuna River 67.67 339 IAmb IAmb 13 42 47.4
comp=Z,4.2nm,0.8s
EKA Eskdalemuir Ar 78.26 36 P P 13 43 43.9 -1.8
comp=Z,2.3nm,0.8s,baz=274,slow=6.5,SNR=3.9
comp=Z,2.3nm,0.8s
ESDC Sonseca Array 80.28 52 P P 13 43 55.6 -1.5
comp=Z,1.7nm,0.8s,baz=290,slow=6.1,SNR=13
comp=Z,1.7nm,0.8s
BILL Bilibino 80.74 338 P 13 43 58.7 -0.3
BILL IAmb IAmb 13 44 10.2
comp=Z,7.2nm,0.8s
NB2 NORSAR Subarra 84.30 28 P P 13 44 17.6 -0.1
comp=Z,1.7nm,0.9s,baz=291,slow=5.1
NOA NORSAR Array B 84.30 28 P P 13 44 17.8 0.0
comp=Z,0.8nm,0.7s,baz=290,slow=5.1,SNR=7.4
comp=Z,0.8nm,0.7s
HFS Hagfors 85.77 29 P P 13 44 24.3 -0.7
comp=Z,1.6nm,0.7s,baz=216,slow=7.3,SNR=4.1
comp=Z,1.6nm,0.7s
ARCES ARCESS Array B 86.10 18 P P 13 44 26.4 -0.1
comp=Z,3.1nm,1.0s,baz=291,slow=5.1,SNR=4.1
comp=Z,3.1nm,1.0s
DBIC Dimbokro 86.62 84 P P 13 44 30.1 -0.1
comp=Z,3.7nm,0.6s,baz=264,slow=5.0,SNR=5.1
comp=Z,3.7nm,0.6s
FINES FINESS Array B 90.59 25 P P 13 44 47.1 -0.9
comp=Z,1.1nm,0.9s,baz=284,slow=0.8,SNR=3.9
comp=Z,1.1nm,0.9s
KURBB Kurchatov Arra 114.86 6 PKP PKPdf 13 50 27.0 +0.4
comp=Z,0.8nm,0.6s,baz=350,slow=2.1,SNR=8.2
MKAR Makanchi Array 118.97 4 PKP PKiKP 13 50 34.9 +0.1
comp=Z,0.3nm,0.5s,baz=0.0,slow=2.4,SNR=4.8
HHC Hu-ho-hao-te 120.51 338 *e*P **PKPdf 13 50 36.8 -1.2**
WMQ Urumqi 122.09 359 *e*PKP **PKiKP 13 50 41.2 +0.2**
WMQ sPKP 13 50 56.6
WMQ LR LR
comp=N,1μm,15.5s
WMQ LR LR
comp=E,1μm,17.1s
WMQ LR LR
comp=Z,1μm,18.9s
NJ2 Nanjing 124.64 327 *e*P **PKiKP 13 50 46.6 +0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
WRA Warramunga Arr 134.50 256 PKP PKiKP 13 51 06.8 +0.4
comp=Z,0.9nm,0.6s,baz=87,slow=4.2,SNR=13
ASAR Alice Springs 134.83 251 PKP PKiKP 13 51 06.3 -0.7
comp=Z,0.5nm,0.7s,baz=108,slow=2.3,SNR=7.2
CMAR Chiang Mai Arr 145.31 340 PKPbc PKPdf 13 51 25.4 +0.7
comp=Z,4.8nm,0.7s,baz=336,slow=3.3,SNR=34

*IDC **12** 13:37:00.5±1.9,27.7°79N×111.85W,h0km,mb4.0/4,*
mbtmp4.0/9,ML3.9/5,Error ellipse: s-maj=27.8km
s-min=15.2km az=13.0
*MEX **12** 13:37:00.8±0.6,27.9°94N×112.10W,h5km,MD4.2*
ISC 12 13:37:01.0±0.7,27.92°N±0.03×111.93°W±0.03,h10km,n30,
σ2°19/37,mb3.8/3,4C-2D,Gulf of California
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
SRIG Santa Rosala 0.66 205 *e*P **Pg 13 37 12.2 -1.6**
SRIG *e*S **Sb 13 37 21.4 -2.5**
SRIG Santa Rosala 0.66 205 ⇓*i*P **Pg 13 37 12.3 -1.6**
SRIG *e*S **Sb 13 37 21.5 -2.3**
SRIG IAML 13 37 23.4
comp=N,7μm,0.3s
SRIG IAML 13 37 23.5
comp=E,6μm,0.5s
BKIRB Bahia Kino 0.94 356 ⇓*i*P **Pg 13 37 16.8 -2.3**
BKIRB *e*S **Sg 13 37 28.9 -2.4**
GUYB Guaymas 0.94 91 *e*P **Pg 13 37 16.2 -2.9**
GUYB *e*S **Sg 13 37 30.1 -1.2**
GUYB Guaymas 0.94 91⇑*e*P **Pg 13 37 16.9 -2.3**
GUYB *e*S **Sg 13 37 29.5 -1.8**
GUYB IAML 13 37 36.9
comp=E,2μm,0.9s
GUYB IAML 13 37 37.0
comp=N,3μm,0.5s
SFQB San Francisqui 0.95 301⇑*i*P **Pg 13 37 16.2 -3.2**
SFQB *e*S **Sg 13 37 28.4 -3.4**
SFQB IAML 13 37 31.6
comp=N,5μm,0.4s
SFQB IAML 13 37 32.3
comp=E,4μm,0.4s
HSIG 1.40 38 *e*P **Pn 13 37 23.8 -2.8**
HSIG *e*S **Sn 13 37 43.2 -1.9**
HSIG 1.40 38 *e*P **Pn 13 37 23.9 -2.8**
HSIG *e*S **Sn 13 37 42.5 -2.7**
HSIG IAML 13 37 48.9
comp=E,1μm,0.4s
HSIG IAML 13 37 55.8
comp=N,1μm,0.7s
CDOB Cd. Obregon 1.67 107 *e*P **Pn 13 37 28.4 -2.0**
NE74 Guerrero Negro 1.84 273 *e*P **Pn 13 37 30.6 -2.1**
NE74 IAML 13 37 59.6
comp=E,1μm,0.5s
NE74 IAML 13 38 06.3
comp=N,1μm,0.7s
NE77 Loreto B.C.S 1.96 165 *e*P **Pn 13 37 32.7 -1.7**
NOVRB El Novillo Son 2.26 63 *e*P **Pb 13 37 41.0 -0.9**
NOVRB *e*S **Sb 13 38 07.5 -2.4**
UAGRB Rancho Ultima 2.42 165⇑*e*P **Pn 13 37 39.3 -1.5**
NZIG Nacozari, Sono 3.21 40 *e*P **Pn 13 37 51.7 0.0**
NZIG *e*S **Sn 13 38 30.2 +0.1**
NZIG Nacozari, Sono 3.21 40⇑*e*P **Pn 13 37 50.8 -0.9**
NZIG IAML 13 38 53.8
comp=N,640nm,0.8s
NZIG IAML 13 38 59.4
comp=E,690nm,0.8s
CSIG Choix 3.35 108 *e*P **Pn 13 37 52.5 -0.9**
SFX San Felipe 4.02 321 *e*P **Pn 13 38 01.1 -1.5**
SPIG San Pedro Mart 4.38 316 *e*P Pb 13 38 12.4 -6.0
TUC Tucson 4.49 13 *e*P **Pn 13 38 07.9 -1.3**
TUC *e*S **Sn 13 39 02.3 +0.8**
SLBS Sierra La Lagu 4.58 157 *e*P **Pn 13 38 12.6 +2.1**
PFO Pinyon Flats O 6.88 327 Lg Lg 13 40 46.5
comp=E,0.3nm,0.3s,baz=141,slow=5.8,SNR=6.5
TXAR Lajitas Array 7.40 77 Pn **Pn 13 38 49.5 +0.3**
comp=E,0.5nm,0.3s,baz=248,slow=12,SNR=26
TXAR Lg Lg 13 40 53.6
comp=E,0.5nm,0.3s,baz=203,slow=12,SNR=4.0
comp=E,0.9nm,0.3s
ANMO Albuquerque 8.42 32 Pn **Pn 13 39 06.4 +3.1**
comp=E,0.5nm,0.3s,baz=24,slow=16,SNR=7.2
ANMO Lg Lg 13 41 32.4
comp=E,0.4nm,0.3s,baz=96,slow=21,SNR=3.3
comp=E,3.4nm,0.7s
NVAR Mina Array Bea 11.76 335 Pn Pn 13 39 53.9 +4.9
comp=E,0.1nm,0.3s,baz=166,slow=13,SNR=4.3
comp=E,1.8nm,0.8s
ELK Elko 13.08 349 Pn **Pn 13 40 10.5 +3.4**
comp=E,0.2nm,0.3s,baz=179,slow=11,SNR=22
comp=E,11nm,0.9s
PDAR Pinedale Array 14.94 7 Pn **P 13 40 40.0 +1.8**
comp=E,0.3nm,0.3s,baz=175,slow=9.8,SNR=27
PDAR Lg Lg 13 44 56.9
comp=E,0.1nm,0.3s,baz=186,slow=23,SNR=6.6
comp=E,7.6nm,0.8s
NEW Newport 20.71 350 P Pn 13 41 43.1 -0.7
comp=E,14nm,0.9s,baz=159,slow=10,SNR=12
comp=E,14nm,0.9s
YKA Yellowknife Ar 34.62 358 P **P 13 43 51.3 +1.2**
comp=E,0.3nm,0.8s,baz=164,slow=9.0,SNR=2.6
comp=E,0.3nm,0.8s
ILAR Eielson Array 42.97 339 P **P 13 45 02.6 +2.5**
comp=E,1.9nm,1.0s,baz=144,slow=5.2,SNR=8.9
comp=E,1.9nm,1.0s
PETK Petropavlovsk- 68.40 320 P **P 13 48 05.6 +2.8**
comp=E,4.3nm,1.0s,baz=69,slow=13,SNR=8.0
comp=E,4.3nm,1.0s

DJA 12 13:45:47.2±0.3,2.°S±3.°×12.°3E±.°,h10km,M3.9/11,mb4.0/3,
MLv3.9/11,Sulawesi
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
LUWI Luwuk 0.97 14 P Pg 13 46 05.8 -0.1
LUWI S Sb 13 46 19.1 0.0
APSI Ampana 1.39 321 P Pn 13 46 12.7 +0.1
KDI Kendari 1.96 177 P Pn 13 46 21.7 +1.2
PCI Palu 2.90 292 P Pn 13 46 33.6 +0.1
KMSI Cibinong 2.93 30 P Pn 13 46 33.9 0.0
SPSI Sidrap Palu 3.38 235 P Pn 13 46 38.1 -2.0
SANI Sanana 3.46 91 P Pn 13 46 39.6 -1.5
MPSI Mapaga 3.50 311 P Pn 13 46 40.8 -1.0
TNTI Ternate 5.56 60 P Pn 13 47 10.8 +0.7
0.1nm8.5nm,0.7s

IDC 12 13:47:18.6±1.7,1.°94S×122.°54E,h0km,mb3.2/3,
mbtmp3.3/3,Error ellipse: s-maj=295.0km
s-min=28.2km az=60.0,Sulawesi
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
WRA Warramunga Arr 21.29 148 P P 13 52 05.8 -1.2
1.0nm,1.1s,baz=328,slow=9.6,SNR=2.6
1.0nm,1.1s
ASAR Alice Springs 24.24 154 P P 13 52 38.2 +0.7
0.3nm,0.5s,baz=334,slow=8.2,SNR=4.2
0.3nm,0.5s
MKAR Makanchi Array 60.02 329 P P 13 57 27.3 0.0
0.2nm,0.4s,baz=121,slow=6.7,SNR=4.3
0.2nm,0.4s

*PDG **12** 13:50:19.4±0.1,43.°00N×17.°69E,h6km,ML2.5/11,Error*
ellipse: s-maj=0.3km s-min=0.5km az=0.0
*RHSSO **12** 13:50:20.0±0.3,42.°97N×17.°64E,h4km±2km,ML2.1/9*
*BEO **12** 13:50:21.8±0.8,43.°16N×17.°68E,h0km,ML1.9/4*
ISC 12 13:50:19.4±0.9,42.°97N±0.°02×17.°62E±0.°02,h7km±7km,
n45,σ1°16/86,10C-6D,Adriatic Sea
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
STON Ston 0.11 149 ⇓*i*Pg **Pg 13 50 22.1 +0.2**
STON *e*Sg **Sg 13 50 24.3 +0.7**
STON Ston 0.11 149 *i*Pg **Pg 13 50 22.1 +0.2**
STON Sg **Sg 13 50 23.8 +0.2**
DBRK Dubrovnik 0.49 127 *e*Pg **Pg 13 50 28.7 -0.2**
DBRK Sg **Sg 13 50 35.8 +0.5**
MAKA Makarska 0.54 306 *e*Pg **Pg 13 50 29.2 -0.7**
MAKA Sg **Sg 13 50 36.8 -0.3**
LSTV Lastovo 0.57 250 *e*Pg **Pg 13 50 29.7 -0.8**
LSTV Sg **Sg 13 50 38.2 +0.3**
TREB Trebinje 0.59 115⇑*i*Pg **Pg 13 50 30.1 -0.8**
TREB *e*Sg **Sg 13 50 39.0 +0.4**
RICI Ricice 0.64 326 *e*Pg **Pg 13 50 30.7 -1.0**
RICI Sg **Sg 13 50 39.5 -0.5**
KLINJ Klinje 0.73 74 *e*Pg **Pg 13 50 32.3 -1.3**
KLINJ *e*Sg **Sg 13 50 43.3 +0.1**
KALIN Kalinovik 0.81 48 *e*Pg **Pg 13 50 33.9 -1.1**
KALIN *e*Sg **Sg 13 50 45.8 +0.3**
HCY Herceg Novi 0.83 129 *e*Pg **Pb 13 50 34.4 -1.7**
HCY *e*Sg **Sb 13 50 46.7 -0.7**
HCY Herceg Novi 0.83 129⇑*i*Pg **Pb 13 50 34.4 -1.7**
HCY *i*Sg **Sb 13 50 47.7 +0.3**
HVAR Hvar 0.88 284 *e*Pg **Pb 13 50 35.5 -1.6**
HVAR Sg **Sb 13 50 47.6 -1.4**
UPM Unac-Piva 0.97 75⇑*i*Pg **Pb 13 50 36.5 -2.2**
UPM *e*Sg **Sb 13 50 51.0 -0.8**
UPM Unac-Piva 0.97 75⇑*i*Pg **Pb 13 50 36.4 -2.2**
UPM *i*Sg **Sb 13 50 51.0 -0.8**
NKME Niksic 1.00 101 ⇓*i*Pg **Pb 13 50 37.0 -2.1**
NKME *i*Sg **Sb 13 50 51.8 -0.7**
CEME Cevo 1.04 113⇑*i*Pg **Pb 13 50 37.7 -2.1**
CEME *i*Sg **Sb 13 50 53.8 +0.1**
BUM Brajici-Budva 1.15 125⇑*i*Pg **Pn 13 50 40.2 -1.8**
BUM *i*Sg **Sn 13 50 58.3 +0.3**
PDG Podgorica 1.32 113 *e*Pg **Pn 13 50 44.3 +0.1**
PDG *e*Sg **Sn 13 51 01.6 -0.4**
PDG Podgorica 1.32 113 *e*Pg Pg 13 50 49.7 +5.0
PDG *e*Sg **Sg 13 51 05.1 +3.3**
PDG Podgorica 1.32 113 ⇓*i*Pg **Pn 13 50 43.2 -1.0**
PDG *i*Sg **Sg 13 51 03.5 +1.7**
PLE Pljevlja 1.34 74 ⇓*i*Pg **Pn 13 50 42.8 -1.9**
PLE *i*Sg **Sg 13 51 03.8 +1.1**
KIJV Kijevo 1.36 320 *e*Pg **Pn 13 50 44.6 -0.3**
KIJV Sg **Sb 13 51 03.1 +0.2**
DRME Dracevica, Mon 1.39 124 *e*Pg **Pn 13 50 44.8 -0.5**
DRME *e*Sg **Sn 13 51 04.5 +0.6**
DRME Dracevica, Mon 1.39 124⇑*i*Pg **Pn 13 50 44.9 -0.4**
DRME *i*Sg **Sg 13 51 06.3 +2.1**
KOME Kolasin 1.40 94⇑*i*Pg **Pn 13 50 44.4 -1.0**
KOME *i*Sg **Sb 13 51 05.2 +1.3**
RUDO Rudo 1.43 62⇑*i*Pg **Pn 13 50 44.8 -1.0**
RUDO *e*Sg **Sb 13 51 05.5 +0.6**
ULC Ulcinj 1.56 129 ⇓*i*Pg **Pn 13 50 47.9 +0.2**
ULC *i*Sg **Sg 13 51 11.6 +1.9**
BBLS Lazi&#263i 1.58 55 *e*Sn **Sb 13 51 09.1 -0.1**
ZIRJ Zirje 1.60 296 *e*Pg **Pn 13 50 49.2 +1.1**
ZIRJ Sg **Sb 13 51 10.8 +1.2**
MORI Morici 1.66 303 *e*Pn **Pb 13 50 50.8 +0.5**
MORI Sg **Sg 13 51 13.0 +0.3**
IVA Berane 1.67 92 ⇓*i*Pn **Pn 13 50 49.3 +0.1**
IVA *i*Sn **Sb 13 51 13.8 +2.0**
A050A Klekovaca 1.71 333 *e*Pn **Pn 13 50 50.7 +1.0**
A050A *e*Sn **Sb 13 51 13.2 +0.3**
SJES Sjenica 1.75 80 *e*Pn **Pn 13 50 50.9 +0.7**
SJES *e*Sn **Sn 13 51 13.1 +0.3**
SJES Sjenica 1.75 80 *e*Pg **Pb 13 50 52.4 +0.5**
SJES *e*Sg **Sb 13 51 15.4 +1.5**
BLY Banja Luka 1.81 350 *e*Sn **Sb 13 51 15.6 -0.1**
IVAS Ivanjica 1.95 71 *e*Pg **Pn 13 50 54.1 +1.2**
IVAS *e*Sg **Sb 13 51 20.2 +0.5**
UDBI Udbina 2.06 320 *e*Pn **Pb 13 50 56.6 -0.6**
UDBI Sn **Sb 13 51 23.2 +0.2**
TEKS Tekeris 2.10 41 *e*Pn **Pn 13 50 56.0 +1.0**
TEKS *e*Sn **Sn 13 51 21.8 +0.4**
TEKS Tekeris 2.10 41 *e*Pg **Pn 13 50 56.2 +1.2**
TEKS *e*Sg **Sn 13 51 22.1 +0.7**
A051A Mrakovica 2.11 346⇑*i*Pn **Pn 13 50 56.7 +1.5**
A051A *e*Sn **Sn 13 51 22.5 +0.8**
DUGI Dugi Otok 2.13 300 *e*Pn **Pn 13 50 56.9 +1.5**
DUGI Sn **Sb 13 51 24.6 -0.3**
KNYS Krupa na Uni 2.14 334 *e*Pn **Pn 13 50 56.6 +1.1**
KNYS *e*Sn **Sn 13 51 22.6 +0.3**
VIRC Vir 2.29 306 *e*Pn **Pb 13 51 00.0 -0.9**
VIRC Sn **Sb 13 51 29.1 -0.4**
GOCS Kraljevo Serbi 2.45 75 *e*Pn **Pn 13 51 02.2 +2.3**
GOCS *e*Sg **Sg 13 51 37.4 -0.7**
ZAPS Zavoj 3.68 84 *e*Pn **Pn 13 51 19.2 +2.4**

IDC 12 13:52:15.7±1.5,1.°69S×122.°66E,h0km,mb3.4/4,
mbtmp3.5/5,ML3.7/1,Error ellipse: s-maj=52.7km
s-min=22.3km az=59.0,Sulawesi
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KAPI Kappang 4.40 221 Pn Pn 13 53 22.9 -0.9
4.0nm,0.3s,baz=240,slow=2.6,SNR=5.0
KAPI Sn Sn 13 54 11.6 -4.2
3.4nm,0.3s,baz=8.2,slow=22,SNR=3.9
11nm,0.3s
WRA Warramunga Arr 21.43 149 P P 13 57 06.0 +0.4
1.2nm,0.7s,baz=332,slow=8.6,SNR=8.8
1.2nm,0.7s
ASAR Alice Springs 24.41 154 P P 13 57 36.1 0.0

0.3nm,0.6s,baz=330,slow=9.7,SNR=7.6
0.3nm,0.6s
CMAR Chiang Mai Arr 30.75 312 P P 13 58 33.9 +0.9
0.7nm,0.7s,baz=136,slow=6.7,SNR=5.5
0.7nm,0.7s
MKAR Makanchi Array 59.87 329 P P 14 02 22.4 -0.9
0.2nm,0.7s,baz=143,slow=5.0,SNR=2.2
0.2nm,0.7s

DJA 12 13:59:12.4±0.2,2°S±2°×12°3E±°,h10km,M3.9/16,mb3.8/5, MLv3.9/16,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.94**	**13**	P	Pg	13 59 30.2	-0.3
LUWI				S	Sb	13 59 43.1	-0.1
KDI	**Kendari**	**1.98**	**178**	P	Pn	13 59 46.0	-0.1
PCI	**Palu**	**2.92**	**291**	P	Pn	13 59 59.7	+0.8
SPSI	**Sidrap Palu**	**3.42**	**234**	P	Pn	14 00 06.1	+0.2
SANI	**Sanana**	**3.43**	**92**	P	Pn	14 00 04.9	-1.0
BNSI	**Bone**	**3.45**	**225**	P	Pn	14 00 06.4	+0.2
BBSI	**Bau Bau**	**3.50**	**180**	P	Pn	14 00 07.3	+0.3
MPSI	**Mapaga**	**3.51**	**311**	P	Pn	14 00 06.6	-0.4
BKSI	**Bulukumba**	**4.13**	**216**	P	Pn	14 00 15.6	0.0
BSSI	**Bau Bau, Buton**	**4.64**	**206**	P	Pn	14 00 22.7	+0.1
EDFI	**Ende, Flores**	**6.80**	**187**	P	Pn	14 00 52.4	0.0

IDC 12 14:00:11.9±2.7,1°91S×122°58E,h0km,mb3.2/3, mbtmp3.3/3,Error ellipse: s-maj=195.0km s-min=26.9km az=52.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.29**	**148**	P	P	14 05 01.1	+0.8
	0.7nm,0.8s,baz=334,slow=7.4,SNR=5.8						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**24.25**	**154**	P	P	14 05 30.2	-0.6
	0.3nm,0.7s,baz=332,slow=8.4,SNR=5.3						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.83**	**312**	P	P	14 06 30.0	+0.1
	0.4nm,0.6s,baz=139,slow=7.3,SNR=4.4						
	0.4nm,0.6s						

---

*IDC **12** 14:01:25.0±1.4,1°78S×122°67E,h0km,mb3.7/4, mbtmp3.8/6,ML3.3/2,Error ellipse: s-maj=52.2km s-min=20.8km az=60.0*
*DJA **12** 14:01:27.9±0.2,2°S±2°×12°3E±°,h10km,M4.1/18,mB4.7/1, mb4.2/6,MLv4.0/18,Mw(mB)4.0/1*
ISC 12 14:01:30.0±0.9,1°84S±0°05×122°57E±0°05,h35km,n20, σ0°92/21,mb3.7/4,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.81**	**14**	P	**Pn**	**14 01 43.5**	**-1.5**
APSI	**Ampana**	**1.30**	**315**	P	**Pn**	**14 01 51.8**	**+0.1**
KDI	**Kendari**	**2.11**	**179**	P	**Pn**	**14 02 02.5**	**-0.3**
KMSI	**Cibinong**	**2.78**	**30**	P	**Pn**	**14 02 14.7**	**+2.6**
PCI	**Palu**	**2.89**	**289**	P	**Pn**	**14 02 13.5**	**0.0**
SANI	**Sanana**	**3.42**	**94**	P	**Pn**	**14 02 19.5**	**-1.4**
MPSI	**Mapaga**	**3.44**	**309**	P	**Pn**	**14 02 20.1**	**-1.0**
SPSI	**Sidrap Palu**	**3.51**	**233**	P	**Pn**	**14 02 22.3**	**+0.2**
BNSI	**Bone**	**3.54**	**224**	P	**Pn**	**14 02 22.4**	**-0.1**
BBSI	**Bau Bau**	**3.63**	**180**	P	**Pn**	**14 02 23.4**	**-0.3**
KAPI	**Kappang**	**4.23**	**222**	Pn	**Pn**	**14 02 32.1**	**+0.1**
	9.9nm,0.3s,baz=16,slow=20,SNR=2.6						
KAPI				Sn	**Sn**	**14 03 20.6**	**+0.4**
	4.2nm,0.3s,baz=202,slow=22,SNR=3.5						
	18nm,0.3s						
BKSI	**Bulukumba**	**4.24**	**215**	P	**Pn**	**14 02 31.6**	**-0.5**
NLAI	**Namlea**	**4.73**	**107**	P	**Pn**	**14 02 39.6**	**+0.6**
BSSI	**Bau Bau, Buton**	**4.75**	**206**	P	**Pn**	**14 02 39.7**	**+0.5**
EDFI	**Ende, Flores**	**6.92**	**187**	P	**Pn**	**14 03 08.9**	**-0.3**
	0.0nm8.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**16.44**	**170**	Pn	**Pn**	**14 05 17.4**	**-0.8**
	baz=345,slow=12,SNR=1.1						
	1.8nm,1.0s						
WRA	**Warramunga Arr**	**21.36**	**148**	P	**P**	**14 06 13.8**	**-0.7**
	2.8nm,0.7s,baz=331,slow=9.6,SNR=12						
	2.8nm,0.7s						
ASAR	**Alice Springs**	**24.32**	**154**	P	**P**	**14 06 44.5**	**-0.1**
	1.2nm,0.7s,baz=323,slow=7.9,SNR=14						
	1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.78**	**312**	P	**P**	**14 07 43.0**	**+0.5**
	0.7nm,0.3s,baz=120,slow=8.7,SNR=5.1						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**59.95**	**329**	P	**P**	**14 11 33.2**	**+0.4**
	0.2nm,0.6s,baz=138,slow=7.6,SNR=3.7						
	0.2nm,0.6s						

DJA 12 14:04:29.9±0.9,2°S±3°×12°2E±°,h13km±8km,M3.8/13, mB6.0/1,mb4.0/3,MLv3.8/13,Mw(mB)5.6/1,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.93**	**21**	P	Pb	14 04 47.3	-0.7
LUWI				S	Sg	14 05 00.2	0.0
APSI	**Ampana**	**1.28**	**322**	P	Pn	14 04 53.4	-0.1
KDI	**Kendari**	**2.03**	**175**	P	Pn	14 05 04.9	+1.0
PCI	**Palu**	**2.79**	**291**	P	Pb	14 05 21.4	+1.7
SPSI	**Sidrap Palu**	**3.35**	**233**	P	Pn	14 05 22.2	+0.2
MPSI	**Mapaga**	**3.39**	**311**	P	Pn	14 05 22.0	-0.5
BNSI	**Bone**	**3.39**	**223**	P	Pn	14 05 23.7	+1.1
BBSI	**Bau Bau**	**3.55**	**178**	P	Pn	14 05 23.8	-0.9
BKSI	**Bulukumba**	**4.09**	**214**	P	Pn	14 05 32.2	0.0
BSSI	**Bau Bau, Buton**	**4.62**	**205**	P	Pn	14 05 40.0	+0.5
SMKI	**Samarinda**	**5.43**	**286**	P	Pn	14 05 50.3	-0.3
EDFI	**Ende, Flores**	**6.83**	**186**	P	Pn	14 06 09.1	-0.8
	0.0nm4.8nm,0.9s						

---

*IDC **12** 14:06:25.2±0.7,40°37N×127°01W,h0km,mb3.9/21, mbtmp3.9/27,ML4.0/6,Error ellipse: s-maj=16.3km s-min=8.2km az=24.0*
*NEIC **12** 14:06:27.1±2.1,40°39N±0°07×127°02W±0°09,h10km±1km, mb4.6/55,ML4.2/70,Mww4.8/7,Error ellipse: s-maj=13.5km s-min=9.7km az=42.0*
ISC 12 14:06:27.5±0.6,40°31N±0°07×127°00W±0°06,h16km, n194,σ1°31/178,mb4.5/59,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETL	**Petrolia**	**2.04**	**90**		**Pn**	**14 07 00.5**	**-0.7**
KCTM	**Capetown**	**2.04**	**85**		**Pn**	**14 07 01.1**	**-0.2**
KMPM	**Mount Pierce**	**2.21**	**86**		**Pn**	**14 07 03.2**	**-0.4**
JCC	**Jacoby Creek,**	**2.32**	**76**		**Pn**	**14 07 03.6**	**-1.4**
JCC				IAML		14 07 32.9	
	comp=N,1μm,0.7s						
JCC				IAML		14 07 32.9	
	comp=E,1μm,0.4s						
KRPM	**Rodgers**	**2.42**	**69**		**Pn**	**14 07 05.2**	**-1.3**
KRPM				IAML		14 07 35.7	
	comp=E,2μm,0.9s						
KRPM				IAML		14 07 37.6	
	comp=N,2μm,0.8s						
KCRM	**Chalk Rock**	**2.44**	**86**		**Pn**	**14 07 06.6**	**-0.1**
KMRM	**Mail Ridge**	**2.52**	**91**		**Pn**	**14 07 08.3**	**+0.4**
KHMM	**Horse Mountain**	**2.56**	**76**		**Pn**	**14 07 07.4**	**-1.0**
KHMM				IAML		14 07 42.4	
	comp=E,2μm,0.7s						
KHMM				IAML		14 07 43.9	
	comp=N,2μm,0.8s						
KCPM	**Cahto Peak**	**2.70**	**102**		**Pn**	**14 07 10.6**	**+0.2**
KIPM	**Iron Peak**	**2.75**	**99**		**Pn**	**14 07 11.5**	**+0.4**
GTC	**Three Chop Rid**	**2.81**	**108**		**Pn**	**14 07 12.3**	**+0.6**
KBO	**Bosley Butte**	**2.83**	**47**		**Pn**	**14 07 10.8**	**-1.3**
KBO				IAML		14 07 44.3	
	comp=N,510nm,0.3s						
KBO				IAML		14 07 45.7	
	comp=E,516nm,0.4s						
KOMM	**Orleans Mounta**	**2.86**	**69**		**Pn**	**14 07 11.8**	**-0.8**
KHBM	**Hayfork Bally**	**2.91**	**82**		**Pn**	**14 07 12.5**	**-0.8**
KHBM				IAML		14 07 50.6	
	comp=N,1μm,0.5s						
KHBM				IAML		14 07 51.2	
	comp=E,2μm,0.4s						
KBNM	**Bluenose Ridge**	**2.95**	**97**		**Pn**	**14 07 14.7**	**+0.8**
GHOM	**Hamilton Openi**	**2.96**	**114**		**Pg**	**14 07 23.1**	**-1.1**
GWRM	**Wonder Ranch**	**3.06**	**110**		**Pn**	**14 07 15.2**	**-0.1**
WEAV	**Weaverville**	**3.09**	**81**		**Pn**	**14 07 14.5**	**-1.3**
LBPM	**Beegum Peak**	**3.15**	**89**		**Pn**	**14 07 16.6**	**0.0**
L02F	**Cave Junction**	**3.16**	**54**		**Pn**	**14 07 16.1**	**-0.6**
L02F				IAML		14 07 53.6	
	comp=N,458nm,0.6s						
L02F				IAML		14 07 54.6	
	comp=E,502nm,0.5s						
O02D	**Mt. Diablo Mer**	**3.23**	**91**		**Pn**	**14 07 18.0**	**+0.3**
O02D				IAML		14 07 57.7	
	comp=E,345nm,0.7s						
O02D				IAML		14 07 59.5	
	comp=N,537nm,0.6s						
HOPS	**Hopland Field**	**3.31**	**112**		**Pn**	**14 07 18.5**	**-0.2**
HOPS				IAML		14 08 02.4	
	comp=N,1μm,0.8s						
HOPS				IAML		14 08 09.0	
	comp=E,507nm,0.8s						
N02D	**Trinity Center**	**3.34**	**77**		**Pn**	**14 07 21.0**	**+1.9**
N02D	**Trinity Center**	**3.34**	**77**	IAML		14 08 01.4	
	comp=N,1μm,0.4s						
N02D				IAML		14 08 05.9	
	comp=E,1μm,0.4s						
GROM	**Round Mountain**	**3.34**	**95**		**Pn**	**14 07 20.2**	**+0.9**
GVV	**Valley View**	**3.37**	**98**		**Pn**	**14 07 20.3**	**+0.7**
LBKM	**Bonanza King**	**3.39**	**75**		**Pn**	**14 07 19.5**	**-0.4**
GHCM	**House Creek**	**3.40**	**119**		**Pn**	**14 07 20.6**	**+0.6**
K02D	**Willamette Mer**	**3.46**	**45**		**Pn**	**14 07 19.8**	**-1.0**
YBH	**Yreka Blue Hor**	**3.54**	**65**		**Pn**	**14 07 21.4**	**-0.6**
YBH				IAML		14 08 06.7	
	comp=N,345nm,0.5s						
YBH	**Yreka Blue Hor**	**3.54**	**65**	Pn	**Pn**	**14 07 22.5**	**+0.5**
	comp=N,169nm,0.3s,baz=267,slow=13,SNR=1306						
YBH				Sn	**Sn**	**14 08 03.1**	**-0.5**
	comp=N,49nm,0.3s,baz=162,slow=20,SNR=7.2						
LAMM	**Antelope Mount**	**3.56**	**67**		**Pn**	**14 07 22.3**	**0.0**
GGPM	**Geyser Peak**	**3.57**	**114**		**Pn**	**14 07 23.1**	**+0.8**
GDXM	**Geysers**	**3.58**	**113**		**Pn**	**14 07 23.2**	**+0.7**
GDXM				IAML		14 08 26.0	
	comp=N,544nm,0.3s						
GDXM				IAML		14 08 26.5	
	comp=E,216nm,0.1s						
GCK	**Clark Valley**	**3.59**	**101**		**Pn**	**14 07 24.6**	**+2.0**
GAXM	**Alexander Vall**	**3.65**	**115**		**Pn**	**14 07 24.1**	**+0.7**
J01E	**Myrtle Point**	**3.66**	**38**		**Pn**	**14 07 21.9**	**-1.5**
J01E				IAML		14 08 07.5	
	comp=N,300nm,0.2s						
J01E				IAML		14 08 08.6	
	comp=E,250nm,0.5s						
GBGM	**Boggs Mountain**	**3.66**	**113**		**Pn**	**14 07 26.6**	**+3.0**
LCSM	**College of the**	**3.67**	**71**		**Pn**	**14 07 25.3**	**+1.6**
LTCM	**Tuscan Springs**	**3.73**	**90**		**Pn**	**14 07 25.3**	**+0.7**
GFC	**Funks Creek**	**3.76**	**104**		**Pn**	**14 07 27.0**	**+2.1**
B040	**Montague**	**3.78**	**65**		**Pn**	**14 07 26.3**	**+1.1**
LGBM	**Gray Butte**	**3.79**	**73**		**Pn**	**14 07 27.1**	**+1.5**
LSHM	**Sage Hen Hill**	**3.81**	**81**		**Pn**	**14 07 27.0**	**+1.4**
NMTM	**Middletown**	**3.83**	**112**		**Pn**	**14 07 27.1**	**+1.3**
LMPM	**Military Pass**	**3.85**	**71**		**Pn**	**14 07 27.5**	**+1.2**
LHEM	**Herd Peak**	**3.85**	**68**		**Pn**	**14 07 27.2**	**+0.8**
MCCM	**Marconi Confer**	**3.86**	**123**		**Pn**	**14 07 26.5**	**+0.2**
NPRM	**Point Reyes**	**3.87**	**125**		**Pn**	**14 07 26.6**	**+0.3**
DBO	**Dodson Butte**	**3.97**	**44**		**Pn**	**14 07 27.3**	**-0.6**
LDBM	**Digger Butte**	**3.99**	**87**		**Pn**	**14 07 28.5**	**+0.3**
L04D	**Klamath Falls**	**4.02**	**60**		**Pn**	**14 07 29.6**	**+1.0**
L04D				IAML		14 08 19.2	
	comp=N,660nm,0.7s						
BBOR	**Butler Butte**	**4.14**	**50**		**Pn**	**14 07 30.3**	**0.0**
BBOR				IAML		14 08 01.4	
	comp=E,140nm,0.9s						
ORV	**Oroville**	**4.30**	**98**	IAML		14 08 25.6	
	comp=N,141nm,0.6s						
ORV				IAML		14 08 26.8	
	comp=E,201nm,0.6s						
I03D	**Drain, OR**	**4.34**	**38**		**Pn**	**14 07 31.2**	**-1.7**
BUCK	**Buck Mountain**	**4.89**	**36**	IAML		14 09 34.9	
	comp=E,93nm,4.1s						
COR	**Corvallis**	**5.07**	**31**		**Pn**	**14 07 42.7**	**-0.2**
BEKR	**Beckworth**	**5.12**	**93**	IAML		14 08 48.2	
	comp=E,291nm,0.8s						
BEKR				IAML		14 08 51.0	
	comp=N,217nm,0.8s						
J05D	**Fort Rock, OR**	**5.24**	**54**	IAML		14 08 27.2	
	comp=E,86nm,0.9s						
J05D				IAML		14 08 56.5	
	comp=N,74nm,1.6s						
H04D	**Lebanon**	**5.26**	**35**	IAML		14 08 25.5	
	comp=N,84nm,0.7s						
H04D				IAML		14 08 31.2	
	comp=E,79nm,0.8s						
SAO	**San Andreas Ge**	**5.61**	**127**		**Pn**	**14 07 50.3**	**-0.1**
PMPB	**Monarch Peak**	**6.37**	**128**		**Pn**	**14 08 00.3**	**-0.5**
NVAR	**Mina Array Bea**	**7.00**	**103**		**Pn**	**14 08 11.6**	**+2.0**
NVAR	**Mina Array Bea**	**7.00**	**103**	Pn	**Pn**	**14 08 11.2**	**+1.7**
	comp=E,7.0nm,0.3s,baz=293,slow=16,SNR=84						
	comp=E,13nm,0.4s						
ISA	**Isabella, Lake**	**8.18**	**122**		**Pn**	**14 08 26.9**	**+1.3**
D08A	**Wollman Farm,**	**8.93**	**38**	Pn	**Pn**	**14 08 36.1**	**+0.4**
ELK	**Elko**	**8.97**	**83**	Pn	**Pn**	**14 08 38.2**	**+1.6**
	comp=E,0.3nm,0.3s,baz=272,slow=11,SNR=21						
	comp=E,3.1nm,0.7s						
SHPR	**Sheep Range**	**10.04**	**108**		**Pn**	**14 08 50.8**	**-0.4**
ELS	**Elsinore Mount**	**10.14**	**128**		**Pn**	**14 08 50.8**	**-1.7**
NEW	**Newport**	**10.64**	**38**	Pn	**Pn**	**14 09 00.1**	**+0.8**
	comp=E,0.2nm,0.3s,baz=214,slow=16,SNR=6.0						
	comp=E,5.0nm,0.8s						
BGU	**Big Grassy Mou**	**10.64**	**82**		**Pn**	**14 09 00.0**	**+0.6**
PFO	**Pinyon Flats O**	**10.76**	**125**		**Pn**	**14 08 59.8**	**-1.2**
PFO	**Pinyon Flats O**	**10.76**	**125**	Pn	**Pn**	**14 09 02.0**	**+1.0**
	comp=E,1.7nm,0.3s,baz=308,slow=14,SNR=8.5						
PFO				Sn	**Sn**	**14 11 00.9**	**-0.3**
	comp=E,0.7nm,0.3s,baz=53,slow=23,SNR=2.3						
	comp=E,8.7nm,0.6s						
MSO	**Missoula**	**11.49**	**51**		**Pn**	**14 09 11.8**	**+0.8**
BLYC	**Blythe**	**11.92**	**119**		**Pn**	**14 09 14.5**	**-2.4**
ESJX	**Sierra Juarez**	**12.18**	**129**		**Pn**	**14 09 20.4**	**-0.1**
BOZ	**Bozeman (W)**	**12.44**	**60**		**Pn**	**14 09 20.8**	**-3.1**
PDAR	**Pinedale Array**	**13.30**	**74**		**Pn**	**14 09 36.4**	**+0.5**
PDAR	**Pinedale Array**	**13.30**	**74**	Pn	**Pn**	**14 09 39.3**	**+3.5**
	comp=E,0.1nm,0.3s,baz=251,slow=12,SNR=13						
	comp=E,1.1nm,0.7s						
S22A	**4UR Ranch, Cre**	**15.89**	**93**	Pn	**P**	**14 10 15.0**	**+0.6**
LAO	**LASA Array**	**16.35**	**60**	Pn	**Pn**	**14 10 17.0**	**+0.7**
Q24A	**Divide**	**16.89**	**88**	Pn	**Pn**	**14 10 22.7**	**-0.8**
SDCO	**Great Sand Dun**	**16.90**	**92**	Pn	**Pn**	**14 10 23.6**	**0.0**
LENM	**Lemitar**	**17.07**	**105**	Pn	**Pn**	**14 10 24.7**	**-1.0**
ANMO	**Albuquerque**	**17.12**	**102**	Pn	**Pn**	**14 10 24.0**	**-2.4**
ANMO	**Albuquerque**	**17.12**	**102**	Pn	**Pn**	**14 10 24.1**	**-2.2**
ANMO				IAmb	IAmb	14 10 34.7	
	comp=Z,14nm,1.3s						
ANMO	**Albuquerque**	**17.12**	**102**	Pn	**Pn**	**14 10 25.5**	**-0.9**
ANMO				IAmb	IAmb	14 10 34.7	
	comp=Z,12nm,1.3s						
ANMO	**Albuquerque**	**17.12**	**102**	P	**Pn**	**14 10 26.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=100,slow=11,SNR=7.7						
	comp=Z,0.6nm,0.4s						
CRNM	**Carthage**	**17.35**	**105**		**P**	**14 10 30.2**	**-0.3**
T25A	**Trinidad**	**17.90**	**93**	Pn	**P**	**14 10 36.7**	**+0.1**
DGMT	**Dagmar**	**18.18**	**56**		**Pn**	**14 10 37.6**	**-1.6**
DGMT				IAmb	IAmb	14 10 44.0	
	comp=Z,38nm,1.1s						
OGNE	**Ogallala**	**18.95**	**80**	P	**P**	**14 10 47.5**	**-0.5**
OGNE				IAmb	IAmb	14 10 54.1	
	comp=Z,70nm,1.6s						
MNTX	**Cornudas Mount**	**19.45**	**109**	P	**P**	**14 10 54.0**	**+0.5**
CPRX	**Cap Rock**	**19.90**	**104**	P	**Pn**	**14 10 59.2**	**-0.9**
MSTX	**Muleshoe**	**20.30**	**100**	P	**P**	**14 11 02.2**	**-0.6**
MSTX				IAmb	IAmb	14 11 12.1	
	comp=Z,12nm,0.9s						
AMTX	**Amarillo**	**20.75**	**97**	P	Pn	14 11 09.6	-0.4
AMTX				IAmb	IAmb	14 11 22.9	
	comp=Z,25nm,0.9s						
CBKS	**Cedar Bluff**	**21.05**	**85**		**P**	**14 11 10.7**	**-0.1**
ODSA	**Odessa**	**21.31**	**105**	P	**P**	**14 11 15.4**	**+1.7**
BGNE	**Belgrade**	**21.81**	**78**	P	**P**	**14 11 21.1**	**+2.1**
BGNE				IAmb	IAmb	14 11 33.5	
	comp=Z,41nm,1.1s						
TXAR	**Lajitas Array**	**22.00**	**113**		**P**	**14 11 23.2**	**+2.0**
TXAR	**Lajitas Array**	**22.00**	**113**	P	**P**	**14 11 23.1**	**+1.9**
	comp=Z,9.4nm,1.0s,baz=316,slow=7.8,SNR=43						
	comp=Z,9.4nm,1.0s						
FFC	**Flin Flon**	**22.05**	**41**		**P**	**14 11 21.8**	**+0.4**
FFC				IAmb	IAmb	14 11 36.8	
	comp=Z,64nm,1.6s						
SN07	**Snyder 07**	**22.09**	**101**	P	**P**	**14 11 24.6**	**+2.6**
SN07				IAmb	IAmb	14 11 37.0	
	comp=Z,18nm,1.0s						
NOKA	**Waynoka**	**22.24**	**90**	P	**P**	**14 11 26.9**	**+3.3**
NOKA				IAmb	IAmb	14 11 29.1	
	comp=Z,28nm,0.9s						
OK038	**West end E0370**	**22.44**	**91**	P	**P**	**14 11 27.9**	**+2.2**
OK038				IAmb	IAmb	14 11 39.6	
	comp=Z,29nm,1.1s						
SAND	**Sanderson**	**22.75**	**109**	P	**P**	**14 11 31.0**	**+1.9**
ECSD	**EROS Data Cent**	**22.77**	**71**		**P**	**14 11 30.2**	**+1.1**
KAN14	**Manchester OK**	**22.89**	**89**	P	**P**	**14 11 31.0**	**+0.5**
KAN14				IAmb	IAmb	14 11 45.4	
	comp=Z,28nm,1.1s						
F33A	**5 Mile Ranch,**	**23.02**	**66**	P	**P**	**14 11 32.9**	**+1.2**
F33A				IAmb	IAmb	14 11 35.6	
	comp=Z,25nm,0.9s						
YKA	**Yellowknife Ar**	**23.44**	**15**	P	**P**	**14 11 35.7**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=203,slow=12,SNR=16						
	comp=Z,2.9nm,0.9s						
YKAW3	**Yellowknife Wh**	**23.50**	**14**	P	**P**	**14 11 36.1**	**-0.3**
YKAW3				IAmb	IAmb	14 11 44.9	
	comp=Z,25nm,1.6s						
AGMN	**Agassiz Nation**	**23.55**	**60**	P	**P**	**14 11 38.0**	**+0.9**
AGMN				IAmb	IAmb	14 11 39.9	
	comp=Z,28nm,1.1s						
N35A	**Tabor**	**23.76**	**78**	P	**P**	**14 11 38.2**	**-1.0**
DRIO	**Del Rio**	**24.14**	**109**	P	**P**	**14 11 41.0**	**-1.8**
DRIO				IAmb	IAmb	14 11 50.6	
	comp=Z,11nm,1.0s						
JCT	**Junction City**	**24.16**	**105**	P	**P**	**14 11 41.2**	**-1.9**
FW03	**Perrin-Whitt E**	**24.25**	**98**	P	**P**	**14 11 42.1**	**-1.7**
FW03				IAmb	IAmb	14 11 56.4	
	comp=Z,22nm,0.9s						
BRDY	**Brady**	**24.35**	**103**	P	**P**	**14 11 44.1**	**-0.7**
BRDY				IAmb	IAmb	14 11 55.9	
	comp=Z,12nm,0.9s						
WHTX	**Lake Whitney,**	**25.18**	**100**	P	**P**	**14 11 52.4**	**+0.2**
WHTX				IAmb	IAmb	14 12 05.2	
	comp=Z,19nm,0.9s						
U38A	**Gravette**	**25.78**	**88**	P	**P**	**14 11 59.8**	**+2.2**
U38A				IAmb	IAmb	14 12 19.8	
	comp=Z,13nm,1.0s						
K24K	**Donnelly Dome**	**26.00**	**341**	P	**P**	**14 11 58.8**	**-0.7**
O19K	**Port Alsworth**	**26.15**	**329**	P	**P**	**14 12 00.3**	**-0.4**
O19K				IAmb	IAmb	14 12 11.5	
	comp=Z,17nm,0.8s						
H29M	**Whitestone**	**26.74**	**350**		**P**	**14 12 04.4**	**-1.7**
H29M				IAmb	IAmb	14 12 15.8	
	comp=Z,7.2nm,0.8s						
ILAR	**Eielson Array**	**27.07**	**341**	P	**P**	**14 12 10.3**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=163,slow=8.5,SNR=7.8						
	comp=Z,0.8nm,0.9s						
HNVL	**Huntsville, TX**	**27.26**	**101**	P	**P**	**14 12 09.6**	**-1.4**
L19K	**White Mountain**	**27.59**	**332**	P	**P**	**14 12 12.7**	**-1.0**
L19K				IAmb	IAmb	14 12 27.3	
	comp=Z,20nm,1.1s						
L16K	**Owhat River**	**29.08**	**328**	P	**P**	**14 12 27.0**	**0.0**
S51A	**Beattyville**	**33.61**	**80**	P	**P**	**14 13 07.5**	**+0.4**
V55A	**Taylorsville**	**36.01**	**82**	P	**P**	**14 13 27.1**	**-0.8**
ILON	**Igloolik, Nuna**	**37.48**	**24**	P	**P**	**14 13 40.1**	**+0.2**
WBO	**Williamsburg**	**37.80**	**65**	P	**P**	**14 13 43.0**	**+0.1**
WBO				IAmb	IAmb	14 13 53.0	
	comp=Z,10nm,0.9s						
MTO3	**Montecristo**	**41.76**	**117**	P	**P**	**14 14 15.7**	**-0.7**
MTO3				IAmb	IAmb	14 14 29.2	
	comp=Z,7.7nm,0.8s						
PETK	**Petropavlovsk-**	**50.87**	**311**	P	**P**	**14 15 27.2**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=70,slow=9.5,SNR=6.3						
	comp=Z,2.3nm,0.8s						
SEY	**Seymchan**	**50.94**	**324**	P	**P**	**14 15 27.1**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=70,slow=11,SNR=7.2						
	comp=Z,0.8nm,0.7s						
SUMG	**Summit**	**51.66**	**23**		**P**	**14 15 33.4**	**-0.1**
RUSC	**La Rusia**	**59.09**	**110**	P	**P**	**14 16 27.6**	**-0.3**
RUSC				IAmb	IAmb	14 16 51.5	
	comp=Z,7.2nm,1.0s						
H11N3	**WAKE ISLAND Hy**	**59.46**	**271**	T	T	15 20 51.9	
	baz=53,slow=75,SNR=73						
H11N2	**WAKE ISLAND Hy**	**59.46**	**271**	T	T	15 21 07.0	
	baz=53,slow=75,SNR=59						
H11N1	**WAKE ISLAND Hy**	**59.48**	**271**	T	T	15 21 17.2	
	baz=53,slow=75,SNR=61						
SPITS	**Spitsbergen Ar**	**59.73**	**8**	P	**P**	**14 16 31.7**	**+0.8**
	comp=Z,9.2nm,0.9s,baz=319,slow=5.7,SNR=1.7						
	comp=Z,9.2nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**60.33**	**270**	T	T	15 21 51.2	
	baz=54,slow=75,SNR=53						
H11S2	**WAKE ISLAND Hy**	**60.33**	**270**	T	T	15 21 51.7	
	baz=54,slow=75,SNR=58						
H11S3	**WAKE ISLAND Hy**	**60.35**	**270**	T	T	15 21 52.6	
	baz=54,slow=75,SNR=35						
ASAJ	**Asahikawa**	**63.69**	**307**	P	**P**	**14 16 57.8**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=275,slow=8.2,SNR=6.8						
	comp=Z,1.5nm,0.8s						
ARCES	**ARCESS Array B**	**68.61**	**10**	P	**P**	**14 17 28.6**	**-0.6**

comp=Z,1.3nm,0.7s
CONA Conrad Observa 86.16 24 *i* PcP **P 14 19 09.1 +1.2**
comp=Z,2.6nm,0.7s
MI28 Mi28,Pidlybu 86.47 16 P **P 14 19 09.3 +0.1**
RONA Rosalia, Austr 86.50 24 *e*P **P 14 19 09.0 -0.5**
comp=Z,6.5nm,1.0s
KWP Kalwaria Pacla 86.55 19 P **P 14 19 09.7 0.0**
comp=Z,19µm,0.8s
ARSA Arzberg 86.66 25 *e*pP **P 14 19 12.9 +2.6**
comp=Z,1.3nm,0.7s
KURBB Kurchatov Arra 86.72 344 P **P 14 19 08.8 -1.7**
comp=Z,0.2nm,0.6s,baz=22,slow=4.7,SNR=12
comp=Z,0.2nm,0.6s
AK22 Malin Array Si 86.91 15 P **P 14 19 11.6 +0.2**
AK20 Malin Array Si 86.92 15 P **P 14 19 11.6 +0.2**
AK19 Malin Array Si 86.94 15 P **P 14 19 11.7 +0.2**
AK18 Malin Array Si 86.95 15 P **P 14 19 11.8 +0.2**
AKASG Malin Array Be 87.00 15 P **P 14 19 10.1 -1.7**
comp=Z,0.1nm,0.2s,baz=352,slow=4.1,SNR=1.7
comp=Z,0.1nm,0.2s
AKBB Malin Array Si 87.00 15 P **P 14 19 12.0 +0.2**
KIEV Kiev 87.00 15 P **P 14 19 12.0 +0.2**
SOKA Soboth 87.01 25 *e*P **P 14 19 11.4 -0.7**
comp=Z,5.0nm,1.4s
AK16 Malin Array Si 87.01 15 P **P 14 19 12.0 +0.1**
AK01 Malin Array Si 87.01 15 P **P 14 19 12.0 +0.1**
LUBAR Lubar, Ukraine 87.44 16 P **P 14 19 14.2 +0.2**
KMPD K-Podol'skiy 88.44 17 P **P 14 19 18.9 +0.1**
ABKAR Abkulak array 90.60 355 P **P 14 19 29.2 +0.3**
PZH PanZhiHua 99.54 317 P **Pdif 14 20 11.7 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s

MOS ***12*** *14:08:48.5±0.8, 49˚.88N×153˚.26E, h318km, mb4.0/7, Error ellipse: s-maj=11.1km s-min=4.7km az=65.2*
KRSC ***12*** *14:08:50.5±1.4, 49˚.85N×154˚.08E, h329km±12km, Ml4.4*
NEIC ***12*** *14:08:51.1±2.1, 50˚.3N±0˚.2×152˚.7E±0˚.2, h288km±13km, mb4.2/28, Error ellipse: s-maj=28.6km s-min=11.6km az=142.0*
IDC ***12*** *14:08:51.3±1.2, 50˚.29N×152˚.72E, h295km±11km, mb3.4/24, mbtmp4.1/28, Error ellipse: s-maj=12.5km s-min=8.9km az=151.0*
ISC 12 14:08:50.3±0.4, 50˚.08N±0˚.06×153˚.09E±0˚.05, h300km, n331, σ1§63/355, mb3.9/39, 6C-10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.03**	**72**	*e*PN	**Pn**	**14 09 37.2**	**0.0**
SKR				*e*S	**S**	**14 10 12.5**	**-2.1**
SKR				pmax	pmax		
	comp=Z,75nm,0.4s						
SKR				smax	smax		
	comp=E,313nm,0.8s						
SKR				smax	smax		
	comp=N,436nm,0.8s						
SKR	**Severo-Kuril's**	**2.03**	**72**	*e*P	**Pn**	**14 09 37.0**	**-0.2**
SKR				*e*S	**S**	**14 10 13.6**	**-0.9**
PAU	**Pauzhetka**	**2.74**	**58**	PN	**Pn**	**14 09 43.0**	**-0.4**
PAU	**Pauzhetka**	**2.74**	**58**	*e*P	**Pn**	**14 09 43.0**	**-0.4**
KDTR	**Khodutka, Kamc**	**3.60**	**59**	PN	**Pn**	**14 09 51.3**	**-0.7**
KDTR				S	**S**	**14 10 36.4**	**-5.0**
KDTR	**Khodutka, Kamc**	**3.60**	**59**	*e*P	**Pn**	**14 09 51.3**	**-0.7**
KDTR				*e*S	**S**	**14 10 36.5**	**-5.0**
APC	**Apacha**	**3.82**	**40**	PN	**Pn**	**14 09 54.4**	**+0.1**
APC	**Apacha**	**3.82**	**40**	*e*P	**Pn**	**14 09 54.5**	**+0.1**
GRL	**Gorelyy**	**3.99**	**50**	PN	**Pn**	**14 09 56.8**	**+0.4**
GRL	**Gorelyy**	**3.99**	**50**	*e*P	**Pn**	**14 09 56.8**	**+0.4**
RUS	**Russkaya**	**4.14**	**53**	PN	**Pn**	**14 09 58.0**	**+0.1**
RUS				S	**S**	**14 10 48.6**	**-3.5**
RUS	**Russkaya**	**4.14**	**53**	*e*P	**Pn**	**14 09 58.0**	**+0.1**
RUS				*e*S	**S**	**14 10 48.6**	**-3.5**
PEA0B	**Petropavlovsk-**	**4.18**	**42**		**Pn**	**14 09 58.2**	**-0.2**
PEA0B	**Petropavlovsk-**	**4.18**	**42**	*d i*PN	**Pn**	**14 09 57.9**	**-0.4**
PETK	**Petropavlovsk-**	**4.18**	**42**		**Pn**	**14 09 57.6**	**-0.7**
PETK	**Petropavlovsk-**	**4.18**	**42**	P	**Pn**	**14 09 58.0**	**-0.3**
	comp=N,10nm,0.5s,baz=220,slow=7.3,SNR=142						
PETK				S	**S**	**14 10 52.8**	**-0.1**
	comp=N,1.2nm,0.4s,baz=116,slow=6.8,SNR=1.3						
KRMR	**Karymshinskiy**	**4.18**	**47**	PN	**Pn**	**14 09 58.1**	**-0.3**
KRMR	**Karymshinskiy**	**4.18**	**47**	*e*P	**Pn**	**14 09 58.2**	**-0.3**
PET	**Petropavlovsk**	**4.55**	**48**		**Pn**	**14 10 03.1**	**+0.6**
PET	**Petropavlovsk**	**4.55**	**48**	*e*PN	**Pn**	**14 10 02.9**	**+0.4**
PET				*e*S	**S**	**14 10 55.4**	**-5.1**
PET				pmax	pmax		
	comp=Z,12nm,0.5s						
PET				smax	smax		
	comp=N,22nm,0.5s						
PET	**Petropavlovsk**	**4.55**	**48**	*e*P	**Pn**	**14 10 03.3**	**+0.8**
PET				*e*S	**S**	**14 10 58.5**	**-1.9**
INSR	**Institute**	**4.56**	**47**	PN	**Pn**	**14 10 02.7**	**+0.2**
INSR	**Institute**	**4.56**	**47**	*e*P	**Pn**	**14 10 02.8**	**+0.2**
DALK	**Dalny**	**4.61**	**48**	PN	**Pn**	**14 10 03.4**	**+0.3**
DALK	**Dalny**	**4.61**	**48**	*e*P	**Pn**	**14 10 03.4**	**+0.3**
GNL	**Ganaly**	**4.70**	**38**	PN	**Pn**	**14 10 04.7**	**+0.4**
GNL	**Ganaly**	**4.70**	**38**	*e*P	**Pn**	**14 10 04.8**	**+0.4**
KOK	**Koryaka**	**4.72**	**45**	PN	**Pn**	**14 10 06.0**	**+1.5**
KOK	**Koryaka**	**4.72**	**45**	*e*P	**Pn**	**14 10 06.1**	**+1.5**
AVH	**Avacha**	**4.75**	**46**	PN	**Pn**	**14 10 06.1**	**+1.3**
AVH	**Avacha**	**4.75**	**46**	*e*P	**Pn**	**14 10 06.1**	**+1.3**
UGLR	**Uglovaya**	**4.75**	**47**	PN	**Pn**	**14 10 05.9**	**+1.0**
UGLR				S	**S**	**14 11 02.9**	**-1.9**
UGLR	**Uglovaya**	**4.75**	**47**	*e*P	**Pn**	**14 10 05.9**	**+1.0**
UGLR				*e*S	**S**	**14 11 03.0**	**-1.9**
KRX	**Arik**	**4.77**	**44**	PN	**Pn**	**14 10 05.7**	**+0.6**
KRX	**Arik**	**4.77**	**44**	*e*P	**Pn**	**14 10 05.7**	**+0.6**
SDLR	**Sedlovina**	**4.82**	**46**	PN	**Pn**	**14 10 06.7**	**+1.0**
SDLR				S	**S**	**14 11 04.4**	**-1.9**
SDLR	**Sedlovina**	**4.82**	**46**	*e*P	**Pn**	**14 10 06.7**	**+1.0**
SDLR				*e*S	**S**	**14 11 04.5**	**-1.9**
NLC	**Nalytchevo**	**4.98**	**49**	PN	**Pn**	**14 10 06.6**	**-0.7**
NLC				S	**S**	**14 11 05.0**	**-4.2**
NLC	**Nalytchevo**	**4.98**	**49**	*e*P	**Pn**	**14 10 06.6**	**-0.7**
NLC				*e*S	**S**	**14 11 05.1**	**-4.2**
SPN	**Mys Shipunski**	**5.27**	**52**	PN	**Pn**	**14 10 09.9**	**-0.9**
SPN				S	**S**	**14 11 09.5**	**-6.1**
SPN	**Mys Shipunski**	**5.27**	**52**	*e*P	**Pn**	**14 10 10.0**	**-0.9**
SPN				*e*S	**S**	**14 11 09.5**	**-6.1**
KII	**Karymskiy**	**5.57**	**42**	PN	**Pn**	**14 10 15.6**	**+1.2**
KII	**Karymskiy**	**5.57**	**42**	*e*P	**Pn**	**14 10 15.6**	**+1.2**
KUR	**Kuril'sk**	**6.00**	**218**	*e*PN	**Pn**	**14 10 18.3**	**-1.2**
KUR				*e*S	**S**	**14 11 31.3**	**-0.2**
KUR				pmax	pmax		
	comp=Z,26nm,0.5s						
KUR				smax	smax		
	comp=E,61nm,0.3s						
KUR				smax	smax		
	comp=N,29nm,0.2s						
TYV	**Tymovskoe**	**6.71**	**281**	*e*PN	**Pn**	**14 10 27.9**	**-0.1**
TYV				*e*S	**S**	**14 11 46.1**	**-0.8**
TYV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TYV				pmax	pmax		
	comp=Z,100nm,3.6s						
TYV				smax	smax		
	comp=N,7.0nm,1.5s						
TYV				smax	smax		
	comp=E,4.0nm,1.5s						
ESO	**Esso**	**6.76**	**28**	PN	**Pn**	**14 10 30.0**	**+1.4**
ESO	**Esso**	**6.76**	**28**	*e*P	**Pn**	**14 10 30.1**	**+1.4**
TUMD	**Tumrok D**	**6.79**	**38**	PN	**Pn**	**14 10 29.7**	**+0.8**
TUMD				S	**S**	**14 11 44.3**	**-4.3**
TUMD	**Tumrok D**	**6.79**	**38**	*e*P	**Pn**	**14 10 29.8**	**+0.8**
TUMD				*e*S	**S**	**14 11 44.3**	**-4.3**
MKZ	**Mys Kozlova**	**6.94**	**46**	PN	**Pn**	**14 10 29.7**	**-0.9**
MKZ	**Mys Kozlova**	**6.94**	**46**	*e*P	**Pn**	**14 10 29.8**	**-0.9**
MKZ				*e*S	**S**	**14 11 44.7**	**-7.1**
KMNR	**Kamenistaya**	**7.14**	**34**	PN	**Pn**	**14 10 34.9**	**+1.7**
KMNR	**Kamenistaya**	**7.14**	**34**	*e*P	**Pn**	**14 10 35.0**	**+1.7**
KPT	**Kopyto**	**7.29**	**33**	PN	**Pn**	**14 10 36.3**	**+1.2**
KPT	**Kopyto**	**7.29**	**33**	*e*P	**Pn**	**14 10 36.3**	**+1.2**
KIRR	**Kirishev**	**7.33**	**34**	PN	**Pn**	**14 10 36.4**	**+0.8**
KIRR	**Kirishev**	**7.33**	**34**	*e*P	**Pn**	**14 10 36.4**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**7.45**	**35**	PN	**Pn**	**14 10 37.6**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**7.45**	**35**	*e*P	**Pn**	**14 10 37.6**	**+0.6**
SHO	**Shikotan**	**7.54**	**217**	*c i*PN	Pn	14 10 33.9	-4.3
SHO				pmax	pmax		
	comp=N,32nm,0.3s						
SHO				pmax	pmax		
	comp=E,24nm,0.3s						
SHO				pmax	pmax		
	comp=Z,83nm,0.3s						
YSS	**Yuzhno-Sakhali**	**7.54**	**249**		**Pn**	**14 10 36.3**	**-1.9**
YSS	**Yuzhno-Sakhali**	**7.54**	**249**	*de*PN	**Pn**	**14 10 38.1**	**-0.1**
KLY	**Klyuchi**	**7.72**	**33**	PN	**Pn**	**14 10 42.3**	**+2.1**
KLY	**Klyuchi**	**7.72**	**33**	*e*P	**Pn**	**14 10 42.3**	**+2.1**
YUK	**Yuzh-Kuril'sk**	**7.80**	**222**	*e*PN	**Pn**	**14 10 39.6**	**-1.8**
YUK				*i* S	**S**	**14 12 05.4**	**-6.1**
YUK				pmax	pmax		
	comp=Z,300nm,0.2s						
YUK				pmax	pmax		
	comp=N,35nm,0.1s						
YUK				pmax	pmax		
	comp=Z,151nm,1.1s						
YUK				smax	smax		
	comp=N,103nm,1.1s						
YUK				smax	smax		
	comp=E,196nm,1.0s						
NMR	**Nemuro--Hokkai**	**8.40**	**220**	*e*PN	Pn	14 10 43.5	-5.2
KBG	**Krutoberegovo**	**8.46**	**39**	PN	**Pn**	**14 10 49.6**	**+0.4**
KBG				S	**S**	**14 12 19.6**	**-6.2**
KBG	**Krutoberegovo**	**8.46**	**39**	*e*P	**Pn**	**14 10 49.6**	**+0.4**
KBG				*e*S	**S**	**14 12 19.6**	**-6.2**
KBTR	**Krutoberegovo**	**8.47**	**40**	PN	**Pn**	**14 10 49.4**	**0.0**
KBTR				S	**S**	**14 12 19.9**	**-6.3**
KBTR	**Krutoberegovo**	**8.47**	**40**	*e*P	**Pn**	**14 10 49.5**	**0.0**
KBTR				*e*S	**S**	**14 12 19.9**	**-6.3**
JKA	**Kamikawa-asahi**	**9.31**	**234**		**Pn**	**14 10 60.0**	**+0.1**
ASAJ	**Asahikawa**	**9.31**	**234**	P	**Pn**	**14 11 00.1**	**+0.1**
	comp=E,21nm,0.7s,baz=64,slow=12,SNR=58						
BKI	**Bering**	**9.36**	**52**	PN	**Pn**	**14 10 59.9**	**-0.4**
BKI	**Bering**	**9.36**	**52**	*e*P	**Pn**	**14 10 59.9**	**-0.4**
BKI				*e*S	S	14 12 35.9	-10
ERM	**Erimo**	**10.61**	**224**	P	Pn	14 11 11.6	-4.2
ERM	**Erimo**	**10.61**	**224**	*de*PN	**Pn**	**14 11 13.6**	**-2.2**
JEM	**Erimo**	**10.61**	**224**	P	**Pn**	**14 11 14.0**	**-1.8**
TEY	**Ternei**	**12.22**	**252**	*e*PN	Pn	14 11 26.4	-9.0
JTM	**Tenmabayashi**	**12.54**	**227**	Pn	Pn	14 11 34.9	-4.4
JTM	**Tenmabayashi**	**12.54**	**227**	P	Pn	14 11 35.0	-4.3
SEY	**Seymchan**	**12.89**	**359**	P	**Pn**	**14 11 44.2**	**+0.9**
	comp=E,4.6nm,0.5s,baz=173,slow=10.0,SNR=53						
SEY	**Seymchan**	**12.89**	**359**	‖ *e*PN	**Pn**	**14 11 43.3**	**0.0**
SEY				pmax	pmax		
	comp=Z,15nm,1.7s						
KLR	**Kul'dur**	**13.85**	**275**	P	**P**	**14 11 56.0**	**+1.5**
	comp=Z,7.7nm,0.6s,baz=75,slow=12,SNR=30						
KLR	**Kul'dur**	**13.85**	**275**	*d i*P	**P**	**14 11 56.3**	**+1.8**
KLR				pmax	pmax		
	comp=Z,13nm,1.3s						
JMM	**Marumori**	**15.05**	**220**	P	**P**	**14 12 07.4**	**-0.5**
JMM	**Marumori**	**15.05**	**220**	P	**P**	**14 12 09.2**	**+1.3**
USA0B	**Ussuriysk Arra**	**15.49**	**256**	‖ *e*P	**P**	**14 12 14.1**	**+1.5**
USRK	**Ussuriysk Ar.**	**15.49**	**256**	P	**P**	**14 12 14.4**	**+1.8**
	comp=Z,2.7nm,0.5s,baz=60,slow=14,SNR=7.3						
JSD	**Sado**	**16.04**	**227**	P	**P**	**14 12 18.6**	**-0.1**
JSD				IAmb	IAmb	14 12 21.7	
	comp=Z,4.8nm,0.5s						
MJB9	**Matsu-Tunnel**	**17.28**	**224**	P	**P**	**14 12 34.0**	**+1.8**
MAJO	**Matsushiro**	**17.29**	**224**		**P**	**14 12 33.0**	**+0.8**
MAJO	**Matsushiro**	**17.29**	**224**	P	**P**	**14 12 33.6**	**+1.4**
MAJO	**Matsushiro**	**17.29**	**224**	‖ *e*P	**P**	**14 12 33.4**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,17nm,0.6s						
MJAR	**Matsushiro Arr**	**17.29**	**224**	P	**P**	**14 12 34.8**	**+2.6**
	comp=Z,14nm,0.7s,baz=21,slow=12,SNR=45						
YAK	**Yakutsk**	**17.60**	**322**	P	**P**	**14 12 34.1**	**-1.1**
	comp=Z,16nm,0.4s,baz=180,slow=3.0,SNR=11						
YAK	**Yakutsk**	**17.60**	**322**	*e*P	**P**	**14 12 34.8**	**-0.4**
YAK				pmax	pmax		
	comp=Z,30nm,1.0s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,8.0nm,2.1s						
JGF	**Kuroka**	**18.45**	**224**	P	**P**	**14 12 44.6**	**-0.1**
JGF	**Kuroka**	**18.45**	**224**	P	**P**	**14 12 45.0**	**+0.3**
INU	**Inuyama**	**18.81**	**225**	P	**P**	**14 12 48.7**	**+0.1**
INU	**Inuyama**	**18.81**	**225**	P	**P**	**14 12 49.8**	**+1.2**
KSRS	**Korea Array**	**22.00**	**245**	P	**P**	**14 13 21.8**	**+1.6**
	comp=E,1.7nm,0.7s,baz=51,slow=9.9,SNR=9.3						
	comp=E,1.7nm,0.7s						
SPIA	**Saint Paul Isl**	**22.65**	**58**	P	**P**	**14 13 27.2**	**+1.4**
	baz=268						
P08K	**Saint George I**	**23.02**	**59**	P	**P**	**14 13 30.6**	**+1.4**
	baz=270						
GAMB	**Gambell**	**23.21**	**41**	P	**P**	**14 13 31.5**	**+0.6**
	baz=251						
TIXI	**Tiksi**	**24.28**	**342**		**P**	**14 13 40.6**	**+0.2**
TIXI				IAmb	IAmb	14 13 41.4	
	comp=Z,7.5nm,0.9s						
TIXI	**Tiksi**	**24.28**	**342**	‖ *i*P	**P**	**14 13 40.6**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
M11K	**Mekoryuk**	**24.99**	**50**	P	**P**	**14 13 47.6**	**+0.7**
	baz=265						
F14K	**Arctic Creek**	**25.94**	**38**	P	**P**	**14 13 55.6**	**+0.2**
	baz=254						
ANM	**Nome**	**26.09**	**41**	P	**P**	**14 13 56.9**	**+0.1**
	baz=257						
J14K	**Nanvaranak Lak**	**26.54**	**45**	P	**P**	**14 14 01.4**	**+0.7**
	baz=262						
L14K	**Kuka Creek**	**26.79**	**48**	P	**P**	**14 14 04.0**	**+1.0**
	baz=266						
M14K	**Bethel**	**27.11**	**50**	P	**P**	**14 14 07.1**	**+1.3**
	baz=268						
D17K	**Noatak River**	**27.83**	**34**	P	**P**	**14 14 12.5**	**+0.4**
	baz=254						
I17K	**Unalakleet**	**27.98**	**43**	P	**P**	**14 14 14.1**	**+0.7**
	baz=263						
E17K	**Hotham Inlet**	**28.13**	**36**	P	**P**	**14 14 15.2**	**+0.5**
	baz=256						
O15K	**Ungalikthiuk R**	**28.18**	**53**	P	**P**	**14 14 16.2**	**+0.9**
	baz=273						
F17K	**Baldwin Pennin**	**28.20**	**37**	P	**P**	**14 14 17.8**	**+2.4**
F17K				IAmb	IAmb	14 14 35.2	
	comp=Z,9.2nm,1.2s						
F17K	**Baldwin Pennin**	**28.20**	**37**	P	**P**	**14 14 16.2**	**+0.9**
	baz=258						
L16K	**Owhat River**	**28.35**	**48**	P	**P**	**14 14 17.4**	**+0.6**
	baz=268						
H17K	**Granite Mounta**	**28.46**	**41**	P	**P**	**14 14 18.2**	**+0.5**
	baz=262						
E18K	**Tukpahlearik C**	**28.68**	**36**	P	**P**	**14 14 19.6**	**+0.1**
	baz=257						
CHNA	**Chernabura Isl**	**28.78**	**62**	P	**P**	**14 14 22.4**	**+1.8**
	baz=281						
C18K	**Utukok River**	**28.79**	**33**	P	**P**	**14 14 21.6**	**+0.9**
	baz=254						
B18K	**Kokolik River**	**28.80**	**31**	P	**P**	**14 14 21.6**	**+1.0**
	baz=252						
L17K	**Donlin**	**28.92**	**47**	P	**P**	**14 14 22.7**	**+0.9**
	baz=269						
K17K	**Iditarod**	**28.95**	**46**	P	**P**	**14 14 22.7**	**+0.7**
	baz=268						
O16K	**Kokwok River B**	**29.04**	**52**	P	**P**	**14 14 24.0**	**+1.1**
	baz=273						
G18K	**Tagagawik**	**29.13**	**39**	P	**P**	**14 14 24.1**	**+0.5**
	baz=262						
H18K	**Honhosa River**	**29.14**	**41**	P	**P**	**14 14 24.7**	**+0.9**
	baz=263						
CHGN	**Chignik**	**29.20**	**59**	P	**P**	**14 14 26.2**	**+2.0**
	baz=279						
M17K	**Holitna River**	**29.32**	**48**	P	**P**	**14 14 26.6**	**+1.2**
	baz=271						
N17K	**Nushagak Hills**	**29.46**	**50**	P	**P**	**14 14 27.6**	**+1.1**
	baz=272						
L18K	**Granite Mounta**	**29.68**	**47**	P	**P**	**14 14 29.7**	**+1.3**
	baz=270						
J18K	**Innoko River**	**29.71**	**44**	P	**P**	**14 14 29.5**	**+0.8**
	baz=268						
GCSA	**Galena City Sc**	**29.73**	**42**	P	**P**	**14 14 29.9**	**+1.1**
	baz=265						
G19K	**Purcell Mounta**	**29.80**	**39**	P	**P**	**14 14 29.8**	**+0.3**
	baz=263						
D19K	**Kuna River**	**29.84**	**34**	P	**P**	**14 14 30.3**	**+0.4**
	baz=258						
P17K	**Kvichak River**	**29.91**	**53**	P	**P**	**14 14 31.7**	**+1.2**
	baz=275						
E19K	**Redstone River**	**29.95**	**36**	P	**P**	**14 14 31.4**	**+0.6**
	baz=260						
H19K	**Roundabout Mou**	**29.99**	**40**	P	**P**	**14 14 32.2**	**+1.1**
	baz=264						
N18K	**Kilae Creek**	**30.09**	**50**	P	**P**	**14 14 33.1**	**+1.0**
	baz=273						
HHC	**Hu-ho-hao-te**	**30.21**	**268**	*e*P	**P**	**14 14 32.4**	**-1.1**
D20K	**Etivluk River**	**30.43**	**34**	P	**P**	**14 14 36.5**	**+1.5**
D20K				IAmb	IAmb	14 14 38.0	
	comp=Z,6.9nm,1.1s						
D20K	**Etivluk River**	**30.43**	**34**	P	**P**	**14 14 35.5**	**+0.5**
	baz=259,SNR=5.2						
F20K	**Avaraart Lake**	**30.47**	**37**	P	**P**	**14 14 36.3**	**+1.0**
	baz=262						
O18K	**Koktuh Hills**	**30.48**	**51**	P	**P**	**14 14 36.6**	**+1.1**
	baz=275						
E20K	**Nigu River**	**30.49**	**35**	P	**P**	**14 14 36.7**	**+1.1**
	baz=260						
P18K	**Big Mountain,**	**30.51**	**52**	P	**P**	**14 14 36.6**	**+0.8**
	baz=276						
B20K	**Meade River**	**30.54**	**31**	P	**P**	**14 14 36.5**	**+0.6**
	baz=256						
H20K	**Anotleneega Mo**	**30.63**	**40**	P	**P**	**14 14 37.4**	**+0.6**
	baz=266						
Q18K	**Katmai Hardscr**	**30.71**	**54**	P	**P**	**14 14 38.6**	**+0.9**
	baz=278						
I20K	**Naaghedeneel**	**30.76**	**42**	P	**P**	**14 14 38.3**	**+0.5**
	baz=268						
J20K	**Nowinta River**	**30.87**	**43**	P	**P**	**14 14 40.0**	**+1.1**
	baz=269						
K20K	**Telida**	**30.89**	**44**	P	**P**	**14 14 39.5**	**+0.4**
	baz=270						
O19K	**Port Alsworth**	**30.90**	**51**	P	**P**	**14 14 40.4**	**+1.3**
	baz=275						
L20K	**Farewell, AK**	**30.99**	**46**	P	**P**	**14 14 40.5**	**+0.5**
	baz=272						
R18K	**Karluk**	**31.15**	**56**	P	**P**	**14 14 42.6**	**+1.3**
	baz=280						
C21K	**Knifeblade Rid**	**31.16**	**33**	P	**P**	**14 14 41.2**	**-0.2**
	baz=260						
G21K	**Allakaket**	**31.28**	**38**	P	**P**	**14 14 44.1**	**+1.6**
	baz=266						
B21K	**Ikpikpuk River**	**31.31**	**32**	P	**P**	**14 14 43.0**	**+0.4**
	baz=259						
E21K	**Killik River**	**31.33**	**35**	P	**P**	**14 14 44.0**	**+1.1**
	baz=262						
F21K	**Alatna River**	**31.36**	**37**	P	**P**	**14 14 43.6**	**+0.5**
	baz=264						
M20K	**Styx River**	**31.36**	**47**	P	**P**	**14 14 43.8**	**+0.5**
	baz=274						
Q19K	**Cape Douglas,**	**31.38**	**53**	P	**P**	**14 14 44.1**	**+0.7**
	baz=278						
SII	**Sitkinak Islan**	**31.47**	**58**	P	**P**	**14 14 45.6**	**+1.4**
	baz=282						
A22K	**Sinclair Lake**	**31.49**	**30**	P	**P**	**14 14 43.9**	**-0.3**
	baz=257						
P19K	**Oil Pt**	**31.50**	**52**	P	**P**	**14 14 45.0**	**+0.5**
	baz=277						
H21K	**Melozitna Rive**	**31.51**	**40**	P	**P**	**14 14 44.7**	**+0.2**
	baz=268						
CHUM	**Lake Minchumin**	**31.68**	**43**	P	**P**	**14 14 46.7**	**+0.8**
	baz=271						
PPLA	**Purkeypile**	**31.75**	**45**	P	**P**	**14 14 46.5**	**-0.3**
	baz=273						
CAST	**Castle Rocks**	**31.79**	**44**	P	**P**	**14 14 47.9**	**+1.0**
	baz=272						
OHAK	**Old Harbor**	**31.83**	**56**	P	**P**	**14 14 48.1**	**+0.8**
	baz=281						
SPCR	**Spurr Chakacha**	**31.85**	**48**	P	**P**	**14 14 48.0**	**+0.5**
	baz=275						
B22K	**Teshekpuk Lake**	**31.85**	**31**	P	**P**	**14 14 49.4**	**+2.1**
B22K	**Teshekpuk Lake**	**31.85**	**31**	P	**P**	**14 14 46.8**	**-0.5**
	baz=260						
D22K	**Ayikyak River**	**31.86**	**34**	P	**P**	**14 14 50.0**	**+2.5**
D22K				IAmb	IAmb	14 14 50.3	
	comp=Z,3.9nm,0.7s						
D22K	**Ayikyak River**	**31.86**	**34**	P	**P**	**14 14 48.2**	**+0.7**
	baz=263						
F22K	**John River**	**31.89**	**36**	P	**P**	**14 14 47.9**	**+0.1**
	baz=265						
Q20K	**Shuyak Island**	**32.07**	**53**	P	**P**	**14 14 50.2**	**+0.8**
	baz=279						
E22K	**Anaktuvuk Pass**	**32.09**	**35**	P	**P**	**14 14 49.8**	**+0.3**
	baz=265						
G22K	**Bettles**	**32.10**	**38**	P	**P**	**14 14 49.8**	**+0.2**
	baz=267						
KDAK	**Kodiak Island**	**32.10**	**55**	P	**P**	**14 14 48.7**	**-0.9**
	baz=281						
H22K	**Ishtalitna Cre**	**32.10**	**40**	P	**P**	**14 14 50.0**	**+0.4**
	baz=269						
SKT	**Skwentna**	**32.11**	**47**	P	**P**	**14 14 48.8**	**-0.9**
	baz=275						
BPAW	**Bear Paw Mtn.**	**32.26**	**43**	P	**P**	**14 14 49.1**	**-1.9**
	baz=272						
HOM	**Homer**	**32.30**	**51**	P	**P**	**14 14 50.6**	**-0.7**
	baz=278						
SUA	**Susitna One**	**32.53**	**48**	P	**P**	**14 14 54.8**	**+1.3**
	baz=276						
TRF	**Thorofare Moun**	**32.59**	**44**	P	**P**	**14 14 54.5**	**+0.5**
	baz=274						
D23K	**Nanushuk River**	**32.59**	**34**	P	**P**	**14 14 56.1**	**+2.4**
	baz=264						
COLD	**Coldfoot**	**32.63**	**37**		**P**	**14 14 56.3**	**+2.1**
COLD				IAmb	IAmb	14 14 57.3	
	comp=Z,8.4nm,1.2s						
COLD	**Coldfoot**	**32.63**	**37**	P	**P**	**14 14 53.9**	**-0.2**
	baz=268						
CUT	**Chulitna**	**32.67**	**46**	P	**P**	**14 14 54.7**	**+0.2**
	baz=275						
G23K	**Bananza Creek**	**32.68**	**38**	P	**P**	**14 14 55.3**	**+0.7**
	baz=269						
C23K	**Itkillik River**	**32.72**	**32**	P	**P**	**14 14 53.5**	**-1.3**
	baz=263						
M22K	**Willow**	**32.80**	**47**	P	**P**	**14 14 56.7**	**+1.2**
	baz=276						
H23K	**Yukon River**	**32.86**	**40**	P	**P**	**14 14 56.6**	**+0.5**
	baz=270						
E23K	**Chandalar**	**32.91**	**36**	P	**P**	**14

E25K IAmb IAmb 14 15 12.9
comp=Z,4.7nm,0.6s
E25K Arctic Village 34.42 36 P **P 14 15 08.2 -1.3**
baz=271,SNR=5.7
PRP Porcupine Dome 34.53 40 P **P 14 15 10.6 0.0**
baz=274,SNR=5.7
M24K Tolsona, Glenn 34.61 46 P **P 14 15 10.6 -0.6**
baz=279
J25K Salcha River, 34.67 42 P **P 14 15 10.9 -0.8**
baz=276
C26K Camden Bay 34.69 32 P **P 14 15 10.9 -0.8**
baz=269
PAX Paxson 34.81 45 P **P 14 15 13.8 +0.8**
baz=278
F26K Sheenjek River 34.97 36 P **P 14 15 13.8 -0.4**
baz=272
HARP HAARP 35.03 46 P **P 14 15 15.7 +0.9**
baz=279
EYAK Cordova Ski Ar 35.07 49 P **P 14 15 15.8 +0.8**
baz=281
C27K Jago River 35.10 33 P **P 14 15 15.4 +0.1**
baz=270
G26K Porcupine Rive 35.15 38 P **P 14 15 15.0 -0.6**
baz=274
SCRK Sand Creek 35.34 43 P **P 14 15 16.9 -0.6**
baz=278
J26L Joseph Creek 35.46 42 P **P 14 15 17.6 -0.9**
baz=278
I26K Coal Creek Min 35.54 40 P **P 14 15 18.5 -0.5**
baz=277
BMRM Bremner River 35.54 48 P **P 14 15 18.6 -0.6**
baz=282
E27K Coleen River 35.91 35 P **P 14 15 20.7 -1.4**
baz=274,SNR=6.2
G27K Doyon Strip 35.99 38 P **P 14 15 21.6 -1.3**
baz=276
M26K Nabesna, AK 36.03 45 P **P 14 15 22.8 -0.4**
baz=281
D27M Malcolm River 36.08 34 P **P 14 15 22.7 -0.9**
baz=273
H27K Steamboat Moun 36.10 39 P **P 14 15 23.8 0.0**
baz=277
I27K Kandik River 36.14 40 P **P 14 15 23.8 -0.3**
baz=278
K27K Chicken 36.17 42 P **P 14 15 23.5 -0.7**
baz=279
L27K Beaver Creek, 36.44 44 P **P 14 15 27.4 +0.8**
baz=281
M27K Edge Creek, AK 36.55 45 P **P 14 15 27.8 +0.1**
baz=282
E28M Babbage River 36.64 35 P **P 14 15 27.4 -0.8**
baz=275
I28M Miner Creek 36.86 40 P **P 14 15 31.9 +1.7**
I28M Miner Creek 36.86 40 P **P 14 15 28.6 -1.6**
baz=279,SNR=7.7
D28M Stokes Point 36.87 33 P **P 14 15 28.3 -1.7**
baz=275
MESA MESA 36.99 49 P **P 14 15 30.1 -1.4**
baz=285
BVCY Beaver Creek 37.00 45 P **P 14 15 30.0 -1.3**
baz=282
E29M Blow River 37.26 35 P **P 14 15 32.3 -1.1**
baz=277
DAWY Dawson 37.32 42 P **P 14 15 32.6 -1.5**
baz=282
YUK3 Moose Creek 37.32 46 P **P 14 15 33.7 -0.6**
baz=284
H29M Whitestone 37.38 38 P **P 14 15 34.7 +0.3**
baz=280
G29M Pine Creek 37.41 37 IAmb IAmb 14 15 43.5
comp=Z,12nm,1.5s
G29M Pine Creek 37.41 37 P **P 14 15 34.9 +0.2**
baz=279
O28M Mount Upton 37.69 48 P **P 14 15 38.6 +1.2**
baz=285
J29N Klondike Camp 37.75 41 P **P 14 15 37.9 +0.3**
baz=282
YUK8 Steele Glacier 37.76 47 P **P 14 15 37.4 -0.6**
baz=285
EPYK Eagle Plains 38.01 38 P **P 14 15 38.6 -1.0**
baz=281
L29M L29M 38.08 43 P **P 14 15 38.9 -1.4**
baz=284
M29M Somme Creek 38.08 45 P **P 14 15 40.5 +0.1**
baz=284
G30M tAoh Zraii Nji 38.10 37 P **P 14 15 38.5 -2.0**
baz=280
F30M Barrier River 38.16 36 IAmb IAmb 14 15 45.1
comp=Z,11nm,0.7s
F30M Barrier River 38.16 36 P **P 14 15 38.6 -2.3**
baz=280,SNR=17
YUK4 Talbot Arm 38.27 46 P **P 14 15 41.4 -0.7**
baz=285
I30M Mount Dempster 38.37 40 P **P 14 15 41.7 -1.1**
baz=282,SNR=8.1
YUK6 Outpost Mounta 38.51 47 P **P 14 15 42.9 -1.2**
baz=286
J30M Hart River 38.52 41 P **P 14 15 42.5 -1.6**
baz=283
O29M Mount Kennedy 38.58 48 P **P 14 15 42.3 -2.3**
baz=287
M30M Minto, Yukon 38.80 44 P **P 14 15 44.2 -2.0**
baz=285
G31M Satah River 38.86 37 P **P 14 15 46.2 -0.4**
baz=282,SNR=31
HYT Haines Junctio 38.95 47 P **P 14 15 46.8 -0.8**
baz=287
F31M Tsiigehtchic 38.96 36 P **P 14 15 47.6 +0.2**
baz=282,SNR=6.4
N30M Aishikik Lake 38.96 46 P **P 14 15 47.8 +0.2**
baz=286
H31M Peel River 39.07 39 P **P 14 15 49.3 +0.8**
baz=283,SNR=11
P30M Million Dollar 39.41 48 P **P 14 15 53.1 +1.7**
baz=288
M31M Drury Creek, Y 39.98 44 P **P 14 15 58.5 +2.5**
baz=288
ZALV Zalesovo Beam 40.72 303 P **P 14 16 00.5 -1.6**
comp=Z,1.5nm,0.4s,baz=59,slow=6.9,SNR=7.3
ZALV PcP **PcP 14 17 56.8 -0.1**
comp=Z,0.2nm,0.3s,baz=46,slow=4.2,SNR=3.6
comp=Z,1.5nm,0.4s
ZALV Zalesovo Beam 40.72 303 *i* P **P 14 16 01.0 -1.0**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
A36M Sachs Harbour 40.89 28 P **P 14 16 02.7 -0.5**
baz=284,SNR=6.6
P33M Teslin, Yukon 41.34 47 P **P 14 16 09.0 +2.0**
baz=291
C36M Paulatuk 41.97 32 P **P 14 16 11.8 0.0**
baz=288,SNR=15
Q32M Nakina River 42.05 48 P **P 14 16 13.3 +0.3**
baz=292
R33M Jennings River 42.51 47 P **P 14 16 18.1 +1.6**
baz=293
TGTN Hyland Airport 42.94 44 P **P 14 16 21.3 +1.5**
baz=292
S34M Telegraph Cree 43.01 49 P **P 14 16 21.0 +0.6**
baz=294
WRAK Wrangell Islan 43.02 52 P **P 14 16 22.7 +2.2**
baz=295
V35K Ketchikan 43.86 53 P **P 14 16 31.6 +4.5**
baz=296
MK31 Makanchi Array 45.47 294 **P 14 16 39.6 -0.4**
MK31 Makanchi Array 45.47 294 *de*P **P 14 16 39.7 -0.2**
MKAR Makanchi Array 45.47 294 P **P 14 16 39.6 -0.4**
comp=Z,1.6nm,0.7s,baz=64,slow=8.2,SNR=17
MKAR PcP **PcP 14 18 12.6 -0.6**
comp=Z,0.3nm,0.5s,baz=74,slow=4.0,SNR=3.6
comp=Z,1.6nm,0.7s
KURK Kurchatov 45.57 301 **P 14 16 40.2 -0.5**
KURK Kurchatov 45.57 301⇑ *i*P **P 14 16 40.1 -0.5**
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURBB Kurchatov Arra 45.67 301 P **P 14 16 40.7 -0.7**
comp=Z,3.2nm,0.6s,baz=66,slow=8.5,SNR=38
KURBB PcP **PcP 14 18 13.8 +0.1**
comp=Z,0.8nm,0.6s,baz=60,slow=3.2,SNR=8.8
comp=Z,3.2nm,0.6s
YKA Yellowknife Ar 48.29 38 P **P 14 17 03.4 +2.0**
comp=Z,2.7nm,0.8s,baz=303,slow=7.3,SNR=25
comp=Z,2.7nm,0.8s
YKA Yellowknife Ar 48.29 38 *i* P **P 14 17 03.7 +2.4**
BVAR Borovoye Array 48.78 307 P **P 14 17 04.6 -0.6**
comp=Z,3.0nm,0.5s,baz=59,slow=7.1,SNR=20
BVAR PcP **PcP 14 18 24.6 -0.2**
comp=Z,1.9nm,0.4s,baz=80,slow=3.9,SNR=10
comp=Z,3.0nm,0.5s

SPITS Spitsbergen Ar 49.33 349 P **P 14 17 08.9 -0.1**
comp=Z,1.8nm,0.5s,baz=40,slow=7.6,SNR=8.3
comp=Z,1.8nm,0.5s
AAK Ala-Archa 52.40 294⇓ *i*P **P 14 17 32.6 +0.2**
ARTI Arti 52.68 316 **P 14 17 31.6 -2.4**
ARTI IAmb IAmb 14 17 34.2
comp=Z,9.6nm,0.6s
ARTI Arti 52.68 316 *c i*P **P 14 17 33.5 -0.5**
ARTI 14 19 32.4
ARTI S **S 14 24 39.1 +1.5**
ARTI SS **SKiKP 14 28 15.5 -4.2**
ARTI pmax pmax
comp=Z,7.0nm,0.7s
BLKN Baker Lake 53.97 30 **P 14 17 44.7 +1.5**
ARCES ARCESS Array B 54.71 340 P **P 14 17 47.5 -0.9**
comp=Z,0.8nm,0.4s,baz=34,slow=6.9,SNR=10
comp=Z,0.8nm,0.4s
ABKAR Akbulak array 56.32 308 **P 14 17 58.3 -1.8**
NVAR Mina Array Bea 60.94 64 P **P 14 18 35.4 +3.1**
comp=Z,0.6nm,0.7s,baz=312,slow=4.9,SNR=2.6
comp=Z,0.6nm,0.7s
FINES FINESS Array B 61.03 334 P **P 14 18 31.6 -0.6**
comp=Z,4.2nm,0.5s,baz=31,slow=6.7,SNR=32
comp=Z,4.2nm,0.5s
PDAR Pinedale Array 62.82 55 P **P 14 18 47.2 +2.6**
comp=Z,0.9nm,0.5s,baz=296,slow=0.7,SNR=16
comp=Z,0.9nm,0.5s
NB2 NORSAR Subarra 65.07 341 P **P 14 18 58.2 -0.4**
comp=Z,0.3nm,0.3s,baz=27,slow=6.5
NOA NORSAR Array B 65.07 341 P **P 14 18 57.8 -0.8**
comp=Z,0.9nm,0.6s,baz=26,slow=6.5,SNR=9.0
comp=Z,0.9nm,0.6s
HFS Hagfors 65.33 339 P **P 14 18 59.8 -0.4**
comp=Z,2.6nm,0.5s,baz=33,slow=3.3,SNR=13
comp=Z,2.6nm,0.5s
KBZ Khabaz 68.56 313 P **P 14 19 20.4 -0.3**
comp=Z,1.8nm,0.6s,baz=332,slow=2.5,SNR=6.6
comp=Z,1.8nm,0.6s
KBZ Khabaz 68.56 313⇑ *e*P **P 14 19 21.0 +0.3**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
SHA1 Shidzhatmaz 68.66 313⇑ *e*P **P 14 19 21.9 +0.2**
AKASG Malin Array Be 68.78 325 P **P 14 19 20.1 -1.8**
comp=Z,0.5nm,0.3s,baz=33,slow=6.5,SNR=9.3
comp=Z,0.5nm,0.3s
AKASG Malin Array Be 68.78 325 *i* P **P 14 19 21.1 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 71.66 199 P **P 14 19 40.3 +0.7**
comp=Z,0.3nm,0.7s,baz=11,slow=5.9,SNR=2.0
comp=Z,0.3nm,0.7s
EKA Eskdalemuir Ar 73.10 346 P **P 14 19 47.4 -0.3**
comp=Z,1.3nm,0.5s,baz=21,slow=5.3,SNR=9.8
comp=Z,1.3nm,0.5s
ASAR Alice Springs 75.37 198 P **P 14 20 02.1 +1.1**
comp=Z,0.2nm,0.6s,baz=8.3,slow=5.8,SNR=6.9
comp=Z,0.2nm,0.6s
GERES GERESS Array B 75.46 334 P **P 14 20 01.0 -0.4**
comp=Z,0.4nm,0.4s,baz=16,slow=5.9,SNR=1.9
comp=Z,0.4nm,0.4s
TXAR Lajitas Array 75.88 61 P **P 14 20 06.6 +2.4**
comp=Z,0.8nm,0.6s,baz=304,slow=5.9,SNR=9.4
comp=Z,0.8nm,0.6s
BRTR Keskin Array B 75.96 316 P **P 14 20 04.3 -0.2**
comp=Z,0.4nm,0.6s,baz=48,slow=2.1,SNR=2.6
comp=Z,0.4nm,0.6s
MMAI Mount Meron Ar 80.61 311 P **P 14 20 30.0 +0.1**
comp=Z,0.7nm,0.4s,baz=74,slow=11,SNR=1.6
comp=Z,0.7nm,0.4s
ESDC Sonseca Array 88.37 342 P **P 14 21 08.5 +0.2**
comp=Z,0.5nm,0.7s,baz=360,slow=4.3,SNR=1.9
comp=Z,0.5nm,0.7s
QSPA South Pole Qui 139.82 180 PKP **PKiKP 14 27 44.3 +0.5**
comp=Z,0.4nm,0.5s,baz=8.1,slow=7.1,SNR=5.7
PLCA Paso Flores 148.37 90 PKPbc **PKiKP 14 28 02.5 +0.3**
comp=Z,1.5nm,0.8s,baz=315,slow=5.7,SNR=4.1

DJA 12 14:11:43.2±1.0, 2°S±2°×12°3E±°, h16km±8km, M3.6/15, mb3.8/5, MLv3.6/15, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.09**	**8**	P	Pb	14 12 03.0	-0.7
APSI	**Ampana**	**1.55**	**321**	P	Pn	14 12 10.7	+0.5
KDI	**Kendari**	**1.81**	**180**	P	Pn	14 12 13.3	-0.5
PCI	**Palu**	**3.04**	**294**	P	Pn	14 12 30.8	+0.2
BBSI	**Bau Bau**	**3.34**	**181**	P	Pn	14 12 34.8	0.0
SANI	**Sanana**	**3.37**	**89**	P	Pn	14 12 34.2	-1.0
BNSI	**Bone**	**3.37**	**228**	P	Pn	14 12 35.0	-0.3
BNSI				S	Sn	14 13 15.4	+0.4
SPSI	**Sidrap Palu**	**3.38**	**237**	P	Pn	14 12 35.1	-0.3
SPSI				S	Sn	14 13 15.6	+0.4
MPSI	**Mapaga**	**3.66**	**312**	P	Pn	14 12 38.5	-0.7
BKSI	**Bulukumba**	**4.03**	**218**	P	Pn	14 12 45.2	+0.9
BKSI				S	Sn	14 13 31.9	+0.6
BSSI	**Bau Bau, Buton**	**4.52**	**208**	P	Pn	14 12 51.7	+0.7
TNTI	**Ternate**	**5.55**	**59**	P	Pn	14 13 06.1	+0.9
EDFI	**Ende, Flores**	**6.64**	**188**	P	Pn	14 13 19.4	-0.9

JMA 12 14:13:40.5±0.5, 36°8N±0°8×13°7E±°, h14km±4km, TOYAMA PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**0.67**	**23**	*e*S	Sg	14 13 59.0	-3.2

DJA 12 14:20:27.2±0.2, 2°S±2°×12°3E±°, h10km, M3.8/17, mB5.0/1, mb4.0/7, MLv3.7/17, Mw(mB)4.3/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.01**	**13**	P	Pg	14 20 45.2	-1.4
APSI	**Ampana**	**1.43**	**321**	P	Pn	14 20 51.7	-1.5
PCI	**Palu**	**2.93**	**292**	P	Pn	14 21 14.7	+0.8
SPSI	**Sidrap Palu**	**3.38**	**235**	P	Pn	14 21 20.2	+0.2
BNSI	**Bone**	**3.39**	**226**	P	Pn	14 21 18.6	-1.6
BBSI	**Bau Bau**	**3.44**	**180**	P	Pn	14 21 22.0	+1.2
SANI	**Sanana**	**3.44**	**90**	P	Pn	14 21 19.6	-1.2
MPSI	**Mapaga**	**3.54**	**312**	P	Pn	14 21 24.3	+2.0
BKSI	**Bulukumba**	**4.07**	**216**	P	Pn	14 21 30.2	+0.6
BSSI	**Bau Bau, Buton**	**4.57**	**207**	P	Pn	14 21 36.8	+0.3
NLAI	**Namlea**	**4.70**	**105**	P	Pn	14 21 39.8	+1.6
TNTI	**Ternate**	**5.56**	**60**	P	Pn	14 21 50.5	+0.4
0.1nm8.9nm,0.4s							
MMRI	**Maumere**	**6.57**	**183**	P	Pn	14 22 02.3	-1.7
1μm12nm,0.9s							
EDFI	**Ende, Flores**	**6.73**	**187**	P	Pn	14 22 06.7	+0.4

*IDC **12** 14:24:14.7±1.3, 36°82N×75°63E, h0km, mb3.7/7, mbtmp3.7/12, ML3.2/5, MS4.2/1, Error ellipse: s-maj=24.0km s-min=23.0km az=107.0*
*NEIC **12** 14:24:16.0±1.3, 36°86N±0°07×75°97E±0°08, h10km±1km, mb4.4/11, Error ellipse: s-maj=14.6km s-min=7.8km az=321.0*
*NNC **12** 14:24:20.6±9.4, 36°94N×75°59E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=107.3km s-min=67.3km az=99.0*
ISC 12 14:24:20.0±0.7, 36°88N±0°06×75°81E±0°07, h35km, n58, σ1§87/62, mb4.0/12, 5C-1D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**3.84**	**214**		**Pn**	**14 25 15.8**	**-0.9**
DRK	**Karamyk**	**4.09**	**311**		**Pn**	**14 25 21.1**	**+0.8**
DHRM	**DHARAMSHALA**	**4.63**	**175**	*e*P	**Pn**	**14 25 30.2**	**+2.5**
GAR	**Garm**	**4.83**	**298**		**Pn**	**14 25 30.3**	**0.0**
ARSB	**Arslanbob**	**4.95**	**335**		**Pn**	**14 25 34.2**	**+2.1**
BTK	**Batken**	**5.04**	**311**		**Pn**	**14 25 33.6**	**+0.5**
WUS	**Wushi**	**5.07**	**31**	Pn	**Pn**	**14 25 33.2**	**-0.3**
TARG	**Taragay, Kyrgy**	**5.09**	**17**		**Pn**	**14 25 32.1**	**-1.9**
KDJ	**Kajisay**	**5.35**	**11**		**Pn**	**14 25 35.8**	**-1.7**
CHGR	**Chuyangaron**	**5.56**	**291**	Pn	**Pn**	**14 25 41.5**	**+1.2**
BOOM	**Boomskoye usch**	**5.61**	**1**		**Pn**	**14 25 40.2**	**-0.8**
SIMJ	**Simiganj**	**5.67**	**290**	Pn	**Pn**	**14 25 41.6**	**-0.3**
KLP	**Kalpa**	**5.70**	**159**	*e*P	**Pn**	**14 25 44.6**	**+2.1**
AAK	**Ala-Archa**	**5.84**	**350**		**Pn**	**14 25 42.9**	**-1.3**
AAK	**Ala-Archa**	**5.84**	**350**	Pn	**Pn**	**14 25 48.0**	**+3.7**
1.4nm,0.3s,baz=170,slow=5.5,SNR=37							
AAK				Sn	**Sn**	**14 26 49.8**	**-0.3**
0.4nm,0.3s,baz=168,slow=20,SNR=1.8							
AAK				Lg	Lg	14 27 18.5	
0.7nm,0.3s,baz=22,slow=14,SNR=1.9							
9.7nm,0.6s							
AAK Ala-Archa 5.84 350 ⇓P **Pn 14 25 48.1 +3.9**							
7.7nm,0.6s							
AAK ⇑S **Sn 14 26 56.8 +6.8**							
28nm,1.0s							
PRZ Przheval'sk 5.95 19 Pn **Pn 14 25 44.4 -1.3**							
KBL Kabul 5.98 249 Pn **Pn 14 25 46.8 +0.7**							
FRU1 Bishkek 5.99 352 Pn **Pn 14 25 45.0 -1.2**							
TKM2 Tokmak 2 6.04 359 ⇑P **Pn 14 25 50.9 +3.9**							
12nm,0.8s							
TKM2 ⇑S **Sn 14 27 00.2 +5.3**							
4.3nm,0.7s							
JOSI Joshimath 7.04 153 *e*P **Pn 14 26 02.7 +2.0**							
KK31 Karatay Array 7.43 328 **Pn 14 26 05.3 -0.5**							
KK31 Karatay Array 7.43 328 ⇑P **Pn 14 26 07.0 +1.1**							
4.0nm,0.6s,baz=137,slow=12,SNR=35							
KK31 ⇑S **Sn 14 27 30.9 +2.0**							
3.5nm,0.5s,baz=169,slow=22,SNR=5.3							
KKAR Karatay Array 7.43 328 **Pn 14 26 05.9 0.0**							
KKAR Karatay Array 7.43 328 **Pn 14 26 05.3 -0.5**							
MAKZ Makanchi 10.93 23 **Pn 14 26 52.7 -1.2**							
MK31 Makanchi Array 11.02 24 **Pn 14 26 52.1 -3.0**							
MKAR Makanchi Array 11.02 24 Pn **Pn 14 26 54.5 -0.5**							
MKAR Makanchi Array 11.02 24 Pn **Pn 14 26 55.9 +0.8**							
0.1nm,0.3s,baz=197,slow=12,SNR=8.1							
MKAR Sn **Sn 14 28 56.3 -0.8**							
baz=200,slow=24							
0.6nm,0.6s							
KURBB Kurchatov Arra 13.88 7 Pn **Pn 14 27 34.0 -0.1**							
baz=192,slow=12,SNR=9.7							
KURBB Lg Lg 14 31 37.0							
baz=105,slow=12,SNR=1.8							
1.1nm,0.9s							
KURK Kurchatov 13.98 7 **Pn 14 27 34.9 -0.6**							
BVAR Borovoye Array 16.59 348 Pn **Pn 14 28 09.2 -0.5**							
baz=163,slow=10,SNR=15							
BRVK Borovoye 16.64 348 **Pn 14 28 10.2 -0.1**							
BRVK IAmb IAmb 14 28 19.5							
comp=Z,12nm,1.3s							
AB31 Akbulak array 16.91 322 Pn **Pn 14 28 11.7 -2.0**							
ABKAR Akbulak array 16.91 322 Pn **Pn 14 28 12.8 -1.0**							
ZAA0 Zalesovo Array 18.18 17 P **Pn 14 28 26.5 -2.9**							
ZALV Zalesovo Beam 18.18 17 **Pn 14 28 26.8 -2.6**							
ZALV Zalesovo Beam 18.18 17 P **P 14 28 29.9 +0.5**							
comp=Z,0.3nm,0.3s,baz=219,slow=9.7,SNR=10							
comp=Z,1.6nm,0.6s							
AKTO Aktyubinsk 18.62 322 P **Pn 14 28 35.0 +0.2**							
comp=Z,0.2nm,0.3s,baz=132,slow=11,SNR=2.2							
comp=Z,1.0nm,0.5s							
SONM Songino Array 24.96 54 P **P 14 29 38.7 -1.4**							
SONM IAmb IAmb 14 29 43.6							
comp=Z,3.4nm,1.3s							
SONM Songino Array 24.96 54 P **P 14 29 41.2 +1.0**							
comp=Z,1.0nm,0.7s,baz=251,slow=9.0,SNR=7.9							
comp=Z,1.0nm,0.7s							
BRTR Keskin Array B 33.00 288 LR LR 14 47 11.2							
comp=Z,401nm,19.0s,baz=326,slow=42							
FIA1 FINESS Array S 39.37 325 P **P 14 31 46.1 +0.4**							
FIA1 IAmb IAmb 14 32 04.5							
comp=Z,23nm,1.3s							
FINES FINESS Array B 39.37 325 P **P 14 31 46.1 +0.3**							
FINES FINESS Array B 39.37 325 P **P 14 31 45.6 -0.2**							
comp=Z,1.1nm,0.5s,baz=96,slow=9.1,SNR=13							
comp=Z,1.1nm,0.5s							
ARCES ARCESS Array B 42.31 336 P **P 14 32 09.6 -0.4**							
comp=Z,1.9nm,0.9s,baz=107,slow=6.0,SNR=1.6							
comp=Z,1.9nm,0.9s							
HFS Hagfors 45.17 321 P **P 14 32 32.8 -0.2**							
comp=Z,1.1nm,0.5s,baz=97,slow=9.4,SNR=9.5							
comp=Z,1.1nm,0.5s							
NC405 NORSAR Array S 46.17 323 P **P 14 32 40.7 -0.3**							
NC405 IAmb IAmb 14 33 00.8							
comp=Z,13nm,1.4s							
NB201 NORSAR Array S 46.38 323 P **P 14 32 42.5 0.0**							
NB201 IAmb IAmb 14 33 00.2							
comp=Z,9.3nm,1.2s							
NB2 NORSAR Subarra 46.42 323 P **P 14 32 42.2 -0.7**							
comp=Z,1.1nm,0.7s,baz=92,slow=7.9							
NOA NORSAR Array B 46.42 323 P **P 14 32 42.4 -0.5**							
comp=Z,0.6nm,0.5s,baz=92,slow=7.6,SNR=7.7							
comp=Z,0.6nm,0.5s							
NC204 NORSAR Array S 46.64 323 P **P 14 32 44.3 -0.3**							
E19K Redstone River 68.57 19 P **P 14 35 18.0 -0.7**							
E19K IAmb IAmb 14 35 20.9							
comp=Z,1.5nm,0.8s							
TOLK Toolik Lake Re 69.53 16 P **P 14 35 23.4 -1.3**							
TOLK IAmb IAmb 14 35 41.3							
comp=Z,7.2nm,1.4s							
TORD Torodi Ar. Bea 69.58 271 P **P 14 35 23.7 -2.0**							
comp=Z,24nm,0.3s,baz=52,slow=5.7,SNR=1.2							
H17K Granite Mounta 69.62 22 P **P 14 35 24.9 -0.3**							
YKA Yellowknife Ar 80.62 5 P **P 14 36 27.6 -1.0**							
comp=Z,0.2nm,0.7s,baz=350,slow=5.0,SNR=5.1							
comp=Z,0.2nm,0.7s							
ASAR Alice Springs 81.37 128 P **P 14 36 35.1 +1.9**							
comp=Z,0.3nm,1.0s,baz=314,slow=5.2,SNR=1.2							
comp=Z,0.3nm,1.0s							

*DJA **12** 14:26:49.1±0.2, 2°S±2°×12°3E±°, h10km, M4.4/23, mB5.0/4, mb4.7/9, MLv4.3/23, Mw(mB)4.3/4*
*IDC **12** 14:26:52.9±2.0, 2°62S×122°69E, h0km, mb3.5/3, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=39.8km s-min=25.5km az=45.0*
ISC 12 14:26:51.1±1.1, 1°99S±0°05×122°56E±0°07, h35km, n24, σ1§00/24, mb3.5/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.96**	**13**	P	**Pn**	**14 27 07.1**	**-1.1**
APSI	**Ampana**	**1.40**	**320**	P	**Pn**	**14 27 13.7**	**-0.5**
KDI	**Kendari**	**1.96**	**178**	P	**Pn**	**14 27 21.5**	**-0.4**
KMSI	**Cibinong**	**2.92**	**29**	P	**Pn**	**14 27 36.7**	**+1.6**
PCI	**Palu**	**2.92**	**292**	P	**Pn**	**14 27 35.7**	**+0.6**
SPSI	**Sidrap Palu**	**3.41**	**235**	P	**Pn**	**14 27 42.1**	**+0.3**
BNSI	**Bone**	**3.42**	**226**	P	**Pn**	**14 27 41.8**	**-0.2**
SANI	**Sanana**	**3.43**	**91**	P	**Pn**	**14 27 41.4**	**-0.7**
BBSI	**Bau Bau**	**3.48**	**180**	P	**Pn**	**14 27 42.9**	**+0.1**
MPSI	**Mapaga**	**3.52**	**311**	P	**Pn**	**14 27 43.4**	**0.0**
BKSI	**Bulukumba**	**4.11**	**216**	P	**Pn**	**14 27 51.7**	**+0.3**
KAPI	**Kappang**	**4.11**	**223**	Pn	**Pn**	**14 27 52.3**	**+0.9**
5.7nm,0.3s,baz=335,slow=2.2,SNR=9.7							
KAPI Sn **Sn 14 28 38.9 +0.7**							
2.3nm,0.3s,baz=50,slow=22,SNR=3.8							
22nm,0.4s							
BSSI Bau Bau, Buton 4.61 206 P **Pn 14 27 58.6 +0.2**							
NLAI Namlea 4.71 105 P **Pn 14 28 00.8 +1.1**							
TNTI Ternate 5.54 60 P **Pn 14 28 12.0 +0.9**							
0.2nm30nm,0.4s							
MSAI Masohi 6.51 102 P **Pn 14 28 24.8 +0.3**							
0.2nm2μm46nm,0.7s							
MMRI Maumere 6.61 183 P **Pn 14 28 26.3 +0.4**							
72nm,0.6s							
EDFI Ende, Flores 6.77 187 P **Pn 14 28 28.0 -0.2**							
0.1nm477nm15nm,0.5s							
SWI Sorong 8.77 83 P **Pn 14 28 56.8 +1.2**							
FAKI Fak Fak 9.73 96 P **Pn 14 29 09.7 +1.0**							
FITZ Fitzroy Crossi 16.29 169 Pn **Pn 14 30 34.4 -3.0**							
0.2nm,0.3s,baz=355,slow=11,SNR=6.6							
1.6nm,0.9s							
WRA Warramunga Arr 21.24 148 P **P 14 31 34.2 -0.1**							
1.5nm,0.7s,baz=322,slow=11,SNR=7.1							
1.5nm,0.7s							
ASAR Alice Springs 24.19 154 P **P 14 32 05.5 +0.9**							
1.3nm,0.6s,baz=329,slow=8.6,SNR=50							
1.3nm,0.6s							
CMAR Chiang Mai Arr 30.87 312 P P 14 33 15.9 +12							
0.4nm,0.5s,baz=120,slow=10,SNR=2.1							
0.4nm,0.5s							

*IDC **12** 14:28:36.1±0.9, 13°87N×51°70E, h0km, mb4.3/24, mbtmp4.3/24, ML3.9/1, Error ellipse: s-maj=19.5km s-min=14.9km az=7.0*
*DSN **12** 14:28:37.6±2.7, 14°29N×51°48E, h10km, mb5.2/1, ML4.4/1, Error ellipse: s-maj=34.0km s-min=13.3km az=166.0*
*NEIC **12** 14:28:39.8±1.6, 14°06N±0°10×51°79E±0°09, h10km±1km, mb4.6/55, Error ellipse: s-maj=17.9km s-min=13.8km az=144.0*
*OMAN **12** 14:28:41.6±0.2, 14°46N×51°66E, h21km±2km, mb4.0/33, ml4.8/5, Error ellipse: s-maj=2.2km s-min=1.8km az=315.0*
ISC 12 14:28:39.8±0.5, 14°16N±0°06×51°77E±0°06, h16km, n240, σ1§49/243, mb4.6/79, 12C-8D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.50**	**25**	P	**Pn**	**14 29 33.1**	**-0.6**
	SNR=127						
ABTO				S	**Sn**	**14 30 10.1**	**-4.8**
RBK	**Rabkut**	**4.07**	**35**	P	**Pn**	**14 29 41.7**	**+0.2**
	SNR=543						
RBK				S	**Sn**	**14 30 27.2**	**-1.6**
	SNR=9.0						
WHFO	**Wadi Hawf**	**4.21**	**27**	P	**Pn**	**14 29 42.7**	**-0.7**
	SNR=119						
WHFO				S	**Sn**	**14 30 28.6**	**-3.6**
DMTO	**DMTO**	**4.68**	**40**	P	**Pn**	**14 29 49.7**	**-0.1**
	SNR=353						
DMTO				S	**Sn**	**14 30 43.5**	**-0.3**
DOK	**Doka**	**4.98**	**27**	P	**Pn**	**14 29 53.4**	**-0.6**
	SNR=52						
DOK				S	**Sn**	**14 30 48.2**	**-3.1**
DQM	**DQM**	**7.96**	**43**	P	**Pn**	**14 30 35.5**	**+0.5**
DQM				S	**Sn**	**14 32 03.5**	**-1.3**
MZR	**Muzera**	**8.95**	**10**	P	**Pn**	**14 30 47.3**	**-1.2**
	SNR=10						
MZR	**Muzera**	**8.95**	**10**	*i* P	**Pn**	**14 30 46.7**	**-1.7**
	SNR=10						
MHTO	**MHTO**	**9.00**	**40**	P	**Pn**	**14 30 48.9**	**-0.4**
	SNR=52						
ATD	**Arta Tunnel**	**9.08**	**254**		**Pn**	**14 30 50.1**	**-0.3**
ATD	**Arta Tunnel**	**9.08**	**254**	Pn	**Pn**	**14 30 46.9**	**-3.5**
	1.4nm,0.3s,baz=88,slow=14,SNR=24						
ATD	**Arta Tunnel**	**9.08**	**254**	P	**Pn**	**14 30 54.6**	**+4.2**
	SNR=14						
UMZA	**Um Al Zommool**	**9.10**	**20**	P	**Pn**	**14 30 48.8**	**-1.7**
MZWR	**Madinat Zayed**	**9.76**	**12**	P	**Pn**	**14 30 57.5**	**-2.1**
GHWR	**Ruwais**	**9.81**	**6**	P	**Pn**	**14 30 57.5**	**-2.8**
SLWR	**Sila**	**9.86**	**360**	P	**Pn**	**14 30 58.8**	**-2.1**
BSY	**Bisya**	**9.97**	**30**	P	**Pn**	**14 31 01.0**	**-1.5**
	SNR=16						
JMDO	**Jabal Madar**	**10.14**	**35**	P	**Pn**	**14 31 04.1**	**-0.8**
	SNR=11						
ARQ	**Araqi**	**10.18**	**26**	P	**Pn**	**14 31 03.5**	**-1.9**
	SNR=8.6						
TRNA	**Turayna**	**10.54**	**357**	P	**Pn**	**14 31 08.7**	**-1.5**
	SNR=12						
ALNE	**Al Ain**	**10.54**	**20**	P	**Pn**	**14 31 09.7**	**-0.6**
ALNE	**Al Ain**	**10.54**	**20**	P	**Pn**	**14 31 08.6**	**-1.7**
SMRA	**Abu-Samra**	**10.57**	**355**	P	**Pn**	**14 31 07.9**	**-2.8**
	SNR=17						
SMDO	**Samad**	**10.67**	**33**	P	**Pn**	**14 31 10.5**	**-1.7**
	SNR=16						
HOQ	**Hoqain**	**10.74**	**28**	P	**Pn**	**14 31 12.4**	**-0.6**
JLN	**Jalan Bani Buh**	**10.77**	**41**	P	**Pn**	**14 31 12.8**	**-0.6**
	SNR=8.4						
JRN	**Qarnain Island**	**10.78**	**5**	P	**Pn**	**14 31 10.0**	**-3.5**
AJN	**Ajban**	**10.79**	**16**	P	**Pn**	**14 31 12.9**	**-0.7**
	SNR=15						
AJN	**Ajban**	**10.79**	**16**	*i* P	**Pn**	**14 31 12.3**	**-1.3**
	SNR=15						
WBK	**Wadi Bani Khal**	**10.83**	**38**	P	**Pn**	**14 31 13.5**	**-0.9**
	SNR=6.1						
SOHO	**SOHO**	**10.90**	**24**	*i* P	**Pn**	**14 31 14.8**	**-0.4**
	SNR=7.1						
ASUD	**Al Ashush, Dub**	**10.94**	**17**	P	**Pn**	**14 31 15.3**	**-0.5**
	SNR=138						
ASUD	**Al Ashush, Dub**	**10.94**	**17**	*i* P	**Pn**	**14 31 15.3**	**-0.5**
	SNR=139						
RAYN	**Ar Rayn**	**11.04**	**328**		**Pn**	**14 31 14.4**	**-2.7**
RAYN	**Ar Rayn**	**11.04**	**328**	P	**Pn**	**14 31 14.6**	**-2.6**
RAYN	**Ar Rayn**	**11.04**	**328**	*i* P	**Pn**	**14 31 14.0**	**-3.2**
	SNR=47						
BIDO	**Bidbid**	**11.09**	**32**	P	**Pn**	**14 31 16.4**	**-1.4**
	SNR=17						
WSAR	**Wadi Sarin**	**11.13**	**35**	Pn	**Pn**	**14 31 17.2**	**-1.2**
	baz=94,slow=24,SNR=46						
WSAR				Sn	Sn	14 33 12.8	-10
	0.1nm,0.3s,baz=335,slow=24,SNR=7.2						
WSAR	**Wadi Sarin**	**11.13**	**35**	P	**Pn**	**14 31 17.5**	**-0.9**
	SNR=26						
FAQ	**Al Faqa, Dubai**	**11.13**	**18**	P	**Pn**	**14 31 19.0**	**+0.6**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**11.13**	**18**	*i* P	**Pn**	**14 31 17.9**	**-0.5**
	SNR=12						
ASHO	**Ashiyiah**	**11.22**	**20**	P	**Pn**	**14 31 19.3**	**-0.4**
	SNR=27						
ASHO	**Ashiyiah**	**11.22**	**20**	*i* P	**Pn**	**14 31 19.5**	**-0.2**
	SNR=27						
HATD	**Hatta, Dubai**	**11.38**	**21**	P	**Pn**	**14 31 21.4**	**-0.5**
HATD	**Hatta, Dubai**	**11.38**	**21**	P	**Pn**	**14 31 21.5**	**-0.4**
NAZ	**Nazwa, Dubai**	**11.38**	**18**	P	**Pn**	**14 31 21.9**	**+0.1**
	SNR=9.1						
NAZ	**Nazwa, Dubai**	**11.38**	**18**	*i* P	**Pn**	**14 31 21.4**	**-0.4**
	SNR=8.7						
UOSS	**Minazif**	**11.52**	**21**		**Pn**	**14 31 21.6**	**-2.1**
UOSS	**Minazif**	**11.52**	**21**	P	**Pn**	**14 31 22.2**	**-1.5**
UOSS	**Minazif**	**11.52**	**21**	*i* P	**Pn**	**14 31 21.9**	**-1.7**
	SNR=11						
SHMA	**Al-Shehemyia**	**11.66**	**356**	P	**Pn**	**14 31 24.3**	**-1.3**
	SNR=14						
SAKB	**Bahrain**	**11.82**	**355**	P	**Pn**	**14 31 24.6**	**-3.2**
MDH	**Madha**	**11.87**	**20**	P	**Pn**	**14 31 27.6**	**-0.9**
MDH	**Madha**	**11.87**	**20**	*i* P	**Pn**	**14 31 27.3**	**-1.2**
	SNR=8.8						
MSFE	**Esma-Masafi**	**11.88**	**20**	P	**Pn**	**14 31 27.3**	**-1.4**
UMQ	**Umm Al-Quwin**	**11.89**	**17**	P	**Pn**	**14 31 28.7**	**0.0**
	SNR=6.5						
UMQ	**Umm Al-Quwin**	**11.89**	**17**	*i* P	**Pn**	**14 31 27.9**	**-0.8**
	SNR=6.5						
MASF	**Masafi**	**11.89**	**20**	P	**Pn**	**14 31 27.3**	**-1.6**
BANOM	**Banah**	**12.45**	**19**	P	**Pn**	**14 31 34.8**	**-1.7**
BANOM	**Banah**	**12.45**	**19**	*i* P	**Pn**	**14 31 34.2**	**-2.3**
	SNR=18						
SHME	**Shamm**	**12.52**	**18**	P	**Pn**	**14 31 35.3**	**-2.1**
	SNR=29						
SHME	**Shamm**	**12.52**	**18**	*i* P	**Pn**	**14 31 35.4**	**-2.1**
	SNR=29						
KBD	**Kabd**	**15.41**	**346**	P	**Pn**	**14 32 13.8**	**-2.9**
MSEY	**Mahe Island**	**19.07**	**169**	P	**P**	**14 32 59.8**	**-2.0**
MSEY				IAmb	IAmb	14 33 07.3	
	comp=Z,20nm,0.9s						
LODK	**Lodwar**	**19.39**	**238**		**P**	**14 33 03.9**	**-1.4**
KMBO	**Kilima Mbogo**	**20.91**	**225**		**P**	**14 33 21.4**	**-0.7**
KMBO	**Kilima Mbogo**	**20.91**	**225**	P	**P**	**14 33 18.6**	**-3.4**
	comp=Z,0.8nm,0.3s,baz=42,slow=14,SNR=4.6						
	comp=Z,0.8nm,0.3s						
KIBK	**Kibwezi**	**21.30**	**221**		**P**	**14 33 24.7**	**-1.4**
EIL	**Elat**	**21.90**	**318**	P	**P**	**14 33 34.6**	**+2.3**
	comp=Z,11nm,0.9s,baz=113,slow=4.4,SNR=7.0						
EIL				Lg	Lg	14 40 05.7	
	comp=Z,0.1nm,0.3s,baz=141,slow=14,SNR=1.8						
	comp=Z,11nm,0.9s						
HRA	**Herat**	**22.26**	**23**		**P**	**14 33 36.6**	**+0.1**
HRA				IAmb	IAmb	14 33 47.7	
	comp=Z,26nm,0.9s						
GHAJ	**Ghor Haditha**	**22.63**	**322**		**P**	**14 33 41.5**	**+1.4**
GHAJ				IAmb	IAmb	14 33 50.0	
	comp=Z,30nm,0.9s						
MMAI	**Mount Meron Ar**	**23.96**	**324**	P	**P**	**14 33 55.4**	**+1.8**
	comp=Z,5.0nm,0.8s,baz=138,slow=9.7,SNR=4.9						
	comp=Z,5.0nm,0.8s						
GEVA	**Gevas**	**25.27**	**344**	P	**P**	**14 34 08.7**	**+3.1**
KBL	**Kabul**	**25.61**	**35**	P	**P**	**14 34 11.5**	**+2.8**
GURO	**Guroymak-BITLI**	**25.78**	**342**	P	**P**	**14 34 13.3**	**+3.2**
GURO				IAmb	IAmb	14 34 26.4	
	comp=Z,14nm,0.8s						
BNN	**Bunyan**	**28.33**	**333**	P	**P**	**14 34 35.9**	**+2.8**
SIMJ	**Simiganj**	**28.77**	**29**		**P**	**14 34 39.3**	**+2.2**
SIMJ				IAmb	IAmb	14 34 49.3	
	comp=Z,12nm,1.1s						
PALK	**Pallekele**	**29.22**	**101**	P	**P**	**14 34 41.3**	**+0.1**
KIRS	**Kirsehir-Merke**	**29.44**	**331**	⇓P	**P**	**14 34 45.4**	**+2.5**
BR104	**Keskin Array S**	**30.02**	**331**	P	**P**	**14 34 49.4**	**+1.3**
	comp=Z,3.5nm,1.0s						
BR131	**Keskin Array S**	**30.04**	**331**		**P**	**14 34 48.9**	**+0.6**
BRTR	**Keskin Array B**	**30.04**	**331**		**P**	**14 34 49.3**	**+1.0**
BRTR	**Keskin Array B**	**30.04**	**331**	P	**P**	**14 34 48.6**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=145,slow=10,SNR=13						
	comp=Z,2.3nm,0.9s						
BR105	**Keskin Array S**	**30.04**	**331**	P	**P**	**14 34 49.4**	**+1.1**
	comp=Z,2.8nm,0.8s						
BR106	**Keskin Array S**	**30.05**	**331**	P	**P**	**14 34 49.4**	**+1.0**
KBZ	**Khabaz**	**30.43**	**347**	P	**P**	**14 34 53.3**	**+1.8**
	comp=Z,10nm,0.8s,baz=176,slow=6.2,SNR=35						
	comp=Z,10nm,0.8s						
ANTO	**Ankara**	**30.55**	**331**	P	**P**	**14 34 54.8**	**+2.0**
ANTO	**Ankara**	**30.55**	**331**	⇓P	**P**	**14 34 55.2**	**+2.5**
ANTO	**Ankara**	**30.55**	**331**	P	**P**	**14 34 54.3**	**+1.6**
	comp=Z,175nmcomp=Z,7.7nm,1.1s						
KIV	**Kislovodsk**	**30.70**	**347**	P	**P**	**14 34 55.4**	**+1.5**
KIV	**Kislovodsk**	**30.70**	**347**	⇓P	**P**	**14 34 56.2**	**+2.2**
KIV	**Kislovodsk**	**30.70**	**347**	P	**P**	**14 34 56.4**	**+2.4**
	comp=Z,16nm,1.0s						
ILGA	**Ilgaz**	**31.07**	**333**	P	**P**	**14 34 59.5**	**+2.0**
MANT	**Manisa**	**31.76**	**324**	P	**P**	**14 35 05.0**	**+1.4**
ARSB	**Arslanbob**	**32.76**	**30**	P	**P**	**14 35 13.8**	**+1.5**
ARSB				IAmb	IAmb	14 35 38.1	
	comp=Z,5.5nm,1.0s						
KKAR	**Karatay Array**	**33.04**	**26**		**P**	**14 35 17.2**	**+2.6**
AAK	**Ala-Archa**	**34.49**	**30**	P	**P**	**14 35 29.5**	**+2.2**
KDJ	**Kajisay**	**35.49**	**33**	P	**P**	**14 35 38.5**	**+2.5**
TARG	**Taragay, Kyrgy**	**35.56**	**34**	P	**P**	**14 35 36.4**	**-0.4**
TARG				IAmb	IAmb	14 35 40.3	
	comp=Z,5.5nm,0.9s						
AB31	**Akbulak array**	**35.64**	**9**	P	**P**	**14 35 38.5**	**+1.6**
AB31				IAmb	IAmb	14 35 39.7	
	comp=Z,14nm,1.1s						
ABKAR	**Akbulak array**	**35.64**	**9**		**P**	**14 35 38.5**	**+1.6**
TIRR	**Tirgusor**	**36.16**	**331**	P	**P**	**14 35 42.5**	**+1.1**
TIRR				IAmb	IAmb	14 35 43.6	
	comp=Z,12nm,1.1s						
TIRR	**Tirgusor**	**36.16**	**331**	P	**P**	**14 35 42.5**	**+1.1**
	comp=Z,9.3nm,1.1s						
LIT	**Litokhoron**	**36.39**	**321**	P	**P**	**14 35 44.5**	**+0.9**
LIT				IAmb	IAmb	14 35 45.6	
	comp=Z,7.7nm,0.6s						
TPGR	**Topolog**	**36.46**	**332**	⇑P	**P**	**14 35 45.6**	**+1.6**
AKTO	**Aktyubinsk**	**36.53**	**7**	P	**P**	**14 35 46.2**	**+1.7**
	comp=Z,7.1nm,0.8s,baz=191,slow=7.4,SNR=19						
	comp=Z,7.1nm,0.8s						
FNA	**Florina**	**37.48**	**321**		**P**	**14 35 53.5**	**+0.7**
FNA				IAmb	IAmb	14 35 54.9	
	comp=Z,6.4nm,0.7s						
NEHR	**Nehoiu**	**37.88**	**330**	⇑P	**P**	**14 35 58.4**	**+2.2**
VRI	**Vrincioaia**	**38.00**	**331**	⇑P	**P**	**14 35 59.4**	**+2.2**
PLOR	**Plostina**	**38.03**	**331**	⇑P	**P**	**14 35 59.6**	**+2.3**
MLR	**Muntele Rosu**	**38.10**	**330**	⇑P	**P**	**14 36 00.0**	**+2.0**
VOIR		**38.49**	**329**	⇑P	**P**	**14 36 03.0**	**+1.6**
VOIR		**38.49**	**329**	P	**P**	**14 36 02.5**	**+1.1**
	comp=Z,6.7nm,1.3s						
TESR	**Tescani**	**38.52**	**332**	⇓P	**P**	**14 36 02.8**	**+1.3**
SORM	**Soroca**	**39.04**	**335**	P	**P**	**14 36 06.4**	**+0.7**
	comp=Z,8.4nm,0.9s						
SHL	**Shillong**	**39.26**	**67**	P	**P**	**14 36 08.3**	**+0.1**
SHL				IAmb	IAmb	14 36 08.9	
	comp=Z,9.6nm,0.9s						
HERR	**Herculane**	**39.46**	**327**	⇑P	**P**	**14 36 10.7**	**+1.3**
TIP	**Timpagrande**	**39.60**	**316**	P	**P**	**14 36 11.1**	**+0.4**
	comp=Z,6.7nm,1.7s						
GZR	**Gura Zlata**	**39.62**	**328**	⇑P	**P**	**14 36 11.7**	**+0.9**
PDG	**Podgorica**	**39.73**	**322**	⇑P	**P**	**14 36 12.0**	**+0.4**
CEL	**Celeste**	**39.77**	**314**	P	**P**	**14 36 12.7**	**+0.7**
CEL	**Celeste**	**39.77**	**314**	P	**P**	**14 36 12.9**	**+0.8**
	comp=Z,8.8nm,0.9s						
MDVR	**Moldovita**	**39.77**	**326**	⇑P	**P**	**14 36 12.9**	**+0.9**
BURAR	**Bucovina Array**	**40.00**	**332**		**P**	**14 36 15.5**	**+1.6**
BURAR	**Bucovina Array**	**40.00**	**332**	⇓P	**P**	**14 36 15.1**	**+1.2**
BUR08	**Bucovina Ar. S**	**40.03**	**332**	P	**P**	**14 36 15.3**	**+1.1**
BZS	**Buzias**	**40.37**	**327**	⇑P	**P**	**14 36 17.8**	**+0.8**
AK07	**Malin Array Si**	**40.66**	**338**	P	**P**	**14 36 19.7**	**+0.5**
AK10	**Malin Array Si**	**40.68**	**338**	P	**P**	**14 36 20.3**	**+0.9**
AK09	**Malin Array Si**	**40.68**	**338**	P	**P**	**14 36 20.1**	**+0.7**
LUBAR	**Lubar, Ukraine**	**40.69**	**336**	P	**P**	**14 36 20.4**	**+0.9**
AK08	**Malin Array Si**	**40.71**	**338**	P	**P**	**14 36 20.2**	**+0.6**
AK05	**Malin Array Si**	**40.71**	**338**	P	**P**	**14 36 20.1**	**+0.5**
AK02	**Malin Array Si**	**40.74**	**338**	P	**P**	**14 36 20.4**	**+0.5**
AK12	**Malin Array Si**	**40.75**	**338**	P	**P**	**14 36 20.7**	**+0.7**
AK14	**Malin Array Si**	**40.76**	**338**	P	**P**	**14 36 21.1**	**+1.1**
AKASG	**Malin Array Be**	**40.77**	**338**	P	**P**	**14 36 21.0**	**+0.9**
	comp=Z,5.8nm,0.9s,baz=147,slow=7.2,SNR=22						
AKASG				PP	**PP**	**14 37 50.8**	**-3.4**
	comp=Z,4.7nm,1.0s,baz=141,slow=8.7,SNR=5.2						
	comp=Z,5.8nm,0.9s						
AKBB	**Malin Array Si**	**40.77**	**338**		**P**	**14 36 21.2**	**+1.0**
AKBB				IAmb	IAmb	14 36 22.2	
	comp=Z,9.3nm,0.8s						
AKBB	**Malin Array Si**	**40.77**	**338**	P	**P**	**14 36 21.0**	**+0.9**
KIEV	**Kiev**	**40.77**	**338**		**P**	**14 36 21.0**	**+0.9**
KIEV				IAmb	IAmb	14 36 22.1	
	comp=Z,7.9nm,0.8s						
KIEV	**Kiev**	**40.77**	**338**	⇓P	**P**	**14 36 21.5**	**+1.4**
KIEV	**Kiev**	**40.77**	**338**	*i* P	**P**	**14 36 16.8**	**-3.3**
	SNR=6.6						
KIEV	**Kiev**	**40.77**	**338**	P	**P**	**14 36 20.9**	**+0.8**
	comp=Z,54nm,1.2s						
AK11	**Malin Array Si**	**40.77**	**338**	P	**P**	**14 36 21.2**	**+1.1**
AK16	**Malin Array Si**	**40.79**	**338**	P	**P**	**14 36 21.3**	**+1.0**
MI30	**MI30,Zelenitsa**	**41.19**	**337**	P	**P**	**14 36 24.1**	**+0.5**
	comp=Z,18nm,0.8s						
MAKZ	**Makanchi**	**41.20**	**32**		**P**	**14 36 25.1**	**+1.4**
MAKZ				IAmb	IAmb	14 36 36.5	
	comp=Z,10nm,1.4s						
MK31	**Makanchi Array**	**41.35**	**32**		**P**	**14 36 26.4**	**+1.4**
MKAR	**Makanchi Array**	**41.35**	**32**		**P**	**14 36 26.1**	**+1.1**
MKAR	**Makanchi Array**	**41.35**	**32**	P	**P**	**14 36 26.4**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=221,slow=8.9,SNR=16						
	comp=Z,1.4nm,0.6s						
BRVK	**Borovoye**	**41.50**	**17**		**P**	**14 36 27.6**	**+1.5**
BVAR	**Borovoye Array**	**41.50**	**17**	P	**P**	**14 36 27.8**	**+1.6**
	comp=Z,1.8nm,0.5s,baz=195,slow=6.6,SNR=16						
	comp=Z,1.8nm,0.5s						
BERU	**Beregovo**	**41.64**	**331**	P	**P**	**14 36 28.2**	**+0.9**
KURBB	**Kurchatov Arra**	**42.35**	**25**	P	**P**	**14 36 34.5**	**+1.4**
	comp=Z,2.3nm,0.9s,baz=226,slow=8.3,SNR=14						
	comp=Z,2.3nm,0.9s						
MORH	**Mrgy, Hungar**	**42.35**	**326**	⇑P	**P**	**14 36 34.2**	**+1.1**
MORH	**Mrgy, Hungar**	**42.35**	**326**	P	**P**	**14 36 33.8**	**+0.6**
	comp=Z,6.4nm,1.1s						
ARTI	**Arti**	**42.45**	**5**	P	**P**	**14 36 35.4**	**+1.6**
ARTI				IAmb	IAmb	14 36 36.1	
	comp=Z,7.6nm,1.0s						
KURK	**Kurchatov**	**42.46**	**25**		**P**	**14 36 34.9**	**+1.0**
RNPP5	**Staryi Chortor**	**42.46**	**336**	P	**P**	**14 36 33.8**	**-0.2**
STHS	**Stebnicka Huta**	**43.13**	**331**	*eP*	**P**	**14 36 39.5**	**0.0**
BSI	**Banda Aceh**	**43.68**	**97**	P	**P**	**14 36 45.0**	**+0.6**
	comp=Z,32nm,1.2s						
VYHS	**Vyhne**	**43.69**	**328**	*eP*	**P**	**14 36 44.9**	**+0.9**
MODS	**Modra-Piesok**	**44.42**	**327**	*eP*	**P**	**14 36 51.3**	**+1.4**
SOKA	**Soboth**	**44.64**	**324**	*i* P	**P**	**14 36 53.0**	**+1.3**
	comp=Z,5.3nm,1.3s						
ARSA	**Arzberg**	**44.69**	**325**		**P**	**14 36 53.5**	**+1.5**
ARSA				IAmb	IAmb	14 36 54.4	
	comp=Z,7.8nm,0.9s						
ARSA	**Arzberg**	**44.69**	**325**	*i* P	**P**	**14 36 53.6**	**+1.5**
	comp=Z,6.3nm,0.8s						
OBKA	**Obir**	**44.82**	**324**	*i* P	**P**	**14 36 54.8**	**+1.6**
	comp=Z,18nm,2.0s						
CONA	**Conrad Observa**	**44.90**	**326**	*i* P	**P**	**14 36 55.2**	**+1.3**
	comp=Z,11nm,1.0s						
STEB	**Steborice**	**45.15**	**329**	*eP*	**P**	**14 36 56.6**	**+0.9**
STEB				*ex*	x	14 37 07.8	
MORC	**Moravsky Berou**	**45.17**	**329**	P	**P**	**14 36 56.6**	**+0.8**
MORC				IAmb	IAmb	14 36 57.2	
	comp=Z,5.3nm,0.9s						
MORC	**Moravsky Berou**	**45.17**	**329**	⇓P	**P**	**14 36 56.6**	**+0.8**
CM31	**Chiang Mai Arr**	**45.38**	**78**	P	**P**	**14 36 58.2**	**+0.2**
CM31	**Chiang Mai Arr**	**45.38**	**78**	P	**P**	**14 36 58.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**45.38**	**78**		**P**	**14 36 58.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**45.38**	**78**	P	**P**	**14 36 57.9**	**-0.1**
	comp=Z,11nm,1.0s,baz=274,slow=8.9,SNR=65						
	comp=Z,11nm,1.0s						
MYKA	**Terra Mystica**	**45.41**	**323**	*eP*	**P**	**14 36 59.1**	**+1.3**
	comp=Z,10nm,0.8s						
MOA	**Molln**	**45.73**	**325**	*i* P	**P**	**14 37 01.6**	**+1.2**
	comp=Z,7.5nm,0.9s						
KBA	**Koelnbreinsper**	**45.83**	**324**	*eP*	**P**	**14 37 02.0**	**+0.8**
	comp=Z,7.0nm,0.9s						
CIMO	**Cimolais**	**45.95**	**322**		**P**	**14 37 03.2**	**+1.1**
ABTA	**Abfaltersbach**	**46.13**	**323**	*i* P	**P**	**14 37 04.5**	**+0.9**
	comp=Z,3.8nm,0.6s						
DPC	**Dobruska-Polom**	**46.14**	**329**	*eP*	**P**	**14 37 04.4**	**+0.9**
DPC				*ex*	x	14 37 12.9	
LESA	**Schwarzleotal**	**46.40**	**324**	*i* P	**P**	**14 37 05.8**	**+0.1**
	comp=Z,6.3nm,1.0s						
CHVC	**Chvalec**	**46.42**	**329**	*eP*	**P**	**14 37 06.6**	**+0.9**
CHVC				*ex*	x	14 37 18.0	
GEC2	**GERESS Array S**	**46.61**	**326**	P	**P**	**14 37 07.8**	**+0.5**
GEC2				IAmb	IAmb	14 37 22.5	
	comp=Z,5.2nm,0.9s						
GERES	**GERESS Array B**	**46.61**	**326**	P	**P**	**14 37 07.1**	**-0.2**
GERES	**GERESS Array B**	**46.61**	**326**	P	**P**	**14 37 06.8**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=126,slow=6.3,SNR=11						
	comp=Z,1.7nm,0.7s						
ZVC	**Zvikov**	**46.69**	**327**	*eP*	**P**	**14 37 07.9**	**+0.1**
ZVC				*ex*	x	14 37 18.5	
KHC	**Kasperske Hory**	**46.84**	**326**	*eP*	**P**	**14 37 09.1**	**+0.1**
WTTA	**Wattenberg**	**46.91**	**323**	*i* P	**P**	**14 37 10.3**	**+0.5**
	comp=Z,19nm,1.3s						
WATA	**Walderalm**	**46.98**	**323**	*i* P	**P**	**14 37 09.9**	**-0.4**
	comp=Z,5.0nm,0.5s						
SQTA	**Sankt Quirin**	**47.14**	**323**	*i* P	**P**	**14 37 11.8**	**+0.3**
	comp=Z,7.9nm,0.7s						
SRIT	**Nakonsritamara**	**47.16**	**91**	P	**P**	**14 37 11.8**	**-0.2**
MOTA	**Moosalm**	**47.27**	**323**	*i* P	**P**	**14 37 12.4**	**-0.1**
	comp=Z,14nm,0.8s						
FETA	**Feichten**	**47.32**	**322**	*i* P	**P**	**14 37 13.4**	**+0.4**
	comp=Z,2.9nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**47.40**	**322**	P	**P**	**14 37 13.4**	**-0.3**
FUORN				IAmb	IAmb	14 37 36.1	
	comp=Z,5.6nm,1.1s						
ZAA0	**Zalesovo Array**	**47.42**	**26**	P	**P**	**14 37 12.8**	**-0.6**
ZAA0				IAmb	IAmb	14 37 25.2	
	comp=Z,5.4nm,0.8s						
ZALV	**Zalesovo Beam**	**47.42**	**26**	P	**P**	**14 37 14.1**	**+0.7**
	comp=Z,4.0nm,0.7s,baz=232,slow=7.6,SNR=10						
	comp=Z,4.0nm,0.7s						
RETA	**Reutte**	**47.54**	**323**	*i* P	**P**	**14 37 14.4**	**-0.2**
	comp=Z,7.5nm,1.0s						
RPSI	**Rantau Prapat**	**47.92**	**99**	P	**P**	**14 37 16.7**	**-1.2**
RPSI				IAmb	IAmb	14 37 18.6	
	comp=Z,7.7nm,1.2s						
DAVA	**Damuels**	**47.96**	**322**	*i* P	**P**	**14 37 17.9**	**0.0**
	comp=Z,10.0nm,1.1s						
PZH	**PanZhiHua**	**48.17**	**67**	P	**P**	**14 37 20.8**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**48.59**	**275**	P	**P**	**14 37 22.5**	**-0.6**
	comp=Z,44nm,0.3s,baz=88,slow=6.9,SNR=1.6						
GTA	**Gaotai**	**49.00**	**50**	*eP*	**P**	**14 37 27.1**	**+1.0**
GTA				sP	pwP	14 37 36.0	+2.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BFO	**Black Forest**	**49.38**	**323**		**P**	**14 37 28.9**	**+0.2**
ECH	**Echery**	**50.02**	**322**		**P**	**14 37 34.2**	**+0.7**
ECH				IAmb	IAmb	14 37 34.8	
	comp=Z,7.7nm,1.1s						
MEF	**Metsahovi**	**50.16**	**343**	*eP*	**P**	**14 37 36.0**	**+1.6**
FIA1	**FINESS Array S**	**50.71**	**344**		**P**	**14 37 39.5**	**+1.0**
FINES	**FINESS Array B**	**50.71**	**344**		**P**	**14 37 39.8**	**+1.3**
FINES	**FINESS Array B**	**50.71**	**344**	P	**P**	**14 37 39.4**	**+0.8**
	comp=Z,12nm,0.7s,baz=138,slow=8.2,SNR=45						
	comp=Z,12nm,0.7s						
JOF	**Joensuu**	**50.80**	**348**	*eP*	**P**	**14 37 40.6**	**+1.5**
WLF	**Walferdange**	**51.27**	**323**	P	**P**	**14 37 44.0**	**+1.1**
RAF	**Rauma**	**51.58**	**342**	*eP*	**P**	**14 37 45.8**	**+0.8**
KEF	**Keuruu**	**51.64**	**344**	*eP*	**P**	**14 37 46.8**	**+1.3**
MYKOM	**Kota Tinggi**	**52.89**	**99**	P	**P**	**14 37 55.0**	**-0.5**
MYKOM				IAmb	IAmb	14 37 55.7	
	comp=Z,8.9nm,0.8s						
VAF	**Ylistaro**	**52.94**	**344**	*eP*	**P**	**14 37 56.2**	**+1.2**
HFS	**Hagfors**	**53.66**	**337**	P	**P**	**14 38 00.8**	**+0.4**
	comp=Z,6.3nm,0.7s,baz=131,slow=8.1,SNR=16						
	comp=Z,6.3nm,0.7s						
ESBB

BBSI	Bau Bau	5.64	39	P	Pn	14 36 41.1	+1.9
	0.1nm26nm,1.3s						
GMJI	Gumukmas	5.76	286	P	Pn	14 36 40.8	0.0
	0.1nm46nm,0.8s						
KMMI	Kalianget	5.77	299	P	Pn	14 36 44.0	+3.0
SPSI	Sidrap Palu	5.98	7	P	Pn	14 36 46.8	+3.0
	0.2nm48nm,0.7s						
PCJI	Pacitan	7.95	282	P	Pn	14 37 11.4	+0.5
FITZ	Fitzroy Crossi	10.34	142		Pn	14 37 45.6	+1.9
FITZ	Fitzroy Crossi	10.34	142	Pn	Pn	14 37 44.6	+1.0
	0.5nm,0.3s,baz=326,slow=8.8,SNR=19						
FITZ				Sn	Sn	14 39 35.1	-3.3
	1.2nm,0.3s,baz=201,slow=24,SNR=11						
	3.4nm,0.6s						
KNRA	Kununurra	11.07	122		Pn	14 37 56.3	+2.7
MBWA	Marble Bar	11.18	177	Pn	Pn	14 37 55.1	-0.1
PSA00	Pilbara Seismi	11.60	176	Pn	Pn	14 38 01.3	+0.4
FAKI	Fak Fak	14.86	63	Pn	Pn	14 38 48.7	+3.2
FAKI				IAmb	IAmb	14 38 52.4	
	comp=Z,12nm,0.9s						
WB0	Warramunga Arr	17.76	125		P	14 39 24.8	+1.8
WB0				IAmb	IAmb	14 39 30.9	
	comp=Z,9.5nm,1.0s						
WRA	Warramunga Arr	17.81	126	P	P	14 39 26.9	+3.3
WRA	Warramunga Arr	17.81	126	P	P	14 39 25.9	+2.3
	comp=Z,0.3nm,0.3s,baz=304,slow=13,SNR=15						
WRA				S	Sn	14 42 30.6	-10
	comp=Z,0.2nm,0.3s,baz=301,slow=24,SNR=4.7						
	comp=Z,3.4nm,0.8s						
WRAB	Tennant Creek	17.81	126	P	P	14 39 25.7	+2.2
WR8	Warramunga Arr	17.94	125	P	P	14 39 26.6	+1.6
WR0	Warramunga Arr	17.98	125	P	P	14 39 27.5	+2.1
MORW	Morawa	19.24	188	P	P	14 39 39.4	+0.2
MORW				IAmb	IAmb	14 40 07.4	
	comp=Z,15nm,1.1s						
AS31	Alice Springs	19.70	136		Pn	14 39 46.4	+0.5
ASAR	Alice Springs	19.70	136	P	Pn	14 39 46.2	+0.3
ASAR	Alice Springs	19.70	136	P	Pn	14 39 47.1	+1.2
	comp=Z,0.3nm,0.3s,baz=313,slow=10,SNR=40						
ASAR				S	S	14 43 16.0	-8.8
	comp=Z,1.2nm,0.8s,baz=309,slow=22,SNR=4.2						
	comp=Z,2.6nm,0.6s						
CMAR	Chiang Mai Arr	34.48	325	P	P	14 42 02.8	0.0
	comp=Z,0.5nm,0.6s,baz=144,slow=8.3,SNR=5.8						
	comp=Z,0.5nm,0.6s						
H08S2	Diego Garcia H	46.02	269	T	T	15 32 48.0	
	baz=96,slow=75,SNR=121						
H08S3	Diego Garcia H	46.03	269	T	T	15 32 48.3	
	baz=96,slow=75,SNR=168						
H08S1	Diego Carcia H	46.04	269	T	T	15 32 49.4	
	baz=96,slow=75,SNR=170						
SONM	Songino Array	58.60	350	P	P	14 45 11.8	+0.5
SONM				IAmb	IAmb	14 45 16.2	
	comp=Z,3.0nm,1.1s						
SONM	Songino Array	58.60	350	P	P	14 45 11.6	+0.3
	comp=Z,1.8nm,0.8s,baz=170,slow=8.7,SNR=11						
	comp=Z,1.8nm,0.8s						
KBL	Kabul	64.78	316	P	P	14 45 52.4	-1.0
KBL				IAmb	IAmb	14 45 53.5	
	comp=Z,5.2nm,1.1s						
MK31	Makanchi Array	65.30	333	P	P	14 45 55.7	-0.6
MK31				IAmb	IAmb	14 46 14.7	
	comp=Z,0.8nm,0.8s						
MKAR	Makanchi Array	65.30	333	P	P	14 45 56.0	-0.3
MKAR	Makanchi Array	65.30	333	P	P	14 45 55.9	-0.3
	comp=Z,0.7nm,0.6s,baz=155,slow=6.7,SNR=11						
	comp=Z,0.7nm,0.6s						
BOOM	Boomskoye usch	65.37	326	P	P	14 45 57.4	+0.4
BOOM				IAmb	IAmb	14 46 00.3	
	comp=Z,2.2nm,1.0s						
AAK	Ala-Archa	66.27	326	P	P	14 46 02.7	-0.1
AAK				IAmb	IAmb	14 46 11.8	
	comp=Z,1.5nm,0.9s						
ARSB	Arslanbob	66.28	324	P	P	14 46 02.4	-0.5
ARSB				IAmb	IAmb	14 46 08.7	
	comp=Z,6.5nm,1.2s						
GAR	Garm	66.48	320	P	P	14 46 02.4	-1.8
H04N2	CROZET ISLANDS	67.15	224	T	T	15 59 42.4	
	baz=86,slow=75,SNR=22						
H04N1	CROZET ISLANDS	67.17	224	T	T	15 59 42.4	
	baz=86,slow=75,SNR=19						
H04N3	CROZET ISLANDS	67.17	224	T	T	15 59 42.4	
	baz=86,slow=75,SNR=29						
KKAR	Karatay Array	68.83	324	P	P	14 46 18.1	-0.7
KURBB	Kurchatov Arra	69.82	334	P	P	14 46 23.9	-0.8
	comp=Z,0.3nm,0.6s,baz=142,slow=5.4,SNR=4.1						
	comp=Z,0.3nm,0.6s						
ZAA0	Zalesovo Array	69.92	339	P	P	14 46 23.7	-1.6
ZAA0				IAmb	IAmb	14 46 31.9	
	comp=Z,1.7nm,0.8s						
ZALV	Zalesovo Beam	69.92	339	P	P	14 46 24.2	-1.1
ZALV	Zalesovo Beam	69.92	339	P	P	14 46 23.4	-1.9
	comp=Z,0.6nm,0.4s,baz=125,slow=4.7,SNR=3.7						
	comp=Z,0.6nm,0.4s						
PEA0B	Petropavlovsk-	70.91	23	P	P	14 46 32.3	+1.0
PETK	Petropavlovsk-	70.91	23	P	P	14 46 32.3	+1.0
PETK	Petropavlovsk-	70.91	23	P	P	14 46 32.2	+0.8
	comp=Z,1.3nm,1.0s,baz=215,slow=7.7,SNR=9.2						
	comp=Z,1.3nm,1.0s						
BVAR	Borovoye Array	75.13	332	P	P	14 46 56.1	-0.2
	comp=Z,0.5nm,0.6s,baz=126,slow=7.3,SNR=2.4						
	comp=Z,0.5nm,0.6s						
AB31	Akbulak array	78.34	325	P	P	14 47 13.6	-0.9
AB31				IAmb	IAmb	14 47 18.9	
	comp=Z,4.2nm,1.3s						
ABKAR	Akbulak array	78.34	325	P	P	14 47 14.5	0.0
QSPA	South Pole Qui	80.06	180	P	P	14 47 25.9	+2.0
QSPA	South Pole Qui	80.06	180	P	P	14 47 25.2	+1.3
	comp=Z,2.4nm,1.2s,baz=9.5,slow=6.1,SNR=1.7						
	comp=Z,2.4nm,1.2s						

DJA 12 14:38:35.9±0.3, 2°S±3°×12°3E±°, h10km, M3.7/11, mB4.8/1, mb3.9/4, MLv3.7/11, Mw(mB)4.1/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.85	10	P	Pb	14 38 52.8	-0.1
APSI	Ampana	1.38	315	P	Pn	14 38 59.9	-1.4
PCI	Palu	2.96	289	P	Pn	14 39 23.7	+0.7
MPSI	Mapaga	3.52	309	P	Pn	14 39 29.9	-0.7
SPSI	Sidrap Palu	3.52	234	P	Pn	14 39 31.1	+0.4
BNSI	Bone	3.54	225	P	Pn	14 39 31.9	+0.9
EDFI	Ende, Flores	6.88	188	P	Pn	14 40 16.9	-0.1
	0.0nm656nm7.3nm,0.9s						

*NOU **12** 14:46:46.3, 40.67S×174.13E, h66km, MLv3.5/14, Cook Strait, New Zealand*
*WEL **12** 14:46:47.4±0.5, 41°S±3°×17°4E±°, h60km±7km, M3.3/28, ML3.5/28, MLv3.3/28, Error ellipse: s-maj=3.8km s-min=3.4km az=144.8, confirmed*

ISC 12 14:46:45.7±1.4, 40.69S±0.03×174.11E±0.03, h87km±8km, n84, σ0.83/99, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.18	231	P	Pn	14 46 57.8	-0.6
DUWZ				S	Sn	14 47 06.5	-1.3
TCW	Tory Channel	0.54	166	P	Pn	14 47 01.0	+0.5
TCW				S	Sn	14 47 10.7	-0.8
KIW	Kapiti Island	0.63	106	P	Pn	14 47 01.6	+0.2
KIW				S	Sn	14 47 12.7	-0.4
TUWZ	Tuamarina	0.75	189	P	Pn	14 47 03.6	+1.1
TUWZ				S	Sn	14 47 14.4	-0.6
NNZ	Nelson	0.76	226	P	Pn	14 47 03.0	+0.4
NNZ				S	Sn	14 47 15.2	0.0
SNZO	South Karori	0.77	144	P	Pn	14 47 03.3	+0.6
SNZO	South Karori	0.77	144	P	Sn	14 47 15.3	0.0
WEL	Wellington	0.78	140	P	Pn	14 47 03.5	+0.7
WEL				S	Sn	14 47 15.1	-0.4
OGWZ	Otaki Gorge	0.82	99	P	Pn	14 47 03.6	+0.4
OGWZ				S	Sn	14 47 16.6	+0.3
CAW	Cannon Point	0.84	120	P	Pn	14 47 04.0	+0.5
CAW				S	Sn	14 47 16.1	-0.6
BHW	Baring Head	0.92	141	P	Pn	14 47 05.1	+0.8
BHW				S	Sn	14 47 17.6	-0.7
TKNZ	Takaka Hill	0.94	248	P	Pn	14 47 04.7	+0.2
TKNZ				S	Sn	14 47 17.7	-0.9
BSWZ	Blackbirch Sta	1.04	190	P	Pn	14 47 07.4	+1.7
BSWZ				S	Sn	14 47 21.2	+0.5
OHWZ	Ohakea	1.04	63	P	Pn	14 47 06.7	+1.0
OHWZ				S	Sn	14 47 21.8	+1.1
WCDS	Wanganui Civil	1.04	44	P	Pn	14 47 07.0	+1.3
WCDS				S	Sn	14 47 22.4	+1.8
HOWZ	Holdsworth Sta	1.09	101	P	Pn	14 47 06.5	+0.2
MRZ	Mangatainoka R	1.12	89	P	Pn	14 47 06.7	+0.1
MRZ				S	Sn	14 47 21.6	-0.8
MSWZ	Moikau Station	1.13	130	P	Pn	14 47 07.3	+0.5
WAZ	Wanganui	1.15	36	P	Pn	14 47 08.0	+1.0
MTW	Mount Morrison	1.16	114	P	Pn	14 47 07.4	+0.3
WRCS	Masterton Wair	1.20	103	P	Pn	14 47 07.8	+0.3
QRZ	Quartz Range	1.21	263	P	Pn	14 47 07.3	-0.4
QRZ	Quartz Range	1.21	263	P	Sn	14 47 22.6	-1.6
QRZ	Quartz Range	1.21	263	P	Pn	14 47 07.5	-0.2
PAWZ	Paruwai Farm	1.22	125	P	Pn	14 47 08.2	+0.4
PLWZ	Palliser	1.24	136	P	Pn	14 47 08.5	+0.4
MRNZ	Matariki Terra	1.24	235	P	Pn	14 47 09.1	+1.0
LREZ	Lake Rotokare	1.25	11	P	Pn	14 47 09.4	+1.2
NMEZ	Namu Road	1.29	352	P	Pn	14 47 09.0	+0.3
POWZ	Post Office Ro	1.30	77	P	Pn	14 47 08.9	0.0
PREZ	Palmer Road	1.34	2	P	Pn	14 47 10.1	+0.7
TIWZ	Tintock	1.35	94	P	Pn	14 47 09.7	+0.1
TRWZ	Traveller	1.39	121	P	Pn	14 47 10.6	+0.7
KHEZ	Kahui Hut	1.39	357	P	Pn	14 47 10.5	+0.4
KHEZ	Kahui Hut	1.39	357	P	Sn	14 47 28.0	-0.5
KHEZ	Kahui Hut	1.39	357	P	Pn	14 47 10.5	+0.4
THZ	Tophouse	1.40	220	P	Pn	14 47 11.4	+1.2
TMWZ	Te Maipa	1.42	108	P	Pn	14 47 11.0	+0.7
NEZ	North Egmont	1.42	360	P	Pn	14 47 10.8	+0.4
PRWZ	Pori Road	1.43	85	P	Pn	14 47 10.6	+0.2
NBEZ	Newall Road No	1.43	353	P	Pn	14 47 10.9	+0.4
DREZ	Durham Road	1.50	3	P	Pn	14 47 12.1	+0.7
DREZ				S	Sn	14 47 29.6	-1.1
TSZ	Takapari Road	1.55	67	P	Pn	14 47 11.9	-0.1
DVHZ	Dannevirke	1.62	77	P	Pn	14 47 12.4	-0.4
BFZ	Birch Farm	1.63	90	P	Pn	14 47 12.7	-0.3
BFZ	Birch Farm	1.63	90	S	Sn	14 47 32.4	-1.2
BFZ	Birch Farm	1.63	90	P	Pn	14 47 12.8	-0.2
VRZ	Vera Road	1.64	18	P	Pn	14 47 14.1	+1.0
MTVZ	Mangateitei	1.67	39	P	Pn	14 47 15.0	+1.3
PKVZ	Pokaka	1.69	35	P	Pn	14 47 15.1	+1.3
KHZ	Kahutara	1.78	194	P	Pn	14 47 16.1	+1.2
KHZ	Kahutara	1.78	194	S	Sn	14 47 36.8	-0.3
KHZ	Kahutara	1.78	194	P	Pn	14 47 16.3	+1.4
PNHZ	Pukenui	1.78	65	P	Pn	14 47 14.6	-0.4
WNVZ	Wahianoa	1.78	41	P	Pn	14 47 16.1	+1.0
MOVZ	Moawhango	1.80	45	P	Pn	14 47 15.5	+0.2
WHVZ	Whangaehu Hut	1.81	40	P	Pn	14 47 17.5	+1.9
FWVZ	Far West T-bar	1.81	38	P	Pn	14 47 16.8	+1.2
ANWZ	Angora Road	1.82	84	P	Pn	14 47 15.2	-0.2
COVZ	Chateau Observ	1.85	37	P	Pn	14 47 17.3	+1.3
TUVZ	Tukino	1.85	40	P	Pn	14 47 17.5	+1.5
WPHZ	Waipukurau	1.89	71	P	Pn	14 47 16.2	-0.2
TWVZ	Taurewa	1.91	33	P	Pn	14 47 17.6	+0.8
OTVZ	Oturere	1.94	39	P	Pn	14 47 18.2	+1.0
NNVZ	North Ngauruho	1.94	37	P	Pn	14 47 18.7	+1.5
KRHZ	Kereru	2.02	60	P	Pn	14 47 17.7	-0.5
DSZ	Denniston Nort	2.03	238	P	Pn	14 47 19.1	+0.8
KWHZ	Kaweka Forest	2.18	55	P	Pn	14 47 20.0	-0.3
PXZ	Pawanui	2.21	74	P	Pn	14 47 19.8	-0.8
HIZ	Hauiti	2.25	15	P	Pn	14 47 21.4	+0.3
HIZ	Hauiti	2.25	15	P	Pn	14 47 21.6	+0.4
MCHZ	McNeill Hill	2.34	59	P	Pn	14 47 21.6	-0.8
BKZ	Black Stump Fm	2.38	51	P	Pn	14 47 22.8	-0.2
BKZ	Black Stump Fm	2.38	51	P	Pn	14 47 22.6	-0.3
GVZ	Greta Valley S	2.41	199	P	Pn	14 47 24.0	+0.7
LTZ	Lake Taylor	2.50	213	P	Pn	14 47 25.2	+0.7
TLZ	Tolley Road	2.60	26	P	Pn	14 47 26.8	+0.9
AMCZ	Amberley	2.71	203	P	Pn	14 47 28.0	+0.7
INZ	Inchbonnie	2.85	224	P	Pn	14 47 30.1	+1.0
OKZ	Okains Bay	3.13	194	P	Pn	14 47 32.8	-0.1
TOZ	Tahuroa Road	3.15	21	P	Pn	14 47 34.0	+0.9
MQZ	McQuoen's Vall	3.20	199	P	Pn	14 47 33.2	-0.7
URZ	Urewera	3.36	45	P	Pn	14 47 36.7	+0.7
URZ	Urewera	3.36	45	S	Sn	14 48 13.3	-1.6

*IDC **12** 14:51:26.2±0.3, 6.41S×148.56E, h0km, mb5.1/27, mbtmp5.1/30, ML4.6/3, MS5.7/50, Error ellipse: s-maj=16.4km s-min=9.9km az=87.0*
*NEIC **12** 14:51:28.6, 6.56S×149.00E, h24km, Moment Tensor Solution. Duration: 4s6 Moment tensor: Scale 10^{18}Nm; M_{rr}1.04; $M_{\theta\theta}$-1.03; $M_{\phi\phi}$-0.00; $M_{r\theta}$0.57; $M_{\theta\phi}$-0.10; $M_{\phi r}$0.14; Fault plane solution: $M_0$1.19000×10^{18} NP1: ϕ_s268.43000°, δ30.45000°, λ96.67000°. NP2:ϕ_s80.71000°, δ59.77000°, λ86.09000°. Principal axes: T 1.1939, Plg75.0000°, Azm340.0000°; N 0.0007, Plg3.0000°, Azm83.0000°; P -1.1946, Plg15.0000°, Azm174.0000°;*
*NEIC **12** 14:51:28.6, 6.46S×148.71E, h24km*
*BJI **12** 14:51:30.0, 6.31S×148.67E, h38km, mB5.7/58, mb5.1/73, Ms5.8/94, Ms7 5.8/93*
*NEIC **12** 14:51:31.6±2.0, 6.49S±0.06×148.74E±0.06, h30km±1km, mb5.4/253, Ms_20 6.0/893, Mwb5.9/42, Mww6.0/18, Error ellipse: s-maj=10.8km s-min=9.1km az=120.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.70; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$-0.18; $M_{r\theta}$0.72; $M_{\theta\phi}$-0.32; $M_{\phi r}$0.01; Fault plane solution: $M_0$1.01000×10^{18} NP1:ϕ_s79.18000°, δ68.38000°, λ105.37000°. NP2:ϕ_s222.45000°, δ26.31000°, λ56.22000°. Principal axes: T 1.0470, Plg63.0000°, Azm14.0000°; N -0.0765, Plg14.0000°, Azm253.0000°; P -0.9706, Plg22.0000°, Azm158.0000°;*
*NEIC **12** 14:51:31.6, 6.49S×148.74E, h30km*
*MOS **12** 14:51:31.5±1.1, 6.37S×148.48E, h40km, mb5.4/38, MS5.9/23, Error ellipse: s-maj=8.0km s-min=4.8km az=106.6*
*DJA **12** 14:51:35.8±0.4, 7°S±3°×14°9E±°, h54km±3km, M5.8/76, mb5.7/76, mB6.1/67, MLv6.1/1, Mw(mB)5.7/67, MwMwp5.9/6, Mwp6.0/6*
*GCMT **12** 14:51:36.6±0.1, 6.72S±0.01×148.73E±0.01, h25km, MW6.1/143, Moment Tensor Solution. s143,c292; s142,c397; Duration: 2s7 Moment tensor: Scale 10^{18} Nm; M_{rr}1.09±.02; $M_{\theta\theta}$-1.28±.01; $M_{\phi\phi}$0.19±.01; $M_{r\theta}$1.30±.03; $M_{\theta\phi}$-0.17±.01; $M_{\phi r}$-0.17±.03; Best double couple: $M_0$1.77800×10^{18} NP1:ϕ_s249.00000°, δ23.00000°, λ67.00000°. NP2:ϕ_s94.00000°, δ69.00000°, λ99.00000°. Principal axes: T 1.6970, Plg65.0000°, Azm20.0000°; N 0.1630, Plg9.0000°, Azm271.0000°; P -1.8580, Plg24.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 12 14:51:32.9±0.3, 6.46S±0.03×148.60E±0.03, h43km±2km, h43km:pP-P, n1678, σ1.54/1369, mbS5.4/273, MS6.0/523, 85C-46D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.25	206		Pn	14 52 22.3	+0.8
PMG	Port Moresby	3.25	206	Pn	Pn	14 52 20.8	-0.7
	564nm,0.3s,baz=22,slow=5.1,SNR=752						
PMG				Sn	Sn	14 53 00.5	+1.5
	2μm,0.3s,baz=0.0,slow=20,SNR=11						
PMG				LR	LR	14 53 25.6	
	comp=Z,46μm,19.6s,baz=338,slow=36						
	1μm,0.3s						
PMG	Port Moresby	3.25	206	P	Pn	14 52 23.1	+1.6
PMG	Port Moresby	3.25	206	*d iP*	Pn	14 52 22.2	+0.7
PMG				pmax	pmax		
	comp=Z,7μm,1.3s						
PMG	Port Moresby	3.25	206	⇓P	Pn	14 52 22.2	+0.7
I40PG	Keravat	4.02	58	Pn	Pn	14 52 36.1	+4.2
	baz=216,slow=12						
I40PG				I	I	15 04 30.0	
	comp=Z,70nm,0.4s,baz=231,slow=321,SNR=0.6						
RABL	Rabaul	4.20	58		Pn	14 52 34.1	-0.5
RABL	Rabaul	4.20	58	⇑P	Pn	14 52 32.9	-1.6
MANU	Manus Island	4.56	344	Pn	Pn	14 52 41.5	+2.0
MANU	Manus Island	4.56	344	⇓P	Pn	14 52 41.9	+2.4
JAY	Jayapura	8.80	296	Pn	Pn	14 53 39.8	+2.2
	comp=Z,1.6nm,0.3s,baz=123,slow=15,SNR=6.6						
JAY				LR	LR	14 57 16.2	
	comp=Z,36μm,18.0s,baz=94,slow=40						
JAY	Jayapura	8.80	296	P	Pn	14 53 41.7	+4.1
	comp=Z,153nm,0.9s						
COEN	Coen	9.16	215		Pn	14 53 41.9	-0.8
COEN	Coen	9.16	215	P	Pn	14 53 42.9	+0.3
	comp=Z,0.0nmcomp=Z,75nm,0.6s						
COEN	Coen	9.16	215	S	Sn	14 55 21.8	-2.7
COEN	Coen	9.16	215	P	Pn	14 53 42.1	-0.5
COEN	Coen	9.16	215	S	Sn	14 55 23.6	-0.9
COEN	Coen	9.16	215	⇑P	Pn	14 53 42.0	-0.7
GENI	Genyem	9.25	294	P	Pn	14 53 46.3	+2.5
GENI	Genyem	9.25	294	P	Pn	14 53 47.2	+3.4
	comp=Z,9μmcomp=Z,366nm,1.0s						
SMPI	Sarmi	10.82	294	P	Pn	14 54 07.5	+2.2
	comp=Z,9μmcomp=Z,231nm,1.9s						
TATA	Tatamba Isabel	11.27	100	P	Pn	14 54 15.5	+4.0
SAVO	Savo Central	11.42	104	P	Pn	14 54 17.9	+4.3
HNR	Honiara	11.61	105		Pn	14 54 14.4	-1.8
HNR	Honiara	11.61	105	Pn	Pn	14 54 14.9	-1.3
	comp=Z,3.4nm,0.3s,baz=273,slow=16,SNR=6.5						
HNR				Sn	Sn	14 56 27.4	+2.8
	comp=Z,3.6nm,0.3s,baz=313,slow=13,SNR=1.0						
HNR				LR	LR	14 58 24.5	
	comp=Z,13μm,19.5s,baz=283,slow=36						
	comp=Z,344nm,1.0s						
HNR	Honiara	11.61	105	P	Pn	14 54 19.7	+3.5
HNR	Honiara	11.61	105	⇑P	Pn	14 54 17.2	+1.0
MTSU	Mount Surprise	12.33	199	P	Pn	14 54 26.8	+0.8
	comp=Z,70nm,0.9s						
MTSU	Mount Surprise	12.33	199	P	Pn	14 54 27.0	+1.0
NGOA	Tingoa Renbel	12.39	115	P	Pn	14 54 29.7	+2.9
TV1H	Townsville Har	12.84	188	P	Pn	14 54 34.1	+1.2
SRPI	Serui, Papua	13.15	290	P	Pn	14 54 39.3	+2.2
	comp=Z,3μmcomp=Z,156nm,0.8s						
BAKI	Biak	13.52	292	P	P	14 54 48.2	-2.2
	comp=Z,3μmcomp=Z,110nm,0.8s						
KMPI	Kaimana, Papua	15.10	280	P	P	14 55 06.6	-1.4
RKPI	Ransiki, Papua	15.21	288	P	P	14 55 09.1	-0.1
	comp=Z,118nm,0.7s						
PATS	Pohnpei	16.38	36		Pn	14 55 18.6	-1.3
PATS				IAmb	IAmb	14 55 25.7	
	comp=Z,185nm,0.8s						
PATS	Pohnpei	16.38	36	P	P	14 55 21.9	-0.3
	comp=Z,387nm,1.0s						
PATS	Pohnpei	16.38	36	P	P	14 55 24.2	+2.0
QIS	Mount Isa	16.51	211	P	Pn	14 55 20.9	-0.6
	comp=Z,0.0nmcomp=Z,309nm,1.5s						
QIS	Mount Isa	16.51	211	P	Pn	14 55 21.8	+0.3
FAKI	Fak Fak	16.67	281		P	14 55 24.7	-0.9
FAKI	Fak Fak	16.67	281	P	P	14 55 26.3	+0.8
FAKI	Fak Fak	16.67	281	P	P	14 55 27.2	+1.7
	comp=Z,4μmcomp=Z,124nm,1.0s						
FAKI	Fak Fak	16.67	281	⇑P	P	14 55 26.0	+0.5
KDU	Kakadu	17.06	248	P	Pn	14 55 28.7	+0.3
	comp=Z,175nm,1.1s						
KDU	Kakadu	17.06	248	P	P	14 55 29.2	-0.6
KDU	Kakadu	17.06	248	⇑P	Pn	14 55 27.4	-1.0
SAUI	Saumlaki	17.23	264	P	P	14 55 32.1	+0.4
	comp=Z,12μmcomp=Z,513nm,1.0s						
GD1S	Gladstone Soft	17.45	172	P	P	14 55 34.8	+0.8
LUES	Luesalemba Tem	17.61	105	P	P	14 55 38.6	+2.7
SWI	Sorong	18.18	287	P	Pn	14 55 44.1	+1.9
	comp=Z,4μmcomp=Z,97nm,0.7s						
MTN	Manton Dam	18.35	248		Pn	14 55 44.4	+0.2
MTN	Manton Dam	18.35	248	P	Pn	14 55 44.5	+0.2
	comp=Z,129nm,0.7s						
MTN	Manton Dam	18.35	248	P	Pn	14 55 45.7	+1.4
MTN	Manton Dam	18.35	248	⇑P	Pn	14 55 43.9	-0.4
DRS	Darwin Rock St	18.44	250	P	Pn	14 55 46.1	+0.7
BNDI	Bandanaira	18.71	275	P	Pn	14 55 50.1	+1.4
BNDI	Bandanaira	18.71	275	P	Pn	14 55 50.3	+1.6
	comp=Z,498nm,0.8s						
BNDI	Bandanaira	18.71	275	⇑P	Pn	14 55 48.1	-0.6
EIDS	Eidsvold	18.95	173		P	14 55 50.4	0.0
EIDS	Eidsvold	18.95	173	P	P	14 55 50.7	+0.2
	comp=Z,0.0nmcomp=Z,555nm,0.9s						
EIDS	Eidsvold	18.95	173	P	P	14 55 50.5	0.0
EIDS	Eidsvold	18.95	173	⇓P	P	14 55 50.3	-0.2
WB0	Warramunga Arr	19.12	225		P	14 55 51.9	-0.5
WB9	Warramunga Arr	19.14	225	P	P	14 55 52.9	+0.2
	comp=Z,199nm,0.6s						
WR0	Warramunga Arr	19.14	224		P	14 55 51.5	-1.2
WR0	Warramunga Arr	19.14	224	P	P	14 55 52.9	+0.2
	comp=Z,194nm,0.7s						
WB8	Warramunga Arr	19.16	225	P	P	14 55 53.1	+0.2
WR9	Warramunga Arr	19.16	224	P	P	14 55 53.0	+0.1
WR8	Warramunga Arr	19.17	224	P	P	14 55 51.8	-1.2
WR8				IAmb	IAmb	14 56 01.1	
	comp=Z,164nm,0.9s						
WRAB	Tennant Creek	19.26	225	P	P	14 55 54.1	+0.1
WRAB				IAmb	IAmb	14 56 03.2	
	comp=Z,117nm,0.7s						
WRAB	Tennant Creek	19.26	225	*d iP*	P	14 55 54.0	+0.1
WRAB				pmax	pmax		
	comp=Z,177nm,0.7s						
WB2	Warramunga Arr	19.27	225		P	14 55 52.1	-1.9
WB2				IAmb	IAmb	14 56 02.2	
	comp=Z,112nm,0.7s						
WRA	Warramunga Arr	19.27	225

comp=Z,10μm,24.2s
DZM *e*LR LR 15 02 07.6
comp=Z,53μm,22.1s
DZM Mont Dzumac 23.19 134 LR LR 15 04 07.2
comp=Z,41μm,20.4s,baz=318,slow=33
DZM Mont Dzumac 23.19 134 P **P** **14 56 37.0 +0.8**
DZM Mont Dzumac 23.19 134 ⇓P **P** **14 56 35.0 -1.1**
ONTNC Ouen Toro 23.34 134 P **P** **14 56 34.3 -3.3**
ONTNC IAmb IAmb 14 56 51.2
comp=Z,207nm,1.0s
ONTNC Ouen Toro 23.34 134 P **P** **14 56 39.3 +1.7**
ONTNC Ouen Toro 23.34 134 ⇓P **P** **14 56 35.9 -1.6**
YATNC Mamie plateau, 23.50 133 P **P** **14 56 41.4 +2.3**
OUENC Ouen Island, N 23.69 134 P **P** **14 56 42.1 +1.2**
INH Isangel 23.93 125 P **P** **14 56 46.0 +2.8**
ARMA Armidale 24.00 174 P **P** **14 56 43.1 -0.7**
ARMA IAmb IAmb 14 56 46.0
comp=Z,174nm,1.1s
ARMA Armidale 24.00 174 P **P** **14 56 43.0 -0.7**
comp=Z,0.0nmcomp=Z,170nm,0.9s
ARMA Armidale 24.00 174 P **P** **14 56 43.3 -0.5**
ARMA Armidale 24.00 174 ⇑P **P** **14 56 43.1 -0.7**
MARNC Mare, Loyalty 24.00 130 P **P** **14 56 45.7 +2.0**
PINNC Pines Island, 24.25 133 IAms_20 IAms_20 15 05 22.3
comp=Z,38μm,20.0s
PINNC Pines Island, 24.25 133 P **P** **14 56 48.3 +2.3**
SOEI Soe 24.31 261 P **P** **14 56 47.3 +0.4**
SOEI Soe 24.31 261 P **P** **14 56 48.7 +1.8**
SOEI Soe 24.31 261 P **P** **14 56 50.8 +3.9**
comp=Z,10μmcomp=Z,435nm,1.1s
SOEI Soe 24.31 261 ⇑P **P** **14 56 48.2 +1.4**
OOD Oodnadatta 24.50 209 P **P** **14 56 48.5 +0.2**
CMSA Cobar Meteorol 25.09 186 P **P** **14 56 53.3 -0.3**
comp=Z,306nm,0.9s
CMSA Cobar Meteorol 25.09 186 P **P** **14 56 52.9 -0.7**
FITZ Fitzroy Crossi 25.20 241 P **P** **14 56 55.0 +0.2**
FITZ IAmb IAmb 14 57 09.5
comp=Z,93nm,0.8s
FITZ Fitzroy Crossi 25.20 241 P **P** **14 56 55.5 +0.8**
comp=Z,130nm,0.9s
FITZ Fitzroy Crossi 25.20 241 S **S** **15 01 19.6 +2.2**
comp=Z,158nm,1.2s,baz=267,slow=16,SNR=7.1
FITZ LR LR 15 07 50.6
comp=Z,33μm,19.9s,baz=66,slow=39
FITZ Fitzroy Crossi 25.20 241 P **P** **14 56 55.6 +0.8**
FITZ Fitzroy Crossi 25.20 241 ⇓P **P** **14 56 55.2 +0.5**
KMSI Cibinong 25.55 285 P **P** **14 57 01.1 +3.1**
comp=Z,6μmcomp=Z,433nm,0.8s
LCRK Leigh Creek 25.78 201 P **P** **14 56 59.7 -0.2**
BBSI Bau Bau 25.91 271 P **P** **14 57 05.5 +4.3**
comp=Z,7μmcomp=Z,464nm,1.2s
STKA Stephens Creek 26.12 194 P **P** **14 57 02.6 -0.4**
STKA Stephens Creek 26.12 194 P **P** **14 57 03.1 +0.2**
comp=Z,887nm,1.3s
STKA Stephens Creek 26.12 194 P **P** **14 57 01.8 -1.1**
comp=Z,77nm,0.9s,baz=7.7,slow=11,SNR=42
STKA LR LR 15 08 23.7
comp=Z,33μm,18.8s,baz=14,slow=39
comp=Z,77nm,0.9s
STKA Stephens Creek 26.12 194 P **P** **14 57 02.5 -0.4**
STKA Stephens Creek 26.12 194 *d i*P **P** **14 57 02.5 -0.4**
MMRI Maumere 26.22 264 P **P** **14 57 02.9 -1.2**
MMRI Maumere 26.22 264 P **P** **14 57 04.5 +0.4**
MMRI Maumere 26.22 264 P **P** **14 57 06.0 +1.9**
MMRI Maumere 26.22 264 ⇑P **P** **14 57 03.7 -0.4**
NTLH Newcastle Hard 26.46 174 P **P** **14 57 06.6 +0.6**
MGCD Mangrove Creek 26.71 175 P **P** **14 57 09.2 +0.9**
comp=Z,244nm,0.9s
MGCD Mangrove Creek 26.71 175 P **P** **14 57 10.1 +1.8**
EDFI Ende, Flores 26.77 263 P **P** **14 57 08.1 -1.0**
comp=Z,3μmcomp=Z,249nm,0.7s
WRKA Warakurna 26.82 224 P **P** **14 57 09.5 +0.2**
comp=Z,337nm,0.7s
WRKA Warakurna 26.82 224 P **P** **14 57 09.1 -0.3**
WRKA Warakurna 26.82 224 ⇑P **P** **14 57 09.2 -0.2**
SYDH Sydney Hard Ro 27.24 176 P **P** **14 57 14.6 +1.7**
RIV Riverview 27.33 175 P **P** **14 57 14.4 +0.6**
comp=Z,430nm,0.9s
RIV Riverview 27.33 175 P **P** **14 57 15.3 +1.5**
RIV Riverview 27.33 175 P **P** **14 57 13.5 -0.3**
RIV pmax pmax
comp=Z,430nm,0.9s
RIV Riverview 27.33 175 ⇑P **P** **14 57 16.7 +2.9**
WOLH Wollongong Har 27.89 176 P **P** **14 57 20.8 +2.0**
BSSI Bau Bau, Buton 27.94 269 P **P** **14 57 22.3 +2.7**
comp=Z,4μmcomp=Z,293nm,1.3s
WSI Waingapu 28.20 262 P **P** **14 57 24.3 +2.5**
HTT Hallett 28.30 197 P **P** **14 57 23.0 +0.5**
comp=Z,46nm,1.4s
HTT Hallett 28.30 197 P **P** **14 57 21.2 -1.3**
HTT Hallett 28.30 197 P **P** **14 57 22.9 +0.4**
HTT Hallett 28.30 197 ⇓P **P** **14 57 21.9 -0.6**
BKSI Bulukumba 28.35 271 P **P** **14 57 23.1 -0.1**
comp=Z,2μmcomp=Z,92nm,0.9s
WHYH Whyalla 28.36 200 P **P** **14 57 23.4 +0.4**
BNSI Bone 28.44 273 P **P** **14 57 25.3 +1.3**
comp=Z,3μmcomp=Z,89nm,0.9s
BBOO Buckleboo 28.70 202 P **P** **14 57 25.8 -0.2**
BBOO IAmb IAmb 14 57 42.0
comp=Z,91nm,0.9s
BBOO Buckleboo 28.70 202 P **P** **14 57 25.8 -0.2**
comp=Z,121nm,1.5s
BBOO Buckleboo 28.70 202 P **P** **14 57 25.4 -0.6**
CAN Canberra 28.72 179 P **P** **14 57 24.1 -2.1**
CAN IAMs_20 IAMs_20 15 09 32.8
comp=Z,32μm,18.0s
CAN Canberra 28.72 179 P **P** **14 57 26.9 +0.6**
comp=Z,57nm,0.9s
CAN Canberra 28.72 179 P **P** **14 57 27.1 +0.8**
CAN Canberra 28.72 179 P **P** **14 57 24.2 -2.1**
CAN pmax pmax
comp=Z,42nm,0.9s
CAN MLR MLR
comp=Z,32μm,18.0s
CAN Canberra 28.72 179 ⇑P **P** **14 57 27.2 +1.0**
CNB Canberra Magne 28.72 179 P **P** **14 57 26.8 +0.5**
comp=Z,55nm,1.0s
CNB Canberra Magne 28.72 179 P **P** **14 57 26.6 +0.3**
KAPI Kappang 28.74 271 PcP **PcP** **15 00 36.7 +0.3**
comp=Z,25nm,0.7s,baz=116,slow=1.5,SNR=2.7
KAPI S **S** **15 02 16.1 +2.7**
comp=Z,5.4nm,0.3s,baz=172,slow=24,SNR=1.7
KAPI LR LR 15 10 35.5
comp=Z,10μm,21.8s,baz=76,slow=40
KAPI Kappang 28.74 271 P **P** **14 57 26.7 0.0**
KAPI Kappang 28.74 271 *c i*P **P** **14 57 27.8 +1.1**
KAPI pmax pmax
comp=Z,128nm,1.3s
KAPI Kappang 28.74 271 P **P** **14 57 27.5 +0.9**
TOLI2 Tolitoli 28.77 284 P **P** **14 57 28.7 +1.8**
WBSI Waikabubak, Su 29.09 262 P **P** **14 57 30.5 +0.7**
comp=Z,5μmcomp=Z,233nm,0.8s
PLAI Plampang 30.64 264 P **P** **14 57 42.8 -0.7**
PLAI Plampang 30.64 264 P **P** **14 57 43.7 +0.2**
comp=Z,2μmcomp=Z,125nm,0.9s
ARPS Mount Arapiles 30.79 191 P **P** **14 57 44.8 +0.3**
comp=Z,87nm,0.8s
ARPS Mount Arapiles 30.79 191 P **P** **14 57 45.8 +1.3**
MSVF Nonsavu 30.84 114 P **P** **14 57 42.7 -2.6**
MSVF IAmb IAmb 14 58 12.3
comp=Z,75nm,1.1s
MSVF Nonsavu 30.84 114 P **P** **14 57 48.0 +2.7**
MSVF Nonsavu 30.84 114 P **P** **14 57 42.7 -2.6**
MSVF pmax pmax
comp=Z,75nm,1.2s
MSVF MLR MLR
comp=Z,12μm,18.0s
FORT Forrest 30.93 216 P **P** **14 57 45.8 0.0**
FORT Forrest 30.93 216 P **P** **14 57 46.1 +0.2**
comp=Z,231nm,0.8s
FORT Forrest 30.93 216 P **P** **14 57 46.5 +0.7**
FORT Forrest 30.93 216 ⇓P **P** **14 57 46.0 +0.2**
TOO Toolangi 31.09 185 P **P** **14 57 45.1 -2.1**
TOO Toolangi 31.09 185 P **P** **14 57 47.3 +0.1**
comp=Z,35nm,0.9s
TOO Toolangi 31.09 185 P **P** **14 57 45.1 -2.1**
TOO pmax pmax
comp=Z,32nm,1.0s
TOO MLR MLR
comp=Z,6μm,19.0s
TOO Toolangi 31.09 185 ⇓P **P** **14 57 46.9 -0.4**
BRAT Ballarat 31.23 187 P **P** **14 57 49.1 +0.7**
MLBS Spotswood, Mel 31.40 186 P **P** **14 57 52.1 +2.2**
PSAD2 Pilbara Seismi 31.52 239 P **P** **14 57 51.8 +0.6**
comp=Z,168nm,1.6s
MBWA Marble Bar 31.53 240 P **P** **14 57 51.8 +0.5**
MBWA Marble Bar 31.53 240 P **P** **14 57 52.4 +1.2**
comp=Z,117nm,0.7s
MBWA Marble Bar 31.53 240 P **P** **14 57 52.5 +1.2**
MBWA Marble Bar 31.53 240 ⇑P **P** **14 57 52.7 +1.5**
MBWA Marble Bar 31.53 240 P **P** **14 57 52.5 +1.2**
MBWA pP **sP** **14 58 05.2 -1.4**
PSAC2 Pilbara Seismi 31.55 239 P **P** **14 57 52.6 +1.2**
comp=Z,124nm,1.1s
PSA00 Pilbara Seismi 31.60 239 P **P** **14 57 50.0 -1.9**
PSA00 IAmb IAmb 14 57 57.6
comp=Z,73nm,1.2s
PSA00 Pilbara Seismi 31.60 239 P **P** **14 57 53.2 +1.3**
comp=Z,111nm,0.9s
PSA00 Pilbara Seismi 31.60 239 P **P** **14 57 53.0 +1.2**
GEXS Deakin Univers 31.84 186 P **P** **14 57 55.1 +1.4**
MGBR Mount Gambier 31.97 192 P **P** **14 57 54.7 -0.2**
MYLDM Lahad Datu 32.20 290 P **P** **14 57 57.5 +0.3**
SRBI Singaraja 33.16 265 P **P** **14 58 10.1 +4.5**
comp=Z,2μmcomp=Z,56nm,1.1s
DNP Denpasar 33.17 264 P **P** **14 58 08.0 +2.3**
comp=Z,342nm,1.4s
JCJ Chichijima 33.94 350 P **P** **14 58 10.3 -1.9**
JCJ Chichijima 33.94 350 P **P** **14 58 12.3 +0.2**
comp=Z,89nm,0.7s,baz=281,slow=16,SNR=2.4
JCJ LR LR 15 11 22.1
comp=Z,5μm,18.1s,baz=178,slow=35
comp=Z,89nm,0.7s
ABJI Asem Bagus 34.12 266 P **P** **14 58 18.2 +4.2**
comp=Z,89nm,1.1s
JAGI Jajag, Banyuwa 34.21 264 P **P** **14 58 13.1 -1.7**
JAGI Jajag, Banyuwa 34.21 264 P **P** **14 58 14.5 -0.3**
JAGI Jajag, Banyuwa 34.21 264 P **P** **14 58 14.0 -0.8**
comp=Z,3μmcomp=Z,168nm,0.7s
JAGI Jajag, Banyuwa 34.21 264 ⇑P **P** **14 58 13.3 -1.5**
KMMI Kalianget 34.40 267 P **P** **14 58 19.0 +2.6**
comp=Z,2μmcomp=Z,50nm,1.2s
CORO Coronation Par 34.87 182 P **P** **14 58 21.4 +1.4**
MEEK Meekatharra 34.89 231 P **P** **14 58 21.3 +0.7**
comp=Z,230nm,0.6s
MEEK Meekatharra 34.89 231 P **P** **14 58 21.7 +1.1**
GMJI Gumukmas 34.91 265 P **P** **14 58 22.9 +2.1**
KMBL Kambalda 35.20 222 P **P** **14 58 23.3 +0.2**
comp=Z,174nm,0.8s
KMBL Kambalda 35.20 222 P **P** **14 58 23.3 +0.2**
BWJI Bawean 35.74 269 P **P** **14 58 29.4 +1.4**
MOO Moorlands 35.85 182 P **P** **14 58 29.5 +1.0**
comp=Z,190nm,1.0s
MOO Moorlands 35.85 182 P **P** **14 58 30.0 +1.5**
GRJI Gresik 35.88 267 P **P** **14 58 30.8 +1.7**
comp=Z,248nm,1.0s
TAU Tasmania Unive 36.31 182 P **P** **14 58 31.6 -0.9**
TAU Tasmania Unive 36.31 182 P **P** **14 58 33.9 +1.4**
TAU Tasmania Unive 36.31 182 P **P** **14 58 31.6 -0.9**
TAU pmax pmax
comp=Z,81nm,1.0s
TAU MLR MLR
comp=Z,32μm,19.0s
TAU Tasmania Unive 36.31 182 ⇑P **P** **14 58 33.5 +1.0**
TAU Tasmania Unive 36.31 182 P **P** **14 58 33.1 +0.7**
TAU pP **sP** **14 58 46.0 -1.3**
OUZ Omahuta 36.71 145 ⇓P **P** **14 58 37.7 +1.7**
GIRL Giralia 36.82 240 P **P** **14 58 39.4 +2.4**
comp=Z,370nm,1.1s
GIRL Giralia 36.82 240 P **P** **14 58 38.2 +1.2**
GIRL Giralia 36.82 240 ⇑P P 14 58 43.8 +6.7
NGJI Ngawi 36.88 266 P **P** **14 58 39.1 +1.4**
comp=Z,65nm,1.4s
PCJI Pacitan 37.15 265 P **P** **14 58 41.7 +1.7**
comp=Z,3μmcomp=Z,216nm,0.9s
SBUM Sibu 37.39 283 P **P** **14 58 40.6 -1.4**
SBUM Sibu 37.39 283 P **P** **14 58 43.6 +1.6**
UGM Wanagama 37.80 265 P **P** **14 58 45.0 -0.5**
UGM Wanagama 37.80 265 P **P** **14 58 46.7 +1.1**
UGM Wanagama 37.80 265 P **P** **14 58 49.2 +3.6**
SMRI Semarang 37.90 267 P **P** **14 58 46.1 -0.2**
SMRI Semarang 37.90 267 P **P** **14 58 47.4 +1.1**
SMRI Semarang 37.90 267 P **P** **14 58 47.0 +0.7**
comp=Z,84nm,1.0s
YOGI Yogyakarta 38.03 266 P **P** **14 58 50.5 +3.1**
comp=Z,4μmcomp=Z,241nm,1.6s
MORW Morawa 38.07 230 P **P** **14 58 47.8 +0.1**
MORW Morawa 38.07 230 P **P** **14 58 48.7 +1.1**
comp=Z,135nm,1.5s
MORW Morawa 38.07 230 P **P** **14 58 48.4 +0.8**
MORW Morawa 38.07 230 ⇑P **P** **14 58 48.9 +1.2**
KLBR Kellerberrin 38.16 225 P **P** **14 58 48.6 +0.3**
comp=Z,524nm,0.9s
BLDU Ballidu 38.37 227 P **P** **14 58 51.1 +1.0**
comp=Z,155nm,1.1s
BLDU Ballidu 38.37 227 P **P** **14 58 50.9 +0.8**
JOW Kunigami 38.52 330 P **P** **14 58 51.9 +0.6**
JOW Kunigami 38.52 330 P **P** **14 58 51.0 -0.3**
comp=Z,28nm,0.9s,baz=137,slow=12,SNR=5.6
JOW LR LR 15 12 11.9
comp=Z,19μm,20.5s,baz=152,slow=32
comp=Z,28nm,0.9s
KSM Kuching 39.03 280 P **P** **14 58 57.3 +1.4**
KSM Kuching 39.03 280 P **P** **14 58 57.2 +1.3**
NWAO Narrogin (SRO) 39.28 224 P **P** **14 58 57.3 -0.4**
NWAO Narrogin (SRO) 39.28 224 P **P** **14 58 58.4 +0.8**
comp=Z,169nm,1.3s
NWAO Narrogin (SRO) 39.28 224 LR LR 15 16 12.6
comp=Z,29μm,19.2s,baz=50,slow=38
NWAO Narrogin (SRO) 39.28 224 P **P** **14 58 59.3 +1.6**
NWAO Narrogin (SRO) 39.28 224 P **P** **14 58 58.6 +0.9**
NWAO Narrogin (SRO) 39.28 224 P **P** **14 58 57.3 -0.4**
NWAO pmax pmax
comp=Z,213nm,1.5s
NWAO MLR MLR
comp=Z,33μm,18.0s
NWAO Narrogin (SRO) 39.28 224 P **P** **14 58 58.4 +0.8**
MUN Mundaring 39.47 226 P **P** **14 59 00.1 +0.9**
comp=Z,224nm,1.1s
MUN Mundaring 39.47 226 P **P** **14 59 00.4 +1.1**
AFI Afiamalu 39.64 104 P **P** **14 58 57.0 -4.0**
AFI Afiamalu 39.64 104 P **P** **14 59 03.2 +2.2**
AFI Afiamalu 39.64 104 P **P** **14 58 57.0 -4.0**
AFI pmax pmax
comp=Z,171nm,1.0s
AFI Afiamalu 39.64 104 ⇑P **P** **14 59 01.6 +0.5**
AFI Afiamalu 39.64 104 P **P** **14 59 01.2 +0.2**
AFI pP **pP** **14 59 13.8 +2.4**
HIZ Hauiti 39.78 147 P **P** **14 58 59.1 -2.6**
HIZ IAMs_20 IAMs_20 15 14 24.0
comp=Z,17μm,19.0s
CMJI Cimerak 39.86 266 P **P** **14 59 02.8 +0.1**
JHJ Hachijo jima 2 40.25 349 LR LR 15 15 26.6
comp=Z,13μm,18.1s,baz=170,slow=36
NACB Ninganchiao 40.26 320 P **P** **14 59 04.9 -1.0**
TPUB Ta-pu 40.28 318 P **P** **14 59 04.6 -1.5**
SSLB Suanglung 40.41 319 P **P** **14 59 05.9 -1.3**
RKGY Rocky Gully 40.44 222 P **P** **14 59 08.5 +1.3**
comp=Z,93nm,1.0s
BBJI Bungbulang 40.65 266 P **P** **14 59 10.0 +0.6**
LEM Lembang 40.70 267 P **P** **14 59 09.7 -0.2**
comp=Z,130nm,0.6s,baz=58,slow=7.8,SNR=27
LEM S **S** **15 05 20.4 +2.6**
comp=Z,7.5nm,0.3s,baz=321,slow=16,SNR=4.8
LEM LR LR 15 19 33.3
comp=Z,5μm,20.0s,baz=93,slow=42
comp=Z,130nm,0.6s
LEM Lembang 40.70 267 P **P** **14 59 11.6 +1.6**
comp=Z,4μmcomp=Z,247nm,0.9s
YHNB Yeheng 40.76 320 P **P** **14 59 10.2 +0.1**
YHNB IAmb IAmb 14 59 39.4
comp=Z,88nm,1.0s
URZ Urewera 40.85 145 LR LR 15 14 59.0
comp=Z,19μm,18.9s,baz=41,slow=34
TPI Tanjungpandan 40.97 273 P **P** **14 59 12.7 +0.7**
comp=Z,4μmcomp=Z,235nm,0.8s
BKZ Black Stump Fm 41.14 146 P **P** **14 59 11.0 -2.0**
BKZ IAmb IAmb 14 59 18.0
comp=Z,100nm,1.4s
CNJI Cibinong 41.17 266 P **P** **14 59 15.8 +2.2**
INZ Inchbonnie 41.37 154 IAMs_20 IAMs_20 15 16 30.2
comp=Z,8μm,18.0s
JCZ Jackson Bay 41.43 158 P **P** **14 59 16.5 +1.1**
MRZ Mangatainoka R 41.73 149 IAMs_20 IAMs_20 15 15 55.6
comp=Z,19μm,20.0s
SKJI Sukabumi 41.75 267 P **P** **14 59 18.9 +0.5**
SNZO South Karori 41.77 150 IAMs_20 IAMs_20 15 16 45.7
comp=Z,17μm,18.0s
RPZ Rata Peaks 42.02 156 LR LR 15 15 28.7
comp=Z,9μm,19.6s,baz=320,slow=34
RPZ Rata Peaks 42.02 156 P **P** **14 59 21.6 +1.5**
DCZ Deep Cove 42.06 160 P **P** **14 59 19.3 -1.1**
DCZ IAmb IAmb 14 59 28.4
comp=Z,67nm,1.0s
KHZ Kahutara 42.06 152 IAMs_20 IAMs_20 15 19 42.4
comp=Z,15μm,18.0s
OXZ Oxford 42.11 154 IAMs_20 IAMs_20 15 16 06.9
comp=Z,14μm,19.0s
LBZ Lake Benmore 42.23 157 P **P** **14 59 21.4 -0.5**
PLWZ Palliser 42.24 150 P **P** **14 59 19.9 -2.1**
GVZ Greta Valley S 42.26 153 IAMs_20 IAMs_20 15 17 27.8
comp=Z,22μm,18.0s
MLZ Mavora Lakes 42.30 160 P **P** **14 59 20.5 -1.9**
MLZ IAmb IAmb 15 00 33.9
comp=Z,90nm,1.2s
JMN Monobe 42.34 342 P **P** **14 59 23.3 +0.4**
JMN IAmb IAmb 14 59 25.8
comp=Z,64nm,0.9s
JMN Monobe 42.34 342 P **P** **14 59 24.0 +1.1**
JMN Monobe 42.34 342 ⇑P **P** **14 59 23.1 +0.3**
XMI Christmas Isla 42.61 262 P **P** **14 59 27.2 +1.8**
XMI Christmas Isla 42.61 262 ⇓P **P** **14 59 27.6 +2.2**
XMIS Christmas Isla 42.65 262 P **P** **14 59 26.6 +0.9**
XMIS IAmb IAmb 14 59 32.6
comp=Z,98nm,0.9s
XMIS Christmas Isla 42.65 262 P **P** **14 59 27.4 +1.7**
QZH Quanzhou 42.76 318 *e*P **P** **14 59 23.0 -3.3**
QZH S **S** **15 05 47.4 0.0**
QZH pmax pmax
comp=Z,2μm,9.6s
QZH LR LR
comp=Z,3μm,18.0s
QZH LR LR
comp=Z,9μm,18.7s
QZH LR LR
comp=Z,7μm,18.3s
JNU Nakatsue 42.82 338 P **P** **14 59 25.4 -1.4**
JNU IAmb IAmb 14 59 28.1
comp=Z,56nm,0.7s
JNU Nakatsue 42.82 338 P **P** **14 59 25.9 -0.9**
comp=Z,57nm,0.7s,baz=118,slow=4.8,SNR=39
comp=Z,57nm,0.7s
JNU Nakatsue 42.82 338 P **P** **14 59 27.3 +0.5**
JNU Nakatsue 42.82 338 ⇑P **P** **14 59 25.9 -0.8**
INU Inuyama 43.00 346 P **P** **14 59 28.2 0.0**
INU IAmb IAmb 14 59 44.8
comp=Z,92nm,1.1s
INU Inuyama 43.00 346 P **P** **14 59 31.3 +3.2**
INU Inuyama 43.00 346 ⇑P **P** **14 59 27.5 -0.7**
JGF Kuroka 43.16 347 P **P** **14 59 28.1 -1.3**
JGF IAmb IAmb 14 59 55.3
comp=Z,62nm,1.0s
JGF Kuroka 43.16 347 P **P** **14 59 32.6 +3.1**
JGF Kuroka 43.16 347 ⇓P **P** **14 59 29.8 +0.3**
MJAR Matsushiro Arr 43.88 348 P **P** **14 59 34.5 -0.7**
comp=Z,34nm,1.0s,baz=168,slow=8.4,SNR=26
MJAR ScP **ScP** **15 05 10.9 +1.5**
comp=Z,5.6nm,0.9s,baz=169,slow=4.7,SNR=6.2
MJAR LR LR 15 16 42.9
comp=Z,8μm,18.2s,baz=163,slow=35
comp=Z,34nm,1.0s
MAJO Matsushiro 43.88 348 P **P** **14 59 34.2 -1.1**
MAJO IAmb IAmb 14 59 47.9
comp=Z,105nm,1.1s
MAJO Matsushiro 43.88 348 IAMs_20 IAMs_20 15 17 29.9
comp=Z,14μm,18.0s
MAJO Matsushiro 43.88 348 P **P** **14 59 34.8 -0.4**
MAJO Matsushiro 43.88 348 *c i*P **P** **14 59 34.1 -1.1**
MAJO pmax pmax
comp=Z,39nm,1.0s
MAJO Matsushiro 43.88 348 ⇑P **P** **14 59 34.6 -0.7**
MAJO Matsushiro 43.88 348 P **P** **14 59 34.9 -0.3**
MAJO Matsushiro 43.88 348 P **P** **14 59 33.0 -2.2**
MAJO S **S** **15 06 04.5 +1.0**
MJB9 Matsu-Tunnel 43.88 348 P **P** **14 59 35.4 +1.0**
MJB9 IAmb IAmb 14 59 48.9
comp=Z,98nm,1.1s
MDSI Maura Dua 44.26 270 P **P** **14 59 39.0 +0.3**
comp=Z,3μmcomp=Z,167nm,1.6s
LWLI Liwa 44.34 269 P **P** **14 59 41.6 +2.2**
JMM Marumori 44.70 351 P **P** **14 59 42.1 +0.4**
JMM Marumori 44.70 351 P **P** **14 59 43.7 +2.0**
JMM Marumori 44.70 351 ⇑P **P** **14 59 42.5 +0.7**
GZH Guangzhou 45.28 312 P **P** **14 59 51.0 +4.4**
GZH LR LR
comp=Z,4μm,17.1s
GZH LR LR
comp=Z,6μm,18.0s
GZH LR LR
comp=Z,9μm,18.3s
JSD Sado 45.31 348 P **P** **14 59 46.4 -0.2**
JSD IAmb IAmb 15 00 01.1
comp=Z,36nm,0.8s
JSD Sado 45.31 348 P **P** **14 59 48.5 +1.9**
JSD Sado 45.31 348 ⇑P **P** **14 59 46.8 +0.2**
MYKOM Kota Tinggi 45.42 279 P **P** **14 59 49.0 +1.1**
MYKOM IAmb IAmb 14 59 56.9
comp=Z,35nm,0.9s
MYKOM Kota Tinggi 45.42 279 P **P** **14 59 49.6 +1.7**
MYKOM Kota Tinggi 45.42 279 ⇑P **P** **14 59 48.3 +0.3**
SSE Sheshan 45.63 326 P **P** **14 59 49.4 +0.1**
SSE S **S** **15 06 29.1 0.0**
SSE pmax pmax
comp=Z,18nm,0.8s
SSE pmax pmax
comp=Z,370nm,10.2s
SSE LR LR
comp=Z,4μm,19.6s
SSE LR LR
comp=Z,3μm,19.2s
QIZ Qiongzhong 45.83 304 P **P** **14 59 51.0 -0.1**
QIZ PP **PP** **15 01 38.6 -0.5**
QIZ LR LR
comp=Z,3μm,17.2s
QIZ LR LR
comp=Z,3μm,17.7s
QIZ LR LR
comp=Z,6μm,18.4s
TJN Taejon 47.04 336 P **P** **14 59 60.0 -0.3**
TJN Taejon 47.04 336 P **P** **15 00 01.3 +1.0**
TJN Taejon 47.04 336 *ef e*P **P** **15 00 00.9 +0.6**
JTM Tenmabayashi 47.53 352 P **P** **15 00 04.2 +0.3**
JTM Tenmabayashi 47.53 352 P **P** **15 00 05.0 +1.1**
JTM Tenmabayashi 47.53 352 ⇑P **P** **15 00 04.5 +0.5**
NJ2 Nanjing 47.66 325 *e*P **P** **15 00 05.2 +0.1**
NJ2 PcP **PcP** **15 01 35.1 +0.9**
NJ2 ScS ScS 15 09 56.0 +0.6
NJ2 pmax pmax
comp=Z,23nm,0.7s
NJ2 pmax pmax
comp=Z,1μm,6.4s
NJ2 LR LR
comp=Z,7μm,19.9s
NJ2 LR LR
comp=Z,4μm,19.9s
NJ2 LR LR
comp=Z,8μm,21.8s
KSRS Korea Array 47.77 338 P **P** **15 00 04.8 -1.1**
comp=Z,21nm,0.8s,baz=154,slow=8.4,SNR=82
KSRS ScP **ScP** **15 05 28.8 +3.3**
comp=Z,1.0nm,0.7s,baz=166,slow=4.0,SNR=3.1
comp=Z,21nm,0.8s
KSAR Wonju Array Be 47.77 338 P **P** **15 00 04.8 -1.1**
KSAR Wonju Array Be 47.77 338 P **P** **15 00 04.8 -1.1**
KS19 Wonju Array Si 47.83 338 P **P** **15 00 05.4 -1.0**
CTZ Chatham Island 48.03 146 IAMs_20 IAMs_20 15 18 06.5
comp=Z,17μm,21.0s
INCN Inchon 48.29 337 P **P** **15 00 10.0 0.0**
INCN IAmb IAmb 15 00 12.0
comp=Z,34nm,0.7s
INCN Inchon 48.29 337 P **P** **15 00 10.3 +0.3**
INCN Inchon 48.29 337 P **P** **15 00 10.0 0.0**
INCN pmax pmax
comp=Z,34nm,0.7s
PPI Padang Panjang 48.46 275 P **P** **15 00 12.1 +0.4**
comp=Z,2μmcomp=Z,152nm,0.8s
ERM Erimo 48.50 355 P **P** **15 00 10.9 -0.6**
ERM Erimo 48.50 355 P **P** **15 00 10.9 -0.6**
ERM pmax pmax
comp=Z,182nm,1.9s
ERM Erimo 48.50 355 P **P** **15 00 10.8 -0.6**
CNSH ChangSha 48.69 317 P **P** **15 00 12.8 -0.4**
CNSH S **S** **15 07 13.4 +0.6**
CNSH pmax pmax
comp=Z,17nm,0.8s

CNSH				LR	LR	
	comp=Z,4μm,20.0s					
CNSH				LR	LR	
	comp=Z,5μm,19.9s					
CNSH				LR	LR	
	comp=Z,7μm,19.6s					
GULI	**GuiLin**	**48.77 312**		P	P	15 00 08.7 -5.2
GULI				S	**S**	**15 07 10.0 -4.1**
GULI				LR	LR	
	comp=Z,2μm,17.1s					
GULI				LR	LR	
	comp=Z,4μm,18.8s					
GULI				LR	LR	
	comp=Z,7μm,18.6s					
HJU	**Haeju**	**49.14 336**		P	**P**	**15 00 15.8 -0.6**
HJU				S	**S**	**15 07 18.9 +0.2**
HJU				AmB		
	comp=Z,974nm,3.2s					
HJU				AMS	AMS	
	comp=Z,11μm,24.4s					
KULM	**Kulim**	**49.27 283**		P	**P**	**15 00 17.6 -0.3**
KULM	**Kulim**	**49.27 283**		P	**P**	**15 00 19.5 +1.6**
KULM	**Kulim**	**49.27 283**		⇑P	**P**	**15 00 18.0 +0.1**
WHN	**Wuhan**	**49.30 320**		P	**P**	**15 00 19.5 +1.7**
WHN				LR	LR	
	comp=Z,5μm,14.0s					
WHN				LR	LR	
	comp=Z,6μm,13.5s					
WHN				LR	LR	
	comp=Z,12μm,17.8s					
SISI	**Saibi**	**49.64 274**		P	**P**	**15 00 22.2 +1.5**
PYAG	**Pyongyang**	**49.99 337**		P	**P**	**15 00 22.4 -0.4**
PYAG				S	**S**	**15 07 33.0 +2.4**
PYAG				AmB		
	comp=Z,1μm,4.9s					
PYAG				AMS	AMS	
	comp=Z,7μm,21.7s					
HHU	**Hamhung**	**50.09 339**		P	**P**	**15 00 24.6 +1.0**
HHU				S	**S**	**15 07 37.4 +5.3**
HHU				AmB		
	comp=Z,805nm,3.3s					
HHU				AMS	AMS	
	comp=Z,5μm,19.7s					
YUK	**Yuzh-Kuril'sk**	**50.32 357**	⇓	*e*P	**P**	**15 00 27.1 +1.8**
RPSI	**Rantau Prapat**	**50.43 279**		P	**P**	**15 00 26.9 +0.2**
RPSI				IAmb	IAmb	15 00 53.1
	comp=Z,42nm,1.1s					
PSI	**Prapat**	**50.45 279**		ScP	**ScP**	**15 05 41.8 +4.1**
	comp=Z,2.8nm,0.2s,baz=139,slow=4.2,SNR=3.9					
PSI				LR	LR	15 25 09.9
	comp=Z,4μm,19.9s,baz=117,slow=40					
PSI	**Prapat**	**50.45 279**		P	**P**	**15 00 28.2 +1.2**
PSI	**Prapat**	**50.45 279**		P	**P**	**15 00 26.9 -0.1**
PSI				pmax	pmax	
	comp=Z,42nm,1.1s					
PSI				MLR	MLR	
	comp=Z,7μm,22.0s					
JKA	**Kamikawa-asahi**	**50.64 354**		P	**P**	**15 00 28.0 +0.3**
JKA				IAmb	IAmb	15 00 56.6
	comp=Z,72nm,1.3s					
ASAJ	**Asahikawa**	**50.64 354**		P	**P**	**15 00 27.9 +0.3**
	comp=Z,11nm,0.8s,baz=228,slow=11,SNR=19					
ASAJ				LR	LR	15 20 13.1
	comp=Z,8μm,21.7s,baz=184,slow=34					
	comp=Z,11nm,0.8s					
ASAJ	**Asahikawa**	**50.64 354**		P	**P**	**15 00 28.0 +0.3**
NONG	**Nongkai**	**51.05 299**		P	**P**	**15 00 32.6 +1.3**
SRIT	**Nakonsritamara**	**51.09 286**		P	**P**	**15 00 33.4 +1.7**
NAYO	**Nakonayok**	**51.25 294**		P	**P**	**15 00 34.9 +2.1**
MSHR	**Mys Shultsa**	**51.33 344**	⇓	*i*P	**P**	**15 00 34.1 +1.2**
MSHR				pmax	pmax	
	comp=Z,24nm,1.0s					
COCO	**West Island**	**51.34 260**		P	**P**	**15 00 31.8 -1.7**
COCO				pmax	pmax	
	comp=Z,174nm,1.1s					
SUJ	**Sinuiju**	**51.39 336**		P	**P**	**15 00 32.9 -0.5**
SUJ				S	**S**	**15 07 51.2 +1.1**
SUJ				AmB		
	comp=Z,970nm,3.9s					
SUJ				AMS	AMS	
	comp=Z,5μm,17.2s					
PSTR	**Posyet**	**51.50 343**	*c*	*i*P	**P**	**15 00 35.2 +1.0**
GSI	**Gunungsitoli**	**51.52 277**		P	**P**	**15 00 34.4 -0.5**
GSI	**Gunungsitoli**	**51.52 277**		P	**P**	**15 00 36.8 +1.9**
GSI	**Gunungsitoli**	**51.52 277**		⇑P	**P**	**15 00 34.6 -0.3**
DL2	**Dalian**	**51.61 333**		P	**P**	**15 00 34.9 -0.2**
DL2				pmax	pmax	
	comp=Z,22nm,0.8s					
DL2				pmax	pmax	
	comp=Z,1μm,8.4s					
DL2				LR	LR	
	comp=Z,8μm,19.6s					
DL2				LR	LR	
	comp=Z,6μm,21.8s					
DL2				LR	LR	
	comp=Z,11μm,21.2s					
VLA	**Vladivostok**	**51.63 344**	⇑	*e*P	**P**	**15 00 35.9 +0.7**
VLA				pmax	pmax	
	comp=Z,28nm,2.2s					
TIA	**Tai'an**	**51.71 327**		P	**P**	**15 00 34.8 -1.2**
TIA				pmax	pmax	
	comp=Z,20nm,0.8s					
TIA				LR	LR	
	comp=Z,8μm,21.6s					
TIA				LR	LR	
	comp=Z,6μm,18.6s					
TIA				LR	LR	
	comp=Z,17μm,18.6s					
RAR	**Rarotonga**	**51.98 112**		LR	LR	15 19 11.6
	comp=Z,2μm,21.6s,baz=282,slow=32					
GYA	**Guiyang**	**52.19 311**		P	**P**	**15 00 41.5 +1.7**
GYA				S	**S**	**15 08 03.6 +1.8**
GYA				LR	LR	
	comp=Z,2μm,17.9s					
GYA				LR	LR	
	comp=Z,2μm,16.9s					
GYA				LR	LR	
	comp=Z,4μm,16.8s					
ENH	**Enshi**	**52.34 316**		P	**P**	**15 00 42.9 +2.1**
TEY	**Ternei**	**52.39 349**		*e*P	P	15 00 35.9 -4.8
USA0B	**Ussuriysk Arra**	**52.61 345**		P	**P**	**15 00 42.8 +0.3**
USA0B				IAmb	IAmb	15 01 08.1
	comp=Z,87nm,1.6s					
USA0B	**Ussuriysk Arra**	**52.61 345**	*c*	*i*P	**P**	**15 00 42.5 0.0**
USRK	**Ussuriysk Ar.**	**52.61 345**		P	**P**	**15 00 42.6 +0.2**
USRK	**Ussuriysk Ar.**	**52.61 345**		P	**P**	**15 00 42.4 -0.1**
	comp=Z,5.5nm,0.7s,baz=189,slow=7.4,SNR=9.4					
USRK				LR	LR	15 22 05.8
	comp=Z,5μm,18.9s,baz=152,slow=35					
	comp=Z,5.5nm,0.7s					
USRK	**Ussuriysk Ar.**	**52.61 345**		P	**P**	**15 00 42.7 +0.2**
LYN	**LuoYang**	**53.18 323**		⇑P	**P**	**15 00 46.0 -0.9**
LYN				sP	sP	15 01 03.9 +0.7
LYN				S	**S**	**15 08 08.9 -5.9**
LYN				pmax	pmax	
	comp=Z,23nm,0.7s					
LYN				pmax	pmax	
	comp=Z,2μm,9.4s					
LYN				LR	LR	
	comp=Z,12μm,21.3s					
LYN				LR	LR	
	comp=Z,7μm,18.6s					
LYN				LR	LR	
	comp=Z,18μm,19.9s					
SNY	**Shenyang**	**53.23 337**	⇓	P	**P**	**15 00 46.8 -0.2**
SNY				pmax	pmax	
	comp=Z,13nm,0.9s					
SNY				pmax	pmax	
	comp=Z,770nm,8.0s					
SNY				LR	LR	
	comp=Z,3μm,21.7s					
SNY				LR	LR	
	comp=Z,3μm,19.0s					
SNY				LR	LR	
	comp=Z,6μm,19.1s					
YSS	**Yuzhno-Sakhali**	**53.44 355**		P	**P**	**15 00 47.9 -0.6**
YSS				IAmb	IAmb	15 01 24.6
	comp=Z,62nm,1.4s					
YSS	**Yuzhno-Sakhali**	**53.44 355**		P	**P**	**15 00 49.0 +0.6**
YSS	**Yuzhno-Sakhali**	**53.44 355**	*o*	*e*P	**P**	**15 00 47.5 -0.9**
YSS				*e*S	**S**	**15 08 16.8 -1.0**
YSS				*e*SS	**SS**	**15 11 57.5 -1.1**
YSS				pmax	pmax	
	comp=Z,600nm,8.9s					
YSS				pmax	pmax	
	comp=Z,20nm,0.9s					
YSS	**Yuzhno-Sakhali**	**53.44 355**	⇑	P	**P**	**15 00 48.5 +0.1**
YSS	**Yuzhno-Sakhali**	**53.44 355**		P	**P**	**15 00 48.6 +0.1**
MDJ	**Mudanjiang**	**53.65 343**		P	**P**	**15 00 49.9 -0.2**
MDJ	**Mudanjiang**	**53.65 343**		P	**P**	**15 00 49.9 -0.2**
MDJ				PcP	**PcP**	**15 01 53.0 -3.1**
MDJ				pmax	pmax	
	comp=Z,11nm,1.0s					
MDJ				LR	LR	
	comp=Z,5μm,24.7s					
MDJ				LR	LR	
	comp=Z,2μm,22.0s					
MDJ				LR	LR	
	comp=Z,11μm,24.7s					
MDJ	**Mudanjiang**	**53.65 343**		P	**P**	**15 00 51.3 +1.2**
HNS	**HongShan**	**53.90 327**	⇑	P	**P**	**15 00 51.3 -0.7**
HNS				pmax	pmax	
	comp=Z,26nm,0.8s					
HNS				LR	LR	
	comp=Z,6μm,20.2s					
HNS				LR	LR	
	comp=Z,5μm,20.2s					
HNS				LR	LR	
	comp=Z,11μm,21.1s					
CN2	**Changchun**	**54.24 339**		*e*P	**P**	**15 00 56.2 +1.8**
CN2				*es*P	sP	15 01 14.2 +3.7
CN2				*e*S	**S**	**15 08 29.4 +0.6**
CN2				*e*SS	**SS**	**15 12 11.7 +0.3**
CN2				pmax	pmax	
	comp=Z,10.0nm,1.1s					
CN2				pmax	pmax	
	comp=Z,780nm,10.0s					
CN2				LR	LR	
	comp=Z,6μm,18.0s					
CN2				LR	LR	
	comp=Z,6μm,18.0s					
CN2				LR	LR	
	comp=Z,8μm,19.0s					
XMAS	**Kiritimati**	**54.52 83**		P	**P**	**15 00 57.3 +0.3**
XMAS				pP	**pP**	**15 01 09.8 +2.0**
KMI	**Kunming**	**54.55 307**		P	**P**	**15 00 58.4 +1.1**
KMI				SS	**SS**	**15 12 13.6 -3.7**
KMI				pmax	pmax	
	comp=Z,10.0nm,0.9s					
KMI				LR	LR	
	comp=Z,2μm,18.9s					
KMI				LR	LR	
	comp=Z,2μm,18.6s					
KMI				LR	LR	
	comp=Z,4μm,18.9s					
CM31	**Chiang Mai Arr**	**54.87 298**		P	**P**	**15 00 59.5 0.0**
CMAR	**Chiang Mai Arr**	**54.87 298**		P	**P**	**15 00 59.7 +0.2**
CMAR	**Chiang Mai Arr**	**54.87 298**		P	**P**	**15 00 58.6 -0.9**
	comp=Z,2.9nm,0.6s,baz=120,slow=5.8,SNR=23					
CMAR				ScP	**ScP**	**15 05 58.9 +2.3**
	comp=Z,1.2nm,0.8s,baz=108,slow=4.3,SNR=2.8					
CMAR				PKiKP	**PKiKP**	**15 08 34.3 -0.3**
	comp=Z,0.5nm,0.9s,baz=122,slow=2.1,SNR=1.7					
CMAR				PKP2bc		15 31 17.8
	comp=Z,0.8nm,0.5s,baz=299,slow=2.2,SNR=5.0					
CMAR				PKP2ab		15 31 37.7
	comp=Z,7.2nm,1.1s,baz=299,slow=1.7,SNR=6.1					
	comp=Z,2.9nm,0.6s					
CMAR	**Chiang Mai Arr**	**54.87 298**		*i* P	**P**	**15 01 00.9 +1.4**
CMAR				pmax	pmax	
	comp=Z,5.0nm,0.6s					
CHTO	**Chiang Mai**	**55.01 298**		P	**P**	**15 01 01.6 +1.1**
CHTO	**Chiang Mai**	**55.01 298**		P	**P**	**15 01 02.2 +1.7**
CHTO	**Chiang Mai**	**55.01 298**		P	**P**	**15 01 01.6 +1.1**
CHTO				pmax	pmax	
	comp=Z,16nm,1.1s					
CHTO				MLR	MLR	
	comp=Z,3μm,20.0s					
CHTO	**Chiang Mai**	**55.01 298**		P	**P**	**15 00 59.7 -0.8**
XAN	**Xi'an**	**55.06 320**		P	**P**	**15 00 59.4 -1.2**
XAN				PP	**PP**	**15 03 03.7 -0.6**
XAN				S	**S**	**15 08 38.2 -2.1**
XAN				pmax	pmax	
	comp=Z,24nm,0.8s					
XAN				pmax	pmax	
	comp=Z,1μm,6.2s					
XAN				LR	LR	
	comp=Z,6μm,18.7s					
XAN				LR	LR	
	comp=Z,5μm,17.5s					
XAN				LR	LR	
	comp=Z,11μm,19.2s					
BJT	**Baijiatuau**	**55.08 330**		P	**P**	**15 00 59.8 -0.8**
BJT	**Baijiatuau**	**55.08 330**		IAMs_20	IAMs_20	15 22 34.2
	comp=Z,11μm,22.0s					
BJT	**Baijiatuau**	**55.08 330**		P	**P**	**15 00 59.8 -0.8**
BJT				pmax	pmax	
	comp=Z,21nm,1.1s					
BJI	**Beijing**	**55.09 330**		P	**P**	**15 01 00.3 -0.3**
BJI				S	**S**	**15 08 38.0 -2.3**
BJI				pmax	pmax	
	comp=Z,5.0nm,0.7s					
BJI				pmax	pmax	
	comp=Z,610nm,11.1s					
BJI				LR	LR	
	comp=Z,4μm,20.5s					
BJI				LR	LR	
	comp=Z,3μm,20.5s					
BJI				LR	LR	
	comp=Z,6μm,21.1s					
BNX	**BinXian**	**55.32 342**		⇑P	**P**	**15 01 01.4 -0.8**
BNX				pP	**pP**	**15 01 12.9 -0.8**
BNX				sP	**pwP**	**15 01 17.8 +0.6**
BNX				PP	**PP**	**15 03 05.6 -0.7**
BNX				S	**S**	**15 08 45.2 +2.0**
BNX				sS	**sS**	**15 09 03.0 -0.7**
BNX				pmax	pmax	
	comp=Z,35nm,1.2s					
BNX				pmax	pmax	
	comp=Z,1μm,8.9s					
BNX				LR	LR	
	comp=Z,3μm,18.4s					
BNX				LR	LR	
	comp=Z,3μm,19.0s					
BNX				LR	LR	
	comp=Z,4μm,17.3s					
TIY	**Taiyuan**	**55.38 325**		P	**P**	**15 00 58.2 -4.7**
TIY				pmax	pmax	
	comp=Z,760nm,8.9s					
TIY				LR	LR	
	comp=Z,6μm,19.2s					
TIY				LR	LR	
	comp=Z,4μm,19.2s					
TIY				LR	LR	
	comp=Z,6μm,20.6s					
UGL	**Uglegorsk**	**55.60 355**	*d*	*i*P	**P**	**15 01 05.7 +1.6**
UGL				*e*S	S	15 08 58.7 +12
UGL				*e*SS	**SS**	**15 12 27.5 -5.2**
PZH	**PanZhiHua**	**56.00 308**		P	**P**	**15 01 08.8 +1.2**
PZH				S	**S**	**15 08 54.5 +1.3**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.8s					
PZH				pmax	pmax	
	comp=Z,610nm,12.0s					
PZH				LR	LR	
	comp=Z,2μm,19.0s					
PZH				LR	LR	
	comp=Z,2μm,18.4s					
PZH				LR	LR	
	comp=Z,3μm,19.6s					
CD2	**Chengdu**	**56.74 314**		P	**P**	**15 01 11.6 -1.2**
CD2				S	**S**	**15 09 03.2 +0.4**
CD2				pmax	pmax	
	comp=Z,10.0nm,0.4s					
CD2				pmax	pmax	
	comp=Z,1μm,7.5s					
CD2				LR	LR	
	comp=Z,3μm,16.5s					
CD2				LR	LR	
	comp=Z,6μm,17.8s					
SKR	**Severo-Kuril's**	**57.28 6**	*c*	*i*P	**P**	**15 01 15.5 -0.6**
TYV	**Tymovskoe**	**57.33 356**		*e*P	**P**	**15 01 17.1 +0.7**
TYV				*e*S	**S**	**15 09 13.9 +4.3**
TYV				pmax	pmax	
	comp=Z,300nm,2.3s					
TYV				pmax	pmax	
	comp=Z,26nm,1.5s					
TYV				smax	smax	
	comp=N,800nm,4.8s					
TYV				smax	smax	
	comp=E,300nm,4.8s					
KLR	**Kul'dur**	**57.38 347**		P	**P**	**15 01 15.7 -1.1**
	comp=E,7.8nm,1.0s,baz=157,slow=7.5,SNR=15					
KLR				LR	LR	15 24 16.3
	comp=E,6μm,21.1s,baz=172,slow=34					
	comp=E,7.8nm,1.0s					
KLR	**Kul'dur**	**57.38 347**	*c*	*i*P	**P**	**15 01 16.5 -0.3**
KLR				pmax	pmax	
	comp=Z,56nm,1.4s					
TNCH	**TengChong**	**57.90 305**		P	**P**	**15 01 19.3 -1.9**
TNCH				S	**S**	**15 09 18.0 -0.5**
TNCH				SS	**SS**	**15 13 09.6 -0.5**
TNCH				pmax	pmax	
	comp=Z,810nm,8.6s					
TNCH				LR	LR	
	comp=Z,1μm,17.6s					
TNCH				LR	LR	
	comp=Z,2μm,19.6s					
TNCH				LR	LR	
	comp=Z,5μm,22.3s					
GRNR	**Gornyy**	**57.97 351**		*e*P	**P**	**15 01 21.0 +0.1**
HHC	**Hu-ho-hao-te**	**58.07 327**		*e*P	**P**	**15 01 22.2 +0.2**
HHC				sS	sS	15 09 36.3 -4.3
HHC				pmax	pmax	
	comp=Z,8.0nm,0.5s					
HHC				pmax	pmax	
	comp=Z,390nm,5.2s					
HHC				LR	LR	
	comp=Z,4μm,20.2s					
HHC				LR	LR	
	comp=Z,4μm,21.9s					
HHC				LR	LR	
	comp=Z,9μm,20.1s					
XLT	**XiLinHaoTe**	**58.10 333**		*e*P	**P**	**15 01 21.8 -0.3**
XLT				pP	pP	15 01 31.8 -2.0
XLT				SS	**SS**	**15 13 04.8 -7.7**
XLT				pmax	pmax	
	comp=Z,7.0nm,0.9s					
XLT				pmax	pmax	
	comp=Z,1μm,11.7s					
XLT				LR	LR	
	comp=Z,580nm,21.2s					
XLT				LR	LR	
	comp=Z,5μm,21.2s					
XLT				LR	LR	
	comp=Z,9μm,21.2s					
BTO	**Baotou**	**58.74 326**		*e*P	**P**	**15 01 30.5 +3.8**
BTO				SS	SS	15 13 23.2 +0.5
BTO				pmax	pmax	
	comp=Z,26nm,0.5s					
BTO				pmax	pmax	
	comp=Z,1μm,7.1s					
BTO				LR	LR	
	comp=Z,14μm,17.6s					
BTO				LR	LR	
	comp=Z,10μm,20.8s					
BTO				LR	LR	
	comp=Z,16μm,19.1s					
KIP	**Kipapa**	**59.23 61**		IAMs_20	IAMs_20	15 22 19.1
	comp=Z,15μm,21.0s					
HEH	**HeiHe**	**59.40 344**		*e*P	**P**	**15 01 30.2 -0.7**
HEH				S	**S**	**15 09 38.0 +1.3**
HEH				SS	**SS**	**15 13 27.8 -4.7**
HEH				pmax	pmax	
	comp=Z,23nm,0.7s					
HEH				pmax	pmax	
	comp=Z,1μm,10.7s					
HEH				LR	LR	
	comp=Z,4μm,18.7s					
HEH				LR	LR	
	comp=Z,2μm,17.0s					
HEH				LR	LR	
	comp=Z,8μm,18.0s					
LZH	**Lanzhou**	**59.60 319**		*e*P	**P**	**15 01 32.8 0.0**
LZH				SS	SS	15 13 29.5 -7.0
LZH				pmax	pmax	
	comp=Z,28nm,1.5s					
LZH				LR	LR	
	comp=Z,4μm,14.8s					
LZH				LR	LR	
	comp=Z,4μm,16.5s					
LZH				LR	LR	
	comp=Z,6μm,15.5s					
NKL	**Nikolayevsk**	**59.77 354**		*e*P	**P**	**15 01 32.8 -0.5**
NKL				*e*S	S	15 09 57.6 +16
NKL				pmax	pmax	
	comp=N,38nm,1.2s					
NKL				pmax	pmax	
	comp=E,40nm,1.2s					
NKL				pmax	pmax	
	comp=Z,60nm,2.2s					
NKL				MLR	MLR	
	comp=E,4μm,15.0s					
NKL				MLR	MLR	
	comp=N,3μm,20.0s					
NKL				MLR	MLR	
	comp=Z,9μm,17.0s					
PEA0B	**Petropavlovsk-**	**59.84 6**		P	**P**	**15 01 33.8 -0.1**
PEA0B	**Petropavlovsk-**	**59.84 6**	*c*	*i*P	**P**	**15 01 34.1 +0.2**
PETK	**Petropavlovsk-**	**59.84 6**		P	**P**	**15 01 34.0 +0.1**
PETK	**Petropavlovsk-**	**59.84 6**		P	**P**	**15 01 32.9 -1.0**
	comp=Z,24nm,0.7s,baz=167,slow=7.4,SNR=79					
PETK				ScP	**ScP**	**15 06 19.2 +1.4**
	comp=Z,1.4nm,0.8s,baz=221,slow=7.0,SNR=3.0					
PETK				LR	LR	15 23 46.4
	comp=Z,6μm,21.9s,baz=204,slow=32					
PETK				PKP2bc		15 31 12.0
	comp=Z,1.5nm,0.9s,baz=79,slow=7.7,SNR=3.7					
	comp=Z,24nm,0.7s					
PETK	**Petropavlovsk-**	**59.84 6**		P	**P**	**15 01 34.0 +0.1**
PET	**Petropavlovsk**	**59.87 7**		P	**P**	**15 01 33.3 -0.7**
PET	**Petropavlovsk**	**59.87 7**		P	**P**	**15 01 36.3 +2.3**
PET	**Petropavlovsk**	**59.87 7**		*e*P	**P**	**15 01 34.2 +0.2**
PET				*e*		15 03 56.2
PET				*e*S	**S**	**15 09 47.6 +5.0**
PET				*e*SS	**SS**	**15 13 42.3 +2.6**
PET				pmax	pmax	
	comp=Z,1μm,15.5s					
PET				pmax	pmax	
	comp=Z,1μm,15.2s					
PET				pmax	pmax	
	comp=Z,59nm,0.8s					
PET				pmax	pmax	
	comp=Z,900nm,21.8s					
PET				MLR	MLR	
	comp=Z,3μm,18.0s					
PET	**Petropavlovsk**	**59.87 7**		P	**P**	**15 01 34.5 +0.5**
	comp=Z,2μmcomp=Z,71nm,1.0s					
PET	**Petropavlovsk**	**59.87 7**		⇑P	**P**	**15 01 33.7 -0.3**
PET	**Petropavlovsk**	**59.87 7**		P	**P**	**15 01 34.8 +0.8**
DRV	**Dumont d'Urvil**	**60.40 184**		P	**P**	**15 01 38.3 +0.8**
HUH	**Hualalai**	**60.52 63**		IAMs_20	IAMs_20	15 24 11.4
	comp=Z,12μm,20.0s					
KHU	**Kahuku**	**60.57 64**		IAMs_20	IAMs_20	15 23 30.8
	comp=Z,12μm,21.0s					
MWH	**Mokuaweoweo**	**60.67 64**		IAMs_20	IAMs_20	15 23 46.3
	comp=Z,12μm,21.0s					
HMH	**Humu'ula Sheep**	**60.81 63**		IAMs_20	IAMs_20	15 23 18.0
	comp=Z,13μm,20.0s					
MLH	**Mauna Loa**	**60.86 64**		IAMs_20	IAMs_20	15 23 39.3
	comp=Z,11μm,20.0s					
HLP	**Hilina Pali**	**60.86 64**		IAMs_20	IAMs_20	15 23 28.5
	comp=Z,10μm,20.0s					
UWE	**Uwekahuna**	**60.92 64**		IAMs_20	IAMs_20	15 23 41.0
	comp=Z,9μm,20.0s					
BYL	**Byron's Ledge**	**60.94 64**		IAMs_20	IAMs_20	15 23 38.6
	comp=Z,10μm,20.0s					
HATHI	**Halema'uma'u T**	**60.95 64**		IAMs_20	IAMs_20	15 23 52.7
	comp=Z,9μm,20.0s					
HIA	**Hailar**	**60.95 339**		P	**P**	**15 01 39.7 -1.9**
HIA				IAmb	IAmb	15 01 54.1
	comp=Z,24nm,0.8s					
HIA	**Hailar**	**60.95 339**		P	**P**	**15 01 42.9 +1.3**
HIA	**Hailar**	**60.95 339**		P	**P**	**15 01 39.7 -1.9**
HIA				pmax	pmax	
	comp=Z,24nm,0.8s					
STCH	**Steam Cracks**	**61.05 64**		IAMs_20	IAMs_20	15 25 06.6
	comp=Z,11μm,21.0s					
JOKA	**Jonika Flow**	**61.18 64**		IAMs_20	IAMs_20	15 23 38.8
	comp=Z,10μm,20.0s					
PPT2	**Papeete2**	**61.24 106**		*e*P	**P**	**15 01 41.7 -2.5**
	comp=Z,1μm,23.5s					
PPT2				*e*S	**S**	**15 09 59.3 -2.3**
	comp=Z,8μm,25.8s					
PPT2				*e*LQ	LQ	15 17 12.9
	comp=Z,18μm,33.0s					
PPT2				*e*LR	LR	15 19 48.2
	comp=Z,6μm,24.5s					
PPT2				*e*LR	LR	15 19 48.5

comp=Z,4μm,24.8s
PPTF Pamatai, Papee 61.25 106 P **P 15 01 47.3 +3.0**
IMP Imphal 61.60 303 *e*P **P 15 01 42.6 -3.9**
IMP IAmb IAmb 15 01 46.5
comp=Z,3.7nm,0.5s
TBI Tubuai 61.72 113 *e*P **P 15 01 43.8 -3.5**
TBI *e*S **S 15 10 09.1 +1.7**
comp=Z,5μm,24.2s
TBI *e*SS **SS 15 14 09.1 -0.6**
comp=Z,10μm,27.2s
TBI *e*LQ LQ 15 17 22.7
comp=Z,26μm,30.8s
TBI *e*LR LR 15 20 02.2
comp=Z,15μm,32.5s
TBI *e*LR LR 15 20 04.0
comp=Z,3μm,34.0s
KOHI KOHIMA 61.81 304 *e*P **P 15 01 43.6 -4.4**
KOHI IAmb IAmb 15 01 47.7
comp=Z,14nm,0.9s
AZL Aizawl 62.25 301 *e*P **P 15 01 46.9 -4.0**
AZL IAmb IAmb 15 01 52.0
comp=Z,6.3nm,0.9s
ZEA Zeya 62.62 346 *e*P **P 15 01 52.2 -0.5**
ZEA *e**PP **pP 15 02 05.2 +0.8**
ZEA *e**SP **sP 15 02 11.8 +2.7**
ZEA *e* 15 04 17.1
ZEA *e*S **S 15 10 21.0 +3.4**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA smax smax
comp=E,600nm,13.0s
ZEA smax smax
comp=N,700nm,15.3s
ZIRO ZIRO 62.75 305 *e*P **P 15 01 50.1 -4.2**
BRDH Bariadhala 62.77 299 LR LR 15 31 40.8
comp=N,1μm,18.3s,baz=132,slow=38
SHEM Shemya Is, Ala 62.82 17 LR LR 15 25 17.8
comp=N,4μm,20.8s,baz=198,slow=32
AGT Agartala 63.53 301 *e*P **P 15 01 55.0 -4.4**
AGT IAmb IAmb 15 01 58.2
comp=Z,51nm,0.4s
SHL Shillong 63.61 303 P **P 15 01 58.3 -1.7**
SHL IAmb IAmb 15 02 33.2
comp=Z,36nm,0.9s
SHL Shillong 63.61 303 *e*P P 15 01 55.0 -5.1
SHL IAmb IAmb 15 01 59.8
comp=Z,2.8nm,0.5s
SHL Shillong 63.61 303 P **P 15 01 58.3 -1.7**
SHL pmax pmax
comp=Z,36nm,0.9s
GTA Gaotai 64.12 320 P **P 15 02 03.1 0.0**
GTA S **S 15 10 38.8 +1.6**
GTA LR LR
comp=Z,1μm,22.3s
GTA LR LR
comp=Z,2μm,19.9s
GTA LR LR
comp=Z,3μm,19.9s
TAWA Tawang 64.39 305 *e*P **P 15 02 02.5 -2.9**
TAWA IAmb IAmb 15 02 05.0
comp=Z,9.1nm,0.4s
CASY Casey 65.24 196 P **P 15 02 09.1 -0.7**
CASY IAmb IAmb 15 02 26.0
comp=Z,30nm,1.1s
CASY Casey 65.24 196 IAms_20 IAms_20 15 28 23.3
comp=Z,11μm,19.0s
CASY Casey 65.24 196 P **P 15 02 09.8 0.0**
CASY pP **pP 15 02 22.7 +1.9**
ADK Adak 65.26 23 IAms_20 IAms_20 15 29 14.8
comp=Z,7μm,19.0s
ULN Ulaanbaatar 65.29 331 P **P 15 02 11.0 +0.5**
ULN IAmb IAmb 15 02 58.2
comp=Z,79nm,1.9s
ULN Ulaanbaatar 65.29 331 IAms_20 IAms_20 15 29 18.3
comp=Z,11μm,22.0s
ULN Ulaanbaatar 65.29 331*c i*P **P 15 02 10.0 -0.5**
ULN pmax pmax
comp=Z,25nm,2.5s
CIT Chita 65.50 337 *e*P **P 15 02 12.0 +0.3**
CIT *e* 15 02 23.8
CIT pmax pmax
comp=Z,112nm,3.1s
SONM Songino Array 65.59 330 P **P 15 02 11.1 -1.4**
SONM Songino Array 65.59 330 P **P 15 02 11.3 -1.2**
comp=Z,8.5nm,1.0s,baz=138,slow=7.8,SNR=20
SONM PKiKP **PKiKP 15 08 47.4 +0.2**
comp=Z,0.9nm,0.7s,baz=159,slow=4.5,SNR=2.9
SONM LR LR 15 29 40.7
comp=Z,14μm,21.9s,baz=132,slow=35
SONM PKP2ab 15 30 58.6
comp=Z,1.7nm,0.7s,baz=266,slow=2.1,SNR=11
comp=Z,8.5nm,1.0s
LSA Lhasa 65.80 306 P **P 15 02 13.3 -1.3**
LSA Lhasa 65.80 306 P **P 15 02 12.8 -1.8**
LSA LR LR
comp=Z,990nm,18.0s
LSA LR LR
comp=Z,1μm,20.1s
LSA Lhasa 65.80 306 P **P 15 02 13.3 -1.3**
LSA pmax pmax
comp=Z,16nm,0.8s
LSA MLR MLR
comp=Z,2μm,19.0s
MA2 Magadan 65.85 1 P **P 15 02 14.4 +0.7**
MA2 Magadan 65.85 1 LR LR 15 32 20.3
comp=Z,4μm,18.3s,baz=201,slow=37
MA2 Magadan 65.85 1 P **P 15 02 16.0 +2.3**
MA2 Magadan 65.85 1*c i*P **P 15 02 12.6 -1.1**
MA2 pmax pmax
comp=Z,46nm,1.3s
MA2 Magadan 65.85 1 ⇑P **P 15 02 13.8 +0.1**
MA2 Magadan 65.85 1 P **P 15 02 14.4 +0.7**
GOMU GeErMu 65.85 314 P **P 15 02 15.3 +0.6**
GOMU S **S 15 11 00.3 +1.2**
GOMU pmax pmax
comp=Z,7.0nm,0.7s
GOMU LR LR
comp=Z,5μm,19.3s
GOMU LR LR
comp=Z,7μm,19.9s
GOMU LR LR
comp=Z,12μm,19.7s
GTK Tadong 66.98 303 *e*P **P 15 02 17.5 -4.3**
BOK Bokaro 68.14 299 *e*P **P 15 02 25.2 -3.8**
BOK IAmb IAmb 15 02 26.5
comp=Z,4.5nm,0.4s
KNTI KHUNTI 68.44 298 *e*P **P 15 02 28.2 -2.8**
VIS Vishakhapatnam 68.76 292 *e*P P 15 02 27.0 -5.9
ZAK Zakamensk 68.81 331 *e*P **P 15 02 31.5 -1.3**
ZAK pmax pmax
comp=Z,20nm,1.3s
RAGD RAYAGADA 69.03 293 *e*P **P 15 02 30.6 -4.1**
PALK Pallekele 69.10 280 P **P 15 02 34.8 -0.4**
PALK IAmb IAmb 15 02 39.0
comp=Z,24nm,0.8s
PALK Pallekele 69.10 280 LR LR 15 35 43.4
comp=Z,2μm,22.0s,baz=108,slow=38
PALK Pallekele 69.10 280 P **P 15 02 34.8 -0.4**
PALK pmax pmax
comp=Z,24nm,0.8s
PALK Pallekele 69.10 280 P **P 15 02 36.7 +1.5**
PALK Pallekele 69.10 280 P **P 15 02 34.5 -0.8**
PALK S **S 15 11 39.1 +1.0**
SEY Seymchan 69.26 2 LR LR 15 34 10.0
comp=Z,5μm,18.5s,baz=182,slow=37
SEY Seymchan 69.26 2⇓*e*P **P 15 02 36.2 +1.0**
SEY pmax pmax
comp=Z,31nm,1.0s
JHSG JHARSUGUGA 69.41 296 *e*P P 15 02 30.6 -6.4
JHSG IAmb IAmb 15 02 33.0
comp=Z,61nm,0.2s
MALK Mahakanadarawa 69.44 281 ⇑P **P 15 02 38.3 +1.0**
IRK Irkutsk 69.58 333 *e*P **P 15 02 36.8 -0.6**
IRK pmax pmax
comp=Z,55nm,4.0s
YAK Yakutsk 69.84 351 P **P 15 02 40.0 +1.2**
YAK IAmb IAmb 15 03 33.5
comp=Z,32nm,0.9s
YAK Yakutsk 69.84 351 LR LR 15 35 10.3
comp=Z,3μm,18.0s,baz=143,slow=38
YAK Yakutsk 69.84 351 *e*P **P 15 02 37.7 -1.1**

YAK *e**PP **pP 15 02 49.8 -1.0**
YAK *e* 15 02 59.5
YAK *e*PPP PPP 15 06 54.5
YAK *e*S **S 15 11 45.4 +0.4**
YAK *e**SS **sS 15 12 05.9 -0.1**
YAK *e* 15 12 34.3
YAK *e*SS **SS 15 16 11.9 -2.7**
YAK pmax pmax
comp=Z,9.0nm,1.3s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.8s
BOD Bodaibo 69.92 341 *e*P **P 15 02 38.3 -1.1**
BOD pmax pmax
comp=Z,247nm,1.5s
CCD Concordia, Ant 70.10 187 P **P 15 02 41.6 +0.9**
CCD pP **sP 15 02 55.4 -0.6**
TAOE Nuku Hiva Isla 70.56 97 *e*P **P 15 02 41.9 -2.4**
comp=Z,1μm,24.5s
TAOE *e*S **S 15 11 58.3 +2.9**
comp=Z,984nm,27.5s
TAOE *e*LQ LQ 15 21 07.1
comp=Z,3μm,28.4s
TAOE *e*LR LR 15 24 08.3
comp=Z,3μm,22.3s
MDRS Chennai 70.61 286 *e*P **P 15 02 41.3 -3.2**
MOY Mondy 70.75 331 *e*P **P 15 02 43.8 -0.9**
MOY pmax pmax
comp=Z,57nm,3.4s
UNV Unalaska Valle 70.91 26 IAms_20 IAms_20 15 27 32.5
comp=Z,9μm,22.0s
UNV Unalaska Valle 70.91 26 P **P 15 02 45.2 -0.3**
baz=228
VJD Vijayawada 70.96 290 *e*P **P 15 02 41.9 -4.7**
BLSP Bilaspur 70.98 296 *e*P P 15 02 41.3 -5.3
BLSP IAmb IAmb 15 02 43.6
comp=Z,5.0nm,0.4s
VAR Varanasi 71.08 299 *e*P P 15 02 40.7 -6.5
AIS Amsterdam Isla 71.09 232 IAms_20 IAms_20 15 31 56.7
comp=Z,11μm,21.0s
VNDA Vanda 71.36 177 P **P 15 02 48.2 +0.3**
VNDA IAmb IAmb 15 03 04.7
comp=Z,34nm,0.9s
VNDA Vanda 71.36 177 P **P 15 02 47.0 -0.9**
comp=Z,5.0nm,1.0s,baz=326,slow=7.2,SNR=17
VNDA LR LR 15 30 54.1
comp=Z,5μm,19.4s,baz=0.5,slow=33
comp=Z,5.0nm,1.0s
VNDA Vanda 71.36 177 P **P 15 02 48.2 +0.3**
VNDA pmax pmax
comp=Z,34nm,1.0s
VNDA Vanda 71.36 177 P **P 15 02 48.1 +0.3**
P08K Saint George I 71.56 23 IAms_20 IAms_20 15 30 33.9
comp=Z,7μm,21.0s
P08K Saint George I 71.56 23 P **P 15 02 49.6 +0.3**
baz=224
SPIA Saint Paul Isl 71.72 22 IAms_20 IAms_20 15 27 18.8
comp=Z,7μm,22.0s
SPIA Saint Paul Isl 71.72 22 P **P 15 02 50.5 +0.3**
baz=223
SBA Scott Base 71.98 176 P **P 15 02 52.7 +1.1**
SBA IAmb IAmb 15 03 27.3
comp=Z,53nm,1.2s
SBA Scott Base 71.98 176 P **P 15 02 52.7 +1.1**
SBA pmax pmax
comp=Z,53nm,1.2s
ALBI Allahabad 72.13 299 *e*P **P 15 02 49.6 -3.9**
ALBI IAmb IAmb 15 02 51.6
comp=Z,14nm,0.3s
SALM Salem 72.30 284 *e*P **P 15 02 49.9 -4.7**
KOD Kodaikanal 72.75 283 *e*P P 15 02 52.0 -5.8
FALS False Pass 72.94 27 IAms_20 IAms_20 15 28 31.1
comp=Z,8μm,20.0s
FALS False Pass 72.94 27 P **P 15 02 57.6 0.0**
baz=230
HYB Hyderabad 73.12 290 IVmB_BB 15 02 58.8
comp=Z,545nm,6.8s
HYB *e*P **P 15 02 60.0 +0.5**
LKN LUCKNOW 73.34 300 *e*P **P 15 02 57.0 -3.6**
NGP Nagpur 73.51 294 *e*P **P 15 02 57.3 -4.4**
WMQ Urumqi 74.18 319 *e*P **P 15 03 07.0 +1.7**
WMQ S **S 15 12 35.8 +0.1**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ LR LR
comp=Z,2μm,17.7s
WMQ LR LR
comp=Z,2μm,21.5s
WMQ LR LR
comp=Z,1μm,24.3s
SDPT Sand Point 74.57 27 P **P 15 03 07.3 +0.1**
baz=233
LGTI Lohaghat 74.64 303 *e*P **P 15 03 05.6 -2.5**
LGTI IAmb IAmb 15 03 08.1
comp=Z,4.5nm,0.7s
CHNA Chernabura Isl 74.67 28 P **P 15 03 08.3 +0.6**
baz=234
JHNI Jhansi 75.02 298 *e*P **P 15 03 06.3 -4.2**
RKT Rikitea 75.02 112 *e*P **P 15 03 06.1 -4.4**
comp=Z,3μm,26.5s
RKT *e*S **S 15 12 48.8 +3.0**
comp=Z,4μm,25.0s
RKT *e*SS **SS 15 17 29.5 -5.8**
comp=Z,4μm,34.2s
RKT *e*LQ LQ 15 22 57.7
comp=Z,27μm,31.2s
RKT *e*LR LR 15 26 13.5
comp=Z,19μm,30.2s
AKL Akola 75.25 293 *e*P P 15 03 06.3 -5.6
AKL IAmb IAmb 15 03 28.8
comp=Z,35nm,1.1s
BILL Bilibino 75.37 7 P **P 15 03 12.6 +1.0**
BILL IAmb IAmb 15 03 23.1
comp=Z,26nm,0.9s
BILL Bilibino 75.37 7*c i*P **P 15 03 10.8 -0.8**
BILL pmax pmax
comp=Z,24nm,0.8s
BHPL Bhopal 75.46 296 *e*P P 15 03 06.8 -6.3
BHPL IAmb IAmb 15 03 09.0
comp=Z,2.7nm,0.4s
M11K Mekoryuk 75.48 21 P **P 15 03 13.0 +0.8**
baz=227
DGAR Diego Garcia 75.51 264*ce*P **P 15 03 14.8 +1.3**
DGAR pmax pmax
comp=Z,225nm,1.7s
JOSI Joshimath 75.52 304 *e*P P 15 03 08.6 -4.9
S14K Fog Glacier 75.55 27 P **P 15 03 13.3 +0.3**
baz=234
NRDN NARMADA NAGAR 75.57 295 *e*P **P 15 03 09.2 -4.5**
NRDN IAmb IAmb 15 03 19.5
comp=Z,3.4nm,0.5s
TKRD Thakurdwara 75.72 302 *e*P **P 15 03 09.8 -4.6**
GUNA GUNA 75.88 297 *e*P **P 15 03 11.3 -4.1**
GUNA IAmb IAmb 15 03 12.7
comp=Z,5.2nm,0.4s
CHGN Chignik 76.08 27 P **P 15 03 16.2 +0.5**
baz=235
GAMB Gambell 76.14 17 IAms_20 IAms_20 15 33 47.0
comp=Z,6μm,20.0s
GAMB Gambell 76.14 17 P **P 15 03 17.1 +1.1**
baz=221
UGON Onchagaon 76.30 301 *e*P P 15 03 12.1 -5.6
M13K Dall Lake 76.55 22 IAms_20 IAms_20 15 30 32.7
comp=Z,6μm,22.0s
M13K Dall Lake 76.55 22 P **P 15 03 18.3 -0.1**
baz=229
MERT Meerut 76.62 302 *e*P P 15 03 13.9 -5.5
O14K Tigyukauivet M 76.62 24 IAms_20 IAms_20 15 31 05.6
comp=Z,7μm,22.0s
O14K Tigyukauivet M 76.62 24 P **P 15 03 19.7 +0.9**
baz=232
DDI Dehra Dun 76.70 303 *e*P **P 15 03 19.3 -0.8**
DDI IAmb IAmb 15 03 19.8
comp=Z,24nm,0.2s
KLP Kalpa 76.88 304 *e*P P 15 03 16.4 -5.0
KLP IAmb IAmb 15 03 21.7
comp=Z,13nm,1.0s
N14K Kuskokwak Cree 76.88 23 P **P 15 03 21.2 +0.9**
baz=231
JMIU JAMIA UNIVERSI 76.89 301 *e*P **P 15 03 16.4 -4.7**
JMIU IAmb IAmb 15 03 17.6
comp=Z,34nm,0.4s
NDI New Delhi 76.98 301 *e*P **P 15 03 17.5 -4.1**
SONA Sohna 76.98 301 *e*P **P 15 03 19.3 -2.3**
AYAN Aya Nagar 77.01 301 *e*P P 15 03 12.5 -9.2

NPLP NPLP New Delhi 77.01 301 *e*P **P 15 03 17.5 -4.2**
K13K Kusilvak Mount 77.08 21 P **P 15 03 21.4 0.0**
K13K IAms_20 IAms_20 15 33 30.8
comp=Z,7μm,20.0s
K13K Kusilvak Mount 77.08 21 P **P 15 03 22.6 +1.2**
baz=228
CHIR Chirikof Islan 77.11 29 P **P 15 03 22.4 +0.7**
baz=237
O15K Ungalikthiuk R 77.16 24 IAmb IAmb 15 03 28.9
comp=Z,41nm,0.8s
O15K IAms_20 IAms_20 15 36 23.9
comp=Z,7μm,20.0s
O15K Ungalikthiuk R 77.16 24 P **P 15 03 23.2 +1.3**
baz=233
R16K Pilot Point 77.18 26 P **P 15 03 22.9 +0.9**
baz=235
KAD Karad 77.18 289 *e*P **P 15 03 20.0 -3.0**
KAD IAmb IAmb 15 03 25.7
comp=Z,8.3nm,0.5s
GOA Goa 77.18 287 *e*P **P 15 03 22.1 -0.8**
GOA IAmb IAmb 15 03 22.8
comp=Z,18nm,0.2s
BHGR Bahadurgarh 77.22 301 *e*P **P 15 03 18.6 -4.2**
BHGR IAmb IAmb 15 03 19.6
comp=Z,211nm,0.1s
M14K Bethel 77.29 22 P **P 15 03 23.5 +0.9**
baz=231,SNR=9.1
L14K Kuka Creek 77.40 22 P **P 15 03 24.2 +1.1**
baz=230,SNR=12
KUDL Kundal 77.47 301 *e*P P 15 03 19.3 -5.0
PAF Port-aux-Franc 77.56 221 IAms_20 IAms_20 15 33 04.1
comp=Z,7μm,22.0s
N15K Kwethluk River 77.66 24 IAms_20 IAms_20 15 33 54.9
comp=Z,6μm,20.0s
N15K Kwethluk River 77.66 24 P **P 15 03 25.4 +0.7**
baz=232
M15K Kasigluk River 77.75 23 P **P 15 03 26.2 +1.1**
baz=232
P16K Nushagak River 77.84 25 P **P 15 03 26.3 +0.6**
baz=235
J14K Nanvaranak Lak 78.01 20 IAms_20 IAms_20 15 31 41.3
comp=Z,8μm,22.0s
J14K Nanvaranak Lak 78.01 20 P **P 15 03 27.7 +1.2**
baz=229
L15K Ungalak Mounta 78.06 22 P **P 15 03 28.2 +1.4**
baz=231
O16K Kokwok River B 78.12 25 IAmb IAmb 15 04 04.8
comp=Z,55nm,1.4s
O16K IAms_20 IAms_20 15 32 02.3
comp=Z,9μm,22.0s
O16K Kokwok River B 78.12 25 P **P 15 03 28.2 +1.0**
baz=234
SII Sitkinak Islan 78.18 28 P **P 15 03 27.7 0.0**
baz=238
Q16K King Salmon 78.21 26 P **P 15 03 28.1 +0.4**
baz=236
Q17K Contact Creek 78.32 26 P **P 15 03 29.3 +0.9**
baz=237
BHK Bhakra 78.35 304 *e*P P 15 03 22.2 -7.0
BHK IAmb IAmb 15 03 29.0
comp=Z,24nm,0.4s
N16K Nishlik Lake 78.37 24 P **P 15 03 29.5 +0.9**
baz=234
K15K Wolf Creek Mou 78.43 21 IAmb IAmb 15 03 41.6
comp=Z,57nm,1.2s
K15K IAms_20 IAms_20 15 32 07.5
comp=Z,7μm,22.0s
K15K Wolf Creek Mou 78.43 21 P **P 15 03 30.0 +1.1**
baz=231
ACHA Angle Creek He 78.54 27 P **P 15 03 29.2 -0.5**
ACHA IAmb IAmb 15 03 43.0
comp=Z,26nm,0.9s
TNA Tin City 78.56 17 IAms_20 IAms_20 15 32 58.9
comp=Z,6μm,21.0s
TNA Tin City 78.56 17 P **P 15 03 31.0 +1.5**
baz=224
R18K Karluk 78.59 27 P **P 15 03 30.7 +0.9**
baz=238
P17K Kvichak River 78.59 25 P **P 15 03 30.6 +0.8**
baz=236
M16K Timber Creek 78.62 23 P **P 15 03 29.4 -0.6**
M16K IAmb IAmb 15 03 42.0
comp=Z,56nm,0.9s
M16K Timber Creek 78.62 23 P **P 15 03 30.8 +0.8**
baz=233,SNR=6.2
ANM Nome 78.63 18 IAms_20 IAms_20 15 36 00.8
comp=Z,6μm,20.0s
ANM Nome 78.63 18 P **P 15 03 30.8 +0.9**
baz=227
DHRM DHARAMSHALA 78.66 305 *e*P **P 15 03 28.4 -2.8**
DHRM IAmb IAmb 15 03 30.9
comp=Z,11nm,0.8s
L16K Owhat River 78.83 22 P **P 15 03 30.2 -0.9**
L16K Owhat River 78.83 22 P **P 15 03 32.2 +1.1**
baz=233,SNR=6.5
MK31 Makanchi Array 78.87 320 P **P 15 03 30.3 -1.4**
MK31 Makanchi Array 78.87 320*c i*P **P 15 03 30.4 -1.4**
MKAR Makanchi Array 78.87 320 P **P 15 03 29.9 -1.8**
MKAR Makanchi Array 78.87 320 P **P 15 03 30.0 -1.7**
comp=Z,5.4nm,0.7s,baz=102,slow=7.2,SNR=42
MKAR PKiKP **PKiKP 15 09 06.0 -0.2**
comp=Z,0.8nm,0.7s,baz=27,slow=1.1,SNR=3.3
MKAR S **S 15 13 26.8 -0.1**
comp=Z,0.5nm,0.9s,baz=89,slow=5.2,SNR=2.7
MKAR PKKPbc **PKKPbc 15 22 31.6 +4.2**
comp=Z,0.6nm,0.8s,baz=270,slow=1.6,SNR=4.1
MKAR PKPPKP **P'P'df 15 30 30.6 +2.5**
comp=Z,0.7nm,0.9s,baz=294,slow=1.2,SNR=4.7
comp=Z,5.4nm,0.7s
MKAR Makanchi Array 78.87 320 *i* P **P 15 03 30.8 -0.9**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
Q18K Katmai Hardscr 78.91 26 P **P 15 03 32.5 +0.7**
baz=237
OHAK Old Harbor 78.95 28 P **P 15 03 32.7 +0.9**
baz=239
F14K Arctic Creek 78.97 18 P **P 15 03 32.9 +1.1**
baz=226
N17K Nushagak Hills 79.04 24 IAms_20 IAms_20 15 32 31.4
comp=Z,8μm,22.0s
N17K Nushagak Hills 79.04 24 P **P 15 03 33.2 +0.9**
baz=235
TIXI Tiksi 79.04 354 P **P 15 03 31.6 -0.4**
TIXI Tiksi 79.04 354 LR LR 15 35 42.7
comp=Z,2μm,21.9s,baz=174,slow=34
TIXI Tiksi 79.04 354⇑*e*P **P 15 03 32.4 +0.4**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 79.08 320 P **P 15 03 32.1 -0.7**
MAKZ Makanchi 79.08 320 P **P 15 03 32.1 -0.7**
MAKZ pmax pmax
comp=Z,16nm,1.1s
P18K Big Mountain, 79.22 26 IAms_20 IAms_20 15 32 55.3
comp=Z,8μm,22.0s
P18K Big Mountain, 79.22 26 P **P 15 03 33.8 +0.5**
baz=237
G15K Niukluk 79.34 19 P **P 15 03 35.0 +1.2**
baz=228
J16K Anvik River 79.39 21 IAms_20 IAms_20 15 32 35.7
comp=Z,7μm,22.0s
J16K Anvik River 79.39 21 P **P 15 03 34.9 +0.8**
baz=232
M17K Holitna River 79.44 23 P **P 15 03 33.3 -1.1**
M17K IAmb IAmb 15 03 55.6
comp=Z,52nm,1.2s
M17K Holitna River 79.44 23 P **P 15 03 35.3 +0.8**
baz=235
SHLS Shalkode 79.47 316 *e*P **P 15 03 33.9 -1.3**
SHLS Shalkode 79.47 316 *e*P **P 15 03 33.9 -1.3**
O18K Koktuh Hills 79.48 25 IAms_20 IAms_20 15 33 04.1
comp=Z,9μm,22.0s
O18K Koktuh Hills 79.48 25 P **P 15 03 34.9 +0.2**
baz=237
L17K Donlin 79.53 22 P **P 15 03 35.6 +0.6**
baz=234
KDAK Kodiak Island 79.56 28 LR LR 15 32 56.4
comp=Z,4μm,21.9s,baz=105,slow=31
KDAK Kodiak Island 79.56 28 P **P 15 03 35.6 +0.5**
baz=240
F15K North Star Dit 79.64 18 IAms_20 IAms_20 15 36 23.4
comp=Z,5μm,20.0s
F15K North Star Dit 79.64 18 P **P 15 03 36.4 +1.0**
baz=227
N18K Kilae Creek 79.65 24 IAms_20 IAms_20 15 32 02.7
comp=Z,8μm,22.0s
N18K Kilae Creek 79.65 24 P **P 15 03 36.2 +0.5**
baz=236

Q19K	Cape Douglas,	79.67	26	IAMs_20	IAMs_20	15 37 11.0
	comp=Z,6µm,19.0s					
Q19K	Cape Douglas,	79.67	26	P	P	15 03 36.2 +0.5
	baz=239					
H16K	Elim	79.69	19	P	P	15 03 36.8 +1.1
	baz=230					
I17K	Unalakleet	79.73	20	IAmb	IAmb	15 03 48.4
	comp=Z,38nm,1.0s					
I17K				IAMs_20	IAMs_20	15 36 23.8
	comp=Z,8µm,20.0s					
I17K	Unalakleet	79.73	20	P	P	15 03 37.4 +1.4
	baz=231					
UZB	Uzynbulak	79.77	316	eP	P	15 03 37.0 +0.1
UZB	Uzynbulak	79.77	316	eP	P	15 03 37.0 +0.1
K17K	Iditarod	79.88	22	IAmb	IAmb	15 03 46.6
	comp=Z,56nm,0.9s					
K17K	Iditarod	79.88	22	P	P	15 03 37.6 +0.8
	baz=234,SNR=13					
PRZ	Przheval'sk	80.00	315	IAmb	IAmb	15 04 17.2
	comp=Z,52nm,1.4s					
J17K	VABM Dome	80.00	21	IAmb	IAmb	15 04 27.4
	comp=Z,45nm,1.2s					
J17K	VABM Dome	80.00	21	P	P	15 03 38.4 +1.0
	baz=233					
O19K	Port Alsworth	80.04	25	IAMs_20	IAMs_20	15 33 52.9
	comp=Z,9µm,21.0s					
O19K	Port Alsworth	80.04	25	P	P	15 03 38.8 +1.2
	baz=238					
Q20K	Shuyak Island	80.06	27	P	P	15 03 38.6 +0.8
	baz=240					
KPKS	Kokpek	80.11	316	eP	P	15 03 38.7 +0.1
KPKS	Kokpek	80.11	316	eP	P	15 03 38.8 +0.1
M18K	Stony River	80.13	24	P	P	15 03 38.9 +0.7
	baz=236					
G16K	Koyuk River	80.14	19	IAMs_20	IAMs_20	15 34 05.7
	comp=Z,7µm,22.0s					
G16K	Koyuk River	80.14	19	P	P	15 03 39.7 +1.5
	baz=230					
ZHN	Zhinishke	80.19	316	eP	P	15 03 39.2 +0.1
ZHN	Zhinishke	80.19	316	eP	P	15 03 39.3 +0.1
BKNR	BIKANER	80.19	300	eP	P	15 03 34.7 -4.6
BKNR				IAmb	IAmb	15 03 35.4
	comp=Z,67nm,0.2s					
L18K	Granite Mounta	80.20	23	IAmb	IAmb	15 03 48.5
	comp=Z,38nm,0.9s					
L18K				IAMs_20	IAMs_20	15 36 13.2
	comp=Z,5µm,20.0s					
L18K	Granite Mounta	80.20	23	P	P	15 03 40.3 +1.8
	baz=235,SNR=15					
P19K	Oil Pt	80.22	26	P	P	15 03 39.7 +0.9
	baz=239					
ZALV	Zalesovo Beam	80.25	327	P	P	15 03 37.1 -1.9
ZALV	Zalesovo Beam	80.25	327	P	P	15 03 36.7 -2.3
	comp=Z,8.4nm,0.7s,baz=107,slow=4.6,SNR=16					
ZALV				PKKPbc	PKKPbc	15 22 26.9 +2.4
	comp=Z,1.4nm,0.7s,baz=270,slow=2.9,SNR=4.9					
ZALV				PKPPKP	P'P'df	15 30 30.4 +5.4
	comp=Z,0.9nm,0.6s,baz=250,slow=3.0,SNR=4.0					
ZALV				LR	LR	15 38 47.1
	comp=Z,8µm,21.0s,baz=124,slow=35					
	comp=Z,8.4nm,0.7s					
ZALV	Zalesovo Beam	80.25	327	P	P	15 03 37.1 -1.9
N19K	Bonanza Creek	80.30	25	IAMs_20	IAMs_20	15 33 29.9
	comp=Z,8µm,21.0s					
N19K	Bonanza Creek	80.30	25	P	P	15 03 39.9 +0.7
	baz=238					
SRNI	Srinagar	80.31	306	eP	P	15 03 35.9 -3.9
H17K	Granite Mounta	80.65	20	P	P	15 03 42.1 +1.1
	baz=232					
KDJ	Kajisay	80.75	314	P	P	15 03 42.0 -0.2
G17K	Kiwalik Mounta	80.76	19	P	P	15 03 43.1 +1.6
	baz=231					
TTA	Tatalina	80.86	22	P	P	15 03 45.0 +2.8
TTA	Tatalina	80.86	22	P	P	15 03 43.6 +1.4
	baz=236					
KSH	Kashi	80.88	312	P	P	15 03 44.5 +1.6
KSH				sP	pP	15 03 54.3 0.0
KSH				pmax	pmax	
	comp=Z,1µm,11.7s					
KSH				LR	LR	
	comp=Z,3µm,18.4s					
KSH				LR	LR	
	comp=Z,1µm,20.8s					
KSH				LR	LR	
	comp=Z,2µm,19.6s					
L19K	White Mountain	80.89	23	IAmb	IAmb	15 03 55.2
	comp=Z,51nm,1.1s					
L19K				IAMs_20	IAMs_20	15 37 44.5
	comp=Z,7µm,20.0s					
L19K	White Mountain	80.89	23	P	P	15 03 43.2 +0.9
	baz=237,SNR=15					
J18K	Innoko River	80.90	22	P	P	15 03 43.7 +1.4
	baz=235					
HOM	Homer	80.92	26	IAMs_20	IAMs_20	15 35 54.1
	comp=Z,5µm,20.0s					
HOM	Homer	80.92	26	P	P	15 03 43.4 +1.0
	baz=240					
M19K	Big River Lodg	80.93	24	IAmb	IAmb	15 03 55.0
	comp=Z,51nm,1.4s					
M19K				IAMs_20	IAMs_20	15 33 41.4
	comp=Z,7µm,22.0s					
M19K	Big River Lodg	80.93	24	P	P	15 03 44.2 +1.7
	baz=238					
CNPM	China Poot	81.04	27	IAMs_20	IAMs_20	15 38 04.2
	comp=Z,7µm,19.0s					
MDOK	Medeo	81.15	315	eP	P	15 03 44.4 +0.1
MDOK	Medeo	81.15	315	eP	P	15 03 44.5 +0.1
F17K	Baldwin Pennin	81.17	18	IAMs_20	IAMs_20	15 37 20.8
	comp=Z,6µm,20.0s					
F17K	Baldwin Pennin	81.17	18	P	P	15 03 45.1 +1.6
	baz=230					
TNSS	Tian-Shan	81.19	315	eP	P	15 03 44.6 -0.2
TNSS	Tian-Shan	81.19	315	eP	P	15 03 44.6 -0.2
C16K	Lisburne Hills	81.20	16	P	P	15 03 45.7 +1.9
	baz=226					
AAA	Alma-Ata	81.26	315	eP	P	15 03 44.9 +0.2
AAA				pmax	pmax	
	comp=Z,8.0nm,0.4s					
AAA	Alma-Ata	81.26	315	eP	P	15 03 44.9 +0.2
	comp=Z,8.4nm,0.4s					
H18K	Honhosa River	81.31	20	IAMs_20	IAMs_20	15 34 40.5
	comp=Z,8µm,22.0s					
H18K	Honhosa River	81.31	20	P	P	15 03 46.1 +1.7
	baz=233					
BRLK	Bradley Lake	81.31	26	IAMs_20	IAMs_20	15 38 02.0
	comp=Z,6µm,19.0s					
BRSE	Bradley Lake S	81.36	27	P	P	15 03 46.1 +1.3
	baz=241					
E17K	Hotham Inlet	81.40	18	P	P	15 03 46.2 +1.3
	baz=230					
M20K	Styx River	81.42	24	IAmb	IAmb	15 03 57.8
	comp=Z,29nm,0.9s					
M20K				IAMs_20	IAMs_20	15 33 22.5
	comp=Z,8µm,22.0s					
M20K	Styx River	81.42	24	P	P	15 03 46.3 +1.1
	baz=239					
D17K	Noatak River	81.44	17	P	P	15 03 46.4 +1.3
	baz=229					
L20K	Farewell, AK	81.44	23	P	P	15 03 46.4 +1.2
	baz=238					
SPCR	Spurr Chakacha	81.45	25	P	P	15 03 46.0 +0.7
	baz=240					
NIL	Nilore	81.49	305	P	P	15 03 46.8 +0.7
NIL				IAmb	IAmb	15 04 04.1
	comp=Z,30nm,0.7s					
NIL	Nilore	81.49	305	P	P	15 03 46.8 +0.7
NIL				pmax	pmax	
	comp=Z,30nm,0.7s					
GCSA	Galena City Sc	81.58	21	P	P	15 03 47.0 +1.1
	baz=235					
J19K	Poorman	81.60	22	P	P	15 03 47.5 +1.5
	baz=236					
G18K	Tagagawik	81.66	19	P	P	15 03 45.8 -0.4
G18K				IAMs_20	IAMs_20	15 34 16.7
	comp=Z,9µm,22.0s					
G18K	Tagagawik	81.66	19	P	P	15 03 47.8 +1.6
	baz=233					
CAPN	Captain Cook N	81.68	26	IAMs_20	IAMs_20	15 33 17.3
	comp=Z,8µm,21.0s					
CAPN	Captain Cook N	81.68	26	P	P	15 03 47.1 +0.7
	baz=241					
RDOG	Red Dog Mine	81.72	17	P	P	15 03 47.0 +0.5
RDOG				IAMs_20	IAMs_20	15 37 01.5
	comp=Z,6µm,20.0s					
RDOG	Red Dog Mine	81.72	17	P	P	15 03 47.3 +0.7
	baz=229					
BOOM	Boomskoye usch	81.73	314	P	P	15 03 47.9 +0.5
F18K	Selawik	81.77	18	P	P	15 03 47.6 +0.9
	baz=232					
K20K	Telida	81.83	23	IAmb	IAmb	15 03 56.3
	comp=Z,41nm,1.1s					
K20K	Telida	81.83	23	P	P	15 03 48.7 +1.5
	baz=238					
E18K	Tukpahlearik C	81.99	18	IAMs_20	IAMs_20	15 34 43.4
	comp=Z,6µm,22.0s					
E18K	Tukpahlearik C	81.99	18	P	P	15 03 49.3 +1.4
	baz=231					
JASL	Jaisalmer	82.03	298	eP	P	15 03 44.3 -4.8
JASL				IAmb	IAmb	15 03 46.6
	comp=Z,22nm,0.4s					
TKM2	Tokmak 2	82.10	315	i P	P	15 03 49.2 -0.2
TKM2				pmax	pmax	
	comp=Z,7.0nm,0.7s					
SEW	Seward	82.11	27	IAMs_20	IAMs_20	15 38 47.5
	comp=Z,7µm,19.0s					
SEW	Seward	82.11	27	P	P	15 03 49.9 +1.2
	baz=242					
SKT	Skwentna	82.12	24	IAMs_20	IAMs_20	15 36 25.0
	comp=Z,8µm,20.0s					
SKT	Skwentna	82.12	24	P	P	15 03 50.0 +1.2
	baz=240					
O22K	Cooper Landing	82.16	26	IAMs_20	IAMs_20	15 34 20.0
	comp=Z,6µm,22.0s					
O22K	Cooper Landing	82.16	26	P	P	15 03 50.1 +1.1
	baz=242					
H19K	Roundabout Mou	82.18	20	IAmb	IAmb	15 04 01.3
	comp=Z,41nm,1.2s					
H19K				IAMs_20	IAMs_20	15 34 56.5
	comp=Z,7µm,22.0s					
H19K	Roundabout Mou	82.18	20	P	P	15 03 50.2 +1.2
	baz=235					
SUA	Susitna One	82.19	25	IAMs_20	IAMs_20	15 34 17.9
	comp=Z,7µm,22.0s					
SUA	Susitna One	82.19	25	P	P	15 03 49.9 +0.6
	baz=241					
J20K	Nowinta River	82.25	22	P	P	15 03 48.9 -0.5
J20K	Nowinta River	82.25	22	P	P	15 03 50.1 +0.7
	baz=237					
G19K	Purcell Mounta	82.32	19	P	P	15 03 48.4 -1.4
G19K				IAmb	IAmb	15 04 05.9
	comp=Z,26nm,0.9s					
G19K				IAMs_20	IAMs_20	15 38 05.2
	comp=Z,7µm,20.0s					
G19K	Purcell Mounta	82.32	19	P	P	15 03 50.9 +1.2
	baz=234					
PPLA	Purkeypile	82.32	23	IAMs_20	IAMs_20	15 38 48.3
	comp=Z,6µm,20.0s					
PPLA	Purkeypile	82.32	23	P	P	15 03 50.0 0.0
	baz=239					
MAW	Mawson	82.44	203	P	P	15 03 50.1 -0.2
	comp=Z,13nm,0.9s,baz=87,slow=5.7,SNR=11					
MAW				LR	LR	15 40 36.7
	comp=Z,4µm,18.3s,baz=80,slow=36					
	comp=Z,13nm,0.9s					
RC01	Rabbit Creek A	82.44	26	P	P	15 03 50.8 +0.3
RC01				IAMs_20	IAMs_20	15 35 10.5
	comp=Z,6µm,22.0s					
RC01	Rabbit Creek A	82.44	26	P	P	15 03 50.2 -0.3
	baz=242					
BHUJ	Bhuj	82.46	294	eP	P	15 03 44.8 -6.6
BHUJ				IAmb	IAmb	15 03 48.3
	comp=Z,12nm,0.2s					
I20K	Naaghedeneel	82.46	21	P	P	15 03 50.8 +0.3
	baz=237					
F19K	Shaleruckik Mo	82.50	19	IAMs_20	IAMs_20	15 39 10.1
	comp=Z,6µm,20.0s					
F19K	Shaleruckik Mo	82.50	19	P	P	15 03 50.8 +0.1
	baz=234					
KURK	Kurchatov	82.54	323	P	P	15 03 50.1 -1.1
KURK	Kurchatov	82.54	323	c i P	P	15 03 50.1 -1.1
KURK				pmax	pmax	
	comp=Z,9.0nm,0.9s					
KURBB	Kurchatov Arra	82.56	323	P	P	15 03 49.6 -1.7
	comp=Z,3.3nm,0.8s,baz=108,slow=3.9,SNR=24					
KURBB				PKiKP	PKiKP	15 09 10.7 -1.1
	comp=Z,0.8nm,0.5s,baz=61,slow=2.5,SNR=4.8					
KURBB				PKPPKP	P'P'df	15 30 23.7 +2.6
	comp=Z,0.7nm,0.9s,baz=293,slow=2.5,SNR=5.1					
KURBB				LR	LR	15 39 52.7
	comp=Z,3µm,21.3s,baz=121,slow=35					
	comp=Z,3.3nm,0.8s					
C18K	Utukok River	82.59	16	IAmb	IAmb	15 05 03.8
	comp=Z,60nm,1.9s					
C18K				IAMs_20	IAMs_20	15 34 15.5
	comp=Z,8µm,22.0s					
C18K	Utukok River	82.59	16	P	P	15 03 52.5 +1.3
	baz=230					
M22K	Willow	82.60	25	IAMs_20	IAMs_20	15 33 56.5
	comp=Z,8µm,22.0s					
M22K	Willow	82.60	25	P	P	15 03 51.3 +0.1
	baz=241					
CAST	Castle Rocks	82.63	23	IAmb	IAmb	15 04 00.2
	comp=Z,52nm,1.0s					
CAST				IAMs_20	IAMs_20	15 40 05.4
	comp=Z,6µm,20.0s					
CAST	Castle Rocks	82.63	23	P	P	15 03 51.8 +0.4
	baz=239,SNR=16					
H20K	Anotleneega Mo	82.70	21	P	P	15 03 52.7 +0.9
	baz=237					
CHUM	Lake Minchumin	82.78	23	P	P	15 03 52.7 +0.6
	baz=239,SNR=18					
AAK	Ala-Archa	82.80	314	P	P	15 03 52.0 -0.9
AAK	Ala-Archa	82.80	314	c i P	P	15 03 52.2 -0.8
AAK				pmax	pmax	
	comp=Z,6.0nm,0.7s					
AAK	Ala-Archa	82.80	314	P	P	15 03 51.8 -1.1
AAK				S	S	15 14 07.3 -1.0
CUT	Chulitna	82.85	24	P	P	15 03 52.7 +0.2
CUT				IAMs_20	IAMs_20	15 36 38.3
	comp=Z,7µm,20.0s					
CUT	Chulitna	82.85	24	P	P	15 03 53.0 +0.5
	baz=241					
B18K	Kokolik River	82.89	16	P	P	15 03 53.5 +0.9
	baz=230,SNR=8.4					
SGDS	Sogindy	82.93	315	eP	P	15 03 53.5 0.0
SGDS	Sogindy	82.93	315	eP	P	15 03 53.6 0.0
PMR	Palmer	82.94	25	P	P	15 03 52.4 -0.6
PMR				IAmb	IAmb	15 04 03.5
	comp=Z,29nm,0.9s					
PMR	Palmer	82.94	25	P	P	15 03 55.2 +2.2
PMR	Palmer	82.94	25	P	P	15 03 52.4 -0.6
PMR				pmax	pmax	
	comp=Z,29nm,0.9s					
PMR	Palmer	82.94	25	P	P	15 03 53.5 +0.5
	baz=242					
PWL	Port Wells	82.94	26	P	P	15 03 52.5 -0.6
PWL				IAMs_20	IAMs_20	15 34 51.7
	comp=Z,7µm,22.0s					
PWL	Port Wells	82.94	26	P	P	15 03 53.7 +0.6
	baz=243					
P23K	Montague Islan	82.97	27	P	P	15 03 53.4 +0.1
	baz=244					
E19K	Redstone River	83.04	18	P	P	15 03 52.7 -0.8
E19K				IAmb	IAmb	15 04 26.9
	comp=Z,22nm,0.8s					
E19K				IAMs_20	IAMs_20	15 38 39.3
	comp=Z,7µm,20.0s					
E19K	Redstone River	83.04	18	P	P	15 03 53.9 +0.4
	baz=234,SNR=20					
GHO	Glory Hole Cre	83.11	25	P	P	15 03 53.7 -0.3
GHO				IAmb	IAmb	15 04 12.5
	comp=Z,35nm,0.9s					
GHO				IAMs_20	IAMs_20	15 35 31.0
	comp=Z,7µm,21.0s					
KNK	Knik Glacier	83.14	26	IAMs_20	IAMs_20	15 35 33.9
	comp=Z,6µm,22.0s					
KNK	Knik Glacier	83.14	26	P	P	15 03 54.1 0.0
	baz=243					
KTH	Kantishna Hill	83.15	23	P	P	15 03 54.0 -0.2
KTH				IAmb	IAmb	15 04 04.8
	comp=Z,46nm,1.0s					
KTH				IAMs_20	IAMs_20	15 39 32.1
	comp=Z,6µm,20.0s					
F20K	Avaraart Lake	83.29	19	IAMs_20	IAMs_20	15 36 35.8
	comp=Z,7µm,21.0s					
F20K	Avaraart Lake	83.29	19	P	P	15 03 56.0 +1.4
	baz=236					
TRF	Thorofare Moun	83.35	23	IAmb	IAmb	15 04 12.6
	comp=Z,25nm,0.9s					
TRF				IAMs_20	IAMs_20	15 39 30.3
	comp=Z,6µm,20.0s					
TRF	Thorofare Moun	83.35	23	P	P	15 03 56.3 +1.0
	baz=241					
SML	Sawmill	83.38	25	IAMs_20	IAMs_20	15 36 01.1
	comp=Z,5µm,20.0s					
SML	Sawmill	83.38	25	P	P	15 03 55.9 +0.5
	baz=243					
D19K	Kuna River	83.39	17	IAmb	IAmb	15 04 01.0
	comp=Z,20nm,0.6s					
D19K				IAMs_20	IAMs_20	15 36 23.5
	comp=Z,8µm,21.0s					
D19K	Kuna River	83.39	17	P	P	15 03 56.5 +1.2
	baz=233,SNR=23					
BPAW	Bear Paw Mtn.	83.39	23	P	P	15 03 55.5 +0.2
	baz=240					
GLI	Glacier Island	83.50	26	P	P	15 03 56.5 +0.6
	baz=244					
QSPA	South Pole Qui	83.51	180	P	P	15 03 56.1 -0.1
QSPA	South Pole Qui	83.51	180	IAMs_20	IAMs_20	15 40 05.1
	comp=Z,7µm,20.0s					
QSPA	South Pole Qui	83.51	180	P	P	15 03 55.9 -0.2
	comp=Z,33nm,0.9s,baz=322,slow=1.4,SNR=54					
QSPA				LR	LR	15 40 35.2
	comp=Z,6µm,19.3s,baz=12,slow=35					
	comp=Z,33nm,0.9s					
H21K	Melozitna Rive	83.52	21	IAMs_20	IAMs_20	15 35 36.9
	comp=Z,6µm,22.0s					
H21K	Melozitna Rive	83.52	21	P	P	15 03 56.4 +0.5
	baz=238					
HIN	Hinchinbrook I	83.55	27	IAMs_20	IAMs_20	15 39 40.8
	comp=Z,5µm,20.0s					
M23K	Glacier View	83.63	25	P	P	15 03 57.8 +1.2
	baz=244					
A19K	Wainwright	83.63	15	P	P	15 03 57.8 +1.4
	baz=230					
FID	Port Fidalgo	83.71	27	IAMs_20	IAMs_20	15 38 21.4
	comp=Z,5µm,18.0s					
G21K	Allakaket	83.73	20	IAMs_20	IAMs_20	15 38 58.5
	comp=Z,7µm,20.0s					
G21K	Allakaket	83.73	20	P	P	15 03 58.3 +1.3
	baz=238					
SCM	Sheep Creek Mo	83.81	25	IAMs_20	IAMs_20	15 35 54.7
	comp=Z,6µm,21.0s					
SCM	Sheep Creek Mo	83.81	25	P	P	15 03 58.6 +0.9
	baz=244					
E20K	Nigu River	83.83	18	P	P	15 03 58.6 +1.0
	baz=235					
RND	Reindeer	83.89	24	P	P	15 03 57.3 -0.7
RND	Reindeer	83.89	24	P	P	15 03 57.3 -0.7
RND				pmax	pmax	
	comp=Z,53nm,0.9s					
EYAK	Cordova Ski Ar	83.96	27	IAMs_20	IAMs_20	15 39 46.5
	comp=Z,5µm,19.0s					
D20K	Etivluk River	83.96	17	IAMs_20	IAMs_20	15 36 09.7
	comp=Z,7µm,22.0s					
D20K	Etivluk River	83.96	17	P	P	15 03 59.3 +1.1
	baz=235					
MCK	McKinley	84.01	23	P	P	15 03 58.3 -0.3
MCK				IAMs_20	IAMs_20	15 35 40.0
	comp=Z,6µm,22.0s					
MCK	McKinley	84.01	23	P	P	15 03 58.3 -0.3
MCK				pmax	pmax	
	comp=Z,70nm,1.0s					
MCK	McKinley	84.01	23	P	P	15 03 59.5 +0.9
	baz=242,SNR=20					
F21K	Alatna River	84.11	19	IAMs_20	IAMs_20	15 39 40.7
	comp=Z,6µm,20.0s					
F21K	Alatna River	84.11	19	P	P	15 04 00.3 +1.3
	baz=238					
H22K	Ishtalitna Cre	84.15	21	P	P	15 03 59.6 +0.4
	baz=240					
DIV	Divide	84.19	26	IAMs_20	IAMs_20	15 40 43.5
	comp=Z,5µm,20.0s					
KLU	Klutina	84.27	26	IAMs_20	IAMs_20	15 35 45.8
	comp=Z,6µm,22.0s					
KLU	Klutina	84.27	26	P	P	15 04 00.8 +0.8
	baz=245					
KAIM	Kayak Island	84.31	28	P	P	15 04 01.2 +1.1
	baz=247					
NEA2	Nenana	84.36	23	IAmb	IAmb	15 04 17.8
	comp=Z,18nm,0.8s					
NEA2				IAMs_20	IAMs_20	15 39 52.2
	comp=Z,5µm,20.0s					
NEA2	Nenana	84.36	23	P	P	15 04 01.3 +1.0
	baz=242,SNR=11					
RAGM	Ragged Mountai	84.38	27	IAMs_20	IAMs_20	15 37 25.5
	comp=Z,6µm,19.0s					
M24K	Tolsona, Glenn	84.42	25	IAMs_20	IAMs_20	15 35 18.8
	comp=Z,7µm,22.0s					
M24K	Tolsona, Glenn	84.42	25	P	P	15 04 01.3 +0.6
	baz=245					
I23K	Minto, Yukon-K	84.52	22	P	P	15 04 01.7 +0.7
	baz=242					
HMT	Hamilton	84.55	27	IAMs_20	IAMs_20	15 37 09.0
	comp=Z,6µm,20.0s					
B20K	Meade River	84.56	16	IAmb	IAmb	15 04 09.2
	comp=Z,16nm,0.8s					
B20K				IAMs_20	IAMs_20	15 39 25.6
	comp=Z,5µm,20.0s					
B20K	Meade River	84.56	16	P	P	15 04 02.2 +1.1
	baz=234					
E21K	Killik River	84.62	18	IAmb	IAmb	15 04 13.7
	comp=Z,23nm,0.8s					
E21K				IAMs_20	IAMs_20	15 39 50.9
	comp=Z,5µm,20.0s					
E21K	Killik River	84.62	18	P	P	15 04 02.1 +0.6
	baz=237					
G22K	Bettles	84.62	20	P	P	15 04 02.4 +0.9
	baz=240					
BMRM	Bremner River	84.64	27	IAMs_20	IAMs_20	15 40 10.6
	comp=Z,5µm,20.0s					
BMRM	Bremner River	84.64	27	P	P	15 04 02.8 +1.0
	baz=246					
WRH	Wood River Hil	84.68	23	IAmb	IAmb	15 04 12.6
	comp=Z,40nm,1.1s					
F22K	John River	84.69	19	P	P	15 04 03.1 +1.1
	baz=239					
C21K	Knifeblade Rid	84.76	17	P	P	15 04 03.2 +1.0
	baz=236,SNR=7.4					
H23K	Yukon River	84.77	21	IAmb	IAmb	15 04 17.0
	comp=Z,63nm,1.8s					
H23K	Yukon River	84.77	21	P	P	15 04 03.2 +0.8
	baz=242					
BERG	Berg Lake	84.82	27	IAMs_20	IAMs_20	15 45 28.4
	comp=Z,5µm,18.0s					
BTK	Batken	84.86	311	P	P	15 04 03.1 -0.3
BTK				IAmb	IAmb	15 05 02.0
	comp=Z,58nm,1.8s					
BTK	Batken	84.86	311	P	P	15 04 03.2 -0.3
BTK				pmax	pmax	
	comp=Z,58nm,1.8s					
CCB	Clear Creek Bu	84.87	23	IAmb	IAmb	15 04 19.7
	comp=Z,21nm,0.9s					
CCB				IAMs_20	IAMs_20	15 39 55.7
	comp=Z,5µm,20.0s					
N25K	Chitina, Valde	84.90	26	P	P	15 04 04.2 +1.1
	baz=246					
BGLC	Bering Glacier	84.91	28	P	P	15 04 04.2 +1.1
	baz=248					
COLA	College	84.96	23	P	P	15 04 02.4 -0.8
COLA				IAmb	IAmb	15 04 11.4
	comp=Z,34nm,0.9s					
COLA	College	84.96	23	IAMs_20	IAMs_20	15 40 07.8
	comp=Z,5µm,20.0s					
COLA	College	84.96	23	P	P	15 04 04.0 +0.8
COLA	College	84.96	23 ||	e P	P	15 04 03.4 +0.2
COLA				pmax	pmax	
	comp=Z,42nm,1.1s					
COLA	College	84.96	23	P	P	15 04 03.4 +0.2
	baz=243					
COLA	College	84.96	23	P	P	15 03 58.7 -4.5
HARP	HAARP	84.98	25	P	P	15 04 03.6 +0.2
	baz=246					
GAR	Garm	85.00	310	IAmb	IAmb	15 05 10.0
	comp=Z,34nm,1.2s					
G23K	Bananza Creek	85.03	21	P	P	15 04 03.2 -0.5
G23K				IAmb	IAmb	15 04 19.5
	comp=Z,28nm,0.9s					
G23K				IAMs_20	IAMs_20	15 36 22.8
	comp=Z,9µm,22.0s					
G23K	Bananza Creek	85.03	21	P	P	15 04 04.5 +0.8
	baz=241					
B21K	Ikpikpuk River	85.07	17	P	P	15 04 03.3 -0.4
B21K				IAmb	IAmb	15 04 11.7
	comp=Z,19nm,0.8s					
B21K				IAMs_20	IAMs_20	15 36 45.9
	comp=Z,7µm,22.0s					
B21K	Ikpikpuk River	85.07	17	P	P	15 04 04.4 +0.7
	baz=236,SNR=18					
PAX	Paxson	85.08	25	IAMs_20	IAMs_20	15 38 18.2
	comp=Z,5µm,20.0s					
PAX	Paxson	85.08	25	P	P	15 04 04.4 +0.3

baz=246
HDA Harding Lake 85.10 23 P P 15 04 04.0 0.0
baz=244
DZA Taraz 85.12 314 *e*P **P 15 04 04.9 +0.3**
DZA pmax pmax
comp=Z,11nm,0.6s
DZA Taraz 85.12 314 *e*P **P 15 04 05.0 +0.3**
comp=Z,11nm,0.6s
E22K Anaktuvuk Pass 85.14 19 IAmb IAmb 15 04 18.9
comp=Z,16nm,0.7s
E22K IAMs_20 IAMs_20 15 37 46.7
comp=Z,6µm,21.0s
E22K Anaktuvuk Pass 85.14 19 P P 15 04 04.9 +0.8
baz=239,SNR=14
COLD Coldfoot 85.22 20 IAmb IAmb 15 04 16.9
comp=Z,20nm,1.0s
COLD IAMs_20 IAMs_20 15 36 17.7
comp=Z,8µm,22.0s
COLD Coldfoot 85.22 20 P P 15 04 05.3 +0.8
baz=241
POKR Poker Plat Res 85.23 22 P P 15 04 04.8 +0.1
baz=244
WAX Waxell Ridge 85.24 28 IAMs_20 IAMs_20 15 43 44.3
comp=Z,4µm,18.0s
D22K Ayikyak River 85.25 18 IAmb IAmb 15 04 17.3
comp=Z,25nm,0.8s
D22K IAMs_20 IAMs_20 15 39 32.7
comp=Z,6µm,20.0s
D22K Ayikyak River 85.25 18 P P 15 04 05.1 +0.5
baz=238,SNR=12
IL31 85.28 23 P P 15 04 03.6 -1.2
IL31 IAmb IAmb 15 04 21.9
comp=Z,21nm,0.7s
ILAR Eielson Array 85.28 23 P P 15 04 03.7 -1.2
ILAR Eielson Array 85.28 23 P P 15 04 03.4 -1.5
comp=Z,11nm,0.8s,baz=253,slow=5.1,SNR=21
ILAR LR LR 15 39 48.4
comp=Z,3µm,20.0s,baz=237,slow=34
comp=Z,11nm,0.8s
ILAR Eielson Array 85.28 23 P P 15 04 03.7 -1.2
K24K Donnelly Dome 85.30 24 IAmb IAmb 15 04 18.9
comp=Z,37nm,0.9s
K24K Donnelly Dome 85.30 24 P P 15 04 05.6 +0.5
baz=245
H24K Noodor Dome 85.38 22 P P 15 04 05.2 -0.2
H24K IAMs_20 IAMs_20 15 42 27.2
comp=Z,5µm,19.0s
H24K Noodor Dome 85.38 22 P P 15 04 06.1 +0.7
baz=243
A21K Barrow 85.48 15 P P 15 04 06.7 +1.0
baz=234
MESA MESA 85.55 28 P P 15 04 06.6 0.0
baz=249
RIDG Independent Ri 85.66 24 IAmb IAmb 15 04 21.8
comp=Z,40nm,1.0s
RIDG IAMs_20 IAMs_20 15 38 57.4
comp=Z,8µm,21.0s
RIDG Independent Ri 85.66 24 P P 15 04 06.9 0.0
baz=246
KK31 Karatay Array 85.75 314 P P 15 04 07.2 -0.6
KK31 IAmb IAmb 15 05 06.2
comp=Z,23nm,1.1s
KK31 Karatay Array 85.75 314 *i* P **P 15 04 06.8 -1.0**
KKAR Karatay Array 85.75 314 P P 15 04 07.2 -0.6
KKAR IAmb IAmb 15 05 06.2
comp=Z,24nm,1.1s
KKAR Karatay Array 85.75 314 P P 15 04 06.9 -0.8
KKAR Karatay Array 85.75 314 P P 15 04 07.2 -0.6
KKAR pmax pmax
comp=Z,24nm,1.1s
J25K Salcha River, 85.81 23 P P 15 04 06.5 -1.1
J25K Salcha River, 85.81 23 P P 15 04 08.0 +0.4
baz=246,SNR=15
B22K Teshekpuk Lake 85.81 17 P P 15 04 06.7 -0.6
B22K IAmb IAmb 15 04 16.6
comp=Z,14nm,0.8s
B22K IAMs_20 IAMs_20 15 40 07.4
comp=Z,6µm,20.0s
B22K Teshekpuk Lake 85.81 17 P P 15 04 07.7 +0.3
baz=238,SNR=7.9
E23K Chandalar 85.81 19 P P 15 04 07.7 +0.1
E23K IAmb IAmb 15 04 21.5
comp=Z,20nm,0.8s
E23K IAMs_20 IAMs_20 15 41 44.6
comp=Z,7µm,20.0s
E23K Chandalar 85.81 19 P P 15 04 08.0 +0.4
baz=241,SNR=15
IUG Iuzhnay 85.89 313 *e*P **P 15 04 08.7 +0.1**
IUG pmax pmax
comp=Z,9.0nm,0.9s
IUG Iuzhnay 85.89 313 *e*P **P 15 04 08.7 +0.1**
comp=Z,8.8nm,0.9s
M26K Nabesna, AK 85.91 26 IAMs_20 IAMs_20 15 36 04.0
comp=Z,7µm,22.0s
M26K Nabesna, AK 85.91 26 P P 15 04 09.0 +0.9
baz=248
D23K Nanushuk River 85.92 18 P P 15 04 09.3 +1.3
D23K IAMs_20 IAMs_20 15 42 10.3
comp=Z,7µm,19.0s
D23K Nanushuk River 85.92 18 P P 15 04 09.2 +1.3
baz=240,SNR=33
G24K Hadweenzic Riv 85.92 21 P P 15 04 07.1 -1.0
G24K IAmb IAmb 15 04 20.6
comp=Z,34nm,1.2s
G24K Hadweenzic Riv 85.92 21 P P 15 04 09.0 +1.0
baz=243
SIMJ Simiganj 85.93 309 P P 15 04 07.7 -1.2
DOT Dot Lake 85.94 24 P P 15 04 09.1 +0.9
DOT IAmb IAmb 15 04 23.6
comp=Z,41nm,1.0s
DOT IAMs_20 IAMs_20 15 40 43.8
comp=Z,6µm,20.0s
BRZS Berezniki 85.95 321 *e*P **P 15 04 08.8 +0.2**
BRZS Berezniki 85.95 321 *e*P **P 15 04 08.8 +0.2**
L26K Log Cabin Wild 85.99 25 P P 15 04 08.3 -0.2
L26K IAmb IAmb 15 04 24.0
comp=Z,18nm,1.0s
L26K IAMs_20 IAMs_20 15 37 55.3
comp=Z,7µm,20.0s
L26K Log Cabin Wild 85.99 25 P P 15 04 09.3 +0.8
baz=247
SCRK Sand Creek 86.10 24 P P 15 04 09.0 -0.1
SCRK IAmb IAmb 15 04 23.2
comp=Z,19nm,0.9s
SCRK IAMs_20 IAMs_20 15 39 11.1
comp=Z,7µm,21.0s
SCRK Sand Creek 86.10 24 P P 15 04 09.3 +0.2
baz=247
DZET Dzherino 86.10 310 P P 15 04 07.6 -2.1
DZET pmax pmax
comp=Z,16nm,0.7s
TOLK Toolik Lake Re 86.11 19 P P 15 04 07.9 -1.1
TOLK IAmb IAmb 15 04 25.0
comp=Z,26nm,1.0s
TOLK Toolik Lake Re 86.11 19 P P 15 04 10.0 +1.0
baz=241,SNR=16
PRP Porcupine Dome 86.12 22 P P 15 04 09.6 +0.4
baz=245
F24K Squaw Lake 86.14 20 P P 15 04 09.3 +0.1
F24K IAmb IAmb 15 04 25.0
comp=Z,24nm,0.8s
F24K Squaw Lake 86.14 20 P P 15 04 09.9 +0.7
baz=243,SNR=21
E24K Your Creek 86.20 20 P P 15 04 09.5 +0.1
E24K IAMs_20 IAMs_20 15 37 57.7
comp=Z,6µm,21.0s
E24K Your Creek 86.20 20 P P 15 04 10.6 +1.2
baz=242
NRIK Noril'sk 86.21 342 P P 15 04 09.4 0.0
NRIK IAmb IAmb 15 04 53.9
comp=Z,24nm,1.2s
NRIK Noril'sk 86.21 342 P P 15 04 08.3 -1.0
comp=Z,5.4nm,0.7s,baz=102,slow=4.7,SNR=7.2
NRIK LR LR 15 43 00.4
comp=Z,2µm,18.9s,baz=123,slow=36
comp=Z,5.4nm,0.7s
NRIK Noril'sk 86.21 342 *ce*P **P 15 04 07.7 -1.7**
NRIK pmax pmax
comp=Z,12nm,0.9s
BRLS Boroldoy 86.22 314 *e*P **P 15 04 10.7 +0.6**
BRLS Boroldoy 86.22 314 *e*P **P 15 04 10.7 +0.6**
PINM Pinnacle 86.32 28 P P 15 04 10.9 +0.7
baz=250
H25L Birch Creek 86.33 22 P P 15 04 10.9 +0.9
baz=245
C23K Itkillik River 86.37 18 P P 15 04 10.6 +0.4
C23K IAMs_20 IAMs_20 15 37 48.3
comp=Z,8µm,22.0s
C23K Itkillik River 86.37 18 P P 15 04 11.5 +1.3
baz=240,SNR=25
M27K Edge Creek, AK 86.37 26 P P 15 04 11.1 +0.6
M27K IAMs_20 IAMs_20 15 37 16.4
comp=Z,6µm,22.0s
M27K Edge Creek, AK 86.37 26 P P 15 04 11.3 +0.8
baz=249,SNR=11
G25K Bearman Lake 86.44 21 P P 15 04 11.8 +1.2
baz=245
J26L Joseph Creek 86.47 24 P P 15 04 09.8 -1.2
J26L IAmb IAmb 15 04 22.3
comp=Z,15nm,0.8s
J26L Joseph Creek 86.47 24 P P 15 04 11.5 +0.5
baz=247,SNR=7.1
O28M Mount Upton 86.58 28 P P 15 04 12.4 +0.6
baz=250
PNL Peninsula 86.59 29 P P 15 04 12.0 +0.5
baz=251
D24K Happy Valley 86.59 19 P P 15 04 11.6 +0.3
D24K IAmb IAmb 15 04 31.6
comp=Z,20nm,0.8s
D24K IAMs_20 IAMs_20 15 39 57.2
comp=Z,6µm,20.0s
D24K Happy Valley 86.59 19 P P 15 04 12.7 +1.4
baz=242,SNR=14
L27K Beaver Creek, 86.65 25 P P 15 04 11.2 -0.6
L27K IAmb IAmb 15 04 24.0
comp=Z,25nm,1.1s
L27K IAMs_20 IAMs_20 15 36 59.7
comp=Z,8µm,22.0s
L27K Beaver Creek, 86.65 25 P P 15 04 12.3 +0.6
baz=249,SNR=16
FYU Fort Yukon 86.67 21 P P 15 04 11.3 -0.4
FYU IAmb IAmb 15 04 23.9
comp=Z,42nm,1.1s
BCAR Beaver Creek A 86.67 25 P P 15 04 12.9 +1.0
YUK3 Moose Creek 86.80 27 P P 15 04 13.0 +0.3
baz=250
BVCY Beaver Creek 86.84 26 P P 15 04 13.1 +0.4
baz=250,SNR=8.1
C24K Franklin Bluff 86.90 18 P P 15 04 12.7 0.0
C24K IAMs_20 IAMs_20 15 37 41.2
comp=Z,6µm,22.0s
C24K Franklin Bluff 86.90 18 P P 15 04 13.8 +1.1
baz=242
K27K Chicken 86.90 24 P P 15 04 12.4 -0.5
K27K IAMs_20 IAMs_20 15 39 25.2
comp=Z,7µm,20.0s
K27K Chicken 86.90 24 P P 15 04 14.1 +1.2
baz=248
YUK8 Steele Glacier 86.94 27 P P 15 04 14.4 +0.9
baz=251,SNR=6.5
I26K Coal Creek Min 86.95 23 P P 15 04 12.6 -0.5
I26K Coal Creek Min 86.95 23 P P 15 04 13.8 +0.7
baz=248
F25K Christian Rive 86.95 20 P P 15 04 12.7 -0.5
F25K IAMs_20 IAMs_20 15 40 58.7
comp=Z,4µm,20.0s
F25K Christian Rive 86.95 20 P P 15 04 13.9 +0.8
baz=245
O29M Mount Kennedy 87.18 28 IAMs_20 IAMs_20 15 40 31.7
comp=Z,4µm,19.0s
O29M Mount Kennedy 87.18 28 P P 15 04 15.1 +0.6
baz=252
E25K Arctic Village 87.20 20 IAMs_20 IAMs_20 15 38 15.2
comp=Z,7µm,22.0s
E25K Arctic Village 87.20 20 P P 15 04 15.6 +1.3
baz=245
BMAR Burnt Mountain 87.26 21 P P 15 04 15.0 +0.3
G26K Porcupine Rive 87.35 21 P P 15 04 16.0 +1.0
G26K IAmb IAmb 15 04 31.0
comp=Z,27nm,0.8s
G26K IAMs_20 IAMs_20 15 43 46.1
comp=Z,5µm,20.0s
G26K Porcupine Rive 87.35 21 P P 15 04 16.5 +1.5
baz=247
P29M Windy Craggy 87.38 29 P P 15 04 16.0 +0.7
baz=253
D25K Kavik River 87.45 19 P P 15 04 15.2 -0.3
D25K IAmb IAmb 15 04 24.8
comp=Z,26nm,1.0s
D25K IAMs_20 IAMs_20 15 39 51.8
comp=Z,5µm,20.0s
D25K Kavik River 87.45 19 P P 15 04 16.7 +1.2
baz=244
YUK4 Talbot Arm 87.47 27 P P 15 04 16.9 +0.9
baz=252,SNR=7.8
YUK6 Outpost Mounta 87.48 28 P P 15 04 16.6 +0.6
baz=252
F26K Sheenjek River 87.52 21 P P 15 04 15.7 -0.2
F26K IAmb IAmb 15 04 29.3
comp=Z,16nm,0.9s
F26K IAMs_20 IAMs_20 15 38 13.6
comp=Z,7µm,22.0s
F26K Sheenjek River 87.52 21 P P 15 04 17.1 +1.2
baz=246,SNR=12
S31K Pelican 87.65 31 IAMs_20 IAMs_20 15 45 20.1
comp=Z,5µm,20.0s
I27K Kandik River 87.65 23 P P 15 04 17.7 +1.1
baz=249,SNR=9.8
HYT Haines Junctio 87.84 28 P P 15 04 17.4 -0.2
HYT Haines Junctio 87.84 28 P P 15 04 17.9 +0.2
baz=253,SNR=16
SIT Sitka 87.88 32 P P 15 04 19.1 +1.4
baz=255
P30M Million Dollar 87.90 29 P P 15 04 19.2 +1.3
baz=253
M29M Somme Creek 87.90 26 P P 15 04 17.9 0.0
M29M IAmb IAmb 15 04 37.1
comp=Z,19nm,0.8s
M29M Somme Creek 87.90 26 P P 15 04 19.8 +1.9
baz=252,SNR=16
H27K Steamboat Moun 87.91 22 P P 15 04 18.0 +0.2
H27K IAmb IAmb 15 04 33.5
comp=Z,32nm,0.9s
H27K Steamboat Moun 87.91 22 P P 15 04 19.5 +1.7
baz=249,SNR=14
DAWY Dawson 88.02 25 P P 15 04 18.3 0.0
DAWY Dawson 88.02 25 P P 15 04 20.2 +1.9
baz=251,SNR=13
G27K Doyon Strip 88.08 22 P P 15 04 20.0 +1.4
baz=249
BVA0 Borovoye Array 88.08 324 *i* P **P 15 04 17.5 -1.3**
BVAR Borovoye Array 88.08 324 P P 15 04 17.7 -1.1
comp=Z,9.6nm,0.9s,baz=107,slow=5.1,SNR=30
BVAR LR LR 15 43 49.0
comp=Z,2µm,21.0s,baz=90,slow=36
comp=Z,9.6nm,0.9s
BRVK Borovoye 88.15 324 P **P 15 04 18.3 -0.8**
BRVK Borovoye 88.15 324 *ce*P **P 15 04 18.3 -0.8**
BRVK pmax pmax
comp=Z,6.0nm,1.1s
C26K Camden Bay 88.17 18 P P 15 04 20.4 +1.6
baz=246,SNR=17
N30M Aishikik Lake 88.22 28 IAmb IAmb 15 05 08.1
comp=Z,30nm,1.2s
N30M Aishikik Lake 88.22 28 P P 15 04 20.4 +1.0
baz=253,SNR=7.6
L29M L29M 88.25 26 P P 15 04 19.1 -0.3
L29M IAMs_20 IAMs_20 15 42 49.0
comp=Z,5µm,20.0s
L29M L29M 88.25 26 P P 15 04 20.2 +0.7
baz=252,SNR=14
I28M Miner Creek 88.26 23 IAmb IAmb 15 04 40.6
comp=Z,21nm,1.1s
I28M IAMs_20 IAMs_20 15 38 12.1
comp=Z,7µm,22.0s
I28M Miner Creek 88.26 23 P P 15 04 20.1 +0.6
baz=250,SNR=9.5
S32K Killisnoo 88.38 32 IAMs_20 IAMs_20 15 41 23.4
comp=Z,7µm,19.0s
S32K Killisnoo 88.38 32 P P 15 04 21.1 +1.0
baz=255
C27K Jago River 88.43 19 P P 15 04 20.8 +0.7
C27K IAMs_20 IAMs_20 15 41 24.7
comp=Z,6µm,20.0s
C27K Jago River 88.43 19 P P 15 04 21.4 +1.3
baz=247
O30N Mendenhall 88.49 28 IAmb IAmb 15 04 39.8
comp=Z,29nm,0.9s
O30N IAMs_20 IAMs_20 15 41 55.4
comp=Z,4µm,19.0s
O30N Mendenhall 88.49 28 P P 15 04 20.9 +0.2
baz=254,SNR=6.4
SKAG Skagway 88.51 30 P P 15 04 21.8 +1.2
baz=255
BESE Bessie Mountai 88.52 31 IAMs_20 IAMs_20 15 40 18.0
comp=Z,4µm,19.0s
E27K Coleen River 88.59 21 IAmb IAmb 15 04 45.4
comp=Z,31nm,1.1s
E27K IAMs_20 IAMs_20 15 37 36.1
comp=Z,7µm,22.0s
E27K Coleen River 88.59 21 P P 15 04 21.9 +0.9
baz=249,SNR=21
R32K Eaglecrest 88.61 31 IAMs_20 IAMs_20 15 40 19.5
comp=Z,5µm,19.0s
J29N Klondike Camp 88.63 25 IAmb IAmb 15 04 34.0
comp=Z,34nm,1.1s
J29N Klondike Camp 88.63 25 P P 15 04 22.8 +1.5
baz=252,SNR=7.5
CRAG Craig 88.68 34 P P 15 04 22.3 +0.7
baz=257
M30M Minto, Yukon 88.68 27 P P 15 04 21.7 +0.2
M30M IAmb IAmb 15 05 13.0
comp=Z,42nm,1.5s
M30M Minto, Yukon 88.68 27 P P 15 04 22.9 +1.4
baz=253
K29M Barlow Dome 88.73 25 P P 15 04 21.2 -0.7
K29M IAMs_20 IAMs_20 15 38 49.8
comp=Z,5µm,21.0s
K29M Barlow Dome 88.73 25 P P 15 04 22.8 +1.0
baz=253,SNR=22
U33K Whale Pass 88.83 33 IAMs_20 IAMs_20 15 35 34.3
comp=Z,7µm,21.0s
N31M Braeburn, Yuko 88.83 28 P P 15 04 23.1 +0.9
baz=254
I29M Ogilvie Camp, 88.87 24 P P 15 04 22.1 -0.2
I29M IAMs_20 IAMs_20 15 42 34.5
comp=Z,6µm,20.0s
I29M Ogilvie Camp, 88.87 24 P P 15 04 23.5 +1.1
baz=252
WHY Whitehorse 89.04 29 P P 15 04 22.0 -1.3
WHY Whitehorse 89.04 29 P P 15 04 24.1 +0.8
baz=255
H29M Whitestone 89.12 23 IAMs_20 IAMs_20 15 38 51.9
comp=Z,5µm,21.0s
H29M Whitestone 89.12 23 P P 15 04 24.6 +1.2
baz=252
D27M Malcolm River 89.19 20 IAmb IAmb 15 04 43.9
comp=Z,18nm,0.8s
D27M Malcolm River 89.19 20 P P 15 04 25.2 +1.4
baz=249
WRAK Wrangell Islan 89.32 33 IAMs_20 IAMs_20 15 39 02.3
comp=Z,6µm,20.0s
WRAK Wrangell Islan 89.32 33 P P 15 04 25.1 +0.6
baz=257
P32M Atlin 89.34 30 P P 15 04 26.0 +1.4
baz=256
J30M Hart River 89.44 25 P P 15 04 24.5 -0.7
J30M IAmb IAmb 15 05 11.9
comp=Z,31nm,1.3s
J30M Hart River 89.44 25 P P 15 04 25.9 +0.7
baz=254,SNR=8.2
E28M Babbage River 89.46 20 P P 15 04 26.0 +1.0
baz=251
G29M Pine Creek 89.46 22 IAmb IAmb 15 04 46.8
comp=Z,28nm,1.1s
G29M Pine Creek 89.46 22 P P 15 04 26.4 +1.4
baz=252
V35K Ketchikan 89.48 34 IAMs_20 IAMs_20 15 39 15.8
comp=Z,7µm,20.0s
V35K Ketchikan 89.48 34 P P 15 04 26.1 +0.8
baz=258
I30M Mount Dempster 89.61 24 IAmb IAmb 15 05 40.0
comp=Z,27nm,1.3s
I30M IAMs_20 IAMs_20 15 41 18.9
comp=Z,6µm,20.0s
I30M Mount Dempster 89.61 24 P P 15 04 26.7 +0.8
baz=254,SNR=6.8
M31M Drury Creek, Y 89.66 27 IAMs_20 IAMs_20 15 40 22.2
comp=Z,5µm,20.0s
M31M Drury Creek, Y 89.66 27 P P 15 04 27.2 +1.1
baz=256
EPYK Eagle Plains 89.80 23 IAmb IAmb 15 04 48.2
comp=Z,20nm,0.8s
EPYK IAMs_20 IAMs_20 15 39 11.9
comp=Z,5µm,22.0s
EPYK Eagle Plains 89.80 23 P P 15 04 27.4 +0.8
baz=253,SNR=8.7
Q32M Nakina River 89.92 31 IAMs_20 IAMs_20 15 41 30.0
comp=Z,4µm,19.0s
Q32M Nakina River 89.92 31 P P 15 04 28.2 +0.6
baz=257
P33M Teslin, Yukon 89.92 29 P P 15 04 27.7 +0.3
baz=257
E29M Blow River 89.96 21 IAmb IAmb 15 04 52.8
comp=Z,26nm,1.6s
E29M IAMs_20 IAMs_20 15 43 14.2
comp=Z,4µm,20.0s
E29M Blow River 89.96 21 P P 15 04 27.7 +0.4
baz=252
D28M Stokes Point 89.96 20 P P 15 04 28.0 +0.7
baz=252
CRZF Crozet Islands 90.00 223 IAMs_20 IAMs_20 15 40 19.2
comp=Z,5µm,21.0s
N32M Quiet Lake 90.01 28 P P 15 04 27.9 +0.2
baz=257
FARO Faro, Yukon 90.14 27 P P 15 04 29.0 +0.7
baz=256
G30M tAoh Zraii Nji 90.16 22 P P 15 04 27.6 -0.7
G30M IAmb IAmb 15 04 43.1
comp=Z,42nm,1.4s
G30M IAMs_20 IAMs_20 15 41 11.5
comp=Z,6µm,22.0s
G30M tAoh Zraii Nji 90.16 22 P P 15 04 28.5 +0.2
baz=254
S34M Telegraph Cree 90.28 32 IAMs_20 IAMs_20 15 38 16.7
comp=Z,7µm,22.0s
S34M Telegraph Cree 90.28 32 P P 15 04 28.7 -0.3
baz=258
F30M Barrier River 90.50 22 IAmb IAmb 15 04 41.1
comp=Z,28nm,0.9s
F30M Barrier River 90.50 22 P P 15 04 30.3 +0.5
baz=254,SNR=10
T35M Bob Quinn 90.56 33 IAMs_20 IAMs_20 15 38 53.2
comp=Z,7µm,20.0s
T35M Bob Quinn 90.56 33 P P 15 04 30.8 +0.4
baz=259
H31M Peel River 90.58 24 IAmb IAmb 15 04 41.8
comp=Z,17nm,1.0s
H31M IAMs_20 IAMs_20 15 40 27.6
comp=Z,5µm,22.0s
H31M Peel River 90.58 24 P P 15 04 31.3 +1.0
baz=256,SNR=7.2
HRA Herat 90.61 304 IAmb IAmb 15 05 08.9
comp=Z,17nm,1.2s
R33M Jennings River 90.66 30 P P 15 04 31.5 +0.6
baz=258
SYO Syowa Base 90.71 200‖ *e*PcP **PcP 15 04 32.8 +0.9**
SYO Syowa Base 90.71 200‖ *e*pP pP 15 04 40.6 -1.6
SYO Syowa Base 90.71 200‖ *es*P sP 15 04 44.9 -1.5
G31M Satah River 90.89 23 IAmb IAmb 15 04 45.0
comp=Z,19nm,0.7s
G31M IAMs_20 IAMs_20 15 39 20.7
comp=Z,6µm,22.0s
G31M Satah River 90.89 23 P P 15 04 32.8 +1.2
baz=256,SNR=14
F31M Tsiigehtchic 91.21 22 IAmb IAmb 15 04 46.6
comp=Z,11nm,0.8s
F31M IAMs_20 IAMs_20 15 42 03.3
comp=Z,5µm,21.0s
F31M Tsiigehtchic 91.21 22 P P 15 04 34.1 +1.0
baz=256,SNR=7.2
WTLY Watson Lake, Y 91.87 30 IAmb IAmb 15 04 48.2
comp=Z,17nm,1.1s
WTLY Watson Lake, Y 91.87 30 P P 15 04 37.5 +1.1
baz=260
KMPM Mount Pierce 92.07 50 IAMs_20 IAMs_20 15 40 26.4
comp=Z,5µm,19.0s
KBO Bosley Butte 92.20 48 IAMs_20 IAMs_20 15 38 53.7
comp=Z,7µm,21.0s
KRPM Rodgers 92.23 49 IAMs_20 IAMs_20 15 40 11.5
comp=Z,6µm,20.0s
TGTN Hyland Airport 92.36 28 P P 15 04 39.7 +1.0
baz=261
J01E Myrtle Point 92.53 47 IAMs_20 IAMs_20 15 41 07.2
comp=Z,6µm,19.0s
K02D Willamette Mer 92.67 48 IAMs_20 IAMs_20 15 43 42.0
comp=Z,6µm,19.0s
MCCM Marconi Confer 92.78 52 IAMs_20 IAMs_20 15 40 33.3
comp=Z,6µm,20.0s
LIRD Liard River Hi 93.12 31 P P 15 04 42.6 +0.4
baz=263
YBH Yreka Blue Hor 93.27 49 LR LR 15 40 19.0

comp=Z,8μm,20.2s,baz=274,slow=31
TOAD Toad River Com 93.50 31 P **P 15 04 44.7 +0.8**
baz=263
L04D Klamath Falls 93.62 48 IAMs_20 IAMs_20 15 39 59.3
comp=Z,6μm,20.0s
SAO San Andreas Ge 93.78 54 IAMs_20 IAMs_20 15 41 15.9
comp=Z,7μm,20.0s
J04A Umpqua Nationa 93.86 47 IAMs_20 IAMs_20 15 42 18.5
comp=Z,7μm,20.0s
AB31 Akbulak array 93.97 319 P **P 15 04 45.3 -1.0**
AB31 Akbulak array 93.97 319 *i* P **P 15 04 44.8 -1.5**
ABKAR Akbulak array 93.97 319 P **P 15 04 45.2 -1.1**
ORV Oroville 93.99 51 IAMs_20 IAMs_20 15 40 47.1
comp=Z,5μm,20.0s
K04D Chiloquin, OR 94.06 48 IAMs_20 IAMs_20 15 45 50.0
comp=Z,5μm,18.0s
BBGB Big Mountain B 94.09 54 IAMs_20 IAMs_20 15 41 45.1
comp=Z,6μm,20.0s
HATC Hat Creek Radi 94.13 50 IAMs_20 IAMs_20 15 55 39.8
comp=Z,4μm,18.0s
ELIB Princess Elisa 94.16 195 *d*P **P 15 04 48.0 +1.0**
comp=Z,21nm,1.1s
KOTAN Kotaneelee Air 94.23 30 P **P 15 04 47.9 +0.6**
baz=264
J05D Fort Rock, OR 94.50 47 IAMs_20 IAMs_20 15 43 08.4
comp=Z,6μm,20.0s
CMB Columbia Colle 94.73 52 IAMs_20 IAMs_20 15 43 54.9
comp=Z,5μm,19.0s
PINE Pine Mountain 94.75 47 IAMs_20 IAMs_20 15 42 09.1
comp=Z,7μm,20.0s
WRGLY Wrigley 94.79 27 P **P 15 04 50.5 +0.8**
baz=265
UOSS Minazif 94.86 294 S **S 15 16 00.9 -1.3**
A36M Sachs Harbour 94.91 18 P **P 15 04 50.6 +0.6**
baz=264
C36M Paulatuk 95.05 21 P **P 15 04 51.6 +0.8**
C36M Paulatuk 95.05 21 P **P 15 04 51.6 +0.8**
baz=265
BCW Bitter Crk WRg 95.28 56 IAMs_20 IAMs_20 15 40 38.7
comp=Z,5μm,20.0s
AKTO Aktyubinsk 95.31 320 LR LR 15 47 47.9
comp=Z,3μm,21.8s,baz=62,slow=36
ARTI Arti 95.45 326 LR LR 15 50 00.0
comp=Z,3μm,19.1s,baz=100,slow=37
ARTI Arti 95.45 326 P P 15 04 46.7 -6.2
ARTI S **SKSac 15 15 18.7 -6.7**
ARTI SP **SP 15 17 22.8 -0.5**
ARTI MLR MLR
comp=Z,3μm,19.0s
WAKR Walker 95.51 52 IAMs_20 IAMs_20 15 42 10.5
comp=Z,5μm,21.0s
BELA Belgrano 2 95.76 179 P **P 15 04 54.5 +0.4**
ISA Isabella, Lake 96.09 55 IAMs_20 IAMs_20 15 43 14.2
comp=Z,5μm,20.0s
LHV Little Huntoon 96.22 52 P **P 15 04 57.1 +0.3**
LHV IAmb IAmb 15 05 08.3
comp=Z,9.1nm,0.9s
LHV IAMs_20 IAMs_20 15 44 53.5
comp=Z,5μm,19.0s
RYN Ryan 96.23 52 IAMs_20 IAMs_20 15 42 44.6
comp=Z,5μm,20.0s
NVAR Mina Array Bea 96.39 52 P **P 15 04 56.5 -1.4**
NVAR Mina Array Bea 96.39 52 P **P 15 04 59.0 +1.0**
comp=Z,3.0nm,0.7s,baz=250,slow=6.3,SNR=14
NVAR PP **PP 15 08 51.9 -0.2**
comp=Z,0.2nm,0.3s,baz=275,slow=9.0,SNR=1.3
NVAR PKIKP **PKiKP 15 09 36.8 +1.1**
comp=Z,0.8nm,0.8s,baz=300,slow=4.3,SNR=1.8
NVAR LR LR 15 45 06.0
comp=Z,3μm,18.5s,baz=270,slow=33
comp=Z,3.0nm,0.7s
CCAC Calif City Air 96.44 55 IAMs_20 IAMs_20 15 40 14.3
comp=Z,6μm,21.0s
NV11 Mina Array Sit 96.51 52 P **P 15 04 59.0 +0.7**
NV11 IAmb IAmb 15 05 27.9
comp=Z,17nm,1.5s
J08A Circle Bar Ran 96.51 47 IAMs_20 IAMs_20 15 45 01.8
comp=Z,6μm,19.0s
DSP Deep Springs 96.60 53 IAmb IAmb 15 05 28.3
comp=Z,23nm,1.6s
DSP IAMs_20 IAMs_20 15 43 05.4
comp=Z,6μm,20.0s
GRAC Grapevine Rang 97.06 54 IAMs_20 IAMs_20 15 43 18.7
comp=Z,6μm,20.0s
Q09A Carvers 97.29 52 IAMs_20 IAMs_20 15 43 18.6
comp=Z,6μm,21.0s
BMO Blue Mountains 97.41 46 IAMs_20 IAMs_20 15 42 22.8
comp=Z,5μm,20.0s
GSC Goldstone, Bar 97.43 55 IAMs_20 IAMs_20 15 40 54.7
comp=Z,4μm,21.0s
GWY Greenwater Val 97.58 54 IAMs_20 IAMs_20 15 45 12.6
comp=Z,5μm,19.0s
NEW Newport 97.62 42 IAMs_20 IAMs_20 15 44 12.3
comp=Z,6μm,20.0s
NEW Newport 97.62 42 LR LR 15 44 52.0
comp=Z,5μm,19.1s,baz=266,slow=33
PFO Pinyon Flats O 97.64 57 LR LR 15 41 38.3
comp=Z,10μm,20.8s,baz=282,slow=31
NVL N'lazarevskaya 97.73 193 *e*P Pdif 15 05 14.3 +11
NVL pmax pmax
comp=Z,20nm,1.2s
FOMA Nahampoana Res 97.75 244 IAMs_20 IAMs_20 15 43 54.5
comp=Z,5μm,21.0s
TPNV Topopah Spring 97.95 54 IAMs_20 IAMs_20 15 44 08.3
comp=Z,5μm,20.0s
VTX Valle De La Tr 98.11 59 IAMs_20 IAMs_20 15 42 27.9
comp=Z,6μm,20.0s
PLID Pearl Lake 98.34 45 IAMs_20 IAMs_20 15 43 02.5
comp=Z,5μm,20.0s
S11A Rachel 98.38 53 IAMs_20 IAMs_20 15 44 03.5
comp=Z,4μm,20.0s
MFID Camas Ranch 98.44 47 IAMs_20 IAMs_20 15 41 17.9
comp=Z,4μm,22.0s
CPBX Cerro Prieto 98.56 58 IAMs_20 IAMs_20 15 41 01.7
comp=Z,7μm,21.0s
TROLL Troll, Antarti 98.62 190 ⇑Pdiff Pdif 15 05 07.9 +0.7
comp=Z,119nm,0.7s
YKA Yellowknife Ar 98.83 28 P Pdif 15 05 09.3 +1.3
comp=Z,1.3nm,0.8s,baz=272,slow=4.8,SNR=12
YKA PP **PP 15 09 08.6 -1.2**
comp=Z,1.4nm,1.0s,baz=274,slow=7.8,SNR=4.1
YKA PKIKP **PKiKP 15 09 39.1 +0.3**
comp=Z,0.9nm,0.7s,baz=266,slow=2.0,SNR=9.1
YKA PKKPbc **PKKPbc 15 21 35.0 -3.0**
comp=Z,0.9nm,0.8s,baz=93,slow=2.8,SNR=8.8
YKA LR LR 15 47 04.5
comp=Z,5μm,20.4s,baz=282,slow=34
comp=Z,1.3nm,0.8s
YKA Yellowknife Ar 98.83 28 *i* P Pdif 15 05 10.3 +2.3
YKA pmax pmax
comp=Z,1.0nm,0.8s
ELK Elko 98.84 50 LR LR 15 44 05.3
comp=Z,7μm,20.3s,baz=282,slow=32
PRN Pahroc Range 98.92 53 IAMs_20 IAMs_20 15 44 50.0
comp=Z,5μm,20.0s
V12A Nelson 99.04 55 IAMs_20 IAMs_20 15 50 40.3
comp=Z,5μm,20.0s
HLID Hailey 99.47 47 IAMs_20 IAMs_20 15 45 56.1
comp=Z,5μm,20.0s
SNAA Sanae 99.79 189 ⇑Pdiff **Pdif 15 05 12.8 +0.5**
comp=Z,92nm,1.3s
SNAA Sanae 99.79 189 P **Pdif 15 05 13.0 +0.7**
comp=Z,9.5nm,1.2s,baz=169,slow=5.2,SNR=4.2
SNAA LR LR 15 50 49.8
comp=Z,13μm,18.8s,baz=146,slow=36
comp=Z,9.5nm,1.2s
SNAA Sanae 99.79 189 *ce*P **Pdif 15 05 13.0 +0.7**
SNAA pmax pmax
comp=Z,19nm,1.3s
W13A Hualapai Mount 99.82 56 IAMs_20 IAMs_20 15 42 28.6
comp=Z,5μm,20.0s
PSUT Pine Spring 99.88 52 IAMs_20 IAMs_20 15 50 30.3
comp=Z,4μm,18.0s
PIX Pinacate 100.10 59 IAMs_20 IAMs_20 15 44 08.6
comp=Z,4μm,20.0s
LCMT Little Creek M 100.36 54 IAMs_20 IAMs_20 15 45 43.0
comp=Z,6μm,20.0s
BGU Big Grassy Mou 100.52 50 IAMs_20 IAMs_20 15 44 46.9
comp=Z,4μm,20.0s
DUG Dugway, Tooele 100.69 50 IAMs_20 IAMs_20 15 45 51.5
comp=Z,6μm,20.0s
KNB Kanab 100.70 54 IAMs_20 IAMs_20 15 47 01.0
comp=Z,5μm,19.0s
DLMT Dillon 100.75 45 IAMs_20 IAMs_20 15 44 10.0
comp=Z,5μm,20.0s
TCRU Three Creeks R 100.99 52 IAMs_20 IAMs_20 15 45 21.5
comp=Z,5μm,20.0s
MVU Marysvale 101.17 52 IAMs_20 IAMs_20 15 45 37.5
comp=Z,5μm,21.0s
MTPU Mount Pierson 101.20 53 IAMs_20 IAMs_20 15 50 04.2
comp=Z,5μm,18.0s
BOZ Bozeman (W) 101.42 45 IAMs_20 IAMs_20 15 43 48.8
comp=Z,4μm,21.0s
HWUT Hardware Ranch 101.61 49 IAMs_20 IAMs_20 15 45 22.7
comp=Z,3μm,20.0s
TCUT Toone Canyon 101.74 49 IAMs_20 IAMs_20 15 46 06.3
comp=Z,5μm,20.0s
FXWY Fox Creek 101.93 47 IAMs_20 IAMs_20 15 46 38.1
comp=Z,4μm,20.0s
Q16A Castle Valley 101.98 52 IAMs_20 IAMs_20 15 46 13.8
comp=Z,4μm,20.0s
TPAW Teton Pass 101.99 47 IAMs_20 IAMs_20 15 55 04.7
comp=Z,4μm,18.0s
MOOW Moose Ponds 102.13 47 IAMs_20 IAMs_20 15 46 25.4
comp=Z,5μm,20.0s
SNOW Snow King Moun 102.14 47 IAMs_20 IAMs_20 15 53 19.6
comp=Z,4μm,18.0s
LOHW Long Hollow 102.24 47 IAMs_20 IAMs_20 15 46 28.3
comp=Z,4μm,21.0s
BSUT Blindstream Ca 102.25 50 IAMs_20 IAMs_20 15 46 42.8
comp=Z,5μm,20.0s
HMU Henry Mountain 102.34 53 IAMs_20 IAMs_20 15 47 22.4
comp=Z,5μm,20.0s
SRU San Rafael Swe 102.48 51 IAMs_20 IAMs_20 15 46 29.0
comp=Z,4μm,20.0s
MAK Makhachkala 102.50 312 *i* P **Pdif 15 05 17.9 -6.9**
MAK *e* 15 09 36.0
MAK *e*PPP PPP 15 11 45.4
MAK *e* 15 15 58.3
MAK *e*PS **PS 15 18 46.8 +1.1**
MAK *e*SS SS 15 24 18.8 +5.1
MAK *e*SSS SSS 15 28 06.5
MAK pmax pmax
comp=Z,26nm,0.3s
EGMT Eagleton 102.56 42 IAMs_20 IAMs_20 15 48 39.9
comp=Z,4μm,19.0s
P18A Preston Nutter 102.68 51 IAMs_20 IAMs_20 15 46 46.2
comp=Z,4μm,20.0s
PDAR Pinedale Array 103.05 48 Pdiff **Pdif 15 05 27.4 -0.2**
comp=Z,0.5nm,0.6s,baz=269,slow=2.7,SNR=5.4
PDAR PKiKP **PKiKP 15 09 47.5 +0.1**
comp=Z,0.6nm,0.8s,baz=285,slow=4.3,SNR=3.3
RLMT Red Lodge 103.11 45 IAMs_20 IAMs_20 15 52 27.5
comp=Z,4μm,18.0s
319A Douglas 103.67 59 IAMs_20 IAMs_20 15 43 27.1
comp=Z,6μm,22.0s
MVCO Mesa Verde 104.15 53 IAMs_20 IAMs_20 15 48 07.4
comp=Z,4μm,20.0s
O20A White River Ci 104.19 50 IAMs_20 IAMs_20 15 46 47.2
comp=Z,5μm,21.0s
LAO LASA Array 105.08 43 IAMs_20 IAMs_20 15 48 18.6
comp=Z,4μm,20.0s
K22A Casper 105.29 48 IAMs_20 IAMs_20 15 52 24.0
comp=Z,4μm,19.0s
APA Apatity 105.41 339 ⇓*i*P **Pdif 15 05 41.7 +4.5**
APA pmax pmax
comp=Z,9.0nm,1.0s
S22A 4UR Ranch, Cre 105.44 53 IAMs_20 IAMs_20 15 49 14.1
comp=Z,5μm,20.0s
ANMO Albuquerque 105.92 56 IAMs_20 IAMs_20 15 46 44.3
comp=Z,6μm,21.0s
ANMO Albuquerque 105.92 56 IAMs_20 IAMs_20 15 46 44.3
comp=Z,6μm,21.0s
ANMO Albuquerque 105.92 56 IAMs_20 IAMs_20 15 46 44.3
comp=Z,6μm,21.0s
DGMT Dagmar 106.20 41 IAMs_20 IAMs_20 15 51 51.2
comp=Z,4μm,19.0s
ISCO Idaho Springs 106.23 51 IAMs_20 IAMs_20 15 51 23.4
comp=Z,4μm,20.0s
Q24A Divide 106.67 51 IAMs_20 IAMs_20 15 49 18.8
comp=Z,4μm,20.0s
BRIGG Briggsdale 107.14 50 IAMs_20 IAMs_20 15 49 33.2
comp=Z,5μm,20.0s
ARCES ARCESS Array B 107.19 342 PKiKP **PKiKP 15 09 52.9 -1.1**
comp=Z,5.0nm,1.0s,baz=74,slow=2.3,SNR=8.3
TXAR Lajitas Array 108.59 61 PKiKP **PKiKP 15 09 57.2 -0.6**
comp=Z,3.1nm,0.8s,baz=283,slow=0.8,SNR=22
TXAR PKKPbc **PKKPbc 15 21 07.1 -0.8**
comp=Z,0.5nm,0.7s,baz=64,slow=2.8,SNR=1.8
TXAR PKKP **PKKPdf 15 21 21.8 -0.9**
comp=Z,0.6nm,0.7s,baz=97,slow=5.0,SNR=4.1
KSCO Kaye Shedlock' 108.61 51 IAMs_20 IAMs_20 15 50 45.4
comp=Z,4μm,20.0s
OGNE Ogallala 108.82 49 IAMs_20 IAMs_20 15 49 16.6
comp=Z,4μm,20.0s
E28A Huff 108.86 43 IAMs_20 IAMs_20 15 49 39.6
comp=Z,4μm,20.0s
MSTX Muleshoe 109.02 56 IAMs_20 IAMs_20 15 48 39.6
comp=Z,5μm,21.0s
MDND Maddock 109.34 42 IAMs_20 IAMs_20 15 51 57.1
comp=Z,4μm,20.0s
AMTX Amarillo 109.83 55 IAMs_20 IAMs_20 15 48 48.9
comp=Z,5μm,20.0s
K30B Basset 110.33 47 IAMs_20 IAMs_20 15 53 34.5
comp=Z,4μm,20.0s
FINES FINESS Array B 110.78 334 PKiKP **PKiKP 15 10 00.4 -0.5**
comp=Z,1.1nm,0.5s,baz=249,slow=2.4,SNR=8.1
FINES PKKPbc **PKKPbc 15 21 00.3 -1.4**
comp=Z,0.7nm,0.7s,baz=206,slow=9.3,SNR=1.8
BGNE Belgrade 111.64 48 IAMs_20 IAMs_20 15 52 25.0
comp=Z,4μm,20.0s
AGMN Agassiz Nation 111.67 40 IAMs_20 IAMs_20 15 54 17.8
comp=Z,3μm,20.0s
R32A Long Quarter, 111.73 51 IAMs_20 IAMs_20 15 52 21.8
comp=Z,5μm,20.0s
ABTX Abilene, Hawle 111.76 58 IAMs_20 IAMs_20 15 56 07.3
comp=Z,4μm,19.0s
F33A 5 Mile Ranch, 112.00 43 IAMs_20 IAMs_20 15 52 33.8
comp=Z,5μm,20.0s
OK038 West end E0370 112.00 53 IAMs_20 IAMs_20 15 50 39.3
comp=Z,5μm,21.0s
WMOK Wichita Mounta 112.22 55 IAMs_20 IAMs_20 15 51 06.1
comp=Z,5μm,20.0s
OK032 Salt Plains WL 112.38 53 IAMs_20 IAMs_20 15 50 53.1
comp=Z,5μm,21.0s
CROK Carrier 112.61 53 IAMs_20 IAMs_20 15 50 58.2
comp=Z,5μm,21.0s
MNK Minsk 112.76 327 *i* PKIKP **PKiKP 15 10 03.5 -1.3**
MNK *i* 15 10 51.4
MNK *i* PPP PPP 15 13 13.5
MNK *i* 15 17 11.8
MNK *i* SS SS 15 26 31.9 +0.2
MNK *i* SSS SSS 15 30 44.3
MNK pmax pmax
comp=E,14nm,0.8s
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=N,12nm,0.7s
MNK MLR MLR
comp=E,2μm,21.0s
MNK MLR MLR
comp=Z,5μm,20.0s
MNK MLR MLR
comp=N,4μm,21.0s
L34A Svendsen Farm, 112.83 47 IAMs_20 IAMs_20 15 59 05.4
comp=Z,3μm,20.0s
UNM Universidad Na 113.06 72 IAMs_20 IAMs_20 15 58 19.6
comp=Z,4μm,18.0s
BRTR Keskin Array B 113.24 310 PKiKP **PKiKP 15 10 06.2 -0.2**
comp=Z,0.9nm,0.7s,baz=104,slow=1.5,SNR=5.9
BRTR PKKPbc **PKKPbc 15 20 52.8 -0.2**
comp=Z,0.8nm,0.9s,baz=243,slow=2.9,SNR=2.9
FW07 Weatherford 113.31 57 IAMs_20 IAMs_20 15 57 24.2
comp=Z,4μm,19.0s
AKASG Malin Array Be 113.35 323 PKiKP **PKiKP 15 10 05.8 -0.3**
comp=Z,2.6nm,0.6s,baz=59,slow=2.8,SNR=14
AKBB Malin Array Si 113.35 323 ⇓*i*PKIKP **PKiKP 15 10 05.8 -0.3**
KIEV Kiev 113.36 323 IAMs_20 IAMs_20 15 59 02.1
comp=Z,4μm,22.0s
KIEV Kiev 113.36 323 ⇑P **PKiKP 15 10 05.8 -0.3**
KIEV Kiev 113.36 323 ⇑PKIKP **PKiKP 15 10 05.8 -0.3**
FW06 Azle 113.47 57 IAMs_20 IAMs_20 15 49 55.3
comp=Z,3μm,22.0s
N35A Tabor 113.60 48 IAMs_20 IAMs_20 15 50 36.1
comp=Z,5μm,22.0s
OK052 Battle Ridge R 113.63 54 IAMs_20 IAMs_20 15 52 18.3
comp=Z,5μm,20.0s
Z35A Perchaven, San 113.67 57 IAMs_20 IAMs_20 15 50 01.6
comp=Z,4μm,22.0s
WHTX Lake Whitney, 113.68 58 IAMs_20 IAMs_20 15 50 08.0
comp=Z,4μm,22.0s
T35A Sooner Cattle 113.70 53 IAMs_20 IAMs_20 15 52 05.2
comp=Z,3μm,20.0s
DEOK Depew 113.90 54 IAMs_20 IAMs_20 15 51 37.4
comp=Z,4μm,20.0s
PURM Purcari 114.25 318 ⇑P PKPdf 15 10 07.1 -0.8
I37A Lemond, Waseca 114.45 44 IAMs_20 IAMs_20 16 02 36.7
comp=Z,4μm,18.0s
EYMN Ely 114.57 40 IAMs_20 IAMs_20 15 59 15.5
comp=Z,4μm,20.0s
SORM Soroca 114.73 320 ⇑P **PKiKP 15 10 08.4 -0.4**
SORM Soroca 114.73 320 ⇑PKIKP **PKiKP 15 10 08.4 -0.4**
E38A The Farm, Brul 114.96 41 IAMs_20 IAMs_20 15 55 46.7
comp=Z,4μm,20.0s
SCIA State Center 115.13 47 IAMs_20 IAMs_20 16 05 15.4
comp=Z,3μm,18.0s
BOSA Boshof 115.28 234 PKP **PKiKP 15 10 09.9 -0.7**
comp=Z,4.4nm,1.1s,baz=73,slow=4.0,SNR=4.8
MATP Matopo 115.38 244 PKP **PKPdf 15 10 10.7 -0.4**
comp=Z,1.5nm,0.4s,baz=106,slow=2.0,SNR=9.9
N38A Joes South For 115.39 48 IAMs_20 IAMs_20 15 55 20.5
comp=Z,5μm,20.0s
P38A Dawn 115.45 49 **PKiKP 15 10 09.7 -0.8**
U38A Gravette 115.47 53 **PKiKP 15 10 09.5 -1.2**
U38A IAMs_20 IAMs_20 15 58 15.0
comp=Z,3μm,20.0s
SUW Suwalki 115.48 328 PKPdf **PKiKP 15 10 08.0 -2.0**
SUW IAMs_20 IAMs_20 16 01 25.9
comp=Z,4μm,20.0s
SUW Suwalki 115.48 328 PKIKP **PKiKP 15 10 08.0 -2.0**
SUW MLR MLR
comp=Z,4μm,20.0s
Z38A Mt. Pleasant 115.56 56 IAMs_20 IAMs_20 15 51 22.6
comp=Z,4μm,22.0s
BORA Eskisehir 115.61 311 **PKiKP 15 10 08.9 -2.0**
HHAR Hobbs 115.86 53 **PKPdf 15 10 11.2 -0.2**
HHAR IAMs_20 IAMs_20 15 52 40.2
comp=Z,4μm,21.0s
ILULI Ilulissat 116.00 8 IAMs_20 IAMs_20 15 59 24.4
comp=Z,3μm,21.0s
S39A Bolivar 116.04 51 **PKPdf 15 10 10.0 -1.7**
NATX Nacogdoches 116.06 58 IAMs_20 IAMs_20 15 57 17.2
comp=Z,4μm,19.0s
G40A Rib Lake 116.27 42 PKPdf **PKPdf 15 10 10.9 -1.0**
G40A IAMs_20 IAMs_20 15 56 13.7
comp=Z,4μm,20.0s
LBTB Lobatse 116.37 238 PKP **PKPdf 15 10 12.4 -0.4**
comp=Z,3.0nm,0.8s,baz=121,slow=3.1,SNR=3.3
I40A Norwalk 116.42 44 IAMs_20 IAMs_20 15 55 16.6
comp=Z,4μm,21.0s
MIAR Mount Ida 116.48 55 **PKiKP 15 10 12.9 +0.3**
MIAR Mount Ida 116.48 55 PKIKP **PKiKP 15 10 12.9 +0.3**
L40A Anamosa 116.52 46 IAMs_20 IAMs_20 15 55 17.5
comp=Z,4μm,21.0s
VRI Vrincioaia 116.53 318 ⇑P **PKPdf 15 10 12.2 -0.2**
VRI Vrincioaia 116.53 318 ⇑PKIKP **PKPdf 15 10 12.2 -0.2**
P40A Paris 116.59 49 **PKPdf 15 10 10.7 -2.0**
PLOR Plostina 116.59 318 ⇓P **PKiKP 15 10 13.0 +0.5**
PLOR Plostina 116.59 318 ⇓PKIKP **PKiKP 15 10 13.0 +0.5**
ONER Baraj Valea Uz 116.59 319 ⇓P **PKPdf 15 10 12.4 -0.1**
HFS Hagfors 116.61 337 PKP **PKPdf 15 10 11.5 -0.5**
comp=Z,1.8nm,0.8s,baz=124,slow=2.7,SNR=5.4
COWI Conover 116.70 41 PKPdf **PKPdf 15 10 11.9 -0.8**
COWI IAMs_20 IAMs_20 15 55 08.0
comp=Z,4μm,21.0s
R40A Maddies Statio 116.72 50 **PKPdf 15 10 10.8 -2.1**
NC303 NORSAR Array S 116.80 338 PKPdf **PKPdf 15 10 12.5 +0.1**
BUR08 Bucovina Ar. S 116.89 321 **PKPdf 15 10 12.8 -0.4**
BURAR Bucovina Array 116.89 321 **PKiKP 15 10 13.3 +0.2**
BURAR Bucovina Array 116.89 321 ⇑P **PKiKP 15 10 13.7 +0.5**
BURAR Bucovina Array 116.89 321 ⇑PKIKP **PKiKP 15 10 13.7 +0.5**
NEHR Nehoiu 116.96 318 ⇓P **PKPdf 15 10 12.9 -0.4**
JFWS Jewell Farm 116.97 45 PKPdf **PKPdf 15 10 13.1 -0.2**
JFWS Jewell Farm 116.97 45 IAMs_20 IAMs_20 15 59 21.2
comp=Z,4μm,20.0s
JFWS Jewell Farm 116.97 45 PKIKP **PKPdf 15 10 13.1 -0.2**
JFWS MLR MLR
comp=Z,4μm,20.0s
NB2 NORSAR Subarra 116.98 338 PKPdf **PKPdf 15 10 12.3 -0.5**
comp=Z,2.9nm,0.9s,baz=44,slow=1.9
NB2 pPKP 15 13 46.2
comp=Z,0.6nm,0.7s,baz=64,slow=3.1
NB2 PKKP **PKKPbc 15 20 38.6 -2.1**
comp=Z,4.1nm,1.1s,baz=230,slow=3.6
NB2 NORSAR Subarra 116.98 338 PKIKP **PKiKP 15 10 13.7 +0.9**
NOA NORSAR Array B 116.98 338 PKP **PKPdf 15 10 11.8 -1.1**
comp=Z,1.7nm,0.8s,baz=49,slow=1.8,SNR=12
NOA SKP 15 13 45.0
comp=Z,0.8nm,0.7s,baz=50,slow=1.9,SNR=5.4
NOA PKKPbc **PKKPbc 15 20 38.4 -2.3**
comp=Z,0.3nm,0.7s,baz=53,slow=3.7,SNR=3.7
MGMO Mountain Grove 116.98 52 **PKPdf 15 10 13.2 -0.3**
MGMO IAMs_20 IAMs_20 15 55 44.9
comp=Z,5μm,20.0s
NC204 NORSAR Array S 116.99 339 **PKiKP 15 10 13.2 +0.3**
WLAR White Oak Lake 117.02 56 IAMs_20 IAMs_20 15 58 38.3
comp=Z,4μm,19.0s
NC602 NORSAR Array S 117.06 338 **PKPdf 15 10 12.1 -0.8**
NORES NORESS Array B 117.06 338 PKIKP **PKPdf 15 10 11.9 -1.0**
X40A Basin Creek Fa 117.10 55 IAMs_20 IAMs_20 15 52 06.2
comp=Z,5μm,22.0s
SUR Sutherland 117.11 229 PKP **PKPdf 15 10 14.2 0.0**
comp=Z,4.0nm,0.9s,baz=40,slow=20,SNR=1.8
NBO00 NORSAR Array S 117.14 338 PKPdf **PKPdf 15 10 13.1 -0.1**
LSZ Lusaka 117.15 249 IAMs_20 IAMs_20 16 04 50.0
comp=Z,3μm,18.0s
LSZ Lusaka 117.15 249 PKP **PKPdf 15 10 14.4 -0.1**
comp=Z,3.6nm,0.5s,baz=112,slow=2.3,SNR=7.5
N41A Harden Midland 117.16 47 IAMs_20 IAMs_20 15 58 00.3
comp=Z,4μm,20.0s
MLR Muntele Rosu 117.17 318 **PKPdf 15 10 13.6 -0.2**
MLR IAMs_20 IAMs_20 16 05 27.9
comp=Z,3μm,20.0s
MLR Muntele Rosu 117.17 318 ⇑P **PKPdf 15 10 13.0 -0.8**
MLR Muntele Rosu 117.17 318 PKIKP **PKPdf 15 10 13.6 -0.2**
NAO01 NORSAR Array S 117.23 338 PKPdf **PKPdf 15 10 12.4 -0.8**
Z41A Richland Creek 117.36 56 IAMs_20 IAMs_20 15 54 05.2
comp=Z,4μm,20.0s
WHAR Wooly Hollow 117.37 54 **PKPdf 15 10 11.4 -2.9**
UALR University of 117.44 54 **PKiKP 15 10 14.7 +0.3**
F42A Maple Grove Fa 117.48 41 IAMs_20 IAMs_20 15 58 03.5
comp=Z,4μm,20.0s
CCM Cathedral Cave 117.56 50 PKPdf **PKPdf 15 10 14.2 -0.4**
CCM Cathedral Cave 117.56 50 PKIKP **PKPdf 15 10 14.2 -0.4**
I42A Draeger Farm, 117.59 43 IAMs_20 IAMs_20 16 02 03.5
comp=Z,4μm,18.0s
MBAR Mbarara 117.60 266 PKPdf **PKPdf 15 10 15.2 -0.4**
MBAR Mbarara 117.60 266 PKIKP **PKPdf 15 10 15.2 -0.4**
L42A Oliver, Polo 117.65 46 **PKPdf 15 10 14.7 0.0**
L42A IAMs_20 IAMs_20 15 55 50.3
comp=Z,4μm,21.0s
VOIR 117.78 318 ⇑P **PKiKP 15 10 15.4 +0.5**
VOIR 117.78 318 ⇑PKIKP **PKiKP 15 10 15.4 +0.5**
T42A Van Buren 117.92 51 **PKPdf 15 10 15.1 -0.2**
T42A IAMs_20 IAMs_20 15 59 09.8
comp=Z,4μm,19.0s
CCAR Cane Creek 118.07 55 IAMs_20 IAMs_20 15 58 09.1
comp=Z,4μm,20.0s
ARR Arges 118.08 318 ⇓P **PKPdf 15 10 14.1 -1.3**
LCAR Lake Charles 118.10 53 **PKPdf 15 10 15.3 -0.3**
SFJD Kangerlussuaq 118.14 8 IAMs_20 IAMs_20 15 57 14.8
comp=Z,3μm,21.0s
H43A Windswept, Lux 118.17 43 IAMs_20 IAMs_20 15 57 09.8
comp=Z,4μm,20.0s
SLM Saint Louis 118.18 49 IAMs_20 IAMs_20 15 54 59.3
comp=Z,4μm,20.0s
KOLS Kolonicke sedl 118.18 323 *e*PKIKP **PKiKP 15 10 16.0 +0.5**
KOLS Kolonicke sedl 118.18 323 *e*PKP **PKiKP 15 10 16.0 +0.5**
FVM French Village 118.20 50 **PKPdf 15 10 13.9 -1.9**
FVM French Village 118.20 50 PKIKP **PKPdf 15 10 13.9 -1.9**
HDIL Hopedale 118.35 47 IAMs_20 IAMs_20 15 57 21.5
comp=Z,5μm,20.0s
K43A Burlington 118.37 45 IAMs_20 IAMs_20 15 56 04.4
comp=Z,4μm,20.0s
P43A Skaggs, Pawnee 118.44 48 PKPdf **PKPdf 15 10 13.9 -2.4**
PBMO Poplar Bluff 118.50 52 PKPdf **PKPdf 15 10 15.3 -1.1**
PBMO IAMs_20 IAMs_20 15 57 20.1
comp=Z,4μm,20.0s
MARR Marisel-Cluj 118.57 320 ⇓P **PKPdf 15 10 15.9 -0.5**
STHS Stebnicka Huta 118.59 324 *e*PKIKP **PKiKP 15 10 17.4 +1.1**
STHS Stebnicka Huta 118.59 324 *e*PKP **PKiKP 15 10 17.4 +1.1**
HBAR Harrisburg 118.61 53 IAMs_20 IAMs_20 16 02 09.2
comp=Z,3μm,19.0s
143A Socs Landing, 118.62 56 IAMs_20 IAMs_20 15 58 54.6
comp=Z,3μm,19.0s
LL01 San Ignacio de 118.72 146 IAMs_20 IAMs_20 15 56 44.0
comp=Z,3μm,18.0s
CGM3 Cape Girardeau 118.97 51 **PKPdf 15 10 16.8 -0.5**
M44A Midewin, Midew 119.00 46 IAMs_20 IAMs_20 15 56 60.0
comp=Z,3μm,20.0s

HQIL Hanson Quary C 119.00 45 IAMs_20 IAMs_20 16 01 01.0
comp=Z,3μm,21.0s
GNAR Gosnell 119.02 52 IAMs_20 IAMs_20 15 55 07.0
comp=Z,4μm,20.0s
Q44A Meyer Farm, Va 119.02 49 PKPdf 15 10 17.6 +0.2
Q44A IAMs_20 IAMs_20 16 01 13.6
comp=Z,4μm,19.0s
PARMO Parma 119.06 52 PKPdf **PKPdf 15 10 17.1 -0.4**
PARMO IAMs_20 IAMs_20 15 56 59.8
comp=Z,4μm,20.0s
OJC Ojcow 119.06 325 *e*P **PKiKP 15 10 17.7 +0.6**
OJC Ojcow 119.06 325 PKPdf **PKPdf 15 10 17.1 0.0**
OJC Ojcow 119.06 325 PKIKP **PKPdf 15 10 17.1 0.0**
PEBM Pemiscott Bayo 119.11 52 IAMs_20 IAMs_20 15 55 51.2
comp=Z,4μm,20.0s
NIE Niedzica 119.14 324 *e*P **PKiKP 15 10 18.6 +1.2**
GZR Gura Zlata 119.29 319 ⇓P **PKiKP 15 10 18.3 +0.5**
GZR Gura Zlata 119.29 319 ⇓PKIKP **PKiKP 15 10 18.3 +0.5**
LNXT Lenox 119.40 52 IAMs_20 IAMs_20 15 56 39.0
comp=Z,4μm,20.0s
VBMS Vicksburg 119.45 57 PKPdf 15 10 16.7 -1.6
VBMS IAMs_20 IAMs_20 15 58 07.7
comp=Z,3μm,19.0s
HALT Halls 119.57 52 IAMs_20 IAMs_20 15 57 24.4
comp=Z,3μm,20.0s
SURR Surduc 119.57 320 ⇑P **PKPdf 15 10 18.1 -0.1**
E46A Sault Ste Mari 119.71 39 PKPdf 15 10 18.2 -0.2
LANS Liptovska Anna 119.75 324 *e*PKIKP **PKiKP 15 10 20.0 +1.4**
LANS Liptovska Anna 119.75 324 *e*PKP **PKiKP 15 10 20.0 +1.4**
OLIL Olney 119.76 49 PKPdf 15 10 18.0 -0.8
OLIL IAMs_20 IAMs_20 16 02 46.1
comp=Z,3μm,19.0s
CCIG Comitan 119.84 75 IAMs_20 IAMs_20 15 52 27.7
comp=Z,4μm,22.0s
Y45A Yeager Farm, C 119.89 55 IAMs_20 IAMs_20 15 55 20.3
comp=Z,4μm,21.0s
BZS Buzias 119.95 320 ⇓P **PKPdf 15 10 18.3 -0.7**
SFIN Lafayette 120.00 47 PKPdf **PKPdf 15 10 19.2 0.0**
SFIN IAMs_20 IAMs_20 15 59 09.2
comp=Z,4μm,19.0s
PSZ Piszkesteto 120.05 323 PKPdf **PKPdf 15 10 19.1 -0.1**
PSZ IAMs_20 IAMs_20 16 06 43.4
comp=Z,4μm,19.0s
PSZ Piszkesteto 120.05 323 ⇑P **PKiKP 15 10 19.6 +0.3**
PSZ Piszkesteto 120.05 323 ⇑PKIKP **PKiKP 15 10 19.6 +0.3**
GLMI Grayling 120.13 41 IAMs_20 IAMs_20 15 57 38.6
comp=Z,5μm,21.0s
RGN Rugen 120.15 332 IAMs_20 IAMs_20 16 04 19.9
comp=Z,3μm,20.0s
P46A Rosedale 120.16 48 PKPdf 15 10 18.4 -1.1
P46A IAMs_20 IAMs_20 16 06 39.5
comp=Z,4μm,19.0s
OKC Ostrava-Krasne 120.18 325 AMS AMS 16 02 30.0
comp=Z,4μm,22.1s
STEB Steborice 120.34 325 *e*PKPDF **PKPdf 15 10 19.2 -0.4**
VYHS Vyhne 120.42 324 *e*PKIKP **PKPdf 15 10 19.2 -0.6**
VYHS Vyhne 120.42 324 *e*PKP **PKPdf 15 10 19.2 -0.6**
HUEH Huehuetenango 120.48 76 IAMs_20 IAMs_20 15 53 16.6
comp=Z,3μm,21.0s
346A Big Creek Wild 120.49 57 IAMs_20 IAMs_20 16 01 54.4
comp=Z,3μm,19.0s
MORC Moravsky Berou 120.55 325 PKPdf 15 10 19.3 -0.8
MORC Moravsky Berou 120.55 325 *e*PKIKP **PKiKP 15 10 20.4 +0.2**
MORC Moravsky Berou 120.55 325 ⇑P **PKPdf 15 10 19.9 -0.2**
MORC Moravsky Berou 120.55 325 ⇑PKIKP **PKPdf 15 10 19.9 -0.2**
146A Union 120.57 56 IAMs_20 IAMs_20 15 59 58.2
comp=Z,3μm,19.0s
J47A Sunmer 120.60 43 IAMs_20 IAMs_20 16 02 53.2
comp=Z,4μm,19.0s
BOVS Bovan 120.67 318 ⇑P **PKPdf 15 10 19.7 -0.6**
WVT Waverly 120.69 52 PKPdf **PKPdf 15 10 19.8 -0.9**
WVT Waverly 120.69 52 PKIKP **PKPdf 15 10 19.8 -0.9**
KSP Ksiaz 120.70 327 *e*P **PKPdf 15 10 20.3 +0.1**
KRLC Kraliky 120.83 326 *e*PKPDF **PKPdf 15 10 20.1 -0.5**
KRLC AMS AMS 16 04 40.0
comp=Z,3μm,20.6s
KRLC Kraliky 120.83 326 *e*PKIKP **PKPdf 15 10 20.1 -0.5**
KRLC MLR MLR
comp=Z,3μm,20.6s
N47A Urbana 120.84 46 IAMs_20 IAMs_20 16 01 30.7
comp=Z,4μm,20.0s
PLCA Paso Flores 120.86 146 PKP **PKPdf 15 10 20.5 -0.5**
comp=Z,3.4nm,0.7s,baz=292,slow=5.4,SNR=9.0
PLCA PKKPbc **PKKPbc 15 20 25.9 -0.2**
comp=Z,2.8nm,1.0s,baz=358,slow=18,SNR=3.5
PLCA Paso Flores 120.86 146 PKP **PKiKP 15 10 24.8 +3.7**
OSTC Ostas 120.89 327 *e*PKPDF **PKiKP 15 10 21.2 +0.4**
OSTC AMS AMS 16 00 40.0
comp=Z,4μm,24.2s
OSTC Ostas 120.89 327 *e*PKIKP **PKiKP 15 10 21.2 +0.4**
OSTC MLR MLR
comp=Z,4μm,24.2s
JAVC Velka Javorina 120.93 324 *e*PKIKP **PKiKP 15 10 21.6 +0.7**
DPC Dobruska-Polom 120.94 326 *e*PKPDF **PKiKP 15 10 21.5 +0.6**
DPC AMS AMS 16 00 30.0
comp=Z,4μm,23.2s
DPC Dobruska-Polom 120.94 326 *e*PKIKP **PKiKP 15 10 21.5 +0.6**
DPC MLR MLR
comp=Z,4μm,23.2s
CHVC Chvalec 120.97 327 *e*PKPDF **PKiKP 15 10 21.2 +0.3**
CHVC AMS AMS 16 00 50.0
comp=Z,4μm,22.7s
CHVC Chvalec 120.97 327 *e*PKIKP **PKiKP 15 10 21.2 +0.3**
CHVC MLR MLR
comp=Z,4μm,22.7s
T47A Sharon Grove 121.02 51 PKPdf 15 10 20.8 -0.5
UPC Upice 121.03 327 *e*PKPDF **PKiKP 15 10 22.0 +1.0**
UPC AMS AMS 16 00 50.0
comp=Z,4μm,23.6s
UPC Upice 121.03 327 *e*PKIKP **PKiKP 15 10 22.0 +1.0**
UPC MLR MLR
comp=Z,4μm,23.6s
KUQ Kuujjuaa 121.06 22 PKPdf 15 10 20.5 -0.1
Z47A Carrollton 121.25 55 IAMs_20 IAMs_20 15 59 07.1
comp=Z,3μm,20.0s
WCI Wyandotte Cave 121.26 49 PKPdf **PKPdf 15 10 20.8 -0.9**
WCI Wyandotte Cave 121.26 49 IAMs_20 IAMs_20 16 02 13.9
comp=Z,3μm,20.0s
WCI Wyandotte Cave 121.26 49 PKIKP **PKPdf 15 10 20.8 -0.9**
WCI MLR MLR
comp=Z,3μm,20.0s
MODS Modra-Piesok 121.39 324 *e*PKIKP **PKPdf 15 10 21.6 -0.1**
MODS Modra-Piesok 121.39 324 *e*PKP **PKPdf 15 10 21.6 -0.1**
O48B Farmland 121.44 46 IAMs_20 IAMs_20 15 58 18.6
comp=Z,3μm,20.0s
P48A Milroy 121.51 47 IAMs_20 IAMs_20 16 09 25.3
comp=Z,4μm,18.0s
KRUC Moravsky 121.56 325 *e*PKIKP **PKPdf 15 10 21.6 -0.3**
MORH Mrgy, Hungar 121.58 321 ⇑P **PKPdf 15 10 21.0 -1.0**
V48A Smith Brothers 121.59 52 PKPdf **PKPdf 15 10 20.0 -2.4**
AAM Ann Arbor 121.75 44 IAMs_20 IAMs_20 16 04 47.7
comp=Z,4μm,19.0s
X48A Hartselle 121.76 53 IAMs_20 IAMs_20 15 55 55.5
comp=Z,4μm,20.0s
PVCC Panska Ves 121.80 327 AMS AMS 16 06 50.0
comp=Z,3μm,19.3s
CLTN Cedars of Leba 121.87 51 PKPdf 15 10 21.1 -1.8
CLTN IAMs_20 IAMs_20 15 58 36.2
comp=Z,4μm,21.0s
BI05 Punta Hualpn 121.90 141 PKPdf **PKPdf 15 10 21.8 -1.2**
BRG Berggiesshubel 121.94 328 *i* PKP **PKiKP 15 10 23.0 +0.3**
BRG Amp 15 10 24.1
comp=Z,10nm,0.9s
BRG Berggiesshubel 121.94 328 P **PKiKP 15 10 27.0 +4.2**
BRG Amp 15 10 27.9
comp=Z,7.2nm,1.0s
BRG Berggiesshubel 121.94 328 PP PP 15 12 01.0 +4.5
BRG Berggiesshubel 121.94 328 SKS **SKSdf 15 17 39.0 +7.8**
BRG Berggiesshubel 121.94 328 SP SP 15 21 49.0 +4.1
TREC Trest 121.95 326 AMS AMS 16 01 00.0
comp=Z,5μm,24.5s
FNA Florina 121.96 315 PKPdf 15 10 21.9 -1.1
FNA Florina 121.96 315 PKIKP **PKPdf 15 10 22.0 -1.1**
FNA MLR MLR
comp=Z,1μm,20.0s
PETF Flores 121.99 74 IAMs_20 IAMs_20 15 58 01.5
comp=Z,4μm,20.0s
GOPC GO Pecny, Ondr 122.01 327 *e*PKPDF **PKPdf 15 10 22.6 -0.2**
GOPC AMS AMS 16 04 00.0
comp=Z,4μm,20.8s
GOPC GO Pecny, Ondr 122.01 327 *e*PKIKP **PKPdf 15 10 22.6 -0.2**
GOPC MLR MLR
comp=Z,4μm,20.8s
RICC Richard 122.04 328 AMS AMS 16 07 10.0
comp=Z,4μm,18.2s

O49A Covington 122.05 46 IAMs_20 IAMs_20 15 59 06.8
comp=Z,4μm,21.0s
R49A Shelbyville 122.08 49 IAMs_20 IAMs_20 15 58 28.5
comp=Z,4μm,21.0s
PRU Pruhonice 122.11 327 *e*PKPDF **PKPdf 15 10 22.2 -0.8**
PRU AMS AMS 16 04 00.0
comp=Z,4μm,20.6s
PRU Pruhonice 122.11 327 *e*PKIKP **PKPdf 15 10 22.2 -0.8**
PRU MLR MLR
comp=Z,4μm,20.6s
PRA Prague 122.12 327 AMS AMS 16 04 10.0
comp=Z,3μm,21.2s
LRAL Lakeview Retre 122.16 55 PKPdf 15 10 22.9 -0.6
LRAL IAMs_20 IAMs_20 16 03 32.2
comp=Z,4μm,18.0s
CLL Collm 122.19 329 *i* PKIKP **PKPdf 15 10 22.8 -0.3**
CLL pmax pmax
comp=Z,11nm,0.8s
CLL MLR MLR
comp=Z,5μm,21.7s
K50A Casco 122.27 43 IAMs_20 IAMs_20 16 02 53.3
comp=Z,3μm,19.0s
RONA Rosalia, Austr 122.30 324 *i* PKIKP **PKPdf 15 10 23.6 +0.1**
comp=Z,6.8nm,0.8s
HSKC Hora Svate Kat 122.36 328 *e*PKPDF **PKiKP 15 10 24.2 +0.5**
HSKC AMS AMS 16 05 50.0
comp=Z,5μm,19.2s
Y49A Blount Mountai 122.42 54 IAMs_20 IAMs_20 15 56 58.1
comp=Z,4μm,20.0s
SWET Sewanee 122.43 52 PKPdf 15 10 23.5 -0.6
CONA Conrad Observa 122.44 324 *i* PKP **PKPdf 15 10 22.9 -0.9**
comp=Z,5.3nm,0.7s
BRAL Brewton 122.56 57 IAMs_20 IAMs_20 15 59 42.1
comp=Z,3μm,21.0s
MTO3 Montecristo 122.58 77 PKPdf **PKPdf 15 10 22.9 -2.2**
MTO3 IAMs_20 IAMs_20 15 59 20.2
comp=Z,2μm,19.0s
ESQI Esquipulas 122.59 77 IAMs_20 IAMs_20 16 02 35.5
comp=Z,3μm,18.0s
ZVC Zvikov 122.59 326 *e*PKPDF **PKPdf 15 10 23.5 -0.4**
R50A Paris 122.71 48 PKPdf 15 10 23.8 -0.7
T50A Nancy 122.74 50 PKPdf 15 10 24.3 -0.3
PDG Podgorica 122.80 317 ⇓P **PKPdf 15 10 23.9 -0.6**
CKRC Cesky Krumlov 122.86 326 *e*PKPDF **PKPdf 15 10 24.3 -0.2**
CKRC *e*SP SP 15 21 47.7 -5.5
CKRC AMS AMS 16 05 40.0
comp=Z,4μm,21.4s
CKRC Cesky Krumlov 122.86 326 *e*PKIKP **PKPdf 15 10 24.3 -0.2**
CKRC *e*SP SP 15 21 47.7 -5.5
CKRC MLR MLR
comp=Z,4μm,21.4s
FPAL Fort Paine 122.87 53 PKPdf 15 10 23.2 -1.8
W50A Signal Mountai 122.92 52 PKPdf 15 10 24.3 -0.8
ARSA Arzberg 122.97 324 PKPdf 15 10 24.9 +0.1
ARSA Arzberg 122.97 324 *i* PKIKP **PKiKP 15 10 25.3 +0.3**
comp=Z,1.8nm,0.7s
ACSO Alum Creek Sta 123.00 46 PKPdf 15 10 23.2 -1.8
ACSO IAMs_20 IAMs_20 16 13 55.9
comp=Z,3μm,19.0s
VLDQ Val d'Or 123.03 35 PKPdf 15 10 23.3 -1.5
NKC Novy Kostel 123.09 328 AMS AMS 16 06 40.0
comp=Z,5μm,18.4s
KHC Kasperske Hory 123.10 326 *e*PKPDF **PKPdf 15 10 24.4 -0.6**
KHC *e*SP SP 15 21 52.7 -2.6
KHC AMS AMS 16 04 30.0
comp=Z,4μm,20.6s
KHC Kasperske Hory 123.10 326 *e*PKIKP **PKPdf 15 10 24.4 -0.6**
KHC *e*SP SP 15 21 52.7 -2.6
KHC MLR MLR
comp=Z,4μm,20.6s
N51A Ashland 123.17 45 PKPdf **PKPdf 15 10 25.0 -0.3**
N51A IAMs_20 IAMs_20 15 59 11.3
comp=Z,4μm,21.0s
Q51A Peebles 123.18 47 PKPdf 15 10 23.8 -1.6
Q51A IAMs_20 IAMs_20 16 04 53.4
comp=Z,4μm,19.0s
GEC2 GERESS Array S 123.19 326 PKPdf 15 10 25.1 -0.1
GERES GERESS Array B 123.19 326 PKPdf 15 10 24.2 -1.0
GERES GERESS Array B 123.19 326 PKP **PKPdf 15 10 24.0 -1.2**
comp=Z,8.2nm,0.8s,baz=48,slow=2.0,SNR=46
GERES SKP 15 13 58.5
comp=Z,1.6nm,0.8s,baz=45,slow=0.1,SNR=5.1
GERES PKKPbc **PKKPbc 15 20 18.3 +1.0**
comp=Z,0.2nm,0.3s,baz=216,slow=4.8,SNR=1.9
GERES GERESS Array B 123.19 326 PKIKP **PKPdf 15 10 24.2 -1.0**
P51A Williamsport 123.22 47 IAMs_20 IAMs_20 15 59 40.5
comp=Z,4μm,20.0s
MOA Molln 123.40 325 *e*PKP **PKPdf 15 10 23.1 -2.5**
comp=Z,6.7nm,0.9s
SSFO Shawnee State 123.40 47 PKPdf 15 10 25.0 -0.8
X51A Calhoun 123.46 53 IAMs_20 IAMs_20 16 06 39.6
comp=Z,4μm,19.0s
S51A Beattyville 123.47 49 PKPdf **PKPdf 15 10 25.1 -0.8**
SOKA Soboth 123.55 323 *i* PKP **PKPdf 15 10 24.9 -1.1**
comp=Z,9.0nm,0.8s
M52A Chesterland 123.63 44 IAMs_20 IAMs_20 16 01 46.3
comp=Z,4μm,19.0s
451A Vernon 123.78 57 IAMs_20 IAMs_20 16 00 20.4
comp=Z,4μm,21.0s
P52A Corning 123.83 46 PKPdf 15 10 25.0 -1.6
BIOA Bad Ischl, Aus 123.84 325 *i* PKIKP **PKiKP 15 10 27.0 +0.3**
comp=Z,2.8nm,0.5s
O52A Adamsville 123.86 45 IAMs_20 IAMs_20 16 02 03.2
comp=Z,4μm,20.0s
OBKA Obir 123.93 323 *e*PKiKP **PKPdf 15 10 26.7 0.0**
comp=Z,5.5nm,0.8s
TKL Tuckaleechee C 123.98 51 PKPdf 15 10 26.0 -1.0
TKL Tuckaleechee C 123.98 51 PKIKP **PKPdf 15 10 26.0 -1.0**
Q52A Bidwell 123.98 47 PKPdf 15 10 25.9 -1.0
Q52A IAMs_20 IAMs_20 16 08 16.7
comp=Z,3μm,18.0s
GRA1 Grafenberg Arr 124.05 328 IAMs_20 IAMs_20 16 07 12.5
comp=Z,4μm,20.0s
152A Waverly Hall 124.11 55 PKPdf **PKPdf 15 10 26.2 -1.1**
352A Blakely 124.25 56 IAMs_20 IAMs_20 16 05 06.9
comp=Z,3μm,19.0s
N53A Lisbon 124.28 44 PKPdf **PKPdf 15 10 26.9 -0.6**
N53A IAMs_20 IAMs_20 16 04 29.8
comp=Z,4μm,20.0s
Y52A Lilburn 124.30 53 PKPdf **PKPdf 15 10 27.2 -0.4**
KBA Koelnbreinsper 124.34 324 *i* PKIKP **PKPdf 15 10 27.3 -0.3**
comp=Z,11nm,1.1s
MYKA Terra Mystica 124.40 324 *i* PKP **PKPdf 15 10 27.0 -0.5**
comp=Z,3.9nm,0.6s
P53A Whipple 124.42 46 PKPdf 15 10 26.6 -1.2
P53A IAMs_20 IAMs_20 16 03 20.4
comp=Z,3μm,21.0s
LESA Schwarzleotal 124.53 325 *i* PKP **PKPdf 15 10 26.9 -0.9**
comp=Z,14nm,1.1s,SNR=7.3
TGUH Tegucigalpa,Un 124.61 77 IAMs_20 IAMs_20 16 09 49.1
comp=Z,3μm,19.0s
V53A Saluda 124.72 51 PKPdf **PKPdf 15 10 27.0 -1.5**
DELO Deloro Mine 124.75 39 PKPdf 15 10 27.5 -0.7
O54A Avella 124.86 45 PKPdf **PKPdf 15 10 28.1 -0.5**
553A Crawfordville 124.98 58 IAMs_20 IAMs_20 16 04 24.3
comp=Z,3μm,20.0s
ABTA Abfaltersbach 125.00 324 *e*PKiKP **PKPdf 15 10 28.3 -0.5**
comp=Z,9.5nm,0.8s,SNR=5.7
HERN Volcan Telica 125.07 79 IAMs_20 IAMs_20 16 07 41.5
comp=Z,2μm,19.0s
U54A Nelsons Funny 125.19 49 PKPdf **PKPdf 15 10 28.6 -0.8**
WATA Walderalm 125.21 325 *e*PKiKP **PKPdf 15 10 29.4 +0.2**
comp=Z,7.6nm,0.7s
WTTA Wattenberg 125.21 325 *i* PKP **PKPdf 15 10 28.1 -1.1**
comp=Z,18nm,0.8s,SNR=8.5
CIMO Cimolais 125.27 324 PKPdf 15 10 28.5 -0.7
TIGA Tifton 125.36 56 PKPdf **PKPdf 15 10 29.0 -0.7**
TIGA IAMs_20 IAMs_20 16 01 24.1
comp=Z,4μm,20.0s
MMNY Mt. Morris Dam 125.42 41 PKPdf 15 10 28.0 -1.6
TSUM Tsumeb 125.44 241 PKPdf **PKPdf 15 10 30.0 -0.4**
TSUM Tsumeb 125.44 241 PKP **PKiKP 15 10 30.7 -0.1**
comp=Z,8.4nm,0.8s,baz=153,slow=4.5,SNR=8.5
SGRT San Giovanni R 125.45 318 PKPdf 15 10 28.4 -1.3
MOTA Moosalm 125.47 326 *i* PKP **PKPdf 15 10 29.1 -0.7**
comp=Z,24nm,0.9s
SQTA Sankt Quirin 125.48 325 *i* PKiKP **PKPdf 15 10 29.9 +0.2**
comp=Z,20nm,1.0s
RETA Reutte 125.58 326 *i* PKiKP **PKPdf 15 10 30.1 +0.3**
comp=Z,7.7nm,1.0s
HODGE Hodges 125.61 52 PKPdf **PKPdf 15 10 30.0 -0.1**
STU Stuttgart 125.67 328 IAMs_20 IAMs_20 16 06 42.3
comp=Z,3μm,21.0s
R55A Marlinton 125.80 47 IAMs_20 IAMs_20 16 03 13.7
comp=Z,4μm,20.0s
TIP Timpagrande 125.85 314 ⇓P **PKPdf 15 10 30.4 -0.1**

FETA Feichten 125.86 326 *e*PKiKP **PKPdf 15 10 30.7 +0.2**
comp=Z,14nm,0.8s,SNR=9.8
CTI Castel Tesino 125.88 324 PKPdf 15 10 29.6 -0.9
CTI Castel Tesino 125.88 324 PKIKP **PKPdf 15 10 29.6 -0.9**
V55A Taylorsville 125.88 50 PKPdf **PKPdf 15 10 30.3 -0.4**
L56A Greenwood 125.92 41 PKPdf 15 10 30.1 -0.5
WBO Williamsburg 125.94 37 PKPdf **PKPdf 15 10 29.7 -0.8**
BLA Blacksburg 125.98 48 PKPdf 15 10 30.6 -0.2
BLA Blacksburg 125.98 48 PKIKP **PKPdf 15 10 30.6 -0.2**
BTNL Ternell 126.05 331 *d*PKP **PKPdf 15 10 30.4 -0.2**
MEM Membach 126.10 331 *d*PKP **PKPdf 15 10 30.3 -0.3**
Q56A Snyder Ridge, 126.16 46 IAMs_20 IAMs_20 16 05 27.6
comp=Z,4μm,20.0s
DAVA Damuels 126.18 326 *i* PKP **PKPdf 15 10 29.9 -1.2**
comp=Z,15nm,0.8s,SNR=6.8
BHOU Houvegnez 126.27 331 *d*PKP **PKiKP 15 10 32.1 +0.7**
EKA Eskdalemuir Ar 126.30 340 PKP **PKPdf 15 10 31.1 +0.2**
comp=Z,5.1nm,0.7s,baz=25,slow=1.7,SNR=13
U56A King 126.33 49 IAMs_20 IAMs_20 16 05 44.1
comp=Z,4μm,19.0s
FUORN Ofenpass-Fuorn 126.35 325 IAMs_20 IAMs_20 16 06 58.7
comp=Z,4μm,22.0s
SSPA Standing Stone 126.38 43 PKPdf 15 10 31.4 0.0
INTR Introdacqua 126.55 319 PKPdf 15 10 31.6 -0.2
LDAQ Lac Daran 126.55 32 PKPdf 15 10 31.1 -0.6
BCLA Clavier 126.56 332 *d*PKPdf **PKPdf 15 10 30.4 -1.1**
LONY Lake Ozonia 126.56 37 IAMs_20 IAMs_20 16 04 58.6
comp=Z,4μm,20.0s
WLF Walferdange 126.65 330 *d*PKP **PKiKP 15 10 33.0 +0.8**
BGES Gesves 126.68 332 *d*PKP **PKiKP 15 10 32.3 +0.1**
UCC Uccle 126.74 332 *d*PKP **PKiKP 15 10 32.9 +0.7**
656A Willston 126.78 58 IAMs_20 IAMs_20 16 04 09.1
comp=Z,3μm,20.0s
CEL Celeste 126.84 314 PKP **PKiKP 15 10 33.1 +0.1**
S57A Dark Hollow, R 126.85 47 IAMs_20 IAMs_20 16 07 22.6
comp=Z,3μm,19.0s
456A Hilliard 126.85 56 IAMs_20 IAMs_20 16 02 02.6
comp=Z,3μm,20.0s
BMRD Maredsous 126.89 332 *d*PKP **PKPdf 15 10 32.2 +0.1**
TUE Stuetta 126.95 326 PKPdf 15 10 32.3 -0.4
TUE Stuetta 126.95 326 PKP **PKPdf 15 10 32.4 -0.3**
DOU Dourbes 127.11 332 *d*PKP **PKiKP 15 10 32.9 -0.1**
NCB Newcomb 127.13 38 PKPdf 15 10 31.6 -1.2
257A Skidaway Islan 127.30 54 IAMs_20 IAMs_20 16 02 52.3
comp=Z,4μm,20.0s
TRQA Tornquist 127.35 150 PKP **PKiKP 15 10 34.4 +0.4**
V58A Windy Hill, Pi 127.49 49 IAMs_20 IAMs_20 15 59 11.8
comp=Z,4μm,22.0s
NHSC New Hope 127.62 53 IAMs_20 IAMs_20 15 59 31.6
comp=Z,4μm,22.0s
CSU Charleston Sou 127.74 53 IAMs_20 IAMs_20 15 59 21.9
comp=Z,4μm,22.0s
HDC Heredia 127.75 82 IAMs_20 IAMs_20 16 04 37.6
comp=Z,2μm,18.0s
HDC Heredia 127.75 82 *e*P **PKPdf 15 10 32.3 -2.7**
SOR Soroa 127.77 66 IAMs_20 IAMs_20 16 02 11.1
comp=Z,3μm,20.0s
CBN Corbin Frederi 127.80 46 IAMs_20 IAMs_20 16 02 40.0
comp=Z,4μm,21.0s
DWPF Disney Wildern 128.04 59 IAMs_20 IAMs_20 16 05 19.5
comp=Z,3μm,20.0s
SENIN Lac Senin/Sane 128.15 327 IAMs_20 IAMs_20 16 09 59.2
comp=Z,3μm,20.0s
T59A Double "B" Far 128.19 47 PKPdf 15 10 34.1 -0.9
W59A Clinton 128.23 50 IAMs_20 IAMs_20 16 11 07.6
comp=Z,4μm,19.0s
LCO Las Campanas 128.28 135 PKPdf **PKPdf 15 10 34.4 -1.4**
LCO Las Campanas 128.28 135 PKIKP **PKPdf 15 10 34.4 -1.4**
AC05 El Transito 128.69 135 PKPdf 15 10 34.9 -1.5
061Z Ochoppi 129.04 62 IAMs_20 IAMs_20 16 01 48.2
comp=Z,3μm,21.0s
BRU2 Volcan 129.14 84 IAMs_20 IAMs_20 16 01 24.5
comp=Z,3μm,18.0s
060A Indiantown 129.23 60 IAMs_20 IAMs_20 16 05 39.2
comp=Z,3μm,20.0s
HRV Adam Dziewonsk 129.56 38 PKPdf 15 10 35.0 -2.4
HRV Adam Dziewonsk 129.56 38 PKIKP **PKPdf 15 10 35.0 -2.4**
HRV MLR MLR
comp=Z,5μm,19.0s
BATG Bathurst New B 129.68 30 PKPdf 15 10 36.2 -1.3
WES Weston 129.77 38 PKPdf 15 10 36.4 -1.4
WES Weston 129.77 38 PKIKP **PKPdf 15 10 36.4 -1.4**
WES MLR MLR
comp=Z,5μm,20.0s
SSB Saint Sauveur 130.34 327 IAMs_20 IAMs_20 16 09 33.9
comp=Z,4μm,22.0s
GGN Saint George 130.70 33 PKPdf 15 10 37.5 -2.0
ATAH Atahualpa 131.21 105 SKPbc **SKPab 15 14 08.7 +4.9**
comp=Z,10nm,0.8s,baz=330,slow=4.9,SNR=6.4
BCIP Isla Barro Col 131.96 84 IAMs_20 IAMs_20 15 59 32.2
comp=Z,2μm,20.0s
OTAV Otavalo 132.65 96 ⇑PKIKP **PKiKP 15 10 49.8 +4.0**
OTAV Otavalo 132.65 96 PKP **PKPdf 15 10 45.1 +0.3**
KEST Kesra 132.66 314 PKP **PKiKP 15 10 44.9 +0.2**
comp=Z,9.1nm,0.9s,baz=27,slow=8.5,SNR=5.2
KEST SKPbc **SKPab 15 14 10.7 +1.8**
comp=Z,8.1nm,0.8s,baz=69,slow=8.6,SNR=4.9
MAHO Mahon 133.83 322 IAMs_20 IAMs_20 16 14 24.3
comp=Z,2μm,19.0s
CHIV Chivirico 134.32 68 IAMs_20 IAMs_20 16 06 28.3
comp=Z,3μm,21.0s
GO01 Chusmiza 134.63 126 PKPdf 15 10 45.0 -3.3
NMDO Nuevo Mundo 135.52 67 PKPdf **PKPdf 15 10 47.1 -2.1**
NMDO IAMs_20 IAMs_20 16 07 55.1
comp=Z,3μm,21.0s
CZSB Cruzeiro do Su 136.45 108 PKP **PKPdf 15 10 52.3 +1.0**
LPAZ La Paz 137.19 122 PKhKP PKPpre 15 10 44.2
comp=Z,2.5nm,0.7s,baz=317,slow=1.2,SNR=4.7
LPAZ PKP **PKiKP 15 10 54.8 -0.3**
comp=Z,2.8nm,0.6s,baz=305,slow=1.9,SNR=7.0
LPAZ SKPbc **SKiKP 15 14 28.3 +0.3**
comp=Z,16nm,1.0s,baz=225,slow=4.3,SNR=11
LPAZ La Paz 137.19 122 PKP **PKiKP 15 10 54.7 -0.5**
ROSC El Rosal 137.26 90 PKhKP PKPpre 15 10 44.9
comp=Z,28nm,0.7s,baz=120,slow=13,SNR=3.6
ROSC PKP **PKPdf 15 10 53.9 +0.7**
comp=Z,31nm,0.5s,baz=278,slow=10.0,SNR=5.3
ROSC SKPbc **SKiKP 15 14 28.1 +0.1**
comp=Z,7.7nm,0.3s,baz=248,slow=7.6,SNR=5.4
PAPH Port-au-Prince 138.41 69 IAMs_20 IAMs_20 16 08 57.9
comp=Z,3μm,20.0s
ESDC Sonseca Array 138.75 327 PKhKP PKPpre 15 10 44.6
comp=Z,0.4nm,0.4s,baz=98,slow=2.6,SNR=2.5
ESDC SKPbc **SKPbc 15 14 27.4 +1.0**
comp=Z,2.8nm,0.9s,baz=31,slow=2.1,SNR=8.9
GRTK Grand Turk 138.79 65 IAMs_20 IAMs_20 16 06 15.5
comp=Z,2μm,21.0s
CPUP Villa Florida 138.82 143 PKP **PKPdf 15 10 55.9 +0.6**
comp=Z,5.9nm,0.8s,baz=32,slow=2.8,SNR=4.6
CPUP SKPbc **SKiKP 15 14 30.9 +0.6**
comp=Z,4.1nm,0.9s,baz=236,slow=2.4,SNR=4.8
CPUP Villa Florida 138.82 143 PKP **PKPdf 15 10 56.4 +1.1**
PAB San Pablo 139.05 328 ⇑PKIKP **PKPdf 15 10 55.6 +0.2**
SDDR Presa de Saban 139.26 68 IAMs_20 IAMs_20 16 15 46.1
comp=Z,2μm,18.0s
BBSR BB Station 139.68 46 IAMs_20 IAMs_20 16 09 14.5
comp=Z,3μm,21.0s
SDV Santo Domingo 141.05 84 PKPdf 15 10 55.5 -4.3
SDV IAMs_20 IAMs_20 16 09 58.7
comp=Z,2μm,19.0s
SDV Santo Domingo 141.05 84 SKPbc **SKiKP 15 14 37.4 +1.9**
comp=Z,13nm,0.7s,baz=285,slow=6.6,SNR=5.0
PTGB Pitanga 143.04 148 PKP PKPbc 15 11 01.3 +1.4
SIV San Ignacio 143.11 128 PKhKP PKPpre 15 10 59.6
comp=Z,13nm,0.7s,baz=253,slow=2.6,SNR=17
SIV SKPbc **SKiKP 15 14 42.7 +3.2**
comp=Z,7.0nm,0.7s,baz=240,slow=3.0,SNR=6.2
OBIP Obispado Ponce 143.79 68 IAMs_20 IAMs_20 16 14 49.3
comp=Z,2μm,20.0s
CELP Cerrillos 143.81 68 PKPab 15 11 01.4 -0.1
SGC2 Sao Gabriel da 143.89 99 PKP PKPab 15 11 01.5 -0.4
TIJ01 Guaruva-PR 144.06 152 PKP **PKPdf 15 11 04.9 0.0**
AQDB Aquidauana 144.12 139 PKPbc 15 11 03.2 +0.2
AQDB Aquidauana 144.12 139 PKP **PKPab 15 11 02.9 +0.4**
SJG San Juan 144.20 68 PKPab 15 11 02.1 -0.8
SJG IAMs_20 IAMs_20 16 15 43.0
comp=Z,2μm,20.0s
SJG San Juan 144.20 68 PKIKP **PKPab 15 11 02.1 -0.8**
SJG MLR MLR
comp=Z,2μm,20.0s
GCPR Guaynabo City 144.21 68 PKPab 15 11 02.6 -0.3
IGPR InterUniversit 144.28 68 IAMs_20 IAMs_20 16 15 22.0
comp=Z,2μm,19.0s
PDPR Patillas Dam, 144.34 68 IAMs_20 IAMs_20 16 15 33.8
comp=Z,2μm,20.0s

SAML	**Samuel**	**144.81**	**115**		**PKPab**	**15 11 04.4**	**-0.9**
SAML	**Samuel**	**144.81**	**115**	PKIKP	**PKPab**	**15 11 04.4**	**-0.9**
PTLB	**Pontes e Lacer**	**144.94**	**129**		**PKPab**	**15 11 05.2**	**-0.4**
PTLB	**Pontes e Lacer**	**144.94**	**129**	PKP	**PKPab**	**15 11 05.4**	**-0.2**
AVE	**Averroes**	**145.24**	**323**	PKPbc	**PKPdf**	**15 11 06.8**	**+0.2**
AVE				IAMs_20	IAMs_20	16 20 16.9	
	comp=Z,3μm,22.0s						
TEFE	**Tefe**	**145.37**	**106**	PKP	**PKPbc**	**15 11 06.4**	**-0.8**
TEFE				PKP	**PKPdf**	**15 11 06.7**	**-0.6**
FRTB	**Fartura**	**145.46**	**150**	PKP	**PKPab**	**15 11 07.7**	**+0.3**
VILB	**Vilhena**	**145.49**	**124**	PKPbc	**PKPdf**	**15 11 06.3**	**-1.2**
VILB	**Vilhena**	**145.49**	**124**	PKP	**PKPdf**	**15 11 07.1**	**-0.3**
PET01	**Itanhaem-SP**	**145.73**	**154**	PKP	**PKPab**	**15 11 08.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**146.75**	**284**	PKPbc	**PKPbc**	**15 11 11.2**	**-0.1**
	comp=Z,69nm,0.4s,baz=68,slow=2.7,SNR=3.7						
PCRV	**Puerto La Cruz**	**146.91**	**81**	PKPbc	**PKPdf**	**15 11 10.4**	**+0.5**
	comp=Z,72nm,0.8s,baz=248,slow=1.2,SNR=18						
PCRV	**Puerto La Cruz**	**146.91**	**81**	*eP*	**PKPdf**	**15 11 04.3**	**-5.6**
SMRT	**St. Maarten**	**147.03**	**67**	IAMs_20	IAMs_20	16 23 41.0	
	comp=Z,2μm,19.0s						
C2SB	**Chapadao do Su**	**147.20**	**140**	PKP	**PKPab**	**15 11 14.0**	**-0.2**
SALV	**Santo Antonio**	**147.25**	**133**	PKP	**PKPbc**	**15 11 12.0**	**-0.7**
PARB	**Paraibuna**	**147.28**	**155**	PKP	**PKPbc**	**15 11 11.8**	**-0.8**
BB19B	**Bebedouro**	**147.88**	**149**	PKP	**PKPbc**	**15 11 15.3**	**+1.0**
ITRB	**Iturama**	**147.99**	**145**	PKP	**PKPbc**	**15 11 13.8**	**-0.8**
ANWB	**Willy Bob**	**148.32**	**67**	PKPbc	**PKPbc**	**15 11 14.1**	**-1.4**
ANWB				IAMs_20	IAMs_20	16 19 10.1	
	comp=Z,2μm,21.0s						
GDHS	**Morne Mazeau,**	**148.72**	**69**	PKPbc	**PKPdf**	**15 11 14.8**	**+2.0**
GDHS				IAMs_20	IAMs_20	16 10 22.7	
	comp=Z,2μm,22.0s						
CBE	**Ff, Capester**	**148.91**	**70**	IAMs_20	IAMs_20	16 16 07.0	
	comp=Z,3μm,20.0s						
ABD	**La Joyeuse, An**	**148.92**	**69**	IAMs_20	IAMs_20	16 11 24.2	
	comp=Z,2μm,21.0s						
TDBA	**Terre de Bas,**	**148.94**	**70**	IAMs_20	IAMs_20	16 15 49.8	
	comp=Z,2μm,20.0s						
ACRG	**Accra**	**148.98**	**270**		**PKiKP**	**15 11 18.2**	**-0.5**
PDRB	**Porto dos Gac**	**149.05**	**125**	PKP	**PKPdf**	**15 11 14.0**	**+0.6**
VAS01	**Vassouras-RJ**	**149.09**	**158**	PKP	**PKPdf**	**15 11 14.5**	**+1.2**
MACA	**Manacapuru-AM**	**149.24**	**107**	IAMs_20	IAMs_20	16 20 49.4	
	comp=Z,2μm,19.0s						
MACA	**Manacapuru-AM**	**149.24**	**107**	PKP	**PKPdf**	**15 11 15.1**	**+1.3**
MACA				PKP	**PKPbc**	**15 11 15.3**	**-2.8**
MAGL	**Barre de l'ile**	**149.25**	**70**	IAMs_20	IAMs_20	16 16 42.9	
	comp=Z,2μm,19.0s						
GDSD	**La Dsirade Is**	**149.35**	**69**	PKPab	**PKPbc**	**15 11 18.4**	**+0.2**
GDSD				IAMs_20	IAMs_20	16 19 23.7	
	comp=Z,2μm,22.0s						
SVN	**Savane Anatole**	**149.61**	**72**		**PKiKP**	**15 11 19.8**	**-0.1**
GRGR	**Grenville**	**149.63**	**77**	IAMs_20	IAMs_20	16 23 17.7	
	comp=Z,2μm,20.0s						
FDF	**Fort de France**	**149.65**	**72**		**PKiKP**	**15 11 20.4**	**+0.4**
FDF				IAMs_20	IAMs_20	16 23 44.9	
	comp=Z,2μm,20.0s						
FDF	**Fort de France**	**149.65**	**72**	PKP2	**PKiKP**	**15 11 20.4**	**+0.4**
FDF				MLR	MLR		
	comp=Z,2μm,20.0s						
BIM	**Bigot**	**149.77**	**72**	IAMs_20	IAMs_20	16 16 21.2	
	comp=Z,2μm,20.0s						
SVB	**Belmont**	**149.84**	**75**	*eP*	**PKPdf**	**15 11 12.6**	**-2.0**
ILAM	**Ilet Lapin Mar**	**149.90**	**72**	IAMs_20	IAMs_20	16 15 33.5	
	comp=Z,2μm,20.0s						
MPOM	**Morne Pois Mar**	**149.99**	**72**	IAMs_20	IAMs_20	16 16 25.8	
	comp=Z,2μm,21.0s						
TRN	**Trinidad (W)**	**150.05**	**80**	*eP*	**PKPdf**	**15 11 15.0**	**+0.1**
ARAG	**Araguaiana, MT**	**150.10**	**138**	PKP	**PKPdf**	**15 11 16.1**	**+1.0**
CAM01	**Campos-RJ**	**150.14**	**161**	PKP	**PKPbc**	**15 11 19.9**	**0.0**
CLDB	**Colider**	**150.22**	**125**	PKP	**PKPdf**	**15 11 16.5**	**+1.2**
BOAV	**Boa Vista**	**150.69**	**97**		**PKPdf**	**15 11 17.2**	**+1.2**
BOAV	**Boa Vista**	**150.69**	**97**	PKP	**PKPdf**	**15 11 16.6**	**+0.6**
BDFB	**Brasilia**	**152.55**	**143**		**PKPdf**	**15 11 22.2**	**+3.3**
BDFB	**Brasilia**	**152.55**	**143**	PKP	**PKPdf**	**15 11 19.5**	**+0.6**
	comp=Z,4.8nm,0.7s,baz=138,slow=1.8,SNR=5.0						
BDFB				PKPbc	**PKiKP**	**15 11 26.2**	**+0.1**
	comp=Z,7.9nm,0.6s,baz=12,slow=0.9,SNR=7.4						
BDFB	**Brasilia**	**152.55**	**143**	PKP	**PKPdf**	**15 11 19.9**	**+1.0**
DIAM	**Diamantina, MG**	**152.58**	**154**	PKP	**PKPdf**	**15 11 20.3**	**+1.4**
NPGB	**Novo Progresso**	**152.58**	**119**	PKP	**PKPdf**	**15 11 19.6**	**+0.7**
SNDB	**Serra Nova Dou**	**153.03**	**133**	PKP	**PKPdf**	**15 11 20.0**	**+0.5**
SNDB				PKP	**PKPdf**	**15 11 20.4**	**+0.9**
JQT1	**Jequitai-MG**	**153.19**	**152**	PKP	**PKPdf**	**15 11 23.6**	**+3.8**
ITTB	**Itaituba**	**153.43**	**113**	PKP	**PKPdf**	**15 11 20.9**	**+0.8**
DBIC	**Dimbokro**	**153.63**	**272**	PKP	**PKPdf**	**15 11 20.6**	**+0.2**
	comp=Z,15nm,0.9s,baz=58,slow=2.0,SNR=10						
DBIC				PKPbc	**PKiKP**	**15 11 28.6**	**+0.4**
	comp=Z,39nm,0.8s,baz=69,slow=2.1,SNR=24						
DBIC	**Dimbokro**	**153.63**	**272**	PKP	**PKPdf**	**15 11 20.1**	**-0.2**
DBIC				PKP	**PKPdf**	**15 11 21.0**	**+0.6**
CAN3	**Cana Brava**	**154.32**	**139**	PKP	**PKPdf**	**15 11 22.3**	**+0.9**
SSV2	**Sao Salvador**	**154.55**	**139**	PKP	**PKPdf**	**15 11 22.6**	**+1.0**
JANB	**Januaria**	**155.08**	**149**	PKP	**PKPdf**	**15 11 23.5**	**+1.0**
MAL2	**Monte Alegre,**	**155.74**	**110**	PKP	**PKPdf**	**15 11 24.8**	**+1.4**
LAJE	**UHE Lajeado**	**156.53**	**134**	PKP	**PKPdf**	**15 11 24.8**	**+0.4**
SDBA	**SAO DESIDERIO**	**156.94**	**144**	PKP	**PKPdf**	**15 11 25.6**	**+0.7**
ANA01	**Lindo Horizont**	**157.17**	**156**	PKP	**PKPdf**	**15 11 25.7**	**+0.5**
ANA01				PKP	**PKPdf**	**15 11 27.4**	**+2.2**
BMO2	**UHE Belo Monte**	**157.25**	**115**	PKP	**PKPdf**	**15 11 25.8**	**+0.5**
BMO1	**UHE Belo Monte**	**157.54**	**115**	PKP	**PKPdf**	**15 11 27.0**	**+1.3**
PRPB	**Parauapebas**	**157.74**	**124**	PKP	**PKPdf**	**15 11 26.8**	**+0.9**
SMTB	**Santa Maria do**	**157.81**	**133**	PKP	**PKPdf**	**15 11 27.1**	**+1.1**
PAL01	**Palmeiras do T**	**159.27**	**129**	PKP	**PKPdf**	**15 11 29.2**	**+1.4**
PAL2	**UHE Estreito -**	**159.39**	**129**	PKP	**PKPdf**	**15 11 29.6**	**+1.7**
TMAB	**Tom-Au,PA,Br**	**161.16**	**117**	PKP	**PKPdf**	**15 11 31.5**	**+1.7**
NBMA	**Muriti-CE**	**164.42**	**152**	PKP	**PKPdf**	**15 11 35.1**	**+2.0**
SBBR	**Sobral**	**166.53**	**139**	PKP	**PKPdf**	**15 11 35.1**	**+0.3**
NBPA	**Parau_RN**	**166.59**	**155**	PKP	**PKPdf**	**15 11 35.4**	**+0.6**

DJA 12 14:52:14.6±1.0, 2°S±3°×12°3E±°, h13km±9km, M3.5/13, mb3.6/3, MLv3.5/13, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.83**	**8**	P	Pb	14 52 31.0	+0.1
APSI	**Ampana**	**1.38**	**314**	P	Pn	14 52 39.1	-0.5
KDI	**Kendari**	**2.07**	**181**	P	Pn	14 52 48.8	-0.3
MRSI	**Marisa**	**2.44**	**343**	P	Pn	14 52 52.1	-2.0
PCI	**Palu**	**2.97**	**289**	P	Pn	14 53 02.6	+1.1
SANI	**Sanana**	**3.34**	**93**	P	Pn	14 53 05.4	-1.2
MPSI	**Mapaga**	**3.52**	**309**	P	Pn	14 53 08.2	-0.8
SPSI	**Sidrap Palu**	**3.55**	**234**	P	Pn	14 53 09.9	+0.4
BNSI	**Bone**	**3.57**	**225**	P	Pn	14 53 09.6	-0.2
BBSI	**Bau Bau**	**3.59**	**181**	P	Pn	14 53 09.9	-0.2
BKSI	**Bulukumba**	**4.26**	**216**	P	Pn	14 53 19.4	+0.2
BSSI	**Bau Bau, Buton**	**4.76**	**207**	P	Pn	14 53 26.1	0.0
EDFI	**Ende, Flores**	**6.90**	**188**	P	Pn	14 53 54.8	-0.8
	5.2nm,1.8s						

*AEIC **12** 14:58:56.7±1.9, 56°.3N±0°.1×149°.1W±0°.2, h8km±9km, Error ellipse: s-maj=16.7km s-min=10.6km az=144.0*

NEIC 12 14:58:53.3±2.2, 56°.30N±0°.08×149°.36W±0°.09, h10km±2km, ML3.7/74, ML3.4(AEIC), Error ellipse: s-maj=15.2km s-min=6.2km az=156.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.31**	**312**		Pn	14 59 32.4	+1.0
KDAK					Sn	14 59 58.8	-1.0
OHAK	**Old Harbor**	**2.36**	**295**		Pn	14 59 31.9	-0.1
OHAK					Sn	14 59 59.6	-1.3
SII	**Sitkinak Islan**	**2.69**	**278**		Pn	14 59 36.6	0.0
SII					Sn	15 00 08.8	-0.6
SYI	**Shuyak Island**	**2.84**	**326**		Pn	14 59 39.1	+0.5
SYI					Sn	15 00 12.4	-0.5
SYI				IAML		15 00 14.3	
	comp=E,135nm,0.7s						
CNPM	**China Poot**	**3.39**	**344**		Pn	14 59 46.1	-0.2
Q19K	**Cape Douglas,**	**3.51**	**321**		Pn	14 59 49.5	+1.7
Q19K				IAML		15 00 41.7	
	comp=N,244nm,0.8s						
BRSE	**Bradley Lake S**	**3.53**	**349**		Pn	14 59 48.0	-0.2
CHIR	**Chirikof Islan**	**3.55**	**265**	Pn	Pn	14 59 48.4	0.0
CHIR				IAML		15 00 39.8	
	comp=E,86nm,1.2s						
CHIR				IAML		15 01 53.1	
	comp=N,130nm,1.1s						
KAHG	**Katmai Hook Gl**	**3.57**	**310**		Pn	14 59 50.7	+1.9
BRLK	**Bradley Lake**	**3.57**	**347**		Pn	14 59 48.4	-0.4
BRLK				IAML		15 00 33.5	
	comp=E,98nm,0.5s						
BRLK				IAML		15 00 36.6	
	comp=N,79nm,1.2s						
HOM	**Homer**	**3.59**	**341**	Pn	Pn	14 59 48.6	-0.3
ACHA	**Angle Creek He**	**3.77**	**303**	Pn	Pn	14 59 53.0	+1.6
SEW	**Seward**	**3.82**	**359**		Pn	14 59 51.3	-0.8
ANCK	**Angle Creek**	**3.84**	**302**		Pn	14 59 54.5	+2.0
P23K	**Montague Islan**	**3.85**	**15**		Pn	14 59 51.4	-1.2
P23K				IAML		15 00 38.6	
	comp=N,144nm,0.5s						
P23K				IAML		15 00 39.9	
	comp=E,139nm,1.1s						
KAHC	**Katmai Hardscr**	**3.86**	**310**		Pn	14 59 55.1	+2.4
P19K	**Oil Pt**	**3.95**	**330**		Pn	14 59 54.6	+0.7
P19K				IAML		15 00 42.5	
	comp=N,150nm,0.5s						
P19K				IAML		15 00 45.8	
	comp=E,124nm,0.4s						
O22K	**Cooper Landing**	**4.20**	**358**		Pn	14 59 57.5	+0.1
ILSW	**Iliamna Southw**	**4.21**	**333**	Pn	Pn	14 59 57.8	+0.2
ILSW				IAML		15 00 48.4	
	comp=N,80nm,0.7s						
ILSW				IAML		15 00 52.2	
	comp=E,81nm,0.7s						
SLKM	**Skilak Lake**	**4.25**	**354**		Pn	14 59 57.4	-0.7
SLKM				IAML		15 00 47.7	
	comp=N,102nm,0.4s						
SLKM				IAML		15 00 49.1	
	comp=E,139nm,0.2s						
HIN	**Hinchinbrook I**	**4.38**	**19**	Pn	Pn	14 59 59.2	-0.6
HIN				IAML		15 00 48.1	
	comp=E,118nm,0.6s						
P18K	**Big Mountain,**	**4.41**	**317**	Pn	Pn	15 00 00.5	+0.2
KAIM	**Kayak Island**	**4.48**	**34**	Pn	Pn	15 00 00.9	-0.3
PWL	**Port Wells**	**4.61**	**6**		Pn	15 00 02.6	-0.3
PWL				IAML		15 00 54.0	
	comp=E,78nm,0.5s						
PWL				IAML		15 00 54.8	
	comp=N,63nm,0.6s						
EYAK	**Cordova Ski Ar**	**4.67**	**22**		Pn	15 00 03.4	-0.3
EYAK				IAML		15 00 54.6	
	comp=E,66nm,0.9s						
EYAK				IAML		15 00 57.1	
	comp=N,100nm,0.7s						
O19K	**Port Alsworth**	**4.71**	**328**	Pn	Pn	15 00 04.6	+0.3
FID	**Port Fidalgo**	**4.71**	**17**	Pn	Pn	15 00 02.5	-1.9
FID				IAML		15 00 54.9	
	comp=E,100nm,0.4s						
FID				IAML		15 01 00.3	
	comp=N,59nm,0.7s						
O18K	**Koktuh Hills**	**4.73**	**321**	Pn	Pn	15 00 05.0	+0.4
O18K				IAML		15 01 00.9	
	comp=N,46nm,0.6s						
SUCK	**Suckling Hills**	**4.80**	**36**	Pn	Pn	15 00 04.8	-0.8
SUCK				IAML		15 01 03.0	
	comp=E,88nm,1.1s						
RC01	**Rabbit Creek A**	**4.81**	**358**		Pn	15 00 05.4	-0.4
RC01				IAML		15 01 01.2	
	comp=E,55nm,0.5s						
RC01				IAML		15 01 02.4	
	comp=N,43nm,0.4s						
HMT	**Hamilton**	**4.86**	**31**	Pn	Pn	15 00 05.7	-0.8
BERG	**Berg Lake**	**5.07**	**34**	Pn	Pn	15 00 08.7	-0.7
KNK	**Knik Glacier**	**5.16**	**5**	Pn	Pn	15 00 10.2	-0.3
KNK				IAML		15 01 13.8	
	comp=N,30nm,0.9s						
KNK				IAML		15 01 13.9	
	comp=E,34nm,0.8s						
DIV	**Divide**	**5.20**	**20**	Pn	Pn	15 00 11.0	-0.1
DIV				IAML		15 01 18.9	
	comp=E,22nm,0.7s						
DIV				IAML		15 01 24.4	
	comp=N,25nm,1.0s						
SNH	**Sunshine Point**	**5.20**	**39**	Pn	Pn	15 00 10.5	-0.6
SNH				IAML		15 01 05.6	
	comp=E,70nm,1.2s						
SUA	**Susitna One**	**5.23**	**353**	Pn	Pn	15 00 11.1	-0.6
SUA				IAML		15 01 13.9	
	comp=E,19nm,0.6s						
SUA				IAML		15 01 22.4	
	comp=N,20nm,0.9s						
N19K	**Bonanza Creek**	**5.26**	**331**	Pn	Pn	15 00 11.9	-0.2
BMRM	**Bremner River**	**5.30**	**26**		Pn	15 00 12.0	-0.5
BMRM				IAML		15 01 12.4	
	comp=E,55nm,0.7s						
BMRM				IAML		15 01 13.8	
	comp=N,61nm,0.7s						
PMR	**Palmer**	**5.32**	**1**	Pn	Pn	15 00 11.6	-1.0
PMR				IAML		15 01 16.4	
	comp=N,26nm,0.8s						
PMR				IAML		15 01 24.5	
	comp=E,21nm,0.5s						
STLK	**Strandline Lak**	**5.38**	**347**		Pn	15 00 13.6	0.0
STLK				IAML		15 01 18.7	
	comp=E,28nm,0.5s						
STLK				IAML		15 01 24.6	
	comp=N,34nm,0.8s						
WAX	**Waxell Ridge**	**5.39**	**37**		Pn	15 00 13.1	-0.6
GHO	**Glory Hole Cre**	**5.50**	**2**		Pn	15 00 15.5	+0.3
KLU	**Klutina**	**5.51**	**17**		Pn	15 00 15.1	-0.3
SML	**Sawmill**	**5.55**	**5**		Pn	15 00 16.3	+0.3
N18K	**Kilae Creek**	**5.57**	**325**	Pn	Pn	15 00 16.2	0.0
SCM	**Sheep Creek Mo**	**5.65**	**10**	Pn	Pn	15 00 17.4	+0.1
O16K	**Kokwok River B**	**5.71**	**309**	Pn	Pn	15 00 19.2	+1.2
YAH	**Yahtse**	**5.72**	**41**	Pn	Pn	15 00 17.9	-0.4
SKT	**Skwentna**	**5.81**	**350**	Pn	Pn	15 00 19.7	+0.2
VRDI	**Verde Repeater**	**5.82**	**29**	Pn	Pn	15 00 19.5	-0.3
N25K	**Chitina, Valde**	**5.87**	**23**	Pn	Pn	15 00 20.3	0.0
GLB	**Gilahina Butte**	**5.91**	**27**	Pn	Pn	15 00 20.4	-0.4
N17K	**Nushagak Hills**	**5.91**	**319**	Pn	Pn	15 00 21.1	+0.3
M20K	**Styx River**	**5.93**	**342**	Pn	Pn	15 00 20.8	-0.4
M24K	**Tolsona, Glenn**	**6.05**	**14**	Pn	Pn	15 00 22.6	-0.3
PCA	**Pinnacle**	**6.14**	**48**	Pn	Pn	15 00 23.4	-0.6
M19K	**Big River Lodg**	**6.19**	**337**	Pn	Pn	15 00 24.3	-0.4
O15K	**Ungalikthiuk R**	**6.31**	**302**	Pn	Pn	15 00 27.8	+1.6
BCPM	**Bancas Point**	**6.32**	**51**	Pn	Pn	15 00 26.3	-0.1
L19K	**White Mountain**	**6.54**	**337**	Pn	Pn	15 00 29.1	-0.4
O28M	**Mount Upton**	**6.57**	**43**	Pn	Pn	15 00 29.6	-0.5
O29M	**Mount Kennedy**	**6.96**	**50**		Pn	15 00 35.0	-0.2
P29M	**Windy Craggy**	**7.03**	**57**		Pn	15 00 35.4	-0.8
L18K	**Granite Mounta**	**7.03**	**331**	Pn	Pn	15 00 35.9	-0.2
RIDG	**Independent Ri**	**7.80**	**15**		Pn	15 00 47.6	+0.8
BPAW	**Bear Paw Mtn.**	**7.87**	**355**		Pn	15 00 46.9	-0.9
K17K	**Iditarod**	**7.88**	**328**	Pn	Pn	15 00 47.4	-0.3
WRH	**Wood River Hil**	**8.23**	**4**	Pn	Pn	15 00 52.4	-0.2
J20K	**Nowinta River**	**8.26**	**345**	Pn	Pn	15 00 52.9	-0.1
O30N	**Mendenhall**	**8.26**	**52**	Pn	Pn	15 00 52.5	-0.5
R32K	**Eaglecrest**	**8.28**	**70**	Pn	Pn	15 00 51.7	-1.6
M29M	**Somme Creek**	**8.29**	**38**		Pn	15 00 54.1	+0.5
J19K	**Poorman**	**8.33**	**341**	Pn	Pn	15 00 53.1	-0.8
NEA2	**Nenana**	**8.33**	**1**		Pn	15 00 53.7	-0.2
CCB	**Clear Creek Bu**	**8.41**	**5**	Pn	Pn	15 00 55.4	+0.3
M13K	**Dall Lake**	**8.43**	**305**	Pn	Pn	15 00 57.6	+2.3
K27K	**Chicken**	**8.56**	**22**	Pn	Pn	15 00 57.8	+0.7
IL31		**8.59**	**7**		Pn	15 00 58.7	+1.2
ILAR	**Eielson Array**	**8.59**	**7**	Pn	Pn	15 00 58.8	+1.2
J17K	**VABM Dome**	**8.63**	**330**	Pn	Pn	15 00 58.5	+0.4
J26L	**Joseph Creek**	**8.71**	**17**	Pn	Pn	15 00 59.4	+0.1
N31M	**Braeburn, Yuko**	**8.74**	**48**	Pn	Pn	15 00 58.6	-1.0

*BJI **12** 15:03:07.9, 6°.66S×129°.49E, h248km, mB5.2/4, mb4.3/12*
*IDC **12** 15:03:14.2±1.7, 6°.08S×129°.16E, h250km±16km, mb3.8/19, mbtmp4.4/20, Error ellipse: s-maj=19.1km s-min=8.1km az=85.0*
*DJA **12** 15:03:14.0±0.1, 6°S±2°×12°9E±°, h251km±3km, M5.1/43, mb4.8/43, mB5.6/3, MLv5.2/17, Mw(mB)5.0/3, MwMwp6.4/1, Mwp6.4/1*
*NEIC **12** 15:03:14.1±1.9, 6°.01S±0°.08×129°.14E±0°.10, h249km±8km, mb4.6/38, Error ellipse: s-maj=14.1km s-min=11.2km az=99.0*

ISC 12 15:03:15.0±0.3, 6°.14S±0°.04×129°.14E±0°.05, h264km, n210, σ1§68/217, mb4.3/55, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.78**	**25**	P	**Pn**	**15 03 55.2**	**-1.7**
BNDI	**Bandanaira**	**1.78**	**25**	P	**Pn**	**15 03 55.1**	**-1.8**
BNDI				S	**S**	**15 04 27.2**	**-2.8**
AAI	**Ambon**	**2.62**	**339**	P	**Pn**	**15 04 02.8**	**-1.7**
MSAI	**Masohi**	**2.79**	**356**	P	**Pn**	**15 04 03.4**	**-2.8**
SAUI	**Saumlaki**	**2.81**	**131**		**Pn**	**15 04 05.2**	**-1.3**
SAUI	**Saumlaki**	**2.81**	**131**	P	**Pn**	**15 04 06.0**	**-0.4**
SAUI	**Saumlaki**	**2.81**	**131**	P	**Pn**	**15 04 05.5**	**-0.9**
NLAI	**Namlea**	**3.53**	**325**	P	**Pn**	**15 04 13.6**	**-0.6**
FAKI	**Fak Fak**	**4.46**	**44**		**Pn**	**15 04 21.1**	**-3.7**
FAKI	**Fak Fak**	**4.46**	**44**	P	**Pn**	**15 04 21.7**	**-3.1**
FAKI	**Fak Fak**	**4.46**	**44**	P	**Pn**	**15 04 21.1**	**-3.7**
SANI	**Sanana**	**5.14**	**322**	P	**Pn**	**15 04 31.4**	**-1.6**
SANI	**Sanana**	**5.14**	**322**	P	**Pn**	**15 04 31.1**	**-1.9**
KMPI	**Kaimana, Papua**	**5.17**	**62**	P	**Pn**	**15 04 31.4**	**-2.0**
SWI	**Sorong**	**5.66**	**22**	P	**Pn**	**15 04 36.1**	**-3.2**
SOEI	**Soe**	**6.01**	**233**		**Pn**	**15 04 42.5**	**-1.3**
SOEI	**Soe**	**6.01**	**233**	P	**Pn**	**15 04 42.4**	**-1.3**
SOEI	**Soe**	**6.01**	**233**	P	**Pn**	**15 04 42.5**	**-1.3**
	2.1nm189nm,0.5s						
DRS	**Darwin Rock St**	**6.48**	**165**	P	**Pn**	**15 04 48.1**	**-1.3**
BBSI	**Bau Bau**	**6.57**	**275**	P	**Pn**	**15 04 50.4**	**-0.2**
	0.8nm171nm,1.0s						
RKPI	**Ransiki, Papua**	**6.81**	**48**	P	**Pn**	**15 04 51.7**	**-1.9**
MTN	**Manton Dam**	**6.94**	**164**	Pn	**Pn**	**15 04 51.7**	**-3.4**
MTN	**Manton Dam**	**6.94**	**164**	P	**Pn**	**15 04 53.6**	**-1.6**
MTN	**Manton Dam**	**6.94**	**164**	P	**Pn**	**15 04 53.5**	**-1.6**
TNTI	**Ternate**	**7.09**	**345**		**Pn**	**15 04 55.3**	**-1.7**
TNTI	**Ternate**	**7.09**	**345**	P	**Pn**	**15 04 55.4**	**-1.7**
	0.5nm137nm,0.9s						
MMRI	**Maumere**	**7.28**	**250**	P	**Pn**	**15 04 59.8**	**+0.4**
	0.3nm61nm,0.7s						
KDU	**Kakadu**	**7.28**	**153**	P	**Pn**	**15 04 57.9**	**-1.5**
KDU	**Kakadu**	**7.28**	**153**	P	**Pn**	**15 04 57.9**	**-1.5**
EDFI	**Ende, Flores**	**7.83**	**250**	P	**Pn**	**15 05 06.8**	**+0.4**
	0.3nm63nm,0.8s						
LUWI	**Luwuk**	**8.13**	**308**	P	**Pn**	**15 05 09.0**	**-1.1**
	195nm,0.6s						
SRPI	**Serui, Papua**	**8.26**	**59**	P	**Pn**	**15 05 10.7**	**-0.9**
	170nm,0.7s						
BAKI	**Biak**	**8.51**	**55**	P	**Pn**	**15 05 14.9**	**0.0**
	168nm,0.7s						
BSSI	**Bau Bau, Buton**	**8.60**	**270**	P	**Pn**	**15 05 14.3**	**-1.7**
	111nm,1.4s						
WSI	**Waingapu**	**9.43**	**248**	P	**Pn**	**15 05 23.2**	**-3.2**
	108nm,0.5s						
KNRA	**Kununurra**	**9.48**	**182**	Pn	**Pn**	**15 05 25.4**	**-1.6**
KNRA	**Kununurra**	**9.48**	**182**	P	**Pn**	**15 05 25.4**	**-1.6**
WBSI	**Waikabubak, Su**	**10.26**	**250**	P	**Pn**	**15 05 34.6**	**-2.3**
	40nm,0.8s						
SMPI	**Sarmi**	**10.40**	**67**	P	**Pn**	**15 05 38.1**	**-0.4**
	79nm,0.9s						
SGSI	**Sangihe**	**10.41**	**340**	P	**Pn**	**15 05 36.8**	**-1.9**
MMPI	**Merauke**	**11.39**	**102**	P	**Pn**	**15 05 51.3**	**+0.5**
GENI	**Genyem**	**11.54**	**73**	P	**Pn**	**15 05 53.3**	**+0.5**
GENI	**Genyem**	**11.54**	**73**	P	**Pn**	**15 05 52.0**	**-0.8**
	121nm,0.7s						
PLAI	**Plampang**	**11.58**	**256**	P	**Pn**	**15 05 51.8**	**-1.4**
	29nm,0.8s						
JAY	**Jayapura**	**12.08**	**73**	P	**Pn**	**15 05 57.7**	**-1.7**
	32nm,0.7s,baz=204,slow=7.6,SNR=16						
JAY				S	**S**	**15 08 10.5**	**-3.7**
	5.0nm,0.7s,baz=135,slow=20,SNR=1.7						
JAY	**Jayapura**	**12.08**	**73**	P	**Pn**	**15 05 58.2**	**-1.2**
	45nm,1.1s						
FITZ	**Fitzroy Crossi**	**12.36**	**196**		**Pn**	**15 06 00.9**	**-1.9**
FITZ	**Fitzroy Crossi**	**12.36**	**196**	P	**Pn**	**15 06 01.1**	**-1.7**
	comp=Z,49nm,0.7s						
FITZ	**Fitzroy Crossi**	**12.36**	**196**	P	**Pn**	**15 06 01.3**	**

STKA	Stephens Creek	28.12 157	P	P	15 08 44.5	+1.6
	comp=Z,12nm,0.7s,baz=337,slow=9.0,SNR=20					
	comp=Z,12nm,0.7s					
STKA	Stephens Creek	28.12 157	P	P	15 08 44.5	+1.6
MUN	Mundaring	28.40 204	P	P	15 08 45.9	+0.5
MUN	Mundaring	28.40 204	P	P	15 08 45.9	+0.5
HTT	Hallett	28.63 163	P	P	15 08 48.7	+1.2
	comp=Z,3.1nm,0.9s					
HTT	Hallett	28.63 163	P	P	15 08 49.1	+1.6
NWAO	Narrogin (SRO)	28.86 201	P	P	15 08 50.3	+0.8
NWAO			IAmb	IAmb	15 08 50.9	
	comp=Z,32nm,1.0s					
NWAO	Narrogin (SRO)	28.86 201	P	P	15 08 50.1	+0.6
	comp=Z,67nm,0.7s					
NWAO	Narrogin (SRO)	28.86 201	P	P	15 08 50.2	+0.8
	comp=Z,18nm,0.4s,baz=48,slow=8.0,SNR=42					
	comp=Z,18nm,0.4s					
NWAO	Narrogin (SRO)	28.86 201	P	P	15 08 50.2	+0.8
NWAO	Narrogin (SRO)	28.86 201	P	P	15 08 50.3	+0.8
CMSA	Cobar Meteorol	29.64 151	P	P	15 08 58.1	+1.8
	comp=Z,21nm,2.3s					
CMSA	Cobar Meteorol	29.64 151	P	P	15 08 58.1	+1.8
TPUB	Ta-pu	30.42 344	P	P	15 09 00.1	-3.2
TPUB			IAmb	IAmb	15 09 08.3	
	comp=Z,32nm,1.1s					
RKGY	Rocky Gully	30.48 200	P	P	15 09 05.7	+2.0
	comp=Z,25nm,2.0s					
TATA	Tatamba Isabel	30.49 96	P	P	15 09 04.9	+0.9
ARPS	Mount Arapiles	32.62 161	P	P	15 09 24.2	+1.9
	comp=Z,71nm,0.7s					
ARPS	Mount Arapiles	32.62 161	P	P	15 09 24.2	+1.9
MGBR	Mount Gambier	33.12 163	P	P	15 09 28.4	+1.8
YNG	Young	33.20 150	P	P	15 09 28.1	+0.7
	comp=Z,2.7nm,0.7s					
CAN	Canberra	34.31 150	P	P	15 09 37.8	+0.8
CAN			IAmb	IAmb	15 09 40.3	
	comp=Z,13nm,0.7s					
CAN	Canberra	34.31 150	P	P	15 09 38.8	+1.8
CAN	Canberra	34.31 150	P	P	15 09 39.6	+2.6
CNB	Canberra Magne	34.49 150	P	P	15 09 39.9	+1.4
	comp=Z,13nm,2.4s					
CNB	Canberra Magne	34.49 150	P	P	15 09 41.5	+3.0
TOO	Toolangi	34.65 157	P	P	15 09 40.4	+0.7
TOO	Toolangi	34.65 157	P	P	15 09 42.4	+2.6
	comp=Z,4.7nm,0.9s					
CMAR	Chiang Mai Arr	38.53 310	P	P	15 10 13.3	+0.7
	comp=Z,1.0nm,0.7s,baz=135,slow=7.2,SNR=5.3					
CMAR			PcP	PcP	15 12 21.6	+1.9
	comp=Z,0.3nm,0.5s,baz=115,slow=4.0,SNR=4.1					
CMAR			ScP	ScP	15 15 43.4	+1.0
	comp=Z,0.8nm,0.7s,baz=110,slow=4.7,SNR=4.6					
	comp=Z,1.0nm,0.7s					
NJ2	Nanjing	39.23 346	eP	P	15 10 19.2	+1.0
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.5s					
PZH	PanZhiHua	41.94 322	P	P	15 10 42.8	+2.3
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
MJAR	Matsushiro Arr	43.30 11	P	P	15 10 49.9	-1.2
	comp=Z,4.5nm,0.8s,baz=183,slow=9.2,SNR=9.0					
	comp=Z,4.5nm,0.8s					
KSRS	Korea Array	43.39 359	P	P	15 10 52.5	+0.8
	comp=Z,1.5nm,0.6s,baz=175,slow=9.0,SNR=11					
KSRS			PcP	PcP	15 12 35.2	+0.1
	comp=Z,0.6nm,0.6s,baz=183,slow=2.5,SNR=4.2					
	comp=Z,1.5nm,0.6s					
HHC	Hu-ho-hao-te	49.47 342	eP	P	15 11 40.1	+1.1
HHC			pmax	pmax		
	comp=Z,9.0nm,0.6s					
HHC			pmax	pmax		
	comp=Z,300nm,6.2s					
BTO	Baotou	49.73 341	eP	P	15 11 43.3	+2.4
BTO			pP	pP	15 12 38.7	+2.2
BTO			sP	sP	15 13 03.3	-2.5
BTO			S	S	15 18 34.5	+5.1
BTO			pmax	pmax		
	comp=Z,7.0nm,0.6s					
BTO			pmax	pmax		
	comp=Z,2μm,9.8s					
BTO			LR	LR		
	comp=Z,7μm,16.1s					
BTO			LR	LR		
	comp=Z,2μm,20.0s					
BTO			LR	LR		
	comp=Z,7μm,16.2s					
OUZ	Omahuta	50.05 132	P	P	15 11 46.4	+3.1
USRK	Ussuriysk Ar.	50.18 3	P	P	15 11 44.2	+0.2
	comp=Z,3.1nm,0.6s,baz=186,slow=5.9,SNR=6.6					
	comp=Z,3.1nm,0.6s					
JKA	Kamikawa-asahi	51.48 12	P	P	15 11 53.0	-0.7
QRZ	Quartz Range	51.86 138	P	P	15 11 59.6	+2.9
WHZ	Wether Hill Ro	51.88 146	P	P	15 11 58.5	+1.7
TOZ	Tahurou Road	52.49 134	P	P	15 12 04.9	+3.5
KHZ	Kahutara	53.30 140	P	P	15 12 09.0	+1.9
BKZ	Black Stump Fm	53.80 135	P	P	15 12 12.4	+1.5
BKZ			IAmb	IAmb	15 12 14.6	
	comp=Z,19nm,1.1s					
BKZ	Black Stump Fm	53.80 135	P	P	15 12 12.2	+1.3
TSZ	Takapari Road	53.81 136	P	P	15 12 12.4	+1.4
MRZ	Mangatainoka R	53.82 137	P	P	15 12 12.6	+1.6
URZ	Urewera	53.87 134	P	P	15 12 12.5	+1.2
RTZ	Ruatahuna	53.92 134	P	P	15 12 14.1	+2.3
HAZ	Te Kaha	54.15 133	P	P	15 12 14.7	+1.4
MWZ	Matawai	54.20 134	P	P	15 12 15.6	+1.8
PXZ	Pawanui	54.43 136	P	P	15 12 16.1	+0.7
MXZ	Matakaoa Point	54.46 132	P	P	15 12 17.7	+2.1
PUZ	Puketiti	54.62 133	P	P	15 12 18.6	+1.8
KLR	Kul'dur	55.19 2	P	P	15 12 20.7	+0.2
	comp=Z,14nm,0.8s,baz=240,slow=4.9,SNR=4.9					
	comp=Z,14nm,0.8s					
HEH	HeiHe	56.19 359	eP	P	15 12 27.9	+0.3
HEH			pmax	pmax		
	comp=Z,5.0nm,0.7s					
SONM	Songino Array	57.37 342	P	P	15 12 37.0	+0.9
	comp=Z,14nm,0.6s,baz=151,slow=5.6,SNR=6.1					
	comp=Z,14nm,0.6s					
WMQ	Urumqi	62.22 327	eP	P	15 13 10.8	+1.8
WMQ			LR	LR		
	comp=Z,1μm,14.1s					
WMQ			LR	LR		
	comp=Z,2μm,14.1s					
WMQ			LR	LR		
	comp=Z,970nm,15.7s					
PETK	Petropavlovsk-	63.79 19	P	P	15 13 19.5	+0.5
	comp=Z,4.1nm,0.8s,baz=170,slow=4.7,SNR=13					
PETK			PcP	PcP	15 13 52.4	-0.1
	comp=Z,2.1nm,0.5s,baz=235,slow=6.4,SNR=12					
	comp=Z,4.1nm,0.8s					
MK31	Makanchi Array	67.05 327		P	15 13 38.8	-1.2
MKAR	Makanchi Array	67.05 327	P	P	15 13 40.1	+0.1
MKAR	Makanchi Array	67.05 327	P	P	15 13 40.5	+0.5
	comp=Z,1.0nm,0.5s,baz=113,slow=8.2,SNR=18					
	comp=Z,1.0nm,0.5s					
MAKZ	Makanchi	67.23 327	P	P	15 13 41.0	-0.1
ZAA0	Zalesovo Array	70.44 334	P	P	15 13 59.4	-1.3
ZAA0			IAmb	IAmb	15 14 01.3	
	comp=Z,3.8nm,0.8s					
ZALV	Zalesovo Beam	70.44 334	P	P	15 14 00.7	0.0
	comp=Z,3.0nm,0.6s,baz=128,slow=6.0,SNR=12					
	comp=Z,3.0nm,0.6s					
KURBB	Kurchatov Arra	71.34 329	P	P	15 14 06.8	+0.6
	comp=Z,3.7nm,0.7s,baz=130,slow=4.9,SNR=31					
	comp=Z,3.7nm,0.7s					
KURK	Kurchatov	71.35 329	P	P	15 14 06.7	+0.6
KURK			IAmb	IAmb	15 14 07.5	
	comp=Z,7.4nm,0.9s					
VNDA	Vanda	73.39 173	P	P	15 14 18.0	+0.2
VNDA	Vanda	73.39 173	P	P	15 14 18.9	+1.1
	comp=Z,1.2nm,0.5s,baz=318,slow=6.5,SNR=11					
	comp=Z,1.2nm,0.5s					
MAW	Mawson	75.43 201	P	P	15 14 28.1	-1.5
MAW	Mawson	75.43 201	P	P	15 14 31.0	+1.3
MAW	Mawson	75.43 201	P	P	15 14 30.8	+1.2
	comp=Z,2.1nm,0.5s,baz=54,slow=4.2,SNR=9.4					
	comp=Z,2.1nm,0.5s					
BVAR	Borovoye Array	76.89 328	P	P	15 14 37.7	-0.4
	comp=Z,1.5nm,0.6s,baz=120,slow=5.8,SNR=4.4					
	comp=Z,1.5nm,0.6s					
TIXI	Tiksi	77.64 360	P	P	15 14 41.1	-0.8
TIXI			IAmb	IAmb	15 14 42.5	
	comp=Z,3.7nm,0.6s					
MWH	Mokuaweoweo	78.26 69	P	P	15 14 44.0	-3.0
NRIK	Noril'sk	80.53 346	P	P	15 14 57.8	+0.3
	comp=Z,1.2nm,0.4s,baz=119,slow=10,SNR=4.2					
	comp=Z,1.2nm,0.4s					
QSPA	South Pole Qui	83.83 180	P	P	15 15 15.1	+0.2
	comp=Z,1.2nm,0.5s,baz=198,slow=3.2,SNR=14					
	comp=Z,1.2nm,0.5s					
J17K	VABM Dome	87.42 25		P	15 15 31.9	-0.4
J17K			IAmb	IAmb	15 15 35.2	
	comp=Z,9.3nm,0.9s					
ELIB	Princess Elisa	89.05 197	dP	P	15 15 40.0	0.0
E19K	Redstone River	89.43 22	IAmb	IAmb	15 15 43.3	
	comp=Z,6.5nm,0.7s					
J20K	Nowinta River	89.74 25	P	P	15 15 41.5	-1.7
J20K			IAmb	IAmb	15 15 52.7	
	comp=Z,3.2nm,0.9s					
D20K	Etivluk River	90.02 21	IAmb	IAmb	15 15 45.6	
	comp=Z,6.8nm,0.9s					
RND	Reindeer	91.87 26	P	P	15 15 52.2	-1.0
RND			IAmb	IAmb	15 15 53.7	
	comp=Z,11nm,1.0s					
I23K	Minto, Yukon-K	91.96 25	IAmb	IAmb	15 15 54.4	
	comp=Z,6.2nm,0.8s					
G23K	Bananza Creek	91.98 23	IAmb	IAmb	15 15 55.1	
	comp=Z,4.9nm,0.8s					
ILAR	Eielson Array	92.94 25	P	P	15 15 57.0	-0.9
	comp=Z,1.3nm,0.9s,baz=234,slow=5.4,SNR=15					
	comp=Z,1.3nm,0.9s					
J26L	Joseph Creek	94.33 26	IAmb	IAmb	15 16 05.3	
	comp=Z,5.0nm,0.6s					
K27K	Chicken	94.94 26	IAmb	IAmb	15 16 09.2	
	comp=Z,6.3nm,0.9s					
SNAA	Sanae	96.29 194	P	P	15 16 12.8	-0.5
	comp=Z,2.3nm,1.1s,baz=170,slow=6.1,SNR=1.8					
	comp=Z,2.3nm,1.1s					
ARCES	ARCESS Array B	100.48 340	P	Pdif	15 16 30.5	-1.4
	comp=Z,2.0nm,0.9s,baz=78,slow=4.9,SNR=3.6					
YKA	Yellowknife Ar	107.36 26	PKiKP	PKiKP	15 21 10.0	+0.2
	comp=Z,0.1nm,0.3s,baz=285,slow=1.9,SNR=4.3					
CLL	Collm	110.96 323	ePKiKP	PKiKP	15 21 17.0	+0.1
CLL			ePP	PP	15 21 55.0	-4.3
TXAR	Lajitas Array	125.22 58	PKP	PKiKP	15 21 46.4	+1.0
	comp=Z,0.7nm,0.6s,baz=191,slow=4.8,SNR=4.3					
TORD	Torodi Ar. Bea	127.81 282	PKP	PKPdf	15 21 51.0	+0.8
	comp=Z,54nm,0.3s,baz=89,slow=2.2,SNR=1.6					
PLCA	Paso Flores	129.96 160	SKPbc	SKPbc	15 24 52.8	+1.5
	comp=Z,4.2nm,0.9s,baz=214,slow=5.9,SNR=6.9					
DBIC	Dimbokro	134.29 273	SKPbc	SKPbc	15 25 07.6	+0.5
	comp=Z,2.5nm,0.7s,baz=6.1,slow=1.4,SNR=4.3					
CPUP	Villa Florida	147.11 169	PKPbc	PKPbc	15 22 28.9	+1.3
	comp=Z,3.4nm,0.8s,baz=189,slow=3.3,SNR=6.4					
LPAZ	La Paz	151.91 143	PKPbc	PKiKP	15 22 42.2	+1.4
	comp=Z,1.3nm,0.4s,baz=22,slow=3.3,SNR=6.4					

*IDC **12** 15:08:26.8±0.7, 1°.81S×122°.76E, h0km, mb4.2/14, mbtmp4.2/16, ML4.5/2, Error ellipse: s-maj=23.4km s-min=15.2km az=67.0*
*NEIC **12** 15:08:28.9±2.6, 1°.86S±0°.04×122°.71E±0°.07, h10km±1km, mb4.6/17, Error ellipse: s-maj=12.6km s-min=5.9km az=107.0*
*DJA **12** 15:08:30.3±0.1, 2°.S±1°.×12°.3E±°, h10km, M4.9/31, mB5.7/1, mb4.8/31, MLv5.0/26, Mw(mB)5.2/1*
ISC 12 15:08:32.2±0.4, 1°.86S±0°.04×122°.64E±0°.05, h35km, n102, σ1§52/105, mb4.6/34, 1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.82	10		Pn	15 08 45.0	-2.2
LUWI	Luwuk	0.82	10	P	Pn	15 08 45.2	-2.0
LUWI				S	Sn	15 08 57.1	-1.1
APSI	Ampana	1.36	314	P	Pn	15 08 54.2	-0.5
KDI	Kendari	2.09	180	P	Pn	15 09 04.3	-0.4
KMSI	Cibinong	2.76	29	P	Pn	15 09 15.2	+1.2
PCI	Palu	2.95	289	P	Pn	15 09 17.6	+1.0
SANI	Sanana	3.36	93	P	Pn	15 09 20.7	-1.5
TOLI2	Tolitoli	3.48	328		Pn	15 09 23.8	-0.1
MPSI	Mapaga	3.50	308	P	Pn	15 09 23.5	-0.6
SPSI	Sidrap Palu	3.55	234	P	Pn	15 09 24.6	-0.2
SPSI				S	Sn	15 10 07.3	+1.8
BNSI	Bone	3.57	225	P	Pn	15 09 25.1	0.0
BBSI	Bau Bau	3.61	181	P	Pn	15 09 25.5	-0.1
KAPI	Kappang	4.26	222	Pn	Pn	15 09 35.1	+0.6
	47nm,0.3s,baz=352,slow=6.4,SNR=28						
KAPI				Sn	Sn	15 10 22.8	-0.3
	81nm,0.3s,baz=65,slow=20,SNR=15						
	152nm,0.4s						
BKSI	Bulukumba	4.26	216	P	Pn	15 09 35.1	+0.5
NLAI	Namlea	4.67	107	P	Pn	15 09 41.8	+1.6
BSSI	Bau Bau, Buton	4.77	207	P	Pn	15 09 41.7	+0.1
TNTI	Ternate	5.40	61		Pn	15 09 50.8	+0.5
TNTI	Ternate	5.40	61	P	Pn	15 09 51.5	+1.2
	0.8nm85nm,0.4s						
BKB	Balikpapan	5.77	276		Pn	15 09 55.1	-0.2
BKB	Balikpapan	5.77	276	P	Pn	15 09 55.7	+0.4
AAI	Ambon	5.84	108	P	Pn	15 09 58.8	+2.4
	0.6nm144nm,0.9s						
MSAI	Masohi	6.46	103	P	Pn	15 10 06.9	+2.1
	0.5nm105nm,0.8s						
MMRI	Maumere	6.75	183		Pn	15 10 08.1	-0.7
MMRI	Maumere	6.75	183	P	Pn	15 10 08.3	-0.5
	0.4nm94nm,0.8s						
EDFI	Ende, Flores	6.91	188	P	Pn	15 10 10.1	-1.1
	0.3nm5μm56nm,0.6s						
SOEI	Soe	8.01	168		Pn	15 10 29.1	+2.7
SOEI	Soe	8.01	168	P	Pn	15 10 27.5	+1.2
	102nm,0.8s						
WSI	Waingapu	8.10	197	P	Pn	15 10 28.6	+1.2
	124nm,1.5s						
MYLDM	Lahad Datu	8.12	329		Pn	15 10 27.9	+0.2
WBSI	Waikabubak, Su	8.38	203	P	Pn	15 10 31.3	0.0
	29nm,0.8s						
PLAI	Plampang	8.45	215	P	Pn	15 10 31.4	-0.8
SWI	Sorong	8.68	84	P	Pn	15 10 36.2	+0.9
SRBI	Singaraja	9.64	230	P	Pn	15 10 48.6	+0.1
	20nm,0.6s						
FAKI	Fak Fak	9.66	96		Pn	15 10 47.6	-1.2
FAKI	Fak Fak	9.66	96	P	Pn	15 10 49.0	+0.2
	40nm,0.8s						
KMMI	Kalianget	10.06	239	P	Pn	15 10 55.6	+1.3
	27nm,0.8s						
KKM	Kota Kinabalu	10.13	321	Pn	Pn	15 10 56.3	+1.0
JAGI	Jajag, Banyuwa	10.70	232	P	Pn	15 11 03.1	0.0
	15nm,0.9s						
GMJI	Gumukmas	11.15	235	P	Pn	15 11 08.8	-0.4
	13nm,0.8s						
KMPI	Kaimana, Papua	11.20	99	P	Pn	15 11 11.1	+1.2
	78nm,0.8s						
SBUM	Sibu	11.26	292		Pn	15 11 06.6	-4.0
UGM	Wanagama	13.48	243	P	Pn	15 11 40.7	-0.4
	43nm,1.8s						
TPI	Tanjungpandan	15.00	266	P	Pn	15 12 02.4	+0.7
	16nm,1.4s						
JAY	Jayapura	18.07	92	P	Pn	15 12 38.5	-2.2
	1.0nm,0.3s,baz=156,slow=20,SNR=5.5						
	2.5nm,0.5s						
JAY	Jayapura	18.07	92	P	P	15 12 42.9	+2.1
MDSI	Maura Dua	18.61	261	P	Pn	15 12 47.8	+0.5
	27nm,1.4s						
XMIS	Christmas Isla	18.92	242	P	P	15 12 44.7	-5.5
WB9	Warramunga Arr	21.21	148	P	P	15 13 14.9	-0.1
WB8	Warramunga Arr	21.23	148	P	P	15 13 15.8	+0.6
WB7	Warramunga Arr	21.25	148	P	P	15 13 16.0	+0.6
WB5	Warramunga Arr	21.27	148	P	P	15 13 16.3	+0.6
WB4	Warramunga Arr	21.29	148	P	P	15 13 16.8	+0.9
WC1	Warramunga Arr	21.29	148	P	P	15 13 19.3	+3.4
WRAB	Tennant Creek	21.31	148	P	P	15 13 16.4	+0.3
WRAB				IAmb	IAmb	15 13 20.0	
	comp=Z,28nm,0.8s						
WRA	Warramunga Arr	21.31	148	P	P	15 13 15.3	-0.8
WRA	Warramunga Arr	21.31	148	P	P	15 13 15.8	-0.3
	comp=Z,32nm,0.9s,baz=330,slow=9.8,SNR=11						
	comp=Z,32nm,0.9s						
WR8	Warramunga Arr	21.40	148	P	P	15 13 16.6	-0.5
WR8				IAmb	IAmb	15 13 22.7	
	comp=Z,50nm,0.9s						
COEN	Coen	23.60	122	P	P	15 13 37.8	-2.3
COEN				IAmb	IAmb	15 13 44.6	
	comp=Z,32nm,1.4s						
WRKA	Warakurna	23.69	167	P	P	15 13 42.2	+1.3
	comp=Z,47nm,1.9s						
RPSI	Rantau Prapat	24.13	281		P	15 13 41.7	-3.4
PSI	Prapat	24.15	281	P	P	15 13 45.4	0.0
	comp=Z,15nm,0.8s,baz=113,slow=5.6,SNR=17						
	comp=Z,15nm,0.8s						
AS15	Alice Springs	24.25	154	P	P	15 13 46.8	+0.7
	comp=Z,40nm,0.8s						
AS31	Alice Springs	24.27	154	P	P	15 13 45.4	-0.9
ASAR	Alice Springs	24.27	154	P	P	15 13 44.0	-2.4
ASAR	Alice Springs	24.27	154	P	P	15 13 46.6	+0.3
	comp=Z,8.9nm,0.7s,baz=321,slow=7.5,SNR=6.8						
	comp=Z,8.9nm,0.7s						
QIS	Mount Isa	24.90	139	P	P	15 13 52.0	0.0
	comp=Z,23nm,1.1s						
TPUB	Ta-pu	25.08	356	P	P	15 13 51.2	-2.4
GSI	Gunungsitoli	25.25	277	P	P	15 13 51.8	-3.5
GSI	Gunungsitoli	25.25	277	P	P	15 13 54.9	-0.4
	comp=Z,40nm,1.5s						
CMAR	Chiang Mai Arr	30.84	312		P	15 14 45.9	+0.7
CMAR	Chiang Mai Arr	30.84	312	P	P	15 14 46.6	+1.4
	comp=Z,3.9nm,0.7s,baz=138,slow=7.4,SNR=22						
	comp=Z,3.9nm,0.7s						
CHTO	Chiang Mai	31.06	312		P	15 14 48.0	+0.8
CHTO				IAmb	IAmb	15 14 53.0	
	comp=Z,6.3nm,0.7s						
KMI	Kunming	33.03	326	P	P	15 15 07.3	+2.6
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NJ2	Nanjing	33.91	354	eP	P	15 15 14.7	+2.8
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PZH	PanZhiHua	34.67	326	P	P	15 15 20.6	+1.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
STKA	Stephens Creek	34.80	151	P	P	15 15 17.7	-2.1
STKA	Stephens Creek	34.80	151	P	P	15 15 20.6	+0.8
	comp=Z,86nm,0.9s						
ARPS	Mount Arapiles	39.01	155	P	P	15 15 55.9	+0.5
	comp=Z,38nm,0.8s						
ARMA	Armidale	39.52	139	P	P	15 15 58.0	-2.0
ARMA				IAmb	IAmb	15 16 15.7	
	comp=Z,22nm,1.4s						
MGCD	Mangrove Creek	41.05	143	P	P	15 16 12.5	+0.1
	comp=Z,93nm,1.2s						
TOO	Toolangi	41.29	152	P	P	15 16 15.0	+0.6
CAN	Canberra	41.34	147	P	P	15 16 12.9	-1.9
CAN				IAmb	IAmb	15 16 17.4	
	comp=Z,7.0nm,0.8s						
HHC	Hu-ho-hao-te	43.69	348	eP	P	15 16 37.4	+3.5
GTA	Gaotai	46.10	335	eP	P	15 16 55.0	+1.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
USRK	Ussuriysk Ar.	46.61	9	P	P	15 16 55.6	-1.2
USRK	Ussuriysk Ar.	46.61	9	P	P	15 16 54.6	-2.3
	comp=Z,1.5nm,0.7s,baz=207,slow=6.1,SNR=3.1						
	comp=Z,1.5nm,0.7s						
JKA	Kamikawa-asahi	49.13	19	P	P	15 17 15.2	-1.2
JKA				IAmb	IAmb	15 17 30.2	
	comp=Z,6.1nm,0.9s						
SONM	Songino Array	51.48	346	P	P	15 17 34.5	+0.2
	comp=Z,0.8nm,0.6s,baz=158,slow=7.2,SNR=4.4						
	comp=Z,0.8nm,0.6s						
KSH	Kashi	59.32	319	P	P	15 18 33.2	+2.3
KSH				pmax	pmax		
	comp=Z,4.0nm,1.6s						
MK31	Makanchi Array	60.00	329	P	P	15 18 35.5	+0.1
MKAR	Makanchi Array	60.00	329	P	P	15 18 34.9	-0.4
MKAR	Makanchi Array	60.00	329	P	P	15 18 35.1	-0.2
	comp=Z,1.3nm,0.7s,baz=122,slow=8.6,SNR=8.2						
	comp=Z,1.3nm,0.7s						
PETK	Petropavlovsk-	62.12	23	P	P	15 18 49.6	0.0
	comp=Z,0.7nm,0.8s,baz=192,slow=2.3,SNR=7.0						
	comp=Z,0.7nm,0.8s						
ZALV	Zalesovo Beam	63.85	336		P	15 19 02.0	+1.1
ZALV	Zalesovo Beam	63.85	336	P	P	15 19 01.7	+0.7
	comp=Z,1.0nm,0.6s,baz=113,slow=6.0,SNR=4.8						
	comp=Z,1.0nm,0.6s						
KURBB	Kurchatov Arra	64.38	331	P	P	15 19 04.4	-0.2
	comp=Z,1.0nm,0.7s,baz=142,slow=5.8,SNR=7.5						
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	64.40	331		P	15 19 04.7	+0.1
KURK				IAmb	IAmb	15 19 09.0	
	comp=Z,3.5nm,0.8s						
VNDA	Vanda	78.47	172	P	P	15 20 28.8	-0.4
	comp=Z,1.7nm,0.8s,baz=312,slow=7.9,SNR=7.8						
	comp=Z,1.7nm,0.8s						
SYO	Syowa Base	85.78	201	eP	P	15 21 08.8	+1.3
QSPA	South Pole Qui	88.09	180	P	P	15 21 18.9	-0.1
	comp=Z,1.5nm,0.9s,baz=284,slow=2.2,SNR=3.1						
	comp=Z,1.5nm,0.9s						
ILAR	Eielson Array	91.87	25	P	P	15 21 35.6	-0.9
	comp=Z,0.3nm,0.6s,baz=241,slow=5.0,SNR=7.9						
	comp=Z,0.3nm,0.6s						
ARCES	ARCESS Array B	94.23	340	P	P	15 21 48.0	+0.7
	comp=Z,6.0nm,1.1s,baz=86,slow=3.7,SNR=1.8						
	comp=Z,6.0nm,1.1s						

IDC 12 15:14:03.9±1.8, 1°.64S×122°.65E, h0km, mb3.5/3, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=53.9km s-min=28.9km az=63.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	4.42	221	Pn	Pn	15 15 11.8	-0.5
	9.7nm,0.3s,baz=355,slow=1.3,SNR=4.2						
KAPI				Sn	Sn	15 16 01.5	-3.0
	7.2nm,0.3s,baz=223,slow=23,SNR=3.7						
	26nm,0.4s						
WRA	Warramunga Arr	21.48	149	P	P	15 18 55.1	+0.8
	1.7nm,0.7s,baz=335,slow=9.8,SNR=4.7						
	1.7nm,0.7s						
ASAR	Alice Springs	24.46	154	P	P	15 19 24.1	-0.7
	0.9nm,0.7s,baz=324,slow=7.7,SNR=5.4						
	0.9nm,0.7s						
MKAR	Makanchi Array	59.82	329	P	P	15 24 11.4	+0.2
	0.2nm,0.5s,baz=141,slow=5.5,SNR=1.9						
	0.2nm,0.5s						

*IDC **12** 15:15:58.3±1.0, 11°.48N×64°.89W, h0km, mb3.6/2, mbtmp3.9/4, ML2.7/2, MS5.3/4, Error ellipse: s-maj=25.3km s-min=19.0km az=98.0*
*TRN **12** 15:15:59.5, 11°.43N×64°.72W, h10km, MD4.2, North of Venezuela, South of Isla La Blanquilla.*
*FUNV **12** 15:16:00

DSLB	Salisbury	5.12	39	eP	Pn	15 17 16.8	0.0
DSLB	Salisbury	5.12	39	eP	Pn	15 17 17.5	+0.6
DSLB				eS	Sn	15 18 13.3	-1.4
TBG	Guadaloupe-3	5.31	34	eP	Pn	15 17 19.3	-0.2
MBFL	Flemmings, Mon	5.81	25	eP	Pn	15 17 26.6	+0.3
H05N1	Guadeloupe/Mar	6.02	36	Pn	Pn	15 17 30.0	+0.8
H05N1				Sn	Sn	15 18 36.2	-0.7
SKI	Saint Kitts	6.16	18	eP	Pn	15 17 32.2	+1.0
ANBD	Bethesda, Anti	6.27	27	eP	Pn	15 17 33.0	+0.4
SDV	Santo Domingo	6.33	247	Pn	Pn	15 17 31.5	-2.1
	1.1nm,0.3s,baz=45,slow=13,SNR=1.5						
SDV				Sn	Sn	15 18 43.7	-1.1
	4.3nm,0.3s,baz=293,slow=12,SNR=3.1						
	3.4nm,0.3s						
SOCV	Socops	6.79	243	eP	Pn	15 17 38.8	-1.0
SOCV				eS	Sn	15 18 52.3	-3.7
ANWB	Willy Bob	6.81	25	eP	Pn	15 17 41.0	+0.9
AOPR	Arecibo Observ	7.12	344	eP	Pn	15 17 45.2	+0.9
ROSC	El Rosal	11.52	236	Pn	Pn	15 18 43.5	-1.7
	1.8nm,0.3s,baz=61,slow=19,SNR=4.2						
	7.7nm,0.4s						
LPIG	La Paz	44.97	293	LR	LR	15 46 57.4	
	comp=Z,9μm,18.7s,baz=244,slow=42						
ESDC	Sonseca Array	60.35	51	P	P	15 26 10.6	+2.2
	0.7nm,0.7s,baz=257,slow=6.1,SNR=4.9						
	0.7nm,0.7s						
YKA	Yellowknife Ar	62.08	336	P	P	15 26 19.9	+0.4
	0.4nm,0.7s,baz=122,slow=6.2,SNR=5.2						
	0.4nm,0.7s						
TORD	Torodi Ar. Bea	64.78	81	P	P	15 26 39.0	+0.8
	48nm,0.4s,baz=279,slow=8.1,SNR=1.5						
JMIC	Jan Mayen	68.59	17	LR	LR	15 53 25.4	
	comp=Z,554nm,21.9s,baz=22,slow=33						
MLR	Muntele Rosu	82.42	45	LR	LR	16 01 36.7	
	comp=Z,1μm,21.5s,baz=58,slow=33						
TSUM	Tsumeb	86.62	110	LR	LR	16 02 37.7	
	comp=Z,4μm,20.5s,baz=110,slow=32						
CMAR	Chiang Mai Arr	146.20	29	PKPbc	PKPab	15 35 41.7	+0.8
	0.9nm,0.8s,baz=323,slow=3.1,SNR=6.0						

IDC 12 15:21:20.3±2.2, 6°82S×129°34E, h0km, mb3.4/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=115.1km s-min=33.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.92	160	Pn	Pn	15 24 38.5	-0.5
	0.1nm,0.3s,baz=339,slow=14,SNR=8.0						
WRA				Sn	Sn	15 27 01.1	-13
	0.3nm,0.3s,baz=13,slow=4.6,SNR=7.7						
	0.5nm,0.9s						
ASAR	Alice Springs	17.32	166	P	Pn	15 25 24.0	+0.3
	baz=346,slow=11,SNR=1.6						
ASAR				S	Sn	15 28 23.2	-14
	0.4nm,0.9s,baz=350,slow=25,SNR=1.9						
	0.1nm,0.2s						
MKAR	Makanchi Array	67.72	327	P	P	15 32 19.7	0.0
	0.1nm,0.4s,baz=122,slow=8.0,SNR=4.4						
	0.1nm,0.4s						

DJA 12 15:22:14.4±0.2, 2°S±3°×12°3E±°, h10km, M3.8/16, mb3.8/3, MLv3.9/16, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.89	16	P	Pg	15 22 29.5	-2.0
APSI	Ampana	1.32	318	P	Pn	15 22 37.5	-1.4
KDI	Kendari	2.05	178	P	Pn	15 22 48.4	-0.5
KMSI	Cibinong	2.85	31	P	Pn	15 23 01.3	+1.3
PCI	Palu	2.87	290	P	Pn	15 23 00.8	+0.6
SPSI	Sidrap Palu	3.44	233	P	Pn	15 23 08.3	+0.3
MPSI	Mapaga	3.44	310	P	Pn	15 23 08.8	+0.6
SANI	Sanana	3.46	93	P	Pn	15 23 08.4	0.0
BNSI	Bone	3.47	224	P	Pn	15 23 08.4	-0.1
BBSI	Bau Bau	3.56	179	P	Pn	15 23 09.8	0.0
BKSI	Bulukumba	4.16	215	P	Pn	15 23 17.8	-0.2
BSSI	Bau Bau, Buton	4.68	206	P	Pn	15 23 25.0	-0.2
EDFI	Ende, Flores	6.86	187	P	Pn	15 23 56.7	+1.5
	0.1nm4.5nm,0.8s						

IDC 12 15:22:21.8±281.0, 66°65N×40°43E, h0km, Error ellipse: s-maj=155.0km s-min=112.1km az=34.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	I37NO	8.57	296	I	I	16 06 42.9	
	baz=96,slow=330,SNR=0.8						
I31KZ	AKTYUBINSK INF	18.57	143	I	I	17 16 24.1	
	baz=337,slow=325,SNR=2.1						
I46RU	ZALESOVO INFRA	24.75	99	I	I	17 52 40.0	
	baz=321,slow=324,SNR=1.1						
I18DK	QAANAAQ INFRAS	30.05	336	I	I	18 31 30.0	
	baz=42,slow=340,SNR=3.0						

IDC 12 15:23:54.7±1.7, 1°81S×122°69E, h0km, mb3.4/4, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=45.7km s-min=24.8km az=51.0
DJA 12 15:23:58.4±0.2, 2°S±2°×12°3E±°, h10km, M4.1/18, mb4.2/6, MLv4.0/18
ISC 12 15:24:00.5±1.0, 1°94S±0°06×122°60E±0°06, h35km, n19, σ0°98/20, mb3.5/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.40	317	P	Pn	15 24 22.7	-0.9
KDI	Kendari	2.00	180	P	Pn	15 24 32.3	+0.4
KMSI	Cibinong	2.85	29	P	Pn	15 24 45.2	+1.6
PCI	Palu	2.95	290	P	Pn	15 24 45.9	+1.0
SANI	Sanana	3.39	92	P	Pn	15 24 50.2	-0.7
SPSI	Sidrap Palu	3.47	235	P	Pn	15 24 52.6	+0.5
BNSI	Bone	3.49	225	P	Pn	15 24 52.2	-0.2
BBSI	Bau Bau	3.52	181	P	Pn	15 24 53.5	+0.7
MPSI	Mapaga	3.53	310	P	Pn	15 24 52.1	-0.7
BKSI	Bulukumba	4.17	216	P	Pn	15 25 02.2	+0.5
KAPI	Kappang	4.17	223	Pn	Pn	15 25 02.3	+0.5
	10nm,0.3s,baz=20,slow=10,SNR=14						
KAPI				Sn	Sn	15 25 50.0	+0.7
	6.2nm,0.3s,baz=46,slow=23,SNR=6.4						
	32nm,0.4s						
BSSI	Bau Bau, Buton	4.68	207	P	Pn	15 25 09.2	+0.5
TNTI	Ternate	5.47	61	P	Pn	15 25 20.7	+1.1
	0.1nm18nm,0.8s						
EDFI	Ende, Flores	6.83	188	P	Pn	15 25 36.3	-2.0
	0.1nm6.5nm,0.8s						
WRA	Warramunga Arr	21.25	148	P	P	15 28 42.8	-1.1
	0.5nm,0.6s,baz=328,slow=9.9,SNR=2.2						
	0.5nm,0.6s						
PSI	Prapat	24.14	281	P	P	15 29 13.3	-0.4
	2.8nm,0.4s,baz=114,slow=10.0,SNR=4.1						
	2.8nm,0.4s						
ASAR	Alice Springs	24.21	154	P	P	15 29 14.0	-0.2
	0.3nm,0.6s,baz=323,slow=7.9,SNR=7.9						
	0.3nm,0.6s						
KSH	Kashi	59.36	319	P	P	15 34 00.9	+1.3
KSH				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	Makanchi Array	60.05	329	P	P	15 34 03.2	-0.8
	comp=Z,0.3nm,0.8s,baz=122,slow=7.0,SNR=2.8						
	comp=Z,0.3nm,0.8s						

DJA 12 15:35:08.7±0.2, 2°S±2°×12°3E±°, h10km, M4.0/18, mb4.2/7, MLv4.0/18, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.94	8	P	Pg	15 35 24.8	-2.1
APSI	Ampana	1.45	317	P	Pn	15 35 33.6	-1.4
PCI	Palu	3.00	291	P	Pn	15 35 59.0	+2.7
SANI	Sanana	3.35	91	P	Pn	15 35 59.6	-1.5
SPSI	Sidrap Palu	3.48	235	P	Pn	15 36 02.9	0.0
BBSI	Bau Bau	3.48	181	P	Pn	15 36 03.5	+0.5
BNSI	Bone	3.49	226	P	Pn	15 36 03.1	0.0
MPSI	Mapaga	3.58	310	P	Pn	15 36 04.3	0.0
BKSI	Bulukumba	4.16	217	P	Pn	15 36 12.2	-0.1
NLAI	Namlea	4.63	106	P	Pn	15 36 19.8	+1.1
BSSI	Bau Bau, Buton	4.66	207	P	Pn	15 36 18.9	-0.3
TNTI	Ternate	5.46	60	P	Pn	15 36 31.4	+1.2
	0.1nm7.8nm,0.4s						
AAI	Ambon	5.80	107	P	Pn	15 36 34.6	-0.3
	0.1nm14nm,0.7s						

MMRI	Maumere	6.62	183	P	Pn	15 36 45.8	-0.4
	0.1nm20nm,0.8s						
EDFI	Ende, Flores	6.79	188	P	Pn	15 36 48.3	-0.3
	0.1nm8.0nm,0.6s						
WBSI	Waikabubak, Su	8.27	203	P	Pn	15 37 08.8	0.0

IDC 12 15:37:06.8±1.5, 1°74S×122°71E, h0km, mb3.5/4, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=53.7km s-min=22.2km az=58.0
DJA 12 15:37:08.1±0.2, 2°S±2°×12°3E±°, h10km, M4.0/18, mb4.1/5, MLv4.0/18
ISC 12 15:37:10.7±1.0, 1°90S±0°05×122°79E±0°06, h35km, n19, σ1°90/20, mb3.5/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.85	359	P	Pn	15 37 24.1	-2.1
APSI	Ampana	1.51	311	P	Pn	15 37 34.6	-0.6
KMSI	Cibinong	2.73	26	P	Pn	15 37 53.4	+1.3
PCI	Palu	3.11	289	P	Pn	15 37 59.3	+2.0
SANI	Sanana	3.20	93	P	Pn	15 37 58.1	-0.4
BBSI	Bau Bau	3.57	184	P	Pn	15 38 04.0	+0.4
SPSI	Sidrap Palu	3.65	236	P	Pn	15 38 03.7	-0.9
MPSI	Mapaga	3.65	308	P	Pn	15 38 05.2	+0.5
BNSI	Bone	3.65	227	P	Pn	15 38 04.0	-0.7
BKSI	Bulukumba	4.32	218	P	Pn	15 38 12.7	-1.1
KAPI	Kappang	4.33	224	Pn	Pn	15 38 14.1	+0.1
	4.2nm,0.3s,baz=8.1,slow=5.7,SNR=3.0						
KAPI				Sn	Sn	15 38 58.9	-4.4
	2.4nm,0.3s,baz=312,slow=23,SNR=1.8						
	14nm,0.4s						
BSSI	Bau Bau, Buton	4.80	208	P	Pn	15 38 19.7	-0.8
TNTI	Ternate	5.29	60	P	Pn	15 38 25.7	-1.6
	0.1nm9.9nm,0.5s						
AAI	Ambon	5.68	108	P	Pn	15 38 30.5	-2.1
	17nm,0.8s						
EDFI	Ende, Flores	6.89	189	P	Pn	15 38 48.8	-0.5
WRA	Warramunga Arr	21.19	149	P	P	15 41 57.4	+4.1
	1.4nm,0.7s,baz=332,slow=9.6,SNR=8.8						
	1.4nm,0.7s						
ASAR	Alice Springs	24.17	154	P	P	15 42 25.8	+1.9
	0.9nm,0.7s,baz=329,slow=8.3,SNR=14						
	0.9nm,0.7s						
CMAR	Chiang Mai Arr	30.98	312	P	P	15 43 25.4	+0.4
	0.3nm,0.3s,baz=138,slow=7.3,SNR=4.6						
	0.3nm,0.3s						
MKAR	Makanchi Array	60.12	329	P	P	15 47 14.4	-0.2
	0.3nm,0.7s,baz=132,slow=6.8,SNR=3.2						
	0.3nm,0.7s						

LDO 12 15:38:01±0.6, 40°85N±0°02×74°17W±0°02, h5km±5km, Error ellipse: s-maj=2.4km s-min=1.9km az=212.0
NEIC 12 15:38:01.1±0.5, 40°85N±0°02×74°18W±0°02, h6km±3km, ML2.0/5, ML1.8(LDO), Error ellipse: s-maj=3.2km s-min=1.6km az=154.0, New Jersey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPNY	Central Park	0.17	109		Pg	15 38 04.8	+0.2
CPNY				Sg	Sg	15 38 07.1	+0.2
PAL	Palisades	0.26	52	Pg	Pg	15 38 05.3	-0.8
PAL				Sg	Sg	15 38 09.5	-0.1
TRNY	Table Rock, Ra	0.30	353		Pg	15 38 06.6	-0.3
BRNJ	Basking Ridge	0.34	241		Pg	15 38 07.6	-0.1
ODNJ	Ogdensburg	0.40	306	Pg	Pg	15 38 08.5	-0.3
N62A	Caumsett State	0.54	81	Pg	Pg	15 38 11.2	-0.4
N62A				IAML		15 38 20.1	
	118nm,0.6s						
LUPA	Lehigh Univers	0.94	255	Pg	Pg	15 38 17.9	-1.3
KSCT	Kent School, K	1.02	31	Pg	Pg	15 38 19.8	-0.9
KSCT				IAML		15 38 35.6	
	comp=N,34nm,0.2s						
KSCT				IAML		15 38 36.3	
	comp=E,41nm,0.2s						
WUPA	West Chester U	1.43	230		Pn	15 38 26.5	-1.0
L59A	Walton	1.49	334		Pn	15 38 27.8	-0.6
M63A	Gales Ferry	1.70	70	Pn	Pn	15 38 31.1	-0.3
MVL	Millersville	1.86	244	Pn	Pn	15 38 33.6	+0.1
BINY	Binghamton	1.91	315	Pn	Pn	15 38 33.5	-0.8
L61B	Northampton	1.95	35	Pn	Pn	15 38 34.3	-0.5
M57A	Sunshine Farm,	2.28	283	Pn	Pn	15 38 38.4	-1.0
ACCN	Adirondack Com	2.56	8	Pn	Pn	15 38 42.6	-0.5
J59A	Piesco	2.62	355	Pn	Pn	15 38 44.2	+0.1
NCB	Newcomb	3.12	359	Pn	Pn	15 38 50.6	-0.2

BGSI 12 15:44:30.0±2.7, 23°99S×29°24E, h31km±345km, ML3.0
BUL 12 15:44:30.7±11.0, 22°42S×26°05E, h20km±240km, MD3.0
PRE 12 15:44:41.1±1.3, 23°48S×27°31E, h0km, ML2.2, Suspected explosion
ISC 12 15:44:42.0±0.8, 23°68S±0°05×27°38E±0°04, h0km, n13, σ1°78/19, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEPH	Lephalale, Lim	0.42	116	eP	Pb	15 44 51.7	-0.8
LEPH				eS	Sb	15 45 01.1	+1.6
LEPH				IAML		15 45 04.9	
	comp=Z,268nm,0.6s						
MREMI	Moremi	1.10	3	i P	Pg	15 45 01.0	-2.2
MREMI				i S	Sn	15 45 25.4	+4.6
MREMI				IAML		15 45 26.7	
	comp=E,289nm,0.4s						
LBTB	Lobatse	2.10	230	eP	Pn	15 45 19.0	+0.4
LBTB				eS	Sb	15 45 48.0	+0.2
LBTB				IAML		15 46 05.7	
	comp=Z,16nm,0.2s						
LBTB	Lobatse	2.10	230	i P	Pb	15 45 19.9	-1.2
HRAO	HartRAO	2.22	173	eP	Pb	15 45 22.3	-0.9
HRAO				eS	Sg	15 45 53.5	0.0
HRAO				IAML		15 46 01.5	
	comp=Z,22nm,0.3s						
KHWEE	KHWEE	2.48	314	i P	Pg	15 45 29.0	-0.6
KHWEE				IAML		15 46 10.4	
	comp=N,159nm,0.3s						
KDWAN	Kaudwane	2.51	276	i P	Pg	15 45 31.8	+1.5
KDWAN				IAML		15 46 22.5	
	comp=N,28nm,0.4s						
MUSN	Musina, Limpop	2.67	59	eP	Pn	15 45 26.5	+0.1
MUSN				eS	Sn	15 45 57.5	-2.0
MUSN				IAML		15 46 14.1	
	comp=Z,9.1nm,0.2s						
MUSN	Musina, Limpop	2.67	59	i P	Pn	15 45 27.2	+0.8
MUSN				i S	Sb	15 46 03.1	-1.0
MAKGR	Makgori	3.17	227	i P	Pn	15 45 31.8	-1.5
MAKGR				IAML		15 46 35.8	
	comp=E,52nm,0.5s						
MOPA	Mopani	3.69	88	eP	Pn	15 45 42.0	+1.6
MOPA				eS	Sn	15 46 24.7	+0.1
MOPA				IAML		15 46 45.1	
	comp=Z,17nm,0.4s						
MOPA	Mopani	3.69	88	i P	Pn	15 45 42.8	+2.4
BOSA	Boshof	5.28	201	i P	Pn	15 45 49.9	-12

DJA 12 15:57:03.1±0.2, 2°S±2°×12°3E±°, h10km, M4.1/19, mB4.7/1, mb4.2/6, MLv4.0/19, Mw(mB)4.0/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.90	14	P	Pg	15 57 20.2	-0.3
APSI	Ampana	1.35	318	P	Pn	15 57 27.4	-0.6
KDI	Kendari	2.02	178	P	Pb	15 57 40.0	0.0
KMSI	Cibinong	2.86	30	P	Pn	15 57 49.4	+0.6
PCI	Palu	2.89	290	P	Pn	15 57 49.7	+0.4
SANI	Sanana	3.44	92	P	Pn	15 57 54.3	-2.5
SPSI	Sidrap Palu	3.44	234	P	Pn	15 57 56.8	0.0
BNSI	Bone	3.47	225	P	Pn	15 57 57.2	0.0
MPSI	Mapaga	3.47	310	P	Pn	15 57 56.5	-0.7
BBSI	Bau Bau	3.54	180	P	Pn	15 57 59.3	+1.1
BKSI	Bulukumba	4.16	216	P	Pn	15 58 08.3	+1.6
BSSI	Bau Bau, Buton	4.67	206	P	Pn	15 58 14.3	+0.6
NLAI	Namlea	4.73	106	P	Pn	15 58 14.9	+0.4
TNTI	Ternate	5.51	61	P	Pn	15 58 24.9	-0.4
	0.1nm688nm16nm,0.4s						
EDFI	Ende, Flores	6.84	187	P	Pn	15 58 43.4	-0.2

IDC 12 15:57:38.5±1.8, 38°55N×73°79E, h0km, mb3.6/6, mbtmp3.6/10, ML3.2/4, Error ellipse: s-maj=28.2km s-min=24.3km az=115.0

SOME 12 15:57:39.8, 38°38N×74°60E, h5km
NNC 12 15:57:46.3±3.4, 38°90N×73°82E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=32.4km s-min=19.5km az=141.0
ISC 12 15:57:41.8±1.3, 38°63N±0°08×74°06E±0°10, h10km, n26, σ2°87/24, mb3.6/6, 3C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	4.02	5	Pn	Pn	15 58 45.9	+2.3
	1.8nm,0.3s,baz=184,slow=6.6,SNR=22						
AAK				Sn	Sn	15 59 37.8	+6.9
	1.0nm,0.3s,baz=242,slow=22,SNR=4.0						
AAK				Lg	Lg	15 59 49.7	
	1.5nm,0.3s,baz=8.2,slow=13,SNR=4.9						
	5.4nm,0.4s						
AAK	Ala-Archa	4.02	5	Pn	Pn	15 58 46.4	+2.8
	11nm,0.9s						
AAK				⇑Lg	Lg	15 59 38.2	
	19nm,0.6s						
TKM2	Tokmak 2	4.45	15	⇑Pn	Pn	15 58 53.4	+3.9
	1.8nm,0.5s						
TKM2				⇑Pg	Pg	15 59 06.6	-0.4
	10nm,0.8s						
TKM2				⇓Lg	Lg	16 00 01.2	
	20nm,0.9s						
KST	Kastek	4.64	17	Pg	Pb	15 59 07.3	+3.9
	8.2nm,0.7s						
KST				Lg	Lg	16 00 09.9	
	23nm,0.7s						
KST	Kastek	4.64	17	eP	Pb	15 59 07.3	+3.9
	2.5nm,0.5s						
KST				eS	Sg	16 00 11.3	+0.4
	23nm,0.7s						
MTBS	Maitube	4.84	21	Pg	Pb	15 59 09.6	+2.8
	2.4nm,0.3s						
MTBS				Lg	Lg	16 00 15.4	
	9.4nm,0.7s						
MTBS	Maitube	4.84	21	eP	Pb	15 59 09.6	+2.8
	2.4nm,0.3s						
MTBS				eS	Sg	16 00 15.4	-2.0
	9.4nm,0.7s						
TNSS	Tian-Shan	4.92	25	Pg	Pg	15 59 12.1	-4.0
	5.9nm,0.4s						
TNSS				Lg	Lg	16 00 19.4	
	11nm,0.7s						
TNSS	Tian-Shan	4.92	25	eP	Pg	15 59 11.6	-4.4
	4.0nm,0.4s						
TNSS				eS	Sg	16 00 18.7	-1.1
	12nm,0.8s						
MDOK	Medeo	5.07	26	Pg	Pb	15 59 13.7	+3.1
	6.3nm,0.5s						
MDOK				Lg	Lg	16 00 22.8	
	10nm,0.9s						
KK31	Karatay Array	5.22	330	⇓Pn	Pn	15 59 00.5	+0.5
	2.1nm,0.5s,baz=154,slow=16,SNR=6.7						
KK31				Sn	Sn	16 00 02.7	+2.5
	11nm,0.7s,baz=142,slow=23,SNR=6.3						
CHKK	Chushkaly	5.67	22	Pg	Pg	15 59 26.0	-4.4
	5.2nm,0.5s						
CHKK				Lg	Lg	16 00 43.5	
	11nm,0.5s						
CHKK	Chushkaly	5.67	22	eP	Pg	15 59 26.0	-4.4
	5.2nm,0.5s						
CHKK				eS	Sg	16 00 43.5	-0.2
	11nm,0.5s						
KURS	Kuram	5.77	31	eP	Pg	15 59 26.0	-6.2
	5.2nm,0.5s						
KURS				eS	Sg	16 00 43.5	-3.3
	11nm,0.5s						
ARXS	Arharly	6.26	26	Pg	Pg	15 59 36.2	-5.4
	4.8nm,0.5s						
ARXS				Lg	Lg	16 01 02.2	
	8.9nm,0.6s						
BVAR	Borovoye Array	14.62	351	Pn	Pn	16 01 05.5	-3.2
	baz=166,slow=14,SNR=6.2						
	0.3nm,0.4s						
AB31	Akbulak array	14.68	321	P	Pn	16 01 06.3	-3.2
	0.2nm,0.4s,baz=126,slow=15,SNR=6.2						
AKTO	Aktyubinsk	16.40	321	Pn	Pn	16 01 27.9	-4.0
	0.3nm,0.3s,baz=117,slow=10,SNR=3.7						
	0.6nm,0.4s						
AKTO	Aktyubinsk	16.40	321	P	Pn	16 01 31.9	0.0
	1.2nm,0.7s						
ZALV	Zalesovo Beam	17.00	22	P	Pn	16 01 39.3	-0.3
	0.2nm,0.3s,baz=218,slow=11,SNR=7.4						
	1.2nm,0.5s						
SONM	Songino Array	25.14	58	P	P	16 03 07.9	+0.9
	1.8nm,0.8s,baz=258,slow=10,SNR=8.5						
	1.8nm,0.8s						
FINES	FINESS Array B	37.15	324	P	P	16 04 51.2	-1.2
	0.4nm,0.4s,baz=103,slow=8.1,SNR=1.2						
	0.4nm,0.4s						
ARCES	ARCESS Array B	40.16	336	P	P	16 05 15.3	-2.3
	0.9nm,0.6s,baz=114,slow=8.0,SNR=6.5						
	0.9nm,0.6s						
HFS	Hagfors	42.94	320	P	P	16 05 37.5	-3.0
	0.7nm,0.6s,baz=99,slow=9.2,SNR=1.8						
	0.7nm,0.6s						
NOA	NORSAR Array B	44.19	322	P	P	16 05 46.6	-4.0
	0.3nm,0.6s,baz=102,slow=8.0,SNR=1.0						
	0.3nm,0.6s						
YKA	Yellowknife Ar	78.98	4	P	P	16 09 44.2	-1.2
	0.1nm,0.3s,baz=351,slow=5.1,SNR=4.4						
	0.1nm,0.3s						

IDC 12 15:58:30.0±1.8, 2°12S×122°60E, h0km, mb3.2/3, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=52.6km s-min=27.4km az=63.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	4.04	225	Pn	Pn	15 59 32.5	-0.7
	4.6nm,0.3s,baz=35,slow=16,SNR=2.6						
KAPI				Sn	Sn	16 00 18.3	-3.0
	1.5nm,0.3s,baz=205,slow=22,SNR=1.3						
	12nm,0.3s						
FITZ	Fitzroy Crossi	16.16	170	Pn	Pn	16 02 18.8	+0.1
	baz=350,slow=13,SNR=1.6						
	1.0nm,0.8s						
WRA	Warramunga Arr	21.11	148	P	P	16 03 16.5	0.0
	1.0nm,0.8s,baz=330,slow=10.0,SNR=4.6						
	1.0nm,0.8s						
ASAR	Alice Springs	24.06	154	P	P	16 03 47.2	0.0
	0.8nm,0.8s,baz=330,slow=8.2,SNR=7.0						
	0.8nm,0.8s						
MKAR	Makanchi Array	60.20	329	P	P	16 08 40.1	+0.2
	0.1nm,0.6s,baz=123,slow=5.3,SNR=0.7						
	0.1nm,0.6s						

IDC 12 15:59:47.5±0.8, 1°63S×122°77E, h0km, mb3.7/13, mbtmp3.8/14, ML4.2/2, MS4.2/1, Error ellipse: s-maj=26.0km s-min=14.9km az=71.0
DJA 12 15:59:51.5±0.2, 2°S±2°×12°3E±°, h10km, M4.7/25, mB5.1/6, mb4.9/17, MLv4.7/25, Mw(mB)4.5/6
ISC 12 15:59:52.8±0.6, 1°77S±0°05×122°58E±0°06, h35km, n41, σ1°33/42, mb3.7/13, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.75	15	P	Pn	16 00 06.9	+0.1
APSI	Ampana	1.27	312	P	Pn	16 00 15.0	+1.0
APSI				S	Sn	16 00 31.5	+1.7
KDI	Kendari	2.17	179	P	P

0.3nm72nm,0.5s
MMRI Maumere 6.83 183 P Pn 16 01 30.2 -0.3
EDFI Ende, Flores 6.99 187 P Pn 16 01 32.2 -0.6
0.3nm78nm,0.6s
SOEI Soe 8.11 168 P Pn 16 01 49.8 +1.6
97nm,0.8s
WSI Waingapu 8.17 196 P Pn 16 01 50.3 +1.4
WBSI Waikabubak, Su 8.44 202 P Pn 16 01 52.5 -0.2
48nm,0.8s
PLAI Plampang 8.49 214 P Pn 16 01 52.9 -0.4
SWI Sorong 8.72 84 P Pn 16 01 58.1 +1.6
FAKI Fak Fak 9.72 97 P Pn 16 02 10.6 +0.3
FITZ Fitzroy Crossi 16.50 170 Pn Pn 16 03 41.7 0.0
0.2nm,0.3s,baz=24,slow=6.6,SNR=7.9
3.4nm,0.7s
WRA Warramunga Arr 21.41 148 P P 16 04 37.0 -0.7
0.8nm,0.5s,baz=325,slow=11,SNR=10.0
WRA LR LR 16 14 29.0
comp=Z,606nm,18.2s,baz=344,slow=41
0.8nm,0.5s
PSI Prapat 24.09 281 P P 16 05 06.5 +1.1
2.4nm,0.4s,baz=126,slow=9.5,SNR=5.5
2.4nm,0.4s
ASAR Alice Springs 24.37 154 P P 16 05 08.7 +0.8
1.3nm,0.5s,baz=326,slow=7.7,SNR=10
1.3nm,0.5s
CMAR Chiang Mai Arr 30.74 312 P P 16 06 06.9 +1.9
0.8nm,0.7s,baz=142,slow=7.0,SNR=4.9
0.8nm,0.7s
STKA Stephens Creek 34.90 151 P P 16 06 41.5 +0.4
2.2nm,0.8s,baz=303,slow=9.3,SNR=4.5
2.2nm,0.8s
MJAR Matsushiro Arr 40.80 19 P P 16 07 29.7 -1.2
0.8nm,0.6s,baz=187,slow=7.8,SNR=5.3
0.8nm,0.6s
USRK Ussuriysk Ar. 46.53 9 P P 16 08 16.3 -0.5
0.8nm,0.6s,baz=194,slow=5.6,SNR=4.8
0.8nm,0.6s
SONM Songino Array 51.39 346 P P 16 08 52.6 -1.6
0.4nm,0.6s,baz=163,slow=6.0,SNR=1.8
0.4nm,0.6s
MKAR Makanchi Array 59.90 329 P P 16 09 54.6 -0.6
0.4nm,0.7s,baz=131,slow=7.9,SNR=4.3
0.4nm,0.7s
PETK Petropavlovsk- 62.07 23 P P 16 10 07.4 -2.4
0.8nm,1.1s,baz=217,slow=7.1,SNR=4.0
0.8nm,1.1s
ZALV Zalesovo Beam 63.75 336 P P 16 10 19.8 -1.1
0.3nm,0.2s,baz=142,slow=7.3,SNR=1.7
0.3nm,0.2s
KURBB Kurchatov Arra 64.28 331 P P 16 10 24.4 -0.1
0.5nm,0.7s,baz=139,slow=5.9,SNR=4.6
0.5nm,0.7s
BVAR Borovoye Array 69.78 329 P P 16 10 59.7 +0.3
1.0nm,1.0s,baz=108,slow=9.3,SNR=2.4
1.0nm,1.0s

*NEIC **12** 16:01:21.3±2.0,2°.11S±0°.03×122°.9E±0°.2,h10km±2km, mb4.1/8,Error ellipse: s-maj=26.1km s-min=3.8km az=80.0*
*IDC **12** 16:01:21.6±1.3,1°.89S×122°.99E,h0km,mb3.8/6, mbtmp3.9/8,ML3.6/2,Error ellipse: s-maj=42.8km s-min=19.9km az=59.0*
ISC 12 16:01:23.9±0.8,2°.09S±0°.05×123°.0E±0°.1,h35km,n23, σ1$87/23,mb4.0/6,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	1.07	346		Pn	16 01 41.2	-1.3
LUWI				Sg	Sn	16 01 56.1	0.0
TOLI2	Tolitoli	3.90	325	Pn	Pn	16 02 22.4	+1.0
KAPI	Kappang	4.38	228	Pn	Pn	16 02 26.9	-1.0
KAPI	Kappang	4.38	228	Pn	Pn	16 02 32.2	+4.2
KAPI	13nm,0.3s,baz=58,slow=13,SNR=1.2			Sn	Sn	16 03 19.9	+2.2
	16nm,0.3s,baz=233,slow=20,SNR=2.4						
	56nm,0.3s						
MMRI	Maumere	6.55	187	Pn	Pn	16 02 57.4	-0.5
UGM	Wanagama	13.73	245	Pn	Pn	16 04 35.6	-0.8
FITZ	Fitzroy Crossi	16.11	171	Pn	Pn	16 05 07.5	-0.4
FITZ	Fitzroy Crossi	16.11	171	Pn	P	16 05 12.2	+1.3
	0.1nm,0.3s,baz=24,slow=8.9,SNR=1.4						
	1.5nm,0.8s						
PSA00	Pilbara Seismi	19.61	189	P	P	16 05 46.2	-3.2
PSA00				IAmb	IAmb	16 06 04.1	
	comp=Z,4.9nm,0.8s						
WB0	Warramunga Arr	20.79	148	P	P	16 06 01.4	-0.8
WB0				IAmb	IAmb	16 06 18.1	
	comp=Z,11nm,1.0s						
WRA	Warramunga Arr	20.90	149	P	Pn	16 06 07.8	+1.6
	comp=Z,2.4nm,0.9s,baz=326,slow=10,SNR=2.3						
	comp=Z,2.4nm,0.9s						
WR8	Warramunga Arr	21.00	149	P	P	16 06 04.7	+0.1
WR8				IAmb	IAmb	16 06 21.5	
	comp=Z,9.6nm,0.8s						
AS31	Alice Springs	23.89	155	P	P	16 06 36.3	+1.7
ASAR	Alice Springs	23.89	155	P	P	16 06 38.9	+4.3
	comp=Z,0.7nm,0.6s,baz=333,slow=9.4,SNR=4.9						
	comp=Z,0.7nm,0.6s						
UBPT	Khong Chiam	24.49	315	P	P	16 06 40.0	-0.1
RPSI	Rantau Prapat	24.57	281	P	P	16 06 38.7	-2.2
PSI	Prapat	24.59	281	P	P	16 06 41.6	+0.4
	comp=Z,3.9nm,0.4s,baz=100,slow=6.4,SNR=4.6						
	comp=Z,3.9nm,0.4s						
NWAO	Narrogin (SRO)	31.16	189	P	P	16 07 39.2	-0.4
CMAR	Chiang Mai Arr	31.29	312	P	P	16 07 39.0	-1.9
CMAR	Chiang Mai Arr	31.29	312	P	P	16 07 42.7	+1.8
	comp=Z,2.0nm,0.6s,baz=138,slow=7.3,SNR=12						
	comp=Z,2.0nm,0.6s						
CHTO	Chiang Mai	31.51	312	P	P	16 07 40.4	-2.5
CHTO				IAmb	IAmb	16 07 45.6	
	comp=Z,3.5nm,0.7s						
MKAR	Makanchi Array	60.40	329	P	P	16 11 32.1	+2.3
	comp=Z,0.7nm,0.7s,baz=123,slow=7.6,SNR=2.0						
	comp=Z,0.7nm,0.7s						
KURBB	Kurchatov Arra	64.78	330	P	P	16 12 00.7	+1.7
	comp=Z,0.6nm,0.8s,baz=139,slow=5.9,SNR=2.7						
	comp=Z,0.6nm,0.8s						

DJA 12 16:08:49.2±0.2,2°S±2°×12°3E±°,h10km,M3.6/18,mb3.8/5, MLv3.6/18,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.86	9	P	Pg	16 09 03.8	-2.1
APSI	Ampana	1.40	315	P	Pn	16 09 12.8	-1.9
MRSI	Marisa	2.46	343	P	Pn	16 09 28.4	-1.0
KMSI	Cibinong	2.80	29	P	Pn	16 09 35.8	+1.7
PCI	Palu	2.97	289	P	Pn	16 09 38.0	+1.5
SANI	Sanana	3.35	93	P	Pn	16 09 40.3	-1.4
SPSI	Sidrap Palu	3.52	234	P	Pn	16 09 44.5	+0.4
MPSI	Mapaga	3.53	309	P	Pn	16 09 44.7	+0.6
BNSI	Bone	3.54	225	P	Pn	16 09 43.3	-1.0
BBSI	Bau Bau	3.56	181	P	Pn	16 09 43.9	-0.7
BKSI	Bulukumba	4.23	216	P	Pn	16 09 54.0	+0.3
NLAI	Namlea	4.65	107	P	Pn	16 09 45.9	-14
BSSI	Bau Bau, Buton	4.73	207	P	Pn	16 10 01.4	+0.8
EDFI	Ende, Flores	6.87	188	P	Pn	16 10 30.6	+0.4
	0.0nm4.7nm,0.9s						

DJA 12 16:11:02.3±0.3,2°S±3°×12°3E±°,h10km,M3.6/12,mb3.6/2, MLv3.6/12,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.91	17	P	Pg	16 11 18.6	-1.3
APSI	Ampana	1.31	320	P	Pn	16 11 25.8	-0.9
MRSI	Marisa	2.45	347	P	Pn	16 11 43.1	+0.8
KMSI	Cibinong	2.89	31	P	Pn	16 11 48.9	+0.5
SPSI	Sidrap Palu	3.40	233	P	Pn	16 11 56.1	+0.7
BNSI	Bone	3.43	224	P	Pn	16 11 56.2	+0.3
MPSI	Mapaga	3.44	311	P	Pn	16 11 55.9	0.0
SANI	Sanana	3.49	92	P	Pn	16 11 53.6	-3.1
BKSI	Bulukumba	4.13	215	P	Pn	16 12 06.0	+0.5
BSSI	Bau Bau, Buton	4.65	205	P	Pn	16 12 12.9	+0.3
NLAI	Namlea	4.78	106	P	Pn	16 12 13.8	-0.6

DJA 12 16:14:08.8±0.2,2°S±3°×12°3E±°,h10km,M3.8/16,mB5.3/1, mb4.0/5,MLv3.7/16,Mw(mB)4.7/1,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.80	9	P	Pg	16 14 23.8	-0.5
APSI	Ampana	1.35	313	P	Pn	16 14 31.1	-2.7
MRSI	Marisa	2.41	343	P	Pn	16 14 46.1	-2.2
KMSI	Cibinong	2.75	29	P	Pn	16 14 53.6	+0.6
PCI	Palu	2.95	288	P	Pn	16 14 56.5	+0.7
SANI	Sanana	3.35	94	P	Pn	16 14 58.9	-2.4
MPSI	Mapaga	3.49	308	P	Pn	16 15 04.2	+1.0
SPSI	Sidrap Palu	3.56	234	P	Pn	16 15 04.6	+0.5
BNSI	Bone	3.59	225	P	Pn	16 15 05.7	+1.2
BKSI	Bulukumba	4.28	216	P	Pn	16 15 14.1	+0.1
BSSI	Bau Bau, Buton	4.78	207	P	Pn	16 15 20.2	-0.8
TNTI	Ternate	5.39	61	P	Pn	16 15 29.8	+0.5
EDFI	Ende, Flores	6.93	188	P	Pn	16 15 51.2	+0.6
SWI	Sorong	8.67	84	P	Pn	16 16 14.6	+0.2

DJA 12 16:16:28.1±0.2,2°S±3°×12°3E±°,h10km,M3.7/15,mb3.7/4, MLv3.8/15,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.90	10	P	Pg	16 16 44.8	-0.6
APSI	Ampana	1.40	316	P	Pn	16 16 51.7	-2.0
MRSI	Marisa	2.49	344	P	Pn	16 17 09.0	+0.3
KMSI	Cibinong	2.83	29	P	Pn	16 17 14.6	+1.1
PCI	Palu	2.96	290	P	Pn	16 17 16.8	+1.6
SANI	Sanana	3.37	92	P	Pn	16 17 21.5	+0.7
SPSI	Sidrap Palu	3.49	235	P	Pn	16 17 22.5	0.0
BNSI	Bone	3.51	226	P	Pn	16 17 23.8	+1.0
MPSI	Mapaga	3.53	310	P	Pn	16 17 22.5	-0.6
BKSI	Bulukumba	4.19	216	P	Pn	16 17 32.2	+0.1
BSSI	Bau Bau, Buton	4.69	207	P	Pn	16 17 38.5	-0.6
EDFI	Ende, Flores	6.84	188	P	Pn	16 18 08.5	-0.1
	0.0nm3.2nm,1.4s						

*IDC **12** 16:20:55.9±0.7,8°.04N×124°.94E,h0km,mb3.9/11, mbtmp3.9/12,ML4.7/1,MS3.4/1,Error ellipse: s-maj=31.2km s-min=9.4km az=62.0*
*NEIC **12** 16:21:01.2±2.0,7°.9N±0°.1×125°.1E±0°.1,h35km±3km, mb4.4/13,Error ellipse: s-maj=19.5km s-min=10.4km az=46.0*
ISC 12 16:20:57.5±0.6,7°.94N±0°.07×125°.1E±0°.1,h14km,n35, σ1$39/34,mb4.0/16,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.00	150	Pg	Pb	16 21 17.7	+1.1
	413nm,0.3s,baz=303,slow=10,SNR=46						
DAV				Lg	Lg	16 21 35.1	
	445nm,0.3s,baz=160,slow=19,SNR=4.7						
DAV	Davao City (W)	1.00	150	P	Pb	16 21 17.0	+0.4
MYLDM	Lahad Datu	7.08	248	Pn	Pn	16 22 42.2	+1.4
TGY	Tagaytay City	7.35	327	LR	LR	16 25 54.1	
	comp=Z,276nm,20.6s,baz=92,slow=42						
TNTI	Ternate	7.47	162		Pn	16 22 46.5	+0.2
TOLI2	Tolitoli	8.02	212	Pn	Pn	16 22 49.8	-3.8
SBUM	Sibu	13.91	248	Pn	Pn	16 24 16.1	+1.7
KAPI	Kappang	13.92	203	Pn	Pn	16 24 13.9	-0.6
KAPI	Kappang	13.92	203	Pn	Pn	16 24 16.5	+2.0
	3.6nm,0.3s,baz=37,slow=17,SNR=6.6						
	8.7nm,0.3s						
UBPT	Khong Chiam	20.53	293	P	P	16 25 33.0	-2.7
UBPT				IAmb	IAmb	16 25 41.6	
	comp=Z,34nm,1.0s						
MTN	Manton Dam	21.50	164	P	P	16 25 45.9	-0.3
MTN				IAmb	IAmb	16 26 16.2	
	comp=Z,7.9nm,0.8s						
KNRA	Kununurra	23.74	171	P	P	16 26 08.5	-1.1
KNRA				IAmb	IAmb	16 26 38.2	
	comp=Z,6.9nm,0.8s						
FITZ	Fitzroy Crossi	25.88	179	P	P	16 26 27.9	-1.1
CMAR	Chiang Mai Arr	27.46	295	P	P	16 26 42.6	-0.9
	comp=Z,0.3nm,0.7s,baz=118,slow=8.2,SNR=8.7						
	comp=Z,0.3nm,0.7s						
WB0	Warramunga Arr	29.02	162	P	P	16 26 55.0	-2.3
WB0				IAmb	IAmb	16 27 31.7	
	comp=Z,9.1nm,1.4s						
WRA	Warramunga Arr	29.17	162	P	P	16 27 00.1	+1.5
	comp=Z,1.0nm,0.7s,baz=338,slow=10,SNR=5.2						
	comp=Z,1.0nm,0.7s						
WR8	Warramunga Arr	29.23	162	P	P	16 26 57.4	-1.8
WR8				IAmb	IAmb	16 27 39.8	
	comp=Z,11nm,1.5s						
AS31	Alice Springs	32.57	165	P	P	16 27 28.2	-0.5
ASAR	Alice Springs	32.57	165	P	P	16 27 28.6	-0.1
ASAR	Alice Springs	32.57	165	P	P	16 27 28.9	+0.3
	comp=Z,0.7nm,0.5s,baz=341,slow=7.5,SNR=17						
	comp=Z,0.7nm,0.5s						
USRK	Ussuriysk Ar.	36.62	8	P	P	16 28 03.0	-0.5
	comp=Z,0.9nm,0.7s,baz=170,slow=9.1,SNR=4.1						
	comp=Z,0.9nm,0.7s						
FORT	Forrest	38.60	176	P	P	16 28 20.4	0.0
BBOO	Buckleboo	41.85	166	P	P	16 28 48.0	+0.7
BBOO				IAmb	IAmb	16 29 12.3	
	comp=Z,16nm,1.3s						
STKA	Stephens Creek	42.62	159	P	P	16 28 55.0	+1.4
STKA	Stephens Creek	42.62	159	P	P	16 28 55.5	+2.0
	comp=Z,2.3nm,0.8s,baz=347,slow=4.8,SNR=5.5						
	comp=Z,2.3nm,0.8s						
PETK	Petropavlovsk-	52.24	24	P	P	16 30 09.2	+1.0
PETK	Petropavlovsk-	52.24	24	P	P	16 30 08.5	+0.3
	comp=Z,1.7nm,0.9s,baz=210,slow=3.0,SNR=6.5						
	comp=Z,1.7nm,0.9s						
MK31	Makanchi Array	53.19	324	P	P	16 30 14.4	-1.0
MKAR	Makanchi Array	53.19	324	P	P	16 30 15.9	+0.6
MKAR	Makanchi Array	53.19	324	P	P	16 30 15.8	+0.4
	comp=Z,1.9nm,1.1s,baz=127,slow=6.7,SNR=8.5						
	comp=Z,1.9nm,1.1s						
	comp=Z,1.7nm,0.8s,baz=123,slow=7.3,SNR=13						
	comp=Z,1.7nm,0.8s						
ZALV	Zalesovo Beam	56.12	333	P	P	16 30 34.6	-1.8
	comp=Z,0.4nm,0.5s,baz=131,slow=6.7,SNR=5.2						
	comp=Z,0.4nm,0.5s						
KURK	Kurchatov	57.34	327		P	16 30 44.9	-0.2
KURBB	Kurchatov Arra	57.34	327	P	P	16 30 44.9	-0.3
	comp=Z,1.9nm,1.1s,baz=127,slow=6.7,SNR=8.5						
	comp=Z,1.9nm,1.1s						
BVAR	Borovoye Array	62.92	326	P	P	16 31 23.2	-0.3
	comp=Z,1.0nm,0.8s,baz=100,slow=7.5,SNR=6.6						
	comp=Z,1.0nm,0.8s						
NRIK	Noril'sk	65.98	346	P	P	16 31 43.2	+0.1
	comp=Z,2.0nm,0.9s,baz=136,slow=8.0,SNR=3.7						
	comp=Z,2.0nm,0.9s						

IDC 12 16:31:09.7±4.4,5°.92S×150°.27E,h0km,mb3.3/3, mbtmp3.5/4,ML2.5/1,Error ellipse: s-maj=126.8km s-min=31.5km az=108.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.64	221	Pn	Pn	16 32 21.1	+0.1
	14nm,0.3s,baz=24,slow=10.0,SNR=54						
PMG				Sn	Sn	16 32 59.5	-16
	17nm,0.3s,baz=10.0,slow=19,SNR=16						
	25nm,0.3s						
WRA	Warramunga Arr	20.84	227	P	P	16 35 51.8	-1.4
	0.3nm,0.3s,baz=52,slow=11,SNR=8.4						
	0.3nm,0.3s						
ASAR	Alice Springs	23.65	220	P	P	16 36 23.6	+0.6
	0.4nm,0.3s,baz=57,slow=8.9,SNR=35						
	0.4nm,0.3s						
MKAR	Makanchi Array	79.52	320	P	P	16 43 18.7	+0.3
	0.3nm,0.7s,baz=126,slow=3.7,SNR=5.2						
	0.3nm,0.7s						

DJA 12 16:34:33.5±0.2,2°S±2°×12°3E±°,h10km,M4.0/20,mB4.6/1, mb4.2/7,MLv3.9/20,Mw(mB)3.9/1,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.95	8	P	Pg	16 34 50.2	-1.6
APSI	Ampana	1.46	317	P	Pb	16 35 00.4	-0.4
KDI	Kendari	1.95	181	P	Pn	16 35 06.9	+0.1
MRSI	Marisa	2.55	344	P	Pn	16 35 14.5	-0.4
KMSI	Cibinong	2.88	28	P	Pn	16 35 20.4	+0.9
PCI	Palu	3.00	291	P	Pn	16 35 22.0	+0.8
SANI	Sanana	3.35	91	P	Pn	16 35 24.3	-1.6
SPSI	Sidrap Palu	3.47	236	P	Pn	16 35 27.6	-0.1
BBSI	Bau Bau	3.48	181	P	Pn	16 35 28.2	+0.5
BNSI	Bone	3.48	227	P	Pn	16 35 27.3	-0.5
MPSI	Mapaga	3.59	310	P	Pn	16 35 29.8	+0.6
BKSI	Bulukumba	4.16	217	P	Pn	16 35 37.3	+0.3
NLAI	Namlea	4.62	106	P	Pn	16 35 44.7	+1.2
BSSI	Bau Bau, Buton	4.65	207	P	Pn	16 35 43.4	-0.4
TNTI	Ternate	5.46	60	P	Pn	16 35 54.8	-0.3
MMRI	Maumere	6.61	183	P	Pn	16 36 11.1	+0.2
EDFI	Ende, Flores	6.78	188	P	Pn	16 36 12.8	-0.5
	0.0nm8.3nm,0.7s						
SWI	Sorong	8.69	83	P	Pn	16 36 39.4	0.0

*CATAC **12** 16:35:33.5±0.5,13°N±2°×9°0W±°,h25km±2km,M3.6/20, MLv3.6/20,Error ellipse: s-maj=5.6km s-min=3.3km az=23.6,confirmed*
*GCG **12** 16:35:34.4±1.3,13°.27N×89°.98W,h36km±24km,MD3.8*
*SNET **12** 16:35:35.0±0.9,13°.30N×89°.89W,h45km,ML3.6*
ISC 12 16:35:35.4±1.3,13°23N±0°.05×89°.88W±0°.03,h31km±10km, n80,σ1$04/96,2C,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	0.59	44	eP	Pb	16 35 46.9	-0.6
JAYA				eS	Sb	16 35 56.5	+0.8
JAYA	Jayaque - finc	0.59	44	eP	Pb	16 35 46.9	-0.6
JAYA				eS	Sb	16 35 56.3	+0.5
JAYA	Jayaque - finc	0.59	44	P	Pb	16 35 47.0	-0.6
LALI	Alcalda de L	0.60	64	eP	Pb	16 35 47.3	-0.2
LALI				eS	Sb	16 35 56.3	+0.6
LALI	Alcalda de L	0.60	64	eP	Pb	16 35 47.3	-0.2
LALI				eS	Sb	16 35 55.7	0.0
LALI	Alcalda de L	0.60	64	P	Pb	16 35 46.9	-0.6
FAME	Alcaldia de Sa	0.62	347	S	Sn	16 35 56.1	-1.0
CEVE	Cerro Verde	0.64	22	eP	Pb	16 35 47.7	-0.7
CEVE				eS	Sn	16 35 58.3	+0.4
CEVE	Cerro Verde	0.64	22	P	Pb	16 35 47.7	-0.7
SBLS	San Blas	0.65	22	eP	Pb	16 35 47.6	-0.9
SBLS				eS	Sn	16 35 58.2	0.0
SNJE	San Jose	0.69	22	eP	Pb	16 35 48.1	-1.0
PMON	Piamonte	0.73	49	eP	Pb	16 35 48.9	-0.8
PMON				eS	Sb	16 35 59.6	+0.2
PMON	Piamonte	0.73	49	P	Pb	16 35 48.9	-0.8
PMON	Piamonte	0.73	49	S	Sn	16 36 00.5	+0.7
ITCA	Escuela Especi	0.73	53	P	Pb	16 35 48.9	-0.9
ITCA	Escuela Especi	0.73	53	S	Sn	16 36 00.4	+0.6
CEDA	San Andres	0.74	39	S	Sn	16 36 00.5	+0.6
CEDA	San Andres	0.74	39	P	Pn	16 35 49.4	-0.3
BOQS	Boqueron	0.77	49	eP	Pn	16 35 49.6	-0.7
PANCS	Alcalda de	0.78	61	eP	Pn	16 35 49.3	-0.9
PANCS	Alcalda de	0.78	61	P	Pn	16 35 49.4	-0.9
PANCS	Alcalda de	0.78	61	S	Sb	16 36 00.2	-0.6
PIC2	El Picacho	0.79	50	eP	Pn	16 35 50.0	-0.7
LOMA	Loma Larga	0.80	59	eP	Pn	16 35 49.5	-1.2
LOMA	Loma Larga	0.80	59	P	Pn	16 35 49.4	-1.3
LOMA	Loma Larga	0.80	59	S	Sn	16 36 02.6	+1.0
UNIC	Universidad Ca	0.81	23	P	Pn	16 35 49.9	-1.0
UNIC	Universidad Ca	0.81	23	S	Sn	16 36 02.3	+0.4
UDBS	Universidad Do	0.85	55	S	Sn	16 36 03.6	+0.8
UDBS	Universidad Do	0.85	55	P	Pn	16 35 50.6	-0.8
LFRS	El Faro	0.88	64	eP	Pn	16 35 50.9	-1.0
LFRS				eS	Sn	16 36 03.0	-0.6
LFU	La Fuente	0.90	55	eP	Pn	16 35 51.2	-0.9
PAVA	Las Pavas	1.03	62	eP	Pn	16 35 53.8	0.0
PAVA				eS	Sn	16 36 08.1	+0.8
PAVA	Las Pavas	1.03	62	P	Pb	16 35 54.4	-0.4
COEG	Centro de Oper	1.04	68	eP	Pn	16 35 53.3	-0.7
COEG	Centro de Oper	1.04	68	P	Pn	16 35 53.6	-0.4
COEG	Centro de Oper	1.04	68	S	Sn	16 36 08.4	+0.8
SNVI	San Vicente	1.08	69	eP	Pn	16 35 54.2	-0.4
TECO	Alcaldia de Te	1.11	74	eP	Pn	16 35 53.9	-0.9
TECO				eS	Sn	16 36 08.9	-0.2
TECO	Alcaldia de Te	1.11	74	P	Pn	16 35 54.2	-0.6
TECO	Alcaldia de Te	1.11	74	S	Sn	16 36 09.1	0.0
UESV	Universidad de	1.13	69	P	Pn	16 35 54.5	-0.6
UESV	Universidad de	1.13	69	S	Sn	16 36 10.7	+1.0
SCLA	Alcaldia de Sa	1.21	67	eP	Pn	16 35 56.4	+0.1
SCLA	Alcaldia de Sa	1.21	67	S	Sn	16 36 12.5	+0.8
SCLA	Alcaldia de Sa	1.21	67	P	Pn	16 35 56.1	-0.2
FG8	Yepocapa, Chim	1.22	327	eP	Pb	16 35 58.3	+0.3
FG8				eS	Sb	16 36 19.0	+5.5
MTO3	Montecristo	1.27	23⇑	eP	Pn	16 35 56.3	-0.9
MTO3	Montecristo	1.27	23⇑	eP	Pn	16 35 56.4	-0.9
MTO3	Montecristo	1.27	23	P	Pn	16 35 56.4	-0.9
MTO3	Montecristo	1.27	23	S	Sn	16 36 14.0	+0.7
ALJI	Alcalda de J	1.27	85	P	Pn	16 35 56.2	-0.9
ALJI	Alcalda de J	1.27	85	S	Sn	16 36 13.8	+0.7
LLGN	La Laguna	1.30	44	eP	Pn	16 35 56.5	-1.0
LLGN	La Laguna	1.30	44	P	Pn	16 35 56.7	-0.8
LLGN	La Laguna	1.30	44	S	Sn	16 36 14.4	+0.5
TECA	Tecapa	1.36	79	eP	Pn	16 35 47.9	-0.9
ESQI	Esquipulas	1.42	21	eP	Pn	16 35 58.3	-0.9
ESQI	Esquipulas	1.42	21	P	Pn	16 35 58.7	-0.6
ESQI	Esquipulas	1.42	21	S	Sn	16 36 17.8	+0.9
PACA	Pacayal	1.53	81	eP	Pn	16 36 00.7	0.0
PACA	Pacayal	1.53	81	S	Sn	16 36 21.1	+1.4
PACA	Pacayal	1.53	81	P	Pn	16 36 00.8	0.0
LCY	Lacayo	1.55	83	eP	Pn	16 36 00.9	-0.1
RANC	El Ranchito	1.56	82	eP	Pn	16 36 00.8	-0.3
RANC	El Ranchito	1.56	82	P	Pn	16 36 01.1	-0.1
RANC	El Ranchito	1.56	82	S	Sn	16 36 22.0	+1.6
BLLM	Bellamira	1.61	82	eP	Pn	16 36 01.7	0.0
CAHU	Cacacuatique	1.71	71	eP	Pn	16 36 02.8	-0.4
STG0	El Palmar, Qui	1.86	310	eP	Pb	16 36 08.7	-0.1
STG0				eS	Sb	16 36 33.6	+1.9
STG8	El Palmar, Qui	1.88	310	eP	Pb	16 36 08.9	-0.3
STG8				eS	Sb	16 36 34.6	+2.2
CNCH	Conchagua	1.99	88	eP	Pn	16 36 06.7	-0.3
CNCH	Conchagua	1.99	88	S	Sn	16 36 32.0	+1.0
CNCH	Conchagua	1.99	88	P	Pn	16 36 06.7	-0.3
SOKI	Kika Raxquin	2.17	317	eP	Pn	16 36 06.0	-3.8
SOKI				eS	Sn	16 36 34.8	-1.0
CSGN	Cosiguina Volc	2.27	96	P	Pn	16 36 10.4	-0.5
CSGN				S	Sn	16 36 37.4	-0.5
POTN	Potosi Cosigui	2.32	95	P	Pn	16 36 11.5	0.0
POTN				S	Sn	16 36 38.3	-0.

MTBS				*e*S	**Sb**	**17 01 40.7**	**-0.6**
	4μm,0.1s						
TNSS	**Tian-Shan**	**0.93**	**34**	P	**Pb**	**17 01 29.8**	**-1.1**
	167nm,0.2s						
TNSS				S	**Sb**	**17 01 42.1**	**-1.0**
	640nm,0.4s						
TNSS	**Tian-Shan**	**0.93**	**34**	*e*P	**Pb**	**17 01 29.8**	**-1.1**
	167nm,0.2s						
TNSS				*e*S	**Sb**	**17 01 42.1**	**-1.0**
	640nm,0.4s						
KBK	**Karagaybulak**	**1.04**	**292**	⇓P	**Pn**	**17 01 32.9**	**-0.1**
	68nm,0.1s,SNR=37						
KBK				⇓S	**Sn**	**17 01 47.4**	**+0.1**
	511nm,0.2s						
KBK	**Karagaybulak**	**1.04**	**292**	⇑*i*P	**Pb**	**17 01 31.7**	**-1.0**
KBK				⇑*i*S	**Sb**	**17 01 46.1**	**0.0**
AAA	**Alma-Ata**	**1.06**	**27**	P	**Pb**	**17 01 32.7**	**-0.3**
	349nm,0.1s						
AAA				S	**Sg**	**17 01 47.0**	**-0.4**
	2μm,0.3s						
AAA	**Alma-Ata**	**1.06**	**27**	*e*P	**Pb**	**17 01 32.7**	**-0.3**
	349nm,0.1s						
AAA				*e*S	**Sg**	**17 01 47.0**	**-0.4**
	2μm,0.3s						
MDOK	**Medeo**	**1.07**	**33**	⇓P	**Pb**	**17 01 32.1**	**-1.2**
	48nm,0.4s						
MDOK				Pg	**Pn**	**17 01 32.3**	**-1.2**
	102nm,0.4s						
MDOK				⇑S	**Sb**	**17 01 45.8**	**-1.3**
	646nm,0.6s						
MDOK				Lg	Lg	17 01 46.2	
	849nm,0.5s						
KNDC	**Almaty**	**1.09**	**29**	⇑P	**Pb**	**17 01 33.1**	**-0.3**
	41nm,0.1s						
KNDC				⇓S	**Sn**	**17 01 47.9**	**-0.5**
	3μm,0.5s						
ANVS	**Anan'yevo**	**1.17**	**63**	⇓*i*P	**Pn**	**17 01 33.0**	**-1.8**
ANVS				⇓*i*S	**Sb**	**17 01 48.3**	**-1.5**
UCH	**Uchtor**	**1.29**	**269**	⇑P	**Pb**	**17 01 37.0**	**-0.1**
	21nm,0.1s,SNR=30						
UCH				⇓S	**Sg**	**17 01 54.7**	**0.0**
	65nm,0.2s						
UCH	**Uchtor**	**1.29**	**269**	⇓*i*P	**Pn**	**17 01 35.9**	**-0.8**
UCH				⇓*i*S	**Sb**	**17 01 53.6**	**0.0**
FRU1	**Bishkek**	**1.31**	**295**	⇓*i*P	**Pn**	**17 01 36.7**	**0.0**
FRU1				⇓*i*S	**Sb**	**17 01 54.7**	**+0.7**
CHMS	**Chumysh**	**1.33**	**304**	⇑P	**Pb**	**17 01 37.3**	**-0.2**
	45nm,0.2s,SNR=41						
CHMS				⇑S	**Sg**	**17 01 55.6**	**-0.2**
	288nm,0.2s						
CHMS	**Chumysh**	**1.33**	**304**	⇓*i*P	**Pn**	**17 01 36.5**	**-0.3**
CHMS				⇓*i*S	**Sb**	**17 01 54.4**	**+0.2**
AAK	**Ala-Archa**	**1.35**	**287**	⇑P	**Pb**	**17 01 37.9**	**-0.1**
	48nm,0.2s,SNR=83						
AAK				⇑S	**Sg**	**17 01 56.6**	**0.0**
	285nm,0.3s						
AAK	**Ala-Archa**	**1.35**	**287**	⇓P	**Pb**	**17 01 37.8**	**-0.1**
	8.6nm,0.2s						
AAK				⇓S	**Sg**	**17 01 56.6**	**0.0**
	191nm,0.4s						
AAK	**Ala-Archa**	**1.35**	**287**	⇑*i*P	**Pn**	**17 01 37.2**	**-0.1**
AAK				⇑*i*S	**Sb**	**17 01 55.4**	**+0.3**
ARLS	**Aral**	**1.49**	**255**	⇑*i*P	**Pn**	**17 01 39.3**	**+0.1**
ARLS				⇑*i*S	**Sb**	**17 01 59.3**	**+0.2**
PRZ	**Przheval'sk**	**1.61**	**82**	⇓*i*P	**Pn**	**17 01 40.4**	**-0.5**
PRZ				⇓*i*S	**Sn**	**17 02 01.1**	**-0.3**
KUU	**Kurty**	**1.63**	**2**	P	**Pb**	**17 01 41.6**	**-1.0**
	43nm,0.1s						
KUU				S	**Sb**	**17 02 02.6**	**-0.3**
	269nm,0.2s						
KUU	**Kurty**	**1.63**	**2**	*e*P	**Pb**	**17 01 41.6**	**-1.0**
	43nm,0.1s						
KUU				*e*S	**Sb**	**17 02 02.6**	**-0.3**
	269nm,0.2s						
USP	**Ospenovka**	**1.63**	**308**	⇑P	**Pb**	**17 01 42.5**	**-0.2**
	110nm,0.2s,SNR=287						
USP				⇑S	**Sg**	**17 02 04.8**	**-0.7**
	626nm,0.4s						
USP	**Ospenovka**	**1.63**	**308**	⇑*i*P	**Pn**	**17 01 41.6**	**+0.5**
USP				⇑*i*S	**Sb**	**17 02 03.3**	**+0.3**
CHKK	**Chushkaly**	**1.68**	**19**	P	**Pb**	**17 01 43.2**	**-0.2**
	108nm,0.2s						
CHKK				S	**Sb**	**17 02 04.8**	**+0.5**
	1μm,0.2s						
CHKK	**Chushkaly**	**1.68**	**19**	*e*P	**Pb**	**17 01 43.2**	**-0.2**
	108nm,0.2s						
CHKK				*e*S	**Sb**	**17 02 04.8**	**+0.5**
	1μm,0.2s						
SGDS	**Sogindy**	**1.68**	**315**	P	**Pb**	**17 01 43.8**	**+0.3**
	131nm,0.1s						
SGDS				S	**Sg**	**17 02 05.9**	**-1.2**
	455nm,0.5s						
ZHN	**Zhinishke**	**1.84**	**60**	P	**Pb**	**17 01 46.0**	**-0.4**
	79nm,0.1s						
ZHN				S	**Sb**	**17 02 09.6**	**+0.3**
	649nm,0.2s						
ZHN	**Zhinishke**	**1.84**	**60**	*e*P	**Pb**	**17 01 46.0**	**-0.4**
	79nm,0.1s						
ZHN				*e*S	**Sb**	**17 02 09.6**	**+0.3**
	649nm,0.2s						
KURS	**Kuram**	**1.87**	**48**	*e*P	**Pn**	**17 01 43.2**	**-1.1**
	108nm,0.2s						
KURS				*e*S	**Sn**	**17 02 04.8**	**-2.8**
	1μm,0.2s						
EKS2	**Erkin-Say**	**1.87**	**283**	⇑P	**Pb**	**17 01 47.7**	**+0.8**
	31nm,0.1s,SNR=168						
EKS2	**Erkin-Say**	**1.87**	**283**	⇑*i*P	**Pn**	**17 01 45.1**	**+0.7**
EKS2				⇑*i*S	**Sb**	**17 02 09.2**	**-0.8**
AML	**Almayashu**	**1.90**	**267**	⇑P	**Pb**	**17 01 48.0**	**+0.4**
	124nm,0.2s,SNR=156						
AML				⇑S	**Sg**	**17 02 14.0**	**-0.3**
	245nm,0.4s						
AML	**Almayashu**	**1.90**	**267**	⇑*i*P	**Pn**	**17 01 45.6**	**+0.5**
AML				⇑*i*S	**Sb**	**17 02 10.4**	**-0.8**
KPKS	**Kokpek**	**2.15**	**55**	Pg	**Pb**	**17 01 51.4**	**-0.2**
	56nm,0.1s						
KPKS				Lg	Lg	17 02 18.8	
	487nm,0.5s						
KPKS	**Kokpek**	**2.15**	**55**	*e*P	**Pb**	**17 01 51.4**	**-0.2**
	56nm,0.1s						
KPKS				*e*S	**Sb**	**17 02 18.8**	**+0.7**
	487nm,0.5s						
UZB	**Uzynbulak**	**2.22**	**66**	Pg	**Pb**	**17 01 52.2**	**-0.7**
	70nm,0.1s						
UZB				Lg	Lg	17 02 20.1	
	246nm,0.1s						
UZB	**Uzynbulak**	**2.22**	**66**	*e*P	**Pb**	**17 01 52.2**	**-0.7**
	70nm,0.1s						
UZB				*e*S	**Sb**	**17 02 20.1**	**-0.1**
	246nm,0.1s						
ARXS	**Arharly**	**2.26**	**30**	Pg	**Pb**	**17 01 52.9**	**-0.5**
	90nm,0.3s						
ARXS				Lg	Lg	17 02 22.1	
	523nm,0.5s						
SALK	**Salom-Alik**	**2.29**	**234**	⇑*i*P	**Pn**	**17 01 50.5**	**+0.3**
SALK				⇑*i*S	**Sn**	**17 02 18.9**	**+0.8**
SHLS	**Shalkode**	**2.53**	**68**	Pg	**Pg**	**17 02 02.7**	**+1.3**
	105nm,0.4s						
SHLS				Lg	Lg	17 02 38.6	
	104nm,0.5s						
SHLS	**Shalkode**	**2.53**	**68**	*e*P	**Pg**	**17 02 02.7**	**+1.3**
	105nm,0.4s						
SHLS				*e*S	**Sg**	**17 02 38.6**	**+4.4**
	104nm,0.5s						
PDGK	**Podgornoye**	**2.61**	**65**	⇑Pn	**Pn**	**17 01 55.9**	**+1.3**
	42nm,0.5s						
PDGK				⇓Lg	Lg	17 02 30.6	
	106nm,0.6s						
MNAS	**Manas**	**2.78**	**276**	⇓*i*P	**Pn**	**17 01 57.6**	**+0.6**
MNAS				⇓*i*S	**Sn**	**17 02 31.1**	**+0.8**
SFK	**Sufi-Kurgan**	**3.06**	**224**	⇑*i*P	**Pn**	**17 02 01.5**	**+0.6**
SFK				⇑*i*S	**Sn**	**17 02 37.7**	**+0.4**
OHH	**Osh**	**3.13**	**237**	⇑*i*P	**Pn**	**17 02 02.3**	**+0.6**
OHH				⇑*i*S	**Sn**	**17 02 39.3**	**+0.4**
ARK	**Arkit**	**3.23**	**263**	⇑*i*P	**Pn**	**17 02 03.9**	**+0.8**
ARK				⇑*i*S	**Sn**	**17 02 41.6**	**+0.4**
DJR	**Jarkent**	**3.31**	**50**	Pg	**Pb**	**17 02 11.2**	**-0.1**
	24nm,0.3s						
DJR				Lg	Lg	17 02 53.0	
	126nm,0.3s						
DJR	**Jarkent**	**3.31**	**50**	*e*P	**Pb**	**17 02 11.2**	**-0.1**
	24nm,0.3s						
DJR				*e*S	**Sb**	**17 02 53.0**	**+1.7**
	126nm,0.3s						
TRKS	**Terek-Say**	**3.88**	**261**	⇑*i*P	**Pn**	**17 02 13.0**	**+0.9**
TRKS				⇑*i*S	**Sn**	**17 02 57.5**	**0.0**
KK31	**Karatay Array**	**4.31**	**283**	⇑Pg	**Pb**	**17 02 31.2**	**+2.8**
	2.3nm,0.3s,baz=102,slow=14,SNR=40						
KK31				Lg	Lg	17 03 27.1	
	44nm,0.6s,baz=98,slow=28,SNR=57						
KKAR	**Karatay Array**	**4.31**	**283**	⇑*i*P	**Pn**	**17 02 18.7**	**+0.8**
KKAR				⇑*i*S	**Sn**	**17 03 07.8**	**0.0**
DRK	**Karamyk**	**4.37**	**232**	⇑*i*P	**Pn**	**17 02 19.7**	**+0.7**
DRK				⇑*i*S	**Sn**	**17 03 09.1**	**-0.7**
IUG	**luzhnay**	**4.62**	**271**	Pg	**Pg**	**17 02 38.3**	**-3.2**
	40nm,0.5s						
IUG				Lg	Lg	17 03 39.1	
	70nm,0.5s						
BTK	**Batken**	**4.66**	**244**	⇑*i*P	**Pn**	**17 02 23.4**	**+0.7**
BTK				⇑*i*S	**Sn**	**17 03 15.9**	**-0.5**
GAR	**Garm**	**5.57**	**236**	⇑*i*P	**Pn**	**17 02 36.0**	**+0.7**
GAR				⇑*i*S	**Sn**	**17 03 37.4**	**-1.6**
MAKZ	**Makanchi**	**6.11**	**40**	⇑Pn	Pn	17 02 49.4	+6.8
	3.1nm,0.5s						
MAKZ				⇑Lg	Lg	17 04 19.4	
	3.2nm,0.6s						
MK31	**Makanchi Array**	**6.25**	**42**	Pn	**Pn**	**17 02 47.6**	**+3.1**
	1.6nm,0.4s,baz=220,slow=15,SNR=30						
MK31				Lg	Lg	17 04 26.1	
	3.2nm,0.6s,baz=220,slow=31,SNR=3.7						
KURBB	**Kurchatov Arra**	**8.51**	**10**	⇑Sn	**Sn**	**17 04 55.7**	**+4.8**
	5.1nm,0.6s						
KURBB				⇑Lg	Lg	17 05 40.8	
	22nm,0.7s						
KURK	**Kurchatov**	**8.61**	**10**	⇑Sn	**Sn**	**17 04 55.5**	**+2.0**
	2.6nm,0.7s						
KURK				⇑Lg	Lg	17 05 41.2	
	9.2nm,0.6s						

DJA 12 17:03:30.3±0.7, 2°S±3°×12°2E±°, h23km±9km, M4.0/18, mB5.6/1, mb4.1/5, MLv4.0/18, Mw(mB)5.0/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.32**	**321**	P	Pn	17 03 52.2	-1.2
PCI	**Palu**	**2.84**	**291**	P	Pn	17 04 14.7	+0.4
PCI				Pg	Pb	17 04 22.5	+2.1
KMSI	**Cibinong**	**2.91**	**31**	P	Pn	17 04 14.3	-0.9
SPSI	**Sidrap Palu**	**3.38**	**233**	P	Pn	17 04 22.4	+0.7
SPSI				S	Sn	17 05 02.9	+1.8
BNSI	**Bone**	**3.41**	**224**	P	Pn	17 04 22.3	+0.2
MPSI	**Mapaga**	**3.44**	**311**	P	Pn	17 04 20.6	-1.9
SANI	**Sanana**	**3.50**	**92**	P	Pn	17 04 20.5	-2.8
BBSI	**Bau Bau**	**3.52**	**179**	P	Pn	17 04 24.1	+0.4
BKSI	**Bulukumba**	**4.11**	**215**	P	Pn	17 04 32.5	+0.8
BSSI	**Bau Bau, Buton**	**4.63**	**205**	P	Pn	17 04 39.4	+0.5
TNTI	**Ternate**	**5.57**	**61**	P	Pn	17 04 53.2	+1.4
	0.1nm11nm,0.6s						
EDFI	**Ende, Flores**	**6.81**	**187**	P	Pn	17 05 08.7	-0.3
MNSI	**Mandailing Nat**	**23.07**	**277**	P	P	17 08 34.7	+0.2

ISN 12 17:19:49.7±0.6, 33°70N×45°66E, h6km±9km, ML2.5
TEH 12 17:19:51.4, 33°72N×45°69E, h10km±42km
ISC 12 17:19:51.7±0.9, 33°70N±0°04×45°71E±0°05, h13km, n9, σ0°85/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.44**	**22**	Pg	**Pg**	**17 19 60.0**	**-0.5**
GLG1				Sg	**Sb**	**17 20 06.9**	**-1.1**
IBDR	**Badra**	**0.62**	**163**	*e*Pg	**Pg**	**17 20 03.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**17 20 12.0**	**+0.1**
IGHG	**Ghaleghazi**	**0.95**	**49**	Pg	**Pb**	**17 20 10.1**	**-0.1**
IDHR	**Dehrash**	**1.14**	**29**	Pg	**Pg**	**17 20 13.8**	**+0.1**
BHD	**Baghdad**	**1.19**	**249**	*e*Pn	**Pg**	**17 20 14.0**	**-0.6**
BHD				*e*Sn	**Sn**	**17 20 32.0**	**+1.9**
KCHF	**Cheshme Sefid,**	**1.25**	**62**	Pg	**Pg**	**17 20 15.9**	**+0.3**
IKFM	**Kafar-mosalman**	**1.79**	**95**	Pn	**Pb**	**17 20 24.5**	**+0.1**
SNQR	**Sonqor, Kerman**	**1.96**	**53**	Pn	**Pb**	**17 20 27.2**	**-0.2**
IKRK	**Kirkuk**	**2.04**	**327**	*e*Pn	**Pn**	**17 20 26.0**	**+0.3**
IKRK				*e*Sn	**Sb**	**17 20 53.0**	**-0.8**
IKRK				AML	AML	17 21 05.0	
	comp=N,50nm,0.2s						
IKRK				AML	AML	17 21 08.0	
	comp=E,40nm,0.3s						

DJA 12 17:20:11.3±0.8, 2°S±3°×12°2E±°, h15km±10km, M3.9/15, mb4.1/6, MLv3.8/15, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.00**	**19**	P	Pb	17 20 29.4	-0.9
APSI	**Ampana**	**1.33**	**324**	P	Pn	17 20 33.3	-2.1
MRSI	**Marisa**	**2.50**	**348**	P	Pn	17 20 51.1	-0.4
PCI	**Palu**	**2.82**	**292**	P	Pn	17 20 55.1	-0.7
SPSI	**Sidrap Palu**	**3.31**	**234**	P	Pn	17 21 02.7	+0.1
BNSI	**Bone**	**3.34**	**224**	P	Pn	17 21 03.2	+0.2
MPSI	**Mapaga**	**3.44**	**312**	P	Pn	17 21 03.0	-1.3
BKSI	**Bulukumba**	**4.04**	**215**	P	Pn	17 21 12.7	+0.1
BSSI	**Bau Bau, Buton**	**4.56**	**205**	P	Pn	17 21 19.3	-0.5
BKB	**Balikpapan**	**5.59**	**277**	P	Pn	17 21 34.0	0.0
TNTI	**Ternate**	**5.64**	**61**	P	Pn	17 21 34.4	-0.2
SWI	**Sorong**	**8.89**	**83**	P	Pn	17 22 19.6	+0.3
	12nm,1.0s						
FAKI	**Fak Fak**	**9.84**	**96**	P	Pn	17 22 32.2	-0.2

IDC 12 17:30:22.7±2.0, 2°17S×122°73E, h0km, mb3.4/3, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=55.3km s-min=25.7km az=51.0
DJA 12 17:30:23.7±0.2, 2°S±2°×12°3E±°, h10km, M4.0/18, mb4.2/4, MLv3.9/18
ISC 12 17:30:26.4±1.1, 2°07S±0°05×122°59E±0°06, h35km, n18, σ1°53/19, mb3.4/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.04**	**10**	P	**Pn**	**17 30 42.2**	**-2.4**
APSI	**Ampana**	**1.49**	**321**	P	**Pn**	**17 30 48.4**	**-2.3**
KDI	**Kendari**	**1.87**	**179**	P	**Pn**	**17 30 54.9**	**-1.1**
MRSI	**Marisa**	**2.62**	**346**	P	**Pn**	**17 31 04.6**	**-1.6**
KMSI	**Cibinong**	**2.98**	**28**	P	**Pn**	**17 31 12.6**	**+1.4**
PCI	**Palu**	**2.98**	**293**	P	**Pn**	**17 31 11.6**	**+0.3**
SPSI	**Sidrap Palu**	**3.38**	**236**	P	**Pn**	**17 31 16.1**	**-0.7**
BNSI	**Bone**	**3.39**	**227**	P	**Pn**	**17 31 15.9**	**-0.9**
BBSI	**Bau Bau**	**3.39**	**180**	P	**Pn**	**17 31 16.2**	**-0.7**
SANI	**Sanana**	**3.40**	**90**	P	**Pn**	**17 31 15.4**	**-1.6**
MPSI	**Mapaga**	**3.60**	**312**	P	**Pn**	**17 31 17.9**	**-1.9**
BKSI	**Bulukumba**	**4.06**	**217**	P	**Pn**	**17 31 25.7**	**-0.3**
KAPI	**Kappang**	**4.07**	**224**	Pn	**Pn**	**17 31 26.4**	**+0.2**
	2.1nm,0.3s,baz=355,slow=5.4,SNR=7.1						
KAPI				Sn	**Sn**	**17 32 10.8**	**-1.8**
	3.6nm,0.3s,baz=214,slow=20,SNR=6.2						
	4.7nm,0.3s						
BSSI	**Bau Bau, Buton**	**4.55**	**207**	P	**Pn**	**17 31 32.5**	**-0.4**
TNTI	**Ternate**	**5.55**	**59**	P	**Pn**	**17 31 46.5**	**-0.1**
	0.1nm12nm,0.6s						
WRA	**Warramunga Arr**	**21.15**	**148**	P	**P**	**17 35 07.8**	**-0.8**
	1.8nm,1.0s,baz=323,slow=11,SNR=5.3						
	1.8nm,1.0s						
ASAR	**Alice Springs**	**24.10**	**154**	P	**P**	**17 35 38.9**	**-0.1**
	0.9nm,0.6s,baz=332,slow=7.9,SNR=25						
	0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.95**	**312**	P	**P**	**17 36 43.4**	**+3.0**
	0.4nm,0.8s,baz=130,slow=5.6,SNR=4.6						
	0.4nm,0.8s						

FUNV 12 17:34:29.2, 11°53N×64°42W, h32km, MW3.8
ISC 12 17:34:31.6±1.7, 11°33N±0°09×64°65W±0°08, h35km, n9, σ1°58/17, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**1.15**	**179**	*e*P	**Pn**	**17 34 52.4**	**+1.2**
PCRV				*e*S	**Sn**	**17 35 07.6**	**+2.0**
TACV	**Tcata**	**2.62**	**243**	*e*P	**Pn**	**17 35 12.1**	**+0.6**
TACV				*e*S	**Sn**	**17 35 44.2**	**+2.1**
BENV	**Beln**	**3.20**	**245**	*e*P	**Pn**	**17 35 21.0**	**+1.5**
BENV				*e*S	**Sn**	**17 35 58.6**	**+2.0**
MAPV	**Macapo**	**4.03**	**249**	*e*P	**Pn**	**17 35 31.4**	**+0.6**
MAPV				*e*S	**Sn**	**17 36 16.7**	**-0.2**
BAUV	**El Baul**	**4.10**	**235**	*e*P	**Pn**	**17 35 31.7**	**-0.1**
BAUV				*e*S	**Sn**	**17 36 18.3**	**-0.2**
JACV	**Jacura**	**4.11**	**267**	*e*P	**Pn**	**17 35 30.9**	**-1.1**
JACV				*e*S	**Sn**	**17 36 18.3**	**-0.6**
CACV	**CAICARA DEL OR**	**4.18**	**207**	*e*P	**Pn**	**17 35 31.4**	**-1.5**
CACV				*e*S	**Sn**	**17 36 17.0**	**-3.6**
TEPV	**Terepaima**	**4.67**	**254**	*e*P	**Pn**	**17 35 39.0**	**-0.6**
TEPV				*e*S	**Sn**	**17 36 31.9**	**-0.8**
ANBD	**Bethesda, Anti**	**6.33**	**26**	*e*P	**Pn**	**17 36 01.8**	**-0.7**

UCR 12 17:34:50.4±0.9, 9°81N×84°54W, h10km±2km, MW3.6, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARZA	**Esparza**	**0.21**	**325**	*e*P	Pg	17 34 55.5	+0.6
ARZA				*e*S	Sg	17 34 59.3	+1.4
SRA1	**San Ramn**	**0.28**	**13**	*e*P	Pg	17 34 56.7	+0.6
SRA1				*e*S	Sb	17 35 01.3	-1.1
TCS1	**Tacares**	**0.33**	**47**	*e*P	Pb	17 34 58.0	-0.4
SANTA	**Santa Ana**	**0.37**	**71**	*e*P	Pg	17 34 58.1	+0.3
SANTA				*e*S	Sg	17 35 03.5	+0.7
ACOS	**Acosta**	**0.37**	**93**	*e*P	Pg	17 34 58.1	+0.3
BELE	**Belen**	**0.39**	**65**	*e*P	Pg	17 34 58.4	+0.4
PAQE	**Paquera**	**0.39**	**271**	*e*P	Pg	17 34 58.4	+0.3
PAQE				*e*S	Sb	17 35 04.6	-0.8
HDC	**Heredia**	**0.46**	**66**	*e*P	Pg	17 34 59.6	+0.1
HDC				*e*S	Sb	17 35 06.9	-0.8
VPS8	**V Poas**	**0.47**	**39**	*e*P	Pb	17 35 00.7	-0.3
CENT	**San Jose**	**0.47**	**76**	*e*P	Pg	17 35 00.0	+0.4
DOMI	**Santo Domingo**	**0.48**	**69**	*e*P	Pg	17 35 00.1	+0.4
DOMI				*e*S	Sb	17 35 07.3	-0.8
AMPA	**Desamparados**	**0.48**	**80**	*e*P	Pb	17 35 00.9	-0.2
AMPA				*e*S	Sb	17 35 07.5	-0.8
ABE2	**San Pablo**	**0.49**	**103**	*e*P	Pg	17 35 00.1	0.0
ABE2				*e*S	Sg	17 35 06.8	+0.1
SJS3	**Mercedes San J**	**0.50**	**76**	*e*P	Pg	17 35 00.5	+0.4
SJS3				*e*S	Sb	17 35 07.9	-0.9
LCR2	**La Lucha 2**	**0.54**	**98**	*e*P	Pg	17 35 00.6	-0.3
LLNJ	**Naranjito**	**0.55**	**128**	*e*P	Pg	17 35 01.4	+0.2
CORON	**Coronado**	**0.56**	**73**	*e*P	Pg	17 35 01.7	+0.5
SOCE	**Pocosol**	**0.57**	**353**	*e*P	Pb	17 35 02.1	-0.4
SOCE				*e*S	Sb	17 35 10.5	-0.3
CBL1	**Cabuya**	**0.59**	**248**	*e*P	Pg	17 35 01.8	0.0
ARTO	**Ro Cuarto**	**0.62**	**31**	*e*P	Pb	17 35 03.1	-0.3
JTS	**Las Juntas de**	**0.62**	**320**	*e*P	Pg	17 35 02.2	-0.3
REPA	**Paraso**	**0.67**	**89**	*e*P	Pg	17 35 03.1	-0.2
ARE1	**Arenal 1**	**0.67**	**345**	*e*P	Pb	17 35 03.9	-0.3
CEDE	**Laguna Cedeo**	**0.69**	**347**	*e*P	Pb	17 35 04.3	-0.3
VICA	**Volcano Irazu**	**0.71**	**76**	*e*P	Pg	17 35 04.1	-0.1
NYURE	**Nandayure**	**0.72**	**285**	*e*P	Pg	17 35 04.0	-0.3
CVTQ	**Turrialba Volc**	**0.79**	**76**	*e*P	Pg	17 35 05.8	+0.1
VTR0	**Volcan Turrial**	**0.80**	**75**	*e*P	Pb	17 35 06.6	-0.1
CVTV	**Tajo**	**0.80**	**76**	*e*P	Pg	17 35 06.2	+0.2
CVTG	**V. Turrialba,**	**0.83**	**66**	*e*P	Pg	17 35 06.4	0.0
CVTG				*e*S	Sg	17 35 17.1	0.0
CMARA	**Lajas Hojancha**	**0.89**	**283**	*e*P	Pg	17 35 06.9	-0.7
NICO	**Nicoya**	**0.95**	**290**	*e*P	Pg	17 35 07.8	-0.9
VMAR	**Armenia, Volca**	**1.14**	**331**	*e*P	Pb	17 35 11.5	-0.8
FIMO	**Fila Mora**	**1.43**	**125**	*e*P	Pn	17 35 16.0	-0.6
CEUA	**Cerro Uatsi, L**	**1.59**	**97**	*e*P	Pb	17 35 20.1	+0.1
ACON	**Acoyapa**	**2.23**	**344**	*e*P	Pn	17 35 28.1	+0.6

ISN 12 17:39:34.5±1.2, 33°63N×45°63E, h23km±40km, ML2.7
TEH 12 17:39:34.1, 33°70N×45°70E, h8km±58km
ISC 12 17:39:34.4±0.9, 33°69N±0°04×45°67E±0°04, h13km, n11, σ0°72/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.47**	**26**	Pg	**Pg**	**17 39 43.1**	**-0.6**
GLG1				Sg	**Sg**	**17 39 49.8**	**-0.1**
IBDR	**Badra**	**0.62**	**159**	*e*Pg	**Pb**	**17 39 46.0**	**-1.1**
IBDR				*e*Sg	**Sg**	**17 39 54.0**	**-0.7**
IBDR				AML	AML	17 40 01.0	
	comp=E,64nm,0.3s						
IBDR				AML	AML	17 40 04.0	
	comp=N,134nm,0.5s						
KGS1	**Ghasr-e-Shirin**	**0.81**	**355**	Pg	**Pg**	**17 39 49.9**	**-0.3**
IGHG	**Ghaleghazi**	**0.98**	**49**	Pg	**Pb**	**17 39 53.4**	**0.0**
BHD	**Baghdad**	**1.15**	**249**	*e*Pn	**Pg**	**17 39 57.0**	**+0.3**
BHD				*e*Sn	**Sn**	**17 40 12.0**	**+0.1**
IDHR	**Dehrash**	**1.17**	**30**	Pg	**Pn**	**17 39 56.5**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.28**	**63**	Pg	**Pg**	**17 39 58.9**	**-0.2**
IKFM	**Kafar-mosalman**	**1.83**	**95**	Pg	**Pb**	**17 40 08.0**	**+0.3**
SNQR	**Sonqor, Kerman**	**2.00**	**54**	Pn	**Pb**	**17 40 10.6**	**-0.2**
IKRK	**Kirkuk**	**2.03**	**328**	*e*Pn	**Pn**	**17 40 09.0**	**+0.7**
IKRK				*e*Sn	**Sb**	**17 40 36.0**	**-0.2**
IKRK				AML	AML	17 40 46.1	
	comp=N,6.0nm,0.8s						
BDRS	**Dareh Seyedi**	**2.69**	**84**	Pn	**Pn**	**17 40 19.4**

GWY IAML 17 51 45.4
comp=N,101nm,0.6s
GWY IAML 17 51 46.1
comp=E,112nm,0.6s
ICU Indian Springs 1.38 89 Pn 17 51 19.4 -1.3
GRAC Grapevine Rang 1.38 265 Pb 17 51 21.3 +0.1
MZP Montezuma Peak 1.49 293 Pb 17 51 23.2 0.0
MZP IAML 17 51 45.8
comp=E,105nm,0.4s
V12A Nelson 1.55 155 Pb 17 51 23.9 -0.1
V12A IAML 17 51 47.3
comp=N,140nm,0.8s
V12A IAML 17 51 47.5
comp=E,117nm,0.6s
DSP Deep Springs 1.86 278 Pn 17 51 27.3 +0.1
LCMT Little Creek M 1.93 93 Pn 17 51 28.6 +0.4
LCMT IAML 17 51 57.8
comp=N,57nm,0.4s
PSUT Pine Spring 1.99 45 Pn 17 51 29.3 +0.2
PSUT IAML 17 52 04.1
comp=N,92nm,0.8s
PSUT IAML 17 52 04.3
comp=E,99nm,0.8s
Q12A Willow Creek R 2.00 19 Pn 17 51 29.7 +0.5
GSC Goldstone, Bar 2.06 207 Pn 17 51 30.3 +0.4
GSC IAML 17 52 04.2
comp=E,42nm,1.4s
Q09A Carvers 2.08 325 Pn Pn 17 51 28.5 -1.8
KNB Kanab 2.27 92 Pn 17 51 33.1 +0.2
KNB IAML 17 52 08.1
comp=N,38nm,1.4s
KNB IAML 17 52 08.3
comp=E,44nm,1.3s
NV11 Mina Array Sit 2.37 304 Pn 17 51 34.2 -0.1
NV08 Mina Array Sit 2.46 302 Pn 17 51 36.7 +1.1
NVAR Mina Array Bea 2.46 302 Pn 17 51 35.5 -0.1
W13A Hualapai Mount 2.49 144 Pn 17 51 36.1 +0.1
W13A IAML 17 52 17.6
comp=N,28nm,0.6s
W13A IAML 17 52 23.3
comp=E,40nm,0.7s
LHV Little Huntoon 2.52 297 Pn 17 51 36.3 +0.1
LHV IAML 17 52 27.5
comp=N,65nm,0.7s
LHV IAML 17 52 37.6
comp=E,41nm,1.0s
PKCU Pink Cliffs 2.68 82 Pn 17 51 38.7 0.0
ISA Isabella, Lake 2.71 238 Pn Pn 17 51 39.7 +0.7
RYN Ryan 2.72 304 Pn 17 51 39.7 +0.6
RYN IAML 17 52 24.4
comp=N,36nm,0.6s
RYN IAML 17 52 28.8
comp=E,35nm,0.5s
CCAC Calif City Air 2.76 225 Pn 17 51 39.3 -0.2
CCAC IAML 17 52 35.2
comp=N,32nm,3.6s
CCAC IAML 17 53 08.0
comp=E,22nm,1.4s
U15A North Rim 2.79 104 Pn 17 51 40.6 +0.4
U15A IAML 17 52 29.7
comp=E,34nm,0.8s
U15A IAML 17 52 39.3
comp=N,28nm,0.7s
MTPU Mount Pierson 2.90 71 Pn 17 51 42.8 +1.1
MTPU IAML 17 52 31.5
comp=N,24nm,1.2s
MTPU IAML 17 52 31.7
comp=E,24nm,2.0s
TCRU Three Creeks R 2.93 59 Pn 17 51 41.7 -0.4
TCRU IAML 17 52 36.5
comp=N,40nm,0.8s
TCRU IAML 17 52 39.7
comp=E,41nm,0.8s
MVU Marysvale 3.04 62 Pn 17 51 42.9 -0.7
MSU Marysvale 3.07 62 Pn 17 51 43.6 -0.4
WAKR Walker 3.29 296 Pn 17 51 46.5 -0.6
BLYC Blythe 3.50 164 Pn 17 51 49.7 0.0
BLYC IAML 17 52 54.0
comp=E,19nm,1.1s
BLYC IAML 17 52 55.8
comp=N,15nm,1.6s
PFO Pinyon Flats O 3.58 191 Pn Pn 17 51 51.9 +0.9
PFO IAML 17 52 39.6
comp=N,16nm,4.8s
PFO IAML 17 53 20.1
comp=N,11nm,4.2s
PASC Pasadena Art C 3.61 216 Pn Pn 17 51 51.1 -0.1
PASC IAML 17 52 37.0
comp=N,23nm,4.2s
ELK Elko 3.61 5 Pn 17 51 51.6 +0.1
PNTR Pine Nut 3.67 303 Pn 17 51 50.8 -1.4
PNTR IAML 17 53 05.9
comp=E,22nm,1.0s
PNTR IAML 17 53 08.0
comp=N,20nm,0.8s
DUG Dugway, Tooele 3.77 35 Pn 17 51 53.0 -0.5
DUG IAML 17 53 04.0
comp=N,17nm,0.8s
ELS Elsinore Mount 3.77 203 Pn Pn 17 51 54.4 +0.8
ELS IAML 17 53 19.2
comp=E,13nm,4.4s
ELS IAML 17 53 56.3
comp=N,14nm,4.3s
WUAZ Wupatki 3.81 114 Pn 17 51 52.4 -1.7
WUAZ IAML 17 53 12.7
comp=N,19nm,1.3s
CMB Columbia Colle 3.87 285 Pn 17 51 54.8 0.0
HMU Henry Mountain 3.98 77 Pn 17 51 54.7 -1.8
TMUT Trail Mountain 4.11 57 Pn 17 52 00.0 +1.7
TMUT IAML 17 53 13.3
comp=E,12nm,0.8s
TMUT IAML 17 53 23.0
comp=N,17nm,0.9s
GLA Glamis 4.13 170 Pn Pn 17 51 59.2 +0.8
BGU Big Grassy Mou 4.29 28 Pn Pn 17 52 01.7 +1.0
BGU IAML 17 53 22.1
comp=E,9.7nm,2.7s
BGU IAML 17 53 47.1
comp=N,7.2nm,4.9s
X16A Lo Mia Camp, P 4.37 127 Pn Pn 17 52 01.2 -0.6
X16A IAML 17 54 46.9
comp=N,7.2nm,4.5s
SRU San Rafael Swe 4.50 62 Pn 17 52 02.1 -1.4
SRU IAML 17 53 21.5
comp=E,13nm,0.5s
SRU IAML 17 53 21.7
comp=N,12nm,0.7s
BEKR Beckworth 4.59 308 Pn Pn 17 52 03.2 -1.6
BEKR IAML 17 53 23.3
comp=N,7.1nm,4.7s
BEKR IAML 17 54 55.5
comp=E,8.0nm,4.6s
P18A Preston Nutter 4.92 58 Pn Pn 17 52 09.2 -0.3
P18A IAML 17 53 37.0
comp=N,6.5nm,4.4s
P18A IAML 17 54 06.3
comp=E,5.9nm,4.8s
PV23 Carpenter Ridg 5.42 74 Pn 17 52 13.4 -2.9
PV11 David Mesa, Pa 5.50 76 Pn 17 52 14.5 -2.8
PV13 Radium Mtn., P 5.51 77 Pn 17 52 14.7 -2.9
MVCO Mesa Verde 5.71 87 Pn 17 52 16.1 -4.2

*IDC **12** 18:03:03.4±0.9, 27°.09N×88°.24E, h0km, mb3.6/14, mbtmp3.6/16, ML3.5/2, MS3.7/1, Error ellipse: s-maj=31.4km s-min=15.1km az=48.0*
*NDI **12** 18:03:06.8±1.4, 27°.51N×88°.37E, h10km, ML3.4, MW3.5*
*DMN **12** 18:03:07.5±0.0, 27°.08N×88°.60E, h50km, Ml4.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 12 18:03:06.8±1.0, 27°.40N±0°.07×88°.35E±0°.04, h15km±7km, n30, σ1°76/42, mb3.6/13, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**0.24**	**110**	*e*P	**Pg**	**18 03 12.5**	**+0.3**
GTK				*e*S	**Sg**	**18 03 16.1**	**+0.2**
GTK				IAML		18 03 17.4	
	comp=E,3μm,0.1s						
GTK				IAML		18 03 17.6	
	comp=N,2μm,0.2s						
JPG	**JALPAIGURI**	**0.91**	**159**	*e*P	**Pn**	**18 03 25.4**	**+0.3**
JPG				*e*S	**Sn**	**18 03 41.3**	**+3.3**
JPG				IAML		18 04 04.5	
	comp=E,3μm,0.9s						
JPG				IAML		18 04 04.8	
	comp=N,2μm,1.1s						
RAMN	**Ramite**	**1.62**	**254**	Pg	**Pn**	**18 03 36.4**	**+1.3**
	baz=266,slow=0.0						
RAMN				Sg	**Sn**	**18 03 58.1**	**+2.2**
	baz=266,slow=0.0						
GUN	**Gumba**	**2.25**	**284**	Pg	**Pb**	**18 03 46.5**	**-0.8**
	baz=290,slow=0.0						
GUN				Sg	**Sb**	**18 04 16.1**	**+1.0**
	comp=N,664nm,0.2s,baz=290,slow=0.0						
PKIN	**Phulchoki**	**2.63**	**274**	Pg	**Pn**	**18 03 51.5**	**+2.5**
	baz=280,slow=0.0						
PKIN				Sg	**Sn**	**18 04 22.4**	**+1.7**
	baz=280,slow=0.0						
DMN	**Daman**	**2.89**	**275**	Pg	**Pb**	**18 03 56.7**	**-1.5**
	baz=280,slow=0.0						
DMN				Sg	**Sb**	**18 04 34.1**	**+0.7**
	baz=280,slow=0.0						
TAWA	**Tawang**	**3.13**	**86**	*e*P	**Pn**	**18 03 55.3**	**-0.7**
TAWA				*e*S	**Sn**	**18 04 31.8**	**-1.5**
TAWA				IAML		18 04 52.1	
	comp=N,358nm,0.4s						
TAWA				IAML		18 04 54.3	
	comp=E,308nm,0.2s						
SHL	**Shillong**	**3.66**	**119**	*e*P	**Pn**	**18 04 05.2**	**+2.2**
SHL				*e*S	**Sn**	**18 04 48.2**	**+2.2**
BOK	**Bokaro**	**4.22**	**212**	*e*P	**Pn**	**18 04 12.8**	**+2.1**
BOK				*e*S	**Sn**	**18 05 00.6**	**+0.8**
BOK				IAML		18 05 16.4	
	comp=N,101nm,0.2s						
BOK				IAML		18 05 18.5	
	comp=E,115nm,0.3s						
PYUN	**Piuthan**	**4.80**	**280**	Pg	**Pn**	**18 04 18.7**	**-0.1**
	baz=283,slow=0.0						
PYUN				Sg	**Sn**	**18 05 15.4**	**+1.2**
	baz=283,slow=0.0						
KOHI	**KOHIMA**	**5.42**	**107**	*e*P	**Pn**	**18 04 28.1**	**+0.8**
KOHI				*e*S	**Sn**	**18 05 28.2**	**-1.3**
KOHI				IAML		18 06 05.1	
	comp=E,162nm,0.6s						
KOHI				IAML		18 06 05.6	
	comp=N,119nm,1.0s						
LGTI	**Lohaghat**	**7.42**	**288**	*e*P	**Pn**	**18 04 55.9**	**+1.4**
LGTI				*e*S	**Sn**	**18 06 16.6**	**-1.9**
LGTI				IAML		18 06 25.2	
	comp=E,8.9nm,0.3s						
LGTI				IAML		18 06 25.3	
	comp=N,15nm,0.2s						
PTH	**Pithoragarh**	**7.47**	**289**	*e*P	**Pn**	**18 04 54.5**	**-0.9**
PTH				*e*S	**Sn**	**18 06 15.1**	**-4.9**
PTH				IAML		18 06 26.8	
	comp=N,15nm,0.4s						
PTH				IAML		18 06 27.2	
	comp=E,10nm,0.5s						
CMAR	**Chiang Mai Arr**	**13.20**	**130**	Pn	**Pn**	**18 06 10.4**	**-3.4**
	comp=E,0.1nm,0.3s,baz=311,slow=13,SNR=2.4						
	comp=E,0.1nm,0.3s						
AAK	**Ala-Archa**	**18.93**	**327**	P	**Pn**	**18 07 28.3**	**+0.4**
	comp=E,0.1nm,0.3s,baz=170,slow=6.8,SNR=5.8						
	comp=E,1.2nm,0.7s						
MKAR	**Makanchi Array**	**19.94**	**348**	P	**Pn**	**18 07 40.9**	**+1.1**
	comp=E,0.7nm,0.4s,baz=167,slow=10.0,SNR=15						
	comp=E,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**24.37**	**345**	P	**P**	**18 08 25.7**	**+1.5**
	comp=E,1.0nm,0.7s,baz=161,slow=9.3,SNR=8.7						
	comp=E,1.0nm,0.7s						
SONM	**Songino Array**	**24.79**	**30**	P	**P**	**18 08 31.2**	**+3.0**
	comp=E,0.5nm,0.6s,baz=224,slow=11,SNR=4.5						
	comp=E,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**26.65**	**355**	P	**P**	**18 08 44.5**	**-0.3**
	comp=E,0.3nm,0.3s,baz=140,slow=7.0,SNR=2.0						
	comp=E,0.3nm,0.3s						
KSRS	**Korea Array**	**34.66**	**63**	P	**P**	**18 09 56.0**	**+0.3**
	comp=E,0.2nm,0.3s,baz=197,slow=14,SNR=4.5						
	comp=E,0.2nm,0.3s						
ASAJ	**Asahikawa**	**46.23**	**54**	LR	LR	18 31 02.2	
	comp=E,89nm,19.6s,baz=172,slow=36						
BRTR	**Keskin Array B**	**46.56**	**300**	P	**P**	**18 11 34.8**	**+0.6**
	comp=E,0.3nm,0.6s,baz=72,slow=5.6,SNR=2.6						
	comp=E,0.3nm,0.6s						
AKASG	**Malin Array Be**	**49.95**	**315**	P	**P**	**18 11 58.8**	**-1.2**
	comp=E,0.1nm,0.3s,baz=74,slow=7.1,SNR=1.9						
	comp=E,0.1nm,0.3s						
FINES	**FINESS Array B**	**53.11**	**328**	P	**P**	**18 12 24.1**	**+0.6**
	comp=E,1.4nm,0.7s,baz=108,slow=10,SNR=6.9						
	comp=E,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**55.16**	**338**	P	**P**	**18 12 39.2**	**+0.9**
	comp=E,5.1nm,1.1s,baz=96,slow=3.7,SNR=3.7						
	comp=E,5.1nm,1.1s						
HFS	**Hagfors**	**59.06**	**326**	P	**P**	**18 13 06.4**	**+0.4**
	comp=E,0.6nm,0.5s,baz=81,slow=12,SNR=1.8						
	comp=E,0.6nm,0.5s						
GERES	**GERESS Array B**	**60.05**	**313**	P	**P**	**18 13 13.4**	**+0.2**
	comp=E,0.6nm,0.5s,baz=89,slow=5.7,SNR=6.1						
	comp=E,0.6nm,0.5s						
NOA	**NORSAR Array B**	**60.25**	**327**	P	**P**	**18 13 13.9**	**-0.4**
	comp=E,0.4nm,0.7s,baz=88,slow=6.6,SNR=2.2						
	comp=E,0.4nm,0.7s						
WRA	**Warramunga Arr**	**64.79**	**132**	P	**P**	**18 13 43.0**	**-2.1**
	comp=E,0.5nm,0.6s,baz=324,slow=6.8,SNR=7.9						
	comp=E,0.5nm,0.6s						
ASAR	**Alice Springs**	**67.17**	**135**	P	**P**	**18 13 58.8**	**-1.6**
	comp=E,0.3nm,0.5s,baz=315,slow=6.3,SNR=13						
	comp=E,0.3nm,0.5s						

*IDC **12** 18:23:14.0±0.6, 1°.65S×122°.81E, h0km, mb4.0/18, mbtmp4.0/20, ML4.3/3, MS3.2/1, Error ellipse: s-maj=24.3km s-min=12.8km az=72.0*
*NEIC **12** 18:23:17.9±1.8, 1°.77S±0°.04×122°.61E±0°.05, h24km±6km, mb4.4/38, Error ellipse: s-maj=8.2km s-min=4.9km az=116.0*
*DJA **12** 18:23:19.0±1.4, 2°.5±2°.×12°.3E±°, h17km±18km, M4.6/24, mB5.0/10, mb4.8/17, MLv4.8/24, Mw(mB)4.3/10*
ISC 12 18:23:19.1±0.4, 1°.80S±0°.04×122°.61E±0°.04, h35km, n111, σ1°43/118, mb4.3/33, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.78**	**12**	**Pn**	**18 23 32.7**	**-0.8**
LUWI				Sn	**Sn**	**18 23 43.5**	**-0.5**
APSI	**Ampana**	**1.31**	**313**	P	**Pn**	**18 23 41.6**	**+0.7**
KMSI	**Cibinong**	**2.73**	**30**	P	**Pn**	**18 24 02.4**	**+1.9**
PCI	**Palu**	**2.91**	**288**	P	**Pn**	**18 24 04.4**	**+1.4**
SANI	**Sanana**	**3.39**	**94**	P	**Pn**	**18 24 09.3**	**-0.2**
SANI	**Sanana**	**3.39**	**94**	S	**Sn**	**18 24 49.0**	**+0.5**
SANI	**Sanana**	**3.39**	**94**	P	**Pn**	**18 24 08.6**	**-0.9**
SANI				S	**Sn**	**18 24 48.8**	**+0.3**
TOLI2	**Tolitoli**	**3.42**	**328**		**Pn**	**18 24 10.4**	**+0.4**
TOLI2	**Tolitoli**	**3.42**	**328**	P	**Pn**	**18 24 13.7**	**+3.7**
MPSI	**Mapaga**	**3.44**	**308**	P	**Pn**	**18 24 12.4**	**+2.1**
SPSI	**Sidrap Palu**	**3.56**	**233**	P	**Pn**	**18 24 12.9**	**+1.1**
BNSI	**Bone**	**3.59**	**224**	P	**Pn**	**18 24 12.6**	**+0.3**
BBSI	**Bau Bau**	**3.66**	**181**	P	**Pn**	**18 24 13.8**	**+0.5**
KAPI	**Kappang**	**4.28**	**222**		**Pn**	**18 24 22.1**	**+0.3**
KAPI				Sn	**Sn**	**18 25 09.2**	**-1.3**
KAPI	**Kappang**	**4.28**	**222**	Pn	**Pn**	**18 24 23.2**	**+1.4**
	85nm,0.3s,baz=8.4,slow=1.9,SNR=99						
KAPI				Sn	**Sn**	**18 25 10.8**	**+0.4**
	36nm,0.3s,baz=37,slow=20,SNR=9.0						
KAPI				LR	LR	18 26 15.8	
	comp=Z,296nm,19.3s,baz=28,slow=40						
KAPI	**Kappang**	**4.28**	**222**	P	**Pn**	**18 24 23.1**	**+1.4**
KAPI	**Kappang**	**4.28**	**222**	S	**Sn**	**18 25 12.6**	**+2.1**
BKSI	**Bulukumba**	**4.29**	**215**	P	**Pn**	**18 24 22.5**	**+0.6**
NLAI	**Namlea**	**4.71**	**108**	P	**Pn**	**18 24 29.3**	**+1.6**
BSSI	**Bau Bau, Buton**	**4.80**	**206**	P	**Pn**	**18 24 29.1**	**+0.1**
TNTI	**Ternate**	**5.40**	**62**		**Pn**	**18 24 35.4**	**-1.9**
TNTI				Sn	**Sn**	**18 25 38.9**	**+0.6**
TNTI	**Ternate**	**5.40**	**62**	P	**Pn**	**18 24 39.0**	**+1.7**
TNTI	**Ternate**	**5.40**	**62**	S	**Sn**	**18 25 43.0**	**+4.7**
TNTI	**Ternate**	**5.40**	**62**	P	**Pn**	**18 24 38.5**	**+1.2**
	55nm,0.6s						
SMKI	**Samarinda**	**5.56**	**284**	P	**Pn**	**18 24 41.4**	**+1.9**
BKB	**Balikpapan**	**5.74**	**275**		**Pn**	**18 24 41.1**	**-0.7**
BKB				Sn	**Sn**	**18 25 46.9**	**+0.5**
BKB	**Balikpapan**	**5.74**	**275**	P	**Pn**	**18 24 44.0**	**+2.2**
BKB	**Balikpapan**	**5.74**	**275**	P	**Pn**	**18 24 44.0**	**+2.2**
	0.6nm1μm92nm,0.6s						
AAI	**Ambon**	**5.89**	**109**	P	**Pn**	**18 24 46.3**	**+2.4**
	0.3nm90nm,0.8s						
MSAI	**Masohi**	**6.50**	**104**	P	**Pn**	**18 24 55.3**	**+3.0**
	0.3nm662nm69nm,0.7s						
MMRI	**Maumere**	**6.80**	**183**		**Pn**	**18 24 56.3**	**-0.1**
MMRI	**Maumere**	**6.80**	**183**	P	**Pn**	**18 24 57.1**	**+0.7**
MMRI	**Maumere**	**6.80**	**183**	P	**Pn**	**18 24 56.1**	**-0.3**
EDFI	**Ende, Flores**	**6.96**	**188**	P	**Pn**	**18 24 58.4**	**-0.4**
	0.2nm1μm44nm,0.6s						
SOEI	**Soe**	**8.07**	**168**		**Pn**	**18 25 14.0**	**0.0**
SOEI	**Soe**	**8.07**	**168**	P	**Pn**	**18 25 16.5**	**+2.5**
SOEI	**Soe**	**8.07**	**168**	P	**Pn**	**18 25 15.9**	**+1.9**
	0.3nm1μm78nm,1.0s						
WBSI	**Waikabubak, Su**	**8.42**	**202**	P	**Pn**	**18 25 19.3**	**+0.6**
	42nm,0.8s						
PLAI	**Plampang**	**8.47**	**214**	P	**Pn**	**18 25 19.8**	**+0.3**
SWI	**Sorong**	**8.70**	**84**	P	**Pn**	**18 25 23.3**	**+0.7**
	32nm,0.8s						
SRBI	**Singaraja**	**9.65**	**229**	P	**Pn**	**18 25 36.6**	**+1.0**
	30nm,0.5s						
FAKI	**Fak Fak**	**9.70**	**97**	Pn	**Pn**	**18 25 35.7**	**-0.5**
KMMI	**Kalianget**	**10.07**	**239**	P	**Pn**	**18 25 44.4**	**+3.1**
KKM	**Kota Kinabalu**	**10.08**	**321**	Pn	**Pn**	**18 25 40.6**	**-1.0**
JAGI	**Jajag, Banyuwa**	**10.71**	**232**	Pn	**Pn**	**18 25 50.7**	**+0.6**
JAGI	**Jajag, Banyuwa**	**10.71**	**232**	P	**Pn**	**18 25 51.3**	**+1.2**
SBUM	**Sibu**	**11.21**	**292**	Pn	**Pn**	**18 25 54.9**	**-2.1**
MTN	**Manton Dam**	**13.84**	**143**	Pn	**Pn**	**18 26 31.3**	**-1.7**
KNRA	**Kununurra**	**15.06**	**157**	Pn	**Pn**	**18 26 47.2**	**-2.3**
LEM	**Lembang**	**15.75**	**251**	Pn	**P**	**18 27 02.2**	**0.0**
	1.3nm,0.3s,baz=83,slow=7.7,SNR=6.1						
	24nm,0.9s						
FITZ	**Fitzroy Crossi**	**16.46**	**170**	Pn	**Pn**	**18 27 04.5**	**-3.0**
FITZ	**Fitzroy Crossi**	**16.46**	**170**	Pn	**Pn**	**18 27 07.8**	**+0.3**
	0.2nm,0.3s,baz=335,slow=6.9,SNR=7.4						
	2.4nm,0.7s						
MYKOM	**Kota Tinggi**	**19.09**	**281**	P	**P**	**18 27 38.0**	**-1.0**
MNAI	**Manna**	**19.79**	**262**	P	**P**	**18 27 44.3**	**-2.3**
PSA00	**Pilbara Seismi**	**19.83**	**188**	P	**P**	**18 27 46.0**	**-1.0**
PSA00				IAmb	IAmb	18 28 19.0	
	comp=Z,21nm,1.2s						
PSA00	**Pilbara Seismi**	**19.83**	**188**	P	**P**	**18 27 46.8**	**-0.2**
PSA00				IAmb	IAmb	18 28 27.0	
	comp=Z,21nm,1.5s						
WB0	**Warramunga Arr**	**21.25**	**148**		**P**	**18 28 01.5**	**-0.9**
WB0				IAmb	IAmb	18 28 06.3	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**21.36**	**148**	P	**P**	**18 28 02.2**	**-1.4**
WRAB				IAmb	IAmb	18 28 07.5	
	comp=Z,9.1nm,0.8s						
WRA	**Warramunga Arr**	**21.37**	**148**	P	**P**	**18 28 02.2**	**-1.5**
WRA	**Warramunga Arr**	**21.37**	**148**	P	**P**	**18 28 03.9**	**+0.2**
	comp=Z,7.7nm,0.7s,baz=332,slow=10,SNR=24						
	comp=Z,7.7nm,0.7s						
WB2	**Warramunga Arr**	**21.37**	**148**	P	**P**	**18 28 03.4**	**-0.4**
WB2				IAmb	IAmb	18 28 11.7	
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**21.49**	**148**	P	**P**	**18 28 03.4**	**-1.6**
WR0				IAmb	IAmb	18 28 05.8	
	comp=Z,8.7nm,0.9s						
GIRL	**Giralia**	**22.25**	**201**	P	**P**	**18 28 12.2**	**-0.9**
KULM	**Kulim**	**23.04**	**288**	P	**P**	**18 28 22.4**	**+0.9**
COEN	**Coen**	**23.65**	**122**	P	**P**	**18 28 29.2**	**+1.7**
COEN				IAmb	IAmb	18 29 12.8	
	comp=Z,24nm,1.4s						
UBPT	**Khong Chiam**	**23.99**	**316**	P	**P**	**18 28 31.9**	**+1.2**
UBPT				IAmb	IAmb	18 28 34.0	
	comp=Z,8.2nm,0.8s						
RPSI	**Rantau Prapat**	**24.09**	**281**	P	**P**	**18 28 32.1**	**+0.4**
RPSI				IAmb	IAmb	18 28 36.1	
	comp=Z,16nm,0.9s						
AS31	**Alice Springs**	**24.33**	**154**		**P**	**18 28 33.7**	**-0.1**
ASAR	**Alice Springs**	**24.33**	**154**		**P**	**18 28 33.5**	**-0.4**
ASAR	**Alice Springs**	**24.33**	**154**	P	**P**	**18 28 34.6**	**+0.8**
	comp=Z,6.1nm,0.7s,baz=329,slow=8.1,SNR=123						
ASAR				PcP	**PcP**	**18 32 14.3**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=352,slow=1.7,SNR=8.8						
	comp=Z,6.1nm,0.7s						
MANU	**Manus Island**	**24.75**	**91**		**P**	**18 28 36.9**	**-0.8**
MANU				IAmb	IAmb	18 28 42.0	
	comp=Z,8.7nm,0.8s						
TPUB	**Ta-pu**	**25.03**	**356**	P	**P**	**18 28 37.7**	**-2.4**
GSI	**Gunungsitoli**	**25.22**	**277**	P	**P**	**18 28 40.4**	**-1.6**
PMG	**Port Moresby**	**25.56**	**108**	P	**P**	**18 28 44.5**	**-0.6**
PMG				IAmb	IAmb	18 28 50.6	
	comp=Z,13nm,0.9s						
FORT	**Forrest**	**29.28**	**170**	P	**P**	**18 29 17.5**	**-0.6**
CM31	**Chiang Mai Arr**	**30.78**	**312**	P	**P**	**18 29 29.6**	**-2.0**
CM31				IAmb	IAmb	18 29 34.9	
	comp=Z,6.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.78**	**312**	P	**P**	**18 29 30.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**30.78**	**312**	P	**P**	**18 29 33.9**	**+2.2**
	comp=Z,4.2nm,0.7s,baz=138,slow=7.3,SNR=58						
	comp=Z,4.2nm,0.7s						
CHTO	**Chiang Mai**	**31.00**	**312**	P	**P**	**18 29 32.4**	**-1.2**
BBOO	**Buckleboo**	**33.33**	**159**	P	**P**	**18 29 52.8**	**-1.1**
BBOO				IAmb	IAmb	18 29 55.0	
	comp=Z,6.6nm,1.0s						
STKA	**Stephens Creek**	**34.86**	**151**	P	**P**	**18 30 06.7**	**-0.4**
STKA	**Stephens Creek**	**34.86**	**151**	P	**P**	**18 30 07.6**	**+0.4**
	comp=Z,5.8nm,0.9s,baz=320,slow=7.1,SNR=7.1						
	comp=Z,5.8nm,0.9s						
MJAR	**Matsushiro Arr**	**40.82**	**19**	P	**P**	**18 30 54.3**	**-3.2**
	comp=Z,2.4nm,0.9s,baz=197,slow=9.7,SNR=3.0						
	comp=Z,2.4nm,0.9s						
TOO	**Toolangi**	**41.35**	**152**	P	**P**	**18 31 02.6**	**+0.7**
CAN	**Canberra**	**41.40**	**147**	P	**P**	**18 31 03.7**	**+1.5**
CAN				IAmb	IAmb	18 31 41.5	
	comp=Z,11nm,1.1s						
HHC	**Hu-ho-hao-te**	**43.63**	**348**	*e*P	**P**	**18 31 22.7**	**+2.3**
GTA	**Gaotai**	**46.05**	**335**	*e*P	**P**	**18 31 43.1**	**+3.4**
GTA				pP	pP	18 31 46.2	-3.6
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**46.56**	**9**	P	**P**	**18 31 41.6**	**-1.8**
	comp=Z,2.1nm,0.8s,baz=218,slow=6.6,SNR=2.5						
	comp=Z,2.1nm,0.8s						
JKA	**Kamikawa-asahi**	**49.09**	**19**	P	**P**	**18 32 03.3**	**+0.2**
KAAM	**Kaadhehdhoo**	**49.66**	**272**	P	**P**	**18 32 07.2**	**-0.8**
ULN	**Ulaanbaatar**	**51.30**	**347**	P	**P**	**18 32 19.0**	**-1.0**
ULN				IAmb	IAmb	18 32 31.3	
	comp=Z,1.7nm,0.5s						
SONM	**Songino Array**	**51.43**	**346**	P	**P**	**18 32 20.1**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=126,slow=6.1,SNR=1.9						
	comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**59.94**	**329**		**P**	**18 33 20.9**	**-1.0**
MKAR	**Makanchi Array**	**59.94**	**329**	P	**P**	**18 33 21.2**	**-0.7**
MKAR	**Makanchi Array**	**59.94**	**329**	P	**P**	**18 33 22.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=127,slow=8.1,SNR=15						
	comp=Z,1.1nm,0.7s						
MAKZ	**Makanchi**	**60.11**	**329**	P	**P**	**18 33 23.4**	**+0.3**
MAKZ				IAmb	IAmb	18 33 39.2	
	comp=Z,3.3nm,1.4s						
PEA0B	**Petropavlovsk-**	**62.09**	**23**	P	**P**	**18 33 38.0**	**+1.7**
PETK	**Petropavlovsk-**	**62.09**	**23**	P	**P**	**18 33 37.2**	**+0.9**
PETK	**Petropavlovsk-**	**62.09**	**23**	P	**P**	**18 33 35.3**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=227,slow=6.9,SNR=4.4						
	comp=Z,0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**63.79**	**336**	P	**P**	**18 33 47.1**	**-0.5**
ZALV	**Zalesovo Beam**	**63.79**	**336**	P	**P**	**18 33 47.5**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=176,slow=4.0,SNR=3.9						
	comp=Z,1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**64.33**	**331**	P	**P**	**18 33 50.7**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=141,slow=6.0,SNR=9.6						
	comp=Z,0.8nm,0.7s						
KURK	**Kurchatov**	**64.34**	**331**	P	**P**	**18 33 51.2**	**0.0**
BVAR	**Borovoye Array**	**69.82**	**329**	P	**P**	**18 34 26.1**	**+0.1**

CHKH	**Chenggong**	**0.13 267**	P	Pn	18 28 35.8	-5.5
CHKH			S	Sn	18 28 40.9	-12
ECBN	**Changbin**	**0.14 325**	P	Pn	18 28 37.1	-3.8
ECBN			*i* S	Sn	18 28 41.6	-10
FULB	**Fuli**	**0.23 270**	P	Pn	18 28 37.6	-0.9
FULB			S	Sn	18 28 43.0	-3.7
EYUL	**Yuli**	**0.25 306**	P	Pn	18 28 38.1	-0.1
EYUL			*e*S	Sn	18 28 43.8	-2.0
TWF1	**Yuli**	**0.27 304**	*i* P	Pn	18 28 38.2	+0.1
TWF1			*i* S	Sn	18 28 44.0	-1.4
YULB	**Yu-li**	**0.29 311**	P	Pn	18 28 38.1	0.0
YULB			S	Sn	18 28 43.9	-1.3
YULB	**Yu-li**	**0.29 311**	P	Pn	18 28 38.1	0.0
HGSD	**Ruisui**	**0.31 340**	*e*P	Pn	18 28 38.7	+0.6
EDH	**Donghe**	**0.31 224**	*e*P	Pn	18 28 38.0	-0.1
EDH			*i* S	Sn	18 28 44.6	-0.4
EHY	**Hungye**	**0.37 327**	P	Pn	18 28 38.9	+0.4
EHY			S	Sn	18 28 45.3	+0.1
ELDTW	**Lidau**	**0.48 269**	*i* P	Pn	18 28 40.7	+0.4
WARBT	**Fenglin Townsh**	**0.54 345**	*e*P	Pn	18 28 40.9	-0.3
WARBT			*e*S	Sn	18 28 49.0	+0.1
SHUL	**Shoufeng**	**0.59 2**	*e*P	Pn	18 28 42.6	+0.7
SHUL			*e*S	Sn	18 28 51.3	+1.1
ESL	**Shilin**	**0.62 351**	*e*P	Pn	18 28 42.9	+0.6
ESL			*e*S	Sn	18 28 50.9	-0.1
VWDT	**VWDT**	**0.66 326**	*e*P	Pn	18 28 43.8	+0.9
VWDT			*e*S	Sn	18 28 52.7	+0.7
STYH	**Taoyuan**	**0.70 268**	*e*P	Pn	18 28 43.5	+0.2
STYH			*e*S	Sn	18 28 52.4	-0.6
ALS	**Alishan**	**0.74 295**	*e*P	Pn	18 28 44.7	+0.6
ALS			*e*S	Sn	18 28 55.7	+1.4
OWD	**Renai**	**0.82 336**	*e*P	Pn	18 28 46.1	+1.0
OWD			*e*S	Sn	18 28 56.2	0.0
TPUB	**Ta-pu**	**0.84 277**	*e*P	Pn	18 28 47.4	+2.1
TPUB			*e*S	Sn	18 28 59.0	+2.5
WUSB	**Renai**	**0.88 334**	*e*P	Pn	18 28 46.3	+0.4
CHN4	**Tsaushan**	**0.89 280**	*e*P	Pn	18 28 48.1	+2.3

STR 12 18:29:07.0±0.3, 49°N±2°×°±°, h5km, MLv1.4/11, Error ellipse: s-maj=0.0km s-min=0.0km az=52.0, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPP	**Oppenau**	**0.17**	**110**	Pg	Pg	18 29 10.6	+0.2
OPP	**Oppenau**	**0.17**	**110**	Sg	Sg	18 29 13.2	+0.4
BABA	**Baden-Baden-Ne**	**0.23**	**46**	Pg	Pg	18 29 11.4	-0.1
BABA	**Baden-Baden-Ne**	**0.23**	**46**	Sg	Sg	18 29 14.6	0.0
HOHE	**HOHENGOEFT**	**0.32**	**289**	Pg	Pg	18 29 13.2	+0.1
HOHE				Sg	Sg	18 29 17.5	+0.2
ZELS	**Zelsheim**	**0.33**	**219**	Pg	Pg	18 29 13.7	+0.5
WLS	**Welschbruch**	**0.41**	**250**	Pg	Pg	18 29 14.9	0.0
WLS				Sg	Sg	18 29 20.5	+0.1
LEMB	**Lembach**	**0.49**	**346**	Pg	Pg	18 29 16.1	-0.4
LEMB				Sg	Sg	18 29 22.5	-0.3
KIZ	**Kirchzarten**	**0.60**	**181**	Pg	Pg	18 29 18.7	+0.2
KIZ	**Kirchzarten**	**0.60**	**181**	Sg	Sg	18 29 26.2	-0.1
ECH	**Echery**	**0.62**	**237**	Pg	Pg	18 29 18.9	0.0
ECH				Sg	Sg	18 29 27.3	+0.3
WALT	**Westhalten**	**0.74**	**217**	Pg	Pg	18 29 21.2	+0.1
ENDD	**Endenburg**	**0.85**	**189**	Pg	Pg	18 29 23.2	-0.2
ENDD	**Endenburg**	**0.85**	**189**	Sg	Sg	18 29 34.2	-0.2
SLE	**Schleitheim**	**0.88**	**155**	Pg	Pg	18 29 23.6	-0.2
SLE	**Schleitheim**	**0.88**	**155**	Sg	Sg	18 29 35.2	+0.1
XAFF	**Xaffevillers**	**0.89**	**261**	Pg	Pg	18 29 24.0	-0.1
XAFF				Sg	Sg	18 29 35.7	+0.2
GUT	**Gutenstein**	**0.92**	**121**	Sg	Sg	18 29 36.8	+0.2
GUT	**Gutenstein**	**0.92**	**121**	Pg	Pg	18 29 24.6	-0.1

*IDC **12** 18:35:46.3±2.0, 1°.83S×122°.55E, h0km, mb3.1/3, mbtmp3.3/4, ML3.8/1, MS3.2/1, Error ellipse: s-maj=56.0km s-min=26.6km az=51.0*
*DJA **12** 18:35:49.7±0.7, 2°S±2°×12°3E±°, h25km±9km, M4.0/19, mB4.6/2, mb4.2/7, MLv3.9/19, Mw(mB)3.8/2*
ISC 12 18:35:51.1±1.0, 1°.93S±0°.05×122°.55E±0°.05, h35km, n20, σ1°.23/22, mb3.1/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.91**	**14**	P	**Pn**	**18 36 05.6**	**-1.8**
LUWI				S	**Sn**	**18 36 21.0**	**+1.7**
APSI	**Ampana**	**1.36**	**318**	P	**Pn**	**18 36 13.6**	**0.0**
MRSI	**Marisa**	**2.47**	**346**	P	**Pn**	**18 36 29.7**	**+0.8**
KMSI	**Cibinong**	**2.87**	**30**	P	**Pn**	**18 36 34.7**	**+0.3**
PCI	**Palu**	**2.90**	**291**	P	**Pn**	**18 36 34.7**	**-0.1**
SANI	**Sanana**	**3.44**	**92**	P	**Pn**	**18 36 40.1**	**-2.1**
SANI				S	**Sn**	**18 37 21.5**	**-0.2**
SPSI	**Sidrap Palu**	**3.44**	**234**	P	**Pn**	**18 36 41.5**	**-0.7**
BNSI	**Bone**	**3.46**	**225**	P	**Pn**	**18 36 43.1**	**+0.6**
MPSI	**Mapaga**	**3.48**	**310**	P	**Pn**	**18 36 41.3**	**-1.5**
BBSI	**Bau Bau**	**3.53**	**180**	P	**Pn**	**18 36 44.5**	**+1.0**
KAPI	**Kappang**	**4.15**	**222**	Pn	**Pn**	**18 36 51.5**	**-0.5**
	5.2nm,0.3s,baz=45,slow=2.9,SNR=7.4						
KAPI				Sn	**Sn**	**18 37 38.3**	**-0.9**
	6.0nm,0.3s,baz=66,slow=20,SNR=8.8						
	9.5nm,0.3s						
BKSI	**Bulukumba**	**4.15**	**216**	P	**Pn**	**18 36 50.9**	**-1.1**
BSSI	**Bau Bau, Buton**	**4.66**	**206**	P	**Pn**	**18 36 58.3**	**-0.8**
TNTI	**Ternate**	**5.51**	**61**	P	**Pn**	**18 37 10.8**	**+0.1**
	0.1nm24nm,0.7s						
EDFI	**Ende, Flores**	**6.83**	**187**	P	**Pn**	**18 37 27.1**	**-1.8**
FAKI	**Fak Fak**	**9.74**	**96**	P	**Pn**	**18 38 08.9**	**+0.1**
WRA	**Warramunga Arr**	**21.29**	**148**	P	**P**	**18 40 37.5**	**+2.6**
	0.5nm,0.8s,baz=334,slow=9.7,SNR=5.0						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**24.25**	**154**	P	**P**	**18 41 04.8**	**-0.2**
	0.4nm,0.6s,baz=331,slow=8.5,SNR=11						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.83**	**312**	P	**P**	**18 42 03.9**	**-0.2**
	0.3nm,0.6s,baz=139,slow=7.8,SNR=4.4						
	0.3nm,0.6s						
JCJ	**Chichijima**	**34.51**	**32**	LR	LR	18 56 25.9	
	comp=Z,43nm,20.8s,baz=225,slow=36						

*IDC **12** 18:39:55.8±1.0, 52°.08N×30°.29W, h0km, mb3.4/8, mbtmp3.4/9, ML4.3/1, MS3.4/9, Error ellipse: s-maj=33.4km s-min=20.0km az=5.0*
ISC 12 18:39:57.6±0.9, 52°.1N±0°.2×30°.3W±0°.1, h10km, n18, σ0°.98/12, mb3.5/8, MS3.4/8, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.35**	**68**	Pn	**Pn**	**18 43 47.9**	**+0.8**
	baz=267,slow=9.6						
	1.4nm,0.5s						
SFJD	**Kangerlussuaq**	**18.02**	**334**	LR	LR	18 49 35.4	
	comp=Z,103nm,18.7s,baz=290,slow=32						
ESDC	**Sonseca Array**	**21.99**	**114**	P	**P**	**18 44 51.3**	**-0.4**
	0.4nm,0.8s,baz=313,slow=10,SNR=1.7						
	0.4nm,0.8s						
NOA	**NORSAR Array B**	**24.18**	**52**	P	**P**	**18 45 13.9**	**+0.1**
	0.4nm,0.8s,baz=277,slow=6.7,SNR=3.5						
NOA				LR	LR	18 52 55.0	
	comp=Z,39nm,20.9s,baz=265,slow=32						
	0.4nm,0.8s						
HFS	**Hagfors**	**25.39**	**54**	LR	LR	18 53 54.1	
	comp=Z,89nm,19.1s,baz=307,slow=33						
FINES	**FINESS Array B**	**31.32**	**50**	P	**P**	**18 46 17.6**	**-0.1**
	0.6nm,0.7s,baz=297,slow=8.4,SNR=3.6						
	0.6nm,0.7s						
MLR	**Muntele Rosu**	**36.82**	**77**	LR	LR	19 01 13.2	
	comp=Z,60nm,19.4s,baz=2.5,slow=35						
YKA	**Yellowknife Ar**	**43.51**	**318**	P	**P**	**18 48 01.1**	**+0.4**
	0.3nm,0.8s,baz=65,slow=7.7,SNR=2.8						
	0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**46.55**	**135**	P	**P**	**18 48 25.4**	**0.0**
	44nm,0.3s,baz=334,slow=7.6,SNR=1.3						
ARTI	**Arti**	**48.56**	**48**	LR	LR	19 10 58.5	
	comp=Z,37nm,18.5s,baz=3.5,slow=38						
PDAR	**Pinedale Array**	**51.90**	**293**	P	**P**	**18 49 05.8**	**-0.6**
	0.3nm,0.5s,baz=54,slow=6.1,SNR=5.6						
	0.3nm,0.5s						
AKTO	**Aktyubinsk**	**51.94**	**54**	LR	LR	19 11 06.7	
	comp=Z,48nm,18.1s,baz=221,slow=36						
BVAR	**Borovoye Array**	**56.09**	**46**	P	**P**	**18 49 36.9**	**+0.4**
	0.9nm,0.6s,baz=313,slow=7.3,SNR=6.7						
BVAR				LR	LR	19 12 48.3	
	comp=Z,57nm,20.0s,baz=350,slow=35						
	0.9nm,0.6s						
TXAR	**Lajitas Array**	**57.47**	**277**	P	**P**	**18 49 47.0**	**+0.2**
	0.3nm,0.7s,baz=49,slow=10,SNR=2.8						
AAK	**Ala-Archa**	**65.50**	**52**	LR	LR	19 17 37.0	
	comp=Z,48nm,20.3s,baz=2.5,slow=34						
MKAR	**Makanchi Array**	**65.87**	**44**	P	**P**	**18 50 41.4**	**-1.7**
	0.2nm,0.6s,baz=316,slow=4.9,SNR=4.5						
MKAR				LR	LR	19 21 25.7	
	comp=Z,23nm,18.3s,baz=318,slow=38						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**145.76**	**26**	PKPbc	**PKPbc**	**18 59 36.6**	**-0.2**
	0.8nm,0.3s,baz=347,slow=3.6,SNR=36						
ASAR	**Alice Springs**	**149.16**	**29**	PKPbc	**PKPdf**	**18 59 43.9**	**+2.0**
	0.2nm,0.5s,baz=348,slow=2.0,SNR=5.5						

IDC 12 18:53:18.6±2.0, 4°.69S×124°.87E, h0km, mb3.4/2, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=243.7km s-min=29.5km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.74**	**149**	P	Pn	18 57 27.2	0.0
	0.1nm,0.3s,baz=328,slow=13,SNR=2.4						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**20.78**	**156**	P	P	18 58 01.6	+0.1
	2.0nm,0.9s,baz=332,slow=11,SNR=13						
	2.0nm,0.9s						
MKAR	**Makanchi Array**	**63.57**	**329**	P	P	19 03 51.2	0.0
	0.2nm,0.6s,baz=129,slow=5.7,SNR=2.1						
	0.2nm,0.6s						

DJA 12 18:55:43.8±0.6, 2°S±2°×12°3E±°, h27km±8km, M3.8/18, mB6.0/1, mb4.0/5, MLv3.7/18, Mw(mB)5.6/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.82**	**18**	P	Pb	18 55 59.1	-0.5
APSI	**Ampana**	**1.25**	**317**	P	Pn	18 56 05.8	+0.2
KDI	**Kendari**	**2.12**	**177**	P	Pn	18 56 16.9	-0.6
MRSI	**Marisa**	**2.36**	**346**	P	Pn	18 56 20.8	0.0
KMSI	**Cibinong**	**2.81**	**32**	P	Pn	18 56 27.0	+0.1
PCI	**Palu**	**2.83**	**289**	P	Pn	18 56 27.1	-0.1
MPSI	**Mapaga**	**3.38**	**309**	P	Pn	18 56 34.6	-0.3
SPSI	**Sidrap Palu**	**3.46**	**232**	P	Pn	18 56 36.8	+0.8
SANI	**Sanana**	**3.48**	**94**	P	Pn	18 56 35.7	-0.6
BNSI	**Bone**	**3.50**	**223**	P	Pn	18 56 36.6	+0.1
BBSI	**Bau Bau**	**3.63**	**179**	P	Pn	18 56 39.3	+1.0
BKSI	**Bulukumba**	**4.21**	**214**	P	Pn	18 56 46.7	+0.5
BSSI	**Bau Bau, Buton**	**4.73**	**205**	P	Pn	18 56 53.8	+0.3
NLAI	**Namlea**	**4.79**	**107**	P	Pn	18 56 53.8	-0.5
EDFI	**Ende, Flores**	**6.92**	**187**	P	Pn	18 57 23.5	-0.2
FAKI	**Fak Fak**	**9.79**	**97**	P	Pn	18 58 03.1	+0.1
STKI	**Sintang**	**11.19**	**280**	P	Pn	18 58 21.9	-0.2

*AEIC **12** 19:00:36.7±1.3, 61°.89N±0°.03×151°.05W±0°.06, h55km±5km, Error ellipse: s-maj=4.1km s-min=3.9km az=143.0*
NEIC 12 19:00:35.6±0.9, 61°.88N±0°.03×151°.00W±0°.06, h70km±5km, ML3.1/226, ML3.0(AEIC), Error ellipse: s-maj=4.4km s-min=4.1km az=161.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.27**	**292**		Pn	19 00 46.5	-0.2
SKT					Sn	19 00 53.6	-1.2
SUA	**Susitna One**	**0.43**	**164**		Pn	19 00 47.8	-0.2
SUA				Sn	Sn	19 00 56.9	-0.2
SUA				IAML		19 00 57.4	
	comp=N,513nm,0.7s						
SUA				IAML		19 00 57.9	
	comp=E,548nm,0.7s						
M22K	**Willow**	**0.43**	**106**		Pn	19 00 47.5	-0.4
M22K				Sn	Sn	19 00 56.9	+0.1
M22K				IAML		19 00 57.9	
	comp=N,834nm,0.4s						
STLK	**Strandline Lak**	**0.55**	**227**		Pn	19 00 48.5	-0.5
STLK				Sn	Sn	19 00 58.5	-0.4
STLK				IAML		19 00 59.1	
	comp=N,460nm,0.3s						
CUT	**Chulitna**	**0.63**	**33**		Pn	19 00 50.0	+0.2
CUT				Sn	Sn	19 01 00.7	+0.6
FIS	**Fire Island**	**0.83**	**153**	Pn	Pn	19 00 52.7	+0.8
FIS				Sn	Sn	19 01 06.1	+2.1
PMR	**Palmer**	**0.93**	**107**		Pn	19 00 52.8	-0.4
PMR				Sn	Sn	19 01 06.3	0.0
PMR				IAML		19 01 07.4	
	comp=N,362nm,0.5s						
PMR				IAML		19 01 07.7	
	comp=E,234nm,0.4s						
GHO	**Glory Hole Cre**	**0.99**	**95**		Pn	19 00 54.1	0.0
GHO				Sn	Sn	19 01 08.1	+0.3
GHO				IAML		19 01 10.1	
	comp=E,405nm,0.4s						
GHO				IAML		19 01 10.1	
	comp=N,334nm,0.4s						
RC01	**Rabbit Creek A**	**1.00**	**142**		Pn	19 00 53.7	-0.4
RC01				Sn	Sn	19 01 07.5	-0.3
RC01				IAML		19 01 08.9	
	comp=E,470nm,0.2s						
RC01				IAML		19 01 10.5	
	comp=N,365nm,0.4s						
M20K	**Styx River**	**1.01**	**271**		Pn	19 00 54.2	-0.2
M20K				Sn	Sn	19 01 08.4	+0.2
M20K				IAML		19 01 09.7	
	comp=E,446nm,0.4s						
M20K				IAML		19 01 09.9	
	comp=N,480nm,0.6s						
CAPN	**Captain Cook N**	**1.12**	**184**		Pn	19 00 57.1	+1.5
PPLA	**Purkeypile**	**1.16**	**332**		Pn	19 00 56.4	+0.1
SML	**Sawmill**	**1.27**	**92**		Pn	19 00 57.4	-0.2
SML				IAML		19 01 16.9	
	comp=N,151nm,0.8s						
KNK	**Knik Glacier**	**1.30**	**110**		Pn	19 00 58.0	0.0
KNK				IAML		19 01 16.4	
	comp=N,358nm,0.4s						
SLKM	**Skilak Lake**	**1.43**	**164**		Pn	19 00 59.2	-0.4
O22K	**Cooper Landing**	**1.53**	**156**	Pn	Pn	19 01 01.1	+0.1
M19K	**Big River Lodg**	**1.61**	**272**		Pn	19 01 01.8	-0.2
TRF	**Thorofare Moun**	**1.61**	**11**		Pn	19 01 02.7	+0.5
CAST	**Castle Rocks**	**1.63**	**343**		Pn	19 01 02.6	+0.3
PWL	**Port Wells**	**1.64**	**127**		Pn	19 01 01.8	-0.6
PWL				IAML		19 01 23.8	
	comp=E,232nm,0.5s						
KTH	**Kantishna Hill**	**1.68**	**1**		Pn	19 01 03.9	+0.9
KTH				IAML		19 01 26.2	
	comp=E,155nm,0.9s						
KTH				IAML		19 01 26.4	
	comp=N,262nm,0.8s						
SCM	**Sheep Creek Mo**	**1.74**	**90**		Pn	19 01 03.8	-0.1
SCM				IAML		19 01 30.8	
	comp=N,140nm,0.9s						
SCM				IAML		19 01 31.7	
	comp=E,197nm,0.7s						
RND	**Reindeer**	**1.83**	**32**		Pn	19 01 05.3	+0.3
L19K	**White Mountain**	**1.84**	**281**		Pn	19 01 05.5	+0.3
SEW	**Seward**	**1.93**	**156**		Pn	19 01 06.0	-0.3
SEW				IAML		19 01 36.9	
	comp=N,90nm,0.5s						
SEW				IAML		19 01 37.4	
	comp=E,130nm,0.6s						
N19K	**Bonanza Creek**	**1.99**	**239**		Pn	19 01 06.5	-0.7
K20K	**Telida**	**2.05**	**318**		Pn	19 01 08.0	+0.1
MCK	**McKinley**	**2.09**	**26**		Pn	19 01 09.2	+0.8
BRLK	**Bradley Lake**	**2.12**	**178**		Pn	19 01 09.8	+0.9
BRLK				IAML		19 01 39.0	
	comp=E,75nm,0.6s						
BRLK				IAML		19 02 36.0	
	comp=N,78nm,3.7s						
GLI	**Glacier Island**	**2.13**	**116**		Pn	19 01 07.7	-1.3
ILSW	**Iliamna Southw**	**2.17**	**210**		Pn	19 01 09.4	-0.2
BPAW	**Bear Paw Mtn.**	**2.23**	**0**		Pn	19 01 10.5	+0.1
BPAW				IAML		19 01 37.7	
	comp=N,119nm,0.6s						
BPAW				IAML		19 01 37.8	
	comp=E,127nm,0.2s						
M24K	**Tolsona, Glenn**	**2.29**	**82**		Pn	19 01 11.8	+0.6
O19K	**Port Alsworth**	**2.34**	**225**	Pn	Pn	19 01 11.9	+0.1
CNPM	**China Poot**	**2.36**	**183**		Pn	19 01 11.9	-0.3
CNPM				IAML		19 01 46.4	
	comp=E,110nm,0.5s						
CNPM				IAML		19 01 48.0	
	comp=N,102nm,0.4s						
BWN	**Browne**	**2.41**	**16**		Pn	19 01 12.8	0.0
BWN				IAML		19 02 01.0	
	comp=E,69nm,1.0s						
BWN				IAML		19 02 22.8	
	comp=N,57nm,2.5s						
KLU	**Klutina**	**2.45**	**97**		Pn	19 01 12.6	-0.8
KLU				IAML		19 01 53.4	
	comp=N,53nm,0.4s						
FID	**Port Fidalgo**	**2.46**	**115**		Pn	19 01 11.6	-1.8
P19K	**Oil Pt**	**2.49**	**207**	Pn	Pn	19 01 13.8	0.0
P19K				IAML		19 01 52.3	
	comp=E,95nm,0.4s						
P19K				IAML		19 02 08.2	
	comp=N,81nm,1.9s						
TTA	**Tatalina**	**2.56**	**297**		Pn	19 01 14.3	-0.6
P23K	**Montague Islan**	**2.58**	**135**	Pn	Pn	19 01 14.9	-0.1
DIV	**Divide**	**2.62**	**104**		Pn	19 01 15.1	-0.5
DIV				IAML		19 01 47.4	
	comp=N,52nm,0.3s						
HIN	**Hinchinbrook I**	**2.64**	**122**	Pn	Pn	19 01 14.8	-1.1
N18K	**Kilae Creek**	**2.65**	**245**	Pn	Pn	19 01 15.7	-0.4
L18K	**Granite Mounta**	**2.70**	**280**	Pn	Pn	19 01 16.6	-0.1
J20K	**Nowinta River**	**2.72**	**330**	Pn	Pn	19 01 16.4	-0.5
J20K				IAML		19 01 49.5	
	comp=E,46nm,0.8s						
J20K				IAML		19 01 50.3	
	comp=N,68nm,0.4s						
PAX	**Paxson**	**2.79**	**64**		Pn	19 01 18.0	-0.1
PAX				IAML		19 01 58.6	
	comp=N,86nm,0.6s						
PAX				IAML		19 01 58.9	
	comp=E,60nm,0.8s						
NEA2	**Nenana**	**2.86**	**17**		Pn	19 01 18.7	-0.2
EYAK	**Cordova Ski Ar**	**2.87**	**115**	Pn	Pn	19 01 18.6	-0.4
EYAK				IAML		19 01 52.6	
	comp=N,70nm,4.1s						
EYAK				IAML		19 02 06.4	
	comp=E,59nm,3.0s						
O18K	**Koktuh Hills**	**2.89**	**227**	Pn	Pn	19 01 19.1	-0.2
WRH	**Wood River Hil**	**2.92**	**26**		Pn	19 01 19.8	+0.1
J19K	**Poorman**	**3.00**	**317**		Pn	19 01 20.8	+0.1
N25K	**Chitina, Valde**	**3.06**	**92**	Pn	Pn	19 01 21.3	-0.3
N25K				IAML		19 02 07.6	
	comp=E,38nm,0.5s						
N25K				IAML		19 02 08.2	
	comp=N,36nm,0.3s						
K24K	**Donnelly Dome**	**3.08**	**49**		Pn	19 01 21.9	+0.1
J18K	**Innoko River**	**3.08**	**304**		Pn	19 01 22.1	+0.2
M17K	**Holitna River**	**3.11**	**264**		Pn	19 01 22.2	-0.1
M17K				IAML		19 01 59.6	
	comp=E,50nm,1.7s						
M17K				IAML		19 02 16.2	
	comp=N,43nm,3.1s						
CCB	**Clear Creek Bu**	**3.13**	**26**		Pn	19 01 22.5	0.0
HDA	**Harding Lake**	**3.14**	**34**		Pn	19 01 22.3	-0.3
HDA				IAML		19 02 17.4	
	comp=E,27nm,1.6s						
HDA				IAML		19 02 19.8	
	comp=N,38nm,0.9s						
BMRM	**Bremner River**	**3.21**	**104**	Pn	Pn	19 01 24.3	+0.7
BMRM				IAML		19 02 20.9	
	comp=N,64nm,3.7s						
BMRM				IAML		19 03 00.5	
	comp=E,36nm,4.0s						
Q19K	**Cape Douglas,**	**3.24**	**205**	Pn	Pn	19 01 23.7	-0.3
P18K	**Big Mountain,**	**3.25**	**222**	Pn	Pn	19 01 24.2	0.0
P18K				IAML		19 02 09.1	
	comp=E,28nm,3.4s						
P18K				IAML		19 03 09.9	
	comp=N,28nm,3.6s						
N17K	**Nushagak Hills**	**3.29**	**248**	Pn	Pn	19 01 24.5	-0.2
I20K	**Naaghedeneel**	**3.32**	**333**	Pn	Pn	19 01 25.4	+0.3
COLA	**College**	**3.32**	**24**	Pn	Pn	19 01 24.9	-0.2
COLA				IAML		19 02 09.8	
	comp=N,46nm,0.4s						
COLA				IAML		19 02 17.6	
	comp=N,40nm,0.4s						
SYI	**Shuyak Island**	**3.35**	**193**	Pn	Pn	19 01 26.2	+0.7
SYI				IAML		19 02 26.6	
	comp=N,59nm,3.9s						
SYI				IAML		19 02 58.9	
	comp=E,59nm,3.2s						
I23K	**Minto, Yukon-K**	**3.36**	**12**		Pn	19 01 25.9	+0.2
RIDG	**Independent Ri**	**3.39**	**54**		Pn	19 01 27.3	+1.2
RIDG				IAML		19 02 14.9	
	comp=E,53nm,0.8s						
RIDG				IAML		19 02 15.8	
	comp=N,48nm,1.1s						
IL31		**3.45**	**31**		Pn	19 01 26.9	+0.1
ILAR	**Eielson Array**	**3.45**	**31**	Pn	Pn	19 01 26.8	-0.1
GLB	**Gilahina Butte**	**3.46**	**94**	Pn	Pn	19 01 26.5	-0.5
GLB				IAML		19 02 06.9	
	comp=E,22nm,2.7s						
GLB				IAML		19 02 56.5	
	comp=N,24nm,4.3s						
K17K	**Iditarod**	**3.51**	**287**		Pn	19 01 28.1	+0.4
K17K				IAML		19 02 10.0	
	comp=N,30nm,3.1s						
K17K				IAML		19 03 26.8	
	comp=E,24nm,4.0s						
MENT	**Mentasta**	**3.55**	**69**	Pn	Pn	19 01 28.0	-0.3
MENT				IAML		19 02 26.0	
	comp=E,42nm,0.4s						
MENT				IAML		19 02 31.8	
	comp=N,41nm,0.7s						
HMT	**Hamilton**	**3.62**	**112**	Pn	Pn	19 01 27.3	-1.9
POKR	**Poker Plat Res**	**3.62**	**25**	Pn	Pn	19 01 29.5	+0.2
DOT	**Dot Lake**	**3.65**	**58**		Pn	19 01 29.5	-0.2
DOT				IAML		19 02 31.2	
	comp=E,23nm,1.3s						
DOT				IAML		19 02 31.5	
	comp=N,18nm,0.6s						
VRDI	**Verde Repeater**	**3.67**	**97**	Pn	Pn	19 01 29.4	-0.7
VRDI				IAML		19 02 26.4	
	comp=N,28nm,4.0s						
VRDI				IAML		19 03 13.7	
	comp=E,26nm,4.6s						
L26K	**Log Cabin Wild**	**3.74**	**69**	Pn	Pn	19 01 30.6	-0.2
L26K				IAML		19 02 28.3	
	comp=E,30nm,0.4s						
L26K		

	comp=N,24nm,0.4s						
J26L				IAML		19 02 35.1	
	comp=E,24nm,0.3s						
M27K	**Edge Creek, AK**	**4.31**	**80**	Pn	Pn	19 01 39.5	+0.8
M27K				IAML		19 02 24.5	
	comp=E,20nm,3.5s						
M27K				IAML		19 03 18.8	
	comp=N,26nm,4.1s						
SNH	**Sunshine Point**	**4.32**	**110**	Pn	Pn	19 01 39.6	+0.8
PRP	**Porcupine Dome**	**4.39**	**31**		Pn	19 01 40.3	+0.5
PRP				IAML		19 02 42.7	
	comp=N,9.7nm,3.0s						
PRP				IAML		19 02 54.9	
	comp=E,10.0nm,4.6s						
H19K	**Roundabout Mou**	**4.39**	**329**	Pn	Pn	19 01 40.4	+0.8
H19K				IAML		19 03 01.2	
	comp=N,16nm,4.1s						
H19K				IAML		19 03 27.2	
	comp=E,16nm,4.5s						
L27K	**Beaver Creek,**	**4.42**	**70**	Pn	Pn	19 01 40.2	+0.1
L27K				IAML		19 04 01.3	
	comp=E,13nm,4.1s						
L27K				IAML		19 04 32.6	
	comp=N,18nm,4.2s						
BCAR	**Beaver Creek A**	**4.44**	**70**	Pn	Pn	19 01 40.1	-0.3
P16K	**Nushagak River**	**4.49**	**234**	Pn	Pn	19 01 41.8	+0.8
J16K	**Anvik River**	**4.66**	**292**	Pn	Pn	19 01 43.5	+0.2
J16K				IAML		19 02 53.3	
	comp=E,21nm,3.8s						
J16K				IAML		19 03 07.3	
	comp=N,17nm,2.5s						
N15K	**Kwethluk River**	**4.74**	**253**	Pn	Pn	19 01 44.8	+0.2
OHAK	**Old Harbor**	**4.81**	**195**	Pn	Pn	19 01 46.3	+0.9
G23K	**Bananza Creek**	**4.87**	**5**	Pn	Pn	19 01 46.5	+0.2
G23K				IAML		19 02 26.8	
	comp=E,9.6nm,4.4s						
G23K				IAML		19 03 03.6	
	comp=N,9.4nm,4.6s						
I17K	**Unalakleet**	**4.87**	**299**	Pn	Pn	19 01 47.0	+0.7
I26K	**Coal Creek Min**	**4.91**	**42**		Pn	19 01 47.5	+0.7
I26K				IAML		19 03 21.3	
	comp=N,14nm,2.6s						
K15K	**Wolf Creek Mou**	**4.97**	**279**	Pn	Pn	19 01 47.7	+0.1
H17K	**Granite Mounta**	**5.04**	**311**	Pn	Pn	19 01 49.1	+0.5
H17K				IAML		19 03 20.6	
	comp=N,11nm,3.2s						
H17K				IAML		19 04 21.4	
	comp=E,9.8nm,3.5s						
G19K	**Purcell Mounta**	**5.05**	**331**	Pn	Pn	19 01 49.0	+0.3
G19K				IAML		19 03 21.8	
	comp=N,8.4nm,4.7s						
G19K				IAML		19 04 58.9	
	comp=E,14nm,4.7s						
G24K	**Hadweenzic Riv**	**5.08**	**16**	Pn	Pn	19 01 49.7	+0.6
G24K				IAML		19 03 53.1	
	comp=E,16nm,4.0s						
G24K				IAML		19 03 58.5	
	comp=N,13nm,4.5s						
O15K	**Ungalikthiuk R**	**5.13**	**242**	Pn	Pn	19 01 50.5	+0.7
G18K	**Tagagawik**	**5.26**	**323**	Pn	Pn	19 01 52.1	+0.5
G18K				IAML		19 03 35.7	
	comp=E,12nm,3.9s						
G18K				IAML		19 05 09.9	
	comp=N,10nm,4.8s						
O28M	**Mount Upton**	**5.32**	**97**	Pn	Pn	19 01 53.3	+0.6
FYU	**Fort Yukon**	**5.33**	**26**	Pn	Pn	19 01 53.1	+0.5
COLD	**Coldfoot**	**5.38**	**3**	Pn	Pn	19 01 54.0	+0.7
COLD				IAML		19 03 51.8	
	comp=E,8.7nm,4.9s						
COLD				IAML		19 04 31.9	
	comp=N,9.7nm,4.9s						
M14K	**Bethel**	**5.40**	**263**	Pn	Pn	19 01 54.0	+0.5
F21K	**Alatna River**	**5.47**	**350**	Pn	Pn	19 01 55.3	+0.8
F20K	**Avaraart Lake**	**5.58**	**341**		Pn	19 01 57.0	+1.2
SII	**Sitkinak Island**	**5.58**	**198**	Pn	Pn	19 01 57.0	+1.0
L14K	**Kuka Creek**	**5.60**	**270**	Pn	Pn	19 01 57.2	+1.0
F24K	**Squaw Lake**	**5.82**	**12**	Pn	Pn	19 01 59.5	+0.3
M29M	**Somme Creek**	**5.90**	**79**	Pn	Pn	19 02 00.7	+0.2
J14K	**Nanvaranak Lak**	**5.92**	**284**	Pn	Pn	19 02 01.1	+0.5
G26K	**Porcupine Rive**	**5.97**	**28**	Pn	Pn	19 02 02.1	+0.9
H27K	**Steamboat Moun**	**6.03**	**39**	Pn	Pn	19 02 02.4	+0.3
YKU2	**Yakutat**	**6.05**	**108**	Pn	Pn	19 02 04.8	+2.5
I28M	**Miner Creek**	**6.09**	**49**	Pn	Pn	19 02 03.7	+0.7
L29M	**L29M**	**6.09**	**73**	Pn	Pn	19 02 01.9	-1.1
G16K	**Koyuk River**	**6.16**	**310**	Pn	Pn	19 02 01.7	-2.2
F25K	**Christian Rive**	**6.18**	**19**	Pn	Pn	19 02 04.6	+0.4
BMAR	**Burnt Mountain**	**6.21**	**23**	Pn	Pn	19 02 04.8	+0.2
O29M	**Mount Kennedy**	**6.23**	**99**	Pn	Pn	19 02 04.8	-0.1
E23K	**Chandalar**	**6.23**	**5**	Pn	Pn	19 02 05.6	+0.7
E22K	**Anaktuvuk Pass**	**6.29**	**357**	Pn	Pn	19 02 07.2	+1.5
E24K	**Your Creek**	**6.31**	**9**	Pn	Pn	19 02 06.3	+0.4
G27K	**Doyon Strip**	**6.39**	**35**	Pn	Pn	19 02 06.7	-0.4
F17K	**Baldwin Pennin**	**6.40**	**320**	Pn	Pn	19 02 06.4	-0.7
K13K	**Kusilvak Mount**	**6.45**	**277**	Pn	Pn	19 02 07.7	-0.2
K29M	**Barlow Dome**	**6.47**	**66**	Pn	Pn	19 02 07.0	-1.2
F26K	**Sheenjek River**	**6.53**	**24**	Pn	Pn	19 02 08.4	-0.5
HYT	**Haines Junctio**	**6.58**	**93**	Pn	Pn	19 02 08.6	-1.1
N30M	**Aishikik Lake**	**6.64**	**87**	Pn	Pn	19 02 09.2	-1.2
E25K	**Arctic Village**	**6.67**	**18**	Pn	Pn	19 02 10.7	-0.2
H29M	**Whitestone**	**7.04**	**46**	Pn	Pn	19 02 15.8	-0.1
D22K	**Ayikyak River**	**7.07**	**355**	Pn	Pn	19 02 16.6	+0.4
J30M	**Hart River**	**7.15**	**61**	Pn	Pn	19 02 16.8	-0.7
F15K	**North Star Dit**	**7.16**	**308**	Pn	Pn	19 02 18.2	+0.8
E27K	**Coleen River**	**7.47**	**28**	Pn	Pn	19 02 22.0	+0.2
M11K	**Mekoryuk**	**7.51**	**265**	Pn	Pn	19 02 22.2	0.0
G29M	**Pine Creek**	**7.55**	**42**	Pn	Pn	19 02 23.2	+0.5
D25K	**Kavik River**	**7.71**	**12**	Pn	Pn	19 02 26.9	+1.8
B21K	**Ikpikpuk River**	**7.92**	**351**	Pn	Pn	19 02 28.8	+1.0
C23K	**Itkillik River**	**8.00**	**1**	Pn	Pn	19 02 29.8	+1.0
C18K	**Utukok River**	**8.02**	**332**	Pn	Pn	19 02 29.0	-0.2
H31M	**Peel River**	**8.33**	**55**	Pn	Pn	19 02 34.5	+0.9
D27M	**Malcolm River**	**8.47**	**25**	Pn	Pn	19 02 36.7	+1.3
E29M	**Blow River**	**8.54**	**34**	Pn	Pn	19 02 36.9	+0.6
B22K	**Teshekpuk Lake**	**8.55**	**354**	Pn	Pn	19 02 37.1	+0.6
F30M	**Barrier River**	**8.66**	**42**	Pn	Pn	19 02 38.1	+0.1

*IDC **12** 19:01:52.7±0.8, 1°.81S×122°.69E, h0km, mb3.6/10, mbtmp3.7/12, ML3.7/2, MS2.8/3, Error ellipse: s-maj=30.8km s-min=16.6km az=74.0*
*DJA **12** 19:01:56.2±0.2, 2°.S±2°×12°.3E±°, h10km, M4.4/22, mB4.8/5, mb4.6/8, MLv4.4/22, Mw(mB)4.1/5*
ISC 12 19:01:57.8±0.6, **1°.96S**±0°.04×**122°.54E**±0°.05, **h35**km, **n44,** σ**1**°**26**/45, **mb3.6**/10, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.94**	**14**	P	**Pn**	**19 02 13.6**	**-1.0**
LUWI	**Luwuk**	**0.94**	**14**	S	**Sn**	**19 02 28.7**	**+1.9**
LUWI	**Luwuk**	**0.94**	**14**	P	**Pn**	**19 02 13.6**	**-1.0**
APSI	**Ampana**	**1.38**	**319**	P	**Pn**	**19 02 20.1**	**-0.4**
KDI	**Kendari**	**1.98**	**178**	P	**Pn**	**19 02 29.4**	**+0.5**
MRSI	**Marisa**	**2.50**	**346**	P	**Pn**	**19 02 36.1**	**+0.1**
KMSI	**Cibinong**	**2.90**	**30**	P	**Pn**	**19 02 42.6**	**+1.1**
PCI	**Palu**	**2.90**	**291**	P	**Pn**	**19 02 42.2**	**+0.6**
SPSI	**Sidrap Palu**	**3.41**	**234**	P	**Pn**	**19 02 49.6**	**+1.0**
BNSI	**Bone**	**3.43**	**225**	P	**Pn**	**19 02 49.3**	**+0.4**
SANI	**Sanana**	**3.44**	**92**	P	**Pn**	**19 02 48.5**	**-0.5**
SANI	**Sanana**	**3.44**	**92**	S	**Sn**	**19 03 31.0**	**+2.4**
SANI	**Sanana**	**3.44**	**92**	P	**Pn**	**19 02 48.0**	**-1.0**
MPSI	**Mapaga**	**3.49**	**311**	P	**Pn**	**19 02 49.6**	**-0.1**
BBSI	**Bau Bau**	**3.50**	**180**	P	**Pn**	**19 02 50.5**	**+0.7**
TOLI2	**Tolitoli**	**3.52**	**330**	P	**Pn**	**19 02 51.0**	**+0.9**
TOLI2	**Tolitoli**	**3.52**	**330**	S	**Sn**	**19 03 34.9**	**+4.3**
KAPI	**Kappang**	**4.12**	**223**	Pn	**Pn**	**19 02 59.5**	**+1.2**
	12nm,0.3s,baz=107,slow=4.4,SNR=17						
KAPI				Sn	**Sn**	**19 03 44.0**	**-1.3**
	25nm,0.3s,baz=134,slow=22,SNR=9.9						
KAPI				LR	LR	19 04 42.5	
	comp=Z,161nm,21.1s,baz=70,slow=39						
	28nm,0.2s						
BKSI	**Bulukumba**	**4.12**	**216**	P	**Pn**	**19 02 58.8**	**+0.5**
BSSI	**Bau Bau, Buton**	**4.63**	**206**	P	**Pn**	**19 03 05.5**	**+0.1**
NLAI	**Namlea**	**4.72**	**106**	P	**Pn**	**19 03 08.4**	**+1.8**
TNTI	**Ternate**	**5.54**	**61**	P	**Pn**	**19 03 18.8**	**+1.0**
TNTI	**Ternate**	**5.54**	**61**	S	**Sn**	**19 04 22.0**	**+1.8**
TNTI	**Ternate**	**5.54**	**61**	P	**Pn**	**19 03 18.7**	**+1.0**
	0.2nm28nm,0.5s						
BKB	**Balikpapan**	**5.69**	**277**	P	**Pn**	**19 03 21.4**	**+1.5**
BKB	**Balikpapan**	**5.69**	**277**	P	**Pn**	**19 03 20.8**	**+0.9**
MMRI	**Maumere**	**6.64**	**183**	P	**Pn**	**19 03 33.6**	**+0.7**
EDFI	**Ende, Flores**	**6.80**	**187**	P	**Pn**	**19 03 35.2**	**0.0**
	0.1nm14nm,0.5s						
SWI	**Sorong**	**8.78**	**83**	P	**Pn**	**19 04 03.3**	**+0.9**
	16nm,0.7s						
DAV	**Davao City (W)**	**9.47**	**19**	LR	LR	19 08 12.9	
	comp=Z,326nm,18.9s,baz=106,slow=41						
FAKI	**Fak Fak**	**9.74**	**96**	P	**Pn**	**19 04 15.9**	**+0.3**
FAKI	**Fak Fak**	**9.74**	**96**	P	**Pn**	**19 04 16.4**	**+0.8**
MTN	**Manton Dam**	**13.76**	**142**	P	**Pn**	**19 05 10.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**16.32**	**169**	Pn	**P**	**19 05 46.5**	**-0.5**
	0.1nm,0.3s,baz=0.3,slow=7.3,SNR=5.7						
FITZ				LR	LR	19 13 28.9	
	comp=Z,57nm,19.6s,baz=24,slow=42						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**21.27**	**148**	P	**P**	**19 06 41.0**	**-0.3**
	1.3nm,0.8s,baz=322,slow=12,SNR=13						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**24.22**	**154**	P	**P**	**19 07 12.6**	**+1.1**
	1.3nm,0.6s,baz=346,slow=15,SNR=19						
ASAR				PcP	**PcP**	**19 10 51.6**	**0.0**
	0.3nm,0.8s,baz=298,slow=1.7,SNR=4.3						
	1.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.84**	**312**	P	**P**	**19 08 12.3**	**+1.5**
	0.7nm,0.7s,baz=138,slow=7.1,SNR=11						
	0.7nm,0.7s						
MJAR	**Matsushiro Arr**	**40.99**	**19**	P	**P**	**19 09 34.8**	**-2.8**
	1.2nm,0.9s,baz=203,slow=9.9,SNR=4.2						
	1.2nm,0.9s						
USRK	**Ussurlysk Ar.**	**46.73**	**9**	P	**P**	**19 10 24.0**	**+0.6**
	1.2nm,0.6s,baz=216,slow=5.8,SNR=2.0						
	1.2nm,0.6s						
SONM	**Songino Array**	**51.56**	**346**	P	**P**	**19 10 59.7**	**-0.9**
	0.3nm,0.5s,baz=169,slow=7.4,SNR=3.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**60.04**	**329**	P	**P**	**19 12 00.8**	**-0.5**
	0.2nm,0.4s,baz=122,slow=9.3,SNR=5.7						
	0.2nm,0.4s						
PETK	**Petropavlovsk-**	**62.26**	**23**	P	**P**	**19 12 15.6**	**-0.6**
	1.4nm,1.1s,baz=230,slow=8.3,SNR=2.1						
	1.4nm,1.1s						
BVAR	**Borovoye Array**	**69.92**	**329**	P	**P**	**19 13 04.0**	**-1.4**
	0.2nm,0.5s,baz=96,slow=12,SNR=1.8						
	0.2nm,0.5s						
BRTR	**Keskin Array B**	**90.40**	**310**	P	**P**	**19 14 55.7**	**-0.4**
	0.4nm,0.7s,baz=103,slow=3.3,SNR=2.2						
	0.4nm,0.7s						

*NEIC **12** 19:12:32.8±0.9, 35°.847N±0°.009×98°.21W±0°.01, h6km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=347.0*
NEIC 12 19:12:32.4±1.0, **35°.848N**±0°.010×**98°.21W**±0°.01, **h5**km±1km, **mb_Lg2.3**/11, **ML2.3**/38, **ML2.5**/60, **Error ellipse: s-maj=2.7km s-min=1.6km az=16.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSTR	**Hydro, Custer**	**0.44**	**243**		Pg	19 12 41.6	+0.7
CSTR				Sg	Sg	19 12 47.8	+1.2
BCOK	**Bluff Creek, N**	**0.53**	**111**		Pg	19 12 43.2	+0.7
BCOK					Sg	19 12 50.5	+1.2
OK029	**Liberty Lake**	**0.62**	**95**		Pg	19 12 44.2	0.0
OK029				Sg	Sg	19 12 53.0	+0.7
OK029				IAML		19 12 57.6	
	168nm,0.3s						
CROK	**Carrier**	**0.68**	**16**		Pg	19 12 45.9	+0.3
CROK				Sg	Sg	19 12 55.2	+0.8
CROK				IAML		19 13 04.0	
	comp=E,158nm,0.2s						
CROK				IAML		19 13 07.9	
	comp=N,192nm,0.3s						
OK004	**Okla Sci Mus**	**0.68**	**118**		Pg	19 12 46.1	+0.6
OK004					Sg	19 12 55.4	+1.0
ADOK	**Arcadia Dam**	**0.71**	**106**	Pg	Pg	19 12 46.2	+0.2
ADOK				Sg	Sb	19 12 56.3	-1.0
OK038	**West end E0370**	**0.76**	**326**		Pg	19 12 47.0	-0.1
OK038				Sg	Sg	19 12 57.0	0.0
FNO	**Franklin**	**0.89**	**131**	Pg	Pg	19 12 49.5	0.0
OK032	**Salt Plains WL**	**0.95**	**0**	Pg	Pg	19 12 50.6	-0.2
OK032					Sb	19 13 03.8	-0.6
NOKA	**Waynoka**	**0.98**	**324**		Pg	19 12 51.4	+0.1
ELIS	**Ellis County**	**1.00**	**283**		Pg	19 12 51.9	+0.2
ELIS				IAML		19 13 14.4	
	comp=N,149nm,0.2s						
ELIS				IAML		19 13 22.1	
	comp=E,145nm,0.3s						
GC02	**Grant County #**	**1.04**	**16**		Pg	19 12 51.6	-0.8
GC02					Sb	19 13 06.7	-0.2
OK031	**S. Brethren Rd**	**1.12**	**84**		Pg	19 12 52.8	-1.1
OK031					Sg	19 13 08.3	-0.1
OK031				IAML		19 13 10.1	
	comp=E,126nm,0.2s						
OK031				IAML		19 13 10.2	
	comp=E,99nm,0.1s						
KAN14	**Manchester OK**	**1.12**	**10**		Pg	19 12 53.6	-0.4
KAN14					Sb	19 13 09.3	0.0
KAN14				IAML		19 13 13.2	
	comp=E,123nm,0.1s						
KAN14				IAML		19 13 15.3	
	comp=N,100nm,0.1s						
OK052	**Battle Ridge R**	**1.15**	**82**		Pg	19 12 54.0	-0.5
OK052					Sb	19 13 09.9	-0.2
OK052				IAML		19 13 10.9	
	comp=N,159nm,0.3s						
OK052				IAML		19 13 11.6	
	comp=N,96nm,0.2s						
OK048	**Pawnee Station**	**1.17**	**61**		Pg	19 12 54.1	-0.8
OK048				IAML		19 13 14.3	
	comp=N,107nm,0.2s						
OK048				IAML		19 13 14.5	
	comp=N,107nm,0.3s						
WMOK	**Wichita Mounta**	**1.20**	**203**		Pg	19 12 54.2	-1.3
BLOK	**Blackwell**	**1.22**	**41**		Pg	19 12 55.5	-0.2
KAN17	**Caldwell West**	**1.25**	**17**		Pg	19 12 55.7	-0.6
KAN17				IAML		19 13 17.2	
	comp=N,134nm,0.2s						
QUOK	**Quay**	**1.26**	**75**		Pg	19 12 55.6	-1.0
X34A	**Smith Ranch, M**	**1.28**	**166**		Pg	19 12 56.7	-0.3
X34A				IAML		19 13 17.3	
	comp=N,66nm,0.2s						
X34A				IAML		19 13 18.0	
	comp=E,81nm,0.4s						
KAN05	**Bluff City Nor**	**1.29**	**12**		Pn	19 12 56.2	-0.9
KAN05				IAML		19 13 17.4	
	comp=E,119nm,0.3s						
OK051	**E0350 and S346**	**1.29**	**59**		Pn	19 12 56.6	-0.6
W35A	**Tecumseh**	**1.29**	**122**		Pn	19 12 56.3	-0.9
W35A				IAML		19 13 21.3	
	comp=E,82nm,0.4s						
KAN13	**South Haven SW**	**1.30**	**27**		Pn	19 12 56.5	-0.8
KAN01	**Argonia South**	**1.35**	**15**		Pn	19 12 57.0	-1.0
KAN09	**Caldwell North**	**1.37**	**20**		Pn	19 12 57.7	-0.6
KAN08	**Anthony NE Sta**	**1.39**	**8**		Pn	19 12 58.3	-0.2
DEOK	**Depew**	**1.39**	**90**		Pn	19 12 58.1	-0.4
T35A	**Sooner Cattle**	**1.74**	**52**	Pn	Pn	19 13 03.2	0.0
SMWD	**Samnorwood**	**1.82**	**247**		Pn	19 13 04.6	+0.1
TUL3	**Leonard**	**1.96**	**87**	IAmb_Lg		19 13 40.2	
	comp=Z,8.0nm,0.7s						
WTFS	**Witchita Falls**	**2.09**	**186**		Pb	19 13 09.5	-1.3
WTFS				IAmb_Lg		19 13 37.9	
	comp=Z,8.2nm,1.1s						
R32A	**Long Quarter,**	**2.60**	**351**	Pn	Pn	19 13 12.9	-2.3
APMT	**Aspermont**	**2.97**	**213**	Pn	Pn	19 13 18.2	-2.1
AMTX	**Amarillo**	**3.00**	**252**	IAmb_Lg		19 14 10.1	
	comp=Z,21nm,0.8s						
U38A	**Gravette**	**3.15**	**78**	IAmb_Lg		19 14 15.5	
	comp=Z,5.9nm,0.9s						
SN07	**Snyder 07**	**3.53**	**220**	Pn	Pn	19 13 24.5	-3.5
SN07				IAmb_Lg		19 14 30.4	
	comp=Z,8.9nm,0.8s						
RTBA	**Rita Blanca**	**3.71**	**280**		Pn	19 13 27.3	-3.2
MSTX	**Muleshoe**	**4.19**	**245**	Pn	Pn	19 13 34.2	-2.9
KSCO	**Kaye Shedlock'**	**4.72**	**313**	IAmb_Lg		19 15 03.3	
	comp=Z,8.4nm,0.8s						
MGMO	**Mountain Grove**	**4.96**	**73**		Pn	19 13 44.1	-3.5
T25A	**Trinidad**	**5.16**	**286**	Pn	Pn	19 13 45.6	-4.9
P38A	**Dawn**	**5.29**	**43**		Pn	19 13 49.3	-2.8
LCAR	**Lake Charles**	**5.73**	**86**		Pn	19 13 55.3	-2.8

*UCR **12** 19:19:26.5±0.9, 11°.14N×85°.77W, h123km±4km, MW3.5*
*CATAC **12** 19:19:27.4±0.4, 11°N±4°×8°6W±°, h116km±4km, M3.4/18, MLv3.4/18, Error ellipse: s-maj=11.4km s-min=4.2km az=44.9, confirmed*
ISC 12 19:19:26.6±1.7, **11°.17N**±0°.05×**85°.72W**±0°.07, **h129**km±9km, **n43,** σ**0**°**57**/56, **Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**0.12**	**136**	*eP*	**Pn**	**19 19 44.7**	**+0.5**
LCRUZ				*eS*	**Sn**	**19 19 57.7**	**+0.3**
CARN	**Rivas**	**0.19**	**84**	P	**Pn**	**19 19 43.9**	**-0.3**
CARN				S	**Sn**	**19 19 56.9**	**-0.6**
JAPN	**Al SSO del Vol**	**0.36**	**6**	P	**Pn**	**19 19 44.9**	**0.0**
CONN	**Concepcion**	**0.41**	**13**	P	**Pn**	**19 19 44.9**	**-0.2**
CONN				S	**Sn**	**19 19 59.3**	**+0.2**
PEJA	**Penjamo Buenos**	**0.48**	**124**	*eP*	**Pn**	**19 19 45.5**	**0.0**
VORI	**VORI**	**0.50**	**134**	*eP*	**Pn**	**19 19 45.9**	**+0.1**
VRLE	**La Escondida,**	**0.51**	**137**	*eP*	**Pn**	**19 19 45.2**	**-0.5**
VRLE				*eS*	**Sn**	**19 20 00.4**	**+0.3**
ELI1	**Hacienda Flor**	**0.54**	**163**	*eP*	**Pn**	**19 19 45.9**	**+0.1**
ELI1				*eS*	**Sn**	**19 20 00.3**	**0.0**
GPS2	**Hotel Rincn d**	**0.55**	**139**	*eP*	**Pn**	**19 19 45.7**	**-0.2**
ALIBA	**Liberia Airpor**	**0.59**	**164**	*eP*	**Pn**	**19 19 46.8**	**+0.6**
ALIBA				*eS*	**Sn**	**19 20 01.3**	**+0.4**
VMAR	**Armenia, Volca**	**0.69**	**121**	*eP*	**Pn**	**19 19 46.7**	**-0.1**
NANN	**Nandasmo**	**0.86**	**333**	P	**Pn**	**19 19 48.2**	**0.0**
NANN	**Nandasmo**	**0.86**	**333**	S	**Sn**	**19 20 04.9**	**+0.3**
ACON	**Acoyapa**	**0.96**	**34**	*eP*	**Pn**	**19 19 48.8**	**-0.1**
ACON	**Acoyapa**	**0.96**	**34**	S	**Sn**	**19 20 05.4**	**-0.6**
ACON	**Acoyapa**	**0.96**	**34**	P	**Pn**	**19 19 48.9**	**-0.1**
NICO	**Nicoya**	**1.06**	**165**	*eP*	**Pn**	**19 19 50.2**	**+0.2**
ENAN	**Enatrel Managu**	**1.08**	**331**	S	**Sn**	**19 20 08.4**	**+0.3**
ENAN	**Enatrel Managu**	**1.08**	**331**	P	**Pn**	**19 19 51.1**	**+0.9**
UNAN	**Cigeo UNAN**	**1.08**	**330**	P	**Pn**	**19 19 50.6**	**+0.4**
UNAN				S	**Sn**	**19 20 08.6**	**+0.4**
JTS	**Las Juntas de**	**1.15**	**139**	*eP*	**Pn**	**19 19 50.2**	**-0.7**
CMARA	**Lajas Hojancha**	**1.18**	**166**	*eP*	**Pn**	**19 19 50.7**	**-0.5**
CMARA	**Lajas Hojancha**	**1.18**	**166**	P	**Pn**	**19 19 51.3**	**+0.1**
APQN	**BE Volcan Apoy**	**1.19**	**332**	S	**Sn**	**19 20 10.4**	**+0.3**
SAPS	**Ciudad Sandino**	**1.20**	**326**	P	**Pn**	**19 19 51.1**	**-0.3**
SAPS	**Ciudad Sandino**	**1.20**	**326**	S	**Sn**	**19 20 09.8**	**-0.5**
INDI	**Punta indio, G**	**1.31**	**171**	P	**Pn**	**19 19 52.5**	**0.0**
COPN	**Copaltepe**	**1.32**	**320**	*eP*	**Pn**	**19 19 52.5**	**-0.2**
COPN	**Copaltepe**	**1.32**	**320**	P	**Pn**	**19 19 52.7**	**+0.1**
MOMN	**Momotombo**	**1.47**	**327**	P	**Pn**	**19 19 54.1**	**-0.2**
MOMN				S	**Sn**	**19 20 15.3**	**-0.2**
LEVN	**Ruinas Leon Vi**	**1.51**	**324**	P	**Pn**	**19 19 55.5**	**+0.7**
LEVN				S	**Sn**	**19 20 16.0**	**-0.2**
CNGA	**Al SSO del Vol**	**1.63**	**324**	P	**Pn**	**19 19 56.8**	**+0.6**
CNGA				S	**Sn**	**19 20 17.9**	**-1.0**
CNGN	**Cerro Negro**	**1.64**	**324**	S	**Sn**	**19 20 19.1**	**+0.2**
ROCN	**Rota Cerro Neg**	**1.68**	**323**	P	**Pn**	**19 19 57.5**	**+0.8**
ROCN				S	**Sn**	**19 20 19.2**	**-0.5**
ESPN	**Las Esperanzas**	**1.72**	**53**	P	**Pn**	**19 19 57.5**	**+0.4**
TRB2	**Turrubares**	**1.76**	**135**	*eP*	**Pn**	**19 19 57.8**	**+0.1**
LIMN	**Finca el Limon**	**1.99**	**341**	P	**Pn**	**19 20 00.8**	**+0.3**
PIEC	**Cerro El Cedra**	**2.31**	**131**	*eP*	**Pn**	**19 20 05.2**	**+0.5**
POTN	**Potosi Cosigui**	**2.53**	**316**	S	**Sn**	**19 20 37.0**	**-1.2**
CSGN	**Cosiguina Volc**	**2.55**	**315**	P	**Pn**	**19 20 07.9**	**+0.5**
CSGN				S	**Sn**	**19 20 37.9**	**-0.9**
CHOHN	**Orocuina**	**2.70**	**329**	P	**Pn**	**19 20 10.3**	**+0.9**
RANC	**El Ranchito**	**3.38**	**312**	P	**Pn**	**19 20 16.5**	**-1.7**
PACA	**Pacayal**	**3.42**	**312**	P	**Pn**	**19 20 20.2**	**+1.4**
PACA				S	**Sn**	**19 20 59.0**	**-0.2**

*MOS **12** 19:24:30.0±1.3, 21°.50N×45°.96W, h10km, mb5.0/48, Error ellipse: s-maj=9.3km s-min=5.8km az=49.9*
*IDC **12** 19:24:30.2±0.4, 21°.46N×45°.76W, h0km, mb4.4/28, mbtmp4.4/29, ML4.4/1, MS3.9/45, Error ellipse: s-maj=16.0km s-min=10.5km az=142.0*
*NEIC **12** 19:24:30.9±1.9, 21°.36N±0°.10×45°.92W±0°.10, h10km±1km, mb4.9/233, Error ellipse: s-maj=17.1km s-min=15.0km az=153.0*
*GCMT **12** 19:24:32.9±0.3, 21°.15N±0°.04×45°.69W±0°.03, h18km±1km, MW5.0/86, Moment Tensor Solution. s11,c11; s86,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.53±.22; $M_{\theta\theta}$0.16±.15; $M_{\phi\phi}$2.37±.15; $M_{r\theta}$-2.66±.50; $M_{r\phi}$0.06±.09; $M_{\theta\phi}$

G62A IAmb IAmb 19 30 59.5
comp=Z,15nm,0.8s
HNH Hanover 31.19 322 P **P 19 30 49.5 -0.8**
HNH IAmb IAmb 19 31 00.8
comp=Z,20nm,1.0s
WUPA West Chester U 31.29 313 P **P 19 30 49.3 -1.8**
LUPA Lehigh Univers 31.44 314 P **P 19 30 51.5 -1.0**
LUPA IAmb IAmb 19 31 03.3
comp=Z,27nm,1.1s
E62A Clayton Lake 31.62 328 P **P 19 30 53.8 -0.2**
E62A IAmb IAmb 19 31 03.4
comp=Z,21nm,1.0s
D62A Allapoint, All 31.72 329 P **P 19 30 54.7 -0.2**
ACCN Adirondack Com 31.82 320 P **P 19 30 54.1 -1.8**
MVL Millersville 31.83 312 P **P 19 30 53.8 -2.1**
SDMD Soldier's Deli 31.91 311 **P 19 30 54.6 -2.1**
SDMD IAmb IAmb 19 32 05.8
comp=Z,23nm,1.4s
ROSC El Rosal 32.08 243 P **P 19 31 01.1 +2.3**
comp=Z,6.2nm,0.3s,baz=125,slow=18,SNR=1.3
ROSC LR LR 19 45 21.4
comp=Z,143nm,20.1s,baz=100,slow=39
comp=Z,6.2nm,0.3s
KSPA Keystone Colle 32.17 315 P **P 19 30 57.9 -1.1**
NCB Newcomb 32.48 320 P **P 19 31 02.0 +0.2**
FRNY Flat Rock 32.62 322 P **P 19 31 02.8 -0.1**
FRNY IAmb IAmb 19 31 13.2
comp=Z,18nm,1.0s
BINY Binghamton 32.63 316 P **P 19 31 02.4 -0.6**
BINY IAmb IAmb 19 31 27.0
comp=Z,16nm,1.1s
LMQ La Malbaie 32.66 329 P **P 19 31 03.0 -0.3**
LMQ IAmb IAmb 19 31 16.1
comp=Z,22nm,1.1s
ICQ Pointe Anglais 32.76 334 P **P 19 31 05.3 +1.3**
P57A Homestead Farm 32.77 311 P **P 19 31 04.2 -0.1**
P57A IAmb IAmb 19 31 15.0
comp=Z,22nm,1.2s
W57A Gilead 32.79 302 P **P 19 31 05.1 +0.5**
S57A Dark Hollow, R 32.80 307 P **P 19 31 05.0 +0.4**
S57A IAmb IAmb 19 31 09.7
comp=Z,19nm,1.1s
257A Skidaway Islan 32.94 296 P **P 19 31 05.8 0.0**
M57A Sunshine Farm, 32.96 314 P **P 19 31 06.2 +0.3**
M57A IAmb IAmb 19 31 16.5
comp=Z,22nm,1.0s
BIRD Birdtown, Kers 33.04 301 P **P 19 31 07.1 +0.4**
BIRD IAmb IAmb 19 31 18.8
comp=Z,33nm,1.4s
MNTQ Montreal, Queb 33.04 323 P **P 19 31 07.0 +0.5**
MNTQ IAmb IAmb 19 31 15.8
comp=Z,16nm,0.9s
LONY Lake Ozonia 33.07 321 P **P 19 31 06.9 +0.1**
LONY IAmb IAmb 19 31 21.7
comp=Z,18nm,1.3s
SSPA Standing Stone 33.16 313 P **P 19 31 07.7 0.0**
SSPA IAmb IAmb 19 31 19.0
comp=Z,26nm,1.2s
K57A Scipio Center 33.23 317 P **P 19 31 08.7 +0.4**
K57A IAmb IAmb 19 31 18.9
comp=Z,23nm,1.0s
J57A Williamstown 33.25 318 P **P 19 31 08.3 -0.1**
J57A IAmb IAmb 19 31 18.9
comp=Z,23nm,1.2s
LDAQ Lac Daran 33.40 329 **P 19 31 09.8 +0.1**
LDAQ IAmb IAmb 19 31 18.7
comp=Z,21nm,0.9s
U56A King 33.43 304 P **P 19 31 10.7 +0.6**
U56A IAmb IAmb 19 31 19.5
comp=Z,13nm,0.8s
Q56A Snyder Ridge, 33.43 309 P **P 19 31 11.1 +1.0**
SNDB Serra Nova Dou 33.59 190 *eP* **P 19 31 13.9 +2.3**
JSC Jenkinsville 33.59 300 P **P 19 31 12.3 +0.8**
JSC Jenkinsville 33.59 300 P **P 19 31 12.3 +0.8**
JSC pmax pmax
comp=Z,41nm,1.6s
L56A Greenwood 33.62 315 **P 19 31 12.0 +0.3**
WBO Williamsburg 33.69 321 **P 19 31 12.8 +0.7**
WBO IAmb IAmb 19 31 21.9
comp=Z,19nm,0.9s
BLA Blacksburg 33.72 305 P **P 19 31 13.1 +0.5**
BLA Blacksburg 33.72 305 P **P 19 31 13.1 +0.5**
BLA pmax pmax
comp=Z,35nm,1.0s
KMSC Kings Mountain 33.85 302 P **P 19 31 14.3 +0.5**
KMSC IAmb IAmb 19 31 19.6
comp=Z,14nm,1.1s
TRQ Mont Tremblant 33.99 324 **P 19 31 15.9 +1.0**
TRQ IAmb IAmb 19 31 24.5
comp=Z,12nm,1.0s
HODGE Hodges 34.39 300 P **P 19 31 19.3 +0.9**
HODGE IAmb IAmb 19 31 23.3
comp=Z,16nm,1.1s
U54A Nelsons Funny 34.59 304 P **P 19 31 21.2 +0.9**
U54A IAmb IAmb 19 31 24.7
comp=Z,29nm,1.3s
DELO Deloro Mine 34.83 319 P **P 19 31 22.7 +0.6**
BG3 Lake Jocassee 35.09 301 P **P 19 31 25.0 +0.5**
BG3 IAmb IAmb 19 31 34.6
comp=Z,15nm,1.0s
V53A Saluda 35.15 302 P **P 19 31 25.6 +0.5**
V53A IAmb IAmb 19 31 35.5
comp=Z,25nm,1.3s
P53A Whipple 35.19 309 P **P 19 31 26.2 +0.9**
P53A IAmb IAmb 19 31 35.0
comp=Z,21nm,0.8s
N53A Lisbon 35.28 311 P **P 19 31 26.9 +0.9**
N53A IAmb IAmb 19 31 52.3
comp=Z,33nm,1.4s
O53A New Philadelph 35.33 310 P **P 19 31 26.9 +0.4**
O53A IAmb IAmb 19 31 36.3
comp=Z,13nm,0.8s
553A Crawfordville 35.61 292 P **P 19 31 29.0 0.0**
Q52A Bidwell 35.66 308 P **P 19 31 29.9 +0.5**
TKL Tuckaleechee C 35.91 302 LR LR 19 44 38.0
comp=Z,324nm,18.9s,baz=108,slow=34
W52A Murphy 35.91 301 P **P 19 31 31.6 0.0**
W52A IAmb IAmb 19 31 37.2
comp=Z,20nm,1.1s
M52A Chesterland 35.92 312 P **P 19 31 31.9 +0.3**
TZTN Tazewell 35.94 303 P **P 19 31 32.1 +0.3**
TZTN IAmb IAmb 19 31 37.7
comp=Z,27nm,1.1s
S51A Beattyville 36.26 305 P **P 19 31 34.6 +0.1**
S51A IAmb IAmb 19 32 45.2
comp=Z,24nm,1.3s
SSFO Shawnee State 36.26 307 P **P 19 31 34.5 -0.1**
SSFO IAmb IAmb 19 31 44.1
comp=Z,23nm,0.9s
JANB Januaria 36.28 177 *eP* **P 19 31 35.7 +0.9**
Q51A Peebles 36.47 307 P **P 19 31 36.1 -0.2**
VLDQ Val d'Or 36.71 324 **P 19 31 39.7 +1.6**
VLDQ IAmb IAmb 19 31 49.6
comp=Z,19nm,1.1s
BDFB Brasilia 36.88 183 **P 19 31 39.0 -1.0**
BDFB Brasilia 36.88 183 P **P 19 31 41.5 +1.5**
comp=Z,5.7nm,0.8s,baz=3.6,slow=11,SNR=6.7
BDFB LR LR 19 46 06.3
comp=Z,129nm,18.6s,baz=336,slow=35
comp=Z,5.7nm,0.8s
W50A Signal Mountai 37.05 300 P **P 19 31 40.4 -0.9**
T50A Nancy 37.06 303 P **P 19 31 41.4 +0.1**
T50A IAmb IAmb 19 31 51.2
comp=Z,15nm,0.8s
ARAG Araguaiana, MT 37.33 189 *eP* **P 19 31 45.8 +2.0**
MTE Manteigas 37.62 51 P **P 19 31 45.2 -0.9**
MTE IAmb IAmb 19 31 53.6
comp=Z,30nm,1.3s
R49A Shelbyville 37.64 305 P **P 19 31 45.1 -1.1**
R49A IAmb IAmb 19 31 55.8
comp=Z,16nm,0.8s
OTAV Otavalo 38.07 241 P **P 19 31 50.1 -0.6**
OTAV Otavalo 38.07 241 P **P 19 31 50.1 -0.6**
OTAV pmax pmax
comp=Z,10.0nm,0.9s
OTAV Otavalo 38.07 241 *eP* **P 19 31 53.2 +2.5**
MDT Midelt 38.28 64 LR LR 19 44 26.0
comp=Z,190nm,19.3s,baz=278,slow=31
SALV Santo Antonio 38.30 195 *eP* **P 19 31 54.8 +2.9**
X48A Hartselle 38.32 299 P **P 19 31 52.5 +0.5**
WCI Wyandotte Cave 38.48 305 **P 19 31 52.5 -0.7**
WCI IAmb IAmb 19 32 17.4
comp=Z,19nm,0.8s
WCI Wyandotte Cave 38.48 305 P **P 19 31 52.6 -0.7**
WCI pmax pmax
comp=Z,19nm,0.8s
T47A Sharon Grove 38.83 303 **P 19 31 55.2 -1.0**
PTLB Pontes e Lacer 38.85 201 **P 19 31 56.3 -0.2**
PTLB Pontes e Lacer 38.85 201 *eP* **P 19 31 58.1 +1.6**
JTS Las Juntas de 39.02 260 LR LR 19 45 17.7
comp=Z,100nm,21.9s,baz=288,slow=32
WVT Waverly 39.23 301 **P 19 31 58.9 -0.8**
WVT Waverly 39.23 301 P **P 19 31 58.9 -0.8**
WVT pmax pmax
comp=Z,14nm,0.8s
TEIG Tepich 39.51 276 P **P 19 32 05.0 +2.8**
comp=Z,0.5nm,0.8s,baz=73,slow=19,SNR=3.4
SFIN Lafayette 39.63 308 P **P 19 32 02.1 -0.9**
SFIN IAmb IAmb 19 32 12.4
comp=Z,17nm,0.8s
NRS Narsarsuaq 39.72 0 P **P 19 32 01.7 -1.6**
NRS Narsarsuaq 39.72 0 P **P 19 32 01.7 -1.6**
NRS pmax pmax
comp=Z,96nm,0.9s
NRS Narsarsuaq 39.72 0 *i P* **P 19 32 02.1 -1.2**
NRS IAmb IAmb 19 32 03.6
comp=Z,104nm,0.9s
PAB San Pablo 39.73 53 P **P 19 32 03.0 -0.9**
PAB San Pablo 39.73 53 P **P 19 32 03.0 -0.9**
PAB pmax pmax
comp=Z,13nm,1.2s
SIV San Ignacio 40.02 203 LR LR 19 47 24.0
comp=Z,98nm,21.5s,baz=37,slow=34
ESDC Sonseca Array 40.05 53 P **P 19 32 05.8 -0.8**
comp=Z,1.4nm,0.8s,baz=252,slow=8.1,SNR=9.9
ESDC PcP **PcP 19 34 12.4 +1.0**
comp=Z,0.7nm,0.7s,baz=276,slow=3.3,SNR=3.4
ESDC LR LR 19 46 14.1
comp=Z,158nm,18.5s,baz=235,slow=33
comp=Z,1.4nm,0.8s
CGM3 Cape Girardeau 40.89 303 P **P 19 32 11.8 -1.6**
CGM3 IAmb IAmb 19 32 22.9
comp=Z,22nm,0.9s
FVM French Village 41.61 304 P **P 19 32 17.5 -1.8**
FVM IAmb IAmb 19 32 28.9
comp=Z,26nm,0.8s
FVM French Village 41.61 304 P **P 19 32 17.5 -1.8**
FVM pmax pmax
comp=Z,26nm,0.8s
MTO3 Montecristo 41.80 268 P **P 19 32 20.3 -1.1**
T42A Van Buren 41.97 302 **P 19 32 20.9 -1.4**
DBIC Dimbokro 42.30 104 **P 19 32 23.4 -1.8**
DBIC IAmb IAmb 19 32 24.8
comp=Z,25nm,1.1s
DBIC Dimbokro 42.30 104 P **P 19 32 23.3 -2.0**
comp=Z,18nm,1.0s,baz=297,slow=7.4,SNR=11
DBIC LR LR 19 47 52.6
comp=Z,250nm,18.7s,baz=280,slow=33
comp=Z,18nm,1.0s
DBIC Dimbokro 42.30 104 P **P 19 32 23.5 -1.8**
DBIC pmax pmax
comp=Z,25nm,1.1s
H10N3 ASCENSION HYDR 42.39 130 T T 20 17 10.2
baz=314,slow=75,SNR=262
H10N2 ASCENSION HYDR 42.39 130 T T 20 17 07.7
baz=314,slow=75,SNR=166
H10N1 ASCENSION HYDR 42.41 130 T T 20 17 11.6
baz=314,slow=75,SNR=254
JFWS Jewell Farm 42.60 311 IAmb IAmb 19 32 36.8
comp=Z,23nm,0.8s
ATAH Atahualpa 42.65 232 LR LR 19 52 14.8
comp=Z,120nm,18.5s,baz=27,slow=39
WHAR Wooly Hollow 42.70 299 IAmb IAmb 19 32 37.1
comp=Z,18nm,0.9s
H10S3 ASCENSION HYDR 43.05 131 T T 20 18 01.9
baz=312,slow=74,SNR=130
H10S2 ASCENSION HYDR 43.07 131 T T 20 18 03.2
baz=268,slow=74,SNR=164
R40A Maddies Statio 43.09 304 P **P 19 32 30.0 -1.4**
R40A IAmb IAmb 19 32 40.3
comp=Z,20nm,1.1s
P40A Paris 43.14 305 IAmb IAmb 19 32 41.3
comp=Z,32nm,1.3s
G40A Rib Lake 43.27 314 IAmb IAmb 19 32 42.5
comp=Z,18nm,0.9s
LPAZ La Paz 43.33 212 **P 19 32 34.0 -0.2**
LPAZ La Paz 43.33 212 P **P 19 32 35.3 +1.2**
comp=Z,3.8nm,0.8s,baz=1.6,slow=4.4,SNR=11
LPAZ LR LR 19 49 59.2
comp=Z,210nm,20.5s,baz=25,slow=35
comp=Z,3.8nm,0.8s
LPAZ La Paz 43.33 212 *eP* **P 19 32 35.1 +0.9**
P38A Dawn 44.29 305 IAmb IAmb 19 32 50.0
comp=Z,22nm,0.9s
LDASE Londrina, Braz 44.82 187 *eP* **P 19 32 48.0 +2.6**
NNA Nana 44.98 225 LR LR 19 51 04.0
comp=Z,112nm,20.5s,baz=46,slow=35
SFJD Kangerlussuaq 45.68 357 LR LR 19 48 40.3
comp=Z,98nm,20.9s,baz=210,slow=32
TORD Torodi Ar. Bea 46.07 92 P **P 19 32 53.1 -2.4**
TORD Torodi Ar. Bea 46.07 92 P **P 19 32 53.4 -2.2**
comp=Z,92nm,0.4s,baz=302,slow=8.8,SNR=1.3
TORD PcP **PcP 19 34 31.7 -0.2**
comp=Z,62nm,0.3s,baz=272,slow=4.0,SNR=1.6
TORD LR LR 19 50 20.3
comp=Z,371nm,19.4s,baz=288,slow=34
PTGB Pitanga 46.23 188 *eP* **P 19 32 58.5 +1.9**
EKA Eskdalemuir Ar 46.48 32 P **P 19 32 57.2 -0.9**
comp=Z,3.5nm,1.0s,baz=224,slow=15,SNR=3.6
comp=Z,3.5nm,1.0s
EPLO Experimental L 46.95 319 P **P 19 33 00.3 -1.6**
KAN14 Manchester OK 47.43 301 P **P 19 33 04.6 -1.3**
TAM Tamanrasset 47.50 78 **P 19 33 06.3 -0.5**
TAM Tamanrasset 47.50 78 P **P 19 33 06.3 -0.5**
TAM pmax pmax
comp=Z,16nm,0.4s
ICESG Greenland Ices 47.84 3 *i P* **P 19 33 08.8 -0.2**
ICESG IAmb IAmb 19 33 11.3
comp=Z,33nm,1.0s
BRDY Brady 48.17 293 IAmb IAmb 19 33 19.5
comp=Z,17nm,1.6s
CPUP Villa Florida 48.73 194 **P 19 33 14.7 -1.2**
CPUP IAmb IAmb 19 33 18.6
comp=Z,9.4nm,0.9s
CPUP Villa Florida 48.73 194 P **P 19 33 17.2 +1.4**
comp=Z,5.2nm,0.8s,baz=1.5,slow=9.0,SNR=12
CPUP LR LR 19 55 08.9
comp=Z,49nm,18.0s,baz=30,slow=38
comp=Z,5.2nm,0.8s
DOU Dourbes 48.77 41 *dP* **P 19 33 16.5 +0.5**
BNI Bardonecchia 48.93 48 **P 19 33 16.8 -0.7**
BNI Bardonecchia 48.93 48 P **P 19 33 16.8 -0.7**
BNI pmax pmax
comp=Z,39nm,1.6s
APMT Aspermont 49.08 296 P **P 19 33 17.1 -1.6**
SMWD Samnorwood 49.19 298 IAmb IAmb 19 33 28.9
comp=Z,15nm,0.9s
BTNL Ternell 49.85 41 *dP* **P 19 33 23.8 -0.6**
comp=Z,6.4nm,1.3s
KEST Kesra 50.00 61 **P 19 33 24.6 -1.2**
KEST Kesra 50.00 61 P **P 19 33 25.1 -0.7**
comp=Z,14nm,0.9s,baz=272,slow=7.2,SNR=8.8
KEST LR LR 19 54 06.2
comp=Z,85nm,18.0s,baz=314,slow=36
comp=Z,14nm,0.9s
MDND Maddock 50.20 315 P **P 19 33 26.3 -0.8**
BFO Black Forest 50.70 44 P **P 19 33 33.8 +3.0**
BFO pmax pmax
comp=Z,8.0nm,1.8s
TUE Stuetta 51.02 47 P **P 19 33 35.9 +2.4**
comp=Z,30nm,1.3s
SCO Scoresbysund 51.10 10 P **P 19 33 34.0 +0.7**
SCO IAmb IAmb 19 33 41.8
comp=Z,13nm,1.0s
SCO Scoresbysund 51.10 10 P **P 19 33 34.1 +0.7**
SCO pmax pmax
comp=Z,13nm,1.0s
SCO Scoresbysund 51.10 10 *i P* **P 19 33 33.4 0.0**
SCO IAmb IAmb 19 33 37.1
comp=Z,7.8nm,0.8s
SUMG Summit 51.36 3 **P 19 33 35.4 -0.4**
SUMG IAmb IAmb 19 33 39.5
comp=Z,15nm,1.0s
SUMG Summit 51.36 3 P **P 19 33 35.4 -0.4**
SUMG pmax pmax
comp=Z,15nm,1.0s
SUMG Summit 51.36 3 *i P* **P 19 33 36.0 +0.2**
SUMG IAmb IAmb 19 33 39.8
comp=Z,13nm,0.9s
DAVOX Davos/Dischmat 51.43 47 LR LR 19 52 13.3
comp=Z,93nm,20.8s,baz=264,slow=32
DAVA Damuels 51.52 46 *i P* **P 19 33 38.1 +0.9**
comp=Z,12nm,1.2s
GO02 Mina Guanaco 51.68 208 **P 19 33 36.8 -1.9**
OSSC Osservatorio P 51.95 51 IAmb IAmb 19 33 42.7
comp=Z,17nm,0.9s
FETA Feichten 52.05 46 *i P* **P 19 33 41.8 +0.8**
comp=Z,7.2nm,1.0s
RETA Reutte 52.15 46 *i pP* pP 19 33 43.5 -0.6
comp=Z,5.8nm,1.1s
TXAR Lajitas Array 52.32 291 P **P 19 33 43.9 +0.6**
comp=Z,0.6nm,0.8s,baz=110,slow=8.8,SNR=5.2
TXAR PcP **PcP 19 34 54.7 +0.2**
comp=Z,0.7nm,0.9s,baz=70,slow=3.5,SNR=2.2
TXAR LR LR 19 55 15.0
comp=Z,76nm,21.6s,baz=43,slow=35
comp=Z,0.6nm,0.8s
MOTA Moosalm 52.35 46 *i P* **P 19 33 43.6 +0.2**
comp=Z,16nm,1.6s
SQTA Sankt Quirin 52.40 46 *i P* **P 19 33 43.9 +0.2**
comp=Z,7.0nm,0.8s
CTI Castel Tesino 52.53 48 IAmb IAmb 19 33 46.9
comp=Z,15nm,0.8s
ILON Igloolik, Nuna 52.63 345 **P 19 33 44.7 -0.1**
WATA Walderalm 52.67 46 *i P* **P 19 33 45.7 +0.1**
comp=Z,6.3nm,1.1s
WTTA Wattenberg 52.70 46 P **P 19 33 46.1 +0.2**
WTTA pmax pmax
comp=Z,13nm,0.9s
WTTA Wattenberg 52.70 46 *eP* **P 19 33 45.5 -0.4**
comp=Z,5.0nm,0.9s
ABTA Abfaltersbach 53.22 47 *i P* **P 19 33 49.0 -0.7**
comp=Z,4.6nm,1.2s
FFC Flin Flon 53.30 323 **P 19 33 49.3 -0.8**
FFC IAmb IAmb 19 33 58.5
comp=Z,12nm,0.9s
FFC Flin Flon 53.30 323 P **P 19 33 49.3 -0.8**
FFC pmax pmax
comp=Z,12nm,1.0s
DGMT Dagmar 53.34 315 IAmb IAmb 19 33 59.3
comp=Z,17nm,0.8s
LESA Schwarzleotal 53.42 46 *i P* **P 19 33 51.0 -0.1**
comp=Z,7.2nm,0.9s
AQU L'Aquila 53.43 53 P **P 19 33 53.3 +2.0**
AQU pmax pmax
comp=Z,35nm,1.0s
AQU L'Aquila 53.43 53 P **P 19 33 53.3 +2.0**
comp=Z,28nm,1.0s
CAMP Campotosto 53.45 52 IAmb IAmb 19 33 54.5
comp=Z,20nm,1.1s
NKC Novy Kostel 53.71 43 P **P 19 33 54.2 +1.1**
NKC pmax pmax
comp=Z,12nm,1.5s
KBA Koelnbreinsper 53.83 47 *i P* **P 19 33 54.1 -0.2**
comp=Z,2.9nm,0.9s
PRED Cave del Predi 53.90 48 **P 19 33 54.3 -0.4**
PRED IAmb IAmb 19 33 57.0
comp=Z,11nm,1.0s
MYKA Terra Mystica 53.98 47 *i pP* pP 19 33 56.6 -1.0
comp=Z,7.9nm,0.9s
BLKN Baker Lake 54.03 336 IAmb IAmb 19 34 04.7
comp=Z,18nm,1.2s
VAE Valguarnera 54.08 59 LR LR 19 52 53.9
comp=Z,103nm,21.9s,baz=326,slow=32
BIOA Bad Ischl, Aus 54.10 46 *i P* **P 19 33 57.2 +1.1**
comp=Z,6.5nm,1.2s
CLL Collm 54.25 41 *i P* **P 19 33 58.3 +1.3**
CLL *eS* S 19 41 48.0 +14
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 54.25 41 *i P* **P 19 33 58.3 +1.3**
comp=Z,7.0nm,1.1s
CLL *eSx* Sx 19 41 48.0
CLL *eSS* **SS 19 45 24.0 +8.0**
KHC Kasperske Hory 54.26 44 *eP* **P 19 33 57.3 +0.1**
KHC Kasperske Hory 54.26 44 *eP* **P 19 33 57.3 +0.1**
ANMO Albuquerque 54.29 298 LR LR 19 54 59.4
comp=Z,119nm,21.8s,baz=283,slow=34
ANMO Albuquerque 54.29 298 *eP* **P 19 33 59.0 +1.1**
GERES GERESS Array B 54.30 45 P **P 19 33 56.7 -0.9**
GERES GERESS Array B 54.30 45 P **P 19 33 56.5 -1.0**
comp=Z,2.4nm,1.0s,baz=246,slow=6.7,SNR=12
comp=Z,2.4nm,1.0s
GERES GERESS Array B 54.30 45 P **P 19 33 56.7 -0.9**
LAO LASA Array 54.47 313 IAmb IAmb 19 34 02.7
comp=Z,13nm,1.1s
MOA Molln 54.54 46 *eP* **P 19 33 59.8 +0.6**
comp=Z,4.5nm,1.0s
OBKA Obir 54.59 48 *i P* **P 19 33 59.3 -0.4**
comp=Z,8.1nm,0.7s
CKRC Cesky Krumlov 54.69 45 *eP* **P 19 34 01.4 +1.1**
CKRC Cesky Krumlov 54.69 45 *eP* **P 19 34 01.4 +1.1**
SOKA Soboth 54.93 47 *epP* pP 19 34 04.0 -0.6
comp=Z,5.8nm,1.6s
ARSA Arzberg 55.32 47 *i P* **P 19 34 05.2 +0.3**
comp=Z,9.3nm,1.1s
CONA Conrad Observa 55.62 46 *i P* **P 19 34 06.8 -0.3**
comp=Z,7.9nm,1.5s
NB2 NORSAR Subarra 55.73 30 P **P 19 34 07.9 +0.2**
comp=Z,14nm,1.7s,baz=252,slow=7.4
NOA NORSAR Array B 55.73 30 P **P 19 34 07.2 -0.5**
comp=Z,2.0nm,0.9s,baz=252,slow=7.5,SNR=5.9
NOA LR LR 19 53 36.2
comp=Z,143nm,20.4s,baz=255,slow=31
comp=Z,2.0nm,0.9s
MVCO Mesa Verde 55.85 301 P **P 19 34 08.3 -0.9**
MVCO IAmb IAmb 19 36 01.2
comp=Z,22nm,1.6s
RONA Rosalia, Austr 55.89 46 *epP* pP 19 34 10.3 -1.0
comp=Z,7.5nm,1.5s
PV13 Radium Mtn., P 56.08 302 P **P 19 34 09.9 -0.8**
PV13 IAmb IAmb 19 35 31.9
comp=Z,8.4nm,0.8s
CO01 Juntas del Tor 56.13 205 IAmb IAmb 19 34 14.7
comp=Z,7.2nm,0.8s
NEEM North Greenlan 56.14 359 *i P* **P 19 34 10.2 -0.4**
NEEM IAmb IAmb 19 34 14.3
comp=Z,14nm,0.8s
VRAC Vranov 56.24 44 P **P 19 34 12.8 +1.3**
VRAC pmax pmax
comp=Z,7.0nm,0.9s
RLMT Red Lodge 56.47 311 IAmb IAmb 19 34 23.0
comp=Z,13nm,1.1s
PDAR Pinedale Array 56.60 308 LR LR 19 55 54.2
comp=Z,107nm,21.8s,baz=107,slow=33
HFS Hagfors 56.63 31 P **P 19 34 14.2 +0.1**
comp=Z,3.7nm,0.8s,baz=210,slow=5.1,SNR=6.6
HFS LR LR 19 53 45.0
comp=Z,113nm,19.5s,baz=254,slow=31
comp=Z,3.7nm,0.8s
EGMT Eagleton 56.98 314 **P 19 34 15.8 -1.0**
EGMT IAmb IAmb 19 34 31.3
comp=Z,18nm,1.1s
PDG Podgorica 57.76 53 IAmb IAmb 19 34 25.5
comp=Z,22nm,1.3s
TIR Tirane 58.24 54 P **P 19 34 28.2 +2.5**
TIR Tirane 58.24 54 P **P 19 34 28.2 +2.5**
comp=Z,22nm,0.8s
KEK Kerkira 58.24 56 **P 19 34 24.8 -0.9**
WUAZ Wupatki 58.27 299 **P 19 34 24.8 -1.5**
WUAZ IAmb IAmb 19 34 36.7
comp=Z,8.8nm,0.9s
NIE Niedzica 58.66 44 P **P 19 34 31.4 +2.8**
NIE Niedzica 58.66 44 P **P 19 34 31.4 +2.8**
comp=Z,4.6nm,1.2s
U15A North Rim 58.94 300 **P 19 34 29.6 -1.4**
MT09 Talagante 59.85 204 P **P 19 34 36.0 -1.0**
MT09 IAmb IAmb 19 34 44.9
comp=Z,12nm,0.9s
PSUT Pine Spring 60.01 303 **P 19 34 38.8 +0.5**
AGG Agios Georgios 60.24 56 IAmb IAmb 19 34 43.0
comp=Z,22nm,1.5s
ELK Elko 60.91 306 **P 19 34 43.1 -1.4**
ELK Elko 60.91 306 P **P 19 34 43.1 -1.4**
ELK pmax pmax
comp=Z,5.0nm,0.9s
PRN Pahroc Range 61.05 302 P **P 19 34 44.3 -1.0**
MFID Camas Ranch 61.19 309 IAmb IAmb 19 34 55.7
comp=Z,9.3nm,1.2s
PLID Pearl Lake 61.23 311 **P 19 34 45.4 -1.2**
PLID IAmb IAmb 19 34 55.1
comp=Z,7.3nm,1.0s
EUNU Eureka 61.27 353 **P 19 34 47.1 +1.0**
EUNU IAmb IAmb 19 34 49.7
comp=Z,6.7nm,0.8s
YKA Yellowknife Ar 61.39 330 P **P 19 34 47.0 0.0**
comp=Z,3.0nm,0.8s,baz=101,slow=7.5,SNR=44
comp=Z,3.0nm,0.8s

YKA	Yellowknife Ar	61.39	330	*i* P		P	19 34 47.4 +0.4
YKA				pmax		pmax	
comp=Z,3.0nm,0.8s							
STNU	Starunia	61.41	45	P		P	19 34 49.3 +1.9
NOR	Nord	61.41	5	*i* P		P	19 34 46.4 -0.5
NOR				IAmb		IAmb	19 34 50.4
comp=Z,8.0nm,0.9s							
BUR08	Bucovina Ar. S	61.90	47			P	19 34 51.3 +0.5
NEW	Newport	61.91	314			P	19 34 50.3 -0.6
NEW	Newport	61.91	314	LR		LR	20 00 37.8
comp=Z,164nm,18.4s,baz=42,slow=35							
NEW	Newport	61.91	314	P		P	19 34 50.3 -0.6
NEW				pmax		pmax	
comp=Z,16nm,0.9s							
RNPP8	Varash	62.27	42	P		P	19 34 54.6 +1.5
RNPP5	Staryi Chortor	62.29	42	P		P	19 34 54.8 +1.5
WCT	Wildcat Mounta	62.37	301	P		P	19 34 54.2 0.0
MLR	Muntele Rosu	62.50	49			P	19 34 54.2 -0.7
MLR	Muntele Rosu	62.50	49	LR		LR	19 58 40.7
comp=Z,58nm,22.0s,baz=238,slow=33							
MLR	Muntele Rosu	62.50	49	P		P	19 34 54.3 -0.7
MLR				pmax		pmax	
comp=Z,21nm,0.9s							
MLR	Muntele Rosu	62.50	49	P		P	19 34 55.2 +0.3
comp=Z,319nmcomp=Z,25nm,0.9s							
BI02	San Fabin de	62.52	203			P	19 34 54.2 -0.8
PFO	Pinyon Flats O	62.66	298	LR		LR	20 01 30.9
comp=Z,66nm,18.9s,baz=72,slow=35							
IDI	Anoyia	62.67	60			P	19 34 55.6 -0.6
FINES	FINESS Array B	62.84	31	P		P	19 34 56.6 -0.1
comp=Z,3.3nm,0.9s,baz=234,slow=6.6,SNR=8.1							
comp=Z,3.3nm,0.9s							
VSU	Vasula	62.96	34⇓	*e*P		P	19 34 57.4 -0.2
VSU				pmax		pmax	
comp=Z,13nm,1.1s							
NVAR	Mina Array Bea	63.49	303	P		P	19 35 02.6 +0.8
comp=Z,0.3nm,0.4s,baz=97,slow=6.9,SNR=4.1							
NVAR				LR		LR	20 00 49.5
comp=Z,175nm,20.7s,baz=166,slow=34							
comp=Z,0.3nm,0.4s							
LUBAR	Lubar, Ukraine	63.51	44	P		P	19 35 02.4 +1.0
RYN	Ryan	63.64	303	IAmb		IAmb	19 35 11.8
comp=Z,5.7nm,0.9s							
ARCES	ARCESS Array B	63.64	22	P		P	19 35 02.9 +1.0
comp=Z,6.1nm,1.0s,baz=297,slow=5.3,SNR=5.4							
ARCES				LR		LR	19 57 42.3
comp=Z,55nm,18.5s,baz=269,slow=31							
comp=Z,6.1nm,1.0s							
E07A	Sunnyside	63.85	312	P		P	19 35 02.9 -0.8
E07A				IAmb		IAmb	19 35 12.8
comp=Z,13nm,1.1s							
AK22	Malin Array Si	64.32	43	P		P	19 35 07.3 +0.6
AK16	Malin Array Si	64.34	43	P		P	19 35 07.6 +0.7
AK14	Malin Array Si	64.34	43	P		P	19 35 07.4 +0.5
AK15	Malin Array Si	64.35	43	P		P	19 35 07.5 +0.6
LTY	Liberty	64.35	313	IAmb		IAmb	19 35 15.4
comp=Z,12nm,1.0s							
KIEV	Kiev	64.41	43	P		P	19 35 07.9 +0.6
KIEV	Kiev	64.41	43	P		P	19 35 07.9 +0.6
comp=Z,18nm,1.0s							
AKASG	Malin Array Be	64.42	43	P		P	19 35 06.9 -0.4
comp=Z,3.1nm,0.8s,baz=274,slow=6.1,SNR=13							
comp=Z,3.1nm,0.8s							
AKASG	Malin Array Be	64.42	43	*i* P		P	19 35 08.1 +0.8
AKASG				pmax		pmax	
comp=Z,3.0nm,0.8s							
AKBB	Malin Array Si	64.42	43⇑	*i*P		P	19 35 07.9 +0.6
AKBB				pmax		pmax	
comp=Z,7.0nm,1.2s							
AKBB	Malin Array Si	64.42	43	P		P	19 35 07.8 +0.5
LLLB	Lillooet	64.92	317	IAmb		IAmb	19 35 19.3
comp=Z,14nm,1.0s							
WRGLY	Wrigley	65.50	331	IAmb		IAmb	19 35 22.4
comp=Z,10nm,0.9s							
PLCA	Paso Flores	65.93	200	P		P	19 35 17.9 +0.6
comp=Z,2.8nm,0.9s,baz=52,slow=4.8,SNR=4.1							
PLCA				LR		LR	20 06 19.8
comp=Z,64nm,18.3s,baz=18,slow=38							
comp=Z,2.8nm,0.9s							
L04D	Klamath Falls	66.04	308	P		P	19 35 18.1 -0.2
H09N1	TRISTAN DA CUN	66.25	151	T		T	20 47 30.7
SNR=3.3							
APA	Apatity	66.34	24⇓	*i*P		P	19 35 18.4 -1.1
APA				pmax		pmax	
comp=Z,8.0nm,1.0s							
YBH	Yreka Blue Hor	66.41	307	LR		LR	20 02 24.7
comp=Z,242nm,20.9s,baz=72,slow=34							
CBB	Campbell River	67.19	317	P		P	19 35 25.2 -0.1
ANTO	Ankara	68.17	54	P		P	19 35 33.7 +1.9
ANTO	Ankara	68.17	54	P		P	19 35 33.7 +1.9
comp=Z,4.1nm,1.4s							
OBN	Obninsk	68.48	38⇓	*i*P		P	19 35 35.1 +1.9
OBN				pmax		pmax	
comp=Z,33nm,1.7s							
BR106	Keskin Array S	68.82	54	P		P	19 35 37.4 +1.5
comp=Z,33nmcomp=Z,4.0nm,1.1s							
BR105	Keskin Array S	68.82	54	P		P	19 35 37.5 +1.6
comp=Z,42nmcomp=Z,3.8nm,0.9s							
BR131	Keskin Array S	68.84	54⇓	*e*P		P	19 35 35.8 -0.2
BRTR	Keskin Array B	68.84	54	P		P	19 35 35.5 -0.5
BRTR	Keskin Array B	68.84	54	P		P	19 35 36.0 0.0
comp=Z,1.8nm,0.8s,baz=262,slow=6.0,SNR=11							
comp=Z,1.8nm,0.8s							
BRTR	Keskin Array B	68.84	54	*i* P		P	19 35 36.9 +0.9
BRTR				pmax		pmax	
comp=Z,2.0nm,0.8s							
BR104	Keskin Array S	68.84	54	P		P	19 35 37.0 +1.0
comp=Z,3.3nm,1.0s							
MOS	Moscow	69.00	37	*e*P		P	19 35 37.2 +0.7
MOS				pmax		pmax	
comp=Z,29nm,0.8s							
KLMR	Klimovskoe	69.35	31	*e*P		P	19 35 37.1 -1.5
KLMR				pmax		pmax	
comp=Z,17nm,1.2s							
G31M	Satah River	69.87	335	IAmb		IAmb	19 35 49.7
comp=Z,12nm,1.1s							
H31M	Peel River	70.04	334	IAmb		IAmb	19 35 51.8
comp=Z,17nm,1.3s							
LPSR	Galich'ya Gora	70.22	40	*e*P		P	19 35 44.0 -0.1
LPSR				pmax		pmax	
comp=Z,19nm,1.1s							
F30M	Barrier River	70.36	336	IAmb		IAmb	19 35 54.8
comp=Z,12nm,1.0s							
VORR	Voronezh	70.55	41	P		P	19 35 45.2 -0.9
VORR				pmax		pmax	
comp=Z,10.0nm,0.8s							
VSR	Storozhevoye	70.60	42	*e*P		P	19 35 46.3 -0.1
VSR				pmax		pmax	
comp=Z,10.0nm,1.0s							
VORD	Divnogorie	70.72	42	*e*P		P	19 35 46.1 -1.1
VORD				pmax		pmax	
comp=Z,9.0nm,0.9s							
E29M	Blow River	71.02	337	IAmb		IAmb	19 36 27.2
comp=Z,22nm,1.9s							
N31M	Braeburn, Yuko	71.36	330	P		P	19 35 51.5 +0.6
N31M				IAmb		IAmb	19 35 55.9
comp=Z,14nm,1.0s							
J29N	Klondike Camp	71.88	333	IAmb		IAmb	19 36 04.2
comp=Z,15nm,1.4s							
EIL	Elat	72.11	65	LR		LR	20 08 40.5
comp=Z,103nm,19.2s,baz=247,slow=37							
L29M	L29M	72.12	331	IAmb		IAmb	19 37 25.2
comp=Z,25nm,1.7s							
VRH	Novokhopyorsk	72.18	41	P		P	19 35 56.5 +0.5
VRH				pmax		pmax	
comp=Z,13nm,0.9s							
DAWY	Dawson	72.47	333	P		P	19 35 57.5 -0.1
SOC	Sochi	72.50	49	*e*P		P	19 35 59.2 +1.1
SOC				*e*			19 38 38.1
SOC				*e*PPP		PPP	19 40 22.2
SOC				*e*S		S	19 45 25.9 +3.5
SOC				*e*SS		SS	19 49 59.4 -1.3
SOC				pmax		pmax	
comp=Z,9.0nm,0.7s							
VSLR	Vesyoloye	72.76	50⇑	*e*P		P	19 36 01.6 +2.0
VSLR				pmax		pmax	
comp=Z,21nm,1.1s							
BCAR	Beaver Creek A	73.75	332	P		P	19 36 04.7 -0.5
D25K	Kavik River	73.78	339	IAmb		IAmb	19 36 09.7
comp=Z,9.2nm,0.9s							
E25K	Arctic Village	73.86	337	IAmb		IAmb	19 36 15.2
comp=Z,11nm,1.0s							
KOPT	Kop Dagi	73.92	53	P		P	19 36 06.9 0.0
TSUM	Tsumeb	74.10	118	LR		LR	20 03 54.1
comp=Z,93nm,18.4s,baz=324,slow=32							
GOF	Gofitskoye	74.47	47	*c*eP		P	19 36 12.0 +2.4
KIV	Kislovodsk	74.50	49	P		P	19 36 09.3 -0.6
KIV	Kislovodsk	74.50	49	*e*P		P	19 36 11.8 +1.8
KIV				pmax		pmax	
comp=Z,10.0nm,1.0s							
KIV	Kislovodsk	74.50	49	P		P	19 36 12.3 +2.3
comp=Z,11nm,1.2s							
SHA1	Shidzhatmaz	74.54	49⇓	*e*P		P	19 36 12.2 +1.8
KBZ	Khabaz	74.71	49	P		P	19 36 12.8 +1.7
comp=Z,4.4nm,0.9s,baz=292,slow=3.1,SNR=15							
comp=Z,4.4nm,0.9s							
KBZ	Khabaz	74.71	49⇓	*e*P		P	19 36 12.9 +1.9
KBZ				pmax		pmax	
comp=Z,6.0nm,0.9s							
KIRV	Kirov	74.72	33	LR		LR	20 05 08.7
comp=Z,96nm,19.5s,baz=287,slow=33							
KIRV	Kirov	74.72	33⇓	*e*P		P	19 36 11.4 +0.6
G24K	Hadweenzic Riv	75.00	336	IAmb		IAmb	19 36 17.0
comp=Z,10nm,1.1s							
ILAR	Eielson Array	75.40	334	P		P	19 36 14.5 -0.2
ILAR	Eielson Array	75.40	334	P		P	19 36 15.4 +0.8
comp=Z,4.4nm,0.9s,baz=73,slow=4.5,SNR=31							
ILAR				LR		LR	20 09 21.9
comp=Z,102nm,18.9s,baz=118,slow=36							
comp=Z,4.4nm,0.9s							
COLA	College	75.76	334⇑	*e*P		P	19 36 17.9 +1.2
COLA				pmax		pmax	
comp=Z,10.0nm,1.0s							
CCB	Clear Creek Bu	75.82	334	P		P	19 36 16.9 -0.1
E22K	Anaktuvuk Pass	76.05	338	IAmb		IAmb	19 36 32.1
comp=Z,9.9nm,1.2s							
I23K	Minto, Yukon-K	76.26	335	IAmb		IAmb	19 36 21.3
comp=Z,9.4nm,1.1s							
H21K	Melozitna Rive	77.40	336	IAmb		IAmb	19 36 30.5
comp=Z,8.1nm,0.9s							
MBAR	Mbarara	77.82	95	P		P	19 36 28.0 -1.5
MBAR	Mbarara	77.82	95	P		P	19 36 28.0 -1.5
MBAR				pmax		pmax	
comp=Z,8.0nm,1.2s							
ARTI	Arti	80.01	33	P		P	19 36 39.9 -0.6
ARTI	Arti	80.01	33	LR		LR	20 08 14.6
comp=Z,105nm,21.3s,baz=295,slow=33							
ARTI	Arti	80.01	33	*c i*P		P	19 36 41.1 +0.6
ARTI							19 39 40.2
ARTI				S		S	19 46 46.7 +2.2
ARTI				SS		SS	19 51 49.7 -3.9
ARTI				pmax		pmax	
comp=Z,7.0nm,1.0s							
KDAK	Kodiak Island	80.59	329	LR		LR	20 13 24.3
comp=Z,157nm,18.2s,baz=270,slow=36							
SVE	Sverdlovsk	80.97	32	*e*P		P	19 36 47.1 +1.5
SVE				pmax		pmax	
comp=Z,13nm,1.1s							
LSZ	Lusaka	81.32	110	P		P	19 36 47.5 -0.8
LSZ				IAmb		IAmb	19 36 51.2
comp=Z,19nm,1.4s							
LSZ	Lusaka	81.32	110	LR		LR	20 07 37.2
comp=Z,81nm,18.4s,baz=284,slow=32							
LSZ	Lusaka	81.32	110	P		P	19 36 47.5 -0.8
LSZ				pmax		pmax	
comp=Z,19nm,1.4s							
SUR	Sutherland	83.23	128	LR		LR	20 06 15.9
comp=Z,124nm,19.1s,baz=309,slow=30							
LBTB	Lobatse	83.39	120	LR		LR	20 06 22.8
comp=Z,108nm,21.9s,baz=306,slow=30							
NRIK	Noril'sk	83.59	15⇑	*e*P		P	19 37 00.9 +1.8
NRIK				pmax		pmax	
comp=Z,8.0nm,2.5s							
ABKAR	Akbulak array	83.85	39	P		P	19 37 00.5 -0.4
ABKAR	Akbulak array	83.85	39	IAmb		IAmb	19 37 04.4
comp=Z,8.9nm,1.1s							
KMBO	Kilima Mbogo	84.06	94	P		P	19 37 01.5 -1.4
KMBO				IAmb		IAmb	19 37 07.7
comp=Z,8.2nm,1.0s							
KMBO	Kilima Mbogo	84.06	94	P		P	19 37 04.2 +1.2
comp=Z,6.4nm,0.9s,baz=300,slow=4.8,SNR=14							
KMBO				LR		LR	20 12 19.3
comp=Z,117nm,20.8s,baz=83,slow=34							
comp=Z,6.4nm,0.9s							
BOSA	Boshof	84.77	123	LR		LR	20 08 31.5
comp=Z,109nm,19.5s,baz=282,slow=31							
KIBK	Kibwezi	85.25	94	IAmb		IAmb	19 37 12.8
comp=Z,8.1nm,1.1s							
TIXI	Tiksi	87.12	2	P		P	19 37 16.7 0.0
TIXI	Tiksi	87.12	2⇑	*i*P		P	19 37 17.3 +0.6
BRVK	Borovoye	87.66	33	P		P	19 37 19.1 -0.6
BRVK				IAmb		IAmb	19 37 22.8
comp=Z,5.0nm,0.9s							
BRVK	Borovoye	87.66	33	*c i*P		P	19 37 21.4 +1.7
BRVK				pmax		pmax	
comp=Z,5.0nm,0.9s							
BILL	Bilibino	87.72	348	P		P	19 37 19.3 -0.4
BILL				IAmb		IAmb	19 37 43.7
comp=Z,10nm,1.4s							
BILL	Bilibino	87.72	348⇓	*e*P		P	19 37 21.3 +1.6
BILL				pmax		pmax	
comp=Z,7.0nm,1.4s							
BVAR	Borovoye Array	87.73	33	P		P	19 37 21.0 +0.9
comp=Z,4.8nm,1.0s,baz=296,slow=4.4,SNR=15							
BVAR				LR		LR	20 13 28.0
comp=Z,72nm,19.9s,baz=305,slow=34							
comp=Z,4.8nm,1.0s							
BVAR	Borovoye Array	87.73	33	P		P	19 37 21.0 +0.9
KURK	Kurchatov	93.20	32	⇑*i*P		P	19 37 44.1 -1.5
KURK				pmax		pmax	
comp=Z,11nm,3.5s							
KURBB	Kurchatov Arra	93.22	32	P		P	19 37 46.4 +0.7
comp=Z,1.3nm,0.2s,baz=318,slow=4.4,SNR=1.8							
comp=Z,1.3nm,0.2s							
ZALV	Zalesovo Beam	93.83	27	P		P	19 37 49.0 +0.6
comp=Z,1.3nm,0.8s,baz=308,slow=7.4,SNR=4.8							
comp=Z,1.3nm,0.8s							
ZALV	Zalesovo Beam	93.83	27	*i* P		P	19 37 49.4 +0.9
ZALV				pmax		pmax	
comp=Z,1.0nm,0.4s							
AAK	Ala-Archa	95.93	40⇑	*e*P		P	19 38 00.5 +1.9
AAK				pmax		pmax	
comp=Z,2.0nm,1.0s							
MKAR	Makanchi Array	97.61	33	P		Pdif	19 38 07.1 +1.1
comp=Z,0.2nm,0.8s,baz=274,slow=7.1,SNR=2.3							
comp=Z,0.2nm,0.8s							
WMQ	Urumqi	102.42	32	*e*P		Pdif	19 38 28.9 +1.5
WMQ				LR		LR	
comp=Z,93nm,19.5s							
ZEA	Zeya	104.94	4	*e*P		Pdif	19 38 37.4 -0.9
PPT2	Papeete2	108.58	258	*e*LR		LR	20 14 44.5
comp=Z,114nm,28.0s							
PPT2				*e*LR		LR	20 14 45.5
comp=Z,56nm,24.8s							
TBI	Tubuai	110.08	252	*e*LR		LR	20 15 26.3
comp=Z,659nm,37.0s							
TBI				*e*LR		LR	20 15 33.6
comp=Z,1μm,28.2s							
HHC	Hu-ho-hao-te	114.62	19	*e*P		PKiKP	19 43 06.8 -5.2
MJAR	Matsushiro Arr	122.23	356	PKP		PKiKP	19 43 27.4 +0.6
comp=Z,0.7nm,0.7s,baz=337,slow=1.1,SNR=2.6							
VNDA	Vanda	122.25	187	PKP		PKiKP	19 43 27.6 +2.1
comp=Z,2.1nm,1.1s,baz=166,slow=2.7,SNR=4.8							
PZH	PanZhiHua	123.00	35	PKP		PKPdf	19 43 27.6 -0.9
NJ2	Nanjing	124.88	16	*e*P		PKPdf	19 43 31.0 -0.8
NJ2				pmax		pmax	
comp=Z,9.0nm,0.5s							
CMAR	Chiang Mai Arr	127.54	44	PKP		PKPdf	19 43 37.0 -0.1
comp=Z,1.1nm,0.8s,baz=308,slow=3.4,SNR=10							
KSM	Kuching	147.49	49			PKPdf	19 44 12.9 -0.9
DZM	Mont Dzumac	149.94	263	*e*LR		LR	20 33 57.2
comp=Z,141nm,24.6s							
ASAR	Alice Springs	177.75	176	PKP		PKPdf	19 44 42.1 -0.4
comp=Z,0.5nm,1.0s,baz=96,slow=0.9,SNR=3.0							
ASAR				PKPab	PKPab		19 46 29.5 +0.7
comp=Z,0.5nm,0.8s,baz=163,slow=3.6,SNR=3.8							
WRA	Warramunga Arr	178.52	350	PKPab	PKPab		19 46 32.4
comp=Z,2.1nm,1.0s,baz=34,slow=5.4,SNR=6.1							

*IDC **12** 19:27:35.6±0.8, 6°.23S×150°.38E, h0km, mb3.9/11, mbtmp3.9/12, ML2.1/1, MS3.1/4, Error ellipse: s-maj=34.6km s-min=16.7km az=108.0*

*NEIC **12** 19:27:40.0±1.9, 6°.65S±0°.05×150°.6E±0°.1, h19km±6km, mb4.4/13, Error ellipse: s-maj=17.1km s-min=4.1km az=113.0*

ISC 12 19:27:40.0±0.6, 6°.3S±0°.1×150°.5E±0°.1, h33km, n35, σ1§16/37, mb3.8/12, MS3.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	Keravat	2.48	38	I	I	19 40 50.0	
RABL	Rabaul	2.66	39		Pb	19 28 24.9	-2.1
RABL				Sn	Sb	19 28 59.6	+0.3
PMG	Port Moresby	4.54	226		Pn	19 28 46.7	+0.3
PMG				Sn	Sn	19 29 35.6	-2.5
PMG	Port Moresby	4.54	226	Pn	Pn	19 28 46.9	+0.5
6.7nm,0.3s,baz=52,slow=9.5,SNR=18							
PMG				Sn	Sn	19 29 37.3	-0.7
8.4nm,0.3s,baz=42,slow=16,SNR=8.0							
PMG				LR	LR	19 29 51.6	
comp=Z,97nm,21.2s,baz=282,slow=30							
40nm,0.5s							
MANU	Manus Island	5.23	323		Pn	19 29 04.0	+8.0
MTN	Manton Dam	20.16	250	P	P	19 32 12.1	+0.2
MTN				IAmb	IAmb	19 32 21.8	
comp=Z,21nm,1.1s							
WB0	Warramunga Arr	20.61	228		P	19 32 16.2	-0.5
WB0				IAmb	IAmb	19 32 24.5	
comp=Z,16nm,0.7s							
WR0	Warramunga Arr	20.62	227	P	P	19 32 16.2	-0.6
WR0				IAmb	IAmb	19 32 24.7	
comp=Z,14nm,0.8s							
WRAB	Tennant Creek	20.74	228	P	P	19 32 17.6	-0.5
WRAB				IAmb	IAmb	19 32 25.9	
comp=Z,17nm,0.8s							
WB2	Warramunga Arr	20.75	228		P	19 32 16.9	-1.3
WB2				IAmb	IAmb	19 32 26.0	
comp=Z,17nm,0.8s							
WRA	Warramunga Arr	20.75	228		P	19 32 17.1	-1.2
WRA	Warramunga Arr	20.75	228	P	P	19 32 18.1	-0.2
comp=Z,6.8nm,0.6s,baz=52,slow=11,SNR=39							
WRA				PcP	PcP	19 36 28.9	+1.8
comp=Z,0.5nm,0.8s,baz=48,slow=2.0,SNR=1.2							
comp=Z,6.8nm,0.6s							
KNRA	Kununurra	23.26	245	P	P	19 32 45.0	+0.1
KNRA				IAmb	IAmb	19 32 54.3	
comp=Z,8.9nm,0.8s							
AS31	Alice Springs	23.52	221		P	19 32 46.6	-0.9
ASAR	Alice Springs	23.53	221	P	P	19 32 46.0	-1.5
ASAR	Alice Springs	23.53	221	P	P	19 32 47.1	-0.4
comp=Z,2.4nm,0.7s,baz=56,slow=8.4,SNR=37							
ASAR				PcP	PcP	19 36 31.9	-0.8
comp=Z,0.3nm,0.7s,baz=46,slow=2.6,SNR=2.5							
ASAR				LR	LR	19 41 20.0	
comp=Z,40nm,20.1s,baz=82,slow=35							
comp=Z,2.4nm,0.7s							
ARMA	Armidale	24.05	178	P	P	19 32 50.5	-1.9
ARMA				IAmb	IAmb	19 33 08.0	
comp=Z,12nm,1.2s							
STKA	Stephens Creek	26.80	197		P	19 33 16.4	-0.8
STKA	Stephens Creek	26.80	197	P	P	19 33 16.7	-0.5
comp=Z,4.3nm,0.7s,baz=18,slow=9.9,SNR=11							
STKA				LR	LR	19 44 52.0	
comp=Z,42nm,18.1s,baz=30,slow=39							
comp=Z,4.3nm,0.7s							
FITZ	Fitzroy Crossi	26.94	242	P	P	19 33 18.5	-0.1
MMRI	Maumere	28.11	263	P	P	19 33 30.9	+1.8
FORT	Forrest	32.21	218	P	P	19 34 04.2	-1.1
MJAR	Matsushiro Arr	44.12	346	P	P	19 35 43.6	-1.8
comp=Z,0.5nm,0.5s,baz=163,slow=9.8,SNR=2.2							
comp=Z,0.5nm,0.5s							
CMAR	Chiang Mai Arr	56.45	297	LR	LR	20 03 14.9	
comp=Z,34nm,18.8s,baz=130,slow=38							
SONM	Songino Array	66.37	329	P	P	19 38 25.9	+0.1
comp=Z,0.3nm,0.5s,baz=135,slow=6.7,SNR=3.2							
comp=Z,0.3nm,0.5s							
VNDA	Vanda	71.46	177	P	P	19 38 57.5	+0.7
comp=Z,0.6nm,0.8s,baz=349,slow=5.6,SNR=2.1							
comp=Z,0.6nm,0.8s							
MKAR	Makanchi Array	79.93	320	P	P	19 39 45.9	0.0
comp=Z,0.1nm,0.5s,baz=95,slow=8.1,SNR=1.5							
comp=Z,0.1nm,0.5s							
QSPA	South Pole Qui	83.70	180	P	P	19 40 06.3	+0.8
comp=Z,0.8nm,0.8s,baz=351,slow=0.7,SNR=7.0							
comp=Z,0.8nm,0.8s							
ILAR	Eielson Array	84.38	22	P	P	19 40 08.5	-0.2
comp=Z,0.6nm,0.8s,baz=258,slow=4.8,SNR=5.3							
comp=Z,0.6nm,0.8s							
BVAR	Borovoye Array	89.04	323	P	P	19 40 31.6	-0.1
comp=Z,0.2nm,0.4s,baz=82,slow=11,SNR=1.5							
comp=Z,0.2nm,0.4s							
NVAR	Mina Array Bea	94.80	52	P	P	19 41 01.1	+2.0
comp=Z,1.4nm,0.8s,baz=249,slow=7.6,SNR=5.1							
comp=Z,1.4nm,0.8s							
GERES	GERESS Array B	124.06	327	PKP	PKiKP	19 46 36.9	+1.3
comp=Z,0.4nm,0.5s,baz=66,slow=3.6,SNR=4.2							
EKA	Eskdalemuir Ar	126.73	342	PKP	PKiKP	19 46 42.4	+1.8
comp=Z,1.4nm,0.8s,baz=2.7,slow=3.6,SNR=3.7							
TORD	Torodi Ar. Bea	148.51	285		PKPbc	19 47 25.1	+0.6
TORD	Torodi Ar. Bea	148.51	285	PKPbc	PKiKP	19 47 25.3	-0.8
comp=Z,87nm,0.3s,baz=67,slow=2.3,SNR=1.6							

DJA 12 19:31:18.0±0.3, 2°.S±3°.×12°.3E±°, h10km, M3.6/13, mb4.0/4, MLv3.4/13, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.87	12	P	Pg	19 31 33.2	-1.6
APSI	Ampana	1.36	316	P	Pn	19 31 42.6	-0.5
KDI	Kendari	2.04	179	P	Pn	19 31 51.4	-1.1
MRSI	Marisa	2.45	345	P	Pn	19 31 56.1	-2.0
PCI	Palu	2.92	290	P	Pn	19 32 04.7	+0.1
SANI	Sanana	3.40	93	P	Pn	19 32 13.3	+2.2
SPSI	Sidrap Palu	3.48	234	P	Pn	19 32 12.6	+0.3
BNSI	Bone	3.51	225	P	Pn	19 32 12.4	-0.3
BBSI	Bau Bau	3.56	180	P	Pn	19 32 13.2	-0.2
BKSI	Bulukumba	4.20	216	P	Pn	19 32 22.5	+0.4
BSSI	Bau Bau, Buton	4.71	206	P	Pn	19 32 29.0	-0.1

TAP 12 19:31:58.6, 24°.63N×121°.60E, h56km, ML2.6, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENTT	Nioudou	0.04	293	*i* P	Pn	19 32 07.8	+0.7
ENTT				S	Sn	19 32

ETLH	**Xiulin Townshi**	**0.43 195**	*e*P	Pn	19 32 09.7	0.0
ETLH			*e*S	Sn	19 32 17.1	-0.5
NFF	**Wufeng Townshi**	**0.44 271**	*i* P	Pn	19 32 10.1	+0.3
NFF			*i* S	Sn	19 32 19.2	+1.4
NACB	**Ninganchiao**	**0.45 181**	*i* P	Pn	19 32 09.2	-0.6
NACB			S	Sn	19 32 17.7	-0.1
ETL	**Fush Village**	**0.46 178**	*e*P	Pn	19 32 09.4	-0.6
ETL			*i* S	Sn	19 32 18.3	+0.2
NJD	**Zhudong**	**0.48 283**	P	Pn	19 32 10.8	+0.7
NJD			S	Sn	19 32 19.1	+0.7
FUSS	**Fushou**	**0.50 221**	*i* P	Pn	19 32 11.2	+0.6
FUSS			S	Sn	19 32 20.0	+0.9
TWS1	**Kuangyinshan**	**0.50 340**	*e*P	Pn	19 32 10.0	-0.3
TWS1			*e*S	Sn	19 32 19.0	+0.2
NCU	**National Centr**	**0.51 312**	*e*P	Pn	19 32 10.7	+0.3
NCU			*e*S	Sn	19 32 19.7	+0.7
NCUH	**Zhongli**	**0.51 312**	*i* P	Pn	19 32 11.0	+0.6
NCUH			S	Sn	19 32 19.7	+0.8
TWB1	**Santiao Chiao**	**0.52 42**	*i* S	Sn	19 32 19.9	+0.8
YM01	**YM01**	**0.52 357**	*e*P	Pn	19 32 12.4	+1.9
YM01			*i* S	Sn	19 32 19.4	+0.2
SXI1	**Grass Mountain**	**0.53 28**	*i* P	Pn	19 32 11.4	+0.6
SXI1			*e*S	Sn	19 32 19.9	+0.4
LIOB	**Emei**	**0.54 272**	*i* P	Pn	19 32 11.1	+0.4
LIOB			*e*S	Sn	19 32 19.8	+0.3
ZUZH	**Zhuzihu**	**0.54 354**	*i* P	Pn	19 32 11.2	+0.5
ZUZH			*i* S	Sn	19 32 19.7	+0.1
TWT	**Tachien**	**0.54 227**	*e*P	Pn	19 32 11.6	+0.7
TWT			*e*S	Sn	19 32 21.0	+1.2
TWD	**Chiawan**	**0.54 181**	*e*P	Pn	19 32 10.1	-0.7
TWD			*e*S	Sn	19 32 21.0	+1.4
TNOU	**National Taiwa**	**0.55 16**	*e*S	Sn	19 32 20.9	+1.3
NSTT	**Nanjuang**	**0.55 271**	*e*P	Pn	19 32 11.1	+0.3
NSTT			*e*S	Sn	19 32 20.4	+0.7
TDCB	**Techi**	**0.55 228**	*e*P	Pn	19 32 12.2	+1.2
TDCB			S	Sn	19 32 20.6	+0.6
NTST	**Danshui**	**0.56 345**	*i* P	Pn	19 32 11.5	+0.6
NTST			*e*S	Sn	19 32 20.9	+1.1
ANP	**Anpu**	**0.56 352**	P	Pn	19 32 11.4	+0.3
ANP			*i* S	Sn	19 32 20.4	+0.2
WHF	**Hehuan Shan**	**0.57 213**	*i* P	Pn	19 32 12.2	+0.6
WHF			*e*S	Sn	19 32 21.4	+0.5
HSN	**Hsinchu**	**0.60 287**	P	Pn	19 32 11.5	0.0
HSN			S	Sn	19 32 20.7	-0.1
EOS2	**EOS2**	**0.61 110**	*e*P	Pn	19 32 13.3	+1.9
LXIB	**Xiulin Townshi**	**0.63 196**	*i* P	Pn	19 32 11.6	-0.4
LXIB			*e*S	Sn	19 32 21.7	+0.1
NHW	**Xinwu Township**	**0.63 307**	P	Pn	19 32 12.8	+0.9
NHW			*e*S	Sn	19 32 22.5	+1.1
TWY	**Chenhua**	**0.65 360**	*i* P	Pn	19 32 12.5	+0.5
TWY			S	Sn	19 32 22.0	+0.3
ETM	**Tongmen**	**0.66 189**	*e*P	Pn	19 32 11.4	-0.8
ETM			S	Sn	19 32 22.4	+0.3
WHP	**Taichung City**	**0.69 240**	P	Pn	19 32 13.6	+1.0
WHP			*i* S	Sn	19 32 23.8	+0.9
EOS3	**EOS3**	**0.73 117**	*e*P	Pn	19 32 14.6	+1.7
EOS3			S	Sn	19 32 25.1	+1.7
NMLH	**Miaoli**	**0.74 263**	*i* P	Pn	19 32 13.8	+0.5
NMLH			*e*S	Sn	19 32 24.5	+0.6
TEYL	**Yanliau Villag**	**0.75 180**	*e*P	Pn	19 32 13.2	-0.2
WUSB	**Renai**	**0.77 215**	*e*P	Pn	19 32 14.7	+1.0
WUSB			S	Sn	19 32 25.2	+0.5
OWD	**Renai**	**0.77 210**	P	Pn	19 32 14.3	+0.6
OWD			*i* S	Sn	19 32 25.0	+0.3
NSY	**Sanyi**	**0.80 255**	*e*P	Pn	19 32 11.8	-2.1
NSY			*e*S	Sn	19 32 23.5	-1.6
TWQ1	**Liyutan**	**0.81 250**	P	Pn	19 32 14.7	+0.7
TWQ1			S	Sn	19 32 25.9	+0.7
EOS4	**EOS4**	**0.82 127**	P	Pn	19 32 14.9	+1.0
EOS4			*e*S	Sn	19 32 27.1	+2.1
ESL	**Shilin**	**0.82 191**	*e*P	Pn	19 32 12.9	-1.3
SHUL	**Shoufeng**	**0.83 183**	*e*P	Pn	19 32 14.1	-0.3
SHUL			*e*S	Sn	19 32 27.0	+1.1
WCS	**Beigang Elemen**	**0.85 228**	*e*P	Pn	19 32 16.2	+1.7
WCS			*e*S	Sn	19 32 28.3	+2.1
DPDB	**Guoxing**	**0.85 227**	*e*P	Pn	19 32 16.3	+1.6
DPDB			S	Sn	19 32 28.3	+1.8
WARBT	**Fenglin Townsh**	**0.93 192**	*e*P	Pn	19 32 14.1	-1.5
WARBT			*e*S	Sn	19 32 26.9	-1.2
VWDT	**VWDT**	**0.96 206**	*e*P	Pn	19 32 16.9	+0.8
VWDT			*e*S	Sn	19 32 30.8	+1.9
SMLT	**Sun Moon Lake**	**0.98 221**	P	Pn	19 32 17.3	+0.9
SMLT			*e*S	Sn	19 32 30.8	+1.3
TYC	**Yuchr**	**0.99 224**	*e*P	Pn	19 32 18.3	+1.9
SSLB	**Suanglung**	**1.02 216**	P	Pn	19 32 17.9	+1.0
SSLB			S	Sn	19 32 31.6	+1.2
HGSD	**Ruisui**	**1.14 188**	P	Pn	19 32 18.3	-0.1
HGSD			*e*S	Sn	19 32 34.5	+1.5
EHY	**Hungye**	**1.14 193**	*e*P	Pn	19 32 18.2	-0.2
ALS	**Alishan**	**1.33 214**	*e*P	Pn	19 32 23.0	+1.8
ALS			*e*S	Sn	19 32 40.4	+2.3
ELDTW	**Lidau**	**1.53 201**	P	Pn	19 32 24.0	+0.3
ELDTW			*e*S	Sn	19 32 42.5	-0.1
TPUB	**Ta-pu**	**1.59 214**	*e*P	Pn	19 32 26.9	+2.4
TPUB			*e*S	Sn	19 32 47.5	+3.5
STYH	**Taoyuan**	**1.63 208**	*e*P	Pn	19 32 25.4	+0.4
STYH			S	Sn	19 32 46.1	+1.1

JMA 12 19:32:55.2±0.2,**24°.0N**±1°.0×**123°.3E**±0°.5,**h46**km±2km,
MV1.2/9,**NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.49**	**84**	*e*P	Pn	19 33 05.9	-0.1
HATJ				*e*S	Sn	19 33 13.5	-0.1
YOJ	**Yonaguni jima**	**0.51**	**332**	*e*P	Pn	19 33 06.3	0.0
YOJ				*e*S	Sn	19 33 14.5	+0.2
IRIF	**Iriomote-Funau**	**0.53**	**52**	*e*P	Pn	19 33 06.4	-0.1
IRIF				*e*S	Sn	19 33 14.4	-0.1
JYNG	**Yonagunijimaku**	**0.53**	**326**	*e*P	Pn	19 33 06.6	0.0
JYNG				*e*S	Sn	19 33 14.6	-0.2
JKRS	**Kuro-shima**	**0.71**	**71**	*e*P	Pn	19 33 09.2	+0.3
JKRS				*e*S	Sn	19 33 20.1	+1.3
JIJ	**Ishigaki jima**	**0.87**	**66**	*e*P	Pn	19 33 11.0	0.0
JIJ				*e*S	Sn	19 33 23.4	+0.8
JISG	**Ishigakijimahi**	**1.11**	**58**	*e*P	Pn	19 33 14.4	+0.1
JISG				*e*S	Sn	19 33 28.6	+0.2

DJA 12 19:35:34.0±0.7,**2°S**±3°×**12°3E**±°,**h20**km±10km,**M3.6**/13,
mb3.6/4,**MLv3.5**/13,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.89**	**14**	P	Pb	19 35 50.1	-0.7
APSI	**Ampana**	**1.34**	**318**	P	Pn	19 35 57.1	-0.5
KDI	**Kendari**	**2.04**	**178**	P	Pn	19 36 06.5	-0.7
MRSI	**Marisa**	**2.45**	**346**	P	Pn	19 36 12.7	-0.1
PCI	**Palu**	**2.89**	**290**	P	Pn	19 36 18.6	-0.3
SANI	**Sanana**	**3.44**	**92**	P	Pn	19 36 25.9	-0.6
SPSI	**Sidrap Palu**	**3.45**	**234**	P	Pn	19 36 27.2	+0.6
MPSI	**Mapaga**	**3.47**	**310**	P	Pn	19 36 26.3	-0.6
BNSI	**Bone**	**3.48**	**225**	P	Pn	19 36 27.7	+0.7
BKSI	**Bulukumba**	**4.17**	**215**	P	Pn	19 36 37.0	+0.5
BSSI	**Bau Bau, Buton**	**4.68**	**206**	P	Pn	19 36 44.0	+0.4
MMRI	**Maumere** 15nm,1.5s	**6.69**	**183**	P	Pn	19 37 11.6	+0.4
EDFI	**Ende, Flores** 0.0nm3.7nm,1.2s	**6.85**	**187**	P	Pn	19 37 13.1	-0.4

DJA 12 19:43:57.0±0.6,**2°S**±2°×**12°3E**±°,**h17**km±7km,**M3.7**/17,
mb3.8/5,**MLv3.7**/17,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.82**	**11**	P	Pb	19 44 11.0	-1.8
LUWI				S	Sn	19 44 24.7	-0.8
APSI	**Ampana**	**1.34**	**314**	P	Pn	19 44 20.0	-0.9
MRSI	**Marisa**	**2.41**	**344**	P	Pn	19 44 35.0	-0.6
MRSI				S	Sn	19 45 04.9	+0.2
PCI	**Palu**	**2.93**	**289**	P	Pn	19 44 42.7	-0.1
SANI	**Sanana**	**3.38**	**93**	P	Pn	19 44 48.1	-1.0
MPSI	**Mapaga**	**3.48**	**309**	P	Pn	19 44 50.2	-0.1
SPSI	**Sidrap Palu**	**3.53**	**233**	P	Pn	19 44 52.2	+1.1
BNSI	**Bone**	**3.56**	**225**	P	Pn	19 44 52.2	+0.7
BBSI	**Bau Bau**	**3.61**	**181**	P	Pn	19 44 52.7	+0.4
BKSI	**Bulukumba**	**4.25**	**216**	P	Pn	19 45 01.8	+0.8
BSSI	**Bau Bau, Buton**	**4.76**	**206**	P	Pn	19 45 08.6	+0.6

TNTI	**Ternate**	**5.42**	**61**	P	Pn	19 45 17.7	+0.6
EDFI	**Ende, Flores** 0.0nm5.6nm,0.8s	**6.92**	**188**	P	Pn	19 45 37.7	-0.1

*NEIC **12** 19:45:06.4±2.5, 10°.15N±0°.07×126°.6E±0°.1, h10km±1km, mb4.3/22, Error ellipse: s-maj=20.3km s-min=11.8km az=81.0*
*IDC **12** 19:45:16.2±2.4, 9°.98N×126°.17E, h85km±23km, mb3.6/18, mbtmp3.9/19, MS3.3/17, Error ellipse: s-maj=28.0km s-min=12.0km az=73.0*
ISC 12 19:45:10.7±0.5,**10°.16N**±0°.05×**126°.5E**±0°.1,**h42**km,**n64,**
σ1§41/48,**mb4.1**/28,**MS3.2**/12,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.21**	**197**	Pn	**Pn**	**19 45 57.3**	**-1.3**
DAV	**Davao City (W)**	**3.21**	**197**	P	**Pn**	**19 46 02.5**	**+3.8**
	212nm,0.4s,baz=75,slow=4.7,SNR=6.5						
DAV				S	**Sn**	**19 46 35.6**	**-0.2**
	209nm,0.4s,baz=95,slow=12,SNR=4.2						
DAV				LR	LR	19 46 57.3	
	comp=Z,252nm,18.7s,baz=105,slow=34						
TGY	**Tagaytay City**	**6.72**	**306**	P	**Pn**	**19 46 49.6**	**+2.7**
	87nm,0.3s,baz=121,slow=18,SNR=3.1						
TGY				LR	LR	19 49 36.9	
	comp=Z,347nm,19.6s,baz=106,slow=40						
YULB	**Yu-li**	**14.07**	**340**		**Pn**	**19 48 26.7**	**-0.8**
TPUB	**Ta-pu**	**14.23**	**337**	Pn	**Pn**	**19 48 26.3**	**-3.2**
SBUM	**Sibu**	**16.14**	**243**	P	**Pn**	**19 48 54.8**	**0.0**
KAPI	**Kappang**	**16.52**	**204**	LR	LR	19 55 29.3	
	comp=Z,130nm,21.4s,baz=3.0,slow=38						
JOW	**Kunigami**	**16.66**	**5**	LR	LR	19 54 30.7	
	comp=Z,95nm,21.7s,baz=176,slow=33						
GUMO	**Guam**	**18.27**	**77**	LR	LR	19 54 27.7	
	comp=Z,114nm,21.7s,baz=259,slow=30						
JNU	**Nakatsue**	**23.20**	**9**	P	**P**	**19 50 11.8**	**-2.1**
JNU				IAmb	IAmb	19 50 34.4	
	comp=Z,15nm,1.3s						
JNU	**Nakatsue**	**23.20**	**9**	LR	LR	20 00 46.8	
	comp=Z,33nm,19.1s,baz=164,slow=40						
MTN	**Manton Dam**	**23.31**	**169**	P	**P**	**19 50 13.3**	**-1.8**
MTN				IAmb	IAmb	19 50 37.9	
	comp=Z,23nm,1.4s						
KNRA	**Kununurra**	**25.77**	**175**	P	**P**	**19 50 37.3**	**-0.4**
KNRA				IAmb	IAmb	19 50 47.4	
	comp=Z,9.5nm,1.1s						
KSRS	**Korea Array**	**27.20**	**2**	P	**P**	**19 50 52.6**	**+2.2**
	comp=Z,0.8nm,0.6s,baz=179,slow=11,SNR=2.3						
KSRS				LR	LR	20 04 41.4	
	comp=Z,22nm,18.2s,baz=185,slow=42						
	comp=Z,0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.94**	**290**	P	**P**	**19 50 56.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=115,slow=7.4,SNR=5.6						
	comp=Z,0.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.09**	**182**	P	**P**	**19 50 57.9**	**-0.7**
MJAR	**Matsushiro Arr**	**28.31**	**20**	LR	LR	20 03 13.8	
	comp=Z,54nm,18.3s,baz=179,slow=38						
WB0	**Warramunga Arr**	**30.73**	**165**	P	**P**	**19 51 21.4**	**-0.7**
WB0				IAmb	IAmb	19 51 39.5	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**30.89**	**166**	P	**P**	**19 51 22.7**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=348,slow=9.8,SNR=5.5						
	comp=Z,0.9nm,0.9s						
WR8	**Warramunga Arr**	**30.94**	**165**	P	**P**	**19 51 23.4**	**-0.5**
WR8				IAmb	IAmb	19 52 00.9	
	comp=Z,6.9nm,1.3s						
USRK	**Ussuriysk Ar.**	**34.24**	**7**	LR	LR	20 04 19.2	
	comp=Z,48nm,21.1s,baz=189,slow=33						
AS31	**Alice Springs**	**34.39**	**168**	P	**P**	**19 51 53.8**	**-0.2**
ASAR	**Alice Springs**	**34.39**	**168**	P	**P**	**19 51 53.7**	**-0.3**
ASAR	**Alice Springs**	**34.39**	**168**	P	**P**	**19 51 54.2**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=354,slow=7.1,SNR=12						
	comp=Z,0.3nm,0.4s						
SHL	**Shillong**	**36.21**	**300**	P	**P**	**19 52 08.7**	**-1.2**
SHL				IAmb	IAmb	19 52 14.2	
	comp=Z,4.9nm,0.7s						
ASAJ	**Asahikawa**	**36.58**	**20**	LR	LR	20 09 41.1	
	comp=Z,43nm,18.1s,baz=188,slow=40						
HNR	**Honiara**	**38.54**	**119**	LR	LR	20 08 10.3	
	comp=Z,24nm,18.8s,baz=258,slow=36						
KLR	**Kul'dur**	**39.19**	**5**	LR	LR	20 10 35.7	
	comp=Z,27nm,18.1s,baz=224,slow=39						
H11N1	**WAKE ISLAND Hy**	**40.05**	**71**	T	T	20 35 59.9	
	baz=262,slow=75,SNR=73						
H11N2	**WAKE ISLAND Hy**	**40.06**	**71**	T	T	20 35 59.5	
	baz=262,slow=75,SNR=53						
H11N3	**WAKE ISLAND Hy**	**40.07**	**71**	T	T	20 36 01.2	
	baz=262,slow=75,SNR=55						
FORT	**Forrest**	**40.73**	**178**	P	**P**	**19 52 47.3**	**-0.3**
ULN	**Ulaanbaatar**	**41.01**	**340**	P	**P**	**19 52 47.5**	**-2.3**
ULN				IAmb	IAmb	19 53 15.8	
	comp=Z,5.9nm,1.4s						
SONM	**Songino Array**	**41.21**	**339**	P	**P**	**19 52 50.7**	**-0.7**
SONM	**Songino Array**	**41.21**	**339**	P	**P**	**19 52 52.9**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=162,slow=10,SNR=4.1						
	comp=Z,0.6nm,0.7s						
BBOO	**Buckleboo**	**43.69**	**168**	P	**P**	**19 53 11.9**	**+0.3**
BBOO				IAmb	IAmb	19 53 17.5	
	comp=Z,20nm,1.3s						
NWAO	**Narrogin (SRO)**	**43.76**	**191**	P	**P**	**19 53 12.6**	**+0.4**
NWAO	**Narrogin (SRO)**	**43.76**	**191**	P	**P**	**19 53 12.2**	**0.0**
	comp=Z,10nm,1.0s,baz=22,slow=11,SNR=1.8						
	comp=Z,10nm,1.0s						
STKA	**Stephens Creek**	**44.22**	**162**	P	**P**	**19 53 16.6**	**+0.8**
STKA	**Stephens Creek**	**44.22**	**162**	P	**P**	**19 53 16.7**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=288,slow=6.4,SNR=1.7						
	comp=Z,0.7nm,0.4s						
PEA0B	**Petropavlovsk-**	**49.63**	**24**	P	**P**	**19 53 56.8**	**-1.1**
PETK	**Petropavlovsk-**	**49.63**	**24**	P	**P**	**19 53 56.1**	**-1.8**
PETK	**Petropavlovsk-**	**49.63**	**24**	P	P	19 54 02.3	+4.4
	comp=Z,1.8nm,1.0s,baz=228,slow=5.8,SNR=4.4						
	comp=Z,1.8nm,1.0s						
YAK	**Yakutsk**	**51.83**	**2**	LR	LR	20 17 42.4	
	comp=Z,29nm,21.1s,baz=46,slow=37						
MK31	**Makanchi Array**	**52.26**	**323**		**P**	**19 54 16.7**	**-1.1**
MKAR	**Makanchi Array**	**52.26**	**323**		**P**	**19 54 16.1**	**-1.7**
MKAR	**Makanchi Array**	**52.26**	**323**	P	**P**	**19 54 18.2**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=121,slow=7.3,SNR=20						
	comp=Z,1.6nm,0.7s						
MAKZ	**Makanchi**	**52.46**	**323**	P	**P**	**19 54 19.1**	**-0.1**
MAKZ				IAmb	IAmb	19 54 35.8	
	comp=Z,1.5nm,0.8s						
ZALV	**Zalesovo Beamn**	**54.84**	**331**	P	**P**	**19 54 37.0**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=133,slow=6.8,SNR=4.1						
	comp=Z,0.4nm,0.3s						
KURK	**Kurchatov**	**56.30**	**325**	P	**P**	**19 54 46.2**	**-0.8**
KURK				IAmb	IAmb	19 54 49.2	
	comp=Z,2.2nm,0.9s						
KURBB	**Kurchatov Arra**	**56.30**	**325**	P	**P**	**19 54 47.6**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=127,slow=6.8,SNR=6.9						
	comp=Z,0.7nm,0.3s						
SHEM	**Shemya Is, Ala**	**57.11**	**32**	LR	LR	20 24 37.9	
	comp=Z,37nm,18.0s,baz=100,slow=41						
TIXI	**Tiksi**	**61.45**	**1**		**P**	**19 55 23.4**	**+0.9**
BVAR	**Borovoye Array**	**61.89**	**325**	P	**P**	**19 55 25.9**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=110,slow=11,SNR=2.3						
	comp=Z,0.5nm,0.6s						
ABKAR	**Akbulak array**	**67.12**	**319**	P	**P**	**19 55 59.5**	**-0.5**
BKZ	**Black Stump Fm**	**67.54**	**140**	P	**P**	**19 56 01.8**	**-1.1**
ILAR	**Eielson Array**	**79.43**	**26**	P	**P**	**19 57 13.7**	**+1.4**
	comp=Z,0.5nm,0.9s,baz=273,slow=9.3,SNR=4.6						
	comp=Z,0.5nm,0.9s						
SPITS	**Spitsbergen Ar**	**84.17**	**349**	P	**P**	**19 57 37.8**	**+0.7**
	comp=Z,11nm,1.0s,baz=99,slow=8.9,SNR=2.2						
	comp=Z,11nm,1.0s						
ARCES	**ARCESS Array B**	**84.38**	**340**	P	**P**	**19 57 38.4**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=78,slow=6.3,SNR=4.5						
	comp=Z,1.8nm,0.8s						
BRTR	**Keskin Array B**	**85.79**	**309**	P	**P**	**19 57 47.0**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=109,slow=6.2,SNR=2.5						
BRTR				LR	LR	20 40 10.1	
	comp=Z,23nm,19.5s,baz=316,slow=38						
	comp=Z,0.6nm,0.9s						
AKASG	**Malin Array Be**	**86.80**	**321**	P	**P**	**19 57 49.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=356,slow=0.3,SNR=1.4						
	comp=Z,0.2nm,0.4s						
HFS	**Hagfors**	**92.26**	**333**	LR	LR	20 41 50.1	
	comp=Z,35nm,19.9s,baz=36,slow=37						
NOA	**NORSAR Array B**	**92.96**	**334**	LR	LR	20 43 53.1	
	comp=Z,15nm,18.4s,baz=340,slow=38						
YKA	**Yellowknife Ar**	**93.75**	**24**	P	**P**	**19 58 26.4**	**+3.5**
	comp=Z,0.8nm,0.8s,baz=299,slow=4.2,SNR=12						
	comp=Z,0.8nm,0.8s						

*GII **12** 19:52:09.9±0.0, 35°.53N×29°.46E, h2km, Mws3.5, confirmed*
*AFAD **12** 19:52:11.5, 35°.46N×29°.39E, h19km±1km, MW3.8*
*ISK **12** 19:52:12.8, 35°.54N×29°.43E, h9km, ML3.7/36*
*NIC **12** 19:52:15.7, 35°.53N×29°.49E, h27km±2km, Ml3.1/6*
*IDC **12** 19:52:16.6±1.3, 35°.49N×29°.49E, h41km±16km, mb3.4/11, mbtmp3.6/22, ML3.5/10, MS2.9/1, Error ellipse: s-maj=14.2km s-min=8.7km az=179.0*
ISC 12 19:52:12.6±1.3,**35°.49N**±0°.03×**29°.43E**±0°.02,**h13**km±8km,
n155, σ1§34/183,**mb3.5**/11,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.67**	**10**	P	**Pg**	**19 52 24.3**	**-1.3**
KSL				S	**Sn**	**19 52 37.8**	**-0.2**
AKAS	**Kas**	**0.75**	**11**	Pg	**Pb**	**19 52 27.0**	**-0.6**
AKAS	**Kas**	**0.75**	**11**	P	**Pg**	**19 52 26.3**	**-1.0**
DEMR	**Demre-Antalya**	**0.83**	**27**	Pg	**Pb**	**19 52 28.8**	**-0.2**
IZZE	**Mula-Seydike**	**0.96**	**350**	P	**Pb**	**19 52 31.0**	**0.0**
IZZE				S	**Sn**	**19 52 45.3**	**0.0**
IZZE				*i* AML	AML	19 52 48.0	
	comp=E,6μm,0.5s						
AKUM	**Antalya-Kumluc**	**1.11**	**41**	P	**Pn**	**19 52 33.8**	**0.0**
FETY	**Fethiye**	**1.18**	**346**	Pn	**Pn**	**19 52 35.3**	**+0.5**
FETY				Sn	**Sn**	**19 52 50.9**	**+0.2**
FETY	**Fethiye**	**1.18**	**346**	P	**Pn**	**19 52 36.3**	**+1.6**
FETY				S	**Sn**	**19 52 51.5**	**+0.8**
ARG	**Arkhangelos**	**1.28**	**305**	Pn	**Pb**	**19 52 36.8**	**+0.2**
ARG				Sn	**Sn**	**19 52 55.2**	**+1.9**
ARG	**Arkhangelos**	**1.28**	**305**	P	**Pb**	**19 52 36.9**	**+0.3**
ARG				S	**Sn**	**19 52 54.8**	**+1.5**
ELL	**Elmali**	**1.31**	**17**	Pn	**Pg**	**19 52 37.2**	**-0.6**
ELL	**Elmali**	**1.31**	**17**	P	**Pb**	**19 52 36.9**	**-0.2**
ELL				S	**Sn**	**19 52 55.3**	**+1.2**
KNIK	**Mula-Seydike**	**1.35**	**5**	P	**Pn**	**19 52 36.9**	**-0.4**
KNIK				S	**Sg**	**19 52 55.9**	**-0.4**
KNIK				*i* AML	AML	19 53 07.0	
	comp=E,649nm,1.0s						
SABU	**Mula-Dalaman**	**1.38**	**344**	P	**Pn**	**19 52 37.2**	**-0.4**
SABU				S	**Sg**	**19 52 57.0**	**-0.1**
SABU				*i* AML	AML	19 53 08.0	
	comp=N,1μm,0.8s						
KEMT	**Kemer-ANTALYA**	**1.43**	**39**	Pn	**Pg**	**19 52 39.7**	**-0.5**
CAME	**Cameli-Denizli**	**1.45**	**356**	Pn	**Pb**	**19 52 39.3**	**-0.3**
DALY	**Dalyan (Mula)**	**1.46**	**335**	Pn	**Pb**	**19 52 39.7**	**0.0**
DALY				Sn	**Sb**	**19 52 58.9**	**+0.7**
TURN	**Turunc**	**1.60**	**323**	Pn	**Pb**	**19 52 41.6**	**-0.4**
TURN	**Turunc**	**1.60**	**323**	P	**Pn**	**19 52 40.2**	**-0.3**
CAEL	**Denizli, Camel**	**1.63**	**357**	P	**Pg**	**19 52 43.9**	**0.0**
KORT	**Korkueli**	**1.68**	**26**	Pn	**Pb**	**19 52 42.5**	**-0.9**
KORT	**Korkueli**	**1.68**	**26**	P	**Pb**	**19 52 43.0**	**-0.4**
ANTB	**Antalya**	**1.72**	**35**	Pn	**Pb**	**19 52 43.3**	**-0.7**
GOLH	**Golhisar**	**1.74**	**3**	P	**Pb**	**19 52 43.9**	**-0.6**
GOLH				S	**Sg**	**19 53 09.1**	**+0.3**
GOLH				*i* AML	AML	19 53 14.0	
	comp=E,784nm,0.8s						
DNZT	**Denizli-Tavas-**	**1.81**	**350**	P	**Pn**	**19 52 44.5**	**+0.8**
DNZT				S	**Sn**	**19 53 06.6**	**0.0**
DNZT				*i* AML	AML	19 53 17.0	
	comp=N,334nm,0.9s						
KARP	**Karpathos**	**1.85**	**272**	Pn	**Pb**	**19 52 45.8**	**-0.6**
KARP	**Karpathos**	**1.85**	**272**	P	**Pb**	**19 52 46.1**	**-0.2**
KARP				S	**Sb**	**19 53 10.5**	**+1.0**
YER	**Yerkesik**	**1.88**	**331**	Pn	**Pn**	**19 52 45.6**	**+1.0**
DAT	**Datca**	**1.94**	**310**	Pn	**Pn**	**19 52 46.3**	**+0.9**
MULA	**Mugla, Merkez-**	**1.98**	**333**	P	**Pn**	**19 52 47.2**	**+1.4**
APMY	**Acipayam-Deniz**	**1.98**	**357**	Pn	**Pn**	**19 52 47.0**	**+1.1**
YAZI	**Mula-Dat§a-**	**2.00**	**307**	P	**Pn**	**19 52 46.7**	**+0.7**
YAZI				S	**Sn**	**19 53 08.5**	**-2.3**
YAZI				*i* AML	AML	19 53 13.0	
	comp=N,378nm,0.5s						
TAVA	**DENIZLI_Tavas**	**2.01**	**348**	P	**Pb**	**19 52 48.9**	**-0.2**
TAVA				S	**

CIFT	Cifteler, Eski	4.07	18	Pn	Pn	19 53 16.3 +1.6
HNTI	Hanita	5.33	115	P	Pn	19 53 30.6 -1.2
HNTI	Hanita	5.33	115	S	Sn	19 54 33.4 +0.4
BRTR	Keskin Array B	5.38	37	P	Pn	19 53 34.3 +1.6
	0.6nm,0.3s,baz=212,slow=13,SNR=30					
BRTR				S	Sn	19 54 33.8 -0.9
	17nm,0.8s,baz=214,slow=26,SNR=13					
	4.8nm,0.7s					
OFRI	`Ofer	5.42	120	P	Pn	19 53 32.0 -1.2
OFRI	`Ofer	5.42	120	S	Sn	19 54 36.5 +0.9
HWQ	Hawqa	5.49	101	eP	Pn	19 53 35.7 +1.5
QRWL	Qaraoun	5.51	109	eP	Pn	19 53 36.2 +1.8
MMA0B	Mount Meron ar	5.53	115	P	Pn	19 53 33.7 -0.9
MMA0B	Mount Meron ar	5.53	115	S	Sn	19 54 38.5 +0.4
MMAI	Mount Meron Ar	5.53	115	P	Pn	19 53 35.4 +0.7
	3.3nm,0.3s,baz=311,slow=13,SNR=28					
MMAI				S	Sn	19 54 37.8 -0.3
	2.2nm,0.3s,baz=295,slow=27,SNR=6.3					
	3.2nm,0.4s					
ZAHL	Zahle	5.56	105	eP	Pn	19 53 35.4 +0.3
BEIL	Beino	5.62	98	eP	Pn	19 53 36.7 +0.8
GEM	Giv'at Ha'Em	5.63	112	P	Pn	19 53 34.8 -1.2
GEM	Giv'at Ha'Em	5.63	112	S	Sn	19 54 40.5 -0.1
RCY	Rachaya	5.65	109	eP	Pn	19 53 37.6 +1.2
NATI	Neve Ativ	5.67	111	P	Pn	19 53 35.8 -0.7
NATI	Neve Ativ	5.67	111	S	Sn	19 54 41.1 -0.3
SLTI	Sal'it	5.68	123	P	Pn	19 53 36.2 -0.5
SLTI	Sal'it	5.68	123	S	Sn	19 54 41.8 0.0
MMLI	Mount Malkishu	5.83	120	P	Pn	19 53 36.9 -1.9
MMLI	Mount Malkishu	5.83	120	S	Sn	19 54 46.0 +0.4
SALP	Salfit	5.88	124	P	Pn	19 53 38.4 -1.1
SALP	Salfit	5.88	124	S	Sn	19 54 47.1 +0.3
HMDT	Nahal Hemdat	6.01	121	P	Pn	19 53 40.4 -0.8
HMDT	Nahal Hemdat	6.01	121	S	Sn	19 54 49.8 0.0
AMAZ	Amatzia	6.05	129	P	Pn	19 53 40.8 -0.9
AMAZ	Amatzia	6.05	129	S	Sn	19 54 51.1 +0.3
KZIT	Kziot	6.18	136	P	Pn	19 53 42.7 -0.9
KZIT	Kziot	6.18	136	S	Sn	19 54 54.1 0.0
YTIR	Yattir	6.29	129	P	Pn	19 53 44.1 -1.0
YTIR	Yattir	6.29	129	S	Sn	19 54 57.1 +0.2
DSI	Dead Sea	6.32	127	P	Pn	19 53 44.8 -0.7
DSI	Dead Sea	6.32	127	S	Sn	19 54 57.8 +0.3
GHAJ	Ghor Haditha	6.61	127	P	Pn	19 53 48.5 -1.0
ZFRI	Zfri	6.89	134	P	Pn	19 53 51.9 -1.4
ZFRI	Zfri	6.89	134	S	Sn	19 55 11.8 +0.2
KRMI	Paran Flat	6.97	139	P	Pn	19 53 54.2 -0.3
KRMI	Paran Flat	6.97	139	S	Sn	19 55 13.5 -0.1
ASF	Jabal al Asfar	7.04	116	P	Pn	19 53 57.9 +2.5
	0.7nm,0.3s,baz=270,slow=6.8,SNR=5.0					
ASF				S	Sn	19 55 18.3 +3.0
	2.0nm,0.5s,baz=346,slow=23,SNR=1.8					
	1.4nm,0.5s					
HRFI	Mount Harif	7.20	138	P	Pn	19 53 57.0 -0.6
HRFI	Mount Harif	7.20	138	S	Sn	19 55 19.1 -0.2
MBRI	Mt Berech	7.32	139	P	Pn	19 53 58.4 -1.0
MBRI	Mt Berech	7.32	139	S	Sn	19 55 22.8 +0.5
EIL	Elat	7.44	140	P	Pn	19 54 01.9 +1.0
	1.3nm,0.3s,baz=18,slow=4.6,SNR=13					
EIL				S	Sn	19 55 22.1 -3.1
	13nm,0.5s,baz=11,slow=14,SNR=8.6					
	3.3nm,0.5s					
EIL	Elat	7.44	140	P	Pn	19 54 00.1 -0.7
EIL	Elat	7.44	140	S	Sn	19 55 25.3 +0.2
MLR	Muntele Rosu	10.33	346	P	Pn	19 54 45.0 +4.4
	1.0nm,0.5s,baz=146,slow=18,SNR=1.7					
VAE	Valguarnera	12.25	284	P	Pn	19 55 07.0 +0.1
	6.2nm,0.8s,baz=163,slow=12,SNR=1.6					
VAE				S	Sn	19 57 16.5 -6.8
	6.3nm,0.6s,baz=31,slow=19,SNR=1.9					
KBZ	Khabaz	13.23	48	P	P	19 55 29.9 -0.1
	2.8nm,0.9s,baz=230,slow=8.8,SNR=7.5					
KVAR	Kislovodsk Arr	13.24	46	P	Pn	19 55 23.4 +3.1
	baz=284,slow=12					
	1.4nm,0.8s					
AKASG	Malin Array Be	15.20	359	P	P	19 55 50.2 -1.7
	0.3nm,0.3s,baz=196,slow=12,SNR=1.3					
	0.2nm,0.4s					
KEST	Kesra	16.34	277	P	P	19 56 05.6 +0.9
	0.7nm,0.3s,baz=72,slow=1.4,SNR=16					
	12nm,0.7s					
KBA	Koelnbreinsper	16.70	319	ePn	Pn	19 56 07.8 +1.4
	3.2nm,0.8s					
VRAC	Vranov	16.71	330	P	P	19 56 09.7 +1.0
	0.3nm,0.3s,baz=142,slow=9.4,SNR=2.0					
VRAC				LR	LR	20 02 59.0
	comp=Z,40nm,19.0s,baz=306,slow=38					
	1.4nm,0.5s					
ABTA	Abfaltersbach	16.96	317	ePn	P	19 56 12.1 +0.6
	3.4nm,0.9s					
LESA	Schwarzleotal	17.27	319	ePn	P	19 56 15.0 0.0
	2.7nm,0.8s					
GERES	GERESS Array B	17.67	324	P	P	19 56 20.1 +0.7
	baz=129,slow=10,SNR=11					
	1.0nm,0.6s					
ZVC	Zvikov	17.86	326	eP	P	19 56 21.8 +0.5
KHC	Kasperske Hory	17.93	324	eP	Pn	19 56 22.1 +0.6
SQTA	Sankt Quirin	17.96	316	i Pn	P	19 56 23.6 +1.0
	1.9nm,0.5s					
MOTA	Moosalm	18.09	316	ePn	P	19 56 24.5 +0.4
	5.5nm,1.0s					
FETA	Feichten	18.13	315	ePn	P	19 56 25.9 +1.5
	4.5nm,0.8s					
DAVOX	Davos/Dischmat	18.50	314	P	P	19 56 28.6 0.0
	0.1nm,0.3s,baz=133,slow=12,SNR=2.9					
	1.4nm,0.7s					
CLL	Collm	19.74	328	ePx	Px	19 56 48.0
	comp=Z,3.0nm,1.1s					
CLL				ePPP	PPP	19 57 08.0
CLL				i x	x	19 57 13.1
AKTO	Aktyubinsk	25.49	45	P	P	19 57 40.0 -0.4
	comp=Z,1.1nm,0.5s,baz=228,slow=7.0,SNR=4.8					
	comp=Z,1.1nm,0.5s					
FINES	FINESS Array B	26.06	356	P	P	19 57 45.7 +0.3
	comp=Z,0.4nm,0.4s,baz=145,slow=8.2,SNR=11					
	comp=Z,0.4nm,0.4s					
HFS	Hagfors	26.68	342	P	P	19 57 51.1 0.0
	comp=Z,0.7nm,0.5s,baz=139,slow=9.8,SNR=4.1					
	comp=Z,0.7nm,0.5s					
ESDC	Sonseca Array	26.70	289	P	P	19 57 52.1 +0.5
	comp=Z,1.2nm,0.5s,baz=82,slow=9.4,SNR=19					
	comp=Z,1.2nm,0.5s					
NOA	NORSAR Array B	28.09	341	P	P	19 58 04.6 +0.8
	comp=Z,0.5nm,0.8s,baz=136,slow=10.0,SNR=3.4					
	comp=Z,0.5nm,0.8s					
TORD	Torodi Ar. Bea	33.47	235	P	P	19 58 53.1 +1.5
	comp=Z,73nm,0.3s,baz=43,slow=9.8,SNR=1.8					
BVAR	Borovoye Array	33.60	46	P	P	19 58 54.3 +1.9
	comp=Z,0.2nm,0.5s,baz=233,slow=8.9,SNR=1.7					
	comp=Z,0.2nm,0.5s					
KURBB	Kurchatov Arra	38.19	51	P	P	19 59 32.9 +1.2
	comp=Z,0.5nm,0.3s,baz=274,slow=8.8,SNR=1.3					
	comp=Z,0.5nm,0.3s					
MKAR	Makanchi Array	40.67	57	P	P	19 59 52.6 +0.1
	comp=Z,0.3nm,0.6s,baz=274,slow=7.7,SNR=5.8					
	comp=Z,0.3nm,0.6s					
ZALV	Zalesovo Beam	42.25	46	P	P	20 00 05.7 +0.4
	comp=Z,0.2nm,0.3s,baz=248,slow=7.4,SNR=1.6					
	comp=Z,0.2nm,0.3s					
SONM	Songino Array	56.55	52	P	P	20 01 53.6 -1.3
	comp=Z,0.2nm,0.5s,baz=282,slow=7.5,SNR=2.1					
	comp=Z,0.2nm,0.5s					
CMAR	Chiang Mai Arr	63.06	86	P	P	20 02 37.7 -2.2
	comp=Z,0.2nm,0.4s,baz=293,slow=4.0,SNR=2.0					
	comp=Z,0.2nm,0.4s					

DJA 12 20:01:10.4±0.7,2°S±2°×12°3E±°, h12km±6km, M3.8/16, mB4.4/1, mb3.9/6, MLv3.7/16, Mw(mB)3.5/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.79	8	P	Pg	20 01 25.7	0.0
APSI	Ampana	1.36	312	P	Pn	20 01 34.6	-0.7
APSI				S	Sn	20 01 53.6	+0.3
MRSI	Marisa	2.40	343	P	Pn	20 01 49.1	-0.5
KMSI	Cibinong	2.73	29	P	Pn	20 01 53.6	-0.5
KMSI				S	Sn	20 02 27.2	+0.2
PCI	Palu	2.97	288	P	Pn	20 01 56.3	-1.1
SANI	Sanana	3.33	94	P	Pn	20 02 01.4	-1.0
MPSI	Mapaga	3.50	308	P	Pn	20 02 04.6	-0.1
SPSI	Sidrap Palu	3.58	234	P	Pn	20 02 06.5	+0.7
BNSI	Bone	3.61	225	P	Pn	20 02 06.9	+0.7
BBSI	Bau Bau	3.63	181	P	Pn	20 02 06.8	+0.3
BKSI	Bulukumba	4.29	216	P	Pn	20 02 17.3	+1.7
NLAI	Namlea	4.65	108	P	Pn	20 02 21.7	+1.2
BSSI	Bau Bau, Buton	4.80	207	P	Pn	20 02 22.7	+0.1
EDFI	Ende, Flores	6.94	188	P	Pn	20 02 51.3	-0.8
	0.0nm5.2nm,1.0s						
SWI	Sorong	8.65	84	P	Pn	20 03 15.8	+0.3
FAKI	Fak Fak	9.64	97	P	Pn	20 03 28.6	-0.5

IDC 12 20:15:05.0±0.4, 1°.74S×122°.61E, h0km, mb4.6/26, mbtmp4.5/28, ML4.4/2, MS3.7/29, Error ellipse: s-maj=19.8km s-min=11.3km az=73.0
MOS 12 20:15:05.1±0.9, 1°.75S×122°.59E, h14km, mb5.0/41, Error ellipse: s-maj=9.6km s-min=5.5km az=117.2
NEIC 12 20:15:07.8±1.7, 1°.85S±0°.04×122°.62E±0°.05, h15km±3km, mb5.1/177, Mww4.8/9, Error ellipse: s-maj=7.9km s-min=5.0km az=99.0
NEIC 12 20:15:08.7, 1°.85S×122°.81E, h12km, Moment Tensor Solution. Duration: 1ŝ3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.06; $M_{\theta\theta}$0.18; $M_{\phi\phi}$-1.23; $M_{r\theta}$-0.06; $M_{\theta\phi}$0.15; $M_{\phi r}$1.36; Fault plane solution: $M_0$1.79000×10^{16} NP1: ϕ_s170.34000°, δ20.20000°, λ83.74000°. NP2: ϕ_s357.01000°, δ69.93000°, λ92.30000°. Principal axes: T 1.6927, Plg65.0000°, Azm271.0000°; N 0.1871, Plg2.0000°, Azm176.0000°; P -1.8798, Plg25.0000°, Azm85.0000°;
NEIC 12 20:15:08.7, 1°.85S×122°.61E, h12km
GCMT 12 20:15:08.8±0.4, 1°.63S±0°.05×122°.65E±0°.03, h19km±1km, MW4.9/72, Moment Tensor Solution. s9,c10; s72,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.63±.23; $M_{\theta\theta}$-0.56±.11; $M_{\phi\phi}$-2.07±.14; $M_{r\theta}$-0.82±.32; $M_{\theta\phi}$0.14±.06; $M_{\phi r}$-0.23±.21; Best double couple: $M_0$2.46600×10^{16} NP1:ϕ_s342.00000°, δ45.00000°, λ70.00000°. NP2: ϕ_s189.00000°, δ49.00000°, λ109.00000°. Principal axes: T 2.8430, Plg76.0000°, Azm168.0000°; N -0.7510, Plg14.0000°, Azm356.0000°; P -2.0880, Plg2.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
DJA 12 20:15:09.0±0.1, 2°S±1°×12°3E±°, h10km, M4.8/55, mB5.3/31, mb5.0/55, MLv5.1/28, Mw(mB)4.8/31, MwMwp4.6/1, Mwp5.0/1

ISC 12 20:15:08.7±0.7, 1°.83S±0°.03×122°.63E±0°.04, h23km±5km, n614, σ1ŝ27/550, mb5.0/158, MS3.8/27, 10C-11D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.80	10		Pb	20 15 23.6	-0.3
LUWI				Sg	Sb	20 15 34.1	-0.1
LUWI	Luwuk	0.80	10	P	Pn	20 15 24.0	-0.4
LUWI	Luwuk	0.80	10	P	Pn	20 15 24.1	-0.4
LUWI				S	Sn	20 15 35.6	0.0
APSI	Ampana	1.34	313	P	Pb	20 15 33.3	+0.1
KDI	Kendari	2.11	180	P	Pn	20 15 43.0	+0.4
MRSI	Marisa	2.40	343	P	Pn	20 15 46.8	+0.3
KMSI	Cibinong	2.75	29	P	Pn	20 15 53.4	+2.1
PCI	Palu	2.94	288	P	Pn	20 15 55.6	+1.6
SANI	Sanana	3.36	94	P	Pn	20 15 59.7	-0.1
SANI	Sanana	3.36	94	P	Pn	20 15 59.6	-0.2
TOLI2	Tolitoli	3.46	328		Pn	20 16 02.5	+1.4
TOLI2				Sn	Sn	20 16 43.3	+1.9
TOLI2	Tolitoli	3.46	328	P	Pn	20 16 03.4	+2.3
MPSI	Mapaga	3.48	308	P	Pn	20 16 02.6	+1.2
SPSI	Sidrap Palu	3.56	233	P	Pn	20 16 03.3	+0.8
BNSI	Bone	3.59	225	P	Pn	20 16 02.8	-0.1
BBSI	Bau Bau	3.63	181	P	Pn	20 16 04.0	+0.5
KAPI	Kappang	4.27	222		Pn	20 16 12.6	+0.2
KAPI				Sn	Sn	20 17 00.9	-0.5
KAPI	Kappang	4.27	222	Pn	Pn	20 16 13.5	+1.2
	80nm,0.3s,baz=13,slow=6.2,SNR=103						
KAPI				Sn	Sn	20 17 01.8	+0.4
	99nm,0.3s,baz=57,slow=23,SNR=14						
KAPI				LR	LR	20 18 17.9	
	comp=Z,2μm,19.4s,baz=33,slow=45						
	214nm,0.4s						
KAPI	Kappang	4.27	222	P	Pn	20 16 13.5	+1.2
KAPI	Kappang	4.27	222	c iP	Pn	20 16 12.8	+0.5
BKSI	Bulukumba	4.28	216	P	Pn	20 16 13.4	+1.0
NLAI	Namlea	4.68	107	P	Pn	20 16 20.5	+2.6
BSSI	Bau Bau, Buton	4.79	206	P	Pn	20 16 19.7	+0.3
TNTI	Ternate	5.40	61		Pn	20 16 27.5	-0.2
TNTI				Sn	Sn	20 17 30.4	+1.2
TNTI	Ternate	5.40	61	P	Pn	20 16 28.4	+0.6
TNTI	Ternate	5.40	61	P	Pn	20 16 28.4	+0.6
	1.1nm2μm152nm,0.6s						
SMKI	Samarinda	5.59	284	P	Pn	20 16 32.3	+1.8
	1.2nm139nm,0.4s						
BKB	Balikpapan	5.76	276		Pn	20 16 32.5	-0.3
BKB	Balikpapan	5.76	276	P	Pn	20 16 35.3	+2.5
BKB	Balikpapan	5.76	276	P	Pn	20 16 34.8	+2.0
AAI	Ambon	5.86	108	P	Pn	20 16 37.4	+3.3
MSAI	Masohi	6.47	104	P	Pn	20 16 46.4	+3.9
	0.9nm2μm248nm,1.0s						
MMRI	Maumere	6.77	183		Pn	20 16 46.6	0.0
MMRI	Maumere	6.77	183	P	Pn	20 16 47.3	+0.6
MMRI	Maumere	6.77	183	P	Pn	20 16 47.1	+0.4
	0.9nm3μm237nm,0.8s						
EDFI	Ende, Flores	6.94	188	P	Pn	20 16 48.7	-0.3
	0.4nm97nm,0.8s						
BNDI	Bandanaira	7.74	110	P	Pn	20 17 09.0	+9.0
	1.0nm3μm216nm,0.8s						
SOEI	Soe	8.04	168		Pn	20 17 03.9	-0.3
SOEI	Soe	8.04	168	P	Pn	20 17 04.6	+0.4
SOEI	Soe	8.04	168	P	Pn	20 17 07.5	+3.3
MYLDM	Lahad Datu	8.10	329		Pn	20 17 05.2	+0.4
MYLDM	Lahad Datu	8.10	329	P	Pn	20 17 07.8	+2.9
WSI	Waingapu	8.12	196	P	Pn	20 17 07.7	+2.4
	2μm173nm,1.3s						
WBSI	Waikabubak, Su	8.40	202	P	Pn	20 17 09.7	+0.6
	61nm,0.8s						
PLAI	Plampang	8.46	215	P	Pn	20 17 11.4	+1.5
PLAI	Plampang	8.46	215	P	Pn	20 17 10.9	+1.0
	30nm,1.1s						
SWI	Sorong	8.68	84	P	Pn	20 17 13.6	+0.7
	1μm63nm,0.8s						
DAV	Davao City (W)	9.32	18	LR	LR	20 20 50.8	
	comp=Z,482nm,21.2s,baz=242,slow=37						
SRBI	Singaraja	9.65	230	P	Pn	20 17 26.9	+0.7
	47nm,0.8s						
FAKI	Fak Fak	9.67	97		Pn	20 17 26.5	0.0
FAKI	Fak Fak	9.67	97	P	Pn	20 17 26.6	+0.1
KMMI	Kalianget	10.07	239	P	Pn	20 17 34.2	+2.2
	73nm,0.9s						
KKM	Kota Kinabalu	10.11	321	P	Pn	20 17 35.4	+2.8
JAGI	Jajag, Banyuwa	10.71	232		Pn	20 17 40.0	-0.7
JAGI	Jajag, Banyuwa	10.71	232	P	Pn	20 17 42.5	+1.7
	28nm,1.0s						
GMJI	Gumukmas	11.16	235	P	Pn	20 17 48.1	+1.2
	36nm,1.3s						
SBUM	Sibu	11.24	292		Pn	20 17 47.6	-0.4
KSM	Kuching	12.75	285	Pn	Pn	20 18 08.4	-0.3
UGM	Wanagama	13.49	243	Pn	Pn	20 18 17.9	-0.9
MTN	Manton Dam	13.80	143		Pn	20 18 22.2	-0.9
MTN	Manton Dam	13.80	143	P	Pn	20 18 23.3	+0.2
KDU	Kakadu	14.54	138	P	Pn	20 18 33.4	+0.3
TPI	Tanjungpandan	14.99	266	P	P	20 18 46.6	+2.1
	811nm46nm,1.2s						
KNRA	Kununurra	15.03	157		Pn	20 18 38.1	-1.6
LEM	Lembang	15.77	251	Pn	P	20 18 53.8	+0.4
	0.7nm,0.3s,baz=68,slow=11,SNR=7.1						
LEM				LR	LR	20 25 32.8	
	comp=Z,760nm,19.1s,baz=49,slow=40						
LEM	Lembang	15.77	251	P	P	20 18 54.8	+1.5
	47nm,1.4s						
TGY	Tagaytay City	15.92	354	Pn	P	20 18 57.2	+2.3
	30nm,0.3s,baz=304,slow=5.6,SNR=5.0						
SMPI	Sarmi	16.07	91	P	Pn	20 18 54.6	+1.3
	850nm49nm,1.1s						
FITZ	Fitzroy Crossi	16.43	170		Pn	20 18 54.2	-3.7
FITZ	Fitzroy Crossi	16.43	170	Pn	Pn	20 18 54.8	-3.1
	0.1nm,0.3s,baz=6.6,slow=7.6,SNR=8.9						
FITZ				LR	LR	20 26 47.6	
	comp=Z,174nm,19.2s,baz=360,slow=42						
PPBI	Pangkal Pinang	16.49	269	P	P	20 19 03.7	+2.5
CGJI	Cibinong	17.54	254	P	P	20 19 14.0	+1.2
	1μm64nm,1.4s						
PMBI	Palembang	17.88	266		Pn	20 19 15.0	-1.0
JAY	Jayapura	18.07	92	P	P	20 19 19.0	+0.3
	0.3nm,0.3s,baz=251,slow=19,SNR=3.7						
JAY				LR	LR	20 27 11.0	
	comp=Z,220nm,19.9s,baz=306,slow=40						
	9.1nm,0.9s						
TPRI	Tanjung Pinang	18.31	278	P	P	20 19 24.4	+3.1
	900nm39nm,0.9s						
MDSI	Maura Dua	18.61	261	P	Pn	20 19 26.4	+1.4
	2μm58nm,0.9s						
LWLI	Liwa	18.80	260	P	Pn	20 19 29.1	+1.6
	129nm,0.9s						
XMIS	Christmas Isla	18.93	242	P	P	20 19 25.6	-2.5
MYKOM	Kota Tinggi	19.12	281	P	P	20 19 27.7	-2.5
MBWA	Marble Bar	19.42	188	P	P	20 19 31.7	-1.7
DLV	Lat	19.62	315	P	P	20 19 34.4	-1.5
PSA00	Pilbara Seismi	19.81	188	P	P	20 19 36.5	-1.1
KSI	Kapahiang	20.09	264	P	Pn	20 19 43.4	+0.5
	99nm,0.7s						
WB0	Warramunga Arr	21.21	148	P	P	20 19 52.4	-0.6
WB0				IAmb	IAmb	20 19 57.2	
	comp=Z,80nm,0.9s						
WRAB	Tennant Creek	21.33	148	P	P	20 19 53.3	-0.9
WRAB				IAmb	IAmb	20 19 58.4	
	comp=Z,57nm,0.9s						
WRAB	Tennant Creek	21.33	148	c iP	P	20 19 54.3	+0.1
WRAB				pmax	pmax		
	comp=Z,76nm,0.9s						
WRA	Warramunga Arr	21.33	148	P	P	20 19 51.9	-2.3
WRA	Warramunga Arr	21.33	148	P	P	20 19 54.3	+0.1
	comp=Z,41nm,0.8s,baz=330,slow=10.0,SNR=52						
	comp=Z,41nm,0.8s						
WB2	Warramunga Arr	21.34	148	P	P	20 19 53.3	-1.0
WB2				IAmb	IAmb	20 19 58.5	
	comp=Z,67nm,0.9s						
WR0	Warramunga Arr	21.45	148	P	P	20 19 54.9	-0.6
BKNI	Bangkinang	21.69	275	P	P	20 19 58.3	+0.1
BKNI				IAmb	IAmb	20 20 02.8	
	comp=Z,172nm,1.2s						
BKNI	Bangkinang	21.69	275	P	P	20 20 00.5	+2.3
	comp=Z,82nm,1.1s						
PPI	Padang Panjang	22.27	273	P	P	20 20 04.9	+0.5
	comp=Z,46nm,1.4s						
KULM	Kulim	23.07	288	P	P	20 20 12.8	0.0
KULM	Kulim	23.07	288	P	P	20 20 14.8	+2.0
MNSI	Mandailing Nat	23.20	276	P	P	20 20 15.5	+1.4
	comp=Z,1μmcomp=Z,56nm,0.7s						
SISI	Saibi	23.54	271	P	P	20 20 18.2	+0.7
	comp=Z,74nm,0.8s						
COEN	Coen	23.61	122	P	P	20 20 19.4	+1.2
WRKA	Warakurna	23.71	167	P	P	20 20 19.8	+0.7
UBPT	Khong Chiam	24.03	316	P	P	20 20 21.8	-0.3
UBPT				IAmb	IAmb	20 20 25.0	
	comp=Z,69nm,1.2s						
UBPT	Khong Chiam	24.03	316	P	P	20 20 24.6	+2.5
RPSI	Rantau Prapat	24.12	281	P	P	20 20 23.1	+0.1
RPSI				IAmb	IAmb	20 20 32.0	
	comp=Z,126nm,1.4s						
PSI	Prapat	24.14	281	LR	LR	20 32 19.9	
	comp=Z,291nm,18.1s,baz=80,slow=43						
PSI	Prapat	24.14	281	P	P	20 20 23.1	-0.3
PSI				pmax	pmax		
	comp=Z,125nm,1.4s						
QIZ	Qiongzhong	24.25	329	P	P	20 20 24.9	+0.8
QIZ				IAmb	IAmb	20 20 26.6	
	comp=Z,52nm,1.2s						
QIZ	Qiongzhong	24.25	329	P	P	20 20 25.8	+1.7
QIZ				S	S	20 24 46.5	+4.9
QIZ				LR	LR		
	comp=N,110nm,4.9s						
QIZ				LR	LR		
	comp=E,230nm,5.5s						
QIZ				LR	LR		
	comp=Z,91nm,10.6s						
AS31	Alice Springs	24.30	154		P	20 20 24.7	+0.1
ASAR	Alice Springs	24.30	154	P	P	20 20 24.4	-0.2
ASAR	Alice Springs	24.30	154	P	P	20 20 25.3	+0.7
	comp=Z,20nm,0.7s,baz=328,slow=7.6,SNR=220						
ASAR				PcP	PcP	20 24 05.3	+0.9
	comp=Z,0.9nm,0.5s,baz=342,slow=1.8,SNR=5.8						
ASAR				LR	LR	20 30 60.0	
	comp=Z,96nm,18.9s,baz=340,slow=39						
	comp=Z,20nm,0.7s						
ASAR	Alice Springs	24.30	154	P	P	20 20 24.4	-0.2
AS01	Alice Springs	24.32	154	P	P	20 20 25.9	+1.1
MANU	Manus Island	24.72	91	P	P	20 20 28.2	-0.4
QIS	Mount Isa	24.92	140	P	P	20 20 31.2	+1.0
MEEK	Meekatharra	24.96	189	P	P	20 20 31.9	+1.3
TPUB	Ta-pu	25.06	356	P	P	20 20 30.5	-0.9
TPUB				IAmb	IAmb	20 20 38.2	
	comp=Z,36nm,0.9s						
TPUB	Ta-pu	25.06	356	P	P	20 20 34.4	+3.0
YULB	Yu-li	25.11	357	P	P	20 20 30.2	-1.6
SRIT	Nakonsritamara	25.19	295	P	P	20 20 32.0	-0.7
GSI	Gunungsitoli	25.25	277	P	P	20 20 32.4	-0.9
GSI	Gunungsitoli	25.25	277	P	P	20 20 36.2	+3.0
GSI	Gunungsitoli	25.25	277	P	P	20 20 35.1	+1.9
	comp=Z,61nm,1.7s						
SSLB	Suanglung	25.52	356	P	P	20 20 34.1	-1.5
SSLB				IAmb	IAmb	20 20 41.7	
	comp=Z,35nm,1.0s						
SSLB	Suanglung	25.52	356	P	P	20 20 38.7	+3.1
PMG	Port Moresby	25.53	108	P	P	20 20 33.4	-2.4
PMG				IAmb	IAmb	20 20 40.4	
	comp=Z,45nm,1.1s						
PMG	Port Moresby	25.53	108	LR	LR	20 33 16.2	
	comp=

comp=Z,10.0nm,0.7s
XAN Xi'an 37.94 341 P P 20 22 25.2 +0.6
XAN pmax pmax
comp=Z,13nm,1.2s
XAN pmax pmax
comp=Z,120nm,4.0s
ARPS Mount Arapiles 39.03 155 P P 20 22 35.2 +1.6
INU Inuyama 39.36 19 P P 20 22 35.7 -0.7
KSRS Korea Array 39.40 7 P P 20 22 36.0 -0.7
comp=Z,0.8nm,0.8s,baz=185,slow=9.8,SNR=5.3
KSRS PcP **PcP 20 24 45.9 +1.2**
comp=Z,2.2nm,1.1s,baz=167,slow=2.2,SNR=5.2
comp=Z,0.8nm,0.8s
ARMA Armidale 39.54 139 IAmb IAmb 20 22 41.3
comp=Z,39nm,1.3s
HNS HongShan 39.72 350 ⇑P **P 20 22 40.6 +1.3**
HNS pmax pmax
comp=Z,15nm,1.1s
SHL Shillong 40.34 314 P **P 20 22 44.6 -0.3**
SHL Shillong 40.34 314 P **P 20 22 44.6 -0.3**
SHL pmax pmax
comp=Z,17nm,1.0s
MAJO Matsushiro 40.84 19 P P 20 22 47.8 -0.9
MAJO Matsushiro 40.84 19 P P 20 22 47.8 -0.9
MAJO pmax pmax
comp=Z,14nm,1.1s
MJAR Matsushiro Arr 40.84 19 P P 20 22 47.2 -1.5
comp=Z,9.5nm,0.9s,baz=196,slow=8.6,SNR=14
MJAR LR LR 20 38 35.6
comp=Z,84nm,21.3s,baz=205,slow=35
comp=Z,9.5nm,0.9s
MJB9 Matsu-Tunnel 40.84 19 P P 20 22 48.3 -0.4
TOO Toolangi 41.32 152 P P 20 22 52.8 +0.1
TOO Toolangi 41.32 152 P P 20 22 52.8 +0.1
TOO pmax pmax
comp=Z,10.0nm,1.4s
CAN Canberra 41.36 147 P P 20 22 53.2 +0.1
CAN Canberra 41.36 147 P P 20 22 54.4 +1.3
CAN Canberra 41.36 147 P P 20 22 53.2 +0.1
CAN pmax pmax
comp=Z,15nm,0.9s
BJT Baijiatuau 42.07 353 P P 20 23 02.1 +3.4
BJI Beijing 42.09 353 P P 20 22 59.4 +0.6
BJI PcP **PcP 20 24 55.2 +1.9**
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI pmax pmax
comp=Z,43nm,3.6s
PALK Pallekele 42.80 283 LR LR 20 41 18.0
comp=Z,120nm,19.9s,baz=94,slow=37
HHC Hu-ho-hao-te 43.66 348 *e*P **P 20 23 14.3 +2.6**
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,99nm,4.9s
XLT XiLinHaoTe 45.91 353 *e*P **P 20 23 28.6 -0.9**
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,97nm,4.0s
GTA Gaotai 46.08 335 P **P 20 23 33.5 +2.4**
GTA sP sP 20 23 39.6 -1.3
GTA PcP **PcP 20 25 08.7 +1.5**
GTA pmax pmax
comp=Z,12nm,1.1s
GTA LR LR
comp=N,70nm,17.5s
GTA LR LR
comp=E,100nm,18.3s
GTA LR LR
comp=Z,100nm,21.9s
USRK Ussuriysk Ar. 46.59 9 P 20 23 34.0 -0.7
USRK Ussuriysk Ar. 46.59 9 P P 20 23 34.3 -0.5
comp=Z,4.3nm,0.7s,baz=152,slow=6.5,SNR=7.8
USRK LR LR 20 44 23.8
comp=Z,40nm,19.0s,baz=156,slow=38
comp=Z,4.3nm,0.7s
MDJ Mudanjiang 46.66 7 IAmb IAmb 20 23 38.5
comp=Z,8.1nm,0.6s
MDJ Mudanjiang 46.66 7 P **P 20 23 35.0 -0.3**
MDJ pmax pmax
comp=Z,7.0nm,1.1s
DZM Mont Dzumac 47.09 119 LR LR 20 43 50.7
comp=Z,58nm,18.7s,baz=12,slow=37
ASAJ Asahikawa 49.11 19 LR LR 20 45 00.1
comp=Z,56nm,20.9s,baz=204,slow=37
ASAJ Asahikawa 49.11 19 P **P 20 23 54.0 -0.4**
ASAJ pmax pmax
comp=Z,8.0nm,0.8s
JKA Kamikawa-asahi 49.11 19 P **P 20 23 54.0 -0.4**
ULN Ulaanbaatar 51.33 347 P **P 20 24 11.3 0.0**
ULN Ulaanbaatar 51.33 347⇓*e*P **P 20 24 12.8 +1.5**
ULN pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 51.46 346 P **P 20 24 12.2 -0.1**
comp=Z,4.1nm,1.0s,baz=167,slow=8.4,SNR=10
SONM PcP **PcP 20 25 26.3 -0.2**
comp=Z,4.0nm,0.9s,baz=169,slow=2.6,SNR=5.9
comp=Z,4.1nm,1.0s
KLR Kul'dur 51.47 8 *i*P **P 20 24 10.1 -2.0**
KLR pmax pmax
comp=Z,5.0nm,1.6s
YSS Yuzhno-Sakhali 51.70 17⇑*e*P **P 20 24 13.7 -0.2**
YSS *e*S **S 20 31 33.2 -0.9**
YSS pmax pmax
comp=Z,10.0nm,1.0s
HEH HeiHe 52.05 4 *e*P **P 20 24 15.5 -0.9**
HEH pmax pmax
comp=Z,10.0nm,0.8s
WMQ Urumqi 55.17 330 *e*P **P 20 24 41.1 +1.6**
WMQ pmax pmax
comp=Z,19nm,0.9s
ZEA Zeya 55.51 3 *e*P **P 20 24 44.4 +2.7**
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,0.5s
MOY Mondy 56.37 344 *e*P **P 20 24 49.0 +0.9**
MOY pmax pmax
comp=Z,11nm,1.6s
SHLS Shalkode 59.22 324 *e*P **P 20 25 06.2 -2.0**
SHLS pmax pmax
comp=Z,9.0nm,1.3s
SHLS Shalkode 59.22 324 *e*P **P 20 25 06.3 -2.0**
comp=Z,8.8nm,1.3s
KSH Kashi 59.30 319 P **P 20 25 09.8 +0.9**
KSH pP pP 20 25 12.7 -3.4
KSH pmax pmax
comp=Z,6.0nm,0.9s
UZB Uzynbulak 59.47 324 *e*P **P 20 25 09.6 -0.4**
UZB Uzynbulak 59.47 324 *e*P **P 20 25 09.7 -0.3**
KPKS Kokpek 59.86 324 *e*P **P 20 25 12.0 -0.6**
KPKS Kokpek 59.86 324 *e*P **P 20 25 12.1 -0.6**
KDJ Kajisay 59.98 322 P **P 20 25 13.8 +0.2**
KDJ Kajisay 59.98 322 P **P 20 25 13.8 +0.2**
KDJ pmax pmax
comp=Z,4.0nm,1.0s
MK31 Makanchi Array 59.98 329 P **P 20 25 12.0 -1.3**
MK31 PcP **PcP 20 25 59.0 -0.4**
MK31 Makanchi Array 59.98 329*de*P **P 20 25 13.3 0.0**
MKAR Makanchi Array 59.98 329 P **P 20 25 12.1 -1.2**
MKAR PcP **PcP 20 25 58.4 -1.0**
MKAR Makanchi Array 59.98 329 P **P 20 25 13.1 -0.2**
comp=Z,5.1nm,0.7s,baz=125,slow=6.4,SNR=29
MKAR PcP **PcP 20 25 60.0 +0.6**
comp=Z,4.8nm,0.7s,baz=128,slow=4.1,SNR=8.8
comp=Z,5.1nm,0.7s
MAKZ Makanchi 60.15 329 P **P 20 25 13.5 -1.0**
MAKZ Makanchi 60.15 329 P **P 20 25 13.5 -1.0**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
TNSS Tian-Shan 60.63 323 *e*P **P 20 25 17.4 -0.9**
TNSS Tian-Shan 60.63 323 *e*P **P 20 25 17.5 -0.9**
MDOK Medeo 60.65 323 *e*P **P 20 25 17.8 -0.3**
MDOK Medeo 60.65 323 *e*P **P 20 25 17.9 -0.3**
KUU Kurty 61.49 324 *e*P **P 20 25 22.8 -0.8**
KUU Kurty 61.49 324 *e*P **P 20 25 22.9 -0.8**
KBL Kabul 61.85 311 P **P 20 25 25.6 -0.9**
KBL Kabul 61.85 311 P **P 20 25 25.6 -0.9**
KBL pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 61.91 321 P **P 20 25 25.9 -0.8**
AAK Ala-Archa 61.91 321⇓*e*P **P 20 25 27.9 +1.2**
AAK pmax pmax
comp=Z,13nm,2.6s
PETK Petropavlovsk- 62.10 23 P **P 20 25 26.5 -1.1**
comp=Z,2.6nm,0.9s,baz=225,slow=7.8,SNR=6.1
PETK LR LR 20 54 57.8
comp=Z,17nm,18.8s,baz=182,slow=39
comp=Z,2.6nm,0.9s
SGDS Sogindy 62.27 322 *e*P **P 20 25 28.4 -0.6**
SGDS Sogindy 62.27 322 *e*P **P 20 25 28.4 -0.6**
GAR Garm 62.86 316 P **P 20 25 32.0 -1.1**
GAR IAmb IAmb 20 25 36.8
comp=Z,20nm,1.1s
SIMJ Simiganj 63.62 315 P **P 20 25 36.7 -1.4**
ZAA0 Zalesovo Array 63.82 336 P **P 20 25 38.1 -0.9**
ZALV Zalesovo Beam 63.82 336 P **P 20 25 37.0 -2.0**
ZALV Zalesovo Beam 63.82 336 P **P 20 25 37.6 -1.3**
comp=Z,4.5nm,0.8s,baz=108,slow=4.7,SNR=14
comp=Z,4.5nm,0.8s
ZALV Zalesovo Beam 63.82 336 *i*P **P 20 25 38.5 -0.5**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
YAK Yakutsk 63.92 4 *e*P **P 20 25 38.7 -0.7**
YAK *e**PP **sP 20 25 47.6 -1.8**
YAK *e* 20 26 13.6
YAK *e* 20 27 59.8
YAK *e*PPP PPP 20 29 30.1
YAK *e*S **S 20 34 12.7 -0.9**
YAK *e**SS sS 20 34 31.7 +6.3
YAK *e* 20 35 30.9
YAK *e*SS **SS 20 38 19.0 -3.4**
YAK pmax pmax
comp=Z,17nm,1.6s
YAK pmax pmax
comp=N,5.0nm,1.6s
YAK pmax pmax
comp=E,2.0nm,1.8s
YAK pmax pmax
comp=Z,114nm,3.9s
YAK pmax pmax
comp=N,61nm,5.2s
YAK pmax pmax
comp=E,124nm,7.8s
YAK smax smax
comp=N,82nm,5.4s
YAK smax smax
comp=E,55nm,6.2s
DZA Taraz 64.04 320 *e*P **P 20 25 40.2 -0.5**
DZA Taraz 64.04 320 *e*P **P 20 25 40.2 -0.5**
KURBB Kurchatov Arra 64.36 331 P **P 20 25 42.1 -0.5**
comp=E,6.3nm,0.9s,baz=137,slow=6.2,SNR=31
KURBB PP **PP 20 28 03.2 -1.1**
comp=E,1.3nm,1.1s,baz=124,slow=8.1,SNR=4.5
comp=E,6.3nm,0.9s
KURK Kurchatov 64.38 331 P **P 20 25 41.4 -1.3**
KURK IAmb IAmb 20 25 46.6
comp=Z,14nm,0.8s
KURK Kurchatov 64.38 331*ce*P **P 20 25 41.5 -1.2**
KURK pmax pmax
comp=Z,16nm,0.8s
IUG Iuzhnay 64.52 319 *e*P **P 20 25 43.7 -0.3**
IUG pmax pmax
comp=Z,12nm,1.2s
IUG Iuzhnay 64.52 319 *e*P **P 20 25 43.7 -0.3**
comp=Z,12nm,1.2s
KKAR Karatay Array 64.67 320 P **P 20 25 43.1 -1.7**
KKAR Karatay Array 64.67 320 P **P 20 25 43.1 -1.7**
BRLS Borolday 65.07 320 *e*P **P 20 25 47.1 -0.3**
BRLS Borolday 65.07 320 *e*P **P 20 25 47.2 -0.3**
MA2 Magadan 65.09 15 LR LR 20 57 56.3
comp=Z,20nm,18.0s,baz=154,slow=40
MA2 Magadan 65.09 15⇓*e*P **P 20 25 47.0 -0.1**
MA2 pmax pmax
comp=Z,12nm,1.0s
BRZS Berezniki 66.99 328 *e*P **P 20 25 59.6 0.0**
BRZS Berezniki 66.99 328 *e*P **P 20 25 59.6 0.0**
MSEY Mahe Island 67.08 266 P **P 20 25 59.5 -1.5**
MSEY IAmb IAmb 20 26 02.5
comp=Z,19nm,1.4s
MSEY Mahe Island 67.08 266 P **P 20 25 59.5 -1.5**
MSEY pmax pmax
comp=Z,19nm,1.4s
SEY Seymchan 68.36 14 *e*P **P 20 26 07.3 -0.7**
SEY pmax pmax
comp=Z,7.0nm,1.9s
BVAR Borovoye Array 69.86 329 P **P 20 26 16.5 -1.0**
comp=Z,5.3nm,0.9s,baz=130,slow=7.5,SNR=14
comp=Z,5.3nm,0.9s
BRVK Borovoye 69.93 329 P **P 20 26 16.5 -1.3**
BRVK Borovoye 69.93 329*ce*P **P 20 26 16.6 -1.3**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 73.47 2 P **P 20 26 37.0 -1.8**
TIXI IAmb IAmb 20 26 41.5
comp=Z,21nm,1.5s
TIXI Tiksi 73.47 2 LR LR 21 00 22.8
comp=Z,54nm,21.8s,baz=190,slow=37
TIXI Tiksi 73.47 2⇓*i*P **P 20 26 37.5 -1.3**
TIXI pmax pmax
comp=Z,14nm,1.5s
ABKAR Akbulak array 73.95 323 P **P 20 26 40.1 -2.0**
NRIK Noril'sk 74.89 348 P **P 20 26 46.7 -0.5**
comp=Z,1.9nm,0.5s,baz=113,slow=4.1,SNR=5.5
NRIK LR LR 21 01 51.2
comp=Z,45nm,20.2s,baz=146,slow=38
comp=Z,1.9nm,0.5s
NRIK Noril'sk 74.89 348*ce*P **P 20 26 47.6 +0.4**
NRIK pmax pmax
comp=Z,4.0nm,0.6s
AKTO Aktyubinsk 75.55 323 P **P 20 26 49.8 -1.6**
comp=Z,2.2nm,0.8s,baz=92,slow=6.6,SNR=5.6
comp=Z,2.2nm,0.8s
BILL Bilibino 75.96 16⇓*e*P **P 20 26 54.9 +1.6**
BILL pmax pmax
comp=Z,11nm,2.3s
MAW Mawson 77.16 200 LR LR 20 55 14.2
comp=Z,58nm,21.0s,baz=51,slow=31
ARTI Arti 77.58 329 P **P 20 27 01.4 -1.3**
ARTI Arti 77.58 329 P **P 20 27 01.6 -1.1**
comp=Z,5.1nm,0.9s,baz=111,slow=5.7,SNR=5.5
comp=Z,5.1nm,0.9s
ARTI Arti 77.58 329*c i*P **P 20 27 02.9 +0.2**
ARTI 20 29 51.4
ARTI S **S 20 36 54.7 +2.0**
ARTI SS **SS 20 41 48.6 -3.8**
ARTI pmax pmax
comp=Z,13nm,1.5s
VNDA Vanda 78.50 172 P **P 20 27 07.6 +0.2**
VNDA Vanda 78.50 172 P **P 20 27 07.3 -0.1**
comp=Z,3.4nm,0.8s,baz=303,slow=6.8,SNR=18
comp=Z,3.4nm,0.8s
NIKH Nikolski High 78.69 35 P **P 20 27 09.9 +1.0**
baz=252
SPIA Saint Paul Isl 79.34 31 P **P 20 27 13.5 +1.1**
baz=250
SBA Scott Base 79.45 171 P **P 20 27 13.3 +0.6**
SBA IAmb IAmb 20 27 17.2
comp=Z,22nm,1.4s
SBA Scott Base 79.45 171 P **P 20 27 13.3 +0.6**
SBA pmax pmax
comp=Z,22nm,1.5s
P08K Saint George I 79.50 31 P **P 20 27 13.5 +0.3**
baz=250
UNV Unalaska Valle 80.30 35 P **P 20 27 18.9 +1.3**
baz=253
GAMB Gambell 81.11 24 P **P 20 27 22.1 +0.3**
baz=247
M11K Mekoryuk 82.38 28 P **P 20 27 29.2 +0.7**
baz=253
KIRV Kirov 82.87 330 P **P 20 27 30.2 -0.9**
comp=Z,9.9nm,0.7s,baz=123,slow=3.7,SNR=4.2
comp=Z,9.9nm,0.7s
KIRV Kirov 82.87 330*c i*P **P 20 27 30.8 -0.3**
TNA Tin City 83.27 23 P **P 20 27 33.9 +0.8**
baz=250
K13K Kusilvak Mount 83.54 27 P **P 20 27 35.4 +0.8**
baz=254
M13K Dall Lake 83.74 29 P **P 20 27 37.2 +1.6**
baz=255
GURO Guroymak-BITLI 83.78 309 IAmb IAmb 20 27 39.5
comp=Z,16nm,1.4s
KBZ Khabaz 83.84 314 P **P 20 27 35.6 -0.9**
comp=Z,3.3nm,0.9s,baz=135,slow=10.0,SNR=7.2
comp=Z,3.3nm,0.9s
KBZ Khabaz 83.84 314⇓*e*P **P 20 27 34.7 -1.8**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
F14K Arctic Creek 83.88 23 P **P 20 27 37.5 +1.3**
baz=252
ANM Nome 83.99 24 P **P 20 27 38.2 +1.4**
baz=253
SHA1 Shidzhatmaz 84.02 314⇓*e*P **P 20 27 36.1 -1.6**
SDPT Sand Point 84.07 34 P **P 20 27 38.6 +1.2**
baz=258
J14K Nanvaranak Lak 84.26 26 P **P 20 27 39.7 +1.5**
baz=255
L14K Kuka Creek 84.29 28 P **P 20 27 40.6 +2.3**
baz=256
N14K Kuskokwak Cree 84.43 29 P **P 20 27 40.6 +1.5**
baz=257
CHNA Chernabura Isl 84.46 35 P **P 20 27 40.7 +1.3**
baz=259
O14K Tigyukauivet M 84.49 30 P **P 20 27 39.8 +0.4**
baz=257
M14K Bethel 84.49 29 P **P 20 27 40.2 +0.8**
baz=256,SNR=10
KIBK Kibwezi 84.52 268 IAmb IAmb 20 27 45.3
comp=Z,9.5nm,1.0s
F15K North Star Dit 84.61 23 P **P 20 27 40.5 +0.6**
baz=253
G15K Niukluk 84.66 24 P **P 20 27 41.2 +1.0**
baz=254
S14K Fog Glacier 84.76 33 P **P 20 27 41.2 +0.1**
baz=259
L15K Ungalak Mounta 84.93 28 P **P 20 27 42.5 +0.8**
baz=257
K15K Wolf Creek Mou 85.05 27 P **P 20 27 43.8 +1.5**
baz=257
M15K Kasigluk River 85.09 29 P **P 20 27 43.2 +0.8**
baz=258
C16K Lisburne Hills 85.10 21 P **P 20 27 43.9 +1.6**
baz=253
O15K Ungalikthiuk R 85.19 30 P **P 20 27 43.5 +0.5**
baz=258
N15K Kwethluk River 85.27 29 P **P 20 27 43.7 +0.3**
baz=258
H16K Elim 85.31 25 P **P 20 27 44.3 +0.9**
baz=256
KMBO Kilima Mbogo 85.35 269 P **P 20 27 44.1 -1.0**
KMBO IAmb IAmb 20 27 47.6
comp=Z,15nm,1.2s
KMBO Kilima Mbogo 85.35 269 P **P 20 27 45.9 +0.8**
comp=Z,7.4nm,1.1s,baz=72,slow=4.7,SNR=11
comp=Z,7.4nm,1.1s
KMBO Kilima Mbogo 85.35 269 P **P 20 27 44.1 -1.0**
KMBO pmax pmax
comp=Z,15nm,1.3s
CHGN Chignik 85.39 33 P **P 20 27 44.2 +0.2**
baz=260
G16K Koyuk River 85.45 24 P **P 20 27 44.9 +0.8**
baz=256
J16K Anvik River 85.69 26 P **P 20 27 45.9 +0.5**
baz=257
VRH Novokhopyorsk 85.72 321 *e*P **P 20 27 44.4 -1.4**
VRH pmax pmax
comp=Z,12nm,1.1s
D17K Noatak River 85.76 22 P **P 20 27 46.0 +0.4**
baz=255
I17K Unalakleet 85.79 26 P **P 20 27 46.7 +0.9**
baz=257
L16K Owhat River 85.88 28 P **P 20 27 47.0 +0.6**
L16K IAmb IAmb 20 27 52.3
comp=Z,14nm,1.1s
L16K Owhat River 85.88 28 P **P 20 27 47.5 +1.1**
baz=258
RDOG Red Dog Mine 85.92 21 P **P 20 27 47.9 +1.5**
baz=255
N16K Nishlik Lake 85.97 29 P **P 20 27 47.7 +0.8**
baz=259
M16K Timber Creek 85.98 29 P **P 20 27 48.1 +1.2**
baz=259
R16K Pilot Point 86.06 32 P **P 20 27 48.4 +1.1**
baz=260
E17K Hotham Inlet 86.07 22 P **P 20 27 48.5 +1.3**
baz=256
P16K Nushagak River 86.10 31 P **P 20 27 49.2 +1.8**
baz=260
F17K Baldwin Pennin 86.14 23 P **P 20 27 49.5 +1.9**
baz=256
O16K Kokwok River B 86.14 30 P **P 20 27 48.5 +0.8**
O16K IAmb IAmb 20 27 52.8
comp=Z,27nm,1.1s
O16K Kokwok River B 86.14 30 P **P 20 27 48.6 +0.8**
baz=260
G17K Kiwalik Mounta 86.17 24 P **P 20 27 49.4 +1.7**
baz=257
H17K Granite Mounta 86.35 25 IAmb IAmb 20 27 54.1
comp=Z,14nm,0.8s
H17K Granite Mounta 86.35 25 P **P 20 27 50.8 +2.1**
baz=258,SNR=5.7
J17K VABM Dome 86.39 26 IAmb IAmb 20 27 53.9
comp=Z,18nm,1.2s
J17K VABM Dome 86.39 26 P **P 20 27 50.6 +1.7**
baz=259
L17K Donlin 86.50 28 P **P 20 27 50.9 +1.5**
baz=260
K17K Iditarod 86.61 27 IAmb IAmb 20 27 54.9
comp=Z,20nm,1.2s
K17K Iditarod 86.61 27 P **P 20 27 51.2 +1.2**
baz=259
E18K Tukpahlearik C 86.61 22 P **P 20 27 51.2 +1.3**
baz=257
B18K Kokolik River 86.64 20 P **P 20 27 51.1 +1.2**
baz=256
C18K Utukok River 86.68 21 P **P 20 27 51.3 +1.0**
C18K IAmb IAmb 20 27 57.1
comp=Z,17nm,1.3s
C18K Utukok River 86.68 21 P **P 20 27 51.7 +1.4**
baz=256
Q16K King Salmon 86.72 31 P **P 20 27 51.8 +1.3**
baz=261
N17K Nushagak Hills 86.75 29 P **P 20 27 52.1 +1.4**
baz=260
M17K Holitna River 86.78 28 P **P 20 27 52.0 +1.2**
baz=260
F18K Selawik 86.80 23 P **P 20 27 51.9 +1.1**
baz=258
CHIR Chirikof Islan 86.86 34 P **P 20 27 53.0 +1.6**
baz=262
P17K Kvichak River 86.91 31 P **P 20 27 52.4 +1.0**
baz=261
H18K Honhosa River 87.03 25 IAmb IAmb 20 27 56.4
comp=Z,18nm,1.1s
H18K Honhosa River 87.03 25 P **P 20 27 52.8 +0.8**
baz=259
G18K Tagagawik 87.06 24 IAmb IAmb 20 27 55.8
comp=Z,14nm,1.3s
G18K Tagagawik 87.06 24 P **P 20 27 53.2 +1.1**
baz=259
Q17K Contact Creek 87.06 32 P **P 20 27 53.2 +0.9**
baz=262
A19K Wainwright 87.09 19 P **P 20 27 54.1 +2.0**
baz=256
VORD Divnogorie 87.21 321 *e*P **P 20 27 50.1 -3.0**
VORD pmax pmax
comp=Z,8.0nm,1.0s
L18K Granite Mounta 87.26 28 IAmb IAmb 20 27 58.9
comp=Z,10.0nm,0.8s
L18K Granite Mounta 87.26 28 P **P 20 27 54.5 +1.3**
baz=261
VSR Storozhevoye 87.31 321 *e*P **P 20 27 50.3 -3.3**
VSR pmax pmax
comp=Z,8.0nm,1.0s
VORR Voronezh 87.34 322 P **P 20 27 52.3 -1.4**
VORR pmax pmax
comp=Z,9.0nm,0.6s
LODK Lodwar 87.38 273 P **P 20 27 55.0 +0.1**
LODK IAmb IAmb 20 27 57.4
comp=Z,13nm,1.4s
N18K Kilae Creek 87.41 29 P **P 20 27 54.7 +0.8**
baz=262
J18K Innoko River 87.45 26 IAmb IAmb 20 27 59.8
comp=Z,6.5nm,0.8s
J18K Innoko River 87.45 26 P **P 20 27 55.0 +1.0**
baz=261
P18K Big Mountain, 87.56 30 P **P 20 27 56.1 +1.4**
baz=262
M18K Stony River 87.56 28 P **P 20 27 55.5 +0.9**
baz=262
Q18K Katmai Hardscr 87.57 31 P **P 20 27 55.3 +0.5**
baz=262
F19K Shaleruckik Mo 87.58 23 P **P 20 27 56.1 +1.5**
baz=260
GCSA Galena City Sc 87.58 25 P **P 20 27 55.4 +0.8**
baz=261

LPSR	Galich'ya Gora	87.61	323	eP	P	20 27 54.0	-1.0
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
O18K	Koktuh Hills	87.63	30	P	P	20 27 55.6	+0.6
	baz=262						
TTA	Tatalina	87.68	27	P	P	20 27 55.4	+0.2
	baz=262						
R18K	Karluk	87.73	32	P	P	20 27 55.7	+0.3
	baz=263						
G19K	Purcell Mounta	87.73	24	IAmb	IAmb	20 28 00.6	
	comp=Z,14nm,0.8s						
G19K	Purcell Mounta	87.73	24	P	P	20 27 56.6	+1.2
	baz=260,SNR=13						
SII	Sitkinak Islan	87.75	33	P	P	20 27 56.8	+1.1
	baz=263						
D19K	Kuna River	87.75	21	IAmb	IAmb	20 28 03.9	
	comp=Z,6.4nm,0.8s						
D19K	Kuna River	87.75	21	P	P	20 27 56.9	+1.5
	baz=259						
ANN	Anapa	87.86	315	eP	P	20 27 53.8	-2.6
ANN				e*PP	PcP	20 27 56.5	-1.7
ANN				eS	SKSac	20 38 20.2	-3.2
ANN				pmax	pmax		
	comp=Z,34nm,1.0s						
H19K	Roundabout Mou	87.89	24	P	P	20 27 57.6	+1.6
	baz=261,SNR=26						
E19K	Redstone River	87.90	22	IAmb	IAmb	20 28 02.3	
	comp=Z,9.9nm,0.8s						
E19K	Redstone River	87.90	22	P	P	20 27 57.6	+1.5
	baz=260						
J19K	Poorman	88.01	26	IAmb	IAmb	20 28 01.8	
	comp=Z,14nm,1.0s						
J19K	Poorman	88.01	26	P	P	20 27 57.4	+0.7
	baz=262						
L19K	White Mountain	88.11	28	P	P	20 27 58.5	+1.2
	baz=262						
N19K	Bonanza Creek	88.11	29	P	P	20 27 58.7	+1.3
	baz=263						
QSPA	South Pole Qui	88.11	180	P	P	20 27 57.3	0.0
QSPA				IAmb	IAmb	20 27 59.0	
	comp=Z,14nm,1.4s						
QSPA	South Pole Qui	88.11	180	P	P	20 27 57.1	-0.3
	comp=Z,6.3nm,1.0s,baz=265,slow=1.1,SNR=12						
	comp=Z,6.3nm,1.0s						
KLMR	Klimovskoe	88.22	331	eP	P	20 27 49.9	-7.8
KLMR				pmax	pmax		
	comp=Z,16nm,1.5s						
M19K	Big River Lodg	88.29	28	P	P	20 27 59.8	+1.7
	baz=263						
Q19K	Cape Douglas,	88.31	31	P	P	20 27 59.3	+1.0
	baz=264						
OHAK	Old Harbor	88.31	33	P	P	20 27 59.5	+1.3
	baz=264						
D20K	Etivluk River	88.33	21	P	P	20 27 58.7	+0.5
	baz=261						
B20K	Meade River	88.36	20	P	P	20 27 59.8	+1.6
	baz=260						
F20K	Avaraart Lake	88.41	23	IAmb	IAmb	20 28 03.8	
	comp=Z,23nm,1.9s						
F20K	Avaraart Lake	88.41	23	P	P	20 28 00.1	+1.6
	baz=262						
E20K	Nigu River	88.42	22	P	P	20 28 00.3	+1.6
	baz=261						
H20K	Anotleneega Mo	88.53	24	P	P	20 28 00.6	+1.5
	baz=262,SNR=9.8						
L20K	Farewell, AK	88.59	27	P	P	20 28 00.7	+1.2
	baz=263						
P19K	Oil Pt	88.60	30	P	P	20 28 00.4	+0.8
	baz=264						
I20K	Naaghedeneel	88.61	25	P	P	20 28 00.8	+1.3
	baz=263						
K20K	Telida	88.61	27	P	P	20 28 01.3	+1.7
	baz=263						
BNN	Bunyan	88.63	309	P	P	20 28 00.2	-0.1
BNN				IAmb	IAmb	20 28 02.2	
	comp=Z,21nm,1.1s						
MMAI	Mount Meron Ar	88.66	303	LR	LR	21 12 32.2	
	comp=Z,42nm,20.4s,baz=92,slow=39						
J20K	Nowinta River	88.68	26	IAmb	IAmb	20 28 05.1	
	comp=Z,11nm,1.0s						
J20K	Nowinta River	88.68	26	P	P	20 28 00.7	+0.8
	baz=263						
EIL	Elat	88.88	300	LR	LR	21 12 49.7	
	comp=Z,44nm,19.4s,baz=68,slow=39						
M20K	Styx River	88.88	28	IAmb	IAmb	20 28 11.6	
	comp=Z,23nm,1.2s						
M20K	Styx River	88.88	28	P	P	20 28 02.1	+1.1
	baz=264						
Q20K	Shuyak Island	88.92	31	P	P	20 28 01.7	+0.6
	baz=265						
C21K	Knifeblade Rid	89.05	21	P	P	20 28 02.8	+1.2
	baz=262						
B21K	Ikpikpuk River	89.17	20	P	P	20 28 03.9	+1.9
	baz=263						
G21K	Allakaket	89.21	23	IAmb	IAmb	20 28 07.4	
	comp=Z,13nm,1.0s						
G21K	Allakaket	89.21	23	P	P	20 28 04.1	+1.8
	baz=264						
OBN	Obninsk	89.23	325⇑	eP	P	20 27 59.4	-3.2
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,33nm,15.0s						
A22K	Sinclair Lake	89.24	19	P	P	20 28 04.0	+1.7
	baz=262						
SPCR	Spurr Chakacha	89.25	29	P	P	20 28 04.5	+1.8
	baz=265						
E21K	Killik River	89.26	22	P	P	20 28 04.1	+1.5
	baz=263						
F21K	Alatna River	89.30	23	P	P	20 28 04.0	+1.3
	baz=264						
HOM	Homer	89.40	30	P	P	20 28 04.4	+1.1
	baz=265						
H21K	Melozitna Rive	89.41	24	IAmb	IAmb	20 28 08.5	
	comp=Z,16nm,1.1s						
H21K	Melozitna Rive	89.41	24	P	P	20 28 04.4	+1.1
	baz=264,SNR=10						
PPLA	Purkeypile	89.41	27	P	P	20 28 04.2	+0.7
	baz=265						
CHUM	Lake Minchumin	89.45	26	P	P	20 28 04.5	+1.0
	baz=265						
CAST	Castle Rocks	89.51	27		P	20 28 05.0	+1.2
CAST	Castle Rocks	89.51	27	P	P	20 28 04.1	+0.3
	baz=265						
SKT	Skwentna	89.64	28	P	P	20 28 05.4	+0.9
	baz=266						
B22K	Teshekpuk Lake	89.67	20	P	P	20 28 05.0	+0.6
	baz=264						
CAPN	Captain Cook N	89.73	29	P	P	20 28 05.7	+0.9
	baz=266						
D22K	Ayikyak River	89.77	21	P	P	20 28 06.1	+1.2
	baz=264						
F22K	John River	89.83	23	P	P	20 28 06.3	+1.0
	baz=265						
BRSE	Bradley Lake S	89.86	30	P	P	20 28 06.3	+0.8
	baz=266						
SUA	Susitna One	89.98	29	P	P	20 28 06.9	+0.8
	baz=266						
H22K	Ishtalitna Cre	90.02	24	P	P	20 28 06.6	+0.4
	baz=266						
E22K	Anaktuvuk Pass	90.03	22	IAmb	IAmb	20 28 11.4	
	comp=Z,14nm,1.1s						
E22K	Anaktuvuk Pass	90.03	22	P	P	20 28 07.5	+1.4
	baz=265						
G22K	Bettles	90.04	23	P	P	20 28 07.4	+1.2
	baz=266						
BPAW	Bear Paw Mtn.	90.05	26	P	P	20 28 06.5	+0.2
	baz=266						
CUT	Chulitna	90.26	28	P	P	20 28 08.2	+0.9
	baz=267						
M22K	Willow	90.29	28	P	P	20 28 08.2	+0.8
	baz=267						
TRF	Thorofare Moun	90.31	27	P	P	20 28 08.5	+0.8
	baz=267						
BR131	Keskin Array S	90.38	310⇓	eP	P	20 28 07.9	-0.7
BRTR	Keskin Array B	90.38	310	P	P	20 28 07.3	-1.3
	comp=Z,1.0nm,1.0s,baz=118,slow=5.1,SNR=7.7						
	comp=Z,1.0nm,1.0s						
O22K	Cooper Landing	90.42	30	P	P	20 28 09.0	+1.0
	baz=267						
RC01	Rabbit Creek A	90.44	29	P	P	20 28 08.4	+0.2
	baz=267						
D23K	Nanushuk River	90.50	21	IAmb	IAmb	20 28 12.7	
	comp=Z,15nm,1.3s						
D23K	Nanushuk River	90.50	21	P	P	20 28 09.2	+0.8
	baz=266						
SEW	Seward	90.53	30	P	P	20 28 08.7	+0.2
	baz=267						
COLD	Coldfoot	90.58	23	IAmb	IAmb	20 28 13.9	
	comp=Z,11nm,0.9s						
COLD	Coldfoot	90.58	23	P	P	20 28 09.6	+0.9
	baz=267,SNR=10						
C23K	Itkillik River	90.58	20	IAmb	IAmb	20 28 13.8	
	comp=Z,13nm,1.1s						
G23K	Bananza Creek	90.61	23		P	20 28 08.7	-0.3
G23K				IAmb	IAmb	20 28 14.3	
	comp=Z,16nm,0.9s						
G23K	Bananza Creek	90.61	23	P	P	20 28 09.9	+1.0
	baz=267,SNR=14						
PMR	Palmer	90.76	29	P	P	20 28 10.3	+0.7
	baz=268						
H23K	Yukon River	90.76	24	IAmb	IAmb	20 28 14.8	
	comp=Z,8.7nm,0.8s						
H23K	Yukon River	90.76	24	P	P	20 28 10.4	+0.7
	baz=267						
I23K	Minto, Yukon-K	90.81	25	P	P	20 28 10.2	+0.5
I23K	Minto, Yukon-K	90.81	25	P	P	20 28 10.6	+0.8
	baz=267						
E23K	Chandalar	90.84	22	IAmb	IAmb	20 28 14.9	
	comp=Z,20nm,1.4s						
E23K	Chandalar	90.84	22	P	P	20 28 10.7	+0.7
	baz=267						
TOLK	Toolik Lake Re	90.89	21	P	P	20 28 11.0	+0.9
	baz=267						
NEA2	Nenana	90.91	26	IAmb	IAmb	20 28 14.9	
	comp=Z,9.8nm,1.1s						
NEA2	Nenana	90.91	26	P	P	20 28 11.0	+0.7
	baz=268						
MCK	McKinley	90.93	26	IAmb	IAmb	20 28 14.4	
	comp=Z,14nm,1.0s						
MCK	McKinley	90.93	26	P	P	20 28 11.7	+1.3
	baz=268						
KNK	Knik Glacier	91.07	29	P	P	20 28 12.5	+1.3
	baz=268						
PWL	Port Wells	91.11	29	P	P	20 28 12.6	+1.2
	baz=268						
SML	Sawmill	91.14	28	IAmb	IAmb	20 28 18.5	
	comp=Z,14nm,0.9s						
SML	Sawmill	91.14	28	P	P	20 28 12.7	+1.2
	baz=268						
D24K	Happy Valley	91.18	21	P	P	20 28 11.5	+0.1
D24K				IAmb	IAmb	20 28 16.7	
	comp=Z,8.4nm,1.0s						
D24K	Happy Valley	91.18	21	P	P	20 28 12.3	+0.8
	baz=268						
C24K	Franklin Bluff	91.24	20	P	P	20 28 12.4	+0.7
C24K				IAmb	IAmb	20 28 16.6	
	comp=Z,13nm,1.1s						
C24K	Franklin Bluff	91.24	20	P	P	20 28 12.8	+1.1
	baz=268						
E24K	Your Creek	91.27	22	P	P	20 28 12.6	+0.6
	baz=268						
WRH	Wood River Hil	91.33	26	IAmb	IAmb	20 28 13.2	
	comp=Z,22nm,1.5s						
M23K	Glacier View	91.43	28	P	P	20 28 13.3	+0.5
	baz=269						
H24K	Noodor Dome	91.45	24	IAmb	IAmb	20 28 18.9	
	comp=Z,9.7nm,1.1s						
H24K	Noodor Dome	91.45	24	P	P	20 28 13.5	+0.7
	baz=269						
CCB	Clear Creek Bu	91.45	26	IAmb	IAmb	20 28 17.3	
	comp=Z,32nm,1.8s						
F24K	Squaw Lake	91.48	23		P	20 28 13.7	+0.8
F24K				IAmb	IAmb	20 28 18.5	
	comp=Z,28nm,1.8s						
F24K	Squaw Lake	91.48	23	P	P	20 28 13.8	+0.8
	baz=269,SNR=7.0						
P23K	Montague Islan	91.56	30	P	P	20 28 13.7	+0.3
	baz=269						
SCM	Sheep Creek Mo	91.62	28	P	P	20 28 14.5	+0.8
	baz=269						
POKR	Poker Plat Res	91.62	25	P	P	20 28 14.1	+0.5
	baz=269						
G24K	Hadweenzic Riv	91.63	23	P	P	20 28 14.2	+0.6
	baz=269						
GLI	Glacier Island	91.72	29	P	P	20 28 14.5	+0.4
	baz=269						
HDA	Harding Lake	91.82	26	IAmb	IAmb	20 28 17.7	
	comp=Z,8.3nm,1.0s						
HDA	Harding Lake	91.82	26	P	P	20 28 15.5	+0.9
	baz=270						
ILAR	Eielson Array	91.85	25	P	P	20 28 14.3	-0.4
	comp=Z,2.0nm,1.0s,baz=229,slow=5.2,SNR=13						
	comp=Z,2.0nm,1.0s						
D25K	Kavik River	92.05	21	IAmb	IAmb	20 28 26.6	
	comp=Z,8.7nm,1.4s						
D25K	Kavik River	92.05	21	P	P	20 28 16.4	+0.8
	baz=270						
M24K	Tolsona, Glenn	92.17	28	P	P	20 28 16.8	+0.6
	baz=270						
G25K	Bearman Lake	92.17	23	P	P	20 28 17.5	+1.5
	baz=270						
KLU	Klutina	92.29	29	P	P	20 28 17.4	+0.5
	baz=270						
H25L	Birch Creek	92.29	24	P	P	20 28 17.1	+0.4
	baz=271						
K24K	Donnelly Dome	92.34	26	P	P	20 28 17.4	+0.4
	baz=271						
F25K	Christian Rive	92.34	23	IAmb	IAmb	20 28 27.4	
	comp=Z,13nm,1.6s						
F25K	Christian Rive	92.34	23	P	P	20 28 16.9	0.0
	baz=271						
E25K	Arctic Village	92.36	22	IAmb	IAmb	20 28 22.4	
	comp=Z,7.0nm,0.9s						
E25K	Arctic Village	92.36	22	P	P	20 28 17.1	+0.1
	baz=271						
EYAK	Cordova Ski Ar	92.38	30	P	P	20 28 18.3	+1.1
	baz=270						
PRP	Porcupine Dome	92.42	25	P	P	20 28 18.4	+1.0
	baz=271						
PAX	Paxson	92.49	27	P	P	20 28 18.2	+0.5
PAX				IAmb	IAmb	20 28 22.0	
	comp=Z,8.6nm,1.1s						
PAX	Paxson	92.49	27	P	P	20 28 18.3	+0.5
PAX				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PAX	Paxson	92.49	27	P	P	20 28 18.4	+0.6
	baz=271						
J25K	Salcha River,	92.50	26	P	P	20 28 18.1	+0.4
	baz=271						
C26K	Camden Bay	92.56	20	P	P	20 28 18.6	+0.8
	baz=272						
HARP	HAARP	92.64	28	P	P	20 28 19.0	+0.6
	baz=271						
RIDG	Independent Ri	92.75	26		P	20 28 18.7	-0.3
RIDG	Independent Ri	92.75	26	P	P	20 28 19.6	+0.7
	baz=272						
BMAR	Burnt Mountain	92.75	23	P	P	20 28 19.1	+0.3
F26K	Sheenjek River	92.91	22	P	P	20 28 20.5	+0.9
	baz=272						
N25K	Chitina, Valde	92.92	29	P	P	20 28 20.4	+0.6
	baz=272						
BMRM	Bremner River	92.94	29	P	P	20 28 20.0	+0.2
	baz=272						
C27K	Jago River	92.98	20	P	P	20 28 20.7	+0.9
	baz=273						
KAIM	Kayak Island	93.06	30	P	P	20 28 20.7	+0.4
	baz=272						
G26K	Porcupine Rive	93.08	23	IAmb	IAmb	20 28 26.9	
	comp=Z,9.6nm,1.1s						
G26K	Porcupine Rive	93.08	23	P	P	20 28 21.1	+0.9
	baz=273						
DOT	Dot Lake	93.10	26	IAmb	IAmb	20 28 23.9	
	comp=Z,19nm,1.4s						
SCRK	Sand Creek	93.12	26	IAmb	IAmb	20 28 24.9	
	comp=Z,11nm,1.3s						
SCRK	Sand Creek	93.12	26	P	P	20 28 21.3	+0.6
	baz=272						
J26L	Joseph Creek	93.29	26	IAmb	IAmb	20 28 25.4	
	comp=Z,12nm,1.2s						
J26L	Joseph Creek	93.29	26	P	P	20 28 22.3	+0.9
	baz=273						
I26K	Coal Creek Min	93.42	25	P	P	20 28 22.1	+0.2
I26K	Coal Creek Min	93.42	25	P	P	20 28 22.8	+0.9
	baz=273						
L26K	Log Cabin Wild	93.45	27	P	P	20 28 23.3	+1.1
	baz=273						
AKASG	Malin Array Be	93.57	321	P	P	20 28 21.5	-1.4
	comp=Z,1.0nm,0.7s,baz=74,slow=4.5,SNR=4.8						
	comp=Z,1.0nm,0.7s						
BGLC	Bering Glacier	93.62	30	P	P	20 28 23.6	+0.7
	baz=273						
M26K	Nabesna, AK	93.65	28	P	P	20 28 24.4	+1.3
	baz=273						
LSZ	Lusaka	93.81	255	P	P	20 28 24.4	-0.5
LSZ	Lusaka	93.81	255	LR	LR	21 09 22.9	
	comp=Z,106nm,18.2s,baz=111,slow=35						
LSZ	Lusaka	93.81	255	P	P	20 28 24.4	-0.5
LSZ				pmax	pmax		
	comp=Z,45nm,2.0s						
E27K	Coleen River	93.84	22	IAmb	IAmb	20 28 28.4	
	comp=Z,9.5nm,1.1s						
E27K	Coleen River	93.84	22	P	P	20 28 24.8	+1.0
	baz=275						
G27K	Doyon Strip	93.93	23	IAmb	IAmb	20 28 29.2	
	comp=Z,8.0nm,1.2s						
G27K	Doyon Strip	93.93	23	P	P	20 28 25.1	+0.8
	baz=274						
K27K	Chicken	93.96	26	P	P	20 28 25.0	+0.6
	baz=274						
D27M	Malcolm River	93.98	21	P	P	20 28 25.3	+0.8
	baz=275						
H27K	Steamboat Moun	94.03	24		P	20 28 25.6	+0.8
H27K				IAmb	IAmb	20 28 29.9	
	comp=Z,9.8nm,1.0s						
H27K	Steamboat Moun	94.03	24	P	P	20 28 25.6	+0.8
	baz=275,SNR=9.3						
I27K	Kandik River	94.04	24	P	P	20 28 25.7	+0.9
	baz=274,SNR=15						
L27K	Beaver Creek,	94.14	27	IAmb	IAmb	20 28 30.3	
	comp=Z,19nm,1.2s						
L27K	Beaver Creek,	94.14	27	P	P	20 28 25.8	+0.5
	baz=274						
BCAR	Beaver Creek A	94.16	27	P	P	20 28 25.7	+0.3
M27K	Edge Creek, AK	94.17	28	P	P	20 28 26.2	+0.6
	baz=274						
MESA	MESA	94.28	30	P	P	20 28 26.4	+0.2
	baz=274						
E28M	Babbage River	94.56	21	IAmb	IAmb	20 28 31.6	
	comp=Z,6.9nm,1.1s						
E28M	Babbage River	94.56	21	P	P	20 28 28.1	+1.0
	baz=277						
BVCY	Beaver Creek	94.64	28	P	P	20 28 28.5	+1.0
	baz=275						
FINES	FINESS Array B	94.74	331	P	P	20 28 26.9	-1.1
	comp=Z,1.6nm,0.9s,baz=111,slow=10,SNR=4.1						
	comp=Z,1.6nm,0.9s						
FINES	FINESS Array B	94.74	331	i P	P	20 28 29.7	+1.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
I28M	Miner Creek	94.75	25	P	P	20 28 28.8	+0.7
	baz=276,SNR=18						
D28M	Stokes Point	94.76	21	P	P	20 28 29.3	+1.4
	baz=277						
YUK3	Moose Creek	94.88	28	P	P	20 28 29.8	+0.8
	baz=275						
SPITS	Spitsbergen Ar	95.09	349	P	P	20 28 28.4	-1.0
	comp=Z,7.6nm,1.0s,baz=112,slow=6.4,SNR=4.0						
	comp=Z,7.6nm,1.0s						
O28M	Mount Upton	95.10	29	P	P	20 28 30.0	-0.1
	baz=275						
DAWY	Dawson	95.14	26	IAmb	IAmb	20 28 34.3	
	comp=Z,16nm,1.2s						
DAWY	Dawson	95.14	26	P	P	20 28 30.8	+0.9
	baz=276,SNR=5.7						
E29M	Blow River	95.19	22	P	P	20 28 31.0	+1.1
	baz=278						
YUK8	Steele Glacier	95.26	29	P	P	20 28 30.1	-0.6
	baz=276						
H29M	Whitestone	95.30	24	P	P	20 28 30.8	+0.2
	baz=278						
G29M	Pine Creek	95.35	23	P	P	20 28 31.3	+0.6
G29M	Pine Creek	95.35	23	P	P	20 28 32.1	+1.4
	baz=278						
I29M	Ogilvie Camp,	95.44	25	P	P	20 28 32.0	+0.8
	baz=278,SNR=14						
J29N	Klondike Camp	95.60	25	P	P	20 28 32.4	+0.4
J29N	Klondike Camp	95.60	25	P	P	20 28 32.9	+0.9
	baz=278,SNR=9.1						
BOSA	Boshof	95.61	241	LR	LR	21 08 01.4	
	comp=Z,66nm,18.7s,baz=50,slow=33						
LBTB	Lobatse	95.61	245	LR	LR	21 10 29.4	
	comp=Z,35nm,18.0s,baz=116,slow=35						
PNL	Peninsula	95.61	30	P	P	20 28 31.6	-0.5
	baz=276						
M29M	Somme Creek	95.74	28	IAmb	IAmb	20 28 38.4	
	comp=Z,10.0nm,0.9s						
M29M	Somme Creek	95.74	28	P	P	20 28 34.0	+1.3
	baz=277,SNR=5.1						
YUK4	Talbott Arm	95.79	29	P	P	20 28 34.5	+1.4
	baz=277						
L29M	L29M	95.81	27		P	20 28 33.1	+0.1
L29M	L29M	95.81	27	P	P	20 28 33.5	+0.5
	baz=277,SNR=11						
EPYK	Eagle Plains	95.94	23	P	P	20 28 34.8	+1.3
	baz=279						
YUK6	Outpost Mounta	95.97	29	P	P	20 28 34.5	+0.5
	baz=277						
K29M	Barlow Dome	95.98	26	IAmb	IAmb	20 28 38.6	
	comp=Z,10nm,1.2s						
K29M	Barlow Dome	95.98	26	P	P	20 28 34.5	+0.7
	baz=278						
G30M	tAoh Zraii Nji	96.04	23	IAmb	IAmb	20 28 37.4	
	comp=Z,11nm,1.2s						
G30M	tAoh Zraii Nji	96.04	23	P	P	20 28 34.4	+0.5
	baz=280						
F30M	Barrier River	96.10	22	IAmb	IAmb	20 28 42.3	
	comp=Z,7.4nm,0.9s						
F30M	Barrier River	96.10	22	P	P	20 28 35.1	+1.0
	baz=280						
I30M	Mount Dempster	96.26	25	P	P	20 28 35.3	+0.3
I30M				IAmb	IAmb	20 28 39.7	
	comp=Z,9.2nm,0.9s						
I30M	Mount Dempster	96.26	25	P	P	20 28 36.2	+1.1
	baz=279,SNR=5.8						
J30M	Hart River	96.39	25	P	P	20 28 35.9	+0.2
	baz=279,SNR=7.1						
HYT	Haines Junctio	96.41	29	P	P	20 28 35.7	-0.1
	baz=278						
P29M	Windy Craggy	96.45	30	P	P	20 28 37.3	+1.4
	baz=277						
M30M	Minto, Yukon	96.49	27	IAmb	IAmb	20 28 41.3	
	comp=Z,11nm,1.1s						
M30M	Minto, Yukon	96.49	27	P	P	20 28 37.5	+1.4
	baz=279						
N30M	Aishikik Lake	96.52	28	IAmb	IAmb	20 28 42.4	
	comp=Z,13nm,1.1s						
N30M	Aishikik Lake	96.52	28	P	P	20 28 36.9	+0.7
	baz=278						
P30M	Million Dollar	96.77	30	P	P	20 28 37.6	+0.2
	baz=278						
G31M	Satah River	96.80	23	P	P	20 28 38.2	+0.9
	baz=281						
F31M	Tsiigehtchic	96.90	22	IAmb	IAmb	20 28 42.8	
	comp=Z,6.8nm,0.8s						
F31M	Tsiigehtchic	96.90	22	P	P	20 28 38.7	+1.0
	baz=282						
H31M	Peel River	97.00	24	IAmb	IAmb	20 28 42.9	
	comp=Z,12nm,1.1s						
H31M	Peel River	97.00	24	P	P	20 28 39.0	+0.8
	baz=281						
O30N	Mendenhall	97.10	29	P	Pdif	20 28 39.3	+0.3
	baz=279						
N31M	Braeburn, Yuko	97.14	28	P	Pdif	20 28 39.2	+0.1
	baz=279						
S31K	Pelican	97.46	32	P	Pdif	20 28 41.7	+1.2
	baz=278						
M31M	Drury Creek, Y	97.66	27	P	Pdif	20 28 42.3	+1.0
	baz=281						
SKAG	Skagway	97.69	30	P	Pdif	20 28 42.5	+1.0
	baz=280						
WHY	Whitehorse	97.71	29	P	Pdif	20 28 42.6	+0.8
WHY	Whitehorse	97.71	29	P	Pdif	20 28 41.7	0.0
	baz=280						
FARO	Faro, Yukon	98.13	27	P	Pdif	20 28 44.3	+0.8
FARO	Faro, Yukon	98.13	27	P	Pdif	20 28 43.8	+0.3
	baz=282,SNR=12						
N32M	Quiet Lake	98.48	28	P	P	20 28 44.9	-0.2
N32M	Quiet Lake	98.48	28	P	Pdif	20 28 46.8	+1.7
	baz=282						
SNAA	Sanae	98.82	195	LR	LR	21 11 48.2	
	comp=Z,30nm,18.8s,baz=176,slow=34						
SUR	Sutherland	98.99	237	LR	LR	21 07 40.2	
	comp=Z,40nm,20.8s,baz=104,slow=32						
MMPY	Sheldon Lake,	99.00	27	P	Pdif	20 28 48.8	+1.5
	baz=284						
Q32M	Nakina River	99.33	30	P	Pdif	20 28 50.2	+1.1
	baz=282						
U33K	Whale Pass	99.44	33	P	Pdif	20 28 50.8	+1.5
	baz=281						
R33M	Jennings River	99.89	30	P	Pdif	20 28 52.8	+1.3
	baz=283						
HF

NB2 NORSAR Subarra101.85 332 P **Pdif** **20 28 58.7 -1.4**
comp=Z,1.3nm,0.9s,baz=75,slow=4.4
NOA NORSAR Array B101.85 332 P **Pdif** **20 28 58.2 -1.8**
comp=Z,0.6nm,0.8s,baz=69,slow=4.5,SNR=4.0
YKA Yellowknife Ar 106.22 24 PKKPbc PKKPbc 20 44 49.3 -5.4
comp=Z,0.7nm,0.9s,baz=108,slow=4.0,SNR=6.2
PDAR Pinedale Array 118.21 41 PKP **PKiKP** **20 33 55.7 +1.1**
comp=Z,0.4nm,0.8s,baz=342,slow=3.8,SNR=2.3
ESDC Sonseca Array 118.69 315 PKP **PKiKP** **20 33 56.1 +0.7**
comp=Z,0.1nm,0.3s,baz=104,slow=6.3,SNR=2.6
CPUP Villa Florida 152.00 180 PKPbc **PKiKP** **20 35 03.9 +0.8**
comp=Z,5.8nm,1.0s,baz=104,slow=1.4,SNR=7.3

---

*IDC **12** 20:25:50.8±1.0, 1°.64S×122°.83E, h0km, mb3.7/7, mbtmp3.8/8, ML4.3/1, Error ellipse: s-maj=46.7km s-min=16.9km az=61.0*
*DJA **12** 20:25:53.9±0.2, 2°.3S±2°×12°.3E±°, h10km, M4.2/21, mb4.3/7, MLv4.2/21*
ISC 12 20:25:56.2±0.8, **1°.80S**±0°.05×**122°.64E**±0°.05, **h35**km, **n24**, σ0**94**/25, **mb3.8**/7, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.76**	**10**	P	**Pn**	**20 26 08.7**	**-1.9**
APSI	**Ampana**	**1.33**	**312**	P	**Pn**	**20 26 18.1**	**-0.2**
KDI	**Kendari**	**2.14**	**181**	P	**Pn**	**20 26 28.4**	**-1.1**
MRSI	**Marisa**	**2.37**	**343**	P	**Pn**	**20 26 32.6**	**0.0**
KMSI	**Cibinong**	**2.71**	**30**	P	**Pn**	**20 26 38.3**	**+0.9**
PCI	**Palu**	**2.94**	**288**	P	**Pn**	**20 26 41.2**	**+0.7**
SANI	**Sanana**	**3.36**	**94**	P	**Pn**	**20 26 45.3**	**-0.9**
MPSI	**Mapaga**	**3.47**	**308**	P	**Pn**	**20 26 47.4**	**-0.4**
SPSI	**Sidrap Palu**	**3.58**	**233**	P	**Pn**	**20 26 49.7**	**+0.3**
BNSI	**Bone**	**3.62**	**224**	P	**Pn**	**20 26 48.9**	**-0.9**
BBSI	**Bau Bau**	**3.66**	**181**	P	**Pn**	**20 26 50.3**	**-0.2**
KAPI	**Kappang**	**4.30**	**222**	Pn	**Pn**	**20 26 59.8**	**+0.6**
	16nm,0.3s,baz=329,slow=3.8,SNR=26						
KAPI				Sn	**Sn**	**20 27 48.6**	**+0.4**
	22nm,0.3s,baz=26,slow=18,SNR=9.3						
	64nm,0.5s						
BKSI	**Bulukumba**	**4.31**	**216**	P	**Pn**	**20 26 58.8**	**-0.5**
NLAI	**Namlea**	**4.68**	**108**	P	**Pn**	**20 27 06.1**	**+1.7**
BSSI	**Bau Bau, Buton**	**4.82**	**206**	P	**Pn**	**20 27 05.3**	**-1.0**
MMRI	**Maumere**	**6.80**	**183**	P	**Pn**	**20 27 33.1**	**-0.5**
EDFI	**Ende, Flores**	**6.97**	**188**	P	**Pn**	**20 27 34.7**	**-1.3**
	0.1nm11nm,0.5s						
WRA	**Warramunga Arr**	**21.35**	**148**	P	**P**	**20 30 40.0**	**-0.6**
	2.5nm,0.7s,baz=330,slow=9.1,SNR=14						
	2.5nm,0.7s						
ASAR	**Alice Springs**	**24.32**	**154**	P	**P**	**20 31 11.2**	**+0.3**
	1.9nm,0.6s,baz=328,slow=7.9,SNR=27						
	1.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.80**	**312**	P	**P**	**20 32 10.6**	**+1.6**
	1.1nm,0.7s,baz=137,slow=7.2,SNR=18						
	1.1nm,0.7s						
STKA	**Stephens Creek**	**34.85**	**151**	P	**P**	**20 32 44.4**	**+0.1**
	2.0nm,0.8s,baz=328,slow=9.5,SNR=3.6						
	2.0nm,0.8s						
MKAR	**Makanchi Array**	**59.95**	**329**	P	**P**	**20 35 58.2**	**-0.9**
	0.4nm,0.6s,baz=120,slow=8.7,SNR=6.3						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**64.34**	**331**	P	**P**	**20 36 27.8**	**-0.6**
	0.3nm,0.6s,baz=138,slow=6.3,SNR=4.6						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**69.83**	**329**	P	**P**	**20 37 02.4**	**-0.8**
	0.4nm,0.6s,baz=139,slow=6.8,SNR=1.9						
	0.4nm,0.6s						

---

*IDC **12** 20:29:12.7±6.6, 6°.31S×150°.37E, h65km±58km, mb3.6/5, mbtmp4.0/6, ML1.9/1, Error ellipse: s-maj=72.1km s-min=33.6km az=113.0*
ISC 12 20:29:09.2±1.4, **6°.4S**±0°.3×**150°.7E**±0°.3, **h33**km, **n6**, σ1**31**/7, **mb3.8**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.61**	**229**	P	**Pn**	**20 30 18.1**	**+1.6**
	4.7nm,0.3s,baz=42,slow=5.1,SNR=11						
PMG				S	**Sn**	**20 31 07.2**	**-1.8**
	26nm,0.4s,baz=307,slow=21,SNR=6.4						
	28nm,0.5s						
WRA	**Warramunga Arr**	**20.83**	**228**	P	**P**	**20 33 48.1**	**-0.1**
	6.1nm,0.7s,baz=52,slow=11,SNR=37						
	6.1nm,0.7s						
ASAR	**Alice Springs**	**23.57**	**221**	P	**P**	**20 34 17.2**	**+0.2**
	1.5nm,0.8s,baz=58,slow=8.9,SNR=14						
	1.5nm,0.8s						
STKA	**Stephens Creek**	**26.75**	**197**	P	**P**	**20 34 46.5**	**+0.6**
	2.8nm,0.7s,baz=5.6,slow=11,SNR=7.4						
	2.8nm,0.7s						
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**20 41 33.2**	**-0.8**
	1.4nm,1.0s,baz=34,slow=1.7,SNR=5.6						
	1.4nm,1.0s						
ILAR	**Eielson Array**	**84.41**	**22**	P	**P**	**20 41 37.7**	**-0.3**
	0.4nm,0.8s,baz=247,slow=5.1,SNR=2.9						
	0.4nm,0.8s						

---

*WEL **12** 20:52:15.0±1.1, 33°.5±6°.6×17°.8W±2°.0, h12km, M4.2/4, mB4.6/4, ML4.7/8, MLv4.4/4, Mw(mB)3.9/4, Error ellipse: s-maj=27.1km s-min=3.4km az=106.1, confirmed*
*IDC **12** 20:52:16.8±2.8, 32°.32S×178°.34W, h0km, mb3.9/2, mbtmp3.9/3, ML3.5/1, MS3.2/2, Error ellipse: s-maj=69.8km s-min=44.7km az=128.0*
ISC 12 20:52:16.2±2.1, **32°.5S**±0°.1×**177°.9W**±0°.3, **h20**km, **n22**, σ1**07**/30, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.23**	**359**	P	**Pn**	**20 53 05.8**	**-0.1**
GLKZ				S	**Sn**	**20 53 43.5**	**-0.3**
RIZ	**Raoul Island**	**3.25**	**359**	S	**Sn**	**20 53 43.6**	**-0.6**
WMGZ	**Waiomatatini S**	**6.11**	**209**	P	**Pn**	**20 53 45.5**	**+0.1**
WMGZ				S	**Sn**	**20 54 55.8**	**+1.1**
PKGZ	**Pakihiroa**	**6.29**	**211**	P	**Pn**	**20 53 47.3**	**-0.6**
PKGZ				S	**Sn**	**20 54 59.3**	**+0.1**
HAZ	**Te Kaha**	**6.33**	**213**	P	**Pn**	**20 53 49.2**	**+0.8**
HAZ				S	**Sn**	**20 55 01.0**	**+0.8**
PUZ	**Puketiti**	**6.39**	**209**	P	**Pn**	**20 53 48.8**	**-0.5**
PUZ				S	**Sn**	**20 55 00.7**	**-1.0**
RUGZ	**Raukumara Rang**	**6.55**	**213**	P	**Pn**	**20 53 52.5**	**+0.9**
RUGZ				S	**Sn**	**20 55 05.5**	**-0.3**
TWGZ	**Tauwhareparae**	**6.59**	**210**	P	**Pn**	**20 53 51.4**	**-0.7**
TWGZ				S	**Sn**	**20 55 06.9**	**+0.2**
TKGZ	**Te Karaka**	**6.87**	**209**	S	**Sn**	**20 55 13.3**	**-0.1**
MWZ	**Matawai**	**6.92**	**212**	P	**Pn**	**20 53 58.2**	**+1.7**
MWZ				S	**Sn**	**20 55 14.3**	**-0.4**
URZ	**Urewera**	**7.05**	**214**	Pn	**Pn**	**20 53 59.8**	**+1.5**
	0.9nm,0.3s,baz=240,slow=20,SNR=1.1						
URZ				Sn	**Sn**	**20 55 16.1**	**-1.7**
	3.6nm,0.3s,baz=330,slow=3.8,SNR=9.3						
	3.1nm,0.5s						
URZ	**Urewera**	**7.05**	**214**	P	**Pn**	**20 53 58.6**	**+0.3**
URZ				S	**Sn**	**20 55 16.3**	**-1.5**
RIGZ	**Rimuhau**	**7.13**	**209**	S	**Sn**	**20 55 19.5**	**-0.5**
SNGZ	**Shannon Statio**	**7.38**	**211**	S	**Sn**	**20 55 24.8**	**-1.0**
OUZ	**Omahuta**	**7.59**	**247**	P	Pn	20 54 10.1	+4.4
RAHZ	**Arahi**	**7.60**	**211**	S	**Sn**	**20 55 29.5**	**-1.8**
BKZ	**Black Stump Fm**	**8.07**	**213**	P	**Pn**	**20 54 14.1**	**+1.8**
BKZ				S	**Sn**	**20 55 40.5**	**-2.4**
RAR	**Rarotonga**	**19.65**	**60**	LR	LR	21 03 46.8	
	comp=Z,52nm,19.3s,baz=112,slow=35						
ASAR	**Alice Springs**	**43.15**	**269**	P	**P**	**21 00 16.2**	**+0.6**
	0.9nm,0.8s,baz=108,slow=7.4,SNR=12						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**44.32**	**274**	P	**P**	**21 00 25.3**	**+0.1**
	1.5nm,0.4s,baz=114,slow=7.9,SNR=35						
	1.5nm,0.4s						
MJAR	**Matsushiro Arr**	**80.03**	**325**	LR	LR	21 36 02.0	
	comp=Z,20nm,21.1s,baz=110,slow=33						
FINES	**FINESS Array B**	**147.15**	**339**	PKPbc	**PKiKP**	**21 11 59.3**	**-0.2**
	1.4nm,0.5s,baz=57,slow=5.1,SNR=15						

---

*NEIC **12** 20:54:26.6±1.9, 24°.0S±0°.1×180°.0W±0°.2, h463km±8km, mb4.3/27, Error ellipse: s-maj=21.9km s-min=16.0km az=93.0*
*IDC **12** 20:54:30.8±1.2, 23°.92S×179°.91E, h515km±12km, mb3.3/15, mbtmp4.2/16, Error ellipse: s-maj=14.3km s-min=11.9km az=141.0*
ISC 12 20:54:31.3±0.4, **24°.03S**±0°.06×**179°.95E**±0°.09, **h526**km, **n106**, σ1**63**/119, **mb4.1**/29, **4C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.55**	**160**	P	**P**	**20 56 05.2**	**+0.7**
GLKZ				S	**S**	**20 57 19.4**	**-1.5**
MSVF	**Nonsavu**	**6.51**	**344**	P	P	20 56 05.0	-8.9
MSVF	**Nonsavu**	**6.51**	**344**	P	**P**	**20 56 12.8**	**-1.1**
	21nm,0.2s,baz=193,slow=16,SNR=15						
OUZ	**Omahuta**	**12.44**	**205**	P	**P**	**20 57 16.9**	**+2.6**
MXZ	**Matakaoa Point**	**13.56**	**186**	P	**P**	**20 57 27.6**	**+1.6**
HAZ	**Te Kaha**	**13.81**	**187**	P	**P**	**20 57 27.7**	**-0.8**
HAZ				P	**S**	**20 59 50.7**	**-3.9**
PKGZ	**Pakihiroa**	**13.89**	**186**	P	**P**	**20 57 30.6**	**+1.2**
PUZ	**Puketiti**	**14.07**	**185**	P	**P**	**20 57 33.4**	**+2.0**
PUZ				S	**S**	**20 59 59.8**	**+0.1**
TWGZ	**Tauwhareparae**	**14.20**	**186**	P	**P**	**20 57 34.0**	**+1.3**
TWGZ				P	**S**	**21 00 02.6**	**+0.3**
URZ	**Urewera**	**14.39**	**189**	P	**P**	**20 57 32.9**	**-1.8**
	41nm,0.6s,baz=81,slow=1.8,SNR=26						
URZ				S	**S**	**21 00 02.9**	**-2.9**
	6.8nm,0.5s,baz=26,slow=21,SNR=12						
URZ	**Urewera**	**14.39**	**189**	P	**P**	**20 57 32.8**	**-1.8**
URZ				S	**S**	**21 00 02.9**	**-2.9**
MWZ	**Matawai**	**14.41**	**188**	P	**P**	**20 57 34.6**	**-0.2**
MWZ				S	**S**	**21 00 04.5**	**-1.8**
RTZ	**Ruatahuna**	**14.76**	**189**	P	P	20 57 33.0	-5.6
HIZ	**Hauiti**	**15.08**	**196**	P	**P**	**20 57 47.6**	**+5.8**
BKZ	**Black Stump Fm**	**15.37**	**190**	P	**P**	**20 57 40.0**	**-4.9**
BKZ	**Black Stump Fm**	**15.37**	**190**	P	**P**	**20 57 44.3**	**-0.7**
BKZ				S	**S**	**21 00 19.5**	**-4.8**
SNVZ	**South Ngauruho**	**15.55**	**193**	P	**P**	**20 57 46.9**	**+0.1**
BFZ	**Birch Farm**	**16.89**	**190**	P	**P**	**20 57 58.7**	**-1.3**
BFZ				S	**S**	**21 00 49.2**	**-1.3**
MRZ	**Mangatainoka R**	**16.99**	**191**	P	**P**	**20 57 57.5**	**-3.4**
MRZ				S	**S**	**21 00 53.1**	**+1.1**
MRZ	**Mangatainoka R**	**16.99**	**191**	P	**P**	**20 57 57.9**	**-3.0**
MRZ				S	**S**	**21 00 48.5**	**-3.6**
QRZ	**Quartz Range**	**17.87**	**199**	P	**P**	**20 58 09.6**	**+0.5**
NNZ	**Nelson**	**18.00**	**196**	P	**P**	**20 58 10.4**	**+0.2**
MRNZ	**Matariki Terra**	**18.34**	**197**	P	**P**	**20 58 12.9**	**-0.3**
THZ	**Tophouse**	**18.64**	**197**	P	**P**	**20 58 17.8**	**+1.8**
KHZ	**Kahutara**	**19.09**	**195**	P	**P**	**20 58 20.2**	**+0.1**
GVZ	**Greta Valley S**	**19.74**	**195**	P	**P**	**20 58 26.0**	**0.0**
LTZ	**Lake Taylor**	**19.75**	**197**	P	**P**	**20 58 25.4**	**-0.8**
LTZ	**Lake Taylor**	**19.75**	**197**	P	**P**	**20 58 27.2**	**+1.0**
INZ	**Inchbonnie**	**19.93**	**199**	P	**P**	**20 58 28.3**	**+0.6**
RPZ	**Rata Peaks**	**20.95**	**198**	P	**P**	**20 58 38.3**	**+1.2**
	8.1nm,0.6s,baz=6.1,slow=1.9,SNR=5.5						
	8.1nm,0.6s						
ARMA	**Armidale**	**25.93**	**250**	P	**P**	**20 59 21.1**	**-0.7**
ARMA				IAmb	IAmb	20 59 50.1	
	comp=Z,15nm,1.4s						
EIDS	**Eidsvold**	**26.24**	**261**	P	**P**	**20 59 23.5**	**-0.9**
EIDS				IAmb	IAmb	20 59 42.1	
	comp=Z,24nm,1.4s						
CAN	**Canberra**	**29.04**	**240**	P	**P**	**20 59 49.6**	**+0.7**
CAN				IAmb	IAmb	20 59 56.7	
	comp=Z,10nm,1.1s						
TOO	**Toolangi**	**32.34**	**237**	P	**P**	**21 00 17.7**	**+0.5**
PMG	**Port Moresby**	**34.49**	**289**	P	**P**	**21 00 35.2**	**-0.4**
PMG				IAmb	IAmb	21 00 36.5	
	comp=Z,16nm,0.9s						
STKA	**Stephens Creek**	**34.63**	**248**	P	**P**	**21 00 36.9**	**+0.3**
STKA	**Stephens Creek**	**34.63**	**248**	P	**P**	**21 00 36.6**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=99,slow=10,SNR=5.4						
	comp=Z,1.2nm,0.6s						
COEN	**Coen**	**36.09**	**279**	P	**P**	**21 00 49.6**	**+0.7**
COEN				IAmb	IAmb	21 00 51.0	
	comp=Z,11nm,1.1s						
BBOO	**Buckleboo**	**39.35**	**247**	P	**P**	**21 01 14.5**	**-0.8**
BBOO				IAmb	IAmb	21 01 43.1	
	comp=Z,23nm,1.4s						
AS31	**Alice Springs**	**41.97**	**261**	P	**P**	**21 01 36.3**	**-0.1**
ASAR	**Alice Springs**	**41.97**	**261**	P	**P**	**21 01 36.0**	**-0.3**
ASAR	**Alice Springs**	**41.97**	**261**	P	**P**	**21 01 36.5**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=95,slow=7.9,SNR=21						
ASAR				ScP	**ScP**	**21 06 22.2**	**+2.4**
	comp=Z,1.9nm,0.8s,baz=96,slow=4.0,SNR=12						
ASAR				S	**S**	**21 07 22.3**	**+5.2**
	comp=Z,0.4nm,0.8s,baz=104,slow=15,SNR=2.5						
	comp=Z,4.1nm,0.8s						
WR0	**Warramunga Arr**	**42.16**	**266**	P	**P**	**21 01 36.5**	**-1.4**
WB0	**Warramunga Arr**	**42.34**	**267**	P	**P**	**21 01 38.5**	**-0.9**
WB0				IAmb	IAmb	21 01 39.5	
	comp=Z,6.5nm,0.7s						
WRA	**Warramunga Arr**	**42.35**	**266**	P	**P**	**21 01 38.3**	**-1.1**
WRA	**Warramunga Arr**	**42.35**	**266**	P	**P**	**21 01 39.1**	**-0.3**
	comp=Z,4.3nm,0.6s,baz=91,slow=6.0,SNR=36						
WRA				ScP	**ScP**	**21 06 23.2**	**+1.8**
	comp=Z,1.7nm,0.7s,baz=99,slow=3.7,SNR=8.6						
WRA				S	**S**	**21 07 18.2**	**-4.4**
	comp=Z,0.6nm,1.0s,baz=91,slow=15,SNR=2.3						
	comp=Z,4.3nm,0.6s						
FORT	**Forrest**	**46.22**	**250**	P	**P**	**21 02 08.6**	**-0.5**
KNRA	**Kununurra**	**48.64**	**270**	P	**P**	**21 02 27.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**50.77**	**266**	P	**P**	**21 02 42.8**	**-0.4**
VNDA	**Vanda**	**54.25**	**185**	P	**P**	**21 03 08.5**	**+1.4**
VNDA				PcP	**PcP**	**21 04 04.0**	**+0.9**
VNDA	**Vanda**	**54.25**	**185**	P	**P**	**21 03 08.9**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=8.6,slow=7.0,SNR=2.2						
	comp=Z,0.4nm,0.6s						
MBWA	**Marble Bar**	**55.30**	**260**	P	**P**	**21 03 14.7**	**-0.7**
MBWA				IAmb	IAmb	21 03 15.0	
	comp=Z,23nm,1.2s						
MORW	**Morawa**	**56.79**	**250**	P	**P**	**21 03 24.4**	**-1.2**
MORW				IAmb	IAmb	21 04 02.2	
	comp=Z,20nm,1.5s						
CASY	**Casey**	**59.98**	**206**	P	**P**	**21 03 46.1**	**-0.3**
CASY				IAmb	IAmb	21 03 50.6	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**66.06**	**180**	P	**P**	**21 04 26.9**	**+1.2**
QSPA				IAmb	IAmb	21 04 29.6	
	comp=Z,5.1nm,0.8s						
QSPA	**South Pole Qui**	**66.06**	**180**	P	**P**	**21 04 26.9**	**+1.2**
	comp=Z,4.9nm,0.6s,baz=354,slow=0.9,SNR=30						
	comp=Z,4.9nm,0.6s						
MJAR	**Matsushiro Arr**	**71.98**	**326**	P	**P**	**21 05 00.9**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=164,slow=5.0,SNR=5.1						
	comp=Z,1.8nm,0.9s						
BELA	**Belgrano 2**	**76.31**	**173**	P	**P**	**21 05 25.9**	**+0.3**
BELA				IAmb	IAmb	21 05 27.1	
	comp=Z,3.9nm,0.8s						
MAW	**Mawson**	**77.61**	**200**	P	**P**	**21 05 34.0**	**+1.3**
KSRS	**Korea Array**	**78.31**	**320**	P	**P**	**21 05 37.5**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=124,slow=6.6,SNR=4.9						
	comp=Z,0.6nm,0.6s						
TROLL	**Troll, Antarti**	**84.20**	**181**	⇑P	**P**	**21 06 07.3**	**+0.3**
	comp=Z,181nm,0.4s						
SNAA	**Sanae**	**84.54**	**179**	⇑P	**P**	**21 06 08.7**	**+0.1**
	comp=Z,1.7nm,0.2s						
SNAA	**Sanae**	**84.54**	**179**	P	**P**	**21 06 07.9**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=226,slow=8.0,SNR=11						
	comp=Z,1.0nm,0.5s						
VNA3	**Neumayer Olymp**	**84.75**	**177**	⇑P	**P**	**21 06 09.7**	**+0.3**
	comp=Z,0.3nm,0.2s						
NVAR	**Mina Array Bea**	**84.88**	**44**	P	**P**	**21 06 11.9**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=240,slow=4.2,SNR=4.6						
	comp=Z,1.1nm,0.8s						
VNA2	**Neumayer--Watz**	**85.17**	**178**	⇑P	**P**	**21 06 12.1**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=187,slow=3.1						
TUC	**Tucson**	**86.63**	**52**	P	**P**	**21 06 20.6**	**+1.4**
TUC				IAmb	IAmb	21 06 22.6	
	comp=Z,9.2nm,1.2s						
SEY	**Seymchan**	**89.38**	**348**	P	**P**	**21 06 31.4**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=123,slow=5.5,SNR=8.2						
	comp=Z,1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**21 06 35.0**	**+2.0**
	comp=Z,0.8nm,0.9s,baz=126,slow=4.3,SNR=6.7						
	comp=Z,0.8nm,0.9s						
TXAR	**Lajitas Array**	**90.54**	**58**	P	**P**	**21 06 38.6**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=246,slow=4.3,SNR=20						
	comp=Z,1.5nm,0.7s						
BSUT	**Blindstream Ca**	**90.90**	**45**	P	**P**	**21 06 40.4**	**+1.2**
BSUT				IAmb	IAmb	21 06 41.7	
	comp=Z,4.5nm,0.9s						
L26K	**Log Cabin Wild**	**91.49**	**16**	P	**P**	**21 06 39.3**	**-1.7**
ILAR	**Eielson Array**	**92.17**	**14**	P	**P**	**21 06 42.4**	**-1.6**
	comp=Z,0.5nm,1.0s,baz=205,slow=7.9,SNR=2.4						
	comp=Z,0.5nm,1.0s						
PDAR	**Pinedale Array**	**92.81**	**44**	P	**P**	**21 06 48.1**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=215,slow=1.8,SNR=5.8						
	comp=Z,0.5nm,0.7s						
ISCO	**Idaho Springs**	**93.97**	**48**		pwP	21 08 40.3	-11
ZALV	**Zalesovo Beam**	**112.02**	**321**	PKiKP	**PKiKP**	**21 12 05.2**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=5.4,slow=1.7,SNR=3.8						
MKAR	**Makanchi Array**	**112.20**	**313**	PKiKP	**PKiKP**	**21 12 05.8**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=234,slow=1.6,SNR=6.4						
KURBB	**Kurchatov Arra**	**115.31**	**316**	PKP	**PKPdf**	**21 12 11.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=100,slow=1.7,SNR=8.1						
BVAR	**Borovoye Array**	**120.50**	**319**	PKP	**PKPdf**	**21 12 21.8**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=85,slow=1.6,SNR=7.9						
SPITS	**Spitsbergen Ar**	**125.24**	**356**	PKP	**PKPdf**	**21 12 30.8**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=45,slow=2.2,SNR=11						
ARCES	**ARCESS Array B**	**132.00**	**348**	PKP	**PKPdf**	**21 12 44.7**	**+0.5**
	comp=Z,5.5nm,1.1s,baz=64,slow=2.1,SNR=11						
FINES	**FINESS Array B**	**138.55**	**341**	PKP	**PKPdf**	**21 12 57.6**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=39,slow=1.6,SNR=5.5						
FINES				SKPbc	**SKPbc**	**21 15 42.5**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=90,slow=1.4,SNR=2.5						
NB2	**NORSAR Subarra**	**142.20**	**351**	PKP	**PKPdf**	**21 12 59.8**	**-3.4**
	comp=Z,0.6nm,0.7s,baz=20,slow=3.1						
NOA	**NORSAR Array B**	**142.20**	**351**	PKhKP	PKPpre	21 12 59.2	
	comp=Z,0.8nm,0.7s,baz=16,slow=3.0,SNR=5.7						
HFS	**Hagfors**	**142.66**	**349**	PKhKP	PKPpre	21 13 00.8	
	comp=Z,4.8nm,0.4s,baz=64,slow=3.4,SNR=52						
AKASG	**Malin Array Be**	**145.05**	**327**	PKP	**PKPdf**	**21 13 08.3**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=46,slow=4.4,SNR=14						
AKASG				SKPbc	**SKiKP**	**21 15 59.6**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=46,slow=1.6,SNR=7.2						
BNN	**Bunyan**	**146.23**	**305**		**PKPbc**	**21 13 13.5**	**+0.3**
BR131	**Keskin Array S**	**147.62**	**307**		**PKPbc**	**21 13 16.6**	**-0.2**
BRTR	**Keskin Array B**	**147.62**	**307**	PKPbc	**PKPbc**	**21 13 16.4**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=149,slow=4.8,SNR=8.5						
MMAI	**Mount Meron Ar**	**147.71**	**294**	PKPbc	**PKiKP**	**21 13 18.1**	**-0.6**
	comp=Z,5.1nm,0.6s,baz=69,slow=4.8,SNR=16						
EKA	**Eskdalemuir Ar**	**148.65**	**3**	PKPbc	**PKPbc**	**21 13 17.6**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=328,slow=2.7,SNR=11						
BUR08	**Bucovina Ar. S**	**149.04**	**326**		**PKiKP**	**21 13 21.0**	**0.0**
CSS	**Mathiatis**	**149.10**	**298**		**PKPbc**	**21 13 20.6**	**0.0**
BORA	**Eskisehir**	**149.86**	**309**		**PKPbc**	**21 13 22.2**	**0.0**
STEB	**Steborice**	**150.63**	**336**	*e*PKP	**PKiKP**	**21 13 24.3**	**+0.2**
OSTC	**Ostas**	**150.66**	**339**	*e*PKP	**PKiKP**	**21 13 24.7**	**+0.6**
CHVC	**Chvalec**	**150.69**	**339**	*e*PKP	**PKiKP**	**21 13 24.6**	**+0.4**
UPC	**Upice**	**150.77**	**339**	*e*PKP	**PKiKP**	**21 13 24.5**	**+0.2**
DPC	**Dobruska-Polom**	**150.80**	**338**	*e*PKP	**PKiKP**	**21 13 25.1**	**+0.6**
KRLC	**Kraliky**	**150.87**	**337**	*e*PKP	**PKiKP**	**21 13 25.0**	**+0.4**
CLL	**Collm**	**150.96**	**343**		**PKPbc**	**21 13 24.1**	**-0.2**
PVCC	**Panska Ves**	**151.21**	**340**	*e*PKP	**PKiKP**	**21 13 25.8**	**+0.6**
PRU	**Pruhonice**	**151.69**	**340**	*e*PKP	**PKiKP**	**21 13 26.5**	**+0.2**
KHC	**Kasperske Hory**	**152.75**	**340**	*e*PKP	**PKiKP**	**21 13 29.0**	**+0.5**
CKRC	**Cesky Krumlov**	**152.79**	**339**	*e*PKP	**PKiKP**	**21 13 28.8**	**+0.2**
GERES	**GERESS Array B**	**152.96**	**340**	PKPbc	**PKPbc**	**21 13 29.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=9.6,slow=4.8,SNR=3.6						

---

*SCB **12** 21:02:28.9±1.2, 20°.22S×67°.38W, h203km±14km, ML3.2/3, MW3.5, Error ellipse: s-maj=5.5km s-min=3.0km az=0.0*
*GUC **12** 21:02:30.0±0.6, 20°.24S×67°.63W, h229km±6km, ML3.3*
ISC 12 21:02:27.0±2.2, **20°.22S**±0°.05×**67°.42W**±0°.05, **h223**km±18km, **n24**, σ1**27**/37, **1C-2D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.63**	**272⇑**	*e*P	**Pn**	**21 03 05.7**	**+1.3**
PB08				*e*S	**S**	**21 03 33.5**	**+0.2**
PB08				IAML		21 03 37.5	
	comp=E,58nm,0.2s						
PB08	**IPOC Station P**	**1.63**	**272**	Pg

HNR Honiara 10.90 315 LR LR 21 09 41.6
comp=Z,489nm,18.4s,baz=142,slow=35
PMG Port Moresby 21.46 289 LR LR 21 15 10.0
comp=Z,239nm,19.3s,baz=149,slow=33
URZ Urewera 22.40 160 LR LR 21 16 41.0
comp=Z,270nm,18.0s,baz=72,slow=36
MRZ Mangatainoka R 24.20 165 P **P** **21 08 42.3 +1.3**
MRZ IAmb IAmb 21 08 59.3
comp=Z,30nm,1.2s
CAN Canberra 24.42 219 P **P** **21 08 43.2 0.0**
CAN IAmb IAmb 21 08 46.5
comp=Z,16nm,1.1s
STKA Stephens Creek 27.68 234 P **P** **21 09 12.9 +0.4**
STKA Stephens Creek 27.68 234 P **P** **21 09 13.3 +0.7**
comp=Z,3.7nm,0.7s,baz=58,slow=9.1,SNR=9.9
STKA LR LR 21 20 16.0
comp=Z,250nm,18.8s,baz=31,slow=36
comp=Z,3.7nm,0.7s
RAR Rarotonga 30.92 102 LR LR 21 21 36.0
comp=Z,103nm,18.4s,baz=284,slow=36
WRA Warramunga Arr 31.67 260 **P** **21 09 47.0 -1.1**
WRA Warramunga Arr 31.67 260 P **P** **21 09 46.9 -1.2**
comp=Z,3.3nm,0.9s,baz=88,slow=8.5,SNR=14
WRA LR LR 21 22 01.5
comp=Z,246nm,21.0s,baz=40,slow=35
comp=Z,3.3nm,0.9s
AS31 Alice Springs 32.20 253 P **P** **21 09 51.4 -1.4**
ASAR Alice Springs 32.20 253 P **P** **21 09 52.3 -0.5**
ASAR Alice Springs 32.20 253 P **P** **21 09 52.0 -0.7**
comp=Z,4.6nm,0.8s,baz=78,slow=8.6,SNR=46
ASAR LR LR 21 22 43.2
comp=Z,370nm,18.3s,baz=88,slow=36
comp=Z,4.6nm,0.8s
BBOO Buckleboo 32.35 236 P **P** **21 09 53.6 -0.3**
BBOO IAmb IAmb 21 10 07.9
comp=Z,14nm,1.1s
KNRA Kununurra 37.31 267 **P** **21 10 36.1 -0.8**
KNRA IAmb IAmb 21 10 37.2
comp=Z,9.6nm,0.8s
FITZ Fitzroy Crossi 39.99 262 **P** **21 10 59.4 0.0**
FITZ Fitzroy Crossi 39.99 262 P **P** **21 10 59.5 0.0**
comp=Z,18nm,0.8s,baz=109,slow=6.9,SNR=32
FITZ LR LR 21 27 26.3
comp=Z,238nm,18.6s,baz=100,slow=36
comp=Z,18nm,0.8s
TBI Tubuai 40.51 106 *e*LR LR 21 22 10.4
TBI *e*LR LR 21 22 15.8
comp=Z,614nm,24.2s
PPT2 Papeete2 40.70 97 *e*S **S** **21 17 21.9 +6.7**
comp=Z,56nm,22.0s
PPT2 *e*LR LR 21 22 23.5
comp=Z,218nm,22.8s
PPT2 *e*LR LR 21 22 26.0
comp=Z,210nm,29.8s
NWAO Narrogin (SRO) 47.78 241 LR LR 21 31 44.8
comp=Z,137nm,19.8s,baz=277,slow=36
KAPI Kappang 48.46 279 LR LR 21 32 22.1
comp=Z,72nm,20.4s,baz=73,slow=36
TAOE Nuku Hiva Isla 51.38 88 *e*LR LR 21 27 20.1
comp=Z,236nm,24.9s
RKT Rikitea 53.83 106 *e*LR LR 21 28 22.3
comp=Z,460nm,26.2s
VNDA Vanda 60.25 181 P **P** **21 13 30.9 -1.4**
comp=Z,0.3nm,0.3s,baz=357,slow=3.0,SNR=4.0
comp=Z,0.3nm,0.3s
MJAR Matsushiro Arr 60.42 333 P **P** **21 13 30.1 -3.8**
comp=Z,1.2nm,0.8s,baz=167,slow=10,SNR=4.1
comp=Z,1.2nm,0.8s
NJ2 Nanjing 67.84 316 *e*P **P** **21 14 24.4 +1.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
PSI Prapat 70.66 279 LR LR 21 46 31.9
comp=Z,68nm,18.4s,baz=158,slow=37
BNX BinXian 72.63 332 ⇓P P 21 14 56.7 +4.9
BNX pmax pmax
comp=Z,5.0nm,0.8s
QSPA South Pole Qui 72.68 180 P **P** **21 14 52.0 0.0**
comp=Z,4.2nm,1.1s,baz=44,slow=2.7,SNR=4.9
comp=Z,4.2nm,1.1s
CMAR Chiang Mai Arr 76.39 294 P **P** **21 15 14.1 -0.2**
comp=Z,0.6nm,0.7s,baz=121,slow=4.1,SNR=5.9
comp=Z,0.6nm,0.7s
PZH PanZhiHua 77.45 303 P **P** **21 15 23.1 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,6.1s
HHC Hu-ho-hao-te 77.84 320 *e*P **P** **21 15 25.1 +3.0**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,60nm,4.3s
BELA Belgrano 2 84.08 175 P **P** **21 15 54.5 -0.3**
GTA Gaotai 84.77 314 *e*P **P** **21 16 00.4 +1.4**
GTA pP sP 21 16 06.3 +0.4
GTA sP pwP 21 16 11.3 +2.0
GTA pmax pmax
comp=Z,4.0nm,1.6s
SONM Songino Array 84.84 324 P **P** **21 15 59.0 -0.1**
SONM IAmb IAmb 21 16 11.3
comp=Z,5.0nm,1.2s
SONM Songino Array 84.84 324 P **P** **21 15 58.7 -0.4**
comp=Z,2.1nm,0.9s,baz=142,slow=4.8,SNR=15
comp=Z,2.1nm,0.9s
J18K Innoko River 85.20 15 P **P** **21 16 03.0 +2.6**
J18K IAmb IAmb 21 16 05.3
comp=Z,2.6nm,1.1s
RC01 Rabbit Creek A 85.27 19 P **P** **21 16 02.5 +1.7**
H17K Granite Mounta 85.70 13 P **P** **21 16 06.8 +4.0**
H17K IAmb IAmb 21 16 17.5
comp=Z,3.2nm,0.9s
YBH Yreka Blue Hor 87.00 45 LR LR 21 49 50.3
comp=Z,64nm,18.3s,baz=327,slow=32
PFO Pinyon Flats O 88.21 54 LR LR 21 48 36.8
comp=Z,108nm,19.1s,baz=54,slow=31
ILAR Eielson Array 88.90 18 P **P** **21 16 14.4 -3.9**
comp=Z,0.4nm,0.8s,baz=207,slow=5.0,SNR=2.7
comp=Z,0.4nm,0.8s
PALK Pallekele 89.28 278 LR LR 22 00 35.7
comp=Z,30nm,18.3s,baz=163,slow=38
LPIG La Paz 89.95 65 LR LR 21 50 18.7
comp=Z,110nm,18.0s,baz=230,slow=31
TROLL Troll, Antarti 90.28 185 ⇓P **P** **21 16 25.0 0.0**
comp=Z,81nm,0.9s
SNAA Sanae 90.95 183 ⇑P **P** **21 16 28.2 +0.1**
comp=Z,45nm,1.1s
SNAA Sanae 90.95 183 P **P** **21 16 27.9 -0.2**
comp=Z,3.2nm,1.1s,baz=225,slow=2.9,SNR=3.0
comp=Z,3.2nm,1.1s
VNA3 Neumayer Olymp 91.60 181 ⇓P **P** **21 16 30.5 -0.6**
comp=Z,6.4nm,0.9s
VNA2 Neumayer–Watz 91.87 182 ⇓P **P** **21 16 31.9 -0.4**
comp=Z,3.4nm,0.8s,baz=300,slow=3.0
ANMO Albuquerque 96.46 56 LR LR 21 51 55.8
comp=Z,56nm,19.6s,baz=110,slow=30
MKAR Makanchi Array 99.37 316 P **Pdif** **21 17 05.5 -1.3**
comp=Z,0.3nm,0.6s,baz=103,slow=5.3,SNR=3.8
comp=Z,0.3nm,0.6s
ARCES ARCESS Array B 122.89 345 PKP **PKPdf** **21 22 17.5 -2.4**
comp=Z,4.2nm,0.9s,baz=350,slow=4.6,SNR=4.5
NB2 NORSAR Subarra133.26 345 PKPdf **PKPdf** **21 22 39.0 -1.0**
comp=Z,0.7nm,0.9s,baz=31,slow=1.9
NOA NORSAR Array B133.26 345 PKP **PKPdf** **21 22 38.4 -1.5**
comp=Z,0.3nm,0.7s,baz=30,slow=2.0,SNR=3.9
GERES GERESS Array B 142.15 332 PKP **PKPdf** **21 22 55.1 -1.7**
comp=Z,0.4nm,0.6s,baz=324,slow=3.0,SNR=3.9
KBA Koelnbreinsper 143.60 330 *e*PKP PKPbc 21 22 57.9 +1.0
comp=Z,7.4nm,1.2s
LESA Schwarzleotal 143.66 331 *i*PKP PKPbc 21 22 56.5 -0.4
comp=Z,4.5nm,1.1s
LESA *i*pPKiKP pPKiKP 21 23 07.4 -0.8
comp=Z,5.9nm,0.8s
ABTA Abfaltersbach 144.23 330 *e*PKP **PKPab** **21 22 57.4 -0.9**
comp=Z,5.7nm,1.3s
ABTA *ep*PKiKP **pPKiKP** **21 23 08.5 -0.8**
comp=Z,16nm,1.5s
WTTA Wattenberg 144.25 332 *i*pPKiKP **PKiKP** **21 23 09.1 +4.8**
comp=Z,2.6nm,0.5s
MOTA Moosalm 144.43 332 *i*PKP **PKPab** **21 22 58.4 -0.7**
comp=Z,7.1nm,1.2s
MOTA *ep*PKiKP **pPKiKP** **21 23 10.0 +0.2**
comp=Z,13nm,1.0s
RETA Reutte 144.47 333 *i*pPKiKP **PKiKP** **21 23 08.5 +4.0**
comp=Z,5.0nm,1.0s
SQTA Sankt Quirin 144.48 332 *e*PKP **PKPab** **21 22 59.3 0.0**
comp=Z,5.3nm,0.9s
SQTA *ep*PKiKP **pPKiKP** **21 23 10.1 +0.2**
comp=Z,9.8nm,0.8s
FETA Feichten 144.84 332 *i*PKP **PKPab** **21 23 00.2 -0.4**
comp=Z,5.0nm,0.7s
FETA *i*pPKiKP **pPKiKP** **21 23 11.4 +0.7**
comp=Z,19nm,0.9s
DAVA Damuels 145.01 333 *i*PKP **PKPbc** **21 23 00.6 -0.6**
comp=Z,12nm,1.4s
DAVA *i*pPKiKP **pPKiKP** **21 23 12.0 +1.0**
comp=Z,20nm,0.8s
ESDC Sonseca Array 156.62 344 PKPab **PKPab** **21 23 49.0 +0.3**
comp=Z,0.5nm,0.7s,baz=29,slow=4.4,SNR=6.3
TORD Torodi Ar. Bea 165.85 255 PKP **PKPdf** **21 23 28.9 -1.3**
comp=Z,40nm,0.3s,baz=148,slow=0.9,SNR=1.2

DJA 12 21:07:28.6±0.3, 2°S±3°×12°3E±°, h10km, M3.7/13, mb3.9/4, MLv3.6/13, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.89	12	P	Pg	21 07 44.9	-0.9
APSI	Ampana	1.37	317	P	Pn	21 07 52.5	-1.3
MRSI	Marisa	2.46	345	P	Pn	21 08 08.3	-0.6
PCI	Palu	2.92	290	P	Pn	21 08 15.5	+0.3
SANI	Sanana	3.41	92	P	Pn	21 08 20.6	-1.3
SPSI	Sidrap Palu	3.46	234	P	Pn	21 08 23.9	+1.3
BNSI	Bone	3.49	225	P	Pn	21 08 22.8	-0.2
MPSI	Mapaga	3.50	310	P	Pn	21 08 21.8	-1.3
BKSI	Bulukumba	4.17	216	P	Pn	21 08 32.0	-0.4
BSSI	Bau-Bau, Buton	4.68	206	P	Pn	21 08 39.6	+0.2
EDFI	Ende, Flores	6.84	187	P	Pn	21 09 09.6	+0.4

0.0nm3.8nm,1.1s

NEIC 12 21:18:35.5±1.6, 4°72S±0°10×154°79E±0°02, h453km±8km, mb4.4/82, Error ellipse: s-maj=13.9km s-min=2.6km az=176.0
IDC 12 21:18:36.2±1.1, 4°79S×154°71E, h469km±12km, mb3.7/22, mbtmp4.5/24, Error ellipse: s-maj=11.3km s-min=7.6km az=99.0
ISC 12 21:18:34.7±0.4, 4°74S±0°05×154°74E±0°06, h446km, n142, σ1°23/148, mb4.4/62, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATA	Tatamba Isabel	6.20	126	P	P	21 20 14.4	+3.4
SAVO	Savo Central	6.68	131	P	P	21 20 18.8	+2.8
HNR	Honiara	6.96	132	P	P	21 20 21.7	+2.7
HNR	Honiara	6.96	132	P	P	21 20 21.1	+2.1
	261nm,0.7s,baz=212,slow=3.5,SNR=8.4						
HNR				S	S	21 21 43.2	-1.1
	52nm,0.4s,baz=121,slow=4.9,SNR=2.1						
HNR	Honiara	6.96	132	P	P	21 20 22.1	+3.1
NGOA	Tingoa Renbel	8.58	142	P	P	21 20 38.3	+1.9
PMG	Port Moresby	8.84	238	P	P	21 20 43.4	+4.2
PMG	Port Moresby	8.84	238	P	P	21 20 41.6	+2.4
	18nm,0.8s,baz=51,slow=6.1,SNR=5.9						
PMG				S	S	21 22 23.6	+2.1
	31nm,1.2s,baz=344,slow=1.3,SNR=1.7						
PATS	Pohnpei	12.04	17	P	P	21 21 16.0	+1.9
COEN	Coen	14.62	230		P	21 21 42.3	+0.3
MTSU	Mount Surprise	16.77	217	P	P	21 21 51.8	-13
DZM	Mont Dzumac	20.63	148		P	21 22 42.9	+0.7
DZM	Mont Dzumac	20.63	148	P	P	21 22 42.6	+0.4
	26nm,0.7s,baz=296,slow=7.5,SNR=26						
	26nm,0.7s						
GUMO	Guam	20.67	332	P	P	21 22 43.9	+1.3
	50nm,0.5s,baz=197,slow=18,SNR=4.3						
	50nm,0.5s						
EIDS	Eidsvold	20.82	189	P	P	21 22 44.6	+0.8
EIDS				IAmb	IAmb	21 22 45.8	
	comp=Z,25nm,1.2s						
QIS	Mount Isa	21.54	222	P	P	21 22 46.9	-3.5
KDU	Kakadu	23.37	249	P	P	21 23 07.3	+0.3
MTN	Manton Dam	24.66	249	P	P	21 23 18.9	+0.4
MTN				IAmb	IAmb	21 23 19.1	
	comp=Z,9.4nm,1.0s						
WRAB	Tennant Creek	24.95	231	P	P	21 23 21.1	0.0
WRAB				IAmb	IAmb	21 23 22.1	
	comp=Z,15nm,0.6s						
WRA	Warramunga Arr	24.96	231		P	21 23 20.5	-0.6
WRA	Warramunga Arr	24.96	231	P	P	21 23 21.4	+0.3
	comp=Z,12nm,0.6s,baz=56,slow=9.2,SNR=93						
WRA				PcP	PcP	21 26 41.1	-1.1
	comp=Z,1.1nm,0.7s,baz=60,slow=2.9,SNR=5.0						
WRA				S	S	21 27 07.8	-4.5
	comp=Z,0.9nm,0.9s,baz=54,slow=16,SNR=4.5						
	comp=Z,12nm,0.6s						
WB1	Warramunga Ar.	24.96	231	P	P	21 23 21.4	+0.2
ARMA	Armidale	25.71	186	P	P	21 23 28.7	+0.9
ARMA				IAmb	IAmb	21 23 29.2	
	comp=Z,7.7nm,0.7s						
ARMA	Armidale	25.71	186	P	P	21 23 29.4	+1.6
INKA	Innaminka	26.48	209	P	P	21 23 35.4	+0.9
AS01	Alice Springs	27.50	225	P	P	21 23 43.3	-0.3
AS31	Alice Springs	27.53	225	P	P	21 23 43.9	0.0
ASAR	Alice Springs	27.53	225		P	21 23 43.3	-0.6
ASAR	Alice Springs	27.53	225	P	P	21 23 43.5	-0.4
	comp=Z,7.5nm,0.8s,baz=55,slow=8.5,SNR=56						
ASAR				PcP	PcP	21 26 47.6	-0.7
	comp=Z,1.0nm,0.7s,baz=57,slow=3.0,SNR=6.4						
ASAR				S	S	21 27 48.7	-3.9
	comp=Z,1.4nm,0.7s,baz=54,slow=14,SNR=8.7						
ASAR				ScP	ScP	21 29 44.5	-1.7
	comp=Z,1.3nm,0.8s,baz=57,slow=4.0,SNR=8.2						
	comp=Z,7.5nm,0.8s						
KNRA	Kununurra	27.74	245	P	P	21 23 45.6	-0.1
OOD	Oodnadatta	29.24	216	P	P	21 23 58.6	-0.1
STKA	Stephens Creek	29.68	203		P	21 24 02.7	+0.1
STKA				IAmb	IAmb	21 24 05.6	
	comp=Z,29nm,0.8s						
STKA	Stephens Creek	29.68	203	P	P	21 24 02.3	-0.3
	comp=Z,5.5nm,0.8s,baz=16,slow=7.5,SNR=16						
STKA				PcP	PcP	21 26 51.8	-1.8
	comp=Z,2.5nm,1.0s,baz=38,slow=5.1,SNR=3.6						
STKA				ScP	ScP	21 29 51.6	-1.2
	comp=Z,3.1nm,0.9s,baz=37,slow=6.5,SNR=5.6						
	comp=Z,5.5nm,0.8s						
STKA	Stephens Creek	29.68	203	P	P	21 24 02.9	+0.3
LCRK	Leigh Creek	29.95	209	P	P	21 24 05.3	+0.4
CAN	Canberra	30.89	189	P	P	21 24 14.4	+1.2
CAN				IAmb	IAmb	21 24 14.7	
	comp=Z,7.4nm,0.7s						
FITZ	Fitzroy Crossi	31.39	243		P	21 24 17.1	-0.5
FITZ	Fitzroy Crossi	31.39	243	P	P	21 24 16.7	-0.9
	comp=Z,8.7nm,0.5s,baz=64,slow=6.6,SNR=40						
	comp=Z,8.7nm,0.5s						
HTT	Hallett	32.13	205	P	P	21 24 24.8	+1.0
WRKA	Warakurna	32.44	229	P	P	21 24 25.7	-0.9
BBOO	Buckleboo	32.93	210		P	21 24 30.7	0.0
BBOO				IAmb	IAmb	21 24 31.4	
	comp=Z,19nm,0.8s						
BBOO	Buckleboo	32.93	210	P	P	21 24 30.7	0.0
TOO	Toolangi	33.76	193	P	P	21 24 38.8	+1.2
ARPS	Mount Arapiles	34.01	199	P	P	21 24 40.4	+0.7
FORT	Forrest	36.08	221		P	21 24 57.3	+0.1
MYLDM	Lahad Datu	37.51	285	P	P	21 25 08.3	-0.9
MBWA	Marble Bar	37.69	241	P	P	21 25 10.2	-0.5
MBWA				IAmb	IAmb	21 25 10.8	
	comp=Z,15nm,0.8s						
PSA00	Pilbara Seismi	37.73	240	P	P	21 25 10.5	-0.5
PSA00				IAmb	IAmb	21 25 11.5	
	comp=Z,10nm,0.8s						
PSA00	Pilbara Seismi	37.73	240	P	P	21 25 10.8	-0.3
PSA00				IAmb	IAmb	21 25 11.2	
	comp=Z,24nm,0.7s						
TAU	Tasmania Unive	38.58	189	P	P	21 25 18.6	+1.0
RTZ	Ruatahuna	39.32	152	P	P	21 25 24.4	+0.5
QRZ	Quartz Range	39.33	159	P	P	21 25 24.0	+0.2
BKZ	Black Stump Fm	39.54	153	P	P	21 25 25.6	0.0
TKNZ	Takaka Hill	39.67	158	P	P	21 25 27.4	+0.9
DSZ	Denniston Nort	39.88	160	P	P	21 25 29.3	+1.0
MRNZ	Matariki Terra	39.91	159	P	P	21 25 29.1	+0.6
NNZ	Nelson	39.98	158	P	P	21 25 30.8	+1.8
THZ	Tophouse	40.28	159	P	P	21 25 31.7	+0.1
THZ				IAmb	IAmb	21 25 35.8	
	comp=Z,25nm,0.9s						
TCW	Tory Channel	40.32	157	P	P	21 25 32.4	+0.6
MRZ	Mangatainoka R	40.38	155	P	P	21 25 32.1	-0.2
TUWZ	Tuamarina	40.38	158	P	P	21 25 33.3	+1.1
INZ	Inchbonnie	40.64	161	P	P	21 25 34.7	+0.4
INZ				IAmb	IAmb	21 26 09.9	
	comp=Z,35nm,1.3s						
BFZ	Birch Farm	40.68	155	P	P	21 25 35.0	+0.3
GVZ	Greta Valley S	41.39	160	P	P	21 25 39.4	-1.0
LBZ	Lake Benmore	41.76	163	P	P	21 25 42.6	-0.7
MQZ	McQueen's Vall	41.91	160	P	P	21 25 44.8	+0.3
MLZ	Mavora Lakes	42.13	166	P	P	21 25 45.9	-0.3
MLZ				IAmb	IAmb	21 25 49.6	
	comp=Z,20nm,1.1s						
GIRL	Giralia	42.99	242	P	P	21 25 54.5	+1.2
JMN	Monobe	43.04	334		P	21 25 54.3	+0.7
JGF	Kuroka	43.32	339	P	P	21 25 56.1	+0.3
JGF				IAmb	IAmb	21 25 57.3	
	comp=Z,25nm,1.3s						
MJAR	Matsushiro Arr	43.88	341	P	P	21 25 59.0	-1.1
	comp=Z,5.0nm,0.7s,baz=167,slow=8.3,SNR=19						
	comp=Z,5.0nm,0.7s						
MORW	Morawa	43.90	232	P	P	21 25 59.3	-1.2
MORW				IAmb	IAmb	21 26 28.3	
	comp=Z,28nm,1.4s						
JNU	Nakatsue	43.92	331	P	P	21 26 00.6	+0.1
JNU				IAmb	IAmb	21 26 01.6	
	comp=Z,14nm,0.9s						
NWAO	Narrogin (SRO)	44.82	227	P	P	21 26 06.8	-0.7
NWAO				IAmb	IAmb	21 26 13.3	
	comp=Z,38nm,1.4s						
KSRS	Korea Array	48.84	332	P	P	21 26 38.5	+0.5
	comp=Z,4.1nm,0.9s,baz=148,slow=8.5,SNR=15						
	comp=Z,4.1nm,0.9s						
JKA	Kamikawa-asahi	49.84	349	P	P	21 26 46.2	+1.0
USRK	Ussuriysk Ar.	52.84	340	P	P	21 27 07.8	+0.7
	comp=Z,5.9nm,0.9s,baz=151,slow=8.5,SNR=6.7						
	comp=Z,5.9nm,0.9s						
BNX	BinXian	55.84	337	⇑P	P	21 27 28.9	+0.5
BNX				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PETK	Petropavlovsk-	57.68	2	P	P	21 27 40.5	-0.5
	comp=Z,9.9nm,0.7s,baz=185,slow=6.9,SNR=34						
	comp=Z,9.9nm,0.7s						
CMAR	Chiang Mai Arr	59.60	294	P	P	21 27 55.9	+1.1
	comp=Z,0.5nm,0.3s,baz=120,slow=4.8,SNR=4.8						
	comp=Z,0.5nm,0.3s						
HEH	HeiHe	59.63	340	*e*P	P	21 27 53.9	-0.4
HEH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC	Hu-ho-hao-te	60.14	323	*e*P	P	21 28 00.4	+2.4
GTA	Gaotai	66.93	316	P	P	21 28 42.6	+0.8
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	Songino Array	67.31	327	P	P	21 28 44.6	+0.6
	comp=Z,2.6nm,0.7s,baz=144,slow=6.6,SNR=20						
	comp=Z,2.6nm,0.7s						
VNDA	Vanda	72.83	178		P	21 29 16.5	+0.2
VNDA				IAmb	IAmb	21 29 25.9	
	comp=Z,9.4nm,0.8s						
VNDA	Vanda	72.83	178	P	P	21 29 16.6	+0.2
	comp=Z,3.9nm,0.8s,baz=331,slow=6.5,SNR=24						
	comp=Z,3.9nm,0.8s						
BILL	Bilibino	73.06	5		P	21 29 18.0	+0.3
BILL				IAmb	IAmb	21 29 18.6	
	comp=Z,8.2nm,0.8s						
O15K	Ungalikthiuk R	73.15	23	P	P	21 29 18.7	+0.2
O15K				IAmb	IAmb	21 29 36.1	
	comp=Z,16nm,1.1s						
SBA	Scott Base	73.34	177	P	P	21 29 21.1	+1.8
K13K	Kusilvak Mount	73.40	19	P	P	21 29 20.1	+0.3
K13K				IAmb	IAmb	21 29 56.8	
	comp=Z,23nm,1.4s						
M14K	Bethel	73.45	21	P	P	21 29 19.9	-0.3
M14K				IAmb	IAmb	21 29 20.9	
	comp=Z,11nm,0.8s						
L14K	Kuka Creek	73.62	20	P	P	21 29 20.8	-0.3
L14K				IAmb	IAmb	21 29 31.5	
	comp=Z,16nm,1.2s						
N15K	Kwethluk River	73.72	22	P	P	21 29 21.5	-0.2
N15K				IAmb	IAmb	21 29 27.6	
	comp=Z,15nm,1.4s						
P16K	Nushagak River	73.77	23	P	P	21 29 21.2	-0.7
SII	Sitkinak Islan	73.84	27	P	P	21 29 22.0	-0.4
PTCN	Pitcairn Islan	74.58	115	P	P	21 29 25.1	-2.2
OHAK	Old Harbor	74.62	26	P	P	21 29 25.1	-1.8
OHAK				IAmb	IAmb	21 29 35.9	
	comp=Z,20nm,1.2s						
K15K	Wolf Creek Mou	74.69	20	P	P	21 29 27.4	+0.3
K15K				IAmb	IAmb	21 29 28.2	
	comp=Z,8.6nm,0.7s						
M16K	Timber Creek	74.71	21	P	P	21 29 27.6	+0.2
M16K				IAmb	IAmb	21 29 44.2	
	comp=Z,19nm,1.5s						
N18K	Kilae Creek	75.64	23	P	P	21 29 32.9	+0.4
N18K				IAmb	IAmb	21 29 34.1	
	comp=Z,7.9nm,0.8s						
J16K	Anvik River	75.68	19	P	P	21 29 33.2	+0.5
J16K				IAmb	IAmb	21 30 14.0	
	comp=Z,15nm,1.4s						
L19K	White Mountain	76.96	22	P	P	21 29 39.9	0.0
L19K				IAmb	IAmb	21 29 40.8	
	comp=Z,9.7nm,0.8s						
TTA	Tatalina	77.01	21	P	P	21 29 39.8	-0.4
H17K	Granite Mounta	77.05	18	P	P	21 29 40.5	+0.3
H17K				IAmb	IAmb	21 30 17.3	
	comp=Z,11nm,1.5s						
H19K	Roundabout Mou	78.53	19	P	P	21 29 48.1	-0.2
H19K				IAmb	IAmb	21 29 49.1	
	comp=Z,10nm,0.9s						
CAST	Castle Rocks	78.73	22		P	21 29 48.5	-0.9
CAST				IAmb	IAmb	21 29 49.8	
	comp=Z,4.5nm,0.7s						
PWL	Port Wells	78.77	25	P	P	21 29 49.0	-0.7
MCK	McKinley	80.07	22		P	21 29 55.5	-1.1
MCK				IAmb	IAmb	21 29 56.3	
	comp=Z,9.7nm,0.8s						
NEA2	Nenana	80.49	21	P	P	21 29 57.5	-1.2
ILAR	Eielson Array	81.38	22	P	P	21 30 01.4	-1.9
	comp=Z,2.2nm,0.8s,baz=250,slow=5.6,SNR=20						
	comp=Z,2.2nm,0.8s						
MKAR	Makanchi Array	81.55	319	P	P	21 30 04.5	-0.2
	comp=Z,2.3nm,0.7s,baz=102,slow=5.5,SNR=27						
	comp=Z,2.3nm,0.7s						
H24K	Noodor Dome	81.58	21	P	P	21 30 03.3	-1.1
E22K	Anaktuvuk Pass	81.59	18	P	P	21 30 04.9	+0.5
RIDG	Independent Ri	81.64	23	P	P	21 30 03.6	-1.2
RIDG				IAmb	IAmb	21 30 04.2	
	comp=Z,6.5nm,1.0s						
MAKZ	Makanchi	81.76	318		P	21 30 05.9	+0.1
D22K	Ayikyak River	81.77	17		P	21 30 05.3	0.0
J25K	Salcha River,	81.86	22	P	P	21 30 04.9	-1.0
J25K				IAmb	IAmb	21 30 05.7	
	comp=Z,6.2nm,0.8s						
DOT	Dot Lake	81.90	23	P	P	21 30 05.2	-0.9
DOT				IAmb	IAmb	21 30 06.2	
	comp=Z,5.9nm,0.9s						
ZALV	Zalesovo Beam	82.18	326	P	P	21 30 06.5	-1.1
	comp=Z,1.7nm,0.6s,baz=112,slow=5.7,SNR=6.5						
	comp=Z,1.7nm,0.6s						
D23K	Nanushuk River	82.41	17		P	21 30 09.4	+0.9
D23K				IAmb	IAmb	21 30 09.8	
	comp=Z,9.1nm,0.8s						
J26L	Joseph Creek,	82.50	23	P	P	21 30 08.9	-0.2
L27K	Beaver Creek,	82.53	24	P	P	21 30 09.6	+0.2
BCAR	Beaver Creek A	82.55	24	P	P	21 30 09.5	+0.1
TOLK	Toolik Lake Re	82.56	18	P	P	21 30 09.0	-0.3
TOLK				IAmb	IAmb	21 30 10.1	
	comp=Z,4.8nm,0.9s						
H27K	Steamboat Moun	84.04	21	P	P	21 30 16.8	-0.1
K29M	Barlow Dome	84.62	24		P	21 30 19.6	-0.2
K29M				IAmb	IAmb	21 30 22.2	
	comp=Z,11nm,1.4s						
KURBB	Kurchatov Arra	84.94	322	P	P	21 30 20.2	-1.3
	comp=Z,0.4nm,0.5s,baz=117,slow=3.7,SNR=2.6						
	comp=Z,0.4nm,0.5s						
QSPA	South Pole Qui	85.22	180	P	P	21 30 22.3	-0.6
	comp=Z,10nm,0.8s,baz=332,slow=0.5,SNR=40						
	comp=Z,10nm,0.8s			

NVAR	**Mina Array Bea**	**90.53**	**52**	P	**P**	**21 30 47.4**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=284,slow=6.2,SNR=3.3						
	comp=Z,1.3nm,0.8s						
W13A	**Hualapai Mount**	**93.82**	**55**		**P**	**21 31 03.5**	**-0.2**
W13A				IAmb	IAmb	21 31 08.1	
	comp=Z,3.4nm,0.7s						
YKA	**Yellowknife Ar**	**94.47**	**28**	P	**P**	**21 31 04.0**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=262,slow=4.1,SNR=4.7						
	comp=Z,0.3nm,0.7s						
EGMT	**Eagleton**	**97.18**	**42**		pP	21 32 57.6	-2.0
LPAZ	**La Paz**	**132.74**	**117**	PKP	**PKPdf**	**21 36 59.4**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=315,slow=2.9,SNR=4.6						
BDFB	**Brasilia**	**149.71**	**132**	PKPbc	**PKPbc**	**21 37 33.2**	**-1.2**
	comp=Z,4.2nm,0.5s,baz=189,slow=4.3,SNR=9.1						
TORD	**Torodi Ar. Bea**	**152.12**	**289**	PKPbc	**PKPbc**	**21 37 38.4**	**-1.4**
	comp=Z,108nm,0.5s,baz=80,slow=2.4,SNR=1.3						

*IDC **12** 21:42:29.1±1.5, 30°.31S×177°.38W, h0km, mb3.7/5, mbtmp3.7/6, ML2.9/1, MS3.2/1, Error ellipse: s-maj=40.1km s-min=29.2km az=59.0*

ISC 12 21:42:34.7±1.4, 30°.5S±0°.1×177°.5W±0°.2, h33km, n9, σ1°.05/9, mb3.9/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.94**	**208**		**Pn**	**21 44 40.7**	**-0.7**
	0.1nm,0.3s,baz=58,slow=15,SNR=1.9						
URZ				Sn	**Sn**	**21 46 20.5**	**-0.4**
	1.2nm,0.3s,baz=132,slow=23,SNR=5.6						
	6.6nm,0.9s						
DZM	**Mont Dzumac**	**16.65**	**296**	LR	LR	21 52 00.2	
	comp=Z,74nm,18.6s,baz=186,slow=34						
STKA	**Stephens Creek**	**34.88**	**257**	P	**P**	**21 49 24.4**	**+1.4**
	1.1nm,0.6s,baz=117,slow=14,SNR=4.7						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**43.53**	**267**	P	**P**	**21 50 35.5**	**-0.1**
	0.5nm,0.8s,baz=107,slow=7.8,SNR=4.7						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**44.53**	**272**	P	**P**	**21 50 43.3**	**-0.3**
	1.3nm,0.6s,baz=111,slow=7.9,SNR=12						
	1.3nm,0.6s						
VNDA	**Vanda**	**48.05**	**186**	P	**P**	**21 51 10.3**	**0.0**
	0.2nm,0.4s,baz=24,slow=4.8,SNR=1.8						
	0.2nm,0.4s						
QSPA	**South Pole Qui**	**59.62**	**180**	P	**P**	**21 52 36.5**	**+1.2**
	0.5nm,0.5s,baz=271,slow=0.5,SNR=8.9						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**145.38**	**340**	PKPbc	**PKPbc**	**22 02 07.0**	**-1.3**
	1.6nm,0.5s,baz=54,slow=3.6,SNR=16						
MMAI	**Mount Meron Ar**	**151.97**	**284**	PKPbc	**PKPbc**	**22 02 25.9**	**-0.8**
	1.7nm,0.8s,baz=97,slow=5.8,SNR=5.1						

*IDC **12** 21:44:11.2±1.8, 1°.50S×123°.10E, h0km, mb3.5/4, mbtmp3.6/4, MS3.3/1, Error ellipse: s-maj=156.5km s-min=21.7km az=56.0*

*DJA **12** 21:44:14.6±0.2, 2°.5±3°.×12°.3E±°, h10km, M4.0/15, mB5.1/2, mb4.2/5, MLv4.0/15, Mw(mB)4.4/2*

ISC 12 21:44:16.7±1.0, 1°.86S±0°.05×122°.67E±0°.07, h35km, n18, σ0°.90/17, mb3.5/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.82**	**7**	P	**Pn**	**21 44 30.3**	**-1.5**
APSI	**Ampana**	**1.39**	**313**	P	**Pn**	**21 44 39.3**	**-0.4**
MRSI	**Marisa**	**2.43**	**342**	P	**Pn**	**21 44 55.4**	**+1.4**
PCI	**Palu**	**2.99**	**288**	P	**Pn**	**21 45 02.6**	**+0.9**
SANI	**Sanana**	**3.32**	**93**	P	**Pn**	**21 45 05.7**	**-0.5**
MPSI	**Mapaga**	**3.53**	**308**	P	**Pn**	**21 45 09.0**	**-0.1**
SPSI	**Sidrap Palu**	**3.58**	**234**	P	**Pn**	**21 45 09.6**	**-0.1**
BNSI	**Bone**	**3.60**	**225**	P	**Pn**	**21 45 09.4**	**-0.6**
BBSI	**Bau Bau**	**3.61**	**182**	P	**Pn**	**21 45 10.0**	**-0.2**
BKSI	**Bulukumba**	**4.28**	**216**	P	**Pn**	**21 45 19.5**	**+0.1**
BSSI	**Bau Bau, Buton**	**4.78**	**207**	P	**Pn**	**21 45 25.8**	**-0.5**
MSAI	**Masohi**	**6.42**	**103**	P	**Pn**	**21 45 50.8**	**+1.9**
EDFI	**Ende, Flores**	**6.92**	**188**	P	**Pn**	**21 45 55.2**	**-0.6**
	0.0nm8.4nm,0.6s						
WRA	**Warramunga Arr**	**21.29**	**148**	P	**P**	**21 49 00.4**	**0.0**
	2.2nm,0.8s,baz=331,slow=10.0,SNR=14						
	2.2nm,0.8s						
PSI	**Prapat**	**24.19**	**281**	LR	LR	21 59 07.8	
	comp=Z,69nm,18.4s,baz=78,slow=37						
ASAR	**Alice Springs**	**24.26**	**154**	P	**P**	**21 49 31.4**	**+0.7**
	1.4nm,0.7s,baz=323,slow=7.8,SNR=17						
	1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.87**	**312**	P	**P**	**21 50 30.5**	**+0.5**
	0.5nm,0.7s,baz=126,slow=8.7,SNR=7.1						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**60.02**	**329**	P	**P**	**21 54 19.2**	**-0.8**
	0.2nm,0.7s,baz=116,slow=5.6,SNR=2.7						
	0.2nm,0.7s						

*DSN **12** 21:45:58.4±2.0, 28°.24N×57°.81E, h10km, ML3.4/6, Error ellipse: s-maj=79.1km s-min=17.2km az=124.0*

*IDC **12** 21:46:00.2±1.2, 28°.14N×57°.67E, h0km, mb3.7/7, mbtmp3.6/10, ML3.5/3, MS3.2/3, Error ellipse: s-maj=24.3km s-min=21.6km az=70.0*

*TEH **12** 21:46:00.8, 28°.16N×57°.36E, h14km±47km*

*OMAN **12** 21:46:03.6±0.1, 28°.03N×57°.12E, h10km, mb4.5/6, ml3.5/19, Error ellipse: s-maj=1.1km s-min=0.7km az=34.0*

ISC 12 21:46:03.5±0.6, 28°.15N±0°.04×57°.32E±0°.05, h30km, n77, σ1°.43/95, mb3.8/7, MS3.0/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.40**	**121**	Pg	**Pb**	**21 46 09.5**	**-2.9**
BNDS	**Bandar-Abbas**	**1.27**	**234**	Pg	**Pn**	**21 46 25.0**	**-0.3**
KBAM	**BAM**	**1.39**	**45**	Pg	**Pn**	**21 46 25.7**	**-1.3**
NGRK	**Negar Kerman**	**1.57**	**341**	Pg	**Pn**	**21 46 29.4**	**-0.3**
CHMN	**Cheshme madani**	**1.71**	**6**	Pg	**Pn**	**21 46 31.5**	**-0.1**
KRBR	**Kerman**	**1.89**	**345**	Pn	**Pn**	**21 46 34.6**	**+0.6**
KHGB	**Koh Gabri**	**2.33**	**342**	Pn	**Pn**	**21 46 41.0**	**+0.9**
KRM1	**Kerman Provinc**	**2.34**	**359**	Pn	**Pn**	**21 46 41.7**	**+1.5**
SHME	**Shamm**	**2.34**	**207**	P	**Pn**	**21 46 41.0**	**+0.9**
	SNR=120						
SHME				S	**Sn**	**21 47 10.4**	**+2.6**
SHME	**Shamm**	**2.34**	**207**	P	**Pn**	**21 46 40.6**	**+0.6**
BANOM	**Banah**	**2.40**	**203**	P	**Pn**	**21 46 41.9**	**+1.0**
BANOM				S	**Sn**	**21 47 11.9**	**+2.6**
BANOM	**Banah**	**2.40**	**203**	P	**Pn**	**21 46 41.8**	**+1.0**
BANOM				S	**Sb**	**21 47 15.1**	**-0.2**
ZRDN	**Zarand Kerman**	**2.89**	**346**	Pn	**Pn**	**21 46 47.5**	**-0.2**
MASF	**Masafi**	**2.96**	**201**	P	**Pn**	**21 46 50.7**	**+2.2**
MSFE	**Esma-Masafi**	**2.97**	**201**	P	**Pn**	**21 46 50.6**	**+1.9**
MDH	**Madha**	**2.99**	**198**	P	**Pn**	**21 46 50.2**	**+1.3**
MDH				S	**Sn**	**21 47 24.9**	**+1.2**
MDH	**Madha**	**2.99**	**198**	P	**Pn**	**21 46 48.6**	**-0.3**
UMQ	**Umm Al-Quwin**	**3.01**	**210**	P	**Pn**	**21 46 50.1**	**+1.0**
UOSS	**Minazif**	**3.35**	**198**	Pn	**Pn**	**21 46 54.5**	**+0.7**
UOSS	**Minazif**	**3.35**	**198**	P	**Pn**	**21 46 54.7**	**+0.9**
HATD	**Hatta, Dubai**	**3.48**	**198**	P	**Pn**	**21 46 56.4**	**+0.7**
HATD	**Hatta, Dubai**	**3.48**	**198**	P	**Pn**	**21 46 54.9**	**-0.7**
NAZ	**Nazwa, Dubai**	**3.48**	**206**	P	**Pn**	**21 46 56.2**	**+0.4**
NAZ				S	**Sn**	**21 47 36.2**	**+0.2**
ASHO	**Ashiyiah**	**3.64**	**198**	P	**Pn**	**21 46 58.9**	**+1.1**
	SNR=18						
ASHO	**Ashiyiah**	**3.64**	**198**	P	**Pn**	**21 46 59.1**	**+1.2**
ASUD	**Al Ashush, Dub**	**3.94**	**207**	P	**Pn**	**21 47 01.9**	**-0.1**
IMEH	**Mehriz**	**3.99**	**325**	Pn	**Pn**	**21 47 04.4**	**+1.5**
SOHO	**SOHO**	**4.07**	**190**	P	**Pn**	**21 47 02.9**	**-0.8**
BSRN	**Basiran**	**4.11**	**22**	Pn	**Pn**	**21 47 06.9**	**+2.5**
AJN	**Ajban**	**4.14**	**211**	P	**Pn**	**21 47 05.8**	**+1.0**
	SNR=9.6						
AJN				S	**Sn**	**21 47 51.8**	**-0.5**
ALNE	**Al Ain**	**4.32**	**199**	P	**Pn**	**21 47 09.6**	**+2.5**
NGCH	**Negor - Chabah**	**4.40**	**128**	Pn	**Pn**	**21 47 08.9**	**+0.6**
NGCH	**Negor - Chabah**	**4.40**	**128**	P	**Pn**	**21 47 09.5**	**+1.2**
	SNR=10						
HOQ	**Hoqain**	**4.55**	**180**	Pn	**Pn**	**21 47 10.2**	**-0.2**
HOQ	**Hoqain**	**4.55**	**180**	P	**Pn**	**21 47 10.3**	**-0.1**
	SNR=34						
HOQ				S	**Sn**	**21 48 03.5**	**+1.2**
BIDO	**Bidbid**	**4.67**	**171**	P	**Pn**	**21 47 12.0**	**0.0**
	SNR=8.7						
BIDO				S	**Sn**	**21 48 06.1**	**+0.9**
ARQ	**Araqi**	**4.85**	**189**	P	**Pn**	**21 47 17.0**	**+2.5**
	SNR=20						
WSAR	**Wadi Sarin**	**5.03**	**166**	Pn	**Pn**	**21 47 16.6**	**-0.5**
	baz=175,slow=24,SNR=14						
WSAR				Sn	**Sn**	**21 48 13.0**	**-1.2**
	0.1nm,0.3s,baz=224,slow=24,SNR=7.0						
WSAR	**Wadi Sarin**	**5.03**	**166**	P	**Pn**	**21 47 17.9**	**+0.9**
	SNR=32						
WSAR				S	**Sn**	**21 48 13.6**	**-0.6**
SMDO	**Samad**	**5.12**	**172**	P	**Pn**	**21 47 19.6**	**+1.4**
SMDO				S	**Sn**	**21 48 16.1**	**-0.3**
DSBU	**Dashti - Bushe**	**5.35**	**274**	Pn	**Pn**	**21 47 23.2**	**+1.8**
MZWR	**Madinat Zayed**	**5.36**	**216**	P	**Pn**	**21 47 21.5**	**0.0**
MZWR				S	**Sn**	**21 48 20.5**	**-1.7**
BSY	**Bisya**	**5.39**	**181**	P	**Pn**	**21 47 24.0**	**+2.1**
BSY				S	**Sn**	**21 48 22.8**	**-0.2**
TKDS	**Koohdasht(Taba**	**5.45**	**358**	Pn	**Pn**	**21 47 24.9**	**+2.1**
AFRZ	**Afriz**	**5.45**	**15**	Pn	**Pn**	**21 47 24.5**	**+1.7**
IRAM	**Ramesheh**	**5.62**	**312**	Pn	**Pn**	**21 47 26.7**	**+1.4**
WBK	**Wadi Bani Khal**	**5.72**	**165**	Pn	**Pn**	**21 47 26.8**	**+0.4**
WBK	**Wadi Bani Khal**	**5.72**	**165**	P	**Pn**	**21 47 26.8**	**+0.4**
	SNR=16						
UMZA	**Um Al Zommool**	**5.76**	**200**	P	**Pn**	**21 47 27.7**	**+0.8**
GHWR	**Ruwais**	**5.78**	**225**	P	**Pn**	**21 47 27.1**	**-0.1**
GHWR				S	**Sn**	**21 48 30.4**	**-2.2**
JMDO	**Jabal Madar**	**5.80**	**173**	P	**Pn**	**21 47 29.1**	**+1.5**
ANAR	**Anarak**	**5.90**	**329**	Pn	**Pn**	**21 47 30.1**	**+1.1**
MZR	**Muzera**	**6.19**	**215**	P	**Pn**	**21 47 32.5**	**-0.5**
MZR				S	**Sn**	**21 48 39.8**	**-2.9**
JLN	**Jalan Bani Buh**	**6.27**	**162**	P	**Pn**	**21 47 35.0**	**+1.0**
JLN				S	**Sn**	**21 48 44.9**	**+0.2**
IZEF	**Zefreh**	**6.39**	**319**	Pn	**Pn**	**21 47 37.1**	**+1.2**
TRNA	**Turayna**	**6.45**	**240**	P	**Pn**	**21 47 35.4**	**-1.1**
TRNA				S	**Sn**	**21 48 46.3**	**-2.7**
SLWR	**Sila**	**6.49**	**232**	P	**Pn**	**21 47 35.9**	**-1.1**
SLWR				S	**Sn**	**21 48 47.5**	**-2.6**
SMRA	**Abu-Samra**	**6.74**	**241**	P	**Pn**	**21 47 39.2**	**-1.2**
SMRA				S	**Sn**	**21 48 54.0**	**-2.2**
MHTO	**MHTO**	**7.16**	**175**	P	**Pn**	**21 47 46.8**	**+0.6**
	SNR=5.3						
MHTO				S	**Sn**	**21 49 07.0**	**+0.4**
DQM	**DQM**	**8.19**	**179**	P	**Pn**	**21 48 00.4**	**+0.1**
KBD	**Kabd**	**8.52**	**279**	P	**Pn**	**21 48 03.7**	**-1.2**
DOK	**Doka**	**9.93**	**198**	P	**Pn**	**21 48 23.5**	**-0.7**
WHFO	**Wadi Hawf**	**10.70**	**199**	P	**Pn**	**21 48 33.9**	**-0.9**
ABTO	**Aybut**	**11.37**	**200**	P	**Pn**	**21 48 42.0**	**-2.0**
RAYN	**Ar Rayn**	**11.60**	**249**	P	**Pn**	**21 48 44.3**	**-2.8**
KBZ	**Khabaz**	**19.39**	**327**	P	**Pn**	**21 50 31.5**	**+3.3**
	0.1nm,0.3s,baz=149,slow=5.9,SNR=2.0						
	0.5nm,0.6s						
MMAI	**Mount Meron Ar**	**19.47**	**290**	P	**Pn**	**21 50 32.0**	**+2.6**
	0.3nm,0.3s,baz=115,slow=9.7,SNR=1.9						
	1.6nm,0.8s						
AAK	**Ala-Archa**	**20.06**	**39**	P	**P**	**21 50 32.9**	**-1.6**
	0.1nm,0.3s,baz=234,slow=14,SNR=1.9						
	0.5nm,0.5s						
AKTO	**Aktyubinsk**	**22.26**	**1**	P	**P**	**21 50 58.0**	**+0.1**
	1.7nm,0.5s,baz=179,slow=9.6,SNR=3.7						
AKTO				LR	LR	22 00 47.0	
	comp=Z,58nm,19.7s,baz=110,slow=40						
	1.7nm,0.5s						
BRTR	**Keskin Array B**	**22.72**	**307**	P	**P**	**21 51 06.0**	**+2.9**
	1.2nm,1.0s,baz=117,slow=10,SNR=7.1						
	1.2nm,1.0s						
MKAR	**Makanchi Array**	**27.00**	**40**	P	**P**	**21 51 42.4**	**-0.3**
	0.3nm,0.6s,baz=226,slow=7.8,SNR=5.5						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**27.60**	**30**	P	**P**	**21 51 48.5**	**+0.5**
	0.5nm,0.2s,baz=229,slow=8.4,SNR=2.5						
	0.5nm,0.2s						
ZALV	**Zalesovo Beam**	**32.69**	**30**	P	**P**	**21 52 32.6**	**-0.4**
	1.4nm,0.5s,baz=256,slow=6.0,SNR=6.0						
	1.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**39.26**	**95**	LR	LR	22 13 09.2	
	comp=Z,56nm,19.1s,baz=30,slow=42						
SONM	**Songino Array**	**42.56**	**49**	P	**P**	**21 53 55.6**	**-1.0**
	0.4nm,0.7s,baz=233,slow=6.9,SNR=2.0						
	0.4nm,0.7s						
NRIK	**Noril'sk**	**44.80**	**15**	LR	LR	22 13 44.7	
	comp=Z,58nm,18.8s,baz=44,slow=37						
WRA	**Warramunga Arr**	**88.42**	**114**	P	**P**	**21 58 53.4**	**+0.3**
	0.5nm,0.8s,baz=306,slow=4.6,SNR=2.3						
	0.5nm,0.8s						

*IDC **12** 21:47:46.1±1.2, 47°.17S×13°.15W, h0km, mb3.9/3, mbtmp3.9/3, MS3.6/13, Error ellipse: s-maj=48.0km s-min=31.8km az=94.0*

ISC 12 21:47:47.5±1.1, 47°.2S±0°.2×13°.2W±0°.3, h10km, n21, σ1°.29/6, mb3.8/3, MS3.6/13, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**29.72**	**72**	LR	LR	22 03 17.4	
	comp=Z,94nm,18.7s,baz=216,slow=31						
BOSA	**Boshof**	**35.08**	**72**	LR	LR	22 05 51.8	
	comp=Z,99nm,20.9s,baz=204,slow=31						
LBTB	**Lobatse**	**37.80**	**68**	LR	LR	22 07 09.2	
	comp=Z,49nm,21.2s,baz=184,slow=31						
CPUP	**Villa Florida**	**40.38**	**285**	P	**P**	**21 55 25.4**	**-0.2**
	1.0nm,0.3s,baz=143,slow=8.2,SNR=4.3						
CPUP				LR	LR	22 09 09.5	
	comp=Z,69nm,19.2s,baz=102,slow=32						
	1.0nm,0.3s						
PLCA	**Paso Flores**	**41.01**	**257**	LR	LR	22 10 22.2	
	comp=Z,44nm,20.7s,baz=162,slow=33						
BDFB	**Brasilia**	**42.67**	**306**	LR	LR	22 10 05.6	
	comp=Z,73nm,19.4s,baz=180,slow=31						
QSPA	**South Pole Qui**	**43.09**	**180**	P	**P**	**21 55 47.4**	**-0.1**
	1.4nm,1.0s,baz=191,slow=7.7,SNR=5.3						
	1.4nm,1.0s						
H04S2	**CROZET ISLANDS**	**43.18**	**115**	T	T	22 42 20.1	
	baz=245,slow=76,SNR=18						
H04S3	**CROZET ISLANDS**	**43.18**	**115**	T	T	22 42 17.1	
	baz=245,slow=76,SNR=16						
H04S1	**CROZET ISLANDS**	**43.20**	**115**	T	T	22 42 16.6	
	baz=245,slow=76,SNR=17						
LSZ	**Lusaka**	**46.70**	**61**	LR	LR	22 13 31.9	
	comp=Z,87nm,20.8s,baz=178,slow=33						
SIV	**San Ignacio**	**50.21**	**292**	LR	LR	22 15 38.2	
	comp=Z,62nm,19.2s,baz=116,slow=33						
LPAZ	**La Paz**	**54.56**	**285**	LR	LR	22 19 03.4	
	comp=Z,48nm,19.9s,baz=122,slow=34						
TORD	**Torodi Ar. Bea**	**61.50**	**17**	P	**P**	**21 58 03.1**	**-1.3**
	58nm,0.3s,baz=203,slow=5.6,SNR=1.2						
MDP	**Montagnes des**	**62.61**	**314**	LR	LR	22 22 11.9	
	comp=Z,54nm,19.2s,baz=326,slow=33						
KMBO	**Kilima Mbogo**	**63.32**	**60**	LR	LR	22 25 36.3	
	comp=Z,47nm,18.0s,baz=90,slow=36						
ATAH	**Atahualpa**	**68.05**	**284**	LR	LR	22 27 38.6	
	comp=Z,56nm,21.8s,baz=128,slow=35						
ESDC	**Sonseca Array**	**86.85**	**7**	P	**P**	**22 00 33.6**	**+1.7**
	0.6nm,0.9s,baz=197,slow=5.2,SNR=4.6						
	0.6nm,0.9s						
EIL	**Elat**	**87.91**	**40**	LR	LR	22 36 37.9	
	comp=Z,29nm,19.3s,baz=245,slow=33						
YKA	**Yellowknife Ar**	**135.26**	**320**	PKP	**PKPdf**	**22 07 05.7**	**-0.4**
	0.2nm,0.7s,baz=113,slow=2.2,SNR=3.9						
ILAR	**Eielson Array**	**149.62**	**322**	PKPbc	**PKPbc**	**22 07 36.1**	**+0.2**
	1.8nm,0.8s,baz=105,slow=2.3,SNR=17						

DJA 12 21:50:31.7±0.3, 2°.5±3°.×12°.2E±°, h10km, M3.6/11, mb3.7/2, MLv3.5/11, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.98**	**23**	P	Pg	21 50 50.5	-0.2
APSI	**Ampana**	**1.27**	**325**	P	Pn	21 50 53.3	-2.2
MRSI	**Marisa**	**2.45**	**350**	P	Pn	21 51 13.0	+1.2
SPSI	**Sidrap Palu**	**3.29**	**232**	P	Pn	21 51 22.8	-0.5
BNSI	**Bone**	**3.33**	**223**	P	Pn	21 51 24.4	+0.5
MPSI	**Mapaga**	**3.37**	**312**	P	Pn	21 51 25.8	+1.4
BKSI	**Bulukumba**	**4.04**	**214**	P	Pn	21 51 32.4	-1.2
EDFI	**Ende, Flores**	**6.79**	**186**	P	Pn	21 52 11.9	+0.3

*NEIC **12** 21:58:03.4±1.7, 38°.84N±0°.03×122°.83W±0°.08, h5km±7km, Error ellipse: s-maj=9.7km s-min=1.9km az=70.0*

*NCEDC **12** 21:58:03.8±1.6, 38°.81N±0°.02×122°.82W±0°.08, h2km±2km, ML3.1/29, ML3.0/61(NEIC), Error ellipse: s-maj=9.5km s-min=2.0km az=72.0*

*IDC **12** 21:58:04.3±3.4, 38°.69N×122°.95W, h0km, mbtmp3.2/5, ML3.1/5, Error ellipse: s-maj=42.9km s-min=14.0km az=38.0*

ISC 12 21:58:03.9±1.0, 38°.82N±0°.02×122°.82W±0°.02, h2km±8km, n77, σ0°.84/78, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.02**	**117**	Pg	**Pg**	**21 58 04.5**	**-0.1**
GDXM				Sg	**Sg**	**21 58 05.2**	**+0.2**
GGPM	**Geyser Peak**	**0.06**	**200**		**Pg**	**21 58 05.1**	**0.0**
GSGM	**Seigler Mounta**	**0.10**	**60**		**Pg**	**21 58 06.5**	**+0.6**
GPMM	**Pine Mountain**	**0.10**	**287**		**Pg**	**21 58 06.3**	**+0.3**
GBGM	**Boggs Mountain**	**0.11**	**92**		**Pg**	**21 58 06.4**	**+0.3**
GAXM	**Alexander Vall**	**0.12**	**155**		**Pg**	**21 58 06.2**	**-0.1**
GRTM	**Round Top Moun**	**0.17**	**44**		**Pg**	**21 58 07.5**	**+0.2**
NHSM	**Mount Saint He**	**0.23**	**135**		**Pg**	**21 58 08.4**	**+0.1**
NMTM	**Middletown**	**0.29**	**92**		**Pg**	**21 58 09.9**	**+0.3**
MNRC	**McLaughlin Min**	**0.30**	**78**		**Pg**	**21 58 10.5**	**+0.8**
MNRC	**McLaughlin Min**	**0.30**	**78**	IAML		21 58 18.6	
	comp=N,2μm,1.5s						
MNRC				IAML		21 58 19.1	
	comp=E,2μm,0.9s						
GHCM	**House Creek**	**0.36**	**234**		**Pg**	**21 58 11.5**	**+0.6**
OAKV	**Oakville Exper**	**0.50**	**140**		**Pg**	**21 58 13.9**	**+0.3**
GGUM	**Gualala**	**0.53**	**274**		**Pg**	**21 58 14.7**	**+0.6**
GWRM	**Wonder Ranch**	**0.54**	**316**		**Pg**	**21 58 14.8**	**+0.5**
CVS	**Carmenet Viney**	**0.55**	**149**		**Pg**	**21 58 14.6**	**+0.1**
CVS	**Carmenet Viney**	**0.55**	**149**	IAML		21 58 24.9	
	comp=N,940nm,0.5s						
CVS				IAML		21 58 26.4	
	comp=E,1μm,1.0s						
QRDG	**Quail Ridge Na**	**0.63**	**122**		**Pg**	**21 58 16.6**	**+0.7**
MCCM	**Marconi Confer**	**0.67**	**184**		**Pg**	**21 58 17.1**	**+0.3**
MCCM				Sg	**Sb**	**21 58 26.9**	**-1.3**
MCCM				IAML		21 58 33.0	
	comp=N,899nm,1.2s						
MCCM				IAML		21 58 34.4	
	comp=E,913nm,1.3s						
NGVM		**0.72**	**138**		**Pg**	**21 58 17.8**	**+0.1**
NADM	**Allendale**	**0.76**	**118**		**Pb**	**21 58 20.1**	**+0.3**
DCMP	**DeCamp, Califo**	**0.77**	**328**		**Pb**	**21 58 19.5**	**-0.5**
NOLM	**Olema**	**0.78**	**178**		**Pg**	**21 58 19.2**	**+0.3**
RUSS	**Russell Ranch**	**0.79**	**110**		**Pb**	**21 58 20.8**	**+0.3**
GTC	**Three Chop Rid**	**0.81**	**316**		**Pb**	**21 58 20.3**	**-0.6**
NPRM	**Point Reyes**	**0.83**	**191**		**Pg**	**21 58 20.1**	**+0.2**
OSUM	**Sutter Buttes**	**0.88**	**59**		**Pb**	**21 58 21.8**	**-0.2**
PINL	**Point Pinole R**	**0.88**	**156**		**Pb**	**21 58 21.5**	**-0.5**
SUTB	**Sutter Butte**	**0.90**	**63**		**Pg**	**21 58 21.1**	**-0.2**
SUTB	**Sutter Butte**	**0.90**	**63**	IAML		21 58 37.8	
	comp=E,301nm,0.9s						
SUTB				IAML		21 58 40.5	
	comp=N,327nm,0.8s						
HERB	**Hercules**	**0.92**	**151**		**Pg**	**21 58 21.6**	**+0.1**
CPMM	**Point Molate**	**0.93**	**159**		**Pg**	**21 58 21.5**	**-0.2**
CSPM	**San Pablo Ridg**	**0.95**	**155**		**Pb**	**21 58 22.5**	**-0.6**
CPIM	**Pinole Ridge**	**0.95**	**150**		**Pg**	**21 58 22.4**	**+0.2**
JEPS	**Jepson Natural**	**0.96**	**125**		**Pb**	**21 58 23.1**	**-0.1**
GVV	**Valley View**	**0.96**	**7**		**Pn**	**21 58 24.2**	**-0.5**
CTAM	**Taylor**	**1.01**	**141**		**Pb**	**21 58 24.2**	**0.0**
BL67	**Building 67, L**	**1.04**	**155**		**Pg**	**21 58 24.0**	**+0.1**
BKS	**Berkeley--Byer**	**1.05**	**154**		**Pg**	**21 58 23.9**	**-0.1**
KCPM	**Cahto Peak**	**1.05**	**326**		**Pg**	**21 58 23.6**	**-0.5**
KCPM				IAML		21 58 47.9	
	comp=E,404nm,1.3s						
KCPM				IAML		21 58 50.0	
	comp=N,420nm,1.0s						
JPRM	**Presidio of Sa**	**1.06**	**165**		**Pg**	**21 58 22.9**	**-1.3**
OSTM	**Stimpson Lane**	**1.10**	**60**		**Pg**	**21 58 23.9**	**-1.1**
KBNM	**Bluenose Ridge**	**1.11**	**345**		**Pn**	**21 58 27.0**	**+0.3**
KIPM	**Iron Peak**	**1.11**	**333**		**Pn**	**21 58 26.7**	**-0.1**
BDM	**Black Diamond**	**1.14**	**139**		**Pg**	**21 58 25.2**	**-0.6**
BGC	**Bolinger Road**	**1.16**	**149**		**Pg**	**21 58 26.0**	**-0.2**
PAM	**Palermo**	**1.19**	**58**		**Pg**	**21 58 25.5**	**-1.3**
SFRE	**Sierra Foothil**	**1.25**	**69**		**Pg**	**21 58 26.0**	**-1.8**
ORV	**Oroville**	**1.26**	**54**		**Pg**	**21 58 26.4**	**-1.7**
SAC	**San Andreas**	**1.27**	**165**		**Pg**	**21 58 27.0**	**-1.4**
CMOB	**Morgan Territo**	**1.28**	**141**	

SAUI	Saumlaki	2.02 110	P	Pn	22 02 47.0	+1.7
BNDI	Bandanaira	2.81 11	P	Pn	22 02 56.1	+1.1
AAI	Ambon	3.78 342	P	Pn	22 03 08.8	+1.3
MSAI	Masohi	3.96 353	P	Pn	22 03 12.0	+2.2
NLAI	Namlea	4.63 330	P	Pn	22 03 20.4	+1.8
FAKI	Fak Fak	5.21 33	Pn	Pn	22 03 25.1	-1.1
FAKI			Sn	Sn	22 04 20.5	-5.2
FAKI	Fak Fak	5.21 33	P	Pn	22 03 24.7	-1.5
	0.5nm41nm,0.9s					
DRS	Darwin Rock St	5.31 164	P	Pn	22 03 28.9	+1.3
SOEI	Soe	5.62 244	P	Pn	22 03 32.3	+0.5
SOEI			Sn	Sn	22 04 34.6	-1.0
SOEI	Soe	5.62 244	P	Pn	22 03 33.0	+1.2
SOEI	Soe	5.62 244	P	Pn	22 03 32.7	+0.9
	1.3nm2µm244nm,0.8s					
KMPI	Kaimana, Papua	5.62 50	P	Pn	22 03 31.6	-0.1
	1.9nm4µm71nm,0.6s					
MTN	Manton Dam	5.77 163		Pn	22 03 34.5	+0.8
MTN			Sn	Sn	22 04 36.2	-2.9
MTN	Manton Dam	5.77 163	P	Pn	22 03 34.7	+1.0
KDU	Kakadu	6.16 151	P	Pn	22 03 39.4	+0.6
SWI	Sorong	6.66 16	P	Pn	22 03 45.3	-0.3
MMRI	Maumere	7.20 259		Pn	22 03 51.7	-1.1
MMRI	Maumere	7.20 259	P	Pn	22 03 53.5	+0.7
	0.2nm34nm,0.7s					
RKPI	Ransiki, Papua	7.48 40	P	Pn	22 03 56.5	0.0
	3µm43nm,0.5s					
EDFI	Ende, Flores	7.75 259	P	Pn	22 04 00.8	+0.5
KNRA	Kununurra	8.35 184		Pn	22 04 07.2	-0.8
WSI	Waingapu	9.29 255	P	Pn	22 04 20.4	-0.3
BKSI	Bulukumba	9.41 282	P	Pn	22 04 23.3	+1.0
	21nm,0.9s					
WBSI	Waikabubak, Su	10.15 256	P	Pn	22 04 33.0	+0.8
FITZ	Fitzroy Crossi	11.33 198		Pn	22 04 45.8	-1.8
FITZ	Fitzroy Crossi	11.33 198	P	Pn	22 04 45.5	-2.1
	8.0nm,0.3s,baz=31,slow=11,SNR=192					
FITZ			S	Sn	22 06 43.5	-9.5
	25nm,0.5s,baz=80,slow=17,SNR=6.3					
	22nm,0.4s					
PLAI	Plampang	11.59 262	P	Pn	22 04 49.9	-1.2
WB0	Warramunga Arr	13.31 159	Pn	Pn	22 05 11.5	-1.7
WRAB	Tennant Creek	13.45 160		Pn	22 05 12.9	-2.1
WRA	Warramunga Arr	13.45 160		Pn	22 05 11.8	-3.3
WRA	Warramunga Arr	13.45 160	P	Pn	22 05 12.3	-2.8
	1.1nm,0.3s,baz=341,slow=11,SNR=99					
WRA			S	Sn	22 07 36.2	-7.9
	26nm,0.8s,baz=329,slow=24,SNR=14					
	16nm,0.7s					
COEN	Coen	15.08 117		P	22 05 37.5	+0.3
JAGI	Jajag, Banyuwa	15.13 265		Pn	22 05 34.6	-1.6
JAGI			IAmb	IAmb	22 05 44.1	
	comp=Z,15nm,0.4s					
QIS	Mount Isa	16.48 144	P	Pn	22 05 54.7	+2.0
MBWA	Marble Bar	16.64 213	P	Pn	22 05 55.4	+0.8
MBWA			IAmb	IAmb	22 06 36.0	
	comp=Z,19nm,1.1s					
AS31	Alice Springs	16.84 166		Pn	22 05 58.0	+0.9
ASAR	Alice Springs	16.84 166		Pn	22 05 58.4	+1.3
ASAR	Alice Springs	16.84 166	P	Pn	22 05 57.5	+0.5
	comp=Z,3.8nm,0.3s,baz=338,slow=9.5,SNR=149					
ASAR			S	S	22 08 57.2	-7.2
	comp=Z,5.8nm,0.8s,baz=356,slow=27,SNR=7.4					
	comp=Z,14nm,0.6s					
AS01	Alice Springs	16.85 165	P	Pn	22 05 58.5	+1.3
PSA00	Pilbara Seismi	16.92 212	P	Pn	22 05 58.6	+0.6
PSA00			IAmb	IAmb	22 06 05.6	
	comp=Z,28nm,1.3s					
WRKA	Warakurna	17.67 183	P	Pn	22 06 08.1	+1.1
KKM	Kota Kinabalu	18.67 315	P	P	22 06 16.6	-0.2
KKM			IAmb	IAmb	22 06 27.7	
	comp=Z,27nm,1.2s					
UGM	Wanagama	18.71 267	P	P	22 06 17.5	+0.4
SBUM	Sibu	19.68 299		Pn	22 06 29.7	-1.0
OOD	Oodnadatta	21.24 164	P	P	22 06 46.3	+2.0
INKA	Innaminka	23.00 153	P	P	22 07 05.1	+3.3
FORT	Forrest	23.39 183	P	P	22 07 07.0	+1.7
QLP	Quilpie	23.82 145	P	P	22 07 13.5	+4.2
LCRK	Leigh Creek	24.47 161	P	P	22 07 18.5	+3.3
MORW	Morawa	25.04 209	P	P	22 07 22.8	+2.4
MORW			IAmb	IAmb	22 07 25.8	
	comp=Z,18nm,1.2s					
BBOO	Buckleboo	26.13 167	P	P	22 07 32.1	+1.9
BBOO			IAmb	IAmb	22 07 53.5	
	comp=Z,8.3nm,0.9s					
STKA	Stephens Creek	26.97 157	P	P	22 07 39.7	+2.0
	comp=Z,2.9nm,0.4s,baz=342,slow=11,SNR=6.4					
	comp=Z,2.9nm,0.4s					
CMSA	Cobar Meteorol	28.52 150	P	P	22 07 54.6	+3.1
ARPS	Mount Arapiles	31.45 161	P	P	22 08 20.9	+3.6
UBPT	Khong Chiam	32.64 313	P	P	22 08 27.6	-0.3
UBPT			IAmb	IAmb	22 08 46.4	
	comp=Z,12nm,1.4s					
CMAR	Chiang Mai Arr	39.46 311	P	P	22 09 26.9	+0.9
	comp=Z,2.2nm,0.9s,baz=143,slow=7.1,SNR=20					
	comp=Z,2.2nm,0.9s					
CHTO	Chiang Mai	39.68 311		P	22 09 27.5	-0.2
CHTO			IAmb	IAmb	22 09 29.7	
	comp=Z,5.0nm,0.8s					
MJAR	Matsushiro Arr	44.39 10	P	P	22 10 04.4	-1.3
	comp=Z,1.1nm,0.7s,baz=190,slow=11,SNR=3.0					
	comp=Z,1.1nm,0.7s					
SHL	Shillong	48.96 313	P	P	22 10 41.7	0.0
SHL			IAmb	IAmb	22 10 42.6	
	comp=Z,6.3nm,1.0s					
HHC	Hu-ho-hao-te	50.64 343	eP	P	22 10 57.2	+3.2
SONM	Songino Array	58.54 342	P	P	22 11 51.6	+0.8
	comp=Z,0.5nm,0.5s,baz=141,slow=5.4,SNR=3.7					
	comp=Z,0.5nm,0.5s					
MKAR	Makanchi Array	68.14 327	P	P	22 12 53.9	0.0
MKAR	Makanchi Array	68.14 327	P	P	22 12 54.4	+0.4
	comp=Z,0.7nm,0.3s,baz=114,slow=8.2,SNR=22					
	comp=Z,0.7nm,0.3s					
ZALV	Zalesovo Beam	71.58 334	P	P	22 13 14.4	-0.4
	comp=Z,0.5nm,0.4s,baz=116,slow=6.8,SNR=4.8					
	comp=Z,0.5nm,0.4s					
KURBB	Kurchatov Arra	72.45 329	P	P	22 13 19.6	-0.3
	comp=Z,1.1nm,0.6s,baz=131,slow=5.1,SNR=9.2					
	comp=Z,1.1nm,0.6s					
BVAR	Borovoye Array	77.99 328	P	P	22 13 51.7	+0.1
	comp=Z,0.5nm,0.5s,baz=136,slow=5.0,SNR=3.9					
	comp=Z,0.5nm,0.5s					
NRIK	Noril'sk	81.70 346	P	P	22 14 11.8	+0.6
NRIK	Noril'sk	81.70 346	P	P	22 14 11.4	+0.2
	comp=Z,0.8nm,0.4s,baz=142,slow=6.1,SNR=4.2					
	comp=Z,0.8nm,0.4s					
ABKAR	Akbulak array	82.36 322	P	P	22 14 15.3	+0.2

DJA 12 22:29:45.3±1.4, 2°S±4°×12°2E±°, h17km±17km, M4.0/10, mB4.9/1, mb4.2/2, MLv3.9/10, Mw(mB)4.2/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.36	322	P	Pn	22 30 09.0	-0.6
SPSI	Sidrap Palu	3.35	234	P	Pn	22 30 37.7	+0.8
SPSI				S	Sn	22 31 18.3	+1.9
BNSI	Bone	3.38	225	P	Pn	22 30 37.7	+0.4
MPSI	Mapaga	3.47	312	P	Pn	22 30 38.2	-0.4
BBSI	Bau Bau	3.48	179	P	Pn	22 30 39.4	+0.7
BKSI	Bulukumba	4.07	215	P	Pn	22 30 46.7	-0.1
EDFI	Ende, Flores	6.76	187	P	Pn	22 31 23.4	-0.6

IDC 12 22:33:21.6±1.8, 7°01S×129°10E, h0km, mb3.5/2, mbtmp3.5/5, ML3.5/3, Error ellipse: s-maj=83.8km s-min=26.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.53	197	Pn	Pn	22 36 07.7	+0.1
	0.7nm,0.3s,baz=13,slow=14,SNR=20						
FITZ				Sn	Sn	22 38 05.4	-12
	0.2nm,0.3s,baz=102,slow=16,SNR=1.9						
	1.7nm,0.3s						
WRA	Warramunga Arr	13.83	159	Pn	Pn	22 36 38.7	-0.4
	0.2nm,0.3s,baz=338,slow=13,SNR=8.4						
WRA				Sn	Sn	22 39 02.3	-11
	0.3nm,0.3s,baz=337,slow=22,SNR=7.2						
	0.2nm,0.4s						
ASAR	Alice Springs	17.20	165	P	Pn	22 37 23.8	+0.3
	0.1nm,0.3s,baz=335,slow=9.9,SNR=1.9						
	0.3nm,0.8s						
MKAR	Makanchi Array	67.74	327	P	P	22 44 21.6	+0.5
	0.2nm,0.5s,baz=112,slow=8.2,SNR=5.6						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	72.05	329	P	P	22 44 46.9	-0.6
	0.3nm,0.5s,baz=128,slow=4.9,SNR=4.4						
	0.3nm,0.5s						

IDC 12 22:39:28.5±0.7, 1°69S×122°78E, h0km, mb4.0/12, mbtmp4.0/13, ML4.4/2, MS3.2/3, Error ellipse: s-maj=29.1km s-min=14.1km az=65.0
NEIC 12 22:39:31.8±1.1, 1°80S±0°03×122°66E±0°06, h12km±4km, mb4.3/9, Error ellipse: s-maj=8.5km s-min=4.3km az=83.0
DJA 12 22:39:32.9±0.9, 2°S±2°×12°3E±°, h13km±7km, M4.7/23, mB5.2/8, mb4.8/14, MLv4.7/23, Mw(mB)4.5/8
ISC 12 22:39:34.3±0.5, 1°82S±0°04×122°66E±0°05, h35km, n64, σ1°49/71, mb4.2/17, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.78	8		Pn	22 39 46.5	-2.3
LUWI					Sn	22 39 56.9	-2.3
LUWI	Luwuk	0.78	8	P	Pn	22 39 46.4	-2.3
APSI	Ampana	1.35	312	P	Pn	22 39 56.3	-0.4
KMSI	Cibinong	2.72	29	P	Pn	22 40 16.2	+0.7
PCI	Palu	2.96	288	P	Pn	22 40 19.0	+0.1
SANI	Sanana	3.33	94	P	Pn	22 40 22.9	-1.1
SANI	Sanana	3.33	94	P	Pn	22 40 23.5	-0.5
SANI				S	Sn	22 41 05.8	+3.4
TOLI2	Tolitoli	3.46	327		Pn	22 40 25.1	-0.6
TOLI2					Sn	22 41 13.3	+7.8
TOLI2	Tolitoli	3.46	327	P	Pn	22 40 26.6	+0.9
MPSI	Mapaga	3.49	308	P	Pn	22 40 25.6	-0.5
SPSI	Sidrap Palu	3.59	233	P	Pn	22 40 27.5	0.0
SPSI				S	Sn	22 41 10.1	+1.4
BNSI	Bone	3.62	225	P	Pn	22 40 26.7	-1.2
BBSI	Bau Bau	3.65	181	P	Pn	22 40 28.7	+0.4
KAPI	Kappang	4.30	222	Pn	Pn	22 40 37.7	+0.4
	112nm,0.3s,baz=355,slow=1.9,SNR=160						
KAPI				Sn	Sn	22 41 27.0	+0.7
	49nm,0.3s,baz=52,slow=22,SNR=8.6						
KAPI				LR	LR	22 42 30.8	
	comp=Z,279nm,18.5s,baz=54,slow=41						
KAPI	Kappang	4.30	222	P	Pn	22 40 37.8	+0.5
BKSI	Bulukumba	4.31	216	P	Pn	22 40 37.3	0.0
NLAI	Namlea	4.66	108	P	Pn	22 40 42.9	+0.8
BSSI	Bau Bau, Buton	4.81	207	P	Pn	22 40 43.5	-0.8
TNTI	Ternate	5.36	61		Pn	22 40 51.3	-0.6
TNTI				Sn	Sn	22 41 53.6	+1.2
TNTI	Ternate	5.36	61	P	Pn	22 40 52.7	+0.8
AAI	Ambon	5.83	109	P	Pn	22 41 00.1	+1.8
	0.4nm111nm,0.7s						
MSAI	Masohi	6.44	104	P	Pn	22 41 09.8	+3.1
	0.4nm101nm,0.8s						
MMRI	Maumere	6.79	184		Pn	22 41 10.8	-0.7
MMRI	Maumere	6.79	184	P	Pn	22 41 11.4	-0.1
EDFI	Ende, Flores	6.96	188	P	Pn	22 41 13.3	-0.6
	0.2nm35nm,0.5s						
SOEI	Soe	8.05	169		Pn	22 41 29.0	+0.1
SOEI	Soe	8.05	169	P	Pn	22 41 29.6	+0.7
	69nm,0.8s						
MYLDM	Lahad Datu	8.10	329	Pn	Pn	22 41 29.0	-0.4
MYLDM	Lahad Datu	8.10	329	P	Pn	22 41 32.0	+2.6
PLAI	Plampang	8.49	215	P	Pn	22 41 35.5	+0.6
SWI	Sorong	8.65	84	P	Pn	22 41 37.8	+0.8
	1µm26nm,0.6s						
FAKI	Fak Fak	9.64	97	P	Pn	22 41 50.1	-0.6
JAGI	Jajag, Banyuwa	10.74	232		Pn	22 42 05.1	-0.7
FITZ	Fitzroy Crossi	16.44	170	Pn	Pn	22 43 21.8	-0.7
	0.3nm,0.3s,baz=11,slow=6.1,SNR=8.5						
	2.9nm,0.7s						
MDSI	Maura Dua	18.64	261	P	Pn	22 43 49.9	+0.2
	18nm,0.9s						
WRAB	Tennant Creek	21.33	148	P	P	22 44 18.5	+0.1
WRAB				IAmb	IAmb	22 44 23.8	
	comp=Z,8.6nm,0.7s						
WRA	Warramunga Arr	21.33	148	P	P	22 44 17.8	-0.6
WRA	Warramunga Arr	21.33	148	P	P	22 44 17.9	-0.6
	comp=Z,7.2nm,0.7s,baz=334,slow=9.8,SNR=34						
	comp=Z,7.2nm,0.7s						
WRKA	Warakurna	23.72	167	P	P	22 44 43.5	+0.2
RPSI	Rantau Prapat	24.15	281	P	P	22 44 46.4	-0.9
RPSI				IAmb	IAmb	22 44 49.4	
	comp=Z,10nm,0.8s						
PSI	Prapat	24.17	281	P	P	22 44 47.3	-0.4
	comp=Z,9.4nm,0.7s,baz=107,slow=3.5,SNR=9.0						
	comp=Z,9.4nm,0.7s						
AS31	Alice Springs	24.30	154	P	P	22 44 48.1	-0.5
ASAR	Alice Springs	24.30	154	P	P	22 44 48.7	0.0
ASAR	Alice Springs	24.30	154	P	P	22 44 49.1	+0.4
	comp=Z,5.5nm,0.6s,baz=326,slow=7.8,SNR=66						
ASAR				PcP	PcP	22 48 28.8	+0.6
	comp=Z,0.3nm,0.7s,baz=308,slow=1.6,SNR=2.4						
	comp=Z,5.5nm,0.6s						
AS01	Alice Springs	24.32	154	P	P	22 44 49.3	+0.4
QIS	Mount Isa	24.91	140	P	P	22 44 54.8	+0.5
MEEK	Meekatharra	24.98	189	P	P	22 44 55.0	+0.1
CMAR	Chiang Mai Arr	30.83	312	P	P	22 45 48.2	+0.9
	comp=Z,1.9nm,0.7s,baz=141,slow=7.4,SNR=23						
CMAR				LR	LR	22 58 41.2	
	comp=Z,24nm,18.5s,baz=190,slow=37						
	comp=Z,1.9nm,0.7s						
CHTO	Chiang Mai	31.05	312	P	P	22 45 48.7	-0.5
CHTO				IAmb	IAmb	22 45 51.1	
	comp=Z,3.7nm,0.8s						
STKA	Stephens Creek	34.83	151	P	P	22 46 21.9	-0.1
STKA	Stephens Creek	34.83	151	P	P	22 46 21.9	-0.1
	comp=Z,3.6nm,0.8s,baz=303,slow=3.9,SNR=6.7						
	comp=Z,3.6nm,0.8s						
JNU	Nakatsue	35.61	12	P	P	22 46 28.8	+0.1
HNR	Honiara	37.84	103	LR	LR	23 05 00.3	
	comp=Z,37nm,18.4s,baz=49,slow=41						
MJAR	Matsushiro Arr	40.82	19	P	P	22 47 10.7	-1.8
	comp=Z,2.5nm,1.0s,baz=186,slow=8.6,SNR=4.5						
	comp=Z,2.5nm,1.0s						
CAN	Canberra	41.36	147	P	P	22 47 17.9	+0.8
CAN				IAmb	IAmb	22 47 18.8	
	comp=Z,10nm,1.2s						
HHC	Hu-ho-hao-te	43.65	348	eP	P	22 47 37.9	+2.2
SONM	Songino Array	51.45	346	P	P	22 48 34.9	-1.3
	comp=Z,0.4nm,0.4s,baz=164,slow=7.5,SNR=4.0						
	comp=Z,0.4nm,0.4s						
MKAR	Makanchi Array	59.98	329	P	P	22 49 36.9	-0.4
MKAR	Makanchi Array	59.98	329	P	P	22 49 36.2	-1.1
	comp=Z,0.8nm,0.7s,baz=127,slow=8.5,SNR=9.4						
MKAR				PcP	PcP	22 50 20.2	-3.0
	comp=Z,0.8nm,0.6s,baz=135,slow=6.0,SNR=6.0						
	comp=Z,0.8nm,0.7s						
MAKZ	Makanchi	60.15	329	P	P	22 49 39.6	+1.1
MAKZ				IAmb	IAmb	22 50 16.4	
	comp=Z,3.0nm,1.4s						
ZALV	Zalesovo Beam	63.82	336	P	P	22 50 02.1	-0.8
	comp=Z,0.6nm,0.6s,baz=155,slow=11,SNR=2.6						
	comp=Z,0.6nm,0.6s						
KURBB	Kurchatov Arra	64.36	331	P	P	22 50 06.0	-0.5
	comp=Z,0.7nm,0.7s,baz=140,slow=6.0,SNR=5.1						
	comp=Z,0.7nm,0.7s						
BVAR	Borovoye Array	69.86	329	P	P	22 50 40.8	-0.6
	comp=Z,0.2nm,0.4s,baz=132,slow=8.0,SNR=2.5						
	comp=Z,0.2nm,0.4s						
QSPA	South Pole Qui	88.13	180	P	P	22 52 21.0	-0.3
	comp=Z,1.8nm,1.1s,baz=0.0,slow=1.0,SNR=2.6						
	comp=Z,1.8nm,1.1s						

IDC 12 22:46:33.0±3.0, 51°71N×178°02E, h0km, mb3.5/9, mbtmp3.5/10, ML3.8/1, MS2.8/1, Error ellipse: s-maj=78.3km s-min=19.6km az=179.0
NEIC 12 22:46:36.3±2.3, 52°0N±0°3×178°2E±0°1, h10km±2km, mb3.9/5, ML3.5/6, Error ellipse: s-maj=43.6km s-min=10.5km az=187.0
ISC 12 22:46:35.1±1.7, 51°8N±0°3×178°10E±0°06, h10km, n26, σ0°93/20, mb3.6/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	2.62	292	Pn	Pn	22 47 17.9	+0.5
	16nm,0.3s,baz=129,slow=6.5,SNR=6.7						
SHEM				Sn	Sn	22 47 50.8	+1.6
	20nm,0.3s,baz=267,slow=22,SNR=10						
	50nm,0.7s						
SMY	Shemya	2.62	292	Pn	Pn	22 47 17.4	0.0
SMY				IAML		22 48 00.9	
	comp=N,267nm,0.8s						
KIWB	Kanaga Island	2.94	88	Pn	Pn	22 47 23.4	+1.5
ADK	Adak	3.23	87	Pn	Pn	22 47 26.2	+0.4
ADK				IAML		22 48 19.1	
	comp=N,64nm,1.1s						
ATKA	Atka Island	4.77	82	Pn	Pn	22 47 45.8	-1.1
ATKA				IAML		22 48 50.0	
	comp=E,54nm,1.5s						
ATKA				IAML		22 49 20.9	
	comp=N,43nm,1.4s						
MA2	Magadan	17.14	308	LR	LR	22 56 26.7	
	comp=N,30nm,18.2s,baz=102,slow=35						
STLK	Strandline Lak	18.97	48	P	Pn	22 50 57.0	-0.1
STLK				IAmb	IAmb	22 51 06.1	
	comp=Z,8.5nm,1.0s						
KTH	Kantishna Hill	20.05	42	P	P	22 51 08.1	0.0
KTH				IAmb	IAmb	22 51 17.8	
	comp=Z,9.7nm,1.1s						
H21K	Melozitna Rive	20.22	36	P	P	22 51 09.8	0.0
TRF	Thorofare Moun	20.28	43	P	P	22 51 10.2	-0.5
ILAR	Eielson Array	22.13	41	P	P	22 51 30.3	-0.2
	comp=Z,1.0nm,1.0s,baz=245,slow=9.0,SNR=6.1						
	comp=Z,1.0nm,1.0s						
D27M	Malcolm River	25.87	32	P	P	22 52 05.0	-1.6
D27M				IAmb	IAmb	22 52 11.6	
	comp=Z,2.3nm,1.0s						
H11N2	WAKE ISLAND Hy	33.22	200	T	T	23 28 25.2	
	baz=11,slow=76,SNR=8.8						
H11N3	WAKE ISLAND Hy	33.23	199	T	T	23 28 26.6	
	baz=11,slow=76,SNR=7.5						
H11N1	WAKE ISLAND Hy	33.23	200	T	T	23 28 26.9	
	baz=11,slow=76,SNR=7.0						
H11S1	WAKE ISLAND Hy	34.44	199	T	T	23 29 53.8	
	baz=11						
H11S3	WAKE ISLAND Hy	34.46	199	T	T	23 29 56.6	
	baz=11						
H11S2	WAKE ISLAND Hy	34.46	199	T	T	23 29 58.5	
	baz=11						
YKA	Yellowknife Ar	36.32	46	P	P	22 53 38.9	+0.4
	comp=Z,0.5nm,0.8s,baz=286,slow=8.0,SNR=5.1						
	comp=Z,0.5nm,0.8s						
SONM	Songino Array	44.71	295	P	P	22 54 47.0	-1.2
	comp=Z,0.3nm,0.4s,baz=58,slow=9.2,SNR=1.9						
	comp=Z,0.3nm,0.4s						
PDAR	Pinedale Array	48.00	71	P	P	22 55 15.0	+0.8
	comp=Z,0.2nm,0.6s,baz=317,slow=8.3,SNR=3.0						
	comp=Z,0.2nm,0.6s						
KURBB	Kurchatov Arra	57.40	312	P	P	22 56 22.7	-0.6
	comp=Z,0.7nm,0.7s,baz=43,slow=6.5,SNR=6.4						
	comp=Z,0.7nm,0.7s						
MKAR	Makanchi Array	58.23	306	P	P	22 56 28.1	-1.1
	comp=Z,0.4nm,0.9s,baz=38,slow=5.7,SNR=3.5						
	comp=Z,0.4nm,0.9s						
BVAR	Borovoye Array	59.28	318	P	P	22 56 36.2	-0.2
	comp=Z,0.9nm,0.7s,baz=45,slow=7.1,SNR=7.6						
	comp=Z,0.9nm,0.7s						
FINES	FINESS Array B	64.89	346	P	P	22 57 15.0	+1.1
	comp=Z,1.0nm,0.7s,baz=20,slow=12,SNR=2.4						
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	66.99	353	P	P	22 57 27.5	0.0
	comp=Z,0.4nm,0.7s,baz=16,slow=11,SNR=2.2						
	comp=Z,0.4nm,0.7s						

IDC 12 22:49:00.7±1.2, 1°88S×122°69E, h0km, mb3.4/5, mbtmp3.6/7, ML3.1/2, MS2.7/1, Error ellipse: s-maj=44.5km s-min=19.3km az=65.0
DJA 12 22:49:05.1±1.5, 2°S±3°×12°2E±°, h18km±19km, M4.4/15, mb4.5/5, mB5.1/4, MLv4.3/15, Mw(mB)4.4/4
ISC 12 22:49:05.8±0.9, 2°01S±0°06×122°53E±0°09, h35km, n16, σ0°84/17, mb3.4/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.40	321	P	Pn	22 49 28.3	-0.6
PCI	Palu	2.91	292	P	Pn	22 49 49.6	0.0
KMSI	Cibinong	2.95	30	P	Pn	22 49 51.1	+0.9
SPSI	Sidrap Palu	3.37	235	P	Pn	22 49 55.8	-0.2
BNSI	Bone	3.39	225	P	Pn	22 49 55.7	-0.5
MPSI	Mapaga	3.51	312	P	Pn	22 49 57.9	-0.1
BKSI	Bulukumba	4.07	216	P	Pn	22 50 05.3	-0.3
KAPI	Kappang	4.07	223	Pn	Pn	22 50 05.3	-0.3
	5.4nm,0.3s,baz=16,slow=2.6,SNR=14						
KAPI				Sn	Sn	22 50 53.6	+1.5
	5.2nm,0.3s,baz=38,slow=19,SNR=1.6						
KAPI				LR	LR	22 52 04.3	
	comp=Z,89nm,20.1s,baz=28,slow=43						
	42nm,0.5s						
BSSI	Bau Bau, Buton	4.58	206	P	Pn	22 50 13.0	+0.4
EDFI	Ende, Flores	6.75	187	P	Pn	22 50 41.9	-0.6
FITZ	Fitzroy Crossi	16.28	169	Pn	Pn	22 52 50.9	-1.0
	baz=352,slow=7.1,SNR=1.7						
	1.5nm,0.9s						
WRA	Warramunga Arr	21.23	148	P	P	22 53 48.6	-0.3
	1.4nm,0.7s,baz=326,slow=11,SNR=11						
	1.4nm,0.7s						
ASAR	Alice Springs	24.18	154	P	P	22 54 19.9	+0.7
	1.9nm,0.6s,baz=330,slow=7.5,SNR=15						
	1.9nm,0.6s						
CMAR	Chiang Mai Arr	30.86	312	P	P	22 55 20.5	+1.4
	0.6nm,0.9s,baz=120,slow=8.7,SNR=5.1						
	0.6nm,0.9s						
SONM	Songino Array	51.61	346	P	P	22 58 07.5	-1.4
	0.3nm,0.8s,baz=165,slow=9.2,SNR=2.0						
	0.3nm,0.8s						
MKAR	Makanchi Array	60.08	329	P	P	22 59 09.4	-0.1
	0.1nm,0.5s,baz=126,slow=7.9,SNR=1.6						
	0.1nm,0.5s						

IDC 12 22:59:23.4±0.5, 1°75S×122°61E, h0km, mb4.2/20, mbtmp4.3/21, ML5.0/1, MS3.4/4, Error ellipse: s-maj=22.6km s-min=11.7km az=74.0
MOS 12 22:59:25.0±1.1, 1°79S×122°60E, h17km, mb4.9/19, Error ellipse: s-maj=10.7km s-min=7.0km az=123.1
*NEIC 12 22:59:27.3±2.4, 1°92S±0°04×122°62E±0°06, h10km, mb4.8/34, Error ellipse: s

EDFI	Ende, Flores	6.90 188	P	Pn	23 01 07.8	+0.4
	comp=Z,0.3nmcomp=Z,70nm,0.6s					
SOEI	Soe	8.01 168		Pn	23 01 22.8	+0.2
SOEI	Soe	8.01 168	P	Pn	23 01 23.4	+0.8
	comp=Z,1μmcomp=Z,159nm,0.9s					
MYLDM	Lahad Datu	8.11 330		Pn	23 01 26.4	+2.5
MYLDM	Lahad Datu	8.11 330	P	Pn	23 01 27.4	+3.5
WBSI	Waikabubak, Su	8.37 202	P	Pn	23 01 27.9	+0.5
	comp=Z,29nm,0.7s					
PLAI	Plampang	8.43 215	P	Pn	23 01 30.3	+2.0
SWI	Sorong	8.70 84	P	Pn	23 01 33.4	+1.4
	comp=Z,1μmcomp=Z,67nm,0.5s					
SWI	Sorong	8.70 84	P	Pn	23 01 32.9	+0.9
SWI			pmax	pmax		
	comp=Z,63nm,0.4s					
SRBI	Singaraja	9.62 230	P	Pn	23 01 45.2	+0.6
	comp=Z,29nm,0.5s					
FAKI	Fak Fak	9.68 96		Pn	23 01 45.9	+0.4
FAKI	Fak Fak	9.68 96	P	Pn	23 01 45.8	+0.3
FAKI	Fak Fak	9.68 96	P	Pn	23 01 46.9	+1.4
	comp=Z,52nm,0.7s					
KKM	Kota Kinabalu	10.12 321	Pn	Pn	23 01 54.1	+2.5
KKM	Kota Kinabalu	10.12 321	P	Pn	23 01 54.5	+2.9
JAGI	Jajag, Banyuwa	10.68 232	Pn	Pn	23 01 59.4	+0.3
JAGI	Jajag, Banyuwa	10.68 232	P	Pn	23 02 00.1	+1.0
	comp=Z,16nm,0.8s					
GMJI	Gumukmas	11.13 235	P	Pn	23 02 08.0	+2.7
SBUM	Sibu	11.24 292	Pn	Pn	23 02 06.8	0.0
MTN	Manton Dam	13.79 143		Pn	23 02 43.5	+1.8
KDU	Kakadu	14.53 138	P	Pn	23 02 53.1	+1.3
	comp=Z,33nm,1.0s					
TPI	Tanjungpandan	14.97 266	P	P	23 03 03.6	+0.1
	comp=Z,26nm,1.2s					
KNRA	Kununurra	15.01 157	P	Pn	23 02 58.2	-0.1
	comp=Z,14nm,0.5s					
LEM	Lembang	15.74 251	P	P	23 03 11.8	-0.4
	comp=Z,24nm,0.4s					
FITZ	Fitzroy Crossi	16.41 170	Pn	Pn	23 03 13.1	-3.4
	comp=Z,0.2nm,0.3s,baz=16,slow=6.7,SNR=6.9					
MDSI	Maura Dua	18.59 261	P	Pn	23 03 45.0	+1.2
	comp=Z,37nm,1.1s					
MMPI	Merauke	18.87 111	P	Pn	23 03 48.7	+1.6
MYKOM	Kota Tinggi	19.11 281	P	Pn	23 03 50.0	-0.1
MYKOM			IAmb	IAmb	23 03 56.7	
	comp=Z,52nm,1.6s					
PSAC1	Pilbara Seismi	19.74 188	P	P	23 03 57.5	+1.3
	comp=Z,16nm,2.2s					
KSI	Kapahiang	20.08 264	P	Pn	23 04 01.2	-0.5
	comp=Z,53nm,0.8s					
WRAB	Tennant Creek	21.31 148	P	P	23 04 12.4	-0.8
WRAB			IAmb	IAmb	23 04 16.9	
	comp=Z,30nm,0.8s					
WRAB	Tennant Creek	21.31 148	*c iP*	P	23 04 13.0	-0.3
WRAB			pmax	pmax		
	comp=Z,18nm,0.8s					
WRA	Warramunga Arr	21.32 148		P	23 04 12.6	-0.7
WRA	Warramunga Arr	21.32 148	P	P	23 04 12.9	-0.4
	comp=Z,32nm,0.8s,baz=333,slow=9.9,SNR=67					
WRA			PcP	PcP	23 08 17.3	-0.7
	comp=Z,0.6nm,0.7s,baz=313,slow=1.9,SNR=2.8					
	comp=Z,32nm,0.8s					
WRA	Warramunga Arr	21.32 148	*i* P	P	23 04 13.3	0.0
WRA			pmax	pmax		
	comp=Z,40nm,0.8s					
GIRL	Giralia	22.20 201	P	P	23 04 22.9	+0.1
GIRL	Giralia	22.20 201	P	P	23 04 23.7	+0.9
	comp=Z,155nm,1.4s					
PPI	Padang Panjang	22.25 273	P	P	23 04 24.6	+1.1
	comp=Z,28nm,1.0s					
KULM	Kulim	23.06 288	P	P	23 04 34.0	+2.0
KULM			IAmb	IAmb	23 04 38.0	
	comp=Z,53nm,2.0s					
MNSI	Mandailing Nat	23.18 276	P	P	23 04 34.4	+1.2
	comp=Z,88nm,0.8s					
SISI	Saibi	23.52 271	P	P	23 04 38.5	+1.8
	comp=Z,55nm,1.2s					
COEN	Coen	23.61 122	P	P	23 04 37.1	-0.4
COEN			IAmb	IAmb	23 04 49.7	
	comp=Z,44nm,1.6s					
COEN	Coen	23.61 122	P	P	23 04 38.4	+0.9
	comp=Z,20nm,2.1s					
COEN	Coen	23.61 122	P	P	23 04 39.1	+1.5
WRKA	Warakurna	23.68 167	P	P	23 04 38.1	-0.1
	comp=Z,71nm,1.5s					
WRKA	Warakurna	23.68 167	P	P	23 04 38.3	+0.1
UBPT	Khong Chiam	24.04 316		P	23 04 42.6	+1.0
RPSI	Rantau Prapat	24.11 281	P	P	23 04 42.9	+0.6
RPSI			IAmb	IAmb	23 04 47.3	
	comp=Z,30nm,0.8s					
PSI	Prapat	24.13 281	P	P	23 04 42.9	+0.2
PSI			pmax	pmax		
	comp=Z,30nm,0.8s					
AS15	Alice Springs	24.25 154	P	P	23 04 43.8	+0.2
	comp=Z,45nm,0.8s					
AS13	Alice Springs	24.26 154	P	P	23 04 43.7	0.0
	comp=Z,23nm,0.9s					
AS31	Alice Springs	24.28 154		P	23 04 44.0	+0.2
ASAR	Alice Springs	24.28 154		P	23 04 43.8	-0.1
ASAR	Alice Springs	24.28 154	P	P	23 04 44.0	+0.1
	comp=Z,20nm,0.7s,baz=325,slow=7.7,SNR=203					
ASAR			PcP	PcP	23 08 23.0	-1.1
	comp=Z,1.3nm,0.6s,baz=353,slow=2.0,SNR=8.7					
ASAR			LR	LR	23 15 17.2	
	comp=Z,101nm,18.2s,baz=16,slow=39					
	comp=Z,20nm,0.7s					
ASAR	Alice Springs	24.28 154	P	P	23 04 43.8	-0.1
AS01	Alice Springs	24.30 154	P	P	23 04 44.4	+0.4
QIS	Mount Isa	24.91 139	P	P	23 04 49.3	-0.3
QIS	Mount Isa	24.91 139	P	P	23 04 49.3	-0.3
MEEK	Meekatharra	24.93 189	P	P	23 04 49.8	+0.1
	comp=Z,31nm,1.4s					
MEEK	Meekatharra	24.93 189	P	P	23 04 49.7	0.0
TPUB	Ta-pu	25.09 356	P	P	23 04 52.2	+1.1
GSI	Gunungsitoli	25.23 277		P	23 04 52.4	-0.2
PMG	Port Moresby	25.53 108	P	P	23 04 56.0	+0.7
PMG			IAmb	IAmb	23 04 56.8	
	comp=Z,20nm,0.7s					
PMG	Port Moresby	25.53 108	LR	LR	23 16 14.8	
	comp=Z,71nm,18.4s,baz=276,slow=40					
PMG	Port Moresby	25.53 108	*d iP*	P	23 04 56.2	+0.9
PMG			pmax	pmax		
	comp=Z,20nm,0.7s					
SSLB	Suanglung	25.55 356	P	P	23 04 57.8	+2.5
OOD	Oodnadatta	28.66 155	P	P	23 05 23.9	+0.7
BLDU	Ballidu	29.14 190	P	P	23 05 28.9	+1.4
	comp=Z,17nm,2.1s					
FORT	Forrest	29.22 170	P	P	23 05 27.8	-0.4
FORT	Forrest	29.22 170	P	P	23 05 27.8	-0.4
CMAR	Chiang Mai Arr	30.83 312	P	P	23 05 42.5	-0.1
	comp=Z,1.8nm,0.7s,baz=137,slow=6.9,SNR=16					
CMAR			PcP	PcP	23 08 39.1	-0.9
	comp=Z,0.6nm,0.7s,baz=134,slow=3.2,SNR=5.3					
	comp=Z,1.8nm,0.7s					
CHTO	Chiang Mai	31.05 312	P	P	23 05 45.6	+1.1
CHTO	Chiang Mai	31.05 312	P	P	23 05 45.6	+1.1
CHTO			pmax	pmax		
	comp=Z,5.0nm,0.8s					
LCRK	Leigh Creek	32.05 154	P	P	23 05 55.0	+1.8
KMI	Kunming	33.02 326	P	P	23 06 05.1	+3.0
KMI			pmax	pmax		
	comp=Z,9.0nm,0.8s					
BBOO	Buckleboo	33.28 159	P	P	23 06 03.3	-0.6
BBOO			IAmb	IAmb	23 06 04.0	
	comp=Z,11nm,0.8s					
BBOO	Buckleboo	33.28 159	P	P	23 06 03.5	-0.5
	comp=Z,19nm,0.8s					
BBOO	Buckleboo	33.28 159	P	P	23 06 03.6	-0.3
NJ2	Nanjing	33.92 354	*eP*	P	23 06 14.7	+5.2
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.6s					
PZH	PanZhiHua	34.66 326	P	P	23 06 18.8	+2.6
PZH			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,130nm,5.1s					
STKA	Stephens Creek	34.81 151	P	P	23 06 17.4	+0.2
	comp=Z,82nm,1.1s					
STKA	Stephens Creek	34.81 151	P	P	23 06 17.4	+0.2
	comp=Z,8.9nm,0.7s,baz=321,slow=7.6,SNR=20					
STKA			PcP	PcP	23 08 49.5	-1.2
	comp=Z,1.2nm,0.5s,baz=315,slow=4.3,SNR=1.7					
	comp=Z,8.9nm,0.7s					
STKA	Stephens Creek	34.81 151	P	P	23 06 17.5	+0.2
STKA	Stephens Creek	34.81 151	*c iP*	P	23 06 17.2	-0.1
HTT	Hallett	34.93 156	P	P	23 06 18.6	+0.2
	comp=Z,4.0nm,1.1s					
HTT	Hallett	34.93 156	P	P	23 06 19.3	+1.0
CMSA	Cobar Meteorol	36.69 146	P	P	23 06 33.7	+0.3
	comp=Z,15nm,0.9s					
CMSA	Cobar Meteorol	36.69 146	P	P	23 06 34.1	+0.7
CD2	Chengdu	37.21 333	P	P	23 06 41.6	+3.7
CD2			pmax	pmax		
	comp=Z,10.0nm,0.4s					
ARPS	Mount Arapiles	39.01 155	P	P	23 06 53.5	+0.6
	comp=Z,85nm,0.7s					
ARPS	Mount Arapiles	39.01 155	P	P	23 06 54.1	+1.1
ARMA	Armidale	39.53 139	P	P	23 06 57.8	+0.3
ARMA			IAmb	IAmb	23 07 12.5	
	comp=Z,36nm,1.6s					
JGF	Kuroka	39.74 19	P	P	23 06 58.1	-1.0
SHL	Shillong	40.35 315	P	P	23 07 09.0	+4.5
MJAR	Matsushiro Arr	40.87 19	P	P	23 07 05.8	-2.7
	comp=Z,4.5nm,0.7s,baz=192,slow=9.0,SNR=15					
	comp=Z,4.5nm,0.7s					
MGCD	Mangrove Creek	41.06 142	P	P	23 07 10.4	+0.3
	comp=Z,105nm,1.1s					
TOO	Toolangi	41.30 152	P	P	23 07 12.7	+0.7
TOO	Toolangi	41.30 152	P	P	23 07 12.8	+0.8
	comp=Z,4.7nm,0.7s					
TOO	Toolangi	41.30 152	P	P	23 07 12.7	+0.7
TOO			pmax	pmax		
	comp=Z,2.0nm,0.7s					
CAN	Canberra	41.34 147	P	P	23 07 12.8	+0.4
CAN			IAmb	IAmb	23 07 14.3	
	comp=Z,10nm,0.8s					
CAN	Canberra	41.34 147	P	P	23 07 13.5	+1.1
	comp=Z,18nm,0.9s					
CAN	Canberra	41.34 147	P	P	23 07 12.9	+0.4
CAN			pmax	pmax		
	comp=Z,10.0nm,0.8s					
CNB	Canberra Magne	41.54 146	P	P	23 07 14.8	+0.7
	comp=Z,9.3nm,1.1s					
LZH	Lanzhou	41.62 337	*eP*	P	23 07 13.4	-1.4
LZH			sP	sP	23 07 20.5	+3.9
LZH			pmax	pmax		
	comp=Z,20nm,1.5s					
LZH			LR	LR		
	comp=N,250nm,15.1s					
LZH			LR	LR		
	comp=E,310nm,15.5s					
LZH			LR	LR		
	comp=Z,180nm,18.6s					
BJI	Beijing	42.12 353	P	P	23 07 18.4	-0.1
BJI			pmax	pmax		
	comp=Z,3.0nm,0.7s					
BJI			pmax	pmax		
	comp=Z,49nm,5.7s					
JMM	Marumori	42.96 21	P	P	23 07 25.4	-0.1
JMM			IAmb	IAmb	23 07 41.4	
	comp=Z,34nm,1.3s					
HHC	Hu-ho-hao-te	43.69 348	*eP*	P	23 07 35.8	+4.3
HHC			pmax	pmax		
	comp=Z,9.0nm,0.6s					
HHC			pmax	pmax		
	comp=Z,56nm,4.5s					
GTA	Gaotai	46.10 335	*eP*	P	23 07 52.4	+1.6
GTA			pP	sP	23 07 56.8	+4.2
GTA			PcP	PcP	23 09 27.9	+0.9
GTA			pmax	pmax		
	comp=Z,7.0nm,0.9s					
GTA			LR	LR		
	comp=N,74nm,16.3s					
GTA			LR	LR		
	comp=E,140nm,15.9s					
GTA			LR	LR		
	comp=Z,150nm,16.7s					
USRK	Ussuriysk Ar.	46.62 9	P	P	23 07 52.3	-2.2
	comp=Z,3.7nm,0.6s,baz=180,slow=4.1,SNR=8.2					
	comp=Z,3.7nm,0.6s					
ASAJ	Asahikawa	49.14 19	P	P	23 08 13.7	-0.4
ASAJ			pmax	pmax		
	comp=Z,20nm,1.4s					
JKA	Kamikawa-asahi	49.15 19	P	P	23 08 13.7	-0.5
JKA			IAmb	IAmb	23 09 13.1	
	comp=Z,20nm,1.4s					
ULN	Ulaanbaatar	51.36 347	*ceP*	P	23 08 30.9	-0.2
ULN			pmax	pmax		
	comp=Z,5.0nm,1.1s					
SONM	Songino Array	51.48 346	P	P	23 08 32.0	0.0
SONM	Songino Array	51.48 346	P	P	23 08 30.1	-1.9
	comp=Z,0.7nm,0.7s,baz=158,slow=9.0,SNR=4.2					
SONM			PcP	PcP	23 09 44.6	-1.7
	comp=Z,1.4nm,0.7s,baz=158,slow=6.0,SNR=4.0					
	comp=Z,0.7nm,0.7s					
SONM	Songino Array	51.48 346	P	P	23 08 32.0	0.0
SONM			pmax	pmax		
	comp=Z,2.0nm,0.9s					
KLR	Kul'dur	51.50 8	*eP*	P	23 08 32.4	+0.5
KLR			pmax	pmax		
	comp=Z,4.0nm,1.5s					
HEH	HeiHe	52.08 4	*eP*	P	23 08 33.9	-2.3
HEH			pmax	pmax		
	comp=Z,5.0nm,0.7s					
WMQ	Urumqi	55.19 330	*eP*	P	23 09 03.4	+4.2
WMQ			pP	sP	23 09 05.3	+4.3
WMQ			pmax	pmax		
	comp=Z,24nm,0.6s					
ZEA	Zeya	55.54 3	*eP*	P	23 09 02.2	+0.7
DCZ	Deep Cove	58.38 145	P	P	23 09 21.0	-0.8
WHZ	Wether Hill Ro	59.08 145	P	P	23 09 26.1	-0.7
KSH	Kashi	59.31 319	P	P	23 09 33.4	+4.8
KSH			pmax	pmax		
	comp=Z,5.0nm,0.9s					
MK31	Makanchi Array	59.99 329	*c iP*	P	23 09 33.1	+0.1
MKAR	Makanchi Array	59.99 329	P	P	23 09 32.9	-0.1
MKAR	Makanchi Array	59.99 329	P	P	23 09 31.8	-1.2
	comp=Z,2.2nm,0.7s,baz=128,slow=8.4,SNR=19					
MKAR			PcP	PcP	23 10 17.2	-1.9
	comp=Z,1.5nm,0.6s,baz=114,slow=6.5,SNR=6.1					
	comp=Z,2.2nm,0.7s					
MKAR	Makanchi Array	59.99 329	P	P	23 09 32.9	-0.1
MAKZ	Makanchi	60.16 329	P	P	23 09 36.0	+1.8
MAKZ	Makanchi	60.16 329	P	P	23 09 36.0	+1.8
MAKZ			pmax	pmax		
	comp=Z,3.0nm,0.9s					
KBL	Kabul	61.85 311	P	P	23 09 44.7	-1.4
KBL			pmax	pmax		
	comp=Z,5.0nm,0.6s					
PEA0B	Petropavlovsk-	62.14 23	P	P	23 09 47.1	-0.3
PEA0B			IAmb	IAmb	23 10 39.2	
	comp=Z,12nm,1.2s					
PEA0B	Petropavlovsk-	62.14 23	P	P	23 09 47.1	-0.3
PEA0B			pmax	pmax		
	comp=Z,12nm,1.3s					
PETK	Petropavlovsk-	62.14 23	P	P	23 09 47.5	+0.1
PETK	Petropavlovsk-	62.14 23	P	P	23 09 46.1	-1.3
	comp=Z,0.9nm,0.6s,baz=188,slow=4.5,SNR=4.1					
	comp=Z,0.9nm,0.6s					
PETK	Petropavlovsk-	62.14 23	P	P	23 09 47.5	+0.1
GAR	Garm	62.87 316	P	P	23 09 53.1	+0.3
GAR			IAmb	IAmb	23 09 57.2	
	comp=Z,6.8nm,0.9s					
ARK	Arkit	63.10 320	P	P	23 09 54.3	+0.1
ARK			pmax	pmax		
	comp=Z,7.0nm,1.0s					
TRKS	Terek-Say	63.51 319	P	P	23 09 57.2	+0.2
TRKS			pmax	pmax		
	comp=Z,2.0nm,1.0s					
ZALV	Zalesovo Beam	63.84 336	P	P	23 10 00.3	+1.5
ZALV	Zalesovo Beam	63.84 336	P	P	23 09 56.9	-1.8
	comp=Z,1.7nm,0.7s,baz=116,slow=6.8,SNR=8.6					
	comp=Z,1.7nm,0.7s					
ZALV	Zalesovo Beam	63.84 336	*i* P	P	23 09 57.2	-1.5
ZALV			pmax	pmax		
	comp=Z,1.0nm,0.5s					
KURBB	Kurchatov Arra	64.38 331	P	P	23 10 00.5	-1.8
	comp=Z,2.4nm,0.8s,baz=138,slow=5.8,SNR=17					
KURBB			PcP	PcP	23 10 34.5	-2.2
	comp=Z,1.2nm,0.8s,baz=138,slow=4.3,SNR=4.7					
	comp=Z,2.4nm,0.8s					
KURK	Kurchatov	64.39 331	P	P	23 10 02.0	-0.4
KURK			IAmb	IAmb	23 10 07.0	
	comp=Z,8.9nm,0.8s					
KURK	Kurchatov	64.39 331	*d iP*	P	23 10 01.6	-0.8
KURK			pmax	pmax		
	comp=Z,9.0nm,0.8s					
BVAR	Borovoye Array	69.87 329	P	P	23 10 35.6	-1.6
	comp=Z,1.7nm,1.0s,baz=126,slow=7.5,SNR=6.7					
	comp=Z,1.7nm,1.0s					
BRVK	Borovoye	69.94 329	P	P	23 10 36.8	-0.9
BRVK			IAmb	IAmb	23 10 42.2	
	comp=Z,5.7nm,1.2s					
BRVK	Borovoye	69.94 329	*eP*	P	23 10 36.6	-1.0
BRVK			pmax	pmax		
	comp=Z,5.0nm,1.2s					
NRIK	Noril'sk	74.92 348	P	P	23 11 04.9	-2.1
	comp=Z,1.2nm,0.5s,baz=172,slow=3.2,SNR=4.9					
	comp=Z,1.2nm,0.5s					
NRIK	Noril'sk	74.92 348	*eP*	P	23 11 06.5	-0.5
NRIK			pmax	pmax		
	comp=Z,10.0nm,2.6s					
ARTI	Arti	77.59 329	*d iP*	P	23 11 23.7	+1.2
ARTI					23 14 16.0	
ARTI			S	S	23 21 18.3	+3.8
ARTI			SS	SS	23 26 15.9	+1.9
ARTI			pmax	pmax		
	comp=Z,6.0nm,1.4s					
VNDA	Vanda	78.47 172	P	P	23 11 26.4	-0.5
VNDA				pP	23 11 28.5	+0.2
VNDA			IAmb	IAmb	23 11 41.2	
	comp=Z,7.3nm,1.4s					
VNDA	Vanda	78.47 172	P	P	23 11 26.2	-0.8
	comp=Z,2.1nm,0.7s,baz=318,slow=7.2,SNR=21					
	comp=Z,2.1nm,0.7s					
KIRV	Kirov	82.89 330	*eP*	P	23 11 49.1	-1.8
KBZ	Khabaz	83.85 314	P	P	23 11 54.3	-1.9
	comp=Z,0.7nm,0.7s,baz=131,slow=3.5,SNR=3.9					
	comp=Z,0.7nm,0.7s					
KBZ	Khabaz	83.85 314	*eP*	P	23 11 57.7	+1.5
KBZ			pmax	pmax		
	comp=Z,2.0nm,1.0s					
KMBO	Kilima Mbogo	85.33 269	P	P	23 12 05.1	+0.4
KMBO			IAmb	IAmb	23 12 10.3	
	comp=Z,6.1nm,1.2s					
KMBO	Kilima Mbogo	85.33 269	P	P	23 12 02.0	-2.7
	comp=Z,0.4nm,0.3s,baz=64,slow=23,SNR=6.5					
	comp=Z,0.4nm,0.3s					
KMBO	Kilima Mbogo	85.33 269	P	P	23 12 02.0	-2.7
QSPA	South Pole Qui	88.08 180	P	P	23 12 15.9	-1.0
	comp=Z,2.4nm,0.9s,baz=300,slow=1.1,SNR=12					
	comp=Z,2.4nm,0.9s					
BR131	Keskin Array S	90.39 310	*eP*	P	23 12 27.5	-0.8
BRTR	Keskin Array B	90.39 310	P	P	23 12 25.6	-2.7
	comp=Z,0.2nm,0.4s,baz=116,slow=4.3,SNR=3.5					
	comp=Z,0.2nm,0.4s					
COLA	College	91.47 25	P	P	23 12 35.6	+3.0
ILAR	Eielson Array	91.89 25		P	23 12 38.6	+4.1
ILAR	Eielson Array	91.89 25	P	P	23 12 32.6	-2.0
	comp=Z,0.5nm,0.6s,baz=238,slow=5.7,SNR=10					
	comp=Z,0.5nm,0.6s					
AKASG	Malin Array Be	93.58 321	LR	LR	23 59 55.1	
	comp=Z,39nm,18.9s,baz=60,slow=39					
FINES	FINESS Array B	94.76 331	P	P	23 12 45.0	-2.8
	comp=Z,1.6nm,1.0s,baz=101,slow=8.0,SNR=2.1					
	comp=Z,1.6nm,1.0s					
FINES	FINESS Array B	94.76 331	P	P	23 12 45.0	-2.8
PDAR	Pinedale Array	118.24 41	PKP	PKPdf	23 18 13.4	-1.1
	comp=Z,0.2nm,0.6s,baz=294,slow=2.5,SNR=4.0					
CPUP	Villa Florida	151.97 180	PKPbc	PKiKP	23 19 22.6	-0.3
	comp=Z,2.6nm,0.8s,baz=116,slow=1.9,SNR=7.4					

IDC ***12*** *23:13:08.5±0.9, 7°.49N×93°.74E, h0km, mb3.8/12, mbtmp3.7/14, ML3.7/2, Error ellipse: s-maj=37.6km s-min=16.7km az=56.0*
BKK ***12*** *23:13:18.9±1.1, 7°N±4°×9°5E±°, h21km±11km, M4.4/11, mB4.5/5, mb4.2/2, Mjma4.2/11, ML4.9/6, MLv4.7/7, Mw(mB)3.7/5*
ISC 12 23:13:14.3±0.8, 7°.72N±0°.10×94°.2E±0°.1, h35km, n28, σ1°83/17, mb3.8/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNTT	Ranong	4.53	68	Pn	Pn	23 14 18.6	-1.8
SRIT	Nakonsritamara	5.41	80	Pn	Pn	23 14 28.9	-3.6
PSI	Prapat	6.78	136	Pn	Pn	23 14 51.4	0.0
	2.5nm,0.3s,baz=301,slow=13,SNR=5.9						
	4.9nm,0.4s						
UTHA	Uthaitani	9.32	33	Pn	Pn	23 15 14.8	-11
PHIT	Phitsanulok	11.19	32	Pn	Pn	23 15 56.8	+5.0
	0.1nm13nm,0.9s						
CM05	Chiang Mai Arr	11.57	23	Pn	Pn	23 16 04.6	+7.5
CM13	Chiang Mai Arr	11.57	23	Pn	Pn	23 16 04.8	+7.7
CMAR	Chiang Mai Arr	11.62	23	Pn	Pn	23 16 00.2	+2.4
	0.1nm,0.3s,baz=216,slow=14,SNR=4.3						
	0.3nm,0.4s						
PZH	PanZhiHua	20.00	20	P	Pn	23 17 53.7	+7.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
H08S3	Diego Garcia H	26.49	235	T	T	23 45 25.5	
	baz=56						
H08S2	Diego Garcia H	26.50	235	T	T	23 45 19.6	
	baz=56						
H08S1	Diego Carcia H	26.51	235	T	T	23 45 27.2	
	baz=56						
MKAR	Makanchi Array	40.25	347	P	P	23 20 48.3	+0.5
	comp=Z,1.9nm,0.9s,baz=167,slow=8.4,SNR=16						
	comp=Z,1.9nm,0.9s						
SONM	Songino Array	41.29	12	P	P	23 20 59.4	+2.9
	comp=Z,0.3nm,0.8s,baz=193,slow=5.9,SNR=3.9						
	comp=Z,0.3nm,0.8s						
KURBB	Kurchatov Arra	44.71	346	P	P	23 21 24.5	+0.6
	comp=Z,2.6nm,0.9s,baz=163,slow=7.4,SNR=4.1						
	comp=Z,2.6nm,0.9s						
ZALV	Zalesovo Beam	46.72	352	P	P	23 21 41.3	+1.6
	comp=Z,1.3nm,0.7s,baz=168,slow=7.6,SNR=5.6						
	comp=Z,1.3nm,0.7s						
WRA	Warramunga Arr	48.12	125	P	P	23 21 51.6	+0.5
	comp=Z,0.7nm,0.9s,baz=305,slow=9.1,SNR=4.7						
	comp=Z,0.7nm,0.9s						
BVAR	Borovoye Array	49.16	341	P	P	23 21 58.6	-0.1
	comp=Z,1.0nm,0.8s,baz=147,slow=3.4,SNR=4.7						
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	49.76	130	P	P	23 22 05.1	+1.3
	comp=Z,1.0nm,0.7s,baz=302,slow=7.3,SNR=12						
	comp=Z,1.0nm,0.7s						
BRTR	Keskin Array B	62.58	311	P	P	23 23 32.7	-2.6
	comp=Z,0.4nm,0.8s,baz=128,slow=6.8,SNR=5.3						
	comp=Z,0.4nm,0.8s						
H04N2	CROZET ISLANDS	65.63	211	T	T	00 34 18.3	
	baz=47						
H04N1	CROZET ISLANDS	65.64	211	T	T	00 34 30.2	
	baz=47						
H04N3	CROZET ISLANDS	65.65	211	T	T	00 34 14.0	
	baz=47						
FINES	FINESS Array B	72.88	332	P	P	23 24 38.4	-1.1
	comp=Z,2.1nm,1.0s,baz=115,slow=2.7,SNR=4.4						
	comp=Z,2.1nm,1.0s						
GERES	GERESS Array B	77.99	318	P	P	23 25 08.7	-0.6
	comp=Z,0.3nm,0.5s,baz=72,slow=4.3,SNR=3.7						
	comp=Z,0.3nm,0.5s						
HFS	Hagfors	78.62	330	P	P	23 25 11.6	-0.8
	comp=Z,0.4nm,0.4s,baz=96,slow=11,SNR=4.5						
	comp=Z,0.4nm,0.4s						
NOA	NORSAR Array B	79.90	331	P	P	23 25 17.9	-1.5
	comp=Z,0.5nm,0.9s,baz=93,slow=5.5,SNR=3.4						
	comp=Z,0.5nm,0.9s						
CFA	Coronel Fontan	151.15	212	PKPbc	PKiK

TEYL				*e*S		**Sn**	**23 13 45.7**	**+1.3**
WHF	**Hehuan Shan**	**0.28**	**273**	P		**Pb**	**23 13 39.6**	**0.0**
WHF				*e*S		**Sb**	**23 13 45.0**	**0.0**
ENA	**Nanau**	**0.33**	**28**	*e*P		**Pb**	**23 13 39.9**	**-0.1**
ESL	**Shilin**	**0.34**	**202**	*e*P		**Pb**	**23 13 39.0**	**-1.0**
ESL				*e*S		**Sb**	**23 13 44.7**	**-0.9**
NNSB	**Datong**	**0.34**	**330**	P		**Pb**	**23 13 39.8**	**-0.3**
NNSB				S		**Sb**	**23 13 45.2**	**-0.6**
SHUL	**Shoufeng**	**0.34**	**181**	*e*P		**Pb**	**23 13 39.9**	**-0.2**
SHUL				*e*S		**Sn**	**23 13 46.3**	**0.0**
EWUT	**Wuta**	**0.37**	**31**	*e*P		**Pb**	**23 13 39.6**	**-0.7**
EWUT				*e*S		**Sb**	**23 13 45.4**	**-0.8**
TWT	**Tachien**	**0.38**	**289**	*e*P		**Pn**	**23 13 41.1**	**-0.1**
TWT				*e*S		**Sn**	**23 13 47.3**	**-0.2**
TDCB	**Techi**	**0.39**	**288**	*e*P		**Pb**	**23 13 40.8**	**-0.1**
TDCB				*e*S		**Sb**	**23 13 47.3**	**+0.2**
OWD	**Renai**	**0.40**	**244**	P		**Pb**	**23 13 41.0**	**+0.1**
OWD				S		**Sb**	**23 13 47.2**	**0.0**
LATG	**Datong**	**0.40**	**354**	*e*P		**Pb**	**23 13 40.4**	**-0.6**
WUSB	**Renai**	**0.44**	**251**	P		**Pb**	**23 13 41.5**	**0.0**
WUSB				*e*S		**Sb**	**23 13 47.9**	**-0.2**
WARBT	**Fenglin Townsh**	**0.45**	**202**	*e*P		**Pb**	**23 13 40.2**	**-1.3**
WARBT				*e*S		**Sb**	**23 13 46.8**	**-1.4**
ENTT	**Nioudou**	**0.51**	**360**	P		**Pb**	**23 13 42.0**	**-0.5**
ENTT				*e*S		**Sb**	**23 13 49.2**	**-0.6**
VWDT	**VWDT**	**0.54**	**226**	P		**Pb**	**23 13 43.0**	**0.0**
VWDT				S		**Sn**	**23 13 51.2**	**0.0**
YHNB	**Yeheng**	**0.56**	**342**	P		**Pb**	**23 13 43.1**	**-0.3**
YHNB	**Yeheng**	**0.56**	**342**	S		**Sb**	**23 13 50.9**	**-0.5**
YHNB	**Yeheng**	**0.56**	**342**	P		**Pb**	**23 13 43.1**	**-0.3**
YHNB				*e*S		**Sb**	**23 13 50.7**	**-0.7**
NSK	**Sanguang**	**0.57**	**340**	P		**Pb**	**23 13 43.2**	**-0.4**
NSK				*e*S		**Sb**	**23 13 50.8**	**-0.9**
WHP	**Taichung City**	**0.59**	**284**	*e*P		**Pb**	**23 13 43.8**	**0.0**
WHP				*e*S		**Sn**	**23 13 52.3**	**-0.3**
TWE	**Neicheng**	**0.59**	**9**	*e*P		**Pb**	**23 13 43.2**	**-0.6**
WCS	**Beigang Elemen**	**0.61**	**263**	*e*P		**Pb**	**23 13 43.9**	**-0.2**
FUSB	**Fushanzhiwuyua**	**0.62**	**2**	P		**Pb**	**23 13 44.0**	**-0.5**
FUSB				*e*S		**Sb**	**23 13 52.1**	**-0.9**
NFF	**Wufeng Townshi**	**0.65**	**321**	*e*P		**Pb**	**23 13 44.5**	**-0.2**
NFF				*e*S		**Sn**	**23 13 54.1**	**+0.1**
HGSD	**Ruisui**	**0.65**	**192**	*e*P		**Pb**	**23 13 43.4**	**-1.4**
SSLB	**Suanglung**	**0.66**	**239**	P		**Pn**	**23 13 44.9**	**0.0**
SSLB	**Suanglung**	**0.66**	**239**	S		**Sb**	**23 13 53.6**	**-0.3**
SSLB	**Suanglung**	**0.66**	**239**	*e*P		**Pb**	**23 13 44.5**	**-0.5**
SSLB				*e*S		**Sb**	**23 13 53.6**	**-0.3**
SMLT	**Sun Moon Lake**	**0.66**	**248**	*e*P		**Pb**	**23 13 43.9**	**-1.1**
EHY	**Hungye**	**0.66**	**200**	*e*P		**Pb**	**23 13 42.7**	**-2.3**
EOS2	**EOS2**	**0.67**	**65**	*e*P		**Pb**	**23 13 45.7**	**+0.7**
EOS4	**EOS4**	**0.68**	**91**	*e*P		**Pb**	**23 13 45.4**	**+0.3**
EOS4				*e*S		**Sn**	**23 13 54.6**	**+0.3**
TYC	**Yuchr**	**0.69**	**251**	*e*P		**Pn**	**23 13 45.2**	**-0.1**
EOS3	**EOS3**	**0.70**	**77**	P		**Pb**	**23 13 45.8**	**+0.3**
EOS3				*e*S		**Sn**	**23 13 57.0**	**+2.1**
NSTT	**Nanjuang**	**0.72**	**314**	*e*P		**Pb**	**23 13 46.3**	**+0.4**
NSTT				*e*S		**Sn**	**23 13 55.5**	**-0.2**
LIOB	**Emei**	**0.72**	**315**	*e*P		**Pb**	**23 13 46.3**	**+0.3**
LIOB				*e*S		**Sn**	**23 13 56.2**	**+0.5**
KSHI	**Guanxi Townshi**	**0.73**	**331**	*e*P		**Pb**	**23 13 46.6**	**+0.4**
KSHI				*e*S		**Sn**	**23 13 57.3**	**+1.2**
TWQ1	**Liyutan**	**0.76**	**287**	*e*P		**Pb**	**23 13 46.9**	**+0.3**
TWQ1				*e*S		**Sn**	**23 13 58.5**	**+1.9**
YULB	**Yu-li**	**0.78**	**199**	P		**Pn**	**23 13 46.3**	**-0.2**
YULB	**Yu-li**	**0.78**	**199**	S		**Sn**	**23 13 57.8**	**+0.7**
YULB	**Yu-li**	**0.78**	**199**	*e*P		**Pn**	**23 13 44.9**	**-1.7**
YULB				*e*S		**Sn**	**23 13 57.6**	**+0.5**
WHYT	**Xinyi Township**	**0.79**	**237**	*e*P		**Pb**	**23 13 47.0**	**-0.1**
WHYT				*e*S		**Sn**	**23 13 58.8**	**+1.4**
TWF1	**Yuli**	**0.81**	**198**	*e*P		**Pn**	**23 13 46.8**	**-0.3**
TIPB	**Shuangxi**	**0.87**	**16**	*e*P		**Pn**	**23 13 48.0**	**+0.1**
ALS	**Alishan**	**0.93**	**229**	*e*P		**Pn**	**23 13 48.8**	**-0.1**
CHN5	**Tsauling**	**0.97**	**237**	*e*P		**Pb**	**23 13 50.7**	**+0.4**
CHN5				*e*S		**Sb**	**23 14 04.1**	**+1.3**
SXI1	**Grass Mountain**	**1.00**	**16**	*e*P		**Pn**	**23 13 49.9**	**+0.2**
SXI1				*e*S		**Sn**	**23 14 02.8**	**+0.2**
YM01	**YM01**	**1.01**	**0**	*e*S		**Sn**	**23 14 02.4**	**-0.5**
ZUZH	**Zhuzihu**	**1.03**	**359**	*e*S		**Sn**	**23 14 02.7**	**-0.6**
CHN4	**Tsaushan**	**1.19**	**229**	*e*S		**Sb**	**23 14 11.2**	**+2.4**
TPUB	**Ta-pu**	**1.19**	**226**	P		**Pn**	**23 13 52.1**	**-0.2**
TPUB	**Ta-pu**	**1.19**	**226**	*e*P		**Pn**	**23 13 52.2**	**-0.2**
TPUB				*e*S		**Sb**	**23 14 10.5**	**+1.5**
CHN1	**Nanshi**	**1.34**	**226**	*e*P		**Pn**	**23 13 54.4**	**+0.1**

MOS ***12*** *23:13:59.4±0.8, 7°.24N×94°.25E, h14km, mb5.0/35, Error ellipse: s-maj=9.1km s-min=4.7km az=114.1*
IDC ***12*** *23:13:59.2±0.5, 7°.27N×94°.19E, h0km, mb4.1/24, mbtmp4.1/26, ML4.2/2, MS3.9/6, Error ellipse: s-maj=19.1km s-min=13.2km az=56.0*
NEIC ***12*** *23:14:01.5±1.9, 7°.28N±0°.06×94°.46E±0°.07, h10km±1km, mb4.9/56, Error ellipse: s-maj=12.4km s-min=9.2km az=227.0*
BJI ***12*** *23:14:02.0, 7°.30N×94°.10E, h16km, mB5.0/10, mb4.5/36, Ms4.3/16, Ms7 3.9/19*
NDI ***12*** *23:14:04.3±0.6, 7°.23N×94°.46E, h10km, ML4.7, MW4.7, mb4.9(NEIC)*
DJA ***12*** *23:14:10.3±0.4, 7°N±2°×9°5E±°, h10km, M4.7/12, mb4.9/12, mB5.1/5, MLv4.8/12, Mw(mB)4.5/5*
ISC 12 23:14:03.5±0.3, 7°25N±0°.04×94°34E±0°.04, h26km, n250, σ19.50/250, mb4.6/96, MS3.9/15, 21C-11D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.47**	**240**	*e*P	**Pn**	**23 14 14.2**	**-0.4**
CMBY				*e*S	**Sn**	**23 14 22.5**	**+0.3**
CMBY				IAML		23 14 25.8	
	comp=N,31μm,0.3s						
CMBY				IAML		23 14 30.6	
	comp=E,23μm,0.5s						
BSI	**Banda Aceh**	**1.98**	**151**	P	**Pb**	**23 14 41.6**	**+2.6**
LHMI	**Lhok Sumawe**	**3.28**	**128**		**Pn**	**23 14 53.5**	**+0.3**
LHMI				Sn	**Sn**	**23 15 31.1**	**-0.3**
LHMI	**Lhok Sumawe**	**3.28**	**128**	P	**Pn**	**23 14 53.3**	**+0.1**
MLSI	**Meulaboh, Aceh**	**3.60**	**145**	P	**Pb**	**23 15 03.1**	**-3.5**
PBA	**Port Blair**	**4.65**	**340**		**Pn**	**23 15 13.1**	**+0.9**
PBA	**Port Blair**	**4.65**	**340**	*e*P	**Pn**	**23 15 15.8**	**+3.7**
PBA				*e*S	**Sn**	**23 16 07.2**	**+1.9**
SRIT	**Nakonsritamara**	**5.38**	**75**	Pn	**Pn**	**23 15 22.0**	**-0.1**
SRIT				Sn	**Sn**	**23 16 19.0**	**-4.3**
DGPR	**DIGLIPUR**	**6.05**	**347**	*e*P	**Pn**	**23 15 34.3**	**+3.0**
DGPR				*e*S	**Sn**	**23 16 39.7**	**-0.2**
DGPR				IAML		23 17 03.4	
	comp=N,5μm,2.1s						
PSI	**Prapat**	**6.35**	**134**	Pn	**Pn**	**23 15 37.1**	**+1.4**
	comp=N,3.7nm,0.3s,baz=313,slow=13,SNR=6.2						
PSI				Sn	**Sn**	**23 16 48.0**	**+0.5**
	comp=N,3.0nm,0.3s,baz=221,slow=11,SNR=1.8						
PSI				LR	LR	23 18 14.6	
	comp=N,810nm,20.6s,baz=302,slow=39						
	comp=N,10nm,0.4s						
RPSI	**Rantau Prapat**	**6.43**	**135**		**Pn**	**23 15 36.0**	**-0.5**
KULM	**Kulim**	**6.57**	**107**		**Pn**	**23 15 37.4**	**-1.1**
GSI	**Gunungsitoli**	**6.73**	**151**	Pn	**Pn**	**23 15 40.5**	**-0.3**
GSI	**Gunungsitoli**	**6.73**	**151**	P	Pn	23 15 48.7	+8.0
	comp=N,0.3nmcomp=N,45nm,0.9s						
MNSI	**Mandailing Nat**	**8.27**	**141**	P	**Pn**	**23 16 03.8**	**+2.0**
	comp=N,0.2nmcomp=N,32nm,0.5s						
PPI	**Padang Panjang**	**9.75**	**141**	P	**Pn**	**23 16 26.6**	**+4.4**
	comp=N,47nm,1.0s						
CM31	**Chiang Mai Arr**	**12.01**	**21**		**Pn**	**23 16 54.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**12.01**	**21**	Pn	**Pn**	**23 16 53.6**	**+0.5**
	comp=N,0.6nm,0.3s,baz=214,slow=14,SNR=18						
	comp=N,1.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**12.01**	**21**	*i* P	**Pn**	**23 16 54.7**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CHTO	**Chiang Mai**	**12.34**	**21**		**Pn**	**23 16 58.3**	**+0.7**
CHTO	**Chiang Mai**	**12.34**	**21**	P	**Pn**	**23 16 58.3**	**+0.7**
UBPT	**Khong Chiam**	**13.51**	**53**	Pn	**Pn**	**23 17 14.5**	**+0.8**
PALK	**Pallekele**	**13.53**	**271**	Pn	**Pn**	**23 17 14.5**	**+0.5**
PALK	**Pallekele**	**13.53**	**271**	P	**Pn**	**23 17 14.5**	**+0.5**
MDSI	**Maura Dua**	**15.24**	**140**	P	**P**	**23 17 41.3**	**-0.5**
SALM	**Salem**	**16.51**	**287**	*e*P	**P**	**23 17 57.3**	**+1.4**
TNCH	**TengChong**	**18.13**	**12**	*e*P	**P**	**23 18 14.2**	**+0.3**
TNCH				S	**Sn**	**23 21 34.6**	**-0.8**
TNCH				SS	**SnSn**	**23 21 58.6**	**+9.0**
TNCH				pmax	pmax		
	comp=Z,230nm,3.4s						
TNCH				LR	LR		
	comp=Z,240nm,12.9s						
TNCH				LR	LR		
	comp=Z,430nm,9.5s						
TNCH				LR	LR		
	comp=Z,470nm,15.8s						
QIZ	**Qiongzhong**	**19.08**	**51**	P	**P**	**23 18 23.6**	**-0.7**
QIZ				S	**Sn**	**23 21 57.6**	**-0.8**
QIZ				LR	LR		
	comp=N,910nm,10.6s						
QIZ				LR	LR		
	comp=E,350nm,9.8s						
QIZ				LR	LR		
	comp=Z,240nm,8.6s						
JCJI	**Jatiwangi**	**19.48**	**134**	P	**Pn**	**23 18 33.7**	**+3.7**
KMI	**Kunming**	**19.50**	**23**	P	**Pn**	**23 18 32.0**	**+1.6**
KMI				pmax	pmax		
	comp=Z,12nm,1.2s						
KMI				LR	LR		
	comp=Z,300nm,13.2s						
KMI				LR	LR		
	comp=Z,280nm,9.7s						
KMI				LR	LR		
	comp=Z,330nm,12.4s						
PZH	**PanZhiHua**	**20.40**	**19**	P	Pn	23 18 40.7	-0.3
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,150nm,4.5s						
PZH				LR	LR		
	comp=Z,200nm,12.6s						
PZH				LR	LR		
	comp=Z,260nm,12.7s						
PZH				LR	LR		
	comp=Z,270nm,13.7s						
GYA	**Guiyang**	**22.42**	**30**	P	**P**	**23 19 01.5**	**+1.0**
GYA				LR	LR		
	comp=Z,290nm,13.6s						
MYLDM	**Lahad Datu**	**24.10**	**94**	P	**P**	**23 19 17.9**	**+0.6**
CD2	**Chengdu**	**25.14**	**19**	P	**P**	**23 19 29.9**	**+3.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,320nm,13.3s						
CD2				LR	LR		
	comp=Z,230nm,16.5s						
JAGI	**Jajag, Banyuwa**	**25.18**	**128**	P	**P**	**23 19 27.0**	**0.0**
H08S3	**Diego Garcia H**	**26.34**	**236**	T	T	23 46 21.5	
	baz=56,slow=75,SNR=246						
H08S2	**Diego Garcia H**	**26.34**	**236**	T	T	23 46 19.8	
	baz=56,slow=75,SNR=386						
H08S1	**Diego Carcia H**	**26.35**	**236**	T	T	23 46 22.9	
	baz=56,slow=75,SNR=64						
TOLI2	**Tolitoli**	**27.05**	**102**	P	**P**	**23 19 44.4**	**+0.3**
TOLI2				IAmb	IAmb	23 19 54.9	
	comp=Z,28nm,1.5s						
KAPI	**Kappang**	**28.13**	**115**	P	**P**	**23 19 52.8**	**-1.0**
KAPI				IAmb	IAmb	23 20 51.0	
	comp=Z,19nm,1.6s						
KAPI	**Kappang**	**28.13**	**115**	P	**P**	**23 19 52.8**	**-1.0**
KAPI				pmax	pmax		
	comp=Z,19nm,1.6s						
LUWI	**Luwuk**	**29.54**	**105**	P	**P**	**23 20 05.2**	**-1.0**
XAN	**Xi'an**	**29.87**	**25**	P	**P**	**23 20 12.2**	**+3.2**
XAN				S	**S**	**23 25 06.6**	**+1.9**
XAN				pmax	pmax		
	comp=Z,20nm,1.2s						
XAN				pmax	pmax		
	comp=Z,200nm,6.9s						
XAN				LR	LR		
	comp=Z,480nm,16.7s						
XAN				LR	LR		
	comp=Z,280nm,13.9s						
XAN				LR	LR		
	comp=Z,520nm,13.1s						
LYN	**LuoYang**	**31.89**	**29**	*e*P	P	23 20 34.1	+7.3
LYN				pmax	pmax		
	comp=Z,22nm,0.5s						
LYN				pmax	pmax		
	comp=Z,270nm,5.9s						
GTA	**Gaotai**	**32.40**	**8**	*e*P	P	23 20 38.9	+7.6
GTA				pP	pwP	23 20 43.5	+2.0
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NJ2	**Nanjing**	**33.62**	**40**	*e*P	**P**	**23 20 42.4**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,320nm,16.1s						
NJ2				LR	LR		
	comp=Z,270nm,15.2s						
NJ2				LR	LR		
	comp=Z,480nm,12.8s						
HNS	**HongShan**	**35.26**	**29**	⇑P	**P**	**23 20 58.3**	**+2.2**
HNS				pmax	pmax		
	comp=Z,24nm,1.0s						
HNS				LR	LR		
	comp=Z,200nm,10.8s						
HNS				LR	LR		
	comp=Z,160nm,6.5s						
HNS				LR	LR		
	comp=Z,200nm,12.2s						
KBL	**Kabul**	**35.79**	**323**		**P**	**23 20 59.7**	**-1.2**
KBL				IAmb	IAmb	23 21 13.6	
	comp=Z,6.1nm,0.7s						
KBL	**Kabul**	**35.79**	**323**	P	**P**	**23 20 59.7**	**-1.2**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH	**Kashi**	**36.12**	**336**	P	**P**	**23 21 01.6**	**-2.0**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**36.82**	**22**	*e*P	**P**	**23 21 10.0**	**+0.5**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,66nm,3.8s						
HHC				LR	LR		
	comp=Z,230nm,16.8s						
HHC				LR	LR		
	comp=Z,150nm,15.1s						
HHC				LR	LR		
	comp=Z,220nm,19.3s						
WMQ	**Urumqi**	**36.89**	**352**	*e*P	**P**	**23 21 11.7**	**+1.6**
WMQ				LR	LR		
	comp=Z,66nm,18.9s						
KDJ	**Kajisay**	**37.91**	**339**	P	**P**	**23 21 17.8**	**-1.1**
KDJ	**Kajisay**	**37.91**	**339**	P	**P**	**23 21 17.8**	**-1.1**
KDJ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DRK	**Karamyk**	**37.95**	**331**	P	**P**	**23 21 19.0**	**-0.4**
DRK	**Karamyk**	**37.95**	**331**	P	**P**	**23 21 19.0**	**-0.4**
DRK				pmax	pmax		
	comp=Z,44nm,0.6s						
SHLS	**Shalkode**	**38.09**	**342**	*e*P	**P**	**23 21 18.3**	**-1.9**
SHLS	**Shalkode**	**38.09**	**342**	*e*P	**P**	**23 21 18.4**	**-1.9**
UZB	**Uzynbulak**	**38.21**	**342**	*e*P	**P**	**23 21 20.0**	**-1.3**
UZB	**Uzynbulak**	**38.21**	**342**	*e*P	**P**	**23 21 20.1**	**-1.3**
GAR	**Garm**	**38.31**	**329**		**P**	**23 21 21.4**	**-0.8**
GAR				IAmb	IAmb	23 21 23.0	
	comp=Z,28nm,1.1s						
KPKS	**Kokpek**	**38.60**	**342**	*e*P	**P**	**23 21 23.3**	**-1.3**
KPKS	**Kokpek**	**38.60**	**342**	*e*P	**P**	**23 21 23.3**	**-1.3**
CHGR	**Chuyangaron**	**38.66**	**328**	P	**P**	**23 21 23.1**	**-2.0**
CHGR	**Chuyangaron**	**38.66**	**328**	P	**P**	**23 21 23.1**	**-2.0**
BOOM	**Boomskoye usch**	**38.68**	**338**	P	**P**	**23 21 24.7**	**-0.6**
BOOM	**Boomskoye usch**	**38.68**	**338**	P	**P**	**23 21 24.7**	**-0.6**
BOOM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SIMJ	**Simiganj**	**38.73**	**328**		**P**	**23 21 24.8**	**-1.0**
SIMJ				IAmb	IAmb	23 21 33.3	
	comp=Z,42nm,1.5s						
TNSS	**Tian-Shan**	**38.80**	**340**	*e*P	**P**	**23 21 25.1**	**-1.5**
TNSS	**Tian-Shan**	**38.80**	**340**	*e*P	**P**	**23 21 25.1**	**-1.5**
MDOK	**Medeo**	**38.87**	**340**	*e*P	**P**	**23 21 25.8**	**-1.1**
MDOK	**Medeo**	**38.87**	**340**	*e*P	**P**	**23 21 25.9**	**-1.1**
BTK	**Batken**	**38.87**	**331**	P	**P**	**23 21 26.7**	**-0.2**
BTK				IAmb	IAmb	23 21 44.4	
	comp=Z,14nm,1.0s						
BTK	**Batken**	**38.87**	**331**	P	**P**	**23 21 26.7**	**-0.2**
BTK				pmax	pmax		
	comp=Z,14nm,1.0s						
DZET	**Dzherino**	**38.94**	**328**	P	**P**	**23 21 26.6**	**-0.9**
DZET				pmax	pmax		
	comp=Z,8.0nm,0.6s						
AAA	**Alma-Ata**	**38.96**	**340**	*e*P	**P**	**23 21 26.5**	**-1.0**
AAA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
AAA	**Alma-Ata**	**38.96**	**340**	*e*P	**P**	**23 21 26.5**	**-1.0**
	comp=Z,8.2nm,0.5s						
AAK	**Ala-Archa**	**39.36**	**337**		**P**	**23 21 30.4**	**-0.6**
AAK	**Ala-Archa**	**39.36**	**337**	⇓*i* P	**P**	**23 21 31.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ARK	**Arkit**	**39.72**	**334**	P	**P**	**23 21 33.9**	**-0.1**
ARK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**39.86**	**130**		**P**	**23 21 34.8**	**-0.5**
SGDS	**Sogindy**	**40.00**	**338**	*e*P	**P**	**23 21 35.0**	**-1.1**
SGDS	**Sogindy**	**40.00**	**338**	*e*P	**P**	**23 21 35.1**	**-1.1**
MK31	**Makanchi Array**	**40.74**	**347**	*c i* P	**P**	**23 21 41.3**	**-0.9**
MKAR	**Makanchi Array**	**40.74**	**347**	P	**P**	**23 21 41.2**	**-1.0**
MKAR	**Makanchi Array**	**40.74**	**347**	P	**P**	**23 21 41.4**	**-0.8**
	comp=Z,3.7nm,0.6s,baz=166,slow=7.3,SNR=22						
	comp=Z,3.7nm,0.6s						
MAKZ	**Makanchi**	**40.82**	**347**	P	**P**	**23 21 41.6**	**-1.3**
MAKZ	**Makanchi**	**40.82**	**347**	P	**P**	**23 21 41.6**	**-1.3**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
IUG	**Iuzhnay**	**40.87**	**332**	*e*P	**P**	**23 21 42.0**	**-1.5**
IUG				pmax	pmax		
	comp=Z,13nm,1.3s						
IUG	**Iuzhnay**	**40.87**	**332**	*e*P	**P**	**23 21 42.1**	**-1.5**
	comp=Z,13nm,1.3s						
DZA	**Taraz**	**40.88**	**334**	*e*P	**P**	**23 21 42.3**	**-1.1**
DZA	**Taraz**	**40.88**	**334**	*e*P	**P**	**23 21 42.4**	**-1.1**
KK31	**Karatay Array**	**41.41**	**333**		**P**	**23 21 47.5**	**-0.3**
KK31	**Karatay Array**	**41.41**	**333**	P	**P**	**23 21 47.5**	**-0.3**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KKAR	**Karatay Array**	**41.41**	**333**	P	**P**	**23 21 47.4**	**-0.4**
KKAR	**Karatay Array**	**41.41**	**333**	P	**P**	**23 21 47.4**	**-0.4**
KKAR				IAmb	IAmb	23 21 55.1	
	comp=Z,4.3nm,0.8s						
KKAR	**Karatay Array**	**41.41**	**333**	P	**P**	**23 21 47.4**	**-0.4**
BRLS	**Borolday**	**41.65**	**333**	*e*P	**P**	**23 21 47.5**	**-2.3**
BRLS	**Borolday**	**41.65**	**333**	*e*P	**P**	**23 21 47.5**	**-2.3**
SONM	**Songino Array**	**41.73**	**12**	P	**P**	**23 21 50.5**	**0.0**
SONM	**Songino Array**	**41.73**	**12**	P	**P**	**23 21 49.6**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=191,slow=7.6,SNR=6.1						
SONM				PcP	**PcP**	**23 23 46.4**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=178,slow=2.2,SNR=1.8						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**41.73**	**12**	P	**P**	**23 21 50.5**	**0.0**
SONM				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TJN	**Taejon**	**41.81**	**41**	P	**P**	**23 21 51.7**	**+0.5**
TJN	**Taejon**	**41.81**	**41**	P	**P**	**23 21 51.7**	**+0.5**
TJN				pmax	pmax		
	comp=Z,73nm,1.3s						
ULN	**Ulaanbaatar**	**41.90**	**13**		**P**	**23 21 51.9**	**0.0**
ULN	**Ulaanbaatar**	**41.90**	**13**	P	**P**	**23 21 51.9**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
JNU	**Nakatsue**	**42.51**	**48**	P	**P**	**23 21 57.2**	**+0.2**
JNU				IAmb	IAmb	23 22 02.8	
	comp=Z,14nm,1.1s						
KSAR	**Wonju Array Be**	**42.77**	**40**	P	**P**	**23 22 00.4**	**+1.4**
KSAR	**Wonju Array Be**	**42.77**	**40**	P	**P**	**23 22 00.4**	**+1.4**
KSRS	**Korea Array**	**42.80**	**40**	P	**P**	**23 21 59.3**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=218,slow=7.9,SNR=4.9						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**45.20**	**346**	P	**P**	**23 22 17.9**	**-0.3**
	comp=Z,6.5nm,0.8s,baz=172,slow=7.1,SNR=25						
KURBB				PcP	**PcP**	**23 23 58.1**	**0.0**
	comp=Z,0.7nm,0.6s,baz=158,slow=2.9,SNR=2.5						
	comp=Z,6.5nm,0.8s						
KURK	**Kurchatov**	**45.26**	**346**	P	**P**	**23 22 18.1**	**-0.5**
KURK				IAmb	IAmb	23 22 20.1	
	comp=Z,19nm,1.2s						
KURK	**Kurchatov**	**45.26**	**346**	*c i* P	**P**	**23 22 18.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,18nm,1.2s						
CN2	**Changchun**	**45.45**	**32**	*e*P	**P**	**23 22 19.8**	**-0.6**
BRZS	**Berezniki**	**46.29**	**341**	*e*P	**P**	**23 22 25.8**	**-1.1**
BRZS	**Berezniki**	**46.29**	**341**	*e*P	**P**	**23 22 25.9**	**-1.1**
ZAA0	**Zalesovo Array**	**47.20**	**352**	P	**P**	**23 22 33.7**	**-0.2**
ZAA0				IAmb	IAmb	23 22 42.4	
	comp=Z,16nm,1.0s						
ZALV	**Zalesovo Beam**	**47.20**	**352**	P	**P**	**23 22 33.9**	**0.0**
ZALV	**Zalesovo Beam**	**47.20**	**352**	P	**P**	**23 22 33.6**	**-0.3**
	comp=Z,2.1nm,0.4s,baz=168,slow=7.6,SNR=9.4						
	comp=Z,2.1nm,0.4s						
ZALV	**Zalesovo Beam**	**47.20**	**352**	P	**P**	**23 22 33.9**	**0.0**
WRA	**Warramunga Arr**	**47.74**	**125**	P	**P**	**23 22 37.9**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=306,slow=7.5,SNR=5.6						
WRA				PcP	**PcP**	**23 24 07.3**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=307,slow=3.4,SNR=1.7						
	comp=Z,1.0nm,0.9s						
WRAB	**Tennant Creek**	**47.74**	**125**	P	**P**	**23 22 38.3**	**-0.4**
WRAB				IAmb	IAmb	23 22 47.6	
	comp=Z,8.0nm,0.7s						
**W

KMBO **Kilima Mbogo** 57.55 264 P P 23 23 50.5 -1.3
comp=Z,1.8nm,0.8s,baz=54,slow=11,SNR=7.2
comp=Z,1.8nm,0.8s
KBZ **Khabaz** 57.68 318 P P 23 23 50.9 -1.0
comp=Z,1.8nm,1.1s,baz=90,slow=6.1,SNR=4.4
comp=Z,1.8nm,1.1s
KBZ **Khabaz** 57.68 318⇓ eP P 23 23 51.2 -0.6
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KIV **Kislovodsk** 57.91 318 P P 23 23 53.0 -0.6
KIV IAmb IAmb 23 24 01.9
comp=Z,7.4nm,0.8s
KIV **Kislovodsk** 57.91 318 ⇓P P 23 23 53.3 -0.3
KIV **Kislovodsk** 57.91 318 eP P 23 23 52.7 -0.9
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,23nm,17.0s
STKA **Stephens Creek** 59.53 134 P P 23 24 06.2 +1.2
comp=Z,1.5nm,1.0s,baz=301,slow=5.9,SNR=1.2
comp=Z,1.5nm,1.0s
YAK **Yakutsk** 60.52 18 LR LR 23 53 11.9
comp=Z,105nm,18.2s,baz=50,slow=39
YAK **Yakutsk** 60.52 18 eP P 23 24 10.2 -1.0
YAK e 23 24 53.6
YAK e 23 26 24.0
YAK ePPP PPP 23 27 47.6
YAK eS S 23 32 21.7 -3.4
YAK e*SS sS 23 32 49.2 +12
YAK e 23 33 55.5
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.6s
YAK pmax pmax
comp=E,1.0nm,0.9s
YAK pmax pmax
comp=Z,211nm,6.3s
YAK pmax pmax
comp=N,121nm,7.8s
YAK pmax pmax
comp=E,119nm,6.9s
YAK smax smax
comp=E,142nm,7.3s
YAK smax smax
comp=N,109nm,7.3s
VRH **Novokhopyorsk** 61.55 325 eP P 23 24 19.1 +0.7
VRH pmax pmax
comp=Z,9.0nm,0.9s
KIRV **Kirov** 61.66 335⇓ eP P 23 24 18.6 -0.3
ANN **Anapa** 61.73 317 eP P 23 24 16.7 -3.0
ANN e*PP pP 23 24 19.9 -7.2
ANN eS S 23 32 39.9 -1.1
ANN pmax pmax
comp=Z,65nm,1.0s
NRIK **Noril'sk** 62.17 357 P P 23 24 22.1 -0.2
NRIK IAmb IAmb 23 24 36.8
comp=Z,3.7nm,0.8s
NRIK **Noril'sk** 62.17 357 P P 23 24 21.9 -0.3
comp=Z,1.2nm,0.6s,baz=159,slow=4.5,SNR=4.9
NRIK LR LR 23 56 05.0
comp=Z,65nm,18.3s,baz=182,slow=41
comp=Z,1.2nm,0.6s
NRIK **Noril'sk** 62.17 357⇑ iP P 23 24 22.0 -0.2
NRIK pmax pmax
comp=Z,4.0nm,0.8s
KIRS **Kirsehir-Merke** 62.64 310 ⇑P P 23 24 24.0 -2.0
VORD **Divnogorie** 62.84 324 eP P 23 24 23.2 -3.8
VORD pmax pmax
comp=Z,5.0nm,1.0s
BR131 **Keskin Array S** 62.98 311 P P 23 24 26.9 -1.5
BR131 **Keskin Array S** 62.98 311⇓ eP P 23 24 28.2 -0.2
BRTR **Keskin Array B** 62.98 311 P P 23 24 26.4 -2.0
BRTR **Keskin Array B** 62.98 311 P P 23 24 26.9 -1.5
comp=Z,1.3nm,0.8s,baz=123,slow=8.0,SNR=8.8
comp=Z,1.3nm,0.8s
VSR **Storozhevoye** 63.01 325 eP P 23 24 24.2 -4.0
VSR pmax pmax
comp=Z,3.0nm,0.9s
LPSR **Galich'ya Gora** 63.71 326 eP P 23 24 31.0 -1.8
LPSR pmax pmax
comp=Z,5.0nm,0.9s
ELL **Elmali** 65.25 307 P P 23 24 42.6 -0.8
ELL **Elmali** 65.25 307 P P 23 24 42.6 -0.8
ELL pmax pmax
comp=Z,23nm,0.8s
H04N2 **CROZET ISLANDS** 65.30 211 T T 00 35 23.5
baz=47,slow=74,SNR=42
H04N1 **CROZET ISLANDS** 65.31 211 T T 00 35 10.7
baz=47,slow=74,SNR=36
H04N3 **CROZET ISLANDS** 65.31 211 T T 00 35 09.4
baz=47,slow=74,SNR=60
CRZF **Crozet Islands** 65.45 211 P P 23 24 45.3 +1.2
H04S1 **CROZET ISLANDS** 65.70 211 T T 00 35 46.4
baz=56,slow=71,SNR=4.5
H04S3 **CROZET ISLANDS** 65.71 211 T T 00 35 41.3
baz=56,slow=71,SNR=4.6
MOS **Moscow** 65.71 329 eP P 23 24 43.4 -2.4
MOS e 23 24 51.6
MOS pmax pmax
comp=Z,27nm,1.1s
H04S2 **CROZET ISLANDS** 65.72 211 T T 00 35 42.7
baz=56,slow=71,SNR=4.4
OBN **Obninsk** 66.01 328 P P 23 24 47.2 -0.4
OBN **Obninsk** 66.01 328⇓ eP P 23 24 46.9 -0.8
OBN i 23 24 53.8
OBN pmax pmax
comp=Z,16nm,1.2s
OBN MLR MLR
comp=Z,71nm,19.0s
KLMR **Klimovskoe** 67.10 334 eP P 23 24 51.3 -3.2
KLMR pmax pmax
comp=Z,21nm,1.5s
TIXI **Tiksi** 67.80 11 P P 23 24 58.2 -0.6
TIXI **Tiksi** 67.80 11⇑ eP P 23 24 58.6 -0.2
TIXI pmax pmax
comp=Z,4.0nm,0.6s
AKASG **Malin Array Be** 68.76 322 P P 23 25 03.0 -2.2
comp=Z,0.6nm,0.6s,baz=90,slow=5.3,SNR=5.0
comp=Z,0.6nm,0.6s
AKBB **Malin Array Si** 68.76 322 P P 23 25 05.5 +0.3
AKBB IAmb IAmb 23 25 20.1
comp=Z,13nm,1.6s
AKBB **Malin Array Si** 68.76 322⇑ eP P 23 25 06.5 +1.3
AKBB pmax pmax
comp=Z,9.0nm,1.8s
KIEV **Kiev** 68.77 322 P P 23 25 05.4 +0.1
KIEV IAmb IAmb 23 25 20.1
comp=Z,13nm,1.7s
KIEV **Kiev** 68.77 322 P P 23 25 05.4 +0.1
KIEV pmax pmax
comp=Z,13nm,1.7s
VRI **Vrincioaia** 69.29 316 ⇑P P 23 25 08.6 0.0
VRI **Vrincioaia** 69.29 316 ⇑P P 23 25 08.6 0.0
RDO **Rodhopi** 69.32 311 P P 23 25 09.4 +0.5
RDO IAmb IAmb 23 25 17.3
comp=Z,12nm,1.2s
PLOR **Plostina** 69.34 316 ⇑P P 23 25 06.9 -2.0
PLOR **Plostina** 69.34 316 ⇑P P 23 25 06.9 -2.0
SEY **Seymchan** 69.41 24⇓ eP P 23 25 09.5 +0.5
SEY pmax pmax
comp=Z,7.0nm,1.4s
TESR **Tescani** 69.47 317 ⇓P P 23 25 04.8 -4.9
MLR **Muntele Rosu** 69.75 316 P P 23 25 10.2 -1.4
MLR IAmb IAmb 23 25 15.0
comp=Z,20nm,1.6s
MLR **Muntele Rosu** 69.75 316 ⇑P P 23 25 10.9 -0.8
MLR **Muntele Rosu** 69.75 316 ⇑P P 23 25 10.9 -0.8
BURAR **Bucovina Array** 70.64 318 P P 23 25 15.8 -1.2
BURAR **Bucovina Array** 70.64 318 ⇑P P 23 25 07.0 -10
BURAR **Bucovina Array** 70.64 318 P P 23 25 15.8 -1.2
ARR **Arges** 70.64 316 ⇑P P 23 25 16.4 -0.7
MARR **Marisel-Cluj** 71.89 317 ⇓P P 23 25 13.2 -11
HERR **Herculane** 72.12 315 ⇑P P 23 25 25.0 -0.9
DRGR 72.19 317 ⇑P P 23 25 25.4 -0.9
DRGR 72.19 317 ⇑P P 23 25 25.4 -0.9
PABE **Paberze** 72.98 326 P P 23 25 29.8 -0.9
PABE IAmb IAmb 23 25 39.4
comp=Z,15nm,0.9s
SUW **Suwalki** 73.12 324 P P 23 25 30.4 -1.2
SUW **Suwalki** 73.12 324 P P 23 25 30.4 -1.2
FIA1 **FINESS Array S** 73.35 332 P P 23 25 32.0 -0.8
FINES **FINESS Array B** 73.35 332 P P 23 25 31.7 -1.1
FINES **FINESS Array B** 73.35 332 P P 23 25 31.8 -1.0
comp=Z,3.5nm,0.7s,baz=111,slow=7.9,SNR=16
FINES LR LR 23 59 31.2
comp=Z,63nm,21.3s,baz=114,slow=37
comp=Z,3.5nm,0.7s
OJC **Ojcow** 74.58 320 P P 23 25 39.9 -0.4
OJC **Ojcow** 74.58 320 P P 23 25 39.9 -0.4
MORH **Mrgy, Hungar** 74.91 316 ⇑P P 23 25 37.0 -5.2
VYHS **Vyhne** 75.00 318 eP P 23 25 42.1 -0.7
VYHS **Vyhne** 75.00 318 eP P 23 25 42.1 -0.7
BOSA **Boshof** 75.42 238 P P 23 25 45.6 -0.1
comp=Z,1.3nm,0.7s,baz=100,slow=6.1,SNR=3.5
comp=Z,1.3nm,0.7s
MODS **Modra-Piesok** 76.02 318 eP P 23 25 48.8 +0.2
MODS **Modra-Piesok** 76.02 318 eP P 23 25 48.8 +0.2
SOKA **Soboth** 77.43 316 epP P 23 26 00.2 +3.5
comp=Z,0.5nm,0.4s
GERES **GERESS Array B** 78.42 318 P P 23 26 01.6 -0.6
comp=Z,1.2nm,0.6s,baz=107,slow=4.3,SNR=10
comp=Z,1.2nm,0.6s
KBA **Koelnbreinsper** 78.60 316 eP P 23 26 03.9 +0.5
comp=Z,2.4nm,0.7s
LESA **Schwarzleotal** 79.06 317 iP P 23 26 04.7 -1.0
comp=Z,1.3nm,0.4s
HFS **Hagfors** 79.09 330 P P 23 26 04.7 -0.8
comp=Z,1.9nm,0.5s,baz=102,slow=6.2,SNR=15
comp=Z,1.9nm,0.5s
ABTA **Abfaltersbach** 79.17 316 iP P 23 26 05.4 -0.9
comp=Z,0.9nm,0.6s
CIMO **Cimolais** 79.21 316 P P 23 26 05.7 -0.8
CIMO IAmb IAmb 23 26 24.0
comp=Z,11nm,1.1s
CTI **Castel Tesino** 79.75 315 P P 23 26 08.7 -0.9
CTI IAmb IAmb 23 26 21.4
comp=Z,18nm,1.6s
CTI **Castel Tesino** 79.75 315 P P 23 26 08.7 -0.9
CTI pmax pmax
comp=Z,18nm,1.6s
WTTA **Wattenberg** 79.77 317 iP P 23 26 07.5 -2.2
comp=Z,1.2nm,0.4s
SQTA **Sankt Quirin** 80.06 317 iP P 23 26 10.4 -0.8
comp=Z,2.1nm,0.5s
NC405 **NORSAR Array S** 80.13 331 P P 23 26 09.7 -1.4
NC602 **NORSAR Array S** 80.20 330 P P 23 26 10.5 -1.0
NC602 IAmb IAmb 23 27 26.3
comp=Z,36nm,1.9s
NB2 **NORSAR Subarra** 80.37 331 P P 23 26 11.8 -0.7
comp=Z,0.5nm,0.6s,baz=97,slow=5.1
NOA **NORSAR Array B** 80.37 331 P P 23 26 11.3 -1.2
comp=Z,1.3nm,0.8s,baz=93,slow=5.7,SNR=6.1
comp=Z,1.3nm,0.8s
FETA **Feichten** 80.39 316 iP P 23 26 12.4 -0.6
comp=Z,0.4nm,0.3s
SPITS **Spitsbergen Ar** 80.48 348 P P 23 26 12.2 -0.6
comp=Z,2.6nm,0.6s,baz=108,slow=9.3,SNR=6.4
SPITS LR LR 00 08 07.5
comp=Z,64nm,19.3s,baz=7.5,slow=40
comp=Z,2.6nm,0.6s
DAVA **Damuels** 80.97 317 iP P 23 26 15.9 -0.2
comp=Z,1.5nm,0.5s
SENIN **Lac Senin/Sane** 82.77 316 P P 23 26 25.3 -0.4
EKA **Eskdalemuir Ar** 88.34 325 P P 23 26 52.9 -0.1
comp=Z,1.5nm,0.6s,baz=96,slow=5.4,SNR=6.6
comp=Z,1.5nm,0.6s
C18K **Utukok River** 88.52 21 P P 23 26 54.3 +0.8
ESDC **Sonseca Array** 91.77 310 P P 23 27 09.5 +0.1
comp=Z,0.7nm,0.7s,baz=66,slow=5.1,SNR=5.8
comp=Z,0.7nm,0.7s
H21K **Melozitna Rive** 92.61 22 P P 23 27 12.2 -0.5
K20K **Telida** 93.02 25 P P 23 27 14.8 +0.2
CAST **Castle Rocks** 93.81 24 P P 23 27 18.8 +0.6
CAST IAmb IAmb 23 27 26.5
comp=Z,6.3nm,0.8s
ILAR **Eielson Array** 95.24 22 P P 23 27 25.7 +0.9
comp=Z,0.4nm,1.0s,baz=290,slow=3.8,SNR=5.1
comp=Z,0.4nm,1.0s
CPUP **Villa Florida** 147.04 232 PKPbc PKPbc 23 33 44.9 +0.2
comp=Z,1.3nm,0.7s,baz=138,slow=3.1,SNR=3.5
CFA **Coronel Fontan** 150.82 212 PKPbc PKiKP 23 33 55.1 +0.1
comp=Z,2.9nm,0.6s,baz=162,slow=2.9,SNR=8.0

*IDC **12** 23:16:02.8±1.9, 11.°71N×89.°63W, h0km, mb3.4/5, mbtmp3.4/7, ML2.8/3, MS3.1/1, Error ellipse: s-maj=57.8km s-min=21.1km az=33.0*
*GCG **12** 23:16:08.6±1.2, 12.°36N×89.°43W, h9km±25km, MD4.4*
*CATAC **12** 23:16:08.3±0.5, 12.°N±2.°×8.°9W±.°, h7km±3km, M4.1/22, MLv4.1/22, Error ellipse: s-maj=6.7km s-min=3.3km az=51.8, confirmed*
*NEIC **12** 23:16:09.7±2.5, 12.°49N±0.°03×89.°26W±0.°05, h10km±2km, mb4.3/12, Error ellipse: s-maj=8.6km s-min=5.5km az=258.0*
*SNET **12** 23:16:11.8±1.8, 12.°56N×89.°18W, h11km, ML4.0*
ISC 12 23:16:07.7±1.6, 12.°36N±0.°05×89.°33W±0.°04, h11km±9km, n109, σ1§12/117, mb4.0/10, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	1.12	0	eP	Pg	23 16 29.1	-0.1
LALI				eS	Sg	23 16 43.1	-0.8
LALI	**Alcalda de L**	1.12	0	eP	Pg	23 16 29.2	-0.1
LALI				eS	Sg	23 16 44.3	+0.4
LALI	**Alcalda de L**	1.12	0	P	Pg	23 16 29.2	-0.1
LFRS	**El Faro**	1.28	12	eP	Pn	23 16 31.6	-0.2
LOMA	**Loma Larga**	1.28	7	eP	Pn	23 16 30.9	-0.9
TECO	**Alcaldia de Te**	1.28	25	P	Pn	23 16 31.2	-0.5
TECO	**Alcaldia de Te**	1.28	25	S	Sb	23 16 47.2	-1.3
JAYA	**Jayaque - finc**	1.29	355	eP	Pn	23 16 31.9	0.0
JAYA	**Jayaque - finc**	1.29	355	eP	Pn	23 16 31.3	-0.6
JAYA				eS	Sg	23 16 49.9	+0.6
JAYA	**Jayaque - finc**	1.29	355	P	Pn	23 16 31.4	-0.4
JAYA	**Jayaque - finc**	1.29	355	S	Sb	23 16 48.1	-0.7
COEG	**Centro de Oper**	1.32	19	eP	Pn	23 16 32.8	+0.5
COEG	**Centro de Oper**	1.32	19	P	Pn	23 16 32.1	-0.2
COEG	**Centro de Oper**	1.32	19	S	Sn	23 16 50.8	+0.7
PMON	**Piamonte**	1.34	1	eP	Pn	23 16 32.2	-0.4
PMON	**Piamonte**	1.34	1	P	Pn	23 16 32.4	-0.1
PMON	**Piamonte**	1.34	1	S	Sn	23 16 51.3	+0.8
BOQS	**Boqueron**	1.36	2	eP	Pn	23 16 33.0	+0.1
PIC2	**El Picacho**	1.38	3	eP	Pn	23 16 33.2	0.0
TECA	**Tecapa**	1.39	36	eP	Pn	23 16 33.0	-0.2
TECA				eP	Pn	23 16 33.0	-0.2
LFU	**La Fuente**	1.39	9	eP	Pn	23 16 33.8	+0.6
PAVA	**Las Pavas**	1.40	16	eP	Pn	23 16 33.2	-0.1
PAVA	**Las Pavas**	1.40	16	P	Pn	23 16 33.4	+0.1
PAVA	**Las Pavas**	1.40	16	S	Sb	23 16 52.2	+0.3
SCLA	**Alcaldia de Sa**	1.46	24	eP	Pn	23 16 34.2	+0.1
SCLA	**Alcaldia de Sa**	1.46	24	P	Pn	23 16 34.1	+0.1
SCLA	**Alcaldia de Sa**	1.46	24	S	Sn	23 16 52.6	-0.6
LCY	**Lacayo**	1.46	44	eP	Pn	23 16 33.9	-0.3
RANC	**El Ranchito**	1.47	44	eP	Pn	23 16 34.0	-0.3
RANC	**El Ranchito**	1.47	44	P	Pn	23 16 34.1	-0.3
PACA	**Pacayal**	1.48	42	P	Pn	23 16 34.3	-0.1
CEVE	**Cerro Verde**	1.48	349	eP	Pn	23 16 34.8	+0.1
CEVE	**Cerro Verde**	1.48	349	P	Pn	23 16 34.5	-0.1
SBLS	**San Blas**	1.50	349	eP	Pn	23 16 34.7	0.0
SBLS				eP	Pn	23 16 34.7	0.0
BLLM	**Bellamira**	1.51	45	eP	Pn	23 16 35.1	+0.3
SNJE	**San Jose**	1.52	350	eP	Pn	23 16 35.0	-0.1
SNJE				eP	Pb	23 16 35.1	-1.0
LCND	**La Caada**	1.69	56	eP	Pn	23 16 37.4	+0.1
LCND	**La Caada**	1.69	56	P	Pn	23 16 37.3	+0.1
SLOZ	**Alcaldia de Sa**	1.71	345	P	Pn	23 16 38.5	+0.9
SLOZ	**Alcaldia de Sa**	1.71	345	S	Sn	23 17 00.4	+0.9
CNCH	**Conchagua**	1.72	58	eP	Pn	23 16 38.1	+0.4
CNCH	**Conchagua**	1.72	58	P	Pn	23 16 37.9	+0.2
CNCH	**Conchagua**	1.72	58	S	Sb	23 17 01.0	-0.1
CAHU	**Cacacuatique**	1.77	38	eP	Pn	23 16 39.7	+1.1
LLGN	**La Laguna**	1.83	12	P	Pn	23 16 40.0	+0.8
CSGN	**Cosiguina Volc**	1.83	70	P	Pn	23 16 39.6	+0.4
CSGN				S	Sn	23 17 03.5	+0.9
MTO3	**Montecristo**	2.02	359		Pn	23 16 42.4	+0.3
MTO3				Sn	Sn	23 17 07.5	0.0
MTO3	**Montecristo**	2.02	359	eP	Pn	23 16 42.9	+0.8
MTO3	**Montecristo**	2.02	359	eP	Pn	23 16 43.0	+1.0
MTO3	**Montecristo**	2.02	359	P	Pn	23 16 42.7	+0.6
MTO3	**Montecristo**	2.02	359	S	Sn	23 17 08.3	+0.8
ESQI	**Esquipulas**	2.18	360		Pn	23 16 46.0	+1.8
ESQI					Sn	23 17 12.8	+1.5
ESQI	**Esquipulas**	2.18	360	eP	Pn	23 16 46.4	+2.2
ESQI				eS	Sn	23 17 12.3	+1.0
ESQI	**Esquipulas**	2.18	360	P	Pn	23 16 46.3	+2.2
ESQI	**Esquipulas**	2.18	360	S	Sb	23 17 13.9	-0.6
MARCA	**Marcala la Paz**	2.19	35	eP	Pn	23 16 45.8	+1.6
CRIN	**San Cristobal**	2.25	81		Pn	23 16 45.2	+0.2
CRIN	**San Cristobal**	2.25	81	P	Pn	23 16 46.1	+1.1
CRIN	**San Cristobal**	2.25	81	S	Sb	23 17 15.3	-1.2
QUEN	**Al S del Volca**	2.43	84	P	Pn	23 16 48.2	+0.7
HERN	**Volcan Telica**	2.45	84	Pn	Pn	23 16 48.1	+0.3
CNGA	**Al SSO del Vol**	2.57	87	P	Pn	23 16 50.0	+0.6
CNGN	**Cerro Negro**	2.58	87		Pn	23 16 49.8	+0.4
CNGN	**Cerro Negro**	2.58	87	P	Pn	23 16 50.1	+0.7
CNGN	**Cerro Negro**	2.58	87	S	Sn	23 17 23.1	+2.2
TGUH	**Tegucigalpa,Un**	2.62	50		Pn	23 16 50.3	+0.2
COPN	**Copaltepe**	2.68	94	P	Pn	23 16 51.4	+0.5
MOMN	**Momotombo**	2.73	89	P	Pn	23 16 52.1	+0.6
MOMN				S	Sn	23 17 25.8	+1.2
STG0	**El Palmar, Qui**	2.84	317	eP	Pb	23 16 58.8	+0.3
LMN	**Finca el Limon**	2.98	76	P	Pn	23 16 55.5	+0.5
MGAN	**Managua**	3.02	94	Pn	Pn	23 16 55.5	-0.1
RTAL	**Retalhuleu**	3.15	313	Pn	Pn	23 16 59.3	+2.0
RCVN	**Varillal2**	3.29	68	P	Pn	23 17 00.6	+1.2
RCPN	**Sur Rio San Ju**	3.36	70	P	Pn	23 17 01.6	+1.2
CONN	**Concepcion**	3.71	102	P	Pn	23 17 05.9	+0.8
CONN				S	Sn	23 17 47.4	-1.5
ACON	**Acoyapa**	4.08	95		Pn	23 17 10.9	+0.7
PETF	**Flores**	4.56	354	Pn	Pn	23 17 17.9	+1.2
CCIG	**Comitan**	4.75	325		Pn	23 17 21.7	+2.2
JTS	**Las Juntas de**	4.76	115		Pn	23 17 22.1	+2.6
JTS	**Las Juntas de**	4.76	115	Pn	Pn	23 17 16.8	-2.7
	2.8nm,0.3s,baz=180,slow=20,SNR=6.0						
JTS				Sn	Sn	23 18 15.8	+1.0
	5.1nm,0.3s,baz=255,slow=20,SNR=3.8						
	2.0nm,0.4s						
ESPN	**Las Esperanzas**	4.92	91	Pn	Pn	23 17 22.1	+0.4
SOCE	**Pocosol**	5.02	113		Pn	23 17 25.9	+2.8
BRU2	**Volcan**	7.43	118		Pn	23 17 59.4	+3.1
TEIG	**Tepich**	7.88	7	Pn	Pn	23 18 06.6	+4.2
	baz=218,slow=19,SNR=1.4						
FLOC	**Florencia**	17.28	127		P	23 20 11.7	+1.0
FLOC				IAmb	IAmb	23 20 17.1	
	comp=Z,22nm,1.3s						
SDV	**Santo Domingo**	18.70	99	P	P	23 20 25.0	-1.5
	comp=Z,0.1nm,0.3s,baz=278,slow=15,SNR=1.7						
	comp=Z,2.2nm,0.6s						
BRDY	**Brady**	20.84	336		P	23 20 48.9	-0.7
WHTX	**Lake Whitney,**	20.92	340	P	P	23 20 50.1	-0.3
TXAR	**Lajitas Array**	21.52	324	P	P	23 20 59.3	+2.3
	comp=Z,1.7nm,0.5s,baz=145,slow=10,SNR=29						
	comp=Z,1.7nm,0.5s						
TX31	**Lajitas Ar. Si**	21.52	324		P	23 20 58.0	+1.0
FW06	**Azle**	21.86	341	P	P	23 21 01.7	+1.2
FW06				IAmb	IAmb	23 21 05.5	
	comp=Z,15nm,0.7s						
PLPT	**Palo Pinto**	21.96	339		P	23 21 00.8	-0.8
MIAR	**Mount Ida**	22.42	351		P	23 21 07.5	+1.0
MIAR				IAmb	IAmb	23 21 16.9	
	comp=Z,11nm,1.1s						
LPIG	**La Paz**	23.06	303	LR	LR	23 30 12.7	
	comp=Z,41nm,18.1s,baz=263,slow=37						
APMT	**Aspermont**	23.08	336		P	23 21 13.0	-0.6
APMT				IAmb	IAmb	23 21 20.6	
	comp=Z,6.2nm,0.7s						
POST	**Post**	23.43	334	P	P	23 21 18.3	+1.2
POST				IAmb	IAmb	23 21 27.8	
	comp=Z,8.2nm,0.6s						
WMOK	**Wichita Mounta**	23.87	340	P	P	23 21 20.9	-0.5
FNO	**Franklin**	23.94	344	P	P	23 21 21.7	-0.3
T42A	**Van Buren**	24.61	357	P	P	23 21 28.4	+0.2
T42A				IAmb	IAmb	23 21 37.2	
	comp=Z,4.5nm,0.7s						
PDAR	**Pinedale Array**	35.01	334	P	P	23 23 00.6	0.0
	comp=Z,0.1nm,0.6s,baz=141,slow=7.0,SNR=2.5						
	comp=Z,0.1nm,0.6s						
NVAR	**Mina Array Bea**	36.58	320	P	P	23 23 12.1	-2.0
	comp=Z,0.1nm,0.3s,baz=150,slow=3.5,SNR=1.2						
	comp=Z,0.1nm,0.3s						
G03D	**McMinnville, O**	43.65	325		pwP	23 24 23.9	+4.8
H03N2	**Juan Fernandez**	46.61	168	T	T	00 14 41.3	
	baz=347						
H03N1	**Juan Fernandez**	46.62	168	T	T	00 14 41.3	
	baz=347						
H03N3	**Juan Fernandez**	46.63	168	T	T	00 14 41.6	
	baz=347						
YKA	**Yellowknife Ar**	53.23	346	P	P	23 25 28.0	+2.0
	comp=Z,0.7nm,0.7s,baz=150,slow=7.3,SNR=11						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	65.36	337	P	P	23 26 49.6	-0.4
	comp=Z,0.2nm,0.8s,baz=131,slow=3.7,SNR=2.6						
	comp=Z,0.2nm,0.8s						
ASAR	**Alice Springs**	137.53	248	PKP	PKPdf	23 35 30.4	-2.3
	comp=Z,0.2nm,0.4s,baz=75,slow=3.9,SNR=2.0						
CMAR	**Chiang Mai Arr**	148.31	345	PKPbc	PKPdf	23 35 51.1	-0.7
	comp=Z,0.5nm,0.3s,baz=25,slow=3.1,SNR=5.2						

*NOU **12** 23:16:51.2, 38.°07S×175.°62E, h274km, MLv3.7/14, North Island, New Zealand*
*WEL **12** 23:16:53.4±0.8, 38.°S±4.°×17.°6E±.°, h259km±7km, M2.9/19, ML2.7/7, MLv2.9/19, Error ellipse: s-maj=6.5km s-min=5.0km az=115.8, confirmed*
ISC 12 23:16:48.4±2.1, 37.°99S±0.°06×175.°78E±0.°06, h297km±13km, n50, σ1§59/72, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	0.34	320	P	Pn	23 17 27.8	+1.4
MKAZ	**Moumakai**	1.01	331	P	Pn	23 17 30.0	+1.4
URZ	**Urewera**	1.08	105	P	Pn	23 17 29.3	+0.5
URZ	**Urewera**	1.08	105	P	Pn	23 17 29.3	+0.5
URZ				S	S	23 17 58.1	-2.9
RTZ	**Ruatahuna**	1.13	124	P	Pn	23 17 30.5	+1.3
RTZ				S	S	23 17 59.7	-1.8
KUZ	**Kuaotunu**	1.25	358	P	Pn	23 17 30.7	+0.9
KUZ	**Kuaotunu**	1.25	358	P	Pn	23 17 30.7	+0.9
AWAZ	**Awhitu Peninsu**	1.29	315	P	Pn	23 17 31.8	+1.7
BKZ	**Black Stump Fm**	1.30	155	P	Pn	23 17 31.4	+1.4
BKZ	**Black Stump Fm**	1.30	155	P	Pn	23 17 31.4	+1.4
BKZ				S	S	23 18 01.3	-1.8
WIAZ	**Waiheke Island**	1.30	337	P	Pn	23 17 31.5	+1.3
NMHZ	**Naumai**	1.37	144	P	Pn	23 17 32.8	+2.3
NMHZ				S	S	23 18 04.1	+0.1
RAHZ	**Arahi**	1.38	132	P	Pn	23 17 32.2	+1.8
RAHZ				S	S	23 18 03.3	-0.7
VRZ	**Vera Road**	1.39	215	P	Pn	23 17 32.6	+2.1
MOVZ	**Moawhango**	1.41	181	P	Pn	23 17 32.1	+1.4
MOVZ				S	S	23 18 02.1	-2.3
MWZ	**Matawai**	1.42	104	P	Pn	23 17 32.3	+1.5
MWZ				S	S	23 18 02.7	-1.8
SNGZ	**Shannon Statio**	1.46	123	P	Pn	23 17 32.5	+1.5
SNGZ				S	S	23 18 03.7	-1.2
RUGZ	**Raukumara Rang**	1.50	90	P	Pn	23 17 31.7	+0.2
RUGZ				S	S	23 18 02.8	-2.8
KWHZ	**Kaweka Forest**	1.52	161	P	Pn	23 17 33.5	+2.1
ARHZ	**Aropaoanui**	1.59	143	P	Pn	23 17 33.6	+1.8
ARHZ				S	S	23 18 05.9	-0.4
MCHZ	**McNeill Hill**	1.62	154	P	Pn	23 17 34.3	+2.3
MCHZ				S	S	23 18 06.7	0.0
KRHZ	**Kereru**	1.71	165	P	Pn	23 17 34.4	+1.7
KRHZ				S	S	23 18 06.5	-1.4
RIGZ	**Rimuhau**	1.71	115	P	Pn	23 17 34.5	+1.8
RIGZ				S	S	23 18 06.9	-1.1
TWGZ	**Tauwhareparae**	1.75	97	P	Pn	23 17 34.5	+1.5
TWGZ				S	S	23 18 07.7	-0.8
GRZ	**Great Barrier**	1.76	352	P	Pn	23 17 34.3	+1.1
KNZ	**Kokohu**	1.81	125	P	Pn	23 17 35.0	+1.6
KNZ				S	S	23 18 07.4	-1.7
PKGZ	**Pakihiroa**	1.82	87	P	Pn	23 17 34.6	+1.0
NEZ	**North Egmont**	1.83	225	P	Pn	23 17 36.5	+2.9
WAZ	**Wanganui**	1.87	199	P	Pn	23 17 35.8	+2.0
WAZ				S	S	23 18 09.4	-0.5
PNHZ	**Pukenui**	1.95	170	P	Pn	23 17 36.1	+1.6
PNHZ				S	S	23 18 09.7	-1.4
CNGZ	**Carnagh Statio**	1.98	105	P	Pn	23 17 36.5	+1.9
KAHZ	**Kahuranaki**	1.99	155	P	Pn	23 17 36.9	+2.1
MXZ	**Matakaoa Point**	2.05	79	P	Pn	23 17 36.8	+1.5
MXZ	**Matakaoa Point**	2.05	79	P	Pn	23 17 36.3	+1

POWZ	Post Office Ro	2.40 180	P	Pn	23 17 39.7	+1.6
POWZ			S	S	23 18 16.4	-1.4
BFZ	Birch Farm	2.71 172	P	Pn	23 17 42.2	+1.2
BFZ	Birch Farm	2.71 172	S	S	23 18 22.1	-1.0
OUZ	Omahuta	3.28 327	P	Pn	23 17 48.1	+1.3
OUZ	Omahuta	3.28 327	P	Pn	23 17 48.2	+1.3
QRZ	Quartz Range	3.79 221	P	Pn	23 17 52.2	+0.2
QRZ	Quartz Range	3.79 221	P	S	23 18 41.0	-2.0
KHZ	Kahutara	4.74 201	P	Pn	23 18 03.8	+1.2
KHZ	Kahutara	4.74 201	S	S	23 19 00.1	-2.1
RPZ	Rata Peaks	6.74 211	P	Pn	23 18 26.9	+0.4
JCZ	Jackson Bay	8.05 219	P	Pn	23 18 43.0	+0.5

DJA 12 23:37:28.0±0.2, 2°S±3°×12°3E±°, h10km, M4.1/13, mB5.6/2, mb4.3/5, MLv4.0/13, Mw(mB)5.1/2, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.33	320	P	Pn	23 37 51.2	-1.4
PCI	Palu	2.86	291	P	Pb	23 38 19.9	+0.7
SPSI	Sidrap Palu	3.40	233	P	Pn	23 38 21.2	0.0
BNSI	Bone	3.43	224	P	Pn	23 38 21.5	-0.1
MPSI	Mapaga	3.45	311	P	Pn	23 38 20.3	-1.5
SANI	Sanana	3.48	92	P	Pn	23 38 19.6	-2.6
BBSI	Bau Bau	3.53	179	P	Pn	23 38 22.5	-0.5
BKSI	Bulukumba	4.13	215	P	Pn	23 38 31.4	+0.3
BSSI	Bau Bau, Buton	4.64	206	P	Pn	23 38 38.2	-0.1
EDFI	Ende, Flores	6.82	187	P	Pn	23 39 07.0	-1.3
	0.0nm8.1nm,0.7s						
SAUI	Saumlaki	10.62	125	P	Pn	23 40 02.2	+1.8

*IDC **12** 23:49:01.9±10.0, 5°.81S×128°.47E, h252km±113km, mb3.1/5, mbtmp3.8/8, Error ellipse: s-maj=126.7km s-min=28.3km az=57.0*

ISC 12 23:49:06.1±1.1, 6°.1S±0°.1×128°.0E±0°.4, h300km, n8, σ1§32/8, mb3.3/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.17	191	P	Pn	23 51 50.3	-0.5
	0.7nm,0.4s,baz=1.9,slow=8.2,SNR=1.4						
WRA	Warramunga Arr	15.10	157	P	P	23 52 25.6	+1.3
	2.4nm,0.5s,baz=338,slow=10,SNR=31						
ASAR	Alice Springs	18.39	163	P	P	23 53 00.6	+0.5
	1.2nm,0.3s,baz=345,slow=12,SNR=23						
STKA	Stephens Creek	28.64	155	P	P	23 54 35.0	-0.6
	0.7nm,0.4s,baz=329,slow=12,SNR=4.6						
	0.7nm,0.4s						
SONM	Songino Array	56.96	343	P	P	23 58 19.4	-1.4
	0.2nm,0.4s,baz=138,slow=8.9,SNR=1.2						
	0.2nm,0.4s						
MKAR	Makanchi Array	66.38	328	P	P	23 59 24.7	+1.4
	0.2nm,0.5s,baz=119,slow=7.5,SNR=4.5						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	69.89	334	P	P	23 59 45.0	+0.3
	0.3nm,0.4s,baz=119,slow=12,SNR=2.0						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	70.70	329	P	P	23 59 51.1	+1.4
	0.3nm,0.5s,baz=136,slow=5.3,SNR=5.2						
	0.3nm,0.5s						

IDC 12 23:49:26.4±1.7, 11°.75N×45°.62E, h0km, mb3.4/2, mbtmp3.6/3, ML2.8/2, MS3.5/12, Error ellipse: s-maj=62.9km s-min=23.4km az=162.0, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	2.73	266	Pn	Pn	23 50 11.7	+0.1
	0.3nm,0.3s,baz=90,slow=7.1,SNR=17						
ATD				Sn	Sb	23 50 47.8	-2.4
	0.1nm,0.3s,baz=72,slow=20,SNR=1.8						
KMBO	Kilima Mbogo	15.26	214	Pn	Pn	23 53 02.0	-1.5
	0.3nm,0.3s,baz=77,slow=19,SNR=3.6						
KMBO				LR	LR	23 58 53.4	
	comp=Z,173nm,18.0s,baz=92,slow=37						
	0.8nm,0.2s						
GNI	Garni	28.30	359	LR	LR	00 07 53.7	
	comp=Z,30nm,20.2s,baz=109,slow=39						
AAK	Ala-Archa	39.70	34	LR	LR	00 16 29.5	
	comp=Z,28nm,18.0s,baz=240,slow=41						
TSUM	Tsumeb	41.34	222	LR	LR	00 14 50.8	
	comp=Z,308nm,19.3s,baz=330,slow=37						
ARTI	Arti	45.63	10	LR	LR	00 19 44.1	
	comp=Z,37nm,20.4s,baz=38,slow=40						
BVAR	Borovoye Array	45.70	21	LR	LR	00 19 35.3	
	comp=Z,67nm,18.1s,baz=230,slow=40						
MKAR	Makanchi Array	46.63	34	P	P	23 57 55.7	-0.8
	0.4nm,0.9s,baz=233,slow=8.9,SNR=3.8						
MKAR				LR	LR	00 18 17.0	
	comp=Z,48nm,21.6s,baz=270,slow=37						
	0.4nm,0.9s						
KURBB	Kurchatov Arra	47.18	28	LR	LR	00 20 48.4	
	comp=Z,76nm,18.1s,baz=180,slow=40						
SUR	Sutherland	49.88	208	LR	LR	00 18 40.8	
	comp=Z,167nm,20.3s,baz=310,slow=35						
CMAR	Chiang Mai Arr	51.76	76	P	P	23 58 36.9	+0.6
	0.7nm,1.0s,baz=263,slow=6.8,SNR=4.3						
	0.7nm,1.0s						
ZALV	Zalesovo Beam	52.28	28	LR	LR	00 24 16.2	
	comp=Z,46nm,18.4s,baz=40,slow=40						
NRIK	Noril'sk	63.41	15	LR	LR	00 29 51.0	
	comp=Z,55nm,18.2s,baz=0.5,slow=38						
KSRS	Korea Array	76.89	54	LR	LR	00 38 35.8	
	comp=Z,19nm,18.6s,baz=290,slow=38						

*NEIC **13** 00:06:22.4±1.5, 17°.3S±0°.1×167°.07E±0°.10, h10km±2km, mb4.7/5, Error ellipse: s-maj=27.3km s-min=5.2km az=326.0*
*NOU **13** 00:06:22.0, 17°.35S×167°.74E, h8km, MLv4.5/13, Vanuatu Islands*
*IDC **13** 00:06:27.9±3.6, 17°.53S×167°.35E, h42km±35km, mb3.8/6, mbtmp4.0/8, ML4.5/2, MS3.7/13, Error ellipse: s-maj=29.2km s-min=23.1km az=123.0*

ISC 13 00:06:23.4±0.8, 17°.42S±0°.09×167°.70E±0°.08, h19km, n40, σ1§43/26, mb4.2/9, MS3.6/10, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	0.55	123	P	Pb	00 06 33.1	-1.3
DVP	Devils Point	0.55	123	S	Sb	00 06 42.1	+0.2
MARNC	Mare, Loyalty	4.05	176	P	Pn	00 07 24.3	-0.1
KOUNC	Koumac, New Ca	4.49	226	P	Pn	00 07 31.7	+1.3
YATNC	Mamie plateau,	4.67	189	P	Pn	00 07 33.6	+0.6
DZM	Mont Dzumac	4.77	194		Pn	00 07 35.2	+0.8
DZM	Mont Dzumac	4.77	194	*e*Pn	Pn	00 07 36.1	+1.6
	104nm,1.6s						
DZM				*e*LR	LR	00 08 31.4	
	631nm,23.4s						
DZM	Mont Dzumac	4.77	194	P	Pn	00 07 35.6	+1.1
	3.4nm,0.3s,baz=104,slow=15,SNR=37						
DZM				S	Sn	00 08 26.4	-2.9
	40nm,0.5s,baz=307,slow=22,SNR=5.9						
DZM				LR	LR	00 09 20.1	
	comp=Z,530nm,18.6s,baz=23,slow=38						
	15nm,0.5s						
DZM	Mont Dzumac	4.77	194	P	Pn	00 07 35.6	+1.1
ONTNC	Ouen Toro	5.00	193	Pn	Pn	00 07 37.1	-0.4
ONTNC	Ouen Toro	5.00	193	P	Pn	00 07 39.5	+2.0
PINNC	Pines Island,	5.17	183	Pn	Pn	00 07 41.3	+1.5
NGOA	Tingoa Renbel	9.42	307	P	Pn	00 08 38.0	-0.2
MSVF	Nonsavu	9.88	93	Pn	Pn	00 08 52.7	+8.2
MSVF	Nonsavu	9.88	93	P	Pn	00 08 53.1	+8.6
	0.4nm,0.3s,baz=268,slow=14,SNR=5.9						
MSVF				LR	LR	00 11 48.2	
	comp=Z,940nm,18.9s,baz=256,slow=31						
	7.0nm,0.8s						
HNR	Honiara	10.95	316	LR	LR	00 12 59.1	
	comp=Z,239nm,18.5s,baz=163,slow=36						
PMG	Port Moresby	21.50	289	LR	LR	00 18 18.3	
	comp=Z,164nm,18.7s,baz=147,slow=34						
BKZ	Black Stump Fm	22.98	162	P	P	00 11 29.0	+2.0
BKZ				IAmb	IAmb	00 11 29.5	
	comp=Z,29nm,1.2s						
MRZ	Mangatainoka R	24.14	165	P	P	00 11 39.3	+1.1
NNZ	Nelson	24.21	170	P	P	00 11 41.6	+2.7
THZ	Tophouse	24.67	171	P	P	00 11 45.2	+2.2
THZ				IAmb	IAmb	00 11 50.1	
	comp=Z,16nm,0.9s						
STKA	Stephens Creek	27.66	234	P	P	00 12 09.2	-0.9
	comp=Z,0.8nm,0.4s,baz=45,slow=13,SNR=3.0						
STKA				LR	LR	00 23 04.5	
	comp=Z,123nm,18.4s,baz=24,slow=36						
	comp=Z,0.8nm,0.4s						
RAR	Rarotonga	30.89	102	LR	LR	00 24 18.4	
	comp=Z,100nm,18.4s,baz=287,slow=34						
WRA	Warramunga Arr	31.68	260	P	P	00 12 45.0	-0.9
	comp=Z,1.1nm,0.9s,baz=89,slow=9.2,SNR=8.0						
	comp=Z,1.1nm,0.9s						
ASAR	Alice Springs	32.20	253	P	P	00 12 49.9	-0.7
	comp=Z,1.5nm,0.5s,baz=78,slow=8.7,SNR=26						
ASAR				LR	LR	00 25 41.9	
	comp=Z,208nm,18.2s,baz=80,slow=36						
	comp=Z,1.5nm,0.5s						
GUMO	Guam	38.18	322	LR	LR	00 29 11.0	
	comp=Z,58nm,18.3s,baz=106,slow=36						
FITZ	Fitzroy Crossi	40.00	262	LR	LR	00 30 14.8	
	comp=Z,161nm,18.9s,baz=102,slow=36						
TBI	Tubuai	40.48	106	*e*LR	LR	00 25 21.7	
	comp=Z,382nm,25.5s						
PPT2	Papeete2	40.68	97	*e*LR	LR	00 25 26.2	
	comp=Z,136nm,27.0s						
PPT2				*e*LR	LR	00 25 32.6	
	comp=Z,129nm,22.8s						
PPT	Papeete	40.68	97	LR	LR	00 27 23.4	
	comp=Z,96nm,21.4s,baz=310,slow=31						
NWAO	Narrogin (SRO)	47.77	241	LR	LR	00 35 29.0	
	comp=Z,69nm,20.1s,baz=168,slow=37						
TAOE	Nuku Hiva Isla	51.36	87	*e*LR	LR	00 30 22.5	
	comp=Z,116nm,25.1s						
RKT	Rikitea	53.79	106	*e*LR	LR	00 31 35.7	
	comp=Z,400nm,25.8s						
QSPA	South Pole Qui	72.62	180	P	P	00 17 50.7	+1.1
QSPA				IAmb	IAmb	00 18 01.4	
	comp=Z,5.9nm,0.9s						
QSPA	South Pole Qui	72.62	180	P	P	00 17 50.6	+1.1
	comp=Z,3.8nm,0.9s,baz=30,slow=1.5,SNR=11						
	comp=Z,3.8nm,0.9s						
CMAR	Chiang Mai Arr	76.43	294	P	P	00 18 12.0	-0.3
	comp=Z,0.2nm,0.4s,baz=119,slow=3.4,SNR=2.1						
	comp=Z,0.2nm,0.4s						
SONM	Songino Array	84.90	324	P	P	00 18 56.6	-0.6
	comp=Z,1.1nm,0.8s,baz=141,slow=5.2,SNR=7.7						
	comp=Z,1.1nm,0.8s						
ELIB	Princess Elisa	87.66	190	*d*P	P	00 19 10.6	+0.1
	comp=Z,2.7nm,1.2s						
PFO	Pinyon Flats O	88.23	54	LR	LR	00 50 54.8	
	comp=Z,84nm,20.6s,baz=40,slow=30						
LPIG	La Paz	89.96	65	LR	LR	00 53 08.5	
	comp=Z,67nm,18.4s,baz=231,slow=31						

*BKK **13** 00:11:04.7±1.5, 7°N±7°×9°4E±1°1, h15km±13km, M4.2/6, mb4.4/2, mB5.3/4, Mjma3.8/6, ML4.2/3, MLv4.1/5, Mw(mB)4.7/4*
*IDC **13** 00:11:10.8±0.8, 7°.67N×94°.46E, h0km, mb3.8/15, mbtmp3.7/17, ML3.7/2, MS2.9/3, Error ellipse: s-maj=34.1km s-min=16.1km az=58.0*
*NEIC **13** 00:11:13.1±0.8, 7°.29N±0°.09×94°.3E±0°.1, h10km±2km, mb4.3/10, Error ellipse: s-maj=24.3km s-min=13.9km az=253.0*
*NDI **13** 00:11:17.0±1.1, 7°.21N×94°.40E, h10km, ML4.0, MW4.1, mb4.3(NEIC)*

ISC 13 00:11:14.2±0.6, 7°.33N±0°.06×94°.40E±0°.07, h24km, n46, σ1§68/39, mb4.0/20, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	0.56	236	*e*P	Pb	00 11 25.4	-0.1
CMBY				*e*S	Sb	00 11 33.5	+0.4
CMBY				IAML		00 11 34.2	
	comp=N,8μm,0.5s						
CMBY				IAML		00 11 40.2	
	comp=E,10μm,0.9s						
LHMI	Lhok Sumawe	3.28	129		Pn	00 12 04.4	+0.3
RNTT	Ranong	4.53	63	P	Pn	00 12 22.7	+1.4
	comp=E,0.1nmcomp=E,0.3nmcomp=E,3μmcomp=E,26nm,0.5s						
PBA	Port Blair	4.60	339	*e*P	Pb	00 12 28.2	-6.1
PBA				*e*S	Sn	00 13 19.7	+4.6
SRIT	Nakonsritamara	5.31	76		Pn	00 12 33.1	+1.1
SRIT	Nakonsritamara	5.31	76	P	Pn	00 12 32.9	+0.9
DGPR	DIGLIPUR	5.99	346	*e*P	Pn	00 12 47.8	+6.3
DGPR				*e*S	Sn	00 13 52.6	+3.3
PSI	Prapat	6.37	135	Pn	Pn	00 12 48.9	+2.2
	comp=E,1.0nm,0.3s,baz=326,slow=11,SNR=5.7						
PSI				LR	LR	00 15 25.8	
	comp=E,102nm,21.3s,baz=306,slow=38						
	comp=E,3.7nm,0.4s						
RPSI	Rantau Prapat	6.44	135		Pn	00 12 48.9	+1.3
RPSI	Rantau Prapat	6.44	135	Pn	Pn	00 12 48.4	+0.8
KULM	Kulim	6.54	108		Pn	00 12 48.4	-0.5
CMAR	Chiang Mai Arr	11.92	21	Pn	Pn	00 13 55.7	-7.0
	comp=E,0.2nm,0.3s,baz=205,slow=14,SNR=4.8						
CMAR				LR	LR	00 18 30.9	
	comp=E,55nm,19.6s,baz=210,slow=38						
	comp=E,0.2nm,0.4s						
PALK	Pallekele	13.59	271	LR	LR	00 19 14.7	
	comp=E,75nm,19.5s,baz=100,slow=35						
LSA	Lhasa	22.47	353	P	P	00 16 12.8	+0.5
H08S3	Diego Garcia H	26.42	236	T	T	00 43 33.5	
	baz=56,slow=75						
H08S2	Diego Garcia H	26.43	236	T	T	00 43 29.5	
	baz=56,slow=75						
H08S1	Diego Carcia H	26.44	236	T	T	00 43 32.4	
	baz=56,slow=75						
NIL	Nilore	32.69	326	P	P	00 17 45.0	+0.1
KDJ	Kajisay	37.87	339	P	P	00 18 29.3	-0.2
DRK	Karamyk	37.91	331	P	P	00 18 30.6	+0.6
DRK				IAmb	IAmb	00 18 32.2	
	comp=Z,6.5nm,0.8s						
MKAR	Makanchi Array	40.68	347	P	P	00 18 53.0	+0.3
MKAR	Makanchi Array	40.68	347	P	P	00 18 49.4	-3.3
	comp=Z,1.9nm,0.8s,baz=163,slow=8.6,SNR=20						
	comp=Z,1.9nm,0.8s						
MAKZ	Makanchi	40.76	347	P	P	00 18 54.0	+0.6
KNRA	Kununurra	41.00	124	P	P	00 18 55.8	+0.1
KNRA				IAmb	IAmb	00 19 12.2	
	comp=Z,12nm,1.4s						
SONM	Songino Array	41.64	12	P	P	00 18 57.8	-3.0
SONM				IAmb	IAmb	00 19 09.5	
	comp=Z,4.8nm,1.2s						
KURBB	Kurchatov Arra	45.14	346	P	P	00 19 27.4	-1.4
	comp=Z,2.7nm,0.9s,baz=166,slow=7.1,SNR=24						
	comp=Z,2.7nm,0.9s						
KURK	Kurchatov	45.20	346	P	P	00 19 29.9	+0.7
KURK				IAmb	IAmb	00 19 32.4	
	comp=Z,2.8nm,0.9s						
ZAA0	Zalesovo Array	47.13	352	P	P	00 19 44.6	+0.2
ZAA0				IAmb	IAmb	00 19 53.8	
	comp=Z,2.1nm,0.7s						
ZALV	Zalesovo Beam	47.13	352	P	P	00 19 45.3	+0.9
ZALV	Zalesovo Beam	47.13	352	P	P	00 19 42.9	-1.4
	comp=Z,0.9nm,0.6s,baz=168,slow=7.6,SNR=5.7						
	comp=Z,0.9nm,0.6s						
WRA	Warramunga Arr	47.74	125	P	P	00 19 51.7	+2.1
	comp=Z,0.3nm,0.6s,baz=300,slow=8.1,SNR=6.4						
	comp=Z,0.3nm,0.6s						
ASAR	Alice Springs	49.37	130	P	P	00 20 03.4	+1.2
	comp=Z,0.2nm,0.5s,baz=297,slow=8.5,SNR=9.3						
	comp=Z,0.2nm,0.5s						
BVAR	Borovoye Array	49.59	341	P	P	00 20 01.7	-1.7
	comp=Z,1.2nm,0.7s,baz=142,slow=7.5,SNR=7.7						
	comp=Z,1.2nm,0.7s						
ABKAR	Akbulak array	50.83	331	P	P	00 20 13.2	+0.3
AKTO	Aktyubinsk	52.55	331	P	P	00 20 24.5	-1.2
	comp=Z,0.8nm,0.4s,baz=105,slow=12,SNR=3.1						
	comp=Z,0.8nm,0.4s						
ARTI	Arti	56.53	337	P	P	00 20 53.4	-1.0
	comp=Z,1.2nm,0.4s,baz=157,slow=4.7,SNR=4.0						
	comp=Z,1.2nm,0.4s						
BRTR	Keskin Array B	62.98	311	P	P	00 21 37.7	-1.7
	comp=Z,0.2nm,0.5s,baz=98,slow=7.2,SNR=4.1						
	comp=Z,0.2nm,0.5s						
H04N2	CROZET ISLANDS	65.39	211	T	T	01 32 20.0	
	baz=47,slow=74						
H04N1	CROZET ISLANDS	65.40	211	T	T	01 32 20.8	
	baz=47,slow=74						
H04N3	CROZET ISLANDS	65.41	211	T	T	01 32 26.8	
	baz=47						
FINES	FINESS Array B	73.31	332	P	P	00 22 41.9	-1.7
	comp=Z,0.6nm,0.7s,baz=73,slow=7.0,SNR=4.7						
	comp=Z,0.6nm,0.7s						
BOSA	Boshof	75.51	238	P	P	00 22 59.7	+2.5
	comp=Z,1.3nm,0.7s,baz=89,slow=7.7,SNR=3.6						
	comp=Z,1.3nm,0.7s						
GERES	GERESS Array B	78.40	318	P	P	00 23 11.7	-1.4
	comp=Z,0.3nm,0.5s,baz=81,slow=6.7,SNR=2.6						
	comp=Z,0.3nm,0.5s						
HFS	Hagfors	79.06	330	P	P	00 23 13.9	-2.5
	comp=Z,1.3nm,0.7s,baz=98,slow=7.4,SNR=6.1						
	comp=Z,1.3nm,0.7s						
NOA	NORSAR Array B	80.33	331	P	P	00 23 22.6	-0.6
	comp=Z,0.5nm,0.8s,baz=93,slow=5.3,SNR=4.2						
	comp=Z,0.5nm,0.8s						
ESDC	Sonseca Array	91.76	310	P	P	00 24 20.5	+0.2
	comp=Z,0.2nm,0.5s,baz=70,slow=5.5,SNR=1.7						
	comp=Z,0.2nm,0.5s						

*BKK **13** 00:21:12.7±1.2, 7°N±5°×9°4E±°, h14km±10km, M4.3/9, mb4.3/3, mB6.1/3, Mjma4.2/9, ML4.2/4, MLv4.1/5, Mw(mB)5.8/3*
*IDC **13** 00:21:23.6±4.3, 7°.48N×94°.55E, h60km±38km, mb3.4/12, mbtmp3.6/14, ML3.7/2, MS3.3/6, Error ellipse: s-maj=52.7km s-min=16.9km az=59.0*

ISC 13 00:21:19.9±0.8, 7°.5N±0°.1×94°.4E±0°.1, h24km, n21, σ1§15/18, mb3.8/12, MS3.2/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNTT	Ranong	4.45	65	P	Pn	00 22 26.3	+0.4
SRIT	Nakonsritamara	5.27	78	P	Pn	00 22 36.4	-0.7
	0.4nm91nm,0.7s						
PSI	Prapat	6.49	136	P	Pn	00 22 56.0	+2.0
	1.0nm,0.3s,baz=266,slow=12,SNR=5.6						
PSI				LR	LR	00 25 20.2	
	comp=Z,148nm,18.3s,baz=286,slow=37						
	4.6nm,0.4s						
SRDT	SRDT	8.23	34	P	Pn	00 23 17.6	-0.3
CMAR	Chiang Mai Arr	11.75	22	P	Pn	00 24 08.5	+2.3
	0.2nm,0.3s,baz=218,slow=14,SNR=4.3						
CMAR				LR	LR	00 28 36.4	
	comp=Z,82nm,18.2s,baz=210,slow=37						
	0.3nm,0.4s						
PALK	Pallekele	13.59	270	LR	LR	00 29 09.1	
	comp=Z,134nm,22.0s,baz=92,slow=34						
KAPI	Kappang	28.19	115	LR	LR	00 39 33.2	
	comp=Z,56nm,18.0s,baz=317,slow=39						
MKAR	Makanchi Array	40.51	347	P	P	00 28 57.2	+0.2
	1.0nm,0.7s,baz=167,slow=8.4,SNR=14						
	1.0nm,0.7s						
KURBB	Kurchatov Arra	44.97	346	P	P	00 29 33.1	+0.1
	1.0nm,0.7s,baz=168,slow=6.9,SNR=17						
KURBB				PcP	PcP	00 31 13.9	-0.1
	0.3nm,0.8s,baz=162,slow=2.6,SNR=4.3						
	1.0nm,0.7s						
ZALV	Zalesovo Beam	46.96	352	P	P	00 29 48.0	-0.6
	0.3nm,0.3s,baz=194,slow=10,SNR=4.5						
	0.3nm,0.3s						
WRA	Warramunga Arr	47.84	125	P	P	00 29 53.5	-2.6
	0.2nm,0.8s,baz=302,slow=7.6,SNR=4.6						
	0.2nm,0.8s						
BVAR	Borovoye Array	49.42	341	P	P	00 30 08.3	+0.5
	0.6nm,0.4s,baz=134,slow=8.3,SNR=7.0						
	0.6nm,0.4s						
ASAR	Alice Springs	49.48	130	P	P	00 30 08.1	-0.6
	0.7nm,0.8s,baz=296,slow=7.6,SNR=5.9						
	0.7nm,0.8s						
EIL	Elat	59.83	300	LR	LR	00 59 45.2	
	comp=Z,17nm,18.3s,baz=246,slow=38						
BRTR	Keskin Array B	62.86	311	P	P	00 31 44.9	+0.6
	0.4nm,0.7s,baz=96,slow=8.9,SNR=5.5						
	0.4nm,0.7s						
OBN	Obninsk	65.83	328	LR	LR	01 03 35.6	
	comp=Z,92nm,20.8s,baz=42,slow=38						
FINES	FINESS Array B	73.16	332	P	P	00 32 48.8	+0.5
	1.1nm,0.8s,baz=101,slow=7.2,SNR=9.2						
	1.1nm,0.8s						
ARCES	ARCESS Array B	75.70	340	P	P	00 33 02.7	-0.3
	1.3nm,0.9s,baz=32,slow=4.8,SNR=4.3						
	1.3nm,0.9s						
GERES	GERESS Array B	78.27	318	P	P	00 33 17.4	-0.7
	0.3nm,0.6s,baz=79,slow=5.7,SNR=6.5						
	0.3nm,0.6s						
HFS	Hagfors	78.90	330	P	P	00 33 20.2	-0.9
	0.5nm,0.5s,baz=99,slow=8.9,SNR=8.9						
	0.5nm,0.5s						
ESDC	Sonseca Array	91.65	310	P	P	00 34 25.6	+0.1
	0.2nm,0.5s,baz=74,slow=6.1,SNR=5.1						
	0.2nm,0.5s						

*DJA **13** 00:22:22.5±0.8, 2°S±4°×12°3E±°, h18km±11km, M4.1/13, mB4.8/2, mb4.1/3, MLv4.0/13, Mw(mB)4.1/2*
*IDC **13** 00:22:32.1±7.5, 2°.42S×122°.19E, h120km±76km, mb2.5/3, mbtmp3.1/4, Error ellipse: s-maj=70.9km s-min=25.6km az=49.0*

ISC 13 00:22:22.9±1.1, 1°.95S±0°.06×122°.63E±0°.07, h35km, n13, σ1§78/13, mb2.9/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.91	9	P	Pn	00 22 39.5	+0.2
APSI	Ampana	1.43	316	P	Pn	00 22 45.7	-0.6
PCI	Palu	2.98	290	P	Pn	00 23 14.8	+7.0
SANI	Sanana	3.35	92	P	Pn	00 23 12.7	-0.2
SPSI	Sidrap Palu	3.49	235	P	Pn	00 23 15.8	+1.1
BNSI	Bone	3.50	226	P	Pn	00 23 16.3	+1.3
MPSI	Mapaga	3.56	310	P	Pn	00 23 17.3	+1.7
BKSI	Bulukumba	4.18	217	P	Pn	00 23 25.5	+1.2
KAPI	Kappang	4.19	223	P	Pn	00 23 25.3	+0.9
	16nm,0.3s,baz=24,slow=4.9,SNR=14						
KAPI				S	Sn	00 24 07.6	-4.4
	11nm,0.3s,baz=28,slow=7.8,SNR=4.9						
EDFI	Ende, Flores	6.82	188	P	Pn	00 24 01.4	+0.7
	0.0nm6.2nm,0.6s						
WRA	Warramunga Arr	21.23	148	P	P	00 27 07.0	+1.0
	0.1nm,0.4s,baz=322,slow=11,SNR=1.5						
	0.1nm,0.4s						
ASAR	Alice Springs	24.19	154	P	P	00 27 35.5	-0.8
	0.3nm,0.9s,baz=324,slow=7.9,SNR=10						
	0.3nm,0.9s						
MKAR	Makanchi Array	60.08	329	P	P	00 32 27.8	+1.2
	0.1nm,0.4s,baz=136,slow=7.7,SNR=1.9						
	0.1nm,0.4s						

*IDC **13** 00:26:12.6±3.0, 51°.97N×173°.59W, h0km, mb3.4/3, mbtmp3.3/4,

mbtmp3.5/9, ML3.7/1, MS3.0/1, Error ellipse: s-maj=74.2km s-min=32.0km az=118.0

ISC 13 00:34:41.9±1.1, 40.40N±0.04×143.29E±0.07, h10km, n29, σ1§32/29, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.18**	**247**	P	**Pn**	**00 35 05.0**	**+0.5**
JTH				*e*S	**Sn**	**00 35 20.5**	**-0.1**
JKEN	**Kujiedanarisaw**	**1.22**	**261**	*i* P	**Pg**	**00 35 05.9**	**+0.6**
JANG	**Nango**	**1.35**	**269**	*i* P	**Pg**	**00 35 08.0**	**+0.1**
MIYJ	**Miyakonagasawa**	**1.40**	**234**	P	**Pg**	**00 35 08.0**	**-0.7**
MIYJ				*e*S	**Sg**	**00 35 26.3**	**-0.5**
JEM	**Erimo**	**1.62**	**357**	*e*P	**Pg**	**00 35 12.9**	**0.0**
JEM				*e*S	**Sg**	**00 35 33.9**	**0.0**
JTM	**Tenmabayashi**	**1.73**	**284**	P	**Pg**	**00 35 14.3**	**-0.8**
JTM				S	**Sg**	**00 35 36.9**	**-0.7**
JOM	**Ohasama**	**1.79**	**239**	P	**Pb**	**00 35 14.3**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.92**	**348**	*e*P	**Pg**	**00 35 17.7**	**-1.0**
JOT	**Ohata**	**1.96**	**301**	*e*P	**Pb**	**00 35 17.6**	**0.0**
JOT				*e*S	**Sg**	**00 35 43.2**	**-1.6**
JAH	**Hinai**	**2.04**	**265**	P	**Pb**	**00 35 18.7**	**-0.3**
JAH				*e*S	**Sg**	**00 35 46.5**	**-0.9**
JMK	**Ichinoseki**	**2.15**	**228**	*e*P	**Pb**	**00 35 19.1**	**-1.8**
JCH	**Churui**	**2.21**	**1**	*e*P	**Pb**	**00 35 20.7**	**-1.2**
JCH				S	**Sn**	**00 35 46.9**	**+0.8**
JRG	**Rokugo**	**2.27**	**245**	*e*P	**Pb**	**00 35 22.0**	**-1.0**
ASAJ	**Asahikawa**	**3.75**	**352**	Pn	**Pb**	**00 35 45.1**	**-3.0**
	4.1nm,0.3s,baz=209,slow=12,SNR=7.3						
ASAJ				Sn	**Sn**	**00 36 24.4**	**+0.5**
	2.8nm,0.3s,baz=207,slow=20,SNR=4.2						
	3.4nm,0.4s						
MJAR	**Matsushiro Arr**	**5.54**	**228**	Pn	**Pn**	**00 36 02.4**	**-2.0**
	0.8nm,0.5s,baz=34,slow=15,SNR=5.6						
KLR	**Kul'dur**	**12.03**	**321**	LR	LR	00 42 33.2	
	comp=Z,72nm,19.1s,baz=182,slow=41						
SONM	**Songino Array**	**27.30**	**298**	P	**P**	**00 40 25.2**	**-1.5**
	0.4nm,0.5s,baz=100,slow=7.7,SNR=3.9						
	0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.86**	**129**	T	T	01 10 46.6	
	baz=321,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.87**	**129**	T	T	01 10 47.3	
	baz=321,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.88**	**129**	T	T	01 10 45.8	
	baz=321,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.69**	**130**	T	T	01 11 50.2	
	baz=323,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.70**	**130**	T	T	01 11 48.4	
	baz=323,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.71**	**130**	T	T	01 11 51.0	
	baz=323,slow=76						
ZALV	**Zalesovo Beam**	**40.81**	**310**	P	**P**	**00 42 23.7**	**+0.4**
	0.4nm,0.5s,baz=86,slow=9.1,SNR=2.4						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**43.66**	**299**	P	**P**	**00 42 47.0**	**+0.3**
	0.7nm,0.9s,baz=86,slow=10,SNR=4.8						
	0.7nm,0.9s						
KURBB	**Kurchatov Arra**	**45.16**	**306**	P	**P**	**00 42 59.3**	**+0.8**
	1.8nm,0.7s,baz=78,slow=8.6,SNR=10						
	1.8nm,0.7s						
BVAR	**Borovoye Array**	**49.45**	**311**	P	**P**	**00 43 33.4**	**+1.5**
	0.5nm,0.6s,baz=58,slow=12,SNR=2.1						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**66.52**	**332**	P	**P**	**00 45 35.0**	**+3.5**
	0.5nm,0.7s,baz=39,slow=5.3,SNR=4.1						
	0.5nm,0.7s						
NOA	**NORSAR Array B**	**71.64**	**338**	P	P	00 46 08.7	+5.4
	0.4nm,0.6s,baz=36,slow=6.1,SNR=4.0						
	0.4nm,0.6s						

*ECX **13** 00:39:14.7±0.7, 32.19N×115.30W, h8km±2km, MD3.0, ML3.2*
*NEIC **13** 00:39:15.3±2.3, 32.15N±0.02×115.26W±0.02, h10km±2km, Error ellipse: s-maj=3.1km s-min=2.9km az=327.0*
*PAS **13** 00:39:16.5±1.7, 32.20N±0.02×115.26W±0.01, h20km±4km, ML3.1/161, ML3.0/44(NEIC), Error ellipse: s-maj=2.7km s-min=0.9km az=159.0*

ISC 13 00:39:16.1±0.8, 32.19N±0.02×115.30W±0.02, h16km±5km, n64, σ1§02/103, 9C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHX	**Rio Hardy**	**0.06**	**163**	⇑*i* P	**Pg**	**00 39 18.1**	**-1.0**
RHX				*e*S	**Sg**	**00 39 19.3**	**-1.7**
RHX				IAML		00 39 19.7	
	comp=N,7μm,0.1s						
RHX				IAML		00 39 19.7	
	comp=E,26μm,0.1s						
GUVIX	**Guadalupe Vict**	**0.22**	**59**		**Pg**	**00 39 21.2**	**+0.1**
GUVIX					**Sg**	**00 39 25.3**	**+0.6**
GUVIX	**Guadalupe Vict**	**0.22**	**59**	⇑*i* P	**Pg**	**00 39 21.3**	**+0.1**
GUVIX				*e*S	**Sg**	**00 39 25.7**	**+1.0**
CPBX	**Cerro Prieto**	**0.23**	**360**		**Pg**	**00 39 21.3**	**-0.1**
CPBX				Sg	**Sg**	**00 39 24.7**	**-0.2**
CPBX	**Cerro Prieto**	**0.23**	**360**	⇓*e*P	**Pg**	**00 39 21.1**	**-0.2**
CPBX				*e*S	**Sg**	**00 39 25.2**	**+0.3**
MBIG	**Mexicali**	**0.24**	**22**	⇑*i* P	**Pg**	**00 39 21.6**	**+0.2**
MBIG				*e*S	**Sg**	**00 39 26.5**	**+1.5**
MBIG				IAML		00 39 34.9	
	comp=E,13μm,0.3s						
MBIG				IAML		00 39 36.1	
	comp=N,17μm,0.4s						
RITX	**Riito Sonora**	**0.29**	**94**	⇑*e*P	**Pb**	**00 39 22.8**	**-0.1**
RITX				*e*S	**Sb**	**00 39 27.9**	**+0.4**
PESCX	**Ej. Pescaderos**	**0.38**	**49**		**Pb**	**00 39 23.7**	**-0.7**
PESCX					**Sb**	**00 39 29.5**	**-0.4**
PESCX	**Ej. Pescaderos**	**0.38**	**49**	⇑*i* P	**Pb**	**00 39 23.8**	**-0.5**
PESCX				*e*S	**Sb**	**00 39 29.9**	**-0.1**
ALAMX	**Rancho Alamar**	**0.39**	**243**	⇑*i* P	**Pb**	**00 39 24.6**	**0.0**
ALAMX				*e*S	**Sb**	**00 39 30.5**	**+0.2**
ALAMX				IAML		00 39 33.0	
	comp=N,1μm,0.1s						
ALAMX				IAML		00 39 33.2	
	comp=E,2μm,0.1s						
UABX	**UABC, Campus M**	**0.46**	**345**		**Pb**	**00 39 25.7**	**0.0**
UABX					**Sb**	**00 39 33.3**	**+1.0**
5054	**Holtville Bond**	**0.51**	**357**		**Pb**	**00 39 26.4**	**-0.2**
5054					**Sb**	**00 39 35.0**	**+1.3**
5053	**Calexico**	**0.51**	**342**		**Pb**	**00 39 26.4**	**-0.2**
5053					**Sb**	**00 39 34.6**	**+0.9**
EDOMX	**El Doctor, EDO**	**0.53**	**116**	⇓⇓*e*P	**Pb**	**00 39 27.3**	**+0.4**
EDOMX				*e*S	**Sb**	**00 39 35.4**	**+1.2**
ESJX	**Sierra Juarez**	**0.58**	**252**		**Pb**	**00 39 27.9**	**0.0**
ESJX				Sg	**Sb**	**00 39 36.0**	**+0.1**
ESJX				IAML		00 39 38.7	
	comp=E,1μm,0.1s						
SGL	**Mount Signal**	**0.58**	**322**		**Pg**	**00 39 27.4**	**-0.2**
SGL					**Sb**	**00 39 35.8**	**-0.1**
EMSC	**East Mesa**	**0.61**	**26**		**Pb**	**00 39 27.9**	**-0.4**
EMSC					**Sb**	**00 39 37.4**	**+0.7**
EMSC	**East Mesa**	**0.61**	**26**	⇑*i* P	**Pb**	**00 39 28.0**	**-0.4**
EMSC				IAML		00 39 38.0	
	comp=E,5μm,0.4s						
EMSC				IAML		00 39 38.1	
	comp=N,2μm,0.3s						
DREC	**Desert Rsrch C**	**0.63**	**349**		**Pb**	**00 39 28.7**	**+0.1**
DREC					**Sb**	**00 39 38.8**	**+1.6**
WESC	**Westside Schoo**	**0.68**	**328**		**Pb**	**00 39 29.4**	**-0.1**
WESC					**Sb**	**00 39 39.0**	**+0.5**
SNR	**Schaffner Ranc**	**0.68**	**350**		**Pb**	**00 39 29.7**	**+0.1**
SNR					**Sb**	**00 39 39.7**	**+1.0**
COA	**Coachella**	**0.69**	**13**		**Pg**	**00 39 29.1**	**-0.5**
COA					**Sb**	**00 39 39.1**	**+0.1**
YUH	**Yuha Desert**	**0.70**	**311**		**Pg**	**00 39 29.2**	**-0.5**
YUH				Sg	**Sg**	**00 39 39.0**	**0.0**
YUH				IAML		00 39 39.5	
	comp=E,366nm,0.5s						
SJX	**San Joaquin**	**0.70**	**233**	⇑*i* P	**Pg**	**00 39 28.0**	**-1.8**
SJX				*e*S	**Sg**	**00 39 36.1**	**-3.0**
SJX				IAML		00 39 37.9	
	comp=N,2μm,0.2s						
SJX				IAML		00 39 38.7	
	comp=E,2μm,0.1s						
IMPE	**Imperial**	**0.74**	**343**		**Pb**	**00 39 30.4**	**-0.2**
IMPE					**Sb**	**00 39 41.4**	**+0.8**
COK2	**Cook Ranch 2**	**0.75**	**332**		**Pg**	**00 39 30.5**	**-0.3**
COK2					Pn	00 39 42.0	+10
RMX	**La Rumorosa**	**0.78**	**302**		**Pg**	**00 39 29.9**	**-1.3**
RMX					**Sg**	**00 39 39.4**	**-2.1**
IKP	**In-Ko-Pah, Jac**	**0.82**	**304**		**Pg**	**00 39 31.8**	**-0.4**
IKP					Pn	00 39 42.7	+10
RUN	**Ruthven**	**0.83**	**19**		**Pg**	**00 39 30.8**	**-1.5**
RUN					**Sg**	**00 39 41.6**	**-1.5**
WEMD	**Westmorland, C**	**0.88**	**345**		**Sn**	**00 39 46.0**	**-0.2**
VTX	**Valle De La Tr**	**0.89**	**207**		**Pb**	**00 39 33.5**	**+0.3**
VTX					**Pb**	**00 39 33.6**	**+0.3**
VTX				Sg	**Sb**	**00 39 45.6**	**+0.7**
VTX				IAML		00 39 47.1	
	comp=N,487nm,0.5s						
VTX				IAML		00 39 47.9	
	comp=E,607nm,0.3s						
CRR	**Carrizo Plain**	**0.90**	**321**		**Pg**	**00 39 32.9**	**-0.6**
CRR					**Sb**	**00 39 45.5**	**+0.6**
GLA	**Glamis**	**0.95**	**25**		**Pg**	**00 39 32.7**	**-1.9**
GLA				Sg	**Sg**	**00 39 44.6**	**-2.4**
GLA				IAML		00 39 58.2	
	comp=E,519nm,0.8s						
GLA				IAML		00 40 04.1	
	comp=N,486nm,0.6s						
ERRC	**Elmore Ranch**	**1.02**	**335**		**Pg**	**00 39 34.4**	**-1.5**
ERRC					**Sg**	**00 39 48.8**	**-0.5**
SLVP	**Salvation Pass**	**1.05**	**360**		**Pg**	**00 39 34.0**	**-2.3**
SLVP					**Sg**	**00 39 47.2**	**-2.9**
CBX	**Cerro Bola**	**1.16**	**277**		**Pb**	**00 39 38.2**	**+0.4**
CBX					**Sg**	**00 39 53.2**	**-0.5**
TKX	**Tecate**	**1.17**	**289**		**Pb**	**00 39 37.6**	**-0.3**
TKX					**Sb**	**00 39 53.0**	**+0.3**
TKX	**Tecate**	**1.17**	**289**	IAML		00 40 10.3	
	comp=E,532nm,0.1s						
MONP2	**Monument Peak**	**1.18**	**307**		**Pb**	**00 39 38.1**	**-0.1**
MONP2					**Sg**	**00 39 52.9**	**-1.3**
CCX	**Cicese**	**1.20**	**255**		**Pn**	**00 39 38.9**	**+0.7**
CCX					**Sg**	**00 39 54.7**	**-0.2**
CCX				IAML		00 39 56.8	
	comp=N,552nm,0.7s						
SFX	**San Felipe**	**1.21**	**161**		**Pn**	**00 39 38.2**	**-0.1**
SFX				IAML		00 39 56.1	
	comp=N,326nm,0.5s						
SFX				IAML		00 40 00.1	
	comp=E,406nm,0.7s						
SFX	**San Felipe**	**1.21**	**161**	⇑*e*P	**Pn**	**00 39 38.7**	**+0.4**
SFX				*e*S	**Sn**	**00 39 55.2**	**+0.9**
SFX				IAML		00 39 56.9	
	comp=N,293nm,0.1s						
SFX				IAML		00 39 59.9	
	comp=E,376nm,0.5s						
113A	**Mohawk Valley,**	**1.42**	**66**		**Pn**	**00 39 40.0**	**-1.2**
113A					**Sn**	**00 39 57.4**	**-2.2**
MATG	**Mataguay Scout**	**1.52**	**312**		**Pb**	**00 39 44.3**	**+0.4**
TJX	**Tijuana**	**1.52**	**283**		**Pn**	**00 39 43.6**	**+1.1**
TJX					**Sn**	**00 40 02.5**	**+0.6**
CPE	**Camp Elliot**	**1.68**	**295**	IAML		00 40 09.8	
	comp=E,250nm,0.4s						
PIX	**Pinacate**	**1.69**	**111**		**Pn**	**00 39 45.8**	**+0.9**
PIX					**Sn**	**00 40 07.1**	**+0.9**
PIX				IAML		00 40 20.3	
	comp=N,99nm,0.6s						
BLYC	**Blythe**	**1.69**	**23**		**Pn**	**00 39 44.4**	**-0.5**
BLYC					**Sn**	**00 40 05.1**	**-1.1**
BLYC				IAML		00 40 16.8	
	comp=E,98nm,0.8s						
PFO	**Pinyon Flats O**	**1.72**	**326**		**Pn**	**00 39 44.6**	**-0.9**
ELS	**Elsinore Mount**	**2.31**	**310**		**Pn**	**00 39 55.1**	**+1.6**
ELS				IAML		00 40 38.3	
	comp=E,53nm,0.7s						
Y14A	**Wickenburg**	**2.60**	**47**		**Pn**	**00 39 57.0**	**-0.6**
W13A	**Hualapai Mount**	**3.13**	**22**		**Pn**	**00 40 05.6**	**+0.6**
GSC	**Goldstone, Bar**	**3.35**	**338**		**Pg**	**00 40 21.7**	**+1.4**
GSC				IAML		00 41 22.0	
	comp=E,24nm,1.3s						
V12A	**Nelson**	**3.55**	**6**		**Pg**	**00 40 24.3**	**+0.3**
CCAC	**Calif City Air**	**3.72**	**323**		**Pn**	**00 40 13.0**	**+0.1**
CCAC				IAML		00 41 17.1	
	comp=N,32nm,0.8s						
CCAC				IAML		00 41 19.6	
	comp=E,38nm,1.4s						
TUC	**Tucson**	**3.83**	**87**		**Pg**	**00 40 30.2**	**+0.7**
TUC				IAML		00 41 36.2	
	comp=E,26nm,1.1s						
X16A	**Lo Mia Camp, P**	**3.92**	**54**		**Pn**	**00 40 15.7**	**-0.2**
GWY	**Greenwater Val**	**4.15**	**345**		**Pg**	**00 40 38.5**	**+3.0**
SHPR	**Sheep Range**	**4.31**	**2**		**Pn**	**00 40 22.1**	**+1.0**
WUAZ	**Wupatki**	**4.66**	**43**		**Pn**	**00 40 27.0**	**+1.1**
WUAZ				IAML		00 42 00.1	
	comp=E,12nm,1.3s						
WUAZ				IAML		00 42 01.2	
	comp=E,16nm,2.1s						
U15A	**North Rim**	**4.91**	**30**		**Pn**	**00 40 29.9**	**+0.5**
X18A	**Snowflake**	**5.05**	**61**		**Pn**	**00 40 31.3**	**0.0**
LCMT	**Little Creek M**	**5.10**	**19**	Pn	**Pn**	**00 40 32.6**	**+0.6**
KNB	**Kanab**	**5.23**	**22**		**Pn**	**00 40 34.4**	**+0.6**

*MDD **13** 00:42:05.9±1.1, 36.52N×1.71E, h0km, Mb3.6/14, M_mb2.8/15, Error ellipse: s-maj=9.2km s-min=5.4km az=142.0*
*CRAAG **13** 00:42:06.0, 36.46N×1.71E, Ml2.9, Algerie 02km NW Beni-Mileuk*

ISC 13 00:42:06.2±1.3, 36.48N±0.05×1.66E±0.04, h18km±4km, n26, σ0§96/35, 11C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNH	**Beni Haoua**	**0.09**	**295**	P	**Pg**	**00 42 09.6**	**-0.3**
EBNR	**Beni Rached**	**0.22**	**208**	P	**Pb**	**00 42 11.3**	**0.0**
EARB	**Arib**	**0.34**	**123**	P	**Pg**	**00 42 13.3**	**-0.1**
EHRZ	**Djelida**	**0.46**	**128**	P	**Pg**	**00 42 15.6**	**-0.1**
ABKD	**Sidi Amar**	**0.53**	**84**	P	**Pb**	**00 42 16.8**	**-0.1**
EMHD	**Djebel Mahouad**	**1.08**	**105**	P	**Pg**	**00 42 27.5**	**+0.2**
EIBI	**Ibiza**	**2.55**	**354**	Pn	**Pn**	**00 42 47.5**	**+0.9**
EIBI				Sn	**Sn**	**00 43 15.6**	**-1.6**
EIBI	**Ibiza**	**2.55**	**354**	Pn	**Pn**	**00 42 47.5**	**+0.9**
EIBI				⇑*i*Vmb_V		00 42 52.3	
	360nm,SNR=1.3						
EIBI				Sn	**Sn**	**00 43 15.7**	**-1.5**
EBEN2	**Beniarda presa**	**2.64**	**327**	Pn	**Pn**	**00 42 48.1**	**+0.3**
EBEN2				⇑*i*Vmb_V		00 42 48.3	
	244nm,SNR=1.8						
EBEN2				Sn	**Sn**	**00 43 18.3**	**-1.0**
EMUR	**La Murta**	**2.68**	**301**	Pn	**Pn**	**00 42 49.0**	**+0.5**
EMUR	**La Murta**	**2.68**	**301**	Pn	**Pn**	**00 42 49.9**	**+1.4**
EMUR				⇑*i*Vmb_V		00 42 50.2	
	98nm,SNR=1.4						
TLOR	**Lorca, Murcia**	**2.92**	**295**	Sn	**Sn**	**00 43 27.9**	**+1.5**
ETOS	**Mallorca**	**3.40**	**15**	Sn	**Sn**	**00 43 37.8**	**-0.4**
EVIV	**Cofrentes, Val**	**3.54**	**323**	Pn	**Pn**	**00 43 00.6**	**+0.3**
EVIV				⇑*i*Vmb_V		00 43 01.5	
	116nm,SNR=1.5						
EVIV				Sn	**Sn**	**00 43 40.8**	**-0.9**
EBER	**Berja**	**3.68**	**278**	Pn	**Pn**	**00 43 01.2**	**-1.1**
EBER	**Berja**	**3.68**	**278**	Pn	**Pn**	**00 43 01.6**	**-0.7**
EBER				⇑*i*Vmb_V		00 43 04.3	
	69nm,SNR=1.2						
ECHE	**Chera**	**3.73**	**327**	Pn	**Pn**	**00 43 03.7**	**+0.8**
ECHE				⇑*i*Vmb_V		00 43 08.4	
	85nm,SNR=1.0						
ECHE				Sn	**Sn**	**00 43 46.9**	**+0.5**
EQES	**Quesada**	**4.00**	**291**	Pn	**Pn**	**00 43 08.2**	**+1.6**
EQES				⇑*i*Vmb_V		00 43 14.0	
	60nm,SNR=1.4						
EQES				Sn	**Sn**	**00 43 53.4**	**+0.3**
EQUE	**Quentar**	**4.15**	**282**	Pn	**Pn**	**00 43 09.1**	**+0.4**
EQUE				⇑*i*Vmb_V		00 43 11.8	
	62nm,SNR=1.9						
EQTA	**Presa de Quent**	**4.15**	**282**	Pn	**Pn**	**00 43 07.7**	**-1.1**
EMOS	**Mosqueruela**	**4.22**	**337**	Pn	**Pn**	**00 43 11.2**	**+1.4**
EMOS				⇑*i*Vmb_V		00 43 12.1	
	120nm,SNR=1.1						
EMOS				Sn	**Sn**	**00 43 56.8**	**-1.8**
ELGU	**Los Guajares,**	**4.26**	**277**	Pn	**Pn**	**00 43 09.7**	**-0.6**
ELGU	**Los Guajares,**	**4.26**	**277**	Pn	**Pn**	**00 43 10.0**	**-0.2**
ELGU				⇑*i*Vmb_V		00 43 14.1	
	103nm,SNR=1.5						
ELGU				Sn	**Sn**	**00 43 59.1**	**-0.5**
E0803	**Jimena (Jaen)**	**4.31**	**290**	Sn	**Sn**	**00 44 02.0**	**+1.3**
JAND	**Jandula**	**4.81**	**293**	Pn	**Pn**	**00 43 18.5**	**+0.8**
JAND				⇑*i*Vmb_V		00 43 18.6	
	34nm,SNR=0.9						
JAND				Sn	**Sn**	**00 44 12.5**	**-0.4**
PSIM	**Granatula de C**	**4.89**	**300**	Sn	**Sn**	**00 44 14.3**	**-0.6**

*SFS **13** 00:42:12.1, 36.72N×7.15W, h18km, ML1.6/4, ML1.2/4, MLv1.0/4*

MDD 13 00:42:12.9±1.3, 36.71N×7.18W, h46km±37km, mb_Lg1.6/5, Error ellipse: s-maj=10.7km s-min=5.3km az=12.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**0.81**	**328**	Pg	Pn	00 42 27.1	-0.9
EGRO	**El Granado**	**0.85**	**344**	Pg	Pn	00 42 28.0	-0.6
EGRO				Sg	Sn	00 42 39.3	-0.7
EGRO				*i* Vmb_Lg		00 42 41.6	
ESPR	**Espera**	**1.07**	**81**	Pn	Pn	00 42 30.4	-1.1
ESPR				Sn	Sn	00 42 44.7	-0.6
ESPR	**Espera**	**1.07**	**81**	Pg	Pn	00 42 31.1	-0.4
ESPR				Sg	Sn	00 42 44.7	-0.6
ESPR				*i* Vmb_Lg		00 42 45.6	
EMIN	**Mina Concepcio**	**1.13**	**21**	Sg	Sn	00 42 45.1	-1.5
EMIN				*i* Vmb_Lg		00 42 50.3	
PBAR	**Barrancos**	**1.46**	**4**	Pn	Pn	00 42 36.0	-0.8
PBAR				Sn	Sn	00 42 54.6	-0.2
ECAB	**El Cabril**	**1.95**	**45**	Sn	Sn	00 43 04.2	-2.7
ECAB				*i* Vmb_Lg		00 43 13.6	
EBAD	**Badajoz**	**2.04**	**4**	Pn	Pn	00 42 44.4	-0.4
EBAD				Sn	Sn	00 43 07.4	-1.6
EBAD				*i* Vmb_Lg		00 43 16.1	

*IDC **13** 01:12:24.5±0.8, 51.23N×159.13E, h0km, mb4.2/24, mbtmp4.2/29, ML4.8/3, MS3.5/8, Error ellipse: s-maj=20.4km s-min=13.0km az=162.0*
*KRSC **13** 01:12:26.4±1.5, 51.07N×159.44E, h64km±21km, Ml4.4*
*NEIC **13** 01:12:26.9±1.8, 51.31N±0.08×159.2E±0.1, h10km±1km, mb4.6/49, Error ellipse: s-maj=13.9km s-min=12.6km az=250.0*
*MOS **13** 01:12:30.0±1.1, 51.20N×159.20E, h53km, mb4.7/27, MS3.7/10, Error ellipse: s-maj=9.1km s-min=3.6km az=99.4*

ISC 13 01:12:31.2±0.8, 51.21N±0.06×159.25E±0.05, h51km±5km, n316, σ1§31/304, mb4.5/92, MS3.8/13, 30C-26D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.95**	**310**	PN	**Pn**	**01 12 47.5**	**-0.8**
KDTR				S	**Sn**	**01 13 03.0**	**+2.2**
KDTR	**Khodutka, Kamc**	**0.95**	**310**	*e*P	**Pn**	**01 12 47.5**	**-0.8**
KDTR				*e*S	**Sn**	**01 13 03.0**	**+2.2**
RUS	**Russkaya**	**1.31**	**340**	PN	**Pn**	**01 12 52.1**	**-1.0**
RUS	**Russkaya**	**1.31**	**340**	*e*P	**Pn**	**01 12 52.1**	**-1.0**
GRL	**Gorelyy**	**1.54**	**332**	PN	**Pn**	**01 12 56.5**	**+0.2**
GRL	**Gorelyy**	**1.54**	**332**	*e*P	**Pn**	**01 12 56.6**	**+0.2**
PAU	**Pauzhetka**	**1.55**	**281**	PN	**Pn**	**01 12 56.9**	**+0.5**
PAU				S	**Sn**	**01 13 18.1**	**+2.7**
PAU	**Pauzhetka**	**1.55**	**281**	*e*P	**Pn**	**01 12 56.9**	**+0.5**
PAU				*e*S	**Sn**	**01 13 18.1**	**+2.7**
KRMR	**Karymshinskiy**	**1.77**	**337**	PN	**Pn**	**01 12 59.2**	**-0.2**
KRMR	**Karymshinskiy**	**1.77**	**337**	*e*P	**Pn**	**01 12 59.2**	**-0.2**
DALK	**Dalny**	**1.85**	**351**	PN	**Pn**	**01 12 59.6**	**-0.9**
DALK	**Dalny**	**1.85**	**351**	*e*P	**Pn**	**01 12 59.6**	**-0.9**
PET	**Petropavlovsk**	**1.86**	**349**	Pn	Pn	01 12 56.4	-4.2
PET						01 12 59.6	
PET	**Petropavlovsk**	**1.86**	**349**	*e*PN	**Pn**	**01 12 59.5**	**-1.1**
PET				*e*S	**Sn**	**01 13 24.5**	**+1.6**
PET				pmax	pmax		
	comp=Z,53nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.6s						
PET				smax	smax		
	comp=E,434nm,0.5s						
PET	**Petropavlovsk**	**1.86**	**349**	*e*P	**Pn**	**01 12 59.9**	**-0.7**
PET	**Petropavlovsk**	**1.86**	**349**	P	**Pn**	**01 12 58.0**	**-2.6**
INSR	**Institute**	**1.91**	**348**	PN	**Pn**	**01 13 01.7**	**+0.5**
INSR	**Institute**	**1.91**	**348**	*e*P	**Pn**	**01 13 01.8**	**+0.5**
SPN	**Mys Shipunski**	**1.96**	**14**	PN	**Pn**	**01 13 01.2**	**-0.7**
SPN	**Mys Shipunski**	**1.96**	**14**	*e*P	**Pn**	**01 13 01.2**	**-0.7**
NLC	**Nalytchevo**	**1.97**	**2**	PN	**Pn**	**01 13 02.1**	**0.0**
NLC	**Nalytchevo**	**1.97**	**2**	*e*P	**Pn**	**01 13 02.1**	**0.0**
UGLR	**Uglovaya**	**2.02**	**353**	PN	**Pn**	**01 13 02.6**	**-0.4**
UGLR	**Uglovaya**	**2.02**	**353**	*e*P	**Pn**	**01 13 02.6**	**-0.4**
SKR	**Severo-Kuril's**	**2.05**	**256**	*e*PN	**Pn**	**01 13 01.5**	**-1.7**
SKR				pmax	pmax		
	comp=Z,339nm,0.5s						
SKR				MLR	MLR		
	comp=Z,2μm,11.0s						
SKR	**Severo-Kuril's**	**2.05**	**256**	*e*P	**Pn**	**01 13 01.4**	**-1.7**
SKR				*e*S	**Sn**	**01 13 27.9**	**+0.3**
AVH	**Avacha**	**2.09**	**351**	PN	**Pn**	**01 13 03.7**	**-0.1**
AVH	**Avacha**	**2.09**	**351**	*e*P	**Pn**	**01 13 03.7**	**-0.1**
SDLR	**Sedlovina**	**2.09**	**354**	PN	**Pn**	**01 13 03.2**	**-0.7**
SDLR	**Sedlovina**	**2.09**	**354**	*e*P	**Pn**	**01 13 03.2**	**-0.7**
KOK	**Koryaka**	**2.12**	**350**	PN	**Pn**	**01 13 04.0**	**-0.3**
KOK	**Koryaka**	**2.12**	**350**	*e*P	**Pn**	**01 13 04.1**	**-0.3**
PEA0B	**Petropavlovsk-**	**2.13**	**334**		**Pn**	**01 13 04.6**	**+0.3**
PEA0B	**Petropavlovsk-**	**2.13**	**334**	*c i*PN	**Pn**	**01 13 03.7**	**-0.7**
PETK	**Petropavlovsk-**	**2.13**	**334**	Pg	**Pn**	**01 13 03.8**	**-0.6**
**

ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZEA MLR MLR
comp=Z,200nm,15.0s
JSD Sado 19.82 237 P **P 01 16 57.3 -0.2**
HEH HeiHe 20.10 280 *e*P **P 01 17 00.2 -0.2**
HEH pmax pmax
comp=Z,17nm,0.9s
MDJ Mudanjiang 20.85 263 P **P 01 17 06.0 -2.5**
MDJ IAmb IAmb 01 17 07.5
comp=Z,14nm,0.7s
MDJ Mudanjiang 20.85 263 P **P 01 17 06.9 -1.7**
MDJ pmax pmax
comp=Z,22nm,0.7s
MJA0 Matsu Arr-Jizo 20.97 234 *e*P **P 01 17 09.9 -0.1**
MJA0 pmax pmax
comp=Z,5.0nm,0.9s
MJB9 Matsu-Tunnel 20.99 234 P **P 01 17 11.0 +0.9**
MAJO Matsushiro 20.99 234 **P 01 17 10.2 +0.1**
MAJO Matsushiro 20.99 234*d i*P **P 01 17 09.9 -0.2**
MAJO pmax pmax
comp=Z,25nm,1.7s
MJAR Matsushiro Arr 20.99 234 P **P 01 17 08.5 -1.7**
comp=Z,4.8nm,1.0s,baz=33,slow=9.6,SNR=11
comp=Z,4.8nm,1.0s
BNX BinXian 21.70 268 ⇓P **P 01 17 16.5 -1.2**
BNX pmax pmax
comp=Z,8.0nm,0.9s
TIXI Tiksi 24.61 337 **P 01 17 46.0 -0.2**
TIXI Tiksi 24.61 337⇓*i*P **P 01 17 45.7 -0.5**
TIXI pmax pmax
comp=Z,40nm,0.9s
TIXI MLR MLR
comp=Z,103nm,16.0s
HIA Hailar 25.14 281 **P 01 17 50.2 -1.1**
HIA IAmb IAmb 01 17 51.8
comp=Z,19nm,0.8s
HIA Hailar 25.14 281 P **P 01 17 50.2 -1.1**
HIA pmax pmax
comp=Z,19nm,0.8s
C18K Utukok River 25.71 33 P **P 01 17 56.5 +0.1**
KSRS Korea Array 26.06 250 P **P 01 18 00.1 +0.4**
comp=Z,3.9nm,0.8s,baz=48,slow=9.2,SNR=16
comp=Z,3.9nm,0.8s
KSRS Korea Array 26.06 250 *e*P **P 01 18 00.9 +1.2**
KSRS pmax pmax
comp=Z,4.0nm,0.8s
D20K Etivluk River 27.31 34 P **P 01 18 10.8 +0.1**
ILAR Eielson Array 30.54 43 P **P 01 18 38.9 -0.5**
comp=Z,0.4nm,0.8s,baz=270,slow=8.4,SNR=4.7
comp=Z,0.4nm,0.8s
D25K Kavik River 31.04 34 P **P 01 18 44.6 +0.8**
H11N2 WAKE ISLAND Hy 31.98 166 T T 01 53 01.4
baz=349,slow=76
H11N3 WAKE ISLAND Hy 32.00 166 T T 01 52 52.8
baz=349,slow=76
H11N1 WAKE ISLAND Hy 32.00 166 T T 01 53 01.1
baz=349,slow=76
H11S1 WAKE ISLAND Hy 33.16 167 T T 01 54 30.9
baz=350,slow=76
H11S3 WAKE ISLAND Hy 33.17 167 T T 01 54 33.9
baz=350,slow=76
H11S2 WAKE ISLAND Hy 33.17 167 T T 01 54 30.6
baz=350,slow=76
TIA Tai'an 33.43 260 P **P 01 19 04.5 -0.5**
TIA pmax pmax
comp=Z,4.0nm,0.5s
ULN Ulaanbaatar 33.45 285⇓*e*P **P 01 19 04.7 -0.6**
ULN pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 33.87 285 P **P 01 19 07.4 -1.5**
comp=Z,0.3nm,0.3s,baz=57,slow=8.8,SNR=1.8
comp=Z,0.3nm,0.3s
HHC Hu-ho-hao-te 34.13 271 *e*P **P 01 19 12.7 +1.5**
HHC pmax pmax
comp=Z,18nm,0.6s
M29M Somme Creek 34.49 47 P P 01 19 19.7 +5.6
M29M IAmb IAmb 01 19 49.3
comp=Z,9.6nm,1.4s
NJ2 Nanjing 35.18 253 *e*P **P 01 19 20.5 +0.4**
NJ2 pmax pmax
comp=Z,13nm,0.6s
MOY Mondy 35.48 294 *e*P **P 01 19 22.9 +0.2**
MOY pmax pmax
comp=Z,20nm,3.9s
NRIK Noril'sk 37.17 326*de*P **P 01 19 35.1 -1.6**
NRIK pmax pmax
comp=Z,5.0nm,1.5s
C36M Paulatuk 38.91 33 P **P 01 19 52.4 +1.1**
T35M Bob Quinn 40.05 53 P P 01 20 09.4 +8.3
T35M IAmb IAmb 01 20 31.9
comp=Z,14nm,1.3s
GTA Gaotai 42.33 278 *e*P **P 01 20 20.2 +0.1**
GTA pmax pmax
comp=Z,4.0nm,0.9s
ZALV Zalesovo Beam 43.38 304 P **P 01 20 26.8 -1.5**
ZALV Zalesovo Beam 43.38 304 P **P 01 20 26.2 -2.0**
comp=Z,1.6nm,0.5s,baz=60,slow=8.8,SNR=9.1
ZALV LR LR 01 40 29.4
comp=Z,53nm,18.5s,baz=26,slow=39
comp=Z,1.6nm,0.5s
ZALV Zalesovo Beam 43.38 304 *e*P **P 01 20 26.7 -1.5**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
EUNU Eureka 43.91 13 P **P 01 20 31.7 -0.6**
EUNU IAmb IAmb 01 20 48.1
comp=Z,7.4nm,0.8s
YKA Yellowknife Ar 44.92 41 P **P 01 20 41.8 +1.3**
YKA Yellowknife Ar 44.92 41 P **P 01 20 39.2 -1.2**
comp=Z,0.3nm,1.1s,baz=283,slow=7.9,SNR=1.5
WMQ Urumqi 47.12 290 *e*P **P 01 21 00.8 +2.6**
WMQ pmax pmax
comp=Z,21nm,0.7s
KURK Kurchatov 48.31 303 **P 01 21 06.1 -1.0**
KURK Kurchatov 48.31 303*ce*P **P 01 21 06.1 -1.0**
KURK pmax pmax
comp=Z,14nm,1.0s
KURK MLR MLR
comp=Z,37nm,13.0s
KURBB Kurchatov Arra 48.41 303 P **P 01 21 06.2 -1.6**
comp=Z,6.1nm,0.8s,baz=61,slow=7.6,SNR=30
comp=Z,6.1nm,0.8s
MK31 Makanchi Array 48.52 297 P **P 01 21 07.9 -1.0**
MK31 IAmb IAmb 01 21 08.7
comp=Z,3.5nm,0.5s
MK31 Makanchi Array 48.52 297*c i*P **P 01 21 07.9 -1.0**
MKAR Makanchi Array 48.52 297 **P 01 21 07.9 -0.9**
MKAR Makanchi Array 48.52 297 P **P 01 21 08.0 -0.9**
comp=Z,3.5nm,0.5s,baz=58,slow=6.9,SNR=78
comp=Z,3.5nm,0.5s
MAKZ Makanchi 48.69 297 **P 01 21 09.4 -0.8**
MAKZ IAmb IAmb 01 21 09.6
comp=Z,3.6nm,0.6s
MAKZ Makanchi 48.69 297 P **P 01 21 09.4 -0.8**
MAKZ pmax pmax
comp=Z,4.0nm,0.6s
SPITS Spitsbergen Ar 48.91 350 P **P 01 21 11.0 -0.4**
comp=Z,11nm,0.9s,baz=58,slow=7.9,SNR=25
comp=Z,11nm,0.9s
SPB2 Spitsbergen Ar 48.92 350 P **P 01 21 12.7 +1.2**
PZH PanZhiHua 49.62 263 P **P 01 21 18.7 +1.1**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
BLKN Baker Lake 50.96 33 **P 01 21 27.8 +0.8**
BLKN IAmb IAmb 01 21 28.3
comp=Z,4.1nm,0.8s
BVAR Borovoye Array 51.17 309 P **P 01 21 27.8 -1.0**
comp=Z,8.4nm,0.5s,baz=56,slow=7.4,SNR=49
comp=Z,8.4nm,0.5s
BRVK Borovoye 51.20 309 P **P 01 21 28.2 -0.8**
BRVK IAmb IAmb 01 21 28.7
comp=Z,8.1nm,0.6s
BRVK Borovoye 51.20 309*c i*P **P 01 21 27.7 -1.4**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK MLR MLR
comp=Z,65nm,16.0s
ILON Igloolik, Nuna 51.75 23 P **P 01 21 33.4 +0.5**
ILON IAmb IAmb 01 22 02.7
comp=Z,7.2nm,1.4s
SVE Sverdlovsk 53.31 317 *e*P **P 01 21 43.8 -0.8**
SVE pmax pmax
comp=Z,8.0nm,0.9s
KDJ Kajisay 54.26 295 P **P 01 21 51.9 -0.2**
KDJ IAmb IAmb 01 21 52.6
comp=Z,3.7nm,0.5s
KDJ Kajisay 54.26 295 P **P 01 21 51.9 -0.2**
KDJ pmax pmax
comp=Z,4.0nm,0.5s
ARTI Arti 54.55 318 **P 01 21 52.8 -0.8**
ARTI IAmb IAmb 01 21 55.2
comp=Z,5.7nm,1.0s
ARTI Arti 54.55 318 LR LR 01 47 31.0
comp=Z,31nm,21.3s,baz=18,slow=39
ARTI Arti 54.55 318*d i*P P 01 21 49.0 -4.6
ARTI *PP pP 01 22 02.8 -3.6
ARTI S **S 01 29 20.9 -8.0**
ARTI pmax pmax
comp=Z,6.0nm,1.6s
ARTI MLR MLR
comp=Z,116nm,13.0s
BOOM Boomskoye usch 54.74 296 P **P 01 21 55.6 +0.1**
ARCES ARCESS Array B 54.92 342 P **P 01 21 55.4 -0.9**
comp=Z,5.0nm,0.9s,baz=49,slow=6.8,SNR=6.6
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 54.92 342 *e*P **P 01 21 55.3 -0.9**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 55.46 297 **P 01 22 00.5 -0.1**
AAK Ala-Archa 55.46 297*ce*P **P 01 22 00.3 -0.4**
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK MLR MLR
comp=Z,51nm,18.0s
NVAR Mina Array Bea 56.90 68 P **P 01 22 11.5 +0.4**
comp=Z,0.5nm,0.8s,baz=304,slow=7.8,SNR=2.3
comp=Z,0.5nm,0.8s
CHTO Chiang Mai 57.02 259 **P 01 22 13.4 +1.5**
CHTO IAmb IAmb 01 22 15.3
comp=Z,4.3nm,0.7s
CHTO Chiang Mai 57.02 259 P **P 01 22 13.4 +1.5**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
ARSB Arslanbob 57.17 297 IAmb IAmb 01 22 52.5
comp=Z,2.5nm,0.6s
CMAR Chiang Mai Arr 57.29 259 P **P 01 22 14.0 +0.2**
comp=Z,2.1nm,0.8s,baz=28,slow=6.7,SNR=16
CMAR LR LR 01 48 54.5
comp=Z,25nm,20.4s,baz=165,slow=38
comp=Z,2.1nm,0.8s
KLMR Klimovskoe 58.33 330 *e*P **P 01 22 18.5 -1.9**
KLMR pmax pmax
comp=Z,14nm,1.4s
ABKAR Akbulak array 58.63 311 **P 01 22 22.4 -0.4**
ABKAR IAmb IAmb 01 22 23.2
comp=Z,5.6nm,1.0s
ABKAR Akbulak array 58.63 311 **P 01 22 22.2 -0.5**
PDAR Pinedale Array 58.92 59 P **P 01 22 27.2 +2.1**
PDAR Pinedale Array 58.92 59 P **P 01 22 27.4 +2.2**
comp=Z,0.5nm,0.8s,baz=298,slow=3.2,SNR=5.2
comp=Z,0.5nm,0.8s
BTK Batken 59.24 297 IAmb IAmb 01 22 28.4
comp=Z,5.7nm,0.9s
BTK Batken 59.24 297 P **P 01 22 27.5 +0.3**
BTK pmax pmax
comp=Z,7.0nm,0.9s
SFJD Kangerlussuaq 59.98 13 LR LR 01 52 57.1
comp=Z,69nm,18.1s,baz=301,slow=41
PMG Port Moresby 61.27 194 P P 01 22 46.9 +5.8
PMG pmax pmax
comp=Z,38nm,0.9s
KEF Keuruu 61.32 338 *e*P **P 01 22 41.6 +0.6**
FIA1 FINESS Array S 61.65 337 P **P 01 22 43.9 +0.7**
FINES FINESS Array B 61.65 337 P **P 01 22 43.6 +0.5**
FINES FINESS Array B 61.65 337 P **P 01 22 43.5 +0.3**
comp=Z,6.1nm,0.7s,baz=41,slow=7.6,SNR=29
FINES LR LR 01 53 27.4
comp=Z,61nm,19.0s,baz=15,slow=40
comp=Z,6.1nm,0.7s
FINES FINESS Array B 61.65 337 *e*P **P 01 22 43.8 +0.6**
FINES pmax pmax
comp=Z,5.0nm,0.6s
RAF Rauma 63.06 338 *e*P **P 01 22 53.3 +0.7**
ARBE Arbavere 63.40 335 *e*P **P 01 22 56.2 +1.4**
OBN Obninsk 63.83 327 *e*P **P 01 22 57.3 -0.5**
OBN *e* 01 23 31.3
OBN *e* 01 25 18.6
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN MLR MLR
comp=Z,103nm,16.0s
OBN Obninsk 63.83 327 P **P 01 22 56.9 -0.9**
comp=Z,8.2nm,1.2s
VSU Vasula 64.03 334⇓*i*P **P 01 22 59.2 +0.1**
VSU pmax pmax
comp=Z,16nm,0.7s
VSU Vasula 64.03 334 *e*P **P 01 22 59.1 +0.1**
BORG Borgarnes 64.38 0 *i*P **P 01 23 03.3 +2.0**
MTSE Matsula 64.58 336 *e*P **P 01 23 03.8 +1.1**
NC204 NORSAR Array S 65.07 344 P **P 01 23 07.2 +1.3**
NC204 IAmb IAmb 01 23 17.7
comp=Z,8.8nm,1.1s
NB2 NORSAR Subarra 65.21 344 P **P 01 23 07.4 +0.6**
comp=Z,3.6nm,0.8s,baz=22,slow=6.9
NB2 NORSAR Subarra 65.21 344 P **P 01 23 07.6 +0.8**
NOA NORSAR Array B 65.21 344 P **P 01 23 07.0 +0.2**
comp=Z,2.7nm,0.7s,baz=20,slow=6.6,SNR=24
comp=Z,2.7nm,0.7s
NOA NORSAR Array B 65.21 344 *e*P **P 01 23 07.7 +0.9**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NORES NORESS Array B 65.44 343 P P 01 23 13.3 +5.1
HFS Hagfors 65.59 342 P **P 01 23 09.5 +0.3**
comp=Z,3.5nm,0.5s,baz=52,slow=5.8,SNR=29
comp=Z,3.5nm,0.5s
ISAL Salakas 66.70 333 *e*P **P 01 23 17.0 +0.6**
VSVD Vaisvydziai 66.95 335 *e*P **P 01 23 18.8 +0.9**
MNK Minsk 67.11 332 *i*P **P 01 23 17.6 -1.4**
MNK *i* *PP **pP 01 23 31.7 -0.4**
MNK *i* 01 23 45.3
MNK *i* 01 25 45.6
MNK *i* PPP PPP 01 27 22.3
MNK *i* S **S 01 32 08.3 -0.6**
MNK *i* *SS **sS 01 32 32.5 +0.7**
MNK *i* 01 33 10.6
MNK *i* SS **SS 01 36 28.8 +1.3**
MNK pmax pmax
comp=N,11nm,0.9s
MNK pmax pmax
comp=Z,36nm,0.9s
MNK pmax pmax
comp=E,22nm,0.9s
MNK MLR MLR
comp=N,73nm,18.0s
MNK MLR MLR
comp=E,95nm,19.0s
PABE Paberze 67.36 334 P **P 01 23 21.2 +0.7**
PABE Paberze 67.36 334 *e*P **P 01 23 21.7 +1.2**
AK03 Malin Array Si 69.94 329 P **P 01 23 36.4 -0.3**
AK23 Malin Array Si 69.94 329 P **P 01 23 36.2 -0.5**
AK21 Malin Array Si 69.96 329 P **P 01 23 36.3 -0.5**
AK22 Malin Array Si 69.96 329 P **P 01 23 36.3 -0.5**
AK04 Malin Array Si 69.96 329 P **P 01 23 36.2 -0.6**
AKASG Malin Array Be 69.96 329 P **P 01 23 36.9 0.0**
comp=E,4.2nm,0.4s,baz=32,slow=6.2,SNR=38
comp=E,4.2nm,0.4s
AKBB Malin Array Si 69.96 329*ce*P **P 01 23 36.7 -0.1**
AKBB pmax pmax
comp=Z,14nm,0.8s
AKBB Malin Array Si 69.96 329 P **P 01 23 36.2 -0.6**
KIEV Kiev 69.97 329 **P 01 23 37.0 +0.1**
KIEV Kiev 69.97 329⇑P **P 01 23 36.8 -0.1**
KIEV Kiev 69.97 329⇑P **P 01 23 36.8 -0.1**
KIEV Kiev 69.97 329 P **P 01 23 36.2 -0.7**
comp=Z,61nm,0.9s
MI28 Mi28,Pidlybu 70.27 330 P **P 01 23 37.6 -1.1**
RNPP9 Sopachiv 70.40 331 P **P 01 23 39.3 -0.2**
KIV Kislovodsk 70.46 317 *e*P **P 01 23 40.6 +0.5**
KIV pmax pmax
comp=Z,3.0nm,1.1s
KIV MLR MLR
comp=Z,42nm,17.0s
RNPP8 Varash 70.47 331 P **P 01 23 39.4 -0.5**
KBZ Khabaz 70.55 316 P **P 01 23 40.8 +0.3**
comp=Z,1.3nm,0.5s,baz=102,slow=3.0,SNR=9.1
comp=Z,1.3nm,0.5s
KBZ Khabaz 70.55 316⇑*e*P **P 01 23 41.0 +0.5**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
RNPP5 Staryi Chortor 70.56 331 P **P 01 23 39.8 -0.7**
LUBAR Lubar, Ukraine 71.11 329 P **P 01 23 43.2 -0.7**
TXAR Lajitas Array 71.87 66 P **P 01 23 49.1 +0.2**
TXAR Lajitas Array 71.87 66 P **P 01 23 49.4 +0.5**
comp=Z,0.3nm,0.6s,baz=301,slow=5.3,SNR=4.9
comp=Z,0.3nm,0.6s
TXAR Lajitas Array 71.87 66 P **P 01 23 49.1 +0.2**
HORU Horodok 72.16 330 P **P 01 23 49.5 -0.7**
HORU Horodok 72.16 330 P **P 01 23 49.5 -0.7**
NDNU Novodnistrovsk 72.39 329 P **P 01 23 51.4 -0.2**
SORM Soroca 72.47 328⇓P **P 01 23 52.1 +0.1**
SORM Soroca 72.47 328⇓P **P 01 23 52.1 +0.1**
SORM Soroca 72.47 328 P **P 01 23 50.9 -1.1**
comp=Z,18nm,0.9s
HPIG 72.51 69 P **P 01 23 52.5 -0.4**
KMPD K-Podol'skiy 72.71 329 P **P 01 23 52.7 -0.8**
EKA Eskdalemuir Ar 72.83 350 P **P 01 23 55.0 +1.0**
comp=Z,0.9nm,0.4s,baz=16,slow=5.3,SNR=10
comp=Z,0.9nm,0.4s
MILM Milestii Mici 73.37 327⇑P **P 01 23 57.5 +0.2**
MILM Milestii Mici 73.37 327⇑P **P 01 23 57.5 +0.2**
KSV Kosov 73.38 330 P **P 01 23 57.1 -0.3**
KSV Kosov 73.38 330 P **P 01 23 57.1 -0.3**
STHS Stebnicka Huta 73.54 333 *e*P **P 01 24 00.4 +2.0**
STHS pmax pmax
comp=Z,8.0nm,0.8s
STHS Stebnicka Huta 73.54 333 *e*P **P 01 24 00.4 +2.0**
KOLS Kolonicke sedl 73.68 332 *e*P **P 01 24 00.5 +1.3**
KOLS pmax pmax
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 73.68 332 *e*P **P 01 24 00.5 +1.3**
BUR08 Bucovina Ar. S 73.93 330 IAmb IAmb 01 24 03.1
comp=Z,7.1nm,0.8s
CLL Collm 73.93 339 *i*P **P 01 24 01.4 +0.8**
CLL *i* *PP **pP 01 24 12.3 -1.6**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 73.93 339 P **P 01 24 00.3 -0.3**
comp=Z,7.7nm,0.9s
CLL Collm 73.93 339 *i*P **P 01 24 01.4 +0.8**
comp=Z,6.0nm,0.8s
CLL *i* x x 01 24 12.3
BURAR Bucovina Array 73.95 330 **P 01 24 01.5 +0.7**
BURAR Bucovina Array 73.95 330⇓P **P 01 24 01.6 +0.7**
BURAR Bucovina Array 73.95 330⇓P **P 01 24 01.6 +0.7**
UPC Upice 73.95 337 *e*P **P 01 24 01.9 +1.1**
UPC Upice 73.95 337 *e*P **P 01 24 01.9 +1.1**
DPC Dobruska-Polom 74.02 336 *e*P **P 01 24 02.6 +1.4**
DPC Dobruska-Polom 74.02 336 *e*P **P 01 24 02.6 +1.4**
STEB Steborice 74.03 335 *e*P **P 01 24 02.8 +1.6**
STEB *ex* x 01 24 13.3
KRLC Kraliky 74.16 336 *e*P **P 01 24 03.3 +1.3**
KRLC *ex* x 01 24 13.6
KRLC Kraliky 74.16 336 *e*P **P 01 24 03.3 +1.3**
KRLC *e**PP **pP 01 24 13.6 -1.7**
BERU Beregovo 74.19 331 P **P 01 24 02.2 +0.1**
TRSU Trosnyk 74.22 331 P **P 01 24 02.6 +0.3**
TRSU Trosnyk 74.22 331 P **P 01 24 02.6 +0.3**
MORC Moravsky Berou 74.23 335 IAmb IAmb 01 24 15.4
comp=Z,10nm,1.3s
MORC Moravsky Berou 74.23 335⇑P **P 01 24 03.8 +1.3**
MORC Moravsky Berou 74.23 335⇑P **P 01 24 03.8 +1.3**
LANS Liptovska Anna 74.28 334 *e*P **P 01 24 04.9 +2.1**
LANS pmax pmax
comp=Z,5.0nm,1.2s
LANS Liptovska Anna 74.28 334 *e*P **P 01 24 04.9 +2.1**
TESR Tescani 74.45 328⇑P **P 01 24 04.2 +0.5**
TESR Tescani 74.45 328 P **P 01 24 03.1 -0.6**
comp=Z,12nm,0.9s
VRAC Vranov 74.91 336⇑P **P 01 24 07.6 +1.3**
VRAC Vranov 74.91 336⇑P **P 01 24 07.6 +1.3**
PLOR Plostina 75.03 328⇑P **P 01 24 06.9 -0.3**
PLOR Plostina 75.03 328 P **P 01 24 06.9 -0.3**
VYHS Vyhne 75.06 334 *e*P **P 01 24 09.0 +1.8**
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 75.06 334 *e*P **P 01 24 09.0 +1.8**
CFR Carcaliu 75.11 327⇑P **P 01 24 08.5 +1.0**
CFR Carcaliu 75.11 327 P **P 01 24 08.5 +1.0**
COVR Voineasa-Covas 75.18 328⇑P **P 01 24 09.5 +1.4**
TPGR Topolog 75.29 326⇑P **P 01 24 09.6 +1.0**
ZVC Zvíkov 75.39 337 *e*P **P 01 24 10.0 +0.9**
ZVC *ex* x 01 24 20.4
DIKM Dikmen 75.46 320⇑P **P 01 24 11.4 +1.8**
DRGR 75.46 331⇓P **P 01 24 10.9 +1.3**
DRGR 75.46 331⇓P **P 01 24 10.9 +1.3**
MLR Muntele Rosu 75.58 328 IAmb IAmb 01 24 13.4
comp=Z,14nm,1.5s
MLR Muntele Rosu 75.58 328⇓P **P 01 24 12.1 +1.7**
MLR Muntele Rosu 75.58 328⇓P **P 01 24 12.1 +1.7**
TIRR Tirgusor 75.64 326 P **P 01 24 10.5 -0.1**
comp=Z,23nm,1.2s
BZK Bozkurt 75.70 321 P **P 01 24 11.3 +0.3**
comp=Z,9.9nm,1.1s
KHC Kasperske Hory 75.83 338 *e*P **P 01 24 13.6 +2.0**
KHC *ex* x 01 24 23.8
KHC Kasperske Hory 75.83 338 *e*P **P 01 24 13.6 +2.0**
KHC *e**PP **PcP 01 24 23.8 -0.2**
VOIR 75.92 329⇓P **P 01 24 14.2 +1.9**
VOIR 75.92 329⇓P **P 01 24 14.2 +1.9**
GERES GERESS Array B 76.06 337 P **P 01 24 13.9 +0.8**
comp=Z,1.4nm,0.8s,baz=54,slow=6.8,SNR=8.6
comp=Z,1.4nm,0.8s
ARR Arges 76.12 329⇓P **P 01 24 15.5 +2.0**
ICOR Ion Corvin 76.16 326⇑P **P 01 24 15.5 +2.0**
SIRR Siria 76.25 331⇓P **P 01 24 15.5 +1.4**
CONA Conrad Observa 76.37 336 *e*P **P 01 24 16.6 +1.8**
comp=Z,5.5nm,1.7s
RONA Rosalia, Austr 76.47 335 *e*P **P 01 24 16.6 +1.3**
comp=Z,1.7nm,0.6s
GZR Gura Zlata 76.69 330⇓P **P 01 24 17.9 +1.2**
GZR Gura Zlata 76.69 330⇓P **P 01 24 17.9 +1.2**
MARD Mardin 76.70 314 **P 01 24 18.5 +1.6**
BZS Buzias 76.85 331⇑P **P 01 24 17.9 +0.5**
BZS Buzias 76.85 331⇑P **P 01 24 17.9 +0.5**
ARSA Arzberg 77.08 336 *e*P **P 01 24 16.1 -2.6**
comp=Z,4.2nm,1.0s
BIOA Bad Ischl, Aus 77.15 337 *e*P **P 01 24 18.9 -0.2**
comp=Z,2.1nm,0.5s
MORH Mrgy, Hungar 77.19 333⇑P **P 01 24 20.3 +1.0**
HERR Herculane 77.27 330⇓P **P 01 24 20.6 +0.8**
BNN Bunyan 77.57 318 **P 01 24 22.9 +1.1**
SOKA Soboth 77.74 336 *e*P **P 01 24 24.5 +1.9**
comp=Z,3.6nm,1.0s
BR131 Keskin Array S 77.74 320 **P 01 24 23.2 +0.5**
BR131 IAmb IAmb 01 24 24.5
comp=Z,4.2nm,0.8s
BR131 Keskin Array S 77.74 320*d i*P **P 01 24 23.9 +1.2**
BRTR Keskin Array B 77.74 320 **P 01 24 22.4 -0.3**
BRTR Keskin Array B 77.74 320 P **P 01 24 22.7 0.0**
comp=Z,3.1nm,0.9s,baz=38,slow=3.9,SNR=16
comp=Z,3.1nm,0.9s
BRTR Keskin Array B 77.74 320 *e*P **P 01 24 23.3 +0.5**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BR106 Keskin Array S 77.74 320 P **P 01 24 22.6 -0.1**
comp=Z,26nmcomp=Z,3.2nm,0.9s
BR104 Keskin Array S 77.76 320 P **P 01 24 22.6 -0.2**
comp=Z,41nmcomp=Z,4.4nm,1.1s
BR105 Keskin Array S 77.76 320 P **P 01 24 22.6 -0.2**
comp=Z,36nmcomp=Z,4.4nm,0.9s
KBA Koelnbreinsper 77.80 337 P **P 01 24 25.3 +2.4**
KBA pmax pmax
comp=Z,19nm,1.1s
KBA Koelnbreinsper 77.80 337 *e*P **P 01 24 26.1 +3.2**
comp=Z,14nm,1.0s
WATA Walderalm 77.98 338 *e*P **P 01 24 26.3 +2.4**
comp=Z,3.5nm,1.0s
RETA Reutte 78.03 339 *e*PcP **P 01 24 28.6 +4.5**
comp=Z,1.8nm,0.5s
WTTA Wattenberg 78.03 338 *i*P **P 01 24 26.5 +2.3**
comp=Z,6.8nm,1.0s
MOTA Moosalm 78.08 338 *i*P **P 01 24 27.3 +2.8**
comp=Z,6.6nm,1.1s
KIRS Kirsehir-Merke 78.13 320⇓P **P 01 24 26.3 +1.4**
SQTA Sankt Quirin 78.17 338 *e*P **P 01 24 27.4 +2.5**
comp=Z,1.2nm,0.4s
ABTA Abfaltersbach 78.31 337 *i*P **P 01 24 24.4 -1.3**
comp=Z,7.1nm,1.1s
GAZ Gaziantep 78.40 316 IAmb IAmb 01 24 28.9
comp=Z,7.4nm,0.8s
DAVA Damuels 78.41 339 *i* PcP **P 01 24 30.1 +3.8**
comp=Z,5.8nm,0.9s
FETA Feichten 78.47 339 *i* PcP **P 01 24 30.6 +3.9**

comp=Z,4.9nm,1.0s
BOVS Bovan 78.61 330 ⇑P **P 01 24 28.3 +1.1**
TUE Stuetta 79.30 339 P **P 01 24 33.0 +1.7**
TUE IAmb IAmb 01 24 35.9
comp=Z,6.6nm,0.8s
PDG Podgorica 80.46 331 ⇑P **P 01 24 38.7 +1.4**
MMAI Mount Meron Ar 82.70 315 P **P 01 24 50.6 +1.2**
comp=Z,1.1nm,0.5s,baz=46,slow=4.8,SNR=9.9
MMAI LR LR 02 07 44.2
comp=Z,65nm,18.0s,baz=186,slow=40
comp=Z,1.1nm,0.5s
TIP Timpagrande 84.19 332 ⇑P **P 01 24 58.8 +1.8**
RAYN Ar Rayn 85.64 303 P **P 01 25 04.6 +0.1**
RAYN Ar Rayn 85.64 303 P **P 01 25 04.6 +0.1**
RAYN pmax pmax
comp=Z,1.0nm,0.8s
ESDC Sonseca Array 88.31 347 P **P 01 25 17.1 -0.1**
comp=Z,0.2nm,0.5s,baz=4.6,slow=4.2,SNR=4.9
comp=Z,0.2nm,0.5s
H03N2 Juan Fernandez 134.72 90 T T 04 02 23.6
baz=314,slow=77
H03N1 Juan Fernandez 134.74 90 T T 04 02 24.8
baz=314,slow=77
H03N3 Juan Fernandez 134.74 90 T T 04 02 22.9
baz=314,slow=77

---

*NEIC **13** 01:18:48.0±1.4, 6°.17S±0°.09×129°.25E±0°.09, h212km±4km, mb4.7/16, Error ellipse: s-maj=13.7km s-min=12.2km az=123.0*
*DJA **13** 01:18:48.2±0.2, 6°.5±.3°×12°.9E±°, h216km±7km, M4.8/13, mb4.6/13, mB5.2/6, MLv4.9/12, Mw(mB)4.6/6*
*IDC **13** 01:18:49.6±4.3, 6°.39S×128°.86E, h233km±43km, mb3.3/6, mbtmp4.1/8, Error ellipse: s-maj=30.0km s-min=18.0km az=80.0*
ISC 13 01:18:47.4±0.5,**6°.39S**±0°.05×**129°.28E**±0°.06,**h200**km,**n82,**
σ1$**69**/82,**mb4.3**/12,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.96**	**18**	P		**Pn**		**01 19 28.0**	**+2.5**
BNDI	**Bandanaira**	**1.96**	**18**	P		**Pn**		**01 19 27.8**	**+2.3**
SAUI	**Saumlaki**	**2.55**	**128**	Pn		**Pn**		**01 19 34.8**	**+3.0**
SAUI	**Saumlaki**	**2.55**	**128**	P		**Pn**		**01 19 34.9**	**+3.0**
AAI	**Ambon**	**2.90**	**338**	P		**Pn**		**01 19 38.0**	**+2.1**
MSAI	**Masohi**	**3.04**	**353**	P		**Pn**		**01 19 39.6**	**+2.0**
NLAI	**Namlea**	**3.81**	**325**	P		**Pn**		**01 19 50.1**	**+3.2**
FAKI	**Fak Fak**	**4.54**	**41**			**Pn**		**01 19 54.6**	**-1.4**
FAKI	**Fak Fak**	**4.54**	**41**	P		**Pn**		**01 19 55.5**	**-0.5**
SANI	**Sanana**	**5.42**	**323**	P		**Pn**		**01 20 09.8**	**+2.5**
SANI	**Sanana**	**5.42**	**323**	P		**Pn**		**01 20 08.9**	**+1.6**
	0.5nm2μm118nm,0.8s								
SWI	**Sorong**	**5.83**	**20**	P		**Pn**		**01 20 11.5**	**-1.1**
SOEI	**Soe**	**5.99**	**236**			**Pn**		**01 20 16.6**	**+1.9**
SOEI	**Soe**	**5.99**	**236**	P		**Pn**		**01 20 16.4**	**+1.7**
SOEI	**Soe**	**5.99**	**236**	S		**Sn**		**01 21 24.7**	**+1.0**
SOEI	**Soe**	**5.99**	**236**	P		**Pn**		**01 20 16.2**	**+1.5**
	1.0nm83nm,0.8s								
DRS	**Darwin Rock St**	**6.21**	**165**	P		**Pn**		**01 20 18.9**	**+1.5**
MTN	**Manton Dam**	**6.67**	**164**			**Pn**		**01 20 24.3**	**+0.9**
MTN	**Manton Dam**	**6.67**	**164**	P		**Pn**		**01 20 24.2**	**+0.9**
BBSI	**Bau Bau**	**6.74**	**277**	P		**Pn**		**01 20 27.5**	**+3.2**
	0.3nm107nm,1.1s								
RKPI	**Ransiki, Papua**	**6.88**	**45**	P		**Pn**		**01 20 25.4**	**-0.7**
	7μm390nm,0.8s								
KDU	**Kakadu**	**7.00**	**154**	P		**Pn**		**01 20 28.4**	**+0.7**
EDFI	**Ende, Flores**	**7.88**	**252**	P		**Pn**		**01 20 42.2**	**+2.9**
LUWI	**Luwuk**	**8.39**	**309**	Pn		Pn		01 20 40.9	-5.0
BAKI	**Biak**	**8.54**	**53**	P		**Pn**		**01 20 48.5**	**+0.7**
	2μm87nm,0.5s								
KNRA	**Kununurra**	**9.24**	**183**			**Pn**		**01 20 57.3**	**+0.4**
PLAI	**Plampang**	**11.66**	**257**	P		**Pn**		**01 21 28.8**	**+0.7**
PLAI	**Plampang**	**11.66**	**257**	P		**Pn**		**01 21 27.9**	**-0.2**
	21nm,0.8s								
FITZ	**Fitzroy Crossi**	**12.17**	**197**			**Pn**		**01 21 33.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**12.17**	**197**	P		**Pn**		**01 21 33.5**	**-1.0**
	27nm,0.5s,baz=23,slow=11,SNR=198								
FITZ				S		Sn		01 23 40.4	-10
	20nm,0.5s,baz=161,slow=18,SNR=4.5								
WRA	**Warramunga Arr**	**14.34**	**160**			**Pn**		**01 21 59.8**	**-1.8**
WRA	**Warramunga Arr**	**14.34**	**160**	P		**Pn**		**01 22 00.2**	**-1.4**
	10nm,0.4s,baz=340,slow=13,SNR=50								
WRA				S		S		01 24 30.6	-11
	8.7nm,0.5s,baz=330,slow=23,SNR=6.5								
COEN Coen 15.60 120						**P**		**01 22 18.3**	**+1.3**
COEN					IAmb	IAmb		01 22 19.5	
	comp=Z,47nm,1.0s								
COEN Coen 15.60 120				P		**P**		**01 22 18.4**	**+1.3**
QIS Mount Isa 17.28 146				P		**P**		**01 22 37.1**	**+1.6**
MBWA Marble Bar 17.35 211				P		**P**		**01 22 37.4**	**+1.1**
MBWA					IAmb	IAmb		01 22 38.1	
	comp=Z,23nm,0.8s								
MBWA Marble Bar 17.35 211				P		**P**		**01 22 37.3**	**+1.1**
PSA00 Pilbara Seismi 17.64 210						**P**		**01 22 40.8**	**+1.4**
PSA00					IAmb	IAmb		01 22 41.4	
	comp=Z,43nm,0.7s								
PSA00 Pilbara Seismi 17.64 210				P		**P**		**01 22 39.3**	**-0.1**
PSA00					IAmb	IAmb		01 22 41.4	
	comp=Z,16nm,1.1s								
PSA00 Pilbara Seismi 17.64 210				P		**P**		**01 22 40.6**	**+1.2**
PSA00 Pilbara Seismi 17.64 210				S		**S**		**01 25 51.6**	**-0.6**
AS31 Alice Springs 17.74 166						**P**		**01 22 42.4**	**+1.9**
ASAR Alice Springs 17.74 166				P		**P**		**01 22 42.4**	**+1.8**
	comp=Z,106nm,0.6s,baz=346,slow=11,SNR=908								
ASAR				S		**S**		**01 25 47.4**	**-7.0**
	comp=Z,8.3nm,0.7s,baz=347,slow=19,SNR=13								
AS01 Alice Springs 17.75 166				P		**P**		**01 22 41.9**	**+1.2**
PMG Port Moresby 17.96 101				P		**Pn**		**01 22 47.7**	**+2.6**
PMG					IAmb	IAmb		01 22 48.6	
	comp=Z,28nm,0.8s								
PMG Port Moresby 17.96 101				P		**Pn**		**01 22 47.5**	**+2.4**
	comp=Z,23nm,0.6s,baz=282,slow=17,SNR=9.3								
WRKA Warakurna 18.57 183				P		**P**		**01 22 51.1**	**+1.6**
MTSU Mount Surprise 18.74 130				P		**P**		**01 22 53.1**	**+1.6**
GIRL Giralia 21.72 220				P		**P**		**01 23 24.3**	**+1.3**
GIRL Giralia 21.72 220				P		**P**		**01 23 24.1**	**+1.1**
OOD Oodnadatta 22.14 165				P		**P**		**01 23 27.4**	**+0.4**
MEEK Meekatharra 22.56 206				P		**P**		**01 23 31.4**	**+0.5**
FORT Forrest 24.29 183						**P**		**01 23 47.3**	**+0.8**
FORT Forrest 24.29 183				P		**P**		**01 23 47.5**	**+1.0**
LCRK Leigh Creek 25.36 162				P		**P**		**01 23 56.6**	**+0.4**
MORW Morawa 25.80 207				P		**P**		**01 24 00.1**	**0.0**
MORW					IAmb	IAmb		01 24 38.8	
	comp=Z,11nm,1.1s								
MORW Morawa 25.80 207				P		**P**		**01 24 00.5**	**+0.3**
KMBL Kambalda 25.80 195				P		**P**		**01 24 00.7**	**+0.5**
BLDU Ballidu 26.84 205				P		**P**		**01 24 10.0**	**+0.5**
BBOO Buckleboo 27.03 167				P		**P**		**01 24 11.6**	**+0.4**
BBOO					IAmb	IAmb		01 24 25.6	
	comp=Z,24nm,1.4s								
BBOO Buckleboo 27.03 167				P		**P**		**01 24 11.7**	**+0.5**
STKA Stephens Creek 27.84 157				P		**P**		**01 24 19.0**	**+0.6**
STKA					IAmb	IAmb		01 24 35.9	
	comp=Z,19nm,1.1s								
STKA Stephens Creek 27.84 157				P		**P**		**01 24 18.6**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=340,slow=8.4,SNR=3.5								
	comp=Z,0.9nm,0.5s								
MUN Mundaring 28.24 204				P		**P**		**01 24 22.3**	**+0.4**
HTT Hallett 28.36 163				P		**P**		**01 24 23.2**	**+0.2**
NWAO Narrogin (SRO) 28.69 201				P		**P**		**01 24 24.6**	**-1.2**
NWAO Narrogin (SRO) 28.69 201				P		**P**		**01 24 26.4**	**+0.6**
ARPS Mount Arapiles 32.34 161				P		**P**		**01 24 58.3**	**+0.4**
NJ2 Nanjing 39.50 346				*eP*		**P**		**01 25 58.1**	**-0.6**
NJ2					pmax	pmax			
	comp=Z,8.0nm,0.6s								
PZH PanZhiHua 42.22 322				P		**P**		**01 26 21.5**	**+0.4**
PZH					pmax	pmax			
	comp=Z,10.0nm,0.7s								
PZH					pmax	pmax			
	comp=Z,100nm,4.4s								
HHC Hu-ho-hao-te 49.75 342				*eP*		**P**		**01 27 21.7**	**+2.0**
HHC					pmax	pmax			
	comp=Z,10.0nm,0.8s								
PETK Petropavlovsk- 63.97 19				P		**P**		**01 28 58.8**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=209,slow=6.6,SNR=2.0								
	comp=Z,0.5nm,0.6s								
MKAR Makanchi Array 67.33 327				P		**P**		**01 29 19.5**	**-1.3**
MKAR Makanchi Array 67.33 327				P		**P**		**01 29 18.4**	**-2.4**
	comp=Z,0.4nm,0.5s,baz=116,slow=8.2,SNR=5.2								
	comp=Z,0.4nm,0.5s								
KURBB Kurchatov Arra 71.62 329				P		**P**		**01 29 44.1**	**-2.8**
	comp=Z,0.3nm,0.5s,baz=132,slow=5.0,SNR=5.6								
	comp=Z,0.3nm,0.5s								
VNDA Vanda 73.14 173				P		**P**		**01 29 55.6**	**+0.1**
VNDA Vanda 73.14 173				P		**P**		**01 29 54.3**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=330,slow=5.0,SNR=7.3								
	comp=Z,0.8nm,0.6s								
MAW Mawson 75.26 201				P		**P**		**01 30 08.6**	**+0.7**
ABKAR Akbulak array 81.59 322				P		**P**		**01 30 42.0**	**-1.0**
QSPA South Pole Qui 83.58 180				P		**P**		**01 30 51.1**	**-2.0**
QSPA South Pole Qui 83.58 180				P		**P**		**01 30 52.0**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=54,slow=1.7,SNR=10								
	comp=Z,1.4nm,0.8s								
M16K Timber Creek 86.85 28				P		**P**		**01 31 09.2**	**+0.1**
M16K					IAmb	IAmb		01 31 15.1	
	comp=Z,19nm,1.5s								

---

*NEIC **13** 01:31:07.5±2.3, 4°.7S±0°.1×154°.0E±0°.1, h33km±7km, mb4.6/10, Error ellipse: s-maj=16.6km s-min=15.4km az=86.0*
*IDC **13** 01:31:12.4±0.9, 4°.82S×153°.44E, h71km±7km, mb3.6/11, mbtmp4.0/12, MS2.8/1, Error ellipse: s-maj=27.0km s-min=17.2km az=87.0*
ISC 13 01:31:10.1±0.6,**4°.87S**±0°.08×**153°.64E**±0°.10,**h56**km,**n25,**
σ1$**45**/31,**mb4.0**/15,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL Rabaul 1.62 294						**Pn**		**01 31 37.6**	**+1.3**
PMG Port Moresby 7.85 235						**Pn**		**01 33 04.6**	**+2.9**
PMG Port Moresby 7.85 235				P		**Pn**		**01 33 02.4**	**+0.6**
	21nm,0.5s,baz=51,slow=5.5,SNR=9.0								
PMG				S		**Sn**		**01 34 26.2**	**-3.1**
	18nm,0.4s,baz=241,slow=6.9,SNR=6.2								
PMG				LR		LR		01 36 25.4	
	comp=Z,57nm,18.6s,baz=67,slow=40								
DZM Mont Dzumac 21.13 145				P		**P**		**01 35 51.5**	**+1.1**
	5.6nm,0.8s,baz=305,slow=9.8,SNR=1.3								
	5.6nm,0.8s								
PINNC Pines Island, 22.13 144				P		**P**		**01 35 57.1**	**-4.0**
WB0 Warramunga Arr 23.89 230				P		**P**		**01 36 19.4**	**+0.6**
WB2 Warramunga Arr 24.02 230				P		**P**		**01 36 20.9**	**+0.9**
WB2					IAmb	IAmb		01 36 38.0	
	comp=Z,12nm,1.3s								
WRA Warramunga Arr 24.03 230				P		**P**		**01 36 19.6**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=53,slow=9.8,SNR=8.6								
WRA				PcP		**PcP**		**01 40 01.5**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=48,slow=2.5,SNR=2.6								
	comp=Z,1.3nm,0.6s								
ASAR Alice Springs 26.67 224				P		**P**		**01 36 44.0**	**0.0**
	comp=Z,0.3nm,0.4s,baz=52,slow=9.7,SNR=11								
ASAR				PcP		**PcP**		**01 40 06.9**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=61,slow=2.2,SNR=5.6								
	comp=Z,0.3nm,0.4s								
KNRA Kununurra 26.69 244				P		**P**		**01 36 46.9**	**+2.7**
KNRA					IAmb	IAmb		01 37 08.5	
	comp=Z,5.3nm,0.6s								
FITZ Fitzroy Crossi 30.36 242				P		**P**		**01 37 16.9**	**0.0**
TCW Tory Channel 40.64 156				P		**P**		**01 38 44.0**	**-0.7**
LTZ Lake Taylor 41.22 159				P		**P**		**01 38 48.9**	**-0.6**
LTZ					IAmb	IAmb		01 39 11.7	
	comp=Z,33nm,1.4s								
CMAR Chiang Mai Arr 58.66 295				P		**P**		**01 41 01.4**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=103,slow=7.0,SNR=5.1								
	comp=Z,0.9nm,0.8s								
SONM Songino Array 66.83 327				P		**P**		**01 41 55.6**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=112,slow=3.9,SNR=3.7								
	comp=Z,0.3nm,0.4s								
VNDA Vanda 72.73 178				P		**P**		**01 42 33.3**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=329,slow=7.3,SNR=4.3								
	comp=Z,1.0nm,0.3s								
MKAR Makanchi Array 80.93 319				P		**P**		**01 43 19.1**	**+0.6**
MKAR Makanchi Array 80.93 319				P		**P**		**01 43 18.6**	**0.0**
	comp=Z,0.8nm,0.5s,baz=100,slow=7.4,SNR=12								
MKAR				pP		**sP**		**01 43 37.8**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=94,slow=6.4,SNR=4.1								
	comp=Z,0.8nm,0.5s								
ILAR Eielson Array 81.91 22				P		**P**		**01 43 24.7**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=269,slow=7.3,SNR=4.1								
	comp=Z,0.3nm,0.6s								
KURBB Kurchatov Arra 84.37 322				P		**P**		**01 43 35.7**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=102,slow=3.9,SNR=8.5								
KURBB				pP		**sP**		**01 43 55.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=112,slow=4.0,SNR=4.9								
	comp=Z,0.7nm,0.7s								
M30M Minto, Yukon 85.05 26				P		**P**		**01 43 39.4**	**-0.1**
M30M					IAmb	IAmb		01 43 59.5	
	comp=Z,8.5nm,1.5s								
QSPA South Pole Qui 85.09 180				P		**P**		**01 43 41.1**	**+1.3**
QSPA					IAmb	IAmb		01 43 41.7	
	comp=Z,3.6nm,0.7s								
QSPA South Pole Qui 85.09 180				P		**P**		**01 43 41.0**	**+1.1**
	comp=Z,3.9nm,0.6s,baz=23,slow=4.6,SNR=51								
	comp=Z,3.9nm,0.6s								
KKAR Karatay Array 88.28 313				P		**P**		**01 43 55.1**	**-0.6**
BVAR Borovoye Array 89.80 323				P		**P**		**01 44 01.7**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=91,slow=5.9,SNR=7.3								
BVAR				pP		**sP**		**01 44 21.7**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=101,slow=7.7,SNR=8.8								
	comp=Z,1.6nm,0.8s								

---

*IDC **13** 01:36:31.1±1.2, 10°.84N×126°.73E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=75.7km s-min=19.2km az=66.0*
ISC 13 01:36:36.6±1.4,**10°.8N**±0°.3×**126°.7E**±0°.5,**h37**km,**n9,**
σ0$**66**/9,**mb3.9**/9,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR Chiang Mai Arr 27.85 289				P		**P**		**01 42 23.0**	**+0.1**
	0.5nm,0.5s,baz=98,slow=11,SNR=2.7								
	0.5nm,0.5s								
WRA Warramunga Arr 31.46 166				P		**P**		**01 42 55.9**	**+1.0**
	0.4nm,0.6s,baz=347,slow=8.6,SNR=7.6								
	0.4nm,0.6s								
ASAR Alice Springs 34.97 168				P		**P**		**01 43 24.4**	**-1.0**
	0.2nm,0.5s,baz=337,slow=6.8,SNR=5.6								
	0.2nm,0.5s								
MKAR Makanchi Array 51.85 322				P		**P**		**01 45 41.0**	**-0.2**
	0.6nm,0.7s,baz=121,slow=8.0,SNR=7.1								
	0.6nm,0.7s								
ZALV Zalesovo Beam 54.36 331				P		**P**		**01 45 59.6**	**+0.1**
	2.0nm,0.7s,baz=126,slow=6.5,SNR=7.7								
	2.0nm,0.7s								
KURBB Kurchatov Arra 55.86 325				P		**P**		**01 46 10.8**	**+0.3**
	0.8nm,0.6s,baz=127,slow=7.1,SNR=11								
	0.8nm,0.6s								
BVAR Borovoye Array 61.46 325				P		**P**		**01 46 49.6**	**+0.2**
	0.5nm,0.5s,baz=111,slow=6.3,SNR=2.5								
	0.5nm,0.5s								
FINES FINESS Array B 85.61 332				P		**P**		**01 49 11.2**	**+0.1**
	0.5nm,0.7s,baz=94,slow=4.3,SNR=5.0								
	0.5nm,0.7s								
HFS Hagfors 91.77 333				P		**P**		**01 49 39.9**	**-0.5**
	1.6nm,1.0s,baz=116,slow=3.4,SNR=5.7								
	1.6nm,1.0s								

---

*IDC **13** 01:36:52.6±8.8, 21°.64S×179°.04W, h581km±58km, mb2.9/4, mbtmp3.9/5, Error ellipse: s-maj=196.3km s-min=24.8km az=144.0*
ISC 13 01:36:54.6±1.6,**21°.3S**±0°.4×**179°.2W**±0°.3,**h602**km,**n11,**
σ0$**72**/12,**mb3.5**/4,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF Nonsavu 4.37 323				P		**P**		**01 38 22.9**	**-0.1**
	17nm,0.5s,baz=295,slow=23,SNR=21								
ASAR Alice Springs 43.25 258				P		**P**		**01 44 04.1**	**-0.6**
	1.7nm,0.5s,baz=95,slow=7.9,SNR=27								
ASAR				PcP		**PcP**		**01 45 40.8**	**+0.8**
	0.3nm,0.5s,baz=106,slow=3.5,SNR=4.4								
	1.7nm,0.5s								
WRA Warramunga Arr 43.38 263				P		**P**		**01 44 05.3**	**-0.4**
	0.6nm,0.3s,baz=96,slow=7.6,SNR=15								
	0.6nm,0.3s								
FITZ Fitzroy Crossi 51.81 263				P		**P**		**01 45 09.1**	**+0.6**
	0.6nm,0.3s,baz=98,slow=8.2,SNR=1.9								
	0.6nm,0.3s								
ILAR Eielson Array 89.32 13				P		**P**		**01 48 47.8**	**+0.5**
	0.2nm,0.5s,baz=228,slow=5.4,SNR=1.9								
	0.2nm,0.5s								
BVAR Borovoye Array 118.94 320				PKP		**PKPdf**		**01 54 35.7**	**+0.2**
	0.3nm,0.3s,baz=164,slow=3.3,SNR=2.3								
ARCES ARCESS Array B 129.47 349				PKP		**PKiKP**		**01 54 55.9**	**-0.1**
	4.9nm,1.1s,baz=29,slow=3.0,SNR=4.1								
FINES FINESS Array B 136.18 343				PKP		**PKPdf**		**01 55 07.6**	**-0.4**
	1.3nm,0.9s,baz=49,slow=6.6,SNR=2.4								
AKASG Malin Array Be 143.12 330				PKP		**PKPdf**		**01 55 19.3**	**-1.5**
	0.4nm,0.3s,baz=46,slow=3.9,SNR=9.4								
BRTR Keskin Array B 146.50 311				PKPbc		**PKPbc**		**01 55 30.3**	**+0.5**
	0.4nm,0.6s,baz=168,slow=2.4,SNR=4.6								
MMAI Mount Meron Ar 147.20 298				PKPbc		**PKiKP**		**01 55 33.4**	**-0.1**
	0.5nm,0.4s,baz=79,slow=7.5,SNR=5.4								

---

*GCG **13** 01:47:22.1±2.2, 13°.98N×93°.25W, h35km±999km, MD4.4*
*MEX **13** 01:47:23.3±0.6, 14°.17N×93°.33W, h10km, MD4.2*
ISC 13 01:47:18.5±2.6,**14°.2N**±0°.1×**93°.22W**±0°.07,**h4**km±12km,**n12,**
σ1$**56**/22,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**1.17**	**52**	*eP*		**Pn**		**01 47 43.0**	**+1.4**
THIG				*eS*		**Sn**		**01 47 58.2**	**+0.1**
PATR El Naranjo		**1.33**	**46**	*eP*		**Pg**		**01 47 45.4**	**+1.4**
PATR				*eS*		**Sn**		**01 48 02.9**	**+0.6**
PAVE Pavencul		**1.42**	**45**	*eP*		**Pg**		**01 47 46.7**	**+0.9**
PAVE				*eS*		**Sg**		**01 48 05.0**	**+0.8**
PCIG		**1.51**	**360**	*eP*		**Pb**		**01 47 46.9**	**-0.2**
PCIG				*eS*		**Sn**		**01 48 03.5**	**-3.0**
STG8 El Palmar, Qui		**1.83**	**81**	*eP*		**Pn**		**01 47 50.7**	**-0.2**
STG0 El Palmar, Qui		**1.83**	**82**	*eP*		**Pn**		**01 47 50.6**	**-0.3**
CCIG Comitan		**2.33**	**26**	*eP*		**Pg**		**01 48 02.6**	**-0.6**
CCIG				*eS*		**Sb**		**01 48 30.8**	**+0.2**
CCIG Comitan		**2.33**	**26**	*eP*		**Pg**		**01 48 02.6**	**-0.6**
CCIG				*i S*		**Sg**		**01 48 33.5**	**0.0**
TGIG		**2.58**	**2**	*eP*		**Pb**		**01 48 04.4**	**-1.0**
TGIG				*eS*		**Sn**		**01 48 34.0**	**+0.9**
TGIG		**2.58**	**2**	*i P*		**Pb**		**01 48 04.9**	**-0.5**
TGIG				*eS*		**Sb**		**01 48 36.1**	**-1.5**
UXUV UXUV		**3.24**	**344**	*eP*		**Pb**		**01 48 13.1**	**-3.6**
UXUV				*eS*		**Sn**		**01 48 50.7**	**+1.4**
CMIG Matias Romero		**3.31**	**331**	*eP*		**Pn**		**01 48 13.5**	**+2.4**
CMIG				*eS*		**Sn**		**01 48 52.5**	**+1.5**

---

*IDC **13** 01:49:32.9±0.8, 1°.64N×126°.22E, h0km, mb3.9/9, mbtmp3.9/10, ML3.5/1, MS3.3/2, Error ellipse: s-maj=49.1km s-min=16.7km az=73.0*
*DJA **13** 01:49:38.2±0.3, 2°.N±2°×12°.6E±°, h10km, M4.0/9, mb4.0/2, MLv4.0/9*
*NEIC **13** 01:49:41.7±2.0, 1°.5N±0°.1×126°.39E±0°.09, h59km±8km, mb4.3/14, Error ellipse: s-maj=18.3km s-min=9.8km az=213.0*
ISC 13 01:49:40.0±0.6,**1°.66N**±0°.06×**126°.49E**±0°.08,**h47**km,**n36,**
σ1$**28**/38,**mb4.1**/17,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI Ternate 1.24 135						**Pn**		**01 50 02.0**	**+1.1**
TNTI Ternate 1.24 135				P		**Pn**		**01 50 01.7**	**+0.8**
TNTI				S		**Sn**		**01 50 17.9**	**+1.4**
SGSI Sangihe 2.23 335				P		**Pn**		**01 50 14.3**	**-0.2**
SGSI				S		**Sn**		**01 50 42.2**	**+1.3**
KMSI Cibinong 2.73 247				P		**Pn**		**01 50 21.7**	**+0.4**
SANI Sanana 3.71 188				P		**Pn**		**01 50 35.7**	**+0.8**
TOLI2 Tolitoli 5.73 265						**Pn**		**01 51 02.3**	**-0.3**
MYLDM Lahad Datu 8.71 294						**Pn**		**01 51 46.0**	**+2.5**
FITZ Fitzroy Crossi 19.65 182				P		**P**		**01 54 04.9**	**-0.1**
	0.1nm,0.3s,baz=1.6,slow=14,SNR=1.4								
	1.0nm,0.7s								
TPUB Ta-pu 22.25 346				P		**P**		**01 54 31.6**	**-1.4**
WB0 Warramunga Arr 22.66 160				P		**P**		**01 54 36.3**	**-1.1**
WB0					IAmb	IAmb		01 54 46.6	
	comp=Z,4.7nm,0.6s								
WRA Warramunga Arr 22.80 161				P		**P**		**01 54 37.3**	**-1.7**
	comp=Z,3.2nm,0.6s,baz=339,slow=11,SNR=10								
	comp=Z,3.2nm,0.6s								
WB2 Warramunga Arr 22.81 161				P		**P**		**01 54 38.1**	**-0.8**
WB2					IAmb	IAmb		01 54 43.0	
	comp=Z,8.8nm,0.9s								
AS31 Alice Springs 26.18 164				P		**P**		**01 55 11.7**	**+1.4**
ASAR Alice Springs 26.18 164				P		**P**		**01 55 12.3**	**+2.0**
ASAR Alice Springs 26.18 164				P		**P**		**01 55 10.2**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=347,slow=12,SNR=7.6								

4.8nm,0.7s
MKAR Makanchi Array 12.23 39 Pn **Pn 01 56 22.1 +2.3**
0.1nm,0.3s,baz=230,slow=12,SNR=11
1.3nm,0.9s
KURBB Kurchatov Arra 13.90 20 Lg Lg 02 00 42.2
baz=207,slow=32
BVAR Borovoye Array 15.27 358 Pn **Pn 01 56 58.2 -3.0**
0.1nm,0.3s,baz=162,slow=9.8,SNR=14
0.5nm,0.5s
AKTO Aktyubinsk 15.75 328 Pn **Pn 01 57 05.4 -2.2**
0.9nm,0.3s,baz=134,slow=10,SNR=10
AKTO Sn Sn 01 59 45.5 -17
0.1nm,0.3s,baz=102,slow=19,SNR=1.6
2.5nm,0.4s
ZALV Zalesovo Beam 18.73 26 P **P 01 57 43.3 -1.0**
0.4nm,0.3s,baz=220,slow=10,SNR=5.6
1.1nm,0.4s
ARTI Arti 20.49 339 P **P 01 58 02.6 -0.9**
2.1nm,0.6s,baz=152,slow=15,SNR=3.8
2.1nm,0.6s
KBZ Khabaz 22.14 295 P **P 01 58 22.8 +1.4**
1.1nm,0.7s,baz=108,slow=9.6,SNR=4.4
1.1nm,0.7s
FINES FINESS Array B 36.50 325 P **P 02 00 30.5 -0.3**
0.3nm,0.3s,baz=108,slow=8.6,SNR=7.3
0.3nm,0.3s
ARCES ARCESS Array B 40.02 337 P **P 02 00 58.5 -1.9**
1.6nm,0.9s,baz=96,slow=8.3,SNR=0.9
1.6nm,0.9s
HFS Hagfors 42.15 321 P **P 02 01 17.0 -0.9**
0.5nm,0.4s,baz=118,slow=15,SNR=4.9
0.5nm,0.4s
NOA NORSAR Array B 43.44 322 P **P 02 01 27.8 -0.7**
0.3nm,0.7s,baz=110,slow=7.7,SNR=1.5
0.3nm,0.7s
ESDC Sonseca Array 56.97 297 P **P 02 03 12.0 +0.7**
0.3nm,0.6s,baz=67,slow=7.4,SNR=2.9
0.3nm,0.6s
YKA Yellowknife Ar 79.98 3 P **P 02 05 34.5 -0.1**
0.2nm,0.6s,baz=359,slow=5.0,SNR=4.9
0.2nm,0.6s
PDAR Pinedale Array 99.85 1 P **Pdif 02 07 08.8 -1.8**
0.1nm,0.4s,baz=8.8,slow=4.2,SNR=1.8

---

*SJA **13** 02:01:41.6±2.7, 29°.71S×71°.39W, h45km±56km, ML3.7, MW3.6*
*GUC **13** 02:01:42.0±0.8, 29°.69S×71°.32W, h52km±2km, ML3.7*
ISC 13 02:01:41.7±1.1, 29°.65S±0°.02×71°.37W±0°.05, h32km±10km, n50, σ1§67/70, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.29**	**157**	*e*P	**Pb**	**02 01 50.5**	**+1.3**
CO05				*i* S	**Sn**	**02 01 56.7**	**+1.8**
CO05				IAML		02 01 58.6	
	comp=E,6μm,0.4s						
GO04	**Tololo Observa**	**0.71**	**137**	*e*P	**Pb**	**02 01 55.6**	**-0.3**
GO04				*i* S	**Sb**	**02 02 05.3**	**-0.3**
GO04	**Tololo Observa**	**0.71**	**137**	*i* P	**Pb**	**02 01 55.8**	**-0.2**
GO04				*e*S	**Sn**	**02 02 05.8**	**0.0**
GO04				IAML		02 02 06.5	
	comp=Z,3μm,0.2s						
LCO	**Las Campanas**	**0.86**	**42**	⇓*i*P	**Pb**	**02 01 58.3**	**-0.2**
LCO				*i* S	**Sb**	**02 02 09.8**	**-0.1**
LCO	**Las Campanas**	**0.86**	**42**	*i* P	**Pb**	**02 01 58.1**	**-0.3**
LCO				*e*S	**Sn**	**02 02 10.8**	**+1.3**
LCO				IAML		02 02 13.4	
	comp=Z,3μm,0.6s						
CO06	**Fray Jorge**	**1.04**	**193**	*e*P	**Pn**	**02 02 00.4**	**+0.3**
CO06				*i* S	**Sn**	**02 02 14.0**	**+0.5**
CO06				IAML		02 02 19.9	
	comp=E,2μm,0.3s						
CO01	**Juntas del Tor**	**1.15**	**107**	⇓*i*P	**Pn**	**02 02 02.5**	**+0.7**
CO01				*i* S	**Sb**	**02 02 17.1**	**-0.8**
CO01				IAML		02 02 18.7	
	comp=N,2μm,0.3s						
CO01	**Juntas del Tor**	**1.15**	**107**	*i* P	**Pn**	**02 02 02.6**	**+0.8**
CO01				*e*S	**Sb**	**02 02 17.4**	**-0.6**
CO01				IAML		02 02 18.5	
	comp=Z,1μm,0.1s						
AC05	**El Transito**	**1.25**	**50**	⇓*i*P	**Pn**	**02 02 04.1**	**+1.0**
AC05				*i* S	**Sn**	**02 02 19.8**	**+0.8**
AC05	**El Transito**	**1.25**	**50**	*i* P	**Pn**	**02 02 04.2**	**+1.0**
AC05				*e*S	**Sb**	**02 02 20.1**	**-0.7**
AC05				IAML		02 02 24.6	
	comp=Z,436nm,0.2s						
CO03	**El Pedregal**	**1.32**	**154**	⇓*i*P	**Pn**	**02 02 04.0**	**0.0**
CO03	**El Pedregal**	**1.32**	**154**	*i* P	**Pn**	**02 02 04.2**	**+0.2**
CO03				*e*S	**Sn**	**02 02 20.1**	**-0.4**
CO03				IAML		02 02 21.5	
	comp=Z,1μm,0.5s						
AC04	**Llanos de Chal**	**1.47**	**10**	⇑*e*P	**Pn**	**02 02 07.0**	**+1.1**
AC04				*i* S	**Sn**	**02 02 25.3**	**+1.3**
AC04				IAML		02 02 32.4	
	comp=E,932nm,0.2s						
AC04	**Llanos de Chal**	**1.47**	**10**	*i* P	**Pn**	**02 02 07.5**	**+1.6**
AC04				*e*S	**Sb**	**02 02 28.6**	**+1.9**
AC04				IAML		02 02 30.7	
	comp=Z,657nm,0.6s						
CO02	**Combarbal**	**1.58**	**169**	*e*P	**Pn**	**02 02 07.6**	**0.0**
CO02				*i* S	**Sn**	**02 02 26.1**	**-0.7**
CO02				IAML		02 02 31.9	
	comp=N,2μm,0.2s						
CO02	**Combarbal**	**1.58**	**169**	*i* P	**Pn**	**02 02 07.7**	**+0.2**
CO02				*e*S	**Sn**	**02 02 27.0**	**+0.1**
CO02				IAML		02 02 32.3	
	comp=Z,563nm,0.4s						
AROD	**Rodeo**	**1.72**	**108**	*i* P	**Pb**	**02 02 12.3**	**-0.6**
ACDV	**Cuesta del Vie**	**2.02**	**105**	*i* P	**Pb**	**02 02 16.4**	**-1.4**
ACDV				IAML		02 02 44.4	
	comp=Z,207nm,0.7s						
ACCO	**Cerro Coronel**	**2.20**	**116**	*i* P	**Pb**	**02 02 21.3**	**+0.2**
GO03	**Copiapo**	**2.28**	**26**	⇑*e*P	**Pn**	**02 02 18.9**	**+1.7**
GO03	**Copiapo**	**2.28**	**26**	*i* P	**Pn**	**02 02 19.2**	**+2.1**
GO03				IAML		02 03 05.5	
	comp=Z,287nm,0.7s						
DOCA	**Reserva Natura**	**2.36**	**124**	*i* P	**Pn**	**02 02 21.2**	**+2.6**
DOCA				IAML		02 03 04.0	
	comp=Z,162nm,0.8s						
AGUA	**GUANDACOL**	**2.51**	**87**	*i* P	**Pb**	**02 02 24.5**	**-1.6**
AGUA				IAML		02 03 04.0	
	comp=Z,226nm,0.4s						
RTLS	**Leoncito**	**2.78**	**141**	*i* P	**Pn**	**02 02 27.9**	**+3.6**
RTLS				IAML		02 03 11.1	
	comp=Z,570nm,0.6s						
VA06	**Catapilco**	**2.90**	**179**	*e*P	**Pn**	**02 02 26.4**	**+0.8**
VA06				*i* S	**Sn**	**02 02 59.6**	**+0.3**
VCA	**Vinchina**	**2.91**	**72**	*i* P	**Pb**	**02 02 29.9**	**-3.1**
VCA				IAML		02 03 17.3	
	comp=Z,483nm,0.8s						
VA03	**San Esteban**	**3.18**	**168**	*e*P	**Pn**	**02 02 30.7**	**+1.2**
VA03				*i* S	**Sn**	**02 03 06.2**	**-0.2**
VA03	**San Esteban**	**3.18**	**168**	*i* P	**Pn**	**02 02 30.7**	**+1.2**
VA03				IAML		02 03 26.9	
	comp=Z,246nm,0.5s						
ROCH	**El Roble**	**3.32**	**175**	*e*P	**Pn**	**02 02 32.9**	**+1.3**
ROCH				*i* S	**Sn**	**02 03 12.8**	**+2.7**
ROCH				IAML		02 03 24.7	
	comp=N,279nm,0.5s						
CFA	**Coronel Fontan**	**3.32**	**127**	*i* P	**Pn**	**02 02 33.5**	**+2.0**
CFA				IAML		02 03 25.4	
	comp=Z,106nm,0.8s						
AC02	**Maricunga**	**3.43**	**36**	*e*P	**Pn**	**02 02 35.8**	**+2.4**
AC02	**Maricunga**	**3.43**	**36**	*i* P	**Pn**	**02 02 35.4**	**+2.0**
AC02				IAML		02 03 32.5	
	comp=Z,84nm,0.2s						
AVFE	**Valle Fertil**	**3.53**	**107**	*i* P	**Pn**	**02 02 36.8**	**+2.4**
AVFE				IAML		02 03 29.0	
	comp=Z,107nm,0.6s						
AC01	**Pan de Azucar**	**3.56**	**11**	*i* P	**Pn**	**02 02 33.7**	**-1.0**
AC01				IAML		02 03 38.1	
	comp=Z,91nm,0.6s						
MT02	**Curacav**	**3.60**	**177**	*e*P	**Pn**	**02 02 35.7**	**+0.5**
MT02				IAML		02 03 34.5	
	comp=E,144nm,0.4s						
MT02	**Curacav**	**3.60**	**177**	*i* P	**Pn**	**02 02 35.2**	**0.0**
MT02				IAML		02 03 33.0	
	comp=Z,111nm,0.5s						
ASAL	**Salagasta**	**3.64**	**144**	*i* P	**Pn**	**02 02 39.6**	**+3.7**
ASAL				IAML		02 03 44.6	
	comp=Z,122nm,1.5s						
MT05	**Renca**	**3.76**	**172**	*i* P	**Pn**	**02 02 39.5**	**+1.9**
MT05				IAML		02 03 39.8	
	comp=Z,158nm,1.1s						
ACLC	**CERRO LA CRUZ**	**3.85**	**88**	*i* P	**Pn**	**02 02 41.2**	**+2.3**
ACLC				IAML		02 03 36.8	
	comp=Z,123nm,0.6s						
MT04	**Ro Olivares**	**3.88**	**165**	*i* P	**Pn**	**02 02 41.7**	**+2.4**
MT04				IAML		02 03 43.1	
	comp=Z,122nm,0.5s						
MT03	**Universidad Ad**	**3.90**	**169**	*i* P	**Pn**	**02 02 42.0**	**+2.6**
MT03				IAML		02 03 47.4	
	comp=Z,230nm,0.7s						
MT08	**Bocatoma Ro**	**3.95**	**163**	*i* P	**Pn**	**02 02 44.5**	**+4.2**
MT08				IAML		02 03 45.2	
	comp=Z,115nm,0.8s						
MT13	**San Alfonso**	**4.18**	**168**	*i* P	**Pn**	**02 02 46.3**	**+3.0**
MT13				IAML		02 03 56.8	
	comp=Z,102nm,0.7s						
MT01	**Popeta**	**4.20**	**179**	*i* P	**Pn**	**02 02 43.6**	**+0.2**
MT01				IAML		02 03 44.7	
	comp=Z,173nm,0.7s						
APLL	**PUNTA DE LOS L**	**4.26**	**101**	*i* P	**Pn**	**02 02 46.4**	**+2.0**
APLL				*i* P	**Pn**	**02 02 46.4**	**+2.0**
LMEL	**Las Melosas**	**4.30**	**167**	*i* P	**Pn**	**02 02 48.0**	**+3.0**
LMEL				IAML		02 03 55.9	
	comp=Z,109nm,0.5s						
BO01	**Tunca**	**4.73**	**177**	*i* P	**Pn**	**02 02 52.0**	**+1.3**
BO01				IAML		02 04 03.0	
	comp=Z,101nm,0.7s						
GO02	**Mina Guanaco**	**4.75**	**20**	*i* P	**Pn**	**02 02 52.2**	**+0.9**
GO02				*i* P	**Pn**	**02 02 52.2**	**+0.9**
GO02				IAML		02 04 23.6	
	comp=Z,77nm,0.8s						
CYA	**Choya**	**5.02**	**77**	*i* P	**Pn**	**02 02 55.9**	**+1.1**
CYA				IAML		02 04 03.0	
	comp=Z,54nm,0.7s						
BO02	**Sierra Bellavi**	**5.15**	**175**	*i* P	**Pn**	**02 02 58.0**	**+1.5**
BO02				IAML		02 04 25.0	
	comp=Z,63nm,0.6s						

IDC 13 02:03:07.0±10.0, 3°.88N×88°.80E, h0km, mb3.6/4, mbtmp3.6/5, ML4.3/1, MS3.3/6, Error ellipse: s-maj=210.9km s-min=50.0km az=157.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**8.73**	**293**	LR	LR	02 08 29.6	
	comp=Z,104nm,18.8s,baz=124,slow=37						
PSI	**Prapat**	**10.17**	**96**	LR	LR	02 09 19.4	
	comp=Z,119nm,18.5s,baz=282,slow=37						
CMAR	**Chiang Mai Arr**	**17.57**	**34**	P	Pn	02 07 12.7	-0.9
	0.3nm,0.3s,baz=217,slow=12,SNR=6.5						
CMAR				LR	LR	02 12 33.3	
	comp=Z,20nm,18.7s,baz=195,slow=32						
	0.6nm,0.4s						
H08S3	**Diego Garcia H**	**19.89**	**235**	T	T	02 27 48.0	
	baz=55,slow=76						
H08S2	**Diego Garcia H**	**19.89**	**235**	T	T	02 27 49.2	
	baz=55,slow=76						
H08S1	**Diego Carcia H**	**19.91**	**235**	T	T	02 27 53.0	
	baz=55,slow=76						
MKAR	**Makanchi Array**	**43.12**	**353**	P	P	02 11 09.8	+0.6
	0.3nm,0.6s,baz=185,slow=6.4,SNR=3.8						
	0.3nm,0.6s						
SONM	**Songino Array**	**46.34**	**16**	P	P	02 11 35.6	+0.6
	2.7nm,0.6s,baz=196,slow=9.1,SNR=14						
SONM				LR	LR	02 32 31.9	
	comp=Z,98nm,18.2s,baz=334,slow=38						
	2.7nm,0.6s						
KURBB	**Kurchatov Arra**	**47.38**	**351**	P	P	02 11 41.1	-1.8
	0.2nm,0.6s,baz=182,slow=7.1,SNR=5.0						
	0.2nm,0.6s						
EIL	**Elat**	**56.95**	**303**	LR	LR	02 37 37.5	
	comp=Z,27nm,18.3s,baz=246,slow=36						
H04N2	**CROZET ISLANDS**	**59.63**	**209**	T	T	03 17 15.5	
	baz=44,slow=74						
H04N1	**CROZET ISLANDS**	**59.64**	**209**	T	T	03 17 15.5	
	baz=44,slow=74						
H04N3	**CROZET ISLANDS**	**59.65**	**209**	T	T	03 17 08.1	
	baz=44,slow=74						
BRTR	**Keskin Array B**	**61.16**	**314**	P	P	02 13 24.1	+0.3
	0.3nm,0.6s,baz=115,slow=6.5,SNR=3.0						
	0.3nm,0.6s						
MDT	**Midelt**	**90.78**	**303**	LR	LR	02 59 31.8	
	comp=Z,21nm,18.3s,baz=186,slow=37						

IDC 13 02:19:39.2±2.1, 3°.45N×126°.61E, h0km, mb3.4/4, mbtmp3.5/4, MS3.1/2, Error ellipse: s-maj=135.2km s-min=26.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.43**	**183**	P	P	02 24 29.7	+0.7
	0.9nm,0.7s,baz=6.6,slow=12,SNR=1.6						
	0.9nm,0.7s						
JOW	**Kunigami**	**23.31**	**4**	LR	LR	02 33 44.2	
	comp=Z,41nm,19.8s,baz=259,slow=36						
WRA	**Warramunga Arr**	**24.45**	**162**	P	P	02 24 58.9	-1.1
	0.8nm,0.6s,baz=340,slow=9.8,SNR=6.2						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**27.87**	**166**	P	P	02 25 31.6	+0.8
	0.2nm,0.4s,baz=337,slow=10,SNR=5.1						
	0.2nm,0.4s						
KLR	**Kul'dur**	**45.83**	**5**	LR	LR	02 51 24.2	
	comp=Z,26nm,18.0s,baz=247,slow=42						
MKAR	**Makanchi Array**	**57.72**	**325**	P	P	02 29 31.7	-0.1
	0.3nm,0.4s,baz=124,slow=7.9,SNR=4.5						
	0.3nm,0.4s						

---

*IDC **13** 02:20:44.7±1.4, 1°.37N×125°.49E, h0km, mb3.8/5, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=118.1km s-min=18.9km az=66.0*
*DJA **13** 02:20:54.5±0.4, 2°.N±3°.×12°.6E±°, h47km±37km, M4.0/7, mb3.9/1, MLv4.0/7*
ISC 13 02:20:52.2±1.0, 1°.48N±0°.07×126°.2E±0°.1, h54km, n9, σ1§58/10, mb3.9/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.29**	**343**	P	**Pn**	**02 21 29.1**	**+1.5**
SGSI				S	**Sn**	**02 21 55.4**	**+0.8**
KMSI	**Cibinong**	**2.40**	**248**	P	**Pn**	**02 21 30.3**	**+1.2**
SANI	**Sanana**	**3.52**	**184**	P	**Pn**	**02 21 45.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**19.47**	**182**	P	**P**	**02 25 13.7**	**-1.0**
	0.1nm,0.3s,baz=353,slow=10,SNR=2.5						
	2.2nm,1.0s						
WRA	**Warramunga Arr**	**22.74**	**160**	P	**P**	**02 25 49.6**	**-0.4**
	2.2nm,0.4s,baz=335,slow=11,SNR=11						
	2.2nm,0.4s						
ASAR	**Alice Springs**	**26.09**	**164**	P	**P**	**02 26 20.6**	**-0.5**
	0.7nm,0.6s,baz=338,slow=10,SNR=6.0						
	0.7nm,0.6s						
STKA	**Stephens Creek**	**36.25**	**158**	P	**P**	**02 27 51.6**	**+1.4**
	1.4nm,0.6s,baz=336,slow=9.0,SNR=3.5						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**59.11**	**326**	P	**P**	**02 30 45.2**	**-1.9**
	0.6nm,0.5s,baz=120,slow=7.7,SNR=7.3						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**63.35**	**328**	P	**P**	**02 31 13.6**	**-2.2**
	0.4nm,0.4s,baz=129,slow=5.8,SNR=5.1						
	0.4nm,0.4s						

---

*IDC **13** 02:29:42.4±0.7, 1°.57S×122°.83E, h0km, mb3.8/11, mbtmp3.9/13, ML3.8/2, Error ellipse: s-maj=33.8km s-min=14.1km az=69.0*
*NEIC **13** 02:29:46.4±1.6, 1°.83S±0°.06×122°.73E±0°.02, h10km±1km, mb4.4/10, Error ellipse: s-maj=10.2km s-min=4.0km az=188.0*
*DJA **13** 02:29:47.8±0.2, 2°.S±3°.×12°.3E±°, h10km, M4.7/16, mB5.2/1, mb4.9/1, MLv4.6/16, Mw(mB)4.5/1*
ISC 13 02:29:48.5±0.5, 1°.77S±0°.05×122°.66E±0°.06, h35km, n45, σ1§61/49, mb4.0/18, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.73**	**9**		**Pn**	**02 30 02.5**	**+0.1**
LUWI					**Sn**	**02 30 13.1**	**+0.8**
LUWI	**Luwuk**	**0.73**	**9**	P	**Pn**	**02 30 01.4**	**-0.9**
APSI	**Ampana**	**1.32**	**310**	P	**Pn**	**02 30 10.9**	**+0.5**
KMSI	**Cibinong**	**2.68**	**30**	P	**Pn**	**02 30 31.4**	**+2.3**
PCI	**Palu**	**2.94**	**287**	P	**Pn**	**02 30 34.0**	**+1.1**
SANI	**Sanana**	**3.34**	**95**	P	**Pn**	**02 30 42.1**	**+3.8**
TOLI2	**Tolitoli**	**3.42**	**327**		**Pn**	**02 30 41.3**	**+1.9**
MPSI	**Mapaga**	**3.46**	**307**	P	**Pn**	**02 30 40.8**	**+0.9**
SPSI	**Sidrap Palu**	**3.62**	**233**	P	**Pn**	**02 30 42.5**	**+0.4**
BNSI	**Bone**	**3.65**	**224**	P	**Pn**	**02 30 41.7**	**-0.9**
BBSI	**Bau Bau**	**3.70**	**181**	P	**Pn**	**02 30 46.7**	**+3.5**
KAPI	**Kappang**	**4.34**	**222**		**Pn**	**02 30 52.7**	**+0.7**
KAPI	**Kappang**	**4.34**	**222**	Pn	**Pn**	**02 30 52.2**	**+0.2**
	11nm,0.3s,baz=189,slow=1.9,SNR=13						
KAPI				Sn	**Sn**	**02 31 41.7**	**+0.3**
	17nm,0.3s,baz=159,slow=22,SNR=10						
	52nm,0.4s						
NLAI	**Namlea**	**4.67**	**108**	P	**Pn**	**02 30 59.0**	**+2.3**
BSSI	**Bau Bau, Buton**	**4.86**	**206**	P	**Pn**	**02 30 59.7**	**+0.6**
TNTI	**Ternate**	**5.34**	**62**	Pn	**Pn**	**02 31 05.6**	**-0.2**
MYLDM	**Lahad Datu**	**8.05**	**329**	Pn	**Pn**	**02 31 45.0**	**+1.9**
SOEI	**Soe**	**8.10**	**169**		Pn	02 31 50.6	+6.8
FAKI	**Fak Fak**	**9.65**	**97**	Pn	**Pn**	**02 32 03.8**	**-1.2**
KNRA	**Kununurra**	**15.08**	**157**	Pn	**Pn**	**02 33 18.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**16.49**	**170**		**P**	**02 33 39.7**	**0.0**
FITZ	**Fitzroy Crossi**	**16.49**	**170**	Pn	**Pn**	**02 33 37.0**	**-0.3**
	0.1nm,0.3s,baz=6.1,slow=13,SNR=5.4						
	1.2nm,0.8s						
WB0	**Warramunga Arr**	**21.26**	**148**	P	**P**	**02 34 31.8**	**-0.1**
WB0				IAmb	IAmb	02 34 40.4	
	comp=Z,10nm,1.0s						
WRA	**Warramunga Arr**	**21.37**	**148**	P	**P**	**02 34 33.1**	**0.0**
	comp=Z,1.0nm,0.6s,baz=330,slow=9.1,SNR=14						
	comp=Z,1.0nm,0.6s						
WB2	**Warramunga Arr**	**21.38**	**148**	P	**P**	**02 34 32.5**	**-0.7**
RPSI	**Rantau Prapat**	**24.14**	**281**		**P**	**02 35 01.5**	**0.0**
RPSI				IAmb	IAmb	02 35 09.8	
	comp=Z,14nm,1.2s						
ASAR	**Alice Springs**	**24.35**	**154**	P	**P**	**02 35 03.4**	**0.0**
	comp=Z,1.0nm,0.6s,baz=331,slow=8.2,SNR=14						
ASAR				PcP	**PcP**	**02 38 41.3**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=326,slow=2.3,SNR=1.5						
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.79**	**312**	P	**P**	**02 36 01.6**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=139,slow=7.1,SNR=12						
	comp=Z,1.6nm,0.6s						
CHTO	**Chiang Mai**	**31.01**	**312**		**P**	**02 36 04.3**	**+1.2**
CHTO				IAmb	IAmb	02 36 10.4	
	comp=Z,4.0nm,0.8s						
PZH	**PanZhiHua**	**34.60**	**326**	P	**P**	**02 36 37.5**	**+2.9**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.9s						
STKA	**Stephens Creek**	**34.87**	**151**	P	**P**	**02 36 36.2**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=311,slow=7.3,SNR=3.9						
	comp=Z,0.6nm,0.4s						
MJAR	**Matsushiro Arr**	**40.77**	**19**	P	**P**	**02 37 23.6**	**-2.8**
	comp=Z,1.6nm,0.6s,baz=188,slow=8.7,SNR=6.1						
	comp=Z,1.6nm,0.6s						
HHC	**Hu-ho-hao-te**	**43.60**	**348**	*e*P	**P**	**02 37 53.4**	**+3.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SONM	**Songino Array**	**51.40**	**346**	P	**P**	**02 38 49.3**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=151,slow=6.6,SNR=2.6						
SONM				PcP	**PcP**	**02 40 03.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=129,slow=0.9,SNR=2.6						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**59.93**	**329**	P	**P**	**02 39 51.7**	**+0.5**
MKAR	**Makanchi Array**	**59.93**	**329**	P	**P**	**02 39 50.2**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=129,slow=8.2,SNR=10						
MKAR				PcP	**PcP**	**02 40 36.3**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=118,slow=6.1,SNR=3.5						
	comp=Z,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**63.77**	**336**	P	**P**	**02 40 13.9**	**-2.9**
	comp=Z,0.7nm,0.7s,baz=145,slow=11,SNR=4.3						
	comp=Z,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**64.31**	**331**	P	**P**	**02 40 18.1**	**-2.3**
	comp=Z,0.9nm,0.8s,baz=140,slow=5.8,SNR=9.6						
	comp=Z,0.9nm,0.8s						
KURK	**Kurchatov**	**64.33**	**331**		**P**	**02 40 20.6**	**0.0**
KURK				IAmb	IAmb	02 40 21.5	
	comp=Z,2.3nm,0.8s						
BVAR	**Borovoye Array**	**69.81**	**329**	P	**P**	**02 40 53.4**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=107,slow=3.5,SNR=2.7						
	comp=Z,0.7nm,0.5s						
QSPA	**South Pole Qui**	**88.18**	**180**	P	**P**	**02 42 35.4**	**-0.4**
QSPA	**South Pole Qui**	**88.18**	**180**	P	**P**	**02 42 36.4**	**+0.6**
	comp=Z,1.4nm,1.1s,baz=345,slow=3.1,SNR=6.0						
	comp=Z,1.4nm,1.1s						
D20K	**Etivluk River**	**88.26**	**21**	P	**P**	**02 42 37.5**	**+1.5**
D20K				IAmb	IAmb	02 42 58.7	
	comp=Z,4.8nm,1.4s						
B21K	**Ikpikpuk River**	**89.10**	**20**	P	**P**	**02 42 41.4**	**+1.5**
TXAR	**Lajitas Array**	**128.15**	**53**	PKP	**PKPdf**	**02 48 49.6**	**-2.4**
	comp=Z,0.4nm,0.7s,baz=296,slow=3.5,SNR=2.3						

---

*SJA **13** 02:33:59.8±0.8, 21°.83S×66°.09W, h299km±9km, ML3.6, MW3.8*
*SCB **13** 02:34:04.4±0.9, 21°.70S×66°.17W, h252km±7km, ML3.7/3, MW3.1, Error ellipse: s-maj=5.6km s-min=4.7km az=0.0*
ISC 13 02:34:02.7±1.4, 21°.83S±0°.07×66°.19W±0°.06, h262km, n24, σ1§09/33, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.72**	**119**	*i* P	**Pn**	**02 34 39.6**	**+1.3**
YJA				IAML		02 35 11.1	
	comp=Z,4.9nm,0.7s						
YJA	**Yavi**	**0.72**	**119**	Pg	**Pn**	**02 34 39.5**	**+1.3**
MOCB	**Mochara**	**0.77**	**42**	Pg	**Pn**	**02 34 39.0**	**+0.5**
MOCB				Sg	**S**	**02 35 04.6**	**-2.1**
MOCB				IAML		02 35 06.8	
	comp=Z,127nm,0.4s						
PB09	**IPOC Station P**	**2.83**	**270**	*i* P	**Pn**	**02 34 55.5**	**+1.2**
PB09				IAML		02 35 39.1	
	comp=Z,80nm,0.2s						
PB09	**IPOC Station P**	**2.83**	**270**	Pg	**Pn**	**02 34 56.3**	**+1.9**
PB01	**IPOC Station P**	**3.17**	**284**	*i* P	**Pn**	**02 34 58.7**	**+0.9**
PB01				*e*S	**S**	**02 35 41.7**	**+0.1**
PB01				IAML		02 35 45.2	
	comp=Z,197nm,0.2s						
PB01	**IPOC Station P**	**3.17**	**284**	Pg	**Pn**	**02 34 59.4**	**+1.6**
PB01				Sg	**S**	**02 35 41.4**	**-0.2**
PB01				IAML		02 35 43.1	
	comp=Z,174nm,0.2s						
PB08	**IPOC Station P**	**3.24**	**301**	*i* P	**Pn**	**02 35 00.1**	**+1.2**
PB08				IAML		02 35 48.8	
	comp=Z

*IDC **13** 02:37:10.2±2.0, 17°.92S×178°.51W, h609km±21km, mb2.9/5, mbtmp3.8/6, Error ellipse: s-maj=40.5km s-min=24.0km az=144.0*

ISC 13 02:37:07.5±1.1, 17°.9S±0°.3×178°.5W±0°.3, h579km, n7, σ0°59/6, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.32**	**272**	P	P	02 38 31.9	+4.9
	22nm,0.8s,baz=140,slow=12,SNR=19						
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**02 44 29.3**	**-0.1**
	0.5nm,0.5s,baz=96,slow=7.3,SNR=8.2						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**02 44 31.1**	**+0.4**
	1.2nm,0.5s,baz=86,slow=9.0,SNR=20						
	1.2nm,0.5s						
QSPA	**South Pole Qui**	**72.19**	**180**	P	**P**	**02 47 34.1**	**-0.2**
	2.1nm,1.0s,baz=205,slow=0.7,SNR=3.2						
	2.1nm,1.0s						
ILAR	**Eielson Array**	**85.86**	**13**	P	**P**	**02 48 45.6**	**-0.6**
	0.2nm,0.4s,baz=209,slow=7.2,SNR=5.2						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**87.36**	**43**	P	**P**	**02 48 54.8**	**+0.7**
	0.3nm,0.7s,baz=239,slow=5.0,SNR=2.6						
	0.3nm,0.7s						
GERES	**GERESS Array B**	**147.55**	**345**	PKPbc	**PKPbc**	**02 55 47.2**	**-0.2**
	0.3nm,0.4s,baz=30,slow=3.2,SNR=4.4						

*IDC **13** 02:45:13.1±1.6, 24°.21S×179°.72E, h520km±16km, mb3.3/11, mbtmp4.2/14, Error ellipse: s-maj=20.5km s-min=13.1km az=78.0*

*NEIC **13** 02:45:14.2±1.2, 24°.25S±0°.07×179°.8E±0°.2, h528km±8km, mb4.1/11, Error ellipse: s-maj=24.7km s-min=8.0km az=103.0*

ISC 13 02:45:14.0±0.6, 24°.27S±0°.08×179°.6E±0°.1, h531km, n39, σ1°21/42, mb3.8/17, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.66**	**347**	P	**P**	**02 46 57.1**	**-1.1**
MSVF	**Nonsavu**	**6.66**	**347**	P	**P**	**02 46 56.8**	**-1.4**
	5.4nm,0.5s,baz=149,slow=12,SNR=6.8						
DZM	**Mont Dzumac**	**12.32**	**278**	P	**P**	**02 47 56.8**	**+0.8**
	13nm,1.0s,baz=114,slow=19,SNR=2.5						
URZ	**Urewera**	**14.11**	**188**	P	**P**	**02 48 13.8**	**-0.5**
	7.1nm,0.4s,baz=134,slow=2.3,SNR=9.4						
URZ				S	**S**	**02 50 39.7**	**-3.2**
	9.1nm,0.6s,baz=164,slow=22,SNR=12						
RTZ	**Ruatahuna**	**14.48**	**188**	P	**P**	**02 48 18.9**	**+0.6**
RPZ	**Rata Peaks**	**20.64**	**198**	P	**P**	**02 49 16.6**	**0.0**
	4.9nm,0.4s,baz=33,slow=5.6,SNR=5.4						
	4.9nm,0.4s						
AS31	**Alice Springs**	**41.64**	**261**	P	**P**	**02 52 16.9**	**+0.8**
AS31				IAmb	IAmb	02 52 19.2	
	comp=Z,1.4nm,0.4s						
ASAR	**Alice Springs**	**41.64**	**261**	P	**P**	**02 52 16.9**	**+0.8**
ASAR	**Alice Springs**	**41.64**	**261**	P	**P**	**02 52 16.6**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=93,slow=7.3,SNR=26						
ASAR				ScP	**ScP**	**02 57 01.3**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=105,slow=4.2,SNR=3.5						
ASAR				S	**S**	**02 57 54.8**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=101,slow=14,SNR=4.3						
	comp=Z,1.5nm,0.5s						
WB0	**Warramunga Arr**	**42.04**	**267**	P	**P**	**02 52 19.6**	**+0.4**
WB0				IAmb	IAmb	02 52 20.5	
	comp=Z,7.7nm,0.8s						
WRA	**Warramunga Arr**	**42.04**	**267**	P	**P**	**02 52 19.9**	**+0.6**
WRA	**Warramunga Arr**	**42.04**	**267**	P	**P**	**02 52 19.5**	**+0.3**
	comp=Z,4.8nm,0.5s,baz=97,slow=8.3,SNR=68						
WRA				ScP	**ScP**	**02 57 04.0**	**+2.1**
	comp=Z,0.7nm,1.0s,baz=101,slow=12,SNR=2.8						
WRA				S	**S**	**02 57 56.0**	**-4.2**
	comp=Z,0.6nm,0.9s,baz=92,slow=25,SNR=5.3						
	comp=Z,4.8nm,0.5s						
FAKI	**Fak Fak**	**50.36**	**287**	P	**P**	**02 53 22.7**	**+0.2**
FAKI				IAmb	IAmb	02 53 54.4	
	comp=Z,13nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.46**	**266**	P	**P**	**02 53 24.6**	**+1.4**
FITZ				IAmb	IAmb	02 53 25.6	
	comp=Z,0.8nm,0.6s						
VNDA	**Vanda**	**53.99**	**185**	P	**P**	**02 53 48.9**	**+1.4**
VNDA	**Vanda**	**53.99**	**185**	P	**P**	**02 53 48.6**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=6.8,slow=8.1,SNR=9.9						
	comp=Z,0.8nm,0.5s						
MORW	**Morawa**	**56.43**	**250**	P	**P**	**02 54 05.6**	**+0.3**
MORW				IAmb	IAmb	02 54 49.3	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**65.82**	**180**	P	**P**	**02 55 07.6**	**+1.1**
QSPA	**South Pole Qui**	**65.82**	**180**	P	**P**	**02 55 07.1**	**+0.7**
	comp=Z,5.7nm,0.6s,baz=325,slow=0.6,SNR=58						
	comp=Z,5.7nm,0.6s						
MJAR	**Matsushiro Arr**	**72.01**	**326**	P	**P**	**02 55 43.3**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=152,slow=5.3,SNR=4.5						
	comp=Z,0.8nm,0.5s						
BELA	**Belgrano 2**	**76.11**	**173**	P	**P**	**02 56 06.3**	**-0.3**
BELA				IAmb	IAmb	02 56 06.8	
	comp=Z,4.2nm,0.6s						
MAW	**Mawson**	**77.29**	**201**	P	**P**	**02 56 13.8**	**+0.6**
KSRS	**Korea Array**	**78.31**	**320**	P	**P**	**02 56 19.7**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=132,slow=7.2,SNR=2.2						
	comp=Z,0.7nm,0.6s						
PETK	**Petropavlovsk-**	**79.38**	**347**	P	**P**	**02 56 22.9**	**-1.5**
PETK	**Petropavlovsk-**	**79.38**	**347**	P	**P**	**02 56 24.2**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=116,slow=6.0,SNR=6.8						
	comp=Z,1.3nm,0.6s						
TROLL	**Troll, Antarti**	**83.96**	**181**	⇑P	**P**	**02 56 47.6**	**-0.3**
	comp=Z,209nm,0.3s						
SNAA	**Sanae**	**84.31**	**179**	P	**P**	**02 56 48.7**	**-0.9**
SNAA				IAmb	IAmb	02 57 18.0	
	comp=Z,6.5nm,1.3s						
SNAA	**Sanae**	**84.31**	**179**	⇑P	**P**	**02 56 48.6**	**-0.9**
	comp=Z,26nm,0.5s						
SNAA	**Sanae**	**84.31**	**179**	P	**P**	**02 56 48.6**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=200,slow=12,SNR=13						
	comp=Z,1.0nm,0.5s						
VNA3	**Neumayer Olymp**	**84.53**	**177**	⇑P	**P**	**02 56 49.5**	**-1.1**
	comp=Z,1.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**89.33**	**290**	P	**P**	**02 57 15.4**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=106,slow=4.6,SNR=4.1						
	comp=Z,0.4nm,0.3s						
TXAR	**Lajitas Array**	**90.91**	**58**	P	**P**	**02 57 21.6**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=222,slow=7.0,SNR=7.1						
	comp=Z,0.6nm,0.7s						
Q24A	**Divide**	**94.27**	**49**	P	**P**	**02 57 36.9**	**0.0**
FINES	**FINESS Array B**	**138.68**	**341**	SKPbc	**SKPbc**	**03 06 23.1**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=55,slow=5.3,SNR=6.8						
HFS	**Hagfors**	**142.84**	**348**	PKhKP	PKPpre	03 03 42.6	
	comp=Z,1.6nm,0.4s,baz=50,slow=2.3,SNR=23						
PABE	**Paberze**	**144.01**	**336**	PKPbc	PKPbc	03 03 47.5	-0.4
AKASG	**Malin Array Be**	**145.09**	**327**	PKPbc	**PKPdf**	**03 03 50.1**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=47,slow=3.6,SNR=6.9						
BRTR	**Keskin Array B**	**147.52**	**307**	PKPbc	**PKPbc**	**03 03 58.8**	**0.0**
	comp=Z,0.8nm,0.5s,baz=78,slow=1.8,SNR=6.7						
BURAR	**Bucovina Array**	**149.08**	**325**	PKPbc	**PKiKP**	**03 04 03.2**	**0.0**

*TRN **13** 03:11:10.3, 10°.06N×61°.88W, h76km, MD3.5, Near South-west Peninsula of Trinidad.*

*FUNV **13** 03:11:14.4, 10°.54N×62°.38W, h5km, MW3.3*

ISC 13 03:11:09.2±1.5, 10°.03N±0°.10×62°.05W±0°.08, h28km, n11, σ2°17/17, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.82**	**39**	*eP*	**Pn**	**03 11 25.5**	**+0.6**
PSGH	**Port of Spain**	**0.83**	**40**	*eP*	**Pn**	**03 11 25.1**	**+0.1**
TRN	**Trinidad (W)**	**0.89**	**46**	*eP*	**Pb**	**03 11 27.3**	**+1.3**
GRFF	**Grenada Fort F**	**2.03**	**9**	*eP*	**Pn**	**03 11 41.8**	**+0.1**
GRFF				*eS*	**Sn**	**03 12 05.2**	**-0.9**
GRGR	**Grenville**	**2.13**	**11**	*eP*	**Pn**	**03 11 43.1**	**+0.2**
GRGR				*eS*	**Sn**	**03 12 07.4**	**-1.1**
GCMP	**Grenada, Carri**	**2.52**	**14**	*eP*	**Pn**	**03 11 49.0**	**+0.7**
GCMP				*eS*	**Sn**	**03 12 16.8**	**-1.2**
PCRV	**Puerto La Cruz**	**2.55**	**274**	*eS*	**Sb**	**03 12 23.0**	**-2.2**
CACV	**CAICARA DEL OR**	**5.06**	**241**	*eP*	**Pn**	**03 12 23.8**	**+0.4**
CACV				*eS*	**Sn**	**03 13 15.8**	**-5.1**
BENV	**Beln**	**5.46**	**270**	*eP*	**Pn**	**03 12 31.2**	**+2.3**
BAUV	**El Baul**	**6.00**	**260**	*eP*	**Pn**	**03 12 39.6**	**+3.3**
BAUV				*eS*	**Sn**	**03 13 42.2**	**-1.9**
BAUV	**El Baul**	**6.00**	**260**	*eP*	**Pn**	**03 12 39.0**	**+2.8**
BAUV				*eS*	**Sn**	**03 13 44.8**	**+0.7**

*IDC **13** 03:23:02.0±1.0, 35°.86N×137°.84E, h0km, mb3.4/4, mbtmp3.6/8, ML3.5/4, MS1.9/1, Error ellipse: s-maj=31.2km s-min=9.2km az=114.0*

*NIED **13** 03:23:03.2, 35°.95N×137°.70E, h9km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.45; $M_{\theta\theta}$1.85; $M_{\phi\phi}$-3.29; $M_{r\theta}$-1.89; $M_{\theta\phi}$-1.40; $M_{\phi r}$1.55; Fault plane solution: M_{o}4.01000×10^{14} NP1: ϕ_s231.00000°, δ52.00000°, λ157.00000°. NP2: ϕ_s336.00000°, δ72.00000°, λ41.00000°.*

*JMA **13** 03:23:03.2±0.0, 36°.0N±0°.1×137°.7E±0°.1, h9km, MD4.1/20, MV3.9/20, WESTERN NAGANO PREF*

JMA Felt III J1 at WESTERN NAGANO PREF .

ISC 13 03:23:02.3±1.4, 35°.91N±0°.04×137°.76E±0°.04, h1km±12km, n23, σ0°78/24, mb3.5/4, 12D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNT	**Takato**	**0.31**	**96**	⇓*i*P	**Pb**	**03 23 10.2**	**-0.5**
JNT				⇓*e*S	**Sb**	**03 23 15.4**	**-1.0**
JGN	**Niukaw**	**0.48**	**311**	⇓*i*P	**Pg**	**03 23 11.3**	**-0.1**
JGN				⇓S	**Sg**	**03 23 16.6**	**-1.0**
JNY	**Yasuok**	**0.56**	**171**	A	A	03 23 14.8	
	comp=N,13nm,0.3s,comp=E,12nm,0.4s						
JNG	**Nsakai**	**0.57**	**29**	A	A	03 23 14.1	
	comp=N,4.0nm,0.6s,comp=E,7.0nm,1.1s						
MAT	**Matsushiro**	**0.73**	**30**	*i* P	**Pg**	**03 23 16.6**	**+0.4**
MJAR	**Matsushiro Arr**	**0.73**	**30**	Pg	**Pg**	**03 23 16.7**	**+0.5**
	comp=E,15nm,0.3s,baz=220,slow=18,SNR=488						
MJAR				Lg	Lg	03 23 26.1	
	comp=E,48nm,0.3s,baz=218,slow=29,SNR=92						
JYN	**Shimob**	**0.76**	**123**	⇓*i*P	**Pb**	**03 23 18.9**	**+0.6**
JYN				⇓S	**Sb**	**03 23 29.7**	**+0.5**
JTT	**Ttatey**	**0.77**	**334**	⇓*i*P	**Pg**	**03 23 17.4**	**+0.3**
JTT				⇓S	**Sg**	**03 23 27.2**	**0.0**
JYTA	**Yamagatataniai**	**0.89**	**250**	⇓*i*P	**Pg**	**03 23 19.4**	**+0.1**
JYTA				⇓S	**Sg**	**03 23 30.5**	**-0.4**
SHZ3	**Shizuoka 3**	**0.92**	**156**	*i* P	**Pb**	**03 23 21.2**	**+0.1**
SHZ3				S	**Sb**	**03 23 33.9**	**+0.1**
SHZ3	**Shizuoka 3**	**0.92**	**156**	A	A	03 23 21.2	
	comp=N,13nm,0.6s,comp=E,12nm,0.8s						
JRY	**Ryogami san**	**0.93**	**83**	⇓*i*P	**Pb**	**03 23 21.2**	**-0.1**
JRY				⇓S	**Sb**	**03 23 33.8**	**-0.4**
JICN	**Ichinomiyachia**	**0.96**	**231**	A	A	03 23 21.2	
	comp=N,8.0nm,0.4s,comp=E,8.0nm,0.3s						
JSG	**Sagara**	**1.28**	**164**	A	A	03 23 27.6	
	comp=N,10.0nm,1.4s,comp=E,7.0nm,1.3s						
JHTM	**Izuhatsuma**	**1.39**	**133**	A	A	03 23 29.6	
	comp=N,15nm,0.7s,comp=E,23nm,1.1s						
JHJ	**Hachijo jima 2**	**3.25**	**148**	Pn	**Pn**	**03 23 54.6**	**+0.2**
	comp=E,8.2nm,0.3s,baz=22,slow=19,SNR=1.0						
	comp=E,193nm,1.0s						
JNU	**Nakatsue**	**6.32**	**246**	Pn	**Pn**	**03 24 37.9**	**+1.2**
	comp=E,1.5nm,0.3s,baz=52,slow=4.0,SNR=12						
	comp=E,14nm,0.6s						
KSRS	**Korea Array**	**8.05**	**284**	Pn	**Pn**	**03 25 01.4**	**+1.0**
	comp=E,0.6nm,0.3s,baz=97,slow=15,SNR=4.5						
KSRS				LR	LR	03 28 08.7	
	comp=E,9.0nm,20.2s,baz=105,slow=38						
	comp=E,0.9nm,0.4s						
ASAJ	**Asahikawa**	**8.99**	**23**	Pn	**Pn**	**03 25 12.8**	**-0.5**
	comp=E,0.7nm,0.3s,baz=187,slow=16,SNR=1.7						
	comp=E,2.0nm,0.3s						
ILAR	**Eielson Array**	**52.01**	**32**	P	**P**	**03 32 14.2**	**+1.2**
	comp=E,0.3nm,0.8s,baz=284,slow=7.0,SNR=4.1						
	comp=E,0.3nm,0.8s						
WRA	**Warramunga Arr**	**55.64**	**184**	P	**P**	**03 32 38.1**	**-1.8**
	comp=E,0.4nm,0.6s,baz=340,slow=8.0,SNR=5.1						
	comp=E,0.4nm,0.6s						
ASAR	**Alice Springs**	**59.37**	**184**	P	**P**	**03 33 05.2**	**-1.0**
	comp=E,0.4nm,0.7s,baz=2.3,slow=12,SNR=4.6						
	comp=E,0.4nm,0.7s						
PDAR	**Pinedale Array**	**80.53**	**44**	P	**P**	**03 35 16.7**	**+0.2**
	comp=E,0.3nm,0.8s,baz=311,slow=7.7,SNR=3.8						
	comp=E,0.3nm,0.8s						

*IDC **13** 03:43:55.8±1.3, 1°.37S×77°.68W, h180km±12km, mb4.0/18, mbtmp4.6/25, MS3.6/6, Error ellipse: s-maj=14.4km s-min=8.5km az=69.0*

*IGQ **13** 03:43:55.3±0.5, 2°.5±3°.×7°.8W±°., h178km±3km, MLv4.3/30*

*NEIC **13** 03:43:56.8±1.7, 1°.39S±0°.07×77°.74W±0°.09, h175km±7km, mb4.8/464, Error ellipse: s-maj=13.1km s-min=9.4km az=71.0*

*VAO **13** 03:43:56.0±0.5, 1°.35S×77°.68W, h173km, mb4.5*

*GCMT **13** 03:43:57.8±0.4, 1°.49S±0°.02×77°.86W±0°.02, h184km±3km, MWs5.0/83, Moment Tensor Solution. s24,c28; s83,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.90±.12; $M_{\theta\theta}$0.98±.13; $M_{\phi\phi}$0.92±.15; $M_{r\theta}$1.49±.10; $M_{\theta\phi}$-1.95±.10; $M_{\phi r}$-1.72±.11; Best double couple: M_{o}3.31100×10^{16} NP1:ϕ_s127.00000°, δ24.00000°, λ-101.00000°. NP2: ϕ_s319.00000°, δ67.00000°, λ-85.00000°. Principal axes: T 3.8040, Plg22.0000°, Azm45.0000°; N -0.9860, Plg5.0000°, Azm137.0000°; P -2.8180, Plg68.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 03:43:55.7±0.4, 1°.43S±0°.03×77°.82W±0°.05, h180km±3km, h180km:pP-P, n754, σ1°36/604, mb4.8/241, 24C-66D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APUY	**Puyo**	**0.18**	**259**	⇓P	**Pn**	**03 44 19.3**	**-0.3**
APUY				S	**Sn**	**03 44 37.6**	**-0.3**
PUYO	**Puyo, Santa Ro**	**0.21**	**252**	S	**Sn**	**03 44 38.3**	**+0.1**
PUYO				⇓P	**Pn**	**03 44 19.3**	**-0.4**
ATEN	**Tena**	**0.42**	**2**	⇓P	**Pn**	**03 44 19.3**	**-0.9**
ARDO	**Archidona, Ten**	**0.43**	**3**	⇓P	**Pn**	**03 44 19.7**	**-0.6**
BULB	**Ulba Tungurahu**	**0.59**	**269**	⇑P	**Pn**	**03 44 20.6**	**-0.7**
BULB				S	**Sn**	**03 44 40.3**	**-0.6**
BPAT	**Tungurahua Vol**	**0.62**	**263**	⇑P	**Pn**	**03 44 20.9**	**-0.7**
BPAT				S	**Sn**	**03 44 39.9**	**-1.5**
POND	**Pondoa**	**0.63**	**270**	⇑P	**Pn**	**03 44 20.6**	**-0.9**
POND				S	**Sn**	**03 44 40.5**	**-0.8**
ARRY	**Arrayan**	**0.64**	**263**	⇑P	**Pn**	**03 44 20.4**	**-1.2**
ARRY				S	**Sn**	**03 44 40.5**	**-0.8**
JUI6	**Juive**	**0.65**	**270**	⇑P	**Pn**	**03 44 20.6**	**-0.9**
JUI6				S	**Sn**	**03 44 41.0**	**-0.2**
BBIL	**Ulba Tungurahu**	**0.67**	**268**	⇑P	**Pn**	**03 44 20.8**	**-0.8**
PIS1	**Pisayambo**	**0.67**	**303**	⇓P	**Pn**	**03 44 21.5**	**-0.4**
IGUA	**Igualata**	**0.82**	**266**	⇑P	**Pn**	**03 44 21.8**	**-1.1**
VCES	**Cotopaxi**	**0.84**	**317**	⇓P	**Pn**	**03 44 23.0**	**0.0**
ASLC	**Ecuador-Salced**	**0.86**	**297**	P	**Pn**	**03 44 22.7**	**-0.1**
TAMB	**Tambo**	**0.91**	**323**	⇓P	**Pn**	**03 44 23.1**	**-0.2**
BRRN	**Barrancas-Volc**	**0.91**	**314**	⇓P	**Pn**	**03 44 22.9**	**-0.4**
BMOR	**Cotopaxi Volca**	**0.94**	**317**	⇓P	**Pn**	**03 44 23.4**	**-0.2**
BTAM	**Cotopaxi Volca**	**0.94**	**322**	⇓P	**Pn**	**03 44 23.4**	**-0.2**
PORT	**Chimborazo Vol**	**0.95**	**268**	⇑P	**Pn**	**03 44 23.4**	**-0.3**
TAMH	**Tambohuasha Ch**	**0.96**	**263**	⇑P	**Pn**	**03 44 23.1**	**-0.5**
BVC2	**Cotopaxi Volca**	**0.96**	**322**	⇓P	**Pn**	**03 44 23.6**	**-0.2**
SLOR	**San Lorenzo -**	**0.97**	**316**	⇓P	**Pn**	**03 44 23.2**	**-0.5**
ANTM	**Antisana-La Mi**	**0.97**	**336**	⇓P	**Pn**	**03 44 23.7**	**-0.1**
VC1	**Cotopaxi 1**	**0.97**	**323**	⇓P	**Pn**	**03 44 23.8**	**-0.1**
BREF	**Cotopaxi Volca**	**0.97**	**321**	⇓P	**Pn**	**03 44 24.1**	**+0.1**
ANTS	**Antisana-Sarah**	**0.99**	**339**	⇓P	**Pn**	**03 44 23.9**	**-0.1**
BNAS	**Cotopaxi Volca**	**1.00**	**319**	⇓P	**Pn**	**03 44 25.0**	**+1.0**
SRAM	**San Ramn-Vol**	**1.00**	**312**	⇓P	**Pn**	**03 44 23.7**	**-0.2**
NAS2	**Nasa**	**1.01**	**320**	⇑P	**Pn**	**03 44 24.4**	**+0.4**
CAMI	**Rancho Maria**	**1.01**	**317**	⇑P	**Pn**	**03 44 24.0**	**0.0**
ANTG	**Antisana-Guama**	**1.01**	**335**	⇓P	**Pn**	**03 44 24.0**	**-0.1**
ANTI	**Antisana**	**1.03**	**341**	⇓P	**Pn**	**03 44 24.3**	**0.0**
SUCR	**Mariscal Sucre**	**1.03**	**319**	⇓P	**Pn**	**03 44 24.4**	**+0.2**
CHSH	**Refugio Sur-Vo**	**1.05**	**266**	⇑P	**Pn**	**03 44 23.4**	**-1.0**
PITA	**Cotopaxi Volc**	**1.06**	**325**	⇓P	**Pn**	**03 44 24.2**	**-0.2**
PAST	**Pastocalle**	**1.09**	**312**	P	**Pn**	**03 44 24.7**	**0.0**
TOMA	**Boca Toma-Volc**	**1.11**	**326**	⇓P	**Pn**	**03 44 24.8**	**+0.1**
ILLI	**Illinizas Sur**	**1.15**	**308**	⇓P	**Pn**	**03 44 24.6**	**-0.5**
JSCH	**Cashca Tororas**	**1.19**	**256**	⇑P	**Pn**	**03 44 24.4**	**-0.9**
AGRD	**Ecuador-Guaran**	**1.19**	**263**	P	**Pn**	**03 44 24.3**	**-1.0**
TING	**Casa Alexandra**	**1.30**	**331**	⇓P	**Pn**	**03 44 26.3**	**+0.1**
REVS	**Reventador Sur**	**1.33**	**9**	⇓P	**Pn**	**03 44 26.4**	**+0.1**
LAV4	**Lava4-Reventad**	**1.34**	**8**	⇓P	**Pn**	**03 44 26.5**	**0.0**
GGPT	**Toaza - Volcan**	**1.44**	**326**	⇓P	**Pn**	**03 44 26.9**	**-0.6**
JUA2	**San Juan 2**	**1.44**	**327**	⇓P	**Pn**	**03 44 27.0**	**-0.6**
CAYR	**Refugio Cayamb**	**1.44**	**353**	P	**Pn**	**03 44 28.0**	**+0.2**
HPAL	**Hacienda Las P**	**1.46**	**325**	⇓P	**Pn**	**03 44 27.2**	**-0.4**
GGPC	**Guagua Pichinc**	**1.46**	**328**	⇓P	**Pn**	**03 44 27.4**	**-0.5**
TERV	**Terraza Guagua**	**1.47**	**328**	⇓P	**Pn**	**03 44 27.5**	**-0.5**
ANGU	**Angureal**	**1.48**	**353**	⇓P	**Pn**	**03 44 28.3**	**+0.2**
PINO	**Pino**	**1.48**	**328**	⇓P	**Pn**	**03 44 27.6**	**-0.5**
CAYA	**Cayambe**	**1.50**	**354**	⇓P	**Pn**	**03 44 28.7**	**+0.5**
YANA	**Yana**	**1.50**	**330**	⇓P	**Pn**	**03 44 27.6**	**-0.6**
PULU	**Pululahua**	**1.59**	**335**	⇓P	**Pn**	**03 44 28.3**	**-0.7**
CASC	**Dorado de Casc**	**1.63**	**17**	⇓P	**Pn**	**03 44 29.1**	**+0.1**
AZOG	**Ecuador-Azogue**	**1.67**	**218**	P	**Pn**	**03 44 28.7**	**-0.9**
AQUE	**Quevedo**	**1.71**	**283**	⇑P	**Pn**	**03 44 28.2**	**-1.5**
IMBA	**Imbabura, San**	**1.73**	**347**	⇓P	**Pn**	**03 44 31.1**	**+0.7**
ASDO	**Santo Domingo**	**1.74**	**312**	P	**Pn**	**03 44 29.7**	**-0.4**
COHC	**Cochancay**	**1.77**	**234**	⇑P	**Pn**	**03 44 28.0**	**-2.3**
COHC	**Cochancay**	**1.77**	**234**	P	**Pn**	**03 44 27.7**	**-2.5**
COHC				S	**Sn**	**03 44 54.0**	**-3.0**
OTAV	**Otavalo**	**1.77**	**339**		**Pn**	**03 44 30.0**	**-0.7**
OTAV	**Otavalo**	**1.77**	**339**	⇓P	**Pn**	**03 44 30.1**	**-0.7**
OTAV	**Otavalo**	**1.77**	**339**	*eP*	**Pn**	**03 44 30.1**	**-0.7**
OTAV	**Otavalo**	**1.77**	**339**	P	**Pn**	**03 44 29.9**	**-0.9**
OTAV				S	**Sn**	**03 44 56.8**	**-1.2**
CUSW	**Cuicocha Oeste**	**1.78**	**343**	⇓P	**Pn**	**03 44 32.7**	**+1.9**
CUIC	**Cuicocha-Domo**	**1.80**	**343**	⇓P	**Pn**	**03 44 30.8**	**-0.2**
YAHU	**Yahuarcocha**	**1.80**	**352**	⇓P	**Pn**	**03 44 31.2**	**+0.1**
CUSE	**Cuicocha Este**	**1.81**	**341**	⇓P	**Pn**	**03 44 30.9**	**-0.4**
CUSE	**Cuicocha Este**	**1.81**	**341**	P	**Pn**	**03 44 30.7**	**-0.6**
CUSE				S	**Sn**	**03 44 59.5**	**+0.7**
COTA	**Cotacachi**	**1.82**	**344**	⇓P	**Pn**	**03 44 31.4**	**0.0**
ACUE	**Ecuador-Cuenca**	**1.86**	**218**	⇑P	**Pn**	**03 44 30.0**	**-1.6**
APR2	**Miler**	**1.88**	**322**	P	**Pn**	**03 44 31.3**	**-0.3**
URCU	**Urcuqui**	**1.90**	**347**	⇓P	**Pn**	**03 44 32.1**	**0.0**
MILO	**Milagro-Astudi**	**1.93**	**244**	⇑P	**Pn**	**03 44 28.7**	**-3.3**
PAC1	**Pacto, Paraso**	**1.94**	**330**	⇓P	**Pn**	**03 44 31.4**	**-0.8**
PAC1	**Pacto, Paraso**	**1.94**	**330**	P	**Pn**	**03 44 31.2**	**-1.1**
PAC1				S	**Sn**	**03 45 00.8**	**+0.1**
PU05	**PU05**	**2.00**	**237**	⇑P	**Pn**	**03 44 29.9**	**-2.8**
PU06	**PU06**	**2.06**	**241**	⇑P	**Pn**	**03 44 30.2**	**-3.1**
BV15	**Puerto Quito-O**	**2.11**	**318**	⇓P	**Pn**	**03 44 32.1**	**-1.8**
TULM	**Tulcn-Chalpat**	**2.13**	**1**	⇓P	**Pn**	**03 44 35.0**	**+0.3**
TULM	**Tulcn-Chalpat**	**2.13**	**1**	P	**Pn**	**03 44 34.6**	**-0.1**
TULM				S	**Sn**	**03 45 04.3**	**-0.7**
LNGL	**El Angel-Carch**	**2.16**	**355**	⇓P	**Pn**	**03 44 35.5**	**+0.4**
PU04	**PU04**	**2.16**	**235**	⇑P	**Pn**	**03 44 31.5**	**-3.1**
ATUL	**Tulcn**	**2.19**	**3**	P	**Pn**	**03 44 36.1**	**+0.9**
GYE3	**Ecuador-Guayaq**	**2.20**	**251**	P	**Pn**	**03 44 31.5**	**-3.4**
CHL1	**Volc¡n Chiles**	**2.21**	**357**	⇓P	**Pn**	**03 44 35.9**	**+0.3**
CHL2	**Volc¡n Chiles**	**2.21**	**358**	⇓P	**Pn**	**03 44 36.2**	**+0.6**
AGUAY	**Guayaquil**	**2.22**	**254**	P	**Pn**	**03 44 31.7**	**-3.4**
ECEN	**Cerro Negro**	**2.24**	**356**	P	**Pn**	**03 44 36.1**	**+0.1**
CHMA	**Chilma**	**2.29**	**354**	⇓P	**Pn**	**03 44 36.3**

2µm213nm,0.8s
SGC2 Sao Gabriel da 10.92 83 P Pn 03 46 24.4 -2.9
26nm,0.8s
BRU2 Volcan 11.25 335 Pn 03 46 32.5 +0.7
SJCC San Jacinto, C 11.55 13 P Pn 03 46 34.5 -1.0
2µm262nm,1.1s
ARGC Ariguani, Magd 11.76 18 P Pn 03 46 36.6 -1.6
96nm,0.6s
SDV Santo Domingo 12.50 35 Pn 03 46 47.1 -0.7
SDV Santo Domingo 12.50 35 P Pn 03 46 47.0 -0.8
25nm,0.5s,baz=240,slow=8.6,SNR=28
SDV LR LR 03 52 51.4
comp=Z,127nm,18.4s,baz=247,slow=43
SDV Santo Domingo 12.50 35 P Pn 03 46 46.4 -1.4
699nm50nm,0.7s
SDV Santo Domingo 12.50 35 eP Pn 03 46 46.8 -1.0
SMRC Santa Marta, M 13.01 16 Pn 03 46 54.1 0.0
SMRC Santa Marta, M 13.01 16 P Pn 03 46 51.1 -3.0
107nm,0.9s
CRJC Cerrejon, Guaj 13.30 22 P Pn 03 46 55.5 -2.4
3µm340nm,0.8s
TEFE Tefe 13.34 99 eP Pn 03 46 57.2 -1.0
SOCE Pocosol 13.54 330 P P 03 47 04.0 +0.2
JTS Las Juntas de 13.63 329 P 03 47 04.3 -0.6
JTS Las Juntas de 13.63 329 P Pn 03 47 03.3 +1.4
43nm,0.8s,baz=184,slow=23,SNR=13
JTS LR LR 03 51 30.3
comp=Z,132nm,19.7s,baz=287,slow=33
JTS Las Juntas de 13.63 329 P Pn 03 47 02.2 +0.3
58nm,0.9s
BAUV El Baul 14.18 43 P Pn 03 47 06.6 -2.2
URIC Uribia, Colomb 14.27 24 P Pn 03 47 06.9 -3.0
2µm239nm,0.7s
BLUN Bluefields 14.60 336 P P 03 47 15.0 -0.5
1µm29nm,1.1s
ESPN Las Esperanzas 14.98 335 P P 03 47 20.1 +0.3
ESPN Las Esperanzas 14.98 335 P P 03 47 19.5 -0.3
757nm56nm,0.9s
ACON Acoyapa 15.18 331 P P 03 47 22.2 +0.3
SAML Samuel 16.37 118 P P 03 47 33.6 -1.6
SAML Samuel 16.37 118 eP P 03 47 33.9 -1.3
MACA Manacapuru-AM 17.21 96 P P 03 47 44.4 0.0
MACA Manacapuru-AM 17.21 96 eP P 03 47 43.8 -0.6
PCRV Puerto La Cruz 17.47 48 P P 03 47 47.7 +0.5
42nm,1.0s,baz=349,slow=3.3,SNR=12
LPAZ La Paz 17.59 148 P Pn 03 47 50.5 -0.2
7.4nm,0.5s,baz=344,slow=3.3,SNR=64
LPAZ La Paz 17.59 148 P P 03 47 48.9 -0.2
17nm,1.3s
LPAZ La Paz 17.59 148 eP Pn 03 47 49.9 -0.7
BOAV Boa Vista 17.71 78 P P 03 47 50.2 +0.4
BOAV Boa Vista 17.71 78 P P 03 47 48.1 -1.7
536nm14nm,1.9s
BOAV Boa Vista 17.71 78 eP P 03 47 50.1 +0.3
TGUH Tegucigalpa,Un 18.01 329 P Pn 03 47 54.7 -0.5
PB12 IPOC Station P 18.60 157 P P 03 48 00.3 +0.8
MTDJ Mount Denham 19.53 1 P Pn 03 48 11.9 -1.2
MTDJ Mount Denham 19.53 1 P P 03 48 08.4 -1.3
2µm97nm,0.9s
PB11 IPOC Station P 19.90 157 P P 03 48 14.7 +1.0
GO01 Chusmiza 20.00 156 P P 03 48 16.5 +1.3
TA02 Huaiquique 20.18 159 P P 03 48 17.2 +0.7
SDDR Presa de Saban 21.27 17 P P 03 48 36.4 +8.2
GTBY Guantanamo Bay 21.39 7 P P 03 48 30.9 +1.6
SC01 Santiago de lo 21.86 18 P P 03 48 34.9 +0.6
PB09 IPOC Station P 21.90 158 P P 03 48 36.0 +1.1
SIV San Ignacio 21.96 132 P P 03 48 35.4 +0.1
4.5nm,0.6s,baz=305,slow=10,SNR=27
4.5nm,0.6s
ITTB Itaituba 22.25 98 eP P 03 48 37.5 -0.7
CELP Cerrillos 22.32 29 P P 03 48 38.5 -0.2
CELP IAmb IAmb 03 48 50.0
comp=Z,74nm,1.6s
AOPR Arecibo Observ 22.46 29 P P 03 48 39.3 -0.8
AOPR IAmb IAmb 03 48 47.7
comp=Z,32nm,0.7s
CCIG Comitan 22.57 322 P P 03 48 42.2 +0.9
CCIG IAmb IAmb 03 48 43.5
comp=Z,47nm,1.1s
NPGB Novo Progresso 23.08 105 eP P 03 48 44.7 -1.0
PTLB Pontes e Lacer 23.11 128 P P 03 48 46.9 +1.0
PTLB Pontes e Lacer 23.11 128 eP P 03 48 46.8 +0.9
PDRB Porto dos Gac 23.25 117 eP P 03 48 47.0 -0.2
MAL2 Monte Alegre, 23.64 92 P P 03 48 50.8 -0.1
MAL2 IAmb IAmb 03 48 52.9
comp=Z,37nm,0.8s
PB14 IPOC Station P 24.15 163 P P 03 48 56.6 +0.8
PB14 IAmb IAmb 03 49 00.5
comp=Z,50nm,1.5s
SALV Santo Antonio 26.13 125 eP P 03 49 14.6 +1.3
TLIG Tlapa 27.82 314 P P 03 49 30.7 +2.2
TLIG IAmb IAmb 03 49 31.4
comp=Z,15nm,0.8s
SNDB Serra Nova Dou 28.32 113 eP P 03 49 33.0 +0.1
AQDB Aquidauana 28.73 133 P P 03 49 37.3 +0.9
ARAG Araguaiana, MT 29.31 120 eP P 03 49 42.3 +0.7
CO01 Juntas del Tor 29.33 166 P P 03 49 43.4 +1.5
656A Willston 30.95 352 P P 03 49 57.1 +1.2
656A IAmb IAmb 03 49 57.4
comp=Z,28nm,0.9s
SMTB Santa Maria do 30.98 105 eP P 03 49 56.2 -0.2
CFA Coronel Fontan 31.35 164 P P 03 50 00.6 +1.1
comp=Z,0.6nm,0.3s,baz=7.1,slow=9.3,SNR=5.2
comp=Z,0.6nm,0.3s
CPUP Villa Florida 31.65 143 P P 03 50 02.1 +0.1
comp=Z,0.7nm,0.4s,baz=323,slow=8.7,SNR=3.9
comp=Z,0.7nm,0.4s
BDFB Brasilia 32.61 117 P P 03 50 11.2 +0.4
BDFB Brasilia 32.61 117 P P 03 50 10.5 -0.3
comp=Z,4.2nm,0.4s,baz=289,slow=7.8,SNR=14
comp=Z,4.2nm,0.4s
MT08 Bocatoma Ro 32.68 168 P P 03 50 13.4 +2.1
MT08 IAmb IAmb 03 50 14.8
comp=Z,28nm,1.2s
MT13 San Alfonso 32.92 168 IAmb IAmb 03 50 16.2
comp=Z,30nm,1.3s
LMEL Las Melosas 33.03 168 P P 03 50 15.3 +1.1
IPMB Ipameri, GO 33.41 121 eP P 03 50 18.0 +0.4
ITQB Itaqui 34.58 146 eP P 03 50 28.5 +1.1
HBVL Hebbronville 34.72 326 IAmb IAmb 03 50 31.6
comp=Z,27nm,0.9s
LRAL Lakeview Retre 35.35 347 IAmb IAmb 03 50 34.5
comp=Z,14nm,0.7s
JANB Januaria 35.74 114 eP P 03 50 37.6 -0.1
Z47A Carrollton 35.77 345 IAmb IAmb 03 50 38.2
comp=Z,31nm,1.0s
NATX Nacogdoches 36.67 336 IAmb IAmb 03 50 46.0
comp=Z,17nm,0.8s
435B Jarrell 37.15 331 IAmb IAmb 03 50 51.2
comp=Z,18nm,0.7s
U56A King 37.66 357 IAmb IAmb 03 50 54.8
comp=Z,26nm,1.0s
WLAR White Oak Lake 37.78 339 IAmb IAmb 03 50 55.4
comp=Z,17nm,0.7s
JCT Junction City 38.02 328 P P 03 50 57.7 +1.0
JCT IAmb IAmb 03 50 58.8
comp=Z,19nm,0.8s
WHTX Lake Whitney, 38.09 332 IAmb IAmb 03 50 58.6
comp=Z,26nm,0.7s
TREL Terrell 38.11 335 IAmb IAmb 03 50 58.8
comp=Z,24nm,0.7s
T59A Double "B" Far 38.20 0 IAmb IAmb 03 50 59.8
comp=Z,28nm,1.2s
BRDY Brady 38.25 330 P P 03 50 59.1 +0.5
BRDY IAmb IAmb 03 51 00.5
comp=Z,14nm,0.7s
T57A Hurt 38.25 358 IAmb IAmb 03 50 59.7
comp=Z,21nm,0.8s
FW13 Cleburne 38.38 333 IAmb IAmb 03 51 00.9
comp=Z,24nm,0.7s
UALR University of 38.50 341 IAmb IAmb 03 51 00.9
comp=Z,24nm,0.8s
WVT Waverly 38.51 347 P P 03 50 59.1 -1.5
WVT Waverly 38.51 347 P P 03 50 59.1 -1.5
FW07 Weatherford 38.84 333 IAmb IAmb 03 51 04.7
comp=Z,13nm,0.7s
SAND Sanderson 38.88 325 IAmb IAmb 03 51 06.4
comp=Z,16nm,0.6s
HPIG 38.92 318 P P 03 51 05.3 +0.9
HPIG IAmb IAmb 03 52 38.5
comp=Z,54nm,1.7s
WHAR Wooly Hollow 38.95 341 IAmb IAmb 03 51 04.5
comp=Z,18nm,0.8s
FW06 Azle 38.96 333 IAmb IAmb 03 51 06.1
comp=Z,25nm,0.8s

OZNA Ozona 39.07 327 IAmb IAmb 03 51 09.7
comp=Z,17nm,0.7s
T47A Sharon Grove 39.18 348 IAmb IAmb 03 52 25.2
comp=Z,15nm,0.5s
LCAR Lake Charles 39.32 343 IAmb IAmb 03 51 07.4
comp=Z,29nm,0.8s
TXAR Lajitas Array 39.33 323 P P 03 51 08.6 +1.0
TXAR Lajitas Array 39.33 323 P P 03 51 08.8 +1.1
comp=Z,5.3nm,0.7s,baz=147,slow=7.8,SNR=55
TXAR PcP PcP 03 53 13.1 +0.4
comp=Z,2.5nm,0.8s,baz=149,slow=5.9,SNR=8.0
comp=Z,5.3nm,0.7s
R55A Marlinton 39.57 357 IAmb IAmb 03 51 11.1
comp=Z,16nm,0.8s
PLCA Paso Flores 39.68 171 P P 03 51 10.4 +0.1
comp=Z,3.0nm,0.8s,baz=346,slow=10,SNR=11
PLCA PcP PcP 03 53 13.7 +0.3
comp=Z,4.0nm,1.0s,baz=32,slow=7.2,SNR=2.9
comp=Z,3.0nm,0.8s
PLCA Paso Flores 39.68 171 P P 03 51 11.0 +0.7
PLCA PcP PcP 03 53 13.8 +0.3
PBMO Poplar Bluff 39.78 344 IAmb IAmb 03 51 11.0
comp=Z,26nm,0.8s
SLBS Sierra La Lagu 39.98 311 P P 03 51 14.7 +1.6
SLBS IAmb IAmb 03 51 16.0
comp=Z,22nm,0.8s
SLBS Sierra La Lagu 39.98 311 P P 03 51 14.8 +1.7
WTFS Witchita Falls 40.04 333 IAmb IAmb 03 51 15.0
comp=Z,24nm,1.0s
ALPN Alpine 40.07 324 IAmb IAmb 03 51 16.6
comp=Z,33nm,0.9s
WCI Wyandotte Cave 40.23 350 P P 03 51 13.8 -1.0
USIN University of 40.24 348 IAmb IAmb 03 51 14.8
comp=Z,44nm,1.1s
MNHN Monahans 40.29 326 IAmb IAmb 03 51 17.6
comp=Z,32nm,0.9s
S44A Carbondale 40.34 346 IAmb IAmb 03 51 15.6
comp=Z,34nm,1.0s
HHAR Hobbs 40.41 340 IAmb IAmb 03 51 16.7
comp=Z,19nm,0.9s
W35A Tecumseh 40.52 336 IAmb IAmb 03 51 17.8
comp=Z,47nm,1.4s
SN07 Snyder 07 40.65 330 IAmb IAmb 03 51 21.0
comp=Z,22nm,0.7s
TUL3 Leonard 40.75 337 IAmb IAmb 03 51 20.0
comp=Z,30nm,1.3s
ODSA Odessa 40.76 327 IAmb IAmb 03 51 20.8
comp=Z,30nm,0.8s
POST Post 40.94 329 IAmb IAmb 03 51 22.7
comp=Z,28nm,0.8s
DEOK Depew 40.97 337 IAmb IAmb 03 51 21.2
comp=Z,18nm,0.6s
WMOK Wichita Mounta 40.99 333 IAmb IAmb 03 51 22.4
comp=Z,21nm,0.8s
OLIL Olney 41.07 348 IAmb IAmb 03 51 20.9
comp=Z,16nm,0.7s
VHRN Van Horn 41.16 323 IAmb IAmb 03 51 24.9
comp=Z,35nm,0.8s
BLO Bloomington 41.18 350 IAmb IAmb 03 51 22.4
comp=Z,16nm,0.6s
CCM Cathedral Cave 41.20 344 P P 03 51 21.7 -1.0
CCM IAmb IAmb 03 51 23.1
comp=Z,15nm,0.7s
CCM Cathedral Cave 41.20 344 P P 03 51 21.4 -1.3
CCM PcP PcP 03 53 18.0 -0.3
OK031 S. Brethren Rd 41.20 336 IAmb IAmb 03 51 23.6
comp=Z,37nm,1.2s
OK052 Battle Ridge R 41.22 336 IAmb IAmb 03 51 23.8
comp=Z,56nm,1.4s
MVL Millersville 41.25 2 IAmb IAmb 03 51 25.2
comp=Z,22nm,1.0s
QUOK Quay 41.34 337 IAmb IAmb 03 51 24.8
comp=Z,22nm,1.1s
Q44A Meyer Farm, Va 41.43 347 IAmb IAmb 03 51 24.2
comp=Z,38nm,0.9s
OK051 E0350 and S346 41.68 337 IAmb IAmb 03 51 27.3
comp=Z,24nm,0.6s
R40A Maddies Statio 41.71 343 IAmb IAmb 03 51 26.4
comp=Z,30nm,1.5s
SSPA Standing Stone 41.86 360 P P 03 51 28.9 +0.8
SSPA Standing Stone 41.86 360 P P 03 51 29.1 +1.0
SSPA pP pP 03 52 08.5 +0.9
LUPA Lehigh Univers 41.88 3 IAmb IAmb 03 51 30.5
comp=Z,24nm,1.0s
RCBR Riachuelo 42.05 97 LR LR 04 10 49.2
comp=Z,36nm,19.6s,baz=288,slow=38
NBAN Anadia - AL 42.11 103 eP P 03 51 30.0 -0.6
CROK Carrier 42.14 336 IAmb IAmb 03 51 31.4
comp=Z,31nm,1.0s
P43A Skaggs, Pawnee 42.25 347 IAmb IAmb 03 51 31.0
comp=Z,23nm,0.9s
KAN13 South Haven SW 42.38 336 IAmb IAmb 03 51 33.0
comp=Z,20nm,0.8s
OK038 West end E0370 42.44 335 IAmb IAmb 03 51 33.9
comp=Z,29nm,0.9s
OK032 Salt Plains WL 42.49 336 IAmb IAmb 03 51 34.3
comp=Z,27nm,0.7s
KAN14 Manchester OK 42.52 336 IAmb IAmb 03 51 34.5
comp=Z,27nm,0.9s
KAN09 Caldwell North 42.54 336 IAmb IAmb 03 51 34.9
comp=Z,46nm,1.1s
M57A Sunshine Farm, 42.57 1 IAmb IAmb 03 51 35.8
comp=Z,23nm,1.0s
KAN01 Argonia South 42.61 336 IAmb IAmb 03 51 35.5
comp=Z,34nm,0.8s
N41A Harden Midland 43.59 346 IAmb IAmb 03 51 41.8
comp=Z,11nm,0.5s
K57A Scipio Center 43.97 1 P P 03 51 45.6 +0.6
K57A IAmb IAmb 03 51 46.4
comp=Z,27nm,0.9s
R32A Long Quarter, 44.08 336 IAmb IAmb 03 51 47.6
comp=Z,29nm,0.8s
RTBA Rita Blanca 44.23 331 IAmb IAmb 03 51 49.4
comp=Z,53nm,1.2s
Y22D IRIS PASSCAL I 44.66 325 P P 03 51 53.1 +2.3
baz=136
J59A Piesco 44.79 3 P P 03 51 52.1 +0.6
J59A IAmb IAmb 03 51 53.7
comp=Z,31nm,1.1s
J47A Sunmer 44.91 353 IAmb IAmb 03 51 52.1
comp=Z,25nm,0.7s
L40A Anamosa 44.96 346 IAmb IAmb 03 51 52.4
comp=Z,40nm,1.2s
ANMO Albuquerque 45.03 326 P P 03 51 55.2 +1.4
ANMO Albuquerque 45.03 326 P P 03 51 55.2 +1.4
ANMO pP pP 03 52 36.3 +2.1
ANMO sP sP 03 52 57.4 +2.7
T25A Trinidad 45.61 330 IAmb IAmb 03 52 01.1
comp=Z,32nm,1.0s
TUC Tucson 45.80 320 P P 03 52 01.0 +1.2
TUC IAmb IAmb 03 52 01.9
comp=Z,23nm,0.8s
TUC Tucson 45.80 320 P P 03 52 00.8 +1.1
TUC PcP PcP 03 53 35.0 +0.7
KSCO Kaye Shedlock' 46.25 333 IAmb IAmb 03 52 06.0
comp=Z,22nm,0.9s
L34A Svendsen Farm, 46.34 341 IAmb IAmb 03 52 03.2
comp=Z,23nm,0.7s
BGNE Belgrade 46.46 339 IAmb IAmb 03 52 05.2
comp=Z,38nm,0.8s
BUKO Buck Lake 46.69 358 IAmb IAmb 03 52 06.2
comp=Z,18nm,0.7s
MNTQ Montreal, Queb 46.87 4 P P 03 52 08.6 +0.9
MNTQ IAmb IAmb 03 52 09.3
comp=Z,36nm,1.1s
G62A West of Eustis 46.89 7 IAmb IAmb 03 52 10.2
comp=Z,24nm,0.8s
X16A Lo Mia Camp, P 47.60 322 IAmb IAmb 03 52 16.4
comp=Z,19nm,0.6s
BRIGG Briggsdale 48.29 333 IAmb IAmb 03 52 21.4
comp=Z,41nm,1.1s
PV15 Paradox Valley 48.63 328 IAmb IAmb 03 52 24.2
comp=Z,58nm,1.4s
PV07 Paradox Valley 48.79 328 IAmb IAmb 03 52 25.2
comp=Z,29nm,1.3s
PV11 David Mesa, Pa 48.81 327 IAmb IAmb 03 52 25.1
comp=Z,27nm,0.7s
D62A Allapoint, All 48.92 8 IAmb IAmb 03 52 25.4
comp=Z,26nm,0.9s
GLA Glamis 48.92 318 IAmb IAmb 03 52 26.0
comp=Z,16nm,0.8s
PV23 Carpenter Ridg 48.99 327 IAmb IAmb 03 52 26.4
comp=Z,23nm,1.0s
ESJX Sierra Juarez 49.07 316 IAmb IAmb 03 52 27.1
comp=Z,15nm,0.7s
BLYC Blythe 49.15 319 P P 03 52 26.5 +1.1
YUH Yuha Desert 49.43 317 IAmb IAmb 03 52 29.6
comp=Z,16nm,0.8s

LDAQ Lac Daran 49.52 6 P P 03 52 28.4 +0.3
W13A Hualapai Mount 49.57 321 IAmb IAmb 03 52 31.6
comp=Z,22nm,0.7s
BATG Bathurst New B 49.59 11 P P 03 52 28.9 +0.4
BATG IAmb IAmb 03 52 30.1
comp=Z,21nm,0.8s
CBX Cerro Bola 49.75 316 eP PKiKP 04 00 27.9 -6.8
CBX eS S 04 01 04.7 +99
TJIG Tijuana 49.82 316 eP PKiKP 04 00 29.7 -4.8
PKCU Pink Cliffs 50.14 324 IAmb IAmb 03 52 35.9
comp=Z,20nm,0.8s
SRU San Rafael Swe 50.29 327 IAmb IAmb 03 52 36.1
comp=Z,29nm,1.0s
PFO Pinyon Flats O 50.35 317 P P 03 52 36.2 +1.5
PFO Pinyon Flats O 50.35 317 P P 03 52 36.0 +1.3
V12A Nelson 50.58 321 IAmb IAmb 03 52 38.6
comp=Z,21nm,0.7s
MVU Marysvale 50.81 325 IAmb IAmb 03 52 40.6
comp=Z,20nm,1.0s
ELS Elsinore Mount 51.03 317 IAmb IAmb 03 52 41.9
comp=Z,18nm,0.8s
BSUT Blindstream Ca 51.43 328 IAmb IAmb 03 52 45.7
comp=Z,29nm,1.0s
MPU Maple Canyon 51.53 327 IAmb IAmb 03 52 45.5
comp=Z,19nm,1.0s
GSC Goldstone, Bar 51.58 319 IAmb IAmb 03 52 46.4
comp=Z,21nm,0.9s
AGMN Agassiz Nation 51.95 345 IAmb IAmb 03 52 46.2
comp=Z,20nm,0.7s
TPNV Topopah Spring 52.22 321 IAmb IAmb 03 52 51.8
comp=Z,25nm,0.8s
S11A Rachel 52.34 322 IAmb IAmb 03 52 51.7
comp=Z,18nm,0.8s
WCT Wildcat Mounta 52.37 321 IAmb IAmb 03 52 52.3
comp=Z,21nm,1.0s
PD31 Pinedale Array 52.46 331 IAmb IAmb 03 52 51.6
comp=Z,24nm,1.6s
PDAR Pinedale Array 52.46 331 P P 03 52 50.4 +0.1
comp=Z,4.9nm,0.7s,baz=126,slow=9.0,SNR=55
PDAR PcP PcP 03 53 58.2 -0.3
comp=Z,1.1nm,0.7s,baz=134,slow=6.4,SNR=4.1
PDAR LR LR 04 18 14.8
comp=Z,61nm,18.2s,baz=305,slow=39
comp=Z,4.9nm,0.7s
ISA Isabella, Lake 52.90 318 IAmb IAmb 03 52 55.9
comp=Z,17nm,1.1s
BGU Big Grassy Mou 52.93 327 IAmb IAmb 03 52 55.7
comp=Z,24nm,1.0s
GRAC Grapevine Rang 52.96 320 IAmb IAmb 03 52 56.8
comp=Z,39nm,1.4s
AHID Auburn Hatcher 53.22 330 IAmb IAmb 03 52 57.1
comp=Z,18nm,0.8s
HVU Hansel Valley 53.39 328 IAmb IAmb 03 52 59.6
comp=Z,12nm,0.7s
LOHW Long Hollow 53.60 331 IAmb IAmb 03 53 00.1
comp=Z,13nm,0.8s
RLMT Red Lodge 54.10 333 IAmb IAmb 03 53 03.5
comp=Z,13nm,0.8s
NV11 Mina Array Sit 54.32 321 IAmb IAmb 03 53 07.0
comp=Z,24nm,1.3s
YFT Old Faithful 54.33 331 IAmb IAmb 03 53 07.0
comp=Z,12nm,0.9s
YNE Yellowstone No 54.35 332 IAmb IAmb 03 53 05.9
comp=Z,9.3nm,0.7s
NVAR Mina Array Bea 54.41 321 P P 03 53 05.8 +1.2
NVAR Mina Array Bea 54.41 321 P P 03 53 05.7 +1.1
comp=Z,8.5nm,0.7s,baz=132,slow=7.0,SNR=38
NVAR PcP PcP 03 54 06.2 +0.2
comp=Z,2.9nm,0.7s,baz=134,slow=4.7,SNR=5.8
comp=Z,8.5nm,0.7s
LHV Little Huntoon 54.43 321 IAmb IAmb 03 53 07.4
comp=Z,19nm,1.1s
YNR Norris Junctio 54.45 332 IAmb IAmb 03 53 07.3
comp=Z,11nm,0.7s
YMR Madison River 54.55 331 IAmb IAmb 03 53 07.9
comp=Z,23nm,0.8s
DGMT Dagmar 54.72 339 IAmb IAmb 03 53 08.0
comp=Z,13nm,0.8s
YHB Horse Butte 54.72 331 IAmb IAmb 03 53 09.8
comp=Z,21nm,0.9s
WAKR Walker 55.17 321 IAmb IAmb 03 53 12.6
comp=Z,12nm,0.8s
HLID Hailey 55.49 328 IAmb IAmb 03 53 14.2
comp=Z,12nm,0.8s
BOZ Bozeman (W) 55.56 332 P P 03 53 13.4 +0.8
BOZ IAmb IAmb 03 53 14.5
comp=Z,24nm,0.9s
PNTR Pine Nut 55.62 321 IAmb IAmb 03 53 15.6
comp=Z,11nm,0.8s
DLMT Dillon 55.85 331 IAmb IAmb 03 53 16.6
comp=Z,12nm,1.0s
PAHR Pah Rah Range 55.85 322 IAmb IAmb 03 53 17.3
comp=Z,39nm,1.7s
EGMT Eagleton 56.55 335 IAmb IAmb 03 53 21.5
comp=Z,14nm,0.9s
PLID Pearl Lake 57.37 329 IAmb IAmb 03 53 26.5
comp=Z,12nm,1.0s
MSO Missoula 57.55 331 IAmb IAmb 03 53 28.4
comp=Z,17nm,1.1s
O02D Mt. Diablo Mer 58.26 320 IAmb IAmb 03 53 32.4
comp=Z,15nm,0.9s
F10A Beach Ranch, E 58.60 329 IAmb IAmb 03 53 38.9
comp=Z,14nm,0.8s
YBH Yreka Blue Hor 59.09 322 LR LR 04 23 05.0
comp=Z,73nm,18.6s,baz=348,slow=40
LNOR Lincton Mounta 59.09 328 IAmb IAmb 03 53 38.7
comp=Z,16nm,0.7s
FFC Flin Flon 59.40 344 P P 03 53 38.5 -0.5
FFC Flin Flon 59.40 344 P P 03 53 38.9 -0.2
FFC pP pP 03 54 20.7 -1.0
FFC PcP PcP 03 54 24.3 -0.6
HAWA Hanford 60.09 328 IAmb IAmb 03 53 45.5
comp=Z,11nm,0.7s
NEW Newport 60.10 331 IAmb IAmb 03 53 45.4
comp=Z,15nm,0.9s
NEW Newport 60.10 331 LR LR 04 22 25.8
comp=Z,199nm,18.6s,baz=298,slow=38
K02D Willamette Mer 60.22 322 IAmb IAmb 03 53 46.4
comp=Z,17nm,0.7s
E07A Sunnyside 60.36 328 IAmb IAmb 03 53 48.0
comp=Z,18nm,0.8s
H04A Detroit Lake 60.49 325 P P 03 53 47.5 +0.7
H04A IAmb IAmb 03 53 48.2
comp=Z,14nm,0.8s
MXC Moxie City 60.61 328 IAmb IAmb 03 53 50.1
comp=Z,20nm,1.0s
LTY Liberty 61.24 328 IAmb IAmb 03 53 53.8
comp=Z,16nm,1.1s
B08A Colville Reser 61.26 330 IAmb IAmb 03 53 53.5
comp=Z,13nm,0.8s
LON Longmire 61.53 327 IAmb IAmb 03 53 55.3
comp=Z,13nm,0.8s
NLWA Neilton Lookou 63.04 327 P P 03 54 05.2 +1.5
PGC Sidney 63.57 328 IAmb IAmb 03 54 09.4
comp=Z,20nm,0.9s
LLLB Lillooet 63.98 330 IAmb IAmb 03 54 11.8
comp=Z,20nm,1.1s
CBB Campbell River 65.40 328 P P 03 54 20.8 +1.8
CBB IAmb IAmb 03 54 21.6
comp=Z,20nm,1.0s
YKA Yellowknife Ar 69.52 343 P P 03 54 44.0 -0.5
comp=Z,3.7nm,0.7s,baz=142,slow=6.1,SNR=80
YKA PcP PcP 03 55 06.1 -0.3
comp=Z,1.1nm,0.7s,baz=143,slow=4.4,SNR=4.7
comp=Z,3.7nm,0.7s
TOAD Toad River Com 70.70 336 P P 03 54 52.8 +1.0
baz=129,SNR=7.4
KOTAN Kotaneelee Air 71.05 338 P P 03 54 55.2 +1.4
baz=130
U35K Hyder 71.06 332 P P 03 54 55.1 +1.1
baz=123
LIRD Liard River Hi 71.40 336 P P 03 54 57.0 +1.0
baz=128,SNR=5.9
V35K Ketchikan 71.51 331 P P 03 54 58.2 +1.5
baz=122
T35M Bob Quinn 71.76 333 P P 03 54 59.9 +1.7
baz=123
CRAG Craig 72.32 331 P P 03 55 02.8 +1.3
baz=120
S34M Telegraph Cree 72.67 333 P P 03 55 05.3 +1.8
baz=123
WRGLY Wrigley 72.87 340 IAmb IAmb 03 55 06.4
comp=Z,20nm,1.0s
WRGLY Wrigley 72.87 340 P P 03 55 06.1 +1.5
baz=132,SNR=7.5
WTLY Watson Lake, Y 72.91 336 P P 03 55 06.0 +1.0
baz=126

DBIC	Dimbokro	73.26 83	P	P	03 55 07.1	-0.8
DBIC			IAmb	IAmb	03 55 08.3	
	comp=Z,21nm,0.9s					
DBIC	Dimbokro	73.26 83	P	P	03 55 06.6	-1.3
	comp=Z,17nm,0.9s,baz=275,slow=3.1,SNR=16					
	comp=Z,17nm,0.9s					
R33M	Jennings River	73.41 335	P	P	03 55 09.3	+1.2
	baz=123					
TGTN	Hyland Airport	73.54 337	P	P	03 55 10.3	+1.6
	baz=126,SNR=7.6					
Q32M	Nakina River	73.74 334	P	P	03 55 11.9	+1.8
	baz=122					
S32K	Killisnoo	74.02 332	P	P	03 55 13.4	+2.0
	baz=120					
SIT	Sitka	74.17 331	P	P	03 55 14.0	+1.7
	baz=119					
R32K	Eaglecrest	74.39 333	P	P	03 55 15.2	+1.6
	baz=120					
NUUG	Nuugaatsiaq	74.57 8	*i* P	P	03 55 13.5	-0.9
NUUG			IAmb	IAmb	03 55 15.7	
	comp=Z,120nm,1.8s					
P33M	Teslin, Yukon	74.64 335	P	P	03 55 16.6	+1.5
	baz=122					
P32M	Atlin	74.70 334	P	P	03 55 17.3	+1.9
	baz=121					
ICESG	Greenland Ices	74.98 13	*i* P	P	03 55 16.5	-0.8
ICESG			IAmb	IAmb	03 55 18.0	
	comp=Z,24nm,0.7s					
S31K	Pelican	75.03 332	P	P	03 55 18.8	+1.5
	baz=118					
N32M	Quiet Lake	75.25 336	P	P	03 55 20.2	+1.7
	baz=122					
MMPY	Sheldon Lake,	75.32 337	IAmb	IAmb	03 55 21.1	
	comp=Z,14nm,0.8s					
MMPY	Sheldon Lake,	75.32 337	P	P	03 55 20.9	+2.0
	baz=124,SNR=9.7					
WHY	Whitehorse	75.75 335	P	P	03 55 22.9	+1.4
	baz=120					
FARO	Faro, Yukon	75.92 337	P	P	03 55 23.5	+1.2
	baz=122,SNR=6.7					
O30N	Mendenhall	76.32 335	P	P	03 55 25.8	+1.2
	baz=119					
M31M	Drury Creek, Y	76.33 336	P	P	03 55 25.9	+1.3
	baz=121,SNR=6.1					
P30M	Million Dollar	76.39 334	P	P	03 55 26.3	+1.2
	baz=118					
P29M	Windy Craggy	76.51 333	P	P	03 55 26.9	+1.3
	baz=117					
N31M	Braeburn, Yuko	76.54 335	IAmb	IAmb	03 55 28.3	
	comp=Z,14nm,0.9s					
N31M	Braeburn, Yuko	76.54 335	P	P	03 55 27.3	+1.5
	baz=119					
HYT	Haines Junctio	76.95 334	P	P	03 55 29.7	+1.4
	baz=118					
N30M	Aishikik Lake	77.08 335	IAmb	IAmb	03 55 31.2	
	comp=Z,16nm,0.7s					
N30M	Aishikik Lake	77.08 335	P	P	03 55 30.5	+1.7
	baz=118,SNR=9.1					
O29M	Mount Kennedy	77.19 334	P	P	03 55 31.2	+1.6
	baz=116					
PNL	Peninsula	77.28 333	P	P	03 55 31.8	+1.8
	baz=116					
YUK6	Outpost Mounta	77.38 334	P	P	03 55 31.1	+0.3
	baz=117					
M30M	Minto, Yukon	77.49 336	IAmb	IAmb	03 55 34.1	
	comp=Z,42nm,1.8s					
M30M	Minto, Yukon	77.49 336	P	P	03 55 31.1	0.0
	baz=119,SNR=6.6					
YUK4	Talbot Arm	77.69 334	P	P	03 55 33.9	+1.5
	baz=117					
PINM	Pinnacle	77.85 333	P	P	03 55 34.5	+1.3
	baz=115					
SUMG	Summit	77.92 11	P	P	03 55 34.0	+0.3
SUMG			IAmb	IAmb	03 55 35.5	
	comp=Z,16nm,0.9s					
SUMG	Summit	77.92 11	*i* P	P	03 55 32.0	-1.7
SUMG			IAmb	IAmb	03 55 35.6	
	comp=Z,18nm,1.0s					
M29M	Somme Creek	78.11 336	IAmb	IAmb	03 55 36.7	
	comp=Z,14nm,0.8s					
M29M	Somme Creek	78.11 336	P	P	03 55 34.6	-0.1
	baz=117,SNR=11					
O28M	Mount Upton	78.11 334	P	P	03 55 34.1	-0.8
	baz=115					
YUK8	Steele Glacier	78.14 334	P	P	03 55 35.8	+0.7
	baz=116					
H31M	Peel River	78.19 339	IAmb	IAmb	03 55 36.9	
	comp=Z,27nm,1.1s					
H31M	Peel River	78.19 339	P	P	03 55 34.4	-0.4
	baz=122,SNR=10					
L29M	L29M	78.28 336	IAmb	IAmb	03 55 37.3	
	comp=Z,23nm,0.8s					
L29M	L29M	78.28 336	P	P	03 55 36.5	+1.1
	baz=117,SNR=16					
J30M	Hart River	78.28 338	P	P	03 55 35.5	-0.1
	baz=119,SNR=7.1					
K29M	Barlow Dome	78.38 337	IAmb	IAmb	03 55 37.8	
	comp=Z,16nm,0.8s					
K29M	Barlow Dome	78.38 337	P	P	03 55 35.3	-0.8
	baz=118,SNR=12					
ESDC	Sonseca Array	78.53 49	P	P	03 55 36.0	-1.4
	comp=Z,0.5nm,0.6s,baz=274,slow=4.7,SNR=7.2					
	comp=Z,0.5nm,0.6s					
I30M	Mount Dempster	78.62 338	IAmb	IAmb	03 55 39.4	
	comp=Z,19nm,0.8s					
I30M	Mount Dempster	78.62 338	P	P	03 55 37.6	+0.2
	baz=120,SNR=22					
YUK3	Moose Creek	78.66 334	P	P	03 55 38.1	+0.3
	baz=115					
G31M	Satah River	78.75 340	P	P	03 55 38.8	+0.9
	baz=122,SNR=22					
F31M	Tsiigehtchic	78.85 341	IAmb	IAmb	03 55 39.7	
	comp=Z,18nm,0.7s					
F31M	Tsiigehtchic	78.85 341	P	P	03 55 39.3	+0.9
	baz=122,SNR=17					
J29N	Klondike Camp	78.94 337	IAmb	IAmb	03 55 41.3	
	comp=Z,33nm,1.6s					
J29N	Klondike Camp	78.94 337	P	P	03 55 40.3	+1.2
	baz=118					
BVCY	Beaver Creek	79.10 335	P	P	03 55 41.0	+1.1
	baz=115					
DAWY	Dawson	79.22 337	P	P	03 55 41.4	+0.9
	baz=116					
A36M	Sachs Harbour	79.23 347	P	P	03 55 40.0	-0.3
	baz=131					
EPYK	Eagle Plains	79.31 339	IAmb	IAmb	03 55 42.8	
	comp=Z,21nm,0.9s					
EPYK	Eagle Plains	79.31 339	P	P	03 55 41.9	+0.9
	baz=119,SNR=13					
I29M	Ogilvie Camp,	79.40 338	P	P	03 55 42.3	+0.8
	baz=118,SNR=11					
G30M	tAoh Zraii Nji	79.44 340	P	P	03 55 42.7	+1.0
	baz=120					
M27K	Edge Creek, AK	79.51 335	P	P	03 55 42.6	+0.4
	baz=114					
F30M	Barrier River	79.61 341	IAmb	IAmb	03 55 44.3	
	comp=Z,24nm,0.8s					
F30M	Barrier River	79.61 341	P	P	03 55 43.8	+1.2
	baz=120					
BCAR	Beaver Creek A	79.76 335	P	P	03 55 44.4	+0.9
L27K	Beaver Creek,	79.77 335	IAmb	IAmb	03 55 46.0	
	comp=Z,30nm,1.6s					
L27K	Beaver Creek,	79.77 335	P	P	03 55 44.8	+1.2
	baz=114,SNR=7.8					
H29M	Whitestone	79.82 339	IAmb	IAmb	03 55 45.6	
	comp=Z,22nm,0.8s					
H29M	Whitestone	79.82 339	P	P	03 55 44.8	+1.0
	baz=118,SNR=14					
M26K	Nabesna, AK	80.00 335	P	P	03 55 45.5	+0.7
	baz=113					
G29M	Pine Creek	80.03 340	P	P	03 55 45.6	+0.8
	baz=118,SNR=20					
I28M	Miner Creek	80.04 338	IAmb	IAmb	03 55 46.8	
	comp=Z,16nm,0.8s					
I28M	Miner Creek	80.04 338	P	P	03 55 46.0	+0.9
	baz=116,SNR=15					
TORD	Torodi Ar. Bea	80.12 76	P	P	03 55 44.7	-1.7
NEEM	North Greenlan	80.14 6	*i* P	P	03 55 45.4	-0.3
NEEM			IAmb	IAmb	03 55 48.4	
	comp=Z,10nm,0.8s					
BMRM	Bremner River	80.17 333	P	P	03 55 46.2	+0.4
	baz=111					
K27K	Chicken	80.27 336	IAmb	IAmb	03 55 48.6	
	comp=Z,17nm,1.0s					
K27K	Chicken	80.27 336	P	P	03 55 45.9	-0.2
	baz=114					
L26K	Log Cabin Wild	80.39 335	IAmb	IAmb	03 55 48.5	
	comp=Z,28nm,1.7s					
L26K	Log Cabin Wild	80.39 335	P	P	03 55 46.3	-0.6
	baz=113					
N25K	Chitina, Valde	80.40 334	P	P	03 55 47.7	+0.6
	baz=111					
EYAK	Cordova Ski Ar	80.55 332	P	P	03 55 48.9	+1.2
	baz=110					
E29M	Blow River	80.69 341	IAmb	IAmb	03 55 49.9	
	comp=Z,23nm,1.0s					
E29M	Blow River	80.69 341	P	P	03 55 48.9	+0.6
	baz=118					
I27K	Kandik River	80.74 338	P	P	03 55 49.5	+0.8
	baz=115,SNR=7.9					
HARP	HAARP	80.94 334	P	P	03 55 49.6	-0.2
	baz=111					
KLU	Klutina	80.96 333	P	P	03 55 50.8	+0.9
	baz=110					
H27K	Steamboat Moun	80.97 338	P	P	03 55 50.0	0.0
	baz=115,SNR=8.2					
SCRK	Sand Creek	81.02 336	IAmb	IAmb	03 55 51.8	
	comp=Z,11nm,0.7s					
SCRK	Sand Creek	81.02 336	P	P	03 55 51.0	+0.7
	baz=112,SNR=11					
J26L	Joseph Creek	81.05 336	P	P	03 55 49.5	-0.9
	baz=113,SNR=21					
I26K	Coal Creek Min	81.21 337	P	P	03 55 51.9	+0.8
	baz=113					
G27K	Doyon Strip	81.26 339	P	P	03 55 50.1	-1.3
	baz=115,SNR=11					
PAX	Paxson	81.27 335	P	P	03 55 52.1	+0.5
	baz=111,SNR=5.1					
M24K	Tolsona, Glenn	81.28 334	P	P	03 55 51.8	+0.1
	baz=110					
RIDG	Independent Ri	81.29 336	IAmb	IAmb	03 55 53.3	
	comp=Z,24nm,1.0s					
RIDG	Independent Ri	81.29 336	P	P	03 55 50.5	-1.1
	baz=111,SNR=7.7					
E28M	Babbage River	81.32 341	P	P	03 55 52.4	+0.7
	baz=117					
D28M	Stokes Point	81.41 342	P	P	03 55 52.1	+0.1
	baz=118					
K24K	Donnelly Dome	81.70 335	P	P	03 55 53.2	-0.6
	baz=110					
SCM	Sheep Creek Mo	81.70 333	P	P	03 55 54.6	+0.7
	baz=109					
VNA3	Neumayer Olymp	81.74 162	⇓P	P	03 55 53.0	-0.8
	comp=Z,3.4nm,0.6s					
J25K	Salcha River,	81.82 336	IAmb	IAmb	03 55 55.9	
	comp=Z,17nm,0.7s					
J25K	Salcha River,	81.82 336	P	P	03 55 55.1	+0.7
	baz=111,SNR=19					
E27K	Coleen River	81.83 340	IAmb	IAmb	03 55 56.0	
	comp=Z,19nm,1.1s					
E27K	Coleen River	81.83 340	P	P	03 55 54.1	-0.3
	baz=115,SNR=14					
PWL	Port Wells	81.86 332	P	P	03 55 53.5	-1.1
	baz=108					
M23K	Glacier View	81.87 333	P	P	03 55 56.1	+1.5
	baz=108					
D27M	Malcolm River	82.07 341	P	P	03 55 55.3	-0.3
	baz=116					
KNK	Knik Glacier	82.08 333	P	P	03 55 54.9	-0.9
	baz=108					
G26K	Porcupine Rive	82.09 339	P	P	03 55 54.4	-1.3
	baz=113,SNR=10.0					
SML	Sawmill	82.15 333	P	P	03 55 55.2	-0.9
	baz=108					
SEW	Seward	82.16 331	P	P	03 55 57.0	+0.8
	baz=107					
PRP	Porcupine Dome	82.21 337	P	P	03 55 56.1	-0.5
	baz=111,SNR=5.7					
HDA	Harding Lake	82.39 336	P	P	03 55 57.5	+0.2
	baz=110,SNR=19					
O22K	Cooper Landing	82.40 332	P	P	03 55 57.5	+0.1
	baz=106					
PMR	Palmer	82.44 333	P	P	03 55 57.6	0.0
	baz=107					
FYU	Fort Yukon	82.48 338	IAmb	IAmb	03 55 59.6	
	comp=Z,23nm,0.8s					
EKA	Eskdalemuir Ar	82.48 34	P	P	03 55 57.2	-0.8
	comp=Z,5.1nm,0.9s,baz=253,slow=4.1,SNR=6.8					
	comp=Z,5.1nm,0.9s					
IL31		82.49 336	IAmb	IAmb	03 55 58.9	
	comp=Z,12nm,0.7s					
ILAR	Eielson Array	82.49 336	P	P	03 55 57.9	+0.1
ILAR	Eielson Array	82.49 336	P	P	03 55 57.8	-0.1
	comp=Z,8.6nm,0.8s,baz=149,slow=4.5,SNR=80					
ILAR			PP	PP	03 59 09.2	-0.3
	comp=Z,0.9nm,0.9s,baz=118,slow=7.5,SNR=6.4					
	comp=Z,8.6nm,0.8s					
F26K	Sheenjek River	82.51 339	IAmb	IAmb	03 55 59.8	
	comp=Z,14nm,0.9s					
F26K	Sheenjek River	82.51 339	P	P	03 55 59.0	+1.1
	baz=112,SNR=20					
BMAR	Burnt Mountain	82.56 339	P	P	03 55 59.1	+0.9
RC01	Rabbit Creek A	82.58 332	IAmb	IAmb	03 55 59.4	
	comp=Z,18nm,0.8s					
RC01	Rabbit Creek A	82.58 332	P	P	03 55 58.6	+0.2
	baz=106					
H25L	Birch Creek	82.59 338	P	P	03 55 58.5	+0.3
	baz=111,SNR=17					
BRSE	Bradley Lake S	82.68 331	P	P	03 55 59.0	+0.1
	baz=106					
POKR	Poker Plat Res	82.82 336	P	P	03 55 58.4	-1.1
	baz=109					
G25K	Bearman Lake	82.87 338	P	P	03 56 01.3	+1.6
	baz=110,SNR=12					
COLA	College	82.91 336	P	P	03 55 59.9	0.0
COLA	College	82.91 336	P	P	03 56 00.7	+0.8
	baz=109					
M22K	Willow	82.94 333	P	P	03 55 58.3	-1.9
	baz=106					
F25K	Christian Rive	83.00 339	P	P	03 56 01.8	+1.3
	baz=111,SNR=10					
MCK	McKinley	83.00 335	IAmb	IAmb	03 56 01.8	
	comp=Z,21nm,1.2s					
MCK	McKinley	83.00 335	P	P	03 56 01.0	+0.5
	baz=108,SNR=5.9					
HOM	Homer	83.10 331	P	P	03 56 01.8	+0.8
	baz=105					
KDAK	Kodiak Island	83.11 329	P	P	03 56 00.8	-0.4
	baz=104					
C27K	Jago River	83.12 341	IAmb	IAmb	03 56 03.0	
	comp=Z,20nm,1.1s					
C27K	Jago River	83.12 341	P	P	03 56 02.2	+1.2
	baz=113					
SUA	Susitna One	83.15 332	IAmb	IAmb	03 56 02.8	
	comp=Z,17nm,0.7s					
SUA	Susitna One	83.15 332	P	P	03 56 00.6	-0.8
	baz=106,SNR=6.0					
E25K	Arctic Village	83.17 340	IAmb	IAmb	03 56 03.4	
	comp=Z,11nm,0.9s					
E25K	Arctic Village	83.17 340	P	P	03 56 01.0	-0.3
	baz=111,SNR=20					
CUT	Chulitna	83.19 333	P	P	03 56 02.2	+0.8
	baz=106					
Q20K	Shuyak Island	83.22 329	P	P	03 56 01.7	+0.1
	baz=104					
H24K	Noodor Dome	83.23 337	IAmb	IAmb	03 56 03.4	
	comp=Z,12nm,0.8s					
H24K	Noodor Dome	83.23 337	P	P	03 56 02.5	+0.8
	baz=109,SNR=9.3					
NEA2	Nenana	83.32 336	P	P	03 56 01.0	-1.1
	baz=108,SNR=26					
OHAK	Old Harbor	83.35 328	P	P	03 56 01.7	-0.7
	baz=103					
G24K	Hadweenzic Riv	83.36 338	IAmb	IAmb	03 56 04.4	
	comp=Z,18nm,1.2s					
G24K	Hadweenzic Riv	83.36 338	P	P	03 56 02.7	+0.4
	baz=109,SNR=9.9					
TRF	Thorofare Moun	83.50 334	IAmb	IAmb	03 56 04.4	
	comp=Z,14nm,0.8s					
TRF	Thorofare Moun	83.50 334	P	P	03 56 02.4	-0.8
	baz=106,SNR=6.2					
I23K	Minto, Yukon-K	83.61 336	IAmb	IAmb	03 56 05.0	
	comp=Z,17nm,0.8s					
I23K	Minto, Yukon-K	83.61 336	P	P	03 56 02.9	-0.6
	baz=107,SNR=14					
C26K	Camden Bay	83.61 341	P	P	03 56 04.0	+0.5
	baz=112					
SKT	Skwentna	83.65 333	P	P	03 56 04.3	+0.5
	baz=105,SNR=15					
STLK	Strandline Lak	83.66 332	IAmb	IAmb	03 56 05.7	
	comp=Z,18nm,1.4s					
SPCR	Spurr Chakacha	83.76 332	P	P	03 56 05.3	+0.8
	baz=104					
F24K	Squaw Lake	83.78 339	P	P	03 56 05.8	+1.3
	baz=109,SNR=7.7					
KTH	Kantishna Hill	83.80 334	IAmb	IAmb	03 56 06.2	
	comp=Z,22nm,0.9s					
D25K	Kavik River	83.87 341	IAmb	IAmb	03 56 06.6	
	comp=Z,17nm,0.8s					
D25K	Kavik River	83.87 341	P	P	03 56 06.0	+1.1
	baz=110					
H23K	Yukon River	83.88 337	P	P	03 56 05.9	+1.0
	baz=107					
P19K	Oil Pt	83.88 330	P	P	03 56 06.2	+1.1
	baz=103					
Q19K	Cape Douglas,	83.92 330	P	P	03 56 05.7	+0.4
	baz=103					
SNAA	Sanae	83.95 162	⇓P	P	03 56 05.5	+0.2
	comp=Z,78nm,1.2s					
SNAA	Sanae	83.95 162	P	P	03 56 05.0	-0.3
	comp=Z,2.8nm,0.9s,baz=268,slow=9.2,SNR=7.3					
	comp=Z,2.8nm,0.9s					
BPAW	Bear Paw Mtn.	83.98 335	P	P	03 56 04.8	-0.7
	baz=106,SNR=24					
PPLA	Purkeypile	84.18 334	P	P	03 56 06.8	+0.1
	baz=104,SNR=10					
E24K	Your Creek	84.18 339	P	P	03 56 07.5	+1.1
	baz=108,SNR=8.5					
CAST	Castle Rocks	84.27 334	P	P	03 56 07.0	+0.1
	baz=105,SNR=20					
CHIR	Chirikof Islan	84.33 326	P	P	03 56 07.6	+0.2
	baz=101					
G23K	Bananza Creek	84.33 338	P	P	03 56 08.4	+1.2
	baz=107,SNR=10					
M20K	Styx River	84.36 333	IAmb	IAmb	03 56 08.3	
	comp=Z,8.8nm,0.7s					
M20K	Styx River	84.36 333	P	P	03 56 07.6	0.0
	baz=104					
TAM	Tamanrasset	84.41 67	P	P	03 56 09.1	+0.4
CHUM	Lake Minchumin	84.48 335	P	P	03 56 08.5	+0.5
	baz=104,SNR=7.4					
O19K	Port Alsworth	84.54 331	P	P	03 56 09.6	+1.3
	baz=102					
COLD	Coldfoot	84.55 338	P	P	03 56 09.3	+1.1
	baz=107,SNR=7.5					
Q18K	Katmai Hardscr	84.56 329	P	P	03 56 08.3	-0.4
	baz=102					
E23K	Chandalar	84.58 339	P	P	03 56 07.3	-1.2
	baz=107,SNR=6.7					
H22K	Ishtalitna Cre	84.62 337	P	P	03 56 07.0	-1.7
	baz=106					
D24K	Happy Valley	84.64 340	P	P	03 56 09.1	+0.5
	baz=108					
TOLK	Toolik Lake Re	84.74 340	P	P	03 56 10.2	+0.9
	baz=108,SNR=5.4					
N19K	Bonanza Creek	84.75 331	P	P	03 56 09.7	+0.2
	baz=102					
C24K	Franklin Bluff	84.78 341	P	P	03 56 10.4	+1.1
	baz=108					
P18K	Big Mountain,	84.82 330	P	P	03 56 10.6	+0.7
	baz=102					
L20K	Farewell, AK	84.84 333	P	P	03 56 09.8	0.0
	baz=103					
O18K	Koktuh Hills	84.90 330	P	P	03 56 10.1	-0.1
	baz=102					
Q17K	Contact Creek	84.93 329	P	P	03 56 09.9	-0.6
	baz=101					
M19K	Big River Lodg	84.94 332	IAmb	IAmb	03 56 12.0	
	comp=Z,8.9nm,0.7s					
M19K	Big River Lodg	84.94 332	P	P	03 56 10.6	+0.2
	baz=102					
G22K	Bettles	84.95 338	P	P	03 56 09.9	-0.3
	baz=106					
K20K	Telida	85.12 334	IAmb	IAmb	03 56 11.6	
	comp=Z,9.5nm,0.7s					
K20K	Telida	85.12 334	P	P	03 56 11.2	0.0
	baz=103					
H21K	Melozitna Rive	85.13 336	P	P	03 56 11.3	0.0
	baz=104					
L19K	White Mountain	85.22 333	P	P	03 56 12.3	+0.5
	baz=102					
D23K	Nanushuk River	85.22 340	IAmb	IAmb	03 56 13.9	
	comp=Z,24nm,1.0s					
D23K	Nanushuk River	85.22 340	P	P	03 56 12.0	+0.4
	baz=106,SNR=20					
J20K	Nowinta River	85.34 335	IAmb	IAmb	03 56 13.1	
	comp=Z,9.2nm,0.8s					
J20K	Nowinta River	85.34 335	P	P	03 56 12.3	+0.1
	baz=103,SNR=6.9					
F22K	John River	85.36 338	P	P	03 56 12.4	+0.1
	baz=105,SNR=14					
E22K	Anaktuvuk Pass	85.39 339	P	P	03 56 11.5	-1.0
	baz=105,SNR=12					
N18K	Kilae Creek	85.40 331	P	P	03 56 10.1	-2.6
	baz=101					
C23K	Itkillik River	85.45 341	P	P	03 56 12.8	+0.2
	baz=107					
M18K	Stony River	85.53 332	P	P	03 56 13.9	+0.7
	baz=101					
I20K	Naaghedeneel	85.61 335	IAmb	IAmb	03 56 15.1	
	comp=Z,10.0nm,0.6s					
I20K	Naaghedeneel	85.61 335	P	P	03 56 12.9	-0.6
	baz=103					
G21K	Allakaket	85.62 337	IAmb	IAmb	03 56 15.5	
	comp=Z,16nm,1.1s					
G21K	Allakaket	85.62 337	P	P	03 56 12.9	-0.7
	baz=104					
TROLL	Troll, Antarti	85.67 162	⇓P	P	03 56 14.0	0.0
	comp=Z,165nm,0.4s					
F21K	Alatna River	85.78 338	IAmb	IAmb	03 56 16.4	
	comp=Z,12nm,0.9s					
F21K	Alatna River	85.78 338	P	P	03 56 15.5	+1.1
	baz=104,SNR=18					
O17K	Koliganek Bris	85.82 330	P	P	03 56 15.3	+0.6
	baz=100					
TTA	Tatalina	85.89 333	P	P	03 56 14.9	-0.2
	baz=101					
D22K	Ayikyak River	85.89 339	P	P	03 56 15.9	+1.0
	baz=105					
J19K	Poorman	85.93 334	IAmb	IAmb	03 56 19.9	
	comp=Z,28nm,1.8s					
J19K	Poorman	85.93 334	P	P	03 56 16.0	+0.8
	baz=102					
H20K	Anotteneega Mo	85.93 336	P	P	03 56 15.4	+0.2
	baz=102,SNR=6.7					
CHGN	Chignik	85.95 327	P	P	03 56 14.4	-1.0
	baz=98					
N17K	Nushagak Hills	86.00 331	P	P	03 56 16.2	+0.7
	baz=100					
L18K	Granite Mounta	86.07 333	P	P	03 56 15.7	-0.1
	baz=100					
DOU	Dourbes	86.21 40	*d*P	P	03 56 17.3	+0.4
	comp=Z,5.3nm,1.0s					
E21K	Killik River	86.25 339	IAmb	IAmb	03 56 18.4	
	comp=Z,16nm,1.1s					
E21K	Killik River	86.25 339	P	P	03 56 17.4	+0.7
	baz=103					
M17K	Holitna River	86.27 332	P	P	03 56 16.4	-0.5
	baz=100					
O16K	Kokwok River B	86.29 330	P	P	03 56 17.7	+0.7
	baz=99					
J18K	Innoko River	86.31 334	P	P	03 56 17.1	+0.1
	baz=100					
BMRD	Maredsous	86.35 40	*d*P	P	03 56 17.8	+0.3
	comp=Z,4.7nm,1.1s					
B22K	Teshekpuk Lake	86.51 341	P	P	03 56 18.6	+0.8
	baz=104					
S14K	Fog Glacier	86.58 326	P	P	03 56 18.7	+0.1
	baz=98					
H19K	Roundabout Mou	86.58 336	IAmb	IAmb	03 56 20.3	
	comp=Z,13nm,1.0s					
H19K	Roundabout Mou	86.58 336	P	P	03 56 19.2	+0.9
	baz=101,SNR=6.3					
F20K	Avaraart Lake	86.59 337	P	P	03 56 19.0	+0.7
	baz=102,SNR=6.8					
GCSA	Galena City Sc	86.61 335	P	P	03 56 19.4	+1.0
	baz=100					
C21K	Knifeblade Rid	86.70 340	P	P	03 56 19.8	+0.9
	baz=103					
BCLA	Clavier	86.70 40	*d*P	P	03 56 19.9	+0.7
	comp=Z,4.1nm,1.0s					
B21K	Ikpikpuk River	86.74 340	P	P	03 56 18.1	-0.9
	baz=103					
N16K	Nishlik Lake	86.76 331	P	P	03 56 19.7	+0.4
	baz=98					
L17K	Donlin	86.80 332	P	P	03 56 19.8	+0.4
	baz=99					
K17K	Iditarod	86.89 333	P	P	03 56 20.9	+1.0
	baz=99					
M16K	Timber Creek	86.94 331	P	P	03 56 21.2	+1.0
	baz=98					
G19K	Purcell Mounta	86.95 336	IAmb	IAmb	03 56 22.0	
	comp=Z,13nm,1.1s					
G19K	Purcell Mounta	86.95 336	P	P	03 56 21.1	+1.0
	baz=100,SNR=6.7					

SDPT	Sand Point	86.98	325	P		P	03 56 21.9	+1.5
	baz=97						
E20K	Nigu River	87.01	339	P		P	03 56 20.9	+0.5
	baz=101,SNR=25						
O15K	Ungalikthiuk R	87.11	329	P		P	03 56 22.4	+1.4
	baz=98						
A22K	Sinclair Lake	87.17	341	P		P	03 56 22.4	+1.5
	baz=102						
MEM	Membach	87.17	39	dP		P	03 56 22.2	+0.7
	comp=Z,5.4nm,1.2s						
WLF	Walferdange	87.17	40	dP		P	03 56 22.2	+0.7
	comp=Z,10nm,1.2s						
E19K	Redstone River	87.25	338	IAmb		IAmb	03 56 23.0
	comp=Z,15nm,0.8s						
E19K	Redstone River	87.25	338	P		P	03 56 22.2	+0.7
	baz=100,SNR=14						
D20K	Ettvluk River	87.25	339	P		P	03 56 22.6	+1.1
	baz=101						
L16K	Owhat River	87.28	332	IAmb		IAmb	03 56 23.6
	comp=Z,17nm,1.2s						
H18K	Honhosa River	87.31	335	IAmb		IAmb	03 56 24.6
	comp=Z,20nm,0.9s						
H18K	Honhosa River	87.31	335	P		P	03 56 23.7	+1.9
	baz=99						
J17K	VABM Dome	87.34	334	P		P	03 56 22.0	0.0
	baz=98						
F19K	Shaleruckik Mo	87.34	337	IAmb		IAmb	03 56 23.5
	comp=Z,10nm,0.9s						
F19K	Shaleruckik Mo	87.34	337	P		P	03 56 22.7	+0.8
	baz=100,SNR=8.1						
N15K	Kwethluk River	87.37	330	P		P	03 56 21.9	-0.3
	baz=97						
G18K	Tagagawik	87.54	336	P		P	03 56 24.4	+1.4
	baz=99						
B20K	Meade River	87.69	340	P		P	03 56 24.4	+0.9
	baz=100						
M15K	Kasigluk River	87.73	331	P		P	03 56 25.1	+1.2
	baz=97						
A21K	Barrow	87.75	342	P		P	03 56 25.6	+1.8
	baz=101						
D19K	Kuna River	87.75	339	P		P	03 56 23.2	-0.8
	baz=100						
H17K	Granite Mounta	87.92	335	IAmb		IAmb	03 56 27.0
	comp=Z,15nm,0.8s						
H17K	Granite Mounta	87.92	335	P		P	03 56 26.1	+1.3
	baz=98						
J16K	Anvik River	88.01	333	P		P	03 56 26.6	+1.4
	baz=97						
F18K	Selawik	88.05	337	P		P	03 56 26.5	+1.3
	baz=98,SNR=9.5						
I17K	Unalakleet	88.12	334	P		P	03 56 26.9	+1.2
	baz=97						
N14K	Kuskokwak Cree	88.14	330	P		P	03 56 27.2	+1.4
	baz=96						
L15K	Ungalak Mounta	88.23	332	P		P	03 56 27.6	+1.4
	baz=96						
G17K	Kiwalik Mounta	88.31	336	P		P	03 56 27.7	+1.2
	baz=97						
K15K	Wolf Creek Mou	88.32	332	P		P	03 56 27.1	+0.5
	baz=96						
M14K	Bethel	88.36	331	P		P	03 56 28.1	+1.3
	baz=96						
E18K	Tukpahlearik C	88.53	337	IAmb		IAmb	03 56 29.4
	comp=Z,14nm,1.3s						
E18K	Tukpahlearik C	88.53	337	P		P	03 56 27.3	-0.2
	baz=97						
FALS	False Pass	88.61	325	P		P	03 56 28.6	+0.4
	baz=94						
QSPA	South Pole Qui	88.64	180	P		P	03 56 29.2	+1.0
QSPA				IAmb		IAmb	03 56 30.7
	comp=Z,20nm,1.1s						
QSPA	South Pole Qui	88.64	180	P		P	03 56 28.9	+0.7
	comp=Z,13nm,1.0s,baz=158,slow=3.3,SNR=3.4						
	comp=Z,13nm,1.0s						
F17K	Baldwin Pennin	88.66	336	P		P	03 56 29.5	+1.4
	baz=96						
L14K	Kuka Creek	88.77	331	P		P	03 56 29.8	+1.1
	baz=95						
H16K	Elim	88.88	335	P		P	03 56 30.5	+1.3
	baz=96						
C18K	Utukok River	88.90	339	P		P	03 56 30.2	+0.9
	baz=97						
E17K	Hotham Inlet	88.96	337	P		P	03 56 30.8	+1.3
	baz=96,SNR=5.7						
G16K	Koyuk River	89.00	335	IAmb		IAmb	03 56 32.2
	comp=Z,14nm,0.9s						
G16K	Koyuk River	89.00	335	P		P	03 56 31.7	+1.9
	baz=96,SNR=5.1						
M13K	Dall Lake	89.01	330	P		P	03 56 31.3	+1.4
	baz=94						
A19K	Wainwright	89.04	340	P		P	03 56 30.4	+0.6
	baz=97						
B18K	Kokolik River	89.19	339	P		P	03 56 32.0	+1.3
	baz=96						
J14K	Nanvaranak Lak	89.30	333	P		P	03 56 32.7	+1.5
	baz=94						
DAVA	Damuels	89.47	43	iP		P	03 56 32.1	-0.6
	comp=Z,7.1nm,1.2s						
D17K	Noatak River	89.50	338	P		P	03 56 33.4	+1.3
	baz=95						
G15K	Niukluk	89.67	335	P		P	03 56 33.4	+0.5
	baz=94						
K13K	Kusilvak Mount	89.75	332	P		P	03 56 33.8	+0.5
	baz=93						
F15K	North Star Dit	89.98	336	P		P	03 56 35.8	+1.5
	baz=93						
FETA	Feichten	90.04	43	eP		P	03 56 35.3	0.0
	comp=Z,7.9nm,1.1s						
RETA	Reutte	90.08	43	eP		P	03 56 36.1	+0.7
	comp=Z,5.1nm,1.4s						
MOTA	Moosalm	90.31	43	eP		P	03 56 36.4	-0.1
	comp=Z,3.3nm,1.0s						
SQTA	Sankt Quirin	90.38	43	eP		P	03 56 37.5	+0.7
	comp=Z,11nm,1.4s						
C16K	Lisburne Hills	90.39	338	P		P	03 56 37.6	+1.4
	baz=93						
M11K	Mekoryuk	90.42	330	P		P	03 56 37.7	+1.2
	baz=92						
WATA	Walderalm	90.63	43	eP		P	03 56 38.3	+0.3
WTTA	Wattenberg	90.67	43	eP		P	03 56 38.2	0.0
	comp=Z,9.8nm,1.3s						
NOA	NORSAR Array B	90.77	29	P		P	03 56 37.9	-0.3
	comp=Z,1.4nm,1.0s,baz=276,slow=4.1,SNR=3.9						
	comp=Z,1.4nm,1.0s						
LESA	Schwarzleotal	91.38	43	eP		P	03 56 41.7	+0.3
	comp=Z,2.2nm,0.9s						
HFS	Hagfors	91.98	30	P		P	03 56 44.3	+0.5
	comp=Z,1.0nm,0.8s,baz=249,slow=7.6,SNR=1.9						
	comp=Z,1.0nm,0.8s						
BIOA	Bad Ischl, Aus	92.03	43	eP		P	03 56 45.0	+0.7
	comp=Z,2.9nm,1.0s						
ELIB	Princess Elisa	92.11	162	dP		P	03 56 44.8	+0.4
BRG	Berggiesshubel	92.21	39	eP		P	03 56 46.4	+1.4
BRG				Amp			03 56 47.1
	comp=Z,4.7nm,1.0s						
VNDA	Vanda	94.92	191	P		P	03 56 58.2	+1.3
	comp=Z,0.7nm,0.8s,baz=127,slow=3.2,SNR=4.1						
	comp=Z,0.7nm,0.8s						
VYHS	Vyhne	95.48	42	ePDIFF		P	03 57 01.0	+0.9
ZALV	Zalesovo Beam	125.73	13	PKP		PKPdf	04 02 35.2	-0.6
	comp=Z,2.3nm,0.6s,baz=255,slow=2.8,SNR=11						
KURBB	Kurchatov Arra	127.04	19	PKP		PKPdf	04 02 38.3	-0.2
	comp=Z,2.3nm,0.7s,baz=328,slow=2.5,SNR=24						
USRK	Ussuriysk Ar.	129.87	332	PKP		PKPdf	04 02 44.4	+0.3
	comp=Z,3.3nm,0.8s,baz=104,slow=6.1,SNR=4.9						
STKA	Stephens Creek	130.09	225	PKP		PKPdf	04 02 44.5	-0.3
	comp=Z,4.8nm,0.9s,baz=116,slow=2.7,SNR=8.4						
BNX	BinXian	130.62	337	⇑P		PKPdf	04 02 44.9	-0.5
BNX				pmax		pmax	
	comp=Z,4.0nm,0.9s						
MKAR	Makanchi Array	131.59	18	PKP		PKPdf	04 02 46.6	-0.7
	comp=Z,0.8nm,0.7s,baz=352,slow=1.7,SNR=7.3						
MKAR				SKPbc		SKPbc	04 05 55.2	-0.8
	comp=Z,0.7nm,0.8s,baz=352,slow=4.9,SNR=6.4						
MJAR	Matsushiro Arr	131.74	321	PKP		PKPdf	04 02 47.1	-0.8
	comp=Z,1.7nm,0.6s,baz=89,slow=1.0,SNR=7.5						
SONM	Songino Array	133.63	356	PKP		PKPdf	04 02 51.5	+0.2
	comp=Z,1.1nm,0.6s,baz=320,slow=1.5,SNR=6.5						
SONM				SKPab		SKPbc	04 06 04.4	+1.2
	comp=Z,2.0nm,0.8s,baz=356,slow=1.9,SNR=8.4						
KSRS	Korea Array	137.02	330	PKP		PKPdf	04 02 57.6	0.0
	comp=Z,4.2nm,0.7s,baz=21,slow=1.1,SNR=19						
HHC	Hu-ho-hao-te	139.85	349	eP		PKiKP	04 03 05.8	+0.4
ASAR	Alice Springs	140.33	229	PKhKP		PKPpre	04 02 56.3
	comp=Z,0.9nm,0.6s,baz=122,slow=3.8,SNR=19						
ASAR				PKP		PKPdf	04 03 04.1	0.0
	comp=Z,2.3nm,0.7s,baz=123,slow=2.3,SNR=14						
WRA	Warramunga Arr	141.98	234	PKhKP		PKPpre	04 03 01.5
	comp=Z,3.0nm,0.8s,baz=110,slow=2.9,SNR=9.7						
WRA				PKP		PKPdf	04 03 06.6	-0.6
	comp=Z,3.7nm,0.7s,baz=111,slow=1.7,SNR=14						
GTA	Gaotai	142.13	3	eP		PKPdf	04 03 07.9	+0.8
GTA				pmax		pmax	
	comp=Z,4.0nm,0.9s						
TIA	Tai'an	142.72	340	P		PKPdf	04 03 06.6	-1.5
TIA				pmax		pmax	
	comp=Z,5.0nm,0.4s						
LZH	Lanzhou	145.48	358	⇓PKPbc		PKPab	04 03 14.5	+0.7
LZH				pPKP		pPKPdf	04 04 00.5	+0.1
NJ2	Nanjing	145.72	334	eP		PKPab	04 03 14.3	-0.3
NJ2				pmax		pmax	
	comp=Z,7.0nm,0.5s						
XAN	Xi'an	146.95	350	PKPbc		PKPdf	04 03 16.3	+0.8
XAN				pPKP		pPKPdf	04 04 02.0	-0.8
FITZ	Fitzroy Crossi	149.84	229	PKP		PKPdf	04 03 20.6	+0.1
	comp=Z,4.1nm,0.8s,baz=129,slow=6.5,SNR=5.0						
FITZ				PKPbc		PKPbc	04 03 25.3	-0.2
	comp=Z,18nm,0.8s,baz=184,slow=5.3,SNR=6.2						
FITZ				PKPab		PKPab	04 03 31.6	+0.2
	comp=Z,9.9nm,0.8s,baz=160,slow=4.7,SNR=11						
PZH	PanZhiHua	155.06	1	PKPbc		PKPdf	04 03 27.8	-0.4
CMAR	Chiang Mai Arr	162.78	10	PKP		PKPdf	04 03 36.9	-0.3
	comp=Z,0.6nm,0.3s,baz=296,slow=3.0,SNR=7.2						
CMAR				PKPab		pPKPdf	04 04 25.6	+0.8
	comp=Z,1.4nm,0.6s,baz=322,slow=5.5,SNR=8.8						

*KOLA **13** 04:07:08.3, 67°.66N×33°.74E, h0km, ML1.5, Error ellipse: s-maj=2.6km s-min=1.5km az=140.0, Khibiny, mines Kirovsk, Yukspor*

HEL 13 04:07:08.0±0.3, 67°.70N×33°.70E, h0km, ML1.3, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	Apatity	0.17	222	P	Pg	04 07 10.9	-0.3
APA0	Apatity Array	0.28	252	P	Pg	04 07 13.2	-0.2
APA0				S	Sg	04 07 17.1	0.0
LVZ	Lovozero	0.41	60	P	Pg	04 07 15.7	-0.3
LVZ				S	Sg	04 07 21.4	+0.1
LVZ	Lovozero	0.41	60	PG	Pg	04 07 16.1	+0.2
LVZ				SG	Sg	04 07 19.6	-1.7
KVDA	Kovda	1.06	198	P	Pg	04 07 26.4	-1.8
KVDA				S	Sg	04 07 40.2	-1.7
VRF	Varrio	1.56	274	PG	Pn	04 07 36.4	-0.6
VRF				MSG		04 07 54.7	
	comp=Z,2.4nm,0.2s						
VRF				SN	Sn	04 07 56.8	-1.0
TERR	Teriberka	1.60	18	P	Pn	04 07 37.3	-0.2
TERR				S	Sn	04 07 58.2	-0.6
RAJF	Raja-Jooseppi	2.17	294	PG	Pn	04 07 46.4	+1.1
RAJF				SG	Sn	04 08 14.1	+1.3
OLKF	Oulanka, Finla	2.18	233	PG	Pb	04 07 47.1	-1.1
OLKF				MSG		04 08 12.5	
	comp=Z,1.6nm,0.2s						
OLKF				SG	Sb	04 08 15.4	-0.4
KU6	Riekki	2.25	224	PG	Pn	04 07 47.9	+1.4
	baz=42						
KU6				MSG		04 08 14.6	
	comp=Z,0.7nm,0.2s						
KU6				SG	Sb	04 08 17.8	0.0
MSF	Maaselka	2.57	228	PG	Pb	04 07 53.1	-1.8
MSF				SG	Sb	04 08 28.0	+1.0
VADS	Vadso	2.90	329	P	Pn	04 07 56.6	+1.3
VADS				S	Sn	04 08 30.9	+0.1
RNF	Rovaniemi	3.19	254	PN	Pn	04 07 59.7	+0.4
RNF				SG	Sb	04 08 47.4	+2.6
KEV	Kevo	3.20	313	eP	Pn	04 08 00.1	+0.7
KEV	Kevo	3.20	313	PN	Pn	04 08 00.5	+1.1
	baz=127						
KEV				SN	Sn	04 08 38.7	+0.5
ARA0	ARCESS Array S	3.52	305	PN	Pn	04 08 04.3	+0.4
ARCES	ARCESS Array B	3.52	305	P	Pn	04 08 04.1	+0.1
ARCES				S	Sn	04 08 45.9	-0.4
OUL	Oulu	4.09	234	SG	Sb	04 09 12.0	+1.4

*UPP **13** 04:07:39.1±0.0, 67°.19N×20°.65E, h0km, ML2.1, Confirmed Induced event*

HEL 13 04:07:39.8±0.0, 67°.18N×20°.64E, h1km, ML1.3, ML2.1(UPP), Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	Dundret	0.06	207	P	Pg	04 07 40.8	-0.2
DUNU				S	Sg	04 07 41.9	0.0
DUNU	Dundret	0.06	207	iP	Pg	04 07 40.8	-0.2
DUNU				iS	Sg	04 07 41.9	0.0
MASU	Masugnsbyn	0.60	61	P	Pg	04 07 50.5	-0.7
MASU				S	Sg	04 07 58.4	-0.5
MASU	Masugnsbyn	0.60	61	iP	Pg	04 07 50.5	-0.7
MASU				iS	Sg	04 07 58.4	-0.5
RATU	Laukkuluspa	0.77	329	P	Pg	04 07 53.3	-1.2
RATU				S	Sg	04 08 03.7	-0.6
RATU	Laukkuluspa	0.77	329	iP	Pg	04 07 53.3	-1.2
RATU				iS	Sg	04 08 03.7	-0.6
KUA	Kurravaara	0.79	352	P	Pg	04 07 53.7	-1.2
KUA				S	Sg	04 08 04.4	-0.7
KUA	Kurravaara	0.79	352	iP	Pg	04 07 53.7	-1.2
KUA				iS	Sg	04 08 04.4	-0.7
SALU	Saltoluokta	0.85	285	P	Pg	04 07 55.1	-1.0
SALU				S	Sg	04 08 06.7	-0.5
SALU	Saltoluokta	0.85	285	iP	Pg	04 07 55.1	-1.0
SALU				iS	Sg	04 08 06.7	-0.5
ERTU	Ertsjaerv	0.88	135	P	Pg	04 07 55.2	-1.3
ERTU	Ertsjaerv	0.88	135	eP	Pg	04 07 55.3	-1.2
ERTU				eS	Sg	04 08 06.8	-1.0
PAJU	Pajala	0.98	98	P	Pg	04 07 57.2	-1.3
PAJU	Pajala	0.98	98	eP	Pg	04 07 57.2	-1.3
PAJU				eS	Sg	04 08 10.0	-1.2
LANU	Lannavaara	1.02	30	P	Pg	04 07 58.0	-1.3
LANU	Lannavaara	1.02	30	eP	Pg	04 07 57.9	-1.4
LANU				eS	Sg	04 08 11.1	-1.3
KOVU	Salmi	1.07	350	P	Pg	04 07 58.7	-1.5
KOVU	Salmi	1.07	350	eP	Pg	04 07 58.7	-1.5
KLF	Kolari	1.29	86	eP	Pg	04 08 02.9	-1.7
KLF				eS	Sg	04 08 19.8	-1.6
HEF	Hetta	1.69	41	eP	Pn	04 08 09.7	-0.7
HEF	Hetta	1.69	41	eP	Pn	04 08 09.3	-1.1
HEF				eS	Sn	04 08 31.3	-1.3
HEF				MSG		04 08 35.6	
	comp=Z,1.3nm,0.1s						
KALU	Kalix	1.71	139	P	Pn	04 08 10.1	-0.6
KALU	Kalix	1.71	139	eP	Pn	04 08 10.1	-0.6
KALU				eS	Sn	04 08 32.4	-0.8
KALU				MSG		04 08 36.5	
	comp=Z,2.0nm,0.1s						
SJUU	Sjulsmark	1.72	167	P	Pn	04 08 10.3	-0.5
SJUU	Sjulsmark	1.72	167	eP	Pn	04 08 10.3	-0.5
TOF	Tornio	1.84	125	ePN	Pn	04 08 12.3	0.0
TOF				eSG	Sn	04 08 36.4	+0.2
TOF				MSG		04 08 39.5	
	comp=Z,1.8nm,0.1s						
KIF	Kilpisjarvi	1.84	2	ePN	Pn	04 08 12.9	+0.5
KIF				eSG	Sb	04 08 37.8	+0.2
KIF				MSG		04 08 40.4	
	comp=Z,3.8nm,0.1s						
KTK1	Kautokeino	2.08	27	ePB	Pn	04 08 16.6	+0.7
KTK1				eSB	Sn	04 08 42.5	+0.1
RNF	Rovaniemi	2.19	103	ePB	Pn	04 08 17.6	+0.3
RNF				eSB	Sn	04 08 46.2	+1.1
RNF				MSG		04 08 49.5	
	comp=Z,1.5nm,0.1s						
TRO	Tromso	2.55	346	ePB	Pn	04 08 24.2	+2.0
TRO				eS	Sn	04 08 53.9	+0.1
BURU	Burvik	2.62	173	eP	Pn	04 08 23.6	+0.4
BURU				eS	Sn	04 08 55.3	-0.3
BURU				MSG		04 09 04.3	
	comp=Z,0.5nm,0.2s						

IDC 13 04:16:03.4±3.5, 5°.53S×129°.17E, h0km, mb3.4/1, mbtmp3.5/3, ML3.2/2, Error ellipse: s-maj=318.5km s-min=32.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	15.18	161	Pn	Pn	04 19 37.9	-1.4
	0.1nm,0.3s,baz=338,slow=14,SNR=2.2						
WRA				Sn	Sn	04 22 18.0	-10
	baz=323,slow=49,SNR=1.2						
	0.6nm,0.7s						
ASAR	Alice Springs	18.59	166	P	Pn	04 20 22.8	+0.2
	0.2nm,0.3s,baz=346,slow=10,SNR=12						
	1.0nm,0.5s						
MKAR	Makanchi Array	66.56	327	P	P	04 26 55.4	0.0
	0.2nm,0.5s,baz=145,slow=5.3,SNR=1.9						
	0.2nm,0.5s						

*IDC **13** 04:22:48.8±2.4, 18°.16S×177°.98W, h648km±23km, mb3.3/6, mbtmp4.3/7, Error ellipse: s-maj=32.4km s-min=26.5km az=39.0*

ISC 13 04:22:44.5±1.6, 18°.2S±0°.3×177°.9W±0°.2, h590km, n9, σ0877/10, mb4.0/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.89	277	P	P	04 24 16.6	+7.9
	13nm,0.5s,baz=232,slow=17,SNR=4.4						
STKA	Stephens Creek	38.91	242	P	P	04 29 21.3	+0.3
	0.8nm,0.3s,baz=319,slow=14,SNR=2.8						
	0.8nm,0.3s						
JAY	Jayapura	43.47	286	P	P	04 29 57.7	+0.5
	6.9nm,0.5s,baz=94,slow=7.0,SNR=4.4						
	6.9nm,0.5s						
WRA	Warramunga Arr	45.06	260	P	P	04 30 08.9	-0.4
	3.3nm,0.4s,baz=97,slow=7.2,SNR=53						
WRA				PcP	PcP	04 31 36.4	-0.9
	0.4nm,0.4s,baz=89,slow=3.4,SNR=1.4						
	3.3nm,0.4s						
ASAR	Alice Springs	45.18	255	P	P	04 30 10.2	0.0
	7.2nm,0.7s,baz=91,slow=7.8,SNR=38						
ASAR				PcP	PcP	04 31 36.6	-1.1
	0.6nm,0.4s,baz=100,slow=3.4,SNR=3.1						
	7.2nm,0.7s						
FITZ	Fitzroy Crossi	53.46	261	P	P	04 31 10.7	-0.4
	0.8nm,0.3s,baz=104,slow=5.8,SNR=11						
	0.8nm,0.3s						
QSPA	South Pole Qui	71.83	180	P	P	04 33 08.6	+0.2
	1.2nm,0.6s,baz=76,slow=7.7,SNR=9.2						
	1.2nm,0.6s						
BRTR	Keskin Array B	145.35	315	PKPbc	PKPdf	04 41 15.8	-0.6
	0.5nm,0.5s,baz=123,slow=4.1,SNR=4.2						
GERES	GERESS Array B	148.04	345	PKPbc	PKPdf	04 41 21.6	+1.0
	0.4nm,0.5s,baz=346,slow=3.2,SNR=4.2						

*IDC **13** 04:23:24.0±0.5, 1°.73S×122°.62E, h0km, mb4.1/18, mbtmp4.1/19, ML3.4/1, MS3.4/5, Error ellipse: s-maj=23.7km s-min=12.3km az=69.0*

*NEIC **13** 04:23:27.6±1.7, 1°.88S±0°.03×122°.64E±0°.07, h10km±1km, mb4.5/16, Error ellipse: s-maj=12.7km s-min=4.6km az=255.0*

*DJA **13** 04:23:28.2±0.7, 2°.5S±2°.×122°.3E±°, h12km±6km, M4.7/21, mB5.2/7, mb4.9/12, MLv4.8/21, Mw(mB)4.5/7, MwMwp5.0/1, Mwp5.3/1*

ISC 13 04:23:30.1±0.4, 1°.87S±0°.04×122°.62E±0°.06, h35km, n78, σ1949/80, mb4.3/31, MS3.3/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	Luwuk	0.83	10		Pn	04 23 43.8	-1.5
LUWI	Luwuk	0.83	10	P	Pn	04 23 43.6	-1.7
APSI	Ampana	1.36	314	P	Pn	04 23 52.1	-0.5
KDI	Kendari	2.08	180	P	Pn	04 24 02.2	-0.3
KDI				S	Sn	04 24 28.1	+0.9
MRSI	Marisa	2.42	344	P	Pn	04 24 07.2	0.0
MRSI				S	Sn	04 24 37.2	+1.5
KMSI	Cibinong	2.78	29	P	Pn	04 24 13.5	+1.4
PCI	Palu	2.94	289	P	Pn	04 24 17.7	+3.3
SANI	Sanana	3.37	93	P	Pn	04 24 19.2	-1.0
TOLI2	Tolitoli	3.48	328		Pn	04 24 22.3	+0.5
MPSI	Mapaga	3.49	309	P	Pn	04 24 21.3	-0.6
SPSI	Sidrap Palu	3.53	234	P	Pn	04 24 22.8	+0.3
BNSI	Bone	3.56	225	P	Pn	04 24 23.2	+0.4
BBSI	Bau Bau	3.60	181	P	Pn	04 24 23.6	+0.2
KAPI	Kappang	4.24	222		Pn	04 24 32.6	+0.3
KAPI	Kappang	4.24	222	Pn	Pn	04 24 33.0	+0.7
	134nm,0.3s,baz=337,slow=4.9,SNR=195						
KAPI				Sn	Sn	04 25 19.9	-0.7
	86nm,0.3s,baz=46,slow=23,SNR=11						
KAPI				LR	LR	04 26 24.1	
	comp=Z,454nm,18.6s,baz=57,slow=42						
NLAI	Namlea	4.68	107	P	Pn	04 24 39.9	+1.7
BSSI	Bau Bau, Buton	4.75	207	P	Pn	04 24 39.4	+0.1
TNTI	Ternate	5.42	61	P	Pn	04 24 48.8	+0.4
	0.4nm2μm58nm,0.8s						
BKB	Balikpapan	5.76	276	Pn	Pn	04 24 48.8	-4.2
MMRI	Maumere	6.74	183		Pn	04 25 06.2	-0.4
MMRI	Maumere	6.74	183	P	Pn	04 25 06.5	-0.1
EDFI	Ende, Flores	6.90	188	P	Pn	04 25 08.9	0.0
	0.3nm60nm,0.5s						
SOEI	Soe	8.01	168		Pn	04 25 28.0	+3.9
SOEI	Soe	8.01	168	P	Pn	04 25 28.0	+3.9
WBSI	Waikabubak, Su	8.37	202	P	Pn	04 25 29.5	+0.5
	60nm,0.8s						
PLAI	Plampang	8.43	215	P	Pn	04 25 29.5	-0.3
	20nm,0.7s						
SWI	Sorong	8.69	84	P	Pn	04 25 34.1	+0.7
FAKI	Fak Fak	9.68	96		Pn	04 25 46.8	-0.2
FAKI	Fak Fak	9.68	96	P	Pn	04 25 46.7	-0.2
JAGI	Jajag, Banyuwa	10.68	232		Pn	04 26 00.4	-0.3
KNRA	Kununurra	15.00	157	Pn	Pn	04 26 58.5	-1.1
FITZ	Fitzroy Crossi	16.40	170	Pn	Pn	04 27 16.8	-0.9
	0.1nm,0.3s,baz=339,slow=5.1,SNR=5.6						
	3.8nm,0.7s						
MBWA	Marble Bar	19.38	188	P	P	04 27 52.9	-0.2
WRAB	Tennant Creek	21.31	148	P	P	04 28 13.0	-0.9
WRAB				IAmb	IAmb	04 28 18.0
	comp=Z,10.0nm,0.8s						
WRA	Warramunga Arr	21.31	148	P	P	04 28 13.5	-0.5
WRA	Warramunga Arr	21.31	148	P	P	04 28 13.2	-0.8
	comp=Z,9.4nm,0.8s,baz=330,slow=9.9,SNR=27						
	comp=Z,9.4nm,0.8s						
RPSI	Rantau Prapat	24.12	281		P	04 28 42.5	-0.4
RPSI				IAmb	IAmb	04 28 46.3
	comp=Z,14nm,0.8s						
PSI	Prapat	24.14	281	LR	LR	04 37 32.4
	comp=Z,70nm,21.8s,baz=126,slow=35						
AS31

PALK	**Pallekele**	**42.80 283**	LR	LR	04 51 56.7	
	comp=Z,63nm,18.3s,baz=124,slow=40					
HHC	**Hu-ho-hao-te**	**43.69 348**	*e*P	**P**	**04 31 35.6**	**+3.8**
HHC			pmax	pmax		
	comp=Z,10.0nm,0.7s					
XLT	**XiLinHaoTe**	**45.94 353**	*e*P	**P**	**04 31 51.8**	**+2.2**
XLT			sP	pP	04 31 58.3	-1.5
XLT			pmax	pmax		
	comp=Z,6.0nm,0.7s					
GTA	**Gaotai**	**46.11 335**	*e*P	**P**	**04 31 53.0**	**+1.9**
GTA			PcP	**PcP**	**04 33 28.8**	**+1.9**
GTA			pmax	pmax		
	comp=Z,3.0nm,0.9s					
USRK	**Ussuriysk Ar.**	**46.62 9**	P	**P**	**04 31 53.2**	**-1.7**
	comp=Z,1.0nm,0.6s,baz=216,slow=6.8,SNR=2.2					
	comp=Z,1.0nm,0.6s					
JKA	**Kamikawa-asahi**	**49.15 19**	P	**P**	**04 32 16.0**	**+1.6**
JKA			IAmb	IAmb	04 32 43.9	
	comp=Z,9.2nm,1.1s					
SONM	**Songino Array**	**51.49 346**	P	**P**	**04 32 31.0**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=165,slow=11,SNR=2.9					
	comp=Z,0.6nm,0.6s					
MKAR	**Makanchi Array**	**60.00 329**	P	**P**	**04 33 33.6**	**+0.4**
MKAR	**Makanchi Array**	**60.00 329**	P	**P**	**04 33 31.8**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=122,slow=7.5,SNR=12					
MKAR			PcP	**PcP**	**04 34 19.4**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=129,slow=5.1,SNR=5.7					
	comp=Z,1.2nm,0.7s					
PETK	**Petropavlovsk-**	**62.14 23**	P	**P**	**04 33 46.7**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=179,slow=5.9,SNR=4.2					
	comp=Z,0.3nm,0.5s					
ZALV	**Zalesovo Beam**	**63.85 336**	P	**P**	**04 33 55.5**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=123,slow=11,SNR=4.9					
	comp=Z,0.5nm,0.3s					
KURBB	**Kurchatov Arra**	**64.39 331**	P	**P**	**04 34 00.2**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=138,slow=6.2,SNR=12					
	comp=Z,1.0nm,0.7s					
KURK	**Kurchatov**	**64.40 331**	P	**P**	**04 34 02.8**	**+0.2**
KURK			IAmb	IAmb	04 34 03.6	
	comp=Z,9.2nm,1.4s					
BVAR	**Borovoye Array**	**69.88 329**	P	**P**	**04 34 36.2**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=140,slow=9.4,SNR=4.0					
	comp=Z,0.7nm,0.6s					
VNDA	**Vanda**	**78.47 172**	P	**P**	**04 35 27.4**	**+0.5**
VNDA	**Vanda**	**78.47 172**	P	**P**	**04 35 27.1**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=312,slow=3.7,SNR=9.8					
VNDA			LR	LR	05 11 08.1	
	comp=Z,36nm,18.6s,baz=322,slow=36					
	comp=Z,1.0nm,0.6s					
M14K	**Bethel**	**84.52 29**	P	**P**	**04 36 01.0**	**+1.7**
KMBO	**Kilima Mbogo**	**85.34 269**	P	**P**	**04 36 03.6**	**-1.2**
	comp=Z,1.0nm,0.2s,baz=95,slow=11,SNR=3.6					
	comp=Z,1.0nm,0.2s					
H19K	**Roundabout Mou**	**87.92 24**	P	**P**	**04 36 17.4**	**+1.5**
QSPA	**South Pole Qui**	**88.08 180**	P	**P**	**04 36 17.3**	**+0.5**
QSPA			IAmb	IAmb	04 36 44.3	
	comp=Z,2.1nm,1.1s					
QSPA	**South Pole Qui**	**88.08 180**	P	**P**	**04 36 16.7**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=324,slow=1.2,SNR=7.7					
	comp=Z,1.3nm,0.8s					
BRTR	**Keskin Array B**	**90.40 310**	P	**P**	**04 36 26.6**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=142,slow=4.9,SNR=2.8					
	comp=Z,0.3nm,0.7s					
ILAR	**Eielson Array**	**91.88 25**	P	**P**	**04 36 33.6**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=255,slow=4.6,SNR=6.0					
	comp=Z,0.4nm,0.6s					
I28M	**Miner Creek**	**94.79 25**	P	**P**	**04 36 48.3**	**+0.3**
CPUP	**Villa Florida**	**151.97 180**	PKPbc	**PKPbc**	**04 43 22.2**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=160,slow=0.5,SNR=4.6					

*IDC **13** 04:39:56.7±1.5,27.99N×85.02E, h0km, mb3.7/7, mbtmp3.7/8, ML3.7/1, MS3.4/1, Error ellipse: s-maj=55.4km s-min=21.7km az=63.0*

*DMN **13** 04:39:59.7±0.0,28.05N×85.39E, h2km, Ml4.7/4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 13 04:39:58.8±1.3,28.10N±0.05×85.33E±0.03, h8km±10km, n19,σ0°85/27, mb3.7/7, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKN	**Kakani**	**0.31**	**188**	Pg	**Pg**	**04 40 05.5**	**+0.4**
	baz=201,slow=0.0						
KKN				Sg	**Sg**	**04 40 09.3**	**0.0**
	15μm,0.2s,baz=201,slow=0.0						
GUN	**Gumba**	**0.52**	**111**	Pg	**Pg**	**04 40 09.3**	**+0.3**
	baz=107,slow=0.0						
GUN				Sg	**Sg**	**04 40 15.6**	**-0.3**
	5μm,0.3s,baz=107,slow=0.0						
PKIN	**Phulchoki**	**0.52**	**174**	Pg	**Pg**	**04 40 09.6**	**+0.5**
	baz=179,slow=0.0						
PKIN				Sg	**Sg**	**04 40 14.9**	**-1.1**
	9μm,0.3s,baz=179,slow=0.0						
DMN	**Daman**	**0.53**	**202**	Pg	**Pg**	**04 40 09.5**	**+0.4**
	baz=210,slow=0.0						
DMN				Sg	**Sg**	**04 40 16.1**	**0.0**
	5μm,0.5s,baz=210,slow=0.0						
PKI	**Pulchoki**	**0.53**	**172**	Pg	**Pg**	**04 40 09.1**	**-0.1**
	baz=177,slow=0.0						
PKI				Sg	**Sg**	**04 40 14.8**	**-1.4**
	8μm,0.4s,baz=177,slow=0.0						
KOLN	**Koldanda**	**1.56**	**258**	Pg	**Pg**	**04 40 29.6**	**+0.7**
	baz=260,slow=0.0						
KOLN				Sg	**Sg**	**04 40 50.8**	**+1.6**
	2μm,0.4s,baz=260,slow=0.0						
RAMN	**Ramite**	**1.61**	**135**	Pg	**Pb**	**04 40 28.8**	**-0.1**
	baz=135,slow=0.0						
RAMN				Sg	**Sn**	**04 40 48.9**	**+0.2**
	1μm,0.3s,baz=135,slow=0.0						
PYUN	**Piuthan**	**2.07**	**271**	Pn	**Pb**	**04 40 35.8**	**-0.9**
	baz=272,slow=0.0						
PYUN	**Piuthan**	**2.07**	**271**	Pg	**Pg**	**04 40 37.7**	**-0.8**
	baz=272,slow=0.0						
PYUN				Sg	**Sg**	**04 41 06.5**	**+1.2**
	1μm,0.5s,baz=272,slow=0.0						
ODAN	**Odare**	**2.21**	**124**	Pg	**Pb**	**04 40 39.2**	**+0.1**
	baz=123,slow=0.0						
ODAN				Sg	**Sb**	**04 41 07.9**	**+1.2**
	874nm,0.4s,baz=123,slow=0.0						
MKAR	**Makanchi Array**	**18.81**	**354**	P	**Pn**	**04 44 19.3**	**+0.1**
	0.3nm,0.3s,baz=174,slow=12,SNR=22						
	2.4nm,0.7s						
KURBB	**Kurchatov Arra**	**23.08**	**349**	P	**P**	**04 45 03.6**	**-1.1**
	0.4nm,0.5s,baz=179,slow=9.3,SNR=7.7						
	0.4nm,0.5s						
SONM	**Songino Array**	**25.62**	**34**	P	**P**	**04 45 30.1**	**+1.3**
	0.8nm,0.7s,baz=224,slow=12,SNR=3.8						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**25.83**	**359**	P	**P**	**04 45 30.7**	**+0.4**
	1.6nm,0.5s,baz=183,slow=9.8,SNR=7.9						
	1.6nm,0.5s						
AKASG	**Malin Array Be**	**47.55**	**314**	LR	LR	05 11 49.0	
	comp=Z,40nm,19.1s,baz=50,slow=40						
FINES	**FINESS Array B**	**51.10**	**328**	P	**P**	**04 49 00.3**	**-1.2**
	0.5nm,0.5s,baz=102,slow=8.8,SNR=5.9						
	0.5nm,0.5s						
ARCES	**ARCESS Array B**	**53.50**	**338**	P	**P**	**04 49 18.6**	**-0.7**
	2.3nm,0.8s,baz=106,slow=6.9,SNR=5.9						
	2.3nm,0.8s						
WRA	**Warramunga Arr**	**67.28**	**130**	P	**P**	**04 50 54.4**	**+0.2**
	0.3nm,0.6s,baz=317,slow=6.4,SNR=1.8						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**69.58**	**133**	P	**P**	**04 51 08.7**	**+0.1**
	0.3nm,0.6s,baz=315,slow=5.9,SNR=2.8						
	0.3nm,0.6s						

*IDC **13** 05:26:11.6±0.5, 1.67S×122.75E, h0km, mb4.5/22, mbtmp4.6/25, ML5.0/2, MS3.7/5, Error ellipse: s-maj=19.5km s-min=11.0km az=77.0*

*BJI **13** 05:26:13.0, 1.80S×122.60E, h10km, mB4.9/15, mb4.8/53, Ms4.4/6, Ms7 4.1/6*

*NEIC **13** 05:26:14.5±2.2, 1.84S±0.04×122.58E±0.06, h10km±1km, mb5.0/71, Error ellipse: s-maj=11.0km s-min=7.3km az=95.0*

*DJA **13** 05:26:15.5±0.1, 2.3S±1.×12.3E±.°, h10km, M4.9/43, mb4.9/43, mB5.4/21, MLv5.2/25, Mw(mB)4.8/21, MwMwp4.8/2, Mwp5.1/2*

ISC 13 05:26:13.7±0.3, 1.82S±0.04×122.64E±0.05, h10km, n406, σ1°08/405, mb4.9/70, MS4.0/4, 1C-1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.78**	**10**		**Pg**	**05 26 30.1**	**+1.3**
LUWI	**Luwuk**	**0.78**	**10**	P	**Pg**	**05 26 30.3**	**+1.5**
LUWI				S	**Sb**	**05 26 41.4**	**+1.3**
APSI	**Ampana**	**1.33**	**112**	P	**Pn**	**05 26 38.1**	**-0.4**
KDI	**Kendari**	**2.13**	**180**	P	**Pn**	**05 26 49.5**	**+0.1**
KMSI	**Cibinong**	**2.73**	**30**	P	**Pn**	**05 27 00.1**	**+2.5**
PCI	**Palu**	**2.94**	**288**	P	**Pn**	**05 27 01.2**	**+0.6**
SANI	**Sanana**	**3.36**	**94**	P	**Pn**	**05 27 06.8**	**+0.5**
TOLI2	**Tolitoli**	**3.45**	**327**		**Pn**	**05 27 09.0**	**+1.4**
MPSI	**Mapaga**	**3.47**	**308**	P	**Pn**	**05 27 08.5**	**+0.6**
SPSI	**Sidrap Palu**	**3.57**	**233**	P	**Pn**	**05 27 09.9**	**+0.6**
BNSI	**Bone**	**3.60**	**224**	P	**Pn**	**05 27 10.3**	**+0.6**
BBSI	**Bau Bau**	**3.65**	**181**	P	**Pn**	**05 27 11.8**	**+1.5**
KAPI	**Kappang**	**4.29**	**222**		**Pn**	**05 27 20.1**	**+1.0**
KAPI	**Kappang**	**4.29**	**222**	Pn	**Pn**	**05 27 20.4**	**+1.3**
	62nm,0.3s,baz=350,slow=7.6,SNR=151						
KAPI				Sn	**Sn**	**05 28 09.3**	**+0.1**
	71nm,0.3s,baz=168,slow=20,SNR=7.3						
KAPI				LR	LR	05 29 01.4	
	comp=Z,1μm,21.0s,baz=35,slow=38						
	212nm,0.5s						
NLAI	**Namlea**	**4.68**	**108**	P	**Pn**	**05 27 27.9**	**+3.4**
BSSI	**Bau Bau, Buton**	**4.80**	**206**	P	**Pn**	**05 27 26.8**	**+0.6**
TNTI	**Ternate**	**5.38**	**62**		**Pn**	**05 27 36.1**	**+1.9**
TNTI	**Ternate**	**5.38**	**62**	P	**Pn**	**05 27 35.6**	**+1.4**
	1.6nm3μm197nm,0.6s						
BKB	**Balikpapan**	**5.76**	**275**	Pn	**Pn**	**05 27 37.5**	**-1.9**
AAI	**Ambon**	**5.85**	**109**	P	**Pn**	**05 27 43.9**	**+3.2**
MSAI	**Masohi**	**6.47**	**104**	P	**Pn**	**05 27 51.8**	**+2.7**
	1.1nm9μm258nm,0.7s						
MMRI	**Maumere**	**6.79**	**183**	Pn	**Pn**	**05 27 54.7**	**+1.2**
EDFI	**Ende, Flores**	**6.95**	**188**	P	**Pn**	**05 27 56.8**	**+0.9**
	910nm58nm,0.8s						
BNDI	**Bandanaira**	**7.74**	**111**	P	**Pn**	**05 28 09.4**	**+2.9**
SOEI	**Soe**	**8.05**	**168**		**Pn**	**05 28 11.9**	**+1.0**
SOEI	**Soe**	**8.05**	**168**	P	**Pn**	**05 28 12.6**	**+1.6**
	2μm202nm,1.1s						
MYLDM	**Lahad Datu**	**8.09**	**329**		**Pn**	**05 28 12.5**	**+1.2**
WSI	**Waingapu**	**8.14**	**197**	P	**Pn**	**05 28 12.8**	**+0.7**
WBSI	**Waikabubak, Su**	**8.42**	**202**	P	**Pn**	**05 28 16.6**	**+0.7**
	71nm,0.9s						
PLAI	**Plampang**	**8.48**	**215**	P	**Pn**	**05 28 16.3**	**-0.5**
	25nm,1.0s						
SWI	**Sorong**	**8.67**	**84**	P	**Pn**	**05 28 21.2**	**+1.8**
	90nm,0.7s						
TWSI	**Taliwang, Sumb**	**8.95**	**220**	P	**Pn**	**05 28 23.9**	**+0.7**
FAKI	**Fak Fak**	**9.67**	**97**		**Pn**	**05 28 34.4**	**+1.4**
FAKI	**Fak Fak**	**9.67**	**97**	P	**Pn**	**05 28 35.5**	**+2.5**
	690nm56nm,0.6s						
SRBI	**Singaraja**	**9.67**	**230**	P	**Pn**	**05 28 33.6**	**+0.6**
	23nm,1.0s						
JAGI	**Jajag, Banyuwa**	**10.73**	**232**		**Pn**	**05 28 47.4**	**-0.1**
JAGI	**Jajag, Banyuwa**	**10.73**	**232**	P	**Pn**	**05 28 48.1**	**+0.5**
	26nm,1.1s						
GMJI	**Gumukmas**	**11.18**	**235**	P	**Pn**	**05 28 54.8**	**+1.1**
SBUM	**Sibu**	**11.24**	**292**		**Pn**	**05 28 55.3**	**+0.6**
MTN	**Manton Dam**	**13.81**	**143**		**Pn**	**05 29 28.9**	**-0.9**
TPI	**Tanjungpandan**	**15.00**	**266**	P	**Pn**	**05 29 47.7**	**+1.7**
	912nm60nm,1.1s						
KNRA	**Kununurra**	**15.04**	**157**		**Pn**	**05 29 44.9**	**-1.6**
LEM	**Lembang**	**15.78**	**251**	Pn	**Pn**	**05 29 56.9**	**+0.5**
	8.7nm,0.3s,baz=70,slow=12,SNR=5.6						
	10nm,0.3s						
LEM	**Lembang**	**15.78**	**251**	P	**Pn**	**05 29 57.1**	**+0.7**
	44nm,1.4s						
TGY	**Tagaytay City**	**15.90**	**354**	Pn	**Pn**	**05 29 55.2**	**-2.7**
	127nm,0.3s,baz=200,slow=12,SNR=2.6						
SMPI	**Sarmi**	**16.07**	**91**	P	**P**	**05 30 03.9**	**+0.6**
	48nm,1.1s						
CNJI	**Cibinong**	**16.39**	**250**	P	**Pn**	**05 30 04.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**16.45**	**170**	Pn	**Pn**	**05 30 04.2**	**-0.6**
	7.4nm,0.9s,baz=9.9,slow=12,SNR=3.6						
CGJI	**Cibinong**	**17.55**	**254**	P	**P**	**05 30 20.9**	**+1.1**
	46nm,1.2s						
JAY	**Jayapura**	**18.07**	**93**	LR	LR	05 39 22.2	
	comp=Z,162nm,21.8s,baz=288,slow=44						
KASI	**Kota Agung**	**18.47**	**258**	P	**Pn**	**05 30 31.7**	**+1.6**
	820nm50nm,0.9s						
MDSI	**Maura Dua**	**18.62**	**261**	P	**Pn**	**05 30 33.3**	**+1.4**
	1μm84nm,1.2s						
LWLI	**Liwa**	**18.81**	**260**	P	**Pn**	**05 30 36.4**	**+2.0**
	72nm,0.7s						
MYKOM	**Kota Tinggi**	**19.12**	**281**	P	**Pn**	**05 30 37.8**	**-0.1**
DLV	**Lat**	**19.61**	**315**	P	**P**	**05 30 42.6**	**-0.1**
WRAB	**Tennant Creek**	**21.34**	**148**	P	**P**	**05 31 01.6**	**+0.3**
WRAB				IAmb	IAmb	05 31 05.5	
	comp=Z,57nm,0.9s						
WRA	**Warramunga Arr**	**21.34**	**148**	P	**P**	**05 31 00.8**	**-0.4**
WRA	**Warramunga Arr**	**21.34**	**148**	P	**P**	**05 31 01.6**	**+0.3**
	comp=Z,41nm,0.8s,baz=329,slow=10,SNR=43						
	comp=Z,41nm,0.8s						
PPI	**Padang Panjang**	**22.28**	**273**	P	**P**	**05 31 12.8**	**+1.5**
	comp=Z,46nm,1.2s						
KULM	**Kulim**	**23.07**	**288**	P	**P**	**05 31 19.6**	**-0.2**
MNSI	**Mandailing Nat**	**23.20**	**276**	P	**P**	**05 31 22.2**	**+1.1**
	comp=Z,39nm,1.3s						
UBPT	**Khong Chiam**	**24.02**	**316**	P	**P**	**05 31 29.4**	**+0.3**
RPSI	**Rantau Prapat**	**24.13**	**281**	P	**P**	**05 31 30.4**	**+0.3**
RPSI				IAmb	IAmb	05 31 37.3	
	comp=Z,80nm,1.2s						
RPSI	**Rantau Prapat**	**24.13**	**281**	P	**P**	**05 31 30.6**	**+0.5**
PSI	**Prapat**	**24.14**	**281**	P	**P**	**05 31 30.6**	**+0.2**
	comp=Z,36nm,1.0s,baz=127,slow=4.5,SNR=13						
	comp=Z,36nm,1.0s						
QIZ	**Qiongzhong**	**24.23**	**329**	P	**P**	**05 31 32.0**	**+1.0**
QIZ				pmax	pmax		
	comp=Z,46nm,1.2s						
QIZ				LR	LR		
	comp=Z,120nm,7.6s						
QIZ				LR	LR		
	comp=Z,170nm,4.6s						
QIZ				LR	LR		
	comp=Z,98nm,7.1s						
AS31	**Alice Springs**	**24.31**	**154**	P	**P**	**05 31 31.9**	**+0.1**
ASAR	**Alice Springs**	**24.31**	**154**	P	**P**	**05 31 32.0**	**+0.3**
ASAR	**Alice Springs**	**24.31**	**154**	P	**P**	**05 31 32.4**	**+0.7**
	comp=Z,17nm,0.8s,baz=325,slow=7.4,SNR=160						
ASAR				PcP	**PcP**	**05 35 11.4**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=342,slow=3.2,SNR=4.2						
ASAR				LR	LR	05 41 34.1	
	comp=Z,120nm,18.9s,baz=316,slow=38						
	comp=Z,17nm,0.8s						
TWG	**Pinlang**	**24.53**	**357**	P	**P**	**05 31 34.2**	**+0.5**
TPUB	**Ta-pu**	**25.04**	**356**	P	**P**	**05 31 38.8**	**+0.5**
GSI	**Gunungsitoli**	**25.25**	**277**	P	**P**	**05 31 40.0**	**-0.3**
GSI				IAmb	IAmb	05 31 58.3	
	comp=Z,41nm,1.0s						
GSI	**Gunungsitoli**	**25.25**	**277**	P	**P**	**05 31 40.4**	**+0.1**
	comp=Z,3μmcomp=Z,51nm,1.9s						
SSLB	**Suanglung**	**25.50**	**356**	P	**P**	**05 31 43.3**	**+0.9**
SSLB				IAmb	IAmb	05 31 45.6	
	comp=Z,35nm,1.0s						
PMG	**Port Moresby**	**25.53**	**108**	P	**P**	**05 31 43.8**	**+1.0**
PMG				IAmb	IAmb	05 32 17.6	
	comp=Z,38nm,0.9s						
CM31	**Chiang Mai Arr**	**30.81**	**312**	P	**P**	**05 32 30.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.81**	**312**	P	**P**	**05 32 30.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**30.81**	**312**	P	**P**	**05 32 31.1**	**+1.1**
	comp=Z,6.2nm,0.8s,baz=136,slow=7.1,SNR=51						
CMAR				PcP	**PcP**	**05 35 28.4**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=152,slow=2.0,SNR=4.5						
	comp=Z,6.2nm,0.8s						
CHTO	**Chiang Mai**	**31.03**	**312**	P	**P**	**05 32 32.2**	**+0.2**
CHTO				IAmb	IAmb	05 32 34.5	
	comp=Z,13nm,0.9s						
WHN	**Wuhan**	**33.13**	**347**	P	**P**	**05 32 52.9**	**+2.6**
WHN				pmax	pmax		
	comp=Z,84nm,1.1s						
NJ2	**Nanjing**	**33.87**	**354**	*e*P	**P**	**05 32 58.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ENH	**Enshi**	**34.29**	**340**	P	**P**	**05 33 00.7**	**+0.4**
ENH				IAmb	IAmb	05 33 33.8	
	comp=Z,48nm,1.3s						
PZH	**PanZhiHua**	**34.63**	**326**	P	**P**	**05 33 05.4**	**+1.8**
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
STKA	**Stephens Creek**	**34.84**	**151**	P	**P**	**05 33 05.4**	**+0.2**
STKA	**Stephens Creek**	**34.84**	**151**	P	**P**	**05 33 05.5**	**+0.3**
	comp=Z,20nm,1.0s,baz=320,slow=8.8,SNR=24						
	comp=Z,20nm,1.0s						
JMN	**Monobe**	**36.91**	**16**	P	**P**	**05 33 21.5**	**-1.3**
JMN				IAmb	IAmb	05 33 53.5	
	comp=Z,21nm,0.8s						
CD2	**Chengdu**	**37.18**	**333**	P	**P**	**05 33 26.5**	**+1.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
LYN	**LuoYang**	**37.41**	**346**	P	**P**	**05 33 28.0**	**+0.9**
LYN				pP	sP	05 33 32.5	+1.4
LYN				sP	pP	05 33 34.8	+4.8
LYN				pmax	pmax		
	comp=Z,44nm,0.8s						
XAN	**Xi'an**	**37.93**	**341**	P	**P**	**05 33 31.9**	**+0.4**
XAN				pP	sP	05 33 41.8	+6.2
XAN				pmax	pmax		
	comp=Z,17nm,1.2s						
XAN				LR	LR		
	comp=Z,160nm,16.0s						
XAN				LR	LR		
	comp=Z,200nm,15.6s						
INU	**Inuyama**	**39.34**	**19**	P	**P**	**05 33 41.6**	**-1.8**
KSAR	**Wonju Array Be**	**39.36**	**7**	P	**P**	**05 33 42.1**	**-1.4**
KSRS	**Korea Array**	**39.38**	**7**	P	**P**	**05 33 42.0**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=184,slow=9.5,SNR=9.2						
	comp=Z,2.0nm,0.8s						
JGF	**Kuroka**	**39.69**	**19**	P	**P**	**05 33 45.1**	**-1.2**
HNS	**HongShan**	**39.70**	**350**	⇑P	**P**	**05 33 47.3**	**+1.0**
HNS				pmax	pmax		
	comp=Z,20nm,1.2s						
SHL	**Shillong**	**40.33**	**314**	P	**P**	**05 33 51.4**	**-0.6**
TIY	**Taiyuan**	**40.45**	**347**	P	**P**	05 33 57.8	+5.2
MAJO	**Matsushiro**	**40.82**	**19**	P	**P**	**05 33 53.7**	**-2.0**
MAJO				IAmb	IAmb	05 33 54.7	
	comp=Z,16nm,0.8s						
MJAR	**Matsushiro Arr**	**40.82**	**19**	P	**P**	**05 33 53.6**	**-2.0**
	comp=Z,13nm,0.8s,baz=192,slow=8.7,SNR=38						
	comp=Z,13nm,0.8s						
MJB9	**Matsu-Tunnel**	**40.83**	**19**	P	**P**	**05 33 54.8**	**-0.9**
MJB9				IAmb	IAmb	05 33 55.6	
	comp=Z,16nm,0.8s						
TOO	**Toolangi**	**41.33**	**152**	P	**P**	**05 34 01.2**	**+1.3**
CAN	**Canberra**	**41.37**	**147**	P	**P**	**05 34 00.5**	**+0.3**
LZH	**Lanzhou**	**41.58**	**337**	*e*P	**P**	**05 34 04.4**	**+2.3**
LZH				sP	sP	05 34 11.3	+5.2
LZH				pmax	pmax		
	comp=Z,25nm,1.7s						
BJI	**Beijing**	**42.07**	**353**	P	**P**	**05 34 05.6**	**-0.2**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BJI				pmax	pmax		
	comp=Z,63nm,5.1s						
HHC	**Hu-ho-hao-te**	**43.65**	**348**	*e*P	**P**	**05 34 21.1**	**+2.4**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,93nm,4.7s						
JTM	**Tenmabayashi**	**45.61**	**20**	P	**P**	**05 34 33.5**	**-0.8**
JTM				IAmb	IAmb	05 34 34.8	
	comp=Z,31nm,1.0s						
XLT	**XiLinHaoTe**	**45.89**	**353**	*e*P	**P**	**05 34 37.6**	**+1.1**
XLT				sP	sP	05 34 45.1	+4.5
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,110nm,6.5s						
USA0B	**Ussuriysk Arra**	**46.57**	**9**	P	**P**	**05 34 39.6**	**-2.1**
USA0B				IAmb	IAmb	05 34 41.4	
	comp=Z,8.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**46.57**	**9**		**P**	**05 34 40.5**	**-1.3**
USRK	**Ussuriysk Ar.**	**46.57**	**9**	P	**P**	**05 34 40.6**	**-1.1**
	comp=Z,6.7nm,0.7s,baz=178,slow=7.3,SNR=9.7						
	comp=Z,6.7nm,0.7s						
MDJ	**Mudanjiang**	**46.64**	**7**	P	**P**	**05 34 40.6**	**-1.7**
MDJ				IAmb	IAmb	05 34 42.0	
	comp=Z,13nm,0.7s						
MDJ	**Mudanjiang**	**46.64**	**7**	P	**P**	**05 34 41.6**	**-0.7**
MDJ				pmax	pmax		
	comp=Z,21nm,0.8s						
DZM	**Mont Dzumac**	**47.09**	**119**	*e*S	**S**	**05 41 36.7**	**-2.2**
	comp=Z,76nm,27.3s						
DZM				*e*LR	LR	05 47 58.7	
	comp=Z,160nm,35.2s						
JKA	**Kamikawa-asahi**	**49.09**	**19**	P	**P**	**05 35 00.8**	**-0.5**
JKA				IAmb	IAmb	05 35 01.9	
	comp=Z,20nm,0.9s						
ULN	**Ulaanbaatar**	**51.32**	**347**	P	**P**	**05 35 18.1**	**-0.2**
ULN				IAmb	IAmb	05 36 35.1	
	comp=Z,18nm,1.5s						
SONM	**Songino Array**	**51.44**	**346**	P	**P**	**05 35 18.7**	**-0.6**
SONM	**Songino Array**	**51.44**	**346**	P	**P**	**05 35 18.4**	**-0.9**
	comp=Z,3.9nm,1.0s,baz=166,slow=6.7,SNR=12						
SONM				PcP	**PcP**	**05 36 32.2**	**-1.4**
	comp=Z,4.8nm,0.9s,baz=158,slow=4.2,SNR=4.8						
	comp=Z,3.9nm,1.0s						
HEH	**HeiHe**	**52.03**	**4**	*e*P	**P**	**05 35 21.6**	**-1.8**
HEH				pmax	pmax		
	comp=Z,14nm,0.9s						
WMQ	**Urumqi**	**55.16**	**330**	*e*P	**P**	**05 35 48.8**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
KSH	**Kashi**	**59.29**	**319**	P	**P**	**05 36 17.6**	**+1.6**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
RPZ

F14K	**Arctic Creek** baz=252	83.86	23	P	P	05 38 44.4 +1.1
ANM	**Nome** baz=253	83.97	24	P	P	05 38 44.7 +0.7
SDPT	**Sand Point** baz=258	84.05	34	P	P	05 38 45.4 +0.9
J14K	**Nanvaranak Lak** baz=255	84.24	26	P	P	05 38 46.8 +1.5
L14K	**Kuka Creek** baz=256	84.28	28	P	P	05 38 46.9 +1.4
N14K	**Kuskokwak Cree**	84.41	29	P	P	05 38 47.2 +1.0
N14K	**Kuskokwak Cree** baz=257,SNR=9.3	84.41	29	P	P	05 38 47.8 +1.5
O14K	**Tigyukauivet M**	84.47	30	P	P	05 38 48.0 +1.4
O14K	**Tigyukauivet M** baz=257	84.47	30	P	P	05 38 47.6 +1.1
M14K	**Bethel** baz=256,SNR=14	84.47	29	P	P	05 38 47.9 +1.3
KIBK	**Kibwezi**	84.53	268	P	P	05 38 47.1 -0.9
KIBK	comp=Z,8.2nm,1.1s			IAmb	IAmb	05 38 49.7
F15K	**North Star Dit** baz=254	84.59	23	P	P	05 38 48.7 +1.6
G15K	**Niukluk** baz=254	84.64	24	P	P	05 38 48.6 +1.3
S14K	**Fog Glacier** baz=259	84.75	33	P	P	05 38 49.2 +1.0
L15K	**Ungalak Mounta** baz=257	84.91	28	P	P	05 38 49.6 +0.8
K15K	**Wolf Creek Mou** baz=257	85.04	27	P	P	05 38 50.1 +0.7
M15K	**Kasigluk River** baz=258,SNR=7.8	85.07	29	P	P	05 38 50.6 +1.1
C16K	**Lisburne Hills** baz=253	85.08	21	P	P	05 38 50.9 +1.4
O15K	**Ungalikthiuk R**	85.18	30	P	P	05 38 51.4 +1.2
O15K	**Ungalikthiuk R** baz=258,SNR=9.9	85.18	30	P	P	05 38 51.8 +1.6
N15K	**Kwethluk River**	85.25	29	P	P	05 38 51.9 +1.4
N15K	**Kwethluk River** baz=258,SNR=11	85.25	29	P	P	05 38 51.7 +1.2
H16K	**Elim** baz=256	85.29	25	P	P	05 38 52.0 +1.4
KMBO	**Kilima Mbogo**	85.35	269	P	P	05 38 52.5 +0.2
KMBO	comp=Z,9.3nm,1.2s			IAmb	IAmb	05 38 54.3
KMBO	**Kilima Mbogo** comp=Z,2.2nm,0.6s,baz=112,slow=5.3,SNR=7.6	85.35	269	P	P	05 38 53.0 +0.6
CHGN	**Chignik** baz=260	85.37	33	P	P	05 38 52.6 +1.4
G16K	**Koyuk River** baz=256	85.43	24	P	P	05 38 53.1 +1.8
J16K	**Anvik River**	85.68	26	P	P	05 38 53.7 +1.1
J16K	comp=Z,9.5nm,0.8s			IAmb	IAmb	05 38 55.2
J16K	**Anvik River** baz=257	85.68	26	P	P	05 38 53.6 +1.1
D17K	**Noatak River** baz=255,SNR=6.8	85.74	22	P	P	05 38 54.2 +1.4
I17K	**Unalakleet** baz=257	85.77	26	P	P	05 38 54.2 +1.2
SYO	**Syowa Base**	85.82	201	‖*e*PcP	PcP	05 38 56.0 +0.1
L16K	**Owhat River** baz=258	85.86	28	P	P	05 38 54.3 +0.8
N16K	**Nishlik Lake** baz=259,SNR=6.0	85.95	29	P	P	05 38 54.7 +0.6
M16K	**Timber Creek** baz=259	85.97	29	P	P	05 38 54.8 +0.8
R16K	**Pilot Point** baz=260	86.05	32	P	P	05 38 55.8 +1.3
E17K	**Hotham Inlet** baz=256	86.05	22	P	P	05 38 55.4 +1.0
P16K	**Nushagak River**	86.08	31	P	P	05 38 55.9 +1.2
P16K	**Nushagak River** baz=260,SNR=6.5	86.08	31	P	P	05 38 55.7 +1.1
F17K	**Baldwin Pennin** baz=257	86.12	23	P	P	05 38 55.8 +1.1
O16K	**Kokwok River B** baz=260,SNR=5.7	86.13	30	P	P	05 38 56.5 +1.6
G17K	**Kiwalik Mounta** baz=257,SNR=9.8	86.15	24	P	P	05 38 56.5 +1.7
H17K	**Granite Mounta**	86.33	25	P	P	05 38 56.7 +0.9
H17K	**Granite Mounta** baz=258,SNR=11	86.33	25	P	P	05 38 57.5 +1.7
J17K	**VABM Dome**	86.37	26	P	P	05 38 57.4 +1.5
J17K	comp=Z,19nm,1.1s			IAmb	IAmb	05 38 58.3
J17K	**VABM Dome** baz=259	86.37	26	P	P	05 38 57.5 +1.5
K17K	**Iditarod**	86.59	27	P	P	05 38 58.4 +1.3
K17K	comp=Z,10nm,0.8s			IAmb	IAmb	05 38 59.3
K17K	**Iditarod** baz=260,SNR=5.1	86.59	27	P	P	05 38 58.8 +1.7
E18K	**Tukpahlearik C** baz=257	86.60	22	P	P	05 38 58.8 +1.8
B18K	**Kokolik River** baz=256,SNR=5.5	86.62	20	P	P	05 38 58.8 +1.7
O17K	**Koliganek Bris** baz=261	86.66	30	P	P	05 38 58.8 +1.3
C18K	**Utukok River** baz=256,SNR=5.7	86.66	21	P	P	05 38 58.7 +1.3
Q16K	**King Salmon** baz=261	86.70	31	P	P	05 38 59.5 +1.8
N17K	**Nushagak Hills** baz=261	86.73	29	P	P	05 38 59.3 +1.4
M17K	**Holitna River** baz=260	86.76	28	P	P	05 38 59.3 +1.3
F18K	**Selawik** baz=258	86.78	23	P	P	05 38 59.1 +1.1
P17K	**Kvichak River** baz=261	86.89	31	P	P	05 38 59.8 +1.2
H18K	**Honhosa River** baz=259	87.02	25	P	P	05 38 59.9 +0.8
G18K	**Tagagawik** baz=259	87.04	24	P	P	05 39 00.5 +1.3
Q17K	**Contact Creek** baz=262	87.04	32	P	P	05 39 00.3 +0.8
A19K	**Wainwright** baz=256	87.07	19	P	P	05 39 00.5 +1.3
L18K	**Granite Mounta**	87.24	28	P	P	05 39 01.4 +1.1
L18K	comp=Z,13nm,0.8s			IAmb	IAmb	05 39 02.3
L18K	**Granite Mounta** baz=261,SNR=5.4	87.24	28	P	P	05 39 01.3 +1.1
PPT2	**Papeete2** comp=Z,50nm,22.8s	87.35	107	*e*S	S	05 49 38.5 -4.5
PPT2	**Papeete2** comp=Z,115nm,27.5s	87.35	107	*e*LR	LR	06 06 38.1
PPT2	comp=Z,163nm,37.2s			*e*LR	LR	06 06 43.5
TBI	**Tubuai** comp=Z,510nm,35.8s	87.36	113	*e*LR	LR	06 06 41.0
N18K	**Kilae Creek** baz=262	87.39	29	P	P	05 39 01.9 +0.8
J18K	**Innoko River**	87.43	26	P	P	05 39 01.8 +0.5
J18K	comp=Z,7.0nm,0.8s			IAmb	IAmb	05 39 33.3
J18K	**Innoko River** baz=261,SNR=5.0	87.43	26	P	P	05 39 01.7 +0.5
M18K	**Stony River** baz=262	87.54	28	P	P	05 39 02.8 +1.1
Q18K	**Katmai Hardscr** baz=263	87.55	31	P	P	05 39 02.3 +0.3
F19K	**Shaleruckik Mo** baz=260	87.56	23	P	P	05 39 02.6 +0.8
GCSA	**Galena City Sc** baz=261,SNR=8.2	87.57	25	P	P	05 39 02.4 +0.6
O18K	**Koktuh Hills** baz=262	87.61	30	P	P	05 39 02.9 +0.8
TTA	**Tatalina** baz=262	87.66	27	P	P	05 39 03.0 +0.6
R18K	**Karluk** baz=263	87.71	32	P	P	05 39 03.3 +0.7
G19K	**Purcell Mounta** baz=260	87.71	24	P	P	05 39 03.4 +0.9
SII	**Sitkinak Islan** baz=263	87.73	33	P	P	05 39 03.8 +1.0
D19K	**Kuna River** baz=259,SNR=5.5	87.74	21	P	P	05 39 03.4 +0.8
H19K	**Roundabout Mou**	87.87	24	P	P	05 39 03.9 +0.7
H19K	**Roundabout Mou** baz=261,SNR=26	87.87	24	P	P	05 39 04.1 +0.9
E19K	**Redstone River** baz=260,SNR=13	87.88	22	P	P	05 39 04.1 +0.8
J19K	**Poorman**	87.99	26	P	P	05 39 04.0 +0.2
J19K	**Poorman**	87.99	26	P	P	05 39 04.5 +0.6
	baz=262,SNR=9.1					
L19K	**White Mountain** baz=263	88.09	28	P	P	05 39 05.2 +0.8
N19K	**Bonanza Creek** baz=263,SNR=7.5	88.09	29	P	P	05 39 05.3 +0.8
O19K	**Port Alsworth** baz=263	88.10	30	P	P	05 39 04.7 +0.4
QSPA	**South Pole Qui**	88.13	180	P	P	05 39 04.7 0.0
QSPA	comp=Z,10nm,1.2s			IAmb	IAmb	05 39 09.1
QSPA	**South Pole Qui** comp=Z,4.3nm,1.0s,baz=282,slow=2.1,SNR=6.8	88.13	180	P	P	05 39 04.4 -0.3
	comp=Z,4.3nm,1.0s					
M19K	**Big River Lodg** baz=263	88.27	28	P	P	05 39 06.4 +1.1
Q19K	**Cape Douglas,** baz=264	88.29	31	P	P	05 39 06.0 +0.6
OHAK	**Old Harbor** baz=264	88.30	33	P	P	05 39 06.4 +1.0
D20K	**Etivluk River** baz=261,SNR=5.7	88.32	21	P	P	05 39 06.0 +0.6
B20K	**Meade River** baz=260	88.34	20	P	P	05 39 05.8 +0.4
F20K	**Avaraart Lake** baz=262	88.39	23	P	P	05 39 06.2 +0.6
E20K	**Nigu River** baz=261	88.40	22	P	P	05 39 06.5 +0.7
H20K	**Anotleneega Mo** baz=262,SNR=13	88.51	24	P	P	05 39 06.8 +0.5
L20K	**Farewell, AK** baz=263	88.58	27	P	P	05 39 07.7 +1.0
I20K	**Naaghedeneel** baz=263,SNR=5.3	88.59	25	P	P	05 39 07.3 +0.7
K20K	**Telida** baz=263	88.59	27	P	P	05 39 06.6 -0.1
J20K	**Nowinta River**	88.66	26	P	P	05 39 07.8 +0.7
J20K	comp=Z,12nm,0.9s			IAmb	IAmb	05 39 09.0
J20K	**Nowinta River** baz=263,SNR=9.0	88.66	26	P	P	05 39 07.5 +0.5
KDAK	**Kodiak Island** baz=265	88.73	32	P	P	05 39 08.1 +0.6
M20K	**Styx River** baz=264	88.86	28	P	P	05 39 08.6 +0.4
Q20K	**Shuyak Island** baz=265	88.91	31	P	P	05 39 08.7 +0.4
C21K	**Knifeblade Rid** baz=262	89.04	21	P	P	05 39 09.7 +1.0
B21K	**Ikpikpuk River** baz=263,SNR=6.0	89.16	20	P	P	05 39 09.8 +0.6
G21K	**Allakaket** baz=264	89.20	23	P	P	05 39 10.1 +0.6
A22K	**Sinclair Lake** baz=262	89.22	19	P	P	05 39 10.0 +0.5
SPCR	**Spurr Chakacha** baz=265	89.23	29	P	P	05 39 10.2 +0.3
E21K	**Killik River** baz=263	89.24	22	P	P	05 39 10.0 +0.3
F21K	**Alatna River** baz=264	89.28	23	P	P	05 39 10.6 +0.7
H21K	**Melozitna Rive** baz=264,SNR=12	89.39	24	P	P	05 39 11.0 +0.6
PPLA	**Purkeypile** baz=265	89.39	27	P	P	05 39 11.2 +0.5
CHUM	**Lake Minchumin** baz=265,SNR=5.0	89.43	26	P	P	05 39 11.2 +0.6
CAST	**Castle Rocks** baz=265	89.49	27	P	P	05 39 11.4 +0.4
SKT	**Skwentna** baz=266	89.62	28	P	P	05 39 12.0 +0.4
B22K	**Teshekpuk Lake** baz=264	89.65	20	P	P	05 39 12.1 +0.6
I21K	**Tanana** baz=265	89.69	25	P	P	05 39 12.2 +0.4
D22K	**Ayikyak River** baz=264	89.76	21	P	P	05 39 12.7 +0.6
F22K	**John River** baz=265	89.81	23	P	P	05 39 12.8 +0.4
BRSE	**Bradley Lake S** baz=266	89.84	30	P	P	05 39 12.8 +0.1
SUA	**Susitna One** baz=266	89.96	29	P	P	05 39 13.3 0.0
H22K	**Ishtalitna Cre** baz=266,SNR=9.9	90.00	24	P	P	05 39 13.6 +0.3
E22K	**Anaktuvuk Pass** baz=265,SNR=14	90.01	22	P	P	05 39 13.8 +0.4
G22K	**Bettles** baz=266	90.03	23	P	P	05 39 13.6 +0.3
BPAW	**Bear Paw Mtn.**	90.03	26	P	P	05 39 14.0 +0.5
BPAW	comp=Z,9.6nm,1.0s			IAmb	IAmb	05 39 14.7
BPAW	**Bear Paw Mtn.** baz=266,SNR=5.7	90.03	26	P	P	05 39 13.5 +0.1
CUT	**Chulitna** baz=267	90.24	28	P	P	05 39 14.8 +0.3
M22K	**Willow** baz=267	90.28	28	P	P	05 39 15.0 +0.4
TRF	**Thorofare Moun** baz=267	90.30	27	P	P	05 39 15.3 +0.4
BRTR	**Keskin Array B** comp=Z,0.8nm,0.8s,baz=133,slow=6.1,SNR=3.9	90.38	310	P	P	05 39 13.7 -2.1
	comp=Z,0.8nm,0.8s					
RC01	**Rabbit Creek A** baz=267	90.42	29	P	P	05 39 15.9 +0.6
D23K	**Nanushuk River** baz=266,SNR=5.4	90.48	21	P	P	05 39 15.6 +0.1
SEW	**Seward** baz=267	90.51	30	P	P	05 39 16.2 +0.5
COLD	**Coldfoot** baz=267,SNR=12	90.56	23	P	P	05 39 16.9 +1.0
C23K	**Itkillik River** baz=266,SNR=8.1	90.56	20	P	P	05 39 16.9 +1.1
G23K	**Bananza Creek** baz=267,SNR=18	90.60	23	P	P	05 39 16.4 +0.3
PMR	**Palmer** baz=268	90.74	29	P	P	05 39 16.8 +0.1
H23K	**Yukon River** baz=267	90.75	24	P	P	05 39 17.0 +0.2
I23K	**Minto, Yukon-K**	90.79	25	P	P	05 39 17.7 +0.8
I23K	**Minto, Yukon-K** baz=267,SNR=17	90.79	25	P	P	05 39 17.1 +0.1
E23K	**Chandalar** baz=267,SNR=8.5	90.82	22	P	P	05 39 17.4 +0.2
TOLK	**Toolik Lake Re** baz=267	90.87	21	P	P	05 39 17.5 +0.2
MCK	**McKinley**	90.92	26	P	P	05 39 17.5 -0.1
MCK	comp=Z,14nm,0.9s			IAmb	IAmb	05 39 18.3
MCK	**McKinley** baz=268,SNR=8.1	90.92	26	P	P	05 39 17.5 -0.1
RND	**Reindeer**	90.94	27	P	P	05 39 17.1 -0.7
KNK	**Knik Glacier** baz=268	91.05	29	P	P	05 39 19.0 +0.6
PWL	**Port Wells** baz=268	91.10	29	P	P	05 39 18.6 +0.1
SML	**Sawmill** baz=268	91.13	28	P	P	05 39 19.2 +0.5
D24K	**Happy Valley** baz=268,SNR=5.2	91.16	21	P	P	05 39 18.5 -0.1
C24K	**Franklin Bluff** baz=268	91.22	20	P	P	05 39 19.3 +0.4
E24K	**Your Creek** baz=268	91.25	22	P	P	05 39 20.0 +0.8
M23K	**Glacier View** baz=269	91.41	28	P	P	05 39 20.3 +0.3
COLA	**College** baz=269	91.42	25	P	P	05 39 20.6 +0.8
H24K	**Noodor Dome** baz=269,SNR=7.9	91.43	24	P	P	05 39 20.1 +0.1
F24K	**Squaw Lake** baz=269,SNR=5.9	91.46	23	P	P	05 39 20.7 +0.6
P23K	**Montague Islan** baz=269	91.54	30	P	P	05 39 20.2 -0.4
POKR	**Poker Plat Res** baz=269	91.60	25	P	P	05 39 21.3 +0.5
SCM	**Sheep Creek Mo** baz=269	91.60	28	P	P	05 39 21.6 +0.7
G24K	**Hadweenzic Riv** baz=269	91.61	23	P	P	05 39 21.4 +0.6
GLI	**Glacier Island** baz=269	91.70	29	P	P	05 39 21.9 +0.6
HDA	**Harding Lake** baz=270	91.80	26	P	P	05 39 21.6 -0.1
IL31		91.83	25	P	P	05 39 21.1 -0.7
IL31	comp=Z,16nm,1.6s			IAmb	IAmb	05 39 21.6
ILAR	**Eielson Array** comp=Z,1.3nm,0.8s,baz=239,slow=5.4,SNR=19	91.83	25	P	P	05 39 19.6 -2.3
	comp=Z,1.3nm,0.8s					
D25K	**Kavik River** baz=270	92.04	21	P	P	05 39 23.3 +0.6
M24K	**Tolsona, Glenn** baz=270	92.15	28	P	P	05 39 23.3 -0.1
G25K	**Bearman Lake** baz=270	92.16	23	P	P	05 39 23.7 +0.4
KLU	**Klutina** baz=270	92.27	29	P	P	05 39 24.1 +0.1
H25L	**Birch Creek** baz=271,SNR=7.2	92.27	24	P	P	05 39 24.2 +0.4
K24K	**Donnelly Dome** baz=271	92.32	26	P	P	05 39 24.4 +0.3
F25K	**Christian Rive** baz=271,SNR=5.8	92.33	23	P	P	05 39 24.9 +0.8
E25K	**Arctic Village**	92.34	22	P	P	05 39 24.8 +0.6
E25K	comp=Z,8.4nm,1.0s			IAmb	IAmb	05 39 26.3
E25K	**Arctic Village** baz=271,SNR=9.2	92.34	22	P	P	05 39 24.9 +0.7
EYAK	**Cordova Ski Ar** baz=270	92.36	30	P	P	05 39 24.8 +0.4
PRP	**Porcupine Dome** baz=271	92.41	25	P	P	05 39 25.0 +0.4
PAX	**Paxson** baz=271,SNR=7.5	92.47	27	P	P	05 39 25.6 +0.6
J25K	**Salcha River,** baz=271	92.49	26	P	P	05 39 25.1 +0.1
FYU	**Fort Yukon**	92.50	24	P	P	05 39 25.6 +0.8
C26K	**Camden Bay** baz=272	92.54	20	P	P	05 39 25.8 +0.8
HARP	**HAARP** baz=271	92.62	28	P	P	05 39 26.3 +0.7
RIDG	**Independent Ri** baz=272	92.73	26	P	P	05 39 26.6 +0.5
F26K	**Sheenjek River** baz=272	92.89	22	P	P	05 39 27.7 +1.0
N25K	**Chitina, Valde** baz=272	92.91	29	P	P	05 39 27.0 0.0
BMRM	**Bremner River** baz=272	92.92	29	P	P	05 39 28.1 +1.1
C27K	**Jago River** baz=273,SNR=6.5	92.97	20	P	P	05 39 28.3 +1.3
G26K	**Porcupine Rive** baz=273	93.07	23	P	P	05 39 28.6 +1.2
SCRK	**Sand Creek** baz=272	93.11	26	P	P	05 39 28.7 +0.8
J26L	**Joseph Creek** baz=273,SNR=7.0	93.27	26	P	P	05 39 28.7 +0.1
I26K	**Coal Creek Min** baz=273	93.40	25	P	P	05 39 29.7 +0.7
L26K	**Log Cabin Wild** baz=273	93.44	27	P	P	05 39 29.9 +0.6
BGLC	**Bering Glacier** baz=273	93.60	30	P	P	05 39 30.8 +0.7
M26K	**Nabesna, AK** baz=273	93.63	28	P	P	05 39 30.6 +0.4
E27K	**Coleen River** baz=275,SNR=7.8	93.83	22	P	P	05 39 32.3 +1.3
G27K	**Doyon Strip** baz=275	93.91	23	P	P	05 39 32.3 +0.8
K27K	**Chicken** baz=274	93.94	26	P	P	05 39 32.4 +0.8
D27M	**Malcolm River** baz=275	93.96	21	P	P	05 39 32.4 +0.7
H27K	**Steamboat Moun** baz=275,SNR=8.3	94.01	24	P	P	05 39 33.1 +1.2
I27K	**Kandik River** baz=274,SNR=16	94.03	24	P	P	05 39 32.9 +0.9
L27K	**Beaver Creek,** baz=274,SNR=7.6	94.12	27	P	P	05 39 33.4 +0.9
M27K	**Edge Creek, AK** baz=274	94.15	28	P	P	05 39 33.5 +0.7
MESA	**MESA** baz=274	94.27	30	P	P	05 39 33.9 +0.5
E28M	**Babbage River** baz=277,SNR=8.6	94.54	21	P	P	05 39 35.3 +1.0
BVCY	**Beaver Creek** baz=275	94.62	28	P	P	05 39 35.6 +0.8
I28M	**Miner Creek** baz=276,SNR=22	94.74	25	P	P	05 39 36.3 +1.0
D28M	**Stokes Point** baz=278	94.74	21	P	P	05 39 35.9 +0.8
YUK3	**Moose Creek** baz=275	94.86	28	P	P	05 39 36.9 +0.8
O28M	**Mount Upton** baz=275	95.09	29	P	P	05 39 37.6 +0.4
DAWY	**Dawson** baz=276,SNR=11	95.12	26	P	P	05 39 38.1 +1.1
E29M	**Blow River** baz=278	95.17	22	P	P	05 39 37.7 +0.6
YUK8	**Steele Glacier** baz=276	95.24	29	P	P	05 39 37.5 -0.4
H29M	**Whitestone** baz=278	95.29	24	P	P	05 39 38.5 +0.8
G29M	**Pine Creek** baz=278	95.33	23	P	P	05 39 38.5 +0.6
I29M	**Ogilvie Camp,**	95.42	25	P	P	05 39 38.4 0.0
I29M	**Ogilvie Camp,** baz=278,SNR=10	95.42	25	P	P	05 39 38.9 +0.6
J29N	**Klondike Camp** baz=278,SNR=8.8	95.58	25	P	P	05 39 39.0 -0.1
PNL	**Peninsula** baz=276	95.59	30	P	P	05 39 39.7 +0.4
BOSA	**Boshof** comp=Z,49nm,18.7s,baz=105,slow=32	95.62	241	LR	LR	06 18 03.2
M29M	**Somme Creek** baz=277	95.73	28	P	P	05 39 39.9 0.0
YUK4	**Talbot Arm** baz=277	95.77	29	P	P	05 39 40.6 +0.4
L29M	**L29M** baz=278,SNR=12	95.79	27	P	P	05 39 40.8 +0.7
EPYK	**Eagle Plains** baz=279,SNR=5.7	95.92	23	P	P	05 39 41.2 +0.6
K29M	**Barlow Dome** baz=278,SNR=5.7	95.97	26	P	P	05 39 41.2 +0.2
G30M	**tAoh Zraii Nji** baz=280,SNR=5.8	96.02	23	P	P	05 39 41.2 +0.1
F30M	**Barrier River** baz=280,SNR=6.6	96.08	22	P	P	05 39 41.6 +0.4
I30M	**Mount Dempster** baz=279,SNR=7.6	96.25	25	P	P	05 39 42.4 +0.1
J30M	**Hart River** baz=279,SNR=5.9	96.37	25	P	P	05 39 43.4 +0.5
HYT	**Haines Junctio** baz=278	96.39	29	P	P	05 39 43.9 +0.9
P29M	**Windy Craggy** baz=277	96.43	30	P	P	05 39 44.4 +1.3
M30M	**Minto, Yukon** baz=279	96.47	27	P	P	05 39 43.9 +0.6
N30M	**Aishikik Lake** baz=278	96.50	28	P	P	05 39 44.7 +1.3
P30M	**Million Dollar** baz=278	96.75	30	P	P	05 39 44.9 +0.3
G31M	**Satah River**	96.79	23	P	P	05 39 44.3 -0.2
G31M	**Satah River** baz=281,SNR=5.5	96.79	23	P	P	05 39 44.9 +0.4
TAOE	**Nuku Hiva Isla** comp=Z,47nm,25.3s	96.85	99	*e*LR	LR	06 11 06.9
F31M	**Tsiigehtchic** baz=282,SNR=6.8	96.88	22	P	P	05 39 45.1 +0.3
H31M	**Peel River** baz=281	96.98	24	P	P	05 39 46.1 +0.7
O30N	**Mendenhall** baz=279	97.08	29	P	P	05 39 46.8 +0.8
N31M	**Braeburn, Yuko** baz=279	97.12	28	P	P	05 39 46.8 +0.7
M31M	**Drury Creek, Y** baz=281	97.64	27	P	P	05 39 48.9 +0.4
SKAG	**Skagway** baz=280	97.67	30	P	P	05 39 49.2 +0.6
WHY	**Whitehorse** baz=280	97.69	29	P	P	05 39 49.2 +0.3
FARO	**Faro, Yukon** baz=282	98.12	27	P	P	05 39 51.0 +0.4
A36M	**Sachs Harbour** baz=291	98.45	17	P	P	05 39 52.4 +0.5
P32M	**Atlin** baz=281	98.46	30	P	P	05 39 52.6 +0.3
N32M	**Quiet Lake** baz=282	98.46	28	P	P	05 39 52.5 +0.2
P33M	**Teslin, Yukon** baz=282	98.78	29	P	P	05 39 54.1 +0.4
SUR	**Sutherland** comp=Z,40nm,18.1s,baz=102,slow=34	99.01	237	LR	LR	06 21 31.0
Q32M	**Nakina River** baz=282	99.31	30	P	Pdif	05 39 56.6 +0.3
CRAG	**Craig**	99.55	34	P	Pdif	05 39 57.8 +0.7

baz=281
C36M **Paulatuk** 99.77 19 P **Pdif** 05 39 58.2 +0.4
baz=291
WRAK **Wrangell Islan** 99.79 33 P **Pdif** 05 39 58.5 +0.3
baz=282
R33M **Jennings River** 99.87 30 P **Pdif** 05 39 59.3 +0.6
baz=283
YKA **Yellowknife Ar** 106.20 24 Pdiff **Pdif** 05 40 26.0 -0.6
comp=Z,0.4nm,0.9s,baz=298,slow=4.7,SNR=6.6
YKA PKKPbc **PKKPbc** 05 55 58.4 -3.6
comp=Z,0.4nm,0.8s,baz=103,slow=2.4,SNR=5.7
CPUP **Villa Florida** 152.02 180 PKPbc **PKPbc** 05 46 09.8 -0.3
comp=Z,5.5nm,0.9s,baz=162,slow=2.8,SNR=12

---

*IDC **13** 05:26:42.2±0.5, 1°.60S×122°.81E, h0km, mb4.5/18, mbtmp4.5/20, ML4.5/2, MS3.6/3, Error ellipse: s-maj=23.8km s-min=12.3km az=74.0*
*NEIC **13** 05:26:45.5±1.7, 1°.77S±0°.08×122°.69E±0°.07, h10km±1km, mb4.9/30, Error ellipse: s-maj=14.0km s-min=11.0km az=186.0*
ISC 13 05:26:44.3±0.5, 1°.71S±0°.06×122°.69E±0°.08, h10km, n64, σ1§17/65, mb4.7/30, MS3.6/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	4.40	222	Pn	**Pn**	05 27 50.9	-0.3
KAPI	**Kappang**	4.40	222	Pn	**Pn**	05 27 51.2	0.0
	133nm,0.3s,baz=347,slow=7.3,SNR=19						
KAPI				Sn	**Sn**	05 28 39.8	-2.7
	83nm,0.3s,baz=209,slow=22,SNR=6.3 467nm,0.4s						
BKB	**Balikpapan**	5.81	274	Pn	**Pn**	05 28 11.9	+1.3
MMRI	**Maumere**	6.89	184	Pn	**Pn**	05 28 25.7	+0.2
SBUM	**Sibu**	11.26	292	Pn	**Pn**	05 29 26.3	+0.9
KNRA	**Kununurra**	15.11	157	Pn	**Pn**	05 30 18.5	+0.5
FITZ	**Fitzroy Crossi**	16.54	170	Pn	**Pn**	05 30 37.7	+1.2
	0.3nm,0.3s,baz=359,slow=11,SNR=4.0 8.2nm,0.9s						
MYKOM	**Kota Tinggi**	19.16	280	P	**P**	05 31 07.7	-0.4
WRAB	**Tennant Creek**	21.40	149	P	**P**	05 31 32.6	+0.2
WRAB				IAmb	IAmb	05 31 36.6	
	comp=Z,26nm,0.8s						
WRA	**Warramunga Arr**	21.40	149	P	**P**	05 31 31.8	-0.6
WRA	**Warramunga Arr**	21.40	149	P	**P**	05 31 32.3	-0.1
	comp=Z,30nm,0.8s,baz=332,slow=10,SNR=8.4 comp=Z,30nm,0.8s						
UBPT	**Khong Chiam**	23.99	315	P	**P**	05 31 59.8	+0.6
RPSI	**Rantau Prapat**	24.16	280	P	**P**	05 32 03.5	+2.6
RPSI				IAmb	IAmb	05 32 08.4	
	comp=Z,50nm,1.3s						
PSI	**Prapat**	24.18	281	P	**P**	05 32 01.9	+0.6
	comp=Z,11nm,0.6s,baz=114,slow=6.5,SNR=5.8 comp=Z,11nm,0.6s						
AS31	**Alice Springs**	24.38	154	P	**P**	05 32 02.8	-0.1
ASAR	**Alice Springs**	24.38	154	P	**P**	05 32 02.5	-0.4
ASAR	**Alice Springs**	24.38	154	P	**P**	05 32 02.9	-0.1
	comp=Z,16nm,0.7s,baz=324,slow=7.6,SNR=12						
ASAR				PcP	**PcP**	05 35 42.8	+0.4
	comp=Z,1.4nm,0.6s,baz=338,slow=2.7,SNR=4.8 comp=Z,16nm,0.7s						
TPUB	**Ta-pu**	24.94	356	P	**P**	05 32 08.6	+0.6
PMG	**Port Moresby**	25.50	108	P	**P**	05 32 13.6	+0.4
SLVN	**Son La**	29.37	322	P	**P**	05 32 49.2	+1.4
CM31	**Chiang Mai Arr**	30.79	312	P	**P**	05 33 01.8	+1.4
CM31				IAmb	IAmb	05 33 02.6	
	comp=Z,8.5nm,0.8s						
CMAR	**Chiang Mai Arr**	30.79	312	P	**P**	05 33 02.2	+1.8
CMAR	**Chiang Mai Arr**	30.79	312	P	**P**	05 33 01.8	+1.4
	comp=Z,4.8nm,0.7s,baz=129,slow=8.0,SNR=4.5						
CMAR				PcP	**PcP**	05 35 58.0	+0.2
	comp=Z,1.2nm,0.8s,baz=130,slow=2.9,SNR=4.5 comp=Z,4.8nm,0.7s						
CHTO	**Chiang Mai**	31.01	312	P	**P**	05 33 03.4	+1.1
CHTO				IAmb	IAmb	05 33 04.9	
	comp=Z,13nm,0.9s						
ENH	**Enshi**	34.21	339	P	**P**	05 33 32.0	+1.7
JCJ	**Chichijima**	34.25	32	LR	LR	05 48 08.8	
	comp=Z,85nm,19.5s,baz=89,slow=38						
STKA	**Stephens Creek**	34.90	151	P	**P**	05 33 36.2	0.0
STKA	**Stephens Creek**	34.90	151	P	**P**	05 33 36.0	-0.3
	comp=Z,13nm,0.8s,baz=339,slow=8.2,SNR=8.4 comp=Z,13nm,0.8s						
JMN	**Monobe**	36.80	16	P	**P**	05 33 51.9	-0.5
KSRS	**Korea Array**	39.27	7	P	**P**	05 34 10.2	-3.0
	comp=Z,2.0nm,0.8s,baz=186,slow=9.4,SNR=4.5 comp=Z,2.0nm,0.8s						
JGF	**Kuroka**	39.57	19	P	**P**	05 34 15.0	-0.8
MAJO	**Matsushiro**	40.71	19	P	**P**	05 34 24.3	-0.9
MJAR	**Matsushiro Arr**	40.71	19	P	**P**	05 34 23.7	-1.5
	comp=Z,9.3nm,0.8s,baz=192,slow=8.8,SNR=7.8 comp=Z,9.3nm,0.8s						
TOO	**Toolangi**	41.39	152	P	**P**	05 34 31.9	+1.0
CAN	**Canberra**	41.42	147	P	**P**	05 34 32.2	+1.0
CAN				IAmb	IAmb	05 34 36.8	
	comp=Z,12nm,0.8s						
USA0B	**Ussuriysk Arra**	46.46	9	P	**P**	05 35 10.6	-0.8
USA0B				IAmb	IAmb	05 35 12.0	
	comp=Z,7.1nm,0.7s						
USRK	**Ussuriysk Ar.**	46.46	9	P	**P**	05 35 11.0	-0.4
USRK	**Ussuriysk Ar.**	46.46	9	P	**P**	05 35 10.4	-1.0
	comp=Z,5.7nm,0.6s,baz=196,slow=5.8,SNR=7.8 comp=Z,5.7nm,0.6s						
JKA	**Kamikawa-asahi**	48.98	19	P	**P**	05 35 31.7	+0.6
JKA				IAmb	IAmb	05 35 32.6	
	comp=Z,10nm,0.7s						
SONM	**Songino Array**	51.36	346	P	**P**	05 35 47.5	-1.7
	comp=Z,1.7nm,0.8s,baz=169,slow=8.6,SNR=4.5 comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	59.91	329	P	**P**	05 36 50.9	+0.4
	comp=Z,4.3nm,0.7s,baz=128,slow=7.9,SNR=9.6						
MKAR				PcP	**PcP**	05 37 35.0	-1.8
	comp=Z,3.9nm,0.7s,baz=117,slow=5.1,SNR=5.6 comp=Z,4.3nm,0.7s						
ZALV	**Zalesovo Beam**	63.74	336	P	**P**	05 37 14.8	-1.3
	comp=Z,3.7nm,0.8s,baz=139,slow=4.9,SNR=6.0 comp=Z,3.7nm,0.8s						
KURBB	**Kurchatov Arra**	64.29	330	P	**P**	05 37 18.1	-1.7
	comp=Z,3.8nm,0.6s,baz=133,slow=5.6,SNR=9.6 comp=Z,3.8nm,0.6s						
SEY	**Seymchan**	68.23	14	LR	LR	06 10 26.3	
	comp=Z,36nm,18.5s,baz=229,slow=38						
SHEM	**Shemya Is, Ala**	69.17	31	LR	LR	06 13 00.0	
	comp=Z,35nm,18.2s,baz=328,slow=40						
BVAR	**Borovoye Array**	69.79	329	P	**P**	05 37 53.1	-1.7
	comp=Z,5.8nm,1.0s,baz=141,slow=9.6,SNR=5.0 comp=Z,5.8nm,1.0s						
NRIK	**Noril'sk**	74.79	348	P	**P**	05 38 23.1	-1.3
	comp=Z,4.9nm,0.6s,baz=202,slow=2.1,SNR=6.6 comp=Z,4.9nm,0.6s						
VNDA	**Vanda**	78.60	172	P	**P**	05 38 45.3	-0.5
	comp=Z,1.9nm,0.7s,baz=318,slow=7.8,SNR=6.4 comp=Z,1.9nm,0.7s						
M14K	**Bethel**	84.36	29	P	**P**	05 39 18.6	+2.1
KMBO	**Kilima Mbogo**	85.41	269	P	**P**	05 39 23.1	-0.1
	comp=Z,1.2nm,0.3s,baz=54,slow=10.0,SNR=4.3 comp=Z,1.2nm,0.3s						
J18K	**Innoko River**	87.31	26	P	**P**	05 39 32.3	+1.1
J19K	**Poorman**	87.88	26	P	**P**	05 39 35.1	+1.2
J19K				IAmb	IAmb	05 39 36.4	
	comp=Z,5.8nm,0.8s						
QSPA	**South Pole Qui**	88.23	180	P	**P**	05 39 35.2	-0.5
	comp=Z,2.6nm,0.7s,baz=310,slow=2.8,SNR=6.1 comp=Z,2.6nm,0.7s						
J20K	**Nowinta River**	88.54	26	P	**P**	05 39 38.0	+1.0
BPAW	**Bear Paw Mtn.**	89.92	26	P	**P**	05 39 44.4	+0.9
BPAW				IAmb	IAmb	05 39 45.3	
	comp=Z,6.2nm,0.9s						
COLD	**Coldfoot**	90.44	23	P	**P**	05 39 47.2	+1.4
COLD				IAmb	IAmb	05 39 48.4	
	comp=Z,7.2nm,0.8s						
E23K	**Chandalar**	90.71	22	P	**P**	05 39 48.2	+1.0
E23K				IAmb	IAmb	05 39 49.8	
	comp=Z,4.4nm,0.7s						
RND	**Reindeer**	90.83	27	P	**P**	05 39 47.5	-0.3
ILAR	**Eielson Array**	91.72	25	P	**P**	05 39 50.7	-1.1
	comp=Z,1.0nm,0.6s,baz=244,slow=5.1,SNR=12 comp=Z,1.0nm,0.6s						
BCAR	**Beaver Creek A**	94.03	27	P	**P**	05 40 03.7	+1.1
DAWY	**Dawson**	95.00	26	P	**P**	05 40 07.9	+0.9
DAWY				IAmb	IAmb	05 40 09.4	
	comp=Z,7.1nm,0.8s						
F31M	**Tsiigehtchic**	96.77	22	P	**P**	05 40 15.3	+0.4
PLTB	**Pedras Altas**	146.52	186		**PKPbc**	05 46 27.4	+0.8
CPUP	**Villa Florida**	152.12	180	PKPbc	**PKPbc**	05 46 41.8	+0.9
	comp=Z,3.6nm,0.9s,baz=175,slow=0.8,SNR=5.2						

IDC 13 05:43:48.4±2.2, 17°.84S×178°.28W, h630km±22km, mb2.9/4, mbtmp3.9/5, Error ellipse: s-maj=36.1km s-min=30.6km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	3.50	271	P	P	05 45 13.1	+0.1
	9.9nm,0.8s,baz=50,slow=18,SNR=5.3						
WRA	**Warramunga Arr**	44.77	259	P	P	05 51 08.2	-0.2
	1.1nm,0.6s,baz=94,slow=7.2,SNR=19						
WRA				PcP	PcP	05 52 36.9	+0.5
	0.8nm,1.0s,baz=89,slow=3.3,SNR=2.4 1.1nm,0.6s						
ASAR	**Alice Springs**	44.93	254	P	P	05 51 09.7	+0.1
	2.7nm,0.6s,baz=87,slow=8.4,SNR=32						
ASAR				PcP	PcP	05 52 37.0	0.0
	0.4nm,0.5s,baz=94,slow=3.6,SNR=4.7 2.7nm,0.6s						
QSPA	**South Pole Qui**	72.22	180	P	P	05 54 11.2	0.0
	1.3nm,0.8s,baz=29,slow=13,SNR=5.5 1.3nm,0.8s						
ILAR	**Eielson Array**	85.79	13	P	P	05 55 22.1	-0.1
	0.2nm,0.4s,baz=212,slow=4.4,SNR=5.0 0.2nm,0.4s						

---

*IDC **13** 06:12:29.9±2.1, 36°.77N×135°.01E, h0km, mb3.5/2, mbtmp3.5/3, ML2.4/1, MS3.0/2, Error ellipse: s-maj=43.5km s-min=32.3km az=145.0*
*JMA **13** 06:12:40.4±0.2, 35°.4N±0°.3×140°.3E±0°.7, h27km±1km, MV3.2/20, KUJUKURI COAST BOSO PEN*
JMA Felt III J1 at KUJUKURI COAST BOSO PEN .
ISC 13 06:12:40.8±1.0, 35°.39N±0°.04×140°.37E±0°.06, h25km±8km, n13, σ1§53/17, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	0.24	191	*i* P	**Pb**	06 12 46.7	-0.3
KTR				S	**Sb**	06 12 51.8	+0.6
JSMT	**Sammumatsuo**	0.26	14	⇓*i* P	**Pb**	06 12 47.4	+0.2
JSMT				⇓S	**Sn**	06 12 52.9	-1.4
JKUC	**kamogawauchiur**	0.27	212	*i* P	**Pb**	06 12 46.8	-0.5
JKUC				*e*S	**Sb**	06 12 51.7	-0.1
BSO4	**Boso 4**	0.40	184	*i* P	**Pb**	06 12 49.7	+0.4
BSO4				X		06 12 58.9	
BSO3	**Boso 3**	0.60	169	⇓*i* P	**Pb**	06 12 52.5	0.0
JYT	**Yasato**	0.85	350	*i* P	**Pb**	06 12 55.2	-1.7
BSO1	**Boso 1**	0.89	146	⇓*i* P	**Pn**	06 12 56.0	-1.1
BSO1				⇓S	**Sb**	06 13 09.3	+0.9
JIM2	**Oshima 3**	1.02	229	P	**Pn**	06 12 57.3	-2.2
JOD2	**Odawara 2**	1.06	264	P	**Pn**	06 12 58.5	-1.5
MJAR	**Matsushiro Arr**	2.10	304	Pn	**Pn**	06 13 13.7	-0.6
	0.7nm,0.3s,baz=323,slow=12,SNR=28						
MJAR				Sn	**Sb**	06 13 47.5	+3.7
	0.9nm,0.3s,baz=109,slow=14,SNR=6.5						
MJAR				LR	LR	06 14 15.1	
	comp=Z,135nm,18.3s,baz=146,slow=41 6.9nm,0.3s						
PMG	**Port Moresby**	45.01	171	LR	LR	06 41 00.9	
	comp=Z,33nm,18.1s,baz=311,slow=36						
ILAR	**Eielson Array**	51.33	32	P	**P**	06 21 43.7	+1.1
	0.3nm,0.6s,baz=269,slow=8.4,SNR=2.9 0.3nm,0.6s						
WRA	**Warramunga Arr**	55.32	187	P	**P**	06 22 13.2	+0.8
	0.7nm,0.8s,baz=2.3,slow=7.8,SNR=5.5 0.7nm,0.8s						

---

*TRN **13** 06:45:41.6, 11°.82N×64°.15W, h31km, MD4.1*
*FUNV **13** 06:45:45.8, 11°.54N×64°.16W, h22km, MW3.5*
*RSNC **13** 06:47:10.4±0.0, 13°.N±31°.×7°.1W±3°.1, h20km±59km, M2.4, mb3.8, ML2.5*
ISC 13 06:45:41.9±1.0, 11°.78N±0°.05×64°.15W±0°.04, h35km, n37, σ1§93/62, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	1.66	197	*e*P	**Pn**	06 46 10.8	+2.2
PCRV				*e*S	**Sn**	06 46 27.5	-1.2
PCRV	**Puerto La Cruz**	1.66	197	*e*P	**Pn**	06 46 09.2	+0.5
PCRV				*e*S	**Sn**	06 46 30.4	+1.6
GRFF	**Grenada Fort F**	2.38	83	*e*P	**Pn**	06 46 18.4	-0.1
GRFF				*e*S	**Sn**	06 46 45.4	-1.1
GRW	**Mount Saint Ca**	2.47	81	*e*S	**Sn**	06 46 48.4	-0.3
GRGR	**Grenville**	2.47	82	*e*P	**Pn**	06 46 19.6	-0.1
GRGR				*e*S	**Sn**	06 46 47.9	-0.8
GCMP	**Grenada, Carri**	2.76	75	*e*P	**Pn**	06 46 23.4	-0.3
GCMP				*e*S	**Sn**	06 46 55.0	-0.7
PSMG	**Mucurapo Girls**	2.79	113	*e*P	**Pn**	06 46 24.9	+0.7
PSQC	**Port of Spain**	2.81	113	*e*S	**Sn**	06 46 57.5	+0.5
PSGH	**Port of Spain**	2.82	113	*e*P	**Pn**	06 46 26.4	+1.8
PSGH				*e*S	**Sn**	06 46 57.6	+0.3
FUNV	**FUNVISIS**	2.92	244	*e*P	**Pn**	06 46 29.0	+3.1
FUNV				*e*S	**Sn**	06 47 00.2	+0.4
TRN	**Trinidad (W)**	2.92	112	*e*P	**Pn**	06 46 27.7	+1.7
TRN				*e*S	**Sn**	06 46 59.9	+0.1
SVT	**Saint Vincent**	3.16	64	*e*P	**Pn**	06 46 29.1	-0.1
SVT				*e*S	**Sn**	06 47 04.3	-1.4
SVOC	**Richmond Hill,**	3.17	64	*e*P	**Pn**	06 46 28.8	-0.6
SVOC				*e*S	**Sn**	06 47 04.9	-1.1
SVB	**Belmont**	3.20	62	*e*P	**Pn**	06 46 30.1	+0.4
SVB				*e*S	**Sn**	06 47 06.1	-0.6
TACV	**Tcata**	3.26	240	*e*P	**Pn**	06 46 32.4	+1.8
SLAC	**Saint Lucia, A**	3.81	56	*e*P	**Pn**	06 46 38.6	+0.4
SLAC				*e*S	**Sn**	06 47 19.9	-2.0
SLBI	**Saint Lucia, B**	3.82	54	*e*P	**Pn**	06 46 37.9	-0.4
SLBI				*e*S	**Sn**	06 47 21.2	-0.7
BENV	**Beln**	3.84	242	*e*P	**Pn**	06 46 41.4	+2.8
BIM	**Bigot**	4.05	47	*e*P	**Pn**	06 46 41.2	-0.3
BIM				*e*S	**Sn**	06 47 26.1	-1.7
SVN	**Savane Anatole**	4.21	43	*e*P	**Pn**	06 46 43.9	+0.2
SVN				*e*S	**Sn**	06 47 31.7	0.0
DRTD	**Roseau, Domini**	4.41	37	*e*P	**Pn**	06 46 46.5	0.0
MDN	**Morne-Daniel**	4.43	37	*e*P	**Pn**	06 46 47.5	+0.9
MDN				*e*S	**Sn**	06 47 36.2	-0.8
DSLB	**Salisbury**	4.50	36	*e*P	**Pn**	06 46 49.1	+1.4
DSLB				*e*S	**Sn**	06 47 36.7	-2.3
DLPL	**La Plaine**	4.52	38	*e*P	**Pn**	06 46 48.5	+0.5
TBG	**Guadaloupe-3**	4.73	31	*e*P	**Pn**	06 46 51.5	+0.8
TBG				*e*S	**Sn**	06 47 42.0	-2.3
BAUV	**El Baul**	4.75	234	*e*P	**Pn**	06 46 52.4	+1.3
BAUV				*e*S	**Sn**	06 47 42.5	-2.6
BAUV	**El Baul**	4.75	234	*e*P	**Pn**	06 46 51.5	+0.4
BAUV				*e*S	**Sn**	06 47 44.1	-0.9
CACV	**CAICARA DEL OR**	4.80	210	*e*P	**Pn**	06 46 49.7	-2.1
CACV				*e*S	**Sn**	06 47 38.1	-8.1
TEPV	**Terepaima**	5.27	250	*e*P	**Pn**	06 47 00.7	+2.4
TEPV				*e*S	**Sn**	06 47 56.0	-1.9
MBFL	**Flemmings, Mon**	5.29	21	*e*S	**Sn**	06 47 55.7	-2.6
MBWH		5.29	21	*e*P	**Pn**	06 46 59.2	+0.6
ANBD	**Bethesda, Anti**	5.73	24	*e*P	**Pn**	06 47 05.3	+0.8
ANBD				*e*S	**Sn**	06 48 06.1	-3.0
SOCV	**Socops**	7.46	243	*e*P	**Pn**	06 47 29.1	+0.8
URIC	**Uribia, Colomb**	7.68	270	P	**Pn**	06 47 30.6	-0.8
URIC				S	**Sn**	06 48 52.0	-5.2
CRJC	**Cerrejon, Guaj**	8.59	266	P	**Pn**	06 47 44.9	+0.9
CRJC				S	**Sn**	06 49 18.1	-1.7
SDDR	**Presa de Saban**	9.93	317	P	**Pn**	06 48 06.4	+4.1
SJCC	**San Jacinto, C**	10.99	261	P	**Pn**	06 48 16.6	-0.3
	14nm,1.0s						

---

*JMA **13** 07:01:44.4±0.0, 39°.1N±0°.1×140°.8E±0°.1, h7km, MV3.1/20, SOUTHERN IWATE PREF*
JMA Felt I J1 at SOUTHERN IWATE PREF .
*IDC **13** 07:01:45.0±4.3, 38°.67N×140°.97E, h0km, mb3.5/1, mbtmp3.2/3, ML2.5/2, Error ellipse: s-maj=74.4km s-min=44.7km az=177.0*
ISC 13 07:01:44.2±0.9, 39°.09N±0°.03×140°.88E±0°.04, h15km±8km, n17, σ1§38/20, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	0.30	117	*i* P	**Pb**	07 01 50.8	-0.3
JMK				S	**Sg**	07 01 55.4	+0.7
JRG	**Rokugo**	0.36	328	*i* P	**Pg**	07 01 51.2	-0.4
JRG				S	**Sg**	07 01 56.3	-0.4
JYK	**Kaneyama**	0.44	248	*i* P	**Pg**	07 01 52.4	-0.6
JYK				S	**Sg**	07 01 57.7	-1.2
JOM	**Ohasama**	0.50	40	*i* P	**Pb**	07 01 54.5	-0.2
JOM				S	**Sb**	07 02 01.6	-0.2
JKMT	**Kesennumamotoy**	0.54	120	*i* P	**Pb**	07 01 55.2	-0.1
JKMT				S	**Sb**	07 02 03.2	+0.3
OFUJ	**Ofunato**	0.61	90	*i* P	**Pn**	07 01 56.9	-1.4
OFUJ				S	**Sn**	07 02 05.7	-2.2
JIO	**Ouri**	0.73	150	*i* P	**Pb**	07 01 58.5	0.0
JIO				S	**Sb**	07 02 08.6	+0.3
JOU	**Okura**	0.74	193	*i* P	**Pg**	07 01 58.6	+0.1
JOU				S	**Sg**	07 02 08.7	+0.4
MJAR	**Matsushiro Arr**	3.31	221	Pn	**Pn**	07 02 35.0	-0.4
	0.1nm,0.3s,baz=29,slow=15,SNR=4.9						
MJAR				Sn	**Sn**	07 03 11.9	-2.4
	0.1nm,0.3s,baz=318,slow=22,SNR=4.1 0.6nm,0.3s						
KSRS	**Korea Array**	10.32	265	Pn	**Pn**	07 04 15.3	+3.8
	0.2nm,0.3s,baz=75,slow=14,SNR=6.1 1.1nm,0.6s						
H11N2	**WAKE ISLAND Hy**	29.59	123	T	T	07 38 24.5	
	baz=317,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	29.60	123	T	T	07 38 25.3	
	baz=317,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy**	29.61	123	T	T	07 38 25.8	
	baz=317,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy**	30.36	125	T	T	07 39 09.0	
	baz=318,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	30.36	125	T	T	07 39 13.0	
	baz=318,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	30.37	125	T	T	07 39 10.2	
	baz=318,slow=76,SNR=10						
WRA	**Warramunga Arr**	59.04	187	P	**P**	07 11 43.8	+0.4
	0.4nm,0.6s,baz=4.3,slow=7.2,SNR=5.6 0.4nm,0.6s						

---

*IDC **13** 07:08:11.6±0.6, 26°.37N×129°.60E, h0km, mb4.5/26, mbtmp4.5/28, ML3.5/2, Error ellipse: s-maj=15.8km s-min=13.2km az=71.0*
*BJI **13** 07:08:11.5, 26°.17N×129°.51E, h10km, mB4.9/39, mb4.7/81, Ms4.7/72, Ms7 4.6/68*
*MOS **13** 07:08:12.2±1.2, 26°.28N×129°.52E, h10km, mb5.0/60, MS4.7/4, Error ellipse: s-maj=7.3km s-min=4.0km az=112.6*
*NEIC **13** 07:08:14.2, 26°.25N×129°.52E, h12km*
*NEIC **13** 07:08:14.2, 25°.85N×129°.63E, h12km, Moment Tensor Solution. Duration: 1§4 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.03; $M_{\theta\theta}$0.67; $M_{\phi\phi}$1.36; $M_{r\theta}$-1.66; $M_{\theta\phi}$1.16; $M_{\phi r}$-0.01; Fault plane solution: $M_0$2.68000×10^{16} NP1: ϕ_s195.15000°, δ36.77000°, λ-131.47000°. NP2: ϕ_s62.96000°, δ63.35000°, λ-63.67000°. Principal axes: T 2.4807, Plg14.0000°, Azm134.0000°; N 0.3993, Plg23.0000°, Azm230.0000°; P -2.8800, Plg62.0000°, Azm15.0000°;*
*JMA **13** 07:08:14.1±0.1, 26°.3N±0°.6×129°.6E±0°.4, h45km, MD4.8/19, MV4.4/19, NEAR OKINAWAJIMA ISLAND*
*NEIC **13** 07:08:14.2±1.4, 26°.24N±0°.08×129°.52E±0°.09, h10km±1km, mb5.1/91, Mww4.9/12, Error ellipse: s-maj=14.1km s-min=12.1km az=127.0*
*NIED **13** 07:08:14.1, 26°.26N×129°.57E, h45km, MW4.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.08; $M_{\theta\theta}$0.96; $M_{\phi\phi}$1.13; $M_{r\theta}$0.53; $M_{\theta\phi}$1.07; $M_{\phi r}$0.97; Fault plane solution: $M_0$2.38000×10^{16} NP1: ϕ_s49.00000°, δ32.00000°, λ-79.00000°. NP2: ϕ_s216.00000°, δ59.00000°, λ-97.00000°.*
*GCMT **13** 07:08:17.2±0.3, 26°.15N±0°.02×129°.34E±0°.03, h12km, MW5.0/106, Moment Tensor Solution. s26, c27; s106, c145; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.44±.11; $M_{\theta\theta}$1.05±.11; $M_{\phi\phi}$1.39±.11; $M_{r\theta}$-1.89±.33; $M_{\theta\phi}$1.66±.08; $M_{\phi r}$2.98±.37; Best double couple: $M_0$4.15000×10^{16} NP1: ϕ_s62.00000°, δ37.00000°, λ-34.00000°. NP2: ϕ_s180.00000°, δ71.00000°, λ-122.00000°. Principal axes: T 3.2400, Plg19.0000°, Azm293.0000°; N 1.8200, Plg30.0000°, Azm192.0000°; P -5.0590, Plg53.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*
ISC 13 07:08:14.5±0.5, 26°.23N±0°.03×129°.55E±0°.03, h16km±2km, h17km: pP-P, n675, σ1§52/714, mb5.0/157, MS4.7/16, 35C-4D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	1.26	309	*i* P	**Pn**	07 08 35.8	-1.7
JYRO				S	**Sb**	07 08 51.4	-2.5
JYRO	**Yoronjima**	1.26	309	A	A	07 08 35.8	
	comp=N,17nm,4.5s,comp=E,16nm,1.9s						
JOW	**Kunigami**	1.29	298		**Pn**	07 08 36.3	-1.5
JOW	**Kunigami**	1.29	298	Pn	**Pn**	07 08 36.5	-1.3
	comp=E,1μm,0.3s,baz=120,slow=19,SNR=2762						
JOW				Sn	**Sb**	07 08 51.7	-3.0
	comp=E,2μm,0.3s,baz=253,slow=19,SNR=9.1						
JOW	**Kunigami**	1.29	298	P	**Pn**	07 08 36.4	-1.5
JOW				S	**Sb**	07 08 51.7	-3.0
JOW	**Kunigami**	1.29	298	A	A	07 08 36.4	
	comp=N,26nm,5.1s,comp=E,23nm,7.6s						
JNTH	**Nagotoyohara**	1.40	282	*i* P	**Pn**	07 08 37.8	-1.5
JNTH				S	**Sb**	07 08 54.4	-3.5
JNTH	**Nagotoyohara**	1.40	282	A	A	07 08 37.8	
	comp=N,21nm,6.6s,comp=E,19nm,4.3s						
JOKE	**Okinoerabujima**	1.42	322	P	**Pn**	07 08 38.1

SSE	**Sheshan**	**8.80 305**	P	**Pn**	**07 10 20.9 -0.1**
SSE			S	**Sn**	**07 12 03.4 +3.6**
SSE			pmax	pmax	
	comp=E,24nm,1.2s				
SSE			LR	LR	
	comp=E,2μm,10.8s				
SSE			LR	LR	
	comp=E,1μm,11.0s				
SSE			LR	LR	
	comp=E,2μm,12.8s				
TJN	**Taejon**	**10.28 350**		**Pn**	**07 10 41.2 -0.1**
TJN	**Taejon**	**10.28 350**	*i* P	**Pn**	**07 10 42.0 +0.7**
NJ2	**Nanjing**	**11.00 304**	*e*P	**Pn**	**07 10 51.8 +0.7**
NJ2			S	**Sn**	**07 12 59.1 +5.3**
NJ2			pmax	pmax	
	comp=E,19nm,0.5s				
NJ2			LR	LR	
	comp=E,2μm,14.2s				
NJ2			LR	LR	
	comp=E,2μm,15.6s				
NJ2			LR	LR	
	comp=E,2μm,16.1s				
KSAR	**Wonju Array Be**	**11.26 353**		**Pn**	**07 10 55.3 +0.6**
KSAR	**Wonju Array Be**	**11.26 353**	P	**Pn**	**07 10 55.3 +0.6**
KSRS	**Korea Array**	**11.27 353**	Pn	**Pn**	**07 10 55.1 +0.3**
	comp=E,0.5nm,0.3s,baz=174,slow=14,SNR=23				
KS19	**Wonju Array Si**	**11.32 353**		**Pn**	**07 10 55.6 0.0**
JGF	**Kuroka**	**11.49 34**	Pn	**Pn**	**07 10 58.5 +0.6**
MJAR	**Matsushiro Arr**	**12.65 34**	Pn	**Pn**	**07 11 12.1 -1.7**
	comp=E,0.1nm,0.3s,baz=228,slow=12,SNR=7.5				
	comp=E,0.9nm,0.5s				
WHN	**Wuhan**	**14.05 291**	P	**Pn**	**07 11 32.6 -0.3**
WHN			pmax	pmax	
	comp=E,38nm,0.5s				
WHN			pmax	pmax	
	comp=E,870nm,9.1s				
WHN			LR	LR	
	comp=E,5μm,12.9s				
WHN			LR	LR	
	comp=E,5μm,20.6s				
WHN			LR	LR	
	comp=E,5μm,10.3s				
DL2	**Dalian**	**14.28 334**	P	**Pn**	**07 11 37.6 +1.6**
DL2			S	**Sn**	**07 14 16.0 +1.9**
DL2			pmax	pmax	
	comp=E,87nm,1.0s				
DL2			pmax	pmax	
	comp=E,210nm,9.6s				
DL2			LR	LR	
	comp=E,2μm,14.0s				
DL2			LR	LR	
	comp=E,1μm,12.1s				
DL2			LR	LR	
	comp=E,2μm,12.6s				
TIA	**Tai'an**	**14.54 316**	P	**Pn**	**07 11 38.9 -0.7**
TIA			S	**Sn**	**07 14 25.1 +4.6**
TIA			pmax	pmax	
	comp=E,5.0nm,0.7s				
TIA			pmax	pmax	
	comp=E,430nm,8.6s				
TIA			LR	LR	
	comp=E,1μm,17.5s				
TIA			LR	LR	
	comp=E,770nm,16.1s				
TIA			LR	LR	
	comp=E,4μm,12.0s				
CNSH	**ChangSha**	**14.91 281**	P	**P**	**07 11 50.3 0.0**
CNSH			S	**S**	**07 14 39.0 -8.5**
CNSH			LR	LR	
	comp=N,3μm,19.2s				
CNSH			LR	LR	
	comp=E,2μm,10.6s				
CNSH			LR	LR	
	comp=Z,2μm,13.6s				
JMM	**Marumori**	**15.00 37**	Pn	**Pn**	**07 11 45.1 -0.6**
SNY	**Shenyang**	**16.32 344**	⇑P	**P**	**07 12 04.5 -1.2**
SNY			S	**Sn**	**07 15 03.4 -0.1**
SNY			pmax	pmax	
	comp=Z,22nm,1.0s				
SNY			pmax	pmax	
	comp=Z,230nm,7.5s				
SNY			LR	LR	
	comp=Z,840nm,10.8s				
SNY			LR	LR	
	comp=Z,470nm,7.4s				
SNY			LR	LR	
	comp=Z,1μm,10.8s				
MSHR	**Mys Shultsa**	**16.36 4**	*i* P	**Pn**	**07 12 04.3 +0.9**
MSHR			pmax	pmax	
	comp=Z,18nm,1.3s				
HNS	**HongShan**	**16.80 315**	⇑P	**Pn**	**07 12 09.1 +0.1**
HNS			PP	**pwP**	**07 12 22.8 +0.7**
HNS			S	**Sn**	**07 15 14.3 -1.0**
HNS			pmax	pmax	
	comp=Z,81nm,1.2s				
HNS			pmax	pmax	
	comp=Z,510nm,9.6s				
HNS			LR	LR	
	comp=Z,1μm,15.9s				
HNS			LR	LR	
	comp=Z,1μm,16.7s				
HNS			LR	LR	
	comp=Z,2μm,20.0s				
LYN	**LuoYang**	**16.89 303**	P	**P**	**07 12 12.4 +0.2**
LYN			PP	**pwP**	**07 12 24.9 +1.7**
LYN			pmax	pmax	
	comp=Z,210nm,1.2s				
LYN			pmax	pmax	
	comp=Z,750nm,9.8s				
GULI	**GuiLin**	**17.31 271**	P	**P**	**07 12 18.0 +1.1**
BJT	**Baijiatuau**	**17.71 324**		**Pn**	**07 12 18.1 -2.3**
BJT	**Baijiatuau**	**17.71 324**	P	**Pn**	**07 12 18.1 -2.3**
BJT			pmax	pmax	
	comp=Z,57nm,0.8s				
BJI	**Beijing**	**17.72 324**	P	**P**	**07 12 21.4 +0.1**
BJI			pmax	pmax	
	comp=Z,33nm,0.9s				
BJI			pmax	pmax	
	comp=Z,220nm,5.2s				
BJI			LR	LR	
	comp=Z,590nm,20.4s				
BJI			LR	LR	
	comp=Z,510nm,17.5s				
BJI			LR	LR	
	comp=Z,560nm,21.8s				
USA0B	**Ussuriysk Arra**	**18.03 6**	P	**Pn**	**07 12 24.2 -0.1**
USA0B	**Ussuriysk Arra**	**18.03 6**	*i* P	**P**	**07 12 25.0 +0.3**
USRK	**Ussuriysk Ar.**	**18.03 6**	Pn	**Pn**	**07 12 23.2 -1.1**
USRK	**Ussuriysk Ar.**	**18.03 6**	P	**Pn**	**07 12 22.6 -1.8**
	comp=Z,0.5nm,0.3s,baz=185,slow=9.4,SNR=9.6				
	comp=Z,3.1nm,0.7s				
USRK	**Ussuriysk Ar.**	**18.03 6**	P	**Pn**	**07 12 23.3 -1.1**
ENH	**Enshi**	**18.12 287**	P	**Pn**	**07 12 24.9 -0.7**
MDJ	**Mudanjiang**	**18.34 0**	P	**P**	**07 12 32.4 +4.3**
MDJ			S	**Sn**	**07 15 48.5 -4.1**
MDJ			pmax	pmax	
	comp=Z,19nm,1.0s				
MDJ			LR	LR	
	comp=Z,960nm,13.7s				
MDJ			LR	LR	
	comp=Z,790nm,11.0s				
MDJ			LR	LR	
	comp=Z,1μm,13.1s				
TIY	**Taiyuan**	**18.46 312**	P	**Pn**	**07 12 30.3 +0.7**
TIY			PP	**PnPn**	**07 12 43.6 +2.3**
TIY			S	**Sn**	**07 15 49.5 -6.1**
TIY			pmax	pmax	
	comp=Z,390nm,7.1s				
TIY			LR	LR	
	comp=Z,1μm,14.7s				
TIY			LR	LR	
	comp=Z,950nm,15.4s				
TIY			LR	LR	
	comp=Z,1μm,18.6s				
ERM	**Erimo**	**19.32 32**	P	**P**	**07 12 38.7 -0.1**
ERM	**Erimo**	**19.32 32**	*ce*P	**P**	**07 12 37.8 -1.0**
ERM			pmax	pmax	
	comp=Z,53nm,1.7s				
XAN	**Xi'an**	**19.44 298**	⇑P	**P**	**07 12 39.8 -0.6**
XAN			pP	pwP	07 12 48.6 -2.8
XAN			pmax	pmax	
	comp=Z,170nm,1.2s				
XAN			pmax	pmax	
	comp=Z,710nm,3.6s				
XAN			LR	LR	
	comp=Z,2μm,13.9s				
XAN			LR	LR	
	comp=Z,2μm,16.0s				
XAN			LR	LR	
	comp=Z,2μm,18.4s				
QIZ	**Qiongzhong**	**19.54 253**	P	**P**	**07 12 40.3 -1.2**
QIZ			pmax	pmax	
	comp=Z,380nm,4.0s				
QIZ			LR	LR	
	comp=Z,580nm,10.8s				
QIZ			LR	LR	
	comp=Z,380nm,9.2s				
QIZ			LR	LR	
	comp=Z,750nm,14.4s				
BNX	**BinXian**	**19.54 356**	⇑P	**Pn**	**07 12 43.1 +0.5**
BNX			pP	**sP**	**07 12 46.3 +1.0**
BNX			sS	**sS**	**07 16 28.9 +3.1**
BNX			pmax	pmax	
	comp=Z,25nm,0.8s				
BNX			pmax	pmax	
	comp=Z,190nm,6.2s				
BNX			LR	LR	
	comp=Z,880nm,16.3s				
BNX			LR	LR	
	comp=Z,1μm,19.0s				
BNX			LR	LR	
	comp=Z,990nm,16.3s				
GYA	**Guiyang**	**20.51 276**	P	**P**	**07 12 53.1 +1.0**
GYA			sP	pwP	07 13 04.5 +0.7
GYA			S	**S**	**07 16 40.8 -0.4**
GYA			pmax	pmax	
	comp=Z,30nm,1.3s				
GYA			LR	LR	
	comp=Z,2μm,15.7s				
GYA			LR	LR	
	comp=Z,2μm,11.4s				
GYA			LR	LR	
	comp=Z,2μm,12.5s				
ASAJ	**Asahikawa**	**20.74 27**	P	**P**	**07 12 52.8 -1.6**
	comp=Z,7.3nm,0.9s,baz=219,slow=14,SNR=6.1				
	comp=Z,7.3nm,0.9s				
ASAJ	**Asahikawa**	**20.74 27**	P	**P**	**07 12 53.8 -0.5**
ASAJ			pmax	pmax	
	comp=Z,18nm,0.9s				
JKA	**Kamikawa-asahi**	**20.74 27**	P	**P**	**07 12 53.8 -0.6**
XLT	**XiLinHaoTe**	**20.74 332**	*e*P	**P**	**07 12 53.4 -1.0**
XLT			pP	Pn	07 12 58.1 +1.3
XLT			sP	sP	07 12 59.8 +1.3
XLT			S	**S**	**07 16 44.8 -0.7**
XLT			SS	**SnSn**	**07 17 16.6 +11**
XLT			pmax	pmax	
	comp=Z,50nm,0.8s				
XLT			LR	LR	
	comp=Z,87nm,20.4s				
XLT			LR	LR	
	comp=Z,740nm,14.0s				
XLT			LR	LR	
	comp=Z,1μm,16.2s				
HHC	**Hu-ho-hao-te**	**20.85 319**	*e*P	Pn	07 12 58.8 +0.6
HHC			pP	pwP	07 13 02.4 -4.2
HHC			S	**S**	**07 16 49.3 +1.6**
HHC			pmax	pmax	
	comp=Z,27nm,0.8s				
HHC			pmax	pmax	
	comp=Z,200nm,6.7s				
HHC			LR	LR	
	comp=Z,980nm,16.8s				
HHC			LR	LR	
	comp=Z,2μm,15.5s				
HHC			LR	LR	
	comp=Z,2μm,15.0s				
BTO	**Baotou**	**21.64 316**	*e*P	**P**	**07 13 03.6 -0.6**
BTO			pP	**sP**	**07 13 07.3 -1.3**
BTO			sP	**pwP**	**07 13 10.5 -4.6**
BTO			PP	**PnPn**	**07 13 26.1 +1.2**
BTO			S	**S**	**07 17 03.8 +0.5**
BTO			SS	**SnSn**	**07 17 38.4 +11**
BTO			pmax	pmax	
	comp=Z,17nm,0.7s				
BTO			pmax	pmax	
	comp=Z,460nm,5.5s				
BTO			LR	LR	
	comp=Z,2μm,14.1s				
BTO			LR	LR	
	comp=Z,2μm,14.1s				
BTO			LR	LR	
	comp=Z,3μm,15.0s				
KLR	**Kul'dur**	**23.02 4**	*ce*P	**P**	**07 13 17.7 -1.0**
KLR			pmax	pmax	
	comp=Z,24nm,1.3s				
CD2	**Chengdu**	**23.10 288**	P	**P**	**07 13 18.3 -1.5**
CD2			pmax	pmax	
	comp=Z,100nm,1.4s				
CD2			LR	LR	
	comp=Z,2μm,11.4s				
CD2			LR	LR	
	comp=Z,2μm,9.5s				
YSS	**Yuzhno-Sakhali**	**23.18 23**	P	**P**	**07 13 19.9 -0.3**
YSS			IAmb	IAmb	07 13 22.6
	comp=Z,110nm,1.3s				
YSS	**Yuzhno-Sakhali**	**23.18 23**	*d i* P	**P**	**07 13 20.7 +0.4**
YSS			*e*S	**S**	**07 17 26.0 -5.2**
YSS			pmax	pmax	
	comp=Z,500nm,4.0s				
YSS			pmax	pmax	
	comp=N,400nm,3.6s				
YSS			pmax	pmax	
	comp=E,100nm,3.1s				
YSS			pmax	pmax	
	comp=Z,60nm,1.3s				
YSS			pmax	pmax	
	comp=N,40nm,1.0s				
SLVN	**Son La**	**23.95 264**	P	**P**	**07 13 28.0 -0.2**
LZH	**Lanzhou**	**24.03 300**	*e*P	**P**	**07 13 28.6 -0.3**
LZH			sP	pwP	07 13 38.1 -1.6
LZH			S	**S**	**07 17 46.8 +1.2**
LZH			pmax	pmax	
	comp=N,35nm,1.8s				
LZH			pmax	pmax	
	comp=N,290nm,5.7s				
LZH			LR	LR	
	comp=N,1μm,14.1s				
LZH			LR	LR	
	comp=N,1μm,14.8s				
LZH			LR	LR	
	comp=N,2μm,17.2s				
HEH	**HeiHe**	**24.04 357**	*e*P	**P**	**07 13 26.9 -1.7**
HEH			pP	**sP**	**07 13 32.3 -0.5**
HEH			S	**S**	**07 17 43.4 -1.7**
HEH			pmax	pmax	
	comp=N,11nm,1.0s				
HEH			LR	LR	
	comp=N,400nm,13.5s				
HEH			LR	LR	
	comp=N,1μm,14.8s				
HEH			LR	LR	
	comp=N,1μm,15.1s				
KMI	**Kunming**	**24.18 273**	P	**P**	**07 13 31.3 +0.9**
KMI			pmax	pmax	
	comp=N,37nm,0.9s				
KMI			pmax	pmax	
	comp=N,310nm,5.8s				
PZH	**PanZhiHua**	**24.90 277**	P	**P**	**07 13 37.0 +0.1**
PZH			S	**S**	**07 17 58.5 -1.2**
PZH			PcS	**PcS**	**07 20 53.6 +0.6**
PZH			pmax	pmax	
	comp=N,20nm,1.3s				
PZH			pmax	pmax	
	comp=N,220nm,7.1s				
PZH			LR	LR	
	comp=N,1μm,17.7s				
PZH			LR	LR	
	comp=N,2μm,11.2s				
PZH			LR	LR	
	comp=N,2μm,12.2s				
UBPT	**Khong Chiam**	**24.97 249**	P	**P**	**07 13 37.5 +0.1**
GRNR	**Gornyy**	**25.06 10**	⇑*i* P	**P**	**07 13 37.8 -0.1**
GRNR			pmax	pmax	
	comp=Z,20nm,1.3s				
TOLI2	**Tolitoli**	**26.37 200**	P	**P**	**07 13 49.6 -0.5**
TOLI2			IAmb	IAmb	07 14 03.0
	comp=Z,39nm,0.9s				
TYV	**Tymovskoe**	**26.56 19**	*e*P	**P**	**07 13 52.9 +1.4**
TYV			*e*S	**S**	**07 18 28.3 +3.1**
TYV			pmax	pmax	
	comp=Z,13nm,1.1s				
TYV			pmax	pmax	
	comp=Z,200nm,2.7s				
TYV			smax	smax	
	comp=N,200nm,2.8s				
TYV			smax	smax	
	comp=E,200nm,2.8s				
MPSI	**Mapaga**	**27.38 201**	P	P	07 13 48.8 -10
ZEA	**Zeya**	**27.52 357**	*e*P	**P**	**07 14 01.9 +1.7**
ZEA			pmax	pmax	
	comp=Z,10.0nm,0.9s				
ZEA			MLR	MLR	
	comp=Z,200nm,15.0s				
ULN	**Ulaanbaatar**	**27.89 327**	P	**P**	**07 14 02.4 -1.3**
ULN	**Ulaanbaatar**	**27.89 327**	*ce*P	**P**	**07 14 04.0 +0.2**
ULN			pmax	pmax	
	comp=Z,15nm,1.3s				
GTA	**Gaotai**	**28.09 305**	P	**P**	**07 14 04.6 -1.0**
GTA			pP	sP	07 14 08.3 -2.0
GTA			pmax	pmax	
	comp=Z,20nm,1.0s				
GTA			LR	LR	
	comp=Z,1μm,15.5s				
GTA			LR	LR	
	comp=Z,830nm,17.5s				
GTA			LR	LR	
	comp=Z,1μm,17.5s				
SONM	**Songino Array**	**28.20 326**	P	**P**	**07 14 06.6 +0.1**
SONM	**Songino Array**	**28.20 326**	P	**P**	**07 14 04.6 -1.9**
	comp=Z,0.8nm,0.4s,baz=137,slow=9.7,SNR=27				
	comp=Z,0.8nm,0.4s				
SONM	**Songino Array**	**28.20 326**	P	**P**	**07 14 06.6 +0.1**
SONM			pmax	pmax	
	comp=Z,17nm,1.4s				
CHTO	**Chiang Mai**	**29.17 262**	P	**P**	**07 14 13.2 -2.0**
CHTO	**Chiang Mai**	**29.17 262**	P	**P**	**07 14 13.2 -2.0**
CHTO			pmax	pmax	
	comp=Z,14nm,1.1s				
CMAR	**Chiang Mai Arr**	**29.30 261**	P	**P**	**07 14 15.8 -0.5**
CMAR	**Chiang Mai Arr**	**29.30 261**	P	**P**	**07 14 16.6 +0.3**
	comp=Z,1.3nm,0.4s,baz=64,slow=7.5,SNR=14				
	comp=Z,1.3nm,0.4s				
CMAR	**Chiang Mai Arr**	**29.30 261**	*i* P	**P**	**07 14 18.3 +2.0**
CMAR			pmax	pmax	
	comp=Z,2.0nm,0.5s				
GOMU	**GeErMu**	**31.18 297**	P	**P**	**07 14 32.3 -1.0**
GOMU			pP	sP	07 14 35.4 -2.7
GOMU			sP	pwP	07 14 40.0 -4.1
GOMU			S	**S**	**07 19 39.0 0.0**
GOMU			pmax	pmax	
	comp=Z,12nm,0.8s				
GOMU			LR	LR	
	comp=Z,700nm,14.6s				
GOMU			LR	LR	
	comp=Z,860nm,14.0s				
GOMU			LR	LR	
	comp=Z,1μm,14.7s				
SHL	**Shillong**	**33.81 277**	P	**P**	**07 14 55.6 -0.6**
SHL	**Shillong**	**33.81 277**	P	**P**	**07 14 55.6 -0.6**
SHL			pmax	pmax	
	comp=Z,37nm,0.9s				
PEA0B	**Petropavlovsk-**	**34.08 30**	P	**P**	**07 14 57.8 -0.3**
PEA0B			IAmb	IAmb	07 14 59.3
	comp=Z,26nm,1.2s				
PEA0B	**Petropavlovsk-**	**34.08 30**	*ce*P	**P**	**07 14 58.7 +0.6**
PETK	**Petropavlovsk-**	**34.08 30**	P	**P**	**07 14 57.4 -0.7**
PETK	**Petropavlovsk-**	**34.08 30**	P	**P**	**07 14 56.0 -2.1**
	comp=Z,6.3nm,1.0s,baz=217,slow=3.7,SNR=13				
	comp=Z,6.3nm,1.0s				
PETK	**Petropavlovsk-**	**34.08 30**	P	**P**	**07 14 57.4 -0.7**
YAK	**Yakutsk**	**35.79 0**	P	**P**	**07 15 11.5 -1.1**
YAK	**Yakutsk**	**35.79 0**	*e*P	**P**	**07 15 12.6 0.0**
YAK			*e**PP	**sP**	**07 15 15.8 -1.0**
YAK			*e*		07 16 26.7
YAK			*e*		07 17 40.0
YAK			*e*S	**S**	**07 20 50.8 +1.8**
YAK			*e**SS	**sS**	**07 20 55.5 +1.2**
YAK			*e*SS	**SnSn**	**07 23 13.4 +1.8**
YAK			*e*		07 25 32.3
YAK			pmax	pmax	
	comp=Z,24nm,1.1s				
YAK			pmax	pmax	
	comp=E,2.0nm,0.9s				
YAK			pmax	pmax	
	comp=N,7.0nm,0.9s				
YAK			pmax	pmax	
	comp=Z,138nm,4.5s				
YAK			pmax	pmax	
	comp=E,43nm,4.8s				
YAK			smax	smax	
	comp=E,98nm,3.3s				
YAK			smax	smax	
	comp=N,68nm,3.1s				
PSI	**Prapat**	**37.50 237**	P	**P**	**07 15 28.6 +0.7**
PSI			pmax	pmax	
	comp=Z,12nm,0.9s				
RPSI	**Rantau Prapat**	**37.57 237**	P	**P**	**07 15 28.6 +0.3**
WMQ	**Urumqi**	**38.04 308**	*e*P	**P**	**07 15 35.9 +3.8**
WMQ			pP	pwP	07 15 39.8 -3.1
WMQ			S	**S**	**07 21 24.8 +0.8**
WMQ			pmax	pmax	
	comp=Z,24nm,0.9s				
WMQ			LR	LR	
	comp=Z,3μm,24.0s				
WMQ			LR	LR	
	comp=Z,2μm,23.9s				
WMQ			LR	LR	
	comp=Z,790nm,23.5s				
MTN	**Manton Dam**	**38.87 178**	P	**P**	**07 15 38.1 -1.1**
MTN			IAmb	IAmb	07 15 51.0
	comp=Z,101nm,1.7s				
MTN	**Manton Dam**	**38.87 178**	P	**P**	**07 15 39.0 -0.2**
	comp=Z,35nm,1.2s				
SEY	**Seymchan**	**39.68 16**	*ce*P	**P**	**07 15 45.9 +0.4**
SEY			pmax	pmax	
	comp=Z,22nm,1.7s				
ZSN	**Zaisan**	**40.86 313**	*e*P	**P**	**07 15 55.4 -0.1**
ZSN	**Zaisan**	**40.86 313**	*e*P	**P**	**07 15 55.5 -0.1**
KNRA	**Kununurra**	**41.67 181**	P	**P**	**07 16 02.1 -0.2**
KNRA			IAmb	IAmb	07 16 15.1
	comp=Z,23nm,0.8s				
KNRA	**Kununurra**	**41.67 181**	P	**P**	**07 16 02.6 +0.2**
	comp=Z,41nm,0.8s				
MK31	**Makanchi Array**	**42.42 312**	*ce*P	**P**	**07 16 08.1 -0.2**
MKAR	**Makanchi Array**	**42.42 312**	P	**P**	**07 16 07.5 -0.8**
MKAR	**Makanchi Array**	**42.42 312**	P	**P**	**07 16 07.3 -1.0**
	comp=Z,4.1nm,0.7s,baz=102,slow=9.5,SNR=19				
	comp=Z,4.1nm,0.7s				
MKAR	**Makanchi Array**	**42.42 312**	*i* P	**P**	**07 16 07.9 -0.4**
MKAR			pmax	pmax	
	comp=Z,4.0nm,0.6s				
MAKZ	**Makanchi**	**42.63 312**	P	**P**	**07 16 09.3 -0.8**
MAKZ	**Makanchi**	**42.63 312**	P	**P**	**07 16 09.3 -0.8**
MAKZ			pmax	pmax	
	comp=Z,7.0nm,0.9s				
ZAA0	**Zalesovo Array**	**42.96 322**	P	**P**	**07 16 11.5 -1.1**
ZALV	**Zalesovo Beam**	**42.96 322**	P	**P**	**07 16 10.5 -2.1**
	comp=Z,2.7nm,0.5s,baz=106,slow=7.6,SNR=14				
	comp=Z,2.7nm,0.5s				
ZALV	**Zalesovo Beam**	**42.96 322**	*i* P	**P**	**07 16 11.6 -1.0**
ZALV			pmax	pmax	
	comp=Z,3.0nm,0.5s				
SHLS	**Shalkode**	**43.83 306**	*e*P	**P**	**07 16 16.9 -3.1**
SHLS	**Shalkode**	**43.83 306**	*e*P	**P**	**07 16 16.9 -3.1**
UZB	**Uzynbulak**	**44.15 306**	*e*P	**P**	**07 16 22.0 -0.6**
UZB			pmax	pmax	
	comp=Z,14nm,1.4s				
UZB	**Uzynbulak**	**44.15 306**	*e*P	**P**	**07 16 22.0 -0.6**
	comp=Z,14nm,1.4s				
FITZ	**Fitzroy Crossi**	**44.23 185**		**P**	**07 16 23.5 +0.4**
FITZ	**Fitzroy Crossi**	**44.23 185**	P	**P**	**07 16 24.0 +0.9**
	comp=Z,4.6nm,1.3s				
KPKS	**Kokpek**	**44.43 306**	*e*P	**P**	**07 16 24.2 -0.5**
KPKS	**Kokpek**	**44.43 306**	*e*P	**P**	**07 16 24.2 -0.5**
ZHN	**Zhinishke**	**44.58 306**	*e*P	**P**	**07 16 25.4 -0.5**
ZHN	**Zhinishke**	**44.58 306**	*e*P	**P**	**07 16 25.5 -0.5**
SATY	**Saty**	**44.59 306**	*e*P	**P**	**07 16 25.7 -0.3**
SATY	**Saty**	**44.59 306**	*e*P	**P**	**07 16 25.8 -0.3**
TARG	**Taragay, Kyrgy**	**44.94 304**		**P**	**07 16 29.2 0.0**
TARG			IAmb	IAmb	07 16 47.4
	comp=Z,16nm,1.1s				
TARG	**Taragay, Kyrgy**	**44.94 304**	P	**P**	**07 16 29.2 0.0**
TARG			pmax	pmax	
	comp=Z,16nm,1.1s				
KDJ	**Kajisay**	**45.43 304**		**P**	**07 16 32.8 0.0**
KDJ	**Kajisay**	**45.43 304**	P	**P**	**07 16 32.8 0.0**
KDJ			pmax	pmax	

comp=Z,13nm,1.0s
TIXI Tiksi 45.45 360*ce*P P 07 16 32.5 +0.2
TIXI pmax pmax
comp=Z,25nm,2.5s
MDOK Medeo 45.59 306 *e*P P 07 16 33.6 -0.4
MDOK Medeo 45.59 306 *e*P P 07 16 33.7 -0.4
KURK Kurchatov 45.63 316 P P 07 16 32.8 -1.2
KURK Kurchatov 45.63 316*ce*P P 07 16 34.2 +0.2
KURK pmax pmax
comp=Z,7.0nm,0.7s
TNSS Tian-Shan 45.66 305 *e*P P 07 16 34.1 -0.7
TNSS Tian-Shan 45.66 305 *e*P P 07 16 34.2 -0.7
KURBB Kurchatov Arra 45.67 316 P P 07 16 32.9 -1.4
comp=Z,6.1nm,0.8s,baz=102,slow=8.7,SNR=20
comp=Z,6.1nm,0.8s
CHKK Chushkaly 45.69 307 *e*P P 07 16 34.2 -0.4
CHKK Chushkaly 45.69 307 *e*P P 07 16 34.2 -0.4
AAA Alma-Ata 45.69 306 *e*P P 07 16 34.5 -0.2
AAA Alma-Ata 45.69 306 *e*P P 07 16 34.5 -0.2
WRAB Tennant Creek 46.13 174 P P 07 16 36.8 -1.4
WRAB Tennant Creek 46.13 174 P P 07 16 36.8 -1.4
WRAB pmax pmax
comp=Z,73nm,1.8s
WRA Warramunga Arr 46.14 174 P P 07 16 37.6 -0.7
WRA Warramunga Arr 46.14 174 P P 07 16 38.3 0.0
comp=Z,9.6nm,0.8s,baz=348,slow=8.3,SNR=32
comp=Z,9.6nm,0.8s
KUU Kurty 46.16 307 *e*P P 07 16 38.0 -0.3
KUU pmax pmax
comp=Z,5.0nm,0.8s
KUU Kurty 46.16 307 *e*P P 07 16 38.1 -0.3
comp=Z,5.0nm,0.8s
KSH Kashi 46.28 301 P P 07 16 43.0 +3.5
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH LR LR
comp=Z,710nm,14.3s
KSH LR LR
comp=Z,480nm,13.3s
KSH LR LR
comp=Z,820nm,16.3s
BOOM Boomskoye usch 46.37 305 P P 07 16 40.1 -0.1
MTSU Mount Surprise 46.38 160 P P 07 16 41.9 +1.7
comp=Z,12nm,0.9s
BILL Bilibino 47.30 18 P P 07 16 47.6 +0.8
BILL IAmb IAmb 07 16 48.6
comp=Z,30nm,1.2s
BILL Bilibino 47.30 18*ce*P P 07 16 47.5 +0.6
BILL pmax pmax
comp=Z,25nm,1.0s
SGDS Sogindy 47.37 306 *e*P P 07 16 47.5 -0.4
SGDS Sogindy 47.37 306 *e*P P 07 16 47.6 -0.4
QIS Mount Isa 47.53 167 P P 07 16 49.5 +0.4
comp=Z,29nm,0.8s
ARSB Arslanbob 48.55 303 P 07 16 57.3 +0.1
ARSB Arslanbob 48.55 303 P P 07 16 57.3 +0.1
ARSB pmax pmax
comp=Z,10.0nm,1.0s
NIL Nilore 48.84 293 P 07 16 58.3 -1.0
NIL IAmb IAmb 07 17 14.8
comp=Z,18nm,0.9s
NIL Nilore 48.84 293 P P 07 16 58.3 -1.0
NIL pmax pmax
comp=Z,18nm,1.0s
BRZS Berezniki 49.26 314 *e*P P 07 17 01.9 -0.4
BRZS Berezniki 49.26 314 *e*P P 07 17 01.1 -1.2
NRIK Noril'sk 49.61 342 P 07 17 04.6 0.0
NRIK IAmb IAmb 07 17 18.2
comp=Z,13nm,0.9s
NRIK Noril'sk 49.61 342 P P 07 17 02.2 -2.4
comp=Z,2.2nm,0.5s,baz=136,slow=6.5,SNR=7.5
comp=Z,2.2nm,0.5s
NRIK Noril'sk 49.61 342*ce*P P 07 17 04.6 0.0
NRIK pmax pmax
comp=Z,9.0nm,1.1s
DZA Taraz 49.77 305 *e*P P 07 17 06.0 -0.3
DZA pmax pmax
comp=Z,5.0nm,0.4s
DZA Taraz 49.77 305 *e*P P 07 17 06.0 -0.3
comp=Z,5.1nm,0.4s
AS31 Alice Springs 49.78 175 P 07 17 06.7 +0.2
AS31 Alice Springs 49.78 175 P P 07 17 07.0 +0.5
comp=Z,3.2nm,0.9s
ASAR Alice Springs 49.79 175 P 07 17 06.7 +0.2
ASAR Alice Springs 49.79 175 P P 07 17 07.0 +0.5
comp=Z,4.3nm,0.8s,baz=5.7,slow=12,SNR=49
comp=Z,4.3nm,0.8s
BTK Batken 50.23 301 P 07 17 09.3 -0.6
BTK Batken 50.23 301 P P 07 17 09.4 -0.6
BTK pmax pmax
comp=Z,9.0nm,0.9s
KK31 Karatay Array 50.37 305 P 07 17 11.9 +1.0
KK31 IAmb IAmb 07 17 25.0
comp=Z,51nm,2.0s
KK31 Karatay Array 50.37 305 P P 07 17 11.9 +1.0
KK31 pmax pmax
comp=Z,51nm,2.0s
KKAR Karatay Array 50.37 305 P 07 17 12.1 +1.2
KKAR IAmb IAmb 07 17 25.0
comp=Z,53nm,2.0s
KKAR Karatay Array 50.37 305 P 07 17 11.1 +0.2
KKAR Karatay Array 50.37 305 P P 07 17 12.1 +1.2
KKAR pmax pmax
comp=Z,53nm,2.0s
GAR Garm 50.69 300 P 07 17 13.3 -0.1
GAR IAmb IAmb 07 17 28.4
comp=Z,19nm,0.8s
IUG luzhnay 50.75 304 *e*P P 07 17 13.4 -0.4
IUG pmax pmax
comp=Z,15nm,1.3s
IUG luzhnay 50.75 304 *e*P P 07 17 13.4 -0.4
comp=Z,15nm,1.3s
BRLS Boroldoy 50.87 305 *e*P P 07 17 15.2 +0.6
BRLS Boroldoy 50.87 305 *e*P P 07 17 15.3 +0.6
WRKA Warakurna 50.99 181 P P 07 17 16.8 +1.2
comp=Z,17nm,1.2s
BVAR Borovoye Array 51.06 318 P P 07 17 15.2 -0.7
comp=Z,14nm,0.8s,baz=85,slow=9.1,SNR=24
comp=Z,14nm,0.8s
BRVK Borovoye 51.13 318*ce*P P 07 17 17.0 +0.6
BRVK pmax pmax
comp=Z,17nm,0.7s
SIMJ Simiganj 51.73 300 P 07 17 21.1 -0.2
SIMJ IAmb IAmb 07 17 23.7
comp=Z,29nm,1.5s
DZET Dzherino 51.86 300 P P 07 17 23.5 +1.3
DZET pmax pmax
comp=Z,28nm,0.6s
KBL Kabul 52.18 295 P 07 17 25.3 +0.5
KBL Kabul 52.18 295 P P 07 17 25.3 +0.5
KBL pmax pmax
comp=Z,137nm,1.9s
SPIA Saint Paul Isl 52.28 37 P P 07 17 24.1 -0.8
baz=260
NIKH Nikolski High 52.52 42 P P 07 17 26.6 -0.2
baz=265
P08K Saint George I 52.56 37 P P 07 17 26.7 -0.2
baz=261
GAMB Gambell 53.06 28 P P 07 17 30.5 -0.1
baz=254
UNV Unalaska Valle 53.99 41 P P 07 17 37.6 0.0
baz=266
QLP Quilpie 54.38 164 P P 07 17 41.1 +0.4
comp=Z,33nm,0.9s
M11K Mekoryuk 54.87 33 P P 07 17 43.6 -0.2
baz=262
TNA Tin City 55.10 27 P P 07 17 45.1 -0.2
baz=256
F14K Arctic Creek 55.73 27 P P 07 17 49.9 0.0
baz=258
K13K Kusilvak Mount 55.84 31 P P 07 17 50.7 -0.1
baz=262
FALS False Pass 55.85 40 P P 07 17 50.2 -0.8
baz=268
ANM Nome 55.94 28 P P 07 17 51.5 0.0
baz=259
M13K Dall Lake 56.28 33 P P 07 17 54.4 +0.5
baz=264
F15K North Star Dit 56.46 27 P P 07 17 55.3 +0.2
baz=259
J14K Nanvaranak Lak 56.46 31 P P 07 17 55.3 +0.2
baz=262
G15K Niukluk 56.58 28 P P 07 17 56.2 +0.2
baz=260
L14K Kuka Creek 56.70 32 P 07 17 57.5 +0.6
L14K IAmb IAmb 07 17 59.7
comp=Z,29nm,1.1s
L14K Kuka Creek 56.70 32 P P 07 17 57.1 +0.2
baz=264,SNR=6.9
FORT Forrest 56.71 182 P P 07 17 58.5 +1.3
comp=Z,74nm,1.0s
C16K Lisburne Hills 56.72 24 P P 07 17 57.2 +0.2
baz=257
SVE Sverdlovsk 56.98 322 *e*P P 07 17 59.5 +0.5
SVE pmax pmax
comp=Z,44nm,1.6s
M14K Bethel 56.99 33 P P 07 17 59.0 0.0
baz=265
N14K Kuskokwak Cree 57.07 34 P P 07 17 59.4 -0.1
baz=266
O14K Tigyukauivet M 57.24 35 P P 07 17 59.7 -1.1
baz=267
H16K Elim 57.29 28 P P 07 18 00.8 -0.3
baz=262
L15K Ungalak Mounta 57.30 32 P P 07 18 01.0 -0.3
baz=265
K15K Wolf Creek Mou 57.34 31 P P 07 18 01.2 -0.3
baz=264
G16K Koyuk River 57.35 27 P P 07 18 01.5 0.0
baz=262
D17K Noatak River 57.43 25 P P 07 18 02.3 +0.3
baz=260,SNR=10.0
ABKAR Akbulak array 57.51 313 P 07 18 02.7 -0.1
ABKAR Akbulak array 57.51 313 P 07 18 03.1 +0.3
ABKAR IAmb IAmb 07 18 06.3
comp=Z,7.9nm,0.8s
SDPT Sand Point 57.55 39 P P 07 18 02.3 -0.7
baz=270
RDOG Red Dog Mine 57.56 24 P P 07 18 03.4 +0.4
baz=260
M15K Kasigluk River 57.61 33 P P 07 18 03.6 +0.2
baz=266
E17K Hotham Inlet 57.81 26 P P 07 18 05.0 +0.3
baz=261
J16K Anvik River 57.86 30 P P 07 18 04.7 -0.4
baz=265
I17K Unalakleet 57.87 29 P P 07 18 05.5 +0.4
baz=264
N15K Kwethluk River 57.88 34 P P 07 18 05.8 +0.4
baz=267
F17K Baldwin Pennin 57.94 26 P P 07 18 06.0 +0.4
baz=262
O15K Ungalikthiuk R 57.97 35 P P 07 18 06.2 +0.2
baz=268
CHNA Chernabura Isl 58.06 40 P P 07 18 06.8 +0.2
baz=271
G17K Kiwalik Mounta 58.07 27 P P 07 18 07.3 +0.8
baz=263
S14K Fog Glacier 58.07 38 P P 07 18 06.9 +0.1
baz=270
B18K Kokolik River 58.20 23 P P 07 18 07.1 -0.2
baz=260,SNR=17
ARTI Arti 58.22 322 P 07 18 07.4 -0.4
ARTI Arti 58.22 322*c i*P P 07 18 08.7 +0.9
ARTI 07 20 16.1
ARTI S **S** **07 26 12.8 +4.0**
ARTI SS **SS** **07 30 01.7 +1.6**
ARTI pmax pmax
comp=Z,12nm,0.7s
L16K Owhat River 58.26 32 P P 07 18 07.3 -0.6
baz=267
C18K Utukok River 58.29 24 P 07 18 08.9 +0.8
C18K IAmb IAmb 07 18 21.1
comp=Z,12nm,0.9s
C18K Utukok River 58.29 24 P P 07 18 08.6 +0.4
baz=261,SNR=11
H17K Granite Mounta 58.31 28 P P 07 18 09.2 +0.9
baz=264
E18K Tukpahlearik C 58.33 25 P P 07 18 08.5 +0.2
baz=262
M16K Timber Creek 58.48 33 P P 07 18 08.8 -0.7
baz=268
N16K Nishlik Lake 58.55 33 P P 07 18 09.8 -0.2
baz=268
J17K VABM Dome 58.55 30 P P 07 18 10.0 +0.1
baz=266,SNR=7.0
A19K Wainwright 58.59 22 P P 07 18 10.1 0.0
baz=260
F18K Selawik 58.60 26 P P 07 18 09.9 -0.3
baz=264,SNR=6.8
CHGN Chignik 58.71 38 P P 07 18 10.6 -0.5
baz=271
L17K Donlin 58.84 32 P P 07 18 11.7 -0.3
baz=268
K17K Iditarod 58.86 31 P P 07 18 12.0 -0.2
baz=267
O16K Kokwok River B 58.87 34 P P 07 18 11.7 -0.6
baz=269
P16K Nushagak River 58.92 35 P P 07 18 12.1 -0.4
baz=270
STKA Stephens Creek 58.92 168 P P 07 18 13.2 +0.4
comp=Z,3.3nm,0.7s,baz=329,slow=9.5,SNR=6.7
comp=Z,3.3nm,0.7s
G18K Tagagawik 58.93 27 P P 07 18 12.2 -0.4
baz=265
H18K Honhosa River 58.99 28 P P 07 18 13.0 0.0
baz=266
R16K Pilot Point 59.15 37 P P 07 18 13.7 -0.5
baz=271
M17K Holitna River 59.22 32 P 07 18 14.9 +0.2
M17K Holitna River 59.22 32 P P 07 18 14.0 -0.7
baz=269
N17K Nushagak Hills 59.33 33 P P 07 18 14.8 -0.7
baz=270
F19K Shaleruckik Mo 59.36 26 P P 07 18 14.6 -0.9
baz=265
O17K Koliganek Bris 59.38 34 P P 07 18 15.4 -0.3
baz=270
D19K Kuna River 59.39 24 P 07 18 16.3 +0.5
D19K Kuna River 59.39 24 P P 07 18 15.3 -0.5
baz=264,SNR=14
CMSA Cobar Meteorol 59.48 164 P P 07 18 18.3 +1.6
comp=Z,14nm,1.4s
G19K Purcell Mounta 59.59 27 P P 07 18 17.5 +0.4
baz=266
GCSA Galena City Sc 59.59 28 P P 07 18 17.1 0.0
baz=267
L18K Granite Mounta 59.60 31 P P 07 18 17.5 +0.3
baz=269
Q16K King Salmon 59.61 36 P P 07 18 17.4 0.0
baz=271
J18K Innoko River 59.62 30 P P 07 18 18.0 +0.6
baz=268
E19K Redstone River 59.62 25 P P 07 18 18.2 +0.8
E19K IAmb IAmb 07 18 44.0
comp=Z,14nm,0.9s
E19K Redstone River 59.62 25 P P 07 18 17.9 +0.6
baz=265,SNR=10
P17K Kvichak River 59.72 35 P P 07 18 18.9 +0.8
baz=271
H19K Roundabout Mou 59.81 28 P P 07 18 19.5 +0.9
H19K IAmb IAmb 07 18 21.3
comp=Z,19nm,1.2s
H19K Roundabout Mou 59.81 28 P P 07 18 18.6 0.0
baz=267,SNR=7.6
DZM Mont Dzumac 59.87 140 *e*S **S** **07 26 25.0 -6.0**
comp=Z,162nm,26.4s
DZM *e*LR LR 07 35 55.6
comp=Z,348nm,30.1s
B20K Meade River 59.89 22 P P 07 18 19.2 +0.1
baz=264
TTA Tatalina 59.92 31 P P 07 18 19.4 -0.2
baz=269
D20K Etivluk River 59.96 24 P P 07 18 19.5 -0.1
baz=265,SNR=15
N18K Kilae Creek 59.97 33 P P 07 18 19.5 -0.4
baz=270
M18K Stony River 60.00 32 P P 07 18 19.6 -0.4
baz=270
Q17K Contact Creek 60.03 36 P P 07 18 20.1 -0.3
baz=272
E20K Nigu River 60.08 24 P P 07 18 20.6 0.0
baz=266
J19K Poorman 60.12 29 P 07 18 22.0 +1.2
J19K IAmb IAmb 07 18 23.1
comp=Z,13nm,1.1s
J19K Poorman 60.12 29 P P 07 18 21.2 +0.4
baz=269,SNR=7.0
ARMA Armidale 60.17 158 P P 07 18 21.2 -0.4
comp=Z,20nm,1.2s
F20K Avaraart Lake 60.18 26 P P 07 18 21.1 -0.1
baz=267
CHIR Chirikof Islan 60.29 39 P P 07 18 22.6 +0.5
baz=274
O18K Koktuh Hills 60.33 34 P P 07 18 22.8 +0.5
baz=272
P18K Big Mountain, 60.33 35 P P 07 18 23.3 +0.9
baz=272
L19K White Mountain 60.46 31 P P 07 18 24.0 +0.8
baz=271
H20K Anotleneega Mo 60.47 28 P P 07 18 24.2 +1.1
baz=269
Q18K Katmai Hardscr 60.47 36 P P 07 18 24.1 +0.6
baz=272
I20K Naaghedeneel 60.62 28 P P 07 18 25.3 +1.1
baz=269,SNR=8.7
C21K Knifeblade Rid 60.65 23 P P 07 18 25.2 +0.8
baz=267,SNR=11
N19K Bonanza Creek 60.66 33 P P 07 18 25.3 +0.7
baz=272
M19K Big River Lodg 60.68 32 P P 07 18 25.8 +1.1
baz=271
A22K Sinclair Lake 60.71 21 P P 07 18 26.2 +1.5
baz=266,SNR=5.6
B21K Ikpikpuk River 60.74 23 P 07 18 26.1 +1.2
B21K Ikpikpuk River 60.74 23 P P 07 18 26.2 +1.3
baz=267,SNR=17
O19K Port Alsworth 60.76 34 P P 07 18 25.8 +0.6
baz=272
J20K Nowinta River 60.77 29 P 07 18 25.7 +0.5
J20K Nowinta River 60.77 29 P P 07 18 25.9 +0.7
baz=270,SNR=12
K20K Telida 60.80 30 P P 07 18 26.6 +1.1
baz=271,SNR=9.5
R18K Karluk 60.83 37 P P 07 18 26.3 +0.7
baz=274
L20K Farewell, AK 60.91 31 P P 07 18 26.2 0.0
baz=271
E21K Killik River 60.91 24 P P 07 18 26.9 +0.7
baz=268
SII Sitkinak Islan 61.04 38 P P 07 18 27.7 +0.4
baz=274
G21K Allakaket 61.05 26 P P 07 18 27.9 +0.9
baz=269,SNR=5.6
F21K Alatna River 61.06 26 P P 07 18 27.7 +0.5
baz=269,SNR=5.9
Q19K Cape Douglas, 61.17 35 P P 07 18 27.6 -0.5
baz=273
B22K Teshekpuk Lake 61.19 22 P P 07 18 28.7 +0.8
baz=267,SNR=8.1
M20K Styx River 61.27 32 P P 07 18 29.4 +0.6
baz=272
H21K Melozitna Rive 61.33 27 P P 07 18 29.6 +0.6
baz=270,SNR=13
P19K Oil Pt 61.34 34 P P 07 18 29.1 -0.1
baz=273
D22K Ayikyak River 61.40 24 P P 07 18 29.6 +0.2
baz=269
OHAK Old Harbor 61.48 37 P P 07 18 30.4 +0.3
baz=275
F22K John River 61.57 25 P P 07 18 31.0 +0.4
baz=270
CHUM Lake Minchumin 61.58 30 P P 07 18 31.0 +0.3
baz=272,SNR=7.5
PPLA Purkeypile 61.67 31 P P 07 18 30.9 -0.6
baz=272
CAST Castle Rocks 61.70 30 P P 07 18 32.7 +1.1
baz=272,SNR=8.3
E22K Anaktuvuk Pass 61.71 25 P P 07 18 32.3 +0.7
baz=270,SNR=19
SPCR Spurr Chakacha 61.75 33 P P 07 18 32.6 +0.6
baz=273
KDAK Kodiak Island 61.81 36 P P 07 18 32.5 +0.2
baz=275
G22K Bettles 61.84 26 P P 07 18 33.5 +1.1
baz=271
Q20K Shuyak Island 61.84 36 P P 07 18 32.5 0.0
baz=275
H22K Ishtalitna Cre 61.91 27 P P 07 18 33.0 0.0
baz=272,SNR=16
SKT Skwentna 62.03 32 P P 07 18 34.4 +0.6
baz=274
D23K Nanushuk River 62.12 24 P P 07 18 34.5 +0.2
baz=271,SNR=24
C23K Itkillik River 62.14 23 P P 07 18 34.5 +0.1
baz=270
HOM Homer 62.14 34 P P 07 18 34.3 -0.2
baz=275
BPAW Bear Paw Mtn. 62.15 29 P P 07 18 34.4 -0.3
baz=273,SNR=5.2
CAPN Captain Cook N 62.29 33 P P 07 18 34.6 -0.9
baz=275
COLD Coldfoot 62.34 26 P P 07 18 35.9 +0.1
baz=272,SNR=5.0
G23K Bananza Creek 62.43 26 P P 07 18 38.1 +1.6
baz=272,SNR=11
SUA Susitna One 62.44 32 P P 07 18 37.6 +1.0
baz=274
TRF Thorofare Moun 62.50 30 P P 07 18 37.4 +0.2
baz=274
TOLK Toolik Lake Re 62.53 24 P P 07 18 39.2 +2.1
baz=272,SNR=8.1
E23K Chandalar 62.53 25 P P 07 18 38.4 +1.2
baz=272,SNR=18
CUT Chulitna 62.59 31 P P 07 18 38.3 +0.9
baz=274
BRSE Bradley Lake S 62.59 34 P P 07 18 38.5 +0.9
baz=275
H23K Yukon River 62.67 27 P P 07 18 38.4 +0.3
baz=273
M22K Willow 62.71 32 P P 07 18 37.8 -0.5
baz=275
D24K Happy Valley 62.78 23 P P 07 18 39.8 +1.1
D24K Happy Valley 62.78 23 P P 07 18 39.8 +1.1
baz=272
I23K Minto, Yukon-K 62.79 28 P P 07 18 39.6 +0.8
I23K IAmb IAmb 07 18 41.4
comp=Z,15nm,1.2s
I23K Minto, Yukon-K 62.79 28 P P 07 18 39.2 +0.4
baz=274
C24K Franklin Bluff 62.81 23 P P 07 18 39.4 +0.6
C24K Franklin Bluff 62.81 23 P P 07 18 39.2 +0.4
baz=272
KIRV Kirov 62.93 325*ce*P P 07 18 40.7 +0.9
NEA2 Nenana 62.95 29 P P 07 18 41.4 +1.5
baz=274,SNR=11
RC01 Rabbit Creek A 62.95 33 P P 07 18 41.5 +1.5
baz=276
E24K Your Creek 62.96 25 P 07 18 41.4 +1.4
E24K IAmb IAmb 07 18 53.7
comp=Z,16nm,1.0s
E24K Your Creek 62.96 25 P P 07 18 40.9 +0.9
baz=273,SNR=15
O22K Cooper Landing 63.02 33 P P 07 18 40.8 +0.4
baz=276
MCK McKinley 63.08 30 P P 07 18 41.0 +0.2
baz=275,SNR=10
RND Reindeer 63.15 30 P P 07 18 41.9 +0.6
PMR Palmer 63.20 32 P P 07 18 41.8 +0.2
baz=276
SEW Seward 63.20 34 P P 07 18 41.4 -0.2
baz=276
F24K Squaw Lake 63.22 25 P 07 18 42.5 +0.8
F24K IAmb IAmb 07 18 55.4
comp=Z,12nm,0.8s
F24K Squaw Lake 63.22 25 P P 07 18 42.3 +0.6
baz=274,SNR=17
H24K Noodor Dome 63.35 27 P 07 18 43.1 +0.5
H24K Noodor Dome 63.35 27 P P 07 18 42.7 +0.1
baz=275,SNR=11
G24K Hadweenzic Riv 63.44 26 P P 07 18 44.6 +1.4
baz=275
COLA College 63.45 28 P P 07 18 44.4 +1.3
baz=275
CCB Clear Creek Bu 63.49 29 P 07 18 44.3 +0.8
KNK Knik Glacier 63.53 32 P P 07 18 44.2 +0.3
baz=276
SML Sawmill 63.55 32 P P 07 18 44.5 +0.5
baz=276
POKR Poker Plat Res 63.60 28 P P 07 18 45.4 +1.1
baz=276,SNR=8.2
D25K Kavik River 63.65 23 P P 07 18 44.2 -0.3
baz=274
PWL Port Wells 63.66 33 P P 07 18 44.4 -0.3
baz=277
ARPS Mount Arapiles 63.73 169 P P 07 18 46.5 +1.2
comp=Z,26nm,1.1s
M23K Glacier View 63.84 32 P P 07 18 46.3 +0.5
baz=277
ILAR Eielson Array 63.87 28 P P 07 18 44.8 -1.2
comp=Z,1.6nm,0.9s,baz=252,slow=5.0,SNR=16
comp=Z,1.6nm,0.9s

HDA	Harding Lake	63.88	29	P	P	07 18 46.5	+0.4
HDA				IAmb	IAmb	07 18 58.5	
	comp=Z,15nm,0.8s						
HDA	Harding Lake	63.88	29	P	P	07 18 46.3	+0.2
	baz=276,SNR=11						
CAN	Canberra	63.93	162	P	P	07 18 47.9	+1.2
	comp=Z,18nm,1.6s						
CAN	Canberra	63.93	162	P	P	07 18 48.5	+1.8
G25K	Bearman Lake	63.98	26	P	P	07 18 46.6	-0.1
	baz=276,SNR=11						
SCM	Sheep Creek Mo	64.02	32	P	P	07 18 45.7	-1.4
	baz=277						
E25K	Arctic Village	64.05	25	P	P	07 18 48.2	+1.1
E25K				IAmb	IAmb	07 18 50.3	
	comp=Z,20nm,1.2s						
E25K	Arctic Village	64.05	25	P	P	07 18 47.4	+0.2
	baz=276,SNR=14						
F25K	Christian Rive	64.07	25		P	07 18 48.6	+1.3
F25K				IAmb	IAmb	07 18 50.6	
	comp=Z,20nm,1.2s						
F25K	Christian Rive	64.07	25	P	P	07 18 47.4	+0.1
	baz=276,SNR=13						
C26K	Camden Bay	64.10	23	P	P	07 18 48.3	+0.9
	baz=276,SNR=6.6						
H25L	Birch Creek	64.15	27	P	P	07 18 48.7	+1.0
	baz=276						
P23K	Montague Islan	64.23	34	P	P	07 18 49.0	+0.6
	baz=278						
GLI	Glacier Island	64.26	33	P	P	07 18 48.8	+0.2
	baz=278						
PRP	Porcupine Dome	64.36	27		P	07 18 49.7	+0.4
PRP				IAmb	IAmb	07 19 02.8	
	comp=Z,9.1nm,1.0s						
PRP	Porcupine Dome	64.36	27	P	P	07 18 49.7	+0.4
	baz=277						
K24K	Donnelly Dome	64.47	29	P	P	07 18 50.9	+0.9
	baz=278						
BMAR	Burnt Mountain	64.50	25		P	07 18 51.7	+1.6
M24K	Tolsona, Glenn	64.52	31	P	P	07 18 51.1	+0.7
	baz=278						
J25K	Salcha River,	64.54	28	P	P	07 18 50.9	+0.5
	baz=278						
C27K	Jago River	64.55	23	P	P	07 18 51.6	+1.3
C27K	Jago River	64.55	23	P	P	07 18 50.7	+0.3
	baz=277						
F26K	Sheenjek River	64.63	25	P	P	07 18 52.8	+1.9
F26K	Sheenjek River	64.63	25	P	P	07 18 50.7	-0.2
	baz=277,SNR=22						
PAX	Paxson	64.72	30	P	P	07 18 52.1	+0.4
PAX	Paxson	64.72	30	P	P	07 18 52.1	+0.4
PAX				pmax	pmax		
	comp=Z,41nm,1.9s						
PAX	Paxson	64.72	30	P	P	07 18 52.2	+0.4
	baz=278						
KLU	Klutina	64.73	32	P	P	07 18 52.2	+0.5
	baz=279						
G26K	Porcupine Rive	64.87	26	P	P	07 18 54.1	+1.7
G26K				IAmb	IAmb	07 18 55.6	
	comp=Z,28nm,1.4s						
G26K	Porcupine Rive	64.87	26	P	P	07 18 52.9	+0.5
	baz=278,SNR=10						
RIDG	Independent Ri	64.89	29	P	P	07 18 52.9	+0.2
RIDG	Independent Ri	64.89	29	P	P	07 18 53.9	+1.1
	baz=278						
HARP	HAARP	64.95	31	P	P	07 18 52.9	-0.2
	baz=279						
EYAK	Cordova Ski Ar	64.96	33	P	P	07 18 52.5	-0.6
	baz=279						
TOO	Toolangi	65.21	166	P	P	07 18 56.9	+1.9
TOO				IAmb	IAmb	07 19 09.8	
	comp=Z,20nm,1.6s						
TOO	Toolangi	65.21	166	P	P	07 18 57.1	+2.0
	comp=Z,5.7nm,1.3s						
TOO	Toolangi	65.21	166	P	P	07 18 56.9	+1.9
TOO				pmax	pmax		
	comp=Z,20nm,1.7s						
SCRK	Sand Creek	65.23	29	P	P	07 18 55.8	+0.8
	baz=279,SNR=9.0						
DOT	Dot Lake	65.25	29	P	P	07 18 55.2	+0.2
DOT				IAmb	IAmb	07 18 56.4	
	comp=Z,16nm,1.0s						
J26L	Joseph Creek	65.33	28		P	07 18 55.8	+0.1
J26L				IAmb	IAmb	07 19 08.2	
	comp=Z,13nm,0.8s						
J26L	Joseph Creek	65.33	28	P	P	07 18 56.5	+0.9
	baz=279,SNR=11						
N25K	Chitina, Valde	65.34	32	P	P	07 18 56.1	+0.4
	baz=280						
I26K	Coal Creek Min	65.37	27	P	P	07 18 55.6	-0.1
I26K				IAmb	IAmb	07 19 30.4	
	comp=Z,9.5nm,1.1s						
I26K	Coal Creek Min	65.37	27	P	P	07 18 56.2	+0.4
	baz=279						
BMRM	Bremner River	65.45	32	P	P	07 18 56.7	+0.3
	baz=280						
E27K	Coleen River	65.51	24	P	P	07 18 58.1	+1.5
	baz=279,SNR=12						
MENT	Mentasta	65.52	30	P	P	07 18 57.6	+0.7
MENT				IAmb	IAmb	07 19 10.1	
	comp=Z,16nm,1.0s						
D27M	Malcolm River	65.57	23		P	07 18 58.1	+1.0
D27M				IAmb	IAmb	07 19 10.9	
	comp=Z,14nm,1.2s						
D27M	Malcolm River	65.57	23	P	P	07 18 58.7	+1.7
	baz=279,SNR=10						
L26K	Log Cabin Wild	65.67	30	P	P	07 18 58.8	+1.0
L26K				IAmb	IAmb	07 19 00.1	
	comp=Z,11nm,1.1s						
L26K	Log Cabin Wild	65.67	30	P	P	07 18 59.1	+1.3
	baz=280,SNR=7.5						
G27K	Doyon Strip	65.72	26	P	P	07 18 59.2	+1.2
G27K	Doyon Strip	65.72	26	P	P	07 18 58.8	+0.7
	baz=280						
KAIM	Kayak Island	65.72	33	P	P	07 18 59.6	+1.5
	baz=281						
GLB	Gilahina Butte	65.74	32		P	07 18 58.7	+0.4
GLB				IAmb	IAmb	07 19 11.3	
	comp=Z,14nm,0.9s						
H27K	Steamboat Moun	65.87	26		P	07 19 00.1	+1.0
H27K				IAmb	IAmb	07 19 02.1	
	comp=Z,33nm,1.8s						
H27K	Steamboat Moun	65.87	26	P	P	07 19 00.0	+1.0
	baz=280,SNR=7.0						
M26K	Nabesna, AK	65.94	31		P	07 19 00.6	+1.0
M26K	Nabesna, AK	65.94	31	P	P	07 19 01.6	+2.0
	baz=281,SNR=12						
I27K	Kandik River	65.95	27	P	P	07 19 01.1	+1.5
	baz=280,SNR=16						
K27K	Chicken	66.05	29	P	P	07 19 01.2	+1.1
K27K				IAmb	IAmb	07 19 02.6	
	comp=Z,14nm,1.1s						
K27K	Chicken	66.05	29	P	P	07 19 01.6	+1.4
	baz=281						
E28M	Babbage River	66.19	24		P	07 19 02.2	+1.2
E28M				IAmb	IAmb	07 19 03.9	
	comp=Z,11nm,1.0s						
E28M	Babbage River	66.19	24	P	P	07 19 02.6	+1.6
	baz=281,SNR=10						
D28M	Stokes Point	66.33	23	P	P	07 19 03.5	+1.7
	baz=281						
L27K	Beaver Creek,	66.34	30	P	P	07 19 02.6	+0.5
L27K				IAmb	IAmb	07 19 04.7	
	comp=Z,12nm,1.1s						
L27K	Beaver Creek,	66.34	30	P	P	07 19 03.3	+1.1
	baz=281,SNR=6.0						
BCAR	Beaver Creek A	66.36	30		P	07 19 03.3	+1.0
M27K	Edge Creek, AK	66.46	31	P	P	07 19 03.6	+0.5
	baz=282						
I28M	Miner Creek	66.67	27	P	P	07 19 05.3	+1.1
	baz=282,SNR=10.0						
E29M	Blow River	66.82	24	P	P	07 19 06.0	+0.9
	baz=283,SNR=6.4						
MESA	MESA	66.89	33	P	P	07 19 06.0	+0.2
	baz=282						
BVCY	Beaver Creek	66.91	30	P	P	07 19 06.2	+0.4
	baz=282						
G29M	Pine Creek	67.11	25	P	P	07 19 07.5	+0.6
	baz=283,SNR=9.9						
H29M	Whitestone	67.13	26	P	P	07 19 07.7	+0.6
	baz=283,SNR=8.1						
DAWY	Dawson	67.20	28	P	P	07 19 07.9	+0.3
	baz=283,SNR=5.5						
YUK3	Moose Creek	67.24	31	P	P	07 19 09.3	+1.2
	baz=283						
I29M	Ogilvie Camp,	67.35	27	P	P	07 19 09.7	+1.2
	baz=284,SNR=7.8						
KLMR	Klimovskoe	67.47	328	*e*P	P	07 19 08.4	-0.9
KLMR				pmax	pmax		
	comp=Z,36nm,1.5s						
O28M	Mount Upton	67.60	32	P	P	07 19 10.8	+0.3
	baz=284						
J29N	Klondike Camp	67.61	28	P	P	07 19 10.9	+0.7
	baz=284,SNR=6.0						
YUK8	Steele Glacier	67.68	31	P	P	07 19 12.1	+1.1
	baz=284						
PINM	Pinnacle	67.73	33	P	P	07 19 12.2	+1.2
	baz=284						
EPYK	Eagle Plains	67.74	26	P	P	07 19 12.7	+1.7
	baz=284,SNR=9.8						
G30M	tAoh Zraii Nji	67.78	25	P	P	07 19 12.3	+1.1
	baz=285,SNR=11						
F30M	Barrier River	67.78	24	P	P	07 19 12.1	+1.0
	baz=285,SNR=6.9						
L29M	L29M	67.97	29	P	P	07 19 13.2	+0.7
	baz=284,SNR=7.9						
M29M	Somme Creek	67.99	30	P	P	07 19 12.6	-0.1
	baz=284						
K29M	Barlow Dome	68.05	29	P	P	07 19 12.9	-0.1
	baz=285,SNR=6.8						
I30M	Mount Dempster	68.17	27	P	P	07 19 13.8	0.0
	baz=285,SNR=8.3						
YUK4	Talbot Arm	68.19	31	P	P	07 19 15.0	+1.0
	baz=285						
PNL	Peninsula	68.26	33	P	P	07 19 14.7	+0.4
	baz=285						
APA	Apatity	68.34	336	⇓*i*P	P	07 19 12.4	-2.2
APA				pmax	pmax		
	comp=Z,14nm,1.0s						
J30M	Hart River	68.36	28	P	P	07 19 15.3	+0.3
	baz=286						
YUK6	Outpost Mounta	68.42	32	P	P	07 19 15.7	+0.1
	baz=285						
O29M	Mount Kennedy	68.49	32	P	P	07 19 15.1	-0.8
	baz=285						
G31M	Satah River	68.53	25	P	P	07 19 16.0	+0.2
	baz=286						
F31M	Tsiigehtchic	68.58	24	P	P	07 19 16.6	+0.5
	baz=287,SNR=6.4						
M30M	Minto, Yukon	68.70	30	P	P	07 19 17.6	+0.5
	baz=286						
VRH	Novokhopyorsk	68.70	318	*e*P	P	07 19 17.6	+0.4
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
H31M	Peel River	68.83	26	P	P	07 19 18.2	+0.5
	baz=287,SNR=8.8						
HYT	Haines Junctio	68.86	32	P	P	07 19 18.9	+0.7
	baz=286						
N30M	Aishikik Lake	68.88	31	P	P	07 19 19.0	+0.8
	baz=286						
SPITS	Spitsbergen Ar	69.06	348	P	P	07 19 16.3	-2.7
	comp=Z,2.5nm,0.7s,baz=90,slow=7.7,SNR=5.2						
	comp=Z,2.5nm,0.7s						
P29M	Windy Craggy	69.08	33	P	P	07 19 19.6	+0.1
	baz=286						
P30M	Million Dollar	69.32	32	P	P	07 19 21.3	+0.3
	baz=287						
N31M	Braeburn, Yuko	69.47	31	P	P	07 19 22.2	+0.4
	baz=287						
O30N	Mendenhall	69.54	31	P	P	07 19 22.6	+0.3
	baz=287						
GOF	Gofitskoye	69.58	311	*ce*P	P	07 19 25.0	+2.3
MOS	Moscow	69.79	323	*e*P	P	07 19 22.8	-1.0
MOS				pmax	pmax		
	comp=Z,35nm,1.3s						
PLBC	Pleasant Camp	69.80	33	P	P	07 19 24.5	+0.6
	baz=287						
A36M	Sachs Harbour	69.84	19	P	P	07 19 24.5	+0.6
	baz=293,SNR=11						
M31M	Drury Creek, Y	69.89	30	P	P	07 19 25.0	+0.6
	baz=288,SNR=5.4						
LPSR	Galich'ya Gora	69.97	320	*e*P	P	07 19 25.2	+0.2
LPSR				pmax	pmax		
	comp=Z,45nm,1.8s						
KBZ	Khabaz	70.07	310	P	P	07 19 26.8	+1.0
	comp=Z,21nm,1.0s,baz=138,slow=1.3,SNR=33						
	comp=Z,21nm,1.0s						
KBZ	Khabaz	70.07	310	*ce*P	P	07 19 26.4	+0.6
KBZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VORR	Voronezh	70.08	319	P	P	07 19 26.5	+0.8
VORR				pmax	pmax		
	comp=Z,36nm,1.3s						
WHY	Whitehorse	70.14	31	P	P	07 19 26.5	+0.5
	baz=288						
KIV	Kislovodsk	70.15	310	*e*P	P	07 19 26.6	+0.2
KIV				*e*S	S	07 28 38.6	+1.5
KIV				pmax	pmax		
	comp=Z,29nm,1.1s						
SHA1	Shidzhatmaz	70.23	310	*i*P	P	07 19 27.6	+0.5
VSR	Storozhevoye	70.24	318	*e*P	P	07 19 26.9	+0.2
VSR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SKAG	Skagway	70.30	33	P	P	07 19 28.0	+1.1
	baz=288						
S31K	Pelican	70.32	34	P	P	07 19 27.7	+0.7
	baz=288						
FARO	Faro, Yukon	70.34	30	P	P	07 19 27.9	+0.7
FARO				IAmb	IAmb	07 19 41.0	
	comp=Z,15nm,0.8s						
FARO	Faro, Yukon	70.34	30	P	P	07 19 28.4	+1.3
	baz=289,SNR=12						
ARCES	ARCESS Array B	70.43	339	P	P	07 19 27.4	-0.1
	comp=Z,8.0nm,0.9s,baz=46,slow=5.2,SNR=7.1						
	comp=Z,8.0nm,0.9s						
OBN	Obninsk	70.55	323	*e*P	P	07 19 29.3	+0.8
OBN				*e*		07 19 48.9	
OBN				*e*		07 22 03.9	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
JOF	Joensuu	70.61	331	*e*P	P	07 19 29.6	+0.9
N32M	Quiet Lake	70.81	31	P	P	07 19 30.9	+0.8
	baz=289						
NOR	Nord	71.03	355	*e*P	P	07 19 31.2	+0.2
P32M	Atlin	71.04	32	P	P	07 19 32.6	+1.1
	baz=289						
SIT	Sitka	71.07	35	P	P	07 19 32.0	+0.4
	baz=289						
R32K	Eaglecrest	71.08	34	P	P	07 19 32.7	+1.0
	baz=289						
ERBR	Yeremizino-Bor	71.10	312	*e*P	P	07 19 32.1	+0.1
ERBR				*e*S	S	07 28 52.3	+4.4
ERBR				pmax	pmax		
	comp=Z,11nm,0.6s						
P33M	Teslin, Yukon	71.25	32	P	P	07 19 33.7	+0.8
	baz=290						
C36M	Paulatuk	71.27	21	P	P	07 19 33.9	+1.3
	baz=294,SNR=9.5						
LABN	Labinsk	71.28	311	*e*P	P	07 19 30.5	-2.6
LABN				*e*S	S	07 28 51.3	+1.3
LABN				pmax	pmax		
	comp=Z,29nm,0.5s						
LABN				MLR	MLR		
	comp=Z,542nm,16.0s						
S32K	Killisnoo	71.32	35	P	P	07 19 34.1	+1.0
	baz=289						
OUL	Oulu	72.03	334	P	P	07 19 40.0	+2.7
OUL				pmax	pmax		
	comp=Z,31nm,2.6s						
SOC	Sochi	72.31	310	*e*P	P	07 19 37.1	-2.2
SOC				*e*		07 22 19.4	
SOC				*e*PPP	PPP	07 24 08.2	
SOC				*e*S	S	07 29 00.5	-1.4
SOC				*e*S	SKiKP	07 29 02.4	-12
SOC				*e*SS	SS	07 33 37.8	-1.7
SOC				pmax	pmax		
	comp=Z,22nm,0.8s						
SOC				MLR	MLR		
	comp=Z,183nm,19.0s						
R33M	Jennings River	72.42	32	P	P	07 19 40.5	+0.6
	baz=292						
U33K	Whale Pass	72.54	36	P	P	07 19 41.3	+0.8
	baz=291						
CRAG	Craig	72.77	36	P	P	07 19 42.8	+1.0
	baz=291						
WRAK	Wrangell Islan	72.83	35	P	P	07 19 43.6	+1.4
	baz=292						
TGTN	Hyland Airport	72.84	29	P	P	07 19 43.2	+1.0
	baz=293,SNR=9.4						
S34M	Telegraph Cree	72.89	33	P	P	07 19 43.9	+1.4
	baz=292						
WTLY	Watson Lake, Y	73.16	31	P	P	07 19 44.6	+0.4
WTLY				IAmb	IAmb	07 19 46.6	
	comp=Z,13nm,0.9s						
WTLY	Watson Lake, Y	73.16	31	P	P	07 19 45.5	+1.3
	baz=293,SNR=5.5						
FIA1	FINESS Array S	73.44	331		P	07 19 45.8	+0.1
FINES	FINESS Array B	73.44	331	P	P	07 19 45.9	+0.2
	comp=Z,13nm,0.7s,baz=61,slow=5.6,SNR=70						
	comp=Z,13nm,0.7s						
V35K	Ketchikan	73.62	36	P	P	07 19 47.7	+0.8
	baz=292						
KEF	Keuruu	73.66	332	*e*P	P	07 19 47.6	+0.6
T35M	Bob Quinn	73.69	34	P	P	07 19 48.4	+1.1
	baz=293						
WRGLY	Wrigley	74.15	27	P	P	07 19 50.4	+0.5
	baz=297						
VAF	Ylistaro	74.19	333	*e*P	P	07 19 50.8	+0.8
ARBE	Arbavere	74.32	329	*e*P	P	07 19 51.5	+0.6
VSU	Vasula	74.38	328	*ce*P	P	07 19 53.4	+2.2
VSU				pmax	pmax		
	comp=Z,17nm,0.6s						
VSU	Vasula	74.38	328	*e*P	P	07 19 51.8	+0.6
LIRD	Liard River Hi	74.69	31	P	P	07 19 53.8	+0.7
	baz=296,SNR=7.7						
MEF	Metsahovi	74.71	330	*e*P	P	07 19 54.2	+1.0
RAYN	Ar Rayn	74.93	289	P	P	07 19 56.7	+1.5
KOTAN	Kotaneelee Air	75.30	30	P	P	07 19 57.4	+0.8
	baz=297						
TOAD	Toad River Com	75.34	31	P	P	07 19 57.8	+0.9
	baz=296						
MNK	Minsk	75.45	324	*i*P	P	07 19 55.8	-1.7
MNK				*i*		07 20 08.5	
MNK				*i*		07 22 44.9	
MNK				*i*PPP	PPP	07 24 30.9	
MNK				*i*S	S	07 29 37.3	+0.3
MNK				*i*		07 30 09.3	
MNK				*i*SS	SS	07 34 29.0	+2.3
MNK				pmax	pmax		
	comp=E,11nm,0.8s						
MNK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MNK				pmax	pmax		
	comp=N,16nm,0.8s						
MNK				MLR	MLR		
	comp=Z,437nm,18.0s						
MNK				MLR	MLR		
	comp=N,682nm,19.0s						
MNK				MLR	MLR		
	comp=E,384nm,19.0s						
RAF	Rauma	75.50	331	*e*P	P	07 19 59.0	+1.3
SIM	Simferopol'	75.57	313	*e*P	P	07 20 06.2	+7.8
SIM				*e*		07 20 17.0	
SIM				pmax	pmax		
	comp=Z,13nm,0.7s						
MTSE	Matsula	75.64	329	*e*P	P	07 19 59.8	+1.3
NACGM	Naroch	75.86	324	*e*P	P	07 20 01.6	+1.8
	comp=Z,4.0nm,0.8s,baz=64						
AKASG	Malin Array Be	76.29	320	P	P	07 20 01.4	-1.0
	comp=Z,3.1nm,0.5s,baz=57,slow=6.3,SNR=24						
	comp=Z,3.1nm,0.5s						
AKASG	Malin Array Be	76.29	320	*i*P	P	07 20 03.4	+1.0
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKBB	Malin Array Si	76.29	320		P	07 20 02.6	+0.2
AKBB				IAmb	IAmb	07 20 15.4	
	comp=Z,10nm,0.7s						
AKBB	Malin Array Si	76.29	320	*ce*P	P	07 20 03.9	+1.5
AKBB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KIEV	Kiev	76.31	320	P	P	07 20 04.3	+1.8
KIEV				pmax	pmax		
	comp=Z,65nm,0.7s						
NEEM	North Greenlan	76.55	0	*e*P	P	07 20 04.2	+0.3
VSVD	Vaisvydziai	76.84	326	*e*P	P	07 20 06.6	+1.2
PABE	Paberze	77.04	326	*e*P	P	07 20 07.6	+1.1
SORM	Soroca	77.90	318	P	P	07 20 13.4	+1.9
BRTR	Keskin Array B	77.96	308		P	07 20 11.9	-0.3
BRTR	Keskin Array B	77.96	308	P	P	07 20 11.4	-0.8
	comp=Z,7.2nm,0.8s,baz=95,slow=4.9,SNR=34						
	comp=Z,7.2nm,0.8s						
BRTR	Keskin Array B	77.96	308	*i*P	P	07 20 12.8	+0.6
BRTR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YKA	Yellowknife Ar	78.02	25	P	P	07 20 10.3	-1.6
	comp=Z,4.1nm,1.1s,baz=300,slow=5.4,SNR=32						
	comp=Z,4.1nm,1.1s						
YKA	Yellowknife Ar	78.02	25	*i*P	P	07 20 12.8	+0.9
YKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SUW	Suwalki	78.14	325	*e*P	P	07 20 15.4	+2.7
SUW	Suwalki	78.14	325		P	07 20 12.7	0.0
SUW	Suwalki	78.14	325	P	P	07 20 12.7	0.0
SUW	Suwalki	78.14	325	*e*P	P	07 20 13.8	+1.1
TPGR	Topolog	79.30	315	⇓P	P	07 20 22.1	+2.8
HFS	Hagfors	79.36	333	P	P	07 20 17.9	-1.4
	comp=Z,7.7nm,0.8s,baz=122,slow=1.9,SNR=18						
	comp=Z,7.7nm,0.8s						
NC405	NORSAR Array S	79.59	334	P	P	07 20 20.2	-0.4
NC405				IAmb	IAmb	07 23 19.3	
	comp=Z,21nm,0.8s						
TESR	Tescani	79.66	317	⇑P	P	07 20 22.8	+1.5
HARR	Harsova	79.68	315	⇑P	P	07 20 24.3	+2.9
HARR	Harsova	79.68	315	P	P	07 20 24.2	+2.9
NB2	NORSAR Subarra	79.83	334	P	P	07 20 21.4	-0.5
	comp=Z,14nm,0.8s,baz=52,slow=5.9						
NB2	NORSAR Subarra	79.83	334	P	P	07 20 19.2	-2.7
NB2	NORSAR Subarra	79.83	334	P	P	07 20 21.4	-0.5
	baz=52,slow=5.9						
NOA	NORSAR Array B	79.83	334	P	P	07 20 21.1	-0.9
	comp=Z,8.6nm,0.9s,baz=50,slow=5.3,SNR=25						
	comp=Z,8.6nm,0.9s						
NC204	NORSAR Array S	79.86	335	P	P	07 20 21.6	-0.5
NC204				IAmb	IAmb	07 23 20.9	
	comp=Z,15nm,0.8s						
NORES	NORESS Array B	79.88	334	P	P	07 20 23.2	+1.1
ONER	Baraj Valea Uz	79.90	317	⇑P	P	07 20 24.1	+1.5
VRI	Vrincioaia	79.91	316	P	P	07 20 23.9	+1.2
VRI	Vrincioaia	79.91	316	P	P	07 20 23.8	+1.2
PLOR	Plostina	79.96	316	⇑P	P	07 20 25.4	+2.4
PLOR	Plostina	79.96	316	P	P	07 20 25.3	+2.4
BURAR	Bucovina Array	80.02	318	⇑P	P	07 20 25.0	+1.7
BURAR	Bucovina Array	80.02	318	P	P	07 20 25.0	+1.7
MLR	Muntele Rosu	80.57	316	⇑P	P	07 20 28.1	+1.8
MLR	Muntele Rosu	80.57	316	P	P	07 20 28.1	+1.8
SUMG	Summit	81.11	356	P	P	07 20 32.5	+3.5
SUMG				pmax	pmax		
	comp=Z,27nm,0.8s						
SUMG	Summit	81.11	356	*e*P	P	07 20 30.3	+1.3
SUMG				IAmb	IAmb	07 20 33.5	
	comp=Z,10nm,0.9s						
VOIR		81.15	316	P	P	07 20 32.1	+2.7
VOIR		81.15	316	P	P	07 20 32.0	+2.7
BORU	Boraas	81.20	331	*e*P	P	07 20 31.4	+2.1
ARR	Arges	81.44	316	⇑P	P	07 20 33.1	+2.2
MARR	Marisel-Cluj	81.73	318	⇑P	P	07 20 35.4	+3.0
OJC	Ojcow	81.84	322	*e*P	P	07 20 33.9	+1.1
LOT	Lotru	81.93	317	⇑P	P	07 20 36.9	+3.3
NIE	Niedzica	81.98	321	*e*P	P	07 20 35.3	+1.7
SURR	Surduc	82.78	318	⇑P	P	07 20 40.7	+2.9
HERR	Herculane	83.05	317	⇑P	P	07 20 41.6	+2.3
STEB	Steborice	83.10	323	*e*P	P	07 20 40.8	+1.4
STEB				*ex*	x	07 20 52.4	
VYHS	Vyhne	83.28	321	*e*P	P	07 20 42.5	+2.1
VYHS				pmax	pmax		
	comp=Z,11nm,0.9s						
VYHS	Vyhne	83.28	321	*e*P	P	07 20 42.5	+2.1
VYHS				*e*		07 20 54.0	
MORC	Moravsky Berou	83.31	323	*e*P	P	07 20 43.8	+3.3
KSP	Ksiaz	83.39	324	*e*P	P	07 20 42.6	+1.7
MUD	Monsted U'grnd	83.48	331	*i*P	P	07 20 41.0	-0.2
MUD				IAmb	IAmb	07 20 45.0	
	comp=Z,20nm,1.0s						
MDVR	Moldovita	83.53	317	⇓P	P	07 20 44.1	+2.3
JAVC	Velka Javorina	83.74	322

YBH	**Yreka Blue Hor**	**85.03**	**46**	P	**P**	**07 20 50.1**	**+0.6**
YBH				IAmb	IAmb	07 20 52.5	
comp=Z,26nm,1.4s							
YBH	**Yreka Blue Hor**	**85.03**	**46**	P	**P**	**07 20 50.1**	**+0.6**
YBH				pmax	pmax		
comp=Z,26nm,1.5s							
RONA	**Rosalia, Austr**	**85.14**	**321**	*i* P	**P**	**07 20 50.1**	**+0.2**
comp=Z,5.6nm,1.0s							
CONA	**Conrad Observa**	**85.26**	**322**	*e*P	**P**	**07 20 50.2**	**-0.4**
comp=Z,11nm,1.0s							
ZVC	**Zvikov**	**85.30**	**324**	*e*P	**P**	**07 20 53.9**	**+3.3**
CKRC	**Cesky Krumlov**	**85.59**	**323**	*e*P	**P**	**07 20 53.7**	**+1.6**
CKRC				*e*x	x	07 21 04.8	
CKRC	**Cesky Krumlov**	**85.59**	**323**	*e*P	**P**	**07 20 53.7**	**+1.6**
KHC	**Kasperske Hory**	**85.81**	**324**	*e*P	**P**	**07 20 54.0**	**+0.8**
KHC				*e*x	x	07 21 05.4	
KHC	**Kasperske Hory**	**85.81**	**324**	*ce*P	**P**	**07 20 53.9**	**+0.8**
KHC				pmax	pmax		
comp=Z,6.0nm,0.9s							
ARSA	**Arzberg**	**85.83**	**321**	*e*PcP	**P**	**07 20 54.1**	**+0.8**
comp=Z,11nm,1.5s							
GERES	**GERESS Array B**	**85.91**	**323**		**P**	**07 20 55.0**	**+1.2**
GERES	**GERESS Array B**	**85.91**	**323**	P	**P**	**07 20 54.4**	**+0.6**
comp=Z,2.6nm,0.8s,baz=48,slow=4.0,SNR=16							
comp=Z,2.6nm,0.8s							
GERES	**GERESS Array B**	**85.91**	**323**	P	**P**	**07 20 55.0**	**+1.2**
MOA	**Molln**	**86.18**	**322**	*e*P	**P**	**07 20 55.0**	**-0.1**
comp=Z,10nm,0.8s							
SOKA	**Soboth**	**86.43**	**321**	*e*PcP	**P**	**07 20 57.2**	**+0.8**
comp=Z,6.9nm,0.8s							
BIOA	**Bad Ischl, Aus**	**86.62**	**323**	*e*pP	pP	07 21 02.6	+2.1
comp=Z,3.4nm,0.7s							
OBKA	**Obir**	**86.80**	**321**	*e*P	**P**	**07 20 58.0**	**-0.2**
comp=Z,7.8nm,0.8s							
SFJD	**Kangerlussuaq**	**87.06**	**0**	*e*P	**P**	**07 20 59.0**	**+0.1**
KBA	**Koelnbreinsper**	**87.14**	**322**	*i* PcP	**PcP**	**07 21 01.7**	**-0.4**
comp=Z,4.5nm,0.9s							
WVOR	**Wild Horse Val**	**87.22**	**43**	P	**P**	**07 21 01.3**	**+0.9**
MYKA	**Terra Mystica**	**87.24**	**322**	*e*P	**P**	**07 20 59.7**	**-0.6**
comp=Z,5.8nm,1.0s							
LESA	**Schwarzleotal**	**87.30**	**323**	*i* P	**P**	**07 21 00.5**	**-0.2**
comp=Z,5.3nm,0.9s							
ABTA	**Abfaltersbach**	**87.80**	**322**	*i* PcP	**P**	**07 21 03.2**	**+0.1**
comp=Z,4.3nm,0.9s							
WATA	**Walderalm**	**87.95**	**323**	*e*PcP	**P**	**07 21 03.8**	**0.0**
comp=Z,4.2nm,0.7s							
WTTA	**Wattenberg**	**87.96**	**323**	*i* PcP	**P**	**07 21 04.1**	**+0.1**
comp=Z,5.7nm,0.9s							
FFC	**Flin Flon**	**88.05**	**27**		**P**	**07 21 04.6**	**+0.6**
FFC	**Flin Flon**	**88.05**	**27**	P	**P**	**07 21 04.6**	**+0.6**
FFC				pmax	pmax		
comp=Z,15nm,1.0s							
MOTA	**Moosalm**	**88.20**	**323**	*e*PcP	**P**	**07 21 05.7**	**+0.6**
comp=Z,3.4nm,0.8s							
SQTA	**Sankt Quirin**	**88.22**	**323**	*e*pP	pP	07 21 07.4	-1.0
comp=Z,0.1nm,0.3s							
RETA	**Reutte**	**88.30**	**324**	*e*PcP	**P**	**07 21 05.9**	**+0.6**
comp=Z,2.2nm,0.5s							
FETA	**Feichten**	**88.60**	**323**	*e*PcP	**P**	**07 21 07.2**	**+0.2**
comp=Z,3.7nm,1.1s							
DAVA	**Damuels**	**88.89**	**324**	*i* PcP	**P**	**07 21 09.0**	**+0.7**
comp=Z,5.2nm,0.9s							
EKA	**Eskdalemuir Ar**	**89.27**	**335**	P	**P**	**07 21 09.3**	**-0.4**
comp=Z,0.6nm,0.5s,baz=44,slow=4.3,SNR=4.7							
comp=Z,0.6nm,0.5s							
NVAR	**Mina Array Bea**	**89.64**	**47**	P	**P**	**07 21 11.6**	**-0.5**
comp=Z,1.6nm,0.9s,baz=279,slow=5.4,SNR=11							
comp=Z,1.6nm,0.9s							
PPT2	**Papeete2**	**89.78**	**110**	*e*LR	LR	07 49 46.4	
comp=Z,293nm,27.5s							
PPT2				*e*LR	LR	07 49 48.1	
comp=Z,240nm,28.0s							
AQU	**L'Aquila**	**89.90**	**318**	P	**P**	**07 21 14.9**	**+1.9**
TPNV	**Topopah Spring**	**91.82**	**47**	P	**P**	**07 21 23.8**	**+1.6**
PDAR	**Pinedale Array**	**92.42**	**39**	P	**P**	**07 21 24.5**	**-0.4**
comp=Z,2.7nm,1.1s,baz=297,slow=1.3,SNR=13							
comp=Z,2.7nm,1.1s							
TBI	**Tubuai**	**92.52**	**115**	*e*LR	LR	07 51 05.9	
comp=Z,919nm,30.2s							
TBI				*e*LR	LR	07 51 06.7	
comp=Z,864nm,32.0s							
TAOE	**Nuku Hiva Isla**	**94.12**	**98**	*e*LR	LR	07 51 50.6	
comp=Z,210nm,28.4s							
ESDC	**Sonseca Array**	**101.40**	**325**	P	**Pdif**	**07 22 04.3**	**-1.0**
comp=Z,0.2nm,0.5s,baz=46,slow=4.3,SNR=4.3							
QSPA	**South Pole Qui**	**116.01**	**180**	PKP	**PKiKP**	**07 26 56.1**	**+0.1**
comp=Z,3.1nm,1.0s,baz=298,slow=1.5,SNR=9.1							

IDC ***13*** *07:10:57.6±0.5,26°.31N×129°.66E,h0km,mb4.5/25, mbtmp4.4/29,ML3.6/4,MS4.3/27,Error ellipse: s-maj=16.5km s-min=12.9km az=76.0*

BJI ***13*** *07:10:58.6,26°.17N×129°.52E,h12km,mB5.1/36,mb4.7/73, Ms4.8/49,Ms7 4.6/50*

MOS ***13*** *07:10:58.6±0.8,26°.18N×129°.48E,h13km,mb5.2/55, MS4.8/8,Error ellipse: s-maj=8.5km s-min=5.1km az=106.9*

JMA ***13*** *07:11:00.4±0.1,26°.2N±0°.7×129°.6E±0°.5,h45km,MD4.8/18, MV4.4/18,NEAR OKINAWAJIMA ISLAND*

NIED ***13*** *07:11:00.4,26°.24N×129°.57E,h45km,MW5.0,Moment Tensor Solution. s2 Moment tensor: Scale 10^16^Nm; Mrr=2.82; Mθθ1.43; Mφφ1.39; Mrθ1.55; Mθφ1.26; Mφr1.14; Fault plane solution: M0=3.35000×10^16^ NP1:φs=41.00000°, δ28.00000°,λ-98.00000°. NP2:φs=230.00000°,δ63.00000°, λ-86.00000°.*

NEIC ***13*** *07:11:01,25°.95N×129°.42E,h12km,Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16^Nm; Mrr=2.73; Mθθ0.92; Mφφ1.81; Mrθ-3.22; Mθφ1.62; Mφr0.47; Fault plane solution: M0=4.23000×10^16^ NP1: φs=196.47000°,δ34.24000°,λ-141.12000°. NP2: φs=72.79000°,δ69.32000°,λ-62.08000°. Principal axes: T 3.6177, Plg20.0000°, Azm142.0000°; N 1.2158, Plg26.0000°, Azm242.0000°; P -4.8335, Plg57.0000°, Azm20.0000°;*

NEIC ***13*** *07:11:01.0±1.4,26°.24N±0°.08×129°.52E±0°.09,h10km±1km, mb5.2/90,Mww5.0/20 Error ellipse: s-maj=14.0km s-min=12.5km az=113.0*

NEIC ***13*** *07:11:01,26°.25N×129°.53E,h12km*

GCMT ***13*** *07:11:05.0±0.2,26°.19N±0°.02×129°.42E±0°.02,h12km, MW5.0/118,Moment Tensor Solution. s27,c31; s118,c175; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=3.52±.10; Mθθ1.72±.10; Mφφ1.81±.11; Mrθ-0.78±.36; Mθφ1.97±.08; Mφr1.59±.38; Best double couple: M0=4.02100×10^16^ NP1:φs=65.00000°,δ44.00000°, λ-57.00000°. NP2:φs=203.00000°,δ54.00000°, λ-118.00000°. Principal axes: T 3.7880, Plg5.0000°, Azm312.0000°; N 0.4760, Plg22.0000°, Azm220.0000°; P -4.2540, Plg67.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 07:11:02.0±0.5,26°.23N±0°.03×129°.63E±0°.03,h24km±2km, h23km;pP-P,n702,σ2°15/687,mb5.0/150,MS4.6/56, 12C-16D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.32**	**307**	P	**Pn**	**07 11 22.1**	**-2.7**
JYRO				S	**Sn**	**07 11 37.9**	**-3.8**
JYRO	**Yoronjima**	**1.32**	**307**	A	A	07 11 22.1	
comp=N,27nm,5.0s,comp=E,24nm,4.5s							
JOW	**Kunigami**	**1.35**	**297**	Pn	**Pn**	**07 11 22.5**	**-2.9**
JOW	**Kunigami**	**1.35**	**297**	Pn	**Pn**	**07 11 22.9**	**-2.5**
comp=E,1μm,0.3s,baz=119,slow=26,SNR=24							
JOW				Sn	**Sn**	**07 11 37.5**	**-5.1**
comp=E,956nm,0.3s,baz=57,slow=30,SNR=22							
JOW	**Kunigami**	**1.35**	**297**	P	**Pn**	**07 11 22.5**	**-2.9**
JOW	**Kunigami**	**1.35**	**297**	P	**Pn**	**07 11 22.8**	**-2.5**
JOW				S	**Sn**	**07 11 38.4**	**-4.2**
JOW	**Kunigami**	**1.35**	**297**	A	A	07 11 22.8	
comp=N,31nm,6.0s,comp=E,34nm,5.3s							
JNTH	**Nagotoyohara**	**1.47**	**282**	P	**Pn**	**07 11 24.2**	**-2.8**
JNTH				S	**Sn**	**07 11 40.7**	**-4.7**
JNTH	**Nagotoyohara**	**1.47**	**282**	A	A	07 11 24.2	
comp=N,31nm,7.4s,comp=E,27nm,4.8s							
JOKE	**Okinoerabujima**	**1.47**	**320**	P	**Pn**	**07 11 25.0**	**-2.0**
JOKE				S	**Sn**	**07 11 42.5**	**-3.0**
JOKE	**Okinoerabujima**	**1.47**	**320**	A	A	07 11 25.0	
comp=N,27nm,2.6s,comp=E,26nm,2.7s							
JMZ	**Minamidaito 2**	**1.49**	**105**	Pn	**Pn**	**07 11 26.9**	**-0.4**
JMZ	**Minamidaito 2**	**1.49**	**105**	P	**Pn**	**07 11 26.1**	**-1.2**
JMZ				S	**Sn**	**07 11 43.7**	**-2.3**
JMZ	**Minamidaito 2**	**1.49**	**105**	A	A	07 11 26.1	
comp=N,111nm,4.4s,comp=E,65nm,4.9s							
JKDJ	**Kitadaitoujima**	**1.53**	**100**	P	**Pn**	**07 11 26.7**	**-1.1**
JKDJ				*e*S	**Sn**	**07 11 46.2**	**-0.7**
JKDJ	**Kitadaitoujima**	**1.53**	**100**	A	A	07 11 26.7	
comp=N,50nm,4.4s,comp=E,57nm,4.7s							
JJT3	**Tamagusuku3**	**1.66**	**267**	P	**Pn**	**07 11 27.5**	**-2.1**
JJT3				S	**Sn**	**07 11 47.4**	**-2.7**
JJT3	**Tamagusuku3**	**1.66**	**267**	A	A	07 11 27.5	
comp=N,120nm,3.1s,comp=E,131nm,4.2s							
JTK	**Tokunoshima**	**1.66**	**339**	*e*P	**Pn**	**07 11 27.4**	**-2.2**
JTK				S	**Sn**	**07 11 47.0**	**-3.2**
JTK	**Tokunoshima**	**1.66**	**339**	A	A	07 11 27.4	
comp=N,22nm,3.6s,comp=E,16nm,5.5s							
JIH	**Iheya**	**1.69**	**299**	*e*P	**Pn**	**07 11 27.7**	**-2.3**
JIH				S	**Sn**	**07 11 47.3**	**-3.6**
JIH	**Iheya**	**1.69**	**299**	A	A	07 11 27.7	
comp=N,22nm,1.1s,comp=E,24nm,2.5s							
JAMN	**Amaminishikomi**	**2.04**	**349**	*e*P	**Pn**	**07 11 33.1**	**-1.8**
JAMN				S	**Sn**	**07 11 56.3**	**-3.4**
JAMN	**Amaminishikomi**	**2.04**	**349**	A	A	07 11 33.1	
comp=N,12nm,2.6s,comp=E,13nm,4.4s							
JZK	**Kikaishima**	**2.10**	**8**	*e*P	**Pn**	**07 11 35.2**	**-0.5**
JZK				S	**Sn**	**07 11 59.2**	**-1.8**
JAGN	**Aguni-jima**	**2.17**	**280**	P	**Pn**	**07 11 34.3**	**-2.2**
JAGN				S	**Sn**	**07 11 59.0**	**-3.6**
JAGN	**Aguni-jima**	**2.17**	**280**	A	A	07 11 34.3	
comp=N,43nm,3.8s,comp=E,34nm,7.3s							
JAM	**Amami Oshima**	**2.17**	**360**	*e*P	**Pn**	**07 11 34.8**	**-1.9**
JAM				S	**Sn**	**07 11 59.6**	**-3.2**
JAM	**Amami Oshima**	**2.17**	**360**	A	A	07 11 34.8	
comp=N,8.0nm,3.3s,comp=E,11nm,4.4s							
JKE	**Kume jima 2**	**2.55**	**273**	*e*P	**Pn**	**07 11 38.7**	**-3.1**
JKE				S	**Sn**	**07 12 07.5**	**-4.7**
JKE	**Kume jima 2**	**2.55**	**273**	A	A	07 11 38.7	
comp=N,14nm,6.0s,comp=E,11nm,6.4s							
JTAJ	**Takarajima**	**2.94**	**353**	*e*P	**Pn**	**07 11 45.7**	**-1.5**
JTAJ				S	**Sn**	**07 12 17.3**	**-4.4**
JTAJ	**Takarajima**	**2.94**	**353**	A	A	07 11 45.7	
comp=N,7.0nm,3.3s,comp=E,11nm,5.6s							
JMJ	**Miyako jima 2**	**4.16**	**251**	P	**Pn**	**07 12 02.1**	**-1.9**
YOJ	**Yonaguni jima**	**6.24**	**255**	Pn	**Pn**	**07 12 28.5**	**-4.1**
YOJ	**Yonaguni jima**	**6.24**	**255**	P	**Pn**	**07 12 30.2**	**-2.4**
YOJ	**Yonaguni jima**	**6.24**	**255**	P	**Pn**	**07 12 28.5**	**-4.1**
JNU	**Nakatsue**	**6.95**	**9**	P	**Pn**	**07 12 41.6**	**-0.8**
JNU	**Nakatsue**	**6.95**	**9**	Pn	**Pn**	**07 12 40.7**	**-1.7**
comp=E,3.4nm,0.3s,baz=206,slow=10,SNR=8.0							
JNU				Sn	**Sn**	**07 13 54.9**	**-5.9**
baz=146,slow=6.3							
comp=E,22nm,0.7s							
NACB	**Ninganchiao**	**7.56**	**256**	Pn	Pn	07 12 45.6	-5.1
NACB	**Ninganchiao**	**7.56**	**256**	P	**Pn**	**07 12 46.3**	**-4.4**
YHNB	**Yeheng**	**7.62**	**260**		**Pn**	**07 12 48.9**	**-2.7**
YULB	**Yu-li**	**8.08**	**251**		Pn	07 12 52.7	-5.1
SSLB	**Suanglung**	**8.23**	**255**		Pn	07 12 55.1	-4.9
SSLB	**Suanglung**	**8.23**	**255**	P	**Pn**	**07 12 56.8**	**-3.2**
TPUB	**Ta-pu**	**8.68**	**252**		**Pn**	**07 13 01.8**	**-4.3**
TPUB	**Ta-pu**	**8.68**	**252**	P	**Pn**	**07 13 02.7**	**-3.4**
TJN	**Taejon**	**10.30**	**350**		**Pn**	**07 13 27.2**	**-1.0**
TJN	**Taejon**	**10.30**	**350**	*i* P	**Pn**	**07 13 28.6**	**+0.4**
NJ2	**Nanjing**	**11.06**	**304**	*e*P	**Pn**	**07 13 40.8**	**+2.2**
NJ2				pmax	pmax		
comp=E,19nm,0.6s							
NJ2				LR	LR		
comp=E,4μm,10.8s							
NJ2				LR	LR		
comp=E,3μm,10.3s							
NJ2				LR	LR		
comp=E,5μm,10.9s							
JCJ	**Chichijima**	**11.27**	**83**	Sn	**Sn**	**07 15 40.8**	**-6.0**
comp=E,3.9nm,0.3s,baz=123,slow=22,SNR=1.9							
KSAR	**Wonju Array Be**	**11.28**	**353**		**Pn**	**07 13 42.5**	**+0.9**
KSAR	**Wonju Array Be**	**11.28**	**353**	P	**Pn**	**07 13 42.5**	**+0.9**
KSRS	**Korea Array**	**11.28**	**353**	Pn	**Pn**	**07 13 41.0**	**-0.7**
comp=E,0.3nm,0.3s,baz=171,slow=13,SNR=6.3							
comp=E,3.9nm,0.8s							
KSRS	**Korea Array**	**11.28**	**353**	*e*P	**Pn**	**07 13 43.3**	**+1.6**
KSRS				pmax	pmax		
comp=Z,4.0nm,0.8s							
MJAR	**Matsushiro Arr**	**12.62**	**33**	Pn	**Pn**	**07 13 58.1**	**-1.9**
baz=128,slow=42,SNR=2.0							
comp=Z,0.8nm,0.6s							
WHN	**Wuhan**	**14.12**	**291**	P	**Pn**	**07 14 19.0**	**-1.4**
WHN				pmax	pmax		
comp=Z,180nm,1.6s							
DL2	**Dalian**	**14.32**	**334**	P	**Pn**	**07 14 24.3**	**+1.2**
DL2				S	**Sn**	**07 17 04.3**	**+3.2**
DL2				pmax	pmax		
comp=Z,65nm,1.2s							
DL2				pmax	pmax		
comp=Z,720nm,9.0s							
DL2				LR	LR		
comp=Z,1μm,14.3s							
DL2				LR	LR		
comp=Z,1μm,14.4s							
DL2				LR	LR		
comp=Z,2μm,12.4s							
TIA	**Tai'an**	**14.60**	**316**	P	**Pn**	**07 14 26.1**	**-0.9**
TIA				pmax	pmax		
comp=Z,9.0nm,1.5s							
TIA				pmax	pmax		
comp=Z,470nm,6.5s							
TIA				LR	LR		
comp=Z,1μm,10.7s							
TIA				LR	LR		
comp=Z,540nm,10.6s							
TIA				LR	LR		
comp=Z,4μm,11.3s							
CNSH	**ChangSha**	**14.98**	**281**	P	**P**	**07 14 37.4**	**-0.1**
CNSH				pmax	pmax		
comp=Z,50nm,1.2s							
SNY	**Shenyang**	**16.34**	**344**	⇑P	**P**	**07 14 51.4**	**-1.1**
SNY				pmax	pmax		
comp=Z,26nm,0.9s							
MSHR	**Mys Shultsa**	**16.36**	**4**	*i* P	**P**	**07 14 51.8**	**-0.9**
MSHR				pmax	pmax		
comp=Z,18nm,0.9s							
HNS	**HongShan**	**16.85**	**315**	⇓P	**Pn**	**07 14 56.3**	**0.0**
HNS				PP	**pwP**	**07 15 09.9**	**+0.2**
HNS				pmax	pmax		
comp=Z,98nm,1.2s							
HNS				LR	LR		
comp=Z,870nm,11.7s							
HNS				LR	LR		
comp=Z,3μm,13.1s							
HNS				LR	LR		
comp=Z,3μm,13.9s							
LYN	**LuoYang**	**16.95**	**303**	P	**P**	**07 14 59.0**	**-0.4**
LYN				PP	**sP**	**07 15 09.3**	**+3.0**
LYN				pmax	pmax		
comp=Z,240nm,1.3s							
LYN				pmax	pmax		
comp=Z,960nm,4.5s							
LYN				LR	LR		
comp=Z,2μm,8.9s							
LYN				LR	LR		
comp=Z,4μm,12.0s							
LYN				LR	LR		
comp=Z,5μm,12.7s							
GULI	**GuiLin**	**17.38**	**271**	P	**P**	**07 15 04.0**	**-0.1**
GULI				pmax	pmax		
comp=Z,400nm,1.1s							
GULI				LR	LR		
comp=Z,2μm,19.7s							
GULI				LR	LR		
comp=Z,1μm,11.6s							
GULI				LR	LR		
comp=Z,2μm,10.9s							
BJT	**Baijiatuau**	**17.75**	**324**		**Pn**	**07 15 06.8**	**-0.6**
BJT	**Baijiatuau**	**17.75**	**324**	P	**Pn**	**07 15 06.8**	**-0.6**
BJT				pmax	pmax		
comp=Z,76nm,0.9s							
BJI	**Beijing**	**17.76**	**324**	P	**P**	**07 15 08.6**	**+0.3**
BJI				pmax	pmax		
comp=Z,46nm,0.9s							
BJI				pmax	pmax		
comp=Z,310nm,5.3s							
BJI				LR	LR		
comp=Z,710nm,15.5s							
BJI				LR	LR		
comp=Z,600nm,14.8s							
BJI				LR	LR		
comp=Z,690nm,20.7s							
CN2	**Changchun**	**17.86**	**350**	*e*P	**P**	**07 15 09.6**	**+0.3**
CN2				*es*P	sP	07 15 16.0	-0.3
CN2				*e*S	**Sn**	**07 18 25.4**	**-1.7**
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s							
CN2				pmax	pmax		
comp=Z,200nm,5.0s							
CN2				LR	LR		
comp=Z,2μm,12.0s							
CN2				LR	LR		
comp=Z,1μm,12.0s							
CN2				LR	LR		
comp=Z,1μm,12.0s							
USA0B	**Ussuriysk Arra**	**18.03**	**5**	P	**P**	**07 15 12.4**	**+1.2**
USA0B	**Ussuriysk Arra**	**18.03**	**5**	*i* P	**P**	**07 15 13.5**	**+2.3**
USRK	**Ussuriysk Ar.**	**18.03**	**5**	P	**Pn**	**07 15 10.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**18.03**	**5**	P	**Pn**	**07 15 09.7**	**-1.2**
comp=Z,0.3nm,0.3s,baz=186,slow=10,SNR=6.2							
comp=Z,4.3nm,0.7s							
USRK	**Ussuriysk Ar.**	**18.03**	**5**	P	**Pn**	**07 15 10.7**	**-0.2**
ENH	**Enshi**	**18.19**	**287**		**Pn**	**07 15 11.9**	**-1.1**
MDJ	**Mudanjiang**	**18.35**	**360**	P	**Pn**	**07 15 17.3**	**+2.6**
MDJ				pmax	pmax		
comp=Z,14nm,0.8s							
TIY	**Taiyuan**	**18.51**	**312**	P	**Pn**	**07 15 16.8**	**-0.1**
TIY				PP	**PnPn**	**07 15 36.3**	**+7.5**
TIY				S	**Sn**	**07 18 43.8**	**+0.7**
TIY				pmax	pmax		
comp=Z,34nm,1.2s							
TIY				pmax	pmax		
comp=Z,480nm,4.1s							
TIY				LR	LR		
comp=Z,1μm,16.7s							
TIY				LR	LR		
comp=Z,2μm,13.5s							
TIY				LR	LR		
comp=Z,2μm,18.6s							
GUMO	**Guam**	**19.04**	**128**	LR	LR	07 20 58.2	
comp=Z,942nm,22.0s,baz=300,slow=32							
ERM	**Erimo**	**19.28**	**32**	*i* P	**P**	**07 15 24.8**	**-0.2**
ERM				pmax	pmax		
comp=Z,28nm,1.0s							
XAN	**Xi'an**	**19.50**	**298**	P	**P**	**07 15 26.8**	**-0.7**
XAN				pP	sP	07 15 37.5	+2.6
XAN				pmax	pmax		
comp=Z,180nm,1.3s							
XAN				LR	LR		
comp=Z,3μm,13.4s							
XAN				LR	LR		
comp=Z,2μm,13.7s							
XAN				LR	LR		
comp=Z,3μm,15.1s							
BNX	**BinXian**	**19.55**	**355**	⇓P	**Pn**	**07 15 29.6**	**+0.3**
BNX				pP	**pP**	**07 15 32.8**	**+0.2**
BNX				S	**Sn**	**07 19 08.9**	**+0.9**
BNX				sS	**sS**	**07 19 14.4**	**-0.6**
BNX				pmax	pmax		
comp=Z,22nm,1.0s							
BNX				pmax	pmax		
comp=Z,200nm,4.9s							
BNX				LR	LR		
comp=Z,880nm,15.7s							
BNX				LR	LR		
comp=Z,1μm,17.9s							
BNX				LR	LR		
comp=Z,1μm,13.6s							
TEY	**Ternei**	**19.59**	**15**	*e*P	**Pn**	**07 15 30.5**	**+0.8**
QIZ	**Qiongzhong**	**19.60**	**253**	P	**P**	**07 15 28.5**	**-0.2**
QIZ				pmax	pmax		
comp=Z,610nm,4.0s							
QIZ				LR	LR		
comp=Z,640nm,8.7s							
QIZ				LR	LR		
comp=Z,540nm,8.2s							
QIZ				LR	LR		
comp=Z,590nm,13.2s							
GYA	**Guiyang**	**20.58**	**276**	P	**P**	**07 15 39.1**	**-0.3**
GYA				pmax	pmax		
comp=Z,40nm,1.9s							
ASAJ	**Asahikawa**	**20.71**	**27**	P	**P**	**07 15 37.5**	**-3.0**
comp=Z,4.9nm,0.8s,baz=222,slow=12,SNR=2.1							
ASAJ				LR	LR	07 23 48.0	
comp=Z,671nm,18.6s,baz=349,slow=37							
comp=Z,4.9nm,0.8s							
XLT	**XiLinHaoTe**	**20.78**	**331**	*e*P	**P**	**07 15 40.5**	**-0.8**
XLT				pP	Pn	07 15 44.8	+1.0
XLT				PP	**PnPn**	**07 16 04.3**	**+4.5**
XLT				S	**S**	**07 19 30.0**	**-2.1**
XLT				sS	Sn	07 19 34.8	-2.9
XLT				pmax	pmax		
comp=Z,58nm,1.0s							
XLT				pmax	pmax		
comp=Z,220nm,11.1s							
XLT				LR	LR		
comp=Z,87nm,20.4s							
XLT				LR	LR		
comp=Z,740nm,13.2s							
XLT				LR	LR		
comp=Z,1μm,16.2s							
HHC	**Hu-ho-hao-te**	**20.90**	**319**	⇓*i*P	Pn	07 15 46.8	+1.5
HHC				sP	pwP	07 15 57.6	+1.9
HHC				S	**S**	**07 19 33.3**	**-1.3**
HHC				pmax	pmax		
comp=Z,41nm,1.2s							
HHC				pmax	pmax		
comp=Z,170nm,6.7s							
HHC				LR	LR		
comp=Z,920nm,16.8s							
HHC				LR	LR		
comp=Z,2μm,15.1s							
HHC				LR	LR		
comp=Z,2μm,16.0s							
BTO	**Baotou**	**21.69**	**316**	*e*P	**P**	**07 15 52.0**	**+0.8**
BTO				pP	**pP**	**07 15 55.5**	**-0.6**
BTO				sP	**sP**	**07 15 58.9**	**+0.8**
BTO				PP	**PnPn**	**07 16 16.6**	**+4.3**
BTO				SS	Sn	07 20 21.3	+22
BTO				pmax	pmax		
comp=Z,59nm,1.3s							
BTO				pmax	pmax		
comp=Z,550nm,4.1s							
BTO				LR	LR		
comp=Z,3μm,15.7s							
BTO				LR	LR		
comp=Z,2μm,16.8s							
BTO				LR	LR		
comp=Z,2μm,14.5s							
KLR	**Kul'dur**	**23.02**	**4**	*i* P	**P**	**07 16 04.9**	**-0.2**
KLR				pmax	pmax		
comp=Z,90nm,2.0s							
YSS	**Yuzhno-Sakhali**	**23.15**	**23**		**P**	**07 16 07.1**	**+0.6**
YSS				IAmb	IAmb	07 16 19.4	
comp=Z,159nm,1.5s							
YSS	**Yuzhno-Sakhali**	**23.15**	**23**	⇑*e*P	**P**	**07 16 07.4**	**+0.9**
YSS				*e*S	**S**	**07 20 13.7**	**-2.8**
YSS				pmax	pmax		
comp=Z,600nm,2.7s							
YSS				MLR	MLR		
comp=Z,600nm,15.0s							
CD2	**Chengdu**	**23.17**	**288**	P	**P**	**07 16 04.9**	**-2.0**
CD2				pmax	pmax		
comp=Z,50nm,0.9s							
SLVN	**Son La**	**24.02**	**264**		**P**	**07 16 16.5**	**+1.3**
HEH	**HeiHe**	**24.05**	**357**	*e*P	**P**	**07 16 15.4**	**+0.3

KMI LR LR
comp=Z,2μm,13.4s
KMI LR LR
comp=Z,2μm,12.9s
PZH PanZhiHua 24.97 277 P **P 07 16 24.1 +0.2**
PZH pmax pmax
comp=Z,6.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.9s
UBPT Khong Chiam 25.03 249 P **P 07 16 25.8 +1.4**
UBPT IAmb IAmb 07 16 40.0
comp=Z,95nm,1.4s
GRNR Gornyy 25.05 10⇧ *i*P **P 07 16 24.6 +0.3**
GRNR pmax pmax
comp=Z,20nm,1.2s
TOLI2 Tolitoli 26.39 200 P **P 07 16 36.2 -0.5**
TOLI2 IAmb IAmb 07 16 38.4
comp=Z,48nm,1.0s
TYV Tymovskoe 26.54 19 *e*P **P 07 16 39.4 +1.6**
TYV pmax pmax
comp=Z,20nm,1.0s
TYV pmax pmax
comp=Z,100nm,2.6s
ZEA Zeya 27.53 357 *e*P **P 07 16 47.3 +0.6**
ZEA pmax pmax
comp=Z,100nm,5.6s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=E,400nm,15.0s
ZEA MLR MLR
comp=N,400nm,11.0s
ZEA MLR MLR
comp=Z,400nm,14.0s
ULN Ulaanbaatar 27.94 327 **P 07 16 50.5 0.0**
ULN Ulaanbaatar 27.94 327 *i* P **P 07 16 50.9 +0.4**
ULN pmax pmax
comp=Z,15nm,1.2s
TNCH TengChong 28.04 274 *e*P **P 07 16 52.0 +0.3**
TNCH S **S 07 21 34.0 -1.2**
TNCH pmax pmax
comp=Z,380nm,4.8s
TNCH LR LR
comp=Z,3μm,19.1s
TNCH LR LR
comp=Z,2μm,11.1s
TNCH LR LR
comp=Z,4μm,11.8s
GTA Gaotai 28.15 305 P **P 07 16 51.8 -0.7**
GTA sP pwP 07 17 03.8 -2.6
GTA pmax pmax
comp=Z,21nm,0.8s
GTA LR LR
comp=Z,960nm,15.5s
GTA LR LR
comp=Z,830nm,18.3s
GTA LR LR
comp=Z,1μm,18.7s
SONM Songino Array 28.25 326 **P 07 16 55.2 +1.9**
SONM Songino Array 28.25 326 P **P 07 16 52.2 -1.1**
comp=Z,5.9nm,0.8s,baz=133,slow=9.2,SNR=9.0
SONM LR LR 07 30 05.5
comp=Z,394nm,18.5s,baz=124,slow=41
comp=Z,5.9nm,0.8s
SONM Songino Array 28.25 326 P **P 07 16 55.2 +1.9**
SONM pmax pmax
comp=Z,41nm,1.6s
CHTO Chiang Mai 29.24 262 **P 07 17 00.8 -1.4**
CHTO Chiang Mai 29.24 262 P **P 07 17 00.8 -1.4**
CHTO pmax pmax
comp=Z,23nm,1.2s
CMAR Chiang Mai Arr 29.36 261 P **P 07 17 02.7 -0.6**
CMAR Chiang Mai Arr 29.36 261 P **P 07 17 03.0 -0.3**
comp=Z,1.9nm,0.8s,baz=64,slow=7.9,SNR=4.9
CMAR PcP **PcP 07 20 09.3 -0.1**
comp=Z,1.3nm,0.5s,baz=67,slow=3.0,SNR=4.0
CMAR LR LR 07 28 16.4
comp=Z,398nm,18.8s,baz=80,slow=35
comp=Z,1.9nm,0.8s
JAY Jayapura 30.52 158 LR LR 07 30 58.7
comp=Z,307nm,18.3s,baz=323,slow=39
GOMU GeErMu 31.24 297 P **P 07 17 20.8 +0.6**
GOMU pP pP 07 17 23.9 -1.5
GOMU sP sP 07 17 28.3 +0.8
GOMU S **S 07 22 29.3 +3.6**
GOMU pmax pmax
comp=Z,35nm,1.1s
GOMU LR LR
comp=Z,570nm,12.8s
GOMU LR LR
comp=Z,470nm,12.3s
GOMU LR LR
comp=Z,670nm,12.4s
SHL Shillong 33.88 277 P **P 07 17 42.6 -0.6**
SHL IAmb IAmb 07 17 45.5
comp=Z,36nm,0.9s
SHL Shillong 33.88 277 P **P 07 17 42.6 -0.6**
SHL pmax pmax
comp=Z,36nm,0.9s
PEA0B Petropavlovsk- 34.05 30 P **P 07 17 43.8 -0.4**
PEA0B Petropavlovsk- 34.05 30 *i* P **P 07 17 45.4 +1.2**
PETK Petropavlovsk- 34.05 30 P **P 07 17 44.8 +0.6**
PETK Petropavlovsk- 34.05 30 P **P 07 17 42.0 -2.2**
comp=Z,3.9nm,0.8s,baz=215,slow=7.6,SNR=7.1
comp=Z,3.9nm,0.8s
PETK Petropavlovsk- 34.05 30 P **P 07 17 44.8 +0.6**
YAK Yakutsk 35.79 0 *e*P **P 07 17 59.1 +0.1**
YAK *e**PP **pP 07 18 02.7 -1.6**
YAK *e* 07 19 19.2
YAK *e* 07 20 25.6
YAK *e*S **S 07 23 37.4 +2.6**
YAK *e**SS **sS 07 23 46.7 +3.1**
YAK *e*SS **SnSn 07 26 02.1 +4.1**
YAK *e* 07 28 17.8
YAK pmax pmax
comp=Z,24nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=Z,142nm,3.7s
YAK pmax pmax
comp=E,71nm,4.2s
YAK smax smax
comp=N,167nm,3.8s
YAK smax smax
comp=E,37nm,2.0s
PSI Prapat 37.56 237 P **P 07 18 16.2 +1.4**
PSI pmax pmax
comp=Z,11nm,1.5s
WMQ Urumqi 38.10 308 *e*P **P 07 18 23.5 +4.5**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ LR LR
comp=Z,830nm,24.7s
MTN Manton Dam 38.87 178 P **P 07 18 24.9 -0.7**
MTN IAmb IAmb 07 18 25.9
comp=Z,32nm,0.8s
MTN Manton Dam 38.87 178 P **P 07 18 25.0 -0.5**
comp=Z,48nm,1.2s
PMG Port Moresby 39.31 152 LR LR 07 31 51.7
comp=Z,380nm,20.7s,baz=324,slow=32
SEY Seymchan 39.66 16 LR LR 07 34 55.3
comp=Z,170nm,19.2s,baz=211,slow=36
SEY Seymchan 39.66 16 *i* P **P 07 18 32.8 +1.1**
SEY pmax pmax
comp=Z,13nm,0.9s
KNRA Kununurra 41.66 181 P **P 07 18 48.2 -0.5**
KNRA IAmb IAmb 07 18 50.0
comp=Z,40nm,0.8s
KNRA Kununurra 41.66 181 P **P 07 18 48.5 -0.2**
comp=Z,58nm,0.8s
COEN Coen 42.06 160 P **P 07 18 53.2 +1.1**
comp=Z,19nm,1.4s
MK31 Makanchi Array 42.47 312 *i* P **P 07 18 55.4 +0.3**
MKAR Makanchi Array 42.47 312 P **P 07 18 54.0 -1.2**
MKAR Makanchi Array 42.47 312 P **P 07 18 52.4 -2.8**
comp=Z,2.0nm,0.6s,baz=89,slow=8.2,SNR=5.8
MKAR LR LR 07 39 04.7
comp=Z,392nm,19.6s,baz=94,slow=40
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 42.47 312 P **P 07 18 54.0 -1.2**
ZAA0 Zalesovo Array 43.01 322 P **P 07 18 58.0 -1.4**
ZALV Zalesovo Beam 43.01 322 P **P 07 18 58.1 -1.2**
ZALV Zalesovo Beam 43.01 322 P **P 07 18 56.4 -2.9**
comp=Z,1.1nm,0.5s,baz=110,slow=9.0,SNR=5.0
ZALV PcP **PcP 07 20 49.3 0.0**
comp=Z,3.7nm,0.9s,baz=101,slow=4.6,SNR=3.4
ZALV LR LR 07 38 49.5
comp=Z,588nm,19.9s,baz=131,slow=39
comp=Z,1.1nm,0.5s
ZALV Zalesovo Beam 43.01 322 P **P 07 18 58.1 -1.2**
SHLS Shalkode 43.89 306 *e*P **P 07 19 03.4 -3.4**
SHLS pmax pmax
comp=Z,9.0nm,1.0s
SHLS Shalkode 43.89 306 *e*P **P 07 19 03.5 -3.4**
comp=Z,9.5nm,1.0s
UZB Uzynbulak 44.21 306 *e*P **P 07 19 08.5 -0.9**
UZB Uzynbulak 44.21 306 *e*P **P 07 19 08.6 -0.9**
FITZ Fitzroy Crossi 44.23 185 P **P 07 19 09.9 +0.4**
KPKS Kokpek 44.49 306 *e*P **P 07 19 10.8 -0.7**
KPKS pmax pmax
comp=Z,7.0nm,0.9s
KPKS Kokpek 44.49 306 *e*P **P 07 19 10.9 -0.7**
comp=Z,7.5nm,0.9s
SATY Saty 44.65 306 *e*P **P 07 19 12.2 -0.7**
SATY Saty 44.65 306 *e*P **P 07 19 12.2 -0.7**
TARG Taragay, Kyrgy 45.00 304 P **P 07 19 15.4 -0.7**
TARG Taragay, Kyrgy 45.00 304 P **P 07 19 15.4 -0.7**
TARG pmax pmax
comp=Z,16nm,1.1s
TIXI Tiksi 45.46 360 P **P 07 19 20.4 +1.8**
TIXI IAmb IAmb 07 19 44.0
comp=Z,32nm,1.4s
TIXI Tiksi 45.46 360 *i* P **P 07 19 19.6 +0.9**
TIXI pmax pmax
comp=Z,27nm,2.3s
KDJ Kajisay 45.49 304 P **P 07 19 19.9 +0.3**
KDJ Kajisay 45.49 304 P **P 07 19 19.9 +0.3**
KDJ pmax pmax
comp=Z,10.0nm,1.0s
MDOK Medeo 45.65 306 *e*P **P 07 19 20.0 -0.9**
MDOK Medeo 45.65 306 *e*P **P 07 19 20.1 -0.9**
KURK Kurchatov 45.68 316 *i* P **P 07 19 21.2 +0.4**
KURK pmax pmax
comp=Z,5.0nm,0.9s
TNSS Tian-Shan 45.72 305 *e*P **P 07 19 20.6 -1.1**
TNSS Tian-Shan 45.72 305 *e*P **P 07 19 20.7 -1.0**
KURBB Kurchatov Arra 45.72 316 P **P 07 19 19.5 -1.5**
comp=Z,4.0nm,0.8s,baz=102,slow=9.0,SNR=10.0
KURBB LR LR 07 39 58.9
comp=Z,786nm,18.6s,baz=140,slow=38
comp=Z,4.0nm,0.8s
CHKK Chushkaly 45.75 307 *e*P **P 07 19 20.8 -0.7**
CHKK Chushkaly 45.75 307 *e*P **P 07 19 20.8 -0.7**
AAA Alma-Ata 45.75 306 *e*P **P 07 19 20.9 -0.7**
AAA pmax pmax
comp=Z,6.0nm,0.4s
AAA Alma-Ata 45.75 306 *e*P **P 07 19 20.9 -0.7**
comp=Z,5.6nm,0.4s
HNR Honiara 46.10 136 LR LR 07 38 22.0
comp=Z,145nm,18.2s,baz=341,slow=36
WRAB Tennant Creek 46.12 174 P **P 07 19 24.7 +0.2**
WRAB IAmb IAmb 07 19 25.9
comp=Z,27nm,0.9s
WRAB Tennant Creek 46.12 174 P **P 07 19 24.7 +0.2**
WRAB pmax pmax
comp=Z,27nm,1.0s
WRA Warramunga Arr 46.12 174 **P 07 19 24.2 -0.3**
WRA Warramunga Arr 46.12 174 P **P 07 19 24.1 -0.4**
comp=Z,18nm,0.8s,baz=354,slow=8.4,SNR=22
comp=Z,18nm,0.8s
WRA Warramunga Arr 46.12 174 *e*P **P 07 19 24.6 +0.1**
WRA pmax pmax
comp=Z,18nm,0.8s
KUU Kurty 46.22 307 *e*P **P 07 19 24.5 -0.7**
KUU Kurty 46.22 307 *e*P **P 07 19 24.5 -0.7**
KSH Kashi 46.34 301 P **P 07 19 29.8 +3.5**
KSH pmax pmax
comp=Z,10.0nm,1.4s
KSH LR LR
comp=Z,790nm,16.7s
KSH LR LR
comp=Z,540nm,22.2s
KSH LR LR
comp=Z,820nm,17.3s
MTSU Mount Surprise 46.35 161 P **P 07 19 28.1 +1.7**
comp=Z,19nm,1.0s
BILL Bilibino 47.28 18 P **P 07 19 34.0 +0.9**
BILL Bilibino 47.28 18 *i* P **P 07 19 34.3 +1.2**
BILL pmax pmax
comp=Z,28nm,1.1s
SGDS Sogindy 47.43 306 *e*P **P 07 19 34.1 -0.6**
SGDS Sogindy 47.43 306 *e*P **P 07 19 34.2 -0.6**
AAK Ala-Archa 47.50 305 LR LR 07 40 52.6
comp=Z,458nm,18.3s,baz=82,slow=38
QIS Mount Isa 47.51 167 P **P 07 19 35.5 +0.2**
comp=Z,55nm,1.6s
MBWA Marble Bar 48.08 192 P **P 07 19 39.6 -0.1**
MBWA IAmb IAmb 07 19 40.8
comp=Z,16nm,0.7s
MBWA Marble Bar 48.08 192 P **P 07 19 39.6 -0.1**
comp=Z,25nm,0.7s
PSA00 Pilbara Seismi 48.46 192 P **P 07 19 42.2 -0.5**
PSA00 Pilbara Seismi 48.46 192 P **P 07 19 42.4 -0.3**
comp=Z,54nm,0.7s
BRZS Berezniki 49.31 314 *e*P **P 07 19 48.7 -0.3**
BRZS Berezniki 49.31 314 *e*P **P 07 19 48.7 -0.3**
NRIK Noril'sk 49.64 342 P **P 07 19 50.7 -0.5**
comp=Z,1.5nm,0.4s,baz=138,slow=6.7,SNR=4.6
NRIK LR LR 07 42 03.1
comp=Z,454nm,18.4s,baz=130,slow=38
comp=Z,1.5nm,0.4s
NRIK Noril'sk 49.64 342 *i* P **P 07 19 51.4 +0.2**
NRIK pmax pmax
comp=Z,14nm,1.3s
AS31 Alice Springs 49.77 175 P **P 07 19 53.0 +0.2**
AS31 Alice Springs 49.77 175 P **P 07 19 53.5 +0.7**
comp=Z,4.2nm,0.8s
ASAR Alice Springs 49.77 175 P **P 07 19 53.0 +0.2**
ASAR Alice Springs 49.77 175 P **P 07 19 53.1 +0.4**
comp=Z,8.0nm,0.8s,baz=4.9,slow=14,SNR=28
ASAR LR LR 07 39 05.2
comp=Z,109nm,22.0s,baz=9.0,slow=34
comp=Z,8.0nm,0.8s
DZA Taraz 49.83 305 *e*P **P 07 19 52.6 -0.5**
DZA pmax pmax
comp=Z,4.0nm,0.4s
DZA Taraz 49.83 305 *e*P **P 07 19 52.7 -0.5**
comp=Z,3.9nm,0.4s
PALK Palleketle 50.15 257 LR LR 07 41 14.7
comp=Z,176nm,20.3s,baz=49,slow=36
BTK Batken 50.30 301 P **P 07 19 56.7 -0.1**
BTK Batken 50.30 301 P **P 07 19 56.7 -0.1**
BTK pmax pmax
comp=Z,35nm,0.3s
KKAR Karatay Array 50.43 305 P **P 07 19 57.5 -0.2**
KKAR Karatay Array 50.43 305 P **P 07 19 57.5 -0.2**
GAR Garm 50.75 300 P **P 07 20 00.1 -0.2**
IUG Iuzhnay 50.81 304 *e*P **P 07 19 59.9 -0.7**
IUG pmax pmax
comp=Z,9.0nm,1.0s
IUG Iuzhnay 50.81 304 *e*P **P 07 19 60.0 -0.7**
comp=Z,9.4nm,1.0s
BRLS Borolday 50.93 305 *e*P **P 07 20 01.8 +0.4**
BRLS Borolday 50.93 305 *e*P **P 07 20 01.8 +0.4**
WRKA Warakurna 50.98 182 P **P 07 20 01.9 0.0**
comp=Z,31nm,0.9s
BVAR Borovoye Array 51.11 318 P **P 07 20 02.6 0.0**
comp=Z,3.6nm,0.6s,baz=90,slow=9.5,SNR=7.1
BVAR LR LR 07 43 34.0
comp=Z,2μm,19.3s,baz=89,slow=38
comp=Z,3.6nm,0.6s
BRVK Borovoye 51.18 318 P **P 07 20 02.9 -0.2**
BRVK Borovoye 51.18 318 *i* P **P 07 20 02.7 -0.4**
BRVK pmax pmax
comp=Z,16nm,1.2s
SIMJ Simiganj 51.79 300 **P 07 20 07.8 -0.3**
DZET Dzherino 51.92 300 P **P 07 20 08.6 -0.5**
DZET pmax pmax
comp=Z,46nm,0.7s
SPIA Saint Paul Isl 52.24 37 P **P 07 20 08.7 -2.3**
baz=260
KBL Kabul 52.24 295 P **P 07 20 11.9 +0.3**
KBL Kabul 52.24 295 P **P 07 20 11.9 +0.3**
KBL pmax pmax
comp=Z,175nm,1.9s
NIKH Nikolski High 52.47 42 P **P 07 20 11.7 -1.1**
baz=265
P08K Saint George I 52.53 37 P **P 07 20 12.7 -0.4**
baz=261
GAMB Gambell 53.04 28 P **P 07 20 17.7 +1.0**
baz=254
MEEK Meekatharra 53.62 192 P **P 07 20 21.8 +0.3**
comp=Z,24nm,1.9s
UNV Unalaska Valle 53.95 41 P **P 07 20 21.5 -2.0**
baz=266
QLP Quilpie 54.36 164 P **P 07 20 27.0 +0.2**
comp=Z,43nm,0.8s
M11K Mekoryuk 54.84 33 P **P 07 20 28.6 -1.3**
baz=262
TNA Tin City 55.07 27 P **P 07 20 29.9 -1.6**
baz=256
EIDS Eidsvold 55.32 156 P **P 07 20 34.7 +0.8**
EIDS IAmb IAmb 07 20 35.8
comp=Z,16nm,0.8s
EIDS Eidsvold 55.32 156 P **P 07 20 34.6 +0.8**
comp=Z,25nm,1.2s
F14K Arctic Creek 55.70 27 P **P 07 20 34.4 -1.6**
baz=258
K13K Kusilvak Mount 55.80 31 P **P 07 20 34.6 -2.3**
baz=262
FALS False Pass 55.81 40 P **P 07 20 35.0 -2.0**
baz=268
ANM Nome 55.92 28 P **P 07 20 36.0 -1.7**
baz=259
M13K Dall Lake 56.25 33 P **P 07 20 39.0 -1.0**
baz=264
J14K Nanvaranak Lak 56.43 31 P **P 07 20 40.3 -1.0**
baz=262
F15K North Star Dit 56.43 27 P **P 07 20 40.9 -0.4**
baz=259
G15K Niukluk 56.55 28 P **P 07 20 40.9 -1.4**
baz=260
L14K Kuka Creek 56.67 32 P **P 07 20 40.7 -2.3**
baz=264
C16K Lisburne Hills 56.69 24 P **P 07 20 41.2 -1.9**
baz=257
FORT Forrest 56.71 182 P **P 07 20 43.9 +0.3**
FORT Forrest 56.71 182 P **P 07 20 44.7 +1.1**
comp=Z,91nm,0.9s
M14K Bethel 56.96 33 P **P 07 20 43.1 -2.0**
baz=265
SVE Sverdlovsk 57.03 322 *e*P **P 07 20 46.5 +0.8**
SVE pmax pmax
comp=Z,67nm,1.6s
N14K Kuskokwak Cree 57.03 34 P **P 07 20 43.3 -2.3**
baz=266
O14K Tigyukauivet M 57.20 35 P **P 07 20 45.1 -1.7**
baz=267
H16K Elim 57.26 28 P **P 07 20 44.6 -2.6**
baz=262
L15K Ungalak Mounta 57.27 32 P **P 07 20 45.6 -1.7**
baz=265
K15K Wolf Creek Mou 57.31 31 P **P 07 20 45.2 -2.4**
baz=264
G16K Koyuk River 57.32 27 P **P 07 20 45.3 -2.3**
baz=262
D17K Noatak River 57.41 25 P **P 07 20 44.7 -3.5**
baz=260,SNR=6.5
SDPT Sand Point 57.51 39 P **P 07 20 46.4 -2.7**
baz=270
RDOG Red Dog Mine 57.54 24 P **P 07 20 48.7 -0.4**
baz=260
ABKAR Akbulak array 57.56 313 P **P 07 20 49.8 +0.2**
ABKAR IAmb IAmb 07 21 02.2
comp=Z,72nm,2.0s
ABKAR Akbulak array 57.56 313 P **P 07 20 49.4 -0.2**
M15K Kasigluk River 57.58 33 P **P 07 20 47.5 -2.0**
baz=266
E17K Hotham Inlet 57.78 26 P **P 07 20 48.9 -2.0**
baz=261
HRA Herat 57.80 296 P **P 07 20 51.9 0.0**
HRA IAmb IAmb 07 21 05.3
comp=Z,51nm,1.6s
J16K Anvik River 57.83 30 P **P 07 20 49.2 -2.0**
baz=265
I17K Unalakleet 57.84 29 P **P 07 20 47.4 -3.9**
baz=264
N15K Kwethluk River 57.84 34 P **P 07 20 49.3 -2.1**
baz=267
F17K Baldwin Pennin 57.92 26 P **P 07 20 49.8 -2.0**
baz=262
O15K Ungalikthiuk R 57.94 35 P **P 07 20 49.1 -3.0**
baz=268
CHNA Chernabura Isl 58.02 40 P **P 07 20 50.3 -2.4**
baz=271
S14K Fog Glacier 58.03 38 P P 07 20 47.8 -5.1
baz=270
G17K Kiwalik Mounta 58.04 27 P **P 07 20 51.3 -1.4**
baz=263
B18K Kokolik River 58.17 23 P **P 07 20 50.9 -2.6**
baz=260,SNR=7.4
L16K Owhat River 58.23 32 P **P 07 20 50.8 -3.3**
baz=267
ARTI Arti 58.27 322 P **P 07 20 54.1 -0.3**
ARTI IAmb IAmb 07 21 06.7
comp=Z,24nm,0.7s
ARTI Arti 58.27 322 LR LR 07 47 30.5
comp=Z,500nm,18.1s,baz=60,slow=38
ARTI Arti 58.27 322 *c i*P **P 07 20 54.6 +0.2**
ARTI 07 23 02.8
ARTI S **S 07 28 58.6 +3.6**
ARTI SS **SS 07 32 50.1 +3.5**
ARTI pmax pmax
comp=Z,15nm,0.9s
C18K Utukok River 58.27 24 **P 07 20 55.4 +1.1**
C18K Utukok River 58.27 24 P **P 07 20 51.9 -2.4**
baz=261
H17K Granite Mounta 58.29 28 P **P 07 20 52.7 -1.7**
baz=264
E18K Tukpahlearik C 58.30 25 P **P 07 20 56.2 +1.7**
E18K Tukpahlearik C 58.30 25 P **P 07 20 54.4 -0.1**
baz=262
M16K Timber Creek 58.44 33 P **P 07 20 52.3 -3.3**
baz=268
N16K Nishlik Lake 58.52 33 P **P 07 20 52.1 -4.0**
baz=268
J17K VABM Dome 58.52 30 P **P 07 20 52.5 -3.6**
baz=266
A19K Wainwright 58.57 22 P **P 07 20 54.6 -1.6**
baz=260
F18K Selawik 58.57 26 P **P 07 20 54.4 -2.0**
baz=264,SNR=6.4
CHGN Chignik 58.67 38 P **P 07 20 53.2 -4.0**
baz=271
AKTO Aktyubinsk 58.72 315 LR LR 07 48 14.7
comp=Z,241nm,20.0s,baz=210,slow=38
L17K Donlin 58.81 32 P **P 07 20 56.7 -1.4**
baz=268,SNR=5.5
K17K Iditarod 58.83 31 P **P 07 20 56.2 -2.1**
baz=267
O16K Kokwok River B 58.83 34 P **P 07 20 56.2 -2.1**
baz=269
P16K Nushagak River 58.88 35 P **P 07 20 56.9 -1.7**
baz=270
STKA Stephens Creek 58.90 168 P **P 07 20 59.0 0.0**
STKA Stephens Creek 58.90 168 P **P 07 20 59.6 +0.6**
comp=Z,67nm,1.2s
STKA Stephens Creek 58.90 168 P **P 07 20 58.6 -0.4**
comp=Z,5.2nm,0.6s,baz=345,slow=8.5,SNR=7.3
comp=Z,5.2nm,0.6s
STKA Stephens Creek 58.90 168 P **P 07 20 59.0 0.0**
STKA pmax pmax
comp=Z,134nm,1.6s
G18K Tagagawik 58.90 27 P **P 07 20 56.7 -2.1**
baz=265
H18K Honhosa River 58.96 28 P **P 07 21 00.4 +1.2**
H18K IAmb IAmb 07 21 58.7
comp=Z,47nm,2.0s
H18K Honhosa River 58.96 28 P **P 07 20 55.2 -4.0**
baz=266
BBOO Buckleboo 59.03 174 P **P 07 21 00.6 +0.6**
comp=Z,28nm,1.9s
R16K Pilot Point 59.11 37 P **P 07 20 57.5 -2.7**
baz=271
M17K Holitna River 59.19 32 P **P 07 21 02.1 +1.3**
M17K IAmb IAmb 07 21 28.6
comp=Z,32nm,1.4s
M17K Holitna River 59.19 32 P **P 07 20 57.8 -3.0**
baz=269
N17K Nushagak Hills 59.30 33 P **P 07 21 00.1 -1.5**
baz=270
F19K Shaleruckik Mo 59.34 26 P **P 07 20 59.0 -2.6**
baz=265
O17K Koliganek Bris 59.34 34 P **P 07 20 58.8 -3.0**
baz=270
D19K Kuna River 59.37 24 P **P 07 20 59.5 -2.4**
baz=264,SNR=9.8

CMSA	Cobar Meteorol	59.46	164	P	P	07 21 04.7	+1.8
	comp=Z,21nm,1.5s						
G19K	Purcell Mounta	59.56	27	P	P	07 21 00.6	-2.7
	baz=266						
L18K	Granite Mounta	59.56	31	P	P	07 21 00.9	-2.4
	baz=269						
GCSA	Galena City Sc	59.57	28	P	P	07 21 00.3	-3.0
	baz=267						
Q16K	King Salmon	59.58	36	P	P	07 20 59.8	-3.6
	baz=271						
J18K	Innoko River	59.59	30	P	P	07 21 00.8	-2.7
	baz=268						
E19K	Redstone River	59.60	25	P	P	07 21 04.7	+1.1
E19K				IAmb	IAmb	07 21 06.3	
	comp=Z,13nm,0.9s						
E19K	Redstone River	59.60	25	P	P	07 21 00.8	-2.7
	baz=265,SNR=8.0						
P17K	Kvichak River	59.68	35	P	P	07 21 01.1	-3.0
	baz=271						
H19K	Roundabout Mou	59.79	28	P	P	07 21 06.5	+1.7
H19K				IAmb	IAmb	07 21 30.2	
	comp=Z,17nm,0.9s						
H19K	Roundabout Mou	59.79	28	P	P	07 21 01.2	-3.6
	baz=267						
DZM	Mont Dzumac	59.82	140	eLR	LR	07 38 42.5	
	comp=Z,693nm,26.2s						
DZM	Mont Dzumac	59.82	140	LR	LR	07 43 45.3	
	comp=Z,247nm,21.5s,baz=1.5,slow=33						
B20K	Meade River	59.87	22	P	P	07 21 02.0	-3.2
	baz=264						
TTA	Tatalina	59.89	31	P	P	07 21 01.6	-4.1
	baz=269						
D20K	Etivluk River	59.94	24	P	P	07 21 07.2	+1.4
D20K	Etivluk River	59.94	24	P	P	07 21 01.9	-4.0
	baz=265						
N18K	Kilae Creek	59.94	33	P	P	07 21 01.6	-4.3
	baz=270						
M18K	Stony River	59.97	32	P	P	07 21 03.4	-2.7
	baz=270						
Q17K	Contact Creek	59.99	36	P	P	07 21 03.3	-3.2
	baz=272						
E20K	Nigu River	60.06	24	P	P	07 21 05.8	-0.9
	baz=266,SNR=9.0						
J19K	Poorman	60.09	29	P	P	07 21 08.3	+1.4
J19K				IAmb	IAmb	07 21 21.0	
	comp=Z,32nm,1.5s						
J19K	Poorman	60.09	29	P	P	07 21 03.9	-3.0
	baz=269,SNR=5.7						
ARMA	Armidale	60.14	158	P	P	07 21 08.6	+0.9
ARMA				IAmb	IAmb	07 21 10.2	
	comp=Z,15nm,0.8s						
ARMA	Armidale	60.14	158	P	P	07 21 09.2	+1.5
F20K	Avaraart Lake	60.16	26	P	P	07 21 04.3	-3.0
	baz=267						
CHIR	Chirikof Islan	60.25	39	P	P	07 21 05.4	-2.8
	baz=274						
O18K	Koktuh Hills	60.29	34	P	P	07 21 06.3	-2.1
	baz=272						
P18K	Big Mountain,	60.30	35	P	P	07 21 06.3	-2.2
	baz=272						
L19K	White Mountain	60.42	31	P	P	07 21 11.4	+2.1
L19K	White Mountain	60.42	31	P	P	07 21 08.1	-1.2
	baz=271						
H20K	Anotleneega Mo	60.44	28	P	P	07 21 07.5	-1.8
	baz=269						
Q18K	Katmai Hardscr	60.44	36	P	P	07 21 06.6	-2.9
	baz=272						
I20K	Naaghedeneel	60.60	28	P	P	07 21 12.8	+2.4
I20K	Naaghedeneel	60.60	28	P	P	07 21 08.3	-2.0
	baz=269,SNR=6.8						
N19K	Bonanza Creek	60.63	33	P	P	07 21 06.3	-4.4
	baz=272						
C21K	Knifeblade Rid	60.63	23	P	P	07 21 10.1	-0.5
	baz=267,SNR=9.7						
M19K	Big River Lodg	60.65	32	P	P	07 21 05.8	-5.0
	baz=271						
A22K	Sinclair Lake	60.69	21	P	P	07 21 06.7	-4.2
	baz=266,SNR=6.3						
B21K	Ikpikpuk River	60.72	23		P	07 21 12.6	+1.5
B21K	Ikpikpuk River	60.72	23	P	P	07 21 07.5	-3.6
	baz=267,SNR=13						
O19K	Port Alsworth	60.73	34	P	P	07 21 06.4	-4.9
	baz=272						
J20K	Nowinta River	60.74	29	P	P	07 21 13.1	+1.7
J20K				IAmb	IAmb	07 21 14.5	
	comp=Z,16nm,1.0s						
J20K	Nowinta River	60.74	29	P	P	07 21 08.6	-2.7
	baz=270,SNR=7.8						
K20K	Telida	60.77	30	P	P	07 21 13.0	+1.4
K20K				IAmb	IAmb	07 21 14.9	
	comp=Z,20nm,1.1s						
K20K	Telida	60.77	30	P	P	07 21 06.7	-5.0
	baz=271,SNR=9.4						
R18K	Karluk	60.79	37	P	P	07 21 07.5	-4.3
	baz=274						
L20K	Farewell, AK	60.88	31	P	P	07 21 05.2	-7.2
	baz=271						
E21K	Killik River	60.89	24	P	P	07 21 13.6	+1.2
E21K				IAmb	IAmb	07 21 15.0	
	comp=Z,16nm,0.9s						
E21K	Killik River	60.89	24	P	P	07 21 06.5	-5.9
	baz=268						
SII	Sitkinak Islan	61.00	38	P	P	07 21 08.3	-5.0
	baz=274						
G21K	Allakaket	61.02	26		P	07 21 15.0	+1.8
G21K	Allakaket	61.02	26	P	P	07 21 08.0	-5.2
	baz=269,SNR=5.1						
F21K	Alatna River	61.04	26	P	P	07 21 08.4	-4.9
	baz=269						
Q19K	Cape Douglas,	61.13	35	P	P	07 21 09.8	-4.4
	baz=273						
B22K	Teshekpuk Lake	61.17	22	P	P	07 21 11.2	-3.0
	baz=267,SNR=7.4						
M20K	Styx River	61.24	32	P	P	07 21 10.8	-4.1
	baz=272						
H21K	Melozitna Rive	61.30	27	P	P	07 21 16.5	+1.3
H21K				IAmb	IAmb	07 21 18.4	
	comp=Z,24nm,1.1s						
H21K	Melozitna Rive	61.30	27	P	P	07 21 12.8	-2.4
	baz=270,SNR=11						
P19K	Oil Pt	61.30	34	P	P	07 21 11.2	-4.1
	baz=273						
D22K	Ayikyak River	61.37	24	P	P	07 21 11.0	-4.6
	baz=269						
OHAK	Old Harbor	61.44	37	P	P	07 21 11.6	-4.6
	baz=275						
F22K	John River	61.55	25	P	P	07 21 13.4	-3.4
	baz=270						
CHUM	Lake Minchumin	61.55	30	P	P	07 21 15.7	-1.1
	baz=272,SNR=5.8						
PPLA	Purkeypile	61.64	31	P	P	07 21 14.1	-3.6
	baz=272						
CAST	Castle Rocks	61.67	30	P	P	07 21 19.2	+1.5
CAST				IAmb	IAmb	07 21 20.6	
	comp=Z,16nm,0.9s						
CAST	Castle Rocks	61.67	30	P	P	07 21 18.4	+0.7
	baz=272,SNR=10						
E22K	Anaktuvuk Pass	61.69	25	P	P	07 21 18.9	+1.1
E22K				IAmb	IAmb	07 21 20.7	
	comp=Z,20nm,1.0s						
E22K	Anaktuvuk Pass	61.69	25	P	P	07 21 15.6	-2.2
	baz=270,SNR=14						
SPCR	Spurr Chakacha	61.72	33	P	P	07 21 15.9	-2.2
	baz=273						
KDAK	Kodiak Island	61.77	36	P	P	07 21 16.3	-2.1
	baz=275						
Q20K	Shuyak Island	61.80	36	P	P	07 21 13.4	-5.3
	baz=275						
G22K	Bettles	61.81	26	P	P	07 21 15.5	-3.0
	baz=271						
H22K	Ishtalitna Cre	61.89	27	P	P	07 21 14.5	-4.6
	baz=272,SNR=12						
SKT	Skwentna	61.99	32	P	P	07 21 15.6	-4.4
	baz=274						
D23K	Nanushuk River	62.10	24	P	P	07 21 20.3	-0.2
	baz=271,SNR=12						
HOM	Homer	62.11	34	P	P	07 21 19.7	-0.9
	baz=275						
C23K	Itkillik River	62.12	23	P	P	07 21 19.1	-1.4
	baz=270						
BPAW	Bear Paw Mtn.	62.12	29	P	P	07 21 17.7	-3.1
	baz=273,SNR=6.6						
CAPN	Captain Cook N	62.26	33	P	P	07 21 19.9	-1.8
	baz=275						
COLD	Coldfoot	62.32	26	P	P	07 21 19.9	-2.1
	baz=272						
SUA	Susitna One	62.40	32	P	P	07 21 22.9	+0.1
SUA				IAmb	IAmb	07 21 25.4	
	comp=Z,16nm,0.8s						
SUA	Susitna One	62.40	32	P	P	07 21 20.2	-2.6
	baz=275						
G23K	Bananza Creek	62.41	26	P	P	07 21 21.7	-0.9
	baz=272,SNR=8.5						
TRF	Thorofare Moun	62.47	30	P	P	07 21 21.6	-1.7
	baz=274						
TOLK	Toolik Lake Re	62.51	24	P	P	07 21 23.8	+0.5
TOLK				IAmb	IAmb	07 21 37.8	
	comp=Z,27nm,1.4s						
TOLK	Toolik Lake Re	62.51	24	P	P	07 21 21.1	-2.2
	baz=272,SNR=6.7						
E23K	Chandalar	62.51	25	P	P	07 21 20.8	-2.5
	baz=272,SNR=11						
BRSE	Bradley Lake S	62.55	34	P	P	07 21 19.9	-3.8
	baz=275						
CUT	Chulitna	62.55	31	P	P	07 21 21.5	-2.1
	baz=274						
H23K	Yukon River	62.64	27	P	P	07 21 19.9	-4.4
	baz=273						
M22K	Willow	62.68	32	P	P	07 21 21.1	-3.4
	baz=275						
D24K	Happy Valley	62.76	23	P	P	07 21 26.3	+1.4
D24K	Happy Valley	62.76	23	P	P	07 21 19.4	-5.5
	baz=272						
I23K	Minto, Yukon-K	62.76	28	P	P	07 21 26.5	+1.5
I23K				IAmb	IAmb	07 22 06.0	
	comp=Z,14nm,1.1s						
I23K	Minto, Yukon-K	62.76	28	P	P	07 21 18.4	-6.5
	baz=274,SNR=5.2						
C24K	Franklin Bluff	62.78	23	P	P	07 21 18.6	-6.5
	baz=272						
RC01	Rabbit Creek A	62.92	33	P	P	07 21 23.6	-2.5
	baz=276						
NEA2	Nenana	62.92	29	P	P	07 21 22.7	-3.4
	baz=274,SNR=9.4						
E24K	Your Creek	62.93	25		P	07 21 27.8	+1.6
E24K				IAmb	IAmb	07 21 29.3	
	comp=Z,14nm,1.0s						
E24K	Your Creek	62.93	25	P	P	07 21 23.0	-3.1
	baz=273,SNR=8.3						
KIRV	Kirov	62.97	325	iP	P	07 21 27.4	+1.0
O22K	Cooper Landing	62.99	33	P	P	07 21 24.1	-2.4
	baz=276						
MCK	McKinley	63.05	30	P	P	07 21 22.3	-4.7
	baz=275,SNR=6.5						
RND	Reindeer	63.12	30	P	P	07 21 27.6	+0.1
RND				pmax	pmax		
	comp=Z,27nm,0.9s						
PMR	Palmer	63.16	32	P	P	07 21 24.0	-3.7
	baz=276						
SEW	Seward	63.16	34	P	P	07 21 22.4	-5.3
	baz=276						
F24K	Squaw Lake	63.20	25	P	P	07 21 24.4	-3.4
	baz=274,SNR=13						
H24K	Nondor Dome	63.33	27	P	P	07 21 23.1	-5.7
	baz=275						
G24K	Hadweenzic Riv	63.42	26		P	07 21 30.7	+1.4
G24K				IAmb	IAmb	07 21 32.7	
	comp=Z,20nm,1.1s						
G24K	Hadweenzic Riv	63.42	26	P	P	07 21 24.0	-5.3
	baz=275,SNR=7.9						
COLA	College	63.42	28	P	P	07 21 31.6	+2.3
COLA	College	63.42	28	P	P	07 21 22.5	-6.8
	baz=275						
KNK	Knik Glacier	63.50	32	P	P	07 21 23.7	-6.3
	baz=276						
SML	Sawmill	63.52	32	P	P	07 21 22.9	-7.3
	baz=276						
POKR	Poker Plat Res	63.58	28	P	P	07 21 24.8	-5.6
	baz=276,SNR=7.6						
D25K	Kavik River	63.62	23	P	P	07 21 24.7	-6.0
	baz=274,SNR=8.6						
PWL	Port Wells	63.63	33	P	P	07 21 23.3	-7.5
	baz=277						
ARPS	Mount Arapiles	63.71	169	P	P	07 21 32.9	+1.4
	comp=Z,41nm,0.9s						
M23K	Glacier View	63.81	32	P	P	07 21 25.7	-6.3
	baz=277						
ILAR	Eielson Array	63.84	28	P	P	07 21 31.1	-1.0
	comp=Z,2.4nm,0.8s,baz=265,slow=5.4,SNR=12						
	comp=Z,2.4nm,0.8s						
ILAR	Eielson Array	63.84	28	eP	P	07 21 31.9	-0.2
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HDA	Harding Lake	63.86	29	P	P	07 21 27.9	-4.4
	baz=276,SNR=9.5						
CAN	Canberra	63.90	162	P	P	07 21 33.8	+1.0
CAN	Canberra	63.90	162	P	P	07 21 35.1	+2.2
	comp=Z,24nm,1.4s						
CAN	Canberra	63.90	162	P	P	07 21 33.8	+1.0
CAN				pmax	pmax		
	comp=Z,85nm,1.8s						
G25K	Bearman Lake	63.95	26	P	P	07 21 29.1	-3.7
	baz=276,SNR=5.3						
SCM	Sheep Creek Mo	63.99	32	P	P	07 21 29.7	-3.5
	baz=277						
CNB	Canberra Magne	64.00	162	P	P	07 21 35.5	+2.0
	comp=Z,22nm,1.4s						
E25K	Arctic Village	64.02	25	P	P	07 21 35.5	+2.1
E25K				IAmb	IAmb	07 21 36.7	
	comp=Z,18nm,1.1s						
E25K	Arctic Village	64.02	25	P	P	07 21 31.4	-1.9
	baz=276,SNR=7.9						
F25K	Christian Rive	64.05	25	P	P	07 21 30.4	-3.2
	baz=276,SNR=8.2						
C26K	Camden Bay	64.08	23	P	P	07 21 30.9	-2.7
	baz=276						
H25L	Birch Creek	64.12	27	P	P	07 21 32.1	-1.8
	baz=276						
P23K	Montague Islan	64.20	34	P	P	07 21 32.4	-2.2
	baz=278						
MSVF	Nonsavu	64.21	128	P	P	07 21 37.4	+2.1
MSVF				IAmb	IAmb	07 21 39.1	
	comp=Z,26nm,1.1s						
MSVF	Nonsavu	64.21	128	LR	LR	07 46 24.6	
	comp=Z,158nm,19.6s,baz=298,slow=33						
MSVF	Nonsavu	64.21	128	P	P	07 21 37.4	+2.1
MSVF				pmax	pmax		
	comp=Z,26nm,1.1s						
GLI	Glacier Island	64.22	33	P	P	07 21 31.3	-3.4
	baz=278						
PRP	Porcupine Dome	64.33	27	P	P	07 21 36.0	+0.5
PRP	Porcupine Dome	64.33	27	P	P	07 21 32.5	-3.0
	baz=277						
K24K	Donnelly Dome	64.44	29	P	P	07 21 33.3	-2.8
	baz=278						
BMAR	Burnt Mountain	64.47	25	P	P	07 21 37.9	+1.6
M24K	Tolsona, Glenn	64.49	31	P	P	07 21 33.9	-2.6
	baz=278						
J25K	Salcha River,	64.51	28	P	P	07 21 33.1	-3.5
	baz=278						
C27K	Jago River	64.53	23	P	P	07 21 33.5	-3.1
	baz=277,SNR=7.1						
F26K	Sheenjek River	64.61	25	P	P	07 21 34.0	-3.1
	baz=277,SNR=14						
PAX	Paxson	64.69	30	P	P	07 21 34.9	-2.9
	baz=278						
KLU	Klutina	64.70	32	P	P	07 21 36.2	-1.7
	baz=279						
G26K	Porcupine Rive	64.84	26	P	P	07 21 36.5	-2.1
	baz=278,SNR=7.1						
RIDG	Independent Ri	64.86	29	P	P	07 21 36.9	-1.9
	baz=278						
HARP	HAARP	64.92	31	P	P	07 21 37.7	-1.6
	baz=279						
EYAK	Cordova Ski Ar	64.93	33	P	P	07 21 38.1	-1.2
	baz=279						
TOO	Toolangi	65.19	166		P	07 21 41.9	+0.7
TOO	Toolangi	65.19	166	P	P	07 21 42.1	+0.9
	comp=Z,13nm,1.4s						
TOO	Toolangi	65.19	166	P	P	07 21 41.9	+0.7
TOO				pmax	pmax		
	comp=Z,12nm,1.1s						
SCRK	Sand Creek	65.20	29	P	P	07 21 38.8	-2.3
	baz=279,SNR=12						
J26L	Joseph Creek	65.30	28	P	P	07 21 37.9	-3.9
	baz=279,SNR=14						
N25K	Chitina, Valde	65.31	32	P	P	07 21 39.6	-2.3
	baz=280						
I26K	Coal Creek Min	65.34	27	P	P	07 21 38.5	-3.4
	baz=279						
BMRM	Bremner River	65.41	32	P	P	07 21 40.2	-2.3
	baz=280						
E27K	Coleen River	65.49	24		P	07 21 44.2	+1.4
E27K				IAmb	IAmb	07 21 46.1	
	comp=Z,13nm,1.0s						
E27K	Coleen River	65.49	24	P	P	07 21 38.5	-4.4
	baz=279,SNR=8.3						
D27M	Malcolm River	65.54	23		P	07 21 44.4	+1.2
D27M				IAmb	IAmb	07 21 57.9	
	comp=Z,23nm,1.3s						
D27M	Malcolm River	65.54	23	P	P	07 21 40.4	-2.9
	baz=279,SNR=8.8						
MILA	Mila	65.58	163	P	P	07 21 45.9	+2.2
	comp=Z,16nm,1.1s						
L26K	Log Cabin Wild	65.64	30	P	P	07 21 40.7	-3.2
	baz=280,SNR=6.0						
KAIM	Kayak Island	65.69	33	P	P	07 21 42.0	-2.2
	baz=281						
G27K	Doyon Strip	65.69	26	P	P	07 21 42.3	-1.9
	baz=280						
H27K	Steamboat Moun	65.85	26	P	P	07 21 42.0	-3.2
	baz=280,SNR=5.3						
M26K	Nabesna, AK	65.91	31	P	P	07 21 41.9	-3.9
	baz=281,SNR=7.9						
I27K	Kandik River	65.92	27	P	P	07 21 43.2	-2.6
	baz=280,SNR=12						
K27K	Chicken	66.02	29	P	P	07 21 44.4	-1.9
	baz=281						
E28M	Babbage River	66.17	24		P	07 21 48.9	+1.7
E28M				IAmb	IAmb	07 21 50.4	
	comp=Z,15nm,1.1s						
E28M	Babbage River	66.17	24	P	P	07 21 45.0	-2.2
	baz=281,SNR=9.0						
D28M	Stokes Point	66.31	23	P	P	07 21 44.0	-4.0
	baz=281						
L27K	Beaver Creek,	66.31	30	P	P	07 21 44.4	-3.8
	baz=281						
BCAR	Beaver Creek A	66.33	30		P	07 21 49.8	+1.4
M27K	Edge Creek, AK	66.43	31	P	P	07 21 46.8	-2.4
	baz=282,SNR=5.2						
I28M	Miner Creek	66.64	27		P	07 21 51.9	+1.5
I28M				IAmb	IAmb	07 21 53.5	
	comp=Z,19nm,1.1s						
I28M	Miner Creek	66.64	27	P	P	07 21 48.4	-2.0
	baz=282,SNR=7.5						
E29M	Blow River	66.80	24	P	P	07 21 50.0	-1.2
	baz=283,SNR=6.3						
MESA	MESA	66.85	33	P	P	07 21 48.2	-3.7
	baz=282						
BVCY	Beaver Creek	66.88	30	P	P	07 21 48.1	-3.8
	baz=282						
G29M	Pine Creek	67.08	25	P	P	07 21 53.0	0.0
	baz=283,SNR=7.3						
H29M	Whitestone	67.10	26	P	P	07 21 50.7	-2.5
	baz=283						
DAWY	Dawson	67.17	28	P	P	07 21 53.0	-0.7
	baz=283						
YUK3	Moose Creek	67.21	31	P	P	07 21 51.7	-2.5
	baz=283						
I29M	Ogilvie Camp,	67.33	27	P	P	07 21 50.8	-3.8
	baz=284,SNR=6.0						
KLMR	Klimovskoe	67.51	328	eP	P	07 21 52.0	-3.8
KLMR				pmax	pmax		
	comp=Z,68nm,1.5s						
O28M	Mount Upton	67.57	32	P	P	07 21 53.0	-3.5
	baz=284						
J29N	Klondike Camp	67.58	28	P	P	07 21 52.7	-3.6
	baz=284,SNR=5.4						
YUK8	Steele Glacier	67.65	31	P	P	07 21 53.5	-3.5
	baz=284						
PINM	Pinnacle	67.70	33	P	P	07 21 52.9	-4.2
	baz=284						
EPYK	Eagle Plains	67.72	26	P	P	07 21 53.6	-3.5
	baz=284,SNR=7.6						
G30M	tAoh Zraii Nji	67.75	25	P	P	07 21 52.6	-4.8
	baz=285						
F30M	Barrier River	67.76	24	P	P	07 21 54.8	-2.5
	baz=285,SNR=5.5						
L29M	L29M	67.94	29	P	P	07 21 55.1	-3.6
	baz=284,SNR=7.7						
M29M	Somme Creek	67.96	30	P	P	07 21 55.2	-3.6
	baz=284						
K29M	Barlow Dome	68.02	29	P	P	07 21 55.9	-3.3
	baz=285,SNR=5.8						
I30M	Mount Dempster	68.14	27	P	P	07 21 57.2	-2.7
	baz=285,SNR=5.8						
YUK4	Talbot Arm	68.16	31	P	P	07 21 58.4	-1.7
	baz=285						
PNL	Peninsula	68.22	33	P	P	07 21 58.1	-2.3
	baz=285						
J30M	Hart River	68.33	28	P	P	07 21 57.8	-3.3
	baz=286						
APA	Apatity	68.37	336	iP	P	07 22 01.3	+0.2
APA				pmax	pmax		
	comp=Z,16nm,0.9s						
YUK6	Outpost Mounta	68.39	32	P	P	07 21 58.8	-2.9
	baz=285						
O29M	Mount Kennedy	68.46	32	P	P	07 21 58.0	-4.0
	baz=285						
G31M	Satah River	68.51	25	P	P	07 21 59.2	-2.8
	baz=286						
F31M	Tsiigehtchic	68.56	24	P	P	07 21 58.9	-3.4
	baz=287						
M30M	Minto, Yukon	68.67	30	P	P	07 21 59.3	-3.9
	baz=286						
VRH	Novokhopyorsk	68.75	318	eP	P	07 22 03.8	0.0
VRH				pmax	pmax		
	comp=Z,86nm,2.0s						
H31M	Peel River	68.80	26		P	07 22 04.7	+0.8
H31M				IAmb	IAmb	07 22 06.3	
	comp=Z,15nm,0.9s						
H31M	Peel River	68.80	26	P	P	07 21 59.7	-4.2
	baz=287,SNR=8.3						
HYT	Haines Junctio	68.83	32	P	P	07 22 00.6	-3.7
	baz=286						
N30M	Aishikik Lake	68.85	31	P	P	07 22 02.3	-2.0
	baz=286						
P29M	Windy Craggy	69.05	33	P	P	07 22 02.3	-3.3
	baz=286						
P30M	Million Dollar	69.28	32	P	P	07 22 03.4	-3.6
	baz=287						
N31M	Braeburn, Yuko	69.44	31	P	P	07 22 04.4	-3.6
	baz=287						
O30N	Mendenhall	69.51	32	P	P	07 22 04.5	-3.9
	baz=287						
PLBC	Pleasant Camp	69.77	33	P	P	07 22 06.1	-3.8
	baz=287						
A36M	Sachs Harbour	69.83	19		P	07 22 11.7	+1.6
A36M	Sachs Harbour	69.83	19	P	P	07 22 07.6	-2.5
	baz=293,SNR=12						
MOS	Moscow	69.83	323	eP	P	07 22 09.6	-0.8
MOS				pmax	pmax		
	comp=Z,77nm,1.4s						
MOS				MLR	MLR		
	comp=Z,800nm,18.0s						
LPSR	Galich'ya Gora	70.02	320	eP	P	07 22 12.4	+0.8
LPSR				pmax	pmax		
	comp=Z,100nm,2.1s						
WHY	Whitehorse	70.11	31	P	P	07 22 07.9	-4.3
	baz=288						
KBZ	Khabaz	70.13	310	P	P	07 22 13.3	+0.9
	comp=Z,14nm,0.9s,baz=76,slow=6.0,SNR=9.6						
	comp=Z,14nm,0.9s						
KBZ	Khabaz	70.13	310	iP	P	07 22 13.0	+0.6
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VORR	Voronezh	70.13	319	eP	P	07 22 13.3	+1.0
VORR				pmax	pmax		
	comp=Z,55nm,1.4s						
KIV	Kislovodsk	70.20	310		P	07 22 13.8	+0.7
KIV	Kislovodsk	70.20	310	eP	P	07 22 13.5	+0.4
KIV				eS	S	07 31 25.5	+2.1
KIV				pmax	pmax		
	comp=Z,28nm,1.1s						
SKAG	Skagway	70.27	33	P	P	07 22 08.5	-4.5
	baz=288						
S31K	Pelican	70.28	34	P	P	07 22 08.7	-4.4
	baz=288						
SHA1	Shidzhatmaz	70.29	310	iP	P	07 22 14.0	+0.2
VSR	Storozhevoye	70.29	318	eP	P	07 22 14.1	+0.8
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
FARO	Faro, Yukon	70.31	30	P	P	07 22 11.0	-2.3
	baz=289,SNR=9.5						
R31K	City Hall, Gus	70.39	34	P	P	07 22 10.9	-2.9
	baz=288						
ARCES	ARCESS Array B	70.46	339	P	P	07 22 14.0	-0.1
	comp=Z,5.6nm,0.9s,baz=41,slow=6.4,SNR=4.4						
ARCES				LR	LR	08 00 04.5	
	comp=Z,210nm,18.6s,baz=52,slow=42						
	comp=Z,5.6nm,0.9s						
ARCES	ARCESS Array B	70.46	339	eP	P	07 22 15.4	+1.3

ARCES pmax pmax
comp=Z,5.0nm,0.9s
OBN Obninsk 70.59 323 *e*P **P 07 22 14.1 -0.9**
OBN *e**PP **pP 07 22 19.0 -1.6**
OBN *e* 07 22 36.7
OBN *e* 07 24 51.9
OBN *e*PPP PPP 07 26 33.6
OBN pmax pmax
comp=Z,15nm,1.1s
OBN MLR MLR
comp=Z,662nm,18.0s
JOF Joensuu 70.65 331 *e*P **P 07 22 15.5 +0.2**
N32M Quiet Lake 70.78 31 P **P 07 22 13.5 -2.7**
baz=289
P32M Atlin 71.01 32 P **P 07 22 14.3 -3.3**
baz=289
SIT Sitka 71.04 35 P **P 07 22 15.4 -2.3**
baz=289
R32K Eaglecrest 71.05 34 P **P 07 22 16.1 -1.7**
baz=289
ERBR Yeremizino-Bor 71.15 312 *e*P **P 07 22 18.0 -0.7**
ERBR *e*S **S 07 31 37.3 +3.2**
ERBR pmax pmax
comp=Z,60nm,1.5s
ERBR MLR MLR
comp=Z,864nm,21.0s
P33M Teslin, Yukon 71.22 32 P **P 07 22 15.6 -3.4**
baz=290
C36M Paulatuk 71.24 21 P **P 07 22 15.6 -3.2**
baz=294,SNR=12
S32K Killisnoo 71.28 35 P **P 07 22 17.6 -1.6**
baz=289
LABN Labinsk 71.33 311 *e*P **P 07 22 18.6 -1.2**
LABN *e*S **S 07 31 36.2 0.0**
LABN pmax pmax
comp=Z,23nm,0.5s
LABN MLR MLR
comp=Z,542nm,16.0s
Q32M Nakina River 71.92 33 P **P 07 22 21.0 -2.3**
baz=291
T33K Petersburg 72.34 35 P **P 07 22 23.6 -2.0**
baz=291
SOC Sochi 72.36 310 *e*P **P 07 22 25.0 -1.0**
SOC *e* 07 25 05.1
SOC *e*PPP PPP 07 26 49.7
SOC *e*S **S 07 31 48.9 +0.8**
SOC *e*SS **SS 07 36 28.9 +2.9**
SOC pmax pmax
comp=Z,10.0nm,0.5s
R33M Jennings River 72.39 32 P **P 07 22 24.5 -1.6**
baz=292
U33K Whale Pass 72.50 36 P **P 07 22 22.4 -4.2**
baz=291
CRAG Craig 72.73 36 P **P 07 22 25.9 -2.0**
baz=291
WRAK Wrangell Islan 72.80 35 P **P 07 22 25.4 -2.9**
baz=292
TGTN Hyland Airport 72.81 29 P **P 07 22 26.0 -2.4**
baz=293,SNR=7.6
S34M Telegraph Cree 72.86 33 P **P 07 22 26.0 -2.6**
baz=292
KOPT Kop Dagi 73.02 307 P **P 07 22 30.7 +0.4**
KOPT IAmb IAmb 07 22 44.3
comp=Z,32nm,1.3s
WTLY Watson Lake, Y 73.13 31 P **P 07 22 27.3 -3.0**
baz=293,SNR=6.8
FIA1 FINESS Array S 73.48 331 P **P 07 22 31.7 -0.5**
FINES FINESS Array B 73.48 331 P **P 07 22 31.6 -0.6**
comp=Z,9.4nm,0.7s,baz=63,slow=5.3,SNR=18
FINES LR LR 07 58 59.9
comp=Z,656nm,18.1s,baz=58,slow=39
comp=Z,9.4nm,0.7s
FINES FINESS Array B 73.48 331 *e*P **P 07 22 32.1 -0.1**
FINES pmax pmax
comp=Z,9.0nm,0.7s
V35K Ketchikan 73.59 36 P **P 07 22 30.0 -2.9**
baz=292
T35M Bob Quinn 73.66 34 P **P 07 22 30.1 -3.3**
baz=293
KEF Keuruu 73.69 332 *e*P **P 07 22 33.1 -0.4**
WRGLY Wrigley 74.12 27 P **P 07 22 32.4 -3.6**
baz=297
U35K Hyder 74.19 35 P **P 07 22 32.9 -3.6**
baz=293
VAF Ylistaro 74.22 333 *e*P **P 07 22 36.7 +0.2**
ARBE Arbavere 74.36 329 *e*P **P 07 22 38.0 +0.6**
VSU Vasula 74.42 328 *i* P **P 07 22 37.6 -0.2**
VSU pmax pmax
comp=Z,20nm,0.9s
VSU Vasula 74.42 328 *e*P **P 07 22 38.4 +0.7**
LIRD Liard River Hi 74.66 31 P **P 07 22 36.6 -2.7**
baz=296,SNR=9.6
MEF Metsahovi 74.75 330 *e*P **P 07 22 39.9 +0.3**
RAYN Ar Rayn 75.00 289 P **P 07 22 40.5 -1.4**
RAYN IAmb IAmb 07 22 57.3
comp=Z,23nm,1.1s
RAYN Ar Rayn 75.00 289 P **P 07 22 43.2 +1.3**
KOTAN Kotaneelee Air 75.27 30 P **P 07 22 40.4 -2.4**
baz=297
TOAD Toad River Com 75.31 31 P **P 07 22 40.3 -2.7**
baz=296
MNK Minsk 75.50 324 *i* P **P 07 22 43.1 -1.0**
MNK *i* 07 22 55.8
MNK *i* 07 25 32.1
MNK *i* PPP PPP 07 27 18.2
MNK *i* S **S 07 32 24.5 +1.5**
MNK *i* 07 32 56.5
MNK *i* SS **SS 07 37 16.2 +3.1**
MNK pmax pmax
comp=N,28nm,1.0s
MNK pmax pmax
comp=E,24nm,1.0s
MNK pmax pmax
comp=Z,13nm,0.7s
MNK MLR MLR
comp=N,438nm,18.0s
MNK MLR MLR
comp=Z,470nm,16.0s
MNK MLR MLR
comp=E,1μm,20.0s
RAF Rauma 75.53 331 *e*P **P 07 22 44.8 +0.6**
SIM Simferopol' 75.62 313 *e*P **P 07 22 43.4 -1.6**
SIM *e* 07 22 57.0
SIM pmax pmax
comp=Z,20nm,0.9s
MTSE Matsula 75.68 329 *e*P **P 07 22 45.2 +0.2**
AKASG Malin Array Be 76.34 320 P **P 07 22 48.1 -0.9**
comp=Z,3.9nm,0.7s,baz=60,slow=6.3,SNR=8.1
comp=Z,3.9nm,0.7s
AKASG Malin Array Be 76.34 320 *e*P **P 07 22 49.0 0.0**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 76.34 320 *i* P **P 07 22 48.8 -0.2**
AKBB pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 76.35 320 P **P 07 22 48.8 -0.3**
KIEV IAmb IAmb 07 23 00.7
comp=Z,37nm,1.5s
KIEV Kiev 76.35 320 P **P 07 22 48.8 -0.3**
KIEV pmax pmax
comp=Z,37nm,1.5s
PABE Paberze 77.08 326 *e*P **P 07 22 54.4 +1.3**
YKA Yellowknife Ar 77.99 25 P **P 07 22 58.2 +0.2**
comp=Z,2.4nm,0.9s,baz=298,slow=5.3,SNR=11
comp=Z,2.4nm,0.9s
YKA Yellowknife Ar 77.99 25 *e*P **P 07 22 59.4 +1.4**
YKA pmax pmax
comp=Z,3.0nm,1.0s
BR131 Keskin Array S 78.02 308 P **P 07 22 59.3 +0.4**
BR131 IAmb IAmb 07 23 12.6
comp=Z,12nm,0.8s
BR131 Keskin Array S 78.02 308 *i* P **P 07 22 59.2 +0.4**
BRTR Keskin Array B 78.02 308 P **P 07 22 59.2 +0.4**
comp=Z,6.3nm,0.8s,baz=90,slow=4.7,SNR=16
comp=Z,6.3nm,0.8s
BRTR Keskin Array B 78.02 308 *e*P **P 07 22 59.6 +0.7**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
KIRS Kirsehir-Merke 78.06 308 ||P **P 07 23 00.3 +1.3**
SUW Suwalki 78.18 325 *e*P **P 07 23 00.4 +1.2**
SUW Suwalki 78.18 325 P **P 07 23 00.4 +1.2**
TPGR Topolog 79.35 315 ||P **P 07 23 06.3 +0.4**
HFS Hagfors 79.40 333 P **P 07 23 05.4 -0.5**
comp=Z,6.7nm,0.8s,baz=54,slow=7.5,SNR=10
HFS LR LR 08 00 49.1
comp=Z,223nm,19.0s,baz=59,slow=38
comp=Z,6.7nm,0.8s
NC405 NORSAR Array S 79.62 334 **P 07 23 07.1 +0.1**
NB2 NORSAR Subarra 79.86 334 P **P 07 23 07.8 -0.6**
comp=Z,19nm,1.0s,baz=51,slow=5.6
NB2 NORSAR Subarra 79.86 334 P **P 07 23 07.4 -1.0**
NB2 NORSAR Subarra 79.86 334 P **P 07 23 07.8 -0.6**
baz=51,slow=5.6
NOA NORSAR Array B 79.86 334 P **P 07 23 07.6 -0.8**
comp=Z,7.0nm,0.8s,baz=50,slow=5.4,SNR=17
comp=Z,7.0nm,0.8s
NOA NORSAR Array B 79.86 334 *e*P **P 07 23 08.5 +0.1**
NOA pmax pmax
comp=Z,7.0nm,0.8s
ONER Baraj Valea Uz 79.95 317 ||P **P 07 23 10.5 +1.3**
VRI Vrincioaia 79.96 316 ||P **P 07 23 11.0 +1.7**
VRI Vrincioaia 79.96 316 P **P 07 23 10.9 +1.7**
PLOR Plostina 80.01 316 ||P **P 07 23 10.7 +1.1**
PLOR Plostina 80.01 316 P **P 07 23 10.6 +1.1**
BUR08 Bucovina Ar. S 80.06 318 **P 07 23 10.2 +0.3**
BURAR Bucovina Array 80.07 318 **P 07 23 10.3 +0.5**
BURAR Bucovina Array 80.07 318 ||P **P 07 23 10.8 +0.9**
BURAR Bucovina Array 80.07 318 P **P 07 23 10.8 +0.9**
MLR Muntele Rosu 80.62 316 ↑↑P **P 07 23 14.7 +1.8**
MLR Muntele Rosu 80.62 316 P **P 07 23 14.7 +1.8**
DOPR Dopca 80.74 317 ||P **P 07 23 14.5 +1.1**
VOIR 81.20 316 ↑↑P **P 07 23 17.2 +1.3**
VOIR 81.20 316 P **P 07 23 17.2 +1.3**
ARR Arges 81.49 316 ↑↑P **P 07 23 18.6 +1.1**
HUMR Humele 81.68 316 ||P **P 07 23 18.6 +0.2**
MARR Marisel-Cluj 81.78 318 ↑↑P **P 07 23 19.8 +0.8**
OJC Ojcow 81.88 322 *e*P **P 07 23 20.8 +1.4**
LOT Lotru 81.98 317 ↑↑P **P 07 23 20.0 -0.1**
NIE Niedzica 82.02 322 *e*P **P 07 23 21.9 +1.7**
GZR Gura Zlata 82.62 317 ||P **P 07 23 23.7 +0.2**
GZR Gura Zlata 82.62 317 P **P 07 23 23.6 +0.2**
RAR Rarotonga 83.09 118 LR LR 07 56 29.5
comp=Z,58nm,19.4s,baz=295,slow=33
HERR Herculane 83.10 317 ↑↑P **P 07 23 26.9 +1.1**
STEB Steborice 83.14 323 *e*P **P 07 23 27.2 +1.3**
STEB *ex* x 07 23 37.4
BZS Buzias 83.21 318 ↑↑P **P 07 23 26.7 +0.3**
BZS Buzias 83.21 318 P **P 07 23 26.7 +0.3**
VYHS Vyhne 83.33 321 *e*P **P 07 23 28.6 +1.6**
VYHS pmax pmax
comp=Z,12nm,1.0s
VYHS Vyhne 83.33 321 *e*P **P 07 23 28.6 +1.6**
VYHS *e* 07 23 39.6
MORC Moravsky Berou 83.35 323 *e*P **P 07 23 27.9 +0.8**
KSP Ksiaz 83.43 324 *e*P **P 07 23 28.8 +1.4**
B08A Colville Reser 83.54 39 **P 07 23 29.7 +1.6**
B08A IAmb IAmb 07 23 30.9
comp=Z,26nm,1.1s
MDVR Moldovita 83.58 317 ↑↑P **P 07 23 28.7 +0.4**
KRLC Kraliky 83.60 323 AMS AMS 08 04 10.0
comp=Z,600nm,16.7s
OSTC Ostas 83.63 324 AMS AMS 08 04 10.0
comp=Z,700nm,19.9s
DPC Dobruska-Polom 83.69 324 *e*P **P 07 23 29.8 +1.0**
DPC AMS AMS 08 04 10.0
comp=Z,600nm,17.0s
DPC Dobruska-Polom 83.69 324 *e*P **P 07 23 29.8 +1.0**
DPC MLR MLR
comp=Z,600nm,17.0s
UPC Upice 83.77 324 AMS AMS 08 04 10.0
comp=Z,800nm,19.0s
JAVC Velka Javorina 83.78 322 *e*P **P 07 23 30.8 +1.5**
VRAC Vranov 84.13 323 *e*P **P 07 23 31.7 +0.7**
VRAC Vranov 84.13 323 ||P **P 07 23 32.5 +1.4**
VRAC Vranov 84.13 323 P **P 07 23 32.4 +1.4**
MODS Modra-Piesok 84.27 322 *e*P **P 07 23 33.7 +1.9**
MODS *e* 07 23 44.2
MODS pmax pmax
comp=Z,24nm,1.5s
MODS Modra-Piesok 84.27 322 *e*P **P 07 23 33.7 +1.9**
MODS *e* 07 23 44.2
MODS *e* 07 27 13.1
WAH2 Wahluke Slope 84.27 40 P **P 07 23 33.1 +1.4**
KRUC Moravsky 84.37 323 *e*P **P 07 23 33.1 +0.9**
G06A Carlson Farm, 84.45 42 P **P 07 23 34.6 +1.8**
HAWA Hanford 84.49 41 P **P 07 23 34.8 +1.9**
HAWA IAmb IAmb 07 23 36.0
comp=Z,18nm,1.1s
BRG Berggiesshubel 84.64 325 *e*P **P 07 23 34.9 +1.4**
BRG Amp 07 23 36.1
comp=Z,5.4nm,0.9s
TREC Trest 84.73 323 AMS AMS 08 04 50.0
comp=Z,400nm,15.8s
GOPC GO Pecny, Ondr 84.75 324 AMS AMS 08 04 50.0
comp=Z,700nm,17.6s
PRU Pruhonice 84.84 324 AMS AMS 08 04 50.0
comp=Z,800nm,18.2s
PRA Prague 84.85 324 AMS AMS 08 05 00.0
comp=Z,600nm,17.7s
CLL Collm 84.86 326 *i* P **P 07 23 35.1 +0.4**
CLL *e*S **S 07 34 02.0 +0.4**
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 84.86 326 *i* P **P 07 23 35.1 +0.4**
comp=Z,13nm,0.9s
CLL *i* x x 07 23 46.2
comp=Z,21nm,0.9s
CLL *e*S **S 07 34 02.0 +0.4**
CLL AMS AMS 07 58 00.0
comp=N,500nm,20.7s
CLL AMS AMS 07 58 00.0
comp=E,400nm,19.9s
HSKC Hora Svate Kat 85.06 325 AMS AMS 08 04 50.0
comp=E,600nm,19.0s
RONA Rosalia, Austr 85.19 322 *i* P **P 07 23 36.9 +0.4**
comp=E,6.1nm,0.9s
CONA Conrad Observa 85.30 322 *i* PcP **PcP 07 23 39.1 -1.0**
comp=E,37nm,1.7s
ZVC Zvikov 85.34 324 *e*P **P 07 23 38.7 +1.6**
ZVC AMS AMS 08 04 50.0
comp=E,700nm,17.6s
CKRC Cesky Krumlov 85.64 323 *e*P **P 07 23 39.4 +0.8**
CKRC AMS AMS 08 04 50.0
comp=E,500nm,17.9s
CKRC Cesky Krumlov 85.64 323 *e*P **P 07 23 39.4 +0.8**
CKRC MLR MLR
comp=Z,500nm,17.9s
KHC Kasperske Hory 85.85 324 *e*P **P 07 23 41.1 +1.4**
KHC *ex* x 07 23 51.4
KHC AMS AMS 08 05 20.0
comp=Z,600nm,18.0s
KHC Kasperske Hory 85.85 324 *i* P **P 07 23 40.5 +0.8**
KHC pmax pmax
comp=Z,6.0nm,0.9s
ARSA Arzberg 85.88 321 *e*PcP **PcP 07 23 41.3 -1.3**
comp=Z,16nm,1.5s
GERES GERESS Array B 85.95 323 P **P 07 23 38.2 -2.0**
comp=Z,2.8nm,0.7s,baz=46,slow=5.8,SNR=14
comp=Z,2.8nm,0.7s
GERES GERESS Array B 85.95 323 *e*P **P 07 23 41.2 +0.9**
GERES pmax pmax
comp=Z,3.0nm,0.7s
MOA Molln 86.23 322 *e*PcP **PcP 07 23 43.1 -1.1**
comp=Z,3.3nm,0.5s
SOKA Soboth 86.48 321 *e*P **P 07 23 43.6 +0.7**
comp=Z,20nm,1.6s
BIOA Bad Ischl, Aus 86.66 323 *e*PcP **P 07 23 44.8 +1.0**
comp=Z,0.5nm,0.4s
OBKA Obir 86.85 321 *e*PcP **P 07 23 45.9 +1.1**
comp=Z,20nm,2.0s
KBA Koelnbreinsper 87.19 322 *i* PcP **PcP 07 23 47.8 -0.8**
comp=Z,4.7nm,0.8s
MYKA Terra Mystica 87.29 322 *e*P **P 07 23 47.3 +0.5**
comp=Z,1.5nm,0.4s
LESA Schwarzleotal 87.35 323 *i* PcP **P 07 23 48.1 +1.0**
comp=Z,5.5nm,0.9s
ABTA Abfaltersbach 87.84 322 *i* P **P 07 23 48.9 -0.6**
comp=Z,10nm,1.2s
WATA Walderalm 88.00 323 *i* P **P 07 23 50.5 +0.2**
comp=Z,1.8nm,0.7s
WTTA Wattenberg 88.01 323 *e*PcP **PcP 07 23 51.6 -0.6**
comp=Z,4.0nm,0.7s
FFC Flin Flon 88.03 27 P **P 07 23 51.2 +1.1**
MOTA Moosalm 88.25 323 *e*P **P 07 23 51.5 0.0**
comp=Z,6.4nm,1.1s
SQTA Sankt Quirin 88.27 323 *e*PcP **P 07 23 52.1 +0.5**
comp=Z,1.5nm,0.5s
RETA Reutte 88.34 324 *e*P **P 07 23 51.4 -0.5**
comp=Z,2.7nm,0.6s
FETA Feichten 88.65 323 *e*P **P 07 23 52.6 -0.8**
comp=Z,5.0nm,1.1s
DAVA Damuels 88.94 324 *e*P **P 07 23 54.5 -0.2**
comp=Z,9.7nm,1.3s
EKA Eskdalemuir Ar 89.30 335 P **P 07 23 54.4 -1.8**
comp=Z,0.9nm,0.5s,baz=52,slow=4.6,SNR=2.1
comp=Z,0.9nm,0.5s
NVAR Mina Array Bea 89.60 47 P **P 07 23 55.9 -2.3**
comp=Z,2.1nm,0.8s,baz=286,slow=5.5,SNR=12
comp=Z,2.1nm,0.8s
PPT Papeete 89.70 110 LR LR 07 55 46.6
comp=Z,133nm,21.5s,baz=316,slow=30
PPT2 Papeete2 89.72 110 *e*S **S 07 34 45.9 -3.5**
comp=Z,66nm,26.2s
PPT2 Papeete2 89.72 110 *e*LR LR 07 52 28.5
comp=Z,267nm,25.2s
PPT2 *e*LR LR 07 52 34.2
comp=Z,397nm,24.8s
R11B Troy Canyon, C 91.40 46 **P 07 24 08.3 +1.8**
R11B IAmb IAmb 07 27 38.1
comp=Z,10nm,1.2s
OPO Ambohidratompo 91.55 250 LR LR 08 02 04.6
comp=Z,58nm,22.0s,baz=170,slow=34
HWUT Hardware Ranch 91.94 41 **P 07 24 11.2 +2.3**
PDAR Pinedale Array 92.38 39 P **P 07 24 09.2 -1.7**
comp=Z,2.0nm,1.0s,baz=299,slow=3.1,SNR=8.4
comp=Z,2.0nm,1.0s
TBI Tubuai 92.46 115 *e*LR LR 07 53 47.5
comp=Z,1μm,29.2s
TAOE Nuku Hiva Isla 94.06 98 *e*LR LR 07 54 39.5
comp=Z,222nm,26.1s
ANMO Albuquerque 99.27 44 LR LR 08 11 20.8
comp=Z,28nm,18.6s,baz=118,slow=36
Y22D IRIS PASSCAL I 99.55 45 P **Pdif 07 24 40.1 -3.6**
baz=311
ESDC Sonseca Array 101.45 325 P **Pdif 07 24 50.1 -1.7**
comp=Z,0.2nm,0.3s,baz=20,slow=4.7,SNR=4.0
RKT Rikitea 104.44 109 *e*LR LR 07 59 21.3
comp=Z,1μm,28.5s
SYO Syowa Base 114.22 203||*e*Pdiff **Pdif 07 25 51.4 +3.8**
QSPA South Pole Qui 116.01 180 PKP **PKPdf 07 29 41.8 -0.4**
comp=Z,2.9nm,0.8s,baz=271,slow=1.8,SNR=12
ELIB Princess Elisa 119.75 200 *d*PKPdf **PKiKP 07 29 50.1 +0.7**

MOS ***13*** *07:14:26.0±1.1,26°.21N×129°.58E,h10km,mb5.2/65, MS4.7/7, Error ellipse: s-maj=12.8km s-min=6.4km az=81.7*
BJI ***13*** *07:14:27.4,26°.24N×129°.52E,h14km,mB5.2/30,mb4.9/69, Ms4.8/41,Ms7 4.6/39*
IDC ***13*** *07:14:27.1±0.5,26°.30N×129°.51E,h0km,mb4.7/27, mbtmp4.6/31,ML4.2/3,MS3.9/11,Error ellipse: s-maj=15.6km s-min=12.4km az=75.0*
NEIC ***13*** *07:14:29.5,25°.99N×129°.57E,h12km,Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.33; $M_{\theta\theta}$1.16; $M_{\phi\phi}$ 1.17; $M_{r\theta}$-1.89; $M_{\theta r}$1.06; $M_{\phi r}$0.11; Fault plane solution: $M_0$2.91000×10^{16} NP1: ϕ_s208.35000°,δ32.92000°,λ-127.03000°. NP2: ϕ_s70.29000°,δ64.28000°,λ-68.70000°. Principal axes: T 2.6047, Plg17.0000°, Azm145.0000°; N 0.6155, Plg19.0000°, Azm241.0000°; P -3.2201, Plg64.0000°, Azm16.0000°;*
NIED ***13*** *07:14:29.4,26°.28N×129°.58E,h47km,MW4.9,Moment Tensor Solution. s2 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.20; $M_{\theta\theta}$1.29; $M_{\phi\phi}$0.91; $M_{r\theta}$1.01; $M_{\theta\phi}$0.86; $M_{\phi r}$1.16; Fault plane solution: $M_0$2.60000×10^{16} NP1:ϕ_s56.00000°, δ27.00000°,λ-81.00000°. NP2:ϕ_s225.00000°,δ63.00000°, λ-95.00000°.*
NEIC ***13*** *07:14:29.4±1.7,26°.29N±0°.07×129°.61E±0°.09,h10km±1km, mb5.3/131,Mww4.9/12 Error ellipse: s-maj=13.9km s-min=12.6km az=105.0*
JMA ***13*** *07:14:29.4±0.1,26°.3N±0°.6×129°.6E±0°.4,h47km,MD4.8/20, MW4.9/20,NEAR OKINAWAJIMA ISLAND*
NEIC ***13*** *07:14:29.5,26°.29N×129°.57E,h12km*
GCMT ***13*** *07:14:33.4±0.3,26°.32N±0°.03×129°.54E±0°.03,h22km, MW5.1/116,Moment Tensor Solution. s24,c27; s116,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.55±.30; $M_{\theta\theta}$2.92±.18; $M_{\phi\phi}$2.63±.20; $M_{r\theta}$0.61±.29; $M_{\theta\phi}$1.56±.09; $M_{\phi r}$0.35±.34; Best double couple: $M_0$4.99500×10^{16} NP1:ϕ_s47.00000°,δ41.00000°, λ-92.00000°. NP2:ϕ_s229.00000°,δ49.00000°, λ-88.00000°. Principal axes: T 4.3890, Plg4.0000°, Azm318.0000°; N 1.2120, Plg1.0000°, Azm48.0000°; P -5.6000, Plg86.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 07:14:29.9±0.5,26°.28N±0°.03×129°.56E±0°.03,h15km±2km, h14km:pP-P,n823,σ1§33/838,mb5.2/194,MS4.6/22, 18C-14D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.24**	**307**	P	**Pn**	**07 14 51.0**	**-1.7**
JYRO				S	**Sb**	**07 15 06.8**	**-2.0**
JYRO	**Yoronjima**	**1.24**	**307**	A	A	07 14 51.0	
comp=N,22nm,3.1s,comp=E,36nm,6.3s							
JOW	**Kunigami**	**1.28**	**296**		**Pn**	**07 14 51.5**	**-1.7**
JOW	**Kunigami**	**1.28**	**296**	Pn	**Pn**	**07 14 51.4**	**-1.9**
comp=E,2μm,0.3s,baz=130,slow=25,SNR=61							
JOW				Sn	**Sb**	**07 15 02.9**	**-7.0**
comp=E,2μm,0.3s,baz=132,slow=14,SNR=20							
JOW	**Kunigami**	**1.28**	**296**	P	**Pn**	**07 14 51.8**	**-1.5**
JOW	**Kunigami**	**1.28**	**296**	P	**Pn**	**07 14 51.7**	**-1.6**
JOW				S	**Sb**	**07 15 06.9**	**-3.0**
JOW	**Kunigami**	**1.28**	**296**	A	A	07 14 51.7	
comp=N,29nm,4.1s,comp=E,34nm,6.0s							
JOKE	**Okinoerabujima**	**1.39**	**321**	P	**Pn**	**07 14 53.4**	**-1.5**
JOKE				*e*S	**Sn**	**07 15 10.5**	**-2.5**
JOKE	**Okinoerabujima**	**1.39**	**321**	A	A	07 14 53.4	
comp=N,37nm,4.9s,comp=E,23nm,2.7s							
JNTH	**Nagotoyohara**	**1.40**	**280**	P	**Pn**	**07 14 53.1**	**-1.8**
JNTH				S	**Sn**	**07 15 10.7**	**-2.5**
JNTH	**Nagotoyohara**	**1.40**	**280**	A	A	07 14 53.1	
comp=N,27nm,7.1s,comp=E,20nm,3.7s							
JMZ	**Minamidaito 2**	**1.56**	**107**	Pn	**Pn**	**07 14 55.7**	**-1.5**
JMZ	**Minamidaito 2**	**1.56**	**107**	P	**Pn**	**07 14 56.5**	**-0.7**
JMZ	**Minamidaito 2**	**1.56**	**107**	P	**Pn**	**07 14 55.1**	**-2.1**
JMZ				S	**Sn**	**07 15 12.6**	**-4.7**
JMZ	**Minamidaito 2**	**1.56**	**107**	A	A	07 14 55.1	
comp=N,109nm,4.4s,comp=E,79nm,4.1s							
JTK	**Tokunoshima**	**1.59**	**340**	P	**Pn**	**07 14 56.2**	**-1.4**
JTK				S	**Sn**	**07 15 14.6**	**-3.4**
JTK	**Tokunoshima**	**1.59**	**340**	A	A	07 14 56.2	
comp=N,16nm,4.4s,comp=E,18nm,5.6s							
JKDJ	**Kitadaitoujima**	**1.59**	**102**	*e*P	**Pn**	**07 14 55.8**	**-1.8**
JKDJ				S	**Sn**	**07 15 14.4**	**-3.5**
JKDJ	**Kitadaitoujima**	**1.59**	**102**	A	A	07 14 55.8	
comp=N,59nm,7.0s,comp=E,59nm,3.8s							
JJT3	**Tamagusuku3**	**1.60**	**265**	P	**Pn**	**07 14 56.5**	**-1.2**
JJT3				S	**Sn**	**07 15 16.4**	**-1.8**
JJT3	**Tamagusuku3**	**1.60**	**265**	A	A	07 14 56.5	
comp=N,162nm,4.3s,comp=E,100nm,3.4s							
JIH	**Iheya**	**1.61**	**298**	P	**Pn**	**07 14 56.5**	**-1.4**
JIH				S	**Sn**	**07 15 15.7**	**-2.8**
JIH	**Iheya**	**1.61**	**298**	A	A	07 14 56.5	
comp=N,24nm,6.5s,comp=E,27nm,4.6s							
JAMN	**Amaminishikomi**	**1.98**	**350**	P	**Pn**	**07 15 01.5**	**-1.5**
JAMN				S	**Sn**	**07 15 24.2**	**-3.4**
JAMN	**Amaminishikomi**	**1.98**	**350**	A	A	07 15 01.5	
comp=N,12nm,3.2s,comp=E,13nm,4.9s							
JZK	**Kikaishima**	**2.06**	**10**	P	**Pn**	**07 15 02.8**	**-1.2**
JZK				S	**Sn**	**07 15 27.6**	**-1.8**
JAGN	**Aguni-jima**	**2.10**	**279**	P	**Pn**	**07 15 03.5**	**-1.1**
JAGN				S	**Sn**	**07 15 28.2**	**-2.3**
JAGN	**Aguni-jima**	**2.10**	**279**	A	A	07 15 03.5	
comp=N,33nm,4.5s,comp=E,30nm,2.4s							
JAM	**Amami Oshima**	**2.12**	**1**	P	**Pn**	**07 15 03.2**	**-1.6**
JAM				S	**Sn**	**07 15 27.0**	**-4.0**
JAM	**Amami Oshima**	**2.12**	**1**	A	A	07 15 03.2	
comp=N,11nm,5.8s,comp=E,10.0nm,6.0s							
JKE	**Kume jima 2**	**2.49**	**272**	P	**Pn**	**07 15 08.0**	**-2.0**
JKE				S	**Sn**	**07 15 36.1**	**-4.1**
JKE	**Kume jima 2**	**2.49**	**272**	A	A	07 15 08.0	
comp=N,13nm,3.8s,comp=E,11nm,4.7s							
JTAJ	**Takarajima**	**2.88**	**354**	P	**Pn**	**07 15 13.5**	**-1.8**
JTAJ				S	**Sn**	**07 15 45.3**	**-4.3**
JTAJ	**Takarajima**	**2.88**	**354**	A	A	07 15 13.5	
comp=N,9.0nm,4.7s,comp=E,8.0nm,4.5s							
JNN	**Nakanoshima**	**3.56**	**4**	P	**Pn**	**07 15 22.9**	**-1.7**
JNN				S	**Sn**	**07 16 01.8**	**-4.7**
JMJ	**Miyako jima 2**	**4.12**	**250**	P	**Pn**	**07 15 30.9**	**-1.5**

YOJ	**Yonaguni jima**	**6.20**	**254**		**Pn**	**07 15 58.5**	**-2.4**
YOJ	**Yonaguni jima**	**6.20**	**254**	P	**Pn**	**07 15 58.0**	**-2.9**
YOJ	**Yonaguni jima**	**6.20**	**254**	P	**Pn**	**07 15 58.5**	**-2.4**
JNU	**Nakatsue**	**6.91**	**9**		**Pn**	**07 16 10.0**	**-0.7**
JNU	**Nakatsue**	**6.91**	**9**	Pn	**Pn**	**07 16 10.6**	**-0.2**
	comp=E,6.9nm,0.3s,baz=196,slow=8.8,SNR=14						
JNU				Sn	**Sn**	**07 17 22.9**	**-6.3**
	comp=E,5.3nm,0.3s,baz=302,slow=22,SNR=5.8						
JNU				LR	LR	07 18 53.4	
	comp=E,1μm,20.6s,baz=198,slow=39						
	comp=E,33nm,0.5s						
JNU	**Nakatsue**	**6.91**	**9**	P	**Pn**	**07 16 11.3**	**+0.6**
NACB	**Ninganchiao**	**7.51**	**255**	Pn	**Pn**	**07 16 14.9**	**-4.1**
YHNB	**Yeheng**	**7.57**	**260**		**Pn**	**07 16 17.3**	**-2.5**
YHNB	**Yeheng**	**7.57**	**260**	P	**Pn**	**07 16 20.2**	**+0.3**
SSLB	**Suanglung**	**8.19**	**254**	Pn	**Pn**	**07 16 24.3**	**-4.0**
SSLB	**Suanglung**	**8.19**	**254**	P	**Pn**	**07 16 24.9**	**-3.5**
JMN	**Monobe**	**8.31**	**26**		**Pn**	**07 16 29.0**	**-1.0**
TWGBT	**Beinan**	**8.46**	**248**	P	**Pn**	**07 16 31.4**	**-0.6**
TPUB	**Ta-pu**	**8.64**	**252**		**Pn**	**07 16 31.3**	**-3.2**
TJN	**Taejon**	**10.24**	**350**		Pn	07 16 52.0	-4.3
TJN	**Taejon**	**10.24**	**350**	P	**Pn**	**07 16 57.2**	**+0.9**
TJN	**Taejon**	**10.24**	**350**	*i* P	**Pn**	**07 16 55.3**	**-1.0**
NJ2	**Nanjing**	**10.98**	**304**	*e*P	**Pn**	**07 17 08.5**	**+2.0**
NJ2				pmax	pmax		
	comp=E,23nm,0.6s						
NJ2				LR	LR		
	comp=E,2μm,13.3s						
NJ2				LR	LR		
	comp=E,3μm,10.4s						
NJ2				LR	LR		
	comp=E,3μm,12.3s						
INU	**Inuyama**	**11.07**	**34**		**Pn**	**07 17 06.7**	**-1.1**
INU	**Inuyama**	**11.07**	**34**	P	**Pn**	**07 17 09.7**	**+1.9**
KSAR	**Wonju Array Be**	**11.22**	**353**		**Pn**	**07 17 10.4**	**+0.7**
KSAR	**Wonju Array Be**	**11.22**	**353**	P	**Pn**	**07 17 10.4**	**+0.7**
KSRS	**Korea Array**	**11.22**	**353**	Pn	**Pn**	**07 17 09.7**	**-0.2**
	comp=E,0.8nm,0.3s,baz=172,slow=13,SNR=21						
	comp=E,9.5nm,0.8s						
KS19	**Wonju Array Si**	**11.28**	**353**		**Pn**	**07 17 09.9**	**-0.7**
JGF	**Kuroka**	**11.44**	**34**		**Pn**	**07 17 10.7**	**-2.1**
MJAR	**Matsushiro Arr**	**12.61**	**34**	Pn	**Pn**	**07 17 28.7**	**-0.1**
	comp=E,2.3nm,0.8s,baz=227,slow=12,SNR=4.2						
DL2	**Dalian**	**14.24**	**334**	P	**Pn**	**07 17 52.5**	**+1.4**
DL2				S	**Sn**	**07 20 33.9**	**+5.1**
DL2				pmax	pmax		
	comp=E,95nm,0.9s						
DL2				pmax	pmax		
	comp=E,760nm,10.3s						
DL2				LR	LR		
	comp=E,1μm,10.2s						
DL2				LR	LR		
	comp=E,1μm,12.2s						
DL2				LR	LR		
	comp=E,1μm,11.0s						
TIA	**Tai'an**	**14.52**	**316**	P	**Pn**	**07 17 56.0**	**+1.1**
TIA				pmax	pmax		
	comp=E,37nm,0.9s						
CNSH	**ChangSha**	**14.92**	**281**	P	**P**	**07 18 05.8**	**-0.1**
CNSH				pmax	pmax		
	comp=Z,51nm,1.1s						
JMM	**Marumori**	**14.95**	**37**		**Pn**	**07 17 59.1**	**-1.7**
SNY	**Shenyang**	**16.27**	**344**	⇓P	**Pn**	**07 18 19.1**	**+1.2**
SNY				pmax	pmax		
	comp=Z,56nm,0.7s						
MSHR	**Mys Shultsa**	**16.31**	**4**	*i* P	**Pn**	**07 18 16.7**	**-1.7**
HNS	**HongShan**	**16.77**	**315**	⇑P	**Pn**	**07 18 22.8**	**-1.5**
HNS				PP	**pwP**	**07 18 37.3**	**+1.7**
HNS				pmax	pmax		
	comp=Z,130nm,1.1s						
HNS				LR	LR		
	comp=Z,2μm,10.1s						
HNS				LR	LR		
	comp=Z,1μm,9.8s						
HNS				LR	LR		
	comp=Z,2μm,10.8s						
LYN	**LuoYang**	**16.88**	**303**	P	**Pn**	**07 18 27.4**	**+1.8**
LYN				PP	**pwP**	**07 18 37.9**	**+1.1**
LYN				pmax	pmax		
	comp=Z,230nm,1.1s						
LYN				pmax	pmax		
	comp=Z,2μm,11.6s						
LYN				LR	LR		
	comp=Z,2μm,9.6s						
LYN				LR	LR		
	comp=Z,3μm,11.7s						
LYN				LR	LR		
	comp=Z,5μm,13.0s						
GULI	**GuiLin**	**17.32**	**271**	P	**P**	**07 18 32.8**	**+0.2**
BJT	**Baijiatuau**	**17.67**	**324**	P	**Pn**	**07 18 34.8**	**-0.8**
BJT	**Baijiatuau**	**17.67**	**324**	P	**Pn**	**07 18 34.8**	**-0.8**
BJT				pmax	pmax		
	comp=Z,134nm,0.9s						
BJI	**Beijing**	**17.69**	**324**	P	**Pn**	**07 18 35.6**	**-0.1**
BJI				S	**Sn**	**07 21 49.3**	**-3.2**
BJI				pmax	pmax		
	comp=Z,82nm,0.9s						
BJI				pmax	pmax		
	comp=Z,480nm,7.8s						
BJI				LR	LR		
	comp=Z,610nm,12.8s						
BJI				LR	LR		
	comp=Z,580nm,16.2s						
USA0B	**Ussuriysk Arra**	**17.98**	**6**	P	**Pn**	**07 18 39.6**	**+0.3**
USA0B	**Ussuriysk Arra**	**17.98**	**6**	*i* P	**Pn**	**07 18 40.1**	**+0.7**
USRK	**Ussuriysk Ar.**	**17.98**	**6**	P	**Pn**	**07 18 38.5**	**-0.9**
USRK	**Ussuriysk Ar.**	**17.98**	**6**	P	**Pn**	**07 18 39.6**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=194,slow=6.4,SNR=10						
USRK				LR	LR	07 24 18.0	
	comp=Z,560nm,21.7s,baz=185,slow=33						
	comp=Z,5.1nm,0.6s						
ENH	**Enshi**	**18.12**	**287**	P	**Pn**	**07 18 40.0**	**-1.2**
ENH	**Enshi**	**18.12**	**287**	P	**Pn**	**07 18 41.6**	**+0.4**
MDJ	**Mudanjiang**	**18.29**	**0**	P	**P**	**07 18 44.3**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,14nm,1.0s						
TIY	**Taiyuan**	**18.43**	**312**	P	**P**	**07 18 45.3**	**+0.4**
TIY				S	Sn	07 21 58.9	-12
TIY				pmax	pmax		
	comp=Z,35nm,0.7s						
TIY				pmax	pmax		
	comp=Z,550nm,5.1s						
TIY				LR	LR		
	comp=Z,2μm,12.2s						
TIY				LR	LR		
	comp=Z,1μm,12.2s						
TIY				LR	LR		
	comp=Z,2μm,14.8s						
ERM	**Erimo**	**19.27**	**32**	P	**P**	**07 18 52.5**	**-1.5**
ERM	**Erimo**	**19.27**	**32**	P	**P**	**07 18 53.5**	**-0.4**
ERM	**Erimo**	**19.27**	**32**	*i* P	**P**	**07 18 51.9**	**-2.0**
ERM				pmax	pmax		
	comp=Z,32nm,1.1s						
JEM	**Erimo**	**19.27**	**32**	P	**P**	**07 18 53.5**	**-0.5**
XAN	**Xi'an**	**19.43**	**298**	P	**P**	**07 18 54.8**	**-1.1**
XAN				pP	pwP	07 19 05.4	-1.0
XAN				S	**Sn**	**07 22 36.4**	**+1.6**
XAN				pmax	pmax		
	comp=Z,200nm,0.6s						
XAN				pmax	pmax		
	comp=Z,890nm,4.8s						
XAN				LR	LR		
	comp=Z,2μm,13.1s						
XAN				LR	LR		
	comp=Z,1μm,13.9s						
XAN				LR	LR		
	comp=Z,2μm,17.7s						
DAV	**Davao City (W)**	**19.48**	**192**	LR	LR	07 26 23.0	
	comp=Z,273nm,18.8s,baz=338,slow=37						
BNX	**BinXian**	**19.49**	**355**	⇓P	**P**	**07 18 57.8**	**+1.4**
BNX				pmax	pmax		
	comp=Z,50nm,0.9s						
TEY	**Ternei**	**19.55**	**15**	*e*P	**P**	**07 18 58.2**	**+1.2**
QIZ	**Qiongzhong**	**19.56**	**252**	P	**P**	**07 18 57.5**	**+0.1**
QIZ				S	**S**	**07 22 35.9**	**-2.1**
QIZ				pmax	pmax		
	comp=Z,470nm,4.5s						
QIZ				LR	LR		
	comp=Z,550nm,8.0s						
QIZ				LR	LR		
	comp=Z,570nm,9.4s						
QIZ				LR	LR		
	comp=Z,640nm,14.2s						
GYA	**Guiyang**	**20.52**	**276**	P	**P**	**07 19 08.5**	**+0.7**
GYA				pmax	pmax		
	comp=Z,29nm,1.2s						
ASAJ	**Asahikawa**	**20.69**	**27**	P	**P**	**07 19 07.7**	**-1.8**
	comp=Z,7.8nm,0.8s,baz=235,slow=13,SNR=20						
	comp=Z,7.8nm,0.8s						
ASAJ	**Asahikawa**	**20.69**	**27**	P	**P**	**07 19 08.3**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,65nm,1.3s						
JKA	**Kamikawa-asahi**	**20.69**	**27**	P	**P**	**07 19 08.3**	**-1.2**
XLT	**XiLinHaoTe**	**20.70**	**332**	*e*P	**P**	**07 19 08.8**	**-0.9**
XLT				pP	sP	07 19 12.6	-0.6
XLT				PP	**PnPn**	**07 19 33.1**	**+5.4**
XLT				pmax	pmax		
	comp=Z,120nm,0.8s						
HHC	**Hu-ho-hao-te**	**20.82**	**319**	*e*P	**P**	**07 19 10.8**	**-0.2**
HHC				pP	Pn	07 19 15.3	+1.8
HHC				pmax	pmax		
	comp=Z,34nm,0.9s						
HHC				LR	LR		
	comp=Z,1μm,16.0s						
HHC				LR	LR		
	comp=Z,940nm,18.5s						
HHC				LR	LR		
	comp=Z,2μm,16.0s						
BTO	**Baotou**	**21.61**	**316**	*e*P	**P**	**07 19 20.3**	**+0.8**
BTO				pP	**sP**	**07 19 23.5**	**-0.1**
BTO				sP	**pwP**	**07 19 27.4**	**-1.2**
BTO				PP	**PnPn**	**07 19 44.3**	**+4.1**
BTO				S	**S**	**07 23 20.6**	**+2.0**
BTO				SS	**SnSn**	**07 23 51.8**	**+9.2**
BTO				pmax	pmax		
	comp=Z,33nm,0.8s						
BTO				pmax	pmax		
	comp=Z,710nm,5.0s						
BTO				LR	LR		
	comp=Z,2μm,12.8s						
BTO				LR	LR		
	comp=Z,2μm,15.8s						
BTO				LR	LR		
	comp=Z,2μm,12.7s						
KLR	**Kul'dur**	**22.97**	**4**	*i* P	**P**	**07 19 33.0**	**-0.8**
KLR				pmax	pmax		
	comp=Z,36nm,1.2s						
CD2	**Chengdu**	**23.10**	**288**	P	**P**	**07 19 33.0**	**-2.4**
CD2				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS	**Yuzhno-Sakhali**	**23.13**	**23**	P	**P**	**07 19 34.7**	**-0.7**
YSS	**Yuzhno-Sakhali**	**23.13**	**23**	P	**P**	**07 19 36.2**	**+0.8**
YSS	**Yuzhno-Sakhali**	**23.13**	**23**	*e*P	**P**	**07 19 35.5**	**+0.1**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
MYLDM	**Lahad Datu**	**23.50**	**209**	P	**P**	**07 19 39.0**	**-0.4**
HEH	**HeiHe**	**23.99**	**357**	*e*P	**P**	**07 19 45.8**	**+2.0**
HEH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH	**Lanzhou**	**24.01**	**300**	*e*P	**P**	**07 19 42.9**	**-1.5**
LZH				sP	pwP	07 19 51.6	-3.2
LZH				pmax	pmax		
	comp=Z,33nm,1.6s						
LZH				LR	LR		
	comp=Z,2μm,13.4s						
LZH				LR	LR		
	comp=Z,1μm,14.8s						
LZH				LR	LR		
	comp=Z,1μm,16.1s						
KMI	**Kunming**	**24.18**	**273**	P	**P**	**07 19 45.8**	**-0.4**
KMI				S	**S**	**07 24 07.8**	**+3.6**
KMI				pmax	pmax		
	comp=Z,40nm,0.8s						
KMI				pmax	pmax		
	comp=Z,340nm,3.6s						
KMI				LR	LR		
	comp=Z,1μm,16.5s						
KMI				LR	LR		
	comp=Z,2μm,13.4s						
KMI				LR	LR		
	comp=Z,2μm,12.9s						
PZH	**PanZhiHua**	**24.91**	**277**	P	**P**	**07 19 52.8**	**+0.2**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.6s						
UBPT	**Khong Chiam**	**25.00**	**249**	P	**P**	**07 19 53.5**	**+0.2**
UBPT				IAmb	IAmb	07 20 08.0	
	comp=Z,54nm,1.1s						
GRNR	**Gornyy**	**25.01**	**10**	⇑*i* P	**P**	**07 19 54.1**	**+0.9**
GRNR				pmax	pmax		
	comp=Z,20nm,1.0s						
TOLI2	**Tolitoli**	**26.41**	**200**	P	**P**	**07 20 05.8**	**-0.3**
TOLI2				IAmb	IAmb	07 20 17.9	
	comp=Z,100nm,1.1s						
TOLI2	**Tolitoli**	**26.41**	**200**	P	**P**	**07 20 04.0**	**-2.2**
TYV	**Tymovskoe**	**26.51**	**19**	*e*P	**P**	**07 20 10.6**	**+3.9**
TYV				pmax	pmax		
	comp=Z,31nm,1.2s						
TYV				pmax	pmax		
	comp=Z,200nm,3.0s						
MPSI	**Mapaga**	**27.43**	**201**	P	**P**	**07 20 20.8**	**+5.6**
	comp=Z,28nm,1.0s						
ZEA	**Zeya**	**27.48**	**357**	*e*P	**P**	**07 20 15.9**	**+0.5**
ZEA				*e*		07 21 03.0	
ZEA				pmax	pmax		
	comp=Z,30nm,0.9s						
ULN	**Ulaanbaatar**	**27.86**	**327**	P	**P**	**07 20 19.7**	**+0.6**
ULN	**Ulaanbaatar**	**27.86**	**327**	*i* P	**P**	**07 20 17.8**	**-1.3**
ULN				pmax	pmax		
	comp=Z,15nm,0.9s						
GTA	**Gaotai**	**28.07**	**305**	P	**P**	**07 20 19.8**	**-1.3**
GTA				pmax	pmax		
	comp=Z,48nm,1.0s						
GTA				LR	LR		
	comp=Z,1μm,15.1s						
GTA				LR	LR		
	comp=Z,740nm,17.9s						
GTA				LR	LR		
	comp=Z,1μm,18.3s						
SONM	**Songino Array**	**28.17**	**326**	P	**P**	**07 20 21.5**	**-0.4**
SONM	**Songino Array**	**28.17**	**326**	P	**P**	**07 20 21.3**	**-0.6**
	comp=Z,18nm,1.0s,baz=139,slow=8.8,SNR=18						
	comp=Z,18nm,1.0s						
SONM	**Songino Array**	**28.17**	**326**	*e*P	**P**	**07 20 23.3**	**+1.5**
SONM				pmax	pmax		
	comp=Z,18nm,1.0s						
SANI	**Sanana**	**28.38**	**188**	P	**P**	**07 20 22.5**	**-1.3**
SANI	**Sanana**	**28.38**	**188**	P	P	07 20 29.3	+5.5
	comp=Z,42nm,0.9s						
FAKI	**Fak Fak**	**29.15**	**174**	P	**P**	**07 20 29.4**	**-1.2**
FAKI				IAmb	IAmb	07 20 31.1	
	comp=Z,62nm,0.9s						
FAKI	**Fak Fak**	**29.15**	**174**	P	**P**	**07 20 30.4**	**-0.2**
FAKI	**Fak Fak**	**29.15**	**174**	P	**P**	**07 20 30.4**	**-0.2**
	comp=Z,80nm,0.9s						
CHTO	**Chiang Mai**	**29.19**	**262**	P	**P**	**07 20 30.8**	**-0.2**
CHTO	**Chiang Mai**	**29.19**	**262**	P	**P**	**07 20 30.8**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,29nm,1.0s						
CMAR	**Chiang Mai Arr**	**29.31**	**261**	P	**P**	**07 20 31.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**29.31**	**261**	P	**P**	**07 20 31.4**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=74,slow=6.0,SNR=6.5						
CMAR				PcP	**PcP**	**07 23 38.4**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=51,slow=3.7,SNR=4.4						
	comp=Z,1.7nm,0.8s						
SMPI	**Sarmi**	**29.46**	**161**	P	**P**	**07 20 35.2**	**+1.8**
	comp=Z,59nm,1.3s						
GOMU	**GeErMu**	**31.17**	**297**	P	**P**	**07 20 49.3**	**+0.5**
GOMU				pP	sP	07 20 53.1	+0.9
GOMU				sP	pwP	07 20 56.9	-2.3
GOMU				S	**S**	**07 25 58.0**	**+3.4**
GOMU				pmax	pmax		
	comp=Z,54nm,0.8s						
GOMU				LR	LR		
	comp=Z,450nm,12.4s						
GOMU				LR	LR		
	comp=Z,460nm,12.2s						
GOMU				LR	LR		
	comp=Z,490nm,12.5s						
KAPI	**Kappang**	**32.53**	**198**	LR	LR	07 34 44.1	
	comp=Z,61nm,21.4s,baz=27,slow=37						
SRIT	**Nakonsritamara**	**33.43**	**244**	P	**P**	**07 21 09.5**	**+1.1**
SRIT				IAmb	IAmb	07 21 22.1	
	comp=Z,51nm,1.2s						
SHL	**Shillong**	**33.82**	**277**	P	**P**	**07 21 10.3**	**-1.6**
SHL				IAmb	IAmb	07 21 14.0	
	comp=Z,44nm,0.9s						
SHL	**Shillong**	**33.82**	**277**	P	**P**	**07 21 10.4**	**-1.6**
SHL				pmax	pmax		
	comp=Z,44nm,0.9s						
PEA0B	**Petropavlovsk-**	**34.04**	**31**	P	**P**	**07 21 12.8**	**-0.5**
PEA0B				IAmb	IAmb	07 21 58.9	
	comp=Z,87nm,1.9s						
PEA0B	**Petropavlovsk-**	**34.04**	**31**	*i* P	**P**	**07 21 12.4**	**-0.9**
PETK	**Petropavlovsk-**	**34.04**	**31**	P	**P**	**07 21 12.2**	**-1.2**
	comp=Z,6.6nm,0.9s,baz=220,slow=8.7,SNR=10.0						
PETK				PcP	**PcP**	**07 23 50.5**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=234,slow=4.4,SNR=2.6						
	comp=Z,6.6nm,0.9s						
KULM	**Kulim**	**34.62**	**238**	P	**P**	**07 21 17.7**	**-1.1**
KULM				IAmb	IAmb	07 21 32.0	
	comp=Z,47nm,1.5s						
MYKOM	**Kota Tinggi**	**34.70**	**230**	P	**P**	**07 21 20.0**	**+0.6**
EDFI	**Ende, Flores**	**35.65**	**193**	P	**P**	**07 21 25.8**	**-1.9**
	comp=Z,27nm,0.8s						
YAK	**Yakutsk**	**35.74**	**0**	*e*P	**P**	**07 21 27.7**	**-0.1**
YAK				*e**PP	**sP**	**07 21 31.4**	**-0.3**
YAK				*e*		07 22 50.8	
YAK				*e*		07 23 57.6	
YAK				*e*S	**S**	**07 27 05.7**	**+1.6**
YAK				*e**SS	**sS**	**07 27 12.7**	**+3.8**
YAK				*e*SS	**SnSn**	**07 29 29.7**	**+3.5**
YAK				*e*		07 31 42.4	
YAK				pmax	pmax		
	comp=Z,29nm,1.4s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,15nm,1.2s						
YAK				pmax	pmax		
	comp=Z,213nm,4.3s						
YAK				smax	smax		
	comp=E,114nm,3.0s						
YAK				smax	smax		
	comp=N,94nm,3.5s						
TPI	**Tanjungpandan**	**35.81**	**220**	P	**P**	**07 21 32.0**	**+3.0**
SOEI	**Soe**	**36.19**	**189**	P	P	07 21 42.1	+10
MA2	**Magadan**	**36.38**	**18**	P	**P**	**07 21 32.6**	**-0.8**
MA2				IAmb	IAmb	07 22 18.0	
	comp=Z,118nm,2.0s						
MA2	**Magadan**	**36.38**	**18**	LR	LR	07 35 59.5	
	comp=Z,151nm,18.9s,baz=221,slow=36						
MA2	**Magadan**	**36.38**	**18**	*i* P	**P**	**07 21 32.2**	**-1.2**
MA2				pmax	pmax		
	comp=Z,23nm,1.1s						
PLAI	**Plampang**	**36.73**	**200**	P	**P**	**07 21 36.2**	**-0.6**
PLAI	**Plampang**	**36.73**	**200**	P	**P**	**07 21 36.0**	**-0.8**
	comp=Z,827nmcomp=Z,84nm,1.0s						
PSI	**Prapat**	**37.54**	**237**	P	**P**	**07 21 45.2**	**+1.3**
PSI	**Prapat**	**37.54**	**237**	P	**P**	**07 21 42.7**	**-1.2**
PSI				pmax	pmax		
	comp=Z,27nm,1.2s						
RPSI	**Rantau Prapat**	**37.61**	**237**	P	**P**	**07 21 42.7**	**-1.6**
WMQ	**Urumqi**	**38.02**	**308**	*e*P	**P**	**07 21 49.9**	**+2.3**
MNSI	**Mandailing Nat**	**38.40**	**234**	P	**P**	**07 21 54.2**	**+3.2**
	comp=Z,42nm,0.5s						
PPI	**Padang Panjang**	**38.70**	**231**	P	**P**	**07 21 57.2**	**+3.7**
	comp=Z,1μmcomp=Z,44nm,1.2s						
MTN	**Manton Dam**	**38.92**	**178**	P	**P**	**07 21 53.7**	**-1.5**
MTN	**Manton Dam**	**38.92**	**178**	P	**P**	**07 21 54.1**	**-1.2**
SEY	**Seymchan**	**39.63**	**16**	*i* P	**P**	**07 21 59.9**	**-0.8**
SEY				pmax	pmax		
	comp=Z,23nm,0.8s						
KNRA	**Kununurra**	**41.71**	**181**	P	**P**	**07 22 17.1**	**-1.3**
KNRA				IAmb	IAmb	07 22 18.8	
	comp=Z,67nm,0.8s						
KNRA	**Kununurra**	**41.71**	**181**	P	**P**	**07 22 17.9**	**-0.5**
	comp=Z,105nm,0.9s						
COEN	**Coen**	**42.13**	**160**	P	**P**	**07 22 21.9**	**0.0**
	comp=Z,25nm,1.4s						
COEN	**Coen**	**42.13**	**160**	P	**P**	**07 22 22.4**	**+0.5**
MK31	**Makanchi Array**	**42.39**	**312**	*i* P	**P**	**07 22 22.4**	**-1.4**
MKAR	**Makanchi Array**	**42.39**	**312**	P	**P**	**07 22 22.3**	**-1.5**
MKAR	**Makanchi Array**	**42.39**	**312**	P	**P**	**07 22 21.8**	**-2.0**
	comp=Z,4.5nm,0.6s,baz=89,slow=8.7,SNR=12						
	comp=Z,4.5nm,0.6s						
MKAR	**Makanchi Array**	**42.39**	**312**	*e*P	**P**	**07 22 22.6**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAKZ	**Makanchi**	**42.61**	**311**	P	**P**	**07 22 24.3**	**-1.2**
MAKZ	**Makanchi**	**42.61**	**311**	P	**P**	**07 22 24.3**	**-1.2**
MAKZ				pmax	pmax		
	comp=Z,14nm,1.1s						
ZAA0	**Zalesovo Array**	**42.93**	**322**	P	**P**	**07 22 26.4**	**-1.6**
ZALV	**Zalesovo Beam**	**42.93**	**322**	P	**P**	**07 22 25.7**	**-2.3**
ZALV	**Zalesovo Beam**	**42.93**	**322**	P	**P**	**07 22 26.0**	**-2.0**
	comp=Z,3.4nm,0.5s,baz=110,slow=9.0,SNR=8.0						
ZALV				PcP	**PcP**	**07 24 17.8**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=113,slow=3.7,SNR=2.1						
	comp=Z,3.4nm,0.5s						
ZALV	**Zalesovo Beam**	**42.93**	**322**	*e*P	**P**	**07 22 26.6**	**-1.4**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SHLS	**Shalkode**	**43.81**	**306**	*e*P	**P**	**07 22 32.0**	**-3.5**
SHLS	**Shalkode**	**43.81**	**306**	*e*P	**P**	**07 22 32.0**	**-3.5**
WUS	**Wushi**	**43.84**	**303**	P	**P**	**07 22 35.5**	**-0.2**
UZB	**Uzynbulak**	**44.13**	**306**	*e*P	**P**	**07 22 37.2**	**-0.9**
UZB				pmax	pmax		
	comp=Z,11nm,1.2s						
UZB	**Uzynbulak**	**44.13**	**306**	*e*P	**P**	**07 22 37.2**	**-0.9**
	comp=Z,11nm,1.2s						
FITZ	**Fitzroy Crossi**	**44.28**	**185**	P	**P**	**07 22 38.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**44.28**	**185**	P	**P**	**07 22 38.9**	**-0.3**
	comp=Z,8.0nm,1.3s						
FITZ	**Fitzroy Crossi**	**44.28**	**185**	P	**P**	**07 22 39.1**	**-0.1**
KPKS	**Kokpek**	**44.41**	**306**	*e*P	**P**	**07 22 39.0**	**-1.2**
KPKS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KPKS	**Kokpek**	**44.41**	**306**	*e*P	**P**	**07 22 39.0**	**-1.2**
	comp=Z,8.4nm,1.0s						
ZHN	**Zhinishke**	**44.56**	**306**	*e*P	**P**	**07 22 40.1**	**-1.3**
ZHN	**Zhinishke**	**44.56**	**306**	*e*P	**P**	**07 22 40.2**	**-1.3**
SATY	**Saty**	**44.58**	**306**	*e*P	**P**	**07 22 40.2**	**-1.4**
SATY	**Saty**	**44.58**	**306**	*e*P	**P**	**07 22 40.3**	**-1.4**
TARG	**Taragay, Kyrgy**	**44.93**	**304**	P	**P**	**07 22 44.5**	**-0.2**
TARG	**Taragay, Kyrgy**	**44.93**	**304**	P	**P**	**07 22 44.5**	**-0.2**
TARG				pmax	pmax		
	comp=Z,18nm,0.9s						
TIXI	**Tiksi**	**45.41**	**360**	P	**P**	**07 22 47.0**	**-0.5**
TIXI				IAmb	IAmb	07 23 12.0	
	comp=Z,78nm,1.7s						
TIXI	**Tiksi**	**45.41**	**360**	*i* P	**P**	**07 22 47.4**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,17nm,2.0s						
KDJ	**Kajisay**	**45.41**	**304**	P	**P**	**07 22 47.6**	**-0.7**
KDJ	**Kajisay**	**45.41**	**304**	P	**P**	**07 22 47.6**	**-0.7**
KDJ				pmax	pmax		
	comp=Z,20nm,1.0s						
MDOK	**Medeo**	**45.58**	**306**	*e*P	**P**	**07 22 48.2**	**-1.3**
MDOK	**Medeo**	**45.58**	**306**	*e*P	**P**	**07 22 48.2**	**-1.3**
KURK	**Kurchatov**	**45.60**	**316**	P	**P**	**07 22 47.9**	**-1.6**
KURK	**Kurchatov**	**45.60**	**316**	*i* P	**P**	**07 22 48.2**	**-1.3**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TNSS	**Tian-Shan**	**45.64**	**305**	*e*P	**P**	**07 22 48.8**	**-1.6**
TNSS	**Tian-Shan**	**45.64**	**

KSH	**Kashi**	46.26 301	P	P	07 23 01.4	+6.4
KSH			sP	pwP	07 23 11.4	+5.0
KSH			pmax	pmax		
	comp=Z,10.0nm,1.2s					
KSH			LR	LR		
	comp=Z,770nm,15.5s					
KSH			LR	LR		
	comp=Z,530nm,22.2s					
KSH			LR	LR		
	comp=Z,820nm,17.6s					
MTSU	**Mount Surprise**	46.42 160	P	P	07 22 56.9	+0.6
	comp=Z,29nm,0.8s					
MTSU	**Mount Surprise**	46.42 160	P	P	07 22 57.1	+0.9
BILL	**Biiibino**	47.25 18	P	P	07 23 01.9	-0.3
BILL	**Biiibino**	47.25 18	*i* P	P	07 23 01.9	-0.3
BILL			pmax	pmax		
	comp=Z,28nm,1.2s					
SGDS	**Sogindy**	47.35 306	*e*P	P	07 23 02.2	-1.2
SGDS	**Sogindy**	47.35 306	*e*P	P	07 23 02.3	-1.2
AAK	**Ala-Archa**	47.42 305	P	P	07 23 03.2	-0.9
AAK	**Ala-Archa**	47.42 305	*i* P	P	07 23 03.0	-1.1
AAK			pmax	pmax		
	comp=Z,5.0nm,1.0s					
QIS	**Mount Isa**	47.57 167	P	P	07 23 04.6	-0.6
	comp=Z,95nm,0.8s					
QIS	**Mount Isa**	47.57 167	P	P	07 23 05.0	-0.2
MBWA	**Marble Bar**	48.11 192	P	P	07 23 08.4	-0.9
MBWA			IAmb	IAmb	07 23 09.6	
	comp=Z,24nm,0.7s					
MBWA	**Marble Bar**	48.11 192	P	P	07 23 08.5	-0.8
MBWA	**Marble Bar**	48.11 192	P	P	07 23 09.3	0.0
PSA00	**Pilbara Seismi**	48.49 192	P	P	07 23 11.7	-0.5
PSA00	**Pilbara Seismi**	48.49 192	P	P	07 23 11.2	-1.1
PSA00			IAmb	IAmb	07 23 12.8	
	comp=Z,24nm,0.8s					
PSA00	**Pilbara Seismi**	48.49 192	P	P	07 23 11.6	-0.7
	comp=Z,76nm,1.1s					
PSA00	**Pilbara Seismi**	48.49 192	P	P	07 23 12.2	-0.1
ARSB	**Arslanbob**	48.54 303	P	P	07 23 11.9	-0.7
ARSB			IAmb	IAmb	07 23 27.8	
	comp=Z,35nm,1.2s					
ARSB	**Arslanbob**	48.54 303	P	P	07 23 12.0	-0.7
ARSB			pmax	pmax		
	comp=Z,35nm,1.2s					
NIL	**Nilore**	48.83 293	P	P	07 23 13.1	-1.8
NIL			IAmb	IAmb	07 23 27.8	
	comp=Z,25nm,0.7s					
NIL	**Nilore**	48.83 293	P	P	07 23 13.1	-1.8
NIL			pmax	pmax		
	comp=Z,25nm,0.7s					
BRZS	**Berezniki**	49.23 314	*e*P	P	07 23 16.8	-0.9
BRZS			pmax	pmax		
	comp=Z,5.0nm,1.0s					
BRZS	**Berezniki**	49.23 314	*e*P	P	07 23 16.9	-0.9
	comp=Z,5.0nm,1.0s					
NRIK	**Noril'sk**	49.57 342	P	P	07 23 19.5	-0.5
NRIK	**Noril'sk**	49.57 342	P	P	07 23 19.0	-1.0
	comp=Z,6.2nm,0.8s,baz=124,slow=8.7,SNR=5.4					
	comp=Z,6.2nm,0.8s					
NRIK	**Noril'sk**	49.57 342	*e*P	P	07 23 19.5	-0.5
NRIK			pmax	pmax		
	comp=Z,10.0nm,0.9s					
DZA	**Taraz**	49.76 305	*e*P	P	07 23 20.9	-1.0
DZA			pmax	pmax		
	comp=Z,6.0nm,0.5s					
DZA	**Taraz**	49.76 305	*e*P	P	07 23 20.9	-1.0
	comp=Z,6.3nm,0.5s					
AS31	**Alice Springs**	49.83 175	P	P	07 23 21.7	-0.8
AS31	**Alice Springs**	49.83 175	P	P	07 23 22.3	-0.3
	comp=Z,7.0nm,0.9s					
ASAR	**Alice Springs**	49.83 175	P	P	07 23 21.9	-0.7
ASAR	**Alice Springs**	49.83 175	P	P	07 23 22.4	-0.2
	comp=Z,14nm,0.8s,baz=5.3,slow=13,SNR=41					
	comp=Z,14nm,0.8s					
AS01	**Alice Springs**	49.84 175	P	P	07 23 22.8	+0.2
PALK	**Pallekele**	50.11 257	P	P	07 23 24.9	0.0
PALK	**Pallekele**	50.11 257	P	P	07 23 24.9	0.0
PALK			pmax	pmax		
	comp=Z,11nm,0.9s					
BTK	**Batken**	50.22 301	P	P	07 23 24.6	-0.9
BTK	**Batken**	50.22 301	P	P	07 23 24.6	-0.9
BTK			pmax	pmax		
	comp=Z,13nm,0.9s					
KK31	**Karatay Array**	50.35 305	P	P	07 23 26.0	-0.4
KK31	**Karatay Array**	50.35 305	P	P	07 23 26.0	-0.4
KK31			pmax	pmax		
	comp=Z,21nm,1.3s					
KKAR	**Karatay Array**	50.35 305	P	P	07 23 26.4	0.0
KKAR	**Karatay Array**	50.35 305	P	P	07 23 26.4	0.0
KKAR	**Karatay Array**	50.35 305	P	P	07 23 26.4	0.0
GAR	**Garm**	50.67 300	P	P	07 23 28.8	-0.2
GAR			IAmb	IAmb	07 23 41.8	
	comp=Z,33nm,0.8s					
IUG	**Iuzhnay**	50.73 304	*e*P	P	07 23 28.3	-1.1
IUG			pmax	pmax		
	comp=Z,7.0nm,0.8s					
IUG	**Iuzhnay**	50.73 304	*e*P	P	07 23 28.3	-1.1
	comp=Z,7.5nm,0.8s					
BRLS	**Borolday**	50.85 305	*e*P	P	07 23 30.0	-0.2
BRLS	**Borolday**	50.85 305	*e*P	P	07 23 30.0	-0.2
LUES	**Luesalemba Tem**	50.96 131	P	P	07 23 33.1	+1.9
BVAR	**Borovoye Array**	51.03 318	P	P	07 23 30.7	-0.6
	comp=Z,13nm,0.8s,baz=91,slow=9.3,SNR=13					
BVAR			PcP	PcP	07 24 46.8	-0.4
	comp=Z,5.5nm,0.8s,baz=88,slow=4.6,SNR=1.6					
	comp=Z,13nm,0.8s					
WRKA	**Warakurna**	51.03 181	P	P	07 23 31.5	-0.2
	comp=Z,54nm,0.9s					
WRKA	**Warakurna**	51.03 181	P	P	07 23 31.8	+0.2
BRVK	**Borovoye**	51.10 318	P	P	07 23 30.8	-1.0
BRVK			IAmb	IAmb	07 23 43.9	
	comp=Z,24nm,0.8s					
BRVK	**Borovoye**	51.10 318	*i* P	P	07 23 30.6	-1.2
BRVK			pmax	pmax		
	comp=Z,12nm,0.7s					
SIMJ	**Simiganj**	51.72 300	P	P	07 23 36.6	-0.2
KBL	**Kabul**	52.17 295	P	P	07 23 39.5	-0.9
KBL	**Kabul**	52.17 295	P	P	07 23 39.5	-0.9
KBL			pmax	pmax		
	comp=Z,77nm,1.3s					
SPIA	**Saint Paul Isl**	52.23 37	P	P	07 23 38.9	-1.3
	baz=260					
NIKH	**Nikolski High**	52.47 42	P	P	07 23 40.9	-1.1
	baz=265					
GAMB	**Gambell**	53.02 28	P	P	07 23 46.0	+0.1
	baz=254					
MEEK	**Meekatharra**	53.66 192	P	P	07 23 50.6	-0.4
	comp=Z,29nm,1.2s					
UNV	**Unalaska Valle**	53.95 41	P	P	07 23 53.2	+0.4
	baz=266					
OOD	**Oodnadatta**	54.09 173	P	P	07 23 54.1	0.0
QLP	**Quilpie**	54.43 164	P	P	07 23 55.3	-1.4
QLP	**Quilpie**	54.43 164	P	P	07 23 56.5	-0.1
INKA	**Innaminka**	54.78 168	P	P	07 24 00.2	+1.1
M11K	**Mekoryuk**	54.83 33	P	P	07 23 59.1	0.0
	baz=262					
TNA	**Tin City**	55.05 27	P	P	07 24 00.7	0.0
	baz=256					
EIDS	**Eidsvold**	55.39 156	P	P	07 24 03.3	-0.3
	comp=Z,36nm,0.8s					
EIDS	**Eidsvold**	55.39 156	P	P	07 24 04.0	+0.3
F14K	**Arctic Creek**	55.68 27	P	P	07 24 05.4	+0.1
	baz=258					
K13K	**Kusilvak Mount**	55.79 31	P	P	07 24 06.9	+0.8
	baz=262					
FALS	**False Pass**	55.81 40	P	P	07 24 06.4	+0.1
	baz=268					
ANM	**Nome**	55.90 28	P	P	07 24 07.1	+0.2
	baz=260					
VLAKA	**Lakatoro**	55.95 135	P	P	07 24 09.4	+1.6
M13K	**Dall Lake**	56.23 33	P	P	07 24 09.7	+0.4
	baz=264					
F15K	**North Star Dit**	56.41 27	P	P	07 24 10.9	+0.4
	baz=259					
J14K	**Nanvaranak Lak**	56.41 31	P	P	07 24 11.4	+0.9
	baz=262					
G15K	**Niukluk**	56.53 28	P	P	07 24 11.8	+0.4
	baz=260					
MORW	**Morawa**	56.54 194	P	P	07 24 11.7	-0.1
	comp=Z,29nm,2.7s					
L14K	**Kuka Creek**	56.65 32	P	P	07 24 12.7	+0.4
L14K			IAmb	IAmb	07 24 14.6	
	comp=Z,28nm,1.1s					
L14K	**Kuka Creek**	56.65 32	P	P	07 24 12.7	+0.4
	baz=264					
C16K	**Lisburne Hills**	56.67 24	P	P	07 24 12.2	-0.1
	baz=257					
FORT	**Forrest**	56.76 182	P	P	07 24 13.6	+0.3
FORT	**Forrest**	56.76 182	P	P	07 24 13.6	+0.3
	comp=Z,123nm,1.0s					
FORT	**Forrest**	56.76 182	P	P	07 24 14.3	+1.0
M14K	**Bethel**	56.95 33	P	P	07 24 14.6	+0.3
	baz=265					
SVE	**Sverdlovsk**	56.95 322	*e*P	P	07 24 14.5	0.0
SVE			pmax	pmax		
	comp=Z,68nm,1.9s					
LCRK	**Leigh Creek**	57.01 171	P	P	07 24 16.1	+1.0
N14K	**Kuskokwak Cree**	57.02 34	P	P	07 24 14.2	-0.6
	baz=266					
O14K	**Tigyukauivet M**	57.19 35	P	P	07 24 16.3	+0.2
	baz=267					
H16K	**Elim**	57.24 28	P	P	07 24 17.0	+0.6
	baz=262					
L15K	**Ungalak Mounta**	57.26 32	P	P	07 24 16.5	-0.1
	baz=265					
K15K	**Wolf Creek Mou**	57.29 31	P	P	07 24 16.7	-0.1
	baz=265					
G16K	**Koyuk River**	57.30 27	P	P	07 24 16.5	-0.2
	baz=262					
D17K	**Noatak River**	57.38 25	P	P	07 24 18.2	+0.8
	baz=260,SNR=8.4					
ABKAR	**Akbulak array**	57.48 313	P	P	07 24 17.8	-0.5
ABKAR	**Akbulak array**	57.48 313	P	P	07 24 17.6	-0.8
SDPT	**Sand Point**	57.51 40	P	P	07 24 18.1	-0.3
	baz=270					
RDOG	**Red Dog Mine**	57.51 24	P	P	07 24 18.3	0.0
	baz=260					
M15K	**Kasigluk River**	57.57 33	P	P	07 24 18.4	-0.3
	baz=266					
E17K	**Hotham Inlet**	57.76 26	P	P	07 24 20.1	+0.1
	baz=261					
J16K	**Anvik River**	57.81 30	P	P	07 24 20.4	-0.1
	baz=265					
I17K	**Unalakleet**	57.83 29	P	P	07 24 20.5	0.0
	baz=264					
N15K	**Kwethluk River**	57.83 34	P	P	07 24 20.5	-0.1
	baz=267					
F17K	**Baldwin Pennin**	57.89 26	P	P	07 24 20.9	0.0
	baz=262					
BLDU	**Ballidu**	57.90 193	P	P	07 24 21.2	-0.2
	comp=Z,36nm,1.2s					
BLDU	**Ballidu**	57.90 193	P	P	07 24 21.3	-0.1
O15K	**Ungalikthiuk R**	57.93 35	P	P	07 24 21.5	+0.2
	baz=268					
G17K	**Kiwalik Mounta**	58.02 27	P	P	07 24 21.5	-0.4
	baz=263					
CHNA	**Chernabura Isl**	58.02 40	P	P	07 24 22.2	+0.2
	baz=271					
S14K	**Fog Glacier**	58.03 38	P	P	07 24 21.9	-0.3
	baz=270					
B18K	**Kokolik River**	58.15 23	P	P	07 24 22.1	-0.6
	baz=260,SNR=11					
ARTI	**Arti**	58.19 322	P	P	07 24 22.3	-0.9
ARTI			IAmb	IAmb	07 24 35.0	
	comp=Z,29nm,0.8s					
ARTI	**Arti**	58.19 322	*c i* P	P	07 24 22.7	-0.5
ARTI					07 25 13.8	
ARTI					07 26 31.4	
ARTI			S	S	07 32 28.2	+4.0
ARTI			SS	SS	07 36 20.9	+5.4
ARTI			pmax	pmax		
	comp=Z,16nm,0.8s					
L16K	**Owhat River**	58.22 32	P	P	07 24 22.6	-0.7
	baz=267					
C18K	**Utukok River**	58.24 24	P	P	07 24 23.6	+0.1
C18K			IAmb	IAmb	07 24 35.8	
	comp=Z,25nm,0.9s					
C18K	**Utukok River**	58.24 24	P	P	07 24 22.9	-0.6
	baz=261					
H17K	**Granite Mounta**	58.27 28	P	P	07 24 23.9	+0.2
	baz=264					
E18K	**Tukpahlearik C**	58.28 25	P	P	07 24 24.1	+0.5
E18K	**Tukpahlearik C**	58.28 25	P	P	07 24 23.6	0.0
	baz=262					
M16K	**Timber Creek**	58.43 33	P	P	07 24 24.1	-0.7
	baz=268					
N16K	**Nishlik Lake**	58.50 33	P	P	07 24 26.2	+0.9
	baz=268					
J17K	**VABM Dome**	58.50 30	P	P	07 24 25.3	0.0
	baz=266					
A19K	**Wainwright**	58.54 22	P	P	07 24 25.7	+0.3
	baz=260					
F18K	**Selawik**	58.55 26	P	P	07 24 26.4	+0.9
	baz=264,SNR=6.8					
CHGN	**Chignik**	58.66 38	P	P	07 24 26.8	+0.3
	baz=271					
L17K	**Donlin**	58.79 32	P	P	07 24 27.9	+0.6
	baz=268,SNR=6.1					
K17K	**Iditarod**	58.82 31	P	P	07 24 27.3	-0.2
	baz=267					
O16K	**Kokwok River B**	58.82 35	P	P	07 24 28.1	+0.5
	baz=269					
P16K	**Nushagak River**	58.87 35	P	P	07 24 28.1	+0.2
	baz=270					
G18K	**Tagagawik**	58.88 27	P	P	07 24 28.0	+0.2
G18K			IAmb	IAmb	07 24 40.3	
	comp=Z,25nm,1.4s					
G18K	**Tagagawik**	58.88 27	P	P	07 24 28.1	+0.2
	baz=265					
H18K	**Honhosa River**	58.94 28	P	P	07 24 29.1	+0.8
H18K	**Honhosa River**	58.94 28	P	P	07 24 28.9	+0.5
	baz=266					
STKA	**Stephens Creek**	58.96 168	P	P	07 24 28.3	-0.4
	comp=Z,86nm,1.0s					
STKA	**Stephens Creek**	58.96 168	P	P	07 24 28.6	-0.2
	comp=Z,9.5nm,0.6s,baz=345,slow=6.0,SNR=16					
	comp=Z,9.5nm,0.6s					
STKA	**Stephens Creek**	58.96 168	P	P	07 24 28.8	0.0
BBOO	**Buckleboo**	59.09 174	P	P	07 24 29.3	-0.3
	comp=Z,40nm,1.5s					
BBOO	**Buckleboo**	59.09 174	P	P	07 24 29.6	-0.1
R16K	**Pilot Point**	59.10 37	P	P	07 24 29.1	-0.4
	baz=271					
M17K	**Holitna River**	59.18 32	P	P	07 24 31.3	+1.3
M17K			IAmb	IAmb	07 24 43.6	
	comp=Z,23nm,1.1s					
M17K	**Holitna River**	59.18 32	P	P	07 24 30.5	+0.5
	baz=269					
N17K	**Nushagak Hills**	59.29 33	P	P	07 24 31.6	+0.8
	baz=270					
F19K	**Shaleruckik Mo**	59.31 26	P	P	07 24 31.7	+0.9
	baz=265					
O17K	**Koliganek Bris**	59.33 34	P	P	07 24 31.6	+0.5
	baz=270					
D19K	**Kuna River**	59.34 24	P	P	07 24 31.2	+0.1
D19K	**Kuna River**	59.34 24	P	P	07 24 31.6	+0.5
	baz=264					
CMSA	**Cobar Meteorol**	59.52 164	P	P	07 24 33.1	+0.5
	comp=Z,27nm,1.5s					
CMSA	**Cobar Meteorol**	59.52 164	P	P	07 24 33.7	+1.0
G19K	**Purcell Mounta**	59.54 27	P	P	07 24 33.3	+0.8
	baz=266					
GCSA	**Galena City Sc**	59.55 29	P	P	07 24 32.6	+0.2
	baz=267					
L18K	**Granite Mounta**	59.55 31	P	P	07 24 32.7	+0.1
	baz=269,SNR=7.3					
Q16K	**King Salmon**	59.57 36	P	P	07 24 32.6	-0.1
	baz=271					
J18K	**Innoko River**	59.57 30	P	P	07 24 33.5	+0.8
	baz=268					
E19K	**Redstone River**	59.58 25	P	P	07 24 33.1	+0.5
E19K			IAmb	IAmb	07 24 45.8	
	comp=Z,17nm,0.9s					
E19K	**Redstone River**	59.58 25	P	P	07 24 33.2	+0.5
	baz=265					
P17K	**Kvichak River**	59.67 35	P	P	07 24 34.1	+0.7
	baz=271					
H19K	**Roundabout Mou**	59.77 28	P	P	07 24 34.4	+0.5
H19K			IAmb	IAmb	07 24 57.8	
	comp=Z,18nm,0.9s					
H19K	**Roundabout Mou**	59.77 28	P	P	07 24 34.7	+0.7
	baz=267					
B20K	**Meade River**	59.84 22	P	P	07 24 34.4	0.0
	baz=264					
TTA	**Tatalina**	59.88 31	P	P	07 24 37.5	+2.6
TTA	**Tatalina**	59.88 31	P	P	07 24 35.1	+0.2
	baz=269					
DZM	**Mont Dzumac**	59.90 140	*e*LR	LR	07 42 12.6	
	comp=Z,599nm,25.1s					
D20K	**Etivluk River**	59.91 24	P	P	07 24 35.5	+0.5
	baz=265					
N18K	**Kilae Creek**	59.93 33	P	P	07 24 35.4	+0.1
	baz=271					
M18K	**Stony River**	59.95 32	P	P	07 24 35.3	0.0
	baz=270					
Q17K	**Contact Creek**	59.98 36	P	P	07 24 35.1	-0.7
	baz=272					
E20K	**Nigu River**	60.03 24	P	P	07 24 36.1	+0.2
	baz=266,SNR=15					
NWAO	**Narrogin (SRO)**	60.04 192	LR	LR	07 53 33.8	
	comp=Z,41nm,18.2s,baz=32,slow=39					
HTT	**Hallett**	60.05 171	P	P	07 24 36.3	0.0
J19K	**Poorman**	60.07 29	P	P	07 24 36.9	+0.8
J19K			IAmb	IAmb	07 24 48.6	
	comp=Z,24nm,1.0s					
J19K	**Poorman**	60.07 29	P	P	07 24 36.3	+0.2
	baz=269,SNR=7.2					
F20K	**Avaraart Lake**	60.13 26	P	P	07 24 36.9	+0.4
	baz=267					
ARMA	**Armidale**	60.21 158	P	P	07 24 37.7	+0.2
ARMA			IAmb	IAmb	07 24 58.7	
	comp=Z,21nm,0.9s					
ARMA	**Armidale**	60.21 158	P	P	07 24 37.9	+0.3
	comp=Z,31nm,1.1s					
ARMA	**Armidale**	60.21 158	P	P	07 24 38.0	+0.5
CHIR	**Chirikof Islan**	60.24 39	P	P	07 24 37.2	-0.2
	baz=274					
O18K	**Koktuh Hills**	60.28 34	P	P	07 24 38.1	+0.4
	baz=272					
P18K	**Big Mountain,**	60.29 35	P	P	07 24 38.2	+0.5
	baz=272					
L19K	**White Mountain**	60.41 32	P	P	07 24 39.6	+1.0
	baz=271					
H20K	**Anotleneega Mo**	60.42 28	P	P	07 24 39.3	+0.8
	baz=269					
Q18K	**Katmai Hardscr**	60.43 36	P	P	07 24 39.6	+0.8
	baz=272					
I20K	**Naaghedeneel**	60.58 28	P	P	07 24 40.7	+1.1
I20K	**Naaghedeneel**	60.58 28	P	P	07 24 40.6	+1.1
	baz=270,SNR=6.0					
C21K	**Knifeblade Rid**	60.60 23	P	P	07 24 40.5	+0.8
	baz=267					
N19K	**Bonanza Creek**	60.62 33	P	P	07 24 40.7	+0.6
	baz=272					
M19K	**Big River Lodg**	60.63 32	P	P	07 24 40.9	+0.8
	baz=271					
A22K	**Sinclair Lake**	60.66 21	P	P	07 24 41.2	+1.2
	baz=266,SNR=6.9					
B21K	**Ikpikpuk River**	60.69 23	P	P	07 24 40.8	+0.5
B21K	**Ikpikpuk River**	60.69 23	P	P	07 24 41.6	+1.4
	baz=267,SNR=17					
O19K	**Port Alsworth**	60.72 34	P	P	07 24 41.4	+0.8
	baz=272					
J20K	**Nowinta River**	60.72 29	P	P	07 24 41.9	+1.4
	baz=270,SNR=12					
K20K	**Telida**	60.76 30	P	P	07 24 41.9	+1.0
K20K			IAmb	IAmb	07 24 43.3	
	comp=Z,22nm,1.1s					
K20K	**Telida**	60.76 30	P	P	07 24 41.8	+1.0
	baz=271,SNR=9.7					
R18K	**Karluk**	60.78 37	P	P	07 24 41.8	+0.8
	baz=274					
L20K	**Farewell, AK**	60.86 31	P	P	07 24 42.4	+0.8
	baz=271					
E21K	**Killik River**	60.86 24	P	P	07 24 41.7	+0.1
E21K			IAmb	IAmb	07 24 53.9	
	comp=Z,28nm,0.9s					
E21K	**Killik River**	60.86 24	P	P	07 24 42.5	+1.0
	baz=268					
SII	**Sitkinak Islan**	61.00 38	P	P	07 24 42.8	+0.2
	baz=274					
G21K	**Allakaket**	61.00 27	P	P	07 24 43.3	+0.8
G21K	**Allakaket**	61.00 27	P	P	07 24 43.6	+1.1
	baz=269					
F21K	**Alatna River**	61.02 26	P	P	07 24 42.4	-0.1
	baz=269					
Q19K	**Cape Douglas,**	61.12 35	P	P	07 24 43.5	+0.1
	baz=274					
B22K	**Teshekpuk Lake**	61.14 22	P	P	07 24 44.3	+1.0
	baz=267,SNR=8.3					
M20K	**Styx River**	61.23 32	P	P	07 24 45.7	+1.6
	baz=272					
H21K	**Melozitna Rive**	61.28 27	P	P	07 24 44.9	+0.5
H21K	**Melozitna Rive**	61.28 27	P	P	07 24 45.7	+1.3
	baz=270,SNR=16					
P19K	**Oil Pt**	61.29 34	P	P	07 24 45.4	+0.8
	baz=274					
D22K	**Ayikyak River**	61.35 24	P	P	07 24 45.4	+0.6
D22K	**Ayikyak River**	61.35 24	P	P	07 24 45.9	+1.1
	baz=269					
OHAK	**Old Harbor**	61.44 37	P	P	07 24 46.3	+0.9
	baz=275					
F22K	**John River**	61.52 25	P	P	07 24 46.8	+0.8
	baz=270					
CHUM	**Lake Minchumin**	61.53 30	P	P	07 24 46.8	+0.8
	baz=272,SNR=7.9					
PPLA	**Purkeypile**	61.62 31	P	P	07 24 46.6	-0.3
	baz=273					
CAST	**Castle Rocks**	61.65 30	P	P	07 24 47.5	+0.7
CAST			IAmb	IAmb	07 24 48.9	
	comp=Z,20nm,0.9s					
CAST	**Castle Rocks**	61.65 30	P	P	07 24 47.6	+0.7
	baz=272,SNR=12					
E22K	**Anaktuvuk Pass**	61.66 25	P	P	07 24 47.5	+0.5
	baz=270,SNR=12					
SPCR	**Spurr Chakacha**	61.70 33	P	P	07 24 47.1	-0.3
	baz=274					
KDAK	**Kodiak Island**	61.77 36	P	P	07 24 48.1	+0.4
	baz=275					
G22K	**Bettles**	61.79 26	P	P	07 24 48.2	+0.5
	baz=271					
Q20K	**Shuyak Island**	61.80 36	P	P	07 24 48.1	+0.1
	baz=275					
H22K	**Ishtalitna Cre**	61.87 27	P	P	07 24 49.3	+1.0
	baz=272,SNR=16					
SKT	**Skwentna**	61.98 32	P	P	07 24 49.0	-0.2
	baz=274					
D23K	**Nanushuk River**	62.07 24	P	P	07 24 50.4	+0.7
D23K	**Nanushuk River**	62.07 24	P	P	07 24 50.2	+0.6
	baz=271,SNR=13					
C23K	**Itkillik River**	62.09 23	P	P	07 24 50.0	+0.2
C23K	**Itkillik River**	62.09 23	P	P	07 24 51.0	+1.3
	baz=270,SNR=8.9					
HOM	**Homer**	62.09 34	P	P	07 24 48.9	-1.0
	baz=275					
BPAW	**Bear Paw Mtn.**	62.10 29	P	P	07 24 50.3	+0.3
	baz=273,SNR=5.7					
CAPN	**Captain Cook N**	62.25 33	P	P	07 24 51.2	+0.3
	baz=275					
COLD	**Coldfoot**	62.29 26	P	P	07 24 51.2	+0.1
	baz=272					
G23K	**Bananza Creek**	62.38 26	P	P	07 24 52.1	+0.3
	baz=272,SNR=9.4					
SUA	**Susitna One**	62.39 32	P	P	07 24 52.1	+0.1
	baz=275,SNR=6.1					
TRF	**Thorofare Moun**	62.45 30	P	P	07 24 52.4	-0.1
	baz=274					
TOLK	**Toolik Lake Re**	62.48 24	P	P	07 24 53.5	+1.1
	baz=272,SNR=8.1					
E23K	**Chandalar**	62.49 25	P	P	07 24 53.3	+0.7
E23K	**Chandalar**	62.49 25	P	P	07 24 54.0	+1.4
	baz=272,SNR=13					
CUT	**Chulitna**	62.54 31	P	P	07 24 52.7	-0.1
CUT	**Chulitna**	62.54 31	P	P	07 24 52.8	-0.1
	baz=274					
BRSE	**Bradley Lake S**	62.54 34	P	P	07 24 54.0	+1.0
	baz=276					
H23K	**Yukon River**	62.62 27	P	P	07 24 54.5	+1.1
H23K			IAmb	IAmb	07 25 07.2	
	comp=Z,29nm,0.9s					
H23K	**Yukon River**	62.62 27	P	P	07 24 54.8	+1.4
	baz=273					
M22K	**Willow**	62.66 32	P	P	07 24 53.7	0.0
M22K	**Willow**	62.66 32	P	P	07 24 53.5	-0.1
	baz=275					
D24K	**Happy Valley**	62.74 23	P	P	07 24 54.7	+0.7
D24K	**Happy Valley**	62.74 23	P	P	07 24 54.8	+0.7
	baz=272					
I23K	**Minto, Yukon-K**	62.74 28	P	P	07 24 55.2	+1.1
	baz=274,SNR=5.3					
C24K	**Franklin Bluff**	62.76 23	P	P	07 24 54.4	+0.3
C24K	**Franklin Bluff**	62.76 23	P	P	07 24 54.4	+0.3
	baz=272					
KIRV	**Kirov**	62.89 325	*i* P	P	07 24 54.3	-0.9
NEA2	**Nenana**	62.91 29	P	P	07 24 55.6	+0.3
	baz=274					
RC01	**Rabbit Creek A**	62.91 33	P	P	07 24 55.6	+0.2
	baz=276					
E24K	**Your Creek**	62.91 25	P	P	07 24 56.2	+0.8

baz=273,SNR=11
O22K Cooper Landing 62.98 33 P P 07 24 55.9 +0.2
baz=276
SYDH Sydney Hard Ro 63.01 160 P P 07 24 57.5 +1.3
MCK McKinley 63.04 30 P P 07 24 56.4 +0.2
baz=275,SNR=12
RND Reindeer 63.10 30 P P 07 24 56.7 0.0
PMR Palmer 63.15 32 P P 07 24 57.1 +0.2
baz=276
SEW Seward 63.15 34 P P 07 24 57.3 +0.4
baz=276
F24K Squaw Lake 63.17 25 P P 07 24 57.6 +0.5
F24K IAmb IAmb 07 25 10.4
comp=Z,23nm,0.8s
F24K Squaw Lake 63.17 25 P P 07 24 58.0 +0.9
baz=274,SNR=14
H24K Noodor Dome 63.31 27 P P 07 24 58.9 +0.9
baz=275,SNR=8.4
G24K Hadweenzic Riv 63.40 26 P P 07 24 59.8 +1.2
G24K IAmb IAmb 07 25 11.6
comp=Z,22nm,0.8s
G24K Hadweenzic Riv 63.40 26 P P 07 24 59.6 +1.1
baz=275,SNR=8.1
COLA College 63.40 28 P P 07 24 59.5 +1.0
COLA College 63.40 28 P P 07 24 59.6 +1.1
baz=275
CCB Clear Creek Bu 63.44 29 P P 07 24 59.3 +0.4
CCB IAmb IAmb 07 25 11.5
comp=Z,40nm,1.8s
KNK Knik Glacier 63.49 32 P P 07 24 59.2 0.0
baz=277
SML Sawmill 63.50 32 P P 07 24 59.2 -0.2
baz=276
POKR Poker Plat Res 63.56 28 P P 07 25 00.2 +0.6
baz=276,SNR=6.9
D25K Kavik River 63.60 23 P P 07 24 59.7 -0.1
D25K IAmb IAmb 07 25 12.5
comp=Z,24nm,0.9s
D25K Kavik River 63.60 23 P P 07 25 01.0 +1.1
baz=274,SNR=10.0
PWL Port Wells 63.61 33 P P 07 24 59.8 -0.2
baz=277
ARPS Mount Arapiles 63.77 169 P P 07 25 01.3 +0.1
comp=Z,70nm,0.9s
ARPS Mount Arapiles 63.77 169 P P 07 25 01.6 +0.4
M23K Glacier View 63.79 32 P P 07 25 01.3 +0.1
baz=277
ILAR Eielson Array 63.82 28 P P 07 25 00.7 -0.7
ILAR Eielson Array 63.82 28 P P 07 25 00.3 -1.1
comp=Z,2.3nm,0.7s,baz=261,slow=5.1,SNR=18
comp=Z,2.3nm,0.7s
ILAR Eielson Array 63.82 28 eP P 07 25 00.5 -0.9
ILAR pmax pmax
comp=Z,2.0nm,0.7s
HDA Harding Lake 63.84 29 P P 07 25 00.8 -0.7
HDA IAmb IAmb 07 25 13.1
comp=Z,23nm,0.8s
HDA Harding Lake 63.84 29 P P 07 25 01.2 -0.3
baz=276,SNR=14
G25K Bearman Lake 63.93 26 P P 07 25 02.7 +0.7
baz=276,SNR=8.2
CAN Canberra 63.97 162 P P 07 25 03.4 +0.8
comp=Z,31nm,1.4s
CAN Canberra 63.97 162 P P 07 25 03.8 +1.2
CAN Canberra 63.97 162 P P 07 25 03.8 +1.2
CAN pmax pmax
comp=Z,161nm,2.0s
SCM Sheep Creek Mo 63.97 32 P P 07 25 02.3 -0.2
baz=277
E25K Arctic Village 64.00 25 P P 07 25 03.3 +0.8
E25K IAmb IAmb 07 25 16.4
comp=Z,39nm,1.4s
E25K Arctic Village 64.00 25 P P 07 25 03.3 +0.8
baz=276,SNR=7.5
F25K Christian Rive 64.03 25 P P 07 25 03.5 +0.8
F25K IAmb IAmb 07 25 16.1
comp=Z,21nm,0.9s
F25K Christian Rive 64.03 25 P P 07 25 03.6 +0.9
baz=276,SNR=12
C26K Camden Bay 64.06 23 P P 07 25 04.2 +1.4
baz=276
CNB Canberra Magne 64.06 162 P P 07 25 02.7 -0.6
comp=Z,43nm,1.1s
CNB Canberra Magne 64.06 162 P P 07 25 04.6 +1.3
H25L Birch Creek 64.10 27 P P 07 25 02.5 -0.6
baz=276
P23K Montague Islan 64.19 34 P P 07 25 02.9 -0.9
baz=278
GLI Glacier Island 64.21 33 P P 07 25 04.1 +0.1
baz=278
MSVF Nonsavu 64.29 128 P P 07 25 06.4 +1.3
MSVF Nonsavu 64.29 128 P P 07 25 06.9 +1.8
MSVF pmax pmax
comp=Z,35nm,1.0s
PRP Porcupine Dome 64.31 27 P P 07 25 04.7 0.0
PRP IAmb IAmb 07 25 17.4
comp=Z,16nm,0.9s
PRP Porcupine Dome 64.31 27 P P 07 25 04.1 -0.6
baz=277,SNR=7.7
K24K Donnelly Dome 64.42 29 P P 07 25 05.4 +0.1
K24K IAmb IAmb 07 25 17.5
comp=Z,16nm,0.8s
K24K Donnelly Dome 64.42 29 P P 07 25 05.4 +0.1
baz=278
BMAR Burnt Mountain 64.45 25 P P 07 25 06.4 +0.9
M24K Tolsona, Glenn 64.48 31 P P 07 25 05.1 -0.7
baz=278
J25K Salcha River, 64.49 28 P P 07 25 06.4 +0.6
baz=278
C27K Jago River 64.50 23 P P 07 25 06.8 +1.0
C27K IAmb IAmb 07 25 18.8
comp=Z,21nm,0.8s
C27K Jago River 64.50 23 P P 07 25 06.2 +0.4
baz=277,SNR=7.5
DGTI Dogotuki 64.58 125 P P 07 25 08.7 +1.8
F26K Sheenjek River 64.58 25 P P 07 25 07.5 +1.2
F26K IAmb IAmb 07 25 19.8
comp=Z,26nm,0.8s
F26K Sheenjek River 64.58 25 P P 07 25 07.5 +1.2
baz=277,SNR=24
PAX Paxson 64.68 30 P P 07 25 07.2 +0.1
PAX IAmb IAmb 07 25 19.6
comp=Z,58nm,1.9s
PAX Paxson 64.68 30 P P 07 25 07.2 +0.1
PAX pmax pmax
comp=Z,58nm,1.9s
PAX Paxson 64.68 30 P P 07 25 07.1 0.0
baz=278
KLU Klutina 64.69 32 P P 07 25 07.5 +0.3
baz=279
G26K Porcupine Rive 64.82 26 P P 07 25 08.7 +0.9
G26K Porcupine Rive 64.82 26 P P 07 25 08.9 +1.1
baz=278,SNR=7.4
RIDG Independent Ri 64.84 29 P P 07 25 08.4 +0.3
baz=279
HARP HAARP 64.91 31 P P 07 25 08.6 +0.1
baz=279
BRAT Ballarat 64.92 167 P P 07 25 09.7 +1.0
EYAK Cordova Ski Ar 64.92 33 P P 07 25 09.0 +0.4
baz=279
SCRK Sand Creek 65.18 29 P P 07 25 11.3 +0.9
baz=279,SNR=12
DOT Dot Lake 65.20 29 P P 07 25 09.9 -0.5
DOT IAmb IAmb 07 25 22.4
comp=Z,23nm,0.9s
TOO Toolangi 65.26 166 P P 07 25 11.8 +0.8
TOO Toolangi 65.26 166 P P 07 25 11.8 +0.8
comp=Z,15nm,1.3s
TOO Toolangi 65.26 166 P P 07 25 11.8 +0.8
TOO pmax pmax
comp=Z,15nm,1.2s
J26L Joseph Creek 65.28 28 P P 07 25 10.5 -0.5
J26L IAmb IAmb 07 25 22.4
comp=Z,23nm,0.8s
J26L Joseph Creek 65.28 28 P P 07 25 10.8 -0.2
baz=279,SNR=15
N25K Chitina, Valde 65.29 32 P P 07 25 11.4 +0.3
baz=280
I26K Coal Creek Min 65.32 28 P P 07 25 10.9 -0.2
baz=279
BMRM Bremner River 65.40 32 P P 07 25 11.2 -0.5
BMRM Bremner River 65.40 32 P P 07 25 12.2 +0.4
baz=280
E27K Coleen River 65.46 24 P P 07 25 12.5 +0.4
E27K IAmb IAmb 07 25 25.6
comp=Z,20nm,1.0s
E27K Coleen River 65.46 24 P P 07 25 13.5 +1.4
baz=279,SNR=14
MENT Mentasta 65.47 30 P P 07 25 12.3 +0.1
MENT IAmb IAmb 07 25 25.2
comp=Z,22nm,0.9s
MENT Mentasta 65.47 30 P P 07 25 15.1 +2.9
D27M Malcolm River 65.52 23 P P 07 25 12.9 +0.5
D27M IAmb IAmb 07 25 25.5
comp=Z,25nm,1.1s
D27M Malcolm River 65.52 23 P P 07 25 13.8 +1.4
baz=280,SNR=10
GEXS Deakin Univers 65.61 167 P P 07 25 14.7 +1.5
L26K Log Cabin Wild 65.62 30 P P 07 25 13.8 +0.6
L26K IAmb IAmb 07 25 25.6
comp=Z,18nm,0.9s
L26K Log Cabin Wild 65.62 30 P P 07 25 14.0 +0.9
baz=280,SNR=7.9
MILA Mila 65.64 163 P P 07 25 14.7 +1.2
comp=Z,19nm,0.9s
G27K Doyon Strip 65.67 26 P P 07 25 14.2 +0.7
baz=280,SNR=7.6
KAIM Kayak Island 65.68 33 P P 07 25 13.3 -0.2
baz=281
GLB Gilahina Butte 65.69 32 P P 07 25 14.2 +0.6
GLB IAmb IAmb 07 25 26.4
comp=Z,24nm,1.0s
H27K Steamboat Moun 65.83 26 P P 07 25 14.5 0.0
baz=280,SNR=7.3
M26K Nabesna, AK 65.90 31 P P 07 25 15.8 +0.9
baz=281,SNR=10
I27K Kandik River 65.90 27 P P 07 25 15.5 +0.6
baz=280,SNR=16
K27K Chicken 66.00 29 P P 07 25 15.9 +0.4
K27K IAmb IAmb 07 25 28.8
comp=Z,36nm,1.6s
K27K Chicken 66.00 29 P P 07 25 16.3 +0.8
baz=281
E28M Babbage River 66.14 24 P P 07 25 17.8 +1.4
baz=281,SNR=11
BGLC Bering Glacier 66.20 33 P P 07 25 17.5 +0.6
baz=282
D28M Stokes Point 66.28 23 P P 07 25 18.3 +1.1
baz=282
L27K Beaver Creek, 66.30 30 P P 07 25 18.0 +0.5
L27K IAmb IAmb 07 25 30.1
comp=Z,14nm,0.9s
L27K Beaver Creek, 66.30 30 P P 07 25 18.5 +1.0
baz=282
BCAR Beaver Creek A 66.31 30 P P 07 25 18.2 +0.6
M27K Edge Creek, AK 66.42 31 P P 07 25 19.5 +1.1
baz=282
I28M Miner Creek 66.62 27 P P 07 25 20.0 +0.4
baz=282,SNR=12
E29M Blow River 66.78 24 P P 07 25 20.9 +0.5
E29M IAmb IAmb 07 25 33.1
comp=Z,17nm,1.1s
E29M Blow River 66.78 24 P P 07 25 20.9 +0.5
baz=283,SNR=8.1
MESA MESA 66.84 33 P P 07 25 22.1 +0.9
baz=283
BVCY Beaver Creek 66.87 30 P P 07 25 21.5 +0.3
baz=283
G29M Pine Creek 67.06 25 P P 07 25 23.0 +0.7
G29M Pine Creek 67.06 25 P P 07 25 23.0 +0.7
baz=283,SNR=10
H29M Whitestone 67.08 26 P P 07 25 23.7 +1.2
H29M IAmb IAmb 07 25 35.2
comp=Z,25nm,1.1s
H29M Whitestone 67.08 26 P P 07 25 23.2 +0.7
baz=283,SNR=6.5
DAWY Dawson 67.15 28 P P 07 25 22.9 0.0
baz=283,SNR=6.1
YUK3 Moose Creek 67.19 31 P P 07 25 24.3 +0.8
baz=283,SNR=5.4
I29M Ogilvie Camp, 67.30 27 P P 07 25 24.8 +0.9
baz=284,SNR=8.1
KLMR Klimovskoe 67.44 328 eP P 07 25 21.1 -3.6
KLMR pmax pmax
comp=Z,83nm,1.4s
O28M Mount Upton 67.55 32 P P 07 25 24.2 -1.7
baz=284,SNR=5.9
J29N Klondike Camp 67.56 28 P P 07 25 25.9 +0.4
baz=284,SNR=7.9
YUK8 Steele Glacier 67.63 31 P P 07 25 27.2 +0.9
baz=284
PINM Pinnacle 67.69 33 P P 07 25 26.4 -0.1
baz=284
EPYK Eagle Plains 67.69 26 P P 07 25 26.6 +0.3
baz=284,SNR=9.4
G30M tAoh Zraii Nji 67.73 25 P P 07 25 26.3 -0.3
baz=285
F30M Barrier River 67.73 24 P P 07 25 27.6 +1.0
baz=285,SNR=5.9
L29M L29M 67.93 29 P P 07 25 29.3 +1.5
baz=285,SNR=11
M29M Somme Creek 67.94 30 P P 07 25 28.8 +0.7
baz=285
K29M Barlow Dome 68.00 29 P P 07 25 29.3 +0.9
baz=285,SNR=6.8
I30M Mount Dempster 68.12 27 P P 07 25 30.1 +0.9
baz=285,SNR=5.5
YUK4 Talbot Arm 68.14 31 P P 07 25 30.0 +0.5
baz=285
PNL Peninsula 68.21 33 P P 07 25 30.9 +1.2
baz=285
APA Apatity 68.30 336 ⇓iP P 07 25 29.8 -0.2
APA pmax pmax
comp=Z,21nm,0.9s
APA MLR MLR
comp=Z,500nm,15.0s
J30M Hart River 68.31 28 P P 07 25 31.4 +1.1
baz=286,SNR=6.3
YUK6 Outpost Mounta 68.38 32 P P 07 25 31.6 +0.6
baz=285
O29M Mount Kennedy 68.44 32 P P 07 25 31.8 +0.5
baz=285
G31M Satah River 68.49 25 P P 07 25 31.7 +0.5
baz=286
F31M Tsiigehtchic 68.54 24 P P 07 25 31.8 +0.3
baz=287
M30M Minto, Yukon 68.66 30 P P 07 25 32.7 +0.3
baz=286
VRH Novokhopyorsk 68.68 318 eP P 07 25 32.9 +0.2
VRH pmax pmax
comp=Z,73nm,1.8s
H31M Peel River 68.78 26 P P 07 25 33.8 +0.6
baz=287,SNR=5.8
HYT Haines Junctio 68.81 32 P P 07 25 33.7 +0.2
baz=286
N30M Aishikik Lake 68.83 31 P P 07 25 34.1 +0.5
baz=286
SPITS Spitsbergen Ar 69.02 348 P P 07 25 33.9 -0.5
comp=Z,11nm,0.8s,baz=76,slow=7.1,SNR=6.0
comp=Z,11nm,0.8s
P29M Windy Craggy 69.03 33 P P 07 25 35.2 +0.4
baz=286
P30M Million Dollar 69.27 32 P P 07 25 36.2 -0.1
baz=287
KBS Kingsbay 69.41 349 iP P 07 25 36.7 -0.1
N31M Braeburn, Yuko 69.43 31 P P 07 25 37.6 +0.4
baz=287
O30N Mendenhall 69.49 32 P P 07 25 38.5 +0.9
baz=287
MOS Moscow 69.75 323 eP P 07 25 38.9 -0.4
MOS pmax pmax
comp=Z,62nm,1.4s
A36M Sachs Harbour 69.80 19 P P 07 25 40.3 +1.1
baz=293,SNR=16
M31M Drury Creek, Y 69.84 30 P P 07 25 40.3 +0.6
baz=288
LPSR Galich'ya Gora 69.94 320 eP P 07 25 42.3 +1.8
LPSR pmax pmax
comp=Z,20nm,0.9s
KBZ Khabaz 70.05 310 P P 07 25 42.2 +0.9
comp=Z,24nm,0.9s,baz=142,slow=2.1,SNR=20
comp=Z,24nm,0.9s
KBZ Khabaz 70.05 310 iP P 07 25 40.4 -0.9
KBZ pmax pmax
comp=Z,6.0nm,0.9s
VORR Voronezh 70.05 319 eP P 07 25 42.2 +1.0
VORR pmax pmax
comp=Z,99nm,1.6s
WHY Whitehorse 70.09 31 P P 07 25 42.1 +0.6
baz=288
KIV Kislovodsk 70.12 310 eP P 07 25 40.5 -1.4
KIV eS S 07 34 52.4 -0.3
KIV pmax pmax
comp=Z,13nm,3.2s
KIV pmax pmax
comp=Z,33nm,1.0s
KIV MLR MLR
comp=Z,279nm,18.0s
SHA1 Shidzhatmaz 70.21 310 iP P 07 25 42.6 0.0
VORD Divnogorie 70.21 318 eP P 07 25 43.2 +1.0
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 70.21 318 eP P 07 25 42.6 +0.4
VSR pmax pmax
comp=Z,20nm,1.0s
SKAG Skagway 70.25 33 P P 07 25 42.3 0.0
baz=288
S31K Pelican 70.27 34 P P 07 25 41.9 -0.5
baz=288
FARO Faro, Yukon 70.29 30 P P 07 25 42.8 +0.2
baz=289,SNR=15
R31K City Hall, Gus 70.38 34 P P 07 25 42.7 -0.4
baz=288
ARCES ARCESS Array B 70.39 339 P P 07 25 43.0 0.0
comp=Z,5.5nm,0.8s,baz=61,slow=7.5,SNR=4.7
comp=Z,5.5nm,0.8s
OBN Obninsk 70.52 323 eP P 07 25 44.2 +0.3
OBN e*PP sP 07 25 46.8 -0.7
OBN e 07 26 03.7
OBN e 07 28 18.2
OBN ePPP PPP 07 30 01.4
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,773nm,18.0s
JOF Joensuu 70.57 331 eP P 07 25 45.4 +1.2
N32M Quiet Lake 70.77 31 P P 07 25 46.9 +1.5
baz=290
NOR Nord 70.98 355 iP P 07 25 45.8 -0.6
NOR IAmb IAmb 07 25 49.0
comp=Z,14nm,1.2s
P32M Atlin 70.99 32 P P 07 25 47.4 +0.5
baz=290
SIT Sitka 71.03 35 P P 07 25 47.7 +0.7
baz=289
R32K Eaglecrest 71.04 34 P P 07 25 47.2 +0.1
baz=289
ERBR Yeremizino-Bor 71.07 312 eP P 07 25 45.1 -2.5
ERBR eS S 07 35 01.7 -1.8
ERBR pmax pmax
comp=Z,51nm,1.0s
ERBR MLR MLR
comp=Z,595nm,17.0s
P33M Teslin, Yukon 71.21 32 P P 07 25 48.1 -0.1
baz=290,SNR=5.9
C36M Paulatuk 71.22 21 P P 07 25 48.4 +0.4
baz=295,SNR=19
LABN Labinsk 71.25 311 eP P 07 25 45.3 -3.4
LABN eS S 07 35 04.4 -1.2
LABN pmax pmax
comp=Z,52nm,2.3s
LABN MLR MLR
comp=Z,619nm,17.0s
S32K Killisnoo 71.27 35 P P 07 25 48.8 +0.3
baz=290
Q32M Nakina River 71.91 33 P P 07 25 52.6 0.0
baz=291
JETT Jettan, Norway 72.01 340 eP P 07 25 53.2 +0.4
SOC Sochi 72.28 310 eP P 07 25 52.6 -2.3
SOC e 07 28 33.2
SOC ePPP PPP 07 30 16.6
SOC eS S 07 35 18.8 +1.3
SOC eSS SS 07 39 52.2 -2.7
SOC pmax pmax
comp=Z,39nm,0.9s
SOC MLR MLR
comp=Z,304nm,18.0s
R33M Jennings River 72.37 32 P P 07 25 55.4 +0.1
baz=292
U33K Whale Pass 72.49 36 P P 07 25 55.5 -0.3
baz=291
CRAG Craig 72.73 36 P P 07 25 57.5 +0.3
baz=291
WRAK Wrangell Islan 72.79 35 P P 07 25 57.7 +0.1
baz=292
TGTN Hyland Airport 72.79 29 P P 07 25 58.1 +0.4
baz=293,SNR=8.6
S34M Telegraph Cree 72.85 33 P P 07 25 58.0 +0.1
baz=292
WTLY Watson Lake, Y 73.11 31 P P 07 26 00.6 +1.0
baz=293,SNR=8.9
FIA1 FINESS Array S 73.40 331 P P 07 26 00.9 -0.2
FINES FINESS Array B 73.40 331 P P 07 26 01.0 -0.2
comp=Z,13nm,0.7s,baz=69,slow=6.3,SNR=21
comp=Z,13nm,0.7s
FINES FINESS Array B 73.40 331 eP P 07 26 01.1 -0.1
FINES pmax pmax
comp=Z,13nm,0.7s
V35K Ketchikan 73.58 36 P P 07 26 02.9 +0.6
baz=292
KEF Keuruu 73.62 332 eP P 07 26 02.5 +0.1
T35M Bob Quinn 73.64 34 P P 07 26 03.6 +0.8
baz=293
WRGLY Wrigley 74.10 27 P P 07 26 06.1 +0.9
baz=297
VAF Ylistaro 74.15 333 eP P 07 26 04.8 -0.7
ARBE Arbavere 74.28 329 eP P 07 26 06.7 +0.3
VSU Vasula 74.34 328 iP P 07 26 05.8 -0.9
VSU pmax pmax
comp=Z,28nm,0.9s
VSU Vasula 74.34 328 eP P 07 26 07.3 +0.6
LIRD Liard River Hi 74.65 31 P P 07 26 09.9 +1.4
baz=296,SNR=12
MEF Metsahovi 74.67 330 eP P 07 26 08.9 +0.4
FAUS Fauske 74.73 339 eP P 07 26 08.3 -0.5
RAYN Ar Rayn 74.92 289 P P 07 26 11.1 +0.3
RAYN IAmb IAmb 07 26 24.5
comp=Z,22nm,0.9s
RAYN Ar Rayn 74.92 289 P P 07 26 11.6 +0.8
KOTAN Kotaneelee Air 75.26 30 P P 07 26 12.2 +0.2
baz=297
TOAD Toad River Com 75.30 31 P P 07 26 13.3 +1.0
baz=296,SNR=6.0
MNK Minsk 75.42 324 iP P 07 26 10.9 -2.1
MNK i 07 26 23.6
MNK i 07 28 59.7
MNK iS S 07 35 52.0 -0.5
MNK i 07 36 24.2
MNK iSS SS 07 40 43.6 +1.5
MNK iSSS SSS 07 44 06.2
MNK pmax pmax
comp=N,15nm,0.8s
MNK pmax pmax
comp=E,25nm,0.9s
MNK pmax pmax
comp=Z,18nm,0.6s
MNK MLR MLR
comp=N,407nm,17.0s
MNK MLR MLR
comp=Z,477nm,17.0s
MNK MLR MLR
comp=E,1μm,20.0s
RAF Rauma 75.46 331 eP P 07 26 13.3 +0.2
SIM Simferopol' 75.55 313 eP P 07 26 07.5 -6.5
SIM e 07 26 22.0
SIM pmax pmax
comp=Z,25nm,0.9s
MTSE Matsula 75.61 329 eP P 07 26 13.8 -0.2
MOR8 Moi Rana 75.67 338 eP P 07 26 12.7 -1.5
LEIR Leirfjorden 76.15 338 eP P 07 26 16.3 -0.7
AKASG Malin Array Be 76.26 320 P P 07 26 17.7 -0.2
AKASG IAmb IAmb 07 26 31.0
comp=Z,43nm,1.8s
AKASG Malin Array Be 76.26 320 P P 07 26 17.3 -0.7
comp=Z,5.1nm,0.6s,baz=58,slow=6.6,SNR=15
comp=Z,5.1nm,0.6s
AKASG Malin Array Be 76.26 320 eP P 07 26 17.7 -0.2
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKBB Malin Array Si 76.26 320 P P 07 26 17.6 -0.3
AKBB Malin Array Si 76.26 320 iP P 07 26 16.9 -1.0
AKBB pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 76.28 320 ⇑P P 07 26 17.8 -0.2
KIEV Kiev 76.28 320 P P 07 26 17.8 -0.2
NEEM North Greenlan 76.51 0 iP P 07 26 19.3 0.0
NEEM IAmb IAmb 07 26 20.5
comp=Z,15nm,1.1s
TULEG Thule 76.79 4 P P 07 26 20.5 +0.1
TULEG Thule 76.79 4 iP P 07 26 21.0 +0.5

TULEG IAmb IAmb 07 26 22.6
comp=Z,38nm,0.6s
PABE Paberze 77.00 326 P **P** **07 26 20.8 -1.2**
PABE Paberze 77.00 326 *e*P **P** **07 26 21.2 -0.8**
NSS Namsos 77.45 337 *e*P **P** **07 26 23.9 -0.4**
SORM Soroca 77.87 318 ⇓P **P** **07 26 28.3 +1.3**
SORM Soroca 77.87 318 P **P** **07 26 28.3 +1.3**
BR131 Keskin Array S 77.94 308 P **P** **07 26 27.4 -0.4**
BR131 IAmb IAmb 07 26 31.8
comp=Z,18nm,0.8s
BR131 Keskin Array S 77.94 308 *i*P **P** **07 26 26.2 -1.6**
BRTR Keskin Array B 77.94 308 P **P** **07 26 27.6 -0.2**
BRTR Keskin Array B 77.94 308 P **P** **07 26 27.4 -0.4**
comp=Z,12nm,0.8s,baz=84,slow=4.1,SNR=22
BRTR LR LR 08 06 31.2
comp=Z,107nm,19.2s,baz=56,slow=40
comp=Z,12nm,0.8s
BRTR Keskin Array B 77.94 308 *e*P **P** **07 26 27.8 0.0**
BRTR pmax pmax
comp=Z,12nm,0.8s
YKA Yellowknife Ar 77.97 25 P **P** **07 26 27.1 -0.2**
comp=Z,3.2nm,1.0s,baz=300,slow=5.6,SNR=15
YKA LR LR 08 05 38.3
comp=Z,96nm,18.1s,baz=322,slow=39
comp=Z,3.2nm,1.0s
YKA Yellowknife Ar 77.97 25 *e*P **P** **07 26 27.6 +0.3**
YKA pmax pmax
comp=Z,3.0nm,0.9s
SUW Suwalki 78.11 325 *e*P **P** **07 26 28.8 +0.6**
SUW Suwalki 78.11 325 P **P** **07 26 27.3 -0.9**
SUW Suwalki 78.11 325 P **P** **07 26 27.3 -0.9**
SUW Suwalki 78.11 325 *e*P **P** **07 26 28.4 +0.1**
URZ Urewera 78.14 144 LR LR 07 56 35.3
comp=Z,78nm,18.6s,baz=21,slow=32
RTZ Ruatahuna 78.34 144 P **P** **07 26 28.8 -0.9**
TPGR Topolog 79.27 315 ⇑P **P** **07 26 36.3 +1.4**
HFS Hagfors 79.33 333 P **P** **07 26 33.8 -1.0**
comp=Z,7.6nm,0.7s,baz=119,slow=1.7,SNR=13
comp=Z,7.6nm,0.7s
RPZ Rata Peaks 79.38 151 LR LR 07 57 00.4
comp=Z,131nm,20.2s,baz=314,slow=32
MMAI Mount Meron Ar 79.39 302 P **P** **07 26 34.5 -1.4**
comp=Z,3.3nm,0.7s,baz=71,slow=8.4,SNR=4.1
comp=Z,3.3nm,0.7s
NC303 NORSAR Array S 79.62 334 P **P** **07 26 35.6 -0.8**
NC303 IAmb IAmb 07 26 47.5
comp=Z,29nm,0.9s
TESR Tescani 79.63 317 ⇓P **P** **07 26 37.4 +0.7**
NB2 NORSAR Subarra 79.79 334 P **P** **07 26 36.5 -0.9**
comp=Z,19nm,0.8s,baz=53,slow=5.9
NB2 NORSAR Subarra 79.79 334 P **P** **07 26 36.5 -0.9**
baz=53,slow=5.9
NOA NORSAR Array B 79.79 334 P **P** **07 26 36.3 -1.1**
comp=Z,6.6nm,0.8s,baz=50,slow=5.4,SNR=16
comp=Z,6.6nm,0.8s
NOA NORSAR Array B 79.79 334 *e*P **P** **07 26 36.3 -1.1**
NOA pmax pmax
comp=Z,8.0nm,0.8s
NC204 NORSAR Array S 79.82 335 P **P** **07 26 37.2 -0.4**
NC204 IAmb IAmb 07 26 49.1
comp=Z,24nm,0.8s
ONER Baraj Valea Uz 79.87 317 ⇓P **P** **07 26 39.5 +1.4**
VRI Vrincioaia 79.88 316 ⇓P **P** **07 26 39.8 +1.6**
VRI Vrincioaia 79.88 316 P **P** **07 26 39.8 +1.6**
PLOR Plostina 79.94 316 ⇑P **P** **07 26 39.5 +0.9**
PLOR Plostina 79.94 316 P **P** **07 26 39.4 +0.9**
BUR08 Bucovina Ar. S 79.99 318 P **P** **07 26 38.9 +0.1**
BURAR Bucovina Array 79.99 318 ⇑P **P** **07 26 39.5 +0.6**
BURAR Bucovina Array 79.99 318 P **P** **07 26 39.4 +0.6**
DOMB Dombas 80.00 336 *e*P **P** **07 26 36.6 -1.9**
CSS Mathiatis 80.14 304 P **P** **07 26 39.0 -0.8**
CSS IAmb IAmb 07 26 51.6
comp=Z,24nm,0.7s
COVR Voineasa-Covas 80.21 316 ⇑P **P** **07 26 40.0 0.0**
NEHR Nehoiu 80.35 316 ⇑P **P** **07 26 41.9 +1.2**
BEL Belsk 80.44 323 *e*P **P** **07 26 41.7 +0.7**
MLR Muntele Rosu 80.54 316 ⇓P **P** **07 26 42.3 +0.5**
MLR Muntele Rosu 80.54 316 P **P** **07 26 42.3 +0.5**
OSL Oslo 80.65 333 *e*P **P** **07 26 41.8 -0.1**
DOPR Dopca 80.66 317 ⇓P **P** **07 26 43.7 +1.3**
AKN Aaknes 80.67 336 *e*P **P** **07 26 42.1 +0.1**
SUMG Summit 81.06 356 P **P** **07 26 47.6 +3.1**
SUMG pmax pmax
comp=Z,49nm,1.7s
SUMG Summit 81.06 356 *i*P **P** **07 26 44.6 +0.2**
SUMG IAmb IAmb 07 26 48.7
comp=Z,24nm,1.1s
VOIR 81.12 316 ⇓P **P** **07 26 44.9 -0.1**
VOIR 81.12 316 P **P** **07 26 44.8 -0.1**
SKAR Skarslia 81.14 335 *e*P **P** **07 26 44.5 -0.1**
ARR Arges 81.41 316 ⇑P **P** **07 26 47.3 +0.9**
HUMR Humele 81.60 316 ⇓P **P** **07 26 47.9 +0.6**
BSD Bornholm Skovb 81.64 328 *i*P P 07 26 57.6 +10
BSD IAmb IAmb 07 26 59.0
comp=Z,37nm,0.9s
OJC Ojcow 81.81 322 *e*P **P** **07 26 49.2 +0.8**
OJC Ojcow 81.81 322 P **P** **07 26 48.8 +0.4**
OJC Ojcow 81.81 322 P **P** **07 26 48.8 +0.4**
LOT Lotru 81.91 317 ⇑P **P** **07 26 50.5 +1.3**
NIE Niedzica 81.95 321 *e*P **P** **07 26 53.2 +4.1**
ASK Askoy 82.43 336 *e*P **P** **07 26 55.8 +4.4**
GZR Gura Zlata 82.54 317 ⇑P **P** **07 26 52.8 +0.4**
GZR Gura Zlata 82.54 317 P **P** **07 26 52.8 +0.4**
D05A Enumclaw 82.63 41 P **P** **07 26 53.0 +0.3**
BLS5 Blasjo 82.66 334 *e*P **P** **07 26 51.6 -1.1**
SURR Surduc 82.76 318 ⇑P **P** **07 26 53.8 +0.4**
SIRR Siria 82.78 318 ⇓P **P** **07 26 54.9 +1.4**
HERR Herculane 83.02 317 ⇑P **P** **07 26 54.8 +0.1**
SNART Snartemo 83.06 333 *e*P **P** **07 26 54.3 -0.4**
STEB Steborice 83.06 323 *e*P **P** **07 26 55.4 +0.5**
STEB *ex* x 07 27 06.4
BZS Buzias 83.13 318 ⇑P **P** **07 26 56.1 +0.8**
BZS Buzias 83.13 318 P **P** **07 26 56.1 +0.8**
VYHS Vyhne 83.25 321 *e*P **P** **07 26 57.8 +1.9**
VYHS pmax pmax
comp=Z,17nm,0.9s
VYHS Vyhne 83.25 321 *e*P **P** **07 26 57.8 +1.9**
VYHS *e* 07 27 08.3
MORC Moravsky Berou 83.28 323 *e*P **P** **07 26 57.5 +1.4**
KSP Ksiaz 83.36 324 *e*P **P** **07 26 57.5 +1.1**
MDVR Moldovita 83.50 317 ⇑P **P** **07 26 57.7 +0.4**
B08A Colville Reser 83.54 39 P **P** **07 26 57.2 -0.2**
B08A IAmb IAmb 07 27 10.5
comp=Z,27nm,1.1s
JAVC Velka Javorina 83.71 322 *e*P **P** **07 27 00.4 +2.1**
SMOL Smolenice 84.03 322 *e*P **P** **07 27 02.3 +2.4**
VRAC Vranov 84.05 323 *e*P **P** **07 27 01.0 +1.0**
VRAC Vranov 84.05 323 ⇑P **P** **07 27 00.1 0.0**
VRAC Vranov 84.05 323 P **P** **07 27 00.0 0.0**
KRUC Moravsky 84.30 323 *e*P **P** **07 27 02.2 +1.0**
PVCC Panska Ves 84.44 324 *e*P **P** **07 27 04.8 +2.9**
PVCC *ex* x 07 27 13.2
PVCC Panska Ves 84.44 324 *e*P **P** **07 27 04.8 +2.9**
PVCC *e**PP **pwP** **07 27 13.2 -0.2**
D08A Wollman Farm, 84.48 40 P **P** **07 27 02.5 +0.2**
HAWA Hanford 84.48 41 P **P** **07 27 02.6 +0.4**
HAWA IAmb IAmb 07 27 15.7
comp=Z,20nm,1.1s
BRG Berggiesshubel 84.56 325 *e*P **P** **07 27 03.3 +0.7**
BRG Amp 07 27 05.9
comp=Z,7.4nm,0.9s
BRG Berggiesshubel 84.56 325 S **S** **07 37 30.0 +1.0**
MORH Mrgy, Hungar 84.59 319 ⇑P **P** **07 27 03.6 +0.9**
CLL Collm 84.79 326 *i*P **P** **07 27 02.9 -0.8**
CLL *e*S **SKSac** **07 37 24.0 -3.5**
CLL pmax pmax
comp=Z,13nm,1.0s
CLL Collm 84.79 326 *i*P **P** **07 27 02.9 -0.8**
comp=Z,13nm,1.0s
CLL *i*x x 07 27 13.9
comp=Z,38nm,1.2s
CLL *e*Sx Sx 07 37 24.0
NEW Newport 84.82 38 P **P** **07 27 03.4 -0.6**
NEW IAmb IAmb 07 27 17.0
comp=Z,16nm,1.1s
NEW Newport 84.82 38 P **P** **07 27 03.4 -0.6**
NEW pmax pmax
comp=Z,16nm,1.1s
HSKC Hora Svate Kat 84.98 325 *e*P **P** **07 27 06.5 +1.8**
YBH Yreka Blue Hor 84.98 46 P **P** **07 27 06.4 +1.4**
J05D Fort Rock, OR 85.11 44 P **P** **07 27 05.7 0.0**
J05D IAmb IAmb 07 27 19.3
comp=Z,28nm,1.0s
RONA Rosalia, Austr 85.11 321 *e*P **P** **07 27 05.7 +0.3**
comp=Z,22nm,1.7s
CONA Conrad Observa 85.23 322 *i*PcP **P** **07 27 07.2 +1.2**
comp=Z,14nm,1.0s
ZVC Zvikov 85.27 324 *e*P **P** **07 27 06.7 +0.6**
ZVC *ex* x 07 27 17.7
CKRC Cesky Krumlov 85.56 323 *e*P **P** **07 27 08.0 +0.3**
CKRC *ex* x 07 27 18.7
CKRC Cesky Krumlov 85.56 323 *e*P **P** **07 27 08.0 +0.3**
KHC Kasperske Hory 85.77 324 *e*P **P** **07 27 08.8 +0.1**
KHC *ex* x 07 27 19.7
KHC Kasperske Hory 85.77 324 *i*P **P** **07 27 07.5 -1.2**
KHC pmax pmax
comp=Z,8.0nm,1.1s
ARSA Arzberg 85.80 321 *i*pP pP 07 27 11.3 -0.1
comp=Z,4.7nm,1.1s
GERES GERESS Array B 85.87 323 P **P** **07 27 09.2 -0.1**
GERES GERESS Array B 85.87 323 P **P** **07 27 08.9 -0.3**
comp=Z,3.7nm,0.8s,baz=49,slow=4.3,SNR=13
comp=Z,3.7nm,0.8s
GERES GERESS Array B 85.87 323 *e*P **P** **07 27 09.5 +0.2**
GERES pmax pmax
comp=Z,4.0nm,0.8s
MOA Molln 86.15 322 *i*PcP **P** **07 27 11.9 +1.3**
comp=Z,5.4nm,0.8s
SOKA Soboth 86.40 321 *i*PcP **P** **07 27 12.2 +0.3**
comp=Z,14nm,1.0s
BORG Borgarnes 86.48 348 LR LR 08 08 22.2
comp=Z,55nm,18.5s,baz=15,slow=37
BIOA Bad Ischl, Aus 86.59 323 *e*PcP **P** **07 27 13.2 +0.5**
comp=Z,22nm,1.4s
OBKA Obir 86.77 321 *e*P **P** **07 27 13.3 -0.5**
comp=Z,5.7nm,0.8s
KBA Koelnbreinsper 87.11 322 *e*pP pP 07 27 17.5 -0.6
comp=Z,3.9nm,0.7s
WVOR Wild Horse Val 87.18 43 P **P** **07 27 16.9 +1.0**
MYKA Terra Mystica 87.21 322 *i*PcP **P** **07 27 16.2 +0.3**
comp=Z,5.2nm,1.0s
LESA Schwarzleotal 87.27 323 *i*PcP **P** **07 27 16.5 +0.3**
comp=Z,5.2nm,0.7s
ABTA Alpfaltersbach 87.77 322 *i*P **P** **07 27 16.7 -1.8**
comp=Z,4.3nm,0.9s
WATA Walderalm 87.92 323 *i*P **P** **07 27 18.8 -0.6**
comp=Z,13nm,1.1s
WTTA Wattenberg 87.93 323 *e*PcP **P** **07 27 19.2 -0.2**
comp=Z,12nm,1.2s
FFC Flin Flon 88.00 27 P **P** **07 27 19.7 +0.3**
MOTA Moosalm 88.17 323 *i*pP **P** **07 27 22.0 +1.4**
comp=Z,3.8nm,0.9s
SQTA Sankt Quirin 88.19 323 *i*pP pP 07 27 23.1 -0.1
comp=Z,8.2nm,1.1s
RETA Reutte 88.26 324 *e*pP pP 07 27 23.6 +0.1
comp=Z,3.1nm,1.2s
FETA Feichten 88.57 323 *i*pP pP 07 27 24.7 -0.4
comp=Z,4.0nm,1.0s
DAVA Damuels 88.86 324 *e*PcP **P** **07 27 23.6 -0.2**
comp=Z,8.3nm,1.0s
EKA Eskdalemuir Ar 89.23 335 P **P** **07 27 24.4 -0.8**
comp=Z,2.1nm,0.8s,baz=38,slow=5.2,SNR=4.8
comp=Z,2.1nm,0.8s
NVAR Mina Array Bea 89.60 47 P **P** **07 27 28.3 +0.7**
comp=Z,2.6nm,0.8s,baz=289,slow=5.4,SNR=16
comp=Z,2.6nm,0.8s
PPT2 Papeete2 89.79 110 *e*LR LR 07 55 58.6
comp=Z,320nm,26.5s
PPT2 *e*LR LR 07 56 02.8
comp=Z,297nm,24.0s
AQU L'Aquila 89.87 318 P **P** **07 27 32.4 +3.9**
AQU pmax pmax
comp=Z,38nm,1.0s
PDAR Pinedale Array 92.37 39 P **P** **07 27 40.4 0.0**
comp=Z,2.5nm,1.0s,baz=278,slow=2.2,SNR=10
comp=Z,2.5nm,1.0s
TBI Tubuai 92.53 115 *e*LR LR 07 57 21.0
comp=Z,688nm,29.2s
TBI *e*LR LR 07 57 21.5
comp=Z,1μm,32.5s
TAOE Nuku Hiva Isla 94.12 98 *e*LR LR 07 58 10.8
comp=Z,191nm,24.8s
ESDC Sonseca Array 101.37 325 Pdiff **Pdif** **07 28 20.4 -0.5**
comp=Z,0.6nm,0.8s,baz=15,slow=3.7,SNR=4.3
RKT Rikitea 104.52 109 *e*LR LR 08 02 53.8
comp=Z,1μm,28.2s
QSPA South Pole Qui 116.06 180 PKP **PKiKP** **07 33 10.7 -1.0**
comp=Z,3.3nm,0.7s,baz=298,slow=0.9,SNR=21
ELIB Princess Elisa 119.78 200 *d*PKPdf **PKPdf** **07 33 18.5 -0.3**

---

*IDC **13** 07:22:17.3±1.1, 26°.06N×129°.47E, h0km, mb3.7/6, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=29.8km s-min=19.4km az=75.0*
*JMA **13** 07:22:20.9±0.1, 26°.3N±0°.7×129°.6E±0°.5, h43km, MV3.3/19, NEAR OKINAWAJIMA ISLAND*
ISC 13 07:22:17.2±1.3, 26°.34N±0°.04×129°.64E±0°.03, h3km±9km, n23, σ1°54/38, mb4.0/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.27**	**303**	*i*P	**Pg**		**07 22 42.5**	**+1.0**
JYRO				S	**Sn**		**07 22 57.6**	**-1.7**
JOW	**Kunigami**	**1.32**	**292**	Pn	**Pg**		**07 22 42.9**	**+0.3**
JOW	64nm,0.3s,baz=129,slow=16,SNR=61			Sn	**Sb**		**07 22 58.4**	**-1.6**
	71nm,0.3s,baz=120,slow=19,SNR=14							
JOW	**Kunigami**	**1.32**	**292**	*i*P	**Pg**		**07 22 43.3**	**+0.8**
JOW				S	**Sb**		**07 22 58.8**	**-1.2**
JOKE	**Okinoerabujima**	**1.40**	**317**	*e*P	**Pg**		**07 22 44.9**	**+0.8**
JOKE				S	**Sg**		**07 23 02.1**	**-0.1**
JNTH	**Nagotoyohara**	**1.46**	**277**	P	**Pb**		**07 22 44.8**	**-0.3**
JNTH				S	**Sn**		**07 23 01.5**	**-2.7**
JMZ	**Minamidaito 2**	**1.51**	**110**	P	**Pg**		**07 22 46.4**	**+0.2**
JMZ				S	**Sb**		**07 23 04.1**	**-1.4**
JKDJ	**Kitadaitoujima**	**1.54**	**104**	*e*P	**Pg**		**07 22 47.1**	**+0.5**
JKDJ				S	**Sg**		**07 23 06.0**	**-0.6**
JTK	**Tokunoshima**	**1.57**	**337**	P	**Pg**		**07 22 47.7**	**+0.4**
JTK				S	**Sb**		**07 23 06.3**	**-0.8**
JIH	**Iheya**	**1.65**	**295**	P	**Pb**		**07 22 48.2**	**-0.1**
JIH				S	**Sn**		**07 23 07.6**	**-1.2**
JJT3	**Tamagusuku3**	**1.68**	**264**	P	**Pb**		**07 22 48.5**	**-0.3**
JJT3				S	**Sn**		**07 23 08.1**	**-1.5**
JAMN	**Amaminishikomi**	**1.94**	**348**	P	**Pb**		**07 22 53.1**	**-0.2**
JAMN				S	**Sb**		**07 23 16.3**	**-1.6**
JZK	**Kikaishima**	**1.99**	**8**	*e*P	**Pg**		**07 22 54.8**	**-0.6**
JZK				S	**Sb**		**07 23 19.4**	**+0.1**
JAM	**Amami Oshima**	**2.07**	**359**	*e*P	**Pb**		**07 22 54.1**	**-1.2**
JAM				S	**Sb**		**07 23 19.1**	**-2.4**
JAGN	**Aguni-jima**	**2.17**	**277**	P	**Pb**		**07 22 55.3**	**-1.8**
JAGN				S	**Sn**		**07 23 19.6**	**-1.9**
JKE	**Kume jima 2**	**2.56**	**270**	P	**Pn**		**07 22 60.0**	**+0.3**
JKE				S	**Sn**		**07 23 28.6**	**-2.8**
JTAJ	**Takarajima**	**2.83**	**352**	S	**Sn**		**07 23 37.3**	**-0.7**
JNU	**Nakatsue**	**6.85**	**9**	Pn	Pn		07 24 02.9	+4.3
JNU	0.5nm,0.3s,baz=228,slow=16,SNR=1.9			Sn	**Sn**		**07 25 13.8**	**-3.2**
	0.6nm,0.3s,baz=232,slow=19,SNR=1.4							
	2.1nm,0.4s							
PETK	**Petropavlovsk-**	**33.95**	**31**	P	**P**		**07 29 04.8**	**+3.1**
	1.1nm,0.5s,baz=232,slow=6.8,SNR=8.2							
	1.1nm,0.5s							
KURBB	**Kurchatov Arra**	**45.65**	**316**	P	**P**		**07 30 39.7**	**+0.7**
	0.4nm,0.8s,baz=102,slow=9.2,SNR=2.5							
	0.4nm,0.8s							
WRA	**Warramunga Arr**	**46.23**	**174**	P	**P**		**07 30 42.3**	**-1.5**
	1.1nm,0.8s,baz=354,slow=7.8,SNR=5.6							
	1.1nm,0.8s							
ASAR	**Alice Springs**	**49.88**	**175**	P	**P**		**07 31 10.3**	**-1.7**
	0.4nm,0.8s,baz=351,slow=7.9,SNR=4.5							
	0.4nm,0.8s							
KBZ	**Khabaz**	**70.07**	**310**	P	**P**		**07 33 32.7**	**+2.1**
	0.7nm,0.5s,baz=78,slow=16,SNR=2.6							
	0.7nm,0.5s							
FINES	**FINES Array B**	**73.39**	**331**	P	**P**		**07 33 51.7**	**+1.4**
	1.1nm,0.8s,baz=28,slow=6.6,SNR=3.5							
	1.1nm,0.8s							

---

*IDC **13** 07:27:33.7±1.1, 26°.13N×129°.24E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=35.6km s-min=20.2km az=67.0*
*NIED **13** 07:27:35.3, 26°.24N×129°.55E, h44km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; M_{rr}=4.06; $M_{\theta\theta}$0.97; $M_{\phi\phi}$3.08; $M_{r\theta}$3.83; $M_{\theta\phi}$3.26; $M_{\phi r}$3.70; Fault plane solution: $M_0$7.16000×10^14^ NP1:ϕ_s23.00000°, δ22.00000°, λ-111.00000°. NP2:ϕ_s225.00000°, δ69.00000°, λ-82.00000°.*
*JMA **13** 07:27:35.3±0.1, 26°.2N±0°.7×129°.6E±0°.5, h44km, MV3.5/19, NEAR OKINAWAJIMA ISLAND*
ISC 13 07:27:31.7±1.4, 26°.27N±0°.04×129°.56E±0°.03, h2km±9km, n25, σ1°71/37, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.25**	**308**	P	**Pg**		**07 27 56.9**	**+1.3**
JYRO				S	**Sn**		**07 28 12.0**	**-1.6**
JOW	**Kunigami**	**1.28**	**296**	Pn	**Pg**		**07 27 57.6**	**+1.3**
JOW	121nm,0.3s,baz=131,slow=13,SNR=23			Sn	**Sb**		**07 28 08.4**	**-5.1**
	92nm,0.3s,baz=111,slow=25,SNR=5.2							
JOW	**Kunigami**	**1.28**	**296**	P	**Pg**		**07 27 57.4**	**+1.1**
JOW				*e*S	**Sg**		**07 28 13.0**	**+0.1**
JNTH	**Nagotoyohara**	**1.40**	**281**	P	**Pg**		**07 27 58.8**	**+0.2**
JNTH				S	**Sn**		**07 28 15.7**	**-1.7**
JOKE	**Okinoerabujima**	**1.40**	**321**	*e*P	**Pg**		**07 27 59.5**	**+0.9**
JOKE				*e*S	**Sg**		**07 28 16.6**	**-0.2**
JMZ	**Minamidaito 2**	**1.56**	**106**	*e*P	**Pg**		**07 28 01.2**	**-0.5**
JMZ				S	**Sn**		**07 28 18.0**	**-3.5**
JKDJ	**Kitadaitoujima**	**1.60**	**101**	*e*P	**Pb**		**07 28 01.7**	**-0.3**
JKDJ				S	**Sn**		**07 28 20.0**	**-2.2**
JJT3	**Tamagusuku3**	**1.60**	**266**	*e*P	**Pg**		**07 28 02.3**	**-0.1**
JJT3				S	**Sb**		**07 28 21.4**	**-1.3**
JTK	**Tokunoshima**	**1.61**	**340**	*e*P	**Pg**		**07 28 02.7**	**+0.2**
JTK				*e*S	**Sb**		**07 28 21.5**	**-1.5**
JIH	**Iheya**	**1.61**	**299**	*e*P	**Pg**		**07 28 02.4**	**-0.4**
JIH				S	**Sn**		**07 28 21.4**	**-1.3**
JAMN	**Amaminishikomi**	**2.00**	**350**	S	**Sn**		**07 28 30.7**	**-1.5**
JZK	**Kikaishima**	**2.07**	**10**	P	**Pb**		**07 28 10.0**	**-0.2**
JZK				S	**Sb**		**07 28 34.6**	**-1.7**
JAGN	**Aguni-jima**	**2.10**	**279**	P	**Pb**		**07 28 09.0**	**-1.6**
JAGN				S	**Sn**		**07 28 33.3**	**-1.4**
JAM	**Amami Oshima**	**2.14**	**1**	*e*P	**Pb**		**07 28 09.9**	**-1.3**
JAM				S	**Sn**		**07 28 34.5**	**-1.2**
JKE	**Kume jima 2**	**2.49**	**272**	*e*P	**Pn**		**07 28 13.9**	**+0.6**
JKE				S	**Sn**		**07 28 42.1**	**-2.2**
JTAJ	**Takarajima**	**2.89**	**354**	S	**Sn**		**07 28 52.4**	**-1.9**
SEY	**Seymchan**	**39.65**	**16**	P	P		07 35 09.6	+4.8
	0.4nm,0.3s,baz=269,slow=14,SNR=3.7							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**42.40**	**312**	P	**P**		**07 35 28.8**	**+1.0**
	0.2nm,0.6s,baz=103,slow=9.5,SNR=2.8							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**45.65**	**316**	P	**P**		**07 35 54.5**	**+0.8**
	0.3nm,0.5s,baz=102,slow=9.1,SNR=4.3							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**46.17**	**174**	P	**P**		**07 35 59.0**	**+1.0**
	0.5nm,0.7s,baz=355,slow=7.6,SNR=2.6							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**49.82**	**175**	P	**P**		**07 36 28.6**	**+2.3**
	0.4nm,1.0s,baz=354,slow=7.0,SNR=1.7							
	0.4nm,1.0s							
BVAR	**Borovoye Array**	**51.04**	**318**	P	**P**		**07 36 37.2**	**+1.9**
	0.5nm,0.6s,baz=91,slow=7.2,SNR=2.7							
	0.5nm,0.6s							
FINES	**FINESS Array B**	**73.41**	**331**	P	**P**		**07 39 06.9**	**+1.7**
	1.1nm,0.7s,baz=51,slow=6.4,SNR=4.8							
	1.1nm,0.7s							
NB2	**NORSAR Subarra**	**79.80**	**334**	P	P		07 39 45.0	+3.5
	comp=Z,0.6nm,0.8s,baz=49,slow=5.9							
NOA	**NORSAR Array B**	**79.80**	**334**	P	**P**		**07 39 42.1**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=52,slow=5.7,SNR=4.5							
	comp=Z,0.5nm,0.7s							

---

*IDC **13** 07:34:43.3±0.6, 54°.10N×166°.31E, h0km, mb4.2/30, mbtmp4.2/33, ML3.9/3, MS3.2/4, Error ellipse: s-maj=15.4km s-min=11.1km az=158.0*
*KRSC **13** 07:34:45.6±2.6, 54°.03N×166°.04E, h41km±27km, Ml4.5*
*NEIC **13** 07:34:46.6±1.3, 54°.3N±0°.2×166°.2E±0°.1, h10km±2km, mb4.4/57, Error ellipse: s-maj=27.4km s-min=12.8km az=178.0*
*MOS **13** 07:34:48.0±0.9, 54°.07N×166°.15E, h44km, mb4.6/25, Error ellipse: s-maj=6.1km s-min=5.1km az=39.9*
ISC 13 07:34:48.7±0.4, 54°.03N±0°.04×166°.35E±0°.04, h35km, n487, σ1°08/508, mb4.4/79, MS3.3/4, 15C-1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.19**	**349**	PN	**Pn**		**07 35 06.0**	**-2.8**
BKI				S	**Sn**		**07 35 21.0**	**-2.8**
BKI	**Bering**	**1.19**	**349**	*e*P	**Pn**		**07 35 06.1**	**-2.8**
BKI				*e*S	**Sn**		**07 35 21.0**	**-2.8**
MKZ	**Mys Kozlova**	**2.76**	**283**	PN	**Pn**		**07 35 28.5**	**-1.8**
MKZ				S	**Sn**		**07 36 00.2**	**-2.1**
MKZ	**Mys Kozlova**	**2.76**	**283**	*e*P	**Pn**		**07 35 28.5**	**-1.8**
MKZ				*e*S	**Sn**		**07 36 00.3**	**-2.1**
KBTR	**Krutoberegovo**	**2.98**	**318**	PN	**Pn**		**07 35 30.3**	**-3.0**
KBTR				S	**Sn**		**07 36 03.3**	**-4.4**
KBTR	**Krutoberegovo**	**2.98**	**318**	*e*P	**Pn**		**07 35 30.4**	**-3.0**
KBTR				*e*S	**Sn**		**07 36 03.4**	**-4.4**
KBG	**Krutoberegovo**	**3.06**	**318**	*e*S	**Sn**		**07 36 06.1**	**-3.6**
TUMD	**Tumrok D**	**3.65**	**291**	PN	**Pn**		**07 35 41.1**	**-1.5**
TUMD				S	**Sn**		**07 36 23.0**	**-1.5**
TUMD	**Tumrok D**	**3.65**	**291**	*e*P	**Pn**		**07 35 41.2**	**-1.5**
TUMD				*e*S	**Sn**		**07 36 23.0**	**-1.5**
ZLN	**Zelenaya**	**3.76**	**304**	PN	**Pn**		**07 35 44.6**	**+0.4**
ZLN				S	**Sn**		**07 36 28.0**	**+0.8**
ZLN	**Zelenaya**	**3.76**	**304**	*e*P	**Pn**		**07 35 44.6**	**+0.4**
ZLN				*e*S	**Sn**		**07 36 28.1**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**3.78**	**303**	PN	**Pn**		**07 35 44.3**	**-0.1**
BZGR				S	**Sn**		**07 36 27.4**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**3.78**	**303**	*e*P	**Pn**		**07 35 44.3**	**-0.1**
BZGR				*e*S	**Sn**		**07 36 27.4**	**-0.3**
SMKR	**Semkarok**	**3.78**	**314**	PN	**Pn**		**07 35 43.5**	**-1.0**
SMKR	**Semkarok**	**3.78**	**314**	*e*P	**Pn**		**07 35 43.6**	**-1.0**
CIRR	**Tsirk**	**3.84**	**305**	PN	**Pn**		**07 35 45.6**	**+0.3**
CIRR	**Tsirk**	**3.84**	**305**	*e*P	**Pn**		**07 35 45.6**	**+0.3**
LGNR	**Loginova**	**3.85**	**305**	PN	**Pn**		**07 35 45.8**	**+0.2**
LGNR	**Loginova**	**3.85**	**305**	*e*P	**Pn**		**07 35 45.8**	**+0.2**
BZWR	**Bezymyannyi-We**	**3.89**	**302**	PN	**Pn**		**07 35 45.8**	**-0.2**
BZWR	**Bezymyannyi-We**	**3.89**	**302**	*e*P	**Pn**		**07 35 45.8**	**-0.2**
SPN	**Mys Shipunski**	**3.89**	**259**	PN	**Pn**		**07 35 44.2**	**-1.7**
SPN	**Mys Shipunski**	**3.89**	**259**	*e*P	**Pn**		**07 35 44.2**	**-1.7**
SPN				*e*S	**Sn**		**07 36 24.7**	**-5.6**
KMNR	**Kamenistaya**	**3.93**	**299**	PN	**Pn**		**07 35 45.7**	**-0.8**
KMNR				S	**Sn**		**07 36 30.4**	**-1.0**
KMNR	**Kamenistaya**	**3.93**	**299**	*e*P	**Pn**		**07 35 45.8**	**-0.8**
KMNR				*e*S	**Sn**		**07 36 30.5**	**-1.0**
KIRR	**Kirishev**	**3.96**	**301**	PN	**Pn**		**07 35 47.5**	**+0.5**
KIRR				S	**Sn**		**07 36 32.5**	**+0.3**
KIRR	**Kirishev**	**3.96**	**301**	*e*P	**Pn**		**07 35 47.5**	**+0.5**
KIRR				*e*S	**Sn**		**07 36 32.6**	**+0.3**
KRSR	**Krestovskiy**	**3.98**	**306**	PN	**Pn**		**07 35 46.2**	**-1.0**
KRSR	**Krestovskiy**	**3.98**	**306**	*e*P	**Pn**		**07 35 46.3**	**-1.0**
KLY	**Klyuchi**	**3.99**	**307**	PN	**Pn**		**07 35 45.2**	**-2.0**
**

PET	Petropavlovsk	4.70	261	eP		Pn	07 35 56.1 -1.0
INSR	Institute	4.72	261	PN		Pn	07 35 56.9 -0.4
INSR				S		Sn	07 36 48.6 -2.1
INSR	Institute	4.72	261	eP		Pn	07 35 56.9 -0.4
INSR				eS		Sn	07 36 48.6 -2.1
ESO	Esso	4.80	296	PN		Pn	07 35 57.1 -1.2
ESO	Esso	4.80	296	eP		Pn	07 35 57.2 -1.2
ESO				eS		Sn	07 36 49.6 -3.1
SHEM	Shemya Is, Ala	4.82	103	Pn		Pn	07 35 56.5 -2.1
	comp=Z,5.7nm,0.3s,baz=315,slow=20,SNR=1.8						
SHEM				Sn		Sn	07 36 49.2 -4.0
	comp=Z,9.9nm,0.3s,baz=90,slow=20,SNR=2.0						
SHEM				LR		LR	07 37 56.7
	comp=Z,276nm,18.9s,baz=344,slow=40						
	comp=Z,30nm,0.5s						
SMY	Shemya	4.82	103	Pn		Pn	07 36 00.4 +1.8
SMY	Shemya	4.82	103	PN		Pn	07 36 00.4 +1.8
RUS	Russkaya	4.97	254	PN		Pn	07 35 59.1 -1.7
RUS	Russkaya	4.97	254	eP		Pn	07 35 59.1 -1.7
GNL	Ganaly	4.99	270	PN		Pn	07 36 00.8 -0.3
GNL	Ganaly	4.99	270	eP		Pn	07 36 00.9 -0.3
KRMR	Karymshinskiy	5.06	260	PN		Pn	07 36 01.0 -0.9
KRMR	Karymshinskiy	5.06	260	eP		Pn	07 36 01.1 -0.9
GRL	Gorelyy	5.18	257	PN		Pn	07 36 03.4 -0.3
GRL	Gorelyy	5.18	257	eP		Pn	07 36 03.4 -0.3
PEA0B	Petropavlovsk-	5.24	263			Pn	07 36 03.4 -1.1
PEA0B	Petropavlovsk-	5.24	263	ceP		Pn	07 36 03.9 -0.5
PETK	Petropavlovsk-	5.24	263			Pn	07 36 03.7 -0.8
PETK	Petropavlovsk-	5.24	263	Pn		Pn	07 36 03.9 -0.5
	comp=Z,68nm,0.3s,baz=91,slow=20,SNR=185						
PETK				Sn		Sn	07 36 58.7 -4.9
	comp=Z,12nm,0.3s,baz=47,slow=22,SNR=6.2						
	comp=Z,101nm,0.4s						
KDTR	Khodutka, Kamc	5.48	249	PN		Pn	07 36 05.8 -1.9
KDTR	Khodutka, Kamc	5.48	249	eP		Pn	07 36 05.8 -1.9
KDTR				eS		Sn	07 37 03.2 -6.2
OSSR	Ossora	5.54	342	PN		Pn	07 36 08.0 -0.4
OSSR	Ossora	5.54	342	eP		Pn	07 36 08.0 -0.4
OSSR				eS		Sn	07 37 08.6 -2.2
APC	Apacha	5.60	262	PN		Pn	07 36 09.5 +0.2
APC	Apacha	5.60	262	eP		Pn	07 36 09.6 +0.2
PAU	Pauzhetka	6.34	250	PN		Pn	07 36 18.6 -0.8
PAU	Pauzhetka	6.34	250	eP		Pn	07 36 18.7 -0.8
SKR	Severo-Kuril's	7.11	246	eP		Pn	07 36 28.9 -1.1
SKR				pmax		pmax	
	comp=Z,76nm,0.3s						
SKR				MLR		MLR	
	comp=Z,500nm,13.0s						
SKR	Severo-Kuril's	7.11	246	eP		Pn	07 36 28.6 -1.5
SEY	Seymchan	11.51	326	i PN		Pn	07 37 27.7 -2.5
SEY				pmax		pmax	
	comp=Z,1.0nm,1.3s						
SPIA	Saint Paul Isl	13.57	67	P		Pn	07 37 58.8 +0.3
	baz=267						
P08K	Saint George I	13.94	70	P		Pn	07 38 03.2 -0.2
	baz=270						
BILL	Bilibino	14.05	360	i P		Pn	07 38 02.2 -2.8
BILL				pmax		pmax	
	comp=Z,3.0nm,0.3s						
NIKH	Nikolski High	14.77	84	Pn		Pn	07 38 13.1 -1.7
NIKH	Nikolski High	14.77	84	P		Pn	07 38 16.0 +1.2
	baz=285						
GAMB	Gambell	14.87	40	P		Pn	07 38 14.5 -1.5
	baz=240						
UNV	Unalaska Valle	15.95	80	Pn		Pn	07 38 29.7 -0.4
UNV	Unalaska Valle	15.95	80	P		Pn	07 38 30.6 +0.4
	baz=282						
M11K	Mekoryuk	16.09	56	P		Pn	07 38 32.1 +0.3
	baz=260						
YSS	Yuzhno-Sakhali	16.55	254	i P		Pn	07 38 37.3 -0.5
YSS				pmax		pmax	
	comp=Z,7.0nm,0.3s						
K13K	Kusilvak Mount	17.16	51	P		Pn	07 38 45.6 +0.3
	baz=256						
TNA	Tin City	17.18	38	P		Pn	07 38 44.5 -1.1
	baz=241						
M13K	Dall Lake	17.49	56			P	07 38 51.2 +0.9
M13K				IAmb		IAmb	07 38 57.2
	comp=Z,25nm,1.1s						
M13K	Dall Lake	17.49	56	P		Pn	07 38 49.4 +0.1
	baz=263						
FALS	False Pass	17.54	75	P		Pn	07 38 51.1 +1.0
	baz=280						
F14K	Arctic Creek	17.72	39	P		Pn	07 38 52.0 -0.3
	baz=243						
J14K	Nanvaranak Lak	17.86	49	P		Pn	07 38 53.2 -0.9
J14K	Nanvaranak Lak	17.86	49	P		Pn	07 38 53.7 -0.3
	baz=255						
L14K	Kuka Creek	17.95	54	P		Pn	07 38 55.0 -0.1
	baz=260						
M14K	Bethel	18.21	56	P		P	07 38 58.0 -0.3
M14K	Bethel	18.21	56	P		P	07 38 58.0 -0.3
	baz=263						
N14K	Kuskokwak Cree	18.26	58	P		P	07 38 58.0 -0.8
N14K				IAmb		IAmb	07 39 33.6
	comp=Z,22nm,1.1s						
N14K	Kuskokwak Cree	18.26	58	P		P	07 38 58.2 -0.6
	baz=266						
ASAJ	Asahikawa	18.37	247	P		P	07 38 59.2 -1.0
	comp=Z,0.4nm,0.3s,baz=62,slow=17,SNR=2.7						
	comp=Z,5.4nm,0.9s						
G15K	Niukluk	18.40	42	P		P	07 38 59.5 -0.8
	baz=248						
O14K	Tigyukauivet M	18.43	60	P		P	07 39 01.1 +0.4
	baz=268						
F15K	North Star Dit	18.45	39	P		P	07 39 00.9 0.0
	baz=245						
L15K	Ungalak Mounta	18.58	53	P		Pn	07 39 03.0 +0.3
	baz=261						
K15K	Wolf Creek Mou	18.67	51	P		Pn	07 39 04.2 +0.3
K15K	Wolf Creek Mou	18.67	51	P		P	07 39 03.1 -0.3
	baz=259						
M15K	Kasigluk River	18.83	56	P		P	07 39 05.5 +0.5
	baz=265						
H16K	Elim	18.99	44	P		P	07 39 06.5 -0.3
	baz=251						
N15K	Kwethluk River	19.07	58			Pn	07 39 09.3 +0.5
N15K				IAmb		IAmb	07 39 14.0
	comp=Z,23nm,1.1s						
N15K	Kwethluk River	19.07	58	P		Pn	07 39 08.9 +0.1
	baz=267						
SDPT	Sand Point	19.12	73	P		P	07 39 09.1 +0.8
	baz=280						
O15K	Ungalikthiuk R	19.17	61	P		P	07 39 09.1 +0.3
	baz=270						
G16K	Koyuk River	19.20	41	P		P	07 39 09.4 +0.3
	baz=249						
J16K	Anvik River	19.30	48	P		P	07 39 11.0 +0.8
	baz=257						
I17K	Unalakleet	19.41	46	P		P	07 39 12.0 +0.6
	baz=255						
C16K	Lisburne Hills	19.47	32	P		P	07 39 12.4 +0.3
	baz=238						
S14K	Fog Glacier	19.49	70	P		P	07 39 12.7 +0.2
	baz=278						
L16K	Owhat River	19.53	53	P		P	07 39 12.7 -0.1
	baz=263						
M16K	Timber Creek	19.70	55			P	07 39 14.8 +0.2
M16K	Timber Creek	19.70	55	P		P	07 39 14.9 +0.3
	baz=265						
CHNA	Chernabura Isl	19.72	74	P		P	07 39 16.2 +1.4
	baz=282						
N16K	Nishlik Lake	19.75	57	P		P	07 39 15.8 +0.5
	baz=267						
G17K	Kiwalik Mounta	19.91	42	P		P	07 39 17.0 +0.1
	baz=251						
D17K	Noatak River	19.91	35	P		P	07 39 16.1 -0.7
	baz=242						
J17K	VABM Dome	20.00	48	P		P	07 39 19.0 +1.2
J17K				IAmb		IAmb	07 39 26.8
	comp=Z,14nm,1.1s						
J17K	VABM Dome	20.00	48	P		P	07 39 18.4 +0.5
	baz=259						
F17K	Baldwin Pennin	20.02	39	P		P	07 39 17.7 -0.3
	baz=248						
H17K	Granite Mounta	20.03	44			P	07 39 19.1 +0.9
H17K	Granite Mounta	20.03	44	P		P	07 39 18.6 +0.4
	baz=254						
O16K	Kokwok River B	20.06	60	P		P	07 39 19.9 +1.4
	baz=270						
E17K	Hotham Inlet	20.07	37	P		P	07 39 19.1 +0.6
	baz=246						
P16K	Nushagak River	20.12	61	P		P	07 39 20.3 +1.2
	baz=272						
CHGN	Chignik	20.12	69	P		P	07 39 20.3 +1.1
	baz=279						
L17K	Donlin	20.14	52	P		P	07 39 20.4 +1.0
	baz=263						
RDOG	Red Dog Mine	20.14	34	P		P	07 39 19.9 +0.6
	baz=242						
K17K	Iditarod	20.22	50			P	07 39 21.0 +0.8
K17K				IAmb		IAmb	07 39 22.9
	comp=Z,16nm,0.9s						
K17K	Iditarod	20.22	50	P		P	07 39 21.1 +0.8
	baz=261,SNR=6.0						
R16K	Pilot Point	20.42	65	P		P	07 39 23.8 +1.3
	baz=276						
M17K	Holitna River	20.47	54			P	07 39 23.3 +0.4
M17K	Holitna River	20.47	54	P		P	07 39 23.8 +0.8
	baz=266,SNR=10.0						
N17K	Nushagak Hills	20.54	57			P	07 39 24.1 +0.4
N17K	Nushagak Hills	20.54	57	P		P	07 39 23.9 +0.2
	baz=268						
O17K	Koliganek Bris	20.57	59	P		P	07 39 24.1 +0.1
	baz=270						
E18K	Tukpahlearik C	20.64	37	P		P	07 39 24.6 -0.2
	baz=246						
F18K	Selawik	20.67	39	P		P	07 39 24.7 -0.4
	baz=250						
H18K	Honhosa River	20.72	44	P		P	07 39 26.4 +0.8
H18K	Honhosa River	20.72	44	P		P	07 39 25.7 0.0
	baz=255						
YAK	Yakutsk	20.74	307	ceP		P	07 39 25.7 -0.2
YAK				pmax		pmax	
	comp=Z,32nm,0.8s						
G18K	Tagagawik	20.82	42	P		P	07 39 27.5 +0.8
G18K				IAmb		IAmb	07 39 29.1
	comp=Z,16nm,1.2s						
G18K	Tagagawik	20.82	42	P		P	07 39 26.9 +0.2
	baz=253,SNR=7.2						
Q16K	King Salmon	20.82	62	P		P	07 39 27.3 +0.5
	baz=274						
L18K	Granite Mounta	20.90	52	P		P	07 39 28.3 +0.7
L18K	Granite Mounta	20.90	52	P		P	07 39 28.0 +0.4
	baz=264						
P17K	Kvichak River	20.91	61	P		P	07 39 28.3 +0.6
	baz=273						
C18K	Utukok River	20.98	33	P		P	07 39 28.7 +0.2
C18K	Utukok River	20.98	33	P		P	07 39 27.8 -0.8
	baz=243,SNR=7.3						
J18K	Innoko River	21.05	49			P	07 39 29.6 +0.4
J18K				IAmb		IAmb	07 39 34.0
	comp=Z,21nm,1.2s						
J18K	Innoko River	21.05	49	P		P	07 39 29.5 +0.2
	baz=261,SNR=11						
B18K	Kokolik River	21.14	31	P		P	07 39 30.0 -0.2
	baz=240,SNR=7.5						
N18K	Kilae Creek	21.18	57	P		P	07 39 31.4 +0.7
	baz=269						
GCSA	Galena City Sc	21.23	45	P		P	07 39 31.5 +0.4
	baz=258						
M18K	Stony River	21.25	54	P		P	07 39 30.6 -0.8
	baz=267						
Q17K	Contact Creek	21.26	63	P		P	07 39 30.9 -0.7
	baz=275						
TTA	Tatalina	21.29	50	P		P	07 39 31.2 -0.8
	baz=263,SNR=8.5						
F19K	Shaleruckik Mo	21.45	39			P	07 39 33.4 -0.1
F19K	Shaleruckik Mo	21.45	39	P		P	07 39 32.7 -0.8
	baz=251						
G19K	Purcell Mounta	21.50	41	P		P	07 39 33.1 -0.9
	baz=254						
O18K	Koktuh Hills	21.52	59	P		P	07 39 34.2 -0.1
	baz=272						
P18K	Big Mountain,	21.53	60	P		P	07 39 35.1 +0.7
	baz=273						
H19K	Roundabout Mou	21.59	43	P		P	07 39 35.0 0.0
H19K				IAmb		IAmb	07 39 42.6
	comp=Z,12nm,1.0s						
H19K	Roundabout Mou	21.59	43	P		P	07 39 34.8 -0.2
	baz=256						
J19K	Poorman	21.62	47			P	07 39 35.1 -0.2
J19K	Poorman	21.62	47	P		P	07 39 35.4 0.0
	baz=261						
Q18K	Katmai Hardscr	21.69	62	P		P	07 39 37.4 +1.2
	baz=275,SNR=5.4						
L19K	White Mountain	21.75	52			P	07 39 37.1 +0.3
L19K				IAmb		IAmb	07 39 42.2
	comp=Z,11nm,1.1s						
L19K	White Mountain	21.75	52	P		P	07 39 36.7 -0.1
	baz=266						
A19K	Wainwright	21.79	30	P		P	07 39 36.4 -0.6
	baz=239						
E19K	Redstone River	21.86	38	P		P	07 39 38.1 +0.2
	baz=251,SNR=6.9						
KLR	Kul'dur	21.86	272	P		P	07 39 38.3 +0.3
	comp=Z,5.2nm,0.6s,baz=64,slow=9.8,SNR=21						
KLR				LR		LR	07 48 41.3
	comp=Z,24nm,18.7s,baz=282,slow=38						
	comp=Z,5.2nm,0.6s						
KLR	Kul'dur	21.86	272	ceP		P	07 39 38.9 +0.9
KLR				pmax		pmax	
	comp=Z,6.0nm,0.8s						
N19K	Bonanza Creek	21.87	56	P		P	07 39 37.9 -0.3
	baz=270						
D19K	Kuna River	21.94	35	P		P	07 39 37.6 -1.2
	baz=247,SNR=7.6						
M19K	Big River Lodg	21.95	53	P		P	07 39 39.3 +0.4
	baz=267						
O19K	Port Alsworth	21.96	58	P		P	07 39 39.3 +0.4
	baz=272						
R18K	Karluk	22.09	65	P		P	07 39 40.9 +0.5
	baz=278						
K20K	Telida	22.22	49	P		P	07 39 41.6 -0.2
	baz=264,SNR=5.3						
H20K	Anotleneega Mo	22.22	44	P		P	07 39 41.8 0.0
	baz=258						
L20K	Farewell, AK	22.23	52	P		P	07 39 42.1 +0.2
	baz=266						
I20K	Naaghedeneel	22.25	46	P		P	07 39 41.7 -0.4
	baz=260						
F20K	Avaraart Lake	22.29	39			P	07 39 43.2 +0.7
F20K	Avaraart Lake	22.29	39	P		P	07 39 42.1 -0.3
	baz=253						
J20K	Nowinta River	22.29	47	P		P	07 39 42.3 -0.2
	baz=262						
Q19K	Cape Douglas,	22.37	61	P		P	07 39 43.1 -0.3
	baz=275						
SII	Sitkinak Islan	22.40	67	P		P	07 39 44.0 +0.2
	baz=281						
E20K	Nigu River	22.51	36	P		P	07 39 44.0 -0.9
	baz=250,SNR=15						
P19K	Oil Pt	22.53	59	P		P	07 39 45.2 +0.1
	baz=274						
D20K	Etivluk River	22.53	35	P		P	07 39 44.7 -0.4
D20K				IAmb		IAmb	07 39 48.5
	comp=Z,12nm,0.9s						
D20K	Etivluk River	22.53	35	P		P	07 39 44.3 -0.8
	baz=248,SNR=9.7						
M20K	Styx River	22.55	53	P		P	07 39 45.2 -0.2
	baz=269						
OHAK	Old Harbor	22.77	66	P		P	07 39 47.7 +0.1
	baz=280						
ZEA	Zeya	22.85	285	i P		P	07 39 47.6 -1.0
B20K	Meade River	22.88	32			P	07 39 48.2 -0.5
B20K	Meade River	22.88	32	P		P	07 39 48.1 -0.5
	baz=245,SNR=7.5						
SPCR	Spurr Chakacha	22.98	55	P		P	07 39 49.8 -0.1
	baz=271						
G21K	Allakaket	23.00	41			P	07 39 49.7 -0.3
G21K	Allakaket	23.00	41	P		P	07 39 48.9 -1.1
	baz=257						
PPLA	Purkeypile	23.03	51	P		P	07 39 49.4 -1.1
	baz=267						
Q20K	Shuyak Island	23.05	62	P		P	07 39 49.9 -0.6
	baz=277						
CHUM	Lake Minchumin	23.05	48	P		P	07 39 49.6 -0.9
	baz=265						
KDAK	Kodiak Island	23.06	64	P		P	07 39 50.6 0.0
	baz=279						
H21K	Melozitna Rive	23.10	44	P		P	07 39 50.6 -0.4
H21K				IAmb		IAmb	07 40 22.3
	comp=Z,16nm,1.5s						
H21K	Melozitna Rive	23.10	44	P		P	07 39 50.1 -0.9
	baz=260						
CAST	Castle Rocks	23.12	49			P	07 39 52.1 +0.9
CAST				IAmb		IAmb	07 39 56.0
	comp=Z,12nm,1.0s						
CAST	Castle Rocks	23.12	49	P		P	07 39 49.8 -1.4
	baz=266						
F21K	Alatna River	23.18	40	P		P	07 39 51.7 -0.1
	baz=256						
SKT	Skwentna	23.30	53	P		P	07 39 53.1 0.0
	baz=270						
C21K	Knifeblade Rid	23.31	35	P		P	07 39 52.4 -0.7
	baz=250,SNR=6.9						
HOM	Homer	23.33	59	P		P	07 39 53.3 -0.1
	baz=275						
E21K	Killik River	23.35	37	P		P	07 39 52.4 -1.1
	baz=252						
CAPN	Captain Cook N	23.51	56	P		P	07 39 55.0 +0.1
	baz=273						
B21K	Ikpikpuk River	23.53	34			P	07 39 54.9 -0.3
B21K				IAmb		IAmb	07 39 58.5
	comp=Z,6.6nm,0.7s						
B21K	Ikpikpuk River	23.53	34	P		P	07 39 54.8 -0.3
	baz=249,SNR=6.7						
A21K	Barrow	23.63	29	P		P	07 39 55.4 -0.7
	baz=243						
BPAW	Bear Paw Mtn.	23.66	48	P		P	07 39 55.8 -0.7
	baz=265						
SUA	Susitna One	23.68	54	P		P	07 39 56.6 -0.2
SUA				IAmb		IAmb	07 40 12.3
	comp=Z,13nm,1.1s						
SUA	Susitna One	23.68	54	P		P	07 39 56.7 -0.2
	baz=272						
H22K	Ishtalitna Cre	23.72	43	P		P	07 39 57.3 +0.2
	baz=261						
F22K	John River	23.74	39	P		P	07 39 57.0 -0.2
	baz=256						
BRSE	Bradley Lake S	23.78	59	P		P	07 39 57.7 0.0
	baz=276						
G22K	Bettles	23.86	41	P		P	07 39 58.0 -0.3
	baz=258						
CUT	Chulitna	23.90	52	P		P	07 39 59.0 +0.2
	baz=270						
TIXI	Tiksi	23.91	332	P		P	07 39 58.0 -0.8
	comp=Z,7.2nm,0.6s,baz=122,slow=8.7,SNR=30						
	comp=Z,7.2nm,0.6s						
TIXI	Tiksi	23.91	332	ceP		P	07 39 58.7 0.0
TIXI				pmax		pmax	
	comp=Z,17nm,1.3s						
TRF	Thorofare Moun	23.92	50			P	07 39 59.0 -0.1
TRF				IAmb		IAmb	07 40 03.9
	comp=Z,13nm,1.0s						
TRF	Thorofare Moun	23.92	50	P		P	07 39 58.8 -0.3
	baz=268						
D22K	Ayikyak River	23.93	36	P		P	07 39 58.7 -0.4
	baz=253						
A22K	Sinclair Lake	23.97	30	P		P	07 39 58.5 -0.8
	baz=246,SNR=5.1						
M22K	Willow	23.98	54	P		P	07 39 59.2 -0.2
	baz=272						
HEH	HeiHe	23.98	277	eP		P	07 39 59.3 -0.3
HEH				pmax		pmax	
	comp=Z,16nm,1.0s						
E22K	Anaktuvuk Pass	24.03	38	P		P	07 40 00.0 0.0
E22K	Anaktuvuk Pass	24.03	38	P		P	07 39 59.6 -0.4
	baz=256,SNR=23						
B22K	Teshekpuk Lake	24.18	32			P	07 40 01.2 -0.1
B22K	Teshekpuk Lake	24.18	32	P		P	07 40 00.4 -0.9
	baz=249,SNR=10.0						
RC01	Rabbit Creek A	24.18	55	P		P	07 40 01.4 0.0
	baz=273						
O22K	Cooper Landing	24.23	57	P		P	07 40 01.4 -0.4
	baz=275						
USRK	Ussuriysk Ar.	24.32	260	P		P	07 40 02.0 -0.8
	comp=Z,4.2nm,0.9s,baz=60,slow=11,SNR=4.3						
	comp=Z,4.2nm,0.9s						
SEW	Seward	24.39	58	P		P	07 40 03.4 +0.1
	baz=276						
G23K	Bananza Creek	24.40	42	P		P	07 40 02.7 -0.7
	baz=261						
COLD	Coldfoot	24.43	40	P		P	07 40 03.3 -0.2
	baz=259,SNR=10						
PMR	Palmer	24.45	54	P		P	07 40 03.8 0.0
	baz=273						
I23K	Minto, Yukon-K	24.46	45	P		P	07 40 03.7 -0.1
I23K				IAmb		IAmb	07 40 08.2
	comp=Z,12nm,0.8s						
I23K	Minto, Yukon-K	24.46	45	P		P	07 40 03.8 0.0
	baz=265,SNR=9.3						
H23K	Yukon River	24.46	44	P		P	07 40 04.2 +0.3
	baz=263						
NEA2	Nenana	24.53	47	P		P	07 40 04.8 +0.3
NEA2				IAmb		IAmb	07 40 10.5
	comp=Z,9.3nm,0.8s						
NEA2	Nenana	24.53	47	P		P	07 40 04.3 -0.3
	baz=266,SNR=8.5						
MCK	McKinley	24.54	49	P		P	07 40 04.5 -0.1
	baz=268,SNR=9.4						
RND	Reindeer	24.57	50			P	07 40 04.2 -0.8
RND				IAmb		IAmb	07 40 08.3
	comp=Z,12nm,0.9s						
RND	Reindeer	24.57	50	P		P	07 40 04.2 -0.8
RND				pmax		pmax	
	comp=Z,12nm,0.9s						
D23K	Nanushuk River	24.65	36			P	07 40 05.3 -0.3
D23K	Nanushuk River	24.65	36	P		P	07 40 05.3 -0.3
	baz=255						
KNK	Knik Glacier	24.78	54	P		P	07 40 07.1 +0.2
KNK	Knik Glacier	24.78	54	P		P	07 40 07.5 +0.6
	baz=274						
E23K	Chandalar	24.81	38	P		P	07 40 06.7 -0.4
	baz=258						
SML	Sawmill	24.82	54			P	07 40 07.3 0.0
SML	Sawmill	24.82	54	P		P	07 40 07.3 0.0
SML				pmax		pmax	
	comp=Z,24nm,1.0s						
SML	Sawmill	24.82	54	P		P	07 40 07.8 +0.5
	baz=273						
PWL	Port Wells	24.88	56			P	07 40 07.8 0.0
PWL	Port Wells	24.88	56	P		P	07 40 07.4 -0.4
	baz=275						
C23K	Itkillik River	24.92	34	P		P	07 40 07.7 -0.3
	baz=253,SNR=7.2						
WRH	Wood River Hil	24.95	47	P		P	07 40 08.6 +0.4
TOLK	Toolik Lake Re	24.96	37	P		P	07 40 08.7 +0.3
TOLK				IAmb		IAmb	07 40 42.1
	comp=Z,12nm,1.1s						
TOLK	Toolik Lake Re	24.96	37	P		P	07 40 08.2 -0.2
	baz=257,SNR=8.3						
COLA	College	25.07	46	i P		P	07 40 10.2 +0.9
COLA				pmax		pmax	
	comp=Z,24nm,0.9s						
COLA	College	25.07	46	P		P	07 40 09.6 +0.2
	baz=267						
CCB	Clear Creek Bu	25.08	47			P	07 40 10.1 +0.7
M23K	Glacier View	25.11	54	P		P	07 40 08.6 -1.2
	baz=274						
H24K	Noodor Dome	25.14	44			P	07 40 10.1 0.0
H24K				IAmb		IAmb	07 40 14.6
	comp=Z,10.0nm,1.1s						
H24K	Noodor Dome	25.14	44	P		P	07 40 09.8 -0.3
	baz=265,SNR=8.4						
E24K	Your Creek	25.23	39			P	07 40 11.2 +0.3
E24K	Your Creek	25.23	39	P		P	07 40 09.3 -1.6
	baz=259						
POKR	Poker Plat Res	25.27	46	P		P	07 40 12.3 +1.1
POKR				IAmb		IAmb	07 40 16.1
	comp=Z,11nm,0.8s						
POKR	Poker Plat Res	25.27	46	P		P	07 40 10.4 -0.7
	baz=267						
SCM	Sheep Creek Mo	25.30	53	P		P	07 40 11.6 +0.1
	baz=274						
D24K	Happy Valley	25.35	36	P		P	07 40 11.6 -0.2
	baz=257						
F24K	Squaw Lake	25.36	40	P		P	07 40 11.3 -0.7
	baz=261						
G24K	Hadweenzic Riv	25.40	42	P		P	07 40 12.1 -0.3
	baz=263						
P23K	Montague Islan	25.43	58	P		P	07 40 12.4 -0.3
	baz=278						
HDA	Harding Lake	25.44	47	P		P	07 40 12.5 -0.2
	baz=269						
IL31		25.48	47			P	07 40 12.9 -0.1
IL31				IAmb		IAmb	07 40 15.5
	comp=Z,8.0nm,0.8s						
ILAR	Eielson Array	25.48	47	P		P	07 40 12.5 -0.6
	comp=Z,5.2nm,0.8s,baz=247,slow=8.1,SNR=48						
	comp=Z,5.2nm,0.8s						
ILAR

comp=Z,23nm,1.0s
M24K Tolsona, Glenn 25.82 53 P **P 07 40 16.7 +0.4**
M24K Tolsona, Glenn 25.82 53 P **P 07 40 16.0 -0.3**
baz=274
K24K Donnelly Dome 25.94 49 P **P 07 40 17.0 -0.4**
baz=271
G25K Bearman Lake 25.95 42 P **P 07 40 16.8 -0.5**
baz=264
KLU Klutina 25.99 54 P **P 07 40 18.1 +0.3**
baz=276
H25L Birch Creek 26.02 43 P **P 07 40 17.9 0.0**
baz=266
PRP Porcupine Dome 26.09 45 P **P 07 40 19.7 +0.9**
baz=268,SNR=9.6
PAX Paxson 26.11 51 P **P 07 40 19.5 +0.6**
baz=273
J25K Salcha River, 26.12 47 P **P 07 40 18.6 -0.4**
J25K IAmb IAmb 07 40 48.1
comp=Z,10nm,1.4s
J25K Salcha River, 26.12 47 P **P 07 40 19.9 +0.9**
baz=270
MJA0 Matsu Arr-Jizo 26.14 239 *e*P **P 07 40 20.3 +1.0**
MJA0 pmax pmax
comp=Z,3.0nm,0.7s
BNX BinXian 26.14 268 ⇑P **P 07 40 19.8 +0.5**
BNX pmax pmax
comp=Z,12nm,1.0s
MAJO Matsushiro 26.16 240 *i*P **P 07 40 20.3 +0.8**
MAJO pmax pmax
comp=Z,7.0nm,0.7s
MJAR Matsushiro Arr 26.16 240 P **P 07 40 19.4 -0.1**
comp=Z,1.8nm,0.6s,baz=27,slow=9.4,SNR=6.8
comp=Z,1.8nm,0.6s
EYAK Cordova Ski Ar 26.18 56 P **P 07 40 19.9 +0.5**
baz=278
F25K Christian Rive 26.22 40 P **P 07 40 19.7 -0.2**
baz=263
D25K Kavik River 26.23 36 P **P 07 40 20.1 +0.1**
baz=259
FYU Fort Yukon 26.28 43 P **P 07 40 21.3 +1.0**
FYU IAmb IAmb 07 40 29.4
comp=Z,7.9nm,0.8s
HARP HAARP 26.28 52 P **P 07 40 20.3 -0.1**
baz=274
RIDG Independent Ri 26.36 49 **P 07 40 21.0 -0.2**
RIDG IAmb IAmb 07 40 37.0
comp=Z,15nm,1.2s
RIDG Independent Ri 26.36 49 P **P 07 40 20.8 -0.3**
baz=272
N25K Chitina, Valde 26.61 54 P **P 07 40 23.8 +0.4**
baz=276
BMRM Bremner River 26.68 55 P **P 07 40 24.2 +0.1**
baz=278
SCRK Sand Creek 26.73 48 **P 07 40 23.9 -0.7**
SCRK IAmb IAmb 07 40 28.0
comp=Z,9.0nm,1.0s
SCRK Sand Creek 26.73 48 P **P 07 40 24.5 -0.1**
baz=272,SNR=5.0
G26K Porcupine Rive 26.88 42 P **P 07 40 26.5 +0.9**
baz=266
J26L Joseph Creek 26.91 47 P **P 07 40 26.6 +0.5**
baz=272
L26K Log Cabin Wild 27.07 50 P **P 07 40 28.4 +0.9**
baz=275
I26K Coal Creek Min 27.07 45 P **P 07 40 27.0 -0.4**
baz=270
C27K Jago River 27.21 36 P **P 07 40 28.6 -0.1**
baz=261
M26K Nabesna, AK 27.28 52 P **P 07 40 29.0 -0.5**
baz=276
BGLC Bering Glacier 27.45 57 P **P 07 40 30.6 -0.3**
baz=280
K27K Chicken 27.57 48 P **P 07 40 32.3 +0.3**
baz=274
G27K Doyon Strip 27.71 42 P **P 07 40 33.5 +0.3**
baz=269
I27K Kandik River 27.72 45 P **P 07 40 34.0 +0.7**
baz=271
H27K Steamboat Moun 27.75 43 P **P 07 40 34.2 +0.6**
baz=270
L27K Beaver Creek, 27.76 50 P **P 07 40 34.2 +0.5**
baz=276,SNR=6.7
E27K Coleen River 27.81 39 P **P 07 40 34.3 +0.3**
baz=266
M27K Edge Creek, AK 27.81 52 P **P 07 40 34.5 +0.2**
baz=277
MESA MESA 28.10 56 P **P 07 40 36.3 -0.6**
baz=281
BVCY Beaver Creek 28.27 52 P **P 07 40 38.6 +0.3**
baz=278
I28M Miner Creek 28.42 45 P **P 07 40 39.9 +0.3**
baz=273
YUK3 Moose Creek 28.55 53 P **P 07 40 41.2 +0.2**
baz=279
E28M Babbage River 28.59 38 P **P 07 40 40.8 -0.2**
baz=267
DAWY Dawson 28.75 48 P **P 07 40 42.6 +0.1**
baz=276
O28M Mount Upton 28.85 55 P **P 07 40 43.7 0.0**
baz=281
D28M Stokes Point 28.92 37 P **P 07 40 44.1 +0.2**
baz=267
PINM Pinnacle 28.95 56 P **P 07 40 44.5 +0.2**
baz=282
YUK8 Steele Glacier 28.96 54 P **P 07 40 44.6 0.0**
baz=281
H29M Whitestone 29.03 43 P **P 07 40 45.3 +0.4**
baz=273
I29M Ogilvie Camp, 29.11 45 P **P 07 40 45.9 +0.3**
baz=274
G29M Pine Creek 29.15 42 P **P 07 40 46.4 +0.4**
baz=272
E29M Blow River 29.19 39 P **P 07 40 46.6 +0.3**
baz=269
J29N Klondike Camp 29.22 47 P **P 07 40 47.1 +0.4**
baz=276
M29M Somme Creek 29.37 51 P **P 07 40 48.8 +0.6**
baz=280
L29M L29M 29.42 50 **P 07 40 48.9 +0.5**
L29M IAmb IAmb 07 40 53.4
comp=Z,11nm,1.1s
L29M L29M 29.42 50 P **P 07 40 49.0 +0.6**
baz=279
YUK4 Talbot Arm 29.48 53 P **P 07 40 50.1 +1.0**
baz=281
K29M Barlow Dome 29.59 48 P **P 07 40 50.7 +0.7**
baz=278
EPYK Eagle Plains 29.69 43 P **P 07 40 51.2 +0.4**
baz=274
YUK6 Outpost Mounta 29.69 54 P **P 07 40 51.5 +0.5**
baz=282
O29M Mount Kennedy 29.72 55 P **P 07 40 51.1 -0.2**
baz=283
G30M tAoh Zraii Nji 29.85 42 P **P 07 40 52.6 +0.4**
baz=273
I30M Mount Dempster 29.93 45 P **P 07 40 52.9 -0.1**
baz=276
F30M Barrier River 29.99 40 P **P 07 40 53.5 0.0**
baz=273
J30M Hart River 30.02 47 P **P 07 40 53.9 0.0**
baz=277
M30M Minto, Yukon 30.11 51 P **P 07 40 54.8 +0.2**
baz=280
HYT Haines Junctio 30.12 54 P **P 07 40 54.8 0.0**
baz=283
N30M Aishikik Lake 30.19 53 P **P 07 40 55.7 +0.4**
baz=282
P29M Windy Craggy 30.29 57 P **P 07 40 57.1 +1.0**
baz=285
P30M Million Dollar 30.55 55 P **P 07 40 58.1 -0.4**
baz=284
G31M Satah River 30.62 42 P **P 07 40 59.3 +0.3**
baz=275
H31M Peel River 30.70 44 P **P 07 40 59.3 -0.5**
baz=277
F31M Tsiigehtchic 30.79 41 P **P 07 41 00.5 +0.1**
baz=275
N31M Braeburn, Yuko 30.80 53 P **P 07 41 00.7 0.0**
baz=283
O30N Mendenhall 30.81 54 P **P 07 41 00.7 -0.1**
baz=284
KSRS Korea Array 31.05 254 P **P 07 41 03.5 +0.5**
comp=Z,1.8nm,0.7s,baz=43,slow=9.5,SNR=6.0
comp=Z,1.8nm,0.7s
M31M Drury Creek, Y 31.28 51 P **P 07 41 04.9 0.0**
baz=283
WHY Whitehorse 31.42 54 P **P 07 41 06.0 -0.2**
baz=285

SKAG Skagway 31.52 56 P **P 07 41 06.8 -0.1**
baz=287
FARO Faro, Yukon 31.75 51 P **P 07 41 09.0 -0.1**
baz=284
N32M Quiet Lake 32.14 53 P **P 07 41 13.1 +0.7**
baz=285
SIT Sitka 32.27 61 P **P 07 41 13.9 +0.4**
baz=290
P32M Atlin 32.27 56 P **P 07 41 13.9 +0.3**
baz=287
R32K Eaglecrest 32.28 58 P **P 07 41 14.3 +0.6**
baz=289
S32K Killisnoo 32.51 60 P **P 07 41 15.6 -0.1**
baz=290
P33M Teslin, Yukon 32.52 54 P **P 07 41 16.2 +0.3**
baz=287
JNU Nakatsue 32.62 245 LR LR 07 54 28.2
comp=Z,40nm,19.0s,baz=42,slow=36
A36M Sachs Harbour 33.39 32 P **P 07 41 23.0 -0.1**
baz=275
R33M Jennings River 33.66 55 P **P 07 41 25.9 0.0**
baz=289
U33K Whale Pass 33.75 61 P **P 07 41 27.5 +1.1**
baz=293
CRAG Craig 34.00 62 P **P 07 41 29.3 +0.7**
baz=294
WRAK Wrangell Islan 34.03 61 P **P 07 41 29.3 +0.5**
baz=293
S34M Telegraph Cree 34.09 58 P **P 07 41 28.9 -0.6**
baz=291
C36M Paulatuk 34.11 36 P **P 07 41 29.5 +0.1**
baz=280,SNR=11
H11N2 WAKE ISLAND Hy 34.24 179 T T 08 18 42.2
baz=0.6,slow=76,SNR=38
H11N3 WAKE ISLAND Hy 34.26 179 T T 08 18 46.3
baz=0.6,slow=76,SNR=36
TGTN Hyland Airport 34.26 51 P **P 07 41 30.6 -0.3**
baz=288
H11N1 WAKE ISLAND Hy 34.26 179 T T 08 18 47.0
baz=0.6,slow=76,SNR=32
WTLY Watson Lake, Y 34.47 53 P **P 07 41 32.7 0.0**
baz=290
V35K Ketchikan 34.84 62 P **P 07 41 36.3 +0.4**
baz=295
T35M Bob Quinn 34.88 59 P **P 07 41 36.7 +0.4**
baz=293
U35K Hyder 35.42 60 P **P 07 41 41.0 +0.1**
baz=295
H11S1 WAKE ISLAND Hy 35.46 179 T T 08 20 23.5
baz=1.0,slow=75,SNR=13
H11S3 WAKE ISLAND Hy 35.47 179 T T 08 20 16.9
baz=1.0,slow=75,SNR=6.5
H11S2 WAKE ISLAND Hy 35.48 179 T T 08 20 23.9
baz=1.0,slow=75,SNR=18
WRGLY Wrigley 35.86 47 P **P 07 41 45.0 +0.5**
baz=289
LIRD Liard River Hi 35.99 54 P **P 07 41 46.2 +0.4**
baz=292
TOAD Toad River Com 36.62 54 P **P 07 41 51.4 +0.2**
baz=294
KOTAN Kotaneelee Air 36.68 52 P **P 07 41 52.2 +0.5**
baz=293
ULN Ulaanbaatar 36.89 285*ce*P **P 07 41 55.0 +1.2**
ULN pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 37.28 286 P **P 07 41 56.4 -0.7**
comp=Z,3.2nm,0.7s,baz=61,slow=8.3,SNR=14
comp=Z,3.2nm,0.7s
NRIK Noril'sk 37.29 325 P **P 07 41 55.6 -1.1**
comp=Z,0.6nm,0.3s,baz=91,slow=5.9,SNR=2.3
comp=Z,0.6nm,0.3s
NRIK Noril'sk 37.29 325*ce*P **P 07 41 56.8 +0.1**
NRIK pmax pmax
comp=Z,5.0nm,1.3s
TIA Tai'an 38.14 263 P **P 07 42 05.6 +1.3**
TIA pmax pmax
comp=Z,7.0nm,0.6s
HHC Hu-ho-hao-te 38.36 273 *e*P **P 07 42 06.9 +0.7**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HNS HongShan 38.75 266 *e*P **P 07 42 11.0 +1.6**
YKA Yellowknife Ar 39.90 45 P **P 07 42 18.9 +0.2**
comp=Z,1.5nm,0.6s,baz=298,slow=8.1,SNR=30
comp=Z,1.5nm,0.6s
YKA Yellowknife Ar 39.90 45 *e*P **P 07 42 19.3 +0.7**
YKA pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 45.36 305 P **P 07 43 02.3 -0.8**
comp=Z,0.5nm,0.4s,baz=64,slow=13,SNR=3.5
comp=Z,0.5nm,0.4s
ZALV Zalesovo Beam 45.36 305 *e*P **P 07 43 05.3 +2.3**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
LZH Lanzhou 46.05 274 *e*P **P 07 43 10.9 +2.0**
LZH pmax pmax
comp=Z,21nm,1.3s
GTA Gaotai 46.17 280 *e*P **P 07 43 11.3 +1.5**
GTA pmax pmax
comp=Z,6.0nm,0.7s
NEEM North Greenlan 46.73 11 *i*P **P 07 43 13.2 -0.8**
NEEM IAmb IAmb 07 43 14.8
comp=Z,13nm,0.9s
SPITS Spitsbergen Ar 46.78 352 P **P 07 43 13.6 -0.4**
comp=Z,8.2nm,0.8s,baz=42,slow=10,SNR=16
comp=Z,8.2nm,0.8s
KULLO Kullorsuaq 48.42 14 *i*P **P 07 43 25.9 -0.7**
KULLO IAmb IAmb 07 43 27.7
comp=Z,17nm,0.7s
UPNV Upernavik 50.11 15 *i*P **P 07 43 39.7 +0.1**
UPNV IAmb IAmb 07 43 42.9
comp=Z,21nm,0.9s
WMQ Urumqi 50.12 292 *e*P **P 07 43 41.5 +1.3**
WMQ pmax pmax
comp=Z,26nm,0.7s
KURK Kurchatov 50.35 304 P **P 07 43 41.3 -0.3**
KURK IAmb IAmb 07 43 42.4
comp=Z,6.8nm,1.2s
KURK Kurchatov 50.35 304*ce*P **P 07 43 41.4 -0.3**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURBB Kurchatov Arra 50.45 304 P **P 07 43 41.5 -0.9**
comp=Z,2.9nm,0.9s,baz=56,slow=7.9,SNR=17
comp=Z,2.9nm,0.9s
MK31 Makanchi Array 51.05 299*ce*P **P 07 43 46.9 -0.2**
MKAR Makanchi Array 51.05 299 P **P 07 43 45.9 -1.2**
comp=Z,0.8nm,0.7s,baz=55,slow=7.6,SNR=9.7
comp=Z,0.8nm,0.7s
MKAR Makanchi Array 51.05 299 *e*P **P 07 43 46.9 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
DBG Daneborg 51.87 2 *i*P **P 07 43 52.2 -0.5**
DBG IAmb IAmb 07 43 53.9
comp=Z,6.1nm,0.7s
NVAR Mina Array Bea 51.90 75 P **P 07 43 54.1 +0.4**
comp=Z,2.0nm,0.9s,baz=294,slow=8.7,SNR=9.0
comp=Z,2.0nm,0.9s
SUMG Summit 52.51 9 P **P 07 43 57.6 -0.4**
SUMG Summit 52.51 9 P **P 07 43 57.6 -0.4**
SUMG pmax pmax
comp=Z,18nm,1.0s
SUMG Summit 52.51 9 *i*P **P 07 43 58.0 0.0**
SUMG IAmb IAmb 07 43 59.9
comp=Z,15nm,0.9s
BVAR Borovoye Array 52.66 311 P **P 07 43 58.4 -0.6**
comp=Z,5.6nm,0.9s,baz=52,slow=7.7,SNR=16
comp=Z,5.6nm,0.9s
BRVK Borovoye 52.69 311*ce*P **P 07 43 59.4 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
PDAR Pinedale Array 53.77 65 P **P 07 44 08.2 +0.6**
comp=Z,2.2nm,0.8s,baz=322,slow=3.9,SNR=18
comp=Z,2.2nm,0.8s
PZH PanZhiHua 54.19 267 P **P 07 44 12.8 +2.1**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,100nm,4.9s
ARTI Arti 55.26 320*d i*P **P 07 44 17.8 -0.1**
ARTI 07 46 20.4
ARTI S **S 07 52 04.1 +5.4**
ARTI SS **SS 07 55 45.0 +2.6**
ARTI pmax pmax
comp=Z,7.0nm,0.8s
ICESG Greenland Ices 55.72 11 *i*P **P 07 44 20.9 -0.5**
ICESG IAmb IAmb 07 44 23.8
comp=Z,22nm,1.0s
KIRV Kirov 56.78 326*ce*P **P 07 44 29.1 +0.5**

AAK Ala-Archa 57.94 300*ce*P **P 07 44 37.2 -0.1**
AAK pmax pmax
comp=Z,2.0nm,0.8s
ABKAR Akbulak array 59.95 313 P **P 07 44 50.9 0.0**
FINES FINESS Array B 60.65 339 P **P 07 44 54.2 -1.3**
comp=Z,3.3nm,0.8s,baz=35,slow=7.0,SNR=7.1
comp=Z,3.3nm,0.8s
FINES FINESS Array B 60.65 339 *e*P **P 07 44 55.9 +0.4**
FINES pmax pmax
comp=Z,3.0nm,0.8s
ANMO Albuquerque 61.04 70*ce*P **P 07 44 59.9 +1.0**
ANMO pmax pmax
comp=Z,2.0nm,2.5s
CHTO Chiang Mai 61.74 263 P **P 07 45 05.9 +2.4**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 62.02 263 P **P 07 45 06.2 +0.8**
comp=Z,2.0nm,0.7s,baz=24,slow=7.0,SNR=16
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 62.02 263 *e*P **P 07 45 06.9 +1.5**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
VSU Vasula 63.21 338 *i*P **P 07 45 11.8 -0.9**
VSU pmax pmax
comp=Z,3.0nm,0.8s
HNR Honiara 63.45 187 LR LR 08 10 34.1
comp=Z,30nm,18.5s,baz=354,slow=34
NB2 NORSAR Subarra 63.58 347 P **P 07 45 15.1 -0.2**
comp=Z,1.1nm,0.6s,baz=16,slow=6.9
NOA NORSAR Array B 63.58 347 P **P 07 45 14.6 -0.7**
comp=Z,1.0nm,0.6s,baz=17,slow=6.5,SNR=9.7
comp=Z,1.0nm,0.6s
OBN Obninsk 63.64 330 *e*P **P 07 45 15.3 -0.3**
OBN *e* 07 45 54.0
OBN *e* 07 47 36.9
OBN *e*PPP PPP 07 49 05.3
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,92nm,17.0s
HFS Hagfors 64.10 345 P **P 07 45 17.5 -1.1**
comp=Z,1.5nm,0.7s,baz=98,slow=9.1,SNR=5.5
comp=Z,1.5nm,0.7s
TXAR Lajitas Array 66.81 72 P **P 07 45 36.3 -0.4**
comp=Z,1.3nm,0.6s,baz=306,slow=4.8,SNR=8.9
comp=Z,1.3nm,0.6s
AKASG Malin Array Be 69.62 333 P **P 07 45 53.1 -0.7**
comp=Z,2.2nm,0.6s,baz=27,slow=6.1,SNR=7.3
comp=Z,2.2nm,0.6s
EKA Eskdalemuir Ar 70.66 354 P **P 07 45 59.8 -0.3**
comp=Z,1.4nm,0.7s,baz=205,slow=1.5,SNR=2.5
comp=Z,1.4nm,0.7s
KIV Kislovodsk 71.19 321 *e*P **P 07 46 03.9 +0.2**
KIV pmax pmax
comp=Z,3.0nm,1.1s
KBZ Khabaz 71.31 320 P **P 07 46 03.8 -0.5**
comp=Z,4.0nm,0.8s,baz=88,slow=1.0,SNR=11
comp=Z,4.0nm,0.8s
KBZ Khabaz 71.31 320*ce*P **P 07 46 05.6 +1.3**
KHC Kasperske Hory 74.67 342*ce*P **P 07 46 26.2 +2.0**
KHC pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 74.93 342 P **P 07 46 25.4 -0.3**
comp=Z,0.7nm,0.6s,baz=28,slow=6.0,SNR=6.8
comp=Z,0.7nm,0.6s
GERES GERESS Array B 74.93 342 *e*P **P 07 46 26.1 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.5s
MLR Muntele Rosu 75.28 332 **P 07 46 27.9 +0.1**
MLR Muntele Rosu 75.28 332 P **P 07 46 27.9 +0.1**
MLR pmax pmax
comp=Z,4.0nm,0.6s
BR131 Keskin Array S 78.15 325 **P 07 46 44.2 0.0**
BR131 IAmb IAmb 07 46 45.4
comp=Z,3.1nm,0.8s
BR131 Keskin Array S 78.15 325 P **P 07 46 44.2 0.0**
BR131 pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 78.15 325 **P 07 46 44.0 -0.1**
BRTR Keskin Array B 78.15 325 P **P 07 46 43.0 -1.1**
comp=Z,1.9nm,0.7s,baz=62,slow=3.0,SNR=12
comp=Z,1.9nm,0.7s
BRTR Keskin Array B 78.15 325 *e*P **P 07 46 44.3 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 78.65 211 P **P 07 46 46.5 -0.3**
comp=Z,2.3nm,0.7s,baz=25,slow=6.1,SNR=13
comp=Z,2.3nm,0.7s
WRA Warramunga Arr 78.65 211 *e*P **P 07 46 47.0 +0.2**
WRA pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 82.29 210 P **P 07 47 06.2 -0.1**
comp=Z,2.9nm,0.6s,baz=19,slow=5.2,SNR=36
comp=Z,2.9nm,0.6s
ESDC Sonseca Array 86.29 353 P **P 07 47 27.0 +0.3**
comp=Z,0.2nm,0.4s,baz=11,slow=5.6,SNR=1.7
comp=Z,0.2nm,0.4s
STKA Stephens Creek 88.20 201 P **P 07 47 36.0 +0.4**
comp=Z,2.7nm,0.8s,baz=315,slow=8.2,SNR=5.5
comp=Z,2.7nm,0.8s
STKA Stephens Creek 88.20 201 *e*P **P 07 47 37.6 +2.0**
STKA pmax pmax
comp=Z,1.0nm,0.4s
QSPA South Pole Qui 143.78 180 PKhKP PKPpre 07 54 15.3
comp=Z,2.7nm,0.9s,baz=225,slow=1.4,SNR=8.0

---

*IDC **13** 07:35:26.9±1.8, 1°.83S×122°.68E, h0km, mb3.6/3, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=40.2km s-min=24.2km az=53.0*
*DJA **13** 07:35:30.7±0.8, 2°.5±3°×12°3E±°, h36km±19km, M4.0/12, mb4.2/2, MLv3.9/12*
ISC 13 07:35:31.3±1.0, 1°.82S±0°.05×122°.69E±0°.06, h35km, n15, σ0°84/17, mb3.5/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.78**	**6**	P	**Pn**	**07 35 44.6**	**-1.2**
LUWI				S	**Sn**	**07 35 56.8**	**+0.6**
APSI	**Ampana**	**1.38**	**311**	P	**Pn**	**07 35 53.3**	**-0.7**
MRSI	**Marisa**	**2.40**	**342**	P	**Pn**	**07 36 07.3**	**-0.8**
PCI	**Palu**	**2.99**	**288**	P	Pn	07 36 23.2	+6.9
SANI	**Sanana**	**3.30**	**94**	P	**Pn**	**07 36 21.4**	**+0.9**
SANI				S	**Sn**	**07 36 57.3**	**-1.3**
MPSI	**Mapaga**	**3.52**	**307**	P	**Pn**	**07 36 24.2**	**+0.7**
SPSI	**Sidrap Palu**	**3.61**	**234**	P	**Pn**	**07 36 24.6**	**-0.2**
BNSI	**Bone**	**3.64**	**225**	P	**Pn**	**07 36 24.3**	**-0.9**
BKSI	**Bulukumba**	**4.32**	**216**	P	**Pn**	**07 36 34.3**	**-0.3**
KAPI	**Kappang**	**4.32**	**223**	Pn	**Pn**	**07 36 34.3**	**-0.3**
	7.8nm,0.3s,baz=58,slow=3.6,SNR=12						
KAPI				Sn	**Sn**	**07 37 24.0**	**+0.2**
	2.4nm,0.3s,baz=36,slow=13,SNR=4.1						
	24nm,0.4s						
BSSI	**Bau Bau, Buton**	**4.82**	**207**	P	**Pn**	**07 36 40.6**	**-0.9**
EDFI	**Ende, Flores**	**6.96**	**188**	P	**Pn**	**07 37 09.8**	**-1.1**
WRA	**Warramunga Arr**	**21.31**	**148**	P	**P**	**07 40 15.1**	**-0.1**
	1.9nm,0.9s,baz=330,slow=9.8,SNR=9.5						
	1.9nm,0.9s						
ASAR	**Alice Springs**	**24.28**	**154**	P	**P**	**07 40 46.2**	**+0.7**
	1.0nm,0.6s,baz=326,slow=8.1,SNR=13						
	1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.86**	**312**	P	**P**	**07 41 45.1**	**+0.7**
	1.1nm,0.7s,baz=141,slow=7.3,SNR=10.0						
	1.1nm,0.7s						

---

*IDC **13** 07:40:26.8±0.7, 55°.32N×164°.70E, h0km, mb3.8/14, mbtmp3.8/16, ML3.4/2, MS2.7/1, Error ellipse: s-maj=24.4km s-min=13.8km az=155.0*
*KRSC **13** 07:40:29.5±1.5, 55°.28N×164°.45E, h52km±25km, Ml4.6*
*NEIC **13** 07:40:29.7±1.8, 55°.5N±0°.2×164°.4E±0°.2, h10km±2km, mb4.1/19, Error ellipse: s-maj=32.7km s-min=14.8km az=154.0*
*MOS **13** 07:40:30.7±0.6, 55°.26N×164°.65E, h42km, mb4.2/4, Error ellipse: s-maj=7.0km s-min=5.4km az=52.4*
ISC 13 07:40:30.2±0.5, 55°.33N±0°.04×164°.47E±0°.03, h22km, n140, σ1°66/145, mb3.9/22, 1C, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.87**	**97**	PN	**Pb**	**07 40 46.5**	**-0.1**
BKI				S	**Sn**	**07 40 57.9**	**-1.1**
BKI	**Bering**	**0.87**	**97**	*e*P	**Pb**	**07 40 46.5**	**-0.1**
BKI				*e*S	**Sn**	**07 40 58.0**	**-1.1**
KBTR	**Krutoberegovo**	**1.28**	**314**	PN	**Pn**	**07 40 52.4**	**-0.4**

KBTR S Sn 07 41 07.9 -1.4
KBTR Krutoberegovo 1.28 314 *e*P Pn 07 40 52.5 -0.4
KBTR *e*S Sn 07 41 07.9 -1.4
KBG Krutoberegovo 1.36 314 PN Pn 07 40 53.6 -0.3
KBG S Sn 07 41 10.3 -0.9
KBG Krutoberegovo 1.36 314 *e*P Pn 07 40 53.6 -0.3
KBG *e*S Sn 07 41 10.4 -0.9
MKZ Mys Kozlova 1.76 245 PN Pn 07 40 59.8 +0.5
MKZ Mys Kozlova 1.76 245 *e*P Pn 07 40 59.8 +0.5
SMKR Semkarok 2.10 308 PN Pn 07 41 05.7 +1.6
SMKR Semkarok 2.10 308 *e*P Pn 07 41 05.8 +1.6
ZLN Zelenaya 2.19 290 PN Pb 07 41 08.1 -1.0
ZLN Zelenaya 2.19 290 *e*P Pb 07 41 08.1 -1.0
BZGR Bezymyannyi-Gr 2.23 288 PN Pn 07 41 08.2 +2.4
BZGR Bezymyannyi-Gr 2.23 288 *e*P Pn 07 41 08.2 +2.4
CIRR Tsirk 2.25 292 PN Pb 07 41 08.9 -1.2
CIRR Tsirk 2.25 292 *e*P Pb 07 41 08.9 -1.2
LGNR Loginova 2.27 291 PN Pb 07 41 09.2 -1.3
LGNR Loginova 2.27 291 *e*P Pb 07 41 09.3 -1.3
TUMD Tumrok D 2.33 269 PN Pn 07 41 09.0 +1.8
TUMD S Sn 07 41 36.5 +1.4
TUMD Tumrok D 2.33 269 *e*P Pn 07 41 09.1 +1.8
TUMD *e*S Sn 07 41 36.6 +1.4
BZWR Bezymyannyi-We 2.34 288 PN Pn 07 41 10.0 +2.5
BZWR Bezymyannyi-We 2.34 288 *e*P Pn 07 41 10.0 +2.5
KLY Klyuchi 2.37 296 PN Pn 07 41 08.3 +0.6
KLY Klyuchi 2.37 296 *e*P Pn 07 41 08.3 +0.6
KRSR Krestovskiy 2.38 294 PN Pn 07 41 09.4 +1.5
KRSR Krestovskiy 2.38 294 *e*P Pn 07 41 09.4 +1.5
KIRR Kirishev 2.42 287 PN Pn 07 41 11.0 +2.4
KIRR Kirishev 2.42 287 *e*P Pn 07 41 11.0 +2.4
KMNR Kamenistaya 2.44 282 PN Pb 07 41 11.8 -1.6
KMNR Kamenistaya 2.44 282 *e*P Pb 07 41 11.8 -1.6
KPT Kopyto 2.49 287 PN Pn 07 41 11.8 +2.4
KPT Kopyto 2.49 287 *e*P Pn 07 41 11.9 +2.4
KOZ Kozyrevsk 2.70 288 PN Pn 07 41 15.4 +3.1
KOZ Kozyrevsk 2.70 288 *e*P Pn 07 41 15.4 +3.1
KII Karymskiy 3.19 248 PN Pn 07 41 20.9 +1.9
KII Karymskiy 3.19 248 *e*P Pn 07 41 21.0 +1.9
ESO Esso 3.33 283 PN Pn 07 41 23.1 +2.3
ESO Esso 3.33 283 *e*P Pn 07 41 23.1 +2.3
SPN Mys Shipunski 3.43 231 PN Pn 07 41 22.5 +0.2
SPN Mys Shipunski 3.43 231 *e*P Pn 07 41 22.6 +0.2
SPN *e*S Sn 07 41 59.9 -2.4
NLC Nalytchevo 3.70 236 PN Pn 07 41 27.1 +1.2
NLC Nalytchevo 3.70 236 *e*P Pn 07 41 27.2 +1.2
NLC *e*S Sn 07 42 08.0 -0.8
SDLR Sedlovina 3.86 240 PN Pn 07 41 30.1 +1.8
SDLR Sedlovina 3.86 240 *e*P Pn 07 41 30.2 +1.8
KRER Koryakskii 3.91 241 PN Pn 07 41 31.4 +2.3
KRER Koryakskii 3.91 241 *e*P Pn 07 41 31.4 +2.3
UGLR Uglovaya 3.93 240 PN Pn 07 41 31.2 +2.0
UGLR Uglovaya 3.93 240 *e*P Pn 07 41 31.2 +2.0
KRX Arik 3.93 242 PN Pn 07 41 31.4 +2.1
KRX Arik 3.93 242 *e*P Pn 07 41 31.4 +2.1
AVH Avacha 3.94 241 PN Pn 07 41 31.7 +2.4
AVH Avacha 3.94 241 *e*P Pn 07 41 31.7 +2.4
AVH *e*S Sn 07 42 15.3 +0.4
KOK Koryaka 3.98 242 PN Pn 07 41 32.2 +2.3
KOK Koryaka 3.98 242 *e*P Pn 07 41 32.2 +2.3
OSSR Ossora 4.01 350 PN Pn 07 41 31.6 +1.4
OSSR Ossora 4.01 350 *e*P Pn 07 41 31.6 +1.4
OSSR *e*S Sn 07 42 15.6 -0.8
DALK Dalny 4.07 238 PN Pn 07 41 32.6 +1.6
DALK Dalny 4.07 238 *e*P Pn 07 41 32.6 +1.6
DALK *e*S Sn 07 42 16.8 -1.1
INSR Institute 4.12 239 PN Pn 07 41 33.9 +2.2
INSR Institute 4.12 239 *e*P Pn 07 41 34.0 +2.2
INSR *e*S Sn 07 42 18.9 -0.3
PET Petropavlovsk 4.12 238 Pn Pn 07 41 32.8 +1.1
PET Petropavlovsk 4.12 238 *ce*PN Pn 07 41 33.5 +1.7
PET pmax pmax
comp=Z,165nm,0.8s
PET Petropavlovsk 4.12 238 *e*P Pn 07 41 33.7 +1.9
PET *e*S Sn 07 42 18.7 -0.5
GNL Ganaly 4.14 249 PN Pn 07 41 34.8 +2.7
GNL Ganaly 4.14 249 *e*P Pn 07 41 34.9 +2.7
KRMR Karymshinskiy 4.49 239 PN Pn 07 41 38.8 +2.0
KRMR Karymshinskiy 4.49 239 *e*P Pn 07 41 38.8 +2.0
KRMR *e*S Sn 07 42 28.5 +0.1
PEA0B Petropavlovsk- 4.55 244 Pn Pn 07 41 39.4 +1.8
PEA0B Petropavlovsk- 4.55 244 *i* PN Pn 07 41 39.7 +2.0
PETK Petropavlovsk- 4.55 244 Pn Pn 07 41 38.9 +1.2
PETK Petropavlovsk- 4.55 244 Pn Pn 07 41 39.3 +1.6
comp=Z,11nm,0.3s,baz=70,slow=17,SNR=83
PETK Sn Sn 07 42 29.7 -0.1
comp=Z,3.6nm,0.3s,baz=81,slow=21,SNR=5.5
comp=Z,16nm,0.3s
RUS Russkaya 4.56 233 PN Pn 07 41 39.1 +1.3
RUS Russkaya 4.56 233 *e*P Pn 07 41 39.1 +1.3
RUS *e*S Sn 07 42 27.4 -2.6
GRL Gorelyy 4.69 236 PN Pn 07 41 42.1 +2.4
GRL Gorelyy 4.69 236 *e*P Pn 07 41 42.2 +2.4
APC Apacha 4.92 244 PN Pn 07 41 45.9 +3.1
APC Apacha 4.92 244 *e*P Pn 07 41 46.0 +3.1
KDTR Khodutka, Kamc 5.19 230 PN Pn 07 41 47.1 +0.7
KDTR Khodutka, Kamc 5.19 230 *e*P Pn 07 41 47.1 +0.7
TILK Tilichiki 5.21 9 PN Pn 07 41 49.4 +2.7
TILK Tilichiki 5.21 9 *e*P Pn 07 41 49.4 +2.7
PAU Pauzhetka 5.99 233 PN Pn 07 41 59.4 +2.0
PAU Pauzhetka 5.99 233 *e*P Pn 07 41 59.4 +2.0
SKR Severo-Kuril's 6.85 231 *e*PN Pn 07 42 09.9 +0.6
SKR pmax pmax
comp=Z,66nm,0.3s
SKR MLR MLR
comp=Z,500nm,10.0s
SKR Severo-Kuril's 6.85 231 *e*P Pn 07 42 10.5 +1.2
KMSK Kamenskaya 7.22 6 PN Pn 07 42 17.1 +2.9
KMSK Kamenskaya 7.22 6 *e*P Pn 07 42 17.1 +2.9
MA2 Magadan 8.52 306 LR LR 07 45 17.5
comp=Z,48nm,18.9s,baz=116,slow=34
SEY Seymchan 9.82 326 *i* PN Pn 07 42 44.0 -5.9
SEY pmax pmax
comp=Z,2.0nm,1.2s
BILL Bilibino 12.79 3 *i* PN Pn 07 43 27.8 -2.6
BILL pmax pmax
comp=Z,1.0nm,0.2s
YSS Yuzhno-Sakhali 15.94 247 *i* P Pn 07 44 09.4 -3.5
UNV Unalaska Valle 16.84 83 Pn P 07 44 25.8 -0.4
JKA Kamikawa-asahi 17.96 240 P Pn 07 44 38.6 +0.3
JKA IAmb IAmb 07 44 53.3
comp=Z,22nm,1.4s
ASAJ Asahikawa 17.96 240 P Pn 07 44 38.1 -0.1
comp=Z,0.2nm,0.3s,baz=54,slow=17,SNR=2.9
comp=Z,6.3nm,0.9s
M14K Bethel 18.44 59 P Pn 07 44 45.7 +1.8
M14K IAmb IAmb 07 45 09.5
comp=Z,17nm,1.2s
K15K Wolf Creek Mou 18.76 54 P Pn 07 44 49.5 +1.6
K15K IAmb IAmb 07 45 06.1
comp=Z,18nm,1.4s
O14K Tigyukauivet M 18.80 64 P Pn 07 44 50.4 +2.0
O14K IAmb IAmb 07 44 56.9
comp=Z,19nm,1.2s
ERM Erimo 19.27 235 P P 07 44 51.6 -1.5
ERM IAmb IAmb 07 45 06.1
comp=Z,15nm,1.1s
ERM Erimo 19.27 235 P P 07 44 51.6 -1.5
ERM pmax pmax
comp=Z,15nm,1.1s
H17K Granite Mounta 19.89 47 P Pn 07 45 01.8 +0.3
M16K Timber Creek 19.91 58 P Pn 07 45 02.2 +0.5
M16K IAmb IAmb 07 45 03.5
comp=Z,10nm,0.9s
KLR Kul'dur 20.79 267 *i* P P 07 45 00.2 -9.4
KLR pmax pmax
comp=Z,5.0nm,2.1s
L18K Granite Mounta 21.01 55 P 07 45 13.5
J18K Innoko River 21.07 52 P P 07 45 14.5 +2.0
ACHA Angle Creek He 21.99 66 P P 07 45 23.2 +0.7
ACHA IAmb IAmb 07 45 33.1
comp=Z,9.3nm,1.3s
ILSW Iliamna Southw 22.84 61 P P 07 45 32.1 +0.5
KDAK Kodiak Island 23.51 66 P P 07 45 37.9 -0.3
KDAK Kodiak Island 23.51 66 P P 07 45 37.9 -0.3
KDAK pmax pmax
comp=Z,35nm,1.2s
USA0B Ussuriysk Arra 23.53 255 *i* P P 07 45 30.3 -8.2
H23K Yukon River 24.31 46 P P 07 45 46.6 +0.8
H23K IAmb IAmb 07 45 49.2
comp=Z,3.7nm,0.9s
D24K Happy Valley 24.97 38 P P 07 45 52.0 +0.3
D24K IAmb IAmb 07 45 54.4
comp=Z,3.4nm,0.6s
C24K Franklin Bluff 25.12 37 P P 07 45 53.0 +0.1
G24K Hadweenzic Riv 25.20 44 P 07 45 54.3 +0.5
G24K IAmb IAmb 07 46 11.0
comp=Z,5.5nm,1.1s
ILAR Eielson Array 25.41 49 P P 07 45 54.2 -1.4
comp=Z,1.2nm,0.8s,baz=272,slow=9.0,SNR=13
comp=Z,1.2nm,0.8s
D25K Kavik River 25.86 38 P P 07 45 59.8 0.0
D25K IAmb IAmb 07 46 00.9
comp=Z,3.9nm,0.5s
MJAR Matsushiro Arr 25.94 235 P P 07 46 00.7 0.0
comp=Z,0.7nm,0.5s,baz=14,slow=6.5,SNR=2.0
comp=Z,0.7nm,0.5s
H11N2 WAKE ISLAND Hy 35.58 176 T T 08 25 26.5
baz=358,slow=76
H11N3 WAKE ISLAND Hy 35.60 176 T T 08 25 26.6
baz=358,slow=76
NRIK Noril'sk 35.60 324 *e*P P 07 47 14.8 -11
NRIK pmax pmax
comp=Z,1.0nm,0.9s
H11N1 WAKE ISLAND Hy 35.60 176 T T 08 25 36.2
baz=358,slow=76
H11S1 WAKE ISLAND Hy 36.79 176 T T 08 26 55.1
baz=359,slow=76
H11S3 WAKE ISLAND Hy 36.80 176 T T 08 27 05.6
baz=359,slow=76
H11S2 WAKE ISLAND Hy 36.81 176 T T 08 27 00.8
baz=359,slow=76
YKAW3 Yellowknife Wh 39.73 46 P P 07 48 01.4 +0.9
YKAW3 IAmb IAmb 07 48 17.7
comp=Z,3.7nm,1.5s
YKA Yellowknife Ar 39.77 46 P P 07 48 00.1 -0.8
comp=Z,0.4nm,0.5s,baz=314,slow=18,SNR=18
comp=Z,0.4nm,0.5s
SPITS Spitsbergen Ar 45.34 351 P P 07 48 45.9 0.0
comp=Z,6.0nm,1.1s,baz=22,slow=5.1,SNR=7.5
comp=Z,6.0nm,1.1s
KURK Kurchatov 48.72 302 P P 07 49 14.0 +1.4
KURBB Kurchatov Arra 48.82 302 P P 07 49 13.9 +0.6
comp=Z,0.2nm,0.4s,baz=56,slow=7.8,SNR=7.2
comp=Z,0.2nm,0.4s
MKAR Makanchi Array 49.48 296 P P 07 49 18.3 -0.2
MKAR Makanchi Array 49.48 296 P P 07 49 19.0 +0.5
comp=Z,0.3nm,0.7s,baz=46,slow=6.9,SNR=3.9
comp=Z,0.3nm,0.7s
BVAR Borovoye Array 50.99 309 P P 07 49 30.5 +0.6
comp=Z,0.2nm,0.3s,baz=68,slow=9.4,SNR=1.4
comp=Z,0.2nm,0.3s
NVAR Mina Array Bea 52.62 75 P P 07 49 41.2 -1.2
comp=Z,1.1nm,0.6s,baz=297,slow=7.7,SNR=12
comp=Z,1.1nm,0.6s
PDAR Pinedale Array 54.22 65 P P 07 49 53.9 -0.2
comp=Z,0.7nm,0.8s,baz=336,slow=3.3,SNR=7.0
comp=Z,0.7nm,0.8s
FINES FINESS Array B 59.05 338 P P 07 50 28.3 +0.5
comp=Z,0.5nm,0.7s,baz=346,slow=17,SNR=1.2
comp=Z,0.5nm,0.7s
CMAR Chiang Mai Arr 61.12 261 P P 07 50 44.4 +1.7
comp=Z,0.8nm,0.6s,baz=20,slow=6.6,SNR=7.0
comp=Z,0.8nm,0.6s
OBN Obninsk 61.97 329 *e*P P 07 50 39.2 -8.6
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,55nm,14.0s
TXAR Lajitas Array 67.44 71 P P 07 51 23.0 -1.1
comp=Z,1.5nm,0.7s,baz=296,slow=5.0,SNR=9.4
comp=Z,1.5nm,0.7s
TXAR Lajitas Array 67.44 71 P P 07 51 23.0 -1.1
WRA Warramunga Arr 79.23 209 P P 07 52 33.8 +0.4
comp=Z,0.4nm,0.6s,baz=20,slow=5.5,SNR=2.7
comp=Z,0.4nm,0.6s
ASAR Alice Springs 82.90 208 P P 07 52 53.6 +0.8
comp=Z,0.6nm,0.6s,baz=19,slow=5.3,SNR=7.6
comp=Z,0.6nm,0.6s

---

*IDC **13** 07:40:40.0±0.8, 55°.47N×164°.66E, h0km, mb3.8/15, mbtmp3.9/17, ML3.7/2, Error ellipse: s-maj=23.3km s-min=14.3km az=153.0*
ISC 13 07:40:43.3±0.7, 55°.5N±0°.1×164°.6E±0°.1, h22km, n22, σ0°49/20, mb4.0/14, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.68**	**243**	Pn	**Pn**	**07 41 53.0**	**+0.4**
	4.1nm,0.3s,baz=87,slow=18,SNR=5.8						
PETK				Sn	**Sn**	**07 42 45.2**	**-1.0**
	2.1nm,0.3s,baz=69,slow=38,SNR=2.5						
	17nm,0.4s						
ASAJ	**Asahikawa**	**18.10**	**240**	P	**Pn**	**07 44 52.8**	**-0.3**
	0.7nm,0.3s,baz=58,slow=13,SNR=6.4						
	5.1nm,0.5s						
KLR	**Kul'dur**	**20.88**	**266**	P	**P**	**07 45 23.7**	**0.0**
	0.6nm,0.3s,baz=51,slow=13,SNR=2.4						
	0.6nm,0.3s						
ILAR	**Eielson Array**	**25.27**	**49**	P	**P**	**07 46 07.2**	**-0.3**
	1.0nm,0.7s,baz=255,slow=7.8,SNR=4.9						
	1.0nm,0.7s						
MJAR	**Matsushiro Arr**	**26.09**	**235**	P	**P**	**07 46 14.6**	**-0.5**
	1.6nm,0.4s,baz=27,slow=11,SNR=6.6						
	1.6nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**35.70**	**176**	T	T	08 26 40.0	
	baz=357						
H11N3	**WAKE ISLAND Hy**	**35.72**	**176**	T	T	08 26 47.4	
	baz=357						
H11N1	**WAKE ISLAND Hy**	**35.72**	**176**	T	T	08 26 41.8	
	baz=357						
SONM	**Songino Array**	**35.95**	**283**	P	**P**	**07 47 42.0**	**-0.1**
	1.1nm,0.7s,baz=61,slow=8.3,SNR=4.4						
	1.1nm,0.7s						
SONM	**Songino Array**	**35.95**	**283**	P	**P**	**07 47 42.0**	**-0.1**
YKA	**Yellowknife Ar**	**39.62**	**46**	P	**P**	**07 48 12.8**	**0.0**
	0.4nm,0.6s,baz=303,slow=13,SNR=6.2						
	0.4nm,0.6s						
SPITS	**Spitsbergen Ar**	**45.23**	**351**	P	**P**	**07 48 57.9**	**-0.2**
	5.5nm,0.9s,baz=71,slow=5.4,SNR=6.0						
	5.5nm,0.9s						
KURBB	**Kurchatov Arra**	**48.83**	**302**	P	**P**	**07 49 26.6**	**+0.1**
	1.7nm,0.7s,baz=55,slow=8.0,SNR=11						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**49.50**	**296**	P	**P**	**07 49 31.8**	**0.0**
	1.4nm,0.7s,baz=58,slow=7.7,SNR=15						
	1.4nm,0.7s						
BVAR	**Borovoye Array**	**50.98**	**309**	P	**P**	**07 49 42.6**	**-0.2**
	0.6nm,0.4s,baz=68,slow=9.7,SNR=4.3						
	0.6nm,0.4s						
PDAR	**Pinedale Array**	**54.09**	**65**	P	**P**	**07 50 06.2**	**-0.2**
	0.6nm,0.8s,baz=330,slow=5.6,SNR=4.2						
	0.6nm,0.8s						
FINES	**FINESS Array B**	**58.96**	**338**	P	**P**	**07 50 40.7**	**+0.4**
	0.8nm,0.7s,baz=22,slow=6.2,SNR=4.0						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**61.22**	**261**	P	**P**	**07 50 57.4**	**+0.9**
	1.4nm,0.6s,baz=22,slow=7.0,SNR=9.8						
	1.4nm,0.6s						
NOA	**NORSAR Array B**	**61.96**	**346**	P	**P**	**07 51 01.2**	**+0.3**
	0.4nm,0.7s,baz=17,slow=6.9,SNR=3.3						
	0.4nm,0.7s						
TXAR	**Lajitas Array**	**67.32**	**71**	P	**P**	**07 51 36.0**	**-0.4**
	0.9nm,0.6s,baz=293,slow=5.2,SNR=5.2						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**83.05**	**208**	P	**P**	**07 53 07.7**	**+0.9**
	0.9nm,0.7s,baz=16,slow=5.3,SNR=9.8						
	0.9nm,0.7s						
QSPA	**South Pole Qui**	**145.20**	**180**	PKPbc	**PKPbc**	**08 00 16.8**	**-0.5**
	2.4nm,0.9s,baz=308,slow=1.3,SNR=6.3						

---

*IDC **13** 07:59:42.7±1.7, 1°.75S×122°.71E, h0km, mb3.4/3, mbtmp3.7/4, ML4.2/1, MS3.3/1, Error ellipse: s-maj=38.2km s-min=27.6km az=66.0*
*DJA **13** 07:59:47.1±0.7, 2°.5±2°.2×12°.3E±°, h20km±6km, M4.0/16, mb4.1/3, MLv4.0/16*
ISC 13 07:59:48.6±1.0, 1°.83S±0°.04×122°.70E±0°.05, h35km, n18, σ1°01/24, mb3.5/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.79**	**5**	P	**Pn**	**08 00 01.7**	**-1.5**
LUWI				S	**Sn**	**08 00 14.6**	**+0.8**
APSI	**Ampana**	**1.40**	**311**	P	**Pn**	**08 00 10.4**	**-1.2**
MRSI	**Marisa**	**2.42**	**342**	P	**Pn**	**08 00 25.5**	**-0.2**
MRSI				S	**Sn**	**08 00 55.6**	**+1.6**
KMSI	**Cibinong**	**2.71**	**28**	P	**Pn**	**08 00 30.4**	**+0.7**
PCI	**Palu**	**3.01**	**288**	P	**Pn**	**08 00 34.8**	**+1.0**
SANI	**Sanana**	**3.29**	**94**	P	**Pn**	**08 00 38.4**	**+0.7**
SANI				S	**Sn**	**08 01 15.7**	**+0.1**
MPSI	**Mapaga**	**3.54**	**308**	P	**Pn**	**08 00 41.6**	**+0.5**
MPSI				S	**Sn**	**08 01 23.6**	**+1.9**
SPSI	**Sidrap Palu**	**3.62**	**234**	P	**Pn**	**08 00 42.5**	**+0.3**
SPSI				S	**Sn**	**08 01 24.6**	**+1.0**
BBSI	**Bau Bau**	**3.63**	**182**	P	**Pn**	**08 00 43.4**	**+1.0**
BNSI	**Bone**	**3.64**	**225**	P	**Pn**	**08 00 41.3**	**-1.2**
BNSI				S	**Sn**	**08 01 24.7**	**+0.5**
BKSI	**Bulukumba**	**4.32**	**217**	P	**Pn**	**08 00 51.9**	**+0.1**
KAPI	**Kappang**	**4.32**	**223**	Pn	**Pn**	**08 00 51.9**	**0.0**
	12nm,0.3s,baz=340,slow=3.0,SNR=20						
KAPI				Sn	**Sn**	**08 01 40.9**	**-0.2**
	15nm,0.3s,baz=53,slow=22,SNR=9.9						
	42nm,0.5s						
BSSI	**Bau Bau, Buton**	**4.82**	**207**	P	**Pn**	**08 00 57.3**	**-1.4**
EDFI	**Ende, Flores**	**6.95**	**188**	P	**Pn**	**08 01 28.0**	**-0.1**
	0.0nm7.8nm,0.8s						
WRA	**Warramunga Arr**	**21.29**	**148**	P	**P**	**08 04 33.1**	**+0.7**
	2.1nm,0.8s,baz=333,slow=9.7,SNR=15						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**24.27**	**154**	P	**P**	**08 05 01.2**	**-1.5**
	1.2nm,0.7s,baz=328,slow=8.0,SNR=18						
	1.2nm,0.7s						
JHJ	**Hachijo jima 2**	**38.32**	**23**	LR	LR	08 24 32.2	
	comp=Z,40nm,19.5s,baz=262,slow=39						
MKAR	**Makanchi Array**	**60.01**	**329**	P	**P**	**08 09 51.2**	**-0.7**
	0.2nm,0.5s,baz=116,slow=7.8,SNR=2.1						
	0.2nm,0.5s						

---

*IDC **13** 08:08:18.9±0.8, 15°.23N×94°.47W, h0km, mb4.1/15, mbtmp4.0/17, ML4.0/2, MS3.3/5, Error ellipse: s-maj=31.0km s-min=14.0km az=56.0*
*GCG **13** 08:08:22.2±2.5, 15°.12N×94°.67W, h37km±553km, MD5.1, ML4.4, MW4.1*
*MEX **13** 08:08:23.1±1.4, 15°.09N×94°.61W, h21km±68km, MD4.7*
*CATAC **13** 08:08:24.6±0.9, 15°N±7°×9°5W±°, h15km±7km, M4.8/13, mb5.2/10, mB5.2/9, MLv5.0/13, Mw(mB)4.6/9, Error ellipse: s-maj=15.5km s-min=4.7km az=20.5, confirmed*
*NEIC **13** 08:08:25.7±2.3, 15°.27N±0°.06×94°.52W±0°.03, h35km±2km, mb4.4/57, Md4.7/110(MEX), Error ellipse: s-maj=11.1km s-min=3.5km az=193.0*
ISC 13 08:08:24.2±0.6, 15°.12N±0°.04×94°.63W±0°.03, h36km±1km, n207, σ2°08/258, mb4.2/22, MS3.3/4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.48**	**66**	*e*P	**Pn**	**08 08 45.1**	**-3.2**
PCIG				*e*S	**Sn**	**08 09 01.6**	**-4.8**
HUIG	**Huatulco**	**1.57**	**295**	*e*P	**Pn**	**08 08 47.8**	**-1.7**
HUIG				*e*S	**Sn**	**08 09 05.3**	**-3.3**
HUIG	**Huatulco**	**1.57**	**295**	*e*P	**Pn**	**08 08 47.8**	**-1.7**
	comp=Z,487nm,0.6s						
HUIG				*e*S	**Sn**	**08 09 04.9**	**-3.7**
HUIG				IAML		08 09 09.6	
	comp=Z,487nm,0.6s						
PANG	**Puerto Angel**	**1.86**	**287**		**Pn**	**08 08 52.3**	**-1.3**
PANG	**Puerto Angel**	**1.86**	**287**	*e*P	**Pn**	**08 08 52.3**	**-1.3**
PANG				*e*S	**Sn**	**08 09 12.3**	**-3.5**
CMIG	**Matias Romero**	**1.98**	**353**		**Pn**	**08 08 52.8**	**-2.4**
CMIG					**Sn**	**08 09 15.1**	**-3.7**
CMIG	**Matias Romero**	**1.98**	**353**	*e*P	**Pn**	**08 08 52.8**	**-2.4**
CMIG				*e*S	**Sn**	**08 09 15.1**	**-3.7**
TGIG		**2.20**	**41**		**Pn**	**08 08 56.3**	**-2.0**
TGIG					**Sn**	**08 09 22.6**	**-1.6**
TGIG		**2.20**	**41**	*e*P	**Pn**	**08 08 56.3**	**-2.0**
TGIG				*e*S	**Sn**	**08 09 22.6**	**-1.6**
TGIG		**2.20**	**41**	*e*P	**Pn**	**08 08 56.5**	**-1.8**
	comp=Z,6μm,0.6s						
TGIG				*i* S	**Sn**	**08 09 23.2**	**-1.1**
TGIG				IAML		08 09 36.2	
	comp=Z,6μm,0.6s						
TGBT	**Tuxtla Gutierr**	**2.22**	**42**		**Pn**	**08 08 57.5**	**-1.0**
TGBT					**Sn**	**08 09 22.9**	**-1.7**
TGBT	**Tuxtla Gutierr**	**2.22**	**42**	*e*P	**Pn**	**08 08 57.5**	**-1.0**
TGBT				*e*S	**Sn**	**08 09 22.9**	**-1.7**
UXUV	**UXUV**	**2.24**	**12**	*e*P	**Pn**	**08 08 57.2**	**-1.6**
UXUV				*e*S	**Sn**	**08 09 23.2**	**-1.9**
THIG		**2.29**	**95**		**Pn**	**08 08 57.7**	**-1.8**
THIG		**2.29**	**95**	*e*P	**Pn**	**08 08 57.7**	**-1.8**
THIG				*e*S	**Sn**	**08 09 24.1**	**-2.4**
THIG		**2.29**	**95**	*e*P	**Pn**	**08 08 57.7**	**-1.8**
PATR	**El Naranjo**	**2.31**	**90**	*e*P	**Pn**	**08 08 57.1**	**-2.9**
PATR				*e*S	**Sn**	**08 09 23.6**	**-3.7**
PAVE	**Pavencul**	**2.37**	**88**	*e*P	**Pn**	**08 08 58.5**	**-2.3**
PAVE				*e*S	**Sn**	**08 09 26.5**	**-2.2**
PEIG	**Puerto Escondi**	**2.58**	**290**		**Pn**	**08 09 02.5**	**-1.1**
PEIG	**Puerto Escondi**	**2.58**	**290**	*e*P	**Pn**	**08 09 02.5**	**-1.1**
PEIG				*e*S	**Sn**	**08 09 30.3**	**-3.3**
CCIG	**Comitan**	**2.67**	**64**	Pn	**Pn**	**08 09 03.5**	**-1.3**
CCIG				Sn	**Sn**	**08 09 35.7**	**-0.3**
CCIG	**Comitan**	**2.67**	**64**	*e*P	**Pn**	**08 09 04.4**	**-0.4**
CCIG				*e*S	**Sn**	**08 09 38.7**	**+2.7**
CCIG	**Comitan**	**2.67**	**64**	*e*P	**Pn**	**08 09 04.3**	**-0.5**
CCIG				IAML		08 09 45.7	
	comp=Z,2μm,0.4s						
CCIG	**Comitan**	**2.67**	**64**	P	**Pn**	**08 09 04.9**	**+0.1**
CCIG	**Comitan**	**2.67**	**64**	S	**Sn**	**08 09 37.0**	**+1.0**
OXLC	**Oaxaca**	**2.78**	**314**	*e*P	**Pn**	**08 09 08.8**	**+2.4**
OXLC				*e*S	**Sn**	**08 09 40.8**	**+1.9**
OXBJ	**Oaxaca**	**2.80**	**314**		**Pn**	**08 09 08.2**	**+1.6**
OXBJ					**Sn**	**08 09 39.1**	**-0.1**
OXBJ	**Oaxaca**	**2.80**	**314**	*e*P	**Pn**	**08 09 08.2**	**+1.6**
OXBJ				*e*S	**Sn**	**08 09 39.1**	**-0.1**
OXIG	**Oaxaca**	**2.81**	**314**		**Pn**	**08 09 07.7**	**+0.9**
OXIG					**Sn**	**08 09 38.8**	**-0.7**
VHO	**Vista Hermosa**	**2.81**	**314**	*e*P	**Pn**	**08 09 07.7**	**+0.9**
VHO				*e*S	**Sn**	**08 09 38.8**	**-0.7**
NEUV	**Arroyo Zacate**	**2.82**	**337**	*e*P	**Pn**	**08 09 04.4**	**-2.3**
NEUV				*e*S	**Sn**	**08 09 38.1**	**-1.3**
RTAL	**Retalhuleu**	**2.90**	**101**		**Pn**	**08 09 08.4**	**+0.6**
RTAL	**Retalhuleu**	**2.90**	**101**	*e*P	**Pn**	**08 09 08.3**	**+0.4**
RTAL				*e*S	**Sn**	**08 09 41.2**	**-0.2**
TUIG	**Tuzandepetl**	**2.91**	**4**	*e*P	**Pn**	**08 09 06.8**	**-1.2**
TUIG				*e*S	**Sn**	**08 09 41.1**	**-0.6**
HUEH	**Huehuetenango**	**3.02**	**86**		**Pn**	**08 09 09.6**	**-0.2**
HUEH				Sn	**Sn**	**08 09 44.9**	**0.0**
HUEH	**Huehuetenango**	**3.02**	**86**	*e*P	**Pn**	**08 09 09.3**	**-0.5**
HUEH				*e*S	**Sn**	**08 09 46.7**	**+1.8**
HUEH	**Huehuetenango**	**3.02**	**86**	*e*P	**Pn**	**08 09 10.1**	**+0.3**
HUEH				*e*S	**Sn**	**08 09 45.6**	**+0.7**
HUEH				IAML		08 09 57.6	
	comp=Z,3μm,0.7s						
HUEH	**Huehuetenango**	**3.02**	**86**	P	**Pn**	**08 09 10.3**	**+0.5**
STG8	**El Palmar, Qui**	**3.24**	**101**	*e*P	Pn	08 09 06.8	-6.0
STG0	**El Palmar, Qui**	**3.25**	**102**	*e*P	Pn	08 09 07.0	-5.9
VHSA	**Villahermosa**	**3.28**	**29**	*e*P	**Pn**	**08 09 13.0**	**0.0**
VHSA				*e*S	**Sn**	**08 09 53.9**	**+3.1**
YOIG	**Yosondua**	**3.30**	**302**		**Pn**	**08 09 15.0**	**+1.4**
YOIG	**Yosondua**	**3.30**	**302**	*e*P	**Pn**	**08 09 15.0**	**+1.4**
YOIG				*e*S	**Sn**	**08 09 51.4**	**-0.3**
PMUV	**Sontecomapan**	**3.44**	**352**	*e*P	**Pn**	**08 09 13.5**	**-2.0**
PMUV				*e*S	**Sn**	**08 09 54.5**	**-0.5**
PNIG	**

TLIG	**Tlapa**	**4.50 303**	P		**Pn**	**08 09 31.9**	**+2.0**
TLIG	**Tlapa**	**4.50 303**	S		**Sn**	**08 10 23.2**	**+2.1**
CRIG	**Cruz Grande**	**4.62 291**			**Pn**	**08 09 31.6**	**+0.1**
CRIG	**Cruz Grande**	**4.62 291**	*e*P		**Pn**	**08 09 31.6**	**+0.1**
CRIG			*e*S		**Sn**	08 10 18.7	-5.3
POHV	**Veracruz**	**4.68 328**			**Pn**	**08 09 32.9**	**+0.1**
POHV	**Veracruz**	**4.68 328**	*e*P		**Pn**	**08 09 32.9**	**+0.1**
JAUV	**Jalcomulco**	**4.71 334**	*e*P		**Pn**	**08 09 30.9**	**-1.9**
JAUV			*e*S		**Sn**	08 10 22.9	-3.4
SLOZ	**Alcaldia de Sa**	**4.81 102**	P		**Pn**	**08 09 35.2**	**+1.0**
SLOZ	**Alcaldia de Sa**	**4.81 102**	S		**Sn**	**08 10 33.6**	**+4.7**
LVIG	**Laguna Verde**	**4.89 340**	*e*P		**Pn**	**08 09 34.7**	**-0.5**
LVIG			*e*S		**Sn**	08 10 25.5	-5.1
PETF	**Flores**	**4.92 68**	P		**Pn**	**08 09 34.9**	**-0.7**
PETF	**Flores**	**4.92 68**	*e*P		**Pn**	**08 09 34.1**	**-1.5**
PETF			*e*S		**Sn**	**08 10 29.9**	**-1.4**
PETF	**Flores**	**4.92 68**	*e*P		**Pn**	**08 09 34.7**	**-0.9**
PETF			IAML			08 11 02.4	
	comp=Z,366nm,0.7s						
CEVE	**Cerro Verde**	**5.01 104**	P		**Pn**	**08 09 38.9**	**+1.7**
CEVE	**Cerro Verde**	**5.01 104**	S		**Sn**	**08 10 38.6**	**+4.5**
SCIG	**Sabancuy**	**5.05 40**	*e*P		**Pn**	**08 09 35.3**	**-2.1**
SCIG			*e*S		**Sn**	08 10 29.3	-5.2
SCIG	**Sabancuy**	**5.05 40**	*e*P		**Pn**	**08 09 35.3**	**-2.1**
SCIG			IAML			08 11 07.9	
	comp=Z,328nm,0.6s						
ESQI	**Esquipulas**	**5.14 95**			**Pn**	**08 09 38.2**	**-0.6**
ESQI	**Esquipulas**	**5.14 95**	P		**Pn**	**08 09 41.3**	**+2.5**
MTO3	**Montecristo**	**5.15 97**			**Pn**	**08 09 39.0**	**0.0**
MTO3	**Montecristo**	**5.15 97**	P		**Pn**	**08 09 39.2**	**+0.2**
DAIG	**Los Arroyos**	**5.19 292**			**Pn**	**08 09 38.8**	**-0.6**
DAIG	**Los Arroyos**	**5.19 292**	*e*P		**Pn**	**08 09 38.8**	**-0.6**
DAIG			*e*S		**Sn**	08 10 32.2	-5.8
JAYA	**Jayaque - finc**	**5.22 105**	P		**Pn**	**08 09 41.6**	**+1.6**
PMON	**Piamonte**	**5.33 104**	P		**Pn**	**08 09 43.0**	**+1.6**
PPM	**Popocatepetl**	**5.48 316**	*e*P		**Pn**	**08 09 46.6**	**+2.8**
PPM			*e*S		**Sn**	**08 10 47.7**	**+1.8**
MEIG	**Mezcala**	**5.54 301**			**Pn**	**08 09 46.8**	**+2.5**
MEIG	**Mezcala**	**5.54 301**	*e*P		**Pn**	**08 09 46.8**	**+2.5**
MEIG			*e*S		**Sn**	**08 10 45.5**	**-1.4**
YAIG	**Yautepec**	**5.65 312**			**Pn**	**08 09 48.0**	**+2.1**
YAIG	**Yautepec**	**5.65 312**	*e*P		**Pn**	**08 09 48.0**	**+2.1**
YAIG			*e*S		**Sn**	08 10 47.3	-2.2
PAVA	**Las Pavas**	**5.69 103**	P		**Pn**	**08 09 48.0**	**+1.7**
PLIG	**Platanillo**	**5.69 306**			**Pn**	**08 09 48.3**	**+1.9**
PLIG	**Platanillo**	**5.69 306**	*e*P		**Pn**	**08 09 48.3**	**+1.9**
PLIG			*e*S		**Sn**	**08 10 49.5**	**-1.1**
CAIG	**El Cayaco**	**5.75 290**			**Pn**	**08 09 47.4**	**+0.3**
CAIG	**El Cayaco**	**5.75 290**	*e*P		**Pn**	**08 09 47.4**	**+0.3**
CAIG			*e*S		**Sn**	08 10 45.4	-6.5
COEG	**Centro de Oper**	**5.76 104**	P		**Pn**	**08 09 49.9**	**+2.6**
CXUV	**Coxquihui**	**5.77 331**	*e*P		**Pn**	**08 09 45.9**	**-1.5**
CXUV			*e*S		**Sn**	**08 10 54.7**	**+2.4**
MPVM	**San Francisco**	**5.84 315**	*e*P		**Pn**	**08 09 52.0**	**+3.5**
MPVM			*e*S		**Sn**	**08 10 57.5**	**+3.2**
IZABA	**Izabal, Puerto**	**5.86 83**	*e*P		**Pn**	**08 09 48.8**	**+0.3**
IZABA			*e*S		**Sn**	**08 10 56.0**	**+1.4**
TECO	**Alcaldia de Te**	**5.88 105**	P		**Pn**	**08 09 51.8**	**+2.9**
SCLA	**Alcaldia de Sa**	**5.89 103**	P		Pn	08 09 53.2	+4.2
TLVM	**San Miguel Top**	**5.94 314**	*e*P		**Pn**	**08 09 51.1**	**+1.1**
TLVM			*e*S		**Sn**	**08 10 49.4**	**-7.6**
XCVM	**Xochimilco**	**5.94 314**	*e*S		**Sn**	**08 11 02.8**	**+5.8**
MZVM		**5.98 313**	*e*P		Pn	08 09 54.4	+4.2
MZVM			*e*S		**Sn**	**08 11 03.9**	**+6.4**
MAVM	**Malinalco, Edo**	**6.02 310**	*e*P		Pn	08 09 38.6	-12
MAVM			*e*S		Sn	08 10 39.6	-19
VRVM	**Mexico City**	**6.05 316**	*e*P		**Pn**	**08 09 48.6**	**-2.9**
ARIG	**Puente Sto Nin**	**6.32 301**			**Pn**	**08 09 57.3**	**+2.3**
ARIG	**Puente Sto Nin**	**6.32 301**	*e*P		**Pn**	**08 09 57.3**	**+2.3**
ARIG			*e*S		**Sn**	**08 11 02.8**	**-3.1**
PACA	**Pacayal**	**6.33 104**	P		**Pn**	**08 09 57.4**	**+2.2**
LCND	**La Caada**	**6.78 105**	P		**Pn**	**08 10 03.8**	**+2.6**
CNCH	**Conchagua**	**6.84 105**	P		**Pn**	**08 10 05.0**	**+2.9**
TGUH	**Tegucigalpa,Un**	**7.20 97**			**Pn**	**08 10 07.1**	**0.0**
CTUV	**Llano Grande**	**7.25 331**	*e*P		**Pn**	**08 10 07.5**	**0.0**
CTUV			*e*S		**Sn**	**08 11 25.0**	**-3.6**
MOIG	**Morelia**	**7.73 307**			**Pn**	**08 10 16.8**	**+2.3**
MOIG	**Morelia**	**7.73 307**	*e*P		**Pn**	**08 10 17.9**	**+3.4**
CRIN	**San Cristobal**	**7.74 107**			**Pn**	**08 10 17.0**	**+2.5**
TEIG	**Tepich**	**7.91 49**			**Pn**	**08 10 14.5**	**-2.2**
TEIG	**Tepich**	**7.91 49**	Pn		**Pn**	**08 10 13.5**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=38						
TEIG			Sn		**Sn**	**08 11 37.5**	**-7.4**
	comp=Z,0.1nm,0.3s,baz=197,slow=19,SNR=3.8						
CNGN	**Cerro Negro**	**8.13 108**			**Pn**	**08 10 18.9**	**-0.9**
ACON	**Acoyapa**	**9.71 108**			**Pn**	**08 10 41.4**	**0.0**
JTS	**Las Juntas de**	**10.59 116**			**Pn**	**08 10 53.3**	**-0.2**
JTS	**Las Juntas de**	**10.59 116**	Pn		**Pn**	**08 10 52.5**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=301,slow=19,SNR=8.0						
JTS			Sn		Sn	08 13 01.4	+11
	comp=Z,0.3nm,0.3s,baz=210,slow=20,SNR=1.1						
JTS			LR		LR	08 14 15.4	
	comp=Z,76nm,21.7s,baz=305,slow=34						
	comp=Z,1.9nm,0.5s						
ZAIG	**Zacatecas**	**10.69 317**			**Pn**	**08 10 55.0**	**-0.2**
SOCE	**Pocosol**	**10.84 115**	Pn		**Pn**	**08 10 57.3**	**+0.4**
BRU2	**Volcan**	**13.26 117**			**Pn**	**08 11 30.0**	**-0.2**
SOR	**Soroa**	**13.38 53**	Pn		**Pn**	**08 11 29.7**	**-2.0**
HNDO	**Hondo**	**14.97 344**			**Pn**	**08 11 51.1**	**-2.2**
DRIO	**Del Rio**	**15.28 340**	Pn		**Pn**	**08 11 56.3**	**-0.9**
JCT	**Junction City**	**16.01 344**			**Pn**	**08 12 05.7**	**-1.1**
JCT			IAmb		IAmb	08 12 32.1	
	comp=Z,12nm,0.5s						
SAND	**Sanderson**	**16.30 336**	Pn		**Pn**	**08 12 09.8**	**-0.7**
TX31	**Lajitas Ar. Si**	**16.43 331**			**Pn**	**08 12 12.7**	**+0.5**
TXAR	**Lajitas Array**	**16.43 331**	Pn		**P**	**08 12 13.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=139,slow=10,SNR=9.9						
	comp=Z,1.5nm,0.7s						
BRDY	**Brady**	**16.59 347**			**Pn**	**08 12 15.2**	**+1.1**
OZNA	**Ozona**	**16.82 340**			**Pn**	**08 12 16.0**	**-1.1**
346A	**Big Creek Wild**	**16.87 15**	P		**Pn**	**08 12 16.2**	**-1.4**
346A			IAmb		IAmb	08 12 25.3	
	comp=Z,19nm,0.7s						
WHTX	**Lake Whitney,**	**17.00 352**			**Pn**	**08 12 18.5**	**-0.7**
WHTX			IAmb		IAmb	08 12 30.5	
	comp=Z,24nm,0.7s						
ALPN	**Alpine**	**17.30 333**			**P**	**08 12 24.2**	**-0.1**
FW13	**Cleburne**	**17.35 352**			**Pn**	**08 12 23.4**	**-0.1**
FW13			IAmb		IAmb	08 12 35.6	
	comp=Z,16nm,0.6s						
553A	**Crawfordville**	**17.69 30**	P		**Pn**	**08 12 25.9**	**-1.9**
553A			IAmb		IAmb	08 12 57.2	
	comp=Z,59nm,1.3s						
FW07	**Weatherford**	**17.74 351**	P		**Pn**	**08 12 27.6**	**-0.9**
SGCY	**Sterling City**	**17.74 342**	P		**P**	**08 12 29.4**	**+0.3**
SGCY			IAmb		IAmb	08 12 39.2	
	comp=Z,18nm,0.6s						
MNHN	**Monahans**	**17.78 337**	P		**P**	**08 12 30.0**	**+0.5**
PLPT	**Palo Pinto**	**17.93 350**			**Pn**	**08 12 30.6**	**-0.2**
PLPT			IAmb		IAmb	08 12 48.6	
	comp=Z,16nm,0.7s						
ABTX	**Abilene, Hawle**	**18.02 346**	P		**P**	**08 12 32.8**	**+0.8**
ABTX			IAmb		IAmb	08 12 43.4	
	comp=Z,15nm,0.7s						
VHRN	**Van Horn**	**18.26 330**			**Pn**	**08 12 35.9**	**+0.9**
352A	**Blakely**	**18.55 27**	P		**P**	**08 12 37.0**	**-0.8**
352A			IAmb		IAmb	08 12 40.2	
	comp=Z,31nm,0.9s						
APMT	**Aspermont**	**18.80 346**			**P**	**08 12 40.6**	**0.0**
APMT			IAmb		IAmb	08 12 59.9	
	comp=Z,12nm,0.7s						
WTFS	**Witchita Falls**	**18.89 350**	P		**Pn**	**08 12 42.2**	**-0.2**
WTFS			IAmb		IAmb	08 12 52.7	
	comp=Z,24nm,1.1s						
HTMS	**Hat Mesa**	**19.13 336**	P		**Pn**	**08 12 45.7**	**+0.3**
TIGA	**Tifton**	**19.13 30**	P		**P**	**08 12 44.3**	**+0.1**
TIGA			IAmb		IAmb	08 12 47.1	
	comp=Z,40nm,1.1s						
DKNS	**Dickens**	**19.33 344**	P		**P**	**08 12 47.0**	**+0.5**
DKNS			IAmb		IAmb	08 12 58.8	
	comp=Z,16nm,0.7s						
MIAR	**Mount Ida**	**19.37 3**			**P**	**08 12 45.9**	**-1.0**
X34A	**Smith Ranch, M**	**19.62 352**			**P**	**08 12 49.9**	**+0.4**
X34A			IAmb		IAmb	08 13 05.6	
	comp=Z,28nm,0.8s						
SMWD	**Samnorwood**	**20.54 347**			**P**	**08 12 59.1**	**-0.5**
DEOK	**Depew**	**20.71 356**	P		**P**	**08 13 02.3**	**+0.9**
DEOK			IAmb		IAmb	08 13 04.5	
	comp=Z,16nm,0.7s						
TUL3	**Leonard**	**20.73 357**			**P**	**08 13 01.0**	**-0.7**
TUL3			IAmb		IAmb	08 13 23.7	
	comp=Z,12nm,0.7s						
OK029	**Liberty Lake**	**20.75 354**	P		**P**	**08 13 01.6**	**-0.3**
OK029			IAmb		IAmb	08 13 06.4	
	comp=Z,23nm,0.8s						
OK052	**Battle Ridge R**	**20.88 355**	P		**P**	**08 13 03.0**	**-0.3**
HHAR	**Hobbs**	**21.09 2**			**P**	**08 13 05.8**	**+0.3**
OK051	**E0350 and S346**	**21.39 355**	P		**P**	**08 13 07.9**	**-0.9**
CRNM	**Carthage**	**21.71 332**	P		**P**	**08 13 13.7**	**+1.3**
BNM	**Barren Site**	**21.83 332**	P		**P**	**08 13 14.4**	**+0.6**
OK032	**Salt Plains WL**	**21.84 352**	P		**P**	**08 13 14.5**	**+1.0**
LENM	**Lemitar**	**22.00 332**	P		**P**	**08 13 16.6**	**+1.1**
KAN08	**Anthony NE Sta**	**22.22 353**	P		**P**	**08 13 17.8**	**+0.1**
ANMO	**Albuquerque**	**22.43 334**	P		**P**	**08 13 20.2**	**0.0**
ANMO	**Albuquerque**	**22.43 334**	P		**P**	**08 13 20.3**	**+0.2**
ANMO			IAmb		IAmb	08 13 31.8	
	comp=Z,3.0nm,0.9s						
ROSC	**El Rosal**	**22.43 115**	P		**P**	**08 13 20.9**	**+0.3**
	comp=Z,4.3nm,0.4s,baz=330,slow=20,SNR=1.5						
	comp=Z,4.3nm,0.4s						
TKL	**Tuckaleechee C**	**22.65 23**	LR		LR	08 22 27.6	
	comp=Z,114nm,19.7s,baz=316,slow=38						
U49A	**Red Boiling Sp**	**22.73 19**	P		**P**	**08 13 20.6**	**-2.4**
U49A			IAmb		IAmb	08 13 39.6	
	comp=Z,23nm,1.4s						
S44A	**Carbondale**	**22.99 11**	P		**P**	**08 13 31.7**	**+5.9**
S44A			IAmb		IAmb	08 13 45.3	
	comp=Z,11nm,0.8s						
T25A	**Trinidad**	**23.60 340**			**P**	**08 13 32.5**	**+0.5**
T25A			IAmb		IAmb	08 13 43.4	
	comp=Z,10nm,0.8s						
CBKS	**Cedar Bluff**	**24.03 350**			**P**	**08 13 36.1**	**+0.2**
CBKS			IAmb		IAmb	08 13 38.2	
	comp=Z,15nm,0.8s						
SDV	**Santo Domingo**	**24.26 102**	LR		LR	08 24 44.2	
	comp=Z,95nm,18.4s,baz=266,slow=41						
PFO	**Pinyon Flats O**	**27.00 317**	LR		LR	08 24 08.6	
	comp=Z,94nm,20.2s,baz=21,slow=35						
ATAH	**Atahualpa**	**27.34 143**	LR		LR	08 22 15.5	
	comp=Z,71nm,21.1s,baz=293,slow=31						
PDAR	**Pinedale Array**	**30.40 338**	P		**P**	**08 14 33.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=156,slow=5.3,SNR=6.2						
PDAR			PcP		**PcP**	**08 17 32.3**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=148,slow=2.4,SNR=2.3						
	comp=Z,0.4nm,0.6s						
HVU	**Hansel Valley**	**30.86 333**	P		**P**	**08 14 38.7**	**+1.5**
HVU			IAmb		IAmb	08 14 39.6	
	comp=Z,3.4nm,0.7s						
NVAR	**Mina Array Bea**	**31.23 323**	P		**P**	**08 14 41.5**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=127,slow=5.3,SNR=8.5						
NVAR			PcP		**PcP**	**08 17 34.7**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=97,slow=2.7,SNR=2.1						
	comp=Z,1.1nm,0.7s						
SNOW	**Snow King Moun**	**31.44 337**	P		**P**	**08 14 43.2**	**+0.8**
LOHW	**Long Hollow**	**31.51 338**	P		**P**	**08 14 43.6**	**+0.6**
HLID	**Hailey**	**33.01 333**			**P**	**08 14 57.4**	**+1.3**
LPAZ	**La Paz**	**40.72 139**	P		**P**	**08 16 02.3**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=304,slow=6.8,SNR=9.0						
	comp=Z,1.2nm,0.6s						
YKA	**Yellowknife Ar**	**49.39 348**	P		**P**	**08 17 09.3**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=154,slow=7.7,SNR=44						
	comp=Z,1.0nm,0.6s						
CPUP	**Villa Florida**	**54.89 138**	P		**P**	**08 17 50.4**	**-1.0**
	comp=Z,2.2nm,1.0s,baz=294,slow=18,SNR=3.0						
	comp=Z,2.2nm,1.0s						
BDFB	**Brasilia**	**55.27 122**	P		**P**	**08 17 53.3**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=261,slow=6.5,SNR=3.3						
	comp=Z,1.1nm,0.5s						
PLCA	**Paso Flores**	**59.89 159**	P		**P**	**08 18 27.4**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=293,slow=6.6,SNR=5.4						
	comp=Z,2.2nm,0.8s						
ILAR	**Eielson Array**	**60.82 337**	P		**P**	**08 18 31.9**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=116,slow=7.5,SNR=14						
	comp=Z,0.6nm,0.6s						
R16K	**Pilot Point**	**62.93 327**	P		**P**	**08 18 49.0**	**+2.2**
D25K	**Kavik River**	**62.96 342**	P		**P**	**08 18 47.3**	**+0.5**
D25K			IAmb		IAmb	08 18 57.4	
	comp=Z,4.2nm,0.9s						
TOLK	**Toolik Lake Re**	**63.62 340**	P		**P**	**08 18 51.5**	**+0.2**
TOLK			IAmb		IAmb	08 19 30.6	
	comp=Z,3.5nm,1.2s						
I20K	**Naaghedeneel**	**63.77 336**	P		**P**	**08 18 52.4**	**+0.2**
J19K	**Poorman**	**63.96 335**	P		**P**	**08 18 53.1**	**-0.4**
SUMG	**Summit**	**65.85 16**	P		**P**	**08 19 05.3**	**-0.9**
SCO	**Scoresbysund**	**70.08 20**	P		**P**	**08 19 31.7**	**-0.5**
EKA	**Eskdalemuir Ar**	**78.55 36**	P		**P**	**08 20 19.3**	**-2.5**
	comp=Z,2.9nm,0.8s,baz=280,slow=4.1,SNR=5.0						
	comp=Z,2.9nm,0.8s						
SPITS	**Spitsbergen Ar**	**79.50 11**	P		**P**	**08 20 26.3**	**-0.4**
	comp=Z,3.8nm,0.9s,baz=305,slow=5.1,SNR=4.8						
	comp=Z,3.8nm,0.9s						
ESDC	**Sonseca Array**	**81.02 51**	P		**P**	**08 20 34.2**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=303,slow=5.9,SNR=5.8						
	comp=Z,0.9nm,0.8s						
NB2	**NORSAR Subarra**	**84.37 28**	P		**P**	**08 20 52.5**	**-0.1**
	comp=Z,2.1nm,1.0s,baz=290,slow=5.3						
NOA	**NORSAR Array B**	**84.37 28**	P		**P**	**08 20 52.6**	**0.0**
	comp=Z,1.0nm,0.8s,baz=291,slow=5.1,SNR=5.0						
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**85.87 18**	P		**P**	**08 21 00.7**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=309,slow=5.7,SNR=7.6						
	comp=Z,2.1nm,0.7s						
FINES	**FINESS Array B**	**90.56 24**	P		**P**	**08 21 21.5**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=302,slow=3.1,SNR=3.4						
	comp=Z,0.7nm,0.7s						
HHC	**Hu-ho-hao-te**	**119.25 337**	*e*P		**PKiKP**	**08 27 12.1**	**+2.0**
WRA	**Warramunga Arr**	**133.19 257**	PKP		**PKPdf**	**08 27 36.6**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=99,slow=1.7,SNR=2.0						
PZH	**PanZhiHua**	**135.68 339**	PKP		**PKiKP**	**08 27 42.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**144.06 338**	PKP		**PKPdf**	**08 27 57.2**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=24,slow=2.3,SNR=4.4						

BJI ***13*** *08:17:55.5, 26°.18N×129°.56E, h14km, mB4.7/13, mb4.5/42, Ms4.0/20, Ms7 3.8/23*

IDC ***13*** *08:17:56.1±0.6, 26°.33N×129°.49E, h0km, mb4.2/25, mbtmp4.1/29, ML3.5/3, MS3.3/9, Error ellipse: s-maj=17.5km s-min=13.8km az=76.0*

MOS ***13*** *08:17:56.5±1.1, 26°.29N×129°.50E, h15km, mb4.7/32, Error ellipse: s-maj=9.3km s-min=5.9km az=109.2*

NIED ***13*** *08:17:57.7, 26°.29N×129°.60E, h44km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}-0.79; $M_{\theta\theta}$0.25; $M_{\phi\phi}$0.54; $M_{r\theta}$-1.10; $M_{\theta\phi}$1.12; $M_{\phi r}$-1.41; Fault plane solution: $M_0$2.13000×10^15^ NP1: ϕ_s231.00000°, δ17.00000°, λ-77.00000°. NP2:ϕ_s37.00000°, δ74.00000°, λ-94.00000°.*

NEIC ***13*** *08:17:57.7±1.5, 26°.23N±0°.07×129°.55E±0°.06, h10km±1km, mb4.6/38 Error ellipse: s-maj=13.1km s-min=7.7km az=200.0*

JMA ***13*** *08:17:57.7±0.1, 26°.3N±0°.6×129°.6E±0°.4, h44km, MV3.8/25, NEAR OKINAWAJIMA ISLAND*

ISC 13 08:17:57.2±0.8, 26°.29N±0°.03×129°.58E±0°.03, h10km±4km, n177, σ1§79/204, mb4.5/68, MS3.8/10, 18C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.25**	**306**	*i* P	**Pn**	**08 18 19.2**	**-1.6**
JYRO				S	**Sb**	**08 18 34.5**	**-2.7**
JOW	**Kunigami**	**1.29**	**295**	Pn	**Pn**	**08 18 20.1**	**-1.3**
	554nm,0.3s,baz=118,slow=18,SNR=1771						
JOW				Sn	**Sb**	**08 18 35.5**	**-2.7**
	171nm,0.3s,baz=112,slow=19,SNR=7.6						
JOW	**Kunigami**	**1.29**	**295**	P	**Pn**	**08 18 20.0**	**-1.3**
JOW	**Kunigami**	**1.29**	**295**	*i* P	**Pn**	**08 18 20.1**	**-1.3**
JOW				S	**Sb**	**08 18 35.5**	**-2.7**
JOKE	**Okinoerabujima**	**1.40**	**320**	*i* P	**Pn**	**08 18 21.6**	**-1.3**
JOKE				S	**Sn**	**08 18 38.6**	**-2.9**
JNTH	**Nagotoyohara**	**1.42**	**280**	*i* P	**Pn**	**08 18 21.7**	**-1.4**
JNTH				S	**Sn**	**08 18 38.4**	**-3.4**
JMZ	**Minamidaito 2**	**1.55**	**107**		**Pn**	**08 18 23.8**	**-1.2**
JMZ	**Minamidaito 2**	**1.55**	**107**	P	**Pn**	**08 18 23.4**	**-1.6**
JMZ	**Minamidaito 2**	**1.55**	**107**	*i* P	**Pn**	**08 18 22.9**	**-2.1**
JMZ				S	**Sn**	**08 18 41.5**	**-3.6**
JKDJ	**Kitadaitoujima**	**1.58**	**102**	P	**Pn**	**08 18 23.9**	**-1.5**
JKDJ				*e*S	**Sn**	**08 18 43.1**	**-2.8**
JTK	**Tokunoshima**	**1.59**	**340**	*i* P	**Pn**	**08 18 24.3**	**-1.3**
JTK				*e*S	**Sn**	**08 18 43.0**	**-3.3**
JJT3	**Tamagusuku3**	**1.62**	**265**	P	**Pn**	**08 18 25.1**	**-0.8**
JJT3				S	**Sn**	**08 18 45.2**	**-1.7**
JIH	**Iheya**	**1.62**	**298**	*i* P	**Pn**	**08 18 25.0**	**-1.0**
JIH				S	**Sn**	**08 18 44.9**	**-2.0**
JAMN	**Amaminishikomi**	**1.98**	**350**	*i* P	**Pn**	**08 18 29.5**	**-1.4**
JAMN				*e*S	**Sn**	**08 18 51.8**	**-4.0**
JZK	**Kikaishima**	**2.05**	**10**	P	**Pn**	**08 18 31.3**	**-0.5**
JZK				S	**Sn**	**08 18 55.7**	**-1.9**
JAGN	**Aguni-jima**	**2.12**	**279**	*i* P	**Pn**	**08 18 32.1**	**-0.7**
JAGN				S	**Sn**	**08 18 56.8**	**-2.4**
JAM	**Amami Oshima**	**2.12**	**1**	P	**Pn**	**08 18 31.3**	**-1.5**
JAM				*e*S	**Sn**	**08 18 55.5**	**-3.6**
JKE	**Kume jima 2**	**2.51**	**272**	P	**Pn**	**08 18 36.6**	**-1.5**
JKE				*e*S	**Sn**	**08 19 05.8**	**-3.0**
JTAJ	**Takarajima**	**2.88**	**353**	P	**Pn**	**08 18 41.9**	**-1.3**
JTAJ				S	**Sn**	**08 19 13.4**	**-4.5**
JNN	**Nakanoshima**	**3.55**	**4**	P	**Pn**	**08 18 51.5**	**-1.0**
JNN				*e*S	**Sn**	**08 19 30.4**	**-4.2**
JYAK	**Yakushimahirau**	**4.02**	**12**	P	**Pn**	**08 18 57.7**	**-1.2**
JYAK				S	**Sn**	**08 19 40.8**	**-5.4**
JMJ	**Miyako jima 2**	**4.14**	**250**	P	**Pn**	**08 18 59.6**	**-1.0**
JMTN	**Minamitane**	**4.26**	**16**	*e*P	**Pn**	**08 19 01.0**	**-1.2**
JTN	**Tanegashima 3**	**4.52**	**15**	P	**Pn**	**08 19 05.0**	**-0.9**
JTN				*e*S	**Sn**	**08 19 52.5**	**-6.1**
YOJ	**Yonaguni jima**	**6.21**	**254**	Pn	**Pn**	**08 19 26.8**	**-2.3**
YOJ	**Yonaguni jima**	**6.21**	**254**	P	**Pn**	**08 19 26.8**	**-2.3**
JNU	**Nakatsue**	**6.91**	**9**		**Pn**	**08 19 38.6**	**-0.1**
JNU	**Nakatsue**	**6.91**	**9**	Pn	**Pn**	**08 19 37.2**	**-1.4**
	1.4nm,0.3s,baz=156,slow=14,SNR=8.7						
JNU				Sn	**Sn**	**08 20 51.1**	**-6.2**
	baz=217,slow=20						
JNU				LR	LR	08 22 52.3	
	comp=Z,159nm,18.0s,baz=213,slow=43						
	9.4nm,0.6s						
NACB	**Ninganchiao**	**7.53**	**256**	Pn	**Pn**	**08 19 44.2**	**-2.9**
NACB	**Ninganchiao**	**7.53**	**256**	P	**Pn**	**08 19 44.0**	**-3.2**
YHNB	**Yeheng**	**7.58**	**260**		**Pn**	**08 19 48.2**	**+0.2**
YULB	**Yu-li**	**8.05**	**251**	Pn	**Pn**	**08 19 50.0**	**-4.4**
YULB	**Yu-li**	**8.05**	**251**	P	**Pn**	**08 19 50.0**	**-4.4**
SSLB	**Suanglung**	**8.21**	**254**		**Pn**	**08 19 53.5**	**-3.0**
SSLB	**Suanglung**	**8.21**	**254**	P	**Pn**	**08 19 53.5**	**-3.0**
JMN	**Monobe**	**8.30**	**26**	Pn	**Pn**	**08 19 58.8**	**+1.0**
TPUB	**Ta-pu**	**8.66**	**252**		**Pn**	**08 20 00.2**	**-2.5**
TPUB	**Ta-pu**	**8.66**	**252**	P	**Pn**	**08 20 00.4**	**-2.3**
NJ2	**Nanjing**	**10.99**	**304**	*e*P	**Pn**	**08 20 34.4**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=N,350nm,10.0s						
NJ2				LR	LR		
	comp=E,400nm,11.8s						
NJ2				LR	LR		
	comp=Z,400nm,10.9s						
KSRS	**Korea Array**	**11.22**	**353**	Pn	**Pn**	**08 20 37.4**	**-0.4**
	0.1nm,0.3s,baz=172,slow=12,SNR=9.8						
KSRS				LR	LR	08 25 11.4	
	comp=Z,112nm,18.5s,baz=175,slow=39						
	1.7nm,0.7s						
MJAR	**Matsushiro Arr**	**12.60**	**34**	Pn	**Pn**	**08 20 57.3**	**+0.7**
	0.3nm,0.4s,baz=203,slow=12,SNR=2.0

CD2	**Chengdu**	**23.11 288**	P	**P**	**08 23 02.4 -1.2**
CD2			pmax	pmax	
comp=Z,10.0nm,0.4s					
CD2			LR	LR	
comp=Z,270nm,11.4s					
CD2			LR	LR	
comp=Z,260nm,13.3s					
YSS	**Yuzhno-Sakhali**	**23.12 23**	*ce*P	**P**	**08 23 05.0 +1.6**
YSS			pmax	pmax	
comp=Z,26nm,1.7s					
SLVN	**Son La**	**23.98 264**	P	**P**	**08 23 12.8 +0.6**
SLVN			IAmb	IAmb	08 23 15.5
comp=Z,13nm,1.1s					
HEH	**HeiHe**	**23.99 357**	*e*P	**P**	**08 23 11.1 -0.8**
PZH	**PanZhiHua**	**24.92 277**	P	**P**	**08 23 21.8 +0.9**
PZH			pmax	pmax	
comp=Z,6.0nm,0.7s					
PZH			pmax	pmax	
comp=Z,100nm,4.8s					
TYV	**Tymovskoe**	**26.50 19**	*e*P	**P**	**08 23 37.9 +3.1**
TYV			pmax	pmax	
comp=Z,8.0nm,1.0s					
TYV			pmax	pmax	
comp=Z,100nm,3.5s					
ULN	**Ulaanbaatar**	**27.87 327**	P	**P**	**08 23 47.8 +0.5**
ULN	**Ulaanbaatar**	**27.87 327**	P	**P**	**08 23 47.8 +0.5**
ULN			pmax	pmax	
comp=Z,5.0nm,1.1s					
GTA	**Gaotai**	**28.08 305**	*e*P	**P**	**08 23 48.8 -0.5**
GTA			pmax	pmax	
comp=Z,11nm,0.9s					
GTA			LR	LR	
comp=Z,160nm,14.3s					
GTA			LR	LR	
comp=Z,160nm,15.9s					
GTA			LR	LR	
comp=Z,240nm,13.9s					
SONM	**Songino Array**	**28.18 326**	P	**P**	**08 23 50.4 +0.4**
SONM	**Songino Array**	**28.18 326**	P	**P**	**08 23 51.2 +1.2**
comp=Z,3.6nm,1.0s,baz=140,slow=8.5,SNR=10					
comp=Z,3.6nm,1.0s					
CHTO	**Chiang Mai**	**29.20 262**		**P**	**08 23 59.5 +0.2**
CHTO	**Chiang Mai**	**29.20 262**	P	**P**	**08 23 59.5 +0.2**
CHTO			pmax	pmax	
comp=Z,5.0nm,1.1s					
CMAR	**Chiang Mai Arr**	**29.33 261**	P	**P**	**08 23 59.5 -0.9**
CMAR	**Chiang Mai Arr**	**29.33 261**	P	**P**	**08 24 01.7 +1.3**
comp=Z,1.1nm,1.0s,baz=73,slow=10,SNR=9.1					
comp=Z,1.1nm,1.0s					
CMAR	**Chiang Mai Arr**	**29.33 261**	*ce*P	**P**	**08 24 01.9 +1.5**
CMAR			pmax	pmax	
comp=Z,2.0nm,1.1s					
SRIT	**Nakonsritamara**	**33.44 244**	P	**P**	**08 24 38.0 +1.4**
SHL	**Shillong**	**33.83 277**	P	**P**	**08 24 39.3 -0.9**
SHL			IAmb	IAmb	08 24 42.4
comp=Z,15nm,1.0s					
SHL	**Shillong**	**33.83 277**	P	**P**	**08 24 39.3 -0.9**
SHL			pmax	pmax	
comp=Z,15nm,1.0s					
PETK	**Petropavlovsk-**	**34.03 31**	P	**P**	**08 24 42.7 +1.4**
comp=Z,1.0nm,0.8s,baz=226,slow=7.3,SNR=2.2					
comp=Z,1.0nm,0.8s					
WMQ	**Urumqi**	**38.03 308**	*e*P	**P**	**08 25 17.8 +2.0**
WMQ			LR	LR	
comp=Z,120nm,22.1s					
SEY	**Seymchan**	**39.62 16**	*e*P	**P**	**08 25 28.0 -0.8**
SEY			pmax	pmax	
comp=Z,5.0nm,0.7s					
KNRA	**Kununurra**	**41.72 181**	P	**P**	**08 25 46.6 0.0**
KNRA			IAmb	IAmb	08 25 58.9
comp=Z,13nm,1.1s					
MK31	**Makanchi Array**	**42.40 312**	*ce*P	**P**	**08 25 51.3 -0.7**
MKAR	**Makanchi Array**	**42.40 312**		**P**	**08 25 50.3 -1.7**
MKAR	**Makanchi Array**	**42.40 312**	P	**P**	**08 25 51.1 -0.9**
comp=Z,1.3nm,0.6s,baz=101,slow=9.4,SNR=12					
MKAR			LR	LR	08 45 34.0
comp=Z,59nm,19.6s,baz=291,slow=39					
comp=Z,1.3nm,0.6s					
MKAR	**Makanchi Array**	**42.40 312**	*ce*P	**P**	**08 25 50.9 -1.1**
MKAR			pmax	pmax	
comp=Z,1.0nm,0.6s					
ZALV	**Zalesovo Beam**	**42.94 322**	P	**P**	**08 25 54.5 -1.7**
ZALV	**Zalesovo Beam**	**42.94 322**	P	**P**	**08 25 54.8 -1.4**
comp=Z,1.5nm,0.5s,baz=114,slow=7.0,SNR=7.2					
comp=Z,1.5nm,0.5s					
TARG	**Taragay, Kyrgy**	**44.94 304**	P	**P**	**08 26 13.5 +0.5**
TARG			IAmb	IAmb	08 26 16.0
comp=Z,6.1nm,1.0s					
TARG	**Taragay, Kyrgy**	**44.94 304**	P	**P**	**08 26 13.5 +0.5**
TARG			pmax	pmax	
comp=Z,6.0nm,1.0s					
TIXI	**Tiksi**	**45.40 360**	*ce*P	**P**	**08 26 16.7 +1.0**
TIXI			pmax	pmax	
comp=Z,5.0nm,1.7s					
KDJ	**Kajisay**	**45.42 304**	P	**P**	**08 26 16.9 +0.3**
KDJ			pmax	pmax	
comp=Z,5.0nm,0.9s					
KURK	**Kurchatov**	**45.61 316**		**P**	**08 26 16.3 -1.4**
KURK	**Kurchatov**	**45.61 316**	*ce*P	**P**	**08 26 17.2 -0.5**
KURK			pmax	pmax	
comp=Z,3.0nm,0.7s					
KURBB	**Kurchatov Arra**	**45.65 316**	P	**P**	**08 26 17.1 -0.8**
comp=Z,1.9nm,0.6s,baz=103,slow=8.7,SNR=9.6					
KURBB			LR	LR	08 45 57.3
comp=Z,65nm,19.8s,baz=171,slow=37					
comp=Z,1.9nm,0.6s					
WRA	**Warramunga Arr**	**46.19 174**	P	**P**	**08 26 22.3 -0.2**
WRA	**Warramunga Arr**	**46.19 174**	P	**P**	**08 26 22.7 +0.2**
comp=Z,2.2nm,0.7s,baz=354,slow=8.0,SNR=12					
comp=Z,2.2nm,0.7s					
BILL	**Bilibino**	**47.24 18**	*ce*P	**P**	**08 26 31.9 +1.7**
BILL			pmax	pmax	
comp=Z,9.0nm,1.7s					
ARLS	**Aral**	**47.54 304**	P	**P**	**08 26 34.4 +1.2**
ARLS			pmax	pmax	
comp=Z,6.0nm,0.8s					
NRIK	**Noril'sk**	**49.57 342**	P	**P**	**08 26 47.8 -0.3**
comp=Z,1.6nm,0.4s,baz=121,slow=6.5,SNR=6.8					
NRIK			LR	LR	08 49 19.8
comp=Z,58nm,18.0s,baz=360,slow=38					
comp=Z,1.6nm,0.4s					
AS31	**Alice Springs**	**49.83 175**	P	**P**	**08 26 51.1 +0.4**
ASAR	**Alice Springs**	**49.84 175**	P	**P**	**08 26 51.1 +0.4**
ASAR	**Alice Springs**	**49.84 175**	P	**P**	**08 26 51.4 +0.7**
comp=Z,1.6nm,0.9s,baz=353,slow=9.8,SNR=15					
comp=Z,1.6nm,0.9s					
KK31	**Karatay Array**	**50.37 305**	P	**P**	**08 26 54.7 +0.1**
KK31	**Karatay Array**	**50.37 305**	P	**P**	**08 26 54.7 +0.1**
KK31			pmax	pmax	
comp=Z,3.0nm,0.9s					
KKAR	**Karatay Array**	**50.37 305**	P	**P**	**08 26 54.9 +0.2**
KKAR	**Karatay Array**	**50.37 305**	P	**P**	**08 26 54.9 +0.2**
GAR	**Garm**	**50.68 300**	P	**P**	**08 26 56.6 -0.6**
GAR			IAmb	IAmb	08 26 59.8
comp=Z,11nm,1.0s					
BVAR	**Borovoye Array**	**51.04 318**	P	**P**	**08 26 59.5 -0.1**
comp=Z,3.2nm,0.7s,baz=86,slow=8.8,SNR=13					
BVAR			LR	LR	08 50 38.9
comp=Z,127nm,18.4s,baz=103,slow=38					
comp=Z,3.2nm,0.7s					
BRVK	**Borovoye**	**51.11 318**		**P**	**08 26 59.8 -0.3**
BRVK			IAmb	IAmb	08 27 03.3
comp=Z,5.6nm,0.9s					
BRVK	**Borovoye**	**51.11 318**	*ce*P	**P**	**08 27 00.2 +0.2**
BRVK			pmax	pmax	
comp=Z,5.0nm,0.7s					
SIMJ	**Simiganj**	**51.73 300**	P	**P**	**08 27 04.8 -0.4**
SIMJ			IAmb	IAmb	08 27 07.1
comp=Z,7.5nm,1.1s					
DZET	**Dzherino**	**51.86 300**	P	**P**	**08 27 07.0 +1.0**
DZET			pmax	pmax	
comp=Z,14nm,0.6s					
KBL	**Kabul**	**52.18 295**	P	**P**	**08 27 08.3 -0.3**
KBL			IAmb	IAmb	08 27 11.1
comp=Z,14nm,1.2s					
KBL	**Kabul**	**52.18 295**	P	**P**	**08 27 08.4 -0.3**
KBL			pmax	pmax	
comp=Z,14nm,1.3s					
ABKAR	**Akbulak array**	**57.49 313**	P	**P**	**08 27 46.6 0.0**
ABKAR			IAmb	IAmb	08 27 47.7
comp=Z,5.8nm,1.1s					
ARTI	**Arti**	**58.20 322**	P	**P**	**08 27 51.2 -0.2**
comp=Z,6.7nm,0.7s,baz=90,slow=2.0,SNR=5.1					
ARTI			LR	LR	08 53 33.3
comp=Z,32nm,19.3s,baz=62,slow=37					
comp=Z,6.7nm,0.7s					
ARTI	**Arti**	**58.20 322**	*c i*P	**P**	**08 27 50.8 -0.6**
ARTI					08 29 58.4
ARTI			S	**S**	**08 35 56.5 +3.5**
ARTI			SS	**SS**	**08 39 48.5 +4.3**
ARTI			pmax	pmax	
comp=Z,7.0nm,0.7s					
STKA	**Stephens Creek**	**58.96 168**	P	**P**	**08 27 56.6 -0.3**
STKA	**Stephens Creek**	**58.96 168**	P	**P**	**08 27 57.8 +0.9**
comp=Z,1.8nm,0.8s,baz=344,slow=13,SNR=3.0					
comp=Z,1.8nm,0.8s					
E22K	**Anaktuvuk Pass**	**61.65 25**	P	**P**	**08 28 15.6 +0.6**
E22K			IAmb	IAmb	08 28 27.6
comp=Z,2.7nm,0.8s					
SUA	**Susitna One**	**62.38 32**	P	**P**	**08 28 20.5 +0.3**
TOLK	**Toolik Lake Re**	**62.47 24**	P	**P**	**08 28 21.3 +0.7**
TOLK			IAmb	IAmb	08 28 33.6
comp=Z,7.1nm,1.3s					
KIRV	**Kirov**	**62.90 325**	P	**P**	**08 28 23.9 +0.5**
comp=Z,8.1nm,0.6s,baz=45,slow=4.3,SNR=4.9					
comp=Z,8.1nm,0.6s					
KIRV	**Kirov**	**62.90 325**	*ce*P	**P**	**08 28 23.8 +0.4**
MCK	**McKinley**	**63.02 30**	P	**P**	**08 28 24.9 +0.6**
MCK			IAmb	IAmb	08 28 27.4
comp=Z,15nm,1.4s					
MCK	**McKinley**	**63.02 30**	P	**P**	**08 28 24.9 +0.6**
MCK			pmax	pmax	
comp=Z,15nm,1.4s					
RND	**Reindeer**	**63.09 30**	P	**P**	**08 28 24.4 -0.4**
RND	**Reindeer**	**63.09 30**	P	**P**	**08 28 24.4 -0.4**
RND			pmax	pmax	
comp=Z,20nm,1.4s					
ILAR	**Eielson Array**	**63.81 28**	P	**P**	**08 28 29.7 +0.2**
comp=Z,0.5nm,0.8s,baz=270,slow=7.3,SNR=5.9					
comp=Z,0.5nm,0.8s					
BMAR	**Burnt Mountain**	**64.44 25**	P	**P**	**08 28 35.4 +1.8**
GLB	**Gilahina Butte**	**65.68 32**	P	**P**	**08 28 42.4 +0.6**
GLB			IAmb	IAmb	08 29 25.6
comp=Z,14nm,1.2s					
H27K	**Steamboat Moun**	**65.82 26**	P	**P**	**08 28 43.8 +1.2**
H27K			IAmb	IAmb	08 29 17.4
comp=Z,3.7nm,1.3s					
KLMR	**Klimovskoe**	**67.44 328**	*e*P	**P**	**08 28 51.5 -1.4**
KLMR			pmax	pmax	
comp=Z,17nm,1.4s					
M31M	**Drury Creek, Y**	**69.83 30**	P	**P**	**08 29 08.6 +0.8**
M31M			IAmb	IAmb	08 29 43.7
comp=Z,7.8nm,1.4s					
KBZ	**Khabaz**	**70.06 310**	P	**P**	**08 29 10.3 +0.8**
comp=Z,9.0nm,1.1s,baz=76,slow=1.2,SNR=12					
comp=Z,9.0nm,1.1s					
KBZ	**Khabaz**	**70.06 310**	*ce*P	**P**	**08 29 08.8 -0.7**
KBZ			pmax	pmax	
comp=Z,8.0nm,1.0s					
KIV	**Kislovodsk**	**70.14 310**	P	**P**	**08 29 10.1 -0.1**
KIV	**Kislovodsk**	**70.14 310**	*e*P	**P**	**08 29 10.5 +0.3**
KIV			pmax	pmax	
comp=Z,15nm,1.1s					
OBN	**Obninsk**	**70.52 323**	*e*P	**P**	**08 29 12.3 +0.1**
OBN			*e*		08 29 34.9
OBN			*e*		08 31 48.4
OBN			pmax	pmax	
comp=Z,3.0nm,0.9s					
C36M	**Paulatuk**	**71.21 21**	P	**P**	**08 29 16.3 +0.3**
C36M			IAmb	IAmb	08 29 28.3
comp=Z,6.8nm,0.8s					
FIA1	**FINESS Array S**	**73.41 331**	P	**P**	**08 29 29.5 +0.1**
FINES	**FINESS Array B**	**73.41 331**	P	**P**	**08 29 29.2 -0.1**
FINES	**FINESS Array B**	**73.41 331**	P	**P**	**08 29 29.4 +0.1**
comp=Z,3.6nm,0.6s,baz=62,slow=5.5,SNR=12					
comp=Z,3.6nm,0.6s					
FINES	**FINESS Array B**	**73.41 331**	*ce*P	**P**	**08 29 29.6 +0.2**
FINES			pmax	pmax	
comp=Z,4.0nm,0.6s					
VSU	**Vasula**	**74.35 328**	*ce*P	**P**	**08 29 35.5 +0.6**
VSU			pmax	pmax	
comp=Z,35nm,2.5s					
RAYN	**Ar Rayn**	**74.94 289**	P	**P**	**08 29 40.0 +0.9**
RAYN			pmax	pmax	
comp=Z,5.0nm,0.9s					
MNK	**Minsk**	**75.42 324**	*i* P	**P**	**08 29 39.9 -1.3**
MNK			*i*		08 29 52.6
MNK			*i*		08 32 28.8
MNK			*i* PPP	PPP	08 34 14.8
MNK			*i* S	**S**	**08 39 21.1 -0.2**
MNK			*i*		08 39 53.2
MNK			*i* SS	**SS**	**08 44 12.7 +1.9**
MNK			pmax	pmax	
comp=N,20nm,0.8s					
MNK			pmax	pmax	
comp=E,7.0nm,0.5s					
MNK			pmax	pmax	
comp=Z,10.0nm,0.6s					
MNK			MLR	MLR	
comp=E,935nm,23.0s					
MNK			MLR	MLR	
comp=N,341nm,18.0s					
MNK			MLR	MLR	
comp=Z,92nm,15.0s					
AKASG	**Malin Array Be**	**76.27 320**	P	**P**	**08 29 45.7 -0.4**
comp=Z,1.7nm,0.5s,baz=58,slow=6.4,SNR=9.3					
comp=Z,1.7nm,0.5s					
AKASG	**Malin Array Be**	**76.27 320**	*ce*P	**P**	**08 29 46.0 -0.1**
AKASG			pmax	pmax	
comp=Z,2.0nm,0.5s					
AKBB	**Malin Array Si**	**76.27 320**	*ce*P	**P**	**08 29 46.5 +0.3**
BR131	**Keskin Array S**	**77.95 308**	P	**P**	**08 29 55.8 -0.3**
BR131			IAmb	IAmb	08 29 57.3
comp=Z,4.7nm,1.0s					
BR131	**Keskin Array S**	**77.95 308**	*i* P	**P**	**08 29 55.6 -0.4**
BRTR	**Keskin Array B**	**77.95 308**	P	**P**	**08 29 55.9 -0.2**
BRTR	**Keskin Array B**	**77.95 308**	P	**P**	**08 29 55.6 -0.4**
comp=Z,3.1nm,0.9s,baz=81,slow=5.5,SNR=15					
comp=Z,3.1nm,0.9s					
BRTR	**Keskin Array B**	**77.95 308**	*ce*P	**P**	**08 29 56.4 +0.4**
BRTR			pmax	pmax	
comp=Z,3.0nm,0.9s					
YKA	**Yellowknife Ar**	**77.96 25**	P	**P**	**08 29 55.8 +0.4**
comp=Z,0.5nm,0.9s,baz=306,slow=6.1,SNR=6.4					
comp=Z,0.5nm,0.9s					
HFS	**Hagfors**	**79.33 333**	P	**P**	**08 30 02.6 -0.4**
comp=Z,3.0nm,0.8s,baz=69,slow=9.4,SNR=4.3					
comp=Z,3.0nm,0.8s					
NC405	**NORSAR Array S**	**79.55 334**	P	**P**	**08 30 03.1 -1.2**
NC405			IAmb	IAmb	08 30 04.8
comp=Z,8.9nm,1.1s					
NB2	**NORSAR Subarra**	**79.79 334**	P	**P**	**08 30 05.2 -0.4**
comp=Z,1.1nm,0.7s,baz=52,slow=5.6					
NOA	**NORSAR Array B**	**79.79 334**	P	**P**	**08 30 04.6 -1.0**
comp=Z,3.1nm,0.9s,baz=50,slow=5.4,SNR=8.2					
comp=Z,3.1nm,0.9s					
BUR08	**Bucovina Ar. S**	**79.99 318**	P	**P**	**08 30 06.3 -0.7**
BUR08			IAmb	IAmb	08 30 11.1
comp=Z,8.5nm,1.4s					
BURAR	**Bucovina Array**	**80.00 318**	P	**P**	**08 30 06.6 -0.4**
BURAR	**Bucovina Array**	**80.00 318**	P	**P**	**08 30 06.6 -0.4**
VYHS	**Vyhne**	**83.26 321**	*e*P	**P**	**08 30 25.3 +1.1**
VYHS	**Vyhne**	**83.26 321**	*e*P	**P**	**08 30 25.3 +1.1**
KSP	**Ksiaz**	**83.36 324**	P	**P**	**08 30 26.1 +1.5**
KSP			pmax	pmax	
comp=Z,9.0nm,1.1s					
VRAC	**Vranov**	**84.06 323**	P	**P**	**08 30 27.6 -0.6**
comp=Z,1.2nm,0.4s,baz=84,slow=4.9,SNR=3.3					
comp=Z,1.2nm,0.4s					
MODS	**Modra-Piesok**	**84.20 322**	*e*P	**P**	**08 30 30.2 +1.2**
MODS	**Modra-Piesok**	**84.20 322**	*e*P	**P**	**08 30 30.2 +1.2**
CLL	**Collm**	**84.79 326**	*i* P	**P**	**08 30 32.4 +0.5**
CLL			pmax	pmax	
comp=Z,5.0nm,0.8s					
CLL	**Collm**	**84.79 326**	*i* P	**P**	**08 30 32.4 +0.5**
comp=Z,5.0nm,0.8s					
CLL			*ex*	x	08 30 42.0
GERES	**GERESS Array B**	**85.88 323**	P	**P**	**08 30 37.8 +0.2**
comp=Z,0.8nm,0.6s,baz=55,slow=5.2,SNR=5.6					
comp=Z,0.8nm,0.6s					
ITM	**Ithomi**	**87.27 310**	P	**P**	**08 30 43.9 -0.6**
PDAR	**Pinedale Array**	**92.36 39**	P	**P**	**08 31 10.3 +1.8**
comp=Z,0.2nm,0.6s,baz=306,slow=4.0,SNR=2.3					
comp=Z,0.2nm,0.6s					

DJA 13 08:21:47.2±0.2, 2°S±2°×12°2E±°, h10km, M4.3/18, mB4.8/1, mb4.5/4, MLv4.2/18, Mw(mB)4.0/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.92**	**18**	P	Pg	08 22 04.0	-0.9
LUWI				S	Sb	08 22 17.7	+0.2
APSI	**Ampana**	**1.31**	**320**	P	Pn	08 22 10.6	-1.0
MRSI	**Marisa**	**2.44**	**347**	P	Pn	08 22 26.3	-0.9
PCI	**Palu**	**2.84**	**291**	P	Pn	08 22 33.6	+1.0
KMSI	**Cibinong**	**2.89**	**31**	P	Pn	08 22 33.3	0.0
KMSI				S	Sn	08 23 10.6	+2.4
SPSI	**Sidrap Palu**	**3.39**	**233**	P	Pn	08 22 41.1	+0.9
SPSI				S	Sn	08 23 21.0	+0.4
BNSI	**Bone**	**3.43**	**224**	P	Pn	08 22 41.3	+0.6
MPSI	**Mapaga**	**3.43**	**311**	P	Pn	08 22 40.8	+0.1
MPSI				S	Sn	08 23 20.3	-1.1
SANI	**Sanana**	**3.50**	**92**	P	Pn	08 22 41.6	-0.1
BKSI	**Bulukumba**	**4.12**	**215**	P	Pn	08 22 51.1	+0.8
BSSI	**Bau Bau, Buton**	**4.64**	**205**	P	Pn	08 22 55.6	-1.9

*IDC **13** 08:22:28.9±1.1, 71°.72N×12°.88E, h0km, mb3.1/1, mbtmp3.6/6, ML3.3/5, MS3.1/1, Error ellipse: s-maj=22.1km s-min=10.3km az=90.0*
*NAO **13** 08:22:30.3±327.0, 71°.81N×12°.98E, h18km±692km, ML3.4*
*KOLA **13** 08:22:31.9, 71°.68N×13°.63E, h0km, ML2.9, Error ellipse: s-maj=28.0km s-min=14.5km az=160.0, Norwegian sea*
*BER **13** 08:22:32.1±2.8, 71°.79N×13°.18E, h10km, ML2.6, ML3.4(NAO), Confirmed Earthquake*
*DNK **13** 08:22:34.9±0.6, 71°.51N×14°.02E, h0km, ML3.0(UPP)*
*FCIAR **13** 08:22:36.0, 72°.04N×14°.57E, h10km, station SPA0 has station magnitude of 3.45*
*UPP **13** 08:22:37.9±2.5, 71°.41N×14°.43E, h0km, ML3.0*

ISC 13 08:22:25.4±0.5, 71°.87N±0°.01×13°.10E±0°.03, h10km, n115, σ2s92/132, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRO	**Tromso**	**2.96**	**137**	Pn	**Pb**	**08 23 16.1**	**-2.1**
TRO				Sn	**Sn**	**08 23 48.4**	**+0.5**
TRO	**Tromso**	**2.96**	**137**	*e*P	**Pb**	**08 23 16.2**	**-2.0**
TRO				*e*S	**Sn**	**08 23 48.4**	**+0.5**
TRO				IAML		08 23 50.9	
comp=Z,46nm,0.2s							
BJO1	**Bjornoya**	**3.15**	**30**	Pn	**Pb**	**08 23 19.5**	**-1.8**
BJO1				Sn	**Sn**	**08 23 53.5**	**+1.0**
BJO1	**Bjornoya**	**3.15**	**30**	*e*P	**Pb**	**08 23 19.6**	**-1.8**
BJO1				*i* S	**Sn**	**08 23 52.9**	**+0.4**
BJO1	**Bjornoya**	**3.15**	**30**	*e*P	**Pb**	**08 23 19.4**	**-2.0**
BJO1				*e*S	**Sn**	**08 23 53.5**	**+1.0**
BJO1				IAML		08 23 55.6	
comp=Z,15nm,0.3s							
JETT	**Jettan, Norway**	**3.36**	**130**	Pn	**Pb**	**08 23 22.2**	**-2.8**
JETT				Sn	**Sn**	**08 23 59.4**	**+1.6**
JETT	**Jettan, Norway**	**3.36**	**130**	*e*P	**Pb**	**08 23 22.2**	**-2.8**
JETT				*e*S	**Sn**	**08 24 00.2**	**+2.4**
JETT				IAML		08 24 04.1	
comp=Z,23nm,0.3s							
HAMF	**Hammerfest**	**3.63**	**105**	Pn	**Pn**	**08 23 25.2**	**+3.6**
HAMF				Sn	**Sn**	**08 24 03.5**	**-0.9**
HAMF	**Hammerfest**	**3.63**	**105**	*e*P	**Pn**	**08 23 25.3**	**+3.7**
HAMF				*e*S	**Sn**	**08 24 03.5**	**-0.9**
HAMF				IAML		08 24 05.0	
comp=Z,32nm,0.2s							
LOF	**Lofoten**	**3.76**	**177**	Pn	**Pn**	**08 23 25.3**	**+1.9**
LOF				Sn	**Sn**	**08 24 06.4**	**-1.2**
LOF	**Lofoten**	**3.76**	**177**	*e*P	**Pn**	**08 23 25.2**	**+1.9**
LOF				*e*S	**Sn**	**08 24 05.5**	**-2.0**
LOF				IAML		08 24 07.3	
comp=Z,53nm,0.4s							
KIF	**Kilpisjarvi**	**3.87**	**134**	Pn	Pn	08 23 29.3	+4.4
KIF				Sn	**Sn**	**08 24 11.5**	**+1.3**
KIF	**Kilpisjarvi**	**3.87**	**134**	*e*P	Pn	08 23 29.3	+4.4
KIF				*e*S	**Sn**	**08 24 10.8**	**+0.5**
KIF				MSG		08 24 13.5	
comp=Z,22nm,0.3s							
STEI	**Steigen**	**4.03**	**168**	*e*P	**Pn**	**08 23 30.1**	**+3.1**
STEI				*e*S	**Sn**	**08 24 13.4**	**-0.8**
STEI				IAML		08 24 15.5	
comp=Z,29nm,0.3s							
KOVU	**Salmi**	**4.39**	**143**	P	**Pn**	**08 23 36.4**	**+4.4**
KOVU				S	**Sn**	**08 24 21.3**	**-1.8**
KOVU	**Salmi**	**4.39**	**143**	P	**Pn**	**08 23 36.4**	**+4.4**
KOVU				S	**Sn**	**08 24 21.3**	**-1.8**
KOVU	**Salmi**	**4.39**	**143**	P	**Pn**	**08 23 36.4**	**+4.4**
KOVU				S	**Sn**	**08 24 21.3**	**-1.8**
KTK1	**Kautokeino**	**4.45**	**125**	*e*P	Pb	08 23 38.5	-5.1
FAUS	**Fauske**	**4.58**	**169**	P	**Pn**	**08 23 37.7**	**+3.2**
FAUS				S	**Sn**	**08 24 26.4**	**-1.2**
FAUS	**Fauske**	**4.58**	**169**	*e*P	**Pn**	**08 23 37.9**	**+3.4**
FAUS				*e*S	**Sn**	**08 24 26.4**	**-1.2**
FAUS				IAML		08 24 29.1	
comp=Z,35nm,0.3s							
RATU	**Laukkuluspa**	**4.64**	**148**	P	Pn	08 23 40.1	+4.7
RATU				S	**Sn**	**08 24 27.9**	**-1.5**
RATU	**Laukkuluspa**	**4.64**	**148**	P	Pn	08 23 40.1	+4.7
RATU				S	**Sn**	**08 24 27.9**	**-1.5**
RATU	**Laukkuluspa**	**4.64**	**148**	P	Pn	08 23 40.1	+4.7
RATU				S	**Sn**	**08 24 27.9**	**-1.5**
KUA	**Kurravaara**	**4.66**	**144**	P	Pn	08 23 40.1	+4.5
KUA				S	**Sn**	**08 24 28.4**	**-1.3**
KUA	**Kurravaara**	**4.66**	**144**	P	Pn	08 23 40.1	+4.5
KUA				S	**Sn**	**08 24 28.4**	**-1.3**
KUA	**Kurravaara**	**4.66**	**144**	P	Pn	08 23 40.1	+4.5
KUA				S	**Sn**	**08 24 28.4**	**-1.3**
ARA0	**ARCESS Array S**	**4.73**	**114**	Pn	Pn	08 23 41.2	+4.5
baz=304,slow=12							
ARA0				Sn	**Sn**	**08 24 31.6**	**+0.1**
baz=310,slow=22							
ARA0	**ARCESS Array S**	**4.73**	**114**	*e*P	Pn	08 23 41.4	+4.6
ARA0				*e*S	**Sn**	**08 24 31.1**	**-0.4**
ARCES	**ARCESS Array B**	**4.73**	**114**	Pn	Pn	08 23 41.1	+4.4
comp=Z,2.2nm,0.3s,baz=310,slow=13,SNR=185							
ARCES				Sn	**Sn**	**08 24 31.6**	**+0.1**
comp=Z,2.7nm,0.3s,baz=302,slow=20,SNR=12							
comp=Z,4.1nm,0.3s							
ARCES	**ARCESS Array B**	**4.73**	**114**	P	Pn	08 23 41.1	+4.4
ARCES				S	**Sn**	**08 24 32.0**	**+0.5**
LANU	**Lannavaara**	**4.91**	**137**	P	Pn	08 23 43.6	+4.5
LANU				S	**Sn**	**08 24 33.6**	**-2.2**
LANU	**Lannavaara**	**4.91**	**137**	P	Pn	08 23 43.6	+4.5
LANU				S	**Sn**	**08 24 33.6**	**-2.2**
LANU				MSG		08 24 40.2	
comp=Z,4.7nm,0.3s							
LANU	**Lannavaara**	**4.91**	**137**	P	Pn	08 23 43.6	+4.5
LANU				S	**Sn**	**08 24 33.6**	**-2.2**
HEF	**Hetta**	**5.00**	**129**	Pn	Pn	08 23 45.2	+4.8
HEF	**Hetta**	**5.00**	**129**	*e*P	Pn	08 23 45.2	+4.8
KEV	**Kevo**	**5.05**	**108**	Pn	**Pn**	**08 23 44.7**	**+3.7**
KEV				Sn	**Sn**	**08 24 37.9**	**-1.4**
KEV	**Kevo**	**5.05**	**108**	*e*P	**Pn**	**08 23

Nm; M_{rr}0.58±.02; $M_{\theta\theta}$-0.67±.01; $M_{\phi\phi}$0.08±.01; $M_{r\theta}$0.58±.03; $M_{\theta\phi}$0.00±.01; $M_{\phi r}$-0.13±.03; Best double couple: $M_0$0.86700×10^17^ NP1:ϕ_s259.00000°, δ24.00000°, λ71.00000°. NP2:ϕ_s99.00000°, δ67.00000°, λ98.00000°. Principal axes: T 0.8310, Plg67.0000°, Azm24.0000°; N 0.0710, Plg8.0000°, Azm276.0000°; P -0.9020, Plg22.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 13 08:44:01.5±0.5, 6°.57S±0°.04×148°.66E±0°.05, h31km±3km, h31km:pP-P, n253, σ1§55/237, mb4.9/83, MS4.5/49, 6C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.19**	**208**		**Pn**	**08 44 52.2**	**+2.6**
PMG	**Port Moresby**	**3.19**	**208**	Pn	**Pn**	**08 44 52.4**	**+2.8**
	60nm,0.3s,baz=25,slow=11,SNR=90						
PMG				Sn	**Sb**	**08 45 32.9**	**-3.0**
	241nm,0.3s,baz=27,slow=18,SNR=10						
PMG				LR	LR	08 45 55.0	
	comp=Z,2μm,20.3s,baz=332,slow=37						
PMG	**Port Moresby**	**3.19**	**208**	P	**Pn**	**08 44 52.7**	**+3.1**
PMG	**Port Moresby**	**3.19**	**208**	P	**Pn**	**08 44 52.6**	**+3.0**
PMG	**Port Moresby**	**3.19**	**208**	*d* P	**Pn**	**08 44 51.8**	**+2.2**
PMG				pmax	pmax		
	comp=Z,853nm,0.8s						
RABL	**Rabaul**	**4.21**	**56**		**Pn**	**08 45 04.8**	**+1.2**
JAY	**Jayapura**	**8.89**	**297**	Pn	**Pn**	**08 46 03.9**	**-4.1**
	comp=Z,0.3nm,0.3s,baz=133,slow=18,SNR=1.7						
JAY				LR	LR	08 49 37.3	
	comp=Z,2μm,19.1s,baz=94,slow=39						
	comp=Z,5.5nm,0.7s						
COEN	**Coen**	**9.11**	**216**	Pn	**Pn**	**08 46 12.7**	**+1.7**
COEN	**Coen**	**9.11**	**216**	P	**Pn**	**08 46 12.8**	**+1.8**
GENI	**Genyem**	**9.34**	**295**	P	**Pn**	**08 46 10.7**	**-3.4**
TATA	**Tatamba Isabel**	**11.19**	**100**	P	**Pn**	**08 46 42.6**	**+3.1**
HNR	**Honiara**	**11.53**	**105**	LR	LR	08 51 00.3	
	comp=Z,629nm,18.0s,baz=286,slow=36						
MTSU	**Mount Surprise**	**12.25**	**200**	P	**Pn**	**08 46 55.9**	**+1.8**
	comp=Z,18nm,0.8s						
MTSU	**Mount Surprise**	**12.25**	**200**	P	**Pn**	**08 46 56.4**	**+2.4**
QIS	**Mount Isa**	**16.45**	**211**	P	**Pn**	**08 47 50.8**	**+0.6**
	comp=Z,59nm,2.0s						
QIS	**Mount Isa**	**16.45**	**211**	P	**P**	**08 47 51.7**	**-1.0**
KDU	**Kakadu**	**17.07**	**248**	P	**Pn**	**08 47 57.6**	**-0.5**
KDU	**Kakadu**	**17.07**	**248**	P	**Pn**	**08 47 58.4**	**+0.3**
MTN	**Manton Dam**	**18.36**	**249**		**P**	**08 48 14.1**	**+0.2**
MTN	**Manton Dam**	**18.36**	**249**	P	**Pn**	**08 48 16.2**	**+2.2**
	comp=Z,16nm,1.0s						
EIDS	**Eidsvold**	**18.84**	**173**		**Pn**	**08 48 19.2**	**-0.4**
EIDS				IAmb	IAmb	08 48 22.2	
	comp=Z,233nm,1.8s						
EIDS	**Eidsvold**	**18.84**	**173**	P	**P**	**08 48 19.0**	**0.0**
	comp=Z,74nm,1.2s						
EIDS	**Eidsvold**	**18.84**	**173**	P	**Pn**	**08 48 20.6**	**+0.9**
WRAB	**Tennant Creek**	**19.23**	**225**	P	**P**	**08 48 23.6**	**+0.3**
WRAB				IAmb	IAmb	08 48 38.4	
	comp=Z,100nm,1.4s						
WRAB	**Tennant Creek**	**19.23**	**225**	*i* P	**P**	**08 48 23.7**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,34nm,0.9s						
WRA	**Warramunga Arr**	**19.24**	**225**		**P**	**08 48 23.9**	**+0.5**
WRA	**Warramunga Arr**	**19.24**	**225**	P	**P**	**08 48 22.7**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=47,slow=11,SNR=93						
WRA				S	**Sn**	**08 51 58.5**	**-1.0**
	comp=Z,30nm,1.4s,baz=47,slow=22,SNR=10						
WRA				ScP	**ScP**	**08 56 21.3**	**+1.3**
	comp=Z,4.4nm,1.1s,baz=48,slow=2.6,SNR=7.9						
WRA				LR	LR	08 56 39.5	
	comp=Z,2μm,19.6s,baz=32,slow=40						
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**19.24**	**225**	*i* P	**Pn**	**08 48 24.5**	**-0.1**
WRA				pmax	pmax		
	comp=Z,16nm,0.7s						
QLP	**Quilpie**	**20.35**	**191**	P	Pn	08 48 37.0	-0.6
	comp=Z,195nm,1.0s						
QLP	**Quilpie**	**20.35**	**191**	P	Pn	08 48 38.3	+0.7
GUMO	**Guam**	**20.38**	**349**	P	**P**	**08 48 36.2**	**+0.4**
GUMO	**Guam**	**20.38**	**349**	LR	LR	08 55 31.6	
	comp=Z,959nm,19.6s,baz=152,slow=34						
GUMO	**Guam**	**20.38**	**349**	P	**P**	**08 48 36.2**	**+0.4**
GUMO				pmax	pmax		
	comp=Z,159nm,1.2s						
KNRA	**Kununurra**	**21.50**	**243**		**P**	**08 48 48.6**	**+0.6**
KNRA				IAmb	IAmb	08 49 07.0	
	comp=Z,33nm,0.6s						
KNRA	**Kununurra**	**21.50**	**243**	P	**P**	**08 48 48.5**	**+0.5**
	comp=Z,56nm,0.8s						
AS31	**Alice Springs**	**22.14**	**218**		**P**	**08 48 55.7**	**+0.8**
AS31	**Alice Springs**	**22.14**	**218**	P	**P**	**08 48 55.4**	**+0.5**
	comp=Z,24nm,0.7s						
ASAR	**Alice Springs**	**22.14**	**218**	P	**P**	**08 48 55.6**	**+0.7**
ASAR	**Alice Springs**	**22.14**	**218**	P	**P**	**08 48 54.4**	**-0.5**
	comp=Z,22nm,0.7s,baz=41,slow=11,SNR=144						
ASAR				S	**S**	**08 52 57.3**	**-0.1**
	comp=Z,26nm,1.2s,baz=47,slow=19,SNR=10						
ASAR				ScP	**ScP**	**08 56 29.9**	**+3.0**
	comp=Z,2.3nm,1.0s,baz=38,slow=2.7,SNR=6.7						
ASAR				LR	LR	08 58 07.0	
	comp=Z,1μm,19.9s,baz=38,slow=38						
	comp=Z,22nm,0.7s						
ASAR	**Alice Springs**	**22.14**	**218**	P	**P**	**08 48 55.6**	**+0.7**
INKA	**Innaminka**	**22.36**	**199**	P	**P**	**08 48 59.7**	**+2.6**
DZM	**Mont Dzumac**	**23.07**	**134**		**P**	**08 49 04.6**	**-0.1**
DZM				IAmb	IAmb	08 49 22.2	
	comp=Z,77nm,1.3s						
DZM	**Mont Dzumac**	**23.07**	**134**	*eP*	**P**	**08 49 05.9**	**+1.1**
	comp=Z,115nm,1.3s						
DZM				*eS*	**S**	**08 53 09.3**	**-4.7**
	comp=Z,1μm,24.4s						
DZM				*eS*	Sn	08 53 10.5	-21
	comp=Z,556nm,24.7s						
DZM				*e*LR	LR	08 54 45.7	
	comp=Z,3μm,21.6s						
DZM	**Mont Dzumac**	**23.07**	**134**	P	**P**	**08 49 07.9**	**+3.1**
ARMA	**Armidale**	**23.89**	**174**		**P**	**08 49 12.0**	**-0.6**
ARMA				IAmb	IAmb	08 49 29.1	
	comp=Z,55nm,1.2s						
ARMA	**Armidale**	**23.89**	**174**	P	**P**	**08 49 13.1**	**+0.5**
	comp=Z,36nm,1.3s						
ARMA	**Armidale**	**23.89**	**174**	P	**P**	**08 49 13.3**	**+0.6**
SOEI	**Soe**	**24.35**	**261**	P	**P**	**08 49 17.1**	**0.0**
OOD	**Oodnadatta**	**24.44**	**209**	P	**P**	**08 49 19.0**	**+1.4**
CMSA	**Cobar Meteorol**	**25.00**	**186**	P	**P**	**08 49 22.5**	**-0.2**
	comp=Z,58nm,1.1s						
CMSA	**Cobar Meteorol**	**25.00**	**186**	P	**P**	**08 49 23.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**25.20**	**241**		**P**	**08 49 25.7**	**+1.0**
FITZ				IAmb	IAmb	08 49 39.7	
	comp=Z,40nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.20**	**241**	P	**P**	**08 49 25.5**	**+0.9**
	comp=Z,60nm,1.0s						
FITZ	**Fitzroy Crossi**	**25.20**	**241**	P	**P**	**08 49 24.6**	**-0.1**
	comp=Z,63nm,0.8s,baz=63,slow=9.9,SNR=94						
FITZ				S	**S**	**08 53 49.0**	**+0.7**
	comp=Z,12nm,1.0s,baz=333,slow=2.3,SNR=8.1						
FITZ				LR	LR	09 00 19.7	
	comp=Z,2μm,19.1s,baz=66,slow=39						
	comp=Z,63nm,0.8s						
LCRK	**Leigh Creek**	**25.70**	**201**	P	**P**	**08 49 30.5**	**+1.4**
STKA	**Stephens Creek**	**26.03**	**194**	P	**P**	**08 49 32.8**	**+0.7**
STKA	**Stephens Creek**	**26.03**	**194**	P	**P**	**08 49 31.3**	**-0.8**
	comp=Z,147nm,1.4s						
STKA	**Stephens Creek**	**26.03**	**194**	P	**P**	**08 49 32.2**	**+0.1**
	comp=Z,13nm,0.8s,baz=16,slow=10,SNR=22						
STKA				LR	LR	09 01 01.0	
	comp=Z,2μm,18.6s,baz=16,slow=39						
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**26.03**	**194**	P	**P**	**08 49 34.0**	**+1.9**
STKA	**Stephens Creek**	**26.03**	**194**	*i* P	**P**	**08 49 33.5**	**+1.4**
WRKA	**Warakurna**	**26.78**	**224**	P	**P**	**08 49 38.6**	**-0.4**
	comp=Z,53nm,0.6s						
WRKA	**Warakurna**	**26.78**	**224**	P	**P**	**08 49 39.8**	**+0.8**
RIV	**Riverview**	**27.23**	**175**	P	**P**	**08 49 46.3**	**+3.6**
HTT	**Hallett**	**28.22**	**197**	P	**P**	**08 49 53.2**	**+1.5**
CAN	**Canberra**	**28.62**	**179**	P	**P**	**08 49 54.9**	**-0.4**
CAN	**Canberra**	**28.62**	**179**	P	**P**	**08 49 54.9**	**-0.4**
CAN				pmax	pmax		
	comp=Z,16nm,1.1s						
BBOO	**Buckleboo**	**28.62**	**203**	P	**P**	**08 49 56.2**	**+0.9**
BBOO				IAmb	IAmb	08 50 08.9	
	comp=Z,78nm,1.7s						
BBOO	**Buckleboo**	**28.62**	**203**	P	**P**	**08 49 56.6**	**+1.3**
KAPI	**Kappang**	**28.80**	**272**	P	**P**	**08 49 57.5**	**+0.4**
KAPI				IAmb	IAmb	08 50 10.9	
	comp=Z,48nm,1.2s						
KAPI	**Kappang**	**28.80**	**272**	P	**P**	**08 49 57.5**	**+0.4**
KAPI				pmax	pmax		
	comp=Z,48nm,1.2s						
PLAI	**Plampang**	**30.68**	**264**	P	**P**	**08 50 12.5**	**-1.3**
MSVF	**Nonsavu**	**30.74**	**114**	P	**P**	**08 50 13.6**	**-0.8**
MSVF				IAmb	IAmb	08 50 52.5	
	comp=Z,49nm,1.4s						
MSVF	**Nonsavu**	**30.74**	**114**	P	**P**	**08 50 13.6**	**-0.8**
MSVF				pmax	pmax		
	comp=Z,49nm,1.4s						
FORT	**Forrest**	**30.88**	**216**	P	**P**	**08 50 16.0**	**+0.7**
FORT				IAmb	IAmb	08 50 17.8	
	comp=Z,28nm,0.8s						
FORT	**Forrest**	**30.88**	**216**	P	**P**	**08 50 15.9**	**+0.6**
	comp=Z,42nm,0.8s						
FORT	**Forrest**	**30.88**	**216**	P	**P**	**08 50 16.0**	**+0.7**
TOO	**Toolangi**	**31.00**	**185**	P	**P**	**08 50 15.4**	**-0.9**
TOO	**Toolangi**	**31.00**	**185**	P	**P**	**08 50 16.8**	**+0.5**
	comp=Z,7.2nm,1.1s						
TOO	**Toolangi**	**31.00**	**185**	P	**P**	**08 50 15.4**	**-0.9**
TOO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MBWA	**Marble Bar**	**31.53**	**240**	P	**P**	**08 50 21.2**	**0.0**
MBWA	**Marble Bar**	**31.53**	**240**	P	**P**	**08 50 21.2**	**0.0**
MBWA	**Marble Bar**	**31.53**	**240**	P	**P**	**08 50 23.3**	**+2.2**
MBWA				pP	**pwP**	**08 50 34.8**	**-0.4**
PSA00	**Pilbara Seismi**	**31.59**	**239**	P	**P**	**08 50 20.7**	**-1.1**
PSA00				IAmb	IAmb	08 50 38.2	
	comp=Z,38nm,1.1s						
PSA00	**Pilbara Seismi**	**31.59**	**239**	P	P	08 50 26.9	+5.1
JCJ	**Chichijima**	**34.05**	**350**	LR	LR	09 03 41.9	
	comp=Z,338nm,18.4s,baz=128,slow=35						
JAGI	**Jajag, Banyuwa**	**34.26**	**265**	P	**P**	**08 50 43.6**	**-1.6**
MEEK	**Meekatharra**	**34.87**	**232**	P	**P**	**08 50 50.8**	**+0.4**
	comp=Z,155nm,1.1s						
MEEK	**Meekatharra**	**34.87**	**232**	P	**P**	**08 50 51.8**	**+1.4**
KMBL	**Kambalda**	**35.16**	**222**	P	**P**	**08 50 53.3**	**+0.6**
	comp=Z,51nm,1.5s						
KMBL	**Kambalda**	**35.16**	**222**	P	**P**	**08 50 53.8**	**+1.1**
JMZ	**Minamidaito 2**	**36.38**	**333**	P	**P**	**08 51 03.1**	**-0.1**
MORW	**Morawa**	**38.05**	**230**	P	**P**	**08 51 17.9**	**+0.4**
MORW	**Morawa**	**38.05**	**230**	P	**P**	**08 51 20.9**	**+3.5**
BLDU	**Ballidu**	**38.34**	**227**	P	**P**	**08 51 18.2**	**-1.7**
NWAO	**Narrogin (SRO)**	**39.24**	**224**	LR	LR	09 08 42.4	
	comp=Z,1μm,19.1s,baz=66,slow=38						
QRZ	**Quartz Range**	**40.23**	**152**	P	**P**	**08 51 35.1**	**-0.3**
JHJ	**Hachijo jima 2**	**40.36**	**348**	LR	LR	09 08 04.6	
	comp=Z,850nm,18.1s,baz=141,slow=36						
URZ	**Urewera**	**40.73**	**145**	LR	LR	09 07 26.1	
	comp=Z,1μm,18.2s,baz=40,slow=34						
LEM	**Lembang**	**40.76**	**267**	LR	LR	09 12 13.1	
	comp=Z,279nm,19.2s,baz=132,slow=42						
MRNZ	**Matariki Terra**	**40.78**	**152**	P	**P**	**08 51 41.0**	**+0.9**
THZ	**Tophouse**	**41.14**	**152**	P	**P**	**08 51 44.2**	**+1.2**
THZ				IAmb	IAmb	08 52 12.4	
	comp=Z,42nm,1.3s						
LTZ	**Lake Taylor**	**41.66**	**154**	P	**P**	**08 51 48.6**	**+1.4**
LTZ				IAmb	IAmb	08 52 05.0	
	comp=Z,32nm,1.2s						
RPZ	**Rata Peaks**	**41.90**	**156**	LR	LR	09 07 45.6	
	comp=Z,636nm,19.1s,baz=324,slow=34						
NIUE	**Niue**	**42.13**	**111**	P	**P**	**08 51 53.0**	**+1.6**
JNU	**Nakatsue**	**42.94**	**338**	P	**P**	**08 51 55.3**	**-2.5**
	comp=Z,7.8nm,0.8s,baz=144,slow=12,SNR=5.5						
	comp=Z,7.8nm,0.8s						
INU	**Inuyama**	**43.11**	**346**	P	**P**	**08 51 58.5**	**-0.6**
INU				IAmb	IAmb	08 52 15.2	
	comp=Z,32nm,1.2s						
JGF	**Kuroka**	**43.27**	**347**	P	**P**	**08 52 00.2**	**-0.2**
MJAR	**Matsushiro Arr**	**43.99**	**348**	P	**P**	**08 52 04.4**	**-1.8**
	comp=Z,6.0nm,1.0s,baz=166,slow=7.9,SNR=10						
MJAR				ScP	**ScP**	**08 57 39.1**	**-2.2**
	comp=Z,1.5nm,0.8s,baz=157,slow=3.4,SNR=4.5						
MJAR				LR	LR	09 09 20.4	
	comp=Z,578nm,18.0s,baz=160,slow=35						
	comp=Z,6.0nm,1.0s						
MAJO	**Matsushiro**	**43.99**	**348**	*i* P	**P**	**08 52 03.6**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,40nm,1.7s						
MAJO	**Matsushiro**	**43.99**	**348**	P	**P**	**08 52 03.0**	**-3.1**
MAJO				pP	**pP**	**08 52 14.0**	**+0.3**
MJB9	**Matsu-Tunnel**	**43.99**	**348**	P	**P**	**08 52 04.5**	**-1.7**
SSE	**Sheshan**	**45.75**	**326**	P	**P**	**08 52 20.0**	**-0.2**
SSE				S	S	08 58 52.1	-10
SSE				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SSE				LR	LR		
	comp=Z,170nm,11.8s						
SSE				LR	LR		
	comp=Z,360nm,12.6s						
QIZ	**Qiongzhong**	**45.94**	**304**	P	**P**	**08 52 24.4**	**+2.5**
QIZ				sP	**pwP**	**08 52 36.4**	**+0.6**
QIZ				S	**S**	**08 59 05.8**	**+0.9**
QIZ				sS	**sS**	**08 59 21.3**	**+3.4**
QIZ				LR	LR		
	comp=Z,250nm,12.2s						
QIZ				LR	LR		
	comp=Z,260nm,14.5s						
QIZ				LR	LR		
	comp=Z,330nm,13.2s						
NJ2	**Nanjing**	**47.78**	**325**	*eP*	**P**	**08 52 37.4**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
NJ2				LR	LR		
	comp=Z,400nm,10.9s						
NJ2				LR	LR		
	comp=Z,600nm,10.0s						
NJ2				LR	LR		
	comp=Z,1μm,20.8s						
KSRS	**Korea Array**	**47.89**	**338**	P	**P**	**08 52 35.1**	**-1.7**
	comp=Z,4.0nm,1.0s,baz=155,slow=8.4,SNR=12						
	comp=Z,4.0nm,1.0s						
RPSI	**Rantau Prapat**	**50.50**	**279**	P	**P**	**08 52 56.7**	**-0.5**
RPSI				IAmb	IAmb	08 53 10.8	
	comp=Z,19nm,1.3s						
PSI	**Prapat**	**50.52**	**279**	LR	LR	09 16 52.4	
	comp=Z,246nm,20.9s,baz=114,slow=39						
PSI	**Prapat**	**50.52**	**279**	P	**P**	**08 52 56.7**	**-0.9**
PSI				pmax	pmax		
	comp=Z,19nm,1.3s						
ASAJ	**Asahikawa**	**50.75**	**354**	LR	LR	09 12 41.7	
	comp=Z,492nm,21.9s,baz=186,slow=34						
SRIT	**Nakonsritamara**	**51.18**	**286**	P	**P**	**08 53 02.9**	**+0.5**
SRIT				IAmb	IAmb	08 53 04.7	
	comp=Z,14nm,0.8s						
MSHR	**Mys Shultsa**	**51.45**	**343**	*i* P	**P**	**08 53 03.3**	**-0.5**
MSHR				pmax	pmax		
	comp=Z,15nm,1.3s						
TIA	**Tai'an**	**51.83**	**327**	P	P	08 53 12.5	+5.6
TIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
RAR	**Rarotonga**	**51.89**	**112**	LR	LR	09 11 28.1	
	comp=Z,101nm,21.2s,baz=288,slow=32						
USRK	**Ussuriysk Ar.**	**52.73**	**345**	LR	LR	09 14 43.1	
	comp=Z,286nm,18.3s,baz=148,slow=35						
YSS	**Yuzhno-Sakhali**	**53.55**	**355**	*eP*	**P**	**08 53 16.8**	**-2.5**
HNS	**HongShan**	**54.02**	**327**	*eP*	**P**	**08 53 25.6**	**+2.7**
HNS				pP	**pwP**	**08 53 35.0**	**-2.4**
HNS				LR	LR		
	comp=Z,390nm,19.6s						
HNS				LR	LR		
	comp=Z,360nm,19.2s						
HNS				LR	LR		
	comp=Z,710nm,20.2s						
CN2	**Changchun**	**54.36**	**339**	*eP*	**P**	**08 53 29.1**	**+3.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CM31	**Chiang Mai Arr**	**54.97**	**298**	P	**P**	**08 53 31.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**54.97**	**298**	P	**P**	**08 53 30.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**54.97**	**298**	P	**P**	**08 53 29.7**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=113,slow=7.7,SNR=8.9						
CMAR				ScP	**ScP**	**08 58 29.6**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=119,slow=5.2,SNR=2.6						
CMAR				PKP2bc		09 23 53.5	
	comp=Z,1.1nm,0.9s,baz=292,slow=2.0,SNR=6.4						
	comp=Z,1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**54.97**	**298**	P	**P**	**08 53 30.9**	**+0.6**
BNX	**BinXian**	**55.44**	**342**	⇑P	P	08 53 40.9	+7.8
BNX				pmax	pmax		
	comp=Z,13nm,1.1s						
PZH	**PanZhiHua**	**56.11**	**308**	P	**P**	**08 53 41.8**	**+3.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						

IDC 13 08:37:12.6±5.8, 39°.75N×111°.39E, h0km, mb3.3/3, mbtmp3.4/4, ML3.1/1, MS2.7/1, Error ellipse: s-maj=122.1km s-min=23.8km az=82.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.85**	**338**	Pn	Pn	08 39 20.8	-1.0
	0.2nm,0.3s,baz=154,slow=13,SNR=9.5						
SONM				Sn	Sn	08 41 02.6	+0.3
	0.3nm,0.3s,baz=158,slow=36,SNR=2.8						
SONM				Lg	Lg	08 41 54.7	
	0.2nm,0.3s,baz=150,slow=23,SNR=6.1						
	1.4nm,0.7s						
KSRS	**Korea Array**	**13.13**	**95**	LR	LR	08 46 15.9	
	comp=Z,33nm,18.3s,baz=315,slow=42						
MKAR	**Makanchi Array**	**22.24**	**298**	P	P	08 42 10.3	-0.5
	0.5nm,0.8s,baz=98,slow=11,SNR=4.3						
	0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**23.79**	**210**	P	P	08 42 26.9	-0.1
	0.5nm,0.5s,baz=20,slow=10,SNR=5.8						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**25.38**	**306**	P	P	08 42 42.3	+1.0
	0.3nm,0.3s,baz=100,slow=8.6,SNR=1.6						
	0.3nm,0.3s						

---

*IDC **13** 08:43:56.0±0.5, 6°.51S×148°.50E, h0km, mb4.4/18, mbtmp4.4/20, ML4.1/2, MS4.4/42, Error ellipse: s-maj=17.3km s-min=8.3km az=120.0*

*MOS **13** 08:44:01.0±1.3, 6°.50S×148°.65E, h41km, mb5.0/19, Error ellipse: s-maj=12.5km s-min=7.7km az=87.0*

*NEIC **13** 08:44:02.8, 6°.61S×148°.58E, h22km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^16^Nm; M_{rr}4.20; $M_{\theta\theta}$-5.62; $M_{\phi\phi}$1.42; $M_{r\theta}$3.25; $M_{\theta\phi}$0.11; $M_{\phi r}$-0.22; Fault plane solution: $M_0$5.90000×10^16^ NP1: ϕ_s267.68000°, δ28.30000°, λ85.14000°. NP2:ϕ_s93.19000°, δ61.81000°, λ92.61000°. Principal axes: T 5.1867, Plg73.0000°, Azm10.0000°; N 1.4174, Plg2.0000°, Azm272.0000°; P -6.6041, Plg17.0000°, Azm181.0000°;*

*NEIC **13** 08:44:02.8, 6°.51S×148°.69E, h22km*

*NEIC **13** 08:44:03.7±1.3, 6°.53S±0°.08×148°.68E±0°.09, h45km±7km, mb5.0/72, Mww5.1/18, Error ellipse: s-maj=14.4km s-min=9.7km az=128.0*

*GCMT **13** 08:44:04.7±0.1, 6°.75S±0°.01×148°.77E±0°.01, h26km, MW5.2/112, Moment Tensor Solution. s91,c139; s112,c190; Duration: 1§0 Moment tensor: Scale 10^17^*

```
TYV  Tymovskoe      57.44 355 eP      P      08 53 59.2 +12
TYV                           pmax   pmax
     comp=Z,6.0nm,0.9s
TYV                           pmax   pmax
     comp=Z,100nm,3.8s
KLR  Kul'dur        57.50 347 P       P      08 53 46.2 -1.5
     comp=Z,1.2nm,0.7s,baz=155,slow=9.9,SNR=3.7
KLR                           LR     LR     09 16 45.2
     comp=Z,325nm,20.8s,baz=180,slow=34
     comp=Z,1.2nm,0.7s
KLR  Kul'dur        57.50 347 ceP     P      08 53 46.7 -1.0
KLR                           pmax   pmax
     comp=Z,5.0nm,1.7s
HHC  Hu-ho-hao-te   58.19 327 eP      P      08 53 57.6 +4.7
HHC                           pmax   pmax
     comp=Z,15nm,0.8s
HHC                           pmax   pmax
     comp=Z,160nm,5.9s
HHC                           LR     LR
     comp=Z,360nm,13.5s
HHC                           LR     LR
     comp=Z,480nm,16.8s
HHC                           LR     LR
     comp=Z,520nm,18.5s
BTO  Baotou         58.86 326 eP      P      08 54 02.6 +5.0
BTO                           pmax   pmax
     comp=Z,17nm,0.8s
BTO                           pmax   pmax
     comp=Z,120nm,4.3s
BTO                           LR     LR
     comp=Z,790nm,20.7s
BTO                           LR     LR
     comp=Z,760nm,17.5s
BTO                           LR     LR
     comp=Z,1μm,19.2s
HEH  HeiHe          59.52 344 eP      P      08 54 08.6 +6.8
HEH                           pmax   pmax
     comp=Z,5.0nm,0.9s
HEH                           LR     LR
     comp=Z,350nm,18.4s
HEH                           LR     LR
     comp=Z,180nm,16.0s
HEH                           LR     LR
     comp=Z,470nm,17.8s
PEA0B Petropavlovsk-  59.94  6 P       P      08 54 03.9 -0.7
PEA0B Petropavlovsk-  59.94  6 ceP     P      08 54 06.0 +1.4
PETK  Petropavlovsk-  59.94  6 P       P      08 54 04.5 -0.2
PETK  Petropavlovsk-  59.94  6 P       P      08 54 04.0 -0.6
     comp=Z,5.9nm,0.8s,baz=216,slow=6.9,SNR=13
PETK                          LR     LR     09 16 14.7
     comp=Z,306nm,21.7s,baz=202,slow=32
     comp=Z,5.9nm,0.8s
PETK Petropavlovsk-   59.94  6 P       P      08 54 04.5 -0.2
DRV  Dumont d'Urvil   60.30 184 P       P      08 54 08.0 +1.1
DRV                           pP     pwP    08 54 19.5 -1.4
PPT  Papeete        61.15 106 LR     LR     09 17 57.4
     comp=Z,78nm,18.9s,baz=272,slow=33
PPT2 Papeete2       61.15 106 eP      P      08 54 17.1 +3.4
     comp=Z,79nm,22.8s
PPT2                          eS     S      09 02 26.8 -4.8
     comp=Z,84nm,23.2s
PPT2                          eSS    SS     09 06 32.6 +0.6
     comp=Z,53nm,21.8s
PPT2                          eLQ    LQ     09 09 48.0
     comp=Z,914nm,32.5s
PPT2                          eLR    LR     09 12 19.8
     comp=Z,287nm,24.5s
PPT2                          eLR    LR     09 12 21.1
     comp=Z,250nm,27.2s
TBI  Tubuai         61.63 113 eP      P      08 54 17.2 +0.5
     comp=Z,272nm,27.5s
TBI                           eS     S      09 02 32.3 -5.1
     comp=Z,264nm,24.2s
TBI                           eSS    SS     09 06 38.3 -0.9
     comp=Z,461nm,26.5s
TBI                           eLQ    LQ     09 10 01.5
     comp=Z,2μm,31.2s
TBI                           eLR    LR     09 12 27.5
     comp=Z,430nm,29.0s
ZEA  Zeya           62.74 346 eP      P      08 54 32.5 +9.0
ZEA                           pmax   pmax
     comp=Z,10.0nm,1.5s
ZEA                           MLR    MLR
     comp=Z,200nm,15.0s
SHEM Shemya Is, Ala 62.91  17 LR     LR     09 16 19.9
     comp=Z,256nm,21.9s,baz=166,slow=31
ULN  Ulaanbaatar    65.41 331 P       P      08 54 41.0 -0.5
ULN                           IAmb   IAmb   08 55 14.0
     comp=Z,18nm,1.6s
ULN  Ulaanbaatar    65.41 331 iP      P      08 54 42.1 +0.7
ULN                           pmax   pmax
     comp=Z,3.0nm,1.0s
SONM Songino Array  65.71 330 P       P      08 54 42.8 -0.6
SONM Songino Array  65.71 330 P       P      08 54 41.7 -1.6
     comp=Z,1.0nm,0.8s,baz=130,slow=6.2,SNR=5.7
SONM                          LR     LR     09 22 10.0
     comp=Z,680nm,21.8s,baz=118,slow=35
     comp=Z,1.0nm,0.8s
SONM Songino Array  65.71 330 P       P      08 54 42.8 -0.6
SONM                          pmax   pmax
     comp=Z,8.0nm,1.3s
MA2  Magadan        65.95   1 LR     LR     09 25 07.0
     comp=Z,255nm,18.2s,baz=176,slow=38
MA2  Magadan        65.95   1 ceP     P      08 54 45.0 +0.5
MA2                           pmax   pmax
     comp=Z,34nm,2.5s
ZAK  Zakamensk      68.93 331 eP      P      08 55 00.3 -3.4
ZAK                           pmax   pmax
     comp=Z,7.0nm,1.4s
PALK Pallekele      69.17 280 P       P      08 55 05.5 -0.3
PALK Pallekele      69.17 280 LR     LR     09 28 45.5
     comp=Z,109nm,20.5s,baz=108,slow=39
PALK Pallekele      69.17 280 P       P      08 55 05.6 -0.3
PALK                          pmax   pmax
     comp=Z,9.0nm,0.9s
PALK Pallekele      69.17 280 P       P      08 55 07.1 +1.3
PALK                          pP     pwP    08 55 19.0 -1.4
SEY  Seymchan       69.36   2 LR     LR     09 26 38.4
     comp=Z,276nm,18.5s,baz=181,slow=37
SEY  Seymchan       69.36   2 ceP     P      08 55 06.8 +0.9
SEY                           pmax   pmax
     comp=Z,4.0nm,1.3s
CCD  Concordia, Ant 70.00 187 P       P      08 55 11.6 +1.3
CCD                           sP     PcP    08 55 29.6 -2.8
TAOE Nuku Hiva Isla 70.49  97 eLR     LR     09 16 40.2
     comp=Z,153nm,22.4s
UNV  Unalaska Valle 70.98  26 P       P      08 55 15.9 -0.1
VNDA Vanda          71.26 177 P       P      08 55 17.6 +0.2
VNDA Vanda          71.26 177 P       P      08 55 18.2 +0.8
     comp=Z,4.2nm,0.9s,baz=349,slow=3.2,SNR=13
VNDA                          LR     LR     09 23 12.3
     comp=Z,278nm,19.9s,baz=9.0,slow=33
     comp=Z,4.2nm,0.9s
VNDA Vanda          71.26 177 P       P      08 55 17.6 +0.2
VNDA                          pmax   pmax
     comp=Z,6.0nm,0.9s
VNDA Vanda          71.26 177 P       P      08 55 18.7 +1.3
VNDA                          sP     PcP    08 55 37.0 -0.1
SBA  Scott Base     71.87 176 P       P      08 55 23.2 +2.1
SBA                           IAmb   IAmb   08 55 55.9
     comp=Z,21nm,1.4s
SBA  Scott Base     71.87 176 P       P      08 55 23.2 +2.1
SBA                           pmax   pmax
     comp=Z,21nm,1.4s
WMQ  Urumqi         74.30 319 eP      P      08 55 38.1 +2.0
WMQ                           LR     LR
     comp=Z,130nm,22.5s
RKT  Rikitea        74.93 112 eLR     LR     09 18 48.4
     comp=Z,2μm,40.8s
BILL Bilibino       75.47   7 P       P      08 55 43.1 +0.8
BILL Bilibino       75.47   7 ceP     P      08 55 43.6 +1.3
BILL                          pmax   pmax
     comp=Z,5.0nm,1.3s
M14K Bethel         77.37  22 P       P      08 55 54.5 +1.4
M14K                          IAmb   IAmb   08 56 07.9
     comp=Z,18nm,0.9s
N15K Kwethluk River 77.73  24 P       P      08 55 56.2 +1.0
N15K                          IAmb   IAmb   08 56 08.3
     comp=Z,13nm,1.1s
K15K Wolf Creek Mou 78.51  21 P       P      08 56 00.6 +1.1
M16K Timber Creek   78.69  23          P      08 56 00.8 +0.3
M16K                          IAmb   IAmb   08 56 15.9
     comp=Z,17nm,1.1s
MKAR Makanchi Array 78.99 320 P       P      08 56 00.5 -2.0
     comp=Z,0.6nm,0.6s,baz=104,slow=6.1,SNR=4.8
MKAR                          LR     LR     09 31 12.8
     comp=Z,160nm,20.2s,baz=79,slow=36
     comp=Z,0.6nm,0.6s
MKAR Makanchi Array 78.99 320 iP      P      08 56 02.7 +0.2
MKAR                          pmax   pmax
     comp=Z,1.0nm,0.6s
TIXI Tiksi          79.15 354 iP      P      08 56 03.6 +0.8
TIXI                          pmax   pmax
     comp=Z,2.0nm,1.0s
K17K Iditarod       79.95  22 P       P      08 56 07.3  0.0
K17K                          IAmb   IAmb   08 56 37.1
     comp=Z,25nm,1.2s
ZALV Zalesovo Beam  80.37 327 P       P      08 56 04.5 -5.3
     comp=Z,0.8nm,0.6s,baz=101,slow=4.7,SNR=3.8
ZALV                          LR     LR     09 31 16.5
     comp=Z,462nm,21.0s,baz=124,slow=35
ZALV Zalesovo Beam  80.37 327 iP      P      08 56 10.5 +0.7
ZALV                          pmax   pmax
     comp=Z,1.0nm,0.6s
L19K White Mountain 80.97  23 P       P      08 56 13.1 +0.2
M19K Big River Lodg 81.00  24 P       P      08 56 13.7 +0.6
K20K Telida         81.91  23 P       P      08 56 18.9 +1.1
MAW  Mawson         82.36 203 P       P      08 56 18.0 -2.2
     comp=Z,3.8nm,1.1s,baz=112,slow=5.4,SNR=2.3
MAW                           LR     LR     09 33 14.0
     comp=Z,232nm,18.1s,baz=72,slow=36
     comp=Z,3.8nm,1.1s
KURK Kurchatov      82.65 323 iP      P      08 56 21.7 -0.2
KURK                          pmax   pmax
     comp=Z,6.0nm,1.1s
KURBB Kurchatov Arra 82.68 323 LR     LR     09 32 32.9
     comp=Z,188nm,21.1s,baz=166,slow=35
CAST Castle Rocks   82.70  23 P       P      08 56 21.4 -0.6
CAST                          IAmb   IAmb   08 56 33.6
     comp=Z,13nm,1.1s
E19K Redstone River 83.12  18 P       P      08 56 24.2 +0.2
QSPA South Pole Qui 83.40 180 P       P      08 56 25.4 -0.3
     comp=Z,7.7nm,0.8s,baz=3.7,slow=3.6,SNR=34
QSPA                          LR     LR     09 32 53.3
     comp=Z,343nm,19.2s,baz=6.0,slow=35
     comp=Z,7.7nm,0.8s
SML  Sawmill        83.44  25 P       P      08 56 24.2 -1.7
SML  Sawmill        83.44  25 P       P      08 56 24.2 -1.7
SML                           pmax   pmax
     comp=Z,37nm,1.2s
RND  Reindeer       83.97  24 P       P      08 56 26.9 -1.6
RND                           IAmb   IAmb   08 56 39.8
     comp=Z,16nm,1.0s
RND  Reindeer       83.97  24 P       P      08 56 26.9 -1.6
RND                           pmax   pmax
     comp=Z,16nm,1.0s
NEA2 Nenana         84.44  23 P       P      08 56 29.5 -1.4
G23K Bananza Creek  85.10  20          P      08 56 33.8 -0.4
E22K Anaktuvuk Pass 85.22  19          P      08 56 34.8  0.0
IL31                85.36  23 P       P      08 56 34.2 -1.2
IL31                          IAmb   IAmb   08 56 46.2
     comp=Z,6.7nm,0.9s
ILAR Eielson Array  85.36  23 P       P      08 56 34.4 -1.1
ILAR Eielson Array  85.36  23 P       P      08 56 33.1 -2.3
     comp=Z,3.1nm,0.9s,baz=258,slow=4.8,SNR=21
     comp=Z,3.1nm,0.9s
ILAR Eielson Array  85.36  23 P       P      08 56 34.4 -1.1
KKAR Karatay Array  85.87 314 P       P      08 56 36.4 -2.1
KKAR Karatay Array  85.87 314 P       P      08 56 36.4 -2.1
J25K Salcha River,  85.88  23 P       P      08 56 37.8 -0.3
J25K                          IAmb   IAmb   08 56 49.9
     comp=Z,11nm,0.9s
D23K Nanushuk River 86.00  18          P      08 56 38.5  0.0
DOT  Dot Lake       86.01  24 P       P      08 56 38.4 -0.3
DOT                           IAmb   IAmb   08 56 51.0
     comp=Z,13nm,1.2s
F24K Squaw Lake     86.22  20          P      08 56 39.1 -0.7
F24K                          IAmb   IAmb   08 56 52.9
     comp=Z,9.9nm,1.3s
NRIK Noril'sk       86.32 342 LR     LR     09 35 19.9
     comp=Z,111nm,19.8s,baz=122,slow=36
NRIK Noril'sk       86.32 342 iP      P      08 56 41.4 +1.3
NRIK                          pmax   pmax
     comp=Z,3.0nm,1.1s
M27K Edge Creek, AK 86.44  26 P       P      08 56 42.1 +1.0
C23K Itkillik River 86.45  18          P      08 56 41.4 +0.6
C23K                          IAmb   IAmb   08 56 54.0
     comp=Z,12nm,0.9s
J26L Joseph Creek   86.55  24 P       P      08 56 42.4 +1.0
J26L                          IAmb   IAmb   08 56 46.5
     comp=Z,9.0nm,1.4s
BCAR Beaver Creek A 86.74  25 P       P      08 56 42.0 -0.4
H27K Steamboat Moun 87.99  22 P       P      08 56 48.5 +0.1
H27K                          IAmb   IAmb   08 57 02.8
     comp=Z,12nm,1.3s
DAWY Dawson         88.09  25 P       P      08 56 48.5 -0.3
DAWY                          IAmb   IAmb   08 57 03.2
     comp=Z,7.8nm,1.0s
BVAR Borovoye Array 88.20 324 P       P      08 56 47.2 -2.4
     comp=Z,1.3nm,0.8s,baz=92,slow=4.9,SNR=3.1
BVAR                          LR     LR     09 35 56.8
     comp=Z,121nm,21.9s,baz=93,slow=35
     comp=Z,1.3nm,0.8s
BRVK Borovoye       88.27 324 iP      P      08 56 50.8 +0.9
BRVK                          pmax   pmax
     comp=Z,3.0nm,1.0s
I28M Miner Creek    88.33  23 P       P      08 56 49.4 -0.6
C27K Jago River     88.51  19 P       P      08 56 50.4 -0.3
C27K                          IAmb   IAmb   08 57 04.5
     comp=Z,9.1nm,0.8s
E27K Coleen River   88.67  21          P      08 56 51.8 +0.3
E27K                          IAmb   IAmb   08 57 04.9
     comp=Z,9.3nm,1.1s
K29M Barlow Dome    88.81  25 P       P      08 56 51.9 -0.4
K29M                          IAmb   IAmb   08 57 13.9
     comp=Z,9.8nm,1.1s
F30M Barrier River  90.57  22          P      08 56 59.2 -1.1
F30M                          IAmb   IAmb   08 57 12.9
     comp=Z,7.4nm,1.0s
G31M Satah River    90.96  23 P       P      08 57 00.2 -2.0
YBH  Yreka Blue Hor 93.30  49 LR     LR     09 32 56.2
     comp=Z,390nm,20.2s,baz=320,slow=32
ELIB Princess Elisa 94.08 195 dP      P      08 57 15.4 -1.3
     comp=Z,5.1nm,1.1s
ELIB                          dpP    pwP    08 57 29.6 -2.2
AKTO Aktyubinsk     95.42 320 LR     LR     09 40 28.3
     comp=Z,156nm,21.7s,baz=66,slow=36
ARTI Arti           95.57 326 LR     LR     09 42 19.3
     comp=Z,197nm,19.2s,baz=98,slow=37
NVAR Mina Array Bea 96.41  52 P       P      08 57 27.8 -0.4
     comp=Z,0.4nm,0.7s,baz=258,slow=4.3,SNR=3.8
NVAR                          LR     LR     09 37 14.0
     comp=Z,233nm,18.6s,baz=262,slow=33
     comp=Z,0.4nm,0.7s
PFO  Pinyon Flats O 97.65  57 LR     LR     09 34 05.5
     comp=Z,614nm,20.8s,baz=271,slow=31
NEW  Newport        97.66  42 LR     LR     09 37 28.6
     comp=Z,260nm,18.7s,baz=268,slow=33
YKA  Yellowknife Ar 98.90  28 P       Pdif   08 57 38.6 +0.1
     comp=Z,0.3nm,1.0s,baz=278,slow=4.5,SNR=5.5
     comp=Z,0.3nm,1.0s
SNAA Sanae          99.70 189 LR     LR     09 43 17.9
     comp=Z,617nm,18.8s,baz=177,slow=36
SNAA Sanae          99.70 189 iP      Pdif   08 57 44.5 +2.4
SNAA                          pmax   pmax
     comp=Z,3.0nm,1.2s
ANMO Albuquerque    105.93  56 PKiKP  PKiKP  09 02 23.3 +0.2
     comp=Z,0.4nm,0.4s,baz=301,slow=5.9,SNR=4.2
OBN  Obninsk        107.92 326 iP      Pdif   08 58 17.3 -1.5
OBN                           e              09 02 48.5
OBN                           ePPP   PPP    09 05 04.5
OBN                           pmax   pmax
     comp=Z,3.0nm,0.6s
TXAR Lajitas Array  108.58  61 PKiKP  PKiKP  09 02 27.7 -0.4
     comp=Z,1.0nm,1.1s,baz=277,slow=3.2,SNR=3.6
PCOS Crockett Middl 108.60  59 P       PKiKP  09 02 13.9 -14
MNK  Minsk          112.88 327 iP      Pdif   08 58 38.5 -2.4
MNK                           i              09 03 21.6
MNK                           iPPP   PPP    09 05 44.7
MNK                           i              09 09 42.6
MNK                           iSS    SS     09 19 04.0 -0.4
MNK                           pmax   pmax
     comp=Z,4.0nm,0.5s
MNK                           pmax   pmax
     comp=N,8.0nm,0.6s
MNK                           pmax   pmax
     comp=E,25nm,0.8s
MNK                           MLR    MLR
     comp=E,984nm,24.0s
MNK                           MLR    MLR
     comp=Z,285nm,20.0s
MNK                           MLR    MLR
     comp=N,376nm,21.0s
NOA  NORSAR Array B 117.10 338 PKP     PKPdf  09 02 42.8 -0.5
     comp=N,0.3nm,0.7s,baz=53,slow=2.1,SNR=2.3
CLL  Collm          122.31 329 iPKIKP  PKPdf  09 02 52.9 -0.7
CLL                           MLR    MLR
     comp=Z,300nm,19.2s
GERES GERESS Array B 123.30 326 PKP    PKPdf  09 02 54.5 -1.2
     comp=Z,1.3nm,0.6s,baz=48,slow=1.5,SNR=9.7
BTNL Ternell        126.17 331 dPKP    PKiKP  09 03 01.0 -0.5
JTS  Las Juntas de  126.88  82 PKP     PKiKP  09 03 03.3 -0.6
     comp=Z,10nm,1.1s,baz=267,slow=9.3,SNR=4.4
LPAZ La Paz         137.09 122 PKhKP   PKPpre 09 03 13.2
     comp=Z,0.7nm,0.6s,baz=254,slow=4.4,SNR=4.2
LPAZ                          PKP    PKiKP  09 03 24.2 -1.0
     comp=Z,4.5nm,1.0s,baz=249,slow=2.7,SNR=8.3
LPAZ                          SKP            09 06 59.1
     comp=Z,1.3nm,0.7s,baz=225,slow=1.4,SNR=4.0
TORD Torodi Ar. Bea 146.83 284 PKPbc   PKPbc  09 03 41.3 -0.5
     comp=Z,103nm,0.3s,baz=86,slow=2.6,SNR=1.9
BDFB Brasilia       152.44 143 PKPbc   PKPbc  09 03 54.6 -1.3
     comp=Z,4.6nm,0.9s,baz=166,slow=1.4,SNR=6.2
DBIC Dimbokro       153.70 272 PKPbc   PKPbc  09 03 57.6 -0.9
     comp=Z,8.4nm,0.9s,baz=90,slow=3.0,SNR=6.3
```

DJA 13 08:46:17.1±0.9, 2°S±2°×12°3E±°, h24km±9km, M4.4/18, mb4.3/5, MLv4.4/18, Sulawesi

```
Code Station Name        Δ°   AZ°  Phase ID  Time      Res
                                  Op    ISC  h m s     ISC
LUWI Luwuk               0.88  11  P     Pb   08 46 33.2 -0.5
LUWI                              S     Sn   08 46 46.3 +0.3
APSI Ampana              1.38 316  P     Pn   08 46 39.9 -0.9
MRSI Marisa              2.46 344  P     Pn   08 46 55.7 -0.1
MRSI                              S     Sn   08 47 25.6 +0.5
KMSI Cibinong            2.83  29  P     Pn   08 46 59.3 -1.5
PCI  Palu                2.94 290  P     Pn   08 47 02.6 +0.3
SANI Sanana              3.39  92  P     Pn   08 47 07.8 -0.7
SPSI Sidrap Palu         3.49 234  P     Pn   08 47 10.4 +0.5
SPSI                              S     Sn   08 47 50.6 +0.2
MPSI Mapaga              3.50 310  P     Pn   08 47 09.7 -0.4
BNSI Bone                3.51 225  P     Pn   08 47 10.0 -0.2
BKSI Bulukumba           4.20 216  P     Pn   08 47 20.4 +0.8
NLAI Namlea              4.69 106  P     Pn   08 47 26.6 +0.2
BSSI Bau Bau, Buton      4.70 207  P     Pn   08 47 27.2 +0.6
TNTI Ternate             5.46  61  P     Pn   08 47 37.0  0.0
     0.2nm23nm,0.8s
EDFI Ende, Flores        6.86 188  P     Pn   08 47 55.1 -1.2
     0.3nm18nm,0.8s
```

*IDC **13** 08:48:48.1±1.8, 30°.73N×41°.67W, h0km, mb3.9/12, mbtmp3.9/12, MS3.5/7, Error ellipse: s-maj=57.5km s-min=19.5km az=8.0*

*NEIC **13** 08:48:49.9±1.1, 30°.8N±0°.1×41°.6W±0°.1, h10km±1km, mb4.6/19, Error ellipse: s-maj=21.1km s-min=19.2km az=353.0*

ISC 13 08:48:49.6±0.6, 30°.7N±0°.1×41°.60W±0°.08, h10km, n47, σ0°67/36, mb4.3/20, MS3.4/7, Northern Mid-Atlantic Ridge

```
Code Station Name        Δ°   AZ°  Phase ID  Time      Res
                                  Op    ISC  h m s     ISC
CMLA Cha da Macela       15.02  58  Pn    Pn   08 52 20.6 -1.3
PMOZ Porto Moniz, M      20.84  78  P     P    08 53 30.5 -1.2
SMRT St. Maarten         23.23 242  P     P    08 53 57.8 +0.7
SVN  Savane Anatole      23.93 233  P     P    08 54 03.8 -0.2
SJG  San Juan            25.58 246  LR    LR   09 02 01.2
     comp=Z,34nm,20.8s,baz=56,slow=31
MDP  Montagnes des       27.54 204  LR    LR   09 04 14.5
     comp=Z,65nm,19.0s,baz=90,slow=34
BBTS Babate              28.02 119  LR    LR   09 04 20.6
     comp=Z,100nm,19.3s,baz=156,slow=33
MDT  Midelt              31.42  76  LR    LR   09 04 48.6
     comp=Z,77nm,19.8s,baz=254,slow=30
ESDC Sonseca Array       31.83  63  P     P    08 55 14.6 -0.1
     0.5nm,0.8s,baz=275,slow=15,SNR=2.1
     0.5nm,0.8s
SDV  Santo Domingo       34.72 237  P     P    08 55 39.4 -0.8
SDV  Santo Domingo       34.72 237  LR    LR   09 07 48.8
     comp=Z,42nm,20.7s,baz=8.5,slow=33
Q51A Peebles             34.98 295  P     P    08 55 41.7 -0.4
Q51A                              IAmb  IAmb   08 56 11.9
     comp=Z,8.1nm,1.1s
RUSC La Rusia            38.52 237  P     P    08 56 13.0 -0.1
L40A Anamosa             40.99 300  P     P    08 56 33.2 +0.4
T42A Van Buren           41.19 292          P    08 56 34.0 -0.5
T42A                              IAmb  IAmb   08 56 42.2
     comp=Z,13nm,1.2s
DBIC Dimbokro            41.92 117  P     P    08 56 40.7  0.0
DBIC                              IAmb  IAmb   08 56 49.6
     comp=Z,18nm,1.4s
DBIC Dimbokro            41.92 117  LR    LR   09 12 21.8
     comp=Z,94nm,18.5s,baz=260,slow=34
UALR University of       42.50 289  P     P    08 56 45.4 +0.2
TORD Torodi Ar. Bea      43.50 104  P     P    08 56 54.3 +0.8
     comp=Z,61nm,0.3s,baz=302,slow=10,SNR=2.3
U38A Gravette            43.89 292  P     P    08 56 56.2 -0.3
U38A                              IAmb  IAmb   08 57 03.5
     comp=Z,10nm,1.1s
H10N2 ASCENSION HYDR46.32 141  T     T    09 46 33.9
     baz=327,slow=76,SNR=133
H10N3 ASCENSION HYDR46.33 141  T     T    09 46 34.1
     baz=327,slow=76,SNR=158
H10N1 ASCENSION HYDR46.34 141  T     T    09 46 29.4
     baz=327,slow=76,SNR=117
H10S3 ASCENSION HYDR47.17 142  T     T    09 47 35.0
     baz=326,slow=74,SNR=408
H10S2 ASCENSION HYDR47.19 142  T     T    09 47 36.2
     baz=254,slow=74,SNR=514
FFC  Flin Flon           48.62 318          P    08 57 32.9 -0.4
FFC                               IAmb  IAmb   08 57 41.0
     comp=Z,6.0nm,1.0s
FINES FINESS Array B     52.91  34  P     P    08 58 06.3 +0.8
     comp=Z,1.0nm,0.8s,baz=254,slow=9.5,SNR=1.9
     comp=Z,1.0nm,0.8s
YNE  Yellowstone No      54.33 306          P    08 58 15.8 -0.8
YNE                               IAmb  IAmb   08 58 24.4
     comp=Z,7.4nm,1.1s
PD31 Pinedale Array      54.41 303          P    08 58 16.7 -0.6
PD31                              IAmb  IAmb   08 58 24.1
     comp=Z,4.6nm,0.8s
PDAR Pinedale Array      54.41 303          P    08 58 16.9 -0.3
PDAR Pinedale Array      54.41 303  P     P    08 58 17.1 -0.1
     comp=Z,1.9nm,0.7s,baz=64,slow=5.7,SNR=22
     comp=Z,1.9nm,0.7s
YMP  Mirror Lake Pl      54.47 305  P     P    08 58 18.5 +0.7
YMP                               IAmb  IAmb   08 58 25.3
     comp=Z,5.8nm,0.9s
YMR  Madison River       55.05 305  P     P    08 58 23.0 +1.1
AKASG Malin Array Be     55.09  47  P     P    08 58 21.4 -0.3
     comp=Z,0.7nm,0.6s,baz=277,slow=6.6,SNR=4.1
     comp=Z,0.7nm,0.6s
YKA  Yellowknife Ar      55.44 327  P     P    08 58 23.5 -0.5
     comp=Z,0.9nm,0.8s,baz=89,slow=7.3,SNR=10
YKA                               PcP   PcP    08 59 23.8 -0.3
     comp=Z,0.5nm,1.0s,baz=99,slow=4.9,SNR=2.8
     comp=Z,0.9nm,0.8s
MVU  Marysvale           57.35 298  P     P    08 58 37.8 -0.6
MVU                               IAmb  IAmb   08 58 46.6
     comp=Z,8.3nm,1.3s
U15A North Rim           57.98 296  P     P    08 58 42.8 -0.1
BRTR Keskin Array B      60.47  59  P     P    08 59 00.5 +0.6
     comp=Z,0.9nm,0.8s,baz=262,slow=3.9,SNR=4.9
     comp=Z,0.9nm,0.8s
NVAR Mina Array Bea      61.95 300  P     P    08 59 08.9 -1.1
     comp=Z,1.1nm,0.8s,baz=62,slow=5.5,SNR=5.0
     comp=Z,1.1nm,0.8s
PRP  Porcupine Dome      67.92 334  P     P    08 59 49.6 +1.2
IL31                     68.77 334  P     P    08 59 54.3 +0.9
ILAR Eielson Array       68.77 334  P     P    08 59 54.1 +0.6
     comp=Z,2.4nm,0.9s,baz=65,slow=6.8,SNR=19
     comp=Z,2.4nm,0.9s
BVAR Borovoye Array      77.85  35  P     P    09 00 47.3 +0.1
     comp=Z,0.7nm,0.8s,baz=322,slow=8.3,SNR=1.4
     comp=Z,0.7nm,0.8s
KURBB Kurchatov Arra     83.30  34  P     P    09 01 16.9 +0.4
     comp=Z,0.4nm,0.3s,baz=316,slow=5.1,SNR=5.7
     comp=Z,0.4nm,0.3s
ZALV Zalesovo Beam       83.80  29  P     P    09 01 19.5 +0.5
     comp=Z,0.8nm,0.5s,baz=317,slow=5.9,SNR=4.4
     comp=Z,0.8nm,0.5s
MKAR Makanchi Array      87.73  35  P     P    09 01 39.0 +0.2
     comp=Z,0.5nm,0.9s,baz=343,slow=4.5,SNR=2.6
     comp=Z,0.5nm,0.9s
USHA Ushuaia             88.29 195  LR    LR   09 41 14.3
```

comp=Z,118nm,20.7s,baz=36,slow=36

*MOS **13** 08:59:35.6±1.0,26°.21N×129°.49E,h14km,mb4.6/21,Error ellipse: s-maj=10.0km s-min=6.8km az=100.8*
*IDC **13** 08:59:35.6±0.8,26°.24N×129°.43E,h0km,mb4.0/19, mbtmp3.9/23,ML3.6/3,MS4.1/11,Error ellipse: s-maj=19.7km s-min=16.6km az=83.0*
*NEIC **13** 08:59:36.3±1.7,26°.04N±0°.09×129°.56E±0°.06,h10km±1km, mb4.6/24,Error ellipse: s-maj=15.1km s-min=7.9km az=196.0*
*NIED **13** 08:59:37.5,26°.24N×129°.55E,h43km,MW4.4,Moment Tensor Solution. s2 Moment tensor: Scale 10^15^Nm; Mrr=1.12; Mθθ0.07; Mφφ1.05; Mrθ4.60; Mθφ2.12; Mφr-0.29; Fault plane solution: M0 5.13000×10^15^ NP1:φs6.00000°, δ26.00000°,λ-167.00000°. NP2:φs264.00000°, δ84.00000°,λ-64.00000°.*
*JMA **13** 08:59:37.5±0.1,26°.2N±0°.9×129°.6E±0°.6,h43km,MD4.1/25, MV4.1/25,NEAR OKINAWAJIMA ISLAND*
ISC 13 08:59:39.7±2.2,26°.25N±0°.04×129°.55E±0°.03,h29km±15km, n141,σ1°82/146,mb4.4/46,MS4.1/16,3C-1D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.25**	**308**	*i* P	**Pn**	**08 59 59.2**	**-2.0**
JYRO				S	**Sn**	**09 00 14.5**	**-2.5**
JOW	**Kunigami**	**1.28**	**297**		**Pn**	**09 00 00.4**	**-1.2**
JOW	**Kunigami**	**1.28**	**297**	Pn	**Pn**	**08 59 59.9**	**-1.8**
	548nm,0.3s,baz=126,slow=15,SNR=927						
JOW				Sn	**Sn**	**09 00 14.2**	**-3.6**
	baz=102,slow=19						
JOW				LR	LR	09 00 40.0	
	comp=Z,2μm,19.0s,baz=156,slow=54						
JOW	**Kunigami**	**1.28**	**297**	*i* P	**Pn**	**08 59 59.8**	**-1.8**
JOW				*e*S	**Sn**	**09 00 15.1**	**-2.7**
JOW	**Kunigami**	**1.28**	**297**	A	A	08 59 59.8	
	comp=N,4.0nm,4.4s,comp=E,7.0nm,1.4s						
JNTH	**Nagotoyohara**	**1.40**	**281**	*i* P	**Pn**	**09 00 01.1**	**-2.0**
JNTH				*e*S	**Sn**	**09 00 17.1**	**-3.5**
JOKE	**Okinoerabujima**	**1.41**	**322**	*i* P	**Pn**	**09 00 01.7**	**-1.7**
JOKE				*e*S	**Sn**	**09 00 18.2**	**-2.9**
JMZ	**Minamidaito 2**	**1.57**	**105**		**Pn**	**09 00 03.5**	**-2.0**
JMZ	**Minamidaito 2**	**1.57**	**105**	*i* P	**Pn**	**09 00 03.3**	**-2.2**
JMZ				*e*S	**Sn**	**09 00 21.4**	**-3.4**
JMZ	**Minamidaito 2**	**1.57**	**105**	A	A	09 00 03.3	
	comp=N,6.0nm,4.1s,comp=E,6.0nm,5.7s						
JJT3	**Tamagusuku3**	**1.59**	**267**	*i* P	**Pn**	**09 00 04.5**	**-1.3**
JJT3				*e*S	**Sn**	**09 00 23.6**	**-1.8**
JJT3	**Tamagusuku3**	**1.59**	**267**	A	A	09 00 04.5	
	comp=N,7.0nm,4.4s,comp=E,6.0nm,6.6s						
JKDJ	**Kitadaitoujima**	**1.60**	**100**	P	**Pn**	**09 00 04.0**	**-2.0**
JKDJ				*e*S	**Sn**	**09 00 23.1**	**-2.6**
JKDJ	**Kitadaitoujima**	**1.60**	**100**	A	A	09 00 04.0	
	comp=N,5.0nm,6.6s,comp=E,5.0nm,3.7s						
JIH	**Iheya**	**1.62**	**299**	*i* P	**Pn**	**09 00 04.8**	**-1.4**
JIH				S	**Sn**	**09 00 23.7**	**-2.4**
JIH	**Iheya**	**1.62**	**299**	A	A	09 00 04.8	
	comp=N,3.0nm,1.9s,comp=E,4.0nm,0.3s						
JTK	**Tokunoshima**	**1.62**	**341**	*i* P	**Pn**	**09 00 04.7**	**-1.6**
JTK				S	**Sn**	**09 00 23.1**	**-3.1**
JAMN	**Amaminishikomi**	**2.02**	**351**	P	**Pn**	**09 00 10.1**	**-1.7**
JAMN				*e*S	**Sn**	**09 00 33.0**	**-3.0**
JZK	**Kikaishima**	**2.09**	**10**	P	**Pn**	**09 00 12.0**	**-0.8**
JZK				*e*S	**Sn**	**09 00 36.8**	**-1.1**
JAGN	**Aguni-jima**	**2.10**	**280**	*i* P	**Pn**	**09 00 11.6**	**-1.2**
JAGN				S	**Sn**	**09 00 35.6**	**-2.3**
JAGN	**Aguni-jima**	**2.10**	**280**	A	A	09 00 11.6	
	comp=N,4.0nm,1.2s,comp=E,4.0nm,1.2s						
JAM	**Amami Oshima**	**2.16**	**1**	*e*P	**Pn**	**09 00 11.9**	**-1.8**
JAM				*e*S	**Sn**	**09 00 36.0**	**-3.4**
JKE	**Kume jima 2**	**2.48**	**272**	*i* P	**Pn**	**09 00 16.0**	**-2.1**
JKE				*e*S	**Sn**	**09 00 44.3**	**-3.2**
JTAJ	**Takarajima**	**2.91**	**354**	*e*P	**Pn**	**09 00 22.5**	**-1.5**
JTAJ				*e*S	**Sn**	**09 00 54.1**	**-3.9**
JNN	**Nakanoshima**	**3.59**	**5**	*e*S	**Sn**	**09 01 11.8**	**-3.1**
JYAK	**Yakushimahirau**	**4.07**	**12**	*e*P	**Pn**	**09 00 38.7**	**-1.2**
JYAK				*e*S	**Sn**	**09 01 22.8**	**-3.7**
JTN	**Tanegashima 3**	**4.57**	**16**	*e*S	**Sn**	**09 01 35.8**	**-3.2**
YOJ	**Yonaguni jima**	**6.17**	**255**	Pn	**Pn**	**09 01 05.8**	**-3.1**
YOJ	**Yonaguni jima**	**6.17**	**255**	P	**Pn**	**09 01 05.8**	**-3.1**
JNU	**Nakatsue**	**6.95**	**9**		**Pn**	**09 01 19.1**	**-0.5**
JNU	**Nakatsue**	**6.95**	**9**	Pn	**Pn**	**09 01 19.7**	**+0.2**
	comp=E,1.5nm,0.3s,baz=202,slow=13,SNR=9.3						
JNU				Sn	**Sn**	**09 02 32.1**	**-5.5**
	comp=E,0.4nm,0.3s,baz=205,slow=14,SNR=1.7						
	comp=E,5.7nm,0.4s						
NACB	**Ninganchiao**	**7.49**	**256**	Pn	**Pn**	**09 01 23.0**	**-4.1**
YHNB	**Yeheng**	**7.55**	**260**	Pn	**Pn**	**09 01 26.6**	**-1.4**
YULB	**Yu-li**	**8.02**	**251**	Pn	Pn	09 01 28.6	-5.6
SSLB	**Suanglung**	**8.17**	**254**		**Pn**	**09 01 32.1**	**-4.2**
TPUB	**Ta-pu**	**8.62**	**252**		**Pn**	**09 01 39.1**	**-3.4**
NJ2	**Nanjing**	**10.99**	**304**	*e*P	**Pn**	**09 02 14.4**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NJ2				LR	LR		
	comp=N,570nm,12.8s						
NJ2				LR	LR		
	comp=E,300nm,12.3s						
NJ2				LR	LR		
	comp=Z,900nm,14.2s						
KSRS	**Korea Array**	**11.26**	**353**	Pn	**Pn**	**09 02 19.5**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=171,slow=12,SNR=6.3						
	comp=Z,2.2nm,0.9s						
MJAR	**Matsushiro Arr**	**12.64**	**34**	Pn	**Pn**	**09 02 39.5**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=225,slow=15,SNR=2.5						
HNS	**HongShan**	**16.79**	**315**	⇑P	**P**	**09 03 34.8**	**+0.2**
HNS				pmax	pmax		
	comp=Z,12nm,1.0s						
USRK	**Ussuriysk Ar.**	**18.02**	**6**	P	**P**	**09 03 49.0**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=170,slow=10,SNR=1.7						
	comp=Z,1.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**18.02**	**6**	P	**P**	**09 03 49.0**	**+0.8**
ERM	**Erimo**	**19.31**	**32**	*i* P	**P**	**09 04 02.6**	**+0.3**
ERM				pmax	pmax		
	comp=Z,14nm,1.0s						
XAN	**Xi'an**	**19.43**	**298**	P	**P**	**09 04 03.5**	**-0.3**
XAN				pP	sP	09 04 12.8	-0.3
XAN				S	**Sn**	**09 07 44.1**	**+1.7**
XAN				pmax	pmax		
	comp=Z,32nm,1.2s						
XAN				pmax	pmax		
	comp=Z,120nm,4.8s						
XAN				LR	LR		
	comp=N,430nm,15.5s						
XAN				LR	LR		
	comp=E,500nm,15.6s						
XAN				LR	LR		
	comp=Z,700nm,18.0s						
ASAJ	**Asahikawa**	**20.73**	**27**	P	Pn	09 04 21.2	+0.9
	comp=Z,3.3nm,0.7s,baz=180,slow=20,SNR=1.7						
XLT	**XiLinHaoTe**	**20.73**	**332**	*e*P	Pn	09 04 21.3	+1.0
XLT				pP	sP	09 04 25.6	-1.6
XLT				sP	pwP	09 04 30.3	-1.5
XLT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**20.84**	**319**	*e*P	Pn	09 04 21.4	-0.3
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
BTO	**Baotou**	**21.63**	**316**	*e*P	**P**	**09 04 29.8**	**+2.2**
BTO				PP	**PnPn**	**09 04 52.3**	**+3.6**
BTO				S	Sn	09 08 34.3	-0.8
BTO				SS	**SnSn**	**09 08 53.8**	**+3.3**
BTO				pmax	pmax		
	comp=Z,25nm,0.8s						
BTO				pmax	pmax		
	comp=Z,200nm,5.5s						
BTO				LR	LR		
	comp=N,1μm,20.6s						
BTO				LR	LR		
	comp=E,570nm,14.3s						
BTO				LR	LR		
	comp=Z,1μm,16.1s						
KLR	**Kul'dur**	**23.01**	**4**	*ce*P	**P**	**09 04 41.9**	**-0.2**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
YSS	**Yuzhno-Sakhali**	**23.16**	**23**	*e*P	**P**	**09 04 41.4**	**-2.3**
YSS				*e*S	**S**	**09 08 47.7**	**-5.6**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
PZH	**PanZhiHua**	**24.90**	**277**	P	**P**	**09 05 00.5**	**+0.2**
PZH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
ZEA	**Zeya**	**27.51**	**357**	*e*P	**P**	**09 05 22.8**	**-0.7**
ZEA				MLR	MLR		
	comp=E,200nm,15.0s						
ULN	**Ulaanbaatar**	**27.88**	**327**	*i* P	**P**	**09 05 26.9**	**-0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA	**Gaotai**	**28.08**	**305**	P	**P**	**09 05 28.4**	**-0.5**
GTA				sP	pwP	09 05 41.5	-2.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				LR	LR		
	comp=N,190nm,14.3s						
GTA				LR	LR		
	comp=E,230nm,16.3s						
GTA				LR	LR		
	comp=Z,210nm,15.1s						
SONM	**Songino Array**	**28.19**	**326**	P	**P**	**09 05 29.9**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=131,slow=6.5,SNR=2.6						
	comp=Z,0.5nm,0.5s						
CHTO	**Chiang Mai**	**29.17**	**262**	P	**P**	**09 05 38.8**	**+0.2**
CHTO	**Chiang Mai**	**29.17**	**262**	P	**P**	**09 05 38.8**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**29.30**	**261**	P	**P**	**09 05 39.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**29.30**	**261**	P	**P**	**09 05 39.9**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=72,slow=8.5,SNR=8.3						
	comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.30**	**261**	*e*P	**P**	**09 05 41.0**	**+1.3**
SHL	**Shillong**	**33.81**	**277**	P	**P**	**09 06 18.7**	**-0.9**
SHL				IAmb	IAmb	09 06 21.5	
	comp=Z,8.2nm,0.9s						
SHL	**Shillong**	**33.81**	**277**	P	**P**	**09 06 18.7**	**-0.9**
SHL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PETK	**Petropavlovsk-**	**34.07**	**31**	P	**P**	**09 06 23.6**	**+2.2**
	comp=Z,1.1nm,0.8s,baz=224,slow=8.1,SNR=3.8						
	comp=Z,1.1nm,0.8s						
WMQ	**Urumqi**	**38.03**	**308**	*e*P	**P**	**09 06 57.6**	**+2.2**
WMQ				LR	LR		
	comp=Z,140nm,24.2s						
PMG	**Port Moresby**	**39.36**	**152**	LR	LR	09 22 49.8	
	comp=Z,90nm,18.8s,baz=313,slow=35						
SEY	**Seymchan**	**39.67**	**16**	*i* P	**P**	**09 07 09.3**	**+0.6**
SEY				pmax	pmax		
	comp=Z,11nm,2.4s						
MKAR	**Makanchi Array**	**42.41**	**312**	P	**P**	**09 07 30.7**	**-0.9**
MKAR	**Makanchi Array**	**42.41**	**312**	P	**P**	**09 07 30.6**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=101,slow=9.9,SNR=6.9						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**42.41**	**312**	*e*P	**P**	**09 07 31.0**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**42.95**	**322**	P	**P**	**09 07 35.9**	**+0.1**
ZALV	**Zalesovo Beam**	**42.95**	**322**	P	**P**	**09 07 34.2**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=108,slow=9.3,SNR=4.2						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**42.95**	**322**	*e*P	**P**	**09 07 36.5**	**+0.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TIXI	**Tiksi**	**45.44**	**360**	*ce*P	**P**	**09 07 56.7**	**+1.2**
KURK	**Kurchatov**	**45.62**	**316**	P	**P**	**09 07 56.7**	**-0.6**
KURBB	**Kurchatov Arra**	**45.66**	**316**	P	**P**	**09 07 56.7**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=103,slow=8.8,SNR=4.5						
	comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	**46.15**	**174**	P	**P**	**09 08 01.8**	**+0.1**
	comp=Z,1.9nm,1.0s,baz=354,slow=8.0,SNR=7.2						
	comp=Z,1.9nm,1.0s						
WRA	**Warramunga Arr**	**46.15**	**174**	*e*P	**P**	**09 08 00.7**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BILL	**Bilibino**	**47.29**	**18**	*i* P	**P**	**09 08 10.6**	**+0.5**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.6s						
NRIK	**Noril'sk**	**49.60**	**342**	P	**P**	**09 08 28.2**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=129,slow=6.5,SNR=2.0						
	comp=Z,0.9nm,0.5s						
NRIK	**Noril'sk**	**49.60**	**342**	*i* P	**P**	**09 08 28.3**	**+0.4**
NRIK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
ASAR	**Alice Springs**	**49.80**	**175**	P	**P**	**09 08 30.6**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=344,slow=8.2,SNR=5.8						
	comp=Z,0.3nm,0.5s						
BTK	**Batken**	**50.23**	**301**	P	**P**	**09 08 33.5**	**+0.2**
BTK	**Batken**	**50.23**	**301**	P	**P**	**09 08 33.5**	**+0.2**
BTK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KK31	**Karatay Array**	**50.37**	**305**	P	**P**	**09 08 34.4**	**+0.3**
KK31	**Karatay Array**	**50.37**	**305**	P	**P**	**09 08 34.4**	**+0.3**
KK31				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KKAR	**Karatay Array**	**50.37**	**305**	P	**P**	**09 08 34.1**	**0.0**
KKAR	**Karatay Array**	**50.37**	**305**	P	**P**	**09 08 34.2**	**0.0**
BVAR	**Borovoye Array**	**51.05**	**318**	P	**P**	**09 08 39.1**	**0.0**
	comp=Z,1.6nm,0.6s,baz=79,slow=7.5,SNR=7.3						
	comp=Z,1.6nm,0.6s						
BRVK	**Borovoye**	**51.12**	**318**	*i* P	**P**	**09 08 39.6**	**0.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBL	**Kabul**	**52.17**	**295**	P	**P**	**09 08 48.4**	**+0.3**
KBL				IAmb	IAmb	09 08 50.0	
	comp=Z,5.4nm,0.8s						
KBL	**Kabul**	**52.17**	**295**	P	**P**	**09 08 48.4**	**+0.3**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ABKAR	**Akbulak array**	**57.50**	**313**		**P**	**09 09 26.0**	**-0.1**
ARTI	**Arti**	**58.21**	**322**		**P**	**09 09 30.8**	**-0.2**
ARTI				IAmb	IAmb	09 09 31.7	
	comp=Z,5.0nm,0.8s						
ARTI	**Arti**	**58.21**	**322**	*d i* P	**P**	**09 09 30.8**	**-0.2**
ARTI				S	**S**	**09 17 33.7**	**+3.0**
ARTI				SS	**SS**	**09 21 19.5**	**-2.7**
ARTI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
D20K	**Etivluk River**	**59.95**	**24**	P	**P**	**09 09 43.4**	**+0.5**
J20K	**Nowinta River**	**60.75**	**29**	P	**P**	**09 09 49.9**	**+1.5**
J20K				IAmb	IAmb	09 10 03.7	
	comp=Z,5.7nm,1.2s						
E22K	**Anaktuvuk Pass**	**61.70**	**25**	P	**P**	**09 09 56.0**	**+1.2**
E22K				IAmb	IAmb	09 10 14.0	
	comp=Z,9.2nm,1.4s						
SUA	**Susitna One**	**62.43**	**32**	P	**P**	**09 09 59.8**	**-0.1**
SUA				IAmb	IAmb	09 10 02.5	
	comp=Z,6.9nm,1.1s						
KIRV	**Kirov**	**62.91**	**325**	LR	LR	09 41 11.3	
	comp=Z,330nm,21.8s,baz=90,slow=40						
RND	**Reindeer**	**63.14**	**30**	P	**P**	**09 10 05.0**	**+0.4**
RND	**Reindeer**	**63.14**	**30**	P	**P**	**09 10 05.0**	**+0.4**
RND				pmax	pmax		
	comp=Z,6.0nm,1.0s						
H24K	**Noodor Dome**	**63.34**	**27**	P	**P**	**09 10 07.6**	**+1.8**
H24K				IAmb	IAmb	09 10 31.6	
	comp=Z,8.8nm,1.4s						
ILAR	**Eielson Array**	**63.86**	**28**	P	**P**	**09 10 08.2**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=270,slow=7.3,SNR=4.4						
	comp=Z,0.3nm,0.8s						
BMAR	**Burnt Mountain**	**64.49**	**25**	P	**P**	**09 10 15.3**	**+1.9**
DOT	**Dot Lake**	**65.24**	**29**	P	**P**	**09 10 18.6**	**+0.3**
DOT				IAmb	IAmb	09 10 31.0	
	comp=Z,3.1nm,0.9s						
H29M	**Whitestone**	**67.12**	**26**	P	**P**	**09 10 31.8**	**+1.5**
H29M				IAmb	IAmb	09 11 02.2	
	comp=Z,4.1nm,1.2s						
SPITS	**Spitsbergen Ar**	**69.05**	**348**	LR	LR	09 43 27.9	
	comp=Z,174nm,21.0s,baz=3.0,slow=38						
KBZ	**Khabaz**	**70.06**	**310**	P	**P**	**09 10 50.4**	**+1.5**
	comp=Z,4.2nm,0.9s,baz=70,slow=5.8,SNR=12						
	comp=Z,4.2nm,0.9s						
KIV	**Kislovodsk**	**70.14**	**310**	P	**P**	**09 10 49.9**	**+0.3**
KIV	**Kislovodsk**	**70.14**	**310**	*e*P	**P**	**09 10 49.0**	**-0.6**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARCES	**ARCESS Array B**	**70.42**	**339**	LR	LR	09 46 21.3	
	comp=Z,144nm,21.3s,baz=66,slow=40						
OBN	**Obninsk**	**70.54**	**323**	*e*P	**P**	**09 10 52.0**	**+0.4**
OBN				*e*		09 11 12.3	
OBN				*e*		09 13 28.0	
OBN				*e*PPP	PPP	09 15 09.9	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
C36M	**Paulatuk**	**71.25**	**21**	P	**P**	**09 10 56.6**	**+0.9**
C36M				IAmb	IAmb	09 10 57.7	
	comp=Z,11nm,1.4s						
EUNU	**Eureka**	**72.13**	**6**	P	**P**	**09 11 01.9**	**+0.8**
FIA1	**FINESS Array S**	**73.43**	**331**	P	**P**	**09 11 08.8**	**0.0**
FINES	**FINESS Array B**	**73.43**	**331**	P	**P**	**09 11 09.0**	**+0.1**
FINES	**FINESS Array B**	**73.43**	**331**	P	**P**	**09 11 09.2**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=62,slow=5.5,SNR=24						
FINES				LR	LR	09 46 58.7	
	comp=Z,136nm,19.7s,baz=40,slow=39						
	comp=Z,2.3nm,0.5s						
FINES	**FINESS Array B**	**73.43**	**331**	*e*P	**P**	**09 11 09.4**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
RAYN	**Ar Rayn**	**74.92**	**289**		**P**	**09 11 18.7**	**+0.3**
RAYN	**Ar Rayn**	**74.92**	**289**	P	**P**	**09 11 18.7**	**+0.3**
RAYN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKASG	**Malin Array Be**	**76.28**	**320**	P	**P**	**09 11 25.7**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=62,slow=6.5,SNR=8.6						
	comp=Z,0.9nm,0.5s						
AKBB	**Malin Array Si**	**76.28**	**320**	P	**P**	**09 11 25.8**	**+0.2**
BR131	**Keskin Array S**	**77.95**	**308**	P	**P**	**09 11 35.1**	**-0.3**
BR131				IAmb	IAmb	09 11 37.0	
	comp=Z,4.3nm,0.9s						
BR131	**Keskin Array S**	**77.95**	**308**	P	**P**	**09 11 35.1**	**-0.3**
BR131				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRTR	**Keskin Array B**	**77.95**	**308**	P	**P**	**09 11 35.5**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=68,slow=4.5,SNR=12						
	comp=Z,2.1nm,0.8s						
BRTR	**Keskin Array B**	**77.95**	**308**	*e*P	**P**	**09 11 36.3**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**78.01**	**25**	P	**P**	**09 11 36.2**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=300,slow=5.8,SNR=5.8						
	comp=Z,0.3nm,0.8s						
ASF	**Jabal al Asfar**	**78.59**	**300**	LR	LR	09 52 14.6	
	comp=Z,45nm,19.8s,baz=136,slow=40						
JMIC	**Jan Mayen**	**78.66**	**347**	LR	LR	09 49 32.9	
	comp=Z,43nm,18.4s,baz=96,slow=38						
HFS	**Hagfors**	**79.35**	**333**	P	**P**	**09 11 41.8**	**-0.7**
	comp=Z,4.6nm,1.0s,baz=69,slow=4.8,SNR=5.1						
	comp=Z,4.6nm,1.0s						
NB2	**NORSAR Subarra**	**79.82**	**334**	P	**P**	**09 11 45.1**	**0.0**
	comp=Z,1.1nm,0.8s,baz=52,slow=5.6						
NOA	**NORSAR Array B**	**79.82**	**334**	P	**P**	**09 11 45.0**	**0.0**
	comp=Z,2.0nm,0.8s,baz=51,slow=5.3,SNR=10						
NOA				LR	LR	09 52 42.0	
	comp=Z,78nm,18.3s,baz=15,slow=40						
	comp=Z,2.0nm,0.8s						
NC204	**NORSAR Array S**	**79.85**	**335**	P	**P**	**09 11 45.0**	**-0.3**
KSP	**Ksiaz**	**83.38**	**324**	P	**P**	**09 12 05.2**	**+1.2**
VRAC	**Vranov**	**84.07**	**323**	LR	LR	09 53 00.2	
	comp=Z,134nm,19.7s,baz=58,slow=38						
CLL	**Collm**	**84.81**	**326**	*i* P	**P**	**09 12 12.3**	**+1.0**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.5s						
CLL	**Collm**	**84.81**	**326**	*i* P	**P**	**09 12 12.3**	**+1.0**
	comp=Z,9.0nm,1.5s						
GERES	**GERESS Array B**	**85.89**	**323**	P	**P**	**09 12 17.3**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=55,slow=5.2,SNR=5.1						
	comp=Z,0.8nm,0.7s						
GERES	**GERESS Array B**	**85.89**	**323**	*e*P	**P**	**09 12 19.1**	**+2.2**
SFJD	**Kangerlussuaq**	**87.05**	**0**	LR	LR	09 52 52.6	
	comp=Z,107nm,19.6s,baz=322,slow=37						
DAVOX	**Davos/Dischmat**	**89.20**	**323**	LR	LR	09 56 34.5	
	comp=Z,162nm,19.8s,baz=51,slow=38						

*IDC **13** 08:59:51.1±1.9,39°.62N×143°.49E,h0km,mb3.8/2, mbtmp3.6/3,ML2.9/2,Error ellipse: s-maj=64.9km s-min=26.2km az=91.0*
*JMA **13** 08:59:58.0±0.1,39°.9N±0°.3×142°.6E±0°.7,h40km±1km, MV3.5/39,E OFF IWATE PREF*
JMA Felt I J1 at E OFF IWATE PREF .
ISC 13 08:59:57.4±1.8,39°.80N±0°.04×142°.61E±0°.08,h28km±13km, n22,σ1°67/29,14D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.59**	**284**	⇓*i*P	**Pn**	**09 00 10.1**	**+0.2**
JTH				⇓S	**Sn**	**09 00 18.8**	**+0.2**
MIYJ	**Miyakonagasawa**	**0.64**	**251**	⇓*i*P	**Pn**	**09 00 11.3**	**+0.7**
MIYJ				⇓S	**Sn**	**09 00 20.6**	**+0.7**
JKEN	**Kujiedanarisaw**	**0.80**	**301**	⇓*i*P	**Pb**	**09 00 12.5**	**-0.3**
JKEN				⇓S	**Sb**	**09 00 23.4**	**+0.1**
JKZ	**Kuzumaki**	**1.00**	**281**	⇓*i*P	**Pn**	**09 00 16.4**	**+0.9**
JKZ				⇓S	**Sb**	**09 00 29.5**	**+0.5**
JANG	**Nango**	**1.02**	**305**	⇓*i*P	**Pb**	**09 00 15.5**	**-0.9**
JANG				⇓S	**Sb**	**09 00 28.4**	**-1.0**
OFUJ	**Ofunato**	**1.02**	**226**	*i* P	**Pn**	**09 00 16.9**	**+1.1**
OFUJ				S	**Sn**	**09 00 30.2**	**+1.1**
JOM	**Ohasama**	**1.06**	**253**	⇓*i*P	**Pb**	**09 00 17.6**	**+0.4**
JOM				⇓S	**Sn**	**09 00 31.7**	**+1.4**
JMK	**Ichinoseki**	**1.36**	**232**	*i* P	**Pb**	**09 00 21.9**	**-0.3**
JMK				S	**Sb**	**09 00 39.4**	**+0.1**
JTM	**Tenmabayashi**	**1.54**	**311**	P	**Pn**	**09 00 23.5**	**+0.6**
JTM				S	**Sn**	**09 00 42.5**	**+0.5**
JAH	**Hinai**	**1.56**	**285**	⇓*i*P	**Pn**	**09 00 24.5**	**+1.2**
JAH				⇓S	**Sb**	**09 00 44.7**	**-0.4**
JRG	**Rokugo**	**1.57**	**256**	P	**Pb**	**09 00 25.1**	**-0.8**
JRG				S	**Sb**	**09 00 45.5**	**+0.

baz=295,slow=317,SNR=0.6

BJI ***13*** *09:50:39.4, 5°.50S×146°.46E, h76km, mB5.1/28, mb5.2/76, Ms4.6/22, Ms7 4.3/29*
MOS ***13*** *09:50:42.1±0.6, 5°.32S×145°.89E, h71km, mb5.4/43, Error ellipse: s-maj=9.0km s-min=5.2km az=110.7*
IDC ***13*** *09:50:44.3±0.6, 5°.43S×145°.97E, h81km±4km, mb4.8/20, mbtmp5.1/25, MS4.1/51, Error ellipse: s-maj=12.8km s-min=6.8km az=90.0*
NEIC ***13*** *09:50:44.1, 5°.33S×145°.97E, h70km, Moment Tensor Solution. Duration: 2±1 Moment tensor: Scale 10^16^Nm; Mrr7.96; Mθθ-6.27; Mφφ-1.68; Mrθ-2.77; Mθφ4.48; Mφr2.21; Fault plane solution: Mo9.20000×10^16^ NP1: φs117.91000°, δ33.83000°, λ84.47000°. NP2: φs304.56000°, δ56.35000°, λ93.70000°. Principal axes: T 8.6813, Plg78.0000°, Azm228.0000°; N 1.0311, Plg3.0000°, Azm123.0000°; P -9.7123, Plg11.0000°, Azm32.0000°;*
NEIC ***13*** *09:50:44.3±1.4, 5°.32S±0°.06×145°.98E±0°.08, h72km±3km, mb5.4/262, Mww5.2/24 Error ellipse: s-maj=11.4km s-min=9.0km az=94.0*
NEIC ***13*** *09:50:44.1, 5°.33S×145°.97E, h70km*
DJA ***13*** *09:50:45.1±0.4, 5°.S±2°×14°.6E±°, h84km±3km, M5.4/103, mB5.8/61, mb5.6/103, MLv5.9/5, Mw(mB)5.4/61, MwMwp4.9/9, Mwp5.2/9*
GCMT ***13*** *09:50:47.3±0.1, 5°.39S±0°.01×145°.96E±0°.01, h77km±1km, MW5.2/134, Moment Tensor Solution. s93,c133; s134,c235; Duration: 1±0 Moment tensor: Scale 10^17^ Nm; Mrr0.63±.02; Mθθ-0.60±.01; Mφφ-0.02±.02; Mrθ-0.38±.01; Mφφ0.28±.01; Mφr0.35±.01; Best double couple: Mo0.85100×10^17^ NP1:φs98.00000°, δ29.00000°, λ65.00000°. NP2:φs305.00000°, δ64.00000°, λ103.00000°. Principal axes: T 0.8260, Plg68.0000°, Azm241.0000°; N 0.0510, Plg12.0000°, Azm120.0000°; P -0.8770, Plg18.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 09:50:44.6±0.3, 5°.39S±0°.03×146°.00E±0°.04, h81km±2km, h81km:pP-P, n978, σ1s20/913, mb5.3/251, 28C-2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.59**	**22**		**Pn**	**09 51 36.7**	**-1.3**
PMG	**Port Moresby**	**4.15**	**164**	P	**Pn**	**09 51 45.8**	**+0.2**
	389nm,0.3s,baz=346,slow=8.3,SNR=180						
PMG				S	**Sn**	**09 52 31.8**	**-1.1**
	2μm,0.7s,baz=300,slow=20,SNR=5.3						
PMG				LR	LR	09 53 51.4	
	comp=Z,10μm,18.1s,baz=347,slow=45						
PMG	**Port Moresby**	**4.15**	**164**	P	**Pn**	**09 51 45.8**	**+0.2**
PMG	**Port Moresby**	**4.15**	**164**	*ce*P	**Pn**	**09 51 45.7**	**+0.1**
PMG				pmax	pmax		
	comp=Z,484nm,0.7s						
JAY	**Jayapura**	**6.01**	**298**	P	**Pn**	**09 52 12.2**	**+1.3**
	comp=Z,50nm,0.6s,baz=119,slow=8.6,SNR=33						
JAY				S	**Sn**	**09 53 22.3**	**+3.9**
	comp=Z,80nm,0.6s,baz=75,slow=20,SNR=3.6						
JAY				LR	LR	09 54 53.8	
	comp=Z,3μm,20.2s,baz=124,slow=42						
JAY	**Jayapura**	**6.01**	**298**	P	**Pn**	**09 52 10.9**	**-0.1**
	comp=Z,154nm,0.8s						
RABL	**Rabaul**	**6.25**	**79**		**Pn**	**09 52 13.6**	**-0.8**
GENI	**Genyem**	**6.45**	**295**	P	**Pn**	**09 52 18.9**	**+1.9**
GENI	**Genyem**	**6.45**	**295**	P	**Pn**	**09 52 17.9**	**+0.9**
	comp=Z,6.9nmcomp=Z,4μmcomp=Z,7μmcomp=Z,318nm,0.5s						
SMPI	**Sarmi**	**8.02**	**295**	P	**Pn**	**09 52 38.1**	**-0.3**
	comp=Z,2.0nmcomp=Z,3μmcomp=Z,131nm,0.9s						
COEN	**Coen**	**8.96**	**198**		**Pn**	**09 52 52.1**	**+0.9**
COEN	**Coen**	**8.96**	**198**	P	**Pn**	**09 52 52.5**	**+1.2**
	comp=Z,0.0nmcomp=Z,410nm,0.8s						
COEN	**Coen**	**8.96**	**198**	P	**Pn**	**09 52 52.3**	**+1.1**
COEN	**Coen**	**8.96**	**198**	S	**Sn**	**09 54 29.4**	**-1.1**
SRPI	**Serui, Papua**	**10.35**	**289**	P	**Pn**	**09 53 08.7**	**-1.5**
	comp=Z,9μmcomp=Z,190nm,0.6s						
BAKI	**Biak**	**10.72**	**293**	P	**Pn**	**09 53 15.7**	**+0.4**
	comp=Z,105nm,1.1s						
RKPI	**Ransiki, Papua**	**12.41**	**288**	P	**Pn**	**09 53 37.9**	**-0.4**
	comp=Z,140nm,0.6s						
MTSU	**Mount Surprise**	**12.77**	**187**	P	**Pn**	**09 53 44.6**	**+1.5**
	comp=Z,48nm,0.8s						
MTSU	**Mount Surprise**	**12.77**	**187**	P	**Pn**	**09 53 44.7**	**+1.5**
MTSU	**Mount Surprise**	**12.77**	**187**	S	**Sn**	**09 56 05.4**	**+1.8**
TV1H	**Townsville Har**	**13.81**	**177**	P	**Pn**	**09 53 58.8**	**+2.0**
FAKI	**Fak Fak**	**13.94**	**280**		**Pn**	**09 53 56.9**	**-1.6**
FAKI	**Fak Fak**	**13.94**	**280**	P	**Pn**	**09 53 59.2**	**+0.7**
FAKI	**Fak Fak**	**13.94**	**280**	P	**Pn**	**09 53 58.4**	**-0.1**
	comp=Z,2μmcomp=Z,2μmcomp=Z,192nm,1.1s						
TATA	**Tatamba Isabel**	**14.02**	**103**	P	**P**	**09 54 04.2**	**-0.7**
SAVO	**Savo Central**	**14.20**	**106**	P	**P**	**09 54 06.5**	**-0.4**
HNR	**Honiara**	**14.40**	**107**	P	**Pn**	**09 54 06.1**	**+1.6**
	comp=Z,264nm,0.8s,baz=212,slow=9.5,SNR=5.5						
HNR				LR	LR	09 58 55.1	
	comp=Z,489nm,19.5s,baz=259,slow=34						
SAUI	**Saumlaki**	**14.83**	**259**	Pn	**Pn**	**09 54 09.2**	**-0.8**
SAUI	**Saumlaki**	**14.83**	**259**	P	**Pn**	**09 54 10.3**	**+0.2**
	comp=Z,400nm,1.1s						
NGOA	**Tingoa Renbel**	**15.19**	**115**	P	**P**	**09 54 18.3**	**+0.4**
KDU	**Kakadu**	**15.20**	**241**	P	**Pn**	**09 54 14.7**	**-0.1**
	comp=Z,0.0nmcomp=Z,542nm,1.0s						
KDU	**Kakadu**	**15.20**	**241**	P	**Pn**	**09 54 15.5**	**+0.8**
SWI	**Sorong**	**15.39**	**286**	P	**Pn**	**09 54 14.8**	**-2.4**
	comp=Z,3μmcomp=Z,353nm,1.1s						
BNDI	**Bandanaira**	**16.06**	**272**	P	**P**	**09 54 28.5**	**+0.9**
	comp=Z,7μmcomp=Z,692nm,1.0s						
QIS	**Mount Isa**	**16.31**	**202**	P	Pn	09 54 19.0	-10
MTN	**Manton Dam**	**16.44**	**242**		**Pn**	**09 54 30.0**	**-0.4**
MTN	**Manton Dam**	**16.44**	**242**	P	**Pn**	**09 54 29.9**	**-0.5**
	comp=Z,0.0nmcomp=Z,695nm,0.6s						
DRS	**Darwin Rock St**	**16.47**	**244**	P	**Pn**	**09 54 31.5**	**+0.7**
MSAI	**Masohi**	**17.14**	**276**	P	**Pn**	**09 54 38.6**	**-0.5**
	comp=Z,7μmcomp=Z,396nm,0.7s						
PATS	**Pohnpei**	**17.27**	**45**		**P**	**09 54 42.0**	**+1.0**
PATS	**Pohnpei**	**17.27**	**45**	P	**P**	**09 54 42.1**	**+1.0**
	comp=Z,624nm,1.4s						
PATS	**Pohnpei**	**17.27**	**45**	P	**P**	**09 54 44.4**	**+3.4**
AAI	**Ambon**	**17.83**	**275**	P	**Pn**	**09 54 47.2**	**-0.3**
	comp=Z,6μmcomp=Z,494nm,0.9s						
WRAB	**Tennant Creek**	**18.37**	**217**	P	**P**	**09 54 52.2**	**-0.8**
WRAB	**Tennant Creek**	**18.37**	**217**	*i* P	**P**	**09 54 53.2**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,59nm,0.8s						
WRA	**Warramunga Arr**	**18.39**	**217**	P	**P**	**09 54 52.8**	**-0.4**
WRA	**Warramunga Arr**	**18.39**	**217**	P	**P**	**09 54 52.5**	**-0.7**
	comp=Z,36nm,0.6s,baz=40,slow=11,SNR=164						
WRA				S	**S**	**09 58 15.3**	**-3.3**
	comp=Z,13nm,1.0s,baz=40,slow=20,SNR=4.7						
WRA				ScP	**ScP**	**10 02 49.2**	**-0.6**
	comp=Z,6.2nm,0.8s,baz=33,slow=2.0,SNR=4.3						
WRA				LR	LR	10 03 04.8	
	comp=Z,1μm,19.3s,baz=9.5,slow=40						
WRA	**Warramunga Arr**	**18.39**	**217**	*i* P	**P**	**09 54 52.5**	**-0.7**
WRA				pmax	pmax		
	comp=Z,51nm,0.9s						
GUMO	**Guam**	**18.89**	**357**		**Pn**	**09 54 59.3**	**-0.8**
GUMO				IAmb	IAmb	09 55 02.3	
	comp=Z,251nm,1.1s						
GUMO	**Guam**	**18.89**	**357**	P	**Pn**	**09 54 59.9**	**-0.3**
	comp=Z,175nm,1.0s,baz=177,slow=19,SNR=6.4						
GUMO				LR	LR	10 02 26.5	
	comp=Z,352nm,18.0s,baz=194,slow=37						
GUMO	**Guam**	**18.89**	**357**	P	**Pn**	**09 55 00.7**	**+0.5**
NLAI	**Namlea**	**18.97**	**276**	P	**Pn**	**09 55 00.7**	**-0.5**
	comp=Z,2μmcomp=Z,10μmcomp=Z,826nm,1.1s						
TNTI	**Ternate**	**19.59**	**288**	P	**P**	**09 55 06.5**	**+0.1**
TNTI	**Ternate**	**19.59**	**288**	P	**P**	**09 55 06.6**	**+0.1**
KNRA	**Kununurra**	**19.77**	**238**		**P**	**09 55 07.7**	**-0.7**
KNRA	**Kununurra**	**19.77**	**238**	P	**P**	**09 55 07.8**	**-0.6**
	comp=Z,224nm,0.5s						
SANI	**Sanana**	**20.24**	**279**	P	**P**	**09 55 13.4**	**-0.1**
SANI	**Sanana**	**20.24**	**279**	P	**P**	**09 55 12.2**	**-1.3**
	comp=Z,2μmcomp=Z,3μmcomp=Z,321nm,0.8s						
EIDS	**Eidsvold**	**20.45**	**167**	P	**P**	**09 55 16.4**	**+0.7**
EIDS	**Eidsvold**	**20.45**	**167**	P	**P**	**09 55 17.0**	**+1.3**
	comp=Z,64nm,0.7s						
EIDS	**Eidsvold**	**20.45**	**167**	P	**P**	**09 55 17.1**	**+1.4**
QLP	**Quilpie**	**21.14**	**184**	P	**P**	**09 55 23.8**	**+0.7**
	comp=Z,236nm,1.4s						
QLP	**Quilpie**	**21.14**	**184**	P	**P**	**09 55 23.8**	**+0.7**
AS01	**Alice Springs**	**21.56**	**211**	P	**P**	**09 55 27.5**	**-0.1**
AS31	**Alice Springs**	**21.59**	**211**	P	**P**	**09 55 27.7**	**-0.2**
AS31	**Alice Springs**	**21.59**	**211**	P	**P**	**09 55 27.7**	**-0.2**
	comp=Z,22nm,0.6s						
ASAR	**Alice Springs**	**21.59**	**211**	P	**P**	**09 55 27.8**	**-0.1**
	comp=Z,34nm,0.9s,baz=36,slow=9.7,SNR=297						
ASAR				S	**S**	**09 59 20.8**	**-2.0**
	comp=Z,6.8nm,1.1s,baz=35,slow=22,SNR=4.5						
ASAR				LR	LR	10 05 40.6	
	comp=Z,1μm,18.2s,baz=27,slow=42						
	comp=Z,34nm,0.9s						
SOEI	**Soe**	**21.97**	**257**	P	**P**	**09 55 32.0**	**-0.1**
SOEI	**Soe**	**21.97**	**257**	P	**P**	**09 55 32.8**	**+0.6**
SOEI	**Soe**	**21.97**	**257**	P	**P**	**09 55 32.2**	**0.0**
	comp=Z,7μmcomp=Z,521nm,0.9s						
KMSI	**Cibinong**	**22.78**	**284**	P	**P**	**09 55 39.1**	**-1.5**
	comp=Z,7μmcomp=Z,711nm,1.1s						
INKA	**Innaminka**	**22.79**	**192**	P	**P**	**09 55 40.9**	**+0.4**
AUWSH	**Wavell State H**	**22.89**	**164**	P	**P**	**09 55 43.1**	**+1.5**
BBSI	**Bau Bau**	**23.33**	**269**	P	**P**	**09 55 46.4**	**+0.4**
	comp=Z,6μmcomp=Z,418nm,1.2s						
VLAKA	**Lakatoro**	**23.55**	**119**	P	**P**	**09 55 48.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**23.56**	**236**	P	**P**	**09 55 46.6**	**-1.5**
FITZ	**Fitzroy Crossi**	**23.56**	**236**	LR	LR	10 06 14.7	
	comp=Z,1μm,18.5s,baz=60,slow=40						
FITZ	**Fitzroy Crossi**	**23.56**	**236**	P	**P**	**09 55 46.9**	**-1.1**
LUWI	**Luwuk**	**23.59**	**280**	P	**P**	**09 55 48.6**	**+0.3**
LUWI	**Luwuk**	**23.59**	**280**	P	**P**	**09 55 49.4**	**+1.1**
LUWI	**Luwuk**	**23.59**	**280**	P	**P**	**09 55 48.7**	**+0.4**
	comp=Z,11μmcomp=Z,858nm,1.5s						
MMRI	**Maumere**	**23.80**	**261**	P	**P**	**09 55 48.7**	**-1.6**
MMRI	**Maumere**	**23.80**	**261**	P	**P**	**09 55 50.5**	**+0.2**
MMRI	**Maumere**	**23.80**	**261**	P	**P**	**09 55 47.6**	**-2.7**
DAV	**Davao City (W)**	**23.85**	**301**	LR	LR	10 06 48.8	
	comp=Z,157nm,18.4s,baz=144,slow=40						
OOD	**Oodnadatta**	**24.35**	**203**	P	**P**	**09 55 55.6**	**+0.7**
EDFI	**Ende, Flores**	**24.35**	**261**	P	**P**	**09 55 53.5**	**-1.8**
	comp=Z,2μmcomp=Z,263nm,0.7s						
APSI	**Ampana**	**24.71**	**280**	P	**P**	**09 55 58.6**	**+0.1**
	comp=Z,7μmcomp=Z,694nm,1.3s						
MRSI	**Marisa**	**24.73**	**283**	P	**P**	**09 55 56.9**	**-1.7**
	comp=Z,1μmcomp=Z,108nm,0.6s						
BSSI	**Bau Bau, Buton**	**25.39**	**267**	P	**P**	**09 56 04.4**	**-0.3**
	comp=Z,3μmcomp=Z,278nm,1.1s						
ARMA	**Armidale**	**25.45**	**169**	P	**P**	**09 56 05.9**	**+0.8**
ARMA				IAmb	IAmb	09 56 07.5	
	comp=Z,69nm,0.9s						
ARMA	**Armidale**	**25.45**	**169**	P	**P**	**09 56 05.9**	**+0.8**
	comp=Z,86nm,1.1s						
ARMA	**Armidale**	**25.45**	**169**	P	**P**	**09 56 06.3**	**+1.1**
BKSI	**Bulukumba**	**25.77**	**269**	P	**P**	**09 56 06.9**	**-1.2**
	comp=Z,2μmcomp=Z,194nm,1.2s						
DZM	**Mont Dzumac**	**25.81**	**132**	P	**P**	**09 56 08.6**	**+0.2**
DZM				IAmb	IAmb	09 56 12.0	
	comp=Z,91nm,0.9s						
DZM	**Mont Dzumac**	**25.81**	**132**	*e*P	**P**	**09 56 08.0**	**-0.5**
	comp=Z,260nm,1.1s						
DZM				*e*S	**S**	**10 00 25.2**	**-7.1**
	comp=Z,350nm,28.8s						
DZM				*e*LR	LR	10 02 44.9	
	comp=Z,1μm,24.1s						
DZM	**Mont Dzumac**	**25.81**	**132**	LR	LR	10 05 40.6	
	comp=Z,627nm,20.3s,baz=348,slow=35						
DZM	**Mont Dzumac**	**25.81**	**132**	P	**P**	**09 56 08.8**	**+0.3**
BNSI	**Bone**	**25.82**	**271**	P	**P**	**09 56 09.1**	**+0.6**
	comp=Z,4μmcomp=Z,271nm,1.1s						
WSI	**Waingapu**	**25.83**	**259**	P	**P**	**09 56 07.9**	**-0.7**
WRKA	**Warakurna**	**25.89**	**219**	P	**P**	**09 56 09.5**	**+0.4**
	comp=Z,64nm,0.9s						
WRKA	**Warakurna**	**25.89**	**219**	P	P	09 55 59.3	-10
WRKA	**Warakurna**	**25.89**	**219**	P	**P**	**09 56 09.1**	**0.0**
ONTNC	**Ouen Toro**	**25.96**	**132**	P	**P**	**09 56 09.7**	**0.0**
ONTNC				IAmb	IAmb	09 56 12.6	
	comp=Z,122nm,1.1s						
ONTNC	**Ouen Toro**	**25.96**	**132**	P	**P**	**09 56 10.9**	**+1.2**
LCRK	**Leigh Creek**	**25.98**	**195**	P	**P**	**09 56 10.4**	**+0.6**
TOLI2	**Tolitoli**	**26.00**	**284**	P	**P**	**09 56 09.5**	**-0.7**
TOLI2				IAmb	IAmb	09 56 18.2	
	comp=Z,65nm,0.7s						
TOLI2	**Tolitoli**	**26.00**	**284**	P	**P**	**09 56 09.8**	**-0.4**
CMSA	**Cobar Meteorol**	**26.01**	**181**	P	**P**	**09 56 10.7**	**+0.6**
	comp=Z,51nm,1.1s						
CMSA	**Cobar Meteorol**	**26.01**	**181**	P	**P**	**09 56 11.0**	**+0.9**
YATNC	**Mamie plateau,**	**26.14**	**131**	P	**P**	**09 56 12.5**	**+1.2**
KAPI	**Kappang**	**26.14**	**270**	P	**P**	**09 56 11.5**	**0.0**
KAPI				IAmb	IAmb	09 56 15.3	
	comp=Z,177nm,1.4s						
KAPI	**Kappang**	**26.14**	**270**	LR	LR	10 08 35.0	
	comp=Z,296nm,19.5s,baz=90,slow=41						
KAPI	**Kappang**	**26.14**	**270**	P	**P**	**09 56 11.8**	**+0.3**
KAPI	**Kappang**	**26.14**	**270**	P	**P**	**09 56 11.5**	**0.0**
KAPI				pmax	pmax		
	comp=Z,177nm,1.4s						
SPSI	**Sidrap Palu**	**26.18**	**272**	P	**P**	**09 56 11.0**	**-0.8**
	comp=Z,2μmcomp=Z,160nm,1.2s						
PCI	**Palu**	**26.50**	**279**	P	**P**	**09 56 14.6**	**-0.1**
	comp=Z,4μmcomp=Z,253nm,1.1s						
STKA	**Stephens Creek**	**26.67**	**188**	P	**P**	**09 56 15.9**	**-0.1**
STKA	**Stephens Creek**	**26.67**	**188**	P	**P**	**09 56 16.3**	**+0.3**
	comp=Z,241nm,1.1s						
STKA	**Stephens Creek**	**26.67**	**188**	P	**P**	**09 56 16.8**	**+0.7**
	comp=Z,26nm,0.7s,baz=8.8,slow=12,SNR=58						
STKA				LR	LR	10 08 00.9	
	comp=Z,676nm,18.8s,baz=8.2,slow=39						
	comp=Z,26nm,0.7s						
STKA	**Stephens Creek**	**26.67**	**188**	P	**P**	**09 56 16.5**	**+0.5**
STKA	**Stephens Creek**	**26.67**	**188**	*i* P	**P**	**09 56 16.5**	**+0.5**
MPSI	**Mapaga**	**26.68**	**282**	P	**P**	**09 56 15.3**	**-1.0**
	comp=Z,817nmcomp=Z,50nm,0.9s						
WBSI	**Waikabubak, Su**	**26.71**	**259**	P	**P**	**09 56 15.5**	**-1.1**
	comp=Z,3μmcomp=Z,240nm,0.9s						
PLAI	**Plampang**	**28.21**	**261**	P	**P**	**09 56 28.1**	**-1.9**
PLAI	**Plampang**	**28.21**	**261**	P	**P**	**09 56 27.5**	**-2.5**
	comp=Z,1μmcomp=Z,89nm,0.6s						
WHYH	**Whyalla**	**28.60**	**195**	P	**P**	**09 56 34.3**	**+1.1**
HTT	**Hallett**	**28.67**	**192**	P	**P**	**09 56 34.7**	**+0.8**
BBOO	**Buckleboo**	**28.82**	**198**	P	**P**	**09 56 34.6**	**-0.6**
BBOO	**Buckleboo**	**28.82**	**198**	P	**P**	**09 56 35.7**	**+0.5**
	comp=Z,36nm,1.1s						
BBOO	**Buckleboo**	**28.82**	**198**	P	**P**	**09 56 35.7**	**+0.5**
TWSI	**Taliwang, Sumb**	**29.09**	**262**	P	**P**	**09 56 35.7**	**-2.1**
	comp=Z,836nmcomp=Z,65nm,0.5s						
MYLDM	**Lahad Datu**	**29.40**	**290**	P	**P**	**09 56 40.1**	**-0.5**
MYLDM				IAmb	IAmb	09 57 04.3	
	comp=Z,73nm,1.1s						
MYLDM	**Lahad Datu**	**29.40**	**290**	P	**P**	**09 56 42.5**	**+1.9**
MBWA	**Marble Bar**	**29.91**	**236**	P	**P**	**09 56 44.5**	**-0.5**
MBWA				IAmb	IAmb	09 56 46.6	
	comp=Z,58nm,1.1s						
MBWA	**Marble Bar**	**29.91**	**236**	P	**P**	**09 56 45.3**	**+0.3**
	comp=Z,65nm,1.8s						
MBWA	**Marble Bar**	**29.91**	**236**	P	**P**	**09 56 45.3**	**+0.3**
CAN	**Canberra**	**29.91**	**175**	P	**P**	**09 56 45.5**	**+0.6**
CAN				IAmb	IAmb	09 56 47.5	
	comp=Z,70nm,1.3s						
CAN	**Canberra**	**29.91**	**175**	P	**P**	**09 56 45.8**	**+0.9**
	comp=Z,42nm,1.3s						
CAN	**Canberra**	**29.91**	**175**	P	**P**	**09 56 46.4**	**+1.5**
CAN	**Canberra**	**29.91**	**175**	P	**P**	**09 56 45.5**	**+0.6**
CAN				pmax	pmax		
	comp=Z,70nm,1.3s						
CAN	**Canberra**	**29.91**	**175**	P	**P**	**09 56 45.8**	**+0.9**
CAN				pP	**pP**	**09 57 03.3**	**-0.7**
CNB	**Canberra Magne**	**29.94**	**174**	P	**P**	**09 56 42.5**	**-2.7**
CNB	**Canberra Magne**	**29.94**	**174**	P	**P**	**09 56 46.6**	**+1.4**
PSA00	**Pilbara Seismi**	**30.01**	**235**	P	**P**	**09 56 45.9**	**0.0**
PSA00	**Pilbara Seismi**	**30.01**	**235**	IAmb	IAmb	09 56 47.4	
	comp=Z,67nm,0.8s						
PSA00	**Pilbara Seismi**	**30.01**	**235**	P	**P**	**09 56 46.0**	**+0.1**
	comp=Z,103nm,1.1s						
PSA00	**Pilbara Seismi**	**30.01**	**235**	P	**P**	**09 56 46.4**	**+0.5**
FORT	**Forrest**	**30.38**	**212**	P	**P**	**09 56 49.3**	**+0.3**
FORT	**Forrest**	**30.38**	**212**	P	**P**	**09 56 49.2**	**+0.3**
	comp=Z,188nm,0.7s						
FORT	**Forrest**	**30.38**	**212**	P	**P**	**09 56 49.7**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**31.29**	**40**	T	T	10 30 18.6	
	baz=222,slow=76,SNR=58						
H11S2	**WAKE ISLAND Hy**	**31.30**	**40**	T	T	10 30 16.9	
	baz=222,slow=76,SNR=44						
H11S1	**WAKE ISLAND Hy**	**31.31**	**40**	T	T	10 30 17.8	
	baz=222,slow=76,SNR=52						
ARPS	**Mount Arapiles**	**31.46**	**186**	P	**P**	**09 56 59.9**	**+1.4**
	comp=Z,73nm,0.8s						
ARPS	**Mount Arapiles**	**31.46**	**186**	P	**P**	**09 56 59.9**	**+1.4**
TGY	**Tagaytay City**	**31.52**	**308**	LR	LR	10 10 45.6	
	comp=Z,159nm,19.8s,baz=184,slow=38						
MILA	**Mila**	**31.65**	**175**	P	**P**	**09 57 01.3**	**+1.2**
	comp=Z,22nm,1.0s						
JAGI	**Jajag, Banyuwa**	**31.76**	**263**	P	**P**	**09 56 58.7**	**-2.7**
JAGI	**Jajag, Banyuwa**	**31.76**	**263**	P	**P**	**09 56 59.0**	**-2.4**
JAGI	**Jajag, Banyuwa**	**31.76**	**263**	P	**P**	**09 56 59.0**	**-2.4**
	comp=Z,1μmcomp=Z,86nm,1.1s						
KKM	**Kota Kinabalu**	**31.83**	**290**	P	**P**	**09 57 01.2**	**-1.0**
KMMI	**Kalianget**	**31.89**	**265**	P	**P**	**09 57 04.0**	**+1.5**
	comp=Z,72nm,1.4s						
TOO	**Toolangi**	**32.03**	**181**	P	**P**	**09 57 04.3**	**+0.8**
TOO	**Toolangi**	**32.03**	**181**	P	**P**	**09 57 04.9**	**+1.4**
	comp=Z,30nm,1.2s						
TOO	**Toolangi**	**32.03**	**181**	P	**P**	**09 57 04.3**	**+0.8**
TOO				pmax	pmax		
	comp=Z,29nm,1.1s						
BRAT	**Ballarat**	**32.07**	**183**	P	**P**	**09 57 06.1**	**+2.4**
H11N1	**WAKE ISLAND Hy**	**32.32**	**39**	T	T	10 31 39.5	
	baz=221,slow=76,SNR=6.9						
H11N3	**WAKE ISLAND Hy**	**32.34**	**39**	T	T	10 31 35.3	
	baz=221,slow=76,SNR=16						
H11N2	**WAKE ISLAND Hy**	**32.34**	**39**	T	T	10 31 36.0	
	baz=221,slow=76,SNR=23						
JCJ	**Chichijima**	**32.50**	**354**	LR	LR	10 09 10.2	
	comp=Z,176nm,20.7s,baz=140,slow=34						
GEXS	**Deakin Univers**	**32.70**	**182**	P	**P**	**09 57 10.9**	**+1.7**
BWJI	**Bawean**	**33.19**	**268**	P	**P**	**09 57 15.0**	**+1.1**
MEEK	**Meekatharra**	**33.61**	**228**	P	**P**	**09 57 18.1**	**+0.7**
	comp=Z,276nm,1.3s						
MEEK	**Meekatharra**	**33.61**	**228**	P	**P**	**09 57 17.9**	**+0.5**
MSVF	**Nonsavu**	**33.64**	**114**	P	**P**	**09 57 18.5**	**+0.7**
MSVF				IAmb	IAmb	09 57 21.1	
	comp=Z,69nm,1.1s						
MSVF	**Nonsavu**	**33.64**	**114**	LR	LR	10 09 53.5	
	comp=Z,372nm,21.9s,baz=321,slow=34						
MSVF	**Nonsavu**	**33.64**	**114**	P	**P**	**09 57 19.9**	**+2.1**
MSVF	**Nonsavu**	**33.64**	**114**	P	**P**	**09 57 18.5**	**+0.7**
MSVF				pmax	pmax		
	comp=Z,69nm,1.1s						
MSVF	**Nonsavu**	**33.64**	**114**	P	**P**	**09 57 19.8**	**+1.9**
MSVF				pP	**pP**	**09 57 38.1**	**+1.2**
MSVF				PcP	**PcP**	**09 59 56.2**	**-0.2**
KMBL	**Kambalda**	**34.35**	**218**	P	**P**	**09 57 24.0**	**+0.3**
	comp=Z,119nm,1.3s						
KMBL	**Kambalda**	**34.35**	**218**	P	**P**	**09 57 24.3**	**+0.6**
SBUM	**Sibu**	**34.63**	**282**	P	**P**	**09 57 26.5**	**0.0**
SBUM	**Sibu**	**34.63**	**282**	P	**P**	**09 57 27.4**	**+1.0**
PCJI	**Pacitan**	**34.69**	**263**	P	**P**	**09 57 25.7**	**-1.2**
DGTI	**Dogotuki**	**34.80**	**111**	P	**P**	**09 57 29.3**	**+1.5**
STKI	**Sintang**	**34.90**	**278**	P	**P**	**09 57 29.2**	**+0.5**
	comp=Z,44nm,1.2s						
GIRL	**Giralia**	**35.14**	**238**	P	**P**	**09 57 32.1**	**+1.4**
	comp=Z,426nm,1.3s						
GIRL	**Giralia**	**35.14**	**238**	P	**P**	**09 57 32.2**	**+1.5**
TAVE	**Taveuni**	**35.23**	**111**	P	**P**	**09 57 33.5**	**+2.0**
UGM	**Wanagama**	**35.32**	**264**	P	**P**	**09 57 32.1**	**-0.3**
UGM	**Wanagama**	**35.32**	**264**	P	**P**	**09 57 31.9**	**-0.5**
	comp=Z,105nm,1.0s						
SMRI	**Semarang**	**35.39**	**265**	P	**P**	**09 57 32.2**	**-0.7**
SMRI	**Semarang**	**35.39**	**265**	P	**P**	**09 57 33.4**	**+0.5**
SMRI	**Semarang**	**35.39**	**265**	P	**P**	**09 57 33.2**	**+0.3**
	comp=Z,148nm,1.1s						
YOGI	**Yogyakarta**	**35.55**	**264**	P	**P**	**09 57 34.6**	**+0.3**
	comp=Z,167nm,1.8s						
KSM	**Kuching**	**36.30**	**280**		**P**	**09 57 40.1**	**-0.7**
KSM	**Kuching**	**36.30**	**280**	P	**P**	**09 57 40.7**	**0.0**
JOW	**Kunigami**	**36.34**	**333**	P	**P**	**09 57 40.7**	**-0.1**
JOW				IAmb	IAmb	09 57 41.7	
	comp=Z,

TOZ	**Tahuroa Road**	**41.93 144**	P	**P**	**09 58 30.1**	**+2.8**
HIZ	**Hauiti**	**42.10 146**	P	**P**	**09 58 32.2**	**+3.4**
MJAR	**Matsushiro Arr**	**42.34 351**	P	**P**	**09 58 29.7**	**-1.0**
	comp=Z,40nm,1.1s,baz=173,slow=8.0,SNR=50					
MJAR			pP	**pP**	**09 58 49.5**	**-0.4**
	comp=Z,15nm,1.0s,baz=164,slow=7.3,SNR=5.5					
MJAR			ScP	**ScP**	**10 04 03.7**	**-2.8**
	comp=Z,1.6nm,0.8s,baz=159,slow=4.2,SNR=4.4					
MJAR			LR	LR	10 14 37.8	
	comp=Z,166nm,18.8s,baz=160,slow=34					
	comp=Z,40nm,1.1s					
MAJO	**Matsushiro**	**42.35 351**	P	**P**	**09 58 29.9**	**-0.8**
MAJO			IAmb	IAmb	09 58 30.8	
	comp=Z,42nm,1.0s					
MAJO	**Matsushiro**	**42.35 351**	P	**P**	**09 58 30.3**	**-0.4**
MAJO	**Matsushiro**	**42.35 351**	*i* P	**P**	**09 58 30.1**	**-0.6**
MAJO			pmax	pmax		
	comp=Z,86nm,1.6s					
MAJO	**Matsushiro**	**42.35 351**	P	**P**	**09 58 29.9**	**-0.8**
TGRZ	**Tauranga**	**42.38 144**	P	**P**	**09 58 33.8**	**+2.8**
AFI	**Afiamalu**	**42.41 105**	P	**P**	**09 58 33.0**	**+1.4**
AFI			IAmb	IAmb	09 58 33.9	
	comp=Z,48nm,0.8s					
AFI	**Afiamalu**	**42.41 105**	P	**P**	**09 58 33.2**	**+1.5**
AFI	**Afiamalu**	**42.41 105**	P	**P**	**09 58 33.1**	**+1.4**
AFI			pmax	pmax		
	comp=Z,49nm,0.8s					
AFI	**Afiamalu**	**42.41 105**	P	**P**	**09 58 32.8**	**+1.1**
VRZ	**Vera Road**	**42.47 146**	P	**P**	**09 58 34.9**	**+3.2**
QRZ	**Quartz Range**	**42.54 150**	P	**P**	**09 58 34.9**	**+2.6**
QRZ	**Quartz Range**	**42.54 150**	P	**P**	**09 58 35.0**	**+2.7**
OPRZ	**Ohinepanea**	**42.63 144**	P	**P**	**09 58 35.3**	**+2.3**
MYKOM	**Kota Tinggi**	**42.70 278**	P	**P**	**09 58 33.7**	**-0.3**
MYKOM			IAmb	IAmb	09 58 35.7	
	comp=Z,72nm,1.3s					
MYKOM	**Kota Tinggi**	**42.70 278**	P	**P**	**09 58 34.4**	**+0.4**
WATZ	**Wairara**	**42.73 145**	P	P	09 58 38.7	+4.8
DSZ	**Denniston Nort**	**42.89 151**	P	**P**	**09 58 37.4**	**+2.3**
KATZ	**Kakaramea**	**42.89 145**	P	**P**	**09 58 38.8**	**+3.5**
PKVZ	**Pokaka**	**42.91 146**	P	**P**	**09 58 38.7**	**+3.3**
WTVZ	**West Tongariro**	**42.93 146**	P	**P**	**09 58 38.9**	**+3.3**
NNVZ	**North Ngauruho**	**42.96 146**	P	**P**	**09 58 39.2**	**+3.4**
COVZ	**Chateau Observ**	**42.96 146**	P	**P**	**09 58 39.2**	**+3.3**
NGZ	**Ngauruhoe**	**42.98 146**	P	**P**	**09 58 39.5**	**+3.5**
TMVZ	**Te Maari**	**42.99 146**	P	**P**	**09 58 39.7**	**+3.6**
OTVZ	**Oturere**	**43.01 146**	P	**P**	**09 58 39.8**	**+3.5**
SNVZ	**South Ngauruho**	**43.01 146**	P	**P**	**09 58 39.9**	**+3.6**
MRNZ	**Matariki Terra**	**43.09 150**	P	**P**	**09 58 36.7**	**0.0**
QIZ	**Qiongzhong**	**43.09 305**	P	**P**	**09 58 39.4**	**+2.4**
QIZ			S	**S**	**10 04 59.8**	**+2.3**
QIZ			LR	LR		
	comp=Z,150nm,7.7s					
QIZ			LR	LR		
	comp=Z,170nm,9.2s					
QIZ			LR	LR		
	comp=Z,160nm,12.3s					
URZ	**Urewera**	**43.23 144**	LR	LR	10 16 26.7	
	comp=Z,318nm,18.5s,baz=41,slow=36					
URZ	**Urewera**	**43.23 144**	P	**P**	**09 58 39.7**	**+1.8**
URZ	**Urewera**	**43.23 144**	P	**P**	**09 58 39.5**	**+1.6**
NNZ	**Nelson**	**43.26 150**	P	**P**	**09 58 40.1**	**+2.0**
HAZ	**Te Kaha**	**43.30 143**	P	**P**	**09 58 40.4**	**+1.9**
KSI	**Kapahiang**	**43.30 270**	P	**P**	**09 58 38.7**	**-0.2**
	comp=Z,80nm,0.7s					
JMM	**Marumori**	**43.31 354**	IAmb	IAmb	09 58 39.8	
	comp=Z,45nm,1.1s					
JMM	**Marumori**	**43.31 354**	P	**P**	**09 58 39.2**	**+0.8**
SSE	**Sheshan**	**43.34 328**	P	**P**	**09 58 38.8**	**0.0**
SSE			S	**S**	**10 05 00.5**	**-0.2**
SSE			pmax	pmax		
	comp=Z,20nm,0.9s					
SSE			LR	LR		
	comp=Z,95nm,18.4s					
SSE			LR	LR		
	comp=Z,130nm,15.3s					
SSE			LR	LR		
	comp=Z,170nm,25.5s					
RTZ	**Ruatahuna**	**43.39 144**	P	**P**	**09 58 40.8**	**+1.5**
FOZ	**Fox Glacier**	**43.41 155**	P	**P**	**09 58 41.5**	**+2.3**
JCZ	**Jackson Bay**	**43.42 156**	P	**P**	**09 58 41.4**	**+2.0**
JCZ	**Jackson Bay**	**43.42 156**	P	**P**	**09 58 41.8**	**+2.4**
THZ	**Tophouse**	**43.43 151**	P	**P**	**09 58 41.0**	**+1.5**
WVZ	**Waitaha Valley**	**43.44 154**	P	**P**	**09 58 40.3**	**+0.8**
BKZ	**Black Stump Fm**	**43.48 145**	IAmb	IAmb	09 58 42.7	
	comp=Z,69nm,0.9s					
BKZ	**Black Stump Fm**	**43.48 145**	P	**P**	**09 58 41.7**	**+1.8**
BKZ	**Black Stump Fm**	**43.48 145**	P	**P**	**09 58 41.7**	**+1.8**
INZ	**Inchbonnie**	**43.48 153**	P	**P**	**09 58 41.0**	**+1.2**
MXZ	**Matakaoa Point**	**43.50 142**	P	**P**	**09 58 41.7**	**+1.7**
MWZ	**Matawai**	**43.52 143**	P	**P**	**09 58 42.0**	**+1.7**
MSZ	**Milford Sound**	**43.58 157**	P	**P**	**09 58 43.0**	**+2.5**
RAHZ	**Arahi**	**43.65 144**	P	**P**	**09 58 43.4**	**+2.1**
MCHZ	**McNeill Hill**	**43.78 145**	P	**P**	**09 58 44.8**	**+2.5**
TSZ	**Takapari Road**	**43.79 146**	P	**P**	**09 58 44.6**	**+2.2**
PUZ	**Puketiti**	**43.79 143**	P	**P**	**09 58 43.9**	**+1.5**
JSD	**Sado**	**43.80 351**	P	**P**	**09 58 42.6**	**+0.2**
LTZ	**Lake Taylor**	**43.91 152**	IAmb	IAmb	09 58 47.2	
	comp=Z,41nm,0.8s					
LTZ	**Lake Taylor**	**43.91 152**	P	**P**	**09 58 44.6**	**+1.3**
DCZ	**Deep Cove**	**43.97 159**	P	**P**	**09 58 46.0**	**+2.3**
DCZ			IAmb	IAmb	09 58 46.7	
	comp=Z,58nm,0.9s					
MRZ	**Mangatainoka R**	**44.00 147**	P	**P**	**09 58 45.2**	**+1.1**
SNZO	**South Karori**	**44.01 149**	P	**P**	**09 58 44.8**	**+0.8**
RPZ	**Rata Peaks**	**44.09 154**		**P**	**09 58 46.0**	**+1.3**
RPZ	**Rata Peaks**	**44.09 154**	LR	LR	10 15 52.6	
	comp=Z,211nm,18.7s,baz=314,slow=34					
RPZ	**Rata Peaks**	**44.09 154**	P	**P**	**09 58 46.0**	**+1.3**
BHW	**Baring Head**	**44.16 149**	IAmb	IAmb	09 58 47.2	
	comp=Z,93nm,1.2s					
OXZ	**Oxford**	**44.22 153**	IAmb	IAmb	09 58 50.0	
	comp=Z,34nm,0.6s					
OXZ	**Oxford**	**44.22 153**	P	**P**	**09 58 46.5**	**+0.7**
KHZ	**Kahutara**	**44.24 151**	IAmb	IAmb	09 58 48.6	
	comp=Z,48nm,0.9s					
KHZ	**Kahutara**	**44.24 151**	P	**P**	**09 58 46.7**	**+0.8**
MLZ	**Mavora Lakes**	**44.24 158**		**P**	**09 58 48.1**	**+2.2**
MLZ	**Mavora Lakes**	**44.24 158**	P	**P**	**09 58 47.8**	**+1.9**
LBZ	**Lake Benmore**	**44.25 155**		**P**	**09 58 47.6**	**+1.6**
LBZ			IAmb	IAmb	09 58 47.7	
	comp=Z,54nm,0.7s					
LBZ	**Lake Benmore**	**44.25 155**	P	**P**	**09 58 47.0**	**+1.0**
PXZ	**Pawanui**	**44.27 146**	P	**P**	**09 58 48.1**	**+1.9**
BFZ	**Birch Farm**	**44.38 147**	P	**P**	**09 58 48.5**	**+1.4**
BFZ	**Birch Farm**	**44.38 147**	P	**P**	**09 58 48.5**	**+1.4**
GVZ	**Greta Valley S**	**44.41 152**	P	**P**	**09 58 48.7**	**+1.4**
EAZ	**Earnscleugh**	**44.59 157**	P	**P**	**09 58 49.5**	**+0.9**
TMZ	**Timaru**	**44.60 154**	P	**P**	**09 58 49.3**	**+0.5**
WHZ	**Wether Hill Ro**	**44.62 158**		**P**	**09 58 50.4**	**+1.5**
WHZ			IAmb	IAmb	09 58 51.1	
	comp=Z,48nm,0.9s					
WHZ	**Wether Hill Ro**	**44.62 158**	P	**P**	**09 58 50.0**	**+1.1**
MQZ	**McQueen's Vall**	**44.80 153**	IAmb	IAmb	09 58 52.6	
	comp=Z,85nm,1.2s					
MQZ	**McQueen's Vall**	**44.80 153**	P	**P**	**09 58 51.5**	**+1.1**
ODZ	**Otahua Downs**	**44.98 155**	P	**P**	**09 58 53.1**	**+1.3**
NIUE	**Niue**	**45.02 112**	P	**P**	**09 58 54.5**	**+2.1**
NIUE	**Niue**	**45.02 112**	P	**P**	**09 58 53.0**	**+0.5**
	comp=Z,186nm,1.0s					
NIUE	**Niue**	**45.02 112**	P	**P**	**09 58 53.9**	**+1.4**
TJN	**Taejon**	**45.07 339**	P	**P**	**09 58 52.7**	**+0.2**
UBPT	**Khong Chiam**	**45.10 298**	P	**P**	**09 58 53.5**	**+0.4**
BKNI	**Bangkinang**	**45.26 276**	P	**P**	**09 58 54.4**	**0.0**
TUZ	**Tuapeka**	**45.31 157**	P	**P**	**09 58 55.8**	**+1.5**
NJ2	**Nanjing**	**45.33 327**	⇑P	**P**	**09 58 55.4**	**+0.7**
NJ2			pP	**pP**	**09 59 14.3**	**0.0**
NJ2			S	**S**	**10 05 31.1**	**+1.6**
NJ2			sS	**sS**	**10 06 03.5**	**+0.8**
NJ2			ScS	**ScS**	**10 08 43.5**	**-0.2**
NJ2			pmax	pmax		
	comp=Z,25nm,0.6s					
NJ2			LR	LR		
	comp=Z,240nm,23.7s					
NJ2			LR	LR		
	comp=Z,200nm,19.9s					
NJ2			LR	LR		
	comp=Z,940nm,21.8s					
APZ	**The Paps**	**45.44 159**	P	**P**	**09 58 56.5**	**+1.1**
SYZ	**Scrubby Hill**	**45.61 158**	P	**P**	**09 58 59.0**	**+2.3**
PPI	**Padang Panjang**	**45.79 275**	P	**P**	**09 58 57.8**	**-0.9**
	comp=Z,1μmcomp=Z,153nm,1.1s					
KSRS	**Korea Array**	**45.84 340**	P	**P**	**09 58 58.6**	**+0.1**
	comp=Z,37nm,0.8s,baz=157,slow=8.6,SNR=134					
KSRS			pP	**pP**	**09 59 18.0**	**-0.1**
	comp=Z,25nm,0.9s,baz=157,slow=9.3,SNR=8.2					
KSRS			LR	LR	10 15 17.5	
	comp=Z,332nm,21.6s,baz=155,slow=32					
	comp=Z,37nm,0.8s					
KSAR	**Wonju Array Be**	**45.84 340**	P	**P**	**09 58 58.8**	**+0.2**
KSAR	**Wonju Array Be**	**45.84 340**	P	**P**	**09 58 58.8**	**+0.2**
KS19	**Wonju Array Si**	**45.90 340**	P	**P**	**09 58 59.1**	**0.0**
KS19			IAmb	IAmb	09 58 59.6	
	comp=Z,49nm,0.9s					
CNSH	**ChangSha**	**46.16 318**	P	**P**	**09 59 02.0**	**+0.7**
CNSH			S	**S**	**10 05 48.0**	**+6.4**
CNSH			pmax	pmax		
	comp=Z,30nm,1.0s					
CNSH			LR	LR		
	comp=Z,160nm,14.8s					
CNSH			LR	LR		
	comp=Z,240nm,14.1s					
CNSH			LR	LR		
	comp=Z,300nm,27.5s					
INCN	**Inchon**	**46.32 339**	P	**P**	**09 59 02.5**	**+0.1**
INCN			IAmb	IAmb	09 59 03.9	
	comp=Z,83nm,1.2s					
INCN	**Inchon**	**46.32 339**	P	**P**	**09 59 02.7**	**+0.3**
INCN	**Inchon**	**46.32 339**	P	**P**	**09 59 02.5**	**+0.1**
INCN			pmax	pmax		
	comp=Z,83nm,1.2s					
KULM	**Kulim**	**46.51 282**	P	**P**	**09 59 03.5**	**-0.9**
KULM			IAmb	IAmb	09 59 11.7	
	comp=Z,47nm,1.4s					
KULM	**Kulim**	**46.51 282**	P	**P**	**09 59 04.1**	**-0.2**
WHN	**Wuhan**	**46.84 322**	P	**P**	**09 59 07.8**	**+1.2**
WHN			S	**S**	**10 05 53.9**	**+2.6**
WHN			pmax	pmax		
	comp=Z,100nm,0.8s					
RPSI	**Rantau Prapat**	**47.71 279**	P	**P**	**09 59 13.0**	**-0.6**
RPSI			IAmb	IAmb	09 59 14.5	
	comp=Z,82nm,1.3s					
PSI	**Prapat**	**47.73 279**	LR	LR	10 22 06.1	
	comp=Z,157nm,19.3s,baz=112,slow=40					
PSI	**Prapat**	**47.73 279**	P	**P**	**09 59 13.7**	**-0.2**
PSI	**Prapat**	**47.73 279**	P	**P**	**09 59 13.0**	**-0.9**
PSI			pmax	pmax		
	comp=Z,82nm,1.3s					
NONG	**Nongkai**	**48.27 300**	P	**P**	**09 59 18.8**	**+0.9**
SRIT	**Nakonsritamara**	**48.31 286**	P	**P**	**09 59 17.4**	**-0.8**
SRIT			IAmb	IAmb	09 59 19.6	
	comp=Z,24nm,0.5s					
SRIT	**Nakonsritamara**	**48.31 286**	P	**P**	**09 59 18.3**	**+0.1**
NAYO	**Nakonayok**	**48.45 294**	P	**P**	**09 59 19.4**	**+0.1**
GSI	**Gunungsitoli**	**48.82 276**	P	**P**	**09 59 21.2**	**-1.0**
GSI			IAmb	IAmb	09 59 26.1	
	comp=Z,46nm,1.1s					
GSI	**Gunungsitoli**	**48.82 276**	P	**P**	**09 59 22.0**	**-0.2**
GSI	**Gunungsitoli**	**48.82 276**	P	**P**	**09 59 22.3**	**+0.1**
	comp=Z,56nm,1.2s					
COCO	**West Island**	**49.00 259**	P	**P**	**09 59 23.7**	**+0.2**
COCO	**West Island**	**49.00 259**	P	**P**	**09 59 26.4**	**+2.9**
COCO			pmax	pmax		
	comp=Z,259nm,1.2s					
SLVN	**Son La**	**49.08 304**	P	**P**	**09 59 24.6**	**+0.5**
JKA	**Kamikawa-asahi**	**49.37 357**	IAmb	IAmb	09 59 27.4	
	comp=Z,35nm,1.1s					
ASAJ	**Asahikawa**	**49.37 357**	LR	LR	10 21 01.3	
	comp=Z,36nm,19.4s,baz=192,slow=37					
ASAJ	**Asahikawa**	**49.37 357**	P	**P**	**09 59 26.8**	**+0.9**
TIA	**Tai'an**	**49.44 329**	P	**P**	**09 59 25.9**	**-0.7**
TIA			pmax	pmax		
	comp=Z,19nm,0.8s					
DL2	**Dalian**	**49.52 335**	P	**P**	**09 59 24.9**	**-2.1**
DL2			S	**S**	**10 06 26.9**	**-1.8**
DL2			pmax	pmax		
	comp=Z,31nm,1.1s					
DL2			pmax	pmax		
	comp=Z,180nm,4.0s					
DL2			LR	LR		
	comp=Z,390nm,20.4s					
DL2			LR	LR		
	comp=Z,290nm,16.2s					
DL2			LR	LR		
	comp=Z,700nm,23.3s					
MSHR	**Mys Shultsa**	**49.62 346**	*ceP*	**P**	**09 59 27.6**	**-0.1**
MSHR			pmax	pmax		
	comp=Z,105nm,2.5s					
PSTR	**Posyet**	**49.77 345**	*i* P	**P**	**09 59 28.9**	**0.0**
ENH	**Enshi**	**49.80 318**	P	**P**	**09 59 29.5**	**+0.1**
MLSI	**Meulaboh, Aceh**	**50.46 280**	P	**P**	**09 59 35.3**	**+0.7**
	comp=Z,122nm,1.2s					
LYN	**LuoYang**	**50.78 324**	P	**P**	**09 59 36.4**	**-0.3**
LYN			pP	pP	09 59 55.4	-1.3
LYN			sP	sP	10 00 05.0	-0.8
LYN			pmax	pmax		
	comp=Z,38nm,0.9s					
USA0B	**Ussuriysk Arra**	**50.95 347**	P	**P**	**09 59 37.9**	**+0.1**
USA0B			IAmb	IAmb	09 59 38.9	
	comp=Z,39nm,0.8s					
USA0B	**Ussuriysk Arra**	**50.95 347**	*i* P	**P**	**09 59 37.8**	**0.0**
USRK	**Ussuriysk Ar.**	**50.95 347**	P	**P**	**09 59 37.6**	**-0.1**
USRK	**Ussuriysk Ar.**	**50.95 347**	P	**P**	**09 59 38.0**	**+0.3**
	comp=Z,31nm,0.7s,baz=165,slow=8.1,SNR=63					
USRK			pP	**pP**	**09 59 58.4**	**+0.6**
	comp=Z,19nm,0.7s,baz=165,slow=6.0,SNR=8.0					
USRK			S	**S**	**10 06 50.1**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=128,slow=23,SNR=1.6					
USRK			LR	LR	10 20 17.3	
	comp=Z,36nm,20.3s,baz=164,slow=35					
	comp=Z,31nm,0.7s					
HNS	**HongShan**	**51.60 328**	⇑P	**P**	**09 59 42.6**	**-0.2**
HNS			pP	**pP**	**10 00 01.6**	**-1.3**
HNS			sP	**sP**	**10 00 16.1**	**+4.1**
HNS			S	**S**	**10 06 54.6**	**-3.1**
HNS			pmax	pmax		
	comp=Z,49nm,0.9s					
HNS			LR	LR		
	comp=Z,240nm,20.3s					
HNS			LR	LR		
	comp=Z,330nm,21.2s					
MDJ	**Mudanjiang**	**51.92 345**	P	**P**	**09 59 45.4**	**+0.4**
MDJ			pP	pP	10 00 05.3	+0.3
MDJ			PcP	**PcP**	**10 00 54.8**	**-1.8**
MDJ			S	**S**	**10 07 04.3**	**+2.5**
MDJ			pmax	pmax		
	comp=Z,43nm,0.8s					
MDJ			LR	LR		
	comp=Z,480nm,24.6s					
MDJ	**Mudanjiang**	**51.92 345**	P	**P**	**09 59 45.1**	**+0.1**
MDJ	**Mudanjiang**	**51.92 345**	P	**P**	**09 59 45.0**	**+0.1**
MDJ			pP	**pP**	**10 00 04.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**52.09 298**	P	**P**	**09 59 46.8**	**0.0**
CMAR	**Chiang Mai Arr**	**52.09 298**	P	**P**	**09 59 47.2**	**+0.5**
	comp=Z,7.9nm,0.6s,baz=112,slow=7.4,SNR=60					
CMAR			ScP	**ScP**	**10 04 48.6**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=119,slow=3.1,SNR=2.9					
CMAR			LR	LR	10 24 02.8	
	comp=Z,28nm,18.1s,baz=120,slow=38					
	comp=Z,7.9nm,0.6s					
YSS	**Yuzhno-Sakhali**	**52.20 357**	P	**P**	**09 59 46.8**	**-0.2**
YSS			IAmb	IAmb	09 59 48.0	
	comp=Z,53nm,1.3s					
YSS	**Yuzhno-Sakhali**	**52.20 357**	P	**P**	**09 59 47.5**	**+0.5**
YSS	**Yuzhno-Sakhali**	**52.20 357**	⇑*iP*	**P**	**09 59 47.1**	**+0.1**
YSS			*eS*	**S**	**10 07 05.6**	**+0.1**
YSS			pmax	pmax		
	comp=Z,20nm,0.9s					
YSS	**Yuzhno-Sakhali**	**52.20 357**	P	**P**	**09 59 47.3**	**+0.3**
YSS			pP	**pP**	**10 00 07.2**	**+0.4**
CHTO	**Chiang Mai**	**52.23 299**	P	**P**	**09 59 47.5**	**-0.2**
CHTO	**Chiang Mai**	**52.23 299**	P	**P**	**09 59 48.2**	**+0.4**
CHTO	**Chiang Mai**	**52.23 299**	P	**P**	**09 59 47.5**	**-0.2**
CHTO			pmax	pmax		
	comp=Z,18nm,1.2s					
CHTO	**Chiang Mai**	**52.23 299**	P	**P**	**09 59 47.9**	**+0.1**
CHTO			pP	**pP**	**10 00 07.3**	**-0.7**
CHTO			PcP	**PcP**	**10 00 59.6**	**+1.2**
XAN	**Xi'an**	**52.59 321**	⇑P	**P**	**09 59 49.9**	**-0.3**
XAN			pP	pP	10 00 08.8	-1.7
XAN			sP	sP	10 00 15.8	-3.9
XAN			S	**S**	**10 07 10.5**	**-0.9**
XAN			sS	sS	10 07 42.8	-4.2
XAN			pmax	pmax		
	comp=Z,59nm,1.2s					
XAN			pmax	pmax		
	comp=Z,290nm,4.5s					
XAN			LR	LR		
	comp=Z,180nm,16.0s					
XAN			LR	LR		
	comp=Z,190nm,15.5s					
XAN			LR	LR		
	comp=Z,280nm,16.8s					
XAN	**Xi'an**	**52.59 321**	P	**P**	**09 59 49.4**	**-0.8**
XAN			pP	**pP**	**10 00 08.4**	**-2.1**
XAN			sP	**sP**	**10 00 16.3**	**-3.4**
BJT	**Baijiatuau**	**52.88 331**	P	**P**	**09 59 52.2**	**0.0**
BJT	**Baijiatuau**	**52.88 331**	P	**P**	**09 59 51.8**	**-0.4**
BJT			pP	**pP**	**10 00 10.6**	**-1.8**
BJI	**Beijing**	**52.89 331**	P	**P**	**09 59 52.0**	**-0.3**
BJI			pP	**pP**	**10 00 10.8**	**-1.7**
BJI			pmax	pmax		
	comp=Z,9.0nm,0.9s					
BJI			pmax	pmax		
	comp=Z,65nm,5.9s					
TIY	**Taiyuan**	**53.05 327**	P	**P**	**09 59 53.1**	**-0.5**
TIY			S	**S**	**10 07 16.3**	**-1.4**
TIY			pmax	pmax		
	comp=Z,130nm,3.8s					
TIY			LR	LR		
	comp=Z,220nm,14.4s					
TIY			LR	LR		
	comp=Z,180nm,9.6s					
TIY			LR	LR		
	comp=Z,180nm,21.3s					
PZH	**PanZhiHua**	**53.30 309**	P	**P**	**09 59 58.6**	**+2.8**
PZH			pmax	pmax		
	comp=Z,8.0nm,0.6s					
PZH			pmax	pmax		
	comp=Z,100nm,5.4s					
BNX	**BinXian**	**53.54 344**	⇑P	**P**	**09 59 56.8**	**-0.1**
BNX			pP	**pP**	**10 00 16.3**	**-0.7**
BNX			sP	**sP**	**10 00 25.6**	**-0.4**
BNX			S	**S**	**10 07 24.1**	**+0.2**
BNX			sS	**sS**	**10 07 59.8**	**+2.4**
BNX			pmax	pmax		
	comp=Z,56nm,1.1s					
BNX			LR	LR		
	comp=Z,280nm,23.9s					
CD2	**Chengdu**	**54.14 315**	P	**P**	**10 00 01.8**	**+0.1**
CD2			S	**S**	**10 07 32.8**	**+0.2**
CD2			pmax	pmax		
	comp=Z,40nm,0.4s					
CD2			LR	LR		
	comp=Z,170nm,12.7s					
RAR	**Rarotonga**	**54.78 112**	LR	LR	10 23 02.3	
	comp=Z,69nm,18.4s,baz=279,slow=35					
KLR	**Kul'dur**	**55.80 349**	LR	LR	10 22 22.3	
	comp=Z,57nm,21.8s,baz=160,slow=34					
KLR	**Kul'dur**	**55.80 349**	*ceP*	**P**	**10 00 13.0**	**-0.2**
KLR			pmax	pmax		
	comp=Z,63nm,1.7s					
HHC	**Hu-ho-hao-te**	**55.80 329**	*eP*	P	10 00 18.1	+4.6
HHC			pmax	pmax		
	comp=Z,26nm,0.8s					
HHC			pmax	pmax		
	comp=Z,48nm,5.9s					
XLT	**XiLinHaoTe**	**55.99 334**	*eP*	**P**	**10 00 18.5**	**+3.7**
XLT			pmax	pmax		
	comp=Z,10.0nm,0.8s					
XLT			pmax	pmax		
	comp=Z,120nm,4.8s					
TYV	**Tymovskoe**	**56.10 357**	*eP*	**P**	**10 00 15.8**	**+0.5**
TYV			*eS*	**S**	**10 08 00.5**	**+2.5**
TYV			pmax	pmax		
	comp=Z,16nm,1.0s					
TYV			pmax	pmax		
	comp=Z,100nm,3.4s					
TYV			smax	smax		
	comp=N,400nm,7.5s					
TYV			smax	smax		
	comp=E,400nm,7.5s					
BTO	**Baotou**	**56.43 328**	*eP*	**P**	**10 00 19.4**	**+1.3**
BTO			pP	**pP**	**10 00 38.8**	**+0.4**
BTO			sP	**sP**	**10 00 47.4**	**-0.1**
BTO			PP	**PP**	**10 02 22.4**	**-2.2**
BTO			S	**S**	**10 08 04.8**	**+1.8**
BTO			SS	**SS**	**10 11 55.9**	**+4.4**
BTO			pmax	pmax		
	comp=E,31nm,1.0s					
BTO			pmax	pmax		
	comp=E,480nm,6.1s					
BTO			LR	LR		
	comp=E,190nm,8.6s					
BTO			LR	LR		
	comp=E,180nm,5.3s					
BTO			LR	LR		
	comp=E,550nm,15.6s					
LZH	**Lanzhou**	**57.10 320**	*eP*	**P**	**10 00 23.3**	**+0.3**
LZH			pP	pP	10 00 43.3	-0.1
LZH			sP	sP	10 00 52.0	-0.4
LZH			pmax	pmax		
	comp=E,44nm,0.7s					
HEH	**HeiHe**	**57.71 346**	*eP*	**P**	**10 00 26.5**	**-0.2**
HEH			pP	**pP**	**10 00 46.0**	**-1.1**
HEH			pmax	pmax		
	comp=E,28nm,1.0s					
HIA	**Hailar**	**59.04 340**	P	**P**	**10 00 36.5**	**+0.4**
PEA0B	**Petropavlovsk-**	**59.11 8**	P	**P**	**10 00 37.1**	**+0.7**
PEA0B	**Petropavlovsk-**	**59.11 8**	*ceP*	**P**	**10 00 37.0**	**+0.6**
PETK	**Petropavlovsk-**	**59.11 8**	P	**P**	**10 00 37.0**	**+0.5**
PETK	**Petropavlovsk-**	**59.11 8**	P	**P**	**10 00 36.4**	**-0.1**
	comp=E,33nm,0.8s,baz=199,slow=7.7,SNR=80					
PETK			pP	**pP**	**10 00 56.4**	**-0.1**
	comp=E,46nm,1.0s,baz=192,slow=6.5,SNR=7.6					
PETK			LR	LR	10 21 22.9	
	comp=E,257nm,21.3s,baz=186,slow=31					
PETK			PKP2bc		10 30 17.0	
	comp=E,6.6nm,1.0s,baz=55,slow=5.5,SNR=10					
	comp=E,33nm,0.8s					
PETK	**Petropavlovsk-**	**59.11 8**	P	**P**	**10 00 37.0**	**+0.5**
PET	**Petropavlovsk**	**59.17 9**	P	**P**	**10 00 36.7**	**-0.1**
PET			IAmb	IAmb	10 00 58.3	
	comp=Z,48nm,1.2s					
PET	**Petropavlovsk**	**59.17 9**	P	**P**	**10 00 37.4**	**+0.6**
PET	**Petropavlovsk**	**59.17 9**	*eP*	**P**	**10 00 37.4**	**+0.6**
PET			*e*PP*	**pP**	**10 00 57.4**	**+0.5**
PET			*eS*	**S**	**10 08 40.7**	**+2.6**
PET			pmax	pmax		
	comp=Z,21nm,0.9s					
PET	**Petropavlovsk**	**59.17 9**	P	**P**	**10 00 37.2**	**+0.4**
PET			pP	**pP**	**10 00 56.4**	**-0.5**
SHL	**Shillong**	**60.86 303**	P	**P**	**10 00 48.9**	**-0.3**
SHL	**Shillong**	**60.86 303**	P	**P**	**10 00 48.9**	**-0.3**
SHL			pmax	pmax		
	comp=Z,66nm,1.5s					
ZEA	**Zeya**	**60.99 347**	*eP*	**P**	**10 00 49.6**	**+0.4**
ZEA			*e*		10 01 09.0	
ZEA			pmax	pmax		
	comp=E,10.0nm,0.8s					
Z

PPT	Papeete	64.02	107	LR	LR	10 26 17.3
	comp=Z,59nm,20.1s,baz=294,slow=33					
PPT2	Papeete2	64.02	107	eP	P	10 01 09.8 -0.5
	comp=Z,61nm,24.0s					
PPT2				eS	S	10 09 34.1 -6.8
	comp=Z,49nm,22.2s					
PPT2				eLQ	LQ	10 17 41.4
	comp=Z,250nm,22.5s					
PPT2				eLR	LR	10 20 26.5
	comp=Z,197nm,23.8s					
PPT2				eLR	LR	10 20 28.1
	comp=Z,166nm,25.8s					
TBI	Tubuai	64.52	113	eP	P	10 01 14.4 +1.0
	comp=Z,336nm,40.2s					
TBI	Tubuai	64.52	113	eSS	SS	10 13 56.6 -2.0
	comp=Z,322nm,27.0s					
TBI				eLQ	LQ	10 17 55.0
	comp=Z,1µm,37.2s					
TBI				eLR	LR	10 20 37.2
	comp=Z,2µm,37.8s					
MA2	Magadan	64.87	3	P	P	10 01 14.7 -0.2
MA2				IAmb	IAmb	10 01 16.0
	comp=Z,33nm,0.9s					
MA2	Magadan	64.87	3	LR	LR	10 26 53.0
	comp=Z,137nm,21.6s,baz=163,slow=33					
MA2	Magadan	64.87	3	P	P	10 01 15.4 +0.5
MA2	Magadan	64.87	3	ceP	P	10 01 14.7 -0.2
MA2				pmax	pmax	
	comp=Z,49nm,1.7s					
MA2	Magadan	64.87	3	P	P	10 01 14.9 0.0
MA2				pP	pP	10 01 34.5 -0.8
CASY	Casey	65.58	195	P	P	10 01 19.9 +0.4
CASY	Casey	65.58	195	P	P	10 01 20.3 +0.8
PALK	Pallekele	66.36	280	P	P	10 01 24.7 -0.8
PALK	Pallekele	66.36	280	LR	LR	10 32 54.6
	comp=Z,67nm,21.3s,baz=110,slow=38					
PALK	Pallekele	66.36	280	P	P	10 01 24.7 -0.8
PALK				pmax	pmax	
	comp=Z,10.0nm,1.1s					
ZAK	Zakamensk	66.63	332	eP	P	10 01 26.4 -0.2
ZAK				pmax	pmax	
	comp=Z,27nm,1.1s					
BOD	Bodaibo	68.10	342	eP	P	10 01 34.8 -0.7
BOD				pmax	pmax	
	comp=Z,43nm,1.8s					
SEY	Seymchan	68.30	3	LR	LR	10 29 03.6
	comp=Z,137nm,21.8s,baz=189,slow=34					
SEY				PKP2bc		10 29 53.2
	comp=Z,1.1nm,0.8s,baz=0.0,slow=3.0,SNR=4.7					
SEY	Seymchan	68.30	3	ceP	P	10 01 37.2 +0.5
SEY				pmax	pmax	
	comp=Z,43nm,1.7s					
YAK	Yakutsk	68.40	352	P	P	10 01 37.4 +0.1
YAK	Yakutsk	68.40	352	LR	LR	10 31 34.0
	comp=Z,98nm,19.2s,baz=150,slow=36					
YAK	Yakutsk	68.40	352	eP	P	10 01 36.5 -0.8
YAK				e*PP	pP	10 01 56.8 -1.1
YAK				e		10 02 01.4
YAK				e		10 04 13.1
YAK				eS	S	10 10 31.7 -0.4
YAK				e*SS	sS	10 11 05.5 -1.7
YAK				e		10 11 29.8
YAK				eSS	SS	10 14 55.8 -1.5
YAK				pmax	pmax	
	comp=Z,33nm,0.9s					
YAK				pmax	pmax	
	comp=N,10.0nm,0.9s					
YAK				pmax	pmax	
	comp=E,3.0nm,0.9s					
YAK				pmax	pmax	
	comp=Z,320nm,5.0s					
YAK				pmax	pmax	
	comp=N,103nm,5.4s					
YAK				pmax	pmax	
	comp=E,112nm,5.7s					
YAK				smax	smax	
	comp=E,99nm,3.2s					
YAK				smax	smax	
	comp=N,74nm,2.8s					
YAK	Yakutsk	68.40	352	P	P	10 01 37.3 +0.1
YAK				pP	pP	10 01 57.1 -0.8
YAK				sP	sP	10 02 05.1 -1.5
MOY	Mondy	68.57	332	eP	P	10 01 39.2 +0.5
MOY				pmax	pmax	
	comp=Z,34nm,1.4s					
NIKH	Nikolski High	69.49	27	P	P	10 01 45.3 +1.1
	baz=229					
HYB	Hyderabad	70.32	291	eP	P	10 01 49.8 -0.3
CCD	Concordia, Ant	70.87	186	P	P	10 01 53.9 +1.0
CCD				PcP	PcP	10 02 11.6 -1.4
UNV	Unalaska Valle	71.13	27	P	P	10 01 54.6 +0.4
	baz=231					
P08K	Saint George I	71.62	24	P	P	10 01 57.8 +0.7
	baz=227					
WMQ	Urumqi	71.69	320	eP	P	10 01 57.9 0.0
WMQ				pP	pP	10 02 20.3 +1.2
WMQ				pmax	pmax	
	comp=Z,26nm,1.5s					
WMQ				LR	LR	
	comp=Z,820nm,24.1s					
WMQ				LR	LR	
	comp=Z,150nm,24.0s					
SPIA	Saint Paul Isl	71.73	23	P	P	10 01 59.4 +1.6
	baz=226					
VNDA	Vanda	72.58	176	P	P	10 02 03.7 +1.2
VNDA				IAmb	IAmb	10 02 04.3
	comp=Z,34nm,0.7s					
VNDA	Vanda	72.58	176	P	P	10 02 03.8 +1.2
	comp=Z,29nm,0.6s,baz=340,slow=7.7,SNR=279					
VNDA				LR	LR	10 33 22.6
	comp=Z,217nm,18.2s,baz=349,slow=35					
	comp=Z,29nm,0.6s					
DGAR	Diego Garcia	73.05	264	ceP	P	10 02 03.0 -3.5
DGAR				pmax	pmax	
	comp=Z,178nm,1.7s					
FALS	False Pass	73.17	28	P	P	10 02 07.0 +0.6
	baz=234					
SBA	Scott Base	73.24	176	P	P	10 02 07.5 +1.1
SBA	Scott Base	73.24	176	P	P	10 02 07.5 +1.1
SBA				pmax	pmax	
	comp=Z,19nm,0.8s					
TAOE	Nuku Hiva Isla	73.26	98	eLR	LR	10 24 43.4
	comp=Z,128nm,22.5s					
BILL	Bilibino	74.64	8	P	P	10 02 14.8 0.0
BILL	Bilibino	74.64	8	ceP	P	10 02 15.6 +0.9
BILL				pmax	pmax	
	comp=Z,25nm,1.7s					
SDPT	Sand Point	74.84	28	P	P	10 02 17.4 +1.3
SDPT	Sand Point	74.84	28	P	P	10 02 16.8 +0.7
	baz=236					
CHNA	Chernabura Isl	74.98	29	P	P	10 02 17.9 +1.0
	baz=237					
ZSN	Zaisan	75.07	322	eP	P	10 02 17.5 -0.2
ZSN				eS	S	10 11 49.1 -0.4
ZSN	Zaisan	75.07	322	eP	P	10 02 17.5 -0.2
ZSN				eS	S	10 11 49.1 -0.4
M11K	Mekoryuk	75.45	22	P	P	10 02 21.4 +1.9
	baz=230					
S14K	Fog Glacier	75.79	28	P	P	10 02 23.0 +1.3
	baz=237					
GAMB	Gambell	75.90	18	P	P	10 02 23.6 +1.6
	baz=224					
CHGN	Chignik	76.34	28	P	P	10 02 25.8 +1.2
	baz=238					
MK31	Makanchi Array	76.40	321	ceP	P	10 02 24.3 -1.0
MKAR	Makanchi Array	76.40	321	P	P	10 02 25.0 -0.3
MKAR	Makanchi Array	76.40	321	P	P	10 02 25.0 -0.3
	comp=Z,6.6nm,0.7s,baz=103,slow=7.0,SNR=60					
	comp=Z,6.6nm,0.7s					
MKAR	Makanchi Array	76.40	321	iP	P	10 02 25.1 -0.3
MKAR				pmax	pmax	
	comp=Z,7.0nm,0.7s					
M13K	Dall Lake	76.57	23	P	P	10 02 27.2 +1.4
	baz=232,SNR=9.3					
O14K	Tigyukauivet M	76.72	25	IAmb	IAmb	10 02 49.6
	comp=Z,52nm,0.9s					
O14K	Tigyukauivet M	76.72	25	P	P	10 02 28.1 +1.4
	baz=234,SNR=8.5					
SHLS	Shalkode	76.91	316	eP	P	10 02 26.3 -2.1
SHLS	Shalkode	76.91	316	eP	P	10 02 26.3 -2.1
N14K	Kuskokwak Cree	76.94	24	IAmb	IAmb	10 02 50.7
	comp=Z,58nm,1.0s					
N14K	Kuskokwak Cree	76.94	24	P	P	10 02 29.1 +1.1
	baz=234,SNR=5.6					
K13K	Kusilvak Mount	77.02	22	IAmb	IAmb	10 02 51.7
	comp=Z,72nm,1.3s					
K13K	Kusilvak Mount	77.02	22	P	P	10 02 30.0 +1.6
	baz=231					
UZB	Uzynbulak	77.21	316	eP	P	10 02 29.6 -0.5
UZB				pmax	pmax	
	comp=Z,11nm,0.9s					
UZB	Uzynbulak	77.21	316	eP	P	10 02 29.6 -0.5
	comp=Z,11nm,0.9s					
O15K	Ungalikthiuk R	77.28	25	P	P	10 02 31.2 +1.3
	baz=236,SNR=15					
M14K	Bethel	77.32	23	P	P	10 02 31.6 +1.5
	baz=234,SNR=14					
L14K	Kuka Creek	77.39	23	P	P	10 02 32.0 +1.5
	baz=233,SNR=9.2					
R16K	Pilot Point	77.40	27	P	P	10 02 32.4 +1.8
	baz=238					
CHIR	Chirikof Islan	77.43	29	P	P	10 02 32.4 +1.6
	baz=240					
KPKS	Kokpek	77.55	317	eP	P	10 02 31.5 -0.4
KPKS				eS	S	10 12 16.2 -0.8
KPKS	Kokpek	77.55	317	eP	P	10 02 31.5 -0.4
KPKS				eS	S	10 12 16.2 -0.8
SATY	Saty	77.61	316	eP	P	10 02 31.6 -0.6
SATY	Saty	77.61	316	eP	P	10 02 31.7 -0.6
TIXI	Tiksi	77.71	355	P	P	10 02 30.9 -1.2
TIXI	Tiksi	77.71	355	LR	LR	10 35 11.7
	comp=Z,45nm,21.6s,baz=186,slow=34					
TIXI	Tiksi	77.71	355	ceP	P	10 02 30.9 -1.2
TIXI				pmax	pmax	
	comp=Z,12nm,1.3s					
N15K	Kwethluk River	77.73	24	IAmb	IAmb	10 02 55.6
	comp=Z,53nm,1.0s					
N15K	Kwethluk River	77.73	24	P	P	10 02 33.9 +1.4
	baz=235,SNR=10.0					
M15K	Kasigluk River	77.79	24	P	P	10 02 33.9 +1.1
	baz=235,SNR=7.4					
RKT	Rikitea	77.82	112	eLR	LR	10 26 50.7
	comp=Z,1µm,37.5s					
J14K	Nanvaranak Lak	77.93	21	P	P	10 02 34.8 +1.4
	baz=232					
ZAA0	Zalesovo Array	77.97	328	P	P	10 02 32.5 -1.4
ZALV	Zalesovo Beam	77.97	328	P	P	10 02 32.1 -1.8
ZALV	Zalesovo Beam	77.97	328	P	P	10 02 32.3 -1.5
	comp=Z,6.0nm,0.6s,baz=112,slow=5.7,SNR=23					
ZALV				LR	LR	10 36 20.0
	comp=Z,113nm,21.8s,baz=127,slow=35					
	comp=Z,6.0nm,0.6s					
ZALV	Zalesovo Beam	77.97	328	iP	P	10 02 32.5 -1.4
ZALV				pmax	pmax	
	comp=Z,6.0nm,0.6s					
P16K	Nushagak River	78.00	26	P	P	10 02 35.3 +1.4
	baz=238					
L15K	Ungalak Mounta	78.06	23	P	P	10 02 35.8 +1.7
	baz=234					
KDJ	Kajisay	78.16	315	P	P	10 02 35.2 -0.3
KDJ	Kajisay	78.16	315	P	P	10 02 35.2 -0.3
KDJ				pmax	pmax	
	comp=Z,17nm,0.9s					
KSH	Kashi	78.23	312	P	P	10 02 37.3 +1.5
KSH				pP	pP	10 02 56.8 -0.5
KSH				sP	sP	10 03 08.8 +2.7
KSH				S	S	10 12 23.5 -1.1
KSH				pmax	pmax	
	comp=Z,9.0nm,0.8s					
O16K	Kokwok River B	78.25	25	IAmb	IAmb	10 02 57.9
	comp=Z,41nm,0.9s					
O16K	Kokwok River B	78.25	25	P	P	10 02 37.4 +2.1
	baz=237,SNR=10.0					
TNA	Tin City	78.32	18	P	P	10 02 37.3 +1.8
	baz=227					
Q16K	King Salmon	78.40	27	P	P	10 02 37.7 +1.6
	baz=239					
K15K	Wolf Creek Mou	78.40	22	IAmb	IAmb	10 02 59.3
	comp=Z,75nm,1.2s					
K15K	Wolf Creek Mou	78.40	22	P	P	10 02 37.1 +1.0
	baz=234,SNR=9.8					
N16K	Nishlik Lake	78.45	25	P	P	10 02 37.7 +1.2
	baz=237,SNR=9.7					
ANM	Nome	78.46	19	P	P	10 02 37.9 +1.6
	baz=230					
SII	Sitkinak Islan	78.49	29	P	P	10 02 37.4 +0.7
	baz=241					
Q17K	Contact Creek	78.53	27	P	P	10 02 37.8 +0.7
	baz=240,SNR=9.4					
MDOK	Medeo	78.58	316	eP	P	10 02 37.2 -0.5
MDOK	Medeo	78.58	316	eP	P	10 02 37.2 -0.5
TNSS	Tian-Shan	78.61	316	eP	P	10 02 37.2 -0.9
TNSS	Tian-Shan	78.61	316	eP	P	10 02 37.3 -0.9
M16K	Timber Creek	78.68	24	IAmb	IAmb	10 03 00.9
	comp=Z,78nm,1.1s					
M16K	Timber Creek	78.68	24	P	P	10 02 39.1 +1.5
	baz=236,SNR=12					
AAA	Alma-Ata	78.69	316	eP	P	10 02 37.5 -0.6
AAA				pmax	pmax	
	comp=Z,19nm,0.6s					
AAA	Alma-Ata	78.69	316	eP	P	10 02 37.6 -0.6
	comp=Z,19nm,0.6s					
F14K	Arctic Creek	78.75	18	P	P	10 02 39.1 +1.1
	baz=229					
ACHA	Angle Creek He	78.76	27	IAmb	IAmb	10 03 00.3
	comp=Z,37nm,1.1s					
P17K	Kvichak River	78.76	26	P	P	10 02 39.5 +1.4
	baz=239					
NIL	Nilore	78.77	306	P	P	10 02 38.4 -0.4
NIL				IAmb	IAmb	10 02 39.6
	comp=Z,44nm,0.9s					
NIL	Nilore	78.77	306	P	P	10 02 38.4 -0.4
NIL				pmax	pmax	
	comp=Z,44nm,1.0s					
O17K	Koliganek Bris	78.78	26	P	P	10 02 39.1 +0.9
	baz=238,SNR=21					
R18K	Karluk	78.85	28	P	P	10 02 40.0 +1.4
	baz=241					
L16K	Owhat River	78.86	23	IAmb	IAmb	10 03 01.4
	comp=Z,71nm,1.4s					
L16K	Owhat River	78.86	23	P	P	10 02 39.3 +0.7
	baz=236,SNR=10					
Q18K	Katmai Hardscr	79.12	27	P	P	10 02 40.3 0.0
	baz=240,SNR=11					
N17K	Nushagak Hills	79.14	25	IAmb	IAmb	10 03 04.5
	comp=Z,78nm,1.5s					
N17K	Nushagak Hills	79.14	25	P	P	10 02 40.7 +0.6
	baz=236,SNR=8.7					
G15K	Niukluk	79.17	19	P	P	10 02 40.8 +0.6
	baz=231					
OHAK	Old Harbor	79.24	29	P	P	10 02 40.9 +0.2
	baz=242					
KUU	Kurty	79.30	316	eP	P	10 02 41.0 -0.4
KUU				pmax	pmax	
	comp=Z,15nm,0.7s					
KUU	Kurty	79.30	316	eP	P	10 02 41.1 -0.4
	comp=Z,15nm,0.7s					
J16K	Anvik River	79.33	22	IAmb	IAmb	10 03 04.7
	comp=Z,95nm,1.4s					
J16K	Anvik River	79.33	22	P	P	10 02 42.2 +1.1
	baz=234,SNR=11					
P18K	Big Mountain,	79.40	26	P	P	10 02 42.6 +0.9
	baz=240					
F15K	North Star Dit	79.43	19	IAmb	IAmb	10 02 44.1
	comp=Z,28nm,1.1s					
F15K	North Star Dit	79.43	19	P	P	10 02 43.0 +1.3
	baz=230,SNR=6.7					
M17K	Holitna River	79.50	24	IAmb	IAmb	10 03 05.8
	comp=Z,51nm,1.1s					
M17K	Holitna River	79.50	24	P	P	10 02 42.9 +0.8
	baz=238,SNR=12					
L17K	Donlin	79.56	23	P	P	10 02 43.1 +0.7
	baz=237,SNR=7.9					
H16K	Elim	79.56	20	P	P	10 02 42.3 -0.1
	baz=233					
O18K	Koktuh Hills	79.64	26	P	P	10 02 43.1 +0.1
	baz=240					
I17K	Unalakleet	79.65	21	P	P	10 02 43.5 +0.7
	baz=234,SNR=5.7					
N18K	Kilae Creek	79.77	25	P	P	10 02 44.1 +0.5
	baz=239					
KDAK	Kodiak Island	79.84	29	LR	LR	10 30 43.3
	comp=Z,196nm,21.9s,baz=86,slow=30					
KDAK	Kodiak Island	79.84	29	P	P	10 02 44.7 +0.7
	baz=243					
K17K	Iditarod	79.88	23	IAmb	IAmb	10 02 46.7
	comp=Z,40nm,0.9s					
K17K	Iditarod	79.88	23	P	P	10 02 45.3 +1.2
	baz=237,SNR=15					
Q19K	Cape Douglas,	79.88	27	P	P	10 02 44.0 -0.2
	baz=242					
J17K	VABM Dome	79.96	22	P	P	10 02 45.6 +1.0
	baz=236					
G16K	Koyuk River	79.98	19	IAmb	IAmb	10 02 47.0
	comp=Z,32nm,1.0s					
G16K	Koyuk River	79.98	19	P	P	10 02 45.5 +0.9
	baz=232,SNR=11					
KURK	Kurchatov	80.13	323	P	P	10 02 44.9 -0.9
KURK	Kurchatov	80.13	323	ceP	P	10 02 45.5 -0.2
KURK				pmax	pmax	
	comp=Z,24nm,2.5s					
KURBB	Kurchatov Arra	80.15	323	P	P	10 02 45.1 -0.8
	comp=Z,5.7nm,0.9s,baz=114,slow=4.2,SNR=4.2					
KURBB				PP	PP	10 05 50.4 +1.2
	comp=Z,1.0nm,0.8s,baz=116,slow=8.4,SNR=4.3					
	comp=Z,5.7nm,0.9s					
O19K	Port Alsworth	80.19	26	P	P	10 02 46.7 +0.9
	baz=241					
M18K	Stony River	80.21	24	P	P	10 02 47.0 +1.1
	baz=239,SNR=10.0					
AAK	Ala-Archa	80.21	315	P	P	10 02 45.8 -0.8
AAK	Ala-Archa	80.21	315	ceP	P	10 02 46.4 -0.2
AAK				pmax	pmax	
	comp=Z,6.0nm,0.7s					
L18K	Granite Mounta	80.24	24	IAmb	IAmb	10 03 13.9
	comp=Z,43nm,1.2s					
L18K	Granite Mounta	80.24	24	P	P	10 02 47.6 +1.6
	baz=238,SNR=9.6					
Q20K	Shuyak Island	80.31	28	P	P	10 02 47.2 +0.7
	baz=243					
SGDS	Sogindy	80.35	316	eP	P	10 02 46.5 -0.7
SGDS	Sogindy	80.35	316	eP	P	10 02 46.5 -0.7
P19K	Oil Pt	80.41	27	P	P	10 02 47.8 +0.7
	baz=242					
N19K	Bonanza Creek	80.43	25	IAmb	IAmb	10 03 11.1
	comp=Z,49nm,1.4s					
N19K	Bonanza Creek	80.43	25	P	P	10 02 48.1 +0.8
	baz=240,SNR=5.7					
H17K	Granite Mounta	80.54	20	IAmb	IAmb	10 02 50.0
	comp=Z,36nm,0.8s					
H17K	Granite Mounta	80.54	20	P	P	10 02 48.7 +1.0
	baz=235,SNR=23					
G17K	Kiwalik Mounta	80.62	20	P	P	10 02 49.0 +0.9
	baz=234,SNR=19					
TTA	Tatalina	80.88	23	P	P	10 02 50.2 +0.6
TTA				IAmb	IAmb	10 03 13.3
	comp=Z,43nm,1.5s					
TTA	Tatalina	80.88	23	P	P	10 02 50.2 +0.6
TTA				pmax	pmax	
	comp=Z,43nm,1.5s					
TTA	Tatalina	80.88	23	P	P	10 02 50.5 +0.9
	baz=239,SNR=6.7					
J18K	Innoko River	80.89	23	IAmb	IAmb	10 03 13.2
	comp=Z,47nm,1.4s					
J18K	Innoko River	80.89	23	P	P	10 02 50.4 +0.9
	baz=238,SNR=12					
C16K	Lisburne Hills	80.89	16	P	P	10 02 50.1 +0.7
	baz=229					
ARSB	Arslanbob	80.93	313	P	P	10 02 50.1 -0.4
ARSB	Arslanbob	80.93	313	P	P	10 02 50.1 -0.4
ARSB				pmax	pmax	
	comp=Z,34nm,1.5s					
L19K	White Mountain	80.96	24	IAmb	IAmb	10 03 14.0
	comp=Z,48nm,1.2s					
L19K	White Mountain	80.96	24	P	P	10 02 51.2 +1.2
	baz=240,SNR=18					
F17K	Baldwin Pennin	80.98	19	P	P	10 02 50.7 +0.8
	baz=233					
M19K	Big River Lodg	81.01	24	P	P	10 02 51.0 +0.8
	baz=240					
HOM	Homer	81.13	27	P	P	10 02 51.6 +0.7
	baz=243					
D17K	Noatak River	81.18	17	P	P	10 02 51.9 +0.9
	baz=232,SNR=24					
E17K	Hotham Inlet	81.18	18	P	P	10 02 52.2 +1.2
	baz=233,SNR=26					
H18K	Honhosa River	81.20	21	P	P	10 02 51.7 +0.5
	baz=236,SNR=5.8					
RDOG	Red Dog Mine	81.45	17	IAmb	IAmb	10 03 16.1
	comp=Z,66nm,1.1s					
RDOG	Red Dog Mine	81.45	17	P	P	10 02 53.7 +1.3
	baz=232,SNR=5.4					
L20K	Farewell, AK	81.50	24	P	P	10 02 54.0 +1.1
	baz=241,SNR=7.9					
GCSA	Galena City Sc	81.51	21	P	P	10 02 53.3 +0.6
	baz=238,SNR=31					
M20K	Styx River	81.52	25	P	P	10 02 53.7 +0.7
	baz=242					
G18K	Tagagawik	81.52	20	P	P	10 02 53.4 +0.5
	baz=236,SNR=26					
BRSE	Bradley Lake S	81.58	27	P	P	10 02 53.2 -0.1
	baz=244					
J19K	Poorman	81.58	22	IAmb	IAmb	10 03 17.2
	comp=Z,41nm,1.2s					
J19K	Poorman	81.58	22	P	P	10 02 53.8 +0.6
	baz=239,SNR=11					
SPCR	Spurr Chakacha	81.59	26	P	P	10 02 53.5 +0.1
	baz=242					
F18K	Selawik	81.59	19	P	P	10 02 53.9 +0.7
	baz=235,SNR=9.4					
E18K	Tukpahlearik C	81.77	18	IAmb	IAmb	10 02 56.3
	comp=Z,34nm,0.9s					
E18K	Tukpahlearik C	81.77	18	P	P	10 02 55.0 +0.9
	baz=234,SNR=22					
CAPN	Captain Cook N	81.85	26	P	P	10 02 54.6 -0.1
	baz=244					
K20K	Telida	81.86	23	IAmb	IAmb	10 03 18.7
	comp=Z,34nm,1.1s					
K20K	Telida	81.86	23	P	P	10 02 55.3 +0.6
	baz=240,SNR=16					
H19K	Roundabout Mou	82.08	21	IAmb	IAmb	10 02 57.9
	comp=Z,52nm,0.9s					
H19K	Roundabout Mou	82.08	21	P	P	10 02 56.6 +0.9
	baz=238,SNR=44					
G19K	Purcell Mounta	82.19	20	P	P	10 02 57.2 +0.9
	baz=237,SNR=42					
J20K	Nowinta River	82.23	22	IAmb	IAmb	10 03 20.7
	comp=Z,41nm,1.1s					
J20K	Nowinta River	82.23	22	P	P	10 02 57.5 +0.9
	baz=240,SNR=20					
SKT	Skwentna	82.23	25	P	P	10 02 57.2 +0.5
	baz=243					
SEW	Seward	82.32	27	P	P	10 02 57.7 +0.6
	baz=245					
C18K	Utukok River	82.32	17	IAmb	IAmb	10 03 19.5
	comp=Z,60nm,1.5s					
C18K	Utukok River	82.32	17	P	P	10 02 57.5 +0.4
	baz=233					
SUA	Susitna One	82.34	26	P	P	10 02 57.3 -0.1
	baz=244					
F19K	Shaleruckik Mo	82.34	19	P	P	10 02 57.2 +0.1
	baz=237,SNR=19					
O22K	Cooper Landing	82.36	27	IAmb	IAmb	10 03 26.5
	comp=Z,38nm,0.7s					
O22K	Cooper Landing	82.36	27	P	P	10 02 56.3 -1.0
	baz=245					
KBL	Kabul	82.37	306	P	P	10 02 55.6 -2.7
KBL	Kabul	82.37	306	P	P	10 02 55.6 -2.7
KBL				pmax	pmax	
	comp=Z,7.0nm,0.8s					
PPLA	Purkeypile	82.39	24	P	P	10 02 57.2 -0.4
	baz=242					
I20K	Naaghedeneel	82.42	22	IAmb	IAmb	10 02 59.8
	comp=Z,76nm,1.2s					
I20K	Naaghedeneel	82.42	22	P	P	10 02 58.1 +0.6
	baz=240,SNR=12					
MAW	Mawson	82.43	203	P	P	10 02 58.2 +0.6
MAW	Mawson	82.43	203	P	P	10 02 58.4 +0.8
	comp=Z,26nm,0.7s,baz=80,slow=9.1,SNR=36					
MAW				LR	LR	10 38 30.3
	comp=Z,90nm,18.9s,baz=71,slow=35					
	comp=Z,26nm,0.7s					
DZA	Taraz	82.52	314	eP	P	10 02 58.2 -0.4
DZA				pmax	pmax	
	comp=Z,12nm,0.9s					
DZA	Taraz	82.52	314	eP	P	10 02 58.2 -0.4
	comp=Z,12nm,0.9s					
B18K	Kokolik River	82.58	16	P	P	10 02 59.0 +0.7
	baz=232,SNR=15					
RC01	Rabbit Creek A	82.61	26	IAmb	IAmb	10 02 59.1
	comp=Z,23nm,0.6s					
RC01	Rabbit Creek A	82.61	26	P	P	10 02 58.6 0.0
	baz=245,SNR=6.4					
H20K	Anotlenee ga Mo	82.62	21	P	P	10 02 59.4 +0.7
	baz=240,SNR=20					
CAST	Castle Rocks	82.67	24	P	P	10 02 58.6 -0.4
	baz=242,SNR=17					
M22K	Willow	82.73	26	IAmb	IAmb	10 03 00.2
	comp=Z,46nm,1.1s					
CHUM	Lake Minchumin	82.80	23	P	P	10 02 59.9 +0.4
	baz=242,SNR=39					

E19K	Redstone River	82.86	19	IAmb	IAmb	10 03 01.9		
	comp=Z,54nm,1.0s							
E19K	Redstone River	82.86	19	P	P	10 03 00.3	+0.5	
	baz=237,SNR=42							
CUT	Chulitna	82.95	25	IAmb	IAmb	10 03 00.7		
	comp=Z,25nm,0.8s							
CUT	Chulitna	82.95	25	P	P	10 03 00.0	-0.3	
	baz=244							
PMR	Palmer	83.09	26	P	P	10 03 00.7	-0.4	
PMR	Palmer	83.09	26	P	P	10 03 00.9	-0.2	
	baz=245,SNR=5.7							
F20K	Avaraart Lake	83.14	20	P	P	10 03 01.5	+0.3	
	baz=239							
PWL	Port Wells	83.14	27	P	P	10 03 01.2	-0.2	
PWL				IAmb	IAmb	10 03 02.5		
	comp=Z,43nm,0.9s							
PWL	Port Wells	83.14	27	P	P	10 03 00.9	-0.5	
	baz=246,SNR=7.2							
D19K	Kuna River	83.16	18	IAmb	IAmb	10 03 02.7		
	comp=Z,24nm,0.8s							
D19K	Kuna River	83.16	18	P	P	10 03 01.1	-0.3	
	baz=236,SNR=18							
KK31	Karatay Array	83.16	314	P	P	10 03 01.3	-0.6	
KK31	Karatay Array	83.16	314	P	P	10 03 01.3	-0.6	
KK31				pmax	pmax			
	comp=Z,15nm,1.4s							
KKAR	Karatay Array	83.16	314	P	P	10 03 01.3	-0.6	
KKAR	Karatay Array	83.16	314	P	P	10 03 01.3	-0.6	
KKAR				pmax	pmax			
	comp=Z,16nm,1.4s							
KTH	Kantishna Hill	83.20	24	IAmb	IAmb	10 03 02.2		
	comp=Z,27nm,1.0s							
P23K	Montague Islan	83.22	28	P	P	10 03 01.1	-0.6	
	baz=247							
SIMJ	Simiganj	83.26	310	P	P	10 03 01.5	-1.2	
IUG	luzhnay	83.28	313	*eP*	P	10 03 02.1	-0.6	
IUG				pmax	pmax			
	comp=Z,16nm,1.2s							
IUG	luzhnay	83.28	313	*eP*	P	10 03 02.1	-0.6	
	comp=Z,16nm,1.2s							
A19K	Wainwright	83.30	16	P	P	10 03 01.1	-0.9	
	baz=233							
KNK	Knik Glacier	83.31	26	P	P	10 03 00.6	-1.7	
	baz=246							
TRF	Thorofare Moun	83.41	24	P	P	10 03 02.1	-0.8	
	baz=244,SNR=7.2							
BPAW	Bear Paw Mtn.	83.42	23	P	P	10 03 02.5	-0.3	
	baz=243,SNR=9.8							
H21K	Melozitna Rive	83.46	21	P	P	10 03 02.7	-0.2	
	baz=241,SNR=12							
BRZS	Berezniki	83.50	322	*eP*	P	10 03 03.1	-0.4	
BRZS	Berezniki	83.50	322	*eP*	P	10 03 03.1	-0.4	
SML	Sawmill	83.53	26	IAmb	IAmb	10 03 04.2		
	comp=Z,32nm,0.8s							
SML	Sawmill	83.53	26	P	P	10 03 03.1	-0.4	
	baz=246,SNR=6.7							
BRLS	Borolday	83.62	314	*eP*	P	10 03 03.8	-0.5	
BRLS	Borolday	83.62	314	*eP*	P	10 03 03.9	-0.5	
G21K	Allakaket	83.62	21	P	P	10 03 04.1	+0.4	
	baz=241,SNR=12							
E20K	Nigu River	83.62	18	P	P	10 03 03.8	0.0	
	baz=238,SNR=37							
GLI	Glacier Island	83.70	27	IAmb	IAmb	10 03 04.9		
	comp=Z,31nm,0.7s							
GLI	Glacier Island	83.70	27	P	P	10 03 04.0	-0.3	
	baz=247							
D20K	Etivluk River	83.74	18	P	P	10 03 04.6	+0.2	
	baz=238							
M23K	Glacier View	83.78	26	P	P	10 03 04.7	0.0	
	baz=246							
RND	Reindeer	83.97	24	P	P	10 03 05.0	-0.7	
SCM	Sheep Creek Mo	83.97	26	IAmb	IAmb	10 03 29.1		
	comp=Z,47nm,1.1s							
SCM	Sheep Creek Mo	83.97	26	P	P	10 03 05.3	-0.5	
	baz=247							
F21K	Alatna River	83.98	20	P	P	10 03 06.1	+0.5	
	baz=241,SNR=7.1							
MCK	McKinley	84.08	24	P	P	10 03 05.3	-0.8	
	baz=245,SNR=30							
H22K	Ishtalitna Cre	84.09	22	P	P	10 03 07.0	+0.8	
	baz=243,SNR=14							
EYAK	Cordova Ski Ar	84.19	27	P	P	10 03 06.6	-0.1	
	baz=248							
B20K	Meade River	84.28	17	P	P	10 03 07.1	+0.1	
	baz=237							
NEA2	Nenana	84.39	23	IAmb	IAmb	10 03 08.1		
	comp=Z,21nm,0.8s							
NEA2	Nenana	84.39	23	P	P	10 03 07.2	-0.5	
	baz=245,SNR=20							
DIV	Divide	84.39	27	IAmb	IAmb	10 03 08.9		
	comp=Z,27nm,0.7s							
NRIK	Noril'sk	84.39	342		P	10 03 07.0	-0.7	
NRIK	Noril'sk	84.39	342	P	P	10 03 06.9	-0.7	
	comp=Z,12nm,0.9s,baz=115,slow=5.0,SNR=22							
NRIK				LR	LR	10 39 42.2		
	comp=Z,108nm,21.4s,baz=128,slow=35							
	comp=Z,12nm,0.9s							
NRIK	Noril'sk	84.39	342	*ceP*	P	10 03 07.0	-0.7	
NRIK				pmax	pmax			
	comp=Z,23nm,1.0s							
E21K	Killik River	84.42	19	P	P	10 03 08.0	+0.2	
	baz=240							
KLU	Klutina	84.46	27	IAmb	IAmb	10 03 31.8		
	comp=Z,57nm,1.2s							
KLU	Klutina	84.46	27	P	P	10 03 08.7	+0.5	
	baz=248,SNR=7.2							
I23K	Minto, Yukon-K	84.51	23	P	P	10 03 08.2	0.0	
	baz=245,SNR=13							
G22K	Bettles	84.52	21	P	P	10 03 08.0	-0.3	
	baz=243							
C21K	Knifeblade Rid	84.53	18	P	P	10 03 09.4	+1.1	
	baz=239,SNR=15							
F22K	John River	84.56	20	P	P	10 03 09.1	+0.5	
	baz=242							
QSPA	South Pole Qui	84.57	180	P	P	10 03 08.9	+0.1	
QSPA				IAmb	IAmb	10 03 09.7		
	comp=Z,42nm,0.8s							
QSPA	South Pole Qui	84.57	180	P	P	10 03 09.0	+0.2	
	comp=Z,39nm,0.7s,baz=335,slow=2.3,SNR=225							
QSPA				LR	LR	10 42 25.1		
	comp=Z,247nm,18.1s,baz=4.0,slow=37							
	comp=Z,39nm,0.7s							
M24K	Tolsona, Glenn	84.58	26	IAmb	IAmb	10 03 10.4		
	comp=Z,32nm,0.7s							
M24K	Tolsona, Glenn	84.58	26	P	P	10 03 09.2	+0.4	
	baz=248,SNR=5.6							
KAIM	Kayak Island	84.59	28	P	P	10 03 08.6	-0.1	
	baz=250							
WRH	Wood River Hil	84.72	23	IAmb	IAmb	10 03 09.7		
	comp=Z,47nm,1.0s							
H23K	Yukon River	84.73	22	P	P	10 03 09.5	0.0	
	baz=244							
B21K	Ikpikpuk River	84.82	18	P	P	10 03 09.3	-0.4	
	baz=239							
BMRM	Bremner River	84.87	27	IAmb	IAmb	10 03 11.1		
	comp=Z,23nm,0.8s							
BMRM	Bremner River	84.87	27	P	P	10 03 10.2	0.0	
	baz=249,SNR=5.0							
CCB	Clear Creek Bu	84.90	23	IAmb	IAmb	10 03 10.4		
	comp=Z,41nm,0.9s							
G23K	Bananza Creek	84.95	21	IAmb	IAmb	10 03 12.3		
	comp=Z,23nm,0.9s							
G23K	Bananza Creek	84.95	21	P	P	10 03 10.5	0.0	
	baz=244,SNR=26							
COLA	College	84.98	23	P	P	10 03 09.8	-0.8	
COLA	College	84.98	23	P	P	10 03 09.8	-0.8	
COLA	College	84.98	23	*i* P	P	10 03 10.4	-0.2	
COLA				pmax	pmax			
	comp=Z,50nm,0.8s							
COLA	College	84.98	23	P	P	10 03 09.4	-1.2	
	baz=246							
E22K	Anaktuvuk Pass	84.98	19	IAmb	IAmb	10 03 12.1		
	comp=Z,18nm,0.8s							
E22K	Anaktuvuk Pass	84.98	19	P	P	10 03 10.7	0.0	
	baz=242,SNR=18							
D22K	Ayikyak River	85.05	19	IAmb	IAmb	10 03 13.3		
	comp=Z,41nm,1.1s							
D22K	Ayikyak River	85.05	19	P	P	10 03 11.4	+0.4	
	baz=241							
N25K	Chitina, Valde	85.09	27	IAmb	IAmb	10 03 35.1		
	comp=Z,47nm,1.4s							
N25K	Chitina, Valde	85.09	27	P	P	10 03 12.0	+0.6	
	baz=249,SNR=5.4							
COLD	Coldfoot	85.11	21	P	P	10 03 12.0	+0.8	
	baz=244,SNR=25							
HARP	HAARP	85.13	26	P	P	10 03 10.7	-0.8	
	baz=249							
HDA	Harding Lake	85.15	24	IAmb	IAmb	10 03 11.5		
	comp=Z,14nm,0.7s							
HDA	Harding Lake	85.15	24	P	P	10 03 10.5	-1.1	
	baz=247,SNR=12							
BGLC	Bering Glacier	85.19	28	P	P	10 03 10.2	-1.5	
	baz=251							
PAX	Paxson	85.21	25	P	P	10 03 11.9	0.0	
	baz=248,SNR=6.0							
POKR	Poker Plat Res	85.24	23	P	P	10 03 11.3	-0.6	
	baz=246,SNR=6.0							
ILAR	Eielson Array	85.31	23	P	P	10 03 11.0	-1.3	
	comp=Z,40nm,0.7s,baz=248,slow=5.8,SNR=420							
ILAR				pP	pP	10 03 33.6	0.0	
	comp=Z,24nm,0.8s,baz=256,slow=6.0,SNR=8.0							
ILAR				PKKP	PKKPdf	10 21 12.3	-0.1	
	comp=Z,0.4nm,0.6s,baz=46,slow=2.6,SNR=6.7							
ILAR				LR	LR	10 33 53.2		
	comp=Z,178nm,22.0s,baz=252,slow=30							
	comp=Z,40nm,0.7s							
H24K	Noodor Dome	85.36	22	P	P	10 03 12.3	-0.2	
H24K				IAmb	IAmb	10 03 14.0		
	comp=Z,18nm,0.8s							
H24K	Noodor Dome	85.36	22	P	P	10 03 12.4	-0.2	
	baz=246,SNR=16							
K24K	Donnelly Dome	85.39	24	P	P	10 03 12.8	+0.1	
	baz=248							
GLB	Gilahina Butte	85.39	27	P	P	10 03 13.1	+0.2	
GLB				IAmb	IAmb	10 03 14.1		
	comp=Z,23nm,0.7s							
A22K	Sinclair Lake	85.43	16	P	P	10 03 12.9	+0.2	
	baz=239							
B22K	Teshekpuk Lake	85.54	17	IAmb	IAmb	10 03 14.4		
	comp=Z,17nm,0.8s							
B22K	Teshekpuk Lake	85.54	17	P	P	10 03 13.8	+0.5	
	baz=240							
E23K	Chandalar	85.68	20	P	P	10 03 15.2	+1.0	
	baz=244,SNR=24							
BVAR	Bovoye Array	85.69	324	P	P	10 03 13.1	-1.4	
	comp=Z,9.0nm,0.8s,baz=104,slow=6.1,SNR=27							
BVAR				PP	PP	10 06 33.8	-0.8	
	comp=Z,0.9nm,0.7s,baz=110,slow=8.1,SNR=1.9							
BVAR				PKKPbc	PKKPbc	10 21 17.4	-1.5	
	comp=Z,0.4nm,0.5s,baz=298,slow=3.1,SNR=2.4							
BVAR				LR	LR	10 41 28.2		
	comp=Z,61nm,21.7s,baz=85,slow=36							
	comp=Z,9.0nm,0.8s							
D23K	Nanushuk River	85.73	19	IAmb	IAmb	10 03 16.5		
	comp=Z,38nm,0.8s							
D23K	Nanushuk River	85.73	19	P	P	10 03 14.2	-0.1	
	baz=243							
RIDG	Independent Ri	85.75	25	IAmb	IAmb	10 03 15.7		
	comp=Z,37nm,1.0s							
RIDG	Independent Ri	85.75	25	P	P	10 03 14.4	-0.2	
	baz=249,SNR=14							
BRVK	Borovoye	85.77	324	P	P	10 03 13.4	-1.4	
BRVK	Borovoye	85.77	324	*ceP*	P	10 03 14.0	-0.8	
BRVK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
MESA	MESA	85.84	28	P	P	10 03 14.6	-0.7	
	baz=252							
J25K	Salcha River,	85.86	24	P	P	10 03 14.8	-0.3	
J25K	Salcha River,	85.86	24	P	P	10 03 14.6	-0.5	
	baz=248,SNR=51							
G24K	Hadweenzic Riv	85.86	21	IAmb	IAmb	10 03 38.7		
	comp=Z,24nm,1.0s							
G24K	Hadweenzic Riv	85.86	21	P	P	10 03 15.3	+0.3	
	baz=246,SNR=20							
MENT	Mentasta	85.95	26	IAmb	IAmb	10 03 16.5		
	comp=Z,16nm,0.7s							
MENT	Mentasta	85.95	26	P	P	10 03 16.2	+0.7	
TOLK	Toolik Lake Re	85.95	19	P	P	10 03 16.1	+0.6	
	baz=244,SNR=13							
DOT	Dot Lake	86.05	25	IAmb	IAmb	10 03 17.2		
	comp=Z,39nm,0.9s							
F24K	Squaw Lake	86.05	21	IAmb	IAmb	10 03 40.1		
	comp=Z,55nm,1.4s							
F24K	Squaw Lake	86.05	21	P	P	10 03 16.8	+0.8	
	baz=246,SNR=24							
E24K	Your Creek	86.07	20	P	P	10 03 15.8	-0.2	
	baz=245							
M26K	Nabesna, AK	86.08	26	IAmb	IAmb	10 03 19.0		
	comp=Z,31nm,1.5s							
M26K	Nabesna, AK	86.08	26	P	P	10 03 16.5	+0.2	
	baz=251							
PRP	Porcupine Dome	86.13	23	P	P	10 03 16.3	-0.3	
	baz=248							
L26K	Log Cabin Wild	86.14	26	IAmb	IAmb	10 03 17.8		
	comp=Z,17nm,0.8s							
L26K	Log Cabin Wild	86.14	26	P	P	10 03 16.9	+0.5	
	baz=250,SNR=13							
C23K	Itkillik River	86.15	18	P	P	10 03 17.5	+1.1	
	baz=243							
SCRK	Sand Creek	86.19	25	P	P	10 03 16.9	+0.1	
	baz=250,SNR=11							
H25L	Birch Creek	86.30	22	P	P	10 03 17.9	+0.7	
	baz=248,SNR=9.2							
G25K	Bearman Lake	86.39	22	P	P	10 03 18.2	+0.6	
	baz=248,SNR=7.3							
D24K	Happy Valley	86.42	19	P	P	10 03 18.8	+1.1	
	baz=245							
J26L	Joseph Creek	86.55	24	IAmb	IAmb	10 03 19.4		
	comp=Z,21nm,0.8s							
J26L	Joseph Creek	86.55	24	P	P	10 03 18.5	0.0	
	baz=250,SNR=24							
M27K	Edge Creek, AK	86.56	26	P	P	10 03 19.4	+0.7	
	baz=252,SNR=19							
PINM	Pinnacle	86.62	29	P	P	10 03 19.4	+0.5	
	baz=253							
C24K	Franklin Bluff	86.70	18	P	P	10 03 19.8	+0.8	
	baz=245							
L27K	Beaver Creek,	86.80	26	IAmb	IAmb	10 03 43.6		
	comp=Z,38nm,1.4s							
L27K	Beaver Creek,	86.80	26	P	P	10 03 20.5	+0.7	
	baz=252,SNR=15							
BCAR	Beaver Creek A	86.82	26		P	10 03 20.4	+0.5	
O28M	Mount Upton	86.85	28	IAmb	IAmb	10 03 21.6		
	comp=Z,26nm,0.8s							
O28M	Mount Upton	86.85	28	P	P	10 03 20.8	+0.4	
	baz=253,SNR=10							
F25K	Christian Rive	86.87	21	P	P	10 03 20.5	+0.5	
	baz=248,SNR=8.9							
PNL	Peninsula	86.92	29	P	P	10 03 19.8	-0.6	
	baz=254							
I26K	Coal Creek Min	86.99	23	P	P	10 03 20.5	0.0	
	baz=250							
K27K	Chicken	87.00	25	P	P	10 03 21.2	+0.5	
	baz=251							
YUK3	Moose Creek	87.02	27	P	P	10 03 21.7	+0.7	
	baz=253,SNR=12							
BVCY	Beaver Creek	87.03	26	P	P	10 03 21.4	+0.5	
	baz=253,SNR=9.2							
E25K	Arctic Village	87.09	20	P	P	10 03 21.5	+0.4	
	baz=248,SNR=8.3							
BMAR	Burnt Mountain	87.19	21	P	P	10 03 21.9	+0.3	
YUK8	Steele Glacier	87.19	28	P	P	10 03 22.6	+0.7	
	baz=254,SNR=6.6							
D25K	Kavik River	87.28	19	P	P	10 03 22.0	+0.1	
	baz=247							
G26K	Porcupine Rive	87.31	22	P	P	10 03 23.2	+1.2	
	baz=250,SNR=17							
F26K	Sheenjek River	87.44	21	IAmb	IAmb	10 03 47.3		
	comp=Z,54nm,1.4s							
F26K	Sheenjek River	87.44	21	P	P	10 03 23.3	+0.6	
	baz=249,SNR=28							
O29M	Mount Kennedy	87.49	29	IAmb	IAmb	10 03 25.2		
	comp=Z,22nm,0.8s							
O29M	Mount Kennedy	87.49	29	P	P	10 03 24.3	+1.1	
	baz=255,SNR=7.0							
I27K	Kandik River	87.69	23	P	P	10 03 24.7	+0.7	
	baz=252,SNR=25							
P29M	Windy Craggy	87.72	30	IAmb	IAmb	10 03 25.7		
	comp=Z,26nm,0.8s							
P29M	Windy Craggy	87.72	30	P	P	10 03 25.0	+0.8	
	baz=256,SNR=7.3							
YUK4	Talbot Arm	87.73	28	P	P	10 03 25.8	+1.4	
	baz=255,SNR=16							
YUK6	Outpost Mounta	87.76	28	P	P	10 03 24.8	+0.2	
	baz=255							
H27K	Steamboat Moun	87.92	23	P	P	10 03 25.7	+0.7	
	baz=252,SNR=30							
C26K	Camden Bay	87.98	19	P	P	10 03 26.5	+1.3	
	baz=249							
G27K	Doyon Strip	88.06	22	P	P	10 03 26.6	+0.9	
	baz=252,SNR=11							
S31K	Pelican	88.08	31	P	P	10 03 26.5	+0.6	
	baz=257							
M29M	Somme Creek	88.11	27	IAmb	IAmb	10 03 50.0		
	comp=Z,38nm,1.1s							
M29M	Somme Creek	88.11	27	P	P	10 03 26.5	+0.4	
	baz=255,SNR=21							
HYT	Haines Junctio	88.13	28		P	10 03 26.8	+0.5	
HYT	Haines Junctio	88.13	28	P	P	10 03 27.2	+0.9	
	baz=256,SNR=8.7							
DAWY	Dawson	88.14	25	P	P	10 03 26.8	+0.6	
DAWY				IAmb	IAmb	10 03 28.0		
	comp=Z,38nm,1.0s							
DAWY	Dawson	88.14	25	P	P	10 03 27.0	+0.8	
	baz=254,SNR=21							
P30M	Million Dollar	88.22	29	P	P	10 03 27.1	+0.5	
	baz=256							
C27K	Jago River	88.27	19	P	P	10 03 26.6	0.0	
	baz=250							
I28M	Miner Creek	88.31	24	IAmb	IAmb	10 03 50.6		
	comp=Z,21nm,1.1s							
I28M	Miner Creek	88.31	24	P	P	10 03 27.5	+0.5	
	baz=253,SNR=11							
SIT	Sitka	88.36	32	P	P	10 03 27.6	+0.4	
	baz=258							
L29M	L29M	88.43	26	P	P	10 03 28.1	+0.6	
	baz=255,SNR=16							
R31K	City Hall, Gus	88.44	31	P	P	10 03 27.1	-0.4	
	baz=257							
N30M	Aishikik Lake	88.48	28	IAmb	IAmb	10 03 51.7		
	comp=Z,26nm,1.1s							
N30M	Aishikik Lake	88.48	28	P	P	10 03 27.5	-0.4	
	baz=256							
E27K	Coleen River	88.51	21	P	P	10 03 28.5	+0.7	
	baz=252,SNR=21							
J29N	Klondike Camp	88.74	25	IAmb	IAmb	10 03 53.3		
	comp=Z,43nm,1.2s							
J29N	Klondike Camp	88.74	25	P	P	10 03 29.6	+0.6	
	baz=255,SNR=11							
O30N	Mendenhall	88.79	29	IAmb	IAmb	10 03 53.3		
	comp=Z,34nm,1.4s							
O30N	Mendenhall	88.79	29	P	P	10 03 29.7	+0.4	
	baz=257							
S32K	Killisnoo	88.84	32	P	P	10 03 29.8	+0.4	
	baz=258							
SKAG	Skagway	88.87	30	P	P	10 03 30.1	+0.5	
	baz=258							
K29M	Barlow Dome	88.88	26	P	P	10 03 30.6	+0.9	
	baz=256,SNR=22							
M30M	Minto, Yukon	88.89	27	P	P	10 03 30.3	+0.5	
	baz=256							
I29M	Ogilvie Camp,	88.94	24	IAmb	IAmb	10 03 53.4		
	comp=Z,45nm,1.4s							
I29M	Ogilvie Camp,	88.94	24	P	P	10 03 30.1	+0.2	
	baz=255,SNR=11							
D27M	Malcolm River	89.06	20	P	P	10 03 30.7	+0.3	
	baz=252							
N31M	Braeburn, Yuko	89.10	28	P	P	10 03 30.8	+0.1	
	baz=257							
H29M	Whitestone	89.14	23	IAmb	IAmb	10 03 53.5		
	comp=Z,16nm,1.1s							
H29M	Whitestone	89.14	23	P	P	10 03 30.8	0.0	
	baz=255							
CRAG	Craig	89.24	34	P	P	10 03 31.0	-0.4	
	baz=260							
WHY	Whitehorse	89.35	29	P	P	10 03 31.8	-0.1	
	baz=258							
U33K	Whale Pass	89.36	34	P	P	10 03 32.3	+0.3	
	baz=260							
E28M	Babbage River	89.37	21	P	P	10 03 32.5	+0.7	
	baz=254,SNR=12							
G29M	Pine Creek	89.46	22	P	P	10 03 32.8	+0.5	
	baz=255,SNR=8.6							
J30M	Hart River	89.56	25	IAmb	IAmb	10 03 56.9		
	comp=Z,47nm,1.4s							
J30M	Hart River	89.56	25	P	P	10 03 33.6	+0.7	
	baz=257,SNR=21							
T33K	Petersburg	89.58	33	P	P	10 03 32.9	0.0	
	baz=260							
I30M	Mount Dempster	89.69	24	IAmb	IAmb	10 03 57.0		
	comp=Z,28nm,1.2s							
I30M	Mount Dempster	89.69	24	P	P	10 03 33.8	+0.2	
	baz=257,SNR=14							
P32M	Atlin	89.70	30	P	P	10 03 33.4	-0.2	
	baz=259							
EPYK	Eagle Plains	89.83	23	P	P	10 03 33.9	-0.1	
	baz=256,SNR=18							
WRAK	Wrangell Islan	89.84	33	P	P	10 03 33.9	-0.3	
	baz=260							
D28M	Stokes Point	89.84	20	P	P	10 03 34.0	+0.1	
	baz=254							
E29M	Blow River	89.89	21	P	P	10 03 33.9	-0.3	
	baz=255							
M31M	Drury Creek, Y	89.90	27	P	P	10 03 33.7	-0.7	
	baz=258							
V35K	Ketchikan	90.06	35	P	P	10 03 34.4	-0.9	
	baz=261							
G30M	tAoh Zraii Nji	90.17	23	P	P	10 03 35.4	-0.2	
	baz=257,SNR=9.9							
P33M	Teslin, Yukon	90.26	30	P	P	10 03 36.2	0.0	
	baz=260							
N32M	Quiet Lake	90.31	29	P	P	10 03 36.1	-0.3	
	baz=260							
Q32M	Nakina River	90.32	31	P	P	10 03 36.5	-0.2	
	baz=260							
FARO	Faro, Yukon	90.38	28	P	P	10 03 37.1	+0.5	
	baz=259,SNR=6.1							
F30M	Barrier River	90.47	22	P	P	10 03 37.1	+0.1	
	baz=257,SNR=6.8							
H31M	Peel River	90.65	24	IAmb	IAmb	10 04 00.4		
	comp=Z,16nm,0.9s							
H31M	Peel River	90.65	24	P	P	10 03 37.9	+0.1	
	baz=258,SNR=7.9							
S34M	Telegraph Cree	90.74	32	P	P	10 03 38.5	+0.1	
	baz=261							
SYO	Syowa Base	90.82	200	*iP*	P	10 03 39.2	+0.6	
SYO	Syowa Base	90.82	200	*ePcP*	PcP	10 03 40.8	+1.2	
SYO	Syowa Base	90.82	200	*epP*	pP	10 04 00.3	-0.5	
SYO	Syowa Base	90.82	200	*isP*	sP	10 04 07.4	-2.3	
G31M	Satah River	90.90	23	IAmb	IAmb	10 04 02.0		
	comp=Z,24nm,1.0s							
G31M	Satah River	90.90	23	P	P	10 03 38.9	-0.1	
	baz=258,SNR=13							
U35K	Hyder	91.05	34	P	P	10 03 39.7	-0.1	
	baz=262							
R33M	Jennings River	91.05	31	P	P	10 03 40.1	+0.1	
	baz=261							
T35M	Bob Quinn	91.07	33	P	P	10 03 39.9	0.0	
	baz=262							
F31M	Tsiigehtchic	91.21	22	IAmb	IAmb	10 04 03.2		
	comp=Z,30nm,1.3s							
F31M	Tsiigehtchic	91.21	22	P	P	10 03 40.5	+0.2	
	baz=259,SNR=5.9							
ABKAR	Akbulak array	91.47	319	P	P	10 03 40.4	-1.6	
WTLY	Watson Lake, Y	92.24	30	IAmb	IAmb	10 04 08.9		
	comp=Z,16nm,1.0s							
WTLY	Watson Lake, Y	92.24	30	P	P	10 03 45.4	+0.1	
	baz=263							
TGTN	Hyland Airport	92.66	29	P	P	10 03 47.0	-0.3	
	baz=264							
AKTO	Aktyubinsk	92.83	320	P	P	10 03 46.5	-1.7	
	comp=Z,0.7nm,0.3s,baz=95,slow=4.4,SNR=

KIRV	Kirov	98.01	328	LR	LR	10 50 29.4	
	comp=Z,64nm,20.9s,baz=89,slow=37						
NEW	Newport	98.57	42	LR	LR	10 43 20.9	
	comp=Z,113nm,18.6s,baz=264,slow=32						
YKA	Yellowknife Ar	99.09	28	P	Pdif	10 04 15.7	-0.7
	comp=Z,2.4nm,0.9s,baz=276,slow=4.5,SNR=27						
YKA				PP	PP	10 08 18.2	-1.3
	comp=Z,0.8nm,1.0s,baz=273,slow=7.9,SNR=6.5						
YKA				PKKPbc	PKKPbc	10 20 41.8	-2.7
	comp=Z,2.3nm,0.8s,baz=97,slow=3.0,SNR=30						
YKA				LR	LR	10 42 36.5	
	comp=Z,150nm,20.5s,baz=294,slow=31						
	comp=Z,2.4nm,0.9s						
YKA	Yellowknife Ar	99.09	28	*i* P	Pdif	10 04 15.6	-0.8
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TROLL	Troll, Antarti	99.20	191	⇑P	Pdif	10 04 17.1	+0.1
	comp=Z,370nm,0.6s						
PFO	Pinyon Flats O	99.23	57	LR	LR	10 42 33.6	
	comp=Z,169nm,19.7s,baz=272,slow=31						
SNAA	Sanae	100.43	190	⇑P	Pdif	10 04 21.3	-1.1
	comp=Z,76nm,0.8s						
SNAA				⇓PP	PP	10 08 28.8	-0.4
SNAA	Sanae	100.43	190	P	Pdif	10 04 21.3	-1.1
	comp=Z,1.9nm,0.7s,baz=103,slow=14,SNR=5.6						
SNAA				PP	PP	10 08 28.4	-0.7
	comp=Z,15nm,1.1s,baz=146,slow=8.4,SNR=8.7						
SNAA	Sanae	100.43	190	*i* P	Pdif	10 04 22.8	+0.4
SNAA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VNA2	Neumayer--Watz	101.80	189	⇑P	Pdif	10 04 28.2	-0.2
	comp=Z,2.8nm,0.7s,baz=194,slow=2.3						
VNA3	Neumayer Olymp	101.84	188	⇑P	Pdif	10 04 28.1	-0.4
	comp=Z,5.3nm,0.7s						
SPITS	Spitsbergen Ar	102.84	351	PKKPbc	PKKPbc	10 20 30.4	-3.5
	comp=Z,2.8nm,0.7s,baz=191,slow=1.5,SNR=4.9						
KBZ	Khabaz	103.17	314	PP	PP	10 08 50.6	-0.2
	comp=Z,0.6nm,0.4s,baz=72,slow=9.7,SNR=3.7						
PDAR	Pinedale Array	104.24	47	Pdiff	Pdif	10 04 38.7	-1.3
	comp=Z,0.1nm,0.4s,baz=282,slow=2.8,SNR=1.6						
PDAR				PKiKP	PKiKP	10 08 55.5	-1.1
	comp=Z,0.2nm,0.6s,baz=306,slow=3.0,SNR=1.5						
PDAR				PKKPbc	PKKPbc	10 20 27.5	-1.6
	comp=Z,0.6nm,0.5s,baz=92,slow=3.1,SNR=7.9						
ARCES	ARCESS Array B	105.37	342	PKKPbc	PKKPbc	10 20 22.7	-3.5
	comp=Z,2.0nm,0.4s,baz=249,slow=2.5,SNR=33						
OBN	Obninsk	105.47	326	*i* P	Pdif	10 04 44.1	-0.8
OBN				*e*		10 09 07.5	
OBN				*e*PPP	PPP	10 11 23.1	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	108.69	334	PKKPbc	PKKPbc	10 20 12.8	-2.8
	comp=Z,1.0nm,0.8s,baz=297,slow=1.2,SNR=5.1						
TXAR	Lajitas Array	110.34	61	PKKPbc	PKKPbc	10 20 09.4	+0.1
	comp=Z,0.4nm,0.5s,baz=75,slow=4.6,SNR=4.3						
TXAR				PKKPab	PKKPab	10 20 20.9	+1.1
	comp=Z,4.3nm,0.8s,baz=94,slow=5.4,SNR=25						
TXAR				PKPPKP	P'P'df	10 28 37.5	-0.6
	comp=Z,0.1nm,0.5s,baz=76,slow=5.1,SNR=3.7						
MNK	Minsk	110.46	327	*i* P	Pdif	10 05 06.2	-0.9
MNK				*i*		10 09 06.8	
MNK				*i*		10 09 43.1	
MNK				*i* PPP	PPP	10 12 03.1	
MNK				*i*		10 16 11.5	
MNK				*i* SS	SS	10 25 06.3	+0.8
MNK				*i* SSS	SSS	10 29 14.3	
MNK				pmax	pmax		
	comp=E,20nm,0.7s						
MNK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MNK				pmax	pmax		
	comp=N,16nm,0.8s						
MNK				MLR	MLR		
	comp=N,710nm,23.0s						
MNK				MLR	MLR		
	comp=E,659nm,23.0s						
MNK				MLR	MLR		
	comp=Z,77nm,16.0s						
HFS	Hagfors	114.59	336	PKKPbc	PKKPbc	10 19 53.2	-2.8
	comp=Z,1.6nm,0.8s,baz=296,slow=7.9,SNR=4.1						
MLR	Muntele Rosu	114.65	318	PKKPbc	PKKPbc	10 19 52.5	-3.1
	comp=Z,2.6nm,0.6s,baz=306,slow=8.7,SNR=4.9						
NB2	NORSAR Subarra	115.02	338	PKKP		10 19 52.5	
	comp=Z,1.4nm,0.8s,baz=231,slow=4.4						
NOA	NORSAR Array B	115.02	338	PKKPbc	PKKPbc	10 19 52.5	-2.2
	comp=Z,1.0nm,0.8s,baz=233,slow=3.8,SNR=5.9						
CLL	Collm	119.92	328	*i* PKIKP	PKPdf	10 09 23.8	-1.9
CLL	Collm	119.92	328	*i* PKPdf	PKPdf	10 09 23.8	-1.9
CLL				*ex*	x	10 09 30.0	
GERES	GERESS Array B	120.84	325	PKP	PKPdf	10 09 25.8	-1.9
	comp=Z,0.5nm,0.5s,baz=50,slow=1.5,SNR=7.7						
GERES				PKKPbc	PKKPab	10 19 32.2	-0.9
	comp=Z,0.8nm,0.6s,baz=247,slow=2.0,SNR=7.8						
KBA	Koelnbreinsper	121.95	324	*i* PKKP		10 19 27.7	
	comp=Z,5.7nm,1.0s						
LESA	Schwarzleotal	122.17	324	*i* PKKP		10 19 26.9	
	comp=Z,3.2nm,0.7s						
ABTA	Abfaltersbach	122.61	324	*i* PKKP		10 19 25.9	
	comp=Z,4.5nm,0.8s						
MOTA	Moosalm	123.12	325	*i* PKKP		10 19 23.8	
	comp=Z,2.8nm,0.6s						
SQTA	Sankt Quirin	123.12	325	*e*PKKP		10 19 22.6	
	comp=Z,3.3nm,0.8s						
PLCA	Paso Flores	123.17	147	PKP	PKPdf	10 09 32.7	+0.3
	comp=Z,4.2nm,0.7s,baz=215,slow=3.4,SNR=13						
EKA	Eskdalemuir Ar	124.41	339	PKP	PKPdf	10 09 33.4	-0.8
	comp=Z,0.6nm,0.5s,baz=10,slow=2.4,SNR=3.4						
BI02	San Fabin de	125.56	143		PKPdf	10 09 37.6	+0.5
BO02	Sierra Bellavi	127.11	142		PKiKP	10 09 41.2	+0.5
MT13	San Alfonso	128.11	141		PKPdf	10 09 42.8	+0.6
LCO	Las Campanas	130.86	136		PKiKP	10 09 49.1	+0.5
LCO	Las Campanas	130.86	136	PKIKP	PKiKP	10 09 49.1	+0.5
ESDC	Sonseca Array	136.43	326	PP	PP	10 12 39.5	+0.7
	comp=Z,0.2nm,0.4s,baz=30,slow=4.3,SNR=6.1						
LPAZ	La Paz	139.95	123	PKhKP	PKPpre	10 09 54.9	
	comp=Z,3.6nm,0.9s,baz=267,slow=1.9,SNR=13						
LPAZ				SKPbc	SKPbc	10 13 32.4	-1.8
	comp=Z,3.1nm,1.0s,baz=264,slow=4.6,SNR=4.1						
CPUP	Villa Florida	141.19	145	PKhKP	PKPpre	10 09 59.3	
	comp=Z,7.4nm,0.9s,baz=229,slow=2.3,SNR=17						
SDV	Santo Domingo	143.49	82		PKPbc	10 10 08.8	+0.1
TORD	Torodi Ar. Bea	143.98	285		PKPab	10 10 09.2	0.0
TORD	Torodi Ar. Bea	143.98	285	PKP	PKPab	10 10 09.0	-0.2
	comp=Z,3.7nm,0.6s,baz=76,slow=1.8,SNR=19						
SHEL	Horse Pasture	144.90	232		PKPdf	10 10 15.0	+1.6
SHEL	Horse Pasture	144.90	232	PKIKP	PKPdf	10 10 15.0	+1.6
CELP	Cerrillos	145.77	66		PKPdf	10 10 14.1	-0.7
BAUV	El Baul	146.05	82		PKPdf	10 10 14.6	-0.8
IGPR	InterUniversit	146.24	66		PKPdf	10 10 15.2	-0.4
SAML	Samuel	147.60	116		PKPbc	10 10 20.6	-0.2
SAML	Samuel	147.60	116	PKP2	PKPbc	10 10 20.6	-0.2
PTLB	Pontes e Lacer	147.62	130		PKPdf	10 10 19.0	+1.0
DBIC	Dimbokro	151.00	274	PKPbc	PKPbc	10 10 28.7	-0.5
	comp=Z,30nm,0.7s,baz=89,slow=2.8,SNR=28						
BDFB	Brasilia	154.91	147		PKiKP	10 10 38.6	+0.6
BDFB	Brasilia	154.91	147	PKP	PKPdf	10 10 28.5	-0.7
	comp=Z,4.7nm,0.6s,baz=203,slow=2.5,SNR=3.6						
BDFB				PKPbc	PKPbc	10 10 38.0	+0.1
	comp=Z,19nm,0.9s,baz=204,slow=2.4,SNR=18						

*SOME **13** 10:04:08.3, 41°.93N×78°.28E*

NNC 13 10:04:09.1±1.9, 41°.88N×78°.26E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=14.5km s-min=12.3km az=41.0, Suspected Mining explosion., Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	Tian-Shan	1.51	320	P	Pn	10 04 37.3	-0.5
	4.7nm,0.2s						
TNSS				S	Sn	10 04 58.4	0.0
	2.9nm,0.3s						
KST	Kastek	2.06	305	Pg	Pn	10 04 46.1	+1.0
	2.2nm,0.2s						
KST				Lg	Lg	10 05 13.3	
	3.7nm,0.4s						
KTBS	Karatobe	2.17	328	Pg	Pb	10 04 49.1	-0.2
	3.8nm,0.2s						
KTBS				Lg	Lg	10 05 18.6	
	5.8nm,0.2s						
CHKK	Chushkaly	2.18	335	Pg	Pb	10 04 49.4	-0.1
	5.8nm,0.2s						
CHKK				Lg	Lg	10 05 18.7	
	7.2nm,0.2s						
ARXS	Arharly	2.35	352	Pg	Pb	10 04 51.7	-0.8
	4.0nm,0.3s						
ARXS				Lg	Lg	10 05 22.7	
	3.8nm,0.5s						

JMA 13 10:06:08.7±0.1, 24°.5N±0°.9×123°.5E±0°.3, h0km, MV1.0/8, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.23	127	*i* P	Pg	10 06 13.6	+0.6
IRIF				*e*S	Sg	10 06 17.2	+1.2
YOJ	Yonaguni jima	0.47	269	*e*S	Sg	10 06 25.2	+1.2
JKRS	Kuro-shima	0.49	118	P	Pg	10 06 18.6	+0.4
JKRS				*e*S	Sg	10 06 25.5	+0.9
JYNG	Yonagunijimaku	0.54	268	*e*S	Sb	10 06 28.1	-1.1
JIJ	Ishigaki jima	0.57	101	*e*P	Pg	10 06 19.9	+0.3
JIJ				*e*S	Sg	10 06 27.9	+1.0
JISG	Ishigakijimahi	0.72	81	*e*P	Pb	10 06 23.5	-0.6

TAP 13 10:06:50.9, 23°.94N×121°.58E, h7km, ML3.0, 2C-8D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.05	29	*i* P	Pg	10 06 53.1	+0.8
HWA				*i* S	Sg	10 06 55.2	+1.7
TEYL	Yanliau Villag	0.07	166	⇑*i*P	Pg	10 06 52.6	-0.1
TEYL				*i* S	Sg	10 06 54.3	+0.4
ETM	Tongmen	0.09	290	*i* P	Pg	10 06 53.3	+0.4
ETM				*i* S	Sg	10 06 54.8	+0.5
TWD	Chiawan	0.14	6	⇓*i*P	Pg	10 06 54.4	+0.5
TWD				*i* S	Sg	10 06 56.9	+1.0
SHUL	Shoufeng	0.15	186	*i* P	Pg	10 06 54.7	+0.8
SHUL				*i* S	Sg	10 06 57.8	+1.8
LXIB	Xiulin Townshi	0.17	299	⇓*i*P	Pg	10 06 54.9	+0.4
LXIB				*i* S	Sg	10 06 58.3	+1.4
ESL	Shilin	0.18	228	*i* P	Pg	10 06 54.6	+0.1
ESL				*i* S	Sg	10 06 57.0	-0.1
ETL	Fush Village	0.23	10	*i* P	Pg	10 06 55.7	+0.3
ETL				S	Sg	10 06 59.2	+0.8
TEGC	Jichi Village	0.23	189	*i* P	Pg	10 06 56.6	+1.2
TEGC				*i* S	Sg	10 07 01.3	+2.9
NACB	Ninganchiao	0.24	3	⇓*i*P	Pg	10 06 55.8	+0.2
NACB				*i* S	Sg	10 06 59.6	+0.8
WARBT	Fenglin Townsh	0.28	219	⇓*i*P	Pg	10 06 56.3	-0.1
WARBT				S	Sg	10 07 00.0	-0.1
ETLH	Xiulin Townshi	0.28	342	*i* P	Pg	10 06 57.0	+0.5
ETLH				S	Sg	10 07 01.3	+1.0
EGFH	Guangfu	0.30	208	P	Pg	10 06 57.1	+0.4
EGFH				S	Sb	10 07 02.8	-1.0
WHF	Hehuan Shan	0.35	306	*i* P	Pg	10 06 58.4	+0.4
WHF				*i* S	Sg	10 07 03.9	+1.2
OWD	Renai	0.37	273	*i* P	Pg	10 06 58.7	+0.5
OWD				*i* S	Sg	10 07 04.2	+1.2
EAHA	Aohua	0.42	20	P	Pg	10 06 59.5	+0.5
EAHA				S	Sb	10 07 05.9	-1.3
WUSB	Renai	0.43	278	⇓*i*P	Pg	10 06 60.0	+0.8
WUSB				*i* S	Sg	10 07 06.0	+1.2
FUSS	Fushou	0.44	315	*i* P	Pg	10 07 00.0	+0.6
FUSS				*i* S	Sg	10 07 06.6	+1.4
VWDT	VWDT	0.44	246	*i* P	Pg	10 07 00.1	+0.6
VWDT				S	Sg	10 07 06.0	+0.8
HGSD	Ruisui	0.46	198	*i* P	Pb	10 07 01.2	-0.2
HGSD				*i* S	Sb	10 07 10.2	+1.6
TWT	Tachien	0.49	311	P	Pb	10 07 01.3	-0.6
TWT				S	Sb	10 07 08.2	-1.2
EHY	Hungye	0.49	209	⇓*i*P	Pg	10 07 00.4	0.0
EHY				S	Sg	10 07 07.8	+1.0
EHYH	Wanrong	0.49	206	P	Pb	10 07 01.4	-0.5
EHYH				S	Sb	10 07 09.2	-0.1
TDCB	Techi	0.50	309	P	Pb	10 07 01.6	-0.5
TDCB				S	Sb	10 07 08.6	-1.0
ENA	Nanau	0.51	17	*i* P	Pg	10 07 00.9	+0.2
ENA				S	Sb	10 07 09.5	-0.4
NNSB	Datong	0.52	340	⇑*i*P	Pb	10 07 01.8	-0.7
NNSB				S	Sg	10 07 08.8	+1.0
EWUT	Wuta	0.54	20	P	Pg	10 07 01.6	+0.3
EWUT				*e*S	Sb	10 07 10.0	-0.6
SSLB	Suanglung	0.59	256	⇓*i*P	Pg	10 07 02.9	+0.6
SSLB				*i* S	Sg	10 07 10.3	+0.2
LATG	Datong	0.60	355	P	Pg	10 07 02.8	+0.3
LATG				S	Sb	10 07 13.0	+0.5
YULB	Yu-li	0.60	206	P	Pg	10 07 02.4	0.0
YULB				S	Sg	10 07 11.2	+0.9
WCS	Beigang Elemen	0.62	281	P	Pb	10 07 03.7	-0.5
WCS				S	Sb	10 07 12.5	-0.6
SMLT	Sun Moon Lake	0.62	265	*i* P	Pg	10 07 02.6	-0.3
SMLT				*i* S	Sg	10 07 11.5	+0.4
EYUL	Yuli	0.63	202	*e*P	Pb	10 07 03.9	-0.4
TWF1	Yuli	0.64	204	P	Pg	10 07 03.1	0.0
TWF1				S	Sg	10 07 12.1	+0.6
TYC	Yuchr	0.66	267	*i* P	Pg	10 07 04.1	+0.5
TYC				*i* S	Sg	10 07 13.0	+0.7
WHP	Taichung City	0.67	301	*i* P	Pb	10 07 05.0	0.0
WHP				*i* S	Sb	10 07 14.8	+0.2
ESAO	Su ao	0.68	21	*e*P	Pb	10 07 04.9	-0.2
ESAO				*e*S	Sb	10 07 13.9	-0.9
ENTT	Nioudou	0.70	359	*i* P	Pb	10 07 05.0	-0.5
ENTT				*i* S	Sb	10 07 16.2	+0.9
NDS	Dongshan	0.70	10	P	Pg	10 07 04.2	-0.2
NDS				*e*S	Sb	10 07 15.8	+0.3
WHYT	Xinyi Township	0.71	250	P	Pg	10 07 04.5	0.0
WHYT				S	Sg	10 07 14.3	+0.6
YHNB	Yeheng	0.75	346	⇓*i*P	Pb	10 07 06.2	-0.2
YHNB				S	Sb	10 07 16.5	-0.4
CHKH	Chenggong	0.76	193	*e*P	Pb	10 07 06.3	-0.1
CHKH				*e*S	Sb	10 07 17.6	+0.6
NSK	Sanguang	0.76	345	P	Pb	10 07 06.4	-0.2
NSK				S	Sb	10 07 16.6	-0.6
FULB	Fuli	0.78	200	*e*P	Pb	10 07 07.3	+0.5
TWE	Neicheng	0.79	6	*i* P	Pb	10 07 07.1	+0.2
WJS	Zhushan	0.79	262	*e*P	Pn	10 07 08.2	-0.3
WJS				S	Sn	10 07 20.3	-0.3
NFF	Wufeng Townshi	0.81	329	P	Pb	10 07 07.2	-0.2
NFF				S	Sb	10 07 19.4	+0.9
FUSB	Fushanzhiwuyua	0.82	0	P	Pg	10 07 07.1	+0.4
FUSB				S	Sb	10 07 19.2	+0.3
WNT	Mingjian	0.82	266	P	Pb	10 07 08.0	+0.5
WNT				S	Sn	10 07 20.2	-1.2
ALS	Alishan	0.83	239	*i* P	Pb	10 07 07.5	-0.3
ALS				S	Sb	10 07 19.4	+0.2
NWLT	Wulai	0.84	355	P	Pb	10 07 07.8	-0.1
NWLT				S	Sb	10 07 19.3	-0.1
TWQ1	Liyutan	0.84	299	*i* P	Pn	10 07 09.5	+0.3
TCU	Taichung	0.85	284	*e*P	Pb	10 07 08.3	+0.3
EHD	Haiduan	0.85	204	*e*P	Pg	10 07 06.3	-1.0
NSTT	Nanjuang	0.87	323	P	Pn	10 07 09.1	-0.5
NSTT				S	Sb	10 07 20.8	+0.5
LIOB	Emei	0.87	324	P	Pn	10 07 09.2	-0.5
LIOB				*e*S	Sb	10 07 21.5	+1.1
NSY	Sanyi	0.89	303	P	Pg	10 07 07.5	-0.5
NSY				*e*S	Sb	10 07 20.9	+0.2
CHN5	Tsauling	0.89	248	*e*P	Pn	10 07 09.5	-0.5
CHN5				S	Sn	10 07 23.3	+0.1
ELDTW	Lidau	0.91	215	*e*P	Pg	10 07 08.4	+0.1
KSHI	Guanxi Townshi	0.91	336	*e*P	Pn	10 07 10.0	-0.2
NMLH	Miaoli	0.94	310	*e*P	Pn	10 07 11.0	+0.5
WCHH	Zhanghua	0.94	279	*e*P	Pn	10 07 11.1	+0.5
WDJ	Dajia District	0.95	296	*e*P	Pn	10 07 11.8	+1.1
WGK	Gukeng	0.96	255	*e*P	Pn	10 07 11.5	+0.6
WDLH	Douliu	0.98	256	*e*P	Pn	10 07 11.6	+0.5
WDLH				*e*S	Sn	10 07 26.1	+0.7
EDH	Donghe	0.99	195	*e*P	Pb	10 07 10.2	-0.2
EDH				*e*S	Sb	10 07 24.4	+0.8
WCKO	Fanlu	1.02	241	*e*P	Pn	10 07 12.4	+0.7
TIPB	Shuangxi	1.05	12	*e*P	Pn	10 07 12.7	+0.5
STYH	Taoyuan	1.06	224	P	Pg	10 07 10.4	-0.9
STYH				S	Sg	10 07 25.2	+0.2
CHN4	Tsaushan	1.08	237	*e*P	Pb	10 07 11.9	0.0
TPUB	Ta-pu	1.08	234	*i* P	Pn	10 07 12.6	+0.1
NCUH	Zhongli	1.09	341	*e*P	Pn	10 07 13.9	+1.3
LONT	Longtian	1.10	202	P	Pb	10 07 12.4	+0.1
WTP	Ta-pu	1.12	232	*e*P	Pn	10 07 13.6	+0.5
WTP				*e*S	Sn	10 07 29.6	+0.8
TWB1	Santiao Chiao	1.13	19	*e*P	Pn	10 07 13.7	+0.5
CHY	Chiayi	1.15	248	*e*P	Pn	10 07 14.5	+1.2
SXI1	Grass Mountain	1.18	13	*e*P	Pn	10 07 14.6	+0.6
TWK	Hsinying	1.20	237	*e*P	Pn	10 07 14.7	+0.5
YM01	YM01	1.21	360	*e*P	Pn	10 07 15.1	+0.9
CHN1	Nanshi	1.22	232	*e*P	Pn	10 07 15.4	+1.0
WSL	Shuilin Townsh	1.31	252	*e*P	Pg	10 07 16.9	+1.0
ICHU	Yijhu	1.32	245	*e*P	Pg	10 07 17.6	+1.3
TWY	Chenhua	1.33	1	*e*P	Pg	10 07 17.1	+0.7
YOJ	Yonaguni jima	1.41	68	*e*P	Pg	10 07 18.1	+0.2

*FCIAR **13** 10:11:56.0, 84°.34N×3°.18E, h10km, station OMEGA has station magnitude of 3.60*
*BER **13** 10:11:57.2±1.5, 84°.01N×0°.59E, h10km, mb(Pn)3.4, Confirmed Earthquake*

ISC 13 10:11:48.6±1.6, 84°.2N±0°.1×1°.90E±0°.07, h10km, n9, σ3°.55/16, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	Nord	3.47	231	*e*P	Pb	10 12 46.7	-3.2
NOR	Nord	3.47	231	*i* P	Pn	10 12 44.2	+1.7
NOR				*i* S	Sn	10 13 24.6	+1.1
KBS	Kingsbay	5.51	159	*e*P	Pn	10 13 14.0	+3.6
KBS				*e*S	Sn	10 14 12.6	-1.1
SPA0	Spitsbergen Ar	6.42	153	*e*P	Pn	10 13 27.1	+4.1
SPA0				*e*S	Sn	10 14 34.9	-1.4
SPA0	Spitsbergen Ar	6.42	153	*e*P	Pn	10 13 27.3	+4.2
SPA0				IAML		10 13 36.6	
	comp=Z,2.6nm,0.4s						
ZFI2	Zemlya Franca-	6.65	96	*e*P	Pn	10 13 29.3	+3.3
ZFI2				S	Sn	10 14 38.5	-3.2
OMEGA	Omega	6.67	96	*e*P	Pn	10 13 29.5	+3.2
OMEGA				S	Sn	10 14 38.7	-3.7
	comp=Z,21nm,0.9s						
HOPEN	Hopen	8.53	142	*e*P	Pn	10 13 55.1	+3.3
HOPEN				*e*S	Sn	10 15 24.1	-3.8
HOPEN	Hopen	8.53	142	*e*P	Pn	10 13 56.0	+4.2
HOPEN				IAML		10 13 57.9	
	comp=Z,3.7nm,0.4s						
HOPEN				*e*S	Sn	10 15 24.4	-3.4

RSNC 13 10:14:36.8±0.0, 7°N±1°×7°3W±°, h151km±2km, M2.7, mB4.5, mb3.4, ML2.5, Mw(mB)3.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.22	186	P	Pn	10 14 57.1	-0.5
BARC				S	Sn	10 15 12.5	-0.9
BRJC	Barrancabermej	0.60	286	P	Pn	10 14 58.7	-0.1
BRJC				S	Sn	10 15 15.7	+0.2
PAMC	Pamplona, Colo	0.70	41	P	Pn	10 15 00.1	+0.1
PAMC				S	Sn	10 15 17.1	-0.5
RUSC	La Rusia	0.92	175	P	Pn	10 15 01.0	-0.6
RUSC				S	Sn	10 15 19.7	-0.7
PTBC	PUERTO BERRIO,	1.31	258	P	Pn	10 15 03.7	-0.9
PTBC				S	Sn	10 15 24.8	-1.0
TAMC	Tame, Arauca	1.41	105	P	Pn	10 15 05.6	0.0
TAMC				S	Sn	10 15 27.4	-0.1
OCAC	Ocana	1.43	354	P	Pn	10 15 04.6	-1.3
OCAC				S	Sn	10 15 27.3	-0.9
ZARC	Zaragoza, Cauc	1.82	292	P	Pn	10 15 09.1	-0.8
ZARC				S	Sn	10 15 34.9	-0.4
NORC	Norcasia	2.10	234	P	Pn	10 15 13.1	-0.2
NORC				S	Sn	10 15 40.6	-0.7
CHIC	Chingaza	2.24	195	P	Pn	10 15 15.3	0.0
CHIC				S	Sn	10 15 44.8	0.0
ROSC	El Rosal	2.27	211	P	Pn	10 15 16.9	+1.3
ROSC				S	Sn	10 15 47.4	+1.9
UREC	San Jos de Ur	2.53	292	P	Pn	10 15 16.9	-1.5
UREC				S	Sn	10 15 47.6	-2.9
GUY2C	Guyana, Caldas	2.70	234	P	Pn	10 15 22.2	+1.3
GUY2C				S	Sn	10 15 54.4	-0.5
PTGC	Puerto Gaitan,	2.79	158	P	Pn	10 15 20.0	-1.6
PTGC				S	Sn	10 15 53.7	-2.5
CBOC	Ciudad Bolivar	2.99	252	P	Pn	10 15 24.7	+0.5
CBOC				S	Sn	10 16 01.4	+0.6
DBBC	Dabeiba	3.04	274	P	Pn	10 15 25.3	+0.6
DBBC				S	Sn	10 16 01.6	-0.2
ANIL	Santa Ana	3.21	224	P	Pn	10 15 29.1	+1.9
ARGC	Ariguani, Magd	3.21	341	P	Pn	10 15 29.5	+2.5
ARGC				S	Sn	10 16 06.3	+0.5
SDV	Santo Domingo	3.24	50	P	Pn	10 15 26.7	-0.8
SDV				S	Sn	10 16 03.6	-3.2
PRAC	Prado	3.52	209	P	Pn	10 15 31.2	+0.2
PRAC				S	Sn	10 16 13.1	+0.1
APAC	Apartado, Choc	3.56	288	P	Pn	10 15 30.9	-0.5
APAC				S	Sn	10 16 13.8	+0.1
SJCC	San Jacinto, C	3.66	327	P	Pn	10 15 31.2	-1.6
SJCC				S	Sn	10 16 12.6	-3.6
URMC	La Uribe, Meta	3.74	199	P	Pn	10 15 34.3	+0.4
URMC				S	Sn	10 16 18.0	-0.1
CRJC	Cer

MTO3	Montecristo	1.27	32	eP	Pn	10 31 46.1	-0.7
ESSG	Sabana Grande	1.30	325	eP	Pn	10 31 45.2	-1.7
STG8	El Palmar, Qui	1.68	312	eP	Pb	10 31 55.8	0.0
STG8				eS	Sb	10 32 19.1	+2.3

UPA ***13*** *10:32:42.8±2.3, 8°.38N×82°.90W, h1km±6km, MD4.2, MW4.2*
UCR ***13*** *10:32:43.9±0.7, 8°.41N×82°.98W, h0km±4km, MW4.2*
ISC 13 10:32:39.7±1.2, 8°.15N±0°.04×82°.89W±0°.03, h17km±9km, n37, σ1§14/59, 3C-13D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPPC	Paso Canoas	0.38	7	eP	Pb	10 32 48.2	+0.2
LPPC				eS	Sg	10 32 52.3	-0.5
PIRO	Carate, Puerto	0.51	299	eP	Pn	10 32 51.9	-0.3
PIRO	Carate, Puerto	0.51	299	⇓iP	Pn	10 32 52.1	-0.1
PIRO				eS	Sb	10 32 58.5	+1.1
DVD	David	0.51	57	⇓iP	Pn	10 32 52.7	+0.4
DVD				eS	Sn	10 33 00.1	-0.6
LOMA3	Las Lomas, Chi	0.56	61	⇓iP	Pn	10 32 53.5	+0.6
LOMA3				eS	Sn	10 33 01.9	0.0
EDAD	Golfito	0.57	331	eP	Pg	10 32 51.0	+0.1
EDAD				eS	Sg	10 32 55.1	-3.5
PTAR3	Potrerillos Ar	0.66	36	⇓iP	Pn	10 32 54.3	-0.1
PTAR3				eS	Sb	10 33 03.8	+2.0
BRU2	Volcan	0.67	17	eP	Pb	10 32 53.8	+0.8
BRU2				eS	Sg	10 32 02.2	+0.6
BRU2	Volcan	0.67	17	⇓iP	Pb	10 32 53.9	+1.0
BRU2				⇓eP	Pb	10 32 53.9	+1.0
BRU2				eS	Sg	10 33 02.8	+1.1
VITO	San Vito	0.67	353	eP	Pb	10 32 53.6	+0.7
GUAL3	Gualaca, Chiri	0.69	57	⇓iP	Pn	10 32 55.5	+0.8
GUAL3				eS	Sn	10 33 04.9	-0.3
BC3P	Paso Ancho	0.71	23	⇓iP	Pb	10 32 54.6	+0.8
BC3P				eS	Sg	10 33 04.1	+0.9
LNBQ3	Los Naranjos,	0.77	35	⇓eP	Pn	10 32 55.7	-0.3
LNBQ3				eS	Sg	10 33 04.8	-0.3
ALCO	Alturas Coton,	0.79	4	eP	Pg	10 32 55.2	0.0
EDP2	Potrero Grande	0.90	342	eP	Pg	10 32 57.5	+0.3
FIMO	Fila Mora	0.95	331	eP	Pg	10 32 58.3	+0.1
CHGR2	Aguacate	1.07	43	⇓iP	Pg	10 33 00.7	+0.2
CHGR2				eS	Sb	10 33 14.2	+0.7
BURE	Buenos Aires	1.11	336	eP	Pg	10 33 01.0	-0.1
SAJE	San Jernim	1.33	333	eP	Pb	10 33 04.4	0.0
BRIBI	Bribri	1.46	3	eP	Pg	10 33 08.1	+0.2
CEUA	Cerro Uatsi, L	1.46	358	eP	Pg	10 33 08.3	+0.5
BUS1	Rivas	1.63	329	eP	Pb	10 33 09.7	+0.1
GMAL	Guarumal, Vera	1.68	103	⇓eP	Pg	10 33 12.2	+0.1
GMAL				i S	Sg	10 33 35.8	+1.8
PIEC	Cerro El Cedra	1.80	324	eP	Pb	10 33 12.5	0.0
STIA3	Santiago, Vera	1.90	92	eP	Pg	10 33 14.5	-1.6
STIA3				eS	Sg	10 33 42.7	+1.9
MARI3	Mariato, Verag	1.94	105	⇑eP	Pg	10 33 19.2	+2.2
MARI3				i S	Sg	10 33 44.4	+2.0
CVTV	Tajo	2.03	335	eP	Pb	10 33 16.3	0.0
CALO3	Calobre, Verag	2.03	85	⇓eP	Pg	10 33 17.9	-0.8
CALO3				i S	Sg	10 33 44.6	-0.5
CVTQ	Turrialba Volc	2.03	335	eP	Pb	10 33 16.4	-0.1
CACAO	El Cacao, Vera	2.16	112	⇑eP	Pg	10 33 21.8	+0.6
CACAO				eS	Sg	10 33 49.7	+0.4
CVTG	V. Turrialba,	2.17	336	eP	Pb	10 33 18.2	-0.3
CRIS3	El Cristo, Coc	2.25	87	eP	Pb	10 33 20.6	+0.8
CHIT3	Chitre	2.45	94	eP	Pg	10 33 26.5	-0.2
CHIT3				eS	Sb	10 33 52.1	-1.2
AZU	Azuero	2.61	98	⇑eP	Pg	10 33 27.8	-2.0
AZU				eS	Sg	10 34 01.6	-2.1
JTS	Las Juntas de	2.94	316	⇓eP	Pb	10 33 32.4	+0.6
CHOR3	La Chorrera	3.17	76	eP	Pg	10 33 38.2	-2.4
CHOR3				eS	Sb	10 34 14.9	+0.8
BCIP	Isla Barro Col	3.18	71	eP	Pb	10 33 33.9	-1.9
BCIP				eS	Sb	10 34 12.0	-2.2

IDC ***13*** *10:47:23.8±2.4, 26°.42N×129°.48E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=146.8km s-min=22.4km az=67.0*
JMA ***13*** *10:47:26.6±0.1, 26°.2N±0°.6×129°.6E±0°.4, h44km, MV3.5/23, NEAR OKINAWAJIMA ISLAND*
ISC 13 10:47:24.2±2.3, 26°.27N±0°.04×129°.58E±0°.03, h7km±15km, n25, σ1§44/41, mb3.6/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.26	307	P	Pb	10 47 48.5	+0.2
JYRO				S	Sn	10 48 03.8	-1.6
JOW	Kunigami	1.29	296	i P	Pb	10 47 49.1	+0.2
JOW				S	Sb	10 48 04.7	-1.0
JOKE	Okinoerabujima	1.41	321	i P	Pb	10 47 51.1	+0.2
JOKE				S	Sg	10 48 09.1	-0.5
JNTH	Nagotoyohara	1.42	280	i P	Pn	10 47 50.3	-0.1
JNTH				S	Sn	10 48 07.7	-1.6
JMZ	Minamidaito 2	1.55	107	P	Pn	10 47 52.2	0.0
JMZ				S	Sn	10 48 09.9	-2.7
JKDJ	Kitadaitoujima	1.58	101	P	Pn	10 47 53.0	+0.3
JKDJ				S	Sn	10 48 11.7	-1.6
JTK	Tokunoshima	1.61	340	i P	Pb	10 47 54.1	-0.1
JTK				S	Sb	10 48 13.2	-1.5
JJT3	Tamagusuku3	1.62	266	P	Pn	10 47 53.4	+0.3
JJT3				S	Sn	10 48 13.2	-1.0
JIH	Iheya	1.63	298	i P	Pn	10 47 54.0	+0.7
JIH				S	Sb	10 48 13.9	-1.4
JAMN	Amaminishikomi	2.00	350	P	Pb	10 47 59.5	-1.3
JAMN				S	Sb	10 48 23.4	-2.5
JZK	Kikaishima	2.06	10	P	Pb	10 48 01.5	-0.6
JZK				S	Sb	10 48 26.7	-1.2
JAGN	Aguni-jima	2.12	279	P	Pn	10 48 00.7	+0.7
JAGN				S	Sn	10 48 25.6	-1.0
JAM	Amami Oshima	2.13	1	P	Pn	10 48 01.4	+1.1
JAM				S	Sn	10 48 26.4	-0.5
JKE	Kume jima 2	2.51	272	P	Pn	10 48 05.1	-0.3
JTAJ	Takarajima	2.89	354	P	Pn	10 48 11.9	+1.3
JTAJ				S	Sn	10 48 44.1	-1.5
JNN	Nakanoshima	3.57	4	eP	Pn	10 48 21.7	+1.7
JNN				S	Sn	10 49 01.1	-1.3
JYAK	Yakushimahirau	4.04	12	eP	Pn	10 48 28.6	+2.1
JYAK				S	Sn	10 49 12.1	-1.9
JMTN	Minamitane	4.27	16	P	Pn	10 48 32.0	+2.3
SONM	Songino Array	28.18	326	P	P	10 53 19.7	+2.3
	0.3nm,0.4s,baz=123,slow=8.9,SNR=1.9						
MKAR	Makanchi Array	42.41	312	P	P	10 55 19.9	+0.4
	0.2nm,0.5s,baz=90,slow=10,SNR=2.3						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	45.66	316	P	P	10 55 43.4	-2.0
	0.8nm,0.2s,baz=106,slow=9.7,SNR=1.1						
	0.8nm,0.2s						
WRA	Warramunga Arr	46.17	174	P	P	10 55 50.9	+1.2
	0.5nm,0.7s,baz=354,slow=7.9,SNR=3.3						
	0.5nm,0.7s						
ASAR	Alice Springs	49.82	175	P	P	10 56 19.9	+1.9
	0.4nm,0.8s,baz=4.5,slow=7.6,SNR=6.3						
	0.4nm,0.8s						
BVAR	Borovoye Array	51.05	318	P	P	10 56 24.9	-2.1
	0.3nm,0.4s,baz=86,slow=8.8,SNR=1.5						
	0.3nm,0.4s						
FINES	FINESS Array B	73.42	331	P	P	10 58 57.4	+0.6
	0.7nm,0.7s,baz=51,slow=6.4,SNR=7.9						
	0.7nm,0.7s						

UPA ***13*** *11:01:28.6±0.9, 8°.31N×82°.95W, h26km±7km, MD4.0*
UCR ***13*** *11:01:29.5±0.6, 8°.35N×82°.93W, h0km±4km, MW3.7*
ISC 13 11:01:28.9±1.4, 8°.30N±0°.08×82°.92W±0°.03, h18km±5km, n20, σ0§69/28, 3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPPC	Paso Canoas	0.24	18	eP	Pb	11 01 34.7	0.0
LPPC				eS	Sb	11 01 38.5	-0.1
PIRO	Carate, Puerto	0.43	284	eP	Pb	11 01 38.6	+0.7
PIRO	Carate, Puerto	0.43	284	eP	Pb	11 01 38.6	+0.7
PIRO				eS	Sg	11 01 42.9	-0.7
EDAD	Golfito	0.43	325	eP	Pb	11 01 37.7	-0.3
DVD	David	0.48	73	⇓iP	Pg	11 01 39.2	+0.7
DVD				eS	Sg	11 01 46.1	+1.0
VITO	San Vito	0.52	354	eP	Pb	11 01 40.2	+0.6
LOMA3	Las Lomas, Chi	0.54	76	eP	Pg	11 01 38.8	-0.8
BRU2	Volcan	0.54	24	eP	Pb	11 01 40.3	+0.4
BRU2				eS	Sb	11 01 48.6	+1.2
BRU2	Volcan	0.54	24	⇓iP	Pb	11 01 40.1	+0.2
BRU2				eS	Sb	11 01 48.3	+0.9
BC3P	Paso Ancho	0.60	30	eP	Pg	11 01 40.8	0.0
BC3P				eS	Sb	11 01 50.4	+1.3
ALCO	Alturas Coton,	0.65	7	eP	Pb	11 01 42.4	+0.5
LNBQ3	Los Naranjos,	0.68	44	eP	Pg	11 01 41.8	-0.5
EDP2	Potrero Grande	0.76	340	eP	Pn	11 01 44.3	-0.4
FIMO	Fila Mora	0.81	328	eP	Pb	11 01 44.8	+0.3
CHGR2	Aguacate	0.99	50	⇓iP	Pb	11 01 46.7	-0.9
CHGR2				eS	Sb	11 01 59.3	-1.0
SAJE	San Jernim	1.20	331	eP	Pb	11 01 51.1	0.0
SAJE				eS	Sn	11 02 06.8	0.0
LAES	El Progreso Va	1.46	355	eP	Pg	11 01 56.8	-0.2
BUS1	Rivas	1.49	327	eP	Pb	11 01 56.2	-0.2
CVTQ	Turrialba Volc	1.89	334	eP	Pb	11 02 02.8	-0.3
CVTG	V. Turrialba,	2.02	335	eP	Pb	11 02 04.7	-0.4

HEL ***13*** *11:02:19.6±0.3, 67°.62N×34°.17E, h0km, ML1.8, Explosion*
UPP ***13*** *11:02:19.9±2.7, 67°.76N×33°.94E, h0km, ML1.9*
KOLA ***13*** *11:02:19.1, 67°.67N×34°.23E, h0km, ML2.5, Error ellipse: s-maj=3.4km s-min=1.5km az=120.0, Khibiny Massif*
IDC ***13*** *11:02:20.2±2.0, 67°.67N×33°.88E, h0km, mbtmp3.2/4, ML2.3/4, Error ellipse: s-maj=21.5km s-min=9.7km az=85.0*
ISC 13 11:02:17.1±0.9, 67°.66N±0°.03×34°.11E±0°.04, h0km, n31, σ1§51/51, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.29	251	P	Pb	11 02 24.6	-0.4
APA				S	Sb	11 02 29.4	-1.0
LVZ	Lovozero	0.31	41	P	Pg	11 02 24.2	+1.2
LVZ				S	Sg	11 02 27.8	+0.7
APA0	Apatity Array	0.43	263	P	Pg	11 02 27.1	+1.8
APA0				S	Sb	11 02 34.0	-0.6
KVDA	Kovda	1.09	207	P	Pb	11 02 39.1	+0.5
KVDA				S	Sb	11 02 53.9	+0.5
TERR	Teriberka	1.59	13	P	Pn	11 02 47.2	+0.8
TERR				S	Sn	11 03 07.3	-0.3
VRF	Varrio	1.72	275	eP	Pb	11 02 50.2	+0.7
VRF				eS	Sg	11 03 12.9	+0.7
OLKF	Oulanka, Finla	2.29	236	ePG	Pb	11 03 00.3	+1.2
OLKF				eSG	Sg	11 03 30.0	-0.5
OLKF				MSG		11 03 34.4	
	comp=Z,4.3nm,0.1s						
RAJF	Raja-Jooseppi	2.33	293	ePB	Pb	11 03 00.5	+0.7
RAJF				eS	Sb	11 03 29.1	+0.1
KU6	Riekki	2.34	227	ePB	Pb	11 03 00.5	+0.4
KU6				eSB	Sb	11 03 30.1	+0.6
KU6				MSG		11 03 36.1	
	comp=Z,6.2nm,0.1s						
MSF	Maaselka	2.67	231	ePB	Pb	11 03 06.0	+0.3
MSF				eSB	Sb	11 03 39.3	+0.3
MSF				MSG		11 03 45.8	
	comp=Z,3.2nm,0.1s						
KU1	Kurvinen	2.78	223	ePB	Pb	11 03 07.2	-0.4
KU1				eSB	Sb	11 03 42.4	+0.2
KU1				MSG		11 03 48.1	
	comp=Z,3.0nm,0.2s						
VADS	Vadso	3.01	327	P	Pn	11 03 07.3	+1.5
VADS				S	Sn	11 03 44.0	+1.4
VADS	Vadso	3.01	327	eP	Pn	11 03 07.5	+1.6
KU2	Taivalkoski	3.05	233	ePB	Pb	11 03 12.0	-0.2
KU2				eSB	Sb	11 03 50.1	+0.2
KU2				MSG		11 04 01.4	
	comp=Z,2.6nm,0.2s						
KEV	Kevo	3.34	312	eP	Pn	11 03 12.9	+2.5
ARCES	ARCESS Array B	3.67	305	Pn	Pn	11 03 16.9	+1.9
	comp=Z,0.4nm,0.3s,baz=122,slow=15,SNR=65						
ARCES				Sn	Sn	11 03 59.7	+0.7
	comp=Z,0.8nm,0.3s,baz=114,slow=28,SNR=13						
ARCES				Lg	Lg	11 04 12.4	
	comp=Z,2.5nm,0.3s,baz=116,slow=26,SNR=13						
	comp=Z,0.9nm,0.3s						
ARCES	ARCESS Array B	3.67	305	P	Pn	11 03 16.9	+1.8
ARCES				S	Sn	11 03 59.6	+0.7
PAJU	Pajala	4.30	267	P	Pn	11 03 24.9	+1.2
LANU	Lannavaara	4.60	280	P	Pn	11 03 28.8	+1.0
LANU				S	Sn	11 04 21.9	0.0
KALU	Kalix	4.63	252	P	Pn	11 03 30.0	+1.9
KALU				S	Sn	11 04 23.4	+0.9
MASU	Masugnsbyn	4.65	273	P	Pn	11 03 29.5	+1.1
ERTU	Ertsjaerv	4.79	262	P	Pn	11 03 31.9	+1.6
KUA	Kurravaara	5.23	280	P	Pn	11 03 37.5	+1.1
KUA				S	Sn	11 04 36.3	-1.0
KOVU	Salmi	5.29	283	P	Pn	11 03 38.2	+1.0
KOVU				S	Sn	11 04 37.2	-1.6
SJUU	Sjulsmark	5.43	252	P	Pn	11 03 40.6	+1.4
RATU	Laukkuluspa	5.52	278	P	Pn	11 03 41.0	+0.6
I37NO	I37NO	5.90	291	I	I	11 42 50.0	
	baz=99,slow=323,SNR=0.4						
FINES	FINESS Array B	7.13	213	Pn	Pn	11 04 03.8	+1.4
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=1.9						
FINES				Sn	Sn	11 05 21.5	-2.6
	comp=Z,0.1nm,0.3s,baz=31,slow=24,SNR=1.6						
FINES				Lg	Lg	11 05 59.9	
	comp=Z,0.3nm,0.3s,baz=24,slow=27,SNR=4.4						
	comp=Z,0.7nm,0.7s						
FAUS	Fauske	7.22	276	S	Sn	11 05 24.7	-1.4
SPITS	Spitsbergen Ar	11.69	342	Pn	Pn	11 05 03.7	-1.0
	baz=141,slow=18						
SPITS				Sn	Sn	11 07 09.1	-6.6
	baz=142,slow=26						
	comp=Z,12nm,1.0s						
NOA	NORSAR Array B	11.87	247	Pn	Pn	11 05 05.8	-1.6
	baz=48,slow=26,SNR=0.9						
	comp=Z,0.2nm,0.8s						

SOF ***13*** *11:05:23.6, 41°.96N±0°.02×23°.19E±0°.05, h11km±8km, MD2.7/3*
SKO ***13*** *11:05:23.7, 41°.93N×23°.19E, h19km, ML1.8*
BEO ***13*** *11:05:25.0±0.3, 41°.93N×23°.16E, h3km±3km, ML2.0/4*
ATH ***13*** *11:05:27.0, 41°.72N×23°.23E, h12km±3km, ML2.0/10, Manual Solution by G.Panopoulou First location: 2019/04/13 11:06:32, This location: 2020/10/07 18:46:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
ISC 13 11:05:23.7±0.8, 41°.92N±0°.02×23°.19E±0°.02, h15km±5km, n40, σ0§93/71, 3C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	Krupnik	0.10	210	i Pg	Pg	11 05 27.1	+0.1
KKB				Sg	Sg	11 05 29.3	+0.2
KKB	Krupnik	0.10	210	⇓iPg	Pg	11 05 27.1	+0.1
KKB				i Sg	Sg	11 05 29.3	+0.2
MMB	Musomishta	0.56	132	P	Pg	11 05 34.8	0.0
MMB	Musomishta	0.56	132	⇑iPg	Pg	11 05 34.8	0.0
MMB				i Sg	Sg	11 05 42.3	0.0
PLNA	Plana	0.58	17	⇑iPg	Pg	11 05 35.0	-0.2
PLNA				Sg	Sg	11 05 43.0	+0.1
VTS	Vitosha	0.69	3	i Pg	Pg	11 05 36.0	-1.3
VTS				Sg	Sg	11 05 45.5	-1.1
VTS	Vitosha	0.69	3	ePg	Pg	11 05 36.6	-0.7
VTS				eSg	Sg	11 05 45.4	-1.1
VAY	Valandovo	0.76	218	i Pg	Pn	11 05 39.7	-0.3
VAY				i Sg	Sb	11 05 49.4	+0.5
VAY				eLg	Lg	11 05 50.0	
	comp=E,14nm,0.3s						
VAY				eLg	Lg	11 05 51.8	
	comp=N,29nm,0.3s						
VAY	Valandovo	0.76	218	ePg	Pn	11 05 39.4	-0.6
VAY				eSg	Sb	11 05 49.0	+0.1
BOSS	Bosilegrad	0.78	317	ePg	Pg	11 05 38.0	-0.9
BOSS				eSg	Sb	11 05 50.4	+1.0
KNT	Kendrikon	0.79	196	i Pg	Pg	11 05 39.0	-0.1
KNT				i Sg	Sb	11 05 49.6	-0.1
KNT	Kendrikon	0.79	196	P	Pg	11 05 39.1	-0.1
KNT				S	Sg	11 05 47.3	-2.2
SRS	Serrai	0.86	159	⇑iPg	Pg	11 05 40.4	-0.1
SRS				i Sg	Sb	11 05 52.4	+0.7
SRS	Serrai	0.86	159	ePg	Pg	11 05 40.3	-0.1
SRS				eSg	Sb	11 05 52.4	+0.7
SRS	Serrai	0.86	159	P	Pg	11 05 40.3	-0.1
SRS				S	Sg	11 05 49.4	-2.4
PGB	Panagyurishte	0.94	51	P	Pn	11 05 42.5	+0.1
DRA2	DRAMA	1.05	136	P	Pg	11 05 43.9	-0.1
DRA2				S	Sb	11 05 56.7	-0.4
SOH	Sokhos	1.11	174	P	Pb	11 05 44.7	0.0
SOH				S	Sb	11 05 55.8	-3.1
GRG	Griva	1.14	212	P	Pg	11 05 46.8	+1.2
GRG				S	Sb	11 05 59.3	-0.3
PLD	Plovdiv	1.18	79	P	Pg	11 05 46.5	0.0
PLD				S	Sn	11 06 02.7	+1.2
PLD	Plovdiv	1.18	79	i Pg	Pn	11 05 46.0	+0.3
PLD				i Sg	Sn	11 06 03.2	+1.7
PLD	Plovdiv	1.18	79	ePg	Pn	11 05 45.8	+0.1
PLD				eSg	Sn	11 06 02.7	+1.2
KOKK	Kokkinochori,	1.26	151	P	Pb	11 05 47.4	+0.2
KOKK				S	Sb	11 06 01.5	-1.8
THE	Thessaloniki	1.30	188	i Pg	Pg	11 05 49.1	+0.3
THE				i Sg	Sg	11 06 06.8	+1.1
THE	Thessaloniki	1.30	188	P	Pb	11 05 48.2	+0.4
THE				S	Sb	11 06 03.2	-1.2
HORT	Hortiatis	1.33	183	P	Pg	11 05 48.8	-0.4
HORT				S	Sb	11 06 03.2	-2.0
KVLA	Kavala	1.33	137	P	Pb	11 05 48.9	+0.4
KVLA				S	Sb	11 06 04.7	-0.6
BARS	Barje	1.35	312	i Pg	Pb	11 05 48.9	0.0
BARS				i Sg	Sg	11 06 06.8	-0.6
BARS	Barje	1.35	312	ePg	Pb	11 05 48.8	0.0
BARS				eSg	Sg	11 06 06.9	-0.5
KAVA	Kavala	1.36	133	P	Pb	11 05 49.4	+0.5
KAVA				S	Sn	11 06 06.3	+0.4
ZAPS	Zavoj	1.41	343	ePg	Pb	11 05 50.2	+0.4
ZAPS				eSg	Sg	11 06 10.0	+0.8
PLG	Polygyros	1.56	173	P	Pb	11 05 52.0	-0.4
OUR	Ouranopolis	1.70	159	P	Pb	11 05 54.6	0.0
THAS	Thassos island	1.75	138	P	Pb	11 05 55.6	+0.1
RDO	Rodhopi	1.93	113	P	Pb	11 05 59.4	+0.9
RDO				S	Sn	11 06 21.5	+1.6
SELS	Selova	2.00	311	ePn	Pb	11 06 00.5	+0.6
ZAGS	Zajecar	2.02	340	ePn	Pb	11 06 00.2	+0.1
ZAGS				eSn	Sn	11 06 23.5	+1.4
SMTH	Samothraki Isl	2.29	129	P	Pb	11 06 03.4	-1.3
BORS2	Bor- Borsko je	2.33	339	ePn	Pb	11 06 04.1	-1.3
XOR	Xorichti	2.56	180	P	Pn	11 06 05.1	+0.5

CNRM ***13*** *11:31:57.8, 37°.14N×15°.05W, h34km*
MDD ***13*** *11:32:03.9±0.9, 37°.25N×14°.33W, h5km, Mb4.4/15, M_mb3.9/15, Error ellipse: s-maj=7.2km s-min=5.6km az=56.0*
IGIL ***13*** *11:32:05.0, 37°.25N×14°.33W, h9km, ML2.8*
ISC 13 11:32:08.9±3.6, 37°.46N±0°.08×13°.8W±0°.2, h10km, n40, σ1§46/64, 15C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	Mafra	3.89	66	Pn	Pn	11 33 09.8	+1.0
PMAFR				Sn	Sn	11 33 58.4	+3.9
PFVI	Vila Bisbo	4.01	93	Pn	Pn	11 33 09.9	-0.5
PFVI	Vila Bisbo	4.01	93	P	Pn	11 33 10.4	0.0
PFVI	Vila Bisbo	4.01	93	S	Sn	11 34 05.7	+8.2
MORF	Marmelete	4.14	91	eP	Pn	11 33 11.9	-0.3
MORF				eS	Sn	11 34 00.5	-0.1
MORF				IAML		11 34 04.4	
	comp=N,20nm,0.5s						
MESJ	Messejana	4.48	83	eP	Pn	11 33 16.6	-0.2
MESJ				eS	Sn	11 34 09.3	+0.3
MESJ				IAML		11 34 13.0	
	comp=N,12nm,0.3s						
PCVE	Castro Verde	4.62	86	Pn	Pn	11 33 18.6	-0.1
PCVE				Sn	Sn	11 34 11.9	-0.5
EVO	Evora	4.73	75	Pn	Pn	11 33 20.8	+0.6
EVO				Sn	Sn	11 34 14.7	-0.4
PVAQ	Vaqueiros	4.88	89	Pn	Pn	11 33 22.5	+0.2
PVAQ	Vaqueiros	4.88	89	P	Pn	11 33 21.3	-1.0
PVAQ	Vaqueiros	4.88	89	S	Sn	11 34 29.9	+11
EGRO	El Granado	5.06	87	Pn	Pn	11 33 24.7	-0.1
EGRO				Sn	Sn	11 34 23.5	+0.2
EGRO	El Granado	5.06	87	Pn	Pn	11 33 24.6	-0.2
EGRO				⇑iVmb_V		11 33 26.8	
	comp=N,371nm,SNR=7.3						
EGRO				Sn	Sn	11 34 24.1	+0.8
PESTR	Estremoz	5.12	72	Pn	Pn	11 33 26.5	+0.8
PBAR	Barrancos	5.43	80	Pn	Pn	11 33 30.9	+1.0
PBAR				Sn	Sn	11 34 32.1	-0.4
EBAD	Badajoz	5.54	74	Pn	Pn	11 33 32.1	+0.7
EBAD				Sn	Sn	11 34 34.5	-0.7
EMIN	Mina Concepcio	5.70	85	Pn	Pn	11 33 34.2	+0.5
EMIN				Sn	Sn	11 34 39.7	+0.6
EMIN	Mina Concepcio	5.70	85	Pn	Pn	11 33 33.6	0.0
EMIN				⇑iVmb_V		11 33 36.7	
	comp=N,126nm,SNR=3.0						
EMIN				Sn	Sn	11 34 39.2	+0.1
EZAM	Zamans	6.13	39	Pn	Pn	11 33 39.5	-0.1
EZAM				⇑iVmb_V		11 33 47.3	
	comp=N,265nm,SNR=1.7						
EZAM				Sn	Sn	11 34 49.0	-0.7
ELOB	Lobios	6.26	44	Pn	Pn	11 33 41.4	0.0
ELOB				⇑iVmb_V		11 33 43.4	
	comp=N,157nm,SNR=1.3						
ELOB				Sn	Sn	11 34 52.8	-0.3
ESPR	Espera	6.41	93	Pn	Pn	11 33 43.6	+0.3
ESPR	Espera	6.41	93	Pn	Pn	11 33 43.0	-0.3
ESPR				⇑iVmb_V		11 33 45.0	
	comp=N,149nm,SNR=2.5						
ESPR				Sn	Sn	11 34 55.9	-0.6
EPLA	Plasencia	6.60	64	Pn	Pn	11 33 46.5	+0.6
EPLA				⇑iVmb_V		11 33 48.5	
	comp=N,132nm,SNR=

Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.65±.16; $M_{\theta\theta}$-3.70±.11; $M_{\phi\phi}$0.04±.12; $M_{r\theta}$1.15±.12; $M_{\theta\phi}$-0.67±.10; $M_{\phi r}$-0.50±.11; Best double couple: $M_0$3.94200×10^{16} NP1:ϕ_s250.00000°, δ38.00000°, λ73.00000°. NP2: ϕ_s90.00000°, δ54.00000°, λ103.00000°. Principal axes: T 3.9200, Plg77.0000°, Azm44.0000°; N 0.0420, Plg10.0000°, Azm263.0000°; P -3.9630, Plg8.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC **13** *11:37:06.9±0.9, 5.20S±0.04×151.93E±0.06, h56km±7km, mb4.8/123 Error ellipse: s-maj=10.9km s-min=3.2km az=123.0*

DJA **13** *11:37:14.1±1.3, 6.5S±5.5×15.2E±.4, h124km±9km, M4.9/26, mb4.9/26, mB5.3/7, MLv5.0/1, Mw(mB)4.7/7*

ISC 13 11:37:05.2±0.3, **5.25S**±0.04×**152.01E**±0.04, **h50**km, **n250**, σ1**S39**/198, **mb4.8**/88, **MS4.0**/50, **2D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.07**	**8**			**Pn**		**11 37 25.1**	**+1.3**
MANU	**Manus Island**	**5.62**	**304**			**Pn**		**11 38 26.1**	**-0.2**
PMG	**Port Moresby**	**6.34**	**229**			**Pn**		**11 38 37.5**	**+1.4**
PMG	**Port Moresby**	**6.34**	**229**	P		**Pn**		**11 38 37.3**	**+1.2**
	60nm,0.5s,baz=55,slow=6.6,SNR=36								
PMG				S		**Sn**		**11 39 48.5**	**+1.3**
	122nm,0.6s,baz=3.2,slow=1.8,SNR=6.8								
PMG	**Port Moresby**	**6.34**	**229**	P		**Pn**		**11 38 38.8**	**+2.7**
PMG	**Port Moresby**	**6.34**	**229**	P		**Pn**		**11 38 38.9**	**+2.8**
TATA	**Tatamba Isabel**	**8.34**	**112**	P		**Pn**		**11 39 06.5**	**+2.9**
TATA	**Tatamba Isabel**	**8.34**	**112**	S		**Sn**		**11 40 40.0**	**+3.5**
HNR	**Honiara**	**8.90**	**118**	Pn		**Pn**		**11 39 13.5**	**+2.3**
HNR	**Honiara**	**8.90**	**118**	P		**Pn**		**11 39 14.6**	**+3.4**
	119nm,0.8s,baz=241,slow=15,SNR=4.1								
HNR				LR		LR		11 42 43.6	
	comp=Z,534nm,20.7s,baz=292,slow=37								
JAY	**Jayapura**	**11.60**	**283**	P		**Pn**		**11 39 48.3**	**0.0**
	3.1nm,0.6s,baz=90,slow=20,SNR=6.7								
JAY				LR		LR		11 43 36.7	
	comp=Z,856nm,20.4s,baz=92,slow=34								
JAY	**Jayapura**	**11.60**	**283**	P		**Pn**		**11 39 50.8**	**+2.5**
GENI	**Genyem**	**12.11**	**282**	P		**Pn**		**11 39 58.7**	**+3.6**
	2μm80nm,1.3s								
COEN	**Coen**	**12.27**	**225**	Pn		**Pn**		**11 39 58.5**	**+1.1**
COEN	**Coen**	**12.27**	**225**	P		**Pn**		**11 40 00.0**	**+2.6**
PATS	**Pohnpei**	**13.56**	**28**	Pn		**Pn**		**11 40 15.8**	**+0.8**
SMPI	**Sarmi**	**13.66**	**283**	P		**P**		**11 40 23.8**	**0.0**
	45nm,1.3s								
MTSU	**Mount Surprise**	**14.85**	**210**	P		**P**		**11 40 39.3**	**+2.3**
QIS	**Mount Isa**	**19.41**	**217**	P		**Pn**		**11 41 28.8**	**-0.1**
	comp=Z,63nm,1.1s								
QIS	**Mount Isa**	**19.41**	**217**	P		**Pn**		**11 41 29.2**	**+0.3**
FAKI	**Fak Fak**	**19.84**	**276**	P		**P**		**11 41 31.0**	**-1.2**
FAKI				IAmb		IAmb		11 41 55.7	
	comp=Z,36nm,1.0s								
FAKI	**Fak Fak**	**19.84**	**276**	P		**P**		**11 41 32.2**	**0.0**
GUMO	**Guam**	**20.02**	**339**	P		**P**		**11 41 33.7**	**-0.3**
	comp=Z,160nm,1.1s,baz=168,slow=9.6,SNR=3.7								
GUMO				LR		LR		11 48 22.9	
	comp=Z,70nm,21.2s,baz=163,slow=34								
EIDS	**Eidsvold**	**20.02**	**182**	P		Pn		11 41 35.7	-0.4
EIDS				IAmb		IAmb		11 41 39.4	
	comp=Z,48nm,1.1s								
EIDS	**Eidsvold**	**20.02**	**182**	P		Pn		11 41 36.2	+0.1
KDU	**Kakadu**	**20.65**	**248**	P		**P**		**11 41 40.1**	**-0.8**
	comp=Z,98nm,0.8s								
KDU	**Kakadu**	**20.65**	**248**	P		**P**		**11 41 40.7**	**-0.2**
SWI	**Sorong**	**21.17**	**281**	P		**P**		**11 41 47.0**	**+0.5**
	comp=Z,60nm,0.9s								
DZM	**Mont Dzumac**	**21.79**	**141**	P		**P**		**11 41 54.7**	**+1.6**
DZM				IAmb		IAmb		11 42 17.1	
	comp=Z,32nm,1.1s								
DZM	**Mont Dzumac**	**21.79**	**141**	*e*P		**P**		**11 41 50.1**	**-3.1**
	comp=Z,151nm,24.8s								
DZM				*e*S		**S**		**11 45 43.1**	**-8.5**
	comp=Z,901nm,25.1s								
DZM				*e*LR		LR		11 47 12.1	
	comp=Z,1μm,23.6s								
DZM	**Mont Dzumac**	**21.79**	**141**	P		**P**		**11 41 55.5**	**+2.3**
	comp=Z,7.6nm,0.6s,baz=347,slow=18								
DZM				LR		LR		11 49 15.7	
	comp=Z,879nm,21.1s,baz=319,slow=33								
	comp=Z,7.6nm,0.6s								
DZM	**Mont Dzumac**	**21.79**	**141**	P		**P**		**11 41 54.8**	**+1.6**
MTN	**Manton Dam**	**21.94**	**248**	P		**P**		**11 41 54.9**	**+0.1**
MTN				IAmb		IAmb		11 42 07.4	
	comp=Z,61nm,1.2s								
MTN	**Manton Dam**	**21.94**	**248**	P		**P**		**11 41 54.2**	**-0.6**
	comp=Z,43nm,0.6s								
MTN	**Manton Dam**	**21.94**	**248**	P		**P**		**11 41 55.5**	**+0.7**
DRS	**Darwin Rock St**	**22.03**	**250**	P		**P**		**11 41 55.8**	**+0.1**
WB0	**Warramunga Arr**	**22.41**	**228**	P		**P**		**11 41 59.9**	**+0.1**
WB0				IAmb		IAmb		11 42 13.6	
	comp=Z,61nm,1.0s								
WR8	**Warramunga Arr**	**22.45**	**228**	P		**P**		**11 41 59.7**	**-0.5**
WR8				IAmb		IAmb		11 42 13.9	
	comp=Z,51nm,0.9s								
QLP	**Quilpie**	**22.47**	**198**	P		P		11 42 11.5	+11
WRAB	**Tennant Creek**	**22.54**	**228**	P		**P**		**11 42 00.7**	**-0.6**
WRAB				IAmb		IAmb		11 42 14.7	
	comp=Z,48nm,0.8s								
WRA	**Warramunga Arr**	**22.56**	**228**			**P**		**11 42 00.1**	**-1.3**
WRA	**Warramunga Arr**	**22.56**	**228**	P		**P**		**11 42 01.0**	**-0.4**
	comp=Z,16nm,0.7s,baz=52,slow=9.7,SNR=66								
WRA				S		**S**		**11 46 03.6**	**-1.9**
	comp=Z,7.4nm,1.1s,baz=57,slow=18,SNR=13								
WRA				ScP		**ScP**		**11 49 27.5**	**+0.2**
	comp=Z,3.7nm,1.1s,baz=47,slow=2.6,SNR=6.2								
WRA				LR		LR		11 51 03.6	
	comp=Z,314nm,21.4s,baz=58,slow=37								
	comp=Z,16nm,0.7s								
INKA	**Innaminka**	**24.80**	**204**	P		**P**		**11 42 24.0**	**+1.4**
ARMA	**Armidale**	**25.04**	**181**	P		**P**		**11 42 26.0**	**+1.1**
KNRA	**Kununurra**	**25.07**	**244**	P		**P**		**11 42 24.9**	**-0.3**
KNRA				IAmb		IAmb		11 42 48.8	
	comp=Z,34nm,0.7s								
KNRA	**Kununurra**	**25.07**	**244**	P		**P**		**11 42 24.3**	**-0.9**
	comp=Z,53nm,0.9s								
AS01	**Alice Springs**	**25.25**	**222**	P		**P**		**11 42 27.2**	**+0.3**
AS31	**Alice Springs**	**25.29**	**222**			**P**		**11 42 27.5**	**+0.3**
AS31				IAmb		IAmb		11 42 41.7	
	comp=Z,22nm,0.8s								
AS31	**Alice Springs**	**25.29**	**222**	P		**P**		**11 42 27.5**	**+0.3**
	comp=Z,32nm,1.0s								
ASAR	**Alice Springs**	**25.29**	**222**			**P**		**11 42 27.4**	**+0.2**
ASAR	**Alice Springs**	**25.29**	**222**	P		**P**		**11 42 27.2**	**0.0**
	comp=Z,11nm,0.8s,baz=56,slow=8.9,SNR=47								
ASAR				S		**S**		**11 46 49.9**	**+0.1**
	comp=Z,3.7nm,1.0s,baz=40,slow=19,SNR=7.1								
ASAR				ScP		**ScP**		**11 49 34.0**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=48,slow=3.5,SNR=8.3								
ASAR				LR		LR		11 52 35.9	
	comp=Z,302nm,21.0s,baz=64,slow=37								
	comp=Z,11nm,0.8s								
CMSA	**Cobar Meteorol**	**26.81**	**192**	P		**P**		**11 42 40.3**	**-0.5**
OOD	**Oodnadatta**	**27.27**	**213**	P		**P**		**11 42 46.4**	**+1.4**
SOEI	**Soe**	**27.86**	**259**	P		**P**		**11 42 50.0**	**-0.5**
SOEI				IAmb		IAmb		11 43 17.6	
	comp=Z,34nm,1.0s								
SOEI	**Soe**	**27.86**	**259**	P		**P**		**11 42 48.8**	**-1.8**
	comp=Z,24nm,0.7s								
STKA	**Stephens Creek**	**28.23**	**199**			**P**		**11 42 53.7**	**+0.2**
STKA	**Stephens Creek**	**28.23**	**199**	P		P		11 43 00.0	+6.5
STKA	**Stephens Creek**	**28.23**	**199**	P		**P**		**11 42 54.2**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=23,slow=14,SNR=4.3								
STKA				LR		LR		11 54 32.6	
	comp=Z,301nm,19.6s,baz=20,slow=37								
	comp=Z,2.2nm,0.8s								
LCRK	**Leigh Creek**	**28.23**	**206**	P		**P**		**11 42 54.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**28.75**	**241**	P		**P**		**11 42 57.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**28.75**	**241**	P		**P**		**11 42 57.5**	**-0.8**
	comp=Z,22nm,0.8s,baz=79,slow=6.9,SNR=35								
FITZ				LR		LR		11 55 51.1	
	comp=Z,406nm,19.6s,baz=61,slow=39								
	comp=Z,22nm,0.8s								
DAV	**Davao City (W)**	**29.08**	**295**	LR		LR		11 54 00.4	
	comp=Z,223nm,18.9s,baz=106,slow=35								
WRKA	**Warakurna**	**30.07**	**227**	P		**P**		**11 43 08.6**	**-1.4**
WRKA	**Warakurna**	**30.07**	**227**	P		**P**		**11 43 09.6**	**-0.5**
EDFI	**Ende, Flores**	**30.29**	**262**	P		P		11 43 00.0	-12
BBOO	**Buckleboo**	**31.20**	**207**	P		**P**		**11 43 19.6**	**-0.2**
BBOO				IAmb		IAmb		11 43 20.7	
	comp=Z,30nm,1.5s								
BBOO	**Buckleboo**	**31.20**	**207**	P		**P**		**11 43 18.8**	**-1.0**
WSI	**Waingapu**	**31.74**	**260**	P		P		11 43 17.5	-7.3
KAPI	**Kappang**	**32.13**	**269**	LR		LR		12 00 41.3	
	comp=Z,110nm,18.8s,baz=66,slow=44								
SPSI	**Sidrap Palu**	**32.16**	**271**	P		P		11 43 41.5	+13
PCI	**Palu**	**32.41**	**277**	P		P		11 43 40.4	+10
MPSI	**Mapaga**	**32.55**	**279**	P		**P**		**11 43 31.0**	**-0.9**
	comp=Z,1μmcomp=Z,17nm,0.8s								
WBSI	**Waikabubak, Su**	**32.62**	**260**	P		**P**		**11 43 29.1**	**-3.5**
TOO	**Toolangi**	**32.71**	**190**	P		**P**		**11 43 34.0**	**+0.8**
ARPS	**Mount Arapiles**	**32.72**	**195**	P		**P**		**11 43 33.7**	**+0.6**
JCJ	**Chichijima**	**33.53**	**344**	LR		LR		11 57 35.4	
	comp=Z,93nm,19.4s,baz=116,slow=37								
FORT	**Forrest**	**33.94**	**219**	P		**P**		**11 43 43.4**	**-0.4**
FORT	**Forrest**	**33.94**	**219**	P		**P**		**11 43 43.3**	**-0.6**
PLAI	**Plampang**	**34.15**	**262**	P		**P**		**11 43 45.6**	**-0.3**
MBWA	**Marble Bar**	**35.06**	**240**			**P**		**11 43 53.2**	**-0.5**
MBWA				IAmb		IAmb		11 44 06.3	
	comp=Z,16nm,0.9s								
MBWA	**Marble Bar**	**35.06**	**240**	P		**P**		**11 43 52.4**	**-1.3**
	comp=Z,22nm,1.0s								
MBWA	**Marble Bar**	**35.06**	**240**	P		**P**		**11 43 53.4**	**-0.3**
MBWA	**Marble Bar**	**35.06**	**240**	P		**P**		**11 43 52.8**	**-0.9**
MBWA				pP		**pP**		**11 44 05.6**	**-1.4**
PSA00	**Pilbara Seismi**	**35.12**	**239**	P		**P**		**11 43 52.9**	**-1.3**
	comp=Z,32nm,1.4s								
KKM	**Kota Kinabalu**	**37.46**	**287**	P		**P**		**11 44 14.2**	**-0.1**
KKM				IAmb		IAmb		11 44 35.7	
	comp=Z,9.1nm,0.8s								
MEEK	**Meekatharra**	**38.30**	**233**	P		**P**		**11 44 20.4**	**-0.9**
	comp=Z,35nm,0.7s								
JOW	**Kunigami**	**39.31**	**325**	P		**P**		**11 44 29.2**	**-0.3**
JOW	**Kunigami**	**39.31**	**325**	LR		LR		11 57 28.6	
	comp=Z,247nm,21.7s,baz=155,slow=31								
JHJ	**Hachijo jima 2**	**39.89**	**344**	LR		LR		11 58 02.7	
	comp=Z,199nm,19.6s,baz=222,slow=32								
URZ	**Urewera**	**40.00**	**149**	LR		LR		11 59 11.2	
	comp=Z,324nm,19.6s,baz=54,slow=33								
GIRL	**Giralia**	**40.36**	**241**	P		**P**		**11 44 38.3**	**-0.1**
MORW	**Morawa**	**41.45**	**231**			**P**		**11 44 46.5**	**-0.8**
MORW				IAmb		IAmb		11 45 10.8	
	comp=Z,17nm,1.1s								
MORW	**Morawa**	**41.45**	**231**	P		**P**		**11 44 46.2**	**-1.1**
RPZ	**Rata Peaks**	**41.82**	**159**	LR		LR		12 00 02.0	
	comp=Z,511nm,21.9s,baz=323,slow=33								
JMN	**Monobe**	**42.40**	**337**	P		**P**		**11 44 54.9**	**-0.1**
JMN				IAmb		IAmb		11 45 18.5	
	comp=Z,38nm,1.2s								
NWAO	**Narrogin (SRO)**	**42.51**	**225**	LR		LR		12 03 02.7	
	comp=Z,277nm,20.1s,baz=88,slow=37								
INU	**Inuyama**	**42.78**	**342**	P		**P**		**11 44 58.2**	**+0.3**
INU	**Inuyama**	**42.78**	**342**	P		**P**		**11 44 57.7**	**-0.2**
JNU	**Nakatsue**	**43.11**	**334**			**P**		**11 45 00.4**	**-0.4**
JNU				IAmb		IAmb		11 45 03.9	
	comp=Z,16nm,0.8s								
JNU	**Nakatsue**	**43.11**	**334**	LR		LR		12 01 14.4	
	comp=Z,134nm,22.0s,baz=171,slow=34								
MJAR	**Matsushiro Arr**	**43.54**	**344**	P		**P**		**11 45 02.4**	**-1.8**
	comp=Z,3.1nm,0.8s,baz=166,slow=8.1,SNR=10								
MJAR				LR		LR		12 00 42.8	
	comp=Z,228nm,21.2s,baz=176,slow=33								
	comp=Z,3.1nm,0.8s								
MAJO	**Matsushiro**	**43.54**	**344**	P		**P**		**11 45 05.2**	**+1.1**
MJB9	**Matsu-Tunnel**	**43.54**	**344**	P		**P**		**11 45 04.0**	**-0.1**
JMM	**Marumori**	**44.15**	**347**	P		**P**		**11 45 09.9**	**+0.9**
JMM				IAmb		IAmb		11 45 35.8	
	comp=Z,34nm,1.4s								
JSD	**Sado**	**44.93**	**345**	P		**P**		**11 45 16.2**	**+1.1**
DLV	**Lat**	**46.53**	**292**			**P**		**11 45 28.0**	**-0.5**
JTM	**Tenmabayashi**	**46.90**	**349**	P		**P**		**11 45 30.5**	**-0.2**
KSRS	**Korea Array**	**48.05**	**334**	P		**P**		**11 45 39.5**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=152,slow=7.2,SNR=11								
KSRS				LR		LR		12 04 30.9	
	comp=Z,76nm,20.5s,baz=150,slow=34								
	comp=Z,1.8nm,0.6s								
NJ2	**Nanjing**	**48.70**	**322**	*e*P		**P**		**11 45 47.3**	**+2.5**
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.5s								
NJ2				LR		LR			
	comp=N,230nm,19.9s								
NJ2				LR		LR			
	comp=E,160nm,15.2s								
NJ2				LR		LR			
	comp=Z,270nm,19.9s								
RAR	**Rarotonga**	**49.32**	**113**	LR		LR		12 06 09.0	
	comp=Z,72nm,18.5s,baz=282,slow=35								
ASAJ	**Asahikawa**	**49.87**	**351**	LR		LR		12 04 57.2	
	comp=Z,86nm,21.8s,baz=168,slow=34								
USRK	**Ussuriysk Ar.**	**52.42**	**342**	P		**P**		**11 46 12.1**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=151,slow=8.3,SNR=5.4								
USRK				LR		LR		12 05 21.3	
	comp=Z,90nm,22.0s,baz=168,slow=32								
	comp=Z,2.4nm,0.7s								
RPSI	**Rantau Prapat**	**53.61**	**277**	P		**P**		**11 46 21.6**	**-0.4**
PSI	**Prapat**	**53.63**	**277**	LR		LR		12 11 51.7	
	comp=Z,202nm,19.7s,baz=148,slow=39								
GSI	**Gunungsitoli**	**54.76**	**275**	P		**P**		**11 46 29.1**	**-1.2**
BNX	**BinXian**	**55.31**	**339**	||P	**P**		**11 46 35.4**	**+1.7**
BNX				pmax		pmax			
	comp=Z,7.0nm,1.6s								
XAN	**Xi'an**	**56.41**	**317**	P		**P**		**11 46 41.3**	**-0.6**
XAN				pmax		pmax			
	comp=Z,13nm,0.7s								
XAN				pmax		pmax			
	comp=Z,15nm,0.9s								
XAN				LR		LR			
	comp=N,26μm,15.8s								
XAN				LR		LR			
	comp=E,16μm,13.7s								
XAN				LR		LR			
	comp=Z,410nm,16.0s								
KLR	**Kul'dur**	**57.06**	**344**	P		**P**		**11 46 45.6**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=141,slow=3.0,SNR=8.1								
KLR				LR		LR		12 08 45.5	
	comp=Z,88nm,21.6s,baz=168,slow=33								
	comp=Z,3.3nm,0.8s								
CMAR	**Chiang Mai Arr**	**57.36**	**296**			**P**		**11 46 48.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**57.36**	**296**	P		**P**		**11 46 48.0**	**-0.9**
	comp=Z,6.0nm,1.0s,baz=113,slow=5.4,SNR=32								
CMAR				PKP2bc				12 16 50.5	
	comp=Z,1.7nm,0.9s,baz=292,slow=4.1,SNR=9.1								
	comp=Z,6.0nm,1.0s								
CHTO	**Chiang Mai**	**57.47**	**296**			**P**		**11 46 49.4**	**-0.3**
CHTO				IAmb		IAmb		11 47 04.1	
	comp=Z,16nm,1.3s								
CHTO	**Chiang Mai**	**57.47**	**296**	P		**P**		**11 46 49.9**	**+0.2**
CHTO				pP		**pP**		**11 47 02.9**	**-0.9**
PZH	**PanZhiHua**	**57.99**	**306**	P		**P**		**11 46 55.3**	**+2.0**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,110nm,5.1s								
PETK	**Petropavlovsk-**	**58.34**	**4**	P		**P**		**11 46 55.1**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=163,slow=6.2,SNR=6.7								
PETK				LR		LR		12 08 25.6	
	comp=Z,123nm,20.5s,baz=175,slow=32								
	comp=Z,0.8nm,0.6s								
PPT	**Papeete**	**58.34**	**107**	LR		LR		12 09 20.2	
	comp=Z,69nm,19.1s,baz=316,slow=33								
PPT2	**Papeete2**	**58.34**	**107**	*e*P		**P**		**11 46 56.5**	**+0.6**
	comp=Z,46nm,28.0s								
PPT2				*e*S		**S**		**11 54 52.8**	**-2.5**
	comp=Z,48nm,26.8s								
PPT2				*e*SS		**SS**		**11 58 46.5**	**-1.6**
	comp=Z,49nm,23.8s								
PPT2				*e*LQ		LQ		12 01 43.3	
	comp=Z,166nm,22.8s								
PPT2				*e*LR		LR		12 04 10.9	
	comp=Z,98nm,24.5s								
PPT2				*e*LR		LR		12 04 11.0	
	comp=Z,114nm,30.5s								
XLT	**XiLinHaoTe**	**58.66**	**330**	*e*P		P		11 47 04.3	+6.7
XLT				pP		sP		11 47 19.6	+2.2
XLT				sP		PcP		11 47 29.3	-18
XLT				pmax		pmax			
	comp=Z,10.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**58.96**	**325**	*e*P		**P**		**11 47 01.8**	**+2.0**
HHC				pmax		pmax			
	comp=Z,14nm,0.8s								
TBI	**Tubuai**	**59.09**	**114**	*e*S		**S**		**11 54 58.4**	**-6.3**
	comp=Z,204nm,26.2s								
TBI				*e*LQ		LQ		12 02 03.6	
	comp=Z,2μm,34.2s								
TBI				*e*LR		LR		12 04 27.4	
	comp=Z,1μm,29.8s								
HEH	**HeiHe**	**59.23**	**342**	*e*P		**P**		**11 46 58.8**	**-2.5**
HEH				pmax		pmax			
	comp=Z,5.0nm,0.8s								
SHEM	**Shemya Is, Ala**	**60.73**	**15**	LR		LR		12 07 44.7	
	comp=Z,212nm,21.2s,baz=170,slow=30								
DRV	**Dumont d'Urvil**	**61.87**	**185**	P		**P**		**11 47 19.6**	**+0.6**
DRV				pP		**pP**		**11 47 32.1**	**-1.0**
GTA	**Gaotai**	**65.45**	**318**	*e*P		**P**		**11 47 43.6**	**+0.2**
GTA				sP		pP		11 47 57.4	-0.3
GTA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
ULN	**Ulaanbaatar**	**65.97**	**329**			**P**		**11 47 46.7**	**+0.2**
ULN	**Ulaanbaatar**	**65.97**	**329**	P		**P**		**11 47 46.5**	**0.0**
SONM	**Songino Array**	**66.29**	**328**	P		**P**		**11 47 48.6**	**0.0**
SONM				IAmb		IAmb		11 47 52.8	
	comp=Z,6.2nm,0.6s								
SONM	**Songino Array**	**66.29**	**328**	P		**P**		**11 47 47.7**	**-0.8**
	comp=Z,6.0nm,0.5s,baz=143,slow=4.9,SNR=18								
SONM				LR		LR		12 15 25.7	
	comp=Z,108nm,20.6s,baz=148,slow=35								
	comp=Z,6.0nm,0.5s								
TAOE	**Nuku Hiva Isla**	**67.35**	**97**	*e*LR		LR		12 08 17.5	
	comp=Z,93nm,32.9s								
CASY	**Casey**	**67.35**	**197**	P		**P**		**11 47 55.5**	**+0.6**
SEY	**Seymchan**	**68.00**	**0**	LR		LR		12 14 44.3	
	comp=Z,33nm,20.9s,baz=182,slow=33								
YAK	**Yakutsk**	**69.26**	**349**	LR		LR		12 20 42.2	
	comp=Z,43nm,18.5s,baz=155,slow=38								
CCD	**Concordia, Ant**	**71.71**	**188**	P		**P**		**11 48 22.3**	**+0.2**
CCD				pP		**pP**		**11 48 35.4**	**-1.0**
PALK	**Pallekele**	**72.23**	**279**	LR		LR		12 22 48.7	
	comp=Z,81nm,19.3s,baz=113,slow=38								
RKT	**Rikitea**	**72.34**	**112**	*e*LR		LR		12 10 35.6	
	comp=Z,1μm,30.8s								
VNDA	**Vanda**	**72.41**	**178**			**P**		**11 48 26.7**	**+1.0**
VNDA				IAmb		IAmb		11 48 39.8	
	comp=Z,11nm,1.0s								
VNDA	**Vanda**	**72.41**	**178**	P		**P**		**11 48 26.5**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=325,slow=6.6,SNR=14								
	comp=Z,3.0nm,0.8s								
BILL	**Bilibino**	**73.81**	**6**			**P**		**11 48 34.9**	**+0.8**
O14K	**Tigyukauivet M**	**74.17**	**23**	P		**P**		**11 48 37.2**	**+0.9**
O15K	**Ungalikthiuk R**	**74.69**	**23**	P		**P**		**11 48 40.2**	**+0.9**
O15K				IAmb		IAmb		11 49 00.5	
	comp=Z,12nm,1.3s								
WMQ	**Urumqi**	**75.54**	**318**	*e*P		**P**		**11 48 46.9**	**+2.2**
WMQ				LR		LR			
	comp=Z,120nm,24.2s								
KDAK	**Kodiak Island**	**76.93**	**27**	LR		LR		12 15 26.2	
	comp=Z,231nm,21.7s,baz=60,slow=30								
L19K	**White Mountain**	**78.47**	**23**			**P**		**11 49 02.0**	**+1.3**
J20K	**Nowinta River**	**79.89**	**21**	P		**P**		**11 49 09.6**	**+1.3**
MKAR	**Makanchi Array**	**80.15**	**319**			**P**		**11 49 09.5**	**-0.7**
MKAR	**Makanchi Array**	**80.15**	**319**	P		**P**		**11 49 09.3**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=99,slow=6.4,SNR=13								
MKAR				LR		LR		12 22 55.3	
	comp=Z,78nm,21.5s,baz=137,slow=34								
	comp=Z,1.3nm,0.5s								
F19K	**Shaleruckik Mo**	**80.29**	**18**	P		**P**		**11 49 11.1**	**+0.6**
PWL	**Port Wells**	**80.39**	**25**	IAmb		IAmb		11 49 13.3	
	comp=Z,20nm,1.0s								
ZAA0	**Zalesovo Array**	**81.09**	**327**			**P**		**11 49 14.3**	**-0.7**
ZALV	**Zalesovo Beam**	**81.09**	**327**	P		**P**		**11 49 13.4**	**-1.6**
	comp=Z,5.5nm,0.6s,baz=109,slow=5.7,SNR=27								
ZALV				LR		LR		12 23 35.7	
	comp=Z,75nm,21.9s,baz=129,slow=34								
	comp=Z,5.5nm,0.6s								
MCK	**McKinley**	**81.58**	**23**	IAmb		IAmb		11 49 37.5	
	comp=Z,18nm,1.2s								
KDJ	**Kajisay**	**82.35**	**314**	P		**P**		**11 49 21.6**	**-0.6**
KDJ				IAmb		IAmb		11 49 23.0

WCT	**Wildcat Mounta**	**94.20**	**54**	IAmb	IAmb	11 50 21.7	
	comp=Z,5.5nm,0.9s						
NEW	**Newport**	**94.46**	**42**	IAmb	IAmb	11 50 21.8	
	comp=Z,5.1nm,1.0s						
NEW	**Newport**	**94.46**	**42**	LR	LR	12 26 36.4	
	comp=Z,169nm,19.5s,baz=264,slow=31						
PLID	**Pearl Lake**	**95.09**	**45**	IAmb	IAmb	11 50 23.9	
	comp=Z,4.7nm,1.2s						
R11B	**Troy Canyon, C**	**95.11**	**52**	IAmb	IAmb	11 50 26.5	
	comp=Z,4.5nm,1.3s						
MFID	**Camas Ranch**	**95.14**	**47**	IAmb	IAmb	11 50 26.3	
	comp=Z,5.6nm,1.2s						
SHPR	**Sheep Range**	**95.36**	**54**		**P**	**11 50 26.4**	**+1.6**
ELIB	**Princess Elisa**	**96.17**	**194**	*d*P	**P**	**11 50 27.9**	**+0.2**
	comp=Z,4.3nm,1.3s						
HLID	**Hailey**	**96.18**	**47**	IAmb	IAmb	11 50 30.6	
	comp=Z,2.3nm,0.9s						
YKA	**Yellowknife Ar**	**96.19**	**28**	P	**P**	**11 50 27.8**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=271,slow=4.3,SNR=12						
YKA				PKiKP	**PKiKP**	**11 55 04.7**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=270,slow=1.4,SNR=5.5						
YKA				LR	LR	12 27 53.5	
	comp=Z,69nm,20.6s,baz=291,slow=32						
	comp=Z,0.5nm,0.7s						
ARTI	**Arti**	**96.35**	**326**	LR	LR	12 33 28.4	
	comp=Z,176nm,21.7s,baz=92,slow=35						
AKTO	**Aktyubinsk**	**96.56**	**320**	LR	LR	12 33 56.5	
	comp=Z,95nm,21.2s,baz=123,slow=35						
LCMT	**Little Creek M**	**96.92**	**53**	IAmb	IAmb	11 50 47.7	
	comp=Z,3.2nm,1.2s						
HVU	**Hansel Valley**	**97.36**	**49**	IAmb	IAmb	11 50 35.6	
	comp=Z,2.7nm,0.9s						
U15A	**North Rim**	**97.67**	**54**	IAmb	IAmb	11 50 38.3	
	comp=Z,5.2nm,1.2s						
BOZ	**Bozeman (W)**	**98.18**	**45**	IAmb	IAmb	11 50 41.3	
	comp=Z,3.7nm,1.1s						
TMUT	**Trail Mountain**	**98.55**	**51**	IAmb	IAmb	11 50 43.6	
	comp=Z,5.0nm,1.1s						
LPIG	**La Paz**	**99.13**	**67**	LR	LR	12 26 48.4	
	comp=Z,53nm,21.7s,baz=286,slow=30						
PD31	**Pinedale Array**	**99.73**	**48**	IAmb	IAmb	11 50 45.4	
	comp=Z,2.7nm,0.9s						
PDAR	**Pinedale Array**	**99.73**	**48**	P	**Pdif**	**11 50 44.3**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=249,slow=2.2,SNR=15						
PDAR				LR	LR	12 29 56.5	
	comp=Z,72nm,19.4s,baz=288,slow=32						
	comp=Z,1.7nm,0.9s						
FINES	**FINESS Array B**	**111.14**	**335**	PKiKP	**PKiKP**	**11 55 33.2**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=96,slow=2.8,SNR=5.8						
BRTR	**Keskin Array B**	**115.01**	**312**	PKP	**PKiKP**	**11 55 40.4**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=74,slow=3.2,SNR=3.9						
NB2	**NORSAR Subarra**	**117.07**	**340**	PKPdf	**PKPdf**	**11 55 43.0**	**-1.5**
	comp=Z,3.7nm,1.4s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**117.07**	**340**	PKP	**PKPdf**	**11 55 42.9**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=51,slow=1.9,SNR=5.1						
BOSA	**Boshof**	**118.72**	**233**	PKP	**PKiKP**	**11 55 48.4**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=118,slow=3.3,SNR=4.9						
STEB	**Steborice**	**121.22**	**327**	*e*PKPDF	**PKPdf**	**11 55 51.7**	**-1.0**
CLL	**Collm**	**122.86**	**331**	*i* PKPdf	**PKiKP**	**11 55 55.5**	**-0.5**
RONA	**Rosalia, Austr**	**123.27**	**326**	*e*PKiKP	**PKiKP**	**11 55 57.8**	**+0.8**
	comp=Z,4.0nm,0.6s						
KHC	**Kasperske Hory**	**123.92**	**328**	*e*PKPDF	**PKiKP**	**11 55 57.9**	**-0.4**
ARSA	**Arzberg**	**123.96**	**326**	*i* PKP	**PKPdf**	**11 55 57.6**	**-0.5**
	comp=Z,3.5nm,0.9s						
GERES	**GERESS Array B**	**124.02**	**328**	PKP	**PKPdf**	**11 55 58.0**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=74,slow=1.7,SNR=13						
OBKA	**Obir**	**124.93**	**325**	*i* PKP	**PKPdf**	**11 55 59.0**	**-1.1**
	comp=Z,7.9nm,1.2s						
KBA	**Koelnbreinsper**	**125.27**	**326**	*i* PKiKP	**PKiKP**	**11 56 01.6**	**+0.4**
	comp=Z,3.2nm,0.9s						
LESA	**Schwarzleotal**	**125.43**	**327**	*i* PKP	**PKPdf**	**11 56 00.0**	**-1.0**
	comp=Z,2.0nm,0.5s						
ABTA	**Abfaltersbach**	**125.93**	**327**	*e*PKP	**PKPdf**	**11 56 01.1**	**-0.9**
	comp=Z,2.4nm,0.6s						
WTTA	**Wattenberg**	**126.08**	**327**	*i* PKP	**PKPdf**	**11 56 02.0**	**-0.4**
	comp=Z,5.3nm,0.7s						
EKA	**Eskdalemuir Ar**	**126.23**	**343**	PKP	**PKiKP**	**11 56 02.3**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=26,slow=2.7,SNR=4.1						
MOTA	**Moosalm**	**126.32**	**328**	*i* PKP	**PKPdf**	**11 56 02.4**	**-0.4**
	comp=Z,9.6nm,1.3s						
FETA	**Feichten**	**126.72**	**328**	*i* PKP	**PKiKP**	**11 56 03.4**	**-0.7**
	comp=Z,5.6nm,1.2s						
CZSB	**Cruzeiro do Su**	**133.57**	**106**		**PKiKP**	**11 56 18.5**	**-0.1**
LPAZ	**La Paz**	**134.89**	**119**		**PKiKP**	**11 56 22.1**	**+0.2**
LPAZ	**La Paz**	**134.89**	**119**	PKP	**PKiKP**	**11 56 21.7**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=224,slow=2.1,SNR=11						
SDV	**Santo Domingo**	**137.55**	**83**		PKPpre	11 56 17.4	
CPUP	**Villa Florida**	**137.64**	**139**	PKP	**PKiKP**	**11 56 25.6**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=242,slow=4.4,SNR=4.4						
MACA	**Manacapuru-AM**	**146.29**	**104**		**PKPab**	**11 56 42.6**	**+0.3**
VAO	**Valinhos**	**146.35**	**147**		**PKPab**	**11 56 42.6**	**+0.3**
BOAV	**Boa Vista**	**147.42**	**94**		**PKPab**	**11 56 45.5**	**-1.2**
TORD	**Torodi Ar. Bea**	**149.69**	**287**		**PKPbc**	**11 56 50.0**	**-0.5**
BDFB	**Brasilia**	**151.29**	**137**	PKPbc	**PKiKP**	**11 56 55.1**	**+0.1**
	comp=Z,9.5nm,1.0s,baz=308,slow=2.1,SNR=9.8						

*IDC **13** 11:56:20.9±0.6, 0°.98N×119°.90E, h0km, mb3.9/15, mbtmp3.9/17, ML3.8/2, Error ellipse: s-maj=26.3km s-min=12.1km az=65.0*
*NEIC **13** 11:56:22.0±2.1, 1°.10N±0°.04×119°.36E±0°.05, h15km±5km, mb4.4/13, Error ellipse: s-maj=9.2km s-min=2.9km az=52.0*
*DJA **13** 11:56:22.5±1.0, 1°N±3°×11°9E±°, h18km±8km, M4.4/12, mB4.7/1, mb4.5/5, MLv4.3/12, Mw(mB)3.9/1*
ISC 13 11:56:22.1±0.5, **1°.00N**±0°.05×**119°.29E**±0°.05, **h10**km, **n48**, σ1§**92**/51, **mb4.1**/22, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.89**	**137**	P	**Pg**	**11 56 39.1**	**-0.2**
MPSI				S	**Sb**	**11 56 53.4**	**+1.7**
TOLI2	**Tolitoli**	**1.49**	**86**		**Pn**	**11 56 46.9**	**-2.1**
PCI	**Palu**	**1.97**	**164**	P	**Pn**	**11 56 55.8**	**+0.2**
MRSI	**Marisa**	**2.70**	**101**	P	**Pn**	**11 57 05.1**	**-0.5**
MRSI				S	**Sn**	**11 57 39.0**	**+0.7**
APSI	**Ampana**	**3.02**	**129**	P	**Pn**	**11 57 11.6**	**+1.5**
BKB	**Balikpapan**	**3.28**	**227**	Pn	**Pn**	**11 57 12.0**	**-1.6**
BKB	**Balikpapan**	**3.28**	**227**	P	**Pn**	**11 57 12.2**	**-1.5**
BKB				S	**Sn**	**11 57 50.0**	**-2.8**
LUWI	**Luwuk**	**4.02**	**120**		**Pn**	**11 57 21.6**	**-2.3**
LUWI	**Luwuk**	**4.02**	**120**	P	**Pn**	**11 57 24.5**	**+0.6**
MYLDM	**Lahad Datu**	**4.23**	**349**		**Pn**	**11 57 23.4**	**-3.3**
KMSI	**Cibinong**	**4.71**	**95**	P	**Pn**	**11 57 32.4**	**-0.8**
SPSI	**Sidrap Palu**	**4.95**	**175**	P	**Pn**	**11 57 36.3**	**-0.3**
BNSI	**Bone**	**5.42**	**171**	P	**Pn**	**11 57 43.4**	**+0.3**
	0.2nm644nm39nm,0.9s						
KKM	**Kota Kinabalu**	**5.88**	**329**	Pn	**Pn**	**11 57 46.8**	**-2.7**
KAPI	**Kappang**	**5.99**	**176**	Pn	**Pn**	**11 57 49.6**	**-1.3**
	3.8nm,0.3s,baz=188,slow=20,SNR=2.0						
KAPI				Sn	**Sn**	**11 59 01.2**	**+1.6**
	6.9nm,0.3s,baz=148,slow=21,SNR=6.8						
	11nm,0.4s						
BKSI	**Bulukumba**	**6.33**	**172**	P	**Pn**	**11 57 55.7**	**+0.1**
	0.1nm28nm,0.8s						
MTN	**Manton Dam**	**18.09**	**140**	P	**Pn**	**12 00 33.3**	**-0.4**
MTN				IAmb	IAmb	12 00 34.6	
	comp=Z,16nm,0.5s						
KNRA	**Kununurra**	**19.03**	**151**		**P**	**12 00 44.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.98**	**162**	P	**P**	**12 00 54.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.98**	**162**	P	**P**	**12 00 52.6**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=359,slow=6.4,SNR=6.3						
	comp=Z,2.4nm,0.8s						
PSI	**Prapat**	**20.44**	**275**	P	Pn	12 01 05.3	+3.2
	comp=Z,3.1nm,0.6s,baz=118,slow=9.6,SNR=3.6						
	comp=Z,3.1nm,0.6s						
WB0	**Warramunga Arr**	**25.40**	**145**	P	**P**	**12 01 47.9**	**-2.1**
WB0				IAmb	IAmb	12 01 56.9	
	comp=Z,6.6nm,0.7s						
WRAB	**Tennant Creek**	**25.51**	**145**	IAmb	IAmb	12 01 49.6	
	comp=Z,6.7nm,0.8s						
WRAB				P	**P**	**12 01 49.6**	**-1.3**
WRA	**Warramunga Arr**	**25.51**	**145**	P	**P**	**12 01 48.1**	**-2.9**
	comp=Z,5.5nm,0.7s,baz=334,slow=9.6,SNR=49						
	comp=Z,5.5nm,0.7s						
WR8	**Warramunga Arr**	**25.61**	**145**	P	**P**	**12 01 50.0**	**-2.0**
WR8				IAmb	IAmb	12 01 59.3	
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**26.46**	**312**	P	**P**	**12 02 02.9**	**+3.3**
	comp=Z,0.4nm,0.6s,baz=140,slow=7.5,SNR=5.1						
	comp=Z,0.4nm,0.6s						
COEN	**Coen**	**27.94**	**123**	P	**P**	**12 02 10.5**	**-2.5**
COEN				IAmb	IAmb	12 02 31.0	
	comp=Z,11nm,1.1s						
ASAR	**Alice Springs**	**28.33**	**151**	P	**P**	**12 02 15.4**	**-1.0**
ASAR	**Alice Springs**	**28.33**	**151**	P	**P**	**12 02 14.2**	**-2.2**
	comp=Z,0.9nm,0.5s,baz=327,slow=8.1,SNR=17						
ASAR				PcP	**PcP**	**12 05 26.4**	**-3.0**
	comp=Z,0.6nm,0.5s,baz=337,slow=2.0,SNR=7.3						
	comp=Z,0.9nm,0.5s						
PMG	**Port Moresby**	**29.61**	**111**	P	P	12 02 22.2	-5.6
	comp=Z,3.1nm,0.5s,baz=266,slow=15,SNR=1.6						
	comp=Z,3.1nm,0.5s						
STKA	**Stephens Creek**	**38.93**	**149**	P	**P**	**12 03 47.5**	**-0.9**
STKA	**Stephens Creek**	**38.93**	**149**	P	**P**	**12 03 46.2**	**-2.2**
	comp=Z,2.2nm,0.6s,baz=326,slow=9.2,SNR=6.1						
	comp=Z,2.2nm,0.6s						
PALK	**Pallekele**	**38.97**	**280**	P	**P**	**12 03 48.7**	**-0.3**
PALK				IAmb	IAmb	12 04 13.9	
	comp=Z,7.6nm,1.2s						
MJAR	**Matsushiro Arr**	**39.47**	**24**	P	**P**	**12 03 50.8**	**-2.0**
	comp=Z,1.0nm,0.9s,baz=192,slow=11,SNR=3.0						
	comp=Z,1.0nm,0.9s						
GTA	**Gaotai**	**42.17**	**337**	*e*P	P	12 04 23.3	+8.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ARMA	**Armidale**	**43.86**	**138**	P	**P**	**12 04 27.4**	**-1.6**
CAN	**Canberra**	**45.55**	**145**	P	**P**	**12 04 41.8**	**-0.6**
SONM	**Songino Array**	**47.98**	**348**	P	**P**	**12 05 03.4**	**+2.1**
	comp=Z,0.4nm,0.4s,baz=166,slow=8.3,SNR=7.9						
	comp=Z,0.4nm,0.4s						
HEH	**HeiHe**	**49.56**	**7**	*e*P	**P**	**12 05 12.1**	**-1.1**
HEH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**55.86**	**330**	P	**P**	**12 06 01.8**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=134,slow=10,SNR=7.6						
MKAR				PcP	**PcP**	**12 07 01.2**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=143,slow=4.2,SNR=3.7						
	comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**59.92**	**337**	P	**P**	**12 06 29.5**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=116,slow=5.1,SNR=4.1						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**60.28**	**331**	P	**P**	**12 06 34.0**	**+3.2**
	comp=Z,1.1nm,1.0s,baz=129,slow=6.5,SNR=6.4						
	comp=Z,1.1nm,1.0s						
PETK	**Petropavlovsk-**	**60.91**	**25**	P	**P**	**12 06 33.5**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=200,slow=5.9,SNR=6.6						
	comp=Z,1.9nm,0.7s						
BVAR	**Borovoye Array**	**65.75**	**330**	P	**P**	**12 07 10.3**	**+3.1**
	comp=Z,0.9nm,0.7s,baz=134,slow=13,SNR=4.7						
	comp=Z,0.9nm,0.7s						
MAW	**Mawson**	**78.70**	**199**	P	**P**	**12 08 24.5**	**+0.2**
MAW				IAmb	IAmb	12 08 52.6	
	comp=Z,3.2nm,1.4s						
VNDA	**Vanda**	**81.76**	**171**	P	**P**	**12 08 41.0**	**+0.3**
VNDA	**Vanda**	**81.76**	**171**	P	**P**	**12 08 41.9**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=3.8,slow=7.3,SNR=3.5						
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**86.02**	**310**	P	**P**	**12 09 07.4**	**+4.0**
	comp=Z,0.9nm,0.6s,baz=145,slow=4.1,SNR=6.1						
	comp=Z,0.9nm,0.6s						

*AEIC **13** 12:01:18.3±1.5, 61°.35N±0°.03×150°.10W±0°.05, h19km±6km, Error ellipse: s-maj=4.0km s-min=3.6km az=159.0*
NEIC 13 12:01:19.1±1.7, **61°.39N**±0°.03×**149°.98W**±0°.07, **h37**km±11km, **ML2.6**/138, **ML2.6**(AEIC), **Error ellipse: s-maj=5.0km s-min=4.4km az=129.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.27**	**205**		Pn	12 01 27.3	0.0
FIS				IAML		12 01 35.5	
	comp=E,829nm,0.7s						
FIS				IAML		12 01 35.9	
	comp=N,676nm,0.4s						
RC01	**Rabbit Creek A**	**0.32**	**159**		Pn	12 01 26.9	-0.4
RC01					Sn	12 01 33.7	-0.6
RC01				IAML		12 01 34.9	
	comp=N,551nm,0.2s						
RC01				IAML		12 01 38.3	
	comp=E,382nm,0.3s						
M22K	**Willow**	**0.37**	**350**		Pn	12 01 27.2	-0.6
M22K					Sn	12 01 34.7	+0.3
M22K				IAML		12 01 36.0	
	comp=E,539nm,0.3s						
M22K				IAML		12 01 37.7	
	comp=N,496nm,0.4s						
SUA	**Susitna One**	**0.38**	**282**		Pn	12 01 27.7	-0.3
SUA					Sn	12 01 35.0	+0.1
SUA				IAML		12 01 35.8	
	comp=N,893nm,0.8s						
PMR	**Palmer**	**0.46**	**63**		Pn	12 01 28.6	-0.3
PMR				IAML		12 01 37.0	
	comp=N,671nm,0.6s						
PMR				IAML		12 01 38.3	
	comp=E,387nm,0.5s						
GHO	**Glory Hole Cre**	**0.64**	**52**		Pn	12 01 31.2	-0.6
GHO				IAML		12 01 42.6	
	comp=N,381nm,0.5s						
KNK	**Knik Glacier**	**0.73**	**87**		Pn	12 01 32.6	-0.3
KNK				IAML		12 01 45.1	
	comp=N,311nm,0.4s						
KNK				IAML		12 01 47.2	
	comp=E,404nm,0.3s						
CAPN	**Captain Cook N**	**0.84**	**223**		Pn	12 01 34.8	+0.4
SLKM	**Skilak Lake**	**0.89**	**188**		Pn	12 01 34.1	-1.0
SLKM				IAML		12 01 48.8	
	comp=N,227nm,0.2s						
SML	**Sawmill**	**0.89**	**61**		Pn	12 01 34.6	-0.5
SML				IAML		12 01 48.7	
	comp=E,299nm,0.7s						
SML				IAML		12 01 50.7	
	comp=N,202nm,0.7s						
STLK	**Strandline Lak**	**0.90**	**278**		Pn	12 01 34.7	-0.6
STLK				IAML		12 01 47.8	
	comp=E,162nm,0.6s						
O22K	**Cooper Landing**	**0.92**	**172**		Pn	12 01 34.6	-0.8
SKT	**Skwentna**	**0.95**	**309**		Pn	12 01 35.2	-0.7
PWL	**Port Wells**	**0.96**	**123**		Pn	12 01 35.9	-0.1
CUT	**Chulitna**	**1.03**	**352**		Pn	12 01 36.5	-0.5
SEW	**Seward**	**1.31**	**168**	Pn	Pn	12 01 40.0	-0.9
SEW				IAML		12 02 02.5	
	comp=N,77nm,0.4s						
SEW				IAML		12 02 03.2	
	comp=E,100nm,0.2s						
SCM	**Sheep Creek Mo**	**1.34**	**69**		Pn	12 01 41.6	+0.3
SCM				IAML		12 01 02.3	
	comp=N,96nm,0.9s						
SCM				IAML		12 02 04.3	
	comp=E,93nm,0.7s						
GLI	**Glacier Island**	**1.49**	**109**		Pn	12 01 42.8	-0.5
GLI				IAML		12 02 05.9	
	comp=N,132nm,0.4s						
BRLK	**Bradley Lake**	**1.69**	**196**	Pn	Pn	12 01 45.5	-0.6
BRLK				IAML		12 02 10.7	
	comp=N,86nm,0.5s						
FID	**Port Fidalgo**	**1.82**	**109**		Pn	12 01 46.8	-1.1
FID				IAML		12 02 17.3	
	comp=E,78nm,0.9s						
FID				IAML		12 02 18.8	
	comp=N,84nm,0.3s						
PPLA	**Purkeypile**	**1.83**	**327**		Pn	12 01 48.5	+0.3
PPLA				IAML		12 02 28.4	
	comp=E,37nm,0.9s						
HOM	**Homer**	**1.92**	**206**	Pn	Pn	12 01 49.1	-0.1
M24K	**Tolsona, Glenn**	**1.95**	**67**		Pn	12 01 50.6	+1.0
M24K				IAML		12 02 24.2	
	comp=N,55nm,1.1s						
M24K				IAML		12 02 29.0	
	comp=E,77nm,1.1s						
KLU	**Klutina**	**1.95**	**85**		Pn	12 01 49.5	-0.2
KLU				IAML		12 02 23.0	
	comp=E,44nm,0.4s						
KLU				IAML		12 02 23.4	
	comp=N,41nm,0.4s						
HIN	**Hinchinbrook I**	**1.97**	**119**	Pn	Pn	12 01 49.3	-0.6
CNPM	**China Poot**	**1.97**	**199**	Pn	Pn	12 01 49.2	-0.7
CNPM				IAML		12 02 16.5	
	comp=E,91nm,0.9s						
CNPM				IAML		12 02 17.6	
	comp=N,62nm,0.4s						
DIV	**Divide**	**2.05**	**95**		Pn	12 01 50.5	-0.6
DIV				IAML		12 02 26.4	
	comp=N,56nm,1.1s						
DIV				IAML		12 02 26.5	
	comp=E,27nm,0.7s						
TRF	**Thorofare Moun**	**2.07**	**356**		Pn	12 01 52.1	+0.6
TRF				IAML		12 02 30.5	
	comp=N,28nm,1.0s						
RND	**Reindeer**	**2.09**	**14**		Pn	12 01 52.5	+0.9
RND				IAML		12 02 24.4	
	comp=E,26nm,1.1s						
ILSW	**Iliamna Southw**	**2.10**	**229**		Pn	12 01 52.1	+0.3
ILSW				IAML		12 02 23.8	
	comp=E,36nm,0.7s						
ILSW				IAML		12 02 26.4	
	comp=N,28nm,0.9s						
KTH	**Kantishna Hill**	**2.22**	**349**		Pn	12 01 54.3	+1.0
KTH				IAML		12 02 34.2	
	comp=E,25nm,0.8s						
CAST	**Castle Rocks**	**2.26**	**335**		Pn	12 01 54.5	+0.6
N19K	**Bonanza Creek**	**2.26**	**257**		Pn	12 01 54.0	0.0
N19K				IAML		12 02 22.3	
	comp=N,23nm,0.7s						
MCK	**McKinley**	**2.40**	**11**		Pn	12 01 57.6	+1.8
MCK				IAML		12 02 36.9	
	comp=N,24nm,1.1s						
MCK				IAML		12 02 40.9	
	comp=E,30nm,0.6s						
O19K	**Port Alsworth**	**2.44**	**243**		Pn	12 01 56.0	-0.4
L19K	**White Mountain**	**2.45**	**291**		Pn	12 01 56.6	+0.1
BMRM	**Bremner River**	**2.64**	**97**		Pn	12 01 58.1	-1.0
BMRM				IAML		12 02 40.0	
	comp=E,32nm,1.0s						
BMRM				IAML		12 02 41.6	
	comp=N,29nm,0.5s						
PAX	**Paxson**	**2.64**	**51**		Pn	12 02 00.6	+1.4
PAX				IAML		12 02 39.3	
	comp=E,21nm,0.4s						
PAX				IAML		12 02 39.6	
	comp=N,30nm,0.6s						
K20K	**Telida**	**2.74**	**318**		Pn	12 02 00.6	0.0
BPAW	**Bear Paw Mtn.**	**2.76**	**351**		Pn	12 02 01.0	+0.3
N18K	**Kilae Creek**	**2.96**	**259**		Pn	12 02 03.1	-0.5
N18K				IAML		12 02 37.8	
	comp=N,18nm,0.6s						
GLB	**Gilahina Butte**	**2.97**	**86**		Pn	12 02 03.7	+0.1
GLB				IAML		12 02 53.3	
	comp=N,17nm,0.7s						
O18K	**Koktuh Hills**	**3.00**	**241**		Pn	12 02 03.4	-0.7
O18K				IAML		12 02 48.9	
	comp=E,12nm,1.1s						
O18K				IAML		12 02 55.3	
	comp=N,15nm,1.1s						
SYI	**Shuyak Island**	**3.04**	**205**	Pn	Pn	12 02 03.6	-0.9
SYI				IAML		12 02 49.3	
	comp=E,26nm,0.9s						
SYI				IAML		12 02 51.1	
	comp=N,19nm,1.1s						
TTA	**Tatalina**	**3.23**	**301**	Pn	Pn	12 02 06.5	-0.7
BERG	**Berg Lake**	**3.23**	**105**	Pn	Pn	12 02 09.0	+1.8
L18K	**Granite Mounta**	**3.29**	**288**	Pn	Pn	12 02 07.6	-0.4
HDA	**Harding Lake**	**3.33**	**23**		Pn	12 02 10.0	+1.4
HDA				IAML		12 02 57.2	
	comp=E,14nm,0.3s						
HDA				IAML		12 03 09.7	
	comp=N,19nm,1.0s						
J20K	**Nowinta River**	**3.39**	**327**		Pn	12 02 09.9	+0.5
J20K				IAML		12 02 53.2	
	comp=E,8.6nm,0.7s						
J20K				IAML		12 03 13.3	
	comp=N,10nm,0.5s						
M17K	**Holitna River**	**3.59**	**273**		Pn	12 02 11.7	-0.4
M17K				IAML		12 03 11.5	
	comp=N,12nm,0.9s						
M17K				IAML		12 03 23.1	
	comp=E,14nm,0.8s						
N17K	**Nushagak Hills**	**3.62**	**259**	Pn	Pn	12 02 12.1	-0.4
N17K				IAML		12 02 53.9	
	comp=E,15nm,0.7s						
N17K				IAML		12 02 53.9	
	comp=N,8.8nm,0.7s						
J18K	**Innoko River**	**3.76**	**307**		Pn	12 02 14.8	+0.3
I23K	**Minto, Yukon-K**	**3.78**	**4**		Pn	12 02 16.0	+1.2
KDAK	**Kodiak Island**	**3.85**	**201**	Pn	Pn	12 02 13.6	-2.1
KDAK				IAML		12 03 20.1	
	comp=N,14nm,1.1s						
KDAK				IAML		12 03 21.8	
	comp=N,8.1nm,1.1s						
J25K	**Salcha River,**	**3.86**	**31**		Pn	12 02 17.5	+1.7
J25K				IAML		12 03 10.1	
	comp=N,10nm,0.6s						
J25K				IAML		12 03 10.1	
	comp=E,11nm,0.4s						
K17K	**Iditarod**	**4.14**	**292**	Pn	Pn	12 02 19.4	-0.2
K17K				IAML		12 03 31.3	
	comp=N,8.2nm,1.1s						
K17K				IAML		12 03 36.3	
	comp=E,7.7nm,0.7s						
J26L	**Joseph Creek**	**4.28**	**40**	Pn	Pn	12 02 23.8	+2.1
M16K	**Timber Creek**	**4.36**	**269**	Pn	Pn	12 02 22.4	-0.3
H21K	**Melozitna Rive**	**4.47**	**345**	Pn	Pn	12 02 25.0	+0.8
L16K	**Owhat River**	**4.55**	**278**	Pn	Pn	12 02 24.7	-0.6
H24K	**Noodor Dome**	**4.56**	**11**	Pn	Pn	12 02 27.3	+1.8
P16K	**Nushagak River**	**4.64**	**243**	Pn	Pn	12 02 26.5	-0.1
J17K	**VABM Dome**	**4.69**	**299**	Pn	Pn	12 02 26.7	-0.5
N15K	**Kwethluk River**	**5.11**	**261**	Pn	Pn	12 02 32.9	0.0
N15K				IAML		12 03 43.7	
	comp=E,6.6nm,1.1s						
N15K				IAML		12 03 46.1	
	comp=N,4.1nm,0.8s						
**J16K

GSI	Gunungsitoli	7.53	327		Pn	12 05 48.4	-1.1
GSI	Gunungsitoli	7.53	327	P	Pn	12 05 48.0	-1.4
	0.2nm41nm,0.6s						
RPSI	Rantau Prapat	8.19	341		Pn	12 05 54.5	-4.0
RPSI	Rantau Prapat	8.19	341	Pn	Pn	12 05 58.0	-0.5
PSI	Prapat	8.29	341	Pn	Pn	12 05 54.5	-5.5
	1.8nm,0.3s,baz=192,slow=8.0,SNR=4.1						
	4.9nm,0.5s						
SMRI	Semarang	8.98	103	Pn	Pn	12 06 08.8	-0.6
UGM	Wanagama	9.28	108	Pn	Pn	12 06 13.8	+0.4
UGM	Wanagama	9.28	108	P	Pn	12 06 14.1	+0.6
PCJI	Pacitan	9.98	109	P	Pn	12 06 23.2	+0.1
	21nm,0.7s						
KULM	Kulim	10.36	355		Pn	12 06 27.0	-1.2
MLSI	Meulaboh, Aceh	10.66	331	P	Pn	12 06 30.9	-1.4
KSM	Kuching	10.85	53	Pn	Pn	12 06 32.6	-2.4
GMJI	Gumukmas	12.16	106	P	Pn	12 06 54.5	+1.6
	17nm,0.9s						
JAGI	Jajag, Banyuwa	12.89	106		Pn	12 07 01.0	-1.9
JAGI	Jajag, Banyuwa	12.89	106	P	Pn	12 07 00.0	-2.9
	35nm,0.8s						
SBUM	Sibu	12.97	55		Pn	12 07 03.3	-0.7
PLAI	Plampang	16.46	104	P	Pn	12 07 45.1	-5.4
KAPI	Kappang	18.06	91		Pn	12 08 10.2	-0.3
KAPI	Kappang	18.06	91	P	Pn	12 08 10.3	-0.1
	1.1nm,0.3s,baz=222,slow=22,SNR=1.4						
	4.2nm,0.5s						
DLV	Lat	18.25	22	P	P	12 08 11.1	-1.8
KKM	Kota Kinabalu	18.29	53	P	P	12 08 11.2	-2.1
BKSI	Bulukumba	18.43	92	P	Pn	12 08 24.1	+9.2
BNSI	Bone	18.43	89	P	Pn	12 08 15.8	+0.8
	40nm,1.3s						
PCI	Palu	18.65	78	P	Pn	12 08 18.0	+0.3
	79nm,0.9s						
MPSI	Mapaga	19.03	74	P	P	12 08 21.6	+0.2
	3μm39nm,1.1s						
MYLDM	Lahad Datu	19.70	59		P	12 08 27.7	-1.0
MYLDM				IAmb	IAmb	12 08 34.5	
	comp=Z,31nm,1.0s						
UBPT	Khong Chiam	20.59	11		P	12 08 36.9	-1.4
UBPT				IAmb	IAmb	12 08 38.7	
	comp=Z,29nm,0.9s						
MRSI	Marisa	21.03	75	P	P	12 08 42.6	-0.6
	comp=Z,1μmcomp=Z,52nm,0.9s						
LUWI	Luwuk	21.49	80	P	P	12 08 47.7	-0.4
LUWI	Luwuk	21.49	80	P	P	12 08 47.5	-0.6
SOEI	Soe	22.92	103	P	P	12 09 02.8	-0.7
CM31	Chiang Mai Arr	23.55	354	P	P	12 09 07.7	-1.9
CMAR	Chiang Mai Arr	23.55	354		P	12 09 09.0	-0.5
CMAR	Chiang Mai Arr	23.55	354	P	P	12 09 07.6	-1.9
	comp=Z,2.5nm,0.7s,baz=182,slow=8.9,SNR=27						
CMAR				LR	LR	12 19 30.9	
	comp=Z,196nm,19.4s,baz=160,slow=40						
	comp=Z,2.5nm,0.7s						
CHTO	Chiang Mai	23.90	354	P	P	12 09 11.7	-1.2
QIZ	Qiongzhong	25.30	18	P	P	12 09 24.8	-0.8
QIZ				IAmb	IAmb	12 09 35.5	
	comp=Z,23nm,1.2s						
QIZ	Qiongzhong	25.30	18	P	P	12 09 27.0	+1.4
QIZ				S	S	12 13 53.1	+3.4
QIZ				sS	sS	12 14 08.0	+3.5
QIZ				pmax	pmax		
	comp=Z,23nm,1.1s						
QIZ				LR	LR		
	comp=N,160nm,8.2s						
QIZ				LR	LR		
	comp=E,100nm,8.8s						
QIZ				LR	LR		
	comp=Z,270nm,7.8s						
SLVN	Son La	26.36	5	P	P	12 09 34.5	-0.8
SLVN				IAmb	IAmb	12 09 38.9	
	comp=Z,9.5nm,0.8s						
FITZ	Fitzroy Crossi	26.80	121	P	P	12 09 41.3	+2.1
	comp=Z,2.8nm,0.3s,baz=20,slow=8.3,SNR=55						
	comp=Z,2.8nm,0.3s						
H08S2	Diego Garcia H	29.06	263	T	T	12 40 33.0	
	baz=86,slow=76,SNR=422						
H08S3	Diego Garcia H	29.07	263	T	T	12 40 31.5	
	baz=86,slow=76,SNR=452						
H08S1	Diego Carcia H	29.07	263	T	T	12 40 32.3	
	baz=86,slow=76,SNR=337						
NWAO	Narrogin (SRO)	31.29	154	LR	LR	12 21 32.5	
	comp=Z,156nm,20.4s,baz=323,slow=34						
PZH	PanZhiHua	31.41	0	P	P	12 10 23.6	+3.4
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
H01W3	Cape Leeuwin H	31.83	160	T	T	12 44 04.3	
	baz=337,slow=76,SNR=20						
H01W2	Cape Leeuwin H	31.84	160	T	T	12 44 05.2	
	baz=337,slow=76,SNR=25						
H01W1	Cape Leeuwin H	31.84	160	T	T	12 44 05.4	
	baz=337,slow=76,SNR=17						
SSLB	Suanglung	34.34	33	P	P	12 10 46.4	+0.6
WRA	Warramunga Arr	35.08	118	P	P	12 10 53.4	+1.0
	comp=Z,1.3nm,0.6s,baz=294,slow=9.9,SNR=5.0						
	comp=Z,1.3nm,0.6s						
CD2	Chengdu	35.85	3	P	P	12 10 59.0	+0.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				LR	LR		
	comp=N,240nm,14.6s						
CD2				LR	LR		
	comp=Z,280nm,19.7s						
AS31	Alice Springs	36.16	124	P	P	12 11 01.3	-0.3
ASAR	Alice Springs	36.16	124	P	P	12 11 01.6	0.0
ASAR	Alice Springs	36.16	124	P	P	12 11 02.1	+0.5
	comp=Z,2.9nm,0.8s,baz=304,slow=8.2,SNR=24						
ASAR				LR	LR	12 27 39.2	
	comp=Z,75nm,21.1s,baz=270,slow=39						
	comp=Z,2.9nm,0.8s						
NJ2	Nanjing	40.42	23	eP	P	12 11 39.6	+2.4
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				LR	LR		
	comp=N,160nm,20.8s						
NJ2				LR	LR		
	comp=E,200nm,21.8s						
NJ2				LR	LR		
	comp=Z,460nm,19.6s						
LYN	LuoYang	40.73	14	P	P	12 11 40.1	+0.3
LYN				pmax	pmax		
	comp=Z,44nm,1.1s						
HNS	HongShan	43.99	15	⇓P	P	12 12 06.8	+0.6
HNS				pmax	pmax		
	comp=Z,13nm,0.8s						
HNS				LR	LR		
	comp=N,190nm,15.5s						
HNS				LR	LR		
	comp=E,150nm,12.7s						
HNS				LR	LR		
	comp=Z,230nm,17.1s						
GTA	Gaotai	44.31	358	eP	P	12 12 10.6	+1.7
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				LR	LR		
	comp=N,190nm,16.3s						
GTA				LR	LR		
	comp=E,130nm,17.1s						
GTA				LR	LR		
	comp=Z,220nm,18.7s						
STKA	Stephens Creek	45.91	130	P	P	12 12 23.8	+2.1
	comp=Z,1.6nm,0.8s,baz=324,slow=10,SNR=3.6						
	comp=Z,1.6nm,0.8s						
HHC	Hu-ho-hao-te	46.62	10	eP	P	12 12 30.3	+3.2
HHC				pmax	pmax		
	comp=Z,25nm,0.8s						
BJI	Beijing	46.87	15	P	P	12 12 29.5	+0.6
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,50nm,5.2s						
BJI				LR	LR		
	comp=N,120nm,18.7s						
BJI				LR	LR		
	comp=E,53nm,18.2s						
BJI				LR	LR		
	comp=Z,170nm,14.8s						
KSAR	Wonju Array Be	48.88	28	P	P	12 12 43.9	-0.7
KSRS	Korea Array	48.91	28	P	P	12 12 44.7	-0.1
	comp=Z,5.0nm,0.8s,baz=216,slow=8.0,SNR=17						
	comp=Z,5.0nm,0.8s						
KS19	Wonju Array Si	48.92	28	P	P	12 12 44.4	-0.5
KS19				IAmb	IAmb	12 13 11.2	
	comp=Z,20nm,1.4s						
WMQ	Urumqi	50.28	347	eP	P	12 12 57.5	+2.2
WMQ				pP	pP	12 13 06.3	+1.6
WMQ				sP	sP	12 13 09.3	+1.0
WMQ				pmax	pmax		
	comp=Z,26nm,1.3s						
XLT	XiLinHaoTe	50.48	14	eP	P	12 12 57.3	+0.5
XLT				sP	sP	12 13 10.3	+0.6
XLT				PP	PP	12 14 49.8	-3.0
XLT				pmax	pmax		
	comp=Z,14nm,1.0s						
KDJ	Kajisay	52.00	337	IAmb	IAmb	12 13 11.0	
	comp=Z,13nm,0.9s						
GAR	Garm	52.56	329	IAmb	IAmb	12 13 27.9	
	comp=Z,9.0nm,0.5s						
JGF	Kuroka	52.56	37	P	P	12 13 11.7	-0.9
JGF				IAmb	IAmb	12 13 15.5	
	comp=Z,11nm,1.1s						
BOOM	Boomskoye usch	52.79	336		P	12 13 13.8	-0.5
BOOM				IAmb	IAmb	12 13 16.3	
	comp=Z,7.2nm,1.0s						
SONM	Songino Array	52.87	4	P	P	12 13 14.6	0.0
SONM				IAmb	IAmb	12 13 16.8	
	comp=Z,14nm,1.0s						
SONM	Songino Array	52.87	4	P	P	12 13 15.2	+0.6
	comp=Z,10nm,0.8s,baz=184,slow=8.9,SNR=58						
	comp=Z,10nm,0.8s						
ULN	Ulaanbaatar	52.95	5	P	P	12 13 15.3	0.0
ULN				IAmb	IAmb	12 13 17.3	
	comp=Z,9.1nm,1.0s						
MAJO	Matsushiro	53.71	37		P	12 13 19.7	-1.2
MAJO				IAmb	IAmb	12 13 20.2	
	comp=Z,10nm,1.0s						
MJB9	Matsu-Tunnel	53.71	37	IAmb	IAmb	12 13 21.2	
	comp=Z,9.7nm,1.0s						
MJAR	Matsushiro Arr	53.71	37	P	P	12 13 19.7	-1.2
	comp=Z,6.1nm,0.8s,baz=219,slow=7.1,SNR=25						
	comp=Z,6.1nm,0.8s						
MKAR	Makanchi Array	54.42	344	P	P	12 13 26.4	+0.5
	comp=Z,2.7nm,0.6s,baz=149,slow=7.9,SNR=31						
	comp=Z,2.7nm,0.6s						
MDJ	Mudanjiang	55.48	24	P	P	12 13 34.1	+0.5
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BNX	BinXian	55.58	22	⇑P	P	12 13 34.5	+0.2
BNX				pmax	pmax		
	comp=Z,38nm,0.9s						
KK31	Karatay Array	55.62	333	P	P	12 13 35.1	+0.5
KKAR	Karatay Array	55.62	333	P	P	12 13 34.5	-0.2
KKAR	Karatay Array	55.62	333	P	P	12 13 34.9	+0.2
KKAR				IAmb	IAmb	12 13 54.7	
	comp=Z,1.8nm,0.8s						
USA0B	Ussuriysk Arra	56.16	26	P	P	12 13 38.5	+0.1
USRK	Ussuriysk Ar.	56.16	26		P	12 13 38.4	0.0
USRK	Ussuriysk Ar.	56.16	26	P	P	12 13 38.6	+0.2
	comp=Z,21nm,0.7s,baz=222,slow=6.2,SNR=41						
	comp=Z,21nm,0.7s						
HIA	Hailar	56.39	14	P	P	12 13 39.8	-0.2
HIA				IAmb	IAmb	12 13 40.6	
	comp=Z,4.8nm,0.5s						
KURBB	Kurchatov Arra	58.95	343	P	P	12 13 58.2	+0.2
	comp=Z,2.8nm,1.0s,baz=160,slow=6.5,SNR=11						
	comp=Z,2.8nm,1.0s						
KURK	Kurchatov	59.01	343	P	P	12 13 58.7	+0.4
KURK				IAmb	IAmb	12 14 00.0	
	comp=Z,8.5nm,1.2s						
H04N2	CROZET ISLANDS	59.33	218	T	T	13 18 33.9	
	baz=63,slow=74,SNR=1647						
H04N1	CROZET ISLANDS	59.35	218	T	T	13 18 33.1	
	baz=63,slow=74,SNR=2414						
H04N3	CROZET ISLANDS	59.35	218	T	T	13 18 33.6	
	baz=63,slow=74,SNR=1640						
HEH	HeiHe	59.46	19	eP	P	12 14 01.5	0.0
HEH				pmax	pmax		
	comp=Z,17nm,1.0s						
H04S1	CROZET ISLANDS	59.59	217	T	T	13 18 50.3	
	baz=60,slow=75,SNR=135						
H04S3	CROZET ISLANDS	59.60	217	T	T	13 18 51.6	
	baz=60,slow=75,SNR=464						
H04S2	CROZET ISLANDS	59.60	217	T	T	13 18 51.5	
	baz=60,slow=75,SNR=159						
KLR	Kul'dur	60.12	22	LR	LR	12 42 14.3	
	comp=Z,66nm,18.1s,baz=216,slow=38						
ZAA0	Zalesovo Array	60.49	349	P	P	12 14 08.7	+0.2
ZAA0				IAmb	IAmb	12 14 09.9	
	comp=Z,12nm,0.9s						
ZALV	Zalesovo Beam	60.49	349	P	P	12 14 08.8	+0.4
	comp=Z,5.6nm,0.5s,baz=172,slow=4.8,SNR=48						
	comp=Z,5.6nm,0.5s						
JKA	Kamikawa-asahi	61.28	33	P	P	12 14 14.3	+0.2
YSS	Yuzhno-Sakhali	63.27	30	P	P	12 14 27.5	+0.2
BVAR	Borovoye Array	63.62	340	P	P	12 14 29.1	-0.5
	comp=Z,3.1nm,0.7s,baz=134,slow=8.5,SNR=12						
	comp=Z,3.1nm,0.7s						
KMBO	Kilima Mbogo	64.37	271	LR	LR	12 37 57.0	
	comp=Z,52nm,18.9s,baz=91,slow=32						
ABKAR	Akbulak array	65.11	331	P	P	12 14 40.1	+0.7
MAW	Mawson	67.72	195	LR	LR	12 39 06.8	
	comp=Z,149nm,21.9s,baz=12,slow=31						
YAK	Yakutsk	70.32	14	LR	LR	12 48 07.4	
	comp=Z,73nm,19.7s,baz=217,slow=38						
ARTI	Arti	70.71	336	P	P	12 15 15.2	+0.8
KBZ	Khabaz	71.69	319	P	P	12 15 21.3	+0.6
	comp=Z,1.9nm,0.9s,baz=126,slow=9.0,SNR=6.2						
	comp=Z,1.9nm,0.9s						
LSZ	Lusaka	72.71	256	LR	LR	12 42 29.0	
	comp=Z,77nm,19.2s,baz=152,slow=32						
MMAI	Mount Meron Ar	73.16	307	LR	LR	12 49 55.0	
	comp=Z,57nm,18.1s,baz=89,slow=38						
PETK	Petropavlovsk-	74.64	31	P	P	12 15 37.3	-0.7
NRIK	Noril'sk	74.90	355	P	P	12 15 39.0	0.0
NRIK				IAmb	IAmb	12 15 40.3	
	comp=Z,6.3nm,1.0s						
NRIK	Noril'sk	74.90	355	P	P	12 15 39.1	+0.1
	comp=Z,1.6nm,0.4s,baz=148,slow=3.8,SNR=6.0						
	comp=Z,1.6nm,0.4s						
PET	Petropavlovsk	75.09	32	P	P	12 15 40.4	-0.1
PET				IAmb	IAmb	12 15 41.2	
	comp=Z,7.7nm,0.8s						
SYO	Syowa Base	75.49	199	⇓epP	pP	12 15 53.4	+1.5
BRTR	Keskin Array B	76.59	313	P	P	12 15 49.5	0.0
	comp=Z,0.8nm,0.8s,baz=118,slow=8.3,SNR=4.4						
	comp=Z,0.8nm,0.8s						
TIXI	Tiksi	78.64	9	P	P	12 15 59.6	-0.5
TIXI	Tiksi	78.64	9	LR	LR	12 55 41.9	
	comp=Z,134nm,18.4s,baz=206,slow=40						
FINES	FINESS Array B	87.58	332	P	P	12 16 47.5	+1.0
	comp=Z,1.3nm,0.9s,baz=159,slow=5.9,SNR=3.4						
	comp=Z,1.3nm,0.9s						
U38A	Gravette	145.51	23		PKPab	12 23 38.3	+0.8
TXAR	Lajitas Array	146.03	42	PKPbc	PKiKP	12 23 41.2	-1.4
	comp=Z,5.1nm,0.8s,baz=291,slow=2.4,SNR=12						
TKL	Tuckaleechee C	149.18	9	PKPbc	PKiKP	12 23 48.8	0.0
	comp=Z,6.0nm,0.8s,baz=331,slow=7.5,SNR=6.5						

*SJA **13** 12:04:46.0±0.8, 19°.90S×71°.14W, h39km±12km, ML3.7, MW3.9*
*GUC **13** 12:04:48.4±0.8, 19°.87S×71°.09W, h40km±6km, ML3.7*
ISC 13 12:04:44.5±2.0, 19°.89S±0°.03×71°.19W±0°.07, h12km±10km, n28,σ1°.44/40, 4C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	Huaiquique	1.06	111	eP	Pg	12 05 05.3	+0.3
TA02				i S	Sg	12 05 18.3	-0.6
TA02	Huaiquique	1.06	111	eP	Pg	12 05 05.1	0.0
TA02				eS	Sg	12 05 05.1	-14
TA02				IAML		12 05 18.9	
	comp=Z,1μm,0.6s						
TA01	Diego Aracena	1.16	126	⇑i P	Pb	12 05 07.2	+0.6
TA01				i S	Sg	12 05 20.7	-1.4
TA01				IAML		12 05 26.9	
	comp=E,2μm,0.3s						
TA01	Diego Aracena	1.16	126	eP	Pb	12 05 06.5	0.0
TA01				eS	Sg	12 05 21.2	-0.8
TA01				IAML		12 05 27.1	
	comp=Z,1μm,0.3s						
PX02	IPOC Station P	1.31	46	eP	Pn	12 05 08.8	0.0
PX02				i S	Sb	12 05 25.3	-0.8
PATCX	Punta Patache	1.34	134	⇑i P	Pn	12 05 09.9	+0.7
PATCX				i S	Sb	12 05 25.2	-1.7
PATCX				IAML		12 05 33.1	
	comp=E,1μm,0.1s						
PATCX	Punta Patache	1.34	134	eP	Pn	12 05 09.3	+0.1
PATCX				eS	Sb	12 05 26.4	-0.6
PATCX				IAML		12 05 32.4	
	comp=Z,840nm,0.6s						
PB11	IPOC Station P	1.45	85	eP	Pn	12 05 11.0	+0.2
PB11				i S	Sn	12 05 28.3	-1.5
PB11				IAML		12 05 29.9	
	comp=E,3μm,0.2s						
PB11	IPOC Station P	1.45	85	eP	Pn	12 05 10.5	-0.3
PB11				eS	Sn	12 05 29.0	-0.8
PB11				IAML		12 05 29.7	
	comp=Z,2μm,0.6s						
PB12	IPOC Station P	1.51	33	⇑i P	Pn	12 05 12.5	+1.0
PB12				i S	Sn	12 05 30.3	-0.9
PB12	IPOC Station P	1.51	33	eP	Pn	12 05 11.8	+0.4
PB12				eS	Sn	12 05 12.4	-19
PX03	IPOC Station P	1.55	110	eP	Pn	12 05 12.4	+0.3
PX03				i S	Sn	12 05 31.0	-1.2
PX03				IAML		12 05 34.8	
	comp=N,4μm,0.3s						
AP01	Chacalluta	1.71	28	eP	Pn	12 05 15.2	+1.0
AP01				i S	Sn	12 05 35.6	-0.4
AP01	Chacalluta	1.71	28	eP	Pn	12 05 16.3	+2.2
AP01				eS	Sn	12 05 33.4	-2.6
AP01				IAML		12 05 49.9	
	comp=Z,800nm,0.5s						
GO01	Chusmiza	1.89	84	eP	Pn	12 05 17.8	+0.7
GO01				i S	Sn	12 05 40.9	-0.3
GO01	Chusmiza	1.89	84	eP	Pn	12 05 17.7	+0.6
GO01				eS	Sn	12 05 42.0	+0.9
PB08	IPOC Station P	1.93	98	eP	Pn	12 05 18.3	+0.8
PB08				i S	Sn	12 05 41.8	-0.2
PB08				IAML		12 05 44.8	
	comp=N,663nm,0.4s						
PB01	IPOC Station P	1.97	126	eP	Pn	12 05 18.9	+1.1
PB01				i S	Sn	12 05 42.0	-0.4
PB01				IAML		12 05 50.9	
	comp=N,928nm,0.3s						
PB01	IPOC Station P	1.97	126	eP	Pn	12 05 18.9	+1.1
PB01				eS	Sn	12 05 43.6	+1.2
PB01				IAML		12 05 48.7	
	comp=Z,554nm,0.3s						
PB03	IPOC Station P	2.53	148	eP	Pn	12 05 26.7	+1.1
PB03	IPOC Station P	2.53	148	eS	Sn	12 05 55.5	-1.0
PB03				IAML		12 06 09.2	
	comp=Z,264nm,0.5s						
PB09	IPOC Station P	2.63	136	⇑i P	Pn	12 05 29.2	+2.2
PB09	IPOC Station P	2.63	136	eP	Pn	12 05 29.3	+2.2
PB09				eS	Sn	12 06 02.2	+3.2
PB09				IAML		12 06 21.4	
	comp=Z,376nm,0.6s						
PB18	Visviri	2.80	36	IAML		12 06 19.0	
	comp=N,399nm,0.4s						
PB06	IPOC Station P	3.18	152	eP	Pn	12 05 35.6	+0.9
PB06				i S	Sn	12 06 09.8	-2.8
PB06				IAML		12 06 35.3	
	comp=E,313nm,0.8s						
PB06	IPOC Station P	3.18	152	eP	Pn	12 05 35.5	+0.9
PB06				eS	Sn	12 06 12.7	+0.1
PB06				IAML		12 06 33.2	
	comp=Z,180nm,0.9s						
PB10	IPOC Station P	3.65	171	eP	Pn	12 05 42.1	+1.1
PB10	IPOC Station P	3.65	171	eP	Pn	12 05 42.0	+1.1
PB10				eS	Sn	12 06 21.3	-2.7

KRNET 13 12:12:47.5±0.1, 40°.18N×70°.54E, h19km, mb2.6, 10C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.24	119	⇑i P	Pb	12 12 52.3	-0.7
BTK				⇑i S	Sb	12 12 56.3	-0.3
GAR	Garm	1.19	189	⇓i P	Pn	12 13 09.3	+0.1
GAR				⇓i S	Sg	12 13 25.7	-0.3
GAR	Garm	1.19	189		Pb	12 13 09.6	+0.1
DRK	Karamyk	1.19	125	⇓eP	Pb	12 13 09.9	+0.3
DRK				⇓eS	Sg	12 13 25.8	-0.4
TRKS	Terek-Say	1.43	18	⇓i P	Pn	12 13 12.7	+0.2
TRKS				⇓i S	Sb	12 13 31.4	0.0
OHH	Osh	1.75	78	⇑eP	Pb	12 13 19.4	+0.4
OHH				⇑eS	Sg	12 13 43.0	-0.9
ARK	Arkit	1.94	33	⇑eP	Pb	12 13 22.6	+0.2
ARK				⇑eS	Sb	12 13 48.1	+1.8
SALK	Salom-Alik	2.60	73	⇑eP	Pb	12 13 31.4	-2.1
SALK				⇑i S	Sb	12 14 03.3	-1.8
MNAS	Manas	2.74	32	⇑eP	Pb	12 13 33.8	-2.1
MNAS				⇑i S	Sb	12 14 06.9	-2.3

*IDC **13** 12:24:51.9±1.9, 20°.20N×145°.58E, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=66.5km s-min=22.3km az=75.0*
ISC 13 12:25:04.7±2.1, 20°.1N±0°.2×145°.5E±0°.5, h109km, n15, σ0°.78/8, mb3.5/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy 20.02	91		T	T	12 50 22.8	
	baz=278,slow=75,SNR=17						
H11S1	WAKE ISLAND Hy 20.03	91		T	T	12 50 22.5	
	baz=278,slow=75,SNR=20						
H11S2	WAKE ISLAND Hy 20.04	91		T	T	12 50 23.9	
	baz=278,slow=75,SNR=24						
H11N1	WAKE ISLAND Hy 20.08	87		T	T	12 50 27.3	
	baz=274,slow=75,SNR=62						
H11N2	WAKE ISLAND Hy 20.08	87		T	T	12 50 27.7	
	baz=274,slow=75,SNR=50						
H11N3	WAKE ISLAND Hy 20.09	87		T	T	12 50 29.0	
	baz=274,slow=75,SNR=39						
KSRS	Korea Array	23.11	322	P	P	12 30 00.5	-0.6
	1.1nm,0.9s,baz=152,slow=8.1,SNR=5.0						
	1.1nm,0.9s						
WRA	Warramunga Arr	41.30	196	P	P	12 32 38.6	-1.0
	0.6nm,0.9s,baz=19,slow=9.2,SNR=3.3						
	0.6nm,0.9s						
CMAR	Chiang Mai Arr	43.91	276	P	P	12 33 01.4	+0.5
	0.7nm,0.9s,baz=68,slow=6.5,SNR=4.9						
	0.7nm,0.9s						
ASAR	Alice Springs	44.97	195	P	P	12 33 09.9	+0.7
	0.3nm,0.8s,baz=22,slow=8.0,SNR=2.5						
	0.3nm,0.8s						
MKAR	Makanchi Array	57.39	313	P	P	12 34 41.8	+0.1
	0.4nm,0.7s,baz=94,slow=12,SNR=2.2						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	60.18	317	P	P	12 35 00.2	-0.8
	0.4nm,0.6s,baz=96,slow=7.9,SNR=4.7						
	0.4nm,0.6s						
BVAR	Borovoye Array	65.30	320	P	P	12 35 35.0	+0.1
	0.6nm,0.4s,baz=81,slow=9.6,SNR=4.1						
	0.6nm,0.4s						
FINES	FINESS Array B	85.54	335	P	P	12 37 31.0	+0.6
	1.3nm,0.9s,baz=93,slow=6.7,SNR=3.6						
	1.3nm,0.9s						
VNDA	Vanda	97.90	176	P	Pdif	12 38 30.8	+3.4
	1.0nm,1.1s,baz=3.9,slow=0.6,SNR=6.4						
	1.0nm,1.1s						

*IDC **13** 12:43:07.4±0.8, 18°.41S×71°.33W, h0km, mb3.8/7, mbtmp3.9/11, ML4.0/4, MS3.4/

PB18 eS Sg 12 44 07.9 +0.7
PB18 IAML 12 44 16.8
comp=E,5μm,0.5s
PB11 IPOC Station P 1.93 133 Pb 12 43 43.0 -1.1
PB11 IPOC Station P 1.93 133 *i* P **Pb 12 43 43.1 -1.1**
PB11 eS Sb 12 44 07.7 -0.5
PB11 IAML 12 44 11.6
comp=N,3μm,0.6s
TA02 Huaiquique 2.06 152 Pn 12 43 44.7 +1.4
HMBC Humberstone 2.18 147 Pn 12 43 46.3 +1.1
GO01 Chusmiza 2.21 124 Pn 12 43 48.1 -1.2
GO01 Chusmiza 2.21 124⇑ *i*P **Pb 12 43 47.9 -1.4**
GO01 IAML 12 44 22.4
comp=N,2μm,0.4s
TA01 Diego Aracena 2.30 157 Pn 12 43 47.5 +0.8
TA01 Diego Aracena 2.30 157 *e*P **Pn 12 43 47.7 +1.0**
TA01 IAML 12 44 23.4
comp=E,947nm,0.5s
PB08 IPOC Station P 2.53 132 Pb 12 43 52.3 -2.3
PB08 IPOC Station P 2.53 132⇑ *e*P **Pn 12 43 51.8 +1.6**
PB08 IAML 12 44 34.9
comp=N,883nm,0.8s
PATCX Punta Patache 2.54 159 Pn 12 43 51.0 +0.8
PATCX Punta Patache 2.54 159 *e*P **Pn 12 43 50.9 +0.8**
PB01 IPOC Station P 3.02 149 Pn 12 43 57.9 +1.1
PB01 IPOC Station P 3.02 149 *e*P **Pn 12 43 57.8 +1.0**
LPAZ La Paz 3.59 54 Pb 12 44 09.8 -3.0
LPAZ La Paz 3.59 54 Pn **Pn 12 44 08.0 +2.9**
comp=N,8.4nm,0.3s,baz=232,slow=8.1,SNR=90
LPAZ Sn **Sb 12 44 53.5 -3.1**
baz=60,slow=5.8
LPAZ LR LR 12 45 55.8
comp=N,506nm,21.9s,baz=252,slow=45
comp=N,31nm,0.6s
LPAZ La Paz 3.59 54 *e*P **Pb 12 44 10.1 -2.8**
PB09 IPOC Station P 3.79 152 Pn 12 44 08.2 +0.9
PB09 IPOC Station P 3.79 152 *e*P **Pn 12 44 09.3 +2.0**
PB03 IPOC Station P 3.82 160⇑ *e*P **Pn 12 44 08.2 +0.5**
PB10 IPOC Station P 5.07 174 Pn 12 44 24.3 -0.6
PB14 IPOC Station P 6.19 174 Pn 12 44 39.2 -1.3
GO02 Mina Guanaco 6.84 168 Pn 12 44 48.5 -1.0
AC01 Pan de Azucar 7.68 176 Pn **Pn 12 44 59.5 -1.3**
NNA Nana 8.45 319 Pn **Pn 12 45 15.3 +3.9**
NNA Nana 8.45 319 Pn **Pn 12 45 08.9 -2.5**
comp=N,1.1nm,0.3s,baz=134,slow=14,SNR=1.3
NNA Sn **Sn 12 46 44.3 -2.4**
comp=N,0.8nm,0.3s,baz=165,slow=16,SNR=1.3
comp=N,3.9nm,0.3s
AC02 Maricunga 8.56 168 Pn 12 45 13.3 +0.1
AC06 Mina Casimiro 8.90 175 Pn **Pn 12 45 16.1 -1.3**
GO03 Copiapo 9.15 175 Pn **Pn 12 45 20.3 -0.6**
AC04 Llanos de Chal 9.72 180 Pn **Pn 12 45 27.9 -0.7**
SIV San Ignacio 9.93 77 Pn **Pn 12 45 33.8 +2.2**
comp=N,0.3nm,0.3s,baz=269,slow=10,SNR=49
SIV Sn **Sn 12 47 27.9 +4.8**
baz=314,slow=14,SNR=1.8
SIV LR LR 12 49 55.8
comp=N,436nm,19.4s,baz=262,slow=40
comp=N,13nm,0.6s
AC05 El Transito 10.38 176 Pn **Pn 12 45 37.8 0.0**
LCO Las Campanas 10.53 178 Pn **Pn 12 45 38.8 -1.2**
GO04 Tololo Observa 11.68 179 Pn **Pn 12 45 55.7 -0.1**
VILB Vilhena 11.87 64 Pn 12 46 00.4 +2.2
VILB Vilhena 11.87 64 *e*P **Pn 12 45 59.7 +1.5**
PTLB Pontes e Lacer 11.87 77 Pn 12 45 58.9 +0.7
PTLB Pontes e Lacer 11.87 77 *e*P **Pn 12 46 00.9 +2.7**
SAML Samuel 12.20 40 Pn 12 46 03.3 +0.6
SAML Samuel 12.20 40 *e*P **Pn 12 46 04.6 +1.9**
SALV Santo Antonio 14.98 83 *e*P **P 12 46 44.1 -2.1**
CPUP Villa Florida 14.99 124 Pn **P 12 46 43.4 -2.8**
comp=N,0.1nm,0.3s,baz=308,slow=8.8,SNR=5.2
CPUP LR LR 12 53 27.0
comp=N,84nm,19.6s,baz=244,slow=41
comp=N,1.9nm,0.8s
PDRB Porto dos Gac 15.49 66 *e*P **Pn 12 46 46.5 -0.9**
TEFE Tefe 16.16 24 *e*P **Pn 12 46 57.3 +1.3**
H03N1 Juan Fernandez 16.48 203 T T 13 04 40.0
baz=27,slow=73,SNR=291
H03N2 Juan Fernandez 16.48 204 T T 13 04 40.4
baz=27,slow=73,SNR=213
H03N3 Juan Fernandez 16.49 203 T T 13 04 39.1
baz=27,slow=73,SNR=239
RPRD Ribas do Rio P 16.58 100 *e*P **P 12 47 05.9 +2.0**
COHC Cochancay 17.76 332 P 12 47 17.9 +1.0
COHC IAmb IAmb 12 47 20.8
comp=Z,3.8nm,0.4s
MACA Manacapuru-AM 18.32 35 P **Pn 12 47 22.7 -0.5**
MACA Manacapuru-AM 18.32 35 *e*P **Pn 12 47 22.2 -0.9**
SLOR San Lorenzo - 19.03 337 P **Pn 12 47 32.9 +0.8**
SLOR IAmb IAmb 12 48 01.4
comp=Z,8.5nm,0.6s
LDASE Londrina, Braz 19.34 108 *e*P **Pn 12 47 39.4 +3.9**
OTAV Otavalo 19.90 338 P **P 12 47 42.5 +1.4**
SNDB Serra Nova Dou 20.20 74 *e*P **P 12 47 42.2 -1.7**
ITTB Itaituba 20.56 49 *e*P **P 12 47 45.6 -2.1**
PLTB Pedras Altas 20.66 133 P **P 12 47 48.1 -0.5**
PLTB IAmb IAmb 12 47 48.9
comp=Z,8.5nm,1.0s
IPMB Ipameri, GO 21.79 92 *e*P **P 12 48 03.7 +2.7**
PLCA Paso Flores 22.22 179 P **P 12 48 04.9 -0.5**
PLCA Paso Flores 22.22 179 P **P 12 48 06.4 +1.0**
comp=Z,1.4nm,0.7s,baz=360,slow=8.8,SNR=5.2
comp=Z,1.4nm,0.7s
BDFB Brasília 22.29 86 P **P 12 48 06.1 -0.4**
BDFB IAmb IAmb 12 48 24.3
comp=Z,8.9nm,1.3s
BDFB Brasília 22.29 86 P **P 12 48 06.6 +0.1**
comp=Z,1.3nm,0.4s,baz=232,slow=13,SNR=4.9
comp=Z,1.3nm,0.4s
BOAV Boa Vista 23.20 28 P **P 12 48 16.9 +1.0**
RUSC La Rusia 24.26 355 P **P 12 48 26.7 0.0**
RUSC IAmb IAmb 12 48 41.6
comp=Z,7.2nm,0.9s
JANB Januaria 25.91 87 *e*P **P 12 48 38.9 -2.3**
MDP Montagnes des 29.67 40 LR LR 13 01 44.9
comp=Z,130nm,20.6s,baz=322,slow=38
RCBR Riachuelo 36.58 74 LR LR 13 07 09.9
comp=Z,51nm,20.1s,baz=198,slow=39
OGNE Ogallala 65.68 335 P **P 12 53 54.4 +1.1**
SNAA Sanae 65.84 161 P **P 12 53 53.3 -0.7**
DBIC Dimbokro 69.95 76 P **P 12 54 22.9 +2.2**
comp=Z,3.1nm,0.7s,baz=246,slow=5.7,SNR=4.8
comp=Z,3.1nm,0.7s
PDAR Pinedale Array 70.43 331 P **P 12 54 23.1 -0.3**
comp=Z,0.2nm,0.5s,baz=137,slow=6.8,SNR=3.5
comp=Z,0.2nm,0.5s
QSPA South Pole Qui 71.73 180 P **P 12 54 28.3 -2.5**
QSPA IAmb IAmb 12 54 44.7
comp=Z,5.8nm,1.4s
NVAR Mina Array Bea 71.80 323 P **P 12 54 32.1 +0.3**
comp=Z,0.5nm,0.7s,baz=29,slow=2.2,SNR=0.8
comp=Z,0.5nm,0.7s
ESDC Sonseca Array 85.17 46 P **P 12 55 46.3 +1.0**
comp=Z,0.6nm,1.0s,baz=245,slow=5.3,SNR=6.0
comp=Z,0.6nm,1.0s
YKA Yellowknife Ar 87.63 341 P **P 12 55 56.5 -0.2**
comp=Z,1.5nm,0.8s,baz=139,slow=5.0,SNR=29
comp=Z,1.5nm,0.8s
H11S2 WAKE ISLAND Hyl 25.34 280 T T 15 20 07.0
baz=100,slow=74,SNR=110
H11S1 WAKE ISLAND Hyl 25.35 280 T T 15 20 04.8
baz=100,slow=74,SNR=62
H11N3 WAKE ISLAND Hyl 25.35 281 T T 15 20 03.1
baz=99,slow=75,SNR=11
H11S3 WAKE ISLAND Hyl 25.36 280 T T 15 20 00.8
baz=100,slow=74,SNR=65
H11N2 WAKE ISLAND Hyl 25.37 281 T T 15 20 05.1
baz=99,slow=75,SNR=14
H11N1 WAKE ISLAND Hyl 25.37 281 T T 15 20 02.0
baz=99,slow=75,SNR=7.5
ASAR Alice Springs 131.53 211 PKP **PKPdf 13 02 21.7 -0.7**
comp=Z,0.4nm,0.9s,baz=147,slow=2.0,SNR=4.1
WRA Warramunga Arr 134.39 215 PKP **PKPdf 13 02 28.8 +1.0**
comp=Z,0.2nm,0.7s,baz=134,slow=2.4,SNR=3.5
MKAR Makanchi Array 144.28 32 PKP **PKPab 13 02 43.1 +0.3**
comp=Z,0.2nm,0.6s,baz=348,slow=4.9,SNR=3.5
MJAR Matsushiro Arr 148.51 311 PKPbc **PKPbc 13 02 55.5 -0.5**
comp=Z,2.0nm,0.9s,baz=71,slow=4.7,SNR=6.7
SONM Songino Array 150.62 3 PKPbc **PKPbc 13 03 01.3 +0.2**
comp=Z,0.5nm,0.4s,baz=318,slow=4.1,SNR=1.9

---

*ISN **13** 12:55:25.2±1.1, 33°.83N×45°.56E, h6km±20km, ML2.5*
*TEH **13** 12:55:29.1, 33°.84N×45°.65E, h10km±201km*
ISC 13 12:55:27.5±1.0,**33°.77N**±0°.05×**45°.59E**±0°.05,**h10**km,**n8,**

σ1§02/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.44**	**38**	Pg	**Pg**	**12 55 36.1**	**-0.1**
IBDR	**Badra**	**0.71**	**156**	*e*Pg	**Pg**	**12 55 41.0**	**-0.3**
IBDR				*e*Sg	**Sb**	**12 55 51.0**	**-0.9**
IGHG	**Ghaleghazi**	**0.99**	**55**	Pg	**Pb**	**12 55 47.2**	**+0.3**
BHD	**Baghdad**	**1.12**	**244**	*e*Pn	**Pb**	**12 55 49.0**	**+0.1**
BHD				*e*Sn	**Sn**	**12 56 07.0**	**+2.3**
IDHR	**Dehrash**	**1.15**	**35**	Pg	**Pn**	**12 55 49.8**	**0.0**
KCHF	**Cheshme Sefid,**	**1.31**	**67**	Pg	**Pg**	**12 55 52.7**	**0.0**
ILIN	**Lien**	**1.62**	**44**	Pg	**Pb**	**12 55 57.9**	**+0.3**
IKRK	**Kirkuk**	**1.93**	**328**	*e*Pn	**Pn**	**12 55 59.0**	**-1.3**
IKRK				*e*Sn	**Sn**	**12 56 25.0**	**+0.4**
IKRK				AML	AML	12 56 38.9	
	comp=N,6.3nm,0.8s						

RSNC 13 13:01:10.7±0.0,**7°N**±1°×**7°3W**±°,**h151**km±2km,**M3.0,mb3.6, ML2.8,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**188**	P	Pn	13 01 30.9	-0.6
BARC				S	Sn	13 01 45.7	-1.7
BRJC	**Barrancabermej**	**0.61**	**284**	P	Pn	13 01 32.5	-0.2
BRJC				S	Sn	13 01 49.7	+0.2
PAMC	**Pamplona, Colo**	**0.68**	**41**	P	Pn	13 01 33.7	0.0
PAMC				S	Sn	13 01 50.8	-0.5
RUSC	**La Rusia**	**0.93**	**176**	P	Pn	13 01 34.7	-0.9
RUSC				S	Sn	13 01 53.6	-1.0
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	Pn	13 01 37.3	-1.3
PTBC				S	Sn	13 01 58.1	-1.9
TAMC	**Tame, Arauca**	**1.41**	**106**	P	Pn	13 01 39.2	-0.2
TAMC				S	Sn	13 02 01.1	-0.3
OCAC	**Ocana**	**1.41**	**353**	P	Pn	13 01 39.3	-0.3
OCAC				S	Sn	13 02 00.8	-1.0
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	P	Pn	13 01 43.4	-0.4
ZARC				S	Sn	13 02 09.0	-0.2
NORC	**Norcasia**	**2.12**	**234**	P	Pn	13 01 46.8	-0.6
NORC				S	Sn	13 02 15.3	-0.3
CHIC	**Chingaza**	**2.26**	**195**	P	Pn	13 01 48.9	-0.5
CHIC				S	Sn	13 02 19.2	0.0
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	13 01 50.7	+0.9
ROSC				S	Sn	13 02 21.9	+2.1
CVER	**Cruz Verde, Cu**	**2.47**	**202**	P	Pn	13 01 52.2	+0.2
CVER				S	Sn	13 02 24.3	+0.5
UREC	**San Jos de Ur**	**2.54**	**291**	P	Pn	13 01 51.3	-1.0
UREC				S	Sn	13 02 20.7	-3.7
GUY2C	**Guyana, Caldas**	**2.72**	**234**	P	Pn	13 01 55.6	+0.5
GUY2C				S	Sn	13 02 28.1	-1.1
PTGC	**Puerto Gaitan,**	**2.80**	**159**	P	Pn	13 01 54.0	-1.7
PTGC				S	Sn	13 02 27.1	-3.3
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	13 01 58.7	+0.4
DBBC	**Dabeiba**	**3.04**	**274**	P	Pn	13 01 59.0	+0.2
DBBC				S	Sn	13 02 34.0	-1.9
ARGC	**Ariguani, Magd**	**3.20**	**340**	P	Pn	13 02 01.6	+0.9
ARGC				S	Sn	13 02 39.9	+0.5
SDV	**Santo Domingo**	**3.22**	**51**	P	Pn	13 02 00.5	-0.7
SDV				S	Sn	13 02 37.9	-2.3
ANIL	**Santa Ana**	**3.23**	**224**	P	Pn	13 02 02.1	+0.8
ANIL				S	Sn	13 02 37.9	-2.6
PRAC	**Prado**	**3.55**	**209**	P	Pn	13 02 04.6	-0.6
PRAC				S	Sn	13 02 47.5	+0.1
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	13 02 05.1	-0.4
ORTC				S	Sn	13 02 48.5	+0.4
SJCC	**San Jacinto, C**	**3.65**	**327**	P	Pn	13 02 04.9	-1.6
SJCC				S	Sn	13 02 46.0	-3.8
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	13 02 07.7	-0.3
URMC				S	Sn	13 02 51.3	-1.3
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P	Pn	13 02 11.2	-2.2
CRJC				S	Sn	13 02 58.9	-3.2
YOTC	**Yotoco, Valle**	**4.26**	**229**	P	Pn	13 02 13.8	-0.7
PTAC	**Punta Ardita,**	**4.63**	**274**	P	Pn	13 02 18.3	-1.0
MACC	**Macarena, Meta**	**4.71**	**189**	P	Pn	13 02 17.9	-2.4
URIC	**Uribia, Colomb**	**4.97**	**13**	P	Pn	13 02 21.5	-2.3
URIC				S	Sn	13 03 18.8	-2.1
FLOC	**Florencia**	**5.78**	**206**	P	Pn	13 02 33.9	-0.7

---

*ISN **13** 13:08:04.9±0.3, 35°.82N×46°.00E, h24km±12km, ML2.7*
*TEH **13** 13:08:07.4, 35°.62N×45°.93E, h6km*
ISC 13 13:08:07.1±1.0,**35°.66N**±0°.04×**45°.96E**±0°.05,**h10**km,**n15,**
σ1§35/18,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDS1	**Sardasht. Az.**	**0.62**	**322**	Pg	**Pb**	**13 08 20.9**	**+0.8**
IKRK	**Kirkuk**	**1.34**	**259**	*e*Pn	**Pn**	**13 08 31.0**	**-0.9**
IKRK				*e*Sn	**Sg**	**13 08 50.0**	**-0.3**
IKRK				AML	AML	13 09 00.8	
	comp=E,132nm,0.5s						
IKRK				AML	AML	13 09 01.5	
	comp=N,166nm,0.3s						
IGHG	**Ghaleghazi**	**1.42**	**159**	Pg	**Pg**	**13 08 35.6**	**+1.3**
GLG1	**Gilan-e-Gharb**	**1.54**	**181**	Pg	**Pg**	**13 08 38.4**	**+1.7**
SNQR	**Sonqor, Kerman**	**1.58**	**120**	Pg	**Pb**	**13 08 37.1**	**+0.4**
IHSH	**Hashtrud**	**1.95**	**32**	Pn	**Pb**	**13 08 43.7**	**+0.7**
IAZR	**Azarshahr**	**2.01**	**1**	Pn	**Pb**	**13 08 44.6**	**+0.6**
HGHA	**Hamedan- Ghaye**	**2.37**	**93**	Pn	**Pb**	**13 08 50.2**	**+0.1**
IBDR	**Badra**	**2.54**	**180**	*e*Pn	**Pn**	**13 08 49.0**	**+0.6**
IBDR				*e*Sn	**Sb**	**13 09 21.0**	**-3.2**
ISHB	**Shabestar**	**2.63**	**354**	Pn	**Pb**	**13 08 54.0**	**-0.5**
IKFM	**Kafar-mosalman**	**2.64**	**143**	Pn	**Pb**	**13 08 53.5**	**-1.0**
BHD	**Baghdad**	**2.72**	**209**	*e*Pn	**Pn**	**13 08 51.0**	**+0.2**
BHD				*e*Sn	**Sn**	**13 09 25.0**	**+1.3**
HAGD	**Aghdareh**	**2.74**	**107**	Pn	**Pb**	**13 08 55.0**	**-1.3**
IHRS	**Heris**	**2.79**	**18**	Pn	**Pb**	**13 08 56.1**	**-1.1**
IMRD	**Marand**	**3.05**	**356**	Pn	**Pb**	**13 08 59.8**	**-1.9**

DJA 13 13:28:21.2±0.5,**8°S**±5°×**117°E**±°,**h19**km±5km,**M3.7**/13, **mB5.5/1,mb4.1/1,MLv3.5**/13,**Mw(mB)5.0**/1,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.28**	**180**	P	Pb	13 28 28.6	+1.1
PLAI	**Plampang**	**0.96**	**112**	P	Pn	13 28 39.5	-0.2
PLAI				S	Sb	13 28 52.0	+0.5
SRBI	**Singaraja**	**1.69**	**283**	P	Pn	13 28 50.0	+0.3
SRBI				S	Sn	13 29 10.7	-0.2
JAGI	**Jajag, Banyuwa**	**2.70**	**270**	P	Pn	13 29 04.2	+0.6
JAGI				S	Sn	13 29 35.8	0.0
WBSI	**Waikabubak, Su**	**2.74**	**116**	P	Pn	13 29 04.9	+0.6
GMJI	**Gumukmas**	**3.41**	**273**	P	Pn	13 29 13.7	+0.4
BSSI	**Bau Bau, Buton**	**4.26**	**58**	P	Pn	13 29 25.2	+0.1
BKSI	**Bulukumba**	**4.48**	**46**	P	Pn	13 29 27.9	-0.2
EDFI	**Ende, Flores**	**4.77**	**94**	P	Pn	13 29 31.9	-0.3
PCJI	**Pacitan**	**5.65**	**272**	P	Pn	13 29 44.3	+0.1

---

*NEIC **13** 13:38:03.0±0.3, 36°.822N±0°.008×97°.72W±0°.01, h7km±1km, mb_Lg2.5/14, ML2.5/35, ML2.8/47, Error ellipse: s-maj=1.4km s-min=1.1km az=89.0*
NEIC 13 13:38:03.0±0.3,**36°.82N**±0°.01×**97°.71W**±0°.01,**h7**km±2km,
Error ellipse: s-maj=1.6km s-min=1.2km az=205.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.12**	**286**	Pg	Pg	13 38 06.0	+0.4
GC02					Sg	13 38 08.0	+0.5
KAN17	**Caldwell West**	**0.23**	**350**		Pg	13 38 07.8	+0.3
KAN17				IAML		13 38 11.7	
	comp=E,1μm,0.3s						
KAN14	**Manchester OK**	**0.24**	**305**		Pg	13 38 08.2	+0.4
KAN14					Sg	13 38 11.7	+0.6
KAN13	**South Haven SW**	**0.27**	**44**		Pg	13 38 08.8	+0.5
KAN13					Sg	13 38 12.8	+0.9
KAN05	**Bluff City Nor**	**0.32**	**336**		Pg	13 38 09.7	+0.5
KAN05					Sg	13 38 14.2	+0.8
KAN05				IAML		13 38 15.9	
	comp=E,780nm,0.2s						
KAN05				IAML		13 38 17.2	
	comp=N,913nm,0.1s						
KAN09	**Caldwell North**	**0.33**	**13**		Pg	13 38 09.8	+0.5
KAN09				IAML		13 38 17.9	
	comp=N,1μm,0.2s						
KAN09				IAML		13 38 19.7	
	comp=E,2μm,0.2s						
KAN01	**Argonia South**	**0.34**	**354**		Pg	13 38 09.8	+0.2
CROK	**Carrier**	**0.38**	**215**		Pg	13 38 10.7	+0.3
CROK					Sg	13 38 16.1	+0.7
CROK				IAML		13 38 18.0	
	comp=N,1μm,0.3s						
OK032	**Salt Plains WL**	**0.40**	**268**		Pg	13 38 11.0	+0.3
OK032					Sg	13 38 16.8	+0.8
OK032				IAML		13 38 19.0	
	comp=N,1μm,0.2s						
OK032				IAML		13 38 20.8	
	comp=N,622nm,0.2s						
BLOK	**Blackwell**	**0.40**	**98**		Pg	13 38 11.1	+0.3
BLOK					Sg	13 38 16.9	+0.7
KAN08	**Anthony NE Sta**	**0.46**	**333**	Pg	Pg	13 38 12.2	+0.4
KAN08				IAML		13 38 19.0	
	comp=E,683nm,0.4s						
OK048	**Pawnee Station**	**0.74**	**123**		Pg	13 38 17.2	+0.1
OK048					Sg	13 38 26.9	+0.2
OK048				IAML		13 38 27.1	
	comp=E,320nm,0.2s						
OK048				IAML		13 38 27.1	
	comp=E,286nm,0.3s						
OK051	**E0350 and S346**	**0.77**	**114**		Pg	13 38 17.8	0.0
OK051					Sg	13 38 28.1	+0.3
OK051				IAML		13 38 28.2	
	comp=E,438nm,0.2s						
OK038	**West end E0370**	**0.90**	**248**		Pg	13 38 19.9	-0.2
OK038					Sg	13 38 32.3	+0.6
T35A	**Sooner Cattle**	**0.97**	**84**		Pg	13 38 21.2	-0.3
T35A				IAML		13 38 36.4	
	comp=E,155nm,0.2s						
NOKA	**Waynoka**	**1.00**	**260**		Pg	13 38 21.7	-0.3
NOKA				IAML		13 38 41.4	
	comp=E,321nm,0.2s						
NOKA				IAML		13 38 41.4	
	comp=N,248nm,0.2s						
QUOK	**Quay**	**1.03**	**128**		Pg	13 38 22.9	+0.1
QUOK					Sg	13 38 36.2	-0.1
OK029	**Liberty Lake**	**1.04**	**168**		Pg	13 38 22.7	-0.2
OK029				IAML		13 38 38.7	
	comp=N,149nm,0.2s						
OK052	**Battle Ridge R**	**1.10**	**138**		Pg	13 38 23.9	-0.2
OK052					Sg	13 38 38.0	-0.4
OK052				IAML		13 38 39.3	
	comp=N,290nm,0.2s						
OK052				IAML		13 38 40.9	
	comp=N,252nm,0.2s						
OK031	**S. Brethren Rd**	**1.11**	**140**		Pg	13 38 24.0	-0.3
OK031					Sg	13 38 38.5	-0.3
OK031				IAML		13 38 39.9	
	comp=N,255nm,0.2s						
DEOK	**Depew**	**1.38**	**134**		Pn	13 38 28.5	-0.1
DEOK					Sg	13 38 47.3	-0.1
CSTR	**Hydro, Custer**	**1.41**	**214**		Pb	13 38 29.5	-0.1
CSTR					Sg	13 38 48.6	+0.3
OKCSW	**OKLAHOMA CITY**	**1.43**	**171**		Pn	13 38 29.0	-0.3
FNO	**Franklin**	**1.58**	**171**		Pn	13 38 31.8	+0.5
FNO					Sg	13 38 54.0	+0.3
TUL3	**Leonard**	**1.79**	**120**		Pn	13 38 34.9	+0.6
X34A	**Smith Ranch, M**	**2.21**	**183**		Pn	13 38 41.6	+1.5
WMOK	**Wichita Mounta**	**2.25**	**203**	Pn	Pn	13 38 39.8	-0.8
WMOK	**Wichita Mounta**	**2.25**	**203**		Pn	13 38 41.0	+0.4
HHAR	**Hobbs**	**3.08**	**99**	IAmb_Lg		13 39 42.8	
	comp=Z,13nm,0.7s						
WTFS	**Witchita Falls**	**3.11**	**192**	IAmb_Lg		13 39 41.6	
	comp=Z,24nm,1.2s						
AMTX	**Amarillo**	**3.76**	**240**	IAmb_Lg		13 40 10.5	
	comp=Z,7.8nm,0.7s						
FW03	**Perrin-Whitt E**	**3.78**	**184**	IAmb_Lg		13 40 09.4	
	comp=Z,15nm,0.8s						
DKNS	**Dickens**	**4.10**	**221**	IAmb_Lg		13 40 13.2	
	comp=Z,7.1nm,1.0s						
FW07	**Weatherford**	**4.11**	**181**	IAmb_Lg		13 40 20.6	
	comp=Z,12nm,1.3s						
KSCO	**Kaye Shedlock'**	**4.46**	**301**	IAmb_Lg		13 40 35.8	
	comp=Z,9.6nm,0.8s						

TAP 13 13:40:13.5,23°.90N×121°.72E,h50km,ML2.0,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.12**	**253**	*e*P	Pn	13 40 21.8	+0.4
TEYL				*e*S	Sn	13 40 28.5	+1.4
HWA	**Hwalien**	**0.13**	**305**	*e*P	Pn	13 40 21.9	+0.4
SHUL	**Shoufeng**	**0.18**	**231**	*e*P	Pn	13 40 22.1	+0.3
TWD	**Chiawan**	**0.21**	**327**	*e*P	Pn	13 40 21.9	-0.1
TWD				*e*S	Sn	13 40 28.4	+0.5
ETM	**Tongmen**	**0.22**	**287**	*e*P	Pn	13 40 21.9	-0.1
ETM				*e*S	Sn	13 40 28.4	+0.3
TEGC	**Jichi Village**	**0.25**	**221**	*e*P	Pn	13 40 22.4	+0.2
TEGC				*e*S	Sn	13 40 29.5	+1.0
ESL	**Shilin**	**0.28**	**251**	*e*P	Pn	13 40 22.4	-0.1
NACB	**Ninganchiao**	**0.29**	**337**	P	Pn	13 40 22.9	+0.3
NACB	**Ninganchiao**	**0.29**	**337**	S	Sn	13 40 29.6	+0.5
NACB	**Ninganchiao**	**0.29**	**337**	*e*P	Pn	13 40 22.6	-0.1
NACB				*e*S	Sn	13 40 29.2	+0.1
LXIB	**Xiulin Townshi**	**0.30**	**293**	P	Pn	13 40 22.7	-0.2
LXIB				*e*S	Sn	13 40 29.4	-0.2
EGFH	**Guangfu**	**0.35**	**229**	*e*P	Pn	13 40 22.8	-0.4
EGFH				*e*S	Sn	13 40 30.5	+0.4
WARBT	**Fenglin Townsh**	**0.36**	**239**	P	Pn	13 40 22.9	-0.3
WARBT				S	Sn	13 40 29.9	-0.3
ETLH	**Xiulin Townshi**	**0.37**	**324**	*e*P	Pn	13 40 23.3	-0.2
ETLH				*e*S	Sn	13 40 30.6	-0.1
WHF	**Hehuan Shan**	**0.48**	**300**	*e*P	Pn	13 40 25.1	+0.1
WHF				*e*S	Sn	13 40 33.2	0.0
HGSD	**Ruisui**	**0.49**	**214**	*e*P	Pn	13 40 24.7	0.0
HGSD				*e*S	Sn	13 40 34.0	+1.3
OWD	**Renai**	**0.50**	**276**	*e*P	Pn	13 40 25.3	+0.3
OWD				*e*S	Sn	13 40 33.4	+0.2
EHY	**Hungye**	**0.54**	**223**	*e*P	Pn	13 40 24.7	-0.5
VWDT	**VWDT**	**0.55**	**254**	*e*P	Pn	13 40 25.9	+0.5
VWDT				*e*S	Sn	13 40 34.9	+1.0
FUSS	**Fushou**	**0.55**	**308**	*e*P	Pn	13 40 26.2	+0.5
FUSS				*e*S	Sn	13 40 35.2	+0.8
WUSB	**Renai**	**0.56**	**279**	P	Pn	13 40 26.2	+0.6
WUSB				S	Sn	13 40 34.8	+0.5
EOS4	**EOS4**	**0.59**	**68**	*e*P	Pn	13 40 25.8	+0.3
EOS4				*e*S	Sn	13 40 34.4	+0.2
NNSB	**Datong**	**0.61**	**330**	*e*P	Pn	13 40 26.4	+0.2
NNSB				*e*S	Sn	13 40 35.5	+0.1
YULB	**Yu-li**	**0.64**	**217**	P	Pn	13 40 26.0	-0.5
YULB	**Yu-li**	**0.64**	**217**	P	Pn	13 40 26.0	-0.5
YULB				*e*S	Sn	13 40 35.3	-0.7
LATG	**Datong**	**0.65**	**344**	*e*P	P

TPUB	**Ta-pu**	**1.17 239**	*e*P	Pn	13 40 35.1	+1.6
TPUB			*e*S	Sn	13 40 50.7	+2.3

KRSC 13 13:46:15.8±2.3, 49°.56N×156°.73E, h18km±32km, MI3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.19**	**341**	*e*P	Pn	13 46 37.0	-0.6
SKR				*e*S	Sb	13 46 51.7	-1.3
PAU	**Pauzhetka**	**1.91**	**2**	*e*P	Pn	13 46 48.6	+1.1
PAU				*e*S	Sn	13 47 11.7	+0.6
KDTR	**Khodutka, Kamc**	**2.41**	**20**	*e*P	Pb	13 46 57.7	-0.9
KDTR				*e*S	Sb	13 47 27.3	-0.7
RUS	**Russkaya**	**3.09**	**21**	*e*P	Pb	13 47 07.0	-3.2
RUS				*e*S	Sn	13 47 43.1	+3.0
GRL	**Gorelyy**	**3.12**	**15**	*e*P	Pb	13 47 08.0	-2.7
GRL				*e*S	Sb	13 47 45.7	-2.7
APC	**Apacha**	**3.38**	**4**	*e*P	Pn	13 47 10.1	+2.4
KRMR	**Karymshinskiy**	**3.39**	**15**	*e*P	Pb	13 47 11.7	-3.6
PET	**Petropavlovsk**	**3.67**	**18**	*e*P	Pn	13 47 15.5	+3.8
PET				*e*S	Sn	13 47 58.3	+3.8
DALK	**Dalny**	**3.70**	**19**	*e*P	Pn	13 47 16.3	+4.2
DALK				*e*S	Sn	13 48 00.2	+4.9
INSR	**Institute**	**3.70**	**18**	*e*S	Sb	13 48 01.4	-3.8
UGLR	**Uglovaya**	**3.88**	**19**	*e*P	Pb	13 47 19.5	-4.3
AVH	**Avacha**	**3.92**	**18**	*e*P	Pb	13 47 20.2	-4.2
KOK	**Koryaka**	**3.92**	**17**	*e*P	Pb	13 47 20.0	-4.4
SDLR	**Sedlovina**	**3.96**	**19**	*e*P	Pn	13 47 19.8	+4.0
NLC	**Nalytchevo**	**3.97**	**23**	*e*S	Sn	13 48 04.2	+2.4
KRX	**Arik**	**3.99**	**17**	*e*P	Pn	13 47 20.6	+4.4
KRX				*e*S	Sb	13 48 09.9	-3.7
SPN	**Mys Shipunski**	**4.10**	**29**	*e*P	Pn	13 47 22.2	+4.7
GNL	**Ganaly**	**4.21**	**10**	*e*P	Pn	13 47 22.3	+3.1
MKZ	**Mys Kozlova**	**5.88**	**30**	*e*P	Pn	13 47 44.6	+2.7
TUMD	**Tumrok D**	**6.08**	**20**	*e*P	Pn	13 47 49.9	+5.1
KBTR	**Krutoberegovo**	**7.61**	**27**	*e*P	Pn	13 48 10.5	+4.8

GCG 13 14:05:23.1±1.9, 15°.59N×91°.22W, h23km±167km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.12**	**308**	*i*P	Pb	14 05 44.3	+0.4
STG8	**El Palmar, Qui**	**1.14**	**186**	*i*P	Pn	14 05 39.5	-4.4
PETF	**Flores**	**1.85**	**44**	*i*P	Pn	14 05 53.4	0.0
PETF				*i*S	Sn	14 06 15.7	-0.4
MTO3	**Montecristo**	**2.15**	**123**	*i*P	Pn	14 05 59.3	+1.6

*IDC **13** 14:33:13.6±2.2, 25°.28S×179°.64W, h435km±21km, mb3.5/3, mbtmp4.5/6, Error ellipse: s-maj=32.3km s-min=20.0km az=61.0*

ISC 13 14:33:12.2±1.1, 25°.33S±0°.08×179°.3W±0°.2, h432km, n32, σ1°.70/47, mb3.9/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.10**	**163**	P	**P**	**14 34 25.6**	**-1.4**
RIZ				S	**S**	**14 35 24.6**	**-3.3**
GLKZ	**Green Lake**	**4.12**	**163**	P	**P**	**14 34 30.6**	**+3.5**
GLKZ				S	**S**	**14 35 26.1**	**-2.2**
MSVF	**Nonsavu**	**7.94**	**342**	P	**P**	**14 35 07.6**	**+0.5**
	36nm,0.5s,baz=146,slow=15,SNR=79						
MXZ	**Matakaoa Point**	**12.37**	**189**	P	**P**	**14 35 56.3**	**+1.2**
MXZ				S	**S**	**14 38 08.9**	**-0.7**
WIAZ	**Waiheke Island**	**12.38**	**201**	P	P	14 36 01.7	+6.5
MBAZ	**Motutapu North**	**12.43**	**202**	P	P	14 36 06.1	+10
WMGZ	**Waiomatatini S**	**12.60**	**188**	P	**P**	**14 35 58.7**	**+1.0**
WMGZ				S	**S**	**14 38 13.7**	**-0.7**
HAZ	**Te Kaha**	**12.63**	**191**	P	**P**	**14 35 58.5**	**+0.5**
HAZ				S	**S**	**14 38 13.6**	**-1.4**
WTAZ	**Waiatarua**	**12.69**	**203**	P	P	14 36 06.3	+7.6
PKGZ	**Pakihiroa**	**12.70**	**189**	P	**P**	**14 35 56.8**	**-1.9**
PKGZ				S	**S**	**14 38 16.2**	**-0.1**
RUGZ	**Raukumara Rang**	**12.86**	**191**	P	**P**	**14 36 00.9**	**+0.3**
RUGZ				S	**S**	**14 38 16.2**	**-3.5**
PUZ	**Puketiti**	**12.87**	**189**	P	**P**	**14 35 59.6**	**-1.0**
PUZ				S	**S**	**14 38 18.4**	**-1.4**
OPRZ	**Ohinepanea**	**12.96**	**195**	P	**P**	**14 36 03.8**	**+2.2**
TWGZ	**Tauwhareparae**	**13.02**	**189**	P	**P**	**14 36 02.1**	**-0.2**
TWGZ				S	**S**	**14 38 23.0**	**+0.3**
MWZ	**Matawai**	**13.24**	**191**	P	**P**	**14 36 04.7**	**0.0**
MWZ				S	**S**	**14 38 26.0**	**-1.2**
URZ	**Urewera**	**13.24**	**192**	P	**P**	**14 36 05.6**	**+1.0**
	13nm,0.3s,baz=12,slow=3.0,SNR=59						
URZ				S	**S**	**14 38 28.0**	**+0.9**
	25nm,0.6s,baz=6.4,slow=24,SNR=13						
CNGZ	**Carnagh Statio**	**13.29**	**188**	P	**P**	**14 36 06.3**	**+1.2**
TKGZ	**Te Karaka**	**13.29**	**190**	P	**P**	**14 36 04.5**	**-0.6**
RAGZ	**Rawiri**	**13.42**	**191**	P	**P**	**14 36 06.7**	**0.0**
RAGZ				S	**S**	**14 38 32.1**	**+1.3**
DZM	**Mont Dzumac**	**13.44**	**281**	P	**P**	**14 36 06.6**	**-0.5**
	10nm,0.8s,baz=105,slow=16,SNR=6.3						
MUGZ	**Murupara**	**13.52**	**193**	P	**P**	**14 36 09.4**	**+1.6**
RIGZ	**Rimuhau**	**13.57**	**190**	P	**P**	**14 36 08.4**	**+0.2**
PRGZ	**Paritu Road**	**13.76**	**189**	S	**S**	**14 38 39.7**	**+2.2**
MTHZ	**Maungataniwha**	**13.87**	**193**	P	**P**	**14 36 10.0**	**-1.5**
MTHZ				S	**S**	**14 38 39.6**	**-0.1**
RAHZ	**Arahi**	**13.89**	**192**	P	**P**	**14 36 12.5**	**+0.9**
RAHZ				S	**S**	**14 38 42.5**	**+2.5**
NMHZ	**Naumai**	**14.11**	**192**	P	**P**	**14 36 14.9**	**+0.7**
NMHZ				S	**S**	**14 38 43.7**	**-0.8**
MCHZ	**McNeill Hill**	**14.47**	**192**	P	**P**	**14 36 17.6**	**-0.4**
MCHZ				S	**S**	**14 38 51.6**	**+0.2**
WAZ	**Wanganui**	**15.16**	**197**	S	**S**	**14 39 11.0**	**+5.9**
ASAR	**Alice Springs**	**42.43**	**262**	P	**P**	**14 40 26.2**	**-1.3**
	3.9nm,0.7s,baz=91,slow=6.8,SNR=78						
ASAR				PcP	**PcP**	**14 42 11.7**	**+0.4**
	0.2nm,0.6s,baz=97,slow=4.1,SNR=1.1						
ASAR				ScP	**ScP**	**14 45 20.8**	**+0.6**
	0.2nm,0.9s,baz=96,slow=5.6,SNR=1.1						
	3.9nm,0.7s						
WRA	**Warramunga Arr**	**42.94**	**267**	P	**P**	**14 40 30.0**	**-1.6**
	3.6nm,0.6s,baz=99,slow=7.0,SNR=86						
	3.6nm,0.6s						
QSPA	**South Pole Qui**	**64.76**	**180**	P	**P**	**14 43 07.8**	**+1.4**
	2.0nm,0.7s,baz=50,slow=0.4,SNR=16						
	2.0nm,0.7s						
BRTR	**Keskin Array B**	**148.92**	**306**	PKPbc	**PKPbc**	**14 52 09.7**	**-0.8**
	0.2nm,0.4s,baz=102,slow=1.8,SNR=2.0						

*IDC **13** 14:37:21.7±1.8, 58°.34S×25°.32W, h0km, mb3.9/5, mbtmp3.9/6, ML4.0/1, MS3.2/2, Error ellipse: s-maj=79.6km s-min=25.7km az=55.0*

ISC 13 14:37:27.3±1.4, 58°.6S±0°.3×25°.5W±0°.3, h38km, n14, σ1°.52/13, mb3.9/5, 5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.10**	**156**	⇓P	**Pn**	**14 40 42.5**	**-1.5**
	comp=Z,0.2nm,0.2s						
VNA3	**Neumayer Olymp**	**14.29**	**159**	⇓P	**Pn**	**14 40 44.8**	**-1.9**
	comp=Z,0.3nm,0.2s						
VNA2	**Neumayer--Watz**	**14.49**	**156**	⇓P	**Pn**	**14 40 47.9**	**-1.6**
	comp=Z,0.5nm,0.2s,baz=327,slow=13						
SNAA	**Sanae**	**16.05**	**154**	⇓P	**Pn**	**14 41 08.5**	**-1.4**
	comp=Z,7.4nm,0.3s						
SNAA	**Sanae**	**16.05**	**154**	Pn	**Pn**	**14 41 08.8**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=313,slow=14,SNR=22						
SNAA				LR	LR	14 46 32.0	
	comp=Z,49nm,21.2s,baz=136,slow=34						
	comp=Z,2.2nm,0.5s						
TROLL	**Troll, Antarti**	**17.57**	**151**	⇓P	**P**	**14 41 29.2**	**-0.5**
	comp=Z,6.6nm,0.1s						
PLCA	**Paso Flores**	**33.41**	**282**	P	**P**	**14 44 02.0**	**-0.1**
	comp=Z,3.2nm,1.1s,baz=144,slow=14,SNR=2.9						
	comp=Z,3.2nm,1.1s						
CPUP	**Villa Florida**	**39.19**	**311**	P	**P**	**14 44 50.7**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=90,slow=2.0,SNR=2.8						
	comp=Z,0.6nm,0.3s						
SUR	**Sutherland**	**40.50**	**70**	LR	LR	14 58 39.0	
	comp=Z,50nm,18.8s,baz=344,slow=32						
VNDA	**Vanda**	**44.09**	**182**	P	**P**	**14 45 32.5**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=180,slow=1.0,SNR=1.9						
	comp=Z,0.5nm,0.8s						
LPAZ	**La Paz**	**52.60**	**305**	P	**P**	**14 46 37.1**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=172,slow=7.1,SNR=2.3						
	comp=Z,0.6nm,0.4s						
ASAR	**Alice Springs**	**96.29**	**161**	P	**P**	**14 50 54.4**	**+2.7**
	comp=Z,0.4nm,1.0s,baz=187,slow=3.8,SNR=2.0						
	comp=Z,0.4nm,1.0s						
YKA	**Yellowknife Ar**	**138.66**	**315**	PKP	**PKPdf**	**14 56 47.8**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=122,slow=2.5,SNR=5.7						
ILAR	**Eielson Array**	**152.46**	**308**	PKPbc	**PKPbc**	**14 57 17.1**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=117,slow=5.6,SNR=12						

*IDC **13** 14:58:12.1±0.6, 14°.93N×122°.89E, h0km, mb3.9/21, mbtmp3.9/22, ML4.7/1, Error ellipse: s-maj=18.7km s-min=14.4km az=81.0*

*NEIC **13** 14:58:13.7±2.9, 14°.95N±0°.08×122°.3E±0°.1, h10km±1km, mb4.4/18, Error ellipse: s-maj=20.4km s-min=13.1km az=91.0*

ISC 13 14:58:16.6±0.5, 14°.90N±0°.07×122°.52E±0°.07, h32km, n52, σ2°.38/49, mb4.1/29, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.73**	**243**	Pn	**Pb**	**14 58 49.4**	**+1.6**
	290nm,0.3s,baz=98,slow=2.9,SNR=30						
TGY				Sn	**Sb**	**14 59 15.1**	**+6.0**
	262nm,0.3s,baz=116,slow=23,SNR=6.4						
	902nm,0.4s						
TWG	**Pinlang**	**8.00**	**350**	Pn	**Pn**	**15 00 09.5**	**-1.1**
YULB	**Yu-li**	**8.53**	**352**	Pn	Pn	15 00 13.5	-4.4
SBUM	**Sibu**	**16.01**	**220**		**Pn**	**15 01 56.9**	**-2.7**
KSM	**Kuching**	**17.99**	**223**		**Pn**	**15 02 21.8**	**-2.5**
MYKOM	**Kota Tinggi**	**22.57**	**236**	P	**P**	**15 03 08.6**	**-5.9**
MYKOM				IAmb	IAmb	15 03 18.1	
	comp=Z,9.9nm,1.0s						
CM31	**Chiang Mai Arr**	**22.86**	**282**	P	**P**	**15 03 11.7**	**-5.7**
CM31				IAmb	IAmb	15 03 21.7	
	comp=Z,14nm,1.1s						
CMAR	**Chiang Mai Arr**	**22.86**	**282**		**P**	**15 03 12.3**	**-5.2**
CMAR	**Chiang Mai Arr**	**22.86**	**282**	P	**P**	**15 03 20.6**	**+3.1**
	comp=Z,5.5nm,0.9s,baz=92,slow=7.5,SNR=47						
CMAR				PcP	**PcP**	**15 07 10.3**	**+2.5**
	comp=Z,0.6nm,0.7s,baz=189,slow=1.2,SNR=5.7						
	comp=Z,5.5nm,0.9s						
CHTO	**Chiang Mai**	**22.89**	**283**	P	**P**	**15 03 13.2**	**-4.6**
KSRS	**Korea Array**	**22.97**	**11**	P	**P**	**15 03 17.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=93,slow=4.9,SNR=1.6						
	comp=Z,0.2nm,0.3s						
MJAR	**Matsushiro Arr**	**25.70**	**30**	P	**P**	**15 03 41.7**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=192,slow=11,SNR=1.0						
	comp=Z,0.2nm,0.4s						
RPSI	**Rantau Prapat**	**26.24**	**245**	P	**P**	**15 03 46.0**	**-3.1**
RPSI				IAmb	IAmb	15 03 51.9	
	comp=Z,12nm,1.1s						
GSI	**Gunungsitoli**	**28.10**	**244**	P	**P**	**15 04 04.9**	**-0.8**
MTN	**Manton Dam**	**28.86**	**162**	P	**P**	**15 04 13.9**	**+1.6**
MTN				IAmb	IAmb	15 04 42.9	
	comp=Z,9.8nm,1.1s						
SHL	**Shillong**	**30.57**	**295**		**P**	**15 04 24.2**	**-3.5**
FITZ	**Fitzroy Crossi**	**32.94**	**175**	P	**P**	**15 04 49.2**	**+0.9**
SONM	**Songino Array**	**35.45**	**341**	P	**P**	**15 05 11.1**	**+1.1**
	comp=Z,1.4nm,0.9s,baz=161,slow=9.8,SNR=6.5						
	comp=Z,1.4nm,0.9s						
PATS	**Pohnpei**	**36.01**	**99**	P	**P**	**15 05 17.0**	**+1.9**
YSS	**Yuzhno-Sakhali**	**36.14**	**24**	P	**P**	**15 05 15.6**	**-0.1**
WB0	**Warramunga Arr**	**36.38**	**161**	P	**P**	**15 05 16.7**	**-1.4**
WB0				IAmb	IAmb	15 05 41.8	
	comp=Z,6.7nm,1.4s						
WRA	**Warramunga Arr**	**36.52**	**161**	P	**P**	**15 05 18.4**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=344,slow=8.5,SNR=5.0						
	comp=Z,1.0nm,0.8s						
WR8	**Warramunga Arr**	**36.59**	**161**	P	**P**	**15 05 19.4**	**-0.5**
WR8				IAmb	IAmb	15 05 38.5	
	comp=Z,6.9nm,1.4s						
ASAR	**Alice Springs**	**39.91**	**164**	P	**P**	**15 05 47.8**	**-0.1**
ASAR	**Alice Springs**	**39.91**	**164**	P	**P**	**15 05 47.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=338,slow=7.4,SNR=8.9						
ASAR				PcP	**PcP**	**15 07 53.2**	**0.0**
	comp=Z,0.5nm,0.7s,baz=344,slow=2.3,SNR=2.8						
	comp=Z,0.4nm,0.7s						
H11S3	**WAKE ISLAND Hy 42.38**	**79**	T	T		15 51 15.2	
	baz=271,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy 42.39**	**79**	T	T		15 51 15.7	
	baz=271,slow=75,SNR=40						
H11S2	**WAKE ISLAND Hy 42.40**	**79**	T	T		15 51 16.1	
	baz=271,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy 42.54**	**77**	T	T		15 51 26.9	
	baz=271,slow=75,SNR=42						
H11N2	**WAKE ISLAND Hy 42.55**	**77**	T	T		15 51 27.3	
	baz=271,slow=75,SNR=52						
H11N3	**WAKE ISLAND Hy 42.56**	**77**	T	T		15 51 28.2	
	baz=271,slow=75,SNR=36						
MKAR	**Makanchi Array**	**46.15**	**322**	P	**P**	**15 06 35.3**	**-2.8**
MKAR	**Makanchi Array**	**46.15**	**322**	P	**P**	**15 06 40.1**	**+2.0**
	comp=Z,1.7nm,0.9s,baz=116,slow=8.2,SNR=15						
MKAR				PcP	**PcP**	**15 08 15.4**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=89,slow=5.0,SNR=3.9						
	comp=Z,1.7nm,0.9s						
PETK	**Petropavlovsk-**	**47.13**	**28**	P	**P**	**15 06 46.6**	**+0.9**
PETK	**Petropavlovsk-**	**47.13**	**28**	P	**P**	**15 06 44.5**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=206,slow=6.4,SNR=4.1						
	comp=Z,1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**48.83**	**331**	P	**P**	**15 06 59.1**	**+0.4**
ZALV	**Zalesovo Beam**	**48.83**	**331**	P	**P**	**15 06 60.0**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=115,slow=10.0,SNR=5.6						
	comp=Z,1.6nm,0.7s						
STKA	**Stephens Creek**	**49.98**	**159**	P	**P**	**15 07 07.2**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=323,slow=11,SNR=3.4						
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**50.20**	**325**		**P**	**15 07 09.8**	**+0.5**
KURK				IAmb	IAmb	15 07 12.5	
	comp=Z,5.7nm,0.9s						
KURBB	**Kurchatov Arra**	**50.20**	**325**	P	**P**	**15 07 11.2**	**+1.9**
	comp=Z,3.0nm,0.7s,baz=121,slow=8.4,SNR=24						
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**55.80**	**325**	P	**P**	**15 07 51.3**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=156,slow=8.7,SNR=2.9						
	comp=Z,0.4nm,0.4s						
TIXI	**Tiksi**	**56.86**	**2**		**P**	**15 07 58.2**	**+0.4**
TIXI				IAmb	IAmb	15 07 59.3	
	comp=Z,2.8nm,0.6s						
NRIK	**Noril'sk**	**58.66**	**346**	P	**P**	**15 08 12.0**	**+1.5**
	comp=Z,2.6nm,0.8s,baz=117,slow=6.5,SNR=5.9						
	comp=Z,2.6nm,0.8s						
KBZ	**Khabaz**	**72.41**	**312**	P	**P**	**15 09 40.4**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=116,slow=3.4,SNR=4.9						
	comp=Z,1.5nm,0.8s						
ILAR	**Eielson Array**	**76.90**	**26**	P	**P**	**15 10 04.1**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=278,slow=4.4,SNR=4.5						
	comp=Z,0.2nm,0.7s						
SPITS	**Spitsbergen Ar**	**78.78**	**348**	P	**P**	**15 10 17.8**	**+2.1**
	comp=Z,3.2nm,0.7s,baz=175,slow=8.2,SNR=2.0						
	comp=Z,3.2nm,0.7s						
FINES	**FINESS Array B**	**80.10**	**331**	P	**P**	**15 10 24.1**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=46,slow=6.1,SNR=11						
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**80.69**	**320**	P	**P**	**15 10 27.1**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=71,slow=3.9,SNR=2.5						
	comp=Z,1.2nm,0.8s						
HFS	**Hagfors**	**86.27**	**332**	P	**P**	**15 10 55.6**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=167,slow=7.4,SNR=4.9						
	comp=Z,1.6nm,0.6s						
NB2	**NORSAR Subarra**	**87.00**	**333**	P	**P**	**15 10 59.4**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=65,slow=4.6						
NOA	**NORSAR Array B**	**87.00**	**333**	P	**P**	**15 10 59.6**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=64,slow=4.6,SNR=5.1						
	comp=Z,0.8nm,0.7s						
YKA	**Yellowknife Ar**	**90.99**	**23**	P	**P**	**15 11 18.3**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=308,slow=4.7,SNR=6.6						
	comp=Z,0.3nm,0.6s						

*IDC **13** 15:02:01.2±1.5, 1°.51N×128°.37E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=130.3km s-min=20.5km az=70.0*

*DJA **13** 15:02:12.0±0.4, 1°.N±4°×12°.8E±°, h66km±10km, M3.8/7, mb4.0/1, MLv3.7/7*

ISC 13 15:02:10.5±1.0, 1°.4N±0°.1×128°.22E±0°.07, h69km, n9, σ0°.82/10, mb3.5/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.06**	**234**	P	**Pn**	**15 02 30.0**	**+0.3**
TNTI				S	**Sn**	**15 02 44.2**	**+0.2**
SWI	**Sorong**	**3.78**	**127**	P	**Pn**	**15 03 07.2**	**+0.8**
KMSI	**Cibinong**	**4.32**	**259**	P	**Pn**	**15 03 14.7**	**+1.0**
FAKI	**Fak Fak**	**5.89**	**137**	P	**Pn**	**15 03 35.9**	**+0.7**
WRA	**Warramunga Arr**	**22.05**	**165**	P	**P**	**15 06 58.7**	**-0.9**
	0.9nm,0.5s,baz=346,slow=12,SNR=5.8						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**25.53**	**168**	P	**P**	**15 07 32.1**	**-0.7**
	0.3nm,0.5s,baz=342,slow=9.6,SNR=5.8						
	0.3nm,0.5s						
SONM	**Songino Array**	**49.96**	**341**	P	**P**	**15 10 58.1**	**+0.4**
	0.4nm,0.7s,baz=165,slow=6.0,SNR=2.4						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**60.30**	**325**	P	**P**	**15 12 11.8**	**-0.3**
	0.7nm,0.6s,baz=122,slow=6.8,SNR=10.0						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**64.49**	**327**	P	**P**	**15 12 38.9**	**-0.9**
	1.3nm,0.6s,baz=128,slow=6.1,SNR=19						
	1.3nm,0.6s						

*BJI **13** 15:06:58.4, 26°.10N×129°.60E, h5km, mB5.0/38, mb4.6/78, Ms4.6/80, Ms7 4.5/76*

*IDC **13** 15:07:01.9±0.5, 26°.34N×129°.53E, h0km, mb4.5/28, mbtmp4.5/32, ML4.1/3, MS3.9/52, Error ellipse: s-maj=15.3km s-min=12.5km az=81.0*

*MOS **13** 15:07:01.4±1.4, 26°.28N×129°.41E, h10km, mb5.1/57, MS4.7/10, Error ellipse: s-maj=7.3km s-min=4.1km az=112.8*

*NEIC **13** 15:07:02.2±2.6, 26°.22N±0°.07×129°.52E±0°.05, h10km±1km, mb5.0/174, Error ellipse: s-maj=12.0km s-min=7.8km az=198.0*

*NIED **13** 15:07:03.4, 26°.30N×129°.59E, h44km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; M_{rr}=0.83; $M_{\theta\theta}$=0.25; $M_{\phi\phi}$=0.57; $M_{r\theta}$=0.14; $M_{\theta\phi}$=0.66; $M_{\phi r}$=0.87; Fault plane solution: M_0=1.32000×10^16^ NP1: ϕ_s=242.00000°, δ=30.00000°, λ=-49.00000°. NP2: ϕ_s=17.00000°, δ=68.00000°, λ=-110.00000°.*

*JMA **13** 15:07:03.4±0.1, 26°.3N±0°.5×129°.6E±0°.3, h44km, MD4.7/19, MV4.5/19, NEAR OKINAWAJIMA ISLAND*

*GCMT **13** 15:07:06.2±0.3, 26°.25N±0°.03×129°.61E±0°.04, h14km±1km, MW4.8/78, Moment Tensor Solution. s12, c13; s78, c107; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=1.51±.15; $M_{\theta\theta}$=0.77±.09; $M_{\phi\phi}$=0.74±.09; $M_{r\theta}$=0.62±.20; $M_{\theta\phi}$=0.67±.04; $M_{\phi r}$=0.63±.19; Best double couple: M_0=1.71100×10^16^ NP1: ϕ_s=226.00000°, δ=30.00000°, λ=-89.00000°. NP2: ϕ_s=45.00000°, δ=60.00000°, λ=-90.00000°. Principal axes: T 1.6690, Plg15.0000°, Azm135.0000°; N 0.0860, Plg0.0000°, Azm45.0000°; P -1.7540, Plg75.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 15:07:03.0±0.5, 26°.26N±0°.03×129°.56E±0°.03, h14km±2km, n770, σ1°.84/702, mb5.0/190, MS4.4/81, 43C-17D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.25**	**308**	*i*P	**Pn**	**15 07 24.8**	**-1.3**
JYRO				S	**Sb**	**15 07 40.4**	**-2.0**
JYRO	**Yoronjima**	**1.25**	**308**	A	A	15 07 24.8	
	comp=N,18nm,3.9s,comp=E,22nm,3.4s						
JOW	**Kunigami**	**1.29**	**297**		**Pn**	**15 07 25.4**	**-1.2**
JOW	**Kunigami**	**1.29**	**297**	Pn	**Pn**	**15 07 25.6**	**-1.0**
	comp=E,2μm,0.3s,baz=124,slow=22,SNR=2074						
JOW				Sn	**Sb**	**15 07 41.1**	**-2.3**
	comp=E,1μm,0.3s,baz=116,slow=21,SNR=9.9						
JOW				LR	LR	15 08 06.4	
	comp=E,10μm,19.2s,baz=152,slow=52						
JOW	**Kunigami**	**1.29**	**297**	P	**Pn**	**15 07 25.8**	**-0.8**
JOW	**Kunigami**	**1.29**	**297**	S	**Sb**	**15 07 42.1**	**-1.3**
JOW	**Kunigami**	**1.29**	**297**	*i*P	**Pn**	**15 07 25.6**	**-1.0**
JOW				S	**Sb**	**15 07 41.5**	**-2.0**
JOW	**Kunigami**	**1.29**	**297**	A	A	15 07 25.6	
	comp=N,18nm,4.8s,comp=E,18nm,5.3s						
JNTH	**Nagotoyohara**	**1.41**	**281**	*i*P	**Pn**	**15 07 27.2**	**-1.0**
JNTH				S	**Sn**	**15 07 44.6**	**-1.9**
JNTH	**Nagotoyohara**	**1.41**	**281**	A	A	15 07 27.2	
	comp=N,22nm,5.0s,comp=E,16nm,5.1s						
JOKE	**Okinoerabujima**	**1.41**	**321**	*i*P	**Pn**	**15 07 27.1**	**-1.2**
JOKE				S	**Sn**	**15 07 44.3**	**-2.5**
JOKE	**Okinoerabujima**	**1.41**	**321**	A	A	15 07 27.1	
	comp=N,16nm,5.0s,comp=E,19nm,3.8s						
JMZ	**Minamidaito 2**	**1.56**	**106**	Pn	**Pn**	**15 07 29.1**	**-1.1**
JMZ	**Minamidaito 2**	**1.56**	**106**	P	**Pn**	**15 07 29.7**	**-0.6**
JMZ	**Minamidaito 2**	**1.56**	**106**	S	**Sn**	**15 07 47.9**	**-2.4**
JMZ	**Minamidaito 2**	**1.56**	**106**	P	**Pn**	**15 07 29.0**	**-1.3**
JMZ				S	**Sn**	**15 07 48.0**	**-

NJ2				LR	LR	
	comp=E,2μm,13.7s					
NJ2				LR	LR	
	comp=E,3μm,14.2s					
INU	**Inuyama**	**11.10**	**33**	Pn	**Pn**	**15 09 39.6 -1.7**
JHJ	**Hachijo jima 2**	**11.21**	**50**	LR	LR	15 13 31.1
	comp=E,357nm,19.1s,baz=272,slow=35					
KSRS	**Korea Array**	**11.25**	**353**	Pn	**Pn**	**15 09 43.8 +0.4**
	comp=E,0.3nm,0.3s,baz=170,slow=12,SNR=17					
KSRS				LR	LR	15 14 08.6
	comp=E,472nm,20.3s,baz=175,slow=38					
	comp=E,4.8nm,0.9s					
JCJ	**Chichijima**	**11.32**	**83**	LR	LR	15 13 44.6
	comp=E,64nm,19.5s,baz=144,slow=36					
JGF	**Kuroka**	**11.47**	**34**	P	**Pn**	**15 09 48.4 +2.0**
MJAR	**Matsushiro Arr**	**12.63**	**34**	Pn	**Pn**	**15 10 03.4 +1.1**
	comp=E,0.9nm,0.8s,baz=223,slow=12,SNR=6.3					
WHN	**Wuhan**	**14.05**	**291**	P	**Pn**	**15 10 21.8 +0.1**
WHN				LR	LR	
	comp=E,6μm,17.7s					
WHN				LR	LR	
	comp=E,4μm,15.2s					
WHN				LR	LR	
	comp=E,4μm,13.3s					
DL2	**Dalian**	**14.27**	**334**	P	**P**	**15 10 31.3 -0.5**
DL2				S	**S**	**15 13 17.3 -5.8**
DL2				pmax	pmax	
	comp=Z,39nm,1.1s					
DL2				pmax	pmax	
	comp=Z,240nm,8.8s					
DL2				LR	LR	
	comp=N,1μm,15.3s					
DL2				LR	LR	
	comp=E,550nm,13.6s					
DL2				LR	LR	
	comp=Z,1μm,16.9s					
TIA	**Tai'an**	**14.54**	**316**	P	**Pn**	**15 10 30.6 +2.3**
TIA				pmax	pmax	
	comp=Z,25nm,0.9s					
TIA				pmax	pmax	
	comp=Z,280nm,6.2s					
TIA				LR	LR	
	comp=Z,920nm,11.7s					
TIA				LR	LR	
	comp=Z,2μm,11.7s					
TIA				LR	LR	
	comp=Z,2μm,16.5s					
CNSH	**ChangSha**	**14.92**	**281**	P	**P**	**15 10 40.4 +1.2**
CNSH				S	**S**	**15 13 32.8 -3.8**
CNSH				LR	LR	
	comp=N,900nm,12.9s					
CNSH				LR	LR	
	comp=E,2μm,14.1s					
CNSH				LR	LR	
	comp=Z,2μm,14.1s					
JMM	**Marumori**	**14.97**	**37**	Pn	**Pn**	**15 10 32.4 -1.8**
SNY	**Shenyang**	**16.30**	**344**	⇓P	**P**	**15 10 53.1 -1.3**
SNY				S	**Sn**	**15 13 56.8 +4.8**
SNY				pmax	pmax	
	comp=Z,33nm,1.3s					
SNY				pmax	pmax	
	comp=Z,92nm,3.5s					
SNY				LR	LR	
	comp=Z,700nm,14.7s					
SNY				LR	LR	
	comp=Z,1μm,11.8s					
SNY				LR	LR	
	comp=Z,1μm,13.5s					
MSHR	**Mys Shultsa**	**16.34**	**4**	*i* P	**Pn**	**15 10 52.6 +0.7**
MSHR				pmax	pmax	
	comp=Z,82nm,1.8s					
HNS	**HongShan**	**16.79**	**315**	⇑P	**P**	**15 10 59.1 -0.8**
HNS				PP	**pwP**	**15 11 09.9 -0.2**
HNS				S	**S**	**15 14 11.5 -3.3**
HNS				pmax	pmax	
	comp=Z,82nm,1.3s					
HNS				LR	LR	
	comp=Z,1μm,13.6s					
HNS				LR	LR	
	comp=Z,860nm,14.3s					
HNS				LR	LR	
	comp=Z,1μm,14.3s					
LYN	**LuoYang**	**16.89**	**303**	P	**P**	**15 11 01.4 +0.4**
LYN				pmax	pmax	
	comp=Z,630nm,6.2s					
LYN				LR	LR	
	comp=Z,3μm,13.7s					
LYN				LR	LR	
	comp=Z,2μm,16.5s					
LYN				LR	LR	
	comp=Z,4μm,12.7s					
VLA	**Vladivostok**	**16.93**	**6**	*i* P	**P**	**15 11 02.3 +0.9**
VLA				pmax	pmax	
	comp=Z,14nm,1.1s					
BJT	**Baijiatuau**	**17.70**	**324**		**P**	**15 11 10.2 +0.4**
BJT	**Baijiatuau**	**17.70**	**324**	P	**P**	**15 11 10.2 +0.4**
BJT				pmax	pmax	
	comp=Z,75nm,1.1s					
BJI	**Beijing**	**17.71**	**324**	P	**P**	**15 11 10.4 +0.4**
BJI				S	**Sn**	**15 14 29.4 +3.2**
BJI				pmax	pmax	
	comp=Z,34nm,0.9s					
BJI				pmax	pmax	
	comp=Z,180nm,4.3s					
BJI				LR	LR	
	comp=Z,470nm,12.9s					
BJI				LR	LR	
	comp=Z,320nm,12.0s					
BJI				LR	LR	
	comp=Z,690nm,12.5s					
CN2	**Changchun**	**17.82**	**350**	*e*P	**P**	**15 11 11.9 +0.7**
CN2				*e*S	**Sn**	**15 14 28.9 -0.1**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
CN2				pmax	pmax	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=Z,900nm,11.0s					
CN2				LR	LR	
	comp=Z,2μm,11.0s					
CN2				LR	LR	
	comp=Z,700nm,13.0s					
USRK	**Ussuriysk Ar.**	**18.01**	**6**	P	**P**	**15 11 14.3 +1.0**
	comp=Z,0.6nm,0.3s,baz=175,slow=8.8,SNR=9.8					
USRK				LR	LR	15 17 51.2
	comp=Z,188nm,20.9s,baz=188,slow=36					
	comp=Z,5.9nm,0.6s					
ENH	**Enshi**	**18.13**	**287**		**Pn**	**15 11 12.8 -1.6**
MDJ	**Mudanjiang**	**18.32**	**0**	P	**P**	**15 11 19.9 +3.2**
MDJ				S	**Sn**	**15 14 40.6 -0.4**
MDJ				pmax	pmax	
	comp=Z,12nm,0.7s					
MDJ				LR	LR	
	comp=Z,680nm,15.8s					
MDJ				LR	LR	
	comp=Z,690nm,11.7s					
MDJ				LR	LR	
	comp=Z,1μm,13.1s					
TIY	**Taiyuan**	**18.45**	**312**	P	**Pn**	**15 11 20.3 +1.9**
TIY				S	**Sn**	**15 14 44.3 0.0**
TIY				pmax	pmax	
	comp=Z,430nm,3.6s					
TIY				LR	LR	
	comp=Z,840nm,16.0s					
TIY				LR	LR	
	comp=Z,1μm,14.7s					
TIY				LR	LR	
	comp=Z,1μm,12.8s					
GUMO	**Guam**	**19.10**	**128**	LR	LR	15 17 13.7
	comp=Z,229nm,21.1s,baz=316,slow=32					
XAN	**Xi'an**	**19.44**	**298**	P	**P**	**15 11 28.3 -0.9**
XAN				pP	pwP	15 11 39.5 +0.1
XAN				S	**S**	**15 15 10.6 +1.9**
XAN				pmax	pmax	
	comp=Z,180nm,1.1s					
XAN				pmax	pmax	
	comp=Z,610nm,3.6s					
XAN				LR	LR	
	comp=Z,2μm,16.3s					
XAN				LR	LR	
	comp=Z,1μm,16.3s					
XAN				LR	LR	
	comp=Z,2μm,16.1s					
DAV	**Davao City (W)**	**19.45**	**192**	LR	LR	15 19 55.1
	comp=Z,157nm,18.2s,baz=18,slow=40					
BNX	**BinXian**	**19.52**	**355**	⇓P	**Pn**	**15 11 32.3 +1.1**
BNX				pP	**pwP**	**15 11 35.4 -4.4**
BNX				sP	**sP**	**15 11 37.8 +4.8**
BNX				S	**S**	**15 15 11.4 +1.4**
BNX				sS	**pS**	**15 15 16.8 -5.4**
BNX				pmax	pmax	
	comp=Z,24nm,1.1s					
BNX				pmax	pmax	
	comp=Z,160nm,5.2s					
BNX				LR	LR	
	comp=Z,880nm,13.6s					
BNX				LR	LR	
	comp=Z,860nm,11.4s					
BNX				LR	LR	
	comp=Z,1μm,14.1s					
QIZ	**Qiongzhong**	**19.55**	**252**	P	**P**	**15 11 28.6 -1.9**
QIZ				sP	**sP**	**15 11 34.4 +0.8**
QIZ				S	**S**	**15 15 08.4 -2.6**
QIZ				sS	**sS**	**15 15 15.4 +0.9**
QIZ				pmax	pmax	
	comp=Z,15nm,1.5s					
QIZ				LR	LR	
	comp=Z,300nm,12.9s					
QIZ				LR	LR	
	comp=Z,430nm,10.8s					
QIZ				LR	LR	
	comp=Z,630nm,14.3s					
GYA	**Guiyang**	**20.52**	**276**	⇑P	Pn	15 11 42.5 -0.8
GYA				sP	pwP	15 11 51.4 +0.3
GYA				S	**S**	**15 15 25.6 -4.8**
GYA				SS	**SnSn**	**15 15 51.3 +2.2**
GYA				pmax	pmax	
	comp=Z,33nm,1.4s					
GYA				LR	LR	
	comp=Z,760nm,14.4s					
GYA				LR	LR	
	comp=Z,2μm,12.9s					
GYA				LR	LR	
	comp=Z,2μm,14.9s					
ASAJ	**Asahikawa**	**20.72**	**27**	P	**P**	**15 11 42.6 -0.3**
	comp=Z,7.2nm,0.7s,baz=293,slow=2.6,SNR=4.7					
ASAJ				LR	LR	15 20 40.3
	comp=Z,422nm,19.2s,baz=175,slow=40					
	comp=Z,7.2nm,0.7s					
ASAJ	**Asahikawa**	**20.72**	**27**	P	**P**	**15 11 42.8 -0.1**
ASAJ				pmax	pmax	
	comp=Z,19nm,1.0s					
JKA	**Kamikawa-asahi**	**20.72**	**27**	P	**P**	**15 11 42.8 -0.1**
XLT	**XiLinHaoTe**	**20.73**	**332**	*e*P	**P**	**15 11 41.1 -2.0**
XLT				pP	Pn	15 11 46.9 +1.4
XLT				sP	pwP	15 11 50.1 -3.3
XLT				PP	**PnPn**	**15 12 08.3 +7.1**
XLT				S	**S**	**15 15 30.8 -3.4**
XLT				SS	**SnSn**	**15 16 06.6 +13**
XLT				pmax	pmax	
	comp=Z,53nm,1.1s					
XLT				LR	LR	
	comp=Z,630nm,15.3s					
XLT				LR	LR	
	comp=Z,650nm,17.9s					
HHC	**Hu-ho-hao-te**	**20.84**	**319**	*e*P	**P**	**15 11 44.3 -0.1**
HHC				pP	Pn	15 11 49.8 +2.9
HHC				S	**S**	**15 15 39.3 +2.7**
HHC				pmax	pmax	
	comp=Z,16nm,0.7s					
HHC				pmax	pmax	
	comp=Z,150nm,6.7s					
HHC				LR	LR	
	comp=Z,1μm,12.6s					
HHC				LR	LR	
	comp=Z,1μm,14.3s					
HHC				LR	LR	
	comp=Z,2μm,14.8s					
BTO	**Baotou**	**21.63**	**316**	*e*P	**P**	**15 11 54.0 +1.1**
BTO				PP	**PnPn**	**15 12 19.8 +6.2**
BTO				S	**S**	**15 15 56.3 +4.1**
BTO				pmax	pmax	
	comp=Z,20nm,0.6s					
BTO				pmax	pmax	
	comp=Z,480nm,4.1s					
BTO				LR	LR	
	comp=Z,2μm,14.6s					
BTO				LR	LR	
	comp=Z,1μm,12.1s					
BTO				LR	LR	
	comp=Z,2μm,12.6s					
KLR	**Kul'dur**	**23.00**	**4**	P	**P**	**15 12 05.5 -1.7**
	comp=Z,18nm,0.9s,baz=190,slow=7.8,SNR=30					
KLR				LR	LR	15 21 42.9
	comp=Z,151nm,19.5s,baz=182,slow=38					
	comp=Z,18nm,0.9s					
KLR	**Kul'dur**	**23.00**	**4**	*ce*P	**P**	**15 12 06.7 -0.6**
KLR				pmax	pmax	
	comp=Z,70nm,1.7s					
CD2	**Chengdu**	**23.11**	**288**	P	**P**	**15 12 06.9 -1.7**
CD2				pmax	pmax	
	comp=Z,50nm,1.1s					
CD2				LR	LR	
	comp=Z,1μm,12.1s					
CD2				LR	LR	
	comp=Z,1μm,13.3s					
YSS	**Yuzhno-Sakhali**	**23.15**	**23**	P	**P**	**15 12 08.0 -0.8**
YSS	**Yuzhno-Sakhali**	**23.15**	**23**	*e*P	**P**	**15 12 09.7 +0.8**
YSS				*e*S	**S**	**15 16 16.7 -3.2**
YSS				pmax	pmax	
	comp=Z,40nm,1.4s					
YSS				MLR	MLR	
	comp=N,300nm,16.0s					
YSS				MLR	MLR	
	comp=Z,300nm,16.0s					
SLVN	**Son La**	**23.96**	**264**	P	**P**	**15 12 16.6 -0.6**
SLVN				IAmb	IAmb	15 12 21.3
	comp=Z,64nm,1.2s					
HEH	**HeiHe**	**24.02**	**357**	*e*P	**P**	**15 12 17.5 +0.2**
HEH				pP	**sP**	**15 12 21.3 +0.8**
HEH				S	**S**	**15 16 38.3 +4.5**
HEH				pmax	pmax	
	comp=Z,12nm,0.9s					
HEH				pmax	pmax	
	comp=Z,310nm,8.9s					
HEH				LR	LR	
	comp=Z,720nm,11.2s					
HEH				LR	LR	
	comp=Z,430nm,10.7s					
HEH				LR	LR	
	comp=Z,890nm,11.2s					
LZH	**Lanzhou**	**24.03**	**300**	*e*P	**P**	**15 12 17.4 -0.4**
LZH				sP	pwP	15 12 25.5 -2.2
LZH				S	**S**	**15 16 41.0 +6.4**
LZH				pmax	pmax	
	comp=Z,35nm,1.6s					
LZH				pmax	pmax	
	comp=Z,280nm,4.5s					
LZH				LR	LR	
	comp=Z,830nm,14.8s					
LZH				LR	LR	
	comp=Z,1μm,15.1s					
LZH				LR	LR	
	comp=Z,1μm,14.8s					
KMI	**Kunming**	**24.18**	**273**	⇑P	**P**	**15 12 21.3 +1.9**
KMI				S	**S**	**15 16 29.8 -7.6**
KMI				pmax	pmax	
	comp=Z,34nm,1.1s					
KMI				pmax	pmax	
	comp=Z,300nm,3.6s					
KMI				LR	LR	
	comp=Z,610nm,13.2s					
KMI				LR	LR	
	comp=Z,1μm,11.3s					
KMI				LR	LR	
	comp=Z,1μm,11.0s					
HIA	**Hailar**	**24.21**	**344**	P	**P**	**15 12 17.1 -2.0**
HIA	**Hailar**	**24.21**	**344**	P	**P**	**15 12 17.1 -2.0**
HIA				pmax	pmax	
	comp=Z,7.0nm,0.9s					
DLV	**Lat**	**24.42**	**238**	P	**P**	**15 12 19.2 -2.4**
DLV				IAmb	IAmb	15 12 24.7
	comp=Z,66nm,1.6s					
PZH	**PanZhiHua**	**24.91**	**277**	P	**P**	**15 12 24.8 -1.0**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.7s					
PZH				pmax	pmax	
	comp=Z,100nm,5.3s					
GRNR	**Gornyy**	**25.04**	**10**	⇑*i*P	**P**	**15 12 26.2 -0.4**
GRNR				pmax	pmax	
	comp=Z,20nm,1.2s					
GRNR				MLR	MLR	
	comp=N,330nm,15.0s					
GRNR				MLR	MLR	
	comp=E,450nm,15.0s					
GRNR				MLR	MLR	
	comp=Z,280nm,15.0s					
TOLI2	**Tolitoli**	**26.39**	**200**	P	**P**	**15 12 38.9 -0.3**
TOLI2				IAmb	IAmb	15 13 12.8
	comp=Z,40nm,1.2s					
TYV	**Tymovskoe**	**26.54**	**19**	*e*P	**P**	**15 12 42.3 +2.1**
TYV				*e*S	**S**	**15 17 17.6 +3.7**
TYV				pmax	pmax	
	comp=Z,17nm,1.1s					
TYV				pmax	pmax	
	comp=Z,100nm,3.1s					
TYV				smax	smax	
	comp=N,300nm,3.3s					
TYV				smax	smax	
	comp=E,300nm,3.3s					
ZEA	**Zeya**	**27.51**	**357**	*e*P	**P**	**15 12 49.3 +0.5**
ZEA				pmax	pmax	
	comp=N,10.0nm,1.0s					
ZEA				pmax	pmax	
	comp=Z,20nm,1.0s					
ZEA				MLR	MLR	
	comp=N,200nm,12.0s					
ZEA				MLR	MLR	
	comp=Z,300nm,12.0s					
ULN	**Ulaanbaatar**	**27.88**	**327**	P	**P**	**15 12 50.0 -2.5**
ULN	**Ulaanbaatar**	**27.88**	**327**	P	**P**	**15 12 54.6 +2.1**
ULN				P	**P**	**15 12 54.6 +2.1**
ULN	**Ulaanbaatar**	**27.88**	**327**	*ce*P	**P**	**15 12 53.1 +0.6**
ULN				pmax	pmax	
	comp=Z,14nm,1.3s					
TNCH	**TengChong**	**27.98**	**274**	P	**P**	**15 12 52.8 -0.8**
TNCH				pP	pP	15 12 54.8 -1.5
TNCH				sP	sP	15 12 58.6 +1.7
TNCH				PP	**PnPn**	**15 13 39.3 -1.3**
TNCH				S	**S**	**15 17 34.4 -3.2**
TNCH				pmax	pmax	
	comp=Z,25nm,1.4s					
TNCH				LR	LR	
	comp=Z,760nm,14.3s					
TNCH				LR	LR	
	comp=Z,2μm,13.0s					
TNCH				LR	LR	
	comp=Z,2μm,12.9s					
GTA	**Gaotai**	**28.09**	**305**	P	**P**	**15 12 54.3 -0.1**
GTA				pmax	pmax	
	comp=Z,24nm,0.9s					
GTA				LR	LR	
	comp=Z,480nm,15.5s					
GTA				LR	LR	
	comp=Z,670nm,16.7s					
GTA				LR	LR	
	comp=Z,1μm,16.7s					
SONM	**Songino Array**	**28.19**	**326**	P	**P**	**15 12 53.7 -1.6**
SONM	**Songino Array**	**28.19**	**326**	P	**P**	**15 12 55.7 +0.5**
	comp=Z,3.9nm,0.8s,baz=142,slow=7.5,SNR=15					
SONM				PcP	**PcP**	**15 16 08.7 0.0**
	comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=1.9					
SONM				LR	LR	15 25 40.1
	comp=Z,314nm,18.3s,baz=130,slow=40					
	comp=Z,3.9nm,0.8s					
SANI	**Sanana**	**28.35**	**188**	P	**P**	**15 12 55.1 -1.6**
	comp=Z,17nm,0.7s					
SBUM	**Sibu**	**28.94**	**218**	P	**P**	**15 13 00.7 -1.3**
CHTO	**Chiang Mai**	**29.18**	**262**		**P**	**15 13 02.0 -2.1**
CHTO	**Chiang Mai**	**29.18**	**262**	P	**P**	**15 13 05.3 +1.1**
CHTO	**Chiang Mai**	**29.18**	**262**	P	**P**	**15 13 02.1 -2.1**
CHTO				pmax	pmax	
	comp=Z,23nm,1.1s					
CM31	**Chiang Mai Arr**	**29.31**	**261**	P	**P**	**15 13 02.7 -2.6**
CM31	**Chiang Mai Arr**	**29.31**	**261**	P	**P**	**15 13 06.2 +0.9**
CMAR	**Chiang Mai Arr**	**29.31**	**261**	P	**P**	**15 13 02.5 -2.8**
CMAR	**Chiang Mai Arr**	**29.31**	**261**	P	**P**	**15 13 07.5 +2.3**
	comp=Z,3.6nm,1.0s,baz=60,slow=7.9,SNR=35					
CMAR				PcP	**PcP**	**15 16 13.0 +1.1**
	comp=Z,0.7nm,0.7s,baz=13,slow=0.8,SNR=5.0					
CMAR				LR	LR	15 25 45.4
	comp=Z,184nm,18.9s,baz=75,slow=38					
	comp=Z,3.6nm,1.0s					
JAY	**Jayapura**	**30.56**	**158**	LR	LR	15 26 36.1
	comp=Z,111nm,18.1s,baz=320,slow=38					
KSM	**Kuching**	**30.82**	**220**	IAmb	IAmb	15 13 36.1
	comp=Z,44nm,1.7s					
GOMU	**GeErMu**	**31.18**	**297**	P	**P**	**15 13 20.8 -1.3**
GOMU				pP	sP	15 13 23.9 -1.5
GOMU				sP	pwP	15 13 28.1 -4.0
GOMU				S	**S**	**15 18 26.6 -1.4**
GOMU				pmax	pmax	
	comp=Z,9.0nm,0.4s					
GOMU				LR	LR	
	comp=Z,600nm,13.2s					
GOMU				LR	LR	
	comp=Z,400nm,13.4s					
GOMU				LR	LR	
	comp=Z,620nm,13.2s					
KAPI	**Kappang**	**32.51**	**198**	LR	LR	15 27 06.6
	comp=Z,58nm,19.9s,baz=15,slow=37					
SHL	**Shillong**	**33.82**	**277**	P	**P**	**15 13 46.2 +1.1**
SHL	**Shillong**	**33.82**	**277**	P	**P**	**15 13 45.5 +0.3**
SHL				pmax	pmax	
	comp=Z,40nm,0.9s					
PEA0B	**Petropavlovsk-**	**34.06**	**31**	*ce*P	**P**	**15 13 47.3 +0.6**
PETK	**Petropavlovsk-**	**34.06**	**31**		**P**	**15 13 44.4 -2.3**
PETK	**Petropavlovsk-**	**34.06**	**31**	P	**P**	**15 13 46.9 +0.2**
	comp=Z,3.3nm,0.9s,baz=197,slow=4.6,SNR=7.4					
PETK				LR	LR	15 29 41.3
	comp=Z,119nm,18.2s,baz=215,slow=40					
	comp=Z,3.3nm,0.9s					
PET	**Petropavlovsk**	**34.45**	**31**	*ce*P	**P**	**15 13 50.6 +0.6**
PET				pmax	pmax	
	comp=Z,18nm,2.5s					
KULM	**Kulim**	**34.60**	**238**	P	**P**	**15 13 49.6 -2.3**
KULM				IAmb	IAmb	15 14 05.8
	comp=Z,20nm,1.1s					
YAK	**Yakutsk**	**35.77**	**0**	P	**P**	**15 14 00.4 -0.9**
YAK	**Yakutsk**	**35.77**	**0**	LR	LR	15 28 15.2
	comp=Z,132nm,20.2s,baz=176,slow=36					
YAK	**Yakutsk**	**35.77**	**0**	*ce*P	**P**	**15 14 00.7 -0.6**
YAK				pmax	pmax	
	comp=Z,69nm,1.7s					
MA2	**Magadan**	**36.41**	**18**	LR	LR	15 29 44.2
	comp=Z,73nm,18.8s,baz=226,slow=38					
MA2	**Magadan**	**36.41**	**18**	*i* P	**P**	**15 14 09.4 +2.6**
MA2				pmax	pmax	
	comp=Z,7.0nm,1.0s					
PSI	**Prapat**	**37.52**	**237**	P	**P**	**15 14 15.1 -1.8**
PSI				pmax	pmax	
	comp=Z,20nm,1.2s					
RPSI	**Rantau Prapat**	**37.59**	**237**		**P**	**15 14 15.1 -2.3**
WMQ	**Urumqi**	**38.03**	**308**	*e*P	**P**	**15 14 19.0 -1.9**
WMQ				sP	pwP	15 14 29.1 -3.0
WMQ				pmax	pmax	
	comp=Z,29nm,1.5s					
WMQ				pmax	pmax	
	comp=Z,56nm,3.7s					
WMQ				LR	LR	
	comp=Z,450nm,11.1s					
WMQ				LR	LR	
	comp=Z,740nm,18.1s					
WMQ				LR	LR	
	comp=Z,280nm,12.1s					
MTN	**Manton Dam**	**38.89**	**178**		**P**	**15 14 28.2 -0.1**
MTN				IAmb	IAmb	15 14 30.1
	comp=Z,42nm,1.4s					
PMG	**Port Moresby**	**39.36**	**152**	LR	LR	15 28 31.6
	comp=Z,122nm,19.9s,baz=326,slow=33					
GSI	**Gunungsitoli**	**39.52**	**236**		**P**	**15 14 32.6 -1.0**
SEY	**Seymchan**	**39.66**	**16**	LR	LR	15 31 33.8
	comp=Z,188nm,20.6s,baz=194,slow=37					
SEY	**Seymchan**	**39.66**	**16**	*ce*P	**P**	**15 14 35.4 +1.2**
SEY				pmax	pmax	
	comp=Z,21nm,1.3s					
ZSN	**Zaisan**	**40.85**	**313**	*e*P	**P**	**15 14 43.6 -0.7**
ZSN	**Zaisan**	**40.85**	**313**	*e*P	**P**	**15 14 43.6 -0.7**
SHEM	**Shemya Is, Ala**	**42.39**	**39**	LR	LR	15 32 55.1
	comp=Z,65nm,18.3s,baz=301,slow=37					
MK31	**Makanchi Array**	**42.41**	**312**	*ce*P	**P**	**15 14 56.3 -0.8**
MKAR	**Makanchi Array**	**42.41**	**312**		**P**	**15 14 54.2 -3.0**
MKAR	**Makanchi Array**	**42.41**	**312**	P	**P**	**15 14 56.8 -0.4**
	comp=Z,3.1nm,0.6s,baz=100,slow=8.9,SNR=36					
MKAR				PcP	**PcP**	**15 16 50.8 +0.6**
	comp=Z,4.8nm,1.1s,baz=96,slow=8.7,SNR=5.0					
MKAR				LR	LR	15 35 32.3
	comp=Z,163nm,18.0s,baz=90,slow=40					
	comp=Z,3.1nm,0.6s					

MAKZ Makanchi 42.62 312 P 15 14 57.6 -1.2
MAKZ Makanchi 42.62 312 P **P 15 14 57.7 -1.2**
MAKZ pmax pmax
comp=Z,8.0nm,1.1s
ZAA0 Zalesovo Array 42.95 322 P 15 14 59.8 -1.6
ZALV Zalesovo Beam 42.95 322 P 15 14 59.1 -2.2
ZALV Zalesovo Beam 42.95 322 P **P 15 15 01.0 -0.4**
comp=Z,3.9nm,0.5s,baz=108,slow=8.5,SNR=17
ZALV PcP **PcP 15 16 52.5 +0.7**
comp=Z,3.3nm,0.9s,baz=130,slow=4.4,SNR=5.1
ZALV LR LR 15 34 40.5
comp=Z,321nm,18.5s,baz=105,slow=39
comp=Z,3.9nm,0.5s
ZALV Zalesovo Beam 42.95 322 *i* P **P 15 15 01.0 -0.4**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
SHLS Shalkode 43.83 306 *e*P **P 15 15 05.3 -3.5**
SHLS Shalkode 43.83 306 *e*P **P 15 15 05.4 -3.4**
UZB Uzynbulak 44.15 306 *e*P **P 15 15 10.6 -0.8**
UZB Uzynbulak 44.15 306 *e*P **P 15 15 10.7 -0.8**
FITZ Fitzroy Crossi 44.25 185 P **P 15 15 12.3 +0.2**
FITZ Fitzroy Crossi 44.25 185 LR LR 15 32 15.0
comp=Z,43nm,21.6s,baz=90,slow=34
KPKS Kokpek 44.43 306 *e*P **P 15 15 12.6 -0.9**
KPKS pmax pmax
comp=Z,13nm,1.4s
KPKS Kokpek 44.43 306 *e*P **P 15 15 12.7 -0.8**
comp=Z,13nm,1.4s
ZHN Zhinishke 44.58 306 *e*P **P 15 15 13.7 -1.1**
ZHN Zhinishke 44.58 306 *e*P **P 15 15 13.8 -1.1**
KDJ Kajisay 45.43 304 P **P 15 15 22.3 +0.7**
TIXI Tiksi 45.43 360 P **P 15 15 21.3 +0.3**
TIXI IAmb IAmb 15 15 38.1
comp=Z,55nm,2.0s
TIXI Tiksi 45.43 360 LR LR 15 34 34.6
comp=Z,186nm,18.4s,baz=198,slow=36
TIXI Tiksi 45.43 360*ce*P **P 15 15 21.3 +0.3**
TIXI pmax pmax
comp=Z,18nm,1.7s
MDOK Medeo 45.59 306 *e*P **P 15 15 22.2 -0.7**
MDOK Medeo 45.59 306 *e*P **P 15 15 22.2 -0.7**
KURK Kurchatov 45.62 316 P **P 15 15 22.6 -0.2**
KURK Kurchatov 45.62 316 P **P 15 15 23.1 +0.3**
KURK Kurchatov 45.62 316*ce*P **P 15 15 21.1 -1.7**
KURK pmax pmax
comp=Z,26nm,2.5s
TNSS Tian-Shan 45.66 305 *e*P **P 15 15 22.7 -1.0**
TNSS Tian-Shan 45.66 305 *e*P **P 15 15 22.7 -1.0**
KURBB Kurchatov Arra 45.66 316 P **P 15 15 22.9 -0.2**
comp=Z,4.3nm,0.4s,baz=102,slow=9.0,SNR=60
KURBB PcP **PcP 15 17 01.7 +0.6**
comp=Z,0.8nm,0.8s,baz=97,slow=4.1,SNR=2.8
KURBB LR LR 15 36 11.1
comp=Z,371nm,19.6s,baz=150,slow=38
comp=Z,4.3nm,0.4s
CHKK Chushkaly 45.69 307 *e*P **P 15 15 22.4 -1.0**
CHKK Chushkaly 45.69 307 *e*P **P 15 15 22.5 -1.0**
AAA Alma-Ata 45.69 306 *e*P **P 15 15 22.9 -0.6**
AAA Alma-Ata 45.69 306 *e*P **P 15 15 22.9 -0.6**
WRAB Tennant Creek 46.15 174 *i* P **P 15 15 27.3 +0.1**
WRAB pmax pmax
comp=Z,19nm,1.1s
WRA Warramunga Arr 46.16 174 P **P 15 15 27.2 -0.1**
WRA Warramunga Arr 46.16 174 P **P 15 15 28.2 +0.9**
comp=Z,8.9nm,0.8s,baz=351,slow=8.3,SNR=38
comp=Z,8.9nm,0.8s
WRA Warramunga Arr 46.16 174 *i* P **P 15 15 28.2 +0.9**
WRA pmax pmax
comp=Z,8.0nm,0.7s
HNR Honiara 46.16 136 LR LR 15 34 16.6
comp=Z,68nm,19.6s,baz=350,slow=35
KUU Kurty 46.16 307 *e*P **P 15 15 26.6 -0.6**
KUU pmax pmax
comp=Z,15nm,0.8s
KUU Kurty 46.16 307 *e*P **P 15 15 26.6 -0.6**
comp=Z,15nm,0.8s
KSH Kashi 46.28 301 P **P 15 15 32.5 +4.2**
KSH pmax pmax
comp=Z,5.0nm,2.0s
KSH LR LR
comp=Z,730nm,19.6s
KSH LR LR
comp=Z,340nm,22.6s
KSH LR LR
comp=Z,480nm,14.3s
BILL Bilibino 47.28 18*ce*P **P 15 15 36.3 +0.8**
BILL pmax pmax
comp=Z,26nm,1.3s
SGDS Sogindy 47.37 306 *e*P **P 15 15 36.0 -0.7**
SGDS Sogindy 47.37 306 *e*P **P 15 15 36.1 -0.7**
AAK Ala-Archa 47.44 305 LR LR 15 38 52.1
comp=Z,230nm,19.5s,baz=82,slow=40
AAK Ala-Archa 47.44 305 P **P 15 15 38.6 +1.2**
AAK Ala-Archa 47.44 305*ce*P **P 15 15 36.5 -0.9**
AAK pmax pmax
comp=Z,8.0nm,1.7s
HYB Hyderabad 47.91 270 *e*P **P 15 15 41.8 +0.6**
MBWA Marble Bar 48.09 192 P **P 15 15 43.2 +0.9**
MBWA Marble Bar 48.09 192 P **P 15 15 45.0 +2.6**
PSA00 Pilbara Seismi 48.47 192 **P 15 15 44.0 -1.2**
ARSB Arslanbob 48.55 303 IAmb IAmb 15 15 49.4
comp=Z,28nm,1.3s
NIL Nilore 48.84 293 P **P 15 15 49.3 +1.1**
BRZS Berezniki 49.25 314 *e*P **P 15 15 50.5 -0.6**
BRZS Berezniki 49.25 314 *e*P **P 15 15 50.5 -0.6**
NRIK Noril'sk 49.60 342 **P 15 15 53.5 +0.1**
NRIK IAmb IAmb 15 15 54.9
comp=Z,36nm,1.6s
NRIK Noril'sk 49.60 342 P **P 15 15 53.8 +0.4**
comp=Z,3.7nm,0.5s,baz=112,slow=7.3,SNR=13
NRIK LR LR 15 38 55.3
comp=Z,213nm,18.6s,baz=128,slow=39
comp=Z,3.7nm,0.5s
NRIK Noril'sk 49.60 342*ce*P **P 15 15 53.1 -0.3**
NRIK pmax pmax
comp=Z,12nm,1.4s
DZA Taraz 49.77 305 *e*P **P 15 15 54.4 -0.7**
DZA Taraz 49.77 305 *e*P **P 15 15 54.5 -0.7**
ASAR Alice Springs 49.80 175 P **P 15 15 55.3 -0.2**
ASAR Alice Springs 49.80 175 P **P 15 15 57.5 +1.9**
comp=Z,5.3nm,0.9s,baz=5.1,slow=13,SNR=60
ASAR LR LR 15 38 29.3
comp=Z,34nm,18.6s,baz=350,slow=38
comp=Z,5.3nm,0.9s
PALK Pallekele 50.10 257 LR LR 15 38 23.9
comp=Z,73nm,18.7s,baz=60,slow=38
PALK Pallekele 50.10 257 P **P 15 15 59.0 +0.9**
BTK Batken 50.23 301 IAmb IAmb 15 16 01.0
comp=Z,29nm,1.5s
KKAR Karatay Array 50.37 305 P **P 15 15 60.0 +0.3**
KKAR Karatay Array 50.37 305 IAmb IAmb 15 16 02.0
comp=Z,20nm,1.3s
KKAR Karatay Array 50.37 305 P **P 15 16 00.0 +0.3**
IUG Iuzhnay 50.74 304 *e*P **P 15 16 01.9 -0.7**
IUG pmax pmax
comp=Z,22nm,1.5s
IUG Iuzhnay 50.74 304 *e*P **P 15 16 02.0 -0.7**
comp=Z,22nm,1.5s
BRLS Borolday 50.87 305 *e*P **P 15 16 03.4 -0.1**
BRLS Borolday 50.87 305 *e*P **P 15 16 03.4 -0.1**
BVAR Borovoye Array 51.05 318 P **P 15 16 05.4 +0.7**
comp=Z,6.0nm,0.5s,baz=83,slow=9.3,SNR=41
BVAR PcP **PcP 15 17 21.3 +0.9**
comp=Z,5.5nm,0.8s,baz=113,slow=3.3,SNR=5.1
BVAR LR LR 15 39 44.8
comp=Z,936nm,18.2s,baz=90,slow=38
comp=Z,6.0nm,0.5s
BRVK Borovoye 51.12 318 **P 15 16 05.1 0.0**
BRVK IAmb IAmb 15 16 07.8
comp=Z,17nm,0.9s
BRVK Borovoye 51.12 318 P **P 15 16 06.1 +0.9**
BRVK P **P 15 16 06.1 +0.9**
BRVK Borovoye 51.12 318*ce*P **P 15 16 05.2 0.0**
BRVK pmax pmax
comp=Z,39nm,1.7s
KBL Kabul 52.18 295 P **P 15 16 15.0 +1.3**
SNR=29
KBL Kabul 52.18 295 P **P 15 16 14.9 +1.2**
KBL pmax pmax
comp=Z,27nm,1.6s
NIKH Nikolski High 52.49 42 P **P 15 16 13.9 -1.5**
baz=265
P08K Saint George I 52.54 37 P **P 15 16 14.1 -1.5**
baz=261
UNV Unalaska Valle 53.97 41 P **P 15 16 25.4 -0.8**
baz=266
F14K Arctic Creek 55.70 27 P **P 15 16 37.8 -0.8**
baz=258
F15K North Star Dit 56.43 27 P **P 15 16 42.9 -1.0**
baz=259
J14K Nanvaranak Lak 56.44 31 P **P 15 16 43.5 -0.4**
baz=262
L14K Kuka Creek 56.68 32 P **P 15 16 44.7 -0.9**
L14K IAmb IAmb 15 17 47.5
comp=Z,20nm,1.4s
L14K Kuka Creek 56.68 32 P **P 15 16 45.4 -0.2**
baz=264
C16K Lisburne Hills 56.69 24 P **P 15 16 45.1 -0.6**
baz=257
SVE Sverdlovsk 56.97 322 *e*P **P 15 16 49.1 +1.3**
SVE pmax pmax
comp=Z,54nm,1.5s
SVE MLR MLR
comp=Z,647nm,14.0s
M14K Bethel 56.97 33 P **P 15 16 46.8 -0.9**
baz=265
N14K Kuskokwak Cree 57.04 34 P **P 15 16 47.6 -0.7**
baz=266
O14K Tigyukauivet M 57.22 35 P **P 15 16 48.7 -0.8**
baz=267
H16K Elim 57.27 28 P **P 15 16 49.2 -0.5**
baz=262
L15K Ungalak Mounta 57.28 32 P **P 15 16 48.9 -1.0**
baz=265
K15K Wolf Creek Mou 57.32 31 P **P 15 16 49.1 -1.0**
baz=265
D17K Noatak River 57.41 25 P **P 15 16 50.0 -0.7**
baz=260,SNR=6.6
ABKAR Akbulak array 57.50 313 P **P 15 16 52.0 +0.3**
ABKAR Akbulak array 57.50 313 IAmb IAmb 15 16 53.6
comp=Z,16nm,0.9s
M15K Kasigluk River 57.59 33 P **P 15 16 51.1 -1.1**
baz=266
E17K Hotham Inlet 57.79 26 P **P 15 16 51.5 -1.9**
baz=261
J16K Anvik River 57.83 30 P **P 15 16 52.4 -1.4**
baz=265
I17K Unalakleet 57.85 29 P **P 15 16 52.5 -1.3**
baz=264
N15K Kwethluk River 57.86 34 P **P 15 16 52.9 -1.1**
baz=267
F17K Baldwin Pennin 57.92 26 P **P 15 16 53.6 -0.7**
baz=262
O15K Ungalikthiuk R 57.95 35 P **P 15 16 53.7 -1.0**
baz=268
CHNA Chernabura Isl 58.04 40 P **P 15 16 52.9 -2.5**
baz=271
G17K Kiwalik Mounta 58.04 27 P **P 15 16 53.3 -1.9**
baz=263
S14K Fog Glacier 58.05 38 P **P 15 16 52.8 -2.7**
baz=270
B18K Kokolik River 58.17 23 P **P 15 16 54.0 -2.1**
baz=260
ARTI Arti 58.21 322 P **P 15 16 56.6 +0.1**
ARTI Arti 58.21 322 LR LR 15 44 29.6
comp=Z,340nm,18.9s,baz=82,slow=39
ARTI Arti 58.21 322*d i*P **P 15 16 56.2 -0.4**
ARTI 15 17 47.7
ARTI S **S 15 24 58.9 +1.2**
ARTI SS **SS 15 28 47.7 -1.4**
ARTI pmax pmax
comp=Z,51nm,1.8s
ARTI MLR MLR
comp=Z,677nm,15.0s
L16K Owhat River 58.24 32 P **P 15 16 55.0 -1.6**
baz=267
C18K Utukok River 58.27 24 P **P 15 16 57.7 +0.8**
H17K Granite Mounta 58.29 28 P **P 15 16 55.2 -1.8**
baz=264
E18K Tukpahlearik C 58.31 25 P **P 15 16 55.4 -1.7**
baz=262
M16K Timber Creek 58.45 33 P **P 15 16 57.1 -1.1**
baz=268
N16K Nishlik Lake 58.53 33 P **P 15 16 57.3 -1.5**
baz=268
J17K VABM Dome 58.53 30 P **P 15 16 56.4 -2.3**
baz=266
A19K Wainwright 58.57 22 P **P 15 16 57.1 -1.7**
baz=260
F18K Selawik 58.58 26 P **P 15 16 57.6 -1.3**
baz=264
AKTO Aktyubinsk 58.66 315 LR LR 15 42 36.0
comp=Z,71nm,19.1s,baz=122,slow=36
L17K Donlin 58.82 32 P **P 15 16 58.9 -1.8**
baz=268
K17K Iditarod 58.84 31 P **P 15 16 59.1 -1.8**
baz=267
O16K Kokwok River B 58.85 34 P **P 15 16 58.9 -2.0**
baz=269
G18K Tagagawik 58.91 27 IAmb IAmb 15 17 19.8
comp=Z,22nm,1.6s
G18K Tagagawik 58.91 27 P **P 15 16 59.4 -1.8**
baz=265
STKA Stephens Creek 58.94 168 P **P 15 17 02.6 +0.8**
comp=Z,2.6nm,0.6s,baz=336,slow=6.6,SNR=7.6
STKA LR LR 15 42 28.5
comp=Z,29nm,21.7s,baz=20,slow=36
comp=Z,2.6nm,0.6s
H18K Honhosa River 58.97 28 P **P 15 16 59.3 -2.4**
baz=266
M17K Holitna River 59.20 32 P **P 15 17 02.2 -1.2**
baz=269
N17K Nushagak Hills 59.31 33 P **P 15 17 03.3 -0.9**
baz=270
F19K Shaleruckik Mo 59.34 26 P **P 15 17 03.5 -0.8**
baz=265
O17K Koliganek Bris 59.35 34 P **P 15 17 03.8 -0.6**
baz=270
D19K Kuna River 59.37 24 **P 15 17 04.9 +0.4**
D19K IAmb IAmb 15 17 07.3
comp=Z,20nm,1.1s
D19K Kuna River 59.37 24 P **P 15 17 04.0 -0.5**
baz=264,SNR=8.3
G19K Purcell Mounta 59.56 27 P **P 15 17 04.7 -1.2**
baz=266
GCSA Galena City Sc 59.57 28 P **P 15 17 04.8 -1.0**
baz=267
L18K Granite Mounta 59.57 31 P **P 15 17 04.4 -1.5**
baz=269
J18K Innoko River 59.59 30 P **P 15 17 05.4 -0.6**
baz=268
E19K Redstone River 59.60 25 IAmb IAmb 15 17 25.6
comp=Z,33nm,1.8s
E19K Redstone River 59.60 25 P **P 15 17 06.3 +0.2**
baz=265,SNR=7.5
P17K Kvichak River 59.69 35 P **P 15 17 06.2 -0.5**
baz=271
H19K Roundabout Mou 59.79 28 IAmb IAmb 15 17 20.7
comp=Z,14nm,1.1s
H19K Roundabout Mou 59.79 28 P **P 15 17 07.3 0.0**
baz=267
B20K Meade River 59.87 22 P **P 15 17 07.5 -0.3**
baz=264
DZM Mont Dzumac 59.87 140 *e*S **S 15 25 22.0 +1.8**
comp=Z,90nm,27.1s
DZM *e*LR LR 15 34 45.2
comp=Z,164nm,22.8s
DZM Mont Dzumac 59.87 140 LR LR 15 39 29.7
comp=Z,80nm,21.4s,baz=7.5,slow=32
TTA Tatalina 59.90 31 P **P 15 17 07.5 -0.7**
baz=269
D20K Etivluk River 59.94 24 P **P 15 17 10.0 +1.7**
D20K Etivluk River 59.94 24 P **P 15 17 08.2 -0.1**
baz=265,SNR=11
M18K Stony River 59.98 32 P **P 15 17 08.0 -0.8**
baz=270
Q17K Contact Creek 60.01 36 P **P 15 17 08.0 -1.1**
baz=272
E20K Nigu River 60.06 24 P **P 15 17 08.6 -0.7**
baz=266
J19K Poorman 60.09 29 P **P 15 17 09.0 -0.5**
baz=269,SNR=6.3
F20K Avaraart Lake 60.16 26 P **P 15 17 09.1 -0.8**
baz=267
ARMA Armidale 60.18 158 **P 15 17 10.7 +0.2**
ARMA IAmb IAmb 15 17 15.7
comp=Z,20nm,1.2s
CHIR Chirikof Islan 60.27 39 P **P 15 17 09.4 -1.4**
baz=274
O18K Koktuh Hills 60.31 34 P **P 15 17 09.3 -1.7**
baz=272
P18K Big Mountain, 60.31 35 P **P 15 17 09.0 -2.1**
baz=272
L19K White Mountain 60.43 31 P **P 15 17 09.9 -2.0**
baz=271
H20K Anotleneega Mo 60.44 28 P **P 15 17 10.3 -1.6**
baz=269
Q18K Katmai Hardscr 60.45 36 P **P 15 17 10.6 -1.5**
baz=272
I20K Naaghedeneel 60.60 28 P **P 15 17 12.1 -0.8**
baz=270,SNR=5.1
C21K Knifeblade Rid 60.63 23 P **P 15 17 12.4 -0.7**
baz=267
N19K Bonanza Creek 60.64 33 P **P 15 17 12.6 -0.8**
baz=272
M19K Big River Lodg 60.66 32 P **P 15 17 12.2 -1.1**
baz=271
A22K Sinclair Lake 60.69 21 P **P 15 17 13.0 -0.4**
baz=266
B21K Ikpikpuk River 60.72 23 IAmb IAmb 15 17 16.7
comp=Z,14nm,0.9s
B21K Ikpikpuk River 60.72 23 P **P 15 17 12.4 -1.2**
baz=267
O19K Port Alsworth 60.74 34 P **P 15 17 12.5 -1.4**
baz=272
J20K Nowinta River 60.74 29 IAmb IAmb 15 17 17.2
comp=Z,12nm,1.1s
J20K Nowinta River 60.74 29 P **P 15 17 12.7 -1.2**
baz=270,SNR=5.2
K20K Telida 60.78 30 IAmb IAmb 15 17 17.5
comp=Z,12nm,1.1s
K20K Telida 60.78 30 P **P 15 17 12.8 -1.5**
baz=271
R18K Karluk 60.80 37 P **P 15 17 11.8 -2.6**
baz=274
L20K Farewell, AK 60.88 31 P **P 15 17 11.0 -4.0**
baz=271
E21K Killik River 60.89 24 IAmb IAmb 15 17 17.5
comp=Z,12nm,1.1s
E21K Killik River 60.89 24 P **P 15 17 12.0 -2.9**
baz=268
SII Sitkinak Islan 61.02 38 P **P 15 17 14.2 -1.8**
baz=274
G21K Allakaket 61.02 27 P **P 15 17 13.9 -1.9**
baz=269
F21K Alatna River 61.04 26 P **P 15 17 14.6 -1.3**
baz=269
Q19K Cape Douglas, 61.15 35 P **P 15 17 13.9 -2.9**
baz=274
B22K Teshekpuk Lake 61.17 22 P **P 15 17 14.5 -2.2**
baz=267,SNR=7.6
M20K Styx River 61.25 32 P **P 15 17 16.1 -1.5**
baz=272
H21K Melozitna Rive 61.31 27 P **P 15 17 16.1 -1.6**
baz=270,SNR=9.3
P19K Oil Pt 61.31 34 P **P 15 17 15.6 -2.3**
baz=273
D22K Ayikyak River 61.38 24 P **P 15 17 14.9 -3.2**
baz=269,SNR=9.2
OHAK Old Harbor 61.46 37 P **P 15 17 17.1 -1.7**
baz=275
F22K John River 61.55 25 P **P 15 17 17.7 -1.6**
baz=270
CHUM Lake Minchumin 61.55 30 P **P 15 17 19.4 0.0**
baz=272
PPLA Purkeypile 61.65 31 P **P 15 17 18.4 -1.8**
baz=273
CAST Castle Rocks 61.67 30 IAmb IAmb 15 17 23.2
comp=Z,9.7nm,1.0s
CAST Castle Rocks 61.67 30 P **P 15 17 20.5 +0.3**
baz=272,SNR=6.8
E22K Anaktuvuk Pass 61.69 25 P **P 15 17 18.3 -2.0**
baz=270,SNR=9.8
SPCR Spurr Chakacha 61.73 33 P **P 15 17 18.3 -2.4**
baz=274
KDAK Kodiak Island 61.79 36 LR LR 15 48 29.4
comp=Z,34nm,18.3s,baz=75,slow=40
KDAK Kodiak Island 61.79 36 P **P 15 17 19.7 -1.4**
baz=275
G22K Bettles 61.82 26 P **P 15 17 19.5 -1.6**
baz=271
Q20K Shuyak Island 61.82 36 P **P 15 17 18.3 -3.0**
baz=275
H22K Ishtalitna Cre 61.89 27 P **P 15 17 23.6 +1.9**
baz=272,SNR=11
SKT Skwentna 62.00 32 P **P 15 17 21.1 -1.4**
baz=274
D23K Nanushuk River 62.10 24 P **P 15 17 20.4 -2.6**
baz=271,SNR=13
C23K Itkillik River 62.12 23 IAmb IAmb 15 17 26.1
comp=Z,15nm,1.1s
C23K Itkillik River 62.12 23 P **P 15 17 22.5 -0.6**
baz=270
HOM Homer 62.12 34 P **P 15 17 20.4 -2.9**
baz=275
BPAW Bear Paw Mtn. 62.13 29 IAmb IAmb 15 17 26.1
comp=Z,12nm,1.2s
BPAW Bear Paw Mtn. 62.13 29 P **P 15 17 19.9 -3.4**
baz=273
CAPN Captain Cook N 62.27 33 P **P 15 17 20.0 -4.2**
baz=275
COLD Coldfoot 62.32 26 P **P 15 17 21.9 -2.6**
baz=272
G23K Bananza Creek 62.41 26 IAmb IAmb 15 17 52.5
comp=Z,15nm,1.4s
G23K Bananza Creek 62.41 26 P **P 15 17 20.9 -4.3**
baz=272,SNR=7.2
SUA Susitna One 62.41 32 P **P 15 17 21.6 -3.8**
baz=275
TRF Thorofare Moun 62.48 30 P **P 15 17 22.4 -3.5**
baz=274
TOLK Toolik Lake Re 62.51 24 IAmb IAmb 15 17 45.5
comp=Z,10nm,1.1s
TOLK Toolik Lake Re 62.51 24 P **P 15 17 26.8 +0.9**
baz=272,SNR=7.1
E23K Chandalar 62.51 25 IAmb IAmb 15 17 29.2
comp=Z,14nm,1.1s
E23K Chandalar 62.51 25 P **P 15 17 23.9 -2.1**
baz=272,SNR=14
CUT Chulitna 62.56 31 P **P 15 17 22.9 -3.3**
baz=274
BRSE Bradley Lake S 62.57 34 P **P 15 17 22.3 -4.0**
baz=276
H23K Yukon River 62.65 27 IAmb IAmb 15 17 30.3
comp=Z,15nm,1.1s
H23K Yukon River 62.65 27 P **P 15 17 25.4 -1.4**
baz=273,SNR=9.0
M22K Willow 62.69 32 P **P 15 17 22.8 -4.2**
baz=275
D24K Happy Valley 62.76 23 P **P 15 17 24.2 -3.2**
baz=272
I23K Minto, Yukon-K 62.77 28 P **P 15 17 24.9 -2.6**
baz=274
C24K Franklin Bluff 62.78 23 P **P 15 17 26.6 -0.9**
baz=272,SNR=16
KIRV Kirov 62.92 325 LR LR 15 47 52.4
comp=Z,321nm,18.1s,baz=87,slow=39
KIRV Kirov 62.92 325*ce*P **P 15 17 29.1 +0.5**
NEA2 Nenana 62.93 29 P **P 15 17 27.6 -1.0**
baz=274,SNR=11
RC01 Rabbit Creek A 62.93 33 P **P 15 17 24.4 -4.3**
baz=276
E24K Your Creek 62.94 25 P **P 15 17 24.7 -4.0**
baz=273
O22K Cooper Landing 63.00 33 P **P 15 17 26.9 -2.3**
baz=276
MCK McKinley 63.06 30 IAmb IAmb 15 17 32.2
comp=Z,11nm,0.9s
MCK McKinley 63.06 30 P **P 15 17 26.2 -3.3**
baz=275,SNR=6.1
RND Reindeer 63.13 30 P **P 15 17 29.5 -0.5**
RND IAmb IAmb 15 17 31.8
comp=Z,13nm,0.9s
RND Reindeer 63.13 30 P **P 15 17 29.5 -0.5**
RND pmax pmax
comp=Z,13nm,0.9s
PMR Palmer 63.17 32 P **P 15 17 27.9 -2.3**
baz=276
SEW Seward 63.17 34 P **P 15 17 27.3 -3.0**
baz=276
F24K Squaw Lake 63.20 25 IAmb IAmb 15 17 33.5
comp=Z,9.2nm,0.9s
F24K Squaw Lake 63.20 25 P **P 15 17 28.4 -2.0**
baz=274,SNR=9.0
H24K Noodor Dome 63.33 27 P **P 15 17 30.1 -1.2**
baz=275
G24K Hadweenzic Riv 63.42 26 P **P 15 17 30.7 -1.1**
baz=275
COLA College 63.43 28 P **P 15 17 30.2 -1.7**
baz=275
KNK Knik Glacier 63.51 32 P **P 15 17 30.8 -1.8**

baz=277
SML Sawmill 63.53 32 P P 15 17 31.6 -1.1
baz=276
POKR Poker Plat Res 63.58 28 P P 15 17 31.0 -2.0
baz=276,SNR=7.5
D25K Kavik River 63.62 23 IAmb IAmb 15 17 58.9
comp=Z,13nm,1.2s
D25K Kavik River 63.62 23 P P 15 17 33.8 +0.6
baz=274,SNR=9.6
PWL Port Wells 63.64 33 P P 15 17 32.7 -0.7
baz=277
WBK Wadi Bani Khal 63.64 283 P P 15 17 35.2 +1.1
WSAR Wadi Sarin 63.74 284 P P 15 17 35.5 +0.8
M23K Glacier View 63.82 32 P P 15 17 32.5 -2.1
baz=277
ILAR Eielson Array 63.85 28 P P 15 17 35.1 +0.4
comp=Z,1.3nm,0.9s,baz=255,slow=4.8,SNR=14
comp=Z,1.3nm,0.9s
HDA Harding Lake 63.86 29 IAmb IAmb 15 17 36.3
comp=Z,8.6nm,0.9s
HDA Harding Lake 63.86 29 P P 15 17 30.2 -4.6
baz=276,SNR=6.6
CAN Canberra 63.94 162 P P 15 17 38.0 +2.3
G25K Bearman Lake 63.96 26 P P 15 17 34.4 -1.0
baz=276,SNR=5.2
SCM Sheep Creek Mo 64.00 32 P P 15 17 32.7 -3.1
baz=277
E25K Arctic Village 64.02 25 IAmb IAmb 15 17 40.0
comp=Z,11nm,1.2s
E25K Arctic Village 64.02 25 P P 15 17 31.9 -4.0
baz=276,SNR=8.0
F25K Christian Rive 64.05 25 IAmb IAmb 15 17 39.8
comp=Z,11nm,1.2s
F25K Christian Rive 64.05 25 P P 15 17 32.4 -3.7
baz=276,SNR=5.8
C26K Camden Bay 64.08 23 P P 15 17 33.9 -2.2
baz=276
BIDO Bidbid 64.08 285 P P 15 17 37.5 +0.6
H25L Birch Creek 64.12 27 P P 15 17 35.5 -1.0
baz=276
P23K Montague Islan 64.21 34 P P 15 17 36.4 -0.7
baz=278
GLI Glacier Island 64.24 33 P P 15 17 36.9 -0.4
baz=278
MSVF Nonsavu 64.28 128 LR LR 15 38 47.8
comp=Z,54nm,21.7s,baz=33,slow=30
SMDO Samad 64.30 284 P P 15 17 39.0 +0.5
PRP Porcupine Dome 64.33 27 P P 15 17 36.9 -1.2
baz=277
K24K Donnelly Dome 64.45 29 P P 15 17 36.6 -2.1
baz=278
BMAR Burnt Mountain 64.47 25 P 15 17 40.5 +1.6
M24K Tolsona, Glenn 64.50 31 P P 15 17 37.8 -1.3
baz=278
J25K Salcha River, 64.52 28 P P 15 17 39.0 -0.1
baz=278
C27K Jago River 64.53 23 P P 15 17 40.1 +1.0
baz=277,SNR=7.0
F26K Sheenjek River 64.61 25 IAmb IAmb 15 17 43.4
comp=Z,14nm,1.1s
F26K Sheenjek River 64.61 25 P P 15 17 39.0 -0.7
baz=277,SNR=16
PAX Paxson 64.70 30 P P 15 17 39.6 -0.9
baz=278
KLU Klutina 64.71 32 P P 15 17 39.2 -1.3
baz=279
G26K Porcupine Rive 64.84 26 IAmb IAmb 15 18 14.0
comp=Z,13nm,1.2s
G26K Porcupine Rive 64.84 26 P P 15 17 41.2 0.0
baz=278,SNR=6.4
RIDG Independent Ri 64.87 29 IAmb IAmb 15 18 38.5
comp=Z,11nm,1.1s
RIDG Independent Ri 64.87 29 P P 15 17 40.8 -0.7
baz=278
HARP HAARP 64.93 31 P P 15 17 41.4 -0.5
baz=279
EYAK Cordova Ski Ar 64.94 33 P P 15 17 41.3 -0.6
baz=279
MHTO MHTO 65.06 282 P P 15 17 44.1 +0.8
MHTO P P 15 17 44.1 +0.8
BSY Bisya 65.14 284 P P 15 17 44.8 +0.8
SCRK Sand Creek 65.21 29 P P 15 17 43.2 -0.6
baz=279
DOT Dot Lake 65.22 29 IAmb IAmb 15 17 56.5
comp=Z,13nm,1.1s
J26L Joseph Creek 65.30 28 P P 15 17 44.1 -0.2
baz=279,SNR=9.4
N25K Chitina, Valde 65.32 32 P P 15 17 43.6 -0.9
baz=280
I26K Coal Creek Min 65.35 27 P P 15 17 44.4 -0.1
baz=279
BMRM Bremner River 65.42 32 P P 15 17 43.8 -1.3
baz=280
E27K Coleen River 65.49 24 P P 15 17 44.3 -1.1
baz=279,SNR=9.0
D27M Malcolm River 65.54 23 IAmb IAmb 15 18 34.9
comp=Z,14nm,1.4s
D27M Malcolm River 65.54 23 P P 15 17 44.0 -1.7
baz=280,SNR=8.3
L26K Log Cabin Wild 65.65 30 IAmb IAmb 15 17 49.2
comp=Z,12nm,1.1s
L26K Log Cabin Wild 65.65 30 P P 15 17 45.8 -0.7
baz=280
G27K Doyon Strip 65.70 26 P P 15 17 46.1 -0.7
baz=280
KAIM Kayak Island 65.70 33 P P 15 17 45.1 -1.8
baz=281
H27K Steamboat Moun 65.85 26 IAmb IAmb 15 17 50.7
comp=Z,24nm,1.9s
H27K Steamboat Moun 65.85 26 P P 15 17 44.9 -2.9
baz=280
M26K Nabesna, AK 65.92 31 IAmb IAmb 15 17 51.5
comp=Z,18nm,1.1s
M26K Nabesna, AK 65.92 31 P P 15 17 47.2 -1.2
baz=281,SNR=7.2
I27K Kandik River 65.93 27 P P 15 17 47.2 -1.1
baz=280,SNR=10
K27K Chicken 66.03 29 IAmb IAmb 15 18 02.7
comp=Z,18nm,1.4s
K27K Chicken 66.03 29 P P 15 17 47.7 -1.2
baz=281
E28M Babbage River 66.17 24 P P 15 17 50.0 +0.2
baz=281,SNR=10
D28M Stokes Point 66.31 23 P P 15 17 48.0 -2.6
baz=281
L27K Beaver Creek, 66.32 30 P P 15 17 48.4 -2.4
baz=281
M27K Edge Creek, AK 66.44 31 P P 15 17 50.9 -0.9
baz=282
I28M Miner Creek 66.64 27 P P 15 17 50.5 -2.5
baz=282,SNR=6.8
E29M Blow River 66.80 24 P P 15 17 52.7 -1.0
baz=283,SNR=5.0
MESA MESA 66.86 33 P P 15 17 51.9 -2.7
baz=283
BVCY Beaver Creek 66.89 30 P P 15 17 54.3 -0.2
baz=282
MAK Makhachkala 67.05 308 eP P 15 17 48.1 -7.7
MAK e 15 20 23.3
MAK eS S 15 26 38.4 -11
MAK pmax pmax
comp=Z,38nm,0.4s
G29M Pine Creek 67.08 25 IAmb IAmb 15 18 09.3
comp=Z,14nm,1.1s
G29M Pine Creek 67.08 25 P P 15 17 55.2 -0.5
baz=283,SNR=6.2
H29M Whitestone 67.11 26 IAmb IAmb 15 17 58.8
comp=Z,14nm,1.1s
H29M Whitestone 67.11 26 P P 15 17 55.0 -0.8
baz=283,SNR=5.8
DAWY Dawson 67.17 28 P P 15 17 55.1 -1.2
baz=283
YUK3 Moose Creek 67.22 31 P P 15 17 55.4 -1.4
baz=283
I29M Ogilvie Camp, 67.33 27 IAmb IAmb 15 18 17.5
comp=Z,23nm,1.5s
I29M Ogilvie Camp, 67.33 27 P P 15 17 59.3 +2.1
baz=284
KLMR Klimovskoe 67.46 328 eP P 15 17 55.2 -2.9
KLMR e 15 18 23.7
KLMR pmax pmax
comp=Z,63nm,1.5s
O28M Mount Upton 67.58 32 P P 15 17 59.3 +0.1
baz=284
J29N Klondike Camp 67.58 28 P P 15 17 59.0 +0.1
baz=284
YUK8 Steele Glacier 67.66 31 P P 15 18 00.3 +0.6
baz=284
PINM Pinnacle 67.71 33 P P 15 17 57.9 -1.9
baz=284
EPYK Eagle Plains 67.72 26 IAmb IAmb 15 18 02.2
comp=Z,13nm,1.1s
EPYK Eagle Plains 67.72 26 P P 15 18 00.5 +0.8
baz=284
G30M tAoh Zraii Nji 67.76 25 IAmb IAmb 15 18 13.1
comp=Z,21nm,1.4s
G30M tAoh Zraii Nji 67.76 25 P P 15 17 59.4 -0.5
baz=285,SNR=8.6
F30M Barrier River 67.76 24 P P 15 17 58.8 -1.1
baz=285
L29M L29M 67.95 29 IAmb IAmb 15 18 06.7
comp=Z,20nm,1.4s
L29M L29M 67.95 29 P P 15 18 00.0 -1.2
baz=285,SNR=6.9
M29M Somme Creek 67.97 30 P P 15 17 59.8 -1.6
baz=284
K29M Barlow Dome 68.03 29 P P 15 18 00.8 -1.0
baz=285
I30M Mount Dempster 68.15 27 IAmb IAmb 15 18 40.3
comp=Z,13nm,1.2s
I30M Mount Dempster 68.15 27 P P 15 18 01.6 -0.9
baz=285,SNR=6.3
YUK4 Talbot Arm 68.16 31 P P 15 18 01.9 -0.9
baz=285
APA Apatity 68.33 336⇓ iP P 15 18 00.3 -3.1
APA pmax pmax
comp=Z,22nm,1.1s
J30M Hart River 68.34 28 P P 15 18 02.8 -1.0
baz=286
YUK6 Outpost Mounta 68.40 32 P P 15 18 03.5 -0.8
baz=285
O29M Mount Kennedy 68.47 32 P P 15 18 03.7 -0.9
baz=285
G31M Satah River 68.51 25 P P 15 18 03.8 -0.7
baz=286
F31M Tsiigehtchic 68.56 24 P P 15 18 04.8 -0.1
baz=287
M30M Minto, Yukon 68.68 30 P P 15 18 05.6 -0.2
baz=286
VRH Novokhopyorsk 68.70 318 eP P 15 18 06.3 +0.3
VRH pmax pmax
comp=Z,56nm,1.7s
H31M Peel River 68.80 26 P P 15 18 05.7 -0.8
baz=287,SNR=6.9
HYT Haines Junctio 68.84 32 P P 15 18 06.9 0.0
baz=286
N30M Aishikik Lake 68.86 31 P P 15 18 07.3 +0.4
baz=286
SPITS Spitsbergen Ar 69.05 348 P P 15 18 08.1 +0.3
comp=Z,9.5nm,0.9s,baz=84,slow=8.5,SNR=10.0
SPITS LR LR 15 51 16.0
comp=Z,68nm,18.8s,baz=356,slow=38
comp=Z,9.5nm,0.9s
P29M Windy Craggy 69.06 33 P P 15 18 05.7 -2.5
baz=286
P30M Million Dollar 69.29 32 P P 15 18 10.5 +0.8
baz=287
N31M Braeburn, Yuko 69.45 31 IAmb IAmb 15 18 14.8
comp=Z,16nm,1.2s
N31M Braeburn, Yuko 69.45 31 P P 15 18 11.6 +1.1
baz=287
O30N Mendenhall 69.52 31 P P 15 18 10.4 -0.6
baz=287
GOF Gofitskoye 69.57 311 ceP P 15 18 12.5 +0.9
MOS Moscow 69.78 323 eP P 15 18 11.5 -1.1
A36M Sachs Harbour 69.82 19 IAmb IAmb 15 18 37.7
comp=Z,17nm,1.0s
A36M Sachs Harbour 69.82 19 P P 15 18 12.6 -0.1
baz=293,SNR=6.6
WHFO Wadi Hawf 69.85 281 P P 15 18 15.1 +1.3
SNR=5.7
M31M Drury Creek, Y 69.86 30 P P 15 18 12.5 -0.6
baz=288
LPSR Galich'ya Gora 69.96 320 eP P 15 18 14.6 +0.8
LPSR pmax pmax
comp=Z,51nm,1.4s
KBZ Khabaz 70.06 310 P P 15 18 16.3 +1.7
comp=Z,22nm,1.0s,baz=79,slow=3.6,SNR=49
KBZ LR LR 15 53 10.1
comp=Z,193nm,18.0s,baz=66,slow=40
comp=Z,22nm,1.0s
KBZ Khabaz 70.06 310 ceP P 15 18 12.8 -1.8
KBZ pmax pmax
comp=Z,28nm,1.0s
VORR Voronezh 70.07 319 eP P 15 18 15.4 +0.9
VORR pmax pmax
comp=Z,56nm,1.4s
WHY Whitehorse 70.12 31 P P 15 18 16.1 +1.3
baz=288
KVAR Kislovodsk Arr 70.14 310 LR LR 15 55 17.4
comp=Z,99nm,18.4s,baz=246,slow=41
KIV Kislovodsk 70.14 310 P 15 18 15.3 +0.1
KIV Kislovodsk 70.14 310 P P 15 18 17.0 +1.7
KIV P P 15 18 17.0 +1.7
KIV Kislovodsk 70.14 310 ⇓P P 15 18 16.7 +1.4
KIV Kislovodsk 70.14 310 eP P 15 18 14.4 -0.8
KIV pmax pmax
comp=Z,48nm,1.1s
SHA1 Shidzhatmaz 70.23 310 i P P 15 18 16.1 +0.2
VORD Divnogorie 70.23 318 eP P 15 18 12.7 -2.8
VORD pmax pmax
comp=Z,6.0nm,0.9s
VSR Storozhevoye 70.23 318 eP P 15 18 12.9 -2.6
VSR pmax pmax
comp=Z,10.0nm,1.1s
SKAG Skagway 70.28 33 P P 15 18 15.8 +0.1
baz=288
S31K Pelican 70.30 34 P P 15 18 13.4 -2.4
baz=288
FARO Faro, Yukon 70.32 30 IAmb IAmb 15 18 18.7
comp=Z,12nm,1.0s
FARO Faro, Yukon 70.32 30 P P 15 18 16.6 +0.7
baz=289,SNR=6.6
R31K City Hall, Gus 70.41 34 P P 15 18 17.8 +1.4
baz=288,SNR=7.6
ARCES ARCESS Array B 70.42 339 P P 15 18 17.8 +1.4
comp=Z,2.4nm,0.6s,baz=46,slow=3.5,SNR=6.5
ARCES LR LR 15 56 24.6
comp=Z,146nm,18.2s,baz=17,slow=42
comp=Z,2.4nm,0.6s
ABTO Aybut 70.48 280 P P 15 18 18.2 +0.6
OBN Obninsk 70.54 323 LR LR 15 51 02.6
comp=Z,229nm,18.6s,baz=62,slow=38
OBN Obninsk 70.54 323 eP P 15 18 16.6 -0.7
OBN e 15 18 38.1
OBN ePPP PPP 15 22 35.4
OBN pmax pmax
comp=Z,8.0nm,1.0s
JOF Joensuu 70.60 331 eP P 15 18 18.2 +0.7
NOR Nord 71.01 355 i P P 15 18 20.6 +0.8
NOR IAmb IAmb 15 18 21.4
comp=Z,5.6nm,0.8s
P32M Atlin 71.02 32 P P 15 18 19.6 -0.6
baz=290
SIT Sitka 71.05 35 P P 15 18 18.5 -1.8
baz=289
ERBR Yeremizino-Bor 71.09 312 eP P 15 18 20.5 -0.4
ERBR ePPP PPP 15 22 36.1
ERBR eS S 15 27 35.0 -2.0
ERBR pmax pmax
comp=Z,35nm,1.3s
ERBR MLR MLR
comp=Z,317nm,21.0s
MMPY Sheldon Lake, 71.10 29 IAmb IAmb 15 18 23.7
comp=Z,17nm,1.3s
MMPY Sheldon Lake, 71.10 29 P P 15 18 19.8 -0.9
baz=290,SNR=5.7
P33M Teslin, Yukon 71.23 32 P P 15 18 21.2 -0.3
baz=290
C36M Paulatuk 71.24 21 P P 15 18 19.9 -1.4
baz=295,SNR=18
LABN Labinsk 71.27 311 eP P 15 18 21.1 -0.9
LABN e 15 20 57.5
LABN eS S 15 27 39.4 +0.3
LABN pmax pmax
comp=Z,27nm,0.7s
LABN MLR MLR
comp=Z,235nm,18.0s
GEVA Gevas 71.66 304 IAmb IAmb 15 18 27.4
comp=Z,11nm,0.8s
Q32M Nakina River 71.93 33 P P 15 18 23.8 -2.1
baz=291
OUL Oulu 72.02 334 P P 15 18 27.3 +1.2
OUL pmax pmax
comp=Z,31nm,1.3s
SOC Sochi 72.30 310 eP P 15 18 27.5 -0.7
SOC e 15 21 07.5
SOC ePPP PPP 15 22 56.6
SOC eS S 15 27 51.3 +0.3
SOC e 15 32 25.9
SOC i SSS SSS 15 35 44.7
SOC pmax pmax
comp=Z,16nm,0.7s
SOC MLR MLR
comp=Z,167nm,17.0s
R33M Jennings River 72.40 32 P P 15 18 26.6 -2.1
baz=292
WRAK Wrangell Islan 72.81 35 P P 15 18 28.5 -2.5
baz=292
TGTN Hyland Airport 72.81 29 P P 15 18 29.4 -1.6
baz=293,SNR=5.9
S34M Telegraph Cree 72.87 33 P P 15 18 30.4 -0.9
baz=292
WTLY Watson Lake, Y 73.14 31 P P 15 18 32.3 -0.6
baz=293
ANN Anapa 73.43 312 eP P 15 18 33.4 -1.4
ANN eS S 15 28 02.5 -1.2
ANN e 15 28 38.6
ANN pmax pmax
comp=Z,46nm,1.0s
FINES FINESS Array B 73.43 331 P 15 18 35.0 +0.5
FINES FINESS Array B 73.43 331 P P 15 18 35.3 +0.8
comp=Z,8.4nm,0.4s,baz=62,slow=5.5,SNR=113
FINES LR LR 15 54 50.8
comp=Z,391nm,18.2s,baz=50,slow=39
comp=Z,8.4nm,0.4s
V35K Ketchikan 73.60 36 P P 15 18 33.7 -1.9
baz=292
KEF Keuruu 73.64 332 eP P 15 18 36.8 +1.0
T35M Bob Quinn 73.67 34 P P 15 18 35.8 -0.3
baz=293
MARD Mardin 73.69 304 IAmb IAmb 15 18 39.3
comp=Z,15nm,0.8s
WRGLY Wrigley 74.13 27 P P 15 18 38.4 -0.2
baz=297
VAF Yilstaro 74.17 333 eP P 15 18 39.8 +1.0
U35K Hyder 74.20 35 P P 15 18 37.2 -1.9
baz=293
VSU Vasula 74.36 328 ceP P 15 18 40.6 +0.6
VSU pmax pmax
comp=Z,73nm,1.7s
VSU Vasula 74.36 328 eP P 15 18 40.8 +0.8
LIRD Liard River Hi 74.67 31 P P 15 18 43.2 +1.3
baz=296,SNR=5.9
MEF Metsahovi 74.70 330 eP P 15 18 42.8 +0.9
FAUS Fauske 74.75 339 eP P 15 18 43.0 +0.9
RAYN Ar Rayn 74.93 289 P 15 18 44.4 +0.3
RAYN IAmb IAmb 15 18 46.6
comp=Z,21nm,1.1s
RAYN Ar Rayn 74.93 289 P P 15 18 45.0 +0.9
RAYN Ar Rayn 74.93 289 P P 15 18 44.4 +0.3
RAYN pmax pmax
comp=Z,21nm,1.1s
MNK Minsk 75.44 324 i P P 15 18 44.4 -2.0
MNK i 15 18 57.3
MNK i 15 21 33.2
MNK i PPP PPP 15 23 19.3
MNK i S S 15 28 25.4 -0.5
MNK i 15 28 57.7
MNK i SS SS 15 33 16.8 +1.1
MNK pmax pmax
comp=E,16nm,0.7s
MNK pmax pmax
comp=N,8.0nm,0.6s
MNK pmax pmax
comp=Z,26nm,1.0s
MNK MLR MLR
comp=N,235nm,15.0s
MNK MLR MLR
comp=Z,490nm,16.0s
MNK MLR MLR
comp=E,355nm,19.0s
RAF Rauma 75.48 331 eP P 15 18 47.5 +1.1
SIM Simferopol' 75.56 313 eP P 15 18 44.4 -2.9
SIM e 15 18 59.0
SIM pmax pmax
comp=Z,33nm,1.4s
MTSE Matsula 75.63 329 eP P 15 18 48.2 +0.9
ISAL Salakas 75.90 325 eP P 15 18 49.7 +0.8
LEIR Leirfjorden 76.17 338 eP P 15 18 51.1 +0.8
AKASG Malin Array Be 76.28 320 P P 15 18 52.0 +0.7
AKASG IAmb IAmb 15 18 53.2
comp=Z,18nm,1.4s
AKASG Malin Array Be 76.28 320 P P 15 18 51.9 +0.7
comp=Z,4.2nm,0.5s,baz=59,slow=6.2,SNR=32
AKASG LR LR 15 55 08.5
comp=Z,579nm,18.3s,baz=63,slow=38
comp=Z,4.2nm,0.5s
AKASG Malin Array Be 76.28 320 P P 15 18 52.0 +0.7
AKASG pmax pmax
comp=Z,18nm,1.4s
AKBB Malin Array Si 76.28 320 IAmb IAmb 15 18 52.7
comp=Z,12nm,0.8s
AKBB Malin Array Si 76.28 320 i P P 15 18 51.2 0.0
AKBB pmax pmax
comp=Z,25nm,1.5s
KIEV Kiev 76.30 320 P 15 18 51.5 +0.3
KIEV IAmb IAmb 15 18 52.7
comp=Z,10nm,0.8s
KIEV Kiev 76.30 320 ⇑P P 15 18 50.6 -0.7
KIEV Kiev 76.30 320 P P 15 18 51.6 +0.3
KIEV pmax pmax
comp=Z,10.0nm,0.8s
NEEM North Greenlan 76.53 0 i P P 15 18 51.5 -1.1
NEEM IAmb IAmb 15 18 54.2
comp=Z,15nm,1.2s
VSVD Vaisvydziai 76.83 326 eP P 15 18 54.9 +0.7
PABE Paberze 77.03 326 eP P 15 18 56.1 +0.8
ILGA Ilgaz 77.37 310 IAmb IAmb 15 19 01.8
comp=Z,15nm,0.9s
SORM Soroca 77.89 318 ⇑P P 15 19 00.1 -0.2
SORM Soroca 77.89 318 ⇑P P 15 19 00.1 -0.2
BR131 Keskin Array S 77.96 308 IAmb IAmb 15 19 03.2
comp=Z,14nm,0.8s
BR131 Keskin Array S 77.96 308 P P 15 19 02.9 +1.8
SNR=17
BR131 P P 15 19 02.9 +1.8
SNR=17
BRTR Keskin Array B 77.96 308 P 15 19 00.9 -0.2
BRTR Keskin Array B 77.96 308 P P 15 19 02.1 +1.1
comp=Z,11nm,1.0s,baz=98,slow=5.1,SNR=51
comp=Z,11nm,1.0s
YKA Yellowknife Ar 78.00 25 P P 15 19 02.2 +1.6
comp=Z,3.1nm,1.1s,baz=300,slow=5.1,SNR=25
comp=Z,3.1nm,1.1s
YKA Yellowknife Ar 78.00 25 i P P 15 19 02.2 +1.6
YKA pmax pmax
comp=Z,4.0nm,1.1s
URZ Urewera 78.12 144 LR LR 15 53 48.5
comp=Z,38nm,18.1s,baz=25,slow=36
SUW Suwalki 78.13 325 eP P 15 19 02.6 +1.1
SUW Suwalki 78.13 325 eP P 15 19 02.4 +0.8
ANTO Ankara 78.49 309 P P 15 19 05.3 +1.4
ANTO Ankara 78.49 309 ⇓P P 15 19 05.5 +1.6
ANTO Ankara 78.49 309 ⇓P P 15 19 05.5 +1.6
TPGR Topolog 79.29 315 ⇓P P 15 19 09.8 +1.7
HFS Hagfors 79.35 333 P P 15 19 08.2 +0.1
comp=Z,7.4nm,0.7s,baz=67,slow=3.7,SNR=21
HFS LR LR 15 58 24.8
comp=Z,197nm,19.6s,baz=48,slow=39
comp=Z,7.4nm,0.7s
MMAI Mount Meron Ar 79.40 302 P P 15 19 10.8 +1.7
comp=Z,4.8nm,0.9s,baz=96,slow=2.5,SNR=5.4
comp=Z,4.8nm,0.9s
NC405 NORSAR Array S 79.58 334 IAmb IAmb 15 19 10.8
comp=Z,23nm,0.9s
BALJ Balqa 79.60 301 IAmb IAmb 15 19 12.7
comp=Z,20nm,0.9s
NC303 NORSAR Array S 79.64 334 IAmb IAmb 15 19 11.2
comp=Z,23nm,1.1s
TESR Tescani 79.65 317 ⇑P P 15 19 11.2 +1.1
NB201 NORSAR Array S 79.78 334 IAmb IAmb 15 19 11.8
comp=Z,17nm,0.9s
NB2 NORSAR Subarra 79.81 334 P P 15 19 10.4 -0.3
comp=Z,17nm,1.0s,baz=53,slow=5.9
NB2 NORSAR Subarra 79.81 334 P P 15 19 08.1 -2.6
NB2 NORSAR Subarra 79.81 334 P P 15 19 10.4 -0.3
baz=53,slow=5.9
NOA NORSAR Array B 79.81 334 P P 15 19 10.9 +0.3
comp=Z,11nm,1.0s,baz=50,slow=5.4,SNR=25
comp=Z,11nm,1.0s

NOA NORSAR Array B 79.81 334 P **P 15 19 11.0 +0.3**
NC204 NORSAR Array S 79.85 335 **P 15 19 09.9 -1.0**
NC204 IAmb IAmb 15 19 12.3
comp=Z,16nm,0.9s
NC602 NORSAR Array S 79.87 334 *e*P **P 15 19 11.6 +0.6**
NORES NORESS Array B 79.87 334 P **P 15 19 12.8 +1.9**
ONER Baraj Valea Uz 79.89 317 ⇑P **P 15 19 13.0 +1.6**
VRI Vrincioaia 79.90 316 ⇑P **P 15 19 13.3 +1.9**
VRI Vrincioaia 79.90 316 P **P 15 19 13.3 +1.9**
PLOR Plostina 79.95 316 ⇑P **P 15 19 13.6 +1.8**
PLOR Plostina 79.95 316 ⇑P **P 15 19 13.6 +1.8**
GHAJ Ghor Haditha 79.98 300 IAmb IAmb 15 19 14.8
comp=Z,17nm,0.7s
BURAR Bucovina Array 80.01 318 **P 15 19 11.5 -0.6**
BURAR Bucovina Array 80.01 318 ⇑P **P 15 19 13.8 +1.7**
BURAR Bucovina Array 80.01 318 P **P 15 19 13.3 +1.2**
DOMB Dombas 80.02 336 *e*P **P 15 19 12.9 +1.0**
CSS Mathiatis 80.16 304 IAmb IAmb 15 19 15.0
comp=Z,14nm,0.7s
COVR Voineasa-Covas 80.23 316 ⇓P **P 15 19 15.1 +1.9**
OZUR 80.38 317 ⇑P **P 15 19 15.1 +1.1**
BEL Belsk 80.46 323 *e*P **P 15 19 16.9 +2.6**
MLR Muntele Rosu 80.56 316 IAmb IAmb 15 19 17.4
comp=Z,18nm,1.3s
MLR Muntele Rosu 80.56 316 LR LR 15 57 59.1
comp=Z,190nm,19.5s,baz=68,slow=38
MLR Muntele Rosu 80.56 316 ⇑P **P 15 19 16.7 +1.5**
MLR Muntele Rosu 80.56 316 ⇑P **P 15 19 16.7 +1.5**
OSL Oslo 80.67 333 *e*P **P 15 19 16.4 +1.1**
DOPR Dopca 80.68 317 ⇑P **P 15 19 17.5 +1.8**
AKN Aaknes 80.69 336 *e*P **P 15 19 16.8 +1.4**
SUMG Summit 81.09 356 IAmb IAmb 15 19 40.8
comp=Z,16nm,1.1s
SUMG Summit 81.09 356 P **P 15 19 19.7 +1.9**
SUMG Summit 81.09 356 *i* P **P 15 19 18.0 +0.2**
SUMG IAmb IAmb 15 19 20.2
comp=Z,82nm,1.6s
KOLS Kolonicke sedl 81.10 320 *e*P **P 15 19 19.4 +1.6**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 81.10 320 *e*P **P 15 19 19.4 +1.6**
SKAR Skarslia 81.16 335 *e*P **P 15 19 19.4 +1.4**
KONO Kongsberg 81.30 334 *e*P **P 15 19 22.5 +3.9**
SCO Scoresbysund 81.42 351 *i* P **P 15 19 19.4 +0.3**
SCO IAmb IAmb 15 19 21.3
comp=Z,29nm,1.3s
ARR Arges 81.43 316 ⇑P **P 15 19 21.4 +1.6**
STHS Stebnicka Huta 81.44 321 *e*P **P 15 19 21.3 +1.7**
STHS Stebnicka Huta 81.44 321 *e*P **P 15 19 21.3 +1.7**
BAND Balkesir-Ban 81.52 311 ⇓P **P 15 19 21.2 +1.0**
HYA Hoyanger 81.64 336 *e*P **P 15 19 21.6 +1.2**
MARR Marisel-Cluj 81.72 318 ⇓P **P 15 19 22.9 +1.7**
OJC Ojcow 81.83 322 *e*P **P 15 19 23.3 +1.7**
DRGR 81.91 318 ⇑P **P 15 19 23.5 +1.3**
DRGR 81.91 318 ⇑P **P 15 19 23.5 +1.3**
ILON Igloolik, Nuna 81.97 11 IAmb IAmb 15 19 46.0
comp=Z,19nm,1.1s
NIE Niedzica 81.97 321 *e*P **P 15 19 24.5 +2.1**
ODD1 Odda 82.30 335 *e*P **P 15 19 25.2 +1.3**
KECS Kecovo 82.34 321 *e*P **P 15 19 25.3 +0.9**
KECS pmax pmax
comp=Z,18nm,1.1s
KECS Kecovo 82.34 321 *e*P **P 15 19 25.3 +0.9**
GZR Gura Zlata 82.56 317 ⇓P **P 15 19 26.8 +1.1**
GZR Gura Zlata 82.56 317 ⇓P **P 15 19 26.8 +1.1**
LANS Liptovska Anna 82.57 322 *e*P **P 15 19 28.1 +2.5**
LANS pmax pmax
comp=Z,4.0nm,1.2s
LANS Liptovska Anna 82.57 322 *e*P **P 15 19 28.1 +2.5**
SURR Surduc 82.78 318 ⇓P **P 15 19 27.6 +0.9**
SIRR Siria 82.80 318 ⇑P **P 15 19 28.2 +1.3**
OKC Ostrava-Krasne 82.93 323 AMS AMS 15 59 20.0
comp=Z,400nm,15.4s
PSZ Piszkesteto 82.98 320 IAmb IAmb 15 19 31.8
comp=Z,17nm,1.5s
PSZ Piszkesteto 82.98 320 P **P 15 19 30.5 +2.7**
PSZ pmax pmax
comp=Z,9.0nm,2.1s
PSZ Piszkesteto 82.98 320 *e*P **P 15 19 29.0 +1.2**
HERR Herculane 83.04 317 ⇑P **P 15 19 29.1 +1.0**
STEB Steborice 83.08 323 *e*P **P 15 19 30.2 +2.0**
BZS Buzias 83.15 318 ⇑P **P 15 19 29.5 +0.9**
BZS Buzias 83.15 318 ⇑P **P 15 19 29.5 +0.9**
RAR Rarotonga 83.16 118 LR LR 15 53 19.3
comp=Z,43nm,18.9s,baz=296,slow=33
VYHS Vyhne 83.27 321 *e*P **P 15 19 31.2 +2.0**
VYHS pmax pmax
comp=Z,17nm,1.0s
VYHS Vyhne 83.27 321 *e*P **P 15 19 31.2 +2.0**
MORC Moravsky Berou 83.30 323 *e*P **P 15 19 30.1 +0.7**
MORC Moravsky Berou 83.30 323 P **P 15 19 31.4 +2.0**
MORC pmax pmax
comp=Z,11nm,2.8s
KSP Ksiaz 83.38 324 *e*P **P 15 19 31.7 +2.0**
MDVR Moldovita 83.52 317 ⇑P **P 15 19 32.0 +1.3**
KRLC Kraliky 83.54 323 AMS AMS 16 00 00.0
comp=Z,600nm,16.7s
OSTC Ostas 83.58 324 AMS AMS 16 00 00.0
comp=Z,600nm,15.3s
DPC Dobruska-Polom 83.64 324 *e*P **P 15 19 33.3 +2.2**
DPC AMS AMS 16 00 00.0
comp=Z,500nm,15.9s
DPC Dobruska-Polom 83.64 324 *e*P **P 15 19 33.3 +2.2**
DPC MLR MLR
comp=Z,500nm,15.9s
CHVC Chvalec 83.64 324 AMS AMS 16 00 10.0
comp=Z,600nm,14.8s
UPC Upice 83.71 324 AMS AMS 16 00 10.0
comp=Z,600nm,15.0s
JAVC Velka Javorina 83.73 322 *e*P **P 15 19 33.5 +1.9**
RUE Ruedersdorf 83.73 326 *e*P **P 15 19 34.0 +2.6**
MXC Moxie City 83.96 41 IAmb IAmb 15 19 35.9
comp=Z,8.9nm,0.9s
SMOL Smolenice 84.05 322 *e*P **P 15 19 35.8 +2.6**
VRAC Vranov 84.07 323 *e*P **P 15 19 34.5 +1.2**
BOVS Bovan 84.11 316 ⇑P **P 15 19 34.6 +1.0**
MODS Modra-Piesok 84.21 322 *e*P **P 15 19 36.4 +2.3**
MODS pmax pmax
comp=Z,99nm,1.6s
MODS Modra-Piesok 84.21 322 *e*P **P 15 19 36.4 +2.3**
KRUC Moravsky 84.32 323 *e*P **P 15 19 35.3 +0.8**
PVCC Panska Ves 84.46 324 AMS AMS 16 00 40.0
comp=Z,600nm,16.3s
BRG Berggiesshubel 84.58 325 *e*P **P 15 19 37.7 +1.9**
BRG Amp 15 19 39.1
comp=Z,18nm,1.2s
MORH Mrgy, Hungar 84.61 319 ⇓P **P 15 19 36.8 +0.7**
GOPC GO Pecny, Ondr 84.70 324 AMS AMS 16 00 50.0
comp=Z,600nm,14.2s
VAY Valandovo 84.74 314 *i* P **P 15 19 37.7 +0.9**
PRU Pruhonice 84.78 324 AMS AMS 16 00 50.0
comp=Z,700nm,16.2s
PRA Prague 84.79 324 AMS AMS 16 01 00.0
comp=Z,600nm,15.9s
CLL Collm 84.81 326 *i* P **P 15 19 38.1 +1.1**
CLL pmax pmax
comp=Z,28nm,1.2s
CLL Collm 84.81 326 *i* P **P 15 19 38.1 +1.1**
comp=Z,28nm,1.2s
CLL *i* x x 15 19 48.4
comp=Z,19nm,1.2s
HSKC Hora Svate Kat 85.00 325 *e*P **P 15 19 39.6 +1.6**
HSKC AMS AMS 16 01 10.0
comp=Z,600nm,18.0s
RONA Rosalia, Austr 85.13 321 *i* pP pP 15 19 40.4 -0.9
comp=Z,12nm,1.5s
CONA Conrad Observa 85.25 322 *e*pP pP 15 19 41.1 -0.8
comp=Z,25nm,1.1s
ZVC Zvikov 85.29 324 *e*P **P 15 19 41.7 +2.3**
ZVC AMS AMS 16 01 10.0
comp=Z,600nm,15.8s
LIT Litokhoron 85.41 313 **P 15 19 40.1 -0.2**
LIT Litokhoron 85.41 313 P **P 15 19 40.1 -0.2**
LIT pmax pmax
comp=Z,25nm,1.1s
CKRC Cesky Krumlov 85.58 323 *e*P **P 15 19 42.3 +1.3**
CKRC AMS AMS 16 01 00.0
comp=Z,500nm,15.1s
CKRC Cesky Krumlov 85.58 323 *e*P **P 15 19 42.3 +1.3**
CKRC MLR MLR
comp=Z,500nm,15.1s
NKC Novy Kostel 85.73 325 AMS AMS 16 01 20.0
comp=Z,600nm,15.8s
KHC Kasperske Hory 85.79 324 *e*P **P 15 19 43.7 +1.7**
KHC AMS AMS 16 01 30.0
comp=Z,600nm,17.3s
KHC Kasperske Hory 85.79 324 *e*P **P 15 19 43.7 +1.7**
KHC MLR MLR
comp=Z,600nm,17.3s
ARSA Arzberg 85.82 321 IAmb IAmb 15 19 44.7
comp=Z,14nm,1.3s
ARSA Arzberg 85.82 321 *i* pP pP 15 19 44.1 -0.7
comp=Z,9.4nm,1.2s
GERES GERESS Array B 85.90 323 **P 15 19 43.3 +0.7**
GERES GERESS Array B 85.90 323 P **P 15 19 43.7 +1.1**
comp=Z,2.9nm,0.7s,baz=55,slow=5.1,SNR=21
comp=Z,2.9nm,0.7s
MOA Molln 86.17 322 *e*pP pP 15 19 45.8 -0.6
comp=Z,8.6nm,1.0s,SNR=8.9
PDG Podgorica 86.27 316 ⇓P **P 15 19 46.4 +2.0**
SOKA Soboth 86.42 321 *i* pP pP 15 19 47.1 -0.7
comp=Z,15nm,1.3s,SNR=7.8
BIOA Bad Ischl, Aus 86.61 323 *e*pP pP 15 19 48.4 -0.3
comp=Z,7.0nm,0.8s
OBKA Obir 86.79 321 *i* P **P 15 19 45.6 -1.4**
comp=Z,7.3nm,1.0s
SFJD Kangerlussuaq 87.04 0 LR LR 16 00 34.4
comp=Z,44nm,19.2s,baz=82,slow=37
KBA Koelnbreinsper 87.13 322 *i* pP pP 15 19 50.5 -0.8
comp=Z,7.4nm,1.3s
LESA Schwarzleotal 87.29 323 *i* pP pP 15 19 50.7 -1.3
comp=Z,9.2nm,1.1s,SNR=4.3
BEKR Beckworth 87.50 46 **P 15 19 52.8 +2.0**
ABTA Abfaltersbach 87.79 322 *i* pP pP 15 19 52.4 -2.0
comp=Z,5.6nm,1.0s
WATA Walderalm 87.94 323 *i* pP **P 15 19 53.0 +0.3**
comp=Z,3.4nm,0.5s
WTTA Wattenberg 87.95 323 *i* PcP **P 15 19 51.4 -1.4**
comp=Z,8.3nm,1.0s
FFC Flin Flon 88.03 27 **P 15 19 53.6 +0.9**
FFC IAmb IAmb 15 19 55.0
comp=Z,11nm,1.1s
FFC Flin Flon 88.03 27 P **P 15 19 53.6 +0.9**
FFC pmax pmax
comp=Z,11nm,1.1s
MOTA Moosalm 88.19 323 *i* pP pP 15 19 55.8 -0.7
comp=Z,5.0nm,1.1s
SQTA Sankt Quirin 88.21 323 *e*P **P 15 19 51.2 -2.7**
comp=Z,4.4nm,1.0s
MFID Camas Ranch 88.35 42 IAmb IAmb 15 19 58.8
comp=Z,8.9nm,1.3s
FETA Feichten 88.59 323 *i* pP pP 15 19 56.5 -1.8
comp=Z,6.6nm,1.4s
DAVA Damuels 88.88 324 *i* P **P 15 19 55.5 -1.7**
comp=Z,15nm,1.6s
HLID Hailey 89.10 41 IAmb IAmb 15 20 01.9
comp=Z,11nm,1.5s
DAVOX Davos/Dischmat 89.20 323 LR LR 16 04 17.5
comp=Z,313nm,18.3s,baz=76,slow=39
EKA Eskdalemuir Ar 89.26 335 P **P 15 19 59.0 +0.5**
comp=Z,2.2nm,0.6s,baz=52,slow=5.4,SNR=5.6
comp=Z,2.2nm,0.6s
NVAR Mina Array Bea 89.62 47 P **P 15 20 03.1 +2.2**
comp=Z,0.4nm,0.5s,baz=301,slow=6.1,SNR=4.7
comp=Z,0.4nm,0.5s
PPT Papeete 89.77 110 LR LR 15 52 37.2
comp=Z,40nm,19.9s,baz=304,slow=30
PPT2 Papeete2 89.78 110 *e*LR LR 15 48 31.2
comp=Z,140nm,33.2s
PPT2 *e*LR LR 15 48 32.4
comp=Z,180nm,30.2s
AQU L'Aquila 89.89 318 P **P 15 20 04.6 +2.8**
AQU pmax pmax
comp=Z,24nm,1.1s
HWUT Hardware Ranch 91.96 41 IAmb IAmb 15 20 15.2
comp=Z,8.7nm,1.1s
GWY Greenwater Val 91.96 48 IAmb IAmb 15 20 15.5
comp=Z,12nm,1.4s
DUG Dugway, Tooele 92.07 43 IAmb IAmb 15 20 16.2
comp=Z,10nm,1.4s
PRN Pahroc Range 92.32 46 IAmb IAmb 15 20 18.7
comp=Z,7.4nm,1.2s
GSC Goldstone, Bar 92.37 49 IAmb IAmb 15 20 16.6
comp=Z,9.6nm,1.3s
PDAR Pinedale Array 92.39 39 P **P 15 20 14.7 +1.0**
comp=Z,1.2nm,1.1s,baz=173,slow=1.2,SNR=5.9
comp=Z,1.2nm,1.1s
TBI Tubuai 92.52 115 *e*LR LR 15 49 49.9
comp=Z,476nm,32.2s
PFO Pinyon Flats O 93.56 50 LR LR 16 04 35.6
comp=Z,56nm,18.0s,baz=318,slow=37
TAOE Nuku Hiva Isla 94.12 98 *e*LR LR 15 50 40.3
comp=Z,109nm,26.4s
ESDC Sonseca Array 101.39 325 P **Pdif 15 20 53.8 -0.4**
comp=Z,0.6nm,0.6s,baz=42,slow=2.8,SNR=4.7
RKT Rikitea 104.51 109 *e*LR LR 15 55 25.4
comp=Z,588nm,29.8s
SYO Syowa Base 114.22 203 ⇓/*e*pPdiff pPdif 15 21 55.2 +2.4
ATAH Atahualpa 147.29 59 PKPbc **PKPab 15 26 48.6 -0.6**
comp=Z,4.7nm,0.9s,baz=233,slow=9.5,SNR=4.5

NOU 13 15:12:40.6, 14.72S×166.63E, h0km, mb4.4/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.57	151	P	Pn	15 13 10.1	+0.3
VLAKA	Lakatoro	1.57	151	S	Sn	15 13 29.9	-1.0
DVP	Devils Point	3.34	154	P	Pn	15 13 33.5	-0.6
YATNC	Mamie plateau,	7.30	178	P	Pn	15 14 27.5	-1.1
DZM	Mont Dzumac	7.31	181	P	Pn	15 14 28.6	-0.2
PINNC	Pines Island,	7.89	174	P	Pn	15 14 37.2	+0.6

IDC ***13*** *15:23:13.2±0.6, 0.74N×30.01W, h0km, mb4.0/17, mbtmp4.1/18, ML4.3/1, MS3.7/27, Error ellipse: s-maj=28.2km s-min=12.3km az=141.0*

NEIC ***13*** *15:23:15.2±2.6, 0.67N±0.09×30.12W±0.03, h10km±1km, mb4.7/30, Error ellipse: s-maj=26.6km s-min=6.3km az=123.0*

GCMT ***13*** *15:23:20.2±0.4, 0.94N±0.03×30.12W±0.03, h29km±1km, MW5.0/66, Moment Tensor Solution. s21,c23; s66,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.01±.21; $M_{\theta\theta}$=1.05±.19; $M_{\phi\phi}$-1.03±.17; $M_{r\theta}$=1.29±.31; $M_{\theta\phi}$-3.50±.17; $M_{r\phi}$=0.78±.24; Best double couple: M_0=3.93700×10^{16} NP1:ϕ_s=170.00000°, δ70.00000°, λ-7.00000°. NP2: ϕ_s=263.00000°, δ83.00000°, λ-160.00000°. Principal axes: T 3.7540, Plg9.0000°, Azm35.0000°; N 0.3730, Plg69.0000°, Azm280.0000°; P -4.1190, Plg19.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 15:23:14.8±0.5, 0.74N±0.09×30.13W±0.09, h10km, n107, σ1^{S}26/71, mb4.5/43, MS3.8/25, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	8.70	221		Pn	15 25 20.0	-1.0
RCBR	Riachuelo	8.70	221	Pn	Pn	15 25 20.1	-0.8
3.1nm,0.3s,baz=30,slow=20,SNR=42							
RCBR				Sn	Sn	15 26 49.8	-9.4
3.1nm,0.3s,baz=108,slow=19,SNR=8.0							
RCBR				LR	LR	15 28 12.2	
comp=Z,215nm,19.8s,baz=64,slow=34							
13nm,0.5s							
RCBR	Riachuelo	8.70	221	*e*P	Pn	15 25 20.3	-0.6
NBCA	Caruaru-PE	10.66	213	*e*P	Pn	15 25 47.6	-0.2
NBPB	Pedra_Branca-C	11.32	236	*e*P	Pn	15 25 55.6	-1.2
NBAN	Anadia - AL	12.01	210	*e*P	Pn	15 26 06.3	0.0
SACV	Santiago Islan	15.54	24	Pn	Pn	15 26 53.1	-1.2
SACV				IAmb	IAmb	15 27 13.1	
comp=Z,43nm,1.0s							
H10N3	ASCENSION HYDR	17.76	119	T	T	15 45 49.0	
baz=298,slow=74,SNR=371							
H10N2	ASCENSION HYDR	17.76	119	T	T	15 45 42.3	
baz=298,slow=74,SNR=320							
H10N1	ASCENSION HYDR	17.78	119	T	T	15 45 47.6	
baz=298,slow=74,SNR=432							
H10S3	ASCENSION HYDR	18.16	122	T	T	15 46 06.6	
baz=283,slow=74,SNR=150							
H10S2	ASCENSION HYDR	18.18	122	T	T	15 46 02.9	
baz=297,slow=74,SNR=124							
CMC01	Camacan, BA	18.49	210	*e*P	Pn	15 27 32.3	+0.9
BBTS	Babate	19.29	44	Pn	Pn	15 27 45.4	+4.3
comp=Z,2.0nm,0.3s,baz=267,slow=3.8,SNR=4.3							
BBTS				LR	LR	15 33 13.5	
comp=Z,182nm,20.2s,baz=106,slow=31							
GUA01	Guaratinga, BA	19.68	209	*e*P	Pn	15 27 46.8	+1.1
SMTB	Santa Maria do	19.84	241	*e*P	Pn	15 27 47.1	-0.6
JANB	Januaria	21.05	221	*e*P	P	15 27 59.5	+0.2
MDP	Montagnes des	22.89	281	LR	LR	15 36 40.6	
comp=Z,80nm,18.8s,baz=130,slow=35							
DIAM	Diamantina, MG	23.13	214	*e*P	P	15 28 22.0	+0.4
BDFB	Brasilia	24.02	227	P	P	15 28 30.4	0.0
comp=Z,6.8nm,0.7s,baz=52,slow=10,SNR=12							
BDFB				LR	LR	15 37 18.6	
comp=Z,290nm,18.1s,baz=48,slow=35							
comp=Z,6.8nm,0.7s							
SNDB	Serra Nova Dou	24.52	238	*e*P	P	15 28 35.6	+0.7
PMNB	Patos De Minas	24.98	219	*e*P	P	15 28 40.7	+1.7
IPMB	Ipameri, GO	25.74	223	*e*P	P	15 28 43.8	-2.1
DBIC	Dimbokro	25.89	76	P	P	15 28 48.0	+0.9
DBIC				IAmb	IAmb	15 28 48.6	
comp=Z,7.6nm,0.8s							
DBIC	Dimbokro	25.89	76	P	P	15 28 46.2	-0.9
comp=Z,11nm,0.9s,baz=256,slow=11,SNR=8.9							
DBIC				LR	LR	15 37 33.9	
comp=Z,206nm,18.0s,baz=185,slow=33							
comp=Z,11nm,0.9s							
ITTB	Itaituba	26.08	259	*e*P	P	15 28 49.5	+0.5
NPGB	Novo Progresso	26.33	253	*e*P	P	15 28 50.9	-0.3
PDRB	Porto dos Gac	29.14	244	*e*P	P	15 29 16.9	+0.5
SALV	Santo Antonio	30.18	236	*e*P	P	15 29 26.7	+1.1
BOAV	Boa Vista	30.43	273		P	15 29 27.7	-0.1
BOAV				IAmb	IAmb	15 29 30.1	
comp=Z,8.6nm,0.9s							
BOAV	Boa Vista	30.43	273	*e*P	P	15 29 29.6	+1.8
AQDB	Aquidauana	32.73	228	P	P	15 29 47.9	-0.1
PTLB	Pontes e Lacer	32.87	240		P	15 29 50.6	+1.3
PTLB				IAmb	IAmb	15 29 51.6	
comp=Z,14nm,1.0s							
PTLB	Pontes e Lacer	32.87	240	*e*P	P	15 29 50.6	+1.3
BDQN	Bodoquena, MS	33.51	230	*e*P	P	15 29 56.7	+1.9
SVN	Savane Anatole	33.72	296	P	P	15 29 56.0	-0.8
TORD	Torodi Ar. Bea	33.85	67	P	P	15 29 57.0	-0.9
comp=Z,116nm,0.3s,baz=255,slow=8.8,SNR=2.0							
TORD				LR	LR	15 41 37.7	
comp=Z,159nm,20.2s,baz=238,slow=33							
SAML	Samuel	34.31	253		P	15 29 59.5	-2.3
SAML				IAmb	IAmb	15 30 04.3	
comp=Z,16nm,1.0s							
SAML	Samuel	34.31	253	*e*P	P	15 30 03.6	+1.7
TEFE	Tefe	34.75	263	*e*P	P	15 30 07.7	+2.1
SIV	San Ignacio	34.78	240	P	P	15 30 07.2	+1.2
comp=Z,9.5nm,0.8s,baz=84,slow=9.4,SNR=37							
SIV				LR	LR	15 43 50.8	
comp=Z,481nm,18.8s,baz=111,slow=36							
comp=Z,9.5nm,0.8s							
MURT	Porto Murtinho	34.86	229	*e*P	P	15 30 08.1	+1.6
CPUP	Villa Florida	37.58	222		P	15 30 27.9	-1.8
CPUP	Villa Florida	37.58	222	P	P	15 30 31.3	+1.6
comp=Z,2.9nm,0.8s,baz=34,slow=8.1,SNR=6.1							
CPUP				LR	LR	15 45 43.7	
comp=Z,303nm,18.5s,baz=55,slow=36							
comp=Z,2.9nm,0.8s							
PLTB	Pedras Altas	39.24	212		P	15 30 42.3	-1.3
PLTB	Pedras Altas	39.24	212	*e*P	P	15 30 44.0	+0.4
SJG	San Juan	39.37	298	LR	LR	15 44 24.4	
comp=Z,37nm,20.6s,baz=114,slow=32							
MDT	Midelt	39.94	34	LR	LR	15 45 01.7	
comp=Z,161nm,21.0s,baz=192,slow=33							
SDV	Santo Domingo	41.13	283	LR	LR	15 48 13.3	
comp=Z,55nm,19.0s,baz=55,slow=36							
SDV	Santo Domingo	41.13	283	*e*P	P	15 31 00.9	+1.0
LPAZ	La Paz	41.14	244		P	15 31 00.8	+0.5
LPAZ				IAmb	IAmb	15 31 03.5	
comp=Z,17nm,0.9s							
LPAZ	La Paz	41.14	244	P	P	15 31 01.2	+0.9
comp=Z,12nm,0.7s,baz=98,slow=2.0,SNR=32							
LPAZ				LR	LR	15 47 47.9	
comp=Z,136nm,18.4s,baz=74,slow=36							
comp=Z,12nm,0.7s							
LPAZ	La Paz	41.14	244	*e*P	P	15 31 00.9	+0.6
CZSB	Cruzeiro do Su	43.28	258		P	15 31 16.7	-0.5
CZSB	Cruzeiro do Su	43.28	258	*e*P	P	15 31 17.7	+0.5
GO01	Chusmiza	43.34	240	P	P	15 31 15.3	-2.8
PB11	IPOC Station P	43.77	240	P	P	15 31 20.6	-0.6
PB11				IAmb	IAmb	15 31 32.6	
comp=Z,16nm,1.1s							
ROSC	El Rosal	44.32	276	P	P	15 31 26.3	+0.3
comp=Z,13nm,0.6s,baz=67,slow=22,SNR=4.6							
ROSC				LR	LR	15 49 36.4	
comp=Z,100nm,18.2s,baz=98,slow=36							
comp=Z,13nm,0.6s							
ESDC	Sonseca Array	45.51	28	P	P	15 31 33.6	-1.1
comp=Z,0.9nm,0.8s,baz=224,slow=7.3,SNR=6.4							
ESDC				LR	LR	15 46 54.8	
comp=Z,43nm,20.0s,baz=185,slow=31							
comp=Z,0.9nm,0.8s							
GO02	Mina Guanaco	46.04	233		P	15 31 38.6	-0.8
AC02	Maricunga	46.48	231	IAmb	IAmb	15 31 47.3	
comp=Z,6.5nm,0.9s							
CFA	Coronel Fontan	48.34	225	P	P	15 31 55.8	-1.2
comp=Z,1.4nm,0.6s,baz=74,slow=9.6,SNR=4.5							
comp=Z,1.4nm,0.6s							
ATAH	Atahualpa	48.78	260	LR	LR	15 53 08.0	
comp=Z,94nm,18.1s,baz=70,slow=37							
CO03	El Pedregal	49.69	227	IAmb	IAmb	15 32 10.4	
comp=Z,6.5nm,1.1s							
KEST	Kesra	50.55	42	LR	LR	15 52 43.5	
comp=Z,148nm,21.2s,baz=290,slow=35							
TSUM	Tsumeb	50.83	116	LR	LR	15 51 22.3	
comp=Z,42nm,19.1s,baz=343,slow=33							
BO01	Tunca	51.88	224	P	P	15 32 23.0	-0.7
BO01				IAmb	IAmb	15 32 25.1	
comp=Z,12nm,0.9s							
BO02	Sierra Bellavi	51.90	223	IAmb	IAmb	15 32 52.2	
comp=Z,8.9nm,0.7s							
VAE	Valguarnera	54.92	43	LR	LR	15 55 17.3	
comp=Z,80nm,20.1s,baz=292,slow=35							
SOCE	Pocosol	54.99	282	P	P	15 32 44.7	-2.3
SOCE				IAmb	IAmb	15 33 00.0	
comp=Z,8.9nm,0.7s							
PLCA	Paso Flores	55.24	217	LR	LR	15 56 11.7	
comp=Z,71nm,18.3s,baz=69,slow=36							
JTS	Las Juntas de	55.31	282	LR	LR	15 59 35.6	
comp=Z,45nm,18.2s,baz=288,slow=39							
DAVA	Damuels	57.94	31	*e*P	P	15 33 14.6	+7.0
comp=Z,5.8nm,1.0s							
FETA	Feichten	58.21	32	*e*P	P	15 33 18.0	+8.4
comp=Z,7.1nm,1.3s							
SUR	Sutherland	58.24	129	LR	LR	15 54 34.2	
comp=Z,52nm,18.2s,baz=338,slow=32							
SQTA	Sankt Quirin	58.59	32	*e*P	P	15 33 12.1	0.0
comp=Z,3.4nm,0.8s							
MOTA	Moosalm	58.62	32	*i* P	P	15 33 17.9	+5.5
comp=Z,8.6nm,1.8s							
CIMO	Cimolais	58.69	33	P	P	15 33 12.9	+0.2
ABTA	Abfaltersbach	59.00	33	*i* P	P	15 33 15.3	+0.4
comp=Z,6.8nm,1.1s							
LESA	Schwarzleotal	59.50	32	*e*P	P	15 33 25.1	+6.7
comp=Z,4.7nm,1.0s							
MYKA	Terra Mystica	59.55	34	*i* P	P	15 33 25.1	+6.4
comp=Z,7.1nm,1.1s							
LBTB	Lobatse	59.63	120	LR	LR	15 55 10.8	
comp=Z,51nm,19.4s,baz=288,slow=32							
KBA	Koelnbreinsper	59.65	33	*e*P	P	15 33 27.1	+7.6
comp=Z,4.4nm,1.2s							
OBKA	Obir	59.98	34	*i* P	P	15 33 29.5	+7.9
comp=Z,14nm,1.6s							
BIOA	Bad Ischl, Aus	60.18	33	*e*P	P	15 33 31.7	+8.7
comp=Z,1.5nm,0.5s							
SOKA	Soboth	60.35	34	*e*P	P	15 33 29.6	+5.4
comp=Z,7.8nm,1.3s							
BOSA	Boshof	60.44	124	LR	LR	15 53 29.3	
comp=Z,53nm,21.4s,baz=310,slow=30							
MOA	Molln	60.61	33	*e*P	P	15 33 34.9	+9.0
comp=Z,2.6nm,0.9s							
TKL	Tuckaleechee C	60.65	311	LR	LR	15 54 46.9	
comp=Z,62nm,19.1s,baz=118,slow=31							
Q52A	Bidwell	60.89	315	P	P	15 33 28.8	+0.9
Q52A				IAmb	IAmb	15 33 43.6	
comp=Z,6.3nm,0.9s							
GERES	GERESS Array B	60.91	32	P	P	15 33 25.9	-2.1
comp=Z,0.9nm,0.9s,baz=228,slow=5.2,SNR=5.0							
comp=Z,0.9nm,0.9s							
ARSA	Arzberg	60.95	34	*e*P	P	15 33 33.1	+4.9
comp=Z,5.1nm,1.3s							
CONA	Conrad Observa	61.53	33	*e*P	P	15 33 38.0	+5.8
comp=Z,4.7nm,1.4s							
RONA	Rosalia, Austr	61.64	34	*e*P	P	15 33

NOA	**NORSAR Array B**	67.88	20	P		P	15 34 12.8	-0.6
	comp=Z,0.4nm,0.8s,baz=226,slow=6.0,SNR=2.4							
	comp=Z,0.4nm,0.8s							
HFS	**Hagfors**	68.15	22	P		P	15 34 15.3	+0.2
	comp=Z,0.4nm,0.6s,baz=224,slow=6.0,SNR=0.9							
	comp=Z,0.4nm,0.6s							
BRTR	**Keskin Array B**	69.57	48	P		P	15 34 24.1	-0.3
	comp=Z,0.5nm,0.7s,baz=223,slow=8.4,SNR=4.2							
	comp=Z,0.5nm,0.7s							
AKASG	**Malin Array Be**	70.49	35	P		P	15 34 29.3	-0.4
	comp=Z,0.6nm,0.5s,baz=251,slow=5.8,SNR=5.8							
	comp=Z,0.6nm,0.5s							
TXAR	**Lajitas Array**	75.31	300	P		P	15 34 59.7	+0.8
	comp=Z,1.2nm,0.8s,baz=134,slow=7.2,SNR=7.1							
	comp=Z,1.2nm,0.8s							
VHRN	**Van Horn**	76.63	301			P	15 35 07.6	+1.2
VHRN				IAmb		IAmb	15 35 19.1	
	comp=Z,5.2nm,1.1s							
PDAR	**Pinedale Array**	81.74	313	P		P	15 35 34.6	+0.4
	comp=Z,0.2nm,0.6s,baz=86,slow=4.9,SNR=4.0							
PDAR				LR		LR	16 07 34.7	
	comp=Z,37nm,20.9s,baz=334,slow=32							
	comp=Z,0.2nm,0.6s							
HMU	**Henry Mountain**	82.14	308	P		P	15 35 35.5	-1.0
YKA	**Yellowknife Ar**	86.79	332	P		P	15 35 59.4	+0.2
	comp=Z,0.3nm,0.9s,baz=244,slow=27,SNR=3.2							
	comp=Z,0.3nm,0.9s							
NEW	**Newport**	87.45	318	LR		LR	16 13 42.5	
	comp=Z,99nm,18.2s,baz=258,slow=35							
NVAR	**Mina Array Bea**	88.12	308	P		P	15 36 08.5	+2.1
	comp=Z,1.3nm,1.0s,baz=43,slow=2.8,SNR=3.7							
	comp=Z,1.3nm,1.0s							
ASAR	**Alice Springs**	152.44	147	PKPbc		PKiKP	15 43 12.7	+0.1
	comp=Z,1.0nm,0.8s,baz=190,slow=2.4,SNR=9.1							

*GCG **13** 15:35:22.6±1.6, 14°.74N×92°.53W, h74km±10km, MD4.2*
*MEX **13** 15:35:23.1±1.2, 14°.69N×92°.59W, h79km±9km, MD4.1*
*IDC **13** 15:35:29.3±8.3, 14°.91N×91°.72W, h154km±54km, mb3.3/5, mbtmp3.6/6, Error ellipse: s-maj=74.7km s-min=37.2km az=1.0*

ISC 13 15:35:21.5±0.9, **14°.62N**±0°.06×**92°.59W**±0°.03, **h81**km±7km, **n39**, σ2°**97**/62, **mb3.7**/5, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.42	48	*i* P	Pn	15 35 34.1	-0.7
THIG				*i* S	Sn	15 35 43.4	-1.1
THIG		0.42	48	*e*P	Pn	15 35 34.0	-0.7
THIG				*e*S	Sn	15 35 43.1	-1.5
PATR	El Naranjo	0.60	35	*e*P	Pn	15 35 35.2	-1.3
PATR				*e*S	Sn	15 35 45.1	-2.6
PAVE	Pavencul	0.70	35	*e*P	Pn	15 35 36.4	-1.0
PAVE				*e*S	Sn	15 35 47.5	-1.8
RTAL	Retalhuleu	0.87	96	*e*P	Pn	15 35 39.5	+0.3
RTAL				*e*S	Sn	15 35 52.7	+0.4
QUEO	Labor Ovalle	1.07	76	*e*P	Pn	15 35 42.4	+0.7
QUEO				*e*S	Sn	15 35 58.0	+1.1
SOKI	Kika Raxquin	1.17	80	*e*P	Pn	15 35 44.0	+1.0
STG8	El Palmar, Qui	1.21	98	*e*P	Pn	15 35 40.3	-3.1
STG8				*e*S	Sn	15 35 54.2	-5.7
PCIG		1.23	331	*e*P	Pn	15 35 43.3	-0.2
PCIG				*e*S	Sn	15 35 59.0	-1.0
HUEH	Huehuetenango	1.26	57	*e*P	Pn	15 35 44.3	+0.3
HUEH				*e*S	Sn	15 36 01.2	+0.2
HUEH	Huehuetenango	1.26	57	*e*P	Pn	15 35 44.6	+0.6
HUEH				*e*S	Sn	15 36 01.7	+0.8
CCIG	Comitan	1.71	15	*e*P	Pn	15 35 50.4	+0.6
CCIG				*e*S	Sn	15 36 11.1	-0.1
CCIG	Comitan	1.71	15	*e*P	Pn	15 35 50.3	+0.6
CCIG				*e*S	Sn	15 36 10.8	-0.3
ESSG	Sabana Grande	1.72	98	*e*P	Pn	15 35 51.1	+1.3
FG8	Yepocapa, Chim	2.00	100	*e*P	Pn	15 35 49.5	-4.1
FG8				*e*S	Sn	15 36 09.8	-8.1
TGIG		2.20	347	*e*P	Pn	15 35 55.0	-1.2
TGIG				*e*S	Sn	15 36 19.6	-3.1
TGIG		2.20	347	*e*P	Pn	15 35 54.7	-1.5
UXUV	UXUV	3.07	331	*e*P	Pn	15 36 08.5	+0.7
UXUV				*e*S	Sn	15 36 42.8	-0.7
PETF	Flores	3.48	49	*e*P	Pn	15 36 13.2	-0.1
PETF				*e*S	Sn	15 36 50.3	-3.1
PETF	Flores	3.48	49	*e*P	Pn	15 36 13.6	+0.3
PETF				*i* S	Sn	15 36 50.6	-2.8
HUIG	Huatulco	3.58	289	*e*S	Sn	15 36 51.1	-4.9
NEUV	Arroyo Zacate	4.35	315	*e*P	Pn	15 36 24.7	-0.6
NEUV				*e*S	Sn	15 37 12.8	-2.1
SCIG	Sabancuy	4.53	17	*e*P	Pn	15 36 26.2	-1.4
SCIG				*e*S	Sn	15 37 13.4	-5.6
PEIG	Puerto Escondi	4.60	288	*e*P	Pn	15 36 29.8	+1.1
PEIG				*e*S	Sn	15 37 16.2	-4.7
YOIG	Yosondua	5.26	296	*e*P	Pn	15 36 42.5	+4.6
YOIG				*e*S	Sn	15 37 35.5	-1.9
TOIG	Toxpalan	5.51	309	*e*P	Pn	15 36 45.0	+3.8
TOIG				*e*S	Sn	15 37 35.7	-7.6
TXIG	Tlaxiaco	5.62	298	*e*P	Pn	15 36 44.0	+1.1
TXIG				*e*S	Sn	15 37 42.3	-4.0
HLIG	Huajuapan de L	5.94	303	*e*S	Sn	15 37 56.9	+3.1
JAUV	Jalcomulco	6.20	320	*e*P	Pn	15 36 48.0	-2.6
JAUV				*e*S	Sn	15 37 53.8	-6.3
FTIG	Fresnillo de T	6.24	302	*e*P	Pn	15 36 52.1	+0.9
FTIG				*e*S	Sn	15 37 52.2	-9.0
MGIG	Malinaltepec	6.37	295	*e*P	Pn	15 36 51.6	-1.3
MGIG				*e*S	Sn	15 37 55.6	-8.7
TEIG	Tepich	6.93	36	P	Pn	15 36 59.1	-1.3
	0.5nm,0.7s,baz=232,slow=20,SNR=107						
TEIG				S	Sn	15 38 10.3	-7.5
	0.2nm,0.4s,baz=182,slow=24,SNR=13						
TXAR	Lajitas Array	17.86	327	P	Pn	15 39 27.8	+3.0
	0.8nm,0.9s,baz=163,slow=13,SNR=3.8						
PDAR	Pinedale Array	31.62	336	P	P	15 41 39.6	+2.6
	0.2nm,0.5s,baz=163,slow=11,SNR=0.8						
	0.2nm,0.5s						
NVAR	Mina Array Bea	32.83	321	P	P	15 41 51.0	+3.4
	1.0nm,0.8s,baz=136,slow=9.4,SNR=4.7						
	1.0nm,0.8s						
YKA	Yellowknife Ar	50.29	347	P	P	15 44 08.7	-0.8
	0.2nm,0.4s,baz=139,slow=8.6,SNR=7.3						
	0.2nm,0.4s						
ILAR	Eielson Array	62.05	337	P	P	15 45 34.0	+0.8
	0.6nm,0.6s,baz=124,slow=4.9,SNR=10.0						
	0.6nm,0.6s						
ARCES	ARCESS Array B	85.73	18	P		P	15 47 46.2	-5.1
	2.5nm,0.7s,baz=297,slow=16,SNR=1.8						
	2.5nm,0.7s						
CMAR	Chiang Mai Arr	145.22	341	PKPbc		PKPbc	15 54 49.7	-0.7
	0.6nm,0.6s,baz=346,slow=4.0,SNR=6.1							

*TAP **13** 15:39:27.5, 23°.05N×120°.33E, h17km, ML3.2, B*

ISC 13 15:39:27.9±0.7, **23°.06N**±0°.01×**120°.33E**±0°.01, **h16**km, **n137**, σ0°**90**/242, **15C-14D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN3	Shinhua	0.04	60	⇑*i*P	Pg	15 39 31.5	+0.7
CHN3				*i* S	Sg	15 39 34.8	+2.1
SHHT	Tainan City	0.04	152	⇑*i*P	Pg	15 39 31.2	+0.5
SHHT				S	Sg	15 39 34.1	+1.4
SSHA	Shanhua	0.09	335	⇑*i*P	Pg	15 39 32.0	+0.9
SSHA				S	Sg	15 39 35.5	+2.2
TAI1	Yung-k'ang	0.09	260	⇓*i*P	Pg	15 39 31.6	+0.5
TAI1				*i* S	Sg	15 39 35.2	+1.9
TAI	Tainan	0.14	243	*i* P	Pb	15 39 32.1	0.0
TAI				S	Sb	15 39 35.8	+1.0
SCLT	Jiali	0.17	314	⇑P	Pb	15 39 32.8	+0.1
SCLT				*i* S	Sb	15 39 37.3	+1.5
CHN1	Nanshi	0.22	55	⇓*i*P	Pb	15 39 33.7	+0.1
CHN1				*e*S	Sb	15 39 38.4	+0.9
SNST	Tainan City	0.23	44	⇓*i*P	Pb	15 39 33.8	+0.2
SNST				*e*S	Sb	15 39 38.6	+1.2
SCST	Cishan	0.23	138	⇑*i*P	Pb	15 39 34.7	+1.0
SCST				S	Sb	15 39 39.4	+1.9
SGST	Jiashian	0.24	84	⇓*i*P	Pb	15 39 33.2	-0.5
SGST				*e*S	Sb	15 39 39.9	+2.1
TSCK	Chigu Township	0.24	292	*e*P	Pb	15 39 33.9	+0.1
TSCK				*e*S	Sb	15 39 39.6	+1.7
TWM1	Shoushan	0.25	159	⇑P	Pb	15 39 34.8	+0.8
TWM1				S	Sb	15 39 40.7	+2.6
TWK	Hsinying	0.26	35	⇓*i*P	Pb	15 39 34.5	+0.3
TWK				S	Sb	15 39 38.9	+0.4
SNJT	Kaohsiung City	0.30	179	*e*P	Pb	15 39 35.6	+0.7
SNJT				*e*S	Sn	15 39 41.6	-2.1
ICHU	Yijhu	0.31	352	⇑*i*P	Pb	15 39 35.3	+0.3
ICHU				*e*S	Sn	15 39 41.7	-2.2
CHN8	Yiju	0.31	340	⇑*i*P	Pb	15 39 35.2	+0.2
CHN8				*i* S	Sb	15 39 41.5	+1.7
WTP	Ta-pu	0.32	54	⇓*i*P	Pb	15 39 35.3	0.0
WTP				*e*S	Sb	15 39 41.0	+0.7
TPUB	Ta-pu	0.37	49	P	Pb	15 39 35.6	-0.5
TPUB	Ta-pu	0.37	49	⇓*i*P	Pb	15 39 35.8	-0.3
TPUB				*e*S	Sb	15 39 42.1	+0.5
CHN4	Tsaushan	0.38	40	⇓*i*P	Pb	15 39 36.3	0.0
CHN4				*e*S	Sb	15 39 43.1	+1.2
TSPT	Pingtung City	0.41	158	*e*P	Pn	15 39 37.5	-1.6
STYT	Tauyuan	0.41	75	*i* P	Pb	15 39 36.2	-0.6
STYT				*e*S	Sb	15 39 43.1	+0.3
SSD	Sandimen	0.42	138	⇑*i*P	Pb	15 39 37.0	+0.1
SSD				*e*S	Sn	15 39 44.1	-2.5
WSSB	Gushan	0.42	188	*e*P	Pn	15 39 37.8	-1.5
WSSB				*e*S	Sn	15 39 46.1	-0.5
STYH	Taoyuan	0.43	74	⇓*i*P	Pg	15 39 36.2	-0.3
STYH				*e*S	Sb	15 39 44.1	+0.8
CHY	Chiayi	0.45	11	*e*P	Pb	15 39 37.7	+0.3
CHY				*e*S	Sb	15 39 45.4	+1.5
TSMG	Majia	0.46	140	*e*P	Pb	15 39 37.6	+0.1
TSMG				*e*S	Sn	15 39 45.1	-2.5
WCKO	Fanlu	0.46	34	⇓P	Pb	15 39 37.8	+0.2
WCKO				*i* S	Sb	15 39 45.4	+1.2
WSL	Shuilin Townsh	0.47	349	⇑*e*P	Pb	15 39 38.0	+0.1
WSL				*e*S	Sn	15 39 46.7	-1.4
CHN2	Minshiung	0.49	16	*e*P	Pb	15 39 38.6	+0.5
CHN2				*e*S	Sn	15 39 46.7	-1.8
MASBT	Mashibuluo	0.52	147	⇑*i*P	Pb	15 39 38.8	+0.1
MASBT				*e*S	Sn	15 39 47.2	-2.0
WSF	Szhu	0.59	350	*e*P	Pb	15 39 39.9	+0.1
WSF				*i* S	Sn	15 39 49.7	-1.2
CHN5	Tsauling	0.63	31	*i* P	Pb	15 39 40.8	+0.2
CHN5				*i* S	Sn	15 39 50.4	-1.6
ALS	Alishan	0.63	44	P	Pb	15 39 40.8	+0.1
ALS				S	Sn	15 39 51.1	-1.2
WTK	Tuku	0.63	5	*e*P	Pn	15 39 41.1	-1.0
WTK				*i* S	Sn	15 39 51.3	-0.6
ELDTW	Lidau	0.65	78	⇓*i*P	Pb	15 39 41.1	+0.2
ELDTW				*e*S	Sn	15 39 51.2	-1.3
WDGT	Dungji	0.65	288	⇑*i*P	Pb	15 39 40.4	-0.4
WDGT				*e*S	Sb	15 39 49.4	-0.2
WDLH	Douliu	0.66	17	*e*P	Pb	15 39 41.4	+0.4
WDLH				S	Sn	15 39 51.6	-1.0
WGK	Gukeng	0.66	19	*e*P	Pn	15 39 41.5	-1.1
WGK				*e*S	Sn	15 39 52.4	-0.3
TWP	Hsiaoliuchiu	0.71	177	*e*P	Pn	15 39 43.3	+0.1
TWP				S	Sn	15 39 55.7	+1.9
TWG	Pinlang	0.72	109	⇑P	Pn	15 39 42.7	-0.8
TWG				*e*S	Sn	15 39 53.8	-0.5
SCZT	Fangliau	0.73	158	P	Pn	15 39 42.8	-0.8
SCZT				*i* S	Sn	15 39 54.2	-0.1
TWGBT	Beinan	0.73	109	P	Pn	15 39 42.7	-0.9
TWGBT	Beinan	0.73	109	⇑P	Pn	15 39 42.7	-0.9
TWGBT				*e*S	Sn	15 39 53.5	-0.9
ECL	Taimali	0.74	128	⇑P	Pb	15 39 42.2	-0.1
ECL				*e*S	Sn	15 39 53.0	-1.5
LONT	Longtian	0.75	101	*e*P	Pn	15 39 43.1	-0.7
LONT				*e*S	Sn	15 39 54.2	-0.8
WHYT	Xinyi Township	0.80	37	P	Pn	15 39 43.8	-0.8
WHYT				*e*S	Sn	15 39 55.5	-0.6
WTCT	Ta-ch'eng	0.81	357	*e*P	Pg	15 39 43.6	0.0
WTCT				*i* S	Sn	15 39 55.7	-0.5
TTN	Taitung	0.81	112	*e*P	Pn	15 39 44.9	+0.3
TTN				*e*S	Sn	15 39 57.5	+1.1
EHD	Haiduan	0.81	83	*e*P	Pn	15 39 43.9	-0.8
EHD				*e*S	Sn	15 39 55.8	-0.7
ECS	Chishang	0.82	87	*e*P	Pn	15 39 44.6	-0.2
ECS				*e*S	Sn	15 39 56.9	+0.3
EAST	Anshuo	0.82	144	*e*P	Pn	15 39 44.3	-0.5
EAST				*e*S	Sn	15 39 56.3	-0.4
PHUB	P'eng-hu	0.83	303	P	Pb	15 39 43.1	-0.8
PHUB				*i* S	Sb	15 39 54.4	-0.5
RLNB	Erlin	0.83	2	*e*P	Pb	15 39 43.2	-0.8
RLNB				*e*S	Sn	15 39 56.8	-0.1
VCHM	Qimei	0.84	281	*e*P	Pb	15 39 43.5	-0.6
VCHM				*i* S	Sg	15 39 55.3	0.0
WJS	Zhushan	0.85	26	*i* P	Pn	15 39 44.4	-0.7
WJS				*e*S	Sn	15 39 57.0	-0.3
TAW	Tawu	0.87	143	*i* P	Pn	15 39 45.1	-0.3
TAW				*e*S	Sn	15 39 57.4	-0.4
PNG	Penghu	0.87	306	*i* P	Pb	15 39 43.8	-0.8
PNG				*i* S	Sb	15 39 55.7	-0.4
TAWH	Dawu Township	0.88	144	*e*P	Pn	15 39 45.4	-0.2
TAWH				*e*S	Sn	15 39 58.6	+0.5
WNT	Mingjian	0.88	22	P	Pg	15 39 44.9	-0.1
WNT				S	Sn	15 39 57.8	-0.3
FULB	Fuli	0.90	81	⇓*i*P	Pn	15 39 46.2	+0.3
EDH	Donghe	0.90	95	*e*P	Pn	15 39 46.1	+0.2
EDH				*e*S	Sn	15 39 59.4	+0.8
SSLB	Suanglung	0.93	38	P	Pn	15 39 45.8	-0.5
SSLB	Suanglung	0.93	38	P	Pg	15 39 45.6	-0.3
SSLB				S	Sn	15 39 58.8	-0.5
TWF1	Yuli	0.94	72	*e*P	Pn	15 39 46.2	-0.2
TWF1				*i* S	Sn	15 39 59.9	+0.3
SLIU	Shizi	0.94	152	P	Pn	15 39 46.1	-0.3
SLIU				*e*S	Sn	15 40 00.6	+1.0
YULB	Yu-li	0.95	69	P	Pn	15 39 46.1	-0.5
YULB	Yu-li	0.95	69	S	Sn	15 40 00.0	+0.1
YULB	Yu-li	0.95	69	P	Pn	15 39 46.0	-0.5
YULB				*e*S	Sn	15 39 59.8	0.0
EYUL	Yuli	0.96	72	*i* P	Pn	15 39 46.6	-0.1
EYUL				*i* S	Sn	15 40 02.7	+0.5
TYC	Yuchr	0.97	30	*e*P	Pg	15 39 46.3	-0.4
TYC				*i* S	Sn	15 40 01.0	+0.6
SMLT	Sun Moon Lake	0.98	32	*e*P	Pb	15 39 45.5	-0.9
SMLT				*i* S	Sn	15 40 00.8	+0.2
CHKH	Chenggong	0.99	82	*e*P	Pn	15 39 47.5	+0.3
CHKH				*e*S	Sn	15 40 02.1	+1.3
EHY	Hungye	1.02	64	*e*P	Pg	15 39 47.7	+0.2
EHY				S	Sn	15 40 02.4	+0.9
VWDT	VWDT	1.02	47	⇓*i*P	Pg	15 39 47.4	-0.2
VWDT				*e*S	Sg	15 40 00.7	-0.3
EHYH	Wanrong	1.03	65	*e*P	Pg	15 39 47.9	+0.1
EHYH				*e*S	Sn	15 40 02.5	+0.7
WCHH	Zhanghua	1.04	12	*e*P	Pg	15 39 47.9	-0.1
WCHH				*e*S	Sn	15 40 02.2	+0.2
ECBN	Changbin	1.06	76	*e*P	Pg	15 39 49.3	+0.8
ECBN				*e*S	Sn	15 40 05.8	+3.2
HGSD	Ruisui	1.10	66	*i* P	Pg	15 39 49.7	+0.6
HGSD				*e*S	Sg	15 40 04.8	+1.3
HEN	Hengchun	1.11	160	*e*P	Pg	15 39 48.5	-0.9
HEN				*e*S	Sg	15 40 04.2	+0.3
LDUT	Ludao	1.12	110	*e*P	Pg	15 39 49.1	-0.4
LDUT				*e*S	Sg	15 40 04.5	+0.3
WCS	Beigang Elemen	1.13	28	P	Pg	15 39 49.5	-0.3
WCS				*i* S	Sg	15 40 05.2	+0.7
TCU	Taichung	1.13	16	*e*P	Pg	15 39 50.0	+0.2
TCU				*e*S	Sg	15 40 04.5	-0.1
SMST	Manzhou Townsh	1.13	155	*e*P	Pb	15 39 48.0	-1.1
WARBT	Fenglin Townsh	1.17	56	⇓*i*P	Pg	15 39 49.8	-0.7
WARBT				*e*S	Sn	15 40 05.1	-0.2
EGFH	Guangfu	1.18	59	*i* P	Pg	15 39 50.3	-0.3
EGFH				*i* S	Sg	15 40 06.4	+0.3
WUSB	Renai	1.18	38	*e*P	Pb	15 39 50.0	0.0
WUSB				*e*S	Sg	15 40 05.7	-0.4
OWD	Renai	1.19	41	*e*P	Pb	15 39 50.1	0.0
OWD				*e*S	Sn	15 40 05.7	-0.2
TWK1	Hengchun	1.19	158	*e*P	Pb	15 39 49.7	-0.4
TWK1				*e*S	Sg	15 40 05.7	-0.7
TWKBT	Hengchun	1.20	158	*e*P	Pb	15 39 49.5	-0.7
ESL	Shilin	1.27	53	*e*P	Pg	15 39 51.6	-0.7
ESL				*e*S	Sg	15 40 07.9	-0.9
TSEB	Hengchuen, Pin	1.27	155	*e*P	Pb	15 39 50.8	-0.6
TSEB				*e*S	Sg	15 40 07.7	-1.2
WDJ	Dajia District	1.32	12	*e*P	Pg	15 39 52.5	-0.7
WDJ				*e*S	Sg	15 40 11.2	+0.7
WHP	Taichung City	1.34	25	*e*P	Pb	15 39 52.5	-0.2
WHP				*e*S	Sg	15 40 10.6	-0.6
SHUL	Shoufeng	1.35	57	*e*P	Pg	15 39 53.4	-0.5
SHUL				*e*S	Sg	15 40 11.4	0.0
TWQ1	Liyutan	1.35	18	P	Pb	15 39 52.9	+0.1
TWQ1				*i* S	Sg	15 40 10.9	-0.6
WHF	Hehuan Shan	1.38	38	*e*P	Pg	15 39 54.2	-0.4
LXIB	Xiulin Townshi	1.38	46	P	Pb	15 39 53.6	+0.1
LXIB				*e*S	Sg	15 40 12.0	-0.6
ETM	Tongmen	1.40	50	*e*P	Pb	15 39 53.5	-0.2
ETM				*e*S	Sn	15 40 10.7	-0.2
TEYL	Yanliau Villag	1.42	55	*e*P	Pb	15 39 53.7	-0.2
TWT	Tachien	1.42	33	*e*P	Pb	15 39 53.5	-0.7
TWT				*e*S	Sb	15 40 11.8	-0.4
FUSS	Fushou	1.45	35	*e*P	Pb	15 39 54.3	-0.5
FUSS				S	Sb	15 40 13.7	+0.6
LAY	Lan-yu	1.52	132	*e*P	Pn	15 39 53.7	-0.7
NMLH	Miaoli	1.53	16	*e*P	Pb	15 39 55.7	-0.2
NMLH				*e*S	Sb	15 40 16.0	+0.9
TWD	Chiawan	1.55	49	*e*P	Pb	15 39 56.1	-0.1
TWD				*e*S	Sb	15 40 16.1	+0.6
ETLH	Xiulin Townshi	1.56	42	*e*P	Pb	15 39 56.5	0.0
ETLH				*e*S	Sg	15 40 17.2	-1.0
LYUB	Lan-yu	1.56	132	*e*P	Pn	15 39 52.7	-2.3
NACB	Ninganchiao	1.61	46	P	Pb	15 39 56.8	-0.4
NACB	Ninganchiao	1.61	46	S	Sg	15 40 18.5	-1.3
NACB	Ninganchiao	1.61	46	*e*P	Pn	15 39 55.8	+0.2
NACB				*e*S	Sn	15 40 16.1	0.0
NNSB	Datong	1.67	35	*e*P	Pb	15 39 57.3	-1.1
NNSB				*e*S	Sb	15 40 20.1	+0.8
NSTT	Nanjuang	1.69	21	*e*P	Pn	15 39 56.9	+0.2
NSTT				*e*S	Sn	15 40 18.2	+0.3
LIOB	Emei	1.70	22	*e*P	Pn	15 39 57.2	+0.2
LIOB				*e*S	Sn	15 40 18.3	-0.2
NFF	Wufeng Townshi	1.73	25	*e*P	Pb	15 39 58.3	-1.0
NFF				*e*S	Sb	15 40 20.8	0.0
LATG	Datong	1.84	36	*e*P	Pb	15 40 00.6	-0.6
LATG				S	Sb	15 40 25.1	+1.1
NSK	Sanguang	1.87	30	*e*P	Pn	15 39 59.7	+0.4
YHNB	Yeheng	1.87	31	P	Pn	15 40 00.0	+0.7
YHNB	Yeheng	1.87	31	S	Sb	15 40 25.4	+0.5
YHNB	Yeheng	1.87	31	*e*P	Pn	15 39 59.5	+0.2
YHNB				*e*S	Sn	15 40 22.6	-0.1
KSHI	Guanxi Townshi	1.88	24	*e*P	Pn	15 39 59.7	+0.4
ENA	Nanau	1.88	43	*e*P	Pn	15 40 00.1	+0.7
EWUT	Wuta	1.92	44	*e*P	Pb	15 40 01.6	-0.8
EWUT				*e*S	Sb	15 40 25.9	-0.3
ENTT	Nioudou	1.94	35	*e*P	Pb	15 40 01.7	-1.2
ENTT				*e*S	Sb	15 40 26.7	-0.2
NWLT	Wulai	2.02	32	*e*P	Pb	15 40 02.2	+0.8
NWLT				*e*S	Sn	15 40 26.6	+0.2
FUSB	Fushanzhiwuyua	2.05	34	*e*P	Pn	15 40 02.2	+0.5
VWUC	VWUC	2.09	338	*e*P	Pn	15 40 02.6	+0.4
EOS4	EOS4	2.11	59	*e*P	Pn	15 40 03.0	+0.8
PTMZ	Houxiangcun	2.26	331	*e*P	Pn	15 40 05.1	+0.5
TIPB	Shuangxi	2.35	35	*e*P	Pn	15 40 07.3	+1.4
TWB1	Santiao Chiao	2.47	38	*e*P	Pn	15 40 08.5	+1.1
SXI1	Grass Mountain	2.47	35	*e*P	Pn	15 40 08.2	+0.6
ZPLA	Ao Xicun	2.52	291	*e*P	Pn	15 40 08.5	+0.4
DSXP	Dongshan	2.74	284	*e*P	Pn	15 40 11.2	0.0
YOJ	Yonaguni jima	2.83	60	P	Pn	15 40 14.6	+2.2
YOJ	Yonaguni jima	2.83	60	S	Sb	15 40 49.4	-3.0
YOJ	Yonaguni jima	2.83	60	*e*P	Pn	15 40 13.1	+0.7
YOJ				*e*S	Sn	15 40 48.0	+1.8
AXDP	Jialang	2.83	311	*e*P	Pn	15 40 12.1	-0.3

*IDC **13** 15:48:53.1±1.4, 59°.45S×24°.93W, h0km, mb3.9/2, mbtmp4.1/3, ML4.4/1, MS3.1/2, Error ellipse: s-maj=89.1km s-min=33.5km az=82.0*

ISC 13 15:48:58.3±1.4, **59°.4S**±0°.2×**23°.7W**±0°.4, **h35**km, **n12**, σ2°**93**/12, **5D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.97	157	⇓P	Pn	15 52 02.6	+2.8
	comp=Z,1.7nm,0.2s						
VNA3	Neumayer Olymp	13.19	160	⇓P	Pn	15 52 04.5	+1.6
	comp=Z,1.1nm,0.2s						
VNA2	Neumayer--Watz	13.37	156	⇓P	Pn	15 52 07.6	+2.4
	comp=Z,0.6nm,0.2s,baz=311,slow=15				

comp=N,463nm,0.4s
SMLA IAML 15 56 58.6
comp=E,263nm,0.3s
JOSI Joshimath 1.25 105 *e*P **Pb 15 56 50.4 +0.5**
JOSI *e*S **Sg 15 57 07.7 +0.9**
JOSI IAML 15 57 11.2
comp=E,412nm,0.3s
JOSI IAML 15 57 11.2
comp=N,439nm,0.3s
DHRM DHARAMSHALA 2.08 311 *e*P **Pb 15 57 04.8 +0.7**
DHRM *e*S **Sb 15 57 30.4 +0.5**
DHRM IAML 15 57 36.0
comp=E,294nm,0.3s
DHRM IAML 15 57 37.1
comp=N,300nm,0.2s
PTH Pithoragarh 2.23 126 *e*P **Pb 15 57 05.4 -1.1**
PTH *e*S **Sn 15 57 31.7 +1.2**
PTH IAML 15 57 39.5
comp=E,150nm,0.2s
PTH IAML 15 57 40.0
comp=N,120nm,0.3s
LGTI Lohaghat 2.31 128 *e*P **Pn 15 57 05.7 +1.8**
LGTI *e*S **Sn 15 57 32.4 +0.3**
LGTI IAML 15 57 40.0
comp=E,113nm,0.2s
LGTI IAML 15 57 41.1
comp=N,136nm,0.3s
NPLP NPLP New Delhi 2.41 201 *e*S **Sb 15 57 37.9 -1.1**
NPLP IAML 15 57 41.5
comp=N,209nm,0.2s
NPLP IAML 15 57 41.7
comp=E,313nm,0.2s
KUDL Kundal 3.10 208 IAML 15 57 59.8
comp=N,37nm,0.2s
KUDL IAML 15 58 04.0
comp=E,33nm,0.2s
MKAR Makanchi Array 16.20 10 Pn **Pn 16 00 11.7 -1.8**
comp=E,0.1nm,0.3s,baz=196,slow=11,SNR=2.7
MKAR LR LR 16 08 06.3
comp=E,34nm,19.1s,baz=68,slow=43
comp=E,0.1nm,0.4s
KURBB Kurchatov Arra 19.71 1 P **P 16 00 53.1 -2.1**
baz=189,slow=9.5,SNR=2.7
comp=E,0.2nm,0.5s
WRA Warramunga Arr 73.92 126 P **P 16 08 01.8 +0.4**
comp=E,0.3nm,0.5s,baz=318,slow=6.4,SNR=7.3
comp=E,0.3nm,0.5s
ASAR Alice Springs 76.13 129 P **P 16 08 14.2 +0.1**
comp=E,0.2nm,0.4s,baz=313,slow=6.0,SNR=11
comp=E,0.2nm,0.4s

NOU ***13*** *16:02:27.8, 41°.79S×171°.81E, h0km, MLv3.5/11, South Island, New Zealand*
WEL ***13*** *16:02:29.1±0.4, 42°S±2°×17°2E±°, h10km±3km, M3.0/10, ML3.2/10, MLv3.0/10, Error ellipse: s-maj=4.2km s-min=2.4km az=116.7, confirmed*
ISC 13 16:02:29.4±0.8, 41°.81S±0°.02×171°.94E±0°.03, h15km±5km, n27, σ0°.98/43, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INGS	**Inangahua Fire**	**0.04**	**163**	P	**Pg**	**16 02 31.9**	**-0.4**
INGS				S	**Sg**	**16 02 33.8**	**-0.4**
DSZ	**Denniston Nort**	**0.12**	**305**	P	**Pg**	**16 02 33.3**	**+0.2**
DSZ				S	**Sg**	**16 02 35.8**	**+0.4**
SJFS	**Springs Juncti**	**0.55**	**161**	P	**Pg**	**16 02 39.8**	**-0.6**
SJFS				S	**Sg**	**16 02 47.1**	**-0.6**
KASC	**Karamea School**	**0.58**	**14**	P	**Pb**	**16 02 41.3**	**+0.1**
KASC				S	**Sb**	**16 02 49.6**	**+0.4**
MATW	**Matariki Wadsw**	**0.69**	**57**	P	**Pb**	**16 02 43.0**	**-0.2**
MATW				S	**Sg**	**16 02 51.3**	**-0.9**
THZ	**Tophouse**	**0.73**	**86**	P	**Pg**	**16 02 42.6**	**-1.1**
THZ				S	**Sg**	**16 02 52.1**	**-1.2**
MRNZ	**Matariki Terra**	**0.74**	**56**	P	**Pg**	**16 02 43.4**	**-0.5**
MRNZ				S	**Sg**	**16 02 53.4**	**-0.4**
INZ	**Inchbonnie**	**0.98**	**202**	P	**Pg**	**16 02 47.6**	**-0.8**
INZ				S	**Sb**	**16 03 01.0**	**+0.2**
LTZ	**Lake Taylor**	**1.00**	**166**	P	**Pg**	**16 02 48.3**	**-0.5**
LTZ				S	**Sb**	**16 03 02.9**	**+1.5**
QRZ	**Quartz Range**	**1.08**	**25**	P	**Pg**	**16 02 49.4**	**-1.0**
QRZ	**Quartz Range**	**1.08**	**25**	P	**Pg**	**16 02 49.2**	**-1.2**
QRZ				S	**Sb**	**16 03 03.9**	**+0.1**
TKNZ	**Takaka Hill**	**1.10**	**45**	P	**Pg**	**16 02 49.4**	**-1.2**
TKNZ				S	**Sg**	**16 03 04.3**	**-0.7**
NNZ	**Nelson**	**1.24**	**62**	P	**Pg**	**16 02 51.5**	**-1.7**
NNZ				S	**Sg**	**16 03 07.7**	**-1.7**
KHZ	**Kahutara**	**1.34**	**117**	P	**Pn**	**16 02 54.5**	**+1.0**
KHZ	**Kahutara**	**1.34**	**117**	S	**Sn**	**16 03 13.0**	**+2.1**
KHZ	**Kahutara**	**1.34**	**117**	P	**Pn**	**16 02 54.3**	**+0.8**
KHZ				S	**Sb**	**16 03 12.7**	**+1.7**
GVZ	**Greta Valley S**	**1.41**	**145**	P	**Pn**	**16 02 54.7**	**+0.2**
GVZ				S	**Sb**	**16 03 13.3**	**+0.1**
OXZ	**Oxford**	**1.51**	**177**	P	**Pn**	**16 02 55.4**	**-0.6**
OXZ				S	**Sn**	**16 03 16.4**	**+1.1**
WVZ	**Waitaha Valley**	**1.54**	**215**	P	**Pn**	**16 02 56.4**	**+0.1**
WVZ				S	**Sg**	**16 03 17.8**	**-1.3**
MQZ	**McQueen's Vall**	**1.96**	**165**	P	**Pn**	**16 03 01.1**	**-1.0**
RPZ	**Rata Peaks**	**2.01**	**199**	P	**Pn**	**16 03 03.6**	**+0.8**
SNZO	**South Karori**	**2.14**	**77**	P	**Pn**	**16 03 06.0**	**+1.5**
KHEZ	**Kahui Hut**	**2.97**	**33**	P	**Pn**	**16 03 17.1**	**+1.0**
JCZ	**Jackson Bay**	**3.23**	**225**	P	**Pn**	**16 03 19.0**	**-0.7**
ODZ	**Otahua Downs**	**3.36**	**196**	P	**Pn**	**16 03 20.4**	**-1.0**
HIZ	**Hauiti**	**3.98**	**35**	P	**Pn**	**16 03 30.0**	**+0.1**
BKZ	**Black Stump Fm**	**4.37**	**54**	P	**Pn**	**16 03 35.9**	**+0.7**

IDC ***13*** *16:05:00.5±6.9, 18°.27S×175°.66W, h265km±50km, mb2.8/3, mbtmp3.4/4, Error ellipse: s-maj=143.0km s-min=30.1km az=151.0*
ISC 13 16:04:58.8±1.4, 18°.6S±0°.6×175°.5W±0°.2, h250km, n6, σ1°.59/7, mb3.0/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.17**	**277**	P	**Pn**	**16 06 29.2**	**0.0**
	2.3nm,0.6s,baz=93,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**47.20**	**260**	P	**P**	**16 13 06.8**	**-0.3**
	0.3nm,0.6s,baz=96,slow=7.5,SNR=6.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**47.24**	**255**	P	**P**	**16 13 07.2**	**-0.2**
	0.8nm,1.1s,baz=95,slow=8.6,SNR=9.4						
ASAR				PcP	**PcP**	**16 14 34.6**	**+0.1**
	0.2nm,0.7s,baz=96,slow=3.7,SNR=1.3						
	0.8nm,1.1s						
TXAR	**Lajitas Array**	**84.09**	**57**	P	**P**	**16 17 01.6**	**-0.5**
	0.2nm,0.6s,baz=239,slow=4.7,SNR=1.9						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**127.48**	**351**	PKP	**PKPdf**	**16 23 31.9**	**-1.5**
	7.2nm,1.0s,baz=27,slow=3.5,SNR=3.2						
GERES	**GERESS Array B**	**148.95**	**348**	PKPbc	**PKPdf**	**16 24 15.7**	**+2.7**
	0.8nm,0.9s,baz=20,slow=3.3,SNR=4.6						

IDC ***13*** *16:06:36.2±0.9, 26°.38N×129°.75E, h0km, mb3.5/10, mbtmp3.5/10, Error ellipse: s-maj=33.2km s-min=20.0km az=73.0*
JMA ***13*** *16:06:37.7±0.1, 26°.3N±0°.7×129°.6E±0°.4, h45km, MV3.4/18, NEAR MINAMI-DAITOJIMA IS*
ISC 13 16:06:36.9±0.7, 26°.32N±0°.04×129°.58E±0°.03, h15km, n24, σ1°.88/34, mb3.5/10, Ryukyu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.23**	**305**	*i* P	**Pg**	**16 06 59.5**	**-1.3**
JYRO				*e*S	**Sn**	**16 07 14.5**	**-1.5**
JOW	**Kunigami**	**1.28**	**294**	*i* P	**Pg**	**16 07 00.3**	**-1.3**
JOW				*e*S	**Sn**	**16 07 15.7**	**-1.5**
JOKE	**Okinoerabujima**	**1.38**	**319**	P	**Pg**	**16 07 01.7**	**-1.7**
JOKE				*e*S	**Sb**	**16 07 18.9**	**-1.0**
JNTH	**Nagotoyohara**	**1.41**	**278**	*i* P	**Pg**	**16 07 01.8**	**-2.4**
JNTH				*e*S	**Sn**	**16 07 18.9**	**-1.6**
JMZ	**Minamidaito 2**	**1.56**	**108**	P	**Pb**	**16 07 03.4**	**-2.1**
JMZ				*e*S	**Sn**	**16 07 20.8**	**-3.2**
JTK	**Tokunoshima**	**1.57**	**339**	P	**Pb**	**16 07 04.7**	**-0.9**
JTK				*e*S	**Sn**	**16 07 23.1**	**-1.2**
JKDJ	**Kitadaitoujima**	**1.58**	**103**	*e*P	**Pb**	**16 07 03.5**	**-2.4**
JKDJ				*e*S	**Sn**	**16 07 22.3**	**-2.3**
JIH	**Iheya**	**1.61**	**297**	P	**Pb**	**16 07 05.2**	**-1.2**
JIH				*e*S	**Sn**	**16 07 24.2**	**-1.1**
JJT3	**Tamagusuku3**	**1.63**	**264**	P	**Pb**	**16 07 05.2**	**-1.4**
JJT3				*e*S	**Sb**	**16 07 25.0**	**-1.9**
JAMN	**Amaminishikomi**	**1.95**	**349**	*e*P	**Pb**	**16 07 09.7**	**-2.4**
JAM	**Amami Oshima**	**2.08**	**1**	P	**Pb**	**16 07 11.5**	**-2.9**
JAM				*e*S	**Sn**	**16 07 35.4**	**-1.6**
JAGN	**Aguni-jima**	**2.12**	**278**	P	**Pb**	**16 07 12.1**	**-2.8**
JAGN				*e*S	**Sn**	**16 07 36.8**	**-1.0**
JKE	**Kume jima 2**	**2.51**	**271**	P	**Pn**	**16 07 16.7**	**-0.5**
JTAJ	**Takarajima**	**2.84**	**353**	*e*P	**Pn**	**16 07 22.2**	**+0.4**
JTAJ				*e*S	**Sn**	**16 07 53.6**	**-2.2**
SONM	**Songino Array**	**28.15**	**326**	P	**P**	**16 12 30.2**	**+1.5**
	0.3nm,0.4s,baz=135,slow=9.7,SNR=2.5						
	0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**29.34**	**261**	P	P	16 12 42.9	+3.5
	0.3nm,0.3s,baz=73,slow=10,SNR=2.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**42.38**	**311**	P	**P**	**16 14 33.0**	**+2.3**
	0.1nm,0.5s,baz=139,slow=7.1,SNR=1.9						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**45.63**	**316**	P	**P**	**16 14 57.6**	**+1.0**
	0.4nm,0.7s,baz=102,slow=9.1,SNR=4.1						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**46.22**	**174**	P	**P**	**16 15 02.4**	**+0.9**
	0.6nm,0.5s,baz=350,slow=8.0,SNR=6.8						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**49.87**	**175**	P	**P**	**16 15 32.1**	**+2.3**
	0.2nm,0.5s,baz=9.6,slow=12,SNR=9.9						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**63.78**	**28**	P	**P**	**16 17 08.7**	**+0.6**
	0.3nm,0.9s,baz=261,slow=5.9,SNR=2.2						
	0.3nm,0.9s						
KBZ	**Khabaz**	**70.04**	**310**	P	P	16 17 51.1	+2.9
	1.5nm,1.0s,baz=0.0,slow=3.0,SNR=4.2						
	1.5nm,1.0s						
FINES	**FINESS Array B**	**73.38**	**331**	P	**P**	**16 18 09.3**	**+1.3**
	1.4nm,1.0s,baz=74,slow=5.8,SNR=1.4						
	1.4nm,1.0s						
YKA	**Yellowknife Ar**	**77.93**	**25**	P	**P**	**16 18 36.1**	**+2.1**
	0.1nm,0.6s,baz=280,slow=4.2,SNR=2.4						
	0.1nm,0.6s						

BJI ***13*** *16:12:51.7, 7°.05N×94°.18E, h10km, mB5.2/54, mb5.0/76, Ms5.4/84, Ms7 5.2/80*
IDC ***13*** *16:12:53.7±0.4, 7°.39N×94°.34E, h0km, mb4.7/32, mbtmp4.7/36, ML4.3/4, MS4.8/78, Error ellipse: s-maj=14.0km s-min=10.5km az=60.0*
MOS ***13*** *16:12:53.5±1.2, 7°.48N×94°.39E, h18km, mb5.3/94, MS4.8/17, Error ellipse: s-maj=7.0km s-min=3.4km az=117.0*
NEIC ***13*** *16:12:55.6, 7°.45N×94°.43E, h18km*
NEIC ***13*** *16:12:55.6, 7°.25N×94°.32E, h18km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.18; $M_{\theta\theta}$-1.25; $M_{\phi\phi}$1.43; $M_{r\theta}$0.79; $M_{\theta\phi}$0.49; $M_{\phi r}$-0.62; Fault plane solution: $M_0$1.74000×10^{17} NP1: ϕ_s231.67000°, δ56.99000°, λ-9.93000°. NP2:ϕ_s327.12000°, δ81.69000°, λ-146.59000°. Principal axes: T 1.6572, Plg16.0000°, Azm95.0000°; N 0.1732, Plg56.0000°, Azm339.0000°; P -1.8304, Plg29.0000°, Azm195.0000°;*
NEIC ***13*** *16:12:55.5±2.1, 7°.42N±0°.03×94°.41E±0°.08, h10km±1km, mb5.5/190, Mww5.4/30 Error ellipse: s-maj=14.2km s-min=2.8km az=76.0*
DJA ***13*** *16:12:57.3±0.7, 7°N±2°×9°4E±°, h25km±5km, M5.1/72, mB5.6/49, mb5.2/72, MLv5.4/13, Mw5.5/35, Mw(mB)5.1/49, MwMwp5.0/19, Mwp5.3/19*
GCMT ***13*** *16:12:58.5±0.1, 7°.34N±0°.01×94°.42E±0°.01, h12km, MW5.4/140, Moment Tensor Solution. s98,c152; s140,c278; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.26±.02; $M_{\theta\theta}$-1.26±.02; $M_{\phi\phi}$1.52±.02; $M_{r\theta}$-0.23±.04; $M_{\theta\phi}$0.52±.01; $M_{\phi r}$-0.01±.04; Best double couple: $M_0$1.50700×10^{17} NP1:ϕ_s146.00000°, δ81.00000°, λ-173.00000°. NP2:ϕ_s55.00000°, δ83.00000°, λ-9.00000°. Principal axes: T 1.6150, Plg2.0000°, Azm100.0000°; N -0.2110, Plg79.0000°, Azm198.0000°; P -1.3980, Plg11.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NDI ***13*** *16:12:59.6±1.6, 7°.33N×94°.43E, h10km, mb5.2, ML5.1, MW5.2*
BGR ***13*** *16:13:08.7, 8°.53N×92°.87E, h24km±1km, mb5.3, Ms4.8, Hypocentre not reviewed by the ISC*
ISC 13 16:12:57.2±0.3, 7°.31N±0°.03×94°.38E±0°.03, h22km±3km, h22km:pP-P, n1000, σ2°.05/957, mb5.3/284, MS4.9/129, 43C-23D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.54**	**236**	*e*P	**Pn**	**16 13 09.6**	**0.0**
CMBY				*e*S	**Sb**	**16 13 16.8**	**+1.2**
CMBY				IAML		16 13 17.8	
	comp=E,146μm,0.6s						
CMBY				IAML		16 13 23.8	
	comp=N,171μm,0.8s						
BSI	**Banda Aceh**	**2.02**	**153**	P	**Pn**	**16 13 29.1**	**-0.9**
LHMI	**Lhok Sumawe**	**3.29**	**129**		**Pn**	**16 13 46.2**	**-1.2**
LHMI	**Lhok Sumawe**	**3.29**	**129**	P	**Pn**	**16 13 47.9**	**+0.5**
LHMI	**Lhok Sumawe**	**3.29**	**129**	P	**Pn**	**16 13 46.1**	**-1.3**
LHMI				S	**Sn**	**16 14 24.5**	**-1.3**
MLSI	**Meulaboh, Aceh**	**3.63**	**146**	P	**Pn**	**16 13 54.6**	**+2.4**
PBA	**Port Blair**	**4.61**	**340**		**Pn**	**16 14 01.4**	**-4.2**
PBA	**Port Blair**	**4.61**	**340**	P	**Pn**	**16 14 07.6**	**+2.0**
	SNR=32						
PBA	**Port Blair**	**4.61**	**340**	*e*P	**Pn**	**16 14 10.2**	**+4.5**
PBA				*e*S	**Sn**	**16 14 59.9**	**+1.4**
PBA				IAML		16 15 38.6	
	comp=E,6μm,1.4s						
PBA				IAML		16 15 45.9	
	comp=N,5μm,2.0s						
SNSI	**Sinabang, Aceh**	**5.24**	**158**	P	**Pn**	**16 14 11.5**	**-2.9**
	comp=N,2.6nmcomp=N,10μmcomp=N,443nm,0.8s						
SRIT	**Nakonsritamara**	**5.32**	**76**		**Pn**	**16 14 14.3**	**-1.2**
SRIT	**Nakonsritamara**	**5.32**	**76**	P	**Pn**	**16 14 14.7**	**-0.8**
TSI	**Tuntungan**	**5.63**	**132**	P	**Pn**	**16 14 18.8**	**-0.9**
	comp=N,3.7nmcomp=N,9μmcomp=N,372nm,1.2s						
DGPR	**DIGLIPUR**	**6.00**	**346**	*e*P	Pn	16 14 29.7	+5.0
DGPR				*e*S	**Sn**	**16 15 32.7**	**-0.1**
DGPR				IAML		16 16 00.6	
	comp=N,5μm,3.2s						
PSI	**Prapat**	**6.37**	**135**	Pn	**Pn**	**16 14 30.8**	**+0.8**
	comp=N,5.3nm,0.3s,baz=334,slow=15,SNR=17						
PSI				Sn	**Sn**	**16 15 42.3**	**+0.2**
	comp=N,2.4nm,0.3s,baz=261,slow=18,SNR=1.5						
PSI				LR	LR	16 17 10.4	
	comp=N,13μm,20.4s,baz=302,slow=39						
	comp=N,19nm,0.4s						
PSI	**Prapat**	**6.37**	**135**	P	**Pn**	**16 14 32.6**	**+2.7**
PSI	**Prapat**	**6.37**	**135**	P	**Pn**	**16 14 31.7**	**+1.8**
RPSI	**Rantau Prapat**	**6.44**	**135**		**Pn**	**16 14 31.7**	**+0.9**
KULM	**Kulim**	**6.55**	**108**		**Pn**	**16 14 29.3**	**-3.0**
KULM	**Kulim**	**6.55**	**108**	P	**Pn**	**16 14 29.9**	**-2.4**
GSI	**Gunungsitoli**	**6.77**	**152**		**Pn**	**16 14 34.7**	**-0.6**
GSI	**Gunungsitoli**	**6.77**	**152**	P	**Pn**	**16 14 35.6**	**+0.3**
GSI	**Gunungsitoli**	**6.77**	**152**	P	**Pn**	**16 14 33.8**	**-1.5**
	comp=N,0.7nmcomp=N,6μmcomp=N,3μmcomp=N,142nm,0.9s						
PBSI	**Pulau Batu**	**8.29**	**152**	P	**Pn**	**16 14 55.9**	**-0.3**
	comp=N,6μmcomp=N,179nm,1.2s						
MNSI	**Mandailing Nat**	**8.29**	**141**	P	**Pn**	**16 14 55.9**	**-0.4**
	comp=N,5μmcomp=N,2μmcomp=N,178nm,0.9s						
SRDT	**SRDT**	**8.40**	**33**	P	**Pn**	**16 14 59.5**	**+1.8**
BKNI	**Bangkinang**	**9.61**	**136**	P	**Pn**	**16 15 15.2**	**+0.9**
BKNI	**Bangkinang**	**9.61**	**136**	P	**Pn**	**16 15 14.5**	**+0.2**
	comp=N,5μmcomp=N,4μmcomp=N,248nm,1.5s						
NAYO	**Nakonayok**	**9.74**	**44**	P	**Pn**	**16 15 17.4**	**+1.3**
PPI	**Padang Panjang**	**9.78**	**142**	P	**Pn**	**16 15 15.7**	**-0.9**
SISI	**Saibi**	**9.78**	**151**	P	**Pn**	**16 15 15.5**	**-1.2**
	comp=N,2μmcomp=N,161nm,1.3s						
MYKOM	**Kota Tinggi**	**10.91**	**120**		**Pn**	**16 15 31.2**	**-1.0**
MYKOM	**Kota Tinggi**	**10.91**	**120**	P	**Pn**	**16 15 32.4**	**+0.2**
CM31	**Chiang Mai Arr**	**11.93**	**21**		**Pn**	**16 15 47.7**	**+1.5**
CM31	**Chiang Mai Arr**	**11.93**	**21**	P	**Pn**	**16 15 47.9**	**+1.7**
	SNR=33						
CMAR	**Chiang Mai Arr**	**11.93**	**21**		**Pn**	**16 15 46.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**11.93**	**21**	Pn	**Pn**	**16 15 46.0**	**-0.1**
	comp=N,1.3nm,0.3s,baz=212,slow=14,SNR=52						
CMAR				LR	LR	16 20 24.2	
	comp=N,6μm,19.4s,baz=200,slow=38						
	comp=N,2.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**11.93**	**21**	P	**Pn**	**16 15 46.4**	**+0.2**
CHTO	**Chiang Mai**	**12.26**	**21**		**Pn**	**16 15 51.9**	**+1.2**
CHTO	**Chiang Mai**	**12.26**	**21**	P	**Pn**	**16 15 50.2**	**-0.5**
CHTO				S	**Sn**	**16 18 06.8**	**0.0**
CHTO	**Chiang Mai**	**12.26**	**21**	P	**Pn**	**16 15 51.9**	**+1.2**
PALK	**Pallekele**	**13.57**	**271**		**Pn**	**16 16 09.0**	**+0.4**
PALK	**Pallekele**	**13.57**	**271**	Pn	**Pn**	**16 16 08.4**	**-0.3**
	comp=N,0.8nm,0.3s,baz=82,slow=14,SNR=12						
PALK				Sn	Sn	16 18 27.6	-11
	comp=N,0.7nm,0.3s,baz=0.0,slow=20,SNR=1.2						
	comp=N,12nm,1.0s						
PALK	**Pallekele**	**13.57**	**271**	P	**Pn**	**16 16 10.3**	**+1.7**
PALK	**Pallekele**	**13.57**	**271**	P	**Pn**	**16 16 09.0**	**+0.4**
KSI	**Kapahiang**	**13.63**	**143**	P	**Pn**	**16 16 08.3**	**-1.1**
	comp=N,3μmcomp=N,152nm,0.8s						
NONG	**Nongkai**	**13.68**	**38**	P	**Pn**	**16 16 11.0**	**+1.0**
MNAI	**Manna**	**14.41**	**143**	P	**Pn**	**16 16 16.4**	**-3.7**
	comp=N,288nm,1.4s						
VIS	**Vishakhapatnam**	**14.94**	**315**	*e*S	Sn	16 19 02.7	-9.4
PPBI	**Pangkal Pinang**	**15.04**	**128**	P	**Pn**	**16 16 30.0**	**+1.4**
MDSI	**Maura Dua**	**15.26**	**140**	P	**Pn**	**16 16 30.7**	**-0.8**
	comp=N,82nm,1.1s						
BRDH	**Bariadhala**	**15.50**	**350**	Pn	**Pn**	**16 16 33.3**	**-1.3**
	comp=N,93nm,0.3s,baz=261,slow=14,SNR=2.0						
LWLI	**Liwa**	**15.60**	**141**	P	**Pn**	**16 16 36.8**	**+0.8**
	comp=N,218nm,0.8s						
RAGD	**RAYAGADA**	**15.92**	**319**	*e*P	**Pn**	**16 16 41.1**	**+1.0**
RAGD				IAmb	IAmb	16 16 53.3	
	comp=Z,193nm,1.2s						
RAGD				*e*S	**Sn**	**16 19 26.5**	**-10**
TPI	**Tanjungpandan**	**16.60**	**127**	P	**Pn**	**16 16 49.5**	**+0.8**
AGT	**Agartala**	**16.75**	**350**	*e*P	**P**	**16 16 54.6**	**+1.9**
KSM	**Kuching**	**16.90**	**109**	P	**P**	**16 16 55.1**	**+0.7**
KOD	**Kodaikanal**	**16.97**	**281**	*e*P	**P**	**16 16 57.0**	**+1.5**
KOD				*e*S	**Sn**	**16 19 52.8**	**-9.2**
IMP	**Imphal**	**17.42**	**359**	*e*P	**P**	**16 17 02.6**	**+2.3**
IMP				IAmb	IAmb	16 17 07.3	
	comp=Z,68nm,0.9s						
IMP				*e*S	Sn	16 19 59.8	-13
JHSG	**JHARSUGUGA**	**17.64**	**326**	*e*P	**P**	**16 17 06.1**	**+3.5**
JHSG				IAmb	IAmb	16 17 13.6	
	comp=Z,546nm,1.2s						
JHSG				*e*S	Sn	16 20 06.2	-12
JHSG				*e*S	S	16 20 06.6	-18
CGJI	**Cibinong**	**17.85**	**141**	P	**Pn**	**16 17 00.4**	**-4.0**
	comp=Z,79nm,1.1s						
TNCH	**TengChong**	**18.05**	**12**	⇓P	**Pn**	**16 17 05.3**	**-1.7**
TNCH				pP	P	16 17 10.0	+2.7
TNCH				sP	pP	16 17 12.3	-0.4
TNCH				PP	**PnPn**	**16 17 20.1**	**+1.7**
TNCH				S	**Sn**	**16 20 23.8**	**-4.2**
TNCH				pmax	pmax		
	comp=Z,150nm,2.5s						
TNCH				pmax	pmax		
	comp=Z,2μm,3.9s						
TNCH				LR	LR		
	comp=Z,6μm,9.7s						
TNCH				LR	LR		
	comp=Z,7μm,10.1s						
TNCH				LR	LR		
	comp=Z,6μm,15.5s						
BOK	**Bokaro**	**18.30**	**334**	*e*P	**P**	**16 17 14.2**	**+4.3**
BOK				*e*S	Sn	16 20 20.6	-13
KOHI	**KOHIMA**	**18.31**	**359**	*e*P	**P**	**16 17 13.0**	**+2.9**
KOHI				IAmb	IAmb	16 17 22.7	
	comp=Z,172nm,0.9s						
KOHI				*e*S	Sn	16 20 20.5	-14
SHL	**Shillong**	**18.31**	**353**	P	**P**	**16 17 10.4**	**+0.3**
	SNR=39						
HYB	**Hyderabad**	**18.42**	**304**	*e*P	**P**	**16 17 11.3**	**0.0**
HYB				*e*S	**Sn**	**16 20 37.0**	**+0.2**
HYB				IVMs_BB	IVMs_BB	16 26 14.4	
	comp=Z,943nm,18.9s						
STKI	**Sintang**	**18.51**	**112**	P	**P**	**16 17 12.1**	**-0.1**
	comp=Z,149nm,0.8s						
BLSP	**Bilaspur**	**18.88**	**323**	*e*S	Sn	16 20 33.7	-14
QIZ	**Qiongzhong**	**19.01**	**51**	P	**P**	**16 17 16.3**	**-1.4**
QIZ				S	**Sn**	**16 20 48.9**	**-2.1**
QIZ				PcP	**PcP**	**16 21 38.4**	**-4.4**
QIZ				pmax	pmax		
	comp=Z,380nm,4.0s						
QIZ				LR	LR		
	comp=Z,19μm,10.8s						
QIZ				LR	LR		
	comp=Z,6μm,11.7s						
QIZ				LR	LR		
	comp=Z,4μm,10.6s						
LEM	**Lembang**	**19.28**	**136**	P	**P**	**16 17 20.2**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=335,slow=17,SNR=4.2						
LEM				LR	LR	16 26 07.2	
	comp=Z,8μm,19.6s,baz=302,slow=41						
	comp=Z,6.3nm,0.4s						
LEM	**Lembang**	**19.28**	**136**	P	**P**	**16 17 14.7**	**-6.1**
CNJI	**Cibinong**	**19.30**	**139**	P	**P**	**16 17 20.3**	**-0.6**
KMI	**Kunming**	**19.43**	**23**	P	**Pn**	**16 17 26.5**	**+2.8**
KMI				S	**S**	**16 20 54.1**	**-7.1**
KMI				pmax	pmax		
	comp=Z,130nm,1.2s						
KMI				pmax	pmax		
	comp=Z,750nm,3.9s						
KMI				LR	LR		
	comp=Z,4μm,12.5s						
KMI				LR	LR		
	comp=Z,6μm,19.8s						
KMI				LR	LR		
	comp=Z,6μm,17.4s						
PZH	**PanZhiHua**	**20.33**	**19**	P	Pn	16 17 35.0	+0.7
PZH				sP	sP	16 17 39.5	-0.6
PZH				PP	**PnPn**	**16 17 52.0**	**+2.5**
PZH				S	**S**	**16 21 15.3**	**-4.0**
PZH				sS	Sn	16 21 24.8	+2.0
PZH				pmax	pmax		
	comp=Z,150nm,1.3s						
PZH				pmax	pmax		
	comp=Z,510nm,4.3s						
PZH				LR	LR		
	comp=Z,4μm,11.2s						
PZH				LR	LR		
	comp=Z,4μm,14.1s						
PZH				LR	LR		
	comp=Z,4μm,10.4s						
XMIS	**Christmas Isla**	**20.94**	**147**	IAmb	IAmb	16 17 49.8	
	comp=Z,223nm,1.2s						
HMDM	**Hanimaadhoo**	**21.05**	**270**	P	**P

	comp=Z,9μm,15.9s					
GZH				LR	LR	
	comp=Z,7μm,12.9s					
CD2	**Chengdu**	**25.06**	**19**	P	**P**	**16 18 21.5 +1.3**
CD2				S	**S**	**16 22 43.0 -0.6**
CD2				pmax	pmax	
	comp=Z,20nm,0.5s					
CD2				pmax	pmax	
	comp=Z,810nm,3.5s					
CD2				LR	LR	
	comp=Z,3μm,15.2s					
CD2				LR	LR	
	comp=Z,4μm,15.2s					
JAGI	**Jajag, Banyuwa**	**25.18**	**128**	P	**P**	**16 18 22.4 +1.0**
	comp=Z,1μmcomp=Z,76nm,1.0s					
SRBI	**Singaraja**	**25.79**	**126**	P	**P**	**16 18 29.0 +2.1**
	comp=Z,2μmcomp=Z,177nm,1.9s					
MPSI	**Mapaga**	**26.37**	**104**	P	**P**	**16 18 31.9 -0.3**
	comp=Z,1μmcomp=Z,119nm,1.2s					
H08S3	**Diego Garcia H**	**26.40**	**236**	T	T	16 45 14.1
	baz=55,slow=75,SNR=4599					
H08S2	**Diego Garcia H**	**26.41**	**236**	T	T	16 45 16.7
	baz=55,slow=75,SNR=5278					
H08S1	**Diego Carcia H**	**26.42**	**236**	T	T	16 45 15.4
	baz=55,slow=75,SNR=4369					
ENH	**Enshi**	**26.88**	**30**	IAmb	IAmb	16 18 44.9
	comp=Z,118nm,1.2s					
TGY	**Tagaytay City**	**26.93**	**73**	LR	LR	16 28 02.3
	comp=Z,3μm,20.9s,baz=258,slow=34					
TOLI2	**Tolitoli**	**27.03**	**102**	P	**P**	**16 18 35.5 -2.7**
CNSH	**ChangSha**	**27.18**	**38**	P	**P**	**16 18 46.1 +6.8**
CNSH				S	S	16 23 32.0 +15
CNSH				LR	LR	
	comp=N,3μm,9.4s					
CNSH				LR	LR	
	comp=E,4μm,11.0s					
CNSH				LR	LR	
	comp=Z,4μm,10.9s					
KAPI	**Kappang**	**28.12**	**115**	LR	LR	16 29 57.6
	comp=Z,3μm,22.0s,baz=286,slow=36					
MRSI	**Marisa**	**28.30**	**103**	P	**P**	**16 18 49.6 0.0**
	comp=Z,76nm,1.2s					
GOMU	**GeErMu**	**28.75**	**1**	P	**P**	**16 18 53.6 -0.1**
GOMU				pP	pP	16 18 57.0 -2.6
GOMU				sP	sP	16 19 01.0 -1.1
GOMU				S	**S**	**16 23 37.3 -5.0**
GOMU				pmax	pmax	
	comp=Z,7.0nm,0.6s					
GOMU				LR	LR	
	comp=Z,2μm,14.0s					
GOMU				LR	LR	
	comp=Z,2μm,13.6s					
GOMU				LR	LR	
	comp=Z,2μm,14.4s					
LUWI	**Luwuk**	**29.51**	**105**	P	**P**	**16 18 59.8 -0.6**
LUWI	**Luwuk**	**29.51**	**105**	P	**P**	**16 19 00.6 +0.3**
WHN	**Wuhan**	**29.74**	**36**	P	**P**	**16 19 05.8 +3.7**
WHN				S	**S**	**16 24 00.6 +3.4**
WHN				LR	LR	
	comp=Z,7μm,9.5s					
WHN				LR	LR	
	comp=Z,17μm,11.1s					
WHN				LR	LR	
	comp=Z,16μm,11.8s					
XAN	**Xi'an**	**29.79**	**25**	⇑P	**P**	**16 19 03.0 +0.4**
XAN				pP	pP	16 19 09.0 +0.5
XAN				PP	**PnPn**	**16 20 02.4 +3.7**
XAN				S	**S**	**16 23 57.8 -0.4**
XAN				SS	**SnSn**	**16 25 34.3 +5.3**
XAN				pmax	pmax	
	comp=Z,28nm,0.8s					
XAN				pmax	pmax	
	comp=Z,370nm,3.7s					
XAN				LR	LR	
	comp=Z,7μm,14.4s					
XAN				LR	LR	
	comp=Z,9μm,14.8s					
XAN				LR	LR	
	comp=Z,10μm,15.5s					
LZH	**Lanzhou**	**29.92**	**15**	*e*P	**P**	**16 19 06.3 +2.5**
LZH				pP	sP	16 19 11.8 -0.1
LZH				S	**S**	**16 24 01.9 +1.6**
LZH				pmax	pmax	
	comp=Z,18nm,0.9s					
LZH				pmax	pmax	
	comp=Z,310nm,4.9s					
LZH				LR	LR	
	comp=Z,3μm,14.4s					
LZH				LR	LR	
	comp=Z,4μm,13.4s					
LZH				LR	LR	
	comp=Z,4μm,15.1s					
TWG	**Pinlang**	**29.95**	**56**	P	**P**	**16 19 02.9 -1.2**
KMSI	**Cibinong**	**30.26**	**101**	P	**P**	**16 19 03.4 -3.5**
YULB	**Yu-li**	**30.39**	**55**	P	P	16 19 03.1 -4.9
YULB				IAmb	IAmb	16 19 18.6
	comp=Z,127nm,1.9s					
BBSI	**Bau Bau**	**30.87**	**114**	P	**P**	**16 19 10.9 -1.4**
	comp=Z,627nmcomp=Z,50nm,0.9s					
DAV	**Davao City (W)**	**30.95**	**88**	LR	LR	16 34 21.1
	comp=Z,1μm,18.2s,baz=273,slow=42					
NACB	**Ninganchiao**	**30.99**	**54**	P	**P**	**16 19 09.4 -3.9**
LYN	**LuoYang**	**31.82**	**29**	P	**P**	**16 19 22.3 +1.9**
LYN				pP	sP	16 19 28.5 -0.2
LYN				sP	pwP	16 19 35.8 +6.4
LYN				S	**S**	**16 24 30.3 +0.5**
LYN				pmax	pmax	
	comp=Z,44nm,0.7s					
LYN				pmax	pmax	
	comp=Z,260nm,7.7s					
LYN				LR	LR	
	comp=Z,6μm,16.8s					
LYN				LR	LR	
	comp=Z,7μm,16.5s					
LYN				LR	LR	
	comp=Z,7μm,17.5s					
GTA	**Gaotai**	**32.33**	**8**	*e*P	**P**	**16 19 25.1 +0.1**
GTA				sP	pwP	16 19 33.8 -0.3
GTA				S	**S**	**16 24 40.5 +2.6**
GTA				pmax	pmax	
	comp=Z,5.0nm,1.0s					
GTA				LR	LR	
	comp=Z,2μm,18.7s					
GTA				LR	LR	
	comp=Z,1μm,19.1s					
GTA				LR	LR	
	comp=Z,2μm,23.1s					
NIL	**Nilore**	**32.69**	**326**	P	**P**	**16 19 26.6 -1.5**
NIL	**Nilore**	**32.69**	**326**	P	**P**	**16 19 28.1 -0.1**
NIL				P	**P**	**16 19 28.1 -0.1**
NIL	**Nilore**	**32.69**	**326**	P	**P**	**16 19 26.7 -1.5**
NIL				pmax	pmax	
	comp=Z,151nm,0.8s					
NJ2	**Nanjing**	**33.54**	**40**	*e*P	**P**	**16 19 37.4 +1.8**
NJ2				sP	**sP**	**16 19 43.9 +0.3**
NJ2				S	**S**	**16 25 01.5 +4.9**
NJ2				pmax	pmax	
	comp=Z,18nm,0.5s					
NJ2				LR	LR	
	comp=Z,5μm,16.6s					
NJ2				LR	LR	
	comp=Z,4μm,14.7s					
NJ2				LR	LR	
	comp=Z,5μm,13.2s					
TIY	**Taiyuan**	**34.41**	**26**	P	**P**	**16 19 47.3 +4.2**
TIY				S	**S**	**16 25 11.4 +1.3**
TIY				pmax	pmax	
	comp=Z,200nm,6.3s					
TIY				LR	LR	
	comp=Z,5μm,13.7s					
TIY				LR	LR	
	comp=Z,4μm,16.5s					
TIY				LR	LR	
	comp=Z,4μm,15.8s					
SSE	**Sheshan**	**34.46**	**43**	P	**P**	**16 19 42.9 -0.7**
SSE				S	**S**	**16 25 13.4 +2.5**
SSE				pmax	pmax	
	comp=Z,10.0nm,0.8s					
SSE				pmax	pmax	
	comp=Z,120nm,5.7s					
SSE				LR	LR	
	comp=Z,2μm,12.1s					
SSE				LR	LR	
	comp=Z,3μm,12.4s					
HNS	**HongShan**	**35.19**	**29**	⇑P	**P**	**16 19 52.0 +2.3**
HNS				S	**S**	**16 25 26.8 +4.9**
HNS				pmax	pmax	
	comp=Z,110nm,1.2s					
HNS				LR	LR	
	comp=Z,3μm,13.6s					
HNS				LR	LR	
	comp=Z,4μm,17.3s					
HNS				LR	LR	
	comp=Z,3μm,16.1s					
TIA	**Tai'an**	**35.49**	**33**	P	**P**	**16 19 53.6 +1.2**
TIA				S	**S**	**16 25 22.6 -4.0**
TIA				pmax	pmax	
	comp=Z,18nm,0.7s					
TIA				pmax	pmax	
	comp=Z,220nm,3.8s					
TIA				LR	LR	
	comp=Z,1μm,11.0s					
TIA				LR	LR	
	comp=Z,5μm,12.0s					
TIA				LR	LR	
	comp=Z,5μm,12.4s					
KBL	**Kabul**	**35.76**	**323**	P	**P**	**16 19 54.4 -0.7**
KBL	**Kabul**	**35.76**	**323**	P	**P**	**16 19 54.3 -0.7**
	SNR=18					
KBL				P	**P**	**16 19 54.3 -0.7**
	SNR=18					
KBL	**Kabul**	**35.76**	**323**	P	**P**	**16 19 54.4 -0.7**
KBL				pmax	pmax	
	comp=Z,25nm,0.8s					
BTO	**Baotou**	**35.97**	**20**	*e*P	**P**	**16 19 59.4 +2.8**
BTO				pP	**sP**	**16 20 04.9 0.0**
BTO				S	**S**	**16 25 37.3 +3.2**
BTO				pmax	pmax	
	comp=Z,39nm,0.6s					
BTO				pmax	pmax	
	comp=Z,620nm,5.4s					
BTO				LR	LR	
	comp=Z,3μm,13.1s					
BTO				LR	LR	
	comp=Z,9μm,13.5s					
BTO				LR	LR	
	comp=Z,4μm,14.9s					
KSH	**Kashi**	**36.08**	**335**	P	**P**	**16 19 57.0 -0.6**
KSH				S	**S**	**16 25 34.8 -1.0**
KSH				pmax	pmax	
	comp=Z,31nm,0.6s					
KSH				LR	LR	
	comp=Z,1μm,23.5s					
KSH				LR	LR	
	comp=Z,2μm,25.0s					
KSH				LR	LR	
	comp=Z,1μm,22.6s					
WUS	**Wushi**	**36.34**	**341**	P	**P**	**16 19 58.4 -1.5**
NGCH	**Negor - Chabah**	**36.44**	**303**	P	**P**	**16 20 03.6 +3.0**
HHC	**Hu-ho-hao-te**	**36.74**	**22**	*e*P	**P**	**16 20 04.0 +0.8**
HHC				sP	sP	16 20 11.4 -0.1
HHC				PP	**PP**	**16 21 31.4 +4.3**
HHC				S	**S**	**16 25 49.5 +3.6**
HHC				SS	**SnSn**	**16 28 16.8 -0.8**
HHC				pmax	pmax	
	comp=Z,29nm,0.7s					
HHC				pmax	pmax	
	comp=Z,260nm,6.7s					
HHC				LR	LR	
	comp=Z,3μm,16.0s					
HHC				LR	LR	
	comp=Z,6μm,13.2s					
HHC				LR	LR	
	comp=Z,4μm,17.7s					
JLN	**Jalan Bani Buh**	**36.77**	**297**	P	**P**	**16 20 05.0 +1.4**
JLN				P	**P**	**16 20 05.0 +1.4**
JLN				P	**pP**	**16 20 08.0 -1.5**
	SNR=6.3					
JLN				P	**pP**	**16 20 08.0 -1.5**
	SNR=6.3					
WMQ	**Urumqi**	**36.83**	**352**	*e*P	**P**	**16 20 04.8 +1.0**
WMQ				sP	sP	16 20 12.3 +0.1
WMQ				PP	**PP**	**16 21 25.4 -2.6**
WMQ				S	**S**	**16 25 49.1 +2.0**
WMQ				pmax	pmax	
	comp=Z,44nm,0.7s					
WMQ				LR	LR	
	comp=Z,2μm,19.1s					
WMQ				LR	LR	
	comp=Z,2μm,17.3s					
WMQ				LR	LR	
	comp=Z,1μm,14.5s					
WBK	**Wadi Bani Khal**	**37.31**	**298**	P	**P**	**16 20 10.4 +2.3**
WBK				P	**P**	**16 20 10.4 +2.3**
JOW	**Kunigami**	**37.58**	**55**	LR	LR	16 38 08.3
	comp=Z,1μm,18.3s,baz=283,slow=40					
SWI	**Sorong**	**37.67**	**101**	P	**P**	**16 20 11.2 -0.1**
	comp=Z,638nmcomp=Z,59nm,1.3s					
MBWA	**Marble Bar**	**37.69**	**139**	P	**P**	**16 20 06.8 -4.5**
MBWA	**Marble Bar**	**37.69**	**139**	P	P	16 20 17.1 +5.8
MBWA				P	P	16 20 17.1 +5.8
MHTO	**MHTO**	**37.72**	**295**	P	**P**	**16 20 13.0 +1.4**
MHTO				P	**P**	**16 20 13.0 +1.4**
WSAR	**Wadi Sarin**	**37.80**	**299**	LR	LR	16 36 12.7
	comp=Z,11nm,18.7s,baz=125,slow=37					
WSAR	**Wadi Sarin**	**37.80**	**299**	P	**P**	**16 20 14.9 +2.5**
WSAR				S	**S**	**16 26 06.0 +3.6**
DQM	**DQM**	**37.84**	**293**	P	**P**	**16 20 14.8 +2.2**
DQM				P	**P**	**16 20 14.8 +2.2**
KDJ	**Kajisay**	**37.87**	**339**	P	**P**	**16 20 12.1 -0.7**
KDJ	**Kajisay**	**37.87**	**339**	P	**P**	**16 20 12.1 -0.7**
KDJ				pmax	pmax	
	comp=Z,30nm,0.8s					
DRK	**Karamyk**	**37.91**	**331**	P	**P**	**16 20 12.0 -1.3**
DRK	**Karamyk**	**37.91**	**331**	P	**P**	**16 20 12.0 -1.3**
DRK				pmax	pmax	
	comp=Z,145nm,0.6s					
BJI	**Beijing**	**37.98**	**28**	P	**P**	**16 20 15.9 +2.3**
BJI				S	**S**	**16 26 07.1 +2.5**
BJI				pmax	pmax	
	comp=Z,5.0nm,0.7s					
BJI				pmax	pmax	
	comp=Z,150nm,3.6s					
BJI				LR	LR	
	comp=Z,1μm,13.3s					
BJI				LR	LR	
	comp=Z,740nm,17.3s					
BJI				LR	LR	
	comp=Z,660nm,17.1s					
JMDO	**Jabal Madar**	**37.99**	**297**	P	**P**	**16 20 16.3 +2.3**
SHLS	**Shalkode**	**38.04**	**342**	*e*P	**P**	**16 20 11.5 -2.6**
SHLS				pmax	pmax	
	comp=Z,19nm,0.9s					
SHLS	**Shalkode**	**38.04**	**342**	*e*P	**P**	**16 20 11.6 -2.6**
	comp=Z,19nm,0.9s					
PSA00	**Pilbara Seismi**	**38.06**	**140**	P	**P**	**16 20 14.0 -0.4**
	comp=Z,27nm,1.4s					
UZB	**Uzynbulak**	**38.16**	**342**	*e*P	**P**	**16 20 13.7 -1.5**
UZB				pmax	pmax	
	comp=Z,25nm,1.3s					
UZB	**Uzynbulak**	**38.16**	**342**	*e*P	**P**	**16 20 13.7 -1.5**
	comp=Z,25nm,1.3s					
SMDO	**Samad**	**38.25**	**298**	P	**P**	**16 20 18.5 +2.2**
SMDO				P	**P**	**16 20 18.5 +2.2**
SMDO				S	**S**	**16 26 14.8 +5.5**
SMDO				S	**S**	**16 26 14.8 +5.5**
SATY	**Saty**	**38.28**	**341**	*e*P	**P**	**16 20 14.6 -1.6**
SATY	**Saty**	**38.28**	**341**	*e*P	**P**	**16 20 14.6 -1.6**
OHH	**Osh**	**38.28**	**333**	P	**P**	**16 20 16.9 +0.7**
OHH				pmax	pmax	
	comp=Z,60nm,0.7s					
BIDO	**Bidbid**	**38.33**	**299**	P	**P**	**16 20 19.4 +2.6**
	SNR=5.4					
BIDO				P	**P**	**16 20 19.4 +2.6**
	SNR=5.4					
ZHN	**Zhinishke**	**38.37**	**341**	*e*P	**P**	**16 20 15.3 -1.6**
ZHN	**Zhinishke**	**38.37**	**341**	*e*P	**P**	**16 20 15.3 -1.6**
KPKS	**Kokpek**	**38.56**	**342**	*e*P	**P**	**16 20 16.8 -1.7**
KPKS	**Kokpek**	**38.56**	**342**	*e*P	**P**	**16 20 16.8 -1.7**
BOOM	**Boomskoye usch**	**38.63**	**338**	P	**P**	**16 20 16.7 -2.5**
BOOM	**Boomskoye usch**	**38.63**	**338**	P	**P**	**16 20 16.7 -2.5**
BOOM				pmax	pmax	
	comp=Z,18nm,0.7s					
SIMJ	**Simiganj**	**38.70**	**328**	P	**P**	**16 20 17.8 -2.1**
SIMJ				IAmb	IAmb	16 20 21.4
	comp=Z,74nm,0.8s					
ARLS	**Aral**	**38.73**	**336**	P	**P**	**16 20 20.4 +0.4**
ARLS				pmax	pmax	
	comp=Z,22nm,0.9s					
TNSS	**Tian-Shan**	**38.75**	**339**	*e*P	**P**	**16 20 18.7 -1.8**
TNSS	**Tian-Shan**	**38.75**	**339**	*e*P	**P**	**16 20 18.7 -1.8**
MDOK	**Medeo**	**38.83**	**340**	*e*P	**P**	**16 20 19.3 -1.5**
MDOK	**Medeo**	**38.83**	**340**	*e*P	**P**	**16 20 19.3 -1.5**
BTK	**Batken**	**38.84**	**331**	P	**P**	**16 20 20.5 -0.4**
BTK				IAmb	IAmb	16 20 24.6
	comp=Z,95nm,1.1s					
BTK	**Batken**	**38.84**	**331**	P	**P**	**16 20 20.5 -0.4**
BTK				pmax	pmax	
	comp=Z,95nm,1.1s					
ARSB	**Arslanbob**	**38.85**	**334**	IAmb	IAmb	16 20 23.2
	comp=Z,90nm,0.7s					
BSY	**Bisya**	**38.90**	**297**	P	**P**	**16 20 24.1 +2.5**
BSY				P	**P**	**16 20 24.1 +2.5**
BSY				S	**S**	**16 26 23.8 +4.8**
BSY				S	**S**	**16 26 23.8 +4.8**
DZET	**Dzherino**	**38.91**	**328**	P	**P**	**16 20 20.2 -1.3**
DZET				pmax	pmax	
	comp=Z,59nm,1.3s					
AAA	**Alma-Ata**	**38.91**	**340**	*e*P	**P**	**16 20 20.0 -1.4**
AAA				pmax	pmax	
	comp=Z,24nm,0.8s					
AAA	**Alma-Ata**	**38.91**	**340**	*e*P	**P**	**16 20 20.0 -1.4**
	comp=Z,24nm,0.8s					
HOQ	**Hoqain**	**39.06**	**299**	P	**P**	**16 20 25.1 +2.1**
HOQ				P	**P**	**16 20 25.1 +2.1**
HOQ				S	**S**	**16 26 26.1 +4.7**
HOQ				S	**S**	**16 26 26.1 +4.7**
TKM2	**Tokmak 2**	**39.13**	**338**	P	**P**	**16 20 24.5 +1.0**
	SNR=23					
KBK	**Karagaybulak**	**39.15**	**337**	P	**P**	**16 20 24.8 +1.2**
	SNR=58					
AML	**Almayashu**	**39.21**	**335**	P	**P**	**16 20 25.2 +0.9**
	SNR=164					
AAK	**Ala-Archa**	**39.31**	**337**	P	**P**	**16 20 24.5 -0.5**
AAK	**Ala-Archa**	**39.31**	**337**	LR	LR	16 39 03.0
	comp=Z,2μm,18.6s,baz=158,slow=40					
AAK	**Ala-Archa**	**39.31**	**337**	P	**P**	**16 20 25.2 +0.3**
AAK				P	**P**	**16 20 25.2 +0.3**
AAK				S	**S**	**16 26 25.8 +0.9**
AAK				S	**S**	**16 26 25.8 +0.9**
AAK	**Ala-Archa**	**39.31**	**337**	P	**P**	**16 20 24.8 -0.1**
	SNR=28					
AAK	**Ala-Archa**	**39.31**	**337**	*ce*P	**P**	**16 20 24.8 -0.1**
AAK				pmax	pmax	
	comp=Z,35nm,1.3s					
AAK	**Ala-Archa**	**39.31**	**337**	*i* P	**P**	**16 20 24.8 -0.1**
	SNR=41					
FRU1	**Bishkek**	**39.41**	**337**	P	**P**	**16 20 26.8 +1.2**
FRU1				pmax	pmax	
	comp=Z,17nm,0.7s					
CHKK	**Chushkaly**	**39.45**	**340**	*e*P	**P**	**16 20 24.3 -1.6**
CHKK	**Chushkaly**	**39.45**	**340**	*e*P	**P**	**16 20 24.4 -1.6**
ARXS	**Arharly**	**39.50**	**341**	*e*P	**P**	**16 20 23.8 -2.5**
CHMS	**Chumysh**	**39.52**	**337**	P	**P**	**16 20 26.9 +0.4**
	SNR=15					
EKS2	**Erkin-Say**	**39.62**	**336**	P	**P**	**16 20 29.4 +2.0**
	SNR=22					
ARQ	**Araqi**	**39.68**	**298**	P	**P**	**16 20 30.5 +2.4**
ARQ				P	**P**	**16 20 30.5 +2.4**
ARQ				S	**S**	**16 26 34.1 +3.5**
ARQ				S	**S**	**16 26 34.1 +3.5**
ARK	**Arkit**	**39.68**	**333**	P	**P**	**16 20 28.2 +0.3**
ARK				pmax	pmax	
	comp=Z,29nm,1.1s					
KUU	**Kurty**	**39.71**	**339**	*e*P	**P**	**16 20 26.7 -1.3**
KUU	**Kurty**	**39.71**	**339**	*e*P	**P**	**16 20 26.7 -1.3**
DMTO	**DMTO**	**39.78**	**289**	P	**P**	**16 20 30.1 +1.1**
TRKS	**Terek-Say**	**39.84**	**332**	P	**P**	**16 20 28.4 -0.9**
TRKS				pmax	pmax	
	comp=Z,18nm,1.1s					
USP	**Ospenovka**	**39.84**	**337**	P	**P**	**16 20 28.6 -0.6**
	SNR=36					
FITZ	**Fitzroy Crossi**	**39.87**	**130**	P	**P**	**16 20 29.5 -0.2**
	comp=Z,5.0nm,1.2s					
FITZ	**Fitzroy Crossi**	**39.87**	**130**	LR	LR	16 38 39.5
	comp=Z,2μm,20.9s,baz=300,slow=39					
DL2	**Dalian**	**39.90**	**34**	P	**P**	**16 20 25.8 -3.8**
DL2				S	**S**	**16 26 25.3 -8.1**
DL2				pmax	pmax	
	comp=Z,76nm,1.1s					
DL2				pmax	pmax	
	comp=Z,150nm,7.3s					
DL2				LR	LR	
	comp=N,2μm,14.1s					
DL2				LR	LR	
	comp=E,3μm,12.3s					
DL2				LR	LR	
	comp=Z,3μm,14.5s					
SOHO	**SOHO**	**39.91**	**299**	P	**P**	**16 20 31.7 +1.8**
SGDS	**Sogindy**	**39.95**	**337**	*e*P	**P**	**16 20 28.8 -1.3**
SGDS	**Sogindy**	**39.95**	**337**	*e*P	**P**	**16 20 28.9 -1.3**
HATD	**Hatta, Dubai**	**40.48**	**300**	P	**P**	**16 20 37.2 +2.5**
HATD	**Hatta, Dubai**	**40.48**	**300**	P	**P**	**16 20 38.9 +4.2**
ASHO	**Ashiyiah**	**40.50**	**300**	P	P	16 20 40.2 +5.3
ASHO	**Ashiyiah**	**40.50**	**300**	P	P	16 20 40.3 +5.4
ALNE	**Al Ain**	**40.57**	**299**	P	**P**	**16 20 37.6 +2.2**
ALNE				P	**P**	**16 20 37.6 +2.2**
MSEY	**Mahe Island**	**40.61**	**254**	P	**P**	**16 20 36.4 +0.5**
MSEY	**Mahe Island**	**40.61**	**254**	P	**P**	**16 20 36.4 +0.5**
MSEY				pmax	pmax	
	comp=Z,35nm,1.6s					
MK31	**Makanchi Array**	**40.68**	**347**	*ce*P	**P**	**16 20 34.7 -1.4**
MKAR	**Makanchi Array**	**40.68**	**347**	P	**P**	**16 20 35.3 -0.8**
	comp=Z,36nm,0.7s,baz=165,slow=5.9,SNR=183					
MKAR				LR	LR	16 40 55.8
	comp=Z,831nm,19.8s,baz=160,slow=41					
	comp=Z,36nm,0.7s					
MKAR	**Makanchi Array**	**40.68**	**347**	*ce*P	**P**	**16 20 34.4 -1.7**
MKAR				pmax	pmax	
	comp=Z,36nm,0.7s					
UMZA	**Um Al Zommool**	**40.70**	**296**	P	**P**	**16 20 37.3 +0.8**
UMZA				P	**P**	**16 20 37.3 +0.8**
BANOM	**Banah**	**40.70**	**302**	P	**P**	**16 20 39.3 +2.8**
DOK	**Doka**	**40.71**	**290**	P	**P**	**16 20 38.6 +2.0**
DOK				P	**P**	**16 20 38.6 +2.0**
MAKZ	**Makanchi**	**40.77**	**347**	P	**P**	**16 20 34.8 -2.0**
MAKZ				IAmb	IAmb	16 20 45.5
	comp=Z,42nm,0.7s					
MAKZ	**Makanchi**	**40.77**	**347**	P	**P**	**16 20 35.1 -1.6**
ZSN	**Zaisan**	**40.81**	**350**	*e*P	**P**	**16 20 35.7 -1.4**
ZSN				pmax	pmax	
	comp=Z,48nm,1.1s					
ZSN	**Zaisan**	**40.81**	**350**	*e*P	**P**	**16 20 35.7 -1.4**
	comp=Z,48nm,1.1s					
IUG	**Iuzhnay**	**40.83**	**332**	*e*P	**P**	**16 20 36.2 -1.3**
IUG				pmax	pmax	
	comp=Z,26nm,0.7s					
IUG	**Iuzhnay**	**40.83**	**332**	*e*P	**P**	**16 20 36.2 -1.3**
	comp=Z,26nm,0.7s					
DZA	**Taraz**	**40.84**	**334**	*e*P	**P**	**16 20 36.0 -1.4**
DZA	**Taraz**	**40.84**	**334**	*e*P	**P**	**16 20 36.1 -1.4**
WHFO	**Wadi Hawf**	**40.92**	**289**	P	**P**	**16 20 39.6 +1.1**
	SNR=7.6					
WHFO				P	**P**	**16 20 39.6 +1.1**
	SNR=7.6					
XLT	**XiLinHaoTe**	**41.09**	**24**	*e*P	**P**	**16 20 41.0 +1.4**
XLT				pP	pwP	16 20 48.5 -0.1
XLT				PcS	**PcS**	**16 26 30.3 +0.3**
XLT				S	**S**	**16 26 53.3 +2.0**
XLT				sS	sS	16 27 03.5 +2.3
XLT				SS	**SS**	**16 29 56.8 +2.6**
XLT				pmax	pmax	
	comp=Z,12nm,0.9s					
XLT				LR	LR	
	comp=Z,6μm,15.7s					
XLT				LR	LR	
	comp=Z,3μm,18.3s					
ASUD	**Al Ashush, Dub**	**41.11**	**299**	P	**P**	**16 20 43.2 +3.3**
ASUD				P	**P**	**16 20 43.2 +3.3**
ABTO	**Aybut**	**41.27**	**288**	P	**P**	**16 20 43.8 +2.4**
ABTO				P	**P**	**16 20 43.8 +2.4**
KK31	**Karatay Array**	**41.37**	**333**	IAmb	IAmb	16 20 50.3
	comp=Z,95nm,1.6s					
KKAR	**Karatay Array**	**41.37**	**333**	P	**P**	**16 20 40.5 -1.2**
KKAR	**Karatay Array**	**41.37**	**333**	IAmb	IAmb	16 20 50.3
	comp=Z,100nm,1.6s					
KKAR	**Karatay Array**	**41.37**	**333**	P	**P**	**16 20 40.5 -1.2**
AJN	**Ajban**	**41.38**	**299**	P	**P**	**16 20 44.7 +2.6**
BRLS	**Borolday**	**41.61**	**333**	*e*P	**P**	**16 20 41.5 -2.3**
BRLS	**Borolday**	**41.61**	**333**	*e*P	**P**	**16 20 41.5 -2.3**
MTN	**Manton Dam**	**41.65**	**119**	P	P	16 20 49.6 +5.3
SONM	**Songino Array**	**41.66**	**12**	P	**P**	**16 20 44.2 0.0**
SONM	**Songino Array**	**41.66**	**12**	P	**P**	**16 20 43.9 -0.3**
	comp=Z,4.5nm,0.7s,baz=199,slow=7.8,SNR=21					
SONM				PcP	**PcP**	**16 22 40.8 0.0**

comp=Z,2.1nm,0.6s,baz=200,slow=2.4,SNR=4.4
SONM LR LR 16 39 10.3
comp=Z,1μm,21.9s,baz=179,slow=38
comp=Z,4.5nm,0.7s
SONM Songino Array 41.66 12 P **P 16 20 44.2 0.0**
SONM pmax pmax
comp=Z,30nm,1.0s
TJN Taejon 41.74 41 P **P 16 20 45.8 +1.0**
TJN pmax pmax
comp=Z,110nm,1.7s
ULN Ulaanbaatar 41.83 13 *ce*P **P 16 20 44.1 -1.5**
ULN pmax pmax
comp=Z,4.0nm,0.7s
INCN Inchon 41.93 39 P **P 16 20 46.8 +0.4**
INCN pmax pmax
comp=Z,34nm,1.3s
MZR Muzera 42.27 296 P **P 16 20 52.6 +3.2**
SNR=7.7
MZR P **P 16 20 52.6 +3.2**
SNR=7.7
MZR Muzera 42.27 296 *i* P **P 16 20 53.3 +3.8**
SNR=8.1
JNU Nakatsue 42.44 48 LR LR 16 38 59.9
comp=Z,2μm,20.4s,baz=242,slow=37
KSRS Korea Array 42.73 40 P **P 16 20 53.4 +0.5**
comp=Z,2.3nm,0.8s,baz=219,slow=9.1,SNR=9.7
KSRS LR LR 16 40 33.6
comp=Z,2μm,18.7s,baz=190,slow=39
comp=Z,2.3nm,0.8s
SNY Shenyang 43.01 32 ⇓P P 16 21 02.6 +7.5
SNY S **S 16 27 27.8 +8.3**
SNY pmax pmax
comp=Z,44nm,1.1s
SNY pmax pmax
comp=Z,230nm,6.4s
SNY LR LR
comp=N,2μm,14.9s
SNY LR LR
comp=E,1μm,20.2s
SNY LR LR
comp=Z,2μm,16.7s
GHWR Ruwais 43.06 297 P **P 16 20 58.9 +3.1**
GHWR P **P 16 20 58.9 +3.1**
ZAK Zakamensk 43.57 8 *eP* **P 16 20 56.5 -3.1**
ZAK *e* 16 22 54.1
ZAK pmax pmax
comp=Z,9.0nm,1.6s
ZAK pmax pmax
comp=Z,8.0nm,1.6s
SLWR Sila 44.13 297 P **P 16 21 07.7 +3.3**
SLWR P **P 16 21 07.7 +3.3**
MOY Mondy 44.55 6 *eP* P 16 21 13.4 +5.9
MOY pmax pmax
comp=Z,18nm,2.0s
TRNA Turayna 44.73 298 P **P 16 21 11.1 +1.9**
SMRA Abu-Samra 45.07 298 P **P 16 21 13.0 +1.0**
KURBB Kurchatov Arra 45.14 346 P **P 16 21 11.2 -0.9**
comp=Z,46nm,0.7s,baz=169,slow=7.2,SNR=142
KURBB PcP **PcP 16 22 52.0 -0.3**
comp=Z,7.6nm,0.8s,baz=157,slow=3.1,SNR=5.9
KURBB LR LR 16 43 01.2
comp=Z,1μm,21.9s,baz=150,slow=40
comp=Z,46nm,0.7s
KURK Kurchatov 45.21 346 P **P 16 21 11.0 -1.6**
KURK Kurchatov 45.21 346 P **P 16 21 12.2 -0.4**
KURK P **P 16 21 12.2 -0.4**
KURK Kurchatov 45.21 346 *ce*P **P 16 21 11.7 -0.9**
KURK pmax pmax
comp=Z,106nm,1.3s
CN2 Changchun 45.37 32 *eP* **P 16 21 15.4 +1.3**
CN2 *ep*P pwP 16 21 24.4 +1.2
CN2 *eS* **S 16 27 51.8 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1μm,12.0s
CN2 LR LR
comp=Z,1μm,12.0s
CN2 LR LR
comp=Z,1μm,13.0s
IRK Irkutsk 45.52 9 *eP* P 16 21 21.2 +6.1
IRK pmax pmax
comp=Z,30nm,2.2s
NWAO Narrogin (SRO) 45.54 153 LR LR 16 39 19.7
comp=Z,1μm,21.3s,baz=328,slow=35
NWAO Narrogin (SRO) 45.54 153 P **P 16 21 19.5 +4.0**
H01W3 Cape Leeuwin H 45.93 157 T T 17 10 58.4
baz=331,slow=76,SNR=5.0
H01W2 Cape Leeuwin H 45.94 157 T T 17 11 02.2
baz=331,slow=76,SNR=3.6
H01W1 Cape Leeuwin H 45.95 157 T T 17 10 56.8
baz=331,slow=76,SNR=5.2
WRKA Warakurna 46.09 135 P **P 16 21 21.0 +1.0**
comp=Z,39nm,1.1s
BRZS Berezniki 46.25 341 *eP* **P 16 21 19.5 -1.3**
BRZS Berezniki 46.25 341 *eP* **P 16 21 19.5 -1.3**
KMBL Kambalda 46.59 147 P **P 16 21 26.0 +2.1**
comp=Z,20nm,1.2s
ZALV Zalesovo Beam 47.14 352 P **P 16 21 26.3 -1.5**
ZALV Zalesovo Beam 47.14 352 P **P 16 21 26.5 -1.2**
comp=Z,14nm,0.7s,baz=178,slow=7.1,SNR=56
ZALV LR LR 16 45 56.5
comp=Z,1μm,18.8s,baz=182,slow=42
comp=Z,14nm,0.7s
ZALV Zalesovo Beam 47.14 352 *i* P **P 16 21 26.7 -1.0**
ZALV pmax pmax
comp=Z,14nm,0.6s
JAY Jayapura 47.24 100 LR LR 16 43 07.8
comp=Z,386nm,21.5s,baz=272,slow=38
CIT Chita 47.28 16 *eP* **P 16 21 29.6 +0.6**
CIT *e* 16 21 35.8
CIT *e* 16 23 01.0
CIT *e* 16 28 11.8
CIT pmax pmax
comp=Z,112nm,1.6s
BNX BinXian 47.72 31 ⇓P **P 16 21 34.3 +1.9**
BNX pP **pwP 16 21 43.3 +1.7**
BNX sP **sP 16 21 47.3 +6.5**
BNX PP **PP 16 23 27.5 +3.2**
BNX S **S 16 28 31.9 +4.4**
BNX SS **SS 16 31 56.9 +0.9**
BNX pmax pmax
comp=Z,41nm,1.3s
BNX pmax pmax
comp=Z,95nm,5.2s
BNX LR LR
comp=Z,1μm,13.0s
BNX LR LR
comp=Z,2μm,15.7s
BNX LR LR
comp=Z,4μm,14.7s
WRA Warramunga Arr 47.74 125 P **P 16 21 28.7 -4.3**
WRA Warramunga Arr 47.74 125 P **P 16 21 32.4 -0.7**
comp=Z,3.3nm,0.7s,baz=307,slow=8.8,SNR=36
WRA PcP **PcP 16 23 02.3 +0.2**
comp=Z,2.7nm,0.7s,baz=314,slow=2.9,SNR=2.5
WRA LR LR 16 43 25.4
comp=Z,2μm,20.5s,baz=308,slow=38
comp=Z,3.3nm,0.7s
WRA Warramunga Arr 47.74 125 *i* P **P 16 21 33.2 +0.2**
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRAB Tennant Creek 47.75 125 P **P 16 21 34.4 +1.4**
WRAB IAmb IAmb 16 21 49.5
comp=Z,18nm,0.8s
WRAB Tennant Creek 47.75 125 P **P 16 21 34.4 +1.4**
WRAB pmax pmax
comp=Z,18nm,0.8s
MDJ Mudanjiang 48.14 34 P **P 16 21 38.1 +2.4**
MDJ sP pP 16 21 42.5 +0.8
MDJ S **S 16 28 31.8 -1.6**
MDJ SS **SS 16 32 05.9 +3.1**
MDJ pmax pmax
comp=Z,12nm,1.2s
MDJ pmax pmax
comp=Z,310nm,4.0s
MDJ LR LR
comp=Z,2μm,12.4s
MDJ LR LR
comp=Z,3μm,15.8s
MDJ LR LR
comp=Z,3μm,17.2s
KBD Kabd 48.97 302 P **P 16 21 43.7 +1.4**
JHJ Hachijo jima 2 49.21 52 LR LR 16 41 41.6
comp=Z,1μm,21.4s,baz=270,slow=35
USA0B Ussuriysk Arra 49.22 35 *i* P **P 16 21 42.1 -1.9**
USRK Ussuriysk Ar. 49.22 35 P **P 16 21 43.9 -0.2**
comp=Z,2.3nm,0.8s,baz=240,slow=3.8,SNR=6.3
USRK LR LR 16 42 27.3
comp=Z,909nm,20.3s,baz=220,slow=36
comp=Z,2.3nm,0.8s
MJAR Matsushiro Arr 49.36 47 P **P 16 21 44.9 -0.3**
comp=Z,3.1nm,0.7s,baz=244,slow=8.3,SNR=11
MJAR PcP **PcP 16 23 09.5 +1.8**
comp=Z,8.2nm,1.1s,baz=244,slow=2.4,SNR=7.1
comp=Z,3.1nm,0.7s
JCJ Chichijima 49.36 60 LR LR 16 41 11.4
comp=Z,565nm,20.5s,baz=267,slow=34
ASAR Alice Springs 49.37 130 P **P 16 21 45.4 -0.1**
ASAR Alice Springs 49.37 130 P **P 16 21 43.9 -1.6**
comp=Z,2.9nm,0.5s,baz=300,slow=7.5,SNR=46
ASAR PcP **PcP 16 23 07.7 -0.2**
comp=Z,2.7nm,0.6s,baz=311,slow=3.5,SNR=6.1
ASAR LR LR 16 44 45.6
comp=Z,2μm,20.5s,baz=290,slow=39
comp=Z,2.9nm,0.5s
ASAR Alice Springs 49.37 130 P **P 16 21 45.4 -0.1**
AS31 Alice Springs 49.38 130 **P 16 21 43.0 -2.5**
AS31 Alice Springs 49.38 130 P **P 16 21 45.5 -0.1**
comp=Z,7.9nm,0.8s
RAYN Ar Rayn 49.53 295 P **P 16 21 47.3 +0.5**
RAYN Ar Rayn 49.53 295 P **P 16 21 48.8 +1.9**
RAYN Ar Rayn 49.53 295 P **P 16 21 48.1 +1.3**
RAYN Ar Rayn 49.53 295 *i* P **P 16 21 48.1 +1.3**
SNR=59
BVAR Borovoye Array 49.59 341 P **P 16 21 44.6 -2.1**
comp=Z,28nm,0.7s,baz=142,slow=8.8,SNR=106
BVAR PcP **PcP 16 23 09.5 +1.4**
comp=Z,3.2nm,0.6s,baz=78,slow=2.1,SNR=1.7
BVAR LR LR 16 45 31.8
comp=Z,563nm,18.6s,baz=154,slow=40
comp=Z,28nm,0.7s
BRVK Borovoye 49.66 341 P **P 16 21 46.0 -1.2**
BRVK IAmb IAmb 16 21 48.6
comp=Z,29nm,0.8s
BRVK Borovoye 49.66 341 P **P 16 21 47.2 0.0**
BRVK P **P 16 21 47.2 0.0**
BRVK Borovoye 49.66 341 *ce*P **P 16 21 46.0 -1.2**
BRVK pmax pmax
comp=Z,27nm,0.6s
FORT Forrest 49.75 141 P **P 16 21 48.6 +0.3**
FORT Forrest 49.75 141 P **P 16 21 48.4 +0.2**
comp=Z,157nm,1.5s
GUMO Guam 49.97 78 LR LR 16 42 30.4
comp=Z,438nm,20.5s,baz=266,slow=36
ABKAR Abkulak array 50.83 331 P **P 16 21 54.9 -1.3**
ABKAR Abkulak array 50.83 331 IAmb IAmb 16 22 04.7
comp=Z,102nm,1.1s
HEH HeiHe 50.89 27 *eP* **P 16 21 58.9 +2.3**
HEH pP **pP 16 22 03.0 +0.4**
HEH sP **pwP 16 22 05.8 0.0**
HEH S **S 16 29 16.8 +5.0**
HEH SS **SS 16 32 48.4 +1.7**
HEH pmax pmax
comp=Z,4.0nm,0.6s
HEH pmax pmax
comp=Z,170nm,4.3s
HEH LR LR
comp=Z,1μm,19.0s
HEH LR LR
comp=Z,2μm,19.6s
HEH LR LR
comp=Z,3μm,14.9s
ATD Arta Tunnel 50.96 279 IAmb IAmb 16 22 08.6
comp=Z,40nm,1.0s
ATD Arta Tunnel 50.96 279 LR LR 16 40 11.8
comp=Z,42nm,21.9s,baz=75,slow=32
KLR Kul'dur 52.24 30 LR LR 16 45 41.7
comp=Z,613nm,20.1s,baz=226,slow=38
KLR Kul'dur 52.24 30 *eP* **P 16 22 07.6 +0.9**
KLR pmax pmax
comp=Z,15nm,1.2s
QIS Mount Isa 52.37 123 P **P 16 22 08.9 +0.7**
comp=Z,11nm,1.1s
AKTO Aktyubinsk 52.55 331 LR LR 16 46 49.5
comp=Z,540nm,18.4s,baz=129,slow=39
BOD Bodaibo 52.64 13 *eP* **P 16 22 09.5 0.0**
BOD pmax pmax
comp=Z,52nm,1.3s
JTM Tenmabayashi 53.20 44 IAmb IAmb 16 22 23.4
comp=Z,95nm,1.1s
ZEA Zeya 53.37 24 *eP* **P 16 22 16.5 +1.6**
ZEA *e* 16 24 10.9
ZEA *eS* **S 16 29 52.4 +6.7**
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA smax smax
comp=E,100nm,14.6s
ZEA MLR MLR
comp=N,2μm,13.0s
ZEA MLR MLR
comp=Z,1μm,13.0s
MAK Makhachkala 54.29 319 *c i* P P 16 22 16.3 -5.6
MAK *e* 16 24 18.2
MAK *eS* **S 16 29 52.5 -6.0**
MAK pmax pmax
comp=Z,20nm,0.3s
GNI Garni 55.00 315 LR LR 16 50 32.4
comp=Z,302nm,18.4s,baz=100,slow=41
PMG Port Moresby 55.14 107 LR LR 16 48 14.9
comp=Z,616nm,21.9s,baz=262,slow=38
PMG Port Moresby 55.14 107 *i* P **P 16 22 26.4 -2.1**
PMG pmax pmax
comp=Z,6.0nm,1.1s
GEVA Gevas 55.55 312 P **P 16 22 30.6 -0.8**
GRNR Gornyy 55.56 31 ⇑ *i* P P 16 22 38.5 +7.5
GRNR pmax pmax
comp=Z,5.0nm,0.8s
GRNR MLR MLR
comp=E,890nm,15.0s
GRNR MLR MLR
comp=N,1μm,14.0s
GRNR MLR MLR
comp=Z,1μm,14.0s
ASAJ Asahikawa 55.68 41 LR LR 16 46 38.3
comp=Z,988nm,21.0s,baz=244,slow=36
SVE Sverdlovsk 56.01 338 *eP* **P 16 22 33.1 -0.9**
SVE *eS* **S 16 30 24.3 +3.2**
SVE pmax pmax
comp=Z,186nm,1.3s
SVE MLR MLR
comp=Z,1μm,21.0s
BBOO Buckleboo 56.24 138 IAmb IAmb 16 22 46.3
comp=Z,55nm,1.2s
ARTI Arti 56.53 337 P **P 16 22 35.6 -2.2**
ARTI Arti 56.53 337 LR LR 16 48 58.5
comp=Z,2μm,21.2s,baz=146,slow=38
ARTI Arti 56.53 337 *c i* P **P 16 22 36.7 -1.1**
ARTI 16 23 33.6
ARTI 16 24 38.6
ARTI S **S 16 30 27.2 -0.9**
ARTI 16 32 24.6
ARTI SS **SS 16 34 08.8 -6.8**
ARTI pmax pmax
comp=Z,66nm,0.9s
ARTI MLR MLR
comp=Z,2μm,21.0s
MARD Mardin 56.93 310 P **P 16 22 39.8 -1.4**
KIBK Kibwezi 57.02 262 P **P 16 22 42.9 +0.7**
KIBK Kibwezi 57.02 262 P **P 16 22 45.3 +3.2**
SNR=11
YSS Yuzhno-Sakhali 57.08 38 *eP* **P 16 22 39.8 -2.0**
YSS *eS* **S 16 30 32.3 -3.2**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,600nm,16.0s
YSS MLR MLR
comp=E,800nm,16.0s
KMBO Kilima Mbogo 57.60 264 P **P 16 22 46.8 +0.4**
KMBO IAmb IAmb 16 22 57.2
comp=Z,37nm,0.9s
KMBO Kilima Mbogo 57.60 264 P **P 16 22 46.2 -0.2**
comp=Z,13nm,1.0s,baz=62,slow=7.5,SNR=19
KMBO LR LR 16 44 20.4
comp=Z,1μm,19.5s,baz=92,slow=33
comp=Z,13nm,1.0s
KMBO Kilima Mbogo 57.60 264 P **P 16 22 49.5 +3.0**
KMBO Kilima Mbogo 57.60 264 *i* P **P 16 22 48.2 +1.8**
SNR=17
KBZ Khabaz 57.66 318 P **P 16 22 44.4 -1.6**
comp=Z,8.9nm,0.9s,baz=150,slow=4.4,SNR=21
KBZ PcP **PcP 16 23 39.2 +0.2**
comp=Z,6.0nm,0.8s,baz=77,slow=4.5,SNR=5.1
KBZ LR LR 16 52 32.2
comp=Z,259nm,18.1s,baz=116,slow=41
comp=Z,8.9nm,0.9s
KBZ Khabaz 57.66 318 *ce*P **P 16 22 44.8 -1.2**
KBZ pmax pmax
comp=Z,12nm,1.0s
SHA1 Shidzhatmaz 57.83 318 *i* P **P 16 22 46.9 -0.6**
KVAR Kislovodsk Arr 57.88 318 LR LR 16 47 42.1
comp=Z,330nm,21.1s,baz=159,slow=36
KIV Kislovodsk 57.89 318 P **P 16 22 44.6 -3.1**
KIV IAmb IAmb 16 22 55.0
comp=Z,30nm,0.9s
KIV Kislovodsk 57.89 318 P **P 16 22 47.8 0.0**
KIV Kislovodsk 57.89 318 *eP* **P 16 22 45.1 -2.7**
KIV *e* 16 24 53.6
KIV *eS* **S 16 30 45.6 -1.0**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,302nm,17.0s
KIV Kislovodsk 57.89 318 *i* P **P 16 22 47.6 -0.2**
SNR=8.7
GOF Gofitskoye 58.10 319 *ce*P P 16 22 55.1 +6.0
ASF Jabal al Asfar 58.72 303 LR LR 16 50 39.1
comp=Z,547nm,19.4s,baz=113,slow=39
LODK Lodwar 58.86 270 P **P 16 22 57.7 +2.7**
TYV Tymovskoe 58.92 34 *eP* **P 16 22 59.4 +4.7**
TYV pmax pmax
comp=Z,100nm,2.1s
TYV pmax pmax
comp=Z,14nm,1.2s
LABN Labinsk 59.46 318 *eP* **P 16 22 54.8 -3.7**
LABN *eS* **S 16 31 05.0 -1.7**
LABN pmax pmax
comp=Z,52nm,0.7s
STKA Stephens Creek 59.55 134 IAmb IAmb 16 23 09.3
comp=Z,52nm,0.8s
STKA Stephens Creek 59.55 134 P **P 16 22 59.6 +0.2**
comp=Z,3.1nm,0.5s,baz=298,slow=7.1,SNR=8.3
STKA LR LR 16 51 47.2
comp=Z,1μm,20.1s,baz=296,slow=39
comp=Z,3.1nm,0.5s
GAZ Gaziantep 59.62 309 IAmb IAmb 16 23 07.7
comp=Z,52nm,1.6s
BALJ Balqa 59.75 303 IAmb IAmb 16 23 13.6
comp=Z,68nm,1.7s
SOC Sochi 59.75 317 *eP* **P 16 22 57.6 -3.0**
SOC *e* 16 25 10.0
SOC *eS* **S 16 31 09.0 -1.6**
SOC *eSS* **SS 16 35 05.4 -1.3**
SOC pmax pmax
comp=Z,13nm,0.8s
SOC MLR MLR
comp=Z,633nm,21.0s
EIL Elat 59.91 300 LR LR 16 50 27.8
comp=Z,914nm,19.4s,baz=94,slow=38
ERBR Yeremizino-Bor 60.02 319 *eP* **P 16 23 00.0 -2.4**
ERBR *eS* **S 16 31 14.4 +0.5**
ERBR pmax pmax
comp=Z,32nm,0.8s
ERBR MLR MLR
comp=Z,905nm,17.0s
MMAI Mount Meron Ar 60.13 304 P **P 16 23 02.8 -0.6**
comp=Z,5.2nm,0.8s,baz=115,slow=7.5,SNR=7.3
MMAI LR LR 16 52 57.2
comp=Z,749nm,18.3s,baz=90,slow=40
comp=Z,5.2nm,0.8s
YAK Yakutsk 60.45 18 P **P 16 23 04.4 -0.6**
YAK Yakutsk 60.45 18 LR LR 16 51 39.6
comp=Z,1μm,18.2s,baz=210,slow=38
YAK Yakutsk 60.45 18 *ce*P **P 16 23 04.1 -0.9**
YAK pmax pmax
comp=Z,39nm,0.6s
BNN Bunyan 61.10 310 IAmb IAmb 16 23 18.7
comp=Z,54nm,1.4s
VRH Novokhopyorsk 61.52 325 *eP* **P 16 23 11.2 -1.3**
VRH pmax pmax
comp=Z,56nm,1.2s
KIRV Kirov 61.62 335 LR LR 16 52 36.9
comp=Z,841nm,18.5s,baz=135,slow=39
KIRV Kirov 61.62 335 *ce*P **P 16 23 13.2 +0.2**
ANN Anapa 61.71 317 *eP* **P 16 23 13.6 -0.3**
ANN *eS* **S 16 31 39.2 +3.7**
ANN pmax pmax
comp=Z,25nm,0.9s
ANN MLR MLR
comp=Z,655nm,21.0s
NRIK Noril'sk 62.11 357 P **P 16 23 15.3 -0.8**
comp=Z,9.2nm,0.6s,baz=148,slow=5.2,SNR=26
NRIK LR LR 16 54 15.4
comp=Z,938nm,21.2s,baz=187,slow=40
comp=Z,9.2nm,0.6s
NRIK Noril'sk 62.11 357 *ce*P **P 16 23 15.6 -0.5**
NRIK pmax pmax
comp=Z,7.0nm,0.8s
KIRS Kirsehir-Merke 62.62 310 ⇓P **P 16 23 19.4 -0.9**
VORD Divnogorie 62.81 324 *eP* **P 16 23 18.4 -2.7**
VORD pmax pmax
comp=Z,20nm,0.9s
BR131 Keskin Array S 62.97 311 P **P 16 23 22.5 -0.2**
SNR=9.8
BR131 P **P 16 23 22.5 -0.2**
SNR=9.8
BR131 Keskin Array S 62.97 311 *i* P **P 16 23 21.2 -1.5**
BRTR Keskin Array B 62.97 311 **P 16 23 19.8 -2.9**
BRTR Keskin Array B 62.97 311 P **P 16 23 21.1 -1.5**
comp=Z,6.9nm,0.7s,baz=130,slow=6.6,SNR=47
BRTR LR LR 16 54 01.3
comp=Z,479nm,20.8s,baz=106,slow=39
comp=Z,6.9nm,0.7s
BRTR Keskin Array B 62.97 311 *ce*P **P 16 23 21.3 -1.4**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
VSR Storozhevoye 62.98 325 *eP* **P 16 23 19.3 -3.0**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 63.15 325 *eP* **P 16 23 20.9 -2.5**
VORR pmax pmax
comp=Z,74nm,1.3s
ILGA Ilgaz 63.24 312 P **P 16 23 22.9 -1.6**
ILGA IAmb IAmb 16 23 32.4
comp=Z,59nm,1.2s
BZK Bozkurt 63.26 313 ⇑P **P 16 23 24.2 -0.1**
ANTO Ankara 63.64 311 P **P 16 23 27.2 +0.2**
ANTO pmax pmax
comp=Z,10.0nm,1.2s
LPSR Galich'ya Gora 63.68 326 *eP* **P 16 23 25.3 -1.6**
LPSR pmax pmax
comp=Z,58nm,1.2s
MBAR Mbarara 63.96 266 P **P 16 23 32.4 +2.7**
MBAR P **P 16 23 32.4 +2.7**
MBAR Mbarara 63.96 266 *i* P **P 16 23 31.0 +1.3**
SIM Simferopol' 64.00 317 *eP* P 16 23 24.1 -5.1
SIM *e* 16 23 59.0
SIM pmax pmax
comp=Z,26nm,1.2s
ISP Isparta 64.96 308 *ce*P **P 16 23 35.4 -0.3**
ISP pmax pmax
comp=Z,22nm,0.7s
ELL Elmali 65.25 307 P **P 16 23 37.6 -0.1**
ELL pmax pmax
comp=Z,185nm,1.1s
TOO Toolangi 65.29 137 P **P 16 23 35.8 -1.9**
TOO Toolangi 65.29 137 P **P 16 23 35.8 -1.9**
TOO pmax pmax
comp=Z,11nm,1.0s
H04N2 CROZET ISLANDS 65.37 211 T T 17 34 14.1
baz=47,slow=75,SNR=1264
H04N1 CROZET ISLANDS 65.38 211 T T 17 34 14.8
baz=47,slow=75,SNR=1359
H04N3 CROZET ISLANDS 65.39 211 T T 17 34 13.5
baz=47,slow=75,SNR=1320
MOS Moscow 65.68 329 *eP* **P 16 23 38.8 -1.1**
MOS *e* 16 24 08.0
MOS pmax pmax
comp=Z,300nm,1.3s
MOS pmax pmax
comp=Z,164nm,1.4s
H04S1 CROZET ISLANDS 65.78 211 T T 17 34 37.3
baz=48,slow=75,SNR=7.2

H04S3 CROZET ISLANDS 65.78 211 T T 17 34 38.0
baz=48,slow=75,SNR=17
H04S2 CROZET ISLANDS 65.79 211 T T 17 34 37.0
baz=48,slow=75,SNR=8.2
OBN Obninsk 65.98 328 P **P** **16 23 40.4 -1.4**
OBN Obninsk 65.98 328 LR LR 16 55 55.5
comp=Z,730nm,20.3s,baz=65,slow=39
OBN Obninsk 65.98 328 *e*P **P** **16 23 40.6 -1.2**
OBN *e* 16 24 10.7
OBN *e* 16 26 05.9
OBN *e*PPP PPP 16 27 39.0
OBN *e*S **S** **16 32 28.9 +0.7**
OBN *e*SS **SS** **16 36 43.7 +0.2**
OBN pmax pmax
comp=Z,75nm,1.3s
OBN MLR MLR
comp=Z,719nm,19.0s
KLMR Klimovskoe 67.06 334 *e*P P 16 23 42.4 -6.2
KLMR S S 16 32 30.5 -11
KLMR pmax pmax
comp=Z,131nm,1.3s
MA2 Magadan 67.15 27 *i* P **P** **16 23 47.8 -1.4**
MA2 pmax pmax
comp=Z,14nm,1.2s
KARP Karpathos 67.27 305 *e*P **P** **16 23 50.3 -0.2**
HNR Honiara 67.40 103 LR LR 16 57 00.7
comp=Z,265nm,18.6s,baz=234,slow=39
TIXI Tiksi 67.73 11 P **P** **16 23 50.9 -1.7**
TIXI Tiksi 67.73 11 LR LR 16 58 45.7
comp=Z,937nm,18.1s,baz=233,slow=41
TIXI Tiksi 67.73 11*ce*P **P** **16 23 51.2 -1.5**
TIXI pmax pmax
comp=Z,26nm,0.6s
TIRR Tirgusor 67.82 315 ⇑P **P** **16 23 53.3 -0.5**
TIRR Tirgusor 67.82 315 P **P** **16 23 53.2 -0.5**
MILM Milestii Mici 68.08 318 *e*P **P** **16 23 54.0 -1.3**
comp=Z,50nm,1.0s
MILM Milestii Mici 68.08 318 *e*PcP PcP 16 24 11.0 -10
MILM *e*L L 16 51 41.0
MILM LRM MLR 16 56 47.0
comp=Z,330nm,22.0s
MILM Milestii Mici 68.08 318 ⇑P **P** **16 23 55.4 +0.1**
MILM Milestii Mici 68.08 318 P **P** **16 23 55.4 +0.1**
CFR Carcaliu 68.16 316 ⇑P **P** **16 23 54.7 -1.2**
CFR Carcaliu 68.16 316 P **P** **16 23 54.6 -1.2**
PETK Petropavlovsk- 68.32 35 P **P** **16 23 57.0 +0.3**
comp=Z,1.4nm,1.0s,baz=221,slow=5.7,SNR=2.3
PETK LR LR 16 54 47.8
comp=Z,682nm,20.7s,baz=232,slow=37
comp=Z,1.4nm,1.0s
SORM Soroca 68.66 319 ⇑P **P** **16 23 57.5 -1.5**
SORM Soroca 68.66 319 P **P** **16 23 57.4 -1.5**
AKASG Malin Array Be 68.74 322 P **P** **16 23 58.7 -0.7**
comp=Z,4.7nm,0.7s,baz=91,slow=5.3,SNR=38
AKASG PP **PP** **16 26 28.3 -3.0**
comp=Z,1.1nm,0.6s,baz=88,slow=7.1,SNR=4.5
AKASG LR LR 16 58 48.3
comp=Z,438nm,19.1s,baz=107,slow=40
comp=Z,4.7nm,0.7s
AKASG Malin Array Be 68.74 322*ce*P **P** **16 23 57.5 -1.9**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 68.74 322*ce*P **P** **16 23 58.0 -1.4**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 68.75 322 P **P** **16 23 57.0 -2.4**
KIEV Kiev 68.75 322 P **P** **16 23 57.1 -2.4**
KIEV pmax pmax
comp=Z,19nm,1.2s
KIEV Kiev 68.75 322 *i* P **P** **16 23 58.8 -0.6**
SNR=7.3
PET Petropavlovsk 68.84 36 *i* P **P** **16 23 57.8 -2.2**
PET pmax pmax
comp=Z,4.0nm,1.0s
ALN Alexandroupoli 68.89 311 P **P** **16 24 00.5 -0.1**
ALN pmax pmax
comp=Z,16nm,1.1s
IDI Anoyia 69.08 305 IAmb IAmb 16 24 25.2
comp=Z,66nm,1.2s
IDI Anoyia 69.08 305 LR LR 16 58 14.6
comp=Z,238nm,22.0s,baz=74,slow=39
VRI Vrincioaia 69.27 316 ⇓P **P** **16 24 02.6 -0.2**
VRI Vrincioaia 69.27 316 P **P** **16 24 02.6 -0.2**
LSZ Lusaka 69.31 251 P **P** **16 24 04.1 +0.4**
LSZ Lusaka 69.31 251 LR LR 16 50 16.2
comp=Z,1μm,19.9s,baz=81,slow=32
LSZ Lusaka 69.31 251 P **P** **16 24 05.8 +2.1**
LSZ P **P** **16 24 05.8 +2.1**
LSZ Lusaka 69.31 251 P **P** **16 24 04.1 +0.4**
LSZ pmax pmax
comp=Z,20nm,1.1s
PLOR Plostina 69.32 316 ⇓P **P** **16 24 01.9 -1.2**
PLOR Plostina 69.32 316 P **P** **16 24 02.9 -0.3**
SEY Seymchan 69.33 24 LR LR 16 56 47.6
comp=Z,2μm,18.6s,baz=248,slow=38
SEY Seymchan 69.33 24 *e*P **P** **16 24 01.0 -1.8**
SEY pmax pmax
comp=Z,16nm,1.2s
TESR Tescani 69.45 317 ⇓P **P** **16 24 03.4 -0.5**
ONER Baraj Valea Uz 69.59 317 ⇑P **P** **16 24 03.8 -1.0**
COVR Voineasa-Covas 69.62 316 ⇑P **P** **16 24 04.2 -0.8**
MLR Muntele Rosu 69.74 316 IAmb IAmb 16 24 14.5
comp=Z,71nm,1.3s
MLR Muntele Rosu 69.74 316 LR LR 17 01 24.7
comp=Z,498nm,18.2s,baz=84,slow=42
MLR Muntele Rosu 69.74 316 ⇓P **P** **16 24 04.8 -1.1**
MLR Muntele Rosu 69.74 316 P **P** **16 24 05.5 -0.4**
DOPR Dopca 70.21 316 ⇓P **P** **16 24 07.4 -1.2**
VOIR 70.35 316 ⇑P **P** **16 24 09.4 -0.2**
VOIR 70.35 316 P **P** **16 24 09.8 +0.2**
MATP Matopo 70.35 245 LR LR 16 53 23.5
comp=Z,299nm,18.1s,baz=64,slow=34
MNK Minsk 70.52 325 *i* P **P** **16 24 07.3 -3.0**
MNK *i* *PP **pP** **16 24 10.6 -6.0**
MNK *i* 16 24 28.3
MNK *i* 16 26 43.3
MNK *i* PPP PPP 16 28 25.6
MNK *i* S **S** **16 33 21.4 -1.0**
MNK *i* SS **SS** **16 37 53.6 -0.2**
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=N,37nm,1.0s
MNK pmax pmax
comp=Z,51nm,0.8s
MNK MLR MLR
comp=E,234nm,16.0s
BURAR Bucovina Array 70.62 318 P **P** **16 24 10.0 -1.2**
BURAR Bucovina Array 70.62 318 ⇑P **P** **16 24 11.3 +0.1**
BURAR Bucovina Array 70.62 318 P **P** **16 24 11.3 +0.1**
ARR Arges 70.62 315 ⇓P **P** **16 24 10.5 -0.7**
KNT Kendrikon 71.29 311 P **P** **16 24 14.0 -1.3**
KNT pmax pmax
comp=Z,16nm,1.3s
JOF Joensuu 71.45 335 *e*P **P** **16 24 16.3 +0.5**
LIT Litokhoron 71.48 310 IAmb IAmb 16 24 16.7
comp=Z,31nm,1.1s
GRG Griva 71.64 311 P **P** **16 24 16.6 -0.9**
GRG pmax pmax
comp=Z,29nm,1.1s
ITM Ithomi 71.64 307 IAmb IAmb 16 24 24.3
comp=Z,31nm,0.9s
ISAL Salakas 71.77 326 *e*P **P** **16 24 18.3 +0.5**
MARR Marisel-Cluj 71.87 317 ⇑P **P** **16 24 17.9 -1.0**
DEV Deva 71.90 316 ⇑P **P** **16 24 18.6 -0.3**
DEV Deva 71.90 316 P **P** **16 24 18.5 -0.3**
GZR Gura Zlata 71.92 315 ⇓P **P** **16 24 17.5 -1.6**
GZR Gura Zlata 71.92 315 P **P** **16 24 17.5 -1.6**
LVZ Lovozero 72.16 340 P **P** **16 24 20.6 +0.5**
DRGR 72.17 317 ⇑P **P** **16 24 20.0 -0.5**
DRGR 72.17 317 P **P** **16 24 20.0 -0.5**
VSU Vasula 72.19 329*ce*P **P** **16 24 18.9 -1.4**
VSU pmax pmax
comp=Z,33nm,0.6s
VSU Vasula 72.19 329 *e*P **P** **16 24 20.3 +0.1**
SURR Surduc 72.43 316 ⇑P **P** **16 24 20.6 -1.4**
BOVS Bovan 72.46 313 ⇓P **P** **16 24 20.2 -2.1**
MDVR Moldovita 72.59 315 ⇓P **P** **16 24 21.6 -1.5**
BZS Buzias 72.76 315 ⇓P **P** **16 24 23.0 -1.0**
BZS Buzias 72.76 315 P **P** **16 24 23.0 -1.0**
KOLS Kolonicke sedl 72.78 319 *e*P **P** **16 24 25.1 +1.0**
KOLS pmax pmax
comp=Z,10.0nm,0.7s
KOLS Kolonicke sedl 72.78 319 *e*P **P** **16 24 25.1 +1.0**

SIRR Siria 72.81 316 ⇓P **P** **16 24 23.8 -0.6**
ARBE Arbavere 72.82 330 *e*P **P** **16 24 25.3 +1.3**
PABE Paberze 72.95 326 *e*P **P** **16 24 24.6 -0.3**
VSVD Vaisvydziai 73.07 326 *e*P **P** **16 24 25.3 -0.3**
SUW Suwalki 73.10 324 *e*P **P** **16 24 24.9 -0.9**
SUW Suwalki 73.10 324 P **P** **16 24 25.0 -0.8**
SUW pmax pmax
comp=Z,99nm,1.1s
SUW Suwalki 73.10 324 *e*P **P** **16 24 25.1 -0.7**
FINES FINESS Array B 73.31 332 **P** **16 24 24.6 -2.3**
FINES FINESS Array B 73.31 332 P **P** **16 24 24.8 -2.1**
comp=Z,14nm,0.7s,baz=96,slow=5.9,SNR=44
FINES LR LR 17 00 59.9
comp=Z,576nm,20.3s,baz=114,slow=39
comp=Z,14nm,0.7s
FINES FINESS Array B 73.31 332*ce*P **P** **16 24 26.7 -0.2**
FINES pmax pmax
comp=Z,14nm,0.7s
MSF Maaselka 73.43 337 P **P** **16 24 27.8 +0.2**
MSF pmax pmax
comp=Z,60nm,1.1s
MTSE Matsula 73.73 329 *e*P **P** **16 24 29.4 -0.1**
MEF Metsahovi 73.80 331 *e*P **P** **16 24 29.9 +0.2**
KEF Keuruu 74.06 333 *e*P **P** **16 24 31.6 +0.3**
PDG Podgorica 74.13 312 ⇓P **P** **16 24 29.9 -2.2**
NIE Niedzica 74.13 319 *e*P **P** **16 24 32.1 +0.1**
NIE Niedzica 74.13 319 P **P** **16 24 32.4 +0.3**
NIE pmax pmax
comp=Z,5.0nm,1.2s
PBUR Paburge 74.18 326 *e*P **P** **16 24 32.7 +0.6**
LBTB Lobatse 74.19 242 LR LR 16 52 43.9
comp=Z,772nm,20.6s,baz=76,slow=32
PSZ Piszkesteto 74.22 318 ⇑P **P** **16 24 32.2 -0.5**
PSZ Piszkesteto 74.22 318 P **P** **16 24 32.1 -0.5**
PSZ Piszkesteto 74.22 318 *e*P **P** **16 24 32.3 -0.3**
OUL Oulu 74.42 336 P **P** **16 24 34.3 +1.0**
OUL pmax pmax
comp=Z,53nm,1.2s
OJC Ojcow 74.56 320 *e*P **P** **16 24 34.2 -0.2**
OJC Ojcow 74.56 320 P **P** **16 24 33.8 -0.7**
OJC Ojcow 74.56 320 P **P** **16 24 33.8 -0.7**
LANS Liptovska Anna 74.64 319 *e*P **P** **16 24 34.1 -0.9**
LANS pmax pmax
comp=Z,4.0nm,1.1s
LANS Liptovska Anna 74.64 319 *e*P **P** **16 24 34.1 -0.9**
MORH Mrgy, Hungar 74.89 316 ⇑P **P** **16 24 35.2 -1.2**
VYHS Vyhne 74.98 318 *e*P **P** **16 24 37.2 +0.2**
VYHS pmax pmax
comp=Z,13nm,1.3s
VYHS Vyhne 74.98 318 *e*P **P** **16 24 37.2 +0.2**
RAF Rauma 75.24 331 *e*P **P** **16 24 38.0 -0.1**
VAF Ylistaro 75.26 333 P **P** **16 24 39.0 +0.8**
VAF pmax pmax
comp=Z,88nm,1.1s
VAF Ylistaro 75.26 333 *e*P **P** **16 24 38.4 +0.2**
SRO Srobarova 75.26 317 *e*P **P** **16 24 39.3 +0.7**
SRO pmax pmax
comp=Z,18nm,0.9s
SRO Srobarova 75.26 317 *e*P **P** **16 24 39.3 +0.7**
BOSA Boshof 75.49 238 P **P** **16 24 41.1 +0.7**
comp=Z,4.8nm,0.6s,baz=91,slow=5.1,SNR=9.2
BOSA LR LR 16 53 37.2
comp=Z,379nm,20.2s,baz=72,slow=32
comp=Z,4.8nm,0.6s
OKC Ostrava-Krasne 75.57 320 AMS AMS 17 06 40.0
comp=Z,400nm,15.8s
OKC Ostrava-Krasne 75.57 320 P **P** **16 24 40.1 -0.2**
OKC pmax pmax
comp=Z,26nm,1.1s
JAVC Velka Javorina 75.79 318 *e*P **P** **16 24 41.7 0.0**
STEB Steborice 75.82 320 *e*P **P** **16 24 42.9 +1.1**
STEB *ex* x 16 24 49.1
ARA0 ARCESS Array S 75.87 340 *e*P **P** **16 24 42.9 +1.3**
ARCES ARCESS Array B 75.87 340 P **P** **16 24 41.8 +0.1**
comp=Z,7.4nm,0.8s,baz=68,slow=4.5,SNR=9.2
ARCES LR LR 17 00 55.0
comp=Z,1μm,21.0s,baz=113,slow=38
comp=Z,7.4nm,0.8s
MORC Moravsky Berou 75.95 319 IAmb IAmb 16 24 51.0
comp=Z,51nm,1.4s
MORC Moravsky Berou 75.95 319 *e*P **P** **16 24 42.3 -0.3**
MORC Moravsky Berou 75.95 319 ⇑P **P** **16 24 41.8 -0.8**
MORC Moravsky Berou 75.95 319 P **P** **16 24 41.8 -0.8**
MODS Modra-Piesok 76.00 318 *e*P **P** **16 24 44.8 +1.9**
MODS Modra-Piesok 76.00 318 *e*P **P** **16 24 44.8 +1.9**
MODS *e* 16 32 12.1
BEHE Becsehely 76.20 316 IAmb IAmb 16 25 03.7
comp=Z,52nm,1.1s
DZM Mont Dzumac 76.34 115 *e*S **S** **16 34 31.8 +2.2**
comp=Z,123nm,24.9s
DZM *e*SS **SS** **16 39 21.9 -2.4**
comp=Z,400nm,32.5s
DZM *e*LR LR 16 48 11.0
comp=Z,1μm,31.1s
SOP Sopron 76.43 317 P **P** **16 24 45.1 -0.2**
SOP pmax pmax
comp=Z,17nm,0.8s
KRLC Kraliky 76.47 320 *e*P **P** **16 24 46.2 +0.7**
KRLC AMS AMS 17 04 30.0
comp=Z,400nm,17.8s
KRLC Kraliky 76.47 320 *e*P **P** **16 24 46.2 +0.7**
KRLC *e* 16 24 46.3
KRLC MLR MLR
comp=Z,400nm,17.8s
KTK1 Kautokeino 76.50 339 *e*P **P** **16 24 46.7 +1.5**
BILL Bilibino 76.52 22 P **P** **16 24 45.0 -0.4**
BILL IAmb IAmb 16 24 55.7
comp=Z,39nm,1.6s
BILL Bilibino 76.52 22*ce*P **P** **16 24 45.5 +0.2**
BILL pmax pmax
comp=Z,6.0nm,1.0s
VRAC Vranov 76.53 319 LR LR 17 02 38.0
comp=Z,327nm,20.8s,baz=93,slow=39
VRAC Vranov 76.53 319 *e*P **P** **16 24 45.4 -0.4**
VRAC Vranov 76.53 319 P **P** **16 24 46.0 +0.2**
VRAC pmax pmax
comp=Z,11nm,2.4s
RONA Rosalia, Austr 76.61 317 *e*P **P** **16 24 46.3 0.0**
comp=Z,8.5nm,0.9s
KRUC Moravsky 76.64 319 *e*P **P** **16 24 46.1 -0.3**
KRUC Moravsky 76.64 319 P **P** **16 24 46.9 +0.5**
KRUC pmax pmax
comp=Z,10.0nm,1.2s
DPC Dobruska-Polom 76.79 320 *e*P **P** **16 24 47.9 +0.6**
DPC AMS AMS 17 04 30.0
comp=Z,500nm,16.4s
DPC Dobruska-Polom 76.79 320 *e*P **P** **16 24 47.9 +0.6**
DPC MLR MLR
comp=Z,500nm,16.4s
KSP Ksiaz 76.84 320 *e*P **P** **16 24 47.9 +0.4**
KSP Ksiaz 76.84 320 P **P** **16 24 48.0 +0.4**
KSP pmax pmax
comp=Z,30nm,1.5s
OSTC Ostas 76.87 320 *e*P **P** **16 24 48.7 +1.0**
OSTC AMS AMS 17 04 30.0
comp=Z,500nm,12.6s
OSTC Ostas 76.87 320 *e*P **P** **16 24 48.7 +1.0**
OSTC MLR MLR
comp=Z,500nm,12.6s
CONA Conrad Observa 76.92 317 *i* P **P** **16 24 47.5 -0.6**
comp=Z,7.9nm,1.2s
CHVC Chvalec 76.97 320 *e*P **P** **16 24 49.7 +1.4**
CHVC AMS AMS 17 04 30.0
comp=Z,600nm,21.7s
CHVC Chvalec 76.97 320 *e*P **P** **16 24 49.7 +1.4**
CHVC MLR MLR
comp=Z,600nm,21.7s
UPC Upice 77.00 320 *e*P **P** **16 24 50.0 +1.6**
UPC AMS AMS 17 04 10.0
comp=Z,600nm,17.1s
UPC Upice 77.00 320 *e*P **P** **16 24 50.0 +1.6**
UPC MLR MLR
comp=Z,600nm,17.1s
GROS Grobnik 77.08 316 *e*P **P** **16 24 48.5 -0.5**
ARSA Arzberg 77.11 317 *e*P **P** **16 24 49.0 -0.1**
comp=Z,16nm,1.1s,SNR=6.6
TREC Trest 77.25 319 P **P** **16 24 50.6 +0.7**
TREC pmax pmax
comp=Z,7.0nm,1.2s
SOKA Soboth 77.41 316 *i* P **P** **16 24 50.8 -0.2**
comp=Z,26nm,1.3s,SNR=7.7
JETT Jettan, Norway 77.61 340 *e*P **P** **16 24 53.1 +1.6**
BLEU Blekinge 77.61 326 *i* P **P** **16 24 52.5 +0.9**
VAE Valguarnera 77.64 307 LR LR 17 02 54.1
comp=Z,281nm,19.4s,baz=107,slow=39

LJU Ljubljana 77.73 315 *e*P **P** **16 24 52.5 -0.1**
OBKA Obir 77.74 316 *i* P **P** **16 24 53.6 +0.9**
comp=Z,21nm,1.3s
PRU Pruhonice 77.91 319 *e*P **P** **16 24 55.1 +1.6**
PRU AMS AMS 17 01 00.0
PRU Pruhonice 77.91 319 *e*P **P** **16 24 55.1 +1.6**
PRU MLR MLR
comp=N,400nm,18.1s
PVCC Panska Ves 77.92 320 AMS AMS 17 05 00.0
comp=N,600nm,18.6s
PVCC Panska Ves 77.92 320 P **P** **16 24 54.6 +1.0**
PVCC pmax pmax
comp=Z,22nm,1.6s
PRA Prague 77.98 320 AMS AMS 17 04 30.0
comp=Z,400nm,15.0s
MOA Molln 77.98 317 *e*P **P** **16 24 53.8 -0.3**
comp=Z,12nm,1.3s
SHEM Shemya Is, Ala 77.99 38 LR LR 17 02 53.3
comp=Z,164nm,19.1s,baz=253,slow=38
CKRC Cesky Krumlov 78.00 318 AMS AMS 17 02 10.0
comp=Z,400nm,19.7s
MAW Mawson 78.04 192 P **P** **16 24 54.8 +1.1**
comp=Z,4.5nm,0.7s,baz=81,slow=2.9,SNR=7.4
MAW LR LR 16 55 03.4
comp=Z,821nm,18.7s,baz=16,slow=32
comp=Z,4.5nm,0.7s
ZVC Zvikov 78.10 319 *e*P **P** **16 24 55.7 +1.1**
TRO Tromso 78.13 340 *e*P **P** **16 24 54.7 +0.4**
CADS Cadrg 78.29 316 *i* P **P** **16 24 55.4 -0.4**
BRG Berggiesshubel 78.33 320 *e*P **P** **16 24 56.5 +0.7**
BRG Amp 16 24 58.1
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 78.33 320 P P 16 25 02.5 +6.7
BRG Amp 16 25 05.1
comp=Z,18nm,1.2s
BRG Berggiesshubel 78.33 320 P **P** **16 24 56.7 +0.8**
BRG pmax pmax
comp=Z,16nm,1.6s
BRG Berggiesshubel 78.33 320 *e*P 16 24 55.3
comp=Z,29nm,1.3s,baz=91,slow=5.5
MYKA Terra Mystica 78.37 316 *i* P **P** **16 24 56.5 +0.3**
comp=Z,7.8nm,1.1s
GEC2 GERESS Array S 78.40 318 IAmb IAmb 16 25 04.7
comp=Z,70nm,1.5s
GEC2 GERESS Array S 78.40 318 *e*P 16 24 55.8
comp=Z,69nm,1.5s,baz=91,slow=5.5
GERES GERESS Array B 78.40 318 **P** **16 24 55.0 -1.4**
GERES GERESS Array B 78.40 318 P **P** **16 24 55.9 -0.5**
comp=Z,8.6nm,0.7s,baz=108,slow=3.0,SNR=51
comp=Z,8.6nm,0.7s
BIOA Bad Ischl, Aus 78.40 317 *e*P **P** **16 24 56.0 -0.4**
comp=Z,7.4nm,1.2s,SNR=6.2
KHC Kasperske Hory 78.49 319 *e*P **P** **16 24 57.6 +0.8**
KHC *ex* x 16 25 04.6
KHC AMS AMS 17 04 00.0
comp=Z,400nm,18.5s
KHC Kasperske Hory 78.49 319*ce*P **P** **16 24 57.2 +0.4**
KHC pmax pmax
comp=Z,37nm,1.7s
RUE Ruedersdorf 78.51 322 *e*P **P** **16 24 57.0 +0.2**
RUE Ruedersdorf 78.51 322 *e*P 16 24 56.1
comp=Z,106nm,1.4s,baz=91,slow=5.5
KBA Koelnbreinsper 78.58 316 P **P** **16 24 56.9 -0.7**
KBA pmax pmax
comp=Z,15nm,1.1s
KBA Koelnbreinsper 78.58 316 *i* P **P** **16 24 56.9 -0.7**
comp=Z,11nm,1.2s
HSKC Hora Svate Kat 78.64 320 AMS AMS 17 05 30.0
comp=Z,800nm,16.4s
CLL Collm 78.94 321 *i* P **P** **16 24 58.9 -0.3**
CLL *i* *PP **pP** **16 25 05.4 -0.1**
CLL *e*S **S** **16 34 53.0 -3.6**
CLL pmax pmax
comp=Z,15nm,1.2s
CLL MLR MLR
comp=Z,400nm,19.4s
CLL Collm 78.94 321 *e*P 16 24 58.3
comp=Z,27nm,1.4s,baz=91,slow=5.5
CLL *ep*P 16 25 05.6
WET Wettzell 78.95 319 P **P** **16 24 59.6 +0.2**
WET pmax pmax
comp=Z,11nm,1.1s
WET Wettzell 78.95 319 *e*P 16 24 58.8
comp=Z,11nm,1.0s,baz=91,slow=5.5
WET *ep*P 16 25 05.6
RJOB Jochberg 78.97 317 *e*P 16 24 58.3
baz=91,slow=5.5
LESA Schwarzleotal 79.05 317 *e*P **P** **16 24 59.5 -0.5**
comp=Z,12nm,0.6s,SNR=6.7
HFS Hagfors 79.06 330 P **P** **16 24 58.2 -1.4**
comp=Z,14nm,0.7s,baz=94,slow=5.9,SNR=20
HFS LR LR 17 04 14.1
comp=Z,918nm,19.6s,baz=92,slow=39
comp=Z,14nm,0.7s
FAUS Fauske 79.09 337 *e*P **P** **16 25 00.6 +0.9**
ABTA Abfaltersbach 79.15 316 *i* P **P** **16 24 59.7 -0.9**
comp=Z,8.3nm,1.3s
BJUU Bjuv 79.15 326 *i* P **P** **16 25 01.4 +1.3**
STEI Steigen 79.18 338 *e*P **P** **16 25 01.1 +0.9**
CIMO Cimolais 79.19 316 IAmb IAmb 16 25 09.9
comp=Z,72nm,1.3s
TANN Tannenbergstha 79.26 320 *e*P 16 25 00.3
comp=Z,27nm,1.6s,baz=91,slow=5.5
NKC Novy Kostel 79.26 320 AMS AMS 17 06 00.0
comp=Z,500nm,16.2s
NKC Novy Kostel 79.26 320 P **P** **16 25 01.3 +0.3**
NKC pmax pmax
comp=Z,10.0nm,1.9s
MOR8 Moi Rana 79.28 336 *e*P **P** **16 25 01.5 +0.7**
FABU Falkenberg 79.36 327 *i* P **P** **16 25 03.5 +2.1**
BORU Boraas 79.37 327 *i* P **P** **16 25 03.4 +2.0**
MANZ Manzenberg 79.47 319 *e*P 16 25 02.0
comp=Z,6.6nm,1.1s,baz=91,slow=5.5
CTI Castel Tesino 79.74 315 IAmb IAmb 16 25 12.0
comp=Z,30nm,1.0s
WTTA Wattenberg 79.75 317 P **P** **16 25 02.9 -1.1**
WTTA pmax pmax
comp=Z,29nm,1.1s
WTTA Wattenberg 79.75 317 *i* P **P** **16 25 03.5 -0.4**
comp=Z,1.3nm,0.4s,SNR=8.8
WATA Walderalm 79.79 317 *e*P **P** **16 25 03.2 -0.9**
comp=Z,14nm,1.6s,SNR=5.8
MOX Moxa 79.80 320 *e*L 17 06 39.0
comp=Z,613nm,18.7s
VAGH Vaagaholmen 79.81 336 *e*P **P** **16 25 04.3 +0.8**
LEIR Leirfjorden 79.81 336 *e*P **P** **16 25 04.7 +1.1**
ONAU Onsala 79.82 327 *i* P **P** **16 25 04.7 +0.8**
SQTA Sankt Quirin 80.04 317 *i* P **P** **16 25 05.9 +0.4**
comp=Z,10.0nm,0.6s,SNR=7.1
GRA1 Grafenberg Arr 80.04 319 IAmb IAmb 16 25 14.6
comp=Z,90nm,1.6s
GRF Grafenberg Arr 80.04 319 P **P** **16 25 06.2 +0.9**
GRF pmax pmax
comp=Z,38nm,1.4s
GRF Grafenberg Arr 80.04 319 *e*L 17 06 55.1
comp=Z,352nm,18.8s
GRFO Grafenberg 80.05 319 P **P** **16 25 05.2 0.0**
GRFO IAmb IAmb 16 25 14.6
comp=Z,92nm,1.6s
GRFO Grafenberg 80.05 319 P **P** **16 25 05.3 0.0**
GRFO pmax pmax
comp=Z,92nm,1.6s
TSUM Tsumeb 80.05 249 LR LR 16 57 14.1
comp=Z,847nm,20.3s,baz=72,slow=33
NC405 NORSAR Array S 80.09 331 IAmb IAmb 16 25 13.2
comp=Z,34nm,0.9s
MOTA Moosalm 80.11 317 *i* P **P** **16 25 04.8 -1.1**
comp=Z,24nm,1.3s
NC602 NORSAR Array S 80.16 330 IAmb IAmb 16 25 13.4
comp=Z,33nm,0.9s
NC602 NORSAR Array S 80.16 330 *e*P **P** **16 25 06.5 +0.9**
NORES NORESS Array B 80.16 330 P **P** **16 25 04.7 -0.9**
NORES pmax pmax
comp=Z,1.0nm,0.3s
NSS Namsos 80.17 334 *e*P **P** **16 25 06.5 +0.9**
SUR Sutherland 80.21 235 LR LR 16 56 23.0
comp=Z,473nm,20.6s,baz=75,slow=32
SUR Sutherland 80.21 235 P **P** **16 25 09.4 +2.6**
ZCCA Zocca 80.22 314 IAmb IAmb 16 25 34.9
comp=Z,58nm,1.2s
NC303 NORSAR Array S 80.27 331 IAmb IAmb 16 25 14.1
comp=Z,36nm,1.1s
STRU Stroemstad 80.27 329 *i* P **P** **16 25 08.1 +1.9**
NB2 NORSAR Subarra 80.33 331 P **P** **16 25 05.9 -0.7**
comp=Z,3.5nm,0.7s,baz=93,slow=5.3
NB2 NORSAR Subarra 80.33 331 P **P** **16 25 04.0 -2.6**

NB2 pmax pmax
comp=Z,16nm,1.2s
NB2 NORSAR Subarra 80.33 331 P **P 16 25 05.9 -0.7**
baz=93,slow=5.3
NOA NORSAR Array B 80.33 331 P **P 16 25 05.7 -0.9**
comp=Z,6.2nm,0.8s,baz=92,slow=5.7,SNR=30
NOA LR LR 17 04 27.8
comp=Z,485nm,19.6s,baz=115,slow=39
comp=Z,6.2nm,0.8s
RETA Reutte 80.35 317 *e*P **P 16 25 06.9 -0.2**
comp=Z,33nm,1.2s,SNR=7.5
FETA Feichten 80.37 316 *e*P **P 16 25 07.3 0.0**
comp=Z,16nm,1.2s,SNR=6.7
ASSE Asse, Remlinge 80.41 322 *e*P 16 25 06.4
comp=Z,24nm,1.3s,baz=91,slow=5.5
ASSE *e*pP 16 25 13.3
SPB2 Spitsbergen Ar 80.43 348 IAmb IAmb 16 25 14.5
comp=Z,26nm,0.8s
SPA0 Spitsbergen Ar 80.43 348 *e*P **P 16 25 07.2 +0.4**
SPITS Spitsbergen Ar 80.43 348 P **P 16 25 06.1 -0.8**
comp=Z,6.7nm,0.6s,baz=99,slow=9.5,SNR=18
SPITS LR LR 17 07 01.8
comp=Z,838nm,20.4s,baz=79,slow=40
comp=Z,6.7nm,0.6s
NAO01 NORSAR Array S 80.49 330 IAmb IAmb 16 25 15.7
comp=Z,35nm,0.9s
OSL Oslo 80.54 330 *e*P **P 16 25 09.3 +1.6**
NBO00 NORSAR Array S 80.55 331 IAmb IAmb 16 25 16.2
comp=Z,37nm,1.1s
NC204 NORSAR Array S 80.56 331 IAmb IAmb 16 25 15.9
comp=Z,38nm,1.1s
CLZ Clausthal 80.59 321 *e*P 16 25 07.4
comp=Z,37nm,1.4s,baz=91,slow=5.5
BSEG Bad Segeberg 80.64 323 P **P 16 25 08.7 +0.4**
BSEG pmax pmax
comp=Z,49nm,1.1s
BSEG Bad Segeberg 80.64 323 *e*P 16 25 08.1
comp=Z,64nm,1.2s,baz=91,slow=5.5
FUORN Ofenpass-Fuorn 80.69 316 IAmb IAmb 16 25 28.8
comp=Z,102nm,2.0s
NRDL Niedersach Rie 80.76 322 *e*P 16 25 09.0
comp=Z,69nm,1.5s,baz=91,slow=5.5
NRDL *e*pP 16 25 15.8
DAVA Damuels 80.95 317 *i*P **P 16 25 11.1 +0.8**
comp=Z,20nm,1.1s
DAVOX Davos/Dischmat 80.96 316 LR LR 17 05 41.0
comp=Z,300nm,21.9s,baz=84,slow=39
KONO Kongsberg 81.10 329 P **P 16 25 10.5 -0.2**
KONO IAmb IAmb 16 25 19.5
comp=Z,40nm,1.1s
KONO Kongsberg 81.10 329 *ce*P **P 16 25 11.1 +0.4**
KONO pmax pmax
comp=Z,24nm,1.3s
KONO Kongsberg 81.10 329 *e*P **P 16 25 11.6 +0.9**
DOMB Dombas 81.39 332 *e*P **P 16 25 12.2 0.0**
SKAR Skarslia 81.75 330 *e*P **P 16 25 15.9 +1.7**
KEST Kesra 81.76 305 P **P 16 25 15.2 +0.4**
comp=Z,5.1nm,0.6s,baz=107,slow=11,SNR=6.9
KEST LR LR 17 06 48.4
comp=Z,266nm,18.1s,baz=97,slow=40
comp=Z,5.1nm,0.6s
KEST Kesra 81.76 305 P **P 16 25 16.0 +1.2**
KEST P **P 16 25 16.0 +1.2**
TNS Taunus Mts 81.83 320 P **P 16 25 15.5 +0.7**
TNS pmax pmax
comp=Z,16nm,1.4s
BFO Black Forest 81.97 318 **P 16 25 14.0 -1.6**
BFO Black Forest 81.97 318 P **P 16 25 14.0 -1.6**
BFO pmax pmax
comp=Z,19nm,1.1s
MOL Molde 82.10 332 *e*P **P 16 25 17.7 +1.8**
AKN Aaknes 82.36 332 *e*P **P 16 25 19.1 +1.7**
BUG Bochum--Univer 82.54 321 P **P 16 25 17.9 -0.5**
BUG pmax pmax
comp=Z,19nm,1.5s
BLS5 Blasjo 82.70 329 *e*P **P 16 25 20.2 +1.0**
SENIN Lac Senin/Sane 82.75 316 IAmb IAmb 16 25 32.0
comp=Z,107nm,1.9s
ECH Echery 82.75 318 P **P 16 25 20.6 +0.9**
ECH pmax pmax
comp=Z,8.0nm,1.1s
HYA Hoyanger 82.78 331 *e*P **P 16 25 21.0 +1.6**
ISO Isola 83.05 314 P **P 16 25 22.6 +1.2**
ISO pmax pmax
comp=Z,12nm,1.1s
BNI Bardonecchia 83.26 315 P **P 16 25 24.2 +1.7**
BNI pmax pmax
comp=Z,20nm,1.1s
BTNL Ternell 83.30 320 *d*P **P 16 25 23.2 +0.7**
KMY Karmoy 83.33 329 *e*P **P 16 25 24.0 +1.6**
WLF Walferdange 83.34 319 *d*P **P 16 25 23.4 +0.7**
WLF Walferdange 83.34 319 P **P 16 25 24.3 +1.7**
WLF pmax pmax
comp=Z,15nm,1.1s
MEM Membach 83.37 320 *d*P **P 16 25 24.2 +1.5**
BGES Gesves 83.97 320 *d*P **P 16 25 27.4 +1.5**
UCC Uccle 84.41 320 *d*P **P 16 25 29.0 +1.0**
SSB Saint Sauveur 84.75 315 P **P 16 25 29.1 -0.9**
SSB pmax pmax
comp=Z,16nm,2.4s
SYO Syowa Base 84.95 197⇑ *e*P **P 16 25 30.6 +0.3**
SYO Syowa Base 84.95 197⇓ *e*PcP **PcP 16 25 33.0 -0.5**
LOR Lormes 85.04 317 P **P 16 25 32.3 +0.9**
LOR pmax pmax
comp=Z,19nm,1.3s
GAMB Gambell 85.23 26 P **P 16 25 31.0 -0.9**
baz=277
RPZ Rata Peaks 85.48 135 LR LR 17 05 52.3
comp=Z,441nm,19.2s,baz=280,slow=37
NOR Nord 85.83 352 P **P 16 25 34.5 -0.2**
NOR pmax pmax
comp=Z,29nm,1.2s
TAM Tamanrasset 86.16 292 P **P 16 25 39.9 +2.3**
TAM pmax pmax
comp=Z,15nm,1.4s
ELMS Elmsett, Ipswi 86.37 322 *e*P **P 16 25 39.7 +1.9**
ELMS IAmb IAmb 16 25 40.5
comp=Z,26nm,0.7s
TNA Tin City 86.57 24 P **P 16 25 36.8 -1.7**
baz=280
SPIA Saint Paul Isl 86.82 33 P **P 16 25 37.5 -2.4**
baz=278
C16K Lisburne Hills 87.05 22 P **P 16 25 39.3 -1.5**
baz=282
F14K Arctic Creek 87.24 24 P **P 16 25 40.3 -1.5**
baz=281
P08K Saint George I 87.28 33 P **P 16 25 40.4 -1.7**
baz=279
JMIC Jan Mayen 87.31 341 LR LR 17 06 48.2
comp=Z,360nm,21.2s,baz=79,slow=37
HPK Haverah Park 87.67 324 *e*P **P 16 25 45.7 +1.6**
HPK IAmb IAmb 16 25 47.1
comp=Z,20nm,0.7s
EDMD Edmundbyers 87.72 325 *e*P **P 16 25 45.7 +1.4**
EDMD IAmb IAmb 16 25 49.0
comp=Z,22nm,0.7s
LBWR Ladybower, Pea 87.82 323 *e*P **P 16 25 45.9 +1.0**
LBWR IAmb IAmb 16 25 47.7
comp=Z,26nm,0.8s
ANM Nome 87.83 25 P **P 16 25 43.0 -1.7**
baz=282
F15K North Star Dit 87.88 24 IAmb IAmb 16 25 55.1
comp=Z,42nm,1.4s
F15K North Star Dit 87.88 24 P **P 16 25 43.7 -1.2**
baz=283
RDOG Red Dog Mine 87.98 22 P **P 16 25 44.3 -1.0**
baz=284
D17K Noatak River 88.01 22 P **P 16 25 44.7 -0.8**
baz=284,SNR=17
B18K Kokolik River 88.03 20 P **P 16 25 44.3 -1.2**
baz=285,SNR=26
A19K Wainwright 88.05 19 P **P 16 25 44.1 -1.5**
baz=286
NIKH Nikolski High 88.28 37 P **P 16 25 45.3 -1.7**
baz=280
G15K Niukluk 88.29 25 P **P 16 25 45.2 -1.7**
baz=283
EKA Eskdalemuir Ar 88.31 325 P **P 16 25 46.9 -0.3**
comp=Z,7.8nm,0.7s,baz=100,slow=5.2,SNR=25
comp=Z,7.8nm,0.7s
M11K Mekoryuk 88.33 29 P **P 16 25 45.8 -1.3**
baz=282
C18K Utukok River 88.44 21 IAmb IAmb 16 25 58.0
comp=Z,44nm,1.1s
C18K Utukok River 88.44 21 P **P 16 25 46.5 -1.1**
baz=286,SNR=21

E17K Hotham Inlet 88.64 22 P **P 16 25 47.6 -0.8**
baz=285
K13K Kusilvak Mount 88.73 28 P **P 16 25 47.7 -1.3**
baz=283
G16K Koyuk River 88.88 24 P **P 16 25 48.8 -0.7**
baz=285
E18K Tukpahlearik C 89.00 22 IAmb IAmb 16 26 00.9
comp=Z,49nm,1.2s
E18K Tukpahlearik C 89.00 22 P **P 16 25 49.2 -0.9**
baz=286
F17K Baldwin Pennin 89.03 23 P **P 16 25 49.0 -1.3**
baz=286
J14K Nanvaranak Lak 89.03 27 P **P 16 25 49.1 -1.2**
baz=284
H16K Elim 89.12 25 P **P 16 25 49.9 -0.9**
baz=285
KPL Plockton 89.28 328 *e*P **P 16 25 53.2 +1.6**
KPL IAmb IAmb 16 25 54.5
comp=Z,15nm,0.8s
B20K Meade River 89.38 19 P **P 16 25 50.9 -1.0**
baz=290
UNV Unalaska Valle 89.50 36 P **P 16 25 51.0 -1.7**
baz=282
G17K Kiwalik Mounta 89.53 24 P **P 16 25 51.5 -1.2**
baz=286
D19K Kuna River 89.57 21 P **P 16 25 51.9 -1.0**
baz=289
F18K Selawik 89.60 23 P **P 16 25 52.1 -0.8**
baz=287,SNR=10
M13K Dall Lake 89.70 29 P **P 16 25 51.9 -1.7**
baz=284
A22K Sinclair Lake 89.72 18 P **P 16 25 52.1 -1.3**
baz=292
L14K Kuka Creek 89.78 28 P **P 16 25 52.2 -1.6**
baz=285
I17K Unalakleet 89.98 25 P **P 16 25 53.2 -1.6**
baz=286
H17K Granite Mounta 90.00 24 IAmb IAmb 16 26 06.5
comp=Z,42nm,1.4s
H17K Granite Mounta 90.00 24 P **P 16 25 53.5 -1.4**
baz=287
D20K Etivluk River 90.01 20 P **P 16 25 53.6 -1.3**
baz=290
K15K Wolf Creek Mou 90.06 27 P **P 16 25 53.8 -1.4**
baz=286
J16K Anvik River 90.19 26 IAmb IAmb 16 26 06.0
comp=Z,22nm,1.0s
J16K Anvik River 90.19 26 P **P 16 25 53.9 -1.9**
baz=287
G18K Tagagawik 90.20 23 P **P 16 25 54.2 -1.6**
baz=288
E19K Redstone River 90.23 21 P **P 16 25 54.1 -1.8**
baz=290
F19K Shaleruckik Mo 90.23 22 P **P 16 25 53.3 -2.6**
baz=289
L15K Ungalak Mounta 90.25 28 P **P 16 25 54.7 -1.3**
baz=286
M14K Bethel 90.28 29 P **P 16 25 53.9 -2.3**
baz=285
E20K Nigu River 90.32 21 P **P 16 25 54.2 -2.2**
baz=291
B21K Ikpikpuk River 90.35 19 P **P 16 25 54.6 -1.8**
baz=292,SNR=33
B22K Teshekpuk Lake 90.45 18 IAmb IAmb 16 26 08.0
comp=Z,54nm,1.3s
B22K Teshekpuk Lake 90.45 18 P **P 16 25 55.3 -1.6**
baz=293
C21K Knifeblade Rid 90.47 20 P **P 16 25 55.4 -1.6**
baz=292
H18K Honhosa River 90.56 24 IAmb IAmb 16 26 08.0
comp=Z,57nm,1.6s
H18K Honhosa River 90.56 24 P **P 16 25 54.8 -2.7**
baz=289
N14K Kuskokwak Cree 90.63 29 P **P 16 25 55.1 -2.8**
baz=286
G19K Purcell Mounta 90.73 23 P **P 16 25 55.4 -2.9**
baz=290
J17K VABM Dome 90.81 26 IAmb IAmb 16 26 08.9
comp=Z,26nm,1.2s
J17K VABM Dome 90.81 26 P **P 16 25 56.0 -2.7**
baz=288
M15K Kasigluk River 90.89 28 P **P 16 25 56.8 -2.3**
baz=286
F20K Avaraart Lake 90.92 22 P **P 16 25 56.7 -2.4**
baz=291
TORD Torodi Ar. Bea 90.96 283 **P 16 25 57.2 -3.2**
TORD Torodi Ar. Bea 90.96 283 P **P 16 26 00.6 +0.2**
comp=Z,96nm,0.3s,baz=56,slow=4.1,SNR=1.7
TORD LR LR 17 07 34.1
comp=Z,554nm,18.0s,baz=88,slow=36
E21K Killik River 91.02 20 P **P 16 25 56.7 -2.9**
baz=293
O14K Tigyukauivet M 91.02 30 P **P 16 25 56.5 -3.3**
baz=286
FALS False Pass 91.03 34 P **P 16 25 56.7 -3.1**
baz=284
ELIB Princess Elisa 91.13 197 *d*P **P 16 26 00.8 +0.7**
comp=Z,8.9nm,1.1s
L16K Owhat River 91.16 27 P **P 16 25 57.1 -3.2**
baz=288
H19K Roundabout Mou 91.19 23 P **P 16 25 58.4 -1.9**
baz=290,SNR=18
D22K Ayikyak River 91.27 20 P **P 16 25 58.1 -2.6**
baz=294,SNR=12
GCSA Galena City Sc 91.29 24 P **P 16 25 58.4 -2.4**
baz=290
N15K Kwethluk River 91.33 29 P **P 16 25 57.9 -3.3**
baz=287
K17K Iditarod 91.36 26 P P 16 25 56.2 -5.1
baz=289
C23K Itkillik River 91.53 18 P **P 16 25 58.4 -3.5**
baz=296
L17K Donlin 91.55 27 P **P 16 25 58.2 -3.9**
baz=289
M16K Timber Creek 91.61 28 P **P 16 25 59.6 -2.8**
baz=288
F21K Alatna River 91.66 21 IAmb IAmb 16 26 12.9
comp=Z,36nm,1.2s
F21K Alatna River 91.66 21 P **P 16 25 58.3 -4.3**
baz=293
O15K Ungalikthiuk R 91.75 30 P **P 16 25 58.7 -4.5**
baz=287
ESBB Sonseca Array 91.76 310 IAmb IAmb 16 26 11.4
comp=Z,38nm,1.8s
ESDC Sonseca Array 91.76 310 **P 16 26 00.0 -3.7**
ESDC Sonseca Array 91.76 310 P **P 16 26 03.8 +0.1**
comp=Z,4.9nm,0.8s,baz=57,slow=4.2,SNR=28
ESDC LR LR 17 11 00.1
comp=Z,283nm,21.1s,baz=74,slow=38
comp=Z,4.9nm,0.8s
J18K Innoko River 91.80 25 IAmb IAmb 16 26 14.7
comp=Z,56nm,1.6s
J18K Innoko River 91.80 25 P P 16 25 58.2 -5.1
baz=290
H20K Anotleneega Mo 91.81 23 P **P 16 25 59.2 -4.1**
baz=292,SNR=32
E22K Anaktuvuk Pass 91.87 20 IAmb IAmb 16 26 14.9
comp=Z,29nm,1.3s
E22K Anaktuvuk Pass 91.87 20 P **P 16 26 00.7 -2.9**
baz=295
D23K Nanushuk River 91.89 19 P **P 16 26 00.1 -3.6**
baz=296
G21K Allakaket 91.94 22 P **P 16 26 00.9 -2.9**
baz=293
F22K John River 92.01 21 P **P 16 26 00.8 -3.4**
baz=294
J19K Poorman 92.06 24 P **P 16 26 00.8 -3.7**
baz=291,SNR=22
PAB San Pablo 92.08 310 IAmb IAmb 16 26 13.9
comp=Z,24nm,1.5s
PAB San Pablo 92.08 310 P **P 16 26 07.1 +1.9**
PAB pmax pmax
comp=Z,11nm,1.3s
C24K Franklin Bluff 92.18 18 IAmb IAmb 16 26 15.3
comp=Z,34nm,1.4s
C24K Franklin Bluff 92.18 18 P **P 16 26 01.4 -3.5**
baz=298
M17K Holitna River 92.18 27 P **P 16 26 00.9 -4.2**
baz=289
I20K Naaghedeneel 92.23 24 P **P 16 26 01.6 -3.6**
baz=292
L18K Granite Mounta 92.24 26 IAmb IAmb 16 26 16.3
comp=Z,35nm,1.4s
L18K Granite Mounta 92.24 26 P **P 16 26 02.5 -2.8**
baz=290
TTA Tatalina 92.28 26 IAmb IAmb 16 26 16.4
comp=Z,43nm,1.4s
TTA Tatalina 92.28 26 P **P 16 26 03.4 -2.2**

baz=291
VNDA Vanda 92.34 168 P **P 16 26 06.9 +1.5**
comp=Z,1.5nm,0.6s,baz=285,slow=12,SNR=2.7
VNDA LR LR 17 05 13.0
comp=Z,466nm,18.2s,baz=310,slow=34
comp=Z,1.5nm,0.6s
TOLK Toolik Lake Re 92.40 19 IAmb IAmb 16 26 14.8
comp=Z,13nm,0.8s
TOLK Toolik Lake Re 92.40 19 P **P 16 26 04.5 -1.5**
baz=297,SNR=11
D24K Happy Valley 92.41 19 IAmb IAmb 16 26 16.4
comp=Z,45nm,1.4s
D24K Happy Valley 92.41 19 P **P 16 26 05.0 -1.0**
baz=298,SNR=10.0
O16K Kokwok River B 92.47 29 P **P 16 26 04.7 -1.7**
baz=289
G22K Bettles 92.49 21 P **P 16 26 05.1 -1.3**
baz=295
SDPT Sand Point 92.53 33 P **P 16 26 05.5 -1.3**
baz=286
H21K Melozitna Rive 92.54 22 P **P 16 26 05.1 -1.6**
baz=294,SNR=19
N17K Nushagak Hills 92.59 28 IAmb IAmb 16 26 18.0
comp=Z,32nm,1.4s
N17K Nushagak Hills 92.59 28 P **P 16 26 04.8 -2.1**
baz=290
J20K Nowinta River 92.60 24 P **P 16 26 04.9 -2.0**
baz=292,SNR=12
E23K Chandalar 92.65 20 P **P 16 26 05.2 -2.1**
baz=297,SNR=18
P16K Nushagak River 92.70 30 P **P 16 26 05.3 -2.1**
baz=289
S14K Fog Glacier 92.76 32 P **P 16 26 05.6 -2.4**
baz=287
COLD Coldfoot 92.82 21 P **P 16 26 06.6 -1.3**
baz=296
M18K Stony River 92.88 27 P **P 16 26 05.9 -2.4**
baz=291
O17K Koliganek Bris 92.89 29 P **P 16 26 06.7 -1.7**
baz=290
K20K Telida 92.94 25 P **P 16 26 06.9 -1.7**
baz=292,SNR=16
H22K Ishtalitna Cre 92.98 22 P **P 16 26 06.2 -2.5**
baz=295
E24K Your Creek 93.02 20 IAmb IAmb 16 26 20.8
comp=Z,29nm,1.4s
E24K Your Creek 93.02 20 P **P 16 26 06.6 -2.3**
baz=298,SNR=18
L19K White Mountain 93.05 26 IAmb IAmb 16 26 20.0
comp=Z,40nm,1.3s
L19K White Mountain 93.05 26 P **P 16 26 07.0 -2.2**
baz=292
D25K Kavik River 93.09 18 P **P 16 26 08.3 -0.8**
baz=300
G23K Bananza Creek 93.11 21 IAmb IAmb 16 26 20.1
comp=Z,49nm,1.6s
G23K Bananza Creek 93.11 21 P **P 16 26 08.2 -1.1**
baz=296
N18K Kilae Creek 93.14 28 P **P 16 26 08.5 -1.0**
baz=291
CHNA Chernabura Isl 93.17 34 P **P 16 26 07.2 -2.5**
baz=287
C26K Camden Bay 93.22 17 P **P 16 26 07.6 -2.1**
baz=301
M19K Big River Lodg 93.36 26 IAmb IAmb 16 26 21.1
comp=Z,33nm,1.3s
M19K Big River Lodg 93.36 26 P **P 16 26 08.1 -2.4**
baz=292
L20K Farewell, AK 93.36 26 P **P 16 26 08.2 -2.4**
baz=292
R16K Pilot Point 93.38 31 P **P 16 26 08.5 -2.2**
baz=289
P17K Kvichak River 93.40 29 P **P 16 26 07.1 -3.6**
baz=290
CHUM Lake Minchumin 93.45 24 P **P 16 26 07.9 -3.0**
baz=294,SNR=11
Q16K King Salmon 93.47 30 P **P 16 26 08.9 -2.2**
baz=290
F24K Squaw Lake 93.48 20 IAmb IAmb 16 26 21.7
comp=Z,13nm,1.1s
F24K Squaw Lake 93.48 20 P **P 16 26 09.0 -2.1**
baz=298,SNR=8.9
MDT Midelt 93.57 304 LR LR 17 15 42.2
comp=Z,186nm,18.5s,baz=101,slow=40
H23K Yukon River 93.69 22 IAmb IAmb 16 26 22.9
comp=Z,38nm,1.4s
H23K Yukon River 93.69 22 P **P 16 26 09.0 -3.0**
baz=297
N19K Bonanza Creek 93.73 27 IAmb IAmb 16 26 23.1
comp=Z,36nm,1.1s
N19K Bonanza Creek 93.73 27 P **P 16 26 10.1 -2.3**
baz=292
C27K Jago River 93.73 17 IAmb IAmb 16 26 22.9
comp=Z,44nm,1.5s
C27K Jago River 93.73 17 P **P 16 26 09.9 -2.2**
baz=302
CAST Castle Rocks 93.74 24 P **P 16 26 09.9 -2.4**
baz=294
O18K Koktuh Hills 93.75 28 P **P 16 26 09.0 -3.4**
baz=291
BPAW Bear Paw Mtn. 93.89 24 P **P 16 26 09.9 -3.1**
baz=295
P18K Big Mountain, 93.91 29 P **P 16 26 12.5 -0.6**
baz=291
PPLA Purkeypile 93.91 25 P **P 16 26 12.1 -1.2**
baz=294
M20K Styx River 93.92 26 P **P 16 26 12.8 -0.4**
baz=293
E25K Arctic Village 93.95 19 IAmb IAmb 16 26 21.1
comp=Z,30nm,1.8s
E25K Arctic Village 93.95 19 P **P 16 26 12.7 -0.4**
baz=300
Q17K Contact Creek 93.99 30 P **P 16 26 12.9 -0.8**
baz=290
G24K Hadweenzic Riv 94.02 21 IAmb IAmb 16 26 23.5
comp=Z,18nm,1.4s
G24K Hadweenzic Riv 94.02 21 P **P 16 26 13.0 -0.4**
baz=299
BORG Borgarnes 94.03 337 LR LR 17 11 11.0
comp=Z,323nm,18.5s,baz=50,slow=37
O19K Port Alsworth 94.04 28 P **P 16 26 13.1 -0.5**
baz=292
I23K Minto, Yukon-K 94.06 22 IAmb IAmb 16 26 27.1
comp=Z,21nm,1.4s
I23K Minto, Yukon-K 94.06 22 P **P 16 26 13.0 -0.6**
baz=297
F25K Christian Rive 94.20 19 IAmb IAmb 16 26 25.3
comp=Z,26nm,1.2s
F25K Christian Rive 94.20 19 P **P 16 26 13.2 -1.2**
baz=300
Q18K Katmai Hardscr 94.29 29 P **P 16 26 13.1 -1.9**
baz=291
H24K Noodor Dome 94.29 21 IAmb IAmb 16 26 26.1
comp=Z,31nm,1.6s
H24K Noodor Dome 94.29 21 P **P 16 26 14.5 -0.3**
baz=298
NEA2 Nenana 94.42 23 P **P 16 26 15.6 +0.2**
baz=297
TRF Thorofare Moun 94.46 24 P **P 16 26 15.0 -0.7**
baz=296
G25K Bearman Lake 94.46 20 P **P 16 26 14.1 -1.3**
baz=300
SKT Skwentna 94.57 26 IAmb IAmb 16 26 25.6
comp=Z,23nm,1.0s
SKT Skwentna 94.57 26 P **P 16 26 14.4 -1.8**
baz=295
SPCR Spurr Chakacha 94.60 26 P **P 16 26 14.9 -1.4**
baz=294
F26K Sheenjek River 94.63 19 IAmb IAmb 16 26 26.9
comp=Z,17nm,1.1s
F26K Sheenjek River 94.63 19 P **P 16 26 14.7 -1.6**
baz=302
P19K Oil Pt 94.75 28 P **P 16 26 14.7 -2.3**
baz=293
D27M Malcolm River 94.76 17 IAmb IAmb 16 26 28.3
comp=Z,32nm,1.4s
D27M Malcolm River 94.76 17 P **P 16 26 15.9 -0.9**
baz=305
COLA College 94.76 22 P **P 16 26 15.2 -1.6**
baz=298
POKR Poker Plat Res 94.80 22 P **P 16 26 16.6 -0.5**
baz=299
H25L Birch Creek 94.81 21 P **P 16 26 15.2 -1.8**
baz=300
Q19K Cape Douglas, 94.84 29 P **P 16 26 15.6 -1.8**
baz=292
MCK McKinley 94.87 24 P **P 16 26 15.7 -1.7**
baz=297
CUT Chulitna 94.92 25 P **P 16 26 16.0 -1.7**

baz=296
R18K Karluk 94.96 30 P **P 16 26 16.6 -1.3**
baz=292
CHIR Chirikof Islan 94.99 32 P **P 16 26 17.2 -0.9**
baz=291
SUA Susitna One 95.13 26 P **P 16 26 16.2 -2.6**
baz=295,SNR=12
G26K Porcupine Rive 95.15 20 IAmb IAmb 16 26 30.8
comp=Z,31nm,1.2s
G26K Porcupine Rive 95.15 20 P **P 16 26 16.8 -1.8**
baz=302
IL31 95.17 22 IAmb IAmb 16 26 29.3
comp=Z,33nm,2.0s
ILAR Eielson Array 95.17 22 P **P 16 26 18.8 0.0**
comp=Z,0.8nm,0.6s,baz=298,slow=4.3,SNR=11
ILAR PP **PP 16 30 07.0 -1.1**
comp=Z,1.6nm,1.1s,baz=297,slow=7.3,SNR=5.2
ILAR LR LR 17 11 36.0
comp=Z,563nm,20.5s,baz=292,slow=37
comp=Z,0.8nm,0.6s
E27K Coleen River 95.17 18 IAmb IAmb 16 26 29.0
comp=Z,23nm,1.5s
E27K Coleen River 95.17 18 P **P 16 26 17.4 -1.4**
baz=304
CAPN Captain Cook N 95.25 27 P **P 16 26 16.0 -3.1**
baz=295
M22K Willow 95.27 26 P **P 16 26 17.3 -1.9**
baz=296,SNR=8.5
PRP Porcupine Dome 95.30 21 P **P 16 26 17.9 -1.6**
baz=300
HDA Harding Lake 95.32 23 P **P 16 26 17.3 -2.2**
baz=299
D28M Stokes Point 95.34 17 P **P 16 26 17.9 -1.5**
baz=307
SII Sitkinak Islan 95.47 31 P **P 16 26 17.0 -3.3**
baz=292
HOM Homer 95.49 28 P **P 16 26 16.6 -3.7**
baz=294
E28M Babbage River 95.55 17 IAmb IAmb 16 26 30.8
comp=Z,24nm,1.4s
E28M Babbage River 95.55 17 P **P 16 26 18.1 -2.3**
baz=306
Q20K Shuyak Island 95.56 29 P **P 16 26 19.3 -1.3**
baz=294
OHAK Old Harbor 95.67 30 P **P 16 26 19.6 -1.6**
baz=293
RC01 Rabbit Creek A 95.73 26 P **P 16 26 19.6 -1.8**
baz=296
PMR Palmer 95.77 25 P **P 16 26 19.3 -2.2**
baz=297
KDAK Kodiak Island 95.80 30 LR LR 17 15 13.1
comp=Z,298nm,18.2s,baz=118,slow=39
KDAK Kodiak Island 95.80 30 P **P 16 26 19.9 -1.8**
baz=293
J25K Salcha River, 95.81 22 P **P 16 26 22.3 +0.5**
baz=300
BRSE Bradley Lake S 95.87 28 P **P 16 26 21.9 -0.2**
baz=295
G27K Doyon Strip 95.93 19 P **P 16 26 23.1 +0.9**
baz=304
O22K Cooper Landing 96.01 27 P **P 16 26 22.0 -0.6**
baz=296
SML Sawmill 96.01 25 P **P 16 26 22.3 -0.5**
baz=298
K24K Donnelly Dome 96.07 23 P **P 16 26 22.8 -0.2**
baz=300
KNK Knik Glacier 96.14 25 P **P 16 26 22.6 -0.7**
baz=297
E29M Blow River 96.16 17 IAmb IAmb 16 26 34.2
comp=Z,19nm,1.4s
E29M Blow River 96.16 17 P **P 16 26 22.8 -0.4**
baz=308
I26K Coal Creek Min 96.25 21 P **P 16 26 23.4 -0.3**
baz=303
M23K Glacier View 96.27 25 P **P 16 26 22.0 -1.8**
baz=298
SEW Seward 96.30 27 P **P 16 26 21.2 -2.7**
baz=296
H27K Steamboat Moun 96.30 20 IAmb IAmb 16 26 33.9
comp=Z,25nm,1.8s
H27K Steamboat Moun 96.30 20 P **P 16 26 22.9 -1.0**
baz=304
SCM Sheep Creek Mo 96.42 25 P **P 16 26 22.9 -1.7**
baz=298
PWL Port Wells 96.45 26 P **P 16 26 24.2 -0.4**
baz=297
RIDG Independent Ri 96.46 23 P **P 16 26 24.3 -0.4**
baz=301
J26L Joseph Creek 96.54 22 P **P 16 26 23.7 -1.4**
baz=302
PAX Paxson 96.61 23 P **P 16 26 25.0 -0.5**
baz=300
I27K Kandik River 96.62 20 P **P 16 26 25.3 -0.2**
baz=304
SCRK Sand Creek 96.66 22 P **P 16 26 24.5 -1.2**
baz=302
A36M Sachs Harbour 96.75 12 IAmb IAmb 16 26 34.2
comp=Z,15nm,0.8s
A36M Sachs Harbour 96.75 12 P **P 16 26 25.7 -0.1**
baz=320
M24K Tolsona, Glenn 96.76 24 P **P 16 26 25.6 -0.5**
baz=300
GLI Glacier Island 96.97 26 P **P 16 26 24.7 -2.3**
baz=298
HARP HAARP 97.03 24 P **P 16 26 26.1 -1.1**
baz=300
G29M Pine Creek 97.03 18 IAmb IAmb 16 26 36.5
comp=Z,20nm,1.5s
G29M Pine Creek 97.03 18 P **P 16 26 26.2 -1.0**
baz=308
KLU Klutina 97.17 25 P **P 16 26 27.9 -0.1**
baz=300
QSPA South Pole Qui 97.22 180 P Pdif 16 26 29.9 +1.8
comp=Z,0.7nm,0.9s,baz=225,slow=14,SNR=1.3
QSPA LR LR 17 07 40.6
comp=Z,574nm,18.2s,baz=309,slow=34
comp=Z,0.7nm,0.9s
P23K Montague Islan 97.26 27 P **P 16 26 26.2 -2.1**
baz=298
F30M Barrier River 97.27 17 P Pdif 16 26 29.8 +1.5
baz=310
I28M Miner Creek 97.29 20 IAmb IAmb 16 26 37.1
comp=Z,19nm,1.6s
I28M Miner Creek 97.29 20 P **P 16 26 28.5 0.0**
baz=306
K27K Chicken 97.34 22 P **P 16 26 28.5 -0.2**
baz=303
H29M Whitestone 97.35 19 P **P 16 26 28.5 -0.1**
baz=307
L26K Log Cabin Wild 97.41 23 P Pdif 16 26 29.2 +0.2
baz=302
G30M tAoh Zraii Nji 97.55 18 IAmb IAmb 16 26 38.8
comp=Z,29nm,1.7s
G30M tAoh Zraii Nji 97.55 18 P Pdif 16 26 29.9 +0.3
baz=309
N25K Chitina, Valde 97.66 24 P Pdif 16 26 31.3 +1.0
baz=301
EYAK Cordova Ski Ar 97.71 26 P Pdif 16 26 31.1 +0.7
baz=300
EPYK Eagle Plains 97.78 18 P **P 16 26 27.7 -3.0**
baz=309
M26K Nabesna, AK 97.88 23 P **P 16 26 28.6 -2.6**
baz=302
I29M Ogilvie Camp, 97.89 20 P **P 16 26 29.5 -1.6**
baz=307
L27K Beaver Creek, 97.97 22 P **P 16 26 29.7 -1.9**
baz=304
F31M Tsiigehtchic 97.98 17 IAmb IAmb 16 26 41.8
comp=Z,24nm,1.4s
F31M Tsiigehtchic 97.98 17 P **P 16 26 28.8 -2.6**
baz=312
BMRM Bremner River 97.98 25 P **P 16 26 29.9 -1.7**
baz=301
G31M Satah River 98.17 17 P **P 16 26 31.5 -0.8**
baz=311
DBIC Dimbokro 98.26 278 LR LR 17 10 46.6
comp=Z,937nm,19.2s,baz=63,slow=35
DAWY Dawson 98.29 21 P **P 16 26 32.7 -0.3**
baz=306
M27K Edge Creek, AK 98.34 23 P **P 16 26 31.8 -1.6**
baz=303
J29N Klondike Camp 98.47 20 P **P 16 26 32.3 -1.5**
baz=307
KAIM Kayak Island 98.60 26 P **P 16 26 33.4 -1.0**
baz=301
I30M Mount Dempster 98.61 19 IAmb IAmb 16 26 44.2
comp=Z,14nm,1.4s
I30M Mount Dempster 98.61 19 P **P 16 26 34.1 -0.4**
baz=309
BVCY Beaver Creek 98.70 23 P **P 16 26 34.5 -0.3**
baz=304
H31M Peel River 98.89 18 P **P 16 26 35.6 0.0**
baz=311
J30M Hart River 99.04 20 P **Pdif 16 26 34.4 -2.0**
baz=309
C36M Paulatuk 99.05 13 IAmb IAmb 16 26 45.2
comp=Z,26nm,1.8s
C36M Paulatuk 99.05 13 P **Pdif 16 26 36.6 +0.4**
baz=321
K29M Barlow Dome 99.08 21 P **Pdif 16 26 34.1 -2.5**
baz=308
SNAA Sanae 99.17 199 LR LR 17 07 03.7
comp=Z,414nm,18.4s,baz=103,slow=33
YUK3 Moose Creek 99.22 23 P **Pdif 16 26 35.2 -2.2**
baz=305
L29M L29M 99.32 21 P **Pdif 16 26 34.2 -3.4**
baz=307
MESA MESA 99.52 25 P **Pdif 16 26 33.4 -5.3**
baz=303
M29M Somme Creek 99.59 22 P **Pdif 16 26 35.2 -3.7**
baz=307
O28M Mount Upton 99.91 24 P **Pdif 16 26 36.1 -4.5**
baz=305
M30M Minto, Yukon 100.13 21 P **Pdif 16 26 37.1 -4.1**
baz=308
YUK4 Talbot Arm 100.18 23 P **Pdif 16 26 37.7 -4.0**
baz=306
PINM Pinnacle 100.27 25 P **Pdif 16 26 39.8 -2.1**
baz=305
N30M Aishikik Lake 100.71 22 P **Pdif 16 26 42.0 -1.9**
baz=308
O29M Mount Kennedy 100.83 24 P **Pdif 16 26 42.0 -2.4**
baz=306
PNL Peninsula 100.87 25 P **Pdif 16 26 40.3 -4.2**
baz=305
HYT Haines Junctio 100.94 23 P **Pdif 16 26 42.1 -2.9**
baz=307
N31M Braeburn, Yuko 101.18 22 P **Pdif 16 26 43.4 -2.5**
baz=309
M31M Drury Creek, Y 101.23 21 P **Pdif 16 26 42.2 -3.9**
baz=310
O30N Mendenhall 101.52 23 P **Pdif 16 26 43.7 -3.7**
baz=309
P29M Windy Craggy 101.57 24 P **Pdif 16 26 45.6 -2.1**
baz=307
P30M Million Dollar 101.58 24 P **Pdif 16 26 45.6 -2.1**
baz=308
FARO Faro, Yukon 101.58 21 P **Pdif 16 26 45.6 -2.1**
baz=311
N32M Quiet Lake 102.39 21 P **Pdif 16 26 50.8 -0.5**
baz=312
SKAG Skagway 102.64 24 P **Pdif 16 26 51.0 -1.4**
baz=309
P33M Teslin, Yukon 103.12 22 P **Pdif 16 26 52.6 -2.0**
baz=312
P32M Atlin 103.19 23 P **Pdif 16 26 52.2 -2.6**
baz=311
S31K Pelican 103.21 25 P **Pdif 16 26 51.9 -3.0**
baz=308
R32K Eaglecrest 103.72 24 P **Pdif 16 26 54.6 -2.6**
baz=310
Q32M Nakina River 104.16 23 P **Pdif 16 26 57.3 -2.2**
baz=312
YKA Yellowknife Ar 106.91 14 Pdiff **Pdif 16 27 13.0 +1.7**
comp=Z,0.5nm,1.0s,baz=333,slow=4.8,SNR=5.7
YKA PKiKP **PKiKP 16 31 21.5 +0.6**
baz=313,slow=4.6,SNR=2.3
YKA PP **PP 16 31 33.8 -2.9**
comp=Z,0.3nm,0.6s,baz=275,slow=2.0,SNR=4.3
YKA PKKPbc **PKKPbc 16 42 38.5 -2.7**
comp=Z,0.5nm,0.8s,baz=153,slow=2.9,SNR=7.1
PPT2 Papeete2 116.96 106 *e*LR LR 17 06 58.8
PPT2 *e*LR LR 17 07 04.4
comp=Z,389nm,32.2s
NVAR Mina Array Bea 125.27 31 PKP **PKiKP 16 31 57.5 0.0**
comp=Z,0.9nm,0.6s,baz=321,slow=1.9,SNR=6.2
PDAR Pinedale Array 125.60 22 PKP **PKPdf 16 31 56.6 -1.0**
comp=Z,1.8nm,0.9s,baz=70,slow=2.5,SNR=8.0
TAOE Nuku Hiva Isla 126.03 96 *e*LR LR 17 11 00.9
comp=Z,834nm,30.1s
RKT Rikitea 130.11 114 *e*LR LR 17 13 06.9
comp=Z,2μm,35.2s
TXAR Lajitas Array 139.63 25 PKP **PKPdf 16 32 25.1 +0.9**
comp=Z,1.1nm,0.6s,baz=222,slow=1.2,SNR=6.9
FRTB Fartura 141.90 241 *e*P **PKiKP 16 32 33.5 +2.2**
BDFB Brasilia 142.28 254 PKP **PKPdf 16 32 28.9 -0.4**
comp=Z,7.6nm,0.8s,baz=144,slow=2.2,SNR=3.7
LDASE Londrina, Braz 143.23 240 *e*P **PKiKP 16 32 36.3 +2.3**
PTGB Pitanga 143.56 238 *e*P **PKiKP 16 32 35.9 +1.2**
PLCA Paso Flores 144.11 200 PKP **PKPdf 16 32 31.2 -0.6**
comp=Z,3.9nm,0.7s,baz=237,slow=4.8,SNR=6.7
ARAG Araguaiana, MT 145.88 253 *e*P **PKiKP 16 32 38.1 -1.4**
RPRD Ribas do Rio P 146.45 244 *e*P **PKiKP 16 32 39.7 -0.9**
CPUP Villa Florida 147.11 232 PKPbc **PKPbc 16 32 38.9 -0.4**
comp=Z,5.7nm,0.8s,baz=72,slow=1.9,SNR=9.9
BI02 San Fabin de 147.99 202 **PKPdf 16 32 40.0 +1.4**
AQDB Aquidauana 148.22 243 **PKPdf 16 32 40.3 +1.1**
SALV Santo Antonio 149.51 251 *e*P **PKiKP 16 32 46.6 -0.4**
NPGB Novo Progresso 149.98 269 *e*P **PKPbc 16 32 46.8 -0.4**
ITTB Itaituba 150.13 274 *e*P **PKiKP 16 32 48.0 -0.4**
CLDB Colider 150.35 261 *e*P **PKPbc 16 32 48.0 -0.1**
PDRB Porto dos Gac 151.20 259 *e*P **PKPbc 16 32 49.6 -0.4**
PTLB Pontes e Lacer 152.84 250 *e*P **PKPbc 16 32 50.8 -2.8**
VILB Vilhena 154.37 255 *e*P **PKPbc 16 32 54.2 -2.9**
LPAZ La Paz 160.72 241 PKP **PKPdf 16 32 56.6 -0.7**
comp=Z,0.5nm,0.5s,baz=22,slow=5.4,SNR=3.9
LPAZ PKPab **PKPab 16 33 39.0 -0.2**
comp=Z,1.9nm,0.8s,baz=69,slow=4.5,SNR=4.3
OTAV Otavalo 169.64 316 *e*P **PKPdf 16 33 09.9 +5.1**

IDC 13 16:15:11.6±3.9, 4°.08S×134°.53E, h0km, mb3.7/1, mbtmp3.3/3, ML3.0/2, MS4.3/1, Error ellipse: s-maj=188.6km s-min=33.4km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.77**	**181**	Pn	Pn	16 18 54.2	-1.0
	0.1nm,0.3s,baz=360,slow=12,SNR=1.9						
	0.7nm,1.1s						
ASAR	**Alice Springs**	**19.48**	**182**	P	P	16 19 40.8	+0.5
	0.1nm,0.3s,baz=6.3,slow=11,SNR=8.6						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.61**	**304**	LR	LR	16 43 46.6	
	comp=Z,353nm,18.5s,baz=110,slow=41						
MKAR	**Makanchi Array**	**68.39**	**324**	P	P	16 26 15.2	0.0
	0.6nm,0.7s,baz=134,slow=8.3,SNR=2.7						
	0.6nm,0.7s						

*AUST **13** 16:18:57.8±1.1, 34°.5S±5°.5×11°.8E±°, h11km±10km, mb4.1/1, ML2.5/2, Error ellipse: s-maj=12.0km s-min=8.5km az=155.6*
*CUPWA **13** 16:18:58.2±4.0, 33°.90S×118°.15E, h7km±4km, ML2.5, Region: WESTERN AUSTRALIA*

ISC 13 16:18:57.8±1.2, 33°.92S±0°.05×118°.18E±0°.07, h14km±6km, n13, σ1§00/22, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNOT	**Gnowangerup To**	**0.09**	**262**	P	**Pg**	**16 19 01.1**	**+0.2**
GNOT				S	**Sg**	**16 19 03.1**	**+0.2**
RKGY	**Rocky Gully**	**1.21**	**235**	P	**Pn**	**16 19 20.2**	**-0.1**
RKGY				S	**Sb**	**16 19 35.7**	**-0.3**
RKGY	**Rocky Gully**	**1.21**	**235**	P	**Pn**	**16 19 20.2**	**-0.1**
RKGY				S	**Sb**	**16 19 35.7**	**-0.3**
NWAO	**Narrogin (SRO)**	**1.27**	**321**	P	**Pn**	**16 19 20.6**	**-0.5**
NWAO				S	**Sb**	**16 19 35.9**	**-1.8**
NWAO	**Narrogin (SRO)**	**1.27**	**321**	P	**Pn**	**16 19 20.6**	**-0.5**
PING	**Pingelly**	**1.73**	**324**	P	**Pb**	**16 19 28.9**	**-0.5**
PING				S	**Sb**	**16 19 51.0**	**+0.1**
CORI2	**Corrigin**	**1.87**	**349**	P	**Pb**	**16 19 30.9**	**-0.8**
CORI2				S	**Sb**	**16 19 54.7**	**-0.2**
MECK	**Meckering**	**2.49**	**336**	P	**Pb**	**16 19 40.7**	**-1.6**
MECK				S	**Sb**	**16 20 14.0**	**+1.2**
MUN	**Mundaring**	**2.55**	**319**	P	**Pn**	**16 19 39.9**	**+1.2**
MUN				S	**Sn**	**16 20 11.2**	**+1.5**
MUN	**Mundaring**	**2.55**	**319**	P	**Pn**	**16 19 39.9**	**+1.2**
MUN				S	**Sn**	**16 20 11.2**	**+1.5**
BLDU	**Ballidu**	**3.53**	**339**	S	**Sn**	**16 20 32.5**	**-1.2**
FORT	**Forrest**	**8.92**	**72**	P	**Pn**	**16 21 06.7**	**+0.4**
	comp=Z,16nm,1.5s,comp=Z,0.3nm						
FORT	**Forrest**	**8.92**	**72**	P	**Pn**	**16 21 06.7**	**+0.4**

*BJI **13** 16:20:12.1, 6°.90N×94°.17E, h10km, mB5.1/9, mb4.5/37, Ms5.2/4, Ms7 4.9/4*
*IDC **13** 16:20:14.9±0.5, 7°.31N×94°.24E, h0km, mb4.2/28, mbtmp4.2/30, ML4.1/2, MS4.2/1, Error ellipse: s-maj=17.1km s-min=12.3km az=55.0*
*MOS **13** 16:20:14.7±1.0, 7°.37N×94°.40E, h11km, mb5.0/30, Error ellipse: s-maj=14.1km s-min=5.9km az=117.2*
*NEIC **13** 16:20:16.4±1.9, 7°.34N±0°.05×94°.44E±0°.07, h10km±1km, mb5.0/64, Error ellipse: s-maj=13.4km s-min=4.8km az=122.0*
*NDI **13** 16:20:18.8±1.1, 7°.33N×94°.43E, h10km, ML4.8, MW4.8, mb5.0(NEIC)*
*DJA **13** 16:20:20.4±0.3, 7°N±3°×9°5E±°, h109km±12km, M4.8/12, mb4.5/12, MLv5.0/11*
*BKK **13** 16:20:21.0±2.1, 7°N±4°×9°5E±°, h19km±19km, M4.8/13, mB5.8/1, mb4.7/4, Mjma5.0/13, ML4.7/3, MLv4.7/5, Mw(mB)5.4/1*

ISC 13 16:20:18.5±0.3, 7°.26N±0°.04×94°.39E±0°.05, h24km, n226, σ1§45/210, mb4.7/105, 2C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.52**	**242**	*e*P	**Pb**	**16 20 28.7**	**-0.4**
CMBY				*e*S	**Sb**	**16 20 36.9**	**+0.6**
CMBY				IAML		16 20 41.5	
	comp=N,93μm,0.5s						
CMBY				IAML		16 20 43.0	
	comp=E,60μm,0.4s						
BSI	**Banda Aceh**	**1.97**	**153**	P	**Pn**	**16 20 51.4**	**+1.0**
LHMI	**Lhok Sumawe**	**3.25**	**128**		**Pn**	**16 21 08.1**	**+0.2**
LHMI	**Lhok Sumawe**	**3.25**	**128**	P	**Pn**	**16 21 09.3**	**+1.4**
LHMI				S	**Sn**	**16 21 43.5**	**-2.4**
MLSI	**Meulaboh, Aceh**	**3.59**	**146**	P	**Pn**	**16 21 15.6**	**+3.0**
RNTT	**Ranong**	**4.56**	**62**	P	**Pn**	**16 21 26.2**	**+0.1**
PBA	**Port Blair**	**4.66**	**340**	*e*P	**Pn**	**16 21 28.4**	**+1.1**
SRIT	**Nakonsritamara**	**5.33**	**75**		**Pn**	**16 21 35.7**	**-0.9**
SRIT	**Nakonsritamara**	**5.33**	**75**	P	**Pn**	**16 21 37.4**	**+0.8**
TSI	**Tuntungan**	**5.59**	**132**	P	**Pn**	**16 21 40.1**	**0.0**
	comp=E,1.2nmcomp=E,100nm,0.7s						
DGPR	**DIGLIPUR**	**6.05**	**346**	*e*S	**Sn**	**16 22 52.7**	**-2.3**
DGPR				IAML		16 23 27.4	
	comp=N,914nm,1.7s						
PSI	**Prapat**	**6.33**	**134**	Pn	**Pn**	**16 21 53.2**	**+2.8**
	comp=N,2.2nm,0.3s,baz=316,slow=9.6,SNR=13						
PSI				Sn	**Sn**	**16 23 05.0**	**+2.9**
	comp=N,1.0nm,0.3s,baz=51,slow=18,SNR=1.4						
	comp=N,17nm,0.6s						
PSI	**Prapat**	**6.33**	**134**	P	**Pn**	**16 21 52.4**	**+2.0**
RPSI	**Rantau Prapat**	**6.40**	**135**	Pn	**Pn**	**16 21 52.4**	**+1.1**
KULM	**Kulim**	**6.52**	**107**		**Pn**	**16 21 51.5**	**-1.6**
GSI	**Gunungsitoli**	**6.72**	**152**		**Pn**	**16 21 56.1**	**+0.5**
GSI	**Gunungsitoli**	**6.72**	**152**	P	**Pn**	**16 21 54.6**	**-1.1**
	comp=N,0.6nmcomp=N,66nm,0.8s						
UTHA	**Uthaitani**	**9.62**	**31**	P	**Pn**	**16 22 37.0**	**+1.5**
SISI	**Saibi**	**9.73**	**151**	P	**Pn**	**16 22 36.0**	**-1.1**
	comp=N,16nm,0.8s						
NAYO	**Nakonayok**	**9.77**	**44**	P	**Pn**	**16 22 38.1**	**+0.5**
CHAI	**Chaiyaphum**	**11.36**	**40**	P	**Pn**	**16 22 58.3**	**-1.0**
PHIT	**Phitsanulok**	**11.49**	**30**	P	**Pn**	**16 23 03.5**	**+2.4**
CM31	**Chiang Mai Arr**	**11.98**	**21**	Pn	**Pn**	**16 23 03.7**	**-4.1**
CMAR	**Chiang Mai Arr**	**11.98**	**21**	Pn	**Pn**	**16 23 09.2**	**+1.4**
	comp=N,0.6nm,0.3s,baz=214,slow=14,SNR=19						
	comp=N,1.6nm,0.5s						
PALK	**Pallekele**	**13.58**	**271**	Pn	**Pn**	**16 23 30.1**	**+0.3**
	comp=N,0.5nm,0.3s,baz=70,slow=16,SNR=4.8						
PALK				LR	LR	16 28 28.5	
	comp=N,980nm,18.1s,baz=61,slow=37						
VIS	**Vishakhapatnam**	**14.98**	**315**	*e*S	Sn	16 26 21.6	-12
KSM	**Kuching**	**16.88**	**109**		**Pn**	**16 24 11.2**	**-2.1**
TNCH	**TengChong**	**18.10**	**12**	*e*P	**P**	**16 24 29.3**	**+0.4**
TNCH				sP	pP	16 24 34.3	-0.4
TNCH				PP	**PnPn**	**16 24 44.8**	**+4.7**
TNCH				pmax	pmax		
	comp=N,30nm,2.0s						
TNCH				LR	LR		
	comp=N,2μm,8.8s						
TNCH				LR	LR		
	comp=N,3μm,10.7s						
TNCH				LR	LR		
	comp=N,3μm,12.4s						
SBUM	**Sibu**	**18.39**	**104**	P	**P**	**16 24 29.1**	**-2.8**
HYB	**Hyderabad**	**18.45**	**305**	*e*P	**P**	**16 24 32.0**	**-0.7**
KMI	**Kunming**	**19.47**	**23**	P	**Pn**	**16 24 48.4**	**+3.2**
KMI				sP	pwP	16 24 55.4	+2.3
KMI				pmax	pmax		
	comp=N,17nm,0.8s						
PZH	**PanZhiHua**	**20.38**	**19**	P	Pn	16 24 55.8	0.0
PZH				pmax	pmax		
	comp=N,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=N,100nm,4.4s						
LSA	**Lhasa**	**22.53**	**353**		**P**	**16 25 15.0**	**-2.2**
LSA				IAmb	IAmb	16 25 27.3	
	comp=Z,32nm,0.8s						
LSA	**Lhasa**	**22.53**	**353**	P	**P**	**16 25 15.0**	**-2.2**
LSA				pmax	pmax		
	comp=Z,32nm,0.8s						
MYLDM	**Lahad Datu**	**24.05**	**94**	P	**P**	**16 25 28.9**	**-3.2**
H08S3	**Diego Garcia H**	**26.38**	**236**	T	T	16 52 38.7	
	baz=56,slow=75,SNR=44						
H08S2	**Diego Garcia H**	**26.38**	**236**	T	T	16 52 38.8	
	baz=56,slow=75,SNR=48						
H08S1	**Diego Carcia H**	**26.40**	**236**	T	T	16 52 40.0	
	baz=56,slow=75,SNR=32						
XAN	**Xi'an**	**29.84**	**25**	P	**P**	**16 26 24.4**	**+0.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GTA	**Gaotai**	**32.38**	**8**	P	**P**	**16 26 47.5**	**+1.1**
GTA				sP	pP	16 26 54.1	+1.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NIL	**Nilore**	**32.74**	**326**	P	**P**	**16 26 49.1**	**-0.4**
NIL	**Nilore**	**32.74**	**326**	P	**P**	**16 26 49.1**	**-0.4**
NIL				pmax	pmax		
	comp=Z,27nm,0.8s						
NJ2	**Nanjing**	**33.58**	**39**	*e*P	**P**	**16 26 56.3**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HNS	**HongShan**	**35.23**	**29**	⇓P	**P**	**16 27 15.4**	**+4.4**
HNS				pmax	pmax		
	comp=Z,17nm,0.8s						
TIA	**Tai'an**	**35.52**	**33**	P	**P**	**16 27 15.4**	**+1.8**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KBL	**Kabul**	**35.81**	**323**	P	**P**	**16 27 14.9**	**-1.4**
KBL	**Kabul**	**35.81**	**323**	P	**P**	**16 27 14.9**	**-1.4**
KBL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSH	**Kashi**	**36.13**	**336**	P	**P**	**16 27 16.6**	**-2.3**
KSH				sP	pP	16 27 23.3	-2.1
KSH				PP	**PnPn**	**16 28 40.0**	**-0.5**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WUS	**Wushi**	**36.40**	**341**		**P**	**16 27 20.5**	**-0.7**
WUS				IAmb	IAmb	16 27 28.4	
	comp=Z,15nm,0.8s						
HHC	**Hu-ho-hao-te**	**36.79**	**22**	*e*P	**P**	**16 27 25.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
WMQ	**Urumqi**	**36.88**	**352**	*e*P	**P**	**16 27 26.9**	**+1.7**
WMQ				LR	LR		
	comp=Z,2μm,18.1s						
WMQ				LR	LR		
	comp=Z,2μm,15.9s						
WMQ				LR	LR		
	comp=Z,1μm,15.3s						
KDJ	**Kajisay**	**37.92**	**339**	P	**P**	**16 27 31.8**	**-2.4**
KDJ	**Kajisay**	**37.92**	**339**	P	**P**	**16 27 31.8**	**-2.4**
KDJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
DRK	**Karamyk**	**37.96**	**331**	P	**P**	**16 27 34.4**	**-0.3**
DRK	**Karamyk**	**37.96**	**331**	P	**P**	**16 27 34.4**	**-0.3**
DRK				pmax	pmax		
	comp=Z,47nm,0.7s						
GAR	**Garm**	**38.33**	**329**		**P**	**16 27 36.3**	**-1.3**
GAR				IAmb	IAmb	16 27 45.9	
	comp=Z,47nm,1.2s						
SIMJ	**Simiganj**	**38.75**	**328**		**P**	**16 27 38.9**	**-2.3**
SIMJ				IAmb	IAmb	16 27 48.5	
	comp=Z,22nm,1.0s						
BTK	**Batken**	**38.88**	**331**	IAmb	IAmb	16 27 52.3	
	comp=Z,25nm,0.9s						

BTK Batken 38.88 331 P **P 16 27 43.3 +1.1**
BTK pmax pmax
comp=Z,29nm,0.9s
ARSB Arslanbob 38.90 334 IAmb IAmb 16 27 50.0
comp=Z,18nm,0.8s
AAK Ala-Archa 39.36 337 P **P 16 27 46.0 -0.3**
AAK Ala-Archa 39.36 337 *i* P **P 16 27 45.1 -1.2**
AAK pmax pmax
comp=Z,7.0nm,0.9s
TRKS Terek-Say 39.89 332 P **P 16 27 50.6 0.0**
TRKS pmax pmax
comp=Z,4.0nm,1.2s
MK31 Makanchi Array 40.74 347 *i* P **P 16 27 56.4 -1.0**
MKAR Makanchi Array 40.74 347 P **P 16 27 56.8 -0.6**
MKAR Makanchi Array 40.74 347 P **P 16 27 57.0 -0.4**
comp=Z,6.2nm,0.7s,baz=168,slow=7.9,SNR=40
comp=Z,6.2nm,0.7s
MAKZ Makanchi 40.82 347 P 16 27 57.4 -0.7
MAKZ Makanchi 40.82 347 P **P 16 27 57.4 -0.7**
MAKZ pmax pmax
comp=Z,9.0nm,0.9s
XLT XiLinHaoTe 41.14 24 *e*P **P 16 28 03.1 +2.2**
XLT pmax pmax
comp=Z,5.0nm,0.8s
XLT pmax pmax
comp=Z,210nm,7.7s
KK31 Karatay Array 41.42 333 P **P 16 28 02.1 -1.0**
KK31 Karatay Array 41.42 333 P **P 16 28 02.1 -1.0**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 41.42 333 P **P 16 28 01.3 -1.8**
KKAR Karatay Array 41.42 333 IAmb IAmb 16 28 10.7
comp=Z,5.2nm,0.8s
KKAR Karatay Array 41.42 333 P **P 16 28 01.3 -1.8**
SONM Songino Array 41.70 12 P **P 16 28 06.0 +0.5**
SONM Songino Array 41.70 12 P **P 16 28 05.9 +0.5**
comp=Z,1.5nm,0.8s,baz=192,slow=9.0,SNR=7.0
SONM PcP **PcP 16 30 02.5 +0.7**
comp=Z,0.9nm,0.6s,baz=186,slow=4.5,SNR=3.6
comp=Z,1.5nm,0.8s
SONM Songino Array 41.70 12 P **P 16 28 06.0 +0.5**
SONM pmax pmax
comp=Z,6.0nm,1.2s
KSRS Korea Array 42.76 40 P **P 16 28 15.2 +1.0**
comp=Z,1.4nm,0.9s,baz=231,slow=7.6,SNR=5.2
comp=Z,1.4nm,0.9s
ZAK Zakamensk 43.62 8 *e*P P 16 28 26.9 +5.9
ZAK pmax pmax
comp=Z,3.0nm,1.5s
KURBB Kurchatov Arra 45.20 346 P **P 16 28 33.2 -0.3**
comp=Z,7.0nm,0.7s,baz=166,slow=7.0,SNR=47
KURBB PcP **PcP 16 30 13.2 -0.2**
comp=Z,3.3nm,0.9s,baz=162,slow=3.2,SNR=5.0
comp=Z,7.0nm,0.7s
KURK Kurchatov 45.26 346 P **P 16 28 32.9 -1.0**
KURK IAmb IAmb 16 28 41.6
comp=Z,24nm,0.9s
KURK Kurchatov 45.26 346 *i* P **P 16 28 33.0 -1.0**
KURK pmax pmax
comp=Z,28nm,1.0s
ZAA0 Zalesovo Array 47.19 352 IAmb IAmb 16 28 57.9
comp=Z,17nm,0.9s
ZALV Zalesovo Beam 47.19 352 P **P 16 28 49.3 +0.2**
comp=Z,3.3nm,0.7s,baz=170,slow=8.0,SNR=8.0
comp=Z,3.3nm,0.7s
WRA Warramunga Arr 47.71 125 P **P 16 28 53.7 0.0**
comp=Z,0.8nm,0.7s,baz=303,slow=9.0,SNR=10
WRA PcP **PcP 16 30 24.2 +1.3**
comp=Z,1.4nm,1.0s,baz=301,slow=9.2,SNR=1.8
comp=Z,0.8nm,0.7s
WRA Warramunga Arr 47.71 125 *e*P **P 16 28 54.7 +1.0**
WRA pmax pmax
comp=Z,1.0nm,0.6s
BNX BinXian 47.76 31 ⇑P **P 16 28 57.0 +3.3**
BNX pmax pmax
comp=Z,4.0nm,0.6s
BNX pmax pmax
comp=Z,180nm,6.0s
ASAR Alice Springs 49.34 130 P **P 16 29 06.0 -0.1**
comp=Z,1.3nm,0.7s,baz=302,slow=7.7,SNR=15
ASAR PcP **PcP 16 30 29.4 +0.7**
comp=Z,0.9nm,0.7s,baz=294,slow=3.6,SNR=4.4
comp=Z,1.3nm,0.7s
ASAR Alice Springs 49.34 130 *e*P **P 16 29 06.2 0.0**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
MJAR Matsushiro Arr 49.39 47 P **P 16 29 08.3 +1.9**
comp=Z,1.1nm,0.7s,baz=238,slow=7.6,SNR=5.3
comp=Z,1.1nm,0.7s
RAYN Ar Rayn 49.56 295 P **P 16 29 09.7 +1.7**
RAYN pmax pmax
comp=Z,28nm,0.8s
BVAR Borovoye Array 49.65 341 P **P 16 29 07.2 -0.9**
comp=Z,4.1nm,0.7s
comp=Z,4.1nm,0.7s
BRVK Borovoye 49.71 341 P **P 16 29 07.5 -1.0**
BRVK Borovoye 49.71 341 *i* P **P 16 29 07.7 -0.8**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
FORT Forrest 49.71 141 P **P 16 29 05.8 -3.0**
AB31 Akbulak array 50.88 331 P **P 16 29 16.8 -0.7**
AB31 IAmb IAmb 16 29 25.7
comp=Z,12nm,0.8s
ABKAR Akbulak array 50.88 331 P 16 29 16.6 -0.9
KLR Kul'dur 52.28 30 *i* P **P 16 29 26.7 -1.3**
KLR pmax pmax
comp=Z,2.0nm,1.2s
ZEA Zeya 53.41 24 *e*P **P 16 29 37.9 +1.7**
SVE Sverdlovsk 56.06 338 *e*P **P 16 29 55.6 +0.3**
SVE pmax pmax
comp=Z,31nm,0.9s
ARTI Arti 56.59 337 P **P 16 29 57.7 -1.4**
ARTI Arti 56.59 337*c i*P **P 16 29 58.6 -0.5**
ARTI 16 30 51.0
ARTI 16 32 00.3
ARTI S **S 16 37 51.0 +1.5**
ARTI SS **SS 16 41 37.7 +0.5**
ARTI pmax pmax
comp=Z,9.0nm,0.8s
KIBK Kibwezi 57.02 262 P **P 16 30 01.1 -2.0**
YSS Yuzhno-Sakhali 57.11 38 *e*P **P 16 30 00.7 -2.3**
YSS pmax pmax
comp=Z,10.0nm,0.9s
KMBO Kilima Mbogo 57.60 264 P **P 16 30 07.4 0.0**
KMBO IAmb IAmb 16 30 18.7
comp=Z,9.7nm,0.9s
KMBO Kilima Mbogo 57.60 264 P **P 16 30 07.7 +0.3**
comp=Z,2.9nm,0.6s,baz=64,slow=11,SNR=11
comp=Z,2.9nm,0.6s
KMBO Kilima Mbogo 57.60 264 P **P 16 30 07.4 0.0**
KMBO pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 57.70 318 P **P 16 30 07.0 -0.3**
comp=Z,2.2nm,0.9s,baz=121,slow=2.2,SNR=5.3
comp=Z,2.2nm,0.9s
KBZ Khabaz 57.70 318 *i* P **P 16 30 06.6 -0.6**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 57.94 318 *e*P **P 16 30 08.3 -0.7**
KIV pmax pmax
comp=Z,6.0nm,1.1s
STKA Stephens Creek 59.51 134 P **P 16 30 22.9 +2.9**
comp=Z,0.8nm,0.3s,baz=336,slow=8.3,SNR=4.7
comp=Z,0.8nm,0.3s
MMAI Mount Meron Ar 60.16 304 P **P 16 30 22.3 -2.4**
comp=Z,0.3nm,0.3s,baz=93,slow=5.8,SNR=2.8
comp=Z,0.3nm,0.3s
YAK Yakutsk 60.49 18 P **P 16 30 24.6 -1.6**
YAK IAmb IAmb 16 30 27.2
comp=Z,13nm,0.8s
YAK Yakutsk 60.49 18 *i* P **P 16 30 25.4 -0.8**
YAK pmax pmax
comp=Z,10.0nm,0.8s
KIRV Kirov 61.67 335 *i* P **P 16 30 33.8 -0.4**
NRIK Noril'sk 62.16 357 P **P 16 30 36.9 -0.5**
NRIK IAmb IAmb 16 30 45.5
comp=Z,6.0nm,0.9s
NRIK Noril'sk 62.16 357 P **P 16 30 36.2 -1.2**
comp=Z,1.5nm,0.5s,baz=181,slow=5.5,SNR=4.7
comp=Z,1.5nm,0.5s
NRIK Noril'sk 62.16 357 *i* P **P 16 30 36.9 -0.5**
NRIK pmax pmax
comp=Z,6.0nm,0.9s
BR131 Keskin Array S 63.01 311 *i* P **P 16 30 42.1 -1.8**
BRTR Keskin Array B 63.01 311 P **P 16 30 39.3 -4.5**
BRTR Keskin Array B 63.01 311 P **P 16 30 42.4 -1.5**
comp=Z,2.1nm,0.6s,baz=120,slow=7.9,SNR=14
comp=Z,2.1nm,0.6s
H04N2 CROZET ISLANDS 65.33 211 T T 17 41 23.0
baz=47,slow=75,SNR=35
H04N1 CROZET ISLANDS 65.34 211 T T 17 41 25.9
baz=47,slow=75,SNR=28
H04N3 CROZET ISLANDS 65.35 211 T T 17 41 26.7
baz=47,slow=75,SNR=33
H04S1 CROZET ISLANDS 65.73 211 T T 17 41 58.7
baz=52
H04S3 CROZET ISLANDS 65.74 211 T T 17 41 53.4
baz=52,slow=74
H04S2 CROZET ISLANDS 65.75 211 T T 17 41 58.5
baz=52,slow=74
OBN Obninsk 66.03 328 *e*P **P 16 31 03.6 +0.6**
OBN *e* 16 31 32.0
OBN *e* 16 33 30.3
OBN *e*PPP PPP 16 35 03.4
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,637nm,18.0s
KLMR Klimovskoe 67.11 334 *e*P **P 16 31 06.4 -3.4**
KLMR pmax pmax
comp=Z,15nm,1.1s
TIXI Tiksi 67.78 11 P **P 16 31 13.1 -0.8**
TIXI IAmb IAmb 16 31 22.9
comp=Z,17nm,1.1s
TIXI Tiksi 67.78 11 *i* P **P 16 31 13.4 -0.5**
TIXI pmax pmax
comp=Z,12nm,1.1s
PETK Petropavlovsk- 68.36 35 P **P 16 31 17.3 -0.5**
comp=Z,0.7nm,0.8s,baz=247,slow=7.5,SNR=1.3
comp=Z,0.7nm,0.8s
AKASG Malin Array Be 68.78 322 P **P 16 31 18.8 -1.8**
comp=Z,0.5nm,0.5s,baz=88,slow=5.0,SNR=9.9
comp=Z,0.5nm,0.5s
VRI Vrincioaia 69.31 316 P **P 16 31 24.4 +0.4**
VRI pmax pmax
comp=Z,18nm,1.0s
SEY Seymchan 69.38 24 *e*P P 16 31 17.0 -7.0
SEY pmax pmax
comp=Z,5.0nm,1.4s
MLR Muntele Rosu 69.78 316 P **P 16 31 26.2 -0.9**
MLR IAmb IAmb 16 31 34.7
comp=Z,5.6nm,0.8s
MLR Muntele Rosu 69.78 316 P **P 16 31 26.2 -0.9**
MLR pmax pmax
comp=Z,6.0nm,0.8s
BURAR Bucovina Array 70.66 318 P **P 16 31 32.3 -0.1**
BURAR Bucovina Array 70.66 318 P **P 16 31 32.3 -0.1**
JOF Joensuu 71.50 335 *e*P **P 16 31 37.4 +0.4**
DRGR 72.21 317 P **P 16 31 41.4 -0.3**
DRGR pmax pmax
comp=Z,5.0nm,1.1s
VSU Vasula 72.24 329 *i* P **P 16 31 39.9 -1.6**
VSU pmax pmax
comp=Z,7.0nm,0.8s
VSU Vasula 72.24 329 *e*P **P 16 31 40.0 -1.4**
KOLS Kolonicke sedl 72.83 319 *e*P **P 16 31 46.6 +1.3**
KOLS Kolonicke sedl 72.83 319 *e*P **P 16 31 46.6 +1.3**
FIA1 FINESS Array S 73.36 332 P **P 16 31 47.7 -0.4**
FINES FINESS Array B 73.36 332 P **P 16 31 47.8 -0.4**
comp=Z,5.9nm,0.7s,baz=100,slow=7.9,SNR=20
comp=Z,5.9nm,0.7s
MTSE Matsula 73.78 329 *e*P **P 16 31 50.4 -0.3**
MEF Metsahovi 73.84 331 *e*P **P 16 31 50.4 -0.6**
KEF Keuruu 74.11 333 *e*P **P 16 31 52.1 -0.4**
OJC Ojcow 74.60 320 P **P 16 31 55.7 +0.1**
VYHS Vyhne 75.03 318 *e*P **P 16 31 58.1 -0.1**
VYHS *e* 16 32 05.2
VYHS Vyhne 75.03 318 *e*P **P 16 31 58.1 -0.1**
VYHS *e* 16 32 05.2
RAF Rauma 75.29 331 *e*P **P 16 31 58.7 -0.6**
VAF Ylistaro 75.31 333 *e*P **P 16 31 59.5 +0.1**
BOSA Boshof 75.47 238 P **P 16 32 01.8 +0.6**
comp=Z,2.9nm,0.7s,baz=91,slow=3.3,SNR=11
comp=Z,2.9nm,0.7s
STEB Steborice 75.86 320 *e*P **P 16 32 03.0 +0.1**
STEB *ex* x 16 32 10.1
ARCES ARCESS Array B 75.92 340 P **P 16 32 03.0 +0.1**
comp=Z,1.9nm,0.7s,baz=112,slow=6.2,SNR=1.2
comp=Z,1.9nm,0.7s
MORC Moravsky Berou 76.00 319 P **P 16 32 01.9 -1.8**
MORC pmax pmax
comp=Z,6.0nm,1.0s
KRLC Kraliky 76.51 320 *e*P **P 16 32 06.3 -0.4**
KRLC *e*pP **pP 16 32 14.3 +0.7**
KRLC Kraliky 76.51 320 *e*P **P 16 32 06.3 -0.4**
KRLC *e**PP **pP 16 32 14.3 +0.7**
BILL Bilibino 76.56 22 *i* P **P 16 32 06.4 -0.1**
BILL pmax pmax
comp=Z,3.0nm,1.1s
RONA Rosalia, Austr 76.65 317 *e*pP **P 16 32 10.6 +3.1**
comp=Z,3.0nm,1.1s
DPC Dobruska-Polom 76.83 320 *e*P **P 16 32 08.9 +0.4**
DPC *e*pP **pP 16 32 15.6 +0.2**
DPC Dobruska-Polom 76.83 320 *e*P **P 16 32 08.9 +0.4**
DPC *e**PP **pP 16 32 15.6 +0.2**
KSP Ksiaz 76.89 320 P **P 16 32 09.4 +0.7**
CONA Conrad Observa 76.96 317 *e*P **P 16 32 09.5 +0.3**
comp=Z,1.7nm,0.8s
ARSA Arzberg 77.15 317 *e*P **P 16 32 09.3 -0.9**
comp=Z,3.1nm,0.9s
SOKA Soboth 77.45 316 *i* P **P 16 32 12.4 +0.3**
comp=Z,6.0nm,1.1s
MOA Molln 78.03 317 *e*P **P 16 32 15.0 -0.2**
comp=Z,3.1nm,0.9s
CKRC Cesky Krumlov 78.04 318 *e*P **P 16 32 14.8 -0.4**
CKRC Cesky Krumlov 78.04 318 *e*P **P 16 32 14.8 -0.4**
ZVC Zvikov 78.15 319 *e*P **P 16 32 15.8 0.0**
ZVC *e*pP **pP 16 32 22.9 +0.2**
MYKA Terra Mystica 78.41 316 *i* pP **P 16 32 19.5 +2.2**
comp=Z,4.0nm,1.0s
GEC2 GERESS Array S 78.44 318 IAmb IAmb 16 32 25.7
comp=Z,5.6nm,0.7s
GERES GERESS Array B 78.44 318 P **P 16 32 16.4 -1.1**
GERES GERESS Array B 78.44 318 P **P 16 32 17.5 -0.1**
comp=Z,2.1nm,0.7s,baz=90,slow=5.3,SNR=18
comp=Z,2.1nm,0.7s
BIOA Bad Ischl, Aus 78.45 317 *i* P **P 16 32 18.2 +0.7**
comp=Z,4.4nm,0.8s
KHC Kasperske Hory 78.54 319 *e*P **P 16 32 13.3 -4.7**
KHC *e*pP **pP 16 32 24.9 0.0**
KHC Kasperske Hory 78.54 319 *e*P **P 16 32 13.3 -4.7**
KHC *e**PP **pP 16 32 24.9 0.0**
KBA Koelnbreinsper 78.63 316 *i* P **P 16 32 18.0 -0.7**
comp=Z,6.5nm,1.3s
CLL Collm 78.99 321 *e*P **P 16 32 22.0 +1.6**
CLL *e* 16 32 28.0
CLL Collm 78.99 321 *e*Px Px 16 32 22.0
CLL *ex* x 16 32 28.0
LESA Schwarzleotal 79.09 317 *e*P **P 16 32 20.0 -1.1**
comp=Z,2.6nm,0.5s
HFS Hagfors 79.11 330 P **P 16 32 20.8 0.0**
comp=Z,3.5nm,0.5s,baz=98,slow=6.1,SNR=17
comp=Z,3.5nm,0.5s
ABTA Abfaltersbach 79.19 316 *i* P **P 16 32 22.4 +0.7**
comp=Z,5.6nm,0.9s
CIMO Cimolais 79.23 316 IAmb IAmb 16 32 30.7
comp=Z,26nm,1.2s
WTTA Wattenberg 79.80 317 *i* P **P 16 32 24.5 -0.6**
comp=Z,10.0nm,1.1s
SQTA Sankt Quirin 80.09 317 *i* P **P 16 32 26.0 -0.6**
comp=Z,9.4nm,0.8s
NC405 NORSAR Array S 80.14 331 IAmb IAmb 16 32 34.3
comp=Z,11nm,0.9s
MOTA Moosalm 80.16 317 *i* P **P 16 32 27.0 0.0**
comp=Z,7.0nm,1.0s
NORES NORESS Array B 80.21 330 P **P 16 32 26.4 -0.4**
NB2 NORSAR Subarra 80.38 331 P **P 16 32 27.0 -0.8**
comp=Z,6.7nm,0.8s,baz=92,slow=5.6
NB2 NORSAR Subarra 80.38 331 P **P 16 32 27.3 -0.5**
NOA NORSAR Array B 80.38 331 P **P 16 32 27.4 -0.5**
comp=Z,1.5nm,0.7s,baz=94,slow=5.0,SNR=9.8
comp=Z,1.5nm,0.7s
RETA Reutte 80.39 317 *i* P **P 16 32 27.6 -0.5**
comp=Z,5.0nm,0.6s
FETA Feichten 80.41 316 *e*P **P 16 32 28.5 +0.1**
comp=Z,3.0nm,0.7s
SPITS Spitsbergen Ar 80.48 348 P **P 16 32 28.0 0.0**
comp=Z,6.0nm,0.8s,baz=110,slow=9.8,SNR=7.8
comp=Z,6.0nm,0.8s
DAVA Damuels 80.99 317 *e*P **P 16 32 31.9 +0.4**
comp=Z,1.3nm,0.5s
TUE Stuetta 81.37 316 IAmb IAmb 16 32 44.4
comp=Z,8.4nm,1.0s
SYO Syowa Base 84.90 197‖*e*P **P 16 32 52.0 +1.1**
SYO Syowa Base 84.90 197‖*e*PcP **PcP 16 32 55.2 +1.0**
EKA Eskdalemuir Ar 88.36 325 P **P 16 33 08.4 +0.1**
comp=Z,3.3nm,0.7s,baz=97,slow=5.6,SNR=9.0
comp=Z,3.3nm,0.7s
EKA Eskdalemuir Ar 88.36 325 P **P 16 33 08.8 +0.5**
C18K Utukok River 88.49 21 **P 16 33 07.6 -1.1**
C18K IAmb IAmb 16 33 17.0
comp=Z,6.8nm,1.0s
E18K Tukpahlearik C 89.05 22 IAmb IAmb 16 33 19.6
comp=Z,15nm,1.4s
D19K Kuna River 89.61 21 IAmb IAmb 16 33 23.0
comp=Z,21nm,1.4s
E19K Redstone River 90.27 21 IAmb IAmb 16 33 26.9
comp=Z,9.9nm,0.9s
F19K Shaleruckik Mo 90.28 22 IAmb IAmb 16 33 26.5
comp=Z,18nm,1.4s
B21K Ikpikpuk River 90.39 19 IAmb IAmb 16 33 29.7
comp=Z,10nm,1.1s
F20K Avaraart Lake 90.96 22 IAmb IAmb 16 33 26.4
comp=Z,10nm,0.9s
TORD Torodi Ar. Bea 90.98 283 P **P 16 33 21.4 +0.1**
comp=Z,90nm,0.3s,baz=62,slow=3.9,SNR=1.3
E21K Killik River 91.06 20 IAmb IAmb 16 33 30.2
comp=Z,16nm,1.3s
ESDC Sonseca Array 91.80 310 P **P 16 33 24.5 -0.3**
ESDC Sonseca Array 91.80 310 P **P 16 33 24.2 -0.5**
comp=Z,1.0nm,0.7s,baz=55,slow=3.8,SNR=8.2
comp=Z,1.0nm,0.7s
D23K Nanushuk River 91.94 19 IAmb IAmb 16 33 34.7
comp=Z,14nm,1.4s
G21K Allakaket 91.98 22 IAmb IAmb 16 33 35.1
comp=Z,9.3nm,0.8s
VNDA Vanda 92.28 168 P **P 16 33 25.6 -0.4**
comp=Z,0.7nm,0.8s,baz=252,slow=6.9,SNR=3.5
comp=Z,0.7nm,0.8s
J20K Nowinta River 92.64 24 IAmb IAmb 16 33 37.5
comp=Z,10nm,1.2s
F26K Sheenjek River 94.68 19 IAmb IAmb 16 33 46.5
comp=Z,17nm,1.8s
ILAR Eielson Array 95.21 22 P **P 16 33 39.7 -0.2**
comp=Z,0.2nm,0.7s,baz=292,slow=4.3,SNR=4.2
comp=Z,0.2nm,0.7s
E28M Babbage River 95.60 17 IAmb IAmb 16 33 51.2
comp=Z,4.6nm,1.1s
PDAR Pinedale Array 125.64 22 PKP **PKPdf 16 39 17.4 -1.2**
comp=Z,0.5nm,0.9s,baz=29,slow=3.4,SNR=3.7
TXAR Lajitas Array 139.68 25 PKP **PKiKP 16 39 46.8 -0.7**
comp=Z,0.3nm,0.6s,baz=24,slow=3.3,SNR=2.2
PLCA Paso Flores 144.06 200 PKP **PKPdf 16 39 53.9 +1.2**
comp=Z,3.1nm,0.7s,baz=124,slow=3.6,SNR=6.1
CPUP Villa Florida 147.08 231 PKPbc **PKPbc 16 40 00.1 0.0**
comp=Z,1.3nm,0.6s,baz=117,slow=4.4,SNR=4.4

---

*IDC **13** 16:38:32.5±1.6, 7°.24N×94°.08E, h0km, mb3.5/8, mbtmp3.4/9, ML3.3/1, Error ellipse: s-maj=57.9km s-min=21.1km az=58.0*

ISC 13 16:38:35.8±1.4, 7°.3N±0°.2×94°.1E±0°.3, h20km, n15, σ1§06/9, mb3.5/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.02**	**22**	Pn	**Pn**	**16 41 25.7**	**-0.5**
	0.1nm,0.3s,baz=201,slow=14,SNR=2.0						
	0.1nm,0.4s						
H08S3	**Diego Garcia H**	**26.21**	**236**	T	T	17 10 54.0	
	baz=56,slow=76,SNR=14						
H08S2	**Diego Garcia H**	**26.21**	**236**	T	T	17 10 54.5	
	baz=56,slow=76,SNR=14						
H08S1	**Diego Carcia H**	**26.22**	**236**	T	T	17 10 55.3	
	baz=56,slow=76,SNR=15						
MKAR	**Makanchi Array**	**40.63**	**347**	P	**P**	**16 46 13.5**	**-1.0**
	0.3nm,0.7s,baz=166,slow=7.5,SNR=5.2						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**45.08**	**346**	P	**P**	**16 46 50.1**	**-0.4**
	0.4nm,0.8s,baz=174,slow=6.9,SNR=4.1						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**47.10**	**352**	P	**P**	**16 47 07.8**	**+1.4**
	0.6nm,0.6s,baz=178,slow=6.8,SNR=5.6						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**47.94**	**125**	P	**P**	**16 47 14.4**	**+1.0**
	0.2nm,0.7s,baz=299,slow=8.3,SNR=1.2						
	0.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**49.36**	**36**	P	**P**	**16 47 24.4**	**+0.4**
	0.6nm,0.6s,baz=174,slow=4.3,SNR=1.6						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**49.51**	**341**	P	**P**	**16 47 25.6**	**+0.7**
	0.2nm,0.3s						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**49.56**	**130**	P	**P**	**16 47 24.6**	**-1.3**
	0.5nm,1.1s,baz=304,slow=7.3,SNR=6.4						
	0.5nm,1.1s						
H04N2	**CROZET ISLANDS**	**65.25**	**211**	T	T	17 59 41.5	
	baz=47,slow=75,SNR=2.8						
H04N1	**CROZET ISLANDS**	**65.26**	**211**	T	T	17 59 47.5	
	baz=47,slow=75,SNR=5.5						
H04N3	**CROZET ISLANDS**	**65.27**	**211**	T	T	17 59 40.9	
	baz=47,slow=75,SNR=6.3						
FINES	**FINESS Array B**	**73.20**	**332**	P	**P**	**16 50 05.0**	**-0.1**
	1.4nm,0.9s,baz=95,slow=6.1,SNR=4.0						
	1.4nm,0.9s						

---

*IDC **13** 16:39:48.7±1.1, 60°.38S×44°.15W, h0km, mb3.8/2, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=45.8km s-min=33.8km az=78.0*

ISC 13 16:39:49.6±1.1, 60°.4S±0°.2×44°.1W±0°.2, h10km, n13, σ1§17/13, 4D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.51**	**143**	‖P	**Pn**	**16 43 50.9**	**-2.5**
	comp=Z,0.1nm,0.1s						
VNA1	**Neumayer--Stat**	**17.75**	**140**	‖P	**Pn**	**16 43 55.3**	**-1.0**
	comp=Z,0.2nm,0.2s						
VNA2	**Neumayer--Watz**	**18.11**	**141**	‖P	**Pn**	**16 44 00.2**	**-0.6**
	comp=Z,0.1nm,0.2s,baz=300,slow=16						
SNAA	**Sanae**	**19.72**	**142**	‖P	**Pn**	**16 44 21.9**	**+1.5**
	comp=Z,1.3nm,0.2s						
SNAA	**Sanae**	**19.72**	**142**	P	**P**	**16 44 18.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=268,slow=13,SNR=4.3						
	comp=Z,2.0nm,0.8s						
QSPA	**South Pole Qui**	**29.87**	**180**	P	**P**	**16 45 57.8**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=182,slow=6.4,SNR=8.2						
	comp=Z,0.9nm,0.8s						
BOSA	**Boshof**	**55.44**	**88**	P	**P**	**16 49 25.3**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=211,slow=5.9,SNR=1.1						
	comp=Z,0.8nm,0.7s						
FINES	**FINESS Array B**	**132.85**	**38**	PKP	**PKPdf**	**16 59 02.4**	**-0.8**
	comp=Z,3.2nm,1.1s,baz=207,slow=1.6,SNR=3.8						
YKA	**Yellowknife Ar**	**133.75**	**323**	PKP	**PKPdf**	**16 59 04.5**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=161,slow=1.5,SNR=4.9						
BVAR	**Borovoye Array**	**144.70**	**72**	PKP	**PKPdf**	**16 59 24.9**	**-0.2**
ILAR	**Eielson Array**	**146.21**	**311**	PKPbc	**PKPab**	**16 59 29.0**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=122,slow=1.2,SNR=6.5						
MKAR	**Makanchi Array**	**146.43**	**89**	PKPbc	**PKPab**	**16 59 29.9**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=236,slow=3.6,SNR=18						
KURBB	**Kurchatov Arra**	**147.12**	**81**	PKPbc	**PKPbc**	**16 59 31.9**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=234,slow=4.0,SNR=9.3						

---

*IDC **13** 16:46:52.2±1.3, 43°.96N×138°.25E, h262km±21km, mb2.9/4, mbtmp3.4/9, Error ellipse: s-maj=29.5km s-min=18.7km az=154.0*

*JMA **13** 16:46:55.5±0.5, 44°N±1°×13°8E±°, h259km±3km, MV2.6/12, EASTERN SEA OF JAPAN*

ISC 13 16:46:51.9±0.8, 43°.83N±0°.07×138°.29E±0°.07, h264km, n19, σ1§83/23, mb3.0/3, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**3.12**	**83**	P	**Pn**	**16 47 48.0**	**+1.6**
	5.1nm,0.4s,baz=270,slow=18,SNR=20						
JKK2	**Kamakawa 2**	**3.23**	**88**	*e*P	**Pn**	**16 47 50.0**	**+2.4**
JSE	**Soyaes**	**3.28**	**68**	*e*P	**Pn**	**16 47 50.6**	**+2.6**
JCH	**Churui**	**3.90**	**106**	*e*P	**Pn**	**16 47 56.9**	**+1.7**
JCH				*e*S	**S**	**16 48 44.1**	**-1.4**
JAR	**Ashorobuto**	**4.02**	**96**	P	**Pn**	**16 47 58.3**	**+1.8**
JAR				S	**S**	**16 48 50.0**	**+2.1**
JTKR	**Abashiri--Toko**	**4.06**	**86**	P	**Pn**	**16 47 58.7**	**+1.7**
JANG	**Nango**	**4.21**	**144**	*e*S	**S**	**16 48 50.3**	**-1.8**
USRK	**Ussuriysk Ar.**	**4.56**	**277**	P	**Pn**	**16 48 01.9**	**-0.8**
	0.6nm,0.4s,baz=86,slow=13,SNR=4.8						
JYK	**Kaneyama**	**5.15**	**162**	*e*P	**Pn**	**16 48 12.0**	**+2.0**
JMK	**Ichinoseki**	**5.35**	**155**	*e*P	**Pn**	**16 48 13.8**	**+1.5**

JMK eS **S** **16 49 15.6 -1.2**
NEM2 Nemuro 2 5.43 92 eP **Pn** **16 48 13.3 +0.1**
NEM2 eS **S** **16 49 14.6 -3.8**
JSD Sado 5.79 180 P **Pn** **16 48 19.4 +1.6**
MJAR Matsushiro Arr 7.28 181 P **Pn** **16 48 37.6 +1.3**
0.7nm,0.4s,baz=5.7,slow=12,SNR=9.6
PETK Petropavlovsk- 15.82 47 P **P** **16 50 20.1 +0.4**
0.4nm,0.6s,baz=238,slow=7.6,SNR=5.8
MA2 Magadan 17.51 21 P **P** **16 50 37.4 -0.5**
3.2nm,0.5s,baz=212,slow=19,SNR=1.6
SEY Seymchan 20.81 18 P **P** **16 51 11.2 -1.9**
0.6nm,0.5s,baz=197,slow=19,SNR=4.8
0.6nm,0.5s
KURBB Kurchatov Arra 40.17 301 P **P** **16 54 01.9 -0.4**
0.3nm,0.4s,baz=76,slow=8.8,SNR=3.5
0.3nm,0.4s
ILAR Eielson Array 45.19 36 P **P** **16 54 41.6 -0.8**
0.4nm,0.8s,baz=271,slow=8.4,SNR=3.2
0.4nm,0.8s
FINES FINESS Array B 61.72 330 P **P** **16 56 42.9 +1.0**
1.6nm,1.0s,baz=46,slow=8.6,SNR=3.5
1.6nm,1.0s

---

*BJI **13** 16:53:17.4, 6°.80S×130°.23E, h148km, mB5.0/15, mb5.0/63*
*IDC **13** 16:53:20.6±2.0, 6°.51S×129°.98E, h133km±18km, mb4.3/28, mbtmp4.8/35, MS3.6/6, Error ellipse: s-maj=12.0km s-min=8.5km az=78.0*
*NEIC **13** 16:53:21.8, 6°.44S×130°.14E, h130km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^16Nm; Mrr0.50; Mθθ-0.08; Mφφ-0.42; Mrθ0.65; Mφθ1.69; Mφr1.03; Fault plane solution: M0 2.13000×1016 NP1:φs98.51000°, δ59.50000°, λ19.62000°. NP2:φs358.25000°, δ73.19000°, λ147.98000°. Principal axes: T 2.2513, Plg34.0000°, Azm315.0000°; N -0.2516, Plg54.0000°, Azm153.0000°; P -1.9997, Plg9.0000°, Azm51.0000°;*
*NEIC **13** 16:53:21.8, 6°.44S×130°.04E, h130km*
*NEIC **13** 16:53:21.8±2.0, 6°.43S±0°.06×130°.04E±0°.04, h142km±6km, mb5.0/57, Mww4.8/13, Error ellipse: s-maj=9.4km s-min=5.6km az=158.0*
*DJA **13** 16:53:22.3±0.1, 7°.5±1°×13°0E±°, h154km±2km, M4.9/100, mb5.0/100, mB5.4/47, MLv5.5/18, Mw(mB)4.8/47*
*GCMT **13** 16:53:23.9±0.4, 6°.43S±0°.03×130°.09E±0°.02, h172km±5km, MW4.9/82, Moment Tensor Solution. s10,c10; s82,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.47±.15; Mθθ0.36±.17; Mφφ-0.83±.17; Mrθ0.47±.10; Mφθ1.80±.13; Mφr2.35±.12; Best double couple: M0 3.08300×10^16 NP1:φs103.00000°, δ38.00000°, λ9.00000°. NP2: φs6.00000°, δ84.00000°, λ128.00000°. Principal axes: T 3.1090, Plg39.0000°, Azm310.0000°; N -0.0520, Plg38.0000°, Azm181.0000°; P -3.0570, Plg29.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 16:53:21.8±0.4, 6°.52S±0°.03×130°.05E±0°.04, h148km±4km, h148km:pP-P, n365, σ1°.54/376, mb4.9/101, 5C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**140**		**Pn**	**16 53 57.2**	**+1.5**
SAUI	**Saumlaki**	**1.91**	**140**	P	**Pn**	**16 53 57.3**	**+1.5**
SAUI	**Saumlaki**	**1.91**	**140**	P	**Pn**	**16 53 57.5**	**+1.7**
SAUI				S	**Sn**	**16 54 24.2**	**+2.4**
BNDI	**Bandanaira**	**1.99**	**356**	P	**Pn**	**16 53 58.2**	**+1.4**
BNDI	**Bandanaira**	**1.99**	**356**	P	**Pn**	**16 53 57.8**	**+1.0**
BNDI				S	**Sn**	**16 54 25.1**	**+1.5**
MSAI	**Masohi**	**3.35**	**340**	P	**Pn**	**16 54 15.0**	**+1.4**
MSAI				S	**Sn**	**16 54 54.4**	**+0.7**
AAI	**Ambon**	**3.37**	**327**	P	**Pn**	**16 54 14.9**	**+1.1**
FAKI	**Fak Fak**	**4.20**	**32**		**Pn**	**16 54 22.4**	**-2.3**
FAKI				Sn	**Sn**	**16 55 10.1**	**-3.4**
FAKI	**Fak Fak**	**4.20**	**32**	P	**Pn**	**16 54 23.2**	**-1.5**
FAKI	**Fak Fak**	**4.20**	**32**	P	**Pn**	**16 54 23.1**	**-1.6**
NLAI	**Namlea**	**4.39**	**318**	P	**Pn**	**16 54 28.3**	**+1.1**
KMPI	**Kaimana, Papua**	**4.62**	**52**	P	**Pn**	**16 54 29.8**	**-0.4**
SWI	**Sorong**	**5.75**	**12**	P	**Pn**	**16 54 43.2**	**-2.0**
4.6nm7μm183nm,0.6s							
DRS	**Darwin Rock St**	**5.93**	**172**	P	**Pn**	**16 54 47.3**	**-0.3**
SANI	**Sanana**	**6.01**	**317**	P	**Pn**	**16 54 49.4**	**+0.8**
SANI	**Sanana**	**6.01**	**317**	P	**Pn**	**16 54 49.5**	**+0.8**
0.8nm3μm259nm,0.7s							
MTN	**Manton Dam**	**6.37**	**170**		**Pn**	**16 54 52.9**	**-0.5**
MTN	**Manton Dam**	**6.37**	**170**	P	**Pn**	**16 54 52.9**	**-0.5**
comp=Z,1μm,0.4s							
MTN	**Manton Dam**	**6.37**	**170**	S	**Sn**	**16 56 00.8**	**-4.4**
MTN	**Manton Dam**	**6.37**	**170**	P	**Pn**	**16 54 53.0**	**-0.5**
SOEI	**Soe**	**6.56**	**240**		**Pn**	**16 54 56.0**	**-0.1**
SOEI	**Soe**	**6.56**	**240**	P	**Pn**	**16 54 56.3**	**+0.2**
SOEI	**Soe**	**6.56**	**240**	S	**Sn**	**16 56 09.9**	**-0.1**
SOEI	**Soe**	**6.56**	**240**	P	**Pn**	**16 54 55.9**	**-0.2**
KDU	**Kakadu**	**6.57**	**159**	S	**Sn**	**16 56 06.4**	**-3.8**
KDU	**Kakadu**	**6.57**	**159**	P	**Pn**	**16 54 55.7**	**-0.5**
KDU	**Kakadu**	**6.57**	**159**	P	**Pn**	**16 54 55.6**	**-0.5**
BBSI	**Bau Bau**	**7.51**	**277**	P	**Pn**	**16 55 11.3**	**+2.6**
comp=Z,0.7nmcomp=Z,2μmcomp=Z,253nm,1.0s							
SRPI	**Serui, Papua**	**7.71**	**53**	P	**Pn**	**16 55 11.8**	**+0.4**
comp=Z,1.2nmcomp=Z,3μmcomp=Z,253nm,0.9s							
TNTI	**Ternate**	**7.73**	**340**		**Pn**	**16 55 11.8**	**+0.2**
TNTI	**Ternate**	**7.73**	**340**	P	**Pn**	**16 55 12.1**	**+0.5**
TNTI	**Ternate**	**7.73**	**340**	P	**Pn**	**16 55 11.4**	**-0.2**
comp=Z,64nm,0.8s							
MMRI	**Maumere**	**8.02**	**254**		**Pn**	**16 55 15.8**	**+0.2**
MMRI	**Maumere**	**8.02**	**254**	P	**Pn**	**16 55 16.6**	**+1.0**
MMRI	**Maumere**	**8.02**	**254**	P	**Pn**	**16 55 16.3**	**+0.7**
comp=Z,2μmcomp=Z,137nm,0.8s							
BAKI	**Biak**	**8.04**	**49**	P	**Pn**	**16 55 17.4**	**+1.7**
EDFI	**Ende, Flores**	**8.57**	**255**	P	**Pn**	**16 55 23.2**	**+0.2**
comp=Z,51nm,1.0s							
WAMI	**Wamena**	**9.02**	**74**	P	**Pn**	**16 55 31.7**	**+2.9**
LUWI	**Luwuk**	**9.07**	**307**		**Pn**	**16 55 31.7**	**+2.1**
LUWI	**Luwuk**	**9.07**	**307**	P	**Pn**	**16 55 31.3**	**+1.7**
LUWI	**Luwuk**	**9.07**	**307**	P	**Pn**	**16 55 31.6**	**+2.0**
comp=Z,3μmcomp=Z,135nm,0.9s							
KNRA	**Kununurra**	**9.18**	**188**		**Pn**	**16 55 28.9**	**-2.1**
KNRA	**Kununurra**	**9.18**	**188**	P	**Pn**	**16 55 29.4**	**-1.6**
comp=Z,284nm,0.5s							
KNRA				S	**Sn**	**16 57 06.1**	**-6.9**
KMSI	**Cibinong**	**9.29**	**319**	P	**Pn**	**16 55 33.1**	**+0.6**
BSSI	**Bau Bau, Buton**	**9.51**	**272**	P	**Pn**	**16 55 36.4**	**+1.0**
comp=Z,116nm,0.7s							
SMPI	**Sarmi**	**9.74**	**63**	P	**Pn**	**16 55 38.6**	**+0.2**
comp=Z,2μmcomp=Z,205nm,1.1s							
BKSI	**Bulukumba**	**9.95**	**276**	P	**Pn**	**16 55 42.0**	**+0.8**
comp=Z,50nm,0.7s							
BASI	**Baing, Sumba**	**10.06**	**248**	P	**Pn**	**16 55 42.7**	**0.0**
APSI	**Ampana**	**10.06**	**303**	P	**Pn**	**16 55 45.1**	**+2.3**
comp=Z,3μmcomp=Z,232nm,0.9s							
BNSI	**Bone**	**10.12**	**282**	P	**Pn**	**16 55 45.3**	**+1.8**
comp=Z,2μmcomp=Z,172nm,1.0s							
WSI	**Waingapu**	**10.15**	**251**	P	**Pn**	**16 55 41.4**	**-2.5**
KAPI	**Kappang**	**10.35**	**278**	P	**Pn**	**16 55 46.1**	**-0.5**
comp=Z,5.6nm,0.5s,baz=105,slow=16,SNR=4.0							
KAPI	**Kappang**	**10.35**	**278**	P	**Pn**	**16 55 46.8**	**+0.2**
MMPI	**Merauke**	**10.43**	**101**	P	**Pn**	**16 55 48.4**	**+0.8**
SPSI	**Sidrap Palu**	**10.55**	**283**	P	**Pn**	**16 55 49.9**	**+0.7**
comp=Z,1μmcomp=Z,119nm,1.0s							
MRSI	**Marisa**	**10.67**	**310**	P	**Pn**	**16 55 52.8**	**+2.0**
GENI	**Genyem**	**10.81**	**69**	P	**Pn**	**16 55 53.9**	**+1.2**
GENI	**Genyem**	**10.81**	**69**	P	**Pn**	**16 55 53.5**	**+0.8**
comp=Z,1μmcomp=Z,128nm,0.9s							
WBSI	**Waikabubak, Su**	**11.00**	**253**	P	**Pn**	**16 55 52.9**	**-2.2**
comp=Z,1μmcomp=Z,74nm,0.5s							
TABU	**Tabubil**	**11.19**	**84**	P	**Pn**	**16 55 59.4**	**+1.8**
JAY	**Jayapura**	**11.34**	**70**	P	**Pn**	**16 55 58.5**	**-1.2**
comp=Z,46nm,1.0s,baz=226,slow=7.8,SNR=12							
JAY				S	**Sn**	**16 57 58.5**	**-6.6**
comp=Z,36nm,0.8s,baz=264,slow=23,SNR=6.1							
JAY	**Jayapura**	**11.34**	**70**	P	**Pn**	**16 56 00.5**	**+0.8**
comp=Z,46nm,1.1s							
PCI	**Palu**	**11.62**	**298**	P	**Pn**	**16 56 04.4**	**+1.2**
comp=Z,3μmcomp=Z,157nm,0.9s							
TOLI2	**Tolitoli**	**11.96**	**309**	Pn	**Pn**	**16 56 08.8**	**+1.0**
TOLI2	**Tolitoli**	**11.96**	**309**	P	**Pn**	**16 56 09.1**	**+1.4**
MPSI	**Mapaga**	**12.21**	**304**	P	**Pn**	**16 56 11.8**	**+0.8**
comp=Z,1μmcomp=Z,98nm,1.4s							
FITZ	**Fitzroy Crossi**	**12.28**	**200**		**Pn**	**16 56 08.4**	**-3.4**
FITZ	**Fitzroy Crossi**	**12.28**	**200**	P	**Pn**	**16 56 09.0**	**-2.9**
FITZ	**Fitzroy Crossi**	**12.28**	**200**	P	**Pn**	**16 56 09.8**	**-2.0**
comp=Z,45nm,0.3s,baz=36,slow=12,SNR=152							
FITZ				S	Sn	16 58 17.6	-10
comp=Z,184nm,0.3s,baz=0.0,slow=20,SNR=6.5							
FITZ	**Fitzroy Crossi**	**12.28**	**200**	P	**Pn**	**16 56 09.9**	**-1.9**
PLAI	**Plampang**	**12.38**	**259**	P	**Pn**	**16 56 13.1**	**0.0**
PLAI	**Plampang**	**12.38**	**259**	P	**Pn**	**16 56 10.6**	**-2.5**
comp=Z,1μmcomp=Z,41nm,0.4s							
WB0	**Warramunga Arr**	**13.82**	**163**	Pn	**Pn**	**16 56 28.5**	**-3.2**
WRAB	**Tennant Creek**	**13.97**	**163**	Pn	**Pn**	**16 56 29.8**	**-3.7**
WRA	**Warramunga Arr**	**13.97**	**163**		**Pn**	**16 56 30.1**	**-3.4**
WRA	**Warramunga Arr**	**13.97**	**163**	P	**Pn**	**16 56 31.4**	**-2.2**
comp=Z,39nm,0.5s,baz=350,slow=13,SNR=150							
WRA				S	Sn	16 58 59.5	-9.0
comp=Z,84nm,0.5s,baz=344,slow=21,SNR=8.0							
WRA				LR	LR	17 02 56.4	
comp=Z,436nm,18.9s,baz=324,slow=41							
WB2	**Warramunga Arr**	**13.98**	**163**	P	**Pn**	**16 56 30.5**	**-3.1**
WR8	**Warramunga Arr**	**14.03**	**162**	Pn	**Pn**	**16 56 30.9**	**-3.4**
BKB	**Balikpapan**	**14.12**	**291**	P	**Pn**	**16 56 36.3**	**+0.9**
BKB	**Balikpapan**	**14.12**	**291**	P	**P**	**16 56 37.2**	**-1.3**
comp=Z,3μmcomp=Z,258nm,1.2s							
DAV	**Davao City (W)**	**14.22**	**342**	P	**Pn**	**16 56 35.1**	**-1.5**
comp=Z,95nm,0.3s,baz=279,slow=0.9,SNR=6.7							
DAV	**Davao City (W)**	**14.22**	**342**	P	**Pn**	**16 56 37.7**	**+1.0**
SRBI	**Singaraja**	**14.80**	**263**	P	**Pn**	**16 56 44.2**	**+0.3**
comp=Z,42nm,0.7s							
COEN	**Coen**	**14.87**	**121**		**Pn**	**16 56 42.7**	**-2.1**
COEN	**Coen**	**14.87**	**121**	P	**P**	**16 56 47.6**	**+0.8**
COEN	**Coen**	**14.87**	**121**	P	**Pn**	**16 56 45.5**	**+0.6**
ABJI	**Asem Bagus**	**15.74**	**264**	P	**Pn**	**16 56 56.0**	**+0.4**
comp=Z,68nm,1.0s							
JAGI	**Jajag, Banyuwa**	**15.88**	**262**		**Pn**	**16 56 53.2**	**-4.1**
JAGI	**Jajag, Banyuwa**	**15.88**	**262**	P	**P**	**16 56 58.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**15.88**	**262**	P	**Pn**	**16 56 55.7**	**-1.6**
KMMI	**Kalianget**	**15.98**	**267**	P	**P**	**16 57 00.4**	**+1.3**
MYLDM	**Lahad Datu**	**16.37**	**315**	P	**P**	**16 57 05.0**	**+1.6**
MYLDM	**Lahad Datu**	**16.37**	**315**	P	**P**	**16 57 04.2**	**+0.8**
GMJI	**Gumukmas**	**16.56**	**263**	P	**P**	**16 57 04.7**	**-0.8**
QIS	**Mount Isa**	**16.75**	**147**	P	**P**	**16 57 07.3**	**-0.3**
comp=Z,63nm,0.6s							
QIS	**Mount Isa**	**16.75**	**147**	P	**P**	**16 57 07.3**	**-0.3**
PMG	**Port Moresby**	**17.18**	**101**	P	**Pn**	**16 57 13.4**	**+0.2**
PMG	**Port Moresby**	**17.18**	**101**	P	**Pn**	**16 57 13.5**	**+0.4**
comp=Z,100nm,0.8s,baz=272,slow=5.4,SNR=45							
PMG				S	**S**	**17 00 15.8**	**-8.3**
comp=Z,21nm,0.6s,baz=179,slow=22,SNR=7.1							
PMG				LR	LR	17 05 17.6	
comp=Z,191nm,20.2s,baz=280,slow=42							
PMG	**Port Moresby**	**17.18**	**101**	P	**Pn**	**16 57 14.9**	**+1.8**
BWJI	**Bawean**	**17.30**	**271**	P	**Pn**	**16 57 14.8**	**+0.2**
comp=Z,238nm,1.2s							
AS31	**Alice Springs**	**17.44**	**168**	P	**P**	**16 57 15.6**	**+0.3**
AS31	**Alice Springs**	**17.44**	**168**	P	**Pn**	**16 57 16.0**	**-0.2**
comp=Z,24nm,0.4s							
ASAR	**Alice Springs**	**17.44**	**168**	P	**P**	**16 57 15.8**	**+0.6**
ASAR	**Alice Springs**	**17.44**	**168**	P	**P**	**16 57 15.6**	**+0.4**
comp=Z,26nm,0.6s,baz=344,slow=8.8,SNR=410							
ASAR				S	**S**	**17 00 24.0**	**-5.4**
comp=Z,30nm,0.6s,baz=357,slow=27,SNR=6.4							
ASAR				LR	LR	17 05 16.1	
comp=Z,186nm,19.6s,baz=335,slow=41							
AS01	**Alice Springs**	**17.45**	**168**	P	**Pn**	**16 57 16.2**	**-0.1**
GRJI	**Gresik**	**17.45**	**268**	P	**Pn**	**16 57 16.8**	**+0.4**
comp=Z,147nm,1.0s							
MBWA	**Marble Bar**	**17.65**	**213**	P	**P**	**16 57 16.4**	**-1.1**
MBWA	**Marble Bar**	**17.65**	**213**	P	**P**	**16 57 17.6**	**+0.1**
comp=Z,32nm,0.6s							
MBWA	**Marble Bar**	**17.65**	**213**	P	**Pn**	**16 57 18.6**	**0.0**
PSA00	**Pilbara Seismi**	**17.92**	**212**	P	**P**	**16 57 20.9**	**+0.5**
PSA00	**Pilbara Seismi**	**17.92**	**212**	P	**P**	**16 57 21.0**	**+0.5**
comp=Z,87nm,0.6s							
PSA00	**Pilbara Seismi**	**17.92**	**212**	P	**Pn**	**16 57 21.5**	**-0.4**
MTSU	**Mount Surprise**	**18.08**	**131**	P	**Pn**	**16 57 24.4**	**+0.6**
comp=Z,30nm,0.5s							
MTSU	**Mount Surprise**	**18.08**	**131**	P	**Pn**	**16 57 24.9**	**+1.1**
TBJI	**Tambak Boyo**	**18.08**	**268**	P	**Pn**	**16 57 23.7**	**-0.1**
comp=Z,99nm,0.8s							
WRKA	**Warakurna**	**18.49**	**185**	P	**Pn**	**16 57 28.1**	**-0.4**
comp=Z,45nm,0.5s							
WRKA	**Warakurna**	**18.49**	**185**	P	**Pn**	**16 57 27.9**	**-0.6**
KKM	**Kota Kinabalu**	**18.61**	**312**	P	**P**	**16 57 28.2**	**+0.1**
KKM	**Kota Kinabalu**	**18.61**	**312**	P	**Pn**	**16 57 29.2**	**-1.0**
PCJI	**Pacitan**	**18.79**	**264**	P	**P**	**16 57 28.9**	**-1.1**
comp=Z,37nm,1.0s							
STKI	**Sintang**	**19.65**	**289**	P	**P**	**16 57 39.4**	**0.0**
SBUM	**Sibu**	**19.91**	**296**	P	**P**	**16 57 43.1**	**+1.0**
SBUM	**Sibu**	**19.91**	**296**	P	**Pn**	**16 57 44.4**	**-0.8**
KSM	**Kuching**	**21.25**	**291**	P	**P**	**16 57 55.9**	**-0.5**
KSM	**Kuching**	**21.25**	**291**	P	**P**	**16 57 57.3**	**+0.9**
CMJI	**Cimerak**	**21.47**	**265**	P	**P**	**16 57 58.4**	**-0.4**
comp=Z,61nm,1.2s							
OOD	**Oodnadatta**	**21.82**	**166**	P	**P**	**16 58 03.4**	**+1.0**
GIRL	**Giralia**	**22.12**	**222**	P	**P**	**16 58 06.0**	**+0.5**
BBJI	**Bungbulang**	**22.25**	**266**	P	**P**	**16 58 08.2**	**+1.2**
LEM	**Lembang**	**22.28**	**268**	P	**P**	**16 58 06.5**	**-0.9**
comp=Z,94nm,0.9s,baz=47,slow=4.5,SNR=18							
comp=Z,94nm,0.9s							
LEM	**Lembang**	**22.28**	**268**	P	**P**	**16 58 06.8**	**-0.5**
TGY	**Tagaytay City**	**22.40**	**336**	P	**P**	**16 58 08.0**	**-0.3**
comp=Z,832nm,0.8s,baz=207,slow=2.1,SNR=18							
TPI	**Tanjungpandan**	**22.63**	**278**	P	**P**	**16 58 10.7**	**+0.2**
comp=Z,60nm,1.1s							
CNJI	**Cibinong**	**22.77**	**267**	P	**P**	**16 58 09.5**	**-2.3**
comp=Z,1μmcomp=Z,166nm,1.1s							
SKJI	**Sukabumi**	**23.33**	**267**	P	**P**	**16 58 16.6**	**-0.4**
INKA	**Innaminka**	**23.42**	**156**	P	**P**	**16 58 20.0**	**+2.4**
QLP	**Quilpie**	**24.09**	**147**	P	**P**	**16 58 25.1**	**+1.3**
comp=Z,58nm,0.6s							
QLP	**Quilpie**	**24.09**	**147**	P	**P**	**16 58 26.0**	**+2.2**
CGJI	**Cibinong**	**24.20**	**268**	P	**P**	**16 58 22.9**	**-1.9**
comp=Z,85nm,0.8s							
FORT	**Forrest**	**24.20**	**184**	P	**P**	**16 58 26.0**	**+1.3**
FORT				IAmb	IAmb	16 58 59.1	
comp=Z,50nm,0.8s							
FORT	**Forrest**	**24.20**	**184**	P	**P**	**16 58 27.8**	**+3.2**
FORT	**Forrest**	**24.20**	**184**	P	**P**	**16 58 26.3**	**+1.6**
PPBI	**Pangkal Pinang**	**24.23**	**279**	P	**P**	**16 58 26.6**	**+1.5**
GUMO	**Guam**	**24.82**	**36**	LR	LR	17 10 35.5	
comp=Z,83nm,18.2s,baz=66,slow=42							
LCRK	**Leigh Creek**	**25.01**	**163**	P	**P**	**16 58 33.6**	**+1.6**
PMBI	**Palembang**	**25.44**	**277**	P	**P**	**16 58 38.9**	**+2.8**
PMBI	**Palembang**	**25.44**	**277**	P	**P**	**16 58 37.5**	**+1.4**
MDSI	**Maura Dua**	**25.83**	**273**	P	**P**	**16 58 39.6**	**0.0**
LWLI	**Liwa**	**25.90**	**272**	P	**P**	**16 58 41.1**	**+0.7**
comp=Z,39nm,0.7s							
MORW	**Morawa**	**26.04**	**209**	P	**P**	**16 58 40.8**	**-0.5**
MORW				IAmb	IAmb	16 59 18.8	
comp=Z,48nm,1.6s							
BBOO	**Buckleboo**	**26.75**	**169**	P	**P**	**16 58 48.5**	**+0.8**
BBOO				IAmb	IAmb	16 59 28.9	
comp=Z,50nm,1.2s							
MYKOM	**Kota Tinggi**	**27.43**	**287**	P	**P**	**16 58 53.1**	**-0.8**
MYKOM				IAmb	IAmb	16 58 57.8	
comp=Z,11nm,0.5s							
MYKOM	**Kota Tinggi**	**27.43**	**287**	P	**P**	**16 58 55.0**	**+1.0**
STKA	**Stephens Creek**	**27.43**	**158**	P	**P**	**16 58 55.0**	**+1.2**
STKA	**Stephens Creek**	**27.43**	**158**	P	**P**	**16 58 54.9**	**+1.1**
comp=Z,48nm,0.7s							
STKA	**Stephens Creek**	**27.43**	**158**	P	**P**	**16 58 54.9**	**+1.1**
comp=Z,3.2nm,0.5s,baz=342,slow=8.5,SNR=13							
comp=Z,3.2nm,0.5s							
STKA	**Stephens Creek**	**27.43**	**158**	P	**P**	**16 58 55.2**	**+1.4**
DLV	**Lat**	**28.22**	**310**	P	**P**	**16 59 01.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**28.85**	**203**	P	**P**	**16 59 06.9**	**+0.6**
NWAO				IAmb	IAmb	17 00 02.2	
comp=Z,62nm,1.4s							
NWAO	**Narrogin (SRO)**	**28.85**	**203**	P	**P**	**16 59 07.0**	**+0.6**
comp=Z,4.5nm,0.3s,baz=39,slow=6.7,SNR=18							
NWAO				LR	LR	17 10 25.9	
comp=Z,160nm,20.7s,baz=75,slow=36							
comp=Z,4.5nm,0.3s							
CMSA	**Cobar Meteorol**	**28.87**	**152**	P	**P**	**16 59 08.0**	**+1.5**
comp=Z,19nm,0.8s							
CMSA	**Cobar Meteorol**	**28.87**	**152**	P	**P**	**16 59 08.4**	**+1.8**
HNR	**Honiara**	**29.74**	**98**	P	**P**	**16 59 15.2**	**+0.7**
comp=Z,64nm,0.7s,baz=304,slow=3.6,SNR=2.4							
comp=Z,64nm,0.7s							
PPI	**Padang Panjang**	**30.19**	**280**	P	**P**	**16 59 17.5**	**-1.0**
comp=Z,64nm,1.1s							
YULB	**Yu-li**	**30.94**	**344**	P	**P**	**16 59 21.6**	**-3.3**
TPUB	**Ta-pu**	**31.04**	**343**	P	**P**	**16 59 22.5**	**-3.2**
TPUB				IAmb	IAmb	16 59 27.5	
comp=Z,76nm,1.6s							
ARMA	**Armidale**	**31.24**	**142**	P	**P**	**16 59 28.0**	**+0.4**
MNSI	**Mandailing Nat**	**31.27**	**282**	P	**P**	**16 59 27.3**	**-0.6**
comp=Z,1μmcomp=Z,41nm,1.0s							
SISI	**Saibi**	**31.30**	**278**	P	**P**	**16 59 27.7**	**-0.6**
comp=Z,28nm,0.8s							
ARPS	**Mount Arapiles**	**31.98**	**162**	P	**P**	**16 59 35.7**	**+1.9**
comp=Z,27nm,0.6s							
ARPS	**Mount Arapiles**	**31.98**	**162**	P	**P**	**16 59 36.2**	**+2.4**
QIZ	**Qiongzhong**	**32.27**	**322**	P	**P**	**16 59 36.1**	**-0.5**
QIZ				pP	**pP**	**17 00 07.2**	**+0.4**
PBSI	**Pulau Batu**	**32.34**	**280**	P	**P**	**16 59 36.9**	**-0.5**
comp=Z,65nm,1.6s							
RPSI	**Rantau Prapat**	**32.40**	**285**	P	**P**	**16 59 37.2**	**-0.6**
PSI	**Prapat**	**32.42**	**286**	P	**P**	**16 59 37.2**	**-1.0**
comp=Z,30nm,0.9s,baz=127,slow=4.3,SNR=11							
comp=Z,30nm,0.9s							
PSI	**Prapat**	**32.42**	**286**	P	**P**	**16 59 36.8**	**-1.4**
UBPT	**Khong Chiam**	**32.60**	**312**	P	**P**	**16 59 38.6**	**-0.9**
JOW	**Kunigami**	**33.20**	**357**	P	**P**	**16 59 45.5**	**+0.8**
JOW	**Kunigami**	**33.20**	**357**	P	**P**	**16 59 44.4**	**-0.2**
comp=Z,40nm,0.8s,baz=172,slow=8.0,SNR=11							
JOW				LR	LR	17 10 55.1	
comp=Z,130nm,21.5s,baz=71,slow=32							
comp=Z,40nm,0.8s							
JOW	**Kunigami**	**33.20**	**357**	P	**P**	**16 59 45.7**	**+1.1**
GSI	**Gunungsitoli**	**33.33**	**282**	P	**P**	**16 59 43.3**	**-2.7**
GSI				PcP	**PcP**	**17 02 26.2**	**+1.5**
GSI	**Gunungsitoli**	**33.33**	**282**	P	**P**	**16 59 45.4**	**-0.6**
GSI	**Gunungsitoli**	**33.33**	**282**	P	**P**	**16 59 43.0**	**-3.0**
comp=Z,59nm,1.0s							
CAN	**Canberra**	**33.55**	**151**	P	**P**	**16 59 49.1**	**+1.5**
CAN				IAmb	IAmb	16 59 51.0	
comp=Z,16nm,0.8s							
CAN	**Canberra**	**33.55**	**151**	P	**P**	**16 59 50.0**	**+2.4**
comp=Z,29nm,1.6s							
CAN	**Canberra**	**33.55**	**151**	P	**P**	**16 59 50.2**	**+2.6**
CAN	**Canberra**	**33.55**	**151**	P	**P**	**16 59 50.2**	**+2.6**
CAN				pP	**pwP**	**17 00 21.8**	**+0.2**
CAN				sP	**sP**	**17 00 37.7**	**+2.4**
SRIT	**Nakonsritamara**	**33.87**	**296**	P	**P**	**16 59 50.3**	**-0.3**
TOO	**Toolangi**	**33.95**	**158**	P	**P**	**16 59 51.6**	**+0.5**
LHMI	**Lhok Sumawe**	**35.04**	**289**	P	**P**	**16 59 59.7**	**-1.0**
comp=Z,84nm,1.0s							
NAYO	**Nakonayok**	**35.23**	**306**	P	**P**	**17 00 01.8**	**-0.5**
MLSI	**Meulaboh, Aceh**	**35.26**	**287**	P	**P**	**17 00 02.7**	**+0.1**
NONG	**Nongkai**	**36.08**	**313**	P	**P**	**17 00 10.9**	**+1.4**
SRDT	**SRDT**	**37.03**	**304**	P	**P**	**17 00 18.0**	**+0.4**
SANVU	**Saraoutou**	**37.48**	**107**	P	**P**	**17 00 23.4**	**+2.0**
SLVN	**Son La**	**37.74**	**318**	IAmb	IAmb	17 00 25.1	
comp=Z,56nm,1.7s							
SLVN	**Son La**	**37.74**	**318**	P	**P**	**17 00 24.1**	**+0.5**
MOO	**Moorlands**	**38.86**	**160**	P	**P**	**17 00 35.1**	**+2.6**
JNU	**Nakatsue**	**39.43**	**1**	P	**P**	**17 00 36.6**	**-0.9**
JNU				IAmb	IAmb	17 00 38.6	
comp=Z,14nm,0.8s							
CM31	**Chiang Mai Arr**	**39.47**	**310**	IAmb	IAmb	17 00 39.1	
comp=Z,33nm,1.1s							
CMAR	**Chiang Mai Arr**	**39.47**	**310**	P	**P**	**17 00 37.6**	**-0.4**
CMAR				PcP	**PcP**	**17 02 44.6**	**+1.6**
CMAR	**Chiang Mai Arr**	**39.47**	**310**	P	**P**	**17 00

MDJ	Mudanjiang	50.91 360	P	P	17 02 09.1	+1.4
MDJ	Mudanjiang	50.91 360	P	P	17 02 08.2	+0.6
QRZ	Quartz Range	50.98 139	P	P	17 02 10.3	+1.8
QRZ	Quartz Range	50.98 139	P	P	17 02 11.2	+2.8
WKZ	Wanaka	51.02 145	P	P	17 02 10.6	+1.9
WHZ	Wether Hill Ro	51.07 147	P	P	17 02 10.5	+1.5
PALK	Pallekele	51.10 285	P	P	17 02 09.0	-0.8
	comp=Z,6.6nm,0.7s,baz=70,slow=8.1,SNR=6.2					
	comp=Z,6.6nm,0.7s					
EAZ	Earnscleugh	51.43 145	P	P	17 02 14.5	+2.8
LBZ	Lake Benmore	51.44 144	P	P	17 02 13.4	+1.6
RPZ	Rata Peaks	51.58 143	P	P	17 02 15.5	+2.6
JKA	Kamikawa-asahi	51.66 12	P	P	17 02 13.7	+0.3
JKA			IAmb	IAmb	17 03 46.8	
	comp=Z,37nm,1.4s					
APZ	The Paps	51.68 147	P	P	17 02 15.8	+2.2
THZ	Tophouse	51.70 140	P	P	17 02 14.5	+0.7
THZ			IAmb	IAmb	17 02 48.4	
	comp=Z,44nm,1.4s					
THZ	Tophouse	51.70 140	P	P	17 02 15.3	+1.4
NNZ	Nelson	51.73 139	P	P	17 02 15.1	+1.1
XLT	XiLinHaoTe	51.76 347	eP	P	17 02 14.5	+0.3
XLT			pP	pwP	17 02 53.5	+1.4
XLT			sP	sP	17 03 02.3	-0.6
XLT			pmax	pmax		
	comp=Z,13nm,0.9s					
LTZ	Lake Taylor	51.82 141	P	P	17 02 17.3	+2.6
LSA	Lhasa	51.89 316	P	P	17 02 16.4	+0.5
OXZ	Oxford	51.97 142	P	P	17 02 17.3	+1.5
TUZ	Tuapeka	52.04 146	P	P	17 02 17.5	+1.3
BNX	BinXian	52.08 358	||P	P	17 02 16.4	0.0
BNX			pmax	pmax		
	comp=Z,7.0nm,0.7s					
TUWZ	Tuamarina	52.21 139	P	P	17 02 18.7	+1.2
TCW	Tory Channel	52.32 138	P	P	17 02 17.3	-1.0
GVZ	Greta Valley S	52.40 141	P	P	17 02 20.9	+1.9
KHZ	Kahutara	52.44 140	P	P	17 02 20.6	+1.5
MQZ	McQueen's Vall	52.55 142	P	P	17 02 22.1	+2.1
SNZO	South Karori	52.65 138	P	P	17 02 20.7	-0.1
BKZ	Black Stump Fm	52.90 135	P	P	17 02 24.3	+1.5
MRZ	Mangatainoka R	52.93 137	P	P	17 02 25.3	+2.4
MWZ	Matawai	53.28 134	P	P	17 02 27.5	+1.9
BFZ	Birch Farm	53.39 137	P	P	17 02 27.3	+1.1
GTA	Gaotai	53.58 331	P	P	17 02 28.8	+1.0
GTA			pmax	pmax		
	comp=Z,17nm,1.0s					
YSS	Yuzhno-Sakhali	54.42 11	P	P	17 02 33.2	-0.3
YSS			IAmb	IAmb	17 04 27.5	
	comp=Z,32nm,1.4s					
YSS	Yuzhno-Sakhali	54.42 11	P	P	17 02 33.8	+0.3
HEH	HeiHe	56.59 358	eP	P	17 02 49.5	+0.6
HEH			pmax	pmax		
	comp=Z,17nm,1.0s					
ULN	Ulaanbaatar	57.83 342	P	P	17 02 57.1	-0.8
ULN			IAmb	IAmb	17 02 59.9	
	comp=Z,17nm,0.8s					
ULN	Ulaanbaatar	57.83 342	P	P	17 02 58.8	+0.9
SONM	Songino Array	58.01 341	P	P	17 02 59.9	+0.8
	comp=Z,4.9nm,0.8s,baz=156,slow=6.5,SNR=26					
	comp=Z,4.9nm,0.8s					
DRV	Dumont d'Urvil	60.44 175	P	P	17 03 16.7	+1.3
WMQ	Urumqi	63.02 327	eP	P	17 03 34.0	+0.8
WMQ			sP	sP	17 04 21.8	-0.8
WMQ			pmax	pmax		
	comp=Z,48nm,0.9s					
PETK	Petropavlovsk-	63.86 18	P	P	17 03 39.2	+0.9
	comp=Z,5.3nm,0.7s,baz=176,slow=3.4,SNR=27					
	comp=Z,5.3nm,0.7s					
WUS	Wushi	66.45 320	P	P	17 03 56.1	+0.6
ZSN	Zaisan	66.89 328	eP	P	17 03 58.0	0.0
	comp=Z,9.9nm,0.9s					
SHLS	Shalkode	67.37 322	eP	P	17 03 59.5	-1.8
	comp=Z,8.6nm,0.7s					
TARG	Taragay, Kyrgy	67.63 320	P	P	17 04 04.1	+0.8
TARG			IAmb	IAmb	17 04 14.9	
	comp=Z,20nm,1.4s					
UZB	Uzynbulak	67.64 322	eP	P	17 04 02.7	-0.3
	comp=Z,14nm,0.9s					
PRZ	Przheval'sk	67.66 321	IAmb	IAmb	17 04 05.9	
	comp=Z,38nm,1.1s					
KSH	Kashi	67.70 317	P	P	17 04 04.3	+0.8
KSH			pmax	pmax		
	comp=Z,22nm,0.7s					
MKAR	Makanchi Array	67.86 327	P	P	17 04 03.5	-0.6
MKAR	Makanchi Array	67.86 327	P	P	17 04 04.8	+0.7
	comp=Z,34nm,0.5s,baz=120,slow=8.1,SNR=572					
	comp=Z,34nm,0.5s					
SATY	Saty	67.97 322	eP	P	17 04 04.9	-0.2
	comp=Z,10nm,0.8s					
ZHN	Zhinishke	68.01 322	eP	P	17 04 05.0	-0.3
	comp=Z,11nm,0.7s					
KPKS	Kokpek	68.02 322	eP	P	17 04 05.1	-0.2
	comp=Z,9.5nm,0.7s					
MAKZ	Makanchi	68.04 327	P	P	17 04 04.9	-0.3
MAKZ	Makanchi	68.04 327	P	P	17 04 05.7	+0.5
KDJ	Kajisay	68.24 320	IAmb	IAmb	17 04 08.3	
	comp=Z,16nm,0.6s					
YAK	Yakutsk	68.35 360	P	P	17 04 06.3	-0.5
YAK	Yakutsk	68.35 360	P	P	17 04 07.3	+0.5
YAK			pP	pP	17 04 41.0	-0.7
TNSS	Tian-Shan	68.86 321	eP	P	17 04 10.5	-0.4
MDOK	Medeo	68.86 321	eP	P	17 04 10.3	-0.3
AAA	Alma-Ata	68.97 321	eP	P	17 04 10.9	-0.2
	comp=Z,7.5nm,0.6s					
BOOM	Boomskoye usch	69.21 320	IAmb	IAmb	17 04 14.8	
	comp=Z,36nm,1.0s					
CHKK	Chushkaly	69.26 322	eP	P	17 04 12.7	-0.2
TKM2	Tokmak 2	69.65 320	P	P	17 04 16.3	+0.8
	SNR=47					
KUU	Kurty	69.68 322	eP	P	17 04 15.6	+0.1
	comp=Z,11nm,0.6s					
KBK	Karagaybulak	69.93 320	P	P	17 04 18.4	+1.2
	SNR=21					
AAK	Ala-Archa	70.21 320	P	P	17 04 19.9	+1.0
AAK			IAmb	IAmb	17 04 21.1	
	comp=Z,28nm,0.7s					
AAK	Ala-Archa	70.21 320	P	P	17 04 20.1	+1.2
	SNR=40					
AAK	Ala-Archa	70.21 320	P	P	17 04 19.9	+1.0
CHMS	Chumysh	70.23 320	P	P	17 04 19.4	+0.6
	SNR=13					
AML	Almayashu	70.48 319	P	P	17 04 22.1	+1.2
	SNR=67					
USP	Ospenovka	70.52 320	P	P	17 04 21.5	+0.9
	SNR=69					
SGDS	Sogindy	70.53 321	eP	P	17 04 20.6	-0.2
	comp=Z,7.0nm,0.6s					
EKS2	Erkin-Say	70.69 319	P	P	17 04 23.1	+1.3
	SNR=58					
ZAA0	Zalesovo Array	71.18 334	IAmb	IAmb	17 04 24.9	
	comp=Z,13nm,0.9s					
ZALV	Zalesovo Beam	71.18 334	P	P	17 04 23.7	-0.6
ZALV	Zalesovo Beam	71.18 334	P	P	17 04 23.9	-0.5
	comp=Z,6.4nm,0.6s,baz=119,slow=4.9,SNR=42					
	comp=Z,6.4nm,0.6s					
SEY	Seymchan	71.33 11	P	P	17 04 25.6	+0.6
	comp=Z,7.2nm,0.7s,baz=199,slow=4.6,SNR=39					
	comp=Z,7.2nm,0.7s					
KURBB	Kurchatov Arra	72.13 328	P	P	17 04 30.4	+0.3
	comp=Z,9.1nm,0.6s,baz=129,slow=5.0,SNR=112					
	comp=Z,9.1nm,0.6s					
KURK	Kurchatov	72.14 329	P	P	17 04 29.8	-0.3
KURK			IAmb	IAmb	17 04 31.6	
	comp=Z,55nm,1.4s					
SIMJ	Simiganj	72.16 314		P	17 04 31.0	+0.3
DZA	Taraz	72.38 319	eP	P	17 04 31.8	0.0
	comp=Z,9.5nm,0.6s					
VNDA	Vanda	72.91 173	P	P	17 04 35.6	+1.3
VNDA	Vanda	72.91 173	P	P	17 04 34.9	+0.6
	comp=Z,0.5nm,0.5s,baz=321,slow=7.5,SNR=5.4					
	comp=Z,0.5nm,0.5s					
IUG	Iuzhnay	72.91 318	eP	P	17 04 35.0	-0.1
	comp=Z,12nm,0.7s					
KK31	Karatay Array	73.02 319	IAmb	IAmb	17 04 37.1	
	comp=Z,30nm,1.0s					
KKAR	Karatay Array	73.02 319	P	P	17 04 35.5	0.0
KKAR	Karatay Array	73.02 319	IAmb	IAmb	17 04 37.1	
	comp=Z,32nm,1.0s					
BRLS	Borolday	73.43 318	eP	P	17 04 38.0	0.0
	comp=Z,11nm,0.6s					
BRZS	Berezniki	74.95 326	eP	P	17 04 46.7	+0.1
MAW	Mawson	75.41 201	P	P	17 04 48.1	-0.8
MAW	Mawson	75.41 201	P	P	17 04 49.7	+0.8
	comp=Z,5.2nm,0.9s,baz=56,slow=7.3,SNR=6.4					
	comp=Z,5.2nm,0.9s					
BVAR	Borovoye Array	77.69 328	P	P	17 05 01.8	-0.2
	comp=Z,6.0nm,0.8s					
	comp=Z,6.0nm,0.8s					
BRVK	Borovoye	77.76 328		P	17 05 00.7	-1.7
TIXI	Tiksi	78.02 360		P	17 05 02.9	-0.4
NRIK	Noril'sk	81.11 346	P	P	17 05 20.5	+0.4
	comp=Z,6.3nm,0.9s,baz=144,slow=6.8,SNR=16					
	comp=Z,6.3nm,0.9s					
ABKAR	Akbulak array	82.17 322		P	17 05 25.4	-0.7
ABKAR	Akbulak array	82.17 322	IAmb	IAmb	17 05 28.8	
	comp=Z,6.1nm,0.7s					
QSPA	South Pole Qui	83.45 180	P	P	17 05 32.5	-0.2
QSPA			IAmb	IAmb	17 08 13.9	
	comp=Z,38nm,1.9s					
QSPA	South Pole Qui	83.45 180	P	P	17 05 32.8	+0.2
	comp=Z,1.3nm,0.6s,baz=130,slow=1.7,SNR=21					
	comp=Z,1.3nm,0.6s					
ARTI	Arti	85.41 328		P	17 05 40.4	-2.1
ARTI			IAmb	IAmb	17 05 43.0	
	comp=Z,18nm,0.6s					
RAYN	Ar Rayn	87.60 294		P	17 05 53.7	-0.2
ELIB	Princess Elisa	88.96 197	dP	P	17 06 00.7	+1.3
	comp=Z,2.2nm,0.7s					
KBZ	Khabaz	92.40 314	P	P	17 06 15.4	-0.3
	comp=Z,0.9nm,0.6s,baz=43,slow=5.2,SNR=3.9					
	comp=Z,0.9nm,0.6s					
KMBO	Kilima Mbogo	92.65 269	P	P	17 06 17.4	-0.6
	comp=Z,0.9nm,0.4s,baz=63,slow=4.0,SNR=5.1					
	comp=Z,0.9nm,0.4s					
ILAR	Eielson Array	92.90 25	P	P	17 06 16.5	-1.1
	comp=Z,0.4nm,0.7s,baz=249,slow=4.9,SNR=5.2					
	comp=Z,0.4nm,0.7s					
SNAA	Sanae	96.14 193	P	P	17 06 33.5	+1.0
	comp=Z,1.4nm,0.8s,baz=203,slow=7.7,SNR=2.2					
	comp=Z,1.4nm,0.8s					
BRTR	Keskin Array B	99.06 309	P	Pdif	17 06 44.5	-1.9
	comp=Z,0.4nm,0.5s,baz=145,slow=6.8,SNR=4.5					
	comp=Z,0.4nm,0.5s					
FINES	FINESS Array B	102.37 331	PKiKP	PKiKP	17 11 22.1	+0.9
	comp=Z,1.1nm,0.8s,baz=160,slow=6.1,SNR=4.2					
YKA	Yellowknife Ar	107.30 26	PKiKP	PKiKP	17 11 30.7	+0.4
	comp=Z,0.3nm,0.6s,baz=302,slow=1.5,SNR=7.7					
GERES	GERESS Array B	112.09 320	PKiKP	PKiKP	17 11 40.1	+0.2
	comp=Z,0.6nm,0.4s,baz=67,slow=1.7,SNR=7.2					
BTNL	Ternell	116.13 324	dPdif	Pdif	17 08 01.0	-0.8
MEM	Membach	116.19 324	dPdif	Pdif	17 08 01.8	-0.3
PDAR	Pinedale Array	116.52 45	PKP	PKiKP	17 11 49.6	+0.9
	comp=Z,0.3nm,0.6s,baz=21,slow=0.6,SNR=4.4					
EKA	Eskdalemuir Ar	118.77 332	PKP	PKPdf	17 11 52.4	0.0
	comp=Z,0.5nm,0.4s,baz=44,slow=3.9,SNR=4.6					
ESDC	Sonseca Array	127.20 316	PKP	PKPdf	17 12 08.1	-1.1
	comp=Z,0.8nm,1.0s,baz=133,slow=8.7,SNR=4.6					
TORD	Torodi Ar. Bea	128.76 282	PKP	PKPdf	17 12 10.8	-1.8
	comp=Z,79nm,0.4s,baz=66,slow=2.4,SNR=1.6					
DBIC	Dimbokro	135.22 273	PKP	PKPdf	17 12 25.2	+0.3
	comp=Z,1.8nm,0.6s,baz=90,slow=0.6,SNR=3.5					
CPUP	Villa Florida	146.57 168	PKPbc	PKPab	17 12 47.3	-0.5
	comp=Z,2.9nm,0.8s,baz=201,slow=4.7,SNR=5.8					
LPAZ	La Paz	151.06 142	PKPbc	PKPbc	17 12 59.2	+0.1
	comp=Z,1.1nm,0.3s,baz=195,slow=0.8,SNR=6.4					

NEIC ***13*** *17:01:17.3±2.3,22°.6S±0°.1×175°.7W±0°.1,h35km±1km, mb4.9/170, Error ellipse: s-maj=18.4km s-min=16.0km az=129.0*

GCMT ***13*** *17:01:19.3±0.3,22°.64S±0°.02×175°.18W±0°.03,h43km±1km, MW5.0/75, Moment Tensor Solution. s22,c28; s75,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.36±.23; $M_{\theta\theta}$0.91±.16; $M_{\phi\phi}$-3.28±.14; $M_{r\theta}$-0.58±.13; $M_{\theta\phi}$-0.05±.12; $M_{\phi r}$2.07±.13; Best double couple: $M_0$3.57100×10^{16} NP1:ϕ_s198.00000°, δ29.00000°, λ117.00000°. NP2: ϕ_s348.00000°, δ64.00000°, λ76.00000°. Principal axes: T 3.1790, Plg67.0000°, Azm231.0000°; N 0.7760, Plg13.0000°, Azm354.0000°; P -3.9620, Plg18.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***13*** *17:01:24.4±3.7,22°.72S×175°.92W,h96km±31km,mb4.3/17, mbtmp4.6/19,MS4.1/36 Error ellipse: s-maj=18.6km s-min=14.1km az=108.0*

ISC 13 17:01:16.2±0.5,22°.84S±0°.04×175°.83W±0°.07,h31km±2km, h32km:pP-P,n587,σ1§57/540,mb4.9/103,MS4.1/33, 26C-20D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	6.66	196	P	P	Pn	17 02 55.2	+3.2
RIZ					S	Sn	17 04 10.6	+3.8
NIUE	Niue	6.66	57	P		Pn	17 02 43.9	-8.2
NIUE					Sn	Sn	17 03 50.5	-16
GLKZ	Green Lake	6.67	196	P	P	Pn	17 02 54.5	+2.3
GLKZ					S	Sn	17 04 10.3	+3.2
MSVF	Nonsavu	7.66	310	Pn	Pn	Pn	17 03 13.0	+7.1
MSVF	Nonsavu	7.66	310	P	Pn	Pn	17 03 13.2	+7.3
	356nm,0.9s,baz=143,slow=11,SNR=135							
MSVF					LR	LR	17 06 02.3	
	comp=Z,3μm,18.3s,baz=131,slow=37							
FUTU	Fugatoga	8.76	345			Pn	17 03 17.7	-3.1
AFI	Afiamalu	9.67	24	Pn	Pn	Pn	17 03 27.5	-6.0
RAR	Rarotonga	14.98	87	Pn	Pn	Pn	17 04 36.9	-8.9
RAR	Rarotonga	14.98	87	P	Pn	Pn	17 04 38.4	-7.4
	24nm,0.3s,baz=251,slow=11,SNR=42							
RAR					S	Sn	17 07 06.1	-25
	16nm,0.7s,baz=229,slow=19,SNR=1.6							
RAR					LR	LR	17 09 17.3	
	comp=Z,417nm,22.0s,baz=273,slow=31							
RAR	Rarotonga	14.98	87	P		Pn	17 04 37.4	-8.4
OUZ	Omahuta	15.41	214	P	P	Pn	17 04 55.3	-0.4
PINNC	Pines Island,	15.43	268	P	P	Pn	17 04 55.8	-0.3
PINNC					IAmb	IAmb	17 04 55.8	
	comp=Z,216nm,1.6s							
WCZ	Waipu Caves	15.60	211	P	P	Pn	17 04 57.1	-0.8
HAZ	Te Kaha	15.85	199	P	Pn	Pn	17 04 51.6	-5.6
HAZ					S	Sn	17 07 44.8	-7.1
PKGZ	Pakihiroa	15.87	198	P	Pn	Pn	17 04 52.8	-4.6
PKGZ					S	Sn	17 07 41.5	-11
PUZ	Puketiti	16.01	197	P	Pn	Pn	17 04 56.9	-2.3
PUZ					S	Sn	17 07 43.9	-12
TWGZ	Tauwhareparae	16.19	198	P	Pn	Pn	17 05 01.8	+0.3
TWGZ					S	Sn	17 07 50.8	-9.4
DZM	Mont Dzumac	16.41	269		P	Pn	17 05 06.8	-0.2
DZM	Mont Dzumac	16.41	269	eP	P	P	17 05 13.4	+6.4
	comp=Z,78nm,1.1s							
DZM					eLR	LR	17 08 56.1	
	comp=Z,2μm,23.9s							
DZM	Mont Dzumac	16.41	269	P	P	P	17 05 07.2	+0.3
	comp=Z,5.1nm,0.8s,baz=80,slow=16,SNR=4.6							
DZM					LR	LR	17 10 23.1	
	comp=Z,981nm,21.7s,baz=148,slow=33							
MWZ	Matawai	16.46	199	P	Pn	Pn	17 05 01.9	-3.1
MWZ					S	Sn	17 07 55.1	-12
URZ	Urewera	16.52	200	P	P	Pn	17 05 08.1	+0.1
	comp=Z,6.9nm,0.3s,baz=9.9,slow=4.3,SNR=10							
URZ					S	Sn	17 07 59.5	-8.7
	comp=Z,11nm,0.7s,baz=72,slow=20,SNR=9.1							
TOZ	Tahuroa Road	16.61	205	Pn		Pn	17 05 06.1	-0.7
RTZ	Ruatahuna	16.89	200	P		Pn	17 05 07.8	-2.6
RTZ					S	Sn	17 08 05.0	-12
RAHZ	Arahi	17.13	199	P		Pn	17 05 09.9	-3.5
RAHZ					S	Sn	17 08 12.9	-10
MTHZ	Maungataniwha	17.15	200	P		Pn	17 05 13.2	-0.4
MTHZ					S	Sn	17 08 14.7	-8.8
MRHZ	Matea Rd	17.27	201	P		Pn	17 05 15.0	-0.1
MRHZ					S	Sn	17 08 19.5	-6.8
NMHZ	Naumai	17.39	199	P		Pn	17 05 16.8	+0.2
NMHZ					S	Sn	17 08 17.1	-12
HIZ	Hauiti	17.54	205	P		P	17 05 20.6	+1.2
BKZ	Black Stump Fm	17.55	200	P		Pn	17 05 15.5	-3.1
BKZ	Black Stump Fm	17.55	200	P		Pn	17 05 15.6	-3.0
BKZ					S	Sn	17 08 19.0	-14
MCHZ	McNeill Hill	17.74	199	P		Pn	17 05 21.0	+0.1
MCHZ					S	Sn	17 08 24.0	-14
ETVZ	East Tongariro	17.78	202	P		Pn	17 05 21.1	-0.4
OTVZ	Oturere	17.82	202	P		Pn	17 05 21.0	-1.0
SNVZ	South Ngauruho	17.85	202	P		Pn	17 05 22.3	-0.1
KRHZ	Kereru	18.02	200	P		Pn	17 05 24.1	-0.3
KRHZ					S	Sn	17 08 29.4	-15
VRZ	Vera Road	18.11	204	P		Pn	17 05 23.6	-1.8
PXZ	Pawanui	18.23	198	P		Pn	17 05 27.0	+0.1
PXZ					S	Sn	17 08 36.2	-13
PNHZ	Pukenui	18.32	200	P		P	17 05 23.0	-4.9
PNHZ					S	Sn	17 08 33.8	-18
TSZ	Takapari Road	18.53	200	P	P	Pn	17 05 25.6	-4.6
TSZ					S	Sn	17 08 41.4	-15
WAZ	Wanganui	18.58	203	P		Pn	17 05 32.4	+1.2
WAZ					S	Sn	17 08 49.8	-8.3
BFZ	Birch Farm	19.01	199	P		P	17 05 33.6	-1.9
BFZ					S	Sn	17 08 50.9	-17
MRZ	Mangatainoka R	19.20	200	P		P	17 05 33.4	-4.1
MRZ					S	Sn	17 08 51.6	-21
TCW	Tory Channel	20.12	202	P		P	17 05 45.6	-2.0
TCW					S	S	17 09 13.5	-19
TUWZ	Tuamarina	20.43	202	P		P	17 05 44.7	-6.3
QRZ	Quartz Range	20.45	206	P		P	17 05 50.3	-0.9
NNZ	Nelson	20.45	204	P		P	17 05 46.3	-4.9
NNZ					S	S	17 09 22.7	-16
THZ	Tophouse	21.10	204	P		P	17 05 55.9	-2.4
THZ					S	S	17 09 37.3	-14
KHZ	Kahutara	21.45	202	P		P	17 05 57.7	-4.2
KHZ	Kahutara	21.45	202	P		P	17 05 58.8	-3.0
KHZ					S	S	17 09 44.6	-14
DSZ	Denniston Nort	21.52	206	P		P	17 06 01.1	-1.6
GVZ	Greta Valley S	22.11	202	P		P	17 06 08.0	-1.1
LTZ	Lake Taylor	22.22	204	P		P	17 06 09.2	-1.1
INZ	Inchbonnie	22.49	205	P		P	17 06 12.1	-0.9
OXZ	Oxford	22.78	203	P		P	17 06 13.4	-2.7
RPZ	Rata Peaks	23.48	204	LR		LR	17 16 22.3	
	comp=Z,561nm,19.8s,baz=24,slow=38							
TBI	Tubuai	24.25	96	eP		P	17 06 32.3	+1.6
	comp=Z,315nm,24.8s							
TBI					eS	S	17 10 45.8	-1.8
	comp=Z,4μm,29.5s							
TBI					eLR	LR	17 12 22.1	
	comp=Z,5μm,27.2s							
PPT2	Papeete2	25.16	83	eP		P	17 06 36.9	-2.2
	comp=Z,214nm,43.0s							
PPT2					eLR	LR	17 12 35.8	
	comp=Z,1μm,28.2s							
PPT2					eLR	LR	17 12 43.5	
	comp=Z,1μm,24.2s							
PPT	Papeete	25.17	83	P		P	17 06 38.5	-0.6
	comp=Z,19nm,1.0s,baz=214,slow=11,SNR=4.2							
PPT					LR	LR	17 13 46.8	
	comp=Z,444nm,20.8s,baz=264,slow=29							
WHZ	Wether Hill Ro	26.51	206	P		P	17 06 50.2	-0.8
WHZ					IAmb	IAmb	17 07 13.7	
	comp=Z,44nm,1.3s							
HNR	Honiara	26.76	296	LR		LR	17 15 57.3	
	comp=Z,186nm,21.1s,baz=171,slow=33							
ARMA	Armidale	29.98	248	P		P	17 07 22.1	-0.1
ARMA					IAmb	IAmb	17 08 15.9	
	comp=Z,46nm,1.8s							
EIDS	Eidsvold	30.27	258	P		P	17 07 25.0	+0.3
EIDS					IAmb	IAmb	17 07 46.9	
	comp=Z,21nm,1.1s							
CAN	Canberra	32.99	240	P		P	17 07 49.7	+1.1
CAN					IAmb	IAmb	17 08 32.8	
	comp=Z,20nm,1.2s							
TOO	Toolangi	36.24	237	P		P	17 08 17.3	+0.6
TAU	Tasmania Unive	36.47	228	P		P	17 08 19.8	+1.3
TAOE	Nuku Hiva Isla	36.91	74	eLR		LR	17 18 03.2	
	comp=Z,773nm,28.0s							
RKT	Rikitea	37.53	99	eLR		LR	17 18 24.0	
	comp=Z,4μm,28.5s							
PMG	Port Moresby	37.86	285			P	17 08 31.4	+0.7
PMG	Port Moresby	37.86	285	P		P	17 08 31.3	+0.7
	comp=Z,24nm,0.8s,baz=58,slow=15,SNR=8.9							
PMG					LR	LR	17 22 55.7	
	comp=Z,393nm,18.9s,baz=120,slow=34							
	comp=Z,24nm,0.8s							
PMG	Port Moresby	37.86	285	P		P	17 08 31.6	+1.0
PMG					pP	sP	17 08 42.6	-0.4
STKA	Stephens Creek	38.67	247	P		P	17 08 37.9	+0.7
STKA	Stephens Creek	38.67	247	P		P	17 08 38.0	+0.7
	comp=Z,3.6nm,0.5s,baz=95,slow=12,SNR=4.2							
STKA					LR	LR	17 23 07.0	
	comp=Z,385nm,18.6s,baz=51,slow=34							
	comp=Z,3.6nm,0.5s							
COEN	Coen	39.78	276	P		P	17 08 47.5	+0.8
COEN					IAmb	IAmb	17 08 58.9	
	comp=Z,22nm,1.2s							
MGBR	Mount Gambier	40.10	238	P		P	17 08 51.6	+2.5
BBOO	Buckleboo	43.38	246	P		P	17 09 16.1	+0.1
BBOO					IAmb	IAmb	17 09 26.4	
	comp=Z,20nm,1.1s							
AS31	Alice Springs	45.99	259			P	17 09 36.8	-0.3
ASAR	Alice Springs	45.99	259			P	17 09 36.2	-0.9
ASAR	Alice Springs	45.99	259	P		P	17 09 37.1	0.0
	comp=Z,3.1nm,0.4s,baz=95,slow=7.2,SNR=12							
ASAR				PcP		PcP	17 11 13.8	+0.3
	comp=Z,1.1nm,0.6s,baz=98,slow=3.5,SNR=2.1							
ASAR					LR	LR	17 28 16.0	
	comp=Z,512nm,19.2s,baz=99,slow=35							
	comp=Z,3.1nm,0.4s							
WRA	Warramunga Arr	46.32	264			P	17 09 39.2	-0.4
WRA	Warramunga Arr	46.32	264	P		P	17 09 39.2	-0.4
	comp=Z,7.7nm,0.7s,baz=90,slow=5.9,SNR=24							
WRA				PcP		PcP	17 11 14.4	-0.3
	comp=Z,1.1nm,0.8s,baz=80,slow=5.5,SNR=1.8							
WRA					LR	LR	17 27 34.9	
	comp=Z,323nm,21.7s,baz=16,slow=34							
	comp=Z,7.7nm,0.7s							
FORT	Forrest	50.27	248	P		P	17 10 10.6	+0.7
MTN	Manton Dam	51.23	272	P		P	17 10 17.9	+0.6
MTN					IAmb	IAmb	17 10 21.8	
	comp=Z,30nm,1.6s							

MJAR Matsushiro Arr 73.28 323 P P 17 12 44.5 -0.2
comp=Z,1.6nm,0.7s,baz=152,slow=6.2,SNR=12
MJAR LR LR 17 39 10.1
comp=Z,79nm,20.2s,baz=146,slow=31
comp=Z,1.6nm,0.7s
MAJO Matsushiro 73.28 323 P P 17 12 41.3 -3.4
LEM Lembang 75.01 269 P P 17 12 55.5 -0.1
comp=Z,6.9nm,0.4s,baz=132,slow=5.6,SNR=3.8
LEM LR LR 17 47 17.8
comp=Z,120nm,18.5s,baz=174,slow=37
comp=Z,6.9nm,0.4s
JNU Nakatsue 75.35 316 LR LR 17 38 43.2
comp=Z,63nm,21.9s,baz=85,slow=30
H06S1 SOCORRO T 75.64 62 T T 18 34 55.9
SNR=17
YOJ Yonaguni jima 75.72 305 P P 17 12 59.8 +0.6
NIKH Nikolski High 75.73 4 P P 17 12 59.6 +1.1
baz=186
KSM Kuching 75.73 278 P P 17 12 59.3 -0.1
SHEM Shemya Is, Ala 75.75 354 LR LR 17 42 08.3
comp=Z,205nm,19.8s,baz=118,slow=32
YULB Yu-li 76.46 303 P P 17 13 00.4 -3.0
ASAJ Asahikawa 76.74 331 LR LR 17 43 23.1
comp=Z,110nm,18.8s,baz=150,slow=33
UNV Unalaska Valle 76.78 6 P P 17 13 05.9 +1.5
baz=189
TPUB Ta-pu 76.93 302 P P 17 13 04.2 -1.8
SSLB Suanglung 76.94 303 P P 17 13 05.6 -0.5
BELA Belgrano 2 76.99 172 P P 17 13 06.1 +0.6
FALS False Pass 78.10 7 P P 17 13 14.0 +2.2
baz=192
CHNA Chernabura Isl 78.59 10 P P 17 13 16.5 +2.0
baz=195
LPIG La Paz 78.89 58 LR LR 17 41 37.1
comp=Z,271nm,19.3s,baz=12,slow=31
SDPT Sand Point 78.97 9 P P 17 13 18.2 +1.6
baz=194
PETK Petropavlovsk- 79.05 344 P P 17 13 17.0 -0.1
comp=Z,6.6nm,0.8s,baz=132,slow=8.1,SNR=21
PETK LR LR 17 46 10.8
comp=Z,105nm,19.0s,baz=127,slow=34
comp=Z,6.6nm,0.8s
P08K Saint George I 79.30 4 P P 17 13 19.7 +1.4
baz=186
KMRM Mail Ridge 79.31 38 P P 17 13 20.2 +1.3
CCAC Calif City Air 79.54 45 P P 17 13 19.6 -0.7
CCAC IAmb IAmb 17 13 23.5
comp=Z,12nm,1.2s
ISA Isabella, Lake 79.56 44 P 17 13 17.6 -2.8
ISA IAmb IAmb 17 13 22.3
comp=Z,13nm,1.1s
PFO Pinyon Flats O 79.65 47 P 17 13 19.7 -1.3
O02D Mt. Diablo Mer 79.80 38 P 17 13 22.4 +0.7
O02D IAmb IAmb 17 13 24.1
comp=Z,17nm,0.9s
CMB Columbia Colle 79.84 41 P 17 13 21.9 +0.1
SPIA Saint Paul Isl 79.84 3 P P 17 13 23.3 +2.1
baz=185
KSRS Korea Array 79.97 318 P P 17 13 22.3 -0.1
comp=Z,0.4nm,0.6s,baz=126,slow=5.6,SNR=1.7
KSRS LR LR 17 43 17.1
comp=Z,42nm,21.7s,baz=130,slow=32
S14K Fog Glacier 80.01 9 P P 17 13 23.6 +1.2
baz=195
MAW Mawson 80.05 199 P 17 13 24.6 +2.1
MAW Mawson 80.05 199 P P 17 13 24.6 +2.1
comp=Z,8.5nm,0.6s,baz=135,slow=6.8,SNR=21
MAW LR LR 17 48 34.3
comp=Z,114nm,18.2s,baz=109,slow=35
comp=Z,8.5nm,0.6s
ORV Oroville 80.14 40 P P 17 13 21.8 -1.6
CHGN Chignik 80.19 10 P P 17 13 24.4 +1.2
baz=196
CHIR Chirikof Islan 80.21 11 P P 17 13 24.3 +1.0
baz=199
GSC Goldstone, Bar 80.42 45 P P 17 13 24.8 -0.4
GSC IAmb IAmb 17 13 26.7
comp=Z,11nm,1.1s
GLA Glamis 80.44 48 P P 17 13 25.0 -0.2
GLA IAmb IAmb 17 15 04.5
comp=Z,11nm,0.8s
WAKR Walker 80.71 41 P P 17 13 26.9 +0.2
WAKR IAmb IAmb 17 13 28.7
comp=Z,9.1nm,0.9s
MPK Martis Peak 80.85 41 P P 17 13 26.2 -1.4
MPK IAmb IAmb 17 13 29.4
comp=Z,8.8nm,0.8s
YBH Yreka Blue Hor 80.88 37 P P 17 13 27.9 +0.4
DSP Deep Springs 80.92 43 P 17 13 27.5 -0.1
PNTR Pine Nut 80.98 41 P P 17 13 28.3 +0.1
PNTR IAmb IAmb 17 13 30.0
comp=Z,13nm,0.9s
HATC Hat Creek Radi 80.99 39 P P 17 13 26.4 -1.6
HATC IAmb IAmb 17 14 26.9
comp=Z,25nm,1.2s
113A Mohawk Valley, 81.01 49 P P 17 13 27.7 -0.4
GWY Greenwater Val 81.04 45 P P 17 13 28.3 -0.2
LHV Little Huntoon 81.13 42 P P 17 13 28.7 0.0
SII Sitkinak Islan 81.17 12 P P 17 13 29.2 +0.7
baz=200
NVAR Mina Array Bea 81.36 42 P P 17 13 30.5 +0.3
NVAR Mina Array Bea 81.36 42 P P 17 13 30.9 +0.6
comp=Z,5.2nm,0.8s,baz=224,slow=9.3,SNR=25
comp=Z,5.2nm,0.8s
WCT Wildcat Mounta 81.43 44 P P 17 13 30.8 +0.3
NV11 Mina Array Sit 81.46 42 P 17 13 31.0 +0.4
MZP Montezuma Peak 81.49 43 P P 17 13 26.2 -4.8
R16K Pilot Point 81.54 10 P P 17 13 31.2 +0.8
baz=197
TPNV Topopah Spring 81.76 44 P 17 13 32.7 +0.3
OHAK Old Harbor 81.97 12 P P 17 13 33.2 +0.5
baz=201
R18K Karluk 82.07 11 P P 17 13 34.2 +1.0
baz=200
Y14A Wickenburg 82.19 48 P 17 13 32.7 -1.8
W13A Hualapai Mount 82.25 47 P 17 13 34.8 -0.2
Q17K Contact Creek 82.48 10 P P 17 13 36.5 +1.1
baz=198
S11A Rachel 82.50 44 IAmb IAmb 17 13 37.2
comp=Z,9.6nm,1.0s
KDAK Kodiak Island 82.63 12 P P 17 13 37.3 +1.2
baz=201
O14K Tigyukauivet M 82.66 7 P P 17 13 37.3 +1.1
baz=193
J05D Fort Rock, OR 82.72 37 P 17 13 37.3 +0.2
J05D IAmb IAmb 17 13 39.1
comp=Z,16nm,1.0s
O15K Ungalikthiuk R 82.77 8 P P 17 13 38.0 +1.2
baz=195
PRN Pahroc Range 82.81 44 P 17 13 38.4 +0.6
PRN IAmb IAmb 17 13 40.1
comp=Z,15nm,1.1s
TUC Tucson 82.86 51 P P 17 13 38.2 +0.2
P16K Nushagak River 82.89 9 P P 17 13 39.0 +1.6
baz=196
NJ2 Nanjing 82.91 309 *e*P **P 17 13 39.3 +1.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
Q18K Katmai Hardscr 83.00 11 P P 17 13 39.2 +1.0
baz=199
H03S2 Juan Fernandez 83.02 124 T T 18 45 14.9
baz=246,slow=74,SNR=98
R11B Troy Canyon, C 83.02 43 P 17 13 38.7 -0.1
H03S1 Juan Fernandez 83.03 124 T T 18 45 16.0
baz=246,slow=74,SNR=83
H03S3 Juan Fernandez 83.03 124 T T 18 45 14.9
baz=246,slow=74,SNR=75
H04A Detroit Lake 83.12 35 P P 17 13 37.1 -1.9
PINE Pine Mountain 83.21 37 P 17 13 40.2 +0.4
PINE IAmb IAmb 17 13 41.9
comp=Z,16nm,1.0s
N14K Kuskokwak Cree 83.27 7 P P 17 13 40.2 +0.8
baz=193
P17K Kvichak River 83.28 10 P P 17 13 40.1 +0.7
baz=198
M11K Mekoryuk 83.29 5 P P 17 13 40.2 +0.8
baz=189
O16K Kokwok River B 83.41 9 P P 17 13 40.7 +0.6
baz=196
Q20K Shuyak Island 83.44 12 P P 17 13 40.9 +0.6
baz=202
Q19K Cape Douglas, 83.50 11 P P 17 13 40.8 +0.1
baz=200
X16A Lo Mia Camp, P 83.54 49 IAmb IAmb 17 13 44.5
comp=Z,14nm,1.1s
M13K Dall Lake 83.57 6 P P 17 13 41.4 +0.5
baz=191
MDJ Mudanjiang 83.58 324 P P 17 13 40.5 -0.9
MDJ pmax pmax
comp=Z,10.0nm,1.6s
WVOR Wild Horse Val 83.65 39 P P 17 13 42.1 +0.2
WVOR IAmb IAmb 17 13 43.6
comp=Z,9.0nm,0.9s
P18K Big Mountain, 83.66 10 IAmb IAmb 17 13 42.6
comp=Z,11nm,1.0s
P18K Big Mountain, 83.66 10 P P 17 13 42.2 +0.7
baz=199
N15K Kwethluk River 83.70 8 P P 17 13 42.0 +0.4
baz=194
O17K Koliganek Bris 83.73 9 P P 17 13 42.4 +0.7
baz=197
M14K Bethel 84.05 7 P P 17 13 44.2 +0.9
M14K IAmb IAmb 17 13 44.9
comp=Z,16nm,1.0s
M14K Bethel 84.05 7 P P 17 13 44.4 +1.1
baz=193
O18K Koktuh Hills 84.11 10 P P 17 13 43.5 -0.2
baz=199
M15K Kasigluk River 84.14 7 P P 17 13 44.4 +0.6
baz=194,SNR=6.7
N16K Nishlik Lake 84.17 8 P P 17 13 44.6 +0.6
baz=196
WUAZ Wupatki 84.18 48 P 17 13 44.4 -0.5
WUAZ IAmb IAmb 17 13 47.1
comp=Z,10.0nm,1.0s
I07A Izee 84.19 37 IAmb IAmb 17 13 46.4
comp=Z,7.5nm,0.9s
PSUT Pine Spring 84.23 44 P 17 13 44.9 -0.2
P19K Oil Pt 84.26 11 P P 17 13 44.7 +0.2
baz=201
N17K Nushagak Hills 84.44 9 P P 17 13 45.4 +0.1
baz=197
L14K Kuka Creek 84.55 6 P P 17 13 46.4 +0.6
baz=192,SNR=7.1
ELIB Princess Elisa 84.55 186 *d*P **P 17 13 47.2 +1.0**
comp=Z,8.1nm,0.8s
ELIB *d*PP **PP 17 17 01.5 +0.4**
HOM Homer 84.56 12 P P 17 13 46.2 +0.2
baz=202
O19K Port Alsworth 84.58 11 P P 17 13 46.4 +0.4
baz=200
ILSW Iliamna Southw 84.58 11 P P 17 13 45.6 -0.6
X18A Snowflake 84.63 49 P P 17 13 46.9 -0.4
X18A IAmb IAmb 17 13 49.4
comp=Z,8.8nm,1.0s
ELK Elko 84.65 42 IAmb IAmb 17 13 48.6
comp=Z,7.1nm,1.0s
M16K Timber Creek 84.67 8 P P 17 13 47.3 +0.7
baz=195
N18K Kilae Creek 84.78 10 P P 17 13 47.5 +0.3
baz=198
BRSE Bradley Lake S 84.81 12 P P 17 13 47.7 +0.4
baz=203
SYO Syowa Base 84.89 192 ‖*e*P **P 17 13 46.3 -1.4**
K13K Kusilvak Mount 84.95 5 P P 17 13 48.6 +0.7
baz=190
L15K Ungalak Mounta 85.00 7 P P 17 13 48.3 +0.1
baz=193
MTPU Mount Pierson 85.03 45 IAmb IAmb 17 13 52.0
comp=Z,11nm,1.0s
N19K Bonanza Creek 85.13 10 P P 17 13 49.4 +0.5
baz=200
M17K Holitna River 85.24 9 P P 17 13 50.2 +0.8
baz=197,SNR=6.8
G08A Pilot Rock 85.26 36 IAmb IAmb 17 13 51.7
comp=Z,9.6nm,1.0s
L16K Owhat River 85.27 8 P P 17 13 49.8 +0.3
baz=195
MSU Marysvale 85.30 45 P P 17 13 50.3 -0.2
TROLL Troll, Antarti 85.40 179 ⇑P **P 17 13 51.5 +1.0**
comp=Z,383nm,0.6s
SEW Seward 85.41 13 P P 17 13 50.2 0.0
baz=204
KLR Kul'dur 85.56 329 LR LR 17 49 53.6
comp=Z,78nm,18.2s,baz=163,slow=34
M18K Stony River 85.56 9 P P 17 13 50.9 -0.1
baz=198
K15K Wolf Creek Mou 85.60 7 P P 17 13 51.7 +0.5
baz=193
SLKM Skilak Lake 85.62 12 P P 17 13 51.0 -0.3
SNAA Sanae 85.62 178 P 17 13 51.7 +0.2
SNAA IAmb IAmb 17 13 53.7
comp=Z,7.0nm,1.0s
SNAA Sanae 85.62 178 ⇑P **P 17 13 51.5 0.0**
comp=Z,101nm,1.0s
SNAA Sanae 85.62 178 P P 17 13 52.1 +0.6
comp=Z,4.4nm,0.8s,baz=213,slow=6.8,SNR=8.7
comp=Z,4.4nm,0.8s
VNA3 Neumayer Olymp 85.68 176 ⇑P **P 17 13 52.4 +0.6**
comp=Z,20nm,0.7s
CAPN Captain Cook N 85.68 12 P P 17 13 51.6 0.0
baz=203
O22K Cooper Landing 85.70 13 P P 17 13 51.1 -0.6
baz=204
P23K Montague Islan 85.75 14 P P 17 13 51.1 -0.8
baz=206
L17K Donlin 85.83 8 P P 17 13 52.2 -0.1
baz=196
SPCR Spurr Chakacha 85.89 11 P P 17 13 52.8 +0.1
baz=202
CRAG Craig 86.05 23 P P 17 13 53.7 +0.2
baz=219
L18K Granite Mounta 86.13 9 IAmb IAmb 17 13 55.9
comp=Z,8.5nm,0.9s
L18K Granite Mounta 86.13 9 P P 17 13 53.7 -0.1
baz=198,SNR=5.4
VNA2 Neumayer--Watz 86.14 176 ⇑P **P 17 13 55.2 +1.2**
comp=Z,17nm,0.6s,baz=179,slow=4.2
M19K Big River Lodg 86.18 10 P P 17 13 54.4 +0.3
baz=200
STLK Strandline Lak 86.23 11 P P 17 13 53.0 -1.4
RC01 Rabbit Creek A 86.25 12 P P 17 13 53.9 -0.5
baz=204
SBM South Baldy 86.30 51 P P 17 13 54.8 -1.1
PWL Port Wells 86.33 13 P P 17 13 54.5 -0.3
baz=205
VNA1 Neumayer--Stat 86.36 176 ⇑P **P 17 13 56.6 +1.6**
comp=Z,19nm,1.0s
TMUT Trail Mountain 86.36 45 IAmb IAmb 17 13 57.9
comp=Z,8.4nm,0.9s
M20K Styx River 86.36 11 P P 17 13 55.5 +0.5
baz=201
L19K White Mountain 86.37 10 P P 17 13 55.0 0.0
baz=199
KAIM Kayak Island 86.38 15 P P 17 13 54.8 -0.2
baz=209
GAMB Gambell 86.38 2 P P 17 13 55.4 +0.5
baz=184
K17K Iditarod 86.39 8 P P 17 13 55.5 +0.5
baz=196
SUA Susitna One 86.40 12 IAmb IAmb 17 13 55.9
comp=Z,8.3nm,0.7s
SUA Susitna One 86.40 12 P P 17 13 55.3 +0.1
baz=203
V35K Ketchikan 86.49 24 P P 17 13 55.3 -0.4
baz=220
SIT Sitka 86.56 21 P P 17 13 55.1 -0.8
baz=217
U33K Whale Pass 86.56 22 P P 17 13 55.9 -0.1
baz=219
MA2 Magadan 86.57 344 LR LR 17 51 04.7
comp=Z,71nm,18.7s,baz=136,slow=34
GLI Glacier Island 86.61 14 P P 17 13 55.1 -1.1
baz=206
EYAK Cordova Ski Ar 86.61 14 P P 17 13 55.3 -0.8
baz=207
TX31 Lajitas Ar. Si 86.64 56 IAmb IAmb 17 13 58.8
comp=Z,13nm,1.1s
TXAR Lajitas Array 86.64 56 P 17 13 56.8 -0.4
TXAR Lajitas Array 86.64 56 P P 17 13 57.5 +0.4
comp=Z,7.9nm,1.0s,baz=214,slow=6.0,SNR=28
comp=Z,7.9nm,1.0s
F10A Beach Ranch, E 86.64 37 IAmb IAmb 17 14 03.4
comp=Z,5.1nm,0.9s
J16K Anvik River 86.67 7 P P 17 13 55.6 -0.7
baz=194
PSI Prapat 86.70 274 LR LR 17 52 59.4
comp=Z,97nm,21.9s,baz=119,slow=36
SRU San Rafael Swe 86.71 45 IAmb IAmb 17 13 58.8
comp=Z,6.9nm,0.9s
SKT Skwentna 86.73 11 P P 17 13 55.9 -0.8
baz=202
M22K Willow 86.79 12 P P 17 13 56.3 -0.7
baz=204
L20K Farewell, AK 86.80 10 P P 17 13 56.3 -0.8
baz=200
KNK Knik Glacier 86.81 13 P P 17 13 56.3 -0.9
baz=205
BGLC Bering Glacier 86.83 16 P P 17 13 56.3 -0.8
baz=210
PMR Palmer 86.83 12 P P 17 13 56.5 -0.7
baz=204
TTA Tatalina 86.91 9 IAmb IAmb 17 13 58.8
comp=Z,7.6nm,1.0s
TTA Tatalina 86.91 9 P P 17 13 58.4 +0.7
baz=198,SNR=5.7
J17K VABM Dome 86.95 7 P P 17 13 59.0 +1.2
baz=195
S31K Pelican 86.99 20 P P 17 13 58.8 +0.8
baz=216
WRAK Wrangell Islan 87.07 23 P P 17 13 59.2 +0.8
baz=219
S32K Killisnoo 87.13 21 P P 17 13 59.5 +0.7
baz=217
SML Sawmill 87.19 13 P P 17 13 59.7 +0.7
baz=205
MESA MESA 87.21 16 P P 17 13 59.8 +0.4
baz=211
I17K Unalakleet 87.24 7 P P 17 13 59.9 +0.8
baz=194
BMRM Bremner River 87.25 15 P P 17 13 60.0 +0.6
baz=208
M23K Glacier View 87.30 13 P P 17 13 59.3 -0.2
baz=206
ANMO Albuquerque 87.31 50 P 17 14 00.3 -0.2
ANMO IAmb IAmb 17 14 02.2
comp=Z,11nm,1.3s
J18K Innoko River 87.32 8 IAmb IAmb 17 14 01.2
comp=Z,9.6nm,0.9s
J18K Innoko River 87.32 8 P P 17 13 59.2 -0.3
baz=197
BSUT Blindstream Ca 87.33 44 IAmb IAmb 17 14 02.0
comp=Z,5.2nm,0.9s
CUT Chulitna 87.36 12 P P 17 13 59.4 -0.3
baz=203
KLU Klutina 87.42 14 P P 17 13 60.0 -0.2
baz=207
SCM Sheep Creek Mo 87.42 13 P P 17 13 59.9 -0.3
baz=206
PNL Peninsula 87.47 18 P P 17 14 00.3 -0.1
baz=213
PPLA Purkeypile 87.47 11 P P 17 14 00.2 -0.3
baz=202
ANM Nome 87.49 4 P P 17 14 00.4 +0.1
baz=190
PINM Pinnacle 87.59 17 P P 17 14 01.0 0.0
baz=212
K20K Telida 87.60 10 IAmb IAmb 17 14 02.2
comp=Z,7.0nm,1.0s
K20K Telida 87.60 10 P P 17 14 00.7 -0.3
baz=200
R32K Eaglecrest 87.79 20 P P 17 14 01.7 -0.2
baz=217
N25K Chitina, Valde 87.81 14 P P 17 14 01.6 -0.4
baz=208
P29M Windy Craggy 87.90 18 P P 17 14 02.5 0.0
baz=215
M24K Tolsona, Glenn 87.91 13 P P 17 14 02.5 +0.1
baz=207
J19K Poorman 87.98 9 P P 17 14 02.5 -0.2
baz=198
CAST Castle Rocks 87.98 10 IAmb IAmb 17 14 02.6
comp=Z,6.1nm,0.8s
CAST Castle Rocks 87.98 10 P P 17 14 02.7 -0.1
baz=202,SNR=6.1
G15K Niukluk 88.02 5 P P 17 14 02.5 -0.4
baz=191
NEW Newport 88.10 35 LR LR 17 45 32.5
comp=Z,170nm,21.9s,baz=234,slow=30
SAND Sanderson 88.11 56 P 17 14 03.3 -1.0
SAND IAmb IAmb 17 14 05.2
comp=Z,6.3nm,1.1s
O28M Mount Upton 88.18 17 P P 17 14 02.7 -1.4
baz=212
O29M Mount Kennedy 88.22 18 P P 17 14 03.4 -0.7
baz=214
T35M Bob Quinn 88.25 23 P P 17 14 04.2 0.0
baz=221
TRF Thorofare Moun 88.32 11 P P 17 14 03.7 -0.8
baz=203,SNR=11
TNA Tin City 88.32 3 P P 17 14 04.9 +0.7
baz=187
F14K Arctic Creek 88.33 4 P P 17 14 04.3 0.0
baz=189
H17K Granite Mounta 88.35 7 P P 17 14 03.9 -0.6
baz=194
J20K Nowinta River 88.36 9 IAmb IAmb 17 14 05.9
comp=Z,6.7nm,0.8s
J20K Nowinta River 88.36 9 P P 17 14 04.0 -0.5
baz=200,SNR=6.5
CHUM Lake Minchumin 88.37 10 P P 17 14 04.3 -0.2
baz=201
HARP HAARP 88.39 14 P P 17 14 03.7 -1.0
baz=208
S22A 4UR Ranch, Cre 88.46 48 P P 17 14 06.0 0.0
S22A IAmb IAmb 17 14 07.6
comp=Z,6.4nm,1.2s
SKAG Skagway 88.48 19 P P 17 14 03.9 -1.2
baz=217
GCSA Galena City Sc 88.53 8 P P 17 14 04.9 -0.3
baz=197
P30M Million Dollar 88.53 18 P P 17 14 04.8 -0.7
baz=215
RND Reindeer 88.54 12 IAmb IAmb 17 14 07.1
comp=Z,12nm,1.0s
G16K Koyuk River 88.56 6 P P 17 14 06.3 +1.0
baz=192
S34M Telegraph Cree 88.64 22 P P 17 14 06.6 +0.6
baz=220
F15K North Star Dit 88.68 5 P P 17 14 07.1 +1.2
baz=190
YUK8 Steele Glacier 88.72 17 P P 17 14 07.3 +0.6
baz=213
H18K Honhosa River 88.73 7 P P 17 14 07.7 +1.5
baz=196
BPAW Bear Paw Mtn. 88.80 11 P P 17 14 07.5 +0.9
baz=203
G17K Kiwalik Mounta 88.82 6 P P 17 14 07.2 +0.6
baz=194
MCK McKinley 88.82 12 P P 17 14 06.9 +0.1
baz=204
PAX Paxson 88.83 13 P P 17 14 06.9 0.0
baz=208
M26K Nabesna, AK 88.88 15 P P 17 14 06.9 -0.2
baz=210
I20K Naaghedeneel 88.90 9 P P 17 14 07.2 +0.3
baz=200
HYT Haines Junctio 88.95 18 P P 17 14 08.0 +0.4
baz=215
YUK3 Moose Creek 88.96 16 P P 17 14 08.1 +0.5
baz=212
Q32M Nakina River 89.06 21 P P 17 14 09.0 +0.8
baz=219
YUK4 Talbot Arm 89.07 17 P P 17 14 09.0 +0.8
baz=214
P32M Atlin 89.09 20 P P 17 14 09.4 +1.3
baz=218
M27K Edge Creek, AK 89.11 15 P P 17 14 09.5 +1.3
baz=211
MENT Mentasta 89.18 14 P P 17 14 07.6 -0.9
MENT IAmb IAmb 17 14 10.1
comp=Z,6.0nm,0.8s
PD31 Pinedale Array 89.30 42 P 17 14 08.8 -0.9
PDAR Pinedale Array 89.30 42 P P 17 14 09.2 -0.5
comp=Z,2.2nm,0.9s,baz=214,slow=3.5,SNR=13
comp=Z,2.2nm,0.9s
O30N Mendenhall 89.31 18 P P 17 14 09.9 +0.7
baz=216
H19K Roundabout Mou 89.33 8 IAmb IAmb 17 14 10.7
comp=Z,6.1nm,0.9s
H19K Roundabout Mou 89.33 8 P P 17 14 09.8 +0.8
baz=198,SNR=5.3
L26K Log Cabin Wild 89.34 14 P P 17 14 09.7 +0.5
baz=210
SDCO Great Sand Dun 89.37 48 P P 17 14 10.8 +0.5
SDCO IAmb IAmb 17 16 46.8
comp=Z,9.3nm,1.8s
BVCY Beaver Creek 89.40 15 P P 17 14 10.4 +0.9
baz=212,SNR=5.7
G18K Tagagawik 89.42 7 P P 17 14 10.5 +1.0
baz=196
YHL Hebgen Lake 89.44 40 P 17 14 11.2 +0.8

YHL IAmb IAmb 17 14 12.6
comp=Z,6.8nm,1.2s
H20K Anotleneega Mo 89.50 9 P **P 17 14 09.8 0.0**
baz=199,SNR=5.8
K24K Donnelly Dome 89.50 13 P **P 17 14 10.6 +0.6**
baz=207
WHY Whitehorse 89.58 19 P **P 17 14 10.2 -0.3**
baz=217
NEA2 Nenana 89.58 11 P **P 17 14 10.4 +0.1**
baz=204
BOZ Bozeman (W) 89.59 39 P **P 17 14 11.7 +0.7**
BOZ IAmb IAmb 17 14 12.5
comp=Z,7.7nm,1.1s
N30M Aishikik Lake 89.59 17 P **P 17 14 10.2 -0.3**
baz=215
RIDG Independent Ri 89.64 13 P **P 17 14 10.8 +0.2**
baz=208
F17K Baldwin Pennin 89.68 6 P **P 17 14 10.8 +0.2**
baz=193
L27K Beaver Creek, 89.72 15 IAmb IAmb 17 14 12.6
comp=Z,5.3nm,0.8s
L27K Beaver Creek, 89.72 15 P **P 17 14 10.9 -0.1**
baz=211,SNR=5.2
DOT Dot Lake 89.73 14 P **P 17 14 10.6 -0.4**
DOT IAmb IAmb 17 14 12.4
comp=Z,6.3nm,0.8s
BCAR Beaver Creek A 89.74 15 P **P 17 14 11.5 +0.4**
HDA Harding Lake 89.81 12 IAmb IAmb 17 14 12.2
comp=Z,4.7nm,0.8s
HDA Harding Lake 89.81 12 P **P 17 14 11.3 0.0**
baz=206,SNR=5.2
R33M Jennings River 89.83 21 P **P 17 14 12.1 +0.5**
baz=220
G19K Purcell Mounta 89.84 8 IAmb IAmb 17 14 13.3
comp=Z,6.9nm,0.9s
G19K Purcell Mounta 89.84 8 P **P 17 14 11.7 +0.3**
baz=197
P33M Teslin, Yukon 89.86 20 P **P 17 14 12.3 +0.5**
baz=219
H21K Melozitna Rive 89.96 9 P **P 17 14 12.3 +0.3**
baz=201
N31M Braeburn, Yuko 89.98 18 P **P 17 14 12.3 +0.1**
baz=216
F18K Selawik 89.99 6 P **P 17 14 12.5 +0.4**
baz=195
SCRK Sand Creek 90.03 13 IAmb IAmb 17 16 59.0
comp=Z,18nm,1.8s
SCRK Sand Creek 90.03 13 P **P 17 14 12.8 +0.3**
baz=209
M29M Somme Creek 90.03 16 IAmb IAmb 17 14 14.3
comp=Z,4.3nm,0.8s
M29M Somme Creek 90.03 16 P **P 17 14 12.9 +0.4**
baz=214
I23K Minto, Yukon-K 90.04 11 P **P 17 14 13.0 +0.7**
baz=204
COLA College 90.06 12 P **P 17 14 12.8 +0.4**
baz=206
ILAR Eielson Array 90.15 12 P **P 17 14 12.0 -0.9**
comp=Z,1.8nm,0.9s,baz=216,slow=5.5,SNR=13
ILAR LR LR 17 47 51.0
comp=Z,65nm,19.4s,baz=182,slow=31
comp=Z,1.8nm,0.9s
YNE Yellowstone No 90.22 40 **P 17 14 13.0 -1.1**
YNE IAmb IAmb 17 14 16.5
comp=Z,6.3nm,1.1s
E17K Hotham Inlet 90.26 5 P **P 17 14 13.9 +0.6**
baz=193,SNR=5.1
J25K Salcha River, 90.31 13 IAmb IAmb 17 14 15.0
comp=Z,5.9nm,1.0s
J25K Salcha River, 90.31 13 P **P 17 14 13.1 -0.7**
baz=208,SNR=5.2
POKR Poker Plat Res 90.36 12 P **P 17 14 13.9 0.0**
baz=206
H22K Ishtalitna Cre 90.39 10 P **P 17 14 13.5 -0.5**
baz=202,SNR=5.7
F19K Shaleruckik Mo 90.42 7 IAmb IAmb 17 14 15.7
comp=Z,8.7nm,0.8s
F19K Shaleruckik Mo 90.42 7 P **P 17 14 13.5 -0.5**
baz=196
K27K Chicken 90.50 14 IAmb IAmb 17 14 16.7
comp=Z,6.5nm,0.9s
K27K Chicken 90.50 14 P **P 17 14 14.2 -0.4**
baz=211,SNR=5.2
N32M Quiet Lake 90.51 19 P **P 17 14 14.3 -0.4**
baz=219
J26L Joseph Creek 90.58 13 P **P 17 14 14.8 -0.2**
baz=209,SNR=20
M30M Minto, Yukon 90.59 17 P **P 17 14 14.7 -0.4**
baz=215
H23K Yukon River 90.63 11 P **P 17 14 15.3 +0.1**
baz=204
G21K Allakaket 90.66 9 P **P 17 14 15.6 +0.4**
baz=200
L29M L29M 90.67 16 P **P 17 14 15.8 +0.3**
baz=214,SNR=8.5
E18K Tukpahlearik C 90.70 6 P **P 17 14 16.0 +0.6**
E18K IAmb IAmb 17 14 16.8
comp=Z,6.7nm,0.9s
E18K Tukpahlearik C 90.70 6 P **P 17 14 15.3 -0.1**
baz=194
RLMT Red Lodge 90.73 41 P **P 17 14 16.3 -0.1**
RLMT IAmb IAmb 17 14 18.5
comp=Z,7.1nm,1.2s
D17K Noatak River 90.76 5 P **P 17 14 15.9 +0.3**
baz=192
F20K Avaraart Lake 90.87 8 P **P 17 14 16.5 +0.3**
F20K IAmb IAmb 17 14 17.6
comp=Z,5.6nm,0.9s
F20K Avaraart Lake 90.87 8 P **P 17 14 16.8 +0.6**
baz=198,SNR=7.3
H24K Noodor Dome 90.93 11 P **P 17 14 16.4 -0.2**
baz=205
M31M Drury Creek, Y 90.95 18 P **P 17 14 16.7 0.0**
baz=218
PRP Porcupine Dome 91.08 12 IAmb IAmb 17 14 18.4
comp=Z,5.8nm,1.0s
PRP Porcupine Dome 91.08 12 P **P 17 14 16.6 -0.7**
baz=208,SNR=5.8
E19K Redstone River 91.08 7 P **P 17 14 17.4 +0.2**
baz=197
WTLY Watson Lake, Y 91.09 22 P **P 17 14 17.3 -0.1**
baz=222
XAN Xi'an 91.14 307 P P 17 14 23.5 +5.2
XAN pmax pmax
comp=Z,5.0nm,0.9s
DAWY Dawson 91.16 15 IAmb IAmb 17 14 19.8
comp=Z,7.0nm,0.9s
DAWY Dawson 91.16 15 P **P 17 14 17.7 0.0**
baz=213,SNR=5.9
C16K Lisburne Hills 91.17 4 P **P 17 14 17.7 +0.2**
baz=190
FARO Faro, Yukon 91.28 18 P **P 17 14 18.4 +0.2**
baz=218
F21K Alatna River 91.33 9 P **P 17 14 19.3 +0.9**
baz=200
G22K Bettles 91.33 9 P **P 17 14 18.7 +0.4**
baz=202
G23K Bananza Creek 91.36 10 P **P 17 14 19.2 +0.6**
G23K Bananza Creek 91.36 10 P **P 17 14 17.7 -0.8**
baz=204
I26K Coal Creek Min 91.37 13 IAmb IAmb 17 14 20.2
comp=Z,5.1nm,0.8s
I26K Coal Creek Min 91.37 13 P **P 17 14 18.3 -0.2**
baz=210
K29M Barlow Dome 91.44 16 IAmb IAmb 17 14 21.5
comp=Z,9.3nm,1.1s
K29M Barlow Dome 91.44 16 P **P 17 14 19.2 +0.1**
baz=215,SNR=8.9
TOAD Toad River Com 91.44 24 P **P 17 14 18.9 -0.2**
baz=225
H25L Birch Creek 91.69 12 P **P 17 14 20.6 +0.6**
baz=207
J29N Klondike Camp 91.77 15 P **P 17 14 21.3 +0.8**
J29N Klondike Camp 91.77 15 P **P 17 14 21.1 +0.6**
baz=214,SNR=5.0
F22K John River 91.78 9 P **P 17 14 21.2 +0.8**
baz=202
G24K Hadweenzic Riv 91.78 11 P **P 17 14 20.8 +0.3**
baz=206
COLD Coldfoot 91.81 10 IAmb IAmb 17 14 22.9
comp=Z,4.6nm,1.1s
COLD Coldfoot 91.81 10 P **P 17 14 21.7 +1.2**
baz=203
C18K Utukok River 91.84 5 P **P 17 14 20.8 0.0**
baz=193
I27K Kandik River 91.96 14 P **P 17 14 21.1 -0.2**
baz=211
E20K Nigu River 91.97 7 P **P 17 14 21.3 0.0**
baz=198
D19K Kuna River 91.98 6 IAmb IAmb 17 14 22.6
comp=Z,6.1nm,0.9s
D19K Kuna River 91.98 6 P **P 17 14 20.7 -0.7**
baz=196
G25K Bearman Lake 92.08 11 P **P 17 14 21.4 -0.4**
baz=207
MMPY Sheldon Lake, 92.19 19 P **P 17 14 22.5 0.0**
baz=220
I28M Miner Creek 92.19 14 P **P 17 14 23.2 +0.7**
baz=213
TGTN Hyland Airport 92.31 21 P **P 17 14 23.7 +0.6**
baz=223
J30M Hart River 92.34 16 P **P 17 14 24.0 +0.8**
baz=216
D20K Etivluk River 92.36 7 IAmb IAmb 17 14 24.9
comp=Z,5.0nm,0.9s
D20K Etivluk River 92.36 7 P **P 17 14 24.4 +1.3**
baz=198
E21K Killik River 92.41 8 P **P 17 14 24.3 +0.9**
baz=200
E22K Anaktuvuk Pass 92.41 9 P **P 17 14 24.6 +1.2**
baz=202
HHC Hu-ho-hao-te 92.42 314 *e*P **P 17 14 26.4 +2.2**
HHC pmax pmax
comp=Z,24nm,0.9s
F24K Squaw Lake 92.45 10 P **P 17 14 24.8 +1.2**
baz=206
B18K Kokolik River 92.49 5 P **P 17 14 24.7 +1.0**
baz=193
I29M Ogilvie Camp, 92.50 15 P **P 17 14 24.6 +0.8**
baz=214
H27K Steamboat Moun 92.51 13 IAmb IAmb 17 14 25.7
comp=Z,5.1nm,1.0s
H27K Steamboat Moun 92.51 13 P **P 17 14 24.9 +1.0**
baz=211
E23K Chandalar 92.67 10 P **P 17 14 25.8 +1.1**
baz=204
G26K Porcupine Rive 92.68 12 P **P 17 14 25.7 +1.1**
baz=209
KOTAN Kotaneelee Air 92.77 23 P **P 17 14 26.1 +1.0**
baz=226
CMAR Chiang Mai Arr 92.78 289 **P 17 14 26.9 +0.6**
CMAR Chiang Mai Arr 92.78 289 P **P 17 14 26.7 +0.5**
comp=Z,1.1nm,1.0s,baz=124,slow=3.4,SNR=8.5
CMAR LR LR 17 56 50.3
comp=Z,34nm,18.9s,baz=105,slow=36
comp=Z,1.1nm,1.0s
I30M Mount Dempster 92.85 16 P **P 17 14 26.2 +0.6**
baz=216
E24K Your Creek 92.86 10 P **P 17 14 26.1 +0.6**
baz=205
F25K Christian Rive 92.90 11 P **P 17 14 27.4 +1.7**
baz=208
G27K Dorr Strip 92.98 13 P **P 17 14 27.0 +0.9**
baz=211
C21K Knifeblade Rid 92.99 7 P **P 17 14 26.6 +0.6**
baz=199
D22K Ayikyak River 92.99 8 P **P 17 14 26.1 +0.1**
baz=201
H29M Whitestone 93.20 14 P **P 17 14 27.9 +0.9**
baz=214
TOLK Toolik Lake Re 93.21 9 P **P 17 14 27.6 +0.5**
baz=204
F26K Sheenjek River 93.27 12 P **P 17 14 27.5 +0.1**
baz=209
D23K Nanushuk River 93.34 9 P **P 17 14 28.4 +0.8**
baz=203
LAO LASA Array 93.36 40 **P 17 14 28.0 -0.3**
A19K Wainwright 93.37 5 P **P 17 14 28.5 +0.8**
baz=193
E25K Arctic Village 93.39 11 P **P 17 14 28.5 +0.6**
baz=208
B21K Ikpikpuk River 93.45 7 P **P 17 14 28.6 +0.5**
baz=199
NNA Nana 93.52 104 LR LR 17 49 11.7
comp=Z,334nm,20.8s,baz=82,slow=31
B20K Meade River 93.54 6 P **P 17 14 28.7 +0.2**
baz=197
PZH PanZhiHua 93.57 297 P **P 17 14 32.3 +2.5**
PZH pmax pmax
comp=Z,9.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
EPYK Eagle Plains 93.70 15 P **P 17 14 29.6 +0.2**
baz=216
D24K Happy Valley 93.79 9 P **P 17 14 29.9 +0.2**
baz=205
H31M Peel River 93.83 16 P **P 17 14 30.5 +0.5**
baz=218
G29M Pine Creek 93.85 14 P **P 17 14 31.0 +1.0**
baz=214
C23K Itkillik River 94.16 9 P **P 17 14 32.2 +0.9**
baz=203
E27K Coleen River 94.18 12 P **P 17 14 32.1 +0.6**
baz=211
B22K Teshekpuk Lake 94.27 7 P **P 17 14 32.8 +1.0**
baz=200
G30M tAoh Zraii Nji 94.32 15 P **P 17 14 33.0 +0.8**
baz=216
C24K Franklin Bluff 94.32 9 P **P 17 14 33.0 +0.9**
baz=205
D25K Kavik River 94.32 10 P **P 17 14 33.1 +0.9**
baz=207
A22K Sinclair Lake 94.72 7 P **P 17 14 34.9 +1.1**
baz=199
G31M Satah River 94.73 15 P **P 17 14 34.0 0.0**
baz=218
A21K Barrow 94.85 6 P **P 17 14 35.4 +1.0**
baz=198
F30M Barrier River 94.93 14 P **P 17 14 35.7 +0.8**
baz=216
E28M Babbage River 94.94 13 P **P 17 14 36.2 +1.2**
baz=213
YAK Yakutsk 95.03 337 LR LR 17 51 12.9
comp=Z,23nm,20.7s,baz=126,slow=32
C27K Jago River 95.04 11 P **P 17 14 35.5 +0.1**
baz=209
C26K Camden Bay 95.09 10 P **P 17 14 36.1 +0.5**
baz=208
E29M Blow River 95.10 13 P **P 17 14 36.1 +0.5**
baz=214
D27M Malcolm River 95.20 12 P **P 17 14 37.3 +1.1**
baz=212
F31M Tsiigehtchic 95.27 15 P **P 17 14 37.1 +0.7**
baz=218
DGMT Dagmar 95.43 39 P **P 17 14 35.0 -2.7**
D28M Stokes Point 95.71 12 P **P 17 14 39.4 +1.1**
baz=214
YKA Yellowknife Ar 97.79 24 P **P 17 14 47.6 -0.4**
comp=Z,0.8nm,0.8s,baz=239,slow=4.2,SNR=16
comp=Z,0.8nm,0.8s
C36M Paulatuk 99.10 16 P **Pdif 17 14 53.7 0.0**
baz=227
A36M Sachs Harbour 100.63 14 P **Pdif 17 15 01.1 +0.6**
baz=226
ZALV Zalesovo Beam 113.57 320 PKiKP **PKiKP 17 19 50.1 -1.0**
comp=Z,1.2nm,0.7s,baz=139,slow=1.0,SNR=5.9
MKAR Makanchi Array 114.26 312 PKP PKPdf 17 19 51.7 -1.0
comp=Z,0.9nm,0.6s,baz=174,slow=0.3,SNR=13
KURBB Kurchatov Arra 117.12 316 PKP **PKPdf 17 19 57.2 -0.8**
comp=Z,1.3nm,0.6s,baz=86,slow=1.8,SNR=15
BVAR Borovoye Array 122.16 319 PKP **PKPdf 17 20 07.1 -0.5**
SPITS Spitsbergen Ar 124.30 357 PKP **PKPdf 17 20 09.7 -1.4**
comp=Z,7.8nm,1.0s,baz=12,slow=7.7,SNR=2.4
ARCES ARCESS Array B 131.56 350 PKP **PKPdf 17 20 23.8 -1.4**
comp=Z,4.5nm,0.9s,baz=69,slow=2.2,SNR=4.4
FINES FINESS Array B 138.56 344 PKhKP PKPpre 17 20 28.0
comp=Z,0.8nm,0.6s,baz=20,slow=6.1,SNR=5.0
FINES PKP **PKPdf 17 20 37.6 -0.7**
comp=Z,1.3nm,0.7s,baz=57,slow=2.6,SNR=6.2
HFS Hagfors 142.13 352 PKhKP PKPpre 17 20 39.6
comp=Z,2.0nm,0.6s,baz=57,slow=5.5,SNR=5.1
LODK Lodwar 144.16 242 PKPdf PKPbc 17 20 48.7 +0.6
MARD Mardin 145.42 303 **PKPbc 17 20 48.5 -3.1**
SUW Suwalki 145.72 340 *e*PKP **PKPbc 17 20 52.1 +0.4**
SUW Suwalki 145.72 340 PKPdf **PKPdf 17 20 49.4 -2.0**
AKASG Malin Array Be 146.02 331 PKPbc **PKPdf 17 20 52.0 +0.1**
comp=Z,5.1nm,0.6s,baz=42,slow=4.2,SNR=50
KIEV Kiev 146.03 331 PKPdf **PKPdf 17 20 51.6 -0.4**
KIEV Kiev 146.03 331 ⇓P **PKPdf 17 20 52.5 +0.5**
EKA Eskdalemuir Ar 147.09 8 PKP **PKPdf 17 20 51.9 -1.8**
comp=Z,2.1nm,0.7s,baz=37,slow=2.7,SNR=3.8
EKA PKPbc **PKPbc 17 20 55.7 0.0**
comp=Z,4.7nm,0.7s,baz=334,slow=4.9,SNR=8.0
SORM Soroca 148.24 329 ⇓P **PKPbc 17 20 58.9 -0.2**
BZK Bozkurt 148.64 315 ⇓P **PKPdf 17 20 57.2 +0.6**
MILM Milestii Mici 148.84 326 ⇓P **PKPbc 17 20 59.8 -0.9**
BRTR Keskin Array B 149.89 311 PKPbc **PKPbc 17 21 03.6 -0.1**
comp=Z,4.3nm,0.7s,baz=109,slow=2.5,SNR=32
KIRS Kirsehir-Merke 149.94 310 ⇑P **PKPbc 17 21 04.0 +0.2**
OJC Ojcow 150.05 340 *e*PKP **PKPbc 17 21 04.3 +0.7**
BURAR Bucovina Array 150.07 331 ⇓P **PKiKP 17 21 05.4 +0.6**
TESR Tescani 150.20 328 ⇑P **PKPbc 17 21 03.8 -0.3**
KOLS Kolonicke sedl 150.27 336 *e*PKP **PKiKP 17 21 05.5 +0.5**
KOLS *e* 17 21 13.6
CFR Carcaliu 150.35 325 ⇓P **PKPbc 17 21 04.9 +0.4**
TPGR Topolog 150.40 324 ⇓P **PKPbc 17 21 05.2 +0.5**
ONER Baraj Valea Uz 150.45 328 ⇓P **PKiKP 17 21 05.9 +0.4**
KSP Ksiaz 150.49 344 *e*PKP **PKiKP 17 21 06.0 +0.6**
NIE Niedzica 150.57 338 *e*PKP **PKiKP 17 21 06.7 +1.0**
VRI Vrincioaia 150.62 327 ⇓P **PKPbc 17 21 05.5 +0.4**
MMAI Mount Meron Ar 150.70 297 PKPbc **PKiKP 17 21 07.0 +0.5**
comp=Z,16nm,0.8s,baz=69,slow=4.6,SNR=25
CLL Collm 150.76 349 *i* PKPbc **PKPbc 17 21 05.3 0.0**
comp=Z,13nm,1.0s
CLL *i* PKPab **sPKPdf 17 21 11.8 -1.2**
comp=Z,9.0nm,0.9s
CLL *i* pPKPbc **sPKPbc 17 21 16.7 -1.9**
OSTC Ostas 150.77 344⇑ *e*PKP **PKiKP 17 21 06.4 +0.4**
CHVC Chvalec 150.78 344⇑ *e*PKP **PKiKP 17 21 06.6 +0.6**
UPC Upice 150.87 344⇑ *e*PKP **PKPbc 17 21 06.2 +0.6**
STEB Steborice 150.92 342⇑ *e*PKP **PKPbc 17 21 06.2 +0.5**
DPC Dobruska-Polom 150.93 344⇑ *e*PKP **PKiKP 17 21 06.7 +0.3**
BRG Berggiesshubel 150.99 347 *i* PKP **PKPbc 17 21 06.4 +0.6**
BRG Amp 17 21 07.5
comp=Z,8.4nm,0.8s
BRG Berggiesshubel 150.99 347 P **PKPab 17 21 11.9 -1.4**
BRG Amp 17 21 13.9
comp=Z,5.4nm,0.7s
BRG Berggiesshubel 150.99 347 P **PKPab 17 21 21.1 +7.7**
BRG Amp 17 21 22.8
comp=Z,5.6nm,0.8s
KRLC Kraliky 151.06 343⇑ *e*PKP **PKPbc 17 21 06.6 +0.5**
KRLC *e*PKPAB **PKPab 17 21 13.6 -0.1**
LANS Liptovska Anna 151.08 339 *e*PKP **PKiKP 17 21 07.9 +1.2**
MORC Moravsky Berou 151.12 342 *e*PKIKP **PKPbc 17 21 06.6 +0.3**
MORC Moravsky Berou 151.12 342 ⇑P **PKPbc 17 21 06.6 +0.3**
NEHR Nehoiu 151.14 327 ⇓P **PKPbc 17 21 06.6 +0.1**
DOPR Dopca 151.21 328 ⇑P **PKPbc 17 21 06.7 +0.2**
MLR Muntele Rosu 151.27 327 ⇓P **PKPbc 17 21 06.9 0.0**
PRU Pruhonice 151.70 346⇑ *e*PKP **PKiKP 17 21 12.3 +4.4**
MARR Marisel-Cluj 151.72 332 ⇑P **PKPbc 17 21 07.4 -0.4**
VOIR 151.75 328 ⇑P **PKPbc 17 21 08.4 +0.5**
DRGR 151.80 332 ⇑P **PKPbc 17 21 07.7 -0.2**
ARR Arges 152.00 328 ⇑P **PKiKP 17 21 09.6 +0.8**
UCC Uccle 152.09 360 *d*PKP **PKiKP 17 21 09.2 +0.6**
KRUC Moravsky 152.09 343 *e*PKIKP **PKPbc 17 21 08.4 0.0**
BTNL Ternell 152.26 357 *d*PKP **PKPbc 17 21 09.2 +0.4**
ZVC Zvikov 152.29 346⇑ *e*PKP **PKiKP 17 21 09.6 +0.4**
BMRD Maredsous 152.58 359 *d*PKP **PKiKP 17 21 10.4 +0.7**
SIRR Siria 152.66 333 ⇑P **PKPbc 17 21 10.3 +0.4**
KHC Kasperske Hory 152.72 346⇑ *e*PKP **PKPbc 17 21 10.3 +0.4**
CKRC Cesky Krumlov 152.85 345 *e*PKPDF **PKPdf 17 21 03.3 +0.3**
CKRC ⇑ *e*PKP **PKPbc 17 21 10.3 +0.1**
GZR Gura Zlata 152.86 330 ⇓P **PKPbc 17 21 10.4 +0.1**
SURR Surduc 152.87 332 ⇑P **PKPbc 17 21 10.6 +0.3**
GERES GERESS Array B 152.96 346 PKP **PKPdf 17 21 02.8 -0.5**
comp=Z,0.3nm,0.3s,baz=44,slow=6.5,SNR=1.9
GERES PKPbc **PKPbc 17 21 10.2 -0.4**
comp=Z,1.2nm,0.7s,baz=17,slow=1.4,SNR=8.5
BZS Buzias 153.20 332 ⇓P **PKPbc 17 21 10.9 -0.1**
CONA Conrad Observa 153.27 342 *e*PKP **PKiKP 17 21 11.9 +0.6**
comp=Z,3.6nm,0.8s
RONA Rosalia, Austr 153.35 342 *e*PKP **PKPbc 17 21 11.7 +0.4**
comp=Z,1.2nm,0.5s
HERR Herculane 153.41 330 ⇑P **PKPbc 17 21 11.6 +0.1**
MOA Molln 153.76 345 *e*PKP **PKPab 17 21 24.1 -1.0**
comp=Z,7.7nm,1.8s
MORH Mrgy, Hungar 153.89 337 ⇓P **PKPbc 17 21 11.8 -0.7**
ARSA Arzberg 153.98 342 *e*PKP **PKPab 17 21 27.4 +1.4**
comp=Z,2.5nm,0.8s
BIOA Bad Ischl, Aus 154.06 345 *e*PKP **PKPab 17 21 26.9 +0.6**
comp=Z,10nm,1.2s
LESA Schwarzleotal 154.53 346 *e*PKP **PKPab 17 21 27.7 -0.7**
comp=Z,2.0nm,0.9s
SOKA Soboth 154.64 342 *e*PKP **PKPab 17 21 27.3 -1.6**
comp=Z,5.2nm,1.2s
KBA Koelnbreinsper 154.71 345 *e*PKP **PKPab 17 21 29.4 +0.1**
comp=Z,0.8nm,0.4s
RETA Reutte 154.84 349 *e*PKP **PKPab 17 21 29.6 -0.1**
comp=Z,9.1nm,1.3s
WTTA Wattenberg 154.90 348 *i* PKP **PKPab 17 21 26.9 -3.2**
comp=Z,2.2nm,0.5s
MOTA Moosalm 154.92 349 *e*PKP **PKPab 17 21 31.0 +0.9**
comp=Z,5.3nm,1.5s
SQTA Sankt Quirin 155.02 349 *e*PKP **PKPab 17 21 28.3 -2.2**
comp=Z,2.0nm,0.5s
DAVA Damuels 155.17 351 *e*PKP **PKPab 17 21 27.2 -4.0**
comp=Z,8.3nm,1.2s
ABTA Abfaltersbach 155.21 346 *e*PKP **PKPab 17 21 30.7 -0.6**
comp=Z,8.9nm,1.1s
ESDC Sonseca Array 161.84 21 PKP **PKPdf 17 21 12.3 -2.3**
comp=Z,0.2nm,0.6s,baz=337,slow=0.3,SNR=2.3
ESDC PKPab **PKPab 17 21 58.7 -1.5**
comp=Z,0.8nm,0.8s,baz=323,slow=5.6,SNR=5.7

BKK ***13*** *17:01:51.8±1.3, 7°N±6°×9°3E±°, h13km±11km, M4.2/6, mB4.8/5, mb4.0/5, Mjma4.0/6, ML4.3/3, MLv4.3/3, Mw(mB)4.1/5*
IDC ***13*** *17:02:05.6±1.9, 7°04N×94°42E, h0km, mb3.9/5, mbtmp3.7/7, ML3.4/2, MS3.2/1, Error ellipse: s-maj=67.1km s-min=32.1km az=58.0*
ISC 13 17:02:09.4±1.3, 7°0N±0°1×94°3E±0°2, h26km, n12, σ0°76/9, mb4.0/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNTT	**Ranong**	**4.75**	**60**	Pn	**Pn**	**17 03 19.1**	**-0.3**
0.2nm10nm,0.4s							
SRIT	**Nakonsritamara**	**5.47**	**73**	Pn	**Pn**	**17 03 30.5**	**+1.2**
PSI	**Prapat**	**6.22**	**132**	Pn	**Pn**	**17 03 39.4**	**-0.3**
0.7nm,0.3s,baz=320,slow=18,SNR=9.7							
1.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**12.23**	**21**	Pn	**Pn**	**17 05 01.0**	**-1.0**
0.1nm,0.3s,baz=202,slow=14,SNR=1.5							
CMAR				LR	LR	17 10 34.5	
comp=Z,112nm,19.4s,baz=180,slow=42							
0.1nm,0.4s							
MKAR	**Makanchi Array**	**40.95**	**347**	P	**P**	**17 09 49.6**	**-0.3**
0.7nm,0.6s,baz=162,slow=8.4,SNR=4.3							
0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**45.41**	**346**	P	**P**	**17 10 26.2**	**+0.4**
1.8nm,0.9s,baz=167,slow=6.9,SNR=9.7							
1.8nm,0.9s							
ZALV	**Zalesovo Beam**	**47.42**	**352**	P	**P**	**17 10 41.5**	**0.0**
0.4nm,0.3s,baz=163,slow=7.5,SNR=2.5							
0.4nm,0.3s							
H04N2	**CROZET ISLANDS**	**65.08**	**211**	T	T	18 23 29.7	
baz=47							
H04N1	**CROZET ISLANDS**	**65.09**	**211**	T	T	18 23 27.7	
baz=47							
H04N3	**CROZET ISLANDS**	**65.10**	**211**	T	T	18 23 19.8	
baz=47							
FINES	**FINESS Array B**	**73.54**	**332**	P	**P**	**17 13 40.1**	**+0.4**
1.5nm,1.1s,baz=116,slow=8.7,SNR=4.5							
1.5nm,1.1s							
HFS	**Hagfors**	**79.27**	**330**	P	**P**	**17 14 13.0**	**+0.7**
1.3nm,0.6s,baz=114,slow=3.5,SNR=4.7							
1.3nm,0.6s							

NEIC ***13*** *17:03:13.5±1.6, 7°12N±0°08×94°55E±0°10, h10km±1km, mb4.5/36, Error ellipse: s-maj=17.6km s-min=11.2km az=238.0*
IDC ***13*** *17:03:13.9±0.9, 7°16N×94°03E, h0km, mb4.0/16, mbtmp4.0/18, ML3.7/2, Error ellipse: s-maj=33.8km s-min=18.0km az=50.0*
NDI ***13*** *17:03:16.2±0.8, 7°18N×94°57E, h10km, ML4.2, MW4.2, mb4.5(NEIC)*
ISC 13 17:03:15.6±0.5, 7°10N±0°06×94°57E±0°05, h26km, n85, σ1°18/77, mb4.4/37, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.65**	**262**	*e*P	**Pn**	**17 03 29.0**	**-0.1**
CMBY				*e*S	**Sb**	**17 03 37.7**	**+0.6**
CMBY				IAML		17 03 39.1	
comp=E,11μm,0.4s							
CMBY				IAML		17 03 41.1	
comp=N,13μm,0.4s							

LHMI	Lhok Sumawe	3.00	128	Pn	Pn	17 04 00.3	-1.3
PBA	Port Blair	4.87	338		Pn	17 04 25.6	-1.8
PBA	Port Blair	4.87	338	eP	Pn	17 04 27.8	+0.5
PBA				eS	Sn	17 05 21.4	-1.6
SRIT	Nakonsritamara	5.20	73		Pn	17 04 31.2	-0.6
PSI	Prapat	6.08	134	Pn	Pb	17 04 52.7	-8.4
	comp=N,1.7nm,0.3s,baz=324,slow=19,SNR=6.1						
	comp=N,5.2nm,0.5s						
RPSI	Rantau Prapat	6.16	135		Pn	17 04 44.0	-1.0
RPSI	Rantau Prapat	6.16	135		Pn	17 04 52.7	+7.7
DGPR	DIGLIPUR	6.25	345	eP	Pn	17 04 47.6	+1.3
DGPR				eS	Sn	17 05 53.8	-3.1
KULM	Kulim	6.30	106		Pn	17 04 46.5	-0.5
GSI	Gunungsitoli	6.49	152	Pn	Pn	17 04 49.1	-0.4
CM31	Chiang Mai Arr	12.06	20	Pn	Pn	17 06 06.0	0.0
CMAR	Chiang Mai Arr	12.06	20		Pn	17 06 06.3	+0.3
CMAR	Chiang Mai Arr	12.06	20	Pn	Pn	17 06 08.4	+2.4
	comp=N,0.1nm,0.3s,baz=214,slow=14,SNR=4.8						
	comp=N,0.4nm,0.5s						
CHTO	Chiang Mai	12.39	20	Pn	Pn	17 06 10.4	-0.2
PALK	Pallekele	13.77	272	Pn	Pn	17 06 30.4	+1.0
KSM	Kuching	16.65	109	Pn	Pn	17 07 07.3	-0.1
TNCH	TengChong	18.22	12	⇓P	P	17 07 27.9	+0.8
TNCH				pP	pP	17 07 30.4	-3.1
TNCH				S	Sn	17 10 48.5	-1.4
TNCH				sS	S	17 10 54.8	+0.2
TNCH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TNCH				pmax	pmax		
	comp=Z,160nm,5.7s						
TNCH				LR	LR		
	comp=N,200nm,9.9s						
TNCH				LR	LR		
	comp=E,190nm,6.2s						
TNCH				LR	LR		
	comp=Z,270nm,13.8s						
PZH	PanZhiHua	20.47	19	P	Pn	17 07 54.8	+0.9
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
KAAM	Kaadhedhdhoo	22.50	254	P	P	17 08 12.2	-1.3
LSA	Lhasa	22.71	352		P	17 08 15.7	-0.4
LSA				IAmb	IAmb	17 08 20.4	
	comp=Z,7.0nm,0.8s						
H08S3	Diego Garcia H	26.45	237	T	T	17 35 39.1	
	baz=55,slow=75,SNR=30						
H08S2	Diego Garcia H	26.45	237	T	T	17 35 41.3	
	baz=55,slow=75,SNR=34						
H08S1	Diego Carcia H	26.46	237	T	T	17 35 41.0	
	baz=55,slow=75,SNR=7.9						
NIL	Nilore	32.98	326		P	17 09 48.2	-0.3
KBL	Kabul	36.05	323	P	P	17 10 14.9	-0.4
WUS	Wushi	36.61	340	P	P	17 10 18.6	-1.3
WUS				IAmb	IAmb	17 10 21.9	
	comp=Z,4.3nm,0.8s						
HHC	Hu-ho-hao-te	36.87	22	eP	P	17 10 23.8	+1.7
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
WMQ	Urumqi	37.07	352	eP	P	17 10 25.4	+1.7
WMQ				pmax	pmax		
	comp=Z,22nm,0.8s						
KDJ	Kajisay	38.14	339		P	17 10 32.0	-0.9
DRK	Karamyk	38.19	331	P	P	17 10 32.6	-1.0
GAR	Garm	38.56	329		P	17 10 36.1	-0.3
GAR				IAmb	IAmb	17 10 37.9	
	comp=Z,9.5nm,1.1s						
SIMJ	Simiganj	38.98	328		P	17 10 39.3	-0.7
SIMJ				IAmb	IAmb	17 10 41.2	
	comp=Z,7.7nm,1.1s						
BTK	Batken	39.12	331	P	P	17 10 41.0	-0.1
ARSB	Arslanbob	39.12	334		P	17 10 41.0	-0.2
ARSB				IAmb	IAmb	17 10 44.1	
	comp=Z,13nm,1.4s						
MKAR	Makanchi Array	40.93	347		P	17 10 55.9	-0.1
MKAR	Makanchi Array	40.93	347	P	P	17 10 56.8	+0.8
	comp=Z,3.2nm,0.7s,baz=167,slow=8.0,SNR=18						
	comp=Z,3.2nm,0.7s						
MAKZ	Makanchi	41.02	347		P	17 10 56.3	-0.3
XLT	XiLinHaoTe	41.21	24	eP	P	17 11 00.8	+2.4
XLT				sP	sP	17 11 07.0	-1.4
XLT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KK31	Karatay Array	41.64	333	P	P	17 11 01.3	-0.5
KKAR	Karatay Array	41.64	333	P	P	17 11 01.2	-0.7
KKAR	Karatay Array	41.64	333	P	P	17 11 01.5	-0.4
SONM	Songino Array	41.82	12	P	P	17 11 05.6	+2.2
	comp=Z,1.0nm,0.8s,baz=191,slow=8.3,SNR=5.2						
	comp=Z,1.0nm,0.8s						
KURBB	Kurchatov Arra	45.40	346	P	P	17 11 32.9	+0.9
	comp=Z,4.1nm,0.8s,baz=166,slow=7.0,SNR=24						
	comp=Z,4.1nm,0.8s						
KURK	Kurchatov	45.46	346		P	17 11 32.4	-0.1
KURK				IAmb	IAmb	17 11 35.1	
	comp=Z,6.5nm,1.1s						
ZAA0	Zalesovo Array	47.38	352		P	17 11 48.1	+0.7
ZAA0				IAmb	IAmb	17 11 50.7	
	comp=Z,3.8nm,0.8s						
ZALV	Zalesovo Beam	47.38	352		P	17 11 47.7	+0.2
ZALV	Zalesovo Beam	47.38	352	P	P	17 11 48.6	+1.1
	comp=Z,3.1nm,0.8s,baz=168,slow=7.6,SNR=10						
	comp=Z,3.1nm,0.8s						
WRA	Warramunga Arr	47.47	125	P	P	17 11 54.0	+5.3
	comp=Z,0.4nm,0.8s,baz=307,slow=8.4,SNR=2.6						
	comp=Z,0.4nm,0.8s						
ASAR	Alice Springs	49.09	130	P	P	17 12 06.7	+5.5
	comp=Z,0.4nm,0.5s,baz=298,slow=8.6,SNR=4.0						
	comp=Z,0.4nm,0.5s						
MJAR	Matsushiro Arr	49.36	47	P	P	17 12 08.7	+5.5
	comp=Z,0.6nm,0.7s,baz=226,slow=7.7,SNR=2.8						
	comp=Z,0.6nm,0.7s						
RAYN	Ar Rayn	49.80	295		P	17 12 06.2	-0.5
RAYN				IAmb	IAmb	17 12 17.3	
	comp=Z,3.5nm,0.7s						
BVAR	Borovoye Array	49.86	341	P	P	17 12 05.1	-1.5
	comp=Z,1.4nm,0.6s						
	comp=Z,1.4nm,0.6s						
BRVK	Borovoye	49.92	341		P	17 12 06.8	-0.3
BRVK				IAmb	IAmb	17 12 09.4	
	comp=Z,4.0nm,1.1s						
ABKAR	Akbulak array	51.11	331		P	17 12 15.1	-1.0
ABKAR	Akbulak array	51.11	331		P	17 12 14.9	-1.2
ABKAR				IAmb	IAmb	17 12 18.7	
	comp=Z,4.4nm,1.2s						
ARTI	Arti	56.80	337	P	P	17 12 56.2	-1.4
ARTI				IAmb	IAmb	17 12 59.2	
	comp=Z,6.5nm,1.0s						
YAK	Yakutsk	60.59	18	P	P	17 13 24.1	+0.3
BRTR	Keskin Array B	63.26	311	P	P	17 13 41.4	-1.0
BRTR	Keskin Array B	63.26	311	P	P	17 13 41.2	-1.2
	comp=Z,0.6nm,0.7s,baz=134,slow=8.3,SNR=5.4						
	comp=Z,0.6nm,0.7s						
H04N2	CROZET ISLANDS	65.29	211	T	T	18 24 16.7	
	baz=47,slow=76,SNR=30						
H04N1	CROZET ISLANDS	65.30	211	T	T	18 24 34.3	
	baz=47,slow=76,SNR=23						
H04N3	CROZET ISLANDS	65.31	211	T	T	18 24 17.0	
	baz=47,slow=76,SNR=42						
TIXI	Tiksi	67.90	11		P	17 14 11.3	-0.2
TIXI				IAmb	IAmb	17 14 14.4	
	comp=Z,4.8nm,0.9s						
FIA1	FINESS Array S	73.59	332	P	P	17 14 44.6	-1.8
FINES	FINESS Array B	73.59	332	P	P	17 14 44.5	-1.9
FINES	FINESS Array B	73.59	332	P	P	17 14 47.1	+0.8
	comp=Z,2.1nm,0.7s,baz=95,slow=5.3,SNR=7.8						
	comp=Z,2.1nm,0.7s						
INTR	Introdacqua	78.36	311	P	P	17 15 13.5	-0.6
GERES	GERESS Array B	78.69	318	P	P	17 15 16.4	+0.7
GERES	GERESS Array B	78.69	318	P	P	17 15 16.2	+0.5
	comp=Z,0.7nm,0.6s,baz=83,slow=5.8,SNR=5.7						
	comp=Z,0.7nm,0.6s						
PRED	Cave del Predi	78.70	316	P	P	17 15 14.6	-1.3
PRED				IAmb	IAmb	17 15 23.6	
	comp=Z,8.7nm,1.2s						
HFS	Hagfors	79.34	330	P	P	17 15 20.6	+1.6
	comp=Z,1.5nm,0.5s,baz=129,slow=4.2,SNR=9.4						
	comp=Z,1.5nm,0.5s						
CIMO	Cimolais	79.48	316	P	P	17 15 18.3	-1.8
CIMO				IAmb	IAmb	17 15 44.5	
	comp=Z,11nm,1.3s						
TEOL	Teolo	80.01	315	P	P	17 15 20.7	-2.2
NC405	NORSAR Array S	80.37	331	P	P	17 15 24.9	+0.3
NC405				IAmb	IAmb	17 16 08.1	
	comp=Z,7.6nm,1.1s						
NC602	NORSAR Array S	80.44	330	P	P	17 15 24.5	-0.4
NC602				IAmb	IAmb	17 15 27.0	
	comp=Z,9.4nm,1.2s						
NC303	NORSAR Array S	80.55	331	P	P	17 15 25.4	-0.1
NC303				IAmb	IAmb	17 15 49.5	
	comp=Z,7.8nm,1.2s						
NB2	NORSAR Subarra	80.61	331	P	P	17 15 26.3	+0.4
	comp=Z,0.9nm,0.7s,baz=92,slow=5.6						
NOA	NORSAR Array B	80.61	331	P	P	17 15 26.9	+1.0
	comp=Z,1.1nm,0.8s,baz=115,slow=3.9,SNR=4.9						
	comp=Z,1.1nm,0.8s						
SPITS	Spitsbergen Ar	80.68	348	P	P	17 15 28.3	+2.3
	comp=Z,3.2nm,0.7s,baz=112,slow=11,SNR=6.1						
	comp=Z,3.2nm,0.7s						
DCZ	Deep Cove	83.00	137	P	P	17 15 38.0	-0.7
C18K	Utukok River	88.57	21	P	P	17 16 05.2	-0.8
C18K				IAmb	IAmb	17 16 11.6	
	comp=Z,4.2nm,1.1s						
EKA	Eskdalemuir Ar	88.60	326	P	P	17 16 07.6	+1.3
	comp=Z,1.0nm,0.6s,baz=81,slow=6.0,SNR=3.5						
	comp=Z,1.0nm,0.6s						
B20K	Meade River	89.52	19	P	P	17 16 12.8	+2.4
ESDC	Sonseca Array	92.04	310	P	P	17 16 22.2	-0.7
	comp=Z,0.3nm,0.6s,baz=74,slow=4.3,SNR=3.1						
	comp=Z,0.3nm,0.6s						

DJA 13 17:05:53.6±0.7, 2°S±2°×12°3E±°, h12km±6km, M3.8/16, mB4.7/2, mb4.0/5, MLv3.7/16, Mw(mB)3.9/2, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.88	12	P	Pg	17 06 09.6	-1.1
APSI	Ampana	1.37	317	P	Pb	17 06 19.0	-0.2
MRSI	Marisa	2.46	345	P	Pn	17 06 27.6	-5.9
KMSI	Cibinong	2.83	29	P	Pn	17 06 39.4	+0.7
KMSI				S	Sn	17 07 14.0	+1.2
PCI	Palu	2.93	290	P	Pn	17 06 40.0	0.0
PCI				S	Sn	17 07 16.5	+1.3
SANI	Sanana	3.40	92	P	Pn	17 06 44.0	-2.5
SPSI	Sidrap Palu	3.48	234	P	Pn	17 06 48.8	+1.2
MPSI	Mapaga	3.50	310	P	Pn	17 06 48.7	+0.9
BNSI	Bone	3.50	225	P	Pn	17 06 48.6	+0.7
BBSI	Bau Bau	3.55	180	P	Pn	17 06 49.0	+0.4
BKSI	Bulukumba	4.19	216	P	Pn	17 06 58.4	+1.0
BKB	Balikpapan	5.73	276	P	Pn	17 07 14.4	-4.1

*IDC **13** 17:15:03.7±2.5, 22°.86S×170°.80E, h0km, mb3.7/5, mbtmp3.7/7, ML4.3/2, Error ellipse: s-maj=108.9km s-min=24.0km az=162.0*
*NOU **13** 17:15:05.5, 22°.37S×170°.77E, h0km, MLv3.9/7, Southeast of Loyalty Islands*

ISC 13 17:15:09.7±1.1, 22°.6S±0°.2×170°.70E±0°.08, h33km, n16, σ0°.90/17, mb3.7/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.71	294	P	Pn	17 15 50.0	-0.9
MARNC	Mare, Loyalty	2.71	294	S	Sn	17 16 23.9	+1.4
PINNC	Pines Island,	3.00	269	P	Pn	17 15 55.4	+0.5
YATNC	Mamie plateau,	3.56	278	P	Pn	17 16 02.9	+0.2
OUENC	Ouen Island, N	3.57	272	P	Pn	17 16 02.4	-0.3
ONTNC	Ouen Toro	3.93	273	P	Pn	17 16 08.7	+0.9
DZM	Mont Dzumac	3.97	277	Pn	Pn	17 16 07.8	-0.5
	5.0nm,0.3s,baz=93,slow=17,SNR=32						
DZM				Sn	Sn	17 16 53.4	-0.4
	11nm,0.3s,baz=70,slow=15,SNR=8.9						
	18nm,0.4s						
DZM	Mont Dzumac	3.97	277	P	Pn	17 16 07.7	-0.6
MSVF	Nonsavu	8.43	56	Pn	Pn	17 17 09.9	+0.3
	0.3nm,0.3s,baz=236,slow=12,SNR=7.2						
	4.2nm,0.8s						
ASAR	Alice Springs	33.79	261	P	P	17 21 48.5	-0.3
	0.7nm,0.8s,baz=86,slow=9.3,SNR=11						
	0.7nm,0.8s						
WRA	Warramunga Arr	33.93	268	P	P	17 21 48.5	-1.6
	0.3nm,0.6s,baz=97,slow=8.2,SNR=2.3						
	0.3nm,0.6s						
CMAR	Chiang Mai Arr	81.11	294	P	P	17 27 23.8	+1.7
	0.5nm,0.6s,baz=130,slow=4.2,SNR=8.9						
	0.5nm,0.6s						
NVAR	Mina Array Bea	90.01	48	P	P	17 28 06.1	-0.2
	0.3nm,0.6s,baz=295,slow=4.0,SNR=1.7						
	0.3nm,0.6s						
SONM	Songino Array	90.70	323	P	P	17 28 08.5	-0.7
	0.4nm,0.6s,baz=177,slow=2.9,SNR=3.8						
	0.4nm,0.6s						
EKA	Eskdalemuir Ar	146.98	354	PKPbc	PKPdf	17 34 46.1	-0.5
	1.3nm,0.4s,baz=4.2,slow=3.2,SNR=11						
GERES	GERESS Array B	148.07	331	PKPbc	PKPbc	17 34 52.2	+0.3
	0.6nm,0.7s,baz=33,slow=3.2,SNR=4.6						

IDC 13 17:23:34.1±2.5, 4°.19N×123°.04E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=368.5km s-min=28.5km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.43	156	P	P	17 29 13.4	+0.5
	1.1nm,0.9s,baz=337,slow=9.6,SNR=3.6						
	1.1nm,0.9s						
ASAR	Alice Springs	29.65	160	P	P	17 29 41.2	-0.4
	0.3nm,0.6s,baz=325,slow=8.5,SNR=9.0						
	0.3nm,0.6s						
MKAR	Makanchi Array	55.12	327	P	P	17 33 08.2	-0.1
	0.1nm,0.5s,baz=120,slow=6.9,SNR=3.5						
	0.1nm,0.5s						

*IDC **13** 17:32:30.6±3.4, 6°.80N×93°.39E, h0km, mb3.4/6, mbtmp3.4/6, Error ellipse: s-maj=145.7km s-min=21.9km az=60.0*

ISC 13 17:32:44.2±5.6, 9°N±1°×9°6E±°, h35km, n9, σ0°.24/5, mb3.4/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	Diego Garcia H	28.53	236	T	T	18 04 57.8	
	baz=55,slow=75,SNR=6.3						
H08S2	Diego Garcia H	28.53	236	T	T	18 04 45.4	
	baz=55,slow=75,SNR=8.0						
H08S1	Diego Carcia H	28.55	236	T	T	18 04 58.9	
	baz=55,slow=75,SNR=7.8						
MKAR	Makanchi Array	39.94	345	P	P	17 40 15.2	+0.2
	0.5nm,0.7s,baz=167,slow=7.5,SNR=6.2						
	0.5nm,0.7s						
SONM	Songino Array	40.13	11	P	P	17 40 27.2	+10
	0.2nm,0.5s,baz=201,slow=7.3,SNR=2.0						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	44.44	344	P	P	17 40 51.6	-0.1
	0.6nm,0.7s,baz=153,slow=7.8,SNR=5.2						
	0.6nm,0.7s						
ZALV	Zalesovo Beam	46.21	351	P	P	17 41 05.4	-0.2
	0.2nm,0.3s,baz=170,slow=7.9,SNR=1.7						
	0.2nm,0.3s						
WRA	Warramunga Arr	47.04	127	P	P	17 41 12.8	+0.2
	0.1nm,0.2s,baz=303,slow=7.5,SNR=6.1						
	0.1nm,0.2s						
ASAR	Alice Springs	48.83	132	P	P	17 41 26.4	-0.1
	0.3nm,0.9s,baz=304,slow=7.5,SNR=5.3						
	0.3nm,0.9s						

*IDC **13** 17:38:23.7±0.8, 26°.35N×129°.59E, h0km, mb3.6/17, mbtmp3.6/18, ML3.6/1, MS3.7/6, Error ellipse: s-maj=23.8km s-min=17.8km az=72.0*
*JMA **13** 17:38:25.9±0.1, 26°.3N±0°.6×129°.6E±0°.4, h45km, MV3.2/19, NEAR OKINAWAJIMA ISLAND*

ISC 13 17:38:23.2±1.6, 26°.27N±0°.04×129°.56E±0°.04, h1km±10km, n47, σ1°.70/58, mb3.6/17, MS3.8/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.24	307	P	Pg	17 38 47.5	+0.5
JYRO				eS	Sg	17 39 02.8	-0.3
JOW	Kunigami	1.28	296	Pn	Pg	17 38 48.1	+0.5
	236nm,0.3s,baz=119,slow=18,SNR=411						
JOW				Sn	Sg	17 39 03.1	-1.1
	104nm,0.3s,baz=124,slow=22,SNR=10						
JOW	Kunigami	1.28	296	P	Pg	17 38 48.0	+0.3
JOW	Kunigami	1.28	296	P	Pg	17 38 48.1	+0.5
JOW				eS	Sg	17 39 03.6	-0.6
JOKE	Okinoerabujima	1.40	321	P	Pn	17 38 49.9	0.0
JNTH	Nagotoyohara	1.40	280	P	Pn	17 38 49.5	-0.3
JNTH				eS	Sg	17 39 05.7	-2.5
JMZ	Minamidaito 2	1.56	106	P	Pn	17 38 52.2	+0.1
JMZ	Minamidaito 2	1.56	106	P	Pn	17 38 51.8	-0.3
JMZ				S	Sn	17 39 09.6	-3.5
JKDJ	Kitadaitoujima	1.60	101	P	Pn	17 38 52.5	-0.1
JKDJ				eS	Sn	17 39 11.7	-2.1
JJT3	Tamagusuku3	1.60	266	P	Pn	17 38 52.8	+0.2
JJT3				S	Sn	17 39 12.4	-1.6
JTK	Tokunoshima	1.60	340	P	Pn	17 38 52.9	+0.3
JTK				S	Sn	17 39 11.5	-2.6
JIH	Iheya	1.61	298	P	Pn	17 38 52.9	+0.1
JIH				S	Sn	17 39 12.5	-1.7
JAMN	Amaminishikomi	1.99	350	P	Pn	17 38 58.2	+0.2
JZK	Kikaishima	2.07	10	eP	Pn	17 39 00.2	+1.1
JZK				S	Sn	17 39 25.0	-0.5
JAGN	Aguni-jima	2.10	279	P	Pn	17 38 59.9	+0.4
JAGN				S	Sn	17 39 24.9	-1.3
JAM	Amami Oshima	2.13	1	P	Pn	17 39 00.1	+0.2
JKE	Kume jima 2	2.49	272	P	Pn	17 39 04.3	-0.5
JKE				eS	Sn	17 39 32.5	-3.4
JTAJ	Takarajima	2.89	354	eP	Pn	17 39 10.7	+0.4
JTAJ				S	Sn	17 39 42.8	-2.9
JMJ	Miyako jima 2	4.12	250	P	Pn	17 39 26.7	-0.5
JNU	Nakatsue	6.92	9	Pn	Pn	17 40 06.6	+0.8
	1.1nm,0.3s,baz=281,slow=3.1,SNR=13						
JNU				Sn	Sn	17 41 18.6	-6.7
	baz=284,slow=0.8						
	2.9nm,0.3s						
JNU	Nakatsue	6.92	9	P	Pn	17 40 07.6	+1.8
NACB	Ninganchiao	7.51	256	P	Pn	17 40 11.7	-2.2
YULB	Yu-li	8.03	251	P	Pn	17 40 17.4	-3.7
SSLB	Suanglung	8.19	254	P	Pn	17 40 20.7	-2.5
TPUB	Ta-pu	8.63	252	P	Pn	17 40 27.9	-1.5
KLR	Kul'dur	22.98	4	P	P	17 43 29.4	+0.2
	1.2nm,0.7s,baz=158,slow=12,SNR=4.2						
	1.2nm,0.7s						
SONM	Songino Array	28.18	326	P	P	17 44 18.3	+1.1
	0.3nm,0.6s,baz=132,slow=8.6,SNR=2.0						
	0.3nm,0.6s						
CMAR	Chiang Mai Arr	29.31	261	P	P	17 44 29.5	+2.0
	0.4nm,0.8s,baz=62,slow=8.2,SNR=2.5						
	0.4nm,0.8s						
YAK	Yakutsk	35.75	0	LR	LR	18 00 45.2	
	comp=Z,58nm,18.1s,baz=126,slow=38						
MKAR	Makanchi Array	42.40	312	P	P	17 46 18.3	-1.0
	0.4nm,0.6s,baz=84,slow=9.2,SNR=6.2						
	0.4nm,0.6s						
ZALV	Zalesovo Beam	42.94	322	P	P	17 46 23.2	-0.3
	0.3nm,0.4s,baz=93,slow=6.2,SNR=1.8						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	45.65	316	P	P	17 46 45.4	+0.2
	0.5nm,0.6s,baz=102,slow=9.0,SNR=5.2						
	0.5nm,0.6s						
WRA	Warramunga Arr	46.17	174	P	P	17 46 50.6	+0.9
	0.4nm,0.6s,baz=353,slow=8.6,SNR=1.8						
	0.4nm,0.6s						
ASAR	Alice Springs	49.82	175	P	P	17 47 19.3	+1.4
	0.5nm,0.8s,baz=3.2,slow=13,SNR=12						
	0.5nm,0.8s						
BVAR	Borovoye Array	51.04	318	P	P	17 47 28.2	+1.4
	1.3nm,0.7s,baz=95,slow=8.9,SNR=9.4						
BVAR				PcP	PcP	17 48 42.3	-0.5
	0.3nm,0.6s,baz=64,slow=3.4,SNR=1.9						
BVAR				LR	LR	18 11 09.0	
	comp=Z,73nm,19.4s,baz=88,slow=38						
	1.3nm,0.7s						
ILAR	Eielson Array	63.84	28	P	P	17 48 56.6	-0.3
	0.3nm,0.8s,baz=276,slow=7.5,SNR=2.8						
	0.3nm,0.8s						
GNI	Garni	69.82	306	LR	LR	18 26 31.5	
	comp=Z,37nm,18.1s,baz=86,slow=41						
KBZ	Khabaz	70.05	310	P	P	17 49 38.9	+2.1
	0.9nm,0.7s,baz=69,slow=7.2,SNR=4.9						
	0.9nm,0.7s						
FINES	FINESS Array B	73.41	331	P	P	17 49 57.8	+1.0
	1.6nm,0.6s,baz=56,slow=5.9,SNR=15						
	1.6nm,0.6s						
AKASG	Malin Array Be	76.27	320	P	P	17 50 14.2	+0.7
	0.7nm,0.5s,baz=64,slow=6.0,SNR=4.3						
	0.7nm,0.5s						
BRTR	Keskin Array B	77.94	308	P	P	17 50 23.9	+0.5
	0.8nm,0.8s,baz=90,slow=4.3,SNR=5.6						
	0.8nm,0.8s						
YKA	Yellowknife Ar	77.98	25	P	P	17 50 22.9	0.0
	0.2nm,0.8s,baz=300,slow=5.1,SNR=1.9						
YKA				LR	LR	18 29 18.7	
	comp=Z,66nm,18.8s,baz=312,slow=39						
	0.2nm,0.8s						
MMAI	Mount Meron Ar	79.39	302	LR	LR	18 32 34.8	
	comp=Z,59nm,19.1s,baz=144,slow=41						
NB2	NORSAR Subarra	79.80	334	P	P	17 50 33.3	+0.3
	comp=Z,0.5nm,0.6s,baz=50,slow=5.6						
NOA	NORSAR Array B	79.80	334	P	P	17 50 33.3	+0.3
	comp=Z,0.6nm,0.7s,baz=50,slow=5.4,SNR=5.4						
	comp=Z,0.6nm,0.7s						
GERES	GERESS Array B	85.88	323	P	P	17 51 03.5	-1.4
	comp=Z,0.4nm,0.6s,baz=67,slow=4.5,SNR=4.0						
	comp=Z,0.4nm,0.6s						
DAVOX	Davos/Dischmat	89.18	323	LR	LR	18 34 31.1	
	comp=Z,51nm,18.2s,baz=250,slow=38						

*BUT **13** 17:50:15.7±0.9, 44°.70N±0°.02×112°.49W±0°.02, h11km±8km, Error ellipse: s-maj=2.2km s-min=1.9km az=147.0*

NEIC 13 17:50:15.5±1.1, 44°.724N±0°.009×112°.50W±0°.02, h13km±10km, ML2.8/62, ML3.1/33(BUT), Error ellipse: s-maj=2.3km s-min=1.0km az=113.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMT	Monida	0.15	149		Pg	17 50 19.3	-0.1
MCMT	McKenzie Canyo	0.27	293		Pb	17 50 21.9	-0.4
MCMT					Sb	17 50 26.4	-0.5
ICI	Italian Canyon	0.50	218		Pg	17 50 25.2	-0.2
ICI					Sg	17 50 32.7	+0.5
TPMT	Tepee Creek	0.60	89		Pg	17 50 27.1	-0.1
BGMT	Barton Gulch	0.61	33		Pg	17 50 27.5	+0.1
DLMT	Dillon	0.64	354

YNR IAML 17 51 02.0
comp=E,155nm,0.4s
YMV Mammoth Vault 1.31 78 Pg 17 50 40.6 -0.1
YML Mary Lake 1.33 94 Pg 17 50 40.9 -0.3
H17A Grant Village 1.42 103 Pb 17 50 42.3 +0.4
YUF Upper Falls 1.42 90 Pg 17 50 42.4 -0.4
BZMT Bozeman Pass 1.52 52 Pb 17 50 43.7 +0.1
FXWY Fox Creek 1.52 135 Pn 17 50 42.4 -0.2
FXWY IAML 17 51 03.8
comp=E,69nm,0.7s
MOOW Moose Ponds 1.60 127 Pn 17 50 43.7 +0.1
TPAW Teton Pass 1.67 137 Pn 17 50 45.2 +0.5
TPAW IAML 17 51 08.5
comp=E,142nm,0.7s
YMP Mirror Lake Pl 1.67 89 Pg 17 50 47.5 -0.1
YPSB Soda Butte 1.68 84 Pb 17 50 46.5 +0.1
SXM Sixmile 1.69 32 Pb 17 50 45.9 -0.7
LOHW Long Hollow 1.76 128 Pn 17 50 46.8 +0.9
MSMT Mission Creek 1.77 58 Pb 17 50 47.6 -0.3
SNOW Snow King Moun 1.78 134 Pb 17 50 47.5 -0.6
SNOW IAML 17 51 14.1
comp=E,106nm,0.5s
SNOW IAML 17 51 20.1
comp=E,61nm,1.1s
YNE Yellowstone No 1.80 80 Pb 17 50 47.9 -0.5
YNE IAML 17 51 13.7
comp=E,125nm,0.4s
HLID Hailey 1.80 230 Pb 17 50 47.8 -0.6
HLID IAML 17 51 13.4
comp=E,162nm,0.2s
HLID IAML 17 51 14.2
comp=E,145nm,0.3s
CRMT Chrome Mountai 1.83 66 Pb 17 50 48.2 -0.7
BPMT Black Pine Rid 1.84 339 Pn 17 50 47.6 +0.6
BEMT Mount Belmont 2.03 3 Pn 17 50 50.3 +0.7
VCMT Victor 2.08 326 Pn 17 50 51.0 +0.7
AHID Auburn Hatcher 2.21 152 Pb 17 50 53.9 -1.5
AHID IAML 17 51 28.1
comp=E,53nm,0.5s
AHID IAML 17 51 29.9
comp=E,34nm,0.3s
CHMT Chamberlain Mo 2.25 347 Pn 17 50 53.4 +0.8
MSO Missoula 2.33 335 Pn 17 50 54.4 +0.8
RLMT Red Lodge 2.33 79 Pb 17 50 55.7 -1.8
RLMT IAML 17 51 32.9
comp=E,64nm,0.5s
RLMT IAML 17 51 38.0
comp=E,81nm,0.3s
OVMT Ovando 2.37 352 Pn 17 50 55.0 +0.9
PLID Pearl Lake 2.51 280 Pn 17 50 57.2 +1.0
PLID IAML 17 51 37.1
comp=E,70nm,0.3s
PLID IAML 17 51 37.6
comp=E,68nm,0.4s
ALMT Alberton, Mont 2.67 330 Pn 17 51 00.3 +1.9
MFID Camas Ranch 2.73 243 Pn 17 51 00.9 +1.8
PD31 Pinedale Array 2.90 131 Pn 17 51 02.1 +0.5
PDAR Pinedale Array 2.90 131 Pn 17 51 04.0 +2.5
HVU Hansel Valley 2.95 184 Pn 17 51 03.2 +1.0
SWMT Swartz Lake 2.97 340 Pn 17 51 03.3 +0.8
MKMT Mink Peak 3.00 323 Pn 17 51 04.8 +1.9
FBMT Ferry Basin 3.00 334 Pn 17 51 03.7 +0.9
HWUT Hardware Ranch 3.19 167 Pn 17 51 07.1 +1.5
JTMT Jette 3.27 338 Pn 17 51 07.9 +1.4
YBMT Yellow Bay 3.31 342 Pn 17 51 08.5 +1.5
BHMT Big Hole Peak 3.36 329 Pn 17 51 09.8 +2.0
BMO Blue Mountains 3.42 274 Pn 17 51 10.2 +1.6
BMO IAML 17 52 03.4
comp=E,20nm,0.3s
BMO IAML 17 52 04.4
comp=E,20nm,0.3s
BSMT Bassoo Peak 3.50 334 Pn 17 51 11.4 +1.5
F10A Beach Ranch, E 3.56 292 Pn 17 51 11.7 +1.3
TCUT Toone Canyon 3.69 167 Pn Pn 17 51 13.9 +1.4
EGMT Eagleton 3.81 29 Pn 17 51 14.2 +0.3
BGU Big Grassy Mou 3.82 186 Pn 17 51 14.7 +0.6
LNOR Lincton Mounta 4.24 288 Pn Pn 17 51 20.8 +1.1
BSUT Blindstream Ca 4.38 162 Pn 17 51 22.9 +0.8
ELK Elko 4.46 208 Pn 17 51 21.5 -1.5
J08A Circle Bar Ran 4.52 254 Pn 17 51 25.3 +1.6
DUG Dugway, Tooele 4.53 183 Pn 17 51 25.7 +1.8
DUG IAML 17 52 53.5
comp=E,8.5nm,4.7s
DUG IAML 17 52 56.4
comp=E,8.0nm,4.5s
G08A Pilot Rock 4.61 279 Pn Pn 17 51 25.6 +0.6
MPU Maple Canyon 4.75 172 Pn Pn 17 51 28.5 +1.6
NEW Newport 4.76 320 Pn Pn 17 51 28.5 +1.5
NEW IAML 17 52 54.5
comp=E,11nm,2.8s
LAO LASA Array 4.82 64 Pn 17 51 28.9 +1.1
WVOR Wild Horse Val 5.01 245 Pn 17 51 30.9 +0.5
WVOR IAML 17 52 59.2
comp=E,7.4nm,5.0s
WVOR IAML 17 54 17.2
comp=E,8.9nm,5.0s
I07A Izee 5.06 265 Pn Pn 17 51 33.2 +2.1

*NEIC **13** 17:54:24.9±1.6, 50.°75N±0.°06×179.°13W±0.°08, h10km±2km, mb3.9/107, ML3.4(AEIC), Error ellipse: s-maj=12.8km s-min=5.7km az=144.0*
*IDC **13** 17:54:24.5±0.9, 50.°99N×179.°16W, h0km, mb3.9/19, mbtmp3.9/22, ML3.2/3, Error ellipse: s-maj=26.0km s-min=14.2km az=166.0*
*AEIC **13** 17:54:29.0±1.7, 50.°93N±0.°09×179.°4W±0.°1, h37km±7km, Error ellipse: s-maj=13.4km s-min=8.9km az=159.0*
ISC 13 17:54:25.7±0.7, 50.°83N±0.°08×179.°16W±0.°04, h10km, n164, σ1§18/165, mb4.0/50, 3C-2D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	Gareloi Lava P	0.96	14		Pn	17 54 45.6	+0.4
GANO	Gareloi North	1.01	13		Pg	17 54 46.0	+0.8
TASE	Tanaga Southea	1.22	35		Pg	17 54 49.8	+0.6
TAFP	Tanaga Falls P	1.30	34		Pg	17 54 51.3	+0.7
TAFP					Sg	17 55 09.0	+1.6
KIWB	Kanaga Island	1.62	50		Pb	17 54 55.9	+0.3
KIWB	Kanaga Island	1.62	50		Sb	17 55 16.8	+0.6
KICM	Kanaga Island	1.64	48		Pb	17 54 56.5	+0.5
KICM					Sb	17 55 17.0	+0.3
GSCK	Great Sitkin C	2.21	57		Pb	17 55 05.0	-0.8
GSCK					Sn	17 55 31.5	+1.7
GSTR	Great Sitkin T	2.31	56	Pn	Pn	17 55 04.9	+1.1
ATKA	Atka Island	3.39	64		Pn	17 55 20.5	+2.0
ATKA	Atka Island	3.39	64		Sn	17 55 59.5	+0.7
SHEM	Shemya Is, Ala	4.60	297	Pn	Pn	17 55 38.0	+2.9
	8.1nm,0.3s,baz=90,slow=6.3,SNR=5.5						
SHEM				Sn	Sb	17 56 38.3	-3.3
	4.3nm,0.3s,baz=251,slow=22,SNR=6.7						
SMY	Shemya	4.60	297	Pn	Pn	17 55 34.6	-0.6
SPIA	Saint Paul Isl	8.24	36	Pn	Pn	17 56 24.5	-0.5
UNV	Unalaska Valle	8.31	64	Pn	Pn	17 56 27.9	+1.8
LVA	Lava Point	8.67	62	Pn	Pn	17 56 33.2	+2.2
AKUT	Akutan	8.81	63	Pn	Pn	17 56 34.9	+2.0
SDPT	Sand Point	12.09	61		Pn	17 57 18.6	+0.8
M13K	Dall Lake	13.07	37	Pn	Pn	17 57 34.8	+3.6
N14K	Kuskokwak Cree	13.43	41	Pn	Pn	17 57 39.4	+3.3
M14K	Bethel	13.82	37	Pn	P	17 57 47.4	-2.4
O15K	Ungalikthiuk R	13.84	45	Pn	P	17 57 47.0	-3.1
L14K	Kuka Creek	13.93	35	Pn	P	17 57 47.5	-3.5
N15K	Kwethluk River	14.23	42		P	17 57 52.9	-1.6
PETK	Petropavlovsk-	14.43	288	Pn	Pn	17 57 50.5	+0.7
	0.1nm,0.3s,baz=91,slow=32,SNR=5.4						
	2.4nm,1.1s						
K15K	Wolf Creek Mou	14.97	33		P	17 58 03.2	+0.5
M16K	Timber Creek	15.17	40	P	P	17 58 05.1	+0.3
M16K				IAmb	IAmb	17 58 28.6	
	comp=Z,6.7nm,1.1s						
L16K	Owhat River	15.36	37		P	17 58 07.5	+0.6
L16K				IAmb	IAmb	17 58 08.6	
	comp=Z,5.2nm,0.9s						
ACHA	Angle Creek He	15.62	53	P	P	17 58 09.0	-1.0
ACHA				IAmb	IAmb	17 58 16.4	
	comp=Z,9.6nm,1.5s						
N17K	Nushagak Hills	15.66	43		P	17 58 11.0	+0.8
N17K				IAmb	IAmb	17 58 18.0	
	comp=Z,6.3nm,1.0s						
M17K	Holitna River	15.99	40		P	17 58 12.8	-1.2
O18K	Koktuh Hills	16.26	47		P	17 58 16.8	-0.1
O18K				IAmb	IAmb	17 58 30.2	
	comp=Z,17nm,1.4s						
N18K	Kilae Creek	16.30	44		P	17 58 17.4	0.0
N18K				IAmb	IAmb	17 58 38.7	
	comp=Z,11nm,1.3s						
K17K	Iditarod	16.40	36	P	P	17 58 17.4	-1.1
K17K				IAmb	IAmb	17 58 21.7	
	comp=Z,12nm,1.2s						
J17K	VABM Dome	16.55	33	P	P	17 58 19.7	-0.4
L18K	Granite Mounta	16.73	38	P	Pn	17 58 19.8	-0.1
KDAK	Kodiak Island	16.91	55	P	Pn	17 58 19.5	-2.7
KDAK	Kodiak Island	16.91	55	Pn	Pn	17 58 19.4	-2.7
	comp=Z,0.8nm,0.3s,baz=272,slow=3.9,SNR=18						
KDAK				Sn	Sn	18 01 24.0	-5.9
	comp=Z,0.1nm,0.3s,baz=216,slow=19,SNR=1.0						
	comp=Z,1.6nm,0.3s						
N19K	Bonanza Creek	16.98	44	P	P	17 58 24.4	-0.5
N19K				IAmb	IAmb	17 58 34.6	
	comp=Z,8.6nm,1.1s						
SYI	Shuyak Island	17.21	53	P	Pn	17 58 25.2	-0.7
H17K	Granite Mounta	17.33	28	P	P	17 58 28.8	0.0
TTA	Tatalina	17.38	37	P	Pn	17 58 27.5	-0.6
J18K	Innoko River	17.43	35	P	Pn	17 58 27.6	-1.0
J18K				IAmb	IAmb	17 58 35.0	
	comp=Z,12nm,1.3s						
L19K	White Mountain	17.45	40		Pn	17 58 27.8	-1.1
M19K	Big River Lodg	17.51	41	P	P	17 58 31.7	+1.0
M19K				IAmb	IAmb	17 58 40.3	
	comp=Z,13nm,1.5s						
H18K	Honhosa River	17.95	29	P	P	17 58 37.1	+1.4
H18K				IAmb	IAmb	17 58 38.6	
	comp=Z,10.0nm,1.2s						
M20K	Styx River	18.03	42	P	P	17 58 37.8	+1.2
M20K				IAmb	IAmb	17 58 51.5	
	comp=Z,12nm,1.4s						
CNPM	China Poot	18.04	50	P	Pn	17 58 35.7	-0.5
J19K	Poorman	18.13	34	P	Pn	17 58 36.6	-0.7
BRLK	Bradley Lake	18.28	50	P	Pn	17 58 38.8	-0.4
G18K	Tagagawik	18.39	27	P	Pn	17 58 40.6	+0.2
STLK	Strandline Lak	18.43	44	P	P	17 58 40.8	-0.2
STLK				IAmb	IAmb	17 59 02.5	
	comp=Z,12nm,1.5s						
BILL	Bilibino	18.68	343	P	P	17 58 43.4	-0.3
C16K	Lisburne Hills	18.75	16		P	17 58 43.8	-0.6
SKT	Skwentna	18.75	43		Pn	17 58 45.0	+0.1
SKT				IAmb	IAmb	17 58 52.1	
	comp=Z,11nm,1.0s						
J20K	Nowinta River	18.77	35	P	P	17 58 44.8	+0.1
H19K	Roundabout Mou	18.80	30	P	Pn	17 58 45.8	+0.4
H19K				IAmb	IAmb	17 58 57.1	
	comp=Z,12nm,1.5s						
PPLA	Purkeypile	18.88	40	P	Pn	17 58 46.5	0.0
SUA	Susitna One	18.90	45	P	P	17 58 45.8	-0.4
G19K	Purcell Mounta	19.02	28	P	P	17 58 47.0	-0.4
SEW	Seward	19.07	49	P	P	17 58 46.2	-1.6
CAST	Castle Rocks	19.16	39	P	P	17 58 48.2	-0.8
F19K	Shaleruckik Mo	19.31	26	P	P	17 58 49.8	-0.6
SEY	Seymchan	19.50	319	P	P	17 58 52.1	-0.5
	comp=Z,0.1nm,0.3s,baz=120,slow=14,SNR=2.3						
	comp=Z,0.4nm,0.2s						
KTH	Kantishna Hill	19.69	39	P	P	17 58 55.0	+0.2
KTH				IAmb	IAmb	17 58 56.9	
	comp=Z,9.3nm,0.8s						
PWL	Port Wells	19.81	48	P	P	17 58 55.9	-0.1
GHO	Glory Hole Cre	19.82	45	P	P	17 58 55.9	-0.4
GHO				IAmb	IAmb	17 59 05.4	
	comp=Z,9.9nm,1.1s						
C18K	Utukok River	19.88	19		P	17 58 56.9	+0.1
TRF	Thorofare Moun	19.90	40	P	P	17 58 57.1	0.0
TRF				IAmb	IAmb	17 59 06.1	
	comp=Z,12nm,1.2s						
E19K	Redstone River	19.91	25	P	P	17 58 57.4	+0.4
E19K				IAmb	IAmb	17 59 06.0	
	comp=Z,4.8nm,0.9s						
BPAW	Bear Paw Mtn.	19.92	37	P	P	17 58 57.6	+0.4
KNK	Knik Glacier	19.92	46	P	P	17 58 57.3	+0.1
F20K	Avaraart Lake	20.04	27	P	P	17 58 58.2	-0.2
H21K	Melozitna Rive	20.08	32	P	P	17 58 59.5	+0.5
H21K				IAmb	IAmb	17 59 02.2	
	comp=Z,8.6nm,1.2s						
G21K	Allakaket	20.36	30	P	P	17 59 02.4	+0.4
G21K				IAmb	IAmb	17 59 04.3	
	comp=Z,8.3nm,0.8s						
D19K	Kuna River	20.45	22	P	P	17 59 03.8	+0.8
D19K				IAmb	IAmb	17 59 22.4	
	comp=Z,6.9nm,1.0s						
RND	Reindeer	20.46	41	P	P	17 59 03.1	-0.1
BWN	Browne	20.54	38	P	Pn	17 59 05.0	-1.2
SCM	Sheep Creek Mo	20.56	45	P	P	17 59 02.9	-1.3
MCK	McKinley	20.57	40	P	P	17 59 03.7	-0.6
MCK				IAmb	IAmb	17 59 38.0	
	comp=Z,13nm,1.5s						
FID	Port Fidalgo	20.66	49	P	P	17 59 05.2	-0.1
F21K	Alatna River	20.81	28	P	P	17 59 06.9	0.0
NEA2	Nenana	20.89	37	P	P	17 59 07.4	-0.3
NEA2				IAmb	IAmb	17 59 13.7	
	comp=Z,6.6nm,1.1s						
D20K	Etivluk River	20.98	23	P	P	17 59 08.8	+0.1
I23K	Minto, Yukon-K	21.04	36	P	P	17 59 09.0	-0.3
I23K				IAmb	IAmb	17 59 22.4	
	comp=Z,6.6nm,1.1s						
M24K	Tolsona, Glenn	21.16	45	P	P	17 59 09.9	-0.8
WRH	Wood River Hil	21.21	38	P	P	17 59 11.5	+0.3
WRH				IAmb	IAmb	17 59 23.4	
	comp=Z,10nm,1.4s						
H23K	Yukon River	21.31	34	P	P	17 59 12.4	+0.2
CCB	Clear Creek Bu	21.40	38	P	P	17 59 12.5	-0.6
CCB				IAmb	IAmb	17 59 27.3	
	comp=Z,8.4nm,1.5s						
E21K	Killik River	21.48	25	P	P	17 59 13.6	-0.4
HDA	Harding Lake	21.64	39	P	P	17 59 15.3	-0.4
PAX	Paxson	21.74	43	P	P	17 59 16.8	-0.2
PAX				IAmb	IAmb	17 59 26.3	
	comp=Z,4.7nm,0.8s						
N25K	Chitina, Valde	21.75	47	P	P	17 59 17.3	+0.2
ILAR	Eielson Array	21.81	38	P	P	17 59 16.9	-0.8
	comp=Z,0.6nm,0.6s,baz=254,slow=11,SNR=9.9						
	comp=Z,0.6nm,0.6s						
B20K	Meade River	21.83	20	P	P	17 59 16.8	-0.9
COLD	Coldfoot	21.84	30		P	17 59 17.4	-0.4
E22K	Anaktuvuk Pass	21.89	27	P	P	17 59 17.3	-1.1
H24K	Noodor Dome	21.91	35	P	P	17 59 17.6	-1.1
GLB	Gilahina Butte	22.08	48	P	P	17 59 19.8	-0.8
GLB				IAmb	IAmb	17 59 26.2	
	comp=Z,6.8nm,1.1s						
D22K	Ayikyak River	22.12	25	P	P	17 59 19.4	-1.5
D22K				IAmb	IAmb	17 59 23.6	
	comp=Z,6.4nm,1.1s						
B21K	Ikpikpuk River	22.14	23	P	P	17 59 19.9	-1.1
B21K				IAmb	IAmb	17 59 21.7	
	comp=Z,3.4nm,0.8s						
RIDG	Independent Ri	22.25	41	P	P	17 59 22.2	-0.2
RIDG				IAmb	IAmb	17 59 39.6	
	comp=Z,4.2nm,0.9s						
J25K	Salcha River,	22.35	39	P	P	17 59 22.3	-1.1
J25K				IAmb	IAmb	17 59 42.3	
	comp=Z,4.7nm,1.3s						
G24K	Hadweenzic Riv	22.47	33	P	P	17 59 24.4	-0.3
G24K				IAmb	IAmb	17 59 27.4	
	comp=Z,7.1nm,1.0s						
MENT	Mentasta	22.49	44	P	P	17 59 24.6	-0.3
MENT				IAmb	IAmb	17 59 50.7	
	comp=Z,4.2nm,0.8s						
E23K	Chandalar	22.50	29	P	P	17 59 25.3	+0.2
E23K				IAmb	IAmb	17 59 49.1	
	comp=Z,4.8nm,1.2s						
DOT	Dot Lake	22.56	42	P	P	17 59 24.7	-1.0
DOT				IAmb	IAmb	17 59 27.1	
	comp=Z,6.8nm,1.1s						
M26K	Nabesna, AK	22.68	45	P	P	17 59 26.3	-0.7
M26K				IAmb	IAmb	17 59 29.3	
	comp=Z,7.0nm,1.2s						
SCRK	Sand Creek	22.69	41	P	P	17 59 26.2	-0.9
SCRK				IAmb	IAmb	17 59 37.1	
	comp=Z,6.1nm,1.4s						
D23K	Nanushuk River	22.73	26		P	17 59 26.9	-0.6
F24K	Squaw Lake	22.75	31		P	17 59 27.6	0.0
F24K				IAmb	IAmb	17 59 30.1	
	comp=Z,6.1nm,0.9s						
TOLK	Toolik Lake Re	22.85	28	P	P	17 59 27.9	-0.8
TOLK				IAmb	IAmb	17 59 41.8	
	comp=Z,6.8nm,1.2s						
E24K	Your Creek	22.86	30	P	P	17 59 28.6	-0.2
E24K				IAmb	IAmb	17 59 30.8	
	comp=Z,4.3nm,1.1s						
B22K	Teshekpuk Lake	22.94	22	P	P	17 59 29.1	-0.4
B22K				IAmb	IAmb	17 59 48.5	
	comp=Z,6.1nm,1.3s						
J26L	Joseph Creek	23.04	40		P	17 59 29.5	-1.2
J26L				IAmb	IAmb	17 59 31.2	
	comp=Z,2.4nm,0.7s						
M27K	Edge Creek, AK	23.17	46	P	P	17 59 30.7	-1.5
M27K				IAmb	IAmb	17 59 34.1	
	comp=Z,4.1nm,0.9s						
FYU	Fort Yukon	23.20	35	P	P	17 59 32.1	-0.2
C23K	Itkillik River	23.30	25		P	17 59 32.7	-0.5
L27K	Beaver Creek,	23.36	44		P	17 59 33.5	-0.5
D24K	Happy Valley	23.38	27	P	P	17 59 33.2	-0.8
BCAR	Beaver Creek A	23.38	44	P	P	17 59 33.4	-0.8
I26K	Coal Creek Min	23.48	38	P	P	17 59 34.7	-0.4
I26K				IAmb	IAmb	17 59 36.8	
	comp=Z,4.9nm,1.1s						
K27K	Chicken	23.51	42	P	P	17 59 35.0	-0.4
K27K				IAmb	IAmb	18 00 01.6	
	comp=Z,5.2nm,1.2s						
F25K	Christian Rive	23.53	32		P	17 59 35.3	-0.3
F25K				IAmb	IAmb	17 59 36.9	
	comp=Z,4.5nm,1.1s						
BMAR	Burnt Mountain	23.82	33	P	P	17 59 37.8	-0.6
D25K	Kavik River	24.19	28	P	P	17 59 41.2	-0.8
D25K				IAmb	IAmb	18 00 07.0	
	comp=Z,5.6nm,1.1s						
I28M	Miner Creek	24.80	39		P	17 59 46.3	-1.3
C27K	Jago River	25.15	29	P	P	17 59 50.0	-0.5
C27K				IAmb	IAmb	17 59 52.8	
	comp=Z,6.1nm,1.4s						
K29M	Barlow Dome	25.42	43		P	17 59 52.4	-0.8
K29M				IAmb	IAmb	17 59 56.6	
	comp=Z,3.5nm,1.0s						
H29M	Whitestone	25.64	38	P	P	17 59 54.5	-0.5
H29M				IAmb	IAmb	18 00 32.9	
	comp=Z,6.4nm,1.4s						
D27M	Malcolm River	25.83	30	P	P	17 59 56.3	-0.5
D27M				IAmb	IAmb	18 00 37.5	
	comp=Z,5.5nm,1.4s						
I30M	Mount Dempster	26.19	40	P	P	17 59 58.2	-2.0
E29M	Blow River	26.52	33	P	P	18 00 03.9	+1.0
E29M				IAmb	IAmb	18 00 07.0	
	comp=Z,4.1nm,1.2s						
H31M	Peel River	27.14	40	P	P	18 00 07.7	-0.9
MMPY	Sheldon Lake,	28.09	47	P	P	18 00 17.0	-0.1
MMPY				IAmb	IAmb	18 00 25.2	
	comp=Z,2.7nm,1.3s						
H11N2	WAKE ISLAND Hy	32.94	205	T	T	18 36 22.0	
	baz=13,slow=76						
H11N3	WAKE ISLAND Hy	32.95	205	T	T	18 36 28.5	
	baz=13						
H11N1	WAKE ISLAND Hy	32.96	205	T	T	18 36 30.3	
	baz=13,slow=76						
YKAW3	Yellowknife Wh	35.76	46	P	P	18 01 23.6	-0.7
YKAW3				IAmb	IAmb	18 02 00.4	
	comp=Z,1.2nm,0.9s						
YKA	Yellowknife Ar	35.77	46	P	P	18 01 23.0	-1.4
YKA	Yellowknife Ar	35.77	46	P	P	18 01 24.4	0.0
	comp=Z,0.9nm,0.8s,baz=284,slow=8.3,SNR=11						
	comp=Z,0.9nm,0.8s						
KSRS	Korea Array	39.42	271	P	P	18 01 57.4	+1.9
	comp=Z,1.4nm,0.8s,baz=53,slow=7.8,SNR=6.0						
	comp=Z,1.4nm,0.8s						
SONM	Songino Array	46.69	297	P	P	18 02 55.4	+1.0
	comp=Z,1.2nm,0.8s,baz=66,slow=8.8,SNR=8.0						
	comp=Z,1.2nm,0.8s						
PDAR	Pinedale Array	46.69	72	P	P	18 02 56.1	+1.4
	comp=Z,2.5nm,1.0s,baz=316,slow=4.1,SNR=13						
	comp=Z,2.5nm,1.0s						
SPITS	Spitsbergen Ar	50.90	356	P	P	18 03 25.4	-0.9
	comp=Z,5.1nm,0.8s,baz=39,slow=6.8,SNR=8.9						
	comp=Z,5.1nm,0.8s						
TXAR	Lajitas Array	58.96	81	P	P	18 04 24.6	-0.7
	comp=Z,0.1nm,0.3s,baz=312,slow=7.2,SNR=1.7						
	comp=Z,0.1nm,0.3s						
KURK	Kurchatov	59.23	314	P	P	18 04 26.3	-0.5
KURBB	Kurchatov Arra	59.34	314	P	P	18 04 27.2	-0.3
	comp=Z,2.6nm,0.6s,baz=42,slow=6.6,SNR=42						
	comp=Z,2.6nm,0.6s						
MKAR	Makanchi Array	60.20	308	P	P	18 04 33.1	-0.4
	comp=Z,1.1nm,0.5s,baz=52,slow=6.6,SNR=17						
	comp=Z,1.1nm,0.5s						
BVAR	Borovoye Array	61.16	320	P	P	18 04 39.6	-0.3
	comp=Z,0.7nm,0.6s,baz=60,slow=8.8,SNR=5.1						
	comp=Z,0.7nm,0.6s						
FINES	FINESS Array B	66.27	347	P	P	18 05 11.4	-1.9
	comp=Z,1.4nm,0.7s,baz=34,slow=7.1,SNR=5.4						
	comp=Z,1.4nm,0.7s						
NOA	NORSAR Array B	68.17	355	P	P	18 05 24.8	-0.7
	comp=Z,0.3nm,0.5s,baz=345,slow=3.3,SNR=2.6						
	comp=Z,0.3nm,0.5s						
HFS	Hagfors	68.90	353	P	P	18 05 28.8	-1.3
	comp=Z,1.4nm,0.8s,baz=38,slow=7.3,SNR=5.6						
	comp=Z,1.4nm,0.8s						
CMAR	Chiang Mai Arr	70.84	276	P	P	18 05 42.8	+0.1
	comp=Z,0.5nm,1.0s,baz=50,slow=6.6,SNR=1.9						
	comp=Z,0.5nm,1.0s						
AKASG	Malin Array Be	76.00	342	P	P	18 06 11.9	-0.6
	comp=Z,6.7nm,0.7s,baz=22,slow=6.7,SNR=18						
	comp=Z,6.7nm,0.7s						
KIEV	Kiev	76.01	342	⇑P	P	18 06 12.1	-0.4
SORM	Soroca	78.62	342	⇓P	P	18 06 27.2	-0.1
BURAR	Bucovina Array	79.71	344	⇑P	P	18 06 33.8	+0.4
GERES	GERESS Array B	80.09	351	P	P	18 06 35.3	-0.1
	comp=Z,0.2nm,0.3s,baz=32,slow=7.8,SNR=3.7						
	comp=Z,0.2nm,0.3s						
WRA	Warramunga Arr	81.46	224	P	P	18 06 43.1	+0.2
	comp=Z,0.6nm,0.9s,baz=25,slow=4.6,SNR=2.2						
	comp=Z,0.6nm,0.9s						
SURR	Surduc	82.05	345	⇑P	P	18 06 46.1	+0.3
GZR	Gura Zlata	82.29	345	⇓P	P	18 06 47.1	0.0
FITZ	Fitzroy Crossi	83.95	232	P	P	18 06 56.3	+0.5
	comp=Z,1.5nm,0.7s,baz=90,slow=1.0,SNR=2.1						
	comp=Z,1.5nm,0.7s						
BRTR	Keskin Array B	85.35	335	P	P	18 07 02.0	-0.9
	comp=Z,0.7nm,0.8s,baz=41,slow=3.8,SNR=4.8						
	comp=Z,0.7nm,0.8s						

*NEIC **13** 18:00:33.7±2.2, 50.°6N±0.°2×179.°2W±0.°2, h10km±2km, mb3.8/19, Error ellipse: s-maj=40.5km s-min=4.0km az=144.0*
*IDC **13** 18:00:42.6±1.6, 52.°42N×179.°27W, h0km, mb3.6/4, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=50.6km s-min=25.9km az=171.0*
ISC 13 18:00:33.5±1.6, 50.°5N±0.°3×179.°1W±0.°1, h10km, n33, σ1§07/34, mb3.8/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	Kanaga Island	1.83	41		Pb	18 01 06.3	-0.8
KIWB				Sn	Sn	18 01 27.4	-0.9
GSTR	Great Sitkin T	2.49	49	Pn	Pn	18 01 15.4	+1.3
GSTR				Sn	Sn	18 01 45.9	+1.3
ATKA	Atka Island	3.52	59	Pn	Pn	18 01 28.8	+0.7
ATKA				Sn	Sn	18 02 09.9	+0.1
SDPT	Sand Point	12.23	59	Pn	Pn	18 03

F21K IAmb IAmb 18 05 28.9
comp=Z,2.8nm,1.2s
D20K Etivluk River 21.28 23 P **P 18 05 19.7 0.0**
D20K IAmb IAmb 18 05 23.4
comp=Z,2.7nm,1.0s
BCAR Beaver Creek A 23.60 44 P **P 18 05 43.8 -0.4**
K27K Chicken 23.74 41 P **P 18 05 45.6 +0.1**
C24K Franklin Bluff 24.04 26 P **P 18 05 47.7 -0.6**
C24K IAmb IAmb 18 05 58.6
comp=Z,4.6nm,1.4s
BMAR Burnt Mountain 24.08 32 P **P 18 05 49.7 +0.9**
E25K Arctic Village 24.09 30 P **P 18 05 49.2 +0.4**
E25K IAmb IAmb 18 06 27.2
comp=Z,4.2nm,1.4s
C27K Jago River 25.44 28 P **P 18 06 00.0 -0.9**
C27K IAmb IAmb 18 06 08.0
comp=Z,2.6nm,1.3s
KS19 Wonju Array Si 39.47 272 P **P 18 08 02.9 -0.9**
KSAR Wonju Array Be 39.50 272 P **P 18 08 02.9 -1.1**
PDAR Pinedale Array 46.77 71 P P 18 09 09.6 +6.5
comp=Z,0.4nm,0.8s,baz=304,slow=3.4,SNR=3.4
comp=Z,0.4nm,0.8s
KURBB Kurchatov Arra 59.60 314 P **P 18 10 38.1 +1.0**
comp=Z,0.5nm,0.5s,baz=43,slow=6.8,SNR=8.4
comp=Z,0.5nm,0.5s
MKAR Makanchi Array 60.44 309 P **P 18 10 44.2 +1.2**
comp=Z,0.2nm,0.4s,baz=52,slow=7.9,SNR=2.0
comp=Z,0.2nm,0.4s
KAPI Kappang 76.10 244 P P 18 12 36.6 +15
comp=Z,18nm,0.4s,baz=179,slow=14,SNR=4.5
AKASG Malin Array Be 76.33 342 P **P 18 12 22.6 +0.4**
comp=Z,0.6nm,0.4s,baz=21,slow=6.8,SNR=4.3
comp=Z,0.6nm,0.4s

---

*IDC **13** 18:05:57.5±2.2,30°.58N×141°.86E, h0km, mb3.7/10, mbtmp3.7/13, ML3.1/3, MS3.0/2, Error ellipse: s-maj=94.1km s-min=14.6km az=73.0*
ISC 13 18:06:01.2±1.6, 30°.6N±0°.2×141°.9E±0°.4, h23km, n15, σ0°80/16, mb3.8/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.09**	**325**	Pn	**Pn**	**18 06 47.2**	**-1.3**
	8.5nm,0.3s,baz=63,slow=19,SNR=1.6						
JHJ				Sn	**Sn**	**18 07 25.7**	**+1.0**
	16nm,0.3s,baz=83,slow=23,SNR=1.3						
	63nm,0.5s						
JCJ	**Chichijima**	**3.49**	**175**	Pn	**Pn**	**18 06 52.9**	**-1.1**
	3.4nm,0.3s,baz=299,slow=21,SNR=1.3						
JCJ				Sn	**Sn**	**18 07 36.0**	**+1.3**
	12nm,0.3s,baz=277,slow=20,SNR=1.7						
	51nm,0.7s						
MJAR	**Matsushiro Arr**	**6.68**	**334**	Pn	**Pn**	**18 07 38.0**	**+0.1**
	0.1nm,0.3s,baz=152,slow=14,SNR=22						
MJAR				Sn	**Sn**	**18 08 54.5**	**+1.3**
	baz=151,slow=25,SNR=4.3						
	2.5nm,0.6s						
JNU	**Nakatsue**	**9.68**	**288**	LR	LR	18 11 51.0	
	comp=Z,90nm,18.3s,baz=115,slow=36						
KSRS	**Korea Array**	**13.44**	**304**	LR	LR	18 14 27.1	
	comp=Z,53nm,19.1s,baz=160,slow=38						
SONM	**Songino Array**	**32.08**	**313**	P	**P**	**18 12 26.5**	**+0.1**
	0.4nm,0.5s,baz=126,slow=8.2,SNR=3.5						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**48.10**	**307**	P	**P**	**18 14 38.5**	**-0.5**
	0.5nm,0.4s,baz=90,slow=7.4,SNR=9.3						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**50.45**	**312**	P	**P**	**18 14 56.6**	**-0.3**
	0.8nm,0.5s,baz=90,slow=7.9,SNR=5.5						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**50.76**	**189**	P	**P**	**18 14 59.5**	**0.0**
	0.6nm,0.5s,baz=6.4,slow=7.7,SNR=12						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**54.48**	**189**	P	**P**	**18 15 27.0**	**0.0**
	0.3nm,0.5s,baz=0.7,slow=5.9,SNR=9.0						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**55.32**	**316**	P	**P**	**18 15 32.5**	**-0.3**
	0.6nm,0.7s,baz=101,slow=7.7,SNR=5.1						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**74.71**	**333**	P	**P**	**18 17 38.5**	**-0.1**
	1.3nm,0.8s,baz=66,slow=6.5,SNR=5.3						
	1.3nm,0.8s						
KBZ	**Khabaz**	**75.45**	**312**	P	**P**	**18 17 43.7**	**+0.4**
	0.9nm,0.8s,baz=12,slow=11,SNR=4.5						
	0.9nm,0.8s						
AKASG	**Malin Array Be**	**79.65**	**323**	P	**P**	**18 18 06.8**	**+0.2**
	0.1nm,0.3s,baz=56,slow=5.5,SNR=1.1						
	0.1nm,0.3s						
BRTR	**Keskin Array B**	**83.44**	**312**	P	**P**	**18 18 27.2**	**+0.1**
	0.5nm,0.8s,baz=63,slow=5.7,SNR=3.1						
	0.5nm,0.8s						

---

*IDC **13** 18:18:28.5±4.3,33°.15S×136°.64E, h0km, mbtmp3.3/4, ML3.4/4, Error ellipse: s-maj=45.1km s-min=16.1km az=22.0*
*AUST **13** 18:18:28.3±0.3,34°.S±2°.×13°.7E±°., h10km, mb3.9/3, ML3.4/18, Error ellipse: s-maj=6.1km s-min=4.0km az=43.1*
ISC 13 18:18:26.4±0.9, 33°.57S±0°.05×136°.59E±0°.05, h10km, n28, σ2°58/34, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**0.88**	**329**	P	**Pn**	**18 18 47.2**	**+2.4**
BBOO				S	**Sn**	**18 18 58.9**	**+1.2**
WHYH	**Whyalla**	**0.98**	**57**	P	**Pb**	**18 18 47.4**	**+1.9**
WHYH				S	**Sg**	**18 18 59.8**	**+1.8**
PTPS	**Port Pirie**	**1.24**	**72**	P	**Pn**	**18 18 51.6**	**+1.9**
NAPP	**Napperby**	**1.36**	**74**	P	**Pn**	**18 18 53.4**	**+2.0**
HTT	**Hallett**	**1.95**	**87**	P	**Pn**	**18 19 01.8**	**+2.2**
YAPP	**Yappala Statio**	**2.23**	**41**	P	**Pn**	**18 19 05.9**	**+2.5**
KELC	**Kelly Hill Cav**	**2.42**	**174**	P	**Pn**	**18 19 08.1**	**+2.2**
SDAN	**Sedan**	**2.46**	**113**	P	**Pn**	**18 19 08.5**	**+1.9**
LCRK	**Leigh Creek**	**3.41**	**24**	P	**Pn**	**18 19 22.3**	**+2.8**
MULG	**Mulgathing**	**3.92**	**326**	P	**Pn**	**18 19 29.3**	**+2.6**
STKA	**Stephens Creek**	**4.54**	**70**	P	**Pn**	**18 19 39.1**	**+3.9**
STKA	**Stephens Creek**	**4.54**	**70**	Pn	**Pn**	**18 19 37.8**	**+2.7**
	1.3nm,0.3s,baz=230,slow=10,SNR=12						
STKA				Sn	**Sn**	**18 20 27.2**	**-0.9**
	3.8nm,0.3s,baz=272,slow=18,SNR=4.5						
STKA				Lg	Lg	18 20 46.8	
	4.1nm,0.3s,baz=138,slow=23,SNR=4.7						
	0.8nm,0.3s						
MGBR	**Mount Gambier**	**5.26**	**143**	P	**Pn**	**18 19 46.5**	**+1.5**
ARPS	**Mount Arapiles**	**5.35**	**128**	P	**Pn**	**18 19 47.1**	**+0.8**
ARPS	**Mount Arapiles**	**5.35**	**128**	S	**Sn**	**18 20 44.9**	**-3.1**
OOD	**Oodnadatta**	**5.81**	**352**	P	**Pn**	**18 19 54.9**	**+2.3**
OOD	**Oodnadatta**	**5.81**	**352**	S	**Sn**	**18 21 00.6**	**+1.3**
INKA	**Innaminka**	**6.82**	**33**	P	**Pn**	**18 20 09.1**	**+2.6**
	comp=Z,0.1nmcomp=Z,18nm,1.7s						
INKA	**Innaminka**	**6.82**	**33**	S	**Sn**	**18 21 22.2**	**-2.0**
BRAT	**Ballarat**	**7.18**	**126**	P	**Pn**	**18 20 12.6**	**+1.2**
FORT	**Forrest**	**7.75**	**289**	P	**Pn**	**18 20 21.6**	**+2.3**
ASAR	**Alice Springs**	**10.15**	**346**	Pn	**Pn**	**18 20 51.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=172,slow=10,SNR=17						
ASAR				Sn	**Sn**	**18 22 42.5**	**-3.6**
	comp=Z,0.4nm,0.3s,baz=169,slow=25,SNR=5.5						
ASAR				Lg	Lg	18 23 40.1	
	comp=Z,0.5nm,0.3s,baz=164,slow=23,SNR=4.7						
	comp=Z,0.2nm,0.3s						
AS31	**Alice Springs**	**10.15**	**346**	P	**Pn**	**18 20 54.3**	**+2.1**
WRKA	**Warakurna**	**11.16**	**317**	P	**Pn**	**18 21 07.1**	**+1.0**
	comp=Z,10nm,2.2s						
WRA	**Warramunga Arr**	**13.72**	**351**	Pn	**Pn**	**18 21 38.1**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=170,slow=14,SNR=12						
WRA				Sn	**Sn**	**18 24 06.7**	**-6.9**
	comp=Z,0.2nm,0.3s,baz=170,slow=24,SNR=4.9						
WRA				Lg	Lg	18 25 31.1	
	comp=Z,0.4nm,0.3s,baz=171,slow=24,SNR=6.4						
	comp=Z,0.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**18.27**	**325**	P	**Pn**	**18 22 37.7**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=153,slow=8.1,SNR=9.0						
FITZ				S	**Sn**	**18 26 01.4**	**-2.8**
	comp=Z,1.8nm,1.0s,baz=186,slow=13,SNR=2.1						
	comp=Z,2.2nm,0.9s						
KNRA	**Kununurra**	**19.17**	**336**	P	**P**	**18 22 50.3**	**+0.2**
MTN	**Manton Dam**	**21.23**	**345**	P	**P**	**18 23 13.3**	**+0.8**
	comp=Z,6.2nm,1.6s						

---

*NEIC **13** 18:19:25.3±1.9,26°.03N±0°.07×129°.47E±0°.04, h10km±1km, mb4.5/26, Error ellipse: s-maj=11.9km s-min=4.7km az=199.0*
*MOS **13** 18:19:27.4±1.1,26°.25N×129°.50E, h15km, mb4.4/14, Error ellipse: s-maj=14.7km s-min=6.9km az=101.3*
*IDC **13** 18:19:27.3±0.8,26°.19N×129°.30E, h0km, mb3.9/19, mbtmp3.8/22, ML3.2/3, MS3.6/13, Error ellipse: s-maj=20.5km s-min=16.2km az=56.0*
*NIED **13** 18:19:28.6,26°.22N×129°.55E, h45km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.03; $M_{\theta\theta}$=1.09; $M_{\phi\phi}$=0.94; $M_{r\theta}$=0.73; $M_{\theta\phi}$=1.41; $M_{r\phi}$=-0.92; Fault plane solution: M_0=2.54000×10^{15} NP1: ϕ_s=251.00000°, δ50.00000°, λ-53.00000°. NP2:ϕ_s=22.00000°, δ53.00000°, λ-126.00000°.*
*JMA **13** 18:19:28.6±0.1,26°.2N±0°.8×129°.6E±0°.5, h45km, MV3.9/19, NEAR OKINAWAJIMA ISLAND*
ISC 13 18:19:27.0±0.5, 26°.14N±0°.05×129°.48E±0°.03, h10km, n115, σ2°19/126, mb4.2/45, MS3.7/10, 8C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.27**	**314**	P	**Pn**	**18 19 50.5**	**-0.3**
JYRO				S	**Sb**	**18 20 05.5**	**-2.0**
JOW	**Kunigami**	**1.28**	**303**	Pn	**Pn**	**18 19 50.8**	**-0.2**
	351nm,0.3s,baz=121,slow=20,SNR=267						
JOW				Sn	**Sb**	**18 20 05.7**	**-2.0**
	148nm,0.3s,baz=131,slow=25,SNR=7.2						
JOW				LR	LR	18 20 31.1	
	comp=Z,2μm,19.2s,baz=49,slow=57						
JOW	**Kunigami**	**1.28**	**303**	P	**Pn**	**18 19 50.8**	**-0.2**
JOW				S	**Sb**	**18 20 06.0**	**-1.7**
JNTH	**Nagotoyohara**	**1.36**	**287**	P	**Pb**	**18 19 52.1**	**-0.4**
JNTH				S	**Sb**	**18 20 08.9**	**-1.1**
JOKE	**Okinoerabujima**	**1.46**	**327**	P	**Pn**	**18 19 53.2**	**-0.3**
JJT3	**Tamagusuku3**	**1.52**	**271**	P	**Pb**	**18 19 55.3**	**+0.1**
JJT3				*e*S	**Sb**	**18 20 14.5**	**-0.1**
JMZ	**Minamidaito 2**	**1.61**	**101**		**Pn**	**18 19 54.3**	**-1.1**
JMZ				Sn	**Sn**	**18 20 10.2**	**-6.0**
JMZ	**Minamidaito 2**	**1.61**	**101**	*i* P	**Pn**	**18 19 54.4**	**-1.1**
JMZ				*e*S	**Sn**	**18 20 12.4**	**-3.8**
JIH	**Iheya**	**1.62**	**304**	P	**Pn**	**18 19 55.8**	**+0.2**
JIH				S	**Sn**	**18 20 14.9**	**-1.7**
JKDJ	**Kitadaitoujima**	**1.65**	**96**	P	**Pn**	**18 19 55.0**	**-1.0**
JKDJ				*e*S	**Sn**	**18 20 14.5**	**-2.8**
JTK	**Tokunoshima**	**1.71**	**344**	P	**Pn**	**18 19 56.0**	**-0.8**
JTK				*e*S	**Sn**	**18 20 14.3**	**-4.4**
JAGN	**Aguni-jima**	**2.05**	**283**	P	**Pn**	**18 20 02.4**	**+0.9**
JAGN				*e*S	**Sn**	**18 20 26.2**	**-1.0**
JAMN	**Amaminishikomi**	**2.11**	**353**	P	**Pn**	**18 20 01.3**	**-1.1**
JZK	**Kikaishima**	**2.21**	**11**	P	**Pn**	**18 20 03.2**	**-0.6**
JZK				*e*S	**Sn**	**18 20 28.1**	**-3.1**
JAM	**Amami Oshima**	**2.27**	**3**	*e*P	**Pn**	**18 20 03.2**	**-1.3**
JKE	**Kume jima 2**	**2.42**	**275**	P	**Pn**	**18 20 06.9**	**+0.2**
JTAJ	**Takarajima**	**3.01**	**355**	*e*P	**Pn**	**18 20 13.4**	**-1.4**
JTAJ				*e*S	**Sn**	**18 20 45.6**	**-5.3**
YOJ	**Yonaguni jima**	**6.08**	**255**	Pn	**Pn**	**18 20 53.8**	**-3.2**
YOJ	**Yonaguni jima**	**6.08**	**255**	P	**Pn**	**18 20 53.8**	**-3.2**
JNU	**Nakatsue**	**7.07**	**10**		**Pn**	**18 21 10.1**	**-0.4**
JNU	**Nakatsue**	**7.07**	**10**	Pn	**Pn**	**18 21 11.3**	**+0.8**
	1.9nm,0.3s,baz=208,slow=3.4,SNR=21						
JNU				Sn	**Sn**	**18 22 24.4**	**-6.5**
	0.4nm,0.3s,baz=182,slow=13,SNR=1.2						
	7.9nm,0.4s						
NACB	**Ninganchiao**	**7.40**	**256**	Pn	**Pn**	**18 21 12.9**	**-2.3**
NACB				Sn	**Sn**	**18 22 33.4**	**-5.8**
YHNB	**Yeheng**	**7.47**	**260**	Pn	**Pn**	**18 21 13.7**	**-2.4**
YULB	**Yu-li**	**7.92**	**252**	Pn	**Pn**	**18 21 18.9**	**-3.3**
SSLB	**Suanglung**	**8.08**	**255**		**Pn**	**18 21 22.2**	**-2.3**
TWG	**Pinlang**	**8.34**	**248**		**Pn**	**18 21 23.5**	**-4.4**
JMN	**Monobe**	**8.47**	**26**	Pn	**Pn**	**18 21 28.6**	**-1.2**
TPUB	**Ta-pu**	**8.52**	**253**		**Pn**	**18 21 28.4**	**-2.1**
TJN	**Taejon**	**10.37**	**350**	*i* P	**Pn**	**18 21 56.3**	**+0.6**
JHJ	**Hachijo jima 2**	**11.35**	**50**	LR	LR	18 26 33.1	
	comp=Z,103nm,18.4s,baz=70,slow=37						
KSRS	**Korea Array**	**11.36**	**354**	Pn	**Pn**	**18 22 10.3**	**+1.0**
	baz=173,slow=14,SNR=1.3						
KSRS				LR	LR	18 26 44.3	
	comp=Z,112nm,18.5s,baz=170,slow=39						
	0.3nm,0.5s						
JGF	**Kuroka**	**11.61**	**34**	Pn	**Pn**	**18 22 12.4**	**-0.3**
MJAR	**Matsushiro Arr**	**12.77**	**34**	Pn	**Pn**	**18 22 29.1**	**+0.4**
	baz=213,slow=14,SNR=4.4						
	0.2nm,0.5s						
GUMO	**Guam**	**19.09**	**128**	LR	LR	18 29 37.3	
	comp=Z,38nm,18.5s,baz=342,slow=32						
KLR	**Kul'dur**	**23.12**	**4**	*ce*P	**P**	**18 24 33.5**	**+0.4**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ZEA	**Zeya**	**27.62**	**357**	*e*P	**P**	**18 25 17.0**	**+2.5**
SONM	**Songino Array**	**28.24**	**326**	P	**P**	**18 25 21.8**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=137,slow=9.7,SNR=6.3						
SONM				LR	LR	18 36 46.3	
	comp=Z,62nm,19.9s,baz=106,slow=37						
	comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**29.21**	**261**	P	**P**	**18 25 29.9**	**+0.8**
	comp=Z,1.1nm,1.1s,baz=73,slow=9.1,SNR=8.1						
	comp=Z,1.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**29.21**	**261**	*i* P	**P**	**18 25 32.0**	**+2.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PET	**Petropavlovsk**	**34.59**	**31**	*i* P	**P**	**18 26 16.9**	**+1.1**
PET				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YAK	**Yakutsk**	**35.88**	**0**	P	**P**	**18 26 26.5**	**-0.4**
YAK	**Yakutsk**	**35.88**	**0**	*ce*P	**P**	**18 26 27.8**	**+0.9**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MA2	**Magadan**	**36.54**	**18**	LR	LR	18 42 01.8	
	comp=Z,75nm,18.1s,baz=102,slow=37						
KNRA	**Kununurra**	**41.57**	**181**	P	**P**	**18 27 12.2**	**-2.8**
KNRA				IAmb	IAmb	18 27 20.6	
	comp=Z,9.1nm,1.2s						
MK31	**Makanchi Array**	**42.43**	**312**	*ce*P	**P**	**18 27 23.8**	**+1.9**
MKAR	**Makanchi Array**	**42.43**	**312**	P	**P**	**18 27 20.1**	**-1.8**
MKAR	**Makanchi Array**	**42.43**	**312**	P	**P**	**18 27 22.2**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=102,slow=9.1,SNR=10.0						
MKAR				PcP	**PcP**	**18 29 16.1**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=107,slow=3.9,SNR=3.6						
	comp=Z,0.6nm,0.6s						
MAKZ	**Makanchi**	**42.64**	**312**	P	**P**	**18 27 20.4**	**-3.3**
MAKZ	**Makanchi**	**42.64**	**312**	P	**P**	**18 27 20.4**	**-3.3**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ZALV	**Zalesovo Beam**	**43.00**	**322**	P	**P**	**18 27 26.4**	**0.0**
	comp=Z,0.6nm,0.5s,baz=106,slow=9.7,SNR=4.3						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**43.00**	**322**	*i* P	**P**	**18 27 28.3**	**+1.9**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KDJ	**Kajisay**	**45.43**	**304**	P	**P**	**18 27 42.9**	**-3.4**
KDJ	**Kajisay**	**45.43**	**304**	P	**P**	**18 27 42.9**	**-3.4**
TIXI	**Tiksi**	**45.55**	**360**	P	**P**	**18 27 45.0**	**-1.5**
TIXI				IAmb	IAmb	18 27 49.0	
	comp=Z,5.1nm,1.4s						
TIXI	**Tiksi**	**45.55**	**360**	LR	LR	18 47 55.6	
	comp=Z,61nm,20.0s,baz=70,slow=38						
TIXI	**Tiksi**	**45.55**	**360**	*ce*P	**P**	**18 27 48.1**	**+1.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KURK	**Kurchatov**	**45.66**	**316**	P	**P**	**18 27 46.6**	**-1.1**
KURK	**Kurchatov**	**45.66**	**316**	P	**P**	**18 27 48.2**	**+0.5**
KURBB	**Kurchatov Arra**	**45.69**	**316**	P	**P**	**18 27 48.2**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=101,slow=8.6,SNR=8.8						
	comp=Z,1.0nm,0.6s						
WB0	**Warramunga Arr**	**45.88**	**174**	P	**P**	**18 27 46.0**	**-3.8**
WB0				IAmb	IAmb	18 28 23.6	
	comp=Z,4.2nm,0.9s						
WRA	**Warramunga Arr**	**46.05**	**174**	P	**P**	**18 27 52.9**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=346,slow=7.5,SNR=5.6						
	comp=Z,1.2nm,0.8s						
BILL	**Bilibino**	**47.41**	**18**	*ce*P	**P**	**18 28 03.4**	**+2.2**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
AAK	**Ala-Archa**	**47.44**	**305**	LR	LR	18 51 16.0	
	comp=Z,68nm,18.7s,baz=96,slow=40						
NRIK	**Noril'sk**	**49.68**	**342**	P	**P**	**18 28 16.1**	**-2.6**
NRIK	**Noril'sk**	**49.68**	**342**	*i* P	**P**	**18 28 19.2**	**+0.5**
NRIK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**49.70**	**175**	P	**P**	**18 28 21.4**	**+2.1**
	comp=Z,0.5nm,0.9s,baz=345,slow=8.6,SNR=3.3						
	comp=Z,0.5nm,0.9s						
KK31	**Karatay Array**	**50.37**	**305**	P	**P**	**18 28 20.7**	**-3.7**
KK31	**Karatay Array**	**50.37**	**305**	P	**P**	**18 28 20.7**	**-3.7**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KKAR	**Karatay Array**	**50.37**	**305**	P	**P**	**18 28 20.6**	**-3.8**
KKAR	**Karatay Array**	**50.37**	**305**	P	**P**	**18 28 21.1**	**-3.3**
KKAR				IAmb	IAmb	18 28 41.6	
	comp=Z,1.8nm,0.9s						
KKAR	**Karatay Array**	**50.37**	**305**	P	**P**	**18 28 21.1**	**-3.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**51.09**	**318**	P	**P**	**18 28 30.9**	**+1.3**
	comp=Z,1.8nm,0.7s,baz=80,slow=9.3,SNR=13						
BVAR				LR	LR	18 52 00.8	
	comp=Z,149nm,19.2s,baz=87,slow=38						
	comp=Z,1.8nm,0.7s						
BRVK	**Borovoye**	**51.15**	**318**	P	**P**	**18 28 28.8**	**-1.3**
BRVK	**Borovoye**	**51.15**	**318**	*ce*P	**P**	**18 28 31.5**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GAMB	**Gambell**	**53.18**	**28**	P	**P**	**18 28 43.6**	**-1.4**
GAMB				IAmb	IAmb	18 28 44.6	
	comp=Z,9.9nm,1.0s						
AB31	**Akbulak array**	**57.52**	**313**	P	**P**	**18 29 14.9**	**-1.6**
AB31				IAmb	IAmb	18 29 18.1	
	comp=Z,3.1nm,1.0s						
ABKAR	**Akbulak array**	**57.52**	**313**	P	**P**	**18 29 14.7**	**-1.8**
ABKAR	**Akbulak array**	**57.52**	**313**	P	**P**	**18 29 14.8**	**-1.7**
ABKAR				IAmb	IAmb	18 29 18.1	
	comp=Z,3.1nm,1.0s						
ARTI	**Arti**	**58.25**	**322**	P	**P**	**18 29 19.5**	**-2.0**
ARTI	**Arti**	**58.25**	**322**	LR	LR	18 57 03.8	
	comp=Z,101nm,18.2s,baz=338,slow=39						
ARTI	**Arti**	**58.25**	**322**	*d* P	**P**	**18 29 22.1**	**+0.6**
ARTI						18 31 28.8	
ARTI				S	**S**	**18 37 27.8**	**+4.4**
ARTI				SS	**SS**	**18 41 14.5**	**-0.3**
ARTI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
E19K	**Redstone River**	**59.74**	**25**	P	**P**	**18 29 30.1**	**-1.6**
E19K				IAmb	IAmb	18 29 50.5	
	comp=Z,2.6nm,0.8s						
B20K	**Meade River**	**60.00**	**22**	P	**P**	**18 29 32.7**	**-0.7**
B20K				IAmb	IAmb	18 30 14.8	
	comp=Z,7.6nm,1.3s						
D20K	**Etivluk River**	**60.08**	**24**	P	**P**	**18 29 33.1**	**-0.9**
D20K				IAmb	IAmb	18 29 52.3	
	comp=Z,4.4nm,0.8s						
B21K	**Ikpikpuk River**	**60.85**	**23**	P	**P**	**18 29 38.5**	**-0.7**
B22K	**Teshekpuk Lake**	**61.30**	**22**	P	**P**	**18 29 43.2**	**+1.0**
B22K				IAmb	IAmb	18 30 04.2	
	comp=Z,8.2nm,1.4s						
CAST	**Castle Rocks**	**61.81**	**30**	P	**P**	**18 29 44.9**	**-1.0**
CAST				IAmb	IAmb	18 30 04.6	
	comp=Z,4.5nm,1.1s						
D24K	**Happy Valley**	**62.90**	**23**	P	**P**	**18 29 51.0**	**-2.0**
C24K	**Franklin Bluff**	**62.92**	**23**	P	**P**	**18 29 50.9**	**-2.2**
KIRV	**Kirov**	**62.97**	**325**	*ce*P	**P**	**18 29 55.3**	**+1.7**
RND	**Reindeer**	**63.27**	**30**	P	**P**	**18 29 54.3**	**-1.3**
RND	**Reindeer**	**63.27**	**30**	P	**P**	**18 29 54.3**	**-1.3**
RND				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ILAR	**Eielson Array**	**63.99**	**28**	P	**P**	**18 30 02.9**	**+2.6**
	comp=Z,0.4nm,0.8s,baz=278,slow=7.3,SNR=3.2						
	comp=Z,0.4nm,0.8s						
BMAR	**Burnt Mountain**	**64.61**	**25**	P	**P**	**18 30 04.5**	**+0.1**
F26K	**Sheenjek River**	**64.75**	**25**	P	**P**	**18 30 04.7**	**-0.5**
F26K				IAmb	IAmb	18 30 25.2	
	comp=Z,4.9nm,1.1s						
J26L	**Joseph Creek**	**65.44**	**28**	P	**P**	**18 30 09.7**	**-0.3**
J26L				IAmb	IAmb	18 30 14.3	
	comp=Z,5.6nm,1.4s						
KBZ	**Khabaz**	**70.08**	**310**	P	**P**	**18 30 41.0**	**+1.6**
	comp=Z,4.0nm,0.9s,baz=93,slow=3.1,SNR=14						
	comp=Z,4.0nm,0.9s						
KBZ	**Khabaz**	**70.08**	**310**	*ce*P	**P**	**18 30 41.1**	**+1.8**
KBZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV	**Kislovodsk**	**70.16**	**310**	*e*P	**P**	**18 30 39.8**	**-0.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OBN	**Obninsk**	**70.58**	**323**	*e*P	**P**	**18 30 43.1**	**+0.9**
OBN				*e*		18 31 03.0	
OBN				*e*		18 33 18.9	
OBN				*e*PPP	PPP	18 35 02.4	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**73.49**	**331**	P	**P**	**18 31 00.5**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=55,slow=4.8,SNR=17						
FINES				LR	LR	19 07 17.2	
	comp=Z,80nm,19.2s,baz=97,slow=39						
	comp=Z,3.7nm,0.8s						
AKASG	**Malin Array Be**	**76.32**	**320**	P	**P**	**18 31 16.5**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=59,slow=6.1,SNR=7.5						
	comp=Z,0.5nm,0.4s						
AKASG	**Malin Array Be**	**76.32**	**320**	*i* P	**P**	**18 31 15.5**	**-0.6**
AKASG				pmax	pmax		
	comp=

LHMI	Lhok Sumawe	3.10	125	P	Pn	18 23 42.6 -0.9
LHMI				S	Sn	18 24 17.9 -1.8
MLSI	Meulaboh, Aceh	3.39	144	P	Pb	18 23 53.8 -2.0
RNTT	Ranong	4.65	60	P	Pn	18 24 06.4 +1.5
PBA	Port Blair	4.87	340	Pn	Pn	18 24 07.0 -1.0
PBA	Port Blair	4.87	340	eS	Sn	18 25 04.5 +0.9
PBA				IAML		18 25 17.2
	comp=E,974nm,1.2s					
SRIT	Nakonsritamara	5.36	73		Pn	18 24 16.6 +1.8
SRIT	Nakonsritamara	5.36	73	P	Pn	18 24 17.0 +2.2
PSI	Prapat	6.16	133	Pn	Pn	18 24 33.0 +7.2
	comp=E,0.9nm,0.3s,baz=275,slow=8.9,SNR=12					
PSI				Sn	Sb	18 25 49.2 -7.1
	comp=E,1.1nm,0.3s,baz=57,slow=16,SNR=1.3					
PSI				LR	LR	18 27 12.0
	comp=E,186nm,18.6s,baz=288,slow=40					
	comp=E,8.5nm,0.6s					
RPSI	Rantau Prapat	6.23	134		Pn	18 24 29.9 +3.2
RPSI	Rantau Prapat	6.23	134		Pn	18 24 33.0 +6.3
DGPR	DIGLIPUR	6.27	347	eS	Sn	18 25 38.4 +0.4
KULM	Kulim	6.44	105		Pn	18 24 31.4 +1.9
GSI	Gunungsitoli	6.51	151		Pn	18 24 33.6 +3.1
GSI	Gunungsitoli	6.51	151	P	Pn	18 24 34.2 +3.6
BKNI	Bangkinang	9.39	135	Pn	Pn	18 25 12.3 +2.2
MYKOM	Kota Tinggi	10.75	119	Pn	Pn	18 25 30.4 +1.6
CM31	Chiang Mai Arr	12.17	21	Pn	Pn	18 25 47.5 -0.7
CMAR	Chiang Mai Arr	12.17	21	Pn	Pn	18 25 45.6 -2.6
CMAR	Chiang Mai Arr	12.17	21	Pn	Pn	18 25 51.0 +2.8
	comp=E,0.2nm,0.3s,baz=211,slow=14,SNR=4.7					
CMAR				Lg	Lg	18 29 26.1
	baz=191,slow=30,SNR=1.7					
CMAR				LR	LR	18 30 34.6
	comp=E,121nm,18.1s,baz=185,slow=37					
	comp=E,0.6nm,0.4s					
CHTO	Chiang Mai	12.50	20	Pn	Pn	18 25 50.5 -2.2
DLV	Lat	14.70	70	Pn	Pn	18 26 21.2 -1.8
MDRS	Chennai	15.18	294	eS	Sn	18 29 08.4 -8.1
KSM	Kuching	16.78	109		Pn	18 26 50.5 +0.8
TNCH	TengChong	18.31	12	eP	P	18 27 11.4 +2.6
TNCH				sP	sP	18 27 16.6 -1.5
TNCH				PP	PnPn	18 27 25.6 +5.0
TNCH				S	Sn	18 30 31.4 -1.4
TNCH				sS	S	18 30 35.8 -1.2
TNCH				pmax	pmax	
	comp=Z,5.0nm,0.8s					
TNCH				pmax	pmax	
	comp=Z,47nm,4.2s					
TNCH				LR	LR	
	comp=N,110nm,6.1s					
TNCH				LR	LR	
	comp=E,160nm,8.3s					
TNCH				LR	LR	
	comp=Z,110nm,6.5s					
SBUM	Sibu	18.32	104	P	P	18 27 07.2 -1.5
SHL	Shillong	18.58	353	P	P	18 27 08.8 -3.0
QIZ	Qiongzhong	19.16	50	P	P	18 27 18.1 +0.1
QIZ				S	S	18 30 54.4 +0.7
QIZ				LR	LR	
	comp=N,430nm,11.8s					
QIZ				LR	LR	
	comp=E,220nm,9.8s					
QIZ				LR	LR	
	comp=Z,140nm,7.8s					
LSA	Lhasa	22.75	353		P	18 27 55.7 -1.5
LSA				IAmb	IAmb	18 28 07.3
	comp=Z,9.8nm,0.8s					
MYLDM	Lahad Datu	24.02	93		P	18 28 09.5 +0.1
H08S3	Diego Garcia H	26.28	237	T	T	18 55 18.0
	baz=56,slow=75,SNR=156					
H08S2	Diego Garcia H	26.29	237	T	T	18 55 18.2
	baz=56,slow=75,SNR=157					
H08S1	Diego Carcia H	26.30	237	T	T	18 55 18.9
	baz=56,slow=75,SNR=132					
NIL	Nilore	32.94	326		P	18 29 28.0 -0.9
WUS	Wushi	36.61	341	P	P	18 30 00.6 0.0
WUS				IAmb	IAmb	18 30 09.2
	comp=Z,5.0nm,0.8s					
HHC	Hu-ho-hao-te	36.98	22	eP	P	18 30 05.8 +2.0
HHC				pmax	pmax	
	comp=Z,17nm,0.8s					
WMQ	Urumqi	37.10	352	eP	P	18 30 06.5 +1.8
KDJ	Kajisay	38.13	339		P	18 30 14.0 +0.4
KDJ				IAmb	IAmb	18 30 22.9
	comp=Z,3.4nm,1.0s					
DRK	Karamyk	38.16	331	P	P	18 30 13.4 -0.7
GAR	Garm	38.52	329		P	18 30 16.0 -0.9
GAR				IAmb	IAmb	18 30 24.7
	comp=Z,10nm,0.8s					
SIMJ	Simiganj	38.95	328		P	18 30 19.5 -1.0
SIMJ				IAmb	IAmb	18 30 28.0
	comp=Z,7.2nm,0.8s					
ARSB	Arslanbob	39.10	334		P	18 30 21.2 -0.6
ARSB				IAmb	IAmb	18 30 30.3
	comp=Z,7.4nm,0.8s					
AAK	Ala-Archa	39.58	337		P	18 30 25.8 +0.1
MSEY	Mahe Island	40.57	254	P	P	18 30 33.0 -1.2
MSEY				IAmb	IAmb	18 30 54.6
	comp=Z,7.1nm,1.2s					
MK31	Makanchi Array	40.95	347	P	P	18 30 34.1 -2.7
MKAR	Makanchi Array	40.95	347	P	P	18 30 35.3 -1.5
MKAR	Makanchi Array	40.95	347	P	P	18 30 37.2 +0.4
	comp=Z,1.5nm,0.7s,baz=165,slow=7.1,SNR=13					
	comp=Z,1.5nm,0.7s					
MAKZ	Makanchi	41.04	347		P	18 30 36.7 -0.8
KK31	Karatay Array	41.62	333		P	18 30 41.2 -1.2
KKAR	Karatay Array	41.62	333		P	18 30 41.5 -0.9
KKAR	Karatay Array	41.62	333		P	18 30 41.4 -1.1
SONM	Songino Array	41.91	12	P	P	18 30 44.8 0.0
SONM	Songino Array	41.91	12	P	P	18 30 47.1 +2.2
	comp=Z,0.2nm,0.3s,baz=194,slow=9.0,SNR=3.9					
	comp=Z,0.2nm,0.3s					
KS19	Wonju Array Si	42.91	40	P	P	18 30 53.2 +0.3
KS19				IAmb	IAmb	18 31 27.9
	comp=Z,19nm,1.4s					
JMN	Monobe	45.09	48	P	P	18 31 10.4 -0.2
KURBB	Kurchatov Arra	45.41	346	P	P	18 31 14.1 +1.3
	comp=Z,2.3nm,0.9s,baz=168,slow=6.9,SNR=14					
	comp=Z,2.3nm,0.9s					
KURK	Kurchatov	45.48	346		P	18 31 13.1 -0.2
KURK				IAmb	IAmb	18 31 22.4
	comp=Z,5.6nm,1.0s					
ZAA0	Zalesovo Array	47.41	352	P	P	18 31 27.7 -0.7
ZAA0				IAmb	IAmb	18 31 44.0
	comp=Z,2.4nm,0.8s					
ZALV	Zalesovo Beam	47.41	352	P	P	18 31 28.3 -0.1
ZALV	Zalesovo Beam	47.41	352	P	P	18 31 29.9 +1.5
	comp=Z,1.4nm,0.6s,baz=182,slow=8.9,SNR=7.8					
	comp=Z,1.4nm,0.6s					
WB0	Warramunga Arr	47.52	125	P	P	18 31 32.3 +2.5
WB0				IAmb	IAmb	18 31 58.8
	comp=Z,7.0nm,1.4s					
WRA	Warramunga Arr	47.56	125	P	P	18 31 32.4 +2.3
WRA	Warramunga Arr	47.56	125	P	P	18 31 33.9 +3.8
	comp=Z,0.6nm,0.9s,baz=304,slow=9.0,SNR=4.9					
	comp=Z,0.6nm,0.9s					
WB2	Warramunga Arr	47.57	125	P	P	18 31 32.5 +2.3
WB2				IAmb	IAmb	18 31 57.8
	comp=Z,3.7nm,1.1s					
ASAR	Alice Springs	49.18	130	P	P	18 31 46.8 +4.2
	comp=Z,0.3nm,0.6s,baz=312,slow=7.9,SNR=11					
	comp=Z,0.3nm,0.6s					
FORT	Forrest	49.52	141	P	P	18 31 46.5 +1.4
RAYN	Ar Rayn	49.68	295	P	P	18 31 46.2 -0.3
RAYN				IAmb	IAmb	18 31 57.6
	comp=Z,4.1nm,0.7s					
BVAR	Borovoye Array	49.86	341	P	P	18 31 48.1 +0.8
	comp=Z,1.8nm,0.8s,baz=141,slow=9.2,SNR=8.2					
	comp=Z,1.8nm,0.8s					
BRVK	Borovoye	49.92	341		P	18 31 47.5 -0.2
BRVK				IAmb	IAmb	18 31 54.4
	comp=Z,1.9nm,0.8s					
GUMO	Guam	49.99	78	P	P	18 31 49.2 +0.3
ABKAR	Akbulak array	51.09	332		P	18 31 55.8 -0.8
ABKAR	Akbulak array	51.09	332		P	18 31 55.7 -0.9
ABKAR				IAmb	IAmb	18 32 06.1
	comp=Z,6.3nm,1.1s					
JTM	Tenmabayashi	53.37	43	P	P	18 32 13.5 -0.3
ARTI	Arti	56.80	337		P	18 32 38.3 +0.1
ARTI				IAmb	IAmb	18 32 47.2
	comp=Z,6.2nm,0.9s					
KIBK	Kibwezi	57.02	263	P	P	18 32 41.2 +0.5
KIBK				IAmb	IAmb	18 32 42.3
	comp=Z,7.0nm,1.5s					
KMBO	Kilima Mbogo	57.61	264	P	P	18 32 44.7 -0.3
KMBO				IAmb	IAmb	18 33 05.2
	comp=Z,3.0nm,1.1s					
BR131	Keskin Array S	63.18	311	P	P	18 33 22.8 +0.3
BR131				IAmb	IAmb	18 33 33.0
	comp=Z,3.6nm,1.2s					
BRTR	Keskin Array B	63.18	311	P	P	18 33 22.4 -0.2
	comp=Z,0.4nm,0.7s,baz=102,slow=7.9,SNR=5.4					
	comp=Z,0.4nm,0.7s					
H04N2	CROZET ISLANDS	65.16	211	T	T	19 44 09.0
	baz=47,slow=74,SNR=51					
H04N1	CROZET ISLANDS	65.17	211	T	T	19 44 09.5
	baz=47					
H04N3	CROZET ISLANDS	65.18	211	T	T	19 44 13.9
	baz=47,slow=74,SNR=58					
H04S1	CROZET ISLANDS	65.56	211	T	T	19 44 35.2
	baz=47					
H04S3	CROZET ISLANDS	65.57	211	T	T	19 44 38.7
	baz=47,slow=74,SNR=3.5					
H04S2	CROZET ISLANDS	65.58	211	T	T	19 44 34.5
	baz=47,slow=74,SNR=3.4					
TIXI	Tiksi	67.99	11		P	18 33 52.0 -0.8
PEA0B	Petropavlovsk-	68.52	35	P	P	18 33 56.1 -0.4
AKASG	Malin Array Be	68.97	322	P	P	18 34 00.1 +0.7
	comp=Z,0.1nm,0.2s,baz=96,slow=4.7,SNR=2.0					
	comp=Z,0.1nm,0.2s					
BURAR	Bucovina Array	70.84	318	P	P	18 34 11.1 0.0
LIT	Litokhoron	71.68	310	P	P	18 34 16.2 0.0
LIT				IAmb	IAmb	18 34 24.3
	comp=Z,3.5nm,0.8s					
FIA1	FINESS Array S	73.57	332	P	P	18 34 26.3 -0.6
FINES	FINESS Array B	73.57	332	P	P	18 34 26.1 -0.8
FINES	FINESS Array B	73.57	332	P	P	18 34 27.9 +0.9
	comp=Z,1.5nm,0.7s,baz=123,slow=7.0,SNR=9.8					
	comp=Z,1.5nm,0.7s					
BOSA	Boshof	75.38	238	P	P	18 34 37.9 -0.4
BOSA				IAmb	IAmb	18 34 40.2
	comp=Z,5.2nm,1.1s					
BOSA	Boshof	75.38	238	P	P	18 34 38.4 +0.1
	comp=Z,3.2nm,1.0s,baz=97,slow=4.9,SNR=3.1					
	comp=Z,3.2nm,1.0s					
SOKA	Soboth	77.63	316	epP	pP	18 34 59.5 +1.2
	comp=Z,0.1nm,0.3s					
OBKA	Obir	77.95	316	*i* pP	pP	18 35 01.1 +1.0
	comp=Z,8.7nm,1.3s					
MOA	Molln	78.21	317	epP	pP	18 35 04.3 +3.0
GERES	GERESS Array B	78.62	318	P	P	18 34 56.9 +0.7
	comp=Z,0.4nm,0.6s,baz=72,slow=4.8,SNR=9.7					
	comp=Z,0.4nm,0.6s					
LESA	Schwarzleotal	79.27	317	eP	P	18 35 06.4 +6.7
	comp=Z,2.1nm,0.8s					
HFS	Hagfors	79.31	330	P	P	18 35 00.8 +1.3
	comp=Z,1.3nm,0.6s,baz=103,slow=6.4,SNR=5.6					
	comp=Z,1.3nm,0.6s					
CIMO	Cimolais	79.41	316	P	P	18 35 00.2 -0.2
CIMO				IAmb	IAmb	18 35 09.9
	comp=Z,5.5nm,0.9s					
WTTA	Wattenberg	79.97	317	eP	P	18 35 11.4 +7.8
	comp=Z,7.7nm,1.4s					
WATA	Walderalm	80.01	317	eP	P	18 35 11.9 +8.1
	comp=Z,2.0nm,0.6s					
MOTA	Moosalm	80.33	317	*i* P	P	18 35 13.2 +7.6
	comp=Z,6.3nm,1.0s					
RETA	Reutte	80.57	317	eP	P	18 35 12.2 +5.4
NB2	NORSAR Subarra	80.58	331	P	P	18 35 07.5 +1.0
	comp=Z,5.3nm,1.4s,baz=93,slow=5.1					
NOA	NORSAR Array B	80.58	331	P	P	18 35 08.4 +1.9
	comp=Z,0.8nm,0.9s,baz=92,slow=5.7,SNR=6.4					
	comp=Z,0.8nm,0.9s					
SPITS	Spitsbergen Ar	80.70	348	LR	LR	19 17 48.6
	comp=Z,29nm,18.7s,baz=302,slow=41					
DAVA	Damuels	81.17	317	*i* P	P	18 35 15.7 +5.7
	comp=Z,6.3nm,1.2s					
ESDC	Sonseca Array	91.96	310	LR	LR	19 22 26.6
	comp=Z,23nm,18.7s,baz=124,slow=39					

*CATAC **13** 18:25:50.0±0.4, 12°N±2°×8°8W±°, h30km±2km, M4.8/10, MLv4.8/10, Error ellipse: s-maj=5.3km s-min=1.5km az=29.7, confirmed*
*SNET **13** 18:25:51.0±1.4, 12°59N×87°98W, h60km, ML4.4*
*GCG **13** 18:25:51.3±0.7, 12°54N×88°03W, h49km±91km, MD4.5*
ISC 13 18:25:49.7±1.3, 12°49N±0°05×87°99W±0°03, h27km±12km, n89, σ0°69/117, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.65	41	P	Pn	18 26 03.2	0.0
CSGN				S	Sn	18 26 13.2	+0.6
POTN	Potosi Cosigui	0.70	43	P	Pn	18 26 03.7	-0.1
POTN				S	Sn	18 26 14.4	+0.6
CNCH	Conchagua	0.80	11	||*iP*	Pb	18 26 05.5	+0.3
CNCH				eS	Sn	18 26 17.0	+0.6
CNCH	Conchagua	0.80	11	P	Pb	18 26 05.9	+0.8
LCND	La Caada	0.82	7	*i* P	Pb	18 26 05.6	+0.2
LCND				eP		18 26 06.2	
LCND				eS	Sn	18 26 17.5	+0.6
CRIN	San Cristobal	0.94	77	P	Pb	18 26 07.6	+0.1
CRIN	San Cristobal	0.94	77	S	Sb	18 26 22.4	+2.7
BLLM	Bellamira	0.98	346	eP	Pb	18 26 07.8	-0.3
RANC	El Ranchito	0.99	343	P	Pb	18 26 08.2	-0.1
RANC	El Ranchito	0.99	343	S	Sb	18 26 21.5	+0.6
CNRM	Centro Naciona	1.00	350	eP	Pb	18 26 08.1	-0.3
CNRM				eS	Sb	18 26 21.6	+0.5
CNRM	Centro Naciona	1.00	350	P	Pb	18 26 07.8	-0.5
ALJI	Alcalda de J	1.01	326	eP	Pn	18 26 08.2	+0.1
ALJI				eS	Sb	18 26 20.9	-0.5
ALJI	Alcalda de J	1.01	326	P	Pn	18 26 08.0	-0.1
ALJI	Alcalda de J	1.01	326	S	Sb	18 26 21.7	+0.3
PACA	Pacayal	1.03	342	eP	Pb	18 26 08.5	-0.5
PACA				eS	Sb	18 26 22.5	+0.3
PACA	Pacayal	1.03	342	P	Pb	18 26 08.8	-0.2
QUEN	Al S del Volca	1.12	84	P	Pn	18 26 09.7	0.0
QUEN				S	Sb	18 26 25.0	+0.4
HERN	Volcan Telica	1.14	84	P	Pn	18 26 09.7	-0.3
HERN	Volcan Telica	1.14	84	S	Sb	18 26 24.8	-0.5
POLN	Al Sur del Vol	1.16	82	P	Pn	18 26 09.9	-0.4
POLN				S	Sb	18 26 25.2	-0.7
PLRN	Geotermica Pol	1.20	85	P	Pn	18 26 09.9	-0.9
PLRN				S	Sn	18 26 26.1	0.0
ROCN	Rota Cerro Neg	1.22	88	P	Pn	18 26 10.9	-0.1
ROCN				S	Sb	18 26 27.0	-0.5
PQSS	Presa 15 de Se	1.26	334	P	Pn	18 26 11.9	+0.3
PQSS	Presa 15 de Se	1.26	334	S	Sb	18 26 27.9	-0.8
CNGA	Al SSO del Vol	1.26	89	P	Pn	18 26 11.5	-0.1
CNGA				S	Sb	18 26 28.1	-0.6
CNGN	Cerro Negro	1.26	89	P	Pn	18 26 11.2	-0.4
CNGN	Cerro Negro	1.26	89	S	Sn	18 26 27.9	+0.2
ILCN	San Idelfonso	1.27	86	P	Pn	18 26 11.2	-0.4
ILCN				S	Sb	18 26 27.9	-0.9
CHOHN	Orocuina	1.28	39	P	Pn	18 26 11.9	-0.1
CHOHN	Orocuina	1.28	39	S	Sb	18 26 28.9	-0.5
CAHU	Cacacuatique	1.29	351	eP	Pb	18 26 12.9	-0.6
TECO	Alcaldia de Te	1.30	324	P	Pn	18 26 11.9	-0.2
TECO	Alcaldia de Te	1.30	324	S	Sb	18 26 29.1	-0.6
LEVN	Ruinas Leon Vi	1.35	93	P	Pn	18 26 11.9	-0.8
LEVN				S	Sn	18 26 30.1	+0.3
UESV	Universidad de	1.38	326	P	Pn	18 26 13.3	+0.1
UESV	Universidad de	1.38	326	S	Sb	18 26 31.2	-1.0
COPN	Copaltepe	1.40	102	P	Pn	18 26 13.3	-0.2
SCLA	Alcaldia de Sa	1.41	329	eP	Pn	18 26 14.1	+0.5
SCLA				eS	Sb	18 26 32.4	-0.5
SCLA	Alcaldia de Sa	1.41	329	P	Pn	18 26 14.3	+0.7
BC84	Volcan Momotom	1.42	94	P	Pn	18 26 13.3	-0.5
BC84	Volcan Momotom	1.42	94	S	Sn	18 26 31.5	-0.1
COEG	Centro de Oper	1.42	323	eP	Pn	18 26 13.9	0.0
COEG				eS	Sn	18 26 31.3	-0.4
COEG	Centro de Oper	1.42	323	P	Pn	18 26 14.3	+0.4
MOMN	Momotombo	1.42	93	P	Pn	18 26 13.3	-0.5
MOMN				S	Sn	18 26 31.6	0.0
PAVA	Las Pavas	1.53	323	P	Pn	18 26 16.2	+0.8
PAVA	Las Pavas	1.53	323	S	Sn	18 26 34.5	0.0
LFRS	El Faro	1.54	317	*i* P	Pn	18 26 15.6	+0.1
AMTN	Mateare	1.55	99	P	Pn	18 26 16.2	+0.7
AMTN	Mateare	1.55	99	S	Sn	18 26 34.9	+0.3
SAPS	Ciudad Sandino	1.58	101	P	Pn	18 26 16.2	+0.2
SAPS	Ciudad Sandino	1.58	101	S	Sn	18 26 35.7	+0.1
APYN	Apoyeque	1.62	99	P	Pn	18 26 16.2	-0.4
APYN				S	Sn	18 26 36.5	-0.2
LOMA	Loma Larga	1.63	315	eP	Pn	18 26 16.9	+0.2
LOMA				eS	Sn	18 26 36.5	-0.4
LOMA	Loma Larga	1.63	315	P	Pn	18 26 16.9	+0.2
LOMA	Loma Larga	1.63	315	S	Sn	18 26 37.0	+0.2
AEIL	Aeropuerto Ilo	1.63	318	eP	Pn	18 26 17.3	+0.6
AEIL				eS	Sb	18 26 37.9	-1.4
LALI	Alcalda de L	1.63	308	eP	Pn	18 26 16.9	+0.2
LALI				eS	Sn	18 26 34.9	-1.9
LALI	Alcalda de L	1.63	308	eP	Pn	18 26 16.8	+0.2
LALI	Alcalda de L	1.63	308	P	Pn	18 26 16.8	+0.2
LALI	Alcalda de L	1.63	308	S	Sn	18 26 36.9	+0.1
APQ2	Apoyeque	1.65	100	P	Pn	18 26 16.2	-0.8
APQ2				S	Sn	18 26 37.2	-0.1
MARCA	Marcala la Paz	1.66	359	eP	Pn	18 26 17.8	+0.5
MARCA				eS	Sb	18 26 38.5	-1.9
TISN	Laguna Tiscapa	1.72	101	P	Pn	18 26 18.0	+0.2
UEES	Universidad Ev	1.72	315	P	Pn	18 26 18.0	0.0
UEES	Universidad Ev	1.72	315	S	Sn	18 26 40.2	+0.9
UNAN	Cigeo UNAN	1.72	102	P	Pn	18 26 18.0	+0.1
UNAN				S	Sn	18 26 39.2	+0.2
R4DEC	Barrio San Lui	1.74	101	P	Pn	18 26 18.0	-0.1
R4DEC	Barrio San Lui	1.74	101	S	Sn	18 26 39.7	+0.3
MGAN	Managua	1.74	101	P	Pn	18 26 18.0	-0.1
MGAN	Managua	1.74	101	S	Sn	18 26 40.0	+0.5
BOQS	Boqueron	1.77	315	eP	Pn	18 26 19.4	+0.6
PMON	Piamonte	1.77	314	eP	Pn	18 26 19.0	+0.3
PMON	Piamonte	1.77	314	P	Pn	18 26 19.5	+0.8
PMON	Piamonte	1.77	314	S	Sn	18 26 41.4	+1.0
JAYA	Jayaque - finc	1.83	309	eP	Pn	18 26 19.9	+0.3
JAYA				eS	Sn	18 26 41.6	-0.4
JAYA	Jayaque - finc	1.83	309	eP	Pn	18 26 19.6	+0.1
JAYA	Jayaque - finc	1.83	309	P	Pn	18 26 19.7	+0.1
JAYA	Jayaque - finc	1.83	309	S	Sn	18 26 42.4	+0.3
MAS3	Al N del Volca	1.83	104	P	Pn	18 26 19.2	-0.2
MAS3				S	Sn	18 26 41.3	-0.6
SABN	Sabanita	1.86	106	P	Pn	18 26 19.7	-0.2
MASN	Masaya	1.87	105	P	Pn	18 26 20.0	0.0
MASN				S	Sn	18 26 42.4	-0.3
LLGN	La Laguna	1.91	331	P	Pn	18 26 20.7	+0.1
LLGN	La Laguna	1.91	331	S	Sb	18 26 44.9	-2.4
NANN	Nandasmo	1.91	106	P	Pn	18 26 21.6	+1.1
NANN	Nandasmo	1.91	106	S	Sn	18 26 44.7	+1.1
CEVE	Cerro Verde	2.08	310	eP	Pn	18 26 24.1	+1.1
CEVE				eS	Sn	18 26 49.3	+1.2
MTO3	Montecristo	2.32	325	eP	Pn	18 26 26.7	+0.3
FG8	Yepocapa, Chim	3.06	305	eS	Sb	18 27 22.9	+2.3

*IDC **13** 18:35:04.6±0.9, 26°25N×129°29E, h0km, mb3.7/14, mbtmp3.7/15, ML3.7/1, MS2.7/1, Error ellipse: s-maj=31.7km s-min=16.3km az=61.0*
*JMA **13** 18:35:05.7±0.1, 26°2N±0°9×129°5E±0°5, h46km, MV3.3/18, NEAR OKINAWAJIMA ISLAND*
ISC 13 18:35:03.6±2.0, 26°23N±0°05×129°52E±0°04, h3km±13km, n40, σ1°65/48, mb3.8/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.24	310	eP	Pg	18 35 27.6	+0.2
JYRO				eS	Sb	18 35 43.0	-1.1
JOW	Kunigami	1.27	299	Pn	Pn	18 35 27.6	-0.6
	22nm,0.3s,baz=102,slow=22,SNR=11						
JOW				Sn	Sb	18 35 42.6	-2.2
	80nm,0.3s,baz=112,slow=25,SNR=5.4						
JOW				LR	LR	18 35 47.6	
	comp=Z,123nm,19.6s,baz=66,slow=40						
JOW	Kunigami	1.27	299	eP	Pb	18 35 28.0	-0.1
JOW				S	Sb	18 35 43.1	-1.8
JNTH	Nagotoyohara	1.38	282	eP	Pn	18 35 29.1	-0.5
JNTH				eS	Sb	18 35 45.4	-2.5
JOKE	Okinoerabujima	1.41	323	eS	Sb	18 35 47.3	-1.7
JJT3	Tamagusuku3	1.56	267	eP	Pn	18 35 32.4	+0.1
JJT3				eS	Sn	18 35 51.9	-1.1
JMZ	Minamidaito 2	1.58	104	eP	Pn	18 35 31.4	-1.1
JMZ				eS	Sn	18 35 50.2	-3.3
JIH	Iheya	1.61	300	eP	Pn	18 35 32.4	-0.4
JIH				S	Sn	18 35 52.1	-1.9
JKDJ	Kitadaitoujima	1.62	99	eP	Pn	18 35 32.1	-0.9
JKDJ				eS	Sn	18 35 52.0	-2.4
JTK	Tokunoshima	1.63	342	eS	Sn	18 35 51.3	-3.5
JAMN	Amaminishikomi	2.03	351	eP	Pn	18 35 38.6	0.0
JAGN	Aguni-jima	2.08	280	eP	Pn	18 35 39.5	+0.2
JZK	Kikaishima	2.12	11	eP	Pn	18 35 40.7	+0.8
JAM	Amami Oshima	2.18	2	eP	Pn	18 35 40.9	+0.2
JKE	Kume jima 2	2.46	273	eP	Pn	18 35 43.9	-0.6
JTAJ	Takarajima	2.93	355	eP	Pn	18 35 50.9	0.0
JMJ	Miyako jima 2	4.07	251	P	Pn	18 36 05.5	-0.2
YOJ	Yonagunij jima	6.15	255	P	Pn	18 36 33.7	-1.6
JNU	Nakatsue	6.97	9	Pn	Pn	18 36 49.4	+2.8
	1.2nm,0.3s,baz=281,slow=3.9,SNR=13						
JNU				Sn	Sn	18 38 02.8	-3.6
	0.3nm,0.3s,baz=310,slow=21,SNR=1.5						
	5.6nm,0.5s						
NACB	Ninganchiao	7.46	256	P	Pn	18 36 51.3	-2.1
YHNB	Yeheng	7.52	260	P	Pn	18 36 55.9	+1.6
YULB	Yu-li	7.99	251	P	Pn	18 36 56.8	-3.8
SSLB	Suanglung	8.14	254	P	Pn	18 37 00.5	-2.2
TPUB	Ta-pu	8.59	252	P	Pn	18 37 07.1	-1.8
KSRS	Korea Array	11.27	353	LR	LR	18 42 11.0	
	comp=Z,35nm,19.7s,baz=205,slow=38						
SONM	Songino Array	28.19	326	P	P	18 40 58.9	+1.4
	0.5nm,0.6s,baz=140,sl

0.5nm,0.7s,baz=170,slow=6.6,SNR=5.8
0.5nm,0.7s
WRA Warramunga Arr 47.89 125 P **P 18 53 50.0 -0.2**
0.3nm,0.8s,baz=304,slow=7.4,SNR=1.3
0.3nm,0.8s
ASAR Alice Springs 49.49 129 P **P 18 54 02.2 -0.3**
0.2nm,0.8s,baz=310,slow=7.0,SNR=5.0
0.2nm,0.8s
H04N2 CROZET ISLANDS 65.04 211 T T 20 06 25.6
baz=47
H04N1 CROZET ISLANDS 65.05 211 T T 20 06 23.6
baz=47
H04N3 CROZET ISLANDS 65.06 211 T T 20 06 24.6
baz=47
FINES FINESS Array B 73.35 332 P **P 18 56 43.8 +0.6**
0.9nm,0.8s,baz=96,slow=8.8,SNR=4.0
0.9nm,0.8s

*NEIC **13** 18:55:41.4±0.9, 37.°18N±0.°02×97.°62W±0.°01, h7km, mb_Lg2.7/40, ML2.7/12, ML3.0/41, Error ellipse: s-maj=2.6km s-min=1.5km az=200.0*
NEIC 13 18:55:41.8±0.8, 37.°18N±0.°02×97.°62W±0.°01, h6km±2km, Error ellipse: s-maj=2.4km s-min=1.3km az=191.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN09	**Caldwell North**	**0.04**	**175**		Pg	18 55 43.2	+0.1
KAN09				Sg	Sg	18 55 44.2	+0.2
KAN01	**Argonia South**	**0.11**	**259**		Pg	18 55 44.4	+0.2
KAN01				Sg	Sg	18 55 46.2	+0.4
KAN01				IAML		18 55 46.4	
	comp=E,6μm,0.3s						
KAN01				IAML		18 55 46.4	
	comp=N,8μm,0.2s						
KAN17	**Caldwell West**	**0.17**	**221**		Pg	18 55 45.5	+0.2
KAN17				Sg	Sg	18 55 48.1	+0.5
KAN17				IAML		18 55 48.4	
	comp=N,4μm,0.3s						
KAN17				IAML		18 55 48.4	
	comp=E,4μm,0.2s						
KAN13	**South Haven SW**	**0.20**	**145**		Pg	18 55 46.0	+0.3
KAN13				Sg	Sg	18 55 48.9	+0.5
KAN06	**Argonia West S**	**0.20**	**291**		Sg	18 55 49.2	+0.7
KAN05	**Bluff City Nor**	**0.21**	**252**		Pg	18 55 46.1	+0.2
KAN05				Sg	Sg	18 55 49.1	+0.3
KAN05				IAML		18 55 49.6	
	comp=N,4μm,0.2s						
KAN08	**Anthony NE Sta**	**0.28**	**280**		Pg	18 55 47.5	+0.2
KAN08				Sg	Sg	18 55 51.8	+0.7
KAN08				IAML		18 55 51.9	
	comp=E,2μm,0.3s						
KAN08				IAML		18 55 51.9	
	comp=N,2μm,0.3s						
KAN12	**Harper NE Stat**	**0.32**	**292**		Pg	18 55 48.0	-0.1
KAN12				Sg	Sg	18 55 52.9	+0.6
KAN14	**Manchester OK**	**0.35**	**231**		Pg	18 55 48.5	-0.1
KAN14				Sg	Sg	18 55 53.4	+0.2
GC02	**Grant County #**	**0.38**	**210**		Pg	18 55 48.8	-0.3
GC02				Sg	Sg	18 55 54.5	+0.5
OK032	**Salt Plains WL**	**0.60**	**232**		Pg	18 55 53.1	-0.2
OK032				Sg	Sg	18 56 01.5	+0.4
OK032				IAML		18 56 01.9	
	comp=N,688nm,0.3s						
OK032				IAML		18 56 02.0	
	comp=N,909nm,0.2s						
CROK	**Carrier**	**0.73**	**203**		Pg	18 55 55.1	-0.7
CROK				Sg	Sg	18 56 05.6	+0.4
CROK				IAML		18 56 10.1	
	comp=E,952nm,0.3s						
CROK				IAML		18 56 10.5	
	comp=N,729nm,0.3s						
OK051	**E0350 and S346**	**0.92**	**136**		Pg	18 55 58.8	-0.6
OK051				Sg	Sg	18 56 10.7	-0.7
OK051				IAML		18 56 13.8	
	comp=N,687nm,0.2s						
OK051				IAML		18 56 15.6	
	comp=N,619nm,0.2s						
T35A	**Sooner Cattle**	**0.93**	**106**		Pg	18 55 58.9	-0.6
T35A				Sg	Sg	18 56 11.4	-0.1
T35A				IAML		18 56 11.8	
	comp=N,310nm,0.2s						
OK048	**Pawnee Station**	**0.93**	**144**		Pg	18 55 59.1	-0.6
OK048				Sg	Sg	18 56 11.3	-0.5
OK038	**West end E0370**	**1.14**	**233**		Pg	18 56 03.1	-0.5
OK038				Sg	Sg	18 56 17.9	-0.4
NOKA	**Waynoka**	**1.18**	**243**		Pg	18 56 03.8	-0.6
NOKA				IAML		18 56 25.1	
	comp=E,229nm,0.2s						
NOKA				IAML		18 56 27.9	
	comp=N,244nm,0.3s						
QUOK	**Quay**	**1.24**	**143**		Pg	18 56 05.0	-0.6
QUOK				Sg	Sg	18 56 21.7	0.0
OK052	**Battle Ridge R**	**1.35**	**151**		Pn	18 56 06.8	-0.4
OK031	**S. Brethren Rd**	**1.37**	**152**		Pn	18 56 07.1	-0.4
OK029	**Liberty Lake**	**1.38**	**174**		Pn	18 56 07.3	-0.4
R32A	**Long Quarter,**	**1.51**	**326**		Pn	18 56 09.5	0.0
ADOK	**Arcadia Dam**	**1.53**	**172**		Pn	18 56 09.5	-0.2
DEOK	**Depew**	**1.61**	**145**		Pn	18 56 10.4	-0.4
CSTR	**Hydro, Custer**	**1.75**	**210**		Pn	18 56 12.8	+0.1
OKCSW	**OKLAHOMA CITY**	**1.77**	**175**	Pn	Pn	18 56 13.2	+0.2
ELIS	**Ellis County**	**1.82**	**233**		Pn	18 56 13.7	0.0
FNO	**Franklin**	**1.92**	**175**		Pn	18 56 15.8	+0.7
TUL3	**Leonard**	**1.94**	**130**		Pn	18 56 15.6	+0.3
KSU1	**Kansas State U**	**2.08**	**22**		Pn	18 56 17.8	+0.5
W35A	**Tecumseh**	**2.11**	**163**		Pn	18 56 17.7	+0.1
CBKS	**Cedar Bluff**	**2.34**	**315**		Pn	18 56 21.0	+0.1
X34A	**Smith Ranch, M**	**2.58**	**184**	Pn	Pn	18 56 23.2	-0.8
X34A				IAmb_Lg		18 57 07.0	
	comp=Z,20nm,0.7s						
WMOK	**Wichita Mounta**	**2.61**	**201**		Pn	18 56 23.1	-1.4
WMOK	**Wichita Mounta**	**2.61**	**201**		Pn	18 56 23.3	-1.2
WMOK				IAmb_Lg		18 57 05.1	
	comp=Z,7.2nm,0.7s						
U38A	**Gravette**	**2.70**	**105**		Pn	18 56 25.2	-0.6
U38A				IAmb_Lg		18 57 05.2	
	comp=Z,23nm,0.7s						
SMWD	**Samnorwood**	**2.96**	**227**	Pn	Pn	18 56 29.1	-0.3
HHAR	**Hobbs**	**3.09**	**106**		Pn	18 56 31.8	+0.7
WTFS	**Witchita Falls**	**3.47**	**192**	Pn	Pn	18 56 36.8	+0.4
Z35A	**Perchaven, San**	**3.85**	**175**	Pn	Pn	18 56 42.6	+1.1
N35A	**Tabor**	**3.99**	**22**		Pn	18 56 43.0	-0.5
AMTX	**Amarillo**	**4.01**	**236**	IAmb_Lg		18 57 48.9	
	comp=Z,27nm,1.2s						
P38A	**Dawn**	**4.04**	**51**		Pn	18 56 44.4	+0.3
P38A				IAmb_Lg		18 57 58.9	
	comp=Z,13nm,1.3s						
RTBA	**Rita Blanca**	**4.17**	**261**		Pn	18 56 47.0	+1.0
FW06	**Azle**	**4.19**	**179**	Pn	Pn	18 56 47.4	+1.1
MIAR	**Mount Ida**	**4.21**	**127**		Pn	18 56 44.7	-1.8
MIAR				IAmb_Lg		18 57 59.9	
	comp=Z,13nm,0.8s						
BGNE	**Belgrade**	**4.25**	**355**	Pn	Pn	18 56 46.4	-0.6
MGMO	**Mountain Grove**	**4.28**	**89**	Pn	Pn	18 56 47.9	+0.4
MGMO				IAmb_Lg		18 58 00.6	
	comp=Z,24nm,0.8s						
APMT	**Aspermont**	**4.35**	**209**	Pn	Pn	18 56 47.9	-0.6
KSCO	**Kaye Shedlock'**	**4.35**	**296**	Pn	Pn	18 56 48.9	+0.2
R40A	**Maddies Statio**	**4.39**	**74**	Pn	Pn	18 56 48.5	-0.4
PLPT	**Palo Pinto**	**4.39**	**188**	Pn	Pn	18 56 48.2	-0.8
DKNS	**Dickens**	**4.42**	**219**	Pn	Pn	18 56 49.8	+0.3
TREL	**Terrell**	**4.61**	**164**	Pn	Pn	18 56 51.4	-0.7
WHAR	**Wooly Hollow**	**4.70**	**112**	Pn	Pn	18 56 52.4	-0.9
WHAR				IAmb_Lg		18 58 13.2	
	comp=Z,14nm,0.7s						
X40A	**Basin Creek Fa**	**4.72**	**123**	Pn	Pn	18 56 52.4	-1.2
X40A				IAmb_Lg		18 58 10.7	
	comp=Z,15nm,0.8s						
L34A	**Svendsen Farm,**	**4.88**	**11**	Pn	Pn	18 56 55.6	-0.2
UALR	**University of**	**4.91**	**118**	Pn	Pn	18 56 56.0	-0.1
P40A	**Paris**	**4.97**	**60**	Pn	Pn	18 56 55.7	-1.3
OGNE	**Ogallala**	**5.09**	**319**	IAmb_Lg		18 58 32.4	
	comp=Z,16nm,0.8s						
CCM	**Cathedral Cave**	**5.14**	**78**	Pn	Pn	18 56 59.0	-0.3
CCM	**Cathedral Cave**	**5.14**	**78**	IAmb_Lg		18 58 31.5	
	comp=Z,9.8nm,0.7s						
WHTX	**Lake Whitney,**	**5.17**	**178**	Pn	Pn	18 56 59.1	-0.6
T42A	**Van Buren**	**5.22**	**90**	Pn	Pn	18 57 00.5	+0.1
MSTX	**Muleshoe**	**5.28**	**234**	Pn	Pn	18 57 00.3	-1.0
LCAR	**Lake Charles**	**5.32**	**100**	Pn	Pn	18 57 02.4	+0.6
LCAR				IAmb_Lg		18 58 34.2	
	comp=Z,16nm,0.8s						
T25A	**Trinidad**	**5.42**	**272**		Pn	18 57 00.3	-3.1
T25A				IAmb_Lg		18 58 32.9	
	comp=Z,10nm,0.9s						
FVM	**French Village**	**5.77**	**80**	Pn	Pn	18 57 06.4	-1.6
FVM				IAmb_Lg		18 58 41.7	
	comp=Z,9.8nm,0.7s						
PBMO	**Poplar Bluff**	**5.77**	**92**	Pn	Pn	18 57 06.0	-2.0
PBMO				IAmb_Lg		18 58 50.5	
	comp=Z,15nm,0.7s						
BRDY	**Brady**	**5.99**	**191**	Pn	Pn	18 57 09.9	-1.0
Q24A	**Divide**	**6.20**	**289**	IAmb_Lg		18 59 12.6	
	comp=Z,8.6nm,0.7s						
SDCO	**Great Sand Dun**	**6.29**	**278**	IAmb_Lg		18 59 07.1	
	comp=Z,7.6nm,1.3s						
JCT	**Junction City**	**6.92**	**196**	IAmb_Lg		18 59 32.6	
	comp=Z,6.6nm,0.7s						
WVT	**Waverly**	**7.94**	**95**	IAmb_Lg		18 59 55.1	
	comp=Z,5.0nm,0.8s						

*NEIC **13** 18:57:39.7±1.2, 37.°18N±0.°02×97.°62W±0.°01, h10km±5km, mb_Lg2.3/9, ML2.5/14, ML2.8/41, Error ellipse: s-maj=2.6km s-min=1.1km az=146.0*
NEIC 13 18:57:40.2±0.7, 37.°18N±0.°02×97.°62W±0.°01, h6km±2km, Error ellipse: s-maj=2.5km s-min=1.4km az=203.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN09	**Caldwell North**	**0.04**	**177**		Pg	18 57 41.6	+0.1
KAN09				Sg	Sg	18 57 42.6	+0.2
KAN01	**Argonia South**	**0.11**	**257**		Pg	18 57 42.8	+0.2
KAN01				Sg	Sg	18 57 44.3	+0.1
KAN01				IAML		18 57 44.8	
	comp=E,3μm,0.2s						
KAN17	**Caldwell West**	**0.18**	**221**		Pg	18 57 43.9	+0.2
KAN17				Sg	Sg	18 57 46.5	+0.5
KAN17				IAML		18 57 46.8	
	comp=N,2μm,0.3s						
KAN17				IAML		18 57 47.0	
	comp=E,2μm,0.1s						
KAN13	**South Haven SW**	**0.20**	**145**		Pg	18 57 44.4	+0.3
KAN13				Sg	Sg	18 57 47.4	+0.5
KAN13				IAML		18 57 47.6	
	comp=E,1μm,0.3s						
KAN06	**Argonia West S**	**0.20**	**290**	Sg	Sg	18 57 47.5	+0.6
KAN05	**Bluff City Nor**	**0.21**	**251**		Pg	18 57 44.6	+0.2
KAN05				Sg	Sg	18 57 47.3	+0.2
KAN05				IAML		18 57 47.9	
	comp=E,2μm,0.3s						
KAN05				IAML		18 57 48.1	
	comp=N,2μm,0.2s						
KAN08	**Anthony NE Sta**	**0.28**	**280**		Pg	18 57 46.0	+0.2
KAN08				IAML		18 57 50.4	
	comp=N,1μm,0.3s						
KAN12	**Harper NE Stat**	**0.32**	**292**		Pg	18 57 46.7	+0.2
KAN12				Sg	Sg	18 57 51.4	+0.6
KAN14	**Manchester OK**	**0.35**	**231**		Pg	18 57 47.1	+0.1
KAN14				Sg	Sg	18 57 51.8	+0.2
GC02	**Grant County #**	**0.38**	**210**		Pg	18 57 47.6	+0.1
OK032	**Salt Plains WL**	**0.60**	**232**		Pg	18 57 51.4	-0.3
OK032				Sg	Sg	18 57 59.8	+0.2
OK032				IAML		18 58 00.4	
	comp=N,479nm,0.2s						
OK032				IAML		18 58 00.6	
	comp=N,624nm,0.2s						
CROK	**Carrier**	**0.73**	**203**		Pg	18 57 54.0	-0.2
CROK				Sg	Sg	18 58 03.9	+0.1
CROK				IAML		18 58 07.7	
	comp=N,488nm,0.3s						
OK051	**E0350 and S346**	**0.92**	**137**		Pg	18 57 57.6	-0.2
OK051				Sg	Sg	18 58 09.7	-0.1
OK051				IAML		18 58 14.0	
	comp=N,383nm,0.2s						
OK051				IAML		18 58 15.9	
	comp=N,301nm,0.2s						
T35A	**Sooner Cattle**	**0.93**	**106**	Pg	Pg	18 57 57.5	-0.4
T35A				Sg	Sg	18 58 09.8	-0.1
T35A				IAML		18 58 17.8	
	comp=N,201nm,0.2s						
OK048	**Pawnee Station**	**0.94**	**144**		Pg	18 57 57.7	-0.4
OK048				Sg	Sg	18 58 10.0	-0.2
OK038	**West end E0370**	**1.14**	**232**		Pg	18 58 01.4	-0.6
OK038				Sg	Sg	18 58 16.5	-0.3
NOKA	**Waynoka**	**1.18**	**243**		Pg	18 58 02.0	-0.9
NOKA				Sg	Sg	18 58 18.1	-0.1
NOKA				IAML		18 58 26.1	
	comp=E,157nm,0.2s						
NOKA				IAML		18 58 29.9	
	comp=N,165nm,0.3s						
QUOK	**Quay**	**1.24**	**144**		Pg	18 58 03.3	-0.8
QUOK				Sg	Sg	18 58 19.8	-0.4
QUOK				IAML		18 58 20.8	
	comp=N,277nm,0.2s						
OK052	**Battle Ridge R**	**1.35**	**151**		Pn	18 58 05.1	-0.5
OK031	**S. Brethren Rd**	**1.38**	**153**		Pn	18 58 05.6	-0.4
OK031				Sg	Sb	18 58 23.7	-0.4
OK029	**Liberty Lake**	**1.39**	**174**		Pn	18 58 05.6	-0.5
OK029				IAmb_Lg		18 58 24.3	
	comp=Z,12nm,1.2s						
OK029				Sg	Sb	18 58 24.4	0.0
R32A	**Long Quarter,**	**1.51**	**326**		Pn	18 58 08.2	+0.4
ADOK	**Arcadia Dam**	**1.54**	**172**	Pn	Pn	18 58 08.0	-0.2
DEOK	**Depew**	**1.61**	**145**		Pn	18 58 09.2	0.0
CSTR	**Hydro, Custer**	**1.75**	**210**	Pn	Pn	18 58 11.1	-0.2
OKCSW	**OKLAHOMA CITY**	**1.77**	**175**	Pn	Pn	18 58 10.6	-0.8
ELIS	**Ellis County**	**1.82**	**233**	Pn	Pn	18 58 12.1	-0.1
FNO	**Franklin**	**1.93**	**175**		Pn	18 58 13.9	+0.4
TUL3	**Leonard**	**1.94**	**130**		Pn	18 58 13.6	-0.2
KSU1	**Kansas State U**	**2.08**	**22**		Pn	18 58 14.8	-0.8
W35A	**Tecumseh**	**2.11**	**163**		Pn	18 58 16.3	+0.3
CBKS	**Cedar Bluff**	**2.34**	**315**		Pn	18 58 19.1	-0.1
CBKS				IAmb_Lg		18 58 52.9	
	comp=Z,11nm,1.1s						
X34A	**Smith Ranch, M**	**2.58**	**184**	Pn	Pn	18 58 21.5	-1.0
X34A				IAmb_Lg		18 59 04.2	
	comp=Z,15nm,0.7s						
WMOK	**Wichita Mounta**	**2.61**	**201**	Pn	Pn	18 58 20.9	-2.1
U38A	**Gravette**	**2.70**	**105**	Pn	Pn	18 58 22.1	-2.0
U38A				IAmb_Lg		18 59 03.7	
	comp=Z,14nm,0.7s						
SMWD	**Samnorwood**	**2.96**	**226**	Pn	Pn	18 58 26.4	-1.4
HHAR	**Hobbs**	**3.09**	**106**	Pn	Pn	18 58 28.5	-1.1
N35A	**Tabor**	**3.99**	**22**		Pn	18 58 39.3	-2.6
P38A	**Dawn**	**4.04**	**52**		Pn	18 58 40.2	-2.3
MIAR	**Mount Ida**	**4.21**	**127**	Pn	Pn	18 58 43.2	-1.7
MGMO	**Mountain Grove**	**4.28**	**89**	IAmb_Lg		18 59 58.8	
	comp=Z,12nm,0.8s						
PLPT	**Palo Pinto**	**4.39**	**188**	Pn	Pn	18 58 45.8	-1.7

GCG 13 19:02:57.7±1.9, 14.°01N×91.°70W, h24km±7km, MD3.9, ML3.3, MW3.2, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG5	**El Palmar, Qui**	**0.52**	**41**	*e*P	Pn	19 03 10.8	+1.1
STG0	**El Palmar, Qui**	**0.54**	**40**	*i* P	Pn	19 03 11.2	+1.1
STG8	**El Palmar, Qui**	**0.55**	**38**	*i* P	Pn	19 03 11.6	+1.3
STG8				*i* S	Sn	19 03 22.9	+4.1
SOKI	**Kika Raxquin**	**0.85**	**20**	*e*P	Pb	19 03 13.8	-0.3
	comp=Z,346nm,0.3s						
SOKI				*i* S	Sn	19 03 26.6	0.0
SOKI				IAML		19 03 29.7	
	comp=Z,346nm,0.3s						
QUEO	**Labor Ovalle**	**0.87**	**12**	*e*P	Pb	19 03 14.3	-0.1
	comp=Z,2μm,0.3s						
QUEO				*e*S	Sn	19 03 27.7	+0.8
QUEO				IAML		19 03 30.0	
	comp=Z,2μm,0.3s						
ESSG	**Sabana Grande**	**0.92**	**66**	*e*P	Pb	19 03 14.7	-0.4
	comp=Z,1μm,0.2s						
ESSG				*e*S	Sn	19 03 28.2	+0.4
ESSG				IAML		19 03 29.8	
	comp=Z,1μm,0.2s						
THIG		**1.05**	**328**	*e*P	Pn	19 03 15.6	-1.3
FG8	**Yepocapa, Chim**	**1.13**	**77**	*i* P	Pn	19 03 14.1	-4.1
FG8				*i* S	Sn	19 03 27.0	-6.1
GCG4	**OSOP**	**1.27**	**63**	*i* S	Sb	19 03 39.1	+2.1
HUEH	**Huehuetenango**	**1.31**	**8**	*e*P	Pn	19 03 21.1	+0.3
HUEH				*i* S	Sb	19 03 39.2	+0.8
HUEH				IAML		19 03 46.1	
	comp=Z,681nm,0.3s						
JAYA	**Jayaque - finc**	**2.21**	**99**	*e*P	Pn	19 03 33.4	+0.3
JAYA				*e*S	Sn	19 03 58.9	-0.9
CCIG	**Comitan**	**2.30**	**349**	*e*P	Pn	19 03 35.4	+1.1
CCIG				*e*S	Sn	19 04 04.3	+2.4

*IDC **13** 19:08:24.8±1.0, 37.°25N×75.°15E, h0km, mb3.7/14, mbtmp3.8/20, ML3.6/6, MS2.8/1, Error ellipse: s-maj=19.4km s-min=18.3km az=35.0*
*SOME **13** 19:08:35.1, 37.°65N×74.°87E, h0km*
*MOS **13** 19:08:37.5±0.9, 37.°68N×75.°16E, h110km, mb4.2/10, Error ellipse: s-maj=10.0km s-min=4.9km az=96.1*
*NEIC **13** 19:08:38.7±1.3, 37.°68N±0.°07×75.°12E±0.°09, h101km±7km, mb4.0/17, Error ellipse: s-maj=11.6km s-min=8.9km az=127.0*
*NNC **13** 19:08:43.6±5.9, 38.°10N×75.°19E, h195km±45km, mb3.1, mpv4.5, Error ellipse: s-maj=54.3km s-min=47.0km az=60.0*
ISC 13 19:08:36.7±0.4, 37.°58N±0.°04×75.°23E±0.°05, h100km, n125, σ2°30/152, mb4.0/25, 9C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.02**	**17**	Pg	**Pn**	**19 09 05.3**	**-4.3**
KSH				Sg	**Sn**	**19 09 26.9**	**-7.8**
KSH				smax	smax		
	comp=N,850nm,0.3s						
KSH				smax	smax		
	comp=E,490nm,0.4s						
DRK	**Karamyk**	**3.29**	**306**		**Pn**	**19 09 27.7**	**+1.1**
DRK	**Karamyk**	**3.29**	**306**	PN	**Pn**	**19 09 27.7**	**+1.1**
SRNI	**Srinagar**	**3.49**	**185**	*e*P	**Pn**	**19 09 27.7**	**-1.4**
SRNI				*e*S	**Sn**	**19 10 08.8**	**-0.6**
GAR	**Garm**	**4.12**	**292**		**Pn**	**19 09 37.6**	**0.0**
ARSB	**Arslanbob**	**4.12**	**336**		**Pn**	**19 09 38.0**	**+0.3**
ARSB	**Arslanbob**	**4.12**	**336**	PN	**Pn**	**19 09 38.0**	**+0.3**
NIL	**Nilore**	**4.24**	**203**		**Pn**	**19 09 42.5**	**+3.3**
NIL	**Nilore**	**4.24**	**203**	PN	**Pn**	**19 09 42.5**	**+3.3**
TARG	**Taragay, Kyrgy**	**4.59**	**25**		**Pn**	**19 09 45.6**	**+1.3**
TARG	**Taragay, Kyrgy**	**4.59**	**25**	PN	**Pn**	**19 09 45.6**	**+1.3**
UCH	**Uchtor**	**4.67**	**353**	P	**Pn**	**19 09 46.7**	**+1.4**
	SNR=42						
AML	**Almayashu**	**4.69**	**346**	P	**Pn**	**19 09 46.2**	**+0.6**
	SNR=254						
ULHL	**Ulahol**	**4.72**	**9**	P	**Pn**	**19 09 47.2**	**+1.4**
	SNR=32						
WUS	**Wushi**	**4.75**	**39**		**Pn**	**19 09 47.4**	**+1.2**
KDJ	**Kajisay**	**4.78**	**18**		**Pn**	**19 09 47.9**	**+1.3**
KDJ	**Kajisay**	**4.78**	**18**	PN	**Pn**	**19 09 47.9**	**+1.3**
BOOM	**Boomskoye usch**	**4.93**	**6**		**Pn**	**19 09 50.1**	**+1.5**
BOOM	**Boomskoye usch**	**4.93**	**6**	PN	**Pn**	**19 09 50.1**	**+1.5**
SIMJ	**Simiganj**	**5.02**	**284**		**Pn**	**19 09 48.9**	**-1.0**
KBK	**Karagaybulak**	**5.07**	**358**	P	**Pn**	**19 09 52.1**	**+1.5**
	SNR=63						
AAK	**Ala-Archa**	**5.08**	**354**		**Pn**	**19 09 51.7**	**+1.1**
AAK	**Ala-Archa**	**5.08**	**354**	Pn	**Pn**	**19 09 52.1**	**+1.5**
	comp=E,11nm,0.3s,baz=175,slow=8.8,SNR=124						
AAK				Sn	**Sn**	**19 10 49.3**	**+1.2**
	comp=E,2.7nm,0.3s,baz=111,slow=17,SNR=1.6						
AAK				Lg	Lg	19 11 10.8	
	comp=E,2.0nm,0.3s,baz=344,slow=20,SNR=1.5						
	comp=E,37nm,0.5s						
AAK	**Ala-Archa**	**5.08**	**354**	P	**Pn**	**19 09 52.1**	**+1.5**
	SNR=35						
AAK	**Ala-Archa**	**5.08**	**354**	⇑P	**Pn**	**19 09 52.0**	**+1.3**
	comp=E,31nm,0.6s,baz=140,slow=22						
AAK				⇓S	**Sn**	**19 10 50.2**	**+2.1**
	comp=E,17nm,0.8s,baz=140,slow=22						
AAK	**Ala-Archa**	**5.08**	**354**	*ce*PN	**Pn**	**19 09 51.9**	**+1.3**
AAK				pmax	pmax		
	comp=Z,31nm,0.6s						
EKS2	**Erkin-Say**	**5.19**	**348**	P	**Pn**	**19 09 53.4**	**+1.3**
	SNR=51						
FRU1	**Bishkek**	**5.24**	**355**		**Pn**	**19 09 54.3**	**+1.6**
FRU1	**Bishkek**	**5.24**	**355**	PN	**Pn**	**19 09 54.3**	**+1.6**
TKM2	**Tokmak 2**	**5.34**	**3**	P	**Pn**	**19 09 55.8**	**+1.6**
	SNR=116						
TKM2	**Tokmak 2**	**5.34**	**3**	⇑P	**Pn**	**19 09 55.5**	**+1.3**
	comp=Z,59nm,0.6s,baz=140,slow=22						
TKM2				⇓S	**Sn**	**19 10 52.8**	**-1.7**
	comp=Z,30nm,0.8s,baz=140,slow=22						
TKM2	**Tokmak 2**	**5.34**	**3**	PN	**Pn**	**19 09 55.5**	**+1.3**
MRKS	**Merke**	**5.38**	**344**	*e*P	**Pn**	**19 09 55.4**	**+0.7**
	comp=Z,28nm,0.4s						
MRKS				*e*S	**Sn**	**19 10 53.4**	**-1.9**
	comp=Z,38nm,0.6s						
DHRM	**DHARAMSHALA**	**5.39**	**170**	*e*P	**Pn**	**19 09 54.0**	**-1.0**
DHRM				*e*S	**Sn**	**19 10 53.2**	**-2.7**
DHRM				IAML		19 10 54.0	
	comp=E,149nm,0.2s						
DHRM				IAML		19 10 54.3	
	comp=N,212nm,0.3s						
CHMS	**Chumysh**	**5.42**	**356**	P	**Pn**	**19 09 56.5**	**+1.3**
	SNR=7.4						
CHMS	**Chumysh**	**5.42**	**356**	⇓P	**Pn**	**19 09 56.3**	**+1.1**
	comp=N,25nm,0.7s,baz=140,slow=22						
CHMS				⇓S	**Sn**	**19 10 53.3**	**-2.9**
	comp=N,16nm,0.8s,baz=140,slow=22						
CHMS	**Chumysh**	**5.42**	**356**	PN	**Pn**	**19 09 56.3**	**+1.1**
PRZ	**Przheval'sk**	**5.46**	**25**		**Pn**	**19 09 57.9**	**+2.0**
PRZ	**Przheval'sk**	**5.46**	**25**	PN	**Pn**	**19 09 57.9**	**+2.0**
KST	**Kastek**	**5.48**	**6**	*e*P	**Pn**	**19 09 57.7**	**+1.6**
	comp=N,20nm,0.9s						
KST				*e*S	**Sn**	**19 10 58.5**	**+0.6**
	comp=N,32nm,0.7s						
USP	**Ospenovka**	**5.71**	**355**	P	**Pn**	**19 09 59.8**	**+0.9**
	SNR=21						
KBL	**Kabul**	**5.86**	**241**		**Pn**	**19 10 02.7**	**+1.4**
KBL	**Kabul**	**5.86**	**241**	PN	**Pn**	**19 10 02.7**	**+1.4**
BHK	**Bhakra**	**6.23**	**171**	*e*P	**Pn**	**19 10 05.9**	**-0.2**
BHK				*e*S	**Sn**	**19 11 14.9**	**-1.1**
BHK				IAML		19 11 17.6	
	comp=N,139nm,0.1s						
KLP	**Kalpa

comp=Z,0.2nm,0.3s,baz=158,slow=9.6,SNR=20
comp=Z,2.0nm,0.8s
BRVK Borovoye 15.86 349 Pn 19 12 10.7 -3.2
BRVK IAmb IAmb 19 12 18.8
comp=Z,5.9nm,0.8s
BRVK Borovoye 15.86 349 *ce*P **Pn 19 12 13.9 -0.1**
BRVK pmax pmax
comp=Z,11nm,1.3s
AB31 Akbulak array 16.07 321 P **Pn 19 12 14.1 -2.6**
comp=Z,0.7nm,0.3s,baz=140,slow=22,SNR=28
AB31 ⇑S **Sn 19 15 07.1 -7.4**
comp=Z,2.8nm,0.8s,baz=140,slow=22,SNR=11
AB31 Akbulak array 16.07 321 P **Pn 19 12 14.1 -2.6**
AB31 S **Sn 19 15 07.8 -6.7**
ABKAR Akbulak array 16.07 321 Pn 19 12 14.4 -2.3
ABKAR Akbulak array 16.07 321 Pn 19 12 14.3 -2.3
ABKAR IAmb IAmb 19 12 19.8
comp=Z,2.0nm,0.6s
ZAA0 Zalesovo Array 17.65 19 P 19 12 32.6 -2.9
ZALV Zalesovo Beam 17.65 19 P 19 12 34.5 -1.0
ZALV Zalesovo Beam 17.65 19 P **P 19 12 35.3 -0.2**
comp=Z,0.9nm,0.3s,baz=202,slow=11,SNR=16
comp=Z,2.5nm,0.4s
AKTO Aktyubinsk 17.79 322 P **P 19 12 36.8 -0.3**
comp=Z,0.3nm,0.3s,baz=122,slow=7.8,SNR=7.3
AKTO S Sn 19 15 44.4 -11
comp=Z,0.8nm,0.4s,baz=1.9,slow=23,SNR=5.6
comp=Z,1.6nm,0.5s
AKTO Aktyubinsk 17.79 322 ⇑P **P 19 12 36.2 -0.8**
comp=Z,0.9nm,0.6s,baz=140,slow=22
AKTO ⇓S Sn 19 15 43.4 -12
comp=Z,1.5nm,0.7s,baz=140,slow=22
UOSS Minazif 20.52 238 P **P 19 13 06.1 -1.0**
UOSS IAmb IAmb 19 13 10.8
comp=Z,12nm,0.9s
ARTI Arti 21.93 334 P **P 19 13 23.1 +1.3**
comp=Z,1.2nm,0.4s,baz=193,slow=7.1,SNR=3.6
ARTI LR LR 19 22 57.0
comp=Z,22nm,20.3s,baz=358,slow=39
comp=Z,1.2nm,0.4s
ARTI Arti 21.93 334 *d i*P **P 19 13 22.5 +0.7**
ARTI 19 13 51.2
ARTI S **S 19 17 16.5 -1.3**
ARTI pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 24.93 56 P **P 19 13 52.3 +1.7**
comp=Z,0.5nm,0.6s,baz=250,slow=9.5,SNR=5.0
comp=Z,0.5nm,0.6s
KIV Kislovodsk 25.35 295 *e*P **P 19 13 54.9 +0.6**
KIV pmax pmax
comp=Z,4.0nm,1.0s
HHC Hu-ho-hao-te 28.21 72 *e*P **P 19 14 22.3 +2.2**
HHC pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 31.41 316 *e*P **P 19 14 49.5 +1.6**
OBN *e* 19 15 57.4
OBN *e* 19 17 37.8
OBN pmax pmax
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 32.35 287 P **P 19 14 57.5 +0.9**
BR131 IAmb IAmb 19 14 59.3
comp=Z,2.3nm,1.0s
BR131 Keskin Array S 32.35 287 *i*P **P 19 14 56.6 0.0**
BRTR Keskin Array B 32.35 287 P **P 19 14 57.3 +0.7**
BRTR Keskin Array B 32.35 287 P **P 19 14 57.8 +1.2**
comp=Z,1.0nm,0.7s,baz=107,slow=8.1,SNR=8.1
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 32.35 287 *e*P **P 19 14 58.4 +1.8**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
NRIK Noril'sk 32.51 8 *i*P **P 19 14 56.8 -0.7**
NRIK pmax pmax
comp=Z,1.0nm,1.1s
AKASG Malin Array Be 34.95 307 P **P 19 15 19.7 +0.8**
AKASG IAmb IAmb 19 15 40.9
comp=Z,1.6nm,0.9s
AKASG Malin Array Be 34.95 307 P **P 19 15 19.6 +0.8**
comp=Z,0.7nm,0.3s,baz=80,slow=8.1,SNR=15
comp=Z,0.7nm,0.3s
AKASG Malin Array Be 34.95 307 P **P 19 15 19.7 +0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKBB Malin Array Si 34.95 307 *i*P **P 19 15 19.9 +1.0**
AKBB pmax pmax
comp=Z,13nm,2.3s
KIEV Kiev 34.96 307 P **P 19 15 19.4 +0.4**
KIEV IAmb IAmb 19 15 21.4
comp=Z,2.4nm,0.8s
KIEV Kiev 34.96 307 P **P 19 15 19.4 +0.4**
KIEV pmax pmax
comp=Z,2.0nm,0.8s
MNK Minsk 36.17 313 *i*P **P 19 15 28.2 -1.1**
comp=E,8.0nm,0.8s
MNK *i*P **P 19 15 28.2 -1.1**
comp=N,7.0nm,0.9s
MNK *i*P **P 19 15 28.2 -1.1**
comp=Z,7.0nm,0.9s,baz=98
MNK *i*pP **pP 19 15 56.7 +3.5**
MNK *i*PP **PnPn 19 16 53.4 -0.4**
MNK *i*S **S 19 20 59.7 -1.9**
MNK *i*sS **sS 19 21 50.1 +6.9**
MNK *i*SS **SS 19 23 41.9 -1.0**
MNK *i*LR LR 19 30 57.8
MNK *i*LRM MLR 19 31 58.9
comp=Z,29nm,14.8s
MNK Minsk 36.17 313 *i*P **P 19 15 28.1 -1.1**
MNK *i* *PP **pP 19 15 56.7 +3.5**
MNK *i* 19 16 53.3
MNK *i*S **S 19 20 59.6 -1.9**
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,29nm,15.0s
MLR Muntele Rosu 37.23 298 P **P 19 15 40.3 +1.8**
MLR Muntele Rosu 37.23 298 P **P 19 15 40.3 +1.8**
MLR pmax pmax
comp=Z,4.0nm,0.9s
BURAR Bucovina Array 37.57 302 P **P 19 15 42.0 +0.7**
BURAR Bucovina Array 37.57 302 P **P 19 15 42.0 +0.7**
BUR08 Bucovina Ar. S 37.58 302 P **P 19 15 42.4 +0.9**
FIA1 FINESS Array S 38.53 324 P **P 19 15 49.3 +0.3**
FINES FINESS Array B 38.53 324 P **P 19 15 49.3 +0.3**
FINES FINESS Array B 38.53 324 P **P 19 15 50.2 +1.1**
comp=Z,1.2nm,0.7s,baz=113,slow=8.8,SNR=9.8
comp=Z,1.2nm,0.7s
ZEA Zeya 38.83 48 *e*P P 19 15 46.2 -5.5
ARCES ARCESS Array B 41.48 336 P **P 19 16 15.0 +1.6**
comp=Z,4.6nm,0.9s,baz=52,slow=7.9,SNR=4.1
comp=Z,4.6nm,0.9s
ARCES ARCESS Array B 41.48 336 P **P 19 16 15.0 +1.6**
TIXI Tiksi 43.51 22 P **P 19 16 30.9 +1.3**
TIXI IAmb IAmb 19 16 31.3
comp=Z,1.8nm,0.8s
TIXI Tiksi 43.51 22 P **P 19 16 31.0 +1.3**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
HFS Hagfors 44.33 321 P **P 19 16 37.1 +0.6**
comp=Z,2.4nm,0.9s,baz=114,slow=13,SNR=5.9
comp=Z,2.4nm,0.9s
GERES GERESS Array B 45.08 305 P **P 19 16 43.9 +1.2**
comp=Z,0.3nm,0.6s,baz=52,slow=8.6,SNR=3.6
comp=Z,0.3nm,0.6s
NB2 NORSAR Subarra 45.58 322 P **P 19 16 46.8 +0.4**
comp=Z,0.4nm,0.5s,baz=92,slow=7.9
NOA NORSAR Array B 45.58 322 P **P 19 16 47.0 +0.6**
comp=Z,0.4nm,0.5s,baz=96,slow=7.7,SNR=3.8
comp=Z,0.4nm,0.5s
SPITS Spitsbergen Ar 47.23 346 P **P 19 17 01.1 +2.0**
comp=Z,2.2nm,0.7s,baz=124,slow=10,SNR=5.2
comp=Z,2.2nm,0.7s
SEY Seymchan 51.62 35 *ce*P **P 19 17 28.9 -3.6**
SEY pmax pmax
comp=Z,5.0nm,2.5s
ESDC Sonseca Array 59.92 299 P **P 19 18 33.3 +1.0**
comp=Z,0.5nm,0.5s,baz=55,slow=6.7,SNR=9.7
comp=Z,0.5nm,0.5s
TORD Torodi Ar. Bea 69.11 271 P **P 19 19 32.7 +0.3**
TORD IAmb IAmb 19 20 10.2
comp=Z,3.6nm,1.4s
BMAR Burnt Mountain 71.05 15 P **P 19 19 44.8 +1.3**
E29M Blow River 71.48 12 P **P 19 19 46.9 +1.0**
E29M IAmb IAmb 19 20 11.7
comp=Z,3.5nm,1.3s
F30M Barrier River 72.53 12 P **P 19 19 53.3 +1.0**
LBTB Lobatse 77.79 225 P **P 19 20 25.4 +2.3**
LBTB Lobatse 77.79 225 P **P 19 20 25.4 +2.3**
WRA Warramunga Arr 79.76 125 P **P 19 20 34.4 +0.5**
comp=Z,0.5nm,1.0s,baz=314,slow=5.4,SNR=2.1
comp=Z,0.5nm,1.0s
YKAW3 Yellowknife Wh 79.88 5 P **P 19 20 34.9 +1.0**
YKAW3 IAmb IAmb 19 21 13.2
comp=Z,1.8nm,1.1s
YKA Yellowknife Ar 79.95 5 P **P 19 20 35.3 +1.0**
comp=Z,0.3nm,0.5s,baz=350,slow=5.5,SNR=9.1
comp=Z,0.3nm,0.5s
ASAR Alice Springs 82.17 128 P **P 19 20 47.5 +0.9**
comp=Z,0.1nm,0.3s,baz=300,slow=5.4,SNR=1.4
comp=Z,0.1nm,0.3s

---

*IDC **13** 19:16:19.3±3.1, 35°.78S×179°.50E, h0km, mb3.3/2, mbtmp3.6/3, ML4.4/1, Error ellipse: s-maj=70.1km s-min=44.6km az=120.0*
*WEL **13** 19:16:25.1±1.1, 36°.5±5°×17°9E±°, h12km, M4.2/45, ML4.3/46, MLv4.2/45, Error ellipse: s-maj=12.3km s-min=5.9km az=77.7, confirmed*
ISC 13 19:16:21.1±1.8,**36°.06S**±0°.10×**179°.8E**±0°.1,**h21**km±8km,
n107,σ1°**80**/112,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.92**	**218**	P	**Pn**	**19 16 54.1**	**+1.6**
MXZ				S	**Sn**	**19 17 16.3**	**+0.3**
WMGZ	**Waiomatatini S**	**2.08**	**212**	P	**Pb**	**19 16 58.5**	**+0.5**
WMGZ				S	**Sn**	**19 17 21.9**	**+2.1**
PKGZ	**Pakihiroa**	**2.27**	**217**	P	**Pb**	**19 17 00.2**	**-1.1**
PKGZ				S	**Sn**	**19 17 24.7**	**+0.1**
HAZ	**Te Kaha**	**2.34**	**223**	P	**Pn**	**19 16 59.4**	**+1.2**
PUZ	**Puketiti**	**2.35**	**211**	P	**Pn**	**19 17 01.7**	**+3.2**
RUGZ	**Raukumara Rang**	**2.55**	**221**	P	**Pn**	**19 17 03.7**	**+2.4**
RUGZ				S	**Sn**	**19 17 32.0**	**+0.3**
WIZ	**White Island**	**2.55**	**234**	P	**Pn**	**19 17 02.1**	**+0.8**
WIZ				S	**Sn**	**19 17 28.8**	**-2.9**
WSRZ	**White Island S**	**2.56**	**235**	P	**Pn**	**19 17 03.2**	**+1.9**
TWGZ	**Tauwhareparae**	**2.56**	**214**	P	**Pn**	**19 17 04.5**	**+3.0**
TWGZ				S	**Sn**	**19 17 32.9**	**+0.9**
CNGZ	**Carnagh Statio**	**2.73**	**207**	P	**Pn**	**19 17 07.0**	**+3.4**
CNGZ				S	**Sn**	**19 17 38.5**	**+2.5**
TKGZ	**Te Karaka**	**2.84**	**213**	P	**Pn**	**19 17 07.6**	**+2.4**
WHRZ	**Whale Island**	**2.88**	**231**	P	**Pn**	**19 17 08.1**	**+2.3**
MWZ	**Matawai**	**2.90**	**218**	P	**Pn**	**19 17 08.4**	**+2.3**
URZ	**Urewera**	**3.07**	**224**	Pn	**Pn**	**19 17 09.9**	**+1.6**
	47nm,0.3s,baz=347,slow=4.3,SNR=368						
URZ				Sn	**Sn**	**19 17 42.6**	**-1.7**
	34nm,0.3s,baz=146,slow=6.7,SNR=3.2						
	139nm,0.3s						
URZ	**Urewera**	**3.07**	**224**	P	**Pn**	**19 17 09.8**	**+1.6**
RAGZ	**Rawiri**	**3.08**	**217**	P	**Pn**	**19 17 10.9**	**+2.2**
RIGZ	**Rimuhau**	**3.10**	**211**	P	**Pn**	**19 17 11.2**	**+2.4**
MYRZ	**Mayor Island**	**3.11**	**246**	P	**Pn**	**19 17 10.0**	**+1.2**
OPRZ	**Ohinepanea**	**3.15**	**235**	P	**Pn**	**19 17 10.9**	**+1.4**
MARZ	**Manawahe**	**3.15**	**232**	P	**Pn**	**19 17 10.9**	**+1.4**
PRGZ	**Paritu Road**	**3.24**	**207**	P	**Pn**	**19 17 13.0**	**+2.4**
TGRZ	**Tauranga**	**3.29**	**239**	P	**Pn**	**19 17 12.8**	**+1.5**
SNGZ	**Shannon Statio**	**3.35**	**215**	P	**Pn**	**19 17 14.5**	**+2.3**
LIRZ	**Lichensteins R**	**3.35**	**234**	P	**Pn**	**19 17 14.6**	**+2.4**
KUZ	**Kuaotunu**	**3.36**	**257**	P	**Pn**	**19 17 13.0**	**+0.7**
RTZ	**Ruatahuna**	**3.40**	**221**	P	**Pn**	**19 17 14.2**	**+1.3**
KNZ	**Kokohu**	**3.40**	**209**	P	**Pn**	**19 17 14.5**	**+1.6**
TARZ	**Mount Tarawera**	**3.41**	**229**	P	**Pn**	**19 17 15.6**	**+2.5**
MUGZ	**Murupara**	**3.41**	**224**	P	**Pn**	**19 17 14.3**	**+1.3**
OMRZ	**Omania**	**3.42**	**232**	P	**Pn**	**19 17 15.5**	**+2.4**
MHGZ	**Mahia Peninsul**	**3.43**	**205**	P	**Pn**	**19 17 15.5**	**+2.2**
RRRZ	**Republican Roa**	**3.47**	**228**	P	**Pn**	**19 17 15.8**	**+1.9**
GRZ	**Great Barrier**	**3.52**	**266**	P	**Pn**	**19 17 15.3**	**+0.8**
KMRZ	**Kaimai**	**3.56**	**239**	P	**Pn**	**19 17 16.7**	**+1.5**
RAHZ	**Arahi**	**3.57**	**216**	P	**Pn**	**19 17 17.0**	**+1.8**
HSRZ	**Hossack Road**	**3.62**	**231**	P	**Pn**	**19 17 18.7**	**+2.8**
WHHZ	**Waihua**	**3.63**	**213**	P	**Pn**	**19 17 18.1**	**+2.0**
MTHZ	**Maungataniwha**	**3.65**	**219**	P	**Pn**	**19 17 17.3**	**+1.0**
PRRZ	**Plateau Road**	**3.65**	**227**	P	**Pn**	**19 17 17.8**	**+1.5**
ALRZ	**Allen Road**	**3.72**	**227**	P	**Pn**	**19 17 18.7**	**+1.5**
WPRZ	**Whakapapatarin**	**3.80**	**229**	P	**Pn**	**19 17 20.1**	**+1.7**
TOZ	**Tahuroa Road**	**3.83**	**243**	P	**Pn**	**19 17 20.3**	**+1.6**
WIAZ	**Waiheke Island**	**3.83**	**258**	P	**Pn**	**19 17 20.3**	**+1.5**
MKAZ	**Moumakai**	**3.87**	**253**	P	**Pn**	**19 17 20.9**	**+1.6**
ARHZ	**Aropaoanui**	**3.89**	**214**	P	**Pn**	**19 17 21.2**	**+1.6**
MBAZ	**Motutapu North**	**4.01**	**258**	P	**Pn**	**19 17 23.4**	**+2.1**
ETAZ	**East Tamaki Re**	**4.02**	**256**	P	**Pn**	**19 17 23.5**	**+2.1**
ABAZ	**Army Bay**	**4.04**	**261**	P	**Pn**	**19 17 23.6**	**+1.9**
BKZ	**Black Stump Fm**	**4.06**	**219**	P	**Pn**	**19 17 22.5**	**+0.5**
MCHZ	**McNeill Hill**	**4.18**	**215**	P	**Pn**	**19 17 24.2**	**+0.6**
WATZ	**Wairara**	**4.18**	**230**	P	**Pn**	**19 17 24.8**	**+1.2**
RATZ	**Rangitukua**	**4.25**	**228**	P	**Pn**	**19 17 26.4**	**+1.7**
AWAZ	**Awhitu Peninsu**	**4.27**	**255**	P	**Pn**	**19 17 27.1**	**+2.3**
RVAZ	**Riverhead Bore**	**4.27**	**259**	P	**Pn**	**19 17 27.1**	**+2.3**
RITZ	**Rihia Road**	**4.28**	**226**	P	**Pn**	**19 17 26.1**	**+1.2**
KWHZ	**Kaweka Forest**	**4.29**	**218**	P	**Pn**	**19 17 25.4**	**+0.2**
WTAZ	**Waiatarua**	**4.30**	**257**	P	**Pn**	**19 17 27.6**	**+2.4**
KAHZ	**Kahuranaki**	**4.38**	**211**	P	**Pn**	**19 17 26.8**	**+0.4**
WCZ	**Waipu Caves**	**4.42**	**270**	P	**Pn**	**19 17 28.3**	**+1.3**
TMVZ	**Te Maari**	**4.46**	**226**	P	**Pn**	**19 17 27.9**	**+0.4**
NTVZ	**North Tongariр**	**4.46**	**226**	P	**Pn**	**19 17 28.2**	**+0.7**
ETVZ	**East Tongariro**	**4.47**	**225**	P	**Pn**	**19 17 28.2**	**+0.6**
KRVZ	**Karewarewa**	**4.48**	**226**	P	**Pn**	**19 17 28.6**	**+0.8**
KRHZ	**Kereru**	**4.49**	**216**	P	**Pn**	**19 17 27.5**	**-0.3**
OTVZ	**Oturere**	**4.51**	**225**	P	**Pn**	**19 17 28.5**	**+0.2**
NNVZ	**North Ngauruho**	**4.52**	**226**	P	**Pn**	**19 17 29.8**	**+1.4**
WTVZ	**West Tongariro**	**4.52**	**226**	P	**Pn**	**19 17 29.4**	**+1.0**
SNVZ	**South Ngauruho**	**4.54**	**225**	P	**Pn**	**19 17 29.1**	**+0.4**
NGZ	**Ngauruhoe**	**4.56**	**226**	P	**Pn**	**19 17 29.5**	**+0.6**
TWVZ	**Taurewa**	**4.58**	**228**	P	**Pn**	**19 17 30.4**	**+1.1**
PXZ	**Pawanui**	**4.59**	**209**	P	**Pn**	**19 17 29.6**	**+0.4**
COVZ	**Chateau Observ**	**4.61**	**226**	P	**Pn**	**19 17 31.0**	**+1.4**
MOVZ	**Moawhango**	**4.63**	**223**	P	**Pn**	**19 17 29.4**	**-0.5**
FWVZ	**Far West T-bar**	**4.64**	**225**	P	**Pn**	**19 17 31.7**	**+1.6**
HIZ	**Hauiti**	**4.64**	**237**	P	**Pn**	**19 17 32.5**	**+2.6**
WNVZ	**Wahianoa**	**4.66**	**224**	P	**Pn**	**19 17 30.3**	**0.0**
MTVZ	**Mangateitei**	**4.77**	**225**	P	**Pn**	**19 17 31.7**	**-0.1**
PKVZ	**Pokaka**	**4.78**	**226**	P	**Pn**	**19 17 33.3**	**+1.4**
PNHZ	**Pukenui**	**4.78**	**215**	P	**Pn**	**19 17 30.9**	**-1.0**
WPHZ	**Waipukurau**	**4.79**	**213**	P	**Pn**	**19 17 32.3**	**+0.3**
PRHZ	**Porangahau**	**4.88**	**210**	P	**Pn**	**19 17 33.0**	**-0.2**
TSZ	**Takapari Road**	**5.01**	**216**	P	**Pn**	**19 17 33.9**	**-1.1**
VRZ	**Vera Road**	**5.04**	**231**	P	**Pn**	**19 17 38.0**	**+2.7**
DVHZ	**Dannevirke**	**5.11**	**213**	P	**Pn**	**19 17 35.2**	**-1.2**
ANWZ	**Angora Road**	**5.11**	**210**	P	**Pn**	**19 17 35.7**	**-0.7**
OUZ	**Omahuta**	**5.12**	**278**	P	**Pn**	**19 17 37.8**	**+1.3**
WAZ	**Wanganui**	**5.30**	**224**	P	**Pn**	**19 17 39.4**	**+0.5**
POWZ	**Post Office Ro**	**5.36**	**215**	P	**Pn**	**19 17 40.1**	**+0.3**
BFZ	**Birch Farm**	**5.39**	**210**	P	**Pn**	**19 17 39.0**	**-1.2**
PRWZ	**Pori Road**	**5.40**	**213**	P	**Pn**	**19 17 40.1**	**-0.3**
NEZ	**North Egmont**	**5.54**	**233**	P	**Pn**	**19 17 45.8**	**+3.4**
KHEZ	**Kahui Hut**	**5.61**	**233**	P	**Pn**	**19 17 47.2**	**+3.9**
TIWZ	**Tintock**	**5.62**	**212**	P	**Pn**	**19 17 42.5**	**-0.9**
OGWZ	**Otaki Gorge**	**5.98**	**216**	P	**Pn**	**19 17 46.6**	**-1.7**
MSWZ	**Moikau Station**	**6.42**	**212**	P	**Pn**	**19 17 52.5**	**-1.9**
DUWZ	**D'Urville Isla**	**6.61**	**222**	P	**Pn**	**19 17 55.2**	**-1.8**
BSWZ	**Blackbirch Sta**	**7.29**	**217**	P	**Pn**	**19 18 03.7**	**-2.6**
THZ	**Tophouse**	**7.83**	**221**	P	**Pn**	**19 18 10.5**	**-3.2**
KHZ	**Kahutara**	**7.99**	**216**	P	**Pn**	**19 18 13.1**	**-2.7**
CTZ	**Chatham Island**	**8.14**	**161**	P	**Pn**	**19 18 22.3**	**+4.3**
GVZ	**Greta Valley S**	**8.65**	**215**	P	**Pn**	**19 18 22.0**	**-3.0**
ASAR	**Alice Springs**	**41.32**	**274**	P	**P**	**19 24 04.9**	**-0.6**
	0.3nm,0.6s,baz=117,slow=7.9,SNR=9.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**42.83**	**279**	P	**P**	**19 24 16.5**	**-1.2**
	0.2nm,0.3s,baz=121,slow=8.5,SNR=7.2						
	0.2nm,0.3s						
H03N3	**Juan Fernandez**	**79.10**	**123**	T	T	20 56 59.3	
	baz=236,slow=72,SNR=5.6						
H03N2	**Juan Fernandez**	**79.10**	**123**	T	T	20 56 54.9	
	baz=236,slow=72,SNR=4.7						
H03N1	**Juan Fernandez**	**79.12**	**123**	T	T	20 56 54.4	
	baz=236,slow=72,SNR=6.8						
FINES	**FINESS Array B**	**149.66**	**335**	PKPbc	**PKPbc**	**19 36 08.6**	**+0.4**
	0.7nm,0.6s,baz=49,slow=3.3,SNR=5.0						

---

*NEIC **13** 19:19:14.3±1.1, 61°.53N±0°.01×149°.89W±0°.05, h46km±3km, Error ellipse: s-maj=3.3km s-min=1.5km az=96.0*
AEIC 13 19:19:15.1±1.0,**61°.50N**±0°.03×**149°.89W**±0°.05,**h46**km±2km,
ML3.2,ML3.5/164(NEIC),**Error ellipse: s-maj=3.6km s-min=3.1km az=178.0,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.28**	**336**		Pn	19 19 22.4	-1.1
M22K				IAML		19 19 29.9	
	comp=N,5μm,0.5s						
M22K				IAML		19 19 33.7	
	comp=E,4μm,0.4s						
M22K	**Willow**	**0.28**	**336**		Sn	19 19 29.2	-0.3
PMR	**Palmer**	**0.37**	**76**		Pn	19 19 23.5	-1.0
PMR				Sn	Sn	19 19 30.7	-0.6
FIS	**Fire Island**	**0.39**	**204**		Pn	19 19 24.6	-0.2
FIS				IAML		19 19 33.8	
	comp=E,3μm,0.7s						
FIS				IAML		19 19 33.8	
	comp=N,3μm,0.4s						
SUA	**Susitna One**	**0.41**	**265**		Pn	19 19 24.4	-0.8
SUA				Sn	Sn	19 19 32.2	-0.1
RC01	**Rabbit Creek A**	**0.42**	**170**		Pn	19 19 24.2	-0.9
RC01				Sn	Sn	19 19 32.0	-0.2
RC01				IAML		19 19 33.0	
	comp=E,4μm,0.2s						
RC01				IAML		19 19 33.2	
	comp=N,5μm,0.1s						
GHO	**Glory Hole Cre**	**0.53**	**59**		Pn	19 19 25.6	-0.9
GHO				Sn	Sn	19 19 34.5	-0.2
KNK	**Knik Glacier**	**0.69**	**97**		Pn	19 19 27.9	-0.6
KNK				Sn	Sn	19 19 38.1	-0.2
KNK				IAML		19 19 41.3	
	comp=E,3μm,0.5s						
SML	**Sawmill**	**0.80**	**67**	Pn	Pn	19 19 29.0	-1.1
SML					Sn	19 19 40.3	-0.7
SML				IAML		19 19 42.0	
	comp=E,2μm,0.5s						
SML				IAML		19 19 43.1	
	comp=N,2μm,0.8s						
SKT	**Skwentna**	**0.92**	**302**		Pn	19 19 30.3	-1.3
SKT				Sn	Sn	19 19 43.0	-0.7
CUT	**Chulitna**	**0.92**	**349**		Pn	19 19 30.5	-1.1
CUT				Sn	Sn	19 19 43.1	-0.6
STLK	**Strandline Lak**	**0.93**	**271**		Pn	19 19 31.0	-0.8
STLK				Sn	Sn	19 19 43.7	-0.4
STLK				IAML		19 19 44.4	
	comp=N,2μm,0.4s						
STLK				IAML		19 19 44.7	
	comp=E,990nm,0.3s						
CAPN	**Captain Cook N**	**0.96**	**220**		Pn	19 19 32.8	+0.7
CAPN				Sn	Sn	19 19 45.8	+1.3
PWL	**Port Wells**	**0.99**	**130**		Pn	19 19 32.0	-0.6
PWL				Sn	Sn	19 19 45.9	+0.5
SLKM	**Skilak Lake**	**1.01**	**189**		Pn	19 19 31.9	-0.9
SLKM				Sn	Sn	19 19 45.8	-0.2
SLKM				IAML		19 19 48.7	
	comp=E,1μm,0.2s						
SLKM				IAML		19 19 48.0	
	comp=N,1μm,0.2s						
O22K	**Cooper Landing**	**1.03**	**176**		Pn	19 19 32.1	-0.9
SPBG	**Spurr Blockage**	**1.22**	**260**		Pn	19 19 35.1	-0.6
SCM	**Sheep Creek Mo**	**1.27**	**74**		Pn	19 19 35.9	-0.5
SEW	**Seward**	**1.42**	**171**		Pn	19 19 36.7	-1.7
SEW				IAML		19 20 01.6	
	comp=E,603nm,0.3s						
SEW				IAML		19 20 03.4	
	comp=N,488nm,0.5s						
GLI	**Glacier Island**	**1.49**	**114**		Pn	19 19 38.5	-0.8
GLI				IAML		19 20 03.6	
	comp=E,941nm,0.4s						
GLI				IAML		19 20 08.3	
	comp=N,741nm,0.8s						
M20K	**Styx River**	**1.59**	**285**		Pn	19 19 40.4	-0.5
M20K				IAML		19 20 03.0	
	comp=N,337nm,0.8s						
M20K				IAML		19 20 03.8	
	comp=E,450nm,0.6s						
PPLA	**Purkeypile**	**1.77**	**323**		Pn	19 19 42.4	-0.8
PPLA				IAML		19 20 05.7	
	comp=E,692nm,0.5s						
PPLA				IAML		19 20 06.1	
	comp=N,500nm,0.4s						
BRLK	**Bradley Lake**	**1.81**	**196**		Pn	19 19 42.9	-0.9
BRLK				IAML		19 20 10.7	
	comp=N,375nm,0.2s						
BRLK				IAML		19 20 11.0	
	comp=E,381nm,0.4s						
FID	**Port Fidalgo**	**1.82**	**113**		Pn	19 19 42.2	-1.6
FID				IAML		19 20 15.0	
	comp=E,585nm,0.6s						
FID				IAML		19 20 15.2	
	comp=N,472nm,0.4s						
M24K	**Tolsona, Glenn**	**1.86**	**69**		Pn	19 19 44.7	+0.1
M24K				IAML		19 20 13.1	
	comp=N,667nm,0.8s						
M24K				IAML		19 20 18.7	
	comp=E,554nm,0.5s						
KLU	**Klutina**	**1.90**	**89**		Pn	19 19 44.1	-0.9
KLU				IAML		19 20 14.9	
	comp=E,244nm,0.5s						
KLU				IAML		19 20 19.9	
	comp=N,364nm,0.4s						
P23K	**Montague Islan**	**1.94**	**140**		Pn	19 19 43.8	-1.7
TRF	**Thorofare Moun**	**1.96**	**355**		Pn	19 19 45.4	-0.6
TRF				IAML		19 20 13.3	
	comp=N,532nm,0.4s						
TRF				IAML		19 20 13.3	
	comp=E,410nm,0.6s						
RND	**Reindeer**	**1.97**	**14**		Pn	19 19 45.6	-0.4
HIN	**Hinchinbrook I**	**1.99**	**122**		Pn	19 19 45.4	-0.8
HIN				IAML		19 20 19.7	
	comp=E,541nm,0.7s						
HIN				IAML		19 20 20.2	
	comp=N,457nm,0.9s						
DIV	**Divide**	**2.02**	**99**		Pn	19 19 45.6	-1.0
DIV				IAML		19 20 19.1	
	comp=E,279nm,0.3s						
DIV				IAML		19 20 22.5	
	comp=N,351nm,0.7s						
HOM	**Homer**	**2.04**	**206**		Pn	19 19 46.4	-0.6
CNPM	**China Poot**	**2.09**	**199**		Pn	19 19 46.6	-1.1
CNPM				IAML		19 20 16.9	
	comp=E,240nm,0.6s						
CNPM				IAML		19 20 20.4	
	comp=N,306nm,0.4s						
KTH	**Kantishna Hill**	**2.11**	**347**		Pn	19 19 47.5	-0.4
KTH				IAML		19 20 15.3	
	comp=N,346nm,0.5s						
L20K	**Farewell, AK**	**2.12**	**299**		Pn	19 19 47.2	-0.8
CAST	**Castle Rocks**	**2.18**	**333**		Pn	19 19 47.6	-1.2
CAST				IAML		19 20 18.9	
	comp=E,188nm,0.5s						
CAST				IAML		19 20 31.5	
	comp=N,190nm,0.6s						
M19K	**Big River Lodg**	**2.18**	**283**		Pn	19 19 48.1	-0.8
ILSW	**Iliamna Southw**	**2.21**	**228**		Pn	19 19 48.9	-0.5
EYAK	**Cordova Ski Ar**	**2.23**	**114**		Pn	19 19 48.

BMRM IAML 19 20 36.9
comp=N,226nm,0.4s
BMRM IAML 19 20 38.6
comp=E,174nm,0.6s
BPAW Bear Paw Mtn. 2.66 350 Pn 19 19 54.2 -1.1
BPAW IAML 19 20 32.3
comp=N,118nm,0.4s
BPAW IAML 19 20 41.3
comp=E,130nm,0.5s
BWN Browne 2.69 4 Pn 19 19 55.3 -0.4
WACK Wrangell Chich 2.69 77 Pn 19 19 56.2 +0.2
RAGM Ragged Mountai 2.78 111 Pn 19 19 55.3 -1.7
M18K Stony River 2.85 272 Pn 19 19 57.1 -0.8
GLB Gilahina Butte 2.92 89 Pn 19 19 58.0 -0.9
GLB IAML 19 20 41.6
comp=N,152nm,0.5s
GLB IAML 19 20 43.5
comp=E,94nm,0.4s
HMT Hamilton 2.99 111 Pn 19 19 58.3 -1.5
N18K Kilae Creek 3.03 257 Pn 19 19 59.6 -0.9
WRH Wood River Hil 3.09 15 Pn 19 19 60.0 -1.3
WRH IAML 19 20 53.5
comp=N,77nm,0.8s
O18K Koktuh Hills 3.10 240 Pn 19 20 00.1 -1.3
VRDI Verde Repeater 3.11 92 Pn 19 20 00.1 -1.6
VRDI IAML 19 20 55.0
comp=N,81nm,0.8s
NEA2 Nenana 3.12 6 Pn 19 20 00.5 -1.2
SYI Shuyak Island 3.16 204 Pn 19 20 01.2 -1.0
Q19K Cape Douglas, 3.19 218 Pn 19 20 02.0 -0.7
TTA Tatalina 3.21 299 Pn 19 20 02.0 -0.9
HDA Harding Lake 3.21 23 Pn 19 20 02.5 -0.4
HDA IAML 19 20 48.2
comp=E,104nm,0.5s
HDA IAML 19 21 02.5
comp=N,109nm,0.7s
RIDG Independent Ri 3.23 44 Pn 19 20 03.3 0.0
RIDG IAML 19 20 50.1
comp=N,108nm,0.7s
RIDG IAML 19 20 51.0
comp=E,142nm,0.7s
CCB Clear Creek Bu 3.29 16 Pn 19 20 03.1 -0.9
L18K Granite Mounta 3.30 286 Pn 19 20 03.3 -0.8
J20K Nowinta River 3.32 326 Pn 19 20 03.1 -1.3
J20K IAML 19 20 43.3
comp=N,117nm,0.5s
J20K IAML 19 20 57.9
comp=E,113nm,0.5s
M26K Nabesna, AK 3.38 72 Pn 19 20 04.7 -0.6
M26K IAML 19 21 00.0
comp=N,75nm,0.7s
M26K IAML 19 21 04.3
comp=E,61nm,0.5s
P18K Big Mountain, 3.39 234 Pn Pn 19 20 04.0 -1.4
DOT Dot Lake 3.45 49 Pn 19 20 07.1 +0.9
DOT IAML 19 21 03.4
comp=N,77nm,0.8s
DOT IAML 19 21 03.5
comp=E,79nm,0.6s
ILAR Eielson Array 3.55 21 Pn 19 20 07.4 -0.2
WAX Waxell Ridge 3.59 104 IAML 19 21 07.6
comp=E,131nm,0.6s
I23K Minto, Yukon-K 3.67 3 Pn 19 20 08.5 -0.6
I23K IAML 19 21 18.3
comp=N,58nm,0.8s
SCRK Sand Creek 3.68 45 Pn 19 20 09.6 +0.1
SCRK IAML 19 21 12.5
comp=N,44nm,0.7s
SCRK IAML 19 21 16.2
comp=E,52nm,0.7s
N17K Nushagak Hills 3.69 258 Pn 19 20 08.6 -0.8
N17K IAML 19 21 12.6
comp=N,55nm,0.6s
J25K Salcha River, 3.74 31 Pn 19 20 10.7 +0.5
J25K IAML 19 21 01.2
comp=E,63nm,0.3s
J25K IAML 19 21 04.7
comp=N,53nm,0.5s
KDAK Kodiak Island 3.98 201 Pn Pn 19 20 10.9 -2.5
MESA MESA 4.11 105 Pn Pn 19 20 14.5 -0.9
MESA IAML 19 21 25.8
comp=E,75nm,0.4s
H23K Yukon River 4.34 2 Pn 19 20 18.3 -0.2
H21K Melozitna Rive 4.37 344 Pn 19 20 18.0 -0.8
H21K IAML 19 21 24.1
comp=E,37nm,0.8s
O16K Kokwok River B 4.48 248 Pn 19 20 19.6 -0.8
O16K IAML 19 21 41.1
comp=N,24nm,1.2s
L16K Owhat River 4.58 277 Pn 19 20 20.6 -1.2
L16K IAML 19 21 43.5
comp=N,23nm,1.3s
O28M Mount Upton 4.76 95 Pn 19 20 24.1 -0.3
O28M IAML 19 21 42.1
comp=N,22nm,0.7s
J16K Anvik River 5.29 294 Pn 19 20 30.4 -1.1
O15K Ungalikthiuk R 5.46 249 Pn Pn 19 20 33.4 -0.3
M29M Somme Creek 5.47 75 Pn 19 20 33.8 -0.2
H17K Granite Mounta 5.69 312 Pn Pn 19 20 36.3 -0.6
COLD Coldfoot 5.75 359 Pn Pn 19 20 38.3 +0.6
N14K Kuskokwak Cree 6.00 260 Pn Pn 19 20 40.8 -0.4
O14K Tigyukuivet M 6.08 253 Pn Pn 19 20 42.0 -0.2
F20K Avaraart Lake 6.12 338 Pn 19 20 42.3 -0.4
L14K Kuka Creek 6.14 274 Pn 19 20 42.6 -0.5
BMAR Burnt Mountain 6.37 19 Pn Pn 19 20 46.8 +0.5
F25K Christian Rive 6.38 15 Pn Pn 19 20 46.8 +0.4
J14K Nanvaranak Lak 6.53 287 Pn Pn 19 20 47.4 -1.0

*CATAC **13** 19:22:49.5±1.1, 14°N±6°×9°0W±°, h14km±7km, M3.8/12, MLv3.8/12, Error ellipse: s-maj=14.3km s-min=6.3km az=33.0, confirmed*
*SNET **13** 19:22:51.5±1.0, 13°.63N×90°.44W, h54km, ML3.6*
*GCG **13** 19:22:51.6±1.1, 13°.77N×90°.38W, h73km±9km, MD3.7, ML2.3, MW2.6*
ISC 13 19:22:55.1±1.6, 13°.65N±0°.08×90°.23W±0°.04, h65km±11km, n31, σ1°66/38, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.28**	**251**	*i P*	**Pn**	**19 23 04.1**	**-1.5**
ESSJ				*eS*	**Sn**	**19 23 15.4**	**+2.2**
SLOZ	**Alcaldia de Sa**	**0.57**	**49**	P	**Pn**	**19 23 06.9**	**-1.4**
CEVE	**Cerro Verde**	**0.61**	**73**	*eP*	**Pn**	**19 23 07.5**	**-1.5**
CEVE				*eS*	**Sn**	**19 23 20.7**	**+1.5**
CEVE	**Cerro Verde**	**0.61**	**73**	P	**Pn**	**19 23 06.9**	**-2.1**
FG8	**Yepocapa, Chim**	**0.68**	**332**	*eP*	**Pn**	**19 23 09.3**	**-0.3**
UNIC	**Universidad Ca**	**0.74**	**64**	P	**Pn**	**19 23 09.0**	**-1.3**
UNIC	**Universidad Ca**	**0.74**	**64**	S	**Sn**	**19 23 23.1**	**+1.8**
JAYA	**Jayaque - finc**	**0.76**	**90**	*eP*	**Pn**	**19 23 09.1**	**-1.5**
JAYA				*eS*	**Sn**	**19 23 22.8**	**+0.8**
JAYA	**Jayaque - finc**	**0.76**	**90**	*eP*	**Pn**	**19 23 09.0**	**-1.6**
JAYA				*eS*	**Sn**	**19 23 21.7**	**-0.2**
JAYA	**Jayaque - finc**	**0.76**	**90**	P	**Pn**	**19 23 09.0**	**-1.6**
PMON	**Piamonte**	**0.89**	**86**	P	**Pn**	**19 23 11.4**	**-0.8**
LALI	**Alcalda de L**	**0.90**	**100**	*eP*	**Pn**	**19 23 10.5**	**-1.6**
LALI				*eS*	**Sn**	**19 23 25.2**	**+0.5**
LALI	**Alcalda de L**	**0.90**	**100**	P	**Pn**	**19 23 10.0**	**-2.1**
BOQS	**Boqueron**	**0.93**	**85**	*eP*	**Pn**	**19 23 11.8**	**-0.9**
ESSG	**Sabana Grande**	**0.93**	**321**	*eP*	Pn	19 23 07.4	-5.2
ESSG				IAML		19 23 26.0	
	comp=Z,291nm,0.3s						
PANCS	**Alcalda de**	**1.02**	**92**	P	**Pn**	**19 23 12.5**	**-1.3**
LOMA	**Loma Larga**	**1.03**	**90**	P	**Pn**	**19 23 12.4**	**-1.6**
MTO3	**Montecristo**	**1.12**	**49**	*eP*	**Pn**	**19 23 14.1**	**-1.1**
	comp=Z,15nm,0.5s						
MTO3				IAML		19 23 47.9	
	comp=Z,15nm,0.5s						
MTO3	**Montecristo**	**1.12**	**49**	P	**Pn**	**19 23 13.8**	**-1.4**
LFRS	**El Faro**	**1.14**	**91**	*eP*	**Pn**	**19 23 14.6**	**-0.7**
COEG	**Centro de Oper**	**1.31**	**91**	*eP*	**Pn**	**19 23 16.2**	**-1.4**
COEG				*eS*	**Sn**	**19 23 36.6**	**+2.3**
STG0	**El Palmar, Qui**	**1.32**	**306**	*eP*	**Pn**	**19 23 17.5**	**-0.3**
STG0				*eS*	**Sn**	**19 23 36.6**	**+1.8**
STG8	**El Palmar, Qui**	**1.34**	**306**	*eP*	**Pn**	**19 23 17.9**	**-0.3**
STG8				*eS*	**Sn**	**19 23 37.4**	**+2.1**
LLGN	**La Laguna**	**1.35**	**68**	*eP*	**Pn**	**19 23 16.9**	**-1.1**
PQSS	**Presa 15 de Se**	**1.62**	**91**	P	**Pn**	**19 23 20.4**	**-1.2**
SOKI	**Kika Raxquin**	**1.62**	**316**	*eP*	**Pn**	**19 23 17.3**	**-4.7**
PACA	**Pacayal**	**1.86**	**95**	P	**Pn**	**19 23 25.4**	**+0.5**
CNCH	**Conchagua**	**2.36**	**99**	*eP*	**Pn**	**19 23 30.5**	**-1.2**
COPN	**Copaltepe**	**3.84**	**112**	P	**Pn**	**19 23 50.0**	**-1.8**
RCVN	**Varilla2**	**3.93**	**91**	P	**Pn**	**19 23 52.3**	**-0.8**
MATN	**Matagalpa**	**4.25**	**99**	P	**Pn**	**19 23 58.5**	**+0.9**

*IDC **13** 19:34:04.2±1.8, 7°.15N×93°.93E, h0km, mb3.4/6, mbtmp3.3/7, ML3.5/1, Error ellipse: s-maj=76.9km s-min=22.8km az=59.0*
ISC 13 19:34:07.4±1.5, 7°.2N±0°.2×94°.1E±0°.3, h21km, n13, σ0°54/7, mb3.4/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.17**	**22**	Pn	**Pn**	**19 36 59.7**	**0.0**
	0.1nm,0.3s,baz=216,slow=13,SNR=1.5 0.1nm,0.4s						
H08S3	**Diego Garcia H**	**26.08**	**236**	T	T	20 06 25.4	
	baz=56,slow=75,SNR=15						
H08S2	**Diego Garcia H**	**26.08**	**236**	T	T	20 06 25.5	
	baz=56,slow=75,SNR=12						
H08S1	**Diego Carcia H**	**26.09**	**236**	T	T	20 06 26.7	
	baz=56,slow=75,SNR=20						
MKAR	**Makanchi Array**	**40.75**	**348**	P	**P**	**19 41 46.6**	**-0.3**
	0.5nm,0.9s,baz=157,slow=7.4,SNR=4.9 0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**45.20**	**346**	P	**P**	**19 42 23.3**	**+0.5**
	0.4nm,0.8s,baz=165,slow=7.1,SNR=5.7 0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**47.23**	**353**	P	**P**	**19 42 38.5**	**-0.3**
	0.2nm,0.2s,baz=169,slow=8.2,SNR=3.6 0.2nm,0.2s						
WRA	**Warramunga Arr**	**47.91**	**125**	P	**P**	**19 42 45.2**	**+0.6**
	0.2nm,0.6s,baz=303,slow=7.5,SNR=0.9 0.2nm,0.6s						
ASAR	**Alice Springs**	**49.52**	**129**	P	**P**	**19 42 56.4**	**-0.6**
	0.2nm,0.8s,baz=309,slow=7.5,SNR=4.1 0.2nm,0.8s						
H04N2	**CROZET ISLANDS**	**65.10**	**211**	T	T	20 55 13.6	
	baz=47,slow=75,SNR=5.4						
H04N1	**CROZET ISLANDS**	**65.11**	**211**	T	T	20 55 22.7	
	baz=47,slow=75,SNR=4.8						
H04N3	**CROZET ISLANDS**	**65.12**	**211**	T	T	20 55 24.7	
	baz=47,slow=75,SNR=7.0						
FINES	**FINESS Array B**	**73.29**	**332**	P	**P**	**19 45 37.2**	**+0.1**
	0.9nm,0.8s,baz=116,slow=3.2,SNR=1.5 0.9nm,0.8s						

*IDC **13** 19:47:13.6±14.0, 27°.97N×127°.87E, h0km, mb3.4/2, mbtmp3.4/3, ML2.3/1, MS3.3/8, Error ellipse: s-maj=276.8km s-min=49.6km az=165.0*
*JMA **13** 19:47:13.3±0.3, 28°.1N±0°.4×128°.0E±0°.6, h9km±2km, MD3.8/16, MV3.6/16, NW OFF OKINAWAJIMA IS*
*NIED **13** 19:47:13.3, 28°.08N×128°.01E, h9km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.70; $M_{\theta\theta}$=4.76; $M_{\phi\phi}$=-1.07; $M_{r\theta}$=3.89; $M_{\phi\theta}$=6.74; $M_{\phi r}$=0.34; Fault plane solution: M_0=8.64000×10^{14} NP1: ϕ_s=196.00000°, δ=54.00000°, λ=-160.00000°. NP2: ϕ_s=94.00000°, δ=74.00000°, λ=-38.00000°.*
ISC 13 19:47:15.2±1.9, 28°.00N±0°.05×128°.08E±0°.06, h16km±13km, n25, σ0°91/23, MS3.5/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.77**	**146**	P	**Pb**	**19 47 29.8**	**-0.4**
JOKE				S	**Sn**	**19 47 41.5**	**-1.2**
JTK	**Tokunoshima**	**0.80**	**105**	P	**Pb**	**19 47 30.2**	**-0.5**
JTK				*eS*	**Sg**	**19 47 41.9**	**+0.6**
JTK	**Tokunoshima**	**0.80**	**105**	A	A	19 47 30.2	
	comp=N,5.0nm,1.6s,comp=E,3.0nm,0.4s						
JIH	**Iheya**	**0.97**	**186**	P	**Pb**	**19 47 32.8**	**-0.8**
JIH				*eS*	**Sg**	**19 47 46.8**	**+0.1**
JIH	**Iheya**	**0.97**	**186**	A	A	19 47 32.8	
	comp=N,6.0nm,0.5s,comp=E,4.0nm,2.3s						
JAMN	**Amaminishikomi**	**0.99**	**76**	P	**Pb**	**19 47 33.0**	**-1.1**
JAMN				*eS*	**Sb**	**19 47 47.2**	**+0.3**
JYRO	**Yoronjima**	**1.03**	**161**	P	**Pb**	**19 47 34.3**	**-0.3**
JYRO				*eS*	**Sn**	**19 47 49.5**	**+0.5**
JOW	**Kunigami**	**1.18**	**172**	P	**Pn**	**19 47 36.4**	**-0.6**
JOW				S	**Sg**	**19 47 53.0**	**-0.3**
JAM	**Amami Oshima**	**1.40**	**73**	P	**Pn**	**19 47 39.5**	**-0.6**
JAM				S	**Sn**	**19 47 58.2**	**-0.1**
JNTH	**Nagotoyohara**	**1.48**	**182**	*eP*	**Pn**	**19 47 40.8**	**-0.3**
JNTH				S	**Sb**	**19 48 00.9**	**+0.1**
JTAJ	**Takarajima**	**1.51**	**40**	*eP*	**Pn**	**19 47 40.1**	**-1.5**
JAGN	**Aguni-jima**	**1.59**	**208**	*eP*	**Pn**	**19 47 43.0**	**+0.3**
JZK	**Kikaishima**	**1.70**	**79**	*eP*	**Pb**	**19 47 45.4**	**-0.7**
JJT3	**Tamagusuku3**	**1.87**	**188**	*eP*	**Pb**	**19 47 47.9**	**-1.1**
KSRS	**Korea Array**	**9.43**	**359**	LR	LR	19 53 10.6	
	comp=E,76nm,19.0s,baz=180,slow=38						
MJAR	**Matsushiro Arr**	**12.07**	**43**	Pn	**Pn**	**19 50 09.0**	**+2.4**
	baz=236,slow=13,SNR=4.3 comp=E,0.5nm,0.7s						
TGY	**Tagaytay City**	**15.35**	**207**	LR	LR	19 57 01.7	
	comp=E,51nm,18.8s,baz=186,slow=39						
GUMO	**Guam**	**21.22**	**129**	LR	LR	19 58 51.0	
	comp=E,40nm,21.9s,baz=47,slow=33						
SONM	**Songino Array**	**26.01**	**325**	P	**P**	**19 52 47.9**	**+0.4**
	comp=E,0.5nm,0.7s,baz=145,slow=11,SNR=4.7 comp=E,0.5nm,0.7s						
MKAR	**Makanchi Array**	**40.27**	**310**	P	**P**	**19 54 51.0**	**-0.5**
	comp=E,0.4nm,0.7s,baz=96,slow=9.9,SNR=5.0 comp=E,0.4nm,0.7s						
NRIK	**Noril'sk**	**47.53**	**342**	LR	LR	20 18 01.4	
	comp=E,37nm,20.3s,baz=144,slow=39						
BVAR	**Borovoye Array**	**48.88**	**317**	LR	LR	20 18 25.5	
	comp=E,75nm,19.6s,baz=88,slow=38						
ARTI	**Arti**	**56.03**	**321**	LR	LR	20 24 07.9	
	comp=E,46nm,18.2s,baz=85,slow=40						
AKTO	**Aktyubinsk**	**56.51**	**314**	LR	LR	20 22 28.7	
	comp=E,45nm,18.2s,baz=227,slow=38						
NOA	**NORSAR Array B**	**77.67**	**334**	LR	LR	20 36 00.6	
	comp=E,9.0nm,19.4s,baz=270,slow=38						

*IDC **13** 19:51:11.3±1.3, 26°.29N×129°.52E, h0km, mb3.7/9, mbtmp3.7/10, ML3.4/1, Error ellipse: s-maj=61.8km s-min=21.7km az=73.0*
*JMA **13** 19:51:13.2±0.1, 26°.3N±0°.8×129°.6E±0°.5, h45km, MV3.4/19, NEAR OKINAWAJIMA ISLAND*
ISC 13 19:51:10.7±1.8, 26°.28N±0°.04×129°.56E±0°.03, h3km±11km, n26, σ1°84/41, mb3.7/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.24**	**307**	P	**Pg**	**19 51 34.8**	**+0.4**
JYRO				S	**Sg**	**19 51 49.8**	**-0.7**
JOW	**Kunigami**	**1.27**	**296**	P	**Pn**	**19 51 35.4**	**0.0**
JOW				S	**Sg**	**19 51 50.5**	**-1.2**
JOKE	**Okinoerabujima**	**1.39**	**321**	P	**Pn**	**19 51 37.2**	**+0.2**
JOKE				S	**Sb**	**19 51 54.2**	**-1.3**
JNTH	**Nagotoyohara**	**1.40**	**280**	P	**Pn**	**19 51 36.5**	**-0.5**
JNTH				*eS*	**Sb**	**19 51 52.1**	**-3.5**
JMZ	**Minamidaito 2**	**1.57**	**107**	P	**Pn**	**19 51 39.0**	**-0.4**
JMZ				*eS*	**Sn**	**19 51 55.9**	**-4.2**
JTK	**Tokunoshima**	**1.59**	**340**	P	**Pn**	**19 51 40.0**	**+0.2**
JTK				*eS*	**Sn**	**19 51 59.0**	**-1.9**
JKDJ	**Kitadaitoujima**	**1.60**	**102**	P	**Pn**	**19 51 39.6**	**-0.2**
JKDJ				*eS*	**Sn**	**19 51 58.5**	**-2.4**
JJT3	**Tamagusuku3**	**1.60**	**266**	P	**Pn**	**19 51 40.2**	**+0.3**
JJT3				S	**Sn**	**19 52 00.1**	**-0.9**
JIH	**Iheya**	**1.61**	**298**	P	**Pn**	**19 51 40.3**	**+0.4**
JIH				S	**Sn**	**19 51 59.5**	**-1.7**
JAMN	**Amaminishikomi**	**1.98**	**350**	P	**Pn**	**19 51 45.3**	**+0.2**
JAMN				*eS*	**Sn**	**19 52 09.2**	**-1.3**
JZK	**Kikaishima**	**2.06**	**10**	P	**Pn**	**19 51 47.0**	**+0.9**
JZK				*eS*	**Sn**	**19 52 11.4**	**-0.9**
JAGN	**Aguni-jima**	**2.10**	**279**	P	**Pn**	**19 51 47.3**	**+0.6**
JAGN				S	**Sn**	**19 52 11.8**	**-1.5**
JAM	**Amami Oshima**	**2.12**	**1**	P	**Pn**	**19 51 47.1**	**+0.1**
JAM				*eS*	**Sn**	**19 52 11.3**	**-2.6**
JKE	**Kume jima 2**	**2.49**	**272**	P	**Pn**	**19 51 51.8**	**-0.2**
JKE				*eS*	**Sn**	**19 52 19.1**	**-3.8**
JTAJ	**Takarajima**	**2.88**	**354**	P	**Pn**	**19 51 57.6**	**+0.2**
JNU	**Nakatsue**	**6.91**	**9**	Pn	**Pn**	**19 52 54.6**	**+1.7**
	0.7nm,0.3s,baz=201,slow=11,SNR=8.0						
JNU				Sn	**Sn**	**19 54 06.0**	**-6.1**
	0.2nm,0.3s,baz=234,slow=18,SNR=1.2 3.6nm,0.7s						
MKAR	**Makanchi Array**	**42.39**	**312**	P	**P**	**19 59 06.3**	**0.0**
	0.4nm,0.6s,baz=100,slow=9.9,SNR=5.6 0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**42.93**	**322**	P	**P**	**19 59 11.7**	**+1.1**
	0.3nm,0.4s,baz=118,slow=8.7,SNR=2.6 0.3nm,0.4s						
WRA	**Warramunga Arr**	**46.18**	**174**	P	**P**	**19 59 37.5**	**+0.7**
	0.4nm,0.7s,baz=353,slow=8.3,SNR=2.2 0.4nm,0.7s						
ASAR	**Alice Springs**	**49.83**	**175**	P	**P**	**20 00 06.6**	**+1.6**
	0.3nm,0.9s,baz=355,slow=11,SNR=2.2 0.3nm,0.9s						
BVAR	**Borovoye Array**	**51.03**	**318**	P	**P**	**20 00 15.2**	**+1.3**
	0.8nm,0.6s,baz=92,slow=10,SNR=3.5 0.8nm,0.6s						
KBZ	**Khabaz**	**70.05**	**310**	P	**P**	**20 02 25.8**	**+1.9**
	1.1nm,0.8s,baz=60,slow=5.3,SNR=5.0 1.1nm,0.8s						
FINES	**FINESS Array B**	**73.40**	**331**	P	**P**	**20 02 44.7**	**+0.9**
	1.0nm,0.4s,baz=57,slow=5.6,SNR=13 1.0nm,0.4s						
BRTR	**Keskin Array B**	**77.94**	**308**	P	**P**	**20 03 11.7**	**+1.2**
	0.4nm,0.6s,baz=77,slow=6.1,SNR=4.4 0.4nm,0.6s						
NB2	**NORSAR Subarra**	**79.79**	**334**	P	**P**	**20 03 20.4**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=54,slow=5.6						
NOA	**NORSAR Array B**	**79.79**	**334**	P	**P**	**20 03 20.4**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=52,slow=5.2,SNR=4.4 comp=Z,0.8nm,0.7s						

*IDC **13** 19:52:51.1±1.3, 30°.41S×178°.69W, h0km, mb4.0/5, mbtmp4.0/6, ML3.6/1, MS3.6/1, Error ellipse: s-maj=33.9km s-min=27.4km az=63.0*
ISC 13 19:52:52.6±2.0, 30°.65±0°.2×178°.3W±0°.4, h35km, n9, σ2°84/6, mb4.0/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.57**	**205**	Pn	**Pn**	**19 54 57.1**	**+2.9**
	0.7nm,0.3s,baz=358,slow=4.8,SNR=6.8						
URZ				Sn	**Sn**	**19 56 26.1**	**-3.5**
	1.5nm,0.3s,baz=169,slow=15,SNR=6.9 4.6nm,0.9s						
STKA	**Stephens Creek**	**34.20**	**257**	P	P	19 59 36.1	+1.3
	1.6nm,0.8s,baz=67,slow=11,SNR=3.4 1.6nm,0.8s						
ASAR	**Alice Springs**	**42.85**	**267**	P	**P**	**20 00 48.0**	**+0.4**
	1.6nm,0.6s,baz=105,slow=7.5,SNR=29 1.6nm,0.6s						
WRA	**Warramunga Arr**	**43.85**	**272**	P	P	20 00 56.4	+0.7
	2.4nm,0.6s,baz=111,slow=8.1,SNR=24 2.4nm,0.6s						
VNDA	**Vanda**	**47.92**	**186**	P	P	20 01 31.3	+4.4
	0.5nm,0.6s,baz=337,slow=5.8,SNR=4.1 0.5nm,0.6s						
QSPA	**South Pole Qui**	**59.56**	**180**	P	P	20 02 57.0	+4.6
	3.8nm,1.2s,baz=26,slow=1.8,SNR=10						
QSPA				LR	LR	20 25 52.7	
	comp=Z,45nm,19.2s,baz=258,slow=33 3.8nm,1.2s						
FINES	**FINESS Array B**	**145.20**	**340**	PKP	**PKiKP**	**20 12 28.6**	**-0.9**
	3.6nm,0.7s,baz=69,slow=3.0,SNR=19						
NOA	**NORSAR Array B**	**148.86**	**351**	PKPbc	**PKPab**	**20 12 39.4**	**-0.5**
	0.5nm,0.6s,baz=18,slow=4.2,SNR=3.9						
HFS	**Hagfors**	**149.34**	**348**	PKPbc	**PKPab**	**20 12 40.3**	**-1.5**
	2.6nm,0.9s,baz=18,slow=2.7,SNR=6.0						

*NEIC **13** 19:53:50.2±1.2, 35°.300N±0°.010×97°.92W±0°.01, h5km±1km, mb_Lg2.5/30, ML2.1/17, ML2.5/45, Error ellipse: s-maj=2.6km s-min=1.9km az=208.0*
NEIC 13 19:53:50.3±1.3, 35°.29N±0°.01×97°.93W±0°.01, h7km±1km, Error ellipse: s-maj=1.8km s-min=1.4km az=216.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCSW	**OKLAHOMA CITY**	**0.42**	**74**		Pg	19 53 58.4	-0.1
OKCSW				Sg	Sg	19 54 04.7	+0.6
OKCSW				IAML		19 54 05.1	
	comp=N,322nm,0.2s						
FNO	**Franklin**	**0.44**	**94**		Pg	19 53 59.0	+0.2
FNO				Sg	Sg	19 54 04.6	+0.1
ADOK	**Arcadia Dam**	**0.58**	**51**	Pg	Pg	19 54 01.6	0.0
OK029	**Liberty Lake**	**0.64**	**37**		Pg	19 54 02.6	0.0
OK029				Sg	Sg	19 54 11.6	+0.6
OK029				IAML		19 54 17.8	
	comp=N,238nm,0.5s						
OK029				IAML		19 54 17.8	
	comp=N,227nm,0.4s						
X34A	**Smith Ranch, M**	**0.69**	**173**		Pg	19 54 03.9	+0.3
X34A				IAmb_Lg		19 54 13.4	
	comp=Z,52nm,1.1s						
X34A				Sg	Sb	19 54 14.1	-0.3
CSTR	**Hydro, Custer**	**0.71**	**300**		Pg	19 54 04.2	+0.1
CSTR				Sg	Sg	19 54 14.2	+0.8
W35A	**Tecumseh**	**0.88**	**98**		Pg	19 54 06.8	-0.4
W35A					Sg	19 54 18.4	-0.2
W35A				IAML		19 54 25.3	
	comp=N,115nm,0.5s						
W35A				IAML		19 54 26.7	
	comp=E,109nm,0.4s						
WMOK	**Wichita Mounta**	**0.89**	**232**		Pg	19 54 06.3	-1.0
OK031	**S. Brethren Rd**	**1.11**	**53**		Pg	19 54 10.7	-0.9
OK031				IAML		19 54 31.2	
	comp=E,176nm,0.2s						
OK031				IAML		19 54 32.3	
	comp=E,243nm,0.3s						
OK052	**Battle Ridge R**	**1.16**	**52**		Pg	19 54 11.6	-1.0
CROK	**Carrier**	**1.22**	**358**		Pg	19 54 12.4	-1.3
DEOK	**Depew**	**1.29**	**64**		Pn	19 54 13.7	-1.2
QUOK	**Quay**	**1.33**	**48**		Pn	19 54 14.4	-1.0
OK038	**West end E0370**	**1.36**	**331**		Pn	19 54 15.0	-0.8
OK048	**Pawnee Station**	**1.38**	**35**		Pn	19 54 15.6	-0.6
OK032	**Salt Plains WL**	**1.53**	**352**		Pn	19 54 17.7	-0.5
GC02	**Grant County #**	**1.56**	**2**		Pn	19 54 17.9	-0.7
NOKA	**Waynoka**	**1.57**	**329**		Pn	19 54 18.2	-0.5
KAN14	**Manchester OK**	**1.67**	**359**		Pn	19 54 19.5	-0.6
KAN17	**Caldwell West**	**1.76**	**4**		Pn	19 54 20.9	-0.4
KAN13	**South Haven SW**	**1.76**	**12**	Pn	Pn	19 54 21.2	-0.1
TUL3	**Leonard**	**1.85**	**70**		Pn	19 54 22.7	+0.2
KAN09	**Caldwell North**	**1.86**	**8**	Pn	Pn	19 54 22.9	+0.1
SMWD	**Samnorwood**	**1.90**	**265**		Pn	19 54 22.9	-0.3
SMWD				IAmb_Lg		19 54 51.4	
	comp=Z,23nm,0.8s						
T35A	**Sooner Cattle**	**1.99**	**35**	Pn	Pn	19 54 24.8	+0.3
Z35A	**Perchaven, San**	**2.03**	**164**	Pn	Pn	19 54 25.2	+0.2
FW06	**Azle**	**2.33**	**172**		Pn	19 54 29.3	+0.2
PLPT	**Palo Pinto**	**2.49**	**187**		Pn	19 54 31.8	+0.5
PLPT				IAmb_Lg		19 55 16.3	
	comp=Z,10nm,0.8s						
FW14	**Alvarado**	**2.94**	**168**	IAmb_Lg		19 55 25.5	
	comp=Z,22nm,0.9s						
DKNS	**Dickens**	**2.95**	**238**	IAmb_Lg		19 55 31.3	
	comp=Z,11nm,0.9s						
ABTX	**Abilene, Hawle**	**3.01**	**209**	IAmb_Lg		19 55 34.3	
	comp=Z,12nm,1.0s						
AMTX	**Amarillo**	**3.10**	**264**	IAmb_Lg		19 55 36.6	
	comp=Z,14nm,1.0s						
Z38A	**Mt. Pleasant**	**3.17**	**129**	IAmb_Lg		19 55 38.0	
	comp=Z,23nm,0.7s						
HHAR	**Hobbs**	**3.39**

FG8			*i* S	Sg	20 10 08.7	+1.7
PS001	**Antigua, Sacat**	**0.30 126**	*e*P	Pg	20 10 00.5	-3.8
PS001			*e*S	Sg	20 10 02.0	-6.3
STG0	**El Palmar, Qui**	**0.64 264**	*e*P	Pn	20 10 15.9	+1.7
STG0			*e*S	Sn	20 10 28.6	+3.8
STG8	**El Palmar, Qui**	**0.64 266**	*e*P	Pn	20 10 16.2	+1.9
STG5	**El Palmar, Qui**	**0.64 262**	*e*P	Pn	20 10 15.9	+1.6
ESSJ	**San Jos, E**	**0.94 169**	*e*S	Sg	20 10 22.6	-6.1

*SKHL **13** 20:13:51.5±0.2, 44°.70N×144°.90E, h23km±1km, mb4.3/2*
JMA 13 20:13:50.5±0.2, 44°.7N±0°.6×144°.9E±0°.6, h12km±2km, MV2.4/34, NE OFF HOKKAIDO, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**0.79**	**168**	P	Pg	20 14 05.3	-0.4
JNSB	**Nemuroshibetsu**	**0.93**	**175**	P	Pg	20 14 08.0	-0.5
JNSB				S	Sg	20 14 19.9	-0.9
YUK	**Yuzh-Kuril'sk**	**0.96**	**134**	*e*P	Pg	20 14 08.4	-0.7
YUK				AMB	AMB	20 14 08.7	
	90nm,0.2s						
YUK				*i* S	Sg	20 14 21.0	-0.6
YUK				A	A	20 14 21.9	
	300nm,0.3s						
YUK				A	A	20 14 21.9	
	240nm,0.3s						
JTKR	**Abashiri--Toko**	**1.02**	**224**	*i* P	Pb	20 14 09.6	-0.6
JTKR				S	Sb	20 14 23.3	-0.3
JNK	**Nakash**	**1.13**	**187**	P	Pb	20 14 10.9	-1.1
JNK				S	Sb	20 14 25.4	-1.2
JMP	**Maruseppu**	**1.31**	**238**	S	Sb	20 14 31.7	-0.1
NMR	**Nemuro--Hokkai**	**1.46**	**156**	*i* P	Pn	20 14 16.1	-0.6
NMR				*i* S	Sn	20 14 34.8	-1.0
NEM2	**Nemuro 2**	**1.47**	**155**	P	Pn	20 14 16.1	-0.7
NEM2				S	Sn	20 14 34.9	-1.1
SHO	**Shikotan**	**1.62**	**120**	*e*P	Pn	20 14 18.1	-0.8
SHO				AMB	AMB	20 14 18.7	
	10.0nm,0.2s						
SHO				*i* S	Sn	20 14 38.0	-1.6
SHO				A	A	20 14 40.7	
	30nm,0.2s						
SHO				A	A	20 14 40.7	
	30nm,0.2s						
JAR	**Ashorobuto**	**1.63**	**210**	*e*P	Pb	20 14 20.1	-0.4
JKHN	**Kushirohamanak**	**1.63**	**173**	P	Pn	20 14 19.2	+0.1
AKK	**Akkeshi**	**1.69**	**181**	*e*P	Pn	20 14 19.6	-0.3
AKK				*e*S	Sn	20 14 40.6	-0.8
JAK	**Akkeshi**	**1.72**	**185**	P	Pn	20 14 20.6	+0.4

*JMA **13** 20:17:58.4±0.1, 26°.3N±0°.7×129°.6E±0°.5, h45km, MV2.8/19, NEAR OKINAWAJIMA ISLAND*
*IDC **13** 20:18:00.7±2.6, 27°.22N×129°.59E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=157.2km s-min=27.8km az=67.0*
ISC 13 20:17:55.6±1.6, 26°.30N±0°.05×129°.57E±0°.03, h6km±10km, n20, σ1°.32/31, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.24**	**306**	P	**Pn**	**20 18 20.0**	**+0.6**
JYRO				S	**Sg**	**20 18 35.5**	**0.0**
JOW	**Kunigami**	**1.28**	**295**	LR	LR	20 19 00.5	
	comp=Z,190nm,18.1s,baz=320,slow=48						
JOW	**Kunigami**	**1.28**	**295**	*i* P	**Pg**	**20 18 20.6**	**+0.5**
JOW				*e*S	**Sg**	**20 18 35.6**	**-1.1**
JOKE	**Okinoerabujima**	**1.39**	**320**	*i* P	**Pg**	**20 18 22.6**	**+0.4**
JOKE				S	**Sg**	**20 18 39.4**	**-0.8**
JNTH	**Nagotoyohara**	**1.41**	**279**	P	**Pn**	**20 18 22.1**	**+0.3**
JNTH				*e*S	**Sb**	**20 18 38.2**	**-2.2**
JMZ	**Minamidaito 2**	**1.56**	**107**	P	**Pn**	**20 18 24.1**	**+0.2**
JMZ				*e*S	**Sn**	**20 18 42.0**	**-2.5**
JTK	**Tokunoshima**	**1.58**	**340**	P	**Pb**	**20 18 25.4**	**+0.1**
JTK				S	**Sn**	**20 18 43.4**	**-1.6**
JKDJ	**Kitadaitoujima**	**1.59**	**102**	P	**Pn**	**20 18 24.8**	**+0.5**
JKDJ				*e*S	**Sn**	**20 18 44.2**	**-0.9**
JIH	**Iheya**	**1.61**	**297**	P	**Pn**	**20 18 25.6**	**+1.0**
JIH				*e*S	**Sn**	**20 18 44.2**	**-1.4**
JJT3	**Tamagusuku3**	**1.61**	**265**	P	**Pn**	**20 18 25.5**	**+0.9**
JAMN	**Amaminishikomi**	**1.97**	**350**	P	**Pn**	**20 18 30.6**	**+1.1**
JAMN				*e*S	**Sn**	**20 18 53.9**	**-0.6**
JZK	**Kikaishima**	**2.04**	**10**	*e*P	**Pb**	**20 18 32.1**	**-1.0**
JZK				S	**Sb**	**20 18 57.2**	**-1.5**
JAM	**Amami Oshima**	**2.10**	**1**	*e*P	**Pn**	**20 18 32.3**	**+0.9**
JAM				*e*S	**Sn**	**20 18 56.6**	**-1.3**
JAGN	**Aguni-jima**	**2.11**	**278**	P	**Pn**	**20 18 32.7**	**+1.2**
JAGN				S	**Sn**	**20 18 57.1**	**-0.9**
JKE	**Kume jima 2**	**2.50**	**271**	P	**Pn**	**20 18 37.1**	**+0.3**
JKE				S	**Sn**	**20 19 04.8**	**-2.8**
JTAJ	**Takarajima**	**2.86**	**354**	S	**Sn**	**20 19 14.7**	**-1.9**
MKAR	**Makanchi Array**	**42.39**	**312**	P	**P**	**20 25 51.3**	**+0.4**
	0.2nm,0.6s,baz=95,slow=8.0,SNR=2.4						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**46.20**	**174**	P	P	20 26 34.5	+13
	0.3nm,0.7s,baz=354,slow=7.9,SNR=7.9						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**51.03**	**318**	P	**P**	**20 26 59.6**	**+1.2**
	0.5nm,0.7s,baz=79,slow=8.0,SNR=3.6						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**73.39**	**331**	P	**P**	**20 29 29.9**	**+1.6**
	1.9nm,0.9s,baz=49,slow=6.6,SNR=6.2						
	1.9nm,0.9s						

*IDC **13** 20:36:13.5±1.5, 28°.54N×86°.39E, h0km, mb4.0/6, mbtmp3.8/8, ML3.6/2, MS4.3/3, Error ellipse: s-maj=54.8km s-min=23.3km az=55.0*
ISC 13 20:36:21.1±1.3, 28°.6N±0°.2×86°.5E±0°.3, h57km, n11, σ0°.63/8, mb4.2/6, MS4.4/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.22**	**129**	Pn	**Pn**	**20 39 52.4**	**-0.2**
	0.1nm,0.3s,baz=310,slow=11,SNR=10						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**18.44**	**351**	P	**P**	**20 40 31.3**	**-0.6**
	0.1nm,0.3s,baz=172,slow=12,SNR=8.2						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**22.79**	**347**	P	**P**	**20 41 19.2**	**+0.4**
	4.7nm,0.2s,baz=163,slow=9.1,SNR=4.1						
	4.7nm,0.2s						
SONM	**Songino Array**	**24.59**	**33**	P	**P**	**20 41 36.3**	**+0.3**
	0.3nm,0.5s,baz=220,slow=11,SNR=2.2						
	0.3nm,0.5s						
OBN	**Obninsk**	**44.36**	**321**	LR	LR	21 06 17.7	
	comp=Z,198nm,21.4s,baz=66,slow=41						
FINES	**FINESS Array B**	**51.22**	**328**	P	**P**	**20 45 17.8**	**-0.7**
	1.9nm,1.0s,baz=99,slow=14,SNR=2.1						
	1.9nm,1.0s						
ARCES	**ARCESS Array B**	**53.42**	**337**	P	**P**	**20 45 34.4**	**-0.4**
	3.0nm,0.9s,baz=107,slow=6.0,SNR=5.2						
	3.0nm,0.9s						
OPO	**Ambohidratompo**	**60.40**	**224**	LR	LR	21 07 25.1	
	comp=Z,268nm,19.7s,baz=169,slow=31						
EKA	**Eskdalemuir Ar**	**66.81**	**322**	P	**P**	**20 47 07.3**	**+0.7**
	2.5nm,0.9s,baz=67,slow=4.2,SNR=3.4						
	2.5nm,0.9s						
WRA	**Warramunga Arr**	**66.81**	**131**	P	**P**	**20 47 07.2**	**+0.1**
	0.4nm,0.5s,baz=317,slow=6.4,SNR=4.6						
	0.4nm,0.5s						
DLBC	**Dease Lake**	**88.05**	**18**	LR	LR	21 34 52.7	
	comp=Z,282nm,20.5s,baz=315,slow=40						

*BJI **13** 20:43:26.4, 7°.05N×94°.11E, h10km, mB5.0/33, mb4.6/74, Ms4.9/71, Ms7 4.7/69*
*IDC **13** 20:43:28.6±0.4, 7°.35N×94°.27E, h0km, mb4.5/31, mbtmp4.5/35, ML4.2/5, MS4.3/68, Error ellipse: s-maj=15.1km s-min=10.6km az=56.0*
*MOS **13** 20:43:28.6±0.9, 7°.30N×94°.27E, h15km, mb5.2/59, MS4.4/9, Error ellipse: s-maj=7.2km s-min=3.6km az=114.0*
*NEIC **13** 20:43:30.3±1.2, 7°.36N±0°.06×94°.38E±0°.07, h10km±1km, mb5.1/153, Mww5.1/28, Error ellipse: s-maj=12.2km s-min=9.4km az=233.0*
*DJA **13** 20:43:30.5±1.1, 7°N±2°×9°4E±°, h11km±9km, M4.9/40, mb5.1/40, mB5.4/25, MLv5.2/12, Mw(mB)4.9/25, MwMwp4.6/4, Mwp5.0/4*
*NEIC **13** 20:43:30.3, 7°.26N×94°.28E, h18km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16 Nm; Mrr=0.21; Mθθ=3.83; Mφφ=4.03; Mrθ=0.11; Mrφ=1.80; Mθφ=2.76; Fault plane solution: Mo=5.01000×10^16 NP1:φ=60.53000°, δ=63.95000°, λ=9.70000°. NP2:φ=326.23000°, δ=81.29000°, λ=153.62000°. Principal axes: T 5.6554, Plg=25.0000°, Azm=280.0000°; N -1.2926, Plg=62.0000°, Azm=129.0000°; P -4.3629, Plg=12.0000°, Azm=16.0000°;*
*NEIC **13** 20:43:30.3, 7°.36N×94°.38E, h18km*
*NDI **13** 20:43:32.5±0.5, 7°.17N×94°.36E, h10km, ML4.9, MW5.0, mb5.1(NEIC)*
*GCMT **13** 20:43:33.3±0.2, 7°.34N±0°.01×94°.40E±0°.01, h15km±1km, MW5.0/122, Moment Tensor Solution. s45,c56; s122,c190; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.46±.11; Mθθ=3.53±.09; Mφφ=3.98±.11; Mrθ=1.04±.23; Mrφ=2.39±.09; Mθφ=0.08±.18; Best double couple: Mo=4.58500×10^16 NP1:φs=152.00000°, δ=78.00000°, λ=-172.00000°. NP2:φs=60.00000°, δ=82.00000°, λ=-12.00000°. Principal axes: T 4.6850, Plg=2.0000°, Azm=107.0000°; N -0.2070, Plg=76.0000°, Azm=206.0000°; P -4.4850, Plg=14.0000°, Azm=16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 20:43:30.9±0.4, 7°.26N±0°.03×94°.34E±0°.03, h16km±2km, h17km; pP-P, n836, σ1°.46/840, mb5.0/202, MS4.4/95, 36C-16D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.48**	**239**	*e*P	**Pg**	**20 43 40.9**	**+0.4**
CMBY				*e*S	**Sg**	**20 43 47.3**	**+0.3**
CMBY				IAML		20 43 52.5	
	comp=E,94μm,0.4s						
CMBY				IAML		20 43 54.4	
	comp=N,92μm,0.4s						
BSI	**Banda Aceh**	**2.00**	**151**	P	**Pn**	**20 44 03.4**	**-0.6**
LHMI	**Lhok Sumawe**	**3.29**	**128**		**Pn**	**20 44 21.5**	**-0.2**
LHMI	**Lhok Sumawe**	**3.29**	**128**	P	**Pn**	**20 44 22.4**	**+0.6**
LHMI	**Lhok Sumawe**	**3.29**	**128**	P	**Pn**	**20 44 21.4**	**-0.4**
MLSI	**Meulaboh, Aceh**	**3.62**	**145**	P	**Pn**	**20 44 27.3**	**+1.0**
PBA	**Port Blair**	**4.64**	**340**		**Pn**	**20 44 39.9**	**-0.5**
PBA	**Port Blair**	**4.64**	**340**	*e*P	**Pn**	**20 44 43.8**	**+3.4**
PBA				*e*S	**Sn**	**20 45 36.2**	**+2.3**
SRIT	**Nakonsritamara**	**5.38**	**75**		**Pn**	**20 44 49.9**	**-0.7**
SRIT	**Nakonsritamara**	**5.38**	**75**	P	**Pn**	**20 44 50.8**	**+0.2**
TSI	**Tuntungan**	**5.63**	**131**	P	**Pn**	**20 44 53.7**	**-0.2**
	comp=N,1.6nmcomp=N,4μmcomp=N,3μmcomp=N,186nm,0.9s						
DGPR	**DIGLIPUR**	**6.04**	**347**	*e*P	**Pn**	**20 45 03.2**	**+3.6**
DGPR				*e*S	**Sn**	**20 46 09.4**	**+1.0**
PSI	**Prapat**	**6.37**	**134**	Pn	**Pn**	**20 45 06.6**	**+2.4**
	comp=N,3.1nm,0.3s,baz=315,slow=10,SNR=33						
PSI				Sn	**Sn**	**20 46 12.9**	**-3.8**
	comp=N,3.1nm,0.3s,baz=13,slow=3.2,SNR=3.5						
PSI				LR	LR	20 47 44.0	
	comp=N,4μm,21.1s,baz=302,slow=39						
	comp=N,38nm,0.7s						
PSI	**Prapat**	**6.37**	**134**	P	**Pn**	**20 45 07.0**	**+2.8**
RPSI	**Rantau Prapat**	**6.44**	**135**		**Pn**	**20 45 06.6**	**+1.5**
RPSI	**Rantau Prapat**	**6.44**	**135**		**Pn**	**20 45 04.7**	**-0.4**
KULM	**Kulim**	**6.57**	**107**		**Pn**	**20 45 05.4**	**-1.5**
GSI	**Gunungsitoli**	**6.74**	**151**		**Pn**	**20 45 08.7**	**-0.6**
GSI	**Gunungsitoli**	**6.74**	**151**	P	**Pn**	**20 45 09.5**	**+0.2**
GSI	**Gunungsitoli**	**6.74**	**151**	P	**Pn**	**20 45 07.9**	**-1.4**
	comp=N,0.5nmcomp=N,2μmcomp=N,104nm,0.9s						
PBSI	**Pulau Batu**	**8.26**	**151**	P	**Pn**	**20 45 29.7**	**-0.5**
	comp=N,100nm,1.2s						
MNSI	**Mandailing Nat**	**8.28**	**141**	P	**Pn**	**20 45 30.9**	**+0.5**
	comp=N,2μmcomp=N,2μmcomp=N,87nm,0.7s						
SRDT	**SRDT**	**8.47**	**33**	P	**Pn**	**20 45 33.6**	**+0.7**
BKNI	**Bangkinang**	**9.60**	**136**		**Pn**	**20 45 48.6**	**+0.1**
BKNI	**Bangkinang**	**9.60**	**136**	P	**Pn**	**20 45 50.1**	**+1.6**
BKNI	**Bangkinang**	**9.60**	**136**	P	**Pn**	**20 45 49.1**	**+0.6**
SISI	**Saibi**	**9.76**	**151**	P	**Pn**	**20 45 49.0**	**-1.7**
PPI	**Padang Panjang**	**9.76**	**142**	P	**Pn**	**20 45 50.7**	**-0.1**
	comp=N,2μmcomp=N,227nm,1.2s						
NAYO	**Nakonayok**	**9.81**	**44**	P	**Pn**	**20 45 53.1**	**+1.8**
MYKOM	**Kota Tinggi**	**10.93**	**119**		**Pn**	**20 46 05.2**	**-1.5**
MYKOM	**Kota Tinggi**	**10.93**	**119**	P	**Pn**	**20 46 08.8**	**+2.1**
CM31	**Chiang Mai Arr**	**12.00**	**22**		**Pn**	**20 46 20.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**12.00**	**22**		**Pn**	**20 46 21.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**12.00**	**22**	Pn	**Pn**	**20 46 22.4**	**+1.0**
	comp=N,0.4nm,0.3s,baz=215,slow=14,SNR=32						
CMAR				LR	LR	20 50 58.9	
	comp=N,2μm,19.5s,baz=200,slow=38						
	comp=N,2.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**12.00**	**22**	*i* P	**Pn**	**20 46 23.0**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CHTO	**Chiang Mai**	**12.33**	**21**	Pn	**Pn**	**20 46 24.5**	**-1.4**
CHTO	**Chiang Mai**	**12.33**	**21**	P	**Pn**	**20 46 28.3**	**+2.4**
CHTO	**Chiang Mai**	**12.33**	**21**	P	**Pn**	**20 46 27.0**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,41nm,1.1s						
UBPT	**Khong Chiam**	**13.51**	**53**		**Pn**	**20 46 41.4**	**-0.7**
PALK	**Pallekele**	**13.53**	**271**	Pn	**Pn**	**20 46 42.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=90,slow=9.9,SNR=7.0						
PALK				Sn	Sn	20 49 02.0	-10
	comp=Z,0.6nm,0.3s,baz=118,slow=12,SNR=6.4						
	comp=Z,4.4nm,0.8s						
KSI	**Kapahiang**	**13.62**	**143**	P	**Pn**	**20 46 42.0**	**-1.6**
	comp=Z,125nm,0.9s						
NONG	**Nongkai**	**13.74**	**38**	P	**Pn**	**20 46 47.3**	**+2.1**
MNAI	**Manna**	**14.40**	**143**	Pn	**Pn**	**20 46 52.2**	**-2.0**
PMBI	**Palembang**	**14.52**	**134**	Pn	**Pn**	**20 46 55.1**	**-0.8**
DLV	**Lat**	**14.70**	**70**		**Pn**	**20 46 58.5**	**-0.1**
DLV	**Lat**	**14.70**	**70**	P	**Pn**	**20 47 00.4**	**+1.8**
VIS	**Vishakhapatnam**	**14.94**	**315**	*e*P	**Pn**	**20 47 03.5**	**+1.9**
MDSI	**Maura Dua**	**15.25**	**140**	P	**Pn**	**20 47 02.2**	**-3.5**
	comp=Z,62nm,1.0s						
BRDH	**Bariadhala**	**15.54**	**351**	Pn	**Pn**	**20 47 08.3**	**-1.2**
	comp=Z,4.2nm,0.3s,baz=226,slow=18,SNR=1.1						
BRDH				LR	LR	20 54 05.0	
	comp=Z,2μm,21.8s,baz=174,slow=41						
LWLI	**Liwa**	**15.59**	**141**	P	**Pn**	**20 47 07.3**	**-2.9**
	comp=Z,2μmcomp=Z,134nm,0.8s						
AZL	**Aizawl**	**16.46**	**355**	*e*P	**P**	**20 47 24.2**	**+0.1**
AZL				*e*S	Sn	20 50 12.8	-11
TPI	**Tanjungpandan**	**16.60**	**126**	P	Pn	20 47 12.7	-10
SLVN	**Son La**	**16.77**	**32**		**Pn**	**20 47 23.3**	**-2.0**
SLVN	**Son La**	**16.77**	**32**	P	**P**	**20 47 27.9**	**+0.4**
KSM	**Kuching**	**16.93**	**109**		**Pn**	**20 47 25.7**	**-1.5**
KSM	**Kuching**	**16.93**	**109**	P	**P**	**20 47 29.1**	**-0.1**
IMP	**Imphal**	**17.48**	**359**	*e*P	**P**	**20 47 38.0**	**+2.8**
CGJI	**Cibinong**	**17.84**	**140**	P	**Pn**	**20 47 35.4**	**-3.2**
	comp=Z,47nm,1.0s						
TNCH	**TengChong**	**18.11**	**12**	↓*i* P	**P**	**20 47 43.0**	**+0.6**
TNCH				sP	pwP	20 47 47.8	-1.7
TNCH				PP	**PnPn**	**20 47 56.9**	**+3.4**
TNCH				S	**Sn**	**20 50 56.3**	**-7.8**
TNCH				SS	**SnSn**	**20 51 24.9**	**+6.6**
TNCH				pmax	pmax		
	comp=Z,48nm,1.5s						
TNCH				pmax	pmax		
	comp=Z,500nm,5.7s						
TNCH				LR	LR		
	comp=Z,2μm,11.1s						
TNCH				LR	LR		
	comp=Z,2μm,9.9s						
TNCH				LR	LR		
	comp=Z,2μm,13.1s						
BOK	**Bokaro**	**18.33**	**335**	*e*P	**P**	**20 47 49.1**	**+4.5**
BOK				*e*S	Sn	20 50 56.5	-13
SHL	**Shillong**	**18.35**	**353**		**Pn**	**20 47 40.6**	**-4.4**
SHL				IAmb	IAmb	20 47 53.0	
	comp=Z,202nm,1.9s						
SHL	**Shillong**	**18.35**	**353**	*e*P	**P**	**20 47 49.7**	**+4.7**
SHL				*e*S	Sn	20 50 56.5	-13
SHL	**Shillong**	**18.35**	**353**	P	**Pn**	**20 47 43.0**	**-2.0**
SHL				pmax	pmax		
	comp=Z,48nm,1.4s						
HYB	**Hyderabad**	**18.41**	**305**	*e*P	**P**	**20 47 44.9**	**-0.7**
HYB				*e*S	**Sn**	**20 51 11.6**	**+0.4**
HYB				IVMs_BB	IVMs_BB	20 56 57.1	
	comp=Z,311nm,13.9s						
SBUM	**Sibu**	**18.44**	**104**	P	**P**	**20 47 43.9**	**-2.0**
SBUM	**Sibu**	**18.44**	**104**	P	**Pn**	**20 47 48.0**	**+1.9**
STKI	**Sintang**	**18.53**	**112**	P	**P**	**20 47 44.0**	**-2.9**
	comp=Z,93nm,0.9s						
QIZ	**Qiongzhong**	**19.08**	**51**	P	**P**	**20 47 50.1**	**-2.8**
QIZ	**Qiongzhong**	**19.08**	**51**	P	**P**	**20 47 51.4**	**-1.5**
QIZ				S	**Sn**	**20 51 26.8**	**-0.5**
QIZ				sS	**sS**	**20 51 32.0**	**-3.2**
QIZ				pmax	pmax		
	comp=Z,16nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,230nm,4.0s						
QIZ				LR	LR		
	comp=Z,5μm,10.2s						
QIZ				LR	LR		
	comp=Z,2μm,9.2s						
QIZ				LR	LR		
	comp=Z,1μm,12.6s						
LEM	**Lembang**	**19.27**	**136**	P	**P**	**20 47 55.6**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=322,slow=19,SNR=2.1						
LEM				LR	LR	20 56 41.2	
	comp=Z,3μm,19.5s,baz=304,slow=41						
	comp=Z,5.3nm,0.4s						
COCO	**West Island**	**19.48**	**173**	P	**P**	**20 47 57.5**	**+0.2**
COCO				IAmb	IAmb	20 48 04.1	
	comp=Z,102nm,1.1s						
COCO	**West Island**	**19.48**	**173**	P	**P**	**20 47 57.5**	**+0.2**
COCO				pmax	pmax		
	comp=Z,102nm,1.1s						
KMI	**Kunming**	**19.49**	**23**	↓P	**Pn**	**20 48 00.8**	**+1.9**
KMI				PP	**PnPn**	**20 48 16.6**	**+4.2**
KMI				S	**S**	**20 51 39.4**	**+1.8**
KMI				pmax	pmax		
	comp=Z,62nm,1.1s						
KMI				pmax	pmax		
	comp=Z,320nm,5.7s						
KMI				LR	LR		
	comp=Z,1μm,11.5s						
KMI				LR	LR		
	comp=Z,2μm,19.6s						
KMI				LR	LR		
	comp=Z,2μm,15.6s						
PZH	**PanZhiHua**	**20.39**	**19**	P	Pn	20 48 08.8	-0.6
PZH				S	**S**	**20 51 55.3**	**-0.1**
PZH				pmax	pmax		
	comp=Z,60nm,1.3s						
PZH				pmax	pmax		
	comp=Z,290nm,5.5s						
PZH				LR	LR		
	comp=Z,1μm,12.2s						
PZH				LR	LR		
	comp=Z,1μm,15.9s						
PZH				LR	LR		
	comp=Z,1μm,15.5s						
XMIS	**Christmas Isla**	**20.92**	**147**	P	**P**	**20 48 13.0**	**+0.1**
XMIS				IAmb	IAmb	20 48 27.6	
	comp=Z,102nm,0.9s						
XMIS	**Christmas Isla**	**20.92**	**147**	P	Pn	20 48 15.3	-0.2
HMDM	**Hanimaadhoo**	**21.00**	**270**	P	**P**	**20 48 14.4**	**+0.6**
HMDM				IAmb	IAmb	20 48 29.7	
	comp=Z,167nm,1.4s						
SMRI	**Semarang**	**21.45**	**131**	P	**P**	**20 48 17.9**	**-0.8**
SMRI				IAmb	IAmb	20 48 37.4	
	comp=Z,66nm,1.0s						
SMRI	**Semarang**	**21.45**	**131**	P	**P**	**20 48 21.0**	**+2.3**
KKM	**Kota Kinabalu**	**21.76**	**92**	P	**P**	**20 48 20.7**	**-1.5**
KKM				IAmb	IAmb	20 48 37.9	
	comp=Z,121nm,1.7s						
KKM	**Kota Kinabalu**	**21.76**	**92**	P	**P**	**20 48 24.4**	**+2.2**
KAAM	**Kaadhehdhoo**	**22.32**	**253**	P	**P**	**20 48 27.3**	**-0.7**
TBJI	**Tambak Boyo**	**22.38**	**128**	P	**P**	**20 48 28.2**	**-0.5**
	comp=Z,3μmcomp=Z,171nm,1.0s						
GYA	**Guiyang**	**22.41**	**30**	P	**P**	**20 48 30.5**	**+1.5**
GYA				sP	pwP	20 48 35.4	-0.7
GYA				S	**S**	**20 52 34.8**	**0.0**
GYA				pmax	pmax		
	comp=Z,19nm,1.2s						
GYA				LR	LR		
	comp=Z,1μm,11.3s						
GYA				LR	LR		
	comp=Z,2μm,12.6s						
GYA				LR	LR		
	comp=Z,2μm,14.2s						
NGJI	**Ngawi**	**22.43**	**130**	P	**P**	**20 48 31.4**	**+2.2**
	comp=Z,152nm,1.1s						
LSA	**Lhasa**	**22.52**	**353**	P	**P**	**20 48 28.7**	**-1.9**
LSA				IAmb	IAmb	20 48 33.9	
	comp=Z,52nm,1.0s						
LSA	**Lhasa**	**22.52**	**353**	P	**P**	**20 48 28.7**	**-1.9**
LSA				pmax	pmax		
	comp=Z,52nm,1.0s						
GRJI	**Gresik**	**22.93**	**127**	P	**P**	**20 48 35.1**	**+0.6**
	comp=Z,2μmcomp=Z,133nm,1.7s						
BKB	**Balikpapan**	**24.05**	**110**	P	**P**	**20 48 44.2**	**-1.4**
BKB				IAmb	IAmb	20 49 00.8	
	comp=Z,57nm,0.8s						
MYLDM	**Lahad Datu**	**24.11**	**94**		**P**	**20 48 45.3**	**-0.8**
MYLDM	**Lahad Datu**	**24.11**	**94**	P	**P**	**20 48 48.6**	**+2.5**
KMMI	**Kalianget**	**24.20**	**126**	P	**P**	**20 48 46.9**	**0.0**
	comp=Z,109nm,1.6s						
CD2	**Chengdu**	**25.13**	**19**	P	**P**	**20 48 56.3**	**+1.0**
CD2				S	**S**	**20 53 20.3**	**+0.7**
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				pmax	pmax		
	comp=Z,120nm,2.6s						
CD2				LR	LR		
	comp=Z,1μm,13.3s						
CD2				LR	LR		
	comp=Z,1μm,16.5s						
JAGI	**Jajag, Banyuwa**	**25.19**	**128**	P	**P**	**20 48 55.3**	**-0.6**
JAGI				IAmb	IAmb	20 49 10.1	
	comp=Z,32nm,0.9s						
JAGI	**Jajag, Banyuwa**	**25.19**	**128**	P	**P**	**20 48 58.3**	**+2.4**
JAGI	**Jajag, Banyuwa**	**25.19**	**128**	P	**P**	**20 48 54.6**	**-1.3**
SRBI	**Singaraja**	**25.80**	**126**	P	**P**	**20 49 02.5**	**+1.0**
	comp=Z,149nm,1.4s						
H08S3	**Diego Garcia H**	**26.34**	**236**	T	T	21 15 49.7	
	baz=56,slow=75,SNR=1377						
H08S2	**Diego Garcia H**	**26.34**	**236**	T	T	21 15 46.5	
	baz=56,slow=75,SNR=1365						
H08S1	**Diego Garcia H**	**26.36**	**236**	T	T	21 15 51.1	
	baz=56,slow=75,SNR=1147						
**MPSI

WHN				LR	LR		
	comp=Z,5μm,9.8s						
WHN				LR	LR		
	comp=Z,5μm,12.2s						
XAN	**Xi'an**	**29.86**	**25**	P	**P**	**20 49 38.0**	**+0.3**
XAN				pP	pwP	20 49 43.3	-2.1
XAN				PP	**PnPn**	**20 50 36.3**	**+2.4**
XAN				S	**S**	**20 54 36.0**	**+1.8**
XAN				sS	sS	20 54 51.1	+10
XAN				pmax	pmax		
	comp=Z,16nm,0.7s						
XAN				LR	LR		
	comp=Z,2μm,15.3s						
XAN				LR	LR		
	comp=Z,2μm,13.1s						
XAN				LR	LR		
	comp=Z,3μm,14.8s						
LZH	**Lanzhou**	**29.98**	**16**	*e*P	**P**	**20 49 40.0**	**+1.1**
LZH				sP	pwP	20 49 45.9	-0.3
LZH				S	**S**	**20 54 38.3**	**+2.0**
LZH				pmax	pmax		
	comp=Z,18nm,0.7s						
LZH				LR	LR		
	comp=Z,1μm,13.7s						
LZH				LR	LR		
	comp=Z,1μm,13.1s						
LZH				LR	LR		
	comp=Z,1μm,14.4s						
TWGBT	**Beinan**	**30.02**	**56**	P	**P**	**20 49 41.8**	**+2.6**
LYN	**LuoYang**	**31.89**	**29**	P	**P**	**20 49 58.1**	**+2.6**
LYN				S	**S**	**20 55 02.3**	**-3.5**
LYN				pmax	pmax		
	comp=Z,26nm,0.5s						
LYN				LR	LR		
	comp=Z,2μm,17.9s						
LYN				LR	LR		
	comp=Z,2μm,18.2s						
LYN				LR	LR		
	comp=Z,2μm,18.2s						
MMRI	**Maumere**	**31.98**	**119**	P	**P**	**20 49 57.3**	**+0.7**
MMRI				IAmb	IAmb	20 50 47.1	
	comp=Z,42nm,1.4s						
GTA	**Gaotai**	**32.38**	**8**	P	**P**	**20 50 01.1**	**+1.1**
GTA				pP	pwP	20 50 06.8	-0.6
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				LR	LR		
	comp=Z,610nm,18.7s						
GTA				LR	LR		
	comp=Z,410nm,19.1s						
GTA				LR	LR		
	comp=Z,640nm,21.9s						
NIL	**Nilore**	**32.71**	**326**		**P**	**20 50 01.9**	**-1.0**
NIL	**Nilore**	**32.71**	**326**	P	**P**	**20 50 01.9**	**-1.0**
NIL				pmax	pmax		
	comp=Z,74nm,1.0s						
NJ2	**Nanjing**	**33.61**	**40**	*e*P	**P**	**20 50 10.6**	**-0.1**
NJ2				sP	**pwP**	**20 50 17.5**	**-0.8**
NJ2				S	**S**	**20 55 35.0**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,13.7s						
NJ2				LR	LR		
	comp=Z,2μm,11.8s						
NJ2				LR	LR		
	comp=Z,2μm,13.3s						
SOEI	**Soe**	**34.27**	**119**	P	**P**	**20 50 15.5**	**-1.3**
SOEI				IAmb	IAmb	20 50 46.2	
	comp=Z,25nm,0.9s						
SSE	**Sheshan**	**34.53**	**43**	P	**P**	**20 50 18.1**	**-0.5**
SSE				S	**S**	**20 55 48.0**	**+1.1**
SSE				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SSE				pmax	pmax		
	comp=Z,64nm,3.2s						
SSE				LR	LR		
	comp=Z,660nm,11.8s						
SSE				LR	LR		
	comp=Z,820nm,12.2s						
HNS	**HongShan**	**35.25**	**29**	⇑P	**P**	**20 50 27.3**	**+2.5**
HNS				S	**S**	**20 56 01.9**	**+4.0**
HNS				pmax	pmax		
	comp=Z,40nm,1.3s						
HNS				LR	LR		
	comp=Z,890nm,12.9s						
HNS				LR	LR		
	comp=Z,1μm,16.7s						
HNS				LR	LR		
	comp=Z,1μm,16.7s						
TIA	**Tai'an**	**35.55**	**33**	P	**P**	**20 50 29.4**	**+2.0**
TIA				S	S	20 56 12.5	+10
TIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TIA				pmax	pmax		
	comp=Z,190nm,4.5s						
TIA				LR	LR		
	comp=Z,650nm,11.3s						
TIA				LR	LR		
	comp=Z,700nm,11.3s						
TIA				LR	LR		
	comp=Z,2μm,13.7s						
KBL	**Kabul**	**35.77**	**323**		**P**	**20 50 28.1**	**-1.5**
KBL	**Kabul**	**35.77**	**323**	P	**P**	**20 50 28.1**	**-1.5**
KBL				pmax	pmax		
	comp=Z,17nm,1.1s						
BTO	**Baotou**	**36.04**	**20**	*e*P	**P**	**20 50 32.8**	**+1.2**
BTO				pP	**pwP**	**20 50 38.6**	**-0.7**
BTO				sP	**sP**	**20 50 42.5**	**+4.9**
BTO				S	**S**	**20 56 12.4**	**+2.3**
BTO				pmax	pmax		
	comp=Z,15nm,0.6s						
BTO				pmax	pmax		
	comp=Z,270nm,5.5s						
BTO				LR	LR		
	comp=Z,970nm,12.1s						
BTO				LR	LR		
	comp=Z,1μm,10.2s						
BTO				LR	LR		
	comp=Z,2μm,12.9s						
KSH	**Kashi**	**36.11**	**336**	P	**P**	**20 50 30.4**	**-1.9**
KSH				sP	sP	20 50 36.3	-2.2
KSH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KSH				LR	LR		
	comp=Z,270nm,21.6s						
KSH				LR	LR		
	comp=Z,460nm,17.6s						
KSH				LR	LR		
	comp=Z,350nm,16.5s						
WUS	**Wushi**	**36.38**	**341**	P	**P**	**20 50 33.6**	**-1.0**
WUS				IAmb	IAmb	20 50 41.1	
	comp=Z,30nm,0.8s						
HHC	**Hu-ho-hao-te**	**36.81**	**22**	⇓*i*P	**P**	**20 50 41.0**	**+2.8**
HHC				pP	pwP	20 50 45.8	-0.1
HHC				S	**S**	**20 56 26.8**	**+4.9**
HHC				SS	**SnSn**	**20 58 50.6**	**-3.2**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,6.7s						
HHC				LR	LR		
	comp=Z,1μm,16.0s						
HHC				LR	LR		
	comp=Z,2μm,13.5s						
HHC				LR	LR		
	comp=Z,1μm,16.5s						
WMQ	**Urumqi**	**36.88**	**352**	*e*P	**P**	**20 50 40.3**	**+1.6**
WMQ				pP	pwP	20 50 45.9	-0.1
WMQ				pmax	pmax		
	comp=Z,22nm,1.1s						
WMQ				LR	LR		
	comp=Z,530nm,16.5s						
WMQ				LR	LR		
	comp=Z,710nm,23.3s						
WMQ				LR	LR		
	comp=Z,340nm,21.7s						
TARG	**Taragay, Kyrgy**	**37.33**	**339**	P	**P**	**20 50 42.4**	**-0.6**
TARG				IAmb	IAmb	20 50 50.6	
	comp=Z,37nm,1.3s						
TARG	**Taragay, Kyrgy**	**37.33**	**339**	P	**P**	**20 50 42.4**	**-0.6**
TARG				pmax	pmax		
	comp=Z,37nm,1.3s						
JOW	**Kunigami**	**37.64**	**55**	LR	LR	21 08 16.7	
	comp=Z,515nm,18.0s,baz=294,slow=40						
PRZ	**Przheval'sk**	**37.80**	**341**		**P**	**20 50 47.0**	**+0.3**
PRZ				IAmb	IAmb	20 50 55.1	
	comp=Z,76nm,1.6s						
PRZ	**Przheval'sk**	**37.80**	**341**	P	**P**	**20 50 47.0**	**+0.3**
PRZ				pmax	pmax		
	comp=Z,76nm,1.6s						
KDJ	**Kajisay**	**37.90**	**339**		**P**	**20 50 46.8**	**-0.8**
KDJ				IAmb	IAmb	20 50 55.0	
	comp=Z,48nm,1.4s						
KDJ	**Kajisay**	**37.90**	**339**	P	**P**	**20 50 46.8**	**-0.8**
KDJ				pmax	pmax		
	comp=Z,48nm,1.4s						
DRK	**Karamyk**	**37.94**	**331**	P	**P**	**20 50 47.7**	**-0.4**
DRK				IAmb	IAmb	20 50 59.7	
	comp=Z,60nm,0.8s						
DRK	**Karamyk**	**37.94**	**331**	P	**P**	**20 50 47.7**	**-0.4**
DRK				pmax	pmax		
	comp=Z,60nm,0.8s						
BJT	**Baijiatuau**	**38.03**	**28**	P	**P**	**20 50 48.7**	**+0.2**
BJT	**Baijiatuau**	**38.03**	**28**	P	**P**	**20 50 48.7**	**+0.2**
BJT				pmax	pmax		
	comp=Z,26nm,1.1s						
PSA00	**Pilbara Seismi**	**38.05**	**139**	P	**P**	**20 50 48.5**	**-0.3**
PSA00	**Pilbara Seismi**	**38.05**	**139**	P	**P**	**20 50 48.5**	**-0.3**
PSA00				IAmb	IAmb	20 50 58.3	
	comp=Z,16nm,1.4s						
BJI	**Beijing**	**38.05**	**28**	P	**P**	**20 50 51.1**	**+2.5**
BJI				sP	**pwP**	**20 50 56.4**	**+0.1**
BJI				S	**S**	**20 56 43.6**	**+3.0**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BJI				pmax	pmax		
	comp=Z,41nm,4.4s						
BJI				LR	LR		
	comp=Z,300nm,13.2s						
BJI				LR	LR		
	comp=Z,240nm,20.1s						
BJI				LR	LR		
	comp=Z,280nm,16.2s						
SHLS	**Shalkode**	**38.07**	**342**	*e*P	**P**	**20 50 46.5**	**-2.4**
SHLS				pmax	pmax		
	comp=Z,13nm,1.1s						
SHLS	**Shalkode**	**38.07**	**342**	*e*P	**P**	**20 50 46.5**	**-2.4**
	comp=Z,13nm,1.1s						
UZB	**Uzynbulak**	**38.20**	**342**	*e*P	**P**	**20 50 48.6**	**-1.4**
UZB	**Uzynbulak**	**38.20**	**342**	*e*P	**P**	**20 50 48.7**	**-1.4**
GAR	**Garm**	**38.30**	**329**		**P**	**20 50 49.9**	**-1.0**
SATY	**Saty**	**38.31**	**341**	*e*P	**P**	**20 50 49.5**	**-1.4**
SATY	**Saty**	**38.31**	**341**	*e*P	**P**	**20 50 49.6**	**-1.4**
ULHL	**Ulahol**	**38.34**	**338**	P	**P**	**20 50 51.2**	**-0.2**
	SNR=6.1						
ZHN	**Zhinishke**	**38.40**	**341**	*e*P	**P**	**20 50 50.1**	**-1.6**
ZHN	**Zhinishke**	**38.40**	**341**	*e*P	**P**	**20 50 50.2**	**-1.6**
KPKS	**Kokpek**	**38.59**	**342**	*e*P	**P**	**20 50 51.8**	**-1.5**
KPKS	**Kokpek**	**38.59**	**342**	*e*P	**P**	**20 50 51.8**	**-1.5**
BOOM	**Boomskoye usch**	**38.67**	**338**		**P**	**20 50 53.4**	**-0.6**
BOOM	**Boomskoye usch**	**38.67**	**338**	P	**P**	**20 50 53.4**	**-0.6**
BOOM				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SIMJ	**Simiganj**	**38.72**	**328**		**P**	**20 50 53.4**	**-1.1**
SIMJ				IAmb	IAmb	20 50 55.2	
	comp=Z,55nm,1.1s						
TNSS	**Tian-Shan**	**38.78**	**340**	*e*P	**P**	**20 50 53.4**	**-1.8**
TNSS	**Tian-Shan**	**38.78**	**340**	*e*P	**P**	**20 50 53.5**	**-1.8**
MDOK	**Medeo**	**38.86**	**340**	*e*P	**P**	**20 50 54.0**	**-1.6**
MDOK	**Medeo**	**38.86**	**340**	*e*P	**P**	**20 50 54.0**	**-1.6**
ARSB	**Arslanbob**	**38.87**	**334**		**P**	**20 50 54.9**	**-0.8**
ARSB				IAmb	IAmb	20 51 03.9	
	comp=Z,62nm,0.9s						
ARSB	**Arslanbob**	**38.87**	**334**	P	**P**	**20 50 54.9**	**-0.8**
ARSB				pmax	pmax		
	comp=Z,62nm,0.9s						
DZET	**Dzherino**	**38.93**	**328**	P	**P**	**20 50 55.5**	**-0.7**
DZET				pmax	pmax		
	comp=Z,26nm,1.4s						
AAA	**Alma-Ata**	**38.94**	**340**	*e*P	**P**	**20 50 54.8**	**-1.4**
AAA				pmax	pmax		
	comp=Z,24nm,1.2s						
AAA	**Alma-Ata**	**38.94**	**340**	*e*P	**P**	**20 50 54.8**	**-1.4**
	comp=Z,24nm,1.2s						
TKM2	**Tokmak 2**	**39.16**	**338**	P	**P**	**20 50 59.9**	**+1.7**
	SNR=8.9						
KBK	**Karagaybulak**	**39.18**	**337**	P	**P**	**20 50 58.8**	**+0.5**
	SNR=19						
AML	**Almayashu**	**39.24**	**336**	P	**P**	**20 50 59.2**	**+0.1**
	SNR=45						
AAK	**Ala-Archa**	**39.34**	**337**		**P**	**20 50 59.3**	**-0.3**
AAK	**Ala-Archa**	**39.34**	**337**	P	**P**	**20 50 59.8**	**+0.1**
	comp=Z,9.1nm,0.9s,baz=162,slow=6.1,SNR=32						
AAK				LR	LR	21 08 50.9	
	comp=Z,665nm,20.8s,baz=158,slow=39						
	comp=Z,9.1nm,0.9s						
AAK	**Ala-Archa**	**39.34**	**337**	P	**P**	**20 50 59.8**	**+0.1**
	SNR=17						
AAK	**Ala-Archa**	**39.34**	**337**	*ce*P	**P**	**20 50 59.5**	**-0.2**
AAK				pmax	pmax		
	comp=Z,20nm,1.3s						
FRU1	**Bishkek**	**39.44**	**337**	P	**P**	**20 50 59.4**	**-0.9**
FRU1	**Bishkek**	**39.44**	**337**	P	**P**	**20 50 59.4**	**-0.9**
FRU1				pmax	pmax		
	comp=Z,21nm,1.0s						
CHKK	**Chushkaly**	**39.49**	**340**	*e*P	**P**	**20 50 59.3**	**-1.4**
CHKK	**Chushkaly**	**39.49**	**340**	*e*P	**P**	**20 50 59.4**	**-1.4**
CHMS	**Chumysh**	**39.55**	**337**	P	**P**	**20 51 01.3**	**+0.1**
	SNR=8.8						
EKS2	**Erkin-Say**	**39.65**	**336**	P	**P**	**20 51 02.5**	**+0.4**
	SNR=15						
KUU	**Kurty**	**39.74**	**340**	*e*P	**P**	**20 51 01.5**	**-1.3**
KUU				pmax	pmax		
	comp=Z,21nm,1.4s						
KUU	**Kurty**	**39.74**	**340**	*e*P	**P**	**20 51 01.5**	**-1.3**
	comp=Z,21nm,1.4s						
FITZ	**Fitzroy Crossi**	**39.87**	**130**	P	**P**	**20 51 03.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**39.87**	**130**	P	**P**	**20 51 04.6**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=330,slow=9.4,SNR=5.2						
FITZ				LR	LR	21 09 55.0	
	comp=Z,538nm,19.9s,baz=298,slow=40						
	comp=Z,1.4nm,0.6s						
USP	**Ospenovka**	**39.88**	**337**	P	**P**	**20 51 03.7**	**-0.2**
	SNR=18						
DL2	**Dalian**	**39.97**	**34**	P	**P**	**20 51 06.3**	**+1.6**
DL2				S	**S**	**20 57 10.8**	**+1.4**
DL2				pmax	pmax		
	comp=Z,23nm,0.9s						
DL2				pmax	pmax		
	comp=Z,140nm,5.1s						
DL2				LR	LR		
	comp=Z,1μm,17.5s						
DL2				LR	LR		
	comp=Z,930nm,22.2s						
DL2				LR	LR		
	comp=Z,1μm,12.6s						
SGDS	**Sogindy**	**39.98**	**338**	*e*P	**P**	**20 51 03.3**	**-1.6**
SGDS	**Sogindy**	**39.98**	**338**	*e*P	**P**	**20 51 03.3**	**-1.6**
HRA	**Herat**	**40.03**	**317**	P	**P**	**20 51 05.0**	**-0.6**
MSEY	**Mahe Island**	**40.55**	**254**	P	**P**	**20 51 10.4**	**+0.5**
MSEY	**Mahe Island**	**40.55**	**254**	P	**P**	**20 51 10.4**	**+0.5**
MSEY				pmax	pmax		
	comp=Z,16nm,1.4s						
MK31	**Makanchi Array**	**40.72**	**347**	*ce*P	**P**	**20 51 10.4**	**-0.5**
MKAR	**Makanchi Array**	**40.72**	**347**		**P**	**20 51 10.0**	**-0.9**
MKAR	**Makanchi Array**	**40.72**	**347**	P	**P**	**20 51 09.8**	**-1.1**
	comp=Z,20nm,0.8s,baz=164,slow=7.7,SNR=156						
MKAR				LR	LR	21 11 29.6	
	comp=Z,242nm,19.7s,baz=160,slow=41						
	comp=Z,20nm,0.8s						
MKAR	**Makanchi Array**	**40.72**	**347**	*ce*P	**P**	**20 51 10.3**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,20nm,0.8s						
MAKZ	**Makanchi**	**40.81**	**347**		**P**	**20 51 10.6**	**-1.0**
MAKZ	**Makanchi**	**40.81**	**347**	P	**P**	**20 51 10.6**	**-1.0**
MAKZ				pmax	pmax		
	comp=Z,17nm,0.8s						
ZSN	**Zaisan**	**40.85**	**350**	*e*P	**P**	**20 51 10.8**	**-1.2**
ZSN				pmax	pmax		
	comp=Z,20nm,1.3s						
ZSN	**Zaisan**	**40.85**	**350**	*e*P	**P**	**20 51 10.8**	**-1.2**
	comp=Z,20nm,1.3s						
IUG	**Iuzhnay**	**40.86**	**332**	*e*P	**P**	**20 51 10.6**	**-1.6**
IUG				pmax	pmax		
	comp=Z,27nm,1.4s						
IUG	**Iuzhnay**	**40.86**	**332**	*e*P	**P**	**20 51 10.6**	**-1.6**
	comp=Z,26nm,1.4s						
DZA	**Taraz**	**40.86**	**334**	*e*P	**P**	**20 51 10.8**	**-1.3**
DZA	**Taraz**	**40.86**	**334**	*e*P	**P**	**20 51 10.9**	**-1.3**
XLT	**XiLinHaoTe**	**41.16**	**24**	*e*P	**P**	**20 51 13.8**	**-0.8**
XLT				pP	pwP	20 51 19.3	-3.0
XLT				sP	sP	20 51 22.8	+2.2
XLT				PP	**PnPn**	**20 52 52.0**	**-2.2**
XLT				PcP	**PcP**	**20 53 15.0**	**+1.2**
XLT				S	**S**	**20 57 23.8**	**-3.5**
XLT				sS	sS	20 57 35.3	+0.8
XLT				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XLT				LR	LR		
	comp=Z,1μm,15.3s						
XLT				LR	LR		
	comp=Z,1μm,19.6s						
KK31	**Karatay Array**	**41.39**	**333**		**P**	**20 51 15.3**	**-1.2**
KK31	**Karatay Array**	**41.39**	**333**	P	**P**	**20 51 15.3**	**-1.2**
KK31				pmax	pmax		
	comp=Z,18nm,1.0s						
KKAR	**Karatay Array**	**41.39**	**333**		**P**	**20 51 15.6**	**-0.9**
KKAR	**Karatay Array**	**41.39**	**333**	P	**P**	**20 51 15.6**	**-0.9**
BRLS	**Borolday**	**41.64**	**333**	*e*P	**P**	**20 51 15.9**	**-2.5**
BRLS	**Borolday**	**41.64**	**333**	*e*P	**P**	**20 51 16.0**	**-2.5**
SONM	**Songino Array**	**41.72**	**12**	P	**P**	**20 51 19.0**	**-0.2**
SONM	**Songino Array**	**41.72**	**12**	P	**P**	**20 51 19.0**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=196,slow=8.6,SNR=18						
SONM				LR	LR	21 09 55.5	
	comp=Z,431nm,20.6s,baz=178,slow=38						
	comp=Z,4.1nm,0.9s						
SONM	**Songino Array**	**41.72**	**12**	P	**P**	**20 51 19.0**	**-0.2**
TJN	**Taejon**	**41.80**	**41**		**P**	**20 51 19.3**	**-0.5**
TJN				IAmb	IAmb	20 51 26.8	
	comp=Z,71nm,1.0s						
TJN	**Taejon**	**41.80**	**41**	*i* P	**P**	**20 51 21.0**	**+1.1**
ULN	**Ulaanbaatar**	**41.89**	**13**	P	**P**	**20 51 19.7**	**-0.9**
ULN	**Ulaanbaatar**	**41.89**	**13**	*ce*P	**P**	**20 51 21.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
JNU	**Nakatsue**	**42.51**	**48**	P	**P**	**20 51 24.0**	**-1.7**
JNU	**Nakatsue**	**42.51**	**48**	LR	LR	21 09 34.4	
	comp=Z,574nm,20.3s,baz=242,slow=37						
KSAR	**Wonju Array Be**	**42.77**	**40**		**P**	**20 51 27.3**	**-0.4**
KSAR	**Wonju Array Be**	**42.77**	**40**	P	**P**	**20 51 27.3**	**-0.4**
KSRS	**Korea Array**	**42.80**	**40**	P	**P**	**20 51 29.1**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=233,slow=8.1,SNR=9.9						
KSRS				LR	LR	21 11 08.0	
	comp=Z,564nm,18.4s,baz=220,slow=39						
	comp=Z,2.4nm,0.9s						
SNY	**Shenyang**	**43.08**	**32**	⇑P	**P**	**20 51 31.9**	**+1.7**
SNY				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZAK	**Zakamensk**	**43.62**	**8**	*e*P	P	20 51 40.0	+5.4
ZAK				*e*		20 53 25.6	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KURBB	**Kurchatov Arra**	**45.18**	**346**	P	**P**	**20 51 46.9**	**0.0**
	comp=Z,27nm,0.9s,baz=163,slow=7.4,SNR=74						
KURBB				ScP	**ScP**	**20 57 18.6**	**-0.6**
	comp=Z,1.2nm,0.2s,baz=165,slow=3.4,SNR=5.2						
KURBB				LR	LR	21 13 35.0	
	comp=Z,376nm,21.8s,baz=166,slow=40						
	comp=Z,27nm,0.9s						
KURK	**Kurchatov**	**45.25**	**346**		**P**	**20 51 46.9**	**-0.5**
KURK	**Kurchatov**	**45.25**	**346**	*ce*P	**P**	**20 51 47.6**	**+0.2**
KURK				pmax	pmax		
	comp=Z,60nm,1.3s						
CN2	**Changchun**	**45.44**	**32**	*e*P	**P**	**20 51 51.3**	**+2.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**45.52**	**153**	LR	LR	21 09 53.2	
	comp=Z,360nm,21.8s,baz=308,slow=35						
WRKA	**Warakurna**	**46.09**	**135**	P	**P**	**20 51 51.6**	**-2.9**
BRZS	**Berezniki**	**46.28**	**341**	*e*P	**P**	**20 51 54.5**	**-1.1**
BRZS	**Berezniki**	**46.28**	**341**	*e*P	**P**	**20 51 54.5**	**-1.1**
HIA	**Hailar**	**47.01**	**23**	P	**P**	**20 52 00.1**	**-1.3**
HIA				IAmb	IAmb	20 52 24.4	
	comp=Z,32nm,1.6s						
HIA	**Hailar**	**47.01**	**23**	P	**P**	**20 52 00.1**	**-1.3**
HIA				pmax	pmax		
	comp=Z,32nm,1.6s						
ZAA0	**Zalesovo Array**	**47.19**	**352**		**P**	**20 52 02.1**	**-0.5**
ZAA0				IAmb	IAmb	20 52 11.1	
	comp=Z,25nm,0.8s						
ZALV	**Zalesovo Beam**	**47.19**	**352**		**P**	**20 52 02.0**	**-0.6**
ZALV	**Zalesovo Beam**	**47.19**	**352**	P	**P**	**20 52 02.5**	**-0.2**
	comp=Z,16nm,0.9s,baz=169,slow=8.6,SNR=58						
ZALV				LR	LR	21 16 30.7	
	comp=Z,393nm,18.5s,baz=181,slow=42						
	comp=Z,16nm,0.9s						
CIT	**Chita**	**47.34**	**16**	*e*P	**P**	**20 52 04.0**	**0.0**
CIT				*e*		20 52 10.0	
CIT				pmax	pmax		
	comp=Z,36nm,1.2s						
WB0	**Warramunga Arr**	**47.71**	**125**	P	**P**	**20 52 06.5**	**-0.7**
WB0				IAmb	IAmb	20 52 35.6	
	comp=Z,36nm,1.7s						
WRA	**Warramunga Arr**	**47.75**	**125**		**P**	**20 52 07.0**	**-0.5**
WRA	**Warramunga Arr**	**47.75**	**125**	P	**P**	**20 52 07.2**	**-0.3**
	comp=Z,2.3nm,1.0s,baz=305,slow=9.0,SNR=15						
WRA				PcP	**PcP**	**20 53 36.7**	**0.0**
	comp=Z,0.7nm,0.6s,baz=305,slow=3.1,SNR=1.5						
WRA				LR	LR	21 13 59.3	
	comp=Z,557nm,20.7s,baz=356,slow=38						
	comp=Z,2.3nm,1.0s						
BNX	**BinXian**	**47.79**	**31**	⇑P	**P**	**20 52 08.6**	**+1.1**
BNX				pmax	pmax		
	comp=Z,18nm,1.3s						
INU	**Inuyama**	**48.05**	**48**	P	**P**	**20 52 08.4**	**-1.3**
INU				IAmb	IAmb	20 52 12.3	
	comp=Z,11nm,0.8s						
MDJ	**Mudanjiang**	**48.20**	**34**	P	**P**	**20 52 09.3**	**-1.4**
MDJ				IAmb	IAmb	20 52 25.3	
	comp=Z,23nm,1.2s						
MDJ	**Mudanjiang**	**48.20**	**34**	P	**P**	**20 52 12.0**	**+1.3**
MDJ				S	**S**	**20 59 14.6**	**+5.2**
MDJ				pmax	pmax		
	comp=Z,12nm,1.6s						
MDJ				LR	LR		
	comp=Z,520nm,12.4s						
MDJ				LR	LR		
	comp=Z,660nm,17.5s						
MDJ				LR	LR		
	comp=Z,850nm,15.1s						
JGF	**Kuroka**	**48.40**	**48**		**P**	**20 52 11.5**	**-0.9**
JGF				IAmb	IAmb	20 52 34.3	
	comp=Z,62nm,1.9s						
VLA	**Vladivostok**	**48.59**	**37**	*i* P	**P**	**20 52 14.7**	**+1.0**
JHJ	**Hachijo jima 2**	**49.28**	**52**	LR	LR	21 12 16.2	
	comp=Z,382nm,21.5s,baz=270,slow=35						
USRK	**Ussuriysk Ar.**	**49.29**	**35**	P	**P**	**20 52 19.1**	**0.0**
USRK	**Ussuriysk Ar.**	**49.29**	**35**	P	**P**	**20 52 19.7**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=168,slow=11,SNR=4.5						
USRK				LR	LR	21 14 03.2	
	comp=Z,297nm,19.1s,baz=223,slow=37						
	comp=Z,2.8nm,0.8s						
ASAR	**Alice Springs**	**49.38**	**130**	P	**P**	**20 52 19.6**	**-0.4**
ASAR	**Alice Springs**	**49.38**	**130**	P	**P**	**20 52 20.0**	**0.0**
	comp=Z,1.2nm,0.6s,baz=302,slow=7.8,SNR=16						
ASAR				PcP	**PcP**	**20 53 43.7**	**+1.1**
	comp=Z,2.7nm,0.7s,baz=309,slow=3.9,SNR=5.2						
ASAR				LR	LR	21 15 30.1	
	comp=Z,489nm,20.3s,baz=299,slow=39						
	comp=Z,1.2nm,0.6s						
AS31	**Alice Springs**	**49.38**	**130**		**P**	**20 52 19.2**	**-0.9**
JCJ	**Chichijima**	**49.43**	**60**	LR	LR	21 11 56.4	
	comp=Z,148nm,20.6s,baz=96,slow=34						
MJB9	**Matsu-Tunnel**	**49.43**	**47**	P	**P**	**20 52 20.5**	**+0.2**
MAJO	**Matsushiro**	**49.43**	**47**	P	**P**	**20 52 23.5**	**+3.2**
MAJO				pmax	pmax		
	comp=Z,13nm,1.2s						
MJAR	**Matsushiro Arr**	**49.43**	**47**	P	**P**	**20 52 21.4**	**+1.1**
	comp=Z,3.0nm,0.8s,baz=245,slow=8.7,SNR=

BRVK IAmb IAmb 20 52 22.9
comp=Z,14nm,0.8s
BRVK Borovoye 49.69 341 *ce*P **P 20 52 21.0 -0.9**
BRVK pmax pmax
comp=Z,17nm,0.8s
FORT Forrest 49.74 141 P 20 52 22.5 -0.1
FORT Forrest 49.74 141 P **P 20 52 23.0 +0.3**
JSD Sado 50.11 46 P 20 52 24.8 -0.7
ABKAR Akbulak array 50.86 331 P 20 52 30.3 -0.6
ABKAR Akbulak array 50.86 331 P 20 52 30.6 -0.3
ABKAR IAmb IAmb 20 52 38.6
comp=Z,74nm,1.4s
ATD Arta Tunnel 50.92 279 LR LR 21 10 46.3
comp=Z,12nm,21.5s,baz=111,slow=32
HEH HeiHe 50.95 27 *e*P **P 20 52 32.3 +0.7**
HEH pmax pmax
comp=Z,5.0nm,1.8s
HEH LR LR
comp=Z,400nm,18.9s
HEH LR LR
comp=Z,700nm,19.5s
HEH LR LR
comp=Z,830nm,15.2s
JMM Marumori 51.85 47 P **P 20 52 38.4 -0.1**
JMM IAmb IAmb 20 52 46.3
comp=Z,32nm,1.2s
KLR Kul'dur 52.31 30 LR LR 21 16 25.7
comp=Z,328nm,18.0s,baz=223,slow=38
KLR Kul'dur 52.31 30 *e*P **P 20 52 42.1 +0.4**
KLR pmax pmax
comp=Z,12nm,1.4s
AKTO Aktyubinsk 52.58 332 P **P 20 52 43.5 -0.2**
comp=Z,14nm,1.0s,baz=128,slow=6.9,SNR=30
AKTO LR LR 21 17 23.5
comp=Z,140nm,18.5s,baz=147,slow=39
comp=Z,14nm,1.0s
BOD Bodaibo 52.70 13 *e*P **P 20 52 44.3 -0.1**
BOD pmax pmax
comp=Z,23nm,1.0s
JTM Tenmabayashi 53.27 44 P **P 20 52 48.8 -0.2**
JTM IAmb IAmb 20 52 56.7
comp=Z,48nm,1.2s
ZEA Zeya 53.43 24 *e*P **P 20 52 51.3 +1.4**
ZEA *e* 21 00 34.7
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,300nm,16.0s
ZEA MLR MLR
comp=N,500nm,13.0s
ZEA MLR MLR
comp=Z,500nm,14.0s
GNI Garni 55.00 315 LR LR 21 19 23.5
comp=Z,117nm,20.4s,baz=100,slow=39
ASAJ Asahikawa 55.75 41 LR LR 21 17 13.1
comp=Z,285nm,21.2s,baz=241,slow=36
SVE Sverdlovsk 56.04 338 *e*P **P 20 53 08.6 -0.2**
SVE pmax pmax
comp=Z,102nm,1.4s
BBOO Buckleboo 56.23 138 P **P 20 53 10.4 -0.2**
BBOO IAmb IAmb 20 53 24.4
comp=Z,16nm,1.0s
GURO Guroymak-BITLI 56.39 312 P 20 53 10.8 -1.0
ARTI Arti 56.56 337 P 20 53 11.6 -0.9
ARTI Arti 56.56 337 LR LR 21 19 32.4
comp=Z,449nm,20.9s,baz=146,slow=38
ARTI Arti 56.56 337 *c i*P **P 20 53 12.0 -0.6**
ARTI 20 54 08.4
ARTI 20 55 14.0
ARTI S **S 21 01 06.2 +2.7**
ARTI SS **SS 21 04 47.1 -4.0**
ARTI pmax pmax
comp=Z,48nm,1.2s
ARTI MLR MLR
comp=Z,432nm,21.0s
MARD Mardin 56.93 310 P **P 20 53 14.3 -1.4**
KIBK Kibwezi 56.97 262 P **P 20 53 17.1 +0.8**
YSS Yuzhno-Sakhali 57.14 38 P **P 20 53 16.8 -0.1**
YSS Yuzhno-Sakhali 57.14 38 *e*P **P 20 53 17.8 +1.0**
YSS pmax pmax
comp=Z,40nm,1.2s
KMBO Kilima Mbogo 57.55 264 P **P 20 53 20.4 -0.2**
KMBO IAmb IAmb 20 53 29.7
comp=Z,26nm,1.4s
KMBO Kilima Mbogo 57.55 264 P **P 20 53 21.8 +1.2**
comp=Z,3.7nm,0.8s,baz=60,slow=9.8,SNR=12
KMBO LR LR 21 14 54.7
comp=Z,321nm,19.6s,baz=88,slow=33
comp=Z,3.7nm,0.8s
KMBO Kilima Mbogo 57.55 264 *i*P **P 20 53 20.9 +0.3**
KBZ Khabaz 57.67 318 P **P 20 53 19.6 -1.0**
comp=Z,4.4nm,1.1s,baz=102,slow=3.7,SNR=7.5
KBZ LR LR 21 22 16.2
comp=Z,86nm,19.5s,baz=116,slow=40
comp=Z,4.4nm,1.1s
KBZ Khabaz 57.67 318 *ce*P **P 20 53 20.5 -0.1**
KBZ pmax pmax
comp=Z,6.0nm,1.1s
SHA1 Shidzhatmaz 57.83 318 *i*P **P 20 53 21.7 -0.4**
KVAR Kislovodsk Arr 57.89 318 LR LR 21 23 11.7
comp=Z,90nm,18.0s,baz=152,slow=41
KIV Kislovodsk 57.90 318 P 20 53 21.4 -1.0
KIV IAmb IAmb 20 53 28.2
comp=Z,13nm,0.8s
KIV Kislovodsk 57.90 318 ⇑P **P 20 53 21.5 -0.8**
KIV Kislovodsk 57.90 318 *e*P **P 20 53 21.4 -1.0**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,95nm,17.0s
ASF Jabal al Asfar 58.71 303 LR LR 21 21 13.0
comp=Z,162nm,19.7s,baz=117,slow=39
LODK Lodwar 58.81 270 P **P 20 53 29.0 -0.2**
LABN Labinsk 59.46 318 *e*P P 20 53 27.7 -5.4
LABN *e*S **S 21 01 37.2 -4.7**
LABN pmax pmax
comp=Z,8.0nm,0.6s
LABN MLR MLR
comp=Z,167nm,16.0s
STKA Stephens Creek 59.55 134 P **P 20 53 33.5 -0.3**
STKA Stephens Creek 59.55 134 P **P 20 53 34.5 +0.7**
comp=Z,1.4nm,0.6s,baz=301,slow=9.0,SNR=3.2
STKA LR LR 21 22 21.3
comp=Z,322nm,20.0s,baz=298,slow=39
comp=Z,1.4nm,0.6s
GAZ Gaziantep 59.62 309 P **P 20 53 34.2 -0.2**
GAZ IAmb IAmb 20 53 41.0
comp=Z,24nm,1.5s
GHAJ Ghor Haditha 59.66 302 P **P 20 53 34.0 -0.6**
GHAJ IAmb IAmb 20 53 55.4
comp=Z,18nm,1.1s
BALJ Balqa 59.74 303 P **P 20 53 35.0 -0.3**
BALJ IAmb IAmb 20 53 43.7
comp=Z,22nm,1.2s
SOC Sochi 59.76 317 *e*P **P 20 53 31.8 -3.3**
SOC *e* 20 55 43.4
SOC *e*S **S 21 01 42.4 -3.3**
SOC *e*SS **SS 21 05 37.9 -3.8**
SOC pmax pmax
comp=Z,15nm,1.0s
SOC MLR MLR
comp=Z,152nm,18.0s
EIL Elat 59.90 300 LR LR 21 21 01.4
comp=Z,300nm,19.2s,baz=84,slow=38
ERBR Yeremizino-Bor 60.03 319 *e*P **P 20 53 34.2 -2.8**
ERBR *e*S **S 21 01 45.6 -3.5**
ERBR pmax pmax
comp=Z,19nm,1.1s
ERBR MLR MLR
comp=Z,281nm,17.0s
MMAI Mount Meron Ar 60.12 304 LR LR 21 23 21.6
comp=Z,203nm,19.0s,baz=90,slow=40
YAK Yakutsk 60.51 18 P 20 53 39.3 -0.7
YAK Yakutsk 60.51 18 LR LR 21 21 45.1
comp=Z,407nm,18.2s,baz=209,slow=38
YAK Yakutsk 60.51 18 *e*P **P 20 53 39.7 -0.2**
YAK *e**PP **pP 20 53 42.9 -1.5**
YAK *e* 20 54 25.7
YAK *e* 20 55 56.1
YAK *e*S **S 21 01 55.4 +0.7**
YAK *e**SS **sS 21 02 06.5 +4.3**
YAK *e* 21 03 31.1
YAK *e*SS **SS 21 05 57.4 +4.6**

YAK pmax pmax
comp=Z,32nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=Z,66nm,3.5s
YAK pmax pmax
comp=E,20nm,2.5s
YAK pmax pmax
comp=N,45nm,3.2s
YAK smax smax
comp=E,62nm,3.4s
YAK smax smax
comp=N,54nm,3.3s
YAK MLR MLR
comp=Z,564nm,14.0s
YAK MLR MLR
comp=E,318nm,12.0s
YAK MLR MLR
comp=N,378nm,14.0s
TOKA Tokat 61.02 312 P **P 20 53 42.5 -1.4**
BNN Bunyan 61.10 310 P **P 20 53 42.9 -1.8**
BNN IAmb IAmb 20 53 46.5
comp=Z,13nm,0.7s
VRH Novokhopyorsk 61.54 325 *e*P **P 20 53 45.7 -1.4**
VRH pmax pmax
comp=Z,37nm,1.2s
KIRV Kirov 61.65 335 LR LR 21 23 10.8
comp=Z,249nm,18.5s,baz=134,slow=39
KIRV Kirov 61.65 335 *ce*P **P 20 53 48.1 +0.4**
NRIK Noril'sk 62.16 357 P 20 53 50.1 -0.9
NRIK IAmb IAmb 20 53 57.4
comp=Z,10.0nm,1.0s
NRIK Noril'sk 62.16 357 P **P 20 53 50.6 -0.4**
comp=Z,3.7nm,0.8s,baz=179,slow=4.3,SNR=6.2
NRIK LR LR 21 24 49.3
comp=Z,292nm,21.4s,baz=187,slow=40
comp=Z,3.7nm,0.8s
NRIK Noril'sk 62.16 357 *ce*P **P 20 53 50.8 -0.2**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
CSS Mathiatis 62.19 306 P **P 20 53 51.2 -0.7**
CSS IAmb IAmb 20 53 59.3
comp=Z,30nm,1.4s
KIRS Kirsehir-Merke 62.62 310 ⇓P **P 20 53 54.1 -0.7**
BR131 Keskin Array S 62.97 311 P 20 53 54.9 -2.3
BR131 Keskin Array S 62.97 311 *i*P **P 20 53 56.8 -0.4**
BRTR Keskin Array B 62.97 311 P 20 53 54.8 -2.4
BRTR Keskin Array B 62.97 311 P **P 20 53 55.4 -1.8**
comp=Z,2.1nm,0.8s,baz=134,slow=6.2,SNR=13
BRTR LR LR 21 24 46.6
comp=Z,119nm,20.6s,baz=108,slow=39
comp=Z,2.1nm,0.8s
VSR Storozhevoye 63.00 325 *e*P **P 20 53 52.5 -4.4**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VORR Voronezh 63.16 325 *e*P **P 20 53 56.8 -1.2**
VORR pmax pmax
comp=Z,28nm,1.2s
ANTO Ankara 63.64 311 P P 20 54 07.1 +5.6
ANTO pmax pmax
comp=Z,11nm,1.6s
LPSR Galich'ya Gora 63.70 326 *e*P **P 20 54 00.6 -1.0**
LPSR pmax pmax
comp=Z,27nm,1.3s
MBAR Mbarara 63.91 266 P **P 20 54 03.2 -0.7**
MBAR IAmb IAmb 20 54 19.5
comp=Z,24nm,1.5s
MBAR Mbarara 63.91 266 *i*P **P 20 54 06.2 +2.3**
SIM Simferopol' 64.00 317 *e*P **P 20 54 01.1 -2.6**
SIM *e* 20 54 37.0
SIM pmax pmax
comp=Z,16nm,1.5s
ELL Elmali 65.24 307 P **P 20 54 12.6 +0.4**
ELL pmax pmax
comp=Z,90nm,1.1s
TOO Toolangi 65.28 137 P **P 20 54 12.6 +0.4**
TOO Toolangi 65.28 137 P **P 20 54 12.6 +0.4**
TOO pmax pmax
comp=Z,8.0nm,1.0s
H04N2 CROZET ISLANDS 65.31 211 T T 22 04 42.0
baz=47,slow=75,SNR=97
H04N1 CROZET ISLANDS 65.31 211 T T 22 04 42.7
baz=47,slow=75,SNR=71
H04N3 CROZET ISLANDS 65.32 211 T T 22 04 41.4
baz=47,slow=75,SNR=301
MOS Moscow 65.70 329 *e*P **P 20 54 12.6 -1.9**
MOS *e* 20 54 42.3
MOS *e* 20 56 37.3
MOS pmax pmax
comp=Z,200nm,1.8s
MOS pmax pmax
comp=Z,115nm,1.6s
H04S1 CROZET ISLANDS 65.71 211 T T 22 04 59.4
baz=47,slow=76,SNR=4.6
H04S3 CROZET ISLANDS 65.72 211 T T 22 05 05.8
baz=47,slow=76,SNR=7.9
H04S2 CROZET ISLANDS 65.72 211 T T 22 04 55.4
baz=47,slow=76,SNR=6.1
OBN Obninsk 66.00 328 P **P 20 54 16.2 -0.3**
OBN Obninsk 66.00 328 *e*P **P 20 54 15.8 -0.6**
OBN *e**PP **sP 20 54 20.5 -2.3**
OBN *e* 20 54 45.9
OBN *e* 20 56 41.0
OBN *e*PPP PPP 20 58 14.7
OBN pmax pmax
comp=Z,85nm,2.5s
OBN MLR MLR
comp=Z,221nm,21.0s
CAN Canberra 66.61 133 P **P 20 54 21.1 +0.2**
CAN Canberra 66.61 133 P **P 20 54 21.1 +0.2**
CAN pmax pmax
comp=Z,52nm,1.6s
KLMR Klimovskoe 67.09 334 *e*P **P 20 54 21.7 -1.6**
KLMR pmax pmax
comp=Z,59nm,1.3s
MA2 Magadan 67.22 27 LR LR 21 27 03.6
comp=Z,272nm,18.3s,baz=256,slow=39
TIXI Tiksi 67.79 11 P 20 54 26.4 -1.2
TIXI Tiksi 67.79 11 LR LR 21 26 15.7
comp=Z,357nm,18.1s,baz=218,slow=38
TIXI Tiksi 67.79 11 *ce*P **P 20 54 26.7 -0.9**
TIXI pmax pmax
comp=Z,25nm,0.8s
TIRR Tirgusor 67.82 315 P **P 20 54 26.9 -1.4**
TIRR Tirgusor 67.82 315 P **P 20 54 26.9 -1.4**
TIRR pmax pmax
comp=Z,53nm,1.6s
CFR Carcaliu 68.17 316 ⇓P **P 20 54 29.7 -0.8**
CFR Carcaliu 68.17 316 ⇓P **P 20 54 29.7 -0.8**
PETK Petropavlovsk- 68.39 35 LR LR 21 25 22.6
comp=Z,200nm,20.5s,baz=234,slow=37
SORM Soroca 68.67 319 ⇑P **P 20 54 32.3 -1.3**
SORM Soroca 68.67 319 ⇑P **P 20 54 32.3 -1.3**
AKASG Malin Array Be 68.75 322 P **P 20 54 32.4 -1.6**
comp=Z,1.1nm,0.7s,baz=96,slow=4.5,SNR=13
AKASG PP **PP 20 57 03.6 -2.2**
comp=Z,2.9nm,1.1s,baz=95,slow=6.9,SNR=6.2
AKASG LR LR 21 29 03.5
comp=Z,146nm,19.2s,baz=102,slow=40
comp=Z,1.1nm,0.7s
AKBB Malin Array Si 68.75 322 P **P 20 54 32.0 -2.0**
AKBB IAmb IAmb 20 54 42.6
comp=Z,23nm,1.6s
AKBB Malin Array Si 68.75 322 *ce*P **P 20 54 31.3 -2.7**
AKBB pmax pmax
comp=Z,5.0nm,1.1s
KIEV Kiev 68.76 322 P 20 54 32.0 -2.0
KIEV IAmb IAmb 20 54 42.6
comp=Z,19nm,1.6s
KIEV Kiev 68.76 322 P **P 20 54 32.0 -2.0**
KIEV pmax pmax
comp=Z,19nm,1.6s
ALN Alexandroupoli 68.89 311 P **P 20 54 34.1 -1.0**
ALN Alexandroupoli 68.89 311 P **P 20 54 34.1 -1.0**
IDI Anoyia 69.07 305 LR LR 21 28 46.8
comp=Z,106nm,21.7s,baz=114,slow=39
LSZ Lusaka 69.25 251 P **P 20 54 38.4 +0.5**
LSZ IAmb IAmb 20 54 46.6
comp=Z,38nm,1.8s
LSZ Lusaka 69.25 251 LR LR 21 20 39.3
comp=Z,442nm,19.5s,baz=100,slow=32
LSZ Lusaka 69.25 251 P **P 20 54 38.4 +0.5**
LSZ pmax pmax

comp=Z,38nm,1.8s
VRI Vrincioaia 69.27 316 ⇑P **P 20 54 37.0 -0.4**
VRI Vrincioaia 69.27 316 ⇑P **P 20 54 37.0 -0.4**
PLOR Plostina 69.33 316 ⇓P **P 20 54 37.8 0.0**
PLOR Plostina 69.33 316 ⇓P **P 20 54 37.8 0.0**
SEY Seymchan 69.40 24 LR LR 21 27 21.7
comp=Z,413nm,19.6s,baz=256,slow=38
SEY Seymchan 69.40 24 *ce*P **P 20 54 38.7 +0.9**
SEY pmax pmax
comp=Z,9.0nm,2.5s
TESR Tescani 69.45 317 ⇓P **P 20 54 37.6 -0.9**
MLR Muntele Rosu 69.74 316 LR LR 21 31 59.1
comp=Z,134nm,18.3s,baz=82,slow=42
MLR Muntele Rosu 69.74 316 ⇓P **P 20 54 38.9 -1.5**
MLR Muntele Rosu 69.74 316 ⇓P **P 20 54 38.9 -1.5**
DOPR Dopca 70.21 316 ⇑P **P 20 54 43.1 -0.1**
VOIR 70.35 316 ⇓P **P 20 54 43.1 -1.0**
VOIR 70.35 316 ⇓P **P 20 54 43.1 -1.0**
MNK Minsk 70.54 325 *i*P **P 20 54 42.0 -3.0**
MNK *i* 20 55 03.2
MNK *i* 20 57 17.7
MNK *i* PPP PPP 20 59 00.0
MNK *i* S **S 21 03 55.6 -2.1**
MNK *i* 21 04 45.0
MNK *i* SS **SS 21 08 27.4 -1.6**
MNK pmax pmax
comp=N,28nm,1.1s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,18nm,0.9s
MNK pmax pmax
comp=Z,141nm,18.0s
MNK pmax pmax
comp=E,87nm,18.0s
MNK pmax pmax
comp=N,58nm,13.0s
BURAR Bucovina Array 70.63 318 P 20 54 44.8 -1.0
BURAR Bucovina Array 70.63 318 ⇑P **P 20 54 45.4 -0.4**
BURAR Bucovina Array 70.63 318 ⇑P **P 20 54 45.4 -0.4**
BUR08 Bucovina Ar. S 70.64 318 P P 20 54 44.8 -1.2
KSV Kosov 70.86 319 P P 20 54 45.6 -1.5
LIT Litokhoron 71.48 310 P 20 54 49.7 -1.3
LIT Litokhoron 71.48 310 P P 20 54 49.7 -1.3
LIT pmax pmax
comp=Z,91nm,1.9s
JOF Joensuu 71.48 335 *e*P **P 20 54 50.7 +0.2**
CJR Cluj-Napoca 71.56 317 P P 20 54 52.8 +1.4
ITM Ithomi 71.64 307 P P 20 54 50.7 -1.3
ITM IAmb IAmb 20 54 58.2
comp=Z,55nm,1.6s
MREMI Moremi 71.82 243 P P 20 54 53.3 -0.1
MREMI IAmb IAmb 20 55 08.5
comp=Z,32nm,1.3s
DEV Deva 71.91 316 P P 20 54 54.3 +0.8
HERR Herculane 72.11 315 ⇑P **P 20 54 53.5 -1.2**
DRGR 72.17 317 ⇑P **P 20 54 54.9 -0.2**
DRGR 72.17 317 ⇑P **P 20 54 54.9 -0.2**
VSU Vasula 72.21 329 *ce*P **P 20 54 52.8 -2.2**
VSU pmax pmax
comp=Z,31nm,1.7s
VSU Vasula 72.21 329 *e*P **P 20 54 54.5 -0.5**
SURR Surduc 72.43 316 ⇑P **P 20 54 56.3 -0.3**
BOVS Bovan 72.46 313 ⇑P **P 20 54 56.2 -0.6**
KSANE Kasane 72.67 249 P P 20 54 57.8 -0.8
BZS Buzias 72.77 315 ⇑P **P 20 54 57.5 -1.1**
BZS Buzias 72.77 315 ⇑P **P 20 54 57.5 -1.1**
KOLS Kolonicke sedl 72.79 319 *e*P **P 20 55 00.0 +1.3**
KOLS Kolonicke sedl 72.79 319 *e*P **P 20 55 00.0 +1.3**
SIRR Siria 72.82 316 ⇓P **P 20 54 57.9 -1.0**
ARBE Arbavere 72.84 330 *e*P **P 20 54 58.9 +0.2**
PABE Paberze 72.97 326 P 20 54 58.6 -1.0
PABE Paberze 72.97 326 *e*P **P 20 54 58.1 -1.4**
SUW Suwalki 73.11 324 *e*P **P 20 54 59.6 -0.8**
SUW Suwalki 73.11 324 P P 20 54 59.0 -1.4
SUW Suwalki 73.11 324 P P 20 54 59.0 -1.4
SUW Suwalki 73.11 324 *e*P **P 20 54 59.7 -0.8**
FIA1 FINESS Array S 73.34 332 P 20 55 00.4 -1.2
FINES FINESS Array B 73.34 332 P 20 55 00.5 -1.1
FINES FINESS Array B 73.34 332 P P 20 55 00.9 -0.7
comp=Z,3.8nm,0.7s,baz=112,slow=6.1,SNR=19
FINES LR LR 21 31 33.9
comp=Z,186nm,19.3s,baz=112,slow=39
comp=Z,3.8nm,0.7s
LPHEP Lephephe 73.44 243 P P 20 55 03.6 +0.5
LPHEP IAmb IAmb 20 55 18.3
comp=Z,34nm,1.4s
MEF Metsahovi 73.82 331 *e*P **P 20 55 04.7 +0.3**
PHDHD Phuduhudu 73.82 247 P P 20 55 05.4 0.0
PHDHD IAmb IAmb 20 55 20.5
comp=Z,11nm,0.8s
KEF Keuruu 74.08 333 *e*P **P 20 55 05.9 -0.1**
LBTB Lobatse 74.12 242 P P 20 55 07.2 +0.1
LBTB Lobatse 74.12 242 LR LR 21 24 25.3
comp=Z,82nm,18.9s,baz=78,slow=33
LBTB Lobatse 74.12 242 P P 20 55 07.2 +0.1
PDG Podgorica 74.13 312 P 20 55 05.2 -1.4
NIE Niedzica 74.14 319 *e*P **P 20 55 06.6 -0.1**
NIE Niedzica 74.14 319 P P 20 55 06.9 +0.2
BEL Belsk 74.17 322 *e*P **P 20 55 06.8 +0.1**
PBUR Paburge 74.20 326 *e*P **P 20 55 06.1 -0.7**
PSZ Piszkesteto 74.22 318 P 20 55 06.4 -0.8
PSZ IAmb IAmb 20 55 13.5
comp=Z,37nm,1.9s
PSZ Piszkesteto 74.22 318 P P 20 55 06.4 -0.8
PSZ pmax pmax
comp=Z,37nm,1.9s
PSZ Piszkesteto 74.22 318 *e*P **P 20 55 06.7 -0.5**
OJC Ojcow 74.56 320 *e*P **P 20 55 08.8 -0.3**
OJC Ojcow 74.56 320 P 20 55 08.3 -0.8
OJC Ojcow 74.56 320 P P 20 55 08.3 -0.8
LANS Liptovska Anna 74.65 319 *e*P **P 20 55 09.9 +0.3**
LANS Liptovska Anna 74.65 319 *e*P **P 20 55 09.9 +0.3**
MORH Mrgy, Hungar 74.89 316 ⇓P **P 20 55 08.6 -2.4**
VYHS Vyhne 74.99 318 *e*P **P 20 55 11.6 0.0**
VYHS Vyhne 74.99 318 *e*P **P 20 55 11.5 0.0**
RAF Rauma 75.26 331 *e*P **P 20 55 12.3 -0.5**
VAF Ylistaro 75.28 333 *e*P **P 20 55 13.2 +0.2**
BOSA Boshof 75.43 238 P 20 55 15.4 +0.8
BOSA IAmb IAmb 20 55 32.0
comp=Z,59nm,1.8s
BOSA Boshof 75.43 238 P P 20 55 15.6 +1.0
comp=Z,4.4nm,0.9s,baz=83,slow=5.4,SNR=9.7
BOSA LR LR 21 26 36.5
comp=Z,68nm,18.5s,baz=64,slow=34
comp=Z,4.4nm,0.9s
JAVC Velka Javorina 75.80 318 *e*P **P 20 55 16.9 +0.6**
STEB Steborice 75.83 320 *e*P **P 20 55 15.3 -1.1**
ARCES ARCESS Array B 75.90 340 P P 20 55 15.5 -0.9
comp=Z,4.8nm,0.9s,baz=107,slow=7.6,SNR=4.1
ARCES LR LR 21 31 39.4
comp=Z,409nm,20.0s,baz=117,slow=38
comp=Z,4.8nm,0.9s
MORC Moravsky Berou 75.96 319 P 20 55 16.7 -0.5
MORC IAmb IAmb 20 55 28.5
comp=Z,24nm,1.3s
MORC Moravsky Berou 75.96 319 *e*P **P 20 55 16.9 -0.3**
MORC Moravsky Berou 75.96 319 ⇑P **P 20 55 17.3 +0.1**
MORC Moravsky Berou 75.96 319 ⇑P **P 20 55 17.3 +0.1**
MODS Modra-Piesok 76.01 318 *e*P **P 20 55 18.0 +0.5**
MODS Modra-Piesok 76.01 318 *e*P **P 20 55 18.0 +0.5**
DZM Mont Dzumac 76.36 115 *e*LR LR 21 18 48.1
comp=Z,300nm,30.1s
KRLC Kraliky 76.48 320 *e*P **P 20 55 20.2 +0.1**
KRLC *ep*P **pwP 20 55 26.2 -1.6**
KRLC Kraliky 76.48 320 *e*P **P 20 55 20.2 +0.1**
KRLC *e* 20 55 26.2
VRAC Vranov 76.54 319 LR LR 21 33 12.2
comp=Z,93nm,21.0s,baz=90,slow=39
VRAC Vranov 76.54 319 *e*P **P 20 55 18.6 -1.8**
BILL Bilibino 76.58 22 P 20 55 19.9 -0.3
BILL IAmb IAmb 20 55 30.0
comp=Z,34nm,1.8s
BILL Bilibino 76.58 22 *ce*P **P 20 55 20.3 0.0**
BILL pmax pmax
comp=Z,2.0nm,0.8s
RONA Rosalia, Austr 76.62 317 *e*P **P 20 55 21.4 +0.4**
comp=Z,2.7nm,0.9s
KRUC Moravsky 76.65 319 *e*P **P 20 55 20.7 -0.3**
DPC Dobruska-Polom 76.80 320 *e*P **P 20 55 23.2 +1.3**
DPC Dobruska-Polom 76.80 320 *e*P **P 20 55 23.2 +1.3**
KSP Ksiaz 76.86 320 *e*P **P 20 55 22.5 +0.3**
KSP Ksiaz 76.86 320 P **P 20 55 22.1 -0.1**

OSTC	Ostas	76.88	320	eP		P	20 55 21.9 -0.4
OSTC	Ostas	76.88	320	eP		P	20 55 21.9 -0.4
CONA	Conrad Observa	76.92	317	eP		P	20 55 22.8 +0.1
	comp=Z,8.3nm,1.4s						
CHVC	Chvalec	76.99	320	eP		P	20 55 23.8 +0.9
CHVC	Chvalec	76.99	320	eP		P	20 55 23.8 +0.9
ARSA	Arzberg	77.11	317			P	20 55 23.6 -0.2
ARSA					IAmb	IAmb	20 55 31.4
	comp=Z,16nm,1.3s						
ARSA	Arzberg	77.11	317	eP		P	20 55 24.6 +0.9
	comp=Z,9.6nm,1.3s						
SOKA	Soboth	77.42	316	eP		P	20 55 25.5 -0.1
	comp=Z,12nm,1.3s,SNR=6.3						
VAE	Valguarnera	77.63	307		LR	LR	21 34 33.1
	comp=Z,107nm,18.3s,baz=141,slow=40						
OBKA	Obir	77.74	316	eP		P	20 55 28.8 +1.4
	comp=Z,17nm,1.9s						
MAW	Mawson	77.98	192		LR	LR	21 25 27.8
	comp=Z,264nm,18.5s,baz=28,slow=32						
MOA	Molln	77.99	317	eP		P	20 55 27.8 -0.9
	comp=Z,6.1nm,1.2s						
SHEM	Shemya Is, Ala	78.06	38		LR	LR	21 33 36.6
	comp=Z,67nm,18.6s,baz=86,slow=38						
ZVC	Zvikov	78.11	319	eP		P	20 55 29.3 +0.1
BRG	Berggiesshubel	78.34	320	eP		P	20 55 31.3 +0.9
BRG					Amp		20 55 32.5
	comp=Z,15nm,1.3s						
BRG	Berggiesshubel	78.34	320	P		P	20 55 36.5 +6.0
BRG					Amp		20 55 38.4
	comp=Z,12nm,1.2s						
MYKA	Terra Mystica	78.37	316	eP		pP	20 55 36.0 +0.5
	comp=Z,14nm,1.6s						
KOOLE	Kule	78.40	245			P	20 55 31.2 -0.3
KOOLE					IAmb	IAmb	20 55 41.0
	comp=Z,11nm,0.8s						
BIOA	Bad Ischl, Aus	78.41	317	eP		P	20 55 30.3 -0.6
	comp=Z,2.9nm,0.8s						
GERES	GERESS Array B	78.41	318	P		P	20 55 30.6 -0.4
	comp=Z,3.8nm,0.8s,baz=91,slow=5.3,SNR=24						
	comp=Z,3.8nm,0.8s						
PRED	Cave del Predi	78.42	316	P		P	20 55 30.2 -0.9
PRED					IAmb	IAmb	20 55 37.4
	comp=Z,22nm,1.1s						
KHC	Kasperske Hory	78.50	319	eP		P	20 55 30.9 -0.5
KHC				eP		pwP	20 55 36.9 -2.2
KHC	Kasperske Hory	78.50	319	ceP		P	20 55 29.7 -1.7
KHC					pmax	pmax	
	comp=Z,13nm,1.7s						
RUE	Ruedersdorf	78.53	322	eP		P	20 55 32.2 +0.8
KBA	Koelnbreinsper	78.59	316	P		P	20 55 31.5 -0.6
KBA	Koelnbreinsper	78.59	316	i P		P	20 55 32.8 +0.7
	comp=Z,6.3nm,1.0s						
CLL	Collm	78.95	321	i P		P	20 55 33.9 +0.1
CLL				i			20 55 38.6
CLL					pmax	pmax	
	comp=Z,16nm,1.5s						
CLL	Collm	78.95	321	i P		P	20 55 33.9 +0.1
	comp=Z,16nm,1.5s						
CLL				i pP		sP	20 55 38.6 -1.6
CLL				eS		S	21 05 30.0 -1.8
CLL				ePS		PnS	21 06 18.0 +3.0
CLL				eSS		SS	21 10 42.0 +5.0
CLL				ex		x	21 15 12.0
CLL					AMS	AMS	21 45 00.0
	comp=Z,100nm,18.3s						
CLL					AMS	AMS	22 01 00.0
	comp=Z,100nm,18.6s						
LESA	Schwarzleotal	79.05	317	eP		P	20 55 33.7 -0.8
	comp=Z,17nm,1.2s,SNR=5.8						
HFS	Hagfors	79.08	330	P		P	20 55 33.7 -0.6
	comp=Z,3.9nm,0.5s,baz=104,slow=6.3,SNR=21						
HFS					LR	LR	21 34 37.9
	comp=Z,269nm,19.6s,baz=92,slow=39						
	comp=Z,3.9nm,0.5s						
ABTA	Abfaltersbach	79.15	316	i P		P	20 55 34.2 -0.9
	comp=Z,6.2nm,1.2s						
CTI	Castel Tesino	79.74	315			P	20 55 37.9 -0.5
CTI					IAmb	IAmb	20 55 45.0
	comp=Z,33nm,1.4s						
CTI	Castel Tesino	79.74	315	P		P	20 55 37.9 -0.5
CTI					pmax	pmax	
	comp=Z,33nm,1.4s						
WTTA	Wattenberg	79.76	317	eP		P	20 55 37.7 -0.9
	comp=Z,8.4nm,0.7s,SNR=7.9						
WATA	Walderalm	79.80	317	i P		P	20 55 37.0 -1.7
	comp=Z,11nm,1.5s						
TSUM	Tsumeb	79.99	249		LR	LR	21 27 58.6
	comp=Z,220nm,18.1s,baz=72,slow=33						
SQTA	Sankt Quirin	80.05	317	i P		P	20 55 39.3 -0.7
	comp=Z,6.0nm,0.6s,SNR=5.9						
MOTA	Moosalm	80.12	317	i P		P	20 55 39.5 -0.9
	comp=Z,9.0nm,1.2s						
SUR	Sutherland	80.15	235	P		P	20 55 41.1 +0.2
SUR					IAmb	IAmb	20 56 47.9
	comp=Z,59nm,1.6s						
NC602	NORSAR Array S	80.18	330	P		P	20 55 39.6 -0.7
NC602					IAmb	IAmb	20 55 50.7
	comp=Z,22nm,1.1s						
NORES	NORESS Array B	80.18	330	P		P	20 55 40.7 +0.4
ZCCA	Zocca	80.22	314	P		P	20 55 40.6 -0.3
ZCCA					IAmb	IAmb	20 55 55.0
	comp=Z,20nm,1.0s						
RETA	Reutte	80.35	317	i P		P	20 55 40.6 -1.0
	comp=Z,4.5nm,0.8s						
NB2	NORSAR Subarra	80.36	331	P		P	20 55 40.1 -1.2
	comp=Z,11nm,1.1s,baz=96,slow=5.1						
NOA	NORSAR Array B	80.36	331	P		P	20 55 40.5 -0.8
	comp=Z,3.6nm,1.0s,baz=93,slow=5.5,SNR=9.3						
NOA					LR	LR	21 35 01.9
	comp=Z,131nm,19.5s,baz=100,slow=38						
	comp=Z,3.6nm,1.0s						
FETA	Feichten	80.38	316	eP		P	20 55 41.8 -0.1
	comp=Z,3.7nm,0.7s,SNR=4.5						
SPB2	Spitsbergen Ar	80.47	348	P		P	20 55 41.3 -0.2
SPB2					IAmb	IAmb	20 55 48.6
	comp=Z,28nm,0.9s						
SPITS	Spitsbergen Ar	80.47	348	P		P	20 55 41.4 -0.2
	comp=Z,12nm,0.9s,baz=99,slow=10,SNR=11						
SPITS					LR	LR	21 37 35.4
	comp=Z,233nm,20.4s,baz=80,slow=40						
	comp=Z,12nm,0.9s						
FUORN	Ofenpass-Fuorn	80.70	316			P	20 55 43.5 -0.3
FUORN					IAmb	IAmb	20 55 50.5
	comp=Z,44nm,1.8s						
DAVA	Damuels	80.95	317	i P		P	20 55 44.7 -0.2
	comp=Z,5.8nm,1.3s						
DAVOX	Davos/Dischmat	80.96	316		LR	LR	21 36 25.9
	comp=Z,53nm,21.6s,baz=91,slow=39						
TUE	Stuetta	81.34	316			P	20 55 46.4 -0.6
KEST	Kesra	81.75	305	P		P	20 55 49.5 +0.2
	comp=Z,2.1nm,0.6s,baz=126,slow=13,SNR=4.2						
KEST					LR	LR	21 37 22.8
	comp=Z,80nm,18.0s,baz=26,slow=40						
	comp=Z,2.1nm,0.6s						
SENIN	Lac Senin/Sane	82.76	316			P	20 55 54.3 -0.2
BNI	Bardonecchia	83.26	315	P		P	20 55 57.5 +0.4
BNI					IAmb	IAmb	20 56 16.4
	comp=Z,14nm,1.1s						
BNI	Bardonecchia	83.26	315	P		P	20 55 57.5 +0.4
BNI					pmax	pmax	
	comp=Z,14nm,1.1s						
GAMB	Gambell	85.29	26	P		P	20 56 06.7 0.0
	baz=277						
NOR	Nord	85.88	352	i P		P	20 56 08.0 -1.4
NOR					IAmb	IAmb	20 56 10.2
	comp=Z,7.4nm,0.9s						
TAM	Tamanrasset	86.14	292			P	20 56 11.1 -1.0
TAM	Tamanrasset	86.14	292	P		P	20 56 11.1 -1.0
TAM					pmax	pmax	
	comp=Z,22nm,0.3s						
TNA	Tin City	86.64	24	P		P	20 56 13.3 -0.1
	baz=280						
SPIA	Saint Paul Isl	86.89	33	P		P	20 56 14.9 +0.1
	baz=278						
C16K	Lisburne Hills	87.11	22			P	20 56 15.8 +0.1
C16K					IAmb	IAmb	20 56 26.7
	comp=Z,22nm,1.2s						
C16K	Lisburne Hills	87.11	22	P		P	20 56 15.9 +0.2
	baz=282						
JMIC	Jan Mayen	87.34	341	LR		LR	21 37 32.6
	comp=Z,107nm,20.2s,baz=88,slow=37						
P08K	Saint George I	87.35	33	P		P	20 56 17.2 +0.1
	baz=279						
ANM	Nome	87.89	25	P		P	20 56 19.8 +0.2
	baz=282						
F15K	North Star Dit	87.94	24	P		P	20 56 20.1 +0.4
	baz=283						
RDOG	Red Dog Mine	88.05	22	P		P	20 56 18.9 -1.3
D17K	Noatak River	88.08	22	P		P	20 56 19.8 -0.5
	baz=284,SNR=7.9						
B18K	Kokolik River	88.10	20	P		P	20 56 20.7 +0.3
	baz=285						
A19K	Wainwright	88.11	19	P		P	20 56 20.1 -0.3
	baz=286						
EKA	Eskdalemuir Ar	88.33	325	P		P	20 56 21.6 -0.2
	comp=Z,1.9nm,0.6s,baz=98,slow=5.4,SNR=7.4						
	comp=Z,1.9nm,0.6s						
NIKH	Nikolski High	88.34	37	P		P	20 56 21.0 -0.9
	baz=280						
G15K	Niukluk	88.36	25	P		P	20 56 21.8 +0.1
	baz=284						
M11K	Mekoryuk	88.40	29	P		P	20 56 22.1 +0.2
	baz=282						
C18K	Utukok River	88.51	21	P		P	20 56 22.7 +0.2
	baz=286						
E17K	Hotham Inlet	88.70	22	P		P	20 56 23.6 +0.3
	baz=286						
K13K	Kusilvak Mount	88.79	28	P		P	20 56 24.0 +0.2
	baz=283						
URZ	Urewera	88.81	129	LR		LR	21 37 45.9
	comp=Z,143nm,20.1s,baz=3.5,slow=37						
G16K	Koyuk River	88.94	24	P		P	20 56 24.5 0.0
	baz=285						
E18K	Tukpahlearik C	89.07	22	P		P	20 56 25.2 +0.2
E18K					IAmb	IAmb	20 56 36.6
	comp=Z,21nm,1.0s						
E18K	Tukpahlearik C	89.07	22	P		P	20 56 25.8 +0.8
	baz=287						
F17K	Baldwin Pennin	89.10	23	P		P	20 56 25.4 +0.3
	baz=286						
J14K	Nanvaranak Lak	89.10	27	P		P	20 56 25.7 +0.4
	baz=284						
H16K	Elim	89.19	25	P		P	20 56 26.0 +0.3
	baz=285						
B20K	Meade River	89.45	19	P		P	20 56 27.3 +0.6
	baz=290						
UNV	Unalaska Valle	89.56	36	P		P	20 56 27.4 -0.2
	baz=282						
G17K	Kiwalik Mounta	89.60	24	P		P	20 56 28.0 +0.4
	baz=287						
D19K	Kuna River	89.63	21	P		P	20 56 27.7 0.0
	baz=289						
F18K	Selawik	89.67	23	P		P	20 56 28.1 +0.3
	baz=288,SNR=8.7						
M13K	Dall Lake	89.77	29	P		P	20 56 28.1 -0.2
	baz=284						
A22K	Sinclair Lake	89.78	18	P		P	20 56 28.3 0.0
	baz=292						
L14K	Kuka Creek	89.85	28	P		P	20 56 28.8 +0.1
	baz=285						
I17K	Unalakleet	90.05	25	P		P	20 56 30.2 +0.5
	baz=287						
H17K	Granite Mounta	90.06	24	P		P	20 56 30.5 +0.7
	baz=287						
D20K	Etivluk River	90.08	20	P		P	20 56 30.2 +0.4
	baz=290						
K15K	Wolf Creek Mou	90.13	27	P		P	20 56 30.2 +0.1
	baz=286						
J16K	Anvik River	90.26	26	P		P	20 56 30.8 +0.2
	baz=287						
G18K	Tagagawik	90.27	23	P		P	20 56 31.1 +0.4
	baz=288						
E19K	Redstone River	90.29	21	P		P	20 56 31.1 +0.3
	baz=290						
F19K	Shaleruckik Mo	90.30	22	P		P	20 56 30.6 -0.2
	baz=289						
L15K	Ungalak Mounta	90.31	28	P		P	20 56 31.1 +0.1
	baz=286						
M14K	Bethel	90.34	28	P		P	20 56 29.8 -1.3
	baz=285						
E20K	Nigu River	90.38	21	P		P	20 56 30.9 -0.3
	baz=291						
B21K	Ikpikpuk River	90.41	19	P		P	20 56 31.1 -0.2
	baz=292						
B22K	Teshekpuk Lake	90.51	18	P		P	20 56 31.5 -0.1
	baz=293						
C21K	Knifeblade Rid	90.53	20	P		P	20 56 31.4 -0.4
	baz=292,SNR=9.7						
H18K	Honhosa River	90.62	24	P		P	20 56 32.0 -0.3
	baz=289						
N14K	Kuskokwak Cree	90.70	29	P		P	20 56 31.8 -0.9
	baz=286						
G19K	Purcell Mounta	90.79	23	P		P	20 56 32.7 -0.4
	baz=290,SNR=11						
J17K	VABM Dome	90.88	26	P		P	20 56 33.7 +0.1
J17K					IAmb	IAmb	20 58 37.1
	comp=Z,23nm,1.6s						
J17K	VABM Dome	90.88	26	P		P	20 56 34.0 +0.5
	baz=288						
TORD	Torodi Ar. Bea	90.93	283			P	20 56 35.6 +0.8
TORD					IAmb	IAmb	20 56 47.3
	comp=Z,19nm,1.9s						
M15K	Kasigluk River	90.96	28	P		P	20 56 34.1 +0.1
	baz=287						
F20K	Avaraart Lake	90.98	22			P	20 56 34.4 +0.4
F20K	Avaraart Lake	90.98	22	P		P	20 56 32.8 -1.1
	baz=291						
ELIB	Princess Elisa	91.06	197	dP		P	20 56 37.1 +2.8
	comp=Z,6.0nm,1.1s						
E21K	Killik River	91.08	20	P		P	20 56 33.9 -0.5
	baz=293						
O14K	Tigyukauivet M	91.09	30	P		P	20 56 35.1 +0.5
	baz=286						
FALS	False Pass	91.10	34	P		P	20 56 33.9 -0.8
	baz=284						
L16K	Owhat River	91.22	27	P		P	20 56 34.5 -0.7
	baz=288						
H19K	Roundabout Mou	91.25	23			P	20 56 35.4 +0.2
H19K	Roundabout Mou	91.25	23	P		P	20 56 34.4 -0.8
	baz=290,SNR=13						
D22K	Ayikyak River	91.34	19	P		P	20 56 35.6 0.0
	baz=294						
GCSA	Galena City Sc	91.35	24	P		P	20 56 35.6 0.0
	baz=290,SNR=5.9						
N15K	Kwethluk River	91.40	29	P		P	20 56 36.4 +0.4
	baz=287						
K17K	Iditarod	91.43	26	P		P	20 56 36.1 0.0
	baz=289						
C23K	Itkillik River	91.60	18	P		P	20 56 35.9 -0.9
	baz=296						
L17K	Donlin	91.62	27	P		P	20 56 36.2 -0.8
	baz=289						
M16K	Timber Creek	91.67	28	P		P	20 56 36.8 -0.5
	baz=288						
F21K	Alatna River	91.73	21	P		P	20 56 36.4 -1.1
	baz=293,SNR=9.6						
ESDC	Sonseca Array	91.76	310			P	20 56 37.6 -0.6
ESDC	Sonseca Array	91.76	310	P		P	20 56 38.2 -0.1
	comp=Z,2.0nm,0.8s,baz=58,slow=3.2,SNR=14						
ESDC					LR	LR	21 41 56.1
	comp=Z,91nm,20.7s,baz=82,slow=38						
	comp=Z,2.0nm,0.8s						
O15K	Ungalikthiuk R	91.82	30	P		P	20 56 36.7 -1.3
	baz=287						
J18K	Innoko River	91.86	25	P		P	20 56 37.7 -0.5
	baz=290,SNR=8.5						
H20K	Anotleneega Mo	91.87	23	P		P	20 56 38.3 +0.1
	baz=292,SNR=15						
N16K	Nishlik Lake	91.93	28	P		P	20 56 38.7 +0.1
	baz=288						
E22K	Anaktuvuk Pass	91.94	20	P		P	20 56 37.8 -0.7
E22K					IAmb	IAmb	20 56 49.8
	comp=Z,15nm,1.2s						
E22K	Anaktuvuk Pass	91.94	20	P		P	20 56 37.2 -1.3
	baz=295,SNR=7.1						
D23K	Nanushuk River	91.96	19	P		P	20 56 38.7 +0.2
D23K	Nanushuk River	91.96	19	P		P	20 56 37.6 -0.8
	baz=296,SNR=8.5						
G21K	Allakaket	92.00	22	P		P	20 56 38.5 -0.2
	baz=293						
F22K	John River	92.08	21	P		P	20 56 38.6 -0.4
	baz=294						
PAB	San Pablo	92.08	310	P		P	20 56 39.3 -0.4
PAB					IAmb	IAmb	20 56 46.9
	comp=Z,7.2nm,1.1s						
PAB	San Pablo	92.08	310	P		P	20 56 39.3 -0.4
PAB					pmax	pmax	
	comp=Z,7.0nm,1.1s						
J19K	Poorman	92.13	24	P		P	20 56 39.3 -0.1
J19K	Poorman	92.13	24	P		P	20 56 38.9 -0.5
	baz=291,SNR=10						
C24K	Franklin Bluff	92.24	18	P		P	20 56 39.4 -0.3
	baz=298						
M17K	Holitna River	92.25	27	P		P	20 56 38.6 -1.3
	baz=289						
I20K	Naaghedeneel	92.29	24	P		P	20 56 39.5 -0.5
	baz=292,SNR=8.7						
VNDA	Vanda	92.29	168		LR	LR	21 36 15.1
	comp=Z,170nm,18.1s,baz=302,slow=34						
L18K	Granite Mounta	92.30	26	P		P	20 56 39.8 -0.4
	baz=290						
TTA	Tatalina	92.35	26	P		P	20 56 39.4 -1.1
	baz=291						
TOLK	Toolik Lake Re	92.46	19			P	20 56 41.1 +0.2
TOLK					IAmb	IAmb	20 56 52.2
	comp=Z,13nm,1.0s						
TOLK	Toolik Lake Re	92.46	19	P		P	20 56 40.2 -0.7
	baz=297,SNR=10.0						
D24K	Happy Valley	92.47	19	P		P	20 56 41.4 +0.5
	baz=298						
O16K	Kokwok River B	92.53	29	P		P	20 56 41.2 -0.1
	baz=289						
G22K	Bettles	92.56	21	P		P	20 56 41.5 +0.3
	baz=295						
SDPT	Sand Point	92.60	33	P		P	20 56 42.1 +0.4
	baz=287						
H21K	Melozitna Rive	92.61	22	P		P	20 56 42.2 +0.7
	baz=294,SNR=9.5						
N17K	Nushagak Hills	92.66	28	P		P	20 56 41.8 -0.1
	baz=290						
J20K	Nowinta River	92.66	24			P	20 56 42.5 +0.7
J20K	Nowinta River	92.66	24	P		P	20 56 41.2 -0.6
	baz=292,SNR=8.6						
E23K	Chandalar	92.71	20	P		P	20 56 41.8 -0.3
	baz=297						
P16K	Nushagak River	92.77	30	P		P	20 56 42.4 0.0
	baz=289						
S14K	Fog Glacier	92.82	32	P		P	20 56 42.3 -0.6
	baz=287						
COLD	Coldfoot	92.89	21	P		P	20 56 42.6 -0.2
	baz=296						
M18K	Stony River	92.94	27	P		P	20 56 42.8 -0.3
	baz=291						
O17K	Koliganek Bris	92.95	29	P		P	20 56 43.1 -0.1
	baz=290						
K20K	Telida	93.01	25	P		P	20 56 42.7 -0.8
	baz=292						
H22K	Ishtalitna Cre	93.04	22	P		P	20 56 43.5 0.0
	baz=295,SNR=8.5						
E24K	Your Creek	93.08	20	P		P	20 56 44.2 +0.4
	baz=298						
L19K	White Mountain	93.12	26			P	20 56 44.2 +0.2
L19K					IAmb	IAmb	20 56 56.4
	comp=Z,15nm,1.2s						
L19K	White Mountain	93.12	26	P		P	20 56 44.1 +0.1
	baz=292						
D25K	Kavik River	93.15	18	P		P	20 56 44.4 +0.3
	baz=300						
G23K	Bananza Creek	93.18	21	P		P	20 56 44.3 +0.1
G23K					IAmb	IAmb	20 56 55.7
	comp=Z,10nm,1.1s						
G23K	Bananza Creek	93.18	21	P		P	20 56 44.5 +0.3
	baz=296						
N18K	Kilae Creek	93.20	28	P		P	20 56 43.4 -1.1
	baz=291						
NEEM	North Greenlan	93.22	353	i P		P	20 56 47.3 +2.8
NEEM					IAmb	IAmb	20 56 51.2
	comp=Z,5.5nm,0.7s						
CHNA	Chernabura Isl	93.24	34	P		P	20 56 43.5 -1.1
	baz=287						
C26K	Camden Bay	93.29	17	P		P	20 56 44.9 +0.3
	baz=301						
M19K	Big River Lodg	93.43	26	P		P	20 56 45.1 -0.3
M19K					IAmb	IAmb	20 56 56.7
	comp=Z,11nm,1.1s						
M19K	Big River Lodg	93.43	26	P		P	20 56 45.3 -0.1
	baz=292						
L20K	Farewell, AK	93.43	26	P		P	20 56 45.2 -0.3
	baz=293						
R16K	Pilot Point	93.45	31	P		P	20 56 43.9 -1.7
	baz=289						
P17K	Kvichak River	93.47	29	P		P	20 56 45.0 -0.6
	baz=290						
CHUM	Lake Minchumin	93.52	24	P		P	20 56 45.4 -0.4
	baz=294,SNR=8.3						
F24K	Squaw Lake	93.55	20	P		P	20 56 45.6 -0.3
	baz=298						
MDT	Midelt	93.56	304	LR		LR	21 44 54.4
	comp=Z,64nm,19.0s,baz=102,slow=39						
H23K	Yukon River	93.75	22	P		P	20 56 46.5 -0.3
	baz=297						
C27K	Jago River	93.80	17	P		P	20 56 47.1 +0.1
	baz=302,SNR=9.3						
N19K	Bonanza Creek	93.80	27	P		P	20 56 46.6 -0.6
	baz=292						
CAST	Castle Rocks	93.81	24	P		P	20 56 46.8 -0.3
CAST	Castle Rocks	93.81	24	P		P	20 56 46.1 -1.0
	baz=294,SNR=9.6						
O18K	Koktuh Hills	93.82	28	P		P	20 56 46.8 -0.4
	baz=291						
BPAW	Bear Paw Mtn.	93.96	24	P		P	20 56 47.6 -0.2
BPAW	Bear Paw Mtn.	93.96	24	P		P	20 56 47.1 -0.7
	baz=295,SNR=8.6						
P18K	Big Mountain,	93.98	29	P		P	20 56 47.9 -0.1
	baz=291						
PPLA	Purkeypile	93.98	25	P		P	20 56 47.6 -0.5
	baz=294						
M20K	Styx River	93.99	26	P		P	20 56 47.8 -0.2
	baz=293						
E25K	Arctic Village	94.02	19	P		P	20 56 47.5 -0.5
	baz=301						
Q17K	Contact Creek	94.06	30	P		P	20 56 47.9 -0.7
	baz=291						
G24K	Hadweenzic Riv	94.08	21	P		P	20 56 47.9 -0.4
	baz=299						
O19K	Port Alsworth	94.11	28	P		P	20 56 48.0 -0.5
	baz=292						
I23K	Minto, Yukon-K	94.13	22	P		P	20 56 48.7 +0.2
	baz=297						
F25K	Christian Rive	94.26	19	P		P	20 56 48.3 -0.9
	baz=300,SNR=8.3						
H24K	Noodor Dome	94.35	21	P		P	20 56 49.5 -0.1
	baz=298						
Q18K	Katmai Hardscr	94.35	29	P		P	20 56 49.3 -0.6
	baz=291						
NEA2	Nenana	94.49	23	P		P	20 56 50.4 +0.1
	baz=297						
TRF	Thorofare Moun	94.52	24	P		P	20 56 50.3 -0.3
	baz=296						
G25K	Bearman Lake	94.53	20	P		P	20 56 50.4 +0.1
	baz=300						
SKT	Skwentna	94.64	26	P		P	20 56 50.6 -0.4
SKT	Skwentna	94.64	26	P		P	20 56 51.3 +0.4
	baz=295						
SPCR	Spurr Chakacha	94.67	26	P		P	20 56 51.7 +0.5
	baz=294						
BMAR	Burnt Mountain	94.70	19	P		P	20 56 51.0 -0.2
F26K	Sheenjek River	94.70	19	P		P	20 56 50.5 -0.7
	baz=302,SNR=9.0						
SUMG	Summit	94.78	347	i P		P	20 56 58.0 +6.1
SUMG					IAmb	IAmb	20 57 00.0
	comp=Z,6.2nm,0.9s						
D27M	Malcolm River	94.82	17	P		P	20 56 51.2 -0.6
	baz=305						
P19K	Oil Pt	94.82	28	P		P	20 56 51.3 -0.5
	baz=293						
POKR	Poker Plat Res	94.86	22	P		P	20 56 51.7 -0.2
	baz=299						
H25L	Birch Creek	94.88	21	P		P	20 56 51.5 -0.4
	baz=300						
Q19K	Cape Douglas,	94.91	29	P		P	20 56 50.8 -1.5
	baz=293						
MCK	McKinley	94.94	24	P		P	20 56 51.7 -0.6
	baz=297						
CUT	Chulitna	94.99	25	P		P	20 56 52.4 -0.1
	baz=296						
R18K	Karluk	95.03	30	P		P	20 56 51.1 -1.7
	baz=292						
CHIR	Chirikof Islan	95.06	32	P		P	20 56 52.4 -0.6
	baz=291						
SUA	Susitna One	95.20	26	P		P	20 56 52.8 -0.9
	baz=295						
G26K	Porcupine Rive	95.21	20	P		P	20 56 53.2 -0.3
	baz=302						
ILAR	Eielson Array	95.23	22	P

	baz=304						
CAPN	Captain Cook N	95.31	27	P	P	20 56 53.1	-0.9
	baz=295						
M22K	Willow	95.34	26	P	P	20 56 53.9	-0.2
	baz=296						
PRP	Porcupine Dome	95.36	21	P	P	20 56 53.8	-0.6
PRP				IAmb	IAmb	20 57 04.9	
	comp=Z,13nm,1.4s						
PRP	Porcupine Dome	95.36	21	P	P	20 56 53.0	-1.3
	baz=300						
HDA	Harding Lake	95.39	22	P	P	20 56 54.0	-0.4
	baz=299						
D28M	Stokes Point	95.41	17	P	P	20 56 53.7	-0.6
	baz=307						
SII	Sitkinak Islan	95.54	31	P	P	20 56 54.8	-0.4
	baz=292						
HOM	Homer	95.56	28	P	P	20 56 55.1	-0.1
	baz=294						
E28M	Babbage River	95.61	17	P	P	20 56 54.8	-0.5
	baz=306						
Q20K	Shuyak Island	95.63	29	P	P	20 56 54.2	-1.4
	baz=294						
OHAK	Old Harbor	95.74	30	P	P	20 56 55.1	-0.9
	baz=293						
TULEG	Thule	95.76	356	*i* P	P	20 56 59.2	+3.5
TULEG				IAmb	IAmb	20 57 02.3	
	comp=Z,28nm,0.8s						
RC01	Rabbit Creek A	95.80	26	P	P	20 56 54.9	-1.4
	baz=296						
PMR	Palmer	95.83	25	P	P	20 56 55.3	-1.1
	baz=297						
KDAK	Kodiak Island	95.87	30	P	P	20 56 55.5	-1.1
	baz=293						
J25K	Salcha River,	95.88	22	P	P	20 56 55.7	-0.9
	baz=301						
BRSE	Bradley Lake S	95.94	28	P	P	20 56 55.9	-1.1
	baz=295						
G27K	Doyon Strip	96.00	19	P	P	20 56 56.1	-1.0
	baz=304						
O22K	Cooper Landing	96.07	27	P	P	20 56 55.9	-1.6
	baz=296						
SML	Sawmill	96.07	25	P	P	20 56 56.3	-1.3
	baz=298						
K24K	Donnelly Dome	96.14	23	P	P	20 56 57.1	-0.7
	baz=300						
KNK	Knik Glacier	96.20	25	P	P	20 56 58.0	-0.1
	baz=297						
E29M	Blow River	96.22	17	P	P	20 56 58.0	-0.1
	baz=308						
I26K	Coal Creek Min	96.32	21	P	P	20 56 58.5	0.0
	baz=303						
M23K	Glacier View	96.33	25	P	P	20 56 57.1	-1.6
	baz=298						
SEW	Seward	96.36	27	P	P	20 56 58.7	-0.1
	baz=296						
H27K	Steamboat Moun	96.36	20	P	P	20 56 58.9	+0.1
	baz=304						
SCM	Sheep Creek Mo	96.48	25	P	P	20 56 58.3	-1.1
	baz=298						
PWL	Port Wells	96.51	26	P	P	20 56 59.4	-0.1
	baz=298						
RIDG	Independent Ri	96.52	23	P	P	20 56 58.9	-0.7
	baz=301						
J26L	Joseph Creek	96.60	22	P	P	20 57 00.0	0.0
	baz=302						
PAX	Paxson	96.68	23	P	P	20 57 00.3	0.0
	baz=300						
I27K	Kandik River	96.69	20	P	P	20 56 59.0	-1.3
	baz=304						
SCRK	Sand Creek	96.73	22	P	P	20 57 00.2	-0.4
	baz=302						
A36M	Sachs Harbour	96.81	12		P	20 57 00.2	-0.4
A36M	Sachs Harbour	96.81	12	P	P	20 57 00.5	-0.1
	baz=320						
M24K	Tolsona, Glenn	96.83	24	P	P	20 57 00.2	-0.8
	baz=300						
GLI	Glacier Island	97.04	26	P	P	20 57 00.8	-1.1
	baz=299						
HARP	HAARP	97.09	24	P	P	20 57 00.8	-1.3
	baz=300						
G29M	Pine Creek	97.10	18	P	P	20 57 01.3	-0.8
	baz=308						
QSPA	South Pole Qui	97.17	180	LR	LR	21 38 13.2	
	comp=Z,167nm,18.1s,baz=300,slow=34						
KLU	Klutina	97.23	25	P	P	20 57 01.8	-1.1
	baz=300						
P23K	Montague Islan	97.33	27	P	P	20 57 01.6	-1.6
	baz=298						
F30M	Barrier River	97.33	17	P	P	20 57 02.1	-1.0
	baz=310						
I28M	Miner Creek	97.35	20	P	P	20 57 02.7	-0.7
	baz=306						
K27K	Chicken	97.41	22	P	P	20 57 03.4	-0.1
	baz=304						
H29M	Whitestone	97.41	19	P	P	20 57 03.6	+0.1
	baz=307						
G30M	tAoh Zraii Nji	97.61	18	P	P	20 57 04.0	-0.4
G30M				IAmb	IAmb	20 57 11.2	
	comp=Z,6.6nm,1.1s						
G30M	tAoh Zraii Nji	97.61	18	P	P	20 57 04.5	+0.1
	baz=309						
N25K	Chitina, Valde	97.72	24	P	P	20 57 04.3	-0.8
	baz=301						
EYAK	Cordova Ski Ar	97.78	26	P	P	20 57 04.6	-0.6
	baz=300						
EPYK	Eagle Plains	97.84	18	P	P	20 57 04.4	-1.1
	baz=309						
M26K	Nabesna, AK	97.95	23	P	P	20 57 05.8	-0.3
	baz=302						
L27K	Beaver Creek,	98.04	22	P	P	20 57 05.6	-0.8
	baz=304						
F31M	Tsiigehtchic	98.04	17	P	P	20 57 05.6	-0.6
	baz=312						
BCAR	Beaver Creek A	98.05	22		P	20 57 06.7	+0.3
BMRM	Bremner River	98.05	25	P	P	20 57 04.2	-2.3
	baz=301						
DBIC	Dimbokro	98.22	278	P	P	20 57 06.2	-2.0
DBIC	Dimbokro	98.22	278	P	P	20 57 06.5	-1.6
	comp=Z,6.1nm,1.1s,baz=105,slow=21,SNR=3.5						
DBIC				LR	LR	21 41 20.6	
	comp=Z,262nm,18.8s,baz=70,slow=35						
	comp=Z,6.1nm,1.1s						
G31M	Satah River	98.23	17	P	P	20 57 07.3	+0.2
G31M	Satah River	98.23	17	P	P	20 57 06.9	-0.2
	baz=311						
DAWY	Dawson	98.36	21	P	P	20 57 06.7	-1.2
	baz=306						
M27K	Edge Creek, AK	98.41	23	P	P	20 57 07.0	-1.2
	baz=304						
KAIM	Kayak Island	98.67	26	P	P	20 57 08.6	-0.6
	baz=301						
I30M	Mount Dempster	98.68	19	P	P	20 57 09.2	-0.1
I30M	Mount Dempster	98.68	19	P	P	20 57 08.1	-1.3
	baz=309						
BVCY	Beaver Creek	98.77	23	P	P	20 57 09.0	-0.7
	baz=304						
H31M	Peel River	98.95	18	P	P	20 57 09.2	-1.2
	baz=311						
BGLC	Bering Glacier	99.05	25	P	Pdif	20 57 10.3	-0.6
	baz=302						
J30M	Hart River	99.10	20	P	Pdif	20 57 10.1	-1.2
	baz=309						
C36M	Paulatuk	99.11	13	P	Pdif	20 57 10.1	-0.9
	baz=321						
K29M	Barlow Dome	99.15	21	P	Pdif	20 57 10.1	-1.4
	baz=308						
YUK3	Moose Creek	99.29	23	P	Pdif	20 57 10.1	-2.2
	baz=305						
L29M	L29M	99.38	21	P	Pdif	20 57 10.5	-1.9
	baz=307						
MESA	MESA	99.58	25	P	Pdif	20 57 11.3	-2.3
	baz=303						
M29M	Somme Creek	99.66	22	P	Pdif	20 57 11.8	-2.0
	baz=307						
YUK8	Steele Glacier	99.84	23	P	Pdif	20 57 12.8	-2.0
	baz=305						
M30M	Minto, Yukon	100.19	21	P	Pdif	20 57 14.7	-1.4
	baz=308						
YUK4	Talbot Arm	100.25	23	P	Pdif	20 57 14.6	-1.9
	baz=306						
PINM	Pinnacle	100.33	25	P	Pdif	20 57 14.7	-2.1
	baz=305						
YUK6	Outpost Mounta	100.60	23	P	Pdif	20 57 15.8	-2.3
	baz=307						
N30M	Aishikik Lake	100.78	22	P	Pdif	20 57 16.9	-1.8
	baz=308						
O29M	Mount Kennedy	100.89	24	P	Pdif	20 57 17.0	-2.3
	baz=306						
PNL	Peninsula	100.93	25	P	Pdif	20 57 17.4	-2.0
	baz=305						
HYT	Haines Junctio	101.00	23	P	Pdif	20 57 17.8	-2.0
	baz=307						
N31M	Braeburn, Yuko	101.25	22	P	Pdif	20 57 19.0	-1.8
	baz=309						
Q32M	Nakina River	104.23	23	P	Pdif	20 57 32.3	-2.0
	baz=312						
S32K	Killisnoo	104.28	25	P	Pdif	20 57 32.5	-1.7
	baz=310						
R33M	Jennings River	104.43	22	P	Pdif	20 57 33.2	-1.9
	baz=313						
U33K	Whale Pass	105.77	25	P	PKiKP	21 01 52.4	-1.2
	baz=311						
WRAK	Wrangell Islan	105.89	25	P	PKiKP	21 01 53.2	-0.6
	baz=311						
YKA	Yellowknife Ar	106.97	14	PP	PP	21 02 10.8	-0.7
	comp=Z,1.5nm,1.1s,baz=328,slow=8.1,SNR=9.5						
TBI	Tubuai	116.88	112	*e*LR	LR	21 37 36.6	
	comp=Z,735nm,31.0s						
TBI				*e*LR	LR	21 37 38.4	
	comp=Z,919nm,26.8s						
PPT2	Papeete2	116.99	106	*e*LR	LR	21 37 29.3	
	comp=Z,114nm,23.2s						
PPT2				*e*LR	LR	21 37 40.8	
	comp=Z,105nm,23.5s						
PMSA	Palmer Station	120.58	191	*e*P	PKiKP	21 02 27.5	+5.9
NVAR	Mina Array Bea	125.34	31	PKP	PKiKP	21 02 32.9	+0.7
	comp=Z,1.0nm,0.7s,baz=318,slow=2.0,SNR=6.7						
PDAR	Pinedale Array	125.66	22	PKP	PKPdf	21 02 32.0	-0.3
	comp=Z,0.8nm,0.8s,baz=310,slow=4.0,SNR=3.5						
TAOE	Nuku Hiva Isla	126.07	96	*e*LR	LR	21 41 48.1	
	comp=Z,178nm,31.8s						
RKT	Rikitea	130.13	114	*e*LR	LR	21 43 37.2	
	comp=Z,695nm,34.0s						
CMC01	Camacan, BA	134.12	256	*e*P	PKiKP	21 02 52.5	+2.4
GDU01	Guandu, BA	134.29	258	*e*P	PKiKP	21 02 53.1	+2.6
TXAR	Lajitas Array	139.70	25	PKP	PKPdf	21 02 59.9	+1.0
	comp=Z,0.4nm,0.7s,baz=321,slow=2.1,SNR=3.0						
TXAR				PP	PP	21 05 53.9	+1.1
	comp=Z,1.6nm,1.0s,baz=23,slow=6.8,SNR=3.5						
BDFB	Brasilia	142.22	254	PKP	PKiKP	21 03 06.9	+0.2
	comp=Z,3.3nm,0.9s,baz=62,slow=5.2,SNR=4.8						
PLCA	Paso Flores	144.04	200	PKP	PKiKP	21 03 09.6	-0.2
	comp=Z,6.5nm,1.0s,baz=173,slow=6.5,SNR=5.2						
PRPB	Parauapebas	144.39	270	*e*P	PKiKP	21 03 10.7	-0.4
ITQB	Itaqui	144.76	227	*e*P	PKiKP	21 03 12.0	+0.6
SNDB	Serra Nova Dou	145.81	259	*e*P	PKiKP	21 03 13.0	-1.0
ARAG	Araguaiana, MT	145.82	253	*e*P	PKiKP	21 03 13.6	-0.4
C2SB	Chapadao do Su	146.10	247	*e*P	PKPab	21 03 13.3	+1.5
RPRD	Ribas do Rio P	146.39	244	*e*P	PKiKP	21 03 14.7	-0.4
SJPY	San Joaquin	146.70	235	*e*P	PKPab	21 03 15.2	+1.2
CPUP	Villa Florida	147.04	232	PKPbc	PKPbc	21 03 14.2	+0.4
	comp=Z,7.6nm,0.8s,baz=116,slow=4.2,SNR=16						
CPUP	Villa Florida	147.04	232	*e*P	PKPab	21 03 15.7	+0.5
AQDB	Aquidauana	148.16	243	*e*P	PKPbc	21 03 17.6	+0.7
BDQN	Bodoquena, MS	149.09	242	*e*P	PKPbc	21 03 18.2	-1.1
MURT	Porto Murtinho	149.38	239	*e*P	PKPbc	21 03 20.4	+0.3
SALV	Santo Antonio	149.45	251	*e*P	PKPbc	21 03 19.4	-0.9
NPGB	Novo Progresso	149.93	268	*e*P	PKPdf	21 03 18.3	+1.6
ITTB	Itaituba	150.09	274	*e*P	PKPdf	21 03 19.6	+2.5
CLDB	Colider	150.30	261	*e*P	PKPdf	21 03 20.0	+2.7
CFA	Coronel Fontan	150.82	212	PKPbc	PKiKP	21 03 25.1	+1.1
	comp=Z,8.7nm,0.8s,baz=131,slow=2.6,SNR=18						
PDRB	Porto dos Gac	151.14	259	*e*P	PKPdf	21 03 20.1	+1.5
PTLB	Pontes e Lacer	152.78	250	*e*P	PKPdf	21 03 24.0	+3.1
BOAV	Boa Vista	153.14	290	*e*P	PKPdf	21 03 24.4	+2.8
SIV	San Ignacio	154.42	248	PKPbc	PKiKP	21 03 33.8	+2.0
	comp=Z,0.5nm,0.4s,baz=79,slow=4.0,SNR=4.9						
SIV				PKPab	PKPab	21 03 46.0	0.0
	comp=Z,0.6nm,0.4s,baz=149,slow=5.5,SNR=4.0						
LPAZ	La Paz	160.65	241	PKP	PKPdf	21 03 34.0	+2.1
	comp=Z,0.9nm,0.7s,baz=98,slow=7.1,SNR=2.8						
LPAZ	La Paz	160.65	241	PKIKP	PKPdf	21 03 34.0	+2.1

UCR 13 20:45:43.8±1.6, 5°76N×84°03W, h0km±294km, MW3.5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALCO	Alturas Coton,	3.39	20	*e*P	Pn	20 46 37.5	-0.6
SAJE	San Jernim	3.60	8	*e*P	Pn	20 46 41.3	+0.1
PIEC	Cerro El Cedra	3.84	1	*e*P	Pn	20 46 44.0	-0.5
PICV	PH. Pirrs	3.85	358	*e*P	Pn	20 46 42.9	-1.5
ABE2	San Pablo	3.92	360	*e*P	Pn	20 46 45.5	-0.1
ABE2				*e*S	Sn	20 47 34.4	+1.9
LCR2	La Lucha 2	3.96	0	*e*P	Pn	20 46 45.9	-0.1
CEUA	Cerro Uatsi, L	3.99	16	*e*P	Pn	20 46 47.8	+1.5
TRB2	Turrubares	4.15	354	*e*P	Pn	20 46 48.5	-0.1
CVTQ	Turrialba Volc	4.23	3	*e*P	Pn	20 46 50.8	+0.9
CVTV	Tajo	4.23	4	*e*P	Pn	20 46 47.5	-2.4
VTR0	Volcan Turrial	4.24	4	*e*P	Pn	20 46 51.7	+1.6
CVTR	Volcan Turrial	4.25	4	*e*P	Pn	20 46 51.0	+0.8
VBV1	V. Barva	4.33	359	*e*P	Pn	20 46 51.6	+0.4
CVTG	V. Turrialba,	4.37	3	*e*P	Pn	20 46 52.7	+1.1
VPS8	V Poas	4.40	357	*e*P	Pn	20 46 52.9	+0.7
CMARA	Lajas Hojancha	4.46	342	*e*P	Pn	20 46 50.4	-2.4
VPL2	V. Platanar	4.54	356	*e*P	Pn	20 46 54.9	+1.0
JTS	Las Juntas de	4.60	349	*e*P	Pn	20 46 53.7	-1.0
SOCE	Pocosol	4.63	353	*e*P	Pn	20 46 55.7	+0.5
ARE1	Arenal 1	4.73	352	*e*P	Pn	20 46 58.2	+1.8
VARE2	V. Arenal	4.73	352	*e*P	Pn	20 46 58.2	+1.7
CEDE	Laguna Cedeo	4.75	352	*e*P	Pn	20 46 58.8	+2.0
INVE	Universidad In	4.80	348	*e*P	Pn	20 46 57.7	+0.3
QUEB	Quebradon, Cot	4.91	350	*e*P	Pn	20 47 00.3	+1.3
TENO	El Achiote	5.01	349	*e*P	Pn	20 47 00.3	0.0
ALIBA	Liberia Airpor	5.04	343	*e*P	Pn	20 46 58.9	-1.8
HORNC	Hornillas	5.06	347	*e*P	Pn	20 47 01.1	+0.1
VMAR	Armenia, Volca	5.14	348	*e*P	Pn	20 47 03.3	+1.2

IDC 13 20:51:07.0±4.1, 35°32N×77°12E, h60km±36km, mb3.3/10, mbtmp3.6/14, ML3.2/4, MS2.7/1, Error ellipse: s-maj=34.1km s-min=17.1km az=44.0

ISC 13 20:51:04.7±0.9, 35°3N±0°1×77°2E±0°1, h35km, n14, σ1§40/15, mb3.4/10, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	7.61	345	P	Pn	20 52 56.2	+3.1
	0.5nm,0.3s,baz=158,slow=8.3,SNR=4.7						
AAK				LR	LR	20 56 08.9	
	comp=Z,53nm,20.1s,baz=130,slow=40						
	1.4nm,0.4s						
MKAR	Makanchi Array	12.07	17	P	Pn	20 53 54.8	+0.7
	0.4nm,0.3s,baz=202,slow=12,SNR=9.0						
MKAR				S	Sn	20 56 05.1	-2.3
	2.5nm,0.8s,baz=201,slow=22,SNR=6.8						
	0.8nm,0.4s						
BVAR	Borovoye Array	18.35	347	P	Pn	20 55 16.8	+0.6
	baz=163,slow=9.4,SNR=4.3						
	2.5nm,0.7s						
ZALV	Zaisovo Beam	19.36	14	P	P	20 55 27.5	+0.5
	0.1nm,0.3s,baz=198,slow=9.8,SNR=2.0						
	0.5nm,0.4s						
SONM	Songino Array	24.97	51	P	P	20 56 26.5	+1.6
	1.0nm,0.8s,baz=243,slow=8.9,SNR=2.6						
	1.0nm,0.8s						
CMAR	Chiang Mai Arr	25.54	126	P	P	20 56 30.8	+0.6
	0.8nm,0.6s,baz=307,slow=11,SNR=9.7						
	0.8nm,0.6s						
BRTR	Keskin Array B	34.60	291	P	P	20 57 49.0	-1.4
	0.3nm,0.7s,baz=66,slow=3.5,SNR=1.5						
	0.3nm,0.7s						
FINES	FINESS Array B	41.30	325	P	P	20 58 45.9	-0.5
	0.9nm,0.5s,baz=116,slow=11,SNR=6.2						
	0.9nm,0.5s						
ARCES	ARCESS Array B	44.19	337	P	P	20 59 09.7	-0.1
	5.0nm,0.9s,baz=107,slow=8.6,SNR=2.4						
	5.0nm,0.9s						
NOA	NORSAR Array B	48.35	323	P	P	20 59 41.6	-1.0
	0.3nm,0.6s,baz=95,slow=7.9,SNR=1.7						
	0.3nm,0.6s						
ILAR	Eielson Array	74.42	18	P	P	21 02 37.5	-1.2
	0.3nm,0.8s,baz=287,slow=3.4,SNR=2.4						
	0.3nm,0.8s						
WRA	Warramunga Arr	77.14	126	P	P	21 02 54.8	0.0
	0.4nm,0.7s,baz=315,slow=7.1,SNR=4.7						
	0.4nm,0.7s						
ASAR	Alice Springs	79.50	129	P	P	21 03 08.1	+0.2
	0.3nm,0.8s,baz=330,slow=5.4,SNR=5.2						
	0.3nm,0.8s						
YKA	Yellowknife Ar	82.05	6	P	P	21 03 20.6	-0.3
	0.2nm,0.7s,baz=350,slow=4.9,SNR=4.1						
	0.2nm,0.7s						

CATAC 13 21:05:58.8±0.6, 12°N±3°×8°8W±°, h1km, M3.8/19, MLv3.8/19, Error ellipse: s-maj=8.2km s-min=4.3km az=43.4, confirmed

SNET 13 21:06:01.3±1.3, 12°03N×87°76W, h18km±11km, ML3.4

ISC 13 21:06:00.5±1.9, 12°02N±0°07×87°77W±0.05, h10km±11km, n48, σ0§76/57, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.97	12	P	Pg	21 06 19.4	+0.1
CRIN	San Cristobal	0.97	46	P	Pb	21 06 19.9	+0.4
POTN	Potosi Cosigui	1.00	15	P	Pg	21 06 19.7	-0.1
POTN				S	Sb	21 06 34.5	+1.2
QUEN	Al S del Volca	1.06	58	P	Pg	21 06 20.6	-0.4
HERN	Volcan Telica	1.09	58	P	Pb	21 06 20.7	-0.7
ROCN	Rota Cerro Neg	1.12	64	P	Pb	21 06 20.1	-1.8
POLN	Al Sur del Vol	1.12	56	P	Pb	21 06 21.1	-1.0
POLN				S	Sn	21 06 38.5	+0.7
PLRN	Geotermica Pol	1.13	60	P	Pb	21 06 21.1	-1.0
PLRN				S	Sg	21 06 38.2	+1.3
CNGA	Al SSO del Vol	1.14	66	P	Pb	21 06 22.0	-0.4
CNGN	Cerro Negro	1.15	66	P	Pb	21 06 22.2	-0.3
COPN	Copaltepe	1.16	82	P	Pb	21 06 22.2	-0.5
ILCN	San Idelfonso	1.18	62	P	Pn	21 06 22.2	-0.9
LEVN	Ruinas Leon Vi	1.19	71	P	Pn	21 06 22.5	-0.7
CNCH	Conchagua	1.25	357	*e*P	Pn	21 06 23.4	-0.7
CNCH				*e*S	Sb	21 06 40.9	+0.6
CNCH	Conchagua	1.25	357	P	Pn	21 06 23.3	-0.7
CNCH	Conchagua	1.25	357	S	Sn	21 06 41.6	+0.6
MOMN	Momotombo	1.26	72	P	Pn	21 06 23.3	-0.9
LCND	La Caada	1.28	355	*e*P	Pn	21 06 23.4	-1.1
LCND				*e*S	Sb	21 06 41.3	0.0
LCND				IAML		21 06 44.0	
	comp=Z,1µm,0.3s						
LCND	La Caada	1.28	355	P	Pn	21 06 22.4	-2.1
SAPS	Ciudad Sandino	1.34	84	P	Pn	21 06 25.5	+0.2
APYN	Apoyeque	1.40	81	P	Pn	21 06 26.3	+0.1
UNAN	Cigeo UNAN	1.47	86	P	Pn	21 06 27.1	+0.1
TISN	Laguna Tiscapa	1.47	85	P	Pn	21 06 27.2	+0.1
BLLM	Bellamira	1.48	342	*e*P	Pn	21 06 26.6	-0.7
LCY	Lacayo	1.48	340	*e*P	Pn	21 06 27.1	-0.2
RANC	El Ranchito	1.49	340	*e*P	Pn	21 06 26.6	-0.9
RANC	El Ranchito	1.49	340	P	Pn	21 06 26.8	-0.7
ALJI	Alcalda de J	1.51	329	*e*P	Pn	21 06 26.3	-1.4
ALJI				*e*S	Sn	21 06 46.5	-0.9
PACA	Pacayal	1.54	339	*e*P	Pn	21 06 27.9	-0.1
PACA	Pacayal	1.54	339	S	Sg	21 06 50.1	+0.1
CHOHN	Orocuina	1.57	22	P	Pn	21 06 27.9	-0.6
NANN	Nandasmo	1.61	93	P	Pb	21 06 30.3	-0.2
TECA	Tecapa	1.63	334	*e*P	Pn	21 06 28.7	-0.7
PQSS	Presa 15 de Se	1.77	334	*e*P	Pn	21 06 31.2	0.0
PQSS				*e*S	Sn	21 06 53.9	+0.2
PQSS	Presa 15 de Se	1.77	334	P	Pn	21 06 31.2	0.0
CAHU	Cacacuatique	1.79	346	*e*P	Pn	21 06 32.1	+0.5
SNVI	San Vicente	1.89	327	*e*P	Pn	21 06 33.5	+0.5
SCLA	Alcaldia de Sa	1.91	331	*e*P	Pn	21 06 33.8	+0.6
COEG	Centro de Oper	1.92	326	*e*P	Pn	21 06 33.1	-0.3
COEG				IAML		21 07 03.4	
	comp=Z,344nm,0.3s						
LFRS	El Faro	2.03	322	*e*P	Pn	21 06 35.0	+0.2
PAVA	Las Pavas	2.03	326	*e*P	Pn	21 06 35.5	+0.6
CONN	Concepcion	2.15	102	P	Pn	21 06 36.0	-0.4
PIC2	El Picacho	2.24	320	*e*P	Pn	21 06 38.0	+0.1
PIC2				*e*S	Sn	21 07 07.3	+1.5
BOQS	Boqueron	2.25	319	*e*P	Pn	21 06 37.5	-0.5
PMON	Piamonte	2.25	318	*e*P	Pn	21 06 37.4	-0.5
JAYA	Jayaque - finc	2.30	315	*e*P	Pn	21 06 38.6	-0.1
JAYA				*e*S	Sn	21 07 06.5	-0.6
JAYA				IAML		21 07 11.8	
	comp=Z,160nm,0.2s						
SNJE	San Jose	2.56	316	*e*P	Pn	21 06 42.2	0.0
MTO3	Montecristo	2.82	327	*e*P	Pn	21 06 46.5	+0.6

NOU 13 21:20:59.0, 21°28S×169°62E, h0km, MLv4.0/16, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.50	262	P	Pn	21 21 26.7	-0.4
MARNC	Mare, Loyalty	1.50	262	S	Sn	21 21 47.7	+0.4
PINNC	Pines Island,	2.42	236	P	Pn	21 21 39.8	0.0
YATNC	Mamie plateau,	2.65	253	P	Pn	21 21 41.9	-1.2
YATNC	Mamie plateau,	2.65	253	S	Sn	21 22 16.8	+0.8
OUENC	Ouen Island, N	2.82	246	P	Pn	21 21 45.4	+0.1
OUENC	Ouen Island, N	2.82	246	S	Sn	21 22 20.5	+0.5
DZM	Mont Dzumac	3.06	254	P	Pn	21 21 49.0	+0.3
DZM	Mont Dzumac	3.06	254	S	Sn	21 22 26.0	-0.1
ONTNC	Ouen Toro	3.12	250	P	Pn	21 21 49.4	0.0
ONTNC	Ouen Toro	3.12	250	S	Sn	21 22 27.3	0.0
DVP	Devils Point	3.79	339	P	Pn	21 21 59.0	+0.4
KOUNC	Koumac, New Ca	5.04	277	P	Pn	21 22 17.2	+1.3
KOUNC	Koumac, New Ca	5.04	277	S	Sn	21 23 14.3	-0.5
VLAKA	Lakatoro	5.55	338	P	Pn	21 22 22.9	0.0

IDC 13 21:23:04.4±1.6, 7°41S×129°62E, h0km, mb3.7/2, mbtmp3.4/5, ML3.8/4, Error ellipse: s-maj=50.6km s-min=25.4km az=73.0

DJA 13 21:23:17.2±0.5, 7°S±4°×13°0E±°, h84km±32km, M4.2/10, mB4.9/1, mb4.1/9, MLv4.2/10, Mw(mB)4.2/1

ISC 13 21:23:16.1±1.0, 7°38S±0°09×129°8E±0°1, h100km, n18, σ2§00/15, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.62	112	P	Pn	21 23 46.7	+2.9
BNDI	Bandanaira	2.84	2	P	Pn

SPSI	**Sidrap Palu**	**3.49 233**	P	Pn	21 25 22.4	+1.2
SPSI			S	Sn	21 26 02.9	+1.0
BNSI	**Bone**	**3.52 224**	P	Pn	21 25 21.2	-0.5
BKSI	**Bulukumba**	**4.22 215**	P	Pn	21 25 28.2	-3.0

*IDC **13** 22:05:57.2±2.4, 1°.54S×129°.20E, h0km, mb3.6/3, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=200.5km s-min=23.5km az=70.0*
*DJA **13** 22:06:03.0±0.6, 2°.S±3°.×12°.8E±°., h12km±6km, M3.6/10, mb3.9/2, MLv3.5/10*

ISC 13 22:06:04.2±1.1, **1°.95S**±0°.07×**128°.01E**±0°.08, **h35**km, **n12**, σ1°**38**/11, **mb3.6/3**, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.57**	**215**	P	**Pn**	**22 06 31.0**	**+1.4**
MSAI	**Masohi**	**1.66**	**147**	P	**Pn**	**22 06 30.8**	**-0.1**
AAI	**Ambon**	**1.73**	**174**	P	**Pn**	**22 06 33.8**	**+1.9**
SANI	**Sanana**	**2.03**	**267**	P	**Pn**	**22 06 34.8**	**-1.1**
TNTI	**Ternate**	**2.78**	**347**	P	**Pn**	**22 06 47.5**	**+1.2**
SWI	**Sorong**	**3.42**	**72**	P	**Pn**	**22 06 55.3**	**+0.2**
FAKI	**Fak Fak**	**4.34**	**103**	P	Pn	22 07 03.0	-4.8
APSI	**Ampana**	**6.45**	**279**	P	**Pn**	**22 07 37.9**	**+1.2**
	18nm,0.5s						
WRA	**Warramunga Arr**	**18.92**	**161**	P	**P**	**22 10 20.3**	**-1.9**
	0.1nm,0.3s,baz=344,slow=11,SNR=4.1						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**22.33**	**166**	P	**P**	**22 10 57.9**	**-1.3**
	1.1nm,0.4s,baz=347,slow=11,SNR=30						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**62.95**	**326**	P	**P**	**22 16 28.0**	**+0.7**
	0.3nm,0.5s,baz=123,slow=7.7,SNR=5.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**67.20**	**328**	P	**P**	**22 16 54.7**	**0.0**
	0.6nm,0.7s,baz=128,slow=6.0,SNR=3.5						
	0.6nm,0.7s						

*IDC **13** 22:18:01.4±1.1, 4°.63S×149°.63E, h557km±11km, mb3.4/17, mbtmp4.4/19, Error ellipse: s-maj=19.4km s-min=8.1km az=103.0*
*NEIC **13** 22:18:01.6±1.4, 4°.56S±0°.10×149°.6E±0°.1, h551km±7km, mb4.2/54, Error ellipse: s-maj=17.4km s-min=13.5km az=68.0*

ISC 13 22:18:01.1±0.4, **4°.57S**±0°.06×**149°.62E**±0°.08, **h550**km, **n113**, σ0°**88**/118, **mb4.1**/42, **Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.56**	**82**	P	**P**	**22 19 13.1**	**-0.5**
MANU	**Manus Island**	**3.37**	**318**		**P**	**22 19 19.1**	**+0.5**
PMG	**Port Moresby**	**5.39**	**207**		**P**	**22 19 35.7**	**+1.4**
PMG	**Port Moresby**	**5.39**	**207**	P	**P**	**22 19 35.4**	**+1.1**
	362nm,0.7s,baz=28,slow=6.1,SNR=124						
PMG				S	**S**	**22 20 50.8**	**+0.4**
	49nm,0.7s,baz=347,slow=12,SNR=4.0						
JAY	**Jayapura**	**9.13**	**283**	P	**P**	**22 20 09.8**	**-0.5**
	46nm,0.5s,baz=112,slow=4.9,SNR=33						
COEN	**Coen**	**11.29**	**214**	P	**P**	**22 20 33.3**	**+0.9**
FAKI	**Fak Fak**	**17.41**	**275**	P	**P**	**22 21 33.4**	**-0.4**
MTN	**Manton Dam**	**20.02**	**245**	P	**P**	**22 21 59.7**	**+2.1**
MTN				IAmb	IAmb	22 22 21.5	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**21.33**	**223**	P	**P**	**22 22 08.4**	**-0.9**
WRA	**Warramunga Arr**	**21.33**	**223**	P	**P**	**22 22 09.3**	**0.0**
	comp=Z,3.5nm,0.6s,baz=46,slow=9.5,SNR=45						
WRA				S	**S**	**22 25 27.4**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=42,slow=13,SNR=4.6						
WRA				ScP	**ScP**	**22 28 35.5**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=34,slow=3.1,SNR=4.2						
	comp=Z,3.5nm,0.6s						
DZM	**Mont Dzumac**	**23.84**	**138**	P	**P**	**22 22 31.2**	**-0.6**
AS31	**Alice Springs**	**24.30**	**217**		**P**	**22 22 35.1**	**-0.6**
ASAR	**Alice Springs**	**24.30**	**217**	P	**P**	**22 22 35.2**	**-0.6**
ASAR	**Alice Springs**	**24.30**	**217**	P	**P**	**22 22 35.5**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=50,slow=8.0,SNR=34						
ASAR				S	**S**	**22 26 15.5**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=37,slow=16,SNR=4.7						
ASAR				ScP	**ScP**	**22 28 43.5**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=53,slow=3.2,SNR=5.1						
	comp=Z,2.6nm,0.6s						
ARMA	**Armidale**	**25.78**	**176**	P	**P**	**22 22 49.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**27.03**	**238**	P	**P**	**22 22 58.6**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=57,slow=11,SNR=11						
	comp=Z,1.4nm,0.4s						
MSVF	**Nonsavu**	**30.74**	**117**	P	**P**	**22 23 33.0**	**+0.7**
FORT	**Forrest**	**33.05**	**215**	P	**P**	**22 23 50.2**	**-1.3**
OUZ	**Omahuta**	**37.70**	**147**	P	**P**	**22 24 31.7**	**+1.6**
YULB	**Yu-li**	**39.20**	**316**	P	**P**	**22 24 41.8**	**-0.6**
NACB	**Ninganchiao**	**39.51**	**318**	P	**P**	**22 24 44.9**	**-0.1**
YHNB	**Yeheng**	**39.99**	**318**	P	**P**	**22 24 49.0**	**+0.1**
JNU	**Nakatsue**	**41.48**	**336**	P	**P**	**22 25 00.6**	**+0.1**
JGF	**Kuroka**	**41.58**	**345**	P	**P**	**22 25 01.9**	**+0.6**
JGF				IAmb	IAmb	22 25 24.3	
	comp=Z,17nm,1.4s						
NGZ	**Ngauruhoe**	**41.73**	**149**	P	**P**	**22 25 04.4**	**+1.9**
URZ	**Urewera**	**41.84**	**147**	P	**P**	**22 25 03.9**	**+0.6**
HAZ	**Te Kaha**	**41.85**	**146**	P	**P**	**22 25 03.9**	**+0.5**
TKNZ	**Takaka Hill**	**41.91**	**153**	P	**P**	**22 25 04.1**	**+0.3**
RUGZ	**Raukumara Rang**	**41.95**	**146**	P	**P**	**22 25 05.0**	**+0.8**
RTZ	**Ruatahuna**	**42.03**	**147**	P	**P**	**22 25 06.0**	**+1.2**
PKGZ	**Pakihiroa**	**42.10**	**146**	P	**P**	**22 25 06.5**	**+1.2**
MWZ	**Matawai**	**42.13**	**147**	P	**P**	**22 25 06.5**	**+0.9**
MTHZ	**Maungataniwha**	**42.13**	**148**	P	**P**	**22 25 06.0**	**+0.4**
BKZ	**Black Stump Fm**	**42.18**	**148**	P	**P**	**22 25 05.8**	**-0.2**
BKZ	**Black Stump Fm**	**42.18**	**148**	P	**P**	**22 25 05.4**	**-0.6**
TWGZ	**Tauwhareparae**	**42.26**	**146**	P	**P**	**22 25 07.7**	**+1.1**
MJAR	**Matsushiro Arr**	**42.27**	**346**	P	**P**	**22 25 06.3**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=163,slow=7.7,SNR=13						
	comp=Z,2.8nm,0.6s						
MAJO	**Matsushiro**	**42.27**	**346**		**P**	**22 25 06.6**	**-0.1**
MJB9	**Matsu-Tunnel**	**42.27**	**346**		**P**	**22 25 07.3**	**+0.6**
MJB9				IAmb	IAmb	22 25 09.4	
	comp=Z,15nm,1.1s						
NMHZ	**Naumai**	**42.29**	**148**	P	**P**	**22 25 08.2**	**+1.4**
SNGZ	**Shannon Statio**	**42.35**	**147**	P	**P**	**22 25 08.1**	**+0.8**
TKGZ	**Te Karaka**	**42.38**	**147**	P	**P**	**22 25 08.5**	**+1.1**
RIGZ	**Rimuhau**	**42.52**	**147**	P	**P**	**22 25 09.3**	**+0.7**
KNZ	**Kokohu**	**42.70**	**147**	P	**P**	**22 25 08.5**	**-1.5**
JCZ	**Jackson Bay**	**42.81**	**160**	P	**P**	**22 25 12.1**	**+1.2**
JSD	**Sado**	**43.68**	**347**	P	**P**	**22 25 18.0**	**+0.4**
JSD				IAmb	IAmb	22 25 20.7	
	comp=Z,5.8nm,0.7s						
MLZ	**Mavora Lakes**	**43.73**	**161**	P	**P**	**22 25 18.5**	**+0.6**
WHZ	**Wether Hill Ro**	**44.15**	**162**	P	**P**	**22 25 21.0**	**-0.2**
ODZ	**Otahua Downs**	**44.32**	**159**	P	**P**	**22 25 23.4**	**+0.9**
JTM	**Tenmabayashi**	**45.81**	**351**	P	**P**	**22 25 33.7**	**-0.2**
KSRS	**Korea Array**	**46.43**	**336**	P	**P**	**22 25 38.9**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=153,slow=8.0,SNR=11						
	comp=Z,1.8nm,0.5s						
CTZ	**Chatham Island**	**49.06**	**148**	P	**P**	**22 25 57.3**	**-0.9**
USRK	**Ussuriysk Ar.**	**51.07**	**344**	P	**P**	**22 26 13.5**	**+0.6**
USRK	**Ussuriysk Ar.**	**51.07**	**344**	P	**P**	**22 26 13.8**	**+0.9**
	comp=Z,2.4nm,0.6s,baz=172,slow=6.3,SNR=12						
	comp=Z,2.4nm,0.6s						
XAN	**Xi'an**	**54.30**	**318**	P	**P**	**22 26 36.4**	**+0.1**
XAN				pmax	pmax		
	comp=Z,11nm,0.6s						
CMAR	**Chiang Mai Arr**	**54.92**	**296**	P	**P**	**22 26 42.1**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=125,slow=5.8,SNR=11						
	comp=Z,1.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**57.05**	**326**	*e*P	**P**	**22 26 58.4**	**+3.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
PEA0B	**Petropavlovsk-**	**57.87**	**6**	P	**P**	**22 27 00.5**	**+0.1**
PEA0B				IAmb	IAmb	22 27 01.7	
	comp=Z,28nm,1.4s						
PETK	**Petropavlovsk-**	**57.87**	**6**	P	**P**	**22 27 00.2**	**-0.2**
	comp=Z,7.0nm,0.5s,baz=159,slow=6.2,SNR=32						
	comp=Z,7.0nm,0.5s						
HIA	**Hailar**	**59.58**	**338**	P	**P**	**22 27 12.1**	**+0.1**
HIA				IAmb	IAmb	22 27 13.1	
	comp=Z,7.1nm,0.6s						
ULN	**Ulaanbaatar**	**64.16**	**330**		**P**	**22 27 42.0**	**0.0**
SONM	**Songino Array**	**64.47**	**329**	P	**P**	**22 27 44.9**	**+0.9**
SONM				IAmb	IAmb	22 27 45.8	
	comp=Z,9.4nm,1.3s						
SONM	**Songino Array**	**64.47**	**329**	P	**P**	**22 27 44.6**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=154,slow=4.3,SNR=24						
	comp=Z,2.7nm,0.5s						
VNDA	**Vanda**	**73.19**	**177**	P	**P**	**22 28 35.9**	**+0.1**
VNDA	**Vanda**	**73.19**	**177**	P	**P**	**22 28 35.6**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=339,slow=7.5,SNR=16						
	comp=Z,1.5nm,0.6s						
BILL	**Bilibino**	**73.39**	**6**		**P**	**22 28 37.1**	**+0.2**
BILL				IAmb	IAmb	22 28 39.1	
	comp=Z,7.9nm,0.9s						
WMQ	**Urumqi**	**73.44**	**318**	*e*P	**P**	**22 28 39.6**	**+1.7**
WMQ				LR	LR		
	comp=Z,110nm,23.8s						
SBA	**Scott Base**	**73.79**	**176**	P	**P**	**22 28 39.9**	**+0.7**
M13K	**Dall Lake**	**74.42**	**22**	P	**P**	**22 28 43.6**	**+0.7**
O14K	**Tigyukauivet M**	**74.49**	**24**	P	**P**	**22 28 43.7**	**+0.4**
O14K				IAmb	IAmb	22 28 45.8	
	comp=Z,12nm,1.0s						
O15K	**Ungalikthiuk R**	**75.03**	**24**	P	**P**	**22 28 46.9**	**+0.5**
O15K				IAmb	IAmb	22 29 09.6	
	comp=Z,10nm,1.2s						
L14K	**Kuka Creek**	**75.28**	**22**	P	**P**	**22 28 48.4**	**+0.7**
L14K				IAmb	IAmb	22 28 49.8	
	comp=Z,8.8nm,0.8s						
O16K	**Kokwok River B**	**75.99**	**25**	P	**P**	**22 28 52.1**	**+0.4**
M16K	**Timber Creek**	**76.49**	**23**	P	**P**	**22 28 54.6**	**+0.1**
M16K				IAmb	IAmb	22 28 56.3	
	comp=Z,15nm,1.1s						
L16K	**Owhat River**	**76.71**	**22**	P	**P**	**22 28 56.0**	**+0.4**
KDAK	**Kodiak Island**	**77.42**	**28**	P	**P**	**22 28 59.8**	**+0.2**
KDAK				IAmb	IAmb	22 29 34.8	
	comp=Z,16nm,1.4s						
MKAR	**Makanchi Array**	**78.08**	**320**	P	**P**	**22 29 03.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=103,slow=7.0,SNR=15						
	comp=Z,1.1nm,0.6s						
MAKZ	**Makanchi**	**78.29**	**320**	P	**P**	**22 29 04.7**	**+0.1**
ZAA0	**Zalesovo Array**	**79.22**	**327**	P	**P**	**22 29 07.9**	**-1.4**
ZALV	**Zalesovo Beam**	**79.22**	**327**	P	**P**	**22 29 08.1**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=110,slow=5.9,SNR=12						
	comp=Z,1.8nm,0.6s						
SUA	**Susitna One**	**80.06**	**25**	P	**P**	**22 29 13.1**	**-0.7**
KDJ	**Kajisay**	**80.16**	**314**		**P**	**22 29 14.9**	**+0.1**
CAST	**Castle Rocks**	**80.50**	**23**		**P**	**22 29 15.5**	**-0.4**
CAST				IAmb	IAmb	22 29 17.5	
	comp=Z,5.1nm,1.0s						
KTH	**Kantishna Hill**	**81.02**	**23**	P	**P**	**22 29 17.8**	**-0.8**
KTH				IAmb	IAmb	22 29 18.5	
	comp=Z,6.0nm,1.0s						
BOOM	**Boomskoye usch**	**81.15**	**314**	P	**P**	**22 29 20.1**	**+0.2**
KURK	**Kurchatov**	**81.65**	**323**		**P**	**22 29 21.0**	**-1.0**
KURK				IAmb	IAmb	22 29 23.2	
	comp=Z,6.7nm,1.1s						
KURBB	**Kurchatov Arra**	**81.68**	**322**	P	**P**	**22 29 21.4**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=112,slow=4.0,SNR=11						
	comp=Z,2.3nm,0.8s						
RND	**Reindeer**	**81.77**	**24**	P	**P**	**22 29 21.5**	**-0.9**
RND				IAmb	IAmb	22 29 22.4	
	comp=Z,8.1nm,0.8s						
CCB	**Clear Creek Bu**	**82.75**	**23**	P	**P**	**22 29 26.0**	**-1.2**
ARSB	**Arslanbob**	**83.02**	**312**		**P**	**22 29 29.4**	**+0.1**
ARSB				IAmb	IAmb	22 29 31.7	
	comp=Z,13nm,1.5s						
GLB	**Gilahina Butte**	**83.05**	**26**	P	**P**	**22 29 28.3**	**-0.6**
GLB				IAmb	IAmb	22 29 29.9	
	comp=Z,5.6nm,1.0s						
IL31		**83.16**	**23**	P	**P**	**22 29 27.8**	**-1.4**
IL31				IAmb	IAmb	22 29 28.7	
	comp=Z,3.6nm,0.7s						
ILAR	**Eielson Array**	**83.16**	**23**	P	**P**	**22 29 27.9**	**-1.4**
ILAR	**Eielson Array**	**83.16**	**23**	P	**P**	**22 29 27.7**	**-1.6**
	comp=Z,2.5nm,0.6s,baz=252,slow=4.9,SNR=41						
	comp=Z,2.5nm,0.6s						
DOT	**Dot Lake**	**83.81**	**24**	P	**P**	**22 29 32.8**	**+0.2**
DOT				IAmb	IAmb	22 29 33.5	
	comp=Z,5.0nm,0.9s						
SCRK	**Sand Creek**	**83.97**	**24**	P	**P**	**22 29 33.3**	**-0.2**
TOLK	**Toolik Lake Re**	**84.00**	**19**	P	**P**	**22 29 33.5**	**0.0**
BCAR	**Beaver Creek A**	**84.53**	**25**	P	**P**	**22 29 36.5**	**+0.3**
NRIK	**Noril'sk**	**84.73**	**342**	P	**P**	**22 29 36.5**	**-0.5**
NRIK				IAmb	IAmb	22 29 37.7	
	comp=Z,2.2nm,0.6s						
NRIK	**Noril'sk**	**84.73**	**342**	P	**P**	**22 29 36.2**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=155,slow=2.9,SNR=5.1						
	comp=Z,1.3nm,0.3s						
BMAR	**Burnt Mountain**	**85.14**	**21**	P	**P**	**22 29 39.5**	**+0.4**
KK31	**Karatay Array**	**85.18**	**314**		**P**	**22 29 39.2**	**-0.5**
KK31				IAmb	IAmb	22 29 40.6	
	comp=Z,3.7nm,1.0s						
KKAR	**Karatay Array**	**85.18**	**314**		**P**	**22 29 39.4**	**-0.4**
QSPA	**South Pole Qui**	**85.39**	**180**	P	**P**	**22 29 39.9**	**-0.6**
QSPA				IAmb	IAmb	22 29 48.3	
	comp=Z,4.6nm,1.4s						
QSPA	**South Pole Qui**	**85.39**	**180**	P	**P**	**22 29 39.7**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=282,slow=0.6,SNR=16						
	comp=Z,1.4nm,0.6s						
HYT	**Haines Junctio**	**85.71**	**28**		**P**	**22 29 42.8**	**+0.8**
HYT				IAmb	IAmb	22 29 44.0	
	comp=Z,6.4nm,0.7s						
DAWY	**Dawson**	**85.89**	**25**	P	**P**	**22 29 43.3**	**+0.6**
DAWY				IAmb	IAmb	22 29 44.4	
	comp=Z,5.1nm,1.1s						
L29M	**L29M**	**86.12**	**26**		**P**	**22 29 44.5**	**+0.7**
L29M				IAmb	IAmb	22 29 46.0	
	comp=Z,6.3nm,1.1s						
BVAR	**Borovoye Array**	**87.17**	**324**	P	**P**	**22 29 47.5**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=104,slow=6.3,SNR=6.4						
	comp=Z,1.4nm,0.7s						
GERES	**GERESS Array B**	**122.17**	**327**	PKP	**PKPdf**	**22 35 53.1**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=94,slow=1.7,SNR=5.4						
SAML	**Samuel**	**144.65**	**112**		**PKPdf**	**22 36 36.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**147.22**	**287**	PKPbc	**PKPbc**	**22 36 43.2**	**-0.7**
BOAV	**Boa Vista**	**149.84**	**93**	PKPbc	**PKPbc**	**22 36 50.5**	**0.0**

*IDC **13** 22:24:13.0±1.1, 37°.77N×27°.47E, h0km, mb3.5/5, mbtmp3.5/10, ML3.4/4, Error ellipse: s-maj=22.7km s-min=19.4km az=149.0*
*ISK **13** 22:24:12.6, 37°.73N×27°.52E, h8km, ML3.8/38*
*AFAD **13** 22:24:12.8, 37°.73N×27°.52E, h7km±3km, MW3.8*
*THE **13** 22:24:13.5, 37°.76N×27°.54E, h0km±1km, ML3.6/6, Error ellipse: s-maj=2.3km s-min=1.0km az=75.0*
*ATH **13** 22:24:14.7, 37°.79N×27°.46E, h18km±6km, ML3.4/11, Manual Solution by S.Liakopoulos First location: 2019/04/13 22:25:36, This location: 2020/10/22 03:43:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*GII **13** 22:24:14.6±0.0, 37°.424N±0°.002×27°.546E±0°.001, h10km, Mws3.5, confirmed*
*BEO **13** 22:24:18.0±0.6, 38°.39N×27°.95E, h0km, ML3.2/5*

ISC 13 22:24:12.8±0.9, **37°.74N**±0°.02×**27°.54E**±0°.02, **h9**km±7km, **n196**, σ1°**51**/235, **mb3.5**/5, **3C-4D**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.25**	**262**	Pg	**Pg**	**22 24 18.1**	**+0.3**
GCAM				Sg	**Sg**	**22 24 21.4**	**+0.2**
GCAM	**G?zelcaml?**	**0.25**	**262**	P	**Pg**	**22 24 18.0**	**+0.3**
GCAM				S	**Sg**	**22 24 21.3**	**+0.1**
GCAM				*i* AML	AML	22 24 22.0	
	comp=N,3μm,0.2s						
AYDN	**Tasoluk**	**0.28**	**106**	P	**Pb**	**22 24 19.4**	**-0.7**
AYDN				*i* AML	AML	22 24 23.0	
	comp=E,2μm,0.4s						
AYDN				S	**Sb**	**22 24 23.0**	**-1.8**
AYDB	**Zeytinkoy-Aydi**	**0.35**	**53**	Pg	**Pb**	**22 24 20.5**	**-0.8**
AYDB				Sg	**Sb**	**22 24 26.0**	**-0.9**
DDIM	**Aydin, Didim**	**0.37**	**221**	P	**Pg**	**22 24 20.3**	**+0.2**
DDIM				S	**Sg**	**22 24 25.5**	**+0.6**
DDIM				*i* AML	AML	22 24 31.0	
	comp=N,7μm,0.5s						
DIDI	**Didim-Aydin**	**0.43**	**214**	Pg	**Pg**	**22 24 21.3**	**0.0**
DIDI				Sg	**Sb**	**22 24 27.7**	**-1.5**
MLSB	**Milas**	**0.48**	**157**	Pg	**Pb**	**22 24 22.6**	**-0.8**
MLSB				Sg	**Sb**	**22 24 29.2**	**-1.3**
IZMR	**zmir-demi**	**0.52**	**39**	P	**Pb**	**22 24 23.5**	**-0.5**
IZMR				P	**Pb**	**22 24 23.5**	**-0.5**
IZMR				S	**Sg**	**22 24 30.2**	**+0.6**
IZMR				S	**Sg**	**22 24 30.2**	**+0.6**
IZMR				*i* AML	AML	22 24 31.0	
	comp=N,5μm,0.5s						
IZMR				*i* AML	AML	22 24 31.0	
	comp=N,4μm,0.5s						
GMLD	**Gumuldur**	**0.60**	**305**	Pg	**Pb**	**22 24 24.8**	**-0.7**
DGB	**zmir**	**0.61**	**301**	P	**Pb**	**22 24 25.8**	**+0.2**
NAZL	**Nazilli-Aydin**	**0.64**	**69**	Pg	**Pb**	**22 24 25.7**	**-0.4**
NAZL				Sg	**Sb**	**22 24 35.6**	**+0.5**
ESEN	**Aydn-Nazilli**	**0.64**	**84**	P	**Pb**	**22 24 25.2**	**-1.0**
YKAV	**Yalikavak-Bodr**	**0.65**	**199**	Pg	**Pb**	**22 24 25.3**	**-0.9**
KRL1	**Karlovasi Samo**	**0.66**	**275**	P	**Pg**	**22 24 25.7**	**+0.1**
KRL1				S	**Sg**	**22 24 34.9**	**+0.5**
BDRM	**Kayabasi**	**0.67**	**187**	P	**Pg**	**22 24 25.6**	**-0.3**
ODEM	**Odemis-Izmir**	**0.68**	**38**	Pg	**Pb**	**22 24 26.6**	**-0.4**
BODT	**Bodrum**	**0.70**	**195**	Pg	**Pb**	**22 24 26.4**	**-0.7**
BLCB	**Balcova**	**0.76**	**329**	Pg	**Pg**	**22 24 27.5**	**0.0**
MULA	**Mugla, Merkez-**	**0.78**	**127**	P	**Pb**	**22 24 28.3**	**-0.4**
KIRA	**zmir-Kiraz**	**0.82**	**56**	P	**Pb**	**22 24 29.1**	**-0.2**
YER	**Yerkesik**	**0.84**	**135**	Pg	**Pb**	**22 24 29.5**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**0.96**	**302**	P	**Pb**	**22 24 31.4**	**-0.3**
ZEYE				S	**Sb**	**22 24 44.2**	**-0.2**
ZEYE				*i* AML	AML	22 24 45.0	
	comp=N,3μm,0.2s						
ZEYE				*i* AML	AML	22 24 45.0	
	comp=E,3μm,0.2s						
URLA	**Izmir**	**0.97**	**310**	P	**Pg**	**22 24 31.4**	**-0.2**
URLA				S	**Sg**	**22 24 43.1**	**-1.1**
URLA				*i* AML	AML	22 24 48.0	
	comp=E,3μm,0.4s						
DATC	**Datca-Mugla**	**0.98**	**174**	Pg	**Pn**	**22 24 31.9**	**-0.8**
DAT	**Datca**	**1.01**	**178**	Pg	**Pb**	**22 24 32.3**	**-0.2**
GOMA	**Golmarmara-Man**	**1.01**	**17**	Pg	**Pn**	**22 24 32.7**	**-0.5**
YAZI	**Mula-Dat§a-**	**1.05**	**184**	P	**Pg**	**22 24 31.9**	**-1.2**
MANT	**Manisa**	**1.10**	**46**	P	**Pn**	**22 24 34.7**	**+0.1**
MANT				S	**Sb**	**22 24 48.1**	**-0.6**
MANT				*i* AML	AML	22 24 50.0	
	comp=N,2μm,0.2s						
MANT				*i* AML	AML	22 24 53.0	
	comp=E,2μm,0.3s						
TURN	**Turunc**	**1.11**	**149**	Pn	**Pn**	**22 24 33.9**	**-0.6**
TURN	**Turunc**	**1.11**	**149**	P	**Pn**	**22 24 34.4**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.12**	**103**	P	**Pn**	**22 24 34.4**	**-0.4**
CESE	**eme**	**1.15**	**302**	Pn	**Pn**	**22 24 34.9**	**-0.1**
AKHS	**Akhisar**	**1.16**	**11**	P	**Pg**	**22 24 34.1**	**-1.0**
AKS	**Akhisar**	**1.16**	**11**	Pn	**Pg**	**22 24 34.7**	**-0.4**
FOCM	**Foa**	**1.17**	**327**	Pn	**Pn**	**22 24 35.2**	**-0.1**
NISR	**Nisiros**	**1.17**	**197**	P	**Pn**	**22 24 35.2**	**-0.1**
NISR				S	**Sn**	**22 24 52.9**	**+1.5**
	2μm,0.6s						
NISR	**Nisiros**	**1.17**	**197**	P	**Pn**	**22 24 36.1**	**+0.8**
NISR				S	**Sn**	**22 24 52.8**	**+1.4**
KULA	**Kula-Manisa**	**1.18**	**48**	Pn	**Pn**	**22 24 35.5**	**0.0**
DNIZ	**Denizli-Tavas-**	**1.19**	**95**	P	**Pn**	**22 24 36.4**	**+0.6**
DNZT	**Denizli-Tavas-**	**1.27**	**111**	P	**Pg**	**22 24 37.5**	**+0.4**
DNZT				P	**Pb**	**22 24 37.8**	**+0.9**
GORD	**Gordes-Manisa**	**1.27**	**23**	Pn	**Pn**	**22 24 36.6**	**-0.2**
DALY	**Dalyan (Mula)**	**1.28**	**136**	Pn	**Pg**	**22 24 37.2**	**-0.1**
ZEDA	**zmir-Bergama**	**1.28**	**344**	P	**Pg**	**22 24 37.5**	**+0.1**
KARB	**zmir-Karabur**	**1.28**	**316**	P	**Pb**	**22 24 37.0**	**-0.2**
KARB				S	**Sg**	**22 24 54.0**	**-0.1**
KARB				*i* AML	AML	22 24 55.0	
	comp=E,2μm,0.4s						
KARB				*i* AML	AML	22 24 57.0	
	comp=N,2μm,0.5s						
IZMD	**zmir-Dikili-**	**1.34**	**339**	P	**Pg**	**22 24 38.3**	**-0.1**
IZMD				P	**Pb**	**22 24 38.9**	**+0.8**
EAG2	**Marmaro, Chios**	**1.39**	**306**	P	**Pn**	**22 24 38.1**	**-0.3**
EAG2				S	**Sb**	**22 24 55.2**	**-1.5**
SOMA	**Soma-Manisa**	**1.42**	**360**	Pn	**Pn**	**22 24 38.6**	**-0.2**
APMY	**Acipayam-Deniz**	**1.42**	**100**	Pn	**Pg**	**22 24 39.4**	**-0.7**
DKL	**Dikili**	**1.42**	**340**	Pn	**Pn**	**22 24 38.6**	**-0.3**
DKL	**Dikili**	**1.42**	**340**	P	**Pn**	**22 24 38.6**	**-0.3**
DKL				S	**Sn**	**22 24 56.4**	**-1.2**
SABU	**Mula-Dalaman**	**1.46**	**128**	P	**Pg**	**22 24 41.1**	**+0.3**
SABU				S	**Sb**	**22 24 58.5**	**-0.3**
SABU				*i* AML	AML	22 25 03.0	
	comp=N,876nm,0.6s						
ARG	**Arkhangelos**	**1.59**	**163**	P	**Pb**	**22 24 41.6**	**-0.7**
ARG				S	**Sg**	**22 25 04.1**	**+0.2**
	2μm,0.6s						
**

	5.3nm,0.4s						
KIRS	Kirsehir-Merke	5.20	72	⇑P	Pn	22 25 32.3	+1.5
VAY	Valandovo	5.25	315	*e*Pn	Pn	22 25 33.7	+2.2
VAY				*e*Sg	Sg	22 26 58.6	-2.8
KKB	Krupnik	5.33	322	P	Pn	22 25 33.8	+1.3
CSS	Mathiatis	5.43	119	P	Pn	22 25 33.9	-0.1
CSS	Mathiatis	5.43	119	S	Sn	22 26 34.9	-1.6
PLNA	Plana	5.69	328	P	Pn	22 25 39.0	+1.4
VTS	Vitosha	5.89	327	P	Pn	22 25 41.0	+0.7
VTS	Vitosha	5.89	327	*e*Pn	Pn	22 25 41.6	+1.3
VTS				*e*Sg	Sg	22 27 15.3	-6.5
BOSS	Bosilegrad	6.13	322	*e*Pn	Pn	22 25 45.5	+1.9
MPEP	Malo Peshtene	6.32	334	P	Pn	22 25 47.6	+1.5
ZAPS	Zavoj	6.68	327	*e*Pn	Pn	22 25 52.4	+1.3
BARS	Barje	6.70	321	*e*Pn	Pn	22 25 52.9	+1.5
VALD	Valchedram	6.71	334	*e*P	Pn	22 25 46.8	-4.7
ZAGS	Zajecar	7.28	328	*e*Pn	Pn	22 26 00.4	+1.1
SELS	Selova	7.34	320	*e*Pn	Pn	22 26 01.3	+1.1
BOVS	Bovan	7.37	325	*e*Pn	Pn	22 26 02.0	+1.4
BORS2	Bor- Borsko je	7.60	328	*e*Pn	Pn	22 26 03.5	-0.2
HNTI	Hanita	7.77	124	P	Pn	22 26 04.8	-1.3
HNTI	Hanita	7.77	124	S	Sn	22 27 31.9	-2.3
MLR	Muntele Rosu	7.84	352	Pn	Pn	22 26 08.6	+1.5
	0.1nm,0.3s,baz=219,slow=18,SNR=3.1 1.1nm,0.8s						
MLR	Muntele Rosu	7.84	352	⇓P	Pn	22 26 09.3	+2.2
OFRI	`Ofer	7.95	128	P	Pn	22 26 07.0	-1.6
OFRI	`Ofer	7.95	128	S	Sn	22 27 35.8	-2.8
MMA0B	Mount Meron ar	7.96	124	P	Pn	22 26 08.3	-0.5
MMA0B	Mount Meron ar	7.96	124	S	Sn	22 27 36.9	-2.1
MMAI	Mount Meron Ar	7.96	124	Pn	Pn	22 26 07.8	-1.0
	11nm,0.3s,baz=310,slow=12,SNR=41						
MMAI				Sn	Sn	22 27 36.7	-2.3
	4.2nm,0.3s,baz=308,slow=27,SNR=10.0						
SJES	Sjenica	7.98	316	*e*Pn	Pn	22 26 10.9	+1.9
KUBS	Kucevo	8.01	328	*e*Pn	Pn	22 26 10.7	+1.4
GEM	Giv'at Ha'Em	8.02	122	P	Pn	22 26 09.2	-0.3
GEM	Giv'at Ha'Em	8.02	122	S	Sn	22 27 38.7	-1.5
GRUS	Gruza	8.03	322	*e*Pn	Pn	22 26 10.8	+1.2
NATI	Neve Ativ	8.04	121	P	Pn	22 26 09.6	0.0
NATI	Neve Ativ	8.04	121	S	Sn	22 27 39.3	-1.3
IVAS	Ivanjica	8.10	318	*e*Pn	Pn	22 26 11.7	+1.1
PLOR	Plostina	8.14	356	⇑P	Pn	22 26 13.5	+2.4
VRI	Vrincioaia	8.15	356	⇓P	Pn	22 26 12.0	+0.8
KSHT	Keshet	8.25	123	P	Pn	22 26 12.5	-0.2
KSHT	Keshet	8.25	123	S	Sn	22 27 43.8	-2.3
MMLI	Mount Malkishu	8.34	127	P	Pn	22 26 13.4	-0.6
MMLI	Mount Malkishu	8.34	127	S	Sn	22 27 45.3	-3.0
SALP	Salfit	8.45	130	P	Pn	22 26 14.9	-0.5
SALP	Salfit	8.45	130	S	Sn	22 27 48.4	-2.5
HMDT	Nahal Hemdat	8.53	128	P	Pn	22 26 16.3	-0.2
HMDT	Nahal Hemdat	8.53	128	S	Sn	22 27 50.4	-2.5
VRSS	Vrsac	8.73	330	*e*Pn	Pn	22 26 18.7	-0.5
KZIT	Kziot	8.86	138	P	Pn	22 26 20.1	-1.0
KZIT	Kziot	8.86	138	S	Sn	22 27 57.3	-3.7
YTIR	Yattir	8.91	133	P	Pn	22 26 20.3	-1.5
YTIR	Yattir	8.91	133	S	Sn	22 27 59.3	-3.0
DSI	Dead Sea	8.91	131	P	Pn	22 26 20.7	-1.0
DSI	Dead Sea	8.91	131	S	Sn	22 27 58.9	-3.5
MSBI	Mazada	9.09	133	P	Pn	22 26 23.2	-0.9
MSBI	Mazada	9.09	133	S	Sn	22 28 03.1	-3.4
GHAJ	Ghor Haditha	9.22	132	P	Pn	22 26 25.0	-0.9
GHAJ	Ghor Haditha	9.22	132	S	Sn	22 28 06.6	-3.1
ASF	Jabal al Asfar	9.47	123	Pn	Pn	22 26 31.4	+1.9
	0.5nm,0.3s,baz=0.4,slow=20,SNR=7.1						
ASF				Sn	Sn	22 28 16.5	+0.4
	0.1nm,0.3s,baz=325,slow=22,SNR=1.3 1.9nm,0.4s						
ZFRI	Zfri	9.55	136	P	Pn	22 26 29.4	-1.1
ZFRI	Zfri	9.55	136	S	Sn	22 28 14.2	-3.8
SIRR	Siria	9.58	335	*e*Pn	Pn	22 26 30.1	-0.8
PRNI	Paran	9.62	138	P	Pn	22 26 30.3	-1.2
PRNI	Paran	9.62	138	S	Sn	22 28 15.7	-3.9
KRMI	Paran Flat	9.66	140	P	Pn	22 26 31.2	-0.8
KRMI	Paran Flat	9.66	140	S	Sn	22 28 17.1	-3.6
HRFI	Mount Harif	9.88	139	P	Pn	22 26 33.8	-1.3
HRFI	Mount Harif	9.88	139	S	Sn	22 28 21.9	-4.2
MBRI	Mt Berech	10.02	140	P	Pn	22 26 35.4	-1.6
MBRI	Mt Berech	10.02	140	S	Sn	22 28 26.4	-3.1
EIL	Elat	10.13	140	Pn	Pn	22 26 39.6	+1.1
	0.4nm,0.3s,baz=354,slow=4.3,SNR=10						
EIL				Sn	Sn	22 28 27.4	-4.9
	0.8nm,0.3s,baz=68,slow=9.6,SNR=4.1 1.4nm,0.4s						
EIL	Elat	10.13	140	P	Pn	22 26 37.4	-1.1
EIL	Elat	10.13	140	S	Sn	22 28 28.2	-4.1
ESDC	Sonseca Array	24.60	284	P	P	22 29 33.9	+0.6
	0.2nm,0.7s,baz=96,slow=8.6,SNR=1.6 0.2nm,0.7s						
KURBB	Kurchatov Arra	38.03	53	P	P	22 31 32.6	+1.4
	0.3nm,0.3s,baz=269,slow=7.4,SNR=1.8 0.3nm,0.3s						
MKAR	Makanchi Array	40.78	59	P	P	22 31 55.4	+1.2
	0.8nm,0.8s,baz=272,slow=8.2,SNR=8.0 0.8nm,0.8s						
SONM	Songino Array	56.38	53	P	P	22 33 58.1	+3.6
	0.3nm,0.5s,baz=289,slow=9.0,SNR=1.8 0.3nm,0.5s						
CMAR	Chiang Mai Arr	64.42	86	P	P	22 34 52.7	+3.1
	0.5nm,0.7s,baz=301,slow=8.3,SNR=6.3 0.5nm,0.7s						

*BKK **13** 22:31:01.1±1.2,7°.N±7°.×9°.4E±°.,h16km±11km,M4.0/10, mb3.8/4,Mjma4.0/10,ML4.0/4,MLv4.0/3,Mw(mB)4.1/2*
*IDC **13** 22:31:29.4±8.3,10°.20N×91°.60E,h0km,mb3.5/4, mbtmp3.4/5,ML2.2/1,MS3.2/1,Error ellipse: s-maj=158.3km s-min=51.0km az=156.0*

ISC 13 22:31:07.1±2.0,7°.8N±0°.2×94°.2E±0°.2,h10km,n16,σ1§43/8, mb3.7/4,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNTT	Ranong	4.51	69	P	Pn	22 32 15.2	-0.2
SRIT	Nakonsritamara	5.39	81	P	Pn	22 32 27.2	-0.4
PSI	Prapat	6.79	136	LR	LR	22 37 44.6	
	comp=Z,116nm,18.0s,baz=118,slow=36						
SRDT	SRDT	8.12	36	P	Pn	22 33 07.0	+1.8
	0.2nm6.1nm,1.2s						
KHLT	Khaolaem Dam	8.20	31	P	Pn	22 33 04.1	-2.1
	0.2nm10nm,1.8s						
CMAR	Chiang Mai Arr	11.58	23	Pn	Pn	22 34 06.5	+14
	baz=226,slow=21,SNR=4.1 0.2nm,0.4s						
H08S3	Diego Garcia H	26.52	235	T	T	23 03 15.6	
	baz=55						
H08S2	Diego Garcia H	26.53	235	T	T	23 03 14.6	
	baz=55						
H08S1	Diego Garcia H	26.54	235	T	T	23 03 29.5	
	baz=55						
MKAR	Makanchi Array	40.22	347	P	P	22 38 43.3	-0.6
	0.2nm,0.5s,baz=176,slow=6.5,SNR=4.7 0.2nm,0.5s						
KURBB	Kurchatov Arra	44.68	346	P	P	22 39 20.6	+0.5
	0.3nm,0.3s,baz=171,slow=7.0,SNR=6.1 0.3nm,0.3s						
ZALV	Zalesovo Beam	46.68	352	P	P	22 39 37.1	+1.2
	0.5nm,0.4s,baz=176,slow=6.9,SNR=2.9 0.5nm,0.4s						
BRTR	Keskin Array B	62.57	311	P	P	22 41 31.5	-0.2
	0.3nm,0.5s,baz=118,slow=5.2,SNR=2.3 0.3nm,0.5s						
H04N2	CROZET ISLANDS	65.67	211	T	T	23 52 15.1	
	baz=47						
H04N1	CROZET ISLANDS	65.68	211	T	T	23 52 15.8	
	baz=47						
H04N3	CROZET ISLANDS	65.69	211	T	T	23 52 14.5	
	baz=47						

*JMA **13** 22:32:21.6±0.2,35°.6N±0°.4×140°.1E±0°.6,h66km±1km, MV2.6/40,CENTRAL CHIBA PREF*

ISC 13 22:32:22.4±1.5,35°.53N±0°.04×140°.15E±0°.05,h66km±11km, n18,σ0§90/24,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	Sammumatsuo	0.27	65	P	Pn	22 32 32.8	-0.1
TOK	Tokyo	0.36	296	*e*S	Sn	22 32 43.1	+1.6
JKUC	kamogawauchiur	0.37	174	P	Pn	22 32 33.3	-0.4
JKUC				S	Sn	22 32 42.5	+0.7
BSO3	Boso 3	0.78	158	P	Pn	22 32 37.5	-0.2
BSO3				X		22 32 50.9	
JOD2	Odawara 2	0.91	253	*i* P	Pn	22 32 38.8	-0.7
JOD2				S	Sn	22 32 51.3	-0.9
JIM2	Oshima 3	1.00	216	P	Pn	22 32 39.9	-0.8
JIM2				S	Sn	22 32 53.6	-0.7
JAG	Ashikaga	1.06	328	*i* P	Pn	22 32 40.5	-1.0
JAG				*e*S	Sn	22 32 54.8	-0.8
BSO1	Boso 1	1.10	142	P	Pn	22 32 40.8	-0.7
BSO1				*e*S	Sn	22 32 57.0	+1.2
JRY	Ryogami san	1.13	296	*i* P	Pn	22 32 42.1	-0.2
JRY				*e*S	Sn	22 32 57.5	+0.3
JYN	Shimob	1.31	269	*e*P	Pn	22 32 44.4	-0.4
JIZS	Izushimoda	1.32	233	S	Sn	22 33 00.9	-0.7
JKT	Katashina	1.44	330	P	Pn	22 32 45.8	-0.7
MAJO	Matsushiro	1.87	303	P	Pn	22 32 52.8	+0.5
JGF	Kuroka	2.28	273	P	Pn	22 32 59.0	+1.2
JMM	Marumori	2.39	12	P	Pn	22 32 59.6	+0.4
INU	Inuyama	2.57	267	P	Pn	22 33 03.5	+1.9
JSD	Sado	2.93	329	P	Pn	22 33 06.2	-0.4
JTM	Tenmabayashi	5.30	8	P	Pn	22 33 38.6	-0.3

*ISK **13** 22:36:15.8,40°.17N×24°.01E,h9km,ML2.4/22*
*SOF **13** 22:36:15.6,40°.19N±0°.01×23°.98E±0°.01,h18km±1km, MD2.7/6*
*ATH **13** 22:36:16.1,40°.19N×23°.99E,h14km,ML2.4/15,Manual Solution by S.Liakopoulos First location: 2019/04/13 22:37:12, This location: 2020/10/22 03:20:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **13** 22:36:16.4,40°.19N×23°.96E,h13km,ML2.2/8,Error ellipse: s-maj=0.8km s-min=0.3km az=312.0*
*SKO **13** 22:36:17.2,40°.22N×24°.04E,h0km,ML2.3*
*BEO **13** 22:36:18.4±1.4,40°.23N×23°.94E,h19km±8km,ML2.2/6*

ISC 13 22:36:16.1±0.8,40°.19N±0°.02×24°.00E±0°.02,h15km±5km, n100,σ0§59/151,1D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.15	354	P	Pg	22 36 19.9	0.0
OUR				S	Sg	22 36 22.5	0.0
OUR	Ouranopolis	0.15	354	Pg	Pg	22 36 20.0	0.0
OUR				Sg	Sg	22 36 22.5	0.0
OUR	Ouranopolis	0.15	354	P	Pg	22 36 20.0	0.0
OUR				S	Sg	22 36 22.5	0.0
PAIG	Paliouri	0.36	223	P	Pg	22 36 23.4	0.0
PAIG				S	Sg	22 36 28.1	-0.3
	728nm,0.2s						
PAIG	Paliouri	0.36	223	Pg	Pg	22 36 23.5	0.0
PAIG				Sg	Sg	22 36 28.5	0.0
PAIG	Paliouri	0.36	223	P	Pg	22 36 23.4	0.0
PAIG				S	Sg	22 36 28.2	-0.3
PLG	Polygyros	0.46	294	P	Pg	22 36 25.2	-0.2
PLG				S	Sg	22 36 31.5	-0.2
	415nm,0.2s						
PLG	Polygyros	0.46	294	P	Pg	22 36 25.4	0.0
PLG				S	Sg	22 36 31.3	-0.4
KOKK	Kokkinochori,	0.63	360	P	Pg	22 36 28.4	-0.1
KOKK				S	Sb	22 36 37.6	+0.1
	248nm,0.3s						
KOKK	Kokkinochori,	0.63	360	P	Pg	22 36 28.4	-0.1
KOKK				S	Sb	22 36 37.3	-0.2
THAS	Thassos island	0.69	53	P	Pg	22 36 29.4	-0.2
THAS				S	Sn	22 36 40.7	-1.1
THAS	Thassos island	0.69	53	P	Pg	22 36 29.2	-0.4
THAS				S	Sg	22 36 38.8	+0.1
STEV	Stivos	0.70	311	P	Pg	22 36 29.5	-0.3
STEV				S	Sb	22 36 39.3	-0.2
STCV	Stivos	0.70	311	P	Pg	22 36 29.6	-0.2
STCV				S	Sg	22 36 38.8	-0.3
HORT	Hortiatis	0.80	301	P	Pg	22 36 31.1	-0.6
HORT				S	Sg	22 36 41.9	-0.4
	200nm,0.2s						
HORT	Hortiatis	0.80	301	Pg	Pb	22 36 31.7	-0.1
HORT	Hortiatis	0.80	301	P	Pg	22 36 31.1	-0.6
HORT				S	Sg	22 36 41.7	-0.6
SOH	Sokhos	0.80	322	P	Pg	22 36 31.4	-0.3
SOH				S	Sg	22 36 42.2	-0.1
	358nm,0.4s						
SOH	Sokhos	0.80	322	P	Pg	22 36 31.5	-0.3
SOH				S	Sg	22 36 41.9	-0.4
KVLA	Kavala	0.80	21	P	Pb	22 36 31.9	+0.1
KVLA				S	Sg	22 36 42.2	-0.1
NGRA	Nigrita	0.81	332	P	Pg	22 36 31.7	-0.2
NGRA				S	Sg	22 36 42.4	-0.2
KAVA	Kavala	0.90	26	P	Pb	22 36 33.4	0.0
KAVA	Kavala	0.90	26	P	Pb	22 36 33.4	0.0
KAVA				S	Sg	22 36 45.0	-0.3
THE	Thessaloniki	0.91	300	*i* Pg	Pn	22 36 34.4	0.0
THE				*i* Sg	Sg	22 36 45.3	-0.3
THE	Thessaloniki	0.91	300	P	Pg	22 36 33.9	+0.2
THE				S	Sg	22 36 45.0	-0.6
SRS	Serrai	0.98	342	P	Pb	22 36 34.7	-0.1
SRS				S	Sg	22 36 48.2	+0.3
	95nm,0.2s						
SRS	Serrai	0.98	342	*i* Pg	Pg	22 36 34.9	-0.2
SRS				*i* Sg	Sn	22 36 48.6	-0.4
SRS	Serrai	0.98	342	*e*Pg	Pb	22 36 34.7	-0.1
SRS				*e*Sg	Sg	22 36 48.1	+0.2
SRS	Serrai	0.98	342	P	Pb	22 36 34.6	-0.3
SRS				S	Sb	22 36 47.3	-0.3
OREA	Oraiokastro	0.99	303	P	Pn	22 36 35.5	0.0
EFSA	Agios Efstrati	1.00	130	P	Pn	22 36 35.6	0.0
AOS	Alonnisos	1.02	185	P	Pb	22 36 35.7	+0.2
AOS				S	Sn	22 36 50.8	+0.8
XOR	Xorichti	1.03	217	P	Pb	22 36 35.7	0.0
XOR				S	Sn	22 36 50.0	-0.3
	168nm,0.3s						
XOR	Xorichti	1.03	217	P	Pb	22 36 35.4	-0.3
XOR				S	Sg	22 36 49.7	+0.1
NEO	Neokhori	1.07	214	P	Pb	22 36 36.3	0.0
NEO				S	Sg	22 36 50.8	+0.2
	142nm,0.3s						
NEO	Neokhori	1.07	214	P	Pb	22 36 36.4	0.0
NEO				S	Sg	22 36 50.6	0.0
XANC	Avdira	1.07	42	P	Pb	22 36 36.3	-0.1
XANC				S	Sg	22 36 50.8	-0.1
LIT	Litokhoron	1.16	266	*i* Pg	Pg	22 36 39.3	+0.8
LIT				*i* Sg	Sn	22 36 53.8	+0.3
LIT	Litokhoron	1.16	266	P	Pn	22 36 37.9	0.0
LIT				S	Sg	22 36 53.2	-0.5
SMTH	Samothraki Isl	1.20	76	P	Pn	22 36 37.7	-0.8
SMTH				S	Sg	22 36 55.7	+0.7
SMTH	Samothraki Isl	1.20	76	P	Pn	22 36 37.8	-0.6
SMTH				S	Sb	22 36 54.4	+0.4
KNT	Kendrikon	1.28	320	P	Pb	22 36 40.0	0.0
KNT	Kendrikon	1.28	320	*i* Pg	Pg	22 36 40.5	-0.4
KNT				*i* Sg	Sg	22 36 58.3	+0.7
KNT	Kendrikon	1.28	320	P	Pb	22 36 40.0	0.0
KNT				S	Sg	22 36 57.0	-0.6
MMB	Musomishta	1.37	352	P	Pn	22 36 41.0	+0.2
MMB				S	Sb	22 36 58.8	-0.1
MMB	Musomishta	1.37	352	*i* Pg	Pb	22 36 41.3	-0.3
MMB				*i* Sg	Sg	22 36 59.9	-0.5
SKY	Skiros Island	1.38	162	P	Pn	22 36 40.7	-0.1
GRG	Griva	1.44	303	Pn	Pg	22 36 43.5	-0.3
GRG	Griva	1.44	303	P	Pn	22 36 42.1	+0.4
GADA	Gvkgeada	1.45	89	Pn	Pb	22 36 42.7	-0.2
RDO	Rodhopi	1.51	50	P	Pn	22 36 42.4	-0.2
RDO				S	Sg	22 37 04.2	-0.6
RDO	Rodhopi	1.51	50	Pn	Pn	22 36 43.0	+0.3
RDO	Rodhopi	1.51	50	P	Pn	22 36 42.4	-0.2
RDO				S	Sn	22 37 01.8	-0.3
AIDA	Aidipsos	1.52	209	P	Pn	22 36 43.0	+0.2
KYMI	Kymi, Euboea I	1.56	177	P	Pn	22 36 42.3	-1.0
VAY	Valandovo	1.57	317	*i* Pg	Pg	22 36 47.0	+0.7
VAY				*i* Sg	Sg	22 37 07.5	+0.8
VAY				*e*Lg	Lg	22 37 09.7	
	comp=N,27nm,0.7s						
VAY				*e*Lg	Lg	22 37 10.7	
	comp=E,39nm,0.8s						
VAY	Valandovo	1.57	317	*e*Pg	Pg	22 36 46.0	-0.3
VAY				*e*Sg	Sg	22 37 07.1	+0.4
ALEX	Alexandroupoli	1.59	65	P	Pn	22 36 44.0	+0.2
RZN	Rozhen	1.60	20	P	Pn	22 36 44.5	+0.3
RZN				S	Sn	22 37 04.5	-0.2
BOZC	Bozcaada	1.61	102	Pn	Pn	22 36 44.9	+0.8
THL	Klokotos Trika	1.65	248	P	Pb	22 36 45.6	-0.6
ENZZ	Sultanice-Enez	1.69	75	Pn	Pn	22 36 46.0	+0.9
ALN	Alexandroupoli	1.71	65	P	Pn	22 36 45.2	-0.2
ALN				S	Sb	22 37 09.0	+0.4
ALN	Alexandroupoli	1.71	65	Pn	Pb	22 36 46.7	-0.6
ALN	Alexandroupoli	1.71	65	P	Pn	22 36 45.3	-0.2
LKR	Lokris	1.72	207	P	Pn	22 36 45.7	+0.2
ENEZ	Enez	1.73	71	Pn	Pb	22 36 47.0	-0.6
SIGR	SIGRI	1.73	124	Pn	Pn	22 36 46.2	+0.5
SIGR	SIGRI	1.73	124	P	Pn	22 36 46.0	+0.3
AGG	Agios Georgios	1.74	228	Pn	Pn	22 36 46.3	+0.5
AGG	Agios Georgios	1.74	228	P	Pn	22 36 46.2	+0.3
AXAR	Agios Charalam	1.76	217	P	Pn	22 36 46.5	+0.4
KDZ	Kurdzhali	1.76	35	Pn	Pb	22 36 47.9	-0.3
KDZ	Kurdzhali	1.76	35	P	Pn	22 36 46.1	0.0
KDZ				S	Sn	22 37 08.0	-0.3
KKB	Krupnik	1.78	338	P	Pn	22 36 47.0	+0.6
KKB				S	Sn	22 37 09.5	+0.7
KKB	Krupnik	1.78	338	⇓*i*Pg	Pb	22 36 47.5	-1.0
EZN	Ezine	1.82	101	Pn	Pb	22 36 48.3	-0.9
MAKR	Makrakomi, Fth	1.86	231	P	Pb	22 36 48.8	-1.1
COMU	Canakkale	1.90	92	Pn	Pn	22 36 48.6	+0.6
GELI	Tayfur-Gelibol	1.90	83	Pn	Pn	22 36 49.0	+0.9
ERIK	Erikli-Kesan	1.98	75	Pn	Pn	22 36 50.3	+1.2
PLD	Plovdiv	2.04	16	Pn	Pn	22 36 50.9	+1.0
PLD	Plovdiv	2.04	16	*e*Pn	Pg	22 36 54.5	-0.8
PLD	Plovdiv	2.04	16	*e*Pn	Pn	22 36 50.7	+0.8
PLD				*e*Sg	Sg	22 37 21.6	0.0
VIL2	Platees	2.06	196	P	Pn	22 36 50.7	+0.5
DION	Dionisos Attik	2.11	181	P	Pn	22 36 50.8	-0.1
EVR	Evrytania	2.12	234	P	Pn	22 36 51.3	+0.1
KARY	Karystos	2.18	171	P	Pn	22 36 52.2	+0.3
UKOP	Uzunkopru-Edir	2.21	64	Pn	Pn	22 36 54.1	+1.8
PLNA	Plana	2.33	349	P	Pn	22 36 55.3	+1.3
YAYO	Edremit-Balk	2.43	103	Pn	Pn	22 36 56.6	+1.3
RKY	Sarkoy-Tekirda	2.48	77	Pn	Pn	22 36 57.3	+1.3
VTS	Vitosha	2.50	347	P	Pn	22 36 57.2	+0.8
VTS	Vitosha	2.50	347	*e*Pn	Pn	22 36 57.4	+1.0
VTS				*e*Sg	Sg	22 37 34.7	-1.6
BOSS	Bosilegrad	2.57	334	*e*Pn	Pn	22 36 58.9	+1.6
EDRB	Edirne	2.66	51	Pn	Pn	22 37 00.2	+1.8
BARS	Barje	3.10	329	*e*Pn	Pn	22 37 05.6	+1.1
ZAPS	Zavoj	3.25	342	*e*Pn	Pn	22 37 08.0	+1.4
SELS	Selova	3.72	325	*e*Pn	Pn	22 37 14.1	+1.0
ZAGS	Zajecar	3.85	341	*e*Pn	Pn	22 37 15.8	+0.9

*JMA **13** 22:59:09.7±0.1,26°.3N±0°.6×129°.6E±0°.4,h46km,MV3.2/21, NEAR OKINAWAJIMA ISLAND*
*IDC **13** 22:59:12.0±1.9,27°.15N×129°.43E,h0km,mb3.6/7, mbtmp3.6/7,Error ellipse: s-maj=115.4km s-min=23.0km az=68.0*

ISC 13 22:59:07.0±1.7,26°.26N±0°.04×129°.56E±0°.04,h6km±10km, n29,σ1§42/40,mb3.8/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.25	308	*i* P	Pg	22 59 31.3	+0.3
JYRO				*e*S	Sg	22 59 47.1	-0.2
JOW	Kunigami	1.28	297	LR	LR	22 59 45.3	
	comp=Z,36nm,18.3s,baz=102,slow=31						
JOW	Kunigami	1.28	297	P	Pg	22 59 31.9	+0.3
JOW	Kunigami	1.28	297	*i* P	Pg	22 59 32.0	+0.3
JOW				*e*S	Sg	22 59 47.3	-1.0
JNTH	Nagotoyohara	1.40	281	P	Pn	22 59 33.4	+0.2
JNTH				*e*S	Sb	22 59 49.7	-2.1
JOKE	Okinoerabujima	1.41	321	*e*P	Pn	22 59 34.0	+0.7
JOKE				*e*S	Sb	22 59 51.1	-0.9
JMZ	Minamidaito 2	1.56	106	P	Pn	22 59 35.7	+0.4
JMZ	Minamidaito 2	1.56	106	P	Pn	22 59 35.4	+0.1
JMZ				S	Sn	22 59 53.3	-2.7
JKDJ	Kitadaitoujima	1.59	101	P	Pn	22 59 36.1	+0.3
JKDJ				*e*S	Sn	22 59 55.0	-1.7
JJT3	Tamagusuku3	1.60	266	P	Pn	22 59 36.8	+0.9
JJT3				*e*S	Sn	22 59 56.5	-0.4
JTK	Tokunoshima	1.61	341	P	Pn	22 59 36.6	+0.5
JTK				S	Sn	22 59 55.2	-2.1
JIH	Iheya	1.62	299	*i* P	Pn	22 59 36.9	+0.8
JIH				S	Sn	22 59 55.9	-1.5
JAMN	Amaminishikomi	2.00	350	P	Pn	22 59 42.1	+0.6
JAMN				*e*S	Sn	23 00 05.7	-1.2
JZK	Kikaishima	2.08	10	S	Sn	23 00 08.7	-0.1
JAGN	Aguni-jima	2.10	279	P	Pn	22 59 43.8	+1.0
JAGN				S	Sn	23 00 08.2	-1.0
JAM	Amami Oshima	2.14	1	*e*P	Pn	22 59 43.8	+0.4
JAM				*e*S	Sn	23 00 08.1	-2.3
JKE	Kume jima 2	2.49	272	P	Pn	22 59 48.3	+0.1
JKE				*e*S	Sn	23 00 17.5	-1.4
JTAJ	Takarajima	2.90	354	*e*S	Sn	23 00 26.7	-2.3
JYAK	Yakushimahirau	4.05	12	*e*P	Pn	23 00 11.0	+1.3
JYAK				*e*S	Sn	23 00 54.2	-3.2
YULB	Yu-li	8.03	251	P	Pn	23 01 01.3	-3.0
SSLB	Suanglung	8.18	254	P	Pn	23 01 05.0	-1.4
TPUB

RAGD IAML 23 07 15.8
comp=E,48nm,0.1s
IMP Imphal 10.70 4 *eP* **Pn 23 05 23.8 +0.2**
SHL Shillong 11.46 355 Pn 23 05 30.9 -3.0
PALK Pallekele 13.90 242 Pn **Pn 23 06 05.0 -2.3**
PZH PanZhiHua 14.78 32 P **Pn 23 06 21.3 +2.0**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.4s
LSA Lhasa 15.62 354 Pn 23 06 31.1 +0.4
LSA IAmb IAmb 23 07 06.8
comp=Z,8.1nm,0.5s
QIZ Qiongzhong 16.82 71 P **Pn 23 06 45.1 -0.7**
QIZ S **Sn 23 09 51.3 -1.6**
QIZ LR LR
comp=N,100nm,8.8s
QIZ LR LR
comp=E,120nm,10.2s
QIZ LR LR
comp=Z,140nm,8.2s
XAN Xi'an 24.51 33 P **P 23 08 11.6 +1.9**
XAN pmax pmax
comp=Z,10.0nm,0.8s
GTA Gaotai 25.90 12 *eP* **P 23 08 25.3 +2.9**
GTA sP sP 23 08 33.1 +6.7
GTA pmax pmax
comp=Z,2.0nm,0.9s
NJ2 Nanjing 29.58 48 *eP* **P 23 08 54.3 -1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
WMQ Urumqi 29.97 352 *eP* **P 23 09 02.0 +3.4**
KDJ Kajisay 31.12 337 P **P 23 09 09.5 +0.5**
HHC Hu-ho-hao-te 31.16 28 *eP* **P 23 09 10.9 +1.6**
HHC pmax pmax
comp=Z,12nm,0.7s
DRK Karamyk 31.44 327 P **P 23 09 12.4 +0.5**
DRK IAmb IAmb 23 09 23.5
comp=Z,3.8nm,0.8s
ARSB Arslanbob 32.25 331 P **P 23 09 19.8 +0.8**
ARSB IAmb IAmb 23 09 30.5
comp=Z,3.6nm,0.7s
SIMJ Simiganj 32.40 323 P **P 23 09 20.4 +0.2**
SIMJ IAmb IAmb 23 09 30.7
comp=Z,4.3nm,0.8s
MKAR Makanchi Array 33.81 347 P **P 23 09 33.3 +1.0**
MKAR Makanchi Array 33.81 347 P **P 23 09 34.0 +1.6**
comp=Z,1.5nm,0.7s,baz=158,slow=8.8,SNR=16
comp=Z,1.5nm,0.7s
MAKZ Makanchi 33.90 346 P **P 23 09 33.6 +0.5**
KK31 Karatay Array 34.79 331 P **P 23 09 41.9 +1.0**
KKAR Karatay Array 34.79 331 P **P 23 09 41.8 +0.9**
KKAR Karatay Array 34.79 331 P **P 23 09 41.6 +0.7**
SONM Songino Array 35.41 16 P **P 23 09 46.4 +0.1**
SONM Songino Array 35.41 16 P **P 23 09 48.0 +1.8**
comp=Z,0.7nm,0.7s,baz=200,slow=7.3,SNR=5.9
comp=Z,0.7nm,0.7s
KURBB Kurchatov Arra 38.28 345 P **P 23 10 11.9 +1.4**
comp=Z,1.1nm,0.6s,baz=162,slow=7.9,SNR=11
comp=Z,1.1nm,0.6s
KURK Kurchatov 38.35 345 P 23 10 11.7 +0.7
ZALV Zalesovo Beam 40.28 352 P **P 23 10 27.5 +0.4**
ZALV Zalesovo Beam 40.28 352 P **P 23 10 28.2 +1.1**
comp=Z,1.4nm,0.5s,baz=168,slow=7.3,SNR=7.6
comp=Z,1.4nm,0.5s
BVAR Borovoye Array 42.79 340 P **P 23 10 50.3 +2.5**
comp=Z,0.2nm,0.5s,baz=146,slow=8.4,SNR=2.0
comp=Z,0.2nm,0.5s
ABKAR Abkulak array 44.32 329 P 23 11 01.2 +1.0
ABKAR Abkulak array 44.32 329 P **P 23 11 00.9 +0.7**
ABKAR IAmb IAmb 23 11 11.4
comp=Z,2.7nm,0.8s
JGF Kuroka 45.08 54 P **P 23 11 05.4 -1.1**
JGF IAmb IAmb 23 11 46.3
comp=Z,13nm,1.4s
FITZ Fitzroy Crossi 45.35 134 P **P 23 11 06.2 -2.5**
MJAR Matsushiro Arr 46.01 53 P **P 23 11 15.7 +1.9**
comp=Z,0.6nm,0.7s,baz=279,slow=6.3,SNR=1.7
comp=Z,0.6nm,0.7s
KIV Kislovodsk 52.09 315 P **P 23 12 01.2 +0.8**
KIV IAmb IAmb 23 12 11.1
comp=Z,5.3nm,0.8s
WB0 Warramunga Arr 52.80 129 P **P 23 12 03.9 -2.0**
WB0 IAmb IAmb 23 12 10.3
comp=Z,11nm,1.4s
WRA Warramunga Arr 52.86 129 P **P 23 12 04.1 -2.2**
comp=Z,0.9nm,0.6s,baz=305,slow=9.5,SNR=8.1
WRA PcP **PcP 23 13 14.1 -1.5**
comp=Z,1.4nm,0.6s,baz=308,slow=3.8,SNR=13
comp=Z,0.9nm,0.6s
AS31 Alice Springs 54.81 133 P **P 23 12 18.2 -2.5**
ASAR Alice Springs 54.81 133 P **P 23 12 18.2 -2.4**
ASAR Alice Springs 54.81 133 P **P 23 12 18.9 -1.7**
comp=Z,1.8nm,0.5s,baz=309,slow=6.8,SNR=52
ASAR PcP **PcP 23 13 22.4 -0.6**
comp=Z,0.6nm,0.5s,baz=316,slow=4.0,SNR=5.6
comp=Z,1.8nm,0.5s
BRTR Keskin Array B 57.66 308 P **P 23 12 40.4 -0.5**
BRTR Keskin Array B 57.66 308 P **P 23 12 41.0 +0.1**
comp=Z,0.8nm,0.7s,baz=103,slow=1.9,SNR=7.2
comp=Z,0.8nm,0.7s
ELL Elmali 60.24 304 P **P 23 12 59.4 +0.5**
TIXI Tiksi 61.39 12 P **P 23 13 06.5 +0.7**
TIXI IAmb IAmb 23 13 15.1
comp=Z,4.8nm,1.4s
BURAR Bucovina Array 64.79 316 P **P 23 13 28.9 -0.1**
BUR08 Bucovina Ar. S 64.80 316 P **P 23 13 29.6 +0.5**
BUR08 IAmb IAmb 23 13 39.9
comp=Z,3.4nm,1.2s
FIA1 FINESS Array S 66.75 331 P **P 23 13 41.5 +0.2**
FINES FINESS Array B 66.75 331 P **P 23 13 41.5 +0.2**
FINES FINESS Array B 66.75 331 P **P 23 13 41.6 +0.3**
comp=Z,0.8nm,0.6s,baz=120,slow=6.8,SNR=9.0
comp=Z,0.8nm,0.6s
LSZ Lusaka 70.47 248 P **P 23 14 05.7 +0.2**
LSZ IAmb IAmb 23 14 07.2
comp=Z,4.3nm,0.8s
H04N2 CROZET ISLANDS 70.56 209 T T 00 30 36.8
baz=42
H04N1 CROZET ISLANDS 70.56 209 T T 00 30 26.3
baz=42
H04N3 CROZET ISLANDS 70.58 209 T T 00 31 11.9
baz=42
POGA Pongola 72.35 235 P **P 23 14 16.6 +0.1**
GERES GERESS Array B 72.53 317 P **P 23 14 17.9 +0.5**
comp=Z,0.7nm,0.6s,baz=86,slow=6.8,SNR=5.9
comp=Z,0.7nm,0.6s
HFS Hagfors 72.58 329 P **P 23 14 18.0 +0.7**
comp=Z,1.0nm,0.6s,baz=98,slow=10,SNR=5.2
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 73.82 330 P **P 23 14 25.7 +1.0**
comp=Z,2.1nm,1.0s,baz=90,slow=5.9
NOA NORSAR Array B 73.82 330 P **P 23 14 26.2 +1.5**
comp=Z,0.5nm,0.7s,baz=90,slow=5.8,SNR=3.9
comp=Z,0.5nm,0.7s
MREMI Moremi 73.86 241 P **P 23 14 25.5 -0.1**
MREMI IAmb IAmb 23 14 26.8
comp=Z,7.1nm,0.8s
KSANE Kasane 74.08 247 P **P 23 14 27.0 0.0**
KSANE IAmb IAmb 23 14 28.7
comp=Z,5.9nm,0.8s
LPHEP Lephephe 75.51 241 P **P 23 14 35.3 +0.1**
LBTB Lobatse 76.37 240 P **P 23 14 39.9 -0.2**
LBTB IAmb IAmb 23 15 23.0
comp=Z,6.4nm,1.1s
KDWAN Kaudwane 76.54 241 P **P 23 14 40.8 -0.3**
KDWAN IAmb IAmb 23 14 42.5
comp=Z,5.5nm,0.8s
BNI Bardonecchia 77.62 314 P **P 23 14 46.4 -0.5**
BOSA Boshof 78.05 236 P **P 23 14 49.1 -0.4**
BOSA Boshof 78.05 236 P **P 23 14 48.9 -0.6**
comp=Z,4.3nm,0.7s,baz=40,slow=3.5,SNR=9.7
comp=Z,4.3nm,0.7s
QNGWA Qangwa 78.22 246 P **P 23 14 50.7 +0.1**
QNGWA IAmb IAmb 23 14 51.9
comp=Z,2.9nm,0.7s
KGCAE Kacgae 78.45 243 P **P 23 14 51.5 -0.3**
K17K Iditarod 85.87 26 P **P 23 15 30.5 +0.7**
ESDC Sonseca Array 86.41 310 P **P 23 15 33.0 -0.1**
comp=Z,0.5nm,0.8s,baz=58,slow=4.5,SNR=5.3
comp=Z,0.5nm,0.8s
TOLK Toolik Lake Re 86.45 19 P **P 23 15 33.0 +0.3**
TOLK IAmb IAmb 23 15 43.0
comp=Z,2.6nm,0.9s
H21K Melozitna Rive 86.80 22 P **P 23 15 34.9 +0.5**
H21K IAmb IAmb 23 15 49.0
comp=Z,4.2nm,1.1s
ILAR Eielson Array 89.40 22 P **P 23 15 46.7 -0.1**
comp=Z,0.4nm,0.7s,baz=284,slow=4.4,SNR=5.2
comp=Z,0.4nm,0.7s
PDAR Pinedale Array 119.72 19 PKP **PKPdf 23 21 39.7 -1.4**
comp=Z,0.3nm,0.8s,baz=295,slow=5.6,SNR=3.1
TXAR Lajitas Array 133.90 20 PKP **PKPdf 23 22 09.2 +0.9**
comp=Z,0.3nm,0.6s,baz=354,slow=4.8,SNR=2.3
CPUP Villa Florida 149.74 242 PKPbc **PKPbc 23 22 39.3 -1.6**
comp=Z,1.3nm,0.8s,baz=124,slow=5.7,SNR=2.9

---

*RSNC **13** 23:03:58.5±0.0,5°N±1°×7°6W±°, h118km±2km, M3.3, mB4.6, mb4.3, ML3.2, Mw(mB)3.8*
*IDC **13** 23:04:00.3±4.8, 5°17N×76°28W, h120km±73km, mb2.9/2, mbtmp3.6/3, Error ellipse: s-maj=77.2km s-min=35.7km az=124.0*
ISC 13 23:03:57.5±0.9,**4°68N**±0°03×**76°26W**±0°03,**h121**km±7km, **n46**,σ1§**68**/81,**Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.70**	**187**	P	**Pn**	**23 04 16.8**	**-0.2**
YOTC				S	**Sn**	**23 04 31.7**	**-0.1**
NIZA	**Niza - Manizal**	**0.87**	**64**	P	**Pn**	**23 04 19.3**	**+0.7**
NIZA				S	**Sn**	**23 04 35.4**	**+0.8**
ANIL	**Santa Ana**	**0.87**	**102**	P	**Pn**	**23 04 18.5**	**-0.2**
ANIL				S	**Sn**	**23 04 33.9**	**-0.7**
GUY2C	**Guyana, Caldas**	**1.04**	**59**	P	**Pn**	**23 04 21.0**	**+0.5**
GUY2C				S	**Sn**	**23 04 37.4**	**-0.4**
PIZC	**Pizarro, Choco**	**1.14**	**285**	P	**Pn**	**23 04 22.1**	**+1.2**
PIZC				S	**Sn**	**23 04 40.3**	**+1.6**
CBOC	**Ciudad Bolivar**	**1.20**	**12**	P	**Pn**	**23 04 22.0**	**+0.2**
CBOC				S	**Sn**	**23 04 40.2**	**-0.1**
MALC	**Bahia Malaga**	**1.26**	**238**	P	**Pn**	**23 04 23.6**	**+1.3**
MALC				S	**Sn**	**23 04 44.1**	**+3.0**
ORTC	**Ortega, Tolima**	**1.26**	**127**	P	**Pn**	**23 04 22.5**	**+0.1**
ORTC				S	**Sn**	**23 04 40.8**	**-0.4**
NORC	**Norcasia**	**1.64**	**57**	P	**Pn**	**23 04 27.2**	**+0.6**
NORC				S	**Sn**	**23 04 49.0**	**+0.2**
PRAC	**Prado**	**1.67**	**125**	P	**Pn**	**23 04 27.4**	**+0.4**
PRAC				S	**Sn**	**23 04 49.8**	**+0.3**
ROSC	**El Rosal**	**1.94**	**85**	P	**Pn**	**23 04 32.6**	**+2.1**
	156nm,0.4s,baz=250,slow=1.9,SNR=50						
ROSC				S	**Sn**	**23 05 00.1**	**+4.3**
	199nm,0.7s,baz=220,slow=23,SNR=31						
ROSC	**El Rosal**	**1.94**	**85**	P	**Pn**	**23 04 32.7**	**+2.2**
ROSC				S	**Sn**	**23 04 59.4**	**+3.6**
BETC	**Betania**	**2.14**	**158**	P	**Pn**	**23 04 33.3**	**+0.4**
BETC				S	**Sn**	**23 04 59.4**	**-0.5**
POPC	**Popayan, Colom**	**2.17**	**191**	P	**Pn**	**23 04 33.1**	**-0.2**
POPC				S	**Sn**	**23 04 58.6**	**-2.1**
CVER	**Cruz Verde, Cu**	**2.18**	**94**	P	**Pn**	**23 04 35.8**	**+2.1**
CVER				S	**Sn**	**23 05 04.1**	**+2.8**
DBBC	**Dabeiba**	**2.32**	**1**	P	**Pn**	**23 04 36.1**	**+0.9**
DBBC				S	**Sn**	**23 05 05.4**	**+1.3**
URMC	**La Uribe, Meta**	**2.35**	**127**	P	**Pn**	**23 04 35.5**	**0.0**
URMC				S	**Sn**	**23 05 03.7**	**-0.9**
CHIC	**Chingaza**	**2.52**	**91**	P	**Pn**	**23 04 39.9**	**+2.0**
CHIC				S	**Sn**	**23 05 10.6**	**+1.7**
GR1C	**Gorgona, Isla**	**2.53**	**229**	P	**Pn**	**23 04 36.5**	**-1.2**
GR1C				S	**Sn**	**23 05 06.6**	**-2.0**
PTBC	**PUERTO BERRIO,**	**2.57**	**44**	P	**Pn**	**23 04 38.5**	**+0.2**
PTBC				S	**Sn**	**23 05 08.7**	**-0.9**
GARC	**Garzon, Huila**	**2.59**	**163**	P	**Pn**	**23 04 38.6**	**-0.1**
GARC				S	**Sn**	**23 05 09.3**	**-1.1**
BBAC	**Balboa, Cauca**	**2.82**	**201**	P	**Pn**	**23 04 42.4**	**+0.7**
BBAC				S	**Sn**	**23 05 14.8**	**-0.9**
PTAC	**Punta Ardita,**	**2.90**	**328**	P	**Pn**	**23 04 42.6**	**+0.1**
PTAC				S	**Sn**	**23 05 15.5**	**-1.7**
ZARC	**Zaragoza, Cauc**	**3.12**	**26**	P	**Pn**	**23 04 45.7**	**+0.3**
ZARC				S	**Sn**	**23 05 21.6**	**-0.8**
FLOC	**Florencia**	**3.13**	**169**	P	**Pn**	**23 04 45.5**	**-0.1**
FLOC				S	**Sn**	**23 05 21.4**	**-1.4**
UREC	**San Jos de Ur**	**3.14**	**13**	P	**Pn**	**23 04 45.8**	**+0.2**
UREC				S	**Sn**	**23 05 22.3**	**-0.5**
CRUC	**La Cruz**	**3.17**	**193**	P	**Pn**	**23 04 46.9**	**+0.5**
CRUC				S	**Sn**	**23 05 23.4**	**-0.6**
APAC	**Apartado, Choc**	**3.22**	**354**	P	**Pn**	**23 04 49.8**	**+3.1**
APAC				S	**Sn**	**23 05 29.7**	**+5.0**
RUSC	**La Rusia**	**3.38**	**69**	P	**Pn**	**23 04 50.4**	**+1.1**
RUSC				S	**Sn**	**23 05 30.4**	**+1.2**
BRJC	**Barrancabermej**	**3.38**	**48**	P	**Pn**	**23 04 48.8**	**0.0**
BRJC				S	**Sn**	**23 05 28.2**	**-0.3**
MACC	**Macarena, Meta**	**3.48**	**136**	P	**Pn**	**23 04 49.8**	**-0.4**
MACC				S	**Sn**	**23 05 31.0**	**+0.1**
BARC	**Barichara**	**3.60**	**58**	P	**Pn**	**23 04 52.4**	**+0.4**
PTGC	**Puerto Gaitan,**	**4.14**	**96**	P	**Pn**	**23 04 58.9**	**0.0**
PAMC	**Pamplona, Colo**	**4.42**	**53**	P	**Pn**	**23 05 03.6**	**+0.5**
OCAC	**Ocana**	**4.58**	**39**	P	**Pn**	**23 05 05.4**	**+0.4**
OCAC				S	**Sn**	**23 05 55.2**	**-2.3**
OTAV	**Otavalo**	**4.93**	**206**	P	**Pn**	**23 05 07.3**	**-2.6**
AZU	**Azuero**	**5.05**	**308**	P	**Pn**	**23 05 10.9**	**-0.3**
	26nm,0.7s						
AZU				S	**Sn**	**23 06 08.8**	**+0.3**
	26nm,0.7s						
PAC1	**Pacto, Paraso**	**5.06**	**210**	P	**Pn**	**23 05 08.9**	**-2.6**
SJCC	**San Jacinto, C**	**5.29**	**12**	P	**Pn**	**23 05 14.7**	**+0.2**
	10nm,1.7s						
BCIP	**Isla Barro Col**	**5.70**	**322**	P	**Pn**	**23 05 19.6**	**-0.3**
	25nm,0.5s						
SDV	**Santo Domingo**	**6.97**	**53**	P	**Pn**	**23 05 37.0**	**-0.3**
	16nm,0.4s,baz=340,slow=19,SNR=14						
SDV				S	**Sn**	**23 06 51.6**	**-3.7**
	3.2nm,0.3s,baz=58,slow=22,SNR=1.5						
SDV	**Santo Domingo**	**6.97**	**53**	P	**Pn**	**23 05 37.5**	**+0.2**
CRJC	**Cerrejon, Guaj**	**7.13**	**28**	P	**Pn**	**23 05 38.5**	**-0.8**
CRJC				S	**Sn**	**23 06 52.7**	**-6.3**
URIC	**Uribia, Colomb**	**8.15**	**31**	P	**Pn**	**23 05 51.1**	**-2.0**
PDAR	**Pinedale Array**	**48.07**	**327**	P	**P**	**23 12 25.8**	**+0.7**
	0.2nm,0.6s,baz=139,slow=8.4,SNR=2.1						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**64.23**	**341**	P	**P**	**23 14 18.6**	**-0.7**
	0.3nm,0.5s,baz=140,slow=6.1,SNR=8.8						
	0.3nm,0.5s						

---

*IDC **13** 23:05:39.2±3.5, 49°43N×156°16E, h0km, mb3.1/2, mbtmp3.2/3, ML2.7/1, MS3.3/1, Error ellipse: s-maj=70.5km s-min=36.7km az=146.0*
*MOS **13** 23:05:49.3±1.0, 49°92N×156°88E, h52km, mb4.0/1, Error ellipse: s-maj=41.6km s-min=5.0km az=78.2*
*KRSC **13** 23:05:50.3±2.1, 50°03N×156°89E, h24km±29km, Ml4.3*
ISC 13 23:05:47.9±1.9,**49°7N**±0°1×**156°3E**±0°1,**h57**km,**n53**, σ1§**97**/48,**1C**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.95**	**352**	*i*PN	**Pn**	**23 06 05.4**	**+0.2**
SKR				pmax	pmax		
	comp=Z,431nm,0.2s						
SKR	**Severo-Kuril's**	**0.95**	**352**	*e*P	**Pn**	**23 06 05.4**	**+0.2**
SKR				*e*S	**Sn**	**23 06 15.6**	**-2.3**
PAU	**Pauzhetka**	**1.75**	**10**	PN	**Pn**	**23 06 16.0**	**+0.1**
PAU	**Pauzhetka**	**1.75**	**10**	*e*P	**Pn**	**23 06 16.0**	**+0.1**
PAU				*e*S	**Sn**	**23 06 35.5**	**-1.6**
KDTR	**Khodutka, Kamc**	**2.35**	**28**	PN	**Pn**	**23 06 24.0**	**0.0**
KDTR	**Khodutka, Kamc**	**2.35**	**28**	*e*P	**Pn**	**23 06 24.1**	**0.0**
KDTR				*e*S	**Sn**	**23 06 48.6**	**-3.0**
GRL	**Gorelyy**	**3.02**	**21**	PN	**Pn**	**23 06 34.3**	**+1.0**
GRL	**Gorelyy**	**3.02**	**21**	*e*P	**Pn**	**23 06 34.4**	**+1.0**
RUS	**Russkaya**	**3.03**	**26**	PN	**Pn**	**23 06 33.3**	**0.0**
RUS	**Russkaya**	**3.03**	**26**	*e*P	**Pn**	**23 06 33.3**	**0.0**
RUS				*e*S	**Sn**	**23 07 04.2**	**-4.0**
APC	**Apacha**	**3.23**	**9**	*e*P	**Pn**	**23 06 36.3**	**+0.2**
KRMR	**Karymshinskiy**	**3.29**	**19**	PN	**Pn**	**23 06 38.4**	**+1.5**
KRMR	**Karymshinskiy**	**3.29**	**19**	*e*P	**Pn**	**23 06 38.4**	**+1.5**
PEA0B	**Petropavlovsk-**	**3.48**	**14**	PN	**Pn**	**23 06 40.9**	**+1.4**
PETK	**Petropavlovsk-**	**3.48**	**14**	Pn	**Pn**	**23 06 40.0**	**+0.5**
	comp=Z,2.7nm,0.3s,baz=189,slow=12,SNR=87						
PETK				Sn	**Sn**	**23 07 24.7**	**+5.3**
	comp=Z,1.3nm,0.3s,baz=274,slow=4.2,SNR=3.7						
	comp=Z,5.4nm,0.3s						
PET	**Petropavlovsk**	**3.59**	**23**	*e*PN	**Pn**	**23 06 42.3**	**+1.3**
PET	**Petropavlovsk**	**3.59**	**23**	*e*P	**Pn**	**23 06 42.4**	**+1.4**
PET				*e*S	**Sn**	**23 07 20.4**	**-1.8**
DALK	**Dalny**	**3.63**	**24**	PN	**Pn**	**23 06 42.3**	**+0.9**
DALK	**Dalny**	**3.63**	**24**	*e*P	**Pn**	**23 06 42.4**	**+0.9**
DALK				*e*S	**Sn**	**23 07 21.7**	**-1.3**
UGLR	**Uglovaya**	**3.81**	**23**	PN	**Pn**	**23 06 45.9**	**+1.9**
UGLR	**Uglovaya**	**3.81**	**23**	*e*P	**Pn**	**23 06 45.9**	**+1.9**
AVH	**Avacha**	**3.84**	**22**	PN	**Pn**	**23 06 46.7**	**+2.3**
AVH	**Avacha**	**3.84**	**22**	*e*P	**Pn**	**23 06 46.7**	**+2.3**
KOK	**Koryaka**	**3.84**	**21**	PN	**Pn**	**23 06 47.1**	**+2.7**
KOK	**Koryaka**	**3.84**	**21**	*e*P	**Pn**	**23 06 47.2**	**+2.7**
SDLR	**Sedlovina**	**3.88**	**23**	PN	**Pn**	**23 06 46.4**	**+1.3**
SDLR	**Sedlovina**	**3.88**	**23**	*e*P	**Pn**	**23 06 46.4**	**+1.3**
KRX	**Arik**	**3.90**	**21**	PN	**Pn**	**23 06 47.5**	**+2.2**
KRX	**Arik**	**3.90**	**21**	*e*P	**Pn**	**23 06 47.6**	**+2.2**
SPN	**Mys Shipunski**	**4.08**	**33**	PN	**Pn**	**23 06 48.5**	**+0.9**
SPN	**Mys Shipunski**	**4.08**	**33**	*e*P	**Pn**	**23 06 48.6**	**+0.9**
GNL	**Ganaly**	**4.08**	**14**	PN	**Pn**	**23 06 49.5**	**+1.7**
GNL	**Ganaly**	**4.08**	**14**	*e*P	**Pn**	**23 06 49.6**	**+1.7**
KII	**Karymskiy**	**4.71**	**23**	PN	**Pn**	**23 06 59.7**	**+3.3**
KII	**Karymskiy**	**4.71**	**23**	*e*P	**Pn**	**23 06 59.7**	**+3.3**
TUMD	**Tumrok D**	**6.01**	**23**	PN	**Pn**	**23 07 17.3**	**+3.2**
TUMD	**Tumrok D**	**6.01**	**23**	*e*P	**Pn**	**23 07 17.4**	**+3.2**
KMNR	**Kamenistaya**	**6.47**	**20**	PN	Pn	23 07 25.5	+4.9
KMNR	**Kamenistaya**	**6.47**	**20**	*e*P	Pn	23 07 25.6	+5.0
KBTR	**Krutoberegovo**	**7.57**	**29**	PN	**Pn**	**23 07 35.4**	**0.0**
KBTR	**Krutoberegovo**	**7.57**	**29**	*e*P	**Pn**	**23 07 35.4**	**0.0**
H11N2	**WAKE ISLAND Hy**	**31.11**	**160**	T	T	23 45 03.6	
	baz=347,slow=76,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**31.13**	**160**	T	T	23 45 11.6	
	baz=347,slow=76,SNR=3.3						
H11N3	**WAKE ISLAND Hy**	**31.13**	**160**	T	T	23 45 11.3	
	baz=347,slow=76,SNR=7.9						
H11S1	**WAKE ISLAND Hy**	**32.26**	**161**	T	T	23 46 29.6	
	baz=347,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**32.27**	**161**	T	T	23 46 36.7	
	baz=347,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**32.27**	**161**	T	T	23 46 26.8	
	baz=347,slow=76,SNR=25						
ILAR	**Eielson Array**	**32.88**	**41**	P	**P**	**23 12 16.7**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=273,slow=7.6,SNR=1.7						
	comp=Z,0.1nm,0.5s						
ZALV	**Zalesovo Beam**	**42.65**	**304**	LR	LR	23 31 08.2	
	comp=Z,41nm,20.5s,baz=296,slow=36						
MKAR	**Makanchi Array**	**47.50**	**296**	P	**P**	**23 14 16.1**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=41,slow=7.9,SNR=2.4						
	comp=Z,0.2nm,0.5s						
H03N2	**Juan Fernandez**	**136.60**	**89**	T	T	01 56 35.7	
	baz=315						
H03N1	**Juan Fernandez**	**136.61**	**89**	T	T	01 56 28.8	
	baz=315						
H03N3	**Juan Fernandez**	**136.61**	**89**	T	T	01 56 25.5	
	baz=315						

---

*IDC **13** 23:16:42.6±1.6, 38°43N×48°75E, h0km, mb3.8/9, mbtmp3.7/14, ML3.3/5, MS1.8/1, Error ellipse: s-maj=28.0km s-min=11.9km az=8.0*
*TEH **13** 23:16:46.7, 38°89N×48°79E, h18km±28km*
*NEIC **13** 23:16:46.4±2.0, 38°76N±0°09×49°1E±0°1, h10km±2km, mb4.0/11, Error ellipse: s-maj=15.7km s-min=15.2km az=89.0*
*AZER **13** 23:16:49.9, 38°84N×48°62E, h33km, ml3.6*
*TIF **13** 23:16:49.7, 38°79N×48°71E, h45km±4km*
*MOS **13** 23:16:50.3±1.2, 38°98N×48°93E, h17km, mb4.1/3, Error ellipse: s-maj=9.7km s-min=6.5km az=118.9*
*DRS **13** 23:16:58.4, 39°10N×48°34E, h16km*
ISC 13 23:16:49.3±0.7,**38°79N**±0°03×**48°72E**±0°03,**h35**km±1km, **n140**,σ2§**58**/188,**mb3.7**/10,**3C**,**Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKRN	**Lenkeran, Azer**	**0.09**	**148**	P	**Pn**	**23 16 57.4**	**+2.0**
LKRN				S	**Sn**	**23 17 02.6**	**+3.2**
ASTR	**Astara**	**0.23**	**166**	P	**Pn**	**23 16 58.4**	**+1.3**
ASTR				S	**Sn**	**23 17 04.6**	**+1.0**
LRK	**Lerik**	**0.33**	**245**	P	**Pn**	**23 16 59.1**	**+1.3**
LRK				S	**Sn**	**23 17 05.8**	**+1.6**
YRD	**Yardimli**	**0.40**	**290**	P	**Pn**	**23 16 59.3**	**+0.8**
YRD				S	**Sn**	**23 17 06.1**	**+0.8**
GLBA	**Clilabad**	**0.52**	**331**	P	**Pn**	**23 17 01.0**	**+0.7**
GLBA				S	**Sn**	**23 17 09.9**	**+2.0**
SAAT	**Saatly**	**1.10**	**348**	P	**Pn**	**23 17 10.0**	**+1.9**
SAAT				S	**Sn**	**23 17 25.8**	**+3.7**
ALIB	**&Aumlli-Bayram**	**1.19**	**11**	P	**Pn**	**23 17 12.2**	**+2.7**
ALIB				S	**Sn**	**23 17 31.2**	**+6.8**
CSN1	**Caspian**	**1.25**	**166**	Pg	**Pn**	**23 17 12.0**	**+1.7**
QRD	**Qoradiz**	**1.28**	**302**	P	**Pn**	**23 17 11.4**	**+0.7**
QRD				S	**Sn**	**23 17 27.5**	**+0.9**
BLQ	**Beylaqan**	**1.30**	**316**	P	**Pn**	**23 17 12.1**	**+1.2**
BLQ				S	**Sn**	**23 17 28.8**	**+1.8**
IHRS	**Heris**	**1.40**	**251**	Pg	**Pn**	**23 17 14.4**	**+2.0**
KDMR	**Kurdemir**	**1.64**	**346**	Pn	**Pn**	**23 17 16.8**	**+1.2**
KDMR				Sn	**Sn**	**23 17 38.2**	**+2.7**
ZRD	**Zardab**	**1.69**	**332**	Pn	**Pn**	**23 17 18.0**	**+1.7**
ZRD				Sn	**Sn**	**23 17 40.3**	**+3.6**
GBS	**Qobustan**	**1.76**	**6**	Pn	**Pn**	**23 17 20.1**	**+2.8**
GBS				Sn	**Sn**	**23 17 43.2**	**+4.7**
GOBA	**Gobu**	**1.79**	**26**	Pn	**Pn**	**23 17 21.5**	**+3.8**
GOBA				Sn	**Sn**	**23 17 45.0**	**+5.7**
AGDM	**Agdam**	**1.82**	**317**	Pn	**Pn**	**23 17 19.2**	**+1.2**
AGDM				Sn	**Sn**	**23 17 42.6**	**+2.7**
IHSH	**Hashtrud**	**1.87**	**218**	Pn	**Pn**	**23 17 21.1**	**+2.0**
BRDA	**Brd**	**1.90**	**322**	Pn	**Pn**	**23 17 21.3**	**+2.2**
BRDA				Sn	**Sn**	**23 17 46.2**	**+4.5**
GALA	**Gala**	**1.97**	**34**	Sn	**Sn**	**23 17 48.0**	**+4.6**
PQL	**Pirkuli**	**2.00**	**357**	Pn	**Pn**	**23 17 22.3**	**+1.5**
PQL				Sn	**Sn**	**23 17 46.6**	**+1.9**
NDR	**Nardaran**	**2.04**	**28**	Pn	**Pn**	**23 17 23.7**	**+2.6**
NDR				Sn	**Sn**	**23 17 50.4**	**+5.0**
IML	**Ismayilli**	**2.05**	**349**	Pn	**Pn**	**23 17 22.9**	**+1.6**
IML				Sn	**Sn**	**23 17 48.4**	**+2.8**
ATGJ	**Altiaghaj**	**2.08**	**5**	Pn	Pn	23 17 26.7	+4.9
ATGJ				Sn	Sn	23 17 59.8	+13
ITBZ	**Tabriz**	**2.09**	**256**	Pn	**Pn**	**23 17 23.6**	**+1.6**
ORD	**Ordubad**	**2.13**	**275**	Pn	**Pn**	**23 17 24.1**	**+1.7**
ORD				Sn	**Sn**	**23 17 51.2**	**+3.4**
JIR1	**Jirandeh**	**2.24**	**157**	Pn	**Pn**	**23 17 25.4**	**+1.4**
QBL	**Gabala**	**2.26**	**343**	Pn	**Pn**	**23 17 25.3**	**+1.1**
QBL				Sn	**Sn**	**23 17 51.9**	**+1.0**
SIZA	**Siyzn

HGHA	**Hamedan- Ghaye**	**3.29 178**	Pn	**Pn**	**23 17 41.5 +3.0**
GNI	**Garni**	**3.37 295**	Pn	**Pn**	**23 17 42.1 +2.6**
	2.6nm,0.3s,baz=304,slow=4.4,SNR=15				
GNI			Sn	**Sn**	**23 18 26.4 +8.1**
	5.9nm,0.3s,baz=205,slow=13,SNR=4.3				
GNI			LR	LR	23 18 40.9
	comp=Z,15nm,19.9s,baz=97,slow=33				
	5.3nm,0.3s				
QZX	**Qazax, Azerbai**	**3.43 312**	Pn	**Pn**	**23 17 42.1 +1.8**
QZX			Sn	**Sn**	**23 18 23.2 +3.5**
URKR	**Urkarakh**	**3.48 347**	*e*Pn	**Pn**	**23 17 44.4 +3.4**
	16nm,0.3s				
URKR			*e*Sn	**Sn**	**23 18 22.4 +1.4**
	103nm,0.7s				
KMKR	**Kumukh**	**3.56 340**	*e*Pn	**Pn**	**23 17 45.0 +2.7**
	34nm,0.2s				
KMKR			*e*Sn	**Sn**	**23 18 22.6 -0.6**
	113nm,0.6s				
LGD	**Lagodekhi**	**3.59 329**	P	**Pn**	**23 17 44.1 +1.7**
LGD			S	**Sn**	**23 18 25.5 +2.0**
LGD	**Lagodekhi**	**3.59 329**	P	**Pn**	**23 17 44.1 +1.7**
LGD			S	**Sn**	**23 18 25.5 +2.0**
DGRG	**David-gareji**	**3.70 317**	P	**Pn**	**23 17 46.4 +2.4**
DGRG	**David-gareji**	**3.70 317**	P	**Pn**	**23 17 46.3 +2.4**
IGDI	**IGDIR**	**3.76 288**	Pg	Pn	23 17 55.1 +10
IGDI			Sg	Sn	23 18 44.3 +16
SGKR	**Sergokala**	**3.76 348**	*e*Pn	**Pn**	**23 17 48.8 +4.0**
	5.0nm,0.4s				
SGKR			*e*Sn	**Sn**	**23 18 29.5 +1.8**
	94nm,0.2s				
IPRN	**Peran**	**3.84 130**	Pn	**Pn**	**23 17 47.3 +1.4**
GNBR	**Gunib**	**3.84 340**	*e*Pn	**Pn**	**23 17 49.4 +3.5**
	34nm,0.7s				
GNBR			*e*Sn	**Sn**	**23 18 31.1 +1.3**
	57nm,0.2s				
ARKR	**Arakani**	**4.03 342**	*e*Pn	**Pn**	**23 17 52.1 +3.5**
	13nm,0.4s				
ARKR			*e*Sn	**Sn**	**23 18 36.0 +1.4**
	59nm,0.5s				
UNCR	**Uncukul**	**4.19 340**	*e*Pn	**Pn**	**23 17 53.6 +3.0**
	12nm,0.3s				
UNCR			*e*Sn	**Sn**	**23 18 39.0 +0.6**
	60nm,0.6s				
BUJR	**Buynaksk**	**4.22 344**	*e*Pn	**Pn**	**23 17 53.8 +2.7**
	34nm,0.4s				
KRNR	**Karanay**	**4.27 342**	*e*Pn	**Pn**	**23 17 54.3 +2.5**
	16nm,0.3s				
KRNR			*e*Sn	**Sn**	**23 18 40.5 +0.2**
	65nm,0.3s				
MAK	**Makhachkala**	**4.27 348**	*e*P	**Pn**	**23 17 52.1 +0.3**
MAK			*e*S	**Sn**	**23 18 43.5 +3.2**
MAK			pmax	pmax	
	comp=Z,57nm,0.4s				
MAK			smax	smax	
	comp=N,218nm,0.4s				
MAK			smax	smax	
	comp=N,218nm,0.4s				
MAK			MLR	MLR	
	comp=Z,47nm,6.0s				
BTLR	**Botlikh**	**4.31 335**	*e*Pn	**Pn**	**23 17 54.5 +2.1**
	comp=Z,26nm,0.5s				
BTLR			*e*Sn	**Sn**	**23 18 40.8 -0.7**
	comp=Z,28nm,0.6s				
GEVA	**Gevas**	**4.46 266**	Pn	**Pn**	**23 17 58.2 +3.6**
DBC	**Dubki**	**4.47 342**	*e*Pn	**Pn**	**23 17 56.9 +2.4**
	comp=Z,20nm,0.3s				
DBC			*e*Sn	**Sn**	**23 18 45.2 -0.1**
	comp=Z,72nm,0.5s				
TRLG	**Trialeti**	**4.48 309**	P	**Pn**	**23 17 56.8 +2.0**
TRLG	**Trialeti**	**4.48 309**	P	**Pn**	**23 17 56.8 +2.0**
DLMR	**Dylym**	**4.56 340**	*e*Pn	**Pn**	**23 17 59.0 +3.2**
	comp=Z,29nm,0.3s				
DLMR			*e*Sn	**Sn**	**23 18 48.3 +0.7**
	comp=Z,220nm,0.3s				
CHRG	**Chargali**	**4.57 322**	P	**Pn**	**23 17 57.4 +1.4**
CHRG			S	**Sn**	**23 18 47.8 -0.1**
SHTL	**Shatili**	**4.72 326**	P	**Pn**	**23 18 00.7 +2.6**
SHTL			S	**Sn**	**23 18 52.5 +0.8**
SHTL	**Shatili**	**4.72 326**	P	**Pn**	**23 18 00.7 +2.6**
SHTL			S	**Sn**	**23 18 52.5 +0.8**
KARS	**Kars**	**4.72 295**	Pn	**Pn**	**23 18 02.3 +4.2**
KARS	**Kars**	**4.72 295**	P	**Pn**	**23 18 02.3 +4.2**
MTEO	**Meteo**	**5.02 322**	P	**Pn**	**23 18 06.3 +3.8**
MTEO			S	**Sn**	**23 19 00.2 +0.7**
MTEO	**Meteo**	**5.02 322**	P	**Pn**	**23 18 06.3 +3.8**
MTEO			S	**Sn**	**23 19 00.2 +0.7**
GURO	**Guroymak-BITLI**	**5.24 270**	Pn	**Pn**	**23 18 09.6 +4.4**
IMND	**Minoodasht**	**5.50 104**	Pn	**Pn**	**23 18 09.0 +0.4**
MRVT	**Maraveh tapeh**	**5.91 99**	Pn	**Pn**	**23 18 15.2 +0.8**
KBZ	**Khabaz**	**6.60 320**	Pn	Pn	23 18 28.6 +4.9
	comp=Z,0.1nm,0.3s,baz=140,slow=2.5,SNR=4.3				
KBZ			Sn	**Sn**	**23 19 44.8 +7.0**
	comp=Z,0.2nm,0.3s,baz=242,slow=9.6,SNR=1.8				
	comp=Z,0.5nm,0.4s				
KVAR	**Kislovodsk Arr**	**6.87 321**	Pn	Pn	23 18 32.8 +5.3
	baz=84,slow=18				
KVAR			Sn	**Sn**	**23 19 48.3 +3.8**
	baz=280,slow=18				
	comp=Z,0.9nm,0.7s				
KIV	**Kislovodsk**	**6.87 321**	Pn	**Pn**	**23 18 30.2 +2.6**
KIV	**Kislovodsk**	**6.87 321**	*e*P	**Pn**	**23 18 30.2 +2.6**
ISFR	**Sfrayin**	**7.54 100**	Pn	**Pn**	**23 18 38.4 +1.5**
IEMG	**Emamgholi**	**7.95 97**	Pn	**Pn**	**23 18 42.9 +0.3**
IPAY	**Payeh**	**8.48 103**	Pn	**Pn**	**23 18 51.0 +1.1**
AB31	**Akbulak array**	**13.20 34**	Pn	**Pn**	**23 19 51.2 -2.9**
AB31	**Akbulak array**	**13.20 34**	P	**Pn**	**23 19 52.1 -2.0**
	comp=Z,1.0nm,0.5s,baz=209,slow=13,SNR=35				
AB31			⇑S	Sn	23 22 08.5 -11
	comp=Z,1.6nm,0.6s,baz=215,slow=22,SNR=6.8				
AB31	**Akbulak array**	**13.20 34**	P	**Pn**	**23 19 52.1 -2.0**
AB31			S	Sn	23 22 08.5 -11
ABKAR	**Akbulak array**	**13.20 34**	Pn	**Pn**	**23 19 51.4 -2.7**
AKTO	**Aktyubinsk**	**13.38 27**	Pn	**Pn**	**23 19 54.4 -2.2**
	comp=Z,1.2nm,0.3s,baz=201,slow=7.5,SNR=22				
AKTO			Sn	Sn	23 22 12.9 -11
	comp=Z,1.0nm,0.3s,baz=345,slow=20,SNR=9.3				
	comp=Z,3.1nm,0.2s				
AKTO	**Aktyubinsk**	**13.38 27**	⇑P	**Pn**	**23 19 52.8 -3.8**
	comp=Z,1.0nm,0.4s				
AKTO			⇑S	Sn	23 22 13.0 -11
	comp=Z,2.0nm,0.4s				
GAR	**Garm**	**16.82 82**		**Pn**	**23 20 40.8 -1.3**
KK31	**Karatay Array**	**17.01 68**		**Pn**	**23 20 42.9 -1.4**
KK31			IAmb	IAmb	23 20 44.6
	comp=Z,5.5nm,0.7s				
KK31	**Karatay Array**	**17.01 68**	P	**Pn**	**23 20 42.9 -1.4**
KK31			pmax	pmax	
	comp=Z,6.0nm,0.7s				
KKAR	**Karatay Array**	**17.01 68**		**Pn**	**23 20 42.2 -2.1**
KKAR	**Karatay Array**	**17.01 68**	P	**Pn**	**23 20 42.2 -2.1**
DRK	**Karamyk**	**17.92 81**		**Pn**	**23 20 54.0 -1.9**
DRK	**Karamyk**	**17.92 81**	P	**Pn**	**23 20 54.0 -1.9**
DRK			pmax	pmax	
	comp=Z,9.0nm,0.2s				
AKASG	**Malin Array Be**	**18.20 317**	P	**P**	**23 20 58.0 -0.9**
	comp=Z,0.2nm,0.3s,baz=121,slow=12,SNR=4.2				
	comp=Z,0.7nm,0.5s				
AKASG	**Malin Array Be**	**18.20 317**	P	**P**	**23 20 58.0 -0.9**
ARTI	**Arti**	**18.75 17**	P	**P**	**23 21 02.8 -2.1**
ARTI			IAmb	IAmb	23 21 03.5
	comp=Z,6.4nm,0.4s				
ARTI	**Arti**	**18.75 17**	P	**P**	**23 21 02.8 -2.1**
	comp=Z,2.0nm,0.4s,baz=207,slow=8.5,SNR=6.3				
ARTI	**Arti**	**18.75 17**	P	**P**	**23 21 02.8 -2.1**
ARTI			pmax	pmax	
	comp=Z,6.0nm,0.4s				
BURAR	**Bucovina Array**	**19.21 305**	P	**P**	**23 21 10.7 +0.5**
BURAR	**Bucovina Array**	**19.21 305**	P	**P**	**23 21 10.7 +0.5**
BUR08	**Bucovina Ar. S**	**19.23 305**	P	**P**	**23 21 10.8 +0.3**
EKS2	**Erkin-Say**	**19.36 70**	P	**Pn**	**23 21 15.0 +1.8**
	SNR=8.5				
AAK	**Ala-Archa**	**19.89 71**	P	**Pn**	**23 21 20.0 +0.6**
	comp=Z,8.6nm,0.8s,baz=236,slow=3.6,SNR=49				
AAK	**Ala-Archa**	**19.89 71**	P	**Pn**	**23 21 20.9 +1.5**
	SNR=14				
USP	**Ospenovka**	**19.93 69**	P	**Pn**	**23 21 20.5 +0.7**
	SNR=5.3				
CHMS	**Chumysh**	**20.09 70**	P	Pn	23 21 23.0 +1.3
	SNR=5.7				
KBK	**Karagaybulak**	**20.22 71**	P	Pn	23 21 25.5 +2.1
	SNR=8.6				
BRVK	**Borovoye**	**20.59 39**		**P**	**23 21 23.6 -1.4**
BRVK			IAmb	IAmb	23 21 28.3
	comp=Z,6.0nm,0.7s				
BRVK	**Borovoye**	**20.59 39**	P	**P**	**23 21 23.7 -1.4**
BRVK			pmax	pmax	
	comp=Z,6.0nm,0.7s				
BVAR	**Borovoye Array**	**20.63 39**	P	**P**	**23 21 25.8 +0.4**
	comp=Z,4.2nm,0.6s,baz=236,slow=10,SNR=26				
	comp=Z,4.2nm,0.6s				
TKM2	**Tokmak 2**	**20.71 70**	P	Pn	23 21 30.6 +1.5
	SNR=12				
BOOM	**Boomskoye usch**	**20.95 71**		**P**	**23 21 24.3 -4.9**
BOOM			IAmb	IAmb	23 21 36.3
	comp=Z,3.5nm,0.6s				
BOOM	**Boomskoye usch**	**20.95 71**	P	**P**	**23 21 24.3 -4.9**
BOOM			pmax	pmax	
	comp=Z,3.0nm,0.6s				
ITM	**Ithomi**	**21.16 274**	P	**P**	**23 21 32.9 +1.6**
ITM			IAmb	IAmb	23 21 53.9
	comp=Z,22nm,1.2s				
KURBB	**Kurchatov Arra**	**24.10 51**	P	**P**	**23 22 02.5 +1.2**
	comp=Z,0.2nm,0.3s,baz=257,slow=9.2,SNR=6.7				
	comp=Z,0.2nm,0.3s				
KURK	**Kurchatov**	**24.18 51**	P	**P**	**23 22 02.5 +0.4**
MAKZ	**Makanchi**	**25.54 61**		**P**	**23 22 14.0 -0.5**
MAKZ			IAmb	IAmb	23 22 18.2
	comp=Z,2.6nm,0.8s				
MAKZ	**Makanchi**	**25.54 61**	P	**P**	**23 22 14.0 -0.5**
MAKZ			pmax	pmax	
	comp=Z,3.0nm,0.8s				
MKAR	**Makanchi Array**	**25.75 61**		**P**	**23 22 15.3 -1.1**
MKAR	**Makanchi Array**	**25.75 61**	P	**P**	**23 22 17.4 +0.9**
	comp=Z,2.8nm,0.7s,baz=268,slow=6.2,SNR=26				
	comp=Z,2.8nm,0.7s				
FINES	**FINESS Array B**	**26.66 336**	P	**P**	**23 22 25.5 +1.1**
FINES	**FINESS Array B**	**26.66 336**	P	**P**	**23 22 26.2 +1.8**
	comp=Z,0.5nm,0.5s,baz=140,slow=10,SNR=7.4				
	comp=Z,0.5nm,0.5s				
GERES	**GERESS Array B**	**26.98 303**	P	**P**	**23 22 28.3 +0.7**
	comp=Z,0.3nm,0.6s,baz=95,slow=11,SNR=4.2				
	comp=Z,0.3nm,0.6s				
HFS	**Hagfors**	**30.64 326**	P	**P**	**23 22 59.8 -0.1**
	comp=Z,0.9nm,0.7s,baz=113,slow=11,SNR=1.5				
	comp=Z,0.9nm,0.7s				
NC405	**NORSAR Array S**	**31.96 326**	P	**P**	**23 23 11.1 -0.4**
EKA	**Eskdalemuir Ar**	**38.03 313**	P	**P**	**23 24 02.9 -1.0**
	comp=Z,0.6nm,0.5s,baz=100,slow=8.7,SNR=1.7				
	comp=Z,0.6nm,0.5s				
ESDC	**Sonseca Array**	**40.33 288**	P	**P**	**23 24 21.6 -1.7**
	comp=Z,0.3nm,0.6s,baz=74,slow=8.6,SNR=5.4				
	comp=Z,0.3nm,0.6s				
SPITS	**Spitsbergen Ar**	**41.70 350**	P	**P**	**23 24 34.7 +0.6**
	comp=Z,10nm,1.0s,baz=124,slow=7.5,SNR=2.8				
	comp=Z,10nm,1.0s				

WEL 13 23:22:47.4±1.1, 33°S±6°×17°8E±1°8, h12km, mB4.8/6, ML4.4/12, MLv4.2/6, Mw(mB)4.0/6, Error ellipse: s-maj=23.1km s-min=7.8km az=95.5, confirmed, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.78**	**175**	P	Pn	23 23 59.7	+0.6
MXZ				S	Sn	23 24 55.3	+0.8
HAZ	**Te Kaha**	**4.95**	**180**	P	Pn	23 24 02.1	+0.6
HAZ				S	Sn	23 25 01.4	+2.6
WMGZ	**Waiomatatini S**	**5.04**	**174**	P	Pn	23 24 01.4	-1.4
WMGZ				S	Sn	23 25 00.2	-0.8
PKGZ	**Pakihiroa**	**5.07**	**177**	P	Pn	23 24 02.2	-1.0
PKGZ				S	Sn	23 25 02.0	+0.3
RUGZ	**Raukumara Rang**	**5.16**	**181**	P	Pn	23 24 04.8	+0.3
RUGZ				S	Sn	23 25 06.4	+2.3
PUZ	**Puketiti**	**5.28**	**176**	P	Pn	23 24 06.1	-0.1
PUZ				S	Sn	23 25 07.0	0.0
TWGZ	**Tauwhareparae**	**5.38**	**178**	P	Pn	23 24 06.6	-0.8
TWGZ				S	Sn	23 25 12.1	+2.8
URZ	**Urewera**	**5.48**	**185**	P	Pn	23 24 10.0	+1.2
URZ				S	Sn	23 25 16.6	+4.8
MWZ	**Matawai**	**5.53**	**182**	P	Pn	23 24 09.2	-0.3
TKGZ	**Te Karaka**	**5.64**	**179**	P	Pn	23 24 11.5	+0.6
TKGZ				S	Sn	23 25 17.5	+1.9
CNGZ	**Carnagh Statio**	**5.69**	**177**	P	Pn	23 24 11.2	-0.5
MUGZ	**Murupara**	**5.73**	**188**	P	Pn	23 24 15.3	+3.0
RTZ	**Ruatahuna**	**5.85**	**186**	P	Pn	23 24 13.2	-0.7
RTZ				S	Sn	23 25 22.6	+1.6
RIGZ	**Rimuhau**	**5.90**	**180**	P	Pn	23 24 12.8	-1.8
RIGZ				S	Sn	23 25 21.9	-0.4
RAHZ	**Arahi**	**6.14**	**185**	P	Pn	23 24 19.1	+1.2
RAHZ				S	Sn	23 25 29.9	+1.9
NMHZ	**Naumai**	**6.34**	**187**	P	Pn	23 24 21.9	+1.2
MHGZ	**Mahia Peninsul**	**6.35**	**179**	S	Sn	23 25 33.6	+0.4
BKZ	**Black Stump Fm**	**6.45**	**189**	P	Pn	23 24 23.4	+1.3
BKZ				S	Sn	23 25 37.8	+2.2
KWHZ	**Kaweka Forest**	**6.71**	**189**	P	Pn	23 24 26.3	+0.6
KWHZ				S	Sn	23 25 43.9	+1.8
MOVZ	**Moawhango**	**6.80**	**193**	P	Pn	23 24 28.2	+1.2
KRHZ	**Kereru**	**6.93**	**189**	P	Pn	23 24 28.1	-0.7
KRHZ				S	Sn	23 25 47.1	-0.5
KAHZ	**Kahuranaki**	**7.03**	**186**	P	Pn	23 24 28.6	-1.5
KAHZ				S	Sn	23 25 48.6	-1.3
PNHZ	**Pukenui**	**7.22**	**190**	P	Pn	23 24 31.3	-1.4
PXZ	**Pawanui**	**7.26**	**186**	P	Pn	23 24 31.5	-1.7
PRHZ	**Porangahau**	**7.52**	**187**	P	Pn	23 24 34.9	-1.9
MRZ	**Mangatainoka R**	**8.05**	**192**	P	Pn	23 24 41.2	-2.9
MRZ				S	Sn	23 26 11.1	-3.9
TIWZ	**Tintock**	**8.11**	**190**	P	Pn	23 24 42.3	-2.7

*CRAAG **13** 23:40:51.4, 36°.55N×1°.65E, MI3.0, Algerie 05km SW Damous*
*MDD **13** 23:40:54.5±1.2, 36°.59N×1°.69E, h4km±18km, Mb3.5/11, M_mb2.7/9, Error ellipse: s-maj=23.8km s-min=5.4km az=148.0*
ISC 13 23:40:52.9±1.1, 36°.54N±0°.06×1°.70E±0°.04, h14km, n15, σ1§08/23, 8C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.29**	**209**	P	**Pg**	**23 40 58.8**	**-0.2**
EARB	**Arib**	**0.34**	**134**	P	**Pg**	**23 40 59.8**	**-0.2**
ECHA	**Ech Chlef**	**0.48**	**215**	P	**Pg**	**23 41 02.1**	**-0.3**
EHRZ	**Djelida**	**0.48**	**136**	P	**Pg**	**23 41 02.3**	**-0.1**
ABKD	**Sidi Amar**	**0.49**	**91**	P	**Pg**	**23 41 03.4**	**+0.8**
EDDR	**Deurdeur**	**0.68**	**142**	P	**Pg**	**23 41 06.0**	**-0.2**
EANR	**'Ain N'Sour**	**0.77**	**220**	P	**Pg**	**23 41 08.6**	**+0.8**
EIBI	**Ibiza**	**2.50**	**354**	P	**Pn**	**23 41 34.5**	**+1.4**
EIBI				⇑*iVmb_V*		23 41 36.3	
	190nm,SNR=1.7						
EIBI				S	**Sn**	**23 42 02.6**	**-0.8**
EBEN2	**Beniarda presa**	**2.61**	**325**	P	**Pn**	**23 41 35.4**	**+0.7**
EBEN2				⇑*iVmb_V*		23 41 38.0	
	142nm,SNR=1.2						
EBEN2				S	**Sn**	**23 42 04.5**	**-1.6**
ETOS	**Mallorca**	**3.34**	**15**	P	**Pn**	**23 41 44.9**	**+0.1**
ETOS				⇑*iVmb_V*		23 41 46.3	
	144nm,SNR=0.7						
ETOS				S	**Sn**	**23 42 22.6**	**-1.6**
EVIV	**Cofrentes, Val**	**3.52**	**321**	P	**Pn**	**23 41 48.2**	**+1.0**
EVIV				⇑*iVmb_V*		23 41 50.6	
	88nm,SNR=1.3						
EVIV				S	**Sn**	**23 42 27.9**	**-0.7**
ECHE	**Chera**	**3.70**	**326**	P	**Pn**	**23 41 49.9**	**+0.2**
ECHE				⇑*iVmb_V*		23 41 52.6	
	50nm,SNR=0.6						
ECHE				S	**Sn**	**23 42 32.3**	**-0.9**
EQES	**Quesada**	**4.01**	**290**	P	**Pn**	**23 41 55.5**	**+1.3**
EQES				⇑*iVmb_V*		23 41 57.3	
	26nm,SNR=0.4						
EQES				S	**Sn**	**23 42 41.0**	**-0.1**
EMOS	**Mosqueruela**	**4.18**	**337**	P	**Pn**	**23 41 58.5**	**+2.0**
EMOS				⇑*iVmb_V*		23 41 59.6	
	93nm,SNR=1.1						
EMOS				S	**Sn**	**23 42 43.1**	**-2.1**
JAND	**Jandula**	**4.82**	**292**	P	**Pn**	**23 42 05.2**	**+0.1**
JAND				⇑*iVmb_V*		23 42 06.4	
	35nm,SNR=0.9						
JAND				S	**Sn**	**23 42 59.5**	**-1.2**

*NDI **13** 23:46:41.8±1.1, 7°.19N×94°.52E, h10km, ML4.0, MW4.3, mb4.4(NEIC)*
*NEIC **13** 23:46:44.0±1.4, 7°.19N±0°.08×94°.52E±0°.09, h10km±1km, mb4.4/26, Error ellipse: s-maj=16.9km s-min=10.4km az=236.0*
*BKK **13** 23:46:46.5±1.6, 7°N±6°×9°5E±1°4, h10km, M4.3/10, mb4.3/4, Mjma4.1/10, ML4.3/6, MLv4.4/8*
*IDC **13** 23:46:48.1±3.5, 7°.36N×94°.45E, h44km±34km, mb3.5/16, mbtmp3.7/18, ML3.6/2, MS3.2/4, Error ellipse: s-maj=29.5km s-min=16.5km az=69.0*
*DJA **13** 23:46:50.9±1.7, 7°N±10°×9°5E±1°3, h10km, M4.2/8, mB5.2/2, mb4.4/7, MLv4.2/8, Mw(mB)4.7/2*
ISC 13 23:46:45.6±0.5, 7°.27N±0°.05×94°.39E±0°.06, h24km, n80, σ1§66/73, mb4.1/29, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.53**	**241**	*e*P	**Pb**	**23 46 53.6**	**-2.6**
CMBY				*e*S	**Sb**	**23 47 01.9**	**-1.5**
CMBY				IAML		23 47 05.4	
	comp=E,9μm,0.3s						
CMBY				IAML		23 47 05.5	
	comp=N,17μm,0.5s						
BSI	**Banda Aceh**	**1.98**	**153**	P	**Pn**	**23 47 17.6**	**0.0**
LHMI	**Lhok Sumawe**	**3.25**	**128**		**Pn**	**23 47 34.4**	**-0.7**
LHMI	**Lhok Sumawe**	**3.25**	**128**	P	**Pn**	**23 47 34.9**	**-0.2**
MLSI	**Meulaboh, Aceh**	**3.59**	**146**	P	**Pn**	**23 47 43.4**	**+3.5**
RNTT	**Ranong**	**4.56**	**62**	P	**Pn**	**23 47 53.5**	**+0.3**
PBA	**Port Blair**	**4.65**	**340**	Pn	**Pn**	**23 47 57.6**	**+3.3**
PBA	**Port Blair**	**4.65**	**340**	*e*S	**Sn**	**23 48 46.8**	**-0.9**
PBA				IAML		23 49 04.2	
	comp=E,164nm,1.2s						
SRIT	**Nakonsritamara**	**5.33**	**75**		**Pn**	**23 48 03.2**	**-0.5**
SRIT	**Nakonsritamara**	**5.33**	**75**	P	**Pn**	**23 48 04.2**	**+0.5**
	comp=E,0.6nmcomp=E,0.6nmcomp=E,107nm,0.7s						
DGPR	**DIGLIPUR**	**6.04**	**346**	*e*P	**Pn**	**23 48 12.8**	**-0.7**
DGPR				*e*S	**Sn**	**23 49 17.8**	**-4.2**
PSI	**Prapat**	**6.33**	**134**	P	**Pn**	**23 48 19.4**	**+1.8**
	comp=E,0.5nm,0.3s,baz=311,slow=14,SNR=9.9						
PSI				S	**Sn**	**23 49 29.8**	**+0.4**
	comp=E,5.5nm,0.4s,baz=41,slow=10,SNR=4.2						
PSI				LR	LR	23 50 49.6	
	comp=E,206nm,18.6s,baz=292,slow=38						
	comp=E,7.5nm,0.7s						
RPSI	**Rantau Prapat**	**6.41**	**135**		**Pn**	**23 48 15.1**	**-3.5**
KULM	**Kulim**	**6.53**	**107**		**Pn**	**23 48 17.5**	**-2.7**
GSI	**Gunungsitoli**	**6.72**	**152**	Pn	**Pn**	**23 48 19.6**	**-3.4**
GSI	**Gunungsitoli**	**6.72**	**152**	P	**Pn**	**23 48 22.6**	**-0.3**
	comp=E,0.1nmcomp=E,15nm,0.9s						
SRDT	**SRDT**	**8.43**	**33**	P	**Pn**	**23 48 47.6**	**+1.2**
	comp=E,0.3nmcomp=E,4.2nm,1.0s						
KHLT	**Khaolaem Dam**	**8.54**	**28**	P	**Pn**	**23 48 48.9**	**+1.0**
BKNI	**Bangkinang**	**9.57**	**136**	Pn	**Pn**	**23 49 00.7**	**-1.3**
UTHA	**Uthaitani**	**9.61**	**31**	P	Pn	23 48 47.1	-15
PPI	**Padang Panjang**	**9.74**	**142**	P	**Pn**	**23 49 06.0**	**+1.7**
	comp=E,22nm,0.7s						
MYKOM	**Kota Tinggi**	**10.89**	**120**	Pn	**Pn**	**23 49 18.5**	**-1.6**
CMAR	**Chiang Mai Arr**	**11.97**	**21**	P	**Pn**	**23 49 34.6**	**-0.3**
	comp=E,0.2nm,0.3s,baz=215,slow=15,SNR=5.4						
CMAR				LR	LR	23 54 22.0	
	comp=E,84nm,18.8s,baz=180,slow=38						
	comp=E,0.3nm,0.4s						
PALK	**Pallekele**	**13.58**	**271**	LR	LR	23 54 34.0	
	comp=E,134nm,21.3s,baz=121,slow=34						
KSM	**Kuching**	**16.88**	**109**		**Pn**	**23 50 38.0**	**-2.4**
KSM				IAmb	IAmb	23 50 52.5	
	comp=Z,26nm,1.4s						
PZH	**PanZhiHua**	**20.37**	**19**	P	Pn	23 51 22.1	-0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
MYLDM	**Lahad Datu**	**24.06**	**94**	P	**P**	**23 51 57.9**	**-1.3**
MYLDM				IAmb	IAmb	23 52 17.1	
	comp=Z,29nm,1.4s						
MPSI	**Mapaga**	**26.35**	**104**	P	**P**	**23 52 24.7**	**+4.6**
H08S3	**Diego Garcia H**	**26.39**	**236**	T	T	00 19 01.9	
	baz=56,slow=75,SNR=43						
H08S2	**Diego Garcia H**	**26.39**	**236**	T	T	00 19 02.4	
	baz=56,slow=75,SNR=42						
H08S1	**Diego Garcia H**	**26.40**	**236**	T	T	00 19 04.0	
	baz=56,slow=75,SNR=42						
XAN	**Xi'an**	**29.83**	**25**	P	P	23 52 57.4	+6.3
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NIL	**Nilore**	**32.73**	**326**	P	**P**	**23 53 17.4**	**+0.8**
WUS	**Wushi**	**36.39**	**341**	P	**P**	**23 53 48.6**	**+0.4**
WUS				IAmb	IAmb	23 53 50.9	
	comp=Z,4.3nm,0.7s						
WMQ	**Urumqi**	**36.88**	**352**	*e*P	**P**	**23 53 55.5**	**+3.2**
KDJ	**Kajisay**	**37.91**	**339**	P	**P**	**23 54 02.0**	**+0.8**
DRK	**Karamyk**	**37.95**	**331**	P	**P**	**23 54 02.9**	**+1.1**
GAR	**Garm**	**38.32**	**329**	P	**P**	**23 54 05.9**	**+1.3**
GAR				IAmb	IAmb	23 54 12.0	
	comp=Z,9.5nm,0.8s						
BOOM	**Boomskoye usch**	**38.68**	**338**	P	**P**	**23 54 08.1**	**+0.4**
SIMJ	**Simiganj**	**38.74**	**328**		**P**	**23 54 08.8**	**+0.5**
SIMJ				IAmb	IAmb	23 54 15.4	
	comp=Z,5.7nm,0.8s						
ARSB	**Arslanbob**	**38.89**	**334**	P	**P**	**23 54 10.0**	**+0.6**
ARSB				IAmb	IAmb	23 54 18.5	
	comp=Z,4.9nm,0.7s						
AAK	**Ala-Archa**	**39.36**	**337**	LR	LR	00 12 49.8	
	comp=Z,31nm,18.3s,baz=145,slow=40						
MKAR	**Makanchi Array**	**40.73**	**347**	P	**P**	**23 54 24.2**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=166,slow=7.9,SNR=14						
	comp=Z,1.7nm,0.7s						
MAKZ	**Makanchi**	**40.81**	**347**		**P**	**23 54 25.2**	**0.0**
**

comp=Z,1.1nm,0.7s
BOSA Boshof 75.47 238 P **P 23 58 29.3 +0.9**
BOSA IAmb IAmb 23 58 47.4
comp=Z,5.3nm,1.4s
BOSA Boshof 75.47 238 P **P 23 58 28.9 +0.6**
comp=Z,0.9nm,0.7s,baz=117,slow=4.5,SNR=1.3
comp=Z,0.9nm,0.7s
GERES GERESS Array B 78.44 318 P **P 23 58 43.9 -0.8**
comp=Z,0.2nm,0.3s,baz=104,slow=4.3,SNR=8.2
comp=Z,0.2nm,0.3s
HFS Hagfors 79.10 330 P **P 23 58 46.3 -1.6**
comp=Z,0.5nm,0.5s,baz=111,slow=10,SNR=5.0
comp=Z,0.5nm,0.5s
CIMO Cimolais 79.23 316 P **P 23 58 51.3 +2.3**
CIMO IAmb IAmb 23 58 56.9
comp=Z,6.2nm,1.0s
NB2 NORSAR Subarra 80.38 331 P **P 23 58 59.2 +4.3**
comp=Z,2.5nm,0.9s,baz=94,slow=5.6
NOA NORSAR Array B 80.38 331 P **P 23 58 55.1 +0.2**
comp=Z,0.6nm,0.8s,baz=93,slow=5.4,SNR=6.1
comp=Z,0.6nm,0.8s
ESDC Sonseca Array 91.79 310 P **P 23 59 51.1 -0.8**
comp=Z,0.3nm,0.7s,baz=52,slow=4.4,SNR=5.9
comp=Z,0.3nm,0.7s

---

*SNET **13** 23:47:14.6±1.4, 13°.13N×89°.93W, h10km, ML4.2*
*CATAC **13** 23:47:14.3±1.0, 13°N±4°×.9°0W±°, h22km±7km, M4.1/25, MLv4.1/25, Error ellipse: s-maj=10.7km s-min=5.3km az=40.9, confirmed*
*GCG **13** 23:47:15.5±1.5, 13°.23N×90°.02W, h24km±16km, MD4.2*
ISC 13 23:47:14.0±1.6, 13°.20N±0°.06×89°.98W±0°.04, h15km±12km, n79, σ0°63/91, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.69**	**48**	*eP*	**Pn**	**23 47 29.1**	**-0.2**
JAYA				*eS*	**Sb**	**23 47 38.4**	**+1.3**
JAYA	**Jayaque - finc**	**0.69**	**48**	*i P*	**Pn**	**23 47 29.1**	**-0.2**
JAYA				*eS*	**Sn**	**23 47 39.7**	**-0.2**
JAYA	**Jayaque - finc**	**0.69**	**48**	P	**Pn**	**23 47 29.1**	**-0.2**
LALI	**Alcalda de L**	**0.70**	**65**	*eP*	**Pb**	**23 47 28.5**	**+0.6**
LALI				*eS*	**Sb**	**23 47 38.4**	**+1.0**
LALI	**Alcalda de L**	**0.70**	**65**	*eP*	**Pn**	**23 47 28.7**	**-0.6**
LALI				*eS*	**Sb**	**23 47 37.7**	**+0.4**
LALI	**Alcalda de L**	**0.70**	**65**	P	**Pb**	**23 47 28.5**	**+0.6**
CEVE	**Cerro Verde**	**0.72**	**28**	*eP*	**Pn**	**23 47 29.8**	**0.0**
CEVE				*eS*	**Sn**	**23 47 41.0**	**+0.3**
CEVE	**Cerro Verde**	**0.72**	**28**	P	**Pn**	**23 47 29.9**	**0.0**
CEVE	**Cerro Verde**	**0.72**	**28**	S	**Sn**	**23 47 41.1**	**+0.5**
SBLS	**San Blas**	**0.73**	**28**	*eP*	**Pn**	**23 47 29.9**	**-0.1**
SBLS				*eS*	**Sn**	**23 47 41.2**	**+0.2**
SNJE	**San Jose**	**0.76**	**28**	*eP*	**Pn**	**23 47 30.4**	**0.0**
PMON	**Piamonte**	**0.82**	**51**	*eP*	**Pn**	**23 47 30.8**	**-0.3**
PMON				*eS*	**Sn**	**23 47 42.6**	**-0.5**
PMON	**Piamonte**	**0.82**	**51**	P	**Pn**	**23 47 31.0**	**-0.2**
PMON	**Piamonte**	**0.82**	**51**	S	**Sn**	**23 47 43.4**	**+0.3**
CEDA	**San Andres**	**0.83**	**43**	*eP*	**Pn**	**23 47 31.0**	**-0.2**
CEDA				*eS*	**Sn**	**23 47 43.0**	**-0.2**
CEDA	**San Andres**	**0.83**	**43**	P	**Pn**	**23 47 31.0**	**-0.2**
CEDA	**San Andres**	**0.83**	**43**	S	**Sn**	**23 47 43.4**	**+0.3**
ITCA	**Escuela Especi**	**0.83**	**55**	*eP*	**Pn**	**23 47 30.9**	**-0.4**
ITCA	**Escuela Especi**	**0.83**	**55**	P	**Pn**	**23 47 30.9**	**-0.4**
ITCA	**Escuela Especi**	**0.83**	**55**	S	**Sn**	**23 47 42.4**	**-0.8**
SLOZ	**Alcaldia de Sa**	**0.85**	**13**	P	**Pn**	**23 47 32.0**	**+0.6**
BOQS	**Boqueron**	**0.86**	**51**	*eP*	**Pn**	**23 47 31.7**	**-0.1**
BOQS				*eS*	**Sn**	**23 47 43.7**	**-0.6**
PANCS	**Alcalda de**	**0.88**	**62**	*eP*	**Pb**	**23 47 31.3**	**+0.3**
PANCS	**Alcalda de**	**0.88**	**62**	P	**Pb**	**23 47 31.2**	**+0.2**
UEES	**Universidad Ev**	**0.88**	**54**	*eP*	**Pb**	**23 47 31.3**	**+0.2**
UEES	**Universidad Ev**	**0.88**	**54**	P	**Pn**	**23 47 31.7**	**-0.3**
UNIC	**Universidad Ca**	**0.89**	**28**	*eP*	**Pn**	**23 47 32.1**	**+0.1**
UNIC	**Universidad Ca**	**0.89**	**28**	P	**Pn**	**23 47 32.3**	**+0.3**
PIC2	**El Picacho**	**0.89**	**52**	*eP*	**Pn**	**23 47 31.9**	**-0.3**
LOMA	**Loma Larga**	**0.90**	**60**	*eP*	**Pb**	**23 47 31.8**	**+0.3**
LOMA	**Loma Larga**	**0.90**	**60**	P	**Pb**	**23 47 31.7**	**+0.3**
UESS	**Universidad de**	**0.92**	**55**	*eP*	**Pn**	**23 47 32.3**	**-0.1**
UDBS	**Universidad Do**	**0.95**	**57**	*eP*	**Pg**	**23 47 32.5**	**0.0**
UDBS	**Universidad Do**	**0.95**	**57**	P	**Pn**	**23 47 32.6**	**-0.3**
AEIL	**Aeropuerto Ilo**	**0.97**	**59**	*eP*	**Pn**	**23 47 32.9**	**-0.3**
LFRS	**El Faro**	**0.98**	**64**	*eP*	**Pg**	**23 47 33.1**	**0.0**
LFU	**La Fuente**	**1.00**	**57**	*eP*	**Pn**	**23 47 33.4**	**-0.2**
LFU				*eS*	**Sn**	**23 47 47.8**	**+0.3**
PAVA	**Las Pavas**	**1.13**	**63**	*eP*	**Pg**	**23 47 35.7**	**-0.2**
PAVA	**Las Pavas**	**1.13**	**63**	P	**Pg**	**23 47 35.7**	**-0.2**
COEG	**Centro de Oper**	**1.15**	**68**	*eP*	**Pn**	**23 47 35.1**	**-0.5**
COEG	**Centro de Oper**	**1.15**	**68**	P	**Pn**	**23 47 35.1**	**-0.5**
SNVI	**San Vicente**	**1.18**	**69**	*eP*	**Pn**	**23 47 36.0**	**-0.2**
SNVI				*eS*	**Sb**	**23 47 51.4**	**0.0**
FG8	**Yepocapa, Chim**	**1.20**	**332**	*eP*	Pg	23 47 41.8	+4.5
FG8				*eS*	Sn	23 48 01.2	+8.7
TECO	**Alcaldia de Te**	**1.21**	**74**	*eP*	**Pn**	**23 47 35.8**	**-0.6**
TECO	**Alcaldia de Te**	**1.21**	**74**	P	**Pn**	**23 47 35.9**	**-0.6**
UESV	**Universidad de**	**1.24**	**69**	*eP*	**Pn**	**23 47 36.7**	**-0.1**
UESV	**Universidad de**	**1.24**	**69**	P	**Pn**	**23 47 36.7**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.31**	**67**	*eP*	**Pb**	**23 47 38.1**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.31**	**67**	P	**Pb**	**23 47 38.3**	**-0.1**
MTO3	**Montecristo**	**1.34**	**26**	*eP*	**Pb**	**23 47 38.9**	**0.0**
MTO3	**Montecristo**	**1.34**	**26**	*eP*	**Pg**	**23 47 39.2**	**-0.7**
MTO3	**Montecristo**	**1.34**	**26**	P	**Pg**	**23 47 39.1**	**-0.7**
ALJI	**Alcalda de J**	**1.37**	**84**	*eP*	**Pn**	**23 47 37.9**	**-0.7**
ALJI	**Alcalda de J**	**1.37**	**84**	P	**Pn**	**23 47 38.1**	**-0.6**
LLGN	**La Laguna**	**1.39**	**46**	*eP*	**Pn**	**23 47 39.0**	**0.0**
LLGN	**La Laguna**	**1.39**	**46**	P	**Pb**	**23 47 39.2**	**-0.5**
ESSG	**Sabana Grande**	**1.45**	**325**	*eP*	**Pb**	**23 47 39.4**	**-1.3**
ESSG				*eS*	**Sb**	**23 47 57.7**	**-1.2**
TECA	**Tecapa**	**1.46**	**78**	*eP*	**Pn**	**23 47 39.8**	**-0.2**
ESQI	**Esquipulas**	**1.49**	**24**	*eP*	**Pb**	**23 47 41.5**	**0.0**
ESQI	**Esquipulas**	**1.49**	**24**	P	**Pb**	**23 47 41.4**	**-0.1**
PACA	**Pacayal**	**1.63**	**80**	*eP*	**Pn**	**23 47 42.5**	**+0.2**
PACA				*eS*	**Sn**	**23 48 03.0**	**-0.1**
PACA	**Pacayal**	**1.63**	**80**	P	**Pn**	**23 47 43.0**	**+0.7**
LCY	**Lacayo**	**1.65**	**82**	*eP*	**Pb**	**23 47 42.5**	**0.0**
RANC	**El Ranchito**	**1.66**	**82**	*eP*	**Pn**	**23 47 42.5**	**-0.2**
RANC	**El Ranchito**	**1.66**	**82**	P	**Pn**	**23 47 42.6**	**-0.1**
VSM	**San Miguel**	**1.67**	**82**	*eP*	**Pn**	**23 47 43.0**	**+0.1**
BLLM	**Bellamira**	**1.71**	**82**	*eP*	**Pn**	**23 47 43.3**	**-0.1**
STG0	**El Palmar, Qui**	**1.81**	**313**	*eP*	**Pg**	**23 47 49.8**	**+1.0**
CAHU	**Cacacuatique**	**1.81**	**71**	*eP*	**Pn**	**23 47 45.0**	**+0.1**
STG8	**El Palmar, Qui**	**1.83**	**313**	*eP*	**Pg**	**23 47 50.2**	**+1.1**
LCND	**La Caada**	**2.03**	**87**	*eP*	**Pn**	**23 47 47.6**	**-0.1**
LCND	**La Caada**	**2.03**	**87**	P	**Pn**	**23 47 47.9**	**+0.2**
CNCH	**Conchagua**	**2.09**	**88**	*eP*	**Pn**	**23 47 48.3**	**-0.2**
CNCH	**Conchagua**	**2.09**	**88**	P	**Pn**	**23 47 48.4**	**-0.2**
CSGN	**Cosiguina Volc**	**2.36**	**95**	P	**Pn**	**23 47 52.0**	**-0.3**
POLN	**Al Sur del Vol**	**3.13**	**100**	P	**Pn**	**23 48 00.5**	**-2.3**
CNGA	**Al SSO del Vol**	**3.27**	**102**	P	**Pn**	**23 48 07.8**	**+3.1**
MOMN	**Momotombo**	**3.44**	**103**	P	**Pn**	**23 48 05.7**	**-1.4**
COPN	**Copaltepe**	**3.45**	**107**	P	**Pn**	**23 48 07.4**	**+0.2**

---

*TAP **14** 00:16:14.1, 24°.19N×121°.66E, h48km, ML2.5, B*
ISC 14 00:16:15.1±1.3, 24°.19N±0°.02×121°.64E±0°.03, h45km±5km, n63, σ0°73/94, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.03**	**203**	*i P*	**Pn**	**00 16 21.9**	**-0.2**
ETL				*eS*	**Sn**	**00 16 27.5**	**+0.4**
NACB	**Ninganchiao**	**0.04**	**247**	P	**Pn**	**00 16 21.8**	**-0.3**
NACB	**Ninganchiao**	**0.04**	**247**	P	Pn	00 16 27.6	+5.5
NACB	**Ninganchiao**	**0.04**	**247**	⇑*iP*	**Pn**	**00 16 21.7**	**-0.3**
NACB				*i* S	**Sn**	**00 16 27.4**	**+0.4**
TWD	**Chiawan**	**0.12**	**199**	*i P*	**Pn**	**00 16 22.1**	**-0.3**
TWD				*i* S	**Sn**	**00 16 27.9**	**+0.5**
ETLH	**Xiulin Townshi**	**0.14**	**277**	*i P*	**Pn**	**00 16 22.4**	**-0.1**
ETLH				*eS*	**Sn**	**00 16 28.5**	**+0.6**
HWA	**Hwalien**	**0.21**	**188**	*eS*	**Sn**	**00 16 29.9**	**+1.4**
ENA	**Nanau**	**0.26**	**22**	*eP*	**Pn**	**00 16 23.3**	**-0.1**
ETM	**Tongmen**	**0.26**	**211**	S	**Sn**	**00 16 29.0**	**-0.2**
LXIB	**Xiulin Townshi**	**0.27**	**231**	*eP*	**Pn**	**00 16 22.9**	**-0.7**
LXIB				*eS*	**Sn**	**00 16 29.9**	**+0.3**
EWUT	**Wuta**	**0.28**	**27**	*eP*	**Pn**	**00 16 23.4**	**-0.2**
NNSB	**Datong**	**0.33**	**316**	P	**Pn**	**00 16 23.8**	**-0.4**
NNSB				*eS*	**Sn**	**00 16 31.1**	**+0.4**
WHF	**Hehuan Shan**	**0.34**	**263**	P	**Pn**	**00 16 24.4**	**-0.3**
WHF				*eS*	**Sn**	**00 16 31.6**	**+0.3**
NNS	**Nan Shan**	**0.35**	**316**	P	**Pn**	**00 16 24.1**	**-0.3**
LATG	**Datong**	**0.36**	**344**	P	**Pn**	**00 16 23.9**	**-0.6**
LATG				*eS*	**Sn**	**00 16 31.5**	**+0.3**
FUSS	**Fushou**	**0.36**	**279**	*i P*	**Pn**	**00 16 24.6**	**-0.1**
FUSS				*i* S	**Sn**	**00 16 32.0**	**+0.6**
SHUL	**Shoufeng**	**0.41**	**190**	*eP*	**Pn**	**00 16 24.7**	**-0.2**
SHUL				*eS*	**Sn**	**00 16 32.9**	**+1.1**
ESL	**Shilin**	**0.42**	**207**	*eP*	**Pn**	**00 16 23.9**	**-1.1**
ESL				*eS*	**Sn**	**00 16 31.2**	**-0.9**
TWT	**Tachien**	**0.43**	**279**	P	**Pn**	**00 16 25.4**	**+0.1**
ESAO	**Su ao**	**0.43**	**26**	P	**Pn**	**00 16 25.1**	**0.0**
TDCB	**Techi**	**0.44**	**278**	P	**Pn**	**00 16 25.3**	**-0.2**
TDCB				*eS*	**Sn**	**00 16 33.3**	**+0.5**
ENTT	**Nioudou**	**0.45**	**352**	*i P*	**Pn**	**00 16 25.1**	**-0.4**
TWC	**Suao**	**0.46**	**25**	*eP*	**Pn**	**00 16 25.6**	**+0.1**
OWD	**Renai**	**0.48**	**241**	*eP*	**Pn**	**00 16 25.6**	**-0.4**
OWD				*eS*	**Sn**	**00 16 33.6**	**0.0**
WUSB	**Renai**	**0.52**	**248**	*eP*	**Pn**	**00 16 26.2**	**-0.1**
WUSB				*eS*	**Sn**	**00 16 34.4**	**+0.1**
WARBT	**Fenglin Townsh**	**0.52**	**206**	*eP*	**Pn**	**00 16 24.7**	**-1.7**
WARBT				*eS*	**Sn**	**00 16 32.9**	**-1.5**
TWE	**Neicheng**	**0.53**	**3**	*eP*	**Pn**	**00 16 25.9**	**-0.5**
TWE				S	**Sn**	**00 16 34.6**	**+0.2**
YHNB	**Yeheng**	**0.53**	**333**	P	**Pn**	**00 16 26.1**	**-0.5**
YHNB	**Yeheng**	**0.53**	**333**	S	**Sn**	**00 16 33.3**	**-1.4**
YHNB	**Yeheng**	**0.53**	**333**	P	**Pn**	**00 16 26.1**	**-0.5**
YHNB				*eS*	**Sn**	**00 16 34.1**	**-0.6**
NSK	**Sanguang**	**0.55**	**332**	*eP*	**Pn**	**00 16 26.3**	**-0.4**
NSK				*eS*	**Sn**	**00 16 34.7**	**-0.2**
EGFH	**Guangfu**	**0.55**	**200**	*eP*	**Pn**	**00 16 25.5**	**-1.3**
FUSB	**Fushanzhiwuyua**	**0.57**	**355**	P	**Pn**	**00 16 26.5**	**-0.5**
FUSB				*eS*	**Sn**	**00 16 35.1**	**-0.4**
EOS2	**EOS2**	**0.59**	**67**	*eP*	**Pn**	**00 16 28.6**	**+1.6**
NWLT	**Wulai**	**0.60**	**348**	*eP*	**Pn**	**00 16 27.0**	**-0.3**
NWLT				S	**Sn**	**00 16 35.7**	**-0.3**
EOS4	**EOS4**	**0.62**	**96**	*eP*	**Pn**	**00 16 27.1**	**-0.2**
EOS4				*eS*	**Sn**	**00 16 37.2**	**+1.1**
VWDT	**VWDT**	**0.63**	**226**	P	**Pn**	**00 16 27.4**	**-0.3**
VWDT				*eS*	**Sn**	**00 16 36.9**	**+0.2**
WHP	**Taichung City**	**0.64**	**278**	*i P*	**Pn**	**00 16 28.1**	**+0.2**
WHP				*eS*	**Sn**	**00 16 37.8**	**+0.7**
NFF	**Wufeng Townshi**	**0.65**	**313**	*eP*	**Pn**	**00 16 27.9**	**-0.1**
NFF				*eS*	**Sn**	**00 16 37.2**	**0.0**
WCS	**Beigang Elemen**	**0.68**	**259**	*eP*	**Pn**	**00 16 28.2**	**-0.1**
KSHI	**Guanxi Townshi**	**0.72**	**324**	*eP*	**Pn**	**00 16 28.7**	**-0.2**
KSHI				S	**Sn**	**00 16 40.0**	**+1.1**
HGSD	**Ruisui**	**0.72**	**196**	*eP*	**Pn**	**00 16 28.2**	**-0.7**
LIOB	**Emei**	**0.73**	**309**	*eP*	**Pn**	**00 16 29.1**	**+0.1**
LIOB				*eS*	**Sn**	**00 16 40.0**	**+1.0**
NSTT	**Nanjuang**	**0.73**	**307**	*eP*	**Pn**	**00 16 29.1**	**+0.1**
NSTT				*eS*	**Sn**	**00 16 39.3**	**+0.3**
EHY	**Hungye**	**0.74**	**203**	*eP*	**Pn**	**00 16 27.1**	**-2.1**
EHY				*eS*	**Sn**	**00 16 37.7**	**-1.7**
SSLB	**Suanglung**	**0.74**	**237**	P	**Pn**	**00 16 29.3**	**+0.1**
SSLB	**Suanglung**	**0.74**	**237**	S	**Sn**	**00 16 39.4**	**-0.1**
SSLB	**Suanglung**	**0.74**	**237**	*eP*	**Pn**	**00 16 29.1**	**-0.1**
TYC	**Yuchr**	**0.77**	**248**	*eP*	**Pn**	**00 16 29.7**	**+0.1**
TIPB	**Shuangxi**	**0.80**	**12**	*eP*	**Pn**	**00 16 29.5**	**-0.5**
TIPB				*eS*	**Sn**	**00 16 40.5**	**-0.3**
YULB	**Yu-li**	**0.85**	**201**	P	**Pn**	**00 16 30.4**	**-0.3**
YULB	**Yu-li**	**0.85**	**201**	*eP*	**Pn**	**00 16 29.9**	**-0.8**
WHYT	**Xinyi Township**	**0.87**	**236**	*eP*	**Pn**	**00 16 31.2**	**+0.2**
WHYT				*eS*	**Sn**	**00 16 43.8**	**+1.2**
TWB1	**Santiao Chiao**	**0.88**	**21**	*eS*	**Sn**	**00 16 42.9**	**+0.3**
TWF1	**Yuli**	**0.89**	**201**	*eP*	**Pn**	**00 16 31.3**	**0.0**
SXI1	**Grass Mountain**	**0.93**	**13**	*eP*	**Pn**	**00 16 31.3**	**-0.4**
YM01	**YM01**	**0.95**	**356**	*eP*	**Pn**	**00 16 31.6**	**-0.6**
ZUZH	**Zhuzihu**	**0.97**	**355**	*eS*	**Sn**	**00 16 43.4**	**-1.6**
CHN5	**Tsauling**	**1.06**	**236**	*eP*	**Pn**	**00 16 33.6**	**0.0**
CHN5				*eS*	**Sn**	**00 16 48.7**	**+1.5**
TPUB	**Ta-pu**	**1.28**	**226**	P	**Pn**	**00 16 36.6**	**+0.1**
TPUB	**Ta-pu**	**1.28**	**226**	S	**Sn**	**00 16 54.0**	**+1.5**
TPUB	**Ta-pu**	**1.28**	**226**	*eP*	**Pn**	**00 16 36.9**	**+0.4**
TPUB				*eS*	**Sn**	**00 16 54.1**	**+1.6**
STYH	**Taoyuan**	**1.29**	**218**	*eP*	**Pn**	**00 16 35.8**	**-0.8**

IDC 14 00:17:55.8±13.0, 20°.20S×68°.26E, h0km, mb3.6/6, mbtmp3.6/6, MS3.6/3, Error ellipse: s-maj=468.9km s-min=31.0km az=53.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.13**	**19**	T	T	00 34 49.9	
	baz=200,slow=76,SNR=376						
H08S2	**Diego Garcia H**	**13.14**	**19**	T	T	00 34 41.3	
	baz=200,slow=86,SNR=86						
H08S3	**Diego Garcia H**	**13.15**	**19**	T	T	00 34 43.8	
	baz=200,slow=76,SNR=44						
H04N2	**CROZET ISLANDS**	**29.21**	**204**	T	T	00 54 17.8	
	baz=32,slow=75,SNR=385						
H04N1	**CROZET ISLANDS**	**29.21**	**204**	T	T	00 54 18.7	
	baz=32,slow=75,SNR=433						
H04N3	**CROZET ISLANDS**	**29.22**	**204**	T	T	00 54 17.5	
	baz=32,slow=75,SNR=510						
PALK	**Pallekele**	**29.92**	**25**	LR	LR	00 33 00.6	
	comp=Z,50nm,19.2s,baz=178,slow=30						
ASAR	**Alice Springs**	**60.51**	**106**	P	P	00 28 09.2	+1.0
	0.5nm,0.8s,baz=265,slow=6.4,SNR=6.1						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**61.66**	**102**	P	P	00 28 14.5	-1.5
	0.2nm,0.5s,baz=261,slow=5.8,SNR=1.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**67.88**	**10**	P	P	00 28 56.1	+0.2
	0.5nm,0.8s,baz=189,slow=6.6,SNR=4.3						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**71.09**	**7**	P	P	00 29 16.1	+0.4
	0.6nm,0.8s,baz=206,slow=6.3,SNR=4.4						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**72.94**	**1**	P	P	00 29 26.1	-0.6
	0.2nm,0.4s,baz=174,slow=1.4,SNR=2.2						
BVAR				LR	LR	01 00 00.8	
	comp=Z,41nm,20.2s,baz=120,slow=35						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**75.21**	**10**	P	P	00 29 40.0	0.0
	0.6nm,0.6s,baz=216,slow=7.1,SNR=2.3						
	0.6nm,0.6s						
HNR	**Honiara**	**88.36**	**99**	LR	LR	01 08 51.4	
	comp=Z,59nm,18.4s,baz=342,slow=35						

---

*IDC **14** 00:30:33.6±3.5, 19°.64N×146°.41E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=141.2km s-min=33.3km az=82.0*
ISC 14 00:30:38.8±3.5, 19°.6N±0°.2×14°.6E±°, h35km, n6, σ0°29/6, mb3.7/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.04**	**197**	P	**P**	**00 38 19.1**	**0.0**
	0.2nm,0.3s,baz=22,slow=7.8,SNR=1.2						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**57.73**	**322**	P	**P**	**00 40 26.0**	**-0.1**
	0.4nm,0.4s,baz=97,slow=6.1,SNR=2.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**58.34**	**313**	P	**P**	**00 40 30.6**	**+0.1**
	0.2nm,0.8s,baz=87,slow=8.8,SNR=2.2						
	0.2nm,0.8s						
KURBB	**Kurchatov Arra**	**61.12**	**318**	P	**P**	**00 40 49.0**	**-0.5**
	0.2nm,0.4s,baz=93,slow=7.6,SNR=4.9						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**66.23**	**320**	P	**P**	**00 41 23.1**	**0.0**
	0.4nm,0.4s,baz=73,slow=5.0,SNR=3.9						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**86.36**	**335**	P	**P**	**00 43 17.2**	**0.0**
	0.4nm,0.4s,baz=76,slow=5.2,SNR=8.4						
	0.4nm,0.4s						

---

*NEIC **14** 00:32:36.6±2.2, 18°.1S±0°.1×178°.2W±0°.1, h548km±7km, mb4.3/25, Error ellipse: s-maj=17.7km s-min=15.9km az=72.0*
*IDC **14** 00:32:39.0±1.0, 18°.15S×178°.26W, h575km±10km, mb3.4/16, mbtmp4.3/17, Error ellipse: s-maj=14.3km s-min=11.8km az=140.0*
*NOU **14** 00:32:41.0, 18°.04S×178°.24W, h529km, MLv4.1/7, Fiji Islands Region*
ISC 14 00:32:36.4±0.4, 18°.15S±0°.09×178°.14W±0°.07, h550km, n87, σ1°20/87, mb4.2/28, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.65**	**263**	P	**P**	**00 33 44.4**	**+2.4**
TAVE	**Taveuni**	**2.21**	**310**	P	**P**	**00 33 49.5**	**+2.3**
DGTI	**Dogotuki**	**2.74**	**312**	P	**P**	**00 33 51.7**	**+1.7**
MSVF	**Nonsavu**	**3.65**	**276**	P	**P**	**00 33 58.1**	**+2.2**
MSVF	**Nonsavu**	**3.65**	**276**	P	**P**	**00 33 58.6**	**+2.7**
	227nm,0.7s,baz=129,slow=6.4,SNR=209						
MSVF				S	**S**	**00 35 06.2**	**+5.6**
	24nm,1.0s,baz=166,slow=22,SNR=1.3						
MSVF	**Nonsavu**	**3.65**	**276**	P	**P**	**00 33 58.5**	**+2.6**
FUTU	**Fugatoga**	**3.82**	**0**	P	**P**	**00 33 59.1**	**+1.9**
FUTU	**Fugatoga**	**3.82**	**0**	P	**P**	**00 33 59.5**	**+2.4**
YSA	**Yasawairara**	**4.34**	**289**	P	**P**	**00 34 02.7**	**+1.8**
AFI	**Afiamalu**	**7.43**	**56**	P	**P**	**00 34 27.7**	**-1.0**
NIUE	**Niue**	**7.84**	**98**	P	**P**	**00 34 32.6**	**0.0**
RAR	**Rarotonga**	**17.56**	**103**	P	**P**	**00 36 10.9**	**+0.6**
QRZ	**Quartz Range**	**23.98**	**198**	P	**P**	**00 37 07.5**	**-0.5**
INZ	**Inchbonnie**	**26.05**	**198**	P	**P**	**00 37 25.4**	**-0.8**
PPT	**Papeete**	**27.18**	**93**	P	**P**	**00 37 38.1**	**+1.6**
	12nm,0.6s,baz=252,slow=20,SNR=2.0						
	12nm,0.6s						
COEN	**Coen**	**37.36**	**271**	P	**P**	**00 39 02.3**	**-0.7**
STKA	**Stephens Creek**	**38.74**	**241**	P	**P**	**00 39 14.4**	**+0.5**
	1.2nm,0.5s,baz=133,slow=19,SNR=1.8						
	1.2nm,0.5s						
BBOO	**Buckleboo**	**43.51**	**241**	P	**P**	**00 39 51.5**	**-0.3**
WB0	**Warramunga Arr**	**44.81**	**260**	P	**P**	**00 40 01.1**	**-0.9**
WB0				IAmb	IAmb	00 40 23.9	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**44.84**	**260**	P	**P**	**00 40 01.1**	**-1.1**
WRA	**Warramunga Arr**	**44.84**	**260**	P	**P**	**00 40 01.3**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=97,slow=6.9,SNR=34						
	comp=Z,2.2nm,0.5s						
AS31	**Alice Springs**	**44.97**	**254**		**P**	**00 40 02.9**	**-0.3**
AS31				IAmb	IAmb	00 40 03.9	
	comp=Z,4.4nm,0.6s						
ASAR	**Alice Springs**	**44.97**	**254**	P	**P**	**00 40 03.0**	**-0.3**
	comp=Z,14nm,0.6s,baz=88,slow=8.5,SNR=227						
ASAR				S	**S**	**00 45 58.7**	**-3.3**
	comp=Z,1.4nm,0.9s,baz=91,slow=14,SNR=9.0						
	comp=Z,14nm,0.6s						
KNRA	**Kununurra**	**50.72**	**264**	P	**P**	**00 40 45.2**	**-1.0**
KNRA				IAmb	IAmb	00 40 46.9	
	comp=Z,10nm,1.2s						
FITZ	**Fitzroy Crossi**	**53.24**	**261**	P	**P**	**00 41 03.6**	**-0.7**
MBWA	**Marble Bar**	**58.26**	**256**	P	**P**	**00 41 37.5**	**-1.5**
MBWA				IAmb	IAmb	00 42 14.1	
	comp=Z,24nm,1.4s						
SBA	**Scott Base**	**60.19**	**184**	P	**P**	**00 41 51.7**	**+0.8**
VNDA	**Vanda**	**60.23**	**185**	P	**P**	**00 41 52.0**	**+0.9**
VNDA	**Vanda**	**60.23**	**185**	P	**P**	**00 41 52.3**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=351,slow=5.9,SNR=6.3						
	comp=Z,0.9nm,0.8s						
JGF	**Kuroka**	**68.09**	**322**	P	**P**	**00 42 41.3**	**-0.4**
JGF				IAmb	IAmb	00 43 24.8	
	comp=Z,16nm,1.4s						
MJAR	**Matsushiro Arr**	**68.25**	**323**	P	**P**	**00 42 42.4**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=161,slow=5.8,SNR=15						
	comp=Z,2.9nm,0.5s						
MAJO	**Matsushiro**	**68.25**	**323**	P	**P**	**00 42 41.5**	**-1.2**
MAJO				IAmb	IAmb	00 42 43.2	
	comp=Z,4.9nm,0.6s						
MJB9	**Matsu-Tunnel**	**68.26**	**323**

BNI	**Bardonecchia**	**152.88**	**352**	PKPbc	**PKiKP**	**00 51 32.4**	**+0.5**
ESDC	**Sonseca Array**	**157.97**	**12**	PKPab	**PKPab**	**00 52 07.6**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=329,slow=1.5,SNR=2.2						

*IDC **14** 00:55:25.6±1.8, 6°.59S×129°.16E, h0km, mb3.6/2, mbtmp3.7/5, ML3.9/3, Error ellipse: s-maj=84.0km s-min=25.3km az=76.0*

ISC 14 00:55:26.6±1.0, 6°.6S±0°.1×128°.9E±0°.1, h10km, n10, σ1§69/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.94**	**42**	P	**Pg**	**00 57 00.4**	**-0.9**
SOEI	**Soe**	**5.57**	**236**	P	**Pb**	**00 57 02.3**	**-1.9**
DRS	**Darwin Rock St**	**6.10**	**162**	P	Pb	00 57 04.2	-8.8
MTN	**Manton Dam**	**6.56**	**161**	P	Pn	00 57 09.7	+6.5
KDU	**Kakadu**	**6.97**	**150**	P	Pn	00 57 15.5	+6.6
FITZ	**Fitzroy Crossi**	**11.86**	**195**	Pn	**Pn**	**00 58 17.7**	**+1.8**
	0.6nm,0.3s,baz=23,slow=11,SNR=37						
FITZ				Sn	Sn	01 00 14.2	-14
	2.1nm,0.3s,baz=69,slow=18,SNR=10.0 1.6nm,0.2s						
WRA	**Warramunga Arr**	**14.25**	**159**	Pn	**Pn**	**00 58 48.1**	**-0.6**
	0.6nm,0.3s,baz=338,slow=11,SNR=15						
WRA				Sn	Sn	01 01 13.2	-14
	1.5nm,0.3s,baz=328,slow=22,SNR=7.0 0.6nm,0.4s						
ASAR	**Alice Springs**	**17.62**	**165**	P	**Pn**	**00 59 31.8**	**-0.6**
	0.3nm,0.3s,baz=342,slow=10,SNR=12						
ASAR				S	Sn	01 02 32.1	-17
	1.5nm,1.0s,baz=338,slow=19,SNR=7.6 0.8nm,0.5s						
MKAR	**Makanchi Array**	**67.33**	**327**	P	**P**	**01 06 22.8**	**+0.9**
	0.2nm,0.4s,baz=126,slow=7.3,SNR=5.8 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**71.63**	**329**	P	**P**	**01 06 49.9**	**+1.6**
	0.4nm,0.7s,baz=136,slow=5.1,SNR=7.5 0.4nm,0.7s						

*IDC **14** 01:08:44.6±0.7, 7°.53N×93°.92E, h0km, mb4.0/18, mbtmp4.0/20, ML3.9/2, MS3.3/11, Error ellipse: s-maj=25.8km s-min=16.8km az=55.0*
*NEIC **14** 01:08:46.2±1.8, 7°.49N±0°.07×94°.2E±0°.1, h10km±1km, mb4.6/20, Error ellipse: s-maj=22.0km s-min=7.8km az=240.0*
*BKK **14** 01:08:48.2±1.5, 8°.N±6°.×9°.4E±1°.4, h10km, M4.2/10, mB4.4/2, mb4.4/5, Mjma3.8/10, ML4.3/3, MLv4.2/4, Mw(mB)3.5/2*
*DJA **14** 01:08:49.9±1.5, 8°.N±3°.×9°.5E±°, h14km±14km, M4.3/6, mb4.4/6, mB4.6/1, MLv4.2/6, Mw(mB)3.8/1*
*NDI **14** 01:08:52.1±1.9, 7°.42N×94°.34E, h10km, ML4.1, MW4.3, mb4.6(NEIC)*

ISC 14 01:08:45.7±0.4, 7°.49N±0°.04×94°.21E±0°.05, h10km, n87, σ1§75/81, mb4.4/30, MS3.4/8, 2C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.55**	**210**	*eP*	**Pn**	**01 08 59.9**	**+0.3**
CMBY				*eS*	**Sn**	**01 09 09.1**	**+0.3**
CMBY				IAML		01 09 12.2	
	comp=E,10μm,0.5s						
CMBY				IAML		01 09 13.0	
	comp=N,15μm,0.7s						
BSI	**Banda Aceh**	**2.25**	**151**	P	**Pn**	**01 09 24.0**	**+0.9**
BSI				S	**Sb**	**01 09 56.2**	**+1.7**
MLSI	**Meulaboh, Aceh**	**3.88**	**146**	P	**Pn**	**01 09 47.5**	**+2.1**
PBA	**Port Blair**	**4.39**	**341**	*eP*	**Pb**	**01 10 00.6**	**-2.2**
PBA				*eS*	**Sn**	**01 10 49.8**	**+6.2**
RNTT	**Ranong**	**4.63**	**66**	P	**Pn**	**01 09 55.6**	**-0.1**
SRIT	**Nakonsritamara**	**5.46**	**78**		**Pn**	**01 10 07.6**	**+0.6**
SRIT	**Nakonsritamara**	**5.46**	**78**	P	**Pn**	**01 10 07.4**	**+0.3**
DGPR	**DIGLIPUR**	**5.79**	**348**	*eP*	Pb	01 10 20.5	-6.4
DGPR				*eS*	**Sn**	**01 11 22.3**	**+4.1**
PSI	**Prapat**	**6.61**	**135**	Pn	**Pn**	**01 10 27.6**	**+4.5**
	comp=N,0.5nm,0.3s,baz=300,slow=12,SNR=4.1						
PSI				Sn	**Sn**	**01 11 35.3**	**-3.4**
	comp=N,0.3nm,0.3s,baz=286,slow=21,SNR=1.1						
PSI				LR	LR	01 12 54.3	
	comp=N,223nm,18.5s,baz=291,slow=36 comp=N,2.7nm,0.5s						
RPSI	**Rantau Prapat**	**6.69**	**135**		**Pn**	**01 10 23.1**	**-0.9**
RPSI	**Rantau Prapat**	**6.69**	**135**		**Pn**	**01 10 27.6**	**+3.6**
RPSI					**Sn**	**01 11 35.3**	**-5.0**
KULM	**Kulim**	**6.76**	**108**		**Pn**	**01 10 24.1**	**-1.0**
SRDT	**SRDT**	**8.35**	**35**	P	**Pn**	**01 10 47.9**	**+1.0**
	comp=N,0.2nmcomp=N,22nm,0.6s						
KHLT	**Khaolaem Dam**	**8.44**	**30**	P	**Pn**	**01 10 48.5**	**+0.4**
UTHA	**Uthaitani**	**9.52**	**32**	P	**Pn**	**01 11 03.6**	**+0.7**
PPI	**Padang Panjang**	**10.02**	**142**	P	**Pn**	**01 11 09.2**	**-0.6**
	comp=N,13nm,1.0s						
CM31	**Chiang Mai Arr**	**11.84**	**22**	Pn	**Pn**	**01 11 35.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**11.84**	**22**	Pn	**Pn**	**01 11 36.2**	**+1.5**
	comp=N,0.7nm,0.3s,baz=213,slow=14,SNR=15						
CMAR				LR	LR	01 15 49.6	
	comp=N,85nm,18.1s,baz=195,slow=36 comp=N,1.3nm,0.4s						
PALK	**Pallekele**	**13.40**	**270**	Pn	**Pn**	**01 11 55.4**	**-0.6**
	comp=N,0.1nm,0.3s,baz=258,slow=13,SNR=1.3						
PALK				Sn	Sn	01 14 13.1	-12
	comp=N,0.4nm,0.3s,baz=151,slow=8.3,SNR=3.8						
PALK				LR	LR	01 15 06.0	
	comp=N,17nm,21.1s,baz=94,slow=29						
AGT	**Agartala**	**16.55**	**350**	*eS*	**Sn**	**01 15 35.4**	**-6.5**
AGT				IAML		01 16 54.6	
	comp=N,320nm,0.3s						
AGT				IAML		01 16 55.0	
	comp=E,388nm,0.4s						
QIZ	**Qiongzhong**	**19.04**	**51**	P	**P**	**01 13 08.3**	**+0.2**
QIZ				S	**Sn**	**01 16 42.3**	**0.0**
QIZ				LR	LR		
	comp=N,330nm,10.3s						
QIZ				LR	LR		
	comp=E,210nm,9.8s						
QIZ				LR	LR		
	comp=Z,120nm,14.7s						
PZH	**PanZhiHua**	**20.22**	**20**	P	Pn	01 13 24.3	+1.2
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.4s						
H08S3	**Diego Garcia H**	**26.36**	**236**	T	T	01 41 04.0	
	baz=55,slow=76						
H08S2	**Diego Garcia H**	**26.36**	**236**	T	T	01 41 03.3	
	baz=55,slow=76						
H08S1	**Diego Carcia H**	**26.37**	**236**	T	T	01 41 07.6	
	baz=55,slow=76						
XAN	**Xi'an**	**29.71**	**25**	P	**P**	**01 14 51.0**	**-1.1**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NJ2	**Nanjing**	**33.52**	**40**	*eP*	**P**	**01 15 26.8**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**36.65**	**22**	*eP*	**P**	**01 15 54.1**	**+1.5**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
KDJ	**Kajisay**	**37.65**	**339**	P	**P**	**01 16 01.4**	**+0.2**
GAR	**Garm**	**38.04**	**329**		**P**	**01 16 04.0**	**-0.5**
GAR				IAmb	IAmb	01 16 11.2	
	comp=Z,18nm,1.4s						
ARSB	**Arslanbob**	**38.62**	**334**	P	**P**	**01 16 09.5**	**+0.2**
AAK	**Ala-Archa**	**39.09**	**337**	LR	LR	01 33 16.6	
	comp=Z,64nm,21.7s,baz=158,slow=38						
FITZ	**Fitzroy Crossi**	**40.12**	**130**	LR	LR	01 35 28.9	
	comp=Z,98nm,18.3s,baz=340,slow=40						
MKAR	**Makanchi Array**	**40.48**	**347**		**P**	**01 16 23.9**	**-0.7**
MKAR	**Makanchi Array**	**40.48**	**347**	P	**P**	**01 16 24.4**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=163,slow=8.5,SNR=12 comp=Z,2.6nm,0.7s						
MAKZ	**Makanchi**	**40.56**	**347**	P	**P**	**01 16 24.6**	**-0.7**
KKAR	**Karatay Array**	**41.13**	**333**	P	**P**	**01 16 30.6**	**+0.5**
SONM	**Songino Array**	**41.52**	**12**	P	**P**	**01 16 33.6**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=193,slow=7.6,SNR=6.5						
SONM				LR	LR	01 34 55.9	
	comp=Z,37nm,21.7s,baz=219,slow=38 comp=Z,0.5nm,0.7s						
KSRS	**Korea Array**	**42.71**	**41**	LR	LR	01 36 32.0	
	comp=Z,26nm,18.5s,baz=220,slow=39						
KURBB	**Kurchatov Arra**	**44.94**	**346**	P	**P**	**01 17 00.8**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=166,slow=7.2,SNR=52						
KURBB				PcP	**PcP**	**01 18 41.0**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=163,slow=2.6,SNR=3.3						
	comp=Z,3.3nm,0.7s						
KURK	**Kurchatov**	**45.00**	**346**		**P**	**01 17 01.3**	**+0.1**
KURK				IAmb	IAmb	01 17 07.5	
	comp=Z,5.2nm,1.0s						
ZAA0	**Zalesovo Array**	**46.95**	**352**	P	**P**	**01 17 16.6**	**+0.1**
ZAA0				IAmb	IAmb	01 17 24.5	
	comp=Z,6.3nm,1.0s						
ZALV	**Zalesovo Beam**	**46.95**	**352**	P	**P**	**01 17 16.3**	**-0.2**
ZALV	**Zalesovo Beam**	**46.95**	**352**	P	**P**	**01 17 16.6**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=177,slow=8.5,SNR=18						
ZALV				LR	LR	01 41 40.1	
	comp=Z,29nm,18.3s,baz=195,slow=42 comp=Z,2.1nm,0.4s						
WRA	**Warramunga Arr**	**47.98**	**125**	P	**P**	**01 17 29.5**	**+4.3**
	comp=Z,0.5nm,0.6s,baz=303,slow=7.2,SNR=5.4 comp=Z,0.5nm,0.6s						
RAYN	**Ar Rayn**	**49.30**	**295**	P	**P**	**01 17 37.1**	**+1.7**
RAYN				IAmb	IAmb	01 17 37.9	
	comp=Z,5.2nm,0.6s						
BVAR	**Borovoye Array**	**49.37**	**341**	P	**P**	**01 17 35.0**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=138,slow=9.1,SNR=8.5 comp=Z,1.5nm,0.7s						
ASAR	**Alice Springs**	**49.62**	**130**	P	**P**	**01 17 38.5**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=309,slow=7.1,SNR=6.9 comp=Z,0.2nm,0.4s						
ABKAR	**Akbulak array**	**50.60**	**331**	P	**P**	**01 17 44.9**	**+0.2**
ABKAR	**Akbulak array**	**50.60**	**331**	P	**P**	**01 17 45.5**	**+0.8**
AKTO	**Aktyubinsk**	**52.32**	**332**	LR	LR	01 40 49.4	
	comp=Z,33nm,18.4s,baz=12,slow=37						
KBZ	**Khabaz**	**57.42**	**318**	P	**P**	**01 18 33.5**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=172,slow=6.0,SNR=4.2 comp=Z,0.7nm,0.7s						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	**P**	**01 18 34.1**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=66,slow=11,SNR=6.5						
KMBO				LR	LR	01 39 57.9	
	comp=Z,37nm,18.9s,baz=88,slow=33 comp=Z,1.4nm,0.7s						
NRIK	**Noril'sk**	**61.93**	**357**	P	**P**	**01 19 05.1**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=175,slow=12,SNR=4.2 comp=Z,1.0nm,0.7s						
BR131	**Keskin Array S**	**62.73**	**311**	P	**P**	**01 19 10.1**	**-1.4**
BRTR	**Keskin Array B**	**62.73**	**311**	P	**P**	**01 19 09.7**	**-1.7**
BRTR	**Keskin Array B**	**62.73**	**311**	P	**P**	**01 19 09.9**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=137,slow=6.8,SNR=9.0 comp=Z,0.9nm,0.7s						
H04N2	**CROZET ISLANDS**	**65.43**	**211**	T	T	02 30 03.2	
	baz=47,slow=74,SNR=15						
H04N1	**CROZET ISLANDS**	**65.44**	**211**	T	T	02 29 54.4	
	baz=47,slow=74,SNR=24						
H04N3	**CROZET ISLANDS**	**65.45**	**211**	T	T	02 30 11.4	
	baz=47,slow=74,SNR=21						
AKASG	**Malin Array Be**	**68.50**	**322**	LR	LR	01 54 05.1	
	comp=Z,24nm,18.7s,baz=50,slow=40						
IDI	**Anoyia**	**68.84**	**305**	P	**P**	**01 19 50.6**	**-0.2**
VRI	**Vrinoioaia**	**69.02**	**316**	⇓P	**P**	**01 19 51.6**	**0.0**
PLOR	**Plostina**	**69.07**	**316**	⇓P	**P**	**01 19 52.2**	**+0.2**
TESR	**Tescani**	**69.20**	**317**	⇓P	P	01 19 58.4	+5.6
MLR	**Muntele Rosu**	**69.49**	**316**	P	**P**	**01 19 54.9**	**+0.2**
MLR				IAmb	IAmb	01 20 01.5	
	comp=Z,4.7nm,1.2s						
MLR	**Muntele Rosu**	**69.49**	**316**	⇑P	**P**	**01 19 54.6**	**-0.1**
BURAR	**Bucovina Array**	**70.38**	**318**	P	**P**	**01 19 59.8**	**-0.2**
AGG	**Agios Georgios**	**71.25**	**309**	P	**P**	**01 20 03.2**	**-2.3**
HERR	**Herculane**	**71.86**	**315**	⇑P	**P**	**01 20 08.5**	**-0.5**
FIA1	**FINESS Array S**	**73.08**	**332**	P	**P**	**01 20 15.5**	**-0.4**
FINES	**FINESS Array B**	**73.08**	**332**	P	**P**	**01 20 15.5**	**-0.4**
FINES	**FINESS Array B**	**73.08**	**332**	P	**P**	**01 20 15.1**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=91,slow=4.9,SNR=15 comp=Z,2.2nm,0.7s						
ARCES	**ARCESS Array B**	**75.65**	**340**	P	**P**	**01 20 30.5**	**-0.2**
	comp=Z,6.1nm,1.1s,baz=110,slow=7.9,SNR=1.5 comp=Z,6.1nm,1.1s						
GERES	**GERESS Array B**	**78.16**	**318**	P	**P**	**01 20 45.1**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=90,slow=4.5,SNR=11 comp=Z,1.1nm,0.7s						
PRED	**Cave del Predi**	**78.17**	**316**	P	**P**	**01 20 45.3**	**-0.2**
PRED				IAmb	IAmb	01 20 50.6	
	comp=Z,8.0nm,1.3s						
HFS	**Hagfors**	**78.82**	**330**	P	**P**	**01 20 48.4**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=120,slow=8.7,SNR=11 comp=Z,1.7nm,0.6s						
CIMO	**Cimolais**	**78.95**	**316**	P	**P**	**01 20 49.7**	**-0.1**
CIMO				IAmb	IAmb	01 21 04.8	
	comp=Z,7.5nm,1.2s						
NC602	**NORSAR Array S**	**79.92**	**330**	P	**P**	**01 20 54.0**	**-0.7**
NC602				IAmb	IAmb	01 21 09.6	
	comp=Z,8.1nm,1.2s						
ZCCA	**Zocca**	**79.98**	**314**	P	**P**	**01 20 57.0**	**+1.5**
NB2	**NORSAR Subarra**	**80.10**	**331**	P	**P**	**01 20 54.8**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=97,slow=5.3						
NOA	**NORSAR Array B**	**80.10**	**331**	P	**P**	**01 20 55.1**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=93,slow=5.5,SNR=7.9 comp=Z,0.8nm,0.7s						
SPITS	**Spitsbergen Ar**	**80.23**	**348**	P	**P**	**01 20 55.8**	**-0.3**
	comp=Z,6.7nm,1.0s,baz=137,slow=10.0,SNR=4.2 comp=Z,6.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**90.75**	**283**	P	**P**	**01 21 49.9**	**+0.1**
	comp=Z,46nm,0.3s,baz=102,slow=2.7,SNR=1.4						
ESDC	**Sonseca Array**	**91.52**	**310**	P	**P**	**01 21 53.0**	**0.0**
	comp=Z,0.5nm,0.8s,baz=67,slow=4.3,SNR=5.0 comp=Z,0.5nm,0.8s						
G21K	**Allakaket**	**91.84**	**22**	P	**P**	**01 21 54.1**	**+0.3**
G21K				IAmb	IAmb	01 22 05.3	
	comp=Z,2.2nm,0.8s						
N19K	**Bonanza Creek**	**93.66**	**27**	P	**P**	**01 22 02.3**	**-0.1**

*STR **14** 01:22:41.8±2.4, 42°.N±12°.×±°., h3km, MLv1.8/4, Error ellipse: s-maj=0.0km s-min=0.0km az=13.7, preliminary*

MRB 14 01:22:41.6±0.5, 42°.38N×1°.44E, h2km±3km, ML-0.3/8, Error ellipse: s-maj=2.1km s-min=1.5km az=139.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARBS	**La Rabassa**	**0.10**	**50**	P	Pg	01 22 43.6	-0.1
ARBS				S	Sg	01 22 45.0	-0.1
	11nm,0.1s						
ARBS	**La Rabassa**	**0.10**	**50**	P	Pg	01 22 47.9	+4.3
ARBS				S	Sg	01 22 49.8	+4.7
	14nm,0.1s						
CORG	**Organya**	**0.18**	**212**	P	Pg	01 22 45.2	+0.1
CORG				S	Sg	01 22 48.2	+0.8
	1.5nm,0.2s						
CORG	**Organya**	**0.18**	**212**	P	Pg	01 22 48.5	+3.4
CORG				S	Sg	01 22 51.8	+4.5
	1.6nm,0.3s						
CSOR	**Sort**	**0.23**	**269**	P	Pg	01 22 46.2	+0.1
CSOR				S	Sg	01 22 49.9	+0.8
	3.9nm,0.2s						
CSOR	**Sort**	**0.23**	**269**	P	Pg	01 22 50.0	+3.9
CSOR				S	Sg	01 22 54.0	+5.0
	2.6nm,0.2s						
CEST	**Esterri de Car**	**0.26**	**327**	P	Pg	01 22 46.6	0.0
CEST				S	Sg	01 22 50.6	+0.6
	0.8nm,0.1s						
CEST	**Esterri de Car**	**0.26**	**327**	P	Pb	01 22 50.6	+1.5
CEST				S	Sb	01 22 54.9	+0.9
	0.8nm,0.1s						
CLLI	**Llivia**	**0.41**	**76**	P	Pg	01 22 49.2	-0.2
CLLI				S	Sg	01 22 54.8	+0.1
	0.9nm,0.1s						
SALF	**Salau**	**0.42**	**334**	Sg	Sg	01 22 54.5	-0.7
CTRE	**Tremp**	**0.50**	**264**	P	Pg	01 22 51.6	+0.4
CTRE				S	Sg	01 22 58.7	+1.1
	0.4nm,0.2s						
CBRU	**Bruguera**	**0.56**	**100**	P	Pg	01 22 52.3	+0.1
CBRU				S	Sg	01 22 59.8	+0.4
	0.3nm,0.1s						
CBRU	**Bruguera**	**0.56**	**100**	P	Pb	01 22 55.3	+1.2
CBRU				S	Sb	01 23 02.4	-0.1
	1.0nm,0.1s						
CARF	**Carcanieres**	**0.59**	**55**	P	Pg	01 22 53.3	+0.3
CARF				S	Sg	01 23 01.2	+0.5
	0.3nm,0.1s						
CARF	**Carcanieres**	**0.59**	**55**	Pg	Pg	01 22 52.3	-0.7
CARF				Sg	Sg	01 23 00.5	-0.2
MLS	**Moulis**	**0.63**	**336**	Pg	Pg	01 22 52.9	-0.8
MLS				Sg	Sg	01 23 01.3	-0.6
FNEB	**Nbias**	**0.72**	**43**	Sg	Sg	01 23 05.3	+0.7
MTLF	**Montolieu**	**1.11**	**30**	Pg	Pg	01 23 02.7	-0.3
MTLF				Sg	Sg	01 23 17.1	-0.4

IDC 14 01:31:15.2±1.7, 16°.64N×93°.36E, h0km, mb3.7/4, mbtmp3.7/5, ML4.0/1, MS3.6/1, Error ellipse:

s-maj=42.1km s-min=23.0km az=53.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.62**	**70**	Pn	Pn	01 32 40.5	+0.2
	1.1nm,0.3s,baz=250,slow=15,SNR=20						
CMAR				Sn	Sn	01 33 45.3	-0.2
	0.9nm,0.3s,baz=252,slow=28,SNR=13 3.1nm,0.3s						
MKAR	**Makanchi Array**	**31.45**	**345**	P	P	01 37 38.5	+0.1
	0.6nm,0.8s,baz=141,slow=7.8,SNR=4.9 0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**35.94**	**344**	P	P	01 38 16.9	-0.4
	0.6nm,0.6s,baz=164,slow=8.2,SNR=7.7 0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**37.83**	**352**	P	P	01 38 32.8	-0.6
	0.6nm,0.4s,baz=161,slow=9.4,SNR=3.5 0.6nm,0.4s						
ASAR	**Alice Springs**	**56.33**	**134**	P	P	01 40 58.9	+0.6
	0.6nm,0.5s,baz=308,slow=7.0,SNR=6.3 0.6nm,0.5s						
OPO	**Ambohidratompo**	**57.34**	**234**	LR	LR	02 01 50.7	
	comp=Z,48nm,18.9s,baz=314,slow=32						

*IDC **14** 01:35:33.5±2.0, 6°.57S×128°.83E, h0km, mb3.5/2, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=106.6km s-min=25.6km az=75.0*

ISC 14 01:35:33.6±1.0, 6°.70S±0°.08×128°.9E±0°.1, h10km, n10, σ3§93/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.99**	**41**	P	**Pg**	**01 37 08.0**	**-1.4**
SOEI	**Soe**	**5.54**	**236**	P	**Pb**	**01 37 08.6**	**-1.9**
DRS	**Darwin Rock St**	**6.01**	**161**	P	Pn	01 37 12.3	+10
MTN	**Manton Dam**	**6.48**	**161**	P	Pn	01 37 18.4	+9.3
KDU	**Kakadu**	**6.89**	**150**	P	Pn	01 37 24.3	+9.5
FITZ	**Fitzroy Crossi**	**11.78**	**196**	Pn	**Pn**	**01 38 24.9**	**+3.0**
	0.3nm,0.3s,baz=13,slow=10.0,SNR=17						
FITZ				Sn	Sn	01 40 23.6	-10
	0.9nm,0.3s,baz=53,slow=20,SNR=10 1.1nm,0.3s						
WRA	**Warramunga Arr**	**14.17**	**159**	Pn	**Pn**	**01 38 58.3**	**+3.7**
	0.3nm,0.3s,baz=334,slow=13,SNR=12						
WRA				Sn	Sn	01 41 23.5	-8.5
	0.7nm,0.3s,baz=327,slow=23,SNR=9.2 0.6nm,0.6s						
ASAR	**Alice Springs**	**17.53**	**165**	P	**P**	**01 39 40.7**	**+1.2**
	0.3nm,0.3s,baz=339,slow=9.7,SNR=22						
ASAR				S	**Sn**	**01 42 47.0**	**-6.9**
	0.5nm,0.4s,baz=324,slow=24,SNR=5.0 1.2nm,0.6s						
MKAR	**Makanchi Array**	**67.40**	**327**	P	**P**	**01 46 30.1**	**+0.7**
	0.2nm,0.5s,baz=127,slow=7.0,SNR=2.5 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**71.71**	**329**	P	**P**	**01 46 56.2**	**+0.4**
	0.4nm,0.6s,baz=130,slow=4.9,SNR=6.4 0.4nm,0.6s						

*GCG **14** 01:36:14.8±0.4, 16°.31N×91°.11W, h35km±273km, MD3.5*
*MEX **14** 01:36:14.4±0.4, 14°.68N×93°.40W, h15km±121km, MD3.8*

ISC 14 01:36:13.5±2.8, 14°.8N±0°.1×93°.2W±0°.1, h10km, n9, σ0§94/11, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.90**	**1**	*eP*	**Pg**	**01 36 30.6**	**-0.3**
PCIG				*eS*	**Sg**	**01 36 43.1**	**+0.5**
PATR	**El Naranjo**	**1.01**	**72**	*eP*	**Pb**	**01 36 33.2**	**-0.1**
PATR				*eS*	**Sb**	**01 36 48.0**	**+1.2**
PAVE	**Pavencul**	**1.09**	**69**	*eP*	**Pn**	**01 36 34.5**	**-0.6**
PAVE				*eS*	**Sb**	**01 36 50.4**	**+1.3**
STG8	**El Palmar, Qui**	**1.85**	**100**	*eP*	Pn	01 36 41.5	-4.0
STG8				*eS*	Sn	01 37 02.6	-6.6
STG5	**El Palmar, Qui**	**1.86**	**102**	*eP*	Pn	01 36 42.4	-3.2
STG0	**El Palmar, Qui**	**1.86**	**101**	*eP*	Pn	01 36 41.9	-3.7
STG0				*eS*	Sn	01 37 03.0	-6.4
TGIG		**1.97**	**3**	*eP*	**Pn**	**01 36 46.5**	**-0.5**
TGIG				*eS*	**Sn**	**01 37 10.9**	**-1.1**
TGIG		**1.97**	**3**	*eS*	**Sn**	**01 37 10.8**	**-1.1**
UXUV	**UXUV**	**2.66**	**341**	*eP*	**Pn**	**01 36 57.2**	**+0.8**
UXUV				*eS*	**Sn**	**01 37 28.7**	**0.0**

*BKK **14** 01:37:05.7±1.6, 7°.N±14°.×9°.4E±1°.2, h15km±13km, M3.8/7, Mjma3.6/7, ML3.9/2, MLv3.9/4, Mw(mB)4.4/2*
*IDC **14** 01:37:08.9±1.4, 7°.20N×93°.70E, h0km, mb3.5/8, mbtmp3.5/9, ML3.0/1, Error ellipse: s-maj=64.0km s-min=19.0km az=55.0*

ISC 14 01:37:13.7±1.0, 7°.6N±0°.1×94°.3E±0°.1, h24km, n11, σ1§94/11, mb3.6/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNTT	**Ranong**	**4.51**	**66**	P	**Pn**	**01 38 19.2**	**-1.3**
SRIT	**Nakonsritamara**	**5.35**	**79**	P	**Pn**	**01 38 30.2**	**-1.9**
PSI	**Prapat**	**6.63**	**136**	Pn	**Pn**	**01 38 48.9**	**-0.9**
	0.3nm,0.3s,baz=326,slow=15,SNR=4.1 2.4nm,0.5s						
MKAR	**Makanchi Array**	**40.39**	**347**	P	**P**	**01 44 50.4**	**+0.6**
	0.1nm,0.5s,baz=170,slow=8.8,SNR=7.6 0.1nm,0.5s						
SONM	**Songino Array**	**41.40**	**12**	P	**P**	**01 44 59.9**	**+1.6**
	0.1nm,0.4s,baz=202,slow=7.3,SNR=1.2 0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**44.85**	**346**	P	**P**	**01 45 26.7**	**+0.8**
	0.4nm,0.9s,baz=172,slow=6.6,SNR=5.6 0.4nm,0.9s						
ZALV	**Zalesovo Beam**	**46.85**	**352**	P	**P**	**01 45 44.2**	**+2.6**
	0.7nm,0.7s,baz=169,slow=9.1,SNR=7.1 0.7nm,0.7s

JIH	**Iheya**	**1.60 299**	P	**Pn**	**01 47 42.8**	**-0.7**
JIH			*e*S	**Sn**	**01 48 02.5**	**-1.5**
JKDJ	**Kitadaitoujima**	**1.60 101**	*e*P	**Pn**	**01 47 42.1**	**-1.4**
JKDJ			*e*S	**Sn**	**01 48 01.7**	**-2.3**
JAMN	**Amaminishikomi**	**1.99 350**	*e*P	**Pn**	**01 47 48.5**	**-0.3**
JAMN			*e*S	**Sn**	**01 48 11.6**	**-2.0**
JZK	**Kikaishima**	**2.07 10**	P	**Pn**	**01 47 50.1**	**+0.2**
JZK			*e*S	**Sn**	**01 48 14.8**	**-0.6**
JAGN	**Aguni-jima**	**2.09 279**	P	**Pn**	**01 47 49.8**	**-0.4**
JAGN			*e*S	**Sn**	**01 48 14.2**	**-1.8**
JAM	**Amami Oshima**	**2.13 1**	*e*P	**Pn**	**01 47 49.9**	**-0.8**
JKE	**Kume jima 2**	**2.48 272**	P	**Pn**	**01 47 54.5**	**-1.0**
JTAJ	**Takarajima**	**2.88 354**	P	**Pn**	**01 48 02.3**	**+1.2**
YOJ	**Yonaguni jima**	**6.18 254**	Pn	**Pn**	**01 48 44.4**	**-2.0**
JNU	**Nakatsue**	**6.92 9**	Pn	**Pn**	**01 48 56.8**	**+0.2**
JNU	**Nakatsue**	**6.92 9**	Pn	**Pn**	**01 48 57.7**	**+1.1**
	1.4nm,0.3s,baz=288,slow=3.4,SNR=8.0					
JNU			Sn	**Sn**	**01 50 09.8**	**-5.5**
	baz=231,slow=17					
	5.5nm,0.4s					
YHNB	**Yeheng**	**7.56 260**	Pn	**Pn**	**01 49 05.3**	**-0.1**
SSLB	**Suanglung**	**8.18 254**		**Pn**	**01 49 10.8**	**-3.1**
TPUB	**Ta-pu**	**8.63 252**	Pn	**Pn**	**01 49 17.9**	**-2.1**
KSRS	**Korea Array**	**11.23 353**	Pn	**Pn**	**01 49 56.1**	**+0.5**
	0.5nm,0.5s,baz=174,slow=12,SNR=2.4					
SONM	**Songino Array**	**28.17 326**	P	**P**	**01 53 09.3**	**+1.7**
	1.1nm,0.7s,baz=138,slow=10.0,SNR=6.2					
	1.1nm,0.7s					
CMAR	**Chiang Mai Arr**	**29.30 261**	P	**P**	**01 53 19.7**	**+1.9**
	0.3nm,0.4s,baz=72,slow=9.2,SNR=4.4					
	0.3nm,0.4s					
MKAR	**Makanchi Array**	**42.39 312**	P	**P**	**01 55 09.1**	**-0.5**
MKAR	**Makanchi Array**	**42.39 312**	P	**P**	**01 55 08.7**	**-0.8**
	0.6nm,0.6s,baz=90,slow=9.7,SNR=7.6					
	0.6nm,0.6s					
ZALV	**Zalesovo Beam**	**42.93 322**	P	**P**	**01 55 13.2**	**-0.5**
ZALV	**Zalesovo Beam**	**42.93 322**	P	**P**	**01 55 12.8**	**-1.0**
	0.9nm,0.5s,baz=106,slow=9.6,SNR=4.1					
	0.9nm,0.5s					
KURK	**Kurchatov**	**45.60 316**	P	**P**	**01 55 35.3**	**+0.1**
KURBB	**Kurchatov Arra**	**45.64 316**	P	**P**	**01 55 35.3**	**-0.2**
	0.9nm,0.4s,baz=102,slow=8.9,SNR=12					
	0.9nm,0.4s					
WB0	**Warramunga Arr**	**46.01 174**	P	**P**	**01 55 40.4**	**+1.7**
WB0			IAmb	IAmb	01 56 11.9	
	comp=Z,5.0nm,1.1s					
WRA	**Warramunga Arr**	**46.17 174**	P	**P**	**01 55 40.5**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=354,slow=8.5,SNR=4.6					
	comp=Z,1.2nm,0.9s					
WR8	**Warramunga Arr**	**46.20 174**	P	**P**	**01 55 41.8**	**+1.6**
ASAR	**Alice Springs**	**49.83 175**	P	**P**	**01 56 09.8**	**+1.6**
	comp=Z,0.8nm,1.0s,baz=357,slow=9.3,SNR=4.4					
	comp=Z,0.8nm,1.0s					
BVAR	**Borovoye Array**	**51.03 318**	P	**P**	**01 56 16.9**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=76,slow=6.1,SNR=5.3					
	comp=Z,1.6nm,0.7s					
ABKAR	**Akbulak array**	**57.48 313**	P	**P**	**01 57 05.2**	**+1.0**
ABKAR	**Akbulak array**	**57.48 313**	P	**P**	**01 57 05.4**	**+1.3**
ABKAR			IAmb	IAmb	01 57 05.7	
	comp=Z,4.4nm,1.3s					
ARTI	**Arti**	**58.19 322**	P	**P**	**01 57 08.8**	**-0.2**
ARTI			IAmb	IAmb	01 57 11.8	
	comp=Z,4.4nm,0.7s					
STKA	**Stephens Creek**	**58.96 168**	P	**P**	**01 57 14.3**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=320,slow=7.8,SNR=1.4					
	comp=Z,1.1nm,0.9s					
B22K	**Teshekpuk Lake**	**61.15 22**	P	**P**	**01 57 30.0**	**+0.9**
B22K			IAmb	IAmb	01 58 06.3	
	comp=Z,4.0nm,1.1s					
E22K	**Anaktuvuk Pass**	**61.67 25**	P	**P**	**01 57 31.6**	**-1.3**
E22K			IAmb	IAmb	01 57 46.1	
	comp=Z,2.7nm,1.0s					
KBZ	**Khabaz**	**70.04 310**	P	**P**	**01 58 28.2**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=68,slow=3.7,SNR=8.6					
	comp=Z,2.0nm,0.8s					
C36M	**Paulatuk**	**71.23 21**	P	**P**	**01 58 34.8**	**+1.0**
C36M			IAmb	IAmb	01 58 46.5	
	comp=Z,2.7nm,0.8s					
FIA1	**FINESS Array S**	**73.40 331**	P	**P**	**01 58 47.6**	**+0.6**
FINES	**FINESS Array B**	**73.40 331**	P	**P**	**01 58 47.4**	**+0.5**
FINES	**FINESS Array B**	**73.40 331**	P	**P**	**01 58 47.6**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=62,slow=6.5,SNR=16					
	comp=Z,2.4nm,0.8s					
AKASG	**Malin Array Be**	**76.26 320**	P	**P**	**01 59 04.2**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=62,slow=5.8,SNR=6.1					
	comp=Z,0.4nm,0.4s					
AKBB	**Malin Array Si**	**76.26 320**	P	**P**	**01 59 04.4**	**+0.7**
AKBB			IAmb	IAmb	01 59 16.5	
	comp=Z,3.0nm,0.9s					
KIEV	**Kiev**	**76.28 320**	P	**P**	**01 59 04.3**	**+0.5**
BR131	**Keskin Array S**	**77.94 308**	P	**P**	**01 59 14.0**	**+0.5**
BRTR	**Keskin Array B**	**77.94 308**	P	**P**	**01 59 14.1**	**+0.5**
BRTR	**Keskin Array B**	**77.94 308**	P	**P**	**01 59 14.5**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=100,slow=4.4,SNR=10.0					
	comp=Z,1.4nm,0.8s					
YKA	**Yellowknife Ar**	**77.98 25**	P	**P**	**01 59 13.2**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=300,slow=5.8,SNR=2.8					
	comp=Z,0.2nm,0.8s					
HFS	**Hagfors**	**79.33 333**	P	**P**	**01 59 20.0**	**-0.6**
	comp=Z,3.1nm,0.9s,baz=72,slow=9.5,SNR=4.2					
	comp=Z,3.1nm,0.9s					
NB2	**NORSAR Subarra**	**79.79 334**	P	**P**	**01 59 23.0**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=52,slow=5.6					
NOA	**NORSAR Array B**	**79.79 334**	P	**P**	**01 59 23.0**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=52,slow=5.6,SNR=7.8					
	comp=Z,1.6nm,0.8s					
BURAR	**Bucovina Array**	**79.99 318**	P	**P**	**01 59 25.2**	**+0.6**
BEHE	**Becsehely**	**85.53 320**	P	**P**	**01 59 50.6**	**-2.6**
GERES	**GERESS Array B**	**85.87 323**	P	**P**	**01 59 56.0**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=46,slow=4.7,SNR=3.5					
	comp=Z,0.6nm,0.7s					

NEIC ***14*** *01:47:59.7±1.5, 23°.0S±0°.1×170°.59E±0°.05, h10km±1km, mb4.6/9, Error ellipse: s-maj=23.2km s-min=6.4km az=349.0*

IDC ***14*** *01:48:02.6±2.3, 22°.66S×170°.53E, h48km±22km, mb3.8/5, mbtmp4.2/8, ML4.4/3, MS3.6/3, Error ellipse: s-maj=29.0km s-min=16.8km az=176.0*

ISC 14 01:48:00.8±0.7, 22°.8S±0°.1×170°.59E±0°.07, h28km, n27, σ0=90/27, mb4.3/9, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**2.91 273**			**Pn**	**01 48 46.6**	**+1.4**
ONTNC	**Ouen Toro**	**3.85 277**			**Pn**	**01 48 58.7**	**+0.4**
DZM	**Mont Dzumac**	**3.91 280**			**Pn**	**01 48 59.3**	**+0.3**
DZM	**Mont Dzumac**	**3.91 280**		P	**Pn**	**01 48 59.2**	**+0.2**
	10nm,0.3s,baz=143,slow=11,SNR=83						
DZM				S	**Sn**	**01 49 42.9**	**-1.1**
	68nm,0.4s,baz=299,slow=23,SNR=8.6						
	29nm,0.4s						
MSVF	**Nonsavu**	**8.63 56**			**Pn**	**01 50 05.4**	**+1.4**
MSVF	**Nonsavu**	**8.63 56**		P	**Pn**	**01 50 05.2**	**+1.2**
	0.5nm,0.3s,baz=197,slow=11,SNR=8.6						
	28nm,1.0s						
URZ	**Urewera**	**16.38 162**		P	**P**	**01 51 51.5**	**+0.2**
	0.3nm,0.3s,baz=114,slow=6.4,SNR=5.0						
URZ				LR	LR	01 56 53.6	
	comp=Z,237nm,21.4s,baz=66,slow=32						
	11nm,0.9s						
RTZ	**Ruatahuna**	**16.68 162**		Pn	**Pn**	**01 51 51.5**	**-1.1**
RTZ				IAmb	IAmb	01 52 09.8	
	comp=Z,58nm,1.4s						
TUWZ	**Tuamarina**	**18.78 172**		P	**Pn**	**01 52 19.2**	**+0.8**
STKA	**Stephens Creek**	**27.22 244**		P	**P**	**01 53 43.3**	**+0.8**
STKA	**Stephens Creek**	**27.22 244**		P	**P**	**01 53 42.9**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=86,slow=12,SNR=6.7						
STKA				LR	LR	02 03 55.5	
	comp=Z,113nm,19.1s,baz=15,slow=35						
	comp=Z,2.1nm,0.6s						
BBOO	**Buckleboo**	**32.00 244**		P	**P**	**01 54 25.4**	**+0.6**
BBOO				IAmb	IAmb	01 54 26.6	
	comp=Z,16nm,1.1s						
AS31	**Alice Springs**	**33.66 261**		P	**P**	**01 54 39.8**	**+0.3**
ASAR	**Alice Springs**	**33.66 261**		P	**P**	**01 54 40.5**	**+1.0**
ASAR	**Alice Springs**	**33.66 261**		P	**P**	**01 54 39.2**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=89,slow=8.8,SNR=33						
	comp=Z,3.4nm,0.8s						
WB0	**Warramunga Arr**	**33.81 268**		P	**P**	**01 54 40.0**	**-0.8**
WB0				IAmb	IAmb	01 55 12.5	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**33.83 268**		P	**P**	**01 54 40.1**	**-0.8**
WRA	**Warramunga Arr**	**33.83 268**		P	**P**	**01 54 40.2**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=96,slow=8.3,SNR=8.3						
	comp=Z,0.3nm,0.4s						

FITZ	**Fitzroy Crossi**	**42.26 268**	P	**P**	**01 55 52.8**	**+0.8**
FITZ			IAmb	IAmb	01 55 53.5	
	comp=Z,2.9nm,0.9s					
MBWA	**Marble Bar**	**47.00 262**	P	**P**	**01 56 30.4**	**+0.6**
MBWA			IAmb	IAmb	01 56 30.9	
	comp=Z,9.4nm,0.8s					
JHJ	**Hachijo jima 2**	**62.91 331**	LR	LR	02 22 31.8	
	comp=Z,54nm,21.9s,baz=97,slow=33					
QSPA	**South Pole Qui**	**67.26 180**	P	**P**	**01 58 52.2**	**-0.4**
QSPA	**South Pole Qui**	**67.26 180**	P	**P**	**01 58 51.9**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=283,slow=2.5,SNR=5.1					
	comp=Z,2.9nm,1.0s					
NVAR	**Mina Array Bea**	**90.23 48**	P	**P**	**02 00 57.3**	**-1.8**
	comp=Z,1.0nm,1.0s,baz=232,slow=4.2,SNR=3.8					
	comp=Z,1.0nm,1.0s					
CLL	**Collm**	**146.67 334**	PKPdf	**PKPab**	**02 07 40.5**	**-0.4**
EKA	**Eskdalemuir Ar**	**147.19 353**	PKPbc	**PKPdf**	**02 07 38.6**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=12,slow=3.1,SNR=5.1					
GERES	**GERESS Array B**	**148.22 331**	PKPbc	**PKPbc**	**02 07 43.2**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=34,slow=3.7,SNR=2.7					

GCG ***14*** *01:49:50.7±0.3, 13°.24N×89°.63W, h56km±7km, MD3.7*

SNET ***14*** *01:49:50.1±1.4, 13°.25N×89°.82W, h32km±5km, ML2.8*

ISC 14 01:49:49.5±3.6, 13°.2N±0°.2×89°.7W±0°.1, h16km±12km, n13, σ0=60/22, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.47**	**59**	*e*P	**Pn**	**01 50 01.2**	**-0.5**
LALI				*e*S	**Sn**	**01 50 09.3**	**-0.5**
JAYA	**Jayaque - finc**	**0.50**	**35**	*e*P	**Pn**	**01 50 01.7**	**-0.5**
JAYA				*e*S	**Sn**	**01 50 10.2**	**-0.3**
JAYA				IAML		01 50 11.9	
	comp=Z,818nm,0.2s						
JAYA	**Jayaque - finc**	**0.50**	**35**	*e*P	**Pn**	**01 50 01.7**	**-0.5**
JAYA				*e*S	**Sn**	**01 50 10.3**	**-0.3**
CEVE	**Cerro Verde**	**0.59**	**11**	*e*P	**Pb**	**01 50 02.1**	**+0.3**
CEVE				*e*S	**Sn**	**01 50 13.6**	**+0.6**
SBLS	**San Blas**	**0.60**	**11**	*e*P	**Pb**	**01 50 02.9**	**+1.0**
PMON	**Piamonte**	**0.62**	**41**	*e*P	**Pn**	**01 50 03.6**	**-0.3**
PMON				*e*S	**Sn**	**01 50 14.5**	**+0.9**
SNJE	**San Jose**	**0.64**	**12**	*e*P	**Pb**	**01 50 03.4**	**+1.0**
SNJE				*e*S	**Sn**	**01 50 13.4**	**-0.6**
LOMA	**Loma Larga**	**0.68**	**54**	*e*P	**Pn**	**01 50 04.2**	**-0.4**
LOMA				*e*S	**Sn**	**01 50 15.1**	**0.0**
COEG	**Centro de Oper**	**0.92**	**66**	*e*P	**Pn**	**01 50 07.7**	**-0.2**
COEG				IAML		01 50 25.7	
	comp=Z,190nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.08**	**65**	*e*P	**Pg**	**01 50 10.4**	**-0.1**
SCLA				*e*S	**Sn**	**01 50 26.0**	**+1.1**
MTO3	**Montecristo**	**1.21**	**18**	*e*P	**Pb**	**01 50 11.8**	**-0.4**
MTO3	**Montecristo**	**1.21**	**18**	*e*P	**Pb**	**01 50 11.8**	**-0.4**
PACA	**Pacayal**	**1.40**	**81**	*e*P	**Pb**	**01 50 15.6**	**+0.2**
PACA				*e*S	**Sg**	**01 50 34.8**	**+0.1**

BJI ***14*** *01:53:09.4, 26°.28N×129°.54E, h13km, mB5.1/55, mb4.8/74, Ms5.1/89, Ms7 4.9/85*

IDC ***14*** *01:53:09.7±0.5, 26°.33N×129°.51E, h0km, mb4.6/30, mbtmp4.6/35, ML4.3/4, MS4.4/56, Error ellipse: s-maj=14.1km s-min=11.7km az=90.0*

MOS ***14*** *01:53:10.1±1.0, 26°.33N×129°.53E, h11km, mb5.3/49, MS5.3/17, Error ellipse: s-maj=7.9km s-min=4.1km az=107.5*

NEIC ***14*** *01:53:11.3±2.4, 26°.25N±0°.07×129°.53E±0°.05, h10km±1km, mb5.1/234, Mww5.1/38, Error ellipse: s-maj=11.8km s-min=7.3km az=197.0*

NIED ***14*** *01:53:11.2, 26°.27N×129°.57E, h45km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; M_{rr}-3.51; $M_{\theta\theta}$1.62; $M_{\phi\phi}$ 1.89; $M_{r\theta}$-1.59; $M_{r\phi}$ 1.93; $M_{\theta\phi}$-2.09; Fault plane solution: $M_0$4.46000×10^16 NP1: ϕ_s227.00000°, δ27.00000°, λ-84.00000°. NP2: ϕ_s40.00000°, δ63.00000°, λ-93.00000°.*

JMA ***14*** *01:53:11.2±0.1, 26°.3N±0°.6×129°.6E±0°.4, h45km, MD5.2/19, MW5.1/19, NEAR OKINAWAJIMA ISLAND*

NEIC ***14*** *01:53:11.3, 26°.25N×129°.53E, h12km*

NEIC ***14*** *01:53:11.3, 26°.05N×129°.53E, h12km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16Nm; M_{rr}-3.49; $M_{\theta\theta}$1.71; $M_{\phi\phi}$ 1.77; $M_{r\theta}$-3.39; $M_{\theta\phi}$2.06; $M_{r\phi}$-2.07; Fault plane solution: $M_0$5.39000×10^16 NP1: ϕ_s213.02000°, δ22.54000°, λ-110.55000°. NP2: ϕ_s55.12000°, δ68.96000°, λ-81.71000°. Principal axes: T 5.4888, Plg24.0000°, Azm139.0000°; N -0.1909, Plg8.0000°, Azm232.0000°; P -5.2979, Plg65.0000°, Azm339.0000°;*

GCMT ***14*** *01:53:15.3±0.2, 26°.23N±0°.01×129°.50E±0°.02, h12km, MW5.0/130, Moment Tensor Solution. s49, c68; s130, c207; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-4.16±.08; $M_{\theta\theta}$2.29±.07; $M_{\phi\phi}$ 1.87±.08; $M_{r\theta}$-0.77±.26; $M_{\theta\phi}$2.13±.06; $M_{r\phi}$-0.09±.26; Best double couple: $M_0$4.26100×10^16 NP1: ϕ_s222.00000°, δ41.00000°, λ-99.00000°. NP2: ϕ_s54.00000°, δ50.00000°, λ-82.00000°. Principal axes: T 4.2680, Plg4.0000°, Azm138.0000°; N -0.0140, Plg6.0000°, Azm229.0000°; P -4.2540, Plg83.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 01:53:11.7±0.4, 26°.22N±0°.03×129°.56E±0°.03, h15km±2km, h15km:pP-P, n831, σ1=59/765, mb5.0/218, MS4.9/93, 58C-27D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.28 309**		P	**Pn**	**01 53 32.8**	**-2.2**
JYRO				*e*S	**Sb**	**01 53 48.0**	**-3.7**
JYRO	**Yoronjima**	**1.28 309**		A	A	01 53 32.8	
	comp=N,31nm,4.9s,comp=E,46nm,4.4s						
JOW	**Kunigami**	**1.30 298**			**Pn**	**01 53 33.3**	**-2.0**
JOW	**Kunigami**	**1.30 298**		Pn	**Pn**	**01 53 33.5**	**-2.0**
	comp=E,2μm,0.3s,baz=131,slow=18,SNR=1257						
JOW				Sn	**Sb**	**01 53 47.9**	**-4.6**
	comp=E,2μm,0.3s,baz=98,slow=26,SNR=11						
JOW				LR	LR	01 54 14.9	
	comp=E,31μm,20.1s,baz=170,slow=53						
JOW	**Kunigami**	**1.30 298**		P	**Pn**	**01 53 33.4**	**-2.0**
JOW	**Kunigami**	**1.30 298**		P	**Pn**	**01 53 33.4**	**-2.0**
JOW				*e*S	**Sb**	**01 53 48.6**	**-3.9**
JOW	**Kunigami**	**1.30 298**		A	A	01 53 33.4	
	comp=N,36nm,7.3s,comp=E,42nm,4.9s						
JNTH	**Nagotoyohara**	**1.41 282**		*i* P	**Pn**	**01 53 34.9**	**-2.0**
JNTH				*e*S	**Sn**	**01 53 51.2**	**-4.0**
JNTH	**Nagotoyohara**	**1.41 282**		A	A	01 53 34.9	
	comp=N,64nm,4.9s,comp=E,50nm,4.6s						
JOKE	**Okinoerabujima**	**1.44 322**		P	**Pn**	**01 53 35.1**	**-2.1**
JOKE				*e*S	**Sn**	**01 53 51.9**	**-4.0**
JOKE	**Okinoerabujima**	**1.44 322**		A	A	01 53 35.1	
	comp=N,41nm,6.8s,comp=E,40nm,9.5s						
JMZ	**Minamidaito 2**	**1.55 105**			**Pn**	**01 53 37.0**	**-1.8**
JMZ	**Minamidaito 2**	**1.55 105**		P	**Pn**	**01 53 37.4**	**-1.3**
JMZ	**Minamidaito 2**	**1.55 105**		P	**Pn**	**01 53 36.9**	**-1.8**
JMZ				*e*S	**Sn**	**01 53 55.6**	**-2.9**
JMZ	**Minamidaito 2**	**1.55 105**		A	A	01 53 36.9	
	comp=N,107nm,4.5s,comp=E,103nm,4.2s						
JKDJ	**Kitadaitoujima**	**1.58 100**		P	**Pn**	**01 53 37.6**	**-1.6**
JKDJ				*e*S	**Sn**	**01 53 57.0**	**-2.3**
JKDJ	**Kitadaitoujima**	**1.58 100**		A	A	01 53 37.6	
	comp=N,62nm,3.5s,comp=E,59nm,4.7s						
JJT3	**Tamagusuku3**	**1.60 268**		P	**Pn**	**01 53 38.1**	**-1.3**
JJT3				*e*S	**Sn**	**01 53 58.2**	**-1.6**
JJT3	**Tamagusuku3**	**1.60 268**		A	A	01 53 38.1	
	comp=N,149nm,4.3s,comp=E,193nm,4.8s						
JIH	**Iheya**	**1.64 300**		P	**Pn**	**01 53 38.4**	**-1.6**
JIH				*e*S	**Sn**	**01 53 57.9**	**-2.9**
JIH	**Iheya**	**1.64 300**		A	A	01 53 38.4	
	comp=N,26nm,6.6s,comp=E,42nm,5.5s						
JTK	**Tokunoshima**	**1.65 341**		P	**Pn**	**01 53 38.0**	**-2.1**
JTK				*e*S	**Sn**	**01 53 56.2**	**-4.9**
JTK	**Tokunoshima**	**1.65 341**		A	A	01 53 38.0	
	comp=N,30nm,5.5s,comp=E,30nm,5.4s						
JAMN	**Amaminishikomi**	**2.04 350**		*e*P	**Pn**	**01 53 43.3**	**-2.2**
JAMN				*e*S	**Sn**	**01 54 06.7**	**-4.0**
JAMN	**Amaminishikomi**	**2.04 350**		A	A	01 53 43.3	
	comp=N,15nm,4.8s,comp=E,27nm,10.3s						
JAGN	**Aguni-jima**	**2.11 280**		P	**Pn**	**01 53 45.2**	**-1.3**
JAGN				*e*S	**Sn**	**01 54 09.5**	**-3.0**
JAGN	**Aguni-jima**	**2.11 280**		A	A	01 53 45.2	
	comp=N,55nm,4.0s,comp=E,32nm,2.6s						

JZK	**Kikaishima**	**2.11 10**	*e*P	**Pn**	**01 53 45.1**	**-1.4**
JZK			*e*S	**Sn**	**01 54 09.7**	**-2.8**
JZK	**Kikaishima**	**2.11 10**	A	A	01 53 45.1	
	comp=N,73nm,9.6s,comp=E,70nm,8.3s					
JAM	**Amami Oshima**	**2.18 1**	P	**Pn**	**01 53 45.3**	**-2.1**
JAM	**Amami Oshima**	**2.18 1**	A	A	01 53 45.3	
	comp=N,18nm,9.9s,comp=E,19nm,4.7s					
JKE	**Kume jima 2**	**2.50 273**	P	**Pn**	**01 53 49.7**	**-2.1**
JKE			*e*S	**Sn**	**01 54 18.7**	**-3.2**
JKE	**Kume jima 2**	**2.50 273**	A	A	01 53 49.7	
	comp=N,26nm,4.0s,comp=E,14nm,3.1s					
JTAJ	**Takarajima**	**2.94 354**	*e*P	**Pn**	**01 53 55.6**	**-2.2**
JTAJ			*e*S	**Sn**	**01 54 27.8**	**-5.0**
JTAJ	**Takarajima**	**2.94 354**	A	A	01 53 55.6	
	comp=N,10.0nm,8.5s,comp=E,18nm,9.5s					
JOGS	**Gusukube**	**4.03 250**	A	A	01 54 12.5	
	comp=N,24nm,4.6s,comp=E,26nm,4.6s					
JMJ	**Miyako jima 2**	**4.11 251**	P	**Pn**	**01 54 11.9**	**-2.0**
JIKM	**Ikemajima**	**4.11 253**	A	A	01 54 13.5	
	comp=N,13nm,3.5s,comp=E,17nm,5.0s					
YOJ	**Yonaguni jima**	**6.18 255**		**Pn**	**01 54 39.5**	**-2.9**
YOJ	**Yonaguni jima**	**6.18 255**	P	**Pn**	**01 54 39.5**	**-2.9**
YOJ	**Yonaguni jima**	**6.18 255**	P	**Pn**	**01 54 39.6**	**-2.9**
JNU	**Nakatsue**	**6.97 9**		**Pn**	**01 54 53.0**	**-0.3**
JNU	**Nakatsue**	**6.97 9**	Pn	**Pn**	**01 54 53.0**	**-0.3**
	comp=E,7.8nm,0.3s,baz=190,slow=12,SNR=58					
JNU			Sn	**Sn**	**01 56 06.0**	**-6.2**
	comp=E,0.5nm,0.3s,baz=210,slow=16,SNR=1.0					
	comp=E,47nm,0.6s					
JNU	**Nakatsue**	**6.97 9**	P	**Pn**	**01 54 53.0**	**-0.3**
TATO	**Taipei**	**7.40 262**		**Pn**	**01 54 58.5**	**-0.7**
TATO	**Taipei**	**7.40 262**	P	**Pn**	**01 54 56.2**	**-2.9**
NACB	**Ninganchiao**	**7.50 256**		**Pn**	**01 54 57.0**	**-3.6**
NACB	**Ninganchiao**	**7.50 256**	P	**Pn**	**01 54 56.8**	**-3.8**
YHNB	**Yeheng**	**7.56 260**		**Pn**	**01 55 00.4**	**-1.2**
YHNB	**Yeheng**	**7.56 260**	P	**Pn**	**01 55 00.3**	**-1.2**
YULB	**Yu-li**	**8.02 251**		Pn	01 55 02.7	-5.1
YULB	**Yu-li**	**8.02 251**	P	Pn	01 55 02.4	-5.4
SSLB	**Suanglung**	**8.18 255**		**Pn**	**01 55 06.1**	**-3.8**
SSLB	**Suanglung**	**8.18 255**	P	**Pn**	**01 55 06.0**	**-3.9**
JTU	**Tsushima**	**8.27 359**	P	**Pn**	**01 55 12.4**	**+1.2**
JMN	**Monobe**	**8.36 26**		**Pn**	**01 55 12.8**	**+0.3**
JMN	**Monobe**	**8.36 26**	P	**Pn**	**01 55 12.9**	**+0.5**
TWGBT	**Beinan**	**8.44 248**	P	Pn	01 55 08.1	-5.3
TWG	**Pinlang**	**8.44 248**		Pn	01 55 08.2	-5.3
TPUB	**Ta-pu**	**8.62 252**		**Pn**	**01 55 13.5**	**-2.6**
TPUB	**Ta-pu**	**8.62 252**	P	**Pn**	**01 55 12.9**	**-3.2**
SSE	**Sheshan**	**8.81 305**	P	**Pn**	**01 55 17.1**	**-1.5**
SSE			S	**Sn**	**01 56 56.1**	**-1.5**
SSE			pmax	pmax		
	comp=E,12nm,0.7s					
SSE			pmax	pmax		
	comp=E,100nm,4.1s					
SSE			LR	LR		
	comp=E,3μm,11.2s					
SSE			LR	LR		
	comp=E,2μm,11.4s					
QZH	**Quanzhou**	**9.99 265**	P	**Pn**	**01 55 34.8**	**+0.1**
QZH			S	**Sn**	**01 57 27.3**	**+0.8**
QZH			LR	LR		
	comp=E,2μm,11.3s					
QZH			LR	LR		
	comp=E,4μm,11.7s					
QZH			LR	LR		
	comp=E,5μm,12.3s					
KNMB	**Chin-men Tao**	**10.26 263**	Pn	**Pn**	**01 55 35.8**	**-2.6**
TJN	**Taejon**	**10.29 350**		**Pn**	**01 55 41.0**	**+2.2**
TJN	**Taejon**	**10.29 350**	*i* P	**Pn**	**01 55 39.5**	**+0.7**
NJ2	**Nanjing**	**11.01 304**	⇑P	**Pn**	**01 55 48.4**	**-0.3**
NJ2			pmax	pmax		
	comp=E,27nm,1.1s					
NJ2			pmax	pmax		
	comp=E,380nm,4.6s					
NJ2			LR	LR		
	comp=E,6μm,13.3s					
NJ2			LR	LR		
	comp=E,6μm,12.3s					
NJ2			LR	LR		
	comp=E,8μm,13.7s					
INU	**Inuyama**	**11.12 33**	P	**Pn**	**01 55 51.2**	**+1.0**
JHJ	**Hachijo jima 2**	**11.23 50**

	comp=Z,770nm,11.0s					
HNS				LR	LR	
	comp=Z,4μm,12.8s					
HNS				LR	LR	
	comp=Z,4μm,12.6s					
HNS				LR	LR	
	comp=Z,4μm,13.8s					
LYN	**LuoYang**	**16.91**	**303**	⇓P	**P**	**01 57 09.3 -0.5**
LYN				PP	**pwP**	**01 57 20.6 +0.5**
LYN				S	**Sn**	**02 00 16.9 +1.5**
LYN				sS	S	02 00 22.8 -2.9
LYN				pmax	pmax	
	comp=Z,210nm,1.1s					
LYN				pmax	pmax	
	comp=Z,2μm,7.6s					
LYN				LR	LR	
	comp=Z,9μm,13.4s					
LYN				LR	LR	
	comp=Z,6μm,15.8s					
LYN				LR	LR	
	comp=Z,12μm,13.1s					
BJI	**Beijing**	**17.73**	**324**	P	**Pn**	**01 57 17.8 -0.2**
BJI				PP	**pwP**	**01 57 29.8 +0.7**
BJI				S	**S**	**02 00 40.5 -1.9**
BJI				pmax	pmax	
	comp=Z,47nm,0.7s					
BJI				pmax	pmax	
	comp=Z,510nm,3.6s					
BJI				LR	LR	
	comp=Z,1μm,12.4s					
BJI				LR	LR	
	comp=Z,1μm,12.5s					
BJI				LR	LR	
	comp=Z,2μm,12.4s					
CN2	**Changchun**	**17.85**	**350**	P	**Pn**	**01 57 18.4 -1.1**
CN2				S	**Sn**	**02 00 34.5 -3.7**
CN2				pmax	pmax	
	comp=Z,20nm,1.1s					
CN2				pmax	pmax	
	comp=Z,400nm,3.0s					
CN2				LR	LR	
	comp=Z,4μm,13.0s					
CN2				LR	LR	
	comp=Z,5μm,13.0s					
CN2				LR	LR	
	comp=Z,4μm,14.0s					
USA0B	**Ussuriysk Arra**	**18.04**	**6**		**P**	**01 57 22.8 +0.6**
USA0B	**Ussuriysk Arra**	**18.04**	**6**	P	**P**	**01 57 22.8 +0.6**
USA0B				pmax	pmax	
	comp=Z,18nm,0.8s					
USRK	**Ussuriysk Ar.**	**18.04**	**6**	P	**P**	**01 57 22.2 0.0**
	comp=Z,1.0nm,0.3s,baz=165,slow=11,SNR=22					
	comp=Z,15nm,0.7s					
ENH	**Enshi**	**18.14**	**287**		**Pn**	**01 57 22.7 -0.4**
MDJ	**Mudanjiang**	**18.35**	**0**	P	**Pn**	**01 57 25.5 -0.1**
MDJ				pmax	pmax	
	comp=Z,14nm,1.1s					
MDJ				pmax	pmax	
	comp=Z,310nm,9.1s					
MDJ				LR	LR	
	comp=Z,2μm,16.0s					
MDJ				LR	LR	
	comp=Z,740nm,9.4s					
MDJ				LR	LR	
	comp=Z,2μm,16.2s					
TIY	**Taiyuan**	**18.47**	**313**	P	**Pn**	**01 57 27.9 +0.7**
TIY				PP	**pwP**	**01 57 37.1 -0.3**
TIY				S	**S**	**02 00 55.5 -2.1**
TIY				pmax	pmax	
	comp=Z,61nm,0.9s					
TIY				pmax	pmax	
	comp=Z,1μm,3.8s					
TIY				LR	LR	
	comp=Z,3μm,18.0s					
TIY				LR	LR	
	comp=Z,4μm,14.8s					
TIY				LR	LR	
	comp=Z,4μm,12.8s					
GUMO	**Guam**	**19.08**	**128**	LR	LR	02 03 21.1
	comp=Z,798nm,20.4s,baz=310,slow=32					
ERM	**Erimo**	**19.32**	**32**		**P**	**01 57 35.5 -0.7**
ERM	**Erimo**	**19.32**	**32**	P	**P**	**01 57 35.4 -0.8**
ERM	**Erimo**	**19.32**	**32**	*ce*P	**P**	**01 57 34.8 -1.4**
ERM				pmax	pmax	
	comp=Z,40nm,1.3s					
DAV	**Davao City (W)**	**19.42**	**192**	LR	LR	02 04 36.3
	comp=Z,573nm,20.9s,baz=348,slow=35					
XAN	**Xi'an**	**19.46**	**299**	⇓P	**P**	**01 57 36.3 -1.6**
XAN				pP	sP	01 57 44.3 +2.3
XAN				S	**Sn**	**02 01 15.3 -1.9**
XAN				pmax	pmax	
	comp=Z,180nm,0.7s					
XAN				pmax	pmax	
	comp=Z,1μm,5.7s					
XAN				LR	LR	
	comp=Z,4μm,14.1s					
XAN				LR	LR	
	comp=Z,4μm,16.8s					
XAN				LR	LR	
	comp=Z,7μm,16.8s					
QIZ	**Qiongzhong**	**19.55**	**253**	P	**Pn**	**01 57 41.4 +1.1**
QIZ				S	**Sn**	**02 01 20.1 +0.6**
QIZ				pmax	pmax	
	comp=Z,43nm,2.3s					
QIZ				pmax	pmax	
	comp=Z,1μm,4.4s					
QIZ				LR	LR	
	comp=Z,740nm,17.2s					
QIZ				LR	LR	
	comp=Z,1μm,14.4s					
QIZ				LR	LR	
	comp=Z,2μm,17.4s					
BNX	**BinXian**	**19.55**	**355**	⇑P	**Pn**	**01 57 39.6 -0.5**
BNX				pP	**sP**	**01 57 42.4 0.0**
BNX				S	**S**	**02 01 19.0 0.0**
BNX				sS	**sS**	**02 01 23.6 +0.6**
BNX				pmax	pmax	
	comp=Z,34nm,1.0s					
BNX				pmax	pmax	
	comp=Z,220nm,4.9s					
BNX				LR	LR	
	comp=Z,2μm,15.2s					
BNX				LR	LR	
	comp=Z,3μm,13.6s					
BNX				LR	LR	
	comp=Z,3μm,14.1s					
TEY	**Ternei**	**19.61**	**15**	*e*P	**P**	**01 57 39.1 -0.3**
GYA	**Guiyang**	**20.52**	**276**	P	**P**	**01 57 50.0 +0.3**
GYA				S	**S**	**02 01 31.4 -7.6**
GYA				pmax	pmax	
	comp=Z,610nm,8.5s					
GYA				LR	LR	
	comp=Z,3μm,13.8s					
GYA				LR	LR	
	comp=Z,4μm,12.5s					
GYA				LR	LR	
	comp=Z,5μm,14.6s					
ASAJ	**Asahikawa**	**20.74**	**27**	P	**P**	**01 57 51.5 -0.2**
	comp=Z,16nm,0.9s,baz=208,slow=15,SNR=5.6					
ASAJ				LR	LR	02 06 49.4
	comp=Z,1μm,19.2s,baz=258,slow=40					
	comp=Z,16nm,0.9s					
JKA	**Kamikawa-asahi**	**20.74**	**27**		**P**	**01 57 50.6 -1.1**
XLT	**XiLinHaoTe**	**20.75**	**332**	*e*P	**P**	**01 57 51.3 -0.7**
XLT				pP	sP	01 57 55.0 -0.6
XLT				S	**S**	**02 01 41.9 -1.3**
XLT				SS	**SnSn**	**02 02 08.5 +5.2**
XLT				PcS	**PcS**	**02 05 41.0 +2.1**
XLT				pmax	pmax	
	comp=Z,82nm,0.8s					
XLT				LR	LR	
	comp=Z,2μm,15.2s					
XLT				LR	LR	
	comp=Z,2μm,17.7s					
HHC	**Hu-ho-hao-te**	**20.87**	**319**	*e*P	**P**	**01 57 54.1 +0.9**
HHC				PP	**PnPn**	**01 58 17.8 +6.1**
HHC				S	**S**	**02 01 41.8 -3.7**
HHC				sS	sS	02 01 46.8 -2.7
HHC				SS	**SnSn**	**02 02 11.4 +5.3**
HHC				pmax	pmax	
	comp=Z,35nm,1.0s					
HHC				pmax	pmax	
	comp=Z,430nm,5.9s					
HHC				LR	LR	
	comp=Z,4μm,14.8s					
HHC				LR	LR	
	comp=Z,3μm,15.2s					
HHC				LR	LR	
	comp=Z,5μm,15.1s					
BTO	**Baotou**	**21.65**	**316**	*e*P	**P**	**01 58 02.3 +0.6**
BTO				pP	**sP**	**01 58 05.6 -0.2**
BTO				sP	**pwP**	**01 58 10.0 -2.0**
BTO				PP	**PnPn**	**01 58 30.0 +7.5**
BTO				S	**S**	**02 02 02.9 +1.8**
BTO				pmax	pmax	
	comp=Z,40nm,0.8s					
BTO				pmax	pmax	
	comp=Z,390nm,3.6s					
BTO				LR	LR	
	comp=Z,6μm,13.7s					
BTO				LR	LR	
	comp=Z,5μm,12.8s					
BTO				LR	LR	
	comp=Z,8μm,13.0s					
KLR	**Kul'dur**	**23.03**	**4**	*i* P	**P**	**01 58 15.5 -0.6**
KLR				pmax	pmax	
	comp=Z,38nm,1.1s					
CD2	**Chengdu**	**23.12**	**288**	P	**P**	**01 58 15.3 -2.0**
CD2				pP	pP	01 58 17.1 -3.0
CD2				S	**S**	**02 02 26.1 -2.1**
CD2				pmax	pmax	
	comp=Z,30nm,0.9s					
CD2				pmax	pmax	
	comp=Z,480nm,7.0s					
CD2				LR	LR	
	comp=Z,4μm,11.1s					
CD2				LR	LR	
	comp=Z,4μm,16.5s					
YSS	**Yuzhno-Sakhali**	**23.18**	**23**	*e*P	**P**	**01 58 16.5 -1.2**
YSS				*e*		01 58 47.1
YSS				*e*S	**S**	**02 02 20.3 -8.5**
YSS				*e*SS	**SnSn**	**02 03 08.1 +5.6**
YSS				pmax	pmax	
	comp=Z,500nm,3.7s					
YSS				pmax	pmax	
	comp=N,500nm,3.8s					
YSS				pmax	pmax	
	comp=Z,30nm,0.9s					
YSS				smax	smax	
	comp=N,500nm,9.4s					
SLVN	**Son La**	**23.96**	**264**		**P**	**01 58 27.1 +1.5**
SLVN				IAmb	IAmb	01 58 40.0
	comp=Z,65nm,1.2s					
LZH	**Lanzhou**	**24.05**	**300**	P	**P**	**01 58 24.3 -2.2**
LZH				sP	sP	01 58 33.1 +2.3
LZH				S	**S**	**02 02 40.5 -2.8**
LZH				pmax	pmax	
	comp=Z,36nm,1.8s					
LZH				pmax	pmax	
	comp=Z,610nm,4.1s					
LZH				LR	LR	
	comp=Z,3μm,13.4s					
LZH				LR	LR	
	comp=Z,3μm,14.8s					
LZH				LR	LR	
	comp=Z,4μm,15.1s					
HEH	**HeiHe**	**24.05**	**357**	*e*P	**P**	**01 58 25.5 -0.6**
HEH				pP	**pP**	**01 58 28.9 +0.1**
HEH				S	**S**	**02 02 44.3 +1.6**
HEH				sS	**sS**	**02 02 52.4 +4.6**
HEH				pmax	pmax	
	comp=Z,13nm,0.8s					
HEH				pmax	pmax	
	comp=Z,400nm,5.1s					
HEH				LR	LR	
	comp=Z,2μm,10.4s					
HEH				LR	LR	
	comp=Z,1μm,10.9s					
HEH				LR	LR	
	comp=Z,2μm,11.1s					
KMI	**Kunming**	**24.19**	**273**	⇓P	**P**	**01 58 28.1 +0.1**
KMI				S	**S**	**02 02 48.9 +3.0**
KMI				pmax	pmax	
	comp=Z,28nm,0.8s					
KMI				pmax	pmax	
	comp=Z,780nm,4.0s					
KMI				LR	LR	
	comp=Z,2μm,12.8s					
KMI				LR	LR	
	comp=Z,3μm,11.8s					
KMI				LR	LR	
	comp=Z,4μm,11.2s					
PZH	**PanZhiHua**	**24.91**	**277**	P	**P**	**01 58 34.0 -0.4**
PZH				S	**S**	**02 02 55.3 -2.1**
PZH				sS	**sS**	**02 03 04.8 +3.0**
PZH				pmax	pmax	
	comp=Z,50nm,1.1s					
PZH				pmax	pmax	
	comp=Z,650nm,4.1s					
PZH				LR	LR	
	comp=Z,3μm,16.6s					
PZH				LR	LR	
	comp=Z,3μm,13.9s					
PZH				LR	LR	
	comp=Z,4μm,13.5s					
GRNR	**Gornyy**	**25.07**	**10**	⇓*i*P	**P**	**01 58 35.6 +0.2**
GRNR				pmax	pmax	
	comp=Z,20nm,1.2s					
GRNR				MLR	MLR	
	comp=E,570nm,11.0s					
GRNR				MLR	MLR	
	comp=N,690nm,13.0s					
GRNR				MLR	MLR	
	comp=Z,680nm,14.0s					
TOLI2	**Tolitoli**	**26.36**	**200**		**P**	**01 58 47.3 -0.1**
TYV	**Tymovskoe**	**26.57**	**19**	*e*P	**P**	**01 58 55.5 +6.6**
TYV				pmax	pmax	
	comp=Z,26nm,0.9s					
ZEA	**Zeya**	**27.54**	**357**	*e*P	**P**	**01 58 57.2 -0.5**
ZEA				pmax	pmax	
	comp=N,20nm,0.7s					
ZEA				pmax	pmax	
	comp=Z,20nm,1.1s					
ZEA				pmax	pmax	
	comp=Z,200nm,4.0s					
ZEA				MLR	MLR	
	comp=N,600nm,14.0s					
ZEA				MLR	MLR	
	comp=Z,700nm,15.0s					
ULN	**Ulaanbaatar**	**27.91**	**327**		**P**	**01 59 02.4 +1.1**
ULN	**Ulaanbaatar**	**27.91**	**327**	*ce*P	**P**	**01 59 03.0 +1.7**
ULN				pmax	pmax	
	comp=Z,14nm,1.0s					
TNCH	**TengChong**	**27.98**	**274**	P	**P**	**01 59 02.8 +0.6**
TNCH				sP	sP	01 59 09.5 +3.4
TNCH				S	**S**	**02 03 43.3 -2.8**
TNCH				sS	sS	02 03 51.1 +0.4
TNCH				pmax	pmax	
	comp=Z,400nm,3.0s					
TNCH				LR	LR	
	comp=Z,3μm,13.8s					
TNCH				LR	LR	
	comp=Z,5μm,13.6s					
TNCH				LR	LR	
	comp=Z,7μm,14.2s					
GTA	**Gaotai**	**28.11**	**305**	P	**P**	**01 59 02.4 -0.7**
GTA				sP	pwP	01 59 13.4 +0.2
GTA				S	**S**	**02 03 49.5 +1.8**
GTA				pmax	pmax	
	comp=Z,27nm,0.9s					
GTA				pmax	pmax	
	comp=Z,180nm,6.4s					
GTA				LR	LR	
	comp=Z,1μm,17.5s					
GTA				LR	LR	
	comp=Z,2μm,17.9s					
GTA				LR	LR	
	comp=Z,3μm,16.7s					
NKL	**Nikolayevsk**	**28.15**	**14**	*e*P	**P**	**01 59 06.6 +3.5**
NKL				*e*S	**S**	**02 03 46.5 -1.2**
NKL				pmax	pmax	
	comp=N,47nm,0.9s					
NKL				pmax	pmax	
	comp=E,108nm,1.0s					
NKL				pmax	pmax	
	comp=Z,89nm,1.0s					
NKL				smax	smax	
	comp=N,135nm,4.0s					
NKL				smax	smax	
	comp=E,266nm,4.0s					
NKL				MLR	MLR	
	comp=E,6μm,13.0s					
NKL				MLR	MLR	
	comp=N,5μm,15.0s					
NKL				MLR	MLR	
	comp=Z,6μm,16.0s					
SONM	**Songino Array**	**28.22**	**326**		**P**	**01 59 03.0 -1.0**
SONM	**Songino Array**	**28.22**	**326**	P	**P**	**01 59 04.7 +0.7**
	comp=Z,13nm,0.9s,baz=138,slow=10,SNR=21					
SONM				LR	LR	02 11 48.6
	comp=Z,1μm,18.6s,baz=130,slow=40					
	comp=Z,13nm,0.9s					
FAKI	**Fak Fak**	**29.09**	**174**	P	**P**	**01 59 08.2 -3.6**
CHTO	**Chiang Mai**	**29.18**	**262**		**P**	**01 59 13.3 +0.6**
CHTO				IAmb	IAmb	01 59 26.0
	comp=Z,31nm,1.1s					
CHTO	**Chiang Mai**	**29.18**	**262**	P	**P**	**01 59 13.3 +0.6**
CHTO				pmax	pmax	
	comp=Z,31nm,1.2s					
CMAR	**Chiang Mai Arr**	**29.30**	**261**		**P**	**01 59 10.9 -2.9**
CMAR	**Chiang Mai Arr**	**29.30**	**261**	P	**P**	**01 59 14.5 +0.7**
	comp=Z,1.9nm,0.8s,baz=58,slow=9.1,SNR=13					
CMAR				LR	LR	02 11 52.7
	comp=Z,564nm,18.5s,baz=75,slow=38					
	comp=Z,1.9nm,0.8s					
JAY	**Jayapura**	**30.53**	**158**	LR	LR	02 09 00.7
	comp=Z,403nm,20.8s,baz=2.0,slow=31					
KSM	**Kuching**	**30.80**	**220**	P	**P**	**01 59 24.2 -2.8**
GOMU	**GeErMu**	**31.20**	**297**	P	**P**	**01 59 30.6 -0.2**
GOMU				pP	pP	01 59 33.6 -0.3
GOMU				sP	pwP	01 59 38.4 -2.5
GOMU				S	**S**	**02 04 40.1 +3.4**
GOMU				pmax	pmax	
	comp=Z,9.0nm,0.7s					
GOMU				LR	LR	
	comp=Z,2μm,14.7s					
GOMU				LR	LR	
	comp=Z,1μm,14.1s					
GOMU				LR	LR	
	comp=Z,2μm,14.7s					
MOY	**Mondy**	**33.37**	**327**	*e*P	**P**	**01 59 50.7 +1.3**
BOD	**Bodaibo**	**33.45**	**345**	*e*P	**P**	**01 59 49.3 -0.6**
BOD				pmax	pmax	
	comp=Z,9.0nm,1.2s					
SHL	**Shillong**	**33.83**	**277**	P	**P**	**01 59 53.5 -0.3**
SHL				pmax	pmax	
	comp=Z,60nm,1.0s					
PEA0B	**Petropavlovsk-**	**34.09**	**30**		**P**	**01 59 54.9 -0.6**
PEA0B				IAmb	IAmb	01 59 58.2
	comp=Z,27nm,1.3s					
PEA0B	**Petropavlovsk-**	**34.09**	**30**	*ce*P	**P**	**01 59 57.9 +2.4**
PETK	**Petropavlovsk-**	**34.09**	**30**	P	**P**	**01 59 54.6 -0.8**
PETK	**Petropavlovsk-**	**34.09**	**30**	P	**P**	**01 59 55.0 -0.5**
	comp=Z,4.4nm,0.9s,baz=214,slow=10.0,SNR=10.0					
PETK				LR	LR	02 15 03.8
	comp=Z,310nm,19.0s,baz=209,slow=39					
	comp=Z,4.4nm,0.9s					
PETK	**Petropavlovsk-**	**34.09**	**30**	P	**P**	**01 59 55.0 -0.5**
BRDH	**Bariadhala**	**34.62**	**272**	P	**P**	**02 00 01.1 +0.7**
	comp=Z,71nm,0.3s,baz=74,slow=8.4,SNR=6.2					
BRDH				LR	LR	02 15 37.9
	comp=Z,738nm,18.1s,baz=125,slow=39					
YAK	**Yakutsk**	**35.80**	**0**	P	**P**	**02 00 09.2 -0.9**
YAK	**Yakutsk**	**35.80**	**0**	*e*P	**P**	**02 00 09.2 -0.9**
YAK				*e**PP	**pP**	**02 00 12.8 0.0**
YAK				*e*		02 01 28.6
YAK				*e*		02 02 34.0
YAK				*e*S	**S**	**02 05 45.8 -0.9**
YAK				*e**SS	**sS**	**02 05 52.2 +0.9**
YAK				*e*SS	**SnSn**	**02 08 07.0 -2.3**
YAK				pmax	pmax	
	comp=Z,24nm,0.9s					
YAK				pmax	pmax	
	comp=N,14nm,1.3s					
YAK				pmax	pmax	
	comp=E,3.0nm,0.9s					
YAK				pmax	pmax	
	comp=Z,10.0nm,0.5s					
YAK				pmax	pmax	
	comp=N,17nm,1.5s					
YAK				smax	smax	
	comp=E,50nm,2.2s					
YAK				smax	smax	
	comp=N,53nm,2.5s					
YAK				MLR	MLR	
	comp=Z,607nm,11.0s					
YAK				MLR	MLR	
	comp=N,382nm,12.0s					
YAK				MLR	MLR	
	comp=E,185nm,12.0s					
SOEI	**Soe**	**36.13**	**189**	P	**P**	**02 00 12.6 -0.9**
	comp=E,27nm,1.0s					
PLAI	**Plampang**	**36.68**	**200**	P	**P**	**02 00 14.6 -3.5**
PLAI	**Plampang**	**36.68**	**200**	P	**P**	**02 00 18.3 +0.2**
	comp=E,873nmcomp=E,38nm,1.1s					
PSI	**Prapat**	**37.51**	**237**	LR	LR	02 15 30.1
	comp=E,211nm,19.7s,baz=40,slow=36					
PSI	**Prapat**	**37.51**	**237**	P	**P**	**02 00 26.8 +1.4**
PSI				pmax	pmax	
	comp=Z,33nm,1.3s					
RPSI	**Rantau Prapat**	**37.58**	**237**		**P**	**02 00 26.8 +1.0**
RPSI				IAmb	IAmb	02 00 38.4
	comp=Z,33nm,1.3s					
WMQ	**Urumqi**	**38.06**	**308**	*e*P	**P**	**02 00 33.3 +3.6**
WMQ				pmax	pmax	
	comp=Z,27nm,0.6s					
WMQ				LR	LR	
	comp=Z,2μm,12.3s					
WMQ				LR	LR	
	comp=Z,2μm,14.7s					
WMQ				LR	LR	
	comp=Z,1μm,17.9s					
MTN	**Manton Dam**	**38.86**	**178**	P	**P**	**02 00 36.7 +0.2**
LEM	**Lembang**	**39.16**	**216**	P	**P**	**02 00 40.9 +1.7**
	comp=Z,12nm,0.4s,baz=16,slow=12,SNR=3.5					
	comp=Z,12nm,0.4s					
PMG	**Port Moresby**	**39.33**	**152**	LR	LR	02 14 38.1
	comp=Z,438nm,21.7s,baz=329,slow=33					
GSI	**Gunungsitoli**	**39.50**	**236**	P	**P**	**02 00 41.9 -0.1**
GSI				IAmb	IAmb	02 00 54.1
	comp=Z,60nm,1.3s					
GSI	**Gunungsitoli**	**39.50**	**236**	P	**P**	**02 00 39.0 -3.0**
	comp=Z,44nm,1.5s					
SEY	**Seymchan**	**39.69**	**16**	*ce*P	**P**	**02 00 43.5 +0.6**
SEY				pmax	pmax	
	comp=Z,13nm,0.8s					
KNRA	**Kununurra**	**41.66**	**181**	IAmb	IAmb	02 01 12.6
	comp=Z,25nm,0.7s					
KNRA	**Kununurra**	**41.66**	**181**	P	**P**	**02 01 00.3 +0.6**
	comp=Z,36nm,0.8s					
MK31	**Makanchi Array**	**42.43**	**312**	*ce*P	**P**	**02 01 04.9 -0.9**
MKAR	**Makanchi Array**	**42.43**	**312**		**P**	**02 01 04.4 -1.4**
MKAR	**Makanchi Array**	**42.43**	**312**	P	**P**	**02 01 04.7 -1.1**
	comp=Z,6.2nm,0.7s,baz=99,slow=9.5,SNR=52					
MKAR				PcP	**PcP**	**02 02 58.2 -0.6**
	comp=Z,1.9nm,0.9s,baz=70,slow=2.7,SNR=2.0					
MKAR				LR	LR	02 21 32.0
	comp=Z,624nm,19.3s,baz=76,slow=40					
	comp=Z,6.2nm,0.7s					
MAKZ	**Makanchi**	**42.65**	**312**		**P**	**02 01 06.1 -1.5**
MAKZ	**Makanchi**	**42.65**	**312**	P	**P**	**02 01 06.1 -1.5**
MAKZ				pmax	pmax	
	comp=Z,10.0nm,1.2s					
ZAA0	**Zalesovo Array**	**42.98**	**322**		**P**	**02 01 08.5 -1.6**
ZALV	**Zalesovo Beam**	**42.98**	**322**		**P**	**02 01 08.4 -1.7**
ZALV	**Zalesovo Beam**	**42.98**	**322**	P	**P**	**02 01 08.7 -1.4**
	comp=Z,6.4nm,0.5s,baz=107,slow=9.1,SNR=30					
ZALV				PcP	**PcP**	**02 02 59.8 -0.5**
	comp=Z,2.0nm,0.7s,baz=113,slow=4.5,SNR=2.9					
ZALV				LR	LR	02 20 59.3
	comp=Z,1μm,19.7s,baz=118,slow=39					
	comp=Z,6.4nm,0.5s					
ZALV	**Zalesovo Beam**	**42.98**	**322**	*i* P	**P**	**02 01 08.6 -1.5**
ZALV				pmax	pmax	
	comp=Z,6.0nm,0.4s					
FITZ	**Fitzroy Crossi**	**44.22**	**185**	P	**P**	**02 01 20.2 -0.2**
	comp=Z,3.0nm,0.8s					
FITZ	**Fitzroy Crossi**	**44.22**	**185**	LR	LR	02 20 23.1
	comp=Z,72nm,21.6s,baz=16,slow=37					
FITZ	**Fitzroy Crossi**	**44.22**	**185**	P	**P**	**02 01 17.3 -3.1**
PRZ	**Przheval'sk**	**44.57**	**305**	IAmb	IAmb	02 01 37.0
	comp=Z,35nm,1.2s					
TARG	**Taragay, Kyrgy**	**44.96**	**304**	IAmb	IAmb	02 01 40.2
	comp=Z,31nm,1.0s					
KDJ	**Kajisay**	**45.45**	**304**	IAmb	IAmb	02 01 46.8
	comp=Z,24nm,1.0s					
KDJ	**Kajisay**	**45.45**	**304**	P	**P**	**02 01 29.7 -0.6**
TIXI	**Tiksi**	**45.46**	**360**		**P**	**02 01 28.9 -0.8**

TIXI				IAmb	IAmb	02 01 43.1	
	comp=Z,39nm,1.4s						
TIXI	**Tiksi**	**45.46**	**360***ce*	P	**P**	**02 01 30.7**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,32nm,2.5s						
KURK	**Kurchatov**	**45.65**	**316**		**P**	**02 01 30.1**	**-1.4**
KURK				IAmb	IAmb	02 01 32.5	
	comp=Z,13nm,0.8s						
KURK	**Kurchatov**	**45.65**	**316***ce*	P	**P**	**02 01 30.6**	**-0.9**
KURK				pmax	pmax		
	comp=Z,52nm,2.5s						
KURBB	**Kurchatov Arra**	**45.68**	**316**	P	**P**	**02 01 30.5**	**-1.3**
	comp=Z,13nm,0.7s,baz=102,slow=8.9,SNR=94						
KURBB				PcP	**PcP**	**02 03 07.9**	**-1.7**
	comp=Z,0.4nm,0.2s,baz=97,slow=2.3,SNR=5.4						
KURBB				LR	LR	02 22 28.5	
	comp=Z,2μm,18.2s,baz=112,slow=39						
	comp=Z,13nm,0.7s						
WRAB	**Tennant Creek**	**46.12**	**174**		**P**	**02 01 36.7**	**+1.2**
WRAB				IAmb	IAmb	02 01 48.6	
	comp=Z,18nm,0.9s						
WRAB	**Tennant Creek**	**46.12**	**174**	P	**P**	**02 01 36.7**	**+1.2**
WRAB				pmax	pmax		
	comp=Z,18nm,0.9s						
WRA	**Warramunga Arr**	**46.12**	**174**		**P**	**02 01 36.3**	**+0.8**
WRA	**Warramunga Arr**	**46.12**	**174**	P	**P**	**02 01 36.5**	**+1.0**
	comp=Z,6.2nm,0.7s,baz=353,slow=8.5,SNR=39						
WRA				LR	LR	02 19 44.9	
	comp=Z,198nm,20.1s,baz=358,slow=34						
	comp=Z,6.2nm,0.7s						
KSH	**Kashi**	**46.30**	**301**	P	**P**	**02 01 40.8**	**+3.8**
KSH				sP	pwP	02 01 47.3	-1.2
KSH				pmax	pmax		
	comp=Z,10.0nm,2.2s						
KSH				LR	LR		
	comp=Z,1μm,16.3s						
KSH				LR	LR		
	comp=Z,1μm,15.7s						
KSH				LR	LR		
	comp=Z,1μm,15.1s						
BOOM	**Boomskoye usch**	**46.38**	**305**	P	**P**	**02 01 37.7**	**0.0**
BILL	**Bilibino**	**47.31**	**18**		**P**	**02 01 44.5**	**+0.2**
BILL	**Bilibino**	**47.31**	**18***ce*	P	**P**	**02 01 44.8**	**+0.5**
BILL				pmax	pmax		
	comp=Z,25nm,1.3s						
AAK	**Ala-Archa**	**47.46**	**305**	P	**P**	**02 01 46.5**	**+0.5**
AAK	**Ala-Archa**	**47.46**	**305**	LR	LR	02 25 00.2	
	comp=Z,730nm,19.2s,baz=83,slow=40						
AAK	**Ala-Archa**	**47.46**	**305***ce*	P	**P**	**02 01 45.4**	**-0.7**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
QIS	**Mount Isa**	**47.51**	**167**	P	**P**	**02 01 47.0**	**+0.6**
	comp=Z,44nm,0.8s						
HYB	**Hyderabad**	**47.91**	**270**	*e*P	**P**	**02 01 49.0**	**-0.7**
HYB				*e*P	**pP**	**02 01 50.2**	**-2.3**
HYB				IVmB_BB		02 01 50.5	
	comp=Z,450nm,3.4s						
PSA00	**Pilbara Seismi**	**48.44**	**192**	P	**P**	**02 01 53.8**	**+0.2**
	comp=Z,37nm,0.8s						
ARSB	**Arslanbob**	**48.57**	**303**	IAmb	IAmb	02 02 10.1	
	comp=Z,12nm,0.9s						
NIL	**Nilore**	**48.85**	**293**	P	**P**	**02 01 56.9**	**0.0**
NIL	**Nilore**	**48.85**	**293**	P	**P**	**02 01 56.9**	**0.0**
NIL				pmax	pmax		
	comp=Z,36nm,1.3s						
NRIK	**Noril'sk**	**49.63**	**342**	IAmb	IAmb	02 02 13.8	
	comp=Z,27nm,1.2s						
NRIK	**Noril'sk**	**49.63**	**342**	P	**P**	**02 02 01.4**	**-0.7**
	comp=Z,11nm,0.7s,baz=122,slow=7.7,SNR=16						
NRIK				LR	LR	02 25 04.4	
	comp=Z,775nm,18.6s,baz=130,slow=39						
	comp=Z,11nm,0.7s						
NRIK	**Noril'sk**	**49.63**	**342***ce*	P	**P**	**02 02 01.6**	**-0.5**
AS31	**Alice Springs**	**49.77**	**175**	P	**P**	**02 02 04.5**	**+0.7**
	comp=Z,4.2nm,0.8s						
ASAR	**Alice Springs**	**49.77**	**175**		**P**	**02 02 05.2**	**+1.4**
ASAR	**Alice Springs**	**49.77**	**175**	P	**P**	**02 02 04.9**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=4.4,slow=14,SNR=48						
ASAR				LR	LR	02 25 15.3	
	comp=Z,84nm,18.1s,baz=357,slow=39						
	comp=Z,2.1nm,0.6s						
ASAR	**Alice Springs**	**49.77**	**175**	P	**P**	**02 02 05.2**	**+1.4**
PALK	**Pallekele**	**50.09**	**257**	LR	LR	02 26 22.6	
	comp=Z,241nm,18.1s,baz=58,slow=40						
KKAR	**Karatay Array**	**50.39**	**305**		**P**	**02 02 08.6**	**+0.2**
KKAR	**Karatay Array**	**50.39**	**305**	P	**P**	**02 02 08.6**	**+0.2**
WRKA	**Warakurna**	**50.98**	**181**	P	**P**	**02 02 13.0**	**+0.1**
	comp=Z,20nm,0.8s						
BVAR	**Borovoye Array**	**51.08**	**318**	P	**P**	**02 02 13.1**	**-0.3**
	comp=Z,16nm,0.6s,baz=80,slow=9.6,SNR=40						
BVAR				PcP	**PcP**	**02 03 29.3**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=100,slow=5.0,SNR=5.3						
BVAR				LR	LR	02 25 53.4	
	comp=Z,3μm,18.2s,baz=87,slow=38						
	comp=Z,16nm,0.6s						
BRVK	**Borovoye**	**51.14**	**318***ce*	P	**P**	**02 02 13.9**	**0.0**
BRVK				pmax	pmax		
	comp=Z,19nm,0.7s						
SIMJ	**Simiganj**	**51.75**	**300**		**P**	**02 02 18.9**	**+0.1**
SIMJ				IAmb	IAmb	02 02 34.1	
	comp=Z,15nm,0.8s						
KBL	**Kabul**	**52.20**	**295**		**P**	**02 02 21.9**	**-0.4**
KBL	**Kabul**	**52.20**	**295**	P	**P**	**02 02 21.9**	**-0.4**
KBL				pmax	pmax		
	comp=Z,88nm,1.6s						
SPIA	**Saint Paul Isl**	**52.28**	**37**	P	**P**	**02 02 21.4**	**-0.8**
	baz=260						
NIKH	**Nikolski High**	**52.52**	**42**	P	**P**	**02 02 23.4**	**-0.7**
	baz=265						
P08K	**Saint George I**	**52.56**	**37**	P	**P**	**02 02 23.2**	**-1.2**
	baz=261						
GAMB	**Gambell**	**53.07**	**28**	P	**P**	**02 02 27.1**	**-0.8**
	baz=254						
UNV	**Unalaska Valle**	**53.99**	**41**	P	**P**	**02 02 35.2**	**+0.2**
	baz=266						
M11K	**Mekoryuk**	**54.87**	**33**	P	**P**	**02 02 40.3**	**-0.9**
	baz=262						
TNA	**Tin City**	**55.10**	**27**	P	**P**	**02 02 41.4**	**-1.4**
	baz=256						
F14K	**Arctic Creek**	**55.73**	**27**	P	**P**	**02 02 46.4**	**-0.9**
	baz=258						
K13K	**Kusilvak Mount**	**55.84**	**31**	P	**P**	**02 02 47.2**	**-0.9**
	baz=262						
ANM	**Nome**	**55.95**	**28**	P	**P**	**02 02 47.4**	**-1.5**
	baz=260						
M13K	**Dall Lake**	**56.28**	**33**	P	**P**	**02 02 50.4**	**-1.0**
	baz=264						
F15K	**North Star Dit**	**56.46**	**27**	P	**P**	**02 02 52.2**	**-0.4**
	baz=259						
J14K	**Nanvaranak Lak**	**56.46**	**31**	P	**P**	**02 02 51.5**	**-1.1**
	baz=262						
G15K	**Niukluk**	**56.59**	**28**	P	**P**	**02 02 52.3**	**-1.2**
	baz=260						
FORT	**Forrest**	**56.70**	**182**		**P**	**02 02 56.0**	**+1.4**
FORT				IAmb	IAmb	02 03 07.9	
	comp=Z,22nm,0.8s						
L14K	**Kuka Creek**	**56.70**	**32**	P	**P**	**02 02 53.8**	**-0.5**
	baz=264						
C16K	**Lisburne Hills**	**56.72**	**24**	P	**P**	**02 02 54.4**	**0.0**
	baz=257						
M14K	**Bethel**	**57.00**	**33**	P	**P**	**02 02 55.7**	**-0.7**
	baz=265						
SVE	**Sverdlovsk**	**57.00**	**322***ce*	P	**P**	**02 02 56.5**	**0.0**
SVE				pmax	pmax		
	comp=Z,43nm,1.4s						
SVE				MLR	MLR		
	comp=Z,2μm,14.0s						
N14K	**Kuskokwak Cree**	**57.07**	**34**	P	**P**	**02 02 55.8**	**-1.1**
	baz=266						
O14K	**Tigyukauivet M**	**57.24**	**35**	P	**P**	**02 02 56.9**	**-1.3**
	baz=267						
H16K	**Elim**	**57.29**	**28**	P	**P**	**02 02 57.6**	**-0.8**
	baz=262						
L15K	**Ungalak Mounta**	**57.30**	**32**	P	**P**	**02 02 58.3**	**-0.3**
	baz=265						
K15K	**Wolf Creek Mou**	**57.34**	**31**	P	**P**	**02 02 58.6**	**-0.3**
	baz=265						
G16K	**Koyuk River**	**57.35**	**27**	P	**P**	**02 02 58.7**	**-0.2**
	baz=262						
D17K	**Noatak River**	**57.44**	**25**	P	**P**	**02 02 59.8**	**+0.3**
	baz=260,SNR=5.4						
ABKAR	**Akbulak array**	**57.52**	**313**	P	**P**	**02 03 00.5**	**+0.1**
ABKAR	**Akbulak array**	**57.52**	**313**	IAmb	IAmb	02 03 12.5	
	comp=Z,20nm,1.0s						
SDPT	**Sand Point**	**57.55**	**39**	P	**P**	**02 03 00.5**	**+0.1**
	baz=270						
RDOG	**Red Dog Mine**	**57.57**	**24**	P	**P**	**02 03 00.5**	**+0.1**
	baz=260						
M15K	**Kasigluk River**	**57.62**	**33**	P	**P**	**02 03 01.1**	**+0.2**
	baz=266						
E17K	**Hotham Inlet**	**57.81**	**26**	P	**P**	**02 03 01.7**	**-0.4**
	baz=261						
J16K	**Anvik River**	**57.86**	**30**	P	**P**	**02 03 02.1**	**-0.4**
	baz=265						
I17K	**Unalakleet**	**57.88**	**29**	P	**P**	**02 03 02.2**	**-0.4**
	baz=264						
N15K	**Kwethluk River**	**57.88**	**34**	P	**P**	**02 03 02.0**	**-0.7**
	baz=267						
F17K	**Baldwin Pennin**	**57.95**	**26**	P	**P**	**02 03 02.8**	**-0.2**
	baz=262						
O15K	**Ungalikthiuk R**	**57.98**	**35**	P	**P**	**02 03 03.0**	**-0.4**
	baz=268						
CHNA	**Chernabura Isl**	**58.06**	**40**	P	**P**	**02 03 03.1**	**-0.9**
	baz=271						
G17K	**Kiwalik Mounta**	**58.07**	**27**	P	**P**	**02 03 03.4**	**-0.5**
	baz=263						
S14K	**Fog Glacier**	**58.07**	**38**	P	**P**	**02 03 03.5**	**-0.8**
	baz=270						
B18K	**Kokolik River**	**58.20**	**23**	P	**P**	**02 03 05.0**	**+0.2**
	baz=260						
ARTI	**Arti**	**58.24**	**322**	P	**P**	**02 03 04.7**	**-0.6**
ARTI	**Arti**	**58.24**	**322**	LR	LR	02 30 38.2	
	comp=Z,1μm,19.5s,baz=72,slow=39						
ARTI	**Arti**	**58.24**	**322***d*	*i*P	**P**	**02 03 04.8**	**-0.5**
ARTI						02 03 55.8	
ARTI						02 05 10.4	
ARTI				S	**S**	**02 11 07.5**	**+1.0**
ARTI				SS	**SS**	**02 14 55.9**	**-2.0**
ARTI				pmax	pmax		
	comp=Z,14nm,0.8s						
ARTI				MLR	MLR		
	comp=Z,2μm,15.0s						
L16K	**Owhat River**	**58.26**	**32**	P	**P**	**02 03 05.7**	**+0.4**
	baz=267						
C18K	**Utukok River**	**58.30**	**24**	P	**P**	**02 03 05.2**	**-0.4**
C18K				IAmb	IAmb	02 03 24.0	
	comp=Z,10nm,0.8s						
C18K	**Utukok River**	**58.30**	**24**	P	**P**	**02 03 06.2**	**+0.6**
	baz=261,SNR=7.4						
H17K	**Granite Mounta**	**58.32**	**28**	P	**P**	**02 03 04.5**	**-1.2**
	baz=264						
E18K	**Tukpahlearik C**	**58.33**	**25**	P	**P**	**02 03 05.1**	**-0.6**
	baz=262						
M16K	**Timber Creek**	**58.48**	**33**	P	**P**	**02 03 06.1**	**-0.8**
	baz=268						
N16K	**Nishlik Lake**	**58.55**	**33**	P	**P**	**02 03 06.2**	**-1.2**
	baz=268						
J17K	**VABM Dome**	**58.55**	**30**	P	**P**	**02 03 06.7**	**-0.7**
	baz=266						
A19K	**Wainwright**	**58.60**	**22**	P	**P**	**02 03 06.9**	**-0.6**
	baz=260						
F18K	**Selawik**	**58.60**	**26**	P	**P**	**02 03 07.0**	**-0.6**
	baz=264						
AKTO	**Aktyubinsk**	**58.69**	**315**	LR	LR	02 28 34.1	
	comp=Z,279nm,20.3s,baz=50,slow=36						
CHGN	**Chignik**	**58.71**	**38**	P	**P**	**02 03 07.7**	**-0.8**
	baz=271						
L17K	**Donlin**	**58.84**	**32**	P	**P**	**02 03 08.7**	**-0.7**
	baz=268						
K17K	**Iditarod**	**58.87**	**31**	P	**P**	**02 03 08.5**	**-1.0**
	baz=267						
O16K	**Kokwok River B**	**58.87**	**34**	P	**P**	**02 03 08.9**	**-0.7**
	baz=269						
STKA	**Stephens Creek**	**58.91**	**168**	P	**P**	**02 03 11.2**	**+1.1**
	comp=Z,3.2nm,0.5s,baz=346,slow=7.3,SNR=14						
STKA				LR	LR	02 30 32.9	
	comp=Z,88nm,18.3s,baz=1.7,slow=38						
	comp=Z,3.2nm,0.5s						
P16K	**Nushagak River**	**58.92**	**35**	P	**P**	**02 03 08.7**	**-1.3**
	baz=270						
G18K	**Tagagawik**	**58.93**	**27**	IAmb	IAmb	02 03 28.0	
	comp=Z,29nm,1.7s						
G18K	**Tagagawik**	**58.93**	**27**	P	**P**	**02 03 09.5**	**-0.5**
	baz=265						
H18K	**Honhosa River**	**58.99**	**28**	P	**P**	**02 03 09.7**	**-0.7**
	baz=266						
R16K	**Pilot Point**	**59.15**	**37**	P	**P**	**02 03 10.5**	**-1.0**
	baz=271						
M17K	**Holitna River**	**59.23**	**32**	P	**P**	**02 03 10.2**	**-1.9**
	baz=269						
N17K	**Nushagak Hills**	**59.34**	**33**	P	**P**	**02 03 12.5**	**-0.4**
	baz=270						
F19K	**Shaleruckik Mo**	**59.37**	**26**	P	**P**	**02 03 12.5**	**-0.4**
	baz=265						
O17K	**Koliganek Bris**	**59.38**	**34**	P	**P**	**02 03 13.0**	**-0.1**
	baz=270						
D19K	**Kuna River**	**59.40**	**24**	IAmb	IAmb	02 03 31.9	
	comp=Z,16nm,0.8s						
D19K	**Kuna River**	**59.40**	**24**	P	**P**	**02 03 12.8**	**-0.4**
	baz=264,SNR=13						
G19K	**Purcell Mounta**	**59.59**	**27**	P	**P**	**02 03 13.3**	**-1.2**
	baz=266						
GCSA	**Galena City Sc**	**59.60**	**28**	P	**P**	**02 03 13.6**	**-1.0**
	baz=267						
L18K	**Granite Mounta**	**59.60**	**31**	P	**P**	**02 03 16.1**	**+1.5**
L18K				IAmb	IAmb	02 03 19.0	
	comp=Z,15nm,1.4s						
L18K	**Granite Mounta**	**59.60**	**31**	P	**P**	**02 03 13.4**	**-1.3**
	baz=269						
Q16K	**King Salmon**	**59.61**	**36**	P	**P**	**02 03 12.9**	**-1.9**
	baz=271						
J18K	**Innoko River**	**59.62**	**30**	P	**P**	**02 03 13.3**	**-1.5**
	baz=268						
E19K	**Redstone River**	**59.63**	**25**	IAmb	IAmb	02 03 33.6	
	comp=Z,9.7nm,0.8s						
E19K	**Redstone River**	**59.63**	**25**	P	**P**	**02 03 13.5**	**-1.2**
	baz=265,SNR=6.8						
P17K	**Kvichak River**	**59.72**	**35**	P	**P**	**02 03 14.1**	**-1.4**
	baz=271						
H19K	**Roundabout Mou**	**59.82**	**28**	IAmb	IAmb	02 03 30.1	
	comp=Z,11nm,0.9s						
H19K	**Roundabout Mou**	**59.82**	**28**	P	**P**	**02 03 14.8**	**-1.2**
	baz=267						
DZM	**Mont Dzumac**	**59.85**	**140**	*e*S	**S**	**02 11 27.1**	**-1.2**
	comp=Z,275nm,26.9s						
DZM				*e*LR	LR	02 20 55.4	
	comp=Z,583nm,22.6s						
DZM	**Mont Dzumac**	**59.85**	**140**	LR	LR	02 25 37.1	
	comp=Z,289nm,21.8s,baz=4.5,slow=32						
B20K	**Meade River**	**59.90**	**22**	IAmb	IAmb	02 03 35.1	
	comp=Z,13nm,0.8s						
B20K	**Meade River**	**59.90**	**22**	P	**P**	**02 03 15.8**	**-0.7**
	baz=264,SNR=5.5						
TTA	**Tatalina**	**59.92**	**31**	P	**P**	**02 03 14.8**	**-2.2**
	baz=269						
D20K	**Etivluk River**	**59.97**	**24**	P	**P**	**02 03 15.7**	**-1.4**
	baz=265,SNR=17						
N18K	**Kilae Creek**	**59.98**	**33**	P	**P**	**02 03 15.2**	**-2.1**
	baz=271						
M18K	**Stony River**	**60.00**	**32**	P	**P**	**02 03 16.0**	**-1.4**
	baz=270						
Q17K	**Contact Creek**	**60.03**	**36**	P	**P**	**02 03 16.0**	**-1.8**
	baz=272						
E20K	**Nigu River**	**60.09**	**24**	P	**P**	**02 03 16.7**	**-1.3**
	baz=266						
J19K	**Poorman**	**60.12**	**29**	P	**P**	**02 03 19.3**	**+1.2**
J19K	**Poorman**	**60.12**	**29**	P	**P**	**02 03 17.3**	**-0.9**
	baz=269						
F20K	**Avaraart Lake**	**60.19**	**26**	P	**P**	**02 03 17.0**	**-1.5**
	baz=267						
CHIR	**Chirikof Islan**	**60.29**	**39**	P	**P**	**02 03 17.8**	**-1.6**
	baz=274						
O18K	**Koktuh Hills**	**60.33**	**34**	P	**P**	**02 03 17.8**	**-1.9**
	baz=272						
P18K	**Big Mountain,**	**60.33**	**35**	P	**P**	**02 03 18.7**	**-1.0**
	baz=272						
L19K	**White Mountain**	**60.46**	**31**	P	**P**	**02 03 19.7**	**-0.9**
	baz=271						
H20K	**Anotleneega Mo**	**60.47**	**28**	P	**P**	**02 03 19.5**	**-1.0**
	baz=269						
Q18K	**Katmai Hardscr**	**60.48**	**36**	P	**P**	**02 03 20.5**	**-0.4**
	baz=272						
I20K	**Naaghedeneel**	**60.63**	**28**	IAmb	IAmb	02 03 35.5	
	comp=Z,20nm,0.8s						
I20K	**Naaghedeneel**	**60.63**	**28**	P	**P**	**02 03 21.2**	**-0.4**
	baz=270						
C21K	**Knifeblade Rid**	**60.66**	**23**	P	**P**	**02 03 21.0**	**-0.8**
	baz=267						
N19K	**Bonanza Creek**	**60.66**	**33**	P	**P**	**02 03 20.5**	**-1.5**
	baz=272						
M19K	**Big River Lodg**	**60.68**	**32**	P	**P**	**02 03 21.6**	**-0.5**
	baz=271						
A22K	**Sinclair Lake**	**60.72**	**21**	P	**P**	**02 03 21.6**	**-0.5**
	baz=266						
B21K	**Ikpikpuk River**	**60.74**	**23**	P	**P**	**02 03 21.8**	**-0.5**
	baz=267						
O19K	**Port Alsworth**	**60.77**	**34**	P	**P**	**02 03 21.8**	**-0.8**
	baz=272						
J20K	**Nowinta River**	**60.77**	**29**	IAmb	IAmb	02 03 50.9	
	comp=Z,32nm,1.5s						
J20K	**Nowinta River**	**60.77**	**29**	P	**P**	**02 03 22.1**	**-0.5**
	baz=270,SNR=5.9						
K20K	**Telida**	**60.81**	**30**	IAmb	IAmb	02 03 27.4	
	comp=Z,12nm,1.1s						
K20K	**Telida**	**60.81**	**30**	P	**P**	**02 03 22.7**	**-0.2**
	baz=271,SNR=6.1						
R18K	**Karluk**	**60.83**	**37**	P	**P**	**02 03 22.0**	**-1.1**
	baz=274						
L20K	**Farewell, AK**	**60.91**	**31**	P	**P**	**02 03 22.6**	**-1.0**
	baz=271						
E21K	**Killik River**	**60.92**	**24**	IAmb	IAmb	02 03 42.2	
	comp=Z,12nm,0.8s						
E21K	**Killik River**	**60.92**	**24**	P	**P**	**02 03 22.6**	**-1.0**
	baz=268						
SII	**Sitkinak Islan**	**61.04**	**38**	P	**P**	**02 03 22.7**	**-1.9**
	baz=274						
G21K	**Allakaket**	**61.05**	**26**	P	**P**	**02 03 23.5**	**-1.0**
	baz=269						
F21K	**Alatna River**	**61.07**	**26**	P	**P**	**02 03 23.6**	**-1.1**
	baz=269						
Q19K	**Cape Douglas,**	**61.17**	**35**	P	**P**	**02 03 24.6**	**-0.9**
	baz=274						
B22K	**Teshekpuk Lake**	**61.19**	**22**	P	**P**	**02 03 24.0**	**-1.4**
	baz=267,SNR=11						
M20K	**Styx River**	**61.28**	**32**	P	**P**	**02 03 25.3**	**-0.9**
	baz=272						
H21K	**Melozitna Rive**	**61.33**	**27**	P	**P**	**02 03 26.0**	**-0.5**
	baz=270,SNR=6.9						
P19K	**Oil Pt**	**61.34**	**34**	P	**P**	**02 03 25.8**	**-0.9**
	baz=273						
D22K	**Ayikyak River**	**61.40**	**24**	IAmb	IAmb	02 03 46.0	
	comp=Z,16nm,0.8s						
D22K	**Ayikyak River**	**61.40**	**24**	P	**P**	**02 03 26.1**	**-0.8**
	baz=269,SNR=7.3						
OHAK	**Old Harbor**	**61.48**	**37**	P	**P**	**02 03 26.3**	**-1.2**
	baz=275						
F22K	**John River**	**61.58**	**25**	P	**P**	**02 03 27.2**	**-0.8**
	baz=270,SNR=12						
CHUM	**Lake Minchumin**	**61.58**	**30**	P	**P**	**02 03 27.6**	**-0.5**
	baz=272,SNR=5.4						
PPLA	**Purkeypile**	**61.67**	**31**	P	**P**	**02 03 27.9**	**-1.0**
	baz=273						
CAST	**Castle Rocks**	**61.70**	**30**	IAmb	IAmb	02 03 41.6	
	comp=Z,8.9nm,0.9s						
CAST	**Castle Rocks**	**61.70**	**30**	P	**P**	**02 03 29.0**	**0.0**
	baz=272,SNR=6.6						
E22K	**Anaktuvuk Pass**	**61.71**	**25**	IAmb	IAmb	02 03 42.5	
	comp=Z,11nm,0.8s						
E22K	**Anaktuvuk Pass**	**61.71**	**25**	P	**P**	**02 03 28.7**	**-0.3**
	baz=270,SNR=9.5						
SPCR	**Spurr Chakacha**	**61.75**	**33**	P	**P**	**02 03 28.8**	**-0.6**
	baz=274						
KDAK	**Kodiak Island**	**61.81**	**36**	LR	LR	02 30 05.8	
	comp=Z,100nm,21.1s,baz=103,slow=36						
KDAK	**Kodiak Island**	**61.81**	**36**	P	**P**	**02 03 29.0**	**-0.8**
	baz=275						
Q20K	**Shuyak Island**	**61.84**	**36**	P	**P**	**02 03 29.7**	**-0.2**
	baz=275						
STLK	**Strandline Lak**	**61.91**	**32**	IAmb	IAmb	02 04 23.4	
	comp=Z,27nm,1.9s						
H22K	**Ishtalitna Cre**	**61.92**	**27**	P	**P**	**02 03 30.9**	**+0.5**
	baz=272,SNR=8.5						
SKT	**Skwentna**	**62.03**	**32**	P	**P**	**02 03 30.9**	**-0.3**
	baz=274						
D23K	**Nanushuk River**	**62.13**	**24**	P	**P**	**02 03 32.6**	**+0.9**
	baz=271,SNR=12						
HOM	**Homer**	**62.14**	**34**	P	**P**	**02 03 30.6**	**-1.3**
	baz=275						
C23K	**Itkillik River**	**62.14**	**23**	P	**P**	**02 03 32.2**	**+0.4**
	baz=270,SNR=6.3						
BPAW	**Bear Paw Mtn.**	**62.16**	**29**	IAmb	IAmb	02 03 59.3	
	comp=Z,12nm,1.2s						
BPAW	**Bear Paw Mtn.**	**62.16**	**29**	P	**P**	**02 03 31.6**	**-0.4**
	baz=273						
CAPN	**Captain Cook N**	**62.30**	**33**	P	**P**	**02 03 31.1**	**-1.9**
	baz=275						
COLD	**Coldfoot**	**62.35**	**26**	IAmb	IAmb	02 04 02.2	
	comp=Z,16nm,1.4s						
COLD	**Coldfoot**	**62.35**	**26**	P	**P**	**02 03 32.3**	**-0.9**
	baz=272						
G23K	**Bananza Creek**	**62.44**	**26**	P	**P**	**02 03 32.5**	**-1.4**
	baz=272						
SUA	**Susitna One**	**62.44**	**32**	P	**P**	**02 03 33.1**	**-1.0**
	baz=275,SNR=6.1						
TRF	**Thorofare Moun**	**62.50**	**30**	P	**P**	**02 03 33.0**	**-1.6**
	baz=274						
TOLK	**Toolik Lake Re**	**62.54**	**24**	IAmb	IAmb	02 03 53.6	
	comp=Z,18nm,1.1s						
TOLK	**Toolik Lake Re**	**62.54**	**24**	P	**P**	**02 03 33.5**	**-1.0**
	baz=272						
E23K	**Chandalar**	**62.54**	**25**	IAmb	IAmb	02 04 02.7	
	comp=Z,20nm,1.1s						
E23K	**Chandalar**	**62.54**	**25**	P	**P**	**02 03 33.7**	**-0.9**
	baz=272						
CUT	**Chulitna**	**62.59**	**31**	P	**P**	**02 03 33.9**	**-1.0**
	baz=274						
BRSE	**Bradley Lake S**	**62.59**	**34**	P	**P**	**02 03 34.8**	**-0.2**
	baz=276						
H23K	**Yukon River**	**62.67**	**27**	IAmb	IAmb	02 03 50.2	
	comp=Z,12nm,0.8s						
H23K	**Yukon River**	**62.67**	**27**	P	**P**	**02 03 35.4**	**-0.1**
	baz=273,SNR=8.6						
D24K	**Happy Valley**	**62.79**	**23**	P	**P**	**02 03 35.3**	**-0.8**
	baz=272,SNR=12						
I23K	**Minto, Yukon-K**	**62.79**	**28**	IAmb	IAmb	02 03 55.3	
	comp=Z,9.8nm,1.1s						
I23K	**Minto, Yukon-K**	**62.79**	**28**	P	**P**	**02 03 35.7**	**-0.5**
	baz=274						
C24K	**Franklin Bluff**	**62.81**	**23**	P	**P**	**02 03 35.9**	**-0.3**
	baz=272						
KIRV	**Kirov**	**62.94**	**325**	LR	LR	02 34 01.3	
	comp=Z,1μm,18.3s,baz=85,slow=39						
KIRV	**Kirov**	**62.94**	**325***ce*	P	**P**	**02 03 37.6**	**+0.3**
NEA2	**Nenana**	**62.96**	**29**	P	**P**	**02 03 36.8**	**-0.5**
	baz=274						
RC01	**Rabbit Creek A**	**62.96**	**33**	P	**P**	**02 03 36.0**	**-1.4**
	baz=276						
E24K	**Your Creek**	**62.96**	**25**	IAmb	IAmb	02 03 56.6	
	comp=Z,7.9nm,0.7s						
E24K	**Your Creek**	**62.96**	**25**	P	**P**	**02 03 36.7**	**-0.7**
	baz=273						
O22K	**Cooper Landing**	**63.02**	**33**	P	**P**

	comp=Z,1.7nm,0.8s,baz=263,slow=6.2,SNR=18						
ILAR				LR	LR	02 32 29.4	
	comp=Z,106nm,20.4s,baz=276,slow=37						
	comp=Z,1.7nm,0.8s						
HDA	**Harding Lake**	**63.89**	**29**	IAmb	IAmb	02 03 54.6	
	comp=Z,12nm,0.7s						
HDA	**Harding Lake**	**63.89**	**29**	P	**P**	**02 03 42.6**	**-0.9**
	baz=276,SNR=6.5						
G25K	**Bearman Lake**	**63.98**	**26**	P	**P**	**02 03 43.5**	**-0.6**
	baz=276						
SCM	**Sheep Creek Mo**	**64.02**	**32**	P	**P**	**02 03 44.1**	**-0.4**
	baz=277						
E25K	**Arctic Village**	**64.05**	**25**	IAmb	IAmb	02 04 10.5	
	comp=Z,12nm,1.1s						
E25K	**Arctic Village**	**64.05**	**25**	P	**P**	**02 03 43.8**	**-0.8**
	baz=276,SNR=5.8						
F25K	**Christian Rive**	**64.08**	**25**	IAmb	IAmb	02 04 04.5	
	comp=Z,9.5nm,0.9s						
F25K	**Christian Rive**	**64.08**	**25**	P	**P**	**02 03 44.0**	**-0.8**
	baz=276,SNR=10						
C26K	**Camden Bay**	**64.11**	**23**	P	**P**	**02 03 43.9**	**-0.9**
	baz=276						
H25L	**Birch Creek**	**64.15**	**27**	P	**P**	**02 03 44.2**	**-0.9**
	baz=276						
P23K	**Montague Islan**	**64.23**	**34**	P	**P**	**02 03 45.2**	**-0.7**
	baz=278						
MSVF	**Nonsavu**	**64.25**	**128**	LR	LR	02 29 48.9	
	comp=Z,126nm,19.3s,baz=338,slow=34						
GLI	**Glacier Island**	**64.26**	**33**	P	**P**	**02 03 44.4**	**-1.6**
	baz=278						
PRP	**Porcupine Dome**	**64.36**	**27**	P	**P**	**02 03 46.6**	**-0.2**
PRP	**Porcupine Dome**	**64.36**	**27**	P	**P**	**02 03 45.4**	**-1.4**
	baz=277						
K24K	**Donnelly Dome**	**64.47**	**29**	P	**P**	**02 03 45.5**	**-1.8**
	baz=278						
BMAR	**Burnt Mountain**	**64.50**	**25**	P	**P**	**02 03 49.6**	**+2.1**
M24K	**Tolsona, Glenn**	**64.53**	**31**	P	**P**	**02 03 45.8**	**-2.0**
	baz=278						
J25K	**Salcha River,**	**64.54**	**28**	P	**P**	**02 03 47.2**	**-0.6**
	baz=278						
C27K	**Jago River**	**64.56**	**23**	IAmb	IAmb	02 04 06.6	
	comp=Z,10nm,0.8s						
C27K	**Jago River**	**64.56**	**23**	P	**P**	**02 03 47.8**	**0.0**
	baz=277,SNR=8.2						
F26K	**Sheenjek River**	**64.63**	**25**	IAmb	IAmb	02 04 08.1	
	comp=Z,17nm,0.9s						
F26K	**Sheenjek River**	**64.63**	**25**	P	**P**	**02 03 48.5**	**+0.1**
	baz=277,SNR=13						
PAX	**Paxson**	**64.73**	**30**	P	**P**	**02 03 48.1**	**-1.0**
	baz=278						
KLU	**Klutina**	**64.73**	**32**	P	**P**	**02 03 48.4**	**-0.8**
	baz=279						
DIV	**Divide**	**64.86**	**32**	P	**P**	**02 03 50.7**	**+0.7**
G26K	**Porcupine Rive**	**64.87**	**26**	IAmb	IAmb	02 04 13.1	
	comp=Z,12nm,1.1s						
G26K	**Porcupine Rive**	**64.87**	**26**	P	**P**	**02 03 49.3**	**-0.6**
	baz=278						
RIDG	**Independent Ri**	**64.89**	**29**	IAmb	IAmb	02 04 16.8	
	comp=Z,22nm,1.4s						
RIDG	**Independent Ri**	**64.89**	**29**	P	**P**	**02 03 48.8**	**-1.3**
	baz=279						
HARP	**HAARP**	**64.95**	**31**	P	**P**	**02 03 49.0**	**-1.5**
	baz=279						
EYAK	**Cordova Ski Ar**	**64.96**	**33**	P	**P**	**02 03 49.2**	**-1.4**
	baz=279						
SCRK	**Sand Creek**	**65.23**	**29**	IAmb	IAmb	02 04 17.0	
	comp=Z,8.9nm,0.9s						
SCRK	**Sand Creek**	**65.23**	**29**	P	**P**	**02 03 51.5**	**-1.0**
	baz=279,SNR=8.2						
DOT	**Dot Lake**	**65.25**	**29**	IAmb	IAmb	02 04 04.0	
	comp=Z,9.1nm,0.7s						
J26L	**Joseph Creek**	**65.33**	**28**	IAmb	IAmb	02 04 10.8	
	comp=Z,12nm,0.7s						
J26L	**Joseph Creek**	**65.33**	**28**	P	**P**	**02 03 52.7**	**-0.3**
	baz=279,SNR=8.0						
N25K	**Chitina, Valde**	**65.34**	**32**	P	**P**	**02 03 52.5**	**-0.7**
	baz=280						
I26K	**Coal Creek Min**	**65.37**	**27**	P	**P**	**02 03 52.6**	**-0.5**
	baz=279						
BMRM	**Bremner River**	**65.45**	**32**	IAmb	IAmb	02 03 58.1	
	comp=Z,20nm,1.0s						
BMRM	**Bremner River**	**65.45**	**32**	P	**P**	**02 03 52.7**	**-1.1**
	baz=280						
E27K	**Coleen River**	**65.52**	**24**	IAmb	IAmb	02 04 13.4	
	comp=Z,9.1nm,0.8s						
E27K	**Coleen River**	**65.52**	**24**	P	**P**	**02 03 53.3**	**-0.8**
	baz=279,SNR=6.3						
MENT	**Mentasta**	**65.52**	**30**	IAmb	IAmb	02 04 13.2	
	comp=Z,12nm,0.9s						
D27M	**Malcolm River**	**65.57**	**23**	IAmb	IAmb	02 04 20.2	
	comp=Z,11nm,0.9s						
D27M	**Malcolm River**	**65.57**	**23**	P	**P**	**02 03 53.8**	**-0.7**
	baz=280,SNR=6.8						
L26K	**Log Cabin Wild**	**65.67**	**30**	IAmb	IAmb	02 04 07.7	
	comp=Z,32nm,1.6s						
L26K	**Log Cabin Wild**	**65.67**	**30**	P	**P**	**02 03 54.0**	**-1.2**
	baz=280						
G27K	**Doyon Strip**	**65.72**	**26**	P	**P**	**02 03 54.9**	**-0.6**
	baz=280						
KAIM	**Kayak Island**	**65.73**	**33**	P	**P**	**02 03 54.5**	**-1.0**
	baz=281						
GLB	**Gilahina Butte**	**65.74**	**32**	IAmb	IAmb	02 03 59.4	
	comp=Z,14nm,1.2s						
H27K	**Steamboat Moun**	**65.88**	**26**	P	**P**	**02 03 55.5**	**-1.0**
	baz=280						
M26K	**Nabesna, AK**	**65.94**	**31**	IAmb	IAmb	02 04 22.3	
	comp=Z,19nm,1.1s						
M26K	**Nabesna, AK**	**65.94**	**31**	P	**P**	**02 03 56.8**	**-0.2**
	baz=281,SNR=10						
VRDI	**Verde Repeater**	**65.95**	**32**	IAmb	IAmb	02 04 15.8	
	comp=Z,12nm,1.0s						
I27K	**Kandik River**	**65.95**	**27**	P	**P**	**02 03 55.7**	**-1.3**
	baz=280,SNR=10.0						
K27K	**Chicken**	**66.05**	**29**	IAmb	IAmb	02 04 13.8	
	comp=Z,10.0nm,0.9s						
K27K	**Chicken**	**66.05**	**29**	P	**P**	**02 03 56.8**	**-0.8**
	baz=281						
E28M	**Babbage River**	**66.19**	**24**	P	**P**	**02 03 57.8**	**-0.7**
	baz=281						
D28M	**Stokes Point**	**66.33**	**23**	P	**P**	**02 03 58.0**	**-1.3**
	baz=281						
L27K	**Beaver Creek,**	**66.35**	**30**	P	**P**	**02 03 58.7**	**-0.9**
	baz=281						
BCAR	**Beaver Creek A**	**66.36**	**30**	P	**P**	**02 04 00.2**	**+0.6**
M27K	**Edge Creek, AK**	**66.47**	**31**	IAmb	IAmb	02 04 13.2	
	comp=Z,32nm,1.9s						
M27K	**Edge Creek, AK**	**66.47**	**31**	P	**P**	**02 03 58.9**	**-1.6**
	baz=282						
I28M	**Miner Creek**	**66.67**	**27**	IAmb	IAmb	02 04 31.7	
	comp=Z,11nm,0.9s						
I28M	**Miner Creek**	**66.67**	**27**	P	**P**	**02 04 00.5**	**-1.2**
	baz=282,SNR=6.4						
E29M	**Blow River**	**66.83**	**24**	P	**P**	**02 04 01.5**	**-1.0**
	baz=283						
MESA	**MESA**	**66.89**	**33**	P	**P**	**02 04 01.9**	**-1.3**
	baz=283						
BVCY	**Beaver Creek**	**66.92**	**30**	P	**P**	**02 04 01.5**	**-1.7**
	baz=282						
G29M	**Pine Creek**	**67.11**	**25**	P	**P**	**02 04 03.3**	**-1.0**
	baz=283						
H29M	**Whitestone**	**67.13**	**26**	P	**P**	**02 04 02.8**	**-1.7**
	baz=283						
DAWY	**Dawson**	**67.20**	**28**	P	**P**	**02 04 03.9**	**-1.1**
	baz=283						
YUK3	**Moose Creek**	**67.24**	**31**	P	**P**	**02 04 04.3**	**-1.2**
	baz=283						
I29M	**Ogilvie Camp,**	**67.36**	**27**	P	**P**	**02 04 05.0**	**-1.0**
	baz=284,SNR=6.2						
KLMR	**Klimovskoe**	**67.49**	**328**	*e*P	**P**	**02 04 04.2**	**-2.6**
KLMR				pmax	pmax		
	comp=Z,80nm,1.5s						
KLMR				MLR	MLR		
	comp=Z,1μm,16.0s						
O28M	**Mount Upton**	**67.60**	**32**	IAmb	IAmb	02 04 12.4	
	comp=Z,14nm,1.1s						
O28M	**Mount Upton**	**67.60**	**32**	P	**P**	**02 04 06.1**	**-1.8**
	baz=284						
J29N	**Klondike Camp**	**67.61**	**28**	IAmb	IAmb	02 04 35.2	
	comp=Z,11nm,0.8s						
J29N	**Klondike Camp**	**67.61**	**28**	P	**P**	**02 04 06.1**	**-1.5**
	baz=284						
YUK8	**Steele Glacier**	**67.68**	**31**	P	**P**	**02 04 06.6**	**-1.7**
	baz=284						
PINM	**Pinnacle**	**67.73**	**33**	P	**P**	**02 04 06.8**	**-1.6**
	baz=284						
EPYK	**Eagle Plains**	**67.75**	**26**	IAmb	IAmb	02 04 22.5	
	comp=Z,11nm,0.8s						
EPYK	**Eagle Plains**	**67.75**	**26**	P	**P**	**02 04 07.7**	**-0.6**
	baz=284,SNR=7.7						
G30M	**tAoh Zraii Nji**	**67.78**	**25**	IAmb	IAmb	02 04 27.0	
	comp=Z,15nm,1.0s						
G30M	**tAoh Zraii Nji**	**67.78**	**25**	P	**P**	**02 04 08.8**	**+0.2**
	baz=285,SNR=6.3						
F30M	**Barrier River**	**67.79**	**24**	IAmb	IAmb	02 04 34.1	
	comp=Z,11nm,0.9s						
F30M	**Barrier River**	**67.79**	**24**	P	**P**	**02 04 07.9**	**-0.7**
	baz=285						
L29M	**L29M**	**67.98**	**29**	P	**P**	**02 04 09.2**	**-0.7**
	baz=285,SNR=8.3						
M29M	**Somme Creek**	**68.00**	**30**	IAmb	IAmb	02 04 26.7	
	comp=Z,18nm,1.5s						
M29M	**Somme Creek**	**68.00**	**30**	P	**P**	**02 04 08.9**	**-1.2**
	baz=284						
K29M	**Barlow Dome**	**68.06**	**29**	P	**P**	**02 04 09.3**	**-1.2**
	baz=285						
I30M	**Mount Dempster**	**68.17**	**27**	IAmb	IAmb	02 04 24.4	
	comp=Z,23nm,1.6s						
I30M	**Mount Dempster**	**68.17**	**27**	P	**P**	**02 04 09.8**	**-1.4**
	baz=285,SNR=8.9						
YUK4	**Talbot Arm**	**68.19**	**31**	P	**P**	**02 04 09.9**	**-1.6**
	baz=285						
PNL	**Peninsula**	**68.26**	**33**	P	**P**	**02 04 10.2**	**-1.5**
	baz=285						
J30M	**Hart River**	**68.37**	**28**	P	**P**	**02 04 10.8**	**-1.6**
	baz=286						
INK	**Inuvik**	**68.42**	**23**	LR	LR	02 37 55.4	
	comp=Z,153nm,18.5s,baz=248,slow=39						
YUK6	**Outpost Mounta**	**68.43**	**32**	P	**P**	**02 04 11.8**	**-1.2**
	baz=285						
O29M	**Mount Kennedy**	**68.49**	**32**	P	**P**	**02 04 12.2**	**-1.1**
	baz=285						
G31M	**Satah River**	**68.54**	**25**	IAmb	IAmb	02 04 40.3	
	comp=Z,13nm,1.4s						
G31M	**Satah River**	**68.54**	**25**	P	**P**	**02 04 11.9**	**-1.4**
	baz=286						
F31M	**Tsiigehtchic**	**68.59**	**24**	IAmb	IAmb	02 04 31.7	
	comp=Z,14nm,1.2s						
F31M	**Tsiigehtchic**	**68.59**	**24**	P	**P**	**02 04 12.1**	**-1.4**
	baz=287						
VRH	**Novokhopyorsk**	**68.72**	**318**	*e*P	**P**	**02 04 14.2**	**-0.5**
VRH				pmax	pmax		
	comp=Z,12nm,0.5s						
H31M	**Peel River**	**68.83**	**26**	IAmb	IAmb	02 04 43.4	
	comp=Z,16nm,1.1s						
H31M	**Peel River**	**68.83**	**26**	P	**P**	**02 04 13.5**	**-1.7**
	baz=287,SNR=5.9						
HYT	**Haines Junctio**	**68.86**	**32**	IAmb	IAmb	02 04 44.0	
	comp=Z,24nm,1.5s						
HYT	**Haines Junctio**	**68.86**	**32**	P	**P**	**02 04 14.7**	**-0.9**
	baz=286						
N30M	**Aishikik Lake**	**68.88**	**31**	P	**P**	**02 04 14.4**	**-1.2**
	baz=286						
SPITS	**Spitsbergen Ar**	**69.08**	**348**	P	**P**	**02 04 16.0**	**-0.5**
	comp=Z,3.0nm,0.5s,baz=78,slow=7.8,SNR=19						
SPITS				LR	LR	02 37 12.5	
	comp=Z,224nm,19.6s,baz=4.5,slow=38						
	comp=Z,3.0nm,0.5s						
SPITS	**Spitsbergen Ar**	**69.08**	**348**	P	**P**	**02 04 16.0**	**-0.5**
P29M	**Windy Craggy**	**69.08**	**33**	IAmb	IAmb	02 04 30.6	
	comp=Z,9.6nm,0.7s						
P29M	**Windy Craggy**	**69.08**	**33**	P	**P**	**02 04 15.5**	**-1.4**
	baz=286						
P30M	**Million Dollar**	**69.32**	**32**	P	**P**	**02 04 17.9**	**-0.4**
	baz=287						
N31M	**Braeburn, Yuko**	**69.48**	**31**	IAmb	IAmb	02 04 24.2	
	comp=Z,18nm,1.1s						
N31M	**Braeburn, Yuko**	**69.48**	**31**	P	**P**	**02 04 18.9**	**-0.4**
	baz=287						
O30N	**Mendenhall**	**69.54**	**31**	P	**P**	**02 04 19.1**	**-0.6**
	baz=287						
GOF	**Gofitskoye**	**69.59**	**311**	*ce*P	**P**	**02 04 20.7**	**+0.5**
MOS	**Moscow**	**69.80**	**323**	*e*P	**P**	**02 04 20.4**	**-0.9**
MOS				pmax	pmax		
	comp=Z,45nm,1.2s						
A36M	**Sachs Harbour**	**69.85**	**19**	P	**P**	**02 04 21.0**	**-0.3**
	baz=293,SNR=7.4						
M31M	**Drury Creek, Y**	**69.89**	**30**	P	**P**	**02 04 21.1**	**-0.7**
	baz=288						
LPSR	**Galich'ya Gora**	**69.99**	**320**	*e*P	**P**	**02 04 22.0**	**-0.5**
LPSR				pmax	pmax		
	comp=Z,23nm,1.2s						
KBZ	**Khabaz**	**70.09**	**310**	P	**P**	**02 04 23.9**	**+0.6**
	comp=Z,27nm,1.0s,baz=73,slow=4.1,SNR=54						
KBZ				LR	LR	02 39 18.4	
	comp=Z,570nm,18.1s,baz=66,slow=40						
	comp=Z,27nm,1.0s						
KBZ	**Khabaz**	**70.09**	**310**	*ce*P	**P**	**02 04 24.2**	**+0.9**
KBZ				pmax	pmax		
	comp=Z,28nm,0.9s						
VORR	**Voronezh**	**70.10**	**319**	*e*P	**P**	**02 04 22.9**	**-0.3**
VORR				pmax	pmax		
	comp=Z,21nm,0.4s						
WHY	**Whitehorse**	**70.14**	**31**	P	**P**	**02 04 23.2**	**-0.2**
	baz=288						
KVAR	**Kislovodsk Arr**	**70.16**	**310**	LR	LR	02 37 32.9	
	comp=Z,310nm,21.7s,baz=272,slow=38						
KIV	**Kislovodsk**	**70.16**	**310**	P	**P**	**02 04 24.4**	**+0.5**
KIV	**Kislovodsk**	**70.16**	**310**	⇓P	**P**	**02 04 24.8**	**+0.9**
KIV	**Kislovodsk**	**70.16**	**310**	*e*P	**P**	**02 04 24.1**	**+0.2**
KIV				*e*S	**S**	**02 13 36.0**	**+1.2**
KIV				pmax	pmax		
	comp=Z,30nm,2.8s						
KIV				pmax	pmax		
	comp=Z,34nm,1.0s						
KIV				MLR	MLR		
	comp=Z,414nm,18.0s						
VORD	**Divnogorie**	**70.26**	**318**	*e*P	**P**	**02 04 22.6**	**-1.6**
VORD				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VSR	**Storozhevoye**	**70.26**	**318**	*e*P	**P**	**02 04 22.4**	**-1.8**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SKAG	**Skagway**	**70.30**	**33**	P	**P**	**02 04 23.1**	**-1.2**
	baz=288						
S31K	**Pelican**	**70.32**	**34**	P	**P**	**02 04 23.2**	**-1.2**
	baz=288						
FARO	**Faro, Yukon**	**70.34**	**30**	IAmb	IAmb	02 04 37.1	
	comp=Z,12nm,0.7s						
FARO	**Faro, Yukon**	**70.34**	**30**	P	**P**	**02 04 24.2**	**-0.4**
	baz=289,SNR=7.2						
ARCES	**ARCESS Array B**	**70.45**	**339**	P	**P**	**02 04 25.3**	**+0.2**
	comp=Z,6.2nm,0.7s,baz=79,slow=7.2,SNR=12						
ARCES				LR	LR	02 42 33.4	
	comp=Z,536nm,18.0s,baz=56,slow=42						
	comp=Z,6.2nm,0.7s						
OBN	**Obninsk**	**70.56**	**323**	LR	LR	02 38 00.4	
	comp=Z,1μm,18.3s,baz=18,slow=38						
OBN	**Obninsk**	**70.56**	**323**	⇑*i*P	**P**	**02 04 26.0**	**+0.1**
OBN				*e*		02 07 03.7	
OBN				*e*S	**S**	**02 13 45.7**	**+6.9**
OBN				pmax	pmax		
	comp=Z,35nm,2.5s						
OBN				MLR	MLR		
	comp=Z,2μm,17.0s						
JOF	**Joensuu**	**70.62**	**331**	*e*P	**P**	**02 04 26.2**	**0.0**
N32M	**Quiet Lake**	**70.82**	**31**	P	**P**	**02 04 27.6**	**+0.1**
	baz=290						
P32M	**Atlin**	**71.04**	**32**	P	**P**	**02 04 28.5**	**-0.4**
	baz=290						
SIT	**Sitka**	**71.07**	**35**	P	**P**	**02 04 28.4**	**-0.6**
	baz=289						
R32K	**Eaglecrest**	**71.08**	**34**	P	**P**	**02 04 28.1**	**-1.0**
	baz=289						
ERBR	**Yeremizino-Bor**	**71.11**	**312**	*e*P	**P**	**02 04 29.7**	**+0.2**
ERBR				*e**PP	**sP**	**02 04 33.1**	**-0.4**
ERBR				*e*S	**S**	**02 13 48.1**	**+2.5**
ERBR				pmax	pmax		
	comp=Z,64nm,1.5s						
ERBR				MLR	MLR		
	comp=Z,1μm,20.0s						
ERBR				MLR	MLR		
	comp=E,1μm,22.0s						
ERBR				MLR	MLR		
	comp=N,1μm,19.0s						
MMPY	**Sheldon Lake,**	**71.13**	**29**	IAmb	IAmb	02 04 48.1	
	comp=Z,22nm,1.6s						
MMPY	**Sheldon Lake,**	**71.13**	**29**	P	**P**	**02 04 28.4**	**-1.0**
	baz=290						
P33M	**Teslin, Yukon**	**71.26**	**32**	P	**P**	**02 04 29.8**	**-0.4**
	baz=290						
C36M	**Paulatuk**	**71.27**	**21**	P	**P**	**02 04 29.5**	**-0.4**
	baz=295,SNR=24						
LABN	**Labinsk**	**71.29**	**311**	*e*P	**P**	**02 04 30.9**	**+0.3**
LABN				*e**PP	**sP**	**02 04 34.7**	**+0.1**
LABN				*e*		02 07 07.3	
LABN				*e*S	**S**	**02 13 47.8**	**+0.1**
LABN				pmax	pmax		
	comp=Z,21nm,1.3s						
LABN				MLR	MLR		
	comp=E,1μm,17.0s						
LABN				MLR	MLR		
	comp=Z,710nm,17.0s						
LABN				MLR	MLR		
	comp=N,573nm,18.0s						
S32K	**Killisnoo**	**71.32**	**35**	P	**P**	**02 04 29.8**	**-0.7**
	baz=290						
KTK1	**Kautokeino**	**71.40**	**339**	*e*P	**P**	**02 04 31.2**	**+0.4**
GEVA	**Gevas**	**71.67**	**304**	IAmb	IAmb	02 04 45.7	
	comp=Z,21nm,1.1s						
Q32M	**Nakina River**	**71.95**	**33**	P	**P**	**02 04 33.6**	**-1.1**
	baz=291						
OUL	**Oulu**	**72.05**	**334**	P	**P**	**02 04 35.2**	**+0.4**
OUL				pmax	pmax		
	comp=Z,35nm,1.2s						
SOC	**Sochi**	**72.32**	**310**	*e*P	**P**	**02 04 35.9**	**-0.9**
SOC				*e*		02 07 12.5	
SOC				*e*PPP	PPP	02 08 58.8	
SOC				*e*S	**S**	**02 14 01.5**	**+1.9**
SOC				*e*SS	**SS**	**02 18 40.8**	**+3.6**
SOC				pmax	pmax		
	comp=Z,14nm,0.6s						
SOC				MLR	MLR		
	comp=Z,591nm,18.0s						
GURO	**Guroymak-BITLI**	**72.36**	**305**	IAmb	IAmb	02 04 50.1	
	comp=Z,26nm,1.4s						
R33M	**Jennings River**	**72.42**	**32**	P	**P**	**02 04 37.5**	**+0.2**
	baz=292						
U33K	**Whale Pass**	**72.54**	**36**	P	**P**	**02 04 37.2**	**-0.6**
	baz=291						
CRAG	**Craig**	**72.77**	**36**	P	**P**	**02 04 38.6**	**-0.7**
	baz=291						
TGTN	**Hyland Airport**	**72.84**	**29**	P	**P**	**02 04 39.9**	**+0.3**
	baz=293,SNR=6.4						
S34M	**Telegraph Cree**	**72.89**	**33**	P	**P**	**02 04 40.3**	**+0.3**
	baz=292						
WTLY	**Watson Lake, Y**	**73.16**	**31**	IAmb	IAmb	02 04 55.0	
	comp=Z,9.1nm,0.7s						
WTLY	**Watson Lake, Y**	**73.16**	**31**	P	**P**	**02 04 41.5**	**-0.1**
	baz=293						
ANN	**Anapa**	**73.45**	**312**	*e*P	**P**	**02 04 43.6**	**+0.1**
ANN				*e**PP	**sP**	**02 04 46.7**	**-0.7**
ANN				*e*		02 04 54.0	
ANN				*e*S	**SKiKP**	**02 14 16.6**	**+2.8**
ANN				pmax	pmax		
	comp=Z,27nm,1.2s						
FINES	**FINESS Array B**	**73.45**	**331**	P	**P**	**02 04 42.8**	**-0.4**
FINES	**FINESS Array B**	**73.45**	**331**	P	**P**	**02 04 43.0**	**-0.2**
	comp=Z,15nm,0.4s,baz=63,slow=5.5,SNR=283						
FINES				LR	LR	02 40 59.7	
	comp=Z,1μm,18.3s,baz=68,slow=39						
	comp=Z,15nm,0.4s						
KEF	**Keuruu**	**73.67**	**332**	*e*P	**P**	**02 04 43.9**	**-0.5**
MARD	**Mardin**	**73.71**	**304**	IAmb	IAmb	02 04 57.6	
	comp=Z,28nm,1.1s						
WRGLY	**Wrigley**	**74.15**	**27**	P	**P**	**02 04 47.4**	**+0.1**
	baz=297						
VAF	**Ylistaro**	**74.20**	**333**	*e*P	**P**	**02 04 47.9**	**+0.4**
ARBE	**Arbavere**	**74.34**	**329**	*e*P	**P**	**02 04 48.6**	**+0.3**
VSU	**Vasula**	**74.39**	**328**	*ce*P	**P**	**02 04 48.7**	**0.0**
VSU				pmax	pmax		
	comp=Z,43nm,0.8s						
VSU	**Vasula**	**74.39**	**328**	*e*P	**P**	**02 04 48.6**	**-0.1**
STEI	**Steigen**	**74.51**	**339**	*e*P	**P**	**02 04 49.1**	**-0.2**
LIRD	**Liard River Hi**	**74.70**	**31**	P	**P**	**02 04 50.8**	**+0.3**
	baz=296						
MEF	**Metsahovi**	**74.72**	**330**	*e*P	**P**	**02 04 51.2**	**+0.6**
FAUS	**Fauske**	**74.78**	**339**	*e*P	**P**	**02 04 50.3**	**-0.6**
RAYN	**Ar Rayn**	**74.95**	**289**	P	**P**	**02 04 53.1**	**+0.4**
RAYN				IAmb	IAmb	02 05 07.0	
	comp=Z,17nm,0.9s						
RAYN	**Ar Rayn**	**74.95**	**289**	P	**P**	**02 04 53.3**	**+0.6**
RES	**Resolute Bay**	**75.33**	**11**	LR	LR	02 44 14.6	
	comp=Z,102nm,18.2s,baz=0.5,slow=41						
TOAD	**Toad River Com**	**75.34**	**31**	P	**P**	**02 04 54.9**	**+0.6**
	baz=296						
MNK	**Minsk**	**75.47**	**324**	*i* P	**P**	**02 04 55.4**	**+0.4**
MNK				*i*		02 07 44.4	
MNK				*i* PPP	PPP	02 09 30.4	
MNK				*i* S	**S**	**02 14 36.7**	**+2.1**
MNK				*i* SS	**SS**	**02 19 27.2**	**+2.7**
MNK				pmax	pmax		
	comp=Z,17nm,0.9s						
MNK				pmax	pmax		
	comp=E,18nm,1.0s						
MNK				pmax	pmax		
	comp=N,9.0nm,0.9s						
MNK				MLR	MLR		
	comp=Z,1μm,15.0s						
MNK				MLR	MLR		
	comp=E,497nm,16.0s						
MNK				MLR	MLR		
	comp=N,1μm,14.0s						
RAF	**Rauma**	**75.51**	**331**	*e*P	**P**	**02 04 55.5**	**+0.4**
SIM	**Simferopol'**	**75.59**	**313**	*e*P	**P**	**02 04 56.3**	**+0.4**
SIM						02 07 44.0	
SIM				pmax	pmax		
	comp=Z,26nm,1.0s						
SIM				pmax	pmax		
	comp=Z,30nm,16.0s						
MTSE	**Matsula**	**75.66**	**329**	*e*P	**P**	**02 04 56.9**	**+0.9**
MOR8	**Moi Rana**	**75.72**	**338**	*e*P	**P**	**02 04 54.9**	**-1.4**
TOKA	**Tokat**	**75.74**	**308**	IAmb	IAmb	02 05 09.2	
	comp=Z,25nm,1.4s						
VAGH	**Vaagaholmen**	**75.80**	**338**	*e*P	**P**	**02 04 55.3**	**-1.4**
ISAL	**Salakas**	**75.93**	**325**	*e*P	**P**	**02 04 59.0**	**+1.3**
STOK	**Stokkvaagen**	**76.11**	**338**	*e*P	**P**	**02 04 57.3**	**-1.1**
LEIR	**Leirfjorden**	**76.20**	**338**	*e*P	**P**	**02 04 58.5**	**-0.5**
AKASG	**Malin Array Be**	**76.31**	**320**	P	**P**	**02 04 59.4**	**-0.6**
AKASG	**Malin Array Be**	**76.31**	**320**	P	**P**	**02 04 59.6**	**-0.3**
	comp=Z,6.9nm,0.5s,baz=58,slow=6.6,SNR=41						
AKASG				LR	LR	02 41 17.2	
	comp=Z,2μm,18.8s,baz=72,slow=38						
	comp=Z,6.9nm,0.5s						
AKBB	**Malin Array Si**	**76.31**	**320**	IAmb	IAmb	02 05 11.1	
	comp=Z,21nm,1.0s						
AKBB	**Malin Array Si**	**76.31**	**320**	*ce*P	**P**	**02 04 59.8**	**-0.1**
KIEV	**Kiev**	**76.32**	**320**	P	**P**	**02 04 59.2**	**-0.7**
KIEV				IAmb	IAmb	02 05 11.1	
	comp=Z,19nm,1.0s						
KIEV	**Kiev**	**76.32**	**320**	⇑P	**P**	**02 04 59.7**	**-0.2**

comp=Z,97nm,18.2s,baz=86,slow=38
TLCR **78.92 315** ⇓P **P** **02 05 14.4 -0.2**
TLCR **78.92 315** P **P** **02 05 14.4 -0.2**
VLDR **Vladesti** **79.09 316** ⇑P **P** **02 05 15.2 -0.3**
TPGR **Topolog** **79.31 315** ⇑P **P** **02 05 16.5 -0.3**
CFR **Carcaliu** **79.35 315** ⇓P **P** **02 05 16.7 -0.3**
CFR **Carcaliu** **79.35 315** P **P** **02 05 16.6 -0.3**
HFS **Hagfors** **79.38 333** P **P** **02 05 16.5 -0.3**
comp=Z,5.9nm,0.5s,baz=65,slow=6.8,SNR=46
HFS LR LR 02 44 42.3
comp=Z,804nm,18.1s,baz=54,slow=39
comp=Z,5.9nm,0.5s
MMAI **Mount Meron Ar** **79.42 302** P **P** **02 05 18.4 +0.7**
comp=Z,2.0nm,0.5s,baz=75,slow=9.9,SNR=5.9
MMAI LR LR 02 46 08.2
comp=Z,312nm,18.7s,baz=46,slow=40
comp=Z,2.0nm,0.5s
PRAR **RASCA** **79.55 318** ⇓P **P** **02 05 17.7 -0.3**
NC405 **NORSAR Array S** **79.60 334** P **P** **02 05 17.7 -0.4**
NC405 IAmb IAmb 02 05 18.7
comp=Z,32nm,1.1s
BALJ **Balqa** **79.62 301** IAmb IAmb 02 05 20.6
comp=Z,20nm,0.8s
NC303 **NORSAR Array S** **79.67 334** IAmb IAmb 02 05 29.6
comp=Z,30nm,1.2s
TESR **Tescani** **79.68 317** ⇑P **P** **02 05 18.8 +0.1**
NB201 **NORSAR Array S** **79.81 334** IAmb IAmb 02 05 30.2
comp=Z,22nm,0.9s
NB2 **NORSAR Subarra** **79.84 334** P **P** **02 05 18.6 -0.8**
comp=Z,32nm,1.2s,baz=52,slow=5.9
NB2 **NORSAR Subarra** **79.84 334** P **P** **02 05 15.3 -4.1**
NB2 **NORSAR Subarra** **79.84 334** P **P** **02 05 18.6 -0.8**
baz=52,slow=5.9
NOA **NORSAR Array B** **79.84 334** P **P** **02 05 18.9 -0.5**
comp=Z,8.8nm,0.8s,baz=51,slow=5.5,SNR=50
NOA LR LR 02 44 03.0
comp=Z,362nm,21.7s,baz=55,slow=38
comp=Z,8.8nm,0.8s
NC204 **NORSAR Array S** **79.88 335** IAmb IAmb 02 05 30.7
comp=Z,21nm,1.0s
NC602 **NORSAR Array S** **79.90 334** *e*P **P** **02 05 18.8 -0.8**
NORES **NORESS Array B** **79.90 334** P **P** **02 05 21.3 +1.7**
VRI **Vrincioaia** **79.92 316** ⇑P **P** **02 05 20.4 +0.2**
VRI **Vrincioaia** **79.92 316** P **P** **02 05 20.3 +0.2**
PLOR **Plostina** **79.98 316** ⇑P **P** **02 05 21.3 +0.9**
PLOR **Plostina** **79.98 316** P **P** **02 05 21.3 +0.9**
GHAJ **Ghor Haditha** **80.00 300** IAmb IAmb 02 05 22.5
comp=Z,18nm,0.7s
BURAR **Bucovina Array** **80.03 318** P **P** **02 05 21.1 +0.3**
BURAR **Bucovina Array** **80.03 318** ⇓P **P** **02 05 21.3 +0.5**
BURAR **Bucovina Array** **80.03 318** P **P** **02 05 21.3 +0.5**
DOMB **Dombas** **80.05 336** *e*P **P** **02 05 20.1 -0.4**
CSS **Mathiatis** **80.18 304** IAmb IAmb 02 05 33.5
comp=Z,23nm,0.9s
COVR **Voineasa-Covas** **80.26 316** ⇓P **P** **02 05 22.9 +1.0**
MOL **Molde** **80.27 337** *e*P **P** **02 05 23.2 +1.6**
NEHR **Nehoiu** **80.39 316** ⇓P **P** **02 05 23.1 +0.4**
OZUR **80.40 317** ⇑P **P** **02 05 23.3 +0.6**
BEL **Belsk** **80.49 323** *e*P **P** **02 05 23.9 +1.0**
MLR **Muntele Rosu** **80.58 316** ⇑P **P** **02 05 24.4 +0.6**
MLR **Muntele Rosu** **80.58 316** P **P** **02 05 24.4 +0.6**
OSL **Oslo** **80.70 333** *e*P **P** **02 05 24.1 +0.2**
DOPR **Dopca** **80.70 317** ⇓P **P** **02 05 25.4 +1.1**
AKN **Aaknes** **80.72 336** *e*P **P** **02 05 24.2 +0.1**
BMR **Baia Mare** **81.03 319** ⇓P **P** **02 05 26.7 +0.7**
BMR **Baia Mare** **81.03 319** P **P** **02 05 26.7 +0.7**
SUMG **Summit** **81.12 356** P **P** **02 05 26.7 +0.2**
SUMG **Summit** **81.12 356** P **P** **02 05 26.7 +0.2**
SUMG pmax pmax
comp=Z,35nm,1.1s
SUMG **Summit** **81.12 356** *i*P **P** **02 05 27.2 +0.7**
SUMG IAmb IAmb 02 05 28.5
comp=Z,9.0nm,0.8s
KOLS **Kolonicke sedl** **81.12 320** *e*P **P** **02 05 26.8 +0.3**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS **Kolonicke sedl** **81.12 320** *e*P **P** **02 05 26.8 +0.3**
VOIR **81.17 316** ⇓P **P** **02 05 26.7 -0.1**
VOIR **81.17 316** P **P** **02 05 26.7 -0.1**
SKAR **Skarslia** **81.19 335** *e*P **P** **02 05 27.3 +0.7**
SCO **Scoresbysund** **81.45 351** IAmb IAmb 02 05 40.1
comp=Z,22nm,1.2s
SCO **Scoresbysund** **81.45 351** *i*P **P** **02 05 27.5 -0.2**
SCO IAmb IAmb 02 05 29.6
comp=Z,7.9nm,0.7s
ARR **Arges** **81.46 316** ⇑P **P** **02 05 29.4 +1.1**
BAND **Balkesir-Ban** **81.55 311** ⇑P **P** **02 05 29.4 +0.6**
HUMR **Humele** **81.64 316** ⇑P **P** **02 05 28.9 -0.4**
COPA **Copaceanca** **81.68 315** ⇑P **P** **02 05 29.6 +0.2**
MARR **Marisel-Cluj** **81.74 318** ⇓P **P** **02 05 30.2 +0.3**
OJC **Ojcow** **81.85 322** *e*P **P** **02 05 31.4 +1.1**
OJC **Ojcow** **81.85 322** P **P** **02 05 30.8 +0.5**
ELL **Elmali** **81.91 307** P **P** **02 05 32.8 +1.8**
ELL pmax pmax
comp=Z,17nm,0.6s
DRGR **81.93 318** ⇓P **P** **02 05 31.2 +0.3**
DRGR **81.93 318** P **P** **02 05 31.1 +0.3**
NIE **Niedzica** **81.99 321** *e*P **P** **02 05 32.5 +1.4**
NIE **Niedzica** **81.99 321** P **P** **02 05 32.0 +0.9**
ILON **Igloolik, Nuna** **82.00 11** IAmb IAmb 02 05 53.6
comp=Z,16nm,0.7s
ATD **Arta Tunnel** **82.08 279** LR LR 02 43 08.3
comp=Z,4.8nm,18.5s,baz=42,slow=37
GZR **Gura Zlata** **82.58 317** ⇑P **P** **02 05 34.3 -0.1**
GZR **Gura Zlata** **82.58 317** P **P** **02 05 34.2 -0.1**
LANS **Liptovska Anna** **82.60 322** *e*P **P** **02 05 35.6 +1.3**
LANS pmax pmax
comp=Z,2.0nm,0.7s
LANS **Liptovska Anna** **82.60 322** *e*P **P** **02 05 35.6 +1.3**
LANS *e* 02 05 46.1
SURR **Surduc** **82.80 318** ⇓P **P** **02 05 35.8 +0.5**
SIRR **Siria** **82.82 318** ⇓P **P** **02 05 35.6 +0.2**
OKC **Ostrava-Krasne** **82.96 323** AMS AMS 02 45 30.0
comp=Z,2μm,18.4s
EZN **Ezine** **83.00 311** P **P** **02 05 36.4 0.0**
PSZ **Piszkesteto** **83.00 320** P **P** **02 05 36.9 +0.4**
PSZ IAmb IAmb 02 05 50.2
comp=Z,15nm,1.1s
PSZ **Piszkesteto** **83.00 320** P **P** **02 05 36.9 +0.4**
PSZ pmax pmax
comp=Z,15nm,1.1s
PUNG **Punghina** **83.04 316** ⇑P **P** **02 05 37.5 +0.9**
HERR **Herculane** **83.06 317** ⇓P **P** **02 05 36.6 -0.1**
STEB **Steborice** **83.11 323** *e*P **P** **02 05 37.8 +0.9**
STEB *ex* x 02 05 49.9
BZS **Buzias** **83.18 318** ⇑P **P** **02 05 37.0 -0.4**
BZS **Buzias** **83.18 318** P **P** **02 05 36.9 -0.4**
VYHS **Vyhne** **83.30 321** *e*P **P** **02 05 39.2 +1.3**
VYHS pmax pmax
comp=Z,32nm,1.5s
VYHS **Vyhne** **83.30 321** *e*P **P** **02 05 39.2 +1.3**
VYHS *e* 02 05 49.5
VYHS *e* 02 07 37.2
MORC **Moravsky Berou** **83.32 323** *e*P **P** **02 05 38.9 +0.9**
MORC **Moravsky Berou** **83.32 323** ⇑P **P** **02 05 38.5 +0.5**
MORC **Moravsky Berou** **83.32 323** P **P** **02 05 38.5 +0.5**
KSP **Ksiaz** **83.40 324** *e*P **P** **02 05 39.6 +1.2**
KSP **Ksiaz** **83.40 324** P **P** **02 05 38.5 +0.1**
MDVR **Moldovita** **83.54 317** ⇑P **P** **02 05 39.5 +0.2**
KRLC **Kraliky** **83.57 323** *e*P **P** **02 05 40.2 +0.9**
KRLC AMS AMS 02 46 00.0
comp=Z,2μm,17.3s
KRLC **Kraliky** **83.57 323** *e*P **P** **02 05 40.2 +0.9**
KRLC MLR MLR
comp=Z,2μm,17.3s
OSTC **Ostas** **83.60 324** *ex* x 02 05 51.5
OSTC AMS AMS 02 46 10.0
comp=Z,2μm,16.6s
DPC **Dobruska-Polom** **83.66 324** *e*P **P** **02 05 40.9 +1.1**
DPC AMS AMS 02 46 10.0
comp=Z,2μm,16.5s
DPC **Dobruska-Polom** **83.66 324** *e*P **P** **02 05 40.9 +1.1**
DPC MLR MLR
comp=Z,2μm,16.5s
CHVC **Chvalec** **83.67 324** *e*P **P** **02 05 40.9 +1.1**
CHVC AMS AMS 02 46 20.0
comp=Z,2μm,18.2s
CHVC **Chvalec** **83.67 324** *e*P **P** **02 05 40.9 +1.1**
CHVC MLR MLR
comp=Z,2μm,18.2s
UPC **Upice** **83.74 324** *e*P **P** **02 05 41.1 +1.0**
UPC AMS AMS 02 46 20.0
comp=Z,2μm,16.4s
UPC **Upice** **83.74 324** *e*P **P** **02 05 41.1 +1.0**
UPC MLR MLR
comp=Z,2μm,16.4s
JAVC **Velka Javorina** **83.75 322** *e*P **P** **02 05 42.4 +2.1**
JAVC *e* 02 05 52.8
SMOL **Smolenice** **84.08 322** *e*P **P** **02 05 43.5 +1.6**
SMOL pmax pmax
comp=Z,101nm,3.2s
VRAC **Vranov** **84.10 323** LR LR 02 46 53.4
comp=Z,974nm,18.6s,baz=59,slow=38
VRAC **Vranov** **84.10 323** *e*P **P** **02 05 43.2 +1.2**
VRAC *e* 02 05 53.5
VRAC **Vranov** **84.10 323** ⇑P **P** **02 05 42.8 +0.8**
VRAC **Vranov** **84.10 323** P **P** **02 05 42.7 +0.8**
BOVS **Bovan** **84.13 316** ⇑P **P** **02 05 42.2 -0.1**
MODS **Modra-Piesok** **84.24 322** *e*P **P** **02 05 44.4 +1.7**
MODS pmax pmax
comp=Z,256nm,2.6s
MODS **Modra-Piesok** **84.24 322** *e*P **P** **02 05 44.4 +1.7**
MODS *e* 02 05 55.1
MODS *e* 02 07 38.6
KRUC **Moravsky** **84.34 323** *e*P **P** **02 05 44.3 +1.1**
KRUC *e* 02 05 54.8
PVCC **Panska Ves** **84.48 324** *e*P **P** **02 05 44.9 +1.0**
PVCC AMS AMS 02 46 50.0
comp=Z,2μm,15.7s
PVCC **Panska Ves** **84.48 324** *e*P **P** **02 05 44.9 +1.0**
PVCC MLR MLR
comp=Z,2μm,15.7s
FRGS **Fruska Gora** **84.50 318** ⇑*i*P **P** **02 05 44.6 +0.5**
BRG **Berggiesshubel** **84.61 325** ⇑*i*P **P** **02 05 45.5 +1.0**
BRG Amp 02 05 45.8
comp=Z,6.4nm,0.7s
MORH **Mrgy, Hungar** **84.63 319** ⇑P **P** **02 05 44.9 +0.2**
TREC **Trest** **84.70 323** *e*P **P** **02 05 46.1 +1.0**
TREC AMS AMS 02 46 40.0
comp=Z,2μm,17.6s
TREC **Trest** **84.70 323** *e*P **P** **02 05 46.1 +1.0**
TREC MLR MLR
comp=Z,2μm,17.6s
RICC **Richard** **84.72 325** AMS AMS 02 47 00.0
comp=Z,2μm,15.8s
GOPC **GO Pecny, Ondr** **84.72 324** AMS AMS 02 46 50.0
comp=Z,2μm,15.7s
VAY **Valandovo** **84.76 314** *i*P **P** **02 05 45.8 +0.3**
PRU **Pruhonice** **84.81 324** AMS AMS 02 47 00.0
comp=Z,2μm,15.8s
PRA **Prague** **84.82 324** AMS AMS 02 47 00.0
comp=Z,2μm,15.3s
CLL **Collm** **84.84 326** *i*P **P** **02 05 45.9 +0.3**
CLL *e*S **S** **02 16 17.0 +3.7**
CLL pmax pmax
comp=Z,16nm,0.6s
CLL pmax pmax
comp=Z,32nm,2.0s
CLL **Collm** **84.84 326** *i*P **P** **02 05 45.9 +0.3**
comp=Z,16nm,0.6s
CLL *i*x x 02 05 56.4
comp=Z,38nm,1.4s
CLL *e*S **S** **02 16 17.0 +3.7**
CLL *e*PS **PnS** **02 17 06.0 -2.1**
CLL *e*SS **SS** **02 21 48.0 +3.5**
CLL *ex* x 02 26 36.0
CLL *ex* x 02 30 12.0
CLL LH 02 40 00.0
comp=N,800nm,20.6s
CLL LH 02 40 00.0
comp=E,500nm,21.0s
TEKS **Tekeris** **85.00 318** *e*P **P** **02 05 45.8 -0.8**
YBH **Yreka Blue Hor** **85.02 46** LR LR 02 37 18.1
comp=E,59nm,20.9s,baz=314,slow=31
HSKC **Hora Svate Kat** **85.03 325** *e*P **P** **02 05 47.6 +0.9**
HSKC AMS AMS 02 47 20.0
comp=E,2μm,15.9s
J05D **Fort Rock, OR** **85.15 44** P **P** **02 05 46.1 -1.5**
J05D IAmb IAmb 02 06 11.1
comp=Z,14nm,1.1s
CONA **Conrad Observa** **85.27 322** *e*PcP **P** **02 05 49.2 +1.2**
comp=Z,4.4nm,0.7s
ZVC **Zvikov** **85.31 324** *e*P **P** **02 05 48.5 +0.4**
ZVC *ex* x 02 05 59.9
ZVC AMS AMS 02 47 20.0
comp=Z,2μm,14.8s
SJES **Sjenica** **85.41 316** ⇑*i*P **P** **02 05 48.8 0.0**
RUDO **Rudo** **85.59 317** *e*P **P** **02 05 49.3 -0.3**
CKRC **Cesky Krumlov** **85.61 323** *e*P **P** **02 05 50.0 +0.4**
CKRC *ex* x 02 06 01.7
CKRC AMS AMS 02 47 00.0
comp=Z,2μm,17.6s
CKRC **Cesky Krumlov** **85.61 323** *e*P **P** **02 05 50.0 +0.4**
CKRC MLR MLR
comp=Z,2μm,17.6s
NKC **Novy Kostel** **85.76 325** AMS AMS 02 47 40.0
comp=Z,2μm,15.6s
KHC **Kasperske Hory** **85.82 324** *e*P **P** **02 05 51.4 +0.7**
KHC AMS AMS 02 47 30.0
comp=Z,2μm,14.7s
KHC **Kasperske Hory** **85.82 324** *e*P **P** **02 05 51.4 +0.7**
KHC MLR MLR
comp=Z,2μm,14.7s
ARSA **Arzberg** **85.85 321** IAmb IAmb 02 06 03.1
comp=Z,19nm,1.3s
ARSA **Arzberg** **85.85 321** *e*PcP **P** **02 05 51.6 +0.8**
comp=Z,0.5nm,0.4s
GERES **GERESS Array B** **85.92 323** P **P** **02 05 51.0 -0.3**
comp=Z,3.8nm,0.6s,baz=46,slow=5.0,SNR=34
comp=Z,3.8nm,0.6s
GERES **GERESS Array B** **85.92 323** P **P** **02 05 51.0 -0.3**
AGG **Agios Georgios** **86.08 312** P **P** **02 05 50.4 -1.8**
AGG **Agios Georgios** **86.08 312** P **P** **02 05 50.4 -1.8**
MOA **Molln** **86.20 322** *e*PcP **P** **02 05 53.3 +0.8**
comp=Z,4.5nm,0.7s
BLY **Banja Luka** **86.29 319** ⇑*i*P **P** **02 05 53.7 +0.7**
PDG **Podgorica** **86.30 316** ⇑*i*P **P** **02 05 53.2 +0.1**
PDG **Podgorica** **86.30 316** ⇓P **P** **02 05 53.0 -0.1**
A051A **Mrakovica** **86.31 319** ⇑*i*P **P** **02 05 52.8 -0.4**
SOKA **Soboth** **86.45 321** *i*PcP **P** **02 05 54.4 +0.5**
comp=Z,2.1nm,0.5s,SNR=6.9
DRME **Dracevica, Mon** **86.47 316** ⇑*i*P **P** **02 05 54.2 +0.2**
BORG **Borgarnes** **86.54 348** LR LR 02 46 29.9
comp=Z,76nm,18.1s,baz=11,slow=37
CRES **Cresnjevec Ost** **86.69 320** ⇑*i*P **P** **02 05 55.5 +0.5**
TREB **Trebinje** **86.70 317** *e*P **P** **02 05 53.8 -1.3**
J08A **Circle Bar Ran** **86.81 43** IAmb IAmb 02 06 12.6
comp=Z,14nm,1.2s
OBKA **Obir** **86.82 321** ⇑*i*P **P** **02 05 54.9 -0.8**
OBKA **Obir** **86.82 321** *e*PcP **P** **02 05 56.0 +0.3**
comp=Z,2.3nm,0.5s
A050A **Klekovaca** **86.83 319** ⇑*i*P **P** **02 05 53.4 -2.4**
STON **Ston** **87.02 317** *e*P **P** **02 05 55.1 -1.5**
SFJD **Kangerlussuaq** **87.07 0** LR LR 02 46 32.3
comp=Z,111nm,20.0s,baz=355,slow=37
KBA **Koelnbreinsper** **87.16 322** P **P** **02 05 57.9 +0.5**
KBA **Koelnbreinsper** **87.16 322** *e*PcP **P** **02 05 57.7 +0.2**
comp=Z,3.8nm,0.5s,SNR=4.5
WVOR **Wild Horse Val** **87.22 43** IAmb IAmb 02 06 18.9
comp=Z,17nm,1.5s
LESA **Schwarzleotal** **87.32 323** *e*P **P** **02 05 57.5 -0.6**
comp=Z,2.6nm,0.4s,SNR=5.0
ABTA **Abfaltersbach** **87.81 322** *e*P **P** **02 05 59.6 -0.9**
comp=Z,3.0nm,0.7s
WATA **Walderalm** **87.97 323** *e*P **P** **02 06 00.6 -0.7**
comp=Z,0.9nm,0.3s
WTTA **Wattenberg** **87.98 323** *e*PcP **P** **02 06 01.7 +0.3**
comp=Z,4.7nm,1.0s
FFC **Flin Flon** **88.06 27** P **P** **02 06 02.1 +0.7**
FFC IAmb IAmb 02 06 25.8
comp=Z,13nm,1.1s
FFC **Flin Flon** **88.06 27** P **P** **02 06 02.1 +0.7**
FFC pmax pmax
comp=Z,13nm,1.1s
MOTA **Moosalm** **88.22 323** *e*P **P** **02 06 01.5 -1.0**
comp=Z,1.6nm,0.5s
SQTA **Sankt Quirin** **88.24 323** *e*P **P** **02 06 01.7 -0.9**
comp=Z,1.0nm,0.4s
MFID **Camas Ranch** **88.37 42** IAmb IAmb 02 06 25.5
comp=Z,9.4nm,1.2s
FETA **Feichten** **88.62 323** *e*PcP **P** **02 06 04.9 +0.5**
comp=Z,1.1nm,0.4s
MEM **Membach** **88.72 328** *d*P **P** **02 06 04.2 -0.3**
FUORN **Ofenpass-Fuorn** **89.12 323** IAmb IAmb 02 06 19.0
comp=Z,16nm,1.1s
FRB **Frobisher Bay** **89.20 8** LR LR 02 47 20.9
comp=Z,250nm,21.2s,baz=333,slow=36
DAVOX **Davos/Dischmat** **89.22 323** LR LR 02 50 26.5
comp=Z,1μm,18.4s,baz=74,slow=39
WLF **Walferdange** **89.27 327** *d*P **P** **02 06 07.5 +0.3**
EKA **Eskdalemuir Ar** **89.29 335** P **P** **02 06 06.4 -0.7**
comp=Z,1.1nm,0.4s,baz=43,slow=4.7,SNR=15
comp=Z,1.1nm,0.4s
BMRD **Maredsous** **89.51 328** *d*P **P** **02 06 07.8 -0.5**
NVAR **Mina Array Bea** **89.64 47** P **P** **02 06 10.0 +0.5**
comp=Z,1.0nm,0.8s,baz=299,slow=5.3,SNR=5.1
comp=Z,1.0nm,0.8s
PPT **Papeete** **89.76 110** LR LR 02 38 54.3
comp=Z,113nm,20.6s,baz=306,slow=30
AQU **L'Aquila** **89.92 318** P **P** **02 06 11.8 +1.3**
AQU pmax pmax
comp=Z,37nm,1.1s
R11B **Troy Canyon, C** **91.45 46** IAmb IAmb 02 07 21.8
comp=Z,14nm,2.0s
DUG **Dugway, Tooele** **92.09 43** P **P** **02 06 22.6 +1.9**
PDAR **Pinedale Array** **92.42 39** P **P** **02 06 23.4 +1.2**
comp=Z,0.5nm,0.8s,baz=300,slow=3.3,SNR=4.2
comp=Z,0.5nm,0.8s
KMBO **Kilima Mbogo** **92.57 270** P **P** **02 06 24.1 +0.7**
comp=Z,0.3nm,0.4s,baz=116,slow=7.9,SNR=3.0
KMBO LR LR 02 52 21.9
comp=Z,59nm,18.1s,baz=86,slow=38
comp=Z,0.3nm,0.4s
SHPR **Sheep Range** **92.79 47** P **P** **02 06 22.9 -1.1**
V12A **Nelson** **93.45 47** IAmb IAmb 02 06 31.4
comp=Z,7.4nm,1.2s
PFO **Pinyon Flats O** **93.58 50** P **P** **02 06 28.8 +1.1**
PFO IAmb IAmb 02 06 41.5
comp=Z,9.9nm,1.0s
PFO **Pinyon Flats O** **93.58 50** LR LR 02 49 50.9
comp=Z,146nm,18.2s,baz=288,slow=36
PFO **Pinyon Flats O** **93.58 50** P **P** **02 06 28.8 +1.1**
PFO pmax pmax
comp=Z,10.0nm,1.0s
MTPU **Mount Pierson** **93.78 44** IAmb IAmb 02 06 50.8
comp=Z,23nm,2.0s
ULM **Lac du Bonnet** **93.88 27** P **P** **02 06 28.4 -0.1**
comp=Z,1.1nm,0.4s,baz=323,slow=5.1,SNR=2.1
comp=Z,1.1nm,0.4s
KNB **Kanab** **94.00 45** IAmb IAmb 02 06 35.2
comp=Z,9.2nm,1.0s
TAOE **Nuku Hiva Isla** **94.11 98** *e*LR LR 02 36 42.9
comp=Z,308nm,26.6s
ESDC **Sonseca Array** **101.42 325** P **Pdif** **02 07 01.8 -1.1**
comp=Z,0.4nm,0.7s,baz=20,slow=3.8,SNR=4.6
SYO **Syowa Base** **114.19 203** ⇑*e*Pdiff **Pdif** **02 08 01.6 +3.0**
SYO **Syowa Base** **114.19 203** ⇓*e*Pdiff pDif 02 08 04.5 +3.0
SYO **Syowa Base** **114.19 203** ⇑*e*PKPdf PKPdf 02 11 49.0 -0.6
SYO **Syowa Base** **114.19 203** ⇑*ep*PKiKP **PKiKP** **02 11 55.0 +5.4**
QSPA **South Pole Qui** **116.00 180** PKP **PKiKP** **02 11 53.3 0.0**
comp=Z,0.9nm,0.8s,baz=290,slow=2.7,SNR=6.8

---

*IDC **14** 01:56:23.6±1.3, 26°.21N×129°.37E, h0km, mb3.9/10, mbtmp3.9/11, ML3.8/1, Error ellipse: s-maj=41.6km s-min=22.7km az=51.0*
*JMA **14** 01:56:26.2±0.3, 26°N±1°×13°0E±°, h44km, MV3.5/13, NEAR OKINAWAJIMA ISLAND*
ISC 14 01:56:23.3±1.9, 26°.25N±0°.06×129°.54E±0°.05, h3km±12km, n23, σ1§52/31, mb3.9/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.25**	**309**	*e*P	**Pb**	**01 56 47.8**	**+0.4**
JYRO				*e*S	**Sg**	**01 57 03.5**	**+0.1**
JOW	**Kunigami**	**1.27**	**298**	Pn	**Pn**	**01 56 48.5**	**+0.4**
	365nm,0.3s,baz=108,slow=15,SNR=7.2						
JOW				Sn	**Sg**	**01 57 02.9**	**-1.4**
	189nm,0.3s,baz=108,slow=25,SNR=7.3						
JOW	**Kunigami**	**1.27**	**298**	*e*P	**Pg**	**01 56 48.1**	**+0.4**
JOW				*e*S	**Sg**	**01 57 03.5**	**-0.8**
JNTH	**Nagotoyohara**	**1.39**	**282**	*e*P	**Pn**	**01 56 49.4**	**-0.2**
JNTH				*e*S	**Sg**	**01 57 05.5**	**-2.4**
JOKE	**Okinoerabujima**	**1.41**	**322**	*e*P	**Pb**	**01 56 50.6**	**+0.3**
JMZ	**Minamidaito 2**	**1.57**	**105**	*e*S	**Sn**	**01 57 09.9**	**-3.2**
JJT3	**Tamagusuku3**	**1.58**	**267**	*e*P	**Pb**	**01 56 53.0**	**-0.1**
JKDJ	**Kitadaitoujima**	**1.61**	**100**	*e*S	**Sn**	**01 57 11.8**	**-2.0**
JIH	**Iheya**	**1.61**	**300**	*e*P	**Pn**	**01 56 53.3**	**+0.7**
JIH				*e*S	**Sn**	**01 57 12.8**	**-1.2**
JTK	**Tokunoshima**	**1.62**	**341**	*e*P	**Pn**	**01 56 53.5**	**+0.7**
JTK				*e*S	**Sn**	**01 57 11.8**	**-2.4**
JAMN	**Amaminishikomi**	**2.02**	**351**	*e*P	**Pn**	**01 56 58.6**	**+0.4**
JAMN				*e*S	**Sn**	**01 57 22.2**	**-1.7**
JAGN	**Aguni-jima**	**2.09**	**280**	*e*P	**Pn**	**01 57 00.0**	**+0.8**
JNU	**Nakatsue**	**6.95**	**9**	Pn	**Pn**	**01 58 07.9**	**+1.8**
	1.6nm,0.3s,baz=186,slow=18,SNR=1.5						
JNU				Sn	**Sn**	**01 59 21.8**	**-4.0**
	0.1nm,0.3s,baz=228,slow=16,SNR=0.9						
	4.2nm,0.3s						
SONM	**Songino Array**	**28.19**	**326**	P	**P**	**02 02 17.8**	**+0.6**
	0.6nm,0.4s,baz=111,slow=7.9,SNR=1.9						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**42.40**	**312**	P	**P**	**02 04 18.2**	**-1.0**
	0.9nm,0.8s,baz=101,slow=9.3,SNR=1.4						
	0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**42.95**	**322**	P	**P**	**02 04 22.0**	**-1.4**
	0.7nm,0.6s,baz=114,slow=7.7,SNR=1.1						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**45.65**	**316**	P	**P**	**02 04 44.6**	**-0.5**
	0.7nm,0.5s,baz=102,slow=9.0,SNR=2.0						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**46.15**	**174**	P	**P**	**02 04 49.4**	**+0.1**
	0.5nm,0.7s,baz=345,slow=7.5,SNR=1.5						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**51.05**	**318**	P	**P**	**02 05 27.5**	**+0.8**
	1.3nm,0.6s,baz=81,slow=8.9,SNR=2.4						
	1.3nm,0.6s						
FINES	**FINESS Array B**	**73.42**	**331**	P	**P**	**02 07 57.6**	**+1.0**
	1.1nm,0.5s,baz=72,slow=4.7,SNR=5.5						
	1.1nm,0.5s						
AKASG	**Malin Array Be**	**76.28**	**320**	P	**P**	**02 08 14.3**	**+0.9**
	0.8nm,0.5s,baz=60,slow=5.8,SNR=3.8						
	0.8nm,0.5s						
BRTR	**Keskin Array B**	**77.95**	**308**	P	**P**	**02 08 24.7**	**+1.5**
	1.0nm,0.8s,baz=77,slow=3.3,SNR=2.4						
	1.0nm,0.8s						
NOA	**NORSAR Array B**	**79.81**	**334**	P	**P**	**02 08 32.8**	**-0.1**
	0.8nm,0.7s,baz=51,slow=7.8,SNR=2.2						
	0.8nm,0.7s						

---

*CNRM **14** 01:59:40.6, 36°.52N×11°.37W, h80km, ML2.6*
*MDD **14** 01:59:41.4±0.6, 36°.50N×11°.40W, h28km±10km, Mb4.2/31, M_mb3.5/33, Error ellipse: s-maj=8.4km s-min=3.5km az=74.0*
*IGIL **14** 01:59:43.8, 36°.53N×11°.21W, h24km, ML2.1*
ISC 14 01:59:40.6±1.3, 36°.54N±0°.04×11°.30W±0°.07, h35km, n75, σ1§87/110, 19C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.07**	**73**	Pn	**Pn**	**02 00 14.6**	**+1.8**
PFVI				Sn	**Sn**	**02 00 36.4**	**-1.1**
PFVI	**Vila Bisbo**	**2.07**	**73**	P	**Pn**	**02 00 14.6**	**+1.8**
PFVI	**Vila Bisbo**	**2.07**	**73**	S	**Sn**	**02 00 40.1**	**+2.6**
MORF	**Marmelete**	**2.26**	**70**	*e*P	**Pn**	**02 00 17.3**	**+1.8**
MORF				*e*S	**Sn**	**02 00 41.9**	**-0.1**
MORF				IAML		02 00 44.4	
	comp=N,17nm,0.2s						
MESJ	**Messejana**	**2.78**	**61**	*e*P	**Pn**	**02 00 24.6**	**+2.0**
MESJ				*e*S	**Sn**	**02 00 54.5**	**-0.5**
MESJ				IAML		02 01 00.9	
	comp=N,5.4nm,0.1s						
PCVE	**Castro Verde**	**2.83**	**66**	Pn	**Pn**	**02 00 25.2**	**+2.0**
PMAFR	**Mafra**	**2.89**	**33**	Pn	**Pn**	**02 00 26.1**	**+2.0**
PVAQ	**Vaqueiros**	**3.00**	**72**	Pn	**Pn**	**02 00 27.6**	**+2.0**
PVAQ	**Vaqueiros**	**3.00**	**72**	P	**Pn**	**02 00 27.1**	**+1.6**
PVAQ	**Vaqueiros**	**3.00**	**72**	S	**Sn**	**02 01 02.9**	**+2.6**
EGRO	**El Granado**	**3.21**	**71**	Pn	**Pn**	**02 00 30.4**	**+2.0**
EGRO	**El Granado**	**3.21**	**71**	P	**Pn**	**02 00 30.5**	**+2.0**
EGRO				⇑*i*Vmb_V		02 00 31.5	
	comp=N,194nm,SNR=3.1						
EGRO				S	**Sn**	**02 01 05.5**	**-0.1**
PESTR	**Estremoz**	**3.75**	**51**	Pn	**Pn**	**02 00 37.9**	**+2.0**
PESTR				Sn	**Sn**	**02 01 17.5**	**-1.3**
PESTR	**Estremoz**	**3.75**	**51**	P	**Pn**	**02 00 36.4**	**+0.5**
PESTR	**Estremoz**	**3.75**	**51**	S	**Sn**	**02 01 20.7**	**+1.8**
PBAR	**Barrancos**	**3.77**	**63**	Pn	**Pn**	**02 00 38.1**	**+1.9**
EMIN	**Mina Concepcio**	**3.90**	**70**	Pn	**Pn**	**02 00 39.8**	**+1.8**
EMIN				Sn	**Sn**	**02 01 21.2**	**-1.3**
EMIN	**Mina Concepcio**	**3.90**	**70**	P	**Pn**	**02 00 39.2**	**+1.3**
EMIN				⇑*i*Vmb_V		02 00 40.2	
	comp=N,140nm,SNR=2.7						
EMIN				S	**Sn**	**02 01 21.3**	**-1.1**

EBAD	**Badajoz**	**4.06**	**56**	Pn	**Pn**	**02 00 41.5**	**+1.4**
EBAD	**Badajoz**	**4.06**	**56**	P	**Pn**	**02 00 41.5**	**+1.4**
EBAD	⇑iVmb_V					02 00 42.6	
	comp=N,294nm,SNR=5.1						
EBAD				S	**Sn**	**02 01 25.9**	**-0.6**
ESPR	**Espera**	**4.39**	**84**	Pn	**Pn**	**02 00 46.5**	**+1.8**
ESPR				Sn	**Sn**	**02 01 32.8**	**-1.8**
ESPR	**Espera**	**4.39**	**84**	P	**Pn**	**02 00 46.5**	**+1.8**
ESPR	⇑iVmb_V					02 00 47.0	
	comp=N,729nm,SNR=14						
ESPR				S	**Sn**	**02 01 33.1**	**-1.5**
AVE	**Averroes**	**4.55**	**134**	Pn	**Pn**	**02 00 48.4**	**+1.4**
AVE				Sn	**Sn**	**02 01 36.1**	**-2.5**
AVE	**Averroes**	**4.55**	**134**	P	**Pn**	**02 00 46.7**	**-0.2**
AVE	**Averroes**	**4.55**	**134**	S	**Sn**	**02 01 40.2**	**+1.6**
EJIF	**Jimena Fronter**	**4.70**	**89**	P	**Pn**	**02 00 51.4**	**+2.4**
EJIF				S	**Sn**	**02 01 43.2**	**+0.9**
SMIR	**Smir Dam**	**4.87**	**98**	P	**Pn**	**02 00 50.7**	**-0.6**
SMIR	**Smir Dam**	**4.87**	**98**	S	**Sn**	**02 01 47.4**	**+0.9**
ECAB	**El Cabril**	**4.94**	**70**	Pn	**Pn**	**02 00 54.0**	**+1.8**
ECAB				Sn	**Sn**	**02 01 45.9**	**-2.2**
ECAB	**El Cabril**	**4.94**	**70**	P	**Pn**	**02 00 53.9**	**+1.7**
ECAB	⇑iVmb_V					02 00 54.8	
	comp=N,151nm,SNR=3.2						
ECAB				S	**Sn**	**02 01 46.4**	**-1.7**
ESTP	**Estepa**	**5.21**	**80**	P	**Pn**	**02 00 57.6**	**+1.5**
ESTP	⇑iVmb_V					02 00 59.4	
	comp=N,96nm,SNR=1.9						
ESTP				S	**Sn**	**02 01 54.4**	**-0.5**
EPLA	**Plasencia**	**5.41**	**48**	P	**Pn**	**02 01 00.2**	**+1.5**
EPLA	⇑iVmb_V					02 01 01.4	
	comp=N,121nm,SNR=2.0						
EPLA				S	**Sn**	**02 01 59.1**	**-0.6**
EADA	**Adamuz**	**5.60**	**71**	Pn	**Pn**	**02 01 02.8**	**+1.5**
EADA	**Adamuz**	**5.60**	**71**	P	**Pn**	**02 01 02.6**	**+1.3**
EADA	⇑iVmb_V					02 01 03.9	
	comp=N,98nm,SNR=1.9						
EADA				S	**Sn**	**02 02 03.6**	**-0.9**
EGOR	**Sierra Gorda,**	**5.80**	**82**	Pn	**Pn**	**02 01 06.7**	**+2.5**
EGOR	**Sierra Gorda,**	**5.80**	**82**	P	**Pn**	**02 01 06.4**	**+2.2**
EGOR	⇑iVmb_V					02 01 06.4	
	comp=N,41nm,SNR=1.0						
EGOR				S	**Sn**	**02 02 08.5**	**-1.1**
ELOB	**Lobios**	**5.88**	**24**	P	**Pn**	**02 01 07.0**	**+1.7**
ELOB	⇑iVmb_V					02 01 08.8	
	comp=N,106nm,SNR=1.0						
ELOB				S	**Sn**	**02 02 09.5**	**-2.0**
IFR	**Ifrane**	**5.90**	**119**	Pn	**Pn**	**02 01 05.4**	**-0.2**
IFR				Sn	**Sn**	**02 02 06.1**	**-5.9**
PMAR	**Madeira**	**5.99**	**232**	P	**Pn**	**02 01 06.3**	**-0.6**
PMAR	**Madeira**	**5.99**	**232**	S	**Sn**	**02 02 14.8**	**+0.5**
ANER	**Nerja**	**6.00**	**86**	P	**Pn**	**02 01 08.8**	**+2.0**
ANER	⇑iVmb_V					02 01 10.5	
	comp=N,54nm,SNR=0.6						
ANER				S	**Sn**	**02 02 14.1**	**-0.2**
LCRM	**LCR**	**6.00**	**116**	P	**Pn**	**02 01 06.9**	**-0.1**
LCRM	**LCR**	**6.00**	**116**	S	**Sn**	**02 02 15.3**	**+0.7**
JAND	**Jandula**	**6.08**	**72**	P	**Pn**	**02 01 09.8**	**+1.9**
JAND	⇑iVmb_V					02 01 11.6	
	comp=N,156nm,SNR=3.4						
JAND				S	**Sn**	**02 02 12.6**	**-3.6**
PMOZ	**Porto Moniz, M**	**6.11**	**234**	P	**Pn**	**02 01 08.3**	**-0.1**
PMOZ	**Porto Moniz, M**	**6.11**	**234**	S	**Sn**	**02 02 14.1**	**-3.1**
ELGU	**Los Guajares,**	**6.18**	**85**	P	**Pn**	**02 01 11.0**	**+1.7**
ELGU	⇑iVmb_V					02 01 14.5	
	comp=N,60nm,SNR=1.0						
ELGU				S	**Sn**	**02 02 17.2**	**-1.5**
PAB	**San Pablo**	**6.25**	**59**	P	**Pn**	**02 01 11.7**	**+1.4**
PAB	⇑iVmb_V					02 01 12.9	
	comp=N,79nm,SNR=2.1						
PAB				S	**Sn**	**02 02 17.7**	**-2.9**
EQUE	**Quentar**	**6.34**	**82**	P	**Pn**	**02 01 13.7**	**+2.1**
EQUE	⇑iVmb_V					02 01 16.1	
	comp=N,64nm,SNR=1.8						
EQUE				S	**Sn**	**02 02 20.2**	**-2.5**
E0803	**Jimena (Jaen)**	**6.38**	**76**	P	**Pn**	**02 01 13.4**	**+1.2**
E0803				S	**Sn**	**02 02 22.0**	**-1.8**
AKLM	**AKL**	**6.40**	**106**	P	**Pn**	**02 01 10.8**	**-1.6**
AKLM	**AKL**	**6.40**	**106**	S	**Sn**	**02 02 23.8**	**-0.4**
PSIM	**Granatula de C**	**6.40**	**67**	P	**Pn**	**02 01 13.8**	**+1.4**
PSIM				S	**Sn**	**02 02 21.7**	**-2.6**
TTIG	**Tnine Tigouga,**	**6.44**	**157**	P	**Pn**	**02 01 10.9**	**-2.1**
TTIG	**Tnine Tigouga,**	**6.44**	**157**	S	**Sn**	**02 02 25.1**	**-0.2**
ECAL	**Calabor**	**6.45**	**32**	P	**Pn**	**02 01 14.8**	**+1.7**
ECAL	⇑iVmb_V					02 01 16.6	
	comp=N,100nm,SNR=0.7						
ECAL				S	**Sn**	**02 02 23.1**	**-2.4**
MD31	**MD31**	**6.52**	**122**	P	**Pn**	**02 01 15.2**	**+1.1**
MD31	**MD31**	**6.52**	**122**	S	**Sn**	**02 02 28.0**	**+0.8**
TIO	**Tiouine**	**6.54**	**148**	Pn	**Pn**	**02 01 15.9**	**+1.5**
TIO				Sn	**Sn**	**02 02 22.5**	**-5.2**
TIO	**Tiouine**	**6.54**	**148**	P	**Pn**	**02 01 15.0**	**+0.6**
TIO	**Tiouine**	**6.54**	**148**	S	**Sn**	**02 02 28.3**	**+0.6**
ESDC	**Sonseca Array**	**6.58**	**59**	P	**Pn**	**02 01 16.4**	**+1.6**
ESDC				S	**Sn**	**02 02 27.0**	**-1.6**
MDT	**Midelt**	**6.65**	**122**	P	**Pn**	**02 01 17.1**	**+1.1**
MDT	**Midelt**	**6.65**	**122**	S	**Sn**	**02 02 31.9**	**+1.3**
EQES	**Quesada**	**6.69**	**77**	P	**Pn**	**02 01 17.7**	**+1.3**
EQES	⇑iVmb_V					02 01 19.0	
	comp=N,53nm,SNR=0.9						
EQES				S	**Sn**	**02 02 28.9**	**-2.6**
EAGO	**Agolada(Pontev**	**6.72**	**21**	P	**Pn**	**02 01 18.5**	**+1.7**
EAGO	⇑iVmb_V					02 01 20.2	
	comp=N,200nm,SNR=1.5						
EAGO				S	**Sn**	**02 02 28.9**	**-3.2**
OUZM	**OUZ**	**6.78**	**145**	P	**Pn**	**02 01 17.9**	**+0.3**
OUZM	**OUZ**	**6.78**	**145**	S	**Sn**	**02 02 35.3**	**+1.7**
GOLM	**Goulmima**	**7.14**	**131**	P	**Pn**	**02 01 24.3**	**+1.6**
UCM	**Universidad Co**	**7.36**	**57**	Pn	**Pn**	**02 01 27.3**	**+1.8**
UCM				Sn	**Sn**	**02 02 45.1**	**-2.6**
JBK	**JBK**	**7.46**	**105**	P	**Pn**	**02 01 25.8**	**-1.3**
EPON	**Pontenova**	**7.49**	**24**	P	**Pn**	**02 01 29.1**	**+1.9**
EPON	⇑iVmb_V					02 01 30.9	
	comp=N,279nm,SNR=1.3						
EPON				S	**Sn**	**02 02 48.6**	**-2.3**
ARF	**Arif**	**7.78**	**129**	P	**Pn**	**02 01 30.8**	**-0.7**
ZGR	**Zagora**	**7.98**	**142**	P	**Pn**	**02 01 34.0**	**-0.1**
ETOR	**Torete**	**8.40**	**57**	P	**Pn**	**02 01 41.4**	**+1.6**
ETOR				S	**Sn**	**02 03 10.2**	**-3.2**

NEIC ***14*** *02:18:24.6±1.2, 8°.48S±0°.07×118°.33E±0°.09, h134km±9km, mb4.2/8, Error ellipse: s-maj=12.9km s-min=9.6km az=72.0*
DJA ***14*** *02:18:24.9±0.3, 9°.5±3°.×11°.8E±°., h125km±5km, M4.4/21, mB4.7/2, mb4.3/7, MLv4.4/21, Mw(mB)4.0/2*
IDC ***14*** *02:18:30.1±2.3, 8°.30S×118°.89E, h186km±18km, mb3.3/8, mbtmp3.8/10, Error ellipse: s-maj=31.7km s-min=9.6km az=56.0*

ISC 14 02:18:25.7±0.5, 8°.65S±0°.05×118°.38E±0°.04, h152km, n79, σ1§95/91, mb4.0/22, 3D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.62**	**253**	P	**Pn**	**02 18 44.8**	**-3.2**
PLAI	**Plampang**	**0.62**	**253**	P	**Pn**	**02 18 45.1**	**-2.9**
PLAI				S	**Sn**	**02 18 59.9**	**-5.0**
WBSI	**Waikabubak, Su**	**1.40**	**135**	P	**Pn**	**02 18 51.9**	**-2.6**
WBSI				S	**Sn**	**02 19 12.9**	**-3.7**
WSI	**Waingapu**	**2.15**	**118**	P	**Pn**	**02 19 01.0**	**-1.7**
WSI				S	**Sn**	**02 19 27.7**	**-3.5**
DNP	**Denpasar**	**3.14**	**269**	P	**Pn**	**02 19 13.1**	**-1.8**
DNP				S	**Sn**	**02 19 52.0**	**-0.9**
SRBI	**Singaraja**	**3.19**	**280**	P	**Pn**	**02 19 13.9**	**-1.6**
SRBI				S	**Sn**	**02 19 52.0**	**-2.1**
BSSI	**Bau Bau, Buton**	**3.25**	**40**	P	**Pn**	**02 19 14.9**	**-1.5**
EDFI	**Ende, Flores**	**3.27**	**92**	P	**Pn**	**02 19 15.8**	**-1.0**
EDFI				S	**Sn**	**02 19 55.1**	**-1.2**
BKSI	**Bulukumba**	**3.73**	**28**	P	**Pn**	**02 19 21.4**	**-1.1**
MMRI	**Maumere**	**3.81**	**90**		**Pn**	**02 19 22.2**	**-1.4**
MMRI	**Maumere**	**3.81**	**90**	P	**Pn**	**02 19 22.2**	**-1.4**
MMRI	**Maumere**	**3.81**	**90**	P	**Pn**	**02 19 22.8**	**-0.8**
MMRI				S	**Sn**	**02 20 07.6**	**-1.0**
KAPI	**Kappang**	**3.86**	**21**		**Pn**	**02 19 20.9**	**-3.3**
KAPI	**Kappang**	**3.86**	**21**	P	**Pn**	**02 19 23.3**	**-0.9**
	69nm,0.5s,baz=195,slow=8.6,SNR=30						
KAPI				S	**Sn**	**02 20 05.8**	**-3.9**
	13nm,0.3s,baz=223,slow=16,SNR=3.6						
KAPI	**Kappang**	**3.86**	**21**	P	**Pn**	**02 19 23.3**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.19**	**272**		**Pn**	**02 19 26.0**	**-2.5**
JAGI	**Jajag, Banyuwa**	**4.19**	**272**	P	**Pn**	**02 19 25.9**	**-2.5**
JAGI	**Jajag, Banyuwa**	**4.19**	**272**	P	**Pn**	**02 19 26.0**	**-2.5**
JAGI				S	**Sn**	**02 20 14.3**	**-3.0**
BNSI	**Bone**	**4.55**	**22**	P	**Pn**	**02 19 33.9**	**+0.6**
KMMI	**Kalianget**	**4.65**	**290**	P	**Pn**	**02 19 35.6**	**+1.0**
SPSI	**Sidrap Palu**	**4.85**	**17**	P	**Pn**	**02 19 39.0**	**+1.7**
GMJI	**Gumukmas**	**4.90**	**274**	P	**Pn**	**02 19 35.4**	**-2.5**
GMJI				S	**Sn**	**02 20 31.9**	**-2.2**
BBSI	**Bau Bau**	**5.21**	**53**	P	**Pn**	**02 19 41.1**	**-0.9**
	0.2nm58nm,0.9s						
SOEI	**Soe**	**5.91**	**101**		**Pn**	**02 19 50.4**	**-1.1**
SOEI	**Soe**	**5.91**	**101**	P	**Pn**	**02 19 50.7**	**-0.8**
	74nm,0.7s						
SOEI	**Soe**	**5.91**	**101**	S	**Sn**	**02 20 55.2**	**-3.3**
	74nm,0.7s						
SOEI	**Soe**	**5.91**	**101**	P	**Pn**	**02 19 50.4**	**-1.1**
SOEI				S	**Sn**	**02 20 57.1**	**-1.4**
PCJI	**Pacitan**	**7.14**	**273**	P	**Pn**	**02 20 06.2**	**-1.5**
	0.3nm42nm,1.1s						
UGM	**Wanagama**	**7.81**	**275**	S	**Sn**	**02 21 42.3**	**-1.6**
UGM	**Wanagama**	**7.81**	**275**	P	**Pn**	**02 20 15.7**	**-1.0**
UGM	**Wanagama**	**7.81**	**275**	P	**Pn**	**02 20 15.5**	**-1.2**
	38nm,1.9s						
APSI	**Ampana**	**8.35**	**23**	P	**Pn**	**02 20 23.2**	**-0.6**
	19nm,0.9s						
FITZ	**Fitzroy Crossi**	**11.75**	**144**	P	**Pn**	**02 21 07.9**	**-0.8**
	4.7nm,0.8s,baz=155,slow=7.4,SNR=3.3						
FITZ				S	Sn	02 23 10.2	-8.5
	5.1nm,0.3s,baz=352,slow=23,SNR=14						
KNRA	**Kununurra**	**12.32**	**126**		**Pn**	**02 21 14.4**	**-1.7**
MBWA	**Marble Bar**	**12.51**	**174**	Pn	**Pn**	**02 21 16.8**	**-1.8**
MBWA	**Marble Bar**	**12.51**	**174**	P	**Pn**	**02 21 17.9**	**-0.7**
	5.3nm,0.8s						
DRS	**Darwin Rock St**	**12.87**	**108**	P	**Pn**	**02 21 22.8**	**-0.4**
	23nm,0.5s						
PSA00	**Pilbara Seismi**	**12.93**	**174**	Pn	**Pn**	**02 21 22.8**	**-1.2**
PSA00	**Pilbara Seismi**	**12.93**	**174**	P	**Pn**	**02 21 23.6**	**-0.4**
	23nm,2.7s						
MTN	**Manton Dam**	**13.20**	**110**		**Pn**	**02 21 25.5**	**-2.0**
MTN	**Manton Dam**	**13.20**	**110**	P	**Pn**	**02 21 26.6**	**-0.9**
	22nm,0.4s						
GIRL	**Giralia**	**14.48**	**196**	Pn	**Pn**	**02 21 44.6**	**+1.0**
GIRL	**Giralia**	**14.48**	**196**	P	**Pn**	**02 21 44.5**	**+1.0**
	254nm,1.9s						
FAKI	**Fak Fak**	**14.92**	**68**	Pn	**Pn**	**02 21 47.1**	**-2.1**
FAKI	**Fak Fak**	**14.92**	**68**	P	**Pn**	**02 21 49.0**	**-0.2**
	29nm,0.8s						
MEEK	**Meekatharra**	**17.90**	**179**	P	**Pn**	**02 22 26.3**	**+1.0**
	16nm,2.4s						
WRKA	**Warakurna**	**18.84**	**151**	P	**Pn**	**02 22 36.8**	**+0.4**
	18nm,0.8s						
WRA	**Warramunga Arr**	**19.09**	**128**	P	**P**	**02 22 38.0**	**+1.2**
WRA	**Warramunga Arr**	**19.09**	**128**	P	**P**	**02 22 37.4**	**+0.6**
	0.9nm,0.5s,baz=302,slow=12,SNR=18						
WRA				S	**S**	**02 26 02.2**	**-3.3**
	0.5nm,0.3s,baz=313,slow=18,SNR=5.6						
MORW	**Morawa**	**20.43**	**186**	P	**P**	**02 22 52.4**	**+1.2**
MORW				IAmb	IAmb	02 23 03.1	
	comp=Z,20nm,1.4s						
MORW	**Morawa**	**20.43**	**186**	P	**P**	**02 22 53.0**	**+1.8**
	comp=Z,12nm,2.3s						
AS31	**Alice Springs**	**21.07**	**137**		**P**	**02 22 59.5**	**+1.4**
AS31				IAmb	IAmb	02 23 07.5	
	comp=Z,1.1nm,0.6s						
ASAR	**Alice Springs**	**21.07**	**137**	P	**P**	**02 22 59.2**	**+1.1**
ASAR	**Alice Springs**	**21.07**	**137**	P	**P**	**02 22 59.5**	**+1.4**
	comp=Z,1.0nm,0.4s,baz=313,slow=8.9,SNR=18						
ASAR				S	**S**	**02 26 43.1**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=312,slow=18,SNR=5.2						
	comp=Z,1.0nm,0.4s						
AS01	**Alice Springs**	**21.10**	**137**	P	**P**	**02 23 00.2**	**+1.7**
	comp=Z,3.1nm,1.1s						
BLDU	**Ballidu**	**21.91**	**184**	P	**P**	**02 23 08.3**	**+1.4**
	comp=Z,16nm,1.6s						
KMBL	**Kambalda**	**22.84**	**172**	P	**P**	**02 23 18.2**	**+2.3**
	comp=Z,20nm,2.2s						
QIS	**Mount Isa**	**23.67**	**122**	P	**P**	**02 23 25.4**	**+1.8**
	comp=Z,10nm,0.7s						
FORT	**Forrest**	**23.80**	**159**	P	**P**	**02 23 27.4**	**+2.7**
	comp=Z,16nm,0.8s						
NWAO	**Narrogin (SRO)**	**24.19**	**182**	P	**P**	**02 23 29.5**	**+1.4**
NWAO	**Narrogin (SRO)**	**24.19**	**182**	P	**P**	**02 23 30.6**	**+2.5**
	comp=Z,21nm,1.8s						
COEN	**Coen**	**24.87**	**105**	P	**P**	**02 23 35.1**	**+0.6**
COEN				IAmb	IAmb	02 23 36.4	
	comp=Z,8.3nm,0.6s						
COEN	**Coen**	**24.87**	**105**	P	**P**	**02 23 35.5**	**+1.0**
	comp=Z,12nm,0.7s						
OOD	**Oodnadatta**	**25.10**	**142**	P	**P**	**02 23 38.9**	**+2.5**
	comp=Z,16nm,2.2s						
KSRS	**Korea Array**	**46.72**	**10**	P	**P**	**02 26 36.3**	**-3.1**
	comp=Z,1.5nm,0.9s,baz=188,slow=8.8,SNR=5.4						
	comp=Z,1.5nm,0.9s						
HHC	**Hu-ho-hao-te**	**49.65**	**353**	*e*P	**P**	**02 27 06.0**	**+4.0**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
JSD	**Sado**	**50.01**	**21**	P	**P**	**02 27 04.1**	**-0.6**
JSD				IAmb	IAmb	02 27 05.1	
	comp=Z,12nm,1.4s						
USRK	**Ussuriysk Ar.**	**54.02**	**12**	P	**P**	**02 27 33.2**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=186,slow=5.3,SNR=5.0						
	comp=Z,1.9nm,0.7s						
SONM	**Songino Array**	**57.23**	**350**	P	**P**	**02 27 57.0**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=171,slow=5.4,SNR=4.3						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**63.87**	**333**	P	**P**	**02 28 41.7**	**-0.4**
MKAR	**Makanchi Array**	**63.87**	**333**	P	**P**	**02 28 42.0**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=152,slow=8.1,SNR=4.3						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**68.38**	**334**	P	**P**	**02 29 10.7**	**0.0**
	comp=Z,0.3nm,0.6s,baz=142,slow=5.4,SNR=5.5						
	comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**68.50**	**339**	P	**P**	**02 29 10.5**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=146,slow=6.0,SNR=4.3						
	comp=Z,0.6nm,0.3s						
UOSS	**Minazif**	**69.13**	**301**	P	**P**	**02 29 15.5**	**-0.4**
VNDA	**Vanda**	**72.43**	**171**	P	**P**	**02 29 37.8**	**+2.8**
VNDA	**Vanda**	**72.43**	**171**	P	**P**	**02 29 37.4**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=314,slow=9.6,SNR=6.1						
	comp=Z,0.5nm,0.6s						
VNA2	**Neumayer--Watz**	**92.81**	**195**	⇓P	P	02 31 28.7	+8.0
	comp=Z,0.2nm,0.2s,baz=331,slow=14						
VNA3	**Neumayer Olymp**	**93.20**	**195**	⇓P	**P**	**02 31 26.2**	**+3.7**
	comp=Z,0.1nm,0.2s						
VNA1	**Neumayer--Stat**	**93.20**	**196**	⇓P	**P**	**02 31 23.4**	**+0.9**
	comp=Z,0.3nm,0.2s						

NNC ***14*** *02:38:51.0±2.8, 41°.64N×83°.37E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=19.3km s-min=8.4km az=138.0*
SOME ***14*** *02:38:50.6, 41°.65N×83°.27E, h10km*

ISC 14 02:38:54.6±2.9, 41°.8N±0°.1×83°.24E±0°.09, h10km, n17, σ2§66/24, 6C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.12**	**298**	Pg	**Pb**	**02 39 46.6**	**-3.5**
	9.3nm,0.3s						
SHLS				Lg	Lg	02 40 28.9	
	74nm,0.5s						
SHLS	**Shalkode**	**3.12**	**298**	*e*P	**Pn**	**02 39 44.5**	**+0.6**
	3.8nm,0.2s						
SHLS				*e*S	**Sn**	**02 40 24.5**	**+3.2**
	74nm,0.3s						
PDGK	**Podgornoye**	**3.17**	**300**	⇑Pg	**Pb**	**02 39 50.9**	**-0.2**
	4.2nm,0.5s						
PDGK				⇑Lg	Lg	02 40 26.1	
	23nm,0.7s						
UZB	**Uzynbulak**	**3.41**	**295**	Pg	**Pb**	**02 39 55.0**	**-0.1**
	5.2nm,0.7s						
UZB				Lg	Lg	02 40 43.7	
	20nm,0.5s						
UZB	**Uzynbulak**	**3.41**	**295**	*e*P	**Pb**	**02 39 54.1**	**-1.0**
	1.7nm,0.2s						
UZB				*e*S	**Sb**	**02 40 40.9**	**+4.3**
	16nm,0.2s						
KPKS	**Kokpek**	**3.76**	**298**	Pg	**Pb**	**02 40 02.6**	**+1.5**
	3.7nm,0.6s						
KPKS				Lg	Lg	02 40 55.9	
	20nm,0.4s						
KPKS	**Kokpek**	**3.76**	**298**	*e*P	**Pb**	**02 40 00.8**	**-0.3**
	1.7nm,0.1s						
KPKS				*e*S	**Sg**	**02 40 52.4**	**-2.9**
	13nm,0.4s						
MDOK	**Medeo**	**4.78**	**289**	Pg	**Pb**	**02 40 20.8**	**+2.2**
MDOK				Lg	Lg	02 41 27.2	
TNSS	**Tian-Shan**	**4.83**	**287**	Pg	**Pb**	**02 40 21.5**	**+2.1**
	2.4nm,0.7s						
TNSS				Lg	Lg	02 41 28.9	
	4.6nm,0.9s						
TNSS	**Tian-Shan**	**4.83**	**287**	*e*P	**Pb**	**02 40 20.4**	**+1.0**
	0.4nm,0.1s						
TNSS				*e*S	**Sg**	**02 41 26.4**	**-3.1**
	4.6nm,0.5s						
MK31	**Makanchi Array**	**5.06**	**353**	⇑Pg	**Pg**	**02 40 28.4**	**-3.1**
	0.5nm,0.5s,baz=161,slow=16,SNR=4.1						
MK31				⇑Sn	**Sn**	**02 41 12.8**	**+3.8**
	1.0nm,0.5s,baz=170,slow=17,SNR=6.5						
MK31				⇑Lg	Lg	02 41 36.4	
	7.9nm,0.5s,baz=170,slow=32,SNR=4.0						
MAKZ	**Makanchi**	**5.11**	**350**	⇓Sn	**Sn**	**02 41 12.0**	**+1.8**
	2.8nm,0.7s						
MAKZ				⇑Lg	Lg	02 41 35.7	
	7.9nm,1.1s						
KTBS	**Karatobe**	**5.20**	**294**	Pg	**Pb**	**02 40 27.7**	**+2.1**
	1.2nm,0.3s						
KTBS				Lg	Lg	02 41 39.0	
	8.7nm,0.5s						
MTBS	**Maitube**	**5.22**	**287**	*e*P	**Pb**	**02 40 27.5**	**+1.6**
	1.7nm,0.1s						
MTBS				*e*S	**Sg**	**02 41 38.5**	**-3.5**
	5.2nm,0.2s						
KST	**Kastek**	**5.53**	**286**	Pg	**Pb**	**02 40 32.6**	**+1.3**
	1.4nm,0.3s						
KST				Lg	Lg	02 41 48.4	
	5.3nm,0.5s						
ZSN	**Zaisan**	**5.79**	**11**	Pg	**Pg**	**02 40 42.8**	**-2.5**
	2.1nm,0.4s						
ZSN				Lg	Lg	02 42 05.3	
	16nm,0.8s						
ZSN	**Zaisan**	**5.79**	**11**	*e*P	**Pg**	**02 40 41.1**	**-4.2**
	2.1nm,0.1s						
ZSN				*e*S	**Sg**	**02 42 01.7**	**+1.4**
	13nm,0.5s						

IDC ***14*** *02:42:38.9±1.6, 26°.19N×129°.50E, h0km, mb3.5/6, mbtmp3.5/7, ML2.9/1, Error ellipse: s-maj=35.5km s-min=24.3km az=80.0*
JMA ***14*** *02:42:39.0±0.1, 26°.2N±0°.7×129°.6E±0°.4, h43km, MV3.3/16, NEAR OKINAWAJIMA ISLAND*

ISC 14 02:42:39.0±0.8, 26°.19N±0°.06×129°.55E±0°.04, h10km, n20, σ1§84/28, mb3.5/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.29**	**310**	P	**Pn**	**02 43 01.9**	**-1.2**
JYRO				*e*S	**Sb**	**02 43 17.6**	**-2.4**
JOW	**Kunigami**	**1.31**	**299**	Pn	**Pb**	**02 43 02.5**	**-1.3**
	198nm,0.3s,baz=118,slow=22,SNR=127						
JOW				Sn	**Sb**	**02 43 17.7**	**-2.9**
	111nm,0.3s,baz=123,slow=15,SNR=16						
JOW	**Kunigami**	**1.31**	**299**	P	**Pb**	**02 43 02.4**	**-1.3**
JNTH	**Nagotoyohara**	**1.41**	**284**	P	**Pn**	**02 43 03.8**	**-1.0**
JNTH				*e*S	**Sn**	**02 43 21.4**	**-2.0**
JOKE	**Okinoerabujima**	**1.46**	**323**	*e*P	**Pb**	**02 43 04.6**	**-1.6**
JMZ	**Minamidaito 2**	**1.55**	**104**	P	**Pn**	**02 43 05.6**	**-1.0**
JMZ				*e*S	**Sn**	**02 43 23.3**	**-3.5**
JKDJ	**Kitadaitoujima**	**1.59**	**98**	*e*P	**Pn**	**02 43 05.7**	**-1.4**
JKDJ				*e*S	**Sn**	**02 43 24.9**	**-2.8**
JJT3	**Tamagusuku3**	**1.59**	**269**	*e*P	**Pb**	**02 43 07.1**	**-1.4**
JJT3				*e*S	**Sb**	**02 43 27.2**	**-1.4**
JIH	**Iheya**	**1.65**	**301**	P	**Pn**	**02 43 07.4**	**-0.6**
JIH				*e*S	**Sn**	**02 43 26.9**	**-2.3**
JTK	**Tokunoshima**	**1.68**	**341**	P	**Pn**	**02 43 07.5**	**-0.9**
JAMN	**Amaminishikomi**	**2.07**	**351**	*e*P	**Pn**	**02 43 12.9**	**-0.9**
JAGN	**Aguni-jima**	**2.11**	**281**	P	**Pn**	**02 43 14.2**	**-0.2**
JAGN				*e*S	**Sn**	**02 43 39.1**	**-1.6**
JKE	**Kume jima 2**	**2.49**	**274**	*e*P	**Pn**	**02 43 18.7**	**-0.9**
JNU	**Nakatsue**	**7.00**	**9**	Pn	**Pn**	**02 44 21.9**	**+0.3**
	0.2nm,0.3s,baz=205,slow=17,SNR=2.2						
	5.1nm,0.8s						
SONM	**Songino Array**	**28.24**	**326**	P	**P**	**02 48 35.1**	**+2.8**
	0.3nm,0.6s,baz=132,slow=8.6,SNR=1.7						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**42.45**	**312**	P	**P**	**02 50 35.4**	**+1.4**
	0.3nm,0.8s,baz=104,slow

JAYA	Jayaque - finc	3.66	97	eP		Pn	02 54 06.8 +0.4
MTO3	Montecristo	3.73	85			Pn	02 54 07.7 +0.3
ESQI	Esquipulas	3.76	83			Pn	02 54 08.3 +0.6
TUIG	Tuzandepetl	4.08	343	eP		Pn	02 54 12.3 +0.2
PETF	Flores	4.25	49	eP		Pn	02 54 14.8 +0.4
PETF				eS		Sn	02 54 59.1 -4.0
PEIG	Puerto Escondi	4.26	297			Pn	02 54 13.0 -1.5
PEIG						Sn	02 54 57.0 -6.3
PEIG	Puerto Escondi	4.26	297	eP		Pn	02 54 13.0 -1.5
PEIG				eS		Sn	02 54 57.0 -6.3
NEUV	Arroyo Zacate	4.38	325	eP		Pn	02 54 14.3 -1.8
NEUV				eS		Sn	02 54 58.2 -8.0
OXIG	Oaxaca	4.51	311			Pn	02 54 16.7 -1.5
OXIG						Sn	02 55 10.7 +1.0
VHO	Vista Hermosa	4.51	311	eP		Pn	02 54 16.7 -1.5
VHO				eS		Sn	02 55 10.7 +1.0
PMUV	Sontecomapan	4.79	337	eP		Pn	02 54 18.6 -3.2
PMUV				eS		Sn	02 55 17.4 +1.0
YOIG	Yosondua	5.01	304			Pn	02 54 26.4 +1.3
YOIG						Sn	02 55 18.0 -4.2
YOIG	Yosondua	5.01	304	eP		Pn	02 54 26.4 +1.3
YOIG				eS		Sn	02 55 18.0 -4.2
SCIG	Sabancuy	5.20	21	eP		Pn	02 54 27.2 -0.3
SCIG				eS		Sn	02 55 25.3 -1.2
PNIG	Pinotepa	5.28	296			Pn	02 54 27.5 -1.0
PNIG						Sn	02 55 20.0 -8.5
PNIG	Pinotepa	5.28	296	eP		Pn	02 54 27.5 -1.0
PNIG				eS		Sn	02 55 20.0 -8.5
TXIG	Tlaxiaco	5.40	306			Pn	02 54 31.9 +1.4
TXIG						Sn	02 55 29.1 -2.9
TXIG	Tlaxiaco	5.40	306	eP		Pn	02 54 31.9 +1.4
TXIG				eS		Sn	02 55 29.1 -2.9
TOIG	Toxpalan	5.44	317			Pn	02 54 32.2 +1.4
TOIG						Sn	02 55 25.9 -6.6
TOIG	Toxpalan	5.44	317	eP		Pn	02 54 32.2 +1.4
TOIG				eS		Sn	02 55 25.9 -6.6
HLIG	Huajuapan de L	5.78	310			Pn	02 54 36.0 +0.4
HLIG						Sn	02 55 43.7 +2.6
HLIG	Huajuapan de L	5.78	310	eP		Pn	02 54 36.0 +0.4
HLIG				eS		Sn	02 55 43.7 +2.6
TPIG	Tehuac#an	5.87	318			Pn	02 54 37.0 +0.3
TPIG						Sn	02 55 43.1 0.0
TPIG	Tehuac#an	5.87	318	eP		Pn	02 54 37.0 +0.3
TPIG				eS		Sn	02 55 43.1 0.0
FTIG	Fresnillo de T	6.07	309			Pn	02 54 40.8 +1.3
FTIG						Sn	02 55 47.0 -1.1
FTIG	Fresnillo de T	6.07	309	eP		Pn	02 54 40.8 +1.3
FTIG				eS		Sn	02 55 47.0 -1.1
MGIG	Malinaltepec	6.09	301			Pn	02 54 41.2 +1.3
MGIG						Sn	02 55 46.2 -2.6
MGIG	Malinaltepec	6.09	301	eP		Pn	02 54 41.2 +1.3
MGIG				eS		Sn	02 55 46.2 -2.6
TLIG	Tlapa	6.21	304			Pn	02 54 43.1 +1.8
TLIG	Tlapa	6.21	304	eP		Pn	02 54 43.2 +1.8
TLIG				eS		Sn	02 55 48.4 -3.1
JAUV	Jalcomulco	6.27	327	eP		Pn	02 54 39.0 -3.2
JAUV				eS		Sn	02 55 52.0 -0.9
CRIG	Cruz Grande	6.29	295			Pn	02 54 42.8 +0.3
CRIG						Sn	02 55 44.6 -8.9
CRIG	Cruz Grande	6.29	295	eP		Pn	02 54 42.8 +0.3
CRIG				eS		Sn	02 55 44.6 -8.9
POHV	Veracruz	6.30	322			Pn	02 54 44.3 +1.3
POHV	Veracruz	6.30	322	eP		Pn	02 54 44.3 +1.3
LVIG	Laguna Verde	6.38	332	eP		Pn	02 54 41.5 -2.2
LVIG				eS		Sn	02 55 51.9 -3.7
CNGN	Cerro Negro	6.52	103			Pn	02 54 45.8 +0.1
DAIG	Los Arroyos	6.87	296			Pn	02 54 51.1 +0.8
DAIG						Sn	02 55 58.7 -8.9
DAIG	Los Arroyos	6.87	296	eP		Pn	02 54 51.1 +0.8
DAIG				eS		Sn	02 55 58.7 -8.9
PPM	Popocatepetl	7.17	314	eP		Pn	02 54 58.5 +3.4
PPM				eS		Sn	02 56 21.7 +5.9
PPIG	Popocatepetl	7.17	314			Pn	02 54 58.5 +3.4
PPIG						Sn	02 56 21.7 +5.8
MEIG	Mezcala	7.25	302			Pn	02 54 57.5 +1.7
MEIG						Sn	02 56 18.7 +1.5
MEIG	Mezcala	7.25	302	eP		Pn	02 54 57.5 +1.7
MEIG				eS		Sn	02 56 18.7 +1.5
CXUV	Coxquihui	7.35	326	eP		Pn	02 54 54.2 -2.9
CXUV				eS		Sn	02 56 17.7 -1.9
YAIG	Yautepec	7.36	311			Pn	02 54 59.6 +2.4
YAIG						Sn	02 56 21.2 +1.4
YAIG	Yautepec	7.36	311	eP		Pn	02 54 59.6 +2.4
YAIG				eS		Sn	02 56 21.2 +1.4
PLIG	Platanillo	7.41	306			Pn	02 55 00.0 +2.1
PLIG						Sn	02 56 26.9 +5.9
PLIG	Platanillo	7.41	306	eP		Pn	02 55 00.0 +2.1
PLIG				eS		Sn	02 56 26.9 +5.9
CAIG	El Cayaco	7.42	294			Pn	02 54 58.6 +0.7
CAIG	El Cayaco	7.42	294	eP		Pn	02 54 58.6 +0.7
MZVM		7.68	312			Pn	02 55 04.4 +2.8
MZVM						Sn	02 56 37.7 +10
MZVM		7.68	312	eP		Pn	02 55 04.4 +2.8
MZVM				eS		Sn	02 56 37.7 +10
TEIG	Tepich	7.69	37			Pn	02 55 00.5 -1.1
TEIG	Tepich	7.69	37	P		Pn	02 54 59.9 -1.7
	0.4nm,0.6s,baz=60,slow=24,SNR=20						
TEIG				S		Sn	02 56 18.4 -9.4
	0.3nm,0.7s,baz=241,slow=24,SNR=6.3						
MAVM	Malinalco, Edo	7.73	309			Sn	02 56 16.2 -13
MAVM	Malinalco, Edo	7.73	309	eP		Pn	02 54 49.7 -13
MAVM				eS		Sn	02 56 16.2 -13
AOVM	Tlapan	7.80	312			Pn	02 55 01.3 -2.2
AOVM						Sn	02 56 24.7 -6.5
AOVM	Tlapan	7.80	312	eP		Pn	02 55 01.3 -2.2
AOVM				eS		Sn	02 56 24.7 -6.5
INVM	La Marquesa	7.86	312	eP		Pn	02 55 04.4 +0.1
INVM				eS		Sn	02 56 26.3 -6.2
ARIG	Puente Sto Nin	8.03	302			Pn	02 55 08.6 +2.2
ARIG						Sn	02 56 40.8 +4.6
ARIG	Puente Sto Nin	8.03	302	eP		Pn	02 55 08.6 +2.2
ARIG				eS		Sn	02 56 40.8 +4.6
ZIIG	Zihuatanejo	8.69	295			Pn	02 55 16.7 +1.3
ZIIG	Zihuatanejo	8.69	295	eP		Pn	02 55 16.7 +1.3
CTUV	Llano Grande	8.82	327	eP		Pn	02 55 15.7 -1.4
CTUV				eS		Sn	02 56 57.9 +2.2
JTS	Las Juntas de	8.90	114	P		Pn	02 55 21.2 +2.9
	3.4nm,0.7s,baz=271,slow=16,SNR=4.2						
JTS				S		Sn	02 56 53.7 -4.1
	3.6nm,0.7s,baz=280,slow=21,SNR=0.9						
MOIG	Morelia	9.45	307			Pn	02 55 29.2 +3.2
ZAIG	Zacatecas	12.38	315			Pn	02 56 11.4 +5.2
SOR	Soroa	12.96	47	Pn		Pn	02 56 11.4 -2.4
HNDO	Hondo	16.35	341	P		P	02 57 01.8 +0.1
061Z	Ochoppi	16.42	43	Pn		Pn	02 56 57.4 -2.6
DRIO	Del Rio	16.72	337			P	02 57 07.3 +1.5
435B	Jarrell	17.08	347	P		P	02 57 11.9 +2.0
JCT	Junction City	17.40	341	P		P	02 57 13.2 -0.2
SAND	Sanderson	17.80	334			P	02 57 18.6 +0.8
BRDY	Brady	17.91	344	P		P	02 57 19.6 +0.5
TXAR	Lajitas Array	17.99	329	P		P	02 57 21.4 +1.3
TXAR	Lajitas Array	17.99	329	P		P	02 57 22.4 +2.4
	6.3nm,1.0s,baz=150,slow=13,SNR=23						
TX31	Lajitas Ar. Si	17.99	329			P	02 57 21.0 +1.0
OZNA	Ozona	18.26	338			P	02 57 24.8 +1.9
OZNA					IAmb	IAmb	02 57 32.5
	comp=Z,30nm,1.0s						
143A	Socs Landing,	18.58	5	P		Pn	02 57 27.2 +0.4
ALPN	Alpine	18.84	331			Pn	02 57 31.7 +1.7
352A	Blakely	18.88	22		IAmb	IAmb	02 57 37.9
	comp=Z,38nm,1.0s						
Z41A	Richland Creek	19.07	1	P		Pn	02 57 33.1 +0.5
SGCY	Sterling City	19.16	339			Pn	02 57 33.4 -0.4
SGCY					IAmb	IAmb	02 57 43.5
	comp=Z,22nm,0.7s						
MNHN	Monahans	19.27	334	P		Pn	02 57 36.1 +0.9
MNHN					IAmb	IAmb	02 57 43.7
	comp=Z,26nm,0.9s						
ABTX	Abilene, Hawle	19.35	343	P		Pn	02 57 36.9 +0.9
TIGA	Tifton	19.37	25	P		P	02 57 34.5 -0.5
TIGA					IAmb	IAmb	02 57 42.3
	comp=Z,38nm,1.1s						
PECS	Pecos	19.78	332	P		Pn	02 57 42.3 +1.0
VHRN	Van Horn	19.83	329			P	02 57 41.1 +0.8
ODSA	Odessa	19.87	336	P		P	02 57 41.2 +0.7
ODSA					IAmb	IAmb	02 57 50.8
	comp=Z,40nm,1.1s						
152A	Waverly Hall	20.03	21	P		Pn	02 57 43.9 -0.2
APMT	Aspermont	20.14	343	P		Pn	02 57 44.7 -0.8
MIAR	Mount Ida	20.35	359			P	02 57 44.5 -1.3
MIAR					IAmb	IAmb	02 57 54.1
	comp=Z,21nm,1.0s						
154A	Montrose	20.59	25	P		P	02 57 46.8 -1.6
154A					IAmb	IAmb	02 57 54.7
	comp=Z,36nm,1.0s						
DKNS	Dickens	20.70	341			Pn	02 57 50.9 -1.1
DKNS					IAmb	IAmb	02 57 58.3
	comp=Z,18nm,0.8s						
ROSC	El Rosal	20.75	115	P		P	02 57 51.4 +0.8
ROSC					IAmb	IAmb	02 58 03.2
	comp=Z,28nm,1.1s						
ROSC	El Rosal	20.75	115	P		P	02 57 51.0 +0.3
	comp=Z,11nm,0.9s,baz=353,slow=4.9,SNR=6.4						
	comp=Z,11nm,0.9s						
GOGA	Godfrey	21.16	23		IAmb	IAmb	02 58 01.7
	comp=Z,37nm,1.3s						
W35A	Tecumseh	21.22	352		IAmb	IAmb	02 57 57.9
	comp=Z,20nm,0.6s						
RUSC	La Rusia	21.40	110	P		P	02 57 59.6 +1.8
RUSC					IAmb	IAmb	02 58 10.8
	comp=Z,30nm,1.1s						
MSTX	Muleshoe	21.60	338		IAmb	IAmb	02 58 12.6
	comp=Z,24nm,1.1s						
TUL3	Leonard	21.84	354		IAmb	IAmb	02 58 32.6
	comp=Z,14nm,0.8s						
LCAR	Lake Charles	21.95	4	P		P	02 58 04.2 +1.4
OK052	Battle Ridge R	22.04	352		IAmb	IAmb	02 58 05.0
	comp=Z,22nm,0.6s						
319A	Douglas	22.66	322		IAmb	IAmb	02 58 25.9
	comp=Z,14nm,1.0s						
SDV	Santo Domingo	22.70	101	P		P	02 58 13.3 +1.9
CROK	Carrier	22.71	350		IAmb	IAmb	02 58 11.8
	comp=Z,22nm,0.7s						
T42A	Van Buren	22.91	4		IAmb	IAmb	02 58 36.5
	comp=Z,18nm,1.4s						
MGMO	Mountain Grove	22.97	2		IAmb	IAmb	02 58 14.9
	comp=Z,12nm,0.9s						
OK032	Salt Plains WL	23.04	350		IAmb	IAmb	02 58 14.9
	comp=Z,16nm,0.7s						
TKL	Tuckaleechee C	23.07	20	LR		LR	03 08 31.9
	comp=Z,217nm,18.3s,baz=200,slow=40						
KAN17	Caldwell West	23.20	351		IAmb	IAmb	02 58 16.3
	comp=Z,17nm,0.6s						
Y22D	IRIS PASSCAL I	23.45	330	P		P	02 58 19.7 +0.9
CCM	Cathedral Cave	23.92	4	P		P	02 58 21.0 -2.0
CCM					IAmb	IAmb	02 58 23.3
	comp=Z,21nm,1.4s						
ANMO	Albuquerque	23.95	332	P		P	02 58 24.7 +1.0
R40A	Maddies Statio	24.10	2		IAmb	IAmb	02 58 25.3
	comp=Z,7.6nm,0.7s						
TUC	Tucson	24.22	321	P		P	02 58 28.5 +2.5
TUC					IAmb	IAmb	02 58 36.6
	comp=Z,22nm,1.2s						
R32A	Long Quarter,	24.71	350		IAmb	IAmb	02 58 31.8
	comp=Z,18nm,0.8s						
WCI	Wyandotte Cave	24.79	13	P		P	02 58 31.3 +0.3
WCI					IAmb	IAmb	02 58 55.6
	comp=Z,14nm,1.1s						
T25A	Trinidad	25.03	338		IAmb	IAmb	02 58 46.0
	comp=Z,15nm,0.9s						
KSU1	Kansas State U	25.08	354		IAmb	IAmb	02 58 35.4
	comp=Z,13nm,0.6s						
BAUV	El Baul	25.16	99	P		P	02 58 34.3 -0.3
P40A	Paris	25.34	2		IAmb	IAmb	02 58 35.2
	comp=Z,13nm,0.8s						
X18A	Snowflake	25.36	326		IAmb	IAmb	02 58 46.1
	comp=Z,11nm,1.2s						
P38A	Dawn	25.42	359		IAmb	IAmb	02 58 37.7
	comp=Z,6.4nm,0.5s						
SDCO	Great Sand Dun	25.96	337		IAmb	IAmb	02 58 50.9
	comp=Z,14nm,1.2s						
KSCO	Kaye Shedlock'	26.17	343		IAmb	IAmb	02 58 45.9
	comp=Z,23nm,1.4s						
MVCO	Mesa Verde	26.75	332		IAmb	IAmb	02 58 59.7
	comp=Z,9.5nm,0.9s						
PV13	Radium Mtn., P	27.68	333		IAmb	IAmb	02 59 06.6
	comp=Z,14nm,1.4s						
PV11	David Mesa, Pa	27.82	333		IAmb	IAmb	02 59 14.3
	comp=Z,11nm,0.9s						
PV07	Paradox Valley	27.83	333	P		P	02 58 58.8 +0.1
PV07					IAmb	IAmb	02 59 11.3
	comp=Z,8.7nm,0.9s						
PV10	Paradox Valley	27.95	333		IAmb	IAmb	02 59 09.1
	comp=Z,15nm,1.1s						
PV23	Carpenter Ridg	28.00	333		IAmb	IAmb	02 59 12.0
	comp=Z,16nm,1.1s						
PFO	Pinyon Flats O	28.68	317	LR		LR	03 12 10.4
	comp=Z,116nm,18.4s,baz=136,slow=39						
KNB	Kanab	28.76	326		IAmb	IAmb	02 59 13.2
	comp=Z,12nm,1.4s						
O20A	White River Ci	29.09	336		IAmb	IAmb	02 59 23.2
	comp=Z,8.8nm,1.0s						
ECSD	EROS Data Cent	29.67	355		IAmb	IAmb	02 59 16.4
	comp=Z,9.2nm,1.4s						
PSUT	Pine Spring	30.43	327	P		P	02 59 24.2 +2.4
S11A	Rachel	30.84	324		IAmb	IAmb	02 59 38.8
	comp=Z,12nm,1.2s						
PD31	Pinedale Array	31.86	337		IAmb	IAmb	02 59 45.0
	comp=Z,7.8nm,1.5s						
PDAR	Pinedale Array	31.86	337	P		P	02 59 35.6 +1.2
PDAR	Pinedale Array	31.86	337	P		P	02 59 35.5 +1.1
	comp=Z,1.1nm,0.8s,baz=136,slow=9.5,SNR=9.8						
PDAR				PcP		PcP	03 02 24.3 -0.5
	comp=Z,0.3nm,0.6s,baz=172,slow=2.8,SNR=3.1						
PDAR				LR		LR	03 16 24.7
	comp=Z,47nm,18.0s,baz=328,slow=44						
	comp=Z,1.1nm,0.8s						
AHID	Auburn Hatcher	32.47	335		IAmb	IAmb	02 59 56.8
	comp=Z,9.6nm,1.1s						
ELK	Elko	32.78	328	LR		LR	03 15 15.9
	comp=Z,112nm,20.9s,baz=208,slow=40						
NV11	Mina Array Sit	32.78	322		IAmb	IAmb	02 59 52.6
	comp=Z,7.3nm,1.1s						
NVAR	Mina Array Bea	32.87	322	P		P	02 59 45.6 +2.4
NVAR	Mina Array Bea	32.87	322	P		P	02 59 46.1 +2.9
	comp=Z,4.2nm,0.7s,baz=136,slow=8.5,SNR=35						
NVAR				PcP		PcP	03 02 28.9 +1.2
	comp=Z,0.9nm,0.7s,baz=145,slow=3.4,SNR=5.7						
	comp=Z,4.2nm,0.7s						
LOHW	Long Hollow	32.98	336		IAmb	IAmb	02 59 52.8
	comp=Z,6.5nm,0.9s						
MOOW	Moose Ponds	33.15	336		IAmb	IAmb	02 59 57.7
	comp=Z,4.3nm,0.9s						
H17A	Grant Village	33.63	337		IAmb	IAmb	03 00 01.6
	comp=Z,1.1nm,1.3s						
YNE	Yewstone No	33.95	338		IAmb	IAmb	03 00 00.7
	comp=Z,13nm,1.2s						
AGMN	Agassiz Nation	34.16	357		IAmb	IAmb	03 00 05.9
	comp=Z,4.1nm,0.8s						
YHL	Hebgen Lake	34.25	337		IAmb	IAmb	02 59 58.8
	comp=Z,4.8nm,0.8s						
HLID	Hailey	34.53	332		IAmb	IAmb	03 00 08.5
	comp=Z,5.0nm,1.0s						
DGMT	Dagmar	35.45	347		IAmb	IAmb	03 00 06.6
	comp=Z,7.8nm,0.8s						
EPLO	Experimental L	35.47	359		IAmb	IAmb	03 00 04.4
	comp=Z,7.1nm,0.6s						
WVOR	Wild Horse Val	35.77	327		IAmb	IAmb	03 00 24.7
	comp=Z,12nm,1.4s						
ULM	Lac du Bonnet	36.11	357		IAmb	IAmb	03 00 10.8
	comp=Z,6.4nm,1.1s						
ULM	Lac du Bonnet	36.11	357	P		P	03 00 09.6 -1.3
	comp=Z,3.5nm,0.6s,baz=182,slow=10,SNR=6.3						
	comp=Z,3.5nm,0.6s						
J08A	Circle Bar Ran	36.34	328		IAmb	IAmb	03 00 15.9
	comp=Z,9.2nm,0.8s						
PLID	Pearl Lake	36.44	332		IAmb	IAmb	03 00 22.5
	comp=Z,6.5nm,0.9s						
EGMT	Eagleton	36.51	341		IAmb	IAmb	03 00 22.5
	comp=Z,18nm,1.4s						
MSO	Missoula	36.96	336		IAmb	IAmb	03 00 30.1
	comp=Z,6.6nm,0.9s						
F10A	Beach Ranch, E	37.67	332		IAmb	IAmb	03 00 36.1
	comp=Z,9.9nm,0.9s						
LPAZ	La Paz	39.05	140	P		P	03 00 38.0 +1.1
	comp=Z,0.6nm,0.7s,baz=315,slow=8.6,SNR=1.7						
	comp=Z,0.6nm,0.7s						
YKA	Yellowknife Ar	50.66	347	P		P	03 02 08.1 +0.1
YKA	Yellowknife Ar	50.66	347	P		P	03 02 08.3 +0.3
	comp=Z,10.0nm,0.8s,baz=153,slow=7.6,SNR=152						
YKA				PcP		PcP	03 03 25.3 +0.2
	comp=Z,0.8nm,0.8s,baz=154,slow=3.6,SNR=6.0						
	comp=Z,10.0nm,0.8s						
WTLY	Watson Lake, Y	52.79	339		IAmb	IAmb	03 02 32.2
	comp=Z,7.5nm,1.1s						
MMPY	Sheldon Lake,	55.40	340		IAmb	IAmb	03 02 51.9
	comp=Z,8.5nm,1.0s						
ILON	Igloolik, Nuna	55.70	5	P		P	03 02 44.6 -0.3
L29M	L29M	58.13	338		IAmb	IAmb	03 03 18.6
	comp=Z,9.1nm,1.3s						
I30M	Mount Dempster	58.82	340	P		P	03 03 08.2 +1.0
I30M					IAmb	IAmb	03 03 13.5
	comp=Z,6.7nm,1.2s						
GLB	Gilahina Butte	59.45	334	P		P	03 03 13.7 +2.0
F31M	Tsiigehtchic	59.48	343		IAmb	IAmb	03 03 13.1
	comp=Z,4.5nm,0.8s						
BCAR	Beaver Creek A	59.48	337	P		P	03 03 13.2 +1.4
L27K	Beaver Creek,	59.49	337		IAmb	IAmb	03 03 20.0
	comp=Z,3.4nm,0.9s						
I29M	Ogilvie Camp,	59.54	340		IAmb	IAmb	03 03 35.9
	comp=Z,4.3nm,0.8s						
K27K	Chicken	60.11	338		IAmb	IAmb	03 03 19.4
	comp=Z,4.0nm,0.9s						
DOT	Dot Lake	60.66	337		IAmb	IAmb	03 03 32.1
	comp=Z,5.6nm,0.9s						
PAX	Paxson	60.88	336		IAmb	IAmb	03 03 29.8
	comp=Z,5.6nm,0.9s						
H27K	Steamboat Moun	61.13	340		IAmb	IAmb	03 03 25.2
	comp=Z,3.8nm,0.9s						
E29M	Blow River	61.29	343		IAmb	IAmb	03 03 29.9
	comp=Z,6.6nm,1.1s						
G27K	Doyon Strip	61.50	340		IAmb	IAmb	03 03 44.8
	comp=Z,3.6nm,1.2s						
J25K	Salcha River,	61.64	337		IAmb	IAmb	03 03 38.6
	comp=Z,3.6nm,0.9s						
E28M	Babbage River	61.90	342		IAmb	IAmb	03 03 39.6
	comp=Z,4.9nm,0.9s						
PRP	Porcupine Dome	62.15	338	P		P	03 03 30.9 +0.9
IL31		62.29	337		IAmb	IAmb	03 03 42.8
	comp=Z,6.2nm,1.1s						
ILAR	Eielson Array	62.29	337	P		P	03 03 31.4 +0.6
	comp=Z,2.6nm,0.9s,baz=140,slow=4.9,SNR=29						
	comp=Z,2.6nm,0.9s						
POKR	Poker Plat Res	62.66	337		IAmb	IAmb	03 03 45.1
	comp=Z,7.1nm,1.1s						
BMAR	Burnt Mountain	62.80	340	P		P	03 03 35.6 +1.4
H24K	Noodor Dome	63.16	338		IAmb	IAmb	03 03 44.8
	comp=Z,4.9nm,0.9s						
F25K	Christian Rive	63.23	340		IAmb	IAmb	03 03 49.2
	comp=Z,3.3nm,0.9s						
BPAW	Bear Paw Mtn.	63.60	335		IAmb	IAmb	03 03 51.1
	comp=Z,5.6nm,1.0s						
CAST	Castle Rocks	63.78	335		IAmb	IAmb	03 03 52.0
	comp=Z,5.8nm,1.0s						
N19K	Bonanza Creek	63.92	331		IAmb	IAmb	03 03 53.0
	comp=Z,6.3nm,1.1s						
K20K	Telida	64.59	334		IAmb	IAmb	03 03 57.1
	comp=Z,7.3nm,1.1s						
COLD	Coldfoot	64.61	339			P	03 03 47.2 +1.1
COLD					IAmb	IAmb	03 03 58.8
	comp=Z,5.0nm,1.1s						
D24K	Happy Valley	65.03	341		IAmb	IAmb	03 04 02.5
	comp=Z,6.1nm,0.9s						
TOLK	Toolik Lake Re	65.03	340		IAmb	IAmb	03 03 50.6
	comp=Z,3.5nm,0.8s						
J19K	Poorman	65.46	335		IAmb	IAmb	03 04 03.3
	comp=Z,7.0nm,1.1s						
G21K	Allakaket	65.52	338		IAmb	IAmb	03 04 01.6
	comp=Z,4.6nm,1.0s						
D23K	Nanushuk River	65.54	340		IAmb	IAmb	03 04 01.1
	comp=Z,5.0nm,0.9s						
E22K	Anaktuvuk Pass	65.56	339		IAmb	IAmb	03 04 04.0
	comp=Z,5.4nm,0.9s						
E21K	Killik River	66.42	339		IAmb	IAmb	03 03 59.3
	comp=Z,3.8nm,0.8s						
F20K	Avaraart Lake	66.53	338		IAmb	IAmb	03 04 10.7
	comp=Z,5.3nm,0.9s						
G19K	Purcell Mounta	66.74	337		IAmb	IAmb	03 04 10.7
	comp=Z,7.1nm,1.1s						
B21K	Ikpikpuk River	67.08	340		IAmb	IAmb	03 04 03.9
	comp=Z,4.6nm,0.9s						
D19K	Kuna River	67.87	339		IAmb	IAmb	03 04 15.1
	comp=Z,4.1nm,0.9s						
SPITS	Spitsbergen Ar	80.21	11	P		P	03 05 18.4 -0.5
	comp=Z,28nm,1.3s,baz=279,slow=2.2,SNR=4.1						
	comp=Z,28nm,1.3s						
ESDC	Sonseca Array	80.56	51	P		P	03 05 19.3 -2.3
	comp=Z,1.2nm,0.8s,baz=293,slow=5.9,SNR=11						
	comp=Z,1.2nm,0.8s						
NB2	NORSAR Subarra	84.60	28	P		P	03 05 41.8 -0.4
	comp=Z,0.5nm,0.7s,baz=290,slow=5.3						
NOA	NORSAR Array B	84.60	28	P		P	03 05 41.8 -0.4
	comp=Z,0.7nm,0.7s,baz=291,slow=5.0,SNR=5.2						
	comp=Z,0.7nm,0.7s						
ARCES	ARCESS Array B	86.40	18	P		P	03 05 51.1 +0.1
	comp=Z,4.7nm,1.0s,baz=328,slow=5.9,SNR=4.3						
	comp=Z,4.7nm,1.0s						
GERES	GERESS Array B	90.25	39	P		P	03 06 09.6 -0.2
	comp=Z,0.6nm,0.8s,baz=289,slow=3.8,SNR=3.6						
	comp=Z,0.6nm,0.8s						
FINES	FINESS Array B	90.89	25	P		P	03 06 11.3 -1.0
	comp=Z,3.0nm,1.1s,baz=259,slow=3.1,SNR=7.3						
	comp=Z,3.0nm,1.1s						
TORD	Torodi Ar. Bea	91.48	76	P		P	03 06 14.4 -1.6
	comp=Z,26nm,0.3s,ba

YULB	**Yu-li**	**1.65**	**1**	P	**Pb**	**03 00 55.5**	**-0.7**
YULB	**Yu-li**	**1.65**	**1**	*e*P	**Pn**	**03 00 53.0**	**-1.4**
TPUB	**Ta-pu**	**1.66**	**339**	P	**Pb**	**03 00 55.5**	**-0.9**
TPUB	**Ta-pu**	**1.66**	**339**	*e*P	**Pb**	**03 00 55.4**	**-1.1**
TWK	**Hsinying**	**1.68**	**335**	*e*P	**Pn**	**03 00 55.2**	**+0.3**
CHN4	**Tsaushan**	**1.72**	**339**	*e*P	**Pb**	**03 00 56.2**	**-1.2**
HGSD	**Ruisui**	**1.75**	**5**	*e*P	**Pn**	**03 00 55.8**	**0.0**
EHY	**Hungye**	**1.76**	**2**	*e*P	**Pn**	**03 00 54.5**	**-1.4**
TSCK	**Chigu Township**	**1.77**	**322**	*e*P	**Pn**	**03 00 55.6**	**-0.6**
TSCK				*e*S	**Sb**	**03 01 20.4**	**+0.2**
ALS	**Alishan**	**1.81**	**347**	*e*P	**Pn**	**03 00 57.8**	**+0.8**
CHN5	**Tsauling**	**1.93**	**344**	*e*P	**Pb**	**03 00 59.6**	**-1.4**
WARBT	**Fenglin Townsh**	**1.97**	**3**	*e*P	**Pn**	**03 00 58.8**	**-0.1**
WHYT	**Xinyi Township**	**1.98**	**349**	*e*P	**Pn**	**03 01 00.1**	**+1.0**
VWDT	**VWDT**	**2.01**	**357**	*e*P	**Pn**	**03 00 59.5**	**+0.1**
WSL	**Shuilin Townsh**	**2.02**	**332**	*e*P	**Pn**	**03 00 59.8**	**+0.3**
WSL				*e*S	**Sb**	**03 01 27.2**	**-0.1**
SHUL	**Shoufeng**	**2.06**	**8**	*e*P	**Pn**	**03 01 00.1**	**+0.1**
SSLB	**Suanglung**	**2.06**	**352**	P	**Pn**	**03 01 01.0**	**+0.9**
SSLB	**Suanglung**	**2.06**	**352**	*e*P	**Pn**	**03 01 01.1**	**+1.0**
ESL	**Shilin**	**2.07**	**4**	*e*P	**Pn**	**03 01 00.3**	**0.0**
WDGT	**Dungji**	**2.12**	**316**	*e*P	**Pn**	**03 00 59.8**	**-1.1**
WDGT				*e*S	**Sn**	**03 01 26.8**	**0.0**
WJS	**Zhushan**	**2.13**	**347**	*e*P	**Pn**	**03 01 01.1**	**0.0**
SMLT	**Sun Moon Lake**	**2.16**	**351**	*e*P	**Pn**	**03 01 02.1**	**+0.5**
TYC	**Yuchr**	**2.19**	**350**	*e*P	**Pn**	**03 01 03.2**	**+1.3**
WNT	**Mingjian**	**2.19**	**346**	*e*P	**Pn**	**03 01 01.9**	**0.0**
OWD	**Renai**	**2.21**	**358**	*e*P	**Pn**	**03 01 02.9**	**+0.7**
ETM	**Tongmen**	**2.23**	**5**	*e*P	**Pn**	**03 01 01.8**	**-0.6**
VCHM	**Qimei**	**2.24**	**311**	*e*P	**Pn**	**03 01 01.4**	**-1.2**
VCHM				S	**Sn**	**03 01 29.5**	**-0.3**
WUSB	**Renai**	**2.25**	**357**	*e*P	**Pn**	**03 01 03.0**	**+0.3**
LXIB	**Xiulin Townshi**	**2.27**	**3**	*e*P	**Pn**	**03 01 02.4**	**-0.8**
WCS	**Beigang Elemen**	**2.33**	**352**	*e*P	**Pn**	**03 01 05.4**	**+1.6**
PHUB	**P'eng-hu**	**2.36**	**319**	*e*P	**Pn**	**03 01 02.9**	**-1.3**
PHUB				*e*S	**Sn**	**03 01 32.7**	**0.0**
WHF	**Hehuan Shan**	**2.39**	**0**	*e*P	**Pn**	**03 01 04.6**	**-0.5**
NACB	**Ninganchiao**	**2.44**	**7**	P	**Pn**	**03 01 03.9**	**-1.5**
NACB	**Ninganchiao**	**2.44**	**7**	*e*P	**Pn**	**03 01 04.7**	**-0.6**
ETLH	**Xiulin Townshi**	**2.46**	**5**	*e*P	**Pn**	**03 01 05.6**	**-0.2**
FUSS	**Fushou**	**2.50**	**360**	*e*P	**Pn**	**03 01 06.0**	**-0.3**
WHP	**Taichung City**	**2.54**	**353**	*e*P	**Pn**	**03 01 07.0**	**+0.2**
EOS4	**EOS4**	**2.56**	**22**	*e*P	**Pn**	**03 01 06.8**	**+0.1**
NNSB	**Datong**	**2.68**	**2**	*e*P	**Pn**	**03 01 08.6**	**-0.1**
NNS	**Nan Shan**	**2.69**	**2**	*e*P	**Pn**	**03 01 08.8**	**-0.1**
LATG	**Datong**	**2.79**	**5**	*e*P	**Pn**	**03 01 10.4**	**+0.1**
NFF	**Wufeng Townshi**	**2.88**	**357**	*e*P	**Pn**	**03 01 12.1**	**+0.6**
NSTT	**Nanjuang**	**2.89**	**355**	*e*P	**Pn**	**03 01 11.6**	**+0.1**
ENTT	**Nioudou**	**2.90**	**5**	*e*P	**Pn**	**03 01 11.5**	**-0.2**
YHNB	**Yeheng**	**2.92**	**2**	P	**Pn**	**03 01 12.4**	**+0.4**
YHNB	**Yeheng**	**2.92**	**2**	*e*P	**Pn**	**03 01 12.1**	**+0.1**
NSK	**Sanguang**	**2.92**	**2**	*e*P	**Pn**	**03 01 12.4**	**+0.4**
FUSB	**Fushanzhiwuyua**	**3.02**	**6**	*e*P	**Pn**	**03 01 13.4**	**0.0**
NWLT	**Wulai**	**3.03**	**4**	*e*P	**Pn**	**03 01 13.7**	**+0.2**
JYNG	**Yonagunijimaku**	**3.11**	**30**	P	**Pn**	**03 01 15.4**	**+0.8**
JYNG				*e*S	**Sn**	**03 01 52.3**	**+1.0**
YOJ	**Yonaguni jima**	**3.15**	**30**	P	**Pn**	**03 01 16.6**	**+1.5**
YOJ	**Yonaguni jima**	**3.15**	**30**	*e*P	**Pn**	**03 01 14.5**	**-0.6**
TIPB	**Shuangxi**	**3.26**	**9**	*e*P	**Pn**	**03 01 17.0**	**+0.4**
HATJ	**Hateruma jima**	**3.29**	**45**	*e*P	**Pn**	**03 01 16.4**	**-0.6**
HATJ				*e*S	**Sn**	**03 01 54.8**	**-0.9**
SXI1	**Grass Mountain**	**3.39**	**9**	*e*P	**Pn**	**03 01 18.1**	**-0.3**
IRIF	**Iriomote-Funau**	**3.44**	**41**	P	**Pn**	**03 01 19.7**	**+0.6**
IRIF				*e*S	**Sn**	**03 02 00.1**	**+0.7**
JKRS	**Kuro-shima**	**3.55**	**45**	P	**Pn**	**03 01 19.8**	**-0.8**
JKRS				*e*S	**Sn**	**03 02 01.7**	**-0.4**
VWUC	**VWUC**	**3.64**	**333**	*e*P	**Pn**	**03 01 21.4**	**-0.5**
JIJ	**Ishigaki jima**	**3.72**	**45**	*e*P	**Pn**	**03 01 22.6**	**-0.4**
JIJ				*e*S	**Sn**	**03 02 04.7**	**-1.7**
KNM	**Kinmen**	**3.73**	**316**	*e*P	**Pn**	**03 01 23.5**	**+0.5**
KNMB	**Chin-men Tao**	**3.79**	**316**	*e*P	**Pn**	**03 01 23.2**	**-0.7**
PTMZ	**Houxiangcun**	**3.83**	**329**	*e*P	**Pn**	**03 01 24.1**	**-0.4**
JISG	**Ishigakijimahi**	**3.99**	**44**	P	**Pn**	**03 01 26.8**	**+0.2**
JISG				*e*S	**Sn**	**03 02 11.9**	**-1.0**
JTJ	**Tarama**	**4.28**	**47**	*e*P	**Pn**	**03 01 30.6**	**-0.1**
JTJ				*e*S	**Sn**	**03 02 20.4**	**+0.1**

*GCG **14** 03:00:38.2±1.8, 14°.05N×93°.26W, h25km±57km, MD4.4*
*MEX **14** 03:00:42.2±0.7, 14°.36N×93°.15W, h79km±28km, MD4.2*
ISC 14 03:00:39.7±2.1, 14°.23N±0°.08×93°.15W±0°.04, h28km±17km, n25, σ2§18/39, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.09**	**52**	*e*P	**Pn**	**03 00 59.8**	**+0.7**
THIG				*e*S	**Sn**	**03 01 13.3**	**0.0**
THIG		**1.09**	**52**	*e*P	**Pn**	**03 00 59.9**	**+0.7**
PATR	**El Naranjo**	**1.25**	**45**	*e*P	**Pn**	**03 01 01.9**	**+0.3**
PATR				*e*S	**Sn**	**03 01 15.9**	**-1.6**
PAVE	**Pavencul**	**1.34**	**44**	*e*P	**Pn**	**03 01 02.9**	**+0.1**
PAVE				*e*S	**Sn**	**03 01 16.6**	**-3.2**
RTAL	**Retalhuleu**	**1.44**	**78**	*e*P	**Pn**	**03 01 04.8**	**+0.9**
RTAL				*e*S	**Sn**	**03 01 23.3**	**+1.4**
PCIG		**1.47**	**357**	*e*P	**Pn**	**03 01 03.6**	**-0.7**
PCIG				*i* S	Sn	03 01 17.3	-5.4
STG8	**El Palmar, Qui**	**1.75**	**83**	*e*P	**Pn**	**03 01 07.1**	**-1.4**
STG0	**El Palmar, Qui**	**1.76**	**83**	*e*P	**Pn**	**03 01 06.9**	**-1.7**
SOKI	**Kika Raxquin**	**1.79**	**71**	*e*P	**Pn**	**03 01 10.8**	**+1.6**
HUEH	**Huehuetenango**	**1.92**	**56**	*e*P	**Pn**	**03 01 11.2**	**+0.4**
HUEH				*i* S	**Sb**	**03 01 38.4**	**+0.4**
CCIG	**Comitan**	**2.26**	**25**	*e*P	**Pb**	**03 01 19.3**	**-0.7**
CCIG				*e*S	**Sn**	**03 01 44.8**	**+2.3**
CCIG	**Comitan**	**2.26**	**25**	*e*P	**Pb**	**03 01 18.4**	**-1.6**
CCIG				*e*S	**Sb**	**03 01 49.5**	**+1.9**
TGIG		**2.53**	**1**	*e*P	**Pn**	**03 01 20.8**	**+1.7**
TGIG				*e*S	**Sn**	**03 01 52.4**	**+3.3**
TGIG		**2.53**	**1**	*e*P	**Pn**	**03 01 20.8**	**+1.7**
TGIG				*e*S	**Sn**	**03 01 52.3**	**+3.2**
UXUV	**UXUV**	**3.22**	**343**	*e*P	**Pn**	**03 01 28.7**	**+0.3**
UXUV				*e*S	**Sn**	**03 02 03.2**	**-2.7**
CMIG	**Matias Romero**	**3.30**	**330**	*e*P	**Pn**	**03 01 30.1**	**+0.5**
CMIG				*e*S	**Sn**	**03 02 04.6**	**-3.4**
JAYA	**Jayaque - finc**	**3.63**	**99**	*e*P	**Pn**	**03 01 35.6**	**+1.2**
NEUV	**Arroyo Zacate**	**4.30**	**324**	*e*P	**Pn**	**03 01 40.9**	**-2.5**
NEUV				*e*S	Sn	03 02 21.2	-11
YOIG	**Yosondua**	**4.98**	**302**	*e*P	Pb	03 02 00.8	-5.6
YOIG				*e*S	**Sn**	**03 02 49.2**	**-0.6**
TXIG	**Tlaxiaco**	**5.37**	**305**	*e*P	**Pn**	**03 02 01.2**	**+2.9**
TXIG				*e*S	**Sn**	**03 03 03.4**	**+4.0**
TOIG	**Toxpalan**	**5.38**	**316**	*e*P	**Pn**	**03 01 59.9**	**+1.5**
TOIG				*e*S	**Sn**	**03 02 55.3**	**-4.2**
HLIG	**Huajuapan de L**	**5.73**	**309**	*e*P	Pn	03 02 08.4	+5.1
HLIG				*e*S	**Sn**	**03 03 07.7**	**-0.6**
TPIG	**Tehuac#an**	**5.81**	**316**	*e*S	**Sn**	**03 03 06.7**	**-3.4**
FTIG	**Fresnillo de T**	**6.03**	**308**	*e*P	**Pn**	**03 02 11.2**	**+3.9**
FTIG				*e*S	Sn	03 03 07.9	-7.6
JAUV	**Jalcomulco**	**6.19**	**326**	*e*P	**Pn**	**03 02 09.1**	**-0.3**
JAUV				*e*S	**Sn**	**03 03 17.3**	**-2.1**

IDC 14 03:02:40.0±27.0, 18°.17S×177°.49W, h599km±30km, mb3.0/4, mbtmp4.0/5, Error ellipse: s-maj=501.7km s-min=117.8km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.27**	**275**	P	P	03 04 07.4	0.0
	14nm,0.7s,baz=141,slow=13,SNR=10						
STKA	**Stephens Creek**	**39.27**	**242**	P	P	03 09 18.8	0.0
	2.2nm,0.8s,baz=69,slow=8.6,SNR=3.4						
	2.2nm,0.8s						
WRA	**Warramunga Arr**	**45.44**	**260**	P	P	03 10 06.8	-0.4
	1.0nm,0.5s,baz=96,slow=6.9,SNR=14						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**45.56**	**254**	P	P	03 10 08.0	0.0
	1.7nm,0.5s,baz=90,slow=8.3,SNR=26						
	1.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.85**	**261**	P	P	03 11 08.8	+0.2
	1.9nm,1.1s,baz=86,slow=9.0,SNR=2.0						
	1.9nm,1.1s						

*GCG **14** 03:05:17.1±1.9, 14°.03N×93°.26W, h14km±14km, MD4.3*
*MEX **14** 03:05:22.9±1.5, 14°.81N×93°.03W, h114km±28km, MD4.2*
ISC 14 03:05:10.5±1.7, 14°.24N±0°.07×93°.56W±0°.03, h11km±11km, n24, σ1§97/41, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.42**	**62**	*e*P	**Pg**	**03 05 39.6**	**+1.8**
THIG				*e*S	**Sn**	**03 05 54.8**	**-0.2**
THIG		**1.42**	**62**	*e*P	**Pg**	**03 05 39.9**	**+2.0**
THIG				*e*S	**Sb**	**03 05 56.2**	**+1.0**
PCIG		**1.50**	**13**	*e*P	**Pg**	**03 05 43.4**	**+4.1**
PCIG				*e*S	**Sb**	**03 05 56.7**	**-0.7**
PATR	**El Naranjo**	**1.56**	**56**	*e*P	**Pg**	**03 05 41.7**	**+1.2**
PATR				*e*S	**Sn**	**03 05 55.7**	**-2.9**
PAVE	**Pavencul**	**1.64**	**54**	*e*P	**Pg**	**03 05 42.9**	**+0.8**
PAVE				*e*S	**Sn**	**03 05 58.1**	**-2.7**
RTAL	**Retalhuleu**	**1.83**	**81**	*e*P	**Pb**	**03 05 44.5**	**+0.4**
RTAL				*e*S	**Sn**	**03 06 03.6**	**-1.5**
STG5	**El Palmar, Qui**	**2.15**	**85**	*e*P	**Pn**	**03 05 46.9**	**+0.5**
STG8	**El Palmar, Qui**	**2.15**	**84**	*e*P	**Pn**	**03 05 47.0**	**+0.4**
STG0	**El Palmar, Qui**	**2.16**	**85**	*e*P	**Pn**	**03 05 47.1**	**+0.4**
SOKI	**Kika Raxquin**	**2.17**	**74**	*e*S	**Sb**	**03 06 19.7**	**+2.6**
HUEH	**Huehuetenango**	**2.26**	**61**	*e*P	**Pg**	**03 05 53.9**	**0.0**
HUEH				*e*S	**Sn**	**03 06 17.9**	**+1.7**
CCIG	**Comitan**	**2.46**	**34**	*e*P	**Pg**	**03 05 58.5**	**+0.9**
CCIG				*e*S	**Sb**	**03 06 24.8**	**-0.4**
CCIG	**Comitan**	**2.46**	**34**	*e*P	**Pg**	**03 05 58.9**	**+1.2**
CCIG				*e*S	**Sg**	**03 06 28.4**	**-1.1**
TGIG		**2.56**	**9**	*e*P	**Pg**	**03 06 01.0**	**+1.3**
TGIG				*e*S	**Sb**	**03 06 29.9**	**+1.8**
TGIG		**2.56**	**9**	*e*P	**Pg**	**03 06 00.8**	**+1.1**
TGIG				*e*S	**Sg**	**03 06 32.3**	**-0.7**
FG8	**Yepocapa, Chim**	**2.91**	**89**	*e*P	**Pn**	**03 05 54.1**	**-2.8**
CMIG	**Matias Romero**	**3.11**	**336**	*e*P	**Pg**	**03 06 10.3**	**+0.1**
CMIG				*e*S	**Sb**	**03 06 45.9**	**+1.9**
UXUV	**UXUV**	**3.12**	**350**	*e*P	**Pg**	**03 06 09.6**	**-0.7**
UXUV				*e*S	**Sg**	**03 06 47.3**	**-3.5**
NEUV	**Arroyo Zacate**	**4.08**	**328**	*e*P	**Pb**	**03 06 23.9**	**+1.5**
NEUV				*e*S	**Sb**	**03 07 09.0**	**-2.6**
YOIG	**Yosondua**	**4.64**	**305**	*e*S	**Sb**	**03 07 28.8**	**+0.6**
PNIG	**Pinotepa**	**4.90**	**297**	*e*P	**Pb**	**03 06 36.5**	**+0.1**
TXIG	**Tlaxiaco**	**5.04**	**307**	*e*P	**Pb**	**03 06 38.3**	**-0.7**
TXIG				*e*S	**Sb**	**03 07 40.0**	**+0.2**
TOIG	**Toxpalan**	**5.11**	**319**	*e*P	**Pb**	**03 06 38.4**	**-1.6**
TOIG				*e*S	**Sn**	**03 07 31.8**	**+5.6**
FTIG	**Fresnillo de T**	**5.71**	**310**	*e*P	**Pb**	**03 06 48.0**	**-2.4**
FTIG				*e*S	**Sn**	**03 07 42.8**	**+1.7**

*IDC **14** 03:05:19.7±28.0, 26°.46N×55°.57E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=575.2km s-min=44.0km az=1.0*
*DSN **14** 03:05:21.0±1.2, 27°.45N×57°.03E, h10km, ML3.4/8, Error ellipse: s-maj=29.1km s-min=8.6km az=130.0*
*TEH **14** 03:05:21.9, 27°.64N×56°.83E, h19km*
*OMAN **14** 03:05:21.4±0.2, 27°.59N×56°.98E, h19km±7km, mb4.1/3, ml3.6/22, Error ellipse: s-maj=13.3km s-min=1.5km az=5.0*
ISC 14 03:05:18.7±1.8, 27°.62N±0°.04×56°.89E±0°.05, h3km±16km, n48, σ0§88/58, mb3.0/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.79**	**66**	Pg	**Pn**	**03 05 38.5**	**+1.6**
SHME	**Shamm**	**1.70**	**203**	P	**Pn**	**03 05 50.0**	**+0.7**
	SNR=41						
SHME				S	**Sn**	**03 06 11.5**	**-0.2**
SHME	**Shamm**	**1.70**	**203**	P	**Pn**	**03 05 48.9**	**-0.5**
SHME				S	**Sn**	**03 06 11.1**	**-0.5**
BANOM	**Banah**	**1.77**	**197**	P	**Pn**	**03 05 51.0**	**+0.7**
BANOM				S	**Sn**	**03 06 13.8**	**+0.3**
BANOM	**Banah**	**1.77**	**197**	P	**Pn**	**03 05 50.6**	**+0.2**
NGRK	**Negar Kerman**	**2.02**	**356**	Pn	**Pg**	**03 05 57.7**	**+0.2**
KBAM	**BAM**	**2.04**	**42**	Pn	**Pg**	**03 05 59.3**	**+1.4**
LAR1	**LAR**	**2.23**	**272**	Pn	**Pb**	**03 06 00.4**	**+0.7**
CHMN	**Cheshme madani**	**2.30**	**14**	Pn	**Pg**	**03 06 02.0**	**-0.9**
MASF	**Masafi**	**2.34**	**196**	P	**Pn**	**03 05 59.2**	**+1.1**
	SNR=6.4						
MASF				S	**Sn**	**03 06 27.8**	**+0.4**
MSFE	**Esma-Masafi**	**2.35**	**196**	P	**Pn**	**03 05 57.7**	**-0.6**
KRBR	**Kerman**	**2.35**	**357**	Pn	**Pb**	**03 06 02.7**	**+0.7**
UMQ	**Umm Al-Quwin**	**2.36**	**208**	P	**Pn**	**03 05 59.3**	**+0.9**
UMQ				S	**Sn**	**03 06 28.6**	**+0.7**
MDH	**Madha**	**2.38**	**193**	P	**Pn**	**03 05 57.7**	**-0.9**
MDH				S	**Sn**	**03 06 28.4**	**+0.1**
MDH	**Madha**	**2.38**	**193**	P	**Pn**	**03 05 57.6**	**-0.9**
UOSS	**Minazif**	**2.74**	**193**	Pn	**Pb**	**03 06 07.3**	**-1.1**
UOSS	**Minazif**	**2.74**	**193**	P	**Pn**	**03 06 04.1**	**+0.5**
KHGB	**Koh Gabri**	**2.77**	**353**	Pn	**Pb**	**03 06 08.2**	**-0.8**
NAZ	**Nazwa, Dubai**	**2.84**	**203**	P	**Pn**	**03 06 06.3**	**+1.2**
NAZ				S	**Sn**	**03 06 40.6**	**+0.7**
HATD	**Hatta, Dubai**	**2.87**	**194**	P	**Pn**	**03 06 06.2**	**+0.8**
HATD				S	**Sn**	**03 06 40.7**	**+0.3**
HATD	**Hatta, Dubai**	**2.87**	**194**	P	**Pn**	**03 06 05.4**	**0.0**
KRM1	**Kerman Provinc**	**2.89**	**7**	Pn	**Pb**	**03 06 09.9**	**-1.2**
ASHO	**Ashiyiah**	**3.02**	**194**	P	**Pn**	**03 06 08.0**	**+0.4**
ASHO				S	**Sn**	**03 06 44.8**	**+0.5**
ASHO	**Ashiyiah**	**3.02**	**194**	P	**Pn**	**03 06 07.6**	**0.0**
FAQ	**Al Faqa, Dubai**	**3.09**	**202**	P	**Pn**	**03 06 09.4**	**+0.9**
	SNR=5.7						
FAQ	**Al Faqa, Dubai**	**3.09**	**202**	P	**Pn**	**03 06 08.7**	**+0.2**
ASUD	**Al Ashush, Dub**	**3.30**	**206**	P	**Pn**	**03 06 12.3**	**+1.0**
ASUD	**Al Ashush, Dub**	**3.30**	**206**	P	**Pn**	**03 06 11.9**	**+0.6**
ZRDN	**Zarand Kerman**	**3.35**	**355**	Pn	**Pb**	**03 06 16.1**	**-2.8**
SOHO	**SOHO**	**3.49**	**185**	P	**Pn**	**03 06 15.3**	**+1.4**
AJN	**Ajban**	**3.50**	**210**	P	**Pn**	**03 06 14.9**	**+0.9**
AJN				S	**Sn**	**03 06 56.7**	**+0.8**
ALNE	**Al Ain**	**3.70**	**196**	P	**Pn**	**03 06 18.0**	**+1.2**
HOQ	**Hoqain**	**4.04**	**174**	P	**Pn**	**03 06 22.0**	**+0.4**
	SNR=9.0						
BIDO	**Bidbid**	**4.24**	**164**	P	**Pn**	**03 06 24.0**	**-0.2**
ARQ	**Araqi**	**4.28**	**185**	P	**Pn**	**03 06 26.0**	**+1.1**
	SNR=11						
WSAR	**Wadi Sarin**	**4.64**	**160**	P	**Pn**	**03 06 30.7**	**+0.9**
WSAR				S	**Sn**	**03 07 23.1**	**-1.1**
SMDO	**Samad**	**4.66**	**167**	P	**Pn**	**03 06 30.5**	**+0.3**
SMDO				S	**Sn**	**03 07 24.3**	**-0.7**
MZWR	**Madinat Zayed**	**4.71**	**216**	P	**Pn**	**03 06 30.0**	**-0.7**
BSY	**Bisya**	**4.87**	**177**	P	**Pn**	**03 06 34.0**	**+1.1**
SRVN	**Saravan**	**4.90**	**91**	Pn	Pb	03 06 38.8	-6.5
WBK	**Wadi Bani Khal**	**5.34**	**159**	P	**Pn**	**03 06 39.9**	**+0.5**
WBK				S	**Sn**	**03 07 41.0**	**-0.4**
JMDO	**Jabal Madar**	**5.34**	**168**	P	**Pn**	**03 06 38.8**	**-0.7**
MZR	**Muzera**	**5.54**	**215**	P	**Pn**	**03 06 42.4**	**+0.2**
JLN	**Jalan Bani Buh**	**5.91**	**157**	P	**Pn**	**03 06 48.3**	**+1.1**
	SNR=11						
MHTO	**MHTO**	**6.68**	**171**	P	**Pn**	**03 06 58.3**	**+0.5**
BRTR	**Keskin Array B**	**22.73**	**308**	P	**P**	**03 10 21.9**	**-0.3**
	0.5nm,0.8s,baz=124,slow=12,SNR=4.9						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**27.65**	**39**	P	P	03 11 23.7	+16
	0.1nm,0.6s,baz=231,slow=9.1,SNR=1.9						
	0.1nm,0.6s						
FINES	**FINESS Array B**	**39.59**	**337**	P	P	03 12 57.5	+6.4
	2.4nm,1.0s,baz=147,slow=9.2,SNR=4.8						
	2.4nm,1.0s						

*MOS **14** 03:09:00.8±1.2, 19°.82N×155°.93W, h12km, mb5.2/39, Error ellipse: s-maj=7.0km s-min=5.7km az=114.6*
*IDC **14** 03:09:01.6±0.4, 19°.85N×155°.89W, h0km, mb4.7/28, mbtmp4.6/28, MS4.4/57, Error ellipse: s-maj=12.9km s-min=5.3km az=92.0*
*NEIC **14** 03:09:02.7, 19°.74N×155°.00W, h12km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.62; $M_{\theta\theta}$-2.21; $M_{\phi\phi}$-2.41; $M_{r\theta}$-1.17; $M_{\theta\phi}$-1.31; $M_{\phi r}$-3.91; Fault plane solution: $M_0$5.76000×10^{16} NP1: ϕ_s48.66000°, δ24.30000°, λ111.18000°. NP2: ϕ_s205.63000°, δ67.44000°, λ80.74000°. Principal axes: T 6.3941, Plg66.0000°, Azm99.0000°; N -1.2744, Plg9.0000°, Azm209.0000°; P -5.1196, Plg22.0000°, Azm303.0000°;*
*HVO **14** 03:09:02.7±1.7, 19°.7N±0°.1×155°.79W±0°.07, h13km±3km, ML5.3/52, mb5.4/416(NEIC), ML5.5/42(NEIC), Mww5.1/11(NEIC) Error ellipse: s-maj=16.3km s-min=7.5km az=204.0*
*NEIC **14** 03:09:02.7, 19°.74N×155°.79W, h12km*
*NEIC **14** 03:09:02.9±1.9, 19°.7N±0°.1×155°.75W±0°.07, h13km±4km, Error ellipse: s-maj=17.6km s-min=8.9km az=197.0*
*GCMT **14** 03:09:05.7±0.2, 19°.71N±0°.01×155°.69W±0°.01, h13km, MW5.2/131, Moment Tensor Solution. s75,c104; s131,c206; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.14±.14; $M_{\theta\theta}$-2.79±.10; $M_{\phi\phi}$-1.35±.09; $M_{r\theta}$-4.82±.36; $M_{\theta\phi}$-2.31±.06; $M_{\phi r}$-3.02±.28; Best double couple: $M_0$7.14000×10^{16} NP1:ϕ_s50.00000°, δ19.00000°, λ83.00000°. NP2:ϕ_s237.00000°, δ71.00000°, λ92.00000°. Principal axes: T 6.9740, Plg63.0000°, Azm151.0000°; N 0.3320, Plg2.0000°, Azm56.0000°; P -7.3060, Plg26.0000°, Azm325.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 03:09:02.9±0.3, 19°.70N±0°.03×155°.77W±0°.03, h21km±1km, n773, σ1§63/569, mb5.4/287, MS4.5/76, 14C-3D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUH	**Hualalai**	**0.06**	**255**		**Pb**	**03 09 06.3**	**-0.7**
I59US	**HAWAII INFRASO**	**0.16**	**227**	Pg	**Pb**	**03 09 07.4**	**-1.5**
	baz=5.2,slow=19						
I59US				Lg	Lg	03 09 10.2	
	baz=6.8,slow=18						
ALEP	**Alea Permanent**	**0.20**	**143**		**Pb**	**03 09 08.6**	**-0.6**
ALEP					**Sb**	**03 09 12.2**	**-1.3**
POHA	**Pohakuloa**	**0.23**	**76**		**Pb**	**03 09 08.0**	**-1.2**
POHA	**Pohakuloa**	**0.23**	**76**	IAML		03 09 12.9	
	437μm,0.6s						
POHA				IAML		03 09 12.9	
	797μm,0.7s						
KKH	**Kailua Kona**	**0.24**	**259**		**Pb**	**03 09 07.8**	**-1.1**
KKH					**Sb**	**03 09 11.8**	**-1.3**
KKH	**Kailua Kona**	**0.24**	**259**	P	**Pb**	**03 09 07.8**	**-1.1**
KKH						03 09 11.8	
MLOA	**Mauna Loa Obse**	**0.25**	**132**		**Sb**	**03 09 13.9**	**-0.1**
CPH	**Captain Cook**	**0.25**	**213**		**Pb**	**03 09 08.6**	**-0.5**
MWH	**Mokuaweoweo**	**0.27**	**143**		**Pb**	**03 09 09.1**	**-0.6**
MWH				IAML		03 09 20.6	
	comp=N,652μm,0.8s						
HMH	**Humu'ula Sheep**	**0.29**	**110**		**Pb**	**03 09 09.5**	**-0.2**
HMH				IAML		03 09 17.2	
	comp=E,557μm,1.0s						
HMH				IAML		03 09 18.6	
	comp=N,740μm,1.1s						
HPAH	**Hawaii Prepara**	**0.34**	**12**		**Pb**	**03 09 08.6**	**-1.5**
HPAH				IAML		03 09 13.9	
	comp=N,681μm,0.6s						
HPAH				IAML		03 09 13.9	
	comp=E,797μm,0.8s						
MLH	**Mauna Loa**	**0.42**	**120**		**Sb**	**03 09 17.4**	**-0.1**
MLH	**Mauna Loa**	**0.42**	**120**		**Pb**	**03 09 10.9**	**-0.7**
MLH				IAML		03 09 18.5	
	comp=E,404μm,0.6s						
MLH				IAML		03 09 21.5	
	comp=N,363μm,0.9s						
KHU	**Kahuku**	**0.48**	**162**		**Pb**	**03 09 11.8**	**-0.9**
KHU				IAML		03 09 20.0	
	comp=E,367μm,0.6s						
KHU	**Kahuku**	**0.48**	**162**		**Sb**	**03 09 18.9**	**-0.3**
KHU	**Kahuku**	**0.48**	**162**	P	**Pb**	**03 09 11.8**	**-0.9**
KHU						03 09 19.0	
MHA	**Mahukona**	**0.50**	**346**		**Sb**	**03 09 17.5**	**-2.4**
MHA	**Mahukona**	**0.50**	**346**		**Pb**	**03 09 11.1**	**-1.9**
RSD	**Rainshed**	**0.52**	**117**		**Pb**	**03 09 12.3**	**-1.1**
RSD					**Sb**	**03 09 19.6**	**-1.1**
**U

ISA pmax pmax
comp=Z,32nm,1.3s
WAKR Walker 36.55 51 P P 03 16 08.5 +1.0
CHGN Chignik 36.60 358 P P 03 16 06.8 -0.6
baz=176
S14K Fog Glacier 36.64 356 P P 03 16 06.9 -0.9
baz=174
PNTR Pine Nut 36.64 50 P P 03 16 09.1 +0.7
J04A Umpqua Nationa 36.70 43 P 03 16 08.3 -0.4
J04A IAmb IAmb 03 16 18.4
comp=Z,159nm,1.8s
ELS Elsinore Mount 36.75 60 IAmb IAmb 03 16 12.6
comp=Z,91nm,1.8s
SII Sitkinak Islan 36.82 1 P P 03 16 08.4 -0.9
baz=182
NVAR Mina Array Bea 37.37 52 P P 03 16 14.6 +0.1
NVAR Mina Array Bea 37.37 52 P P 03 16 17.0 +2.5
comp=Z,3.1nm,0.8s,baz=246,slow=11,SNR=22
NVAR PcP **PcP 03 18 35.3 +2.0**
comp=Z,3.6nm,1.0s,baz=228,slow=5.2,SNR=5.2
NVAR LR LR 03 28 28.3
comp=Z,742nm,18.1s,baz=251,slow=31
comp=Z,3.1nm,0.8s
OHAK Old Harbor 37.51 2 P P 03 16 14.4 -0.7
baz=184
PPT Papeete 37.53 170 LR LR 03 28 08.4
comp=Z,977nm,18.2s,baz=344,slow=30
PFO Pinyon Flats O 37.53 60 P P 03 16 15.8 0.0
PFO Pinyon Flats O 37.53 60 LR LR 03 28 01.6
comp=Z,422nm,18.3s,baz=250,slow=30
PFO Pinyon Flats O 37.53 60 *i* P **P 03 16 16.9 +1.1**
PFO pmax pmax
comp=Z,25nm,1.3s
PPT2 Papeete2 37.55 170 *e*P **P 03 16 12.8 -3.1**
comp=Z,108nm,25.0s
PPT2 *e*S **S 03 22 00.5 -3.8**
comp=Z,247nm,25.8s
PPT2 *e*LR LR 03 26 19.9
comp=Z,2μm,25.2s
PPT2 *e*LR LR 03 26 21.5
comp=Z,2μm,27.0s
R18K Karluk 37.83 1 P P 03 16 16.7 -1.0
baz=182
R16K Pilot Point 37.84 358 P P 03 16 16.3 -1.5
baz=177
KDAK Kodiak Island 38.10 3 P P 03 16 19.2 -0.9
KDAK Kodiak Island 38.10 3 *i* P **P 03 16 20.0 -0.1**
KDAK pmax pmax
comp=Z,34nm,0.9s
KDAK Kodiak Island 38.10 3 P P 03 16 19.1 -0.9
baz=185
P08K Saint George I 38.26 348 P P 03 16 20.6 -0.8
baz=159
ACHA Angle Creek He 38.46 0 IAmb IAmb 03 16 33.2
comp=Z,187nm,1.9s
TPNV Topopah Spring 38.48 55 P P 03 16 26.3 +2.5
Q17K Contact Creek 38.51 360 P P 03 16 22.9 -0.8
baz=180,SNR=9.9
GNW Green Mountain 38.55 36 P P 03 16 24.3 +0.3
WVOR Wild Horse Val 38.62 46 P P 03 16 28.1 +3.3
WVOR pmax pmax
comp=Z,22nm,1.0s
Q18K Katmai Hardscr 38.90 1 P P 03 16 26.2 -0.8
baz=181,SNR=15
Q16K King Salmon 38.93 359 P P 03 16 27.7 +0.6
baz=179
SPIA Saint Paul Isl 38.93 347 P P 03 16 27.0 -0.1
baz=158
Q20K Shuyak Island 38.94 3 P P 03 16 27.5 +0.4
baz=185
SYI Shuyak Island 38.94 3 P P 03 16 27.1 +0.1
Q19K Cape Douglas, 39.21 2 IAmb IAmb 03 17 32.5
comp=Z,65nm,0.6s
Q19K Cape Douglas, 39.21 2 P P 03 16 29.9 +0.4
baz=183
V12A Nelson 39.28 57 P P 03 16 30.5 +0.1
P16K Nushagak River 39.31 358 P P 03 16 31.2 +1.0
baz=177
P17K Kvichak River 39.45 359 P P 03 16 32.2 +0.9
baz=179
O15K Ungalikthiuk R 39.54 357 P P 03 16 33.8 +1.7
O15K Ungalikthiuk R 39.54 357 P P 03 16 32.4 +0.2
baz=174,SNR=9.3
CRAG Craig 39.59 20 P P 03 16 32.9 +0.4
baz=215
P18K Big Mountain, 39.65 0 P P 03 16 33.7 +0.6
baz=181
O14K Tigyukauivet M 39.70 356 P P 03 16 33.7 +0.2
baz=172
E07A Sunnyside 39.73 39 P 03 16 30.8 -3.2
HAWA Hanford 39.84 40 P P 03 16 32.3 -2.5
O16K Kokwok River B 39.88 358 P P 03 16 33.5 -1.4
O16K Kokwok River B 39.88 358 P P 03 16 34.5 -0.4
baz=177
W13A Hualapai Mount 39.92 59 P 03 16 36.2 +0.3
P19K Oil Pt 39.95 2 P P 03 16 34.6 -0.9
baz=184
V35K Ketchikan 39.98 21 P P 03 16 35.2 -0.6
baz=217
HOM Homer 40.02 3 P P 03 16 35.3 -0.8
baz=186
O17K Koliganek Bris 40.04 359 P P 03 16 36.7 +0.5
baz=178,SNR=10
O18K Koktuh Hills 40.11 0 P P 03 16 37.8 +0.9
baz=181,SNR=12
U33K Whale Pass 40.12 20 P P 03 16 36.8 -0.2
baz=214
BRSE Bradley Lake S 40.16 4 P P 03 16 37.4 +0.1
baz=187
SIT Sitka 40.27 17 P P 03 16 39.1 +0.9
baz=211
ILSW Iliamna Southw 40.28 2 IAmb IAmb 03 17 51.3
comp=Z,60nm,0.7s
LNOR Lincton Mounta 40.35 41 P P 03 16 41.0 +1.8
ELK Elko 40.36 50 LR LR 03 30 48.5
comp=Z,398nm,18.1s,baz=245,slow=32
ELK Elko 40.36 50 P P 03 16 42.1 +2.5
N14K Kuskokwak Cree 40.40 355 P P 03 16 40.1 +0.9
baz=171,SNR=11
O19K Port Alsworth 40.46 1 P P 03 16 40.4 +0.6
baz=182
D08A Wollman Farm, 40.53 39 P 03 16 41.4 +0.8
N15K Kwethluk River 40.54 357 P P 03 16 40.5 0.0
baz=174
SEW Seward 40.61 5 P P 03 16 41.1 +0.2
baz=189
WRAK Wrangell Islan 40.62 20 P P 03 16 41.7 +0.6
baz=215
P23K Montague Islan 40.70 6 P P 03 16 42.5 +0.8
baz=192
N16K Nishlik Lake 40.79 358 P P 03 16 43.5 +1.0
baz=176,SNR=11
N17K Nushagak Hills 40.80 359 IAmb IAmb 03 16 51.4
comp=Z,175nm,2.0s
N17K Nushagak Hills 40.80 359 P P 03 16 43.9 +1.4
baz=178,SNR=11
S31K Pelican 40.81 16 P P 03 16 43.4 +0.7
baz=209
S32K Killisnoo 40.83 17 P P 03 16 44.6 +1.8
baz=211,SNR=5.5
LLLB Lillooet 40.83 33 P 03 16 40.2 -2.9
N18K Kilae Creek 40.94 360 IAmb IAmb 03 18 14.8
comp=Z,56nm,0.8s
N18K Kilae Creek 40.94 360 P P 03 16 44.8 +1.1
baz=180,SNR=21
O22K Cooper Landing 40.96 5 P P 03 16 44.6 +0.7
baz=189
U35K Hyder 41.00 22 P P 03 16 44.5 +0.2
baz=219
KAIM Kayak Island 41.00 9 P P 03 16 44.5 +0.3
baz=196
M13K Dall Lake 41.03 354 IAmb IAmb 03 16 52.6
comp=Z,219nm,1.9s
M13K Dall Lake 41.03 354 P P 03 16 44.3 0.0
baz=169
N19K Bonanza Creek 41.08 1 P P 03 16 45.6 +0.6
baz=182,SNR=30
M15K Kasigluk River 41.10 356 P P 03 16 46.3 +1.3
baz=173,SNR=11
CAPN Captain Cook N 41.16 3 P P 03 16 46.5 +1.1
baz=187
M14K Bethel 41.24 355 P P 03 16 47.1 +1.0
baz=171,SNR=10
M11K Mekoryuk 41.32 352 P P 03 16 47.5 +0.7
baz=165
R31K City Hall, Gus 41.34 16 P P 03 16 47.8 +0.8
baz=209

M16K Timber Creek 41.34 358 IAmb IAmb 03 16 55.8
comp=Z,207nm,1.9s
M16K Timber Creek 41.34 358 P P 03 16 48.3 +1.3
baz=176,SNR=11
BGLC Bering Glacier 41.35 9 P P 03 16 47.2 +0.1
baz=198
EYAK Cordova Ski Ar 41.42 7 P P 03 16 48.5 +0.8
EYAK Cordova Ski Ar 41.42 7 P P 03 16 47.9 +0.2
baz=194
PWL Port Wells 41.45 5 P P 03 16 49.0 +1.0
baz=191,SNR=12
SPCR Spurr Chakacha 41.53 3 P P 03 16 49.7 +1.0
baz=185
R32K Eaglecrest 41.54 17 P P 03 16 49.6 +0.9
baz=211,SNR=12
GLI Glacier Island 41.59 6 P P 03 16 50.4 +1.3
baz=192
MESA MESA 41.62 10 P P 03 16 50.3 +0.7
baz=200
PNL Peninsula 41.62 12 P P 03 16 50.4 +1.0
baz=204
M17K Holitna River 41.68 359 IAmb IAmb 03 17 38.6
comp=Z,42nm,0.7s
M17K Holitna River 41.68 359 P P 03 16 50.9 +1.2
baz=178,SNR=9.8
M18K Stony River 41.75 360 P P 03 16 51.6 +1.3
baz=180,SNR=16
T35M Bob Quinn 41.76 21 P P 03 16 51.1 +0.6
baz=218,SNR=7.0
PINM Pinnacle 41.85 12 P P 03 16 51.8 +0.5
baz=202
SUA Susitna One 41.87 4 P P 03 16 52.6 +1.1
baz=187
L14K Kuka Creek 41.88 355 IAmb IAmb 03 16 59.5
comp=Z,174nm,1.9s
L14K Kuka Creek 41.88 355 P P 03 16 52.1 +0.7
baz=170
P29M Windy Craggy 41.94 14 P P 03 16 53.0 +1.0
baz=206,SNR=6.7
DUG Dugway, Tooele 41.96 51 P P 03 16 55.7 +3.1
DUG pmax pmax
comp=Z,10.0nm,1.1s
BMRM Bremner River 41.98 8 P P 03 16 53.1 +0.8
baz=196
KNK Knik Glacier 41.99 5 P P 03 16 53.1 +0.7
baz=190
WUAZ Wupatki 42.01 59 IAmb IAmb 03 16 57.2
comp=Z,95nm,1.3s
L16K Owhat River 42.05 357 P P 03 16 53.4 +0.6
L16K IAmb IAmb 03 17 01.2
comp=Z,112nm,1.6s
L16K Owhat River 42.05 357 P P 03 16 53.9 +1.1
baz=175,SNR=11
TUC Tucson 42.05 63 P P 03 16 54.5 +1.1
TUC Tucson 42.05 63 P P 03 16 54.5 +1.1
TUC pmax pmax
comp=Z,62nm,1.5s
L15K Ungalak Mounta 42.13 356 P P 03 16 54.4 +1.0
baz=172,SNR=9.7
M19K Big River Lodg 42.17 1 P P 03 16 54.8 +1.0
baz=182,SNR=22
M20K Styx River 42.18 2 P P 03 16 55.0 +1.0
baz=184,SNR=9.6
NEW Newport 42.18 38 P P 03 16 56.6 +2.4
NEW pmax pmax
comp=Z,16nm,0.8s
M22K Willow 42.20 4 P P 03 16 54.4 +0.4
S34M Telegraph Cree 42.23 19 P P 03 16 55.8 +1.5
baz=216,SNR=11
LPIG La Paz 42.27 76 P P 03 16 57.5 +2.4
comp=Z,28nm,0.3s,baz=317,slow=6.8,SNR=5.5
LPIG LR LR 03 30 32.4
comp=Z,509nm,18.6s,baz=271,slow=30
comp=Z,28nm,0.3s
KLU Klutina 42.32 7 P P 03 16 55.3 +0.1
KLU Klutina 42.32 7 P P 03 16 56.2 +1.1
baz=194,SNR=12
SKT Skwentna 42.34 3 P P 03 16 56.2 +1.0
baz=186,SNR=129
SKAG Skagway 42.36 15 P P 03 16 55.8 +0.5
baz=209
O29M Mount Kennedy 42.37 13 P P 03 16 56.6 +1.0
baz=204,SNR=9.1
VRDI Verde Repeater 42.39 9 P P 03 16 54.9 -0.9
VRDI IAmb IAmb 03 18 22.2
comp=Z,54nm,0.5s
SML Sawmill 42.39 5 P P 03 16 56.3 +0.7
baz=190,SNR=114
M23K Glacier View 42.43 6 P P 03 16 57.5 +1.6
baz=191
L17K Donlin 42.43 358 P P 03 16 57.2 +1.3
baz=176,SNR=12
L19K White Mountain 42.45 1 P P 03 16 57.2 +1.1
baz=181,SNR=22
HVU Hansel Valley 42.45 49 P 03 16 57.8 +1.2
HVU Hansel Valley 42.45 49 P P 03 16 57.8 +1.2
HVU pmax pmax
comp=Z,42nm,1.0s
L18K Granite Mounta 42.49 359 P P 03 16 56.7 +0.4
baz=179,SNR=12
O28M Mount Upton 42.49 11 P P 03 16 57.2 +0.4
baz=202,SNR=8.4
SCM Sheep Creek Mo 42.51 6 P P 03 16 57.2 +0.5
baz=192,SNR=68
GLB Gilahina Butte 42.54 8 P 03 16 57.6 +0.7
P30M Million Dollar 42.56 14 P P 03 16 57.4 +0.4
baz=207
N25K Chitina, Valde 42.59 8 P P 03 16 57.9 +0.6
baz=196,SNR=11
SLBS Sierra La Lagu 42.63 76 P P 03 16 58.1 -0.1
SLBS IAmb IAmb 03 17 02.5
comp=Z,84nm,1.2s
K13K Kusilvak Mount 42.65 354 P P 03 16 58.3 +0.6
baz=168
K15K Wolf Creek Mou 42.74 356 P P 03 16 59.2 +0.8
baz=172
Q32M Nakina River 42.75 18 P P 03 16 59.1 +0.3
baz=214,SNR=9.3
L20K Farewell, AK 42.76 1 P P 03 16 59.5 +0.9
baz=183,SNR=27
CUT Chulitna 42.84 4 P P 03 17 00.3 +1.1
baz=188
P32M Atlin 42.88 16 P P 03 17 00.7 +1.0
baz=211
M24K Tolsona, Glenn 42.89 7 P P 03 17 01.2 +1.5
baz=193,SNR=5.6
YUK6 Outpost Mounta 43.00 12 P P 03 17 01.3 +0.4
baz=204
X18A Snowflake 43.01 60 P P 03 17 02.2 +0.9
K17K Iditarod 43.02 358 P P 03 17 00.8 +0.2
baz=176,SNR=8.4
YUK8 Steele Glacier 43.05 11 P P 03 17 01.5 +0.2
baz=202,SNR=6.0
HYT Haines Junctio 43.07 13 P P 03 17 01.7 +0.4
baz=206,SNR=7.6
TTA Tatalina 43.20 360 P P 03 17 02.2 0.0
TTA Tatalina 43.20 360 P P 03 17 02.2 0.0
TTA pmax pmax
comp=Z,26nm,0.7s
TTA Tatalina 43.20 360 P P 03 17 02.7 +0.5
baz=180,SNR=14
TBI Tubuai 43.23 172 *e*P **P 03 16 58.3 -4.5**
comp=Z,597nm,27.5s
TBI *e*S **S 03 23 25.3 -3.4**
comp=Z,857nm,28.5s
TBI *e*LR LR 03 28 52.5
comp=Z,2μm,26.0s
TBI *e*LR LR 03 28 57.5
comp=Z,8μm,28.2s
PPLA Purkeypile 43.23 2 P P 03 17 03.0 +0.4
baz=185,SNR=13
HARP HAARP 43.29 7 P P 03 17 03.5 +0.6
baz=195
YUK4 Talbot Arm 43.31 12 P P 03 17 04.4 +1.1
baz=204,SNR=7.6
O30N Mendenhall 43.33 14 P P 03 17 03.9 +0.6
baz=208,SNR=8.4
J14K Nanvaranak Lak 43.35 355 P P 03 17 03.9 +0.6
baz=169,SNR=6.0
YUK3 Moose Creek 43.38 11 P P 03 17 03.9 0.0
baz=201,SNR=16
R33M Jennings River 43.49 18 P P 03 17 04.9 +0.2
baz=215,SNR=12
WHY Whitehorse 43.52 15 P P 03 17 05.9 +1.0
baz=209,SNR=7.9
M26K Nabesna, AK 43.57 9 IAmb IAmb 03 17 14.0
comp=Z,64nm,0.8s
M26K Nabesna, AK 43.57 9 P P 03 17 05.8 +0.6

baz=198,SNR=58
K20K Telida 43.64 1 P P 03 17 05.6 -0.1
baz=182,SNR=9.5
P33M Teslin, Yukon 43.65 16 P P 03 17 06.0 +0.1
baz=212,SNR=6.4
J16K Anvik River 43.68 357 IAmb IAmb 03 17 14.9
comp=Z,154nm,1.6s
J16K Anvik River 43.68 357 P P 03 17 06.6 +0.7
baz=173,SNR=8.1
M27K Edge Creek, AK 43.70 9 IAmb IAmb 03 17 18.4
comp=Z,62nm,0.9s
M27K Edge Creek, AK 43.70 9 P P 03 17 07.9 +1.6
baz=199,SNR=31
J17K VABM Dome 43.72 358 P P 03 17 06.7 +0.3
J17K IAmb IAmb 03 17 15.0
comp=Z,148nm,1.9s
J17K VABM Dome 43.72 358 P P 03 17 07.8 +1.4
baz=176,SNR=10.0
N30M Aishikik Lake 43.73 13 P P 03 17 07.6 +1.1
baz=206,SNR=8.6
J18K Innoko River 43.74 359 P P 03 17 07.4 +0.9
baz=179,SNR=11
CAST Castle Rocks 43.76 2 IAmb IAmb 03 17 53.4
comp=Z,59nm,0.6s
CAST Castle Rocks 43.76 2 P P 03 17 06.6 -0.1
baz=185,SNR=11
DLMT Dillon 43.77 44 P P 03 17 08.2 +0.9
PAX Paxson 43.81 7 P 03 17 07.5 +0.3
PAX Paxson 43.81 7 P P 03 17 07.5 +0.3
PAX pmax pmax
comp=Z,105nm,0.6s
PAX Paxson 43.81 7 P P 03 17 07.1 -0.1
baz=194,SNR=34
TRF Thorofare Moun 43.88 4 P P 03 17 08.3 +0.5
baz=188,SNR=22
BVCY Beaver Creek 43.91 10 P P 03 17 09.0 +1.1
baz=200,SNR=18
MENT Mentasta 43.99 8 P P 03 17 09.2 +0.6
N31M Braeburn, Yuko 44.04 14 P P 03 17 09.5 +0.5
baz=208,SNR=8.8
L26K Log Cabin Wild 44.12 8 IAmb IAmb 03 18 35.7
comp=Z,82nm,0.9s
L26K Log Cabin Wild 44.12 8 P P 03 17 10.8 +1.2
baz=197,SNR=23
MCK McKinley 44.24 4 IAmb IAmb 03 18 08.0
comp=Z,65nm,0.7s
MCK McKinley 44.24 4 P P 03 17 11.5 +0.9
baz=189,SNR=18
J19K Poorman 44.26 0 IAmb IAmb 03 17 19.1
comp=Z,117nm,1.6s
J19K Poorman 44.26 0 P P 03 17 11.1 +0.4
baz=180,SNR=18
I17K Unalakleet 44.28 357 P P 03 17 12.0 +1.2
baz=173
M29M Somme Creek 44.36 11 IAmb IAmb 03 17 21.0
comp=Z,49nm,0.8s
M29M Somme Creek 44.36 11 P P 03 17 12.6 +1.0
baz=204,SNR=45
L27K Beaver Creek, 44.37 9 IAmb IAmb 03 17 21.7
comp=Z,57nm,1.2s
L27K Beaver Creek, 44.37 9 P P 03 17 12.5 +0.9
baz=199,SNR=58
PV10 Paradox Valley 44.38 55 IAmb IAmb 03 17 15.2
comp=Z,71nm,1.2s
BCAR Beaver Creek A 44.38 9 P 03 17 12.5 +0.8
N32M Quiet Lake 44.39 16 P P 03 17 12.5 +0.7
baz=211,SNR=37
J20K Nowinta River 44.46 1 P P 03 17 11.7 -0.5
baz=182
BPAW Bear Paw Mtn. 44.49 3 IAmb IAmb 03 18 10.1
comp=Z,36nm,0.4s
BPAW Bear Paw Mtn. 44.49 3 P P 03 17 12.7 +0.2
baz=186,SNR=16
PV13 Radium Mtn., P 44.50 55 IAmb IAmb 03 17 16.4
comp=Z,51nm,1.2s
MVCO Mesa Verde 44.59 57 IAmb IAmb 03 17 17.7
comp=Z,93nm,1.4s
K24K Donnelly Dome 44.59 6 P P 03 17 15.3 +2.0
baz=194,SNR=16
RIDG Independent Ri 44.63 7 P P 03 17 14.3 +0.6
baz=195,SNR=20
WTLY Watson Lake, Y 44.72 19 P P 03 17 16.0 +1.5
baz=217,SNR=12
TOAD Toad River Com 44.92 22 P P 03 17 17.2 +1.2
baz=223,SNR=10
SCRK Sand Creek 44.96 7 IAmb IAmb 03 18 43.3
comp=Z,56nm,0.7s
SCRK Sand Creek 44.96 7 P P 03 17 17.3 +0.9
baz=196,SNR=16
M31M Drury Creek, Y 44.98 14 P P 03 17 18.4 +1.9
baz=209,SNR=16
PDAR Pinedale Array 45.02 49 P 03 17 17.6 +0.2
PDAR Pinedale Array 45.02 49 P P 03 17 18.6 +1.3
comp=Z,5.2nm,1.0s,baz=246,slow=6.3,SNR=33
PDAR PcP **PcP 03 18 58.7 +0.5**
comp=Z,4.4nm,1.0s,baz=225,slow=1.9,SNR=5.5
PDAR LR LR 03 33 03.9
comp=Z,177nm,21.1s,baz=244,slow=32
comp=Z,5.2nm,1.0s
GCSA Galena City Sc 45.02 359 P P 03 17 18.8 +2.1
baz=179,SNR=18
L29M L29M 45.03 11 P P 03 17 18.7 +1.8
baz=204,SNR=8.1
LIRD Liard River Hi 45.04 21 P P 03 17 18.1 +1.2
baz=221,SNR=6.0
HDA Harding Lake 45.07 5 P P 03 17 18.5 +1.4
baz=192
I20K Naaghedeneel 45.08 1 P P 03 17 18.4 +1.3
baz=182
NEA2 Nenana 45.09 4 IAmb IAmb 03 17 28.0
comp=Z,42nm,1.0s
NEA2 Nenana 45.09 4 P P 03 17 18.2 +0.9
baz=189,SNR=20
H16K Elim 45.12 356 P P 03 17 18.7 +1.2
baz=171
MSVF Nonsavu 45.22 216 LR LR 03 34 22.7
comp=Z,687nm,18.3s,baz=19,slow=34
CCB Clear Creek Bu 45.23 5 IAmb IAmb 03 17 29.2
comp=Z,40nm,1.0s
FARO Faro, Yukon 45.25 15 P P 03 17 20.8 +2.1
baz=210,SNR=33
K27K Chicken 45.26 8 IAmb IAmb 03 17 30.2
comp=Z,50nm,1.0s
K27K Chicken 45.26 8 P P 03 17 20.6 +1.9
baz=198
H17K Granite Mounta 45.29 358 IAmb IAmb 03 17 27.7
comp=Z,68nm,1.6s
H17K Granite Mounta 45.29 358 P P 03 17 20.7 +1.8
baz=174,SNR=11
ANM Nome 45.30 354 IAmb IAmb 03 17 27.8
comp=Z,67nm,1.3s
ANM Nome 45.30 354 P P 03 17 20.7 +1.8
baz=167
GAMB Gambell 45.35 350 P P 03 17 20.5 +1.2
baz=159
J25K Salcha River, 45.42 6 P P 03 17 21.3 +1.3
baz=194,SNR=31
IL31 45.43 5 P 03 17 20.0 0.0
IL31 IAmb IAmb 03 18 43.7
comp=Z,49nm,0.8s
ILAR Eielson Array 45.43 5 P P 03 17 19.9 -0.1
ILAR Eielson Array 45.43 5 P P 03 17 20.7 +0.7
comp=Z,5.1nm,0.7s,baz=195,slow=7.1,SNR=73
ILAR LR LR 03 33 40.9
comp=Z,618nm,18.9s,baz=193,slow=33
comp=Z,5.1nm,0.7s
ILAR Eielson Array 45.43 5 P P 03 17 19.9 -0.1
Y22D IRIS PASSCAL I 45.45 61 P P 03 17 21.6 +0.8
baz=265
COLA College 45.46 5 P P 03 17 20.1 0.0
COLA College 45.46 5 *i* P **P 03 17 20.2 +0.1**
COLA pmax pmax
comp=Z,117nm,2.0s
COLA College 45.46 5 P P 03 17 21.3 +1.2
baz=190
H18K Honhosa River 45.46 358 P P 03 17 21.5 +1.3
baz=177,SNR=17
J26L Joseph Creek 45.52 7 P P 03 17 22.0 +1.2
baz=196,SNR=25
G15K Niukluk 45.60 355 P P 03 17 22.7 +1.4
baz=169
I23K Minto, Yukon-K 45.62 4 P P 03 17 22.4 +0.9
baz=188,SNR=19
EPT El Paso 45.63 65 P 03 17 21.4 -0.8
EPT IAmb IAmb 03 17 25.7
comp=Z,41nm,1.1s
DAWY Dawson 45.70 10 P P 03 17 23.4 +1.3
baz=202,SNR=34

POKR	Poker Plat Res	45.73	5	P		P	03 17 22.1 -0.3
POKR	Poker Plat Res	45.73	5	P		P	03 17 23.4 +1.0
	baz=191						
H20K	Anotleneega Mo	45.77	1	P		P	03 17 24.3 +1.6
	baz=181,SNR=26						
H19K	Roundabout Mou	45.80	360	P		P	03 17 24.3 +1.4
	baz=179,SNR=36						
K29M	Barlow Dome	45.81	11	P		P	03 17 24.1 +0.9
	baz=204,SNR=20						
G16K	Koyuk River	45.88	356	P		P	03 17 24.1 +0.6
	baz=171						
G17K	Kiwalik Mounta	45.89	357	P		P	03 17 24.6 +1.0
	baz=174,SNR=10						
RLMT	Red Lodge	45.91	46	P		P	03 17 23.6 -0.7
ANMO	Albuquerque	45.92	60	P		P	03 17 24.9 +0.4
ANMO	Albuquerque	45.92	60	P		P	03 17 26.6 +2.0
	comp=Z,15nm,1.0s,baz=61,slow=7.4,SNR=39						
ANMO				LR		LR	03 31 55.8
	comp=Z,145nm,21.9s,baz=62,slow=30						
	comp=Z,15nm,1.0s						
ANMO	Albuquerque	45.92	60	*ce*P		P	03 17 22.9 -1.6
ANMO				pmax		pmax	
	comp=Z,9.0nm,1.0s						
H21K	Melozitna Rive	45.98	2	P		P	03 17 24.8 +0.5
	baz=184						
TGTN	Hyland Airport	46.00	18	P		P	03 17 25.3 +0.7
	baz=217,SNR=12						
MMPY	Sheldon Lake,	46.09	15	P		P	03 17 26.8 +1.5
	baz=213,SNR=8.5						
G18K	Tagagawik	46.21	358	P		P	03 17 27.1 +1.0
	baz=176						
J29N	Klondike Camp	46.25	10	P		P	03 17 27.9 +1.4
	baz=203,SNR=7.1						
H22K	Ishtalitna Cre	46.26	2	P		P	03 17 27.3 +0.7
	baz=186						
KOTAN	Kotaneelee Air	46.27	21	P		P	03 17 27.7 +1.0
	baz=223,SNR=14						
F14K	Arctic Creek	46.28	354	P		P	03 17 28.0 +1.4
	baz=166						
H23K	Yukon River	46.28	4	IAmb		IAmb	03 17 37.4
	comp=Z,33nm,0.9s						
H23K	Yukon River	46.28	4	P		P	03 17 28.5 +1.7
	baz=188						
PRP	Porcupine Dome	46.29	6	P		P	03 17 26.3 -0.6
PRP				IAmb		IAmb	03 18 54.4
	comp=Z,45nm,0.7s						
PRP	Porcupine Dome	46.29	6	P		P	03 17 28.3 +1.4
	baz=193,SNR=26						
I26K	Coal Creek Min	46.34	7	P		P	03 17 28.9 +1.8
	baz=196						
F15K	North Star Dit	46.35	355	P		P	03 17 28.5 +1.2
	baz=168						
H24K	Noodor Dome	46.41	4	P		P	03 17 29.2 +1.5
	baz=190,SNR=29						
G19K	Purcell Mounta	46.43	359	P		P	03 17 30.1 +2.3
	baz=178,SNR=24						
TNA	Tin City	46.53	353	P		P	03 17 29.9 +1.3
	baz=164						
EGMT	Eagleton	46.56	42	IAmb		IAmb	03 17 37.8
	comp=Z,47nm,1.2s						
J30M	Hart River	46.70	11	IAmb		IAmb	03 17 38.9
	comp=Z,30nm,0.8s						
J30M	Hart River	46.70	11	P		P	03 17 31.9 +1.8
	baz=206,SNR=28						
G21K	Allakaket	46.82	1	IAmb		IAmb	03 17 39.3
	comp=Z,70nm,1.7s						
G21K	Allakaket	46.82	1	P		P	03 17 32.4 +1.5
	baz=183,SNR=6.9						
I27K	Kandik River	46.82	8	P		P	03 17 32.7 +1.7
	baz=198,SNR=30						
F17K	Baldwin Pennin	46.86	357	P		P	03 17 33.2 +2.1
	baz=173,SNR=9.0						
I28M	Miner Creek	46.91	9	IAmb		IAmb	03 17 41.0
	comp=Z,45nm,1.1s						
I28M	Miner Creek	46.91	9	P		P	03 17 33.3 +1.6
	baz=201,SNR=29						
F18K	Selawik	46.95	358	P		P	03 17 33.6 +1.8
	baz=175,SNR=13						
H25L	Birch Creek	47.00	5	P		P	03 17 33.7 +1.5
	baz=193,SNR=31						
SDCO	Great Sand Dun	47.02	56	IAmb		IAmb	03 17 36.6
	comp=Z,38nm,1.1s						
I29M	Ogilvie Camp,	47.08	10	IAmb		IAmb	03 17 41.1
	comp=Z,27nm,0.8s						
I29M	Ogilvie Camp,	47.08	10	P		P	03 17 35.2 +2.2
	baz=203,SNR=10.0						
F19K	Shaleruckik Mo	47.13	359	P		P	03 17 35.4 +2.1
	baz=177,SNR=38						
G23K	Bananza Creek	47.14	3	P		P	03 17 34.6 +1.2
	baz=187						
RKT	Rikitea	47.15	154	*e*P		P	03 17 30.6 -3.3
	comp=Z,581nm,27.5s						
RKT				*e*S		S	03 24 23.5 -2.0
	comp=Z,1μm,26.5s						
RKT				*e*LR		LR	03 30 41.6
	comp=Z,5μm,27.2s						
K22A	Casper	47.16	50	IAmb		IAmb	03 17 37.6
	comp=Z,54nm,1.4s						
ISCO	Idaho Springs	47.26	54	P		P	03 17 37.0 +1.9
ISCO				pmax		pmax	
	comp=Z,11nm,1.0s						
I30M	Mount Dempster	47.28	11	P		P	03 17 36.1 +1.5
	baz=205,SNR=43						
G22K	Bettles	47.28	2	P		P	03 17 35.8 +1.3
	baz=186,SNR=5.1						
G24K	Hadweenzic Riv	47.29	4	IAmb		IAmb	03 17 42.0
	comp=Z,50nm,1.1s						
G24K	Hadweenzic Riv	47.29	4	P		P	03 17 35.3 +0.7
	baz=191,SNR=25						
F20K	Avaraart Lake	47.33	0	P		P	03 17 36.7 +1.9
	baz=180,SNR=14						
H27K	Steamboat Moun	47.43	8	P		P	03 17 37.6 +1.9
	baz=198,SNR=40						
G25K	Bearman Lake	47.46	5	P		P	03 17 37.4 +1.6
	baz=192,SNR=18						
E17K	Hotham Inlet	47.52	357	P		P	03 17 38.0 +1.7
	baz=172,SNR=10						
F21K	Alatna River	47.53	1	P		P	03 17 38.3 +1.8
	baz=183						
COLD	Coldfoot	47.65	3	P		P	03 17 38.8 +1.5
	baz=187,SNR=6.4						
E19K	Redstone River	47.75	359	P		P	03 17 40.4 +2.2
	baz=178,SNR=24						
E18K	Tukpahlearik C	47.81	357	P		P	03 17 40.6 +2.1
	baz=174,SNR=18						
T25A	Trinidad	47.81	57	IAmb		IAmb	03 17 42.9
	comp=Z,42nm,1.2s						
F22K	John River	47.85	2	P		P	03 17 40.5 +1.6
	baz=185,SNR=32						
G26K	Porcupine Rive	47.86	6	IAmb		IAmb	03 17 47.5
	comp=Z,51nm,1.1s						
G26K	Porcupine Rive	47.86	6	P		P	03 17 40.9 +1.9
	baz=195,SNR=30						
H29M	Whitestone	47.86	9	P		P	03 17 41.0 +1.9
	baz=202,SNR=38						
PECS	Pecos	47.87	65	P		P	03 17 39.1 -0.6
PECS				IAmb		IAmb	03 17 43.5
	comp=Z,57nm,1.2s						
G27K	Doyon Strip	47.97	7	P		P	03 17 41.5 +1.7
	baz=198,SNR=22						
TXAR	Lajitas Array	48.04	68			P	03 17 42.5 +1.5
TXAR	Lajitas Array	48.04	68	P		P	03 17 44.0 +2.9
	comp=Z,32nm,0.9s,baz=261,slow=8.1,SNR=132						
TXAR				LR		LR	03 33 25.8
	comp=Z,133nm,20.4s,baz=268,slow=30						
	comp=Z,32nm,0.9s						
TXAR	Lajitas Array	48.04	68	P		P	03 17 42.5 +1.5
F24K	Squaw Lake	48.07	4	P		P	03 17 41.5 +0.9
	baz=190,SNR=7.8						
H31M	Peel River	48.18	12	IAmb		IAmb	03 17 49.2
	comp=Z,27nm,0.9s						
H31M	Peel River	48.18	12	P		P	03 17 42.9 +1.4
	baz=208,SNR=18						
D17K	Noatak River	48.21	356	P		P	03 17 43.3 +1.6
	baz=171						
BMAR	Burnt Mountain	48.25	6			P	03 17 43.4 +1.4
EPYK	Eagle Plains	48.27	10	IAmb		IAmb	03 17 49.8
	comp=Z,41nm,1.0s						
EPYK	Eagle Plains	48.27	10	P		P	03 17 44.0 +1.8
	baz=204,SNR=33						
PET	Petropavlovsk	48.28	325	*i* P		P	03 17 41.9 -0.5
PET				pmax		pmax	
	comp=Z,22nm,1.0s						
F25K	Christian Rive	48.31	5	IAmb		IAmb	03 17 50.8
	comp=Z,77nm,1.9s						
F25K	Christian Rive	48.31	5	P		P	03 17 44.0 +1.5
	baz=193						
E22K	Anaktuvuk Pass	48.49	2	P		P	03 17 45.8 +1.9
	baz=185,SNR=52						
E23K	Chandalar	48.50	3	IAmb		IAmb	03 17 52.6
	comp=Z,83nm,1.6s						
E23K	Chandalar	48.50	3	P		P	03 17 45.8 +1.7
	baz=188,SNR=6.4						
E20K	Nigu River	48.55	360	P		P	03 17 46.1 +1.8
	baz=180						
F26K	Sheenjek River	48.55	6	P		P	03 17 46.1 +1.8
	baz=195						
RDOG	Red Dog Mine	48.55	356	IAmb		IAmb	03 17 53.3
	comp=Z,71nm,1.4s						
RDOG	Red Dog Mine	48.55	356	P		P	03 17 46.2 +1.9
	baz=171						
G29M	Pine Creek	48.56	9	P		P	03 17 46.0 +1.5
	baz=202,SNR=37						
E24K	Your Creek	48.58	4	P		P	03 17 45.9 +1.3
	baz=189,SNR=14						
E21K	Killik River	48.74	1	P		P	03 17 47.3 +1.5
	baz=182						
WRGLY	Wrigley	48.75	19	P		P	03 17 48.0 +2.2
	baz=222,SNR=9.0						
D19K	Kuna River	48.81	359	P		P	03 17 48.1 +1.8
	baz=177,SNR=46						
MNHN	Monahans	48.81	65	IAmb		IAmb	03 17 50.1
	comp=Z,35nm,0.8s						
E25K	Arctic Village	48.84	5	P		P	03 17 48.2 +1.7
	baz=193,SNR=22						
PEA0B	Petropavlovsk-	48.84	324	IAmb		IAmb	03 17 55.1
	comp=Z,51nm,1.0s						
PEA0B	Petropavlovsk-	48.84	324	*ce*P		P	03 17 47.2 +0.4
PETK	Petropavlovsk-	48.84	324			P	03 17 47.8 +1.0
PETK	Petropavlovsk-	48.84	324	P		P	03 17 48.0 +1.2
	comp=Z,15nm,0.9s,baz=107,slow=12,SNR=44						
	comp=Z,15nm,0.9s						
PETK	Petropavlovsk-	48.84	324	P		P	03 17 47.8 +1.0
G30M	tAoh Zraii Nji	48.91	10	IAmb		IAmb	03 17 55.0
	comp=Z,39nm,0.8s						
G30M	tAoh Zraii Nji	48.91	10	P		P	03 17 48.8 +1.7
	baz=205,SNR=29						
C16K	Lisburne Hills	48.94	355	P		P	03 17 48.8 +1.6
	baz=168,SNR=24						
D20K	Etivluk River	49.01	360	P		P	03 17 49.4 +1.6
	baz=179,SNR=14						
C18K	Utukok River	49.06	357	IAmb		IAmb	03 17 58.9
	comp=Z,34nm,0.8s						
C18K	Utukok River	49.06	357	P		P	03 17 49.8 +1.5
	baz=173,SNR=22						
TOLK	Toolik Lake Re	49.08	3	IAmb		IAmb	03 19 21.5
	comp=Z,32nm,1.0s						
TOLK	Toolik Lake Re	49.08	3	P		P	03 17 50.2 +1.8
	baz=188,SNR=7.1						
G31M	Satah River	49.19	11	P		P	03 17 50.8 +1.6
	baz=207,SNR=52						
D22K	Ayikyak River	49.21	1	IAmb		IAmb	03 18 00.8
	comp=Z,64nm,1.1s						
D22K	Ayikyak River	49.21	1	P		P	03 17 51.1 +1.8
	baz=184						
E27K	Coleen River	49.29	7	IAmb		IAmb	03 17 58.6
	comp=Z,33nm,1.1s						
E27K	Coleen River	49.29	7	P		P	03 17 51.6 +1.6
	baz=198						
D23K	Nanushuk River	49.36	2	P		P	03 17 52.4 +1.9
	baz=186,SNR=48						
C21K	Kniefblade Rid	49.45	0	P		P	03 17 53.3 +2.1
	baz=181,SNR=20						
F30M	Barrier River	49.55	10	IAmb		IAmb	03 18 10.2
	comp=Z,36nm,1.0s						
F30M	Barrier River	49.55	10	P		P	03 17 53.5 +1.5
	baz=205,SNR=37						
D24K	Happy Valley	49.63	3	P		P	03 17 54.4 +1.9
	baz=189						
F31M	Tsiigehtchic	49.75	11	P		P	03 17 54.8 +1.4
	baz=208,SNR=52						
B18K	Kokolik River	49.80	357	P		P	03 17 55.5 +1.7
	baz=173						
POST	Post	49.91	63	IAmb		IAmb	03 17 58.0
	comp=Z,40nm,0.8s						
B21K	Ikpikpuk River	49.92	1	IAmb		IAmb	03 18 03.2
	comp=Z,54nm,1.4s						
B21K	Ikpikpuk River	49.92	1	P		P	03 17 56.7 +2.0
	baz=181,SNR=11						
E28M	Babbage River	49.93	8	IAmb		IAmb	03 18 03.3
	comp=Z,32nm,0.9s						
E28M	Babbage River	49.93	8	P		P	03 17 56.3 +1.5
	baz=200,SNR=31						
E29M	Blow River	49.95	9	P		P	03 17 56.2 +1.2
	baz=202						
D25K	Kavik River	49.95	4	IAmb		IAmb	03 18 03.4
	comp=Z,47nm,1.1s						
D25K	Kavik River	49.95	4	P		P	03 17 56.6 +1.5
	baz=192,SNR=45						
OGNE	Ogallala	50.14	53	IAmb		IAmb	03 18 06.4
	comp=Z,42nm,0.9s						
C24K	Franklin Bluff	50.20	3	P		P	03 17 58.6 +1.8
	baz=189						
SGCY	Sterling City	50.21	65	IAmb		IAmb	03 18 00.9
	comp=Z,62nm,1.0s						
C23K	Itkillik River	50.23	2	P		P	03 17 59.1 +2.1
	baz=186,SNR=17						
B20K	Meade River	50.31	359	P		P	03 17 59.2 +1.6
	baz=178						
D27M	Malcolm River	50.37	7	P		P	03 18 00.2 +2.0
	baz=198,SNR=5.1						
SN07	Snyder 07	50.42	63	IAmb		IAmb	03 18 03.0
	comp=Z,51nm,1.4s						
C27K	Jago River	50.46	5	IAmb		IAmb	03 18 07.7
	comp=Z,64nm,1.4s						
C27K	Jago River	50.46	5	P		P	03 18 00.9 +2.0
	baz=195,SNR=22						
INK	Inuvik	50.56	11	LR		LR	03 37 52.5
	comp=Z,923nm,18.2s,baz=215,slow=34						
A19K	Wainwright	50.60	358	P		P	03 18 01.7 +1.9
	baz=174,SNR=5.1						
C26K	Camden Bay	50.65	5	P		P	03 18 02.6 +2.4
	baz=193,SNR=24						
B22K	Teshekpuk Lake	50.66	1	P		P	03 18 02.4 +2.1
	baz=183,SNR=17						
D28M	Stokes Point	50.72	8	P		P	03 18 02.1 +1.4
	baz=201						
SMWD	Samnorwood	51.02	60	IAmb		IAmb	03 18 06.5
	comp=Z,65nm,1.1s						
APMT	Aspermont	51.07	63	IAmb		IAmb	03 18 06.7
	comp=Z,75nm,1.6s						
YKA	Yellowknife Ar	51.24	23	P		P	03 18 06.2 +1.5
	comp=Z,2.9nm,1.0s,baz=233,slow=7.8,SNR=29						
YKA				LR		LR	03 37 36.9
	comp=Z,491nm,18.3s,baz=236,slow=34						
	comp=Z,2.9nm,1.0s						
A22K	Sinclair Lake	51.31	0	P		P	03 18 07.3 +2.1
	baz=181,SNR=34						
ABTX	Abilene, Hawle	51.47	64	IAmb		IAmb	03 18 09.6
	comp=Z,59nm,1.0s						
A21K	Barrow	51.63	360	P		P	03 18 08.9 +1.3
	baz=179						
E28A	Huff	52.07	46			P	03 18 11.4 +0.1
E28A				IAmb		IAmb	03 18 15.1
	comp=Z,122nm,1.5s						
WMOK	Wichita Mounta	52.21	61	P		P	03 18 13.4 +0.9
WMOK				pmax		pmax	
	comp=Z,8.0nm,1.1s						
HNR	Honiara	52.34	240	LR		LR	03 35 54.4
	comp=Z,274nm,22.0s,baz=358,slow=31						
R32A	Long Quarter,	52.42	56	IAmb		IAmb	03 18 16.4
	comp=Z,44nm,1.1s						
OK032	Salt Plains WL	52.73	58	IAmb		IAmb	03 18 18.9
	comp=Z,52nm,1.0s						
SUSD	Miller	52.90	49	IAmb		IAmb	03 18 28.2
	comp=Z,72nm,0.9s						
CROK	Carrier	52.90	59	IAmb		IAmb	03 18 19.9
	comp=Z,46nm,1.0s						
KAN09	Caldwell North	53.22	58	IAmb		IAmb	03 18 22.4
	comp=Z,91nm,1.3s						
435B	Jarrell	53.27	66	IAmb		IAmb	03 18 23.2
	comp=Z,58nm,1.1s						
C36M	Paulatuk	53.29	13	IAmb		IAmb	03 18 26.9
	comp=Z,44nm,0.8s						
C36M	Paulatuk	53.29	13	P		P	03 18 20.3 +0.4
	baz=218						
OK029	Liberty Lake	53.31	60	IAmb		IAmb	03 18 23.1
	comp=Z,62nm,1.0s						
FFC	Flin Flon	53.43	36			P	03 18 22.4 +1.2
FFC	Flin Flon	53.43	36	P		P	03 18 22.4 +1.2
FFC				pmax		pmax	
	comp=Z,12nm,1.1s						
Z35A	Perchaven, San	53.47	63	IAmb		IAmb	03 18 24.1
	comp=Z,51nm,1.0s						
OK048	Pawnee Station	53.74	59	IAmb		IAmb	03 18 26.2
	comp=Z,49nm,1.1s						
W35A	Tecumseh	53.78	60	IAmb		IAmb	03 18 26.5
	comp=Z,60nm,1.2s						
BILL	Bilibino	53.85	343			P	03 18 25.0 +0.9
BILL				IAmb		IAmb	03 18 32.2
	comp=Z,47nm,1.2s						
BILL	Bilibino	53.85	343	*ce*P		P	03 18 25.1 +1.1
BILL				pmax		pmax	
	comp=Z,34nm,1.7s						
QUOK	Quay	53.92	59	IAmb		IAmb	03 18 27.6
	comp=Z,53nm,1.0s						
TLIG	Tlapa	54.03	82			P	03 18 26.4 +0.1
DEOK	Depew	54.09	60	IAmb		IAmb	03 18 28.6
	comp=Z,42nm,0.9s						
T35A	Sooner Cattle	54.10	58	IAmb		IAmb	03 18 28.9
	comp=Z,64nm,1.1s						
KSU1	Kansas State U	54.10	56	IAmb		IAmb	03 18 29.2
	comp=Z,80nm,1.2s						
ECSD	EROS Data Cent	54.48	50	IAmb		IAmb	03 18 31.0
	comp=Z,46nm,1.3s						
L34A	Svendsen Farm,	54.48	52	IAmb		IAmb	03 18 30.9
	comp=Z,58nm,1.1s						
TUL3	Leonard	54.66	59	IAmb		IAmb	03 18 32.9
	comp=Z,54nm,1.1s						
HKT	Hockley	54.82	67			P	03 18 33.9 +2.2
HKT				IAmb		IAmb	03 18 35.7
	comp=Z,79nm,1.5s						
HKT	Hockley	54.82	67	*i* P		P	03 18 31.5 -0.2
HKT				pmax		pmax	
	comp=Z,33nm,1.4s						
MA2	Magadan	54.97	330			P	03 18 33.8 +1.5
MA2				IAmb		IAmb	03 18 40.7
	comp=Z,44nm,1.3s						
MA2	Magadan	54.97	330	LR		LR	03 37 50.7
	comp=Z,596nm,21.7s,baz=122,slow=32						
MA2	Magadan	54.97	330	*ce*P		P	03 18 32.8 +0.4
MA2				pmax		pmax	
	comp=Z,13nm,1.1s						
MA2	Magadan	54.97	330	pP		pP	03 18 37.3 -1.9
	comp=Z,20nm,1.4s						
A36M	Sachs Harbour	55.18	11	P		P	03 18 34.3 +0.7
	baz=216						
DZM	Mont Dzumac	55.56	224	*e*P		P	03 18 41.3 +4.1
	comp=Z,62nm,29.2s						
DZM				*e*S		S	03 26 14.4 -7.6
	comp=Z,85nm,25.0s						
DZM				*e*LR		LR	03 34 45.1
	comp=Z,315nm,22.6s						
DZM	Mont Dzumac	55.56	224	LR		LR	03 39 02.2
	comp=Z,186nm,19.2s,baz=25,slow=32						
SEY	Seymchan	55.65	334	LR		LR	03 38 15.9
	comp=Z,255nm,21.3s,baz=114,slow=32						
SEY	Seymchan	55.65	334	*ce*P		P	03 18 37.9 +0.7
SEY				pmax		pmax	
	comp=Z,34nm,1.7s						
ERM	Erimo	55.73	308	P		P	03 18 36.9 -1.1
ERM				IAmb		IAmb	03 18 46.9
	comp=Z,33nm,1.0s						
ERM	Erimo	55.73	308	*ce*P		P	03 18 37.0 -1.1
ERM				pmax		pmax	
	comp=Z,41nm,1.7s						
U38A	Gravette	55.80	59	IAmb		IAmb	03 18 41.0
	comp=Z,42nm,1.1s						
ULM	Lac du Bonnet	55.92	42	P		P	03 18 40.0 +0.7
	comp=Z,7.0nm,1.0s,baz=263,slow=6.3,SNR=9.0						
ULM				LR		LR	03 40 40.3
	comp=Z,355nm,18.1s,baz=258,slow=34						
	comp=Z,7.0nm,1.0s						
ASAJ	Asahikawa	56.30	310	LR		LR	03 37 39.2
	comp=Z,581nm,21.6s,baz=328,slow=31						
YSS	Yuzhno-Sakhali	56.47	314	*e*P		P	03 18 41.2 -2.1
YSS				*e*			03 20 46.2
YSS				*e*S		S	03 26 25.8 -7.6
YSS				*e*PS		PnS	03 26 39.9 -5.0
YSS				pmax		pmax	
	comp=Z,30nm,1.0s						
YSS				pmax		pmax	
	comp=Z,400nm,3.9s						
YSS				pmax		pmax	
	comp=N,300nm,3.7s						
YSS				MLR		MLR	
	comp=Z,600nm,13.0s						
MIAR	Mount Ida	56.50	61	IAmb		IAmb	03 18 46.1
	comp=Z,58nm,1.4s						
MIAR	Mount Ida	56.50	61	P		P	03 18 45.3 +1.6
MIAR				pmax		pmax	
	comp=Z,35nm,1.6s						
P38A	Dawn	56.51	55	IAmb		IAmb	03 18 46.1
	comp=Z,44nm,1.1s						
N38A	Joes South For	56.77	54	IAmb		IAmb	03 18 47.7
	comp=Z,74nm,1.3s						
JCJ	Chichijima	56.94	290	LR		LR	03 38 06.2
	comp=Z,305nm,21.2s,baz=110,slow=31						
GUMO	Guam	56.97	274	LR		LR	03 38 18.9
	comp=Z,226nm,21.6s,baz=80,slow=31						
TYV	Tymovskoe	57.08	318	*e*P		P	03 18 48.6 +1.0
TYV				*e*S		S	03 26 44.9 +3.6
TYV				pmax		pmax	
	comp=Z,20nm,1.4s						
TYV				pmax		pmax	
	comp=Z,100nm,3.8s						
TYV				smax		smax	
	comp=N,600nm,7.5s						
TYV				smax		smax	
	comp=E,400nm,7.5s						
Z41A	Richland Creek	57.20	63	IAmb		IAmb	03 18 51.4
	comp=Z,75nm,1.3s						
EPLO	Experimental L	57.20	43	IAmb		IAmb	03 19 04.0
	comp=Z,46nm,1.3s						
SPMN	Marine on St.	57.34	48	IAmb		IAmb	03 18 51.7
	comp=Z,40nm,1.2s						
JMM	Marumori	57.43	303	P		P	03 18 48.9 -1.4
JMM				IAmb		IAmb	03 18 53.9
	comp=Z,38nm,1.1s						
R40A	Maddies Statio	57.48	57	IAmb		IAmb	03 18 52.7
	comp=Z,40nm,1.0s						
MGMO	Mountain Grove	57.49	58	IAmb		IAmb	03 18 53.0
	comp=Z,36nm,1.1s						
UALR	University of	57.51	61	IAmb		IAmb	03 18 53.4
	comp=Z,59nm,1.4s						
WHAR	Wooly Hollow	57.53	60	IAmb		IAmb	03 18 53.0
	comp=Z,39nm,1.3s						
P40A	Paris	57.65	55	IAmb		IAmb	03 18 53.8
	comp=Z,34nm,1.0s						
CCM	Cathedral Cave	58.29	57	P		P	03 18 56.7 +0.4
CCM	Cathedral Cave	58.29	57	P		P	03 18 56.7 +0.4
CCM				pmax		pmax	
	comp=Z,29nm,1.2s						
LCAR	Lake Charles	58.42	59	IAmb		IAmb	03 18 59.2
	comp=Z,40nm,1.2s						
T42A	Van Buren	58.44	58	IAmb		IAmb	03 18 59.2
	comp=Z,58nm,1.2s						
JHJ	Hachijo jima 2	58.45	297	LR		LR	03 43 51.2
	comp=Z,291nm,18.0s,baz=94,slow=36						
N41A	Harden Midland	58.58	54	IAmb		IAmb	03 19 00.2
	comp=Z,47nm,1.0s						
FVM	French Village	58.94	57	IAmb		IAmb	03 19 02.5
	comp=Z,35nm,1.1s						
JFWS	Jewell Farm	59.06	51	IAmb		IAmb	03 19 09.5
	comp=Z,30nm,0.7s						
G40A	Rib Lake	59.17	48	IAmb		IAmb	03 19 10.6
	comp=Z,40nm,0.8s						
JSD	Sado	59.43	303	P		P	03 19 05.4 +1.2
BLKN	Baker Lake	59.45	26	IAmb		IAmb	03 19 11.7
	comp=Z,38nm,1.3s						
L42A	Oliver, Polo	59.48	52	IAmb		IAmb	03 19 06.0
	comp=Z,38nm,1.2s						
MJAR	Matsushiro Arr	59.53	301	P		P	03 19 06.4 +1.4
	comp=Z,30nm,1.1s,baz=97,slow=4.4,SNR=51						
	comp=Z,30nm,1.1s						
MAJO	Matsushiro	59.54	301			P	03 19 07.0 +2.0
MAJO	Mats

WVT	**Waverly**	**61.11**	**59**	P	**P**	**03 19 16.6 +0.8**
WVT	**Waverly**	**61.11**	**59**	P	**P**	**03 19 16.6 +0.8**
WVT				pmax	pmax	
	comp=Z,31nm,1.4s					
USIN	**University of**	**61.12**	**57**	IAmb	IAmb	03 19 18.1
	comp=Z,64nm,1.3s					
P46A	**Rosedale**	**61.39**	**55**	IAmb	IAmb	03 19 19.9
	comp=Z,39nm,1.1s					
SFIN	**Lafayette**	**61.44**	**54**		**P**	**03 19 19.4 +1.4**
X48A	**Hartselle**	**61.89**	**61**		**P**	**03 19 21.4 +0.4**
X48A				IAmb	IAmb	03 19 22.9
	comp=Z,49nm,1.5s					
V48A	**Smith Brothers**	**61.95**	**59**	IAmb	IAmb	03 19 23.2
	comp=Z,34nm,1.1s					
LRAL	**Lakeview Retre**	**62.07**	**62**	IAmb	IAmb	03 19 24.4
	comp=Z,34nm,1.2s					
WCI	**Wyandotte Cave**	**62.18**	**57**	P	**P**	**03 19 24.3 +1.3**
WCI				IAmb	IAmb	03 19 25.2
	comp=Z,66nm,1.5s					
WCI	**Wyandotte Cave**	**62.18**	**57**	P	**P**	**03 19 24.3 +1.3**
WCI				pmax	pmax	
	comp=Z,66nm,1.5s					
CLTN	**Cedars of Leba**	**62.32**	**59**	IAmb	IAmb	03 19 26.3
	comp=Z,32nm,1.3s					
Y49A	**Blount Mountai**	**62.47**	**61**	IAmb	IAmb	03 19 27.2
	comp=Z,47nm,1.2s					
SWET	**Sewanee**	**62.72**	**60**	IAmb	IAmb	03 19 28.3
	comp=Z,52nm,1.3s					
P48A	**Milroy**	**62.78**	**55**	IAmb	IAmb	03 19 28.7
	comp=Z,61nm,1.4s					
FPAL	**Fort Paine**	**63.06**	**61**	IAmb	IAmb	03 19 30.8
	comp=Z,29nm,1.1s					
R49A	**Shelbyville**	**63.06**	**56**	IAmb	IAmb	03 19 36.7
	comp=Z,40nm,1.5s					
PMG	**Port Moresby**	**63.20**	**248**	LR	LR	03 42 01.4
	comp=Z,189nm,21.6s,baz=20,slow=31					
W50A	**Signal Mountai**	**63.23**	**60**	IAmb	IAmb	03 19 31.8
	comp=Z,31nm,1.1s					
MTO3	**Monteciristo**	**63.37**	**83**	IAmb	IAmb	03 19 48.8
	comp=Z,38nm,1.5s					
T50A	**Nancy**	**63.43**	**58**	IAmb	IAmb	03 19 33.1
	comp=Z,36nm,1.3s					
O49A	**Covington**	**63.56**	**54**	IAmb	IAmb	03 19 40.6
	comp=Z,40nm,1.0s					
RES	**Resolute Bay**	**63.58**	**15**	LR	LR	03 43 58.7
	comp=Z,680nm,20.0s,baz=214,slow=33					
N49A	**Columbus Grove**	**63.63**	**53**	IAmb	IAmb	03 19 40.2
	comp=Z,44nm,1.4s					
X51A	**Calhoun**	**63.67**	**60**	IAmb	IAmb	03 19 34.6
	comp=Z,36nm,1.1s					
CPCT	**Cooper Cave**	**63.85**	**59**	IAmb	IAmb	03 19 35.7
	comp=Z,22nm,0.9s					
USA0B	**Ussuriysk Arra**	**63.93**	**310**	*i* P	**P**	**03 19 34.3 -0.2**
USRK	**Ussuriysk Ar.**	**63.93**	**310**	P	**P**	**03 19 35.2 +0.7**
USRK	**Ussuriysk Ar.**	**63.93**	**310**	P	**P**	**03 19 35.5 +1.0**
	comp=Z,4.5nm,0.9s,baz=98,slow=7.9,SNR=7.7					
USRK				LR	LR	03 42 53.3
	comp=Z,337nm,20.5s,baz=99,slow=32					
	comp=Z,4.5nm,0.9s					
USRK	**Ussuriysk Ar.**	**63.93**	**310**	P	**P**	**03 19 35.2 +0.7**
KLR	**Kul'dur**	**63.96**	**316**	*ce*P	**P**	**03 19 34.1 -0.5**
KLR				pmax	pmax	
	comp=Z,15nm,1.3s					
152A	**Waverly Hall**	**64.02**	**63**	IAmb	IAmb	03 19 37.2
	comp=Z,28nm,1.0s					
W52A	**Murphy**	**64.37**	**60**	IAmb	IAmb	03 19 39.3
	comp=Z,48nm,1.5s					
Y52A	**Lilburn**	**64.41**	**61**	IAmb	IAmb	03 19 45.8
	comp=Z,56nm,1.3s					
Q51A	**Peebles**	**64.42**	**55**	IAmb	IAmb	03 19 46.5
	comp=Z,35nm,1.1s					
TKL	**Tuckaleechee C**	**64.43**	**59**	IAmb	IAmb	03 19 46.0
	comp=Z,43nm,1.4s					
TKL	**Tuckaleechee C**	**64.43**	**59**	LR	LR	03 45 01.4
	comp=Z,155nm,19.8s,baz=279,slow=34					
M50A	**Fremont**	**64.45**	**53**	IAmb	IAmb	03 19 39.9
	comp=Z,34nm,0.9s					
TZTN	**Tazewell**	**64.51**	**58**	IAmb	IAmb	03 19 46.1
	comp=Z,59nm,1.4s					
P51A	**Williamsport**	**64.60**	**55**	IAmb	IAmb	03 19 47.5
	comp=Z,35nm,1.2s					
MSHR	**Mys Shultsa**	**64.63**	**309**	*i* P	**P**	**03 19 39.6 +0.5**
MSHR				pmax	pmax	
	comp=Z,13nm,1.1s					
PSTR	**Posyet**	**64.88**	**309**	*i* P	**P**	**03 19 40.6 -0.1**
GOGA	**Godfrey**	**64.96**	**62**	IAmb	IAmb	03 19 43.4
	comp=Z,36nm,1.0s					
GOGA	**Godfrey**	**64.96**	**62**	P	**P**	**03 19 42.1 +0.7**
N51A	**Ashland**	**65.00**	**53**	IAmb	IAmb	03 19 50.0
	comp=Z,60nm,1.4s					
BG3	**Lake Jocassee**	**65.19**	**60**	IAmb	IAmb	03 19 44.7
	comp=Z,32nm,1.0s					
V53A	**Saluda**	**65.20**	**59**	IAmb	IAmb	03 19 50.5
	comp=Z,34nm,1.4s					
Q52A	**Bidwell**	**65.26**	**55**	IAmb	IAmb	03 19 51.6
	comp=Z,40nm,1.0s					
YAK	**Yakutsk**	**65.55**	**330**	P	**P**	**03 19 44.7 0.0**
YAK	**Yakutsk**	**65.55**	**330**	*e*P	**P**	**03 19 45.0 +0.3**
YAK				*e**PP	**pP**	**03 19 49.2 -2.4**
YAK				*e*		03 22 09.0
YAK				*e*S	**S**	**03 28 29.9 +1.3**
YAK				*e*SS	**SS**	**03 32 44.2 +2.1**
YAK				*e*SSS	SSS	03 35 42.3
YAK				pmax	pmax	
	comp=Z,45nm,0.9s					
YAK				pmax	pmax	
	comp=E,14nm,1.3s					
YAK				pmax	pmax	
	comp=N,4.0nm,1.1s					
YAK				pmax	pmax	
	comp=Z,8.0nm,0.6s					
YAK				smax	smax	
	comp=N,66nm,3.0s					
YAK				smax	smax	
	comp=E,141nm,5.0s					
MDJ	**Mudanjiang**	**65.62**	**311**	P	**P**	**03 19 46.9 +1.4**
MDJ				sP	pP	03 19 52.5 -0.2
MDJ				S	**S**	**03 28 37.8 +7.8**
MDJ				pmax	pmax	
	comp=E,25nm,1.3s					
MDJ				LR	LR	
	comp=E,160nm,22.2s					
MDJ				LR	LR	
	comp=E,290nm,17.3s					
MDJ				LR	LR	
	comp=E,610nm,24.4s					
M52A	**Chesterland**	**65.70**	**52**	IAmb	IAmb	03 19 53.7
	comp=Z,40nm,1.3s					
HODGE	**Hodges**	**65.84**	**61**	IAmb	IAmb	03 19 48.8
	comp=Z,44nm,1.4s					
JNU	**Nakatsue**	**65.87**	**298**	P	**P**	**03 19 49.0 +1.6**
	comp=Z,9.8nm,1.1s,baz=74,slow=4.8,SNR=3.1					
JNU				LR	LR	03 48 40.7
	comp=Z,302nm,18.0s,baz=92,slow=36					
	comp=Z,9.8nm,1.1s					
U54A	**Nelsons Funny**	**65.89**	**58**	IAmb	IAmb	03 19 49.5
	comp=Z,75nm,1.8s					
O53A	**New Philadelph**	**65.94**	**54**	IAmb	IAmb	03 19 49.6
	comp=Z,37nm,1.1s					
ILON	**Igloolik, Nuna**	**66.06**	**22**	P	**P**	**03 19 48.9 +1.0**
JAY	**Jayapura**	**66.11**	**258**	LR	LR	03 43 59.4
	comp=Z,173nm,19.0s,baz=14,slow=32					
S54A	**Dingess, Beckl**	**66.14**	**57**	IAmb	IAmb	03 19 57.1
	comp=Z,53nm,1.3s					
N53A	**Lisbon**	**66.17**	**53**	IAmb	IAmb	03 19 56.9
	comp=Z,36nm,1.4s					
KMSC	**Kings Mountain**	**66.47**	**59**	IAmb	IAmb	03 19 52.5
	comp=Z,22nm,1.0s					
O54A	**Avella**	**66.58**	**54**	IAmb	IAmb	03 20 00.2
	comp=Z,33nm,0.8s					
ALLY	**Alegheny Colle**	**66.60**	**52**	IAmb	IAmb	03 19 59.4
	comp=Z,31nm,1.1s					
JSC	**Jenkinsville**	**66.66**	**60**	IAmb	IAmb	03 20 00.1
	comp=Z,40nm,1.1s					
ERPA	**Erie**	**66.67**	**52**	IAmb	IAmb	03 19 53.8
	comp=Z,34nm,0.9s					
ZEA	**Zeya**	**66.69**	**321**	*e*P	**P**	**03 19 52.7 +0.5**
ZEA				pmax	pmax	
	comp=Z,20nm,1.2s					
HEH	**HeiHe**	**66.74**	**317**	*e*P	**P**	**03 19 52.5 -0.1**
HEH				pmax	pmax	
	comp=Z,9.0nm,1.2s					
BUKO	**Buck Lake**	**66.78**	**48**	IAmb	IAmb	03 19 59.8
	comp=Z,28nm,1.1s					
TIXI	**Tiksi**	**66.84**	**341**	P	**P**	**03 19 54.4 +1.6**
TIXI				IAmb	IAmb	03 20 02.1
	comp=Z,45nm,1.4s					
TIXI	**Tiksi**	**66.84**	**341**	LR	LR	03 48 11.4
	comp=Z,348nm,19.8s,baz=148,slow=35					
TIXI	**Tiksi**	**66.84**	**341**	*ce*P	**P**	**03 19 53.7 +0.9**
TIXI				pmax	pmax	
	comp=Z,27nm,2.5s					
BLA	**Blacksburg**	**66.92**	**57**	IAmb	IAmb	03 20 02.8
	comp=Z,35nm,0.9s					
MCWV	**Mont Chateau**	**67.05**	**54**	IAmb	IAmb	03 19 56.8
	comp=Z,26nm,0.9s					
U56A	**King**	**67.07**	**58**	IAmb	IAmb	03 19 57.0
	comp=Z,39nm,1.1s					
BNX	**BinXian**	**67.07**	**312**	⇓P	**P**	**03 19 55.3 +0.5**
BNX				PcP	**PcP**	**03 20 22.1 -0.8**
BNX				S	**S**	**03 28 49.6 +2.0**
BNX				sS	**pS**	**03 28 55.6 -0.7**
BNX				pmax	pmax	
	comp=Z,21nm,1.1s					
BNX				LR	LR	
	comp=Z,290nm,15.7s					
BNX				LR	LR	
	comp=Z,290nm,20.1s					
BNX				LR	LR	
	comp=Z,380nm,29.3s					
BIRD	**Birdtown, Kers**	**67.25**	**60**	IAmb	IAmb	03 20 04.0
	comp=Z,27nm,1.0s					
KSRS	**Korea Array**	**67.64**	**303**	P	**P**	**03 20 00.3 +1.8**
	comp=Z,5.5nm,0.9s,baz=86,slow=7.0,SNR=16					
KSRS				LR	LR	03 48 02.1
	comp=Z,203nm,18.8s,baz=80,slow=35					
	comp=Z,5.5nm,0.9s					
KSAR	**Wonju Array Be**	**67.67**	**303**	P	**P**	**03 20 00.2 +1.5**
KSAR	**Wonju Array Be**	**67.67**	**303**	P	**P**	**03 20 00.2 +1.5**
T57A	**Hurt**	**67.87**	**57**	IAmb	IAmb	03 20 11.1
	comp=Z,54nm,1.8s					
S57A	**Dark Hollow, R**	**68.00**	**56**	IAmb	IAmb	03 20 02.6
	comp=Z,18nm,0.8s					
DELO	**Deloro Mine**	**68.13**	**49**	IAmb	IAmb	03 20 08.7
	comp=Z,24nm,1.1s					
V58A	**Windy Hill, Pi**	**68.17**	**58**	IAmb	IAmb	03 20 10.3
	comp=Z,42nm,1.1s					
SSPA	**Standing Stone**	**68.41**	**53**	P	**P**	**03 20 03.8 +0.4**
L56A	**Greenwood**	**68.46**	**52**	IAmb	IAmb	03 20 11.1
	comp=Z,36nm,1.1s					
JTS	**Las Juntas de**	**68.64**	**86**	LR	LR	03 46 06.2
	comp=Z,271nm,18.4s,baz=290,slow=32					
CN2	**Changchun**	**68.66**	**310**	P	**P**	**03 20 05.5 +0.7**
CN2				pP	pP	03 20 10.1 -2.0
CN2				S	**S**	**03 29 03.9 -2.9**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
CN2				LR	LR	
	comp=Z,300nm,17.0s					
CN2				LR	LR	
	comp=Z,600nm,17.0s					
CN2				LR	LR	
	comp=Z,600nm,19.0s					
M57A	**Sunshine Farm,**	**68.89**	**52**	IAmb	IAmb	03 20 14.2
	comp=Z,43nm,1.3s					
CBN	**Corbin Frederi**	**69.16**	**56**	IAmb	IAmb	03 20 15.9
	comp=Z,28nm,1.1s					
JOW	**Kunigami**	**69.22**	**292**	LR	LR	03 44 21.0
	comp=Z,239nm,21.8s,baz=100,slow=31					
N58A	**Sunbury**	**69.27**	**53**	IAmb	IAmb	03 20 16.7
	comp=Z,30nm,0.9s					
BINY	**Binghamton**	**69.61**	**51**	IAmb	IAmb	03 20 18.2
	comp=Z,32nm,1.1s					
MVL	**Millersville**	**69.67**	**54**	IAmb	IAmb	03 20 19.0
	comp=Z,40nm,1.1s					
KSPA	**Keystone Colle**	**69.86**	**52**	IAmb	IAmb	03 20 20.0
	comp=Z,38nm,1.2s					
L59A	**Walton**	**70.30**	**51**	IAmb	IAmb	03 20 22.6
	comp=Z,40nm,1.2s					
LUPA	**Lehigh Univers**	**70.31**	**53**	IAmb	IAmb	03 20 23.1
	comp=Z,35nm,1.0s					
FRNY	**Flat Rock**	**70.93**	**48**	IAmb	IAmb	03 20 26.1
	comp=Z,32nm,1.0s					
ARMA	**Armidale**	**71.00**	**227**	P	**P**	**03 20 19.4 -0.1**
TRNY	**Table Rock, Ra**	**71.08**	**52**	IAmb	IAmb	03 20 27.5
	comp=Z,28nm,1.1s					
FRB	**Frobisher Bay**	**71.31**	**28**	LR	LR	03 49 48.7
	comp=Z,350nm,18.0s,baz=286,slow=34					
PAL	**Palisades**	**71.34**	**52**	IAmb	IAmb	03 20 29.2
	comp=Z,38nm,1.1s					
KUQ	**Kuujjuuaa**	**72.12**	**34**	P	**P**	**03 20 26.4 +0.7**
KUQ				IAmb	IAmb	03 20 32.9
	comp=Z,32nm,1.1s					
DL2	**Dalian**	**72.29**	**306**	P	P	03 20 33.6 +6.6
DL2				pmax	pmax	
	comp=Z,40nm,1.0s					
DL2				pmax	pmax	
	comp=Z,230nm,6.1s					
DL2				LR	LR	
	comp=Z,170nm,16.8s					
DL2				LR	LR	
	comp=Z,300nm,16.6s					
DL2				LR	LR	
	comp=Z,380nm,16.6s					
KULLO	**Kullorsuaq**	**73.42**	**16**	*i* P	P	03 20 39.6 +6.5
KULLO				IAmb	IAmb	03 20 40.6
	comp=Z,56nm,1.1s					
M65A	**Busby, Falmout**	**73.64**	**51**	P	**P**	**03 20 34.8 -0.3**
	baz=282					
D62A	**Allapoint, All**	**73.65**	**45**	IAmb	IAmb	03 20 42.8
	comp=Z,27nm,0.9s					
BOD	**Bodaibo**	**73.67**	**326**	*e*P	**P**	**03 20 35.4 +0.5**
BOD				pmax	pmax	
	comp=Z,121nm,1.6s					
NEEM	**North Greenlan**	**74.06**	**13**	*i* P	P	03 20 42.9 +5.7
NEEM				IAmb	IAmb	03 20 44.7
	comp=Z,64nm,1.3s					
UPNV	**Upernavik**	**74.16**	**18**	*i* P	P	03 20 44.2 +6.7
UPNV				IAmb	IAmb	03 20 44.9
	comp=Z,26nm,0.8s					
QLP	**Quilpie**	**74.17**	**234**	P	**P**	**03 20 39.5 +1.3**
	comp=Z,34nm,1.2s					
QIS	**Mount Isa**	**74.85**	**241**	P	**P**	**03 20 42.9 +0.6**
	comp=Z,18nm,2.1s					
XLT	**XiLinHaoTe**	**75.31**	**312**	*e*P	**P**	**03 20 45.6 +0.8**
XLT				pP	pP	03 20 51.3 -0.8
XLT				PcP	**PcP**	**03 20 59.8 +1.7**
XLT				S	**S**	**03 30 18.1 -5.3**
XLT				pmax	pmax	
	comp=Z,10.0nm,1.2s					
XLT				pmax	pmax	
	comp=Z,200nm,5.8s					
XLT				LR	LR	
	comp=Z,460nm,22.9s					
XLT				LR	LR	
	comp=Z,380nm,20.5s					
NUUG	**Nuugaatsiaq**	**75.39**	**19**	*i* P	P	03 20 51.2 +6.6
NUUG				IAmb	IAmb	03 20 52.4
	comp=Z,49nm,1.1s					
CMSA	**Cobar Meteorol**	**75.79**	**229**	P	**P**	**03 20 48.6 +1.1**
	comp=Z,13nm,1.2s					
NJ2	**Nanjing**	**76.03**	**299**	*e*P	**P**	**03 20 48.5 -0.5**
NJ2				pmax	pmax	
	comp=Z,14nm,0.5s					
BJI	**Beijing**	**76.16**	**308**	P	**P**	**03 20 50.8 +1.2**
BJI				sP	**pP**	**03 20 55.8 -1.1**
BJI				S	**S**	**03 30 32.6 0.0**
BJI				pmax	pmax	
	comp=Z,11nm,1.4s					
BJI				LR	LR	
	comp=Z,74nm,17.6s					
BJI				LR	LR	
	comp=Z,95nm,19.1s					
BJI				LR	LR	
	comp=Z,120nm,20.7s					
NOR	**Nord**	**76.89**	**6**	*i* P	P	03 20 59.4 +6.4
NOR				IAmb	IAmb	03 21 00.7
	comp=Z,14nm,1.1s					
DAV	**Davao City (W)**	**77.00**	**273**	LR	LR	03 47 50.7
	comp=Z,161nm,21.9s,baz=152,slow=30					
SFJD	**Kangerlussuaq**	**77.80**	**23**	LR	LR	03 53 18.5
	comp=Z,680nm,18.5s,baz=302,slow=34					
SFJD	**Kangerlussuaq**	**77.80**	**23**	*i* P	P	03 21 05.2 +6.9
SFJD				IAmb	IAmb	03 21 06.3
	comp=Z,42nm,0.9s					
HNS	**HongShan**	**77.94**	**305**	⇑P	P	03 21 06.8 +7.1
HNS				S	**S**	**03 30 53.0 +0.8**
HNS				pmax	pmax	
	comp=Z,23nm,1.1s					
HNS				LR	LR	
	comp=Z,200nm,14.3s					
HNS				LR	LR	
	comp=Z,260nm,16.8s					
HNS				LR	LR	
	comp=Z,210nm,19.0s					
OTAV	**Otavalo**	**77.98**	**94**	P	**P**	**03 21 03.3 +2.4**
OTAV				pmax	pmax	
	comp=Z,18nm,1.3s					
QZH	**Quanzhou**	**78.14**	**292**	*e*P	P	03 21 07.6 +6.6
QZH				S	**S**	**03 30 58.8 +4.1**
QZH				LR	LR	
	comp=Z,280nm,16.8s					
NUUK	**Nuuk**	**78.39**	**26**	*i* P	P	03 21 08.7 +7.1
NUUK				IAmb	IAmb	03 21 10.7
	comp=Z,57nm,1.0s					
STKA	**Stephens Creek**	**78.91**	**230**	P	**P**	**03 21 05.0 0.0**
STKA	**Stephens Creek**	**78.91**	**230**	P	**P**	**03 21 05.2 +0.2**
	comp=Z,53nm,0.9s					
STKA	**Stephens Creek**	**78.91**	**230**	P	**P**	**03 21 05.5 +0.5**
	comp=Z,4.3nm,0.8s,baz=24,slow=5.0,SNR=4.9					
STKA				LR	LR	03 51 41.2
	comp=Z,212nm,18.8s,baz=34,slow=32					
	comp=Z,4.3nm,0.8s					
STKA	**Stephens Creek**	**78.91**	**230**	*i* P	**P**	**03 21 04.8 -0.2**
WRAB	**Tennant Creek**	**78.97**	**244**	*i* P	**P**	**03 21 05.4 -0.2**
WRAB				pmax	pmax	
	comp=Z,3.0nm,0.9s					
WRA	**Warramunga Arr**	**78.98**	**244**	P	**P**	**03 21 06.0 +0.3**
	comp=Z,2.5nm,0.9s,baz=61,slow=5.7,SNR=7.3					
	comp=Z,2.5nm,0.9s					
SUMG	**Summit**	**79.09**	**16**	*i* P	P	03 21 12.6 +6.8
HHC	**Hu-ho-hao-te**	**79.33**	**310**	*e*P	**P**	**03 21 08.1 +0.6**
HHC				sP	pP	03 21 14.3 -0.5
HHC				pmax	pmax	
	comp=Z,26nm,0.8s					
HHC				pmax	pmax	
	comp=Z,210nm,9.3s					
HHC				LR	LR	
	comp=Z,160nm,11.8s					
HHC				LR	LR	
	comp=Z,220nm,14.3s					
HHC				LR	LR	
	comp=Z,280nm,18.5s					
WHN	**Wuhan**	**80.14**	**299**	⇑P	P	03 21 19.1 +7.2
WHN	**Wuhan**	**80.14**	**299**	S	**SKSac**	**03 31 21.8 -6.9**
WHN				LR	LR	
	comp=Z,1μm,24.8s					
ULN	**Ulaanbaatar**	**80.30**	**317**	P	**P**	**03 21 12.2 -0.5**
ULN	**Ulaanbaatar**	**80.30**	**317**	*i* P	**P**	**03 21 12.4 -0.2**
ULN				pmax	pmax	
	comp=Z,17nm,1.6s					
ROSC	**El Rosal**	**80.35**	**88**	P	**P**	**03 21 15.7 +1.9**
	comp=Z,10nm,0.9s,baz=54,slow=3.5,SNR=7.7					
ROSC				LR	LR	03 48 39.0
	comp=Z,197nm,19.5s,baz=276,slow=30					
	comp=Z,10nm,0.9s					
LYN	**LuoYang**	**80.49**	**303**	P	**P**	**03 21 14.6 +0.9**
LYN				pP	PcP	03 21 20.5 -0.1
LYN				S	**S**	**03 31 22.1 +2.7**
LYN				pmax	pmax	
	comp=Z,24nm,0.5s					
LYN				LR	LR	
	comp=Z,280nm,16.5s					
LYN				LR	LR	
	comp=Z,390nm,16.1s					
LYN				LR	LR	
	comp=Z,430nm,17.5s					
BTO	**Baotou**	**80.53**	**310**	*e*P	P	03 21 21.0 +7.1
BTO				sP	sP	03 21 28.0 +4.5
BTO				SS	SS	03 36 32.3 +0.6
BTO				pmax	pmax	
	comp=Z,50nm,0.9s					
BTO				pmax	pmax	
	comp=Z,310nm,3.7s					
BTO				LR	LR	
	comp=Z,240nm,9.5s					
BTO				LR	LR	
	comp=Z,310nm,8.6s					
BTO				LR	LR	
	comp=Z,300nm,8.9s					
IRK	**Irkutsk**	**80.56**	**322**	*e*P	**P**	**03 21 14.7 +1.0**
IRK				pmax	pmax	
	comp=Z,78nm,1.9s					
ICESG	**Greenland Ices**	**80.57**	**19**	*i* P	P	03 21 20.1 +6.2
ICESG				IAmb	IAmb	03 21 21.9
	comp=Z,39nm,0.9s					
NRIK	**Noril'sk**	**80.61**	**341**	P	**P**	**03 21 15.0 +1.4**
NRIK				IAmb	IAmb	03 21 22.4
	comp=Z,40nm,1.1s					
NRIK	**Noril'sk**	**80.61**	**341**	P	**P**	**03 21 13.8 +0.2**
	comp=Z,4.1nm,0.8s,baz=81,slow=3.4,SNR=8.7					
	comp=Z,4.1nm,0.8s					
NRIK	**Noril'sk**	**80.61**	**341**	*ce*P	**P**	**03 21 14.6 +1.0**
NRIK				pmax	pmax	
	comp=Z,55nm,1.2s					
ATAH	**Atahualpa**	**80.62**	**101**	LR	LR	03 50 30.3
	comp=Z,343nm,18.6s,baz=299,slow=31					
SONM	**Songino Array**	**80.73**	**317**	P	**P**	**03 21 16.3 +1.4**
SONM				IAmb	IAmb	03 21 23.1
	comp=Z,63nm,1.7s					
SONM	**Songino Array**	**80.73**	**317**	P	**P**	**03 21 15.4 +0.5**
	comp=Z,1.9nm,0.7s,baz=66,slow=3.7,SNR=15					
	comp=Z,1.9nm,0.7s					
AS31	**Alice Springs**	**80.96**	**241**	P	**P**	**03 21 17.8 +1.4**
ASAR	**Alice Springs**	**80.96**	**241**	P	**P**	**03 21 17.0 +0.6**
ASAR	**Alice Springs**	**80.96**	**241**	P	**P**	**03 21 17.4 +1.0**
	comp=Z,3.2nm,0.8s,baz=57,slow=6.4,SNR=28					
ASAR				LR	LR	03 55 02.4
	comp=Z,239nm,19.3s,baz=70,slow=34					
	comp=Z,3.2nm,0.8s					
ASAR	**Alice Springs**	**80.96**	**241**	P	**P**	**03 21 17.0 +0.6**
RUSC	**La Rusia**	**81.17**	**87**	P	**P**	**03 21 19.1 +0.8**
ARPS	**Mount Arapiles**	**81.32**	**226**	P	**P**	**03 21 19.5 +1.6**
	comp=Z,19nm,0.9s					
ZAK	**Zakamensk**	**81.79**	**321**	*e*P	**P**	**03 21 21.6 +1.2**
ZAK				pmax	pmax	
	comp=Z,26nm,1.5s					
DBG	**Daneborg**	**81.99**	**11**	*i* P	P	03 21 28.5 +7.7
DBG				IAmb	IAmb	03 21 29.0
	comp=Z,26nm,1.1s					
SPITS	**Spitsbergen Ar**	**82.22**	**2**	LR	LR	03 53 01.7
	comp=Z,252nm,20.6s,baz=334,slow=32					
SDV	**Santo Domingo**	**82.51**	**83**	P	**P**	**03 21 25.8 +0.9**
SDV	**Santo Domingo**	**82.51**	**83**	LR	LR	03 54 24.9
	comp=Z,127nm,20.4s,baz=262,slow=33					
ISOG	**Isortoq, Green**	**82.65**	**22**	*i* P	P	03 21 30.6 +6.1
ISOG				IAmb	IAmb	03 21 32.3
	comp=Z,37nm,1.1s					
MOY	**Mondy**	**82.66**	**322**	*e*P	**P**	**03 21 26.2 +1.2**
MOY				pmax	pmax	
	comp=Z,58nm,2.0s					
XAN	**Xi'an**	**83.44**	**304**	P	**P**	**03 21 29.8 +0.5**
XAN				pP	PcP	03 21 35.5 +1.9
XAN				pmax	pmax	
	comp=Z,13nm,1.3s					
SJG	**San Juan**	**83.71**	**73**	LR	LR	03 55 59.3
	comp=Z,50nm,20.8s,baz=204,slow=34					
SCO	**Scoresbysund**	**84.47**	**14**	*i* P	P	03 21 40.9 +7.2
SCO				IAmb	IAmb	03 21 42.2
	comp=Z,56nm,1.3s					
FITZ	**Fitzroy Crossi**	**85.77**	**249**	LR	LR	03 55 44.4
	comp=Z,202nm,21.4s,baz=63,slow=33					
KAPI	**Kappang**	**86.49**	**263**	LR	LR	03 56 14.3
	comp=Z,138nm,19.8s,baz=56,slow=33					
LZH	**Lanzhou**	**86.62**	**307**	*e*P	P	03 21 52.9 +7.5
LZH				pP	sP	03 21 57.0 +2.1
LZH				pmax	pmax	
	comp=Z,45nm,1.7s					
LZH				LR	LR	
	comp=N,200nm,17.5s					
LZH				LR	LR	
	comp=E,270nm,14.1s					
JMIC	**Jan Mayen**	**86.74**	**10**	LR	LR	03 57 16.1
	comp=E,298nm,21.9s,baz=268,slow=33					
QIZ	**Qiongzhong**	**87.68**	**289**	P	**P**	**03 21 50.0 -0.6**
QIZ				S	**S**	**03 32 30.6 -1.5**
QIZ				SS	**SS**	**03 38 22.6 +4.3**
QIZ				LR	LR	
	comp=E,130nm,16.9s					
QIZ				LR	LR	
	comp=E,190nm,19.1s					
QIZ				LR	LR	
	comp=E

comp=E,5.0nm,0.9s
GTA LR LR
comp=E,180nm,16.3s
GTA LR LR
comp=E,150nm,18.3s
GTA LR LR
comp=E,260nm,20.7s
CD2 Chengdu 88.62 302 P P 03 21 54.4 -0.5
CD2 S S 03 32 38.3 -2.4
CD2 pmax pmax
comp=E,10.0nm,0.6s
CD2 pmax pmax
comp=E,230nm,4.6s
CD2 LR LR
comp=E,190nm,15.8s
CD2 LR LR
comp=E,320nm,19.0s
FORT Forrest 88.67 237 P P 03 21 55.6 +0.6
comp=Z,31nm,1.0s
BORG Borgarnes 88.87 18 LR LR 04 00 55.6
comp=Z,125nm,18.1s,baz=334,slow=35
ZALV Zalesovo Beam 90.18 329 P P 03 22 03.1 +1.4
ZALV Zalesovo Beam 90.18 329 P P 03 22 03.6 +1.9
comp=Z,5.1nm,0.9s,baz=57,slow=5.5,SNR=16
comp=Z,5.1nm,0.9s
ZALV Zalesovo Beam 90.18 329 *i* P **P 03 22 03.5 +1.8**
ZALV pmax pmax
comp=Z,5.0nm,0.9s
H03N2 Juan Fernandez 90.25 125 T T 05 01 35.4
baz=298,slow=76,SNR=112
H03N3 Juan Fernandez 90.27 126 T T 05 01 37.1
baz=298,slow=76,SNR=129
H03N1 Juan Fernandez 90.27 125 T T 05 01 38.0
baz=298,slow=76,SNR=142
ARCES ARCESS Array B 91.01 360 P P 03 22 06.9 +1.6
comp=Z,15nm,1.1s,baz=9.4,slow=4.1,SNR=8.6
ARCES LR LR 04 04 15.7
comp=Z,151nm,18.1s,baz=350,slow=36
comp=Z,15nm,1.1s
PZH PanZhiHua 91.94 299 P P 03 22 10.8 +0.2
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,130nm,5.1s
PB11 IPOC Station P 93.01 110 IAmb IAmb 03 22 17.9
comp=Z,28nm,1.2s
LPAZ La Paz 93.22 106 IAmb IAmb 03 22 20.3
comp=Z,28nm,1.9s
LPAZ La Paz 93.22 106 P P 03 22 19.1 +1.9
comp=Z,1.7nm,0.8s,baz=276,slow=2.1,SNR=7.7
LPAZ LR LR 03 56 25.3
comp=Z,173nm,20.9s,baz=304,slow=30
comp=Z,1.7nm,0.8s
GOMU GeErMu 93.23 310 P P 03 22 15.6 -1.1
GOMU sP pP 03 22 23.1 -1.0
GOMU PP **PP 03 25 57.6 -2.3**
GOMU S **S 03 33 19.6 -3.7**
GOMU SS **SS 03 39 36.3 -1.9**
GOMU pmax pmax
comp=Z,6.0nm,0.3s
GOMU LR LR
comp=Z,290nm,12.9s
GOMU LR LR
comp=Z,220nm,12.9s
GOMU LR LR
comp=Z,340nm,12.6s
WMQ Urumqi 94.21 320 *e*P **P 03 22 22.9 +2.2**
AC06 Mina Casimiro 94.94 117 P P 03 22 24.3 +0.1
KURK Kurchatov 95.17 329 P P 03 22 24.0 -0.8
KURK Kurchatov 95.17 329 *i* P **P 03 22 24.6 -0.2**
KURK pmax pmax
comp=Z,4.0nm,0.9s
LCO Las Campanas 95.21 119 P P 03 22 26.2 +0.6
LCO Las Campanas 95.21 119 P P 03 22 26.3 +0.6
LCO pmax pmax
comp=Z,47nm,1.2s
KURBB Kurchatov Arra 95.27 329 P P 03 22 26.6 +1.3
comp=Z,1.0nm,1.0s,baz=52,slow=4.3,SNR=5.6
KURBB LR LR 04 03 04.4
comp=Z,271nm,21.9s,baz=173,slow=34
comp=Z,1.0nm,1.0s
SAML Samuel 95.38 98 P P 03 22 26.1 -0.4
SAML Samuel 95.38 98 P P 03 22 26.1 -0.4
SAML pmax pmax
comp=Z,10.0nm,1.5s
MK31 Makanchi Array 95.68 324 *i* P **P 03 22 27.0 -0.3**
MKAR Makanchi Array 95.68 324 P P 03 22 28.2 +0.9
comp=Z,0.7nm,0.7s,baz=47,slow=5.3,SNR=21
MKAR LR LR 04 02 48.1
comp=Z,224nm,21.6s,baz=46,slow=34
comp=Z,0.7nm,0.7s
AC02 Maricunga 95.81 116 P P 03 22 29.3 +0.6
AC02 IAmb IAmb 03 22 32.6
comp=Z,19nm,1.3s
MT08 Bocatoma Ro 97.21 123 P P 03 22 34.1 -0.5
BVAR Borovoye Array 97.31 334 P Pdif 03 22 35.6 +1.1
comp=Z,1.0nm,0.6s,baz=62,slow=4.0,SNR=26
BVAR LR LR 04 08 36.1
comp=Z,220nm,18.9s,baz=40,slow=37
comp=Z,1.0nm,0.6s
BRVK Borovoye 97.32 334 *i* P **P 03 22 33.9 -0.6**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 97.49 293 P Pdif 03 22 38.3 +2.2
comp=Z,0.5nm,0.4s,baz=153,slow=6.8,SNR=5.2
CMAR LR LR 04 03 10.7
comp=Z,64nm,21.6s,baz=80,slow=33
comp=Z,0.5nm,0.4s
KLMR Klimovskoe 98.78 352 *e*P Pdif 03 22 41.9 +1.0
KLMR pmax pmax
comp=Z,32nm,1.4s
NOA NORSAR Array B 98.86 6 P Pdif 03 22 43.1 +1.8
comp=Z,0.3nm,0.7s,baz=351,slow=5.4,SNR=3.3
NOA LR LR 04 05 00.4
comp=Z,146nm,20.3s,baz=340,slow=34
comp=Z,0.3nm,0.7s
ARTI Arti 98.92 342 LR LR 04 07 58.6
comp=Z,393nm,21.3s,baz=36,slow=36
ARTI Arti 98.92 342 P P 03 22 40.5 -1.1
ARTI 03 26 41.1
ARTI S **SKSac 03 33 18.4 -0.3**
ARTI MLR MLR
comp=Z,345nm,18.0s
PLCA Paso Flores 99.10 130 LR LR 03 58 46.4
comp=Z,253nm,18.8s,baz=283,slow=30
FINES FINESS Array B 99.13 359 P Pdif 03 22 44.3 +1.9
comp=Z,6.7nm,0.9s,baz=27,slow=6.4,SNR=14
comp=Z,6.7nm,0.9s
KIRV Kirov 99.27 347 *i* P **Pdif 03 22 40.3 -2.8**
SIV San Ignacio 99.55 104 LR LR 04 02 42.4
comp=Z,412nm,18.1s,baz=293,slow=32
HFS Hagfors 99.99 5 LR LR 04 06 13.4
comp=Z,271nm,19.7s,baz=351,slow=34
MNK Minsk 106.03 358 *i* P **Pdif 03 23 11.4 -1.9**
MNK *i* 03 27 35.2
MNK *i* PPP PPP 03 29 51.0
MNK *i* 03 34 34.3
MNK *i* PS **PS 03 36 53.7 +0.2**
MNK *i* SS SS 03 42 36.6 +2.4
MNK *i* SSS SSS 03 46 36.0
MNK pmax pmax
comp=N,11nm,0.6s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=Z,16nm,0.7s
MNK MLR MLR
comp=N,48nm,17.0s
MNK MLR MLR
comp=E,192nm,20.0s
MNK MLR MLR
comp=Z,165nm,19.0s
MAK Makhachkala 114.07 341 *i* P **Pdif 03 23 49.2 -0.1**
MAK *e*PPP PPP 03 30 58.0
MAK *e* 03 34 19.2
MAK *e*SSS SSS 03 48 32.9
MAK pmax pmax
comp=Z,38nm,1.0s
KIV Kislovodsk 114.44 345 *i* PKIKP **PKiKP 03 27 40.9 -0.7**
KIV pmax pmax
comp=Z,2.0nm,1.1s
KBZ Khabaz 114.60 345 *i* PKIKP **PKiKP 03 27 41.5 -0.2**
BRTR Keskin Array B 120.23 352 PKP **PKiKP 03 27 55.8 +2.7**
comp=Z,1.6nm,1.0s,baz=92,slow=3.8,SNR=8.2
MMAI Mount Meron Ar 126.50 348 PKP **PKiKP 03 28 06.3 +0.8**
comp=Z,1.0nm,0.6s,baz=247,slow=9.9,SNR=5.1
ELIB Princess Elisa 127.74 180 *d*PKPdf **PKiKP 03 28 07.6 +0.8**
ELIB *d*PP **PP 03 30 07.0 -0.8**
SYO Syowa Base 129.79 187 ⃖ *ep*Pdiff **Pdif 03 25 02.4 +4.0**
SYO Syowa Base 129.79 187 ⃖ *ep*PKiKP **PKiKP 03 28 17.1 +6.3**
TORD Torodi Ar. Bea 140.53 36 PKPdf 03 28 30.4 -1.3
DBIC Dimbokro 141.19 50 PKhKP PKPpre 03 28 31.9
comp=Z,6.3nm,1.0s,baz=30,slow=3.9,SNR=3.2
KMBO Kilima Mbogo 157.57 324 PKP **PKPdf 03 29 01.0 +2.0**
comp=Z,0.6nm,0.4s,baz=316,slow=4.0,SNR=4.1
KMBO Kilima Mbogo 157.57 324 PKIKP **PKPdf 03 29 01.0 +2.0**

NEIC ***14*** *03:16:30.2±1.3, 19°.762N±0°.008×155°.80W±0°.02, h10km±1km, Error ellipse: s-maj=2.9km s-min=2.2km az=294.0*
HVO 14 03:16:29.8±0.8, 19°.769N±0°.010×155°.82W±0°.01, h14km±2km, ML2.6/10, ML2.7/31(NEIC), Error ellipse: s-maj=2.0km s-min=1.3km az=111.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUH	**Hualalai**	**0.09**	**192**		Pg	03 16 33.4	+0.2
HUH					Sg	03 16 35.5	+0.1
HUH	**Hualalai**	**0.09**	**192**	IAML		03 16 36.4	
HUH	comp=E,2μm,0.3s			IAML		03 16 38.5	
KKH	**Kailua Kona**	**0.22**	**240**		Pg	03 16 34.8	+0.1
KKH					Sb	03 16 38.8	-0.6
POHA	**Pohakuloa**	**0.27**	**92**		Pg	03 16 35.2	-0.5
POHA					Sg	03 16 39.4	-0.3
POHA	**Pohakuloa**	**0.27**	**92**	IAML		03 16 39.7	
POHA	comp=N,767nm,1.6s			IAML		03 16 40.1	
ALEP	**Alea Permanent**	**0.28**	**144**		Pg	03 16 36.0	+0.1
ALEP					Sg	03 16 40.6	+0.5
HPAH	**Hawaii Prepara**	**0.28**	**23**		Pg	03 16 35.7	-0.1
HPAH				IAML		03 16 40.3	
HPAH	**Hawaii Prepara**	**0.28**	**23**		Sg	03 16 39.9	-0.1
CPH	**Captain Cook**	**0.30**	**199**		Pg	03 16 35.8	-0.2
MLOA	**Mauna Loa Obse**	**0.32**	**136**		Pg	03 16 36.5	-0.2
MLOA					Sg	03 16 41.3	-0.1
MWH	**Mokuaweoweo**	**0.35**	**144**		Sg	03 16 41.9	-0.4
MWH	**Mokuaweoweo**	**0.35**	**144**		Pg	03 16 36.6	-0.6
MWH				IAML		03 16 49.1	
MWH	**Mokuaweoweo**	**0.35**	**144**	IAML		03 16 40.9	
HMH	**Humu'ula Sheep**	**0.35**	**118**		Pg	03 16 36.9	-0.3
HMH					Sg	03 16 42.2	0.0
HMH	**Humu'ula Sheep**	**0.35**	**118**	IAML		03 16 44.0	
HMH	comp=E,1μm,0.3s			IAML		03 16 47.8	
MLH	**Mauna Loa**	**0.49**	**124**		Pg	03 16 38.6	-1.0
MLH					Sg	03 16 45.6	-0.6
MLH	**Mauna Loa**	**0.49**	**124**	IAML		03 16 46.1	
MLH	comp=E,613nm,0.7s			IAML		03 16 46.2	
KHU	**Kahuku**	**0.55**	**160**		Pg	03 16 39.3	-1.5
KHU					Sg	03 16 46.5	-1.7
KHU	**Kahuku**	**0.55**	**160**	IAML		03 16 47.3	
KHU	comp=E,1μm,2.6s			IAML		03 16 52.4	
RSD	**Rainshed**	**0.59**	**121**		Sg	03 16 47.3	-2.0
UWE	**Uwekahuna**	**0.60**	**125**		Pg	03 16 39.8	-1.9
UWE					Sg	03 16 47.8	-1.9
WRMHI	**West Rim**	**0.61**	**126**		Pg	03 16 39.8	-2.0
WRMHI					Sg	03 16 47.8	-2.0
OBL	**Observatory Le**	**0.61**	**125**		Pg	03 16 40.1	-1.7
OBL					Sg	03 16 48.4	-1.6
UWB	**Uwekahuna Bluf**	**0.61**	**124**		Pg	03 16 39.6	-2.2
SBLHI	**Steaming Bluff**	**0.62**	**123**		Pg	03 16 39.8	-2.2
SDHHI	**Sand Hill**	**0.62**	**127**		Pg	03 16 40.0	-2.0
HATHI	**Halema'uma'u T**	**0.63**	**123**	IAML		03 17 00.4	
HATHI	comp=E,500nm,1.2s			IAML		03 17 00.4	
HTC	**Hot Caves**	**0.66**	**143**		Pg	03 16 40.6	-2.1
PUH	**Pauahi**	**0.69**	**125**	IAML		03 16 59.2	
PUH	comp=E,409nm,2.7s			IAML		03 17 00.9	
KNHH	**Kane Nui o Ham**	**0.72**	**122**		Pg	03 16 41.4	-2.5
STCH	**Steam Cracks**	**0.76**	**120**		Pg	03 16 41.5	-3.0
STCH	**Steam Cracks**	**0.76**	**120**	IAML		03 16 52.1	
STCH	comp=E,302nm,1.2s			IAML		03 16 59.9	
NPOC	**North of Pu'u**	**0.76**	**119**		Pg	03 16 42.7	-2.0
JOKA	**Jonika Flow**	**0.83**	**113**		Pg	03 16 44.0	-2.1
JOKA				IAML		03 17 08.8	
	comp=E,362nm,3.5s						

IDC ***14*** *03:16:42.1±9.2, 60°.97N×149°.95W, h67km±63km, mb3.5/4, mbtmp3.7/5, ML3.0/1, Error ellipse: s-maj=70.5km s-min=54.0km az=152.0*
AEIC ***14*** *03:16:44.5±1.0, 61°.24N±0°.03×149°.86W±0°.05, h40km±6km, ML3.2, ML3.4/136(NEIC), Error ellipse: s-maj=4.1km s-min=3.3km az=133.0*
NEIC ***14*** *03:16:44.1±1.0, 61°.228N±0°.005×149°.87W±0°.05, h35km±2km, Error ellipse: s-maj=3.8km s-min=3.1km az=99.0*
ISC 14 03:16:42.8±0.9, 61°.20N±0°.03×149°.87W±0°.03, h50km±6km, n75, σ1§38/81, mb3.8/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.13**	**150**	Pn	**Pn**	**03 16 51.1**	**+0.3**
RC01				Sn	**Sn**	**03 16 57.0**	**+0.7**
FIS	**Fire Island**	**0.18**	**251**	Pn	**Pn**	**03 16 51.9**	**+1.0**
FIS				Sn	**Sn**	**03 16 58.9**	**+2.2**
SUA	**Susitna One**	**0.50**	**302**	Pn	**Pn**	**03 16 54.0**	**-0.1**
SUA				Sn	**Sn**	**03 17 02.1**	**-0.1**
SUA				IAML		03 17 02.6	
SUA	comp=E,3μm,0.7s			IAML		03 17 02.8	
PMR	**Palmer**	**0.53**	**42**	Pn	**Pn**	**03 16 54.2**	**-0.2**
PMR				Sn	**Sn**	**03 17 02.3**	**-0.3**
PMR				IAML		03 17 03.3	
M22K	**Willow**	**0.56**	**348**		**Sn**	**03 17 02.7**	**-0.7**
KNK	**Knik Glacier**	**0.71**	**72**	Pn	**Pn**	**03 16 57.4**	**+0.6**
KNK				IAML		03 17 10.5	
KNK	comp=N,2μm,0.5s			IAML		03 17 11.3	
SLKM	**Skilak Lake**	**0.72**	**194**	Pn	**Pn**	**03 16 57.3**	**+0.5**
SLKM				Sn	**Sn**	**03 17 07.8**	**+0.9**
SLKM				IAML		03 17 09.6	
SLKM	comp=N,1μm,0.2s			IAML		03 17 10.3	
O22K	**Cooper Landing**	**0.73**	**174**	Pn	**Pn**	**03 16 57.6**	**+0.8**
O22K				Sn	**Sn**	**03 17 08.7**	**+1.7**
O22K				IAML		03 17 11.9	
GHO	**Glory Hole Cre**	**0.73**	**38**	Pn	**Pn**	**03 16 57.1**	**+0.1**
GHO				IAML		03 17 09.0	
GHO	comp=N,2μm,0.4s			IAML		03 17 11.4	
GHO	**Glory Hole Cre**	**0.73**	**38**		**Sn**	**03 17 07.6**	**+0.3**
CAPN	**Captain Cook N**	**0.76**	**236**		**Pn**	**03 16 59.3**	**+2.0**
PWL	**Port Wells**	**0.82**	**114**	Pn	**Pn**	**03 16 59.3**	**+1.1**
SML	**Sawmill**	**0.96**	**50**	Pn	**Pn**	**03 17 00.4**	**+0.4**
STLK	**Strandline Lak**	**0.99**	**288**	Pn	**Pn**	**03 17 01.1**	**+0.7**
STLK				IAML		03 17 14.8	
STLK	comp=N,1μm,0.3s			IAML		03 17 15.7	
STLK	**Strandline Lak**	**0.99**	**288**		**Sn**	**03 17 14.0**	**+0.6**
SKT	**Skwentna**	**1.11**	**315**	Pn	**Pn**	**03 17 02.5**	**+0.4**
SKT				IAML		03 17 18.7	
SKT	comp=N,1μm,0.3s			IAML		03 17 20.4	
	comp=E,821nm,0.3s						
SEW	**Seward**	**1.12**	**169**		**Pn**	**03 17 02.6**	**+0.5**
SPCR	**Spurr Chakacha**	**1.13**	**271**		**Pn**	**03 17 02.6**	**+0.3**
SPBG	**Spurr Blockage**	**1.21**	**274**		**Pn**	**03 17 04.1**	**+0.6**
CUT	**Chulitna**	**1.22**	**351**	Pn	**Pn**	**03 17 04.2**	**+0.7**
CUT	comp=E,1μm,0.4s			IAML		03 17 21.2	
SCM	**Sheep Creek Mo**	**1.38**	**61**	Pn	**Pn**	**03 17 06.9**	**+1.3**
SCM				IAML		03 17 26.3	
SCM	comp=N,669nm,0.8s			IAML		03 17 27.4	
GLI	**Glacier Island**	**1.39**	**102**	Pn	**Pn**	**03 17 06.8**	**+1.0**
M20K	**Styx River**	**1.70**	**295**	Pn	**Pn**	**03 17 11.7**	**+1.6**
M20K				IAML		03 17 35.7	
FID	**Port Fidalgo**	**1.72**	**104**	Pn	**Pn**	**03 17 10.6**	**+0.4**
FID				IAML		03 17 34.2	
FID	comp=N,716nm,0.3s			IAML		03 17 39.0	
P23K	**Montague Islan**	**1.72**	**134**		**Pn**	**03 17 10.7**	**+0.4**
P23K				IAML		03 17 40.2	
P23K	comp=E,531nm,0.6s			IAML		03 17 42.7	
HOM	**Homer**	**1.78**	**210**		**Pn**	**03 17 12.9**	**+1.8**
CNPM	**China Poot**	**1.81**	**203**		**Pn**	**03 17 12.8**	**+1.2**
CNPM				IAML		03 17 39.6	
CNPM	comp=N,359nm,0.4s			IAML		03 17 40.0	
HIN	**Hinchinbrook I**	**1.84**	**115**		**Pn**	**03 17 12.7**	**+0.8**
HIN				IAML		03 17 43.0	
HIN	comp=N,491nm,1.0s			IAML		03 17 43.5	
KLU	**Klutina**	**1.93**	**80**	Pn	**Pn**	**03 17 14.3**	**+1.2**
KLU				IAML		03 17 39.3	
KLU	comp=N,303nm,0.3s			IAML		03 17 41.8	
M24K	**Tolsona, Glenn**	**1.98**	**61**	Pn	**Pn**	**03 17 15.9**	**+2.0**
M24K				IAML		03 17 49.3	
DIV	**Divide**	**1.99**	**90**	Pn	**Pn**	**03 17 15.3**	**+1.2**
DIV				IAML		03 17 41.6	
PPLA	**Purkeypile**	**2.02**	**328**	Pn	**Pn**	**03 17 15.5**	**+1.0**
PPLA				IAML		03 17 42.2	
PPLA	comp=E,199nm,0.6s			IAML		03 17 42.3	
ILSW	**Iliamna Southw**	**2.02**	**234**	Pn	**Pn**	**03 17 16.2**	**+1.6**
EYAK	**Cordova Ski Ar**	**2.12**	**106**	Pn	**Pn**	**03 17 16.7**	**+0.9**
EYAK				IAML		03 17 52.1	
EYAK	comp=E,158nm,0.6s			IAML		03 17 52.4	
RND	**Reindeer**	**2.26**	**12**	Pn	**Pn**	**03 17 18.8**	**+1.0**
TRF	**Thorofare Moun**	**2.27**	**355**	Pn	**Pn**	**03 17 19.0**	**+1.1**
TRF				IAML		03 17 50.9	
TRF	comp=N,168nm,0.7s			IAML		03 17 52.9	
M19K	**Big River Lodg**	**2.27**	**290**	Pn	**Pn**	**03 17 19.3**	**+1.4**
M19K				IAML		03 17 47.3	
M19K	comp=N,120nm,0.6s			IAML		03 18 01.7	
N19K	**Bonanza Creek**	**2.28**	**262**	Pn	**Pn**	**03 17 19.4**	**+1.4**
P19K	**Oil Pt**	**2.28**	**228**		**Pn**	**03 17 20.0**	**+2.0**
P19K				IAML		03 17 53.1	
Q19K	**Port Alsworth**	**2.41**	**247**		**Pn**	**03 17 21.1**	**+1.4**
Q19K				IAML		03 17 55.6	
CAST	**Castle Rocks**	**2.45**	**336**	Pn	**Pn**	**03 17 20.9**	**+0.6**
HARP	**HAARP**	**2.54**	**60**	Pn	**Pn**	**03 17 23.4**	**+1.9**
L19K	**White Mountain**	**2.57**	**295**	Pn	**Pn**	**03 17 23.3**	**+1.4**
L19K				IAML		03 17 55.0	
N25K	**Chitina, Valde**	**2.57**	**79**	Pn	**Pn**	**03 17 22.9**	**+0.9**
N25K				IAML		03 18 05.2	
BMRM	**Bremner River**	**2.57**	**93**	Pn	**Pn**	**03 17 22.6**	**+0.6**
BMRM				IAML		03 18 07.0	
BMRM	comp=N,179nm,0.7s			IAML		03 18 07.1	
MCK	**McKinley**	**2.58**	**9**	Pn	**Pn**	**03 17 23.7**	**+1.6**
MCK				IAML		03 18 07.2	
RAGM	**Ragged Mountai**	**2.68**	**106**		**Pn**	**03 17 23.9**	**+0.5**
HMT	**Hamilton**	**2.89**	**105**		**Pn**	**03 17 26.6**	**+0.3**
SYI	**Shuyak Island**	**2.89**	**207**	Pn	**Pn**	**03 17 27.6**	**+1.3**
K20K	**Telida**	**2.92**	**320**	Pn	**Pn**	**03 17 27.6**	**+0.9**
K20K				IAML		03 18 08.9	
K20K	comp=N,87nm,0.7s			IAML		03 18 09.0	
GLB	**Gilahina Butte**	**2.93**	**83**	Pn	**Pn**	**03 17 28.0**	**+1.1**
GLB				IAML		03 18 17.5	
BPAW	**Bear Paw Mtn.**	**2.95**	**350**	Pn	**Pn**	**03 17 27.7**	**+0.5**
Q19K	**Cape Douglas,**	**2.96**	**221**	Pn	**Pn**	**03 17 28.9**	**+1.6**
Q19K				IAML		03 18 18.5	
Q19K	comp=E,315nm,0.8s			IAML		03 18 32.4	
O18K	**Koktuh Hills**	**2.96**	**245**	Pn	**Pn**	**03 17 28.1**	**+0.8**
O18K				IAML		03 18 17.2	
O18K	comp=E,73nm,1.1s			IAML		03 18 20.6	
N18K	**Kilae Creek**	**2.98**	**263**	Pn	**Pn**	**03 17 28.6**	**+1.1**
VRDI	**Verde Repeater**	**3.11**	**87**	Pn	**Pn**	**03 17 30.2**	**+0.8**
VRDI				IAML		03 18 24.2	
P18K	**Big Mountain,**	**3.23**	**238**		**Pn**	**03 17 31.9**	**+0.9**
K24K	**Donnelly Dome**	**3.23**	**34**	Pn	**Pn**	**03 17 34.6**	**+3.6**
TTA	**Tatalina**	**3.37**	**304**	Pn	**Pn**	**03 17 33.8**	**+0.9**
L18K	**Granite Mounta**	**3.40**	**290**	Pn	**Pn**	**03 17 34.4**	**+1.1**
M26K	**Nabesna, AK**	**3.48**	**67**	Pn	**Pn**	**03 17 35.5**	**+1.1**
M26K				IAML		03 18 44.7	
M26K	comp=N,56nm,0.6s			IAML		03 18 46.7	
WAX	**Waxell Ridge**	**3.52**	**99**	Pn	**Pn**	**03 17 35.5**	**+0.6**
WAX				IAML		03 18 34.1	
WAX	comp=E,89nm,0.4s			IAML		03 18 37.1	
J20K	**Nowinta River**	**3.58**	**328**	Pn	**Pn**	**03 17 36.8**	**+1.1**
J20K				IAML		03 18 17.7	
J20K	comp=N,77nm,0.7s			IAML		03 18 32.8	
SNH	**Sunshine Point**	**3.61**	**103**	Pn	**Pn**	**03 17 36.4**	**+0.2**
SNH				IAML		03 18 36.9	
SNH	comp=E,60nm,1.5s			IAML		03 18 59.4	
N17K	**Nushagak Hills**	**3.64**	**262**	Pn	**Pn**	**03 17 37.6**	**+1.0**
N17K				IAML		03 18 35.2	
M17K	**Holitna River**	**3.66**	**276**	Pn	**Pn**	**03 17 38.0**	**+1.3**
M17K				IAML		03 18 37.6	
M17K	comp=E,88nm,0.9s			IAML		03 18 39.6	
KDAK	**Kodiak Island**	**3.70**	**203**		**Pn**	**03 17 37.4**	**+0.1**
COLA	**College**	**3.80**	**13**		**Pn**	**03 17 40.6**	**+1.9**
ILAR	**Eielson Array**	**3.83**	**20**	P	**Pn**	**03 17 41.3**	**+2.1**
	comp=N,0.9nm,0.3s,baz=200,slow=14,SNR=2.3						
ILAR				S	**Sn**	**03 18 28.9**	**+6.0**
	comp=N,15nm,0.8s,baz=205,slow=21,SNR=5.2						
	comp=N,3.3nm,0.5s						
J18K	**Innoko River**	**3.92**	**308**	IAML		03 18 26.2	
	comp=N,34nm,0.7s						
O28M	**Mount Upton**	**4.74**	**91**		**Pn**	**03 17 53.0**	**+1.2**
O28M				IAML		03 19 15.1	
	comp=N,19nm,1.0s						
SPITS	**Spitsbergen Ar**	**40.61**	**4**	P	**P**	**03 24 15.1**	**-1.9**
	comp=N,9.3nm,1.1s,baz=353,slow=6.2,SNR=1.8						
	comp=N,9.3nm,1.1s						
FINES	**FINESS Array B**	**57.64**	**2**	P	**P**	**03 26 26.5**	**-0.7**
	comp=N,1.4nm,0.9s,baz=355,slow=6.7,SNR=7.0						

comp=N,1.4nm,0.9s
KURBB Kurchatov Arra 61.98 327 P P 03 26 56.3 -0.9
comp=N,0.1nm,0.3s,baz=30,slow=6.8,SNR=1.7
comp=N,0.1nm,0.3s
MKAR Makanchi Array 64.43 323 P P 03 27 12.1 -1.4
comp=N,0.3nm,0.7s,baz=36,slow=5.4,SNR=1.8
comp=N,0.3nm,0.7s

NEIC ***14*** *03:20:36.8±1.3, 19°.769N±0°.004×155°.81W±0°.01, h10km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=275.0*

HVO 14 03:20:37.0±0.8, 19°.764N±0°.009×155°.81W±0°.02, h14km±3km, ML3.0/39, ML3.0/40(NEIC), Error ellipse: s-maj=2.2km s-min=1.2km az=104.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUH	**Hualalai**	**0.08**	**200**		Pg	03 20 40.6	+0.2
HUH				Sg	Sg	03 20 43.2	+0.6
HUH				IAML		03 20 44.5	
	comp=N,6μm,0.1s						
KKH	**Kailua Kona**	**0.23**	**242**	Sg	Sg	03 20 46.0	+0.6
POHA	**Pohakuloa**	**0.26**	**91**		Pg	03 20 42.4	-0.3
POHA				Sg	Sg	03 20 46.5	0.0
POHA	**Pohakuloa**	**0.26**	**91**	IAML		03 20 46.8	
	comp=N,2μm,0.6s						
POHA				IAML		03 20 47.1	
	comp=N,1μm,0.4s						
ALEP	**Alea Permanent**	**0.27**	**146**		Pg	03 20 43.2	+0.2
ALEP					Sb	03 20 47.9	-0.4
HPAH	**Hawaii Prepara**	**0.28**	**21**		Pg	03 20 42.7	-0.4
HPAH				Sg	Sg	03 20 47.0	-0.2
HPAH				IAML		03 20 47.3	
	comp=E,3μm,0.3s						
HPAH				IAML		03 20 47.4	
	comp=N,2μm,0.3s						
CPH	**Captain Cook**	**0.29**	**201**		Pg	03 20 42.8	-0.4
MLOA	**Mauna Loa Obse**	**0.31**	**136**		Pg	03 20 43.6	-0.1
MLOA					Sg	03 20 48.7	+0.4
MWH	**Mokuaweoweo**	**0.34**	**145**		Pg	03 20 43.7	-0.5
MWH				IAML		03 20 54.5	
	comp=N,2μm,0.3s						
MWH				IAML		03 20 56.4	
	comp=E,2μm,0.5s						
HMH	**Humu'ula Sheep**	**0.34**	**118**		Pg	03 20 44.1	-0.1
HMH	**Humu'ula Sheep**	**0.34**	**118**		Sg	03 20 49.6	+0.5
MHA	**Mahukona**	**0.43**	**348**		Pg	03 20 45.3	-0.4
MLH	**Mauna Loa**	**0.48**	**124**		Pg	03 20 45.6	-0.9
MLH					Sg	03 20 52.9	-0.2
MLH	**Mauna Loa**	**0.48**	**124**	IAML		03 20 53.1	
	comp=E,2μm,0.2s						
MLH				IAML		03 20 53.3	
	comp=N,2μm,0.2s						
KHU	**Kahuku**	**0.55**	**161**		Pg	03 20 46.5	-1.4
KHU				IAML		03 21 02.6	
	comp=N,1μm,0.6s						
KHU	**Kahuku**	**0.55**	**161**		Sg	03 20 53.8	-1.4
RSD	**Rainshed**	**0.58**	**121**		Pg	03 20 47.0	-1.5
RSD					Sg	03 20 54.6	-1.6
UWE	**Uwekahuna**	**0.59**	**125**		Pg	03 20 47.0	-1.7
WRMHI	**West Rim**	**0.59**	**127**		Pg	03 20 46.9	-1.8
WRMHI					Sg	03 20 55.5	-1.1
OBL	**Observatory Le**	**0.60**	**125**		Pg	03 20 47.0	-1.9
OBL					Sg	03 20 56.0	-0.9
UWB	**Uwekahuna Bluf**	**0.60**	**124**		Pg	03 20 46.9	-1.9
UWB					Sg	03 20 54.7	-2.1
SBLHI	**Steaming Bluff**	**0.61**	**123**		Pg	03 20 46.9	-2.0
SBLHI					Sg	03 20 55.7	-1.3
SDHHI	**Sand Hill**	**0.61**	**128**		Pg	03 20 47.3	-1.7
HATHI	**Halema'uma'u T**	**0.61**	**123**		Pg	03 20 47.1	-2.0
HATHI	**Halema'uma'u T**	**0.61**	**123**	IAML		03 21 05.8	
	comp=N,775nm,0.7s						
HATHI				IAML		03 21 08.4	
	comp=E,1μm,0.7s						
RIM	**Rim**	**0.62**	**126**		Pg	03 20 47.5	-1.8
BYL	**Byron's Ledge**	**0.62**	**124**		Pg	03 20 47.1	-2.1
BYL	**Byron's Ledge**	**0.62**	**124**	IAML		03 21 12.9	
	comp=E,775nm,0.6s						
KKO	**Keanakako'i**	**0.63**	**126**		Pg	03 20 47.3	-2.0
HTC	**Hot Caves**	**0.65**	**144**		Pg	03 20 47.8	-1.9
HLP	**Hilina Pali**	**0.66**	**135**		Pg	03 20 47.9	-2.0
HLP					Pn	03 20 56.7	+4.8
HLP	**Hilina Pali**	**0.66**	**135**	IAML		03 20 58.5	
	comp=N,998nm,0.2s						
HLP				IAML		03 21 09.5	
	comp=E,1μm,1.3s						
PUH	**Pauahi**	**0.68**	**125**		Pg	03 20 47.7	-2.5
KNHH	**Kane Nui o Ham**	**0.71**	**122**		Pg	03 20 48.4	-2.5
STCH	**Steam Cracks**	**0.74**	**120**		Pg	03 20 48.8	-2.8
NPOC	**North of Pu'u**	**0.75**	**119**		Pg	03 20 48.9	-2.8
JOKA	**Jonika Flow**	**0.82**	**113**		Pg	03 20 49.7	-3.3
JOKA				IAML		03 21 15.7	
	comp=N,599nm,1.5s						
HLK	**Haleakala**	**1.07**	**337**		Pb	03 20 54.1	-3.4
HLK				IAML		03 21 21.8	
	comp=N,403nm,4.0s						
HLK				IAML		03 21 23.5	
	comp=E,302nm,2.6s						

IDC ***14*** *03:23:12.1±1.1, 26°.19N×129°.48E, h0km, mb3.7/12, mbtmp3.7/14, ML3.1/2, MS4.2/2, Error ellipse: s-maj=34.2km s-min=21.8km az=64.0*

NEIC ***14*** *03:23:14.2±2.2, 26°.18N±0°.08×129°.45E±0°.04, h10km±1km, mb4.5/13, Error ellipse: s-maj=15.3km s-min=3.1km az=203.0*

JMA ***14*** *03:23:14.4±0.1, 26°.3N±0°.5×129°.6E±0°.3, h44km, MV3.2/19, NEAR OKINAWAJIMA ISLAND*

ISC 14 03:23:12.8±4.7, 26°.25N±0°.04×129°.53E±0°.04, h4km±29km, n50, σ1§50/63, mb3.9/17, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.24**	**309**	P	**Pn**	**03 23 36.0**	**-0.8**
JYRO				*e*S	**Sb**	**03 23 51.2**	**-1.8**
JOW	**Kunigami**	**1.26**	**298**	Pn	**Pn**	**03 23 36.5**	**-0.7**
	204nm,0.3s,baz=122,slow=19,SNR=261						
JOW				Sn	**Sb**	**03 23 51.9**	**-1.9**
	85nm,0.3s,baz=126,slow=18,SNR=16						
JOW				LR	LR	03 24 17.1	
	comp=Z,350nm,19.0s,baz=113,slow=52						
JOW	**Kunigami**	**1.26**	**298**	P	**Pn**	**03 23 36.5**	**-0.7**
JOW				*e*S	**Sb**	**03 23 52.5**	**-1.2**
JNTH	**Nagotoyohara**	**1.38**	**282**	P	**Pn**	**03 23 37.9**	**-0.9**
JNTH				*e*S	**Sn**	**03 23 55.5**	**-1.9**
JOKE	**Okinoerabujima**	**1.40**	**323**	P	**Pn**	**03 23 38.6**	**-0.5**
JJT3	**Tamagusuku3**	**1.57**	**267**	*e*P	**Pn**	**03 23 41.2**	**-0.2**
JJT3				*e*S	**Sn**	**03 24 01.1**	**-1.1**
JMZ	**Minamidaito 2**	**1.58**	**105**		**Pn**	**03 23 41.3**	**-0.3**
JMZ	**Minamidaito 2**	**1.58**	**105**	P	**Pn**	**03 23 40.3**	**-1.3**
JMZ				*e*S	**Sn**	**03 23 58.3**	**-4.2**
JIH	**Iheya**	**1.60**	**300**	P	**Pn**	**03 23 41.5**	**-0.3**
JIH				*e*S	**Sn**	**03 24 01.1**	**-1.9**
JTK	**Tokunoshima**	**1.62**	**342**	*e*P	**Pn**	**03 23 41.5**	**-0.6**
JTK				*e*S	**Sn**	**03 24 00.4**	**-2.9**
JKDJ	**Kitadaitoujima**	**1.62**	**100**	*e*P	**Pn**	**03 23 41.0**	**-1.1**
JKDJ				*e*S	**Sn**	**03 24 00.6**	**-2.7**
JAMN	**Amaminishikomi**	**2.01**	**351**	*e*P	**Pn**	**03 23 46.9**	**-0.6**
JAMN				*e*S	**Sn**	**03 24 10.5**	**-2.6**
JAGN	**Aguni-jima**	**2.08**	**280**	*e*P	**Pn**	**03 23 48.3**	**-0.1**
JAGN				S	**Sn**	**03 24 13.0**	**-1.7**
JZK	**Kikaishima**	**2.10**	**11**	*e*P	**Pn**	**03 23 48.2**	**-0.5**
JZK				*e*S	**Sn**	**03 24 13.7**	**-1.6**
JAM	**Amami Oshima**	**2.16**	**2**	*e*P	**Pn**	**03 23 49.3**	**-0.2**
JKE	**Kume jima 2**	**2.46**	**272**	*e*P	**Pn**	**03 23 52.7**	**-0.9**
JKE				*e*S	**Sn**	**03 24 21.5**	**-2.7**
JTAJ	**Takarajima**	**2.91**	**354**	*e*S	**Sn**	**03 24 31.6**	**-3.7**
JNU	**Nakatsue**	**6.95**	**9**	Pn	**Pn**	**03 24 54.4**	**-1.0**
JNU	**Nakatsue**	**6.95**	**9**	Pn	**Pn**	**03 24 55.9**	**+0.4**
	0.6nm,0.3s,baz=270,slow=12,SNR=5.4						
JNU				Sn	**Sn**	**03 26 12.4**	**-2.6**
	0.1nm,0.3s,baz=252,slow=13,SNR=2.0						
	2.7nm,0.5s						
TPUB	**Ta-pu**	**8.60**	**252**	Pn	**Pn**	**03 25 15.4**	**-2.7**
KSRS	**Korea Array**	**11.26**	**353**	Pn	**Pn**	**03 25 55.8**	**+1.4**
	baz=166,slow=14,SNR=2.0						
	0.6nm,0.8s						
SONM	**Songino Array**	**28.18**	**326**	P	**P**	**03 29 07.8**	**+1.4**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=1.9						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**42.39**	**312**	P	**P**	**03 31 06.7**	**-1.6**
MKAR	**Makanchi Array**	**42.39**	**312**	P	**P**	**03 31 07.0**	**-1.3**
	0.3nm,0.6s,baz=89,slow=9.8,SNR=3.8						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**45.65**	**316**	P	**P**	**03 31 33.8**	**-0.5**
	0.5nm,0.5s,baz=102,slow=8.7,SNR=5.0						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**46.15**	**174**	P	**P**	**03 31 38.2**	**-0.4**
	0.7nm,0.8s,baz=343,slow=8.0,SNR=8.6						
	0.7nm,0.8s						
WR8	**Warramunga Arr**	**46.18**	**174**	P	**P**	**03 31 38.8**	**0.0**
BVAR	**Borovoye Array**	**51.04**	**318**	P	**P**	**03 32 17.0**	**+1.1**
	0.8nm,0.5s,baz=81,slow=8.9,SNR=3.4						
	0.8nm,0.5s						
ABKAR	**Akbulak array**	**57.48**	**313**	P	**P**	**03 33 03.8**	**+0.9**
ABKAR	**Akbulak array**	**57.48**	**313**	P	**P**	**03 33 03.9**	**+0.9**
ABKAR				IAmb	IAmb	03 33 14.9	
	comp=Z,1.7nm,1.1s						
E19K	**Redstone River**	**59.62**	**25**	P	**P**	**03 33 18.8**	**+1.2**
E19K				IAmb	IAmb	03 33 30.1	
	comp=Z,4.7nm,1.4s						
D20K	**Etivluk River**	**59.96**	**24**	P	**P**	**03 33 21.4**	**+1.5**
D20K				IAmb	IAmb	03 33 32.4	
	comp=Z,3.1nm,0.8s						
E21K	**Killik River**	**60.91**	**24**	P	**P**	**03 33 28.0**	**+1.6**
E21K				IAmb	IAmb	03 33 39.7	
	comp=Z,5.0nm,1.4s						
BMAR	**Burnt Mountain**	**64.50**	**25**	P	**P**	**03 33 52.1**	**+1.7**
J26L	**Joseph Creek**	**65.33**	**28**	P	**P**	**03 33 56.0**	**+0.2**
KEV	**Kevo**	**69.84**	**339**	P	**P**	**03 34 24.8**	**+0.6**
KBZ	**Khabaz**	**70.05**	**310**	P	**P**	**03 34 26.9**	**+1.1**
	comp=Z,2.2nm,1.0s,baz=68,slow=8.9,SNR=4.3						
	comp=Z,2.2nm,1.0s						
FIA1	**FINESS Array S**	**73.42**	**331**	P	**P**	**03 34 45.9**	**0.0**
FINES	**FINESS Array B**	**73.42**	**331**	P	**P**	**03 34 46.0**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=58,slow=6.2,SNR=13						
FINES				LR	LR	04 09 56.4	
	comp=Z,252nm,19.2s,baz=9.0,slow=38						
	comp=Z,1.3nm,0.6s						
MOBC	**Moresby Island**	**74.27**	**38**	P	**P**	**03 34 52.1**	**+1.0**
AKASG	**Malin Array Be**	**76.27**	**320**	P	**P**	**03 35 02.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=68,slow=6.0,SNR=2.4						
	comp=Z,0.5nm,0.5s						
AKBB	**Malin Array Si**	**76.27**	**320**	P	**P**	**03 35 02.7**	**+0.1**
AKBB				IAmb	IAmb	03 35 20.0	
	comp=Z,6.9nm,1.4s						
KIEV	**Kiev**	**76.28**	**320**	P	**P**	**03 35 02.6**	**0.0**
KIEV				IAmb	IAmb	03 35 20.0	
	comp=Z,6.2nm,1.4s						
TULEG	**Thule**	**76.83**	**4**	P	**P**	**03 35 06.9**	**+1.7**
BRTR	**Keskin Array B**	**77.94**	**308**	P	**P**	**03 35 12.9**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=95,slow=4.1,SNR=3.7						
	comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**78.02**	**25**	P	**P**	**03 35 12.3**	**+0.1**
	comp=Z,0.1nm,0.7s,baz=309,slow=5.8,SNR=3.2						
	comp=Z,0.1nm,0.7s						
NC405	**NORSAR Array S**	**79.57**	**334**	P	**P**	**03 35 20.1**	**-0.6**
NOA	**NORSAR Array B**	**79.81**	**334**	P	**P**	**03 35 22.1**	**0.0**
	comp=Z,0.4nm,0.6s,baz=51,slow=5.7,SNR=3.5						
	comp=Z,0.4nm,0.6s						
RAR	**Rarotonga**	**83.18**	**118**	LR	LR	04 08 28.6	
	comp=Z,84nm,18.1s,baz=220,slow=33						
GERES	**GERESS Array B**	**85.89**	**323**	P	**P**	**03 35 53.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=50,slow=7.8,SNR=2.8						
	comp=Z,0.2nm,0.3s						

BKK ***14*** *03:26:00.4±1.5, 7°N±10°×9°4E±1°0, h14km±12km, M4.3/7, mB5.4/3, mb4.0/2, Mjma4.2/7, ML4.2/2, MLv4.3/3, Mw(mB)4.8/3*

IDC ***14*** *03:26:02.7±1.2, 7°.16N×94°.08E, h0km, mb3.6/9, mbtmp3.6/11, ML3.7/2, Error ellipse: s-maj=44.5km s-min=21.3km az=56.0*

ISC 14 03:26:06.8±0.9, 7°.2N±0°.1×94°.4E±0°.1, h26km, n20, σ1§63/16, mb3.7/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNTT	**Ranong**	**4.60**	**62**	P	**Pn**	**03 27 15.3**	**+0.5**
SRIT	**Nakonsritamara**	**5.37**	**75**	P	**Pn**	**03 27 25.4**	**+0.1**
PSI	**Prapat**	**6.33**	**134**	Pn	**Pn**	**03 27 41.2**	**+2.6**
	0.6nm,0.3s,baz=315,slow=13,SNR=4.5						
PSI				Sn	**Sn**	**03 28 46.3**	**-3.9**
	0.6nm,0.3s,baz=340,slow=22,SNR=6.2						
	2.1nm,0.4s						
SRDT	**SRDT**	**8.48**	**33**	P	**Pn**	**03 28 06.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**12.02**	**21**	Pn	**Pn**	**03 28 58.7**	**+2.2**
	0.3nm,0.3s,baz=205,slow=13,SNR=2.5						
	0.4nm,0.3s						
H08S3	**Diego Garcia H**	**26.34**	**236**	T	T	03 58 21.9	
	baz=55,slow=76,SNR=48						
H08S2	**Diego Garcia H**	**26.34**	**236**	T	T	03 58 22.0	
	baz=55,slow=76,SNR=52						
H08S1	**Diego Carcia H**	**26.36**	**236**	T	T	03 58 23.2	
	baz=55,slow=76,SNR=38						
MKAR	**Makanchi Array**	**40.76**	**347**	P	**P**	**03 33 45.0**	**-0.7**
	1.1nm,0.8s,baz=177,slow=7.5,SNR=7.7						
	1.1nm,0.8s						
SONM	**Songino Array**	**41.74**	**12**	P	**P**	**03 33 54.2**	**+0.2**
	0.1nm,0.3s,baz=191,slow=5.3,SNR=4.2						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**45.22**	**346**	P	**P**	**03 34 21.8**	**0.0**
	1.3nm,0.8s,baz=167,slow=6.9,SNR=8.6						
KURBB				PcP	**PcP**	**03 36 01.0**	**-0.6**
	0.2nm,0.5s,baz=155,slow=3.6,SNR=2.2						
	1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**47.22**	**352**	P	**P**	**03 34 38.0**	**+0.6**
	0.5nm,0.5s,baz=167,slow=7.3,SNR=11						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**49.34**	**130**	P	**P**	**03 34 55.2**	**+0.8**
	0.1nm,0.4s,baz=300,slow=7.3,SNR=5.6						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**49.66**	**341**	P	**P**	**03 34 55.2**	**-1.1**
	0.7nm,0.4s,baz=149,slow=6.3,SNR=4.1						
	0.7nm,0.4s						
BRTR	**Keskin Array B**	**63.01**	**311**	P	**P**	**03 36 30.2**	**-1.8**
	0.1nm,0.3s,baz=122,slow=5.2,SNR=1.7						
	0.1nm,0.3s						
H04N2	**CROZET ISLANDS**	**65.29**	**211**	T	T	04 47 10.7	
	baz=46,slow=75						
H04N1	**CROZET ISLANDS**	**65.30**	**211**	T	T	04 46 57.1	
	baz=46,slow=75						
H04N3	**CROZET ISLANDS**	**65.31**	**211**	T	T	04 46 59.8	
	baz=46,slow=75						
FINES	**FINESS Array B**	**73.38**	**332**	P	**P**	**03 37 36.1**	**-0.2**
	1.2nm,0.8s,baz=101,slow=7.2,SNR=6.3						
	1.2nm,0.8s						
GERES	**GERESS Array B**	**78.45**	**318**	P	**P**	**03 38 06.0**	**+0.4**
	0.1nm,0.3s,baz=56,slow=3.4,SNR=5.4						
	0.1nm,0.3s						

NEIC ***14*** *03:31:54.5±1.7, 19°.747N±0°.009×155°.80W±0°.01, h10km±1km, Error ellipse: s-maj=2.7km s-min=2.1km az=303.0*

HVO 14 03:31:54.2±1.2, 19°.75N±0°.01×155°.81W±0°.01, h15km±3km, ML2.6/24, ML2.8/27(NEIC), Error ellipse: s-maj=2.1km s-min=1.2km az=137.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUH	**Hualalai**	**0.07**	**200**		Pg	03 31 57.7	+0.2
HUH					Sg	03 32 00.4	+0.8
HUH	**Hualalai**	**0.07**	**200**	IAML		03 32 00.7	
	comp=E,4μm,0.3s						
HUH				IAML		03 32 01.4	
	comp=N,3μm,0.2s						
KKH	**Kailua Kona**	**0.22**	**244**		Pg	03 31 59.0	0.0
KKH					Sg	03 32 03.0	+0.6
ALEP	**Alea Permanent**	**0.26**	**143**		Pg	03 32 00.3	+0.2
ALEP					Sb	03 32 04.8	-0.5
POHA	**Pohakuloa**	**0.26**	**89**		Pg	03 31 59.7	-0.2
POHA					Sg	03 32 03.8	-0.1
POHA	**Pohakuloa**	**0.26**	**89**	IAML		03 32 04.0	
	comp=N,396nm,0.2s						
POHA				IAML		03 32 04.4	
	comp=N,832nm,0.6s						
CPH	**Captain Cook**	**0.28**	**201**		Pg	03 31 59.9	-0.3
HPAH	**Hawaii Prepara**	**0.30**	**21**		Pg	03 32 00.2	-0.3
HPAH					Sg	03 32 04.5	-0.3
HPAH	**Hawaii Prepara**	**0.30**	**21**	IAML		03 32 04.6	
	comp=N,716nm,0.3s						
HPAH				IAML		03 32 04.8	
	comp=E,912nm,0.2s						
MLOA	**Mauna Loa Obse**	**0.31**	**134**		Pg	03 32 00.4	-0.4
MLOA					Sg	03 32 05.6	+0.2
MLOA	**Mauna Loa Obse**	**0.31**	**134**	IAML		03 32 09.6	
	comp=E,52nm,2.5s						
MWH	**Mokuaweoweo**	**0.33**	**143**		Pg	03 32 00.8	-0.5
MWH					Sg	03 32 06.0	-0.2
MWH	**Mokuaweoweo**	**0.33**	**143**	IAML		03 32 11.5	
	comp=E,811nm,0.4s						
MWH				IAML		03 32 13.2	
	comp=N,1μm,0.4s						
HMH	**Humu'ula Sheep**	**0.34**	**116**		Pg	03 32 01.2	-0.1
HMH					Sg	03 32 06.7	+0.5
HMH	**Humu'ula Sheep**	**0.34**	**116**	IAML		03 32 08.2	
	comp=E,2μm,0.3s						
HMH				IAML		03 32 10.0	
	comp=N,889nm,0.2s						
MLH	**Mauna Loa**	**0.47**	**123**		Pg	03 32 02.7	-1.0
MLH					Sg	03 32 09.5	-0.7
MLH	**Mauna Loa**	**0.47**	**123**	IAML		03 32 10.4	
	comp=E,1μm,0.3s						
MLH				IAML		03 32 10.5	
	comp=N,2μm,0.2s						
KHU	**Kahuku**	**0.54**	**160**		Sg	03 32 10.6	-1.5
KHU	**Kahuku**	**0.54**	**160**		Pg	03 32 03.4	-1.4
KHU				IAML		03 32 19.5	
	comp=E,511nm,0.6s						
KHU	**Kahuku**	**0.54**	**160**	IAML		03 32 10.1	
	comp=N,429nm,3.8s						
RSD	**Rainshed**	**0.58**	**120**		Pg	03 32 04.0	-1.6
RSD					Sg	03 32 11.6	-1.7
UWE	**Uwekahuna**	**0.59**	**124**		Pg	03 32 04.0	-1.8
UWE					Sg	03 32 11.9	-1.7
UWE	**Uwekahuna**	**0.59**	**124**	IAML		03 32 19.6	
	comp=N,738nm,1.2s						
WRMHI	**West Rim**	**0.59**	**126**		Pg	03 32 04.0	-1.8
OBL	**Observatory Le**	**0.60**	**124**		Pg	03 32 04.1	-1.9
OBL					Sg	03 32 12.8	-1.1
SBLHI	**Steaming Bluff**	**0.60**	**122**		Pg	03 32 04.0	-2.1
SDHHI	**Sand Hill**	**0.60**	**127**		Pg	03 32 04.3	-1.8
SDHHI					Sg	03 32 13.3	-0.9
HATHI	**Halema'uma'u T**	**0.61**	**122**		Pg	03 32 04.2	-2.1
HATHI					Sg	03 32 13.3	-1.1
HATHI	**Halema'uma'u T**	**0.61**	**122**	IAML		03 32 25.3	
	comp=E,367nm,0.8s						
HTC	**Hot Caves**	**0.64**	**143**		Pg	03 32 04.8	-1.9
HLP	**Hilina Pali**	**0.66**	**134**		Pg	03 32 05.0	-2.1
HLP					Sg	03 32 13.3	-2.4
HLP	**Hilina Pali**	**0.66**	**134**	IAML		03 32 24.2	
	comp=N,453nm,1.0s						
KNHH	**Kane Nui o Ham**	**0.71**	**121**		Pg	03 32 05.7	-2.4
STCH	**Steam Cracks**	**0.74**	**119**		Pg	03 32 05.8	-2.8
STCH	**Steam Cracks**	**0.74**	**119**	IAML		03 32 17.3	
	comp=E,425nm,0.1s						
STCH				IAML		03 32 17.9	
	comp=N,314nm,0.2s						
NPOC	**North of Pu'u**	**0.75**	**118**		Pg	03 32 06.0	-2.8

SNET ***14*** *03:32:31.4±1.7, 13°.71N×90°.02W, h94km, ML4.3*

NEIC ***14*** *03:32:32.5±2.3, 13°.70N±0°.06×90°.01W±0°.05, h102km±7km, mb4.3/40, Error ellipse: s-maj=11.2km s-min=2.0km az=218.0*

GCG ***14*** *03:32:32.3±1.5, 13°.73N×90°.05W, h88km±8km, MD4.4, MW3.7*

CATAC ***14*** *03:32:33.3±0.2, 14°N±4°×9°0W±°, h67km±5km, M4.8/49, mb5.3/4, mB5.5/4, MLv4.5/49, Mw(mB)5.0/4, MwMwp6.4/1, Mwp6.3/1, Error ellipse: s-maj=9.0km s-min=2.7km az=27.0, confirmed*

IDC ***14*** *03:32:36.2±2.1, 13°.95N×89°.59W, h140km±18km, mb3.4/11, mbtmp3.9/13, MS4.3/1, Error ellipse: s-maj=28.8km s-min=12.1km az=55.0*

ISC 14 03:32:31.5±0.6, 13°.77N±0°.04×89°.91W±0°.03, h100km±4km, n194, σ1§94/214, mb4.2/28, 2C-14D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.29**	**78**	*e*P	**Pn**	**03 32 46.6**	**+0.3**
CEVE				*e*S	**Sn**	**03 32 57.2**	**-0.2**
CEVE	**Cerro Verde**	**0.29**	**78**	P	**Pn**	**03 32 46.7**	**+0.3**
SLOZ	**Alcaldia de Sa**	**0.29**	**26**	*e*P	**Pn**	**03 32 46.2**	**+0.1**
SLOZ				*e*S	**Sn**	**03 32 56.0**	**-0.9**
SLOZ	**Alcaldia de Sa**	**0.29**	**26**	P	**Pn**	**03 32 46.5**	**+0.4**
SBLS	**San Blas**	**0.29**	**75**	*e*P	**Pn**	**03 32 46.6**	**+0.2**
SNJE	**San Jose**	**0.31**	**71**	*e*P	**Pn**	**03 32 46.8**	**+0.4**
UNIC	**Universidad Ca**	**0.41**	**59**	*e*P	**Pn**	**03 32 47.1**	**+0.3**
UNIC				*e*S	**Sn**	**03 32 57.8**	**-0.4**
UNIC	**Universidad Ca**	**0.41**	**59**	P	**Pn**	**03 32 47.1**	**+0.3**
JAYA	**Jayaque - finc**	**0.46**	**104**	*e*P	**Pn**	**03 32 47.5**	**+0.3**
JAYA				*e*S	**Sn**	**03 32 57.8**	**-1.2**
JAYA	**Jayaque - finc**	**0.46**	**104**	*i*P	**Pn**	**03 32 47.5**	**+0.3**
JAYA				*e*S	**Sn**	**03 32 59.9**	**+0.9**
JAYA	**Jayaque - finc**	**0.46**	**104**	P	**Pn**	**03 32 47.7**	**+0.5**
CEDA	**San Andres**	**0.50**	**86**	*e*P	**Pn**	**03 32 47.9**	**+0.5**
CEDA				*e*S	**Sn**	**03 32 58.5**	**-0.8**
CEDA	**San Andres**	**0.50**	**86**	P	**Pn**	**03 32 48.0**	**+0.6**
PMON	**Piamonte**	**0.58**	**95**	*e*P	**Pn**	**03 32 48.7**	**+0.7**
PMON				*e*S	**Sn**	**03 33 00.5**	**+0.1**
PMON	**Piamonte**	**0.58**	**95**	P	**Pn**	**03 32 48.7**	**+0.7**
ESSJ	**San Jos, E**	**0.61**	**251**	*e*P	**Pn**	**03 32 50.2**	**+2.1**
ESSJ				*i*S	**Sn**	**03 33 05.4**	**+4.9**
BOQS	**Boqueron**	**0.61**	**93**	*e*P	**Pn**	**03 32 49.1**	**+0.6**
ITCA	**Escuela Especi**	**0.62**	**98**	*e*P	**Pn**	**03 32 49.3**	**+0.9**
ITCA	**Escuela Especi**	**0.62**	**98**	P	**Pn**	**03 32 49.1**	**+0.7**
PIC2	**El Picacho**

RANC	El Ranchito	1.61	102	P		Pn	03 33 01.1 +1.8
VSM	San Miguel	1.63	102	*e*P		Pn	03 33 01.3 +1.7
BLLM	Bellamira	1.66	101	*e*P		Pn	03 33 01.4 +1.6
CNRM	Centro Naciona	1.72	100	P		Pn	03 33 02.2 +1.7
SOKI	Kika Raxquin	1.79	306	*e*P		Pn	03 33 02.0 +0.3
SOKI				*e*S		Sn	03 33 26.8 +2.0
MARCA	Marcala la Paz	1.86	78	*i* P		Pn	03 33 04.7 +2.2
RTAL	Retalhuleu	1.89	294			Pn	03 33 01.9 -0.7
RTAL	Retalhuleu	1.89	294	P		Pn	03 33 02.3 -0.3
RTAL	Retalhuleu	1.89	294	S		Sn	03 33 25.0 -1.4
LCND	La Caada	2.02	103	⇓*e*P		Pn	03 33 06.2 +1.8
LCND	La Caada	2.02	103	P		Pn	03 33 06.0 +1.7
CNCH	Conchagua	2.08	103	⇓*e*P		Pn	03 33 07.1 +1.8
CNCH	Conchagua	2.08	103	P		Pn	03 33 07.0 +1.8
HUEH	Huehuetenango	2.18	315			Pn	03 33 07.7 +1.0
HUEH	Huehuetenango	2.18	315	*e*P		Pn	03 33 07.5 +0.9
CSGN	Cosiguina Volc	2.42	109	P		Pn	03 33 11.3 +1.7
POTN	Potosi Cosigui	2.46	108	P		Pn	03 33 12.5 +2.3
POTN				S		Sn	03 33 46.0 +6.2
THIG		2.55	297	*e*P		Pn	03 33 11.4 +0.1
THIG				*e*S		Sn	03 33 40.8 -1.0
TGUH	Tegucigalpa,Un	2.58	83			Pn	03 33 14.2 +2.4
TGUH	Tegucigalpa,Un	2.58	83	P		Pn	03 33 14.2 +2.4
CRIN	San Cristobal	2.98	110			Pn	03 33 19.5 +2.4
CRIN	San Cristobal	2.98	110	P		Pn	03 33 20.0 +2.9
CRIN	San Cristobal	2.98	110	S		Sn	03 33 56.2 +4.0
PETF	Flores	3.13	1			Pn	03 33 21.9 +2.9
PETF	Flores	3.13	1	*e*P		Pn	03 33 22.0 +2.9
QUEN	Al S del Volca	3.20	111	P		Pn	03 33 21.8 +1.8
HERN	Volcan Telica	3.21	111			Pn	03 33 21.6 +1.4
HERN	Volcan Telica	3.21	111	P		Pn	03 33 21.9 +1.6
HERN	Volcan Telica	3.21	111	S		Sn	03 34 00.3 +2.5
POLN	Al Sur del Vol	3.22	110	P		Pn	03 33 20.8 +0.6
POLN				S		Sn	03 33 59.4 +1.6
CCIG	Comitan	3.30	320			Pn	03 33 23.0 +1.6
CCIG	Comitan	3.30	320	*i* P		Pn	03 33 23.0 +1.6
CCIG	Comitan	3.30	320	P		Pn	03 33 22.8 +1.4
ROCN	Rota Cerro Neg	3.33	112	P		Pn	03 33 20.4 -1.2
ROCN				S		Sn	03 33 59.2 -1.2
ILCN	San Idelfonso	3.34	110	P		Pn	03 33 23.4 +1.5
CNGA	Al SSO del Vol	3.37	112	P		Pn	03 33 24.0 +1.7
CNGN	Cerro Negro	3.37	112			Pn	03 33 24.0 +1.6
CNGN	Cerro Negro	3.37	112	P		Pn	03 33 24.4 +2.0
CNGN	Cerro Negro	3.37	112	S		Sn	03 34 04.4 +2.8
LEVN	Ruinas Leon Vi	3.49	113	S		Sn	03 34 06.8 +2.6
MOMN	Momotombo	3.55	112	P		Pn	03 33 26.6 +1.9
MOMN				S		Sn	03 34 06.9 +1.0
COPN	Copaltepe	3.60	116	P		Pn	03 33 26.9 +1.6
RCVN	Varilla!2	3.62	92	P		Pn	03 33 28.2 +2.5
RCPN	Sur Rio San Ju	3.72	93	P		Pn	03 33 29.7 +2.7
APYN	Apoyeque	3.79	113	P		Pn	03 33 30.1 +2.2
TISN	Laguna Tiscapa	3.90	114	P		Pn	03 33 31.3 +1.9
UNAN	Cigeo UNAN	3.91	114	P		Pn	03 33 31.8 +2.2
MGAN	Managua	3.92	114			Pn	03 33 31.5 +1.9
CRUN	El Crucero	3.94	116	P		Pn	03 33 32.8 +2.7
MATN	Matagalpa	3.97	102	P		Pn	03 33 31.8 +1.4
MAS3	Al N del Volca	4.03	115	P		Pn	03 33 33.4 +2.2
NANN	Nandasmo	4.12	116	P		Pn	03 33 35.4 +3.1
JAPN	Al SSO del Vol	4.69	118	P		Pn	03 33 42.6 +2.5
CONN	Concepcion	4.72	117	P		Pn	03 33 42.0 +1.5
ACON	Acoyapa	4.95	111			Pn	03 33 45.2 +1.6
ACON	Acoyapa	4.95	111	P		Pn	03 33 45.3 +1.6
CARN	Rivas	5.00	120	P		Pn	03 33 46.3 +2.1
ESPN	Las Esperanzas	5.69	105			Pn	03 33 56.5 +2.9
INDI	Punta indio, G	5.80	131	P		Pn	03 33 57.8 +2.6
JTS	Las Juntas de	5.96	125			Pn	03 33 59.5 +2.2
JTS	Las Juntas de	5.96	125	P		Pn	03 33 59.7 +2.4
	53nm,0.3s,baz=305,slow=14,SNR=90						
JTS				S		Sn	03 35 05.9 +1.7
	22nm,0.5s,baz=260,slow=23,SNR=4.8						
SOCE	Pocosol	6.17	122			Pn	03 34 02.7 +2.4
SOCE	Pocosol	6.17	122	P		Pn	03 34 03.2 +2.9
TEIG	Tepich	6.61	13	P		Pn	03 34 08.5 +2.3
	0.4nm,0.6s,baz=14,slow=24,SNR=7.2						
OCHAL	Ojochal	7.70	126	P		Pn	03 34 24.3 +3.4
BRU2	Volcan	8.63	124			Pn	03 34 34.9 +1.0
TLIG	Tlapa	9.15	295			Pn	03 34 41.4 +0.6
BRDY	Brady	19.33	336			P	03 36 48.5 -0.6
SDV	Santo Domingo	19.51	102	P		P	03 36 50.7 -0.6
	3.0nm,0.5s,baz=359,slow=18,SNR=3.6						
TX31	Lajitas Ar. Si	20.06	323	P		P	03 36 57.7 +0.7
TXAR	Lajitas Array	20.06	323	P		P	03 36 58.2 +1.1
TXAR	Lajitas Array	20.06	323	P		Pn	03 36 60.0 +0.3
	0.4nm,0.5s,baz=147,slow=8.3,SNR=6.7						
TXAR				PcP		PcP	03 41 09.4 +0.5
	0.2nm,0.5s,baz=48,slow=3.0,SNR=4.0						
	0.4nm,0.5s						
Y49A	Blount Mountai	20.25	8	P		P	03 37 01.3 +2.4
MIAR	Mount Ida	20.95	352			P	03 37 07.6 +1.2
FPAL	Fort Paine	21.05	10	P		P	03 37 09.6 +2.1
FPAL				IAmb		IAmb	03 37 10.7
	comp=Z,14nm,1.4s						
MNHN	Monahans	21.10	328	P		P	03 37 11.1 +2.9
SWET	Sewanee	21.66	9	IAmb		IAmb	03 37 16.4
	comp=Z,10nm,0.6s						
W50A	Signal Mountai	21.74	10	P		P	03 37 16.2 +1.3
V48A	Smith Brothers	22.06	7	P		P	03 37 20.4 +2.2
CPCT	Cooper Cave	22.13	12	IAmb		IAmb	03 37 20.9
	comp=Z,5.8nm,0.8s						
CPCT				P		P	03 37 20.9 +2.0
WVT	Waverly	22.35	4	P		P	03 37 22.7 +1.5
WVT				IAmb		IAmb	03 37 23.9
	comp=Z,7.4nm,0.9s						
WMOK	Wichita Mounta	22.37	341	P		P	03 37 20.6 -0.9
WMOK				IAmb		IAmb	03 37 21.5
	comp=Z,8.5nm,1.1s						
FNO	Franklin	22.44	344	P		P	03 37 22.2 0.0
CLTN	Cedars of Leba	22.46	8	P		P	03 37 24.8 +2.4
TKL	Tuckaleechee C	22.49	13	P		P	03 37 24.2 +1.5
TKL				IAmb		IAmb	03 37 26.4
	comp=Z,16nm,1.2s						
TKL	Tuckaleechee C	22.49	13	P		P	03 37 23.4 +0.7
	comp=Z,3.5nm,0.5s,baz=176,slow=9.7,SNR=15						
	comp=Z,3.5nm,0.5s						
U49A	Red Boiling Sp	22.95	9	IAmb		IAmb	03 37 29.7
	comp=Z,16nm,1.1s						
T47A	Sharon Grove	23.26	6	IAmb		IAmb	03 37 33.2
	comp=Z,25nm,1.0s						
USIN	University of	24.18	4	P		P	03 37 39.7 +1.1
CCM	Cathedral Cave	24.22	357	P		P	03 37 39.7 +0.8
CCM				IAmb		IAmb	03 37 41.2
	comp=Z,5.6nm,0.9s						
WCI	Wyandotte Cave	24.57	7			P	03 37 43.0 +0.9
WCI				IAmb		IAmb	03 37 45.4
	comp=Z,16nm,0.7s						
I37A	Lemond, Waseca	30.29	355	IAmb		IAmb	03 38 34.5
	comp=Z,6.9nm,0.7s						
ECSD	EROS Data Cent	30.41	350	IAmb		IAmb	03 38 34.9
	comp=Z,13nm,1.4s						
F33A	5 Mile Ranch,	32.42	352	IAmb		IAmb	03 38 52.1
	comp=Z,5.4nm,1.0s						
PDAR	Pinedale Array	33.51	333	P		P	03 39 00.4 -1.3
	comp=Z,0.2nm,0.5s,baz=141,slow=8.6,SNR=2.0						
PDAR				PcP		PcP	03 41 39.0 -1.5
	comp=Z,0.3nm,0.6s,baz=174,slow=3.5,SNR=2.6						
	comp=Z,0.2nm,0.5s						
NVAR	Mina Array Bea	35.15	320	P		P	03 39 17.2 +1.3
	comp=Z,1.2nm,0.8s,baz=140,slow=9.0,SNR=10						
NVAR				PcP		PcP	03 41 45.8 +0.5
	comp=Z,0.4nm,0.6s,baz=120,slow=2.1,SNR=5.3						
	comp=Z,1.2nm,0.8s						
ULM	Lac du Bonnet	36.71	354	P		P	03 39 27.9 -0.9
	comp=Z,4.4nm,0.5s,baz=176,slow=8.8,SNR=6.9						
	comp=Z,4.4nm,0.5s						
LPAZ	La Paz	36.81	144	P		P	03 39 31.4 +0.6
	comp=Z,0.9nm,0.9s,baz=297,slow=9.0,SNR=3.6						
	comp=Z,0.9nm,0.9s						
KUQ	Kuujjuuaa	47.13	15	P		P	03 40 53.2 -0.2
CPUP	Villa Florida	50.92	141	LR		LR	04 02 53.2
	comp=Z,282nm,18.5s,baz=286,slow=36						
YKA	Yellowknife Ar	51.73	346	P		P	03 41 27.9 -0.5
	comp=Z,0.5nm,0.5s,baz=145,slow=7.0,SNR=34						
	comp=Z,0.5nm,0.5s						
ILON	Igloolik, Nuna	55.80	3	P		P	03 41 57.3 -0.6
ILON				IAmb		IAmb	03 41 58.0
	comp=Z,3.4nm,0.8s						
MMPY	Sheldon Lake,	56.84	339	P		P	03 42 05.8 +0.3
M29M	Somme Creek	59.44	336	P		P	03 42 24.2 +0.6
M29M				IAmb		IAmb	03 42 56.4
	comp=Z,4.1nm,1.4s						
G31M	Satah River	60.58	342	P		P	03 42 30.7 -0.5
BCAR	Beaver Creek A	61.07	336	P		P	03 42 34.6 -0.2
A36M	Sachs Harbour	61.88	348	P		P	03 42 39.0 -0.9
A36M				IAmb		IAmb	03 42 39.3
	comp=Z,2.0nm,0.7s						
H27K	Steamboat Moun	62.57	339	P		P	03 42 45.3 +0.6
H27K				IAmb		IAmb	03 42 49.0
	comp=Z,3.8nm,1.4s						
ILAR	Eielson Array	63.86	336	P		P	03 42 52.9 -0.3
	comp=Z,0.5nm,1.1s,baz=119,slow=6.5,SNR=4.3						
	comp=Z,0.5nm,1.1s						
D27M	Malcolm River	63.98	342	IAmb		IAmb	03 42 56.4
	comp=Z,2.1nm,0.6s						
SUA	Susitna One	64.23	332	P		P	03 42 55.9 0.0
SUA				IAmb		IAmb	03 43 29.2
	comp=Z,8.6nm,1.5s						
SUMG	Summit	65.93	15	P		P	03 43 06.3 -0.7
EUNU	Eureka	66.33	1	P		P	03 43 08.7 -0.4
EKA	Eskdalemuir Ar	76.97	36	P		P	03 44 10.3 -2.8
	comp=Z,0.4nm,0.3s,baz=277,slow=5.8,SNR=5.1						
	comp=Z,0.4nm,0.3s						
ESDC	Sonseca Array	78.27	52	P		P	03 44 18.5 -2.3
	comp=Z,0.4nm,0.8s,baz=286,slow=4.7,SNR=5.3						
	comp=Z,0.4nm,0.8s						
SPITS	Spitsbergen Ar	79.91	12	P		P	03 44 27.6 -1.3
	comp=Z,5.7nm,0.9s,baz=247,slow=7.4,SNR=1.7						
	comp=Z,5.7nm,0.9s						
SONM	Songino Array	116.97	348	PKP		PKPdf	03 51 04.9 -0.1
	comp=Z,0.2nm,0.3s,baz=349,slow=2.9,SNR=1.6						
KSRS	Korea Array	117.87	326	PKP		PKPdf	03 51 06.8 0.0
	comp=Z,0.5nm,0.5s,baz=340,slow=1.3,SNR=2.3						
BOSA	Boshof	118.42	115	PKP		PKPdf	03 51 08.3 +0.1
	comp=Z,3.2nm,1.1s,baz=243,slow=2.2,SNR=6.8						
HHC	Hu-ho-hao-te	122.13	341	*e*P		PKPdf	03 51 14.8 -0.3
WRA	Warramunga Arr	137.30	255	PKP		PKPdf	03 51 44.0 -0.2
	comp=Z,1.5nm,0.6s,baz=88,slow=2.6,SNR=13						
ASAR	Alice Springs	137.50	250	PKP		PKPdf	03 51 42.7 -1.8
	comp=Z,0.7nm,0.8s,baz=95,slow=2.2,SNR=6.5						
PZH	PanZhiHua	138.40	344	PKP		PKPdf	03 51 45.4 -0.9
CMAR	Chiang Mai Arr	146.81	345	PKPbc		PKPdf	03 52 02.1 +0.9
	comp=Z,1.5nm,0.5s,baz=335,slow=3.0,SNR=5.6						

*IDC **14** 03:33:26.5±2.6, 17°.78N×121°.43E, h118km±28km, mb3.1/7, mbtmp3.5/7, Error ellipse: s-maj=33.0km s-min=16.2km az=73.0*

ISC 14 03:33:25.0±1.0, **17°.86N**±0°.08×**121°.5E**±0°.2, **h100**km, **n8**, σ1§**50**/9, **mb3.2**/6, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	3.77	188	P		Pn	03 34 21.6 +0.4
	161nm,0.3s,baz=116,slow=11,SNR=4.0						
TGY				S		Sn	03 35 06.1 +1.5
	213nm,0.3s,baz=240,slow=8.4,SNR=1.5						
KSRS	Korea Array	20.33	15	P		P	03 37 52.8 -0.4
	2.3nm,0.6s,baz=194,slow=11,SNR=8.3						
	2.3nm,0.6s						
CMAR	Chiang Mai Arr	21.39	275	P		P	03 38 02.9 -1.9
	0.2nm,0.3s,baz=94,slow=11,SNR=4.5						
	0.2nm,0.3s						
SONM	Songino Array	32.34	341	P		P	03 39 46.3 +1.5
	0.5nm,0.5s,baz=157,slow=7.8,SNR=3.6						
	0.5nm,0.5s						
WRA	Warramunga Arr	39.64	161	P		P	03 40 46.0 -1.2
	0.2nm,0.5s,baz=343,slow=8.5,SNR=1.4						
	0.2nm,0.5s						
ASAR	Alice Springs	43.03	163	P		P	03 41 13.7 -1.2
	0.3nm,0.8s,baz=341,slow=6.6,SNR=4.6						
	0.3nm,0.8s						
MKAR	Makanchi Array	43.21	321	P		P	03 41 15.6 -0.5
	0.3nm,0.6s,baz=108,slow=11,SNR=4.6						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	47.22	324	P		P	03 41 49.0 +1.3
	0.8nm,0.6s,baz=121,slow=7.8,SNR=8.2						
	0.8nm,0.6s						

*SOME **14** 03:34:06.6, 39°.43N×74°.42E, h0km*
*NNC **14** 03:34:12.1±4.7, 39°.17N×73°.72E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=36.2km s-min=24.7km az=158.0*

ISC 14 03:34:08.6±4.5, **38°.8N**±0°.2×**73°.9E**±0°.1, **h10**km, **n5**, σ1§**45**/10, **4C-3D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	3.82	7	⇓Pn	Pn	03 35 08.8	+1.1
	2.7nm,0.5s						
AAK				⇑Sn	Sn	03 35 51.9	-0.8
	4.4nm,0.9s						
MRKS	Merke	3.93	353	*e*P	Pn	03 35 10.3	+1.3
	14nm,0.2s						
MRKS				*e*S	Sn	03 35 57.2	+2.0
	13nm,0.4s						
TKM2	Tokmak 2	4.28	17	⇑Pn	Pn	03 35 14.8	+0.7
	2.3nm,0.5s						
TKM2				⇑Sn	Sn	03 36 03.4	-0.8
	2.1nm,0.5s						
TKM2				⇑Lg	Lg	03 36 21.2	
	2.7nm,0.8s						
KST	Kastek	4.49	20	*e*P	Pn	03 35 16.4	-0.4
	3.3nm,0.2s						
KST				*e*S	Sn	03 36 07.6	-1.6
	5.6nm,0.4s						
KK31	Karatay Array	4.95	330	⇓Pn	Pn	03 35 22.7	-0.3
	2.0nm,0.3s,baz=126,slow=12,SNR=58						
KK31				⇓Sn	Sn	03 36 18.6	-1.7
	6.0nm,0.6s,baz=148,slow=20,SNR=10						

*IDC **14** 03:56:39.8±0.9, 11°.60N×140°.98E, h0km, mb3.8/10, mbtmp3.8/10, MS3.5/3, Error ellipse: s-maj=32.2km s-min=21.5km az=81.0*

ISC 14 03:56:46.0±0.9, **11°.6N**±0°.2×**141°.0E**±0°.2, **h45**km, **n13**, σ0§**94**/11, **mb3.7**/10, **MS3.6**/3, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.97	192	P		P	04 03 07.3 -0.6
	1.0nm,1.0s,baz=13,slow=11,SNR=3.4						
WRA				LR	LR	04 15 37.7	
	comp=Z,123nm,19.5s,baz=210,slow=36						
	1.0nm,1.0s						
ASAR	Alice Springs	35.68	191	P		P	04 03 40.1 0.0
	0.3nm,0.7s,baz=20,slow=12,SNR=5.5						
	0.3nm,0.7s						
CMAR	Chiang Mai Arr	41.09	285	P		P	04 04 26.1 +0.3
	0.3nm,0.3s,baz=96,slow=7.9,SNR=4.1						
	0.3nm,0.3s						
NWAO	Narrogin (SRO)	49.69	206	LR		LR	04 26 10.3
	comp=Z,55nm,19.7s,baz=269,slow=36						
SEY	Seymchan	51.95	7	LR		LR	04 28 17.9
	comp=Z,24nm,19.7s,baz=320,slow=37						
MKAR	Makanchi Array	60.35	318	P		P	04 06 51.4 +0.9
	0.4nm,0.5s,baz=94,slow=10,SNR=4.4						
	0.4nm,0.5s						
ZALV	Zalesovo Beam	61.11	326	P		P	04 06 55.5 +0.1
	0.5nm,0.4s,baz=113,slow=7.4,SNR=2.3						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	63.75	321	P		P	04 07 13.7 +0.5
	1.6nm,0.8s,baz=104,slow=6.9,SNR=13						
	1.6nm,0.8s						
BVAR	Borovoye Array	69.18	322	P		P	04 07 47.8 -0.1
	1.7nm,0.7s,baz=101,slow=6.2,SNR=7.3						
	1.7nm,0.7s						
ILAR	Eielson Array	72.03	25	P		P	04 08 04.5 -0.5
	0.5nm,0.8s,baz=255,slow=6.5,SNR=5.1						
	0.5nm,0.8s						
YKA	Yellowknife Ar	86.40	27	P		P	04 09 23.7 +0.4
	0.2nm,0.5s,baz=289,slow=5.0,SNR=7.5						
	0.2nm,0.5s						
FINES	FINESS Array B	91.36	334	P		P	04 09 45.4 -1.4
	0.5nm,0.3s,baz=25,slow=5.0,SNR=8.5						
	0.5nm,0.3s						
LPAZ	La Paz	151.39	103	PKPbc		PKiKP	04 16 38.8 +1.7
	1.7nm,0.6s,baz=359,slow=3.8,SNR=8.7						

*NEIC **14** 03:59:54.2±1.4, 38°.80N±0°.03×112°.84W±0°.04, h5km±1km, Error ellipse: s-maj=6.7km s-min=2.9km az=309.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}~0.28; $M_{\theta\theta}$~0.34; $M_{\phi\phi}$0.62; $M_{r\theta}$~0.87; $M_{\theta\phi}$~0.08; $M_{\phi r}$~0.42; Fault plane solution: $M_0$1.11000×10^{15} NP1: ϕ_s148.74000°, δ29.19000°, λ-166.32000°. NP2: ϕ_s46.74000°, δ83.38000°, λ-61.50000°. Principal axes: T 0.8765, Plg32.0000°, Azm113.0000°; N 0.3732, Plg28.0000°, Azm223.0000°; P -1.2497, Plg44.0000°, Azm345.0000°;*
*NEIC **14** 03:59:54.1, 38°.82N×112°.85W, h5km*

*UUSS **14** 03:59:54.4±1.6, 38°.77N±0°.04×112°.77W±0°.03, h1km±2km, ML4.1/21, mb4.4/14(NEIC), ML4.2/135(NEIC), Mwr4.0/33(NEIC), Error ellipse: s-maj=6.6km s-min=2.6km az=169.0*
*IDC **14** 03:59:56.0±0.6, 38°.79N×112°.78W, h0km, mb4.0/7, mbtmp3.8/16, ML2.9/8, MS3.1/3, Error ellipse: s-maj=6.8km s-min=6.4km az=17.0*

ISC 14 03:59:56.3±0.5, **38°.78N**±0°.03×**112°.78W**±0°.03, **h10**km, **n103**, σ1§**58**/96, **mb4.3**/14, **Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCRU	Three Creeks R	0.31	124		Pg	04 00 00.5	-2.1
TCRU				IAML		04 00 11.1	
	comp=E,21µm,1.2s						
MVU	Marysvale	0.52	122		Pg	04 00 04.5	-2.0
MSU	Marysvale	0.54	120		Pg	04 00 04.8	-2.1
WCU	Willow Creek	0.56	71		Pg	04 00 05.3	-2.1
DWU	Dry Willow Pea	0.70	195		Pg	04 00 08.0	-1.9
FLU	Fool Peak	0.76	38		Pg	04 00 08.5	-2.6
MTPU	Mount Pierson	0.87	148		Pg	04 00 11.4	-1.8
PSUT	Pine Spring	0.88	254		Pg	04 00 11.5	-1.8
SGU	Sterling	0.97	65		Pg	04 00 13.5	-1.5
LEVU	Levan	1.04	46		Pg	04 00 14.7	-1.6
FSU	Fish Springs	1.05	333		Pg	04 00 15.0	-1.6
OWUT	Old Woman Plat	1.06	90		Pg	04 00 15.2	-1.5
SNO	Snow College	1.10	61		Pg	04 00 16.3	-1.2
ARUT	Antelope Range	1.12	208		Pb	04 00 16.1	-1.8
Q16A	Castle Valley	1.26	83		Pn	04 00 18.5	-1.7
Q16A				IAML		04 00 40.5	
	comp=N,3µm,2.1s						
TMUT	Trail Mountain	1.32	67		Pn	04 00 19.7	-1.5
TMUT				IAML		04 00 42.4	
	comp=E,4µm,0.7s						
TMUT				IAML		04 00 49.9	
	comp=N,3µm,0.7s						
PKCU	Pink Cliffs	1.39	164		Pn	04 00 21.1	-0.9
PKCU				IAML		04 00 49.2	
	comp=E,4µm,1.4s						
PKCU				IAML		04 00 49.8	
	comp=N,4µm,1.5s						
DUG	Dugway, Tooele	1.41	359		Pn	04 00 20.5	-1.8
DUG				IAML		04 00 48.3	
	comp=N,2µm,1.1s						
DUG				IAML		04 01 01.3	
	comp=N,3µm,1.5s						
MPU	Maple Canyon	1.52	35		Pn	04 00 22.7	-1.0
Q12A	Willow Creek R	1.62	280		Pn	04 00 24.2	-0.9
KNB	Kanab	1.76	181		Pn	04 00 27.2	+0.1
KNB				IAML		04 01 05.5	
	comp=N,1µm,2.2s						
SRU	San Rafael Swe	1.79	79		Pn	04 00 27.5	+0.1
SRU				IAML		04 00 55.1	
	comp=N,3µm,1.1s						
SRU				IAML		04 00 57.6	
	comp=E,4µm,0.9s						
WTU	Western Traver	1.79	21		Pn	04 00 27.1	-0.3
LCMT	Little Creek M	1.81	192		Pn	04 00 27.5	-0.1
LCMT				IAML		04 00 55.7	
	comp=E,1µm,0.8s						
HMU	Henry Mountain	1.81	117		Pn	04 00 27.4	-0.3
HMU				IAML		04 01 16.9	
	comp=N,1µm,1.3s						
P18A	Preston Nutter	2.14	66		Pb	04 00 34.0	-1.4
P18A				IAML		04 01 06.2	
	comp=E,1µm,1.2s						
P18A				IAML		04 01 07.4	
	comp=N,974nm,1.5s						
BGU	Big Grassy Mou	2.15	355		Pn	04 00 30.8	-1.6
BGU				IAML		04 01 26.6	
	comp=E,954nm,1.8s						
R11B	Troy Canyon, C	2.24	260		Pn	04 00 32.6	-1.1
PRN	Pahroc Range	2.26	233		Pn	04 00 33.3	-0.6
BSUT	Blindstream Ca	2.34	41		Pn	04 00 35.3	+0.1
U15A	North Rim	2.38	171		Pn	04 00 36.5	+0.8
U15A				IAML		04 01 28.6	
	comp=E,2µm,1.6s						
U15A				IAML		04 01 29.4	
	comp=N,694nm,1.5s						
TCUT	Toone Canyon	2.56	24		Pn	04 00 37.5	-0.6
TCUT				IAML		04 01 37.3	
	comp=E,2µm,0.7s						
S11A	Rachel	2.60	245	Pn	Pn	04 00 36.8	-1.7
ELK	Elko	2.73	317		Pn	04 00 39.2	-1.3
ELK	Elko	2.73	317	Pn	Pn	04 00 40.0	-0.4
	comp=E,1.9nm,0.3s,baz=134,slow=10,SNR=66						
ELK				Pg	Pg	04 00 46.4	-2.2
	comp=E,23nm,0.3s,baz=125,slow=11,SNR=54						
ELK				Lg	Lg	04 01 21.3	
	comp=E,12nm,0.3s,baz=29,slow=7.3,SNR=5.2						
	comp=E,15nm,0.6s						
SHPR	Sheep Range	2.96	221		Pn	04 00 43.4	-0.1
PV23	Carpenter Ridg	2.97	95		Pn	04 00 43.8	+0.1
HWUT	Hardware Ranch	2.97	18		Pn	04 00 43.9	+0.2
HWUT				IAML		04 01 41.0	
	comp=E,464nm,0.9s						
HWUT				IAML		04 01 45.1	
	comp=E,514nm,1.0s						
HVU	Hansel Valley	3.00	0		Pn	04 00 42.8	-1.2
HVU				IAML		04 01 41.3	
	comp=N,889nm,1.1s						
HVU				IAML		04 01 49.1	
	comp=E,491nm,1.9s			

S22A				IAML			04 02 49.3	
	comp=N,91nm,1.8s							
TPAW	**Teton Pass**	**4.90**	**16**	IAML			04 02 56.4	
	comp=N,150nm,1.8s							
TPAW				IAML			04 03 07.7	
	comp=N,159nm,1.5s							
SNOW	**Snow King Moun**	**4.92**	**17**			**Pn**	**04 01 10.2**	**-0.3**
SNOW				IAML			04 02 59.9	
	comp=N,272nm,2.8s							
HLID	**Hailey**	**4.93**	**346**			**Pn**	**04 01 10.7**	**0.0**
HLID				IAML			04 03 16.0	
	comp=N,140nm,1.9s							
FXWY	**Fox Creek**	**5.03**	**15**			**Pn**	**04 01 11.8**	**-0.2**
FXWY				IAML			04 02 49.8	
	comp=N,97nm,2.8s							
LOHW	**Long Hollow**	**5.10**	**18**	IAML			04 02 50.9	
	comp=N,104nm,1.9s							
LOHW				IAML			04 02 57.3	
	comp=N,89nm,2.1s							
MFID	**Camas Ranch**	**5.17**	**335**			**Pn**	**04 01 10.4**	**-3.4**
MFID				IAML			04 03 04.5	
	comp=N,194nm,1.4s							
MFID				IAML			04 03 13.6	
	comp=N,147nm,1.6s							
PAHR	**Pah Rah Range**	**5.21**	**282**			**Pn**	**04 01 14.2**	**-0.2**
PAHR				IAML			04 02 51.9	
	comp=N,136nm,1.6s							
PFO	**Pinyon Flats O**	**5.96**	**211**			**Pn**	**04 01 25.3**	**+0.6**
PFO	**Pinyon Flats O**	**5.96**	**211**	Pn		**Pn**	**04 01 25.6**	**+0.9**
	comp=N,0.2nm,0.3s,baz=66,slow=6.8,SNR=7.0							
PFO				Pg		**Pb**	**04 01 36.7**	**-3.6**
	comp=N,0.4nm,0.3s,baz=58,slow=11,SNR=6.7							
PFO				Lg		Lg	04 03 03.5	
	comp=N,0.3nm,0.3s,baz=0.6,slow=5.2,SNR=1.1							
	comp=N,3.6nm,0.7s							
BEKR	**Beckworth**	**5.98**	**283**			**Pn**	**04 01 26.0**	**+1.0**
ANMO	**Albuquerque**	**6.35**	**125**			**Pn**	**04 01 31.0**	**+0.9**
ANMO	**Albuquerque**	**6.35**	**125**			**Pn**	**04 01 31.1**	**+0.9**
ANMO	**Albuquerque**	**6.35**	**125**			**Pn**	**04 01 31.0**	**+0.9**
ANMO	**Albuquerque**	**6.35**	**125**	Pn		**Pn**	**04 01 32.2**	**+2.0**
	comp=N,0.3nm,0.3s,baz=126,slow=12,SNR=17							
ANMO				Pg		**Pb**	**04 01 51.5**	**+4.5**
	comp=N,1.6nm,0.3s,baz=118,slow=12,SNR=13							
ANMO				Lg		Lg	04 03 14.8	
	comp=N,0.8nm,0.3s,baz=307,slow=16,SNR=3.6							
ANMO				LR		LR	04 03 35.9	
	comp=N,87nm,18.1s,baz=94,slow=35							
	comp=N,3.0nm,0.6s							
PIX	**Pinacate**	**7.23**	**185**			**Pn**	**04 01 40.3**	**-1.7**
L04D	**Klamath Falls**	**8.03**	**298**			**Pn**	**04 01 51.2**	**-1.9**
YBH	**Yreka Blue Hor**	**8.15**	**294**	Pn		**Pn**	**04 01 56.9**	**+2.2**
	comp=N,0.4nm,0.3s,baz=96,slow=8.7,SNR=12							
YBH				Lg		Lg	04 04 09.5	
	comp=N,0.2nm,0.3s,baz=132,slow=17,SNR=1.3							
YBH				LR		LR	04 04 46.1	
	comp=N,143nm,19.5s,baz=346,slow=36							
	comp=N,2.8nm,0.7s							
NEW	**Newport**	**9.99**	**343**	Pn		**Pn**	**04 02 22.5**	**+2.6**
	comp=N,0.1nm,0.3s,baz=125,slow=12,SNR=1.7							
NEW				Lg		Lg	04 05 08.4	
	comp=N,0.1nm,0.3s,baz=111,slow=14,SNR=2.9							
	comp=N,1.5nm,0.7s							
DGMT	**Dagmar**	**11.50**	**30**			**Pn**	**04 02 40.2**	**-0.3**
TXAR	**Lajitas Array**	**12.07**	**139**	Pn		Pn	04 02 54.1	+5.6
	baz=319,slow=11,SNR=17							
TXAR				Lg		Lg	04 06 14.8	
	baz=326,slow=30,SNR=2.4							
	comp=N,2.1nm,0.9s							
KAN09	**Caldwell North**	**12.08**	**93**			**Pn**	**04 02 45.3**	**-3.2**
HNDO	**Hondo**	**14.48**	**126**			**Pn**	**04 03 21.4**	**+0.1**
ULM	**Lac du Bonnet**	**16.59**	**41**			**Pn**	**04 03 46.6**	**-2.3**
ULM	**Lac du Bonnet**	**16.59**	**41**	Pn		**Pn**	**04 03 49.0**	**+0.1**
	comp=N,0.1nm,0.3s,baz=228,slow=11,SNR=5.2							
	comp=N,4.1nm,0.8s							
FPAL	**Fort Paine**	**22.16**	**93**	P		**P**	**04 04 48.0**	**-4.5**
E46A	**Sault Ste Mari**	**22.21**	**61**	P		**P**	**04 04 53.5**	**+0.7**
E46A				IAmb		IAmb	04 04 56.3	
	comp=Z,17nm,1.0s							
YKA	**Yellowknife Ar**	**23.77**	**358**	P		**P**	**04 05 07.2**	**-1.5**
YKA	**Yellowknife Ar**	**23.77**	**358**	P		**P**	**04 05 09.4**	**+0.8**
	comp=Z,4.2nm,1.0s,baz=177,slow=9.2,SNR=49							
	comp=Z,4.2nm,1.0s							
YKAW3	**Yellowknife Wh**	**23.84**	**358**	P		**P**	**04 05 08.3**	**-1.0**
YKAW3				IAmb		IAmb	04 05 12.8	
	comp=Z,22nm,1.4s							
J30M	**Hart River**	**29.31**	**339**			**P**	**04 05 57.2**	**-1.7**
J30M				IAmb		IAmb	04 06 02.9	
	comp=Z,8.9nm,1.3s							
G31M	**Satah River**	**30.69**	**344**			**P**	**04 06 11.5**	**+0.7**
C36M	**Paulatuk**	**31.23**	**352**	P		**P**	**04 06 14.8**	**-0.7**
ILAR	**Eielson Array**	**32.76**	**334**	P		**P**	**04 06 30.8**	**+1.7**
	comp=Z,2.0nm,1.1s,baz=128,slow=7.5,SNR=11							
	comp=Z,2.0nm,1.1s							
A36M	**Sachs Harbour**	**33.88**	**353**	P		**P**	**04 06 40.2**	**+1.5**
A36M				IAmb		IAmb	04 06 41.7	
	comp=Z,5.4nm,1.1s							
H21K	**Melozitna Rive**	**35.34**	**333**	P		**P**	**04 06 53.7**	**+2.2**
E22K	**Anaktuvuk Pass**	**36.31**	**337**	P		**P**	**04 07 02.3**	**+2.5**
E22K				IAmb		IAmb	04 07 03.9	
	comp=Z,7.0nm,1.1s							
B22K	**Teshekpuk Lake**	**38.03**	**339**			**P**	**04 07 14.5**	**+0.3**
C16K	**Lisburne Hills**	**40.90**	**333**	P		**P**	**04 07 38.6**	**+0.4**
C16K				IAmb		IAmb	04 08 10.2	
	comp=Z,10.0nm,1.4s							
PETK	**Petropavlovsk-**	**59.90**	**316**	P		**P**	**04 10 02.9**	**+0.8**
	comp=Z,1.6nm,0.9s,baz=83,slow=6.0,SNR=3.7							
	comp=Z,1.6nm,0.9s							
CPUP	**Villa Florida**	**82.96**	**132**	P		**P**	**04 12 22.7**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=258,slow=9.4,SNR=3.2							
	comp=Z,0.6nm,0.5s							
BVAR	**Borovoye Array**	**88.53**	**358**	P		**P**	**04 12 50.8**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=20,slow=4.7,SNR=4.4							
	comp=Z,0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**90.42**	**353**	P		**P**	**04 12 59.4**	**+1.6**
	comp=Z,2.1nm,1.3s,baz=8.9,slow=4.2,SNR=7.3							
	comp=Z,2.1nm,1.3s							
HHC	**Hu-ho-hao-te**	**91.01**	**328**	*eP*		**P**	**04 13 00.4**	**-0.5**
HHC				pmax		pmax		
	comp=Z,14nm,0.6s							
MKAR	**Makanchi Array**	**93.74**	**350**	P		**P**	**04 13 14.6**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=29,slow=3.3,SNR=2.5							
	comp=Z,0.4nm,0.9s							

*IDC **14** 04:02:40.2±8.2, 46°.82N×150°.38E, h161km±53km, mb3.2/7, mbtmp3.6/8, Error ellipse: s-maj=95.6km s-min=22.4km az=175.0*
*SKHL **14** 04:02:41.5±0.3, 44°.20N×152°.10E, h45km±3km, mb4.2/3*
*JMA **14** 04:02:42.4±0.7, 46°.N±5°.×15°.1E±°., h163km, MV3.3/11, KURILE ISLANDS REGION*
ISC 14 04:02:38.4±0.9**, 46°.5N**±0°.2**×150°.8E**±0°.1**, h150**km**, n27,** σ2**9**71/28**, mb3.2/7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.42**	**239**	*eP*	Pn	04 03 29.1	+11
KUR				AMB	AMB	04 03 30.4	
	50nm,0.5s						
KUR				*eS*	Sn	04 04 04.5	+15
KUR				A	A	04 04 06.4	
	100nm,0.6s						
KUR				A	A	04 04 06.4	
	100nm,0.6s						
SHO	**Shikotan**	**3.86**	**228**	*eP*	**Pn**	**04 03 39.6**	**+2.8**
SHO				AMB	AMB	04 03 40.9	
	20nm,0.3s						
SHO				*eS*	**Sn**	**04 04 23.1**	**+1.1**
SHO				A	A	04 04 24.2	
	30nm,0.2s						
SHO				A	A	04 04 24.2	
	30nm,0.2s						
NEM2	**Nemuro 2**	**4.78**	**230**	P	**Pn**	**04 03 50.5**	**+1.7**
NEM2				S	**Sn**	**04 04 43.1**	**-0.6**
NMR	**Nemuro--Hokkai**	**4.78**	**231**	*eP*	**Pn**	**04 03 50.4**	**+1.5**
NMR				AMB	AMB	04 03 51.0	
	10.0nm,0.3s						
NMR				*eS*	**Sn**	**04 04 42.0**	**-1.8**
NMR				A	A	04 04 43.9	
	10.0nm,0.3s						
NMR				A	A	04 04 43.9	
	20nm,0.3s						
JNK	**Nakash**	**5.21**	**238**	*eP*	**Pn**	**04 03 58.1**	**+3.5**
JNK				*eS*	**Sn**	**04 04 56.1**	**+2.1**
JTKR	**Abashiri--Toko**	**5.49**	**245**	*eP*	**Pn**	**04 04 01.8**	**+3.6**
AKK	**Akkeshi**	**5.50**	**233**	*eP*	**Pn**	**04 04 00.4**	**+2.0**
AKK				*eS*	**Sn**	**04 04 59.9**	**-0.9**
JAK	**Akkeshi**	**5.59**	**233**	*eP*	**Pn**	**04 04 01.3**	**+1.7**
JAK				*eS*	**Sn**	**04 05 02.7**	**-0.3**
JAR	**Ashorobuto**	**5.94**	**240**	*eP*	**Pn**	**04 04 08.3**	**+4.0**
JAR				*eS*	**Sn**	**04 05 14.3**	**+2.9**
JKK2	**Kamakawa 2**	**6.27**	**248**	*eP*	**Pn**	**04 04 13.1**	**+4.4**
JCH	**Churui**	**6.59**	**236**	*eP*	**Pn**	**04 04 14.9**	**+2.0**
JCH				*eS*	**Sn**	**04 05 25.4**	**-1.6**
JNBK	**Urakawa-nobuka**	**7.15**	**237**	*eP*	**Pn**	**04 04 22.1**	**+1.7**
PETK	**Petropavlovsk-**	**7.96**	**32**	P	**Pn**	**04 04 31.6**	**+0.5**
	2.2nm,0.5s,baz=209,slow=13,SNR=7.7						
JANG	**Nango**	**9.12**	**231**	*eS*	**Sn**	**04 06 20.6**	**-7.4**
H11N2	**WAKE ISLAND Hy**	**29.81**	**148**	T	T	04 40 08.9	
	baz=337,slow=75,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**29.82**	**148**	T	T	04 40 09.2	
	baz=337,slow=75,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**29.82**	**148**	T	T	04 40 09.3	
	baz=337,slow=75,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**30.86**	**150**	T	T	04 41 31.5	
	baz=338,slow=76,SNR=2.9						
H11S3	**WAKE ISLAND Hy**	**30.87**	**150**	T	T	04 41 28.3	
	baz=338,slow=76,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**30.88**	**150**	T	T	04 41 35.0	
	baz=338,slow=76,SNR=2.7						
KDAK	**Kodiak Island**	**35.48**	**50**	P	**P**	**04 09 20.5**	**+0.4**
	3.5nm,1.0s,baz=291,slow=8.6,SNR=1.7						
	3.5nm,1.0s						
INK	**Inuvik**	**42.70**	**32**	P	**P**	**04 10 20.3**	**+0.4**
	0.7nm,0.4s,baz=288,slow=3.2,SNR=5.9						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**45.62**	**297**	P	**P**	**04 10 41.9**	**-1.6**
	0.2nm,0.5s,baz=60,slow=7.1,SNR=2.3						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**46.25**	**303**	P	**P**	**04 10 45.3**	**-3.0**
	0.4nm,0.7s,baz=73,slow=8.7,SNR=2.8						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**52.06**	**36**	P	**P**	**04 11 32.4**	**+0.2**
	0.2nm,0.8s,baz=300,slow=7.1,SNR=5.6						
	0.2nm,0.8s						
FINES	**FINESS Array B**	**63.55**	**334**	P	**P**	**04 12 49.6**	**-2.8**
	1.3nm,0.9s,baz=31,slow=5.1,SNR=4.0						
	1.3nm,0.9s						
TXAR	**Lajitas Array**	**78.99**	**59**	P	**P**	**04 14 26.9**	**+1.2**
	0.3nm,0.7s,baz=302,slow=5.7,SNR=3.8						
	0.3nm,0.7s						

*UUSS **14** 04:09:16.3±1.4, 38°.75N±0°.02×112°.75W±0°.02, h-0km, ML2.7/12, ML2.8/81(NEIC), Error ellipse: s-maj=3.1km s-min=2.7km az=293.0*
NEIC 14 04:09:16.6±2.0**, 38°.77N**±0°.01×**112°.77W**±0°.01**, h5**km±2km**,**
Error ellipse: s-maj=3.0km s-min=2.6km az=227.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCRU	**Three Creeks R**	**0.30**	**122**		Pg	04 09 22.4	0.0
TCRU				IAML		04 09 31.2	
	comp=N,1μm,1.0s						
MVU	**Marysvale**	**0.51**	**121**		Pg	04 09 26.4	0.0
MVU				IAML		04 09 41.4	
	comp=N,458nm,0.6s						
MSU	**Marysvale**	**0.53**	**118**		Pg	04 09 26.8	0.0
WCU	**Willow Creek**	**0.57**	**69**		Pg	04 09 27.1	-0.3
DWU	**Dry Willow Pea**	**0.68**	**195**		Pg	04 09 29.7	0.0
FLU	**Fool Peak**	**0.77**	**37**		Pg	04 09 31.2	-0.1
MTPU	**Mount Pierson**	**0.86**	**147**		Pg	04 09 33.1	+0.1
PSUT	**Pine Spring**	**0.88**	**255**		Pg	04 09 33.7	+0.2
SGU	**Sterling**	**0.97**	**64**		Pg	04 09 35.5	+0.3
LEVU	**Levan**	**1.05**	**45**		Pg	04 09 36.5	-0.2
OWUT	**Old Woman Plat**	**1.05**	**89**		Pg	04 09 36.8	0.0
FSU	**Fish Springs**	**1.07**	**333**		Pb	04 09 37.5	-0.2
SNO	**Snow College**	**1.10**	**60**		Pg	04 09 38.0	+0.2
ARUT	**Antelope Range**	**1.11**	**209**		Pg	04 09 37.6	-0.3
BTU	**Barney Top**	**1.23**	**145**		Pn	04 09 40.7	-0.1
Q16A	**Castle Valley**	**1.26**	**83**		Pg	04 09 40.4	-0.3
Q16A				IAML		04 10 01.8	
	comp=E,150nm,0.9s						
TMUT	**Trail Mountain**	**1.33**	**66**		Pg	04 09 41.5	-0.5
TMUT				IAML		04 10 05.0	
	comp=E,262nm,0.8s						
TMUT				IAML		04 10 10.5	
	comp=N,272nm,0.7s						
PKCU	**Pink Cliffs**	**1.37**	**165**		Pb	04 09 43.5	+0.7
PKCU				IAML		04 10 08.3	
	comp=N,216nm,1.0s						
PKCU				IAML		04 10 09.9	
	comp=E,204nm,0.8s						
DUG	**Dugway, Tooele**	**1.43**	**359**		Pb	04 09 43.7	0.0
DUG				IAML		04 10 16.9	
	comp=E,150nm,1.2s						
DUG				IAML		04 10 17.3	
	comp=E,164nm,1.0s						
ELU	**Electric Lake**	**1.50**	**54**		Pb	04 09 44.9	-0.1
MPU	**Maple Canyon**	**1.53**	**35**		Pn	04 09 45.1	+0.4
MPU				IAML		04 10 22.2	
	comp=E,91nm,1.4s						
KNB	**Kanab**	**1.75**	**181**		Pb	04 09 49.5	+0.3
SRU	**San Rafael Swe**	**1.79**	**78**		Pn	04 09 46.4	-1.8
SRU				IAML		04 10 18.5	
	comp=N,141nm,0.5s						
LCMT	**Little Creek M**	**1.79**	**192**		Pb	04 09 49.7	-0.2
LCMT				IAML		04 10 20.1	
	comp=E,86nm,0.8s						
LCMT				IAML		04 10 21.0	
	comp=N,61nm,0.6s						
HMU	**Henry Mountain**	**1.80**	**117**		Pn	04 09 48.9	+0.4
HMU				IAML		04 10 23.4	
	comp=N,109nm,1.2s						
HMU				IAML		04 10 37.1	
	comp=E,89nm,0.9s						
DAU	**Daniels Canyon**	**2.02**	**35**		Pb	04 09 54.6	+0.7
ROA	**Roan Cliffs**	**2.07**	**64**		Pb	04 09 54.8	-0.1
P18A	**Preston Nutter**	**2.14**	**66**		Pb	04 09 55.9	-0.2
P18A				IAML		04 10 29.9	
	comp=E,72nm,0.6s						
P18A				IAML		04 10 38.6	
	comp=N,80nm,0.8s						
BGU	**Big Grassy Mou**	**2.17**	**355**		Pn	04 09 53.2	-0.2
BGU				IAML		04 10 38.4	
	comp=E,58nm,1.8s						
R11B	**Troy Canyon, C**	**2.25**	**260**		Pn	04 09 54.6	+0.1
PRN	**Pahroc Range**	**2.25**	**234**		Pb	04 09 58.0	+0.1
BSUT	**Blindstream Ca**	**2.35**	**41**		Pn	04 09 57.6	+1.4
BSUT				IAML		04 10 47.6	
	comp=E,33nm,1.5s						
U15A	**North Rim**	**2.37**	**171**		Pn	04 09 57.7	+1.4
U15A				IAML		04 10 35.2	
	comp=N,62nm,0.9s						
U15A				IAML		04 10 43.3	
	comp=E,50nm,1.5s						
TCUT	**Toone Canyon**	**2.57**	**24**		Pn	04 09 58.0	-1.2
S11A	**Rachel**	**2.60**	**245**		Pn	04 09 59.7	+0.3
ELK	**Elko**	**2.74**	**317**		Pn	04 10 02.4	+0.9
SHPR	**Sheep Range**	**2.95**	**221**		Pn	04 10 03.7	-0.5
SHPR				IAML		04 11 00.7	
	comp=E,25nm,1.2s						
PV10	**Paradox Valley**	**2.95**	**96**		Pb	04 10 07.0	-2.7
PV23	**Carpenter Ridg**	**2.96**	**95**		Pb	04 10 09.1	-0.9
HWUT	**Hardware Ranch**	**2.98**	**18**		Pn	04 10 03.6	-1.1
HWUT				IAML		04 11 03.3	
	comp=E,39nm,0.9s						
HWUT				IAML		04 11 19.6	
	comp=E,23nm,1.0s						
HVU	**Hansel Valley**	**3.01**	**360**		Pn	04 10 05.4	+0.4
HVU				IAML		04 10 59.9	
	comp=N,35nm,0.9s						
HVU				IAML		04 11 08.1	
	comp=E,31nm,0.9s						
PV11	**David Mesa, Pa**	**3.09**	**97**		Pn	04 10 08.4	+2.2
PV07	**Paradox Valley**	**3.25**	**95**		Pb	04 10 11.8	-3.0
PV07				IAML		04 11 08.0	
	comp=E,43nm,1.1s						
PV07				IAML		04 11 08.5	
	comp=N,50nm,1.4s						
TPNV	**Topopah Spring**	**3.30**	**238**		Pn	04 10 08.9	-0.1
TPNV				IAML		04 11 10.6	
	comp=N,43nm,0.8s						
TPNV				IAML		04 11 25.1	
	comp=N,34nm,1.4s						
PV15	**Paradox Valley**	**3.39**	**96**		Pn	04 10 11.7	+1.3
WUAZ	**Wupatki**	**3.43**	**161**		Pn	04 10 13.6	+2.7
V12A	**Nelson**	**3.46**	**209**		Pn	04 10 12.1	+0.9
V12A				IAML		04 11 24.9	
	comp=E,13nm,3.8s						
V12A				IAML		04 11 26.9	
	comp=N,15nm,0.9s						
O20A	**White River Ci**	**3.76**	**67**		Pb	04 10 19.9	-3.6
W13A	**Hualapai Mount**	**3.77**	**194**		Pb	04 10 20.3	-3.4
W13A				IAML		04 11 30.6	
	comp=E,13nm,3.1s						
PD31	**Pinedale Array**	**4.68**	**30**		Pn	04 10 30.6	+2.5
HLID	**Hailey**	**4.95**	**346**		Pn	04 10 31.8	+0.1
HLID				IAML		04 11 50.7	
	comp=E,6.9nm,4.8s						
HLID				IAML		04 13 18.9	
	comp=E,8.1nm,4.9s						
PNTR	**Pine Nut**	**5.34**	**276**		Pn	04 10 38.1	+1.1

*IDC **14** 04:09:37.4±2.2, 53°.70N×158°.27W, h0km, mb3.3/4, mbtmp3.3/7, ML3.4/3, MS3.5/1, Error ellipse: s-maj=38.4km s-min=31.5km az=55.0*
*NEIC **14** 04:09:38.9±1.4, 53°.90N±0°.07×158°.2W±0°.1, h10km±2km, ML3.1/20, Error ellipse: s-maj=13.9km s-min=7.4km az=138.0*
ISC 14 04:09:43.0±1.2**, 53°.98N**±0°.10×**158°.13W**±0°.05**, h35**km**, n41,** σ1**9**21/38**, mb3.4/4, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**1.20**	**315**		**Pn**	**04 10 01.6**	**-1.7**
CNBA					**Sn**	**04 10 18.1**	**-0.2**
CNBA				IAML		04 10 19.7	
	comp=E,275nm,0.3s						
CNBA				IAML		04 10 20.2	
	comp=N,282nm,0.4s						
CHNA	**Chernabura Isl**	**1.21**	**316**	P	**Pn**	**04 10 01.6**	**-1.7**
CHNA	**Chernabura Isl**	**1.21**	**316**	S	**Sn**	**04 10 18.2**	**-0.3**
SDPT	**Sand Point**	**1.94**	**316**	Pn	**Pn**	**04 10 12.2**	**-1.2**
SDPT				IAML		04 10 46.5	
	comp=N,122nm,1.4s						
SDPT	**Sand Point**	**1.94**	**316**	P	**Pn**	**04 10 12.1**	**-1.2**
SDPT	**Sand Point**	**1.94**	**316**	S	**Sn**	**04 10 37.2**	**+0.8**
CHIR	**Chirikof Islan**	**2.35**	**37**	Pn	**Pn**	**04 10 18.2**	**-0.8**
CHIR				IAML		04 10 48.9	
	comp=E,58nm,1.3s						
CHIR	**Chirikof Islan**	**2.35**	**37**	P	**Pn**	**04 10 18.4**	**-0.6**
SII	**Sitkinak Islan**	**3.43**	**39**	Pn	**Pn**	**04 10 33.5**	**-0.4**
SII				IAML		04 11 28.0	
	comp=E,48nm,1.1s						
SII				IAML		04 12 45.3	
	comp=N,58nm,1.2s						
SII	**Sitkinak Islan**	**3.43**	**39**	P	**Pn**	**04 10 33.9**	**0.0**
SII	**Sitkinak Islan**	**3.43**	**39**	S	**Sn**	**04 11 12.9**	**-0.4**
OHAK	**Old Harbor**	**4.26**	**38**	Pn	**Pn**	**04 10 45.0**	**-0.2**
OHAK				IAML		04 11 40.2	
	comp=N,13nm,1.3s						
OHAK	**Old Harbor**	**4.26**	**38**	P	**Pn**	**04 10 44.7**	**-0.5**
AKUT	**Akutan**	**4.51**	**275**	Pn	**Pn**	**04 10 46.4**	**-2.2**
LVA	**Lava Point**	**4.66**	**275**	Pn	**Pn**	**04 10 48.6**	**-2.1**
KDAK	**Kodiak Island**	**4.93**	**37**	Pn	**Pn**	**04 10 53.8**	**-0.6**
KDAK				IAML		04 13 33.0	
	comp=N,9.7nm,1.5s						
KDAK	**Kodiak Island**	**4.93**	**37**	Pn	**Pn**	**04 10 53.0**	**-1.4**
	comp=N,0.7nm,0.3s,baz=222,slow=12,SNR=15						
KDAK				Sn	**Sn**	**04 11 48.1**	**-2.0**
	comp=N,0.3nm,0.3s,baz=225,slow=20,SNR=1.7						
	comp=N,2.3nm,0.5s						
UNV	**Unalaska Valle**	**4.96**	**272**	Pn	**Pn**	**04 10 51.9**	**-2.9**
UNV				IAML		04 13 54.1	
	comp=N,23nm,1.4s						
O15K	**Ungalikthiuk R**	**5.30**	**350**	Pn	**Pn**	**04 11 00.1**	**+0.7**
O15K				IAML		04 12 01.8	
	comp=E,12nm,0.7s						
Q19K	**Cape Douglas,**	**5.55**	**25**	Pn	**Pn**	**04 11 02.9**	**-0.1**
O14K	**Tigyukauivet M**	**5.57**	**343**	Pn	**Pn**	**04 11 04.0**	**+0.9**
SYI	**Shuyak Island**	**5.64**	**32**	Pn	**Pn**	**04 11 03.8**	**-0.3**
O18K	**Koktuh Hills**	**6.11**	**14**	Pn	**Pn**	**04 11 11.6**	**+1.0**
CNPM	**China Poot**	**6.73**	**31**	Pn	**Pn**	**04 11 18.9**	**-0.2**
N18K	**Kilae Creek**	**6.83**	**9**	Pn	**Pn**	**04 11 20.5**	**-0.1**
M14K	**Bethel**	**7.10**	**345**	Pn	**Pn**	**04 11 22.8**	**-1.4**
L19K	**White Mountain**	**8.41**	**11**		**Pn**	**04 11 43.1**	**+0.9**
EYAK	**Cordova Ski Ar**	**9.39**	**40**	P	**Pn**	**04 11 56.2**	**+0.7**
PNL	**Peninsula**	**11.72**	**53**	P	**Pn**	**04 12 28.4**	**+1.0**
ILAR	**Eielson Array**	**12.22**	**23**	Pn	**Pn**	**04 12 33.9**	**-0.4**
	baz=217,slow=14,SNR=1.8						
	comp=E,0.2nm,0.5s						
INK	**Inuvik**	**18.43**	**29**	Pn	**Pn**	**04 13 56.8**	**+1.7**
	comp=E,0.5nm,0.3s,baz=202,slow=9.5,SNR=26						
INK				Sn	**Sn**	**04 17 17.4**	**-2.3**
	comp=E,0.1nm,0.3s,baz=241,slow=25,SNR=3.6						
	comp=E,0.8nm,0.5s						
YKA	**Yellowknife Ar**	**24.00**	**52**	P	**P**	**04 14 54.5**	**+0.6**
	comp=E,0.2nm,0.7s,baz=267,slow=9.2,SNR=4.2						
	comp=E,0.2nm,0.7s						
PDAR	**Pinedale Array**	**33.51**	**89**	P	**P**	**04 16 19.6**	**+0.4**
	comp=E,0.2nm,0.5s,baz=305,slow=7.7,SNR=2.7						
	comp=E,0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**43.39**	**232**	T	T	05 05 01.2	
	baz=28,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**43.39**	**232**	T	T	05 05 02.1	
	baz=28,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**43.40**	**232**	T	T	05 04 58.8	
	baz=28,slow=76,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**44.54**	**231**	T	T	05 06 28.9	
	baz=28						
H11S2	**WAKE ISLAND

OBL	**Observatory Le**	**0.58 125**		Pg	04 13 07.7	-1.6
OBL				Sg	04 13 16.5	-0.5
UWB	**Uwekahuna Bluf**	**0.58 124**		Pg	04 13 07.6	-1.7
UWB				Sg	04 13 16.2	-0.7
SBLHI	**Steaming Bluff**	**0.58 123**		Pg	04 13 07.6	-1.8
SDHHI	**Sand Hill**	**0.58 128**		Pg	04 13 07.9	-1.5
SDHHI				Sg	04 13 16.9	-0.4
HATHI	**Halema'uma'u T**	**0.59 123**	IAML		04 13 14.1	
	comp=E,263nm,2.2s					
HATHI			IAML		04 13 24.2	
	comp=N,221nm,2.9s					
HATHI	**Halema'uma'u T**	**0.59 123**		Pn	04 13 16.6	+4.5
BYL	**Byron's Ledge**	**0.60 124**		Pg	04 13 07.9	-1.8
BYL				Sg	04 13 16.9	-0.8
BYL	**Byron's Ledge**	**0.60 124**	IAML		04 13 18.3	
	comp=E,236nm,2.1s					
HTC	**Hot Caves**	**0.63 144**		Pg	04 13 08.5	-1.7
HLP	**Hilina Pali**	**0.64 135**		Pg	04 13 08.6	-1.8
HLP				Pn	04 13 17.1	+4.4
PUH	**Pauahi**	**0.65 125**		Pg	04 13 08.4	-2.3
PUH	**Pauahi**	**0.65 125**	IAML		04 13 19.0	
	comp=E,152nm,1.9s					
PUH			IAML		04 13 21.6	
	comp=N,305nm,2.0s					
KNHH	**Kane Nui o Ham**	**0.69 122**		Pg	04 13 09.2	-2.2
STCH	**Steam Cracks**	**0.72 120**		Pg	04 13 09.4	-2.5
STCH				Sg	04 13 18.2	-3.2
STCH	**Steam Cracks**	**0.72 120**	IAML		04 13 20.7	
	comp=E,138nm,0.1s					
STCH			IAML		04 13 21.1	
	comp=N,149nm,0.1s					
NPOC	**North of Pu'u**	**0.73 119**		Pg	04 13 09.6	-2.6
NPOC				Sg	04 13 18.7	-3.1
JOKA	**Jonika Flow**	**0.80 113**		Pg	04 13 10.5	-3.0
JOKA			IAML		04 13 35.9	
	comp=E,230nm,3.9s					

*GCG **14** 04:21:52.2±2.2, 15˚.37N×92˚.36W, h146km±17km, MD4.2*
*MEX **14** 04:21:53.8±0.8, 15˚.27N×92˚.28W, h148km±8km, MD4.2*
ISC 14 04:21:48.0±1.2, **15˚.22N**±0˚.05×**92˚.38W**±0˚.04, **h167**km±7km,
n32, σ2°**43**/46, **Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATR	**El Naranjo**	**0.17**	**128**	*eP*	**Pn**	**04 22 12.3**	**+1.6**
PATR				*eS*	**Sn**	**04 22 26.7**	**-1.2**
PAVE	**Pavencul**	**0.19**	**98**	*eP*	**Pn**	**04 22 12.6**	**+1.9**
PAVE				*eS*	**Sn**	**04 22 27.7**	**-0.2**
THIG		**0.33**	**161**	*eP*	**Pn**	**04 22 13.4**	**+2.6**
THIG				*eS*	**Sn**	**04 22 28.5**	**+0.4**
THIG		**0.33**	**161**	*eP*	**Pn**	**04 22 13.2**	**+2.4**
THIG				*eS*	**Sn**	**04 22 29.3**	**+1.1**
PCIG		**0.94**	**301**	*eP*	**Pn**	**04 22 17.3**	**+3.3**
PCIG				*eS*	**Sn**	**04 22 35.9**	**+1.8**
RTAL	**Retalhuleu**	**0.96**	**136**	*eS*	**Sn**	**04 22 31.9**	**-2.3**
CCIG	**Comitan**	**1.08**	**12**	*eP*	**Pn**	**04 22 17.7**	**+2.4**
CCIG				*eS*	**Sn**	**04 22 36.4**	**0.0**
CCIG	**Comitan**	**1.08**	**12**	*i* P	**Pn**	**04 22 17.7**	**+2.4**
CCIG				*eS*	**Sn**	**04 22 35.1**	**-1.3**
STG8	**El Palmar, Qui**	**1.25**	**128**	*eP*	**Pn**	**04 22 16.8**	**-0.1**
STG0	**El Palmar, Qui**	**1.27**	**128**	*eP*	**Pn**	**04 22 17.2**	**+0.2**
STG5	**El Palmar, Qui**	**1.28**	**129**	*eP*	**Pn**	**04 22 18.7**	**+1.7**
TGIG		**1.71**	**335**	*eP*	**Pn**	**04 22 23.9**	**+2.8**
TGIG				*eS*	**Sn**	**04 22 47.1**	**+0.3**
TGIG		**1.71**	**335**	*i* P	**Pn**	**04 22 24.0**	**+2.9**
TGIG				*eS*	**Sn**	**04 22 45.5**	**-1.3**
UXUV	**UXUV**	**2.69**	**321**	*eP*	**Pn**	**04 22 35.7**	**+3.4**
UXUV				*eS*	**Sn**	**04 23 04.4**	**-2.4**
PETF	**Flores**	**2.94**	**55**	*eP*	**Pn**	**04 22 35.6**	**+0.2**
PETF				*eS*	Sn	04 23 03.5	-8.7
CMIG	**Matias Romero**	**3.04**	**308**	*eP*	Pn	04 22 41.1	+4.4
CMIG				*eS*	**Sn**	**04 23 13.5**	**-1.0**
JAYA	**Jayaque - finc**	**3.23**	**118**	*eP*	**Pn**	**04 22 42.5**	**+3.3**
HUIG	**Huatulco**	**3.64**	**279**	*eP*	**Pn**	**04 22 48.1**	**+4.0**
HUIG				*eS*	**Sn**	**04 23 26.8**	**-1.1**
HUIG	**Huatulco**	**3.64**	**279**	*eP*	**Pn**	**04 22 47.7**	**+3.5**
NEUV	**Arroyo Zacate**	**4.12**	**307**	*eP*	**Pn**	**04 22 54.3**	**+4.0**
NEUV				*eS*	**Sn**	**04 23 34.4**	**-4.5**
VHO	**Vista Hermosa**	**4.57**	**294**	*eP*	**Pn**	**04 23 00.5**	**+4.1**
VHO				*eS*	**Sn**	**04 23 46.5**	**-3.3**
PEIG	**Puerto Escondi**	**4.66**	**280**	*eP*	**Pn**	**04 23 01.8**	**+4.4**
PEIG				*eS*	**Sn**	**04 23 51.0**	**-0.6**
YOIG	**Yosondua**	**5.23**	**289**	*eP*	Pn	04 23 10.9	+5.8
YOIG				*eS*	**Sn**	**04 24 03.8**	**-1.5**
TOIG	**Toxpalan**	**5.33**	**303**	*eP*	Pn	04 23 11.8	+5.6
TOIG				*eS*	**Sn**	**04 24 06.7**	**-0.7**
TXIG	**Tlaxiaco**	**5.56**	**292**	*eP*	Pn	04 23 16.0	+6.6
TXIG				*eS*	**Sn**	**04 24 13.5**	**+0.4**
PNIG	**Pinotepa**	**5.66**	**283**	*eP*	Pn	04 23 15.9	+5.5
PNIG				*eS*	**Sn**	**04 24 14.3**	**-0.8**
HLIG	**Huajuapan de L**	**5.82**	**297**	*eP*	Pn	04 23 19.4	+6.7
HLIG				*eS*	**Sn**	**04 24 19.1**	**0.0**
JAUV	**Jalcomulco**	**5.91**	**315**	*eP*	**Pn**	**04 23 17.5**	**+3.8**
JAUV				*eS*	**Sn**	**04 24 19.3**	**-1.7**
FTIG	**Fresnillo de T**	**6.13**	**297**	*eP*	Pn	04 23 23.7	+6.9
FTIG				*eS*	**Sn**	**04 24 23.7**	**-2.8**
MGIG	**Malinaltepec**	**6.34**	**289**	*eP*	Pn	04 23 26.5	+6.9
MGIG				*eS*	**Sn**	**04 24 30.2**	**-1.2**
TLIG	**Tlapa**	**6.38**	**292**	*eP*	Pn	04 23 26.9	+6.8
TLIG				*eS*	**Sn**	**04 24 32.3**	**-0.2**
CRIG	**Cruz Grande**	**6.67**	**284**	*eP*	Pn	04 23 29.6	+5.8
CRIG				*eS*	Sn	04 24 29.7	-9.4

*NEIC **14** 04:28:59.9±1.3, 19˚.753N±0˚.006×155˚.784W±0˚.010,*
h10km±1km, Error ellipse: s-maj=3.0km s-min=1.8km
az=300.0
HVO 14 04:28:59.8±1.2, **19˚.763N**±0˚.009×**155˚.813W**±0˚.008,
h13km±4km, **ML2.3**/11, **ML2.4**/32(NEIC), **Error ellipse:**
s-maj=1.6km s-min=0.6km az=143.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUH	**Hualalai**	**0.08**	**195**		Pg	04 29 03.5	+0.5
HUH				IAML		04 29 07.3	
	comp=N,1μm,0.2s						
KKH	**Kailua Kona**	**0.22**	**241**		Pg	04 29 04.9	+0.2
KKH					Sb	04 29 08.8	-0.8
POHA	**Pohakuloa**	**0.27**	**91**		Pg	04 29 05.4	-0.2
POHA					Sg	04 29 09.4	0.0
POHA	**Pohakuloa**	**0.27**	**91**	IAML		04 29 09.7	
	comp=N,233nm,0.3s						
POHA				IAML		04 29 10.1	
	comp=N,261nm,0.2s						
ALEP	**Alea Permanent**	**0.27**	**144**		Pg	04 29 06.0	+0.3
ALEP					Sb	04 29 10.6	-0.8
HPAH	**Hawaii Prepara**	**0.29**	**22**		Pg	04 29 06.0	+0.1
HPAH					Sg	04 29 10.0	0.0
HPAH	**Hawaii Prepara**	**0.29**	**22**	IAML		04 29 10.2	
	comp=N,339nm,0.2s						
HPAH				IAML		04 29 10.4	
	comp=E,390nm,0.2s						
CPH	**Captain Cook**	**0.29**	**200**		Pg	04 29 05.9	0.0
MLOA	**Mauna Loa Obse**	**0.32**	**135**		Pg	04 29 06.5	-0.1
MLOA	**Mauna Loa Obse**	**0.32**	**135**		Sg	04 29 11.3	+0.2
MLOA	**Mauna Loa Obse**	**0.32**	**135**	IAML		04 29 07.6	
	comp=E,20nm,3.5s						
MLOA				IAML		04 29 07.6	
	comp=N,19nm,3.7s						
MWH	**Mokuaweoweo**	**0.34**	**144**		Pg	04 29 06.6	-0.4
MWH				IAML		04 29 17.6	
	comp=E,412nm,0.8s						
HMH	**Humu'ula Sheep**	**0.35**	**117**	Pg	Pg	04 29 07.0	-0.1
HMH				IAML		04 29 14.1	
	comp=E,646nm,0.3s						
MHA	**Mahukona**	**0.43**	**349**	Pg	Pg	04 29 08.2	-0.2
MLH	**Mauna Loa**	**0.48**	**124**		Pg	04 29 08.6	-0.8
MLH					Sg	04 29 15.1	-0.9
MLH	**Mauna Loa**	**0.48**	**124**	IAML		04 29 16.3	
	comp=N,486nm,0.3s						
MLH				IAML		04 29 17.4	
	comp=E,294nm,0.2s						
KHU	**Kahuku**	**0.55**	**160**		Pg	04 29 09.3	-1.4
KHU					Sg	04 29 16.4	-1.6
KHU	**Kahuku**	**0.55**	**160**	IAML		04 29 26.9	
	comp=N,278nm,3.1s						
RSD	**Rainshed**	**0.59**	**120**		Pg	04 29 07.3	-4.1
UWE	**Uwekahuna**	**0.60**	**125**		Pg	04 29 09.9	-1.7
UWE	**Uwekahuna**	**0.60**	**125**		Sg	04 29 17.9	-1.6
WRMHI	**West Rim**	**0.60**	**126**		Pg	04 29 09.7	-2.0
WRMHI					Sg	04 29 17.8	-1.9

OBL	**Observatory Le**	**0.61 124**		Pg	04 29 09.9	-1.9
OBL				Sg	04 29 17.7	-2.1
UWB	**Uwekahuna Bluf**	**0.61 124**		Pg	04 29 09.8	-2.0
UWB				Sg	04 29 17.9	-1.9
SBLHI	**Steaming Bluff**	**0.61 123**		Pg	04 29 09.8	-2.0
SBLHI				Sg	04 29 17.7	-2.3
SDHHI	**Sand Hill**	**0.61 127**		Pg	04 29 10.0	-1.9
SDHHI				Sg	04 29 17.9	-2.2
HATHI	**Halema'uma'u T**	**0.62 123**		Pg	04 29 10.0	-2.0
HATHI				Sg	04 29 18.1	-2.1
HATHI	**Halema'uma'u T**	**0.62 123**	IAML		04 29 24.4	
	comp=E,257nm,2.3s					
HATHI			IAML		04 29 26.4	
	comp=N,260nm,2.5s					
RIM	**Rim**	**0.63 126**		Pg	04 29 10.3	-1.8
RIM				Sg	04 29 18.4	-2.0
BYL	**Byron's Ledge**	**0.63 124**		Pg	04 29 10.2	-2.0
BYL				Sg	04 29 18.1	-2.4
BYL	**Byron's Ledge**	**0.63 124**	IAML		04 29 19.7	
	comp=E,288nm,3.8s					
BYL			IAML		04 29 28.8	
	comp=N,197nm,3.6s					
KKO	**Keanakako'i**	**0.63 125**		Pg	04 29 10.8	-1.4
KKO				Sg	04 29 18.8	-1.8
JOKA	**Jonika Flow**	**0.83 113**		Pg	04 29 13.9	-2.0

*ATH **14** 04:30:53.1, 35˚.86N×22˚.81E, h7km±1km, ML3.5/12,*
Manual Solution by A.Papageorgiou First location:
2019/04/14 04:32:00, This location: 2020/07/13 13:59:34
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 1
km; Longitude uncertainty: 1 km
*THE **14** 04:30:54.0, 35˚.92N×22˚.86E, h0km±1km, ML3.2/9, Error*
ellipse: s-maj=2.9km s-min=0.9km az=227.0
*IDC **14** 04:30:55.5±2.1, 35˚.88N×22˚.53E, h61km±22km, mb3.5/9,*
mbtmp3.7/14, ML2.8/4, Error ellipse: s-maj=22.5km
s-min=15.1km az=15.0
ISC 14 04:30:51.6±1.0, **35˚.91N**±0˚.03×**22˚.79E**±0˚.03, **h18**km±4km,
n78, σ1°**20**/108, **mb3.8**/9, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.42**	**96**	P	**Pb**	**04 31 01.2**	**+0.7**
ANKY				S	**Sb**	**04 31 07.3**	**+0.8**
	4μm,0.4s						
ANKY	**Antikythira Is**	**0.42**	**96**	P	**Pb**	**04 31 01.4**	**+0.8**
ANKY				S	**Sb**	**04 31 06.3**	**-0.2**
MNVA	**Monemvasia**	**0.80**	**15**	P	**Pn**	**04 31 09.5**	**+1.5**
MNVA				S	**Sn**	**04 31 20.8**	**+1.3**
VLI	**Veliai**	**0.82**	**8**	P	**Pn**	**04 31 08.2**	**0.0**
VLI				S	**Sg**	**04 31 18.8**	**+0.4**
	1μm,0.5s						
VLI	**Veliai**	**0.82**	**8**	P	**Pn**	**04 31 09.3**	**+1.1**
VLI				S	**Sn**	**04 31 20.4**	**+0.5**
IMMV	**Iera Moni Meta**	**1.07**	**114**	P	**Pg**	**04 31 12.3**	**-0.1**
IMMV				S	**Sg**	**04 31 29.2**	**+2.8**
IMMV	**Iera Moni Meta**	**1.07**	**114**	P	**Pg**	**04 31 12.2**	**-0.2**
IMMV				S	**Sg**	**04 31 26.5**	**+0.1**
CHAN	**Chania**	**1.09**	**110**	P	**Pg**	**04 31 12.8**	**0.0**
CHAN				S	**Sg**	**04 31 28.9**	**+1.8**
	1μm,0.6s						
CHAN	**Chania**	**1.09**	**110**	P	**Pg**	**04 31 13.1**	**+0.4**
CHAN				S	**Sg**	**04 31 27.3**	**+0.1**
CHNB	**Souda**	**1.12**	**112**	P	**Pg**	**04 31 13.6**	**+0.2**
CHNB				S	**Sg**	**04 31 28.2**	**+0.1**
MTHA	**Methoni**	**1.26**	**316**	P	**Pg**	**04 31 17.2**	**+1.2**
MTHA				S	**Sg**	**04 31 35.4**	**+2.9**
ITM	**Ithomi**	**1.45**	**332**	P	**Pg**	**04 31 19.1**	**-0.4**
ITM				S	**Sg**	**04 31 40.9**	**+2.6**
	602nm,0.3s						
ITM	**Ithomi**	**1.45**	**332**	P	**Pg**	**04 31 19.7**	**+0.2**
ITM				S	**Sg**	**04 31 40.6**	**+2.2**
VLX	**Vlachokerasia**	**1.50**	**347**	P	**Pg**	**04 31 20.7**	**+0.3**
VLX				S	**Sg**	**04 31 41.7**	**+1.8**
PRNS	**Prines Rethymn**	**1.50**	**111**	P	**Pb**	**04 31 19.2**	**+0.3**
PRNS				S	**Sb**	**04 31 37.7**	**+0.1**
KRND	**KRANIDI**	**1.50**	**11**	P	**Pg**	**04 31 20.4**	**-0.1**
KRND				S	**Sg**	**04 31 42.0**	**+1.9**
	808nm,0.5s						
KRND	**KRANIDI**	**1.50**	**11**	P	**Pg**	**04 31 20.4**	**-0.1**
KRND				S	**Sg**	**04 31 41.1**	**+1.1**
GVD	**Gavdhos**	**1.51**	**135**	P	**Pg**	**04 31 20.5**	**-0.1**
GVD				S	**Sg**	**04 31 41.9**	**+1.6**
	930nm,0.4s						
GVD	**Gavdhos**	**1.51**	**135**	P	**Pg**	**04 31 19.8**	**-0.8**
GVD				S	**Sg**	**04 31 39.4**	**-0.9**
MHLO	**Agia Marina, M**	**1.52**	**59**	P	**Pg**	**04 31 20.4**	**-0.5**
MHLO				S	**Sg**	**04 31 40.2**	**-0.5**
MET5	**Makryloggos,Me**	**1.77**	**15**	P	**Pg**	**04 31 24.8**	**-0.9**
MET4	**Agioi Theodoro**	**1.78**	**16**	P	**Pb**	**04 31 24.7**	**+1.0**
MET4				S	**Sg**	**04 31 49.1**	**+0.1**
IDI	**Anoyia**	**1.82**	**109**	P	**Pb**	**04 31 25.4**	**+0.9**
	20nm,0.3s,baz=318,slow=15,SNR=79						
IDI				S	**Sg**	**04 31 52.3**	**+2.0**
	201nm,0.7s,baz=2.1,slow=19,SNR=7.3						
	126nm,0.6s						
IDI	**Anoyia**	**1.82**	**109**	P	**Pb**	**04 31 24.6**	**+0.2**
IDI				S	**Sb**	**04 31 47.4**	**+0.5**
AMT	**Artemida-Makis**	**1.84**	**332**	P	**Pg**	**04 31 26.0**	**-0.9**
AMT				S	**Sg**	**04 31 50.6**	**-0.2**
GUR	**Goura**	**2.06**	**350**	P	**Pg**	**04 31 30.0**	**-1.1**
GUR	**Goura**	**2.06**	**350**	P	**Pg**	**04 31 29.9**	**-1.2**
GUR				S	**Sg**	**04 31 56.2**	**-1.6**
VLY	**Voula,Athens**	**2.10**	**22**	P	**Pb**	**04 31 28.8**	**-0.4**
VLY				S	**Sb**	**04 31 56.1**	**+1.2**
SAP3	**Santorini-Thir**	**2.13**	**75**	P	**Pb**	**04 31 29.4**	**-0.3**
SAP3				S	**Sb**	**04 31 56.0**	**+0.1**
THR3	**Thira Island,**	**2.17**	**76**	P	**Pb**	**04 31 29.9**	**-0.5**
KLV	**Kalavryta, Ach**	**2.19**	**347**	P	**Pb**	**04 31 31.9**	**+1.2**
KLV				S	**Sg**	**04 32 00.0**	**-2.1**
	288nm,0.7s						
KLV	**Kalavryta, Ach**	**2.19**	**347**	P	**Pb**	**04 31 32.0**	**+1.2**
ATHU	**Athens Univers**	**2.20**	**21**	P	**Pb**	**04 31 30.0**	**-0.9**
ATHU				S	**Sb**	**04 31 58.2**	**+0.4**
VILL	**Villia**	**2.29**	**10**	P	**Pb**	**04 31 31.9**	**-0.5**
VILL				S	**Sb**	**04 32 02.3**	**+1.9**
	302nm,0.6s						
DION	**Dionisos Attik**	**2.35**	**23**	P	**Pb**	**04 31 32.2**	**-1.2**
DION				S	**Sb**	**04 32 03.5**	**+1.4**
	195nm,0.5s						
LTHK	**Lithakia**	**2.38**	**320**	P	**Pb**	**04 31 34.0**	**0.0**
RLS	**Riolos of Patr**	**2.39**	**334**	P	**Pb**	**04 31 34.1**	**0.0**
KALE	**Kalithea**	**2.53**	**348**	P	**Pb**	**04 31 36.2**	**-0.3**
EFP	**Efpalio**	**2.61**	**345**	P	**Pb**	**04 31 38.2**	**+0.4**
ANX	**Ano Chora**	**2.77**	**346**	P	**Pb**	**04 31 39.9**	**-0.7**
AXAR	**Agios Charalam**	**2.85**	**358**	P	**Pb**	**04 31 40.5**	**-1.5**
KYMI	**Kymi, Euboea I**	**2.91**	**21**	P	**Pn**	**04 31 39.6**	**+2.6**
DRME	**Dracevica, Mon**	**6.87**	**337**	*e*Pn	**Pn**	**04 32 32.5**	**+1.2**
PDG	**Podgorica**	**7.07**	**338**	*e*Pn	**Pn**	**04 32 34.1**	**0.0**
HCY	**Herceg Novi**	**7.33**	**334**	*e*Pn	**Pn**	**04 32 37.7**	**0.0**
TREB	**Trebinje**	**7.62**	**335**	*e*Pn	**Pn**	**04 32 41.4**	**-0.3**
SJES	**Sjenica**	**7.66**	**344**	*e*Pn	**Pn**	**04 32 42.5**	**+0.2**
UPM	**Unac-Piva**	**7.88**	**339**	*e*Pn	**Pn**	**04 32 48.7**	**+3.3**
STON	**Ston**	**7.99**	**332**	*e*Pn	**Pn**	**04 32 46.1**	**-0.6**
RUDO	**Rudo**	**8.13**	**342**	*e*Pn	**Pn**	**04 32 48.5**	**-0.3**
BBLS	**Lazi&#263i**	**8.36**	**343**	*e*Pn	**Pn**	**04 32 52.9**	**+1.0**
TEKS	**Tekeris**	**8.98**	**345**	*e*Pn	**Pn**	**04 32 59.9**	**-0.5**
BRTR	**Keskin Array B**	**9.39**	**63**	P	Pn	04 33 11.9	+5.8
	0.2nm,0.3s,baz=230,slow=13,SNR=10						
	1.3nm,0.8s						
FRGS	**Fruska Gora**	**9.51**	**347**	*e*Pn	**Pn**	**04 33 06.8**	**-0.8**
A050A	**Klekovaca**	**9.80**	**333**	*e*Pn	**Pn**	**04 33 13.3**	**+1.6**
BLY	**Banja Luka**	**9.81**	**336**	*e*Pn	**Pn**	**04 33 12.6**	**+0.9**
A051A	**Mrakovica**	**10.13**	**336**	*e*Pn	**Pn**	**04 33 15.9**	**-0.3**
MMAI	**Mount Meron Ar**	**10.81**	**102**	P	**Pn**	**04 33 25.5**	**0.0**
	0.6nm,0.3s,baz=270,slow=13,SNR=1.7						
BOJS	**Bojanci**	**11.15**	**332**	*e*Pn	**Pn**	**04 33 31.6**	**+1.5**
CRES	**Cresnjevec Ost**	**11.35**	**333**	*e*Pn	**Pn**	**04 33 32.2**	**-0.6**
CEY	**Cerknica**	**11.68**	**330**	*e*Pn	**Pn**	**04 33 37.9**	**+0.6**
SOKA	**Soboth**	**12.23**	**334**	*e*Pn	**Pn**	**04 33 45.7**	**+0.9**
	0.4nm,0.3s						
OBKA	**Obir**	**12.26**	**332**	*e*Pn	**Pn**	**04 33 44.2**	**-1.2**
OBKA	**Obir**	**12.26**	**332**	*e*Pn	**Pn**	**04 33 47.6**	**+2.3**
	0.6nm,0.3s						
MOA	**Molln**	**13.50**	**335**	*e*Pn	**Pn**	**04 34 05.4**	**+3.2**
	0.5nm,0.3s						
GERES	**GERESS Array B**	**14.55**	**335**	P	**Pn**	**04 34 15.5**	**-1.1**
	baz=153,slow=14,SNR=3.4						
	0.2nm,0.4s						
AKASG	**Malin Array Be**	**15.50**	**15**	P	**Pn**	**04 34 31.1**	**+2.0**
	0.5nm,0.7s,baz=211,slow=9.9,SNR=7.0						
KBZ	**Khabaz**	**17.28**	**57**	P	**P**	**04 34 54.4**	**+1.1**
	0.1nm,0.3s,baz=165,slow=11,SNR=2.0						
	0.6nm,0.6s						
ESDC	**Sonseca Array**	**21.44**	**288**	P	**P**	**04 35 37.0**	**-1.8**
	0.4nm,0.8s,baz=93,slow=9.7,SNR=2.5						
	0.4nm,0.8s						
FINES	**FINESS Array B**	**25.64**	**4**	P	**P**	**04 36 19.6**	**-0.2**
	1.9nm,0.8s,baz=172,slow=9.7,SNR=7.6						
	1.9nm,0.8s						
EKA	**Eskdalemuir Ar**	**26.32**	**326**	P	**P**	**04 36 25.9**	**-0.2**
	1.2nm,0.7s,baz=125,slow=9.3,SNR=4.6						
	1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.57**	**225**	P	**P**	**04 36 52.8**	**-2.6**
	61nm,0.3s,baz=26,slow=11,SNR=2.0						
ARCES	**ARCESS Array B**	**33.72**	**2**	P	**P**	**04 37 30.6**	**-0.9**
	2.6nm,0.8s,baz=153,slow=8.5,SNR=4.1						
	2.6nm,0.8s						
BVAR	**Borovoye Array**	**37.25**	**47**	P	**P**	**04 38 02.4**	**+0.4**
	0.7nm,0.6s,baz=254,slow=9.1,SNR=3.8						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**42.16**	**52**	P	**P**	**04 38 43.2**	**+0.3**
	1.2nm,0.5s,baz=275,slow=8.6,SNR=10						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**44.98**	**57**	P	**P**	**04 39 06.1**	**+0.4**
	1.2nm,0.6s,baz=275,slow=7.2,SNR=16						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**45.89**	**47**	P	**P**	**04 39 12.1**	**-0.7**
	0.9nm,0.3s,baz=268,slow=8.8,SNR=5.4						
	0.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**68.40**	**82**	P	**P**	**04 41 52.6**	**+0.1**
	0.3nm,0.6s,baz=299,slow=5.2,SNR=1.7						
	0.3nm,0.6s						

*IDC **14** 04:45:13.6±0.7, 26˚.39N×140˚.63E, h395km±5km, mb3.3/18,*
mbtmp4.1/23, Error ellipse: s-maj=16.1km s-min=12.3km
az=52.0
*NEIC **14** 04:45:15.5±1.5, 26˚.46N±0˚.10×140˚.6E±0˚.1, h400km±8km,*
mb4.0/39, Error ellipse: s-maj=18.0km s-min=13.8km
az=86.0
*JMA **14** 04:45:17.1±0.1, 27˚N±1˚×14˚1E±˚, h413km, MV4.3/26,*
NEAR CHICHIJIMA ISLAND
ISC 14 04:45:14.9±0.5, **26˚.46N**±0˚.07×**140˚.58E**±0˚.08, **h400**km,
n305, σ0°**80**/304, **mb4.0**/39, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.45**	**83**	P	**Pn**	**04 46 09.1**	**+1.3**
JHH2				S	**S**	**04 46 50.0**	**-0.5**
CBIJ	**Chichi jima**	**1.57**	**66**	P	**Pn**	**04 46 09.1**	**+0.6**
CBIJ				*e*S	**S**	**04 46 49.8**	**-1.8**
JCJ	**Chichijima**	**1.57**	**66**		**Pn**	**04 46 08.8**	**+0.3**
JCJ	**Chichijima**	**1.57**	**66**	P	**Pn**	**04 46 08.2**	**-0.3**
	31nm,0.3s,baz=253,slow=20,SNR=25						
JCJ				S	**S**	**04 46 49.1**	**-2.5**
	108nm,0.3s,baz=253,slow=19,SNR=17						
JHJ2	**Mitsune**	**6.66**	**355**		**Pn**	**04 46 54.6**	**-0.2**
JHJ2	**Mitsune**	**6.66**	**355**	*e*P	**P**	**04 46 56.1**	**+0.8**
JHJ	**Hachijo jima 2**	**6.67**	**354**	P	**P**	**04 46 55.8**	**+0.3**
	102nm,0.3s,baz=235,slow=24,SNR=18						
JHJ				S	**S**	**04 48 16.0**	**-0.5**
	45nm,0.3s,baz=69,slow=20,SNR=1.6						
BSO1	**Boso 1**	**8.18**	**2**	*e*P	**P**	**04 47 12.0**	**+0.4**
BSO1				*e*S	**S**	**04 48 45.8**	**-0.9**
BSO3	**Boso 3**	**8.32**	**360**	*e*P	**P**	**04 47 13.8**	**+0.4**
BSO3				*e*S	**S**	**04 48 48.0**	**-2.2**
JIE	**Ise**	**8.58**	**338**	*e*P	**P**	**04 47 19.9**	**+3.2**
JGF	**Kuroka**	**9.52**	**344**	P	**Pn**	**04 47 27.9**	**+0.6**
JAG	**Ashikaga**	**9.98**	**355**	*e*P	**P**	**04 47 32.0**	**-0.2**
JHO	**Hitachi**	**10.12**	**360**	P	**Pn**	**04 47 34.4**	**+0.1**
MJAR	**Matsushiro Arr**	**10.25**	**349**	P	**P**	**04 47 34.9**	**-0.4**
	1.1nm,0.4s,baz=158,slow=8.5,SNR=4.2						
MJAR				S	**S**	**04 49 30.0**	**-0.9**
	4.8nm,0.8s,baz=194,slow=31,SNR=8.0						
JNU	**Nakatsue**	**10.72**	**311**	P	**Pn**	**04 47 41.7**	**+0.4**
	8.7nm,0.8s,baz=116,slow=6.3,SNR=4.6						
JMM	**Marumori**	**11.38**	**1**		**P**	**04 47 48.1**	**+0.5**
JSD	**Sado**	**11.71**	**351

comp=Z,3.9nm,0.5s
J16K Anvik River 52.77 29 P P 04 53 51.6 +1.3
J16K Anvik River 52.77 29 P P 04 53 51.0 +0.6
baz=254
L16K Owhat River 52.88 31 P P 04 53 51.4 +0.3
baz=257
I17K Unalakleet 52.89 28 P P 04 53 51.4 +0.2
baz=254
N16K Nishlik Lake 52.95 33 P P 04 53 52.3 +0.5
baz=258
M16K Timber Creek 52.97 32 P P 04 53 52.4 +0.6
baz=258
R16K Pilot Point 53.05 36 P P 04 53 52.5 +0.1
baz=262
P16K Nushagak River 53.06 35 P P 04 53 53.0 +0.5
baz=260
O16K Kokwok River B 53.11 34 P P 04 53 53.8 +1.0
baz=260
D17K Noatak River 53.19 23 P P 04 53 54.0 +0.7
baz=249
G17K Kiwalik Mounta 53.38 26 P P 04 53 55.0 +0.3
baz=253
E17K Hotham Inlet 53.43 24 P P 04 53 55.4 +0.4
baz=250
F17K Baldwin Pennin 53.43 25 P P 04 53 55.9 +0.8
baz=252
J17K VABM Dome 53.46 29 P 04 53 56.8 +1.5
J17K IAmb IAmb 04 53 57.9
comp=Z,6.4nm,1.0s
J17K VABM Dome 53.46 29 P P 04 53 56.2 +0.9
baz=256
H17K Granite Mounta 53.51 27 P P 04 53 56.7 +1.0
baz=254
L17K Donlin 53.52 31 P P 04 53 56.3 +0.5
baz=258
O17K Koliganek Bris 53.64 34 P P 04 53 57.2 +0.5
baz=260
K17K Iditarod 53.65 30 P 04 53 58.2 +1.5
K17K IAmb IAmb 04 53 59.4
comp=Z,7.0nm,0.9s
K17K Iditarod 53.65 30 P P 04 53 58.1 +1.5
baz=257
Q16K King Salmon 53.69 35 P P 04 53 57.7 +0.7
baz=262
N17K Nushagak Hills 53.73 33 P P 04 53 57.9 +0.6
baz=260
M17K Holitna River 53.77 32 P P 04 53 58.3 +0.7
baz=259
P17K Kvichak River 53.88 35 P P 04 53 59.3 +0.9
baz=261
E18K Tukpahlearik C 53.99 24 P P 04 53 59.5 +0.5
baz=252
Q17K Contact Creek 54.03 36 P P 04 54 00.3 +0.7
baz=263
F18K Selawik 54.09 25 P P 04 54 00.5 +0.8
baz=253
C18K Utukok River 54.18 23 P P 04 54 01.3 +0.8
baz=250
H18K Honhosa River 54.20 27 P P 04 54 01.5 +0.8
baz=255
B18K Kokolik River 54.23 22 P P 04 54 01.8 +1.0
baz=249
L18K Granite Mounta 54.28 31 P P 04 54 01.9 +0.7
baz=259
G18K Tagagawik 54.28 26 P P 04 54 01.9 +0.7
baz=254
N18K Kilae Creek 54.38 33 P P 04 54 02.1 +0.1
baz=261
J18K Innoko River 54.51 29 P P 04 54 03.1 +0.3
baz=258
P18K Big Mountain, 54.52 34 P P 04 54 03.8 +0.8
baz=262
Q18K Katmai Hardscr 54.54 35 P P 04 54 03.1 -0.2
baz=263
M18K Stony River 54.55 32 P P 04 54 03.9 +0.8
baz=260
O18K Koktuh Hills 54.59 34 P 04 54 04.5 +1.0
O18K IAmb IAmb 04 54 06.0
comp=Z,11nm,1.0s
O18K Koktuh Hills 54.59 34 P P 04 54 04.1 +0.6
baz=262
R18K Karluk 54.71 37 P P 04 54 04.9 +0.6
baz=264
TTA Tatalina 54.72 30 P P 04 54 04.7 +0.2
baz=259
SII Sitkinak Islan 54.77 38 P P 04 54 04.8 0.0
baz=265
G19K Purcell Mounta 54.96 26 P P 04 54 06.7 +0.7
baz=256
H19K Roundabout Mou 55.07 27 P P 04 54 07.9 +1.2
H19K IAmb IAmb 04 54 08.6
comp=Z,6.2nm,0.6s
H19K Roundabout Mou 55.07 27 P P 04 54 07.5 +0.7
baz=257
O19K Port Alsworth 55.08 34 P P 04 54 07.7 +0.8
baz=263
N19K Bonanza Creek 55.09 33 P P 04 54 07.8 +0.7
baz=262
J19K Poorman 55.10 29 P P 04 54 08.2 +1.3
baz=259
L19K White Mountain 55.12 31 P P 04 54 07.3 +0.1
baz=261
D19K Kuna River 55.21 23 P P 04 54 08.6 +0.8
baz=253
E19K Redstone River 55.24 25 P 04 54 08.1 +0.2
E19K Redstone River 55.24 25 P P 04 54 08.4 +0.4
baz=255
Q19K Cape Douglas, 55.28 35 P P 04 54 08.7 +0.3
baz=264
M19K Big River Lodg 55.29 31 P P 04 54 08.7 +0.4
baz=261
OHAK Old Harbor 55.31 37 P P 04 54 09.2 +0.7
baz=266
P19K Oil Pt 55.56 34 P P 04 54 10.4 0.0
baz=264
L20K Farewell, AK 55.61 31 P P 04 54 10.7 0.0
baz=261
K20K Telida 55.66 30 P P 04 54 12.4 +1.5
K20K IAmb IAmb 04 54 13.2
comp=Z,6.3nm,1.2s
K20K Telida 55.66 30 P P 04 54 12.0 +1.0
baz=261
H20K Anotleneega Mo 55.70 27 P P 04 54 12.6 +1.3
baz=258,SNR=5.2
F20K Avaraart Lake 55.71 25 P P 04 54 11.8 +0.6
baz=257
KDAK Kodiak Island 55.73 37 P P 04 54 12.3 +0.7
baz=266
I20K Naaghedeneel 55.74 28 P P 04 54 12.4 +1.0
baz=259
J20K Nowinta River 55.77 29 P 04 54 13.1 +1.5
J20K IAmb IAmb 04 54 13.8
comp=Z,8.0nm,1.1s
J20K Nowinta River 55.77 29 P P 04 54 12.5 +0.8
baz=260,SNR=6.7
D20K Etivluk River 55.80 23 P 04 54 12.8 +0.9
D20K Etivluk River 55.80 23 P P 04 54 12.8 +0.9
baz=255,SNR=15
E20K Nigu River 55.83 24 P P 04 54 12.5 +0.4
baz=255
Q20K Shuyak Island 55.90 36 P P 04 54 13.2 +0.5
baz=265
B20K Meade River 55.97 22 P P 04 54 13.6 +0.6
baz=253
PPLA Purkeypile 56.44 30 P P 04 54 16.8 +0.2
baz=263
G21K Allakaket 56.46 26 P P 04 54 17.3 +0.8
baz=259
CHUM Lake Minchumin 56.52 29 P P 04 54 17.6 +0.8
baz=262
C21K Knifeblade Rid 56.55 23 P P 04 54 17.9 +0.8
baz=256
CAST Castle Rocks 56.56 30 P 04 54 18.1 +0.9
CAST IAmb IAmb 04 54 19.1
comp=Z,9.2nm,1.3s
CAST Castle Rocks 56.56 30 P P 04 54 17.7 +0.4
baz=262,SNR=6.0
H21K Melozitna Rive 56.58 27 P P 04 54 18.2 +0.9
baz=260,SNR=7.4
F21K Alatna River 56.60 25 P P 04 54 17.9 +0.5
baz=259
SKT Skwentna 56.64 32 P P 04 54 18.0 +0.2
baz=264
E21K Killik River 56.67 24 P P 04 54 18.1 +0.1
E21K Killik River 56.67 24 P P 04 54 18.7 +0.7
baz=257
CAPN Captain Cook N 56.70 33 P P 04 54 18.9 +0.7
baz=265

B21K Ikpikpuk River 56.72 22 P P 04 54 19.0 +0.8
baz=256
BRSE Bradley Lake S 56.83 34 P P 04 54 18.9 -0.3
baz=266
A22K Sinclair Lake 56.95 21 P P 04 54 19.9 +0.1
baz=255
SUA Susitna One 56.96 32 P P 04 54 19.9 -0.3
baz=265
BPAW Bear Paw Mtn. 57.12 29 P P 04 54 21.0 -0.1
baz=263
F22K John River 57.15 25 P P 04 54 21.8 +0.6
baz=260,SNR=7.0
H22K Ishtalitna Cre 57.20 27 P P 04 54 22.0 +0.4
baz=262
D22K Ayikyak River 57.23 23 IAmb IAmb 04 54 23.3
comp=Z,5.1nm,0.6s
D22K Ayikyak River 57.23 23 P P 04 54 22.9 +1.1
baz=258,SNR=6.6
CUT Chulitna 57.27 31 P P 04 54 23.1 +0.9
baz=265
M22K Willow 57.28 32 P P 04 54 22.8 +0.6
baz=265
G22K Bettles 57.31 26 P P 04 54 23.1 +0.7
baz=261
TRF Thorofare Moun 57.36 30 IAmb IAmb 04 54 25.5
comp=Z,6.6nm,1.1s
TRF Thorofare Moun 57.36 30 P P 04 54 23.0 0.0
baz=264
E22K Anaktuvuk Pass 57.40 24 P P 04 54 23.1 0.0
baz=260
RC01 Rabbit Creek A 57.42 33 P P 04 54 23.3 +0.1
baz=266
BVAR Borovoye Array 57.54 318 P P 04 54 24.4 +0.2
comp=Z,4.8nm,0.5s,baz=89,slow=7.4,SNR=18
comp=Z,4.8nm,0.5s
PMR Palmer 57.74 32 P P 04 54 25.7 +0.3
baz=266
G23K Bananza Creek 57.86 26 IAmb IAmb 04 54 28.2
comp=Z,7.3nm,1.2s
G23K Bananza Creek 57.86 26 P P 04 54 26.4 +0.2
baz=262
COLD Coldfoot 57.86 25 P P 04 54 26.6 +0.4
baz=262
H23K Yukon River 57.94 27 P P 04 54 26.9 +0.1
baz=263
I23K Minto, Yukon-K 57.94 28 P P 04 54 27.1 +0.4
baz=264
D23K Nanushuk River 57.96 23 IAmb IAmb 04 54 28.9
comp=Z,5.6nm,0.8s
D23K Nanushuk River 57.96 23 P P 04 54 27.7 +0.9
baz=260
MCK McKinley 57.99 30 P 04 54 27.3 +0.2
MCK IAmb IAmb 04 54 28.0
comp=Z,6.3nm,0.8s
MCK McKinley 57.99 30 P P 04 54 27.4 +0.2
baz=265,SNR=5.5
NEA2 Nenana 58.01 29 P P 04 54 27.3 +0.1
baz=265,SNR=6.8
KNK Knik Glacier 58.05 32 P P 04 54 27.6 0.0
baz=267
PWL Port Wells 58.09 33 P P 04 54 27.5 -0.3
baz=268
C23K Itkillik River 58.13 22 IAmb IAmb 04 54 29.7
comp=Z,6.6nm,0.8s
C23K Itkillik River 58.13 22 P P 04 54 28.9 +1.0
baz=260,SNR=6.0
SML Sawmill 58.13 32 P P 04 54 27.9 -0.3
baz=267
E23K Chandalar 58.20 25 IAmb IAmb 04 54 30.2
comp=Z,3.9nm,0.8s
E23K Chandalar 58.20 25 P P 04 54 29.2 +0.6
baz=262
KK31 Karatay Array 58.29 306 P 04 54 30.0 +0.5
KKAR Karatay Array 58.29 306 P 04 54 30.0 +0.5
TOLK Toolik Lake Re 58.30 24 P P 04 54 29.5 +0.3
baz=262
M23K Glacier View 58.42 32 P P 04 54 30.6 +0.5
baz=268
SCM Sheep Creek Mo 58.61 32 P P 04 54 31.7 +0.3
baz=268
E24K Your Creek 58.62 25 P P 04 54 32.3 +0.9
baz=263,SNR=5.9
H24K Noodor Dome 58.62 27 P P 04 54 32.2 +0.8
baz=265
D24K Happy Valley 58.64 23 IAmb IAmb 04 54 33.3
comp=Z,5.9nm,0.8s
D24K Happy Valley 58.64 23 P P 04 54 32.4 +0.9
baz=262
POKR Poker Plat Res 58.75 28 P P 04 54 33.1 +0.9
baz=266
C24K Franklin Bluff 58.77 23 P P 04 54 33.7 +1.5
baz=262
F24K Squaw Lake 58.79 25 P P 04 54 33.3 +0.8
baz=264
G24K Hadweenzic Riv 58.87 26 P P 04 54 33.0 0.0
baz=265
HDA Harding Lake 58.91 29 P P 04 54 33.4 +0.1
baz=267
ILAR Eielson Array 58.96 28 P P 04 54 32.8 -0.9
comp=Z,1.6nm,0.8s,baz=271,slow=7.2,SNR=16
comp=Z,1.6nm,0.8s
M24K Tolsona, Glenn 59.16 32 P P 04 54 35.7 +0.5
baz=269
KLU Klutina 59.27 32 P P 04 54 36.1 +0.1
baz=269
EYAK Cordova Ski Ar 59.35 33 P P 04 54 36.3 -0.1
baz=270
K24K Donnelly Dome 59.40 30 P P 04 54 36.8 +0.1
baz=268
G25K Bearman Lake 59.41 26 P P 04 54 37.4 +0.7
baz=266
H25L Birch Creek 59.49 27 P P 04 54 37.7 +0.4
baz=267
PAX Paxson 59.51 31 P P 04 54 37.5 0.0
baz=269
D25K Kavik River 59.53 23 P 04 54 38.3 +0.8
D25K IAmb IAmb 04 54 39.1
comp=Z,4.7nm,0.8s
D25K Kavik River 59.53 23 P P 04 54 38.3 +0.8
baz=264,SNR=8.9
PRP Porcupine Dome 59.58 28 P P 04 54 38.4 +0.4
baz=267
J25K Salcha River, 59.60 29 P P 04 54 38.1 0.0
baz=268
HARP HAARP 59.65 31 P P 04 54 38.7 +0.3
baz=269
F25K Christian Rive 59.65 25 P P 04 54 38.9 +0.5
baz=266
E25K Arctic Village 59.72 25 P P 04 54 39.2 +0.4
baz=266
RIDG Independent Ri 59.81 30 P P 04 54 39.4 -0.1
baz=269,SNR=6.0
N25K Chitina, Valde 59.91 32 P P 04 54 40.6 +0.3
baz=270
BMRM Bremner River 59.91 33 P P 04 54 40.1 -0.1
baz=271
C26K Camden Bay 60.10 23 P P 04 54 41.6 +0.3
baz=265
SCRK Sand Creek 60.19 29 P 04 54 42.2 +0.1
SCRK Sand Creek 60.19 29 P P 04 54 42.2 +0.1
baz=270,SNR=9.4
F26K Sheenjek River 60.23 25 P P 04 54 42.6 +0.4
baz=267
G26K Porcupine Rive 60.34 26 P P 04 54 43.6 +0.7
baz=268
J26L Joseph Creek 60.38 29 P 04 54 43.2 -0.2
J26L IAmb IAmb 04 54 43.8
comp=Z,5.8nm,0.7s
J26L Joseph Creek 60.38 29 P P 04 54 43.1 -0.2
baz=270,SNR=9.7
L26K Log Cabin Wild 60.48 31 P P 04 54 44.3 +0.3
baz=271
C27K Jago River 60.49 23 IAmb IAmb 04 54 45.7
comp=Z,2.7nm,0.8s
C27K Jago River 60.49 23 P P 04 54 44.7 +0.8
baz=267
I26K Coal Creek Min 60.56 28 P P 04 54 45.0 +0.6
baz=270
M26K Nabesna, AK 60.65 31 P P 04 54 45.0 -0.2
baz=271
K27K Chicken 61.03 29 P P 04 54 48.2 +0.6
baz=271
L27K Beaver Creek, 61.17 31 P P 04 54 48.5 -0.1
baz=272
M27K Edge Creek, AK 61.17 31 P P 04 54 49.1 +0.3
baz=272
G27K Doyon Strip 61.18 26 P P 04 54 48.9 +0.4
baz=270

I27K Kandik River 61.20 28 P P 04 54 48.7 -0.1
baz=271
E27K Coleen River 61.21 25 P P 04 54 49.0 +0.3
baz=269
H27K Steamboat Moun 61.23 27 P P 04 54 49.2 +0.3
baz=270
MESA MESA 61.25 34 P P 04 54 49.5 +0.1
baz=274
D27M Malcolm River 61.45 23 P P 04 54 50.8 +0.5
baz=269
BVCY Beaver Creek 61.65 31 P P 04 54 51.6 -0.1
baz=273
YUK3 Moose Creek 61.87 32 P P 04 54 53.2 -0.3
baz=274
I28M Miner Creek 61.91 28 P P 04 54 53.6 +0.2
baz=272
E28M Babbage River 61.97 24 P P 04 54 54.4 +0.7
baz=271
O28M Mount Upton 62.08 33 P P 04 54 55.0 +0.1
baz=275
PINM Pinnacle 62.10 34 P P 04 54 55.2 +0.4
baz=275
DAWY Dawson 62.21 29 P P 04 54 56.1 +0.7
baz=274
D28M Stokes Point 62.24 23 P P 04 54 55.8 +0.3
baz=271
YUK8 Steele Glacier 62.24 32 P P 04 54 55.3 -0.6
baz=275
H29M Whitestone 62.51 27 P P 04 54 58.4 +1.1
baz=273
PNL Peninsula 62.57 34 P P 04 54 58.0 +0.2
baz=276
E29M Blow River 62.58 24 P P 04 54 58.1 +0.4
baz=273
I29M Ogilvie Camp, 62.59 28 P P 04 54 57.7 -0.1
baz=274
G29M Pine Creek 62.61 26 P P 04 54 58.5 +0.5
G29M Pine Creek 62.61 26 P P 04 54 58.3 +0.4
baz=273
M29M Somme Creek 62.76 31 P P 04 54 59.2 +0.1
baz=275
YUK4 Talbot Arm 62.77 32 P P 04 55 00.2 +0.9
baz=276
L29M L29M 62.85 30 P P 04 55 00.6 +1.0
baz=275
O29M Mount Kennedy 62.92 34 P P 04 55 00.6 +0.4
baz=276
K29M Barlow Dome 63.05 29 P P 04 55 02.0 +1.0
baz=275
EPYK Eagle Plains 63.16 27 P P 04 55 02.7 +1.1
baz=275
G30M tAoh Zraii Nji 63.31 26 P P 04 55 02.9 +0.3
baz=275
HYT Haines Junctio 63.38 33 P P 04 55 03.6 +0.4
baz=277
I30M Mount Dempster 63.41 28 P P 04 55 03.6 +0.3
baz=276
P29M Windy Craggy 63.41 34 P P 04 55 03.5 +0.2
baz=277
F30M Barrier River 63.42 25 IAmb IAmb 04 55 07.3
comp=Z,3.9nm,1.1s
F30M Barrier River 63.42 25 P P 04 55 03.0 -0.2
baz=275
J30M Hart River 63.50 29 P P 04 55 04.2 +0.3
baz=276
N30M Aishikik Lake 63.51 32 P P 04 55 04.3 +0.4
baz=277
P30M Million Dollar 63.74 34 P P 04 55 05.4 -0.1
baz=278
G31M Satah River 64.08 26 P P 04 55 07.7 +0.3
baz=277
N31M Braeburn, Yuko 64.13 32 P P 04 55 08.1 +0.2
baz=278
H31M Peel River 64.19 27 P P 04 55 08.2 0.0
baz=277
F31M Tsiigehtchic 64.22 25 P P 04 55 08.7 +0.4
baz=277
ABKAR Akbulak array 64.51 314 P 04 55 10.3 -0.1
ABKAR IAmb IAmb 04 55 11.0
comp=Z,2.9nm,0.8s
SKAG Skagway 64.65 34 P P 04 55 11.4 +0.2
baz=279
M31M Drury Creek, Y 64.67 31 P P 04 55 11.6 +0.2
baz=279
WHY Whitehorse 64.68 33 P P 04 55 12.2 +0.6
baz=279
SIT Sitka 65.07 37 P P 04 55 14.7 +0.8
baz=280
FARO Faro, Yukon 65.15 31 P P 04 55 14.4 0.0
baz=280
R32K Eaglecrest 65.28 35 P P 04 55 15.9 +0.6
baz=281
S32K Killisnoo 65.39 36 P P 04 55 16.2 +0.2
baz=281
P32M Atlin 65.44 34 P P 04 55 16.5 +0.2
baz=281
N32M Quiet Lake 65.46 32 P P 04 55 17.0 +0.6
baz=280
P33M Teslin, Yukon 65.77 33 P P 04 55 18.6 +0.2
baz=281
MMPY Sheldon Lake, 66.03 30 P P 04 55 19.3 -0.7
baz=281
Q32M Nakina River 66.29 34 P P 04 55 21.7 -0.2
baz=282
A36M Sachs Harbour 66.37 20 P 04 55 22.2 +0.4
A36M Sachs Harbour 66.37 20 P P 04 55 22.2 +0.4
baz=283
U33K Whale Pass 66.45 38 P P 04 55 23.1 +0.5
baz=283
CRAG Craig 66.60 38 P P 04 55 23.9 +0.4
baz=283
WRAK Wrangell Islan 66.81 37 P P 04 55 24.8 0.0
baz=283
R33M Jennings River 66.85 34 P P 04 55 25.7 +0.4
baz=283
S34M Telegraph Cree 67.11 35 P P 04 55 26.5 -0.2
baz=284
C36M Paulatuk 67.38 22 P P 04 55 28.7 +0.5
baz=285
TGTN Hyland Airport 67.65 31 P P 04 55 30.0 -0.1
baz=284
WTLY Watson Lake, Y 67.75 33 P P 04 55 31.3 +0.6
baz=284
T35M Bob Quinn 67.80 36 P P 04 55 32.2 +1.1
baz=284
U35K Hyder 68.19 37 P P 04 55 34.6 +1.2
baz=285
LIRD Liard River Hi 69.26 33 P P 04 55 40.7 +0.8
baz=287
TOAD Toad River Com 69.85 34 P P 04 55 43.9 +0.4
baz=288
YKA Yellowknife Ar 73.38 28 P P 04 56 03.6 -0.5
comp=Z,1.2nm,0.8s,baz=296,slow=5.5,SNR=21
comp=Z,1.2nm,0.8s
ARCES ARCESS Array B 73.67 341 P P 04 56 05.8 +0.1
comp=Z,2.4nm,0.6s,baz=64,slow=7.0,SNR=11
comp=Z,2.4nm,0.6s
KBZ Khabaz 77.38 313 P P 04 56 26.9 -0.1
comp=Z,2.0nm,0.8s,baz=23,slow=1.7,SNR=7.0
comp=Z,2.0nm,0.8s
FINES FINESS Array B 77.88 333 P P 04 56 28.7 -0.7
comp=Z,1.8nm,0.4s,baz=70,slow=4.8,SNR=51
comp=Z,1.8nm,0.4s
NVAR Mina Array Bea 82.04 51 P P 04 56 52.3 +0.1
comp=Z,0.5nm,0.8s,baz=297,slow=5.7,SNR=3.8
comp=Z,0.5nm,0.8s
AKASG Malin Array Be 82.27 323 P P 04 56 51.5 -1.2
comp=Z,0.7nm,0.4s,baz=49,slow=5.3,SNR=8.4
comp=Z,0.7nm,0.4s
HFS Hagfors 83.43 336 P P 04 56 56.9 -1.6
comp=Z,0.9nm,0.4s,baz=59,slow=5.6,SNR=9.0
comp=Z,0.9nm,0.4s
NB2 NORSAR Subarra 83.66 338 P P 04 56 58.2 -1.5
comp=Z,0.9nm,0.5s,baz=45,slow=4.8
NOA NORSAR Array B 83.66 338 P P 04 56 57.9 -1.8
comp=Z,1.6nm,0.6s,baz=46,slow=4.7,SNR=9.7
comp=Z,1.6nm,0.6s
BRTR Keskin Array B 85.37 312 P P 04 57 06.4 -2.4
comp=Z,0.2nm,0.5s,baz=57,slow=5.3,SNR=2.4
comp=Z,0.2nm,0.5s
PDAR Pinedale Array 85.67 44 P P 04 57 09.7 -0.6
comp=Z,0.3nm,0.7s,baz=310,slow=3.7,SNR=2.7
comp=Z,0.3nm,0.7s
PLCA Paso Flores 150.60 127 PKP PKPdf 05 04 15.0 +0.4
comp=Z,2.0nm,0.9s,baz=315,slow=7.1,SNR=3.2
LPAZ La Paz 151.48 75 PKPbc PKPbc 05 04 23.1 -0.8
comp=Z,1.2nm,0.5s,baz=342,slow=4.0,SNR=6.7

NEIC ***14*** *04:46:29.9±2.0, 19°.735N±0°.008×155°.78W±0°.01, h10km±1km, Error ellipse: s-maj=2.8km s-min=2.1km az=350.0*

HVO 14 04:46:29.5±1.1, 19°.749N±0°.005×155°.78W±0°.02, h17km±2km, ML2.7/29, ML2.8/40(NEIC), Error ellipse: s-maj=2.8km s-min=0.6km az=99.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUH	**Hualalai**	**0.08**	**220**		Pg	04 46 33.2	+0.1
HUH				IAML		04 46 36.1	
	comp=E,2μm,0.3s						
HUH					Sg	04 46 36.0	+0.4
HUH				IAML		04 46 37.2	
	comp=N,3μm,0.2s						
POHA	**Pohakuloa**	**0.23**	**88**		Pg	04 46 34.7	-0.3
POHA					Sg	04 46 38.5	-0.3
POHA	**Pohakuloa**	**0.23**	**88**	IAML		04 46 38.8	
	comp=N,1μm,0.2s						
POHA				IAML		04 46 39.1	
	comp=N,1μm,0.1s						
ALEP	**Alea Permanent**	**0.24**	**148**		Pg	04 46 35.4	+0.1
ALEP					Sb	04 46 39.8	0.0
KKH	**Kailua Kona**	**0.24**	**248**		Pg	04 46 34.7	-0.3
KKH					Sg	04 46 38.9	+0.2
MLOA	**Mauna Loa Obse**	**0.29**	**138**		Pg	04 46 35.8	-0.2
MLOA					Sg	04 46 40.7	+0.3
CPH	**Captain Cook**	**0.29**	**207**		Pg	04 46 35.4	-0.4
HPAH	**Hawaii Prepara**	**0.29**	**15**		Pg	04 46 35.2	-0.6
HPAH				IAML		04 46 39.8	
	comp=N,936nm,0.4s						
HPAH				IAML		04 46 39.8	
	comp=E,1μm,0.3s						
MWH	**Mokuaweoweo**	**0.31**	**147**		Pg	04 46 36.0	-0.5
MWH					Sg	04 46 40.9	-0.4
MWH				IAML		04 46 47.7	
	comp=N,1μm,0.4s						
MWH				IAML		04 46 47.7	
	comp=E,974nm,0.2s						
HMH	**Humu'ula Sheep**	**0.32**	**117**		Pg	04 46 36.3	-0.1
MLH	**Mauna Loa**	**0.45**	**124**		Pg	04 46 37.8	-0.9
MLH					Sg	04 46 44.8	-0.1
MLH	**Mauna Loa**	**0.45**	**124**	IAML		04 46 46.0	
	comp=N,2μm,0.1s						
MLH				IAML		04 46 46.1	
	comp=E,1μm,0.2s						
MHA	**Mahukona**	**0.45**	**345**	Pg	Pg	04 46 37.9	-0.7
MHA	**Mahukona**	**0.45**	**345**		Sg	04 46 44.8	0.0
KHU	**Kahuku**	**0.52**	**163**		Pg	04 46 38.7	-1.4
RSD	**Rainshed**	**0.55**	**121**		Pg	04 46 36.6	-4.0
RSD	**Rainshed**	**0.55**	**121**		Sg	04 46 46.5	-1.5
UWE	**Uwekahuna**	**0.56**	**125**		Pg	04 46 39.1	-1.7
UWE					Sg	04 46 47.0	-1.4
WRMHI	**West Rim**	**0.57**	**127**		Pg	04 46 39.1	-1.7
WRMHI					Sg	04 46 46.7	-1.7
OBL	**Observatory Le**	**0.57**	**125**		Pg	04 46 39.1	-1.8
OBL					Sg	04 46 47.8	-0.8
UWB	**Uwekahuna Bluf**	**0.57**	**124**		Pg	04 46 39.0	-1.9
SBLHI	**Steaming Bluff**	**0.58**	**123**		Pg	04 46 39.0	-2.0
SDHHI	**Sand Hill**	**0.58**	**128**		Pg	04 46 39.2	-1.8
SDHHI					Sg	04 46 48.2	-0.7
HATHI	**Halema'uma'u T**	**0.59**	**123**		Pg	04 46 39.2	-2.0
HATHI					Sg	04 46 48.1	-0.9
HATHI	**Halema'uma'u T**	**0.59**	**123**	IAML		04 46 50.1	
	comp=N,462nm,0.4s						
HATHI				IAML		04 46 59.8	
	comp=E,655nm,0.8s						
BYL	**Byron's Ledge**	**0.59**	**124**	IAML		04 46 55.4	
	comp=E,395nm,0.7s						
BYL	**Byron's Ledge**	**0.59**	**124**		Pg	04 46 39.4	-1.9
BYL					Pn	04 46 48.0	+4.7
KKO	**Keanakako'i**	**0.60**	**126**		Pg	04 46 39.4	-1.9
HTC	**Hot Caves**	**0.62**	**145**		Pg	04 46 40.0	-1.8
HLP	**Hilina Pali**	**0.63**	**135**		Pg	04 46 40.1	-1.9
HLP					Sg	04 46 48.5	-1.9
HLP	**Hilina Pali**	**0.63**	**135**	IAML		04 46 51.7	
	comp=N,553nm,0.3s						
HLP				IAML		04 47 02.8	
	comp=E,640nm,1.1s						
PUH	**Pauahi**	**0.65**	**125**		Sg	04 46 49.7	-1.3
PUH	**Pauahi**	**0.65**	**125**		Pg	04 46 39.8	-2.5
PUH	**Pauahi**	**0.65**	**125**	IAML		04 46 47.9	
	comp=N,316nm,2.4s						
PUH				IAML		04 46 49.6	
	comp=E,228nm,2.7s						
KNHH	**Kane Nui o Ham**	**0.68**	**122**		Pg	04 46 40.5	-2.4
HPO	**Honuapo**	**0.69**	**162**		Pg	04 46 40.9	-2.2
STCH	**Steam Cracks**	**0.72**	**120**		Pg	04 46 40.9	-2.6
STCH				IAML		04 46 53.7	
	comp=E,522nm,0.1s						
NPOC	**North of Pu'u**	**0.72**	**119**		Pg	04 46 41.0	-2.7
NPOC					Sg	04 46 50.1	-3.3
JCUZ	**Jacuzzi**	**0.73**	**119**		Pg	04 46 41.2	-2.7
JCUZ					Sg	04 46 52.0	-1.7
JOKA	**Jonika Flow**	**0.80**	**113**		Pb	04 46 41.9	-3.1
JOKA	**Jonika Flow**	**0.80**	**113**	IAML		04 46 55.4	
	comp=E,320nm,0.9s						

IDC ***14*** *05:11:58.0±0.5, 26°.30N×129°.52E, h0km, mb4.3/27, mbtmp4.3/31, ML4.0/3, MS3.7/37, Error ellipse: s-maj=16.4km s-min=12.3km az=80.0*

MOS ***14*** *05:11:58.1±1.1, 26°.26N×129°.48E, h10km, mb4.9/36, Error ellipse: s-maj=8.0km s-min=4.9km az=109.1*

BJI ***14*** *05:11:58.2, 26°.14N×129°.48E, h16km, mB4.7/24, mb4.5/56, Ms4.1/41, Ms7 3.9/44*

NEIC ***14*** *05:11:59.6±1.3, 26°.14N±0°.07×129°.48E±0°.05, h10km, mb4.8/116, Error ellipse: s-maj=12.2km s-min=7.7km az=196.0*

NIED ***14*** *05:12:00.1, 26°.23N×129°.55E, h44km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}-5.41; $M_{\theta\theta}$2.75; $M_{\phi\phi}$2.66; $M_{r\theta}$0.42; $M_{\theta\phi}$3.13; $M_{\phi r}$-1.27; Fault plane solution: $M_0$5.79000×10^15^ NP1: ϕ_s238.00000°, δ43.00000°, λ-71.00000°. NP2: ϕ_s33.00000°, δ49.00000°, λ-107.00000°.*

JMA ***14*** *05:12:00.1±0.1, 26°.2N±0°.7×129°.6E±0°.5, h44km, MD4.7/21, MV4.2/21, NEAR OKINAWAJIMA ISLAND*

ISC 14 05:11:59.0±1.0, 26°.18N±0°.04×129°.52E±0°.03, h8km±5km, n556, σ1°30/524, mb4.8/135, MS3.9/45, 27C-9D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.27**	**311**	P	**Pn**	**05 12 21.7**	**-1.5**
JYRO				S	**Sb**	**05 12 37.9**	**-2.0**
JOW	**Kunigami**	**1.29**	**300**		**Pn**	**05 12 22.3**	**-1.0**
JOW	**Kunigami**	**1.29**	**300**	Pn	**Pn**	**05 12 21.9**	**-1.5**
	571nm,0.3s,baz=125,slow=18,SNR=29						
JOW				Sn	**Sb**	**05 12 37.1**	**-3.2**
	839nm,0.3s,baz=107,slow=19,SNR=33						
JOW	**Kunigami**	**1.29**	**300**	P	**Pn**	**05 12 22.2**	**-1.2**
JOW	**Kunigami**	**1.29**	**300**	*i* P	**Pn**	**05 12 22.2**	**-1.2**
JOW				S	**Sb**	**05 12 37.7**	**-2.7**
JNTH	**Nagotoyohara**	**1.39**	**284**	P	**Pn**	**05 12 23.5**	**-1.2**
JNTH				S	**Sb**	**05 12 40.6**	**-2.5**
JOKE	**Okinoerabujima**	**1.45**	**324**	*e*P	**Pn**	**05 12 24.6**	**-1.0**
JJT3	**Tamagusuku3**	**1.56**	**269**	P	**Pn**	**05 12 26.8**	**-0.3**
JJT3				*e*S	**Sn**	**05 12 46.9**	**-0.7**
JJT3	**Tamagusuku3**	**1.56**	**269**	A	A	05 12 26.8	
	comp=N,28nm,4.4s,comp=E,26nm,4.7s						
JMZ	**Minamidaito 2**	**1.57**	**103**	Pn	**Pn**	**05 12 26.7**	**-0.5**
JMZ	**Minamidaito 2**	**1.57**	**103**	P	**Pn**	**05 12 27.0**	**-0.2**
JMZ	**Minamidaito 2**	**1.57**	**103**	P	**Pn**	**05 12 25.9**	**-1.3**
JMZ				S	**Sn**	**05 12 44.3**	**-3.5**
JMZ	**Minamidaito 2**	**1.57**	**103**	A	A	05 12 25.9	
	comp=N,13nm,5.0s,comp=E,18nm,5.7s						
JKDJ	**Kitadaitoujima**	**1.61**	**98**	P	**Pn**	**05 12 26.7**	**-1.0**
JKDJ				*e*S	**Sn**	**05 12 45.8**	**-3.0**
JIH	**Iheya**	**1.63**	**302**	P	**Pn**	**05 12 27.2**	**-0.8**
JIH				S	**Sn**	**05 12 46.8**	**-2.5**
JTK	**Tokunoshima**	**1.68**	**342**	P	**Pn**	**05 12 27.5**	**-1.2**
JTK				S	**Sn**	**05 12 45.6**	**-4.7**
JAMN	**Amaminishikomi**	**2.08**	**351**	*e*P	**Pn**	**05 12 32.9**	**-1.3**
JAMN				*e*S	**Sn**	**05 12 56.1**	**-4.1**
JAGN	**Aguni-jima**	**2.09**	**282**	P	**Pn**	**05 12 34.0**	**-0.3**
JAGN				S	**Sn**	**05 12 58.1**	**-2.4**
JZK	**Kikaishima**	**2.16**	**11**	P	**Pn**	**05 12 34.7**	**-0.6**
JZK				S	**Sn**	**05 12 59.7**	**-2.6**
JAM	**Amami Oshima**	**2.22**	**2**	P	**Pn**	**05 12 34.5**	**-1.6**
JAM				S	**Sn**	**05 12 58.8**	**-5.0**
JKE	**Kume jima 2**	**2.46**	**274**	P	**Pn**	**05 12 38.3**	**-1.2**
JTAJ	**Takarajima**	**2.97**	**355**	*e*P	**Pn**	**05 12 45.0**	**-1.5**
JTAJ				S	**Sn**	**05 13 17.6**	**-4.8**
JMJ	**Miyako jima 2**	**4.06**	**251**	P	**Pn**	**05 13 00.8**	**-0.6**
JYAK	**Yakushimahirau**	**4.13**	**12**	P	**Pn**	**05 13 01.4**	**-1.1**
JYAK				S	**Sn**	**05 13 45.3**	**-5.7**
YOJ	**Yonaguni jima**	**6.14**	**255**	Pn	**Pn**	**05 13 28.4**	**-1.6**
YOJ	**Yonaguni jima**	**6.14**	**255**	P	**Pn**	**05 13 28.2**	**-1.8**
YOJ	**Yonaguni jima**	**6.14**	**255**	P	**Pn**	**05 13 28.4**	**-1.6**
JNU	**Nakatsue**	**7.01**	**9**		**Pn**	**05 13 42.2**	**+0.1**
JNU	**Nakatsue**	**7.01**	**9**	Pn	**Pn**	**05 13 41.6**	**-0.5**
	comp=E,4.5nm,0.3s,baz=208,slow=11,SNR=22						
JNU				Sn	Sn	05 14 54.1	-8.0
	comp=E,1.2nm,0.3s,baz=218,slow=19,SNR=1.3						
JNU				LR	LR	05 16 58.3	
	comp=E,199nm,18.3s,baz=266,slow=44						
	comp=E,27nm,0.5s						
JNU	**Nakatsue**	**7.01**	**9**	P	**Pn**	**05 13 42.1**	**+0.1**
NACB	**Ninganchiao**	**7.46**	**256**	Pn	**Pn**	**05 13 45.5**	**-2.6**
NACB	**Ninganchiao**	**7.46**	**256**	P	**Pn**	**05 13 45.5**	**-2.6**
YHNB	**Yeheng**	**7.52**	**260**		**Pn**	**05 13 48.8**	**-0.3**
YHNB	**Yeheng**	**7.52**	**260**	P	**Pn**	**05 13 48.1**	**-1.0**
YULB	**Yu-li**	**7.97**	**251**		**Pn**	**05 13 51.1**	**-4.2**
SSLB	**Suanglung**	**8.13**	**255**		**Pn**	**05 13 54.7**	**-2.8**
SSLB	**Suanglung**	**8.13**	**255**	P	**Pn**	**05 13 54.7**	**-2.8**
TWG	**Pinlang**	**8.39**	**248**		**Pn**	**05 13 56.6**	**-4.4**
JMN	**Monobe**	**8.41**	**26**	P	**Pn**	**05 14 01.2**	**-0.1**
TPUB	**Ta-pu**	**8.58**	**252**		**Pn**	**05 14 01.7**	**-1.8**
TPUB	**Ta-pu**	**8.58**	**252**	P	**Pn**	**05 14 01.8**	**-1.8**
SSE	**Sheshan**	**8.81**	**306**	P	**Pn**	**05 14 05.3**	**-1.3**
SSE				S	**Sn**	**05 15 45.3**	**-0.8**
SSE				pmax	pmax		
	comp=E,7.0nm,0.7s						
SSE				pmax	pmax		
	comp=E,70nm,7.1s						
NJ2	**Nanjing**	**11.01**	**305**	*e*P	**Pn**	**05 14 36.8**	**0.0**
NJ2				pmax	pmax		
	comp=E,9.0nm,0.5s						
NJ2				LR	LR		
	comp=E,540nm,13.3s						
NJ2				LR	LR		
	comp=E,500nm,13.3s						
NJ2				LR	LR		
	comp=E,470nm,15.2s						
JHJ	**Hachijo jima 2**	**11.28**	**50**	LR	LR	05 18 42.7	
	comp=E,168nm,18.5s,baz=53,slow=36						
JHJ2	**Mitsune**	**11.30**	**50**	Pn	**Pn**	**05 14 41.8**	**+1.0**
KSRS	**Korea Array**	**11.32**	**353**	Pn	**Pn**	**05 14 40.9**	**-0.1**
	comp=E,0.2nm,0.3s,baz=173,slow=13,SNR=11						
KSRS				LR	LR	05 19 18.2	
	comp=E,255nm,18.9s,baz=175,slow=39						
	comp=E,4.3nm,0.9s						
JGF	**Kuroka**	**11.54**	**34**	Pn	**Pn**	**05 14 45.1**	**+1.0**
MJAR	**Matsushiro Arr**	**12.71**	**34**	Pn	**Pn**	**05 14 59.5**	**-0.6**
	comp=E,0.5nm,0.6s,baz=219,slow=8.5,SNR=1.4						
DL2	**Dalian**	**14.32**	**334**	P	**P**	**05 15 29.5**	**+0.2**
DL2				*e*S	Sn	05 18 10.3	+9.3
DL2				pmax	pmax		
	comp=Z,51nm,1.1s						
DL2				LR	LR		
	comp=N,280nm,14.9s						
DL2				LR	LR		
	comp=E,420nm,15.1s						
DL2				LR	LR		
	comp=Z,590nm,15.2s						
HNS	**HongShan**	**16.82**	**315**	⇓P	**P**	**05 15 56.9**	**-0.1**
HNS				pmax	pmax		
	comp=Z,24nm,1.0s						
HNS				LR	LR		
	comp=Z,280nm,16.3s						
HNS				LR	LR		
	comp=Z,250nm,17.8s						
HNS				LR	LR		
	comp=Z,440nm,19.1s						
LYN	**LuoYang**	**16.90**	**304**	P	**P**	**05 15 58.0**	**0.0**
LYN				PP	**pwP**	**05 16 09.3**	**+2.5**
LYN				pmax	pmax		
	comp=Z,69nm,0.9s						
LYN				LR	LR		
	comp=Z,640nm,13.1s						
LYN				LR	LR		
	comp=Z,520nm,12.7s						
LYN				LR	LR		
	comp=Z,840nm,14.4s						
BJT	**Baijiatuau**	**17.73**	**324**		**Pn**	**05 16 06.0**	**-0.3**
BJT	**Baijiatuau**	**17.73**	**324**	P	**Pn**	**05 16 06.0**	**-0.3**
BJT				pmax	pmax		
	comp=Z,26nm,0.8s						
BJI	**Beijing**	**17.75**	**324**	P	**Pn**	**05 16 07.3**	**+0.9**
BJI				pmax	pmax		
	comp=Z,18nm,0.8s						
BJI				LR	LR		
	comp=Z,140nm,15.1s						
BJI				LR	LR		
	comp=Z,110nm,16.3s						
BJI				LR	LR		
	comp=Z,180nm,15.7s						
CN2	**Changchun**	**17.89**	**350**	P	**P**	**05 16 14.4**	**+5.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
USA0B	**Ussuriysk Arra**	**18.09**	**6**	P	**Pn**	**05 16 11.4**	**+0.8**
USA0B	**Ussuriysk Arra**	**18.09**	**6**	*i* P	**Pn**	**05 16 10.1**	**-0.5**
USRK	**Ussuriysk Ar.**	**18.09**	**6**	P	**Pn**	**05 16 11.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**18.09**	**6**	P	**Pn**	**05 16 09.2**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=185,slow=10,SNR=10						
USRK				LR	LR	05 22 52.2	
	comp=Z,112nm,20.2s,baz=175,slow=36						
	comp=Z,6.4nm,0.6s						
USRK	**Ussuriysk Ar.**	**18.09**	**6**	P	**Pn**	**05 16 11.0**	**+0.4**
ENH	**Enshi**	**18.12**	**288**		**Pn**	**05 16 10.4**	**-0.7**
TIY	**Taiyuan**	**18.47**	**313**	P	**Pn**	**05 16 16.5**	**+1.0**
TIY				S	**Sn**	**05 19 41.8**	**-0.3**
TIY				pmax	pmax		
	comp=Z,32nm,0.8s						
TIY				LR	LR		
	comp=Z,340nm,14.1s						
TIY				LR	LR		
	comp=Z,320nm,15.4s						
TIY				LR	LR		
	comp=Z,340nm,15.4s						
GUMO	**Guam**	**19.08**	**128**	LR	LR	05 22 10.8	
	comp=Z,108nm,20.1s,baz=308,slow=32						
ERM	**Erimo**	**19.37**	**32**	P	**P**	**05 16 24.6**	**-0.5**
ERM	**Erimo**	**19.37**	**32**	P	**P**	**05 16 24.6**	**-0.5**
ERM				pmax	pmax		
	comp=Z,35nm,1.0s						
DAV	**Davao City (W)**	**19.38**	**192**	LR	LR	05 23 24.7	
	comp=Z,71nm,21.4s,baz=176,slow=35						
XAN	**Xi'an**	**19.45**	**299**	P	**P**	**05 16 25.3**	**-0.8**
XAN				S	**Sn**	**05 20 05.8**	**+0.2**
XAN				pmax	pmax		
	comp=Z,63nm,1.1s						
XAN				pmax	pmax		
	comp=Z,200nm,3.8s						
XAN				LR	LR		
	comp=Z,370nm,14.6s						
XAN				LR	LR		
	comp=Z,510nm,18.2s						
XAN				LR	LR		
	comp=Z,730nm,16.1s						
QIZ	**Qiongzhong**	**19.50**	**253**	P	**P**	**05 16 26.3**	**-0.5**
QIZ				S	**S**	**05 20 07.8**	**+0.4**
QIZ				pmax	pmax		
	comp=Z,190nm,3.5s						
QIZ				LR	LR		
	comp=Z,160nm,11.5s						
QIZ				LR	LR		
	comp=Z,220nm,12.6s						
QIZ				LR	LR		
	comp=Z,200nm,16.5s						
BNX	**BinXian**	**19.59**	**356**	⇑P	**P**	**05 16 28.6**	**+1.1**
BNX				pmax	pmax		
	comp=Z,12nm,1.0s						
GYA	**Guiyang**	**20.49**	**276**	P	Pn	05 16 41.0	+1.2
GYA				LR	LR		
	comp=Z,380nm,18.9s						
XLT	**XiLinHaoTe**	**20.77**	**332**	*e*P	Pn	05 16 42.3	-0.6
XLT				sP	pwP	05 16 49.4	+0.1
XLT				pmax	pmax		
	comp=Z,25nm,1.0s						
XLT				pmax	pmax		
	comp=Z,180nm,6.6s						
ASAJ	**Asahikawa**	**20.80**	**27**	P	**P**	**05 16 40.0**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=232,slow=16,SNR=4.2						
	comp=Z,3.5nm,0.6s						
JKA	**Kamikawa-asahi**	**20.80**	**27**	P	**P**	**05 16 40.0**	**-0.6**
HHC	**Hu-ho-hao-te**	**20.87**	**319**	⇑*i*P	Pn	05 16 45.8	+1.7
HHC				pP	pwP	05 16 51.1	+0.6
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.9s						
HHC				LR	LR		
	comp=Z,270nm,14.3s						
HHC				LR	LR		
	comp=Z,250nm,11.8s						
HHC				LR	LR		
	comp=Z,440nm,16.9s						
BTO	**Baotou**	**21.66**	**316**	*e*P	**P**	**05 16 52.6**	**+2.5**
BTO				pP	**pwP**	**05 16 57.0**	**-1.9**
BTO				sP	sP	05 16 59.5	+9.0
BTO				PP	**PnPn**	**05 17 15.9**	**+5.2**
BTO				pmax	pmax		
	comp=Z,24nm,0.6s						
BTO				pmax	pmax		
	comp=Z,210nm,5.6s						
BTO				LR	LR		
	comp=Z,520nm,13.4s						
BTO				LR	LR		
	comp=Z,370nm,6.1s						
BTO				LR	LR		
	comp=Z,560nm,8.4s						
KLR	**Kul'dur**	**23.07**	**4**	LR	LR	05 26 52.8	
	comp=Z,67nm,18.5s,baz=195,slow=39						
CD2	**Chengdu**	**23.10**	**288**	P	**P**	**05 17 03.8**	**-1.6**
CD2				pP	pP	05 17 06.0	+0.2
CD2				S	**S**	**05 21 15.3**	**-1.7**
CD2				pmax	pmax		
	comp=Z,20nm,1.1s						
CD2				LR	LR		
	comp=Z,570nm,12.0s						
CD2				LR	LR		
	comp=Z,370nm,9.3s						
YSS	**Yuzhno-Sakhali**	**23.23**	**23**	*e*P	**P**	**05 17 08.3**	**+1.7**
YSS				*e*		05 17 32.6	
YSS				*e*S	**S**	**05 21 15.4**	**-3.4**
YSS				*e*SS	**SnSn**	**05 21 56.9**	**+4.5**
YSS				pmax	pmax		
	comp=Z,300nm,2.5s						
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				MLR	MLR		
	comp=Z,300nm,12.0s						
LZH	**Lanzhou**	**24.03**	**300**	*e*P	**P**	**05 17 09.3**	**-5.5**
LZH				pP	sP	05 17 19.3	+4.1
LZH				pmax	pmax		
	comp=Z,32nm,0.7s						
LZH				LR	LR		
	comp=Z,410nm,14.1s						
LZH				LR	LR		
	comp=Z,320nm,15.5s						
LZH				LR	LR		
	comp=Z,380nm,15.8s						
KMI	**Kunming**	**24.16**	**273**	P	**P**	**05 17 18.3**	**+2.3**
KMI				pmax	pmax		
	comp=Z,26nm,0.8s						
KMI				LR	LR		
	comp=Z,140nm,23.0s						
KMI				LR	LR		
	comp=Z,230nm,13.4s						
KMI				LR	LR		
	comp=Z,200nm,15.7s						
PZH	**PanZhiHua**	**24.88**	**277**	P	**P**	**05 17 25.8**	**+3.3**
PZH				S	**S**	**05 21 43.1**	**-3.0**
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,130nm,5.5s						
PZH				LR	LR		
	comp=Z,330nm,17.5s						
PZH				LR	LR		
	comp=Z,230nm,15.3s						
PZH				LR	LR		
	comp=Z,270nm,17.1s						
GRNR	**Gornyy**	**25.11**	**10**	⇓*i*P	**P**	**05 17 24.6**	**+0.4**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TYV	**Tymovskoe**	**26.62**	**19**	*e*P	**P**	**05 17 44.5**	**+6.7**
TYV				pmax	pmax		
	comp=Z,11nm,1.3s						
TYV				pmax	pmax		
	comp=Z,100nm,2.9s						
ZEA	**Zeya**	**27.57**	**357**	*e*P	**P**	**05 17 48.0**	**+1.6**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ULN	**Ulaanbaatar**	**27.93**	**327**	*ce*P	**P**	**05 17 49.6**	**-0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TNCH	**TengChong**	**27.95**	**275**	P	**P**	**05 17 49.9**	**-0.4**
TNCH				pmax	pmax		
	comp=Z,250nm,4.6s						
GTA	**Gaotai**	**28.10**	**305**	*e*P	**P**	**05 17 51.0**	**-0.5**
GTA				pmax	pmax		
	comp=Z,11nm,1.0s						
GTA				LR	LR		
	comp=Z,160nm,14.3s						
GTA				LR	LR		
	comp=Z,220nm,16.3s						
GTA				LR	LR		
	comp=Z,290nm,18.7s						
SONM	**Songino Array**	**28.23**	**326**	P	**P**	**05 17 53.4**	**+0.9**
	comp=Z,3.2nm,0.9s,baz=136,slow=10.0,SNR=10.0						
SONM				LR	LR	05 30 48.3	
	comp=Z,136nm,18.3s,baz=107,slow=40						
	comp=Z,3.2nm,0.9s						
CHTO	**Chiang Mai**	**29.14**	**262**	P	**P**	**05 18 02.1**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**29.26**	**261**	P	**P**	**05 18 03.2**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=76,slow=8.5,SNR=11						
CMAR				LR	LR	05 30 13.7	
	comp=Z,62nm,18.6s,baz=170,slow=37						
	comp=Z,0.8nm,0.5s						
JAY	**Jayapura**	**30.51**	**158**	LR	LR	05 27 29.1	
	comp=Z,90nm,21.9s,baz=312,slow=30						
GOMU	**GeErMu**	**31.18**	**297**	P	**P**	**05 18 20.1**	**+1.0**
GOMU				pP	sP	05 18 23.3	+3.8
GOMU				sP	pwP	05 18 26.9	-0.9
GOMU				S	**S**	**05 23 28.6**	**+2.9**
GOMU				pmax	pmax		
	comp=Z,13nm,0.9s						
GOMU				LR	LR		
	comp=Z,260nm,14.3s						
GOMU				LR	LR		
	comp=Z,190nm,14.6s						
GOMU				LR	LR		
	comp=Z,360nm,14.2s						
KAPI	**Kappang**	**32.43**	**198**	P	**P**	**05 18 28.8**	**-0.9**
KAPI	**Kappang**	**32.43**	**198**	P	**P**	**05 18 28.8**	**-0.9**
KAPI				pmax	pmax		
	comp=Z,32nm,1.1s						
SHL	**Shillong**	**33.80**	**277**		**P**	**05 18 41.6**	**-0.3**
SHL	**Shillong**	**33.80**	**277**	P	**P**	**05 18 41.6**	**-0.3**
SHL				pmax	pmax		
	comp=Z,18nm,0.9s						
PEA0B	**Petropavlovsk-**	**34.14**	**30**	P	**P**	**05 18 44.6**	**+0.2**
PEA0B				IAmb	IAmb	05 18 55.8	
	comp=Z,16nm,1.2s						
PEA0B	**Petropavlovsk-**	**34.14**	**30**	P	**P**	**05 18 44.6**	**+0.2**
PEA0B				pmax	pmax		
	comp=Z,16nm,1.3s						
PETK	**Petropavlovsk-**	**34.14**	**30**	P	**P**	**05 18 44.9**	**+0.5**
PETK	**Petropavlovsk-**	**34.14**	**30**	P	**P**	**05 18 43.4**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=203,slow=10,SNR=4.9						
PETK				LR	LR	05 33 55.1	
	comp=Z,52nm,18.1s,baz=206,slow=39						
	comp=Z,1.7nm,0.9s						
**PET

SEY Seymchan 39.73 16 LR LR 05 36 45.2
comp=Z,84nm,18.4s,baz=220,slow=38
SEY Seymchan 39.73 16*ce*P **P 05 19 31.4 -0.4**
SEY pmax pmax
comp=Z,18nm,1.0s
KNRA Kununurra 41.62 181 P 05 19 48.3 +0.6
MK31 Makanchi Array 42.43 312 *i* P **P 05 19 52.9 -1.4**
MKAR Makanchi Array 42.43 312 P **P 05 19 53.6 -0.7**
MKAR Makanchi Array 42.43 312 P **P 05 19 53.4 -0.9**
comp=Z,2.2nm,0.7s,baz=102,slow=9.6,SNR=20
MKAR PcP **PcP 05 21 46.6 -0.7**
comp=Z,0.9nm,0.7s,baz=84,slow=4.7,SNR=4.1
MKAR LR LR 05 38 48.6
comp=Z,93nm,19.9s,baz=106,slow=38
comp=Z,2.2nm,0.7s
MKAR Makanchi Array 42.43 312 P **P 05 19 53.6 -0.7**
MAKZ Makanchi 42.65 312 P **P 05 19 55.3 -0.7**
MAKZ Makanchi 42.65 312 P **P 05 19 55.3 -0.7**
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
ZAA0 Zalesovo Array 42.99 322 P **P 05 19 57.7 -0.9**
ZALV Zalesovo Beam 42.99 322 P **P 05 19 57.2 -1.4**
comp=Z,1.8nm,0.5s,baz=112,slow=8.0,SNR=8.3
ZALV PcP **PcP 05 21 47.6 -1.3**
comp=Z,1.0nm,0.5s,baz=129,slow=4.6,SNR=3.7
ZALV LR LR 05 39 49.9
comp=Z,177nm,19.6s,baz=64,slow=39
comp=Z,1.8nm,0.5s
FITZ Fitzroy Crossi 44.18 185 P **P 05 20 08.3 -0.2**
FITZ Fitzroy Crossi 44.18 185 P **P 05 20 09.4 +0.9**
comp=Z,1.7nm,0.8s,baz=33,slow=6.7,SNR=6.7
comp=Z,1.7nm,0.8s
TARG Taragay, Kyrgy 44.95 304 P **P 05 20 15.0 -0.1**
TARG Taragay, Kyrgy 44.95 304 P **P 05 20 15.0 -0.1**
TARG pmax pmax
comp=Z,9.0nm,1.2s
KDJ Kajisay 45.44 304 P **P 05 20 17.9 -0.8**
KDJ IAmb IAmb 05 20 38.6
comp=Z,11nm,1.2s
KDJ Kajisay 45.44 304 P **P 05 20 17.9 -0.8**
KDJ pmax pmax
comp=Z,11nm,1.2s
TIXI Tiksi 45.50 360 P **P 05 20 18.7 +0.2**
TIXI Tiksi 45.50 360 LR LR 05 40 38.6
comp=Z,51nm,18.2s,baz=197,slow=38
TIXI Tiksi 45.50 360*ce*P **P 05 20 19.1 +0.6**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
KURK Kurchatov 45.65 316 P **P 05 20 19.5 -0.5**
KURK Kurchatov 45.65 316*ce*P **P 05 20 18.3 -1.7**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURBB Kurchatov Arra 45.69 316 P **P 05 20 19.3 -1.0**
comp=Z,2.5nm,0.5s,baz=102,slow=8.8,SNR=22
KURBB PcP **PcP 05 21 57.1 -1.1**
comp=Z,1.1nm,0.9s,baz=108,slow=3.4,SNR=2.9
KURBB LR LR 05 40 59.8
comp=Z,174nm,18.6s,baz=162,slow=38
comp=Z,2.5nm,0.5s
WRAB Tennant Creek 46.08 174 *i* P **P 05 20 27.4 +3.8**
WRAB pmax pmax
comp=Z,20nm,2.0s
WRA Warramunga Arr 46.09 174 P **P 05 20 24.5 +0.8**
comp=Z,1.8nm,0.7s,baz=353,slow=8.5,SNR=14
WRA LR LR 05 37 41.6
comp=Z,77nm,20.0s,baz=184,slow=33
comp=Z,1.8nm,0.7s
HNR Honiara 46.13 136 LR LR 05 39 15.0
comp=Z,65nm,19.4s,baz=30,slow=35
BOOM Boomskoye usch 46.38 305 P **P 05 20 25.6 -0.5**
BOOM Boomskoye usch 46.38 305 P **P 05 20 25.6 -0.5**
BOOM pmax pmax
comp=Z,4.0nm,1.1s
BILL Bilibino 47.35 18 P **P 05 20 33.4 +0.2**
BILL Bilibino 47.35 18*ce*P **P 05 20 32.4 -0.7**
BILL pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 47.45 305 P **P 05 20 33.0 -1.5**
AAK Ala-Archa 47.45 305 LR LR 05 43 59.8
comp=Z,89nm,18.2s,baz=94,slow=41
AAK Ala-Archa 47.45 305*ce*P **P 05 20 34.4 -0.1**
AAK pmax pmax
comp=Z,3.0nm,1.3s
PSA00 Pilbara Seismi 48.39 192 P **P 05 20 42.4 +0.7**
NRIK Noril'sk 49.66 342 P **P 05 20 50.1 -0.7**
NRIK IAmb IAmb 05 21 08.9
comp=Z,15nm,1.5s
NRIK Noril'sk 49.66 342 P **P 05 20 49.5 -1.3**
comp=Z,1.8nm,0.5s,baz=142,slow=6.7,SNR=5.6
NRIK LR LR 05 43 46.1
comp=Z,122nm,18.3s,baz=152,slow=38
comp=Z,1.8nm,0.5s
NRIK Noril'sk 49.66 342*ce*P **P 05 20 50.9 +0.1**
NRIK pmax pmax
comp=Z,11nm,2.3s
ASAR Alice Springs 49.74 175 P **P 05 20 50.9 -1.1**
ASAR Alice Springs 49.74 175 P **P 05 20 53.2 +1.2**
comp=Z,1.1nm,0.8s,baz=2.6,slow=13,SNR=18
comp=Z,1.1nm,0.8s
TRKS Terek-Say 49.94 303 P **P 05 20 54.3 +0.6**
PALK Pallekele 50.05 257 P **P 05 20 52.6 -2.0**
PALK Pallekele 50.05 257 P **P 05 20 52.7 -2.0**
PALK pmax pmax
comp=Z,5.0nm,1.1s
KK31 Karatay Array 50.38 305 P **P 05 20 56.8 0.0**
KK31 Karatay Array 50.38 305 P **P 05 20 56.8 0.0**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 50.38 305 P **P 05 20 56.7 -0.1**
KKAR Karatay Array 50.38 305 P **P 05 20 56.7 -0.1**
GAR Garm 50.69 300 P **P 05 20 58.8 -0.5**
GAR IAmb IAmb 05 21 15.3
comp=Z,10nm,1.0s
BVAR Borovoye Array 51.08 318 P **P 05 21 01.6 -0.3**
comp=Z,5.2nm,0.7s,baz=88,slow=10,SNR=22
BVAR LR LR 05 44 44.2
comp=Z,335nm,18.8s,baz=93,slow=39
comp=Z,5.2nm,0.7s
BRVK Borovoye 51.15 318 P **P 05 21 02.3 -0.1**
BRVK Borovoye 51.15 318*ce*P **P 05 21 03.4 +1.0**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
SIMJ Simiganj 51.74 300 P **P 05 21 06.8 -0.4**
SIMJ IAmb IAmb 05 21 26.5
comp=Z,13nm,1.4s
DZET Dzherino 51.87 300 P **P 05 21 08.3 +0.2**
KBL Kabul 52.18 295 P **P 05 21 11.1 +0.5**
KBL IAmb IAmb 05 21 29.7
comp=Z,11nm,0.9s
KBL Kabul 52.18 295 P **P 05 21 11.1 +0.5**
KBL pmax pmax
comp=Z,11nm,0.9s
SPIA Saint Paul Isl 52.33 37 P **P 05 21 12.3 +1.2**
baz=260
NIKH Nikolski High 52.57 42 P **P 05 21 13.9 +1.0**
baz=265
P08K Saint George I 52.62 37 P **P 05 21 14.2 +0.9**
baz=261
M11K Mekoryuk 54.93 33 P **P 05 21 29.9 -0.2**
baz=262
C16K Lisburne Hills 56.77 24 P **P 05 21 42.8 -0.3**
C16K IAmb IAmb 05 22 00.9
comp=Z,9.1nm,1.1s
SVE Sverdlovsk 57.01 322 *e*P **P 05 21 45.7 +0.6**
SVE pmax pmax
comp=Z,16nm,0.9s
ABKAR Akbulak array 57.52 313 P **P 05 21 48.6 -0.2**
M15K Kasigluk River 57.67 33 P **P 05 21 50.3 +0.6**
baz=266
J16K Anvik River 57.91 30 P **P 05 21 51.4 +0.1**
baz=265
I17K Unalakleet 57.93 29 P **P 05 21 52.3 +0.9**
baz=264
N15K Kwethluk River 57.94 34 P **P 05 21 52.4 +0.8**
baz=267
F17K Baldwin Pennin 58.00 26 P **P 05 21 52.7 +0.8**
baz=262
O15K Ungalikthiuk R 58.03 35 P **P 05 21 52.9 +0.7**
baz=268
CHNA Chernabura Isl 58.12 40 P **P 05 21 53.3 +0.4**
baz=271
G17K Kiwalik Mounta 58.12 27 P **P 05 21 53.4 +0.6**
baz=263
ARTI Arti 58.25 322 P **P 05 21 53.6 -0.2**
ARTI Arti 58.25 322 LR LR 05 49 28.4
comp=Z,154nm,19.2s,baz=40,slow=39
ARTI Arti 58.25 322*di*P **P 05 21 53.4 -0.4**
ARTI 05 22 40.5
ARTI S **S 05 29 59.0 +3.1**
ARTI SS **SS 05 33 51.7 +4.5**
ARTI pmax pmax
comp=Z,11nm,0.6s
B18K Kokolik River 58.25 23 P **P 05 21 54.4 +0.7**
baz=260
L16K Owhat River 58.32 32 P **P 05 21 54.5 +0.3**
baz=267
C18K Utukok River 58.35 24 P **P 05 21 55.1 +0.7**
C18K IAmb IAmb 05 22 12.2
comp=Z,6.2nm,0.9s
C18K Utukok River 58.35 24 P **P 05 21 54.5 +0.1**
baz=261
H17K Granite Mounta 58.37 28 P **P 05 21 54.7 +0.2**
baz=264
M16K Timber Creek 58.53 33 P **P 05 21 56.4 +0.7**
baz=268
N16K Nishlik Lake 58.60 33 P **P 05 21 57.0 +0.8**
baz=268
J17K VABM Dome 58.61 30 P **P 05 21 56.4 +0.2**
baz=266
A19K Wainwright 58.65 22 P **P 05 21 56.2 -0.1**
baz=260
F18K Selawik 58.65 26 P **P 05 21 56.5 0.0**
baz=264
AKTO Aktyubinsk 58.69 315 LR LR 05 47 34.7
comp=Z,65nm,20.0s,baz=220,slow=36
STKA Stephens Creek 58.87 168 P **P 05 21 59.7 +1.3**
comp=Z,1.5nm,0.6s,baz=342,slow=7.9,SNR=4.0
comp=Z,1.5nm,0.6s
L17K Donlin 58.90 31 P **P 05 21 58.4 +0.1**
baz=268
K17K Iditarod 58.92 31 P **P 05 21 59.0 +0.6**
baz=267
O16K Kokwok River B 58.92 34 P **P 05 21 58.7 +0.2**
baz=269
P16K Nushagak River 58.97 35 P **P 05 21 59.1 +0.4**
baz=270
G18K Tagagawik 58.98 27 P **P 05 21 59.9 +1.0**
G18K Tagagawik 58.98 27 P **P 05 21 59.4 +0.6**
baz=265
H18K Honhosa River 59.05 28 P **P 05 21 59.8 +0.6**
baz=266
M17K Holitna River 59.28 32 P **P 05 22 01.7 +0.8**
baz=269
N17K Nushagak Hills 59.39 33 P **P 05 22 02.4 +0.7**
baz=270
F19K Shaleruckik Mo 59.42 26 P **P 05 22 02.3 +0.5**
F19K Shaleruckik Mo 59.42 26 P **P 05 22 02.1 +0.3**
baz=265
O17K Koliganek Bris 59.43 34 P **P 05 22 02.3 +0.3**
baz=270
D19K Kuna River 59.45 24 P **P 05 22 03.0 +1.0**
D19K Kuna River 59.45 24 P **P 05 22 02.5 +0.5**
baz=264
G19K Purcell Mounta 59.64 27 P **P 05 22 04.2 +0.9**
baz=266
L18K Granite Mounta 59.65 31 P **P 05 22 04.9 +1.4**
L18K IAmb IAmb 05 22 16.7
comp=Z,15nm,1.4s
L18K Granite Mounta 59.65 31 P **P 05 22 03.6 +0.1**
baz=269
Q16K King Salmon 59.67 36 P **P 05 22 03.7 +0.1**
baz=271
J18K Innoko River 59.67 30 P **P 05 22 03.6 0.0**
baz=268
E19K Redstone River 59.68 25 P **P 05 22 04.8 +1.2**
E19K IAmb IAmb 05 22 21.4
comp=Z,5.7nm,0.8s
E19K Redstone River 59.68 25 P **P 05 22 04.1 +0.5**
baz=265
DZM Mont Dzumac 59.84 140 *e*S **S 05 30 12.6 -4.9**
comp=Z,62nm,23.4s
DZM *e*LR LR 05 39 42.1
comp=Z,108nm,23.6s
H19K Roundabout Mou 59.87 28 P **P 05 22 05.5 +0.7**
baz=267
B20K Meade River 59.95 22 P **P 05 22 06.5 +1.1**
B20K IAmb IAmb 05 22 23.0
comp=Z,7.4nm,0.8s
B20K Meade River 59.95 22 P **P 05 22 06.2 +0.8**
baz=264,SNR=5.3
TTA Tatalina 59.98 31 P **P 05 22 05.7 -0.1**
baz=269
D20K Etivluk River 60.02 24 P **P 05 22 06.3 +0.4**
baz=265
N18K Kilae Creek 60.03 33 P **P 05 22 06.5 +0.4**
baz=270
M18K Stony River 60.06 32 P **P 05 22 06.9 +0.7**
baz=270
Q17K Contact Creek 60.08 36 P **P 05 22 07.0 +0.3**
baz=272
E20K Nigu River 60.14 24 P **P 05 22 07.5 +0.7**
baz=266,SNR=7.4
J19K Poorman 60.17 29 P **P 05 22 07.6 +0.6**
baz=269
O18K Koktuh Hills 60.38 34 P **P 05 22 08.9 +0.4**
baz=272
P18K Big Mountain, 60.39 35 P **P 05 22 08.3 -0.3**
baz=272
L19K White Mountain 60.51 31 P **P 05 22 09.6 +0.2**
baz=271
H20K Anotleneega Mo 60.52 28 P **P 05 22 09.3 -0.1**
baz=269
Q18K Katmai Hardscr 60.53 36 P **P 05 22 09.8 +0.1**
baz=272
I20K Naaghedeneel 60.68 28 P **P 05 22 10.7 +0.3**
baz=269
C21K Knifeblade Rid 60.71 23 P **P 05 22 10.7 +0.1**
baz=267,SNR=6.1
N19K Bonanza Creek 60.72 33 P **P 05 22 11.3 +0.4**
baz=272
A22K Sinclair Lake 60.77 21 P **P 05 22 11.3 +0.4**
baz=266
B21K Ikpikpuk River 60.80 23 P **P 05 22 12.7 +1.5**
B21K Ikpikpuk River 60.80 23 P **P 05 22 11.2 0.0**
baz=267,SNR=9.1
O19K Port Alsworth 60.82 34 P **P 05 22 11.9 +0.4**
baz=272
J20K Nowinta River 60.82 29 IAmb IAmb 05 22 13.4
comp=Z,5.8nm,0.8s
J20K Nowinta River 60.82 29 P **P 05 22 12.1 +0.7**
baz=270,SNR=5.5
K20K Telida 60.86 30 P **P 05 22 12.4 +0.6**
baz=271
L20K Farewell, AK 60.96 31 P **P 05 22 12.9 +0.4**
baz=271
E21K Killik River 60.97 24 P **P 05 22 13.4 +0.9**
baz=268
SII Sitkinak Islan 61.10 38 P **P 05 22 14.0 +0.5**
baz=274
G21K Allakaket 61.10 26 P **P 05 22 14.4 +1.0**
baz=269
F21K Alatna River 61.12 26 P **P 05 22 14.4 +0.9**
baz=269
Q19K Cape Douglas, 61.22 35 P **P 05 22 14.3 0.0**
baz=273
B22K Teshekpuk Lake 61.24 22 P **P 05 22 15.1 +0.9**
B22K Teshekpuk Lake 61.24 22 P **P 05 22 14.9 +0.7**
baz=267
M20K Styx River 61.33 32 P **P 05 22 15.0 0.0**
baz=272
H21K Melozitna Rive 61.39 27 IAmb IAmb 05 22 17.8
comp=Z,6.6nm,1.1s
H21K Melozitna Rive 61.39 27 P **P 05 22 15.4 +0.1**
baz=270,SNR=5.7
P19K Oil Pt 61.39 34 P **P 05 22 15.9 +0.4**
baz=273
D22K Ayikyak River 61.45 24 P **P 05 22 17.0 +1.3**
D22K Ayikyak River 61.45 24 P **P 05 22 16.3 +0.6**
baz=269,SNR=7.6
OHAK Old Harbor 61.53 37 P **P 05 22 16.7 +0.4**
baz=275
F22K John River 61.63 25 P **P 05 22 17.9 +1.0**
baz=270
CHUM Lake Minchumin 61.63 29 P **P 05 22 18.1 +1.1**
baz=272
PPLA Purkeypile 61.73 31 P **P 05 22 18.0 +0.2**
baz=272
CAST Castle Rocks 61.75 30 IAmb IAmb 05 22 20.1
comp=Z,5.2nm,0.8s
CAST Castle Rocks 61.75 30 P **P 05 22 18.3 +0.5**
baz=272
E22K Anaktuvuk Pass 61.77 25 IAmb IAmb 05 22 19.7
comp=Z,5.5nm,0.8s
E22K Anaktuvuk Pass 61.77 25 P **P 05 22 18.7 +0.9**
baz=270
SPCR Spurr Chakacha 61.81 33 P **P 05 22 19.2 +0.9**
baz=273
KDAK Kodiak Island 61.87 36 P **P 05 22 19.3 +0.7**
baz=275
G22K Bettles 61.90 26 P **P 05 22 19.5 +0.8**
baz=271
Q20K Shuyak Island 61.90 35 P **P 05 22 19.9 +1.1**
baz=275
H22K Ishtalitna Cre 61.97 27 P **P 05 22 20.2 +1.0**
baz=272,SNR=8.1
SKT Skwentna 62.08 32 P **P 05 22 20.5 +0.5**
baz=274
D23K Nanushuk River 62.18 24 P **P 05 22 21.5 +0.9**
baz=271
C23K Itkillik River 62.20 23 IAmb IAmb 05 22 47.4
comp=Z,8.7nm,1.0s
C23K Itkillik River 62.20 23 P **P 05 22 21.3 +0.6**
baz=270
HOM Homer 62.20 34 P **P 05 22 20.9 +0.1**
baz=275
BPAW Bear Paw Mtn. 62.21 29 P **P 05 22 21.7 +0.8**
baz=273
COLD Coldfoot 62.40 26 P **P 05 22 23.4 +1.4**
baz=272
G23K Bananza Creek 62.49 26 IAmb IAmb 05 22 35.7
comp=Z,5.8nm,1.1s
G23K Bananza Creek 62.49 26 P **P 05 22 23.6 +0.9**
baz=272
SUA Susitna One 62.49 32 IAmb IAmb 05 22 24.7
comp=Z,7.2nm,0.8s
SUA Susitna One 62.49 32 P **P 05 22 23.3 +0.3**
baz=275
TRF Thorofare Moun 62.56 30 P **P 05 22 24.2 +0.8**
baz=274
TOLK Toolik Lake Re 62.59 24 P **P 05 22 24.3 +1.0**
baz=272
E23K Chandalar 62.59 25 P **P 05 22 23.5 0.0**
baz=272,SNR=7.3
BRSE Bradley Lake S 62.64 34 P **P 05 22 24.5 +0.7**
baz=275
H23K Yukon River 62.73 27 P **P 05 22 24.4 +0.1**
baz=273
M22K Willow 62.77 32 P **P 05 22 25.1 +0.6**
baz=275
D24K Happy Valley 62.84 23 P **P 05 22 26.0 +1.1**
baz=272
I23K Minto, Yukon-K 62.85 28 P **P 05 22 26.0 +0.9**
baz=274
C24K Franklin Bluff 62.86 23 P **P 05 22 26.1 +1.0**
baz=272,SNR=10.0
KIRV Kirov 62.95 325 LR LR 05 52 53.0
comp=Z,117nm,19.9s,baz=92,slow=39
KIRV Kirov 62.95 325*ce*P **P 05 22 25.9 +0.1**
NEA2 Nenana 63.01 29 IAmb IAmb 05 22 28.0
comp=Z,6.6nm,0.8s
NEA2 Nenana 63.01 29 P **P 05 22 26.1 0.0**
baz=274,SNR=7.9
RC01 Rabbit Creek A 63.01 33 P **P 05 22 27.2 +0.9**
baz=276
E24K Your Creek 63.02 25 IAmb IAmb 05 22 48.7
comp=Z,4.7nm,0.9s
E24K Your Creek 63.02 25 P **P 05 22 26.5 +0.3**
baz=273,SNR=5.9
MCK McKinley 63.14 30 IAmb IAmb 05 22 29.0
comp=Z,7.5nm,0.8s
MCK McKinley 63.14 30 P **P 05 22 27.0 -0.1**
baz=275,SNR=5.5
RND Reindeer 63.20 30 P **P 05 22 27.6 0.0**
PMR Palmer 63.25 32 P **P 05 22 28.0 +0.2**
baz=276
SEW Seward 63.25 34 P **P 05 22 28.3 +0.5**
baz=276
F24K Squaw Lake 63.28 25 IAmb IAmb 05 22 30.4
comp=Z,5.9nm,0.8s
F24K Squaw Lake 63.28 25 P **P 05 22 28.7 +0.7**
baz=274,SNR=8.4
H24K Noodor Dome 63.41 27 IAmb IAmb 05 22 42.5
comp=Z,6.2nm,1.1s
H24K Noodor Dome 63.41 27 P **P 05 22 29.1 +0.2**
baz=275,SNR=5.3
G24K Hadweenzic Riv 63.50 26 IAmb IAmb 05 22 31.6
comp=Z,4.6nm,0.8s
G24K Hadweenzic Riv 63.50 26 P **P 05 22 29.8 +0.4**
baz=275
COLA College 63.51 28 P **P 05 22 30.1 +0.7**
baz=275
KNK Knik Glacier 63.59 32 P **P 05 22 30.8 +0.7**
baz=276
SML Sawmill 63.61 32 P **P 05 22 30.4 +0.2**
baz=276
POKR Poker Plat Res 63.66 28 P **P 05 22 30.9 +0.4**
baz=276
D25K Kavik River 63.70 23 IAmb IAmb 05 22 43.5
comp=Z,8.1nm,1.0s
D25K Kavik River 63.70 23 P **P 05 22 31.6 +0.8**
baz=274,SNR=5.3
PWL Port Wells 63.72 33 P **P 05 22 31.1 +0.2**
baz=277
M23K Glacier View 63.89 32 P **P 05 22 32.3 +0.2**
baz=277
ILAR Eielson Array 63.93 28 P **P 05 22 31.6 -0.7**
comp=Z,0.8nm,0.8s,baz=258,slow=6.7,SNR=11
comp=Z,0.8nm,0.8s
HDA Harding Lake 63.94 29 IAmb IAmb 05 22 50.2
comp=Z,6.5nm,0.8s
HDA Harding Lake 63.94 29 P **P 05 22 32.3 -0.1**
baz=276
G25K Bearman Lake 64.04 26 P **P 05 22 32.3 -0.6**
baz=276
SCM Sheep Creek Mo 64.08 32 P **P 05 22 32.9 -0.4**
baz=277
E25K Arctic Village 64.10 25 IAmb IAmb 05 22 47.3
comp=Z,7.1nm,1.2s
E25K Arctic Village 64.10 25 P **P 05 22 34.4 +1.0**
baz=276
F25K Christian Rive 64.13 25 IAmb IAmb 05 22 36.6
comp=Z,8.1nm,1.2s
F25K Christian Rive 64.13 25 P **P 05 22 34.5 +0.9**
baz=276
C26K Camden Bay 64.16 22 P **P 05 22 34.1 +0.5**
baz=276
H25L Birch Creek 64.20 27 P **P 05 22 34.8 +0.8**
baz=276
P23K Montague Islan 64.29 34 P **P 05 22 34.0 -0.6**
baz=278
GLI Glacier Island 64.31 33 P **P 05 22 35.1 +0.2**
baz=278
PRP Porcupine Dome 64.41 27 P **P 05 22 36.4 +0.8**
baz=277
K24K Donnelly Dome 64.53 29 P **P 05 22 37.1 +0.9**
baz=278
M24K Tolsona, Glenn 64.58 31 P **P 05 22 37.0 +0.4**
baz=278
J25K Salcha River, 64.59 28 P **P 05 22 36.7 -0.1**
baz=278
C27K Jago River 64.61 23 IAmb IAmb 05 22 38.8
comp=Z,4.4nm,0.8s
C27K Jago River 64.61 23 P **P 05 22 37.2 +0.6**
baz=277,SNR=6.4
F26K Sheenjek River 64.69 25 P **P 05 22 37.6 +0.4**
baz=277,SNR=9.8
PAX Paxson 64.78 30 P **P 05 22 37.9 -0.1**
baz=278
KLU Klutina 64.79 32 P **P 05 22 38.3 +0.3**
baz=279
G26K Porcupine Rive 64.92 26 IAmb IAmb 05 23 02.0
comp=Z,13nm,1.4s
G26K Porcupine Rive 64.92 26 P **P 05 22 39.5 +0.8**
baz=278
RIDG Independent Ri 64.94 29 P **P 05 22 39.3 +0.3**
baz=278
EYAK Cordova Ski Ar 65.02 33 P **P 05 22 39.8 +0.4**
baz=279
SCRK Sand Creek 65.28 29 P **P 05 22 40.9 -0.4**
baz=279,SNR=5.7
DOT Dot Lake 65.30 29 IAmb IAmb 05 22 53.0
comp=Z,5.8nm,0.8s
J26L Joseph Creek 65.38 28 IAmb IAmb 05 22 42.7
comp=Z,5.0nm,0.7s
J26L Joseph Creek 65.38 28 P **P 05 22 41.9 0.0**
baz=279,SNR=6.9
N25K Chitina, Valde 65.40 32 P **P 05 22 41.9 -0.1**
baz=280
I26K Coal Creek Min 65.42 27 P **P 05 22 42.5 +0.5**
baz=279
BMRM Bremner River 65.50 32 P **P 05 22 43.0 +0.4**
baz=280

E27K	Coleen River	65.57	24	IAmb	IAmb	05 23 01.7
	comp=Z,4.8nm,1.0s					
E27K	Coleen River	65.57	24	P	P	05 22 43.2 +0.2
	baz=279					
MENT	Mentasta	65.57	30	IAmb	IAmb	05 22 45.1
	comp=Z,6.8nm,1.0s					
D27M	Malcolm River	65.62	23	P	P	05 22 43.1 -0.2
	baz=280					
L26K	Log Cabin Wild	65.73	30	P	P	05 22 44.0 0.0
	baz=280					
G27K	Doyon Strip	65.78	26	P	P	05 22 44.4 +0.1
	baz=280					
KAIM	Kayak Island	65.78	33	P	P	05 22 44.7 +0.3
	baz=281					
H27K	Steamboat Moun	65.93	26	P	P	05 22 44.9 -0.4
	baz=280					
M26K	Nabesna, AK	66.00	31	IAmb	IAmb	05 22 47.7
	comp=Z,8.6nm,0.9s					
M26K	Nabesna, AK	66.00	31	P	P	05 22 45.9 0.0
	baz=281,SNR=7.4					
I27K	Kandik River	66.01	27	P	P	05 22 46.3 +0.5
	baz=280,SNR=7.4					
K27K	Chicken	66.10	29	P	P	05 22 46.6 +0.2
	baz=281					
E28M	Babbage River	66.25	24	IAmb	IAmb	05 23 00.3
	comp=Z,6.6nm,1.0s					
E28M	Babbage River	66.25	24	P	P	05 22 47.5 +0.3
	baz=281,SNR=5.7					
D28M	Stokes Point	66.39	23	P	P	05 22 47.8 -0.2
	baz=281					
L27K	Beaver Creek,	66.40	30	P	P	05 22 48.5 +0.1
	baz=281					
M27K	Edge Creek, AK	66.52	31	P	P	05 22 49.4 +0.1
	baz=282					
I28M	Miner Creek	66.72	27	IAmb	IAmb	05 22 52.9
	comp=Z,4.8nm,0.9s					
I28M	Miner Creek	66.72	27	P	P	05 22 50.9 +0.4
	baz=282,SNR=6.3					
E29M	Blow River	66.88	24	P	P	05 22 51.7 +0.4
	baz=283					
MESA	MESA	66.94	33	P	P	05 22 51.9 -0.2
	baz=282					
G29M	Pine Creek	67.16	25	IAmb	IAmb	05 22 55.7
	comp=Z,7.3nm,1.1s					
G29M	Pine Creek	67.16	25	P	P	05 22 53.0 -0.1
	baz=283					
H29M	Whitestone	67.19	26	IAmb	IAmb	05 23 19.6
	comp=Z,7.9nm,1.1s					
H29M	Whitestone	67.19	26	P	P	05 22 53.7 +0.4
	baz=283					
DAWY	Dawson	67.25	28	P	P	05 22 53.9 +0.1
	baz=283					
YUK3	Moose Creek	67.30	31	P	P	05 22 54.9 +0.6
	baz=283					
I29M	Ogilvie Camp,	67.41	27	P	P	05 22 55.6 +0.9
	baz=284					
KLMR	Klimovskoe	67.50	328	*e*P	P	05 22 53.0 -2.3
KLMR				pmax	pmax	
	comp=Z,25nm,1.5s					
O28M	Mount Upton	67.66	32	P	P	05 22 57.1 +0.4
	baz=284					
J29N	Klondike Camp	67.66	28	P	P	05 22 57.0 +0.6
	baz=284					
YUK8	Steele Glacier	67.73	31	P	P	05 22 58.1 +1.0
	baz=284					
PINM	Pinnacle	67.79	33	P	P	05 22 57.8 +0.5
	baz=284					
EPYK	Eagle Plains	67.80	26	P	P	05 22 57.8 +0.6
	baz=284					
G30M	tAoh Zraii Nji	67.83	25	IAmb	IAmb	05 22 59.0
	comp=Z,7.7nm,1.1s					
G30M	tAoh Zraii Nji	67.83	25	P	P	05 22 58.0 +0.6
	baz=285					
F30M	Barrier River	67.84	24	IAmb	IAmb	05 22 59.6
	comp=Z,11nm,1.2s					
F30M	Barrier River	67.84	24	P	P	05 22 58.5 +1.1
	baz=285					
L29M	L29M	68.03	29	P	P	05 22 59.7 +1.0
	baz=284					
M29M	Somme Creek	68.05	30	P	P	05 22 59.9 +0.9
	baz=284					
K29M	Barlow Dome	68.11	28	P	P	05 22 59.8 +0.5
	baz=285					
I30M	Mount Dempster	68.23	27	IAmb	IAmb	05 23 20.6
	comp=Z,7.6nm,1.2s					
I30M	Mount Dempster	68.23	27	P	P	05 23 00.4 +0.4
	baz=285					
YUK4	Talbot Arm	68.24	31	P	P	05 23 00.8 +0.5
	baz=285					
PNL	Peninsula	68.31	33	P	P	05 23 01.2 +0.7
	baz=285					
J30M	Hart River	68.42	28	P	P	05 23 01.4 +0.1
	baz=286					
YUK6	Outpost Mounta	68.48	32	P	P	05 23 01.7 -0.2
	baz=285					
O29M	Mount Kennedy	68.55	32	P	P	05 23 02.5 +0.4
	baz=285					
G31M	Satah River	68.59	25	P	P	05 23 02.8 +0.7
	baz=286					
VRH	Novokhopyorsk	68.73	318	*e*P	P	05 23 03.1 -0.1
VRH				pmax	pmax	
	comp=Z,7.0nm,0.4s					
H31M	Peel River	68.88	26	P	P	05 23 04.2 +0.3
	baz=287					
HYT	Haines Junctio	68.92	32	P	P	05 23 04.6 +0.2
	baz=286					
N30M	Aishikik Lake	68.94	31	P	P	05 23 05.0 +0.6
	baz=286					
SPITS	Spitsbergen Ar	69.11	348	P	P	05 23 04.7 -0.5
	comp=Z,11nm,1.1s,baz=70,slow=12,SNR=2.0					
SPITS				LR	LR	05 55 52.1
	comp=Z,44nm,18.1s,baz=356,slow=38					
	comp=Z,11nm,1.1s					
P29M	Windy Craggy	69.14	33	P	P	05 23 06.3 +0.6
	baz=286					
N31M	Braeburn, Yuko	69.53	31	P	P	05 23 08.8 +0.8
	baz=287					
MOS	Moscow	69.81	323	*e*P	P	05 23 09.7 -0.1
MOS				*e*		05 25 45.4
A36M	Sachs Harbour	69.90	19	P	P	05 23 11.1 +0.9
	baz=293					
M31M	Drury Creek, Y	69.94	30	P	P	05 23 10.9 +0.3
	baz=288					
LPSR	Galich'ya Gora	70.00	320	*e*P	P	05 23 11.3 +0.3
LPSR				pmax	pmax	
	comp=Z,9.0nm,0.6s					
KBZ	Khabaz	70.08	310	P	P	05 23 12.3 +0.6
	comp=Z,10nm,0.9s,baz=95,slow=2.9,SNR=28					
KBZ				LR	LR	05 58 09.5
	comp=Z,72nm,18.2s,baz=54,slow=40					
	comp=Z,10nm,0.9s					
KBZ	Khabaz	70.08	310	*ce*P	P	05 23 12.6 +0.9
KBZ				pmax	pmax	
	comp=Z,13nm,0.9s					
VORR	Voronezh	70.11	319	*e*P	P	05 23 17.5 +5.8
VORR				pmax	pmax	
	comp=Z,44nm,0.4s					
KIV	Kislovodsk	70.16	310		P	05 23 11.9 -0.4
KIV	Kislovodsk	70.16	310	⇓P	P	05 23 13.4 +1.0
KIV	Kislovodsk	70.16	310	*e*P	P	05 23 13.0 +0.6
KIV				pmax	pmax	
	comp=Z,16nm,1.1s					
KIV				MLR	MLR	
	comp=Z,57nm,17.0s					
WHY	Whitehorse	70.20	31	P	P	05 23 13.3 +1.0
	baz=288					
SHA1	Shidzhatmaz	70.25	310	*i* P	P	05 23 14.1 +1.0
VORD	Divnogorie	70.26	318	*e*P	P	05 23 11.3 -1.4
VORD				pmax	pmax	
	comp=Z,4.0nm,0.8s					
VSR	Storozhevoye	70.27	318	*e*P	P	05 23 10.1 -2.6
VSR				pmax	pmax	
	comp=Z,6.0nm,1.0s					
SKAG	Skagway	70.36	33	P	P	05 23 14.0 +0.9
	baz=288					
FARO	Faro, Yukon	70.40	30	IAmb	IAmb	05 23 15.5
	comp=Z,5.8nm,0.8s					
FARO	Faro, Yukon	70.40	30	P	P	05 23 14.5 +1.1
	baz=289					
ARCES	ARCESS Array B	70.47	339	P	P	05 23 13.3 -0.4
	comp=Z,6.9nm,0.9s,baz=70,slow=4.3,SNR=4.3					
ARCES				LR	LR	05 58 34.9
	comp=Z,38nm,18.3s,baz=77,slow=40					
	comp=Z,6.9nm,0.9s					
OBN	Obninsk	70.58	323	*e*P	P	05 23 15.4 +0.9
OBN				*i*		05 23 32.1
OBN				*e*		05 25 50.6
OBN				*e*SS	SS	05 37 02.2 +3.2
OBN				pmax	pmax	
	comp=Z,5.0nm,0.9s					
OBN				MLR	MLR	
	comp=Z,248nm,17.0s					
JOF	Joensuu	70.64	331	*e*P	P	05 23 15.6 +0.8
SIT	Sitka	71.13	35	P	P	05 23 18.6 +0.8
	baz=289					
R32K	Eaglecrest	71.14	34	P	P	05 23 18.4 +0.5
	baz=289					
P33M	Teslin, Yukon	71.31	31	P	P	05 23 19.6 +0.5
	baz=290					
C36M	Paulatuk	71.32	21	P	P	05 23 19.6 +0.8
	baz=295					
S32K	Killisnoo	71.38	35	P	P	05 23 20.3 +1.0
	baz=289					
Q32M	Nakina River	72.01	33	P	P	05 23 24.0 +0.6
	baz=291					
SOC	Sochi	72.32	310	*e*P	P	05 23 24.6 -0.7
SOC				*e*		05 26 08.1
SOC				*e*PPP	PPP	05 27 48.1
SOC				*e*S	S	05 32 49.1 +0.2
SOC				*e*SS	SS	05 37 29.4 +3.0
SOC				pmax	pmax	
	comp=Z,10.0nm,0.7s					
SOC				MLR	MLR	
	comp=Z,101nm,21.0s					
R33M	Jennings River	72.48	32	P	P	05 23 27.5 +1.4
	baz=292					
U33K	Whale Pass	72.59	36	P	P	05 23 27.9 +1.2
	baz=291					
CRAG	Craig	72.83	36	P	P	05 23 29.6 +1.5
	baz=291					
WRAK	Wrangell Islan	72.89	35	P	P	05 23 29.4 +1.0
	baz=292					
TGTN	Hyland Airport	72.89	29	P	P	05 23 28.9 +0.4
	baz=293					
S34M	Telegraph Cree	72.95	33	P	P	05 23 30.3 +1.5
	baz=292					
WTLY	Watson Lake, Y	73.22	31	P	P	05 23 31.3 +0.9
	baz=293					
FINES	FINESS Array B	73.47	331	P	P	05 23 32.1 +0.4
FINES	FINESS Array B	73.47	331	P	P	05 23 31.6 -0.1
	comp=Z,13nm,0.7s,baz=62,slow=5.5,SNR=52					
FINES				LR	LR	05 59 40.8
	comp=Z,207nm,18.3s,baz=85,slow=39					
	comp=Z,13nm,0.7s					
FINES	FINESS Array B	73.47	331	P	P	05 23 32.2 +0.4
V35K	Ketchikan	73.68	36	P	P	05 23 33.3 +0.2
	baz=292					
KEF	Keuruu	73.69	332	*e*P	P	05 23 33.5 +0.5
MARD	Mardin	73.70	304	IAmb	IAmb	05 23 35.6
	comp=Z,8.1nm,0.7s					
T35M	Bob Quinn	73.75	34	P	P	05 23 34.2 +0.7
	baz=293					
VAF	Ylistaro	74.22	333	*e*P	P	05 23 36.7 +0.6
ARBE	Arbavere	74.35	329	*e*P	P	05 23 37.2 +0.3
VSU	Vasula	74.41	328	*ce*P	P	05 23 36.6 -0.7
VSU				pmax	pmax	
	comp=Z,58nm,2.5s					
VSU	Vasula	74.41	328	*e*P	P	05 23 37.6 +0.3
MEF	Metsahovi	74.74	330	*e*P	P	05 23 39.7 +0.5
LIRD	Liard River Hi	74.75	31	P	P	05 23 40.3 +1.0
	baz=296					
RAYN	Ar Rayn	74.92	289	P	P	05 23 40.7 -0.3
RAYN				IAmb	IAmb	05 23 42.9
	comp=Z,10nm,1.1s					
RAYN	Ar Rayn	74.92	289	P	P	05 23 42.3 +1.2
TOAD	Toad River Com	75.40	31	P	P	05 23 44.0 +0.9
	baz=296					
RAF	Rauma	75.53	331	*e*P	P	05 23 44.1 +0.4
MTSE	Matsula	75.68	329	*e*P	P	05 23 45.8 +1.2
AKASG	Malin Array Be	76.32	320	P	P	05 23 48.1 -0.4
	comp=Z,7.5nm,0.8s,baz=61,slow=6.5,SNR=27					
AKASG				LR	LR	06 00 08.0
	comp=Z,232nm,19.0s,baz=58,slow=38					
	comp=Z,7.5nm,0.8s					
AKBB	Malin Array Si	76.32	320	IAmb	IAmb	05 23 49.1
	comp=Z,6.9nm,0.7s					
KIEV	Kiev	76.33	320	P	P	05 23 48.1 -0.4
KIEV				IAmb	IAmb	05 23 49.1
	comp=Z,6.3nm,0.8s					
KIEV	Kiev	76.33	320	⇓P	P	05 23 48.5 0.0
KIEV	Kiev	76.33	320	P	P	05 23 48.5 0.0
VSVD	Vaisvydziai	76.87	326	*e*P	P	05 23 52.4 +0.9
PABE	Paberze	77.07	326	*e*P	P	05 23 53.9 +1.3
SORM	Soroca	77.92	318	⇑P	P	05 23 57.3 -0.2
SORM	Soroca	77.92	318	P	P	05 23 57.3 -0.2
BR131	Keskin Array S	77.98	308	IAmb	IAmb	05 23 59.5
	comp=Z,7.4nm,0.8s					
BRTR	Keskin Array B	77.98	308	P	P	05 23 58.5 +0.3
BRTR	Keskin Array B	77.98	308	P	P	05 23 58.6 +0.4
	comp=Z,6.0nm,0.8s,baz=94,slow=4.9,SNR=35					
	comp=Z,6.0nm,0.8s					
YKA	Yellowknife Ar	78.07	25	P	P	05 23 57.9 -0.2
	comp=Z,1.3nm,1.0s,baz=302,slow=5.7,SNR=12					
	comp=Z,1.3nm,1.0s					
SUW	Suwalki	78.17	325	*e*P	P	05 23 59.4 +0.6
SUW	Suwalki	78.17	325	P	P	05 23 58.6 -0.2
SUW	Suwalki	78.17	325	*e*P	P	05 23 59.5 +0.6
HFS	Hagfors	79.40	333	P	P	05 24 04.9 -0.6
	comp=Z,7.9nm,0.8s,baz=108,slow=4.8,SNR=13					
	comp=Z,7.9nm,0.8s					
TESR	Tescani	79.68	317	⇓P	P	05 24 07.6 +0.3
NC303	NORSAR Array S	79.69	334	P	P	05 24 07.1 0.0
NC303				IAmb	IAmb	05 24 18.3
	comp=Z,12nm,1.1s					
NB201	NORSAR Array S	79.83	334	P	P	05 24 07.8 0.0
NB201				IAmb	IAmb	05 24 08.4
	comp=Z,9.8nm,0.8s					
NB2	NORSAR Subarra	79.86	334	P	P	05 24 07.8 -0.2
	comp=Z,3.4nm,0.7s,baz=52,slow=5.6					
NB2	NORSAR Subarra	79.86	334	P	P	05 24 04.6 -3.4
NOA	NORSAR Array B	79.86	334	P	P	05 24 07.4 -0.6
	comp=Z,5.3nm,0.7s,baz=51,slow=5.5,SNR=27					
NOA				LR	LR	06 02 53.7
	comp=Z,62nm,19.8s,baz=40,slow=38					
	comp=Z,5.3nm,0.7s					
NC204	NORSAR Array S	79.90	335	P	P	05 24 08.2 -0.1
NC204				IAmb	IAmb	05 24 08.9
	comp=Z,12nm,0.8s					
NORES	NORESS Array B	79.92	334	P	P	05 24 08.2 0.0
VRI	Vrincioaia	79.93	316	⇑P	P	05 24 09.5 +0.8
VRI	Vrincioaia	79.93	316	P	P	05 24 09.4 +0.8
PLOR	Plostina	79.98	316	⇑P	P	05 24 10.0 +1.1
PLOR	Plostina	79.98	316	P	P	05 24 10.0 +1.1
BURAR	Bucovina Array	80.04	318	P	P	05 24 10.1 +0.7
BURAR	Bucovina Array	80.04	318	⇑P	P	05 24 10.1 +0.7
BURAR	Bucovina Array	80.04	318	P	P	05 24 10.0 +0.7
MLR	Muntele Rosu	80.59	316	⇑P	P	05 24 13.4 +1.1
MLR	Muntele Rosu	80.59	316	P	P	05 24 13.4 +1.1
DOPR	Dopca	80.71	317	⇑P	P	05 24 14.0 +1.2
SUMG	Summit	81.16	356	*i* P	P	05 24 16.0 +0.8
ARR	Arges	81.46	316	⇓P	P	05 24 17.8 +0.9
MARR	Marisel-Cluj	81.75	318	⇑P	P	05 24 19.0 +0.5
OJC	Ojcow	81.86	322	*e*P	P	05 24 20.0 +1.1
OJC	Ojcow	81.86	322	P	P	05 24 19.7 +0.8
DRGR		81.94	318	⇑P	P	05 24 20.3 +0.8
DRGR		81.94	318	P	P	05 24 20.2 +0.8
NIE	Niedzica	82.00	321	*e*P	P	05 24 21.3 +1.6
NIE	Niedzica	82.00	321	P	P	05 24 19.7 0.0
ILON	Igloolik, Nuna	82.04	11	P	P	05 24 19.2 -0.2
ILON				IAmb	IAmb	05 24 45.3
	comp=Z,7.4nm,0.9s					
GZR	Gura Zlata	82.59	317	⇑P	P	05 24 23.4 +0.5
GZR	Gura Zlata	82.59	317	P	P	05 24 23.4 +0.5
LANS	Liptovska Anna	82.61	322	*e*P	P	05 24 28.0 +5.2
LANS	Liptovska Anna	82.61	322	*e*P	P	05 24 28.0 +5.2
SURR	Surduc	82.81	318	⇑P	P	05 24 24.5 +0.6
SIRR	Siria	82.83	318	⇑P	P	05 24 24.9 +0.8
RDO	Rodhopi	82.90	312	IAmb	IAmb	05 24 26.3
	comp=Z,7.5nm,1.1s					
HERR	Herculane	83.07	317	⇑P	P	05 24 25.9 +0.6
STEB	Steborice	83.12	323	*e*P	P	05 24 26.5 +1.1
VYHS	Vyhne	83.31	321	*e*P	P	05 24 27.8 +1.3
VYHS				pmax	pmax	
	comp=Z,8.0nm,0.9s					
VYHS	Vyhne	83.31	321	*e*P	P	05 24 27.8 +1.3
MORC	Moravsky Berou	83.33	323	*e*P	P	05 24 29.0 +2.4
KSP	Ksiaz	83.42	324	*e*P	P	05 24 28.4 +1.4
KSP	Ksiaz	83.42	324	P	P	05 24 27.8 +0.9
MDVR	Moldovita	83.55	317	⇑P	P	05 24 28.4 +0.5
VRAC	Vranov	84.11	323	LR	LR	06 05 25.7
	comp=Z,143nm,18.1s,baz=73,slow=38					
VRAC	Vranov	84.11	323	*e*P	P	05 24 31.9 +1.4
VRAC	Vranov	84.11	323	⇓P	P	05 24 31.7 +1.2
VRAC	Vranov	84.11	323	P	P	05 24 31.7 +1.2
KRUC	Moravsky	84.35	323	*e*P	P	05 24 32.2 +0.4
KRUC	Moravsky	84.35	323	P	P	05 24 30.9 -0.9
BRG	Berggiesshubel	84.62	325	*e*P	P	05 24 34.1 +1.0
BRG				Amp		05 24 34.9
	comp=Z,7.5nm,1.1s					
KNT	Kendrikon	84.63	313	P	P	05 24 33.7 +0.4
MORH	Mrgy, Hungar	84.64	319	⇓P	P	05 24 33.7 +0.5
PRU	Pruhonice	84.82	324	*e*P	P	05 24 35.2 +1.1
PRU	Pruhonice	84.82	324	*e*P	P	05 24 35.2 +1.1
CLL	Collm	84.85	326	*i* P	P	05 24 34.8 +0.6
CLL				pmax	pmax	
	comp=Z,8.0nm,0.8s					
CLL	Collm	84.85	326	*i* P	P	05 24 34.8 +0.6
	comp=Z,8.0nm,0.8s					
CLL				*i* x	x	05 24 45.4
	comp=Z,17nm,1.3s					
CONA	Conrad Observa	85.28	322	*i* PcP	P	05 24 37.9 +1.3
	comp=Z,2.6nm,0.6s					
ZVC	Zvikov	85.33	324	*e*P	P	05 24 37.6 +0.9
CKRC	Cesky Krumlov	85.62	323	*e*P	P	05 24 39.1 +0.9
CKRC	Cesky Krumlov	85.62	323	*e*P	P	05 24 39.1 +0.9
KHC	Kasperske Hory	85.83	324	*e*P	P	05 24 39.5 +0.3
KHC	Kasperske Hory	85.83	324	*e*P	P	05 24 39.5 +0.3
ARSA	Arzberg	85.86	321	*e*PcP	P	05 24 40.0 +0.6
	comp=Z,1.3nm,0.4s					
GEC2	GERESS Array S	85.93	323	IAmb	IAmb	05 24 41.3
	comp=Z,4.7nm,0.9s					
GERES	GERESS Array B	85.93	323	P	P	05 24 39.6 -0.2
	comp=Z,2.5nm,0.7s,baz=51,slow=5.3,SNR=21					
	comp=Z,2.5nm,0.7s					
MOA	Molln	86.21	322	*i* PcP	P	05 24 41.8 +0.7
	comp=Z,2.2nm,0.6s					
SOKA	Soboth	86.46	321	*i* PcP	P	05 24 43.0 +0.5
	comp=Z,1.3nm,0.6s					
OBKA	Obir	86.83	321	*e*PcP	P	05 24 44.7 +0.4
	comp=Z,0.8nm,0.4s					
SFJD	Kangerlussuaq	87.11	0	LR	LR	06 05 10.2
	comp=Z,19nm,18.6s,baz=9.0,slow=37					
KBA	Koelnbreinsper	87.17	322	*i* PcP	P	05 24 46.6 +0.6
	comp=Z,0.7nm,0.4s					
LESA	Schwarzleotal	87.33	323	*e*PcP	P	05 24 46.7 0.0
	comp=Z,1.8nm,0.5s					
ABTA	Abfaltersbach	87.82	322	*e*P	P	05 24 47.9 -1.1
	comp=Z,2.9nm,1.0s					
WATA	Walderalm	87.98	323	*i* PcP	P	05 24 49.9 0.0
	comp=Z,0.2nm,0.2s					
WTTA	Wattenberg	87.99	323	*i* P	P	05 24 49.7 -0.3
	comp=Z,1.2nm,0.5s					
FFC	Flin Flon	88.11	27		P	05 24 50.3 +0.2
FFC				IAmb	IAmb	05 24 51.6
	comp=Z,3.8nm,0.8s					
FFC	Flin Flon	88.11	27	P	P	05 24 50.3 +0.2
FFC				pmax	pmax	
	comp=Z,4.0nm,0.8s					
MOTA	Moosalm	88.23	323	*i* P	P	05 24 50.6 -0.5
	comp=Z,0.5nm,0.3s					
SQTA	Sankt Quirin	88.25	323	*i* P	P	05 24 50.7 -0.4
	comp=Z,0.6nm,0.3s					
FUORN	Ofenpass-Fuorn	89.13	323	IAmb	IAmb	05 25 13.8
	comp=Z,8.3nm,1.1s					
HLID	Hailey	89.18	41	P	P	05 24 57.8 +2.2
DAVOX	Davos/Dischmat	89.23	323	LR	LR	06 09 16.8
	comp=Z,151nm,18.4s,baz=67,slow=39					
EKA	Eskdalemuir Ar	89.31	335	P	P	05 24 55.2 -0.5
	comp=Z,0.7nm,0.5s,baz=34,slow=6.0,SNR=4.0					
	comp=Z,0.7nm,0.5s					
NVAR	Mina Array Bea	89.70	47	P	P	05 24 59.0 +0.8
	comp=Z,0.5nm,0.8s,baz=284,slow=6.0,SNR=4.9					
	comp=Z,0.5nm,0.8s					
PPT	Papeete	89.78	110	LR	LR	06 00 53.6
	comp=Z,44nm,20.1s,baz=296,slow=33					
PPT2	Papeete2	89.79	110	*e*LR	LR	05 53 28.7
PPT2				*e*LR	LR	05 53 45.5
	comp=Z,67nm,27.0s					
	comp=Z,112nm,26.5s					
AQU	L'Aquila	89.92	318	P	P	05 25 01.6 +2.6
AQU				pmax	pmax	
	comp=Z,12nm,0.9s					
HWUT	Hardware Ranch	92.03	41	P	P	05 25 11.2 +2.1
HWUT				IAmb	IAmb	05 25 12.8
	comp=Z,9.1nm,1.5s					
PDAR	Pinedale Array	92.47	39	P	P	05 25 09.8 -1.3
	comp=Z,0.9nm,1.1s,baz=278,slow=5.9,SNR=3.9					
	comp=Z,0.9nm,1.1s					

*IDC **14** 05:14:57.7±0.8, 26°.21N×129°.50E, h0km, mb4.1/17, mbtmp4.0/20, MLJ3.6/3, Error ellipse: s-maj=22.5km s-min=18.4km az=61.0*

*NEIC **14** 05:14:58.6±1.8, 26°.11N±0°.07×129°.48E±0°.05, h10km±1km, mb4.4/14, Error ellipse: s-maj=13.2km s-min=5.3km az=201.0*

*JMA **14** 05:15:00.3±0.1, 26°.2N±0°.8×129°.5E±0°.5, h46km, MV4.0/21, NEAR OKINAWAJIMA ISLAND*

ISC 14 05:14:58.4±1.8, 26°.21N±0°.04×129°.52E±0°.03, h9km±11km, n65, σ1.9±53/83, mb4.2/24, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.26	311	*e*P	Pb	05 15 22.2	-0.1
JYRO				S	Sb	05 15 37.6	-1.0
JOW	Kunigami	1.28	299	Pn	Pg	05 15 23.0	0.0
JOW				Sn	Sb	05 15 37.5	-1.7
JOW	Kunigami	1.28	299	Pn	Pb	05 15 22.5	-0.2
	375nm,0.3s,baz=120,slow=20,SNR=10						
JOW				Sn	Sb	05 15 37.1	-2.1
	360nm,0.3s,baz=104,slow=19,SNR=6.1						
JOW	Kunigami	1.28	299	*i* P	Pb	05 15 22.7	0.0
JOW				S	Sb	05 15 37.8	-1.4
JNTH	Nagotoyohara	1.38	283	P	Pn	05 15 23.7	-0.2
JNTH				*e*S	Sb	05 15 40.5	-1.6
JOKE	Okinoerabujima	1.43	324	P	Pb	05 15 24.9	-0.3
JOKE				S	Sn	05 15 42.0	-1.5
JJT3	Tamagusuku3	1.56	268	P	Pb	05 15 27.0	-0.5
JJT3				*e*S	Sn	05 15 46.0	-0.8
JMZ	Minamidaito 2	1.58	104		Pn	05 15 27.1	+0.5
JMZ				Sn	Sn	05 15 45.0	-2.1
JMZ	Minamidaito 2	1.58	104	P	Pn	05 15 26.1	-0.5
JMZ				S	Sn	05 15 44.2	-3.0
JIH	Iheya	1.62	301	P	Pn	05 15 27.4	+0.3
JIH				*e*S	Sn	05 15 46.0	-2.1
JKDJ	Kitadaitoujima	1.62	99	*e*P	Pn	05 15 26.9	-0.2
JKDJ				*e*S	Sn	05 15 45.4	-2.6
JTK	Tokunoshima	1.65	342	P	Pn	05 15 27.9	+0.3
JTK				S	Sn	05 15 45.9	-3.0
JAMN	Amaminishikomi	2.05	351	P	Pn	05 15 33.3	+0.3
JAMN				S	Sn	05 15 56.6	-2.2
JAGN	Aguni-jima	2.08	281	P	Pn	05 15 34.2	+0.8
JAGN				S	Sn	05 15 58.0	-1.4
JZK	Kikaishima	2.14	11	P	Pn	05 15 35.0	+0.7
JZK				S	Sn	05 15 59.9	-1.1
JAM	Amami Oshima	2.20	2	S	Sn	05 15 59.0	-3.4
JKE	Kume jima 2	2.46	273	P	Pn	05 15 38.5	-0.2
JKE				S	Sn	05 16 06.0	-2.9
JTAJ	Takarajima	2.95	355	*e*P	Pn	05 15 45.5	+0.1
JTAJ				*e*S	Sn

PET	**Petropavlovsk**	**34.51 31**	P	**P**	**05 21 46.4**	**-0.3**
SOEI	**Soe**	**36.11 189**	P	**P**	**05 21 58.6**	**-2.4**
KNRA	**Kununurra**	**41.64 181**	P	**P**	**05 22 45.3**	**-1.8**
KNRA			IAmb	IAmb	05 22 50.7	
	comp=Z,4.7nm,0.9s					
MKAR	**Makanchi Array**	**42.41 312**	P	**P**	**05 22 53.1**	**-0.3**
MKAR	**Makanchi Array**	**42.41 312**	P	**P**	**05 22 53.8**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=95,slow=9.9,SNR=6.4					
	comp=Z,0.6nm,0.6s					
ZALV	**Zalesovo Beam**	**42.97 322**	P	**P**	**05 22 57.5**	**-0.2**
ZALV	**Zalesovo Beam**	**42.97 322**	P	**P**	**05 22 57.1**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=119,slow=9.7,SNR=2.9					
	comp=Z,1.1nm,0.4s					
KURK	**Kurchatov**	**45.63 316**	P	**P**	**05 23 18.6**	**-0.5**
KURBB	**Kurchatov Arra**	**45.67 316**	P	**P**	**05 23 19.6**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=102,slow=8.7,SNR=8.5					
	comp=Z,0.7nm,0.4s					
WB0	**Warramunga Arr**	**45.95 174**	P	**P**	**05 23 21.3**	**-0.5**
WB0			IAmb	IAmb	05 23 22.8	
	comp=Z,6.3nm,1.1s					
WRA	**Warramunga Arr**	**46.11 174**	P	**P**	**05 23 22.1**	**-1.1**
WRA	**Warramunga Arr**	**46.11 174**	P	**P**	**05 23 23.0**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=350,slow=7.9,SNR=4.3					
	comp=Z,1.9nm,0.9s					
WR8	**Warramunga Arr**	**46.14 173**	P	**P**	**05 23 21.9**	**-1.5**
WR8			IAmb	IAmb	05 23 48.4	
	comp=Z,4.7nm,1.1s					
ASAR	**Alice Springs**	**49.76 175**	P	**P**	**05 23 53.3**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=9.8,slow=11,SNR=3.4					
	comp=Z,0.8nm,0.8s					
BVAR	**Borovoye Array**	**51.06 318**	P	**P**	**05 24 02.1**	**+1.1**
	comp=Z,2.4nm,0.7s,baz=80,slow=8.9,SNR=5.3					
	comp=Z,2.4nm,0.7s					
ABKAR	**Akbulak array**	**57.51 313**	P	**P**	**05 24 49.3**	**+1.4**
F17K	**Baldwin Pennin**	**57.98 26**	P	**P**	**05 24 52.1**	**+1.2**
F17K			IAmb	IAmb	05 25 11.1	
	comp=Z,8.3nm,1.1s					
ARTI	**Arti**	**58.23 322**		**P**	**05 24 52.7**	**-0.1**
C18K	**Utukok River**	**58.32 24**	P	**P**	**05 24 54.7**	**+1.2**
C18K			IAmb	IAmb	05 25 08.3	
	comp=Z,2.1nm,0.9s					
D19K	**Kuna River**	**59.42 24**	P	**P**	**05 25 02.2**	**+1.1**
D19K			IAmb	IAmb	05 25 21.2	
	comp=Z,4.9nm,1.1s					
D20K	**Etivluk River**	**59.99 24**	P	**P**	**05 25 06.7**	**+1.7**
D20K			IAmb	IAmb	05 25 07.7	
	comp=Z,3.5nm,0.7s					
ILAR	**Eielson Array**	**63.91 28**	P	**P**	**05 25 31.6**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=273,slow=8.3,SNR=3.2					
	comp=Z,0.4nm,0.7s					
KBZ	**Khabaz**	**70.07 310**	P	**P**	**05 26 12.9**	**+2.0**
	comp=Z,3.1nm,0.8s,baz=106,slow=5.9,SNR=3.8					
	comp=Z,3.1nm,0.8s					
FINES	**FINESS Array B**	**73.45 331**	P	**P**	**05 26 31.6**	**+0.7**
	comp=Z,3.1nm,0.4s,baz=62,slow=5.5,SNR=22					
	comp=Z,3.1nm,0.4s					
AKASG	**Malin Array Be**	**76.30 320**	P	**P**	**05 26 48.0**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=62,slow=6.4,SNR=5.3					
	comp=Z,1.1nm,0.4s					
BRTR	**Keskin Array B**	**77.96 308**	P	**P**	**05 26 58.5**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=99,slow=5.6,SNR=4.9					
	comp=Z,1.6nm,0.8s					
YKA	**Yellowknife Ar**	**78.05 25**	P	**P**	**05 26 58.2**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=294,slow=5.7,SNR=87					
	comp=Z,1.5nm,0.3s					
HFS	**Hagfors**	**79.37 333**	P	**P**	**05 27 04.8**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=68,slow=3.9,SNR=9.3					
	comp=Z,1.2nm,0.4s					
NB2	**NORSAR Subarra**	**79.84 334**	P	**P**	**05 27 07.4**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=52,slow=5.9					
NOA	**NORSAR Array B**	**79.84 334**	P	**P**	**05 27 07.0**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=52,slow=5.5,SNR=7.0					
	comp=Z,1.6nm,0.6s					
GERES	**GERESS Array B**	**85.91 323**	P	**P**	**05 27 39.9**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=52,slow=6.4,SNR=5.7					
	comp=Z,0.7nm,0.6s					
NVAR	**Mina Array Bea**	**89.68 47**	P	**P**	**05 27 57.8**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=305,slow=5.7,SNR=3.1					
	comp=Z,0.3nm,0.7s					

TXNET 14 05:30:56.5,31°.3N±0°.6×103°.4W±0°.7,h5km±1km,ML2.4/7, 2D,Error ellipse: s-maj=1.2km s-min=0.8km az=58.3, final,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB04	**Verhalen**	**0.13**	**144**	P	Pg	05 30 59.2	0.0
TPB04				S	Sg	05 31 01.4	+0.5
PCOS	**Crockett Middl**	**0.18**	**312**	P	Pg	05 31 00.7	+0.6
PCOS				S	Sg	05 31 03.5	+1.1
TPB16	**Coyonosa**	**0.19**	**151**	P	Pg	05 31 00.9	+0.6
TPB16				S	Sg	05 31 04.6	+1.8
TPB03	**Saragosa**	**0.24**	**213**	P	Pg	05 31 01.7	+0.4
TPB03				S	Sg	05 31 06.5	+2.0
TPB10	**Southeast of T**	**0.34**	**269**	P	Pg	05 31 04.0	+0.8
TPB10				S	Sb	05 31 09.8	-1.0
TPB05	**Hovey Rd**	**0.37**	**176**	P	Pg	05 31 04.4	+0.6
TPB05				S	Sb	05 31 10.3	-1.4
TPB06	**Permian Basin**	**0.38**	**19**	P	Pg	05 31 04.5	+0.7
TPB06				S	Sb	05 31 10.5	-1.4
TPB07	**Mentone**	**0.39**	**318**	S	Sg	05 31 10.8	+1.5
PECS	**Pecos**	**0.44**	**281**	P	Pg	05 31 05.1	0.0
PECS				S	Sg	05 31 11.7	+0.9
TPB01	**Permian Basin**	**0.50**	**226**	P	Pg	05 31 06.0	-0.2
TPB01				S	Sg	05 31 13.4	+0.6
MNHN	**Monahans**	**0.51**	**84**	P	Pg	05 31 06.8	+0.4
MNHN				S	Sb	05 31 14.8	-1.1
TPB12	**Southwest of T**	**0.52**	**262**	⇓P	Pg	05 31 06.5	0.0
TPB12				S	Sg	05 31 14.0	+0.7
TPB08	**Permian Basin**	**0.56**	**136**	P	Pg	05 31 07.9	+0.7
TPB08				S	Sb	05 31 16.5	-0.5
TPB11	**China Draw**	**0.86**	**318**	S	Sg	05 31 25.1	+0.8
ALPN	**Alpine**	**0.94**	**195**	⇓P	Pg	05 31 13.9	-0.7
ALPN				S	Sg	05 31 26.9	0.0
NM01	**Eunice**	**1.06**	**358**	S	Sb	05 31 31.6	-0.1
CLNB	**Carlsbad**	**1.07**	**336**	P	Pn	05 31 18.5	+0.2
ODSA	**Odessa**	**1.08**	**40**	P	Pg	05 31 16.7	-0.5
ODSA				S	Sb	05 31 31.8	-0.3
TMB02	**Rankin**	**1.14**	**94**	P	Pg	05 31 18.0	-0.3
TMB02				S	Sb	05 31 33.6	-0.2
CLN7	**Carlsbad 7**	**1.18**	**341**	P	Pn	05 31 19.7	-0.1
HTMS	**Hat Mesa**	**1.20**	**349**	S	Sb	05 31 35.5	-0.2
VHRN	**Van Horn**	**1.48**	**251**	P	Pn	05 31 23.5	-0.5
VHRN				S	Sg	05 31 44.1	-0.1
TMB04	**Seminole**	**1.52**	**29**	P	Pn	05 31 24.5	0.0
TMB04				S	Sg	05 31 45.9	+0.4
SAND	**Sanderson**	**1.71**	**141**	P	Pb	05 31 27.7	-0.6
SAND				S	Sg	05 31 51.7	+0.4
MNTX	**Cornudas Mount**	**1.78**	**284**	P	Pb	05 31 28.8	-0.8
MNTX				S	Sg	05 31 53.2	-0.4
CPRX	**Cap Rock**	**1.79**	**346**	P	Pb	05 31 29.3	-0.6
TMB05	**Klondike**	**1.84**	**43**	P	Pb	05 31 30.0	-0.8
TMB05				S	Sg	05 31 55.5	-0.3
OZNA	**Ozona**	**1.95**	**100**	P	Pb	05 31 31.8	-0.7
OZNA				S	Sg	05 31 58.3	-0.9
TX31	**Lajitas Ar. Si**	**1.97**	**188**	P	Pn	05 31 31.4	+0.8
TX31				S	Sb	05 31 58.4	+0.6
SGCY	**Sterling City**	**2.00**	**71**	Pg	Pb	05 31 33.0	-0.5
SGCY				S	Sg	05 32 00.2	-0.8

*BJI **14** 05:40:23.9,26°.01N×129°.42E,h13km,mB4.6/16,mb4.3/34, Ms4.2/29,Ms7 3.9/30*

*IDC **14** 05:40:24.1±0.6,26°.24N×129°.47E,h0km,mb4.2/26, mbtmp4.2/29,ML4.0/3,MS3.7/39,Error ellipse: s-maj=16.8km s-min=13.2km az=83.0*

*MOS **14** 05:40:24.3±1.1,26°.26N×129°.46E,h12km,mb4.7/28,Error ellipse: s-maj=9.4km s-min=5.8km az=99.5*

*JMA **14** 05:40:26.4±0.1,26°.2N±0°.8×129°.5E±0°.5,h44km,MD4.3/18, MV4.2/18,NEAR OKINAWAJIMA ISLAND*

*NEIC **14** 05:40:26.4±1.4,26°.23N±0°.07×129°.44E±0°.05,h10km±1km, mb4.8/124,Error ellipse: s-maj=12.2km s-min=7.7km az=199.0*

*NIED **14** 05:40:26.4,26°.21N×129°.54E,h44km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=3.77; Mθθ2.89; Mφφ0.88; Mrθ-1.30; Mφ2.64; Mφr-0.81; Fault plane solution: M0=4.50000×10^15 NP1: φs=234.00000°,δ35.00000°,λ-92.00000°. NP2:φs=57.00000°, δ55.00000°,λ-88.00000°.*

ISC 14 05:40:25.8±0.8,26°.23N±0°.04×129°.48E±0°.03,h10km±4km, n486,σ1§29/445,mb4.7/116,MS3.8/41,14C-2D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.22**	**311**	*e*P	**Pn**	**05 40 48.0**	**-0.8**
JYRO				*e*S	**Sb**	**05 41 03.7**	**-1.0**
JOW	**Kunigami**	**1.24**	**299**	Pn	**Pn**	**05 40 48.7**	**-0.5**
	201nm,0.3s,baz=131,slow=15,SNR=5.8						
JOW				Sn	**Sb**	**05 41 03.4**	**-1.9**
	376nm,0.3s,baz=95,slow=27,SNR=7.4						
JOW				LR	LR	05 41 28.6	
	comp=Z,3μm,19.4s,baz=245,slow=52						
JOW	**Kunigami**	**1.24**	**299**	*e*P	**Pn**	**05 40 48.6**	**-0.5**
JOW				S	**Sb**	**05 41 03.8**	**-1.5**
JNTH	**Nagotoyohara**	**1.34**	**283**	*e*P	**Pn**	**05 40 49.6**	**-0.9**
JNTH				*e*S	**Sb**	**05 41 06.9**	**-1.4**
JOKE	**Okinoerabujima**	**1.39**	**324**	*e*P	**Pn**	**05 40 50.8**	**-0.5**
JJT3	**Tamagusuku3**	**1.53**	**267**	*e*P	**Pn**	**05 40 53.1**	**0.0**
JJT3				*e*S	**Sn**	**05 41 12.3**	**-0.8**
JJT3	**Tamagusuku3**	**1.53**	**267**	A	A	05 40 53.1	
	comp=N,17nm,5.5s,comp=E,12nm,9.2s						
JIH	**Iheya**	**1.58**	**301**	*e*P	**Pn**	**05 40 53.5**	**-0.3**
JIH				*e*S	**Sn**	**05 41 12.4**	**-1.8**
JIH	**Iheya**	**1.58**	**301**	A	A	05 40 53.5	
	comp=N,5.0nm,1.1s,comp=E,4.0nm,1.0s						
JMZ	**Minamidaito 2**	**1.62**	**104**	Pn	**Pn**	**05 40 53.3**	**-1.0**
JMZ	**Minamidaito 2**	**1.62**	**104**	*e*P	**Pn**	**05 40 52.2**	**-2.1**
JMZ				*e*S	**Sn**	**05 41 10.3**	**-4.9**
JMZ	**Minamidaito 2**	**1.62**	**104**	A	A	05 40 52.2	
	comp=N,14nm,5.8s,comp=E,11nm,5.4s						
JTK	**Tokunoshima**	**1.62**	**343**	*e*P	**Pn**	**05 40 53.8**	**-0.7**
JTK				*e*S	**Sn**	**05 41 12.2**	**-3.3**
JKDJ	**Kitadaitoujima**	**1.66**	**99**	*e*P	**Pn**	**05 40 53.0**	**-1.8**
JKDJ				*e*S	**Sn**	**05 41 11.9**	**-4.2**
JKDJ	**Kitadaitoujima**	**1.66**	**99**	A	A	05 40 53.0	
	comp=N,10.0nm,6.0s,comp=E,7.0nm,10.4s						
JAMN	**Amaminishikomi**	**2.03**	**352**	*e*P	**Pn**	**05 40 59.4**	**-0.6**
JAMN				*e*S	**Sn**	**05 41 22.7**	**-2.6**
JAGN	**Aguni-jima**	**2.04**	**281**	*e*P	**Pn**	**05 40 60.0**	**-0.2**
JAGN				*e*S	**Sn**	**05 41 23.9**	**-1.8**
JZK	**Kikaishima**	**2.13**	**12**	P	**Pn**	**05 41 01.3**	**0.0**
JZK				S	**Sn**	**05 41 26.2**	**-1.6**
JAM	**Amami Oshima**	**2.18**	**3**	P	**Pn**	**05 41 01.3**	**-0.8**
JAM				S	**Sn**	**05 41 25.9**	**-3.2**
JKE	**Kume jima 2**	**2.42**	**273**	P	**Pn**	**05 41 04.7**	**-0.7**
JTAJ	**Takarajima**	**2.93**	**355**	*e*S	**Sn**	**05 41 43.9**	**-3.7**
YOJ	**Yonaguni jima**	**6.11**	**255**	Pn	**Pn**	**05 41 54.4**	**-1.7**
YOJ	**Yonaguni jima**	**6.11**	**255**	P	**Pn**	**05 41 54.4**	**-1.7**
JNU	**Nakatsue**	**6.98**	**10**	Pn	**Pn**	**05 42 08.6**	**+0.5**
	comp=E,4.8nm,0.3s,baz=188,slow=5.8,SNR=29						
JNU				Sn	**Sn**	**05 43 20.5**	**-7.1**
	comp=E,1.5nm,0.3s,baz=180,slow=19,SNR=1.7						
JNU				LR	LR	05 45 22.7	
	comp=E,335nm,19.3s,baz=238,slow=43						
	comp=E,40nm,0.8s						
NACB	**Ninganchiao**	**7.43**	**256**	Pn	**Pn**	**05 42 12.0**	**-2.3**
YHNB	**Yeheng**	**7.49**	**260**		**Pn**	**05 42 14.5**	**-0.7**
SSLB	**Suanglung**	**8.11**	**254**	Pn	**Pn**	**05 42 21.2**	**-2.4**
JMN	**Monobe**	**8.39**	**26**	Pn	**Pn**	**05 42 27.1**	**-0.4**
TPUB	**Ta-pu**	**8.56**	**252**	Pn	**Pn**	**05 42 28.3**	**-1.4**
SSE	**Sheshan**	**8.75**	**306**	P	**Pn**	**05 42 30.6**	**-1.8**
SSE				S	**Sn**	**05 44 10.5**	**-0.6**
SSE				pmax	pmax		
	comp=E,9.0nm,0.6s						
SSE				pmax	pmax		
	comp=E,33nm,3.7s						
SSE				LR	LR		
	comp=E,470nm,11.5s						
SSE				LR	LR		
	comp=E,170nm,11.8s						
NJ2	**Nanjing**	**10.95**	**304**	*e*P	**Pn**	**05 43 01.3**	**-1.2**
NJ2				pmax	pmax		
	comp=E,5.0nm,0.5s						
NJ2				LR	LR		
	comp=E,830nm,11.8s						
NJ2				LR	LR		
	comp=E,660nm,11.4s						
NJ2				LR	LR		
	comp=E,630nm,15.2s						
KSRS	**Korea Array**	**11.27**	**354**	Pn	**Pn**	**05 43 07.5**	**+0.6**
	comp=E,0.3nm,0.3s,baz=172,slow=13,SNR=7.1						
KSRS				LR	LR	05 47 42.8	
	comp=E,312nm,19.1s,baz=175,slow=39						
	comp=E,2.5nm,0.7s						
JHJ	**Hachijo jima 2**	**11.28**	**50**	LR	LR	05 47 34.0	
	comp=E,190nm,18.1s,baz=91,slow=38						
JGF	**Kuroka**	**11.53**	**34**	Pn	**Pn**	**05 43 09.5**	**-1.0**
MAJO	**Matsushiro**	**12.69**	**34**		**Pn**	**05 43 25.0**	**-1.4**
MAJO	**Matsushiro**	**12.69**	**34**	P	**Pn**	**05 43 25.0**	**-1.4**
MJB9	**Matsu-Tunnel**	**12.70**	**34**	Pn	**Pn**	**05 43 26.8**	**+0.4**
MSHR	**Mys Shultsa**	**16.37**	**4**	*i* P	**Pn**	**05 44 16.0**	**+0.4**
MSHR				pmax	pmax		
	comp=Z,15nm,1.0s						
HNS	**HongShan**	**16.76**	**315**	⇑P	**P**	**05 44 23.6**	**+0.7**
HNS				PP	**pwP**	**05 44 31.9**	**-0.3**
HNS				pmax	pmax		
	comp=Z,14nm,0.9s						
HNS				LR	LR		
	comp=Z,320nm,12.0s						
HNS				LR	LR		
	comp=Z,510nm,13.1s						
HNS				LR	LR		
	comp=Z,450nm,13.1s						
BJT	**Baijiatuau**	**17.68**	**324**		**Pn**	**05 44 28.1**	**-4.0**
BJT	**Baijiatuau**	**17.68**	**324**	P	**Pn**	**05 44 28.1**	**-4.0**
BJT				pmax	pmax		
	comp=Z,18nm,0.8s						
BJI	**Beijing**	**17.69**	**324**	P	**P**	**05 44 35.1**	**+2.0**
BJI				pmax	pmax		
	comp=Z,11nm,0.8s						
BJI				LR	LR		
	comp=Z,190nm,12.6s						
BJI				LR	LR		
	comp=Z,150nm,14.3s						
BJI				LR	LR		
	comp=Z,210nm,13.4s						
CN2	**Changchun**	**17.84**	**350**	P	**P**	**05 44 38.1**	**+3.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
USRK	**Ussuriysk Ar.**	**18.05**	**6**	P	**Pn**	**05 44 36.5**	**-0.1**
USRK	**Ussuriysk Ar.**	**18.05**	**6**	P	**P**	**05 44 37.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=186,slow=10.0,SNR=9.5						
USRK				LR	LR	05 51 16.1	
	comp=Z,124nm,19.0s,baz=195,slow=36						
	comp=Z,5.7nm,0.7s						
ENH	**Enshi**	**18.07**	**287**	P	**Pn**	**05 44 35.2**	**-1.8**
TIY	**Taiyuan**	**18.42**	**313**	P	**Pn**	**05 44 43.9**	**+2.6**
TIY				pmax	pmax		
	comp=Z,200nm,4.5s						
GUMO	**Guam**	**19.14**	**128**	LR	LR	05 52 04.9	
	comp=Z,62nm,18.2s,baz=40,slow=37						
ERM	**Erimo**	**19.36**	**32**		**P**	**05 44 51.0**	**-0.4**
ERM	**Erimo**	**19.36**	**32**	*ce*P	**P**	**05 44 51.1**	**-0.3**
ERM				pmax	pmax		
	comp=Z,21nm,1.3s						
XAN	**Xi'an**	**19.39**	**299**	P	**P**	**05 44 51.9**	**-0.1**
XAN				pP	pwP	05 44 59.8	-1.6
XAN				S	**S**	**05 48 32.0**	**+0.6**
XAN				pmax	pmax		
	comp=Z,28nm,1.4s						
XAN				pmax	pmax		
	comp=Z,270nm,4.8s						
XAN				LR	LR		
	comp=Z,550nm,14.1s						
XAN				LR	LR		
	comp=Z,460nm,15.5s						
XAN				LR	LR		
	comp=Z,650nm,16.1s						
DAV	**Davao City (W)**	**19.41**	**192**	LR	LR	05 51 50.9	
	comp=Z,103nm,21.5s,baz=337,slow=35						
QIZ	**Qiongzhong**	**19.48**	**252**	P	**P**	**05 44 52.9**	**0.0**
QIZ				S	**Sn**	**05 48 29.3**	**-3.5**
QIZ				LR	LR		
	comp=Z,150nm,9.3s						
QIZ				LR	LR		
	comp=Z,220nm,7.1s						
QIZ				LR	LR		
	comp=Z,200nm,15.4s						
BNX	**BinXian**	**19.55**	**356**	⇓P	**Pn**	**05 44 56.4**	**+1.7**
BNX				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XLT	**XiLinHaoTe**	**20.72**	**332**	*e*P	Pn	05 45 09.1	+0.4
XLT				PP	**PnPn**	**05 45 26.8**	**+2.4**
XLT				S	**S**	**05 48 58.0**	**+0.3**
XLT				pmax	pmax		
	comp=Z,14nm,0.7s						
XLT				pmax	pmax		
	comp=Z,120nm,6.3s						
XLT				LR	LR		
	comp=Z,35nm,14.9s						
XLT				LR	LR		
	comp=Z,310nm,13.4s						
XLT				LR	LR		
	comp=Z,340nm,18.5s						
ASAJ	**Asahikawa**	**20.77**	**27**	P	**P**	**05 45 05.7**	**-1.1**
	comp=Z,6.2nm,0.7s,baz=253,slow=11,SNR=7.8						
	comp=Z,6.2nm,0.7s						
ASAJ	**Asahikawa**	**20.77**	**27**	P	**P**	**05 45 06.2**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,20nm,0.9s						
JKA	**Kamikawa-asahi**	**20.78**	**27**	P	**P**	**05 45 06.2**	**-0.7**
HHC	**Hu-ho-hao-te**	**20.82**	**319**	*e*P	**P**	**05 45 09.3**	**+1.8**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.2s						
HHC				LR	LR		
	comp=Z,470nm,15.5s						
HHC				LR	LR		
	comp=Z,410nm,15.7s						
HHC				LR	LR		
	comp=Z,480nm,18.0s						
BTO	**Baotou**	**21.60**	**316**	*e*P	**P**	**05 45 15.5**	**-0.4**
BTO				pP	**sP**	**05 45 19.8**	**+2.2**
BTO				sP	**pwP**	**05 45 22.3**	**-3.0**
BTO				PP	**PnPn**	**05 45 39.6**	**+3.1**
BTO				S	**S**	**05 49 15.6**	**+0.3**
BTO				pmax	pmax		
	comp=Z,17nm,0.6s						
BTO				pmax	pmax		
	comp=Z,180nm,5.9s						
BTO				LR	LR		
	comp=Z,600nm,11.9s						
BTO				LR	LR		
	comp=Z,410nm,10.9s						
BTO				LR	LR		
	comp=Z,920nm,13.2s						
KLR	**Kul'dur**	**23.04**	**4**	P	**P**	**05 45 30.9**	**-0.1**
	comp=Z,9.3nm,0.9s,baz=187,slow=10,SNR=16						
KLR				LR	LR	05 55 07.1	
	comp=Z,101nm,18.2s,baz=212,slow=38						
	comp=Z,9.3nm,0.9s						
KLR	**Kul'dur**	**23.04**	**4**	*ce*P	**P**	**05 45 30.1**	**-0.9**
KLR				pmax	pmax		
	comp=Z,17nm,1.3s						
CD2	**Chengdu**	**23.05**	**288**	P	**P**	**05 45 29.6**	**-1.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS	**Yuzhno-Sakhali**	**23.21**	**24**	*ce*P	**P**	**05 45 32.9**	**+0.1**
YSS				pmax	pmax		
	comp=Z,19nm,1.3s						
PZH	**PanZhiHua**	**24.84**	**277**	P	**P**	**05 45 48.6**	**0.0**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,120nm,5.4s						
ZEA	**Zeya**	**27.53**	**357**	*e*P	**P**	**05 46 14.8**	**+2.4**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ULN	**Ulaanbaatar**	**27.87**	**327**	*i* P	**P**	**05 46 17.1**	**+1.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA	**Gaotai**	**28.05**	**305**	*e*P	**P**	**05 46 17.0**	**-0.4**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				LR	LR		
	comp=Z,220nm,13.1s						
GTA				LR	LR		
	comp=Z,190nm,14.7s						
GTA				LR	LR		
	comp=Z,260nm,16.3s						
SONM	**Songino Array**	**28.18**	**326**	P	**P**	**05 46 18.2**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=143,slow=10,SNR=7.4						
SONM				LR	LR	05 59 02.5	
	comp=Z,121nm,18.4s,baz=89,slow=40						
	comp=Z,1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.23**	**261**	P	**P**	**05 46 27.3**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=78,slow=11,SNR=5.8						
CMAR				PcP	**PcP**	**05 49 35.4**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=46,slow=2.2,SNR=4.4						
CMAR				LR	LR	05 59 56.6	
	comp=Z,64nm,18.2s,baz=125,slow=40						
	comp=Z,0.3nm,0.4s						
JAY	**Jayapura**	**30.56**	**158**	LR	LR	05 55 38.4	
	comp=Z,76nm,21.2s,baz=315,slow=30						
SHL	**Shillong**	**33.75**	**277**		**P**	**05 47 06.6**	**-1.3**
SHL	**Shillong**	**33.75**	**277**	P	**P**	**05 47 06.6**	**-1.3**
SHL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PEA0B	**Petropavlovsk-**	**34.12**	**31**	P	**P**	**05 47 10.9**	**+0.3**
PEA0B				IAmb	IAmb	05 47 28.2	
	comp=Z,11nm,1.2s						
PEA0B	**Petropavlovsk-**	**34.12**	**31**	P	**P**	**05 47 10.9**	**+0.3**
PEA0B				pmax	pmax		
	comp=Z,11nm,1.2s						
PETK	**Petropavlovsk-**	**34.12**	**31**		**P**	**05 47 10.8**	**+0.2**
PETK	**Petropavlovsk-**	**34.12**	**31**	P	**P**	**05 47 10.1**	**-0.5**
	comp=Z,3.6nm,1.0s,baz=216,slow=7.1,SNR=6.8						
	comp=Z,3.6nm,1.0s						
PETK	**Petropavlovsk-**	**34.12**	**31**	P	**P**	**05 47 10.8**	**+0.2**
PET	**Petropavlovsk**	**34.51**	**31**	P	**P**	**05 47 13.6**	**-0.3**
YAK	**Yakutsk**	**35.80**	**0**	P	**P**	**05 47 24.5**	**-0.4**
YAK				IAmb	IAmb	05 47 25.4	
	comp=Z,14nm,0.8s						
YAK	**Yakutsk**	**35.80**	**0**	LR	LR	06 01 38.3	
	comp=Z,70nm,21.1s,baz=185,slow=36						
YAK	**Yakutsk**	**35.80**	**0**	*e*P	**P**	**05 47 24.6**	**-0.4**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.5s						
SOEI	**Soe**	**36.12**	**189**	P	**P**	**05 47 26.7**	**-1.6**
SOEI				IAmb	IAmb	05 47 44.6	
	comp=Z,21nm,1.1s						
MA2	**Magadan**	**36.46**	**18**	LR	LR	06 03 45.0	
	comp=Z,54nm,18.2s

comp=Z,4.0nm,1.0s
TIXI Tiksi 45.46 360 P P 05 48 44.7 +0.1
TIXI Tiksi 45.46 360 LR LR 06 08 11.7
comp=Z,78nm,21.8s,baz=200,slow=37
TIXI Tiksi 45.46 360*ce*P **P 05 48 45.2 +0.6**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
KURK Kurchatov 45.60 316 P **P 05 48 45.7 -0.3**
KURK Kurchatov 45.60 316*ce*P **P 05 48 46.0 0.0**
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURBB Kurchatov Arra 45.63 316 P P 05 48 45.1 -1.1
comp=Z,1.2nm,0.5s,baz=102,slow=9.0,SNR=14
KURBB LR LR 06 09 33.3
comp=Z,151nm,19.2s,baz=180,slow=38
comp=Z,1.2nm,0.5s
WRAB Tennant Creek 46.13 174 *i* P **P 05 48 51.1 +0.7**
WRAB pmax pmax
comp=Z,3.0nm,1.1s
WRA Warramunga Arr 46.13 174 P 05 48 50.4 -0.1
WRA Warramunga Arr 46.13 174 P **P 05 48 49.9 -0.6**
comp=Z,3.9nm,0.9s,baz=349,slow=7.8,SNR=9.9
comp=Z,3.9nm,0.9s
WRA Warramunga Arr 46.13 174 *i* P **P 05 48 52.9 +2.4**
WRA pmax pmax
comp=Z,4.0nm,0.9s
BILL Bilibino 47.33 18 P 05 48 59.5 +0.1
BILL IAmb IAmb 05 49 00.8
comp=Z,11nm,1.0s
BILL Bilibino 47.33 18*ce*P **P 05 48 59.4 +0.1**
BILL pmax pmax
comp=Z,16nm,1.3s
PSA00 Pilbara Seismi 48.42 192 P **P 05 49 09.1 +0.8**
NRIK Noril'sk 49.60 342 LR LR 06 12 11.1
comp=Z,128nm,18.6s,baz=136,slow=38
ASAR Alice Springs 49.78 175 P **P 05 49 19.6 +0.9**
ASAR Alice Springs 49.78 175 P **P 05 49 19.4 +0.7**
comp=Z,1.8nm,0.8s,baz=357,slow=8.9,SNR=17
ASAR LR LR 06 11 09.6
comp=Z,24nm,19.0s,baz=336,slow=37
comp=Z,1.8nm,0.8s
ASAR Alice Springs 49.78 175 P **P 05 49 19.6 +0.9**
KK31 Karatay Array 50.33 305 P **P 05 49 22.6 -0.2**
KK31 Karatay Array 50.33 305 P **P 05 49 22.6 -0.2**
KK31 pmax pmax
comp=Z,5.0nm,1.2s
KKAR Karatay Array 50.33 305 P **P 05 49 22.4 -0.4**
KKAR Karatay Array 50.33 305 P **P 05 49 22.4 -0.4**
GAR Garm 50.64 300 P **P 05 49 25.4 +0.1**
GAR IAmb IAmb 05 49 48.9
comp=Z,14nm,1.2s
BVAR Borovoye Array 51.03 318 P **P 05 49 28.1 +0.2**
comp=Z,3.7nm,0.7s,baz=84,slow=8.0,SNR=14
BVAR LR LR 06 13 08.1
comp=Z,312nm,18.2s,baz=99,slow=38
comp=Z,3.7nm,0.7s
BRVK Borovoye 51.09 318 **P 05 49 28.6 +0.2**
BRVK Borovoye 51.09 318*ce*P **P 05 49 29.1 +0.7**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
KBL Kabul 52.13 295 P **P 05 49 36.2 -0.5**
KBL IAmb IAmb 05 49 38.7
comp=Z,11nm,1.1s
KBL Kabul 52.13 295 P **P 05 49 36.2 -0.5**
KBL pmax pmax
comp=Z,11nm,1.1s
P08K Saint George I 52.61 37 P **P 05 49 40.4 +0.9**
baz=261
GAMB Gambell 53.10 28 P **P 05 49 44.1 +1.0**
baz=254
UNV Unalaska Valle 54.04 41 P **P 05 49 50.9 +0.7**
baz=266
TNA Tin City 55.13 27 P **P 05 49 58.4 +0.5**
baz=256
K13K Kusilvak Mount 55.88 31 P **P 05 50 04.2 +0.9**
baz=262
M13K Dall Lake 56.32 33 P **P 05 50 07.1 +0.6**
baz=264
F15K North Star Dit 56.49 27 P **P 05 50 08.4 +0.8**
baz=260
J14K Nanvaranak Lak 56.50 31 P **P 05 50 09.1 +1.4**
baz=263
G15K Niukluk 56.62 28 P **P 05 50 09.7 +1.1**
baz=261
L14K Kuka Creek 56.74 32 P **P 05 50 10.5 +1.0**
baz=264
L15K Ungalak Mounta 57.34 32 P **P 05 50 14.9 +1.1**
baz=265
K15K Wolf Creek Mou 57.38 31 P **P 05 50 15.0 +1.0**
baz=265
D17K Noatak River 57.47 25 P **P 05 50 15.8 +1.2**
baz=260
ABKAR Akbulak array 57.47 313 **P 05 50 14.7 -0.2**
M15K Kasigluk River 57.66 33 P **P 05 50 16.8 +0.9**
baz=266
E17K Hotham Inlet 57.84 26 P **P 05 50 17.7 +0.5**
baz=261
I17K Unalakleet 57.91 29 P **P 05 50 18.4 +0.7**
baz=264
N15K Kwethluk River 57.92 34 P **P 05 50 18.7 +0.8**
baz=267
F17K Baldwin Pennin 57.98 26 P **P 05 50 19.0 +0.9**
baz=262
O15K Ungalikthiuk R 58.02 35 P **P 05 50 19.0 +0.4**
O15K IAmb IAmb 05 50 26.9
comp=Z,13nm,1.3s
O15K Ungalikthiuk R 58.02 35 P **P 05 50 18.9 +0.4**
baz=268
G17K Kiwalik Mounta 58.10 27 P **P 05 50 20.2 +1.2**
baz=264
CHNA Chernabura Isl 58.11 40 P **P 05 50 20.1 +0.9**
baz=271
S14K Fog Glacier 58.12 38 P **P 05 50 20.4 +1.0**
baz=270
ARTI Arti 58.19 322 **P 05 50 19.7 -0.1**
ARTI Arti 58.19 322 P **P 05 50 19.7 -0.1**
comp=Z,5.7nm,0.6s,baz=90,slow=6.5,SNR=12
ARTI LR LR 06 17 52.6
comp=Z,156nm,20.2s,baz=44,slow=39
comp=Z,5.7nm,0.6s
ARTI Arti 58.19 322*d i*P **P 05 50 19.8 -0.1**
ARTI 05 51 10.6
ARTI S **S 05 58 22.9 +1.6**
ARTI SS **SS 06 02 07.5 -5.0**
ARTI pmax pmax
comp=Z,6.0nm,0.7s
B18K Kokolik River 58.23 23 P **P 05 50 21.5 +1.6**
baz=260,SNR=7.6
L16K Owhat River 58.30 32 P **P 05 50 21.1 +0.6**
baz=267
C18K Utukok River 58.32 24 **P 05 50 21.4 +0.8**
C18K IAmb IAmb 05 50 22.4
comp=Z,6.3nm,0.8s
C18K Utukok River 58.32 24 P **P 05 50 21.7 +1.0**
baz=261,SNR=5.3
H17K Granite Mounta 58.35 28 P **P 05 50 21.7 +0.8**
baz=265
E18K Tukpahlearik C 58.36 25 P **P 05 50 22.0 +1.2**
baz=262
M16K Timber Creek 58.52 33 P **P 05 50 23.1 +1.1**
baz=268
J17K VABM Dome 58.59 30 P **P 05 50 23.9 +1.4**
J17K VABM Dome 58.59 30 P **P 05 50 23.4 +1.0**
baz=266
N16K Nishlik Lake 58.59 33 P **P 05 50 23.5 +0.9**
baz=268
A19K Wainwright 58.62 22 P **P 05 50 23.8 +1.2**
baz=260
F18K Selawik 58.63 26 P **P 05 50 24.0 +1.3**
baz=264
AKTO Aktyubinsk 58.63 315 P **P 05 50 23.5 +0.5**
comp=Z,2.8nm,0.7s,baz=70,slow=8.5,SNR=4.6
AKTO LR LR 06 16 45.1
comp=Z,41nm,19.3s,baz=209,slow=37
comp=Z,2.8nm,0.7s
L17K Donlin 58.88 32 P **P 05 50 25.9 +1.4**
baz=268,SNR=5.0
K17K Iditarod 58.90 31 P **P 05 50 25.6 +1.0**
baz=267
O16K Kokwok River B 58.91 34 P **P 05 50 25.8 +1.1**
baz=270
STKA Stephens Creek 58.92 168 LR LR 06 13 54.7
comp=Z,18nm,20.2s,baz=27,slow=34
P16K Nushagak River 58.96 35 P **P 05 50 26.2 +1.1**
baz=270
G18K Tagagawik 58.97 27 P **P 05 50 26.2 +1.2**
baz=265
H18K Honhosa River 59.02 28 P **P 05 50 26.1 +0.6**
baz=266
M17K Holitna River 59.27 32 P **P 05 50 28.4 +1.2**
baz=269
N17K Nushagak Hills 59.38 33 P **P 05 50 28.9 +0.9**
baz=270
F19K Shaleruckik Mo 59.40 26 P **P 05 50 28.5 +0.5**
baz=265
O17K Koliganek Bris 59.42 34 P **P 05 50 29.0 +0.7**
baz=270
D19K Kuna River 59.42 24 **P 05 50 28.9 +0.7**
D19K Kuna River 59.42 24 P **P 05 50 29.5 +1.2**
baz=264,SNR=8.9
G19K Purcell Mounta 59.62 27 P **P 05 50 30.7 +1.0**
baz=266
L18K Granite Mounta 59.64 31 P **P 05 50 30.8 +1.1**
baz=269
J18K Innoko River 59.65 30 P **P 05 50 30.7 +0.8**
baz=268
Q16K King Salmon 59.66 36 P **P 05 50 30.8 +0.9**
baz=271
E19K Redstone River 59.66 25 **P 05 50 30.8 +1.0**
E19K IAmb IAmb 05 50 44.5
comp=Z,6.9nm,0.8s
E19K Redstone River 59.66 25 P **P 05 50 31.1 +1.3**
baz=266,SNR=8.8
P17K Kvichak River 59.76 35 P **P 05 50 31.5 +0.9**
baz=271
H19K Roundabout Mou 59.85 28 P **P 05 50 32.2 +1.1**
baz=267
B20K Meade River 59.92 22 P **P 05 50 32.9 +1.3**
baz=264
TTA Tatalina 59.96 31 P **P 05 50 32.8 +0.7**
baz=269
D20K Etivluk River 59.99 24 **P 05 50 33.2 +1.1**
D20K Etivluk River 59.99 24 P **P 05 50 33.4 +1.2**
baz=265,SNR=14
N18K Kilae Creek 60.01 33 P **P 05 50 32.6 +0.2**
baz=271
M18K Stony River 60.04 32 P **P 05 50 33.7 +1.2**
baz=270
Q17K Contact Creek 60.07 36 P **P 05 50 33.7 +0.8**
baz=272
E20K Nigu River 60.12 24 P **P 05 50 34.3 +1.3**
baz=266
J19K Poorman 60.15 29 P **P 05 50 34.4 +1.1**
baz=269
F20K Avaraart Lake 60.22 26 P **P 05 50 34.8 +1.2**
baz=267
CHIR Chirikof Islan 60.34 39 P **P 05 50 36.2 +1.5**
baz=274
O18K Koktuh Hills 60.37 34 P **P 05 50 36.3 +1.5**
baz=272
P18K Big Mountain, 60.37 35 P **P 05 50 35.9 +1.0**
baz=272
L19K White Mountain 60.50 31 P **P 05 50 36.9 +1.2**
baz=271
H20K Anotleneega Mo 60.50 28 P **P 05 50 36.8 +1.1**
baz=269
Q18K Katmai Hardscr 60.52 36 P **P 05 50 37.5 +1.5**
baz=273
I20K Naaghedeneel 60.66 28 P **P 05 50 38.6 +1.9**
baz=270,SNR=5.2
C21K Knifeblade Rid 60.69 23 P **P 05 50 38.4 +1.6**
baz=267
N19K Bonanza Creek 60.70 33 P **P 05 50 38.6 +1.4**
baz=272
M19K Big River Lodg 60.72 32 P **P 05 50 38.6 +1.3**
baz=271
A22K Sinclair Lake 60.74 21 P **P 05 50 38.5 +1.3**
baz=266
B21K Ikpikpuk River 60.77 23 P **P 05 50 38.9 +1.5**
baz=267
J20K Nowinta River 60.80 29 IAmb IAmb 05 50 40.3
comp=Z,9.3nm,1.1s
J20K Nowinta River 60.80 29 P **P 05 50 39.6 +1.9**
baz=270,SNR=6.3
K20K Telida 60.84 30 P **P 05 50 39.5 +1.5**
baz=271
E21K Killik River 60.95 24 P **P 05 50 39.9 +1.2**
baz=268
L20K Farewell, AK 60.95 31 P **P 05 50 40.0 +1.2**
baz=272
G21K Allakaket 61.08 26 P **P 05 50 40.6 +1.0**
baz=270
SII Sitkinak Islan 61.09 38 P **P 05 50 40.6 +0.8**
baz=274
F21K Alatna River 61.10 26 P **P 05 50 40.8 +1.1**
baz=269
B22K Teshekpuk Lake 61.22 22 P **P 05 50 41.6 +1.2**
baz=268,SNR=6.9
M20K Styx River 61.31 32 P **P 05 50 41.8 +0.4**
baz=272
H21K Melozitna Rive 61.37 27 IAmb IAmb 05 50 44.0
comp=Z,9.3nm,1.1s
H21K Melozitna Rive 61.37 27 P **P 05 50 43.4 +1.8**
baz=271,SNR=7.5
P19K Oil Pt 61.38 34 P **P 05 50 42.5 +0.8**
baz=274
D22K Ayikyak River 61.43 24 IAmb IAmb 05 50 44.4
comp=Z,9.9nm,1.0s
D22K Ayikyak River 61.43 24 P **P 05 50 43.2 +1.3**
baz=269,SNR=13
F22K John River 61.61 25 P **P 05 50 44.9 +1.8**
baz=270
CHUM Lake Minchumin 61.62 30 P **P 05 50 44.7 +1.5**
baz=272,SNR=6.6
PPLA Purkeypile 61.71 31 P **P 05 50 45.1 +1.1**
baz=273
I21K Tanana 61.72 28 P **P 05 50 45.6 +1.7**
baz=272
CAST Castle Rocks 61.73 30 IAmb IAmb 05 50 46.2
comp=Z,7.0nm,0.9s
CAST Castle Rocks 61.73 30 P **P 05 50 45.4 +1.3**
baz=272,SNR=6.8
E22K Anaktuvuk Pass 61.74 25 IAmb IAmb 05 50 46.4
comp=Z,10.0nm,1.1s
E22K Anaktuvuk Pass 61.74 25 P **P 05 50 45.5 +1.4**
baz=270,SNR=8.0
SPCR Spurr Chakacha 61.79 33 P **P 05 50 45.7 +1.1**
baz=274
KDAK Kodiak Island 61.85 36 P **P 05 50 46.1 +1.2**
baz=275
G22K Bettles 61.87 26 P **P 05 50 46.1 +1.2**
baz=271
H22K Ishtalitna Cre 61.95 27 P **P 05 50 47.5 +2.0**
baz=272,SNR=11
SKT Skwentna 62.07 32 P **P 05 50 46.7 +0.4**
baz=274
D23K Nanushuk River 62.16 24 **P 05 50 48.3 +1.5**
D23K Nanushuk River 62.16 24 P **P 05 50 48.3 +1.5**
baz=271,SNR=12
C23K Itkillik River 62.17 23 P **P 05 50 48.2 +1.4**
baz=270,SNR=5.4
BPAW Bear Paw Mtn. 62.19 29 IAmb IAmb 05 50 49.3
comp=Z,7.0nm,1.2s
BPAW Bear Paw Mtn. 62.19 29 P **P 05 50 48.0 +0.9**
baz=273
COLD Coldfoot 62.38 26 P **P 05 50 49.0 +0.7**
baz=272
G23K Bananza Creek 62.47 26 IAmb IAmb 05 50 51.3
comp=Z,6.5nm,1.1s
G23K Bananza Creek 62.47 26 P **P 05 50 50.5 +1.5**
baz=273
SUA Susitna One 62.48 32 P **P 05 50 49.5 +0.3**
baz=275,SNR=7.0
TRF Thorofare Moun 62.54 30 P **P 05 50 50.5 +0.8**
baz=274
TOLK Toolik Lake Re 62.56 24 IAmb IAmb 05 50 52.0
comp=Z,7.0nm,1.1s
TOLK Toolik Lake Re 62.56 24 P **P 05 50 51.2 +1.6**
baz=272,SNR=5.4
E23K Chandalar 62.57 25 P **P 05 50 51.6 +1.9**
baz=272,SNR=14
H23K Yukon River 62.71 27 P **P 05 50 52.2 +1.6**
baz=274
M22K Willow 62.75 32 P **P 05 50 51.7 +0.8**
baz=275
D24K Happy Valley 62.82 23 P **P 05 50 52.3 +1.1**
baz=272
I23K Minto, Yukon-K 62.83 28 P **P 05 50 52.3 +1.0**
baz=274
C24K Franklin Bluff 62.84 23 P **P 05 50 52.9 +1.6**
baz=272,SNR=14
KIRV Kirov 62.90 325 LR LR 06 21 15.9
comp=Z,139nm,20.1s,baz=86,slow=39
KIRV Kirov 62.90 325*ce*P **P 05 50 52.6 +0.7**
NEA2 Nenana 62.99 29 P **P 05 50 53.7 +1.3**
baz=275,SNR=11
E24K Your Creek 62.99 25 IAmb IAmb 05 51 05.9
comp=Z,12nm,1.3s
E24K Your Creek 62.99 25 P **P 05 50 54.0 +1.5**
baz=273,SNR=7.8
RC01 Rabbit Creek A 63.00 33 P **P 05 50 53.2 +0.6**
baz=276
MCK McKinley 63.12 30 P **P 05 50 54.1 +0.8**
baz=275,SNR=6.0
RND Reindeer 63.19 30 P **P 05 50 53.5 -0.4**
PMR Palmer 63.23 32 P **P 05 50 54.6 +0.6**
baz=276
F24K Squaw Lake 63.26 25 P **P 05 50 55.8 +1.5**
baz=274,SNR=13
H24K Noodor Dome 63.39 27 IAmb IAmb 05 50 57.6
comp=Z,5.8nm,1.1s
H24K Noodor Dome 63.39 27 P **P 05 50 56.5 +1.4**
baz=275
G24K Hadweenzic Riv 63.48 26 IAmb IAmb 05 50 58.3
comp=Z,9.0nm,1.1s
G24K Hadweenzic Riv 63.48 26 P **P 05 50 57.7 +2.0**
baz=275,SNR=6.8
COLA College 63.49 28 P **P 05 50 54.6 -1.1**
COLA College 63.49 28 P **P 05 50 57.1 +1.5**
baz=276
KNK Knik Glacier 63.58 32 P **P 05 50 57.0 +0.6**
baz=277
SML Sawmill 63.59 32 P **P 05 50 57.3 +0.8**
baz=277
POKR Poker Plat Res 63.64 28 P **P 05 50 57.7 +1.0**
baz=276
D25K Kavik River 63.68 23 IAmb IAmb 05 51 10.0
comp=Z,6.9nm,1.1s
D25K Kavik River 63.68 23 P **P 05 50 58.1 +1.1**
baz=275
PWL Port Wells 63.70 33 P **P 05 50 57.5 +0.3**
baz=277
M23K Glacier View 63.88 32 P **P 05 50 58.4 0.0**
baz=277
ILAR Eielson Array 63.91 28 P **P 05 50 57.5 -1.0**
comp=Z,1.2nm,0.8s,baz=266,slow=6.5,SNR=11
comp=Z,1.2nm,0.8s
HDA Harding Lake 63.92 29 P **P 05 50 58.9 +0.3**
baz=276
G25K Bearman Lake 64.02 26 P **P 05 51 01.0 +1.8**
baz=276
SCM Sheep Creek Mo 64.06 32 P **P 05 51 00.6 +1.0**
baz=278
E25K Arctic Village 64.08 25 IAmb IAmb 05 51 02.4
comp=Z,5.7nm,1.1s
E25K Arctic Village 64.08 25 P **P 05 51 01.3 +1.7**
baz=276,SNR=6.6
F25K Christian Rive 64.11 25 IAmb IAmb 05 51 02.8
comp=Z,6.1nm,1.1s
F25K Christian Rive 64.11 25 P **P 05 51 02.0 +2.1**
baz=276,SNR=6.5
C26K Camden Bay 64.14 23 P **P 05 51 01.8 +1.9**
baz=276,SNR=7.0
H25L Birch Creek 64.18 27 P **P 05 51 01.5 +1.2**
baz=277
GLI Glacier Island 64.30 33 P **P 05 51 02.1 +1.0**
baz=278
PRP Porcupine Dome 64.39 27 IAmb IAmb 05 51 03.6
comp=Z,5.1nm,1.0s
PRP Porcupine Dome 64.39 27 P **P 05 51 02.6 +0.8**
baz=277
K24K Donnelly Dome 64.51 29 IAmb IAmb 05 51 06.5
comp=Z,6.1nm,0.8s
K24K Donnelly Dome 64.51 29 P **P 05 51 03.4 +0.9**
baz=278
BMAR Burnt Mountain 64.53 25 P **P 05 51 04.9 +2.3**
M24K Tolsona, Glenn 64.56 31 P **P 05 51 04.3 +1.3**
baz=278
J25K Salcha River, 64.58 28 P **P 05 51 02.9 0.0**
baz=278
C27K Jago River 64.58 23 IAmb IAmb 05 51 17.6
comp=Z,5.0nm,0.8s
C27K Jago River 64.58 23 P **P 05 51 04.2 +1.3**
baz=277
F26K Sheenjek River 64.66 25 IAmb IAmb 05 51 06.4
comp=Z,8.3nm,0.9s
F26K Sheenjek River 64.66 25 P **P 05 51 05.4 +1.9**
baz=278
PAX Paxson 64.76 30 P **P 05 51 04.9 +0.6**
baz=278
KLU Klutina 64.77 32 P **P 05 51 05.2 +0.9**
baz=279
G26K Porcupine Rive 64.90 26 IAmb IAmb 05 51 07.8
comp=Z,10.0nm,1.4s
G26K Porcupine Rive 64.90 26 P **P 05 51 06.6 +1.7**
baz=278
RIDG Independent Ri 64.93 29 P **P 05 51 06.1 +0.9**
baz=279
HARP HAARP 64.99 31 P **P 05 51 06.7 +1.0**
baz=279
SCRK Sand Creek 65.27 29 IAmb IAmb 05 51 20.8
comp=Z,4.5nm,0.8s
SCRK Sand Creek 65.27 29 P **P 05 51 07.8 +0.2**
baz=279,SNR=7.0
DOT Dot Lake 65.29 29 IAmb IAmb 05 51 08.6
comp=Z,6.6nm,0.9s
J26L Joseph Creek 65.36 28 IAmb IAmb 05 51 08.9
comp=Z,6.8nm,0.8s
J26L Joseph Creek 65.36 28 P **P 05 51 08.4 +0.3**
baz=280,SNR=7.8
N25K Chitina, Valde 65.38 32 P **P 05 51 09.2 +1.0**
baz=280
I26K Coal Creek Min 65.41 27 P **P 05 51 08.4 +0.2**
baz=279
BMRM Bremner River 65.49 32 P **P 05 51 09.8 +0.9**
baz=280
E27K Coleen River 65.55 24 IAmb IAmb 05 51 11.7
comp=Z,5.7nm,1.0s
E27K Coleen River 65.55 24 P **P 05 51 10.5 +1.4**
baz=280
MENT Mentasta 65.56 30 IAmb IAmb 05 51 11.3
comp=Z,6.6nm,1.0s
D27M Malcolm River 65.60 23 P **P 05 51 10.9 +1.3**
baz=280
L26K Log Cabin Wild 65.71 30 IAmb IAmb 05 51 12.3
comp=Z,7.0nm,1.1s
L26K Log Cabin Wild 65.71 30 P **P 05 51 11.4 +1.1**
baz=280
G27K Doyon Strip 65.75 26 P **P 05 51 12.1 +1.6**
baz=280
KAIM Kayak Island 65.77 33 P **P 05 51 12.1 +1.4**
baz=281
GLB Gilahina Butte 65.78 32 IAmb IAmb 05 51 12.6
comp=Z,9.3nm,1.0s
H27K Steamboat Moun 65.91 26 P **P 05 51 13.1 +1.6**
baz=280
M26K Nabesna, AK 65.98 31 P **P 05 51 13.3 +1.2**
baz=281,SNR=8.8
I27K Kandik River 65.99 27 P **P 05 51 13.8 +1.8**
baz=281,SNR=11
K27K Chicken 66.09 29 P **P 05 51 13.7 +1.1**
baz=281
E28M Babbage River 66.22 24 IAmb IAmb 05 51 16.1
comp=Z,5.3nm,0.9s
E28M Babbage River 66.22 24 P **P 05 51 14.9 +1.4**
baz=281,SNR=6.3
L27K Beaver Creek, 66.38 30 P **P 05 51 15.8 +1.1**
baz=282
M27K Edge Creek, AK 66.50 31 IAmb IAmb 05 51 17.4
comp=Z,7.1nm,1.0s
M27K Edge Creek, AK 66.50 31 P **P 05 51 16.5 +1.0**
baz=282
I28M Miner Creek 66.70 27 IAmb IAmb 05 51 19.2
comp=Z,5.6nm,0.9s
I28M Miner Creek 66.70 27 P **P 05 51 17.9 +1.1**
baz=282,SNR=5.9
E29M Blow River 66.86 24 P **P 05 51 18.6 +1.0**
baz=283
G29M Pine Creek 67.14 25 P **P 05 51 20.8 +1.3**
baz=283,SNR=7.5
H29M Whitestone 67.16 26 IAmb IAmb 05 51 21.8
comp=Z,6.5nm,0.9s
H29M Whitestone 67.16 26 P **P 05 51 20.7 +1.1**
baz=283
DAWY Dawson 67.23 28 P **P 05 51 20.9 +0.8**
baz=283
YUK3 Moose Creek 67.28 31 P **P 05 51 21.5 +0.9**
baz=283
I29M Ogilvie Camp, 67.39 27 IAmb IAmb 05 51 23.1
comp=Z,5.0nm,1.0s
I29M Ogilvie Camp, 67.39 27 P **P 05 51 22.1 +1.1**
baz=284
KLMR Klimovskoe 67.45 328 *e*P P 05 51 15.3 -6.1

KLMR pmax pmax
comp=Z,13nm,1.3s
O28M Mount Upton 67.64 32 IAmb IAmb 05 51 25.1
comp=Z,7.1nm,0.9s
O28M Mount Upton 67.64 32 P **P 05 51 23.4 +0.4**
baz=284
J29N Klondike Camp 67.64 28 IAmb IAmb 05 51 26.2
comp=Z,7.7nm,1.0s
J29N Klondike Camp 67.64 28 P **P 05 51 23.6 +0.9**
baz=284
YUK8 Steele Glacier 67.72 31 P **P 05 51 24.0 +0.6**
baz=284
PINM Pinnacle 67.77 33 P **P 05 51 24.7 +1.2**
baz=284
EPYK Eagle Plains 67.78 26 IAmb IAmb 05 51 25.2
comp=Z,8.6nm,0.9s
EPYK Eagle Plains 67.78 26 P **P 05 51 24.4 +1.0**
baz=285,SNR=5.7
G30M tAoh Zraii Nji 67.81 25 IAmb IAmb 05 51 25.2
comp=Z,9.8nm,1.1s
G30M tAoh Zraii Nji 67.81 25 P **P 05 51 24.2 +0.5**
baz=285,SNR=7.5
F30M Barrier River 67.81 24 IAmb IAmb 05 51 25.8
comp=Z,9.4nm,1.2s
F30M Barrier River 67.81 24 P **P 05 51 24.8 +1.1**
baz=285
L29M L29M 68.01 29 IAmb IAmb 05 51 27.6
comp=Z,7.9nm,1.0s
L29M L29M 68.01 29 P **P 05 51 26.5 +1.5**
baz=285,SNR=5.4
M29M Somme Creek 68.03 30 IAmb IAmb 05 51 28.3
comp=Z,8.8nm,1.5s
M29M Somme Creek 68.03 30 P **P 05 51 26.5 +1.3**
baz=285
K29M Barlow Dome 68.09 28 P **P 05 51 26.9 +1.3**
baz=285
I30M Mount Dempster 68.21 27 P **P 05 51 27.5 +1.2**
baz=285
YUK4 Talbot Arm 68.23 31 P **P 05 51 27.8 +1.2**
baz=285
PNL Peninsula 68.30 33 P **P 05 51 27.5 +0.6**
baz=285
J30M Hart River 68.40 28 P **P 05 51 28.4 +0.8**
baz=286
YUK6 Outpost Mounta 68.46 32 P **P 05 51 28.7 +0.6**
baz=285
G31M Satah River 68.57 25 P **P 05 51 28.6 +0.3**
baz=287
F31M Tsiigehtchic 68.62 24 P **P 05 51 29.1 +0.5**
baz=287
H31M Peel River 68.86 26 IAmb IAmb 05 51 31.5
comp=Z,4.9nm,0.8s
H31M Peel River 68.86 26 P **P 05 51 31.0 +0.7**
baz=287
HYT Haines Junctio 68.90 32 P **P 05 51 32.0 +1.3**
baz=286
N30M Aishikik Lake 68.92 31 P **P 05 51 31.8 +1.0**
baz=286
P29M Windy Craggy 69.12 33 P **P 05 51 33.0 +1.1**
baz=286
N31M Braeburn, Yuko 69.51 31 P **P 05 51 35.7 +1.3**
baz=287
GNI Garni 69.80 306 LR LR 06 26 24.2
comp=Z,32nm,19.0s,baz=79,slow=40
A36M Sachs Harbour 69.87 19 P **P 05 51 37.7 +1.3**
baz=293,SNR=9.6
M31M Drury Creek, Y 69.92 30 P **P 05 51 37.7 +0.8**
baz=288
KBZ Khabaz 70.03 310 P **P 05 51 38.6 +0.8**
comp=Z,7.0nm,0.9s,baz=97,slow=3.2,SNR=21
KBZ LR LR 06 26 32.4
comp=Z,82nm,18.2s,baz=56,slow=40
comp=Z,7.0nm,0.9s
KBZ Khabaz 70.03 310 *ce*P **P 05 51 39.1 +1.3**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
KVAR Kislovodsk Arr 70.10 310 LR LR 06 29 16.3
comp=Z,22nm,19.7s,baz=256,slow=42
KIV Kislovodsk 70.11 310 P **P 05 51 38.5 +0.1**
KIV Kislovodsk 70.11 310 *e*P **P 05 51 39.1 +0.7**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,45nm,18.0s
WHY Whitehorse 70.18 31 P **P 05 51 40.0 +1.4**
baz=288
SHA1 Shidzhatmaz 70.19 310 *i* P **P 05 51 39.9 +0.8**
SKAG Skagway 70.34 33 P **P 05 51 40.7 +1.3**
baz=288
FARO Faro, Yukon 70.38 30 IAmb IAmb 05 51 41.7
comp=Z,8.7nm,0.8s
FARO Faro, Yukon 70.38 30 P **P 05 51 41.2 +1.6**
baz=289,SNR=7.7
ARCES ARCESS Array B 70.42 339 LR LR 06 28 15.4
comp=Z,50nm,18.4s,baz=41,slow=41
OBN Obninsk 70.52 323 *e*P **P 05 51 38.7 -1.9**
OBN pmax pmax
comp=Z,5.0nm,0.7s
JOF Joensuu 70.59 331 *e*P **P 05 51 40.9 0.0**
N32M Quiet Lake 70.85 31 P **P 05 51 43.4 +0.8**
baz=290
P32M Atlin 71.08 32 P **P 05 51 44.9 +0.9**
baz=290
C36M Paulatuk 71.30 21 P **P 05 51 45.6 +0.6**
baz=295,SNR=12
P33M Teslin, Yukon 71.30 31 P **P 05 51 46.8 +1.4**
baz=290
TGTN Hyland Airport 72.88 29 P **P 05 51 56.8 +2.0**
baz=293,SNR=6.4
S34M Telegraph Cree 72.94 33 P **P 05 51 56.7 +1.6**
baz=292
FIA1 FINESS Array S 73.42 331 **P 05 51 58.2 +0.3**
FINES FINESS Array B 73.42 331 **P 05 51 58.2 +0.3**
FINES FINESS Array B 73.42 331 P **P 05 51 58.0 +0.1**
comp=Z,4.8nm,0.5s,baz=62,slow=5.5,SNR=42
FINES LR LR 06 28 14.6
comp=Z,197nm,18.4s,baz=59,slow=39
comp=Z,4.8nm,0.5s
FINES FINESS Array B 73.42 331 P **P 05 51 58.2 +0.3**
KEF Keuruu 73.64 332 *e*P **P 05 51 58.7 -0.5**
VAF Ylistaro 74.17 333 *e*P **P 05 52 02.3 +0.1**
VSU Vasula 74.35 328 *ce*P **P 05 52 03.4 0.0**
VSU pmax pmax
comp=Z,38nm,2.5s
VSU Vasula 74.35 328 *e*P **P 05 52 03.1 -0.3**
MEF Metsahovi 74.69 330 *e*P **P 05 52 05.9 +0.7**
LIRD Liard River Hi 74.73 31 P **P 05 52 07.0 +1.4**
baz=296
RAYN Ar Rayn 74.88 289 **P 05 52 07.0 -0.2**
RAYN Ar Rayn 74.88 289 P **P 05 52 07.0 -0.2**
RAYN pmax pmax
comp=Z,5.0nm,1.1s
RES Resolute Bay 75.34 11 LR LR 06 27 31.9
comp=Z,18nm,19.2s,baz=12,slow=38
TOAD Toad River Com 75.38 31 P **P 05 52 10.0 +0.6**
baz=297
MNK Minsk 75.42 324 *i* P **P 05 52 08.7 -1.0**
MNK *i* 05 54 55.9
MNK *i* PPP PPP 05 56 45.2
MNK *i* S **S 06 01 50.0 +0.4**
MNK *i* SS **SS 06 06 41.7 +2.5**
MNK pmax pmax
comp=N,4.0nm,0.7s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK MLR MLR
comp=N,235nm,13.0s
MNK MLR MLR
comp=Z,121nm,13.0s
MNK MLR MLR
comp=E,233nm,17.0s
RAF Rauma 75.48 331 *e*P **P 05 52 09.8 0.0**
MTSE Matsula 75.62 329 *e*P **P 05 52 11.0 +0.3**
AK03 Malin Array Si 76.25 320 P **P 05 52 14.3 -0.2**
AKASG Malin Array Be 76.26 320 P **P 05 52 13.9 -0.6**
comp=E,1.9nm,0.5s,baz=58,slow=6.6,SNR=15
AKASG LR LR 06 28 22.3
comp=E,218nm,18.1s,baz=56,slow=38
comp=E,1.9nm,0.5s
AKASG Malin Array Be 76.26 320 *i* P **P 05 52 14.3 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 76.26 320 *ce*P **P 05 52 13.7 -0.8**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
AKBB Malin Array Si 76.26 320 P **P 05 52 14.4 -0.1**
AK09 Malin Array Si 76.26 320 P **P 05 52 14.3 -0.2**
AK08 Malin Array Si 76.27 320 P **P 05 52 14.4 -0.2**
AK01 Malin Array Si 76.27 320 P **P 05 52 14.4 -0.2**
KIEV Kiev 76.27 320 P **P 05 52 14.2 -0.4**
KIEV Kiev 76.27 320 P **P 05 52 14.2 -0.4**
comp=Z,40nm,1.4s
AK04 Malin Array Si 76.29 320 P **P 05 52 14.5 -0.2**
AK22 Malin Array Si 76.33 320 P **P 05 52 14.1 -0.8**
PABE Paberze 77.01 326 *e*P **P 05 52 18.9 +0.2**
MI28 Mi28,Pidlybu 77.06 321 P **P 05 52 18.9 -0.1**
LUBAR Lubar, Ukraine 77.44 320 P **P 05 52 20.0 -1.2**
RNPP9 Sopachiv 77.85 321 P **P 05 52 21.6 -1.9**
SORM Soroca 77.87 318 P **P 05 52 22.2 -1.4**
SORM Soroca 77.87 318 P **P 05 52 22.2 -1.4**
comp=Z,9.5nm,0.9s
BR131 Keskin Array S 77.92 308 IAmb IAmb 05 52 25.8
comp=Z,5.3nm,0.8s
BR131 Keskin Array S 77.92 308 *i* P **P 05 52 24.6 +0.3**
BRTR Keskin Array B 77.92 308 **P 05 52 24.2 0.0**
BRTR Keskin Array B 77.92 308 P **P 05 52 24.9 +0.6**
comp=Z,3.6nm,0.8s,baz=92,slow=4.8,SNR=18
comp=Z,3.6nm,0.8s
BRTR Keskin Array B 77.92 308 *i* P **P 05 52 25.0 +0.7**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BR104 Keskin Array S 77.93 308 P **P 05 52 24.7 +0.4**
comp=Z,46nmcomp=Z,5.0nm,1.0s
BR106 Keskin Array S 77.93 308 P **P 05 52 24.8 +0.5**
comp=Z,47nmcomp=Z,5.1nm,0.9s
RNPP5 Staryi Chortor 77.94 321 P **P 05 52 23.8 -0.1**
BR105 Keskin Array S 77.94 308 P **P 05 52 24.8 +0.4**
YKA Yellowknife Ar 78.05 25 P **P 05 52 24.9 +0.6**
YKA Yellowknife Ar 78.05 25 P **P 05 52 24.8 +0.4**
comp=Z,1.5nm,1.0s,baz=301,slow=5.7,SNR=14
comp=Z,1.5nm,1.0s
YKA Yellowknife Ar 78.05 25 P **P 05 52 25.0 +0.6**
SUW Suwalki 78.11 325 **P 05 52 24.8 -0.1**
SUW Suwalki 78.11 325 P **P 05 52 24.8 -0.1**
NDNU Novodnistrovsk 78.26 318 P **P 05 52 25.8 0.0**
HFS Hagfors 79.34 333 P **P 05 52 31.0 -0.5**
comp=Z,3.9nm,0.7s,baz=66,slow=8.5,SNR=11
HFS LR LR 06 29 51.1
comp=Z,79nm,19.9s,baz=68,slow=37
comp=Z,3.9nm,0.7s
NC303 NORSAR Array S 79.64 334 **P 05 52 33.1 0.0**
NC303 IAmb IAmb 05 52 33.9
comp=Z,11nm,1.1s
NB2 NORSAR Subarra 79.81 334 P **P 05 52 34.0 -0.1**
comp=Z,2.1nm,0.6s,baz=51,slow=5.6
NOA NORSAR Array B 79.81 334 P **P 05 52 33.7 -0.4**
comp=Z,4.2nm,0.8s,baz=50,slow=5.3,SNR=22
NOA LR LR 06 31 28.2
comp=Z,62nm,19.8s,baz=55,slow=38
comp=Z,4.2nm,0.8s
NC204 NORSAR Array S 79.84 335 **P 05 52 34.5 +0.2**
NC204 IAmb IAmb 05 52 35.0
comp=Z,12nm,0.9s
BUR08 Bucovina Ar. S 79.98 318 **P 05 52 35.9 +0.5**
NBO00 NORSAR Array S 79.99 334 P **P 05 52 34.4 -0.6**
MLR Muntele Rosu 80.53 316 LR LR 06 31 10.6
comp=Z,96nm,18.1s,baz=62,slow=38
SUMG Summit 81.11 356 *i* P **P 05 52 42.0 +0.6**
RDO Rodhopi 82.84 312 IAmb IAmb 05 52 52.5
comp=Z,8.2nm,1.2s
VYHS Vyhne 83.25 321 *e*P **P 05 52 54.0 +1.4**
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 83.25 321 *e*P **P 05 52 54.0 +1.4**
MORC Moravsky Berou 83.28 323 *e*P **P 05 52 53.7 +1.0**
VRAC Vranov 84.05 323 LR LR 06 33 49.4
comp=Z,154nm,18.8s,baz=60,slow=38
VRAC Vranov 84.05 323 *e*P **P 05 52 58.1 +1.5**
KRUC Moravsky 84.30 323 *e*P **P 05 52 58.9 +1.0**
CLL Collm 84.79 326 IAmb IAmb 05 53 01.9
comp=Z,5.7nm,0.7s
CLL Collm 84.79 326 *i* P **P 05 53 01.1 +0.8**
CLL Collm 84.79 326 *i* P **P 05 53 01.1 +0.8**
CLL *ex* x 05 53 22.0
CLL AMS AMS 06 35 00.0
comp=Z,200nm,18.5s
CONA Conrad Observa 85.23 322 *i* PcP **P 05 53 04.0 +1.3**
comp=Z,8.3nm,1.4s
GERES GERESS Array B 85.88 323 P **P 05 53 06.3 +0.4**
comp=Z,1.6nm,0.7s,baz=46,slow=5.8,SNR=12
comp=Z,1.6nm,0.7s
MOA Molln 86.15 322 *e*PcP **P 05 53 08.1 +0.9**
comp=Z,3.0nm,0.9s
J08A Circle Bar Ran 86.86 43 **P 05 53 12.8 +1.9**
J08A IAmb IAmb 05 53 13.4
comp=Z,6.6nm,1.0s
WVOR Wild Horse Val 87.27 43 IAmb IAmb 05 53 15.3
comp=Z,5.4nm,1.1s
FFC Flin Flon 88.09 27 **P 05 53 17.1 +0.7**
FFC Flin Flon 88.09 27 P **P 05 53 17.1 +0.7**
FFC pmax pmax
comp=Z,7.0nm,1.0s
DLMT Dillon 89.13 39 IAmb IAmb 05 53 24.0
comp=Z,7.9nm,1.2s
HLID Hailey 89.17 41 **P 05 53 24.0 +2.0**
DAVOX Davos/Dischmat 89.18 323 LR LR 06 37 42.1
comp=Z,147nm,19.0s,baz=70,slow=39
FRB Frobisher Bay 89.21 8 LR LR 06 35 54.5
comp=Z,32nm,18.0s,baz=300,slow=37
EKA Eskdalemuir Ar 89.25 335 P **P 05 53 21.1 -0.8**
comp=Z,1.6nm,0.7s,baz=25,slow=4.9,SNR=3.8
comp=Z,1.6nm,0.7s
NVAR Mina Array Bea 89.69 47 P **P 05 53 24.9 +0.3**
comp=Z,0.5nm,0.7s,baz=292,slow=4.7,SNR=4.3
comp=Z,0.5nm,0.7s
ELK Elko 90.33 43 LR LR 06 38 42.6
comp=Z,34nm,18.0s,baz=300,slow=39
R11B Troy Canyon, C 91.50 45 P **P 05 53 34.6 +1.6**
HWUT Hardware Ranch 92.03 41 **P 05 53 37.4 +2.0**
HWUT IAmb IAmb 05 53 38.0
comp=Z,4.5nm,1.1s
PDAR Pinedale Array 92.46 39 P **P 05 53 38.2 +0.8**
comp=Z,0.8nm,0.9s,baz=305,slow=7.4,SNR=6.0
comp=Z,0.8nm,0.9s
SHPR Sheep Range 92.84 47 **P 05 53 41.1 +1.9**
V12A Nelson 93.50 47 **P 05 53 42.3 +0.1**
W13A Hualapai Mount 94.51 47 **P 05 53 48.9 +1.9**
W13A IAmb IAmb 05 53 49.1
comp=Z,4.9nm,1.2s

*IDC **14** 05:46:03.0±1.4, 26°.17N×129°.25E, h0km, mb3.6/6, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=40.4km s-min=22.1km az=54.0*
*JMA **14** 05:46:05.0±0.2, 26°.2N±1°.0×129°.5E±0°.7, h46km, MV3.1/17, NEAR OKINAWAJIMA ISLAND*
ISC 14 05:46:02.4±1.8, **26°.23N**±0°.05×**129°.51E**±0°.04, **h5**km±11km, **n22**, σ1**§49**/35, **mb3.5/6**, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.23**	**310**	P	**Pg**	**05 46 26.9**	**+0.8**
JYRO				S	**Sg**	**05 46 41.8**	**-0.3**
JOW	**Kunigami**	**1.25**	**299**	Pn	**Pn**	**05 46 26.6**	**0.0**
JOW				Sn	**Sg**	**05 46 40.7**	**-2.1**
JOW	**Kunigami**	**1.25**	**299**	P	**Pn**	**05 46 27.1**	**+0.6**
JOW				S	**Sg**	**05 46 41.4**	**-1.4**
JNTH	**Nagotoyohara**	**1.36**	**283**	*e*P	**Pn**	**05 46 28.3**	**+0.3**
JNTH				*e*S	**Sb**	**05 46 44.2**	**-1.9**
JOKE	**Okinoerabujima**	**1.40**	**324**	P	**Pn**	**05 46 29.4**	**+0.8**
JOKE				S	**Sb**	**05 46 46.0**	**-1.2**
JJT3	**Tamagusuku3**	**1.55**	**267**	*e*P	**Pn**	**05 46 31.4**	**+0.8**
JJT3				*e*S	**Sn**	**05 46 50.4**	**-0.7**
JIH	**Iheya**	**1.59**	**301**	P	**Pn**	**05 46 32.1**	**+0.9**
JIH				S	**Sn**	**05 46 50.7**	**-1.5**
JMZ	**Minamidaito 2**	**1.60**	**104**	P	**Pn**	**05 46 30.7**	**-0.6**
JTK	**Tokunoshima**	**1.63**	**342**	P	**Pn**	**05 46 32.5**	**+0.8**
JTK				*e*S	**Sn**	**05 46 50.6**	**-2.4**
JKDJ	**Kitadaitoujima**	**1.64**	**99**	S	**Sn**	**05 46 50.1**	**-3.1**
JAMN	**Amaminishikomi**	**2.03**	**352**	*e*P	**Pn**	**05 46 37.7**	**+0.5**
JAMN				S	**Sn**	**05 47 00.9**	**-2.0**
JAGN	**Aguni-jima**	**2.06**	**281**	P	**Pn**	**05 46 38.7**	**+1.0**
JAGN				S	**Sn**	**05 47 02.6**	**-1.1**
JZK	**Kikaishima**	**2.12**	**11**	*e*P	**Pn**	**05 46 39.5**	**+1.1**
JZK				S	**Sn**	**05 47 04.5**	**-0.6**
JAM	**Amami Oshima**	**2.17**	**2**	*e*P	**Pn**	**05 46 39.5**	**+0.3**
JAM				*e*S	**Sn**	**05 47 03.0**	**-3.5**
JKE	**Kume jima 2**	**2.44**	**273**	*e*P	**Pn**	**05 46 43.1**	**+0.2**
JKE				S	**Sn**	**05 47 11.1**	**-2.1**
JNU	**Nakatsue**	**6.97**	**10**	Pn	**Pn**	**05 47 47.7**	**+2.5**
	0.8nm,0.3s,baz=194,slow=17,SNR=5.2						
	3.1nm,0.4s						
MKAR	**Makanchi Array**	**42.39**	**312**	P	**P**	**05 53 58.5**	**+0.7**
	0.3nm,0.6s,baz=116,slow=6.7,SNR=6.1						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**42.94**	**322**	P	**P**	**05 54 01.8**	**-0.3**
	0.3nm,0.4s,baz=101,slow=11,SNR=1.9						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**45.64**	**316**	P	**P**	**05 54 23.8**	**+0.1**
	0.2nm,0.4s,baz=103,slow=8.8,SNR=1.9						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**46.14**	**174**	P	**P**	**05 54 28.9**	**+1.0**
	0.4nm,0.7s,baz=351,slow=7.7,SNR=2.3						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**73.42**	**331**	P	**P**	**05 57 36.1**	**+0.8**
	2.5nm,0.9s,baz=62,slow=5.5,SNR=6.7						
	2.5nm,0.9s						
AKASG	**Malin Array Be**	**76.27**	**320**	P	**P**	**05 57 53.2**	**+1.2**
	0.3nm,0.5s,baz=72,slow=5.9,SNR=1.7						
	0.3nm,0.5s						

*IDC **14** 05:57:26.1±1.8, 18°.12N×81°.76W, h0km, mb3.6/5, mbtmp3.6/5, ML1.8/1, MS3.1/7, Error ellipse: s-maj=49.9km s-min=30.1km az=11.0*
*SSNC **14** 05:57:29.2±2.3, 18°.10N×81°.63W, h35km±16km, MD3.7*
*JSN **14** 05:57:31.3±1.4, 17°.76N×81°.33W, h0km±999km, MD4.6*
ISC 14 05:57:27.9±1.0, **18°.3N**±0°.1×**81°.51W**±0°.08, **h10**km, **n32**, σ1**§45**/29, **mb3.7/5**, **MS3.2**/3, **1D**, **North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBCY	**The Bluff, Cay**	**2.22**	**48**	*e*P	**Pn**	**05 58 05.4**	**+0.6**
CBCY				*e*S	**Sn**	**05 58 31.1**	**-1.2**
MTDJ	**Mount Denham**	**3.78**	**90**	*e*P	**Pn**	**05 58 25.5**	**-0.9**
MTDJ				*e*S	**Sn**	**05 59 08.3**	**-2.7**
MTDJ	**Mount Denham**	**3.78**	**90**	*i* P	**Pn**	**05 58 27.9**	**+1.6**
MTDJ				*i* S	**Sn**	**05 59 10.6**	**-0.3**
PILO	**Pilon**	**4.22**	**66**	*e*P	**Pn**	**05 58 33.0**	**+0.7**
PILO				*e*S	**Sn**	**05 59 20.0**	**-1.7**
STH	**Stony Hill**	**4.47**	**92**	||*i*P	**Pn**	**05 58 37.7**	**+1.9**
HOJ	**Hope**	**4.53**	**92**	*i* P	**Pn**	**05 58 38.5**	**+1.9**
LMGC	**Las Mercedes**	**4.62**	**66**	*e*P	**Pn**	**05 58 38.7**	**+0.8**
LTUP	**Las Tunas**	**5.03**	**57**	*e*P	**Pn**	**05 58 45.2**	**+1.7**
CHIV	**Chivirico**	**5.11**	**70**	*e*P	**Pn**	**05 58 45.2**	**+0.6**
MARVS	**Santiago de Cu**	**5.58**	**71**	*e*P	**Pn**	**05 58 51.5**	**+0.4**
RCC	**Rio Carpintero**	**5.76**	**72**	*e*P	**Pn**	**05 58 53.5**	**-0.1**
HLGC	**Holguin**	**5.77**	**62**	*e*P	**Pn**	**05 58 56.7**	**+3.0**
PINC	**Pinares de May**	**5.84**	**67**	*e*P	**Pn**	**05 58 56.2**	**+1.6**
GTBY	**Guantanamo Bay**	**6.28**	**74**	*e*P	**Pn**	**05 59 01.2**	**+0.6**
NMDO	**Nuevo Mundo**	**6.57**	**69**	*e*P	**Pn**	**05 59 06.2**	**+1.5**
QMBU	**Quimbuelo**	**6.62**	**72**	*e*P	**Pn**	**05 59 05.7**	**+0.3**
MOAC	**Moa**	**6.63**	**68**	*e*P	**Pn**	**05 59 07.6**	**+2.2**
TEIG	**Tepich**	**6.69**	**288**	Pn	Pn	05 59 02.3	-3.9
	baz=280,slow=24,SNR=51						
TEIG				Sn	Sn	06 00 11.7	-11
	baz=133,slow=24,SNR=1.9						
MASC	**Masc**	**7.14**	**73**	*e*P	**Pn**	**05 59 13.3**	**+0.8**
JTS	**Las Juntas de**	**8.59**	**203**	LR	LR	06 02 34.0	
	comp=Z,72nm,21.6s,baz=66,slow=37						
SDV	**Santo Domingo**	**14.08**	**130**	LR	LR	06 05 47.6	
	comp=Z,71nm,21.4s,baz=288,slow=35						
SJG	**San Juan**	**14.60**	**88**	LR	LR	06 06 21.7	
	comp=Z,58nm,20.2s,baz=200,slow=36						
ROSC	**El Rosal**	**15.07**	**151**	LR	LR	06 06 44.0	
	comp=Z,75nm,21.1s,baz=3.5,slow=37						
TXAR	**Lajitas Array**	**23.04**	**303**	P	**P**	**06 02 33.0**	**-0.6**
	2.2nm,0.8s,baz=128,slow=10,SNR=17						
	2.2nm,0.8s						
MDP	**Montagnes des**	**31.08**	**111**	LR	LR	06 16 35.1	
	comp=Z,30nm,21.1s,baz=28,slow=37						
ULM	**Lac du Bonnet**	**33.93**	**343**	LR	LR	06 17 16.2	
	comp=Z,48nm,19.1s,baz=276,slow=35						
PDAR	**Pinedale Array**	**34.08**	**322**	P	**P**	**06 04 13.4**	**+0.6**
	0.5nm,0.8s,baz=127,slow=9.8,SNR=3.6						
	0.5nm,0.8s						
YKA	**Yellowknife Ar**	**49.81**	**341**	P	**P**	**06 06 19.9**	**-0.7**
	0.3nm,0.9s,baz=137,slow=7.7,SNR=4.3						
YKA				LR	LR	06 26 37.0	
	comp=Z,45nm,19.6s,baz=230,slow=35						
	0.3nm,0.9s						
ILAR	**Eielson Array**	**63.19**	**334**	P	**P**	**06 07 54.9**	**-1.2**
	0.4nm,0.7s,baz=98,slow=5.3,SNR=4.2						
	0.4nm,0.7s						
ESDC	**Sonseca Array**	**69.14**	**54**	P	**P**	**06 08 36.8**	**+2.1**
	1.9nm,1.2s,baz=270,slow=6.2,SNR=4.6						
	1.9nm,1.2s						
WRA	**Warramunga Arr**	**146.12**	**261**	PKPbc	**PKPdf**	**06 17 07.5**	**-0.8**
	0.4nm,0.7s,baz=100,slow=3.0,SNR=1.8						
ASAR	**Alice Springs**	**146.55**	**255**	PKPbc	**PKPdf**	**06 17 08.5**	**-0.5**
	0.7nm,1.1s,baz=76,slow=2.8,SNR=2.5						

*IDC **14** 06:27:07.9±0.9, 26°.34N×129°.45E, h0km, mb3.7/14, mbtmp3.7/15, ML3.4/1, Error ellipse: s-maj=26.1km s-min=17.8km az=48.0*
*JMA **14** 06:27:09.8±0.1, 26°.3N±0°.8×129°.6E±0°.5, h45km, MV3.4/18, NEAR OKINAWAJIMA ISLAND*
ISC 14 06:27:08.9±0.6, **26°.30N**±0°.04×**129°.56E**±0°.03, **h15**km, **n34**, σ1**§68**/43, **mb3.7**/14, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.23**	**306**	P	**Pg**	**06 27 31.4**	**-1.2**
JYRO				*e*S	**Sb**	**06 27 46.1**	**-1.3**
JOW	**Kunigami**	**1.27**	**295**	Pn	**Pg**	**06 27 32.1**	**-1.3**
	156nm,0.3s,baz=122,slow=17,SNR=120						
JOW				Sn	**Sb**	**06 27 47.1**	**-1.5**
	100nm,0.3s,baz=120,slow=16,SNR=10						
JOW	**Kunigami**	**1.27**	**295**	P	**Pg**	**06 27 31.6**	**-1.7**
JOW	**Kunigami**	**1.27**	**295**	P	**Pg**	**06 27 32.0**	**-1.3**
JOW				S	**Sn**	**06 27 47.4**	**-1.5**
JOKE	**Okinoerabujima**	**1.38**	**320**	*e*P	**Pg**	**06 27 33.9**	**-1.5**
JNTH	**Nagotoyohara**	**1.40**	**279**	P	**Pg**	**06 27 33.5**	**-2.2**
JNTH				*e*S	**Sn**	**06 27 50.2**	**-1.8**
JMZ	**Minamidaito 2**	**1.57**	**107**	P	**Pb**	**06 27 35.6**	**-2.0**
JMZ	**Minamidaito 2**	**1.57**	**107**	P	**Pb**	**06 27 35.5**	**-2.2**
JMZ				*e*S	**Sn**	**06 27 53.1**	**-3.2**
JTK	**Tokunoshima**	**1.57**	**340**	P	**Pb**	**06 27 36.6**	**-1.1**
JTK				*e*S	**Sn**	**06 27 54.6**	**-1.8**
JKDJ	**Kitadaitoujima**	**1.60**	**102**	*e*P	**Pb**	**06 27 36.0**	**-2.1**
JKDJ				*e*S	**Sn**	**06 27 54.8**	**-2.1**
JIH	**Iheya**	**1.60**	**297**	P	**Pb**	**06 27 37.0**	**-1.2**
JIH				S	**Sn**	**06 27 55.4**	**-1.7**
JJT3	**Tamagusuku3**	**1.61**	**265**	*e*P	**Pb**	**06 27 37.0**	**-1.3**
JAMN	**Amaminishikomi**	**1.96**	**350**	*e*P	**Pb**	**06 27 42.3**	**-2.1**
JZK	**Kikaishima**	**2.04**	**10**	*e*S	**Sb**	**06 28 08.5**	**-2.3**
JAGN	**Aguni-jima**	**2.10**	**278**	P	**Pb**	**06 27 44.0**	**-2.7**
JAGN				S	**Sn**	**06 28 08.9**	**-0.5**
JAM	**Amami Oshima**	**2.10**	**1**	*e*P	**Pb**	**06 27 43.6**	**-3.1**
JAM				*e*S	**Sn**	**06 28 07.9**	**-1.5**
JKE	**Kume jima 2**	**2.49**	**271**	*e*P	**Pn**	**06 27 48.5**	**-0.4**
JMJ	**Miyako jima 2**	**4.13**	**250**	P	**Pn**	**06 28 11.0**	**-0.4**
JNU	**Nakatsue**	**6.89**	**9**	Pn	**Pn**	**06 28 50.6**	**+1.2**
	0.7nm,0.3s,baz=333,slow=3.3,SNR=5.9						
	3.1nm,0.5s						
JNU	**Nakatsue**	**6.89**	**9**	P	**Pn**	**06 28 51.2**	**+1.8**
SONM	**Songino Array**	**28.15**	**326**	P	**P**	**06 33 00.1**	**-0.6**
	0.3nm,0.4s,baz=135,slow=14,SNR=2.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**42.38**	**312**	P	**P**	**06 35 02.6**	**0.0**
	0.4nm,0.6s,baz=89,slow=9.7,SNR=5.6						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**45.63**	**316**	P	**P**	**06 35 28.9**	**+0.3**
	0.5nm,0.5s,baz=102,slow=8.9,SNR=6.5						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**46.20**	**174**	P	**P**	**06 35 33.4**	**0.0**
	0.4nm,0.5s,baz=354,slow=8.0,SNR=3.1						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**49.85**	**175**	P	P	06 36 04.2	+2.6
	0.3nm,0.8s,baz=352,slow=7.1,SNR=5.0						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**51.02**	**318**	P	**P**	**06 36 12.0**	**+1.8**
	1.1nm,0.7s,baz=80,slow=8.1,SNR=5.3						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**63.81**	**28**	P	**P**	**06 37 40.8**	**+0.6**
	0.2nm,0.7s,baz=215,slow=7.4,SNR=1.9						
	0.2nm,0.7s						
KBZ	**Khabaz**	**70.04**	**310**	P	**P**	**06 38 21.6**	**+1.5**
	0.7nm,0.5s,baz=349,slow=2.8,SNR=4.2						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**73.39**	**331**	P	**P**	**06 38 41.1**	**+1.1**

1.2nm,0.5s,baz=56,slow=6.4,SNR=13
1.2nm,0.5s

AKASG Malin Array Be 76.25 320 P **P 06 38 57.8 +1.0**
0.5nm,0.5s,baz=62,slow=5.7,SNR=4.3
0.5nm,0.5s

BRTR Keskin Array B 77.93 308 P **P 06 39 08.1 +1.4**
0.9nm,0.8s,baz=90,slow=5.1,SNR=5.4
0.9nm,0.8s

YKA Yellowknife Ar 77.95 25 P **P 06 39 08.4 +2.3**
0.2nm,0.9s,baz=309,slow=3.9,SNR=2.5
0.2nm,0.9s

HFS Hagfors 79.31 333 P **P 06 39 14.4 +0.8**
1.6nm,0.8s,baz=29,slow=6.6,SNR=2.2
1.6nm,0.8s

NOA NORSAR Array B 79.77 334 P **P 06 39 16.9 +0.7**
0.7nm,0.8s,baz=53,slow=5.8,SNR=3.3
0.7nm,0.8s

TAP 14 06:28:35.8,24°.82N×122°.48E,h131km±1km,ML2.6,D,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.46**	**210**	*i* P	Pn	06 28 54.9	+0.3
EOS2				*e*S	Sn	06 29 09.6	+0.8
TWB1	**Santiao Chiao**	**0.48**	**293**	*e*P	Pn	06 28 55.6	+0.8
TWB1				*e*S	Sn	06 29 08.2	-1.1
EGS		**0.50**	**273**	P	Pn	06 28 55.5	+0.5
EGS				S	Sn	06 29 09.9	+0.4
EOS3	**EOS3**	**0.55**	**196**	*e*P	Pn	06 28 55.5	+0.4
EOS3				*e*S	Sn	06 29 10.7	+1.0
YOJ	**Yonaguni jima**	**0.60**	**126**	*e*P	Pn	06 28 54.7	-0.9
YOJ				S	Sn	06 29 10.1	-0.5
TWC	**Suao**	**0.61**	**250**	P	Pn	06 28 55.4	-0.3
TWC				*e*S	Sn	06 29 09.5	-1.2
SXI1	**Grass Mountain**	**0.61**	**297**	P	Pn	06 28 55.6	-0.2
SXI1				*i* S	Sn	06 29 10.6	-0.3
TIPB	**Shuangxi**	**0.61**	**284**	*e*S	Sn	06 29 10.2	-0.6
ESAO	**Su ao**	**0.63**	**247**	*i* P	Pn	06 28 55.8	0.0
EOS4	**EOS4**	**0.71**	**192**	*i* P	Pn	06 28 56.5	+0.5
EOS4				*e*S	Sn	06 29 10.9	-0.3
EWUT	**Wuta**	**0.74**	**240**	*i* P	Pn	06 28 56.6	+0.1
EWUT				*i* S	Sn	06 29 11.8	-0.5
TWE	**Neicheng**	**0.75**	**263**	*i* P	Pn	06 28 56.7	+0.1
ENA	**Nanau**	**0.78**	**240**	*i* P	Pn	06 28 57.0	+0.1
ENA				*e*S	Sn	06 29 09.3	-3.6
FUSB	**Fushanzhiwuyua**	**0.81**	**266**	*e*P	Pn	06 28 57.1	-0.1
FUSB				*e*S	Sn	06 29 11.7	-1.8
TWA	**Mucha**	**0.83**	**281**	*e*S	Sn	06 29 15.3	+1.7
EAHA	**Aohua**	**0.83**	**234**	*i* P	Pn	06 28 57.5	+0.2
EAHA				S	Sn	06 29 13.5	-0.1
ENTT	**Nioudou**	**0.85**	**258**	*e*P	Pn	06 28 57.9	+0.4
ENTT				*i* S	Sn	06 29 14.1	+0.1
NHY	**Taipei**	**0.85**	**285**	*e*S	Sn	06 29 13.0	-1.0
YM01	**YM01**	**0.89**	**292**	P	Pn	06 28 58.3	+0.5
YM01				S	Sn	06 29 13.9	-0.7
NWLT	**Wulai**	**0.89**	**267**	*e*P	Pn	06 28 57.8	-0.1
NWLT				*i* S	Sn	06 29 13.8	-0.7
LATG	**Datong**	**0.91**	**252**	*e*P	Pn	06 28 58.6	+0.5
LATG				S	Sn	06 29 15.3	+0.2
YHNB	**Yeheng**	**1.01**	**262**	P	Pn	06 28 58.7	-0.3
YHNB	**Yeheng**	**1.01**	**262**	P	Pn	06 28 59.3	+0.3
YHNB				*i* S	Sn	06 29 16.3	-0.4
ETL	**Fush Village**	**1.02**	**230**	P	Pn	06 28 59.5	+0.4
ETL				S	Sn	06 29 16.7	0.0
NSK	**Sanguang**	**1.03**	**262**	*e*P	Pn	06 28 59.5	+0.3
NSK				S	Sn	06 29 16.3	-0.6
NACB	**Ninganchiao**	**1.03**	**232**	*e*P	Pn	06 28 58.9	-0.2
NACB				*e*S	Sn	06 29 16.1	-0.7
NNSB	**Datong**	**1.07**	**249**	P	Pn	06 28 60.0	+0.4
NNSB				*e*S	Sn	06 29 17.6	-0.1
NNS	**Nan Shan**	**1.08**	**250**	P	Pn	06 28 59.8	+0.1
NNS				S	Sn	06 29 17.5	-0.3
TWD	**Chiawan**	**1.09**	**228**	P	Pn	06 28 59.5	-0.1
TWD				S	Sn	06 29 17.7	-0.1
ETLH	**Xiulin Townshi**	**1.09**	**236**	P	Pn	06 28 59.7	-0.1
ETLH				S	Sn	06 29 17.2	-0.8
ETM	**Tongmen**	**1.24**	**227**	P	Pn	06 29 01.1	-0.1
ETM				S	Sn	06 29 20.0	-0.4
NFF	**Wufeng Townshi**	**1.25**	**262**	*i* P	Pn	06 29 01.5	+0.1
NFF				S	Sn	06 29 20.1	-0.7
LXIB	**Xiulin Townshi**	**1.26**	**231**	*e*P	Pn	06 28 58.1	-3.5
LXIB				*e*S	Sn	06 29 17.2	-3.8
FUSS	**Fushou**	**1.26**	**243**	P	Pn	06 29 02.1	+0.4
FUSS				*i* S	Sn	06 29 20.6	-0.7
WHF	**Hehuan Shan**	**1.29**	**239**	P	Pn	06 29 01.4	-0.8
WHF				S	Sn	06 29 21.2	-1.0
TDCB	**Techi**	**1.33**	**245**	*e*P	Pn	06 29 03.4	+1.1
TDCB				*e*S	Sn	06 29 22.4	0.0
LIOB	**Emei**	**1.34**	**263**	P	Pn	06 29 02.6	+0.3
LIOB				*i* S	Sn	06 29 22.1	-0.3
ESL	**Shilin**	**1.38**	**224**	*e*P	Pn	06 29 03.7	+1.0
ESL				*e*S	Sn	06 29 24.3	+1.1
WARBT	**Fenglin Townsh**	**1.48**	**223**	*e*P	Pn	06 28 59.0	-4.8
WARBT				S	Sn	06 29 24.9	-0.3
WUSB	**Renai**	**1.49**	**237**	*e*P	Pn	06 29 02.6	-1.4
WUSB				S	Sn	06 29 24.6	-0.9
WHP	**Taichung City**	**1.50**	**249**	*e*P	Pn	06 29 04.9	+0.9
WHP				*e*S	Sn	06 29 25.6	+0.1
VWDT	**VWDT**	**1.62**	**229**	*e*P	Pn	06 29 02.7	-2.6
VWDT				*e*S	Sn	06 29 24.4	-3.4
HGSD	**Ruisui**	**1.64**	**216**	P	Pn	06 29 06.1	+0.6
SSLB	**Suanglung**	**1.73**	**234**	P	Pn	06 29 05.0	-1.7
SSLB	**Suanglung**	**1.73**	**234**	*e*P	Pn	06 29 05.3	-1.3
SSLB				S	Sn	06 29 29.2	-1.0
YULB	**Yu-li**	**1.79**	**217**	*e*P	Pn	06 29 01.8	-5.5
YULB				*e*S	Sn	06 29 28.2	-3.2
FULB	**Fuli**	**1.94**	**214**	P	Pn	06 29 09.2	-0.1
TPUB	**Ta-pu**	**2.27**	**229**	P	Pn	06 29 11.8	-1.4
TWP	**Hsiaoliuchiu**	**3.14**	**219**	*e*P	Pn	06 29 25.2	+1.0
TWP				*e*S	Sn	06 30 02.7	+1.1

JMA 14 06:33:49.1±0.1,26°.2N±0°.8×129°.5E±0°.6,h45km,NEAR
OKINAWAJIMA ISLAND,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.25**	**310**	*e*P	Pn	06 34 10.8	+0.7
JYRO				*e*S	Sn	06 34 25.9	+0.1
JOW	**Kunigami**	**1.27**	**299**	*e*S	Sn	06 34 26.3	-0.1
JNTH	**Nagotoyohara**	**1.38**	**283**	*e*P	Pn	06 34 12.3	+0.4
JOKE	**Okinoerabujima**	**1.42**	**323**	*e*P	Pn	06 34 13.3	+0.9
JOKE				*e*S	Sn	06 34 30.2	+0.2
JJT3	**Tamagusuku3**	**1.57**	**267**	*e*P	Pn	06 34 15.6	+1.1
JMZ	**Minamidaito 2**	**1.58**	**104**	P	Pn	06 34 15.6	+1.0
JMZ	**Minamidaito 2**	**1.58**	**104**	P	Pn	06 34 15.1	+0.5
JIH	**Iheya**	**1.61**	**300**	*e*P	Pn	06 34 16.0	+0.9
JKDJ	**Kitadaitoujima**	**1.61**	**99**	*e*P	Pn	06 34 15.7	+0.6
JTK	**Tokunoshima**	**1.64**	**342**	*e*P	Pn	06 34 16.2	+0.7
JTK				*e*S	Sn	06 34 34.8	-0.5
JAMN	**Amaminishikomi**	**2.03**	**351**	*e*P	Pn	06 34 21.7	+0.8
JAGN	**Aguni-jima**	**2.08**	**281**	*e*P	Pn	06 34 22.6	+1.1
JZK	**Kikaishima**	**2.12**	**11**	*e*P	Pn	06 34 23.8	+1.7
JAM	**Amami Oshima**	**2.18**	**2**	*e*P	Pn	06 34 23.4	+0.6
JKE	**Kume jima 2**	**2.46**	**273**	*e*P	Pn	06 34 27.0	+0.3

---

*IDC **14** 06:33:48.1±0.6,26°.22N×129°.21E,h0km,mb4.1/25,*
mbtmp4.1/29,ML3.6/4,MS3.5/19,Error ellipse:
s-maj=15.3km s-min=13.7km az=62.0
*MOS **14** 06:33:48.7±1.0,26°.29N×129°.34E,h11km,mb4.6/27,Error*
ellipse: s-maj=10.2km s-min=6.1km az=98.3
*BJI **14** 06:33:50.4,26°.17N×129°.10E,h7km,mB4.6/12,mb4.3/30,*
Ms4.1/21,Ms7 3.8/21
*NEIC **14** 06:33:51.1±1.8,26°.30N±0°.07×129°.29E±0°.07,h10km±1km,*
mb4.7/80,Error ellipse: s-maj=12.1km s-min=10.1km
az=200.0
*NIED **14** 06:33:51.0,26°.21N×129°.53E,h43km,MW4.4,Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;
M_{rr}-3.51; $M_{\theta\theta}$2.51; $M_{\phi\phi}$1.00; $M_{r\theta}$-0.98; $M_{\theta\phi}$2.27; $M_{\phi r}$-1.68;
Fault plane solution: $M_0$4.31000×10^{15} NP1:
ϕ_s248.00000°,δ34.00000°,λ-68.00000°. NP2:ϕ_s42.00000°,
δ59.00000°,λ-104.00000°.
*JMA **14** 06:33:51.0±0.1,26°.2N±1°.0×129°.5E±0°.6,h43km,MV4.2/18,*
NEAR OKINAWAJIMA ISLAND
ISC 14 06:33:52.1±0.8,26°.22N±0°.04×129°.45E±0°.04,h23km±5km,
n426,σ1§34/417,mb4.6/89,MS3.5/20,7C,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.20**	**312**	*e*P	**Pn**	**06 34 12.7**	**-0.8**
JYRO				*e*S	**Sn**	**06 34 28.4**	**-0.7**
JOW	**Kunigami**	**1.22**	**300**		**Pn**	**06 34 11.2**	**-2.5**
JOW				Sn	**Sn**	**06 34 28.0**	**-1.4**
JOW	**Kunigami**	**1.22**	**300**	Pn	**Pn**	**06 34 10.8**	**-2.9**
412nm,0.3s,baz=121,slow=20,SNR=149							
JOW				Sn	**Sn**	**06 34 25.7**	**-3.8**
614nm,0.3s,baz=124,slow=20,SNR=12							
JOW				LR	LR	06 34 43.4	
comp=Z,1μm,21.4s,baz=156,slow=53							
JOW	**Kunigami**	**1.22**	**300**	P	**Pn**	**06 34 11.2**	**-2.5**
JOW	**Kunigami**	**1.22**	**300**	*e*P	**Pn**	**06 34 13.0**	**-0.7**
JOW				*e*S	**Sn**	**06 34 28.1**	**-1.4**
JOW	**Kunigami**	**1.22**	**300**	P	**Pn**	**06 34 11.0**	**-2.7**
JNTH	**Nagotoyohara**	**1.31**	**283**	*e*P	**Pn**	**06 34 14.4**	**-0.6**
JOKE	**Okinoerabujima**	**1.38**	**325**	*e*P	**Pn**	**06 34 15.7**	**-0.3**
JJT3	**Tamagusuku3**	**1.50**	**267**	*e*S	**Sn**	**06 34 36.6**	**+0.2**
JIH	**Iheya**	**1.55**	**302**	*e*P	**Pn**	**06 34 18.2**	**-0.2**
JIH				*e*S	**Sn**	**06 34 37.0**	**-0.7**
JTK	**Tokunoshima**	**1.62**	**344**	*e*P	**Pn**	**06 34 18.6**	**-0.7**
JTK				*e*S	**Sn**	**06 34 37.1**	**-2.3**
JMZ	**Minamidaito 2**	**1.65**	**104**	*e*P	**Pn**	**06 34 17.1**	**-2.6**
JMZ				*e*S	**Sn**	**06 34 34.3**	**-5.8**
JKDJ	**Kitadaitoujima**	**1.68**	**99**	*e*P	**Pn**	**06 34 17.8**	**-2.3**
JKDJ				*e*S	**Sn**	**06 34 36.5**	**-4.5**
JAGN	**Aguni-jima**	**2.01**	**281**	*e*P	**Pn**	**06 34 25.0**	**+0.3**
JAMN	**Amaminishikomi**	**2.03**	**353**	*e*P	**Pn**	**06 34 24.0**	**-0.9**
JAMN				*e*S	**Sn**	**06 34 47.6**	**-1.9**
JZK	**Kikaishima**	**2.13**	**12**	*e*P	**Pn**	**06 34 25.9**	**-0.4**
JAM	**Amami Oshima**	**2.18**	**4**	*e*P	**Pn**	**06 34 25.6**	**-1.4**
JAM				*e*S	**Sn**	**06 34 50.1**	**-3.3**
JKE	**Kume jima 2**	**2.39**	**273**	*e*S	**Sn**	**06 34 56.5**	**-2.0**
JTAJ	**Takarajima**	**2.93**	**356**	*e*P	**Pn**	**06 34 35.0**	**-2.2**
JTAJ				*e*S	**Sn**	**06 35 08.5**	**-3.2**
JNU	**Nakatsue**	**6.99**	**10**		**Pn**	**06 35 31.4**	**-1.7**
JNU	**Nakatsue**	**6.99**	**10**	Pn	**Pn**	**06 35 31.7**	**-1.4**
2.8nm,0.3s,baz=205,slow=14,SNR=20							
JNU				Sn	**Sn**	**06 36 44.9**	**-6.9**
1.9nm,0.3s,baz=205,slow=14,SNR=1.3							
JNU				LR	LR	06 38 56.3	
comp=Z,316nm,18.3s,baz=264,slow=44							
18nm,0.5s							
NACB	**Ninganchiao**	**7.40**	**256**	Pn	**Pn**	**06 35 36.3**	**-2.5**
NACB	**Ninganchiao**	**7.40**	**256**	P	**Pn**	**06 35 35.6**	**-3.2**
YHNB	**Yeheng**	**7.46**	**260**	Pn	**Pn**	**06 35 39.2**	**-0.5**
YULB	**Yu-li**	**7.92**	**251**	Pn	**Pn**	**06 35 41.5**	**-4.5**
YULB	**Yu-li**	**7.92**	**251**	P	**Pn**	**06 35 44.2**	**-1.8**
SSLB	**Suanglung**	**8.08**	**254**		**Pn**	**06 35 45.3**	**-2.8**
SSLB	**Suanglung**	**8.08**	**254**	P	**Pn**	**06 35 45.4**	**-2.7**
JMN	**Monobe**	**8.41**	**26**	Pn	**Pn**	**06 35 52.5**	**-0.1**
TPUB	**Ta-pu**	**8.53**	**252**		**Pn**	**06 35 50.9**	**-3.4**
TPUB	**Ta-pu**	**8.53**	**252**	P	**Pn**	**06 35 51.1**	**-3.2**
SSE	**Sheshan**	**8.73**	**306**	P	**Pn**	**06 35 53.5**	**-3.5**
SSE				S	**Sn**	**06 37 31.9**	**-2.8**
SSE				pmax	pmax		
comp=Z,7.0nm,0.7s							
SSE				pmax	pmax		
comp=Z,65nm,4.6s							
SSE				LR	LR		
comp=N,200nm,14.0s							
SSE				LR	LR		
comp=E,260nm,13.8s							
NJ2	**Nanjing**	**10.93**	**305**	*e*P	**Pn**	**06 36 26.1**	**-1.0**
NJ2				pmax	pmax		
comp=Z,13nm,0.5s							
NJ2				LR	LR		
comp=N,620nm,12.3s							
NJ2				LR	LR		
comp=E,520nm,14.2s							
NJ2				LR	LR		
comp=Z,1μm,13.3s							
KSRS	**Korea Array**	**11.27**	**354**		**Pn**	**06 36 30.6**	**-1.2**
KSRS	**Korea Array**	**11.27**	**354**	Pn	**Pn**	**06 36 30.6**	**-1.2**
0.3nm,0.3s,baz=171,slow=13,SNR=5.3							
KSRS				LR	LR	06 41 07.2	
comp=Z,232nm,18.5s,baz=175,slow=39							
1.4nm,0.8s							
MAJO	**Matsushiro**	**12.71**	**34**	*i* P	**Pn**	**06 36 51.9**	**+0.4**
MJAR	**Matsushiro Arr**	**12.71**	**34**	Pn	**Pn**	**06 36 53.8**	**+2.3**
baz=219,slow=10.0,SNR=10							
0.7nm,0.6s							
BJT	**Baijiatuau**	**17.66**	**324**		**Pn**	**06 37 55.0**	**-1.6**
BJT	**Baijiatuau**	**17.66**	**324**	P	**Pn**	**06 37 55.0**	**-1.6**
BJT				pmax	pmax		
comp=Z,12nm,0.7s							
USRK	**Ussuriysk Ar.**	**18.05**	**6**	P	**P**	**06 38 01.5**	**-0.2**
comp=Z,0.2nm,0.3s,baz=179,slow=11,SNR=6.1							
USRK				LR	LR	06 44 50.4	
comp=Z,86nm,19.3s,baz=198,slow=37							
comp=Z,2.7nm,0.6s							
GUMO	**Guam**	**19.16**	**128**	LR	LR	06 46 02.8	
comp=Z,94nm,18.2s,baz=4.0,slow=38							
XAN	**Xi'an**	**19.37**	**299**	P	**P**	**06 38 16.8**	**+0.5**
XAN				pP	sP	06 38 24.9	+1.4
XAN				pmax	pmax		
comp=Z,19nm,0.9s							
XAN				pmax	pmax		
comp=Z,160nm,5.7s							
XAN				LR	LR		
comp=Z,430nm,12.9s							
XAN				LR	LR		
comp=Z,410nm,17.7s							
XAN				LR	LR		
comp=Z,590nm,17.4s							
ERM	**Erimo**	**19.37**	**32**	P	**P**	**06 38 15.5**	**-0.7**
ERM	**Erimo**	**19.37**	**32**	*i* P	**P**	**06 38 15.5**	**-0.7**
DAV	**Davao City (W)**	**19.40**	**192**	LR	LR	06 47 38.5	
comp=Z,91nm,18.1s,baz=160,slow=43							
QIZ	**Qiongzhong**	**19.45**	**252**	P	**P**	**06 38 15.2**	**-2.0**
QIZ	**Qiongzhong**	**19.45**	**252**	P	**P**	**06 38 15.4**	**-1.8**
QIZ				S	**S**	**06 41 49.4**	**-6.4**
QIZ				pmax	pmax		
comp=Z,23nm,1.9s							
QIZ				LR	LR		
comp=Z,200nm,13.7s							
QIZ				LR	LR		
comp=Z,150nm,11.0s							
QIZ				LR	LR		
comp=Z,210nm,15.8s							
BNX	**BinXian**	**19.55**	**356**	⇑P	**Pn**	**06 38 22.8**	**+3.4**
BNX				pmax	pmax		
comp=Z,6.0nm,1.1s							
XLT	**XiLinHaoTe**	**20.71**	**332**	*e*P	Pn	06 38 34.4	+1.2
XLT				pP	sP	06 38 37.8	-0.2
XLT				pmax	pmax		
comp=Z,17nm,0.8s							
ASAJ	**Asahikawa**	**20.79**	**27**	P	**P**	**06 38 32.0**	**+0.4**
comp=Z,5.4nm,0.8s,baz=213,slow=13,SNR=7.5							
comp=Z,5.4nm,0.8s							
JKA	**Kamikawa-asahi**	**20.79**	**27**	P	**P**	**06 38 31.9**	**+0.2**
HHC	**Hu-ho-hao-te**	**20.80**	**319**	*e*P	**P**	**06 38 32.1**	**+0.2**
HHC				pmax	pmax		
comp=Z,10.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,75nm,5.9s							
HHC				LR	LR		
comp=Z,370nm,14.5s							
HHC				LR	LR		
comp=Z,320nm,16.2s							
HHC				LR	LR		
comp=Z,410nm,17.6s							
BTO	**Baotou**	**21.58**	**316**	*e*P	**P**	**06 38 42.3**	**+2.0**
BTO				pP	**pP**	**06 38 45.5**	**+0.4**
BTO				sP	**sP**	**06 38 49.0**	**+1.5**
BTO				PP	**PnPn**	**06 39 05.4**	**+4.3**
BTO				SS	Sn	06 43 04.6	+17
BTO				pmax	pmax		
comp=Z,15nm,0.6s							
BTO				pmax	pmax		
comp=Z,86nm,4.2s							
BTO				LR	LR		
comp=Z,500nm,6.6s							
BTO				LR	LR		
comp=Z,410nm,7.0s							
BTO				LR	LR		
comp=Z,470nm,15.0s							
KLR	**Kul'dur**	**23.04**	**4**	P	**P**	**06 38 55.2**	**-0.4**
KLR	**Kul'dur**	**23.04**	**4**	P	**P**	**06 38 55.2**	**-0.4**
comp=Z,6.8nm,0.7s,baz=193,slow=8.6,SNR=14							
KLR				LR	LR	06 48 31.3	
comp=Z,79nm,18.1s,baz=191,slow=38							
comp=Z,6.8nm,0.7s							
KLR	**Kul'dur**	**23.04**	**4**	*e*P	**P**	**06 38 54.1**	**-1.5**
KLR				pmax	pmax		
comp=Z,7.0nm,0.7s							
YSS	**Yuzhno-Sakhali**	**23.22**	**24**	*e*P	**P**	**06 38 52.9**	**-4.5**
YSS				pmax	pmax		
comp=Z,10.0nm,1.3s							
PZH	**PanZhiHua**	**24.81**	**277**	P	**P**	**06 39 12.6**	**-0.2**
PZH				pmax	pmax		
comp=Z,10.0nm,1.1s							
PZH				pmax	pmax		
comp=Z,110nm,5.2s							
ZEA	**Zeya**	**27.53**	**357**	*e*P	**P**	**06 39 39.7**	**+2.8**
ZEA				MLR	MLR		
comp=Z,100nm,16.0s							
ULN	**Ulaanbaatar**	**27.85**	**327**	*ce*P	**P**	**06 39 38.7**	**-1.4**
ULN				pmax	pmax		
comp=Z,4.0nm,1.7s							
GTA	**Gaotai**	**28.02**	**305**	*e*P	**P**	**06 39 45.0**	**+3.3**
GTA				pP	sP	06 39 48.8	-0.4
GTA				pmax	pmax		
comp=Z,6.0nm,0.8s							
SONM	**Songino Array**	**28.16**	**326**	P	**P**	**06 39 41.9**	**-0.9**
comp=Z,0.8nm,0.6s,baz=137,slow=13,SNR=6.8							
SONM				LR	LR	06 52 27.1	
comp=Z,89nm,18.3s,baz=82,slow=40							
comp=Z,0.8nm,0.6s							
FAKI	**Fak Fak**	**29.10**	**174**	P	**P**	**06 39 51.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**29.20**	**261**	P	**P**	**06 39 50.1**	**-2.0**
comp=Z,0.2nm,0.4s,baz=69,slow=10,SNR=5.9							
CMAR				LR	LR	06 52 29.4	
comp=Z,30nm,18.2s,baz=55,slow=39							
comp=Z,0.2nm,0.4s							
JAY	**Jayapura**	**30.57**	**157**	LR	LR	06 53 11.6	
comp=Z,54nm,18.1s,baz=342,slow=38							
SHL	**Shillong**	**33.73**	**277**		**P**	**06 40 31.0**	**-1.1**
SHL	**Shillong**	**33.73**	**277**	P	**P**	**06 40 31.0**	**-1.1**
SHL				pmax	pmax		
comp=Z,5.0nm,0.9s							
PEA0B	**Petropavlovsk-**	**34.14**	**31**	P	**P**	**06 40 36.2**	**+1.0**
PEA0B				IAmb	IAmb	06 40 41.5	
comp=Z,9.0nm,1.1s							
PEA0B	**Petropavlovsk-**	**34.14**	**31**	P	**P**	**06 40 36.2**	**+1.0**
PEA0B				pmax	pmax		
comp=Z,9.0nm,1.2s							
PETK	**Petropavlovsk-**	**34.14**	**31**	P	**P**	**06 40 35.5**	**+0.4**
PETK	**Petropavlovsk-**	**34.14**	**31**	P	**P**	**06 40 35.0**	**-0.2**
comp=Z,2.1nm,0.8s,baz=210,slow=11,SNR=5.5							
comp=Z,2.1nm,0.8s							
PETK	**Petropavlovsk-**	**34.14**	**31**	P	**P**	**06 40 35.6**	**+0.4**
YAK	**Yakutsk**	**35.80**	**0**	LR	LR	06 55 04.6	
comp=Z,51nm,20.2s,baz=172,slow=36							
MA2	**Magadan**	**36.47**	**18**	LR	LR	06 56 58.8	
comp=Z,32nm,18.0s,baz=258,slow=38							
WMQ	**Urumqi**	**37.98**	**308**	*e*P	**P**	**06 41 12.8**	**+4.6**
WMQ				pmax	pmax		
comp=Z,16nm,0.9s							
WMQ				LR	LR		
comp=Z,120nm,24.0s							
MTN	**Manton Dam**	**38.87**	**177**	P	**P**	**06 41 15.9**	**+0.1**
MTN				IAmb	IAmb	06 41 28.1	
comp=Z,16nm,1.2s							
PMG	**Port Moresby**	**39.38**	**152**	LR	LR	06 54 55.6	
comp=Z,46nm,19.8s,baz=126,slow=32							
SEY	**Seymchan**	**39.71**	**16**	*e*P	**P**	**06 41 22.2**	**-0.2**
SEY				pmax	pmax		
comp=Z,10.0nm,1.8s							
KNRA	**Kununurra**	**41.65**	**181**		**P**	**06 41 39.6**	**+0.7**
KNRA				IAmb	IAmb	06 41 52.1	
comp=Z,15nm,1.1s							
COEN	**Coen**	**42.11**	**160**	P	**P**	**06 41 44.2**	**+1.5**
COEN				IAmb	IAmb	06 41 53.3	
comp=Z,29nm,1.5s							
MK31	**Makanchi Array**	**42.36**	**312**	*i* P	**P**	**06 41 44.2**	**-0.3**
MKAR	**Makanchi Array**	**42.36**	**312**	P	**P**	**06 41 43.2**	**-1.2**
MKAR	**Makanchi Array**	**42.36**	**312**	P	**P**	**06 41 42.4**	**-2.1**
comp=Z,1.2nm,0.6s,baz=101,slow=9.4,SNR=12							
MKAR				LR	LR	07 00 37.8	
comp=Z,72nm,21.4s,baz=86,slow=38							
comp=Z,1.2nm,0.6s							
MKAR	**Makanchi Array**	**42.36**	**312**	*i* P	**P**	**06 41 44.9**	**+0.4**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
ZAA0	**Zalesovo Array**	**42.92**	**322**	P	**P**	**06 41 48.1**	**-0.7**
ZALV	**Zalesovo Beam**	**42.92**	**322**	P	**P**	**06 41 47.8**	**-1.0**
ZALV	**Zalesovo Beam**	**42.92**	**322**	P	**P**	**06 41 46.2**	**-2.7**
comp=Z,1.6nm,0.5s,baz=108,slow=8.6,SNR=8.1							
ZALV				LR	LR	07 01 18.2	
comp=Z,109nm,19.0s,baz=56,slow=39							
comp=Z,1.6nm,0.5s							
ZALV	**Zalesovo Beam**	**42.92**	**322**	*i* P	**P**	**06 41 50.0**	**+1.1**
ZALV				pmax	pmax		
comp=Z,2.0nm,0.5s							
FITZ	**Fitzroy Crossi**	**44.21**	**185**	P	**P**	**06 41 60.0**	**+0.4**
KDJ	**Kajisay**	**45.36**	**304**	P	**P**	**06 42 07.8**	**-1.1**
KDJ	**Kajisay**	**45.36**	**304**	P	**P**	**06 42 07.8**	**-1.1**
KDJ				pmax	pmax		
comp=Z,4.0nm,1.1s							
TIXI	**Tiksi**	**45.46**	**360**	P	**P**	**06 42 09.8**	**+0.8**
TIXI	**Tiksi**	**45.46**	**360**	LR	LR	07 02 24.7	
comp=Z,55nm,18.1s,baz=196,slow=38							
TIXI	**Tiksi**	**45.46**	**360**	*ce*P	**P**	**06 42 08.6**	**-0.4**
TIXI				pmax	pmax		
comp=Z,10.0nm,2.5s							
KURK	**Kurchatov**	**45.58**	**316**	P	**P**	**06 42 08.3**	**-1.9**
KURK	**Kurchatov**	**45.58**	**316**	*i* P	**P**	**06 42 09.1**	**-1.1**
KURK				pmax	pmax		
comp=Z,4.0nm,1.8s							
KURBB	**

L14K	Kuka Creek baz=264	56.76	32	P	P	06 43 34.7 +0.7
M14K	Bethel baz=265	57.05	33	P	P	06 43 36.2 +0.2
O14K	Tigyukauivet M baz=267	57.30	35	P	P	06 43 38.4 +0.6
K15K	Wolf Creek Mou baz=265	57.40	31	P	P	06 43 39.5 +1.0
G16K	Koyuk River baz=262	57.40	27	P	P	06 43 39.0 +0.5
ABKAR	Akbulak array	57.45	313	P	P	06 43 39.2 +0.1
D17K	Noatak River baz=260	57.48	25	P	P	06 43 40.1 +1.1
SDPT	Sand Point baz=270	57.62	39	P	P	06 43 40.0 -0.1
HRA	Herat	57.66	296	P	P	06 43 41.4 +0.3
HRA	comp=Z,5.1nm,0.7s			IAmb	IAmb	06 43 43.5
M15K	Kasigluk River baz=267	57.67	33	P	P	06 43 40.7 +0.3
J16K	Anvik River baz=265	57.91	30	P	P	06 43 41.9 -0.1
I17K	Unalakleet baz=265	57.93	29	P	P	06 43 42.7 +0.6
N15K	Kwethluk River baz=267	57.94	34	P	P	06 43 42.3 0.0
F17K	Baldwin Pennin baz=262	57.99	26	P	P	06 43 43.3 +0.7
O15K	Ungalikthiuk R baz=268	58.03	35	P	P	06 43 43.1 +0.1
G17K	Kiwalik Mounta baz=264	58.12	27	P	P	06 43 44.1 +0.6
CHNA	Chernabura Isl baz=271	58.13	40	P	P	06 43 44.0 +0.3
S14K	Fog Glacier baz=270	58.14	38	P	P	06 43 43.5 -0.4
ARTI	Arti	58.17	322		P	06 43 42.7 -1.3
ARTI	Arti	58.17	322	*c i* P	P	06 43 44.4 +0.4
ARTI						06 44 36.9
ARTI				S	S	06 51 48.5 +4.4
ARTI				SS	SS	06 55 38.0 +2.6
ARTI	comp=Z,12nm,1.8s			pmax	pmax	
B18K	Kokolik River baz=260	58.24	23	P	P	06 43 44.4 +0.1
L16K	Owhat River baz=267	58.32	32	P	P	06 43 44.8 -0.1
C18K	Utukok River	58.34	24	P	P	06 43 46.4 +1.3
C18K	comp=Z,4.6nm,0.8s			IAmb	IAmb	06 43 47.2
C18K	Utukok River baz=261	58.34	24	P	P	06 43 44.7 -0.4
H17K	Granite Mounta baz=265	58.37	28	P	P	06 43 45.0 -0.3
E18K	Tukpahlearik C baz=262	58.38	25	P	P	06 43 45.0 -0.3
M16K	Timber Creek baz=268	58.53	33	P	P	06 43 46.4 -0.1
J17K	VABM Dome baz=266	58.61	30	P	P	06 43 46.5 -0.5
N16K	Nishlik Lake baz=268	58.61	33	P	P	06 43 46.4 -0.6
A19K	Wainwright baz=260	58.64	22	P	P	06 43 46.4 -0.6
F18K	Selawik baz=264	58.65	26	P	P	06 43 47.2 +0.1
L17K	Donlin baz=268	58.90	32	P	P	06 43 48.6 -0.4
K17K	Iditarod baz=268	58.92	31	P	P	06 43 48.2 -0.9
O16K	Kokwok River B baz=270	58.93	34	P	P	06 43 49.6 +0.4
P16K	Nushagak River baz=270	58.98	35	P	P	06 43 49.0 -0.5
G18K	Tagagawik baz=265	58.98	27	P	P	06 43 49.6 0.0
H18K	Honhosa River baz=266	59.04	28	P	P	06 43 49.8 -0.2
R16K	Pilot Point baz=271	59.21	37	P	P	06 43 51.1 -0.1
M17K	Holitna River baz=269	59.28	32	P	P	06 43 51.0 -0.7
N17K	Nushagak Hills baz=270	59.39	33	P	P	06 43 52.0 -0.5
F19K	Shaleruckik Mo baz=266	59.41	26	P	P	06 43 52.1 -0.4
O17K	Koliganek Bris baz=270	59.44	34	P	P	06 43 52.7 0.0
D19K	Kuna River	59.44	24		P	06 43 54.5 +1.8
D19K	Kuna River baz=264,SNR=5.3	59.44	24	P	P	06 43 52.4 -0.2
G19K	Purcell Mounta baz=266	59.64	27	P	P	06 43 53.5 -0.5
L18K	Granite Mounta baz=269	59.65	31	P	P	06 43 54.0 -0.3
J18K	Innoko River baz=268	59.67	30	P	P	06 43 54.4 0.0
E19K	Redstone River	59.67	25		P	06 43 56.0 +1.7
E19K	comp=Z,5.7nm,0.8s			IAmb	IAmb	06 44 09.1
E19K	Redstone River baz=266	59.67	25	P	P	06 43 54.4 +0.1
Q16K	King Salmon baz=271	59.67	36	P	P	06 43 54.9 +0.5
P17K	Kvichak River baz=271	59.78	35	P	P	06 43 55.3 +0.2
H19K	Roundabout Mou baz=268	59.87	28	P	P	06 43 55.8 +0.2
B20K	Meade River baz=264	59.94	22	P	P	06 43 55.9 -0.1
TTA	Tatalina baz=269	59.98	31	P	P	06 43 56.5 0.0
D20K	Etivluk River	60.01	24		P	06 43 58.2 +1.6
D20K	Etivluk River baz=266,SNR=7.6	60.01	24	P	P	06 43 56.6 0.0
N18K	Kilae Creek baz=271	60.03	33	P	P	06 43 56.2 -0.6
M18K	Stony River baz=270	60.06	32	P	P	06 43 56.7 -0.3
Q17K	Contact Creek baz=272	60.09	36	P	P	06 43 56.2 -1.2
E20K	Nigu River baz=266	60.13	24	P	P	06 43 57.2 -0.3
J19K	Poorman baz=269	60.17	29	P	P	06 43 57.7 -0.1
F20K	Avaraart Lake baz=267	60.23	26	P	P	06 43 57.8 -0.3
CHIR	Chirikof Islan baz=274	60.35	39	P	P	06 43 58.8 -0.3
O18K	Koktuh Hills baz=272	60.39	34	P	P	06 43 59.2 -0.2
P18K	Big Mountain, baz=272	60.39	35	P	P	06 43 59.5 +0.1
L19K	White Mountain baz=271	60.51	31	P	P	06 43 59.7 -0.4
H20K	Anotleneega Mo baz=269	60.52	28	P	P	06 44 00.2 +0.1
Q18K	Katmai Hardscr baz=273	60.53	36	P	P	06 44 00.6 +0.1
I20K	Naaghedeneel baz=270	60.68	28	P	P	06 44 01.1 0.0
C21K	Knifeblade Rid baz=267	60.70	23	P	P	06 44 00.8 -0.5
N19K	Bonanza Creek baz=272	60.72	33	P	P	06 44 01.6 -0.1
M19K	Big River Lodg baz=271	60.73	32	P	P	06 44 01.9 +0.2
A22K	Sinclair Lake baz=266	60.76	21	P	P	06 44 01.3 -0.3
B21K	Ikpikpuk River baz=267	60.78	23	P	P	06 44 02.7 +0.8
J20K	Nowinta River baz=270	60.82	29	P	P	06 44 02.8 +0.6
K20K	Telida	60.86	30	P	P	06 44 04.6 +2.1
K20K	comp=Z,4.3nm,0.9s			IAmb	IAmb	06 44 05.3
K20K	Telida baz=271	60.86	30	P	P	06 44 02.5 0.0
R18K	Karluk baz=274	60.89	37	P	P	06 44 02.8 +0.1
E21K	Killik River baz=268	60.96	24	P	P	06 44 03.0 -0.1
L20K	Farewell, AK baz=272	60.96	31	P	P	06 44 03.5 +0.2
G21K	Allakaket baz=270	61.09	26	P	P	06 44 04.0 0.0
SII	Sitkinak Islan baz=275	61.10	38	P	P	06 44 03.2 -1.1
F21K	Alatna River baz=269	61.11	26	P	P	06 44 04.1 0.0
Q19K	Cape Douglas, baz=274	61.23	35	P	P	06 44 04.7 -0.4
B22K	Teshekpuk Lake baz=268	61.23	22	P	P	06 44 04.2 -0.6
M20K	Styx River baz=272	61.33	32	P	P	06 44 06.1 +0.3
H21K	Melozitna Rive	61.38	27	P	P	06 44 07.6 +1.6
H21K	comp=Z,7.5nm,1.1s			IAmb	IAmb	06 44 08.8
H21K	Melozitna Rive baz=271	61.38	27	P	P	06 44 06.2 +0.2
P19K	Oil Pt baz=274	61.40	34	P	P	06 44 06.5 +0.3
D22K	Ayikyak River comp=Z,6.7nm,1.0s	61.44	24	IAmb	IAmb	06 44 09.2
D22K	Ayikyak River baz=269	61.44	24	P	P	06 44 06.7 +0.3
F22K	John River baz=270	61.62	25	P	P	06 44 07.7 +0.1
CHUM	Lake Minchumin baz=272	61.63	30	P	P	06 44 08.0 +0.4
PPLA	Purkeypile baz=273	61.73	31	P	P	06 44 09.1 +0.5
CAST	Castle Rocks	61.75	30	P	P	06 44 09.2 +0.6
CAST	comp=Z,5.3nm,0.9s			IAmb	IAmb	06 44 10.6
E22K	Anaktuvuk Pass comp=Z,4.4nm,0.8s	61.76	25	IAmb	IAmb	06 44 22.8
E22K	Anaktuvuk Pass baz=270,SNR=5.3	61.76	25	P	P	06 44 07.8 -0.7
SPCR	Spurr Chakacha baz=274	61.81	33	P	P	06 44 09.1 +0.1
G22K	Bettles baz=271	61.89	26	P	P	06 44 09.8 +0.5
Q20K	Shuyak Island baz=275	61.90	36	P	P	06 44 09.3 -0.2
H22K	Ishtalitna Cre baz=272,SNR=6.5	61.97	27	P	P	06 44 10.3 +0.3
SKT	Skwentna baz=274	62.08	32	P	P	06 44 10.4 -0.3
D23K	Nanushuk River comp=Z,6.7nm,0.9s	62.17	24	IAmb	IAmb	06 44 14.3
D23K	Nanushuk River baz=271,SNR=6.6	62.17	24	P	P	06 44 11.0 -0.2
C23K	Itkillik River comp=Z,6.4nm,1.1s	62.18	23	IAmb	IAmb	06 44 26.8
C23K	Itkillik River baz=270	62.18	23	P	P	06 44 11.2 -0.1
HOM	Homer baz=275	62.20	34	P	P	06 44 12.0 +0.5
BPAW	Bear Paw Mtn. baz=273	62.21	29	P	P	06 44 11.4 -0.1
CAPN	Captain Cook N baz=275	62.35	33	P	P	06 44 12.1 -0.5
COLD	Coldfoot baz=272	62.39	26	P	P	06 44 12.5 -0.2
G23K	Bananza Creek baz=273	62.48	26	P	P	06 44 13.2 -0.2
SUA	Susitna One	62.49	32	P	P	06 44 14.6 +0.9
SUA	comp=Z,7.9nm,1.1s			IAmb	IAmb	06 44 18.1
SUA	Susitna One baz=275	62.49	32	P	P	06 44 13.4 -0.2
TRF	Thorofare Moun baz=274	62.55	30	P	P	06 44 14.6 +0.5
BRLK	Bradley Lake	62.57	34	P	P	06 44 15.4 +1.3
TOLK	Toolik Lake Re baz=272	62.58	24	P	P	06 44 14.2 +0.2
E23K	Chandalar	62.58	25	P	P	06 44 16.1 +2.0
E23K	Chandalar baz=272,SNR=7.6	62.58	25	P	P	06 44 13.9 -0.2
BRSE	Bradley Lake S baz=276	62.65	34	P	P	06 44 14.4 -0.2
H23K	Yukon River baz=274	62.72	27	P	P	06 44 14.9 -0.1
I23K	Minto, Yukon-K baz=274	62.84	28	P	P	06 44 15.9 +0.2
C24K	Franklin Bluff baz=272	62.85	23	P	P	06 44 15.7 0.0
KIRV	Kirov	62.88	325	*i* P	P	06 44 14.7 -1.4
E24K	Your Creek comp=Z,4.8nm,1.0s	63.01	25	IAmb	IAmb	06 44 19.7
E24K	Your Creek baz=273	63.01	25	P	P	06 44 16.6 -0.3
NEA2	Nenana	63.01	29	P	P	06 44 18.2 +1.3
NEA2	Nenana baz=275,SNR=7.5	63.01	29	P	P	06 44 17.0 +0.1
MCK	McKinley	63.14	30	P	P	06 44 18.3 +0.5
MCK	McKinley	63.14	30	P	P	06 44 18.3 +0.5
MCK	comp=Z,6.0nm,0.8s			pmax	pmax	
MCK	McKinley baz=275,SNR=5.3	63.14	30	P	P	06 44 17.5 -0.3
RND	Reindeer	63.20	30	P	P	06 44 19.0 +0.7
RND	Reindeer	63.20	30	P	P	06 44 19.0 +0.7
RND	comp=Z,9.0nm,0.8s			pmax	pmax	
SEW	Seward baz=277	63.26	34	P	P	06 44 17.5 -1.0
F24K	Squaw Lake comp=Z,4.2nm,0.7s	63.27	25	IAmb	IAmb	06 44 21.2
F24K	Squaw Lake baz=274	63.27	25	P	P	06 44 18.2 -0.4
H24K	Noodor Dome baz=275	63.41	27	P	P	06 44 19.0 -0.5
G24K	Hadweenzic Riv baz=275	63.49	26	P	P	06 44 19.7 -0.4
COLA	College	63.50	28	*i* P	P	06 44 20.9 +0.8
COLA	comp=Z,20nm,3.0s			pmax	pmax	
KNK	Knik Glacier baz=277	63.59	32	P	P	06 44 20.5 -0.4
SML	Sawmill baz=277	63.61	32	P	P	06 44 20.5 -0.5
POKR	Poker Plat Res	63.66	28	P	P	06 44 22.8 +1.6
POKR	Poker Plat Res baz=276	63.66	28	P	P	06 44 21.3 +0.1
D25K	Kavik River comp=Z,6.2nm,1.1s	63.69	23	IAmb	IAmb	06 44 34.9
D25K	Kavik River baz=275	63.69	23	P	P	06 44 21.1 -0.3
M23K	Glacier View baz=277	63.90	32	P	P	06 44 23.9 +1.1
ILAR	Eielson Array comp=Z,0.9nm,0.8s,baz=277,slow=6.4,SNR=10	63.92	28	P	P	06 44 22.6 -0.4
	comp=Z,0.9nm,0.8s					
G25K	Bearman Lake baz=276	64.03	26	P	P	06 44 24.2 +0.6
SCM	Sheep Creek Mo baz=278	64.08	32	P	P	06 44 24.3 +0.3
E25K	Arctic Village baz=276,SNR=5.7	64.09	25	P	P	06 44 24.3 +0.3
F25K	Christian Rive comp=Z,6.7nm,1.2s	64.12	25	IAmb	IAmb	06 44 40.4
F25K	Christian Rive baz=276,SNR=5.1	64.12	25	P	P	06 44 24.5 +0.2
C26K	Camden Bay baz=276	64.15	23	P	P	06 44 25.2 +0.9
H25L	Birch Creek baz=277	64.20	27	P	P	06 44 25.8 +1.2
PRP	Porcupine Dome	64.41	27	P	P	06 44 26.9 +0.6
PRP	Porcupine Dome baz=277	64.41	27	P	P	06 44 26.3 0.0
K24K	Donnelly Dome baz=278	64.52	29	P	P	06 44 27.1 +0.2
BMAR	Burnt Mountain	64.55	25	P	P	06 44 27.8 +0.7
M24K	Tolsona, Glenn baz=278	64.58	31	P	P	06 44 28.0 +0.6
C27K	Jago River baz=277	64.60	23	P	P	06 44 27.7 +0.4
F26K	Sheenjek River comp=Z,7.0nm,1.1s	64.68	25	IAmb	IAmb	06 44 31.2
F26K	Sheenjek River baz=278	64.68	25	P	P	06 44 28.4 +0.5
PAX	Paxson baz=279	64.78	30	P	P	06 44 29.2 +0.6
KLU	Klutina baz=279	64.79	32	P	P	06 44 29.7 +0.9
DIV	Divide	64.92	32	P	P	06 44 31.0 +1.4
DIV	comp=Z,5.5nm,0.8s			IAmb	IAmb	06 44 31.4
G26K	Porcupine Rive baz=278	64.92	26	P	P	06 44 29.6 +0.2
RIDG	Independent Ri baz=279	64.94	29	P	P	06 44 30.1 +0.4
HARP	HAARP	65.01	31	P	P	06 44 30.5 +0.4
EYAK	Cordova Ski Ar baz=280	65.02	33	P	P	06 44 30.3 +0.2
SCRK	Sand Creek comp=Z,4.8nm,1.0s	65.28	29	IAmb	IAmb	06 44 33.4
SCRK	Sand Creek baz=279	65.28	29	P	P	06 44 31.4 -0.5
DOT	Dot Lake comp=Z,6.6nm,1.0s	65.30	29	IAmb	IAmb	06 44 33.4
J26L	Joseph Creek comp=Z,5.2nm,0.8s	65.38	28	IAmb	IAmb	06 44 33.7
J26L	Joseph Creek baz=280,SNR=5.6	65.38	28	P	P	06 44 32.6 +0.1
N25K	Chitina, Valde baz=280	65.40	32	P	P	06 44 33.0 +0.3
I26K	Coal Creek Min baz=280	65.42	27	P	P	06 44 33.0 +0.3
BMRM	Bremner River baz=280	65.50	32	P	P	06 44 33.1 -0.3
E27K	Coleen River baz=280	65.56	24	P	P	06 44 34.1 +0.5
MENT	Mentasta comp=Z,4.5nm,0.8s	65.57	30	IAmb	IAmb	06 44 47.7
D27M	Malcolm River baz=280	65.61	23	P	P	06 44 34.6 +0.6
L26K	Log Cabin Wild baz=280	65.72	30	P	P	06 44 35.2 +0.5
G27K	Doyon Strip baz=280	65.77	26	P	P	06 44 35.2 +0.2
KAIM	Kayak Island baz=281	65.78	33	P	P	06 44 35.5 +0.4
H27K	Steamboat Moun baz=281	65.92	26	P	P	06 44 36.6 +0.6
M26K	Nabesna, AK baz=281,SNR=5.3	66.00	31	P	P	06 44 37.2 +0.7
I27K	Kandik River baz=281,SNR=6.0	66.00	27	P	P	06 44 37.0 +0.4
K27K	Chicken baz=281	66.10	29	P	P	06 44 38.1 +1.0
E28M	Babbage River comp=Z,5.3nm,1.1s	66.23	24	IAmb	IAmb	06 44 40.8
E28M	Babbage River baz=281	66.23	24	P	P	06 44 38.3 +0.4
L27K	Beaver Creek, baz=282	66.40	30	P	P	06 44 39.6 +0.5
M27K	Edge Creek, AK baz=282	66.52	31	P	P	06 44 40.3 +0.4
I28M	Miner Creek comp=Z,5.6nm,1.1s	66.72	27	IAmb	IAmb	06 44 46.5
I28M	Miner Creek baz=282	66.72	27	P	P	06 44 41.3 +0.2
E29M	Blow River baz=283	66.87	24	P	P	06 44 42.2 +0.3
MESA	MESA baz=283	66.94	33	P	P	06 44 43.0 +0.2
G29M	Pine Creek baz=283	67.16	25	P	P	06 44 44.8 +1.0
H29M	Whitestone baz=283	67.18	26	P	P	06 44 44.6 +0.6
DAWY	Dawson baz=283	67.25	28	P	P	06 44 45.0 +0.6
YUK3	Moose Creek baz=283	67.30	31	P	P	06 44 45.5 +0.5
I29M	Ogilvie Camp, baz=284	67.40	27	P	P	06 44 46.4 +1.0
KLMR	Klimovskoe	67.43	328	*e* P	P	06 44 41.1 -4.5
KLMR	comp=Z,17nm,1.5s			pmax	pmax	
J29N	Klondike Camp baz=284	67.66	28	P	P	06 44 48.1 +1.0
O28M	Mount Upton baz=284	67.66	32	P	P	06 44 47.7 +0.3
YUK8	Steele Glacier baz=284	67.73	31	P	P	06 44 48.5 +0.6
EPYK	Eagle Plains baz=285	67.79	26	P	P	06 44 48.8 +1.0
PINM	Pinnacle baz=284	67.79	33	P	P	06 44 49.1 +1.1
G30M	tAoh Zraii Nji baz=285	67.83	25	P	P	06 44 49.0 +0.9
F30M	Barrier River comp=Z,5.4nm,1.1s	67.83	24	IAmb	IAmb	06 44 50.5
F30M	Barrier River baz=285	67.83	24	P	P	06 44 48.7 +0.7
L29M	L29M comp=Z,4.0nm,0.8s	68.03	29	IAmb	IAmb	06 44 54.8
L29M	L29M baz=285	68.03	29	P	P	06 44 50.5 +1.1
M29M	Somme Creek baz=285	68.05	30	P	P	06 44 50.1 +0.5
K29M	Barlow Dome baz=285	68.11	28	P	P	06 44 50.8 +0.8
I30M	Mount Dempster baz=286	68.22	27	P	P	06 44 51.4 +0.7
YUK4	Talbot Arm baz=285	68.24	31	P	P	06 44 52.0 +1.0
PNL	Peninsula baz=285	68.31	33	P	P	06 44 52.0 +0.7
J30M	Hart River baz=286	68.41	28	P	P	06 44 52.9 +1.0
INK	Inuvik comp=Z,1.2nm,0.7s,baz=306,slow=7.2,SNR=11	68.46	23	P	P	06 44 52.7 +0.8
	comp=Z,1.2nm,0.7s					
YUK6	Outpost Mounta baz=285	68.48	32	P	P	06 44 53.2 +0.7
O29M	Mount Kennedy baz=286	68.55	32	P	P	06 44 53.0 +0.1
G31M	Satah River baz=287	68.58	25	P	P	06 44 52.9 +0.2
F31M	Tsiigehtchic baz=287	68.63	24	P	P	06 44 54.0 +1.0
H31M	Peel River baz=287	68.88	26	P	P	06 44 55.2 +0.5
HYT	Haines Junctio baz=286	68.92	32	P	P	06 44 55.6 +0.5
P29M	Windy Craggy baz=286	69.14	33	P	P	06 44 57.2 +0.8
P30M	Million Dollar baz=287	69.37	32	P	P	06 44 58.3 +0.4
N31M	Braeburn, Yuko baz=287	69.53	31	P	P	06 44 59.0 +0.2
A36M	Sachs Harbour comp=Z,5.7nm,0.7s	69.88	19	IAmb	IAmb	06 45 06.2
A36M	Sachs Harbour baz=293	69.88	19	P	P	06 45 01.0 +0.3
M31M	Drury Creek, Y baz=288	69.94	30	P	P	06 45 01.8 +0.6
KBZ	Khabaz comp=Z,6.0nm,0.8s,baz=102,slow=5.2,SNR=18	70.01	310	P	P	06 45 02.5 +0.5
	comp=Z,6.0nm,0.8s					
KBZ	Khabaz	70.01	310	*ce* P	P	06 45 01.1 -0.9
KBZ	comp=Z,8.0nm,0.9s			pmax	pmax	
KIV	Kislovodsk	70.09	310	*e* P	P	06 45 02.6 0.0
KIV	comp=Z,8.0nm,1.1s			pmax	pmax	
KIV	comp=Z,38nm,18.0s			MLR	MLR	
KIV	Kislovodsk comp=Z,14nm,1.1s	70.09	310	P	P	06 45 03.8 +1.2
WHY	Whitehorse baz=288	70.20	31	P	P	06 45 03.0 0.0
FARO	Faro, Yukon comp=Z,5.2nm,0.8s	70.39	30	IAmb	IAmb	06 45 06.5
FARO	Faro, Yukon baz=289	70.39	30	P	P	06 45 04.6 +0.5
ARCES	ARCESS Array B comp=Z,4.9nm,0.9s,baz=59,slow=5.8,SNR=2.3	70.41	339	P	P	06 45 03.6 -0.4
	comp=Z,4.9nm,0.9s					
C36M	Paulatuk baz=295	71.31	21	P	P	06 45 10.5 +1.1
P33M	Teslin, Yukon baz=290	71.31	31	P	P	06 45 10.2 +0.5
U33K	Whale Pass baz=291	72.60	36	P	P	06 45 18.5 +1.1
CRAG	Craig baz=291	72.83	36	P	P	06 45 19.3 +0.5
TGTN	Hyland Airport baz=294	72.89	29	P	P	06 45 20.0 +0.9
WTLY	Watson Lake, Y baz=294	73.22	31	P	P	06 45 21.8 +0.7
FINES	FINESS Array B comp=Z,5.6nm,0.7s,baz=65,slow=5.8,SNR=26	73.41	331	P	P	06 45 20.2 -1.8
	comp=Z,5.6nm,0.7s					
FINES	FINESS Array B	73.41	331	*i* P	P	06 45 23.0 +0.9
FINES	comp=Z,6.0nm,0.7s			pmax	pmax	
T35M	Bob Quinn baz=293	73.75	34	P	P	06 45 25.0 +0.8

AK03	**Malin Array Si**	**76.23 320**	P	**P**	**06 45 39.0**	**+0.3**
AKASG	**Malin Array Be**	**76.24 320**	P	**P**	**06 45 37.2**	**-1.5**
	comp=Z,2.5nm,0.6s,baz=60,slow=6.3,SNR=12					
	comp=Z,2.5nm,0.6s					
AKASG	**Malin Array Be**	**76.24 320**	*i* P	**P**	**06 45 39.0**	**+0.3**
AKASG			pmax	pmax		
	comp=Z,3.0nm,0.7s					
AKBB	**Malin Array Si**	**76.24 320**	P	**P**	**06 45 39.1**	**+0.4**
AKBB			IAmb	IAmb	06 45 42.3	
	comp=Z,5.1nm,0.8s					
AKBB	**Malin Array Si**	**76.24 320**	*ce*P	**P**	**06 45 37.5**	**-1.2**
AKBB			pmax	pmax		
	comp=Z,6.0nm,0.9s					
AKBB	**Malin Array Si**	**76.24 320**	P	**P**	**06 45 38.7**	**0.0**
AK01	**Malin Array Si**	**76.25 320**	P	**P**	**06 45 38.7**	**-0.1**
KIEV	**Kiev**	**76.26 320**	P	**P**	**06 45 38.8**	**0.0**
KIEV			IAmb	IAmb	06 45 42.3	
	comp=Z,4.4nm,0.8s					
KIEV	**Kiev**	**76.26 320**	P	**P**	**06 45 38.8**	**0.0**
KIEV			pmax	pmax		
	comp=Z,4.0nm,0.8s					
KIEV	**Kiev**	**76.26 320**	P	**P**	**06 45 38.6**	**-0.2**
	comp=Z,25nm,1.5s					
AK04	**Malin Array Si**	**76.27 320**	P	**P**	**06 45 39.0**	**+0.1**
AK10	**Malin Array Si**	**76.27 320**	P	**P**	**06 45 39.0**	**+0.1**
AK02	**Malin Array Si**	**76.27 320**	P	**P**	**06 45 39.0**	**+0.1**
AK23	**Malin Array Si**	**76.28 320**	P	**P**	**06 45 39.0**	**+0.1**
MI28	**Mi28,Pidlybu**	**77.04 321**	P	**P**	**06 45 43.2**	**0.0**
LUBAR	**Lubar, Ukraine**	**77.43 320**	P	**P**	**06 45 45.4**	**0.0**
RNPP9	**Sopachiv**	**77.83 321**	P	**P**	**06 45 47.6**	**0.0**
BR131	**Keskin Array S**	**77.90 308**	IAmb	IAmb	06 45 50.4	
	comp=Z,4.0nm,0.8s					
BRTR	**Keskin Array B**	**77.90 308**	P	**P**	**06 45 47.8**	**-0.7**
BRTR	**Keskin Array B**	**77.90 308**	P	**P**	**06 45 47.6**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=90,slow=5.2,SNR=15					
	comp=Z,2.7nm,0.8s					
BRTR	**Keskin Array B**	**77.90 308**	P	**P**	**06 45 47.8**	**-0.7**
BR104	**Keskin Array S**	**77.91 308**	P	**P**	**06 45 48.5**	**0.0**
	comp=Z,3.7nm,0.9s					
BR106	**Keskin Array S**	**77.91 308**	P	**P**	**06 45 48.6**	**+0.1**
	comp=Z,3.6nm,0.9s					
BR105	**Keskin Array S**	**77.92 308**	P	**P**	**06 45 48.6**	**0.0**
	comp=Z,4.1nm,0.9s					
RNPP5	**Staryi Chortor**	**77.92 321**	P	**P**	**06 45 47.8**	**-0.3**
RNPP1	**Kostyukhnivka**	**77.93 321**	P	**P**	**06 45 48.5**	**+0.3**
YKA	**Yellowknife Ar**	**78.07 25**	P	**P**	**06 45 49.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=303,slow=5.7,SNR=10					
	comp=Z,0.5nm,0.7s					
KMPD	**K-Podol'skiy**	**78.79 319**	P	**P**	**06 45 52.9**	**-0.1**
HFS	**Hagfors**	**79.33 333**	P	**P**	**06 45 54.1**	**-1.6**
	comp=Z,4.2nm,0.7s,baz=67,slow=1.9,SNR=8.5					
	comp=Z,4.2nm,0.7s					
NC405	**NORSAR Array S**	**79.56 334**	P	**P**	**06 45 55.7**	**-1.3**
NB2	**NORSAR Subarra**	**79.80 334**	P	**P**	**06 45 56.4**	**-1.9**
	comp=Z,3.0nm,0.7s,baz=52,slow=5.9					
NB2	**NORSAR Subarra**	**79.80 334**	P	**P**	**06 45 57.7**	**-0.6**
NOA	**NORSAR Array B**	**79.80 334**	P	**P**	**06 45 56.4**	**-1.9**
	comp=Z,3.2nm,0.8s,baz=50,slow=5.3,SNR=17					
	comp=Z,3.2nm,0.8s					
STNU	**Starunia**	**79.88 319**	P	**P**	**06 45 59.0**	**+0.1**
NAO01	**NORSAR Array S**	**80.04 334**	P	**P**	**06 45 59.0**	**-0.6**
NAO01			IAmb	IAmb	06 45 59.5	
	comp=Z,12nm,1.2s					
CSS	**Mathiatis**	**80.09 304**	P	**P**	**06 46 00.4**	**0.0**
KOLS	**Kolonicke sedl**	**81.06 320**	*e*P	**P**	**06 46 05.4**	**+0.1**
KOLS	**Kolonicke sedl**	**81.06 320**	*e*P	**P**	**06 46 05.4**	**+0.1**
SUMG	**Summit**	**81.11 356**	*i* P	**P**	**06 46 07.0**	**+1.4**
OJC	**Ojcow**	**81.79 322**	P	**P**	**06 46 09.3**	**+0.2**
OJC	**Ojcow**	**81.79 322**	P	**P**	**06 46 09.3**	**+0.2**
ILON	**Igloolik, Nuna**	**82.02 11**	IAmb	IAmb	06 46 22.2	
	comp=Z,7.4nm,1.2s					
VYHS	**Vyhne**	**83.23 321**	*e*P	**P**	**06 46 18.6**	**+1.9**
VYHS	**Vyhne**	**83.23 321**	*e*P	**P**	**06 46 18.6**	**+1.9**
CLL	**Collm**	**84.78 326**	P	**P**	**06 46 24.4**	**-0.1**
CLL			IAmb	IAmb	06 46 26.5	
	comp=Z,5.5nm,0.9s					
CLL	**Collm**	**84.78 326**	*i* P	**P**	**06 46 25.8**	**+1.3**
CLL			pmax	pmax		
	comp=Z,7.0nm,1.0s					
CLL	**Collm**	**84.78 326**	*i* P	**P**	**06 46 25.8**	**+1.3**
	comp=Z,7.0nm,1.0s					
CLL			AMS	AMS	07 28 00.0	
	comp=Z,100nm,18.0s					
CONA	**Conrad Observa**	**85.21 322**	*e*PcP	**P**	**06 46 27.7**	**+0.9**
	comp=Z,4.3nm,1.1s					
GERES	**GERESS Array B**	**85.86 323**	P	**P**	**06 46 29.5**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=55,slow=5.1,SNR=9.8					
	comp=Z,1.2nm,0.7s					
MOA	**Molln**	**86.14 322**	*e*PcP	**P**	**06 46 32.6**	**+1.2**
	comp=Z,4.4nm,0.8s					
OBKA	**Obir**	**86.75 321**	*e*PcP	**P**	**06 46 34.8**	**+0.2**
	comp=Z,4.5nm,0.8s					
ITM	**Ithomi**	**87.22 310**	P	**P**	**06 46 36.8**	**-0.2**
WTTA	**Wattenberg**	**87.92 323**	*e*PcP	**PcP**	**06 46 41.2**	**-0.9**
	comp=Z,2.7nm,0.8s					
FFC	**Flin Flon**	**88.10 27**	P	**P**	**06 46 41.2**	**+0.4**
FFC	**Flin Flon**	**88.10 27**	P	**P**	**06 46 41.2**	**+0.4**
FFC			pmax	pmax		
	comp=Z,6.0nm,1.0s					
MFID	**Camas Ranch**	**88.44 41**	P	**P**	**06 46 42.8**	**+0.1**
MFID			IAmb	IAmb	06 46 45.0	
	comp=Z,4.5nm,1.3s					
FETA	**Feichten**	**88.56 323**	*e*PcP	**PcP**	**06 46 44.5**	**-0.4**
	comp=Z,6.3nm,1.3s					
BFO	**Black Forest**	**89.00 325**	*i* P	**P**	**06 46 43.4**	**-1.7**
NVAR	**Mina Array Bea**	**89.72 47**	P	**P**	**06 46 50.4**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=312,slow=5.2,SNR=2.6					
	comp=Z,0.2nm,0.6s					
PDAR	**Pinedale Array**	**92.48 39**	P	**P**	**06 47 01.9**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=321,slow=1.9,SNR=4.2					
	comp=Z,0.7nm,1.0s					
QSPA	**South Pole Qui**	**116.00 180**	PKP	**PKPdf**	**06 52 32.7**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=301,slow=3.2,SNR=1.1					

*MEX **14** 06:45:50.8±0.6, 14°.68N×92°.53W, h74km±6km, MD4.1*
*GCG **14** 06:45:50.6±0.7, 14°.76N×92°.44W, h72km±5km, MD4.1*
ISC 14 06:45:45.5±1.5, 14°.50N±0°.06×92°.49W±0°.05, h89km±11km, n19, σ2°53/35, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.46**	**28**	*e*P	**Pn**	**06 46 01.3**	**+1.5**
THIG				*e*S	**Sn**	**06 46 09.4**	**-1.1**
THIG		**0.46**	**28**	*e*P	**Pn**	**06 46 01.2**	**+1.4**
THIG				*e*S	**Sn**	**06 46 10.0**	**-0.5**
PATR	**El Naranjo**	**0.67**	**22**	*e*P	**Pn**	**06 46 02.7**	**+0.8**
PATR				*e*S	**Sn**	**06 46 12.5**	**-1.5**
PAVE	**Pavencul**	**0.76**	**24**	*e*P	**Pn**	**06 46 03.6**	**+0.9**
PAVE				*e*S	**Sn**	**06 46 14.6**	**-0.9**
STG8	**El Palmar, Qui**	**1.10**	**92**	*e*P	**Pn**	**06 46 07.6**	**+1.0**
STG8				*e*S	**Sn**	**06 46 21.5**	**-0.9**
STG5	**El Palmar, Qui**	**1.11**	**95**	*e*P	**Pn**	**06 46 07.8**	**+1.3**
STG0	**El Palmar, Qui**	**1.11**	**93**	*i* P	**Pn**	**06 46 07.7**	**+1.1**
STG0				*e*S	**Sn**	**06 46 21.2**	**-1.3**
PCIG		**1.39**	**330**	*e*P	**Pn**	**06 46 10.9**	**+1.0**
PCIG				*e*S	**Sn**	**06 46 26.3**	**-1.9**
CCIG	**Comitan**	**1.81**	**11**	*e*P	**Pn**	**06 46 17.9**	**+2.5**
CCIG				*e*S	**Sn**	**06 46 36.9**	**-1.1**
CCIG	**Comitan**	**1.81**	**11**	*e*P	**Pn**	**06 46 17.4**	**+2.0**
TGIG		**2.35**	**345**	*e*P	**Pn**	**06 46 24.2**	**+1.8**
TGIG				*e*S	**Sn**	**06 46 46.5**	**-4.1**
TGIG		**2.35**	**345**	*e*P	**Pn**	**06 46 24.0**	**+1.6**
UXUV	**UXUV**	**3.23**	**331**	*e*P	**Pn**	**06 46 36.6**	**+2.5**
UXUV				*e*S	**Sn**	**06 47 13.8**	**+2.1**
CMIG	**Matias Romero**	**3.46**	**319**	*e*P	**Pn**	**06 46 40.5**	**+3.3**
CMIG				*e*S	**Sn**	**06 47 15.4**	**-1.8**
HUIG	**Huatulco**	**3.72**	**290**	*e*P	**Pn**	**06 46 42.6**	**+1.9**
HUIG				*e*S	**Sn**	**06 47 18.1**	**-5.3**
NEUV	**Arroyo Zacate**	**4.51**	**316**	*e*P	**Pn**	**06 46 54.3**	**+2.8**
NEUV				*e*S	**Sn**	**06 47 43.2**	**+0.3**
SCIG	**Sabancuy**	**4.62**	**16**	*e*P	**Pn**	**06 46 54.6**	**+1.6**
SCIG				*e*S	**Sn**	**06 47 39.6**	**-5.8**
PEIG	**Puerto Escondi**	**4.74**	**289**	*e*P	**Pn**	**06 46 56.7**	**+2.1**
PEIG				*e*S	**Sn**	**06 47 43.2**	**-5.2**
PNIG	**Pinotepa**	**5.75**	**290**	*e*P	**Pn**	**06 47 11.2**	**+2.7**
PNIG				*e*S	**Sn**	**06 48 11.1**	**-2.1**

KRSC 14 06:54:59.7±1.7, 50°.44N×160°.07E, h60km±35km, MI3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.86**	**318**	*e*P	Pn	06 55 31.4	+2.1
KDTR				*e*S	Sn	06 55 53.7	+2.0
RUS	**Russkaya**	**2.23**	**335**	*e*P	Pn	06 55 36.3	+2.1
RUS				*e*S	Sn	06 56 02.7	+2.2
PAU	**Pauzhetka**	**2.31**	**298**	*e*P	Pn	06 55 38.0	+2.7
PAU				*e*S	Sn	06 56 05.6	+3.1
GRL	**Gorelyy**	**2.46**	**330**	*e*P	Pn	06 55 40.8	+3.3
GRL				*e*S	Sn	06 56 10.3	+3.8
SKR	**Severo-Kuril's**	**2.54**	**277**	*e*P	Pn	06 55 40.6	+2.2
SKR				*e*S	Sn	06 56 09.7	+1.7
SPN	**Mys Shipunski**	**2.67**	**359**	*e*S	Sn	06 56 11.9	+0.6
KRMR	**Karymshinskiy**	**2.69**	**334**	*e*P	Pn	06 55 43.9	+3.4
KRMR				*e*S	Sn	06 56 15.0	+3.3
NLC	**Nalytchevo**	**2.78**	**351**	*e*S	Sn	06 56 16.7	+2.8
UGLR	**Uglovaya**	**2.88**	**345**	*e*P	Pn	06 55 46.2	+3.0
SDLR	**Sedlovina**	**2.94**	**346**	*e*P	Pn	06 55 47.1	+3.1
AVH	**Avacha**	**2.95**	**344**	*e*P	Pn	06 55 47.4	+3.3
KOK	**Koryaka**	**3.00**	**343**	*e*P	Pn	06 55 48.4	+3.6
KRX	**Arik**	**3.06**	**344**	*e*P	Pn	06 55 48.9	+3.3
KRX				*e*S	Sn	06 56 25.2	+4.2
APC	**Apacha**	**3.08**	**325**	*e*P	Pn	06 55 49.3	+3.4
APC				*e*S	Sn	06 56 25.9	+4.5
GNL	**Ganaly**	**3.52**	**339**	*e*P	Pn	06 55 55.7	+3.8
MKZ	**Mys Kozlova**	**4.25**	**13**	*e*P	Pn	06 56 03.8	+2.0
TUMD	**Tumrok D**	**4.78**	**2**	*e*S	Sn	06 57 04.5	+1.4
KMNR	**Kamenistaya**	**5.33**	**1**	*e*P	Pn	06 56 21.8	+5.1

*BJI **14** 06:55:13.8, 26°.08N×129°.60E, h14km, mB4.8/26, mb4.5/59, Ms4.4/55, Ms7 4.2/55*
*NEIC **14** 06:55:15.6±1.6, 26°.14N±0°.07×129°.52E±0°.04, h10km±1km, mb4.9/140, Error ellipse: s-maj=12.3km s-min=3.6km az=201.0*
*IDC **14** 06:55:15.4±0.6, 26°.34N×129°.53E, h0km, mb4.3/23, mbtmp4.3/27, ML3.5/4, MS3.8/49, Error ellipse: s-maj=16.0km s-min=13.5km az=79.0*
*MOS **14** 06:55:16.5±1.1, 26°.38N×129°.52E, h17km, mb5.0/50, MS4.6/5, Error ellipse: s-maj=7.6km s-min=4.3km az=117.2*
*NIED **14** 06:55:17.2, 26°.28N×129°.58E, h44km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-5.35; $M_{\theta\theta}$2.02; $M_{\phi\phi}$3.33; $M_{r\theta}$-2.53; $M_{\theta\phi}$4.44; $M_{\phi r}$-6.88; Fault plane solution: $M_0$9.71000×10^{15} NP1: ϕ_s243.00000°, δ24.00000°, λ-53.00000°. NP2:ϕ_s24.00000°, δ71.00000°, λ-105.00000°.*
*JMA **14** 06:55:17.2±0.1, 26°.3N±0°.6×129°.6E±0°.4, h44km, MV4.2/19, NEAR OKINAWAJIMA ISLAND*
ISC 14 06:55:15.6±0.7, 26°.27N±0°.04×129°.51E±0°.03, h6km±3km, n659, σ1°43/615, mb4.8/175, MS4.1/63, 31C-12D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.21**	**308**	P	**Pg**	**06 55 38.7**	**-0.1**
JYRO				*e*S	**Sg**	**06 55 53.9**	**-0.7**
JOW	**Kunigami**	**1.24**	**297**	Pn	**Pg**	**06 55 39.5**	**0.0**
	751nm,0.3s,baz=116,slow=17,SNR=949						
JOW				Sn	**Sg**	**06 55 54.8**	**-0.7**
	947nm,0.3s,baz=104,slow=26,SNR=14						
JOW				LR	LR	06 56 20.0	
	comp=Z,7μm,18.8s,baz=162,slow=52						
JOW	**Kunigami**	**1.24**	**297**	*i* P	**Pg**	**06 55 39.4**	**0.0**
JOW				*e*S	**Sg**	**06 55 55.1**	**-0.4**
JNTH	**Nagotoyohara**	**1.36**	**281**	P	**Pn**	**06 55 40.9**	**-0.2**
JNTH				*e*S	**Sg**	**06 55 58.4**	**-1.0**
JOKE	**Okinoerabujima**	**1.37**	**322**	P	**Pn**	**06 55 41.3**	**-0.1**
JJT3	**Tamagusuku3**	**1.56**	**266**	*e*P	**Pn**	**06 55 44.4**	**+0.5**
JIH	**Iheya**	**1.58**	**299**	P	**Pn**	**06 55 44.4**	**+0.2**
JIH				*e*S	**Sn**	**06 56 03.7**	**-1.2**
JTK	**Tokunoshima**	**1.59**	**342**	P	**Pn**	**06 55 44.0**	**-0.3**
JTK				S	**Sn**	**06 56 02.4**	**-2.8**
JMZ	**Minamidaito 2**	**1.60**	**106**		**Pn**	**06 55 42.8**	**-1.7**
JMZ	**Minamidaito 2**	**1.60**	**106**	P	**Pn**	**06 55 42.9**	**-1.7**
JMZ				*e*S	**Sn**	**06 56 01.1**	**-4.4**
JKDJ	**Kitadaitoujima**	**1.64**	**101**	P	**Pn**	**06 55 43.6**	**-1.3**
JKDJ				*e*S	**Sn**	**06 56 02.7**	**-3.6**
JAMN	**Amaminishikomi**	**1.98**	**351**	*e*P	**Pn**	**06 55 49.5**	**-0.3**
JAGN	**Aguni-jima**	**2.06**	**279**	P	**Pn**	**06 55 51.4**	**+0.6**
JAGN				*e*S	**Sn**	**06 56 15.7**	**-1.2**
JZK	**Kikaishima**	**2.07**	**11**	*e*P	**Pn**	**06 55 51.1**	**+0.1**
JZK				*e*S	**Sn**	**06 56 15.7**	**-1.5**
JAM	**Amami Oshima**	**2.13**	**2**	P	**Pn**	**06 55 51.0**	**-0.8**
JAM				*e*S	**Sn**	**06 56 15.1**	**-3.5**
JKE	**Kume jima 2**	**2.45**	**272**	*e*P	**Pn**	**06 55 56.0**	**-0.1**
JTAJ	**Takarajima**	**2.88**	**355**	*e*P	**Pn**	**06 56 01.7**	**-0.4**
JTAJ				*e*S	**Sn**	**06 56 33.4**	**-3.7**
YOJ	**Yonaguni jima**	**6.15**	**254**	Pn	**Pn**	**06 56 45.4**	**-1.7**
YOJ	**Yonaguni jima**	**6.15**	**254**	P	**Pn**	**06 56 45.4**	**-1.7**
JNU	**Nakatsue**	**6.93**	**10**		**Pn**	**06 56 58.7**	**+1.0**
JNU	**Nakatsue**	**6.93**	**10**	Pn	**Pn**	**06 56 58.2**	**+0.5**
	2.6nm,0.3s,baz=198,slow=14,SNR=19						
JNU				Sn	**Sn**	**06 58 11.1**	**-5.8**
	1.4nm,0.3s,baz=245,slow=21,SNR=3.9						
JNU				LR	LR	07 00 21.8	
	comp=Z,544nm,18.1s,baz=240,slow=45						
	12nm,0.5s						
NACB	**Ninganchiao**	**7.47**	**255**		**Pn**	**06 57 03.7**	**-1.5**
YULB	**Yu-li**	**8.00**	**251**		**Pn**	**06 57 09.2**	**-3.3**
SSLB	**Suanglung**	**8.15**	**254**		**Pn**	**06 57 12.5**	**-2.0**
JMN	**Monobe**	**8.34**	**26**	Pn	**Pn**	**06 57 16.8**	**-0.3**
TPUB	**Ta-pu**	**8.60**	**252**		**Pn**	**06 57 18.2**	**-2.5**
SSE	**Sheshan**	**8.75**	**305**	P	**Pn**	**06 57 23.3**	**+0.6**
SSE				S	**Sn**	**06 59 01.9**	**+0.2**
SSE				pmax	pmax		
	comp=Z,11nm,0.8s						
SSE				LR	LR		
	comp=N,610nm,10.9s						
SSE				LR	LR		
	comp=E,350nm,11.1s						
QZH	**Quanzhou**	**9.95**	**265**	*e*P	**Pn**	**06 57 35.8**	**-3.4**
QZH				*e*S	Sn	06 59 41.4	+10
QZH				LR	LR		
	comp=N,510nm,10.3s						
QZH				LR	LR		
	comp=E,690nm,11.7s						
QZH				LR	LR		
	comp=Z,1μm,12.4s						
NJ2	**Nanjing**	**10.95**	**304**	*e*P	**Pn**	**06 57 54.1**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				LR	LR		
	comp=N,1μm,11.8s						
NJ2				LR	LR		
	comp=E,1μm,11.8s						
NJ2				LR	LR		
	comp=Z,2μm,12.6s						
KSRS	**Korea Array**	**11.23**	**353**	Pn	**Pn**	**06 57 57.2**	**+0.6**
	0.2nm,0.3s,baz=173,slow=12,SNR=8.8						
KSRS				LR	LR	07 02 31.6	
	comp=Z,454nm,18.1s,baz=175,slow=39						
	3.5nm,0.9s						
JHJ	**Hachijo jima 2**	**11.23**	**50**	LR	LR	07 01 45.7	
	comp=Z,221nm,19.2s,baz=356,slow=35						
JCJ	**Chichijima**	**11.36**	**83**	LR	LR	07 00 44.1	
	comp=Z,51nm,21.4s,baz=106,slow=29						
MAJO	**Matsushiro**	**12.64**	**34**	*i* P	**Pn**	**06 58 16.7**	**+0.7**
MJAR	**Matsushiro Arr**	**12.64**	**34**	Pn	**Pn**	**06 58 16.1**	**+0.2**
	0.1nm,0.3s,baz=214,slow=14,SNR=5.4						
	0.6nm,0.6s						
WHN	**Wuhan**	**14.01**	**291**	P	**Pn**	**06 58 37.3**	**+2.7**
WHN				LR	LR		
	comp=N,3μm,13.6s						
WHN				LR	LR		
	comp=E,1μm,9.9s						
WHN				LR	LR		
	comp=Z,3μm,14.8s						
DL2	**Dalian**	**14.23**	**334**	P	**P**	**06 58 44.8**	**-0.4**
DL2				S	**S**	**07 01 29.3**	**-7.6**
DL2				pmax	pmax		
	comp=Z,37nm,0.9s						
DL2				pmax	pmax		
	comp=Z,290nm,5.7s						
DL2				LR	LR		
	comp=N,830nm,15.0s						
DL2				LR	LR		
	comp=E,860nm,13.4s						
DL2				LR	LR		
	comp=Z,990nm,20.4s						
HKPS	**Hong Kong Po S**	**14.57**	**257**	Pn	**Pn**	**06 58 40.1**	**-2.4**
CNSH	**ChangSha**	**14.88**	**281**	P	**P**	**06 58 54.3**	**+1.9**
CNSH				S	**S**	**07 01 46.3**	**-3.9**
CNSH				LR	LR		
	comp=N,1μm,14.9s						
CNSH				LR	LR		
	comp=E,1μm,14.1s						
CNSH				LR	LR		
	comp=Z,1μm,14.5s						
HNS	**HongShan**	**16.75**	**315**	⇑P	**P**	**06 59 12.8**	**-0.4**
HNS				pmax	pmax		
	comp=Z,60nm,1.3s						
HNS				LR	LR		
	comp=Z,750nm,12.8s						
HNS				LR	LR		
	comp=Z,720nm,13.6s						
HNS				LR	LR		
	comp=Z,750nm,15.0s						
LYN	**LuoYang**	**16.84**	**303**	⇑P	**P**	**06 59 15.8**	**+1.5**
LYN				sP	pwP	06 59 25.0	+3.0
LYN				pmax	pmax		
	comp=Z,130nm,1.1s						
LYN				pmax	pmax		
	comp=Z,320nm,4.9s						
LYN				LR	LR		
	comp=Z,2μm,12.0s						
LYN				LR	LR		
	comp=Z,1μm,14.8s						
LYN				LR	LR		
	comp=Z,3μm,13.4s						
BJT	**Baijiatuau**	**17.66**	**324**		**P**	**06 59 23.3**	**+0.1**
BJT	**Baijiatuau**	**17.66**	**324**	P	**P**	**06 59 23.3**	**+0.1**
BJT				pmax	pmax		
	comp=Z,49nm,1.0s						
BJI	**Beijing**	**17.67**	**324**	P	**P**	**06 59 24.3**	**+1.0**
BJI				pmax	pmax		
	comp=Z,27nm,0.9s						
BJI				pmax	pmax		
	comp=Z,120nm,3.4s						
BJI				LR	LR		
	comp=Z,270nm,12.6s						
BJI				LR	LR		
	comp=Z,190nm,11.4s						
BJI				LR	LR		
	comp=Z,390nm,11.9s						
CN2	**Changchun**	**17.80**	**350**	P	**Pn**	**06 59 24.3**	**+0.4**
CN2				S	**Sn**	**07 02 42.4**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,800nm,12.0s						
CN2				LR	LR		
	comp=Z,1μm,12.0s						
CN2				LR	LR		
	comp=Z,800nm,14.0s						
USA0B	**Ussuriysk Arra**	**18.00 6**			**Pn**	**06 59 24.4**	**-2.0**
USA0B	**Ussuriysk Arra**	**18.00 6**		P	**Pn**	**06 59 26.4**	**0.0**
USRK	**Ussuriysk Ar.**	**18.00 6**			**Pn**	**06 59 24.3**	**-2.1**
USRK	**Ussuriysk Ar.**	**18.00 6**		P	**Pn**	**06 59 25.5**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=187,slow=9.9,SNR=4.4						
USRK				LR	LR	07 06 06.2	
	comp=Z,152nm,21.2s,baz=179,slow=36						
	comp=Z,3.0nm,0.7s						
ENH	**Enshi**	**18.08 287**			**Pn**	**06 59 26.7**	**-0.9**
MDJ	**Mudanjiang**	**18.30 0**		P	**Pn**	**06 59 29.4**	**-0.7**
MDJ	**Mudanjiang**	**18.30 0**		P	**Pn**	**06 59 30.3**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,15nm,1.2s						
TIY	**Taiyuan**	**18.41 312**		P	**Pn**	**06 59 30.8**	**-0.7**
TIY				pmax	pmax		
	comp=Z,250nm,4.3s						
TIY				LR	LR		
	comp=Z,600nm,18.0s						
TIY				LR	LR		
	comp=Z,770nm,14.7s						
TIY				LR	LR		
	comp=Z,830nm,14.1s						
GUMO	**Guam**	**19.15 128**		LR	LR	07 05 27.7	
	comp=Z,176nm,20.3s,baz=342,slow=32						
ERM	**Erimo**	**19.30 32**			**P**	**06 59 41.2**	**0.0**
ERM	**Erimo**	**19.30 32**		P	**P**	**06 59 41.2**	**0.0**
ERM				pmax	pmax		
	comp=Z,31nm,1.4s						
XAN	**Xi'an**	**19.39 298**		P	**P**	**06 59 42.8**	**+0.3**
XAN				pP	pwP	06 59 50.8	+0.7
XAN				PP	**PnPn**	**07 00 03.3**	**+6.7**
XAN				S	**Sn**	**07 03 21.1**	**-0.3**
XAN				pmax	pmax		
	comp=Z,94nm,1.2s						
XAN				pmax	pmax		
	comp=Z,290nm,4.3s						
XAN				LR	LR		
	comp=Z,1μm,13.6s						
XAN				LR	LR		
	comp=Z,870nm,16.7s						
XAN				LR	LR		
	comp=Z,1μm,15.3s						
DAV	**Davao City (W)**	**19.46 192**		P	**P**	**06 59 39.9**	**-3.4**
DAV	**Davao City (W)**	**19.46 192**		LR	LR	07 06 43.4	
	comp=Z,165nm,21.0s,baz=28,slow=35						
BNX	**BinXian**	**19.50 356**		⇓P	**Pn**	**06 59 45.9**	**+1.3**
BNX				pP	**pwP**	**06 59 49.4**	**-2.6**
BNX				S	**S**	**07 03 25.8**	**+1.8**
BNX				sS	**pS**	**07 03 30.6**	**-2.8**
BNX				pmax	pmax		
	comp=Z,22nm,1.0s						
BNX				pmax	pmax		
	comp=Z,110nm,4.6s						
BNX				LR	LR		
	comp=Z,410nm,14.1s						
BNX				LR	LR		
	comp=Z,490nm,11.9s						
BNX				LR	LR		
	comp=Z,710nm,14.6s						
QIZ	**Qiongzhong**	**19.52 252**		P	**P**	**06 59 42.4**	**-1.5**
QIZ				S	**Sn**	**07 03 22.8**	**-1.7**
QIZ				LR	LR		
	comp=Z,260nm,13.7s						
QIZ				LR	LR		
	comp=Z,320nm,11.0s						
QIZ				LR	LR		
	comp=Z,400nm,16.5s						
GYA	**Guiyang**	**20.47 276**		P	**P**	**06 59 56.3**	**+1

KLR pmax pmax
comp=Z,56nm,1.7s
CD2 Chengdu 23.06 288 P **P 07 00 21.3 -0.7**
CD2 S **S 07 04 32.5 -1.0**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,100nm,5.4s
CD2 LR LR
comp=Z,780nm,13.7s
CD2 LR LR
comp=Z,930nm,17.7s
YSS Yuzhno-Sakhali 23.15 24 P **P 07 00 23.3 +0.6**
YSS IAmb IAmb 07 00 25.2
comp=Z,58nm,1.3s
YSS Yuzhno-Sakhali 23.15 24 *e*P **P 07 00 22.2 -0.5**
YSS *e* 07 00 52.0
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,400nm,4.3s
YSS MLR MLR
comp=Z,300nm,13.0s
LZH Lanzhou 23.98 300 *e*P **P 07 00 30.9 -0.3**
LZH sP pwP 07 00 37.4 -1.3
LZH S **S 07 04 53.3 +4.8**
LZH pmax pmax
comp=Z,20nm,1.7s
LZH LR LR
comp=Z,620nm,13.7s
LZH LR LR
comp=Z,650nm,12.7s
LZH LR LR
comp=Z,790nm,13.4s
HEH HeiHe 24.00 357 *e*P **P 07 00 30.8 -0.2**
HEH pmax pmax
comp=Z,6.0nm,1.2s
KMI Kunming 24.14 273 P **P 07 00 35.3 +2.5**
KMI pmax pmax
comp=Z,17nm,1.3s
KMI LR LR
comp=Z,320nm,12.4s
KMI LR LR
comp=Z,560nm,15.8s
KMI LR LR
comp=Z,750nm,10.8s
PZH PanZhiHua 24.86 277 P **P 07 00 38.8 -0.5**
PZH pmax pmax
comp=Z,10.0nm,1.7s
PZH pmax pmax
comp=Z,100nm,5.2s
GRNR Gornyy 25.02 10⇓ *i*P **P 07 00 41.4 +1.0**
GRNR pmax pmax
comp=Z,20nm,1.2s
TYV Tymovskoe 26.53 19 *e*P **P 07 01 00.8 +6.8**
TYV pmax pmax
comp=Z,18nm,1.3s
TYV pmax pmax
comp=Z,300nm,4.9s
ZEA Zeya 27.48 357 *e*P **P 07 01 03.1 +0.6**
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA MLR MLR
comp=Z,200nm,15.0s
ULN Ulaanbaatar 27.84 327 **P 07 01 06.1 +0.1**
ULN Ulaanbaatar 27.84 327 *e*P **P 07 01 05.9 -0.1**
ULN pmax pmax
comp=Z,7.0nm,1.1s
GTA Gaotai 28.04 305 P **P 07 01 08.3 +0.4**
GTA sP pwP 07 01 22.0 +6.6
GTA pmax pmax
comp=Z,19nm,0.9s
GTA LR LR
comp=Z,370nm,14.7s
GTA LR LR
comp=Z,530nm,15.5s
GTA LR LR
comp=Z,720nm,16.7s
SONM Songino Array 28.15 326 P **P 07 01 08.3 -0.4**
SONM Songino Array 28.15 326 P **P 07 01 09.8 +1.1**
comp=Z,3.5nm,1.0s,baz=139,slow=9.2,SNR=14
SONM LR LR 07 13 53.3
comp=Z,212nm,20.1s,baz=84,slow=40
comp=Z,3.5nm,1.0s
CHTO Chiang Mai 29.14 262 **P 07 01 17.3 -0.4**
CHTO Chiang Mai 29.14 262 P **P 07 01 17.3 -0.4**
CHTO pmax pmax
comp=Z,14nm,1.1s
CMAR Chiang Mai Arr 29.27 261 P **P 07 01 17.6 -1.2**
CMAR Chiang Mai Arr 29.27 261 P **P 07 01 20.9 +2.1**
comp=Z,2.8nm,1.0s,baz=61,slow=7.9,SNR=20
CMAR PcP **PcP 07 04 27.4 +1.6**
comp=Z,0.2nm,0.3s,baz=69,slow=2.2,SNR=2.5
CMAR LR LR 07 13 59.0
comp=Z,122nm,18.3s,baz=80,slow=38
comp=Z,2.8nm,1.0s
JAY Jayapura 30.60 158 LR LR 07 14 31.2
comp=Z,79nm,18.1s,baz=326,slow=38
SHL Shillong 33.78 277 **P 07 01 58.7 0.0**
SHL Shillong 33.78 277 P **P 07 01 58.7 0.0**
SHL pmax pmax
comp=Z,20nm,0.9s
PETK Petropavlovsk- 34.07 31 P **P 07 01 59.6 -1.0**
PETK Petropavlovsk- 34.07 31 P **P 07 01 59.5 -1.2**
comp=Z,2.3nm,0.9s,baz=216,slow=9.0,SNR=6.1
PETK LR LR 07 17 55.8
comp=Z,81nm,19.2s,baz=207,slow=40
comp=Z,2.3nm,0.9s
PETK Petropavlovsk- 34.07 31 P **P 07 01 59.6 -1.0**
BRDH Bariadhala 34.57 272 LR LR 07 17 11.5
comp=Z,152nm,18.4s,baz=138,slow=38
YAK Yakutsk 35.75 0 P **P 07 02 15.1 +0.1**
YAK Yakutsk 35.75 0 LR LR 07 16 39.6
comp=Z,82nm,18.8s,baz=178,slow=36
YAK Yakutsk 35.75 0 *e*P **P 07 02 15.5 +0.5**
YAK *e**PP **pP 07 02 17.2 +2.5**
YAK *e* 07 03 35.4
YAK *e*S **S 07 07 54.5 +2.3**
YAK *e*SS **SnSn 07 10 09.8 -4.0**
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=Z,7.0nm,0.5s
YAK smax smax
comp=N,34nm,11.4s
YAK smax smax
comp=E,37nm,13.3s
YAK MLR MLR
comp=Z,146nm,14.0s
YAK MLR MLR
comp=N,115nm,14.0s
YAK MLR MLR
comp=E,87nm,10.0s
MA2 Magadan 36.40 18 LR LR 07 17 57.1
comp=E,61nm,18.4s,baz=256,slow=38
PSI Prapat 37.50 237 P **P 07 02 27.9 -2.7**
PSI pmax pmax
comp=Z,12nm,1.3s
RPSI Rantau Prapat 37.57 236 P **P 07 02 27.9 -3.2**
WMQ Urumqi 37.99 308 *e*P **P 07 02 36.3 +1.8**
WMQ sP pwP 07 02 42.8 +0.8
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ LR LR
comp=Z,370nm,12.5s
WMQ LR LR
comp=Z,380nm,14.1s
WMQ LR LR
comp=Z,250nm,14.7s
MTN Manton Dam 38.91 177 P **P 07 02 40.7 -1.6**
PMG Port Moresby 39.40 152 LR LR 07 16 13.8
comp=Z,94nm,21.7s,baz=310,slow=32
SEY Seymchan 39.65 16 LR LR 07 19 58.3
comp=Z,124nm,19.9s,baz=217,slow=38
SEY Seymchan 39.65 16 *e*P **P 07 02 47.7 -0.3**
SEY pmax pmax
comp=Z,23nm,1.7s
ZSN Zaisan 40.81 313 *e*P **P 07 02 58.4 +0.5**
ZSN Zaisan 40.81 313 *e*P **P 07 02 58.4 +0.5**
MK31 Makanchi Array 42.37 312 *ce*P **P 07 03 11.0 +0.3**
MKAR Makanchi Array 42.37 312 P **P 07 03 10.1 -0.6**
MKAR Makanchi Array 42.37 312 P **P 07 03 10.4 -0.2**
comp=Z,2.1nm,0.8s,baz=102,slow=9.4,SNR=16
MKAR PP **PP 07 04 50.9 +2.3**
comp=Z,0.9nm,0.8s,baz=111,slow=7.9,SNR=4.3
MKAR PcP **PcP 07 05 04.0 0.0**
comp=Z,3.5nm,1.1s,baz=99,slow=4.7,SNR=6.6
MKAR LR LR 07 23 36.9
comp=Z,117nm,19.5s,baz=84,slow=40
comp=Z,2.1nm,0.8s
MKAR Makanchi Array 42.37 312 *i*P **P 07 03 10.3 -0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 42.58 312 P **P 07 03 12.0 -0.4**
MAKZ Makanchi 42.58 312 P **P 07 03 12.0 -0.4**
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
ZAA0 Zalesovo Array 42.91 322 P **P 07 03 14.6 -0.3**
ZALV Zalesovo Beam 42.91 322 P **P 07 03 14.3 -0.6**
ZALV Zalesovo Beam 42.91 322 P **P 07 03 14.1 -0.9**
comp=Z,2.6nm,0.5s,baz=100,slow=8.3,SNR=11
ZALV PcP **PcP 07 05 05.1 -0.5**
comp=Z,2.1nm,0.8s,baz=99,slow=4.7,SNR=5.3
ZALV LR LR 07 23 04.4
comp=Z,216nm,20.1s,baz=70,slow=39
comp=Z,2.6nm,0.5s
ZALV Zalesovo Beam 42.91 322 *i*P **P 07 03 14.6 -0.3**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
SHLS Shalkode 43.78 306 *e*P **P 07 03 19.8 -2.5**
SHLS Shalkode 43.78 306 *e*P **P 07 03 19.8 -2.5**
UZB Uzynbulak 44.10 306 *e*P **P 07 03 24.9 0.0**
UZB Uzynbulak 44.10 306 *e*P **P 07 03 24.9 0.0**
KPKS Kokpek 44.38 306 *e*P **P 07 03 27.2 +0.1**
KPKS Kokpek 44.38 306 *e*P **P 07 03 27.3 +0.1**
SATY Saty 44.55 306 *e*P **P 07 03 28.5 +0.1**
SATY Saty 44.55 306 *e*P **P 07 03 28.5 +0.1**
TARG Taragay, Kyrgy 44.90 304 P **P 07 03 31.2 -0.4**
TARG IAmb IAmb 07 03 35.0
comp=Z,12nm,1.1s
TARG Taragay, Kyrgy 44.90 304 P **P 07 03 31.2 -0.4**
TARG pmax pmax
comp=Z,12nm,1.1s
KDJ Kajisay 45.38 304 IAmb IAmb 07 03 38.4
comp=Z,15nm,1.2s
KDJ Kajisay 45.38 304 P **P 07 03 35.7 +0.5**
TIXI Tiksi 45.41 360 P **P 07 03 34.8 +0.1**
TIXI Tiksi 45.41 360 LR LR 07 22 49.6
comp=Z,101nm,19.0s,baz=200,slow=36
TIXI Tiksi 45.41 360 *ce*P **P 07 03 35.9 +1.2**
TIXI pmax pmax
comp=Z,8.0nm,1.3s
MDOK Medeo 45.55 306 *e*P **P 07 03 36.6 +0.2**
MDOK Medeo 45.55 306 *e*P **P 07 03 36.7 +0.2**
KURK Kurchatov 45.58 316 P **P 07 03 35.3 -1.1**
KURK Kurchatov 45.58 316 *ce*P **P 07 03 36.6 +0.2**
KURK pmax pmax
comp=Z,6.0nm,0.8s
TNSS Tian-Shan 45.61 305 *e*P **P 07 03 37.1 -0.1**
TNSS Tian-Shan 45.61 305 *e*P **P 07 03 37.1 -0.1**
KURBB Kurchatov Arra 45.62 316 P **P 07 03 36.4 -0.3**
comp=Z,3.3nm,0.6s,baz=103,slow=8.4,SNR=30
KURBB PcP **PcP 07 05 15.1 +0.1**
comp=Z,1.1nm,1.0s,baz=105,slow=3.6,SNR=3.5
KURBB PP **PP 07 05 25.1 +1.8**
comp=Z,2.0nm,1.0s,baz=108,slow=10,SNR=4.3
KURBB LR LR 07 24 33.7
comp=Z,289nm,18.4s,baz=183,slow=39
comp=Z,3.3nm,0.6s
CHKK Chushkaly 45.64 307 *e*P **P 07 03 37.1 +0.1**
CHKK Chushkaly 45.64 307 *e*P **P 07 03 37.1 +0.1**
WRA Warramunga Arr 46.18 174 P **P 07 03 41.9 +0.6**
comp=Z,2.5nm,0.7s,baz=353,slow=8.5,SNR=15
comp=Z,2.5nm,0.7s
WRA Warramunga Arr 46.18 174 *i*P **P 07 03 42.2 +0.8**
WRA pmax pmax
comp=Z,3.0nm,0.7s
HNR Honiara 46.20 136 LR LR 07 22 41.1
comp=Z,40nm,18.7s,baz=300,slow=36
KSH Kashi 46.23 301 P **P 07 03 46.1 +4.2**
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH LR LR
comp=Z,320nm,14.7s
BOOM Boomskoye usch 46.32 305 P **P 07 03 43.6 +1.0**
BILL Bilibino 47.27 18 P **P 07 03 49.7 +0.3**
BILL Bilibino 47.27 18 *ce*P **P 07 03 49.4 0.0**
BILL pmax pmax
comp=Z,28nm,1.7s
AAK Ala-Archa 47.39 305 P **P 07 03 50.8 -0.2**
AAK Ala-Archa 47.39 305 LR LR 07 27 14.7
comp=Z,179nm,18.3s,baz=97,slow=40
AAK Ala-Archa 47.39 305 *i*P **P 07 03 50.9 -0.1**
AAK pmax pmax
comp=Z,3.0nm,0.9s
ARSB Arslanbob 48.51 303 P **P 07 03 59.6 0.0**
ARSB IAmb IAmb 07 04 03.1
comp=Z,12nm,1.1s
ARSB Arslanbob 48.51 303 P **P 07 03 59.6 0.0**
ARSB pmax pmax
comp=Z,12nm,1.1s
NIL Nilore 48.79 293 P **P 07 04 01.1 -0.7**
NIL IAmb IAmb 07 04 04.6
comp=Z,7.4nm,0.8s
NIL Nilore 48.79 293 P **P 07 04 01.1 -0.7**
NIL pmax pmax
comp=Z,7.0nm,0.8s
BRZS Berezniki 49.21 314 *e*P **P 07 04 04.9 +0.3**
BRZS Berezniki 49.21 314 *e*P **P 07 04 05.0 +0.3**
NRIK Noril'sk 49.56 342 P **P 07 04 07.0 -0.1**
NRIK Noril'sk 49.56 342 P **P 07 04 08.0 +0.9**
comp=Z,1.9nm,0.5s,baz=118,slow=6.7,SNR=7.9
NRIK LR LR 07 27 08.9
comp=Z,162nm,18.5s,baz=134,slow=39
comp=Z,1.9nm,0.5s
NRIK Noril'sk 49.56 342 *ce*P **P 07 04 06.8 -0.3**
NRIK pmax pmax
comp=Z,11nm,1.2s
DZA Taraz 49.73 305 *e*P **P 07 04 09.0 +0.2**
DZA pmax pmax
comp=Z,5.0nm,0.5s
DZA Taraz 49.73 305 *e*P **P 07 04 09.0 +0.2**
comp=Z,5.1nm,0.5s
ASAR Alice Springs 49.83 175 P **P 07 04 10.8 +1.2**
comp=Z,1.5nm,0.8s,baz=353,slow=8.7,SNR=21
ASAR LR LR 07 27 29.8
comp=Z,16nm,18.2s,baz=343,slow=39
comp=Z,1.5nm,0.8s
PALK Pallekele 50.06 257 LR LR 07 26 29.3
comp=Z,70nm,18.8s,baz=96,slow=37
PALK Pallekele 50.06 257 P **P 07 04 12.4 +0.7**
KK31 Karatay Array 50.33 305 P **P 07 04 13.1 -0.2**
KK31 Karatay Array 50.33 305 P **P 07 04 13.1 -0.2**
KK31 pmax pmax
comp=Z,9.0nm,1.2s
KKAR Karatay Array 50.33 305 P **P 07 04 12.7 -0.6**
KKAR Karatay Array 50.33 305 P **P 07 04 12.7 -0.6**
GAR Garm 50.64 300 P **P 07 04 16.1 +0.3**
IUG Iuzhnay 50.70 304 *e*P **P 07 04 16.5 +0.3**
IUG pmax pmax
comp=Z,14nm,1.4s
IUG Iuzhnay 50.70 304 *e*P **P 07 04 16.6 +0.3**
comp=Z,14nm,1.4s
BRLS Borolday 50.82 305 *e*P **P 07 04 18.1 +1.1**
BRLS Borolday 50.82 305 *e*P **P 07 04 18.2 +1.1**
BVAR Borovoye Array 51.01 318 P **P 07 04 19.0 +0.7**
comp=Z,5.2nm,0.7s,baz=91,slow=8.9,SNR=20
BVAR PcP **PcP 07 05 35.1 +0.8**
comp=Z,4.3nm,0.9s,baz=97,slow=3.4,SNR=5.7
BVAR LR LR 07 27 58.7
comp=Z,635nm,18.2s,baz=93,slow=38
comp=Z,5.2nm,0.7s
BRVK Borovoye 51.08 318 P **P 07 04 18.7 0.0**
BRVK Borovoye 51.08 318 *ce*P **P 07 04 19.7 +0.9**
BRVK pmax pmax
comp=Z,15nm,1.3s
SIMJ Simiganj 51.68 300 P **P 07 04 23.7 0.0**
SIMJ IAmb IAmb 07 04 26.8
comp=Z,23nm,1.3s
DZET Dzherino 51.81 300 P **P 07 04 26.1 +1.4**
DZET pmax pmax
comp=Z,18nm,1.1s
KBL Kabul 52.13 295 P **P 07 04 27.7 +0.4**
KBL Kabul 52.13 295 P **P 07 04 27.7 +0.4**
KBL pmax pmax
comp=Z,37nm,1.3s
SPIA Saint Paul Isl 52.27 37 P **P 07 04 27.4 -0.2**
baz=260
NIKH Nikolski High 52.51 42 P **P 07 04 29.3 -0.2**
baz=265
P08K Saint George I 52.55 38 P **P 07 04 30.4 +0.7**
baz=261
TNA Tin City 55.08 27 P **P 07 04 48.2 +0.2**
baz=256
F14K Arctic Creek 55.70 27 P **P 07 04 52.1 -0.5**
baz=258
K13K Kusilvak Mount 55.82 31 P **P 07 04 53.1 -0.3**
baz=262
ANM Nome 55.92 28 P **P 07 04 54.0 -0.2**
baz=259
M13K Dall Lake 56.27 33 P **P 07 04 56.7 +0.1**
baz=264
F15K North Star Dit 56.44 27 P **P 07 04 57.7 -0.1**
baz=259
J14K Nanvaranak Lak 56.44 31 P **P 07 04 57.7 -0.1**
baz=262
G15K Niukluk 56.56 28 P **P 07 04 59.1 +0.3**
baz=260
L14K Kuka Creek 56.68 32 P **P 07 04 59.6 0.0**
baz=264
C16K Lisburne Hills 56.69 24 P **P 07 04 59.9 +0.3**
baz=257
SVE Sverdlovsk 56.93 322 *e*P **P 07 05 02.3 +0.8**
SVE pmax pmax
comp=Z,35nm,1.4s
M14K Bethel 56.98 33 P **P 07 05 02.1 +0.4**
baz=265
D17K Noatak River 57.41 25 P **P 07 05 05.0 +0.4**
baz=260
ABKAR Akbulak array 57.46 313 P **P 07 05 05.5 +0.2**
HRA Herat 57.70 296 IAmb IAmb 07 05 09.9
comp=Z,16nm,1.2s
J16K Anvik River 57.84 30 P **P 07 05 08.2 +0.5**
baz=265
I17K Unalakleet 57.85 29 P **P 07 05 07.9 0.0**
baz=264
N15K Kwethluk River 57.86 34 P **P 07 05 07.3 -0.7**
baz=267
F17K Baldwin Pennin 57.92 26 P **P 07 05 07.7 -0.6**
baz=262
O15K Ungalikthiuk R 57.96 35 P **P 07 05 07.7 -1.0**
baz=268
G17K Kiwalik Mounta 58.05 27 P **P 07 05 09.5 +0.3**
baz=263
ARTI Arti 58.17 322 P **P 07 05 09.8 -0.5**
ARTI Arti 58.17 322 LR LR 07 32 43.6
comp=Z,213nm,19.5s,baz=47,slow=39
ARTI Arti 58.17 322 *d i*P **P 07 05 10.4 +0.2**
ARTI 07 06 00.9
ARTI 07 07 19.3
ARTI S **S 07 13 14.6 +2.6**
ARTI SS **SS 07 17 03.2 +0.1**
ARTI pmax pmax
comp=Z,32nm,1.8s
ARTI MLR MLR
comp=Z,430nm,15.0s
B18K Kokolik River 58.17 23 P **P 07 05 10.4 +0.4**
baz=260,SNR=7.7
L16K Owhat River 58.24 32 P **P 07 05 10.3 -0.3**
baz=267
C18K Utukok River 58.27 24 P **P 07 05 10.9 +0.1**
baz=261
H17K Granite Mounta 58.30 28 P **P 07 05 10.7 -0.2**
baz=264
E18K Tukpahlearik C 58.31 25 P **P 07 05 10.2 -0.8**
baz=262
M16K Timber Creek 58.46 33 P **P 07 05 11.0 -1.1**
baz=268
J17K VABM Dome 58.53 30 P **P 07 05 12.6 0.0**
baz=266
N16K Nishlik Lake 58.53 33 P **P 07 05 12.1 -0.6**
baz=268
A19K Wainwright 58.57 22 P **P 07 05 12.5 -0.3**
baz=260
F18K Selawik 58.58 26 P **P 07 05 11.9 -0.9**
baz=264
AKTO Aktyubinsk 58.62 315 LR LR 07 30 51.2
comp=Z,64nm,20.9s,baz=194,slow=36
L17K Donlin 58.82 32 P **P 07 05 14.2 -0.4**
baz=268
K17K Iditarod 58.85 31 P **P 07 05 14.3 -0.5**
baz=267
O16K Kokwok River B 58.85 35 P **P 07 05 14.7 -0.2**
baz=269
G18K Tagagawik 58.91 27 P **P 07 05 15.0 -0.2**
baz=265
STKA Stephens Creek 58.96 168 P **P 07 05 17.0 +1.1**
comp=Z,1.0nm,0.5s,baz=330,slow=6.6,SNR=3.0
comp=Z,1.0nm,0.5s
M17K Holitna River 59.21 32 P **P 07 05 16.7 -0.7**
baz=269
N17K Nushagak Hills 59.32 33 P **P 07 05 17.5 -0.6**
baz=270
D19K Kuna River 59.37 24 P **P 07 05 19.9 +1.5**
D19K IAmb IAmb 07 05 21.0
comp=Z,11nm,1.0s
D19K Kuna River 59.37 24 P **P 07 05 17.3 -1.1**
baz=264,SNR=9.5
G19K Purcell Mounta 59.57 27 P **P 07 05 19.1 -0.7**
baz=266
L18K Granite Mounta 59.58 31 P **P 07 05 20.5 +0.6**
baz=269
J18K Innoko River 59.60 30 P **P 07 05 20.7 +0.7**
baz=268
E19K Redstone River 59.60 25 **P 07 05 21.5 +1.5**
E19K IAmb IAmb 07 05 22.6
comp=Z,7.4nm,1.0s
E19K Redstone River 59.60 25 P **P 07 05 20.7 +0.7**
baz=265,SNR=6.0
P17K Kvichak River 59.70 35 P **P 07 05 20.3 -0.5**
baz=271
H19K Roundabout Mou 59.79 28 P **P 07 05 23.2 +1.9**
H19K IAmb IAmb 07 05 24.1
comp=Z,9.5nm,1.2s
H19K Roundabout Mou 59.79 28 P **P 07 05 21.5 +0.2**
baz=267
B20K Meade River 59.87 22 P **P 07 05 22.5 +0.8**
baz=264
TTA Tatalina 59.90 31 P **P 07 05 22.7 +0.5**
baz=269
DZM Mont Dzumac 59.92 140 *e*LR LR 07 22 57.3
comp=Z,122nm,22.3s
D20K Etivluk River 59.94 24 IAmb IAmb 07 05 25.0
comp=Z,12nm,0.9s
D20K Etivluk River 59.94 24 P **P 07 05 22.9 +0.6**
baz=265
N18K Kilae Creek 59.96 33 P **P 07 05 23.1 +0.5**
baz=270
M18K Stony River 59.98 32 P **P 07 05 22.4 -0.4**
baz=270
Q17K Contact Creek 60.02 36 P **P 07 05 23.0 -0.1**
baz=272
E20K Nigu River 60.06 24 P **P 07 05 23.4 +0.2**
baz=266,SNR=9.9
J19K Poorman 60.10 29 P **P 07 05 23.5 0.0**
baz=269
F20K Avaraart Lake 60.16 26 P **P 07 05 24.0 +0.1**
baz=267
O18K Koktuh Hills 60.31 34 P **P 07 05 25.2 +0.1**
baz=272
P18K Big Mountain, 60.32 35 P **P 07 05 25.7 +0.7**
baz=272
L19K White Mountain 60.44 31 P **P 07 05 26.1 +0.3**
baz=271
H20K Anotleneega Mo 60.45 28 P **P 07 05 25.7 -0.2**
baz=269
Q18K Katmai Hardscr 60.46 36 P **P 07 05 25.4 -0.8**
baz=272
I20K Naaghedeneel 60.60 28 P **P 07 05 26.4 -0.5**
baz=269
C21K Knifeblade Rid 60.63 23 P **P 07 05 25.9 -1.1**
baz=267
M19K Big River Lodg 60.66 32 P **P 07 05 26.6 -0.7**
baz=271
A22K Sinclair Lake 60.69 21 P **P 07 05 27.5 +0.1**
baz=266,SNR=6.3
B21K Ikpikpuk River 60.72 23 P **P 07 05 27.4 -0.2**
baz=267
J20K Nowinta River 60.75 29 IAmb IAmb 07 05 30.9
comp=Z,7.1nm,1.1s
J20K Nowinta River 60.75 29 P **P 07 05 27.8 -0.1**
baz=270
O19K Port Alsworth 60.75 34 P **P 07 05 28.6 +0.6**
baz=272
K20K Telida 60.79 30 IAmb IAmb 07 05 31.3
comp=Z,7.3nm,1.0s
K20K Telida 60.79 30 P **P 07 05 29.0 +0.8**
baz=271,SNR=5.1

L20K	Farewell, AK	60.89	31	P	P	07 05 29.3	+0.4
baz=271							
E21K	Killik River	60.89	24	P	P	07 05 29.1	+0.3
baz=268							
G21K	Allakaket	61.02	27	P	P	07 05 29.8	+0.1
baz=269							
SII	Sitkinak Islan	61.03	38	P	P	07 05 30.1	+0.1
baz=274							
F21K	Alatna River	61.04	26	P	P	07 05 30.2	+0.3
baz=269							
B22K	Teshekpuk Lake	61.16	22	IAmb	IAmb	07 05 33.2	
comp=Z,13nm,1.1s							
B22K	Teshekpuk Lake	61.16	22	P	P	07 05 31.0	+0.4
baz=267,SNR=5.4							
H21K	Melozitna Rive	61.31	27	IAmb	IAmb	07 05 34.6	
comp=Z,12nm,1.1s							
H21K	Melozitna Rive	61.31	27	P	P	07 05 32.4	+0.7
baz=270,SNR=6.6							
D22K	Ayikyak River	61.37	24		P	07 05 34.3	+2.2
D22K	Ayikyak River	61.37	24	P	P	07 05 33.1	+1.0
baz=269,SNR=9.1							
F22K	John River	61.55	25	P	P	07 05 34.2	+0.8
baz=270							
CHUM	Lake Minchumin	61.56	30	P	P	07 05 34.3	+0.9
baz=272							
PPLA	Purkeypile	61.65	31	P	P	07 05 34.5	+0.2
baz=272							
CAST	Castle Rocks	61.68	30	P	P	07 05 34.8	+0.5
baz=272							
E22K	Anaktuvuk Pass	61.69	25	IAmb	IAmb	07 05 37.1	
comp=Z,8.9nm,1.0s							
E22K	Anaktuvuk Pass	61.69	25	P	P	07 05 35.2	+0.9
baz=270,SNR=7.1							
SPCR	Spurr Chakacha	61.73	33	P	P	07 05 35.2	+0.5
baz=273							
G22K	Bettles	61.82	26	P	P	07 05 36.4	+1.3
baz=271							
H22K	Ishtalitna Cre	61.89	27	P	P	07 05 36.6	+0.9
baz=272,SNR=9.2							
SKT	Skwentna	62.01	32	P	P	07 05 37.7	+1.2
baz=274							
D23K	Nanushuk River	62.10	24	P	P	07 05 38.3	+1.3
baz=271,SNR=15							
C23K	Itkillik River	62.12	23	IAmb	IAmb	07 05 39.2	
comp=Z,8.9nm,1.1s							
C23K	Itkillik River	62.12	23	P	P	07 05 38.1	+1.1
baz=270,SNR=6.1							
BPAW	Bear Paw Mtn.	62.13	29	P	P	07 05 38.3	+1.0
baz=273							
CAPN	Captain Cook N	62.28	33	P	P	07 05 39.5	+1.2
baz=274							
COLD	Coldfoot	62.32	26	P	P	07 05 39.5	+1.1
baz=272							
G23K	Bananza Creek	62.41	26	IAmb	IAmb	07 05 42.1	
comp=Z,7.3nm,1.1s							
G23K	Bananza Creek	62.41	26	P	P	07 05 39.9	+0.8
baz=272							
SUA	Susitna One	62.42	32	IAmb	IAmb	07 05 41.4	
comp=Z,5.2nm,0.8s							
SUA	Susitna One	62.42	32	P	P	07 05 40.6	+1.2
baz=274							
TOLK	Toolik Lake Re	62.51	24	IAmb	IAmb	07 05 59.5	
comp=Z,8.4nm,1.2s							
TOLK	Toolik Lake Re	62.51	24	P	P	07 05 40.8	+1.1
baz=272							
E23K	Chandalar	62.51	25	IAmb	IAmb	07 05 43.0	
comp=Z,11nm,1.1s							
E23K	Chandalar	62.51	25	P	P	07 05 40.6	+0.7
baz=272,SNR=13							
H23K	Yukon River	62.65	27	P	P	07 05 41.3	+0.5
baz=273							
M22K	Willow	62.69	32	P	P	07 05 40.6	-0.4
baz=275							
D24K	Happy Valley	62.76	23	P	P	07 05 41.7	+0.3
baz=272,SNR=8.5							
I23K	Minto, Yukon-K	62.77	28	IAmb	IAmb	07 05 44.2	
comp=Z,8.0nm,1.1s							
I23K	Minto, Yukon-K	62.77	28	P	P	07 05 40.7	-0.8
baz=274							
C24K	Franklin Bluff	62.78	23	P	P	07 05 40.6	-0.9
baz=272							
KIRV	Kirov	62.88	325	LR	LR	07 36 15.5	
comp=Z,224nm,18.2s,baz=89,slow=39							
KIRV	Kirov	62.88	325	*ce*P	P	07 05 43.4	+1.1
NEA2	Nenana	62.94	29	P	P	07 05 41.5	-1.2
baz=274,SNR=8.2							
E24K	Your Creek	62.94	25	IAmb	IAmb	07 05 45.6	
comp=Z,5.9nm,0.9s							
E24K	Your Creek	62.94	25	P	P	07 05 42.4	-0.3
baz=273							
MCK	McKinley	63.06	30	IAmb	IAmb	07 05 45.5	
comp=Z,10.0nm,1.0s							
MCK	McKinley	63.06	30	P	P	07 05 43.9	+0.4
baz=275,SNR=6.7							
RND	Reindeer	63.13	30	P	P	07 05 43.9	-0.1
RND	Reindeer	63.13	30	P	P	07 05 43.9	-0.1
RND				pmax	pmax		
comp=Z,11nm,0.9s							
PMR	Palmer	63.18	32	P	P	07 05 44.6	+0.4
baz=276							
SEW	Seward	63.18	34	P	P	07 05 44.1	-0.2
baz=276							
F24K	Squaw Lake	63.20	25	IAmb	IAmb	07 05 47.3	
comp=Z,6.7nm,0.9s							
F24K	Squaw Lake	63.20	25	P	P	07 05 44.5	+0.1
baz=274							
H24K	Noodor Dome	63.33	27	P	P	07 05 45.8	+0.5
baz=275							
G24K	Hadweenzic Riv	63.42	26	IAmb	IAmb	07 05 49.0	
comp=Z,7.9nm,1.0s							
G24K	Hadweenzic Riv	63.42	26	P	P	07 05 45.8	0.0
baz=275,SNR=7.3							
COLA	College	63.43	28	P	P	07 05 46.2	+0.3
baz=275							
KNK	Knik Glacier	63.52	32	P	P	07 05 46.7	+0.1
baz=276							
SML	Sawmill	63.53	32	P	P	07 05 47.0	+0.3
baz=276							
POKR	Poker Plat Res	63.59	28	P	P	07 05 47.3	+0.4
baz=276							
D25K	Kavik River	63.62	23	IAmb	IAmb	07 05 49.8	
comp=Z,7.0nm,1.1s							
D25K	Kavik River	63.62	23	P	P	07 05 47.7	+0.6
baz=274							
PWL	Port Wells	63.64	33	P	P	07 05 47.7	+0.3
baz=277							
M23K	Glacier View	63.82	32	P	P	07 05 48.0	-0.6
baz=277							
ILAR	Eielson Array	63.85	28	P	P	07 05 48.8	+0.1
comp=Z,0.9nm,0.8s,baz=267,slow=6.4,SNR=10							
comp=Z,0.9nm,0.8s							
HDA	Harding Lake	63.87	29	P	P	07 05 48.5	-0.3
baz=276							
G25K	Bearman Lake	63.96	26	P	P	07 05 49.3	-0.1
baz=276							
SCM	Sheep Creek Mo	64.00	32	P	P	07 05 49.8	0.0
baz=277							
E25K	Arctic Village	64.02	25	IAmb	IAmb	07 05 53.1	
comp=Z,7.6nm,1.1s							
E25K	Arctic Village	64.02	25	P	P	07 05 50.0	+0.2
baz=276,SNR=7.2							
F25K	Christian Rive	64.05	25	IAmb	IAmb	07 05 53.5	
comp=Z,6.3nm,1.0s							
F25K	Christian Rive	64.05	25	P	P	07 05 50.1	0.0
baz=276,SNR=6.3							
C26K	Camden Bay	64.08	23	P	P	07 05 51.1	+1.0
baz=276,SNR=6.8							
H25L	Birch Creek	64.13	27	P	P	07 05 51.4	+0.9
baz=276							
P23K	Montague Islan	64.22	34	P	P	07 05 51.1	0.0
baz=278							
MSVF	Nonsavu	64.32	128	LR	LR	07 29 55.6	
comp=Z,36nm,20.6s,baz=286,slow=32							
FYU	Fort Yukon	64.33	26	IAmb	IAmb	07 05 55.9	
comp=Z,12nm,1.2s							
PRP	Porcupine Dome	64.34	27	P	P	07 05 51.5	-0.6
baz=277							
K24K	Donnelly Dome	64.45	29	P	P	07 05 52.8	+0.1
baz=278							
BMAR	Burnt Mountain	64.48	25	P	P	07 05 54.4	+1.6
M24K	Tolsona, Glenn	64.51	31	P	P	07 05 52.9	-0.2
baz=278							
J25K	Salcha River,	64.52	28	P	P	07 05 53.1	0.0
baz=278							
C27K	Jago River	64.53	23	P	P	07 05 53.3	+0.3
baz=277							
F26K	Sheenjek River	64.61	25	P	P	07 05 53.7	+0.1
baz=277							
PAX	Paxson	64.70	30	P	P	07 05 54.5	+0.1
baz=278							
KLU	Klutina	64.72	32	P	P	07 05 54.6	+0.1
baz=279							
G26K	Porcupine Rive	64.85	26	P	P	07 05 55.5	+0.4
baz=278							
RIDG	Independent Ri	64.87	29	IAmb	IAmb	07 05 58.5	
comp=Z,14nm,1.4s							
RIDG	Independent Ri	64.87	29	P	P	07 05 55.4	-0.1
baz=278							
HARP	HAARP	64.93	31	P	P	07 05 56.1	+0.3
baz=279							
SCRK	Sand Creek	65.21	29	IAmb	IAmb	07 05 59.4	
comp=Z,6.2nm,1.0s							
SCRK	Sand Creek	65.21	29	P	P	07 05 57.6	-0.2
baz=279,SNR=6.0							
DOT	Dot Lake	65.23	29	IAmb	IAmb	07 05 59.2	
comp=Z,9.1nm,1.0s							
J26L	Joseph Creek	65.31	28	IAmb	IAmb	07 05 59.6	
comp=Z,7.4nm,0.9s							
J26L	Joseph Creek	65.31	28	P	P	07 05 57.8	-0.5
baz=279,SNR=6.6							
N25K	Chitina, Valde	65.32	32	P	P	07 05 58.8	+0.3
baz=280							
I26K	Coal Creek Min	65.35	27	P	P	07 05 58.4	-0.1
baz=279							
BMRM	Bremner River	65.43	32	P	P	07 05 59.1	0.0
baz=280							
E27K	Coleen River	65.49	24	IAmb	IAmb	07 06 02.4	
comp=Z,7.0nm,1.0s							
E27K	Coleen River	65.49	24	P	P	07 05 58.7	-0.6
baz=279							
MENT	Mentasta	65.50	30	IAmb	IAmb	07 06 04.9	
comp=Z,8.8nm,1.2s							
D27M	Malcolm River	65.54	23	P	P	07 05 59.5	-0.2
baz=279							
L26K	Log Cabin Wild	65.65	30	P	P	07 06 00.9	+0.4
baz=280							
G27K	Doyon Strip	65.70	26	P	P	07 06 01.2	+0.5
baz=280							
H27K	Steamboat Moun	65.85	26	P	P	07 06 02.1	+0.3
baz=280							
M26K	Nabesna, AK	65.92	31	IAmb	IAmb	07 06 05.1	
comp=Z,9.1nm,1.0s							
M26K	Nabesna, AK	65.92	31	P	P	07 06 02.7	+0.3
baz=281,SNR=7.7							
I27K	Kandik River	65.93	27	P	P	07 06 02.8	+0.5
baz=280,SNR=13							
K27K	Chicken	66.03	29	P	P	07 06 03.4	+0.6
baz=281							
E28M	Babbage River	66.17	24	IAmb	IAmb	07 06 06.7	
comp=Z,5.9nm,0.9s							
E28M	Babbage River	66.17	24	P	P	07 06 04.7	+1.0
baz=281							
L27K	Beaver Creek,	66.33	30	P	P	07 06 05.3	+0.5
baz=281							
M27K	Edge Creek, AK	66.44	31	IAmb	IAmb	07 06 20.8	
comp=Z,8.4nm,1.3s							
M27K	Edge Creek, AK	66.44	31	P	P	07 06 06.4	+0.7
baz=282							
I28M	Miner Creek	66.65	27	IAmb	IAmb	07 06 09.9	
comp=Z,10nm,1.1s							
I28M	Miner Creek	66.65	27	P	P	07 06 08.0	+1.0
baz=282,SNR=9.3							
E29M	Blow River	66.80	24	P	P	07 06 08.5	+0.8
baz=283,SNR=5.6							
BVCY	Beaver Creek	66.90	30	P	P	07 06 09.3	+0.8
baz=282							
MAK	Makhachkala	67.01	308	*e*P	P	07 06 05.1	-4.4
MAK				*e*S	S	07 14 56.4	-7.1
MAK				pmax	pmax		
comp=Z,41nm,0.4s							
G29M	Pine Creek	67.08	25	P	P	07 06 10.4	+0.8
baz=283							
H29M	Whitestone	67.11	26	IAmb	IAmb	07 06 12.7	
comp=Z,7.7nm,1.0s							
H29M	Whitestone	67.11	26	P	P	07 06 10.7	+0.9
baz=283							
DAWY	Dawson	67.18	28	P	P	07 06 10.9	+0.6
baz=283							
YUK3	Moose Creek	67.22	31	P	P	07 06 11.5	+0.7
baz=283							
I29M	Ogilvie Camp,	67.33	27	P	P	07 06 12.0	+0.8
baz=284							
KLMR	Klimovskoe	67.42	328	*e*P	P	07 06 10.5	-1.3
KLMR				pmax	pmax		
comp=Z,32nm,1.5s							
O28M	Mount Upton	67.58	32	P	P	07 06 13.5	+0.3
baz=284							
J29N	Klondike Camp	67.58	28	IAmb	IAmb	07 06 15.8	
comp=Z,9.3nm,1.1s							
J29N	Klondike Camp	67.58	28	P	P	07 06 13.0	+0.1
baz=284							
YUK8	Steele Glacier	67.66	31	P	P	07 06 13.8	+0.1
baz=284							
PINM	Pinnacle	67.72	33	P	P	07 06 14.5	+0.7
baz=284							
EPYK	Eagle Plains	67.72	26	IAmb	IAmb	07 06 15.9	
comp=Z,9.1nm,0.9s							
EPYK	Eagle Plains	67.72	26	P	P	07 06 14.9	+1.2
baz=284							
G30M	tAoh Zraii Nji	67.76	25	IAmb	IAmb	07 06 15.9	
comp=Z,11nm,1.1s							
G30M	tAoh Zraii Nji	67.76	25	P	P	07 06 14.4	+0.5
baz=285,SNR=7.6							
F30M	Barrier River	67.76	24	IAmb	IAmb	07 06 16.5	
comp=Z,6.9nm,1.0s							
F30M	Barrier River	67.76	24	P	P	07 06 15.0	+1.2
baz=285							
L29M	L29M	67.95	29	IAmb	IAmb	07 06 18.4	
comp=Z,8.4nm,1.0s							
L29M	L29M	67.95	29	P	P	07 06 16.7	+1.5
baz=284,SNR=6.8							
M29M	Somme Creek	67.97	30	P	P	07 06 16.6	+1.1
baz=284							
K29M	Barlow Dome	68.03	29	P	P	07 06 16.6	+0.8
baz=285							
I30M	Mount Dempster	68.15	27	IAmb	IAmb	07 06 24.4	
comp=Z,8.6nm,1.4s							
I30M	Mount Dempster	68.15	27	P	P	07 06 17.7	+1.2
baz=285							
YUK4	Talbot Arm	68.17	31	P	P	07 06 17.6	+0.8
baz=285							
PNL	Peninsula	68.24	33	P	P	07 06 17.6	+0.6
baz=285							
J30M	Hart River	68.34	28	P	P	07 06 18.5	+0.8
baz=286							
YUK6	Outpost Mounta	68.41	32	P	P	07 06 18.9	+0.6
baz=285							
O29M	Mount Kennedy	68.47	32	P	P	07 06 18.8	+0.2
baz=285							
G31M	Satah River	68.51	25	P	P	07 06 18.9	+0.4
baz=286							
F31M	Tsiigehtchic	68.56	24	IAmb	IAmb	07 06 20.2	
comp=Z,7.8nm,1.1s							
F31M	Tsiigehtchic	68.56	24	P	P	07 06 19.6	+0.8
baz=287							
VRH	Novokhopyorsk	68.66	318	*e*P	P	07 06 19.5	-0.2
VRH				pmax	pmax		
comp=Z,23nm,1.2s							
H31M	Peel River	68.81	26	IAmb	IAmb	07 06 39.6	
comp=Z,8.9nm,1.1s							
H31M	Peel River	68.81	26	P	P	07 06 21.3	+0.8
baz=287,SNR=6.7							
HYT	Haines Junctio	68.84	32	P	P	07 06 21.9	+1.0
baz=286							
N30M	Aishikik Lake	68.86	31	P	P	07 06 21.5	+0.6
baz=286							
SPITS	Spitsbergen Ar	69.02	348	LR	LR	07 40 55.3	
comp=Z,54nm,18.4s,baz=342,slow=40							
P29M	Windy Craggy	69.06	33	P	P	07 06 23.4	+1.3
baz=286							
N31M	Braeburn, Yuko	69.46	31	IAmb	IAmb	07 06 27.4	
comp=Z,12nm,1.1s							
N31M	Braeburn, Yuko	69.46	31	P	P	07 06 25.1	+0.5
baz=287							
O30N	Mendenhall	69.52	31	P	P	07 06 25.4	+0.4
baz=287							
GOF	Gofitskoye	69.53	311	*ce*P	P	07 06 26.9	+1.6
MOS	Moscow	69.73	323	*e*P	P	07 06 26.1	-0.2
GNI	Garni	69.79	306	LR	LR	07 41 15.0	
comp=Z,73nm,18.5s,baz=122,slow=40							
A36M	Sachs Harbour	69.82	19	P	P	07 06 26.9	+0.3
baz=293,SNR=14							
M31M	Drury Creek, Y	69.87	30	P	P	07 06 27.2	+0.1
baz=288							
LPSR	Galich'ya Gora	69.92	320	*e*P	P	07 06 27.5	0.0
LPSR				pmax	pmax		
comp=Z,19nm,0.8s							
KBZ	Khabaz	70.02	310	P	P	07 06 29.7	+1.4
comp=Z,17nm,0.9s,baz=84,slow=3.4,SNR=37							
KBZ				LR	LR	07 41 33.5	
comp=Z,123nm,18.1s,baz=58,slow=40							
KBZ	Khabaz	70.02	310	*ce*P	P	07 06 29.1	+0.8
KBZ				pmax	pmax		
comp=Z,32nm,1.1s							
VORR	Voronezh	70.03	319	*e*P	P	07 06 28.0	-0.2
VORR				pmax	pmax		
comp=Z,38nm,0.4s							
KIV	Kislovodsk	70.10	310	P	P	07 06 30.4	+1.5
KIV	Kislovodsk	70.10	310	||P	P	07 06 30.6	+1.7
KIV	Kislovodsk	70.10	310	*e*P	P	07 06 29.9	+1.0
KIV				pmax	pmax		
comp=Z,33nm,1.0s							
KIV	Kislovodsk	70.10	310	P	P	07 06 29.9	+1.0
comp=Z,474nmcomp=Z,34nm,1.1s							
WHY	Whitehorse	70.12	31	P	P	07 06 29.2	+0.4
baz=288							
SHA1	Shidzhatmaz	70.18	310	P	P	07 06 28.9	-0.7
VORD	Divnogorie	70.19	318	*e*P	P	07 06 28.2	-1.0
VORD				pmax	pmax		
comp=Z,7.0nm,1.1s							
VSR	Storozhevoye	70.19	318	*e*P	P	07 06 28.2	-1.0
VSR				pmax	pmax		
comp=Z,8.0nm,1.0s							
SKAG	Skagway	70.29	33	P	P	07 06 30.4	+0.8
baz=288							
S31K	Pelican	70.31	34	P	P	07 06 30.3	+0.5
baz=288							
FARO	Faro, Yukon	70.32	30	IAmb	IAmb	07 06 32.4	
comp=Z,9.8nm,0.9s							
FARO	Faro, Yukon	70.32	30	P	P	07 06 30.4	+0.5
baz=289,SNR=8.4							
ARCES	ARCESS Array B	70.38	339	P	P	07 06 30.6	+0.5
comp=Z,8.9nm,0.9s,baz=65,slow=6.1,SNR=4.8							
ARCES				LR	LR	07 44 29.7	
comp=Z,110nm,18.5s,baz=66,slow=42							
comp=Z,8.9nm,0.9s							
OBN	Obninsk	70.50	323	*ce*P	P	07 06 31.4	+0.4
OBN				*e*		07 09 06.8	
OBN				*e*S	S	07 15 44.4	-0.1
OBN				pmax	pmax		
comp=Z,6.0nm,0.5s							
OBN				MLR	MLR		
comp=Z,438nm,16.0s							
JOF	Joensuu	70.56	331	*e*P	P	07 06 32.4	+1.1
N32M	Quiet Lake	70.80	31	P	P	07 06 33.4	+0.6
baz=289							
NOR	Nord	70.99	355	*e*P	P	07 06 33.9	+0.3
P32M	Atlin	71.02	32	P	P	07 06 34.8	+0.5
baz=289							
ERBR	Yeremizino-Bor	71.05	312	*e*P	P	07 06 35.4	+0.8
ERBR				pmax	pmax		
comp=Z,28nm,1.2s							
SIT	Sitka	71.06	35	P	P	07 06 35.3	+0.9
baz=289							
R32K	Eaglecrest	71.07	34	P	P	07 06 34.8	+0.3
baz=289							
LABN	Labinsk	71.22	311	*e*P	P	07 06 31.4	-4.3
LABN				pmax	pmax		
comp=Z,39nm,0.6s							
P33M	Teslin, Yukon	71.24	32	P	P	07 06 36.6	+1.1
baz=290							
C36M	Paulatuk	71.24	21	P	P	07 06 35.6	+0.4
baz=294,SNR=14							
GEVA	Gevas	71.61	304	IAmb	IAmb	07 06 41.1	
comp=Z,11nm,1.0s							
SOC	Sochi	72.26	310	*e*P	P	07 06 40.1	-1.8
SOC				*e*		07 09 17.2	
SOC				*e*PPP	PPP	07 11 04.6	
SOC				*e*S	S	07 16 03.3	-2.0
SOC				*e*SS	SS	07 20 36.7	-5.8
SOC				pmax	pmax		
comp=Z,9.0nm,0.5s							
SOC				MLR	MLR		
comp=Z,118nm,19.0s							
S34M	Telegraph Cree	72.88	33	P	P	07 06 46.4	+1.1
baz=292							
WTLY	Watson Lake, Y	73.14	31	P	P	07 06 48.2	+1.3
baz=293							
ANN	Anapa	73.38	312	*e*P	P	07 06 49.0	+0.5
ANN				pmax	pmax		
comp=Z,16nm,0.8s							
FIA1	FINESS Array S	73.39	331	P	P	07 06 48.6	+0.3
FINES	FINESS Array B	73.39	331	P	P	07 06 47.7	-0.6
FINES	FINESS Array B	73.39	331	P	P	07 06 48.7	+0.4
comp=Z,10nm,0.8s,baz=61,slow=5.6,SNR=32							
FINES				LR	LR	07 43 04.5	
comp=Z,272nm,18.2s,baz=38,slow=39							
comp=Z,10nm,0.8s							
FINES	FINESS Array B	73.39	331	*i* P	P	07 06 49.2	+1.0
FINES				pmax	pmax		
comp=Z,10.0nm,0.8s							
KEF	Keuruu	73.61	332	*e*P	P	07 06 50.5	+1.0
WRGLY	Wrigley	74.13	27	P	P	07 06 54.1	+1.6
baz=297							
VAF	Ylistaro	74.14	333	*e*P	P	07 06 54.1	+1.5
ARBE	Arbavere	74.27	329	*e*P	P	07 06 53.6	+0.2
VSU	Vasula	74.33	328	*ce*P	P	07 06 54.6	+0.8
VSU				pmax	pmax		
comp=Z,38nm,1.3s							
VSU	Vasula	74.33	328	*e*P	P	07 06 54.8	+1.0
MEF	Metsahovi	74.66	330	*e*P	P	07 06 57.0	+1.3
LIRD	Liard River Hi	74.68	31	P	P	07 06 57.1	+1.2
baz=296							
RAYN	Ar Rayn	74.89	289		P	07 06 56.5	-1.3
RAYN				IAmb	IAmb	07 07 00.3	
comp=Z,9.4nm,0.9s							
RAYN	Ar Rayn	74.89	289	P	P	07 06 59.6	+1.8
RES	Resolute Bay	75.28	11	LR	LR	07 43 17.8	
comp=Z,36nm,18.0s,baz=14,slow=38							
TOAD	Toad River Com	75.33	31	P	P	07 07 01.1	+1.5
baz=296							
MNK	Minsk	75.40	324	*i* P	P	07 06 58.2	-1.9
MNK				*i* S	S	07 16 39.6	-0.8
MNK				*i* SS	SS	07 21 30.0	+0.2
MNK				pmax	pmax		
comp=E,15nm,0.9s							
MNK				pmax	pmax		
comp=N,13nm,0.8s							
MNK				pmax	pmax		
comp=Z,19nm,0.7s							
MNK				MLR	MLR		
comp=E,180nm,17.0s							
MNK				MLR	MLR		
comp=Z,269nm,15.0s							
MNK				MLR	MLR		
comp=N,331nm,16.0s							
RAF	Rauma	75.45	331	*e*P	P	07 07 01.7	+1.5
MTSE	Matsula	75.59	329	*e*P	P	07 07 02.8	+1.7
AK03	Malin Array Si	76.23	320	P	P	07 07 05.1	+0.2
AKASG	Malin Array Be	76.24	320	P	P	07 07 04.6	-0.4
AKASG	Malin Array Be	76.24	320	P	P	07 07 05.2	+0.2
comp=N,6.7nm,0.9s,baz=57,slow=6.2,SNR=22							
AKASG				LR	LR	07 43 22.4	
comp=N,344nm,18.3s,baz=58,slow=38							
comp=N,6.7nm,0.9s							
AKASG	Malin Array Be	76.24	320	*i* P	P	07 07 05.5	+0.5
AKASG				pmax	pmax		
comp=Z,5.0nm,0.7s							
AKBB	Malin Array Si	76.24	320		P	07 07 04.7	-0.3
AKBB				IAmb	IAmb	07 07 06.5	
comp=Z,11nm,1.0s							
AKBB	Malin Array Si	76.24	320	*ce*P	P	07 07 04.4	-0.6
AKBB				pmax	pmax		
comp=Z,13nm,1.1s							
AKBB	Malin Array Si	76.24	320	P	P	07 07 05.2	+0.2
AK09	Malin Array Si	76.24	320	P	P	07 07 05.2	+0.2
AK08	Malin Array Si	76.25	320	P	P	07 07 05.2	+0.2
AK01	Malin Array Si	76.25	320	P	P	07 07 05.2	+0.2
KIEV	Kiev	76.25	320	P	P	07 07 04.0	-1.0
KIEV				IAmb	IAmb	07 07 06.5	
comp=Z,10.0nm,1.0s							
KIEV	Kiev	76.25	320	P	P	07 07 04.1	-1.0
KIEV				pmax	pmax		
comp=Z,10.0nm,1.0s							
KIEV	Kiev	76.25	320	P	P	07 07 05.2	+0.2
comp=Z,52nm,1.1s							
AK16	Malin Array Si	76.33	320	P	P	07 07 05.7	+0.3
NEEM

RNPP9 **Sopachiv** 77.83 321 P P 07 07 13.8 -0.1
SORM **Soroca** 77.85 318 P P 07 07 14.1 0.0
SORM **Soroca** 77.85 318 P P 07 07 14.1 0.0
comp=Z,3μmcomp=Z,3.8nm,0.7s
RNPP8 **Varash** 77.89 321 P P 07 07 14.5 +0.3
BR131 **Keskin Array S** 77.91 308 IAmb IAmb 07 07 16.9
comp=Z,13nm,0.9s
BR131 **Keskin Array S** 77.91 308 *i* P P 07 07 13.1 -1.7
BRTR **Keskin Array B** 77.91 308 P P 07 07 14.9 +0.1
BRTR **Keskin Array B** 77.91 308 P P 07 07 15.7 +0.8
comp=Z,6.9nm,0.8s,baz=96,slow=4.8,SNR=36
comp=Z,6.9nm,0.8s
BRTR **Keskin Array B** 77.91 308 *i* P P 07 07 16.1 +1.3
BRTR pmax pmax
comp=Z,7.0nm,0.9s
RNPP5 **Staryi Chortor** 77.92 321 P P 07 07 15.4 +1.0
BR104 **Keskin Array S** 77.92 308 P P 07 07 15.8 +1.0
comp=Z,73nmcomp=Z,9.8nm,0.9s
BR106 **Keskin Array S** 77.92 308 P P 07 07 15.7 +0.8
comp=Z,77nmcomp=Z,10nm,0.9s
BR105 **Keskin Array S** 77.93 308 P P 07 07 15.7 +0.8
comp=Z,88nmcomp=Z,11nm,0.9s
YKA **Yellowknife Ar** 78.00 25 P P 07 07 15.6 +0.9
comp=Z,1.9nm,1.0s,baz=300,slow=5.3,SNR=20
comp=Z,1.9nm,1.0s
YKA **Yellowknife Ar** 78.00 25 *i* P P 07 07 15.8 +1.2
YKA pmax pmax
comp=Z,2.0nm,1.0s
SUW **Suwalki** 78.09 325 *e*P P 07 07 16.6 +1.4
SUW **Suwalki** 78.09 325 *e*P P 07 07 16.4 +1.2
ANTO **Ankara** 78.45 309 P P 07 07 18.3 +0.6
ANTO **Ankara** 78.45 309 P P 07 07 18.3 +0.6
comp=Z,2.7nm,0.6s
TPGR **Topolog** 79.25 315 ⇑P P 07 07 23.5 +1.6
CFR **Carcaliu** 79.28 315 ⇑P P 07 07 23.0 +1.0
CFR **Carcaliu** 79.28 315 P P 07 07 23.0 +1.0
HFS **Hagfors** 79.31 333 P P 07 07 22.2 +0.2
comp=Z,6.8nm,0.8s,baz=88,slow=4.6,SNR=11
HFS LR LR 07 46 38.3
comp=Z,159nm,18.5s,baz=68,slow=39
comp=Z,6.8nm,0.8s
MMAI **Mount Meron Ar** 79.36 301 LR LR 07 48 13.9
comp=Z,46nm,19.1s,baz=9.0,slow=40
NC303 **NORSAR Array S** 79.61 334 P P 07 07 22.7 -0.8
TESR **Tescani** 79.61 317 ⇑P P 07 07 25.1 +1.2
TESR **Tescani** 79.61 317 P P 07 07 24.8 +1.0
comp=Z,17nm,1.1s
NB201 **NORSAR Array S** 79.74 334 IAmb IAmb 07 07 25.6
comp=Z,18nm,1.0s
NB2 **NORSAR Subarra** 79.78 334 P P 07 07 24.4 -0.1
comp=Z,18nm,1.1s,baz=51,slow=5.6
NB2 **NORSAR Subarra** 79.78 334 P P 07 07 23.6 -0.9
NB2 **NORSAR Subarra** 79.78 334 P P 07 07 24.4 -0.1
baz=51,slow=5.6
NOA **NORSAR Array B** 79.78 334 P P 07 07 24.4 -0.1
comp=Z,6.7nm,0.9s,baz=50,slow=5.3,SNR=22
NOA LR LR 07 45 45.9
comp=Z,81nm,21.5s,baz=50,slow=38
comp=Z,6.7nm,0.9s
NC204 **NORSAR Array S** 79.81 335 P P 07 07 23.8 -1.0
NC204 IAmb IAmb 07 07 26.1
comp=Z,13nm,0.9s
ONER **Baraj Valea Uz** 79.85 317 ⇑P P 07 07 27.0 +1.8
VRI **Vrincioaia** 79.86 316 ⇓P P 07 07 27.5 +2.3
VRI **Vrincioaia** 79.86 316 P P 07 07 27.5 +2.3
VRI **Vrincioaia** 79.86 316 P P 07 07 26.7 +1.5
comp=Z,23nm,1.2s
PLOR5 **Plostina Array** 79.91 316 P P 07 07 27.0 +1.5
comp=Z,12nm,0.9s
PLOR3 **Plostina Array** 79.91 316 P P 07 07 27.0 +1.4
comp=Z,8.1nm,1.8s
BURAR **Bucovina Array** 79.97 318 P P 07 07 26.1 +0.2
BURAR **Bucovina Array** 79.97 318 ⇓P P 07 07 27.1 +1.2
BURAR **Bucovina Array** 79.97 318 P P 07 07 27.1 +1.2
COVR **Voineasa-Covas** 80.19 316 ⇓P P 07 07 28.8 +1.8
OZUR 80.33 317 ⇑P P 07 07 29.8 +2.0
BEL **Belsk** 80.42 323 *e*P P 07 07 29.6 +1.5
YLV **Yalova** 80.52 311 P P 07 07 29.9 +1.0
comp=Z,10nm,1.1s
MLR **Muntele Rosu** 80.52 316 LR LR 07 46 12.0
comp=Z,134nm,18.4s,baz=68,slow=38
MLR **Muntele Rosu** 80.52 316 ⇓P P 07 07 30.8 +1.9
MLR **Muntele Rosu** 80.52 316 P P 07 07 30.8 +1.9
MLR **Muntele Rosu** 80.52 316 P P 07 07 30.1 +1.2
comp=Z,8.3nm,1.0s
BRIU **Brid** 80.92 320 P P 07 07 32.2 +1.4
KOLS **Kolonicke sedl** 81.06 320 *e*P P 07 07 33.6 +2.0
KOLS pmax pmax
comp=Z,4.0nm,0.9s
KOLS **Kolonicke sedl** 81.06 320 *e*P P 07 07 33.6 +2.0
SUMG **Summit** 81.07 356 *i* P P 07 07 32.0 +0.3
SUMG IAmb IAmb 07 07 34.5
comp=Z,12nm,1.0s
VOIR 81.10 316 ⇓P P 07 07 33.3 +1.4
VOIR 81.10 316 P P 07 07 33.3 +1.4
EIL **Elat** 81.10 299 LR LR 07 48 47.6
comp=Z,42nm,18.4s,baz=68,slow=40
BERU **Beregovo** 81.19 320 P P 07 07 33.7 +1.5
HOLU **Holmets** 81.19 320 P P 07 07 33.7 +1.4
ARR **Arges** 81.39 316 ⇑P P 07 07 35.3 +1.8
STHS **Stebnicka Huta** 81.40 321 *e*P P 07 07 36.0 +2.6
STHS pmax pmax
comp=Z,5.0nm,0.6s
STHS **Stebnicka Huta** 81.40 321 *e*P P 07 07 36.0 +2.6
SCO **Scoresbysund** 81.40 351 *e*P P 07 07 34.6 +1.7
SCO IAmb IAmb 07 07 36.3
comp=Z,7.9nm,1.1s
MARR **Marisel-Cluj** 81.67 318 ⇑P P 07 07 36.8 +1.7
OJC **Ojcow** 81.79 322 *e*P P 07 07 36.9 +1.5
OJC **Ojcow** 81.79 322 P P 07 07 36.8 +1.4
OJC **Ojcow** 81.79 322 P P 07 07 36.8 +1.4
comp=Z,21nm,1.2s
DRGR 81.86 318 ⇑P P 07 07 37.4 +1.4
DRGR 81.86 318 P P 07 07 37.4 +1.4
NIE **Niedzica** 81.92 321 *e*P P 07 07 38.5 +2.3
NIE **Niedzica** 81.92 321 P P 07 07 37.5 +1.3
NIE **Niedzica** 81.92 321 P P 07 07 37.5 +1.3
comp=Z,6.3nm,1.4s
ILON **Igloolik, Nuna** 81.96 11 P 07 07 35.2 -0.7
ILON IAmb IAmb 07 07 59.8
comp=Z,10.0nm,1.0s
GZR **Gura Zlata** 82.52 317 ⇑P P 07 07 41.0 +1.5
GZR **Gura Zlata** 82.52 317 P P 07 07 40.9 +1.5
ALN **Alexandroupoli** 82.61 312 IAmb IAmb 07 07 42.4
comp=Z,10nm,1.1s
SURR **Surduc** 82.73 318 ⇑P P 07 07 41.7 +1.2
SIRR **Siria** 82.75 318 ⇓P P 07 07 42.4 +1.8
EZN **Ezine** 82.93 311 P P 07 07 42.9 +1.3
EZN **Ezine** 82.93 311 P P 07 07 42.9 +1.3
comp=Z,13nm,1.1s
HERR **Herculane** 83.00 317 ⇑P P 07 07 42.9 +1.1
STEB **Steborice** 83.05 323 *e*P P 07 07 42.4 +0.4
BZS **Buzias** 83.11 318 ⇑P P 07 07 43.3 +0.9
BZS **Buzias** 83.11 318 P P 07 07 43.3 +0.9
RAR **Rarotonga** 83.20 118 LR LR 07 35 41.8
comp=Z,31nm,21.1s,baz=290,slow=29
VYHS **Vyhne** 83.23 321 *e*P P 07 07 45.0 +2.0
VYHS **Vyhne** 83.23 321 *e*P P 07 07 45.0 +2.0
MORC **Moravsky Berou** 83.25 323 *e*P P 07 07 44.7 +1.5
KSP **Ksiaz** 83.34 324 *e*P P 07 07 45.5 +2.0
KSP **Ksiaz** 83.34 324 P P 07 07 44.9 +1.4
KSP **Ksiaz** 83.34 324 P P 07 07 44.9 +1.4
comp=Z,20nm,1.2s
MDVR **Moldovita** 83.48 317 ⇑P P 07 07 45.6 +1.2
KRLC **Kraliky** 83.50 323 AMS AMS 07 48 20.0
comp=Z,400nm,17.3s
OSTC **Ostas** 83.54 324 *e*P P 07 07 46.6 +2.0
OSTC AMS AMS 07 48 30.0
comp=Z,500nm,20.6s
OSTC **Ostas** 83.54 324 *e*P P 07 07 46.6 +2.0
OSTC MLR MLR
comp=Z,500nm,20.6s
B08A **Colville Reser** 83.57 39 IAmb IAmb 07 07 47.2
comp=Z,7.9nm,1.1s
DPC **Dobruska-Polom** 83.59 324 *e*P P 07 07 46.4 +1.5
DPC **Dobruska-Polom** 83.59 324 *e*P P 07 07 46.4 +1.5
DPC **Dobruska-Polom** 83.59 324 P P 07 07 46.3 +1.4
comp=Z,9.1nm,1.4s
UPC **Upice** 83.67 324 AMS AMS 07 48 30.0
comp=Z,600nm,18.6s
JAVC **Velka Javorina** 83.69 322 *e*P P 07 07 49.8 +4.4
RUE **Ruedersdorf** 83.69 326 *e*P P 07 07 46.9 +1.7
VRAC **Vranov** 84.03 323 LR LR 07 48 58.8
comp=Z,209nm,18.8s,baz=64,slow=38
VRAC **Vranov** 84.03 323 *e*P P 07 07 49.1 +2.0
VRAC **Vranov** 84.03 323 ⇑P P 07 07 49.2 +2.0
VRAC **Vranov** 84.03 323 P P 07 07 49.1 +2.0
BOVS **Bovan** 84.07 316 ⇓P P 07 07 48.9 +1.6
MODS **Modra-Piesok** 84.17 322 *e*P P 07 07 50.5 +2.7
MODS pmax pmax
comp=Z,47nm,1.5s
MODS **Modra-Piesok** 84.17 322 *e*P P 07 07 50.5 +2.7
KRUC **Moravsky** 84.28 323 *e*P P 07 07 50.1 +1.8
BRG **Berggiesshubel** 84.54 325 *e*P P 07 07 51.0 +1.3
BRG Amp 07 07 52.2
comp=Z,8.8nm,1.0s
MORH **Mrgy, Hungar** 84.56 319 ⇑P P 07 07 52.3 +2.5
MORH **Mrgy, Hungar** 84.56 319 P P 07 07 51.2 +1.4
comp=Z,5.9nm,1.1s
MPLH **Magyarpolny** 84.68 321 P P 07 07 51.8 +1.4
comp=Z,47nm,1.4s
CLL **Collm** 84.77 326 *i* P P 07 07 52.1 +1.3
CLL *i* 07 08 03.2
CLL pmax pmax
comp=Z,18nm,1.1s
CLL **Collm** 84.77 326 P P 07 07 52.2 +1.4
comp=Z,15nm,1.2s
CLL **Collm** 84.77 326 *i* P P 07 07 52.1 +1.3
comp=Z,18nm,1.1s
CLL *i* x x 07 08 03.2
CLL AMS AMS 07 50 00.0
comp=Z,300nm,18.2s
CONA **Conrad Observa** 85.21 322 *i* pP P 07 07 55.0 +1.8
comp=Z,4.3nm,0.8s
ZVC **Zvikov** 85.25 324 *e*P P 07 07 54.9 +1.7
CKRC **Cesky Krumlov** 85.54 323 *e*P P 07 07 56.2 +1.5
CKRC **Cesky Krumlov** 85.54 323 *e*P P 07 07 56.2 +1.5
KHC **Kasperske Hory** 85.75 324 *e*P P 07 07 57.3 +1.5
KHC AMS AMS 07 49 30.0
comp=Z,400nm,14.9s
KHC **Kasperske Hory** 85.75 324 *e*P P 07 07 57.3 +1.5
KHC MLR MLR
comp=Z,400nm,14.9s
ARSA **Arzberg** 85.78 321 *e*PcP P 07 07 57.6 +1.6
comp=Z,1.3nm,0.6s
GERES **GERESS Array B** 85.86 323 P P 07 07 57.5 +1.1
comp=Z,2.9nm,0.8s,baz=46,slow=3.9,SNR=14
comp=Z,2.9nm,0.8s
MOA **Molln** 86.13 322 *i* PcP P 07 07 59.3 +1.6
comp=Z,4.0nm,0.7s
PDG **Podgorica** 86.23 316 ⇑P P 07 08 00.2 +2.0
SOKA **Soboth** 86.38 321 *e*PcP P 07 08 00.1 +1.0
comp=Z,0.9nm,0.5s
TIR **Tirane** 86.42 315 P P 07 08 00.5 +1.3
TIR **Tirane** 86.42 315 P P 07 08 00.5 +1.3
comp=Z,20nm,1.1s
BMO **Blue Mountains** 86.67 41 P 07 07 59.2 -1.3
BMO **Blue Mountains** 86.67 41 P P 07 07 59.2 -1.3
BMO pmax pmax
comp=Z,5.0nm,1.3s
OBKA **Obir** 86.75 321 *i* PcP P 07 08 01.2 +0.3
comp=Z,1.8nm,0.6s
J08A **Circle Bar Ran** 86.80 43 P 07 08 03.6 +2.4
J08A IAmb IAmb 07 08 04.1
comp=Z,7.3nm,1.0s
SFJD **Kangerlussuaq** 87.02 0 LR LR 07 46 10.5
comp=Z,35nm,21.2s,baz=64,slow=35
WVOR **Wild Horse Val** 87.21 43 IAmb IAmb 07 08 06.1
comp=Z,8.6nm,1.3s
LESA **Schwarzleotal** 87.25 323 *e*PcP P 07 08 04.2 +0.9
comp=Z,1.5nm,0.4s
ABTA **Abfaltersbach** 87.75 322 *e*PcP P 07 08 05.8 +0.2
comp=Z,2.8nm,0.7s
WTTA **Wattenberg** 87.91 323 *e*PcP P 07 08 06.6 +0.1
comp=Z,2.5nm,0.6s
FFC **Flin Flon** 88.03 27 P P 07 08 07.0 +0.3
MFID **Camas Ranch** 88.36 41 P 07 08 07.8 -0.9
FETA **Feichten** 88.55 323 *i* PcP P 07 08 08.9 -0.7
comp=Z,0.1nm,0.1s
DLMT **Dillon** 89.08 39 IAmb IAmb 07 08 14.3
comp=Z,13nm,1.3s
HLID **Hailey** 89.11 41 P P 07 08 11.7 -0.6
HLID IAmb IAmb 07 08 15.6
comp=Z,8.6nm,1.5s
DAVOX **Davos/Dischmat** 89.16 323 LR LR 07 52 40.9
comp=Z,141nm,20.2s,baz=64,slow=39
TUE **Stuetta** 89.64 323 P P 07 08 15.6 +0.9
comp=Z,39nm,1.8s
NVAR **Mina Array Bea** 89.64 47 P P 07 08 16.2 +1.3
comp=Z,0.4nm,0.7s,baz=271,slow=4.7,SNR=4.7
comp=Z,0.4nm,0.7s
PPT **Papeete** 89.81 110 LR LR 07 44 26.4
comp=Z,24nm,18.8s,baz=293,slow=33
PPT2 **Papeete2** 89.83 110 *e*LR LR 07 36 44.4
comp=Z,93nm,28.0s
PPT2 *e*LR LR 07 36 52.3
comp=Z,89nm,30.5s
AQU **L'Aquila** 89.85 318 P P 07 08 16.5 +0.9
comp=Z,15nm,1.0s
CEL **Celeste** 90.67 314 P P 07 08 20.4 +0.9
HWUT **Hardware Ranch** 91.97 41 P 07 08 28.6 +3.0
HWUT IAmb IAmb 07 08 28.9
comp=Z,7.0nm,1.2s
DUG **Dugway, Tooele** 92.08 43 P 07 08 28.5 +2.3
DUG IAmb IAmb 07 08 29.2
comp=Z,4.0nm,0.9s
DUG **Dugway, Tooele** 92.08 43 P P 07 08 28.5 +2.3
DUG pmax pmax
comp=Z,4.0nm,1.0s
PDAR **Pinedale Array** 92.40 39 P P 07 08 28.4 +0.6
comp=Z,1.6nm,1.1s,baz=329,slow=1.7,SNR=6.8
comp=Z,1.6nm,1.1s
MTPU **Mount Pierson** 93.78 44 P 07 08 38.2 +3.9
MTPU IAmb IAmb 07 08 54.3
comp=Z,7.4nm,1.5s
ULM **Lac du Bonnet** 93.86 27 LR LR 07 55 09.3
comp=Z,43nm,18.0s,baz=180,slow=38
TAOE **Nuku Hiva Isla** 94.16 98 *e*LR LR 07 38 45.3
comp=Z,59nm,23.6s
KEST **Kesra** 96.38 315 LR LR 07 57 41.9
comp=Z,90nm,18.7s,baz=24,slow=39
ESDC **Sonseca Array** 101.35 325 P Pdif 07 09 08.1 +0.1
comp=Z,0.1nm,0.3s,baz=35,slow=5.4,SNR=4.7

KRSC 14 06:56:07.0±1.4, 50°.48N×160°.08E, h63km±29km, MI3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	1.84	317	*e*P	Pn	06 56 38.6	+2.4
KDTR				*e*S	Sn	06 57 00.4	+2.0
RUS	**Russkaya**	2.19	334	*e*P	Pn	06 56 43.6	+2.6
RUS				*e*S	Sn	06 57 09.5	+2.5
PAU	**Pauzhetka**	2.29	297	*e*P	Pn	06 56 45.6	+3.2
PAU				*e*S	Sn	06 57 12.2	+2.7
GRL	**Gorelyy**	2.43	330	*e*P	Pn	06 56 48.0	+3.6
GRL				*e*S	Sn	06 57 16.5	+3.6
SKR	**Severo-Kuril's**	2.53	276	*e*P	Pn	06 56 48.2	+2.5
SKR				*e*S	Sn	06 57 16.7	+1.3
SPN	**Mys Shipunski**	2.63	359	*e*S	Sn	06 57 19.9	+2.3
KRMR	**Karymshinskiy**	2.65	334	*e*S	Sn	06 57 21.6	+3.3
NLC	**Nalytchevo**	2.74	351	*e*S	Sn	06 57 23.1	+2.8
AVH	**Avacha**	2.91	344	*e*P	Pn	06 56 53.5	+2.6
KOK	**Koryaka**	2.96	343	*e*P	Pn	06 56 54.0	+2.4
KRX	**Arik**	3.02	344	*e*P	Pn	06 56 55.2	+2.7
APC	**Apacha**	3.05	325	*e*P	Pn	06 56 56.7	+4.0
APC				*e*S	Sn	06 57 32.7	+4.7
MKZ	**Mys Kozlova**	4.21	13	*e*P	Pn	06 57 11.6	+3.1
TUMD	**Tumrok D**	4.74	2	*e*S	Sn	06 58 12.3	+2.9

*NEIC **14** 07:05:39.8±0.7, 19°.37N±0°.02×155°.09W±0°.01, h10km±1km, Error ellipse: s-maj=3.0km s-min=2.1km az=156.0*
HVO 14 07:05:39.6±0.9, 19°.36N±0°.02×155°.085W±0°.009, h8km±2km, ML2.4/26, ML2.5/38(NEIC), Error ellipse: s-maj=2.7km s-min=1.0km az=159.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	0.03	330		Pg	07 05 42.9	+1.7
NPOC	**North of Pu'u**	0.04	327		Pg	07 05 43.2	+1.9
STCH	**Steam Cracks**	0.05	307		Pg	07 05 41.7	+0.3
KNHH	**Kane Nui o Ham**	0.08	286		Pg	07 05 42.2	+0.4
JOKA	**Jonika Flow**	0.11	45		Pg	07 05 42.3	+0.2
JOKA				IAML		07 05 44.5	
comp=E,2μm,0.5s
JOKA				IAML		07 05 45.2	
comp=N,2μm,0.2s
PUH	**Pauahi**	0.12	278		Pg	07 05 42.7	+0.3
BYL	**Byron's Ledge**	0.17	288		Pg	07 05 43.5	+0.2
BYL				IAML		07 05 46.9	
comp=E,906nm,0.5s
KKO	**Keanakako'i**	0.18	283		Pg	07 05 43.6	+0.3
KKO					Sg	07 05 46.6	+0.8
HATHI	**Halema'uma'u T**	0.18	292		Pg	07 05 43.6	+0.3
RIM	**Rim**	0.18	282		Pg	07 05 43.7	+0.3
RIM					Sg	07 05 46.7	+0.6
SBLHI	**Steaming Bluff**	0.19	292		Pg	07 05 43.7	+0.2
SBLHI					Sg	07 05 46.7	+0.6
UWB	**Uwekahuna Bluf**	0.20	290		Pg	07 05 43.8	+0.1
UWB					Sg	07 05 47.0	+0.7
OBL	**Observatory Le**	0.20	288		Pg	07 05 43.9	+0.2
OBL					Sg	07 05 47.2	+0.8
SDHHI	**Sand Hill**	0.20	279		Pg	07 05 43.9	+0.2
SDHHI					Sg	07 05 47.0	+0.5
UWE	**Uwekahuna**	0.21	288		Pg	07 05 44.2	+0.3
WRMHI	**West Rim**	0.21	284		Pg	07 05 44.1	+0.2
WRMHI					Sg	07 05 47.6	+0.8
HLP	**Hilina Pali**	0.22	254	Pg	Pg	07 05 44.4	+0.4
HLP				IAML		07 05 50.0
comp=E,768nm,0.1s
HLP				IAML		07 05 50.9
comp=N,888nm,0.2s
MLH	**Mauna Loa**	0.32	296		Pg	07 05 46.1	+0.1
MLH				IAML		07 05 54.6
comp=E,932nm,0.2s
MLH				IAML		07 05 55.9
comp=N,969nm,0.2s
HTC	**Hot Caves**	0.32	248		Pg	07 05 46.1	+0.2
HMH	**Humu'ula Sheep**	0.45	303		Pg	07 05 48.8	+0.4
MWH	**Mokuaweoweo**	0.50	285		Pg	07 05 49.5	+0.1
MWH				IAML		07 06 03.1
comp=E,611nm,0.6s
KHU	**Kahuku**	0.51	258	Pg	Pg	07 05 49.6	0.0
KHU				IAML		07 06 01.6
comp=E,598nm,3.1s
KHU				IAML		07 06 02.4
comp=N,278nm,0.6s
ALEP	**Alea Permanent**	0.56	289		Pg	07 05 50.1	-0.4
POHA	**Pohakuloa**	0.58	313		Sg	07 05 58.1	-0.5
POHA	**Pohakuloa**	0.58	313	Pg	Pg	07 05 50.6	-0.4
POHA				IAML		07 05 59.4
comp=N,261nm,0.4s
POHA				IAML		07 06 00.1
comp=N,282nm,0.2s
HUH	**Hualalai**	0.78	295	Pg	Pg	07 05 54.1	-0.6

*BUT **14** 07:21:53.6±0.9, 46°.89N±0°.03×112°.66W±0°.03, h14km±4km, Error ellipse: s-maj=4.1km s-min=2.0km az=210.0*
NEIC 14 07:21:53.5±1.7, 46°.88N±0°.02×112°.68W±0°.02, h10km±2km, ML2.5/16, ML2.7/22(BUT), Error ellipse: s-maj=3.7km s-min=3.0km az=41.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEMT	**Mount Belmont**	0.27	119		Pg	07 21 59.3	+0.2
BEMT					Sg	07 22 03.7	+0.8
OVMT	**Ovando**	0.28	310		Pg	07 21 59.6	+0.3
OVMT	**Ovando**	0.28	310		Sg	07 22 04.4	+1.2
CHMT	**Chamberlain Mo**	0.40	275		Pg	07 22 01.9	+0.6
CHMT					Sg	07 22 07.6	+1.0
HRY	**Holter Researc**	0.60	106		Pg	07 22 05.1	-0.1
SLMT	**Seeley Lake**	0.66	303		Pg	07 22 06.5	+0.2
BPMT	**Black Pine Rid**	0.69	230		Pg	07 22 07.1	+0.1
MSO	**Missoula**	0.87	267		Pb	07 22 10.5	-0.2
MSO				IAML		07 22 25.8
113nm,0.5s
BUT	**Butte**	0.87	175		Pb	07 22 10.9	0.0
LRM	**Limekiln Ridge**	1.07	172		Pb	07 22 14.2	-0.1
HBMT	**Mount Humbug**	1.09	178		Pg	07 22 14.0	-0.5
SWMT	**Swartz Lake**	1.10	305		Pg	07 22 13.6	-1.0
VCMT	**Victor**	1.13	248		Pb	07 22 15.2	0.0
ALMT	**Alberton, Mont**	1.22	278		Pg	07 22 16.9	0.0
SXM	**Sixmile**	1.25	125		Pn	07 22 17.2	0.0
FBMT	**Ferry Basin**	1.30	294		Pn	07 22 17.2	-0.7
YBMT	**Yellow Bay**	1.34	318		Pn	07 22 17.9	-0.4
JTMT	**Jette**	1.39	309		Pn	07 22 18.8	-0.3
BOZ	**Bozeman (W)**	1.48	150		Pn	07 22 20.1	-0.2
BOZ				IAML		07 22 42.0
64nm,0.4s
NDMT	**Ninemile Divid**	1.50	286		Pb	07 22 21.1	-0.4
DLMT	**Dillon**	1.52	178		Pn	07 22 21.0	+0.1
DLMT				IAML		07 22 43.7
66nm,0.7s
DLMT				IAML		07 22 44.7
63nm,0.7s
BLMT	**Blacktail Moun**	1.61	315		Pn	07 22 22.7	+0.5
MKMT	**Mink Peak**	1.68	278		Pb	07 22 24.2	-0.5
BGMT	**Barton Gulch**	1.71	165		Pn	07 22 23.5	0.0
BSMT	**Bassoo Peak**	1.73	305		Pb	07 22 24.9	-0.6
BHMT	**Big Hole Peak**	1.75	294		Pb	07 22 25.5	-0.4
BZMT	**Bozeman Pass**	1.80	133		Pb	07 22 27.2	+0.6
MCMT	**McKenzie Canyo**	2.06	183		Pn	07 22 28.9	+0.5
CRMT	**Chrome Mountai**	2.27	128		Pb	07 22 33.2	-1.5
YHL	**Hebgen Lake**	2.28	152		Pn	07 22 32.0	+0.4
EGMT	**Eagleton**	2.29	59		Pb	07 22 33.3	-1.6
EGMT				IAML		07 23 05.2
41nm,0.4s
YHB	**Horse Butte**	2.37	154		Pn	07 22 33.3	+0.6
YHB				IAML		07 23 08.7
comp=N,31nm,0.4s
NEW	**Newport**	3.31	296	Pn	Pn	07 22 46.2	+0.8
NEW				IAML		07 23 40.0
comp=N,9.8nm,3.1s
NEW				IAML		07 23 42.5
comp=N,17nm,4.7s
MOOW	**Moose Ponds**	3.42	156	Pn	Pn	07 22 47.4	+0.4

*IDC **14** 07:42:59.2±2.1, 17°.99S×178°.16W, h574km±23km, mb3.1/4, mbtmp3.9/5, Error ellipse: s-maj=43.0km s-min=26.7km az=3.0*
ISC 14 07:43:00.6±1.3, 17°.8S±0°.3×178°.4W±0°.2, h600km, n5, σ2908/5, mb3.6/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	3.39	270	P	P	07 44 20.2	-2.0
10.0nm,0.7s,baz=107,slow=14,SNR=7.3
WRA	**Warramunga Arr**	44.67	259	P	P	07 50 23.0	+1.3
1.0nm,0.5s,baz=95,slow=7.3,SNR=18
1.0nm,0.5s
ASAR	**Alice Springs**	44.84	254	P	P	07 50 24.6	+1.6
4.6nm,0.6s,baz=88,slow=8.5,SNR=67
4.6nm,0.6s
QSPA	**South Pole Qui**	72.27	180	P	P	07 53 25.7	-0.4
1.2nm,0.6s,baz=23,slow=7.7,SNR=9.9
1.2nm,0.6s
TXAR	**Lajitas Array**	85.92	58	P	P	07 54 39.1	+0.5
0.3nm,0.8s,baz=249,slow=3.6,SNR=2.7
0.3nm,0.8s

IDC 14 08:07:40.7±69.0, 48°.86S×126°.59E, h0km, mb3.7/3, mbtmp3.8/3, Error ellipse: s-maj=1132.0km s-min=113.4km az=5.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	16.71	322	T	T	08 29 47.6
baz=150
H01W2	**Cape Leeuwin H**	16.72	322	T	T	08 29 36.6
baz=150
H01W3	**Cape Leeuwin H**	16.73	322	T	T	08 29 41.4
baz=150
STKA	**Stephens Creek**	20.39	39	P	P	08 12 19.0	0.0
3.2nm,0.8s,baz=206,slow=13,SNR=7.5
3.2nm,0.8s
ASAR	**Alice Springs**	25.80	16	P	P	08 13 13.6	+0.2
1.8nm,0.9s,baz=188,slow=9.6,SNR=14
1.8nm,0.9s
WRA	**Warramunga Arr**	29.51	15	P	P	08 13 46.3	-0.4
0.7nm,1.1s,baz=191,slow=8.2,SNR=2.5
0.7nm,1.1s

*IDC **14** 08:12:05.3±0.6, 7°.25N×94°.26E, h0km, mb4.2/25, mbtmp4.1/28, ML3.7/3, MS3.3/10, Error ellipse: s-maj=23.2km s-min=12.4km az=54.0*
*NDI **14** 08:12:05.2±0.3, 7°.23N×94°.59E, h40km±35km, ML4.2, MW4.4, mb4.7(NEIC)*

NEIC 14 08:12:08.0±1.0, 7°.42N±0°.07×94°.53E±0°.09, h10km±1km, mb4.7/48, Error ellipse: s-maj=15.8km s-min=10.5km az=250.0
BKK 14 08:12:09.3±1.3, 7°.N±5°×.9°.4E±°, h20km±12km, M4.3/8, mB5.3/2, mb4.5/3, Mjma4.0/8, ML4.4/6, MLv4.4/7, Mw(mB)4.7/2
ISC 14 08:12:09.2±0.4, 7°.39N±0°.05×94°.38E±0°.05, h24km, n118, σ1§37/106, mb4.6/56, MS3.3/5, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.59**	**230**	*eP*	**Pb**	**08 12 18.3**	**-2.6**
CMBY				*eS*	**Sb**	**08 12 27.8**	**-1.0**
CMBY				IAML		08 12 32.0	
	comp=N,31μm,0.6s						
CMBY				IAML		08 12 34.7	
	comp=E,28μm,0.5s						
LHMI	**Lhok Sumawe**	**3.34**	**130**	Pn	**Pn**	**08 12 58.6**	**-1.4**
RNTT	**Ranong**	**4.52**	**64**	P	**Pn**	**08 13 17.0**	**+0.8**
PBA	**Port Blair**	**4.53**	**339**	*eS*	**Sn**	**08 14 04.5**	**-3.9**
PBA				IAML		08 14 08.2	
	comp=E,47nm,0.1s						
SRIT	**Nakonsritamara**	**5.31**	**77**		**Pn**	**08 13 26.8**	**-0.4**
SRIT	**Nakonsritamara**	**5.31**	**77**	P	**Pn**	**08 13 27.6**	**+0.5**
DGPR	**DIGLIPUR**	**5.92**	**346**	*eS*	**Sn**	**08 14 36.5**	**-6.1**
PSI	**Prapat**	**6.43**	**135**	Pn	**Pn**	**08 13 43.3**	**+0.7**
	comp=E,1.9nm,0.3s,baz=299,slow=11,SNR=14						
PSI				Sn	**Sn**	**08 14 56.0**	**+0.6**
	comp=E,0.9nm,0.3s,baz=35,slow=5.5,SNR=1.3						
PSI				LR	LR	08 16 10.7	
	comp=E,121nm,18.5s,baz=310,slow=38 comp=E,9.6nm,0.5s						
RPSI	**Rantau Prapat**	**6.50**	**136**		**Pn**	**08 13 42.3**	**-1.2**
RPSI	**Rantau Prapat**	**6.50**	**136**		**Pn**	**08 13 43.3**	**-0.2**
KULM	**Kulim**	**6.58**	**108**		**Pn**	**08 13 43.0**	**-1.5**
GSI	**Gunungsitoli**	**6.84**	**152**	Pn	**Pn**	**08 13 47.2**	**-0.9**
SRDT	**SRDT**	**8.34**	**34**	P	**Pn**	**08 14 10.2**	**+1.5**
CM31	**Chiang Mai Arr**	**11.86**	**22**	Pn	**Pn**	**08 14 55.2**	**-1.9**
CMAR	**Chiang Mai Arr**	**11.86**	**22**	Pn	**Pn**	**08 14 56.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**11.86**	**22**	Pn	**Pn**	**08 14 59.9**	**+2.9**
	comp=E,0.2nm,0.3s,baz=219,slow=14,SNR=4.7						
CMAR				LR	LR	08 19 45.7	
	comp=E,78nm,18.7s,baz=195,slow=38 comp=E,0.4nm,0.3s						
PALK	**Pallekele**	**13.56**	**270**	Pn	**Pn**	**08 15 23.4**	**+3.0**
PALK	**Pallekele**	**13.56**	**270**	Pn	**Pn**	**08 15 19.4**	**-0.9**
	comp=E,0.2nm,0.3s,baz=85,slow=14,SNR=1.6						
PALK				LR	LR	08 19 58.2	
	comp=E,190nm,20.7s,baz=104,slow=35 comp=E,1.4nm,0.8s						
SAIH	**SAIHA**	**15.07**	**355**	*eP*	**Pn**	**08 15 36.4**	**-4.5**
BRDH	**Bariadhala**	**15.42**	**350**	LR	LR	08 23 53.0	
	comp=E,185nm,18.2s,baz=104,slow=46						
KSM	**Kuching**	**16.93**	**110**	Pn	**Pn**	**08 16 02.8**	**-2.0**
SHL	**Shillong**	**18.23**	**353**	P	**P**	**08 16 20.9**	**-0.1**
QIZ	**Qiongzhong**	**18.97**	**51**	P	**Pn**	**08 16 28.1**	**-1.7**
QIZ				S	**S**	**08 20 00.8**	**-2.2**
QIZ				LR	LR		
	comp=N,390nm,10.5s						
QIZ				LR	LR		
	comp=E,160nm,10.5s						
QIZ				LR	LR		
	comp=Z,170nm,10.5s						
LEM	**Lembang**	**19.34**	**137**	LR	LR	08 25 20.2	
	comp=Z,219nm,21.4s,baz=276,slow=41						
PZH	**PanZhiHua**	**20.26**	**19**	P	Pn	08 16 46.8	+1.6
PZH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
MYLDM	**Lahad Datu**	**24.08**	**94**	P	**P**	**08 17 21.9**	**-1.2**
MYLDM				IAmb	IAmb	08 17 35.7	
	comp=Z,27nm,1.3s						
H08S3	**Diego Garcia H**	**26.44**	**236**	T	T	08 44 20.3	
	baz=56,slow=75,SNR=118						
H08S2	**Diego Garcia H**	**26.44**	**236**	T	T	08 44 20.2	
	baz=56,slow=75,SNR=157						
H08S1	**Diego Carcia H**	**26.46**	**236**	T	T	08 44 21.5	
	baz=56,slow=75,SNR=77						
KAPI	**Kappang**	**28.16**	**115**	LR	LR	08 28 57.4	
	comp=Z,65nm,18.9s,baz=348,slow=36						
XAN	**Xi'an**	**29.73**	**25**	P	**P**	**08 18 13.3**	**-0.5**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NIL	**Nilore**	**32.62**	**326**		**P**	**08 18 40.2**	**+0.9**
NIL				IAmb	IAmb	08 18 41.1	
	comp=Z,12nm,0.8s						
NJ2	**Nanjing**	**33.49**	**40**	*eP*	**P**	**08 18 47.0**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WUS	**Wushi**	**36.27**	**341**		**P**	**08 19 11.2**	**+0.3**
WUS				IAmb	IAmb	08 19 12.8	
	comp=Z,11nm,0.5s						
HHC	**Hu-ho-hao-te**	**36.67**	**22**	*eP*	**P**	**08 19 17.0**	**+2.7**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,34nm,5.9s						
TARG	**Taragay, Kyrgy**	**37.22**	**339**		**P**	**08 19 19.5**	**+0.2**
KDJ	**Kajisay**	**37.80**	**339**	P	**P**	**08 19 24.9**	**+1.0**
GAR	**Garm**	**38.21**	**329**		**P**	**08 19 28.1**	**+0.7**
GAR				IAmb	IAmb	08 19 34.6	
	comp=Z,26nm,1.4s						
CHGR	**Chuyangaron**	**38.55**	**328**	P	**P**	**08 19 30.3**	**+0.1**
BOOM	**Boomskoye usch**	**38.56**	**338**	P	**P**	**08 19 30.5**	**+0.1**
SIMJ	**Simiganj**	**38.63**	**328**		**P**	**08 19 31.0**	**0.0**
ARSB	**Arslanbob**	**38.77**	**334**	P	**P**	**08 19 33.0**	**+0.9**
ARSB				IAmb	IAmb	08 19 34.4	
	comp=Z,11nm,0.6s						
AAK	**Ala-Archa**	**39.24**	**337**		**P**	**08 19 37.0**	**+0.9**
AAK	**Ala-Archa**	**39.24**	**337**	LR	LR	08 37 38.0	
	comp=Z,46nm,18.9s,baz=144,slow=39						
FITZ	**Fitzroy Crossi**	**39.93**	**130**	P	**P**	**08 19 41.6**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=307,slow=10,SNR=1.6 comp=Z,2.1nm,0.9s						
MKAR	**Makanchi Array**	**40.61**	**347**	P	**P**	**08 19 47.5**	**+0.4**
	comp=Z,5.1nm,0.5s,baz=167,slow=8.0,SNR=62						
MKAR				PcP	**PcP**	**08 21 49.9**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=160,slow=4.6,SNR=2.5 comp=Z,5.1nm,0.5s						
MAKZ	**Makanchi**	**40.69**	**347**	P	**P**	**08 19 48.3**	**+0.5**
MAKZ				IAmb	IAmb	08 19 49.4	
	comp=Z,6.6nm,0.6s						
KKAR	**Karatay Array**	**41.29**	**333**	P	**P**	**08 19 54.3**	**+1.4**
SONM	**Songino Array**	**41.58**	**12**	P	**P**	**08 19 54.9**	**-0.4**
SONM	**Songino Array**	**41.58**	**12**	P	**P**	**08 19 56.9**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=201,slow=8.3,SNR=5.8						
SONM				PcP	**PcP**	**08 21 53.0**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=203,slow=5.2,SNR=3.4 comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**45.07**	**346**	P	**P**	**08 20 24.1**	**+0.9**
	comp=Z,8.9nm,0.8s,baz=168,slow=7.1,SNR=71						
KURBB				PcP	**PcP**	**08 22 04.5**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=160,slow=2.8,SNR=6.4						
KURBB				ScP	**ScP**	**08 25 55.5**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=174,slow=4.7,SNR=2.6 comp=Z,8.9nm,0.8s						
KURK	**Kurchatov**	**45.13**	**346**		**P**	**08 20 23.9**	**+0.2**
KURK				IAmb	IAmb	08 20 25.6	
	comp=Z,5.6nm,0.7s						
NWAO	**Narrogin (SRO)**	**45.62**	**153**	LR	LR	08 38 21.6	
	comp=Z,37nm,20.0s,baz=96,slow=35						
ZAA0	**Zalesovo Array**	**47.06**	**352**	P	**P**	**08 20 39.8**	**+0.9**
ZALV	**Zalesovo Beam**	**47.06**	**352**	P	**P**	**08 20 39.4**	**+0.5**
ZALV	**Zalesovo Beam**	**47.06**	**352**	P	**P**	**08 20 40.1**	**+1.2**
	comp=Z,1.9nm,0.4s,baz=179,slow=7.4,SNR=13						
ZALV				LR	LR	08 45 05.1	
	comp=Z,32nm,19.2s,baz=122,slow=42 comp=Z,1.9nm,0.4s						
WRA	**Warramunga Arr**	**47.79**	**125**	P	**P**	**08 20 44.6**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=305,slow=8.7,SNR=8.0						
WRA				PcP	**PcP**	**08 22 14.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=314,slow=2.9,SNR=1.7 comp=Z,0.9nm,0.9s						
MJAR	**Matsushiro Arr**	**49.31**	**47**	P	**P**	**08 20 59.0**	**+2.4**
	comp=Z,1.6nm,0.7s,baz=252,slow=8.3,SNR=5.5 comp=Z,1.6nm,0.7s						
ASAR	**Alice Springs**	**49.43**	**130**	P	**P**	**08 20 57.0**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=302,slow=7.9,SNR=8.2						
ASAR				PcP	**PcP**	**08 22 20.1**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=315,slow=3.5,SNR=5.0 comp=Z,0.7nm,0.6s						
RAYN	**Ar Rayn**	**49.50**	**295**	P	**P**	**08 20 60.0**	**+1.7**
BVAR	**Borovoye Array**	**49.52**	**341**	P	**P**	**08 20 58.1**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=145,slow=8.6,SNR=17						
BVAR				PcP	**PcP**	**08 22 20.5**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=150,slow=6.1,SNR=4.7 comp=Z,3.3nm,0.5s						
BRVK	**Borovoye**	**49.58**	**341**	P	**P**	**08 20 59.2**	**+0.9**
BRVK				IAmb	IAmb	08 20 59.9	
	comp=Z,4.4nm,0.6s						
FORT	**Forrest**	**49.82**	**141**	P	**P**	**08 21 01.3**	**+0.9**
ABKAR	**Abkulak array**	**50.76**	**331**	P	**P**	**08 21 08.2**	**+0.8**
ABKAR	**Abkulak array**	**50.76**	**331**	P	**P**	**08 21 08.0**	**+0.7**
ABKAR				IAmb	IAmb	08 21 15.4	
	comp=Z,11nm,1.4s						
BBOO	**Buckleboo**	**56.30**	**138**	P	**P**	**08 21 46.5**	**-1.8**
BBOO				IAmb	IAmb	08 22 03.2	
	comp=Z,10nm,1.2s						
ARTI	**Arti**	**56.46**	**337**	P	**P**	**08 21 49.4**	**+0.4**
KBZ	**Khabaz**	**57.60**	**318**	P	**P**	**08 21 58.0**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=180,slow=6.1,SNR=2.1 comp=Z,0.5nm,0.3s						
NRIK	**Noril'sk**	**62.03**	**357**	P	**P**	**08 22 26.7**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=140,slow=4.3,SNR=5.7 comp=Z,1.6nm,0.6s						
BRTR	**Keskin Array B**	**62.92**	**311**	P	**P**	**08 22 32.9**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=126,slow=8.3,SNR=5.3 comp=Z,0.6nm,0.6s						
H04N2	**CROZET ISLANDS**	**65.44**	**211**	T	T	09 33 27.6	
	baz=47,slow=75,SNR=17						
H04N1	**CROZET ISLANDS**	**65.45**	**211**	T	T	09 33 19.7	
	baz=47,slow=75,SNR=26						
H04N3	**CROZET ISLANDS**	**65.45**	**211**	T	T	09 33 18.4	
	baz=47,slow=75,SNR=22						
TIXI	**Tiksi**	**67.66**	**11**	P	**P**	**08 23 04.3**	**+0.4**
TIXI	**Tiksi**	**67.66**	**11**	P	**P**	**08 23 03.7**	**-0.2**
	comp=Z,7.8nm,0.6s,baz=231,slow=4.1,SNR=30 comp=Z,7.8nm,0.6s						
AKASG	**Malin Array Be**	**68.67**	**322**	P	**P**	**08 23 10.0**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=98,slow=5.2,SNR=4.3 comp=Z,0.3nm,0.3s						
SEY	**Seymchan**	**69.26**	**25**	P	**P**	**08 23 14.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=195,slow=9.7,SNR=2.0 comp=Z,0.3nm,0.3s						
BURAR	**Bucovina Array**	**70.56**	**318**	P	**P**	**08 23 23.6**	**+1.0**
FIA1	**FINESS Array S**	**73.24**	**332**	P	**P**	**08 23 39.0**	**+0.8**
FINES	**FINESS Array B**	**73.24**	**332**	P	**P**	**08 23 38.6**	**+0.4**
FINES	**FINESS Array B**	**73.24**	**332**	P	**P**	**08 23 38.5**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=86,slow=5.4,SNR=18 comp=Z,3.7nm,0.7s						
LBTB	**Lobatse**	**74.22**	**242**	LR	LR	08 53 39.7	
	comp=Z,22nm,19.3s,baz=104,slow=34						
ARCES	**ARCESS Array B**	**75.79**	**340**	P	**P**	**08 23 53.9**	**+1.0**
	comp=Z,5.7nm,0.9s,baz=103,slow=6.9,SNR=4.4 comp=Z,5.7nm,0.9s						
GERES	**GERESS Array B**	**78.34**	**318**	P	**P**	**08 24 08.4**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=90,slow=5.5,SNR=8.8 comp=Z,1.1nm,0.7s						
LESA	**Schwarzleotal**	**78.98**	**317**	*eP*	**P**	**08 24 11.1**	**-0.2**
	comp=Z,1.3nm,0.4s						
HFS	**Hagfors**	**78.99**	**330**	P	**P**	**08 24 11.6**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=104,slow=6.3,SNR=18 comp=Z,2.1nm,0.5s						
CIMO	**Cimolais**	**79.13**	**316**	P	**P**	**08 24 12.6**	**+0.5**
CIMO				IAmb	IAmb	08 24 17.8	
	comp=Z,5.2nm,0.9s						
WTTA	**Wattenberg**	**79.69**	**317**	*eP*	**P**	**08 24 15.1**	**-0.2**
	comp=Z,1.7nm,0.4s						
SQTA	**Sankt Quirin**	**79.98**	**317**	*i P*	**P**	**08 24 16.4**	**-0.4**
	comp=Z,1.1nm,0.4s						
NC405	**NORSAR Array S**	**80.02**	**331**	P	**P**	**08 24 17.5**	**+0.9**
NC405				IAmb	IAmb	08 24 41.0	
	comp=Z,17nm,1.5s						
NC602	**NORSAR Array S**	**80.09**	**330**	P	**P**	**08 24 17.2**	**+0.3**
NC602				IAmb	IAmb	08 24 24.1	
	comp=Z,9.4nm,1.2s						
NC303	**NORSAR Array S**	**80.19**	**331**	P	**P**	**08 24 18.2**	**+0.7**
NB2	**NORSAR Subarra**	**80.26**	**331**	P	**P**	**08 24 18.4**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=97,slow=5.1						
NOA	**NORSAR Array B**	**80.26**	**331**	P	**P**	**08 24 18.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=95,slow=5.2,SNR=7.7 comp=Z,1.1nm,0.7s						
RETA	**Reutte**	**80.28**	**317**	*i P*	**P**	**08 24 18.5**	**+0.1**
	comp=Z,1.5nm,0.4s						
SPITS	**Spitsbergen Ar**	**80.35**	**348**	P	**P**	**08 24 18.4**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=95,slow=9.4,SNR=5.3 comp=Z,2.5nm,0.6s						
TUE	**Stuetta**	**81.27**	**316**	P	**P**	**08 24 24.4**	**+0.6**
TUE				IAmb	IAmb	08 24 47.7	
	comp=Z,10nm,1.5s						
F15K	**North Star Dit**	**87.81**	**24**	P	**P**	**08 24 57.1**	**+0.9**
EKA	**Eskdalemuir Ar**	**88.25**	**325**	P	**P**	**08 24 59.5**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=92,slow=5.9,SNR=7.1 comp=Z,1.8nm,0.6s						
C18K	**Utukok River**	**88.37**	**21**	IAmb	IAmb	08 25 01.3	
	comp=Z,4.1nm,0.7s						
D20K	**Etivluk River**	**89.94**	**20**	IAmb	IAmb	08 25 08.8	
	comp=Z,2.8nm,0.7s						
G19K	**Purcell Mounta**	**90.66**	**23**	IAmb	IAmb	08 25 12.2	
	comp=Z,3.6nm,0.8s						
H19K	**Roundabout Mou**	**91.12**	**23**	IAmb	IAmb	08 25 15.2	
	comp=Z,3.6nm,0.8s						
ELIB	**Princess Elisa**	**91.20**	**197**	*dP*	**P**	**08 25 12.1**	**0.0**
ESDC	**Sonseca Array**	**91.70**	**310**	P	**P**	**08 25 16.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=55,slow=3.8,SNR=4.7 comp=Z,0.5nm,0.7s						
G21K	**Allakaket**	**91.86**	**22**	P	**P**	**08 25 16.9**	**+1.7**
TOLK	**Toolik Lake Re**	**92.33**	**19**	IAmb	IAmb	08 25 20.1	
	comp=Z,3.0nm,0.7s						
VNDA	**Vanda**	**92.41**	**168**	P	**P**	**08 25 16.6**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=315,slow=5.7,SNR=2.3 comp=Z,0.5nm,0.8s						
H21K	**Melozitna Rive**	**92.47**	**22**	IAmb	IAmb	08 25 20.9	
	comp=Z,2.2nm,0.8s						
K20K	**Telida**	**92.88**	**25**		**P**	**08 25 22.1**	**+2.1**
E24K	**Your Creek**	**92.95**	**20**	IAmb	IAmb	08 25 22.6	
	comp=Z,2.3nm,0.9s						
D25K	**Kavik River**	**93.02**	**18**	IAmb	IAmb	08 25 23.3	
	comp=Z,3.7nm,0.8s						
CAST	**Castle Rocks**	**93.67**	**24**		**P**	**08 25 25.8**	**+2.1**
CAST				IAmb	IAmb	08 25 26.5	
	comp=Z,3.5nm,0.8s						
ILAR	**Eielson Array**	**95.10**	**22**	P	**P**	**08 25 30.4**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=313,slow=5.1,SNR=4.9 comp=Z,0.3nm,0.7s						
A36M	**Sachs Harbour**	**96.67**	**12**	IAmb	IAmb	08 25 52.0	
	comp=Z,4.2nm,1.1s						
NVAR	**Mina Array Bea**	**125.21**	**31**	PKP	**PKiKP**	**08 31 08.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=345,slow=3.7,SNR=6.1						
CPUP	**Villa Florida**	**147.15**	**232**	PKPbc	**PKPbc**	**08 31 49.5**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=137,slow=2.4,SNR=3.7						
PCRV	**Puerto La Cruz**	**152.77**	**310**	PKPbc	**PKiKP**	**08 32 05.0**	**-0.6**
	comp=Z,7.0nm,0.9s,baz=301,slow=5.9,SNR=1.5						

IDC 14 08:21:15.2±1.4, 0°.51S×123°.61E, h0km, mb3.9/4, mbtmp3.9/4, MS2.5/1, Error ellipse: s-maj=67.1km s-min=28.6km az=67.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**25.09**	**157**	P	P	08 26 41.7	0.0
	0.5nm,0.9s,baz=343,slow=10,SNR=4.3 0.5nm,0.9s						
KRVT	**Keravat (AS076**	**28.64**	**98**	LR	LR	08 39 37.3	
	comp=Z,11nm,21.3s,baz=138,slow=38						
MKAR	**Makanchi Array**	**59.37**	**328**	P	P	08 31 20.0	+0.7
	0.5nm,0.4s,baz=117,slow=8.1,SNR=8.1 0.5nm,0.4s						
PETK	**Petropavlovsk-**	**60.52**	**23**	P	P	08 31 27.1	+0.1
	1.1nm,0.5s,baz=223,slow=5.5,SNR=5.5 1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**63.71**	**330**	P	P	08 31 47.5	-1.1
	1.0nm,0.2s,baz=124,slow=5.7,SNR=4.2 1.0nm,0.2s						

NEIC 14 08:21:35.7±1.0, 19°.6S±0°.1×177°.8W±0°.1, h582km±11km, mb4.2/22, Error ellipse: s-maj=22.0km s-min=16.3km az=151.0
IDC 14 08:21:37.5±1.9, 19°.81S×178°.01W, h588km±20km, mb3.3/11, mbtmp4.3/14, Error ellipse: s-maj=19.6km s-min=17.6km az=82.0
ISC 14 08:21:37.4±0.6, 19°.7S±0°.1×177°.89W±0°.09, h600km, n45, σ1§20/46, mb4.1/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.30**	**296**	P	**P**	**08 23 04.4**	**-0.7**
	33nm,0.6s,baz=154,slow=4.2,SNR=56						
FUTU	**Fugatoga**	**5.32**	**358**	P	**P**	**08 23 09.9**	**-3.0**
NIUE	**Niue**	**7.54**	**87**	P	**P**	**08 23 29.7**	**-2.6**
PINNC	**Pines Island,**	**14.00**	**255**	P	**P**	**08 24 34.9**	**-1.3**
DZM	**Mont Dzumac**	**14.84**	**258**	P	**P**	**08 24 43.0**	**-1.2**
DZM	**Mont Dzumac**	**14.84**	**258**	P	**P**	**08 24 44.8**	**+0.5**
	6.7nm,0.5s,baz=264,slow=23,SNR=11						
ONTNC	**Ouen Toro**	**14.86**	**257**	P	**P**	**08 24 43.3**	**-1.0**
URZ	**Urewera**	**19.04**	**192**	P	**P**	**08 25 20.0**	**-2.2**
	5.6nm,0.7s,baz=358,slow=2.2,SNR=11						
WHZ	**Wether Hill Ro**	**28.66**	**201**	P	**P**	**08 26 47.6**	**+0.3**
EIDS	**Eidsvold**	**29.18**	**253**	P	**P**	**08 26 51.1**	**-1.1**
EIDS				IAmb	IAmb	08 26 51.2	
	comp=Z,7.4nm,0.9s						
ARMA	**Armidale**	**29.54**	**243**	P	**P**	**08 26 54.5**	**-0.8**
ARMA				IAmb	IAmb	08 27 15.7	
	comp=Z,4.3nm,0.9s						
CAN	**Canberra**	**33.07**	**235**	P	**P**	**08 27 24.8**	**-0.4**
CAN				IAmb	IAmb	08 27 25.2	
	comp=Z,5.7nm,1.0s						
TOO	**Toolangi**	**36.48**	**233**	P	**P**	**08 27 52.8**	**-0.6**
COEN	**Coen**	**37.65**	**272**	P	**P**	**08 28 03.5**	**+0.3**
COEN				IAmb	IAmb	08 28 04.1	
	comp=Z,6.4nm,0.8s						
STKA	**Stephens Creek**	**38.26**	**243**	P	**P**	**08 28 08.1**	**+0.2**
STKA				IAmb	IAmb	08 28 09.5	
	comp=Z,8.9nm,0.8s						
STKA	**Stephens Creek**	**38.26**	**243**	P	**P**	**08 28 07.5**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=106,slow=12,SNR=4.1 comp=Z,1.3nm,0.4s						
BBOO	**Buckleboo**	**43.02**	**243**	P	**P**	**08 28 45.2**	**-0.4**
JAY	**Jayapura**	**43.88**	**288**	P	**P**	**08 28 53.1**	**+0.5**
	comp=Z,28nm,1.0s,baz=28,slow=4.9,SNR=5.0 comp=Z,28nm,1.0s						
WR0	**Warramunga Arr**	**44.64**	**261**	P	**P**	**08 28 57.9**	**-0.3**
WR0				IAmb	IAmb	08 29 03.5	
	comp=Z,10nm,1.4s						
WR8	**Warramunga Arr**	**44.68**	**261**	P	**P**	**08 28 57.8**	**-0.8**
WR8				IAmb	IAmb	08 28 58.8	
	comp=Z,3.0nm,0.5s						
WB0	**Warramunga Arr**	**44.80**	**261**	P	**P**	**08 28 58.9**	**-0.6**
WB0				IAmb	IAmb	08 28 59.3	
	comp=Z,5.4nm,0.5s						
WB2	**Warramunga Arr**	**44.82**	**261**	P	**P**	**08 28 58.9**	**-0.7**
AS31	**Alice Springs**	**44.82**	**256**	P	**P**	**08 28 59.5**	**-0.2**
ASAR	**Alice Springs**	**44.82**	**256**	P	**P**	**08 28 59.1**	**-0.6**
ASAR	**Alice Springs**	**44.82**	**256**	P	**P**	**08 28 59.3**	**-0.4**
	comp=Z,7.0nm,0.7s,baz=87,slow=8.1,SNR=100						
ASAR				PcP	**PcP**	**08 30 28.3**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=88,slow=4.9,SNR=1.9 comp=Z,7.0nm,0.7s						
WRA	**Warramunga Arr**	**44.83**	**261**	P	**P**	**08 28 58.8**	**-0.9**
WRA	**Warramunga Arr**	**44.83**	**261**	P	**P**	**08 28 59.0**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=97,slow=7.6,SNR=96 comp=Z,2.4nm,0.3s						
FORT	**Forrest**	**49.73**	**246**	P	**P**	**08 29 35.5**	**-0.6**
KNRA	**Kununurra**	**50.83**	**266**	P	**P**	**08 29 43.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.25**	**262**	P	**P**	**08 30 01.6**	**0.0**
FITZ	**Fitzroy Crossi**	**53.25**	**262**	P	**P**	**08 30 01.7**	**0.0**
	comp=Z,2.2nm,0.4s,baz=63,slow=4.3,SNR=16 comp=Z,2.2nm,0.4s						
PSA00	**Pilbara Seismi**	**57.97**	**256**	P	**P**	**08 30 33.8**	**-0.4**
PSA00				IAmb	IAmb	08 30 34.0	
	comp=Z,8.8nm,0.7s						
MBWA	**Marble Bar**	**58.15**	**257**	P	**P**	**08 30 34.7**	**-0.7**
MBWA				IAmb	IAmb	08 31 03.1	
	comp=Z,18nm,1.1s						
SBA	**Scott Base**	**58.72**	**184**	P	**P**	**08 30 39.6**	**+1.4**
SBA				IAmb	IAmb	08 31 07.8	
	comp=Z,14nm,1.0s						
VNDA	**Vanda**	**58.76**	**185**	P	**P**	**08 30 40.0**	**+1.5**
MORW	**Morawa**	**60.25**	**247**	P	**P**	**08 30 48.6**	**-0.6**
MORW				IAmb	IAmb	08 31 09.7	
	comp=Z,16nm,1.4s						
MJAR	**Matsushiro Arr**	**69.60**	**323**	P	**P**	**08 31 47.6**	**0.0**
	comp=Z,1.4nm,0.7s,baz=168,slow=6.0,SNR=6.0 comp=Z,1.4nm,0.7s						
QSPA	**South Pole Qui**	**70.41**	**180**	P	**P**	**08 31 53.0**	**+0.9**
QSPA	**South Pole Qui**	**70.41**	**180**	P	**P**	**08 31 52.7**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=102,slow=0.8,SNR=15 comp=Z,3.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**78.33**	**326**	P	**P**	**08 32 38.8**	**+2.2**
	comp=Z,2.5nm,0.8s,baz=115,slow=6.0,SNR=3.0 comp=Z,2.5nm,0.8s						
NLWA	**Neilton Lookou**	**82.48**	**34**	P	**P**	**08 32 56.6**	**-1.4**
TXAR	**Lajitas Array**	**86.51**	**57**	P	**P**	**08 33 20.8**	**+2.6**
	comp=Z,0.3nm,0.6s,baz=219,slow=7.7,SNR=3.6 comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**88.28**	**43**	P	**P**

DVD	David	0.82 107	eP	Pb	08 30 51.4	-0.5
DVD			eS	Sb	08 31 02.2	-0.3
BRIBI	Bribri	1.02 24	eP	Pn	08 30 56.2	+0.9
CHGR2	Aguacate	1.12 77	eP	Pn	08 30 54.9	-1.8
CHGR2			eS	Sb	08 31 09.3	-1.7
LLNJ	Naranjito	1.15 313	eP	Pb	08 30 57.7	+0.2
PIEC	Cerro El Cedra	1.17 323	eP	Pn	08 30 57.4	-0.2
PISJ	San Jernim	1.28 317	eP	Pn	08 30 59.4	+0.3
ABE2	San Pablo	1.29 322	eP	Pn	08 30 59.8	+0.5
TURIB	Turrialba	1.29 340	eP	Pn	08 30 59.3	+0.1
LCR2	La Lucha 2	1.29 325	eP	Pn	08 30 59.0	-0.4
VINA	Juan Vinas	1.30 338	eP	Pn	08 30 59.5	+0.1
PICV	PH. Pirrs	1.33 315	eP	Pn	08 31 00.1	+0.5
RVSTA	Santa Teresita	1.34 343	eP	Pb	08 31 00.6	-0.2
PCAYA	Pacayas	1.35 336	eP	Pn	08 31 00.4	+0.3
CVTV	Tajo	1.40 339	eP	Pn	08 31 01.5	+0.5
CVTQ	Turrialba Volc	1.41 339	eP	Pn	08 31 01.6	+0.5
VTR0	Volcan Turrial	1.42 339	eP	Pn	08 31 01.8	+0.5
IRES	Siquirres	1.43 350	eP	Pb	08 31 02.4	+0.2
ACOS	Acosta	1.43 321	eP	Pn	08 31 01.1	-0.1
AMPA	Desamparados	1.45 326	eP	Pb	08 31 03.2	+0.6
RVLA	Villa Bonita	1.46 347	eP	Pb	08 31 02.4	-0.2
CORON	Coronado	1.48 330	eP	Pn	08 31 02.5	+0.6
CVTG	V. Turrialba,	1.54 340	eP	Pn	08 31 03.5	+0.9
BELE	Belen	1.59 324	eP	Pn	08 31 03.9	+0.6
CARI	Cariari	1.74 344	eP	Pb	08 31 07.1	-0.4
OROT	Orotina	1.76 314	eP	Pn	08 31 06.6	+1.1
VPS8	V Poas	1.78 327	eP	Pb	08 31 08.0	-0.5
ITAL	Pital	2.03 330	eP	Pn	08 31 10.8	+1.6
GMAL	Guarumal, Vera	2.19 115	eP	Pn	08 31 11.8	+0.4
GMAL	Guarumal, Vera	2.19 115	eP	Pn	08 31 11.9	+0.4
GMAL			eS	Sn	08 31 37.6	-0.5
MTEVE	Monteverde	2.25 316	eP	Pb	08 31 15.2	-1.1
ARE1	Arenal 1	2.29 321	eP	Pb	08 31 15.7	-1.2
JTS	Las Juntas de	2.32 314	eP	Pn	08 31 15.3	+2.0
JTS			eS	Sn	08 31 38.7	-2.6
CACAO	El Cacao, Vera	2.71 119	eP	Pn	08 31 20.3	+1.7
CHIT3	Chitre	2.89 104	eP	Pn	08 31 22.7	+1.6
AZU	Azuero	3.07 107	eP	Pb	08 31 36.2	+6.0
AZU			eS	Sn	08 32 01.7	+1.9
BCIP	Isla Barro Col	3.40 82	eP	Pn	08 31 29.3	+1.1
BCIP	Isla Barro Col	3.40 82	eP	Pn	08 31 29.3	+1.1

*IDC **14** 08:45:53.8±0.6, 26˚.26N×129˚.52E, h0km, mb4.1/23, mbtmp4.1/26, ML3.9/2, MS3.5/16, Error ellipse: s-maj=19.3km s-min=12.9km az=78.0*
*BJI **14** 08:45:53.3, 26˚.07N×129˚.44E, h12km, mB4.6/13, mb4.4/32, Ms4.0/23, Ms7 3.8/23*
*MOS **14** 08:45:53.7±1.3, 26˚.21N×129˚.43E, h10km, mb4.7/32, Error ellipse: s-maj=9.8km s-min=6.1km az=101.3*
*NEIC **14** 08:45:54.9±1.5, 26˚.12N±0˚.07×129˚.43E±0˚.05, h10km±1km, mb4.7/57, Error ellipse: s-maj=12.4km s-min=7.8km az=196.0*
*NIED **14** 08:45:56.2, 26˚.24N×129˚.54E, h46km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-1.84; Mθθ0.90; Mφφ0.94; Mrθ-0.66; Mθφ1.11; Mφr-0.62; Fault plane solution: M0 2.14000×10^15 NP1: φs=223.00000°, δ32.00000°, λ-92.00000°. NP2: φs=46.00000°, δ58.00000°, λ-89.00000°.*
*JMA **14** 08:45:56.2±0.1, 26˚.2N±0˚.7×129˚.5E±0˚.4, h46km, MV3.8/23, NEAR OKINAWAJIMA ISLAND*
ISC 14 08:45:55.1±0.8, 26˚.19N±0˚.04×129˚.49E±0˚.03, h12km±4km, n187, σ1§65/186, mb4.6/78, MS3.7/17, 14C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.25 312		i P	Pb	08 46 17.7	-0.9
JYRO				eS	Sb	08 46 33.4	-1.3
JOW	Kunigami	1.26 301			Pn	08 46 18.1	-0.6
JOW	Kunigami	1.26 301		Pn	Pn	08 46 18.3	-0.4
	453nm,0.3s,baz=118,slow=18,SNR=981						
JOW				Sn	Sb	08 46 32.8	-2.3
	160nm,0.3s,baz=125,slow=14,SNR=11						
JOW				LR	LR	08 46 58.9	
	comp=Z,2μm,20.0s,baz=137,slow=52						
JOW	Kunigami	1.26 301		i P	Pn	08 46 18.2	-0.4
JOW				eS	Sb	08 46 33.7	-1.4
JNTH	Nagotoyohara	1.36 284		i P	Pn	08 46 19.5	-0.4
JNTH				eS	Sb	08 46 35.8	-2.0
JOKE	Okinoerabujima	1.43 325		P	Pn	08 46 20.2	-0.7
JOKE				eS	Sb	08 46 37.8	-2.1
JJT3	Tamagusuku3	1.53 269		P	Pn	08 46 22.8	+0.5
JIH	Iheya	1.60 302		i P	Pn	08 46 23.2	0.0
JIH				S	Sn	08 46 42.6	-1.2
JMZ	Minamidaito 2	1.60 103			Pn	08 46 22.3	-0.9
JMZ	Minamidaito 2	1.60 103		i P	Pn	08 46 22.1	-1.2
JMZ				S	Sn	08 46 40.2	-3.7
JKDJ	Kitadaitoujima	1.64 98		P	Pn	08 46 22.8	-1.0
JKDJ				S	Sn	08 46 42.0	-2.8
JTK	Tokunoshima	1.66 343		i P	Pn	08 46 23.4	-0.7
JTK				S	Sn	08 46 41.8	-3.6
JAGN	Aguni-jima	2.06 282		i P	Pn	08 46 29.9	+0.4
JAGN				eS	Sn	08 46 54.1	-0.9
JAMN	Amaminishikomi	2.06 352		P	Pn	08 46 28.7	-0.9
JAMN				eS	Sn	08 46 51.8	-3.5
JZK	Kikaishima	2.16 11		P	Pn	08 46 30.7	-0.3
JZK				S	Sn	08 46 55.4	-2.2
JAM	Amami Oshima	2.22 3		P	Pn	08 46 30.5	-1.2
JAM				eS	Sn	08 46 55.1	-4.0
JKE	Kume jima 2	2.43 274		P	Pn	08 46 34.3	-0.3
JKE				S	Sn	08 47 02.8	-1.5
JTAJ	Takarajima	2.96 355		eP	Pn	08 46 41.2	-0.8
JTAJ				S	Sn	08 47 13.6	-3.9
JYAK	Yakushimahirau	4.13 12		eP	Pn	08 46 57.2	-0.9
JYAK				eS	Sn	08 47 42.0	-4.3
JMTN	Minamitane	4.37 16		eS	Sn	08 47 49.0	-3.3
JTN	Tanegashima 3	4.64 16		eS	Sn	08 47 54.7	-4.1
YOJ	Yonaguni jima	6.11 255		Pn	Pn	08 47 23.8	-1.5
YOJ	Yonaguni jima	6.11 255		P	Pn	08 47 23.8	-1.5
JNU	Nakatsue	7.01 10			Pn	08 47 38.2	+0.5
JNU	Nakatsue	7.01 10		Pn	Pn	08 47 37.8	+0.1
	3.1nm,0.3s,baz=190,slow=10.0,SNR=30						
JNU				Sn	Sn	08 48 54.0	-3.4
	0.2nm,0.3s,baz=76,slow=23,SNR=1.3						
JNU				LR	LR	08 50 52.6	
	comp=Z,126nm,18.3s,baz=249,slow=43						
	22nm,0.8s						
NACB	Ninganchiao	7.43 256		Pn	Pn	08 47 41.4	-2.0
YHNB	Yeheng	7.49 260		Pn	Pn	08 47 43.9	-0.4
YULB	Yu-li	7.95 251		Pn	Pn	08 47 47.6	-3.0
JMN	Monobe	8.42 26		Pn	Pn	08 47 56.4	-0.7
TPUB	Ta-pu	8.55 252		Pn	Pn	08 47 57.9	-1.0
SSE	Sheshan	8.78 306		P	Pn	08 48 00.1	-1.8
SSE				S	Sn	08 49 41.6	+0.8
SSE				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SSE				pmax	pmax		
	comp=Z,27nm,4.6s						
SSE				LR	LR		
	comp=N,190nm,11.3s						
SSE				LR	LR		
	comp=E,160nm,11.1s						
NJ2	Nanjing	10.98 305		eP	Pn	08 48 31.9	-0.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=N,450nm,11.9s						
NJ2				LR	LR		
	comp=E,410nm,11.9s						
NJ2				LR	LR		
	comp=Z,480nm,12.5s						
KSRS	Korea Array	11.31 354		Pn	Pn	08 48 36.8	+0.2
	1.6nm,0.8s,baz=170,slow=13,SNR=5.8						
KSRS				LR	LR	08 53 12.6	
	comp=Z,124nm,18.7s,baz=175,slow=39						
JCJ	Chichijima	11.39 83		Pn	Pn	08 48 39.0	+1.3
DL2	Dalian	14.30 334		P	Pn	08 49 18.8	+1.4
DL2				eS	Sn	08 52 00.6	+4.7
DL2				pmax	pmax		
	comp=Z,21nm,1.1s						
DL2				pmax	pmax		
	comp=Z,230nm,7.1s						
DL2				LR	LR		
	comp=N,360nm,14.9s						
DL2				LR	LR		
	comp=E,380nm,12.0s						
DL2				LR	LR		
	comp=Z,710nm,22.0s						
HNS	HongShan	16.79 315		⇓P	P	08 49 53.0	+0.7
HNS				PP	pwP	08 50 03.8	+1.1
HNS				pmax	pmax		
	comp=Z,19nm,0.9s						
HNS				pmax	pmax		
	comp=Z,150nm,6.5s						
HNS				LR	LR		
	comp=N,180nm,14.2s						
HNS				LR	LR		
	comp=E,250nm,13.5s						
HNS				LR	LR		
	comp=Z,270nm,12.0s						
BJT	Baijiatuau	17.71 324			Pn	08 50 01.2	-0.4
BJT	Baijiatuau	17.71 324		P	Pn	08 50 01.2	-0.4
BJT				pmax	pmax		
	comp=Z,13nm,0.7s						
BJI	Beijing	17.72 324		P	P	08 50 03.8	+1.2
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJI				LR	LR		
	comp=Z,110nm,13.6s						
BJI				LR	LR		
	comp=Z,74nm,10.4s						
BJI				LR	LR		
	comp=Z,130nm,14.1s						
CN2	Changchun	17.88 350		P	Pn	08 50 02.4	-1.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
USA0B	Ussuriysk Arra	18.08 6		i P	Pn	08 50 05.0	-1.2
USRK	Ussuriysk Ar.	18.08 6		P	Pn	08 50 06.3	+0.1
	comp=Z,0.2nm,0.3s,baz=180,slow=12,SNR=4.7						
USRK				LR	LR	08 56 34.7	
	comp=Z,48nm,19.9s,baz=164,slow=36						
	comp=Z,2.7nm,0.7s						
ENH	Enshi	18.09 288			Pn	08 50 04.5	-1.8
GUMO	Guam	19.11 128		LR	LR	08 55 53.6	
	comp=Z,95nm,21.7s,baz=330,slow=31						
ERM	Erimo	19.38 32		P	P	08 50 20.8	0.0
ERM				IAmb	IAmb	08 50 32.0	
	comp=Z,32nm,1.1s						
ERM	Erimo	19.38 32		i P	P	08 50 19.6	-1.2
XAN	Xi'an	19.42 299		P	P	08 50 21.4	+0.1
XAN				pP	pwP	08 50 29.3	-1.4
XAN				S	S	08 54 03.4	+2.6
XAN				pmax	pmax		
	comp=Z,33nm,1.2s						
XAN				pmax	pmax		
	comp=Z,140nm,4.1s						
XAN				LR	LR		
	comp=Z,270nm,14.3s						
XAN				LR	LR		
	comp=Z,270nm,15.5s						
XAN				LR	LR		
	comp=Z,430nm,14.6s						
QIZ	Qiongzhong	19.47 253		P	P	08 50 21.6	-0.4
QIZ				S	Sn	08 53 56.8	-5.0
QIZ				LR	LR		
	comp=Z,160nm,14.4s						
QIZ				LR	LR		
	comp=Z,120nm,11.0s						
QIZ				LR	LR		
	comp=Z,140nm,12.4s						
BNX	BinXian	19.58 356		⇓P	Pn	08 50 25.0	+0.7
BNX				pmax	pmax		
	comp=Z,14nm,1.0s						
TEY	Ternei	19.66 15		eP	Pn	08 50 36.4	+11
XLT	XiLinHaoTe	20.75 332		eP	P	08 50 35.5	-0.3
XLT				pP	Pn	08 50 39.4	+1.2
XLT				PcS	PcS	08 58 22.6	-0.3
XLT				pmax	pmax		
	comp=Z,17nm,0.8s						
ASAJ	Asahikawa	20.80 27		P	P	08 50 36.4	+0.1
ASAJ				pmax	pmax		
	comp=Z,15nm,1.0s						
JKA	Kamikawa-asahi	20.80 27		P	P	08 50 36.4	+0.1
HHC	Hu-ho-hao-te	20.85 319		eP	Pn	08 50 38.3	-1.1
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
BTO	Baotou	21.63 317		eP	P	08 50 46.8	+1.4
BTO				pP	sP	08 50 50.3	+2.7
BTO				sP	pwP	08 50 53.3	-2.5
BTO				PP	PnPn	08 51 10.8	+4.8
BTO				S	Sn	08 54 49.4	-4.2
BTO				pmax	pmax		
	comp=Z,18nm,0.5s						
BTO				pmax	pmax		
	comp=Z,150nm,3.6s						
BTO				LR	LR		
	comp=Z,310nm,8.7s						
BTO				LR	LR		
	comp=Z,300nm,10.9s						
BTO				LR	LR		
	comp=Z,360nm,11.1s						
CD2	Chengdu	23.07 288		P	P	08 50 59.4	-1.3
CD2				pmax	pmax		
	comp=Z,40nm,1.1s						
CD2				LR	LR		
	comp=Z,360nm,13.0s						
CD2				LR	LR		
	comp=Z,230nm,14.7s						
KLR	Kul'dur	23.07 4		P	P	08 50 59.0	-1.5
	comp=Z,7.7nm,1.0s,baz=204,slow=5.9,SNR=13						
KLR				LR	LR	08 59 51.2	
	comp=Z,45nm,18.2s,baz=192,slow=36						
	comp=Z,7.7nm,1.0s						
KLR	Kul'dur	23.07 4		eP	P	08 51 00.4	0.0
KLR				pmax	pmax		
	comp=Z,13nm,1.3s						
YSS	Yuzhno-Sakhali	23.24 23		eP	P	08 51 01.8	-0.3
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
PZH	PanZhiHua	24.85 277		P	P	08 51 18.4	+0.6
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
TYV	Tymovskoe	26.62 19		eP	P	08 51 50.6	+17
TYV				pmax	pmax		
	comp=Z,200nm,4.1s						
TYV				pmax	pmax		
	comp=Z,16nm,1.0s						
ZEA	Zeya	27.57 357		eP	P	08 51 45.6	+3.8
GTA	Gaotai	28.07 305		eP	P	08 51 46.8	+0.1
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA				LR	LR		
	comp=Z,120nm,13.5s						
GTA				LR	LR		
	comp=Z,150nm,15.1s						
GTA				LR	LR		
	comp=Z,160nm,15.9s						
SONM	Songino Array	28.21 326			P	08 51 46.2	-1.6
SONM				IAmb	IAmb	08 52 07.3	
	comp=Z,9.3nm,0.8s						
SONM	Songino Array	28.21 326		LR	LR	09 04 23.3	
	comp=Z,73nm,19.1s,baz=136,slow=39						
SONM	Songino Array	28.21 326		P	P	08 51 46.2	-1.6
SONM				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	Chiang Mai	29.11 262			P	08 51 55.2	-0.8
CHTO	Chiang Mai	29.11 262		P	P	08 51 55.2	-0.8
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CMAR	Chiang Mai Arr	29.23 261		P	P	08 51 57.3	+0.2
	comp=Z,0.5nm,0.2s,baz=65,slow=8.7,SNR=6.3						
	comp=Z,0.5nm,0.2s						
ZAK	Zakamensk	31.43 327		eP	P	08 52 12.4	-3.9
ZAK				pmax	pmax		
	comp=Z,11nm,0.9s						
SHL	Shillong	33.77 277		P	P	08 52 35.5	-1.7
SHL				IAmb	IAmb	08 52 40.0	
	comp=Z,9.2nm,1.0s						
SHL	Shillong	33.77 277		P	P	08 52 35.5	-1.7
SHL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SAUI	Saumlaki	34.01 177		P	P	08 52 37.5	-1.5
PEA0B	Petropavlovsk-	34.15 31		P	P	08 52 40.9	+1.0
PEA0B	Petropavlovsk-	34.15 31		P	P	08 52 40.9	+1.0
PEA0B				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PETK	Petropavlovsk-	34.15 31		P	P	08 52 40.8	+0.9
PETK	Petropavlovsk-	34.15 31		P	P	08 52 40.0	+0.1
	comp=Z,1.7nm,0.9s,baz=229,slow=6.8,SNR=3.0						
PETK				LR	LR	09 08 57.8	
	comp=Z,24nm,18.2s,baz=182,slow=41						
	comp=Z,1.7nm,0.9s						
PETK	Petropavlovsk-	34.15 31		P	P	08 52 40.8	+0.9
YAK	Yakutsk	35.84 0		ceP	P	08 52 55.4	+1.1
YAK				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ	Urumqi	38.02 308		eP	P	08 53 15.1	+1.8
WMQ				pmax	pmax		
	comp=Z,27nm,0.9s						
WMQ				LR	LR		
	comp=Z,110nm,21.9s						
SEY	Seymchan	39.74 16		ceP	P	08 53 29.2	+1.9
SEY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MK31	Makanchi Array	42.41 312		ceP	P	08 53 49.9	+0.4
MKAR	Makanchi Array	42.41 312			P	08 53 49.1	-0.5
MKAR	Makanchi Array	42.41 312		P	P	08 53 49.5	0.0
	comp=Z,1.4nm,0.6s,baz=102,slow=9.7,SNR=12						
	comp=Z,1.4nm,0.6s						
ZALV	Zalesovo Beam	42.97 322		P	P	08 53 53.7	-0.2
ZALV	Zalesovo Beam	42.97 322		P	P	08 53 53.2	-0.7
	comp=Z,0.8nm,0.5s,baz=118,slow=12,SNR=4.9						
ZALV				LR	LR	09 13 33.1	
	comp=Z,72nm,18.4s,baz=84,slow=39						
	comp=Z,0.8nm,0.5s						
ZALV	Zalesovo Beam	42.97 322		P	P	08 53 53.7	-0.2
FITZ	Fitzroy Crossi	44.18 185		P	P	08 54 05.0	+1.0
	comp=Z,1.4nm,0.7s,baz=33,slow=10,SNR=1.9						
	comp=Z,1.4nm,0.7s						
KDJ	Kajisay	45.41 304		P	P	08 54 14.2	+0.2
KDJ	Kajisay	45.41 304		P	P	08 54 14.2	+0.2
KDJ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TIXI	Tiksi	45.50 360		P	P	08 54 14.3	+0.4
TIXI	Tiksi	45.50 360		LR	LR	09 12 40.1	
	comp=Z,47nm,20.8s,baz=200,slow=35						
TIXI	Tiksi	45.50 360		ceP	P	08 54 16.1	+2.2
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KURK	Kurchatov	45.63 316			P	08 54 15.1	-0.2
KURK	Kurchatov	45.63 316		ceP	P	08 54 15.6	+0.3
KURK				pmax	pmax		
	comp=Z,9.0nm,2.5s						
KURBB	Kurchatov Arra	45.66 316		P	P	08 54 15.3	-0.3
	comp=Z,1.5nm,0.6s,baz=102,slow=8.6,SNR=11						
	comp=Z,1.5nm,0.6s						
WRA	Warramunga Arr	46.10 174		P	P	08 54 20.1	+0.9
	comp=Z,1.2nm,0.7s,baz=354,slow=8.5,SNR=8.4						
	comp=Z,1.2nm,0.7s						
WRA	Warramunga Arr	46.10 174		ceP	P	08 54 20.6	+1.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BILL	Bilibino	47.36 18			P	08 54 29.6	+1.0
BILL	Bilibino	47.36 18		ceP	P	08 54 30.2	+1.6
BILL				pmax	pmax		
	comp=Z,14nm,2.5s						
AAK	Ala-Archa	47.42 305		LR	LR	09 16 07.4	
	comp=Z,73nm,18.7s,baz=154,slow=38						
MBWA	Marble Bar	48.01 192		P	P	08 54 33.4	-0.8
PSA00	Pilbara Seismi	48.39 192		P	P	08 54 36.3	-0.8
NRIK	Noril'sk	49.64 342			P	08 54 46.1	-0.1
NRIK				IAmb	IAmb	08 54 58.3	
	comp=Z,14nm,1.5s						
NRIK	Noril'sk	49.64 342		P	P	08 54 46.4	+0.2
	comp=Z,1.3nm,0.6s,baz=153,slow=6.8,SNR=4.1						
	comp=Z,1.3nm,0.6s						
NRIK	Noril'sk	49.64 342		i P	P	08 54 47.6	+1.4
NRIK				pmax	pmax		
	comp=Z,10.0nm,2.2s						
ASAR	Alice Springs	49.75 175		P	P	08 54 48.5	+1.0
	comp=Z,0.6nm,0.6s,baz=5.2,slow=11,SNR=16						
	comp=Z,0.6nm,0.6s						
KK31	Karatay Array	50.36 305		P	P	08 54 52.7	+0.6
KK31	Karatay Array	50.36 305		P	P	08 54 52.7	+0.6
KK31				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KKAR	Karatay Array	50.36 305		P	P	08 54 53.5	+1.4
KKAR	Karatay Array	50.36 305		P	P	08 54 53.5	+1.4
BVAR	Borovoye Array	51.06 318		P	P	08 54 57.9	+0.7
	comp=Z,4.2nm,0.7s,baz=90,slow=8.9,SNR=14						
	comp=Z,4.2nm,0.7s						
BVAR				LR	LR	09 18 28.9	
	comp=Z,162nm,18.9s,baz=89,slow=38						
	comp=Z,4.2nm,0.7s						
BRVK	Borovoye	51.13 318			P	08 54 57.8	+0.1
BRVK				IAmb	IAmb	08 55 00.3	
	comp=Z,5.2nm,0.7s						
BRVK	Borovoye	51.13 318		ceP	P	08 54 59.1	+1.4
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ABKAR	Akbulak array	57.50 313		P	P	08 55 44.4	+0.3
ARTI	Arti	58.22 322		P	P	08 55 48.5	-0.6
ARTI				IAmb	IAmb	08 55 50.3	
	comp=Z,8.1nm,0.8s						
ARTI	Arti	58.22 322		LR	LR	09 24 55.2	
	comp=Z,54nm,18.2s,baz=34,slow=40						
ARTI	Arti	58.22 322	c	i P	P	08 55 48.5	-0.6
ARTI						08 56 42.8	
ARTI				S	S	09 03 52.3	+1.7
ARTI				SS	SS	09 07 43.7	+1.8
ARTI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
STKA	Stephens Creek	58.89 168		P	P	08 55 55.1	+1.2
	comp=Z,0.6nm,0.6s,baz=337,slow=9.4,SNR=3.3						
	comp=Z,0.6nm,0.6s						
D19K	Kuna River	59.45 24			P	08 55 59.0	+1.4
DZM	Mont Dzumac	59.87 140		eLR	LR	09 13 37.5	
	comp=Z,61nm,22.1s						
D20K	Etivluk River	60.02 24		P	P	08 56 01.7	+0.3
K20K	Telida	60.87 30		P	P	08 56 07.9	+0.6
K20K				IAmb	IAmb	08 56 21.3	
	comp=Z,5.1nm,0.9s						
B22K	Teshekpuk Lake	61.25 22		IAmb	IAmb	08 56 22.7	
	comp=Z,6.3nm,0.8s						
H21K	Melozitna Rive	61.40 27		IAmb	IAmb	08 56 24.1	
	comp=Z,4.5nm,1.0s						
CAST	Castle Rocks	61.76 30		IAmb	IAmb	08 56 26.5	
	comp=Z,6.4nm,1.0s						
E22K	Anaktuvuk Pass	61.77 25		P	P	08 56 14.6	+1.2
E22K				IAmb	IAmb	08 56 26.6	
	comp=Z,5.8nm,0.9s						
SKT	Skwentna	62.09 32		P	P	08 56 15.8	+0.3
SUA	Susitna One	62.50 32		P	P	08 56 19.3	+0.8
SUA				IAmb	IAmb	08 56 20.9	
	comp=Z,6.2nm,0.8s						
KIRV	Kirov	62.93 325		LR	LR	09 27 03.8	
	comp=Z,115nm,18.2s,baz=100,slow=39						
NEA2	Nenana	63.02 29		IAmb	IAmb	08 56 34.4	
	comp=Z,6.4nm,0.9s						
RND	Reindeer	63.21 30		P	P	08 56 23.7	+0.6
RND	Reindeer	63.21 30		P	P	08 56 23.7	+0.6
RND				pmax	pmax		
	comp=Z,9.0nm,0.9s						
F24K	Squaw Lake	63.28 25		IAmb	IAmb	08 56 26.4	
	comp=Z,4.1nm,0.8s						
G24K	Hadweenzic Riv	63.51 26		IAmb	IAmb	08 56 38.5	
	comp=Z,6.4nm,1.1s						
D25K	Kavik River	63.71 23		IAmb	IAmb	08 56 39.4	
	comp=Z,4.9nm,1.0s						
ILAR	Eielson Array	63.94 28		P	P	08 56 26.4	-1.4
	comp=Z,0.7nm,0.8s,baz=261,slow=5.3,SNR=8.2						
	comp=Z,0.7nm,0.8s						
HDA	Harding Lake	63.95 29		IAmb	IAmb	08 56 39.9	
	comp=Z,6.3nm,0.9s						
E25K	Arctic Village	64.11 25		IAmb	IAmb	08 56 43.3	
	comp=Z,6.9nm,1.3s						
PRP	Porcupine Dome	64.42 27		P	P	08 56 31.7	+0.6
MGBR	Mount Gambier	64.42 170		P	P	08 56 29.3	-1.8
C27K	Jago River	64.61 23		IAmb	IAmb	08 56 45.6	
	comp=Z,3.6nm,0.8s						
F26K	Sheenjek River	64.69

KLMR *e* 08 57 14.5
KLMR pmax pmax
comp=Z,15nm,1.7s
EPYK Eagle Plains 67.81 26 IAmb IAmb 08 57 05.9
comp=Z,4.9nm,0.8s
L29M L29M 68.04 29 IAmb IAmb 08 57 08.0
comp=Z,4.6nm,1.0s
KBZ Khabaz 70.06 310 P **P** **08 57 08.0 +0.9**
comp=Z,4.4nm,0.8s,baz=124,slow=2.4,SNR=11
comp=Z,4.4nm,0.8s
KBZ Khabaz 70.06 310 *ce*P **P** **08 57 07.8 +0.8**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 70.14 310 *e*P **P** **08 57 09.1 +1.4**
KIV pmax pmax
comp=Z,9.0nm,1.1s
FARO Faro, Yukon 70.41 30 IAmb IAmb 08 57 22.4
comp=Z,8.0nm,1.0s
FINES FINESS Array B 73.45 331 P **P** **08 57 27.4 +0.3**
comp=Z,8.5nm,0.9s,baz=63,slow=5.6,SNR=20
FINES LR LR 09 33 45.6
comp=Z,78nm,20.2s,baz=70,slow=39
comp=Z,8.5nm,0.9s
FINES FINESS Array B 73.45 331 *ce*P **P** **08 57 28.1 +1.0**
FINES pmax pmax
comp=Z,6.0nm,0.7s
RAYN Ar Rayn 74.89 289 P **P** **08 57 35.0 -1.3**
RAYN Ar Rayn 74.89 289 P **P** **08 57 35.0 -1.3**
RAYN pmax pmax
comp=Z,4.0nm,1.0s
MNK Minsk 75.46 324 *i* P **P** **08 57 40.6 +1.7**
MNK *i* S **S** **09 07 19.9 +1.1**
MNK *i* SS **SS** **09 12 13.5 +4.9**
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK pmax pmax
comp=E,12nm,0.8s
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=Z,104nm,15.0s
MNK pmax pmax
comp=E,535nm,16.0s
MNK pmax pmax
comp=N,809nm,20.0s
AKASG Malin Array Be 76.29 320 P **P** **08 57 44.3 +0.5**
comp=N,2.2nm,0.6s,baz=58,slow=6.4,SNR=11
AKASG LR LR 09 33 10.2
comp=N,100nm,18.5s,baz=58,slow=37
comp=N,2.2nm,0.6s
AKBB Malin Array Si 76.29 320 *ce*P **P** **08 57 43.3 -0.5**
AKBB pmax pmax
comp=Z,16nm,2.0s
BR131 Keskin Array S 77.95 308 P **P** **08 57 53.4 -0.1**
BR131 IAmb IAmb 08 58 06.4
comp=Z,4.1nm,0.8s
BR131 Keskin Array S 77.95 308 P **P** **08 57 53.4 -0.1**
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 77.95 308 P **P** **08 57 52.4 -1.1**
BRTR Keskin Array B 77.95 308 P **P** **08 57 54.7 +1.2**
comp=Z,2.7nm,0.8s,baz=99,slow=4.8,SNR=12
comp=Z,2.7nm,0.8s
BRTR Keskin Array B 77.95 308 *ce*P **P** **08 57 55.0 +1.5**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 78.08 25 P **P** **08 57 54.7 +1.1**
comp=Z,0.7nm,0.9s,baz=304,slow=5.5,SNR=7.2
comp=Z,0.7nm,0.9s
ASF Jabal al Asfar 78.57 300 P **P** **08 57 58.5 +1.5**
comp=Z,4.4nm,0.8s,baz=326,slow=3.6,SNR=2.9
comp=Z,4.4nm,0.8s
HFS Hagfors 79.38 333 P **P** **08 58 01.3 +0.5**
comp=Z,2.6nm,0.7s,baz=41,slow=9.8,SNR=5.2
HFS LR LR 09 37 18.8
comp=Z,48nm,19.4s,baz=293,slow=39
comp=Z,2.6nm,0.7s
NC405 NORSAR Array S 79.61 334 P **P** **08 58 02.2 +0.1**
NC405 IAmb IAmb 08 58 24.9
comp=Z,13nm,1.2s
NB2 NORSAR Subarra 79.84 334 P **P** **08 58 03.8 +0.4**
comp=Z,1.7nm,0.7s,baz=51,slow=5.6
NOA NORSAR Array B 79.84 334 P **P** **08 58 03.7 +0.3**
comp=Z,2.8nm,0.7s,baz=50,slow=5.4,SNR=15
comp=Z,2.8nm,0.7s
SUMG Summit 81.15 356 *i* P P 08 58 21.0 +10
VYHS Vyhne 83.28 321 *e*P **P** **08 58 23.7 +1.9**
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 83.28 321 *e*P **P** **08 58 23.7 +1.9**
SRO Srobarova 83.94 321 *e*P **P** **08 58 27.6 +2.5**
SRO Srobarova 83.94 321 *e*P **P** **08 58 27.6 +2.5**
VRAC Vranov 84.08 323 P **P** **08 58 26.1 +0.2**
comp=Z,1.3nm,0.3s,baz=119,slow=3.4,SNR=3.2
comp=Z,1.3nm,0.3s
CLL Collm 84.83 326 *i* P **P** **08 58 31.0 +1.5**
CLL pmax pmax
comp=Z,11nm,1.2s
CLL Collm 84.83 326 *i* P **P** **08 58 31.0 +1.5**
comp=Z,11nm,1.2s
CLL *i* x x 08 58 40.9
RONA Rosalia, Austr 85.14 321 *i* pP pP 08 58 34.5 +1.4
comp=Z,0.2nm,0.2s
CONA Conrad Observa 85.26 322 *i* PcP **P** **08 58 33.7 +1.7**
comp=Z,1.6nm,0.7s
GERES GERESS Array B 85.91 323 P **P** **08 58 36.3 +1.1**
comp=Z,1.2nm,0.7s,baz=53,slow=5.2,SNR=9.2
comp=Z,1.2nm,0.7s
MOA Molln 86.19 322 *i* P **P** **08 58 36.5 0.0**
comp=Z,0.6nm,0.3s
KBA Koelnbreinsper 87.14 322 *e*PcP **P** **08 58 41.3 0.0**
comp=Z,1.0nm,0.6s
PPT2 Papeete2 89.82 110 *e*LR LR 09 27 36.4
comp=Z,44nm,24.0s
QSPA South Pole Qui 115.97 180 PKP **PKiKP** **09 04 37.8 +0.5**
comp=Z,0.9nm,0.8s,baz=299,slow=2.7,SNR=1.9

THE ***14*** *08:51:09.8, 35°.57N×29°.73E, h4km±5km, ML3.5/4, Error ellipse: s-maj=8.1km s-min=0.6km az=90.0*
ISK ***14*** *08:51:09.3, 35°.62N×29°.48E, h8km, ML3.8/63*
IDC ***14*** *08:51:10.3±0.8, 35°.80N×29°.45E, h0km, mb3.8/13, mbtmp3.8/23, ML3.2/10, MS3.2/8, Error ellipse: s-maj=17.9km s-min=12.7km az=0.0*
GII ***14*** *08:51:11.1±0.0, 35°.674N±0°.004×29°.587E±0°.001, h1km, Mws3.3, confirmed*
ATH ***14*** *08:51:11.8, 35°.83N×29°.62E, h24km±8km, ML3.5/5, Manual Solution by A.Papageorgiou First location: 2019/04/14 08:52:40, This location: 2019/04/14 15:20:31 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 16 km; Longitude uncertainty: 15 km*
NIC ***14*** *08:51:11.8, 35°.75N×29°.50E, h14km±3km, Ml3.4/7*
AFAD ***14*** *08:51:12.0, 35°.67N×29°.36E, h35km±1km, ML3.8*
ISC 14 08:51:10.5±1.3,**35°.69N**±0°.03×**29°.50E**±0°.02,**h1**km±8km,
n152,σ1§**31**/184,**mb3.8**/13,**MS3.3**/3,**2C-2D**,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.46**	**9**	P	**Pg**	**08 51 19.5**	**+0.1**
KSL				S	**Sb**	**08 51 30.7**	**+1.9**
	6μm,0.7s						
KSL	**Kastellorizon**	**0.46**	**9**	P	**Pg**	**08 51 19.5**	**+0.1**
KSL				S	**Sb**	**08 51 27.3**	**-1.5**
KSL	**Kastellorizon**	**0.46**	**9**	P	**Pg**	**08 51 19.2**	**-0.2**
KSL				S	**Sg**	**08 51 23.9**	**-1.5**
AKAS	**Kas**	**0.55**	**9**	Pg	**Pg**	**08 51 21.2**	**+0.2**
AKAS	**Kas**	**0.55**	**9**	P	**Pg**	**08 51 21.0**	**0.0**
AKAS				S	**Sb**	**08 51 29.7**	**-1.7**
DEMR	**Demre-Antalya**	**0.64**	**31**	Pg	**Pg**	**08 51 23.0**	**+0.3**
IZZE	**Mula-Seydike**	**0.77**	**344**	P	**Pb**	**08 51 27.2**	**+0.4**
IZZE				S	**Sn**	**08 51 39.2**	**-1.6**
IZZE				*i* AML	AML	08 51 44.0	
	comp=N,5μm,0.6s						
IZZE				*i* AML	AML	08 51 45.0	
	comp=E,5μm,0.5s						
AKUM	**Antalya-Kumluc**	**0.93**	**47**	P	**Pn**	**08 51 30.5**	**-0.2**
AKUM				S	**Sn**	**08 51 46.5**	**+1.8**
AKUM				*i* AML	AML	08 51 57.0	
	comp=E,2μm,0.9s						
FETY	**Fethiye**	**1.00**	**341**	Pg	**Pg**	**08 51 30.4**	**+0.7**
FETY				Sg	**Sn**	**08 51 45.3**	**-1.1**
FETY	**Fethiye**	**1.00**	**341**	P	**Pn**	**08 51 31.9**	**+0.2**
FETY				S	**Sn**	**08 51 45.3**	**-1.1**
ELL	**Elmali**	**1.10**	**17**	Pn	**Pn**	**08 51 33.1**	**-0.1**
ELL	**Elmali**	**1.10**	**17**	P	**Pg**	**08 51 31.7**	**0.0**
ELL				S	**Sg**	**08 51 43.6**	**-2.4**
KNIK	**Mula-Seydike**	**1.15**	**3**	P	**Pn**	**08 51 34.2**	**+0.3**
KNIK				S	**Sn**	**08 51 50.4**	**0.0**
SABU	**Mula-Dalaman**	**1.21**	**339**	P	**Pb**	**08 51 34.2**	**0.0**
SABU				S	**Sg**	**08 51 49.8**	**+0.5**
SABU				*i* AML	AML	08 51 58.0	
	comp=N,2μm,0.9s						
ARG	**Arkhangelos**	**1.23**	**296**	P	**Pn**	**08 51 33.7**	**-1.1**
ARG				S	**Sn**	**08 51 54.6**	**+2.6**
	2μm,1.2s						
ARG	**Arkhangelos**	**1.23**	**296**	Pn	**Pn**	**08 51 33.7**	**-1.1**
ARG	**Arkhangelos**	**1.23**	**296**	P	**Pn**	**08 51 34.2**	**-0.6**
ARG				S	**Sg**	**08 51 52.1**	**+1.2**
ARG	**Arkhangelos**	**1.23**	**296**	P	**Pn**	**08 51 33.8**	**-1.0**
ARG				S	**Sb**	**08 51 50.9**	**+0.1**
KEMT	**Kemer-ANTALYA**	**1.25**	**43**	Pn	**Pn**	**08 51 34.6**	**-0.5**
CAME	**Cameli-Denizli**	**1.26**	**353**	Pn	**Pn**	**08 51 34.8**	**-0.6**
DALY	**Dalyan (Mula)**	**1.31**	**329**	Pn	**Pn**	**08 51 34.9**	**-1.0**
CAEL	**Denizli, Camel**	**1.43**	**354**	P	**Pg**	**08 51 38.9**	**+0.9**
KORT	**Korkueli**	**1.48**	**28**	Pn	**Pn**	**08 51 37.9**	**-0.5**
KORT	**Korkueli**	**1.48**	**28**	P	**Pg**	**08 51 39.5**	**+0.6**
TURN	**Turunc**	**1.48**	**317**	Pn	**Pn**	**08 51 37.5**	**-0.7**
TURN	**Turunc**	**1.48**	**317**	P	**Pb**	**08 51 38.6**	**-0.2**
ANTB	**Antalya**	**1.53**	**38**	Pn	**Pn**	**08 51 38.6**	**-0.3**
GOLH	**Golhisar**	**1.54**	**2**	P	**Pg**	**08 51 40.6**	**+0.5**
GOLH				S	**Sg**	**08 52 03.0**	**+2.9**
GOLH				*i* AML	AML	08 52 24.0	
	comp=E,1μm,1.0s						
DNZT	**Denizli-Tavas-**	**1.63**	**347**	P	**Pb**	**08 51 40.9**	**-0.5**
DNZT				S	**Sn**	**08 52 01.3**	**-0.7**
YER	**Yerkesik**	**1.74**	**326**	Pn	**Pn**	**08 51 41.8**	**-0.1**
APMY	**Acipayam-Deniz**	**1.78**	**355**	Pn	**Pn**	**08 51 42.3**	**-0.2**
MULA	**Mugla, Merkez-**	**1.82**	**329**	P	**Pn**	**08 51 43.4**	**+0.3**
MULA				S	**Sn**	**08 52 04.7**	**-2.2**
MULA				*i* AML	AML	08 52 14.0	
	comp=E,864nm,0.7s						
TAVA	**DENIZLI_Tavas**	**1.83**	**345**	P	**Pg**	**08 51 45.9**	**+0.3**
TAVA				S	**Sb**	**08 52 06.9**	**-1.4**
BUCA	**Burdur, Bucak-**	**1.84**	**27**	P	**Pg**	**08 51 45.9**	**0.0**
DAT	**Datca**	**1.86**	**304**	Pn	**Pn**	**08 51 42.8**	**-0.9**
KARP	**Karpathos**	**1.91**	**266**	P	**Pn**	**08 51 43.7**	**-0.5**
KARP				S	**Sb**	**08 52 10.3**	**-0.1**
	732nm,0.7s						
KARP	**Karpathos**	**1.91**	**266**	Pn	**Pn**	**08 51 42.6**	**-1.6**
KARP	**Karpathos**	**1.91**	**266**	P	**Pn**	**08 51 44.4**	**+0.2**
KARP	**Karpathos**	**1.91**	**266**	P	**Pn**	**08 51 43.6**	**-0.5**
KARP				S	**Sn**	**08 52 08.7**	**-0.1**
DNIZ	**Denizli-Tavas-**	**1.96**	**349**	P	**Pb**	**08 51 47.3**	**+0.2**
DNIZ				S	**Sn**	**08 52 08.3**	**-2.0**
BCK	**Bucak**	**1.97**	**26**	Pn	**Pn**	**08 51 44.9**	**-0.2**
INCE	**Denizli-Bozkur**	**2.01**	**2**	P	**Pg**	**08 51 49.0**	**-0.1**
INCE				S	**Sb**	**08 52 13.3**	**-0.2**
MLSB	**Milas**	**2.12**	**320**	Pn	**Pn**	**08 51 46.8**	**-0.2**
BODT	**Bodrum**	**2.23**	**308**	Pn	**Pn**	**08 51 47.8**	**-0.8**
BASM	**Basmaki-Afyon**	**2.27**	**11**	Pn	**Pn**	**08 51 49.2**	**0.0**
ISP	**Isparta**	**2.28**	**21**	Pn	**Pn**	**08 51 49.5**	**+0.1**
GAZI	**Gazipasa**	**2.35**	**76**	Pn	**Pn**	**08 51 49.8**	**-0.5**
AKMS	**Akamas**	**2.42**	**105**	P	**Pn**	**08 51 51.0**	**-0.1**
AKMS				S	**Sn**	**08 52 21.0**	**-0.4**
AKMS				AML	AML	08 52 26.3	
	0.7nm,0.4s						
AKMS				AML	AML	08 52 35.6	
	0.4nm,0.6s						
NAZL	**Nazilli-Aydin**	**2.46**	**337**	Pn	**Pn**	**08 51 51.9**	**+0.1**
SEYD	**Seydisehir-KON**	**2.55**	**47**	Pn	**Pn**	**08 51 53.0**	**0.0**
ALFC	**Alefka**	**2.59**	**101**	P	**Pn**	**08 51 53.4**	**-0.2**
ALFC				S	**Sn**	**08 52 25.1**	**-0.6**
ALFC				AML	AML	08 52 31.7	
	0.7nm,0.6s						
ALFC				AML	AML	08 52 36.2	
	0.4nm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**2.59**	**331**	Pn	**Pn**	**08 51 53.8**	**+0.1**
NATA	**Nata**	**2.68**	**109**	P	**Pn**	**08 51 56.2**	**+1.4**
NATA				S	**Sn**	**08 52 29.5**	**+1.7**
NATA				AML	AML	08 53 00.6	
	0.7nm,0.7s						
NATA				AML	AML	08 53 08.9	
	0.9nm,1.6s						
GCAM	**G?zelcaml?**	**2.71**	**318**	Pn	**Pn**	**08 51 54.9**	**-0.2**
HDMB	**Hadim**	**2.73**	**61**	Pn	**Pn**	**08 51 55.6**	**0.0**
ZKR	**Zakros**	**2.74**	**259**	P	**Pn**	**08 51 55.0**	**-0.6**
ZKR				S	**Sn**	**08 52 30.1**	**+0.8**
	162nm,0.7s						
ZKR	**Zakros**	**2.74**	**259**	Pn	**Pn**	**08 51 54.5**	**-1.1**
ZKR	**Zakros**	**2.74**	**259**	P	**Pn**	**08 51 56.1**	**+0.5**
ODEM	**Odemis-Izmir**	**2.82**	**337**	Pn	**Pn**	**08 51 57.1**	**+0.4**
LEF	**Lefka**	**2.83**	**101**	Pn	**Pn**	**08 51 55.6**	**-1.2**
TROD	**Troodos**	**2.85**	**104**	P	**Pn**	**08 51 57.2**	**-0.2**
TROD				S	**Sn**	**08 52 33.2**	**+0.7**
TROD				AML	AML	08 52 46.4	
	0.4nm,0.5s						
TROD				AML	AML	08 52 51.0	
	0.3nm,0.8s						
KULA	**Kula-Manisa**	**2.89**	**347**	Pn	**Pn**	**08 51 58.0**	**+0.2**
APOL	**The Sanctuary**	**2.94**	**109**	P	**Pn**	**08 51 58.1**	**-0.2**
TEKE	**Tekeli-Mersin**	**2.97**	**80**	Pn	**Pn**	**08 51 58.6**	**-0.2**
SHUT	**Suhut-Afyon**	**2.98**	**16**	Pn	**Pn**	**08 51 59.3**	**+0.3**
BERE	**Bereket-Mersin**	**3.09**	**77**	Pn	**Pn**	**08 52 00.4**	**-0.2**
ASGA	**Asgata**	**3.20**	**105**	P	**Pn**	**08 52 02.8**	**+0.8**
ASGA				S	**Sn**	**08 52 42.0**	**+1.3**
ASGA				AML	AML	08 52 59.8	
	0.3nm,0.7s						
ASGA				AML	AML	08 53 08.8	
	0.2nm,0.6s						
KONT	**Konya--Tatoy**	**3.22**	**45**	Pn	**Pn**	**08 52 02.6**	**+0.4**
CSS	**Mathiatis**	**3.22**	**102**	Pn	**Pn**	**08 52 01.7**	**-0.5**
CSS	**Mathiatis**	**3.22**	**102**	P	**Pn**	**08 52 02.4**	**+0.2**
CSS				S	**Sn**	**08 52 41.7**	**+0.5**
CSS				AML	AML	08 52 50.3	
	0.3nm,1.2s						
CSS				AML	AML	08 53 05.0	
	0.2nm,0.7s						
CSS	**Mathiatis**	**3.22**	**102**	P	**Pn**	**08 52 02.0**	**-0.2**
CSS	**Mathiatis**	**3.22**	**102**	S	**Sn**	**08 52 41.0**	**-0.2**
TEVE	**Tevekalti-Mers**	**3.28**	**76**	Pn	**Pn**	**08 52 03.1**	**0.0**
LFK	**Lefkose**	**3.32**	**96**	Pn	**Pn**	**08 52 02.9**	**-0.7**
AKKU	**Akkuyu-Mersin**	**3.32**	**81**	Pn	**Pn**	**08 52 04.1**	**+0.5**
BLCB	**Balcova**	**3.33**	**325**	Pn	**Pn**	**08 52 03.6**	**-0.1**
GEDZ	**Gediz**	**3.35**	**359**	Pn	**Pn**	**08 52 04.9**	**+0.9**
GORD	**Gordes-Manisa**	**3.38**	**342**	Pn	**Pn**	**08 52 05.1**	**+0.7**
KRMN	**Karaman**	**3.38**	**63**	Pn	**Pn**	**08 52 04.6**	**+0.1**
SIMA	**Simav-Kutahya**	**3.41**	**353**	Pn	**Pn**	**08 52 05.1**	**+0.2**
IKL	**Isikli**	**3.44**	**80**	Pn	**Pn**	**08 52 05.4**	**+0.2**
MVOU	**Mavrovouni**	**3.45**	**100**	P	**Pn**	**08 52 04.7**	**-0.7**
MVOU				S	**Sn**	**08 52 47.9**	**+1.1**
MVOU				AML	AML	08 53 01.1	
	0.2nm,0.8s						
KARG	**Kargicak-Mersi**	**3.46**	**80**	Pn	**Pn**	**08 52 05.4**	**-0.1**
KEBE	**Keben-Mersin**	**3.50**	**76**	Pn	**Pn**	**08 52 06.4**	**+0.3**
SILI	**Silifke-Mersin**	**3.65**	**78**	Pn	**Pn**	**08 52 08.2**	**+0.1**
KIZT	**Kizilcal**	**3.71**	**30**	Pn	**Pn**	**08 52 08.7**	**-0.3**
TVSB	**Tavsanli**	**3.75**	**360**	Pn	**Pn**	**08 52 10.4**	**+0.8**
IDI	**Anoyia**	**3.78**	**265**	Pn	**Pn**	**08 52 09.2**	**-0.7**
IDI	**Anoyia**	**3.78**	**265**	Pn	**Pn**	**08 52 09.8**	**-0.1**
	17nm,0.3s,baz=59,slow=17,SNR=56						
IDI				Sn	**Sn**	**08 52 55.9**	**+0.9**
	5.7nm,0.3s,baz=337,slow=21,SNR=1.3						
	71nm,0.5s						
IDI	**Anoyia**	**3.78**	**265**	P	**Pn**	**08 52 09.7**	**-0.2**
SOMA	**Soma-Manisa**	**3.79**	**336**	Pn	**Pn**	**08 52 10.7**	**+0.6**
KIZK	**Mersin**	**3.85**	**77**	Pn	**Pn**	**08 52 11.7**	**+0.9**
CIFT	**Cifteler, Eski**	**3.87**	**18**	Pn	**Pn**	**08 52 11.2**	**0.0**
DKL	**Dikili**	**3.95**	**329**	Pn	**Pn**	**08 52 12.7**	**+0.5**
YESY	**Yesilyurt**	**4.00**	**57**	Pn	**Pn**	**08 52 13.5**	**+0.5**
SVRH	**Sivrihisar-ESK**	**4.08**	**23**	Pn	**Pn**	**08 52 15.2**	**+1.1**
MERS	**Mersin**	**4.23**	**72**	Pn	**Pn**	**08 52 17.0**	**+0.9**
YAYO	**Edremit-Balk**	**4.36**	**335**	Pn	**Pn**	**08 52 18.8**	**+1.0**
SUSR	**Susurluk-Balik**	**4.41**	**346**	Pn	**Pn**	**08 52 19.6**	**+1.1**
IMMV	**Iera Moni Meta**	**4.50**	**269**	P	**Pn**	**08 52 20.0**	**+0.2**
IMMV	**Iera Moni Meta**	**4.50**	**269**	P	**Pn**	**08 52 20.2**	**+0.4**
GVD	**Gavdhos**	**4.51**	**261**	P	**Pn**	**08 52 19.6**	**-0.3**
GVD	**Gavdhos**	**4.51**	**261**	P	**Pn**	**08 52 20.8**	**+0.9**
CAVI	**Cavuskoy**	**4.51**	**3**	Pn	**Pn**	**08 52 21.5**	**+1.5**
EZN	**Ezine**	**4.83**	**330**	Pn	**Pn**	**08 52 25.8**	**+1.5**
YLV	**Yalova**	**4.87**	**359**	Pn	**Pn**	**08 52 26.3**	**+1.4**
ARMT	**Armutlu**	**4.89**	**354**	Pn	**Pn**	**08 52 27.1**	**+1.9**
KIRS	**Kirsehir-Merke**	**4.92**	**44**	⇑P	**Pn**	**08 52 28.3**	**+2.7**
ANKY	**Antikythira Is**	**5.04**	**274**	P	**Pn**	**08 52 26.4**	**-0.8**
BRTR	**Keskin Array B**	**5.20**	**38**	Pn	**Pn**	**08 52 30.3**	**+0.8**
	1.2nm,0.3s,baz=211,slow=15,SNR=31						
BRTR				Sn	**Sn**	**08 53 31.1**	**+1.0**
	1.9nm,0.3s,baz=217,slow=22,SNR=8.7						
	4.5nm,0.5s						
VLI	**Veliai**	**5.40**	**283**	P	**Pn**	**08 52 31.6**	**-0.5**
MMA0B	**Mount Meron ar**	**5.57**	**117**	P	**Pn**	**08 52 34.5**	**-0.1**
MMA0B	**Mount Meron ar**	**5.57**	**117**	S	**Sn**	**08 53 39.3**	**+0.1**
MMAI	**Mount Meron Ar**	**5.57**	**117**	Pn	**Pn**	**08 52 34.5**	**-0.1**
	7.1nm,0.3s,baz=313,slow=12,SNR=10						
MMAI				Sn	**Sn**	**08 53 38.2**	**-1.0**
	9.9nm,0.3s,baz=294,slow=32,SNR=6.0						
MMAI				LR	LR	08 56 04.2	
	comp=Z,156nm,19.6s,baz=314,slow=52						
	4.8nm,0.3s						
GEM	**Giv'at Ha'Em**	**5.67**	**114**	P	**Pn**	**08 52 36.0**	**+0.2**
GEM	**Giv'at Ha'Em**	**5.67**	**114**	S	**Sn**	**08 53 41.0**	**-0.5**
NATI	**Neve Ativ**	**5.70**	**113**	P	**Pn**	**08 52 36.5**	**+0.3**
NATI	**Neve Ativ**	**5.70**	**113**	S	**Sn**	**08 53 41.9**	**-0.3**
MMLI	**Mount Malkishu**	**5.89**	**122**	P	**Pn**	**08 52 38.8**	**-0.2**
MMLI	**Mount Malkishu**	**5.89**	**122**	S	**Sn**	**08 53 45.9**	**-1.2**
CIDE	**Kastamonu/Cide**	**6.74**	**23**	⇑P	Pb	08 52 59.6	-8.9
ASF	**Jabal al Asfar**	**7.08**	**118**	Pn	**Pn**	**08 52 56.8**	**+1.4**
	0.9nm,0.3s,baz=144,slow=7.4,SNR=2.8						
ASF				Sn	**Sn**	**08 54 07.7**	**-8.9**
	1.0nm,0.3s,baz=127,slow=15,SNR=3.1						
ASF				LR	LR	08 57 04.3	
	comp=Z,143nm,19.5s,baz=334,slow=49						
	1.8nm,0.4s						
EIL	**Elat**	**7.56**	**141**	Pn	**Pn**	**08 53 02.1**	**+0.3**
	1.5nm,0.3s,baz=341,slow=2.7,SNR=7.4						
EIL				Sn	**Sn**	**08 54 25.7**	**-2.5**
	baz=50,slow=15						
	3.8nm,0.3s						
EFOR	**EFORIE**	**8.40**	**356**	⇓P	Pb	08 53 26.4	-10
MLR	**Muntele Rosu**	**10.15**	**346**	Pn	**Pn**	**08 53 37.0**	**-0.5**
	baz=140,slow=17,SNR=1.7						
MLR				LR	LR	08 57 24.0	
	comp=Z,51nm,19.4s,baz=174,slow=37						
	0.8nm,0.6s						
TIP	**Timpagrande**	**10.71**	**293**	⇓P	**Pn**	**08 53 43.0**	**-2.0**
VAE	**Valguarnera**	**12.26**	**283**	Pn	**Pn**	**08 54 06.7**	**+0.5**
	1.1nm,0.3s,baz=19,slow=20,SNR=1.8						
	5.2nm,0.5s						
KBZ	**Khabaz**	**13.06**	**48**	Pn	**Pn**	**08 54 19.1**	**+2.0**
	0.1nm,0.3s,baz=29,slow=5.1,SNR=1.5						
	0.4nm,0.4s						
AKASG	**Malin Array Be**	**15.00**	**359**	LR	LR	09 00 43.6	
	comp=Z,58nm,21.1s,baz=202,slow=38						
KEST	**Kesra**	**16.37**	**276**	Pn	**Pn**	**08 55 01.6**	**0.0**
	0.6nm,0.3s,baz=109,slow=9.8,SNR=4.8						
	3.5nm,0.5s						
KBA	**Koelnbreinsper**	**16.59**	**318**	*e*Pn	**P**	**08 55 06.0**	**-1.0**
	0.7nm,0.4s						
LESA	**Schwarzleotal**	**17.16**	**318**	*e*Pn	**P**	**08 55 13.4**	**+0.2**
	1.4nm,0.5s						
GERES	**GERESS Array B**	**17.54**	**323**	P	**Pn**	**08 55 16.2**	**-0.1**
	baz=129,slow=10,SNR=9.8						
	0.9nm,0.6s						
MOTA	**Moosalm**	**17.98**	**316**	*i* Pn	**P**	**08 55 23.6**	**+1.2**
	1.6nm,0.5s						
FETA	**Feichten**	**18.02**	**315**	*e*Pn	**P**	**08 55 24.4**	**+1.6**
	1.8nm,0.7s						
DAVOX	**Davos/Dischmat**	**18.39**	**313**	LR	LR	09 02 27.3	
	comp=Z,90nm,19.0s,baz=118,slow=37						
CLL	**Collm**	**19.59**	**328**	*e*P	**P**	**08 55 39.0**	**-0.9**
CLL				*e*x	x	08 55 48.0	
CLL				*e*PPP	PPP	08 56 03.0	
CLL				*e*S	**Sn**	**08 59 23.0**	**+1.5**
CLL				*e*SS	**SnSn**	**08 59 44.0**	**+8.3**
CLL				AMS	AMS	09 02 00.0	
	comp=N,200nm,18.9s						
CLL				AMS	AMS	09 02 00.0	
	comp=E,200nm,20.4s						
FINES	**FINESS Array B**	**25.86**	**356**	P	**P**	**08 56 42.5**	**-0.8**
	comp=E,0.7nm,0.6s,baz=157,slow=10,SNR=6.3						
	comp=E,0.7nm,0.6s						
KIRV	**Kirov**	**26.41**	**24**	LR	LR	09 09 07.7	
	comp=E,83nm,18.8s,baz=223,slow=41						
HFS	**Hagfors**	**26.51**	**342**	P	**P**	**08 56 47.6**	**-1.6**
	comp=E,1.6nm,0.8s,baz=144,slow=12,SNR=4.0						
HFS				LR	LR	09 09 13.5	
	comp=E,88nm,18.3s,baz=164,slow=41						
	comp=E,1.6nm,0.8s						
ESDC	**Sonseca Array**	**26.68**	**289**	P	**P**	**08 56 49.7**	**-1.4**
	comp=E,1.6nm,0.8s,baz=85,slow=9.1,SNR=9.9						
	comp=E,1.6nm,0.8s						
NOA	**NORSAR Array B**	**27.92**	**341**	P	**P**	**08 57 00.4**	**-1.5**
	comp=E,0.7nm,0.8s,baz=146,slow=8.6,SNR=3.8						
NOA				LR	LR	09 08 45.6	
	comp=E,43nm,18.3s,baz=285,slow=38						
	comp=E,0.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**29.74**	**322**	P	**P**	**08 57 15.6**	**-2.5**
	comp=E,1.6nm,0.8s,baz=123,slow=9.2,SNR=1.8						
	comp=E,1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**33.62**	**235**	P	**P**	**08 57 52.7**	**+0.1**
	comp=E,181nm,0.4s,baz=31,slow=9.3,SNR=1.8						
KURBB	**Kurchatov Arra**	**38.03**	**51**	P	**P**	**08 58 28.6**	**-1.5**
	comp=E,0.8nm,0.4s,baz=273,slow=9.1,SNR=7.0						
	comp=E,0.8nm,0.4s						
MKAR	**Makanchi Array**	**40.52**	**57**	P	**P**	**08 58 51.1**	**+0.1**
	comp=E,0.8nm,0.6s,baz=266,slow=9.2,SNR=9.4						
	comp=E,0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**42.08**	**47**	P	**P**	**08 59 03.1**	**-0.5**
	comp=E,0.7nm,0.5s,baz=271,slow=10,SNR=4.2						
	comp=E,0.7nm,0.5s						
CMAR	**Chiang M

JMTN	Minamitane	4.32	16	P	Pn	08 52 41.2	+1.7
JMTN				eS	Sn	08 53 30.0	0.0
JNU	Nakatsue	6.96	10	Pn	Pn	08 53 17.1	+1.3
	1.3nm,0.3s,baz=206,slow=13,SNR=10						
JNU				Sn	Sn	08 54 31.1	-4.0
	0.5nm,0.3s,baz=37,slow=23,SNR=1.8						
	4.4nm,0.4s						
KLR	Kul'dur	23.02	4	P	P	08 56 40.6	+1.8
	1.6nm,0.9s,baz=179,slow=9.3,SNR=4.1						
	1.6nm,0.9s						
PETK	Petropavlovsk-	34.10	31	P	P	08 58 20.3	+1.8
	0.6nm,0.7s,baz=226,slow=12,SNR=3.6						
	0.6nm,0.7s						
KURBB	Kurchatov Arra	45.63	316	P	P	08 59 54.2	-0.1
	0.3nm,0.4s,baz=102,slow=8.8,SNR=1.5						
	0.3nm,0.4s						
WRA	Warramunga Arr	46.15	174	P	P	09 00 00.8	+2.1
	0.5nm,0.6s,baz=346,slow=7.0,SNR=2.8						
	0.5nm,0.6s						
ASAR	Alice Springs	49.80	175	P	P	09 00 29.1	+2.1
	0.2nm,0.7s,baz=4.1,slow=14,SNR=4.1						
	0.2nm,0.7s						
BVAR	Borovoye Array	51.02	318	P	P	09 00 37.3	+1.4
	0.9nm,0.7s,baz=92,slow=10,SNR=4.3						
	0.9nm,0.7s						
KBZ	Khabaz	70.03	310	P	P	09 02 46.7	+0.9
	1.0nm,0.7s,baz=123,slow=5.0,SNR=3.6						
	1.0nm,0.7s						
FINES	FINESS Array B	73.41	331	P	P	09 03 06.7	+0.9
	2.3nm,0.8s,baz=55,slow=7.1,SNR=6.5						
	2.3nm,0.8s						
AKASG	Malin Array Be	76.26	320	P	P	09 03 22.5	-0.1
	0.7nm,0.6s,baz=70,slow=6.0,SNR=2.2						
	0.7nm,0.6s						
BRTR	Keskin Array B	77.92	308	P	P	09 03 32.3	-0.1
	0.6nm,0.8s,baz=122,slow=5.2,SNR=3.9						
	0.6nm,0.8s						
NB2	NORSAR Subarra	79.80	334	P	P	09 03 42.5	+0.4
	comp=Z,1.9nm,0.8s,baz=53,slow=5.9						
NOA	NORSAR Array B	79.80	334	P	P	09 03 42.5	+0.4
	comp=Z,0.6nm,0.7s,baz=51,slow=5.4,SNR=4.6						
	comp=Z,0.6nm,0.7s						

TAP 14 08:53:54.0,23°.96N×121°.57E,h9km,ML1.6,1C-2D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.04	65	⇑iP	Pg	08 53 56.1	+0.4
HWA				i S	Sg	08 53 57.9	+1.0
ETM	Tongmen	0.07	274	i P	Pg	08 53 56.4	+0.4
ETM				i S	Sg	08 53 57.9	+0.4
TWD	Chiawan	0.12	13	i P	Pg	08 53 57.0	+0.3
TWD				i S	Sg	08 53 59.1	+0.5
LXIB	Xiulin Townshi	0.15	293	⇓iP	Pg	08 53 57.9	+0.5
LXIB				i S	Sg	08 54 00.6	+0.9
SHUL	Shoufeng	0.17	181	P	Pg	08 53 58.5	+0.9
SHUL				S	Sg	08 54 01.4	+1.4
ESL	Shilin	0.19	220	i P	Pg	08 53 58.1	+0.2
ESL				i S	Sg	08 54 00.8	+0.2
ETL	Fush Village	0.20	15	eP	Pg	08 53 57.8	-0.4
ETL				eS	Sg	08 54 00.9	-0.2
NACB	Ninganchiao	0.21	7	⇓iP	Pg	08 53 58.5	+0.2
NACB				i S	Sg	08 54 01.6	+0.3
ETLH	Xiulin Townshi	0.26	342	P	Pg	08 53 59.6	+0.4
ETLH				S	Sg	08 54 03.0	+0.3
WARBT	Fenglin Townsh	0.29	214	i P	Pg	08 54 00.1	+0.2
WARBT				i S	Sg	08 54 04.1	+0.3
EGFH	Guangfu	0.32	204	S	Sg	08 54 05.7	+1.2
WHF	Hehuan Shan	0.33	304	i P	Pg	08 54 01.2	+0.5
WHF				i S	Sg	08 54 06.2	+1.0
OWD	Renai	0.36	269	P	Pb	08 54 02.0	-0.6
OWD				S	Sg	08 54 06.8	+1.0
EAHA	Aohua	0.40	23	eP	Pg	08 54 01.8	0.0
EAHA				i S	Sb	08 54 09.4	-0.1
FUSS	Fushou	0.41	314	eP	Pb	08 54 03.0	-0.6
FUSS				S	Sg	08 54 08.8	+1.2
WUSB	Renai	0.41	274	P	Pb	08 54 03.6	+0.1
WUSB				S	Sb	08 54 09.3	-0.7
VWDT	VWDT	0.44	242	P	Pb	08 54 04.0	+0.1
VWDT				eS	Sb	08 54 09.9	-0.8
TWT	Tachien	0.46	309	eP	Pb	08 54 04.9	+0.5
TWT				eS	Sg	08 54 10.3	+1.2
TDCB	Techi	0.47	308	eP	Pb	08 54 04.5	-0.2
TDCB				eS	Sg	08 54 10.4	+0.9
NNSB	Datong	0.49	340	P	Pb	08 54 04.4	-0.6
NNSB				eS	Sg	08 54 11.0	+0.8
EHY	Hungye	0.51	206	P	Pg	08 54 04.1	+0.3
EHY				eS	Sg	08 54 10.9	+0.5
NNS	Nan Shan	0.51	340	eP	Pg	08 54 04.0	0.0
NNS				eS	Sg	08 54 11.3	+0.7
LATG	Datong	0.57	356	eP	Pb	08 54 06.3	0.0
SSLB	Suanglung	0.59	253	P	Pb	08 54 06.1	-0.4
SSLB				eS	Sg	08 54 13.9	+0.8
WCS	Beigang Elemen	0.61	279	eP	Pb	08 54 06.8	0.0
SMLT	Sun Moon Lake	0.61	263	eP	Pg	08 54 06.4	+0.5
YULB	Yu-li	0.62	204	eP	Pb	08 54 06.9	-0.1
YULB				eS	Sb	08 54 15.1	-0.7
WHP	Taichung City	0.65	299	eP	Pb	08 54 08.1	+0.5
WHP				eS	Sb	08 54 17.6	+0.7
YHNB	Yeheng	0.73	346	eP	Pb	08 54 09.0	+0.1
YHNB				eS	Sb	08 54 19.2	+0.1

SOME 14 08:58:22.0,39°.38N×77°.32E,h5km
NNC 14 08:58:25.6±1.6,39°.49N×77°.34E,h0km,mb3.7,mpv3.3,
Error ellipse: s-maj=11.0km s-min=8.2km az=166.0
KRNET 14 08:58:26.9±0.1,39°.23N×77°.71E,mb3.3
ISC 14 08:58:29.0±2.2,39°.37N±0°.10×77°.52E±0°.06,h10km,n36, σ2§23/54,15C-16D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	2.37	5	⇑iP	Pn	08 59 07.8	-0.5
TARG				⇑eS	Sn	08 59 37.7	+0.1
KDJ	Kajisay	2.77	355	⇓eP	Pn	08 59 13.7	+0.1
KDJ				⇓eS	Sn	08 59 47.9	+0.7
ULHL	Ulahol	3.03	342	⇑eP	Pn	08 59 17.8	+0.6
ULHL				⇑eS	Sn	08 59 54.7	+1.0
SFK	Sufi-Kurgan	3.17	283	⇓eP	Pn	08 59 19.4	+0.3
SFK				⇓iS	Sn	08 59 58.2	+1.2
SALK	Salom-Alik	3.21	299	⇓eP	Pn	08 59 20.5	+0.8
SALK				⇓eS	Sn	08 59 59.4	+1.3
BOOM	Boomskoye usch	3.34	339	⇓eP	Pn	08 59 22.0	+0.6
BOOM				⇓eS	Sn	09 00 01.8	+0.6
ANVS	Anan'yevo	3.41	2	⇓eP	Pn	08 59 22.4	0.0
ANVS				⇓eS	Sn	09 00 03.1	+0.1
ARLS	Aral	3.48	317	⇑iP	Pn	08 59 24.2	+0.8
ARLS				⇑eS	Sn	09 00 05.8	+1.1
UCH	Uchtor	3.66	322	⇓iP	Pn	08 59 27.0	+1.0
UCH				⇓eS	Sn	09 00 10.6	+1.2
TNSS	Tian-Shan	3.69	353	Pg	Pn	08 59 30.0	+3.7
	3.2nm,0.3s						
TNSS				Lg	Lg	09 00 19.4	
	10nm,0.7s						
TNSS	Tian-Shan	3.69	353	eP	Pn	08 59 30.1	+3.7
	3.1nm,0.2s						
TNSS				eS	Sb	09 00 19.7	+0.3
	11nm,0.2s						
SATY	Saty	3.75	10	Pg	Pb	08 59 32.3	-3.0
	3.6nm,0.1s						
SATY				Lg	Lg	09 00 23.3	
	21nm,0.5s						
SATY	Saty	3.75	10	eP	Pg	08 59 51.2	+10
	0.5nm,0.2s						
SATY				eS	Sg	09 00 55.6	+26
	16nm,0.3s						
MDOK	Medeo	3.81	355	Pg	Pn	08 59 32.2	+4.4
	5.7nm,0.5s						
MDOK				⇑Pg	Pb	08 59 35.1	-1.2
	5.0nm,0.6s						
MDOK				Lg	Lg	09 00 22.3	
	26nm,1.0s						
MDOK				Lg	Lg	09 00 22.8	
	14nm,0.6s						
TKM2	Tokmak 2	3.83	338	⇓Pg	Pn	08 59 32.6	+4.3
	2.7nm,0.4s						
TKM2				⇑Lg	Lg	09 00 22.9	
	6.9nm,0.5s						
TKM2	Tokmak 2	3.83	338	⇑iP	Pn	08 59 29.0	+0.8
TKM2				⇑iS	Sn	09 00 14.1	+0.6
MTBS	Maitube	3.85	348	Pg	Pn	08 59 31.9	+3.6
	4.0nm,0.3s						
MTBS				Lg	Lg	09 00 22.6	
	9.6nm,0.4s						
MTBS	Maitube	3.85	348	eP	Pn	08 59 31.9	+3.6
	2.1nm,0.2s						
MTBS				eS	Sb	09 00 22.6	-1.0
	8.8nm,0.2s						
KST	Kastek	3.85	343	Pg	Pn	08 59 32.6	+4.2
	5.8nm,0.6s						
KST				Lg	Lg	09 00 23.9	
	16nm,0.3s						
KST	Kastek	3.85	343	eP	Pn	08 59 31.7	+3.3
	1.9nm,0.3s						
KST				eS	Sb	09 00 22.3	-1.6
	10nm,0.3s						
UZB	Uzynbulak	3.94	16	Pg	Pb	08 59 35.5	-3.1
	3.5nm,0.4s						
UZB				Lg	Lg	09 00 28.8	
	20nm,0.8s						
UZB	Uzynbulak	3.94	16	eP	Pb	08 59 34.8	-3.8
	1.6nm,0.1s						
UZB				eS	Sb	09 00 27.4	+1.0
	9.0nm,0.3s						
AAK	Ala-Archa	3.99	326	Pg	Pb	08 59 36.4	-3.0
	4.1nm,0.6s						
AAK				Lg	Lg	09 00 25.5	
	14nm,0.7s						
AAK	Ala-Archa	3.99	326	⇑eP	Pn	08 59 31.4	+1.1
AAK				⇑iS	Sn	09 00 18.1	+0.9
AML	Almayashu	4.01	315	⇓eP	Pn	08 59 31.9	+1.1
AML				⇓eS	Sn	09 00 19.1	+1.1
SHLS	Shalkode	4.06	21	Pg	Pb	08 59 39.9	-0.7
	3.5nm,0.3s						
SHLS				Lg	Lg	09 00 35.8	
	20nm,0.7s						
SHLS	Shalkode	4.06	21	eP	Pb	08 59 39.9	-0.7
	0.6nm,0.1s						
SHLS				eS	Sg	09 00 36.3	-2.9
	6.3nm,0.2s						
KURS	Kuram	4.14	7	eP	Pb	08 59 44.3	+2.3
	0.2nm,0.1s						
KURS				eS	Sg	09 00 43.8	+1.8
	9.9nm,0.4s						
PDGK	Podgornoye	4.22	20	⇑Pg	Pb	08 59 43.0	-0.4
	2.4nm,0.6s						
PDGK				⇓Lg	Lg	09 00 37.3	
	25nm,0.7s						
KTBS	Karatobe	4.38	352	Pg	Pb	08 59 42.3	-3.8
	4.7nm,0.7s						
KTBS				Lg	Lg	09 00 40.6	
	13nm,0.5s						
CHKK	Chushkaly	4.50	355	Pg	Pb	08 59 45.0	-3.0
	3.2nm,0.4s						
CHKK				Lg	Lg	09 00 44.9	
	11nm,0.4s						
CHKK	Chushkaly	4.50	355	eP	Pb	08 59 44.3	-3.8
	0.2nm,0.1s						
CHKK				eS	Sb	09 00 43.8	+1.5
	9.9nm,0.4s						
MRKS	Merke	4.68	317	Pg	Pn	08 59 46.1	+6.3
	3.2nm,0.5s						
MRKS				Lg	Lg	09 00 46.6	
	8.4nm,0.4s						
MRKS	Merke	4.68	317	eP	Pn	08 59 46.1	+6.3
	2.1nm,0.2s						
MRKS				eS	Sb	09 00 47.1	-0.6
	6.4nm,0.3s						
ARXS	Arharly	4.84	3	Pg	Pb	08 59 50.4	-3.6
	1.9nm,0.5s						
ARXS				Lg	Lg	09 00 54.6	
	16nm,0.6s						
KK31	Karatay Array	6.47	307	⇑Pg	Pb	09 00 21.0	-0.5
	0.3nm,0.3s,baz=129,slow=15,SNR=4.8						
KK31				⇑Lg	Lg	09 01 46.8	
	4.0nm,0.8s,baz=123,slow=28,SNR=4.6						

NEIC 14 08:58:36.9±0.7,19°.13N±0°.02×155°.56W±0°.03,h42km±3km,
Error ellipse: s-maj=3.7km s-min=2.6km az=105.0
HVO 14 08:58:37.2±0.8,19°.1N±0°.1×155°.54W±0°.09,h45km±4km, ML2.7/39,ML3.0/34(NEIC),Error ellipse: s-maj=22.9km s-min=2.9km az=147.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	Honuapo	0.03	336		Pn	08 58 43.9	-0.4
KHU	Kahuku	0.20	339		Pn	08 58 44.4	-1.0
HTC	Hot Caves	0.22	37		Pn	08 58 44.5	-0.7
HLP	Hilina Pali	0.32	43		Pn	08 58 45.7	-0.5
HLP					Sn	08 58 51.2	-1.3
HLP				IAML		08 59 03.7	
	comp=N,1μm,0.8s						
SDHHI	Sand Hill	0.40	35		Pn	08 58 45.8	-1.4
SDHHI					Sn	08 58 52.8	-1.4
WRMHI	West Rim	0.41	33		Pn	08 58 45.7	-1.6
WRMHI					Sn	08 58 52.3	-2.1
RIM	Rim	0.42	37		Pn	08 58 45.8	-1.6
RIM					Sn	08 58 52.8	-1.7
KKO	Keanakako'i	0.42	38		Pn	08 58 45.9	-1.6
KKO					Sn	08 58 52.9	-1.7
MWH	Mokuaweoweo	0.43	353		Pn	08 58 46.2	-1.6
MWH				IAML		08 58 57.8	
	comp=N,891nm,1.0s						
UWE	Uwekahuna	0.43	33		Pn	08 58 46.4	-1.1
UWE				IAML		08 59 00.2	
	comp=N,1μm,0.6s						
OBL	Observatory Le	0.43	34		Pn	08 58 46.5	-1.0
OBL					Sn	08 58 53.5	-1.2
PUH	Pauahi	0.44	44		Pn	08 58 46.1	-1.4
PUH					Sn	08 58 53.2	-1.7
PUH				IAML		08 59 01.4	
	comp=E,832nm,1.1s						
PUH				IAML		08 59 09.2	
	comp=N,846nm,1.0s						
BYL	Byron's Ledge	0.44	37		Pn	08 58 46.1	-1.5
BYL				IAML		08 59 03.6	
	comp=N,861nm,1.1s						
UWB	Uwekahuna Bluf	0.44	34		Pn	08 58 46.2	-1.4
SBLHI	Steaming Bluff	0.45	35		Pn	08 58 46.3	-1.4
SBLHI					Sn	08 58 53.5	-1.6
HATHI	Halema'uma'u T	0.45	36		Pn	08 58 45.9	-1.7
HATHI				IAML		08 58 58.8	
	comp=N,1μm,0.9s						
HATHI				IAML		08 59 04.7	
	comp=E,1μm,0.9s						
MLH	Mauna Loa	0.46	19		Pn	08 58 46.2	-1.7
MLH					Sn	08 58 47.3	-8.1
MLH				IAML		08 59 00.3	
	comp=E,733nm,1.4s						
RSD	Rainshed	0.47	32		Pn	08 58 45.8	-2.2
RSD	Rainshed	0.47	32		Sn	08 58 53.9	-1.8
KNHH	Kane Nui o Ham	0.47	48		Pn	08 58 46.6	-1.4
ALEP	Alea Permanent	0.49	348		Pn	08 58 47.3	-1.2
STCH	Steam Cracks	0.51	50		Pn	08 58 47.2	-1.2
STCH				Sn	Sn	08 58 55.9	-0.4
STCH				IAML		08 58 56.6	
	comp=E,806nm,0.6s						
JCUZ	Jacuzzi	0.53	52		Pn	08 58 47.6	-1.0
JCUZ					Sn	08 58 56.2	-0.5
NPOC	North of Pu'u	0.53	51		Pn	08 58 47.4	-1.1
NPOC					Sn	08 58 56.3	-0.4
HMH	Humu'ula Sheep	0.54	6		Pn	08 58 47.5	-1.6
HMH				IAML		08 58 56.6	
	comp=N,892nm,0.9s						
CPH	Captain Cook	0.56	320		Pn	08 58 47.6	-1.4
JOKA	Jonika Flow	0.63	54		Pn	08 58 49.0	-0.9
JOKA				IAML		08 58 59.2	
	comp=E,563nm,1.3s						
HUH	Hualalai	0.68	336		Pn	08 58 49.5	-1.2
HUH				IAML		08 58 59.8	
	comp=N,732nm,0.9s						
HUH				IAML		08 59 09.6	
	comp=E,604nm,0.5s						

IDC 14 09:00:10.2±0.5,27°.33N×140°.28E,h437km±6km,mb3.1/11,
mbtmp4.0/15,Error ellipse: s-maj=17.1km s-min=11.9km
az=74.0
JMA 14 09:00:11.4±0.4,27°N±2°×14°0E±°,h446km±4km,MV3.8/31,
W OFF OGASAWARA
ISC 14 09:00:11.3±0.7,27°.39N±0°.07×140°.3E±0°.1,h450km,n33, σ1§41/37,mb3.3/11,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.70	99	eP	P	09 01 10.5	+0.3
CBIJ				eS	S	09 01 56.3	-1.7
JCJ	Chichijima	1.70	99	P	P	09 01 09.8	-0.4
	36nm,0.3s,baz=276,slow=19,SNR=14						
JCJ				S	S	09 01 54.4	-3.6
	106nm,0.3s,baz=290,slow=22,SNR=18						
JHH2	Haha-jima-NKT2	1.83	114	eS	S	09 01 58.9	-0.3
JHJ2	Mitsune	5.72	356	eP	P	09 01 43.1	+0.5
JHJ	Hachijo jima 2	5.73	356	P	P	09 01 43.0	+0.2
	61nm,0.3s,baz=252,slow=20,SNR=9.7						
JHJ				S	S	09 02 53.7	-3.8
	76nm,0.5s,baz=247,slow=17,SNR=1.3						
BSO1	Boso 1	7.27	4	eP	P	09 01 59.6	+1.5
BSO1				eS	S	09 03 24.8	-1.0
BSO3	Boso 3	7.40	1	eS	S	09 03 27.9	-0.9
JIE	Ise	7.64	337	eP	P	09 02 05.2	+2.6
JOD2	Odawara 2	7.92	353	eP	P	09 02 07.0	+1.3
JRY	Ryogami san	8.69	352	eP	P	09 02 15.4	+1.4
JYT	Yasato	8.82	359	eP	P	09 02 16.2	+0.9
JAG	Ashikaga	9.04	356	eP	P	09 02 17.2	-0.7
JHO	Hitachi	9.20	1	eP	P	09 02 20.2	+0.7
MJAR	Matsushiro Arr	9.30	349	P	P	09 02 20.4	-0.3
	0.6nm,0.4s,baz=262,slow=7.3,SNR=5.7						
JAMN	Amaminishikomi	9.89	278	eP	P	09 02 29.0	+1.8
JNU	Nakatsue	9.95	307	P	P	09 02 29.2	+1.3
	7.8nm,1.0s,baz=47,slow=5.5,SNR=7.1						
JFK	Kawauchi	9.96	3	eP	P	09 02 29.3	+1.4
JSJ	Shimokoshiki	10.17	297	eP	P	09 02 31.2	+1.0
JOW	Kunigami	10.73	270	P	P	09 02 37.0	+0.6
	49nm,0.7s,baz=111,slow=20,SNR=12						
JOW	Kunigami	10.73	270	eP	P	09 02 37.4	+1.0
CMAR	Chiang Mai Arr	38.97	266	P	P	09 06 56.8	-0.7
	0.2nm,0.4s,baz=56,slow=7.5,SNR=1.4						
	0.2nm,0.4s						
WRA	Warramunga Arr	47.40	188	P	P	09 08 03.1	-0.5
	0.9nm,0.3s,baz=6.2,slow=7.7,SNR=34						
	0.9nm,0.3s						
ASAR	Alice Springs	51.13	188	P	P	09 08 30.7	-0.6
	0.5nm,0.4s,baz=5.3,slow=6.3,SNR=11						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	51.64	314	P	P	09 08 34.6	-0.1
	0.5nm,0.4s,baz=91,slow=7.9,SNR=6.0						
	0.5nm,0.4s						
BVAR	Borovoye Array	56.70	317	P	P	09 09 10.6	+0.1
	1.8nm,0.4s,baz=84,slow=7.9,SNR=9.3						
	1.8nm,0.4s						
YKA	Yellowknife Ar	72.68	28	P	P	09 10 52.9	+1.1
	0.3nm,0.6s,baz=300,slow=6.1,SNR=8.7						
	0.3nm,0.6s						
FINES	FINESS Array B	76.94	333	P	P	09 11 15.8	-0.1
	1.6nm,0.4s,baz=65,slow=5.0,SNR=28						
	1.6nm,0.4s						
AKASG	Malin Array Be	81.39	323	P	P	09 11 38.2	-1.7
	0.2nm,0.3s,baz=46,slow=6.6,SNR=3.0						
	0.2nm,0.3s						
NVAR	Mina Array Bea	81.65	51	P	P	09 11 43.7	+2.0
	0.2nm,0.6s,baz=333,slow=9.1,SNR=2.7						
	0.2nm,0.6s						
HFS	Hagfors	82.49	336	P	P	09 11 44.8	-0.5
	0.5nm,0.3s,baz=101,slow=3.0,SNR=7.5						
	0.5nm,0.3s						
NOA	NORSAR Array B	82.72	338	P	P	09 11 45.7	-0.8
	0.5nm,0.5s,baz=26,slow=0.5,SNR=3.3						
	0.5nm,0.5s						
PLCA	Paso Flores	151.34	126	PKPbc	PKPbc	09 19 12.9	-0.3
	2.0nm,1.1s,baz=277,slow=4.5,SNR=3.3						
LPAZ	La Paz	151.46	73	PKPbc	PKiKP	09 19 15.9	+0.7
	1.1nm,0.8s,baz=14,slow=0.1,SNR=4.0						

NEIC 14 09:00:43.5±0.5,19°.14N±0°.04×155°.50W±0°.03,h41km±4km,
Error ellipse: s-maj=6.4km s-min=3.8km az=156.0
HVO 14 09:00:44.4±0.5,19°.10N±0°.05×155°.47W±0°.02,h39km±3km, ML2.7/37,ML3.0/30(NEIC),Error ellipse: s-maj=7.5km s-min=1.7km az=164.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	Honuapo	0.08	264		Pn	09 00 50.3	-0.6
HPO					Sn	09 00 54.8	-0.6
HTC	Hot Caves	0.15	26		Pn	09 00 50.9	-1.6
KHU	Kahuku	0.20	317		Pn	09 00 50.9	-1.7
KHU	Kahuku	0.20	317	IAML		09 01 02.3	
	comp=E,1μm,1.2s						
HLP	Hilina Pali	0.25	38		Pn	09 00 51.6	-0.9
HLP					Sn	09 00 56.6	-1.9
HLP	Hilina Pali	0.25	38	IAML		09 01 01.1	
	comp=E,2μm,0.7s						
HLP				IAML		09 01 07.9	
	comp=N,1μm,0.7s						
SDHHI	Sand Hill	0.33	30		Pn	09 00 52.1	-1.0
WRMHI	West Rim	0.35	28		Pn	09 00 52.1	-1.2
RIM	Rim	0.35	32		Pn	09 00 52.2	-1.1
KKO	Keanakako'i	0.35	33		Pn	09 00 52.4	-1.0
UWE	Uwekahuna	0.36	27		Pn	09 00 52.5	-1.0
PUH	Pauahi	0.36	41		Pn	09 00 52.2	-1.3
PUH	Pauahi	0.36	41	IAML		09 01 05.1	
	comp=N,1μm,0.7s						
PUH				IAML		09 01 05.2	
	comp=E,877nm,0.6s						
BYL	Byron's Ledge	0.37	32		Pn	09 00 52.4	-1.2
BYL	Byron's Ledge	0.37	32	IAML		09 01 03.8	
	comp=N,877nm,0.7s						
UWB	Uwekahuna Bluf	0.37	29		Pn	09 00 52.3	-1.3
HATHI	Halema'uma'u T	0.38	31		Pn	09 00 52.4	-1.2
HATHI	Halema'uma'u T	0.38	31	IAML		09 01 02.2	
	comp=N,1μm,0.8s						
SBLHI	Steaming Bluff	0.38	30		Pn	09 00 52.4	-1.3
SBLHI					Sn	09 00 58.9	-1.3
KNHH	Kane Nui o Ham	0.40	45		Pn	09 00 52.8	-1.1
MLH	Mauna Loa	0.40	11		Pn	09 00 53.0	-1.1
MLH					Sn	09 00 59.2	-1.7
MLH	Mauna Loa	0.40	11	IAML		09 01 08.7	
	comp=E,969nm,0.6s						
MLH				IAML		09 01 10.0	
	comp=N,883nm,0.7s						
MWH	Mokuaweoweo	0.40	343	Pn	Pn	09 00 52.6	-1.8
RSD	Rainshed	0.41	26	Pn	Pn	09 00 52.2	-1.8
STCH	Steam Cracks	0.43	49		Pn	09 00 53.1	-1.2
STCH	Steam Cracks	0.43	49	IAML		09 01 02.5	
	comp=E,681nm,0.6s						
STCH				IAML		09 01 07.8	
	comp=N,682nm,0.6s						
JCUZ	Jacuzzi	0.45	51		Pn	09 00 53.7	-0.9
NPOC	North of Pu'u	0.45	49		Pn	09 00 53.4	-1.1
HMH	Humu'ula Sheep	0.50	359		Pn	09 00 54.2	-1.3
JOKA	Jonika Flow	0.55	53		Pn	09 00 54.4	-1.5
JOKA	Jonika Flow	0.55	53	IAML		09 01 06.0	
	comp=N,692nm,0.7s						

IDC 14 09:06:47.4±1.2,19°.87N×121°.43E,h0km,mb3.2/5,
mbtmp3.4/7,ML3.7/2,Error ellipse: s-maj=32.5km
s-min=22.7km az=72.0
**ISC 14 09:06:52.4±1.1,20°.0N±0°.1×121°.6E±0°.1,h40km,n13, σ1§43/8,mb3.

baz=278
ASAR Alice Springs 45.01 164 P **P 09 15 04.5 +0.3**
0.5nm,1.0s,baz=357,slow=7.7,SNR=4.3
0.5nm,1.0s
KURBB Kurchatov Arra 45.60 323 P **P 09 15 10.0 +1.5**
0.2nm,0.4s,baz=113,slow=7.1,SNR=2.1
0.2nm,0.4s

---

*NEIC **14** 09:08:23.0±0.5, 19°.13N±0°.04×155°.42W±0°.03, h47km±3km, Error ellipse: s-maj=6.5km s-min=3.2km az=152.0*
HVO 14 09:08:23.7±0.5, 19°.06N±0°.06×155°.41W±0°.04, h46km±4km, ML2.9/25, ML3.1/40(NEIC), Error ellipse: s-maj=10.2km s-min=3.7km az=154.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.14**	**281**		Pn	09 08 30.7	-0.4
HPO					Sn	09 08 35.5	-0.9
HTC	**Hot Caves**	**0.17**	**5**		Pn	09 08 30.9	-0.6
HLP	**Hilina Pali**	**0.25**	**23**		Pn	09 08 31.4	-0.7
HLP					Sn	09 08 37.4	-0.6
HLP	**Hilina Pali**	**0.25**	**23**	IAML		09 08 39.2	
	comp=E,3μm,1.0s						
HLP				IAML		09 08 45.5	
	comp=N,3μm,0.9s						
KHU	**Kahuku**	**0.26**	**314**		Pn	09 08 31.3	-1.0
KHU					Sn	09 08 36.8	-1.7
KHU	**Kahuku**	**0.26**	**314**	IAML		09 08 39.0	
	comp=E,1μm,0.8s						
KHU				IAML		09 08 39.6	
	comp=N,1μm,1.0s						
SDHHI	**Sand Hill**	**0.34**	**19**		Pn	09 08 32.0	-1.0
SDHHI					Sn	09 08 37.4	-2.2
RIM	**Rim**	**0.35**	**22**		Pn	09 08 32.0	-1.1
RIM					Sn	09 08 38.5	-1.3
WRMHI	**West Rim**	**0.36**	**17**		Pn	09 08 32.1	-1.1
KKO	**Keanakako'i**	**0.36**	**23**		Pn	09 08 32.1	-1.1
KKO					Sn	09 08 38.8	-1.2
PUH	**Pauahi**	**0.36**	**31**		Pn	09 08 32.1	-1.1
PUH					Sn	09 08 38.7	-1.2
PUH	**Pauahi**	**0.36**	**31**	IAML		09 08 38.9	
	comp=E,726nm,0.8s						
PUH				IAML		09 08 40.8	
	comp=N,952nm,0.7s						
OBL	**Observatory Le**	**0.37**	**19**		Pn	09 08 32.2	-1.2
OBL					Sn	09 08 38.8	-1.4
UWE	**Uwekahuna**	**0.37**	**18**		Pn	09 08 32.2	-1.2
UWE					Sn	09 08 39.0	-1.2
BYL	**Byron's Ledge**	**0.38**	**23**		Pn	09 08 31.7	-1.7
BYL				IAML		09 08 41.3	
	comp=E,1μm,0.8s						
BYL				IAML		09 08 44.5	
	comp=N,996nm,1.2s						
UWB	**Uwekahuna Bluf**	**0.38**	**20**		Pn	09 08 32.1	-1.3
HATHI	**Halema'uma'u T**	**0.39**	**22**		Pn	09 08 32.1	-1.3
HATHI	**Halema'uma'u T**	**0.39**	**22**	IAML		09 08 44.8	
	comp=N,2μm,1.0s						
SBLHI	**Steaming Bluff**	**0.39**	**21**		Pn	09 08 32.2	-1.3
KNHH	**Kane Nui o Ham**	**0.39**	**36**		Pn	09 08 32.5	-1.0
RSD	**Rainshed**	**0.42**	**18**		Pn	09 08 32.4	-1.5
RSD					Sn	09 08 39.5	-1.5
STCH	**Steam Cracks**	**0.42**	**40**		Pn	09 08 32.6	-1.3
MLH	**Mauna Loa**	**0.43**	**3**		Pn	09 08 32.9	-1.2
MLH					Sn	09 08 39.4	-2.1
MLH	**Mauna Loa**	**0.43**	**3**	IAML		09 08 40.6	
	comp=E,1μm,1.0s						
MLH				IAML		09 08 47.4	
	comp=N,1μm,0.9s						
JCUZ	**Jacuzzi**	**0.43**	**43**		Pn	09 08 32.9	-1.1
NPOC	**North of Pu'u**	**0.44**	**41**		Pn	09 08 33.0	-1.0
MWH	**Mokuaweoweo**	**0.45**	**338**		Pn	09 08 33.4	-1.3
MWH					Sn	09 08 40.2	-2.2
MWH	**Mokuaweoweo**	**0.45**	**338**	IAML		09 08 40.8	
	comp=N,1μm,0.9s						
MWH				IAML		09 08 42.0	
	comp=E,2μm,1.0s						
MLOA	**Mauna Loa Obse**	**0.49**	**342**	Pn	Pn	09 08 33.4	-1.6
ALEP	**Alea Permanent**	**0.52**	**335**		Pn	09 08 33.9	-1.4
JOKA	**Jonika Flow**	**0.53**	**46**		Pn	09 08 33.7	-1.4
JOKA	**Jonika Flow**	**0.53**	**46**	IAML		09 08 51.9	
	comp=N,961nm,1.1s						
HMH	**Humu'ula Sheep**	**0.54**	**353**		Pn	09 08 34.5	-1.0
HMH					Sn	09 08 41.3	-2.6
HMH	**Humu'ula Sheep**	**0.54**	**353**	IAML		09 08 42.9	
	comp=E,2μm,0.6s						
HMH				IAML		09 08 46.9	
	comp=N,1μm,0.2s						
CPH	**Captain Cook**	**0.64**	**312**		Pn	09 08 34.6	-1.9
POHA	**Pohakuloa**	**0.70**	**351**		Sn	09 08 43.9	-3.5
HUH	**Hualalai**	**0.73**	**327**	Pn	Pn	09 08 36.9	-1.1
HUH				IAML		09 08 55.8	
	comp=E,920nm,0.4s						
HPAH	**Hawaii Prepara**	**1.00**	**345**		Pn	09 08 39.9	-1.5
HPAH	**Hawaii Prepara**	**1.00**	**345**	IAML		09 08 51.0	
	comp=E,328nm,0.2s						
HPAH				IAML		09 08 51.6	
	comp=N,534nm,0.9s						

---

*CATAC **14** 09:14:40.0±0.6, 13°.N±4°×8°.9W±°, h33km±6km, M3.7/32, MLv3.7/32, Error ellipse: s-maj=10.9km s-min=3.3km az=34.3, confirmed*
*SNET **14** 09:14:41.1±1.3, 12°.97N×88°.90W, h52km, ML3.8*
*GCG **14** 09:14:41.4±0.7, 12°.97N×88°.91W, h33km±3km, MD4.2*
ISC 14 09:14:39.8±1.5, 12°.87N±0°.06×88°.93W±0°.03, h33km±12km, n90, σ0.62/107, 1C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.58**	**38**	*eP*	**Pn**	**09 14 52.8**	**+1.1**
ALJI				*eS*	**Sn**	**09 15 00.8**	**+0.7**
ALJI	**Alcalda de J**	**0.58**	**38**	P	**Pn**	**09 14 52.8**	**+1.1**
TECO	**Alcaldia de Te**	**0.68**	**12**	*eP*	**Pn**	**09 14 53.7**	**+0.5**
TECO				*e*		09 14 53.7	
TECO				*eS*	**Sn**	**09 15 02.3**	**-0.4**
TECO	**Alcaldia de Te**	**0.68**	**12**	P	**Pn**	**09 14 53.7**	**+0.5**
LALI	**Alcalda de L**	**0.72**	**328**	*eP*	**Pb**	**09 14 54.4**	**+0.5**
LALI				*eS*	**Sn**	**09 15 03.5**	**-0.2**
LALI	**Alcalda de L**	**0.72**	**328**	*eP*	**Pb**	**09 14 54.4**	**+0.5**
LALI				*eS*	**Sn**	**09 15 03.7**	**0.0**
LALI	**Alcalda de L**	**0.72**	**328**	P	**Pb**	**09 14 54.5**	**+0.5**
SNVI	**San Vicente**	**0.74**	**7**	*eP*	**Pb**	**09 14 54.7**	**+0.2**
COEG	**Centro de Oper**	**0.75**	**4**	*eP*	**Pb**	**09 14 54.6**	**+0.1**
COEG				*i* Sg	**Sn**	**09 15 03.9**	**-0.6**
COEG	**Centro de Oper**	**0.75**	**4**	P	**Pb**	**09 14 54.6**	**+0.1**
TECA	**Tecapa**	**0.75**	**34**	*eP*	**Pb**	**09 14 55.0**	**+0.4**
LFRS	**El Faro**	**0.76**	**350**	*eP*	**Pb**	**09 14 54.8**	**0.0**
UESV	**Universidad de**	**0.78**	**10**	*eP*	**Pb**	**09 14 55.1**	**+0.2**
UESV				*eS*	**Sn**	**09 15 04.1**	**-1.0**
UESV	**Universidad de**	**0.78**	**10**	P	**Pb**	**09 14 55.1**	**+0.2**
PANCS	**Alcalda de**	**0.78**	**342**	*eP*	**Pb**	**09 14 55.2**	**+0.3**
LOMA	**Loma Larga**	**0.81**	**343**	*eP*	**Pb**	**09 14 55.4**	**0.0**
LOMA	**Loma Larga**	**0.81**	**343**	P	**Pb**	**09 14 55.4**	**0.0**
LCY	**Lacayo**	**0.83**	**48**	*eP*	**Pb**	**09 14 56.1**	**+0.2**
PQSS	**Presa 15 de Se**	**0.83**	**26**	*eP*	**Pb**	**09 14 56.1**	**+0.2**
PQSS	**Presa 15 de Se**	**0.83**	**26**	P	**Pb**	**09 14 56.1**	**+0.2**
PAVA	**Las Pavas**	**0.84**	**360**	*eP*	**Pb**	**09 14 56.1**	**+0.1**
PAVA				*eS*	**Sb**	**09 15 06.5**	**-0.6**
PAVA	**Las Pavas**	**0.84**	**360**	P	**Pb**	**09 14 55.7**	**-0.3**
PACA	**Pacayal**	**0.84**	**45**	*eP*	**Pb**	**09 14 56.4**	**+0.4**
PACA				*eS*	**Sb**	**09 15 07.7**	**+0.5**
PACA	**Pacayal**	**0.84**	**45**	P	**Pb**	**09 14 56.4**	**+0.4**
RANC	**El Ranchito**	**0.84**	**48**	*eP*	**Pb**	**09 14 56.2**	**+0.1**
RANC	**El Ranchito**	**0.84**	**48**	P	**Pb**	**09 14 56.2**	**+0.1**
AEIL	**Aeropuerto Ilo**	**0.84**	**348**	*eP*	**Pb**	**09 14 56.0**	**0.0**
VSM	**San Miguel**	**0.85**	**49**	*eP*	**Pb**	**09 14 56.5**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.85**	**13**	*eP*	**Pb**	**09 14 56.3**	**+0.1**
SCLA				*eS*	**Sb**	**09 15 06.8**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.85**	**13**	P	**Pb**	**09 14 56.2**	**0.0**
UTEC	**Universidad Te**	**0.87**	**342**	*eP*	**Pb**	**09 14 56.6**	**+0.1**
UTEC	**Universidad Te**	**0.87**	**342**	P	**Pb**	**09 14 56.3**	**-0.1**
ITCA	**Escuela Especi**	**0.87**	**337**	*eP*	**Pb**	**09 14 56.4**	**-0.1**
ITCA	**Escuela Especi**	**0.87**	**337**	P	**Pn**	**09 14 56.2**	**+0.4**
UDBS	**Universidad Do**	**0.87**	**346**	*eP*	**Pb**	**09 14 56.4**	**-0.1**
SEMO	**Seminario San**	**0.88**	**341**	*eP*	**Pb**	**09 14 56.3**	**-0.3**
SEMO	**Seminario San**	**0.88**	**341**	P	**Pb**	**09 14 56.3**	**-0.3**
BLLM	**Bellamira**	**0.88**	**50**	*eP*	**Pb**	**09 14 56.7**	**-0.1**
UESS	**Universidad de**	**0.89**	**343**	*eP*	**Pb**	**09 14 56.7**	**-0.1**
LFU	**La Fuente**	**0.89**	**349**	*eP*	**Pb**	**09 14 56.8**	**-0.1**
UEES	**Universidad Ev**	**0.89**	**340**	*eP*	**Pb**	**09 14 56.7**	**-0.3**
UEES				*i* Sg	**Sb**	**09 15 08.0**	**-0.6**
UEES	**Universidad Ev**	**0.89**	**340**	P	**Pb**	**09 14 56.6**	**-0.3**
UEES	**Universidad Ev**	**0.89**	**340**	S	**Sb**	**09 15 09.0**	**+0.4**
PMON	**Piamonte**	**0.92**	**336**	*eP*	**Pb**	**09 14 57.1**	**-0.3**
PMON				*eS*	**Sn**	**09 15 08.0**	**-0.6**
PMON	**Piamonte**	**0.92**	**336**	P	**Pb**	**09 14 57.0**	**-0.3**
PMON	**Piamonte**	**0.92**	**336**	S	**Sb**	**09 15 09.4**	**+0.1**
BOQS	**Boqueron**	**0.93**	**339**	*eP*	**Pb**	**09 14 57.4**	**-0.1**
BOQS				*eS*	**Sb**	**09 15 09.2**	**-0.4**
PIC2	**El Picacho**	**0.93**	**340**	*eP*	**Pb**	**09 14 57.6**	**0.0**
JAYA	**Jayaque - finc**	**0.93**	**327**	*eP*	**Pn**	**09 14 57.4**	**+0.7**
JAYA	**Jayaque - finc**	**0.93**	**327**	*eP*	**Pn**	**09 14 57.1**	**+0.4**
JAYA				*eS*	**Sb**	**09 15 09.1**	**-0.6**
JAYA	**Jayaque - finc**	**0.93**	**327**	P	**Pn**	**09 14 57.1**	**+0.4**
CNRM	**Centro Naciona**	**0.95**	**51**	*eP*	**Pb**	**09 14 57.8**	**-0.2**
CNRM	**Centro Naciona**	**0.95**	**51**	P	**Pb**	**09 14 57.7**	**-0.2**
CNRM	**Centro Naciona**	**0.95**	**51**	S	**Sb**	**09 15 10.8**	**+0.5**
CEDA	**San Andres**	**1.03**	**334**	*eP*	**Pn**	**09 14 58.5**	**+0.5**
CEDA				*eS*	**Sb**	**09 15 11.6**	**-0.9**
CEDA	**San Andres**	**1.03**	**334**	P	**Pn**	**09 14 58.6**	**+0.5**
LCND	**La Caada**	**1.10**	**67**	*eP*	**Pn**	**09 14 59.8**	**+0.8**
LCND				*eP*	**Pb**	**09 15 00.0**	**-0.4**
LCND	**La Caada**	**1.10**	**67**	P	**Pn**	**09 14 59.6**	**+0.6**
CAHU	**Cacacuatique**	**1.14**	**38**	*eP*	**Pn**	**09 15 00.1**	**+0.4**
CNCH	**Conchagua**	**1.14**	**69**	*eP*	**Pn**	**09 15 00.2**	**+0.6**
CNCH	**Conchagua**	**1.14**	**69**	P	**Pn**	**09 15 00.3**	**+0.6**
CEVE	**Cerro Verde**	**1.17**	**325**	*eP*	**Pb**	**09 15 01.4**	**-0.1**
CEVE				*eS*	**Sb**	**09 15 16.4**	**-0.1**
CEVE	**Cerro Verde**	**1.17**	**325**	P	**Pb**	**09 15 01.9**	**+0.3**
SBLS	**San Blas**	**1.18**	**325**	*eP*	**Pb**	**09 15 01.4**	**-0.4**
SNJE	**San Jose**	**1.19**	**327**	*eP*	**Pn**	**09 15 01.1**	**+0.8**
UNIC	**Universidad Ca**	**1.26**	**332**	*eP*	**Pn**	**09 15 02.0**	**+0.8**
UNIC	**Universidad Ca**	**1.26**	**332**	P	**Pn**	**09 15 02.2**	**+1.0**
LLGN	**La Laguna**	**1.29**	**359**	*eP*	**Pn**	**09 15 02.0**	**+0.4**
LLGN	**La Laguna**	**1.29**	**359**	P	**Pn**	**09 15 01.9**	**+0.3**
CSGN	**Cosiguina Volc**	**1.34**	**85**	P	**Pn**	**09 15 03.2**	**+0.9**
POTN	**Potosi Cosigui**	**1.40**	**84**	P	**Pn**	**09 15 04.4**	**+1.4**
SLOZ	**Alcaldia de Sa**	**1.42**	**324**	*eP*	**Pn**	**09 15 04.2**	**+0.8**
SLOZ	**Alcaldia de Sa**	**1.42**	**324**	P	**Pn**	**09 15 04.1**	**+0.8**
MARCA	**Marcala la Paz**	**1.55**	**34**	*eP*	**Pn**	**09 15 05.7**	**+0.5**
MARCA				*eS*	**Sb**	**09 15 24.8**	**-2.5**
MTO3	**Montecristo**	**1.58**	**345**	*eP*	**Pn**	**09 15 05.9**	**+0.2**
MTO3	**Montecristo**	**1.58**	**345**	*eP*	**Pn**	**09 15 06.2**	**+0.5**
MTO3	**Montecristo**	**1.58**	**345**	P	**Pn**	**09 15 06.1**	**+0.5**
ESQI	**Esquipulas**	**1.73**	**347**	*eP*	**Pn**	**09 15 08.5**	**+0.8**
ESQI	**Esquipulas**	**1.73**	**347**	P	**Pn**	**09 15 08.4**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.00**	**54**	P	**Pn**	**09 15 12.0**	**+0.6**
POLN	**Al Sur del Vol**	**2.08**	**96**	P	**Pn**	**09 15 12.1**	**-0.3**
ROCN	**Rota Cerro Neg**	**2.16**	**99**	P	**Pn**	**09 15 11.1**	**-2.4**
ILCN	**San Idelfonso**	**2.20**	**97**	P	**Pn**	**09 15 14.9**	**+0.9**
CNGA	**Al SSO del Vol**	**2.21**	**99**	P	**Pn**	**09 15 14.9**	**+0.7**
CNGN	**Cerro Negro**	**2.21**	**99**	P	**Pn**	**09 15 14.8**	**+0.6**
MOMN	**Momotombo**	**2.38**	**101**	P	**Pn**	**09 15 17.3**	**+0.7**
COPN	**Copaltepe**	**2.39**	**106**	P	**Pn**	**09 15 16.9**	**+0.2**
RCVN	**Varillal2**	**2.76**	**75**	P	**Pn**	**09 15 22.4**	**+0.5**
RCPN	**Sur Rio San Ju**	**2.84**	**76**	P	**Pn**	**09 15 23.8**	**+0.8**
MATN	**Matagalpa**	**2.93**	**88**	P	**Pn**	**09 15 23.8**	**-0.5**

IDC 14 09:17:28.9±2.2, 6°.21S×129°.64E, h0km, mb3.7/1, mbtmp3.6/4, ML3.7/3, MS3.2/2, Error ellipse: s-maj=93.6km s-min=28.0km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.44**	**198**	Pn	Pn	09 20 29.6	+2.2
	0.2nm,0.3s,baz=27,slow=10,SNR=12						
FITZ				Sn	Sn	09 22 34.0	-13
	0.3nm,0.3s,baz=24,slow=20,SNR=3.4						
	2.1nm,1.1s						
WRA	**Warramunga Arr**	**14.40**	**162**	Pn	Pn	09 20 53.4	-0.8
	0.4nm,0.3s,baz=341,slow=13,SNR=14						
WRA				Sn	Sn	09 23 19.1	-16
	0.6nm,0.3s,baz=347,slow=23,SNR=8.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**17.84**	**167**	P	Pn	09 21 37.5	-1.2
	0.3nm,0.3s,baz=346,slow=10,SNR=29						
ASAR				S	Sn	09 24 41.5	-17
	0.3nm,1.0s,baz=335,slow=17,SNR=1.3						
	1.2nm,0.5s						
USRK	**Uesuriysk Ar.**	**50.22**	**2**	LR	LR	09 48 33.2	
	comp=Z,18nm,20.4s,baz=166,slow=37						
MKAR	**Makanchi Array**	**67.37**	**327**	P	P	09 28 26.1	0.0
	0.4nm,0.5s,baz=120,slow=7.2,SNR=5.8						
	0.4nm,0.5s						
NRIK	**Noril'sk**	**80.71**	**346**	LR	LR	10 08 01.0	
	comp=Z,20nm,19.1s,baz=122,slow=38						

---

*NEIC **14** 09:21:20.2±0.9, 19°.1N±0°.1×155°.4W±0°.1, h35km±2km, Error ellipse: s-maj=26.3km s-min=6.0km az=133.0*
HVO 14 09:21:20.8±0.6, 19°.10N±0°.04×155°.40W±0°.05, h41km±3km, ML2.6/20, ML2.9/26(NEIC), Error ellipse: s-maj=8.2km s-min=2.8km az=131.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.14**	**2**		Pn	09 21 27.0	-0.8
HPO	**Honuapo**	**0.14**	**266**		Pn	09 21 27.1	-0.7
HLP	**Hilina Pali**	**0.22**	**24**	Pn	Pn	09 21 27.5	-0.9
HLP				IAML		09 21 42.8	
	comp=N,1μm,0.6s						
HLP	**Hilina Pali**	**0.22**	**24**		Sn	09 21 32.8	-0.9
KHU	**Kahuku**	**0.25**	**306**		Pn	09 21 28.0	-0.9
KHU				IAML		09 21 34.9	
	comp=N,1μm,0.9s						
KHU				IAML		09 21 36.5	
	comp=E,1μm,1.1s						
SDHHI	**Sand Hill**	**0.31**	**20**		Pn	09 21 28.1	-1.2
SDHHI					Sn	09 21 34.4	-1.0
RIM	**Rim**	**0.32**	**22**		Pn	09 21 28.6	-0.9
RIM					Sn	09 21 34.5	-1.0
WRMHI	**West Rim**	**0.32**	**18**		Pn	09 21 28.4	-1.1
WRMHI					Sn	09 21 34.7	-0.9
KKO	**Keanakako'i**	**0.32**	**23**		Pn	09 21 28.6	-1.0
PUH	**Pauahi**	**0.33**	**33**	Pn	Pn	09 21 28.3	-1.3
PUH				IAML		09 21 41.6	
	comp=N,715nm,1.1s						
PUH	**Pauahi**	**0.33**	**33**		Sn	09 21 34.5	-1.2
OBL	**Observatory Le**	**0.34**	**19**		Pn	09 21 28.6	-1.1
UWE	**Uwekahuna**	**0.34**	**18**		Pn	09 21 28.3	-1.4
UWE				IAML		09 21 39.6	
	comp=N,1μm,1.0s						
UWB	**Uwekahuna Bluf**	**0.34**	**20**		Pn	09 21 29.5	-0.3
HATHI	**Halema'uma'u T**	**0.35**	**23**		Pn	09 21 28.4	-1.4
HATHI	**Halema'uma'u T**	**0.35**	**23**	IAML		09 21 39.8	
	comp=N,916nm,0.7s						
SBLHI	**Steaming Bluff**	**0.35**	**21**		Pn	09 21 28.6	-1.2
KNHH	**Kane Nui o Ham**	**0.36**	**38**		Pn	09 21 28.5	-1.4
MLH	**Mauna Loa**	**0.39**	**2**		Pn	09 21 29.4	-1.1
MLH				IAML		09 21 42.1	
	comp=N,677nm,0.9s						
JOKA	**Jonika Flow**	**0.50**	**48**		Pn	09 21 30.4	-1.2
JOKA	**Jonika Flow**	**0.50**	**48**	IAML		09 21 38.8	
	comp=N,666nm,0.9s						
JOKA				IAML		09 21 42.8	
	comp=E,305nm,1.0s						
POHA	**Pohakuloa**	**0.67**	**349**	Pn	Pn	09 21 33.0	-1.0
POHA				IAML		09 21 42.0	
	comp=E,603nm,0.8s						
HUH	**Hualalai**	**0.71**	**325**	Pn	Pn	09 21 34.4	-0.3

---

*MEX **14** 09:22:02.4±0.7, 15°.69N×92°.87W, h124km±7km, MD3.9*
*GCG **14** 09:22:02.3±1.2, 15°.62N×92°.91W, h111km±16km, MD4.1, MW2.6*
ISC 14 09:21:59.9±1.6, 15°.57N±0°.05×92°.97W±0°.05, h132km±11km, n19, σ1.56/34, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.27**	**299**	*eP*	**Pn**	**09 22 18.7**	**+0.5**
PCIG				*eS*	**Sn**	**09 22 31.3**	**-0.7**
PATR	**El Naranjo**	**0.85**	**122**	*eP*	**Pn**	**09 22 21.8**	**-0.1**
PATR				*eS*	**Sn**	**09 22 37.2**	**-1.4**
PAVE	**Pavencul**	**0.86**	**116**	*eP*	**Pn**	**09 22 22.3**	**+0.3**
PAVE				*eS*	**Sn**	**09 22 38.2**	**-0.5**
THIG		**0.95**	**134**	*eP*	**Pn**	**09 22 23.4**	**+0.8**
THIG				*eS*	**Sn**	**09 22 39.7**	**-0.1**
THIG		**0.95**	**134**	*eP*	**Pn**	**09 22 23.4**	**+0.8**
THIG				*eS*	**Sn**	**09 22 39.6**	**-0.1**
CCIG	**Comitan**	**1.07**	**49**	*eP*	**Pn**	**09 22 24.8**	**+1.0**
CCIG				*eS*	**Sn**	**09 22 40.7**	**-1.4**
CCIG	**Comitan**	**1.07**	**49**	*i* P	**Pn**	**09 22 24.9**	**+1.1**
CCIG				*eS*	**Sn**	**09 22 41.5**	**-0.6**
TGIG		**1.21**	**353**	*eP*	**Pn**	**09 22 25.8**	**+0.7**
TGIG				*eS*	**Sn**	**09 22 43.0**	**-1.3**
TGIG		**1.21**	**353**	*eP*	**Pn**	**09 22 26.1**	**+1.0**
TGIG				*eS*	**Sn**	**09 22 43.3**	**-1.0**
RTAL	**Retalhuleu**	**1.62**	**130**	*eP*	**Pn**	**09 22 30.8**	**+1.3**
RTAL				*eS*	**Sn**	**09 22 53.3**	**+1.2**
STG8	**El Palmar, Qui**	**1.93**	**125**	*i* P	Pn	09 22 30.0	-3.3
UXUV	**UXUV**	**2.07**	**327**	*eP*	**Pn**	**09 22 36.5**	**+1.7**
UXUV				*eS*	**Sn**	**09 23 01.5**	**-0.1**
CMIG	**Matias Romero**	**2.37**	**310**	*eP*	**Pn**	**09 22 40.7**	**+2.1**
CMIG				*eS*	**Sn**	**09 23 09.1**	**+0.7**
HUIG	**Huatulco**	**3.02**	**274**	*eP*	**Pn**	**09 22 47.8**	**+0.9**
HUIG				*eS*	**Sn**	**09 23 20.1**	**-3.2**
PETF	**Flores**	**3.27**	**65**	*eS*	**Sn**	**09 23 25.4**	**-3.5**
NEUV	**Arroyo Zacate**	**3.44**	**309**	*eP*	**Pn**	**09 22 54.3**	**+1.9**
NEUV				*eS*	Sn	09 23 25.9	-7.1
PEIG	**Puerto Escondi**	**4.04**	**277**	*eP*	**Pn**	**09 23 01.5**	**+1.2**
PEIG				*eS*	**Sn**	**09 23 43.5**	**-3.6**
TOIG	**Toxpalan**	**4.65**	**303**	*eP*	**Pn**	**09 23 09.8**	**+1.4**
TOIG				*eS*	**Sn**	**09 24 01.5**	**-0.3**
JAUV	**Jalcomulco**	**5.25**	**316**	*eP*	**Pn**	**09 23 17.4**	**+1.0**
JAUV				*eS*	**Sn**	**09 24 13.8**	**-2.3**

WEL 14 09:28:39.2±0.8, 35°.S±6°.×17°.9E±1°.3, h280km, M3.4/7, mB4.2/1, MLv3.4/7, Mw(mB)3.3/1, Error ellipse: s-maj=17.0km s-min=6.9km az=104.9, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.50**	**185**	P	Pn	09 29 27.5	-1.1
MXZ				S	S	09 30 07.5	-0.5
WMGZ	**Waiomatatini S**	**2.75**	**183**	P	Pn	09 29 31.3	+0.2
WMGZ				S	S	09 30 11.9	-0.4
HAZ	**Te Kaha**	**2.77**	**193**	P	Pn	09 29 31.4	+0.3
HAZ				S	S	09 30 13.0	+0.5
PKGZ	**Pakihiroa**	**2.83**	**188**	P	Pn	09 29 31.5	-0.3
PKGZ				S	S	09 30 13.8	+0.1
RUGZ	**Raukumara Rang**	**2.99**	**194**	P	Pn	09 29 33.9	+0.4
RUGZ				S	S	09 30 16.4	-0.4
PUZ	**Puketiti**	**3.02**	**185**	P	Pn	09 29 33.7	0.0
PUZ				S	S	09 30 17.9	+0.7
TWGZ	**Tauwhareparae**	**3.15**	**189**	P	Pn	09 29 36.2	+1.1
TWGZ				S	S	09 30 21.8	+2.2
MWZ	**Matawai**	**3.37**	**194**	P	Pn	09 29 37.6	+0.2
MWZ				S	S	09 30 25.9	+2.0
URZ	**Urewera**	**3.40**	**200**	P	Pn	09 29 37.8	+0.1
URZ				S	S	09 30 25.7	+1.3
TKGZ	**Te Karaka**	**3.42**	**190**	S	S	09 30 25.5	+0.7
CNGZ	**Carnagh Statio**	**3.43**	**185**	S	S	09 30 23.9	-1.0
RIGZ	**Rimuhau**	**3.69**	**190**	P	Pn	09 29 41.3	+0.3
RIGZ				S	S	09 30 31.3	+1.1
MUGZ	**Murupara**	**3.71**	**203**	P	Pn	09 29 41.9	+0.9
RTZ	**Ruatahuna**	**3.77**	**199**	P	Pn	09 29 41.9	+0.1
RTZ				S	S	09 30 32.6	+0.7
PRGZ	**Paritu Road**	**3.89**	**188**	S	S	09 30 35.6	+1.4
KNZ	**Kokohu**	**4.02**	**190**	P	Pn	09 29 44.0	-0.5
KNZ				S	S	09 30 35.4	-1.3
RAHZ	**Arahi**	**4.03**	**197**	P	Pn	09 29 45.2	+0.5
RAHZ				S	S	09 30 38.6	+1.7
MTHZ	**Maungataniwha**	**4.03**	**200**	P	Pn	09 29 45.0	+0.3
MTHZ				S	S	09 30 36.9	-0.2
NMHZ	**Naumai**	**4.27**	**199**	P	Pn	09 29 48.2	+0.7
NMHZ				S	S	09 30 42.9	+0.9
BKZ	**Black Stump Fm**	**4.42**	**202**	P	Pn	09 29 49.1	-0.1
BKZ				S	S	09 30 45.5	+0.3
KWHZ	**Kaweka Forest**	**4.68**	**201**	P	Pn	09 29 52.4	+0.2
KWHZ				S	S	09 30 51.9	+1.2
SNVZ	**South Ngauruho**	**4.74**	**209**	P	Pn	09 29 53.9	+0.9
KRHZ	**

JAM				*e*S	Sn	09 34 12.2	-1.7
JKE	**Kume jima 2**	**2.41**	**273**	*e*P	Pn	09 33 49.3	-1.2
JNU	**Nakatsue**	**6.96**	**10**	Pn	Pn	09 34 53.8	+0.7
	comp=E,1.4nm,0.3s,baz=198,slow=6.4,SNR=12						
JNU				Sn	Sn	09 36 06.5	-6.0
	comp=E,0.1nm,0.3s,baz=224,slow=22,SNR=1.2						
	comp=E,10nm,0.7s						
YHNB	**Yeheng**	**7.48**	**260**	P	Pn	09 35 01.3	+1.0
YULB	**Yu-li**	**7.95**	**251**	P	Pn	09 35 02.7	-4.0
SSLB	**Suanglung**	**8.10**	**254**	P	Pn	09 35 04.2	-4.6
TPUB	**Ta-pu**	**8.55**	**252**	P	Pn	09 35 11.6	-3.3
KSRS	**Korea Array**	**11.25**	**354**	Pn	Pn	09 35 50.0	-1.9
	comp=E,0.1nm,0.3s,baz=168,slow=12,SNR=1.6						
KSRS				LR	LR	09 40 18.6	
	comp=E,78nm,19.2s,baz=175,slow=38						
	comp=E,0.5nm,0.6s						
MJAR	**Matsushiro Arr**	**12.68**	**34**	Pn	Pn	09 36 14.3	+2.8
	baz=251,slow=5.9,SNR=2.9						
	comp=E,0.4nm,0.6s						
USRK	**Ussuriysk Ar.**	**18.03**	**6**	P	P	09 37 24.0	+1.9
	comp=E,0.1nm,0.3s,baz=171,slow=10,SNR=2.1						
	comp=E,1.2nm,0.7s						
GUMO	**Guam**	**19.16**	**128**	LR	LR	09 43 21.9	
	comp=E,47nm,19.3s,baz=24,slow=32						
ASAJ	**Asahikawa**	**20.76**	**27**	P	Pn	09 37 55.2	+0.8
	comp=E,2.6nm,0.9s,baz=176,slow=19,SNR=0.9						
	comp=E,2.6nm,0.9s						
SONM	**Songino Array**	**28.15**	**326**	P	P	09 39 04.2	+0.7
	comp=E,0.3nm,0.4s,baz=129,slow=9.7,SNR=1.9						
	comp=E,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**29.23**	**261**	P	P	09 39 11.1	-2.1
	comp=E,0.3nm,0.3s,baz=62,slow=8.4,SNR=4.7						
	comp=E,0.3nm,0.3s						
PETK	**Petropavlovsk-**	**34.11**	**31**	P	P	09 39 56.9	+1.1
	comp=E,1.3nm,0.8s,baz=216,slow=14,SNR=3.1						
	comp=E,1.3nm,0.8s						
SEY	**Seymchan**	**39.69**	**16**	LR	LR	09 57 09.2	
	comp=E,44nm,19.9s,baz=271,slow=36						
ZALV	**Zalesovo Beam**	**42.91**	**322**	P	P	09 41 08.0	-1.7
	comp=E,0.7nm,0.4s,baz=114,slow=8.9,SNR=3.7						
	comp=E,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**45.61**	**316**	P	P	09 41 30.4	-0.9
	comp=E,0.7nm,0.5s,baz=102,slow=8.9,SNR=4.2						
KURBB				LR	LR	10 02 21.1	
	comp=E,73nm,21.4s,baz=174,slow=38						
	comp=E,0.7nm,0.5s						
WRA	**Warramunga Arr**	**46.16**	**174**	P	P	09 41 36.2	+0.3
	comp=E,0.6nm,0.6s,baz=353,slow=8.4,SNR=5.6						
	comp=E,0.6nm,0.6s						
AAK	**Ala-Archa**	**47.38**	**305**	LR	LR	10 02 35.5	
	comp=E,47nm,18.9s,baz=108,slow=37						
ASAR	**Alice Springs**	**49.80**	**175**	P	P	09 42 05.6	+1.4
	comp=E,0.4nm,0.8s,baz=5.0,slow=14,SNR=12						
	comp=E,0.4nm,0.8s						
BVAR	**Borovoye Array**	**51.01**	**318**	P	P	09 42 12.7	-0.3
	comp=E,1.3nm,0.7s,baz=61,slow=12,SNR=4.0						
	comp=E,1.3nm,0.7s						
STKA	**Stephens Creek**	**58.94**	**168**	P	P	09 43 12.4	+1.9
	comp=E,0.7nm,0.6s,baz=348,slow=2.7,SNR=3.9						
	comp=E,0.7nm,0.6s						
ILAR	**Eielson Array**	**63.90**	**28**	P	P	09 43 45.5	+1.8
	comp=E,0.3nm,0.8s,baz=277,slow=7.3,SNR=2.1						
	comp=E,0.3nm,0.8s						
KBZ	**Khabaz**	**70.01**	**310**	P	P	09 44 23.5	+0.6
	comp=E,3.4nm,1.1s,baz=108,slow=3.2,SNR=5.5						
	comp=E,3.4nm,1.1s						
FINES	**FINESS Array B**	**73.40**	**331**	P	P	09 44 43.0	0.0
	comp=E,1.5nm,0.5s,baz=54,slow=4.9,SNR=17						
FINES				LR	LR	10 20 30.5	
	comp=E,67nm,18.4s,baz=14,slow=39						
	comp=E,1.5nm,0.5s						
AKASG	**Malin Array Be**	**76.24**	**320**	P	P	09 44 59.6	0.0
	comp=E,0.4nm,0.4s,baz=68,slow=6.1,SNR=3.2						
AKASG				LR	LR	10 21 09.9	
	comp=E,71nm,21.2s,baz=54,slow=38						
	comp=E,0.4nm,0.4s						
BRTR	**Keskin Array B**	**77.90**	**308**	P	P	09 45 07.7	-1.8
	comp=E,1.2nm,0.9s,baz=62,slow=8.6,SNR=5.0						
	comp=E,1.2nm,0.9s						
YKA	**Yellowknife Ar**	**78.04**	**25**	P	P	09 45 10.7	+1.1
	comp=E,0.2nm,0.7s,baz=292,slow=5.6,SNR=2.8						
	comp=E,0.2nm,0.7s						
HFS	**Hagfors**	**79.32**	**333**	P	P	09 45 16.1	-0.6
	comp=E,0.8nm,0.7s,baz=64,slow=6.8,SNR=4.1						
	comp=E,0.8nm,0.7s						
NB2	**NORSAR Subarra**	**79.79**	**334**	P	P	09 45 18.7	-0.6
	comp=Z,3.5nm,1.2s,baz=46,slow=5.1						
NOA	**NORSAR Array B**	**79.79**	**334**	P	P	09 45 18.4	-0.9
	comp=Z,1.1nm,0.9s,baz=51,slow=5.6,SNR=4.0						
	comp=Z,1.1nm,0.9s						
GERES	**GERESS Array B**	**85.86**	**323**	P	P	09 45 51.8	+0.7
	comp=Z,0.3nm,0.5s,baz=51,slow=8.1,SNR=1.9						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**89.69**	**47**	P	P	09 46 12.2	+2.3
	comp=Z,0.5nm,0.8s,baz=316,slow=6.2,SNR=4.0						
	comp=Z,0.5nm,0.8s						

JMA 14 09:34:03.2±0.2, 24°.3N±0°.3×123°.8E±0°.5, h16km±1km, MV1.0/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.08**	**335**	P	Pg	09 34 06.4	0.0
HATJ	**Hateruma jima**	**0.21**	**170**	*i* P	Pg	09 34 08.0	-0.1
HATJ				*e*S	Sg	09 34 11.0	-0.3
JKRS	**Kuro-shima**	**0.22**	**96**	P	Pg	09 34 08.3	0.0
JKRS				*e*S	Sg	09 34 12.2	+0.4
JIJ	**Ishigaki jima**	**0.36**	**74**	P	Pg	09 34 10.5	-0.1
JIJ				*e*S	Sg	09 34 15.1	-0.6
JISG	**Ishigakijimahi**	**0.59**	**57**	P	Pg	09 34 14.8	-0.1
JISG				*e*S	Sg	09 34 23.0	+0.1

TAP 14 09:34:57.6, 24°.51N×121°.87E, h26km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.06**	**343**	*e*P	Pb	09 35 03.8	+1.5
ESAO				S	Sb	09 35 05.9	+0.6
TWC	**Suao**	**0.10**	**351**	*i* P	Pb	09 35 02.7	+0.3
TWC				S	Sb	09 35 06.6	+1.0
EWUT	**Wuta**	**0.10**	**229**	P	Pb	09 35 02.7	+0.3
EWUT				S	Sb	09 35 06.5	+0.8
TWE	**Neicheng**	**0.27**	**319**	P	Pb	09 35 05.0	+0.7
TWE				*i* S	Sb	09 35 09.8	+0.9
ENTT	**Nioudou**	**0.30**	**295**	P	Pb	09 35 05.3	+0.6
ENTT				S	Sn	09 35 11.0	-0.9
LATG	**Datong**	**0.31**	**274**	P	Pb	09 35 05.4	+0.4
LATG				S	Sb	09 35 11.0	+1.0
EOS2	**EOS2**	**0.35**	**106**	*e*P	Pn	09 35 08.9	+2.1
EOS2				S	Sn	09 35 12.1	-0.7
FUSB	**Fushanzhiwuyua**	**0.35**	**314**	*e*P	Pn	09 35 07.4	+0.3
FUSB				S	Sb	09 35 12.0	+1.0
NWLT	**Wulai**	**0.42**	**309**	P	Pb	09 35 07.1	+0.5
NWLT				S	Sn	09 35 14.4	-0.5
TIPB	**Shuangxi**	**0.46**	**356**	P	Pb	09 35 07.6	+0.4
TIPB				*e*S	Sb	09 35 14.5	+0.8
YHNB	**Yeheng**	**0.47**	**289**	*e*P	Pn	09 35 10.2	+1.5
YHNB				S	Sb	09 35 15.2	+1.0

*TIR **14** 09:46:33.2, 40°.17N×20°.70E, h4km±1km, Ml3.1/10*
*ATH **14** 09:46:33.9, 40°.21N×20°.68E, h5km±1km, ML3.1/20, Manual Solution by A.Papageorgiou First location: 2019/04/14 09:47:34, This location: 2020/07/13 14:08:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*PDG **14** 09:46:33.1±0.3, 40°.18N×20°.73E, h7km, ML3.0/8, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*THE **14** 09:46:34.0, 40°.21N×20°.73E, h4km±1km, ML2.7/6, Error ellipse: s-maj=1.9km s-min=0.8km az=327.0*
*BEO **14** 09:46:35.2±0.5, 40°.15N×20°.79E, h4km±4km, ML2.8/4*
*SKO **14** 09:46:36.2, 40°.14N×20°.82E, h5km, ML2.8*

ISC 14 09:46:33.3±1.1, 40°.16N±0°.01×20°.69E±0°.02, h1km±10km, n103, σ1°.05/162, 8C-5D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.07**	**259**	Pg	**Pg**	**09 46 32.0**	**-2.7**
LSK				Sg	**Sg**	**09 46 36.2**	**+0.6**
LSK				AML	AML	09 46 37.8	
	414nm,0.7s						
LSK				AML	AML	09 46 39.5	
	457nm,0.5s						
PENT	**Pentalofos**	**0.34**	**84**	P	**Pg**	**09 46 39.6**	**-0.2**
PENT				S	**Sg**	**09 46 45.2**	**+0.9**
PENT	**Pentalofos**	**0.34**	**84**	P	**Pg**	**09 46 40.1**	**+0.3**
PENT				S	**Sg**	**09 46 45.8**	**+1.5**
NEST	**Nestorio**	**0.37**	**47**	P	**Pg**	**09 46 40.2**	**-0.2**
NEST				S	**Sg**	**09 46 45.1**	**-0.1**
	2μm,0.5s						
NEST	**Nestorio**	**0.37**	**47**	Pg	**Pg**	**09 46 40.1**	**-0.2**
NEST				Sg	**Sg**	**09 46 46.8**	**+1.6**
NEST				AML	AML	09 46 48.7	
	8.0nm,0.4s						
NEST				AML	AML	09 46 53.8	
	6.8nm,0.5s						
NEST	**Nestorio**	**0.37**	**47**	P	**Pg**	**09 46 40.5**	**+0.1**
NEST				S	**Sg**	**09 46 46.3**	**+1.1**
KBN	**Korca**	**0.47**	**9**	Pg	**Pg**	**09 46 41.3**	**-0.9**
KBN				Sg	**Sg**	**09 46 49.0**	**+0.8**
KBN				AML	AML	09 46 55.9	
	4.5nm,0.5s						
KBN				AML	AML	09 46 56.1	
	4.5nm,0.6s						
JAN	**Janina**	**0.52**	**167**	P	**Pg**	**09 46 42.8**	**-0.4**
JAN				S	**Sb**	**09 46 52.1**	**-1.2**
JAN	**Janina**	**0.52**	**167**	P	**Pg**	**09 46 43.9**	**+0.7**
JAN				S	**Sb**	**09 46 52.7**	**-0.6**
SRN	**Sarande**	**0.60**	**242**	Pg	**Pg**	**09 46 44.8**	**0.0**
SRN				Sg	**Sb**	**09 46 55.4**	**-0.2**
SRN				AML	AML	09 46 56.3	
	1.7nm,0.5s						
SRN				AML	AML	09 46 59.7	
	2.4nm,0.4s						
IGT	**Igoumenitsa**	**0.69**	**204**	P	**Pg**	**09 46 46.8**	**+0.4**
IGT				S	**Sn**	**09 46 59.6**	**-2.0**
	815nm,0.5s						
IGT	**Igoumenitsa**	**0.69**	**204**	Pg	**Pb**	**09 46 47.5**	**-0.6**
IGT				Sg	**Sb**	**09 46 57.7**	**-0.4**
IGT	**Igoumenitsa**	**0.69**	**204**	*i* Pg	**Pb**	**09 46 47.5**	**-0.6**
IGT				*i* Sg	**Sn**	**09 47 00.4**	**-1.2**
IGT	**Igoumenitsa**	**0.69**	**204**	*e*Pg	**Pg**	**09 46 45.9**	**-0.5**
IGT				*e*Sg	**Sb**	**09 46 59.4**	**+1.3**
IGT	**Igoumenitsa**	**0.69**	**204**	P	**Pb**	**09 46 47.6**	**-0.5**
IGT				S	**Sb**	**09 46 58.7**	**+0.5**
KEK	**Kerkira**	**0.82**	**237**	P	**Pb**	**09 46 49.9**	**-0.5**
KEK				S	**Sn**	**09 47 03.5**	**-1.4**
	488nm,0.5s						
KEK	**Kerkira**	**0.82**	**237**	P	**Pb**	**09 46 50.0**	**-0.3**
KEK				S	**Sb**	**09 47 01.4**	**-0.6**
TETR	**Tetrakomo, Epi**	**0.93**	**151**	P	**Pb**	**09 46 52.1**	**-0.2**
TETR				S	**Sb**	**09 47 06.0**	**+0.7**
OHR	**Ohrid**	**0.95**	**5**	*i* Pg	**Pb**	**09 46 52.8**	**+0.2**
OHR				*i* Sg	**Sn**	**09 47 07.8**	**-0.4**
OHR				*e*Lg	Lg	09 47 08.4	
	comp=E,227nm,0.7s						
OHR				*e*Lg	Lg	09 47 09.9	
	comp=N,105nm,0.4s						
OHR	**Ohrid**	**0.95**	**5**	*e*Pg	**Pb**	**09 46 51.8**	**-0.8**
OHR				*e*Sg	**Sb**	**09 47 05.0**	**-0.8**
KTI	**Kastanea**	**1.11**	**78**	P	**Pg**	**09 46 54.3**	**-0.3**
THL	**Klokotos Trika**	**1.18**	**120**	P	**Pg**	**09 46 54.2**	**-1.7**
THL				S	**Sn**	**09 47 14.1**	**+0.4**
	comp=N,320nm,0.5s						
THL	**Klokotos Trika**	**1.18**	**120**	P	**Pg**	**09 46 55.5**	**-0.4**
THL				S	**Sn**	**09 47 13.1**	**-0.6**
TSLK	**Tsoukalades, L**	**1.34**	**181**	P	**Pn**	**09 46 58.7**	**-0.4**
TSLK				S	**Sn**	**09 47 18.9**	**+1.3**
	comp=N,472nm,0.5s						
TSLK	**Tsoukalades, L**	**1.34**	**181**	P	**Pb**	**09 46 59.3**	**+0.2**
TSLK				S	**Sn**	**09 47 17.9**	**+0.4**
TIR	**Tirane**	**1.34**	**332**	Pn	**Pb**	**09 46 59.8**	**+0.5**
TIR				AML	AML	09 47 24.7	
	comp=N,0.7nm,0.9s						
TIR	**Tirane**	**1.34**	**332**	⇑P	**Pb**	**09 47 00.4**	**+1.1**
TIR	**Tirane**	**1.34**	**332**	*e*Pg	**Pb**	**09 47 01.5**	**+2.3**
LKD2	**Lefkada island**	**1.37**	**181**	P	**Pg**	**09 46 59.9**	**+0.3**
LKD2	**Lefkada island**	**1.37**	**181**	Pn	**Pg**	**09 47 00.5**	**+0.9**
LKD2				AML	AML	09 47 29.6	
	comp=N,2.2nm,0.5s						
LKD2	**Lefkada island**	**1.37**	**181**	P	**Pg**	**09 47 00.6**	**+1.0**
LKD2				S	**Sn**	**09 47 18.4**	**-0.1**
LIT	**Litokhoron**	**1.38**	**92**	P	**Pn**	**09 46 57.9**	**-1.8**
LIT				S	**Sb**	**09 47 17.5**	**-0.5**
	comp=N,282nm,0.4s						
LIT	**Litokhoron**	**1.38**	**92**	*i* Pg	**Pb**	**09 46 59.5**	**-0.4**
LIT	**Litokhoron**	**1.38**	**92**	P	**Pn**	**09 46 58.5**	**-1.2**
LIT				S	**Sn**	**09 47 18.5**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.45**	**180**	P	**Pg**	**09 47 01.5**	**+0.5**
NYDR	**Nydri-Lefkada**	**1.45**	**180**	P	**Pg**	**09 47 01.5**	**+0.5**
NYDR				S	**Sg**	**09 47 20.8**	**+1.0**
EVR	**Evrytania**	**1.51**	**145**	P	**Pb**	**09 47 02.0**	**-0.2**
EVR	**Evrytania**	**1.51**	**145**	P	**Pg**	**09 47 02.3**	**0.0**
EVR				S	**Sg**	**09 47 22.7**	**+0.8**
GRG	**Griva**	**1.52**	**58**	P	**Pb**	**09 47 01.8**	**-0.6**
GRG	**Griva**	**1.52**	**58**	*i* Pg	**Pn**	**09 47 01.6**	**-0.1**
GRG	**Griva**	**1.52**	**58**	P	**Pb**	**09 47 01.8**	**-0.6**
GRG				S	**Sg**	**09 47 21.9**	**-0.3**
PHP	**Peshkopia**	**1.53**	**353**	Pn	**Pg**	**09 47 02.3**	**-0.3**
PHP				Sn	**Sg**	**09 47 25.0**	**+2.5**
PHP				AML	AML	09 47 34.7	
	comp=N,1.2nm,1.0s						
EVGI	**Lefkada island**	**1.54**	**181**	P	**Pg**	**09 47 03.2**	**+0.4**
EVGI	**Lefkada island**	**1.54**	**181**	P	**Pg**	**09 47 03.1**	**+0.3**
EVGI				S	**Sg**	**09 47 23.4**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.60**	**135**	P	**Pb**	**09 47 03.5**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.60**	**135**	P	**Pb**	**09 47 03.5**	**-0.1**
MAKR				S	**Sg**	**09 47 24.7**	**+0.1**
PVO	**Paravola**	**1.67**	**157**	P	**Pb**	**09 47 04.8**	**-0.1**
PVO				S	**Sb**	**09 47 26.5**	**0.0**
AGG	**Agios Georgios**	**1.70**	**132**	P	**Pn**	**09 47 04.2**	**0.0**
AGG	**Agios Georgios**	**1.70**	**132**	P	**Pb**	**09 47 04.5**	**-0.9**
AGG				S	**Sg**	**09 47 27.7**	**-0.3**
FSK	**Fiskardo**	**1.71**	**183**	P	**Pb**	**09 47 05.1**	**-0.3**
FSK				S	**Sg**	**09 47 27.7**	**-0.3**
SCTE	**Santa Cesarea**	**1.71**	**268**	Pn	**Pb**	**09 47 05.4**	**-0.1**
SCTE				AML	AML	09 47 32.8	
	comp=N,1.4nm,0.4s						
ANX	**Ano Chora**	**1.83**	**148**	P	**Pb**	**09 47 07.1**	**-0.6**
ANX				S	**Sb**	**09 47 31.1**	**-0.1**
VAY	**Valandovo**	**1.84**	**50**	*i* Pn	**Pb**	**09 47 07.7**	**0.0**
VAY	**Valandovo**	**1.84**	**50**	*e*Pn	**Pn**	**09 47 06.1**	**+0.1**
VAY				*e*Sn	**Sb**	**09 47 30.1**	**-1.1**
HORT	**Hortiatis**	**1.89**	**76**	P	**Pn**	**09 47 06.0**	**-0.8**
HORT				S	**Sb**	**09 47 31.6**	**-1.1**
DMLN	**Damoulianata-K**	**1.94**	**187**	P	**Pb**	**09 47 08.2**	**-1.2**
DMLN				S	**Sb**	**09 47 33.9**	**-0.2**
EFP	**Efpalio**	**1.97**	**151**	P	**Pn**	**09 47 08.4**	**+0.6**
EFP				S	**Sb**	**09 47 34.2**	**-0.9**
PUK	**Puka**	**1.97**	**342**	Pn	**Pg**	**09 47 10.6**	**-0.5**
PUK				AML	AML	09 47 46.4	
	comp=N,0.6nm,0.6s						
VLS	**Valsamata**	**1.98**	**182**	P	**Pb**	**09 47 08.8**	**-1.4**
VLS				S	**Sb**	**09 47 35.6**	**+0.1**
AXS	**Araxos**	**2.04**	**165**	P	**Pb**	**09 47 09.7**	**-1.3**
AXS				S	**Sb**	**09 47 36.5**	**-0.3**
SERG	**Sergoula**	**2.04**	**148**	P	**Pb**	**09 47 10.2**	**-1.0**
SERG				S	**Sb**	**09 47 36.0**	**-1.1**
AXAR	**Agios Charalam**	**2.06**	**132**	P	**Pn**	**09 47 10.0**	**+0.9**
AXAR				S	**Sb**	**09 47 36.8**	**-1.0**
XOR	**Xorichti**	**2.08**	**112**	P	**Pn**	**09 47 09.2**	**-0.2**
XOR				S	**Sb**	**09 47 36.8**	**-1.5**
KALE	**Kalithea**	**2.10**	**147**	P	**Pb**	**09 47 10.7**	**-1.5**
KALE				S	**Sb**	**09 47 38.0**	**-0.7**
ULC	**Ulcinj**	**2.11**	**329**	*e*Pn	**Pn**	**09 47 10.3**	**+0.6**
ULC				*i* Sn	**Sb**	**09 47 37.7**	**-1.3**
NEO	**Neokhori**	**2.13**	**113**	P	**Pb**	**09 47 11.2**	**-1.5**
NEO				S	**Sn**	**09 47 37.8**	**+0.6**
BCI	**Bajram Curri**	**2.25**	**348**	Pn	**Pb**	**09 47 15.2**	**+0.4**
BCI				AML	AML	09 47 53.5	
	comp=N,0.9nm,0.9s						
DRME	**Dracevica, Mon**	**2.32**	**331**	*e*Pn	**Pn**	**09 47 13.2**	**+0.5**
DRME				*i* Sn	**Sb**	**09 47 42.9**	**-2.2**
KKB	**Krupnik**	**2.49**	**47**	*i* Pn	**Pn**	**09 47 16.0**	**+1.0**
PDG	**Podgorica**	**2.51**	**335**	⇓P	**Pn**	**09 47 14.7**	**-0.5**
PDG	**Podgorica**	**2.51**	**335**	*e*Pn	**Pn**	**09 47 15.9**	**+0.7**
PDG				*i* Sn	**Sn**	**09 47 47.4**	**+0.9**
BUM	**Brajici-Budva**	**2.53**	**328**	⇑*i*Pn	**Pn**	**09 47 16.4**	**+0.8**
BUM				*i* Sn	**Sn**	**09 47 48.0**	**+0.9**
BOSS	**Bosilegrad**	**2.69**	**29**	*e*Pn	**Pn**	**09 47 17.8**	**0.0**
MMB	**Musomishta**	**2.70**	**58**	*i* Pn	**Pb**	**09 47 20.1**	**-2.3**
CEME	**Cevo**	**2.73**	**331**	*e*Pn	**Pn**	**09 47 19.1**	**+0.7**
CEME				*i* Sn	**Sn**	**09 47 52.7**	**+0.6**
IVA	**Berane**	**2.77**	**348**	*e*Pn	**Pn**	**09 47 19.4**	**+0.5**
IVA				*i* Sn	**Sn**	**09 47 53.5**	**+0.4**
BARS	**Barje**	**2.78**	**17**	*i* Pn	**Pb**	**09 47 21.9**	**-1.9**
BARS	**Barje**	**2.78**	**17**	*e*Pn	**Pn**	**09 47 20.7**	**+1.7**
BARS				*e*Sn	**Sn**	**09 47 52.8**	**-0.5**
KOME	**Kolasin**	**2.83**	**342**	*e*Pn	**Pn**	**09 47 20.1**	**+0.4**
KOME				*i* Sn	**Sn**	**09 47 54.4**	**-0.1**
SELS	**Selova**	**3.07**	**6**	*e*Pn	**Pb**	**09 47 25.7**	**-3.0**
MATE	**Matera**	**3.08**	**280**	⇓P	**Pn**	**09 47 23.7**	**+0.6**
MATE				⇑S	**Sn**	**09 48 00.6**	**0.0**
SJES	**Sjenica**	**3.14**	**350**	*e*Pn	**Pb**	**09 47 26.8**	**-3.2**
TIP	**Timpagrande**	**3.19**	**253**	⇑P	**Pn**	**09 47 24.6**	**-0.1**
UPM	**Unac-Piva**	**3.32**	**337**	*e*Pn	**Pn**	**09 47 27.1**	**+0.5**
UPM				*i* Sn	**Sn**	**09 48 06.6**	**-0.2**
ZAPS	**Zavoj**	**3.43**	**24**	*e*Pn	**Pn**	**09 47 29.7**	**+1.8**
IVAS	**Ivanjica**	**3.43**	**353**	*e*Pn	**Pn**	**09 47 29.6**	**+1.6**
STON	**Ston**	**3.52**	**321**	*e*Pn	**Pn**	**09 47 29.5**	**+0.4**
BOVS	**Bovan**	**3.55**	**12**	⇑P	**Pn**	**09 47 29.8**	**+0.3**
GRUS	**Gruza**	**3.72**	**0**	*e*Pn	**Pn**	**09 47 34.1**	**+2.2**
BLKB	**Belogradchik**	**3.76**	**23**	⇓S	**Sn**	**09 48 18.4**	**+1.0**
BBLS	**Lazi&#263i**	**3.82**	**346**	*e*Pn	**Pn**	**09 47 35.4**	**+2.0**
ZAGS	**Zajecar**	**3.82**	**17**	*e*Pn	**Pn**	**09 47 35.6**	**+2.3**
ZAGS				*e*Sn	**Sn**	**09 48 20.3**	**+1.4**
TEKS	**Tekeris**	**4.47**	**349**	*e*Pn	**Pn**	**09 47 43.0**	**+0.8**
MDVR	**Moldovita**	**4.68**	**9**	⇑P	**Pn**	**09 47 46.6**	**+1.5**
VRSS	**Vrsac**	**4.98**	**5**	*e*Pn	**Pn**	**09 47 51.3**	**+2.1**
GZR	**Gura Zlata**	**5.45**	**16**	⇓P	**Pn**	**09 47 57.2**	**+1.5**
BZS	**Buzias**	**5.49**	**7**	⇑P	**Pn**	**09 47 57.1**	**+0.8**
MLR	**Muntele Rosu**	**6.58**	**34**	⇓P	**Pn**	**09 48 12.7**	**+1.5**
VRI	**Vrincioaia**	**7.21**	**36**	⇑P	**Pn**	**09 48 21.1**	**+1.2**
SOKA	**Soboth**	**7.70**	**330**	*e*Pn	**Pn**	**09 48 27.7**	**+1.0**
	comp=N,0.5nm,0.5s						
KBA	**Koelnbreinsper**	**8.72**	**325**	*e*Pn	**Pn**	**09 48 41.7**	**+0.9**
	comp=N,0.7nm,0.5s						
WTTA	**Wattenberg**	**9.66**	**320**	*e*Pn	**Pn**	**09 48 55.0**	**+1.5**
	comp=N,0.9nm,0.4s						
WATA	**Walderalm**	**9.74**	**320**	*e*Pn	**Pn**	**09 48 56.5**	**+2.0**
	comp=N,0.5nm,0.2s						

*NEIC **14** 09:47:02.4±1.1, 36°.86N±0°.04×104°.93W±0°.03, h5km±4km, mb_Lg2.7/47, ML2.7/45, Error ellipse: s-maj=6.2km s-min=2.3km az=208.0*

ISC 14 09:47:03.0±0.9, 36°.88N±0°.04×104°.94W±0°.04, h10km, n41, σ1°.34/34, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.49**	**58**	Pg	**Pb**	**09 47 13.5**	**-0.5**
T25A				Sg	**Sb**	**09 47 21.4**	**0.0**
T25A				IAML		09 47 21.7	
	comp=E,566nm,0.4s						
T25A				IAML		09 47 21.7	
	comp=N,422nm,0.3s						
SDCO	**Great Sand Dun**	**0.97**	**333**	Pg	**Pg**	**09 47 22.0**	**+0.2**
SDCO				Sg	**Sg**	**09 47 34.8**	**+0.3**
RTBA	**Rita Blanca**	**1.82**	**103**	Pn	**Pb**	**09 47 35.4**	**-1.2**
RTBA					**Sb**	**09 47 59.3**	**-0.3**
RTBA				IAmb_Lg		09 48 03.8	
	comp=Z,52nm,0.8s						
Q24A	**Divide**	**2.09**	**355**	Pn	**Pg**	**09 47 42.5**	**-0.6**
ANMO	**Albuquerque**	**2.29**	**213**	Pn	**Pn**	**09 47 41.0**	**-0.1**
ANMO				IAML		09 48 10.8	
	comp=Z,27nm,0.3s						
ANMO	**Albuquerque**	**2.29**	**213**	Pn	**Pn**	**09 47 41.3**	**+0.2**
ANMO				IAML		09 48 10.3	
	comp=Z,28nm,0.2s						
ANMO				IAML		09 48 10.8	
	comp=Z,29nm,0.2s						
ANMO				IAmb_Lg		09 48 20.6	
	comp=Z,7.8nm,0.7s						
ANMO	**Albuquerque**	**2.29**	**213**	Pn	**Pn**	**09 47 41.3**	**+0.2**
ANMO				IAML		09 48 10.3	
	comp=Z,23nm,0.2s						
ANMO				IAML		09 48 10.9	
	comp=Z,30nm,0.3s						
ANMO				IAmb_Lg		09 48 18.0	
	comp=Z,12nm,0.9s						
ANMO	**Albuquerque**	**2.29**	**213**	IAmb_

ORD				S	Sb	09 59 19.4	+0.3
SBZ	**Shahbuz**	**0.71**	**25**	P	Pb	09 59 10.2	+0.1
SBZ				S	Sb	09 59 19.9	-0.5
MAKU	**Maku**	**0.71**	**328**	Pg	Pg	09 59 09.3	+0.7
ITBZ	**Tabriz**	**0.92**	**124**	Pg	Pb	09 59 13.3	-0.5
ITBZ				Sg	Sb	09 59 25.9	-0.7
VAYK	**Vayk**	**0.96**	**12**	*i* P	Pb	09 59 14.1	-0.3
VAYK				*i* S	Sb	09 59 27.2	-0.5
HYR	**Heyderabad**	**1.00**	**346**	P	Pb	09 59 14.7	-0.3
HYR				S	Sb	09 59 28.6	-0.1
EGVZ	**Egvard**	**1.17**	**66**	⇑*i* P	Pn	09 59 18.1	-0.4
EGVZ				⇑*i* S	Sb	09 59 33.8	+0.2
IAZR	**Azarshahr**	**1.25**	**149**	Pg	Pn	09 59 20.3	+0.7
NRKZ	**NAREK**	**1.31**	**343**	*e* P	Pn	09 59 19.4	-1.0
NRKZ				*e* S	Sg	09 59 35.5	-1.5
IGDI	**IGDIR**	**1.40**	**323**	P	Pg	09 59 22.2	+0.4
IGDI				S	Sn	09 59 42.5	+1.8
AYRK	**Ayrk**	**1.45**	**19**	⇓*i* P	Pg	09 59 22.9	+0.3
AYRK				⇓*i* S	Sn	09 59 41.6	-0.4
IHRS	**Heris**	**1.53**	**106**	Pg	Pg	09 59 25.1	+0.9
KAPZ	**Kaputan**	**1.61**	**347**	*e* P	Pg	09 59 25.8	0.0
KAPZ				*e* S	Sb	09 59 46.5	+0.1
METS	**Metsamor**	**1.63**	**329**	*e* P	Pb	09 59 25.1	-0.8
METS				*e* S	Sn	09 59 45.6	-0.8
VNNZ	**Vanand**	**1.71**	**323**	*e* P	Pg	09 59 28.0	+0.3
VNNZ				*e* S	Sg	09 59 50.3	+0.5
AMBZ	**Amberd**	**1.78**	**337**	*e* P	Pb	09 59 28.5	+0.1
AMBZ				*e* S	Sb	09 59 51.4	+0.1
QRD	**Qoradiz**	**1.82**	**66**	Pn	Pb	09 59 28.9	0.0
QRD				Sn	Sg	09 59 54.6	+1.4
GDB	**GEDABAY**	**2.02**	**13**	Pn	Pb	09 59 32.9	+0.4
GDB				Sn	Sg	09 59 59.1	-0.7
AGDM	**Agdam**	**2.02**	**47**	Pn	Pg	09 59 33.2	-0.5
AGDM				Sn	Sg	10 00 01.2	+1.4
GANJ	**Ganja**	**2.09**	**25**	Pn	Pb	09 59 34.1	+0.5
GANJ				Sn	Sg	10 00 01.4	-0.7
BLQ	**Beylaqan**	**2.09**	**62**	Pn	Pg	09 59 34.5	-0.4
BLQ				Sn	Sg	10 00 02.9	+0.8
LSVT	**Lusahovit**	**2.16**	**0**	⇑*i* P	Pg	09 59 35.9	-0.5
LSVT				⇑*i* S	Sb	10 00 03.4	+1.2
BRDA	**Brd**	**2.17**	**45**	Pn	Pg	09 59 35.7	-0.7
BRDA				Sn	Sg	10 00 06.1	+1.6
IHSH	**Hashtrud**	**2.19**	**130**	Pn	Pg	09 59 36.6	-0.3
QZX	**Qazax, Azerbai**	**2.31**	**4**	Pn	Pg	09 59 38.4	-0.8
QZX				Sn	Sb	10 00 06.5	+0.1
YRD	**Yardimli**	**2.40**	**85**	Pn	Pb	09 59 38.7	-0.3
YRD				Sn	Sg	10 00 12.2	+0.1
SRTK	**Saratovka**	**2.40**	**344**	*e* P	Pb	09 59 39.1	+0.1
SRTK				*e* S	Sb	10 00 09.5	+0.3
LRK	**Lerik**	**2.48**	**91**	Pn	Pb	09 59 40.8	+0.5
LRK				Sn	Sg	10 00 14.4	-0.3
MNGR	**Mingechevir, A**	**2.50**	**36**	Pg	Pb	09 59 40.5	-0.1
MNGR				Sg	Sg	10 00 15.0	-0.3
GLBA	**Clilabad**	**2.56**	**78**	Pn	Pb	09 59 42.3	+0.8
GLBA				Sn	Sg	10 00 16.8	-0.2
VSHL	**Vashlovani**	**2.65**	**20**	P	Pg	09 59 46.0	+0.3
VSHL				S	Sg	10 00 22.8	+2.8
DGRG	**David-gareji**	**2.70**	**3**	P	Pg	09 59 46.1	-0.6
DGRG				S	Sg	10 00 23.3	+1.6
LKRN	**Lenkeran, Azer**	**2.82**	**90**	Pg	Pg	09 59 48.1	-0.9
LKRN				Sg	Sg	10 00 25.8	+0.3
ASTR	**Astara**	**2.84**	**93**	Pg	Pg	09 59 48.2	-1.1
ASTR				Sg	Sg	10 00 26.3	+0.1
TRLG	**Trialeti**	**2.90**	**344**	P	Pg	09 59 49.6	-0.9
TRLG				S	Sg	10 00 27.5	-0.7
SEKA	**Sheki**	**2.91**	**32**	Pg	Pg	09 59 49.2	-1.4
SEKA				Sg	Sg	10 00 28.1	-0.2
QBL	**Gabala**	**3.00**	**42**	Sg	Sg	10 00 31.1	-0.2
CHRG	**Chargali**	**3.58**	**357**	P	Pb	10 00 00.3	+1.3
SHTL	**Shatili**	**3.90**	**360**	P	Pb	10 00 05.9	+1.4
MTEO	**Meteo**	**3.96**	**353**	P	Pg	10 00 09.3	-1.4

NEIC ***14*** *10:05:01.0±1.1, 61°.44N±0°.03×149°.88W±0°.06, h33km±13km, Error ellipse: s-maj=4.6km s-min=4.2km az=174.0*

AEIC 14 10:05:00.4±1.3, 61°.40N±0°.03×149°.92W±0°.06, h21km±8km, ML2.7, ML2.8/154(NEIC), Error ellipse: s-maj=4.1km s-min=3.8km az=208.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.29**	**209**		Pn	10 05 09.6	+0.2
FIS				IAML		10 05 18.5	
	comp=N,1μm,0.4s						
FIS				IAML		10 05 19.0	
	comp=E,1μm,0.3s						
RC01	**Rabbit Creek A**	**0.32**	**164**		Pn	10 05 09.4	-0.4
RC01				IAML		10 05 17.8	
	comp=E,2μm,0.2s						
RC01				IAML		10 05 17.8	
	comp=N,1μm,0.3s						
M22K	**Willow**	**0.37**	**345**		Pb	10 05 08.6	+0.6
SUA	**Susitna One**	**0.40**	**280**		Pb	10 05 09.6	+0.9
SUA				IAML		10 05 18.6	
	comp=E,1μm,0.8s						
SUA				IAML		10 05 18.8	
	comp=N,1μm,0.8s						
PMR	**Palmer**	**0.43**	**63**		Pb	10 05 09.4	+0.4
PMR				IAML		10 05 17.4	
	comp=N,926nm,0.2s						
PMR				IAML		10 05 17.5	
	comp=E,743nm,0.2s						
GHO	**Glory Hole Cre**	**0.61**	**51**		Pb	10 05 11.9	-0.5
KNK	**Knik Glacier**	**0.70**	**88**		Pb	10 05 13.9	-0.1
SML	**Sawmill**	**0.86**	**61**		Pb	10 05 15.4	-1.2
SML				IAML		10 05 28.6	
	comp=E,292nm,0.7s						
SML				IAML		10 05 31.1	
	comp=N,292nm,0.7s						
CAPN	**Captain Cook N**	**0.87**	**224**		Pn	10 05 18.5	+1.2
CAPN				IAML		10 05 47.7	
	comp=N,480nm,0.7s						
SLKM	**Skilak Lake**	**0.91**	**189**		Pb	10 05 17.3	-0.1
SLKM				IAML		10 05 33.0	
	comp=E,393nm,0.5s						
SLKM				IAML		10 05 35.6	
	comp=N,245nm,0.5s						
STLK	**Strandline Lak**	**0.92**	**277**		Pb	10 05 17.5	-0.2
STLK				IAML		10 05 30.9	
	comp=E,280nm,0.2s						
O22K	**Cooper Landing**	**0.93**	**174**		Pb	10 05 17.8	+0.1
PWL	**Port Wells**	**0.94**	**124**		Pb	10 05 17.9	-0.1
SKT	**Skwentna**	**0.96**	**308**		Pb	10 05 17.0	-1.3
SKT				IAML		10 05 32.8	
	comp=E,340nm,0.3s						
SKT				IAML		10 05 33.3	
	comp=N,343nm,0.3s						
CUT	**Chulitna**	**1.02**	**351**		Pb	10 05 17.6	-1.8
SCM	**Sheep Creek Mo**	**1.31**	**70**		Pn	10 05 22.6	-0.9
SCM				IAML		10 05 41.0	
	comp=E,172nm,0.3s						
SCM				IAML		10 05 44.6	
	comp=N,150nm,0.5s						
SEW	**Seward**	**1.32**	**170**		Pn	10 05 23.3	-0.2
GLI	**Glacier Island**	**1.47**	**110**		Pn	10 05 24.5	-1.1
GLI				IAML		10 05 48.0	
	comp=N,150nm,0.3s						
GLI				IAML		10 05 49.8	
	comp=E,167nm,0.6s						
FID	**Port Fidalgo**	**1.80**	**110**		Pn	10 05 28.9	-1.1
FID				IAML		10 05 58.2	
	comp=N,98nm,0.2s						
PPLA	**Purkeypile**	**1.84**	**326**		Pn	10 05 30.2	-0.6
PPLA				IAML		10 06 08.0	
	comp=E,90nm,0.7s						
PPLA				IAML		10 06 09.8	
	comp=N,82nm,0.9s						
P23K	**Montague Islan**	**1.87**	**138**		Pn	10 05 29.8	-1.3
P23K				IAML		10 06 00.4	
	comp=N,112nm,0.4s						
P23K				IAML		10 06 03.7	
	comp=E,117nm,0.2s						
M24K	**Tolsona, Glenn**	**1.92**	**67**		Pn	10 05 31.7	-0.1
M24K				IAML		10 06 00.9	
	comp=N,103nm,0.3s						
KLU	**Klutina**	**1.92**	**85**		Pn	10 05 30.9	-1.0
KLU				IAML		10 05 55.9	
	comp=N,80nm,0.5s						
KLU				IAML		10 06 02.7	
	comp=E,77nm,0.4s						
HOM	**Homer**	**1.94**	**207**	Pn	Pn	10 05 32.6	+0.5
HOM				IAML		10 06 02.6	
	comp=N,97nm,0.5s						
HIN	**Hinchinbrook I**	**1.95**	**120**		Pn	10 05 31.5	-0.7
HIN				IAML		10 06 06.3	
	comp=N,75nm,0.4s						
HIN				IAML		10 06 06.3	
	comp=E,99nm,0.7s						
CNPM	**China Poot**	**1.99**	**200**		Pn	10 05 32.5	-0.2
CNPM				IAML		10 06 01.9	
	comp=E,80nm,0.6s						
DIV	**Divide**	**2.02**	**96**		Pn	10 05 32.1	-1.2
DIV				IAML		10 05 59.3	
	comp=E,64nm,0.3s						
TRF	**Thorofare Moun**	**2.07**	**355**		Pn	10 05 33.0	-0.9
TRF				IAML		10 06 01.9	
	comp=N,80nm,0.3s						
TRF				IAML		10 06 04.7	
	comp=E,65nm,0.7s						
RND	**Reindeer**	**2.08**	**13**		Pn	10 05 33.1	-0.8
ILSW	**Iliamna Southw**	**2.13**	**230**		Pn	10 05 34.8	0.0
M19K	**Big River Lodg**	**2.19**	**285**		Pn	10 05 35.3	-0.2
EYAK	**Cordova Ski Ar**	**2.21**	**111**		Pn	10 05 35.5	-0.2
EYAK				IAML		10 06 11.3	
	comp=E,47nm,0.5s						
EYAK				IAML		10 06 11.3	
	comp=N,62nm,0.4s						
KTH	**Kantishna Hill**	**2.21**	**348**		Pn	10 05 35.1	-0.7
KTH				IAML		10 06 04.4	
	comp=E,56nm,0.7s						
CAST	**Castle Rocks**	**2.26**	**335**		Pn	10 05 35.6	-0.9
N19K	**Bonanza Creek**	**2.29**	**257**		Pn	10 05 36.7	-0.2
MCK	**McKinley**	**2.39**	**11**		Pn	10 05 37.7	-0.5
MCK				IAML		10 06 08.9	
	comp=N,52nm,1.1s						
P19K	**Oil Pt**	**2.40**	**224**		Pn	10 05 39.5	+1.1
P19K				IAML		10 06 15.9	
	comp=N,50nm,0.7s						
P19K				IAML		10 06 28.2	
	comp=E,62nm,0.6s						
L19K	**White Mountain**	**2.47**	**291**		Pn	10 05 38.8	-0.6
N25K	**Chitina, Valde**	**2.56**	**83**		Pn	10 05 40.0	-0.6
N25K				IAML		10 06 23.3	
	comp=N,35nm,0.6s						
BMRM	**Bremner River**	**2.61**	**97**		Pn	10 05 41.0	-0.3
BMRM				IAML		10 06 23.3	
	comp=N,58nm,0.5s						
BMRM				IAML		10 06 24.1	
	comp=E,46nm,0.6s						
PAX	**Paxson**	**2.62**	**51**		Pn	10 05 41.9	+0.5
BPAW	**Bear Paw Mtn.**	**2.75**	**350**		Pn	10 05 41.5	-1.7
K20K	**Telida**	**2.76**	**317**		Pn	10 05 42.4	-0.8
K20K				IAML		10 06 22.9	
	comp=E,48nm,0.6s						
BWN	**Browne**	**2.79**	**4**		Pn	10 05 42.7	-1.0
GLB	**Gilahina Butte**	**2.94**	**86**		Pn	10 05 46.0	+0.3
GLB				IAML		10 06 29.3	
	comp=N,37nm,0.8s						
N18K	**Kilae Creek**	**2.99**	**259**		Pn	10 05 45.9	-0.6
O18K	**Koktuh Hills**	**3.03**	**242**		Pn	10 05 47.3	+0.3
SYI	**Shuyak Island**	**3.06**	**205**	Pn	Pn	10 05 48.3	+0.9
SYI				IAML		10 06 31.0	
	comp=N,35nm,3.2s						
SYI				IAML		10 07 32.8	
	comp=E,29nm,3.7s						
Q19K	**Cape Douglas,**	**3.10**	**219**		Pn	10 05 48.8	+0.8
WRH	**Wood River Hil**	**3.19**	**14**		Pn	10 05 48.4	-0.9
BERG	**Berg Lake**	**3.20**	**106**		Pn	10 05 47.2	-2.2
NEA2	**Nenana**	**3.23**	**7**		Pn	10 05 48.4	-1.3
L18K	**Granite Mounta**	**3.31**	**287**		Pn	10 05 50.7	-0.2
RIDG	**Independent Ri**	**3.32**	**43**		Pn	10 05 50.3	-0.7
RIDG				IAML		10 06 38.8	
	comp=N,32nm,0.7s						
RIDG				IAML		10 06 38.8	
	comp=E,33nm,0.7s						
J20K	**Nowinta River**	**3.40**	**327**		Pn	10 05 51.0	-1.0
CCB	**Clear Creek Bu**	**3.40**	**16**		Pn	10 05 50.9	-1.1
M26K	**Nabesna, AK**	**3.43**	**70**		Pn	10 05 51.8	-0.7
COLA	**College**	**3.61**	**14**		Pn	10 05 54.2	-0.7
M17K	**Holitna River**	**3.61**	**273**		Pn	10 05 54.8	-0.2
M17K				IAML		10 07 00.9	
	comp=N,22nm,0.6s						
M17K				IAML		10 07 03.3	
	comp=E,19nm,0.9s						
IL31		**3.66**	**21**		Pn	10 05 55.2	-0.4
J19K	**Poorman**	**3.70**	**317**		Pn	10 05 55.4	-0.8
J19K				IAML		10 06 52.0	
	comp=N,18nm,2.0s						
J19K				IAML		10 06 56.9	
	comp=E,15nm,1.1s						
I23K	**Minto, Yukon-K**	**3.77**	**4**		Pn	10 05 56.0	-1.1
I23K				IAML		10 07 08.0	
	comp=N,12nm,1.5s						
I23K				IAML		10 07 18.8	
	comp=E,14nm,4.5s						
J18K	**Innoko River**	**3.78**	**306**		Pn	10 05 56.8	-0.4
J18K				IAML		10 06 40.8	
	comp=N,12nm,0.8s						
J25K	**Salcha River,**	**3.83**	**31**		Pn	10 05 58.0	-0.1
J25K				IAML		10 06 50.7	
	comp=E,15nm,0.6s						
J25K				IAML		10 06 51.0	
	comp=N,12nm,0.5s						
I20K	**Naaghedeneel**	**3.99**	**331**		Pn	10 05 59.1	-1.0
K17K	**Iditarod**	**4.16**	**292**	Pn	Pn	10 06 01.5	-1.0
K17K				IAML		10 07 10.4	
	comp=E,17nm,4.7s						
K17K				IAML		10 07 28.8	
	comp=N,13nm,2.6s						
M16K	**Timber Creek**	**4.39**	**269**	Pn	Pn	10 06 05.5	-0.1
M16K				IAML		10 07 42.2	
	comp=E,13nm,3.2s						
M16K				IAML		10 07 47.8	
	comp=N,11nm,4.2s						
H21K	**Melozitna Rive**	**4.46**	**344**		Pn	10 06 05.9	-0.8
H21K				IAML		10 06 54.9	
	comp=E,8.0nm,3.6s						
H21K				IAML		10 07 14.4	
	comp=N,7.8nm,4.9s						
H24K	**Noodor Dome**	**4.55**	**11**		Pn	10 06 07.8	-0.1
H24K				IAML		10 06 56.9	
	comp=N,8.5nm,4.0s						
H24K				IAML		10 07 25.1	
	comp=E,8.6nm,3.1s						
PRP	**Porcupine Dome**	**4.58**	**24**		Pn	10 06 07.5	-0.9
PRP				IAML		10 07 12.1	
	comp=E,7.0nm,3.4s						
PRP				IAML		10 07 26.8	
	comp=N,8.5nm,4.6s						
L16K	**Owhat River**	**4.58**	**278**	Pn	Pn	10 06 07.5	-0.8
L16K				IAML		10 06 43.3	
	comp=E,9.0nm,4.5s						
L16K				IAML		10 07 30.8	
	comp=N,9.7nm,2.7s						
H19K	**Roundabout Mou**	**5.07**	**328**	Pn	Pn	10 06 14.0	-1.0
H19K				IAML		10 07 34.5	
	comp=N,9.1nm,3.1s						
H19K				IAML		10 07 41.8	
	comp=E,8.6nm,4.5s						
J16K	**Anvik River**	**5.32**	**295**	Pn	Pn	10 06 17.5	-1.0
H18K	**Honhosa River**	**5.36**	**318**	Pn	Pn	10 06 18.1	-0.8
H18K				IAML		10 07 28.2	
	comp=E,6.8nm,3.9s						
H18K				IAML		10 07 32.8	
	comp=N,7.8nm,4.3s						

THE ***14*** *10:18:08.9, 40°.17N×20°.73E, h0km±3km, ML2.3/5, Error ellipse: s-maj=3.0km s-min=0.8km az=330.0*
TIR ***14*** *10:18:08.3, 40°.19N×20°.66E, h1km, Md2.3/2, Ml2.6/9*
ATH ***14*** *10:18:09.0, 40°.21N×20°.73E, h6km±2km, ML2.6/10, Manual Solution by A.Papageorgiou First location: 2019/04/14 10:19:20, This location: 2019/04/14 18:39:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 3 km*
SKO ***14*** *10:18:10.5, 40°.17N×20°.67E, h22km*

ISC 14 10:18:08.8±1.0, 40°.19N±0°.02×20°.72E±0°.02, h3km±9km, n37, σ0§96/70, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.10**	**249**	Pg	**Pg**	**10 18 09.6**	**-1.2**
LSK				Sg	**Sg**	**10 18 11.4**	**-0.7**
LSK				AML	AML	10 18 13.2	
	135nm,0.7s						
LSK				AMd		10 18 48.9	
PENT	**Pentalofos**	**0.32**	**88**	P	**Pg**	**10 18 14.7**	**-0.3**
PENT				S	**Sg**	**10 18 20.2**	**+1.0**
PENT	**Pentalofos**	**0.32**	**88**	P	**Pg**	**10 18 14.9**	**-0.1**
PENT				S	**Sg**	**10 18 20.5**	**+1.3**
NEST	**Nestorio**	**0.34**	**48**	P	**Pg**	**10 18 15.0**	**-0.4**
NEST				S	**Sg**	**10 18 20.8**	**+1.0**
	505nm,0.4s						
NEST	**Nestorio**	**0.34**	**48**	Pg	**Pg**	**10 18 15.0**	**-0.4**
NEST				Sg	**Sb**	**10 18 21.5**	**-2.0**
NEST				AML	AML	10 18 28.6	
	2.7nm,0.5s						
KBN	**Korca**	**0.44**	**7**	Pg	**Pg**	**10 18 16.6**	**-0.7**
KBN				Sg	**Sg**	**10 18 24.1**	**+1.0**
KBN				AML	AML	10 18 30.6	
	1.8nm,0.9s						
KBN				AMd		10 18 45.2	
JAN	**Janina**	**0.54**	**169**	P	**Pg**	**10 18 17.6**	**-1.5**
JAN				S	**Sg**	**10 18 26.1**	**0.0**
	592nm,0.4s						
JAN	**Janina**	**0.54**	**169**	P	**Pb**	**10 18 20.4**	**-0.5**
JAN				S	**Sb**	**10 18 28.1**	**-1.0**
SRN	**Sarande**	**0.63**	**241**	Pg	**Pg**	**10 18 19.9**	**-1.0**
SRN				Sg	**Sg**	**10 18 30.3**	**+1.2**
SRN				AML	AML	10 18 35.4	
	0.6nm,0.7s						
SRN				AML	AML	10 18 36.9	
	0.6nm,0.6s						
IGT	**Igoumenitsa**	**0.72**	**205**	P	**Pg**	**10 18 22.2**	**-0.3**
IGT				S	**Sg**	**10 18 33.1**	**+1.3**
	192nm,0.5s						
IGT	**Igoumenitsa**	**0.72**	**205**	Pg	**Pg**	**10 18 22.9**	**+0.4**
IGT				Sg	**Sb**	**10 18 34.2**	**0.0**
IGT				AML	AML	10 18 42.1	
	0.7nm,0.7s						
IGT	**Igoumenitsa**	**0.72**	**205**	*i* Pg	**Pg**	**10 18 22.5**	**0.0**
IGT				*i* Sg	**Sb**	**10 18 35.3**	**+1.1**
KEK	**Kerkira**	**0.85**	**237**	P	**Pg**	**10 18 24.8**	**-0.3**
KEK				S	**Sb**	**10 18 37.9**	**-0.2**
KEK	**Kerkira**	**0.85**	**237**	P	**Pg**	**10 18 25.2**	**+0.1**
KEK				S	**Sb**	**10 18 37.7**	**-0.3**
OHR	**Ohrid**	**0.93**	**4**	*i* Pg	**Pb**	**10 18 27.7**	**+0.1**
OHR				*i* Sg	**Sn**	**10 18 41.6**	**-1.1**
TETR	**Tetrakomo, Epi**	**0.94**	**153**	P	**Pg**	**10 18 26.7**	**-0.1**
TETR				S	**Sb**	**10 18 40.6**	**-0.1**
THL	**Klokotos Trika**	**1.17**	**121**	P	**Pg**	**10 18 30.2**	**-1.1**
THL				S	**Sn**	**10 18 48.1**	**-0.5**
	102nm,0.6s						
THL	**Klokotos Trika**	**1.17**	**121**	P	**Pg**	**10 18 30.5**	**-0.8**
THL				S	**Sb**	**10 18 47.0**	**-0.3**
TSLK	**Tsoukalades, L**	**1.36**	**182**	P	**Pg**	**10 18 35.3**	**+0.5**
TSLK				S	**Sn**	**10 18 53.8**	**+0.5**
LIT	**Litokhoron**	**1.36**	**93**	P	**Pn**	**10 18 33.9**	**-0.8**
LIT	**Litokhoron**	**1.36**	**93**	*i* Pg	**Pn**	**10 18 34.5**	**-0.3**
LIT				*i* Sg	**Sn**	**10 18 55.7**	**+2.4**
LIT	**Litokhoron**	**1.36**	**93**	P	**Pn**	**10 18 34.4**	**-0.3**
LIT				S	**Sn**	**10 18 52.8**	**-0.5**
LKD2	**Lefkada island**	**1.40**	**182**	Pn	**Pg**	**10 18 36.6**	**+1.1**
LKD2				Sn	**Sg**	**10 18 56.9**	**+3.3**
LKD2				AML	AML	10 19 04.5	
	0.5nm,0.6s						
LKD2	**Lefkada island**	**1.40**	**182**	P	**Pg**	**10 18 36.0**	**+0.5**
LKD2				S	**Sg**	**10 18 54.4**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.47**	**181**	P	**Pn**	**10 18 35.6**	**-0.6**
NYDR				S	**Sg**	**10 18 56.4**	**+0.4**
	108nm,0.8s						
NYDR	**Nydri-Lefkada**	**1.47**	**181**	P	**Pb**	**10 18 36.7**	**-0.1**
NYDR				S	**Sg**	**10 18 57.1**	**+1.1**
GRG	**Griva**	**1.50**	**58**	*i* Pn	**Pb**	**10 18 37.1**	**-0.2**
PHP	**Peshkopia**	**1.51**	**352**	Pn	**Pg**	**10 18 37.7**	**-0.1**
PHP				Sn	**Sg**	**10 18 59.8**	**+2.4**
PHP				AML	AML	10 19 09.6	
	0.4nm,1.0s						
EVR	**Evrytania**	**1.52**	**146**	P	**Pn**	**10 18 37.3**	**+0.3**
EVR	**Evrytania**	**1.52**	**146**	P	**Pb**	**10 18 37.4**	**-0.3**
EVR				S	**Sg**	**10 18 58.1**	**+0.4**
EVGI	**Lefkada island**	**1.56**	**182**	P	**Pb**	**10 18 38.2**	**-0.2**
EVGI				S	**Sg**	**10 18 59.4**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.60**	**137**	P	**Pb**	**10 18 38.8**	**-0.2**
MAKR				S	**Sb**	**10 18 59.9**	**+0.3**
AGG	**Agios Georgios**	**1.70**	**133**	P	**Pn**	**10 18 40.0**	**+0.5**
AGG				S	**Sb**	**10 19 02.2**	**-0.4**
SCTE	**Santa Cesarea**	**1.73**	**267**	Pn	**Pb**	**10 18 40.9**	**-0.4**
SCTE				Sn	**Sg**	**10 19 04.3**	**-0.1**
SCTE				AML	AML	10 19 05.8	
	0.3nm,0.7s						
ANX	**Ano Chora**	**1.84**	**149**	P	**Pb**	**10 18 42.3**	**-0.9**
ANX				S	**Sb**	**10 19 06.2**	**-0.5**
KNT	**Kendrikon**	**1.92**	**59**	*i* Pn	**Pn**	**10 18 41.7**	**-0.8**
PUK	**Puka**	**1.96**	**342**	Pn	**Pb**	**10 18 45.6**	**+0.4**
PUK				Sn	**Sg**	**10 19 14.1**	**+2.4**
PUK				AML	AML	10 19 21.2	
	0.2nm,0.6s						

IDC ***14*** *10:23:29.2±0.7, 52°.14S×5°.33W, h0km, mb4.0/12, mbtmp4.0/13, ML4.4/1, MS4.1/35, Error ellipse: s-maj=22.8km s-min=17.8km az=56.0*
NEIC ***14*** *10:23:32.1±1.8, 52°.3S±0°.1×5°.5W±0°.2, h10km±1km, mb4.6/18, Error ellipse: s-maj=24.1km s-min=19.9km az=305.0*
GCMT ***14*** *10:23:34.1±0.3, 52°.11S±0°.02×5°.10W±0°.04, h19km±1km, MW5.1/81, Moment Tensor Solution. s18,c20; s81,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.28±.29; $M_{\theta\theta}$1.95±.20; $M_{\phi\phi}$-0.66±.19; $M_{r\theta}$2.23±.48; $M_{\theta\phi}$-3.14±.12; $M_{\phi r}$2.80±.57; Best double couple: $M_0$4.86800×10^{16} NP1:ϕ_s161.00000°, δ59.00000°, λ-27.00000°. NP2: ϕ_s265.00000°, δ67.00000°, λ-147.00000°. Principal axes: T 4.0700, Plg5.0000°, Azm31.0000°; N 1.6010, Plg50.0000°, Azm295.0000°; P -5.6660, Plg39.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 10:23:31.5±0.5, 52°.13S±0°.08×5°.5W±0°.1, h10km, n70, σ1§40/39, mb4.4/22, MS4.2/35, 3D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**18.63**	**183**	⇓P	**Pn**	**10 27 52.1**	**+3.0**
	comp=Z,0.2nm,0.3s						
VNA2	**Neumayer--Watz**	**18.88**	**182**	⇓P	**Pn**	**10 27 54.8**	**+2.6**
	comp=Z,1.2nm,0.2s,baz=0.6,slow=15						
VNA3	**Neumayer Olymp**	**19.27**	**184**	⇓P	**Pn**	**10 28 00.7**	**+3.8**
	comp=Z,0.2nm,0.2s						
SNAA	**Sanae**	**19.64**	**178**	P	**P**	**10 27 58.4**	**-1.6**
SNAA	**San

H04S1	CROZET ISLANDS	36.80	105	T		T		11 09 34.0
	baz=241,slow=75,SNR=47							
GRTLG	Ghanzi	37.01	44			P		10 30 41.8 +0.5
GRTLG				IAmb		IAmb		10 30 43.4
	comp=Z,20nm,1.1s							
TSUM	Tsumeb	37.49	37			P		10 30 45.9 +0.4
TSUM				IAmb		IAmb		10 30 47.7
	comp=Z,17nm,0.9s							
TSUM	Tsumeb	37.49	37	LR		LR		10 42 48.3
	comp=Z,443nm,20.1s,baz=155,slow=31							
QSPA	South Pole Qui	38.12	180	P		P		10 30 48.4 -1.9
QSPA	South Pole Qui	38.12	180	P		P		10 30 48.5 -1.9
	comp=Z,1.2nm,0.8s,baz=276,slow=2.5,SNR=3.6							
QSPA				LR		LR		10 45 26.8
	comp=Z,474nm,20.2s,baz=211,slow=35							
	comp=Z,1.2nm,0.8s							
QNGWA	Qangwa	38.62	43	P		P		10 30 55.9 +1.0
QNGWA				IAmb		IAmb		10 30 56.8
	comp=Z,23nm,1.2s							
MREMI	Moremi	38.85	53	P		P		10 30 57.5 +0.7
MREMI				IAmb		IAmb		10 31 02.0
	comp=Z,11nm,0.9s							
PHDHD	Phuduhudu	39.50	48	P		P		10 31 03.1 +0.8
PHDHD				IAmb		IAmb		10 31 04.4
	comp=Z,16nm,1.1s							
XAUDM	Khaudum	39.57	42	P		P		10 31 03.8 +0.9
XAUDM				IAmb		IAmb		10 31 05.4
	comp=Z,13nm,1.1s							
H10S2	ASCENSION HYDR	43.70	347	T		T		11 18 44.8
	baz=171,slow=74,SNR=69							
H10S3	ASCENSION HYDR	43.71	347	T		T		11 18 45.5
	baz=49,slow=74,SNR=68							
PLCA	Paso Flores	44.83	258	LR		LR		10 48 20.5
	comp=Z,142nm,19.2s,baz=161,slow=33							
LSZ	Lusaka	45.46	49	LR		LR		10 48 58.4
	comp=Z,343nm,18.4s,baz=212,slow=34							
CPUP	Villa Florida	46.45	283	P		P		10 31 59.1 +0.6
CPUP	Villa Florida	46.45	283	P		P		10 31 59.0 +0.6
	comp=Z,2.5nm,0.7s,baz=141,slow=7.7,SNR=8.6							
CPUP				LR		LR		10 49 10.6
	comp=Z,95nm,20.1s,baz=147,slow=33							
	comp=Z,2.5nm,0.7s							
ML02	Panimavida	48.51	263	P		P		10 32 15.2 +0.9
BO02	Sierra Bellavi	48.77	264	P		P		10 32 14.9 -1.6
BO02				IAmb		IAmb		10 32 28.0
	comp=Z,7.0nm,0.8s							
CFA	Coronel Fontan	49.36	269	P		P		10 32 20.1 -0.9
	comp=Z,0.5nm,0.4s,baz=132,slow=17,SNR=2.0							
	comp=Z,0.5nm,0.4s							
BDFB	Brasilia	49.57	301	P		P		10 32 23.4 +0.6
	comp=Z,1.9nm,0.7s,baz=151,slow=9.7,SNR=4.3							
BDFB				LR		LR		10 49 26.1
	comp=Z,208nm,20.2s,baz=134,slow=31							
	comp=Z,1.9nm,0.7s							
SBA	Scott Base	50.19	178	P		P		10 32 27.5 +0.8
SBA				IAmb		IAmb		10 32 41.0
	comp=Z,10nm,1.4s							
VNDA	Vanda	50.37	176	P		P		10 32 26.7 -1.4
	comp=Z,1.1nm,0.9s,baz=232,slow=5.2,SNR=5.4							
VNDA				LR		LR		10 52 50.6
	comp=Z,146nm,18.4s,baz=192,slow=35							
	comp=Z,1.1nm,0.9s							
SIV	San Ignacio	56.60	288	P		P		10 33 14.7 +0.2
	comp=Z,1.1nm,0.8s,baz=117,slow=9.4,SNR=3.4							
	comp=Z,1.1nm,0.8s							
DBIC	Dimbokro	58.58	1	P		P		10 33 27.0 -1.3
	comp=Z,4.9nm,0.8s,baz=158,slow=8.2,SNR=4.2							
DBIC				LR		LR		10 53 21.9
	comp=Z,133nm,21.5s,baz=150,slow=31							
	comp=Z,4.9nm,0.8s							
LPAZ	La Paz	60.58	282	P		P		10 33 41.8 -1.1
	comp=Z,0.7nm,0.6s,baz=125,slow=2.7,SNR=4.8							
LPAZ				LR		LR		10 57 38.7
	comp=Z,57nm,22.0s,baz=121,slow=34							
	comp=Z,0.7nm,0.6s							
KMBO	Kilima Mbogo	62.09	50	LR		LR		10 58 09.1
	comp=Z,472nm,21.0s,baz=268,slow=34							
TORD	Torodi Ar. Bea	65.31	8	P		P		10 34 13.0 -0.5
	comp=Z,113nm,0.3s,baz=215,slow=4.8,SNR=1.5							
BBTS	Babate	67.21	348	LR		LR		10 57 39.4
	comp=Z,247nm,19.0s,baz=40,slow=30							
MDP	Montagnes des	69.65	309	LR		LR		11 00 18.5
	comp=Z,67nm,21.7s,baz=152,slow=32							
ATD	Arta Tunnel	75.80	49	LR		LR		11 07 20.0
	comp=Z,10.0nm,18.1s,baz=166,slow=35							
PCRV	Puerto La Cruz	80.05	301	LR		LR		11 08 18.1
	comp=Z,290nm,18.9s,slow=34							
ROSC	El Rosal	81.05	290	LR		LR		11 10 24.6
	comp=Z,314nm,18.6s,baz=124,slow=35							
NWAO	Narrogin (SRO)	81.61	134	LR		LR		11 04 42.6
	comp=Z,110nm,19.4s,baz=97,slow=30							
SDV	Santo Domingo	82.25	295	LR		LR		11 10 58.0
	comp=Z,80nm,19.9s,baz=154,slow=35							
RPZ	Rata Peaks	84.48	177	LR		LR		11 12 55.7
	comp=Z,115nm,18.0s,baz=136,slow=35							
MDT	Midelt	84.59	1	LR		LR		11 10 24.9
	comp=Z,176nm,18.1s,baz=190,slow=33							
SJG	San Juan	87.50	304	LR		LR		11 12 07.6
	comp=Z,90nm,21.1s,baz=144,slow=33							
KEST	Kesra	88.45	12	LR		LR		11 12 14.0
	comp=Z,126nm,20.6s,baz=243,slow=33							
EIL	Elat	88.82	34	LR		LR		11 14 08.6
	comp=Z,185nm,19.0s,baz=243,slow=34							
URZ	Urewera	89.95	182	LR		LR		11 14 22.0
	comp=Z,91nm,19.0s,baz=277,slow=34							
VAE	Valguarnera	90.91	16	LR		LR		11 17 10.5
	comp=Z,123nm,18.6s,baz=183,slow=35							
ESDC	Sonseca Array	91.44	1	P		P		10 36 36.9 -0.4
	comp=Z,0.5nm,0.9s,baz=179,slow=3.7,SNR=1.9							
ESDC				LR		LR		11 13 26.4
	comp=Z,66nm,19.2s,baz=202,slow=33							
	comp=Z,0.5nm,0.9s							
ASF	Jabal al Asfar	91.78	35	LR		LR		11 15 59.8
	comp=Z,170nm,19.2s,baz=238,slow=34							
MMAI	Mount Meron Ar	92.03	33	LR		LR		11 17 19.1
	comp=Z,131nm,18.2s,baz=201,slow=35							
PALK	Pallekele	93.33	83	LR		LR		11 11 04.9
	comp=Z,64nm,20.1s,baz=210,slow=31							
ASAR	Alice Springs	96.58	143	P		P		10 37 00.9 -0.7
	comp=Z,0.3nm,0.9s,baz=189,slow=8.2,SNR=1.4							
	comp=Z,0.3nm,0.9s							
AS31	Alice Springs	96.58	143	P		P		10 37 02.9 +1.3
AS31				IAmb		IAmb		10 37 16.2
	comp=Z,2.0nm,1.5s							
DAVOX	Davos/Dischmat	99.41	11	LR		LR		11 21 53.6
	comp=Z,50nm,18.3s,baz=347,slow=35							
KSAR	Wonju Array Be	144.44	96	PKPdf		PKPdf		10 43 08.5 +1.2
JCJ	Chichijima	145.18	123	PKPbc		PKPdf		10 43 08.9 -0.1
JMN	Monobe	145.58	106	PKPdf		PKPab		10 43 11.2 +1.1
MJAR	Matsushiro Arr	150.08	107	PKPbc		PKiKP		10 43 22.2 -0.5
	comp=Z,1.2nm,0.8s,baz=222,slow=1.7,SNR=4.8							

*SJA **14** 10:35:10.9±0.6,24°.09S×66°.79W,h217km±3km,ML3.6, MW3.7*
*IDC **14** 10:35:11.2±1.7,24°.09S×66°.59W,h190km±17km,mb3.1/5, mbtmp3.7/11,Error ellipse: s-maj=21.0km s-min=14.4km az=96.0*
*NEIC **14** 10:35:11.6±1.5,24°.12S±0°.07×66°.9W±0°.1,h222km±12km, mb4.4/6,Error ellipse: s-maj=15.6km s-min=10.5km az=89.0*
*GUC **14** 10:35:12.2±0.6,24°.12S×66°.84W,h210km±5km,ML4.2*
ISC 14 10:35:11.3±0.6,24°.09S±0°.04×66°.83W±0°.04,h206km±6km, n98,σ1°38/129,mb3.4/6,9C,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.46	107	eP	Pn	10 35 40.6	+1.0
SALTA		0.46	107	eP	Pn	10 35 40.5	+1.0
SALTA				eS	S	10 36 02.1	+0.6
SLA	San Lorenzo	1.36	118	i P	Pn	10 35 45.4	+0.9
SLA				eS	S	10 36 10.6	+0.5
SLA	San Lorenzo	1.36	118	eP	Pn	10 35 45.6	+1.0
SLA				eS	S	10 36 11.2	+1.1
SLA				IAML		10 36 11.6	
	comp=Z,234nm,0.6s						
AF01	San Pedro de A	1.68	312		Pn	10 35 49.3	+1.9
AF01	San Pedro de A	1.68	312	↑iP	Pn	10 35 49.6	+2.1
AF01				IAML		10 36 22.0	
	comp=N,602nm,0.8s						
AF01	San Pedro de A	1.68	312	eP	Pn	10 35 49.4	+1.9
AF01				eS	S	10 36 16.7	+1.5
AF01				IAML		10 36 20.1	
	comp=Z,232nm,0.5s						
FSA	Cafayete	2.15	159	eP	Pn	10 35 52.7	+0.7
FSA				eS	S	10 36 22.5	-0.9
YJA	Yavi	2.26	33	eP	Pn	10 35 54.7	+1.3
YJA				eS	S	10 36 26.9	+1.2
GO02	Mina Guanaco	2.73	246		Pn	10 35 59.9	+1.4
GO02	Mina Guanaco	2.73	246	↑iP	Pn	10 36 00.1	+1.6
GO02				i S	S	10 36 36.0	+1.2
GO02	Mina Guanaco	2.73	246	eP	Pn	10 35 59.5	+1.1
GO02				eS	S	10 36 36.6	+1.8
PB06	IPOC Station P	2.87	298	↑iP	Pn	10 36 01.4	+1.5
PB06				eS	S	10 36 38.1	+0.7
PB06				IAML		10 36 41.2	
	comp=E,780nm,0.3s						
PB06	IPOC Station P	2.87	298	eP	Pn	10 36 01.3	+1.3
AHML	Horco Molle	3.00	154	eP	Pn	10 36 01.8	+0.4
AHML	Horco Molle	3.00	154	eP	Pn	10 36 01.7	+0.4
AHML				eS	S	10 36 39.6	-0.4
PB09	IPOC Station P	3.19	315		Pn	10 36 05.0	+1.4
PB09	IPOC Station P	3.19	315	↑iP	Pn	10 36 05.3	+1.7
PB09				i S	S	10 36 45.5	+1.3
PB09	IPOC Station P	3.19	315	eP	Pn	10 36 04.8	+1.1
PB14	IPOC Station P	3.31	260		Pn	10 36 05.8	+0.7
PB14	IPOC Station P	3.31	260	eP	Pn	10 36 06.4	+1.2
PB14	IPOC Station P	3.31	260	eP	Pn	10 36 06.3	+1.1
PB14				eS	S	10 36 46.9	+0.1
PB03	IPOC Station P	3.38	306	↑iP	Pn	10 36 06.9	+1.0
PB03				i S	S	10 36 47.1	-1.0
PB03	IPOC Station P	3.38	306	eP	Pn	10 36 06.9	+1.0
AC02	Maricunga	3.44	217		Pn	10 36 08.3	+1.4
AC02	Maricunga	3.44	217	eP	Pn	10 36 08.1	+1.2
AC02				eS	S	10 36 37.0	-13
PB10	IPOC Station P	3.46	279		Pn	10 36 07.8	+1.1
PB10	IPOC Station P	3.46	279	↑iP	Pn	10 36 08.0	+1.3
PB10				i S	S	10 36 48.5	-1.1
PB10	IPOC Station P	3.46	279	eP	Pn	10 36 08.1	+1.3
PB10				eS	S	10 36 49.8	+0.2
PB01	IPOC Station P	3.90	320		Pn	10 36 12.8	+0.6
PB01	IPOC Station P	3.90	320	↑iP	Pn	10 36 12.7	+0.5
PB01				i S	S	10 36 58.1	-1.5
PB01	IPOC Station P	3.90	320	eP	Pn	10 36 12.9	+0.6
AC01	Pan de Azucar	3.99	238		Pn	10 36 13.2	+0.2
AC01	Pan de Azucar	3.99	238	eP	Pn	10 36 13.3	+0.2
AC01				eS	S	10 37 00.5	-0.7
GUSE	Guasayan	4.18	155	eP	Pn	10 36 16.2	+0.7
CYA	Choya	4.43	168	eP	Pn	10 36 19.5	+0.8
CYA				eS	S	10 36 58.1	-13
PATCX	Punta Patache	4.48	316		Pn	10 36 19.5	+0.1
PATCX	Punta Patache	4.48	316	↑iP	Pn	10 36 19.1	-0.3
PATCX				i S	S	10 37 09.8	-2.7
PATCX	Punta Patache	4.48	316	eP	Pn	10 36 19.3	-0.1
PATCX				eS	S	10 37 12.5	0.0
PATCX				IAML		10 37 18.8	
	comp=Z,89nm,0.5s						
PB08	IPOC Station P	4.48	331		Pn	10 36 20.6	+0.9
PB08	IPOC Station P	4.48	331	↑iP	Pn	10 36 20.9	+1.2
PB08				i S	S	10 37 12.3	-0.8
AC06	Mina Casimiro	4.55	224		Pn	10 36 20.1	0.0
GO03	Copiapo	4.65	221	Pn	Pn	10 36 21.8	+0.4
GO03	Copiapo	4.65	221	eP	Pn	10 36 21.6	+0.2
GO03				i S	S	10 37 15.2	-1.1
GO03	Copiapo	4.65	221	eP	Pn	10 36 21.9	+0.4
GO03				eS	S	10 37 15.1	-1.2
TA01	Diego Aracena	4.68	318		Pn	10 36 22.1	+0.2
TA01	Diego Aracena	4.68	318	eP	Pn	10 36 21.4	-0.5
TA01				i S	S	10 37 14.7	-2.4
TA01	Diego Aracena	4.68	318	eP	Pn	10 36 21.6	-0.3
TA01				eS	S	10 37 15.9	-1.2
VCA	Vinchina	4.79	195	eP	Pn	10 36 25.1	+1.8
VCA				eP		10 36 26.0	
VCA				eS	S	10 37 20.8	+1.0
TA02	Huaiquique	4.88	321		Pn	10 36 24.4	0.0
TA02	Huaiquique	4.88	321	eP	Pn	10 36 25.0	+0.6
TA02				i S	S	10 37 19.9	-1.8
TA02	Huaiquique	4.88	321	eP	Pn	10 36 24.7	+0.4
TA02				eS	S	10 37 20.8	-0.8
GO01	Chusmiza	4.92	333		Pn	10 36 25.8	+0.4
GO01	Chusmiza	4.92	333	eP	Pn	10 36 26.0	+0.7
GO01				eS	S	10 37 22.0	-1.3
PB11	IPOC Station P	5.04	328		Pn	10 36 26.0	-0.6
PB11	IPOC Station P	5.04	328	eP	Pn	10 36 26.3	-0.3
ACLC	CERRO LA CRUZ	5.32	181	eP	Pn	10 36 30.5	+0.5
AC04	Llanos de Chal	5.60	222	Pn	Pn	10 36 32.8	-0.7
AC05	El Transito	5.65	212	Pn	Pn	10 36 34.2	+0.1
LCO	Las Campanas	6.00	214	Pn	Pn	10 36 38.4	-0.5
PB12	IPOC Station P	6.35	328		Pn	10 36 41.7	-1.6
CO01	Juntas del Tor	6.55	206	Pn	Pn	10 36 45.9	0.0
PB18	Visviri	6.93	339		Pn	10 36 52.5	+1.3
GO04	Tololo Observa	7.02	209	Pn	Pn	10 36 50.2	-1.7
CO03	El Pedregal	7.55	206	Pn	Pn	10 36 57.4	-1.3
CFA	Coronel Fontan	7.59	189	P	Pn	10 36 58.8	-0.4
	comp=Z,4.7nm,0.2s,baz=43,slow=19,SNR=92						
CFA				S	S	10 38 18.8	-6.4
	comp=Z,14nm,0.3s,baz=316,slow=17,SNR=22						
LPAZ	La Paz	7.86	351		Pn	10 37 03.5	+0.2
LPAZ	La Paz	7.86	351	P	Pn	10 37 03.9	+0.6
	comp=Z,8.8nm,0.3s,baz=174,slow=8.4,SNR=88						
LPAZ				S	S	10 38 29.3	-3.2
	comp=Z,3.5nm,0.8s,baz=210,slow=20,SNR=0.7						
CPUP	Villa Florida	8.88	107	P	Pn	10 37 11.6	-4.4
	comp=Z,0.6nm,0.4s,baz=266,slow=9.0,SNR=2.9						
VA03	San Esteban	9.24	200	Pn	Pn	10 37 20.2	-0.5
SIV	San Ignacio	9.70	35	P	Pn	10 37 25.1	-1.7
	comp=Z,1.9nm,0.5s,baz=206,slow=13,SNR=9.7						
SIV				S	S	10 39 13.9	-1.7
	comp=Z,0.5nm,0.4s,baz=291,slow=21,SNR=1.4						
MT08	Bocatoma Ro	9.73	196		Pn	10 37 28.7	+1.6
MT02	Curacav	9.89	202	Pn	Pn	10 37 27.7	-1.2
LMEL	Las Melosas	10.16	196	Pn	Pn	10 37 32.5	-0.1
MT09	Talagante	10.31	200	Pn	Pn	10 37 33.9	-0.6
BO04	La Punta	10.40	198	Pn	Pn	10 37 33.9	-1.7
BO02	Sierra Bellavi	11.21	197	Pn	Pn	10 37 46.0	+0.1
BI02	San Fabin de	13.10	196	Pn	Pn	10 38 09.5	-0.4
PLTB	Pedras Altas	13.96	126		Pn	10 38 20.0	-0.4
TRQA	Tornquist	14.53	165	P	Pn	10 38 26.0	-1.4
SAML	Samuel	15.45	14	P	Pn	10 38 38.5	-0.3
PLCA	Paso Flores	16.89	190	P	P	10 38 52.5	-2.0
PLCA				IAmb	IAmb	10 39 30.8	
	comp=Z,8.4nm,1.2s						
PLCA	Paso Flores	16.89	190	P	Pn	10 38 57.5	+1.6
	comp=Z,1.4nm,0.9s,baz=81,slow=15,SNR=1.4						
VAO	Valinhos	18.24	91	P	P	10 39 09.3	-0.2
VAO				IAmb	IAmb	10 39 11.6	
	comp=Z,19nm,0.5s						
BDFB	Brasilia	19.57	68	P	P	10 39 23.5	-0.4
BDFB				IAmb	IAmb	10 39 25.6	
	comp=Z,7.3nm,0.9s						
BDFB	Brasilia	19.57	68	P	P	10 39 23.9	0.0
	comp=Z,5.6nm,0.8s,baz=236,slow=9.9,SNR=8.1						
SOCE	Pocosol	38.42	331	P	P	10 42 11.5	-1.7
SOCE				IAmb	IAmb	10 42 18.6	
	comp=Z,9.6nm,0.7s						
EMPR	Esperanza - Ma	42.31	0	P	P	10 42 43.0	-1.9
TXAR	Lajitas Array	63.84	324	P	P	10 45 24.2	+2.3
	comp=Z,0.3nm,0.6s,baz=156,slow=5.9,SNR=5.0						
	comp=Z,0.3nm,0.6s						
QSPA	South Pole Qui	66.11	180	P	P	10 45 38.7	+2.5
	comp=Z,0.6nm,0.5s,baz=244,slow=2.0,SNR=5.4						
	comp=Z,0.6nm,0.5s						
TORD	Torodi Ar. Bea	76.45	69	P	P	10 46 38.9	+0.2
	comp=Z,196nm,0.4s,baz=264,slow=5.0,SNR=1.5						
PDAR	Pinedale Array	77.31	329	P	P	10 46 45.8	+2.6
	comp=Z,0.1nm,0.3s,baz=133,slow=3.0,SNR=2.6						
	comp=Z,0.1nm,0.3s						
NVAR	Mina Array Bea	78.71	321	P	P	10 46 53.4	+2.4
	comp=Z,0.3nm,0.7s,baz=131,slow=2.8,SNR=2.9						
	comp=Z,0.3nm,0.7s						
YKA	Yellowknife Ar	94.26	340	P	P	10 48 08.4	+2.0
	comp=Z,0.3nm,0.6s,baz=139,slow=4.5,SNR=11						
	comp=Z,0.3nm,0.6s						
ASAR	Alice Springs	128.44	204	PKP	PKiKP	10 53 55.7	+0.8
	comp=Z,0.3nm,0.7s,baz=147,slow=1.6,SNR=6.2						
WRA	Warramunga Arr	131.62	207	PKP	PKiKP	10 54 01.4	+0.1
	comp=Z,0.5nm,1.0s,baz=157,slow=1.5,SNR=4.9						
ZALV	Zalesovo Beam	143.40	28	PKP	PKPdf	10 54 20.5	-0.3
	comp=Z,0.3nm,0.3s,baz=270,slow=1.4,SNR=2.4						
MKAR	Makanchi Array	146.49	40	PKPbc	PKPbc	10 54 27.9	-0.2
	comp=Z,0.6nm,0.6s,baz=300,slow=2.9,SNR=6.0						

*IDC **14** 10:37:43.9±7.5,53°.80N×158°.78W,h0km,mb3.5/4, mbtmp3.4/5,ML3.1/1,Error ellipse: s-maj=135.5km s-min=31.6km az=86.0*
*NEIC **14** 10:37:47.0±1.5,53°.82N±0°.07×158°.21W±0°.08,h10km±2km, mb3.8/9,ML3.5/28,ML3.1(AEIC),Error ellipse: s-maj=11.8km s-min=8.0km az=173.0*
*AEIC **14** 10:37:51.0±2.0,53°.86N±0°.08×158°.14W±0°.07,h3km±6km, Error ellipse: s-maj=11.6km s-min=6.1km az=169.0*
ISC 14 10:37:47.6±1.0,53°.90N±0°.10×158°.19W±0°.06,h10km, n104,σ1°02/98,mb3.8/6,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	Chernabura Isl	1.23	319		Pn	10 38 09.9	-0.9
CNBA	Chernabura Isl	1.23	319		Sb	10 38 26.5	-0.3
SDPT	Sand Point	1.97	318		Pn	10 38 20.4	-0.5
SDPT	Sand Point	1.97	318		Sn	10 38 44.6	-1.0
CHGN	Chignik	2.41	357		Pn	10 38 27.3	+0.3
CHGN				IAML		10 38 59.8	
	comp=E,193nm,0.3s						
CHGN				IAML		10 38 59.0	
	comp=N,125nm,0.3s						
CHIR	Chirikof Islan	2.43	37	Pn	Pn	10 38 26.5	-0.8
CHIR				IAML		10 38 57.0	
	comp=E,111nm,1.8s						
CHIR	Chirikof Islan	2.43	37		Sn	10 38 54.8	-2.2
VNFG	Fog Glacier, M	2.51	342		Pn	10 38 30.4	+1.8
VNFG	Fog Glacier, M	2.51	342	IAML		10 39 05.5	
	comp=N,280nm,0.9s						
PVV	Pavlof Volcano	2.56	307		Pn	10 38 28.9	-0.2
PS1A	Pavlof South-1	2.56	308		Pn	10 38 29.5	+0.3
PS1A					Sn	10 38 60.0	-0.4
PS4A	Pavlof South-4	2.58	306		Pn	10 38 29.6	+0.2
PS4A					Sn	10 38 59.4	-1.3
HAG	Hague Volcano	2.58	305		Pn	10 38 29.1	-0.4
FALS	False Pass	3.20	289		Pn	10 38 37.1	-0.8
ISLZ	Isanotski Laza	3.34	287		Pn	10 38 39.0	-0.8
ISNN	Isanotski Nort	3.40	288		Pn	10 38 40.6	-0.1
SII	Sitkinak Islan	3.51	39	Pn	Pn	10 38 41.5	-0.7
SII				IAML		10 39 30.1	
	comp=E,67nm,0.8s						
SII				IAML		10 39 32.5	
	comp=N,77nm,2.2s						
PLK1	Peulik 1	4.01	12		Pn	10 38 49.9	+0.9
R18K	Karluk	4.24	28		Pn	10 38 52.5	+0.4
R18K	Karluk	4.24	28	IAML		10 39 47.0	
	comp=N,53nm,0.6s						
R18K				IAML		10 39 48.1	
	comp=E,45nm,0.4s						
OHAK	Old Harbor	4.34	38		Pn	10 38 53.6	+0.1
OHAK				IAML		10 40 00.4	
	comp=N,35nm,3.9s						
OHAK				IAML		10 41 42.4	
	comp=E,24nm,3.1s						
AKUT	Akutan	4.48	276	Pn	Pn	10 38 54.2	-1.2
AKUT				IAML		10 40 51.7	
	comp=E,78nm,2.5s						
CNTC	Contact Creek	4.56	16		Pn	10 38 57.1	+0.4
ANCK	Angle Creek	4.56	18		Pn	10 38 57.0	+0.3
ACHA	Angle Creek He	4.61	19	Pn	Pn	10 38 58.1	+0.8
LVA	Lava Point	4.63	276	Pn	Pn	10 38 56.5	-1.1
UNV	Unalaska Valle	4.92	273	Pn	Pn	10 39 00.4	-1.1
UNV				IAML		10 39 56.2	
	comp=N,41nm,3.3s						
UNV				IAML		10 42 07.5	
	comp=E,41nm,4.1s						
P16K	Nushagak River	5.14	1	Pn	Pn	10 39 05.8	+1.2
P16K				IAML		10 40 36.2	
	comp=N,45nm,3.3s						
O15K	Ungalikthiuk R	5.36	351	Pn	Pn	10 39 08.0	+0.3
O14K	Tigyukauivet M	5.63	344	Pn	Pn	10 39 11.6	+0.4
Q19K	Cape Douglas,	5.63	25		Pn	10 39 11.5	+0.1
O16K	Kokwok River B	5.71	0	Pn	Pn	10 39 14.4	+2.1
SYI	Shuyak Island	5.72	32	Pn	Pn	10 39 12.4	-0.1
P18K	Big Mountain,	5.74	15	Pn	Pn	10 39 13.4	+0.6
O18K	Koktuh Hills	6.19	14		Pn	10 39 20.5	+1.6
N14K	Kuskokwak Cree	6.33	344	Pn	Pn	10 39 21.2	+0.4
N15K	Kwethluk River	6.37	351	Pn	Pn	10 39 22.0	+0.6
P19K	Oil Pt	6.37	23	Pn	Pn	10 39 22.4	+0.8
N17K	Nushagak Hills	6.66	4	Pn	Pn	10 39 27.8	+2.3
CNPM	China Poot	6.81	31	Pn	Pn	10 39 27.9	+0.4
N18K	Kilae Creek	6.91	9		Pn	10 39 29.8	+1.0
BRLK	Bradley Lake	7.11	31	Pn	Pn	10 39 30.6	-1.0
M16K	Timber Creek	7.15	357	Pn	Pn	10 39 33.6	+1.4
M14K	Bethel	7.16	345	Pn	Pn	10 39 33.5	+1.3
N19K	Bonanza Creek	7.21	15	Pn	Pn	10 39 33.1	0.0
M17K	Holitna River	7.53	3	Pn	Pn	10 39 39.1	+1.8
SEW	Seward	7.83	34	Pn	Pn	10 39 41.1	-0.3
L14K	Kuka Creek	7.84	344	Pn	Pn	10 39 42.6	+1.1
SLKM	Skilak Lake	7.90	30	Pn	Pn	10 39 42.6	+0.1
STLK	Strandline Lak	8.34	21	Pn

baz=27
TXAR Lajitas Array 46.15 100 P P 10 46 12.8 +0.6
comp=Z,0.8nm,0.8s,baz=300,slow=5.3,SNR=8.3
comp=Z,0.8nm,0.8s
MIAR Mount Ida 48.36 86 P P 10 46 28.6 -0.7

---

*SDD **14** 10:44:09.0±2.5, 17°.94N×69°.18W, h23km±298km, MD3.5, ML3.3, MW3.4*
*OSPL **14** 10:44:15.2±2.8, 18°.26N×69°.10W, h102km±18km, ML2.9*
ISC 14 10:44:10.8±1.6, 18°.21N±0°.06×69°.11W±0°.02, h1km±13km, n19, σ1s63/33, 12C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.76**	**66**	*i* P	**Pn**	**10 44 30.4**	**+1.7**
PCDR				*e*S	**Sn**	**10 44 44.8**	**+4.0**
PCDR				IAML		10 44 47.9	
	comp=Z,201nm,2.1s						
MIDR	**Miches**	**0.77**	**4**	⇑*e*Pg	**Pn**	**10 44 28.7**	**-0.2**
MIDR				⇑*e*Sg	**Sn**	**10 44 41.3**	**+0.1**
MIDR				IAML		10 44 42.3	
	comp=N,329nm,0.2s						
SDD	**Santo Domingo**	**0.80**	**288**	*i* P	**Pn**	**10 44 31.9**	**+2.7**
SDD				*e*S	**Sn**	**10 44 46.2**	**+4.4**
SMDR	**Samana, DR**	**1.08**	**356**	⇓*e*Pg	**Pg**	**10 44 30.8**	**-0.7**
SMDR				IAML		10 44 49.7	
	comp=N,464nm,0.6s						
DR08	**Loma La Naviza**	**1.14**	**311**	⇓*e*Pg	**Pg**	**10 44 33.2**	**+0.5**
DR08				⇑*e*Sg	**Sg**	**10 44 48.7**	**+1.2**
DR08				IAML		10 44 53.6	
	comp=N,6μm,0.2s						
SFDR	**San Fco. de Ma**	**1.51**	**315**	⇑*e*Pg	**Pn**	**10 44 36.6**	**-2.5**
SFDR				IAML		10 45 02.8	
	comp=N,516nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.92**	**96**	⇑*e*Pg	**Pn**	**10 44 44.4**	**-0.2**
CRPR				IAML		10 45 17.1	
	comp=N,64nm,1.9s						
CRPR	**Cabo Rojo, PR**	**1.92**	**96**	*i* P	**Pb**	**10 44 46.1**	**-0.5**
CRPR				IAML		10 45 18.7	
	comp=Z,51nm,0.6s						
AGPR	**Aguadilla, PR**	**1.92**	**82**	⇑*e*Pg	**Pn**	**10 44 44.6**	**-0.1**
AGPR				IAML		10 45 16.9	
	comp=N,139nm,0.2s						
AGPR	**Aguadilla, PR**	**1.92**	**82**	*i* P	**Pn**	**10 44 44.2**	**-0.4**
AGPR				*e*S	**Sn**	**10 45 09.2**	**-0.3**
AGPR				IAML		10 45 13.5	
	comp=Z,87nm,0.9s						
SC01	**Santiago de lo**	**1.95**	**309**	*i* P	**Pn**	**10 44 45.4**	**+0.3**
SC01				*e*S	**Sn**	**10 45 08.3**	**-2.0**
SC01				IAML		10 45 17.0	
	comp=Z,87nm,0.9s						
PODR	**Polo**	**2.06**	**269**	*i* P	**Pb**	**10 44 48.4**	**-0.8**
PODR				*e*S	**Sn**	**10 45 14.4**	**+1.1**
LOVI	**El Cajuil, Ovi**	**2.18**	**260**	*i* P	**Pn**	**10 44 48.2**	**0.0**
LOVI				*e*S	**Sn**	**10 45 14.4**	**-1.6**
LOVI				IAML		10 45 15.3	
	comp=Z,69nm,1.2s						
SDDR	**Presa de Saban**	**2.20**	**291**	⇑*e*Pg	**Pn**	**10 44 48.3**	**-0.3**
SDDR				⇑*e*Sg	**Sn**	**10 45 16.4**	**-0.1**
SDDR				IAML		10 45 21.9	
	comp=N,71nm,0.7s						
SDDR	**Presa de Saban**	**2.20**	**291**	*i* P	**Pn**	**10 44 48.4**	**-0.3**
SDDR				*e*S	**Sn**	**10 45 15.4**	**-1.1**
SDDR				IAML		10 45 22.5	
	comp=Z,57nm,0.6s						
AOPR	**Arecibo Observ**	**2.25**	**86**	⇑*e*Pg	**Pn**	**10 44 48.6**	**-0.6**
AOPR				⇑*e*Sg	**Sn**	**10 45 18.8**	**+1.2**
AOPR				IAML		10 45 21.9	
	comp=N,412nm,0.2s						
CELP	**Cerrillos**	**2.41**	**93**	⇑*e*Pg	**Pn**	**10 44 50.5**	**-1.0**
CELP				⇑*e*Sg	**Sn**	**10 45 22.9**	**+1.3**
CELP				IAML		10 45 27.8	
	comp=N,71nm,0.3s						
LOBH	**Bahia de las A**	**2.43**	**262**	*i* P	**Pn**	**10 44 52.3**	**+0.7**
LOBH				*e*S	**Sn**	**10 45 21.1**	**-0.9**
LOBH				IAML		10 45 31.3	
	comp=Z,50nm,2.7s						
SJG	**San Juan**	**2.82**	**91**	*i* P	**Pn**	**10 44 57.2**	**+0.1**
SJG				*e*S	**Sn**	**10 45 29.0**	**-2.7**
SJG				IAML		10 45 36.8	
	comp=Z,19nm,0.3s						

---

*CATAC **14** 10:47:17.3±0.6, 10°.N±4°.×87°.W±°., h1km, M3.6/18, MLv3.6/18, Error ellipse: s-maj=10.4km s-min=4.3km az=35.8, confirmed*
*UCR **14** 10:47:19.8±0.6, 10°.48N×86°.67W, h13km±7km, MW4.4*
ISC 14 10:47:20.3±1.4, 10°.49N±0°.07×86°.68W±0°.06, h23km, n50, σ0s94/54, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**1.10**	**101**	*e*P	**Pn**	**10 47 40.0**	**-0.4**
ELI1	**Hacienda Flor**	**1.12**	**82**	*e*P	**Pb**	**10 47 41.2**	**+0.2**
ALIBA	**Liberia Airpor**	**1.12**	**84**	*e*P	**Pn**	**10 47 41.0**	**+0.3**
ALIBA				*e*S	**Sn**	**10 47 56.4**	**+0.9**
LCRUZ	**La Cruz**	**1.19**	**60**	*e*P	**Pn**	**10 47 42.0**	**+0.5**
NICO	**Nicoya**	**1.27**	**106**	*e*P	**Pn**	**10 47 42.3**	**-0.3**
INDI	**Punta indio, G**	**1.32**	**118**	P	**Pn**	**10 47 42.6**	**-0.6**
INDI	**Punta indio, G**	**1.32**	**118**	S	**Sn**	**10 47 58.4**	**-1.7**
GPS2	**Hotel Rincn d**	**1.34**	**78**	*e*P	**Pn**	**10 47 43.6**	**0.0**
CARN	**Rivas**	**1.34**	**58**	P	**Pn**	**10 47 43.2**	**-0.4**
CARN				S	**Sb**	**10 48 03.1**	**+1.7**
PEJA	**Penjamo Buenos**	**1.41**	**73**	*e*P	**Pn**	**10 47 44.9**	**+0.4**
JAPN	**AI SSO del Vol**	**1.43**	**44**	P	**Pn**	**10 47 45.0**	**+0.2**
COLC	**Colonia**	**1.47**	**83**	*e*P	**Pn**	**10 47 45.5**	**+0.1**
NYURE	**Nandayure**	**1.49**	**109**	*e*P	**Pn**	**10 47 45.2**	**-0.5**
CONN	**Concepcion**	**1.49**	**44**	P	**Pn**	**10 47 45.1**	**-0.6**
HORNC	**Hornillas**	**1.50**	**81**	*e*P	**Pn**	**10 47 45.8**	**0.0**
CUI	**Cuipilapa**	**1.50**	**83**	*e*P	**Pn**	**10 47 46.1**	**+0.2**
NANN	**Nandasmo**	**1.55**	**21**	P	**Pn**	**10 47 47.2**	**+0.7**
UNAN	**Cigeo UNAN**	**1.67**	**14**	P	**Pn**	**10 47 48.1**	**0.0**
TILA	**Tilaran**	**1.69**	**90**	*e*P	**Pn**	**10 47 48.9**	**+0.5**
COPN	**Copaltepe**	**1.69**	**3**	*e*P	**Pn**	**10 47 48.4**	**0.0**
COPN	**Copaltepe**	**1.69**	**3**	P	**Pn**	**10 47 48.1**	**-0.3**
TENO	**El Achiote**	**1.69**	**82**	*e*P	**Pn**	**10 47 48.5**	**-0.1**
TISN	**Laguna Tiscapa**	**1.70**	**14**	P	**Pn**	**10 47 48.4**	**-0.1**
JUNT	**Juntas**	**1.71**	**97**	*e*P	**Pn**	**10 47 48.3**	**-0.4**
JTS	**Las Juntas de**	**1.71**	**96**	*e*P	**Pn**	**10 47 48.9**	**+0.1**
VERA	**Finca Concepci**	**1.82**	**78**	*e*P	**Pn**	**10 47 51.2**	**+0.9**
MTEVE	**Monteverde**	**1.83**	**95**	*e*P	**Pn**	**10 47 51.2**	**+0.6**
MOMN	**Momotombo**	**1.92**	**4**	P	**Pn**	**10 47 51.5**	**-0.1**
ARE1	**Arenal 1**	**1.93**	**91**	*e*P	**Pn**	**10 47 52.7**	**+0.9**
CNGA	**AI SSO del Vol**	**2.00**	**360**	P	**Pn**	**10 47 52.5**	**-0.2**
CNGN	**Cerro Negro**	**2.00**	**360**	*e*P	**Pn**	**10 47 52.8**	**0.0**
CNGN	**Cerro Negro**	**2.00**	**360**	P	**Pn**	**10 47 52.8**	**0.0**
SOCE	**Pocosol**	**2.04**	**93**	*e*P	**Pn**	**10 47 54.4**	**+1.1**
SOCE	**Pocosol**	**2.04**	**93**	P	**Pn**	**10 47 54.3**	**+1.1**
ACON	**Acoyapa**	**2.09**	**45**	*e*P	**Pn**	**10 47 53.6**	**-0.4**
ACON	**Acoyapa**	**2.09**	**45**	P	**Pn**	**10 47 53.5**	**-0.4**
QUEN	**AI S del Volca**	**2.10**	**356**	P	**Pn**	**10 47 54.6**	**+0.5**
POLN	**AI Sur del Vol**	**2.15**	**357**	P	**Pn**	**10 47 54.2**	**-0.6**
MATN	**Matagalpa**	**2.54**	**17**	P	**Pn**	**10 47 59.7**	**-0.5**
CSGN	**Cosiguina Volc**	**2.62**	**341**	*e*P	**Pn**	**10 48 01.4**	**+0.1**
CSGN	**Cosiguina Volc**	**2.62**	**341**	P	**Pn**	**10 48 01.8**	**+0.5**
CSGN				S	**Sn**	**10 48 32.7**	**+0.3**
PISJ	**San Jernim**	**2.66**	**108**	*e*P	**Pn**	**10 48 04.5**	**+2.6**
ABE2	**San Pablo**	**2.70**	**106**	*e*P	**Pn**	**10 48 04.8**	**+2.2**
LCR2	**La Lucha 2**	**2.74**	**105**	*e*P	**Pn**	**10 48 05.7**	**+2.7**
CVTG	**V. Turrialba,**	**2.88**	**96**	*e*P	**Pb**	**10 48 08.6**	**-2.5**
CNCH	**Conchagua**	**2.99**	**338**	P	**Pn**	**10 48 07.0**	**+0.5**
LCND	**La Caada**	**3.04**	**337**	P	**Pn**	**10 48 07.3**	**+0.3**
RCPN	**Sur Rio San Ju**	**3.08**	**11**	P	**Pn**	**10 48 09.0**	**+1.4**
RCVN	**Varilla2**	**3.12**	**9**	P	**Pn**	**10 48 08.4**	**+0.2**
SCLA	**Alcaldia de Sa**	**3.77**	**328**	P	**Pn**	**10 48 18.5**	**+1.4**
SCLA				S	**Sn**	**10 49 00.2**	**-0.6**

---

*IDC **14** 11:20:53.8±0.7, 44°.33N×81°.49E, h0km, mb3.9/13, mbtmp4.0/19, ML3.8/6, MS3.2/6, Error ellipse: s-maj=13.9km s-min=9.6km az=72.0*
*MOS **14** 11:20:54.1±1.4, 44°.35N×81°.18E, h10km, mb4.5/7, Error ellipse: s-maj=6.3km s-min=4.8km az=59.6*
*BJI **14** 11:20:54.3, 44°.30N×81°.12E, h14km, mB4.3/6, mb4.3/21, ML4.5/11, Ms4.0/10, Ms7 3.7/11*
*SOME **14** 11:20:55.3, 44°.23N×81°.20E, h20km, MS3.5*
*NNC **14** 11:20:55.0±0.6, 44°.30N×81°.06E, h0km, mb5.1, mpv4.8, Error ellipse: s-maj=7.5km s-min=2.8km az=128.0*
*NEIC **14** 11:20:56.1±1.4, 44°.34N±0°.07×81°.2E±0°.1, h10km±5km, mb4.5/29, Mwr4.0/17, ML4.3(BJI), Error ellipse: s-maj=14.4km s-min=7.7km az=117.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}=0.19; $M_{\theta\theta}$=0.43; $M_{\phi\phi}$=0.62; $M_{r\theta}$=0.80; $M_{r\phi}$=-1.09; $M_{\theta\phi}$=-0.14; Fault plane solution: M_0=1.47000×10^15^ NP1:φs191.31000°, δ55.50000°, λ-6.77000°. NP2:φs285.1600°, δ84.43000°, λ-145.31000°. Principal axes: T 1.5020, Plg19.0000°, Azm53.0000°; N -0.0656, Plg55.0000°, Azm293.0000°; P -1.4363, Plg28.0000°, Azm154.0000°;*
*NEIC **14** 11:20:56.2, 44°.37N×81°.11E, h9km*
ISC 14 11:20:56.2±0.8, 44°.31N±0°.04×81°.23E±0°.03, h13km±5km, n184, σ1s92/216, mb4.5/33, MS3.1/4, 19C-16D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.03**	**272**	*e*P	**Pb**	**11 21 13.6**	**-2.4**
	2μm,0.2s						
DJR				*e*S	**Sg**	**11 21 26.5**	**-3.2**
	4μm,0.2s						
PDGK	**Podgornoye**	**1.59**	**233**	⇓P	**Pn**	**11 21 22.5**	**-1.7**
	1μm,0.7s						
PDGK				⇑S	**Sn**	**11 21 42.5**	**-2.2**
	9μm,0.7s						
PDGK	**Podgornoye**	**1.59**	**233**	PN	**Pn**	**11 21 22.1**	**-2.1**
PDGK				S	**Sn**	**11 21 42.1**	**-2.6**
SHLS	**Shalkode**	**1.72**	**229**	*e*PG	Pn	11 21 20.8	-5.1
SHLS				pmax	pmax		
	comp=Z,261nm,0.1s						
SHLS	**Shalkode**	**1.72**	**229**	*e*P	**Pn**	**11 21 21.7**	**-4.2**
	comp=Z,2μm,0.3s						
SHLS				*e*S	**Sn**	**11 21 40.5**	**-7.3**
	comp=Z,21μm,0.3s						
UZB	**Uzynbulak**	**1.98**	**235**	*e*PN	**Pn**	**11 21 28.1**	**-1.4**
UZB				pmax	pmax		
	comp=Z,344nm,0.4s						
UZB	**Uzynbulak**	**1.98**	**235**	*e*P	**Pn**	**11 21 29.8**	**+0.4**
	comp=Z,629nm,0.2s						
UZB				*e*S	**Sn**	**11 21 54.4**	**+0.3**
	comp=Z,7μm,0.2s						
KPKS	**Kokpek**	**2.02**	**246**	*e*PN	**Pn**	**11 21 29.2**	**-0.9**
KPKS				pmax	pmax		
	comp=Z,217nm,0.3s						
ZHN	**Zhinishke**	**2.32**	**242**	Pg	**Pn**	**11 21 35.0**	**+0.8**
	comp=Z,479nm,0.4s						
ZHN				Lg	Lg	11 22 04.3	
	comp=Z,11μm,0.2s						
ZHN	**Zhinishke**	**2.32**	**242**	*e*PN	**Pn**	**11 21 33.6**	**-0.6**
ZHN				pmax	pmax		
	comp=Z,187nm,0.3s						
ZHN	**Zhinishke**	**2.32**	**242**	*e*P	**Pn**	**11 21 36.4**	**+2.2**
	comp=Z,400nm,0.2s						
ZHN				*e*S	**Sn**	**11 22 05.3**	**+2.7**
	comp=Z,11μm,0.2s						
KURS	**Kuram**	**2.36**	**251**	Pg	**Pn**	**11 21 36.5**	**+1.8**
	comp=Z,255nm,0.4s						
KURS				Lg	Lg	11 22 06.0	
	comp=Z,2μm,0.5s						
KURS	**Kuram**	**2.36**	**251**	*e*P	Pg	11 21 50.3	+8.9
	comp=Z,261nm,0.2s						
KURS				*e*S	Sg	11 22 29.4	+17
	comp=Z,3μm,0.2s						
SATY	**Saty**	**2.40**	**240**	Pg	**Pn**	**11 21 36.8**	**+1.5**
	comp=Z,493nm,0.4s						
SATY				Lg	Lg	11 22 06.5	
	comp=Z,9μm,0.3s						
SATY	**Saty**	**2.40**	**240**	*e*P	**Pb**	**11 21 38.9**	**-0.4**
	comp=Z,476nm,0.3s						
SATY				*e*S	**Sb**	**11 22 09.8**	**+1.0**
	comp=Z,4μm,0.4s						
ARXS	**Arharly**	**2.44**	**269**	Pg	**Pn**	**11 21 37.9**	**+2.1**
	comp=Z,476nm,0.3s						
ARXS				Lg	Lg	11 22 08.7	
	comp=Z,4μm,0.4s						
ARXS	**Arharly**	**2.44**	**269**	*e*PN	**Pn**	**11 21 35.2**	**-0.7**
MAKZ	**Makanchi**	**2.56**	**12**		**Pn**	**11 21 38.5**	**+1.2**
MAKZ	**Makanchi**	**2.56**	**12**	⇑Pn	**Pn**	**11 21 38.4**	**+1.0**
	comp=Z,59nm,0.3s						
MAKZ				⇓Lg	Lg	11 22 16.7	
	comp=Z,1μm,0.6s						
MAKZ	**Makanchi**	**2.56**	**12**	PN	**Pn**	**11 21 38.8**	**+1.4**
MAKZ						11 22 14.8	
MK31	**Makanchi Array**	**2.60**	**16**	Pn	**Pn**	**11 21 39.1**	**+1.1**
	comp=Z,85nm,0.3s,baz=202,slow=13,SNR=2200						
MK31				⇑Lg	Lg	11 22 17.5	
	comp=Z,1μm,0.6s,baz=196,slow=28,SNR=12						
MK31	**Makanchi Array**	**2.60**	**16**	*e*PN	**Pn**	**11 21 39.0**	**+1.1**
MKAR	**Makanchi Array**	**2.60**	**16**	Pn	**Pn**	**11 21 39.1**	**+1.2**
	comp=Z,27nm,0.3s,baz=193,slow=14,SNR=216						
MKAR				Lg	Lg	11 22 13.1	
	comp=Z,315nm,0.3s,baz=195,slow=31,SNR=10						
	comp=Z,39nm,0.3s						
MKAR	**Makanchi Array**	**2.60**	**16**	*i* PN	**Pn**	**11 21 39.2**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,66nm,0.4s						
PRZ	**Przheval'sk**	**2.75**	**230**		**Pn**	**11 21 41.0**	**+0.8**
PRZ	**Przheval'sk**	**2.75**	**230**	PN	**Pn**	**11 21 41.0**	**+0.8**
ANVS	**Anan'yevo**	**3.00**	**241**	PN	**Pn**	**11 21 44.1**	**+0.5**
CHKK	**Chushkaly**	**3.09**	**263**	Pg	**Pb**	**11 21 48.8**	**-2.1**
	comp=Z,261nm,0.4s						
CHKK				Lg	Lg	11 22 27.4	
	comp=Z,2μm,0.5s						
CHKK	**Chushkaly**	**3.09**	**263**	*e*P	**Pb**	**11 21 50.3**	**-0.7**
	comp=Z,261nm,0.2s						
CHKK				*e*S	**Sb**	**11 22 29.4**	**+0.8**
	comp=Z,3μm,0.2s						
MDOK	**Medeo**	**3.24**	**251**	Pn	**Pn**	**11 21 46.4**	**-0.4**
	comp=Z,673nm,0.7s						
MDOK				Pg	**Pb**	**11 21 51.0**	**-2.7**
	comp=Z,557nm,0.5s						
MDOK				Sn	**Sn**	**11 22 27.0**	**+1.7**
	comp=Z,862nm,0.6s						
MDOK				Lg	Lg	11 22 30.7	
	comp=Z,561nm,0.5s						
MDOK	**Medeo**	**3.24**	**251**	PN	**Pn**	**11 21 46.4**	**-0.4**
MDOK				S	**Sn**	**11 22 27.0**	**+1.7**
KNDC	**Almaty**	**3.27**	**252**	⇓Pg	**Pb**	**11 21 53.9**	**-0.3**
	comp=Z,708nm,0.6s						
KNDC				⇑Lg	Lg	11 22 39.7	
	comp=Z,1μm,0.5s						
KNDC	**Almaty**	**3.27**	**252**	PN	**Pb**	**11 21 53.6**	**-0.6**
KNDC						11 22 39.7	
AAA	**Alma-Ata**	**3.31**	**252**	Pg	**Pb**	**11 21 52.9**	**-1.9**
	comp=Z,385nm,0.4s						
AAA				Lg	Lg	11 22 34.5	
	comp=Z,66nm,0.3s						
AAA	**Alma-Ata**	**3.31**	**252**	*e*PN	**Pn**	**11 21 49.6**	**+1.8**
AAA	**Alma-Ata**	**3.31**	**252**	*e*P	**Pb**	**11 21 54.4**	**-0.4**
	comp=Z,385nm,0.3s						
AAA				*e*S	**Sb**	**11 22 36.5**	**+1.5**
	comp=Z,222nm,0.2s						
KTBS	**Karatobe**	**3.33**	**261**	Pg	**Pb**	**11 21 54.0**	**-1.1**
	comp=Z,138nm,0.5s						
KTBS				Lg	Lg	11 22 36.1	
	comp=Z,2μm,0.5s						
TNSS	**Tian-Shan**	**3.35**	**249**	Pg	**Pb**	**11 21 55.2**	**-0.5**
	comp=Z,301nm,0.4s						
TNSS				Lg	Lg	11 22 37.7	
	comp=Z,467nm,0.6s						
TNSS	**Tian-Shan**	**3.35**	**249**	*e*P	**Pb**	**11 21 55.3**	**-0.5**
	comp=Z,80nm,0.4s						
TNSS				*e*S	**Sb**	**11 22 37.9**	**+1.3**
	comp=Z,449nm,0.3s						
WUS	**Wushi**	**3.44**	**206**		**Pn**	**11 21 50.1**	**+0.5**
KASK	**Kaskelen**	**3.50**	**253**	⇑Pg	**Pb**	**11 21 58.1**	**+0.2**
	comp=Z,793nm,0.7s						
KASK				⇑Lg	Lg	11 22 46.2	
	comp=Z,1μm,0.5s						
KUU	**Kurty**	**3.55**	**265**	Pg	**Pb**	**11 21 56.3**	**-2.5**
	comp=Z,156nm,0.5s						
KUU				Lg	Lg	11 22 39.9	
	comp=Z,1μm,0.5s						
KUU	**Kurty**	**3.55**	**265**	*e*P	**Pb**	**11 21 59.0**	**+0.2**
	comp=Z,152nm,0.3s						
KUU				*e*S	**Sb**	**11 22 44.3**	**+2.6**
	comp=Z,2μm,0.4s						
TARG	**Taragay, Kyrgy**	**3.60**	**225**		**Pn**	**11 21 52.8**	**+0.8**
TARG	**Taragay, Kyrgy**	**3.60**	**225**	PN	**Pn**	**11 21 52.8**	**+0.8**
KDJ	**Kajisay**	**3.67**	**235**		**Pn**	**11 21 53.1**	**+0.4**
KDJ	**Kajisay**	**3.67**	**235**	PN	**Pn**	**11 21 53.2**	**+0.4**
MTBS	**Maitube**	**3.67**	**253**	Pg	**Pb**	**11 22 00.6**	**-0.4**
	comp=Z,433nm,0.4s						
MTBS				Lg	Lg	11 22 47.8	
	comp=Z,764nm,0.4s						
MTBS	**Maitube**	**3.67**	**253**	*e*P	**Pb**	**11 22 01.0**	**0.0**
	comp=Z,428nm,0.3s						
MTBS				*e*S	**Sb**	**11 22 47.8**	**+2.4**
	comp=Z,2μm,0.2s						
KST	**Kastek**	**4.02**	**254**	Pg	**Pb**	**11 22 06.5**	**-0.5**
	comp=Z,474nm,0.6s						
KST				Lg	Lg	11 22 57.8	
	comp=Z,452nm,0.5s						
KST	**Kastek**	**4.02**	**254**	*e*P	**Pb**	**11 22 07.1**	**+0.2**
	comp=Z,473nm,0.4s						
KST				*e*S	**Sb**	**11 22 58.3**	**+2.8**
	comp=Z,752nm,0.4s						
ZSN	**Zaisan**	**4.04**	**38**	*e*P	**Pg**	**11 22 09.8**	**-3.8**
	comp=Z,318nm,0.4s						
ZSN				*e*S	**Sg**	**11 23 03.0**	**-3.0**
	comp=Z,890nm,0.5s						
KRBS	**Karabastau**	**4.05**	**263**	Pg	**Pb**	**11 22 07.1**	**-0.3**
	comp=Z,167nm,0.6s						
KRBS				Lg	Lg	11 22 58.7	
	comp=Z,284nm,0.5s						
ULHL	**Ulahol**	**4.18**	**242**	P	**Pn**	**11 22 00.3**	**+0.4**
	SNR=11						
BOOM	**Boomskoye usch**	**4.26**	**247**		**Pn**	**11 22 01.2**	**+0.3**
BOOM	**Boomskoye usch**	**4.26**	**247**	PN	**Pn**	**11 22 01.2**	**+0.3**
TKM2	**Tokmak 2**	**4.32**	**253**	P	**Pn**	**11 22 01.5**	**-0.2**
	SNR=13						
TKM2	**Tokmak 2**	**4.32**	**253**	⇑Pg	**Pb**	**11 22 11.3**	**-0.7**
	comp=Z,390nm,0.6s						
TKM2				⇑Lg	Lg	11 23 09.9	
	comp=Z,442nm,0.6s						
TKM2	**Tokmak 2**	**4.32**	**253**	PN	**Pb**	**11 22 11.3**	**-0.7**
WMQ	**Urumqi**	**4.69**	**94**	Pg	**Pb**	**11 22 16.0**	**-2.2**
WMQ				Sn	**Sn**	**11 23 04.9**	**+4.0**
WMQ				smax	smax		
	comp=Z,1μm,0.9s						
WMQ				smax	smax		
	comp=Z,790nm,1.1s						
SGDS	**Sogindy**	**4.84**	**262**	Pg	**Pb**	**11 22 22.4**	**+1.4**
	comp=Z,48nm,0.6s						
SGDS				Lg	Lg	11 23 23.7	
	comp=Z,322nm,0.7s						
KBK	**Karagaybulak**	**4.86**	**252**	P	**Pn**	**11 22 09.5**	**+0.4**
	SNR=17						
CHMS	**Chumysh**	**4.88**	**257**	P	**Pn**	**11 22 09.0**	**-0.3**
	SNR=9.9						
CHMS	**Chumysh**	**4.88**	**257**	⇑Pn	**Pn**	**11 22 08.4**	**-0.8**
	comp=Z,7.9nm,0.3s						
CHMS				⇓Pg	**Pb**	**11 22 20.6**	**-0.9**
	comp=Z,125nm,0.6s						
CHMS				⇓Lg	Lg	11 23 25.1	
	comp=Z,585nm,0.8s						
CHMS	**Chumysh**	**4.88**	**257**	PN	**Pn**	**11 22 08.4**	**-0.8**
CHMS				PG	**Pb**	**11 22 20.6**	**-0.9**
USP	**Ospenovka**	**4.98**	**260**	P	**Pn**	**11 22 10.2**	**-0.5**
	SNR=11						
FRU1	**Bishkek**	**5.02**	**255**		**Pn**	**11 22 10.8**	**-0.5**
FRU1	**Bishkek**	**5.02**	**255**	PN	**Pn**	**11 22 10.8**	**-0.5**
AAK	**Ala-Archa**	**5.18**	**254**		**Pn**	**11 22 12.9**	**-0.5**
AAK	**Ala-Archa**	**5.18**	**254**	Pn	**Pn**	**11 22 13.4**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=88,slow=8.6,SNR=14						
AAK				Lg	Lg	11 23 36.1	
	comp=Z,32nm,0.3s,baz=342,slow=20,SNR=8.1						
AAK	**Ala-Archa**	**5.18**	**254**	P	**Pn**	**11 22 13.2**	**-0.3**
	SNR=7.2						
AAK	**Ala-Archa**	**5.18**	**254**	Pg	**Pb**	**11 22 26.2**	**-0.4**
	comp=Z,165nm,0.8s						
AAK				Lg	Lg	11 23 34.7	
	comp=Z,498nm,0.9s						
AAK	**Ala-Archa**	**5.18**	**254**	*i* PN	**Pn**	**11 22 13.0**	**-0.5**
UCH	**Uchtor**	**5.32**	**249**	P	**Pb**	**11 22 30.5**	**+1.1**
	SNR=8.5						
ARLS	**Aral**	**5.62**	**247**	PN	**Pn**	**11 22 21.2**	**+1.7**
ARLS				pmax	pmax		
	comp=Z,361nm,1.0s						
EKS2	**Erkin-Say**	**5.66**	**256**	P	**Pn**	**11 22 20.1**	**0.0**
	SNR=15						
AML	**Almayashu**	**5.92**	**251**	P	**Pn**	**11 22 24.8**	**+1.0**
	SNR=14						
KURBB	**Kurchatov Arra**	**6.58**	**345**	Pn	**Pn**	**11 22 32.1**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=168,slow=12,SNR=21						
KURBB				Sn	**Sn**	**11 23 49.2**	**+1.9**
	comp=Z,3.0nm,0.3s,baz=168,slow=16,SNR=5.8						
KURBB				Lg	Lg	11 24 18.3	
	comp=Z,3.9nm,0.3s,baz=157,slow=29,SNR=6.2						
KURBB				LR	LR	11 25 23.1	
	comp=Z,197nm,20.1s,baz=158,slow=41						
	comp=Z,2.7nm,0.3s						
KURBB	**Kurchatov Arra**	**6.58**	**345**	⇓Pn	**Pn**	**11 22 31.4**	**-1.1**
	comp=Z,10.0nm,0.5s						
KURBB				⇓Pg	**Pb**	**11 22 54.3**	**+3.9**
	comp=Z,46nm,0.6s						
KURBB				⇓Lg	Lg	11 24 24.3	
	comp=Z,722nm,0.7s						
KURBB	**Kurchatov Arra**	**6.58**	**345**	PN	**Pn**	**11 22 31.4**	**-1.1**
KURBB				PG	Pb	11 22 54.3	+3.9
KURK	**Kurchatov**	**6.65**	**346**		**Pn**	**11 22 32.9**	**-0.6**
KURK	**Kurchatov**	**6.65**	**346**	⇓Pn	**Pn**	**11 22 33.0**	**-0.6**
	comp=Z,26nm,0.5s

AB31 Akbulak array 15.38 296 ⇑Pn **Pn 11 24 29.2 -3.6**
comp=Z,6.2nm,0.7s,baz=97,slow=13,SNR=62
AB31 ⇑Lg Lg 11 29 02.6
comp=Z,31nm,1.2s,baz=106,slow=26,SNR=4.0
AB31 Akbulak array 15.38 296 P **Pn 11 24 29.1 -3.6**
ABKAR Akbulak array 15.38 296 **Pn 11 24 28.0 -4.8**
ABKAR Akbulak array 15.38 296 **Pn 11 24 28.6 -4.2**
ABKAR IAmb IAmb 11 24 35.1
comp=Z,7.2nm,0.8s
ZAK Zakamensk 16.11 60 *e*P **P 11 24 45.3 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
AKTO Aktyubinsk 16.84 300 Pn **Pn 11 24 49.4 -2.1**
comp=Z,0.6nm,0.3s,baz=106,slow=15,SNR=8.5
AKTO Sn **Sn 11 27 48.8 -10**
comp=Z,0.3nm,0.3s,baz=99,slow=19,SNR=1.1
AKTO Lg Lg 11 29 43.4
comp=Z,0.4nm,0.3s,baz=37,slow=10,SNR=4.0
comp=Z,1.2nm,0.3s
AKTO Aktyubinsk 16.84 300 ⇑Pn **Pn 11 24 51.9 +0.5**
comp=Z,6.3nm,1.2s
AKTO ⇑Sn **Sn 11 27 59.1 +0.8**
comp=Z,4.5nm,0.7s
AKTO ⇑Lg Lg 11 29 47.4
comp=Z,26nm,1.2s
SONM Songino Array 17.79 70 P **P 11 25 04.5 +0.3**
SONM Songino Array 17.79 70 P **Pn 11 25 03.4 -0.1**
comp=Z,4.4nm,0.7s,baz=266,slow=12,SNR=15
SONM Lg Lg 11 30 24.2
comp=Z,0.2nm,0.3s,baz=269,slow=29,SNR=2.9
SONM LR LR 11 32 21.3
comp=Z,68nm,21.3s,baz=256,slow=39
SONM Songino Array 17.79 70 P **P 11 25 04.5 +0.3**
SONM pmax pmax
comp=Z,11nm,1.0s
SVE Sverdlovsk 18.02 321 *e*P **P 11 25 09.1 +2.6**
ULN Ulaanbaatar 18.23 70 *i*P **Pn 11 25 07.8 -1.2**
ULN pmax pmax
comp=Z,12nm,2.0s
ARTI Arti 18.83 318 P **P 11 25 14.5 -0.9**
ARTI Arti 18.83 318 P **P 11 25 14.5 -0.9**
comp=Z,0.9nm,0.3s,baz=112,slow=7.8,SNR=11
ARTI S Sn 11 28 34.8 -12
comp=Z,1.9nm,0.6s,baz=128,slow=19,SNR=1.2
ARTI Lg Lg 11 30 35.4
comp=Z,0.2nm,0.3s,baz=150,slow=20,SNR=3.8
comp=Z,2.5nm,0.6s
ARTI Arti 18.83 318 *d i*P **P 11 25 15.3 -0.1**
ARTI S **S 11 28 47.6 -1.5**
ARTI pmax pmax
comp=Z,4.0nm,0.6s
SHL Shillong 20.60 152 P **P 11 25 33.9 -1.3**
SHL IAmb IAmb 11 25 35.7
comp=Z,23nm,0.7s
SHL Shillong 20.60 152 P **P 11 25 33.9 -1.3**
SHL pmax pmax
comp=Z,23nm,0.7s
BTO Baotou 21.51 90 *e*P **P 11 25 46.5 +1.7**
BTO pP **sP 11 25 55.3 +4.2**
BTO sP pP 11 25 59.8 +11
BTO PP **PnPn 11 26 10.4 +5.4**
BTO S **S 11 29 45.3 +2.3**
BTO SS **SnSn 11 30 11.1 +4.8**
BTO pmax pmax
comp=Z,27nm,0.9s
BTO pmax pmax
comp=Z,260nm,4.8s
BTO LR LR
comp=Z,290nm,4.2s
BTO LR LR
comp=Z,150nm,5.2s
BTO LR LR
comp=Z,250nm,6.2s
HHC Hu-ho-hao-te 22.54 88 *e*P **P 11 25 57.3 +1.4**
HHC pmax pmax
comp=Z,24nm,0.7s
XAN Xi'an 23.69 106 P **P 11 26 07.4 -0.2**
XAN pP sP 11 26 13.6 -0.5
XAN pmax pmax
comp=Z,16nm,0.7s
KIRV Kirov 24.14 318 *i*P **P 11 26 10.9 -0.7**
NRIK Noril'sk 25.31 5 P **P 11 26 21.3 -0.7**
NRIK IAmb IAmb 11 26 26.7
comp=Z,7.5nm,0.7s
NRIK Noril'sk 25.31 5 P **P 11 26 22.0 -0.1**
comp=Z,6.4nm,0.5s,baz=192,slow=9.3,SNR=8.5
comp=Z,6.4nm,0.5s
NRIK Noril'sk 25.31 5 *i*P **P 11 26 20.9 -1.1**
NRIK pmax pmax
comp=Z,7.0nm,0.6s
HNS HongShan 26.12 94 ⇑P **P 11 26 33.9 +4.2**
HNS PcS **PcS 11 33 40.5 +2.8**
HNS pmax pmax
comp=Z,11nm,0.4s
HNS LR LR
comp=Z,160nm,15.1s
HNS LR LR
comp=Z,160nm,16.3s
HNS LR LR
comp=Z,200nm,13.3s
KIV Kislovodsk 27.50 283 *e*P **P 11 26 39.6 -2.6**
KIV pmax pmax
comp=Z,3.0nm,0.9s
KIV MLR MLR
comp=Z,67nm,15.0s
CM31 Chiang Mai Arr 29.75 144 P **P 11 27 01.4 -0.8**
CMAR Chiang Mai Arr 29.75 144 P **P 11 27 02.1 -0.2**
comp=Z,1.6nm,0.7s,baz=326,slow=8.6,SNR=17
CMAR LR LR 11 40 50.3
comp=Z,27nm,20.9s,baz=325,slow=40
comp=Z,1.6nm,0.7s
CMAR Chiang Mai Arr 29.75 144 *i*P **P 11 27 02.4 +0.1**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CN2 Changchun 31.50 75 P **P 11 27 16.6 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
AKASG Malin Array Be 35.09 299 P **P 11 27 49.0 +0.2**
comp=Z,0.4nm,0.4s,baz=68,slow=8.5,SNR=2.8
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 35.09 299 P **P 11 27 49.0 +0.2**
BRTR Keskin Array B 35.26 279 P **P 11 27 53.1 +2.6**
comp=Z,1.6nm,1.0s,baz=71,slow=11,SNR=6.8
comp=Z,1.6nm,1.0s
TIXI Tiksi 35.56 24 P **P 11 27 51.5 -1.1**
TIXI IAmb IAmb 11 27 57.4
comp=Z,4.6nm,0.8s
TIXI Tiksi 35.56 24 P **P 11 27 51.5 -1.1**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
KSRS Korea Array 35.57 85 LR LR 11 44 47.7
comp=Z,21nm,19.3s,baz=245,slow=40
RAYN Ar Rayn 35.78 246 P **P 11 27 55.9 +0.8**
RAYN IAmb IAmb 11 27 59.5
comp=Z,4.7nm,0.6s
RAYN Ar Rayn 35.78 246 P **P 11 27 55.9 +0.8**
RAYN pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 36.14 318 P **P 11 28 00.0 +2.4**
comp=Z,1.1nm,0.7s,baz=108,slow=9.7,SNR=6.3
comp=Z,1.1nm,0.7s
ARCES ARCESS Array B 37.45 331 P **P 11 28 09.5 +0.7**
comp=Z,4.3nm,0.9s,baz=92,slow=11,SNR=4.8
comp=Z,4.3nm,0.9s
STHS Stebnicka Huta 40.39 299 *e*P **P 11 28 36.5 +2.9**
STHS Stebnicka Huta 40.39 299 *e*P **P 11 28 36.5 +2.9**
VYHS Vyhne 42.18 299 *e*P **P 11 28 51.0 +2.7**
VYHS Vyhne 42.18 299 *e*P **P 11 28 51.0 +2.7**
HFS Hagfors 42.27 317 P **P 11 28 48.7 -0.2**
comp=Z,1.3nm,0.5s,baz=82,slow=10,SNR=10
comp=Z,1.3nm,0.5s
NC405 NORSAR Array S 43.07 318 P **P 11 28 54.8 -0.6**
NC405 IAmb IAmb 11 29 24.5
comp=Z,13nm,1.3s
NORES NORESS Array B 43.22 318 P **P 11 28 59.9 +3.3**
MJB9 Matsu-Tunnel 43.30 80 P **P 11 28 59.0 +1.4**
MAJO Matsushiro 43.30 80 P **P 11 28 59.1 +1.6**
MAJO IAmb IAmb 11 29 33.8
comp=Z,9.2nm,0.8s
MAJO Matsushiro 43.30 80 P **P 11 28 59.2 +1.6**
MAJO pmax pmax
comp=Z,9.0nm,0.8s
NB2 NORSAR Subarra 43.32 318 P **P 11 28 56.5 -1.0**
comp=Z,1.9nm,0.6s,baz=80,slow=8.6
NB2 NORSAR Subarra 43.32 318 P **P 11 29 01.2 +3.7**
NOA NORSAR Array B 43.32 318 P **P 11 28 56.9 -0.6**
comp=Z,1.6nm,0.6s,baz=80,slow=8.1,SNR=12
comp=Z,1.6nm,0.6s
D22K Ayikyak River 60.30 20 P **P 11 31 03.9 0.0**
D22K IAmb IAmb 11 31 31.5
comp=Z,6.0nm,1.4s
ESDC Sonseca Array 60.72 298 P **P 11 31 08.8 +1.5**
comp=Z,0.7nm,0.7s,baz=60,slow=6.8,SNR=9.0
comp=Z,0.7nm,0.7s
E22K Anaktuvuk Pass 61.07 20 P **P 11 31 09.6 +0.3**
COLD Coldfoot 62.17 20 P **P 11 31 17.6 +1.0**
COLD IAmb IAmb 11 31 24.6
comp=Z,2.5nm,0.9s
BMAR Burnt Mountain 63.33 18 P **P 11 31 24.9 +0.5**
L16K Owhat River 63.60 28 P **P 11 31 26.5 +0.3**
L16K IAmb IAmb 11 31 33.6
comp=Z,8.2nm,1.4s
M16K Timber Creek 64.27 28 P **P 11 31 32.2 +1.6**
CAST Castle Rocks 64.61 24 P **P 11 31 33.4 +0.6**
CAST IAmb IAmb 11 31 40.6
comp=Z,3.1nm,0.8s
ILAR Eielson Array 64.95 21 P **P 11 31 34.0 -1.0**
comp=Z,0.5nm,0.7s,baz=326,slow=5.9,SNR=16
comp=Z,0.5nm,0.7s
ILAR Eielson Array 64.95 21 P **P 11 31 34.0 -1.0**
PPLA Purkeypile 64.99 24 P **P 11 31 36.2 +0.7**
C36M Paulatuk 65.13 10 P **P 11 31 36.3 +0.2**
C36M IAmb IAmb 11 31 45.9
comp=Z,7.0nm,1.3s
F31M Tsiigehtchic 65.47 14 P **P 11 31 38.4 +0.1**
F31M IAmb IAmb 11 32 16.8
comp=Z,4.8nm,1.4s
G31M Satah River 65.84 15 P **P 11 31 41.0 +0.4**
G31M IAmb IAmb 11 31 48.5
comp=Z,2.5nm,0.8s
SCRK Sand Creek 66.32 20 **P 11 31 44.1 0.0**
SCRK IAmb IAmb 11 31 48.6
comp=Z,2.6nm,0.9s
O19K Port Alsworth 66.42 27 P **P 11 31 47.5 +3.0**
O19K IAmb IAmb 11 31 52.5
comp=Z,5.9nm,0.9s
SML Sawmill 66.96 23 P **P 11 31 47.9 -0.2**
SML Sawmill 66.96 23 P **P 11 31 47.9 -0.2**
SML pmax pmax
comp=Z,7.0nm,1.0s
KNK Knik Glacier 67.24 23 P **P 11 31 51.6 +1.8**
YKA Yellowknife Ar 72.79 8 P **P 11 32 23.3 -0.5**
comp=Z,0.6nm,0.9s,baz=352,slow=5.8,SNR=9.6
comp=Z,0.6nm,0.9s
TORD Torodi Ar. Bea 73.48 272 P **P 11 32 29.9 +1.3**
comp=Z,151nm,0.3s,baz=41,slow=5.4,SNR=1.4
WRA Warramunga Arr 80.25 130 P **P 11 33 04.4 -2.2**
comp=Z,1.1nm,0.9s,baz=331,slow=5.3,SNR=5.9
comp=Z,1.1nm,0.9s
ASAR Alice Springs 83.03 133 P **P 11 33 19.6 -1.6**
comp=Z,0.8nm,0.9s,baz=324,slow=5.1,SNR=9.7
comp=Z,0.8nm,0.9s

STR 14 11:54:09.5±0.8, 43°N±7°×°±°, h0km, MLv1.1/4, Error ellipse: s-maj=0.0km s-min=0.0km az=14.7, preliminary, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.14**	**94**	Pg	Pg	11 54 12.2	+0.2
LABF				Sg	Sg	11 54 14.3	+0.5
VIEF	**Viey**	**0.20**	**150**	Pg	Pg	11 54 13.6	+0.3
VIEF				Sg	Sg	11 54 16.5	+0.7
ATE	**Arette**	**0.43**	**274**	Pg	Pg	11 54 17.5	-0.2
ATE				Sg	Sg	11 54 24.5	+1.2
ECHI	**Chisagues Biel**	**0.45**	**150**	Pg	Pg	11 54 16.9	-1.2
ECHI				Sg	Sg	11 54 21.8	-2.2

MRB 14 11:54:35.0±0.3, 42°39N×1°45E, ML-0.4/4, Error ellipse: s-maj=5.4km s-min=1.6km az=87.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARBS	**La Rabassa**	**0.10**	**53**	P	Pg	11 54 37.1	+0.3
ARBS				S	Sg	11 54 38.4	+0.4
13nm,0.1s							
CORG	**Organya**	**0.18**	**211**	P	Pg	11 54 38.8	+0.3
CORG				S	Sg	11 54 41.7	+0.8
1.4nm,0.2s							
CSOR	**Sort**	**0.23**	**267**	P	Pg	11 54 39.7	+0.2
CSOR				S	Sg	11 54 43.3	+0.8
2.6nm,0.3s							
CEST	**Esterri de Car**	**0.25**	**326**	P	Pg	11 54 40.0	+0.2
CEST				S	Sg	11 54 44.0	+0.8
0.9nm,0.1s							

IDC 14 11:55:31.5±5.2, 17°36S×178°49W, h541km±23km, mb3.2/3, mbtmp4.0/4, Error ellipse: s-maj=111.1km s-min=82.6km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.32**	**263**	P	P	11 56 47.9	-0.1
6.7nm,0.4s,baz=90,slow=20,SNR=2.2							
STKA	**Stephens Creek**	**38.83**	**241**	P	P	12 02 10.4	+0.1
1.0nm,0.5s,baz=90,slow=12,SNR=5.9							
1.0nm,0.5s							
WRA	**Warramunga Arr**	**44.66**	**259**	P	P	12 02 56.1	-0.4
0.6nm,0.4s,baz=94,slow=7.8,SNR=26							
0.6nm,0.4s							
ASAR	**Alice Springs**	**44.87**	**254**	P	P	12 02 58.0	-0.1
5.4nm,0.6s,baz=92,slow=7.8,SNR=149							
ASAR				PcP	PcP	12 04 27.7	-0.4
0.4nm,0.8s,baz=105,slow=3.4,SNR=2.4							
5.4nm,0.6s							

IDC 14 11:57:54.2±16.0, 62°98S×95°83E, h0km, Error ellipse: s-maj=43.1km s-min=12.0km az=158.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**29.22**	**283**	H	H	12 34 56.9	
baz=139,slow=75,SNR=47							
H04S1	**CROZET ISLANDS**	**29.22**	**283**	H	H	12 34 57.7	
baz=139,slow=75,SNR=63							
H04S3	**CROZET ISLANDS**	**29.23**	**283**	H	H	12 34 56.4	
baz=139,slow=75,SNR=27							
H01W2	**Cape Leeuwin H**	**30.34**	**31**	H	H	12 36 01.2	
baz=196,slow=76,SNR=91							
H01W1	**Cape Leeuwin H**	**30.34**	**31**	H	H	12 36 01.9	
baz=196,slow=76,SNR=97							
H01W3	**Cape Leeuwin H**	**30.35**	**31**	H	H	12 36 02.3	
baz=196,slow=76,SNR=84							
H08S2	**Diego Garcia H**	**57.77**	**332**	H	H	13 10 11.9	
baz=167,slow=76,SNR=44							
H08S1	**Diego Garcia H**	**57.77**	**332**	H	H	13 10 12.7	
baz=167,slow=76,SNR=51							
H08S3	**Diego Garcia H**	**57.79**	**332**	H	H	13 10 13.4	
baz=167,slow=76,SNR=44							

GUC 14 11:58:29.6±0.8, 22°40S×68°85W, h96km±6km, ML2.7, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.71**	**329**	⇓*e*P	Pn	11 58 46.8	-0.2
PB09				*e*S	Sn	11 59 00.1	+0.2
PB06	**IPOC Station P**	**0.73**	**246**	⇑*i*P	Pn	11 58 46.7	-0.4
PB06				*e*S	Sn	11 59 00.6	+0.3
PB06				IAML		11 59 03.4	
comp=E,187nm,0.2s							
AF01	**San Pedro de A**	**0.83**	**131**	*e*P	Pn	11 58 47.9	-0.3
AF01				*e*S	Sn	11 59 02.8	+0.6
AF01				IAML		11 59 03.5	
comp=N,660nm,0.2s							
PB03	**IPOC Station P**	**0.91**	**293**	⇑*i*P	Pn	11 58 48.4	-0.6
PB03				*e*S	Sn	11 59 03.2	-0.3
PB03				IAML		11 59 03.6	
comp=E,327nm,0.1s							
PB01	**IPOC Station P**	**1.48**	**336**	*e*P	Pn	11 58 55.2	-0.3
PB01				*e*S	Sn	11 59 15.1	0.0
PB01				IAML		11 59 16.6	
comp=N,92nm,0.2s							
PATCX	**Punta Patache**	**1.99**	**322**	*e*P	Pn	11 59 01.7	-0.3

*TIR **14** 12:03:21.1, 40°19N×20°68E, h4km±1km, Ml2.6/6*

*ATH **14** 12:03:21.4, 40°24N×20°72E, h3km, ML2.3/12, Manual Solution by A.Papageorgiou First location: 2019/04/14 12:04:22, This location: 2020/07/13 14:11:28 ML*
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km

ISC 14 12:03:21.3±1.1, 40°20N±0°02×20°71E±0°02, h2km±10km, n28, σ0°82/51, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.10**	**239**	Pg	**Pg**	**12 03 22.5**	**-0.8**
LSK				Sg	**Sg**	**12 03 24.2**	**-0.5**
LSK				AML	AML	12 03 26.0	
74nm,0.6s							
LSK				AML	AML	12 03 26.6	
55nm,0.5s							
PENT	**Pentalofos**	**0.33**	**91**	P	**Pg**	**12 03 27.6**	**0.0**
PENT				S	**Sg**	**12 03 32.3**	**+0.6**
NEST	**Nestorio**	**0.33**	**50**	Pg	**Pg**	**12 03 27.8**	**+0.1**
NEST				Sg	**Sb**	**12 03 34.4**	**-1.4**
NEST				AML	AML	12 03 41.4	
1.3nm,0.6s							
NEST	**Nestorio**	**0.33**	**50**	P	**Pg**	**12 03 27.6**	**-0.1**
NEST				S	**Sg**	**12 03 32.1**	**+0.1**
KBN	**Korca**	**0.42**	**8**	Pg	**Pg**	**12 03 29.1**	**-0.3**
KBN				Sg	**Sb**	**12 03 36.6**	**-1.8**
KBN				AML	AML	12 03 43.5	
0.9nm,0.5s							
JAN	**Janina**	**0.56**	**169**	P	**Pb**	**12 03 33.1**	**-0.6**
JAN				S	**Sb**	**12 03 40.9**	**-1.2**
SRN	**Sarande**	**0.64**	**240**	Pg	**Pg**	**12 03 32.2**	**-1.2**
SRN				Sg	**Sg**	**12 03 42.3**	**+0.7**
SRN				AML	AML	12 03 47.4	
0.4nm,0.4s							
IGT	**Igoumenitsa**	**0.73**	**204**	Pg	**Pg**	**12 03 35.4**	**+0.1**
IGT				Sg	**Sb**	**12 03 46.7**	**-0.5**
IGT	**Igoumenitsa**	**0.73**	**204**	P	**Pg**	**12 03 35.6**	**+0.3**
IGT				S	**Sb**	**12 03 46.9**	**-0.3**
KEK	**Kerkira**	**0.86**	**235**	P	**Pg**	**12 03 37.5**	**-0.2**
KEK				S	**Sb**	**12 03 50.0**	**-0.8**
TETR	**Tetrakomo, Epi**	**0.96**	**153**	P	**Pg**	**12 03 40.2**	**+0.6**
TETR				S	**Sb**	**12 03 53.6**	**-0.3**
THL	**Klokotos Trika**	**1.19**	**122**	P	**Pg**	**12 03 43.0**	**-1.0**
THL				S	**Sg**	**12 03 59.5**	**+0.2**
LIT	**Litokhoron**	**1.36**	**94**	P	**Pn**	**12 03 47.2**	**-0.1**
LIT				S	**Sg**	**12 04 04.1**	**-1.0**
LKD2	**Lefkada island**	**1.41**	**182**	P	**Pg**	**12 03 48.8**	**+0.5**
LKD2				S	**Sn**	**12 04 07.3**	**0.0**
NYDR	**Nydri-Lefkada**	**1.49**	**180**	P	**Pb**	**12 03 49.6**	**0.0**
NYDR				S	**Sg**	**12 04 10.0**	**+1.0**
PHP	**Peshkopia**	**1.49**	**352**	Pn	**Pg**	**12 03 50.2**	**+0.3**
PHP				Sn	**Sg**	**12 04 12.7**	**+3.4**
PHP				AML	AML	12 04 22.4	
0.2nm,1.0s							
EVGI	**Lefkada island**	**1.58**	**182**	P	**Pb**	**12 03 51.1**	**-0.1**
EVGI				S	**Sg**	**12 04 12.0**	**0.0**
MAKR	**Makrakomi, Fth**	**1.62**	**137**	P	**Pn**	**12 03 51.3**	**+0.5**
MAKR				S	**Sb**	**12 04 13.1**	**+0.4**
AGG	**Agios Georgios**	**1.72**	**133**	P	**Pn**	**12 03 52.1**	**-0.1**
AGG				S	**Sb**	**12 04 16.0**	**+0.4**
SCTE	**Santa Cesarea**	**1.73**	**266**	Pn	**Pg**	**12 03 54.0**	**-0.4**
SCTE				Sn	**Sg**	**12 04 17.9**	**+1.2**
SCTE				AML	AML	12 04 20.4	
0.2nm,0.4s							
FSK	**Fiskardo**	**1.75**	**184**	P	**Pn**	**12 03 52.7**	**+0.2**
FSK				S	**Sn**	**12 04 15.7**	**+0.3**
ANX	**Ano Chora**	**1.86**	**149**	P	**Pn**	**12 03 55.1**	**+0.9**
ANX				S	**Sb**	**12 04 19.4**	**-0.4**
KNT	**Kendrikon**	**1.92**	**59**	P	**Pn**	**12 03 54.6**	**-0.3**
KNT				S	**Sn**	**12 04 19.5**	**-0.2**
PUK	**Puka**	**1.94**	**342**	Pn	**Pg**	**12 03 58.6**	**+0.2**
EFP	**Efpalio**	**2.00**	**152**	P	**Pn**	**12 03 57.0**	**+1.0**
SERG	**Sergoula**	**2.07**	**149**	P	**Pn**	**12 03 57.4**	**+0.4**
AXAR	**Agios Charalam**	**2.08**	**133**	P	**Pn**	**12 03 57.7**	**+0.5**
XOR	**Xorichti**	**2.08**	**113**	P	**Pn**	**12 03 57.8**	**+0.6**

*SJA **14** 12:07:54.8±0.7, 33°07S×70°24W, h111km±2km, ML3.6, MW3.8*
*GUC **14** 12:07:55.6±0.8, 33°04S×70°25W, h100km±2km, ML4.2*
*IDC **14** 12:07:55.4±3.8, 33°07S×70°07W, h92km±33km, mb3.3/3, mbtmp3.6/5, Error ellipse: s-maj=37.7km s-min=23.7km az=104.0*
*NEIC **14** 12:07:56.1±1.2, 33°06S±0°05×70°29W±0°06, h103km±5km, mb4.4/4, Error ellipse: s-maj=8.0km s-min=5.8km az=49.0*

ISC 14 12:07:56.1±0.6, 33°06S±0°03×70°24W±0°03, h106km±4km, n123, σ1°01/164, mb3.8/4, 3C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.28**	**189**	⇓*i*P	**Pn**	**12 08 11.2**	**-0.6**
FCH				*e*S	**Sn**	**12 08 23.3**	**-0.2**
MT10	**Hacienda Santa**	**0.33**	**229**	*e*P	**Pn**	**12 08 11.4**	**-0.4**
MT10				*e*S	**Sn**	**12 08 23.5**	**0.0**
MT10				IAML		12 08 26.4	
comp=N,12μm,0.5s							
MT04	**Ro Olivares**	**0.36**	**167**	*e*P	**Pn**	**12 08 11.7**	**-0.3**
MT04				*e*S	**Sn**	**12 08 24.1**	**+0.2**
MT04				IAML		12 08 25.7	
comp=Z,1μm,0.5s							
PEL	**Peldehue**	**0.39**	**257**		**Pn**	**12 08 11.3**	**-0.6**
PEL	**Peldehue**	**0.39**	**257**	*e*P	**Pn**	**12 08 11.1**	**-0.8**
PEL				*e*S	**Sn**	**12 08 23.4**	**-0.4**
PEL	**Peldehue**	**0.39**	**257**	*e*P	**Pn**	**12 08 11.3**	**-0.6**
PEL				*e*S	**Sn**	**12 08 24.1**	**+0.3**
VA03	**San Esteban**	**0.39**	**318**		**Pn**	**12 08 11.4**	**-0.6**
VA03	**San Esteban**	**0.39**	**318**	*i*P	**Pn**	**12 08 11.7**	**-0.4**
VA03				*e*S	**Sn**	**12 08 24.2**	**+0.2**
VA03	**San Esteban**	**0.39**	**318**	*e*P	**Pn**	**12 08 11.6**	**-0.4**
VA03				*e*S	**Sn**	**12 08 24.1**	**+0.2**
VA03				IAML		12 08 25.7	
comp=Z,5μm,0.3s							
MT14	**Cerro Calıın**	**0.42**	**216**	⇓*i*P	**Pn**	**12 08 12.0**	**-0.2**
MT14				*e*S	**Sn**	**12 08 24.5**	**+0.3**
MT14				IAML		12 08 25.4	
comp=E,12μm,0.6s							
MT08	**Bocatoma Ro**	**0.43**	**155**		**Pn**	**12 08 11.9**	**-0.5**
MT08	**Bocatoma Ro**	**0.43**	**155**	*e*P	**Pn**	**12 08 12.2**	**-0.3**
MT08				*e*S	**Sn**	**12 08 25.0**	**+0.4**
MT08	**Bocatoma Ro**	**0.43**	**155**	*e*P	**Pn**	**12 08 12.2**	**-0.3**
MT08				*e*S	**Sn**	**12 08 25.3**	**+0.7**
MT08				IAML		12 08 28.6	
comp=Z,787nm,0.6s							
MT16	**CCHEN**	**0.44**	**213**		**Pn**	**12 08 11.9**	**-0.3**
MT16	**CCHEN**	**0.44**	**213**	*i*P	**Pn**	**12 08 12.0**	**-0.3**
MT16				*e*S	**Sn**	**12 08 24.4**	**0.0**
MT03	**Universidad Ad**	**0.49**	**208**		**Pn**	**12 08 12.3**	**-0.4**
MT03	**Universidad Ad**	**0.49**	**208**	*e*P	**Pn**	**12 08 12.4**	**-0.2**
MT03				*e*S	**Sn**	**12 08 25.3**	**+0.3**
MT03				IAML		12 08 26.2	
comp=Z,5μm,0.2s							
MT05	**Renca**	**0.54**	**231**		**Pn**	**12 08 12.3**	**-0.7**
MT05	**Renca**	**0.54**	**231**	*e*P	**Pn**	**12 08 12.8**	**-0.1**
MT05				*e*S	**Sn**	**12 08 26.6**	**+1.1**
MT05				IAML		12 08 30.3	
comp=Z,3μm,0.3s							
MT15	**Las Vizcachas**	**0.59**	**203**	*e*P	**Pn**	**12 08 13.1**	**-0.2**
MT15				*e*S	**Sn**	**12 08 26.4**	**+0.2**
MT15				IAML		12 08 29.0	
comp=E,7μm,0.2s							
ROCH	**El Roble**	**0.66**	**277**	⇑*i*P	**Pn**	**12 08 13.8**	**-0.2**
ROCH				*e*S	**Sn**	**12 08 27.4**	**0.0**
ROC1	**El Roble**	**0.66**	**277**	*e*P	Pn	12 08 08.4	-5.6
MT13	**San Alfonso**	**0.69**	**183**		**Pn**	**12 08 14.1**	**-0.1**
MT13	**San Alfonso**	**0.69**	**183**	*e*P	**Pn**	**12 08 14.1**	**-0.1**
MT13				*e*S	**Sn**	**12 08 28.2**	**+0.5**
MT13				IAML		12 08 30.4	
comp=N,6μm,0.2s							
MT13	**San Alfonso**	**0.69**	**183**	*e*P	**Pn**	**12 08 14.1**	**-0.1**
MT13				*e*S	**Sn**	**12 08 28.4**	**+0.7**
MT13				IAML		12 08 31.1	
comp=Z,1μm,0.5s							
MT02	**Curacav**	**0.78**	**255**		**Pn**	**12 08 14.3**	**-0.6**
MT02	**Curacav**	**0.78**	**255**	*e*P	**Pn**	**12 08 14.4**	**-0.4**
MT02				*e*S	**Sn**	**12 08 29.1**	**+0.1**
MT02				IAML		12 08 29.6	
comp=Z,969nm,0.3s							
LMEL	**Las Melosas**	**0.79**	**178**		**Pn**	**12 08 14.8**	**-0.3**
LMEL	**Las Melosas**	**0.79**	**178**	*e*P	**Pn**	**12 08 15.0**	**-0.1**

LMEL eS Sn 12 08 32.2 +2.8
MT09 Talagante 0.96 221 Pn 12 08 16.0 -0.7
BO04 La Punta 0.98 198 Pn 12 08 16.3 -0.6
BO04 La Punta 0.98 198⇑ eP Pn 12 08 16.8 -0.1
BO04 eS Sn 12 08 32.7 +0.2
BO04 IAML 12 08 33.8
comp=N,12μm,0.2s
VA06 Catapilco 1.02 299 Pn 12 08 16.6 -0.6
VA06 Catapilco 1.02 299⇑ iP Pn 12 08 16.9 -0.3
VA06 eS Sn 12 08 33.0 -0.1
ARCO CERRO ARCO 1.12 79 eP Pn 12 08 18.5 0.0
ARCO IAML 12 08 38.7
comp=Z,995nm,0.3s
MT01 Popeta 1.17 226 Pn 12 08 17.7 -1.2
MT01 Popeta 1.17 226 eP Pn 12 08 18.3 -0.6
MT01 eS Sn 12 08 35.7 -0.4
MT01 IAML 12 08 37.2
comp=Z,830nm,0.2s
AAGR Agrelo 1.18 92 eP Pn 12 08 19.2 0.0
AAGR eS Sn 12 08 36.5 0.0
AAGR IAML 12 08 45.1
comp=Z,677nm,0.5s
ASAL Salagasta 1.27 69 eP Pn 12 08 20.2 +0.1
ASAL eS Sn 12 08 38.7 +0.5
ASAL eS 12 08 41.2
ASAL IAML 12 08 41.9
comp=Z,660nm,0.4s
VA05 Santo Domingo 1.30 242 Pn 12 08 19.7 -0.6
VA05 Santo Domingo 1.30 242 eP Pn 12 08 20.2 -0.1
VA05 eS Sn 12 08 38.7 0.0
VA05 IAML 12 08 40.8
comp=N,6μm,0.3s
RTLS Leoncito 1.48 33 eP Pn 12 08 23.5 +0.7
RTLS eS Sn 12 08 44.9 +1.9
RTLS IAML 12 08 45.3
comp=Z,2μm,0.9s
AVIZ Vizcacheras 1.50 107 eP Pn 12 08 22.9 +0.1
BO01 Tunca 1.51 208 Pn 12 08 22.6 -0.2
BO01 Tunca 1.51 208⇓ eP Pn 12 08 22.5 -0.3
BO01 eS Sn 12 08 43.0 -0.1
BO01 Tunca 1.51 208 eP Pn 12 08 22.5 -0.3
BO01 eS Sn 12 08 43.1 0.0
BO01 IAML 12 08 44.9
comp=Z,516nm,0.4s
BO02 Sierra Bellavi 1.79 195 Pn 12 08 26.5 +0.2
BO02 Sierra Bellavi 1.79 195⇓ iP Pn 12 08 26.7 +0.3
BO02 eS Sn 12 08 50.7 +1.3
BO02 IAML 12 08 52.0
comp=N,5μm,0.3s
BO02 Sierra Bellavi 1.79 195 eP Pn 12 08 26.9 +0.5
BO02 eS Sn 12 08 51.2 +1.8
BO02 IAML 12 08 52.2
comp=Z,1μm,0.2s
CO02 Combarbal 1.96 340 Pn 12 08 28.9 +0.4
CO02 Combarbal 1.96 340 eP Pn 12 08 28.6 +0.1
CO02 eS Sn 12 08 53.8 +0.5
CO02 IAML 12 08 54.7
comp=E,4μm,0.4s
CO02 Combarbal 1.96 340 eP Pn 12 08 28.6 +0.1
CO02 eS Sn 12 08 54.0 +0.7
ZON Zonda 2.00 42 Pn 12 08 28.9 -0.1
ZON Zonda 2.00 42 eP Pn 12 08 29.2 +0.2
ZON eS Sn 12 08 54.3 +0.2
ZON IAML 12 09 08.3
comp=Z,160nm,0.6s
BO03 Pichilemu 2.03 225 eP Pn 12 08 28.5 -0.9
SJA San Juan 2.08 43 eP Pn 12 08 18.8 -11
SJA eS Sn 12 08 57.1 +1.1
SJA IAML 12 08 59.9
comp=Z,150nm,0.2s
CFA Coronel Fontan 2.23 50 eP Pn 12 08 31.8 -0.1
CFA eS Sn 12 08 58.8 -0.5
CO03 El Pedregal 2.24 350 Pn 12 08 32.6 +0.4
CO03 El Pedregal 2.24 350 eP Pn 12 08 33.0 +0.8
CO03 eS Sn 12 09 00.5 +0.8
CO03 IAML 12 09 01.9
comp=E,2μm,0.4s
CO03 El Pedregal 2.24 350 eP Pn 12 08 32.8 +0.6
CO03 eS Sn 12 09 00.6 +0.8
CO03 IAML 12 09 01.1
comp=Z,429nm,0.2s
RTLL Cerro Villicun 2.28 41 eP Pn 12 08 32.9 +0.3
RTLL eS Sn 12 09 00.9 +0.4
DOCA Reserva Natura 2.32 25 eP Pn 12 08 33.7 +0.3
DOCA eS Sn 12 09 02.4 +0.5
DOCA IAML 12 09 05.7
comp=Z,132nm,0.3s
ACCO Cerro Coronel 2.65 22 eP Pn 12 08 40.1 +2.3
ACCO eP 12 08 40.1
ACCO eS Sn 12 09 14.4 +4.7
CO06 Fray Jorge 2.66 333 Pn 12 08 37.5 +0.1
CO06 Fray Jorge 2.66 333 eP Pn 12 08 37.6 +0.1
EDS3 Malargue 2.80 166 eP Pn 12 08 40.1 +0.7
EDS3 eS Sn 12 08 52.7 -20
EDS3 eS 12 09 15.0
ML02 Panimavida 2.87 200 Pn 12 08 39.3 -1.0
ML02 Panimavida 2.87 200 eP Pn 12 08 40.1 -0.2
ML02 eS Sn 12 09 13.8 -0.5
ML02 IAML 12 09 16.6
comp=Z,162nm,0.3s
GO04 Tololo Observa 2.91 350 Pn 12 08 41.3 +0.2
GO04 Tololo Observa 2.91 350 eP Pn 12 08 41.2 +0.2
GO04 eS Sn 12 09 15.4 -0.3
AROD Rodeo 2.95 13 eP Pn 12 08 43.0 +1.3
AROD eS Sn 12 09 18.3 +1.5
ACDV Cuesta del Vie 3.03 19 eP Pn 12 08 43.8 +1.2
ACDV eS Sn 12 09 20.6 +2.3
ACDV IAML 12 09 25.0
comp=Z,90nm,0.5s
CO01 Juntas del Tor 3.07 2 Pn Pn 12 08 44.1 +0.8
CO01 Juntas del Tor 3.07 2 eP Pn 12 08 43.4 +0.2
CO01 eS Sn 12 09 20.1 +0.6
CO01 IAML 12 09 50.0
comp=Z,70nm,0.7s
CO05 La Serena 3.24 344 Pn Pn 12 08 44.6 -0.7
AVFE Valle Fertil 3.36 45 eP Pn 12 08 46.4 -0.5
AVFE eS Sn 12 09 25.2 -1.0
AVFE IAML 12 09 26.0
comp=Z,138nm,0.5s
ACHE Chepes 3.57 59 eP Pn 12 08 49.2 -0.6
ACHE eS Sn 12 09 29.0 -2.3
BI02 San Fabin de 3.70 193 Pn Pn 12 08 51.0 -0.4
BI02 San Fabin de 3.70 193 eP Pn 12 08 50.8 -0.6
BI02 IAML 12 09 43.5
comp=Z,46nm,1.2s
AGUA GUANDACOL 3.86 23 eP Pn 12 08 54.1 +0.5
AGUA eS Sn 12 09 26.4 -12
AGUA IAML 12 09 54.8
comp=Z,73nm,0.3s
LCO Las Campanas 4.05 354 Pn Pn 12 08 55.4 -1.0
LCO Las Campanas 4.05 354 eP Pn 12 08 55.8 -0.6
LCO eS Sn 12 09 41.2 -1.8
LCO IAML 12 09 47.4
comp=Z,209nm,0.3s
APLL PUNTA DE LOS L 4.12 51 eP Pn 12 08 56.0 -1.2
APLL eS Sn 12 09 31.3 -13
AC05 El Transito 4.21 360 Pn Pn 12 08 58.1 -0.3
AC05 El Transito 4.21 360 eP Pn 12 08 58.5 +0.2
AC05 eS Sn 12 09 45.9 -0.7
AC05 IAML 12 09 49.9
comp=Z,62nm,0.2s
ACLC CERRO LA CRUZ 4.58 39 eP Pn 12 09 02.2 -1.3
ACLC eS Sn 12 10 08.7 +13
ACLC IAML 12 10 14.9
comp=Z,24nm,0.7s
VCA Vinchina 4.64 23 eP Pn 12 09 05.7 +1.4
VCA eS Sn 12 09 56.3 -0.9
VCA IAML 12 10 30.4
comp=Z,98nm,0.6s
AC04 Llanos de Chal 4.89 351 Pn Pn 12 09 06.4 -1.0
AC04 Llanos de Chal 4.89 351 eP Pn 12 09 06.8 -0.6
AC04 eS Sn 12 10 01.1 -1.7
AC04 IAML 12 10 18.1
comp=Z,93nm,0.8s
TCA Tanti 5.08 72 eP Pn 12 09 08.3 -1.8
TCA eS Sn 12 10 03.7 -3.9
TCA IAML 12 10 18.6
comp=Z,39nm,0.5s
GO03 Copiapo 5.44 0 Pn Pn 12 09 13.6 -1.4
AC06 Mina Casimiro 5.68 359 Pn Pn 12 09 16.8 -1.3
AC02 Maricunga 6.27 9 Pn Pn 12 09 26.5 -0.1
AC01 Pan de Azucar 6.89 357 Pn Pn 12 09 31.1 -3.5

H03N1 Juan Fernandez 7.28 265 T T 12 16 41.2
baz=85,slow=73,SNR=55
H03N3 Juan Fernandez 7.29 264 T T 12 16 40.4
baz=85,slow=73,SNR=66
H03S1 Juan Fernandez 7.29 261 T T 12 16 10.7
baz=84,slow=74,SNR=11
H03S3 Juan Fernandez 7.29 262 T T 12 16 12.1
baz=84,slow=74,SNR=12
H03N2 Juan Fernandez 7.29 265 T T 12 16 41.5
baz=85,slow=73,SNR=49
LR05 Currie 7.30 191 Pn **Pn 12 09 38.2 -1.8**
H03S2 Juan Fernandez 7.30 261 T T 12 16 14.4
baz=84,slow=74,SNR=12
PLCA Paso Flores 7.67 182 Pn **Pn 12 09 43.5 -1.6**
PLCA Paso Flores 7.67 182 P **Pn 12 09 43.9 -1.2**
comp=Z,1.5nm,0.7s,baz=360,slow=12,SNR=8.2
TRQA Tornquist 8.38 129 Pn **Pn 12 09 52.9 -1.7**
PB09 IPOC Station P 11.25 5 Pn **Pn 12 10 33.5 -0.4**
CPUP Villa Florida 13.06 62 Pn **Pn 12 10 55.5 -2.1**
CPUP Villa Florida 13.06 62 P **Pn 12 10 55.8 -1.8**
comp=Z,0.7nm,0.4s,baz=179,slow=10,SNR=3.1
MG05 Puerto Natales 18.68 184 P **P 12 12 04.5 -1.3**
MG05 IAmb IAmb 12 12 06.5
comp=Z,41nm,1.4s
BELA Belgrano 2 47.55 170 P **P 12 16 20.8 +0.5**
BELA IAmb IAmb 12 16 27.9
comp=Z,6.0nm,1.5s
SNAA Sanae 51.90 158 P **P 12 16 52.7 -0.7**
QSPA South Pole Qui 57.18 180 P **P 12 17 32.9 +1.1**
comp=Z,2.1nm,0.7s,baz=156,slow=1.9,SNR=16
comp=Z,2.1nm,0.7s
TXAR Lajitas Array 69.67 329 P **P 12 18 55.6 +1.3**
comp=Z,0.1nm,0.5s,baz=150,slow=6.9,SNR=4.1
comp=Z,0.1nm,0.5s
TORD Torodi Ar. Bea 82.47 69 P **P 12 20 07.1 -0.1**
TORD Torodi Ar. Bea 82.47 69 P **P 12 20 07.3 +0.1**
comp=Z,192nm,0.4s,baz=226,slow=5.8,SNR=1.4
NVAR Mina Array Bea 83.99 324 P **P 12 20 16.7 +1.9**
comp=Z,0.4nm,0.8s,baz=135,slow=3.8,SNR=2.5
comp=Z,0.4nm,0.8s
WRA Warramunga Arr 122.31 208 PKP **PKPdf 12 26 38.6 -0.6**
comp=Z,0.2nm,0.4s,baz=157,slow=1.8,SNR=6.4
H11S2 WAKE ISLAND Hyl 27.29 269 T T 14 46 22.9
baz=118,slow=75,SNR=4.1
H11S1 WAKE ISLAND Hyl 27.31 269 T T 14 46 27.3
baz=118,slow=75,SNR=4.3
H11S3 WAKE ISLAND Hyl 27.31 269 T T 14 46 23.9
baz=118,slow=75,SNR=8.1
BVAR Borovoye Array 145.57 43 PKPbc **PKPab 12 27 22.5 +0.4**
comp=Z,1.2nm,0.6s,baz=318,slow=1.9,SNR=7.5
KURBB Kurchatov Arra 151.15 43 PKPbc **PKiKP 12 27 36.9 0.0**
comp=Z,0.4nm,0.6s,baz=298,slow=2.1,SNR=5.9
ZALV Zalesovo Beam 152.62 33 PKPbc **PKiKP 12 27 40.3 +0.4**
comp=Z,1.9nm,0.4s,baz=310,slow=3.1,SNR=11
MKAR Makanchi Array 155.01 49 PKPbc PKPdf 12 27 45.5 +9.2
comp=Z,0.2nm,0.5s,baz=258,slow=4.3,SNR=1.8
MKAR PKPab **PKPab 12 28 00.6 -0.5**
comp=Z,0.2nm,0.5s,baz=276,slow=1.3,SNR=2.1

---

*IDC **14** 12:11:12.5±0.9, 26°.22N×129°.54E, h0km, mb3.6/12, mbtmp3.6/13, ML3.3/1, MS3.2/3, Error ellipse: s-maj=29.5km s-min=17.9km az=67.0*
*JMA **14** 12:11:14.6±0.1, 26°.2N±0°.8×129°.6E±0°.5, h44km, MV3.2/16, NEAR OKINAWAJIMA ISLAND*
ISC 14 12:11:13.4±0.6, 26°.29N±0°.05×129°.58E±0°.03, h10km, n30, σ1§77/36, mb3.7/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.25**	**306**	P		**Pg**	**12 11 36.5**	**-0.9**
JYRO				eS		**Sn**	**12 11 52.5**	**-1.2**
JOW	**Kunigami**	**1.29**	**295**	Pn		**Pg**	**12 11 37.1**	**-1.1**
	76nm,0.3s,baz=122,slow=18,SNR=182							
JOW				LR		LR	12 12 18.0	
	comp=Z,305nm,20.9s,baz=195,slow=51							
JOW	**Kunigami**	**1.29**	**295**	i P		**Pg**	**12 11 37.1**	**-1.1**
JOW				eS		**Sb**	**12 11 53.0**	**-1.4**
JOKE	**Okinoerabujima**	**1.40**	**320**	eP		**Pg**	**12 11 39.1**	**-1.1**
JNTH	**Nagotoyohara**	**1.42**	**280**	P		**Pb**	**12 11 38.4**	**-1.6**
JNTH				eS		**Sn**	**12 11 54.6**	**-3.3**
JMZ	**Minamidaito 2**	**1.55**	**107**	P		**Pb**	**12 11 40.2**	**-2.0**
JMZ				eS		**Sn**	**12 11 57.8**	**-3.5**
JKDJ	**Kitadaitoujima**	**1.58**	**102**	P		**Pb**	**12 11 40.9**	**-1.9**
JKDJ				eS		**Sn**	**12 11 59.8**	**-2.2**
JTK	**Tokunoshima**	**1.59**	**339**	P		**Pg**	**12 11 42.1**	**-1.8**
JJT3	**Tamagusuku3**	**1.62**	**265**	P		**Pb**	**12 11 41.6**	**-1.8**
JJT3				eS		**Sn**	**12 12 01.4**	**-1.6**
JIH	**Iheya**	**1.62**	**298**	P		**Pb**	**12 11 42.1**	**-1.4**
JIH				eS		**Sn**	**12 12 01.5**	**-1.6**
JAMN	**Amaminishikomi**	**1.98**	**350**	eP		**Pb**	**12 11 47.6**	**-1.9**
JAMN				eS		**Sb**	**12 12 13.1**	**-1.1**
JAM	**Amami Oshima**	**2.11**	**1**	eP		**Pb**	**12 11 49.4**	**-2.4**
JAM				eS		**Sb**	**12 12 15.9**	**-2.2**
JAGN	**Aguni-jima**	**2.12**	**279**	P		**Pn**	**12 11 48.8**	**-0.1**
JKE	**Kume jima 2**	**2.51**	**271**	eP		**Pn**	**12 11 53.0**	**-1.2**
JNU	**Nakatsue**	**6.90**	**9**	Pn		**Pn**	**12 12 56.8**	**+2.1**
	0.6nm,0.3s,baz=162,slow=3.2,SNR=4.8							
	4.4nm,0.5s							
KSRS	**Korea Array**	**11.22**	**353**	LR		LR	12 18 23.5	
	comp=Z,18nm,19.4s,baz=40,slow=38							
SONM	**Songino Array**	**28.17**	**326**	P		**P**	**12 17 08.0**	**+1.9**
	0.3nm,0.5s,baz=140,slow=7.6,SNR=2.4							
	0.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**29.33**	**261**	P		**P**	**12 17 18.3**	**+1.8**
	0.2nm,0.3s,baz=60,slow=8.4,SNR=1.8							
	0.2nm,0.3s							
KAPI	**Kappang**	**32.55**	**198**	LR		LR	12 31 34.9	
	comp=Z,63nm,19.1s,baz=58,slow=38							
MKAR	**Makanchi Array**	**42.40**	**312**	P		**P**	**12 19 06.8**	**-1.3**
	0.2nm,0.5s,baz=112,slow=9.5,SNR=1.9							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**45.65**	**316**	P		**P**	**12 19 33.9**	**-0.2**
	0.2nm,0.4s,baz=100,slow=8.5,SNR=3.9							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**46.19**	**174**	P		**P**	**12 19 38.7**	**+0.1**
	1.3nm,0.9s,baz=354,slow=8.0,SNR=5.8							
	1.3nm,0.9s							
ASAR	**Alice Springs**	**49.84**	**175**	P		**P**	**12 20 06.1**	**-0.7**
	0.8nm,1.0s,baz=355,slow=7.3,SNR=10							
	0.8nm,1.0s							
BVAR	**Borovoye Array**	**51.04**	**318**	P		**P**	**12 20 16.3**	**+0.7**
	0.7nm,0.6s,baz=111,slow=7.9,SNR=3.7							
	0.7nm,0.6s							
KIRV	**Kirov**	**62.90**	**325**	LR		LR	12 53 59.5	
	comp=Z,50nm,18.1s,baz=311,slow=41							
ILAR	**Eielson Array**	**63.81**	**28**	P		**P**	**12 21 46.9**	**+1.4**
	0.3nm,0.9s,baz=236,slow=6.4,SNR=2.9							
	0.3nm,0.9s							
FINES	**FINESS Array B**	**73.40**	**331**	P		**P**	**12 22 46.5**	**+1.1**
	1.3nm,0.8s,baz=57,slow=5.1,SNR=5.0							
	1.3nm,0.8s							
AKASG	**Malin Array Be**	**76.27**	**320**	P		**P**	**12 23 04.1**	**+1.8**
	0.6nm,0.6s,baz=69,slow=5.1,SNR=2.1							
	0.6nm,0.6s							
BRTR	**Keskin Array B**	**77.95**	**308**	P		**P**	**12 23 14.6**	**+2.5**
	0.6nm,0.8s,baz=73,slow=9.7,SNR=3.9							
	0.6nm,0.8s							
NOA	**NORSAR Array B**	**79.79**	**334**	P		**P**	**12 23 21.3**	**-0.4**
	0.9nm,1.0s,baz=52,slow=5.6,SNR=1.9							
	0.9nm,1.0s							

---

*IDC **14** 12:12:32.6±1.3, 36°.20N×21°.96E, h0km, mb3.5/9, mbtmp3.5/11, ML3.2/2, MS3.3/4, Error ellipse: s-maj=28.5km s-min=21.5km az=168.0*
*ATH **14** 12:12:36.8, 36°.00N×21°.88E, h5km±1km, ML3.5/12, Manual Solution by A.Papageorgiou First location: 2019/04/14 12:13:57, This location: 2020/07/13 14:12:28 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **14** 12:12:38.3, 36°.12N×21°.91E, h0km±2km, ML3.4/8, Error ellipse: s-maj=3.9km s-min=1.3km az=232.0*
ISC 14 12:12:35.2±1.3, 36°.03N±0°.04×21°.80E±0°.04, h16km±8km, n59, σ1§58/85, mb3.5/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MTHA	**Methoni**	**0.80**	**354**	P		**Pn**	**12 12 52.8**	**+1.0**
MTHA				S		**Sn**	**12 13 04.0**	**+0.6**
VLI	**Veliai**	**1.15**	**53**	P		**Pn**	**12 12 57.3**	**+0.7**
VLI				S		**Sn**	**12 13 12.3**	**+0.3**
	3μm,0.7s							
VLI	**Veliai**	**1.15**	**53**	P		**Pn**	**12 12 57.2**	**+0.7**
VLI				S		**Sn**	**12 13 12.6**	**+0.6**
ITM	**Ithomi**	**1.16**	**5**	P		**Pb**	**12 12 57.4**	**+0.5**
ITM				S		**Sn**	**12 13 13.2**	**+0.9**
	2μm,0.4s							
ITM	**Ithomi**	**1.16**	**5**	P		**Pn**	**12 12 59.5**	**+2.7**
ITM				S		**Sn**	**12 13 14.8**	**+2.5**
MNVA	**Monemvasia**	**1.19**	**56**	P		**Pn**	**12 12 59.2**	**+1.9**
MNVA				S		**Sn**	**12 13 14.1**	**+1.0**
ANKY	**Antikythira Is**	**1.23**	**97**	P		**Pn**	**12 13 00.1**	**+2.4**
ANKY				S		**Sn**	**12 13 17.7**	**+3.8**
	2μm,0.5s							
ANKY	**Antikythira Is**	**1.23**	**97**	P		**Pn**	**12 12 59.7**	**+2.0**
ANKY				S		**Sb**	**12 13 14.4**	**+0.8**
VLX	**Vlachokerasia**	**1.42**	**19**	P		**Pg**	**12 13 02.8**	**+0.2**
VLX				S		**Sg**	**12 13 21.9**	**+0.8**
AMT	**Artemida-Makis**	**1.51**	**357**	P		**Pg**	**12 13 04.1**	**-0.2**
AMT				S		**Sg**	**12 13 25.2**	**+1.4**
KRND	**KRANIDI**	**1.73**	**38**	P		**Pb**	**12 13 07.0**	**+0.3**
KRND				S		**Sb**	**12 13 29.2**	**+1.0**
	695nm,0.8s							
KRND	**KRANIDI**	**1.73**	**38**	P		**Pb**	**12 13 07.0**	**+0.3**
KRND				S		**Sb**	**12 13 28.5**	**+0.3**
LTHK	**Lithakia**	**1.85**	**336**	P		**Pb**	**12 13 09.6**	**+0.9**
LTHK				S		**Sg**	**12 13 34.9**	**+0.1**
IMMV	**Iera Moni Meta**	**1.86**	**107**	P		**Pb**	**12 13 08.7**	**-0.1**
IMMV				S		**Sg**	**12 13 34.9**	**-0.2**
	875nm,0.7s							
IMMV	**Iera Moni Meta**	**1.86**	**107**	P		**Pb**	**12 13 08.6**	**-0.2**
IMMV				S		**Sb**	**12 13 32.4**	**+0.6**
CHAN	**Chania**	**1.89**	**105**	P		**Pb**	**12 13 09.5**	**+0.1**
CHAN				S		**Sn**	**12 13 32.2**	**+1.9**
GUR	**Goura**	**1.96**	**13**	P		**Pn**	**12 13 09.8**	**+2.0**
GUR				S		**Sb**	**12 13 35.9**	**+1.2**
	1μm,0.6s							
GUR	**Goura**	**1.96**	**13**	P		**Pb**	**12 13 10.3**	**-0.2**
GUR				S		**Sg**	**12 13 36.6**	**-1.6**
MET5	**Makryloggos,Me**	**2.02**	**38**	P		**Pb**	**12 13 11.7**	**+0.1**
MET5				S		**Sb**	**12 13 37.4**	**+0.8**
ORTH	**Orthonies,Zaky**	**2.03**	**334**	P		**Pb**	**12 13 12.1**	**+0.3**
ORTH				S		**Sg**	**12 13 39.2**	**-1.2**
KLV	**Kalavryta, Ach**	**2.03**	**8**	P		**Pb**	**12 13 12.6**	**+0.8**
KLV				S		**Sg**	**12 13 41.0**	**+0.3**
	368nm,0.8s							
KLV	**Kalavryta, Ach**	**2.03**	**8**	P		**Pb**	**12 13 12.4**	**+0.6**
KLV				S		**Sb**	**12 13 38.1**	**+1.2**
MET4	**Agioi Theodoro**	**2.04**	**38**	P		**Pn**	**12 13 10.9**	**+2.0**
MET4				S		**Sb**	**12 13 37.3**	**+0.2**
RLS	**Riolos of Patr**	**2.05**	**353**	P		**Pn**	**12 13 10.9**	**+1.9**
RLS	**Riolos of Patr**	**2.05**	**353**	P		**Pb**	**12 13 12.1**	**+0.1**
RLS				S		**Sg**	**12 13 39.5**	**-1.6**
YRMI	**Loutra Irminis**	**2.10**	**350**	P		**Pb**	**12 13 14.0**	**+1.0**
YRMI				S		**Sb**	**12 13 41.0**	**+2.1**
AXS	**Araxos**	**2.19**	**351**	P		**Pb**	**12 13 13.7**	**-0.9**
LTK	**Loutraki**	**2.20**	**25**	P		**Pb**	**12 13 14.0**	**-0.7**
LTK				S		**Sb**	**12 13 42.1**	**+0.4**
GVD	**Gavdhos**	**2.21**	**122**	P		**Pn**	**12 13 12.4**	**+1.2**
GVD				S		**Sn**	**12 13 40.0**	**+1.8**
SERG	**Sergoula**	**2.39**	**5**	P		**Pb**	**12 13 17.4**	**-0.6**
EFP	**Efpalio**	**2.40**	**2**	P		**Pb**	**12 13 16.8**	**-1.2**
EFP	**Efpalio**	**2.40**	**2**	P		**Pb**	**12 13 16.9**	**-1.2**
VLY	**Voula,Athens**	**2.42**	**41**	P		**Pb**	**12 13 17.4**	**-1.0**
VILL	**Villia**	**2.45**	**29**	P		**Pb**	**12 13 18.0**	**-1.0**
VIL2	**Platees**	**2.48**	**28**	P		**Pn**	**12 13 17.2**	**+2.3**
ATHU	**Athens Univers**	**2.50**	**39**	P		**Pn**	**12 13 17.9**	**+2.7**
ANX	**Ano Chora**	**2.56**	**2**	P		**Pb**	**12 13 20.1**	**-0.8**
ANX	**Ano Chora**	**2.56**	**2**	P		**Pb**	**12 13 19.9**	**-1.0**
PVO	**Paravola**	**2.60**	**355**	P		**Pb**	**12 13 19.9**	**-1.5**
PTL	**Penteli**	**2.61**	**39**	P		**Pb**	**12 13 20.0**	**-1.6**
PTL				S		**Sn**	**12 13 51.2**	**+3.1**
	250nm,0.6s							
FSK	**Fiskardo**	**2.62**	**338**	P		**Pn**	**12 13 19.9**	**+2.9**
EVR	**Evrytania**	**2.89**	**0**	P		**Pb**	**12 13 25.4**	**-1.0**
KYMI	**Kymi, Euboea I**	**3.18**	**34**	P		**Pn**	**12 13 27.1**	**+2.5**
KYMI				S		**Sn**	**12 14 06.5**	**+4.3**
MLR	**Muntele Rosu**	**9.96**	**17**	LR		LR	12 18 34.5	
	comp=Z,24nm,20.1s,baz=303,slow=37							
BRTR	**Keskin Array B**	**10.06**	**65**	Pn		**Pn**	**12 14 59.5**	**+0.4**
	baz=249,slow=12,SNR=3.7							
	0.2nm,0.3s							
MMAI	**Mount Meron Ar**	**11.61**	**101**	Pn		**Pn**	**12 15 20.4**	**+0.1**
	1.4nm,0.3s,baz=279,slow=14,SNR=1.6							
	0.8nm,0.3s							
AKASG	**Malin Array Be**	**15.62**	**18**	LR		LR	12 22 56.8	
	comp=Z,82nm,19.2s,baz=58,slow=40							
ESDC	**Sonseca Array**	**20.65**	**288**	P		**P**	**12 17 14.3**	**+0.1**
	0.4nm,0.9s,baz=90,slow=8.7,SNR=2.1							
	0.4nm,0.9s							
HFS	**Hagfors**	**24.69**	**350**	P		**P**	**12 17 53.8**	**-1.4**
	0.9nm,0.8s,baz=155,slow=11,SNR=1.3							
	0.9nm,0.8s							
FINES	**FINESS Array B**	**25.58**	**5**	P		**P**	**12 18 01.6**	**-1.6**
	1.7nm,1.1s,baz=188,slow=8.4,SNR=3.5							
FINES				LR		LR	12 29 28.6	
	comp=Z,126nm,20.1s,baz=346,slow=40							
	1.7nm,1.1s							
NOA	**NORSAR Array B**	**25.93**	**348**	P		**P**	**12 18 06.6**	**+0.1**
	0.3nm,0.8s,baz=151,slow=10,SNR=1.3							
	0.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.09**	**224**	P		**P**	**12 18 36.9**	**+1.8**
	156nm,0.2s,baz=35,slow=9.7,SNR=1.6							
ARCES	**ARCESS Array B**	**33.63**	**2**	P		**P**	**12 19 11.6**	**-3.0**
	2.0nm,0.8s,baz=183,slow=9.7,SNR=1.2							
	2.0nm,0.8s							
BVAR	**Borovoye Array**	**37.76**	**48**	P		**P**	**12 19 47.9**	**-2.4**
	0.4nm,0.5s,baz=262,slow=8.2,SNR=1.6							
	0.4nm,0.5s							
SPITS	**Spitsbergen Ar**	**42.32**	**358**	P		**P**	**12 20 27.1**	**-0.7**
	9.7nm,0.9s,baz=161,slow=14,SNR=1.9							
KURBB	**Kurchatov Arra**	**42.72**	**52**	P		**P**	**12 20 28.8**	**-2.5**
	0.2nm,0.5s,baz=278,slow=8.6,SNR=2.0							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**45.59**	**57**	P		**P**	**12 20 52.4**	**-2.0**
	0.2nm,0.3s,baz=269,slow=7.4,SNR=4.5							
	0.2nm,0.3s							
ZALV	**Zalesovo Beam**	**46.39**	**47**	P		**P**	**12 20 57.5**	**-3.1**
	0.3nm,0.3s,baz=264,slow=11,SNR=2.3							
	0.3nm,0.3s							
PSI	**Prapat**	**77.94**	**95**	LR		LR	13 03 20.0	
	comp=Z,74nm,20.3s,baz=124,slow=39							

---

*IDC **14** 12:17:48.2±1.3, 18°.34N×145°.60E, h475km±16km, mb2.8/11, mbtmp3.9/15, Error ellipse: s-maj=22.5km s-min=13.0km az=83.0*
*NEIC **14** 12:17:49.5±1.3, 18°.3N±0°.1×145°.6E±0°.2, h484km±10km, mb3.9/11, Error ellipse: s-maj=24.4km s-min=16.3km az=76.0*
ISC 14 12:17:49.9±0.7, 18°.23N±0°.08×145°.5E±0°.1, h500km, n31, σ1§15/32, mb3.3/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.66**	**188**	P		**P**	**12 19 13.3**	**-0.6**
GUMO	**Guam**	**4.66**	**188**	P		**P**	**12 19 13.2**	**-0.7**
	28nm,0.3s,baz=0.0,slow=17,SNR=5.3							
GUMO				S		**S**	**12 20 18.6**	**-3.7**
	70nm,0.8s,baz=343,slow=19,SNR=1.7							
JCJ	**Chichijima**	**9.35**	**341**	P		**P**	**12 20 00.3**	**+0.1**
JCJ	**Chichijima**	**9.35**	**341**	P		**P**	**12 19 59.4**	**-0.9**
	138nm,1.1s,baz=157,slow=15,SNR=2.0							
JOW	**Kunigami**	**18.08**	**301**	P		**P**	**12 21 31.5**	**+0.5**
JOW	**Kunigami**	**18.08**	**301**	P		**P**	**12 21 30.5**	**-0.5**
	9.9nm,0.4s,baz=108,slow=19,SNR=1.9							
INU	**Inuyama**	**18.65**	**338**	P		**P**	**12 21 36.0**	**

comp=Z,0.8nm,0.7s,baz=80,slow=7.3,SNR=6.8
comp=Z,0.8nm,0.7s
ZALV Zalesovo Beam 58.29 323 P P 12 26 55.7 -0.3
comp=Z,0.4nm,0.4s,baz=95,slow=8.4,SNR=3.0
comp=Z,0.4nm,0.4s
MKAR Makanchi Array 58.67 314 P **P 12 26 59.0 +0.2**
MKAR Makanchi Array 58.67 314 P **P 12 26 58.6 -0.2**
comp=Z,0.5nm,0.4s,baz=93,slow=7.7,SNR=6.8
comp=Z,0.5nm,0.4s
MAKZ Makanchi 58.88 314 P **P 12 27 00.1 -0.1**
C18K Utukok River 60.17 20 P **P 12 27 08.6 +0.2**
C18K IAmb IAmb 12 27 10.7
comp=Z,4.1nm,1.4s
KURBB Kurchatov Arra 61.56 318 P **P 12 27 17.8 0.0**
comp=Z,3.4nm,0.5s,baz=93,slow=7.3,SNR=35
comp=Z,3.4nm,0.5s
D20K Etivluk River 61.70 21 P **P 12 27 18.6 +0.1**
B20K Meade River 62.06 19 P **P 12 27 20.7 0.0**
B20K IAmb IAmb 12 27 25.4
comp=Z,6.9nm,1.4s
AAK Ala-Archa 64.04 309 P **P 12 27 36.2 +2.0**
AAK IAmb IAmb 12 27 37.9
comp=Z,1.9nm,0.8s
ILAR Eielson Array 64.14 26 P **P 12 27 33.6 -0.7**
comp=Z,0.1nm,0.4s,baz=249,slow=5.2,SNR=1.7
comp=Z,0.1nm,0.4s
SNZO South Karori 65.12 156 P **P 12 27 41.8 +1.0**
BMAR Burnt Mountain 65.61 23 P **P 12 27 44.3 +0.7**
BVAR Borovoye Array 66.73 321 P **P 12 27 50.4 -0.3**
comp=Z,1.6nm,0.6s,baz=98,slow=8.7,SNR=7.0
comp=Z,1.6nm,0.6s
YKA Yellowknife Ar 78.48 28 P **P 12 28 57.7 -0.7**
comp=Z,0.2nm,0.8s,baz=290,slow=5.3,SNR=2.2
comp=Z,0.2nm,0.8s
NVAR Mina Array Bea 83.56 52 P **P 12 29 26.3 +0.9**
comp=Z,0.5nm,0.6s,baz=289,slow=5.6,SNR=5.1
comp=Z,0.5nm,0.6s

NOU 14 12:31:23.5, 17°.11S×167°.19E, h0km, MLv3.9/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.02	13	P	Pg	12 31 43.3	+0.2
VLAKA	Lakatoro	1.02	13	S	Sg	12 31 56.6	+0.2
DVP	Devils Point	1.13	123	P	Pg	12 31 44.2	-1.0
KOUNC	Koumac, New Ca	4.39	218	P	Pn	12 32 31.8	+0.3
KOUNC	Koumac, New Ca	4.39	218	S	Sn	12 33 23.7	+0.4
YATNC	Mamie plateau,	4.93	183	P	Pn	12 32 37.8	-1.1
DZM	Mont Dzumac	4.99	188	P	Pn	12 32 39.5	-0.2
PINNC	Pines Island,	5.48	178	P	Pn	12 32 47.2	+0.8

---

*IDC **14** 12:31:57.3±3.5, 5°.56S×104°.95E, h146km±25km, mb3.3/9, mbtmp3.7/10, Error ellipse: s-maj=59.6km s-min=17.3km az=55.0*
*DJA **14** 12:31:58.8±0.4, 6°.5S±4°×10°.5E±°, h136km±4km, M4.2/10, mB5.2/1, mb4.9/1, MLv3.8/10, Mw(mB)4.5/1*
ISC 14 12:31:57.7±0.8, 5°.7S±0°.1×105°.1E±0°.1, h152km±6km, n22, σ1°28/31, mb3.6/9, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLSI	Bandar Lampung	0.36	26	P	Pn	12 32 19.0	+0.2
BLSI				S	Sn	12 32 33.2	-1.6
CGJI	Cibinong	1.10	147	P	Pn	12 32 23.5	-0.1
CGJI				S	Sn	12 32 43.3	0.0
LWLI	Liwa	1.22	303	P	Pn	12 32 26.0	+1.2
LWLI				S	Sn	12 32 45.3	-0.3
MDSI	Maura Dua	1.50	323	P	Pn	12 32 28.5	+1.0
MDSI				S	Sn	12 32 50.5	+0.2
SKJI	Sukabumi	1.96	132	P	Pn	12 32 33.4	+0.9
SKJI				S	Sn	12 32 58.6	-0.7
MNAI	Manna	2.50	302	P	Pn	12 32 40.6	+1.6
MNAI				S	Sn	12 33 11.0	+0.2
CNJI	Cibinong	2.59	128	P	Pn	12 32 39.8	-0.3
CNJI				S	Sn	12 33 11.4	-1.4
LEM	Lembang	2.76	114	P	Pn	12 32 43.7	+1.4
17nm,0.5s,baz=307,slow=20,SNR=5.8							
LEM				S	Sn	12 33 20.7	+4.0
22nm,0.4s,baz=311,slow=19,SNR=4.0							
CMJI	Cimerak	3.93	122	P	Pn	12 32 56.8	-0.4
WRA	Warramunga Arr	31.77	119	P	P	12 38 08.5	+0.7
0.4nm,0.7s,baz=298,slow=8.2,SNR=2.3							
WRA				PcP	PcP	12 40 55.8	+0.1
0.3nm,0.8s,baz=303,slow=2.7,SNR=1.7							
0.4nm,0.7s							
ASAR	Alice Springs	32.99	126	P	P	12 38 20.0	+1.5
0.2nm,0.3s,baz=298,slow=8.5,SNR=10							
ASAR				PcP	PcP	12 41 00.4	+1.4
0.2nm,0.7s,baz=302,slow=3.0,SNR=1.7							
0.2nm,0.3s							
SONM	Songino Array	53.31	1	P	P	12 41 01.3	+0.2
0.4nm,0.8s,baz=181,slow=7.9,SNR=2.7							
SONM				PcP	PcP	12 42 06.9	+0.3
0.4nm,0.4s,baz=181,slow=4.6,SNR=6.1							
0.4nm,0.8s							
USRK	Ussuriysk Ar.	55.26	23	P	P	12 41 14.4	-0.7
1.2nm,0.5s,baz=219,slow=5.9,SNR=5.5							
1.2nm,0.5s							
MKAR	Makanchi Array	56.03	341	P	P	12 41 19.6	-1.1
0.5nm,0.6s,baz=154,slow=7.7,SNR=5.9							
0.5nm,0.6s							
KURBB	Kurchatov Arra	60.59	341	P	P	12 41 49.8	-2.3
0.2nm,0.5s,baz=150,slow=6.3,SNR=2.5							
KURBB				PcP	PcP	12 42 35.5	+0.6
0.2nm,0.5s,baz=151,slow=4.0,SNR=3.1							
0.2nm,0.5s							
H04N2	CROZET ISLANDS	61.03	220	T	T	13 48 14.6	
baz=66							
H04N1	CROZET ISLANDS	61.05	220	T	T	13 48 29.0	
baz=66							
H04N3	CROZET ISLANDS	61.05	220	T	T	13 48 29.8	
baz=66							
ZALV	Zalesovo Beam	61.81	347	P	P	12 41 59.0	-1.3
0.6nm,0.4s,baz=155,slow=5.5,SNR=3.0							
0.6nm,0.4s							
BVAR	Borovoye Array	65.44	338	P	P	12 42 22.8	-1.3
0.4nm,0.5s,baz=145,slow=6.9,SNR=2.8							
0.4nm,0.5s							
FINES	FINESS Array B	89.73	332	P	P	12 44 37.9	-0.6
2.4nm,1.1s,baz=101,slow=7.2,SNR=3.8							
2.4nm,1.1s							
TXAR	Lajitas Array	144.08	46	PKP	PKPdf	12 51 15.9	-0.2
0.5nm,0.6s,baz=302,slow=2.6,SNR=7.7							

---

*NEIC **14** 12:48:33.4±0.8, 17°.9S±0°.1×178°.3W±0°.1, h581km±8km, mb4.3/12, Error ellipse: s-maj=23.1km s-min=12.8km az=123.0*
*IDC **14** 12:48:34.8±1.2, 18°.06S×178°.45W, h582km±12km, mb2.9/8, mbtmp3.8/10, Error ellipse: s-maj=23.3km s-min=16.8km az=133.0*
ISC 14 12:48:33.8±0.6, 17°.9S±0°.1×178°.37W±0°.09, h579km, n32, σ1°02/35, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.41	273	P	P	12 49 54.4	+0.5
10nm,0.5s,baz=90,slow=20,SNR=2.7							
MSVF				S	S	12 51 01.0	+1.9
5.4nm,0.6s,baz=128,slow=19,SNR=1.5							
FUTU	Fugatoga	3.60	4	P	P	12 49 54.0	-1.2
AFI	Afiamalu	7.49	59	P	P	12 50 25.6	-2.1
NIUE	Niue	8.10	99	P	P	12 50 32.8	-0.6
DZM	Mont Dzumac	14.86	251	P	P	12 51 41.2	-0.2
DZM	Mont Dzumac	14.86	251	P	P	12 51 40.8	-0.6
6.9nm,0.6s,baz=86,slow=19,SNR=7.7							
URZ	Urewera	20.65	190	P	P	12 52 32.8	-1.3
4.0nm,0.4s,baz=359,slow=1.9,SNR=13							
4.0nm,0.4s							
QRZ	Quartz Range	24.13	197	P	P	12 53 05.6	+0.4
MRNZ	Matariki Terra	24.61	196	P	P	12 53 08.8	-0.6
INZ	Inchbonnie	26.20	197	P	P	12 53 21.6	-1.8
COEN	Coen	37.14	270	P	P	12 54 56.5	-0.3
COEN				IAmb	IAmb	12 55 34.5	
comp=Z,14nm,1.2s							
STKA	Stephens Creek	38.65	241	P	P	12 55 09.0	+0.2
STKA	Stephens Creek	38.65	241	P	P	12 55 09.6	+0.8
comp=Z,2.7nm,0.5s,baz=84,slow=12,SNR=7.5							
comp=Z,2.7nm,0.5s							
WRA	Warramunga Arr	44.66	260	P	P	12 55 55.4	-0.9
WRA	Warramunga Arr	44.66	260	P	P	12 55 55.2	-1.1
comp=Z,2.9nm,0.5s,baz=94,slow=7.7,SNR=81							
WRA				PcP	PcP	12 57 26.9	+0.6
comp=Z,0.2nm,0.3s,baz=91,slow=3.3,SNR=1.6							
comp=Z,2.9nm,0.5s							
AS31	Alice Springs	44.82	254	P	P	12 55 56.8	-0.7
AS31				IAmb	IAmb	12 55 58.2	
comp=Z,8.2nm,0.5s							
ASAR	Alice Springs	44.82	254	P	P	12 55 56.8	-0.7
ASAR	Alice Springs	44.82	254	P	P	12 55 57.3	-0.2
comp=Z,27nm,0.6s,baz=92,slow=7.8,SNR=534							
ASAR				PcP	PcP	12 57 27.2	+0.4
comp=Z,0.7nm,0.7s,baz=92,slow=3.6,SNR=3.0							
MTN	Manton Dam	48.83	268	P	P	12 56 27.0	-0.7
MTN				IAmb	IAmb	12 56 27.6	
comp=Z,6.7nm,0.8s							
KNRA	Kununurra	50.52	264	P	P	12 56 39.4	-0.6
KNRA				IAmb	IAmb	12 56 40.3	
comp=Z,5.6nm,0.7s							
MBWA	Marble Bar	58.10	256	P	P	12 57 32.9	-0.2
MBWA				IAmb	IAmb	12 58 13.1	
comp=Z,20nm,1.4s							
QSPA	South Pole Qui	72.13	180	P	P	12 59 00.5	+0.2
QSPA	South Pole Qui	72.13	180	P	P	12 59 01.1	+0.7
comp=Z,0.9nm,1.0s,baz=82,slow=7.1,SNR=1.3							
comp=Z,0.9nm,1.0s							
P18K	Big Mountain,	79.33	12	P	P	12 59 39.0	-0.8
NVAR	Mina Array Bea	79.41	44	P	P	12 59 42.6	+1.6
comp=Z,0.1nm,0.6s,baz=244,slow=7.9,SNR=1.7							
comp=Z,0.1nm,0.6s							
O18K	Koktuh Hills	79.76	12	P	P	12 59 41.1	-1.0
BELA	Belgrano 2	82.15	173	P	P	12 59 54.2	-0.1
BELA				IAmb	IAmb	13 00 09.0	
comp=Z,8.1nm,1.5s							
ILAR	Eielson Array	85.89	13	P	P	13 00 12.8	+0.2
comp=Z,0.2nm,0.6s,baz=211,slow=5.2,SNR=4.7							
comp=Z,0.2nm,0.6s							
TXAR	Lajitas Array	85.97	58	P	P	13 00 16.6	+2.7
comp=Z,0.2nm,0.8s,baz=246,slow=9.2,SNR=2.2							
comp=Z,0.2nm,0.8s							
PDAR	Pinedale Array	87.34	43	P	P	13 00 20.2	0.0
comp=Z,0.1nm,0.6s,baz=249,slow=5.1,SNR=2.4							
comp=Z,0.1nm,0.6s							
BRTR	Keskin Array B	144.82	315	PKP	PKPab	13 07 07.2	-0.2
comp=Z,0.3nm,0.5s,baz=96,slow=2.9,SNR=2.7							
GERES	GERESS Array B	147.63	345	PKPbc	PKiKP	13 07 14.9	-0.5
comp=Z,0.3nm,0.5s,baz=24,slow=4.9,SNR=2.3							

---

*IDC **14** 13:08:21.3±2.3, 6°.56N×93°.29E, h0km, mb3.6/5, mbtmp3.6/7, ML3.0/2, Error ellipse: s-maj=78.7km s-min=23.0km az=58.0*
ISC 14 13:08:26.3±1.9, 6°.7N±0°.2×93°.4E±0°.3, h32km, n10, σ0°80/7, mb3.6/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.75	124	Pn	Pn	13 10 04.0	+0.7
0.8nm,0.3s,baz=316,slow=12,SNR=4.5							
6.6nm,0.5s							
CMAR	Chiang Mai Arr	12.94	24	Pn	Pn	13 11 27.7	-0.4
baz=207,slow=13,SNR=1.5							
0.2nm,0.4s							
H08S3	Diego Garcia H	25.19	236	T	T	13 40 46.9	
baz=56,slow=76,SNR=8.3							
H08S2	Diego Garcia H	25.19	236	T	T	13 40 48.4	
baz=56,slow=76,SNR=8.7							
H08S1	Diego Carcia H	25.21	236	T	T	13 40 46.5	
baz=56,slow=76,SNR=7.1							
MKAR	Makanchi Array	41.11	348	P	P	13 16 07.5	+0.2
0.8nm,0.6s,baz=156,slow=6.4,SNR=9.6							
0.8nm,0.6s							
SONM	Songino Array	42.52	13	P	P	13 16 19.0	+0.1
0.2nm,0.3s,baz=193,slow=12,SNR=2.4							
0.2nm,0.3s							
KURBB	Kurchatov Arra	45.54	347	P	P	13 16 42.8	-0.1
0.7nm,0.8s,baz=168,slow=7.0,SNR=13							
0.7nm,0.8s							
ZALV	Zalesovo Beam	47.66	353	P	P	13 17 00.5	+1.0
0.4nm,0.2s,baz=165,slow=7.7,SNR=4.4							
0.4nm,0.2s							
ASAR	Alice Springs	49.76	129	P	P	13 17 15.2	-1.0
0.2nm,0.6s,baz=301,slow=7.9,SNR=4.5							
0.2nm,0.6s							

---

*SJA **14** 13:12:09.8±0.6, 22°.41S×68°.72W, h126km±4km, ML3.5, MW3.5*
*GUC **14** 13:12:12.0±0.8, 22°.37S×68°.82W, h122km±5km, ML3.6*
ISC 14 13:12:10.3±1.3, 22°.38S±0°.03×68°.76W±0°.06, h131km±9km, n32, σ1°67/55, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.73	322	⇑iP	Pn	13 12 31.4	+0.2
PB09				eS	Sn	13 12 46.3	-0.7
PB09	IPOC Station P	0.73	322	eP	Pn	13 12 31.1	-0.1
PB09				eS	Sn	13 12 46.9	-0.1
PB09				IAML		13 12 48.1	
comp=Z,833nm,0.2s							
AF01	San Pedro de A	0.78	137	eP	Pn	13 12 31.2	-0.4
AF01				IAML		13 13 07.4	
comp=Z,1μm,0.6s							
PB06	IPOC Station P	0.82	247	⇑iP	Pn	13 12 31.9	0.0
PB06				eS	Sn	13 12 47.5	-0.6
PB06				IAML		13 12 50.7	
comp=N,2μm,0.1s							
PB06	IPOC Station P	0.82	247	eP	Pn	13 12 31.6	-0.2
PB06				eS	Sn	13 12 49.2	+1.0
PB06				IAML		13 12 51.0	
comp=Z,751nm,0.4s							
PB03	IPOC Station P	0.98	289	⇑iP	Pn	13 12 33.6	+0.3
PB03				eS	Sn	13 12 50.2	-0.4
PB03				IAML		13 12 51.5	
comp=E,1μm,0.2s							
PB03	IPOC Station P	0.98	289	eP	Pn	13 12 33.5	+0.3
PB03				eS	Sn	13 12 51.0	+0.3
PB03				IAML		13 12 51.8	
comp=Z,1μm,0.3s							
PB01	IPOC Station P	1.49	333	eP	Pn	13 12 38.9	+0.5
PB01				eS	Sn	13 12 59.4	-0.5
PB01				IAML		13 13 00.6	
comp=E,1μm,0.2s							
PB01	IPOC Station P	1.49	333	eP	Pn	13 12 33.5	-4.9
PB01				eP		13 12 38.9	
PB01				eS	Sn	13 13 00.0	+0.1
PB01				IAML		13 13 01.8	
comp=Z,446nm,0.2s							
PB10	IPOC Station P	2.01	235	eP	Pn	13 12 44.9	+0.5
PB10				eS	Sn	13 13 09.2	-1.2
PB10				IAML		13 13 17.0	
comp=E,207nm,0.2s							
PB10	IPOC Station P	2.01	235	eP	Pn	13 12 44.9	+0.5
PB10				eS	Sn	13 13 10.2	-0.3
PB10				IAML		13 13 11.0	
comp=Z,141nm,0.5s							
PATCX	Punta Patache	2.02	320	eP	Pn	13 12 45.2	+0.5
PATCX				eS	Sn	13 13 09.7	-1.3
PATCX				IAML		13 13 18.1	
comp=N,499nm,0.5s							
PATCX	Punta Patache	2.02	320	eP	Pn	13 12 45.4	+0.7
PATCX				eS	Sn	13 13 12.6	+1.6
PATCX				IAML		13 13 19.9	
comp=Z,178nm,0.4s							
TA01	Diego Aracena	2.24	323	eP	Pn	13 12 48.4	+1.1
TA01				eS	Sn	13 13 15.2	-0.4
TA01				IAML		13 13 22.9	
comp=N,206nm,0.3s							
TA01	Diego Aracena	2.24	323	eP	Pn	13 12 45.9	-1.4
TA01				eS	Sn	13 13 21.5	+5.9
TA01				IAML		13 13 22.6	
comp=Z,153nm,0.3s							
PB08	IPOC Station P	2.26	350	eP	Pn	13 12 48.9	+1.0
PB08				eS	Sn	13 13 18.7	+2.1
HMBC	Humberstone	2.34	333	eP	Pn	13 12 48.6	-0.1
HMBC				eS	Sn	13 13 16.6	-1.5
HMBC				IAML		13 13 19.6	
comp=E,392nm,0.5s							
TA02	Huaiquique	2.46	328	eP	Pn	13 12 54.7	+4.7
TA02				eS	Sn	13 13 18.1	-2.4
TA02				IAML		13 13 27.6	
comp=Z,148nm,0.3s							
PB14	IPOC Station P	2.70	214	eP	Pn	13 12 53.7	+0.3
PB14				eS	Sn	13 13 26.5	0.0
PB14				IAML		13 13 36.0	
comp=Z,161nm,0.3s							
GO01	Chusmiza	2.73	351	eP	Pn	13 12 54.7	+0.8
GO01				IAML		13 13 30.2	
comp=N,260nm,0.3s							
GO01	Chusmiza	2.73	351	eP	Pn	13 12 54.7	+0.8
GO01				eS	Sn	13 13 24.8	-2.6
PB11	IPOC Station P	2.74	342	eP	Pn	13 12 53.7	0.0
PB11				eS	Sn	13 13 26.1	-1.0
PB11				IAML		13 13 29.1	
comp=E,304nm,0.3s							
PB11	IPOC Station P	2.74	342	eP	Pn	13 12 53.1	-0.6
PB11				eS	Sn	13 13 23.6	-3.5
PB11				IAML		13 13 32.9	
comp=Z,113nm,0.4s							
GO02	Mina Guanaco	2.87	195	eP	Pn	13 12 55.9	+0.3
GO02				eS	Sn	13 13 31.8	+1.3
SALTA		2.88	130	eP	Pn	13 12 51.2	-4.7
SALTA				eP		13 13 10.9	
AZAP	Zapla	3.86	119	eP	Pn	13 13 08.2	-0.2
PB12	IPOC Station P	4.03	338	eP	Pn	13 13 10.9	+0.4
PB12	IPOC Station P	4.03	338	eP	Pn	13 13 09.8	-0.7
PB12				eS	Sn	13 13 43.3	-14
PB12				IAML		13 14 27.4	
comp=Z,37nm,0.9s							
AC01	Pan de Azucar	4.11	204	eP	Pn	13 13 10.6	-0.9
AC01				eS	Sn	13 13 56.3	-2.8
AC01				IAML		13 13 57.9	
comp=Z,75nm,0.1s							
AC02	Maricunga	4.45	184	eP	Pn	13 13 16.6	+0.1
AC02				eS	Sn	13 14 12.3	+4.5
AC02				IAML		13 14 43.9	
comp=Z,27nm,0.5s							
FSA	Cafayete	4.50	146	eP	Pn	13 13 17.8	+1.0
GO03	Copiapo	5.36	194	eP	Pn	13 13 26.8	-1.5
GO03				eS	Sn	13 14 27.7	-1.4

---

*AEIC **14** 13:15:11.7±1.1, 60°.08N±0°.03×152°.90W±0°.09, h108km±7km, ML2.5, MLS.3.0/126(NEIC), Error ellipse: s-maj=7.1km s-min=1.5km az=61.0*
*NEIC **14** 13:15:11.0±0.5, 60°.06N±0°.05×152°.97W±0°.04, h117km±12km, Error ellipse: s-maj=7.6km s-min=1.6km az=157.0*
ISC 14 13:15:10.4±1.5, 60°.04N±0°.05×153°.01W±0°.08, h121km±12km, n53, σ0°96/30, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILSW	Iliamna Southw	0.09	229		Pn	13 15 26.6	-0.5
ILSW				IAML		13 15 40.3	
comp=N,256nm,0.6s							
ILSW				IAML		13 15 41.2	
comp=E,282nm,0.6s							
P19K	Oil Pt	0.41	196		Pn	13 15 28.4	+0.5
P19K				IAML		13 15 42.0	
comp=N,746nm,0.5s							
Q19K	Port Alsworth	0.68	284		Pn	13 15 30.0	+0.4
Q19K				IAML		13 15 44.8	
comp=N,558nm,0.5s							
HOM	Homer	0.79	119		Pn	13 15 30.9	+0.4
CNPM	China Poot	1.03	119		Pn	13 15 33.1	+0.3
N19K	Bonanza Creek	1.07	317		Pn	13 15 33.4	+0.2
N19K				IAML		13 15 50.4	
comp=E,72nm,0.5s							
BRLK	Bradley Lake	1.10	104		Pn	13 15 33.6	0.0
O18K	Koktuh Hills	1.12	261		Pn	13 15 34.4	+0.7
O18K				IAML		13 15 52.4	
comp=E,82nm,0.7s							
Q19K	Cape Douglas,	1.16	197		Pn	13 15 34.7	+0.5
Q19K				IAML		13 15 55.7	
comp=N,112nm,0.7s							
Q19K				IAML		13 15 59.3	
comp=E,154nm,0.7s							
CAPN	Captain Cook N	1.17	51		Pn	13 15 35.6	+1.5
CAPN				IAML		13 15 55.8	
comp=E,397nm,0.3s							
P18K	Big Mountain,	1.30	241		Pn	13 15 36.2	+0.6
SLKM	Skilak Lake	1.46	70		Pn	13 15 36.8	-0.7
SYI	Shuyak Island	1.47	167		Pn	13 15 38.0	+0.6
SYI				IAML		13 15 59.0	
comp=N,118nm,0.5s							
SYI				IAML		13 16 01.6	
comp=E,109nm,0.4s							
N18K	Kilae Creek	1.57	295		Pn	13 15 39.1	+0.5
STLK	Strandline Lak	1.57	21		Pn	13 15 38.6	-0.1
SEW	Seward	1.78	86		Pn	13 15 40.3	-0.8
SEW				IAML		13 16 06.7	
comp=N,58nm,0.4s							
SEW				IAML		13 16 08.0	
comp=E,75nm,0.4s							
SUA	Susitna One	1.81	37		Pn	13 15 41.7	+0.1
SUA				IAML		13 16 05.8	
comp=E,203nm,0.8s							
SUA				IAML		13 16 06.5	
comp=N,213nm,0.4s							
RC01	Rabbit Creek A	1.93	56		Pn	13 15 42.4	-0.5
M19K	Big River Lodg	1.99	341		Pn	13 15 44.0	+0.3
SKT	Skwentna	2.07	20		Pn	13 15 44.5	-0.2
SKT				IAML		13 16 14.1	
comp=N,58nm,0.5s							
SKT				IAML		13 16 14.4	
comp=E,52nm,0.3s							
KDAK	Kodiak Island	2.28	174	IAML		13 16 21.2	
comp=E,54nm,0.7s							
KDAK				IAML		13 16 24.1	
comp=E,43nm,0.7s							
PMR	Palmer	2.45	49	IAML		13 16 18.1	
comp=N,45nm,0.2s							
PMR				IAML		13 16 18.8	
comp=E,51nm,0.2s							
PMR	Palmer	2.45	49	P	Pn	13 15 48.4	-1.1
PWL	Port Wells	2.46	68	IAML		13 16 17.7	
comp=N,136nm,0.4s							
KNK	Knik Glacier	2.62	56	IAML		13 16 22.1	
comp=E,107nm,0.3s							
KNK				IAML		13 16 22.9	
comp=N,103nm,0.4s							
GHO	Glory Hole Cre	2.64	47	IAML		13 16 27.7	
comp=N,63nm,0.4s							
GHO				IAML		13 16 29.5	
comp=E,77nm,0.7s							
P16K	Nushagak River	2.73	250	IAML		13 16 30.5	
comp=N,30nm,0.8s							
P16K				IAML		13 16 47.0	
comp=E,16nm,0.8s							
P23K	Montague Islan	2.81	88	IAML		13 16 28.2	
comp=N,94nm,0.5s							
P23K				IAML		13 16 28.6	
comp=E,71nm,0.5s							
OHAK	Old Harbor	2.83	183	P	Pn	13 15 54.1	-0.3
OHAK	Old Harbor	2.83	183	S	Sn	13 16 26.7	-1.7
SML	Sawmill	2.89	50	IAML		13 16 28.4	
comp=N,45nm,0.7s							
SML				IAML		13 16 34.7	
comp=E,55nm,0.5s							
PPLA	Purkeypile	2.89	7	IAML		13 16 32.7	
comp=E,22nm,0.5s							
PPLA				IAML		13 16 34.6	
comp=N,22nm,0.9s							
GLI	Glacier Island	3.04	71	IAML		13 16 30.5	
comp=N,56nm,0.7s							
GLI				IAML		13 16 34.6	
comp=E,56nm,0.4s							
SCM	Sheep Creek Mo	3.30	55	IAML		13 16 39.8	
comp=N,56nm,0.5s							
SII	Sitkinak Islan	3.55	191	P	Pn	13 16 03.9	0.0
SII	Sitkinak Islan	3.55	191	S	Sn	13 16 44.3	-1.0
EYAK	Cordova Ski Ar	3.65	79	P	Pn	13 16 05.2	+0.1
TRF	Thorofare Moun	3.66	20	IAML		13 16 47.0	
comp=N,38nm,0.6s							
TRF				IAML		13 16 47.0	
comp=E,23nm,0.6s							
KTH	Kantishna Hill	3.66	15	IAML		13 16 47.8	
comp=E,18nm,0.8s							
KTH				IAML		13 16 49.0	
comp=N,17nm,0.7s							
M24K	Tols

	comp=E,5.7nm,0.9s					
BWN	**Browne**	**4.46**	**20**	IAML		13 17 07.8
	comp=N,12nm,1.2s					
BWN				IAML		13 17 08.3
	comp=E,10nm,1.0s					
PAX	**Paxson**	**4.65**	**48**	IAML		13 17 11.0
	comp=N,13nm,0.6s					
PAX				IAML		13 17 11.1
	comp=E,12nm,1.1s					
NEA2	**Nenana**	**4.92**	**20**	IAML		13 17 12.9
	comp=N,3.7nm,1.2s					
WRH	**Wood River Hil**	**5.00**	**25**	IAML		13 17 15.5
	comp=N,5.7nm,0.9s					
WRH				IAML		13 17 18.4
	comp=E,6.4nm,0.7s					
CCB	**Clear Creek Bu**	**5.22**	**25**	IAML		13 17 24.3
	comp=N,4.5nm,0.4s					
CCB				IAML		13 17 24.8
	comp=E,6.7nm,0.5s					
RIDG	**Independent Ri**	**5.35**	**43**	IAML		13 17 43.7
	comp=E,14nm,0.9s					
RIDG				IAML		13 17 44.9
	comp=N,9.7nm,0.8s					
COLA	**College**	**5.41**	**24**	P	**Pn**	**13 16 28.2 -0.4**
PNL	**Peninsula**	**6.87**	**87**	P	**Pn**	**13 16 49.4 +1.0**
SKAG	**Skagway**	**8.94**	**86**	P	**Pn**	**13 17 18.5 +2.1**
JIS	**Juneau Island**	**9.72**	**92**	P	**Pn**	**13 17 29.5 +2.6**

*IDC **14** 13:28:58.7±1.6, 35°.31N×48°.83E, h0km, mb3.6/9, mbtmp3.7/10, ML3.7/1, MS3.3/2, Error ellipse: s-maj=31.5km s-min=17.8km az=23.0*
*TEH **14** 13:29:00.3, 35°.66N×48°.98E, h8km±30km*
*THR **14** 13:29:00.9±0.0, 35°.63N×48°.98E, h10km±8km, ML4.0*
ISC 14 13:29:02.3±1.3,**35°.65N**±0°.03×**48°.98E**±0°.03,**h10km**±9km, **n63**,σ1§**38**/54,**mb3.6**/8,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGHA	**Hamedan- Ghaye**	**0.19**	**212**	Pg	**Pg**	**13 29 05.3**	**-1.1**
QABG	**Abgarm-Qazvin**	**0.49**	**83**	Pg	**Pg**	**13 29 10.4**	**-1.5**
IRAZ	**Razeghan**	**0.81**	**107**	Pg	**Pg**	**13 29 16.4**	**-1.5**
HAGD	**Aghdareh**	**0.84**	**171**	Pg	**Pg**	**13 29 16.4**	**-2.0**
ZNJK	**Zanjan**	**1.05**	**347**	*e*Pg	**Pg**	**13 29 20.2**	**-2.2**
ZNJK				IAML		13 29 40.8
	comp=Z,1.4nm,1.0s					
IGZV	**Ghazvin**	**1.24**	**53**	Pg	**Pn**	**13 29 24.0**	**-1.9**
JIR1	**Jirandeh**	**1.25**	**32**	Pg	**Pn**	**13 29 24.0**	**-1.9**
SNQR	**Sonqor, Kerman**	**1.36**	**235**	Pg	**Pn**	**13 29 25.8**	**-1.8**
IMHD	**Mahdasht**	**1.37**	**88**	Pg	**Pn**	**13 29 26.6**	**-1.0**
ASAO	**Ashtian**	**1.39**	**142**	*e*PgA		13 29 26.3
ASAO				*e*Sg	**Sb**	**13 29 45.7**	**-0.8**
ASAO				IAML		13 29 51.3
	comp=Z,2.0nm,1.0s					
SNGE	**Sanandaj**	**1.45**	**248**	*e*PgA		13 29 26.6
SNGE				*e*Sg	**Sn**	**13 29 46.3**	**-1.6**
SNGE				IAML		13 29 47.4
	comp=Z,2.2nm,1.0s					
GIDE	**GILAN DEYLAMAN**	**1.48**	**30**	*e*PgA		13 29 27.9
GIDE				IAML		13 29 55.7
	comp=Z,10.0nm,1.0s					
THKV	**Tehran--Karaj**	**1.56**	**80**	*e*PnA		13 29 29.7
THKV				IAML		13 29 58.2
	comp=Z,3.6nm,1.0s					
BDRS	**Dareh Seyedi**	**1.69**	**183**	Pg	**Pn**	**13 29 31.1**	**-1.1**
CHTH	**Charan**	**1.76**	**81**	*e*PnA		13 29 32.5
CHTH				IAML		13 30 00.5
	comp=Z,2.4nm,1.0s					
ILIN	**Lien**	**1.81**	**247**	Pn	**Pn**	**13 29 33.7**	**0.0**
IHSB	**Hasanabad**	**1.88**	**96**	Pn	**Pn**	**13 29 35.5**	**+0.9**
IQOM	**Qom**	**1.89**	**115**	Pn	**Pn**	**13 29 35.1**	**+0.2**
KLST	**Kelardasht - M**	**1.89**	**62**	Pn	**Pn**	**13 29 35.1**	**+0.2**
CSN1	**Caspian**	**1.91**	**3**	Pn	**Pn**	**13 29 35.6**	**+0.8**
TEH	**Tehran**	**1.96**	**87**	Pn	**Pn**	**13 29 36.7**	**+1.1**
IDOB	**Doab**	**1.97**	**200**	Pn	**Pn**	**13 29 36.5**	**+0.6**
KHMZ	**Khomeyn**	**2.07**	**157**	*e*PnA		13 29 37.9
KHMZ				IAML		13 30 11.7
	comp=Z,1.6nm,1.0s					
KCHF	**Cheshme Sefid,**	**2.10**	**230**	Pn	**Pn**	**13 29 38.5**	**+0.8**
IHSH	**Hashtrud**	**2.16**	**321**	Pn	**Pn**	**13 29 38.7**	**+0.1**
GHVR	**GHOM**	**2.23**	**121**	*e*PnA		13 29 40.1
GHVR				IAML		13 30 23.3
	comp=Z,1.7nm,1.0s					
MZPU	**Pul - Mazandar**	**2.24**	**69**	Pn	**Pn**	**13 29 40.8**	**+1.2**
IKFM	**Kafar-mosalman**	**2.32**	**204**	Pn	**Pn**	**13 29 41.6**	**+1.1**
IDHR	**Dehrash**	**2.33**	**247**	Pn	**Pn**	**13 29 41.7**	**+0.9**
IVRN	**Varamin**	**2.34**	**105**	Pn	**Pn**	**13 29 41.4**	**+0.6**
IGHG	**Ghaleghazi**	**2.38**	**237**	Pn	**Pn**	**13 29 42.5**	**+0.9**
DAMV	**Damavand**	**2.43**	**90**	*e*PnA		13 29 42.1
DAMV				IAML		13 30 45.8
	comp=Z,0.0nm,1.0s					
IDMV	**Damavand**	**2.49**	**91**	Pn	**Pn**	**13 29 43.4**	**+0.3**
GAS1	**Astara - Iran**	**2.73**	**358**	Pn	**Pn**	**13 29 46.9**	**+0.7**
QAMS	**Qamsar**	**2.76**	**133**	Pn	**Pn**	**13 29 48.1**	**+1.3**
IPRN	**Peran**	**2.79**	**77**	Pn	**Pn**	**13 29 47.9**	**+0.8**
SRSL	**SARDASHT**	**2.93**	**282**	*e*Pn	**Pn**	**13 29 51.0**	**+1.9**
SRSL				IAML		13 30 46.3
	comp=Z,0.4nm,1.0s					
ISFB	**Sefidab**	**2.97**	**115**	Pn	**Pn**	**13 29 50.2**	**+0.6**
IHRS	**Heris**	**3.08**	**330**	Pn	**Pn**	**13 29 51.7**	**+0.5**
KRSH	**Karshahi**	**3.09**	**122**	Pn	**Pn**	**13 29 52.1**	**+0.8**
IALA	**Alasht**	**3.14**	**81**	Pn	**Pn**	**13 29 53.5**	**+1.4**
IAZR	**Azarshahr**	**3.15**	**311**	Pn	**Pn**	**13 29 53.2**	**+1.1**
IKLH	**Kolahrood**	**3.16**	**137**	Pn	**Pn**	**13 29 53.7**	**+1.3**
ILAS	**Lasjerd**	**3.25**	**94**	Pn	**Pn**	**13 29 54.8**	**+1.2**
GRMI	**Germi**	**3.27**	**345**	*e*PnA		13 29 55.6
GRMI				IAML		13 30 52.9
	comp=Z,0.2nm,1.0s					
JHBN	**Jahan bin**	**3.69**	**157**	Pn	**Pn**	**13 30 00.8**	**+1.2**
ISHB	**Shabestar**	**3.76**	**315**	Pn	**Pn**	**13 30 00.5**	**-0.1**
ANAR	**Anarak**	**4.63**	**121**	Pn	**Pn**	**13 30 14.1**	**+1.7**
GNI	**Garni**	**5.61**	**325**	Pg	**Pb**	**13 30 44.6**	**+4.3**
	comp=Z,1.4nm,0.3s,baz=155,slow=19,SNR=6.7					
GNI				Lg	Lg	13 32 03.7
	comp=Z,0.3nm,0.3s,baz=205,slow=21,SNR=0.8					
YZKH	**Yazd**	**5.68**	**123**	*e*Pn	**Pn**	**13 30 28.1**	**+1.3**
YZKH				IAML		13 32 27.7
	comp=Z,0.0nm,1.0s					
TABS	**Tabas**	**7.00**	**104**	*e*PnA		13 30 45.9
TABS				IAML		13 32 57.8
	comp=Z,0.0nm,1.0s					
TKDS	**Koohdasht(Taba**	**7.01**	**105**	Pn	**Pn**	**13 30 46.2**	**+1.0**
AKTO	**Aktyubinsk**	**16.16**	**21**	Pn	**Pn**	**13 32 49.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=207,slow=7.6,SNR=4.8					
	comp=Z,0.7nm,0.3s					
MLR	**Muntele Rosu**	**20.01**	**306**	LR	LR	13 42 26.1
	comp=Z,70nm,19.9s,baz=18,slow=40					
AKASG	**Malin Array Be**	**20.73**	**323**	P	**P**	**13 33 43.1**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=137,slow=10,SNR=5.4					
	comp=Z,0.5nm,0.5s					
ARTI	**Arti**	**21.70**	**14**	P	**P**	**13 33 56.3**	**+3.1**
	comp=Z,1.6nm,0.6s,baz=204,slow=20,SNR=3.3					
	comp=Z,1.6nm,0.6s					
BVAR	**Borovoye Array**	**23.01**	**34**	P	**P**	**13 34 08.0**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=231,slow=9.0,SNR=5.2					
	comp=Z,2.1nm,0.7s					
KURBB	**Kurchatov Arra**	**26.02**	**46**	P	**P**	**13 34 35.6**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=252,slow=9.8,SNR=6.0					
KURBB				LR	LR	13 45 17.1
	comp=Z,71nm,19.6s,baz=176,slow=37					
	comp=Z,0.8nm,0.9s					
MKAR	**Makanchi Array**	**27.22**	**56**	P	**P**	**13 34 46.7**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=251,slow=7.6,SNR=7.5					
	comp=Z,0.7nm,0.7s					
HFS	**Hagfors**	**33.38**	**328**	P	**P**	**13 35 40.5**	**0.0**
	comp=Z,2.9nm,1.0s,baz=161,slow=14,SNR=3.5					
	comp=Z,2.9nm,1.0s					
EKA	**Eskdalemuir Ar**	**40.38**	**316**	P	**P**	**13 36 38.9**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=135,slow=14,SNR=1.8					
	comp=Z,0.9nm,0.7s					
ESDC	**Sonseca Array**	**41.61**	**292**	P	**P**	**13 36 48.4**	**-2.1**
	comp=Z,0.6nm,0.9s,baz=79,slow=7.7,SNR=4.0					
	comp=Z,0.6nm,0.9s					
CMAR	**Chiang Mai Arr**	**47.16**	**98**	P	**P**	**13 37 34.4**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=299,slow=8.7,SNR=6.2					
	comp=Z,0.6nm,0.6s					

*IDC **14** 13:51:45.9±2.4, 40°.18N×20°.68E, h0km, mb3.3/6, mbtmp3.3/9, ML3.0/3, MS2.8/1, Error ellipse: s-maj=45.0km s-min=25.1km az=20.0*
*TIR **14** 13:51:46.5, 40°.18N×20°.72E, h1km±1km, Ml3.5/11*
*NAO **14** 13:51:46.2, 40°.59N×23°.53E, h10km, mb3.4*
*PDG **14** 13:51:46.9±0.1, 39°.95N×20°.70E, h27km, ML3.3/10, Error ellipse: s-maj=0.5km s-min=0.3km az=90.0*
*ATH **14** 13:51:47.7, 40°.18N×20°.74E, h6km±1km, ML3.2/23, Manual Solution by M.Kolligri First location: 2019/04/14 13:52:50, This location: 2020/07/03 15:16:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*BEO **14** 13:51:47.7±0.3, 40°.11N×20°.95E, h0km, ML3.2/6*
*THE **14** 13:51:47.7, 40°.19N×20°.74E, h0km±2km, ML3.0/11, Error ellipse: s-maj=2.7km s-min=0.9km az=321.0*
*SKO **14** 13:51:48.8, 40°.19N×20°.71E, h11km*
ISC 14 13:51:47.4±1.0,**40°.17N**±0°.01×**20°.73E**±0°.02,**h3**km±7km, **n162**,σ1§**43**/216,**mb3.3**/5,**10C-8D**,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.10**	**257**	Pg	**Pg**	**13 51 48.4**	**-1.1**
LSK				Sg	**Sg**	**13 51 50.6**	**-0.3**
LSK				AML	AML	13 51 50.7
	387nm,0.7s					
LSK				AML	AML	13 51 51.5
	441nm,0.6s					
PENT	**Pentalofos**	**0.31**	**86**	P	**Pg**	**13 51 53.4**	**0.0**
PENT				S	**Sg**	**13 51 58.6**	**+1.2**
PENT	**Pentalofos**	**0.31**	**86**	P	**Pg**	**13 51 53.3**	**-0.1**
PENT				S	**Sg**	**13 51 58.1**	**+0.7**
NEST	**Nestorio**	**0.34**	**45**	P	**Pg**	**13 51 54.1**	**+0.2**
NEST				S	**Sg**	**13 51 59.5**	**+1.1**
	3μm,0.4s					
NEST	**Nestorio**	**0.34**	**45**	Pg	**Pg**	**13 51 53.7**	**-0.3**
NEST				Sg	**Sg**	**13 52 00.1**	**+1.7**
NEST				AML	AML	13 52 02.4
	10nm,0.4s					
NEST				AML	AML	13 52 03.6
	12nm,0.4s					
NEST	**Nestorio**	**0.34**	**45**	P	**Pg**	**13 51 53.7**	**-0.3**
NEST				S	**Sg**	**13 51 59.2**	**+0.8**
KBN	**Korca**	**0.45**	**5**	Pg	**Pg**	**13 51 55.1**	**-1.0**
KBN				Sg	**Sg**	**13 52 02.6**	**+0.6**
KBN				AML	AML	13 52 07.7
	7.6nm,0.8s					
JAN	**Janina**	**0.53**	**170**	P	**Pg**	**13 51 56.4**	**-1.0**
JAN				S	**Sg**	**13 52 06.0**	**+1.8**
	4μm,0.5s					
JAN	**Janina**	**0.53**	**170**	P	**Pg**	**13 51 56.4**	**-1.0**
JAN				S	**Sg**	**13 52 05.3**	**+1.1**
MSVA	**Metsovo**	**0.53**	**139**	P	**Pg**	**13 51 57.3**	**-0.2**
MSVA				S	**Sg**	**13 52 05.5**	**+1.1**
SRN	**Sarande**	**0.64**	**243**	Pg	**Pg**	**13 51 58.7**	**-0.8**
SRN				Sg	**Sg**	**13 52 09.0**	**+1.3**
SRN				AML	AML	13 52 13.4
	2.8nm,0.7s					
IGT	**Igoumenitsa**	**0.71**	**206**	P	**Pg**	**13 52 00.5**	**-0.5**
IGT				S	**Sb**	**13 52 12.4**	**-0.1**
	1μm,0.6s					
IGT	**Igoumenitsa**	**0.71**	**206**	Pg	**Pg**	**13 52 01.2**	**+0.2**
IGT				Sg	**Sb**	**13 52 12.4**	**-0.1**
IGT				AML	AML	13 52 16.8
	3.3nm,0.6s					
IGT	**Igoumenitsa**	**0.71**	**206**	*i* Pg	**Pg**	**13 52 01.0**	**0.0**
IGT				*i* Sg	**Sb**	**13 52 13.9**	**+1.3**
IGT	**Igoumenitsa**	**0.71**	**206**	*e*Pg	**Pg**	**13 52 00.4**	**-0.5**
IGT				*e*Sg	**Sb**	**13 52 12.6**	**0.0**
IGT	**Igoumenitsa**	**0.71**	**206**	P	**Pg**	**13 51 60.0**	**-1.0**
IGT				S	**Sg**	**13 52 10.9**	**+0.7**
KEK	**Kerkira**	**0.85**	**238**	P	**Pg**	**13 52 03.6**	**-0.1**
KEK				S	**Sb**	**13 52 17.0**	**+0.3**
	735nm,0.6s					
KEK	**Kerkira**	**0.85**	**238**	P	**Pg**	**13 52 03.5**	**-0.2**
KEK				S	**Sg**	**13 52 15.9**	**+1.1**
TETR	**Tetrakomo, Epi**	**0.93**	**153**	P	**Pg**	**13 52 04.2**	**-0.9**
TETR				S	**Sg**	**13 52 17.9**	**+0.8**
OHR	**Ohrid**	**0.94**	**3**	*i* Pg	**Pg**	**13 52 05.2**	**-0.1**
OHR				*i* Sg	**Sb**	**13 52 19.7**	**+0.6**
OHR	**Ohrid**	**0.94**	**3**	*e*Pg	**Pg**	**13 52 06.0**	**+0.7**
OHR				*e*Sg	**Sb**	**13 52 19.0**	**-0.2**
KTI	**Kastanea**	**1.08**	**78**	P	**Pg**	**13 52 07.1**	**-1.0**
THL	**Klokotos Trika**	**1.16**	**121**	P	**Pg**	**13 52 08.0**	**-1.6**
THL				S	**Sb**	**13 52 26.7**	**+1.3**
	430nm,0.5s					
THL	**Klokotos Trika**	**1.16**	**121**	P	**Pg**	**13 52 07.9**	**-1.6**
TIR	**Tirane**	**1.34**	**331**	Pn	**Pb**	**13 52 14.2**	**+1.0**
TIR				Sn	**Sn**	**13 52 32.9**	**+1.5**
TIR				AML	AML	13 52 37.2
	1.6nm,0.7s					
TIR	**Tirane**	**1.34**	**331**	⇓P	**Pb**	**13 52 16.0**	**+2.8**
TIR				⇑S	**Sn**	**13 52 38.3**	**+6.8**
TIR	**Tirane**	**1.34**	**331**	*e*Pg	**Pb**	**13 52 14.1**	**+0.9**
TIR				*e*Sg	**Sn**	**13 52 35.5**	**+4.1**
TIR	**Tirane**	**1.34**	**331**	P	**Pg**	**13 52 13.3**	**+0.1**
TIR				S	**Sb**	**13 52 31.0**	**+0.1**
LIT	**Litokhoron**	**1.35**	**93**	P	**Pg**	**13 52 11.5**	**-1.7**
LIT				S	**Sn**	**13 52 32.6**	**+1.1**
	500nm,0.5s					
LIT	**Litokhoron**	**1.35**	**93**	*i* Pg	**Pg**	**13 52 12.4**	**-0.8**
LIT	**Litokhoron**	**1.35**	**93**	P	**Pg**	**13 52 11.2**	**-2.0**
TSLK	**Tsoukalades, L**	**1.35**	**183**	P	**Pg**	**13 52 13.4**	**+0.2**
TSLK				S	**Sn**	**13 52 33.0**	**+1.5**
	732nm,0.8s					
TSLK	**Tsoukalades, L**	**1.35**	**183**	P	**Pg**	**13 52 11.8**	**-1.4**
LKD2	**Lefkada island**	**1.39**	**182**	P	**Pg**	**13 52 14.3**	**+0.4**
LKD2				S	**Sn**	**13 52 34.3**	**+1.9**
	618nm,0.5s					
LKD2	**Lefkada island**	**1.39**	**182**	Pn	**Pn**	**13 52 14.1**	**+0.5**
LKD2				Sn	**Sn**	**13 52 35.0**	**+2.6**
LKD2				AML	AML	13 52 43.2
	2.4nm,0.5s					
LKD2	**Lefkada island**	**1.39**	**182**	P	**Pn**	**13 52 13.6**	**0.0**
NYDR	**Nydri-Lefkada**	**1.46**	**181**	P	**Pn**	**13 52 15.1**	**+0.5**
NYDR				S	**Sn**	**13 52 36.0**	**+1.8**
	588nm,1.0s					
NYDR	**Nydri-Lefkada**	**1.46**	**181**	P	**Pn**	**13 52 14.4**	**-0.2**
GRG	**Griva**	**1.49**	**58**	P	**Pn**	**13 52 15.1**	**0.0**
GRG				S	**Sn**	**13 52 36.2**	**+1.1**
	360nm,0.8s					
GRG	**Griva**	**1.49**	**58**	*i* Pg	**Pn**	**13 52 15.6**	**+0.5**
GRG	**Griva**	**1.49**	**58**	P	**Pn**	**13 52 14.3**	**-0.8**
EVR	**Evrytania**	**1.51**	**146**	P	**Pn**	**13 52 16.2**	**+0.9**
EVR				S	**Sn**	**13 52 37.9**	**+2.4**
	490nm,0.8s					
EVR	**Evrytania**	**1.51**	**146**	P	**Pn**	**13 52 15.6**	**+0.3**
PHP	**Peshkopia**	**1.52**	**352**	Pn	**Pb**	**13 52 16.6**	**+0.3**
PHP				Sn	**Sg**	**13 52 38.5**	**+2.1**
PHP				AML	AML	13 52 47.3
	2.3nm,1.3s					
EVGI	**Lefkada island**	**1.55**	**182**	P	**Pn**	**13 52 15.8**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.58**	**137**	P	**Pn**	**13 52 16.4**	**+0.1**
AGG	**Agios Georgios**	**1.69**	**132**	P	**Pn**	**13 52 18.4**	**+0.6**
AGG	**Agios Georgios**	**1.69**	**132**	P	**Pn**	**13 52 17.4**	**-0.4**
FSK	**Fiskardo**	**1.72**	**185**	P	**Pn**	**13 52 18.3**	**+0.2**
SCTE	**Santa Cesarea**	**1.74**	**267**	Pn	**Pb**	**13 52 19.9**	**0.0**
SCTE				Sn	**Sg**	**13 52 43.2**	**-0.1**
SCTE				AML	AML	13 52 44.7
	1.5nm,0.6s					
SCTE	**Santa Cesarea**	**1.74**	**267**	P	**Pn**	**13 52 17.6**	**-0.8**
THE	**Thessaloniki**	**1.76**	**74**	*i* Pg	**Pn**	**13 52 20.1**	**+1.3**
VAY	**Valandovo**	**1.81**	**50**	*i* Pn	**Pn**	**13 52 20.7**	**+1.4**
VAY	**Valandovo**	**1.81**	**50**	*e*Pn	**Pn**	**13 52 20.0**	**+0.6**
VAY				*e*Sn	**Sn**	**13 52 40.4**	**-2.4**
ANX	**Ano Chora**	**1.83**	**149**	P	**Pn**	**13 52 19.7**	**0.0**
HORT	**Hortiatis**	**1.86**	**76**	P	**Pn**	**13 52 19.5**	**-0.7**
KNT	**Kendrikon**	**1.92**	**58**	P	**Pn**	**13 52 19.9**	**-1.0**
EFP	**Efpalio**	**1.97**	**152**	P	**Pb**	**13 52 24.2**	**+0.4**
EFP	**Efpalio**	**1.97**	**152**	P	**Pn**	**13 52 23.3**	**+1.7**
PUK	**Puka**	**1.97**	**341**	Pn	**Pb**	**13 52 24.3**	**+0.3**
PUK				Sn	**Sg**	**13 52 52.8**	**+2.0**
PUK				AML	AML	13 53 00.8
	1.1nm,0.8s					
VLS	**Valsamata**	**2.00**	**183**	P	**Pn**	**13 52 21.7**	**-0.3**
SERG	**Sergoula**	**2.04**	**149**	P	**Pn**	**13 52 23.2**	**+0.6**
AXS	**Araxos**	**2.04**	**166**	P	**Pn**	**13 52 22.2**	**-0.3**
AXAR	**Agios Charalam**	**2.05**	**133**	P	**Pn**	**13 52 23.2**	**+0.5**
XOR	**Xorichti**	**2.06**	**112**	P	**Pn**	**13 52 23.0**	**+0.1**
XOR	**Xorichti**	**2.06**	**112**	P	**Pn**	**13 52 22.9**	**0.0**
SOH	**Sokhos**	**2.10**	**71**	P	**Pn**	**13 52 24.0**	**+0.5**
NEO	**Neokhori**	**2.11**	**113**	P	**Pn**	**13 52 23.7**	**+0.2**
ULC	**Ulcinj**	**2.11**	**328**	Pn	**Pn**	**13 52 25.0**	**+1.4**
ULC	**Ulcinj**	**2.11**	**328**	*i* Pg	**Pn**	**13 52 24.6**	**+1.0**
ULC	**Ulcinj**	**2.11**	**328**	*e*Pn	**Pn**	**13 52 24.1**	**+0.5**
ULC				*i* Sn	**Sb**	**13 52 52.9**	**-0.1**
YRMI	**Loutra Irminis**	**2.12**	**167**	P	**Pn**	**13 52 25.2**	**+1.5**
BCI	**Bajram Curri**	**2.25**	**347**	Pn	**Pb**	**13 52 28.8**	**+0.2**
BCI				AML	AML	13 53 07.1
	2.3nm,0.9s					
PAIG	**Paliouri**	**2.27**	**95**	P	**Pn**	**13 52 25.3**	**-0.5**
LKR	**Lokris**	**2.32**	**130**	P	**Pn**	**13 52 27.6**	**+1.1**
DRME	**Dracevica, Mon**	**2.33**	**330**	Pn	**Pn**	**13 52 27.7**	**+1.2**
DRME	**Dracevica, Mon**	**2.33**	**330**	*e*Pn	**Pn**	**13 52 27.1**	**+0.6**
DRME	**Dracevica, Mon**	**2.33**	**330**	⇓*i*Pn	**Pn**	**13 52 27.2**	**+0.6**
DRME				*i* Sn	**Sb**	**13 52 58.1**	**-1.0**
DRME	**Dracevica, Mon**	**2.33**	**330**	P	**Pn**	**13 52 27.2**	**+0.6**
SRS	**Serrai**	**2.37**	**66**	*i* Pg	**Pn**	**13 52 26.8**	**-0.3**
SRS	**Serrai**	**2.37**	**66**	*e*Pn	**Pn**	**13 52 26.4**	**-0.7**
SRS				*e*Sn	**Sn**	**13 52 54.9**	**-1.8**
KKB	**Krupnik**	**2.46**	**47**	*i* Pg	**Pn**	**13 52 29.2**	**+0.8**
PDG	**Podgorica**	**2.51**	**334**	*e*Pn	**Pb**	**13 52 34.4**	**+1.3**
PDG	**Podgorica**	**2.51**	**334**	⇓P	**Pb**	**13 52 33.2**	**0.0**
PDG				⇑S	**Sg**	**13 53 06.6**	**-1.5**
PDG	**Podgorica**	**2.51**	**334**	*e*Pn	**Pn**	**13 52 29.9**	**+0.8**
PDG				*i* Sn	**Sn**	**13 53 02.6**	**+2.4**
BUM	**Brajici-Budva**	**2.54**	**327**	*e*Pn	**Pn**	**13 52 29.9**	**+0.4**
BUM				*i* Sn	**Sn**	**13 53 02.9**	**+1.9**
AOS	**Alonnisos**	**2.63**	**111**	P	**Pn**	**13 52 30.4**	**-0.2**
BOSS	**Bosilegrad**	**2.67**	**29**	*e*Pn	**Pn**	**13 52 31.9**	**+0.7**
CEME	**Cevo**	**2.74**	**331**	*e*Pn	**Pn**	**13 52 32.8**	**+0.6**
CEME				*i* Sn	**Sn**	**13 53 07.9**	**+2.1**
BARS	**Barje**	**2.76**	**17**	*i* Pg	**Pn**	**13 52 33.1**	**+0.6**
BARS	**Barje**	**2.76**	**17**	*e*Pn	**Pn**	**13 52 32.5**	**0.0**
BARS				*e*Sn	**Sn**	**13 53 06.8**	**+0.4**
IVA	**Berane**	**2.77**	**347**	*e*Pn	**Pn**	**13 52 33.7**	**+1.0**
IVA				*i* Sn	**Sn**	**13 53 09.5**	**+2.5**
KOME	**Kolasin**	**2.83**	**342**	*e*Pn	**Pn**	**13 52 34.5**	**+1.0**
KOME				*i* Sn	**Sn**	**13 53 10.5**	**+2.4**
HCY	**Herceg Novi**	**2.83**	**324**	*e*Pn	**Pn**	**13 52 33.8**	**+0.4**
HCY	**Herceg Novi**	**2.83**	**324**	*e*Pn	**Pn**	**13 52 34.0**	**+0.6**
HCY				*i* Sn	**Sn**	**13 53 09.7**	**+1.6**
NKME	**Niksic**	**2.92**	**333**	*e*Pn	**Pn**	**13 52 35.5**	**+0.8**
NKME				*i* Sn	**Sn**	**13 52 12.2**	**+1.9**
SELS	**Selova**	**3.06**	**5**	*e*Pn	**Pn**	**13 52 38.4**	**+1.8**
TREB	**Trebinje**	**3.11**	**326**	*e*Pn	**Pn**	**13 52 36.6**	**-0.7**
MATE	**Matera**	**3.11**	**280**	⇑P	**Pn**	**13 52 39.7**	**+2.4**
SJES	**Sjenica**	**3.14**	**350**	*e*Pn	**Pn**	**13 52 39.6**	**+1.8**
SJES	**Sjenica**	**3.14**	**350**	*e*Pn	**Pn**	**13 52 39.6**	**+1.8**
TIP	**Timpagrande**	**3.23**	**253**	⇓P	**Pn**	**13 52 38.9**	**0.0**
UPM	**Unac-Piva**	**3.32**	**336**	*e*Pn	**Pn**	**13 52 41.0**	**+0.7**
UPM	**Unac-Piva**	**3.32**	**336**	*e*Pn	**Pn**	**13 52 41.1**	**+0.7**
UPM				*i* Sn	**Sn**	**13 53 22.1**	**+1.6**
GOCS	**Kraljevo Serbi**	**3.39**	**2**	*e*Pn	**Pn**	**13 52 42.4**	**+1.2**
GOCS				*e*Sn	**Sn**	**13 53 25.1**	**+3.1**
KLINJ	**Klinje**	**3.40**	**332**	*e*Pn	**Pb**	**13 52 45.4**	**-2.9**
ZAPS	**Zavoj**	**3.41**	**24**	*e*Pn	**Pn**	**13 52 42.5**	**+1.1**
IVAS	**Ivanjica**	**3.43**	**353**	*e*Pn	**Pn**	**13 52 42.1**	**+0.4**
STON	**Ston**	**3.53**	**321**	*e*Pn	**Pn**	**13 52 41.8**	**-1.2**
BOVS	**Bovan**	**3.53**	**12**	⇓P	**Pn**	**13 52 46.0**	**+2.9**
BOVS	**Bovan**	**3.53**	**12**	*e*Pn	**Pn**	**13 52 43.3**	**+0.2**
RUDO	**Rudo**	**3.59**	**344**	*e*Pn	**Pn**	**13 52 43.6**	**-0.3**
GRUS	**Gruza**	**3.71**	**360**	*e*Pn	**Pn**	**13 52 47.2**	**+1.6**
KALIN	**Kalinovik**	**3.74**	**334**	*e*Pn	**Pn**	**13 52 49.0**	**+3.0**
ZAGS	**Zajecar**	**3.80**	**17**	*e*Pn	**Pn**	**13 52 47.6**	**+0.8**
ZAGS				*e*Sn	**Sn**	**13 53 34.2**	**+2.2**
BBLS	**Lazi&#263i**	**3.82**	**345**	*e*Pn	**Pn**	**13 52 47.7**	**+0.6**
BBLS	**Lazi&#263i**	**3.82**	**345**	*e*Pn	**Pn**	**13 52 50.0**	**+2.

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
PRZ				⇓*e*S	**Sb**	**13 56 13.4**	**-1.8**
BOOM	**Boomskoye usch**	**2.59**	**333**	⇓*e*P	**Pn**	**13 55 45.1**	**+0.6**
BOOM				⇓*e*S	**Sb**	**13 56 20.4**	**-0.5**
ANVS	**Anan'yevo**	**2.60**	**2**	⇑*e*P	**Pn**	**13 55 44.6**	**0.0**
ANVS				⇑*i*S	**Sb**	**13 56 19.1**	**-2.0**
TNSS	**Tian-Shan** 8.9nm,0.3s	**2.88**	**352**	Pg	**Pb**	**13 55 54.6**	**+0.6**
TNSS				Lg	Lg	13 56 36.2	
	10nm,0.7s						
TNSS	**Tian-Shan** 8.9nm,0.3s	**2.88**	**352**	*e*P	**Pb**	**13 55 54.4**	**+0.3**
TNSS				*e*S	**Sg**	**13 56 35.9**	**+1.1**
	12nm,0.4s						
ARLS	**Aral**	**2.94**	**306**	⇓*e*P	**Pn**	**13 55 49.1**	**-0.2**
ARLS				⇓*e*S	**Sb**	**13 56 27.6**	**-3.4**
SATY	**Saty** 3.0nm,0.3s	**2.95**	**13**	Pg	**Pb**	**13 55 55.7**	**+0.7**
SATY				Lg	Lg	13 56 38.1	
	15nm,0.4s						
MDOK	**Medeo** 3.4nm,0.3s	**3.00**	**353**	Pg	**Pb**	**13 55 56.3**	**+0.4**
MDOK				Pg	**Pg**	**13 55 56.4**	**-3.3**
	8.8nm,0.8s						
MDOK				Lg	Lg	13 56 39.2	
	6.1nm,0.5s						
MDOK				Lg	Lg	13 56 39.9	
	14nm,0.6s						
MTBS	**Maitube** 2.6nm,0.3s	**3.05**	**345**	Pg	**Pb**	**13 55 57.4**	**+0.6**
MTBS				Lg	Lg	13 56 41.1	
	9.0nm,0.5s						
MTBS	**Maitube** 0.7nm,0.1s	**3.05**	**345**	*e*P	**Pb**	**13 55 57.2**	**+0.4**
MTBS				*e*S	**Sg**	**13 56 40.9**	**+0.5**
	8.8nm,0.3s						
KST	**Kastek** 1.3nm,0.2s	**3.08**	**338**	Pg	**Pb**	**13 55 57.8**	**+0.5**
KST				Lg	Lg	13 56 41.9	
	5.7nm,0.6s						
KST	**Kastek** 1.2nm,0.1s	**3.08**	**338**	*e*P	**Pb**	**13 55 57.2**	**-0.1**
KST				*e*S	**Sg**	**13 56 40.9**	**-0.5**
	6.3nm,0.4s						
TKM2	**Tokmak 2** 3.1nm,0.9s	**3.09**	**333**	⇑Pg	**Pb**	**13 55 58.1**	**+0.6**
TKM2				⇑Lg	Lg	13 56 41.3	
	4.8nm,0.8s						
TKM2	**Tokmak 2**	**3.09**	**333**	⇑*i*P	**Pn**	**13 55 52.1**	**+0.7**
TKM2				⇑*e*S	**Sb**	**13 56 32.5**	**-2.8**
UZB	**Uzynbulak**	**3.17**	**20**	Pg	**Pb**	**13 55 58.9**	**+0.1**
UZB				Lg	Lg	13 56 43.5	
UZB	**Uzynbulak** 1.8nm,0.2s	**3.17**	**20**	*e*P	**Pb**	**13 55 58.6**	**-0.1**
UZB				*e*S	**Sg**	**13 56 43.4**	**-0.7**
	5.2nm,0.2s						
KURS	**Kuram** 0.6nm,0.1s	**3.33**	**8**	*e*P	**Pg**	**13 56 08.7**	**+2.5**
KURS				*e*S	Sg	13 57 00.8	+11
	4.5nm,0.1s						
AAK	**Ala-Archa** 3.1nm,0.8s	**3.34**	**318**	⇑Pg	**Pb**	**13 56 01.9**	**+0.1**
AAK				⇑Lg	Lg	13 56 51.1	
	9.6nm,1.1s						
KPKS	**Kokpek** 3.2nm,0.3s	**3.39**	**15**	Pg	**Pb**	**13 56 03.3**	**+0.7**
KPKS				Lg	Lg	13 56 51.3	
	11nm,0.4s						
KPKS	**Kokpek** 1.3nm,0.2s	**3.39**	**15**	*e*P	**Pb**	**13 56 03.2**	**+0.7**
KPKS				*e*S	**Sg**	**13 56 51.3**	**+0.1**
	11nm,0.4s						
PDGK	**Podgornoye** 2.1nm,0.4s	**3.47**	**25**	⇓Pg	**Pb**	**13 56 04.0**	**+0.1**
PDGK				⇓Lg	Lg	13 56 55.6	
	5.9nm,0.5s						
AML	**Almayashu**	**3.48**	**305**	⇓*e*P	**Pn**	**13 55 57.3**	**+0.4**
AML				⇓*e*S	**Sn**	**13 56 41.5**	**+3.2**
KTBS	**Karatobe** 1.5nm,0.5s	**3.58**	**350**	Pg	**Pb**	**13 56 06.2**	**+0.5**
KTBS				Lg	Lg	13 56 56.6	
	10nm,0.4s						
CHKK	**Chushkaly** 1.8nm,0.3s	**3.69**	**354**	Pg	**Pb**	**13 56 08.7**	**+1.2**
CHKK				Lg	Lg	13 57 00.9	
	7.6nm,0.5s						
CHKK	**Chushkaly** 0.6nm,0.1s	**3.69**	**354**	*e*P	**Pb**	**13 56 08.7**	**+1.2**
CHKK				*e*S	**Sg**	**13 57 00.8**	**+0.1**
	4.5nm,0.1s						

*NAO **14** 14:12:37.8, 39°.88N×24°.37E, h10km, mb3.4*
*TIR **14** 14:12:46.7, 40°.19N×20°.71E, h1km, Md2.7/2, Ml3.1/8*
*ATH **14** 14:12:47.6, 40°.20N×20°.74E, h8km±1km, ML3.1/21,*
Manual Solution by M.Kolligri First location: 2019/04/14 14:13:51, This location: 2020/07/03 15:14:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km
*THE **14** 14:12:47.9, 40°.21N×20°.72E, h0km±3km, ML3.0/7, Error ellipse: s-maj=3.2km s-min=0.9km az=332.0*
*SKO **14** 14:12:48.1, 40°.16N×20°.72E, h39km, ML2.8*
*IDC **14** 14:12:48.0±2.1, 40°.21N×20°.64E, h0km, mb3.3/5, mbtmp3.3/9, ML3.1/4, MS2.7/1, Error ellipse: s-maj=30.1km s-min=19.1km az=166.0*
*BEO **14** 14:12:49.6±0.4, 40°.18N×20°.69E, h9km±3km, ML3.0/6*
ISC 14 14:12:47.7±1.0, **40°.18N**±0°.01×**20°.72E**±0°.02, **h3**km±7km, **n142**, σ1§**27**/192, **mb3.4**/4, **7C-8D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSK	**Leskovik**	**0.09**	**254**	Pg	**Pg**	**14 12 48.9**	**-0.7**
LSK				Sg	**Sg**	**14 12 50.4**	**-0.4**
LSK				AML	AML	14 12 54.0	
	438nm,0.5s						
LSK				AMd		14 13 26.9	
PENT	**Pentalofos**	**0.32**	**86**	P	**Pg**	**14 12 53.9**	**0.0**
PENT				S	**Sg**	**14 12 59.4**	**+1.2**
PENT	**Pentalofos**	**0.32**	**86**	P	**Pg**	**14 12 53.9**	**0.0**
PENT				S	**Sg**	**14 12 58.4**	**+0.2**
NEST	**Nestorio**	**0.35**	**47**	P	**Pg**	**14 12 54.2**	**-0.2**
NEST				S	**Sg**	**14 12 59.2**	**+0.2**
	3μm,0.3s						
NEST	**Nestorio**	**0.35**	**47**	Pg	**Pg**	**14 12 54.2**	**-0.2**
NEST				Sg	**Sg**	**14 12 59.4**	**+0.4**
NEST				AML	AML	14 13 06.2	
	8.6nm,0.6s						
NEST				AMd		14 13 56.9	
NEST	**Nestorio**	**0.35**	**47**	P	**Pg**	**14 12 54.2**	**-0.2**
NEST				S	**Sg**	**14 12 59.1**	**+0.2**
KBN	**Korca**	**0.45**	**7**	Pg	**Pg**	**14 12 55.4**	**-0.9**
KBN				Sg	**Sg**	**14 13 02.5**	**+0.2**
KBN				AML	AML	14 13 19.3	
	8.6nm,1.5s						
KBN				AML	AML	14 13 21.2	
	7.2nm,1.3s						
JAN	**Janina**	**0.53**	**169**	P	**Pg**	**14 12 57.2**	**-0.6**
JAN				S	**Sb**	**14 13 06.8**	**-0.8**
	2μm,0.4s						
JAN	**Janina**	**0.53**	**169**	P	**Pg**	**14 12 57.2**	**-0.6**
JAN				S	**Sg**	**14 13 05.3**	**+0.7**
MSVA	**Metsovo**	**0.54**	**138**	P	**Pg**	**14 12 58.3**	**+0.3**
MSVA				S	**Sg**	**14 13 05.8**	**+0.8**
SRN	**Sarande**	**0.62**	**242**	Pg	**Pg**	**14 12 59.3**	**-0.3**
SRN				Sg	**Sb**	**14 13 09.9**	**-0.3**
SRN				AML	AML	14 13 15.3	
	2.9nm,0.8s						
IGT	**Igoumenitsa**	**0.71**	**205**	P	**Pg**	**14 13 01.8**	**+0.6**
IGT				S	**Sb**	**14 13 13.3**	**+0.6**
	1μm,0.6s						
IGT	**Igoumenitsa**	**0.71**	**205**	Pg	**Pg**	**14 13 01.8**	**+0.6**
IGT				Sg	**Sb**	**14 13 12.8**	**+0.1**
IGT	**Igoumenitsa**	**0.71**	**205**	*i* Pg	**Pg**	**14 13 01.6**	**+0.4**
IGT				*i* Sg	**Sb**	**14 13 14.3**	**+1.6**
IGT	**Igoumenitsa**	**0.71**	**205**	*e*Pg	**Pg**	**14 13 01.0**	**-0.2**
IGT				*e*Sg	**Sb**	**14 13 13.9**	**+1.2**
IGT	**Igoumenitsa**	**0.71**	**205**	P	**Pg**	**14 13 01.9**	**+0.6**
IGT				S	**Sb**	**14 13 11.8**	**-0.9**
KEK	**Kerkira**	**0.84**	**237**	P	**Pb**	**14 13 04.1**	**-0.8**
KEK				S	**Sb**	**14 13 17.1**	**+0.5**
	788nm,0.6s						
KEK	**Kerkira**	**0.84**	**237**	P	**Pb**	**14 13 04.3**	**-0.6**
KEK				S	**Sb**	**14 13 15.9**	**-0.7**
PRGA	**Parga**	**0.92**	**195**	P	**Pn**	**14 13 07.2**	**-0.2**
TETR	**Tetrakomo, Epi**	**0.94**	**152**	P	**Pg**	**14 13 05.1**	**-0.5**
TETR				S	**Sg**	**14 13 18.2**	**+0.5**
OHR	**Ohrid**	**0.94**	**4**	*i* Pg	**Pb**	**14 13 06.2**	**-0.4**
OHR				*i* Sg	**Sb**	**14 13 19.3**	**-0.1**
OHR				*e*Lg	Lg	14 13 20.4	
	comp=E,254nm,0.5s						
OHR				*e*Lg	Lg	14 13 22.8	
	comp=N,142nm,0.7s						
OHR	**Ohrid**	**0.94**	**4**	*e*Pg	**Pb**	**14 13 05.9**	**-0.7**
OHR				*e*Sg	**Sb**	**14 13 19.4**	**0.0**
VLO	**Vlora**	**0.98**	**288**	Pn	**Pb**	**14 13 06.8**	**-0.4**
ARTB	**Arta**	**1.04**	**169**	P	**Pg**	**14 13 08.0**	**+0.5**
ARTB				S	**Sg**	**14 13 21.3**	**+0.4**
THL	**Klokotos Trika**	**1.17**	**121**	P	**Pg**	**14 13 08.2**	**-1.9**
THL				S	**Sn**	**14 13 27.8**	**+0.5**
	comp=N,362nm,0.6s						
THL	**Klokotos Trika**	**1.17**	**121**	P	**Pg**	**14 13 08.3**	**-1.7**
THL				S	**Sg**	**14 13 25.3**	**0.0**
TIR	**Tirane**	**1.34**	**331**	Pn	**Pn**	**14 13 13.1**	**-0.1**
TIR				Sn	**Sn**	**14 13 32.7**	**+1.1**
TIR				AML	AML	14 13 38.9	
	comp=N,1.1nm,1.0s						
TIR	**Tirane**	**1.34**	**331**	⇓P	**Pn**	**14 13 14.3**	**+1.1**
TIR	**Tirane**	**1.34**	**331**	*e*Pg	**Pn**	**14 13 13.2**	**-0.1**
TIR	**Tirane**	**1.34**	**331**	P	**Pg**	**14 13 12.4**	**-0.9**
TIR				S	**Sn**	**14 13 31.9**	**+0.4**
TSLK	**Tsoukalades, L**	**1.35**	**182**	P	**Pg**	**14 13 13.5**	**0.0**
TSLK				S	**Sn**	**14 13 33.9**	**+2.1**
	comp=N,738nm,0.7s						
TSLK	**Tsoukalades, L**	**1.35**	**182**	P	**Pg**	**14 13 13.1**	**-0.4**
LIT	**Litokhoron**	**1.36**	**93**	P	**Pn**	**14 13 12.0**	**-1.6**
LIT	**Litokhoron**	**1.36**	**93**	*i* Pg	**Pn**	**14 13 13.5**	**-0.1**
LIT	**Litokhoron**	**1.36**	**93**	P	**Pn**	**14 13 12.4**	**-1.2**
LIT				S	**Sg**	**14 13 30.8**	**-0.6**
LKD2	**Lefkada island**	**1.39**	**182**	P	**Pb**	**14 13 14.4**	**+0.2**
LKD2	**Lefkada island**	**1.39**	**182**	Pn	**Pb**	**14 13 14.6**	**+0.4**
LKD2				Sn	**Sn**	**14 13 35.5**	**+2.8**
LKD2				AML	AML	14 13 41.7	
	comp=N,2.4nm,0.8s						
LKD2	**Lefkada island**	**1.39**	**182**	P	**Pn**	**14 13 13.5**	**-0.4**
LKD2				S	**Sb**	**14 13 32.6**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.46**	**181**	P	**Pn**	**14 13 15.3**	**+0.5**
NYDR				S	**Sn**	**14 13 36.1**	**+1.6**
	comp=N,550nm,1.1s						
NYDR	**Nydri-Lefkada**	**1.46**	**181**	P	**Pn**	**14 13 14.8**	**0.0**
NYDR				S	**Sg**	**14 13 34.4**	**-0.1**
GRG	**Griva**	**1.50**	**58**	*i* Pg	**Pn**	**14 13 15.6**	**+0.1**
GRG				*i* Sg	**Sg**	**14 13 37.6**	**+1.7**
GRG	**Griva**	**1.50**	**58**	P	**Pn**	**14 13 14.1**	**-1.4**
GRG				S	**Sb**	**14 13 34.3**	**-1.4**
EVR	**Evrytania**	**1.51**	**146**	P	**Pb**	**14 13 16.6**	**+0.2**
EVR	**Evrytania**	**1.51**	**146**	P	**Pn**	**14 13 15.4**	**-0.3**
EVR				S	**Sn**	**14 13 34.6**	**-1.4**
PHP	**Peshkopia**	**1.52**	**352**	Pn	**Pg**	**14 13 16.4**	**-0.5**
PHP				Sn	**Sn**	**14 13 39.0**	**+2.8**
PHP				AML	AML	14 13 47.8	
	comp=N,1.9nm,1.1s						
EVGI	**Lefkada island**	**1.55**	**182**	P	**Pb**	**14 13 17.1**	**+0.1**
EVGI	**Lefkada island**	**1.55**	**182**	P	**Pb**	**14 13 17.0**	**0.0**
MAKR	**Makrakomi, Fth**	**1.59**	**136**	P	**Pn**	**14 13 15.9**	**-0.9**
MAKR				S	**Sn**	**14 13 37.9**	**0.0**
PVO	**Paravola**	**1.68**	**158**	P	**Pg**	**14 13 20.1**	**+0.3**
AGG	**Agios Georgios**	**1.70**	**132**	P	**Pn**	**14 13 17.9**	**-0.3**
FSK	**Fiskardo**	**1.72**	**184**	P	**Pn**	**14 13 18.8**	**+0.3**
FSK				S	**Sn**	**14 13 38.4**	**-2.4**
SCTE	**Santa Cesarea**	**1.73**	**267**	Pn	**Pg**	**14 13 19.9**	**-0.8**
SCTE				Sn	**Sg**	**14 13 45.4**	**+2.2**
SCTE	**Santa Cesarea**	**1.73**	**267**	P	**Pn**	**14 13 18.4**	**-0.2**
SCTE				S	**Sn**	**14 13 40.0**	**-1.1**
THE	**Thessaloniki**	**1.78**	**74**	*i* Pn	**Pn**	**14 13 19.7**	**+0.5**
THE	**Thessaloniki**	**1.78**	**74**	P	**Pn**	**14 13 18.5**	**-0.7**
VAY	**Valandovo**	**1.81**	**50**	*i* Pn	**Pb**	**14 13 21.0**	**-0.5**
VAY	**Valandovo**	**1.81**	**50**	*e*Pn	**Pn**	**14 13 19.7**	**-0.1**
VAY				*e*Sn	**Sb**	**14 13 45.5**	**+0.9**
ANX	**Ano Chora**	**1.83**	**149**	P	**Pn**	**14 13 20.1**	**-0.1**
ANX				S	**Sn**	**14 13 42.8**	**-1.1**
HORT	**Hortiatis**	**1.87**	**76**	P	**Pn**	**14 13 20.1**	**-0.4**
HORT				S	**Sn**	**14 13 43.0**	**-1.8**
KNT	**Kendrikon**	**1.93**	**59**	P	**Pn**	**14 13 20.5**	**-0.9**
KNT	**Kendrikon**	**1.93**	**59**	*i* Pn	**Pn**	**14 13 20.8**	**-0.6**
KNT	**Kendrikon**	**1.93**	**59**	P	**Pn**	**14 13 21.1**	**-0.3**
DMLN	**Damoulianata-K**	**1.95**	**188**	P	**Pb**	**14 13 23.0**	**-0.8**
PUK	**Puka**	**1.97**	**342**	Pn	**Pb**	**14 13 24.2**	**+0.1**
PUK				Sn	**Sg**	**14 13 52.8**	**+1.9**
PUK				AML	AML	14 14 01.3	
	comp=N,1.0nm,0.9s						
EFP	**Efpalio**	**1.98**	**152**	P	**Pn**	**14 13 22.7**	**+0.8**
EFP	**Efpalio**	**1.98**	**152**	P	**Pb**	**14 13 23.7**	**-0.5**
VLS	**Valsamata**	**2.00**	**183**	P	**Pn**	**14 13 22.6**	**+0.3**
XOR	**Xorichti**	**2.07**	**112**	P	**Pn**	**14 13 23.2**	**-0.1**
BCI	**Bajram Curri**	**2.24**	**348**	Pn	**Pb**	**14 13 29.0**	**+0.2**
DRME	**Dracevica, Mon**	**2.32**	**331**	Pn	**Pb**	**14 13 28.2**	**-1.9**
DRME	**Dracevica, Mon**	**2.32**	**331**	*e*Pn	**Pn**	**14 13 27.4**	**+0.7**
KKB	**Krupnik**	**2.47**	**47**	*i* Pn	**Pn**	**14 13 29.9**	**+1.1**
PDG	**Podgorica**	**2.51**	**334**	*e*Pn	**Pn**	**14 13 29.4**	**+0.1**
PDG	**Podgorica**	**2.51**	**334**	⇑P	**Pb**	**14 13 32.0**	**-1.3**
PDG				⇓S	**Sn**	**14 13 59.0**	**-1.4**
AOS	**Alonnisos**	**2.64**	**111**	P	**Pn**	**14 13 30.5**	**-0.6**
BOSS	**Bosilegrad**	**2.67**	**29**	*e*Pn	**Pn**	**14 13 32.1**	**+0.5**
BOSS				*e*Sn	**Sn**	**14 14 05.2**	**+0.7**
BARS	**Barje**	**2.77**	**17**	*i* Pn	**Pn**	**14 13 33.3**	**+0.4**
BARS	**Barje**	**2.77**	**17**	*e*Pn	**Pn**	**14 13 33.2**	**+0.4**
BARS				*e*Sn	**Sn**	**14 14 06.6**	**-0.1**
HCY	**Herceg Novi**	**2.82**	**324**	*e*Pn	**Pn**	**14 13 35.6**	**+2.0**
SELS	**Selova**	**3.06**	**6**	*e*Pn	**Pn**	**14 13 39.1**	**+2.2**
MATE	**Matera**	**3.10**	**280**	⇓P	**Pb**	**14 13 43.9**	**+0.5**
TREB	**Trebinje**	**3.10**	**326**	*e*Pn	**Pn**	**14 13 37.5**	**+0.1**
SJES	**Sjenica**	**3.13**	**350**	*e*Pn	**Pn**	**14 13 40.3**	**+2.3**
SJES	**Sjenica**	**3.13**	**350**	*e*Pn	**Pn**	**14 13 40.0**	**+2.0**
TIP	**Timpagrande**	**3.21**	**253**	⇓P	**Pg**	**14 13 48.1**	**-1.1**
UPM	**Unac-Piva**	**3.31**	**336**	*e*Pn	**Pn**	**14 13 43.0**	**+2.4**
GOCS	**Kraljevo Serbi**	**3.39**	**2**	*e*Pn	**Pn**	**14 13 43.6**	**+2.1**
ZAPS	**Zavoj**	**3.41**	**24**	*e*Pn	**Pn**	**14 13 43.1**	**+1.3**
IVAS	**Ivanjica**	**3.42**	**353**	*e*Pn	**Pn**	**14 13 42.6**	**+0.6**
STON	**Ston**	**3.52**	**321**	*e*Pn	**Pn**	**14 13 42.8**	**-0.4**
STON	**Ston**	**3.52**	**321**	*e*Pn	**Pn**	**14 13 43.1**	**-0.1**
STON				*e*Sn	**Sn**	**14 14 24.1**	**-1.2**
BOVS	**Bovan**	**3.54**	**12**	⇑P	**Pn**	**14 13 46.1**	**+2.7**
BOVS	**Bovan**	**3.54**	**12**	*e*Pn	**Pn**	**14 13 43.7**	**+0.3**
RUDO	**Rudo**	**3.58**	**344**	*e*Pn	**Pn**	**14 13 44.9**	**+0.8**
GRUS	**Gruza**	**3.71**	**360**	*e*Pn	**Pn**	**14 13 47.3**	**+1.5**
ZAGS	**Zajecar**	**3.81**	**17**	*e*Pn	**Pn**	**14 13 48.6**	**+1.5**
ZAGS				*e*Sn	**Sn**	**14 14 32.2**	**-0.2**
BBLS	**Lazi&#263i**	**3.81**	**346**	*e*Pn	**Pn**	**14 13 46.9**	**-0.4**
BBLS	**Lazi&#263i**	**3.81**	**346**	*e*Pn	**Pn**	**14 13 49.2**	**+1.9**
BBLS				*e*Sn	**Sn**	**14 14 32.4**	**-0.3**
DIVS	**Divibare**	**3.96**	**352**	*e*Pn	**Pn**	**14 13 50.7**	**+1.4**
TRUS	**Trudelj**	**4.05**	**357**	*e*Pn	**Pn**	**14 13 52.2**	**+1.7**
KUBS	**Kucevo**	**4.29**	**9**	*e*Pn	**Pn**	**14 13 52.8**	**-1.1**
TEKS	**Tekeris**	**4.46**	**349**	*e*Pn	**Pn**	**14 13 57.0**	**+0.9**
MDVR	**Moldovita**	**4.66**	**9**	⇑P	**Pn**	**14 14 01.9**	**+3.0**
HERR	**Herculane**	**4.87**	**14**	⇓P	**Pn**	**14 14 03.5**	**+1.8**
VRSS	**Vrsac**	**4.96**	**5**	*e*Pn	**Pn**	**14 14 03.3**	**+0.2**
FRGS	**Fruska Gora**	**5.02**	**353**	*e*Pn	**Pn**	**14 14 05.3**	**+1.4**
BLY	**Banja Luka**	**5.26**	**331**	*e*Pn	Pb	14 14 13.4	-6.9
A050A	**Klekovaca**	**5.30**	**326**	*e*Pn	**Pn**	**14 14 08.0**	**+0.2**
GZR	**Gura Zlata**	**5.43**	**16**	⇑P	**Pn**	**14 14 12.0**	**+2.5**
BZS	**Buzias**	**5.48**	**7**	⇓P	**Pn**	**14 14 12.6**	**+2.5**
A051A	**Mrakovica**	**5.59**	**331**	*e*Pn	**Pn**	**14 14 11.2**	**-0.5**
SURR	**Surduc**	**5.67**	**10**	⇓P	**Pn**	**14 14 15.9**	**+3.1**
VOIR		**6.15**	**30**	⇑P	**Pn**	**14 14 21.9**	**+2.5**
MORH	**Mrgy, Hungar**	**6.22**	**347**	⇑P	**Pn**	**14 14 22.5**	**+2.1**
MLR	**Muntele Rosu**	**6.56**	**34**	Pn	**Pn**	**14 14 29.1**	**+4.0**
	comp=N,0.2nm,0.3s,baz=207,slow=11,SNR=3.4						
MLR				Sn	**Sn**	**14 15 41.5**	**+1.2**
	comp=N,0.2nm,0.3s,baz=177,slow=14,SNR=1.5						
	comp=N,2.2nm,0.6s						
MLR	**Muntele Rosu**	**6.56**	**34**	⇓P	**Pn**	**14 14 28.5**	**+3.5**
BOJS	**Bojanci**	**6.67**	**325**	*e*Pn	**Pn**	**14 14 25.6**	**-0.8**
BOJS	**Bojanci**	**6.67**	**325**	*e*Pn	**Pn**	**14 14 25.9**	**-0.6**
CRES	**Cresnjevec Ost**	**6.84**	**327**	*e*Pn	**Pn**	**14 14 27.7**	**-1.1**
VRI	**Vrincioaia**	**7.19**	**36**	⇑P	**Pn**	**14 14 36.4**	**+2.8**
CEY	**Cerknica**	**7.22**	**322**	*e*Pn	**Pn**	**14 14 33.1**	**-1.0**
CEY	**Cerknica**	**7.22**	**322**	*e*Pn	**Pn**	**14 14 33.8**	**-0.3**
SOKA	**Soboth**	**7.70**	**329**	*e*Pn	**Pn**	**14 14 40.7**	**0.0**
	comp=N,0.7nm,0.3s						
OBKA	**Obir**	**7.76**	**327**	*e*Pn	**Pn**	**14 14 40.8**	**-0.7**
OBKA	**Obir**	**7.76**	**327**	*i* Pn	**Pn**	**14 14 42.3**	**+0.7**
	comp=N,1.3nm,0.5s						
ARSA	**Arzberg**	**8.01**	**334**	*e*Pn	**Pn**	**14 14 45.8**	**+1.0**
	comp=N,0.8nm,0.3s						
KBA	**Koelnbreinsper**	**8.72**	**325**	*e*Pn	Pn	14 15 03.2	+8.4
	comp=N,2.0nm,0.7s						
ABTA	**Abfaltersbach**	**8.87**	**320**	*e*Pn	**Pn**	**14 15 00.5**	**+3.7**
	comp=N,2.6nm,0.6s						
LESA	**Schwarzleotal**	**9.29**	**324**	*e*Pn	**Pn**	**14 15 01.5**	**-1.0**
	comp=N,1.0nm,0.4s						
WTTA	**Wattenberg**	**9.66**	**320**	*i* Pn	**Pn**	**14 15 08.3**	**+0.7**
	comp=N,1.7nm,0.5s						
WATA	**Walderalm**	**9.74**	**320**	*e*Pn	**Pn**	**14 15 11.0**	**+2.3**
	comp=N,2.9nm,0.6s						
SQTA	**Sankt Quirin**	**9.84**	**319**	*e*Pn	**Pn**	**14 15 10.3**	**+0.2**
	comp=N,1.4nm,0.3s						
MOTA	**Moosalm**	**9.98**	**319**	*e*Pn	**Pn**	**14 15 11.8**	**-0.2**
	comp=N,2.1nm,0.5s						
GERES	**GERESS Array B**	**10.01**	**332**	Pn	**Pn**	**14 15 14.2**	**+1.9**
	baz=151,slow=12,SNR=2.5						
	comp=N,0.3nm,0.5s						
DAVOX	**Davos/Dischmat**	**10.27**	**314**	Pn	**Pn**	**14 15 17.5**	**+1.5**
	comp=N,0.2nm,0.3s,baz=176,slow=22,SNR=1.6						
DAVOX				Sn	**Sn**	**14 17 07.0**	**-4.7**
	comp=N,0.2nm,0.3s,baz=353,slow=22,SNR=2.1						
	comp=N,0.9nm,0.5s						
ESDC	**Sonseca Array**	**18.92**	**276**	P	**Pn**	**14 17 10.9**	**+0.8**
	baz=91,slow=6.7,SNR=1.8						
	comp=N,0.5nm,0.9s						
HFS	**Hagfors**	**20.46**	**350**	P	**P**	**14 17 24.5**	**-1.5**
	comp=N,1.5nm,0.6s,baz=172,slow=12,SNR=4.5						
	comp=N,1.5nm,0.6s						
FINES	**FINESS Array B**	**21.55**	**7**	P	**P**	**14 17 36.6**	**-1.2**
	comp=N,0.9nm,0.6s,baz=183,slow=11,SNR=9.7						
	comp=N,0.9nm,0.6s						
NB2	**NORSAR Subarra**	**21.70**	**347**	P	**P**	**14 17 38.5**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=153,slow=10						
NOA	**NORSAR Array B**	**21.70**	**347**	P	**P**	**14 17 38.0**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=153,slow=10,SNR=5.4						
NOA				LR	LR	14 27 15.2	
	comp=Z,18nm,19.2s,baz=300,slow=40						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**44.15**	**60**	P	**P**	**14 20 58.7**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=279,slow=6.1,SNR=4.5						
	comp=Z,0.4nm,0.7s						
SONM	**Songino Array**	**59.09**	**52**	P	**P**	**14 22 49.6**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=289,slow=4.4,SNR=3.7						
	comp=Z,0.3nm,0.5s						

*KOLA **14** 14:15:45.0, 79°.48N×5°.08E, h0km, ML2.0, Error ellipse: s-maj=35.7km s-min=23.3km az=170.0, Greenland sea, Knipovich ridge, north*
*BER **14** 14:15:44.1±2.4, 79°.66N×3°.53E, h75km±39km, mb(Pn)3.4, Confirmed Earthquake*
DNK 14 14:15:40.1±1.7, **79°.38N**×**3°.45E, h12**km±20km, **Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.67**	**101**	P	Pb	14 16 10.1	-0.6
KBS				S	Sn	14 16 28.4	-2.0
KBS	**Kingsbay**	**1.67**	**101**	*i* P	Pb	14 16 10.2	-0.5
KBS				*i* S	Sn	14 16 29.9	-0.5
KBS	**Kingsbay**	**1.67**	**101**	*i* P	Pb	14 16 10.2	-0.5
KBS				*i* S	Sn	14 16 29.9	-0.5
BRBB	**Barentsburg B**	**2.47**	**116**	P	Pb	14 16 22.9	-1.4
BRBB				S	Sn	14 16 50.3	+0.1
BRBB	**Barentsburg B**	**2.47**	**116**	*e*P	Pb	14 16 23.1	-1.3
BRBB				*e*S	Sn	14 16 50.9	+0.7
BRBA	**Barentsburg A**	**2.50**	**117**	*e*P	Pb	14 16 23.6	-1.2
BRBA				*e*S	Sn	14 16 51.8	+1.1
BRBA				IAML		14 16 57.0	
	comp=Z,13nm,0.3s						
SPA0	**Spitsbergen Ar**	**2.80**	**109**	*e*P	Pn	14 16 26.9	+2.3
SPA0				*e*S	Sn	14 16 58.8	+0.7
SPA0		

KNRA IAmb IAmb 15 14 26.0
comp=Z,4.7nm,0.6s
YHNB Yeheng 21.07 348 P **P** **15 14 38.6 -1.3**
YHNB IAmb IAmb 15 14 58.8
comp=Z,56nm,1.3s
FITZ Fitzroy Crossi 21.90 181 P **P** **15 14 48.3 -0.5**
COEN Coen 24.69 136 P **P** **15 15 14.8 0.0**
COEN IAmb IAmb 15 15 58.9
comp=Z,14nm,1.1s
WB0 Warramunga Arr 25.00 161 P **P** **15 15 17.3 -0.2**
WRAB Tennant Creek 25.14 161 **P** **15 15 18.6 -0.1**
WRAB IAmb IAmb 15 15 21.3
comp=Z,11nm,1.2s
WRA Warramunga Arr 25.14 161 P **P** **15 15 18.7 -0.1**
comp=Z,4.4nm,0.7s,baz=330,slow=11,SNR=87
comp=Z,4.4nm,0.7s
WR8 Warramunga Arr 25.21 161 P **P** **15 15 19.4 0.0**
WR8 IAmb IAmb 15 15 21.7
comp=Z,4.7nm,0.5s
RPSI Rantau Prapat 26.96 268 P **P** **15 15 36.5 +1.2**
RPSI IAmb IAmb 15 16 05.6
comp=Z,4.0nm,0.4s
AS31 Alice Springs 28.53 165 **P** **15 15 49.0 -0.1**
ASAR Alice Springs 28.53 165 P **P** **15 15 49.2 +0.1**
comp=Z,0.8nm,0.5s,baz=342,slow=7.2,SNR=72
comp=Z,0.8nm,0.5s
CMAR Chiang Mai Arr 30.06 301 P **P** **15 16 01.5 -1.2**
comp=Z,0.7nm,0.7s,baz=113,slow=7.4,SNR=7.1
comp=Z,0.7nm,0.7s
KSRS Korea Array 33.40 3 P **P** **15 16 32.8 +1.1**
comp=Z,1.3nm,0.4s,baz=181,slow=9.7,SNR=13
comp=Z,1.3nm,0.4s
KS19 Wonju Array Si 33.45 3 P **P** **15 16 32.9 +0.7**
KS19 IAmb IAmb 15 16 55.1
comp=Z,32nm,1.5s
MJB9 Matsu-Tunnel 34.37 18 P **P** **15 16 40.0 -0.1**
MJB9 IAmb IAmb 15 16 41.9
comp=Z,20nm,1.4s
FORT Forrest 34.59 177 P **P** **15 16 42.1 +0.1**
BBOO Buckleboo 37.80 166 P **P** **15 17 09.8 +0.5**
BBOO IAmb IAmb 15 17 15.6
comp=Z,25nm,1.4s
STKA Stephens Creek 38.62 158 P **P** **15 17 16.9 +0.8**
STKA Stephens Creek 38.62 158 P **P** **15 17 17.0 +0.8**
comp=Z,1.9nm,0.3s,baz=342,slow=7.2,SNR=9.2
comp=Z,1.9nm,0.3s
CAN Canberra 44.67 153 P **P** **15 18 06.5 +1.0**
CAN IAmb IAmb 15 18 07.4
comp=Z,21nm,1.4s
HEH HeiHe 46.17 1 *eP* **P** **15 18 18.4 +1.5**
HEH pmax pmax
comp=Z,7.0nm,1.3s
SONM Songino Array 46.84 342 P **P** **15 18 21.3 -1.0**
comp=Z,0.9nm,0.6s,baz=161,slow=8.4,SNR=5.9
comp=Z,0.9nm,0.6s
MKAR Makanchi Array 56.91 326 P **P** **15 19 36.1 -0.8**
comp=Z,1.2nm,0.4s,baz=121,slow=7.8,SNR=22
MKAR PcP **PcP** **15 20 30.3 -0.3**
comp=Z,2.1nm,0.5s,baz=118,slow=3.4,SNR=18
comp=Z,1.2nm,0.4s
KDJ Kajisay 57.64 319 P **P** **15 19 43.8 +1.6**
ZALV Zalesovo Beam 60.03 333 P **P** **15 19 56.4 -1.8**
comp=Z,0.6nm,0.5s,baz=123,slow=7.3,SNR=3.8
comp=Z,0.6nm,0.5s
KURBB Kurchatov Arra 61.12 328 P **P** **15 20 04.6 -1.1**
comp=Z,0.9nm,0.5s,baz=127,slow=6.1,SNR=18
KURBB PcP **PcP** **15 20 46.2 -0.9**
comp=Z,0.7nm,0.9s,baz=121,slow=4.2,SNR=4.1
comp=Z,0.9nm,0.5s
KURK Kurchatov 61.12 328 P **P** **15 20 04.9 -0.8**
KURK IAmb IAmb 15 20 07.6
comp=Z,2.1nm,0.6s
LBZ Lake Benmore 62.32 146 P **P** **15 20 14.6 +0.8**
GVZ Greta Valley S 63.14 143 P **P** **15 20 20.2 +0.9**
BKZ Black Stump Fm 63.29 138 P **P** **15 20 20.9 +0.5**
BVAR Borovoye Array 66.70 327 P **P** **15 20 41.7 -0.5**
comp=Z,0.4nm,0.4s,baz=108,slow=15,SNR=4.6
BVAR PcP **PcP** **15 21 09.5 -0.6**
comp=Z,0.7nm,0.7s,baz=113,slow=3.3,SNR=3.7
comp=Z,0.4nm,0.4s
TIXI Tiksi 67.64 1 P **P** **15 20 47.7 -0.1**
TIXI IAmb IAmb 15 20 49.5
comp=Z,2.3nm,0.5s
NRIK Noril'sk 70.03 346 P **P** **15 21 01.7 -0.9**
comp=Z,1.9nm,0.6s,baz=120,slow=6.0,SNR=5.4
comp=Z,1.9nm,0.6s
ABKAR Akbulak array 71.47 321 P **P** **15 21 10.3 -1.4**
TTA Tatalina 81.08 27 P **P** **15 22 07.0 +1.2**
D19K Kuna River 81.22 21 P **P** **15 22 07.8 +1.5**
H19K Roundabout Mou 81.31 24 P **P** **15 22 08.8 +2.0**
B22K Teshekpuk Lake 83.17 20 P **P** **15 22 18.0 +1.7**
B22K IAmb IAmb 15 22 43.1
comp=Z,4.3nm,1.4s
VNDA Vanda 83.74 173 P **P** **15 22 19.8 +0.7**
VNDA Vanda 83.74 173 P **P** **15 22 19.0 -0.1**
comp=Z,0.6nm,0.5s,baz=318,slow=6.5,SNR=5.9
comp=Z,0.6nm,0.5s
C23K Itkillik River 84.07 20 P **P** **15 22 22.4 +1.5**
BMAR Burnt Mountain 86.20 23 P **P** **15 22 33.0 +1.3**
BCAR Beaver Creek A 87.56 27 P **P** **15 22 39.1 +0.7**
G29M Pine Creek 88.79 23 P **P** **15 22 44.9 +0.9**
G29M IAmb IAmb 15 22 54.5
comp=Z,2.8nm,1.1s
SPITS Spitsbergen Ar 90.11 349 P **P** **15 22 50.0 0.0**
comp=Z,13nm,1.1s,baz=93,slow=7.6,SNR=11
NB2 NORSAR Subarra 98.23 333 P **P** **15 23 25.7 -1.8**
comp=Z,1.2nm,0.7s,baz=66,slow=4.4
NB2 NORSAR Subarra 98.23 333 P **P** **15 23 25.7 -1.8**
baz=66,slow=4.4
NOA NORSAR Array B 98.23 333 P **P** **15 23 25.5 -2.0**
comp=Z,0.7nm,0.7s,baz=67,slow=4.5,SNR=4.0
comp=Z,0.7nm,0.7s

---

*IDC **14** 15:22:13.8±1.4,2°.90S×141°.21E,h0km,mb3.7/5, mbtmp3.7/6,ML4.0/1,Error ellipse: s-maj=29.2km s-min=10.6km az=49.0*
*NEIC **14** 15:22:16.2±1.0,2°.84S±0°.08×141°.2E±0°.1,h15km±6km, mb4.0/9,Error ellipse: s-maj=17.6km s-min=8.6km az=58.0.*
*DJA **14** 15:22:17.4±0.9,3°S±5°×14°1E±°,h10km,M4.2/7,mB5.2/1, mb4.7/3,MLv4.0/7,Mw(mB)4.6/1*
ISC 14 15:22:17.2±1.0,2.79S±0°.07×141°.11E±0°.08,h23km,n31, σ1°08/29,mb3.8/7,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.49**	**304**	Pg	**Pb**	**15 22 27.1**	**0.0**
	176nm,0.3s,baz=121,slow=7.0,SNR=1125						
JAY				Lg	Lg	15 22 34.1	
	690nm,0.3s,baz=25,slow=18,SNR=35						
JAY				LR	LR	15 22 59.7	
	comp=Z,410nm,19.2s,baz=174,slow=72						
JAY	**Jayapura**	**0.49**	**304**	P	**Pb**	**15 22 26.8**	**-0.4**
JAY				S	**Sb**	**15 22 32.3**	**-1.7**
GENI	**Genyem**	**0.96**	**282**	P	**Pn**	**15 22 35.6**	**+0.3**
GENI				S	**Sb**	**15 22 47.5**	**+0.1**
SMPI	**Sarmi**	**2.52**	**288**	P	**Pn**	**15 22 58.1**	**+1.3**
SMPI				S	**Sn**	**15 23 28.2**	**+1.3**
WAMI	**Wamena**	**2.63**	**246**	P	**Pn**	**15 22 59.7**	**+1.5**
WAMI				S	**Sn**	**15 23 30.6**	**+1.2**
BAKI	**Biak**	**5.25**	**288**	P	**Pn**	**15 23 35.8**	**+1.6**
	0.2nm38nm,1.6s						
MMPI	**Merauke**	**5.68**	**187**	P	**Pn**	**15 23 42.2**	**+1.9**
FAKI	**Fak Fak**	**8.85**	**269**	Pn	**Pn**	**15 24 24.2**	**+0.4**
MTN	**Manton Dam**	**14.04**	**224**		**Pn**	**15 25 32.9**	**-2.0**
KNRA	**Kununurra**	**17.66**	**223**		**Pn**	**15 26 21.6**	**-0.2**
KNRA				IAmb	IAmb	15 26 24.6	
	comp=Z,5.3nm,0.8s						
WB0	**Warramunga Arr**	**18.10**	**201**	P	**P**	**15 26 27.5**	**0.0**
WB0				IAmb	IAmb	15 26 32.3	
	comp=Z,9.6nm,1.4s						
WR8	**Warramunga Arr**	**18.24**	**200**	P	**Pn**	**15 26 28.3**	**-0.7**
WR8				IAmb	IAmb	15 26 32.6	
	comp=Z,8.8nm,1.4s						
WRA	**Warramunga Arr**	**18.28**	**201**	P	**Pn**	**15 26 28.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=22,slow=12,SNR=24						
	comp=Z,1.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.48**	**224**	P	**P**	**15 27 04.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**21.48**	**224**	P	**P**	**15 27 04.2**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=41,slow=14,SNR=7.2						
	comp=Z,1.8nm,0.8s						
AS31	**Alice Springs**	**21.89**	**198**	P	**P**	**15 27 07.5**	**-1.2**
ASAR	**Alice Springs**	**21.89**	**198**	P	**P**	**15 27 07.8**	**-1.0**
ASAR	**Alice Springs**	**21.89**	**198**	P	**P**	**15 27 07.4**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=25,slow=11,SNR=22						
	comp=Z,0.9nm,0.7s						
KKM	**Kota Kinabalu**	**26.36**	**289**	P	**P**	**15 27 51.3**	**-0.7**
H11S3	**WAKE ISLAND Hy**	**32.89**	**49**	T	T	16 03 24.9	
	baz=232,slow=75,SNR=553						
H11S2	**WAKE ISLAND Hy**	**32.90**	**49**	T	T	16 03 19.7	
	baz=232,slow=75,SNR=307						
H11S1	**WAKE ISLAND Hy**	**32.91**	**49**	T	T	16 03 28.4	
	baz=232,slow=75,SNR=297						
H11N1	**WAKE ISLAND Hy**	**33.79**	**47**	T	T	16 04 13.7	
	baz=229,slow=76,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**33.80**	**47**	T	T	16 04 35.5	
	baz=229,slow=76,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**33.81**	**47**	T	T	16 04 37.1	
	baz=229,slow=76,SNR=7.3						
CM31	**Chiang Mai Arr**	**46.57**	**299**	P	**P**	**15 30 43.6**	**-0.1**
CM31				IAmb	IAmb	15 30 45.7	
	comp=Z,6.1nm,1.4s						
MKAR	**Makanchi Array**	**71.33**	**322**	P	**P**	**15 33 36.5**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=110,slow=6.7,SNR=5.6						
	comp=Z,0.6nm,0.7s						
MAKZ	**Makanchi**	**71.53**	**322**	P	**P**	**15 33 37.1**	**+0.7**
MAKZ				IAmb	IAmb	15 33 37.8	
	comp=Z,3.0nm,1.4s						
KURBB	**Kurchatov Arra**	**75.19**	**324**	P	**P**	**15 33 58.5**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=115,slow=6.4,SNR=4.1						
	comp=Z,0.6nm,0.8s						
BVAR	**Borovoye Array**	**80.75**	**325**	P	**P**	**15 34 29.8**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=115,slow=7.0,SNR=6.3						
	comp=Z,1.4nm,0.8s						
RND	**Reindeer**	**83.67**	**25**	P	**P**	**15 34 43.5**	**-0.4**

---

*IDC **14** 15:30:34.5±0.3,52°.01N×178°.13E,h0km,mb5.1/41, mbtmp5.1/46,ML4.8/4,MS4.4/67,Error ellipse: s-maj=11.0km s-min=8.0km az=8.0*
*BJI **14** 15:30:34.1,52°.24N×177°.94E,h7km,mB5.3/41,mb5.1/81, Ms5.0/78,Ms7 4.7/74*
*NEIC **14** 15:30:36.9,52°.12N×178°.04E,h16km*
*NEIC **14** 15:30:36.9,51°.82N×178°.00E,h16km,Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16^Nm; M_{rr}5.33; $M_{\theta\theta}$0.19; $M_{\phi\phi}$-5.52; $M_{r\theta}$-1.21; $M_{\theta\phi}$-3.53; $M_{\phi r}$-5.21; Fault plane solution: $M_0$8.27000×10^16^ NP1:ϕ_s39.85000°, δ26.41000°,λ112.24000°. NP2:ϕ_s195.31000°,δ65.69000°, λ79.36000°. Principal axes: T 7.4309, Plg68.0000°, Azm85.0000°; N 1.6781, Plg10.0000°, Azm200.0000°; P -9.1090, Plg20.0000°, Azm293.0000°;*
*MOS **14** 15:30:36.2±1.1,52°.04N×178°.06E,h19km,mb5.7/86, MS4.7/20 Error ellipse: s-maj=7.0km s-min=4.1km az=108.5*
*NEIC **14** 15:30:36.9±1.6,52°.12N±0°.02×178°.09E±0°.06,h10km±1km, mb5.6/880,Mww5.2/35,Error ellipse: s-maj=6.5km s-min=4.1km az=99.0*
*AEIC **14** 15:30:37.2±3.0,51°.89N±0°.08×178°.01E±0°.07,h38km±5km, Error ellipse: s-maj=12.0km s-min=6.5km az=186.0*
*GCMT **14** 15:30:37.9±0.1,52°.16N±0°.01×178°.01E±0°.01,h12km, MW5.1/129,Moment Tensor Solution. s63,c95; s129,c224; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}4.76±.10; $M_{\theta\theta}$0.10±.10; $M_{\phi\phi}$-4.86±.07; $M_{r\theta}$-1.83±.30; $M_{\theta\phi}$-3.23±.07; $M_{\phi r}$-2.25±.24; Best double couple: $M_0$6.33200×10^16^ NP1:ϕ_s15.00000°,δ32.00000°, λ73.00000°. NP2:ϕ_s215.00000°,δ59.00000°,λ100.00000°. Principal axes: T 5.5350, Plg74.0000°, Azm152.0000°; N 1.5900, Plg9.0000°, Azm29.0000°; P -7.1280, Plg13.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 15:30:37.1±0.4,52°.08N±0°.04×178°.07E±0°.02,h13km±1km, h13km:pP-P,n1473,σ1°33/1160,mb5.6/603,MS4.6/107, 48C-45D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GANO	**Gareloi North**	**1.95**	**96**		**Pn**	**15 31 09.1**	**-0.8**
GALAA	**Gareloi Lava P**	**1.98**	**98**		**Pn**	**15 31 09.9**	**-0.3**
TASE	**Tanaga Southea**	**2.42**	**94**		**Pn**	**15 31 15.8**	**-0.5**
TAFP	**Tanaga Falls P**	**2.45**	**93**		**Pn**	**15 31 15.9**	**-0.8**
SHEM	**Shmya Is, Ala**	**2.52**	**287**	Pn	**Pn**	**15 31 17.9**	**+0.3**
	198nm,0.3s,baz=110,slow=3.1,SNR=63						
SHEM				Sn	**Sb**	**15 31 51.3**	**-1.6**
	192nm,0.3s,baz=71,slow=8.0,SNR=5.2						
SHEM				LR	LR	15 32 02.1	
	comp=Z,7μm,21.5s,baz=56,slow=34						
	1μm,0.5s						
SMY	**Shemya**	**2.52**	**287**		**Pn**	**15 31 15.9**	**-1.7**
SMY	**Shemya**	**2.52**	**287**		**Sn**	**15 31 48.9**	**+0.8**
SMY	**Shemya**	**2.52**	**287**	P	**Pn**	**15 31 17.9**	**+0.3**
SMY	**Shemya**	**2.52**	**287**	S	**Sb**	**15 31 50.6**	**-2.3**
SMY	**Shemya**	**2.52**	**287**	P	**Pn**	**15 31 15.9**	**-1.7**
SMY						15 31 48.9	
KICM	**Kanaga Island**	**2.93**	**91**		**Pn**	**15 31 23.1**	**-0.3**
KIWB	**Kanaga Island**	**2.97**	**92**		**Pn**	**15 31 22.8**	**-1.0**
KIWB	**Kanaga Island**	**2.97**	**92**		**Sn**	**15 32 00.3**	**+1.1**
KIRH	**Kanaga Island**	**3.00**	**91**		**Pn**	**15 31 23.9**	**-0.3**
ADAG	**Mount Adagdak**	**3.29**	**90**		**Pn**	**15 31 27.2**	**-1.1**
GSCK	**Great Sitkin C**	**3.56**	**89**		**Pn**	**15 31 31.2**	**-0.8**
GSTR	**Great Sitkin T**	**3.62**	**87**		**Pn**	**15 31 31.5**	**-1.3**
ATKA	**Atka Island**	**4.77**	**85**		**Pn**	**15 31 47.2**	**-1.3**
ATKA	**Atka Island**	**4.77**	**85**		**Sn**	**15 32 46.4**	**+2.9**
ATKA	**Atka Island**	**4.77**	**85**	P	**Pn**	**15 31 48.8**	**+0.3**
ATKA	**Atka Island**	**4.77**	**85**	S	**Sn**	**15 32 44.7**	**+1.1**
NIKH	**Nikolski High**	**8.03**	**78**		**Pn**	**15 32 34.1**	**+0.9**
NIKH	**Nikolski High**	**8.03**	**78**	P	**Pn**	**15 32 34.9**	**+1.6**
	658nm,0.9s						
NIKH	**Nikolski High**	**8.03**	**78**	P	**Pn**	**15 32 34.7**	**+1.4**
	baz=269,SNR=7.7						
SPIA	**Saint Paul Isl**	**8.48**	**48**		**Pn**	**15 32 39.6**	**+0.1**
SPIA	**Saint Paul Isl**	**8.48**	**48**	P	**Pn**	**15 32 40.3**	**+0.8**
SPIA	**Saint Paul Isl**	**8.48**	**48**	P	**Pn**	**15 32 40.5**	**+1.0**
	baz=238,SNR=6.3						
P08K	**Saint George I**	**8.54**	**53**		**Pn**	**15 32 39.8**	**-0.4**
P08K	**Saint George I**	**8.54**	**53**	P	**Pn**	**15 32 41.1**	**+0.9**
	baz=243						
UNV	**Unalaska Valle**	**9.48**	**73**		**Pn**	**15 32 53.2**	**0.0**
UNV	**Unalaska Valle**	**9.48**	**73**	P	**Pn**	**15 32 53.7**	**+0.6**
	338nm,1.0s						
UNV	**Unalaska Valle**	**9.48**	**73**	S	**Sn**	**15 34 39.4**	**0.0**
	338nm,1.0s						
UNV	**Unalaska Valle**	**9.48**	**73**	P	**Pn**	**15 32 54.3**	**+1.2**
	baz=266,SNR=19						
LVA	**Lava Point**	**9.79**	**71**		**Pn**	**15 32 58.0**	**+0.7**
AKUT	**Akutan**	**9.94**	**72**		**Pn**	**15 33 00.1**	**+0.8**
AKUT	**Akutan**	**9.94**	**72**	P	**Pn**	**15 33 01.2**	**+1.8**
	583nm,0.9s						
AKUT	**Akutan**	**9.94**	**72**	S	**Sn**	**15 34 50.4**	**-0.2**
	583nm,0.9s						
FALS	**False Pass**	**11.38**	**69**		**Pn**	**15 33 19.0**	**0.0**
FALS	**False Pass**	**11.38**	**69**	P	**Pn**	**15 33 20.8**	**+1.7**
	343nm,0.8s						
FALS	**False Pass**	**11.38**	**69**	S	**Sn**	**15 35 27.1**	**+1.2**
	343nm,0.8s						
FALS	**False Pass**	**11.38**	**69**	P	**Pn**	**15 33 20.5**	**+1.4**
	baz=264,SNR=11						
PET	**Petropavlovsk**	**11.86**	**282**		**Pn**	**15 33 26.4**	**+0.7**
PET	**Petropavlovsk**	**11.86**	**282**	P	**Pn**	**15 33 28.0**	**+2.4**
	313nm,1.4s						
PET	**Petropavlovsk**	**11.86**	**282**	*eP*	**Pn**	**15 33 25.7**	**+0.1**
PET				*eS*	**Sn**	**15 35 30.7**	**-6.9**
PET				pmax	pmax		
	comp=Z,71nm,1.1s						
PET				pmax	pmax		
	comp=Z,400nm,13.5s						
PET				MLR	MLR		
	comp=Z,1μm,12.0s						
PET				MLR	MLR		
	comp=Z,2μm,15.0s						
PET	**Petropavlovsk**	**11.86**	**282**	P	**Pn**	**15 33 27.4**	**+1.8**
	comp=Z,78nm,1.4s						
M11K	**Mekoryuk**	**12.05**	**40**	P	**Pn**	**15 33 29.4**	**+1.2**
	baz=233,SNR=6.3						
I44RU	**PETROPAVLOVSK**	**12.42**	**283**	I	I	16 50 00.0	
	baz=88,slow=336,SNR=1.5						
PEA0B	**Petropavlovsk-**	**12.43**	**283**		**Pn**	**15 33 34.3**	**+0.9**
PEA0B	**Petropavlovsk-**	**12.43**	**283**	*ceP*	**Pn**	**15 33 34.8**	**+1.4**
PETK	**Petropavlovsk-**	**12.43**	**283**		**Pn**	**15 33 33.9**	**+0.4**
PETK	**Petropavlovsk-**	**12.43**	**283**	Pn	**Pn**	**15 33 33.6**	**+0.1**
	comp=Z,39nm,0.9s,baz=79,slow=12,SNR=49						
PETK				Sn	**Sn**	**15 35 48.0**	**-3.6**
	comp=Z,1.3nm,0.3s,baz=93,slow=22,SNR=2.7						
PETK				LR	LR	15 38 04.5	
	comp=Z,3μm,21.5s,baz=99,slow=36						
PETK				PcP	**PcP**	**15 39 13.4**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=66,slow=1.7,SNR=5.1						
PETK				ScP	**ScP**	**15 42 44.9**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=125,slow=7.4,SNR=4.6						
GAMB	**Gambell**	**12.90**	**21**		**Pn**	**15 33 40.9**	**+1.0**
GAMB	**Gambell**	**12.90**	**21**	P	**Pn**	**15 33 40.9**	**+1.0**
	baz=210,SNR=14						
SDPT	**Sand Point**	**13.11**	**67**		**Pn**	**15 33 44.0**	**+1.3**
SDPT	**Sand Point**	**13.11**	**67**	P	**Pn**	**15 33 44.5**	**+1.8**
	comp=Z,414nm,1.3s						
SDPT	**Sand Point**	**13.11**	**67**	P	**Pn**	**15 33 44.1**	**+1.4**
	baz=265,SNR=9.2						
M13K	**Dall Lake**	**13.24**	**44**	P	**Pn**	**15 33 45.6**	**+1.1**
	baz=239,SNR=11						
CHNA	**Chernabura Isl**	**13.58**	**69**	P	**Pn**	**15 33 50.4**	**+1.2**
	comp=Z,93nm,0.9s						
CHNA	**Chernabura Isl**	**13.58**	**69**	P	**Pn**	**15 33 49.2**	**0.0**
	baz=268						
K13K	**Kusilvak Mount**	**13.60**	**37**		**Pn**	**15 33 50.0**	**+0.7**
K13K	**Kusilvak Mount**	**13.60**	**37**	P	**Pn**	**15 33 50.4**	**+1.1**
	baz=231,SNR=11						
O14K	**Tigyukauivet M**	**13.66**	**50**	P	**Pn**	**15 33 51.2**	**+1.0**
	baz=247,SNR=9.7						
N14K	**Kuskokwak Cree**	**13.74**	**47**	P	**Pn**	**15 33 52.4**	**+1.1**
	baz=244,SNR=48						
S14K	**Fog Glacier**	**13.74**	**63**	P	**Pn**	**15 33 51.3**	**-0.1**
	baz=262						
SKR	**Severo-Kuril's**	**13.77**	**273**	*eP*	**Pn**	**15 33 48.7**	**-3.1**
SKR				*eS*	**Sn**	**15 36 17.9**	**-6.6**
SKR				pmax	pmax		
	comp=Z,169nm,2.6s						
SKR				pmax	pmax		
	comp=Z,300nm,8.8s						
SKR				smax	smax		
	comp=E,127nm,1.0s						
SKR				smax	smax		
	comp=N,107nm,0.8s						
SKR				MLR	MLR		
	comp=Z,1μm,16.0s						
M14K	**Bethel**	**14.01**	**44**	P	**Pn**	**15 33 56.1**	**+1.2**
	baz=241,SNR=19						
L14K	**Kuka Creek**	**14.01**	**41**		**Pn**	**15 33 55.8**	**+0.9**
L14K	**Kuka Creek**	**14.01**	**41**	P	**Pn**	**15 33 56.4**	**+1.4**
	baz=237,SNR=86						
O15K	**Ungalikthiuk R**	**14.32**	**52**		**Pn**	**15 34 00.4**	**+1.1**
O15K	**Ungalikthiuk R**	**14.32**	**52**	P	**Pn**	**15 34 00.8**	**+1.5**
	baz=250,SNR=59						
CHGN	**Chignik**	**14.38**	**64**	P	**Pn**	**15 34 01.4**	**+1.4**
	baz=263						
J14K	**Nanvaranak Lak**	**14.51**	**35**	Pn	**Pn**	**15 34 02.3**	**+0.5**
J14K	**Nanvaranak Lak**	**14.51**	**35**	P	**Pn**	**15 34 02.8**	**+1.0**
	baz=231,SNR=22						
M15K	**Kasigluk River**	**14.53**	**45**	P	**Pn**	**15 34 03.1**	**+1.0**
	baz=243,SNR=46						
N15K	**Kwethluk River**	**14.57**	**48**	Pn	**Pn**	**15 34 03.5**	**+0.9**
N15K	**Kwethluk River**	**14.57**	**48**	P	**Pn**	**15 34 03.9**	**+1.2**
	baz=246,SNR=94						
L15K	**Ungalak Mounta**	**14.68**	**41**	P	**Pn**	**15 34 05.3**	**+1.2**
	baz=238,SNR=46						
K15K	**Wolf Creek Mou**	**14.99**	**39**	P	**Pn**	**15 34 10.2**	**+1.8**
	baz=236,SNR=72						
R16K	**Pilot Point**	**15.03**	**59**	P	**Pn**	**15 34 10.7**	**+1.8**
	baz=259						
ANM	**Nome**	**15.17**	**28**	P	**Pn**	**15 34 11.9**	**+1.1**
	baz=222						
P16K	**Nushagak River**	**15.17**	**53**	Pn	**Pn**	**15 34 12.2**	**+1.4**
P16K	**Nushagak River**	**15.17**	**53**	P	**Pn**	**15 34 12.2**	**+1.4**
	baz=253,SNR=66						
TNA	**Tin City**	**15.29**	**22**	P	**P**	**15 34 17.1**	**+0.1**
TNA	**Tin City**	**15.29**	**22**	P	**Pn**	**15 34 13.5**	**+1.3**
	baz=215						
N16K	**Nishlik Lake**	**15.30**	**48**	P	**Pn**	**15 34 13.5**	**+1.0**
	baz=247,SNR=45						
O16K	**Kokwok River B**	**15.30**	**51**	Pn	**Pn**	**15 34 13.7**	**+1.3**
O16K				IAmb	IAmb	15 34 20.1	
	comp=Z,241nm,0.9s						
O16K	**Kokwok River B**	**15.30**	**51**	P	**Pn**	**15 34 14.1**	**+1.7**
	baz=251,SNR=217						
M16K	**Timber Creek**	**15.44**	**46**	P	**Pn**	**15 34 15.7**	**+1.5**
	baz=245,SNR=79						
L16K	**Owhat River**	**15.52**	**43**	P	**Pn**	**15 34 16.8**	**+1.4**
	baz=242,SNR=48						
F14K	**Arctic Creek**	**15.61**	**25**	P	**Pn**	**15 34 18.0**	**+1.6**
	baz=218						
Q16K	**King Salmon**	**15.75**	**55**	P	**Pn**	**15 34 19.9**	**+1.6**
	baz=256,SNR=159						
O17K	**Koliganek Bris**	**15.83**	**51**	P	**P**	**15 34 21.5**	**-1.6**
	baz=252,SNR=173						
G15K	**Niukluk**	**15.88**	**29**	P	**Pn**	**15 34 21.1**	**+1.1**
	baz=224						
CHIR	**Chirikof Islan**	**15.89**	**66**	P	**Pn**	**15 34 21.6**	**+1.4**
	comp=Z,166nm,0.9s						
CHIR	**Chirikof Islan**	**15.89**	**66**	P	**Pn**	**15 34 21.3**	**+1.1**
	baz=268						
J16K	**Anvik River**	**15.91**	**37**	P	**Pn**	**15 34 21.6**	**+1.2**
	baz=235,SNR=14						
P17K	**Kvichak River**	**15.99**	**54**	P	**P**	**15 34 24.4**	**-0.4**
	baz=255,SNR=413						
N17K	**Nushagak Hills**	**16.04**	**49**	IAmb	IAmb	15 34 28.9	
	comp=Z,424nm,1.2s						
N17K	**Nushagak Hills**	**16.04**	**49**	P	**P**	**15 34 23.6**	**-1.9**
	baz=249,SNR=110						
Q17K	**Contact Creek**	**16.05**	**57**	P	**Pn**	**15 34 23.7**	**+1.3**
	baz=259						
H16K	**Elim**	**16.18**	**31**	P	**Pn**	**15 34 24.8**	**+0.9**
	baz=228,SNR=9.6						
L17K	**Donlin**	**16.22**	**42**	P	**P**	**15 34 25.9**	**-1.5**
	baz=242,SNR=93						
I17K	**Unalakleet**	**16.23**	**35**	P	**P**	**15 34 26.0**	**-1.5**
	baz=233,SNR=16						
F15K	**North Star Dit**	**16.23**	**26**	P	**P**	**15 34 26.5**	**-1.0**
	baz=221,SNR=26						
M17K	**Holitna River**	**16.26**	**45**	P	**Pn**	**15 34 26.0**	**+1.1**
	baz=246,SNR=134						
K17K	**Iditarod**	**16.49**	**41**	P	**P**	**15 34 29.1**	**-1.4**
	baz=241,SNR=84						
J17K	**VABM Dome**	**16.54**	**38**	P	**Pn**	**15 34 29.2**	**+0.8**
	baz=238,SNR=31						
Q18K	**Katmai Hardscr**	**16.58**	**56**	P	**P**	**15 34 31.0**	**-0.6**
	baz=258,SNR=488						
P18K	**Big Mountain,**	**16.64**	**53**	IAmb	IAmb	15 34 35.7	
	comp=Z

baz=265,SNR=21
O19K Port Alsworth 17.29 51 P **P 15 34 41.7 +2.4**
baz=254,SNR=568
Q19K Cape Douglas, 17.33 56 IAmb IAmb 15 34 44.7
comp=Z,369nm,0.8s
Q19K Cape Douglas, 17.33 56 P **P 15 34 39.8 0.0**
baz=259,SNR=123
N19K Bonanza Creek 17.39 49 IAmb IAmb 15 34 47.5
comp=Z,423nm,1.1s
N19K Bonanza Creek 17.39 49 P **P 15 34 40.5 0.0**
baz=252,SNR=193
SEY Seymchan 17.43 319 P **Pn 15 34 39.7 +0.2**
comp=Z,0.7nm,0.3s,baz=111,slow=11,SNR=43
SEY S **Sn 15 37 55.5 +2.4**
comp=Z,3.4nm,0.9s,baz=167,slow=23,SNR=1.2
SEY PcP **PcP 15 39 20.6 +0.6**
comp=Z,8.7nm,0.9s,baz=91,slow=4.4,SNR=4.6
SEY LR LR 15 40 36.5
comp=Z,2μm,20.6s,baz=108,slow=34
SEY ScP **ScP 15 42 53.7 -0.7**
comp=Z,5.0nm,0.9s,baz=97,slow=4.6,SNR=9.3
comp=Z,48nm,0.9s
SEY Seymchan 17.43 319 *e*P **Pn 15 34 37.6 -1.9**
SEY pmax pmax
comp=Z,105nm,1.5s
J18K Innoko River 17.49 40 P **P 15 34 41.6 +0.1**
baz=241,SNR=51
TTA Tatalina 17.52 42 P **P 15 34 42.1 +0.2**
baz=244,SNR=101
P19K Oil Pt 17.69 53 P **P 15 34 45.2 +1.4**
baz=257,SNR=429
L19K White Mountain 17.70 45 P **P 15 34 44.3 +0.5**
baz=248,SNR=103
KDAK Kodiak Island 17.71 60 **P 15 34 43.5 -0.5**
KDAK Kodiak Island 17.71 60 P **Pn 15 34 42.7 -0.4**
comp=Z,5.1nm,0.3s,baz=121,slow=6.0,SNR=63
comp=Z,168nm,0.8s
KDAK Kodiak Island 17.71 60 P **Pn 15 34 42.8 -0.4**
baz=264
F17K Baldwin Pennin 17.72 28 P **P 15 34 45.3 +1.3**
baz=226,SNR=18
H18K Honhosa River 17.80 34 P **P 15 34 46.3 +1.5**
baz=234,SNR=43
M19K Big River Lodg 17.80 46 P **P 15 34 45.7 +0.7**
baz=249,SNR=90
Q20K Shuyak Island 17.92 57 P **Pn 15 34 44.5 -1.2**
baz=262,SNR=27
E17K Hotham Inlet 18.02 26 P **P 15 34 48.3 +1.0**
baz=223,SNR=24
GCSA Galena City Sc 18.09 36 P **P 15 34 49.5 +1.5**
baz=237,SNR=58
C16K Lisburne Hills 18.11 20 P **P 15 34 48.9 +0.7**
baz=215,SNR=27
G18K Tagagawik 18.15 31 P **P 15 34 50.4 +1.6**
baz=232,SNR=63
D17K Noatak River 18.16 23 P **P 15 34 50.6 +1.8**
baz=220,SNR=51
J19K Poorman 18.17 39 P **P 15 34 50.3 +1.3**
baz=241,SNR=132
L20K Farewell, AK 18.23 44 P **P 15 34 51.1 +1.4**
baz=248,SNR=134
F18K Selawik 18.30 29 P **P 15 34 52.4 +2.1**
baz=228,SNR=59
M20K Styx River 18.35 46 IAmb IAmb 15 35 01.5
comp=Z,294nm,0.8s
M20K Styx River 18.35 46 P **P 15 34 53.1 +2.0**
baz=251
HOM Homer 18.48 54 P **Pn 15 34 53.2 +0.7**
baz=259,SNR=90
RDOG Red Dog Mine 18.48 23 P **Pn 15 34 53.9 +1.4**
baz=220,SNR=11
K20K Telida 18.50 42 P **Pn 15 34 53.5 +0.7**
baz=246
SPCR Spurr Chakacha 18.57 49 P **Pn 15 34 55.1 +1.4**
baz=254,SNR=95
E18K Tukpahlearik C 18.60 26 P **Pn 15 34 55.6 +1.8**
baz=225,SNR=26
CNPM China Poot 18.66 54 IAmb IAmb 15 34 59.3
comp=Z,1μm,1.4s
H19K Roundabout Mou 18.67 34 P **Pn 15 34 55.2 +0.5**
baz=236,SNR=77
G19K Purcell Mounta 18.81 32 P **Pn 15 34 57.0 +0.5**
baz=234,SNR=62
STLK Strandline Lak 18.82 48 IAmb IAmb 15 35 06.3
comp=Z,302nm,0.8s
J20K Nowinta River 18.83 39 P **Pn 15 34 57.5 +0.7**
baz=243,SNR=136
BRSE Bradley Lake S 18.95 54 P **Pn 15 34 58.0 -0.2**
baz=260,SNR=182
CAPN Captain Cook N 18.95 51 P **Pn 15 34 59.8 +1.5**
baz=257,SNR=24
I20K Naaghedeneel 19.00 37 IAmb IAmb 15 35 10.6
comp=Z,379nm,1.2s
I20K Naaghedeneel 19.00 37 P **Pn 15 34 59.1 +0.4**
baz=241,SNR=68
F19K Shaleruckik Mo 19.02 30 P **Pn 15 34 59.7 +0.7**
baz=231,SNR=120
SKT Skwentna 19.10 47 IAmb IAmb 15 35 09.2
comp=Z,486nm,0.9s
SKT Skwentna 19.10 47 P **Pn 15 35 01.1 +1.1**
baz=253,SNR=245
PPLA Purkeypile 19.11 44 IAmb IAmb 15 35 10.3
comp=Z,601nm,1.3s
PPLA Purkeypile 19.11 44 P **Pn 15 35 01.5 +1.1**
baz=249,SNR=98
H20K Anotleneega Mo 19.20 35 P **Pn 15 35 01.5 +0.2**
baz=239,SNR=150
SUA Susitna One 19.32 49 IAmb IAmb 15 35 09.4
comp=Z,284nm,0.8s
SUA Susitna One 19.32 49 P **Pn 15 35 02.9 +0.2**
baz=255,SNR=290
C18K Utukok River 19.35 23 P **Pn 15 35 02.7 -0.3**
baz=221,SNR=98
CAST Castle Rocks 19.35 43 P **Pn 15 35 03.6 +0.6**
baz=248,SNR=141
CHUM Lake Minchumin 19.43 41 P **Pn 15 35 04.4 +0.4**
baz=247,SNR=165
FIS Fire Island 19.48 50 IAmb IAmb 15 35 12.6
comp=Z,492nm,0.8s
E19K Redstone River 19.58 29 P **P 15 35 04.3 -0.1**
baz=230
O22K Cooper Landing 19.58 52 P **Pn 15 35 05.0 -0.8**
baz=259,SNR=205
SEW Seward 19.65 53 IAmb IAmb 15 35 16.5
comp=Z,384nm,0.9s
SEW Seward 19.65 53 P **P 15 35 04.8 -0.3**
baz=260,SNR=82
M22K Willow 19.68 48 IAmb IAmb 15 35 10.3
comp=Z,617nm,1.0s
M22K Willow 19.68 48 P **P 15 35 05.8 +0.3**
baz=255,SNR=121
RC01 Rabbit Creek A 19.70 50 IAmb IAmb 15 35 09.9
comp=Z,473nm,1.0s
RC01 Rabbit Creek A 19.70 50 P **Pn 15 35 06.3 -0.9**
baz=257,SNR=197
B18K Kokolik River 19.76 21 P **Pn 15 35 07.5 -0.3**
baz=219,SNR=60
F20K Avaraart Lake 19.79 31 P **Pn 15 35 07.6 -0.5**
baz=234
CUT Chulitna 19.79 46 P **P 15 35 07.1 +0.4**
baz=253,SNR=92
KTH Kantishna Hill 19.88 43 IAmb IAmb 15 35 17.3
comp=Z,328nm,1.0s
D19K Kuna River 20.02 26 P **Pn 15 35 10.3 -0.7**
baz=227,SNR=110
H21K Melozitna Rive 20.03 36 P **Pn 15 35 10.2 -0.9**
H21K IAmb IAmb 15 35 15.6
comp=Z,308nm,1.2s
H21K Melozitna River 20.03 36 P **Pn 15 35 10.4 -0.7**
baz=241,SNR=254
BPAW Bear Paw Mtn. 20.06 41 P Pn 15 35 11.1 -0.3
baz=248,SNR=157
PMR Palmer 20.10 49 P **P 15 35 10.6 +0.5**
comp=Z,157nm,1.5s
PMR Palmer 20.10 49 P **P 15 35 09.6 -0.4**
baz=257,SNR=36
TRF Thorofare Moun 20.11 43 P Pn 15 35 11.7 -0.5
baz=250,SNR=267
G21K Allakaket 20.22 34 P Pn 15 35 12.5 -0.8
baz=238,SNR=73
GHO Glory Hole Cre 20.24 48 IAmb IAmb 15 35 19.6
comp=Z,177nm,0.9s
PWL Port Wells 20.32 51 P **P 15 35 12.5 -0.1**
baz=260,SNR=385
KNK Knik Glacier 20.37 50 IAmb IAmb 15 35 17.1
comp=Z,620nm,1.2s
KNK Knik Glacier 20.37 50 P **P 15 35 13.6 +0.5**
baz=258,SNR=202

E20K Nigu River 20.40 28 P Pn 15 35 14.4 -1.1
baz=230,SNR=53
SML Sawmill 20.52 49 IAmb IAmb 15 35 21.1
comp=Z,406nm,0.9s
SML Sawmill 20.52 49 P **P 15 35 14.7 0.0**
baz=257,SNR=201
A19K Wainwright 20.57 20 P Pn 15 35 16.3 -1.0
baz=219,SNR=50
D20K Etivluk River 20.58 26 P Pn 15 35 16.1 -1.5
baz=229,SNR=114
F21K Alatna River 20.61 32 IAmb IAmb 15 35 23.7
comp=Z,208nm,1.1s
F21K Alatna River 20.61 32 P Pn 15 35 16.6 -1.2
baz=237,SNR=178
P23K Montague Islan 20.65 54 P **P 15 35 16.2 +0.2**
P23K Montague Islan 20.65 54 P **P 15 35 15.9 -0.1**
baz=263,SNR=86
H22K Ishtalitna Cre 20.66 36 P Pn 15 35 17.7 -0.8
baz=243,SNR=61
MCK McKinley 20.78 43 P **P 15 35 17.5 0.0**
baz=251,SNR=66
M23K Glacier View 20.80 49 P **P 15 35 17.6 -0.1**
baz=258,SNR=141
GLI Glacier Island 20.93 51 P **P 15 35 18.9 -0.1**
baz=261,SNR=200
KUR Kuril'sk 20.98 263 *i*P **P 15 35 20.0 +0.2**
KUR pmax pmax
comp=Z,495nm,1.1s
SCM Sheep Creek Mo 20.99 49 IAmb IAmb 15 35 27.2
comp=Z,479nm,0.9s
SCM Sheep Creek Mo 20.99 49 P **P 15 35 20.1 +0.3**
baz=258,SNR=170
NEA2 Nenana 21.02 41 IAmb IAmb 15 35 25.1
comp=Z,394nm,1.3s
NEA2 Nenana 21.02 41 P **P 15 35 20.7 +0.7**
baz=249,SNR=402
I23K Minto, Yukon-K 21.11 39 P **P 15 35 21.5 +0.5**
I23K Minto, Yukon-K 21.11 39 P **P 15 35 22.0 +1.0**
baz=247,SNR=80
G22K Bettles 21.11 34 P **P 15 35 21.4 +0.4**
baz=240,SNR=49
E21K Killik River 21.16 29 P **P 15 35 21.9 +0.3**
baz=233
F22K John River 21.19 32 P **P 15 35 22.8 +0.9**
baz=238
H23K Yukon River 21.31 37 P **P 15 35 23.9 +0.7**
baz=246
B20K Meade River 21.32 23 P **P 15 35 23.5 +0.3**
baz=225
C21K Knifeblade Rid 21.37 27 P **P 15 35 24.5 +0.7**
baz=231,SNR=102
G23K Bananza Creek 21.52 35 IAmb IAmb 15 35 32.1
comp=Z,214nm,1.0s
G23K Bananza Creek 21.52 35 P **P 15 35 26.4 +0.9**
baz=243,SNR=259
EYAK Cordova Ski Ar 21.53 53 P **P 15 35 26.4 +0.8**
comp=Z,579nm,1.0s
EYAK Cordova Ski Ar 21.53 53 P **P 15 35 25.7 +0.1**
baz=263,SNR=176
M24K Tolsona, Glenn 21.58 48 P **P 15 35 27.2 +1.1**
baz=259,SNR=231
KLU Klutina 21.59 50 IAmb IAmb 15 35 35.8
comp=Z,356nm,1.0s
KLU Klutina 21.59 50 P **P 15 35 26.1 -0.1**
baz=261,SNR=154
COLA College 21.61 41 P **P 15 35 27.0 +0.7**
COLA College 21.61 41 P **P 15 35 27.5 +1.2**
comp=Z,74nm,1.1s
COLA College 21.61 41 *i*P **P 15 35 26.9 +0.7**
COLA pmax pmax
comp=Z,174nm,1.1s
COLA College 21.61 41 P **P 15 35 26.8 +0.5**
baz=250
E22K Anaktuvuk Pass 21.64 31 P **P 15 35 27.1 +0.3**
baz=237,SNR=124
COLD Coldfoot 21.71 34 P **P 15 35 27.3 -0.1**
COLD Coldfoot 21.71 34 P **P 15 35 27.7 +0.3**
baz=241,SNR=23
B21K Ikpikpuk River 21.71 26 IAmb IAmb 15 35 36.4
comp=Z,579nm,1.9s
B21K Ikpikpuk River 21.71 26 P **P 15 35 27.7 +0.3**
baz=230,SNR=88
D22K Ayikyak River 21.80 28 IAmb IAmb 15 35 36.9
comp=Z,569nm,1.8s
D22K Ayikyak River 21.80 28 P **P 15 35 29.0 +0.6**
baz=234
HDA Harding Lake 21.82 42 P **P 15 35 29.1 +0.5**
baz=252,SNR=61
POKR Poker Plat Res 21.86 40 IAmb IAmb 15 35 33.8
comp=Z,167nm,1.0s
POKR Poker Plat Res 21.86 40 P **P 15 35 29.5 +0.5**
baz=250,SNR=40
H24K Noodor Dome 21.95 38 P **P 15 35 30.9 +0.8**
baz=248,SNR=138
ILAR Eielson Array 21.96 41 P **P 15 35 28.8 -1.4**
ILAR Eielson Array 21.96 41 P **P 15 35 30.3 +0.2**
comp=Z,47nm,1.0s,baz=243,slow=9.4,SNR=115
ILAR S **S 15 39 28.6 -3.4**
comp=Z,0.9nm,1.0s,baz=222,slow=24,SNR=0.9
ILAR ScP **ScP 15 43 03.5 -1.4**
comp=Z,3.1nm,1.0s,baz=289,slow=3.6,SNR=10
comp=Z,47nm,1.0s
TYV Tymovskoe 21.96 281 *e*P **P 15 35 31.7 +1.4**
TYV *e*S **S 15 39 37.1 +4.9**
TYV pmax pmax
comp=Z,137nm,1.1s
TYV pmax pmax
comp=Z,500nm,2.1s
TYV smax smax
comp=E,17nm,1.6s
TYV smax smax
comp=E,1μm,4.8s
PAX Paxson 22.08 46 IAmb IAmb 15 35 36.1
comp=Z,278nm,1.0s
PAX Paxson 22.08 46 P **P 15 35 31.7 +0.2**
baz=258,SNR=220
HARP HAARP 22.10 48 P **P 15 35 32.5 +0.7**
baz=259,SNR=88
KAIM Kayak Island 22.14 54 P **P 15 35 33.1 +1.1**
KAIM Kayak Island 22.14 54 P **P 15 35 32.7 +0.6**
baz=266,SNR=86
BMRM Bremner River 22.14 52 P **P 15 35 32.4 +0.2**
baz=263,SNR=267
K24K Donnelly Dome 22.14 44 IAmb IAmb 15 35 35.8
comp=Z,155nm,0.9s
K24K Donnelly Dome 22.14 44 P **P 15 35 31.7 -0.4**
baz=255,SNR=102
N25K Chitina, Valde 22.23 50 IAmb IAmb 15 35 39.1
comp=Z,368nm,0.9s
N25K Chitina, Valde 22.23 50 P **P 15 35 33.6 +0.4**
baz=262,SNR=306
E23K Chandalar 22.31 32 IAmb IAmb 15 35 40.0
comp=Z,397nm,1.2s
E23K Chandalar 22.31 32 P **P 15 35 34.7 +0.8**
baz=240,SNR=388
A21K Barrow 22.39 21 P **P 15 35 34.5 -0.1**
baz=224,SNR=7.5
G24K Hadweenzic Riv 22.43 36 IAmb IAmb 15 35 41.2
comp=Z,268nm,0.9s
G24K Hadweenzic Riv 22.43 36 P **P 15 35 36.0 +0.7**
baz=246
D23K Nanushuk River 22.45 29 IAmb IAmb 15 35 40.5
comp=Z,222nm,1.1s
D23K Nanushuk River 22.45 29 P **P 15 35 35.8 +0.5**
baz=237
B22K Teshekpuk Lake 22.49 25 IAmb IAmb 15 35 40.9
comp=Z,212nm,1.2s
B22K Teshekpuk Lake 22.49 25 P **P 15 35 35.3 -0.5**
baz=230,SNR=104
RIDG Independent Ri 22.53 44 P **P 15 35 35.5 -0.8**
baz=256,SNR=89
J25K Salcha River, 22.53 42 P **P 15 35 35.7 -0.7**
baz=254,SNR=53
A22K Sinclair Lake 22.55 23 P **P 15 35 35.9 -0.4**
baz=227,SNR=170
NKL Nikolayevsk 22.56 288 *e*P **P 15 35 36.3 -0.3**
NKL *e*S **S 15 39 46.4 +3.0**
NKL pmax pmax
comp=E,61nm,1.2s
NKL pmax pmax
comp=N,163nm,1.5s
NKL pmax pmax
comp=Z,256nm,1.6s
NKL smax smax
comp=E,482nm,2.9s
NKL smax smax
comp=N,874nm,4.1s
NKL MLR MLR

comp=E,2μm,13.0s
NKL MLR MLR
comp=N,2μm,16.0s
NKL MLR MLR
comp=Z,5μm,19.0s
TOLK Toolik Lake Re 22.62 31 IAmb IAmb 15 35 42.9
comp=Z,351nm,1.3s
TOLK Toolik Lake Re 22.62 31 P **P 15 35 37.6 +0.5**
baz=239,SNR=208
F24K Squaw Lake 22.64 34 IAmb IAmb 15 35 44.8
comp=Z,676nm,2.0s
F24K Squaw Lake 22.64 34 P **P 15 35 38.0 +0.6**
baz=244,SNR=146
E24K Your Creek 22.69 32 P **P 15 35 38.5 +0.6**
baz=242
BGLC Bering Glacier 22.72 54 P **P 15 35 39.2 +1.0**
baz=267
PRP Porcupine Dome 22.75 40 P **P 15 35 37.6 -1.1**
baz=251,SNR=85
YUK Yuzh-Kuril'sk 22.83 262 *i*P **P 15 35 40.9 +1.4**
MENT Mentasta 22.86 47 IAmb IAmb 15 36 04.6
comp=Z,173nm,0.9s
H25L Birch Creek 22.89 38 P **P 15 35 40.4 +0.4**
baz=249
UGL Uglegorsk 22.91 277 *e*P **P 15 35 41.2 +0.9**
UGL pmax pmax
comp=Z,200nm,0.9s
UGL MLR MLR
comp=N,3μm,16.0s
C23K Itkillik River 22.95 28 IAmb IAmb 15 35 45.9
comp=Z,162nm,1.1s
C23K Itkillik River 22.95 28 P **P 15 35 40.7 0.0**
baz=235,SNR=120
SCRK Sand Creek 22.95 44 P **P 15 35 39.8 -1.1**
baz=257,SNR=120
G25K Bearman Lake 22.96 37 P **P 15 35 41.1 +0.3**
baz=248,SNR=144
L26K Log Cabin Wild 23.04 47 IAmb IAmb 15 35 46.2
comp=Z,197nm,0.9s
L26K Log Cabin Wild 23.04 47 P **P 15 35 42.1 +0.5**
baz=260,SNR=129
M26K Nabesna, AK 23.09 48 IAmb IAmb 15 36 02.9
comp=Z,132nm,1.0s
M26K Nabesna, AK 23.09 48 P **P 15 35 42.5 +0.3**
baz=262,SNR=68
D24K Happy Valley 23.11 30 P **P 15 35 42.0 -0.3**
baz=239
FYU Fort Yukon 23.21 37 P **P 15 35 43.4 +0.1**
J26L Joseph Creek 23.26 43 IAmb IAmb 15 35 45.5
comp=Z,177nm,1.1s
J26L Joseph Creek 23.26 43 P **P 15 35 42.4 -1.5**
baz=256,SNR=192
YSS Yuzhno-Sakhali 23.33 271 P **P 15 35 45.0 +0.3**
YSS Yuzhno-Sakhali 23.33 271 P **P 15 35 46.0 +1.3**
comp=Z,99nm,1.1s
YSS Yuzhno-Sakhali 23.33 271 *de*P **P 15 35 45.6 +0.9**
YSS *e*S **S 15 39 56.4 -0.4**
YSS pmax pmax
comp=Z,80nm,1.1s
YSS pmax pmax
comp=Z,700nm,2.9s
YSS pmax pmax
comp=N,300nm,2.0s
YSS pmax pmax
comp=E,700nm,2.2s
YSS smax smax
comp=N,2μm,11.3s
YSS smax smax
comp=E,2μm,12.3s
YSS MLR MLR
comp=N,800nm,16.0s
YSS MLR MLR
comp=E,1μm,15.0s
MESA MESA 23.39 54 P **P 15 35 46.1 +0.7**
baz=268,SNR=96
C24K Franklin Bluff 23.45 29 P **P 15 35 45.4 -0.2**
baz=238
F25K Christian Rive 23.45 35 P **P 15 35 46.2 +0.4**
baz=247,SNR=117
M27K Edge Creek, AK 23.61 49 IAmb IAmb 15 35 51.8
comp=Z,271nm,1.0s
M27K Edge Creek, AK 23.61 49 P **P 15 35 48.0 +0.5**
baz=263,SNR=214
I26K Coal Creek Min 23.63 41 P **P 15 35 45.8 -1.7**
baz=255
E25K Arctic Village 23.69 34 IAmb IAmb 15 35 53.1
comp=Z,172nm,1.1s
E25K Arctic Village 23.69 34 P **P 15 35 48.9 +0.8**
baz=246,SNR=151
L27K Beaver Creek, 23.73 47 P **P 15 35 49.2 +0.7**
baz=261,SNR=571
BCAR Beaver Creek A 23.75 47 P **P 15 35 49.1 +0.4**
BMAR Burnt Mountain 23.76 36 P **P 15 35 49.2 +0.4**
K27K Chicken 23.79 44 P **P 15 35 49.1 +0.1**
baz=259
G26K Porcupine Rive 23.88 37 P **P 15 35 50.7 +0.8**
baz=250,SNR=346
D25K Kavik River 23.96 31 IAmb IAmb 15 35 52.6
comp=Z,128nm,1.1s
D25K Kavik River 23.96 31 P **P 15 35 51.0 +0.3**
baz=242
F26K Sheenjek River 24.02 35 IAmb IAmb 15 35 56.8
comp=Z,144nm,0.9s
F26K Sheenjek River 24.02 35 P **P 15 35 52.1 +0.9**
baz=248,SNR=200
BVCY Beaver Creek 24.08 49 P **P 15 35 52.5 +0.6**
baz=264,SNR=209
YUK3 Moose Creek 24.21 50 P **P 15 35 53.7 +0.4**
baz=266,SNR=636
PINM Pinnacle 24.23 54 P **P 15 35 54.2 +0.8**
baz=270,SNR=114
O28M Mount Upton 24.28 53 P **P 15 35 54.7 +0.7**
baz=268,SNR=810
I27K Kandik River 24.33 41 P **P 15 35 52.9 -1.2**
baz=256,SNR=37
YUK8 Steele Glacier 24.51 51 P **P 15 35 56.6 +0.6**
baz=267,SNR=447
H27K Steamboat Moun 24.53 39 P **P 15 35 54.6 -1.3**
baz=255,SNR=44
G27K Doyon Strip 24.64 38 P **P 15 35 57.1 +0.2**
baz=253,SNR=90
PNL Peninsula 24.67 55 P **P 15 35 57.7 +0.5**
comp=Z,368nm,1.3s
PNL Peninsula 24.67 55 P **P 15 35 57.5 +0.3**
baz=271,SNR=46
C26K Camden Bay 24.69 30 P **P 15 35 58.7 +1.5**
baz=243,SNR=165
JKA Kamikawa-asahi 24.79 265 P **P 15 35 58.9 +0.5**
JKA IAmb IAmb 15 36 01.1
comp=Z,132nm,0.9s
ASAJ Asahikawa 24.79 265 LR LR 15 45 14.4
comp=Z,754nm,20.3s,baz=67,slow=35
ASAJ Asahikawa 24.79 265 P **P 15 35 58.9 +0.5**
ASAJ pmax pmax
comp=Z,132nm,0.9s
C27K Jago River 24.93 31 IAmb IAmb 15 36 03.7
comp=Z,124nm,1.2s
C27K Jago River 24.93 31 P **P 15 36 00.3 +0.8**
baz=245,SNR=94
DAWY Dawson 24.96 45 P **P 15 36 00.7 +0.9**
baz=262,SNR=322
I28M Miner Creek 24.98 41 IAmb IAmb 15 36 02.2
comp=Z,134nm,0.9s
I28M Miner Creek 24.98 41 P **P 15 35 59.9 -0.1**
baz=258,SNR=159
YUK4 Talbot Arm 25.05 51 P **P 15 36 01.8 +0.9**
baz=268,SNR=584
O29M Mount Kennedy 25.07 54 IAmb IAmb 15 36 06.4
comp=Z,201nm,1.1s
O29M Mount Kennedy 25.07 54 P **P 15 36 01.5 +0.6**
baz=270,SNR=82
E27K Coleen River 25.09 35 IAmb IAmb 15 36 06.9
comp=Z,133nm,1.0s
E27K Coleen River 25.09 35 P **P 15 36 02.2 +1.2**
baz=250,SNR=140
YUK6 Outpost Mounta 25.18 52 P **P 15 36 02.7 +0.7**
baz=269,SNR=223
M29M Somme Creek 25.20 49 IAmb IAmb 15 36 11.2
comp=Z,97nm,0.9s
M29M Somme Creek 25.20 49 P **P 15 36 02.8 +0.7**
baz=266,SNR=124
L29M L29M 25.40 47 IAmb IAmb 15 36 06.9
comp=Z,148nm,0.9s
L29M L29M 25.40 47 P **P 15 36 04.6 +0.7**
baz=265,SNR=142
P29M Windy Craggy 25.51 55 IAmb IAmb 15 36 09.5
comp=Z,188nm,0.9s
P29M Windy Craggy 25.51 55 P **P 15 36 05.6 +0.8**

baz=273,SNR=124
J29N Klondike Camp 25.52 44 IAmb IAmb 15 36 08.0
comp=Z,94nm,1.1s
J29N Klondike Camp 25.52 44 P **P 15 36 05.8 +0.8**
baz=262,SNR=49
JEM Erimo 25.60 261 P **P 15 36 07.5 +1.8**
comp=Z,43nm,1.4s
ERM Erimo 25.60 261 P **P 15 36 06.2 +0.5**
ERM IAmb IAmb 15 36 10.7
comp=Z,274nm,1.8s
ERM Erimo 25.60 261 P **P 15 36 07.7 +2.0**
comp=Z,91nm,1.4s
ERM Erimo 25.60 261 *ce*P **P 15 36 06.1 +0.4**
ERM pmax pmax
comp=Z,136nm,1.7s
HYT Haines Junctio 25.60 53 P **P 15 36 06.7 +0.9**
baz=270,SNR=254
I29M Ogilvie Camp, 25.63 42 IAmb IAmb 15 36 13.0
comp=Z,139nm,0.9s
I29M Ogilvie Camp, 25.63 42 P **P 15 36 05.7 -0.2**
baz=260,SNR=66
D27M Malcolm River 25.68 33 P **P 15 36 07.7 +1.4**
baz=249
K29M Barlow Dome 25.75 46 IAmb IAmb 15 36 10.3
comp=Z,83nm,0.9s
K29M Barlow Dome 25.75 46 P **P 15 36 07.8 +0.7**
baz=264,SNR=127
GRNR Gornyy 25.75 284 ⇓*i*P **P 15 36 07.0 -0.1**
GRNR *e*S **S 15 40 37.3 +1.8**
GRNR pmax pmax
comp=N,8.0nm,1.0s
GRNR pmax pmax
comp=E,20nm,1.0s
GRNR pmax pmax
comp=Z,40nm,0.8s
GRNR smax smax
comp=N,2.0nm,0.9s
GRNR MLR MLR
comp=N,440nm,13.0s
H29M Whitestone 25.77 40 P **P 15 36 07.1 0.0**
baz=258,SNR=44
N30M Aishikik Lake 25.80 51 P **P 15 36 08.0 +0.5**
baz=269,SNR=329
P30M Million Dollar 25.88 54 P **P 15 36 09.2 +0.9**
baz=272,SNR=73
E28M Babbage River 25.95 34 IAmb IAmb 15 36 17.0
comp=Z,368nm,2.0s
E28M Babbage River 25.95 34 P **P 15 36 10.0 +1.2**
baz=252,SNR=94
M30M Minto, Yukon 25.98 49 P **P 15 36 09.3 +0.3**
baz=267
G29M Pine Creek 26.05 39 IAmb IAmb 15 36 14.8
comp=Z,314nm,1.6s
G29M Pine Creek 26.05 39 P **P 15 36 10.4 +0.7**
baz=257,SNR=112
O30N Mendenhall 26.29 53 IAmb IAmb 15 36 18.3
comp=Z,195nm,1.2s
O30N Mendenhall 26.29 53 P **P 15 36 12.8 +0.8**
baz=272,SNR=98
J30M Hart River 26.35 44 IAmb IAmb 15 36 15.4
comp=Z,94nm,0.9s
J30M Hart River 26.35 44 P **P 15 36 13.2 +0.7**
baz=264,SNR=160
I30M Mount Dempster 26.41 43 P **P 15 36 12.5 -0.5**
baz=262,SNR=63
S31K Pelican 26.43 59 P **P 15 36 13.1 0.0**
baz=277
N31M Braeburn, Yuko 26.43 51 P **P 15 36 13.9 +0.7**
baz=270,SNR=142
EPYK Eagle Plains 26.45 40 IAmb IAmb 15 36 16.0
comp=Z,104nm,0.9s
EPYK Eagle Plains 26.45 40 P **P 15 36 13.0 -0.3**
baz=260,SNR=80
D28M Stokes Point 26.45 33 P **P 15 36 14.0 +0.8**
baz=252,SNR=24
E29M Blow River 26.47 35 P **P 15 36 14.6 +1.2**
baz=254,SNR=50
R31K City Hall, Gus 26.64 58 P **P 15 36 15.8 +0.9**
baz=277
SKAG Skagway 26.75 56 IAmb IAmb 15 36 18.2
comp=Z,105nm,1.1s
SKAG Skagway 26.75 56 P **P 15 36 17.0 +1.1**
comp=Z,94nm,1.2s
SKAG Skagway 26.75 56 P **P 15 36 17.0 +1.1**
baz=275,SNR=33
G30M tAoh Zraii Nji 26.76 39 P **P 15 36 16.1 0.0**
baz=259,SNR=38
WHY Whitehorse 26.89 53 IAmb IAmb 15 36 19.9
comp=Z,192nm,1.2s
WHY Whitehorse 26.89 53 P **P 15 36 18.5 +1.1**
baz=273,SNR=39
SIT Sitka 27.05 61 P **P 15 36 19.8 +1.2**
comp=Z,70nm,1.1s
SIT Sitka 27.05 61 P **P 15 36 19.0 +0.4**
baz=280
F30M Barrier River 27.05 37 IAmb IAmb 15 36 23.2
comp=Z,310nm,1.4s
F30M Barrier River 27.05 37 P **P 15 36 20.0 +1.3**
baz=258,SNR=93
BESE Bessie Mountai 27.08 57 IAmb IAmb 15 36 21.0
comp=Z,143nm,1.2s
M31M Drury Creek, Y 27.09 49 IAmb IAmb 15 36 26.3
comp=Z,184nm,1.3s
M31M Drury Creek, Y 27.09 49 P **P 15 36 19.8 +0.7**
baz=270,SNR=87
R32K Eaglecrest 27.29 58 P **P 15 36 21.5 +0.6**
baz=278,SNR=16
H31M Peel River 27.32 42 P **P 15 36 21.3 +0.2**
baz=263,SNR=57
JIS Juneau Island 27.36 58 P **P 15 36 22.5 +1.0**
comp=Z,115nm,1.3s
S32K Killisnoo 27.38 60 P **P 15 36 22.6 +1.0**
baz=279,SNR=18
YAK Yakutsk 27.49 310 P **P 15 36 21.2 -1.4**
YAK IAmb IAmb 15 36 23.0
comp=Z,119nm,0.9s
YAK Yakutsk 27.49 310 LR LR 15 47 01.4
comp=Z,1µm,19.7s,baz=94,slow=36
YAK Yakutsk 27.49 310 *d i*P **P 15 36 21.2 -1.4**
YAK *e**PP **sP 15 36 29.4 +1.5**
YAK *e* 15 37 08.9
YAK *e* 15 39 41.0
YAK *e*S **S 15 41 01.0 -1.6**
YAK *e**SS **sS 15 41 12.8 +3.8**
YAK *e*SS **SnSn 15 42 15.9 +3.5**
YAK *e*SSS SSS 15 42 36.0
YAK *e* 15 47 09.9
YAK pmax pmax
comp=Z,105nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,52nm,1.1s
YAK pmax pmax
comp=Z,109nm,2.0s
YAK pmax pmax
comp=N,30nm,1.3s
YAK pmax pmax
comp=E,100nm,1.8s
YAK smax smax
comp=N,140nm,2.0s
YAK smax smax
comp=E,326nm,3.8s
YAK MLR MLR
comp=Z,1µm,17.0s
YAK MLR MLR
comp=E,616nm,15.0s
YAK MLR MLR
comp=N,325nm,11.0s
G31M Satah River 27.51 39 IAmb IAmb 15 36 24.9
comp=Z,127nm,1.2s
G31M Satah River 27.51 39 P **P 15 36 23.0 +0.3**
baz=261,SNR=79
P32M Atlin 27.55 55 IAmb IAmb 15 36 26.0
comp=Z,238nm,1.2s
P32M Atlin 27.55 55 P **P 15 36 24.5 +1.2**
baz=276,SNR=72
FARO Faro, Yukon 27.58 49 P **P 15 36 24.4 +0.9**
baz=271,SNR=48
F31M Tsiigehtchic 27.79 38 P **P 15 36 25.8 +0.5**
baz=261,SNR=57
P33M Teslin, Yukon 27.94 54 P **P 15 36 28.2 +1.4**
baz=275,SNR=142
Q32M Nakina River 28.36 56 P **P 15 36 32.6 +1.9**
baz=278,SNR=36
U33K Whale Pass 28.42 62 P **P 15 36 32.1 +1.2**
baz=283
MMPY Sheldon Lake, 28.54 48 IAmb IAmb 15 36 36.0
comp=Z,121nm,1.0s
MMPY Sheldon Lake, 28.54 48 P **P 15 36 34.0 +1.9**
baz=272,SNR=115
CRAG Craig 28.57 64 P **P 15 36 32.7 +0.4**
baz=284
WRAK Wrangell Islan 28.78 62 P **P 15 36 35.1 +0.9**
baz=283,SNR=6.8
R33M Jennings River 28.97 55 IAmb IAmb 15 36 39.1
comp=Z,174nm,1.1s
R33M Jennings River 28.97 55 P **P 15 36 37.9 +1.9**
baz=278,SNR=82
TIXI Tiksi 29.07 330 P **P 15 36 36.1 -0.5**
TIXI Tiksi 29.07 330 *ce*P **P 15 36 36.3 -0.3**
TIXI pmax pmax
comp=Z,15nm,1.0s
TIXI MLR MLR
comp=Z,897nm,17.0s
KLR Kul'dur 29.12 283 LR LR 15 48 04.0
comp=Z,2µm,20.7s,baz=81,slow=36
KLR Kul'dur 29.12 283 *ce*P **P 15 36 37.1 -0.2**
KLR pmax pmax
comp=Z,59nm,1.3s
S34M Telegraph Cree 29.12 58 P **P 15 36 38.8 +1.6**
baz=281,SNR=16
V35K Ketchikan 29.44 63 P **P 15 36 40.2 +0.2**
baz=285,SNR=5.0
JMM Marumori 29.58 256 IAmb IAmb 15 36 45.2
comp=Z,117nm,1.5s
JMM Marumori 29.58 256 P **P 15 36 43.6 +2.1**
comp=Z,44nm,2.6s
T35M Bob Quinn 29.78 60 P **P 15 36 44.1 +1.0**
baz=283,SNR=18
WTLY Watson Lake, Y 29.95 53 IAmb IAmb 15 36 47.4
comp=Z,128nm,1.0s
WTLY Watson Lake, Y 29.95 53 P **P 15 36 46.2 +1.6**
baz=279,SNR=73
TGTN Hyland Airport 30.02 50 P **P 15 36 46.7 +1.5**
baz=276,SNR=107
U35K Hyder 30.16 62 P **P 15 36 47.0 +0.7**
baz=285
ZEA Zeya 30.16 294 *e*P **P 15 36 45.1 -1.4**
ZEA *e*S **S 15 41 36.7 -8.2**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA pmax pmax
comp=E,100nm,2.8s
ZEA pmax pmax
comp=Z,110nm,2.3s
ZEA smax smax
comp=N,200nm,4.2s
ZEA smax smax
comp=E,300nm,13.4s
ZEA MLR MLR
comp=E,300nm,14.0s
ZEA MLR MLR
comp=Z,500nm,14.0s
USA0B Ussuriysk Arra 31.29 274 *i*P **P 15 36 55.3 -1.2**
USRK Ussuriysk Ar. 31.29 274 P **P 15 36 55.9 -0.5**
USRK Ussuriysk Ar. 31.29 274 P **P 15 36 56.1 -0.3**
comp=Z,15nm,0.7s,baz=56,slow=7.3,SNR=19
USRK PcP **PcP 15 39 50.8 +0.4**
comp=Z,5.1nm,0.8s,baz=11,slow=1.9,SNR=5.9
USRK LR LR 15 48 26.5
comp=Z,940nm,21.6s,baz=66,slow=34
comp=Z,15nm,0.7s
LIRD Liard River Hi 31.42 54 P **P 15 36 59.3 +1.8**
baz=282,SNR=24
A36M Sachs Harbour 31.44 30 IAmb IAmb 15 37 02.1
comp=Z,80nm,0.8s
A36M Sachs Harbour 31.44 30 P **P 15 36 58.9 +1.4**
baz=262,SNR=82
C36M Paulatuk 31.56 35 IAmb IAmb 15 37 01.6
comp=Z,76nm,1.0s
C36M Paulatuk 31.56 35 P **P 15 36 59.3 +0.7**
baz=267,SNR=86
VLA Vladivostok 31.92 272 *i*P **P 15 37 02.6 +0.6**
VLA pmax pmax
comp=Z,46nm,1.4s
TOAD Toad River Com 31.97 55 P **P 15 37 04.1 +1.6**
baz=283,SNR=64
MAJO Matsushiro 32.01 257 P **P 15 37 03.1 +0.2**
MAJO IAmb IAmb 15 37 07.8
comp=Z,65nm,1.2s
MAJO Matsushiro 32.01 257 P **P 15 37 04.3 +1.4**
comp=Z,51nm,1.5s
MAJO Matsushiro 32.01 257 *i*P **P 15 37 03.6 +0.7**
MAJO pmax pmax
comp=Z,65nm,1.2s
MJAR Matsushiro Arr 32.01 257 P **P 15 37 02.8 -0.1**
comp=Z,13nm,1.0s,baz=44,slow=6.8,SNR=21
MJAR LR LR 15 47 56.9
comp=Z,570nm,20.9s,baz=58,slow=32
comp=Z,13nm,1.0s
MJB9 Matsu-Tunnel 32.01 257 IAmb IAmb 15 37 08.8
comp=Z,64nm,1.2s
WRGLY Wrigley 32.04 47 P **P 15 37 04.4 +1.5**
baz=278,SNR=50
KOTAN Kotaneelee Air 32.28 53 P **P 15 37 07.0 +1.9**
baz=282,SNR=317
MDJ Mudanjiang 32.55 276 P **P 15 37 06.1 -1.4**
MDJ PcP **PcP 15 39 50.9 -2.9**
MDJ S **S 15 42 27.6 +5.3**
MDJ pmax pmax
comp=Z,7.0nm,0.7s
MDJ LR LR
comp=Z,1µm,17.3s
MDJ LR LR
comp=Z,680nm,18.6s
MDJ LR LR
comp=Z,1µm,24.0s
MDJ Mudanjiang 32.55 276 P **P 15 37 07.6 +0.1**
MSHR Mys Shultsa 32.66 272 *ce*P **P 15 37 10.5 +1.9**
MSHR pmax pmax
comp=Z,168nm,1.7s
JGF Kuroka 33.15 256 IAmb IAmb 15 37 18.0
comp=Z,139nm,1.5s
JGF Kuroka 33.15 256 P **P 15 37 14.6 +1.7**
comp=Z,66nm,1.3s
BNX BinXian 33.32 280 ⇓P **P 15 37 12.8 -1.5**
BNX pP **pP 15 37 16.1 -1.9**
BNX sP **sP 15 37 17.4 -2.5**
BNX PP **PP 15 38 28.9 -0.6**
BNX S **S 15 42 34.9 +0.7**
BNX sS **sS 15 42 39.8 -0.8**
BNX pmax pmax
comp=Z,76nm,0.7s
BNX pmax pmax
comp=Z,190nm,4.1s
BNX LR LR
comp=Z,2µm,21.7s
BNX LR LR
comp=Z,570nm,16.3s
BNX LR LR
comp=Z,2µm,20.6s
H11N2 WAKE ISLAND Hy 33.44 199 T T 16 12 14.3
baz=11,slow=76,SNR=889
H11N3 WAKE ISLAND Hy 33.45 199 T T 16 12 15.1
baz=11,slow=76,SNR=898
H11N1 WAKE ISLAND Hy 33.46 199 T T 16 12 15.7
baz=11,slow=76,SNR=1004
H11S1 WAKE ISLAND Hy 34.67 199 T T 16 13 59.5
baz=11,slow=76,SNR=209
H11S3 WAKE ISLAND Hy 34.69 199 T T 16 13 55.4
baz=11,slow=76,SNR=112
H11S2 WAKE ISLAND Hy 34.69 199 T T 16 13 50.8
baz=11,slow=76,SNR=110
CN2 Changchun 35.51 278 P **P 15 37 32.4 -0.9**
CN2 S **S 15 43 04.6 -3.5**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,1µm,21.0s
KIP Kipapa 35.77 140 P **P 15 37 37.0 +1.4**
KIP Kipapa 35.77 140 P **P 15 37 37.5 +1.9**
comp=Z,85nm,1.1s
KIP Kipapa 35.77 140 P **P 15 37 37.2 +1.6**
comp=Z,85nm,1.1s
KIP Kipapa 35.77 140 *ce*P **P 15 37 38.1 +2.5**
KIP pmax pmax
comp=Z,193nm,2.5s
BOD Bodaibo 35.99 305 *e*P **P 15 37 35.5 -1.7**
BOD pmax pmax
comp=Z,119nm,2.2s
YKA Yellowknife Ar 36.16 47 P **P 15 37 39.2 +0.5**
comp=Z,62nm,0.9s,baz=284,slow=8.4,SNR=314
YKA ScP **ScP 15 43 47.8 -1.8**
comp=Z,1.5nm,1.0s,baz=296,slow=3.5,SNR=5.0
YKA PKiKP **PKiKP 15 47 21.9 -0.9**
comp=Z,0.7nm,1.0s,baz=264,slow=0.6,SNR=4.7
YKA LR LR 15 54 08.7
comp=Z,1µm,18.8s,baz=283,slow=39
comp=Z,62nm,0.9s
YKA Yellowknife Ar 36.16 47 *i*P **P 15 37 39.5 +0.8**
YKA pmax pmax
comp=Z,62nm,0.9s
HIA Hailar 36.22 289 P **P 15 37 38.8 -0.5**
comp=Z,27nm,1.1s
JCJ Chichijima 36.65 241 LR LR 15 54 55.3
comp=Z,100nm,19.1s,baz=104,slow=40
NLWA Neilton Lookou 36.95 74 IAmb IAmb 15 37 47.5
comp=Z,79nm,1.1s
E03A Lebam 37.56 75 IAmb IAmb 15 37 52.3
comp=Z,124nm,1.0s
KSRS Korea Array 37.70 267 P **P 15 37 53.1 +1.2**
comp=Z,15nm,0.9s,baz=56,slow=8.2,SNR=35
KSRS PcP **PcP 15 40 09.7 +0.7**
comp=Z,4.4nm,0.9s,baz=62,slow=3.7,SNR=6.3
KSRS LR LR 15 53 44.7
comp=Z,376nm,18.9s,baz=55,slow=37
comp=Z,15nm,0.9s
KSAR Wonju Array Be 37.73 267 P **P 15 37 52.5 +0.2**
KSAR Wonju Array Be 37.73 267 P **P 15 37 52.5 +0.2**
F04D Rainier, OR 38.12 75 IAmb IAmb 15 37 56.9
comp=Z,79nm,0.8s
D05A Enumclaw 38.16 73 IAmb IAmb 15 37 57.7
comp=Z,142nm,1.1s
INCN Inchon 38.48 269 P **P 15 37 59.1 +0.6**
INCN Inchon 38.48 269 P **P 15 38 00.1 +1.5**
comp=Z,59nm,0.9s
INCN Inchon 38.48 269 P **P 15 37 59.2 +0.6**
INCN pmax pmax
comp=Z,85nm,1.2s
CIT Chita 38.49 296 *e*P **P 15 37 57.8 -0.8**
CIT *e* 15 39 24.8
CIT *e* 15 39 54.4
CIT *e* 15 40 07.6
CIT pmax pmax
comp=Z,157nm,2.3s
TJN Taejon 38.73 267 IAmb IAmb 15 38 04.9
comp=Z,180nm,1.0s
TJN Taejon 38.73 267 P **P 15 38 02.3 +1.6**
comp=Z,218nm,1.1s
JNU Nakatsue 38.75 260 LR LR 15 53 07.8
comp=Z,273nm,21.5s,baz=64,slow=35
JNU Nakatsue 38.75 260 P **P 15 38 02.7 +1.8**
comp=Z,72nm,1.0s
STCH Steam Cracks, 38.77 137 IAmb IAmb 15 38 03.5
comp=Z,143nm,1.2s
BUCK Buck Mountain 39.14 77 IAmb IAmb 15 38 06.4
comp=Z,259nm,1.7s
J01E Myrtle Point 39.14 79 IAmb IAmb 15 38 06.3
comp=Z,157nm,1.3s
KBO Bosley Butte 39.50 81 P **P 15 38 07.7 +0.5**
KBO IAmb IAmb 15 38 09.7
comp=Z,266nm,1.6s
RES Resolute Bay 39.91 24 LR LR 15 58 49.2
comp=Z,392nm,18.2s,baz=250,slow=42
L02F Cave Junction 39.95 81 P **P 15 38 12.0 +1.1**
HAWA Hanford 40.02 73 IAmb IAmb 15 38 12.3
comp=Z,98nm,1.0s
BBOR Butler Butte 40.05 79 IAmb IAmb 15 38 14.1
comp=Z,132nm,1.3s
J04A Umpqua Nationa 40.20 78 IAmb IAmb 15 38 15.0
comp=Z,247nm,1.4s
KRPM Rodgers 40.23 82 IAmb IAmb 15 38 15.8
comp=Z,450nm,1.9s
JCC Jacoby Creek, 40.43 83 IAmb IAmb 15 38 17.4
comp=Z,227nm,1.3s
NEW Newport 40.46 69 LR LR 15 55 56.5
comp=Z,483nm,18.5s,baz=294,slow=38
NEW Newport 40.46 69 P **P 15 38 14.5 -0.5**
NEW pmax pmax
comp=Z,92nm,1.2s
KHMM Horse Mountain 40.58 82 IAmb IAmb 15 38 18.9
comp=Z,197nm,1.3s
PINE Pine Mountain 40.59 77 IAmb IAmb 15 38 18.2
comp=Z,162nm,1.8s
KMPM Mount Pierce 40.61 83 IAmb IAmb 15 38 19.3
comp=Z,206nm,1.0s
L04D Klamath Falls 40.66 80 IAmb IAmb 15 38 18.8
comp=Z,172nm,1.1s
DL2 Dalian 40.68 274 P **P 15 38 18.6 +1.7**
DL2 S **S 15 44 26.5 +0.1**
DL2 pmax pmax
comp=Z,49nm,1.2s
DL2 pmax pmax
comp=Z,330nm,6.7s
DL2 LR LR
comp=Z,1µm,17.9s
DL2 LR LR
comp=Z,690nm,16.1s
DL2 LR LR
comp=Z,700nm,20.6s
YBH Yreka Blue Hor 40.70 80 IAmb IAmb 15 38 19.6
comp=Z,91nm,1.0s
YBH Yreka Blue Hor 40.70 80 LR LR 15 52 04.6
comp=Z,547nm,20.1s,baz=306,slow=32
J05D Fort Rock, OR 40.70 78 IAmb IAmb 15 38 19.3
comp=Z,158nm,1.4s
K04D Chiloquin, OR 40.76 79 IAmb IAmb 15 38 19.7
comp=Z,164nm,1.2s
KMRM Mail Ridge 40.98 83 IAmb IAmb 15 38 22.3
comp=Z,134nm,1.0s
XLT XiLinHaoTe 41.13 284 *e*P **P 15 38 20.8 +0.1**
XLT S **S 15 44 30.8 -2.4**
XLT pmax pmax
comp=Z,52nm,1.0s
XLT LR LR
comp=Z,140nm,15.6s
XLT LR LR
comp=Z,1µm,18.4s
XLT LR LR
comp=Z,2µm,19.6s
KCPM Cahto Peak 41.38 84 IAmb IAmb 15 38 25.2
comp=Z,207nm,1.3s
O02D Mt. Diablo Mer 41.57 82 IAmb IAmb 15 38 26.9
comp=Z,168nm,1.2s
HOPS Hopland Field 42.12 84 IAmb IAmb 15 38 30.8
comp=Z,222nm,1.1s
GDXM Geysers 42.40 84 IAmb IAmb 15 38 33.6
comp=Z,180nm,1.1s
WVOR Wild Horse Val 42.75 77 P **P 15 38 34.1 +0.1**
WVOR pmax pmax
comp=Z,57nm,1.8s
NRIK Noril'sk 42.81 329 P **P 15 38 34.3 +0.4**
comp=Z,32nm,1.0s,baz=76,slow=8.6,SNR=42
NRIK LR LR 15 58 57.9
comp=Z,620nm,18.1s,baz=58,slow=40
comp=Z,32nm,1.0s
NRIK Noril'sk 42.81 329 *i*P **P 15 38 33.6 -0.3**
NRIK pmax pmax
comp=Z,52nm,1.1s
BJI Beijing 43.33 279 P **P 15 38 38.5 0.0**
BJI S **S 15 45 04.8 -0.7**
BJI pmax pmax
comp=Z,13nm,1.9s
BJI pmax pmax
comp=Z,130nm,3.0s
BJI LR LR
comp=Z,400nm,18.0s
BJI LR LR
comp=Z,390nm,18.3s
BJI LR LR
comp=Z,580nm,23.2s
BLKN Baker Lake 43.34 39 P **P 15 38 38.1 -0.1**
BLKN IAmb IAmb 15 38 40.0
comp=Z,104nm,1.0s
BJT Baijiatuau 43.35 279 P **P 15 38 40.2 +1.6**
comp=Z,31nm,1.8s
IRK Irkutsk 43.41 301 *e*P **P 15 38 37.3 -1.8**
IRK pmax pmax
comp=Z,77nm,1.8s
PAHR Pah Rah Range 43.93 81 IAmb IAmb 15 38 45.1
comp=Z,154nm,1.1s
ULN Ulaanbaatar 44.20 294 P **P 15 38 45.7 +0.1**
ULN Ulaanbaatar 44.20 294 *i*P **P 15 38 45.3 -0.3**

ULN pmax pmax
comp=Z,34nm,0.9s
CMB Columbia Colle 44.36 83 IAmb IAmb 15 38 48.7
comp=Z,96nm,1.1s
SAO San Andreas Ge 44.52 85 IAmb IAmb 15 38 49.7
comp=Z,86nm,1.2s
SONM Songino Array 44.59 294 P **P** **15 38 48.9 +0.2**
SONM Songino Array 44.59 294 P **P** **15 38 49.3 +0.6**
comp=Z,21nm,0.6s,baz=60,slow=9.0,SNR=113
SONM ScP **ScP** **15 44 24.3 +1.3**
comp=Z,0.6nm,0.7s,baz=22,slow=3.4,SNR=3.6
SONM LR LR 15 58 17.7
comp=Z,724nm,19.4s,baz=57,slow=37
comp=Z,21nm,0.6s
WAKR Walker 44.65 82 IAmb IAmb 15 38 51.2
comp=Z,99nm,1.0s
EGMT Eagleton 44.77 65 IAmb IAmb 15 38 52.9
comp=Z,48nm,0.8s
JOW Kunigami 44.82 255 LR LR 15 56 20.8
comp=Z,260nm,20.2s,baz=118,slow=34
ZAK Zakamensk 44.92 299 *e*P **P** **15 38 50.5 -0.7**
ZAK *e* 15 40 32.3
ZAK pmax pmax
comp=Z,21nm,1.8s
ZAK pmax pmax
comp=Z,11nm,1.6s
BOZ Bozeman (W) 45.06 69 IAmb IAmb 15 38 52.7
comp=Z,60nm,0.8s
RYN Ryan 45.13 81 IAmb IAmb 15 38 54.6
comp=Z,82nm,0.9s
TIA Tai'an 45.15 274 P **P** **15 38 53.3 +0.1**
TIA S **S** **15 45 30.6 -1.6**
TIA pmax pmax
comp=Z,39nm,0.8s
TIA pmax pmax
comp=Z,230nm,3.5s
TIA LR LR
comp=Z,650nm,15.5s
TIA LR LR
comp=Z,430nm,22.2s
TIA LR LR
comp=Z,650nm,18.6s
PMPB Monarch Peak 45.27 85 IAmb IAmb 15 39 04.1
comp=Z,118nm,1.2s
FFC Flin Flon 45.30 53 P **P** **15 38 53.8 -0.3**
FFC Flin Flon 45.30 53 P **P** **15 38 53.8 -0.3**
FFC pmax pmax
comp=Z,32nm,1.1s
NVAR Mina Array Bea 45.38 81 P **P** **15 38 55.5 +0.3**
comp=Z,55nm,0.8s,baz=292,slow=8.1,SNR=258
NVAR ScP **ScP** **15 44 27.5 +1.0**
comp=Z,0.3nm,0.5s,baz=274,slow=4.4,SNR=2.4
NVAR LR LR 15 54 37.4
comp=Z,363nm,21.8s,baz=312,slow=32
comp=Z,55nm,0.8s
MOY Mondy 45.45 302 *e*P **P** **15 38 54.9 -0.5**
MOY pmax pmax
comp=Z,54nm,2.6s
NV11 Mina Array Sit 45.47 81 IAmb IAmb 15 38 57.4
comp=Z,72nm,1.1s
HHC Hu-ho-hao-te 45.63 283 *e*P **P** **15 38 55.8 -1.2**
HHC pP pP 15 39 00.8 -0.1
HHC S **S** **15 45 40.0 +0.8**
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,390nm,5.9s
HHC LR LR
comp=Z,1μm,16.0s
HHC LR LR
comp=Z,880nm,15.8s
HHC LR LR
comp=Z,1μm,19.9s
YHL Hebgen Lake 45.75 70 IAmb IAmb 15 38 58.5
comp=Z,92nm,1.0s
ILON Igloolik, Nuna 45.78 29 P **P** **15 38 58.1 +0.4**
ILON IAmb IAmb 15 39 00.3
comp=Z,52nm,1.0s
YHB Horse Butte 45.80 70 IAmb IAmb 15 38 58.8
comp=Z,94nm,0.9s
ELK Elko 45.81 77 P **P** **15 38 58.0 -0.6**
comp=Z,18nm,0.8s,baz=311,slow=8.1,SNR=55
comp=Z,18nm,0.8s
ELK Elko 45.81 77 P **P** **15 38 58.0 -0.6**
HNS HongShan 45.87 277 ⇑P **P** **15 39 00.1 +1.3**
HNS S **S** **15 45 45.0 +2.5**
HNS pmax pmax
comp=Z,49nm,1.8s
HNS LR LR
comp=Z,710nm,15.2s
HNS LR LR
comp=Z,1μm,15.7s
HNS LR LR
comp=Z,850nm,21.4s
YMR Madison River 45.98 70 IAmb IAmb 15 39 00.3
comp=Z,79nm,1.0s
SSE Sheshan 46.08 266 P **P** **15 38 59.5 -1.0**
SSE S **S** **15 45 45.3 -0.3**
SSE pmax pmax
comp=Z,23nm,0.9s
SSE pmax pmax
comp=Z,170nm,4.3s
SSE LR LR
comp=Z,200nm,19.2s
SSE LR LR
comp=Z,140nm,19.5s
YNM Yellowstone No 46.10 69 IAmb IAmb 15 39 02.3
comp=Z,59nm,1.2s
YFT Old Faithful 46.19 70 IAmb IAmb 15 39 02.9
comp=Z,50nm,0.8s
DSP Deep Springs 46.26 82 IAmb IAmb 15 39 04.0
comp=Z,111nm,1.1s
NOR Nord 46.33 3 P **P** **15 39 00.2 -1.7**
NOR pmax pmax
comp=Z,25nm,1.8s
NOR Nord 46.33 3 *i* P **P** **15 39 01.6 -0.3**
NOR IAmb IAmb 15 39 03.5
comp=Z,22nm,1.1s
H17A Grant Village 46.37 70 IAmb IAmb 15 39 04.7
comp=Z,79nm,1.1s
HVU Hansel Valley 46.65 74 IAmb IAmb 15 39 05.8
comp=Z,44nm,0.8s
TPAW Teton Pass 46.69 71 IAmb IAmb 15 39 06.6
comp=Z,98nm,1.9s
GUMO Guam 46.70 227 LR LR 15 56 31.1
comp=Z,230nm,20.4s,baz=39,slow=33
RLMT Red Lodge 46.70 68 IAmb IAmb 15 39 06.2
comp=Z,93nm,1.1s
BTO Baotou 46.70 284 *e*P **P** **15 39 06.8 +1.3**
BTO pP **sP** **15 39 10.9 -0.3**
BTO sP **pP** **15 39 13.9 +4.6**
BTO PP **PP** **15 40 49.4 -5.7**
BTO S **S** **15 45 58.1 +3.5**
BTO pmax pmax
comp=Z,150nm,0.9s
BTO pmax pmax
comp=Z,270nm,5.3s
BTO LR LR
comp=Z,1μm,14.4s
BTO LR LR
comp=Z,2μm,17.8s
BTO LR LR
comp=Z,3μm,20.1s
NJ2 Nanjing 46.86 269 *e*P **P** **15 39 07.5 +0.9**
NJ2 S **S** **15 45 57.1 +0.4**
NJ2 pmax pmax
comp=Z,27nm,0.9s
NJ2 LR LR
comp=Z,570nm,15.8s
NJ2 LR LR
comp=Z,450nm,10.8s
NJ2 LR LR
comp=Z,760nm,16.5s
GRAC Grapevine Rang 46.87 82 IAmb IAmb 15 39 08.6
comp=Z,119nm,1.3s
AHID Auburn Hatcher 47.04 72 IAmb IAmb 15 39 08.7
comp=Z,46nm,1.1s
ISA Isabella, Lake 47.06 84 IAmb IAmb 15 39 09.0
comp=Z,77nm,1.2s
TIY Taiyuan 47.06 279 P **P** **15 39 09.8 +1.5**
TIY S **S** **15 45 53.6 -6.1**
TIY pmax pmax
comp=Z,33nm,1.0s
TIY LR LR
comp=Z,740nm,17.9s
TIY LR LR
comp=Z,480nm,17.2s
TIY LR LR
comp=Z,600nm,23.4s
R11B Troy Canyon, C 47.09 80 IAmb IAmb 15 39 09.6
comp=Z,71nm,1.1s
NEEM North Greenlan 47.20 13 *i* P **P** **15 39 09.0 -0.1**
NEEM IAmb IAmb 15 39 11.3
comp=Z,75nm,0.9s
WCT Wildcat Mounta 47.45 82 IAmb IAmb 15 39 12.6
comp=Z,51nm,1.1s
LAO LASA Array 47.50 65 IAmb IAmb 15 39 12.3
comp=Z,68nm,1.1s
DGMT Dagmar 47.58 62 IAmb IAmb 15 39 12.4
comp=Z,51nm,1.1s
DUG Dugway, Tooele 47.60 76 IAmb IAmb 15 39 13.5
comp=Z,75nm,1.1s
DUG Dugway, Tooele 47.60 76 P **P** **15 39 12.4 -0.1**
DUG pmax pmax
comp=Z,83nm,1.2s
GWY Greenwater Val 47.82 83 IAmb IAmb 15 39 15.4
comp=Z,84nm,0.9s
PD31 Pinedale Array 47.94 71 IAmb IAmb 15 39 15.4
comp=Z,62nm,0.9s
PDAR Pinedale Array 47.94 71 P **P** **15 39 14.1 -1.1**
comp=Z,38nm,0.8s,baz=304,slow=4.0,SNR=280
comp=Z,38nm,0.8s
PSUT Pine Spring 48.02 78 IAmb IAmb 15 39 16.2
comp=Z,29nm,0.8s
PASC Pasadena Art C 48.22 86 IAmb IAmb 15 39 18.4
comp=Z,126nm,1.2s
KULLO Kullorsuaq 48.39 17 *i* P **P** **15 39 18.3 +0.3**
KULLO IAmb IAmb 15 39 19.9
comp=Z,86nm,1.3s
BSUT Blindstream Ca 48.61 74 IAmb IAmb 15 39 28.9
comp=Z,44nm,1.0s
KBS Kingsbay 48.99 356 *i* P **P** **15 39 23.3 +0.7**
LYN LuoYang 49.11 276 ⇑P **P** **15 39 25.1 +1.1**
LYN sP sP 15 39 31.9 +2.1
LYN S **S** **15 46 27.8 -0.8**
LYN sS sS 15 46 37.5 +2.2
LYN pmax pmax
comp=Z,48nm,0.9s
LYN pmax pmax
comp=Z,270nm,5.3s
LYN LR LR
comp=Z,560nm,19.6s
LYN LR LR
comp=Z,790nm,19.2s
LYN LR LR
comp=Z,770nm,17.5s
TMUT Trail Mountain 49.13 76 IAmb IAmb 15 39 25.4
comp=Z,67nm,0.9s
V12A Nelson 49.23 82 IAmb IAmb 15 39 26.4
comp=Z,66nm,1.3s
LCMT Little Creek M 49.37 79 IAmb IAmb 15 39 27.6
comp=Z,75nm,1.1s
SPA0 Spitsbergen Ar 49.53 355 *e*P **P** **15 39 27.4 +0.6**
SPITS Spitsbergen Ar 49.53 355 P **P** **15 39 26.4 -0.3**
comp=Z,41nm,0.7s,baz=47,slow=6.1,SNR=55
SPITS LR LR 16 02 21.7
comp=Z,323nm,18.1s,baz=347,slow=38
comp=Z,41nm,0.7s
SPITS Spitsbergen Ar 49.53 355 P **P** **15 39 26.7 0.0**
SPITS pmax pmax
comp=Z,237nm,1.4s
KNB Kanab 49.62 79 IAmb IAmb 15 39 29.7
comp=Z,120nm,1.5s
SRU San Rafael Swe 49.65 75 IAmb IAmb 15 39 29.2
comp=Z,62nm,1.0s
PFO Pinyon Flats O 49.66 85 P **P** **15 39 27.5 -0.9**
PFO Pinyon Flats O 49.66 85 P **P** **15 39 28.1 -0.3**
comp=Z,22nm,0.9s,baz=321,slow=7.3,SNR=24
PFO LR LR 15 56 04.6
comp=Z,781nm,21.9s,baz=284,slow=31
comp=Z,22nm,0.9s
UPNV Upernavik 49.94 18 *i* P **P** **15 39 30.0 +0.2**
UPNV IAmb IAmb 15 39 32.2
comp=Z,97nm,1.0s
W13A Hualapai Mount 50.24 82 IAmb IAmb 15 39 33.8
comp=Z,45nm,0.9s
TKX Tecate 50.28 86 IAmb IAmb 15 39 34.1
comp=Z,82nm,1.2s
HMU Henry Mountain 50.28 77 IAmb IAmb 15 39 34.0
comp=Z,80nm,0.8s
U15A North Rim 50.33 79 IAmb IAmb 15 39 35.0
comp=Z,80nm,1.0s
O20A White River Ci 50.35 73 IAmb IAmb 15 39 33.8
comp=Z,62nm,0.9s
YUH Yuha Desert 50.64 85 IAmb IAmb 15 39 36.7
comp=Z,71nm,1.4s
WHN Wuhan 50.68 271 ⇑P **P** **15 39 38.4 +2.4**
WHN S **S** **15 46 53.0 +2.4**
WHN LR LR
comp=Z,2μm,15.1s
WHN LR LR
comp=Z,560nm,11.7s
WHN LR LR
comp=Z,2μm,19.2s
CCX Cicese 50.72 87 IAmb IAmb 15 39 37.5
comp=Z,157nm,1.3s
BLYC Blythe 50.76 83 IAmb IAmb 15 39 37.5
comp=Z,92nm,1.0s
ULM Lac du Bonnet 50.91 56 IAmb IAmb 15 39 38.0
comp=Z,43nm,0.8s
ULM Lac du Bonnet 50.91 56 P **P** **15 39 36.7 -0.8**
comp=Z,46nm,0.8s,baz=305,slow=7.7,SNR=56
ULM LR LR 16 02 03.9
comp=Z,790nm,19.9s,baz=308,slow=37
comp=Z,46nm,0.8s
ULM Lac du Bonnet 50.91 56 *i* P **P** **15 39 36.6 -0.9**
PV23 Carpenter Ridg 50.98 75 IAmb IAmb 15 39 44.5
comp=Z,71nm,0.8s
PV10 Paradox Valley 51.01 75 IAmb IAmb 15 39 39.4
comp=Z,121nm,0.9s
GLA Glamis 51.04 84 IAmb IAmb 15 39 39.8
comp=Z,106nm,0.9s
ESJX Sierra Juarez 51.07 86 IAmb IAmb 15 39 40.5
comp=Z,176nm,1.5s
PV11 David Mesa, Pa 51.16 75 IAmb IAmb 15 39 40.1
comp=Z,91nm,1.0s
CPBX Cerro Prieto 51.18 85 IAmb IAmb 15 40 01.3
comp=Z,193nm,1.5s
PV15 Paradox Valley 51.37 75 IAmb IAmb 15 39 43.7
comp=Z,61nm,1.0s
NUUG Nuugaatsiaq 51.48 19 *i* P **P** **15 39 41.2 -0.3**
NUUG IAmb IAmb 15 39 43.0
comp=Z,64nm,1.2s
WUAZ Wupatki 51.49 79 IAmb IAmb 15 39 43.6
comp=Z,84nm,1.2s
SSLB Suanglung 51.50 259 P **P** **15 39 44.0 +1.7**
comp=Z,24nm,1.3s
YULB Yu-li 51.58 259 P **P** **15 39 44.4 +1.5**
comp=Z,40nm,1.1s
VTX Valle De La Tr 51.59 86 IAmb IAmb 15 39 44.2
comp=Z,102nm,1.4s
XAN Xi'an 51.62 278 P **P** **15 39 42.5 -0.6**
XAN S **S** **15 47 03.3 -0.4**
XAN pmax pmax
comp=Z,18nm,1.0s
XAN pmax pmax
comp=Z,380nm,4.3s
XAN LR LR
comp=Z,980nm,18.4s
XAN LR LR
comp=Z,1μm,17.5s
XAN LR LR
comp=Z,2μm,20.8s
TPUB Ta-pu 52.06 259 P **P** **15 39 46.0 -0.4**
TPUB IAmb IAmb 15 39 49.7
comp=Z,84nm,1.2s
TPUB Ta-pu 52.06 259 P **P** **15 39 47.8 +1.4**
comp=Z,54nm,1.2s
QZH Quanzhou 52.08 262 *e*P **P** **15 39 48.3 +1.8**
QZH S **S** **15 47 13.5 +3.5**
QZH LR LR
comp=Z,600nm,17.2s
QZH LR LR
comp=Z,340nm,14.8s
ISCO Idaho Springs 52.11 72 P **P** **15 39 46.7 -0.3**
ISCO pmax pmax
comp=Z,32nm,1.5s
ZALV Zalesovo Beam 52.12 312 P **P** **15 39 45.2 -1.3**
ZALV Zalesovo Beam 52.12 312 P **P** **15 39 45.9 -0.6**
comp=Z,7.3nm,0.6s,baz=48,slow=6.5,SNR=24
ZALV PcP **PcP** **15 40 58.8 +0.6**
comp=Z,9.7nm,0.8s,baz=28,slow=3.0,SNR=7.7
ZALV ScP **ScP** **15 44 57.4 +2.8**
comp=Z,0.4nm,0.5s,baz=69,slow=7.9,SNR=1.9
ZALV LR LR 16 02 45.1
comp=Z,408nm,21.4s,baz=48,slow=37
comp=Z,7.3nm,0.6s
ZALV Zalesovo Beam 52.12 312 *i* P **P** **15 39 45.9 -0.6**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
AGMN Agassiz Nation 52.13 58 IAmb IAmb 15 39 47.3
comp=Z,68nm,0.9s
X16A Lo Mia Camp, P 52.19 81 IAmb IAmb 15 39 49.0
comp=Z,53nm,1.0s
EPLO Experimental L 52.36 55 IAmb IAmb 15 39 49.2
comp=Z,61nm,0.7s
SFX San Felipe 52.41 86 IAmb IAmb 15 39 49.8
comp=Z,84nm,1.3s
SUSD Miller 52.91 63 IAmb IAmb 15 39 52.2
comp=Z,101nm,1.0s
SUMG Summit 53.07 13 P **P** **15 39 54.6 +0.8**
SUMG pmax pmax
comp=Z,120nm,1.9s
SUMG Summit 53.07 13 *i* P **P** **15 39 53.6 -0.2**
SUMG IAmb IAmb 15 39 56.2
comp=Z,138nm,1.1s
DBG Daneborg 53.30 6 *i* P **P** **15 39 54.5 -0.4**
DBG IAmb IAmb 15 39 55.8
comp=Z,75nm,1.2s
LZH Lanzhou 53.32 284 *e*P **P** **15 39 56.9 +1.1**
LZH pP sP 15 40 06.3 +4.7
LZH S **S** **15 47 27.3 +0.2**
LZH pmax pmax
comp=Z,62nm,1.5s
LZH pmax pmax
comp=Z,440nm,4.8s
LZH LR LR
comp=Z,1μm,17.5s
LZH LR LR
comp=Z,1μm,15.5s
LZH LR LR
comp=Z,2μm,17.9s
FRB Frobisher Bay 53.43 31 LR LR 16 05 41.9
comp=Z,1μm,18.6s,baz=316,slow=39
OGNE Ogallala 53.44 68 IAmb IAmb 15 39 57.2
comp=Z,58nm,1.0s
GTA Gaotai 53.50 289 P **P** **15 39 57.3 +0.3**
GTA S **S** **15 47 29.0 -0.4**
GTA SS **SS** **15 51 09.4 +0.3**
GTA pmax pmax
comp=Z,55nm,0.9s
GTA pmax pmax
comp=Z,290nm,4.0s
GTA LR LR
comp=Z,670nm,21.5s
GTA LR LR
comp=Z,550nm,20.7s
GTA LR LR
comp=Z,950nm,19.9s
SDCO Great Sand Dun 53.53 73 IAmb IAmb 15 39 58.4
comp=Z,51nm,1.1s
ILULI Ilulissat 53.78 20 *i* P **P** **15 39 58.8 +0.3**
ILULI IAmb IAmb 15 39 59.7
comp=Z,80nm,1.0s
ENH Enshi 53.87 274 P **P** **15 39 59.8 0.0**
TUC Tucson 54.03 82 P **P** **15 40 00.6 -0.4**
TUC IAmb IAmb 15 40 02.1
comp=Z,57nm,1.0s
TUC Tucson 54.03 82 P **P** **15 40 00.6 -0.4**
TUC pmax pmax
comp=Z,57nm,1.0s
KSCO Kaye Shedlock' 54.37 70 IAmb IAmb 15 40 04.3
comp=Z,96nm,1.0s
T25A Trinidad 54.58 73 IAmb IAmb 15 40 06.6
comp=Z,101nm,1.0s
EYMN Ely 54.60 56 IAmb IAmb 15 40 05.8
comp=Z,88nm,0.8s
ANMO Albuquerque 54.84 77 P **P** **15 40 06.2 -0.8**
ANMO Albuquerque 54.84 77 P **P** **15 40 06.3 -0.8**
comp=Z,14nm,0.9s,baz=118,slow=8.7,SNR=44
ANMO PcP **PcP** **15 41 09.3 +0.2**
comp=Z,4.5nm,0.9s,baz=78,slow=3.3,SNR=4.1
ANMO LR LR 16 00 59.8
comp=Z,221nm,20.0s,baz=118,slow=33
comp=Z,14nm,0.9s
ANMO Albuquerque 54.84 77 *i* P **P** **15 40 05.9 -1.1**
ANMO pmax pmax
comp=Z,13nm,1.0s
DUN6 Lazy B Ranch 54.89 81 IAmb IAmb 15 40 08.5
comp=Z,128nm,1.2s
Y22D IRIS PASSCAL I 55.16 78 IAmb IAmb 15 40 10.9
comp=Z,72nm,1.0s
Y22D IRIS PASSCAL I 55.16 78 P **P** **15 40 09.8 +0.5**
baz=314
TBO Thunder Bay 55.19 54 IAmb IAmb 15 40 10.3
comp=Z,50nm,0.8s
BGNE Belgrade 55.34 65 IAmb IAmb 15 40 10.3
comp=Z,80nm,1.0s
319A Douglas 55.59 82 IAmb IAmb 15 40 13.5
comp=Z,99nm,1.1s
SFJD Kangerlussuaq 55.71 21 P **P** **15 40 12.8 +0.4**
SFJD IAmb IAmb 15 40 14.1
comp=Z,141nm,1.4s
SFJD Kangerlussuaq 55.71 21 LR LR 16 07 40.6
comp=Z,139nm,19.2s,baz=340,slow=40
SFJD Kangerlussuaq 55.71 21 P **P** **15 40 12.9 +0.4**
SFJD pmax pmax
comp=Z,141nm,1.4s
SFJD Kangerlussuaq 55.71 21 *i* P **P** **15 40 12.3 -0.2**
SFJD IAmb IAmb 15 40 13.8
comp=Z,144nm,1.4s
SPMN Marine on St. 55.72 59 IAmb IAmb 15 40 13.3
comp=Z,66nm,1.1s
L34A Svendsen Farm, 55.95 64 IAmb IAmb 15 40 16.2
comp=Z,83nm,0.8s
ICESG Greenland Ices 56.01 15 *i* P **P** **15 40 14.7 -0.4**
ICESG IAmb IAmb 15 40 16.1
comp=Z,95nm,1.1s
VADS Vadso 56.02 348 *e*P **P** **15 40 14.8 +0.1**
RTBA Rita Blanca 56.04 73 IAmb IAmb 15 40 15.8
comp=Z,73nm,1.0s
HSIG 56.23 85 IAmb IAmb 15 40 17.7
comp=Z,100nm,1.2s
ZSN Zaisan 56.33 305 *e*P **P** **15 40 17.3 0.0**
ZSN *e*S **S** **15 48 07.1 +0.2**
ZSN pmax pmax
comp=Z,66nm,1.7s
ZSN Zaisan 56.33 305 *e*P **P** **15 40 17.4 +0.1**
comp=Z,66nm,1.7s
ZSN *e*S **S** **15 48 07.1 +0.2**
SZP Santa 56.55 255 P **P** **15 40 20.5 +1.4**
comp=Z,157nm,1.6s
SRIG Santa Rosalia 56.65 87 IAmb IAmb 15 40 20.5
comp=Z,68nm,1.0s
SCO Scoresbysund 56.90 8 IAmb IAmb 15 40 23.1
comp=Z,80nm,1.1s
SCO Scoresbysund 56.90 8 *i* P **P** **15 40 20.8 -0.1**
SCO IAmb IAmb 15 40 22.9
comp=Z,80nm,1.1s
CD2 Chengdu 56.93 279 P **P** **15 40 22.3 +0.5**
CD2 S **S** **15 48 13.6 -1.8**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 LR LR
comp=Z,560nm,22.9s
CD2 LR LR
comp=Z,660nm,24.6s
EPT El Paso 57.01 79 IAmb IAmb 15 40 23.3
comp=Z,99nm,0.9s
R32A Long Quarter, 57.03 68 IAmb IAmb 15 40 22.2
comp=Z,75nm,0.9s
COWI Conover 57.03 56 IAmb IAmb 15 40 23.1
comp=Z,50nm,0.8s
G40A Rib Lake 57.05 57 IAmb IAmb 15 40 22.8
comp=Z,59nm,1.0s
ARA0 ARCESS Array S 57.05 349 *e*P **P** **15 40 21.8 -0.2**
ARCES ARCESS Array B 57.05 349 P **P** **15 40 21.7 -0.3**
comp=Z,34nm,0.9s,baz=2.8,slow=7.4,SNR=18
comp=Z,34nm,0.9s
KURK Kurchatov 57.11 312 *i* P **P** **15 40 22.6 -0.2**
KURK pmax pmax
comp=Z,160nm,1.3s
KURK MLR MLR
comp=Z,693nm,20.0s
KURBB Kurchatov Arra 57.22 312 P **P** **15 40 23.8 +0.3**
comp=Z,58nm,0.7s,baz=42,slow=6.7,SNR=229
KURBB S **S** **15 48 18.9 +0.3**
comp=Z,0.5nm,0.6s,baz=54,slow=14,SNR=9.5
KURBB LR LR 16 05 34.9
comp=Z,648nm,20.1s,baz=168,slow=37
comp=Z,58nm,0.7s

LVZ	Lovozero	57.27	344	P	P	15 40 23.3 -0.3
LVZ	Lovozero	57.27	344	*i* P	P	15 40 22.4 -1.2
LVZ				pmax	pmax	
comp=Z,149nm,1.0s						
LVZ	Lovozero	57.27	344	P	P	15 40 24.1 +0.5
comp=Z,159nm,1.0s						
WMQ	Urumqi	57.32	301	*e*P	P	15 40 25.3 +0.9
WMQ				pP	sP	15 40 31.3 +1.4
WMQ				pmax	pmax	
comp=Z,44nm,0.7s						
WMQ				LR	LR	
comp=Z,1μm,18.1s						
WMQ				LR	LR	
comp=Z,700nm,16.7s						
WMQ				LR	LR	
comp=Z,810nm,24.0s						
JETT	Jettan, Norway	57.58	351	*e*P	P	15 40 26.4 +0.5
TRO	Tromso	57.65	352	*e*P	P	15 40 26.6 +0.4
MSTX	Muleshoe	57.72	75	IAmb	IAmb	15 40 27.9
comp=Z,170nm,1.7s						
KSU1	Kansas State U	57.77	66	IAmb	IAmb	15 40 27.1
comp=Z,86nm,0.9s						
APA	Apatity	57.77	345	‖ *i* P	P	15 40 23.9 -3.2
APA				pmax	pmax	
comp=Z,26nm,1.1s						
I40A	Norwalk	57.77	59	IAmb	IAmb	15 40 27.8
comp=Z,64nm,1.0s						
F42A	Maple Grove Fa	57.78	56	IAmb	IAmb	15 40 28.4
comp=Z,78nm,1.0s						
NUUK	Nuuk	57.80	23	*i* P	P	15 40 27.7 +0.4
NUUK				IAmb	IAmb	15 40 28.9
comp=Z,153nm,1.3s						
KTK1	Kautokeino	57.81	350	*e*P	P	15 40 27.8 +0.4
MK31	Makanchi Array	58.06	306	*i* P	P	15 40 28.2 -1.4
MKAR	Makanchi Array	58.06	306	P	P	15 40 28.6 -0.9
MKAR	Makanchi Array	58.06	306	P	P	15 40 28.9 -0.7
comp=Z,19nm,0.7s,baz=48,slow=6.6,SNR=240						
MKAR				LR	LR	16 06 40.9
comp=Z,246nm,18.5s,baz=27,slow=37						
comp=Z,19nm,0.7s						
NOKA	Waynoka	58.13	70	IAmb	IAmb	15 40 30.1
comp=Z,44nm,0.7s						
MAKZ	Makanchi	58.21	307	P	P	15 40 29.5 -1.0
MAKZ	Makanchi	58.21	307	P	P	15 40 30.4 -0.2
KAN12	Harper NE Stat	58.21	69	IAmb	IAmb	15 40 30.2
comp=Z,46nm,0.9s						
ELIS	Ellis County	58.24	71	IAmb	IAmb	15 40 31.3
comp=Z,65nm,1.1s						
KAN08	Anthony NE Sta	58.28	69	IAmb	IAmb	15 40 30.6
comp=Z,46nm,0.9s						
GYA	Guiyang	58.32	273	P	P	15 40 31.3 -0.5
GYA				S	S	15 48 31.6 -2.3
GYA				pmax	pmax	
comp=Z,15nm,1.2s						
GYA				pmax	pmax	
comp=Z,270nm,3.7s						
GYA				LR	LR	
comp=Z,320nm,19.6s						
GYA				LR	LR	
comp=Z,300nm,17.8s						
GYA				LR	LR	
comp=Z,610nm,17.4s						
OK038	West end E0370	58.35	70	IAmb	IAmb	15 40 31.7
comp=Z,62nm,0.9s						
KAN05	Bluff City Nor	58.42	69	IAmb	IAmb	15 40 31.7
comp=Z,48nm,0.9s						
OK032	Salt Plains WL	58.43	69	IAmb	IAmb	15 40 32.0
comp=Z,56nm,1.1s						
KAN01	Argonia South	58.45	69	IAmb	IAmb	15 40 32.0
comp=Z,98nm,1.0s						
GOMU	GeErMu	58.58	290	P	P	15 40 33.0 -0.7
GOMU				pP	pP	15 40 36.9 -0.8
GOMU				sP	sP	15 40 40.4 +0.9
GOMU				S	S	15 48 27.3 -10
GOMU				pmax	pmax	
comp=Z,20nm,0.8s						
GOMU				LR	LR	
comp=Z,1μm,16.8s						
GOMU				LR	LR	
comp=Z,840nm,16.3s						
GOMU				LR	LR	
comp=Z,750nm,16.4s						
VHRN	Van Horn	58.62	79	IAmb	IAmb	15 40 34.8
comp=Z,43nm,0.9s						
JFWS	Jewell Farm	58.64	59	IAmb	IAmb	15 40 33.3
comp=Z,82nm,0.9s						
L40A	Anamosa	58.70	61	IAmb	IAmb	15 40 33.7
comp=Z,82nm,0.8s						
DKNS	Dickens	59.03	74	IAmb	IAmb	15 40 37.0
comp=Z,56nm,0.9s						
BVAR	Borovoye Array	59.08	318	P	P	15 40 36.5 0.0
comp=Z,58nm,0.6s,baz=49,slow=7.1,SNR=334						
BVAR				PcP	PcP	15 41 25.4 +0.3
comp=Z,10.0nm,0.7s,baz=43,slow=4.0,SNR=3.7						
BVAR				LR	LR	16 07 41.0
comp=Z,1μm,21.7s,baz=45,slow=38						
comp=Z,58nm,0.6s						
BRVK	Borovoye	59.10	318	P	P	15 40 36.7 0.0
BRVK				IAmb	IAmb	15 40 38.2
comp=Z,44nm,0.7s						
BRVK	Borovoye	59.10	318	*i* P	P	15 40 36.7 0.0
BRVK				pmax	pmax	
comp=Z,45nm,0.7s						
BRVK				MLR	MLR	
comp=Z,1μm,21.0s						
ODSA	Odessa	59.15	76	IAmb	IAmb	15 40 37.5
comp=Z,40nm,0.8s						
ISOG	Isortoq, Green	59.31	17	*i* P	P	15 40 37.0 -0.8
ISOG				IAmb	IAmb	15 40 38.3
comp=Z,170nm,1.1s						
T35A	Sooner Cattle	59.33	68	IAmb	IAmb	15 40 38.0
comp=Z,54nm,1.0s						
OK048	Pawnee Station	59.43	69	IAmb	IAmb	15 40 38.9
comp=Z,61nm,1.0s						
OK051	E0350 and S346	59.43	69	IAmb	IAmb	15 40 38.8
comp=Z,57nm,1.0s						
SN07	Snyder 07	59.45	74	IAmb	IAmb	15 40 39.2
comp=Z,28nm,0.8s						
WMOK	Wichita Mounta	59.54	72	IAmb	IAmb	15 40 40.5
comp=Z,41nm,0.9s						
WMOK	Wichita Mounta	59.54	72	P	P	15 40 38.5 -1.5
LOF	Lofoten	59.56	353	*e*P	P	15 40 39.4 -0.2
MNHN	Monahans	59.57	77	IAmb	IAmb	15 40 40.5
comp=Z,67nm,0.8s						
L42A	Oliver, Polo	59.58	60	IAmb	IAmb	15 40 39.6
comp=Z,68nm,0.9s						
SN05	Snyder 5	59.61	75	IAmb	IAmb	15 40 40.6
comp=Z,35nm,0.9s						
STEI	Steigen	59.63	353	*e*P	P	15 40 40.2 +0.2
QUOK	Quay	59.74	69	IAmb	IAmb	15 40 41.0
comp=Z,50nm,0.9s						
APMT	Aspermont	59.75	74	IAmb	IAmb	15 40 41.8
comp=Z,103nm,1.1s						
OK052	Battle Ridge R	59.81	69	IAmb	IAmb	15 40 41.7
comp=Z,84nm,1.0s						
MANU	Manus Island	59.84	216	P	P	15 40 42.1 0.0
MANU				IAmb	IAmb	15 40 43.8
comp=Z,96nm,1.5s						
SVE	Sverdlovsk	59.94	326	*de*P	P	15 40 43.7 +1.4
SVE				*e*S	S	15 48 57.2 +3.5
SVE				pmax	pmax	
comp=Z,81nm,1.2s						
SVE				MLR	MLR	
comp=Z,785nm,22.0s						
FAUS	Fauske	60.16	352	*e*P	P	15 40 44.1 +0.4
LPIG	La Paz	60.18	88	P	P	15 40 43.9 -0.6
comp=Z,166nm,1.0s,baz=318,slow=1.2,SNR=20						
LPIG				LR	LR	16 02 09.5
comp=Z,345nm,21.2s,baz=290,slow=32						
comp=Z,166nm,1.0s						
X34A	Smith Ranch, M	60.19	71	IAmb	IAmb	15 40 45.5
comp=Z,64nm,1.1s						
BRZS	Berezniki	60.32	314	*e*P	P	15 40 45.2 +0.1
BRZS				*e*S	S	15 48 59.1 +0.2
BRZS	Berezniki	60.32	314	*e*P	P	15 40 45.2 +0.1
BRZS				*e*S	S	15 48 59.1 +0.2
WTFS	Witchita Falls	60.41	72	IAmb	IAmb	15 40 46.2
comp=Z,51nm,0.9s						
TUL3	Leonard	60.45	69	IAmb	IAmb	15 40 46.1
comp=Z,81nm,0.9s						
TX31	Lajitas Ar. Si	60.46	79	IAmb	IAmb	15 40 47.1
comp=Z,59nm,1.0s						
TXAR	Lajitas Array	60.46	79	P	P	15 40 45.9 -0.6
comp=Z,32nm,0.8s,baz=298,slow=4.8,SNR=340						
TXAR				LR	LR	16 04 02.2
comp=Z,226nm,20.6s,baz=312,slow=33						
TXAR				PKP2bc		16 10 16.7
comp=Z,0.5nm,0.9s,baz=116,slow=2.9,SNR=3.9						
comp=Z,32nm,0.8s						
SLBS	Sierra La Lagu	60.71	88	P	P	15 40 48.1 -0.1
R40A	Maddies Statio	60.77	64	IAmb	IAmb	15 40 47.2
comp=Z,44nm,0.9s						
HDIL	Hopedale	60.80	61	IAmb	IAmb	15 40 49.8
comp=Z,67nm,0.8s						
OZNA	Ozona	60.85	76	IAmb	IAmb	15 40 49.2
comp=Z,40nm,1.0s						
U38A	Gravette	60.88	67	IAmb	IAmb	15 40 48.3
comp=Z,48nm,0.9s						
HPIG		60.97	83	IAmb	IAmb	15 40 50.9
comp=Z,53nm,1.0s						
ARTI	Arti	61.06	326	P	P	15 40 50.2 +0.2
ARTI	Arti	61.06	326	LR	LR	16 10 12.4
comp=Z,566nm,19.8s,baz=41,slow=39						
ARTI	Arti	61.06	326	*d* *i* P	P	15 40 50.5 +0.5
ARTI						15 41 32.1
ARTI				S	S	15 49 12.3 +4.2
ARTI						15 50 36.3
ARTI				SS	SS	15 53 07.3 +0.5
ARTI				pmax	pmax	
comp=Z,102nm,1.0s						
ARTI				MLR	MLR	
comp=Z,543nm,19.0s						
FW03	Perrin-Whitt E	61.16	72	IAmb	IAmb	15 40 51.4
comp=Z,58nm,1.1s						
PLPT	Palo Pinto	61.18	73	IAmb	IAmb	15 40 51.6
comp=Z,73nm,0.9s						
KONS	Konsvik	61.20	353	*e*P	P	15 40 51.1 +0.4
HHAR	Hobbs	61.25	67	IAmb	IAmb	15 40 50.7
comp=Z,39nm,0.8s						
VLDQ	Val d'Or	61.28	48	IAmb	IAmb	15 40 50.4
comp=Z,40nm,0.8s						
PZH	PanZhiHua	61.31	277	P	P	15 40 52.8 +0.4
PZH				S	S	15 49 11.3 -1.1
PZH				pmax	pmax	
comp=Z,40nm,1.6s						
PZH				pmax	pmax	
comp=Z,250nm,4.1s						
PZH				LR	LR	
comp=Z,340nm,23.9s						
PZH				LR	LR	
comp=Z,440nm,20.8s						
PZH				LR	LR	
comp=Z,360nm,19.8s						
L46A	Eue Claire	61.35	58	IAmb	IAmb	15 40 52.3
comp=Z,50nm,0.7s						
STOK	Stokkvaagen	61.37	353	*e*P	P	15 40 52.4 +0.4
MOR8	Moi Rana	61.42	353	*e*P	P	15 40 51.6 -0.8
CCM	Cathedral Cave	61.50	64	P	P	15 40 50.9 -2.4
CCM				IAmb	IAmb	15 40 52.4
comp=Z,137nm,1.9s						
CCM	Cathedral Cave	61.50	64	P	P	15 40 50.9 -2.4
CCM				pmax	pmax	
comp=Z,137nm,1.9s						
MGMO	Mountain Grove	61.57	65	IAmb	IAmb	15 40 52.6
comp=Z,47nm,1.0s						
LEIR	Leirfjorden	61.58	353	*e*P	P	15 40 53.8 +0.4
KMI	Kunming	61.71	275	P	P	15 40 56.0 +0.8
KMI				S	S	15 49 16.9 -0.7
KMI				pmax	pmax	
comp=Z,16nm,1.3s						
KMI				LR	LR	
comp=Z,320nm,19.7s						
KMI				LR	LR	
comp=Z,440nm,19.2s						
KMI				LR	LR	
comp=Z,430nm,19.5s						
QIZ	Qiongzhong	61.86	265	P	P	15 40 54.3 -1.6
QIZ				S	S	15 49 19.5 +0.3
QIZ				SS	SS	15 53 24.1 +3.1
QIZ				pmax	pmax	
comp=Z,30nm,1.7s						
QIZ				LR	LR	
comp=Z,260nm,15.1s						
QIZ				LR	LR	
comp=Z,180nm,15.1s						
QIZ				LR	LR	
comp=Z,280nm,20.6s						
BRDY	Brady	61.86	74	IAmb	IAmb	15 40 56.3
comp=Z,90nm,1.4s						
NRS	Narsarsuaq	61.90	22	P	P	15 40 55.0 -0.6
NRS	Narsarsuaq	61.90	22	P	P	15 40 55.0 -0.6
NRS				pmax	pmax	
comp=Z,92nm,1.0s						
NRS	Narsarsuaq	61.90	22	*i* P	P	15 40 54.9 -0.7
NRS				IAmb	IAmb	15 40 56.7
comp=Z,100nm,1.1s						
JCT	Junction City	61.96	76	IAmb	IAmb	15 40 56.6
comp=Z,73nm,1.2s						
SHLS	Shalkode	62.05	305	*e*P	P	15 40 55.8 -1.3
SHLS				pmax	pmax	
comp=Z,65nm,1.7s						
SHLS	Shalkode	62.05	305	*e*P	P	15 40 55.9 -1.3
comp=Z,65nm,1.7s						
KIRV	Kirov	62.07	332	LR	LR	16 11 50.9
comp=Z,476nm,18.5s,baz=31,slow=40						
KIRV	Kirov	62.07	332	*i* P	P	15 40 57.7 +0.9
Q44A	Meyer Farm, Va	62.12	62	IAmb	IAmb	15 40 57.3
comp=Z,78nm,1.2s						
KPKS	Kokpek	62.22	306	*e*P	P	15 40 58.5 +0.3
KPKS				pmax	pmax	
comp=Z,45nm,1.7s						
KPKS	Kokpek	62.22	306	*e*P	P	15 40 58.5 +0.3
comp=Z,45nm,1.7s						
DRIO	Del Rio	62.23	77	IAmb	IAmb	15 40 58.0
comp=Z,29nm,0.8s						
UZB	Uzynbulak	62.28	305	*e*P	P	15 40 58.8 +0.2
UZB	Uzynbulak	62.28	305	*e*P	P	15 40 58.9 +0.2
BUKO	Buck Lake	62.32	51	IAmb	IAmb	15 40 59.1
comp=Z,64nm,0.9s						
JOF	Joensuu	62.40	344	*e*P	P	15 40 59.4 +0.5
N47A	Urbana	62.48	58	IAmb	IAmb	15 40 59.3
comp=Z,38nm,0.9s						
AAM	Ann Arbor	62.50	56	IAmb	IAmb	15 41 00.5
comp=Z,32nm,0.8s						
ZHN	Zhinishke	62.56	306	*e*P	P	15 41 00.8 +0.3
ZHN	Zhinishke	62.56	306	*e*P	P	15 41 00.8 +0.3
KLMR	Klimovskoe	62.64	339	*e*P	P	15 40 58.3 -2.2
KLMR				S	S	15 49 26.0 -1.9
KLMR				pmax	pmax	
comp=Z,192nm,1.2s						
MIAR	Mount Ida	62.69	68	P	P	15 40 59.9 -1.5
SIUC	Southern Illin	62.86	63	IAmb	IAmb	15 41 02.0
comp=Z,35nm,0.8s						
JAY	Jayapura	62.88	223	P	P	15 41 03.2 +0.4
comp=Z,25nm,1.5s						
SAVO	Savo Central	62.97	200	P	P	15 41 05.1 +1.8
comp=Z,63nm,1.3s						
LCAR	Lake Charles	62.97	65	IAmb	IAmb	15 41 02.0
comp=Z,27nm,0.9s						
KUU	Kurty	63.07	307	*e*P	P	15 41 04.1 +0.3
KUU	Kurty	63.07	307	*e*P	P	15 41 04.1 +0.3
PRZ	Przheval'sk	63.08	305	IAmb	IAmb	15 41 10.4
comp=Z,110nm,1.7s						
X40A	Basin Creek Fa	63.16	68	IAmb	IAmb	15 41 04.4
comp=Z,51nm,1.0s						
O48B	Farmland	63.21	58	IAmb	IAmb	15 41 04.0
comp=Z,54nm,0.9s						
HNR	Honiara	63.21	200	LR	LR	16 04 08.8
comp=Z,174nm,21.0s,baz=16,slow=32						
NSS	Namsos	63.23	353	*e*P	P	15 41 04.5 +0.1
UALR	University of	63.23	67	IAmb	IAmb	15 41 04.8
comp=Z,50nm,1.2s						
N49A	Columbus Grove	63.23	57	IAmb	IAmb	15 41 04.9
comp=Z,76nm,1.0s						
MDOK	Medeo	63.26	306	*e*P	P	15 41 05.3 +0.1
MDOK	Medeo	63.26	306	*e*P	P	15 41 05.3 +0.1
SMPI	Sarmi	63.27	225	P	P	15 41 06.3 +1.0
comp=Z,904nmcomp=Z,44nm,1.4s						
BLO	Bloomington	63.27	60	IAmb	IAmb	15 41 05.1
comp=Z,53nm,0.9s						
AAA	Alma-Ata	63.29	307	*e*P	P	15 41 05.6 +0.3
AAA				pmax	pmax	
comp=Z,29nm,0.6s						
AAA	Alma-Ata	63.29	307	*e*P	P	15 41 05.7 +0.3
comp=Z,29nm,0.6s						
TNSS	Tian-Shan	63.40	306	*e*P	P	15 41 06.3 -0.1
TNSS	Tian-Shan	63.40	306	*e*P	P	15 41 06.4 -0.1
VAF	Ylistaro	63.60	348	*e*P	P	15 41 07.5 +0.6
O49A	Covington	63.69	58	IAmb	IAmb	15 41 07.8
comp=Z,55nm,1.0s						
BAKI	Biak	63.73	228	P	P	15 41 11.3 +2.9
comp=Z,49nm,1.4s						
SLVN	Son La	63.79	271	IAmb	IAmb	15 41 12.8
comp=Z,56nm,1.4s						
SLVN	Son La	63.79	271	P	P	15 41 10.2 +1.3
comp=Z,29nm,1.3s						
DELO	Deloro Mine	63.86	51	IAmb	IAmb	15 41 09.2
comp=Z,35nm,0.9s						
KDJ	Kajisay	63.95	306	IAmb	IAmb	15 41 13.4
comp=Z,47nm,1.2s						
KDJ	Kajisay	63.95	306	P	P	15 41 10.0 +0.2
Z41A	Richland Creek	64.07	69	IAmb	IAmb	15 41 10.7
comp=Z,67nm,1.1s						
WCI	Wyandotte Cave	64.08	61	P	P	15 41 09.2 -1.3
WCI				IAmb	IAmb	15 41 10.5
comp=Z,58nm,0.9s						
WCI	Wyandotte Cave	64.08	61	P	P	15 41 09.2 -1.3
WCI				pmax	pmax	
comp=Z,58nm,1.0s						
KEF	Keuruu	64.14	346	*e*P	P	15 41 10.5 +0.1
LDAQ	Lac Daran	64.15	44	IAmb	IAmb	15 41 10.7
comp=Z,24nm,0.8s						
TKM2	Tokmak 2	64.15	307	P	P	15 41 11.6 +0.5
SNR=27						
SGDS	Sogindy	64.23	308	*e*P	P	15 41 11.8 +0.3
SGDS	Sogindy	64.23	308	*e*P	P	15 41 11.8 +0.3
BOOM	Boomskoye usch	64.30	307	IAmb	IAmb	15 41 18.1
comp=Z,113nm,1.7s						
ULHL	Ulahol	64.33	306	P	P	15 41 13.1 +0.8
SNR=32						
ACSO	Alum Creek Sta	64.36	57	IAmb	IAmb	15 41 12.5
comp=Z,48nm,0.9s						
TNCH	TengChong	64.36	278	P	P	15 41 12.6 -0.2
TNCH				pP	pP	15 41 15.8 -1.2
TNCH				sP	sP	15 41 20.4 +1.8
TNCH				PcP	PcP	15 41 48.9 +1.7
TNCH				PP	PP	15 43 37.9 +3.8
TNCH				S	S	15 49 50.3 -0.5
TNCH				sS	sS	15 49 58.3 +0.9
TNCH				SS	SS	15 53 59.3 -0.9
TNCH				pmax	pmax	
comp=Z,43nm,1.5s						
TNCH				LR	LR	
comp=Z,240nm,18.8s						
TNCH				LR	LR	
comp=Z,320nm,14.2s						
TNCH				LR	LR	
comp=Z,630nm,21.9s						
USP	Ospenovka	64.43	308	P	P	15 41 13.4 +0.6
SNR=50						
CHMS	Chumysh	64.51	308	P	P	15 41 13.8 +0.6
SNR=9.1						
PECO	Prince Edward	64.59	51	IAmb	IAmb	15 41 14.1
comp=Z,63nm,0.9s						
WBO	Williamsburg	64.60	49	IAmb	IAmb	15 41 13.4
comp=Z,31nm,0.9s						
FINES	FINESS Array B	64.65	346	P	P	15 41 13.4 -0.4
FINES	FINESS Array B	64.65	346	P	P	15 41 13.6 -0.2
comp=Z,55nm,0.8s,baz=32,slow=7.5,SNR=107						
FINES				LR	LR	16 13 13.1
comp=Z,432nm,18.4s,baz=22,slow=40						
comp=Z,55nm,0.8s						
KBK	Karagaybulak	64.67	307	P	P	15 41 15.4 +0.9
SNR=18						
HKT	Hockley	64.71	73	P	P	15 41 14.2 -0.4
HKT	Hockley	64.71	73	P	P	15 41 14.2 -0.4
HKT				pmax	pmax	
comp=Z,212nm,1.8s						
FRU1	Bishkek	64.71	308	IAmb	IAmb	15 41 16.2
comp=Z,37nm,0.7s						
WVT	Waverly	64.78	63	P	P	15 41 13.9 -1.2
WVT				IAmb	IAmb	15 41 15.0
comp=Z,38nm,0.8s						
WVT	Waverly	64.78	63	P	P	15 41 13.9 -1.2
WVT				pmax	pmax	
comp=Z,38nm,0.9s						
P51A	Williamsport	64.88	58	IAmb	IAmb	15 41 15.4
comp=Z,40nm,1.0s						
AAK	Ala-Archa	64.90	308	P	P	15 41 16.1 +0.1
AAK				IAmb	IAmb	15 41 22.6
comp=Z,26nm,0.8s						
AAK	Ala-Archa	64.90	308	LR	LR	16 10 57.6
comp=Z,356nm,19.1s,baz=40,slow=37						
AAK	Ala-Archa	64.90	308	P	P	15 41 16.9 +0.9
SNR=30						
AAK	Ala-Archa	64.90	308	*i* P	P	15 41 16.4 +0.4
AAK				pmax	pmax	
comp=Z,95nm,2.0s						
AAK				MLR	MLR	
comp=Z,812nm,20.0s						
AAK	Ala-Archa	64.90	308	*i* P	P	15 41 16.7 +0.6
SNR=12						
MNTQ	Montreal, Queb	64.98	47	IAmb	IAmb	15 41 15.5
comp=Z,32nm,0.9s						
N53A	Lisbon	65.04	55	IAmb	IAmb	15 41 18.1
comp=Z,58nm,1.2s						
R50A	Paris	65.09	59	IAmb	IAmb	15 41 17.5
comp=Z,56nm,1.0s						
LONY	Lake Ozonia	65.21	49	IAmb	IAmb	15 41 17.1
comp=Z,25nm,0.8s						
EKS2	Erkin-Say	65.23	308	P	P	15 41 18.8 +0.7
SNR=43						
P52A	Corning	65.24	57	IAmb	IAmb	15 41 17.8
comp=Z,44nm,0.9s						
O53A	New Philadelph	65.26	56	IAmb	IAmb	15 41 18.1
comp=Z,46nm,1.0s						
143A	Socs Landing,	65.28	68	IAmb	IAmb	15 41 18.8
comp=Z,56nm,1.1s						
LSA	Lhasa	65.37	287	*i* P	P	15 41 20.5 +0.9
SNR=15						
MOL	Molde	65.45	355	*e*P	P	15 41 19.7 +0.7
J57A	Williamstown	65.46	50	IAmb	IAmb	15 41 19.6
comp=Z,42nm,1.0s						
PLAL	Pickwick Lake	65.48	64	IAmb	IAmb	15 41 19.3
comp=Z,50nm,0.9s						
PUL	Pulkovo	65.51	343	*i* P	P	15 41 19.5 +0.1
PUL				pmax	pmax	
comp=Z,92nm,0.8s						
U49A	Red Boiling Sp	65.62	62	IAmb	IAmb	15 41 20.6
comp=Z,46nm,1.0s						
V48A	Smith Brothers	65.62	63	IAmb	IAmb	15 41 20.4
comp=Z,47nm,1.0s						
CLTN	Cedars of Leba	65.63	62	IAmb	IAmb	15 41 20.9
comp=Z,70nm,0.9s						
RAF	Rauma	65.67	348	*e*P	P	15 41 20.6 +0.2
Q52A	Bidwell	65.67	58	IAmb	IAmb	15 41 20.8
comp=Z,60nm,1.0s						
AML	Almayashu	65.67	308	P	P	15 41 21.9 +0.6
SNR=37						
T50A	Nancy	65.75	61	IAmb	IAmb	15 41 21.6
comp=Z,60nm,1.0s						
SWI	Sorong	65.76	233	P	P	15 41 22.2 +0.6
AKN	Aaknes	65.87	355	*e*P	P	15 41 22.4 +0.6
DOMB	Dombas	65.89	354	*e*P	P	15 41 22.1 +0.2
ZAIG	Zacatecas	65.93	83	P	P	15 41 22.5 -0.5
E62A	Clayton Lake	65.93	44	IAmb	IAmb	15 41 22.1
comp=Z,36nm,0.9s						
S51A	Beattyville	65.96	59	IAmb	IAmb	15 41 22.8
comp=Z,28nm,0.9s						
AKTO	Aktyubinsk	65.97	323	LR	LR	16 12 46.6
comp=Z,1μm,19.2s,baz=28,slow=38						
MEF	Metsahovi	66.07	346	*e*P	P	15 41 23.4 +0.4
J59A	Piesco	66.13	49	IAmb	IAmb	15 41 23.3
comp=Z,44nm,0.8s						
ABKAR	Akbulak array	66.19	321	P	P	15 41 24.3 +0.4
ABKAR	Akbulak array	66.19	321	IAmb	IAmb	15 41 27.2
comp=Z,63nm,1.2s						
DZA	Taraz	66.24	310	*e*P	P	15 41 24.7 +0.2
DZA	Taraz	66.24	310	*e*P	P	15 41 24.7 +0.2
VT1	Waterbury	66.27	48	IAmb	IAmb	15 41 24.6
comp=Z,37nm,1.0s						
TNTI	Ternate	66.33	238	P	P	15 41 25.5 +0.2
TNTI				IAmb	IAmb	15 41 35.9
comp=Z,112nm,1.7s						
TNTI	Ternate	66.33	238	P	P	15 41 27.1 +1.8
comp=Z,33nm,1.2s						
MCWV	Mont Chateau	66.40	55	IAmb	IAmb	15 41 25.7
comp=Z,32nm,1.0s						
X48A	Hartselle	66.45	64	IAmb	IAmb	15 41 25.1
comp=Z,58nm,1.4s						
KK31	Karatay Array	66.46	310	IAmb	IAmb	15 41 29.3
comp=Z,34nm,1.1s						
KKAR	Karatay Array	66.46	310	P	P	15 41 26.1 +0.2
KKAR	Karatay Array	66.46	310	IAmb	IAmb	15 41 29.3
comp=Z,35nm,1.1s						
KKAR	Karatay Array	66.46	310	P	P	15 41 26.1 +0.2
SWET	Sewanee	66.49	63

KSH S **S** **15 50 25.3 +8.7**
KSH pmax pmax
comp=Z,55nm,1.9s
KSH LR LR
comp=Z,670nm,20.6s
KSH LR LR
comp=Z,580nm,17.6s
KSH LR LR
comp=Z,700nm,24.0s
NC204 NORSAR Array S 66.54 353 lAmb lAmb 15 41 27.7
comp=Z,77nm,1.1s
ARBE Arbavere 66.57 345 *e*P **P** **15 41 25.9 -0.3**
G62A West of Eustis 66.58 46 lAmb lAmb 15 41 27.0
comp=Z,56nm,0.8s
SSPA Standing Stone 66.64 54 P **P** **15 41 26.0 -1.0**
NONG Nongkai 66.72 270 P **P** **15 41 28.4 +0.6**
comp=Z,35nm,1.3s
NB2 NORSAR Subarra 66.75 353 P **P** **15 41 27.4 0.0**
comp=Z,98nm,1.1s,baz=7.9,slow=6.5
NB2 NORSAR Subarra 66.75 353 P **P** **15 41 28.5 +1.1**
NB2 pmax pmax
comp=Z,125nm,1.7s
NB2 NORSAR Subarra 66.75 353 P **P** **15 41 27.4 0.0**
baz=7.9,slow=6.5
NOA NORSAR Array B 66.75 353 P **P** **15 41 27.6 +0.1**
comp=Z,42nm,1.0s,baz=9.0,slow=6.4,SNR=84
comp=Z,42nm,1.0s
PMG Port Moresby 66.75 213 P **P** **15 41 27.6 -0.2**
comp=Z,7.6nm,0.9s,baz=357,slow=14,SNR=2.2
PMG LR LR 16 09 08.2
comp=Z,135nm,18.5s,baz=30,slow=35
comp=Z,7.6nm,0.9s
NBO00 NORSAR Array S 66.79 353 lAmb lAmb 15 41 31.3
comp=Z,66nm,1.4s
TZTN Tazewell 66.80 60 lAmb lAmb 15 41 28.6
comp=Z,44nm,1.1s
BRLS Borolday 66.83 311 *e*P **P** **15 41 30.1 +1.9**
BRLS Borolday 66.83 311 *e*P **P** **15 41 30.2 +1.9**
W50A Signal Mountai 66.84 62 lAmb lAmb 15 41 28.3
comp=Z,65nm,1.1s
BATG Bathurst New B 66.87 42 lAmb lAmb 15 41 29.3
comp=Z,58nm,1.1s
HYA Hoyanger 66.92 356 *e*P **P** **15 41 28.8 +0.3**
NAO01 NORSAR Array S 66.96 353 lAmb lAmb 15 41 34.4
comp=Z,148nm,1.9s
HNH Hanover 66.97 48 lAmb lAmb 15 41 29.3
comp=Z,35nm,0.9s
KSPA Keystone Colle 66.98 52 lAmb lAmb 15 41 29.6
comp=Z,66nm,0.9s
NC602 NORSAR Array S 67.02 353 lAmb lAmb 15 41 30.4
NC602 NORSAR Array S 67.02 353 *e*P **P** **15 41 29.2 +0.1**
NORES NORESS Array B 67.02 353 P **P** **15 41 29.3 +0.2**
NORES pmax pmax
comp=Z,16nm,1.2s
F64A Sherman 67.03 44 lAmb lAmb 15 41 29.7
comp=Z,62nm,0.8s
S54A Dingess, Beckl 67.04 58 lAmb lAmb 15 41 30.0
comp=Z,57nm,1.2s
FAKI Fak Fak 67.06 231 P **P** **15 41 29.8 -0.1**
FAKI lAmb lAmb 15 41 31.1
comp=Z,115nm,1.5s
FAKI Fak Fak 67.06 231 P **P** **15 41 31.7 +1.8**
comp=Z,54nm,1.2s
FAKI Fak Fak 67.06 231 P **P** **15 41 30.1 +0.2**
comp=Z,908nmcomp=Z,55nm,1.2s
TRY Troy 67.08 49 lAmb lAmb 15 41 29.8
comp=Z,31nm,0.9s
CPCT Cooper Cave 67.09 62 lAmb lAmb 15 41 29.8
comp=Z,92nm,1.5s
J61A Chester 67.12 48 lAmb lAmb 15 41 30.3
comp=Z,59nm,0.9s
FPAL Fort Paine 67.17 63 lAmb lAmb 15 41 30.2
comp=Z,36nm,1.0s
Q56A Snyder Ridge, 67.20 55 lAmb lAmb 15 41 30.9
comp=Z,46nm,1.3s
Y49A Blount Mountai 67.24 64 lAmb lAmb 15 41 30.3
comp=Z,38nm,1.1s
I62A Tamworth 67.27 47 lAmb lAmb 15 41 31.0
comp=Z,29nm,0.9s
SKAR Skarslia 67.30 355 *e*P **P** **15 41 31.7 +0.7**
TKL Tuckaleechee C 67.34 61 lAmb lAmb 15 41 31.5
comp=Z,59nm,1.0s
TKL Tuckaleechee C 67.34 61 P **P** **15 41 30.5 -1.1**
comp=Z,39nm,0.9s,baz=322,slow=3.0,SNR=30
TKL LR LR 16 11 49.5
comp=Z,507nm,19.0s,baz=338,slow=37
comp=Z,39nm,0.9s
VSU Vasula 67.37 344 *e*P **P** **15 41 31.0 -0.4**
UBPT Khong Chiam 67.41 266 P **P** **15 41 32.8 +0.6**
IUG Iuzhnay 67.42 310 *e*P **P** **15 41 32.2 +0.1**
IUG *e*S **S** **15 50 27.6 +0.1**
IUG pmax pmax
comp=Z,57nm,1.4s
IUG Iuzhnay 67.42 310 *e*P **P** **15 41 32.3 +0.1**
comp=Z,57nm,1.4s
IUG *e*S **S** **15 50 27.6 +0.1**
HFS Hagfors 67.44 352 P **P** **15 41 31.9 +0.1**
comp=Z,27nm,0.8s,baz=25,slow=8.2,SNR=44
comp=Z,27nm,0.8s
P57A Homestead Farm 67.46 54 lAmb lAmb 15 41 32.4
comp=Z,42nm,1.1s
WVL Waterville 67.48 46 lAmb lAmb 15 41 32.3
comp=Z,46nm,0.9s
MYLDM Lahad Datu 67.55 248 P **P** **15 41 33.6 +0.6**
MYLDM lAmb lAmb 15 41 38.2
comp=Z,58nm,1.2s
MYLDM Lahad Datu 67.55 248 P **P** **15 41 34.9 +1.9**
comp=Z,52nm,1.6s
X51A Calhoun 67.57 62 lAmb lAmb 15 41 32.8
comp=Z,60nm,1.1s
MTSE Matsula 67.60 346 *e*P **P** **15 41 33.5 +0.7**
W52A Murphy 67.68 61 lAmb lAmb 15 41 33.8
comp=Z,60nm,1.1s
MOS Moscow 67.68 337 *e*P **P** **15 41 33.7 +0.4**
MOS *e* 15 41 59.7
MOS *e*S **S** **15 50 31.0 +1.1**
MOS pmax pmax
comp=Z,300nm,1.3s
MOS pmax pmax
comp=Z,170nm,0.9s
MOS MLR MLR
comp=Z,800nm,19.0s
U54A Nelsons Funny 67.73 59 lAmb lAmb 15 41 34.6
comp=Z,70nm,1.1s
L61B Northampton 67.76 49 lAmb lAmb 15 41 34.0
comp=Z,40nm,0.8s
K62A Royalston 67.80 49 lAmb lAmb 15 41 34.5
comp=Z,51nm,0.9s
V53A Saluda 67.85 60 lAmb lAmb 15 41 35.1
comp=Z,50nm,1.1s
OSL Oslo 67.88 353 *e*P **P** **15 41 35.4 +0.9**
G65A Princeton 67.89 44 lAmb lAmb 15 41 35.3
comp=Z,68nm,1.0s
MVL Millersville 67.89 53 lAmb lAmb 15 41 35.2
comp=Z,56nm,0.9s
ODNJ Ogdensburg 67.91 51 lAmb lAmb 15 41 35.1
comp=Z,45nm,0.9s
BLA Blacksburg 67.95 58 lAmb lAmb 15 41 35.7
comp=Z,46nm,0.9s
SHL Shillong 67.99 284 lAmb lAmb 15 41 38.9
comp=Z,78nm,1.3s
TRNY Table Rock, Ra 68.04 51 lAmb lAmb 15 41 36.0
comp=Z,28nm,0.9s
SDMD Soldier's Deli 68.10 54 lAmb lAmb 15 41 36.4
comp=Z,36nm,0.9s
ODD1 Odda 68.15 355 *e*P **P** **15 41 35.9 -0.4**
BRNJ Basking Ridge 68.23 51 lAmb lAmb 15 41 37.5
comp=Z,65nm,0.9s
HRV Adam Dziewonsk 68.24 48 P **P** **15 41 36.1 -1.0**
HRV lAmb lAmb 15 41 37.3
comp=Z,53nm,0.9s
HRV Adam Dziewonsk 68.24 48 P **P** **15 41 36.7 -0.4**
KONO Kongsberg 68.24 354 P **P** **15 41 37.1 +0.3**
KONO Kongsberg 68.24 354 P **P** **15 41 37.4 +0.6**
KONO Kongsberg 68.24 354 *e*P **P** **15 41 37.4 +0.6**
S57A Dark Hollow, R 68.29 56 lAmb lAmb 15 41 37.9
comp=Z,37nm,1.0s
BG3 Lake Jocassee 68.29 61 lAmb lAmb 15 41 37.9
comp=Z,78nm,1.1s
KMSI Cibinong 68.29 241 P **P** **15 41 39.8 +2.1**
WUPA West Chester U 68.31 53 lAmb lAmb 15 41 38.6
comp=Z,37nm,0.9s
WSPT Westport, CT 68.45 50 lAmb lAmb 15 41 38.3
comp=Z,63nm,1.0s
OBN Obninsk 68.50 337 LR LR 16 16 26.6
comp=Z,441nm,18.1s,baz=331,slow=40
OBN Obninsk 68.50 337 ⇓P **P** **15 41 39.3 +0.9**
OBN Obninsk 68.50 337 ⇑*e*P **P** **15 41 38.9 +0.4**
OBN *e* 15 44 11.6
OBN *e*S **S** **15 50 37.4 -2.3**
OBN *e*SS **SS** **15 55 07.8 +5.4**
OBN pmax pmax
comp=Z,219nm,1.1s
OBN MLR MLR
comp=Z,422nm,22.0s
OBN Obninsk 68.50 337 P **P** **15 41 39.1 +0.6**
comp=Z,2μmcomp=Z,203nm,1.2s
Y52A Lilburn 68.53 62 lAmb lAmb 15 41 38.8
comp=Z,50nm,0.9s
BCX Boston College 68.55 48 lAmb lAmb 15 41 39.0
comp=Z,47nm,1.2s
V55A Taylorsville 68.56 59 lAmb lAmb 15 41 39.5
comp=Z,52nm,1.0s
U56A King 68.62 58 lAmb lAmb 15 41 39.9
comp=Z,55nm,1.0s
DRK Karamyk 68.62 307 lAmb lAmb 15 41 46.2
comp=Z,30nm,0.8s
BLS5 Blasjo 68.65 355 *e*P **P** **15 41 40.4 +1.0**
BTK Batken 68.66 308 lAmb lAmb 15 41 48.4
comp=Z,62nm,1.1s
BTK Batken 68.66 308 P **P** **15 41 40.3 +0.4**
R58B Mineral 68.68 55 lAmb lAmb 15 41 40.3
comp=Z,31nm,1.0s
T57A Hurt 68.72 57 lAmb lAmb 15 41 40.1
comp=Z,35nm,0.9s
CHTO Chiang Mai 68.74 274 P **P** **15 41 40.1 -0.5**
CHTO Chiang Mai 68.74 274 P **P** **15 41 41.1 +0.5**
comp=Z,16nm,1.2s
CHTO Chiang Mai 68.74 274 P **P** **15 41 40.1 -0.5**
CHTO pmax pmax
comp=Z,28nm,1.2s
CBN Corbin Frederi 68.75 55 lAmb lAmb 15 41 40.6
comp=Z,44nm,0.9s
JRQG Juriquilla Cam 68.77 83 lAmb lAmb 15 41 43.1
comp=Z,28nm,0.9s
SLIT Slitere, Latvi 68.87 346 *e*P **P** **15 41 40.9 +0.2**
CMAR Chiang Mai Arr 69.01 273 P **P** **15 41 41.6 -0.6**
CMAR Chiang Mai Arr 69.01 273 P **P** **15 41 42.4 +0.1**
comp=Z,9.5nm,0.9s,baz=25,slow=7.1,SNR=60
CMAR PKP2bc 16 09 48.8
comp=Z,1.1nm,0.9s,baz=242,slow=5.3,SNR=8.3
CMAR LR LR 16 14 29.7
comp=Z,240nm,19.2s,baz=40,slow=38
comp=Z,9.5nm,0.9s
L64A Middleborough 69.01 48 lAmb lAmb 15 41 41.9
comp=Z,53nm,1.0s
PAULI Pauline 69.02 60 lAmb lAmb 15 41 42.2
comp=Z,57nm,1.1s
MOIG Morelia 69.09 85 P **P** **15 41 42.9 -0.1**
GOGA Godfrey 69.19 62 lAmb lAmb 15 41 42.7
comp=Z,53nm,1.1s
GOGA Godfrey 69.19 62 P **P** **15 41 41.5 -1.7**
HODGE Hodges 69.23 61 lAmb lAmb 15 41 43.5
comp=Z,62nm,0.9s
SANI Sanana 69.44 237 P **P** **15 41 45.1 +0.2**
comp=Z,31nm,1.3s
SANI Sanana 69.44 237 P **P** **15 41 44.0 -0.9**
comp=Z,596nmcomp=Z,30nm,1.0s
MSVF Nonsavu 69.51 180 P **P** **15 41 45.9 +0.7**
MSVF lAmb lAmb 15 41 48.2
comp=Z,45nm,1.1s
MSVF Nonsavu 69.51 180 LR LR 16 08 58.5
comp=Z,70nm,18.8s,baz=7.4,slow=33
MSVF Nonsavu 69.51 180 P **P** **15 41 47.1 +1.9**
MSVF Nonsavu 69.51 180 *i* P **P** **15 41 46.3 +1.1**
MSVF pmax pmax
comp=Z,53nm,1.2s
TOLI2 Tolitoli 69.59 244 P **P** **15 41 45.7 -0.1**
T59A Double "B" Far 69.61 56 lAmb lAmb 15 41 46.1
comp=Z,52nm,0.9s
SNART Snartemo 69.69 355 *e*P **P** **15 41 48.1 +2.3**
V58A Windy Hill, Pi 69.71 58 lAmb lAmb 15 41 46.6
comp=Z,69nm,1.0s
AAI Ambon 69.71 234 P **P** **15 41 47.1 +0.6**
comp=Z,1μmcomp=Z,85nm,1.2s
JSC Jenkinsville 69.73 60 lAmb lAmb 15 41 46.6
comp=Z,58nm,1.0s
BIRD Birdtown, Kers 69.88 59 lAmb lAmb 15 41 47.5
comp=Z,35nm,0.9s
HAL Halifax 70.02 42 lAmb lAmb 15 41 48.1
comp=Z,37nm,0.8s
LPSR Galich'ya Gora 70.20 335 *e*P **P** **15 41 49.0 0.0**
LPSR pmax pmax
comp=Z,99nm,1.0s
VSVD Vaisvydziai 70.21 345 *e*P **P** **15 41 49.5 +0.5**
ISAL Salakas 70.23 344 *e*P **P** **15 41 50.4 +1.2**
BRDH Bariadhala 70.30 282 LR LR 16 14 26.0
comp=Z,220nm,20.5s,baz=39,slow=37
LUWI Luwuk 70.30 241 P **P** **15 41 51.8 +1.7**
comp=Z,93nm,1.1s
Y57A Sumter 70.39 60 lAmb lAmb 15 41 50.6
comp=Z,61nm,1.0s
TAOE Nuku Hiva Isla 70.46 136 *e*S **S** **15 51 08.6 +4.7**
comp=Z,158nm,28.0s
TAOE Nuku Hiva Isla 70.46 136 *e*LR LR 16 03 05.4
comp=Z,1μm,23.8s
W59A Clinton 70.54 58 lAmb lAmb 15 41 51.8
comp=Z,73nm,1.0s
X58A Rowland 70.54 59 lAmb lAmb 15 41 51.6
comp=Z,46nm,0.9s
SIMJ Simiganj 70.63 308 P **P** **15 41 52.4 +0.3**
SIMJ lAmb lAmb 15 41 56.2
comp=Z,71nm,1.0s
PABE Paberze 70.66 345 *e*P **P** **15 41 52.6 +0.8**
VRH Novokhopyorsk 70.69 333 *e*P **P** **15 41 51.9 -0.2**
VRH pmax pmax
comp=Z,81nm,0.9s
NAYO Nakonayok 70.70 269 P **P** **15 41 53.2 +0.6**
MNK Minsk 70.93 342 *i* P **P** **15 41 54.1 +0.6**
MNK *i* 15 44 30.7
MNK *i* PPP PPP 15 46 13.3
MNK *i* S **S** **15 51 08.6 +0.4**
MNK *i* SS **SS** **15 55 41.4 +1.7**
MNK pmax pmax
comp=Z,144nm,0.9s
MNK pmax pmax
comp=N,13nm,0.8s
MNK pmax pmax
comp=E,71nm,1.0s
MNK MLR MLR
comp=Z,237nm,20.0s
MNK MLR MLR
comp=N,47nm,12.0s
MNK MLR MLR
comp=E,339nm,19.0s
VORR Voronezh 70.96 334 *e*P **P** **15 41 54.1 +0.4**
VORR pmax pmax
comp=Z,53nm,0.5s
VSR Storozhevoye 71.39 334 *e*P **P** **15 41 55.6 -0.7**
VSR pmax pmax
comp=Z,100nm,1.1s
VORD Divnogorie 71.58 334 *e*P **P** **15 41 56.6 -0.8**
VORD pmax pmax
comp=Z,70nm,0.8s
SRDT SRDT 72.03 270 P **P** **15 42 01.0 +0.3**
comp=Z,17nm,1.6s
SUW Suwalki 72.22 345 *e*P **P** **15 42 01.1 -0.2**
SUW Suwalki 72.22 345 *e*P **P** **15 42 01.4 +0.1**
TLIG Tlapa 72.30 84 lAmb lAmb 15 42 04.4
comp=Z,105nm,1.3s
NIL Nilore 72.40 302 P **P** **15 42 02.5 -0.3**
NIL lAmb lAmb 15 42 06.7
comp=Z,53nm,1.0s
NIL Nilore 72.40 302 P **P** **15 42 02.5 -0.3**
NIL pmax pmax
comp=Z,53nm,1.0s
EKA Eskdalemuir Ar 72.95 1 P **P** **15 42 05.9 +0.3**
comp=Z,12nm,0.8s,baz=358,slow=5.2,SNR=11
comp=Z,12nm,0.8s
KHAM Kharkiv 73.26 335 P **P** **15 42 08.1 +0.5**
SBUM Sibu 73.40 252 P **P** **15 42 08.7 -0.1**
SBUM Sibu 73.40 252 P **P** **15 42 10.1 +1.3**
comp=Z,7.3nm,2.2s
BKB Balikpapan 73.72 246 P **P** **15 42 11.4 +0.7**
comp=Z,45nm,0.9s
GKP Gorka Klasztor 73.80 348 *e*P **P** **15 42 09.8 -0.8**
KBL Kabul 73.86 306 P **P** **15 42 10.8 -0.8**
KBL lAmb lAmb 15 42 14.6
comp=Z,41nm,0.9s
KBL Kabul 73.86 306 P **P** **15 42 10.8 -0.8**
KBL pmax pmax
comp=Z,41nm,0.9s
PLTM Poltava 74.06 336 P **P** **15 42 13.2 +1.0**
BBSI Bau Bau 74.14 239 P **P** **15 42 14.5 +1.4**
comp=Z,831nmcomp=Z,48nm,1.4s
AK23 Malin Array Si 74.22 340 P **P** **15 42 13.1 0.0**
AK22 Malin Array Si 74.23 340 P **P** **15 42 12.9 -0.3**
AK03 Malin Array Si 74.23 340 P **P** **15 42 12.9 -0.3**
RNPP9 Sopachiv 74.24 342 P **P** **15 42 13.0 -0.2**
AK04 Malin Array Si 74.25 340 P **P** **15 42 13.0 -0.3**
AKASG Malin Array Be 74.25 340 P **P** **15 42 13.1 -0.2**
AKASG Malin Array Be 74.25 340 P **P** **15 42 13.5 +0.2**
comp=Z,52nm,0.7s,baz=24,slow=6.0,SNR=177
AKASG LR LR 16 18 03.1
comp=Z,324nm,20.4s,baz=26,slow=38
comp=Z,52nm,0.7s
AKBB Malin Array Si 74.25 340 *i* P **P** **15 42 13.3 0.0**
AKBB pmax pmax
comp=Z,157nm,1.0s
AKBB Malin Array Si 74.25 340 P **P** **15 42 13.1 -0.2**
KIEV Kiev 74.26 340 P **P** **15 42 13.1 -0.3**
KIEV Kiev 74.26 340 ⇑P **P** **15 42 13.4 0.0**
KIEV Kiev 74.26 340 P **P** **15 42 13.4 0.0**
KIEV Kiev 74.26 340 *i* P **P** **15 42 13.6 +0.2**
SNR=95
KIEV Kiev 74.26 340 P **P** **15 42 13.1 -0.3**
comp=Z,6μmcomp=Z,508nm,0.8s
MI28 Mi28,Pidlybu 74.36 341 P **P** **15 42 14.2 +0.3**
DZM Mont Dzumac 74.53 191 *e*S **SKiKP** **15 51 45.8 +5.0**
comp=Z,50nm,23.0s
DZM *e*SS **SS** **15 56 34.7 -2.7**
comp=Z,46nm,23.2s
DZM *e*LQ LQ 16 02 02.6
comp=Z,535nm,31.6s
DZM *e*LR LR 16 05 07.5
comp=Z,425nm,22.2s
BEL Belsk 74.70 346 *e*P **P** **15 42 16.1 +0.1**
BEL Belsk 74.70 346 P **P** **15 42 17.4 +1.5**
PPT Papeete 74.85 148 P **P** **15 42 15.7 -1.4**
comp=Z,31nm,1.1s,baz=257,slow=1.4,SNR=4.0
PPT LR LR 16 08 19.9
comp=Z,274nm,19.9s,baz=334,slow=30
comp=Z,31nm,1.1s
PPT2 Papeete2 74.87 148 *e*P **P** **15 42 17.6 +0.3**
comp=Z,52nm,23.0s
PPT2 *e*S **S** **15 51 51.9 -2.1**
comp=Z,145nm,32.8s
PPT2 *e*SS **SS** **15 56 43.5 +0.8**
comp=Z,94nm,22.8s
PPT2 *e*LQ LQ 16 01 34.3
comp=Z,461nm,28.8s
KAPI Kappang 75.25 241 P **P** **15 42 18.8 -0.7**
comp=Z,8.0nm,0.8s,baz=128,slow=4.1,SNR=4.6
KAPI LR LR 16 10 51.2
comp=Z,104nm,22.0s,baz=47,slow=32
comp=Z,8.0nm,0.8s
LUBAR Lubar, Ukraine 75.30 341 P **P** **15 42 18.2 -1.2**
BKSI Bulukumba 75.30 241 P **P** **15 42 20.6 +0.8**
comp=Z,556nmcomp=Z,35nm,1.4s
KSM Kuching 75.31 253 P **P** **15 42 20.1 +0.2**
comp=Z,17nm,2.0s
RAR Rarotonga 75.50 159 LR LR 16 07 10.5
comp=Z,267nm,20.6s,baz=332,slow=29
KDU Kakadu 75.54 226 P **P** **15 42 20.7 -0.4**
comp=Z,55nm,1.4s
KDU Kakadu 75.54 226 P **P** **15 42 22.3 +1.2**
comp=Z,56nm,1.4s
GOF Gofitskoye 75.78 329*c* *i* P **P** **15 42 23.5 +1.2**
GOF *e*S **S** **15 52 05.9 +2.3**
ERBR Yeremizino-Bor 75.98 331 *e*P **P** **15 42 24.1 +0.7**
ERBR *e*PP **sP** **15 42 29.8 +0.8**
ERBR *e*S **S** **15 52 09.2 +3.4**
ERBR pmax pmax
comp=Z,142nm,1.1s
ERBR MLR MLR
comp=Z,706nm,18.0s
LVV L'vov 76.11 343 P **P** **15 42 24.8 +0.7**
LVV L'vov 76.11 343 P **P** **15 42 24.8 +0.7**
MAK Makhachkala 76.13 325 *e*P **P** **15 42 20.2 -4.1**
MAK *e*S **S** **15 52 00.8 -6.7**
MAK *e*SS **SS** **15 56 56.6 -2.9**
MAK *e*SSS SSS 16 00 19.0
MAK pmax pmax
comp=Z,216nm,1.6s
MAK MLR MLR
comp=Z,1μm,19.0s
SRIT Nakonsritamara 76.18 266 P **P** **15 42 25.7 +0.8**
comp=Z,20nm,1.0s
CLL Collm 76.22 350 lAmb lAmb 15 42 29.9
comp=Z,61nm,1.6s
CLL Collm 76.22 350 *i* P **P** **15 42 24.8 +0.2**
CLL *i* 15 42 34.6
CLL pmax pmax
comp=Z,115nm,2.0s
CLL Collm 76.22 350 P **P** **15 42 24.5 -0.1**
comp=Z,25nm,1.8s
HORU Horodok 76.24 341 P **P** **15 42 24.6 -0.2**
HORU Horodok 76.24 341 P **P** **15 42 24.6 -0.2**
MTN Manton Dam 76.28 227 lAmb lAmb 15 42 26.3
comp=Z,94nm,1.3s
MTN Manton Dam 76.28 227 P **P** **15 42 24.7 -0.6**
comp=Z,67nm,1.3s
MTN Manton Dam 76.28 227 P **P** **15 42 25.3 0.0**
comp=Z,68nm,1.3s
KSP Ksiaz 76.30 348 *e*P **P** **15 42 25.2 +0.1**
KSP Ksiaz 76.30 348 P **P** **15 42 24.9 -0.2**
KSP Ksiaz 76.30 348 P **P** **15 42 24.9 -0.2**
comp=Z,30nm,1.8s
OJC Ojcow 76.43 346 *e*P **P** **15 42 26.3 +0.4**
OJC Ojcow 76.43 346 P **P** **15 42 26.5 +0.6**
OJC Ojcow 76.43 346 P **P** **15 42 26.5 +0.6**
comp=Z,70nm,1.0s
BRG Berggiesshubel 76.55 350 ⇓*i* P **P** **15 42 26.8 +0.3**
BRG Amp 15 42 29.2
comp=Z,15nm,0.9s
CHVC Chvalec 76.58 348 *e*P **P** **15 42 27.3 +0.5**
CHVC Chvalec 76.58 348 *e*P **P** **15 42 27.3 +0.5**
OSTC Ostas 76.59 348 *e*P **P** **15 42 27.7 +0.9**
OSTC Ostas 76.59 348 *e*P **P** **15 42 27.7 +0.9**
NDNU Novodnistrovsk 76.64 340 P **P** **15 42 27.3 +0.2**
UPC Upice 76.67 348 *e*P **P** **15 42 28.0 +0.8**
UPC Upice 76.67 348 *e*P **P** **15 42 28.0 +0.8**
DPC Dobruska-Polom 76.78 348 *e*P **P** **15 42 29.0 +1.1**
DPC Dobruska-Polom 76.78 348 *e*P **P** **15 42 29.0 +1.1**
DPC Dobruska-Polom 76.78 348 P **P** **15 42 28.6 +0.7**
comp=Z,28nm,1.4s
PVCC Panska Ves 76.82 349 *e*P **P** **15 42 31.9 +3.8**
PVCC Panska Ves 76.82 349 *e*P **P** **15 42 31.9 +3.8**
KMPD K-Podol'skiy 76.85 341 P **pP** **15 42 28.6 -3.8**
KMPD P **P** **15 42 27.9 -0.4**
RICC Richard 76.86 350 *e*P **P** **15 42 30.2 +1.9**
HSKC Hora Svate Kat 76.87 350 *e*P **P** **15 42 29.2 +0.8**
SORM Soroca 76.87 340 ⇑P **P** **15 42 28.6 +0.3**
SORM Soroca 76.87 340 P **P** **15 42 28.6 +0.3**
SORM Soroca 76.87 340 P **P** **15 42 28.2 -0.1**
comp=Z,2μmcomp=Z,142nm,0.9s
KIV Kislovodsk 76.88 329 P **P** **15 42 29.4 +0.7**
KIV lAmb lAmb 15 42 31.0
comp=Z,61nm,1.1s
KIV Kislovodsk 76.88 329 ⇓P **P** **15 42 30.1 +1.4**
KIV Kislovodsk 76.88 329 *e*P **P** **15 42 29.4 +0.7**
KIV *e*S **S** **15 52 16.5 +0.6**
KIV pmax pmax
comp=Z,42nm,1.0s
KIV pmax pmax
comp=Z,48nm,3.7s
KIV MLR MLR
comp=Z,230nm,18.0s
KIV Kislovodsk 76.88 329 *i* P **P** **15 42 30.0 +1.4**
SNR=9.5
KIV Kislovodsk 76.88 329 P **P** **15 42 29.7 +1.0**
comp=Z,744nmcomp=Z,43nm,1.1s
LABN Labinsk 76.88 330 *e*P **P** **15 42 29.8 +1.3**
LABN *e*PP **sP** **15 42 36.3 +2.2**
LABN *e*S **S** **15 52 21.1 +5.4**
LABN MLR MLR
comp=Z,491nm,16.0s
SOEI Soe 76.89 235 P **P** **15 42 29.8 +0.8**
comp=Z,23nm,1.4s
SOEI Soe 76.89 235 P **P** **15 42 27.6 -1.4**
comp=Z,23nm,1.4s
MMRI Maumere 76.97 237 P **P** **15 42 28.4 -0.9**
comp=Z,40nm,1.2s
STHS Stebnicka Huta 76.98 345 *e*P **P** **15 42 29.7 +0.7**
STHS pmax pmax
comp=Z,66nm,1.5s

STHS Stebnicka Huta 76.98 345 eP P 15 42 29.7 +0.7
KRLC Kraliky 76.99 348 eP P 15 42 30.0 +0.9
KRLC Kraliky 76.99 348 eP P 15 42 30.0 +0.9
NCK Nalchík 77.00 328 i P P 15 42 30.7 +1.5
NCK pmax pmax
comp=Z,127nm,1.2s
STEB Steborice 77.00 347 eP P 15 42 30.1 +1.0
KBZ Khabaz 77.02 328 P P 15 42 30.7 +1.4
comp=Z,23nm,0.9s,baz=50,slow=2.7,SNR=48
KBZ LR LR 16 21 12.8
comp=Z,356nm,19.6s,baz=25,slow=39
comp=Z,23nm,0.9s
KBZ Khabaz 77.02 328 i P P 15 42 30.6 +1.4
KBZ pmax pmax
comp=Z,75nm,1.4s
SHA1 Shidzhatmaz 77.09 329 i P P 15 42 30.1 +0.1
STNU Starunia 77.09 342 P P 15 42 30.1 +0.5
NIE Niedzica 77.13 345 eP P 15 42 31.2 +1.3
NIE Niedzica 77.13 345 P P 15 42 30.7 +0.8
NIE Niedzica 77.13 345 P P 15 42 30.7 +0.8
comp=Z,19nm,1.1s
MORC Moravsky Berou 77.18 347 eP P 15 42 30.8 +0.6
MORC Moravsky Berou 77.18 347 ⇓P P 15 42 31.2 +1.0
MORC Moravsky Berou 77.18 347 P P 15 42 31.2 +1.0
KOLS Kolonicke sedl 77.28 344 eP P 15 42 31.9 +1.2
KOLS pmax pmax
comp=Z,63nm,0.9s
KOLS Kolonicke sedl 77.28 344 eP P 15 42 31.9 +1.2
NKC Novy Kostel 77.34 351 eP P 15 42 30.4 -0.6
NKC Novy Kostel 77.34 351 eP P 15 42 30.4 -0.6
PRU Pruhonice 77.35 349 eP P 15 42 32.0 +0.9
PRU Pruhonice 77.35 349 eP P 15 42 32.0 +0.9
KSV Kosov 77.36 342 P P 15 42 30.5 -0.7
KSV Kosov 77.36 342 P P 15 42 30.5 -0.7
UCC Uccle 77.36 356 dP P 15 42 31.7 +0.6
GOPC GO Pecny, Ondr 77.40 349 eP P 15 42 32.2 +0.8
GOPC GO Pecny, Ondr 77.40 349 eP P 15 42 32.2 +0.8
MEZ Mezhgor'ye 77.46 343 P P 15 42 32.5 +0.8
MEM Membach 77.47 355 dP P 15 42 30.8 -0.9
comp=Z,15nm,1.0s
BTNL Ternell 77.49 355 dP P 15 42 31.6 -0.3
comp=Z,15nm,1.3s
LANS Liptovska Anna 77.52 346 eP P 15 42 33.8 +1.7
LANS pmax pmax
comp=Z,46nm,1.0s
LANS Liptovska Anna 77.52 346 eP P 15 42 33.8 +1.7
UZHM Uzhgorod 77.57 344 P P 15 42 33.1 +0.8
SOR Soroa 77.60 69 IAmb IAmb 15 43 34.9
comp=Z,86nm,1.4s
HOLU Holmets 77.65 344 P P 15 42 33.8 +1.1
MUKU Mukachevo 77.67 344 P P 15 42 33.6 +0.8
BCLA Clavier 77.70 355 dP P 15 42 34.6 +1.6
comp=Z,7.0nm,1.1s
ANN Anapa 77.71 332 eP P 15 42 33.0 -0.1
ANN e*PP sP 15 42 39.1 +0.4
ANN e 15 42 42.9
ANN eS S 15 52 25.1 +0.5
ANN pmax pmax
comp=Z,41nm,1.0s
BRIU Brid 77.72 343 P P 15 42 33.8 +0.7
BGES Gesves 77.74 355 dP P 15 42 35.9 +2.7
VRAC Vranov 77.77 348 LR LR 16 22 06.1
comp=Z,243nm,18.2s,baz=30,slow=40
VRAC Vranov 77.77 348 eP P 15 42 34.3 +0.9
VRAC Vranov 77.77 348 ⇓P P 15 42 34.7 +1.2
VRAC Vranov 77.77 348 P P 15 42 34.6 +1.2
KIS Kishinev 77.84 339 eP P 15 42 34.0 +0.2
comp=Z,160nm,3.9s
KIS eL L 16 19 16.0
KIS LRM MLR 16 20 55.0
comp=Z,200nm,16.0s
KIS Kishinev 77.84 339 eP P 15 42 34.0 +0.2
KIS pmax pmax
comp=Z,160nm,3.9s
KIS pmax pmax
comp=Z,200nm,16.0s
KORU Korolevo 77.87 343 P P 15 42 34.5 +0.5
BERU Beregovo 77.89 343 P P 15 42 34.8 +0.8
MILM Milestii Mici 77.92 339 ⇓iP P 15 42 33.5 -0.8
comp=Z,170nm,1.4s
MILM M M 15 42 38.0
comp=Z,400nm,2.2s
MILM i S S 15 52 27.7 +0.9
MILM eL L 16 12 30.0
MILM LQM 16 15 55.0
comp=Z,600nm,20.0s
MILM LRM MLR 16 20 24.0
comp=Z,400nm,17.5s
MILM Milestii Mici 77.92 339 ⇓P P 15 42 34.6 +0.3
MILM Milestii Mici 77.92 339 d iP P 15 42 33.5 -0.8
MILM i 15 42 37.0
MILM i S S 15 52 27.7 +0.9
MILM e 16 42 49.0
MILM pmax pmax
comp=Z,170nm,1.4s
MILM pmax pmax
comp=Z,400nm,2.2s
MILM smax smax
comp=Z,60nm,0.7s
TREC Trest 77.92 348 eP P 15 42 35.6 +1.3
TREC Trest 77.92 348 eP P 15 42 35.6 +1.3
ZVC Zvikov 77.94 349 eP P 15 42 35.3 +1.0
TRSU Trosnyk 77.97 343 P P 15 42 35.6 +1.1
BUR08 Bucovina Ar. S 77.98 342 IAmb IAmb 15 42 40.2
comp=Z,67nm,0.8s
GRFO Grafenberg 78.00 351 P P 15 42 35.1 +0.4
GRFO Grafenberg 78.00 351 P P 15 42 35.1 +0.4
GRFO pmax pmax
comp=Z,203nm,1.9s
BURAR Bucovina Array 78.00 342 P P 15 42 35.4 +0.5
BURAR Bucovina Array 78.00 342 ⇑P P 15 42 35.7 +0.8
BURAR Bucovina Array 78.00 342 P P 15 42 35.7 +0.8
KECS Kecovo 78.01 345 eP P 15 42 35.9 +1.1
KECS pmax pmax
comp=Z,60nm,0.9s
KECS Kecovo 78.01 345 eP P 15 42 35.9 +1.1
KRUC Moravsky 78.04 348 eP P 15 42 35.5 +0.6
PURM Purcari 78.05 338 P P 15 42 35.4 +0.4
comp=Z,85nm,1.2s
DOU Dourbes 78.05 356 dP P 15 42 34.3 -0.7
comp=Z,9.9nm,1.2s
JAVC Velka Javorina 78.06 347 eP P 15 42 37.1 +2.0
SOC Sochi 78.15 330 eP P 15 42 33.7 -1.9
SOC e 15 45 31.8
SOC eS S 15 52 25.8 -3.6
SOC eSS SS 15 57 40.7 +11
SOC pmax pmax
comp=Z,50nm,1.0s
SOC MLR MLR
comp=Z,470nm,16.0s
VYHS Vyhne 78.25 346 eP P 15 42 37.1 +1.0
VYHS e 15 52 29.6
VYHS pmax pmax
comp=Z,40nm,1.2s
VYHS Vyhne 78.25 346 eP P 15 42 37.1 +1.0
VYHS e 15 52 29.5
BMR Baia Mare 78.27 343 ⇓P P 15 42 37.6 +1.3
BMR Baia Mare 78.27 343 P P 15 42 37.5 +1.3
KHC Kasperske Hory 78.31 350 eP P 15 42 36.9 +0.4
KHC Kasperske Hory 78.31 350 eP P 15 42 36.9 +0.4
KHC Kasperske Hory 78.31 350 P P 15 42 37.1 +0.6
comp=Z,25nm,1.4s
SMOL Smolenice 78.43 347 eP P 15 42 38.6 +1.5
SMOL pmax pmax
comp=Z,25nm,1.2s
SIM Simferopol' 78.48 335 eP P 15 42 38.0 +0.6
SIM S S 15 52 39.0 +6.0
SIM pmax pmax
comp=Z,26nm,0.9s
SIM smax smax
comp=E,80nm,15.0s
CKRC Cesky Krumlov 78.53 349 eP P 15 42 38.6 +0.9
CKRC Cesky Krumlov 78.53 349 eP P 15 42 38.6 +0.9
GERES GERESS Array B 78.58 350 P P 15 42 37.7 -0.3
GERES GERESS Array B 78.58 350 P P 15 42 38.9 +0.8
comp=E,4.4nm,0.9s,baz=24,slow=3.6,SNR=29
comp=E,4.4nm,0.9s
MODS Modra-Piesok 78.59 347 eP P 15 42 39.4 +1.4
MODS pmax pmax
comp=Z,110nm,1.2s
MODS Modra-Piesok 78.59 347 eP P 15 42 39.4 +1.4
PSZ Piszkesteto 78.65 345 IAmb IAmb 15 42 41.5
comp=Z,66nm,1.2s
PSZ Piszkesteto 78.65 345 ⇑P P 15 42 40.0 +1.5

PSZ Piszkesteto 78.65 345 P P 15 42 39.9 +1.5
PSZ Piszkesteto 78.65 345 eP P 15 42 39.2 +0.8
ARCR ARCALIA 78.68 342 ⇑P P 15 42 39.9 +1.4
TESR Tescani 78.77 340 ⇑P P 15 42 39.4 +0.4
TESR Tescani 78.77 340 P P 15 42 40.3 +1.3
comp=Z,62nm,1.2s
MESR Meseseni 78.88 343 ⇓P P 15 42 41.4 +1.8
ONER Baraj Valea Uz 78.99 340 ⇓P P 15 42 41.7 +1.5
SRO Srobarova 78.99 346 eP P 15 42 41.7 +1.5
SRO pmax pmax
comp=Z,36nm,1.2s
SRO Srobarova 78.99 346 eP P 15 42 41.7 +1.5
GHRR 79.04 340 P P 15 42 41.4 +0.9
STU Stuttgart 79.08 353 P P 15 42 43.3 +2.6
STU pmax pmax
comp=Z,25nm,1.4s
CJR Cluj-Napoca 79.18 342 ⇑P P 15 42 42.8 +1.5
CJR Cluj-Napoca 79.18 342 P P 15 42 42.8 +1.5
BUD Budapest 79.21 346 P P 15 42 43.6 +2.2
CONA Conrad Observa 79.22 348 i pP P 15 42 42.7 +1.1
comp=Z,45nm,1.3s,SNR=20
DRGR 79.27 343 ⇓P P 15 42 42.6 +0.8
DRGR 79.27 343 P P 15 42 42.6 +0.8
MARR Marisel-Cluj 79.30 343 ⇑P P 15 42 42.8 +0.7
OZUR 79.35 341 ⇓P P 15 42 43.7 +1.5
SOP Sopron 79.37 347 P P 15 42 44.4 +2.2
VRI Vrincioaia 79.37 340 ⇑P P 15 42 43.2 +0.8
VRI Vrincioaia 79.37 340 P P 15 42 43.1 +0.8
VRI Vrincioaia 79.37 340 P P 15 42 43.2 +0.8
comp=Z,28nm,0.8s
RONA Rosalia, Austr 79.39 348 i pP P 15 42 43.9 +1.5
comp=Z,22nm,1.0s,SNR=12
ODBI Odobesti 79.40 340 ⇑P P 15 42 44.3 +1.8
ODBI Odobesti 79.40 340 P P 15 42 43.4 +1.0
comp=Z,48nm,0.8s
PLOR3 Plostina Array 79.40 340 P P 15 42 43.4 +0.9
comp=Z,793nmcomp=Z,24nm,1.0s
PLOR Plostina 79.40 340 ⇓P P 15 42 43.2 +0.7
PLOR Plostina 79.40 340 P P 15 42 43.2 +0.7
PLOR5 Plostina Array 79.40 340 P P 15 42 43.4 +0.9
comp=Z,36nm,0.9s
MOA Molln 79.49 349 epP P 15 42 43.9 +0.9
comp=Z,24nm,1.6s
COVR Voineasa-Covas 79.50 340 ⇑P P 15 42 44.5 +1.5
DOPR Dopca 79.55 341 ⇑P P 15 42 45.0 +1.7
TLCR 79.56 338 ⇑P P 15 42 44.4 +1.0
TLCR 79.56 338 P P 15 42 44.3 +1.0
GNI Garni 79.59 325 LR LR 16 22 32.0
comp=Z,802nm,19.0s,baz=37,slow=39
BFO Black Forest 79.59 353 P P 15 42 43.7 +0.2
BFO Black Forest 79.59 353 P P 15 42 43.7 +0.2
BBSR BB Station 79.62 50 P P 15 42 43.0 -0.8
BBSR IAmb IAmb 15 42 44.1
comp=Z,53nm,0.8s
CFR Carcaliu 79.72 339 ⇓P P 15 42 45.1 +0.9
CFR Carcaliu 79.72 339 P P 15 42 45.0 +0.9
BIOA Bad Ischl, Aus 79.72 349 i pP P 15 42 44.9 +0.7
comp=Z,54nm,1.6s,SNR=20
MPLH Magyarpolny 79.73 347 P P 15 42 45.1 +0.9
comp=Z,173nm,1.4s
QIS Mount Isa 79.73 216 P P 15 42 43.7 -0.7
comp=Z,14nm,1.8s
KNRA Kununurra 79.84 228 P P 15 42 44.2 -0.8
comp=Z,29nm,1.3s
NEHR Nehoiu 79.88 340 ⇑P P 15 42 46.3 +1.2
MLR Muntele Rosu 79.89 340 IAmb IAmb 15 42 50.6
comp=Z,70nm,1.2s
MLR Muntele Rosu 79.89 340 LR LR 16 21 52.1
comp=Z,295nm,19.4s,baz=41,slow=38
MLR Muntele Rosu 79.89 340 ⇑P P 15 42 47.1 +1.7
MLR Muntele Rosu 79.89 340 P P 15 42 47.0 +1.7
MLR Muntele Rosu 79.89 340 P P 15 42 46.1 +0.8
comp=Z,687nmcomp=Z,53nm,1.4s
ARSA Arzberg 79.93 348 i pP P 15 42 46.9 +1.6
comp=Z,22nm,1.0s,SNR=13
SIRR Siria 79.96 344 ⇓P P 15 42 46.6 +1.1
TPGR Topolog 79.96 339 ⇑P P 15 42 46.5 +1.0
LESA Schwarzleotal 80.09 350 i pP P 15 42 47.8 +1.5
comp=Z,31nm,1.5s,SNR=11
DEV Deva 80.11 343 P P 15 42 48.0 +1.7
VOIR 80.13 341 ⇑P P 15 42 47.9 +1.4
VOIR 80.13 341 P P 15 42 47.9 +1.4
VOIR 80.13 341 P P 15 42 47.3 +0.8
comp=Z,1µmcomp=Z,66nm,1.4s
RETA Reutte 80.22 351 epP P 15 42 48.1 +1.1
comp=Z,20nm,1.6s
ARR Arges 80.28 341 ⇓P P 15 42 48.8 +1.5
WATA Walderalm 80.29 351 i pP P 15 42 48.9 +1.4
comp=Z,50nm,1.4s,SNR=14
TBI Tubuai 80.30 150 eS S 15 52 50.2 -2.2
comp=Z,436nm,29.5s
TBI eSS SS 15 58 00.2 -4.2
comp=Z,983nm,35.5s
TBI eLQ LQ 16 03 48.8
comp=Z,522nm,22.8s
TBI eLR LR 16 07 36.4
comp=Z,3µm,30.0s
MOTA Moosalm 80.33 351 epP P 15 42 48.8 +1.1
comp=Z,42nm,1.4s
TIRR Tirgusor 80.34 338 ⇑P P 15 42 48.4 +0.8
TIRR Tirgusor 80.34 338 P P 15 42 48.3 +0.8
TIRR Tirgusor 80.34 338 P P 15 42 48.5 +0.9
comp=Z,47nm,1.2s
WTTA Wattenberg 80.36 351 i pP P 15 42 48.2 +0.3
comp=Z,42nm,1.0s,SNR=18
KBA Koelnbreinsper 80.36 349 P P 15 42 48.5 +0.6
KBA Koelnbreinsper 80.36 349 epP P 15 42 48.5 +0.6
comp=Z,53nm,0.8s,SNR=36
LOT Lotru 80.37 342 ⇓P P 15 42 48.1 +0.3
SURR Surduc 80.38 343 ⇓P P 15 42 48.9 +1.1
LHMI Lhok Sumawe 80.44 266 IAmb IAmb 15 42 53.2
comp=Z,108nm,1.0s
LHMI Lhok Sumawe 80.44 266 P P 15 42 49.7 +1.2
comp=Z,94nm,0.9s
SQTA Sankt Quirin 80.44 351 i pP P 15 42 49.8 +1.5
comp=Z,54nm,1.7s,SNR=10
DAVA Damuels 80.50 352 pP P 15 42 50.1 +1.5
comp=Z,12nm,0.8s
MORH Mrgy, Hungar 80.50 346 ⇓P P 15 42 49.1 +0.8
MORH Mrgy, Hungar 80.50 346 P P 15 42 48.6 +0.2
comp=Z,15nm,1.8s
BEHE Becsehely 80.53 347 IAmb IAmb 15 42 53.2
comp=Z,107nm,1.6s
SOKA Soboth 80.55 348 i pP P 15 42 49.4 +0.6
comp=Z,90nm,1.4s,SNR=29
PERS Pernice 80.58 348 eP P 15 42 49.0 0.0
BZS Buzias 80.60 343 ⇑P P 15 42 49.3 +0.4
BZS Buzias 80.60 343 P P 15 42 49.3 +0.4
GZR Gura Zlata 80.61 343 ⇓P P 15 42 50.0 +0.9
GZR Gura Zlata 80.61 343 P P 15 42 49.9 +0.9
FETA Feichten 80.69 351 i pP P 15 42 50.3 +0.7
comp=Z,20nm,1.1s,SNR=7.3
GROS Grobnik 80.71 348 eP P 15 42 49.8 +0.2
MYKA Terra Mystica 80.77 349 epP P 15 42 51.1 +1.2
comp=Z,55nm,1.8s,SNR=9.9
ABTA Abfaltersbach 80.78 350 i P P 15 42 50.0 0.0
comp=Z,48nm,1.5s,SNR=11
OBKA Obir 80.78 349 eP P 15 42 50.3 +0.3
OBKA Obir 80.78 349 i pP P 15 42 51.2 +1.2
comp=Z,54nm,1.2s,SNR=16
DAVOX Davos/Dischmat 81.00 352 LR LR 16 20 17.0
comp=Z,102nm,20.6s,baz=29,slow=37
PSI Prapat 81.12 263 LR LR 16 18 55.0
comp=Z,71nm,21.5s,baz=358,slow=36
PSI Prapat 81.12 263 P P 15 42 53.5 +1.2
comp=Z,25nm,2.0s
FUORN Ofenpass-Fuorn 81.13 352 IAmb IAmb 15 42 58.4
comp=Z,168nm,1.9s
HERR Herculane 81.17 343 ⇑P P 15 42 52.1 +0.1
PTJ Puntijarka 81.19 347 P P 15 42 53.6 +1.4
WRAB Tennant Creek 81.20 221 P P 15 42 51.3 -1.0
WRAB Tennant Creek 81.20 221 i P P 15 42 51.4 -0.9
WRAB pmax pmax
comp=Z,48nm,1.4s
WRA Warramunga Arr 81.21 221 P P 15 42 51.5 -0.8
WRA Warramunga Arr 81.21 221 P P 15 42 51.7 -0.7
comp=Z,19nm,1.1s,baz=30,slow=5.7,SNR=32
comp=Z,19nm,1.1s
SRE Strehaia 81.23 342 ⇑P P 15 42 52.7 +0.4
SRE Strehaia 81.23 342 P P 15 42 52.7 +0.4
DIKM Dikmen 81.23 333 ⇓P P 15 42 53.7 +1.3
DIKM Dikmen 81.23 333 P P 15 42 53.2 +0.8
comp=Z,1µmcomp=Z,57nm,1.1s
LEGS Legarje 81.23 348 eP P 15 42 52.2 -0.2
BSI Banda Aceh 81.25 268 P P 15 42 51.3 -1.5

CRES Cresnjevec Ost 81.34 348 eP P 15 42 52.7 -0.2
FRGS Fruska Gora 81.35 345 ⇑iP P 15 42 53.0 0.0
TUE Stuetta 81.35 352 P P 15 42 53.7 +0.5
comp=Z,81nm,1.5s
MDVR Moldovita 81.39 343 ⇓P P 15 42 53.8 +0.6
CEY Cerknica 81.55 348 ⇑iP P 15 42 53.5 -0.6
CTI Castel Tesino 81.56 350 IAmb IAmb 15 42 57.3
comp=Z,118nm,1.9s
BEO Beograd 81.58 344 P P 15 42 55.2 +1.1
SENIN Lac Senin/Sane 81.62 354 IAmb IAmb 15 42 59.8
comp=Z,110nm,1.9s
VLAD Vladila 81.64 341 ⇑P P 15 42 55.2 +0.7
BOJS Bojanci 81.68 348 eP P 15 42 54.7 0.0
PRD Provadia 81.80 339 P P 15 42 55.0 -0.4
TGUH Tegucigalpa,Un 81.88 78 IAmb IAmb 15 42 58.8
comp=Z,106nm,1.1s
A051A Mrakovica 81.94 347 eP P 15 42 50.8 -5.4
TEKS Tekeris 81.99 345 eP P 15 42 56.5 +0.1
SZH Strazhitsa 82.01 340 P P 15 42 55.5 -1.0
HYB Hyderabad 82.14 288 ⇑eP P 15 42 57.8 +0.2
HYB IVmB_BB 15 43 00.4
comp=Z,597nm,3.0s
BLY Banja Luka 82.15 346 eP P 15 42 57.1 -0.1
ILGA Ilgaz 82.22 334 IAmb IAmb 15 43 04.7
comp=Z,104nm,1.1s
MPEP Malo Peshtene 82.39 341 P P 15 42 57.3 -1.1
BOVS Bovan 82.50 343 ⇑P P 15 42 59.5 +0.5
A050A Klekovaca 82.51 347 ⇑iP P 15 42 59.3 +0.1
BBLS Lazi&#263i 82.67 345 ⇑iP P 15 43 00.6 +0.6
UGM Wanagama 82.77 247 P P 15 43 02.0 +1.2
comp=Z,57nm,1.3s
PPI Padang Panjang 82.79 260 P P 15 43 01.4 +0.5
RUDO Rudo 82.92 345 eP P 15 43 01.9 +0.7
BNI Bardonecchia 82.97 354 IAmb IAmb 15 43 09.0
comp=Z,48nm,1.4s
BNI Bardonecchia 82.97 354 P P 15 43 05.5 +3.9
BNI pmax pmax
comp=Z,82nm,1.9s
GSI Gunungsitoli 83.12 263 P P 15 43 04.0 +1.3
comp=Z,36nm,2.0s
GSI Gunungsitoli 83.12 263 P P 15 43 01.4 -1.3
comp=Z,37nm,2.0s
SJES Sjenica 83.17 344 ⇑iP P 15 43 03.0 +0.3
VTS Vitosha 83.19 342 P P 15 43 01.9 -1.0
EDRB Edirne 83.20 339 P P 15 43 01.4 -1.3
PLNA Plana 83.29 341 P P 15 43 03.2 -0.1
ZCCA Zocca 83.31 351 IAmb IAmb 15 43 09.6
comp=Z,62nm,1.0s
FITZ Fitzroy Crossi 83.39 229 P P 15 43 03.8 0.0
comp=Z,24nm,0.9s,baz=24,slow=6.9,SNR=21
comp=Z,24nm,0.9s
UPM Unac-Piva 83.40 345 eP P 15 43 04.3 +0.3
BR106 Keskin Array S 83.47 333 P P 15 43 04.2 -0.1
comp=Z,215nmcomp=Z,19nm,1.7s
BRTR Keskin Array B 83.47 333 P P 15 43 04.2 -0.2
BRTR Keskin Array B 83.47 333 P P 15 43 05.0 +0.6
comp=Z,7.0nm,0.7s,baz=52,slow=2.0,SNR=40
BRTR PP PP 15 46 13.8 -1.8
comp=Z,2.7nm,0.9s,baz=2.7,slow=5.2,SNR=5.0
BRTR PKKPbc PKKPbc 16 01 19.7 -0.9
comp=Z,0.8nm,0.9s,baz=232,slow=4.1,SNR=4.2
BRTR PKPPKP P'P'df 16 09 31.4 -3.2
comp=Z,0.7nm,0.9s,baz=160,slow=8.5,SNR=4.1
BRTR LR LR 16 26 50.3
comp=Z,143nm,18.2s,baz=7.0,slow=40
comp=Z,7.0nm,0.7s
BRTR Keskin Array B 83.47 333 P P 15 43 05.0 +0.6
BR105 Keskin Array S 83.48 333 P P 15 43 04.3 -0.1
comp=Z,234nmcomp=Z,22nm,1.5s
BR104 Keskin Array S 83.49 333 P P 15 43 04.3 -0.1
comp=Z,238nmcomp=Z,23nm,1.5s
LEM Lembang 83.56 250 P P 15 43 03.1 -1.9
comp=Z,16nm,0.9s
ANTO Ankara 83.57 334 P P 15 43 04.8 +0.1
ANTO IAmb IAmb 15 43 09.2
comp=Z,65nm,1.2s
ANTO Ankara 83.57 334 ⇑P P 15 43 05.4 +0.7
ANTO Ankara 83.57 334 P P 15 43 05.4 +0.7
ANTO Ankara 83.57 334 P P 15 43 05.4 +0.7
comp=Z,522nmcomp=Z,24nm,1.6s
QLP Quilpie 83.75 210 P P 15 43 05.9 +0.5
comp=Z,52nm,1.5s
YLV Yalova 83.80 337 P P 15 43 06.2 +0.3
comp=Z,678nmcomp=Z,36nm,1.4s
STON Ston 83.91 346 ⇑iP P 15 43 05.3 -1.0
KIRS Kirsehir-Merke 83.94 333 ⇓P P 15 43 07.4 +0.7
TREB Trebinje 83.96 345 eP P 15 43 05.7 -0.9
KKB Krupnik 83.96 341 P P 15 43 06.2 -0.5
PDG Podgorica 84.10 344 ⇑iP P 15 43 06.6 -0.7
PDG Podgorica 84.10 344 ⇑P P 15 43 07.8 +0.5
MMB Musomishta 84.12 341 P P 15 43 07.6 +0.1
RDO Rodhopi 84.14 339 P P 15 43 05.4 -2.1
RDO Rodhopi 84.14 339 IAmb IAmb 15 43 12.3
comp=Z,71nm,1.0s
HCY Herceg Novi 84.20 345 eP P 15 43 05.9 -1.9
ALN Alexandroupoli 84.26 339 P P 15 43 04.9 -3.2
ALN Alexandroupoli 84.26 339 IAmb IAmb 15 43 09.5
comp=Z,32nm,1.2s
BAND Balkesir-Ban 84.31 337 ⇑P P 15 43 09.1 +0.7
DRME Dracevica, Mon 84.34 344 eP P 15 43 06.8 -1.8
KAVA Kavala 84.50 340 P P 15 43 07.0 -2.3
SRS Serrai 84.57 341 P P 15 43 07.7 -2.0
AS01 Alice Springs 84.71 220 P P 15 43 11.2 +0.7
ASAR Alice Springs 84.73 220 P P 15 43 10.0 -0.6
ASAR Alice Springs 84.73 220 P P 15 43 10.3 -0.3
comp=Z,9.4nm,1.1s,baz=32,slow=4.4,SNR=29
ASAR PKKPbc PKKPbc 16 01 18.4 -0.5
comp=Z,0.7nm,1.0s,baz=234,slow=1.1,SNR=4.2
ASAR LR LR 16 21 14.4
comp=Z,82nm,18.4s,baz=18,slow=36
comp=Z,9.4nm,1.1s
SMTH Samothraki Isl 84.78 339 P P 15 43 09.3 -1.5
THAS Thassos island 84.83 340 P P 15 43 07.9 -3.1
AQU L'Aquila 85.01 349 P P 15 43 16.1 +4.1
AQU pmax pmax
comp=Z,44nm,1.6s
AQU L'Aquila 85.01 349 P P 15 43 12.9 +0.9
comp=Z,702nmcomp=Z,44nm,1.6s
ESPN Las Esperanzas 85.12 77 IAmb IAmb 15 43 15.4
comp=Z,60nm,1.0s
EZN Ezine 85.22 339 P P 15 43 11.9 -1.1
EZN Ezine 85.22 339 P P 15 43 13.7 +0.7
EZN Ezine 85.22 339 P P 15 43 13.7 +0.7
comp=Z,550nmcomp=Z,29nm,1.9s
OUR Ouranopolis 85.24 340 P P 15 43 11.9 -1.2
ARMA Armidale 85.35 203 IAmb IAmb 15 43 16.4
comp=Z,92nm,1.9s
RKT Rikitea 85.38 138 eLR LR 16 10 08.2
comp=Z,2µm,25.0s
PAIG Paliouri 85.70 341 P P 15 43 17.0 +1.6
SIGR SIGRI 85.92 339 P P 15 43 14.9 -1.6
INKA Innaminka 85.94 213 P P 15 43 18.2 +1.7
comp=Z,30nm,1.4s
MANT Manisa 85.97 336 IAmb IAmb 15 43 22.4
comp=Z,98nm,1.9s
ISP Isparta 86.10 335 IAmb IAmb 15 43 22.6
comp=Z,29nm,0.9s
ISP Isparta 86.10 335 P P 15 43 19.5 +2.0
ISP pmax pmax
comp=Z,35nm,1.9s
PAOL Paolisi 86.17 348 IAmb IAmb 15 43 21.1
comp=Z,71nm,1.6s
JTS Las Juntas de 86.23 78 LR LR 16 21 47.7
comp=Z,98nm,20.2s,baz=293,slow=36
AOS Alonnisos 86.38 340 P P 15 43 18.1 -0.7
BANOM Banah 87.16 310 P P 15 43 23.1 +0.2
EVGI Lefkada island 87.55 342 P P 15 43 24.2 -0.3
TIP Timpagrande 87.67 346 IAmb IAmb 15 43 28.5
comp=Z,49nm,1.7s
TIP Timpagrande 87.67 346 P P 15 43 25.9 +0.8
comp=Z,12nm,1.8s
OOD Oodnadatta 87.77 217 P P 15 43 25.8 +0.4
MTE Manteigas 87.77 4 IAmb IAmb 15 46 47.3
comp=Z,72nm,2.0s
CMSA Cobar Meteorol 87.96 207 P P 15 43 27.9 +1.7
comp=Z,29nm,1.4s
WRKA Warakurna 88.26 224 P P 15 43 28.5 +0.7
comp=Z,35nm,1.1s
ESDC Sonseca Array 88.61 2 P P 15 43 27.9 -1.7
ESDC IAmb IAmb 15 44 06.6
comp=Z,61nm,2.0s
ESDC Sonseca Array 88.61 2 P P 15 43 28.8 -0.8
comp=Z,1.4nm,0.8s,baz=348,slow=4.5,SNR=9.9
ESDC PP PP 15 46 56.2 -0.7
comp=Z,1.4nm,1.1s,baz=27,slow=4.2,SNR=4.2

comp=Z,1.4nm,0.8s
ASUD Al Ashush, Dub 88.72 310 P **P 15 43 30.5 +0.2**
PALK Pallekele 88.83 280 LR LR 16 25 34.3
comp=Z,111nm,21.2s,baz=35,slow=37
MBWA Marble Bar 88.85 233 P **P 15 43 29.5 -1.1**
MBWA IAmb IAmb 15 43 30.8
comp=Z,33nm,1.2s
MBWA Marble Bar 88.85 233 P **P 15 43 30.9 +0.2**
comp=Z,15nm,1.6s
MMAI Mount Meron Ar 89.18 329 P **P 15 43 32.5 +0.2**
comp=Z,5.4nm,0.7s,baz=64,slow=4.8,SNR=4.3
MMAI LR LR 16 29 02.7
comp=Z,223nm,19.2s,baz=18,slow=39
comp=Z,5.4nm,0.7s
LCRK Leigh Creek 89.29 214 P **P 15 43 33.9 +1.4**
comp=Z,77nm,1.4s
STKA Stephens Creek 89.50 210 P **P 15 43 32.6 -0.8**
comp=Z,24nm,1.1s,baz=3.3,slow=4.9,SNR=22
comp=Z,24nm,1.1s
STKA Stephens Creek 89.50 210 P **P 15 43 34.6 +1.2**
comp=Z,9.2nm,1.6s
VAE Valguarnera 89.68 347 LR LR 16 27 38.1
comp=Z,113nm,18.1s,baz=10.0,slow=38
IDI Anoyia 89.89 338 P P 15 43 24.2 -11
IMMV Iera Moni Meta 89.93 339 P **P 15 43 34.9 -0.9**
BALJ Balqa 89.96 329 IAmb IAmb 15 43 41.0
comp=Z,28nm,0.9s
URZ Urewera 89.97 181 LR LR 16 19 20.2
comp=Z,82nm,18.7s,baz=120,slow=32
CELP Cerrillos 90.50 59 IAmb IAmb 15 43 39.0
comp=Z,71nm,1.2s
GCPR Guaynabo City 90.57 59 IAmb IAmb 15 43 39.2
comp=Z,70nm,1.1s
CAN Canberra 90.67 203 IAmb IAmb 15 43 41.1
comp=Z,41nm,1.4s
CAN Canberra 90.67 203 P **P 15 43 40.5 +1.6**
comp=Z,30nm,1.6s
CAN Canberra 90.67 203 P **P 15 43 41.5 +2.6**
CAN pmax pmax
comp=Z,31nm,1.6s
SJG San Juan 90.70 59 LR LR 16 26 45.6
comp=Z,157nm,19.4s,baz=342,slow=37
HTT Hallett 91.79 212 P **P 15 43 45.7 +1.6**
comp=Z,24nm,1.8s
KEST Kesra 92.01 351 P **P 15 43 45.8 +0.2**
comp=Z,2.6nm,0.8s,baz=50,slow=17,SNR=2.1
comp=Z,2.6nm,0.8s
EIL Elat 92.42 328 LR LR 16 29 57.4
comp=Z,260nm,20.7s,baz=60,slow=38
MEEK Meekatharra 94.02 231 P **P 15 43 55.6 +1.0**
comp=Z,34nm,1.4s
RAYN Ar Rayn 94.07 317 P **P 15 43 54.5 -0.7**
RAYN Ar Rayn 94.07 317 P **P 15 43 54.5 -0.7**
RAYN pmax pmax
comp=Z,9.0nm,1.0s
RAYN Ar Rayn 94.07 317 *i* P **P 15 43 55.0 -0.1**
SNR=9.6
SDV Santo Domingo 95.78 68 LR LR 16 28 28.0
comp=Z,146nm,21.6s,baz=346,slow=36
PCRV Puerto La Cruz 98.08 62 LR LR 16 31 58.2
comp=Z,114nm,18.0s,slow=38
NWAO Narrogin (SRO) 99.94 228 LR LR 16 26 55.8
comp=Z,68nm,21.4s,baz=339,slow=34
LPAZ La Paz 117.29 81 PKP **PKPdf 15 49 22.4 -0.5**
comp=Z,1.2nm,0.8s,baz=24,slow=6.8,SNR=4.8
KMBO Kilima Mbogo 119.58 313 PKP **PKPdf 15 49 26.9 -0.1**
comp=Z,5.9nm,0.9s,baz=9.4,slow=3.3,SNR=12
KMBO Kilima Mbogo 119.58 313 *i* P **PKiKP 15 49 27.8 +0.8**
SNR=6.4
DBIC Dimbokro 121.43 3 PKP **PKPdf 15 49 28.6 -1.6**
comp=Z,5.3nm,0.8s,baz=341,slow=4.0,SNR=4.8
BDFB Brasilia 128.56 63 PKP **PKPdf 15 49 43.3 -0.6**
comp=Z,4.7nm,0.8s,baz=309,slow=2.5,SNR=7.2
VNDA Vanda 129.72 185 PKP **PKPdf 15 49 42.8 -1.3**
comp=Z,1.2nm,0.9s,baz=332,slow=5.0,SNR=3.9
CPUP Villa Florida 131.43 80 PKP **PKPdf 15 49 47.5 -1.4**
comp=Z,7.0nm,0.9s,baz=352,slow=4.4,SNR=11
CPUP SKPbc **SKPbc 15 53 11.8 -1.6**
comp=Z,6.3nm,1.1s,baz=324,slow=2.9,SNR=6.8
PLCA Paso Flores 133.03 105 PKP **PKPdf 15 49 51.2 -0.4**
comp=Z,22nm,1.1s,baz=198,slow=1.7,SNR=13
PLCA SKPbc **SKPab 15 53 21.0 +0.4**
comp=Z,2.0nm,0.8s,baz=344,slow=2.3,SNR=3.9
QSPA South Pole Qui 141.83 180 PKP **PKPdf 15 50 05.5 -1.4**
comp=Z,4.6nm,0.9s,baz=345,slow=1.8,SNR=10
LPHEP Lephephe 144.29 313 *i* P PKPbc 15 50 11.3 +0.3
GRTLG Ghanzi 144.48 321 *i* P PKPbc 15 50 11.7 +0.1
KDWAN Kaudwane 144.84 314 *i* P PKPbc 15 50 12.7 0.0
KGCAE Kacgae 145.42 318 *i* P **PKPbc 15 50 14.6 0.0**
MAW Mawson 145.84 218 PKPbc **PKPdf 15 50 12.9 -0.8**
comp=Z,10nm,0.7s,baz=89,slow=4.2,SNR=6.8
SKOMA Sekoma 146.15 314 *i* P **PKPdf 15 50 15.9 0.0**
KOOLE Kule 146.35 321 *i* P **PKPdf 15 50 16.2 -0.2**
MAKGR Makgori 146.88 312 *i* P **PKPdf 15 50 15.5 -1.7**
LKGWB Lokgwabe 146.95 319 *i* P **PKPdf 15 50 16.8 -0.4**
PHPEN Phepeng 147.46 315 *i* P **PKPdf 15 50 16.7 -1.4**
BOSA Boshof 149.04 309 PKPbc **PKPbc 15 50 24.8 +0.1**
comp=Z,13nm,0.6s,baz=42,slow=2.5,SNR=4.4
SYO Syowa Base 154.22 213⇑ *ep*PKPdf pPKPdf 15 50 31.5 +0.1
SYO Syowa Base 154.22 213⇓ *ep*PKPbc **PKiKP 15 50 37.2 +2.0**
ELIB Princess Elisa 157.16 200 *d*PKPdf **PKPdf 15 50 30.8 -0.2**
ELIB *d*PKP **PKPab 15 51 00.9 -1.0**
TROLL Troll, Antarti 159.90 184 ⇓PKPab **PKPab 15 51 12.9 -0.8**
comp=Z,40nm,0.2s
SNAA Sanae 160.33 179 ⇑PKPab **PKPab 15 51 14.6 -1.0**
comp=Z,24nm,0.5s
SNAA Sanae 160.33 179 PKPab **PKPab 15 51 12.8 -2.8**
comp=Z,8.7nm,0.9s,baz=172,slow=4.1,SNR=8.5
VNA3 Neumayer Olymp 160.45 173 ⇓PKPab **PKPab 15 51 15.4 -0.7**
VNA2 Neumayer--Watz 160.92 175 ⇓PKPab **PKPab 15 51 17.6 -0.5**
comp=Z,1.0nm,0.5s,baz=162,slow=2.2
VNA2 ⇓PKPdf **PKPdf 15 50 33.9 -1.3**
comp=Z,3.3nm,0.9s,baz=319,slow=1.9
VNA1 Neumayer--Stat 161.14 173 ⇓PKPab **PKPab 15 51 18.9 -0.1**
comp=Z,9.2nm,0.9s

---

*BGSI **14** 15:34:43.5±2.2, 17.°47S×24.°63E, h21km±26km, ML3.1*
*PRE **14** 15:34:44.0±0.6, 18.°05S×24.°94E, h5km, ML2.6*
ISC 14 15:34:44.9±1.0,**18.°09S**±0.°05×**24.°98E**±0.°05,**h10**km,**n20,**
σ2°83/28,1C,Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSANE	**Kasane**	**0.34**	**31**	⇑*i* P	**Pn**	**15 34 55.6**	**-0.4**
KSANE				*i* S	**Sb**	**15 35 01.7**	**+3.0**
KSANE				IAML		15 35 04.8	
	comp=E,3μm,0.1s						
PHDHD	**Phuduhudu**	**2.13**	**191**	*i* P	**Pb**	**15 35 24.3**	**+0.6**
PHDHD				IAML		15 36 13.8	
	comp=N,249nm,0.5s						
XAUDM	**Khaudum**	**3.48**	**262**	*i* P	Pn	15 35 31.4	-7.9
XAUDM				IAML		15 36 31.7	
	comp=N,220nm,0.6s						
KHWEE	**KHWEE**	**3.86**	**173**	*i* P	**Pb**	**15 35 49.1**	**-4.1**
KHWEE				IAML		15 37 04.8	
	comp=E,179nm,0.2s						
QNGWA	**Qangwa**	**3.88**	**248**	*i* P	**Pn**	**15 35 40.1**	**-4.6**
QNGWA				IAML		15 36 47.7	
	comp=N,75nm,0.1s						
BLWY	**Bulawayo**	**3.99**	**121**	*i* P	**Pb**	**15 35 53.4**	**-2.1**
BLWY				*i* S	**Sn**	**15 36 34.1**	**+0.8**
LSZ	**Lusaka**	**4.16**	**48**	*i* P	**Pg**	**15 36 06.7**	**+2.0**
LSZ				*i* S	**Sg**	**15 36 57.0**	**-1.6**
GRTLG	**Ghanzi**	**4.81**	**227**	*i* P	**Pn**	**15 35 56.3**	**-1.3**
GRTLG				*i* S	**Sn**	**15 36 49.5**	**-3.9**
GRTLG				IAML		15 37 21.0	
	comp=N,26nm,0.3s						
MREMI	**Moremi**	**5.02**	**153**	*i* P	Pn	15 36 05.7	+5.3
MREMI				IAML		15 37 43.5	
	comp=N,72nm,0.2s						
KDWAN	**Kaudwane**	**5.27**	**183**	*i* P	**Pn**	**15 36 07.7**	**+3.9**
KDWAN				*i* S	**Sn**	**15 37 08.5**	**+3.8**
KDWAN				IAML		15 37 54.8	
	comp=N,22nm,0.4s						
LPHEP	**Lephephe**	**5.31**	**171**	*i* P	Pn	15 36 09.2	+4.8
LPHEP				IAML		15 37 51.0	
	comp=E,16nm,0.9s						
KGCAE	**Kacgae**	**5.40**	**208**	*i* P	**Pn**	**15 36 07.9**	**+2.2**
KGCAE				*i* S	**Sn**	**15 37 09.7**	**+1.7**
KGCAE				IAML		15 37 48.6	
	comp=N,32nm,0.7s						
MUSN	**Musina, Limpop**	**6.20**	**133**	*eP*	**Pn**	**15 36 18.0**	**+1.4**
MUSN				*eS*	**Sn**	**15 37 26.7**	**-0.9**
MUSN				IAML		15 37 34.4	
	comp=Z,8.3nm,0.2s						
MUSN	**Musina, Limpop**	**6.20**	**133**	*i* P	Pn	15 36 21.4	+4.8
MUSN				*i* S	**Sn**	**15 37 26.8**	**-0.9**
LEPH	**Lephalale, Lim**	**6.31**	**156**	*eP*	**Pn**	**15 36 20.1**	**+1.9**
LEPH				*eS*	**Sn**	**15 37 30.1**	**-0.4**
LEPH				IAML		15 38 24.0	
	comp=Z,11nm,0.4s						
KOOLE	**Kule**	**6.62**	**222**	*i* P	**Pn**	**15 36 21.6**	**-0.8**
KOOLE				IAML		15 38 23.7	
	comp=N,11nm,0.9s						
LBTB	**Lobatse**	**6.91**	**175**	*eP*	**Pn**	**15 36 27.4**	**+0.9**
LBTB				*eS*	**Sn**	**15 37 43.5**	**-1.7**
LBTB				IAML		15 38 38.4	
	comp=Z,2.9nm,0.5s						
LBTB	**Lobatse**	**6.91**	**175**	*i* P	Pn	15 36 31.5	+5.1
LBTB				*i* S	**Sn**	**15 37 39.2**	**-6.0**
MOPA	**Mopani**	**8.07**	**133**	*eP*	**Pn**	**15 36 44.3**	**+2.0**
MOPA				*eS*	**Sn**	**15 38 11.0**	**-2.7**
MOPA				IAML		15 38 20.9	
	comp=Z,7.7nm,0.4s						
MOPA	**Mopani**	**8.07**	**133**	*i* P	**Pn**	**15 36 46.2**	**+3.9**
MOPA				*i* S	**Sn**	**15 38 10.0**	**-3.7**

---

*ISK **14** 15:49:20.2, 38.°97N×26.°04E, h12km, ML2.9/25*
*AFAD **14** 15:49:20.6, 38.°96N×26.°07E, h7km±3km, ML2.8*
*ATH **14** 15:49:20.5, 38.°95N×26.°03E, h14km±4km, ML2.6/6,*
Manual Solution by K.Orfanogiannaki First location:
2019/04/14 15:50:32, This location: 2019/04/15 08:50:21
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 3
km; Longitude uncertainty: 3 km
*THE **14** 15:49:21.0, 38.°98N×26.°05E, h2km±2km, ML2.6/4, Error*
ellipse: s-maj=3.1km s-min=1.4km az=134.0
ISC 14 15:49:20.6±0.9,**38.°96N**±0.°02×**26.°04E**±0.°02,**h14**km±7km,
n87,σ0°**57**/121,**5C-4D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.29**	**330**	P	**Pg**	**15 49 26.9**	**+0.2**
SIGR				S	**Sg**	**15 49 30.7**	**-0.2**
	3μm,0.4s						
SIGR	**SIGRI**	**0.29**	**330**	Pg	**Pg**	**15 49 26.8**	**0.0**
SIGR				Sg	**Sg**	**15 49 30.9**	**-0.1**
SIGR	**SIGRI**	**0.29**	**330**	P	**Pg**	**15 49 26.8**	**0.0**
SIGR				S	**Sg**	**15 49 30.8**	**-0.1**
KARB	**zmir-Karabur**	**0.41**	**135**	P	**Pg**	**15 49 28.8**	**0.0**
KARB				S	**Sg**	**15 49 34.3**	**-0.1**
EAG2	**Marmaro, Chios**	**0.41**	**173**	P	**Pg**	**15 49 28.4**	**-0.5**
EAG2				S	**Sg**	**15 49 35.1**	**+0.6**
GPNR	**Gulpinar-Canak**	**0.51**	**8**	Pg	**Pg**	**15 49 30.7**	**+0.1**
GPNR				Sg	**Sb**	**15 49 38.1**	**-0.3**
KOCA	**Canakkale, Ayv**	**0.55**	**8**	P	**Pg**	**15 49 31.5**	**+0.1**
KOCA				S	**Sg**	**15 49 38.5**	**-0.3**
KOCA				*i* AML	AML	15 49 40.0	
	comp=N,492nm,0.4s						
KOCA				*i* AML	AML	15 49 40.0	
	comp=E,491nm,0.6s						
FOCM	**Foa**	**0.59**	**114**	Pg	**Pg**	**15 49 31.9**	**-0.3**
FOCM				Sg	**Sb**	**15 49 41.6**	**+0.8**
AYVA	**Ayvalik**	**0.61**	**55**	P	**Pg**	**15 49 32.6**	**0.0**
AYVA				S	**Sg**	**15 49 40.6**	**-0.2**
AYVA				*i* AML	AML	15 49 45.0	
	comp=E,774nm,0.2s						
AYVA				*i* AML	AML	15 49 47.0	
	comp=N,480nm,0.5s						
CESE	**eme**	**0.66**	**162**	Pg	**Pg**	**15 49 33.3**	**-0.1**
CESE				Sg	**Sb**	**15 49 43.6**	**+0.9**
DKL	**Dikili**	**0.68**	**80**	Pg	**Pb**	**15 49 34.2**	**0.0**
DKL				Sg	**Sb**	**15 49 44.1**	**+0.6**
DKL	**Dikili**	**0.68**	**80**	P	**Pg**	**15 49 33.9**	**0.0**
DKL				S	**Sb**	**15 49 43.4**	**-0.1**
IZMD	**zmir-Dikili-**	**0.69**	**87**	P	**Pg**	**15 49 33.9**	**-0.2**
URLA	**Izmir**	**0.74**	**144**	P	**Pg**	**15 49 34.8**	**-0.1**
URLA				S	**Sb**	**15 49 45.6**	**+0.6**
URLA				*i* AML	AML	15 49 50.0	
	comp=N,314nm,0.7s						
ZEYE	**Izmir, Urla-Ze**	**0.80**	**153**	P	**Pg**	**15 49 35.0**	**-1.1**
ZEYE				S	**Sg**	**15 49 46.1**	**-0.6**
ZEDA	**zmir-Bergama**	**0.81**	**89**	P	**Pg**	**15 49 36.2**	**0.0**
ZEDA				S	**Sb**	**15 49 48.1**	**+1.0**
ZEDA				*i* AML	AML	15 49 50.0	
	comp=N,297nm,0.3s						
EZNE	**Ezine-Canakkal**	**0.84**	**17**	Pg	**Pg**	**15 49 36.6**	**-0.2**
EZNE				Sg	**Sb**	**15 49 48.3**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.88**	**26**	P	**Pb**	**15 49 38.0**	**+0.5**
BAYC				S	**Sb**	**15 49 49.5**	**+0.3**
BAYC				*i* AML	AML	15 49 52.0	
	comp=N,214nm,0.5s						
BAYC				*i* AML	AML	15 49 55.0	
	comp=E,222nm,0.2s						
BOZC	**Bozcaada**	**0.89**	**1**	Pg	**Pg**	**15 49 37.2**	**-0.5**
BOZC				Sg	**Sb**	**15 49 49.9**	**+0.5**
BOZC	**Bozcaada**	**0.89**	**1**	P	**Pg**	**15 49 37.2**	**-0.5**
BOZC				S	**Sg**	**15 49 48.8**	**-0.5**
BOZC				*i* AML	AML	15 49 50.0	
	comp=N,411nm,0.2s						
BOZC				*i* AML	AML	15 49 52.0	
	comp=E,387nm,0.3s						
EZN	**Ezine**	**0.90**	**14**	P	**Pg**	**15 49 37.6**	**-0.3**
EZN				S	**Sb**	**15 49 49.8**	**+0.1**
EZN	**Ezine**	**0.90**	**14**	Pg	**Pg**	**15 49 37.4**	**-0.6**
EZN				Sg	**Sb**	**15 49 50.3**	**+0.6**
BLCB	**Balcova**	**0.97**	**126**	Pg	**Pb**	**15 49 39.4**	**+0.3**
BLCB				Sg	**Sn**	**15 49 53.3**	**+0.1**
BUHA	**Balikesir, Bur**	**0.97**	**56**	P	**Pb**	**15 49 39.3**	**+0.1**
BUHA				S	**Sg**	**15 49 51.0**	**-1.1**
BUHA				*i* AML	AML	15 49 56.0	
	comp=E,250nm,0.4s						
BUHA				*i* AML	AML	15 49 57.0	
	comp=N,166nm,0.4s						
EFSA	**Agios Efstrati**	**1.00**	**306**	P	**Pg**	**15 49 40.1**	**+0.1**
YAYO	**Edremit-Balk**	**1.03**	**50**	Pg	**Pb**	**15 49 39.8**	**-0.4**
ECEA	**Canakkale, Ece**	**1.09**	**5**	P	**Pn**	**15 49 41.6**	**+0.2**
ECEA				S	**Sn**	**15 49 56.3**	**0.0**
DGB	**zmir**	**1.12**	**144**	P	**Pb**	**15 49 41.4**	**-0.2**
DGB				S	**Sb**	**15 49 55.0**	**-1.0**
CNKL	**anakkale-Mer**	**1.14**	**13**	P	**Pb**	**15 49 42.0**	**0.0**
CNKL				S	**Sg**	**15 49 57.0**	**-0.5**
CNKL				*i* AML	AML	15 49 59.0	
	comp=E,359nm,0.3s						
CNKL				*i* AML	AML	15 50 01.0	
	comp=N,216nm,0.2s						
SKY	**Skiros Island**	**1.17**	**267**	P	**Pn**	**15 49 43.0**	**+0.5**
SKY				S	**Sn**	**15 49 58.7**	**+0.6**
	265nm,0.3s						
SKY	**Skiros Island**	**1.17**	**267**	P	**Pn**	**15 49 42.9**	**+0.5**
SKY				S	**Sb**	**15 49 57.0**	**-0.5**
SOMA	**Soma-Manisa**	**1.18**	**80**	Pn	**Pn**	**15 49 42.8**	**+0.2**
COMU	**Canakkale**	**1.19**	**16**	Pn	**Pb**	**15 49 42.8**	**-0.1**
GOAD	**anakkale-G¶**	**1.21**	**355**	P	**Pn**	**15 49 42.5**	**-0.5**
GOAD				S	**Sb**	**15 49 58.3**	**-0.4**
GOAD				*i* AML	AML	15 50 04.0	
	comp=N,216nm,0.3s						
GOAD				*i* AML	AML	15 50 05.0	
	comp=E,244nm,0.4s						
GADA	**Gvkgeada**	**1.24**	**355**	Pn	**Pn**	**15 49 43.4**	**0.0**
CANM	**Can-anakkale**	**1.31**	**36**	Pn	**Pn**	**15 49 44.3**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.37**	**72**	P	**Pn**	**15 49 45.6**	**+0.4**
STEP				S	**Sb**	**15 50 03.3**	**0.0**
STEP				*i* AML	AML	15 50 11.0	
	comp=E,166nm,0.6s						
STEP				*i* AML	AML	15 50 17.0	
	comp=N,168nm,0.7s						
AKHS	**Akhisar**	**1.38**	**93**	P	**Pn**	**15 49 45.9**	**+0.5**
BALY	**Balya**	**1.45**	**57**	P	**Pn**	**15 49 46.7**	**+0.3**
BALY				S	**Sn**	**15 50 04.2**	**-1.1**
GELI	**Tayfur-Gelibol**	**1.48**	**13**	Pn	**Pn**	**15 49 47.2**	**+0.5**
LPK	**Lapseki**	**1.52**	**21**	Pn	**Pn**	**15 49 47.7**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.55**	**259**	P	**Pn**	**15 49 47.5**	**-0.2**
KYMI				S	**Sn**	**15 50 07.2**	**-0.5**
KARY	**Karystos**	**1.56**	**234**	P	**Pn**	**15 49 47.5**	**-0.4**
KARY				S	**Sn**	**15 50 07.1**	**-0.8**
SMTH	**Samothraki Isl**	**1.56**	**346**	P	**Pn**	**15 49 47.8**	**-0.1**
SMTH				S	**Sb**	**15 50 09.5**	**+0.6**
	115nm,0.4s						
SMTH	**Samothraki Isl**	**1.56**	**346**	P	**Pn**	**15 49 48.0**	**+0.1**
GCAM	**G?zelcaml?**	**1.56**	**143**	Pn	**Pn**	**15 49 48.6**	**+0.7**
BKES	**Balkesir-Mer**	**1.66**	**61**	P	**Pn**	**15 49 49.5**	**+0.3**
GORD	**Gordes-Manisa**	**1.67**	**91**	Pn	**Pn**	**15 49 49.9**	**+0.5**
AOS	**Alonnisos**	**1.70**	**278**	P	**Pn**	**15 49 50.6**	**+0.9**
AOS				S	**Sg**	**15 50 15.5**	**+0.3**
	132nm,0.5s						
ODEM	**Odemis-Izmir**	**1.73**	**112**	Pn	**Pn**	**15 49 50.9**	**+0.6**
KRBG	**Karabiga-Canak**	**1.73**	**34**	Pn	**Pn**	**15 49 50.4**	**+0.2**
CAVK	**Edirne/Enez-Ca**	**1.74**	**3**	P	**Pn**	**15 49 49.0**	**-1.3**
CAVK	**Edirne/Enez-Ca**	**1.74**	**3**	⇑P	**Pn**	**15 49 49.7**	**-0.6**
ERIK	**Erikli-Kesan**	**1.75**	**12**	Pn	**Pn**	**15 49 51.3**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**124**	Pn	**Pn**	**15 49 51.4**	**+0.6**
ENEZ	**Enez**	**1.78**	**3**	Pn	**Pn**	**15 49 51.1**	**+0.2**
SUSR	**Susurluk-Balik**	**1.87**	**57**	Pn	**Pn**	**15 49 52.0**	**-0.2**
APE	**Apeiranthos**	**1.93**	**192**	⇑P	Pg	15 50 06.9	+9.3
KESN	**Edirne-Kesan**	**1.93**	**15**	P	**Pn**	**15 49 54.3**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.94**	**26**	Pn	**Pn**	**15 49 53.6**	**+0.5**
THAS	**Thassos island**	**1.94**	**329**	P	**Pn**	**15 49 53.1**	**0.0**
ALN	**Alexandroupoli**	**1.94**	**1**	P	**Pn**	**15 49 53.8**	**+0.7**
ALN	**Alexandroupoli**	**1.94**	**0**	Pn	**Pn**	**15 49 53.6**	**+0.5**
SART	**Tekirdag**	**1.94**	**26**	P	**Pb**	**15 49 55.1**	**-0.6**
EDC	**Edincik**	**1.98**	**45**	Pn	**Pn**	**15 49 52.7**	**-0.9**
DURS	**Dursunbey**	**2.00**	**70**	P	**Pn**	**15 49 54.8**	**+0.9**
MRMT	**Marmara Adasi**	**2.04**	**36**	Pn	**Pn**	**15 49 55.1**	**+0.6**
PAIG	**Paliouri**	**2.07**	**299**	Pn	**Pn**	**15 49 55.1**	**+0.2**
OUR	**Ouranopolis**	**2.10**	**312**	Pn	**Pn**	**15 49 55.7**	**+0.4**
OUR	**Ouranopolis**	**2.10**	**312**	P	**Pn**	**15 49 55.3**	**0.0**
BAND	**Balkesir-Ban**	**2.12**	**48**	⇑P	**Pn**	**15 49 56.3**	**+0.8**
KCTX	**Karacabey (Bur**	**2.21**	**53**	Pn	**Pn**	**15 49 57.4**	**+0.5**
UKOP	**Uzunkopru-Edir**	**2.22**	**12**	Pn	**Pn**	**15 49 57.5**	**+0.6**
RDO	**Rodhopi**	**2.22**	**350**	Pn	**Pn**	**15 49 57.3**	**+0.4**
RDO	**Rodhopi**	**2.22**	**350**	P	**Pn**	**15 49 56.6**	**-0.3**
XOR	**Xorichti**	**2.25**	**281**	P	**Pn**	**15 49 57.2**	**-0.3**
KAVA	**Kavala**	**2.35**	**331**	P	**Pn**	**15 49 59.0**	**+0.3**
KOKK	**Kokkinochori,**	**2.44**	**320**	P	**Pn**	**15 50 00.1**	**+0.2**
HORT	**Hortiatis**	**2.80**	**307**	P	**Pn**	**15 50 05.6**	**+0.6**
ANX	**Ano Chora**	**3.24**	**265**	P	**Pn**	**15 50 11.3**	**+0.2**
AMT	**Artemida-Makis**	**3.69**	**249**	P	**Pn**	**15 50 16.8**	**-0.4**
BOVS	**Bovan**	**5.70**	**326**	⇓P	**Pn**	**15 50 47.0**	**+2.2**
HERR	**Herculane**	**6.51**	**337**	⇓P	**Pn**	**15 50 56.7**	**+0.8**
MDVR	**Moldovita**	**6.66**	**332**	⇓P	**Pn**	**15 50 59.5**	**+1.5**
LOT	**Lotru**	**6.70**	**346**	⇑P	**Pn**	**15 50 58.2**	**-0.4**
GZR	**Gura Zlata**	**6.87**	**340**	⇓P	**Pn**	**15 51 01.4**	**+0.5**
BZS	**Buzias**	**7.42**	**335**	⇑P	**Pn**	**15 51 09.3**	**+0.9**

---

*IDC **14** 16:03:19.2±1.4, 25.°01N×128.°39E, h0km, mb3.4/3,*
mbtmp3.4/3, Error ellipse: s-maj=80.3km s-min=19.3km
az=81.0
*JMA **14** 16:03:21.7±0.3, 25.°N±1.°×12.°8E±.°, h67km, MV3.5/22, FAR*
S OFF OKINAWAJIMA
ISC 14 16:03:22.0±1.5,**24.°86N**±0.°07×**128.°21E**±0.°05,**h61**km±55km,
n22,σ1°**07**/30,**mb3.4**/3,**Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.34**	**343**	P	**Pn**	**16 03 45.2**	**+0.7**
JJT3				*eS*	**Sn**	**16 04 02.0**	**+0.6**
JNTH	**Nagotoyohara**	**1.66**	**354**	P	**Pn**	**16 03 49.2**	**+0.3**
JAGN	**Aguni-jima**	**1.93**	**333**	P	**Pn**	**16 03 53.5**	**+0.9**
JAGN				*eS*	**Sn**	**16 04 14.8**	**-1.0**
JKE	**Kume jima 2**	**1.95**	**319**	*i* P	**Pn**	**16 03 53.1**	**+0.3**
JKE				S	**Sn**	**16 04 15.5**	**-0.6**
JOW	**Kunigami**	**1.97**	**2**	Pn	**Pn**	**16 03 51.6**	**-1.4**
	10.0nm,0.3s,baz=123,slow=21,SNR=20						
JOW				Sn	**Sn**	**16 04 15.7**	**-1.0**
	22nm,0.3s,baz=102,slow=23,SNR=7.2						
JOW	**Kunigami**	**1.97**	**2**	*eP*	**Pn**	**16 03 54.1**	**+1.1**
JYRO	**Yoronjima**	**2.17**	**6**	*eP*	**Pn**	**16 03 56.7**	**+0.9**
JIH	**Iheya**	**2.18**	**354**	*eP*	**Pn**	**16 03 56.6**	**+0.7**
JOGS	**Gusukube**	**2.55**	**268**	*eP*	**Pn**	**16 04 01.6**	**+0.7**
JOGS				*eS*	**Sn**	**16 04 30.5**	**-0.3**
JMJ2	**Miyako jima3**	**2.62**	**268**	*eP*	**Pn**	**16 04 02.6**	**+0.7**
JMJ2				*eS*	**Sn**	**16 04 31.9**	**-0.7**
JIKM	**Ikemajima**	**2.69**	**272**	P	**Pn**	**16 04 03.7**	**+0.8**
JIKM				*eS*	**Sn**	**16 04 33.8**	**-0.5**
JIRB	**Irabujima**	**2.76**	**270**	P	**Pn**	**16 04 04.2**	**+0.4**
JMZ	**Minamidaito 2**	**2.89**	**70**	P	**Pn**	**16 04 05.9**	**+0.3**
JTK	**Tokunoshima**	**2.99**	**13**	P	**Pn**	**16 04 08.3**	**+1.4**
JTK				*eS*	**Sn**	**16 04 39.9**	**-1.8**
JKDJ	**Kitadaitoujima**	**3.00**	**68**	P	**Pn**	**16 04 07.2**	**+0.2**
JKDJ				S	**Sn**	**16 04 41.6**	**-0.2**
JAMN	**Amaminishikomi**	**3.48**	**14**	P	**Pn**	**16 04 15.7**	**+2.1**
JAMN				*eS*	**Sn**	**16 04 52.2**	**-1.5**
JISG	**Ishigakijimahi**	**3.56**	**266**	P	**Pn**	**16 04 14.8**	**+0.1**
JIJ	**Ishigaki jima**	**3.73**	**263**	P	**Pn**	**16 04 17.3**	**+0.1**
JAM	**Amami Oshima**	**3.75**	**19**	P	**Pn**	**16 04 19.2**	**+1.9**
JAM				S	**Sn**	**16 04 58.5**	**-1.8**
MKAR	**Makanchi Array**	**42.44**	**313**	P	P	16 11 16.5	+5.7
	0.2nm,0.5s,baz=94,slow=8.8,SNR=2.4						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**44.93**	**172**	P	P	16 11 36.3	+5.4
	0.7nm,0.8s,baz=347,slow=8.0,SNR=5.4						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**48.55**	**173**	P	P	16 12 05.5	+6.3
	0.3nm,0.8s,baz=357,slow=14,SNR=5.5						
	0.3nm,0.8s						

---

*IDC **14** 16:14:17.0±6.1, 9.°43N×126.°37E, h93km±53km, mb3.0/5,*
*mbtmp3.4

NEST	**Nestorio**	**0.34 49**	P	**Pg**	**16 23 50.8**	**-0.4**
NEST			S	**Sg**	**16 23 56.1**	**+0.3**
8μm,0.7s						
NEST	**Nestorio**	**0.34 49**	Pg	**Pg**	**16 23 51.1**	**-0.2**
NEST			Sg	**Sg**	**16 23 56.9**	**+1.1**
NEST			AML	AML	16 24 00.9	
27nm,0.8s						
NEST	**Nestorio**	**0.34 49**	P	**Pg**	**16 23 51.5**	**+0.3**
NEST			S	**Sg**	**16 23 55.4**	**-0.4**
KBN	**Korca**	**0.44 8**	Pg	**Pg**	**16 23 52.2**	**-0.8**
KBN			Sg	**Sg**	**16 23 59.5**	**+0.7**
KBN			AML	AML	16 24 11.0	
20nm,0.8s						
JAN	**Janina**	**0.54 168**	P	**Pg**	**16 23 53.8**	**-1.1**
JAN			S	**Sg**	**16 24 02.8**	**+0.8**
12μm,0.5s						
JAN	**Janina**	**0.54 168**	P	**Pg**	**16 23 55.3**	**+0.4**
JAN			S	**Sb**	**16 24 03.6**	**-0.8**
MSVA	**Metsovo**	**0.55 139**	P	**Pg**	**16 23 56.1**	**+0.9**
MSVA			S	**Sb**	**16 24 05.2**	**+0.3**
SRN	**Sarande**	**0.63 241**	Pg	**Pg**	**16 23 55.5**	**-1.0**
SRN			Sg	**Sg**	**16 24 05.9**	**+1.3**
SRN			AML	AML	16 24 10.3	
8.1nm,0.8s						
SRN			AMd		16 24 52.8	
IGT	**Igoumenitsa**	**0.72 204**	P	**Pg**	**16 23 57.8**	**-0.4**
IGT			S	**Sb**	**16 24 10.1**	**+0.7**
4μm,0.6s						
IGT	**Igoumenitsa**	**0.72 204**	Pg	**Pg**	**16 23 58.4**	**+0.1**
IGT			Sg	**Sb**	**16 24 09.3**	**-0.2**
IGT	**Igoumenitsa**	**0.72 204**	*i* Pg	**Pg**	**16 23 58.4**	**+0.1**
IGT			*i* Sg	**Sn**	**16 24 11.6**	**-0.8**
IGT	**Igoumenitsa**	**0.72 204**	*e*Pg	**Pg**	**16 23 57.1**	**-1.1**
IGT			*e*Sg	**Sg**	**16 24 08.6**	**+1.1**
IGT	**Igoumenitsa**	**0.72 204**	P	**Pb**	**16 23 59.5**	**+0.2**
IGT			S	**Sb**	**16 24 10.7**	**+1.2**
KEK	**Kerkira**	**0.85 236**	P	**Pg**	**16 24 00.7**	**0.0**
KEK			S	**Sb**	**16 24 14.6**	**+1.4**
3μm,0.5s						
KEK	**Kerkira**	**0.85 236**	*e*P	**Pg**	**16 24 01.3**	**+0.6**
KEK			*e*S	**Sn**	**16 24 16.9**	**+1.3**
KEK	**Kerkira**	**0.85 236**	P	**Pb**	**16 24 02.8**	**+1.3**
KEK			S	**Sb**	**16 24 13.7**	**+0.6**
OHR	**Ohrid**	**0.92 4**	*i* Pg	**Pg**	**16 24 02.4**	**+0.2**
OHR			*i* Sg	**Sb**	**16 24 16.4**	**+0.9**
OHR			*e*Lg	Lg	16 24 19.3	
comp=N,338nm,0.5s						
OHR			*e*Lg	Lg	16 24 19.4	
comp=E,743nm,0.6s						
OHR	**Ohrid**	**0.92 4**	*e*Pg	**Pg**	**16 24 01.9**	**-0.3**
OHR			*e*Sg	**Sb**	**16 24 16.3**	**+0.8**
TETR	**Tetrakomo, Epi**	**0.95 152**	P	**Pb**	**16 24 04.3**	**+0.9**
TETR			S	**Sn**	**16 24 18.6**	**+0.3**
VLO	**Vlora**	**0.97 287**	Pn	**Pg**	**16 24 02.8**	**-0.2**
VLO			Sn	**Sn**	**16 24 20.2**	**+1.6**
KTI	**Kastanea**	**1.09 79**	P	**Pg**	**16 24 05.0**	**-0.5**
NASA	**Naoussa**	**1.13 66**	P	**Pg**	**16 24 05.7**	**-0.4**
THL	**Klokotos Trika**	**1.18 121**	P	**Pg**	**16 24 05.5**	**-1.6**
THL			S	**Sn**	**16 24 24.6**	**+0.7**
comp=E,1μm,0.6s						
THL	**Klokotos Trika**	**1.18 121**	P	**Pn**	**16 24 08.6**	**+1.1**
THL			S	**Sn**	**16 24 24.5**	**+0.7**
TIR	**Tirane**	**1.32 331**	Pn	**Pb**	**16 24 10.6**	**+0.9**
TIR			Sn	**Sn**	**16 24 30.3**	**+2.9**
TIR			AML	AML	16 24 35.7	
comp=E,3.8nm,1.0s						
TIR	**Tirane**	**1.32 331**	⇓P	**Pb**	**16 24 11.3**	**+1.6**
TIR	**Tirane**	**1.32 331**	*e*Pg	**Pg**	**16 24 10.4**	**+0.5**
TIR	**Tirane**	**1.32 331**	P	**Pg**	**16 24 09.8**	**0.0**
TIR			S	**Sg**	**16 24 25.2**	**-1.9**
TSLK	**Tsoukalades, L**	**1.36 182**	P	**Pg**	**16 24 10.6**	**0.0**
TSLK			S	**Sn**	**16 24 31.6**	**+3.2**
comp=E,3μm,0.7s						
TSLK	**Tsoukalades, L**	**1.36 182**	P	**Pg**	**16 24 10.7**	**+0.1**
TSLK			S	**Sn**	**16 24 30.9**	**+2.6**
LIT	**Litokhoron**	**1.37 93**	P	**Pn**	**16 24 08.4**	**-1.7**
LIT			S	**Sn**	**16 24 31.0**	**+2.5**
comp=E,1μm,0.7s						
LIT	**Litokhoron**	**1.37 93**	*i* Pg	**Pn**	**16 24 09.9**	**-0.2**
LIT	**Litokhoron**	**1.37 93**	P	**Pn**	**16 24 10.3**	**+0.2**
LIT			S	**Sb**	**16 24 29.2**	**+1.0**
LRSO	**Larissa Observ**	**1.39 111**	P	**Pn**	**16 24 11.2**	**+0.8**
LRSO	**Larissa Observ**	**1.39 111**	P	**Pn**	**16 24 11.3**	**+0.8**
LRSO			S	**Sn**	**16 24 30.3**	**+1.2**
LKD2	**Lefkada island**	**1.40 182**	P	**Pn**	**16 24 11.0**	**+0.5**
LKD2			S	**Sn**	**16 24 31.9**	**+2.6**
comp=E,2μm,0.8s						
LKD2	**Lefkada island**	**1.40 182**	Pn	**Pg**	**16 24 11.4**	**+0.1**
LKD2			Sn	**Sn**	**16 24 31.0**	**+1.7**
LKD2			AML	AML	16 24 38.6	
comp=E,8.8nm,0.7s						
LKD2	**Lefkada island**	**1.40 182**	P	**Pn**	**16 24 11.1**	**+0.6**
LKD2			S	**Sn**	**16 24 31.9**	**+2.6**
NYDR	**Nydri-Lefkada**	**1.47 180**	P	**Pn**	**16 24 12.3**	**+0.8**
NYDR			S	**Sn**	**16 24 35.3**	**+4.2**
comp=E,2μm,1.1s						
NYDR	**Nydri-Lefkada**	**1.47 180**	P	**Pn**	**16 24 12.4**	**+0.8**
NYDR			S	**Sn**	**16 24 34.0**	**+3.0**
GRG	**Griva**	**1.50 59**	P	**Pn**	**16 24 11.8**	**-0.1**
GRG			S	**Sg**	**16 24 33.5**	**+0.8**
comp=E,950nm,1.0s						
GRG	**Griva**	**1.50 59**	*i* P	**Pn**	**16 24 12.6**	**+0.7**
GRG			*i* S	**Sg**	**16 24 33.5**	**+0.8**
GRG	**Griva**	**1.50 59**	*i* Pn	**Pn**	**16 24 12.0**	**+0.1**
GRG	**Griva**	**1.50 59**	P	**Pn**	**16 24 12.2**	**+0.2**
GRG			S	**Sn**	**16 24 30.9**	**-0.9**
PHP	**Peshkopia**	**1.51 352**	Pn	**Pn**	**16 24 13.3**	**+1.2**
PHP			Sn	**Sg**	**16 24 35.3**	**+2.3**
PHP			AML	AML	16 24 44.6	
comp=E,2.2nm,0.9s						
EVR	**Evrytania**	**1.53 146**	P	**Pn**	**16 24 13.3**	**+0.9**
EVR			S	**Sg**	**16 24 36.2**	**+2.6**
EVR	**Evrytania**	**1.53 146**	P	**Pb**	**16 24 13.6**	**+0.3**
EVR			S	**Sg**	**16 24 35.9**	**+2.3**
EVGI	**Lefkada island**	**1.57 182**	P	**Pb**	**16 24 13.9**	**+0.1**
EVGI			S	**Sg**	**16 24 37.2**	**+2.4**
comp=E,2μm,0.9s						
EVGI	**Lefkada island**	**1.57 182**	P	**Pb**	**16 24 14.0**	**+0.1**
EVGI			S	**Sg**	**16 24 36.6**	**+1.8**
MAKR	**Makrakomi, Fth**	**1.61 136**	P	**Pn**	**16 24 14.1**	**+0.7**
MAKR			S	**Sg**	**16 24 38.2**	**+2.1**
MAKR	**Makrakomi, Fth**	**1.61 136**	P	**Pn**	**16 24 14.3**	**+0.9**
MAKR			S	**Sg**	**16 24 36.3**	**+0.2**
PVO	**Paravola**	**1.69 158**	P	**Pb**	**16 24 16.2**	**+0.3**
PVO			S	**Sg**	**16 24 39.0**	**+0.2**
AGG	**Agios Georgios**	**1.71 132**	P	**Pn**	**16 24 15.2**	**+0.4**
AGG			S	**Sg**	**16 24 41.1**	**+1.7**
AGG	**Agios Georgios**	**1.71 132**	*e*P	**Pn**	**16 24 13.3**	**-1.5**
AGG	**Agios Georgios**	**1.71 132**	P	**Pn**	**16 24 15.6**	**+0.8**
AGG			S	**Sb**	**16 24 39.1**	**+1.1**
SCTE	**Santa Cesarea**	**1.72 267**	Pn	**Pb**	**16 24 16.7**	**+0.2**
SCTE			AML	AML	16 24 42.6	
comp=E,3.2nm,0.6s						
SCTE	**Santa Cesarea**	**1.72 267**	P	**Pn**	**16 24 15.1**	**+0.1**
SCTE			S	**Sn**	**16 24 37.6**	**+0.3**
FSK	**Fiskardo**	**1.73 184**	P	**Pn**	**16 24 15.8**	**+0.7**
FSK			S	**Sg**	**16 24 41.3**	**+1.2**
FSK	**Fiskardo**	**1.73 184**	P	**Pn**	**16 24 16.3**	**+1.3**
FSK			S	**Sg**	**16 24 40.4**	**+0.4**
THE	**Thessaloniki**	**1.78 75**	P	**Pn**	**16 24 15.5**	**-0.2**
THE	**Thessaloniki**	**1.78 75**	*i* Pn	**Pn**	**16 24 16.4**	**+0.7**
THE	**Thessaloniki**	**1.78 75**	P	**Pn**	**16 24 16.7**	**+0.9**
THE			S	**Sn**	**16 24 37.7**	**-0.9**
VAY	**Valandovo**	**1.81 51**	*i* Pn	**Pn**	**16 24 17.9**	**+1.7**
VAY	**Valandovo**	**1.81 51**	*e*Pn	**Pn**	**16 24 16.8**	**+0.6**
VAY			*e*Sn	**Sg**	**16 24 43.4**	**+0.8**
ANX	**Ano Chora**	**1.85 149**	P	**Pn**	**16 24 18.2**	**+1.4**
ANX			S	**Sb**	**16 24 43.1**	**+1.0**
HORT	**Hortiatis**	**1.87 77**	P	**Pn**	**16 24 16.6**	**-0.5**
HORT			S	**Sn**	**16 24 43.0**	**+2.0**
HORT	**Hortiatis**	**1.87 77**	*e*P	**Pn**	**16 24 16.9**	**-0.2**
HORT			*e*S	**Sn**	**16 24 40.9**	**-0.1**
HORT	**Hortiatis**	**1.87 77**	P	**Pn**	**16 24 16.7**	**-0.5**
HORT			S	**Sn**	**16 24 42.3**	**+1.2**
KNT	**Kendrikon**	**1.93 59**	P	**Pn**	**16 24 17.7**	**-0.1**
KNT	**Kendrikon**	**1.93 59**	*i* Pn	**Pn**	**16 24 17.7**	**-0.1**
KNT	**Kendrikon**	**1.93 59**	P	**Pn**	**16 24 17.4**	**-0.4**
KNT			S	**Sn**	**16 24 42.6**	**+0.3**
PUK	**Puka**	**1.95 342**	Pn	**Pb**	**16 24 20.8**	**+0.3**
PUK			Sn	**Sg**	**16 24 49.4**	**+2.2**
PUK			AML	AML	16 24 58.2	
comp=E,2.6nm,0.9s						
DMLN	**Damoulianata-K**	**1.96 188**	P	**Pb**	**16 24 20.6**	**-0.1**
DMLN			S	**Sb**	**16 24 46.6**	**+1.3**
EFP	**Efpalio**	**1.99 152**	P	**Pb**	**16 24 21.4**	**+0.4**
EFP			S	**Sb**	**16 24 46.9**	**+0.9**
EFP	**Efpalio**	**1.99 152**	P	**Pb**	**16 24 21.2**	**+0.2**
EFP			S	**Sb**	**16 24 46.1**	**0.0**
VLS	**Valsamata**	**2.01 183**	P	**Pn**	**16 24 19.6**	**+0.7**
VLS	**Valsamata**	**2.01 183**	P	**Pn**	**16 24 19.8**	**+0.9**
VLS			S	**Sb**	**16 24 46.9**	**+0.2**
AXS	**Araxos**	**2.06 165**	P	**Pb**	**16 24 21.8**	**-0.4**
AXS			S	**Sb**	**16 24 48.2**	**+0.3**
SERG	**Sergoula**	**2.06 149**	P	**Pb**	**16 24 21.9**	**-0.4**
SERG			S	**Sn**	**16 24 47.2**	**+1.6**
AXAR	**Agios Charalam**	**2.07 133**	P	**Pn**	**16 24 21.2**	**+1.4**
AXAR			S	**Sb**	**16 24 48.3**	**-0.2**
PSDA	**Pessada-Kefalo**	**2.07 183**	P	**Pn**	**16 24 20.8**	**+1.0**
PSDA			S	**Sn**	**16 24 47.0**	**+1.1**
XOR	**Xorichti**	**2.08 112**	P	**Pn**	**16 24 20.0**	**+0.1**
XOR			S	**Sb**	**16 24 49.3**	**+0.5**
XOR	**Xorichti**	**2.08 112**	P	**Pn**	**16 24 19.9**	**-0.1**
XOR			S	**Sn**	**16 24 47.8**	**+1.7**
ULC	**Ulcinj**	**2.09 328**	Pn	**Pn**	**16 24 22.3**	**+2.2**
ULC	**Ulcinj**	**2.09 328**	*i* Pn	**Pn**	**16 24 22.2**	**+2.2**
ULC	**Ulcinj**	**2.09 328**	*e*Pn	**Pn**	**16 24 22.2**	**+2.2**
ULC			*i* Sn	**Sb**	**16 24 50.0**	**+1.0**
KALE	**Kalithea**	**2.11 148**	P	**Pb**	**16 24 23.1**	**-0.1**
KALE			S	**Sb**	**16 24 49.5**	**-0.1**
SOH	**Sokhos**	**2.11 72**	P	**Pn**	**16 24 21.1**	**+0.7**
SOH			S	**Sn**	**16 24 49.6**	**+2.6**
SOH	**Sokhos**	**2.11 72**	P	**Pn**	**16 24 21.1**	**+0.7**
SOH			S	**Sn**	**16 24 47.2**	**+0.2**
NEO	**Neokhori**	**2.13 114**	P	**Pn**	**16 24 21.0**	**+0.4**
NEO			S	**Sn**	**16 24 49.0**	**+1.7**
YRMI	**Loutra Irminis**	**2.14 166**	P	**Pb**	**16 24 23.2**	**-0.4**
RLS	**Riolos of Patr**	**2.21 164**	P	**Pb**	**16 24 24.3**	**-0.5**
MESG	**Mesagne**	**2.22 281**	P	**Pn**	**16 24 22.0**	**+0.2**
MESG			S	**Sn**	**16 24 49.6**	**+0.1**
BCI	**Bajram Curri**	**2.23 348**	Pn	**Pb**	**16 24 26.1**	**+1.0**
BCI			AML	AML	16 25 04.4	
comp=E,5.9nm,0.9s						
PAIG	**Paliouri**	**2.29 96**	P	**Pn**	**16 24 21.8**	**-1.0**
PAIG			S	**Sn**	**16 24 51.1**	**-0.3**
PAIG	**Paliouri**	**2.29 96**	*e*P	**Pn**	**16 24 22.0**	**-0.8**
PAIG			*e*S	**Sn**	**16 24 49.5**	**-1.9**
DRME	**Dracevica, Mon**	**2.30 331**	*e*Pn	**Pn**	**16 24 24.2**	**+1.2**
DRME	**Dracevica, Mon**	**2.30 331**	*e*Pn	**Pn**	**16 24 25.1**	**+2.1**
DRME			*i* Sn	**Sb**	**16 24 55.1**	**-0.1**
SRS	**Serrai**	**2.38 66**	*e*Pn	**Pn**	**16 24 24.4**	**+0.4**
SRS	**Serrai**	**2.38 66**	P	**Pn**	**16 24 24.4**	**+0.4**
SRS			S	**Sn**	**16 24 53.4**	**-0.2**
KKB	**Krupnik**	**2.46 47**	*i* Pn	**Pn**	**16 24 26.0**	**+0.8**
PVY	**Plav**	**2.47 347**	*e*Pn	**Pn**	**16 24 27.4**	**+2.0**
PVY			*i* Sn	**Sn**	**16 24 58.8**	**+2.9**
PDG	**Podgorica**	**2.49 334**	*e*Pn	**Pn**	**16 24 27.3**	**+1.8**
PDG	**Podgorica**	**2.49 334**	⇑P	**Pn**	**16 24 27.4**	**+1.9**
PDG	**Podgorica**	**2.49 334**	*e*Pn	**Pn**	**16 24 27.5**	**+1.9**
PDG	**Podgorica**	**2.49 334**	*e*Pn	**Pn**	**16 24 27.7**	**+2.2**
PDG			*i* Sn	**Sn**	**16 24 59.5**	**+3.2**
OUR	**Ouranopolis**	**2.51 86**	*e*P	**Pn**	**16 24 25.5**	**-0.2**
OUR			*e*S	**Sn**	**16 24 55.5**	**-1.1**
BUM	**Brajici-Budva**	**2.52 328**	*e*Pn	**Pn**	**16 24 28.1**	**+2.2**
BUM			*i* Sn	**Sn**	**16 25 00.1**	**+3.2**
BOSS	**Bosilegrad**	**2.66 29**	*e*Pn	**Pn**	**16 24 29.1**	**+1.2**
CEME	**Cevo**	**2.71 331**	*e*Pn	**Pn**	**16 24 29.7**	**+1.0**
CEME			*i* Sn	**Sn**	**16 25 04.9**	**+3.1**
IVA	**Berane**	**2.75 347**	*e*Pn	**Pn**	**16 24 31.0**	**+1.8**
IVA			*i* Sn	**Sn**	**16 25 05.4**	**+2.6**
BARS	**Barje**	**2.75 17**	*i* Pn	**Pn**	**16 24 30.2**	**+1.1**
BARS	**Barje**	**2.75 17**	*e*Pn	**Pn**	**16 24 30.3**	**+1.1**
BARS			*e*Sn	**Sn**	**16 25 04.7**	**+2.0**
HCY	**Herceg Novi**	**2.81 324**	*e*Pn	**Pn**	**16 24 30.2**	**+0.3**
HCY	**Herceg Novi**	**2.81 324**	*e*Pn	**Pn**	**16 24 32.2**	**+2.3**
HCY			*i* Sn	**Sn**	**16 25 07.2**	**+3.2**
KOME	**Kolasin**	**2.81 342**	*e*Pn	**Pn**	**16 24 32.1**	**+2.1**
KOME			*i* Sn	**Sn**	**16 25 06.9**	**+2.7**
NKME	**Niksic**	**2.89 333**	*e*Pn	**Pn**	**16 24 31.7**	**+0.6**
NKME			*i* Sn	**Sn**	**16 25 09.1**	**+2.8**
SELS	**Selova**	**3.04 6**	*e*Pn	**Pn**	**16 24 34.6**	**+1.4**
VTS	**Vitosha**	**3.08 37**	*e*Pn	**Pn**	**16 24 35.0**	**+1.2**
VTS			*e*Sn	**Sn**	**16 25 11.9**	**+0.9**
TREB	**Trebinje**	**3.09 326**	*e*Pn	**Pn**	**16 24 33.8**	**+0.1**
MATE	**Matera**	**3.09 280**	*e*P	**Pb**	**16 24 38.9**	**-0.9**
MATE	**Matera**	**3.09 280**	⇓P	**Pn**	**16 24 35.1**	**+1.3**
SJES	**Sjenica**	**3.12 350**	*e*Pn	**Pn**	**16 24 37.3**	**+3.0**
SJES	**Sjenica**	**3.12 350**	*e*Pn	**Pn**	**16 24 38.0**	**+3.7**
ITM	**Ithomi**	**3.15 162**	*e*P	**Pn**	**16 24 33.8**	**-0.8**
TIP	**Timpagrande**	**3.21 253**	⇑P	**Pn**	**16 24 37.2**	**+1.7**
PLE	**Pljevlja**	**3.29 343**	*e*Pn	**Pn**	**16 24 38.7**	**+2.1**
PLE			*i* Sn	**Sn**	**16 25 18.5**	**+2.4**
UPM	**Unac-Piva**	**3.30 336**	*e*Pn	**Pn**	**16 24 37.5**	**+0.7**
UPM	**Unac-Piva**	**3.30 336**	*e*Pn	**Pn**	**16 24 38.9**	**+2.1**
UPM			*i* Sn	**Sn**	**16 25 18.7**	**+2.2**
GOCS	**Kraljevo Serbi**	**3.37 2**	*e*Pn	**Pn**	**16 24 40.5**	**+2.7**
ZAPS	**Zavoj**	**3.40 24**	*e*Pn	**Pn**	**16 24 39.3**	**+1.2**
IVAS	**Ivanjica**	**3.41 353**	*e*Pn	**Pn**	**16 24 39.0**	**+0.8**
STON	**Ston**	**3.51 321**	*e*Pn	**Pn**	**16 24 39.0**	**-0.4**
STON	**Ston**	**3.51 321**	*e*Pn	**Pn**	**16 24 39.6**	**+0.2**
STON			*e*Sn	**Sn**	**16 25 21.4**	**+0.2**
BOVS	**Bovan**	**3.52 12**	*e*Pn	**Pn**	**16 24 40.4**	**+0.8**
RUDO	**Rudo**	**3.57 344**	*e*Pn	**Pn**	**16 24 41.7**	**+1.3**
PLD	**Plovdiv**	**3.62 56**	*e*P	**Pn**	**16 24 42.1**	**+1.0**
PLD	**Plovdiv**	**3.62 56**	*e*Pn	**Pn**	**16 24 43.2**	**+2.1**
GRUS	**Gruza**	**3.70 0**	*e*Pn	**Pn**	**16 24 44.6**	**+2.5**
KDZ	**Kurdzhali**	**3.79 66**	*e*P	**Pn**	**16 24 44.9**	**+1.5**
RDO	**Rodhopi**	**3.79 74**	*e*P	**Pn**	**16 24 44.6**	**+1.2**
ZAGS	**Zajecar**	**3.79 17**	*e*Pn	**Pn**	**16 24 44.8**	**+1.4**
BBLS	**Lazi&#263i**	**3.80 346**	*e*Pn	**Pn**	**16 24 44.8**	**+1.2**
BBLS	**Lazi&#263i**	**3.80 346**	*e*Pn	**Pn**	**16 24 45.5**	**+1.9**
DIVS	**Divibare**	**3.94 352**	*e*Pn	**Pn**	**16 24 47.7**	**+2.1**
GADA	**Gvkgeada**	**3.97 88**	*e*P	**Pn**	**16 24 46.2**	**+0.3**
BORS2	**Bor- Borsko je**	**4.02 14**	*e*Pn	**Pn**	**16 24 47.6**	**+1.1**
TRUS	**Trudelj**	**4.04 357**	*e*Pn	**Pn**	**16 24 48.1**	**+1.3**
SIGR	**SIGRI**	**4.09 102**	*e*P	**Pn**	**16 24 47.4**	**-0.1**
ALN	**Alexandroupoli**	**4.13 78**	*e*P	**Pn**	**16 24 48.6**	**+0.6**
ENEZ	**Enez**	**4.19 81**	*e*P	**Pn**	**16 24 49.9**	**+1.1**
KUBS	**Kucevo**	**4.28 9**	*e*Pn	**Pn**	**16 24 50.0**	**-0.1**
EZN	**Ezine**	**4.33 93**	*e*P	**Pn**	**16 24 51.2**	**+0.4**
GELI	**Tayfur-Gelibol**	**4.41 85**	P	**Pn**	**16 24 52.7**	**+0.8**
COMU	**Canakkale**	**4.42 89**	*e*P	**Pn**	**16 24 52.2**	**+0.2**
TEKS	**Tekeris**	**4.45 349**	*e*Pn	**Pn**	**16 24 53.5**	**+1.1**
TEKS	**Tekeris**	**4.45 349**	*e*Pn	**Pn**	**16 24 53.5**	**+1.1**
ERIK	**Erikli-Kesan**	**4.46 82**	*e*P	**Pn**	**16 24 53.1**	**+0.6**
AVAS	**Avala Beograd**	**4.51 358**	*e*Pn	**Pn**	**16 24 54.3**	**+1.0**
UKOP	**Uzunkopru-Edir**	**4.60 76**	*e*P	**Pn**	**16 24 55.7**	**+1.2**
MDVR	**Moldovita**	**4.65 9**	⇑P	**Pn**	**16 24 57.6**	**+2.4**
EDRB	**Edirne**	**4.86 68**	*e*P	**Pn**	**16 24 59.9**	**+1.9**
HERR	**Herculane**	**4.86 14**	⇑P	**Pn**	**16 25 00.8**	**+2.8**
CANM	**Can-anakkale**	**4.87 90**	*e*P	**Pn**	**16 24 58.8**	**+0.6**
YAYO	**Edremit-Balk**	**4.93 95**	*e*P	**Pn**	**16 24 59.2**	**+0.2**
VRSS	**Vrsac**	**4.95 5**	*e*Pn	**Pn**	**16 25 01.3**	**+1.9**
RKY	**Sarkoy-Tekirda**	**4.96 82**	*e*P	**Pn**	**16 25 00.6**	**+1.1**
FRGS	**Fruska Gora**	**5.01 353**	*e*Pn	**Pn**	**16 25 01.1**	**+0.9**
FRGS	**Fruska Gora**	**5.01 353**	*e*Pn	**Pn**	**16 25 01.7**	**+1.5**
BANR	**Banloc**	**5.20 3**	⇑P	**Pn**	**16 25 05.2**	**+2.5**
BLY	**Banja Luka**	**5.25 331**	*e*Pn	**Pn**	16 25 09.6	+6.2
A050A	**Klekovaca**	**5.29 326**	*e*Pn	**Pn**	**16 25 05.3**	**+1.2**
IMMV	**Iera Moni Meta**	**5.38 150**	*e*P	**Pn**	**16 25 05.4**	**+0.1**
GZR	**Gura Zlata**	**5.42 16**	⇓P	**Pn**	**16 25 08.6**	**+2.8**
BZS	**Buzias**	**5.47 7**	⇓P	**Pn**	**16 25 08.7**	**+2.3**
BZS	**Buzias**	**5.47 7**	*e*Pn	**Pn**	**16 25 08.2**	**+1.8**
A051A	**Mrakovica**	**5.58 331**	*e*Pn	**Pn**	**16 25 08.5**	**+0.5**
VAE	**Valguarnera**	**5.61 243**	Pn	**Pn**	**16 25 07.1**	**-1.4**
comp=E,5.8nm,0.5s,baz=10,slow=19,SNR=1.6						
VAE			Sn	**Sn**	**16 26 12.9**	**-0.4**
comp=E,1.6nm,0.3s,baz=59,slow=23,SNR=1.7						
SURR	**Surduc**	**5.66 10**	⇑P	**Pn**	**16 25 11.8**	**+2.7**
IDI	**Anoyia**	**5.91 145**	*e*P	**Pn**	**16 25 12.6**	**0.0**
IDI	**Anoyia**	**5.91 145**	Pn	**Pn**	**16 25 10.9**	**-1.7**
comp=E,2.5nm,0.4s,baz=21,slow=16,SNR=1.6						
IDI			Sn	**Sn**	**16 26 19.5**	**-1.1**
comp=E,0.4nm,0.3s,baz=23,slow=16,SNR=2.2						
IDI			LR	LR	16 28 01.8	
comp=E,324nm,19.1s,baz=312,slow=44						
ARR	**Arges**	**5.93 28**	⇓P	**Pn**	**16 25 16.0**	**+3.3**
SIRR	**Siria**	**6.12 6**	⇑P	**Pn**	**16 25 18.3**	**+3.0**
VOIR		**6.14 30**	⇓P	**Pn**	**16 25 19.6**	**+3.9**
MORH	**Mrgy, Hungar**	**6.21 347**	⇑P	**Pn**	**16 25 19.6**	**+3.0**
MLR	**Muntele Rosu**	**6.55 34**	Pn	**Pn**	**16 25 23.5**	**+2.1**
comp=E,0.7nm,0.3s,baz=239,slow=8.4,SNR=9.2						
MLR			Sn	**Sn**	**16 26 37.1**	**+0.7**
comp=E,0.1nm,0.3s,baz=234,slow=10,SNR=1.8						
MLR			Lg	Lg	16 27 18.1	
comp=E,0.1nm,0.3s,baz=242,slow=10,SNR=1.7						
comp=E,2.5nm,0.7s						
MLR	**Muntele Rosu**	**6.55 34**	⇑P	**Pn**	**16 25 25.4**	**+4.1**
BOJS	**Bojanci**	**6.66 325**	*e*Pn	**Pn**	**16 25 21.9**	**-0.8**
BOJS	**Bojanci**	**6.66 325**	*i* Pn	**Pn**	**16 25 22.6**	**-0.1**
BOJS	**Bojanci**	**6.66 325**	*e*Pn	**Pn**	**16 25 22.7**	**-0.1**
DOPR	**Dopca**	**6.71 29**	⇑P	**Pn**	**16 25 27.3**	**+3.7**
MARR	**Marisel-Cluj**	**6.72 14**	⇑P	**Pn**	**16 25 26.3**	**+2.6**
DRGR		**6.76 12**	⇓P	**Pn**	**16 25 27.5**	**+3.3**
CRES	**Cresnjevec Ost**	**6.82 327**	*e*Pn	**Pn**	**16 25 23.1**	**-1.9**
OZUR		**6.97 30**	⇓P	**Pn**	**16 25 31.2**	**+4.1**
PLOR	**Plostina**	**7.14 36**	⇓P	**Pn**	**16 25 32.7**	**+3.3**
VRI	**Vrincioaia**	**7.18 36**	⇓P	**Pn**	**16 25 32.6**	**+2.5**
CEY	**Cerknica**	**7.21 322**	*e*Pn	**Pn**	**16 25 29.6**	**-0.8**
CEY	**Cerknica**	**7.21 322**	*i* Pn	**Pn**	**16 25 30.1**	**-0.3**
CEY	**Cerknica**	**7.21 322**	*e*Pn	**Pn**	**16 25 30.4**	**0.0**
CFR	**Carcaliu**	**7.40 45**	⇑P	**Pn**	**16 25 36.4**	**+3.4**
JAVS	**Javornik**	**7.49 322**	*i* Pn	**Pn**	**16 25 34.0**	**-0.4**
SOKA	**Soboth**	**7.69 329**	*e*Pn	**Pn**	**16 25 37.4**	**+0.4**
comp=E,1.4nm,0.3s						
SOKA			*e*Sn	**Sn**	**16 27 02.2**	**-2.2**
comp=E,5.6nm,0.8s						
OBKA	**Obir**	**7.75 327**	*e*Pn	**Pn**	**16 25 37.6**	**-0.2**
OBKA	**Obir**	**7.75 327**	*i* Pn	**Pn**	**16 25 38.6**	**+0.8**
comp=E,1.4nm,0.5s						
PSZ	**Piszkesteto**	**7.75 356**	⇑P	**Pn**	**16 25 39.8**	**+2.0**
ARSA	**Arzberg**	**7.99 334**	*e*Pn	**Pn**	**16 25 42.3**	**+1.2**
comp=E,2.1nm,0.4s						
KECS	**Kecovo**	**8.29 359**	*e*PN	**Pn**	**16 25 49.0**	**+3.8**
VYHS	**Vyhne**	**8.41 351**	*e*PN	**Pn**	**16 25 50.3**	**+3.5**
VYHS			*e*SN	**Sn**	**16 27 21.4**	**-0.7**
KBA	**Koelnbreinsper**	**8.71 325**	Pn	**Pn**	**16 25 53.6**	**+2.5**
comp=E,9.5nm,1.0s						
ABTA	**Abfaltersbach**	**8.86 320**	*e*Pn	**Pn**	**16 25 52.7**	**-0.3**
comp=E,3.6nm,0.6s						
ABTA			*e*Sn	**Sn**	**16 27 33.0**	**-0.1**
comp=E,8.5nm,0.7s						
MOA	**Molln**

ML3.7,MW4.0
NEIC ***14*** *16:48:17.9, 17°.29N×95°.36W, h110km*
NEIC ***14*** *16:48:17.9, 17°.29N×95°.36W, h110km, Moment Tensor Solution. Duration: 1ŝ1 Moment tensor: Scale 10^{16}Nm; M_{rr}0.13; $M_{\theta\theta}$-1.14; $M_{\phi\phi}$1.01; $M_{r\theta}$0.53; $M_{\theta\phi}$-0.78; $M_{\phi r}$-0.99; Fault plane solution: $M_0$1.69000×10^{16} NP1: ϕ_s212.65000°, δ60.36000°, λ16.23000°. NP2: ϕ_s114.45000°, δ75.94000°, λ149.35000°. Principal axes: T 1.9405, Plg31.0000°, Azm70.0000°; N -0.5107, Plg57.0000°, Azm272.0000°; P -1.4298, Plg10.0000°, Azm166.0000°;*
NEIC ***14*** *16:48:17.9±2.2, 17°.30N±0°.06×95°.36W±0°.04, h111km±5km, mb4.8/235, Mww4.8/12, Md4.9/169(MEX) Error ellipse: s-maj=8.2km s-min=5.6km az=195.0*
MEX ***14*** *16:48:18.1±1.4, 17°.31N×95°.39W, h120km±7km, MD4.9*
IDC ***14*** *16:48:18.6±0.5, 17°.42N×95°.08W, h113km±3km, mb4.0/20, mbtmp4.4/23, MS3.5/8, Error ellipse: s-maj=14.9km s-min=8.6km az=55.0*
ISC 14 16:48:17.9±0.3, 17°.35N±0°.03×95°.35W±0°.03, h114km±2km, h114km;pP-P, n576, σ1ŝ90/597, mb4.7/136, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.51**	**120**		**Pn**	**16 48 35.2**	**0.0**
CMIG					**Sn**	**16 48 47.8**	**-0.5**
CMIG	**Matias Romero**	**0.51**	**120**	*i* P	**Pn**	**16 48 35.2**	**0.0**
CMIG				*e*S	**Sn**	**16 48 47.8**	**-0.5**
NEUV	**Arroyo Zacate**	**0.57**	**310**	*e*P	**Pn**	**16 48 35.1**	**-0.5**
NEUV				*e*S	**Sn**	**16 48 47.7**	**-1.3**
TUIG	**Tuzandepetl**	**1.11**	**52**	*e*P	**Pn**	**16 48 40.7**	**+0.1**
TUIG				*e*S	**Sn**	**16 48 57.9**	**+0.1**
UXUV	**UXUV**	**1.15**	**91**	*e*P	**Pn**	**16 48 41.3**	**+0.4**
UXUV				*e*S	**Sn**	**16 48 58.0**	**-0.4**
PMUV	**Sontecomapan**	**1.21**	**10**	*i* P	**Pn**	**16 48 41.2**	**-0.6**
PMUV				*e*S	**Sn**	**16 48 58.3**	**-1.5**
OXLC	**Oaxaca**	**1.33**	**258**	*e*P	**Pn**	**16 48 44.0**	**+0.9**
OXLC				*i* S	**Sn**	**16 49 03.6**	**+1.4**
OXBJ	**Oaxaca**	**1.35**	**258**		**Pn**	**16 48 43.0**	**-0.4**
OXBJ					**Sn**	**16 49 02.4**	**-0.2**
OXBJ	**Oaxaca**	**1.35**	**258**	*i* P	**Pn**	**16 48 43.0**	**-0.4**
OXBJ				*i* S	**Sn**	**16 49 02.4**	**-0.2**
OXIG	**Oaxaca**	**1.35**	**259**		**Pn**	**16 48 43.4**	**-0.1**
OXIG					**Sn**	**16 49 02.8**	**0.0**
VHO	**Vista Hermosa**	**1.35**	**259**	*e*P	**Pn**	**16 48 43.4**	**-0.1**
VHO				*e*S	**Sn**	**16 49 02.8**	**0.0**
HUIG	**Huatulco**	**1.73**	**205**		**Pn**	**16 48 45.9**	**-1.9**
HUIG					**Sn**	**16 49 08.3**	**-2.2**
HUIG	**Huatulco**	**1.73**	**205**	*e*P	**Pn**	**16 48 45.9**	**-1.9**
HUIG				*e*S	**Sn**	**16 49 08.3**	**-2.2**
HUIG	**Huatulco**	**1.73**	**205**	*i* P	**Pn**	**16 48 46.0**	**-1.8**
	comp=Z,576nm,0.6s						
HUIG				*i* S	**Sn**	**16 49 08.5**	**-2.0**
HUIG				IAML		16 50 23.0	
	comp=Z,576nm,0.6s						
TOIG	**Toxpalan**	**1.80**	**295**		**Pn**	**16 48 49.0**	**+0.3**
TOIG					**Sn**	**16 49 11.2**	**-0.9**
TOIG	**Toxpalan**	**1.80**	**295**	*e*P	**Pn**	**16 48 49.0**	**+0.3**
TOIG				*e*S	**Sn**	**16 49 11.2**	**-0.9**
PANG	**Puerto Angel**	**1.99**	**213**		**Pn**	**16 48 48.5**	**-2.5**
PANG					**Sn**	**16 49 14.3**	**-1.9**
PANG	**Puerto Angel**	**1.99**	**213**	*i* P	**Pn**	**16 48 48.5**	**-2.5**
PANG				*i* S	**Sn**	**16 49 14.3**	**-1.9**
YOIG	**Yosondua**	**2.16**	**257**		**Pn**	**16 48 52.4**	**-1.0**
YOIG					**Sn**	**16 49 19.2**	**-1.3**
YOIG	**Yosondua**	**2.16**	**257**	*e*P	**Pn**	**16 48 52.4**	**-1.0**
YOIG				*e*S	**Sn**	**16 49 19.2**	**-1.3**
PEIG	**Puerto Escondi**	**2.19**	**232**		**Pn**	**16 48 51.1**	**-2.4**
PEIG					**Sn**	**16 49 17.5**	**-3.2**
PEIG	**Puerto Escondi**	**2.19**	**232**	*e*P	**Pn**	**16 48 51.1**	**-2.4**
PEIG				*e*S	**Sn**	**16 49 17.5**	**-3.2**
TPIG	**Tehuac#an**	**2.20**	**299**		**Pn**	**16 48 54.0**	**+0.3**
TPIG					**Sn**	**16 49 19.9**	**-1.2**
TPIG	**Tehuac#an**	**2.20**	**299**	*e*P	**Pn**	**16 48 54.0**	**+0.3**
TPIG				*e*S	**Sn**	**16 49 19.9**	**-1.2**
TGIG		**2.20**	**105**		**Pn**	**16 48 53.9**	**+0.2**
TGIG					**Sn**	**16 49 20.6**	**-0.4**
TGIG		**2.20**	**105**	*e*P	**Pn**	**16 48 53.9**	**+0.2**
TGIG				*e*S	**Sn**	**16 49 20.6**	**-0.4**
TGIG		**2.20**	**105**	*i* P	**Pn**	**16 48 54.0**	**+0.3**
TGBT	**Tuxtla Gutierr**	**2.23**	**104**		**Pn**	**16 48 54.6**	**+0.6**
TGBT					**Sn**	**16 49 20.3**	**-1.4**
TGBT	**Tuxtla Gutierr**	**2.23**	**104**	*e*P	**Pn**	**16 48 54.6**	**+0.6**
TGBT				*e*S	**Sn**	**16 49 20.3**	**-1.4**
TXIG	**Tlaxiaco**	**2.31**	**268**		**Pn**	**16 48 54.5**	**-0.9**
TXIG					**Sn**	**16 49 21.4**	**-2.6**
TXIG	**Tlaxiaco**	**2.31**	**268**	*e*P	**Pn**	**16 48 54.5**	**-0.9**
TXIG				*e*S	**Sn**	**16 49 21.4**	**-2.6**
VHSA	**Villahermosa**	**2.38**	**74**	*e*P	**Pn**	**16 48 54.9**	**-1.0**
VHSA				*e*S	**Sn**	**16 49 24.4**	**-0.7**
HLIG	**Huajuapan de L**	**2.39**	**282**		**Pn**	**16 48 56.1**	**-0.2**
HLIG					**Sn**	**16 49 23.7**	**-2.0**
HLIG	**Huajuapan de L**	**2.39**	**282**	*e*P	**Pn**	**16 48 56.1**	**-0.2**
HLIG				*e*S	**Sn**	**16 49 23.7**	**-2.0**
LVIG	**Laguna Verde**	**2.57**	**337**	*e*P	**Pn**	**16 48 56.5**	**-1.9**
LVIG				*e*S	**Sn**	**16 49 25.2**	**-4.3**
PCIG		**2.61**	**128**		**Pn**	**16 48 58.8**	**-0.2**
PCIG					**Sn**	**16 49 25.2**	**-5.3**
PCIG		**2.61**	**128**	*e*P	**Pn**	**16 48 58.8**	**-0.2**
PCIG				*e*S	**Sn**	**16 49 25.2**	**-5.3**
FTIG	**Fresnillo de T**	**2.71**	**282**		**Pn**	**16 49 00.5**	**+0.1**
FTIG					**Sn**	**16 49 30.5**	**-2.5**
FTIG	**Fresnillo de T**	**2.71**	**282**	*e*P	**Pn**	**16 49 00.5**	**+0.1**
FTIG				*e*S	**Sn**	**16 49 30.5**	**-2.5**
PNIG	**Pinotepa**	**2.83**	**251**		**Pn**	**16 48 59.3**	**-2.4**
PNIG					**Sn**	**16 49 32.2**	**-3.3**
PNIG	**Pinotepa**	**2.83**	**251**	*e*P	**Pn**	**16 48 59.3**	**-2.4**
PNIG				*e*S	**Sn**	**16 49 32.2**	**-3.3**
TLIG	**Tlapa**	**3.08**	**274**		**Pn**	**16 49 05.1**	**-0.1**
TLIG	**Tlapa**	**3.08**	**274**	*e*P	**Pn**	**16 49 04.5**	**-0.6**
TLIG				*e*S	**Sn**	**16 49 39.0**	**-2.7**
HMTT	**Tlapaneco**	**3.10**	**279**		**Pn**	**16 49 05.7**	**+0.3**
HMTT					**Sn**	**16 49 39.6**	**-2.4**
HMTT	**Tlapaneco**	**3.10**	**279**	*e*P	**Pn**	**16 49 05.7**	**+0.3**
HMTT				*i* S	**Sn**	**16 49 39.6**	**-2.4**
PHPU	**Puebla**	**3.17**	**303**		**Pn**	**16 49 08.0**	**+1.5**
PHPU					**Sn**	**16 49 38.6**	**-5.3**
PHPU	**Puebla**	**3.17**	**303**	*e*P	**Pn**	**16 49 08.0**	**+1.5**
PHPU				*e*S	**Sn**	**16 49 38.6**	**-5.3**
CCIG	**Comitan**	**3.25**	**109**		**Pn**	**16 49 07.0**	**-0.5**
CCIG	**Comitan**	**3.25**	**109**	*e*P	**Pn**	**16 49 07.8**	**+0.3**
CCIG				*e*S	**Sn**	**16 49 46.8**	**+1.0**
CCIG	**Comitan**	**3.25**	**109**	*i* P	**Pn**	**16 49 08.4**	**+0.9**
PBCV	**Popocatepetl**	**3.46**	**299**	*e*P	**Pn**	**16 49 11.2**	**+0.8**
PBCV				*e*S	**Sn**	**16 49 48.4**	**-2.6**
PBPN	**Popocatepetl**	**3.54**	**299**	*e*P	**Pn**	**16 49 13.0**	**+1.2**
PBPN				*e*P	**Pn**	**16 49 13.0**	**+1.2**
PBPN				*e*S	**Sn**	**16 49 48.3**	**-5.0**
PBPN				*e*S		16 49 48.5	
PBXN	**Popocatepetl**	**3.56**	**298**	*e*P	**Pn**	**16 49 12.8**	**+1.0**
PBXN				*e*P		16 49 13.2	
PBXN				*e*S	**Sn**	**16 49 48.1**	**-5.3**
PBXN				*e*S		16 49 49.6	
PPM	**Popocatepetl**	**3.56**	**299**	*e*P	**Pn**	**16 49 13.2**	**+1.3**
PPM				*e*S	**Sn**	**16 49 50.0**	**-3.5**
PPIG	**Popocatepetl**	**3.56**	**299**		**Pn**	**16 49 13.2**	**+1.3**
PPIG					**Sn**	**16 49 50.0**	**-3.5**
CRIG	**Cruz Grande**	**3.67**	**261**		**Pn**	**16 49 10.6**	**-2.3**
CRIG					**Sn**	**16 49 51.4**	**-4.0**
CRIG	**Cruz Grande**	**3.67**	**261**	*e*P	**Pn**	**16 49 10.6**	**-2.3**
CRIG				*e*S	**Sn**	**16 49 51.5**	**-4.0**
PATR	**El Naranjo**	**3.72**	**126**	*e*P	**Pn**	**16 49 13.6**	**-0.2**
PATR				*e*S	**Sn**	**16 49 55.1**	**-2.0**
PAVE	**Pavencul**	**3.72**	**125**	*e*P	**Pn**	**16 49 13.8**	**0.0**
PAVE				*e*S	**Sn**	**16 49 58.2**	**+1.2**
THIG		**3.83**	**129**		**Pn**	**16 49 16.0**	**+1.0**
THIG		**3.83**	**129**	*e*P	**Pn**	**16 49 16.0**	**+1.0**
YAIG	**Yautepec**	**3.85**	**294**		**Pn**	**16 49 16.3**	**+0.9**
YAIG					**Sn**	**16 49 56.6**	**-3.4**
YAIG	**Yautepec**	**3.85**	**294**	*e*P	**Pn**	**16 49 16.3**	**+0.9**
YAIG				*e*S	**Sn**	**16 49 56.6**	**-3.4**
MPVM	**San Francisco**	**3.94**	**298**	*e*P	**Pn**	**16 49 18.4**	**+1.6**
MPVM				*e*S	**Sn**	**16 49 53.9**	**-8.4**
THVM	**De Xico**	**3.96**	**300**	*e*P	**Pn**	**16 49 17.9**	**+0.9**
THVM				*e*S	**Sn**	**16 49 56.9**	**-5.9**
TXVM	**Universitario**	**3.98**	**302**	*e*P	**Pn**	**16 49 17.6**	**+0.3**
TXVM				*e*S	Sn	16 49 52.4	-11
TXVM				*e*S		16 49 57.0	
XCVM	**Xochimilco**	**4.05**	**298**	*e*P	**Pn**	**16 49 18.0**	**-0.2**
XCVM				*e*S	**Sn**	**16 49 57.8**	**-7.2**
TLVM	**San Miguel Top**	**4.06**	**298**	*e*P	**Pn**	**16 49 19.1**	**+0.6**
TLVM				*e*S	**Sn**	**16 49 57.0**	**-8.4**
PLIG	**Platanillo**	**4.09**	**285**		**Pn**	**16 49 18.8**	**+0.2**
PLIG					**Sn**	**16 50 01.1**	**-4.6**
PLIG	**Platanillo**	**4.09**	**285**	*e*P	**Pn**	**16 49 18.8**	**+0.2**
PLIG				*e*S	**Sn**	**16 50 01.1**	**-4.6**
PBVM	**Pinon**	**4.12**	**301**		**Pn**	**16 49 18.8**	**0.0**
PBVM					**Sn**	**16 49 57.5**	**-8.6**
PBVM	**Pinon**	**4.12**	**301**	*e*P	**Pn**	**16 49 18.8**	**0.0**
PBVM				*e*S	**Sn**	**16 49 57.5**	**-8.6**
MEIG	**Mezcala**	**4.12**	**279**		**Pn**	**16 49 18.7**	**-0.2**
MEIG					**Sn**	**16 50 00.9**	**-5.4**
MEIG	**Mezcala**	**4.12**	**279**	*e*P	**Pn**	**16 49 18.7**	**-0.2**
MEIG				*e*S	**Sn**	**16 50 00.9**	**-5.4**
DAIG	**Los Arroyos**	**4.13**	**266**		**Pn**	**16 49 17.3**	**-1.7**
DAIG					Sn	16 49 54.5	-12
DAIG	**Los Arroyos**	**4.13**	**266**	*e*P	**Pn**	**16 49 17.3**	**-1.7**
DAIG				*e*S	Sn	16 49 54.5	-12
CNCY	**Coyoacan**	**4.13**	**299**	*e*P	**Pn**	**16 49 17.4**	**-2.0**
COVM	**Coyoacan**	**4.13**	**299**	*e*S	**Sn**	**16 50 00.3**	**-6.6**
UNM	**Universidad Na**	**4.14**	**299**		**Pn**	**16 49 20.4**	**+0.9**
UNM	**Universidad Na**	**4.14**	**299**	*e*P	**Pn**	**16 49 18.6**	**-0.8**
UNM				*e*S	**Sn**	**16 50 00.7**	**-6.5**
CUP5	**Mexico City**	**4.14**	**299**	*e*P	**Pn**	**16 49 19.7**	**+0.2**
CUP5				*e*S	**Sn**	**16 50 04.4**	**-2.8**
MHVM	**Bosque de Chap**	**4.20**	**300**	*e*P	**Pn**	**16 49 19.2**	**-1.1**
HUEH	**Huehuetenango**	**4.21**	**118**	Pn	**Pn**	**16 49 18.9**	**-1.4**
AOVM	**Tlapan**	**4.23**	**297**		**Pn**	**16 49 21.4**	**+0.5**
AOVM					Sn	16 49 58.9	-11
AOVM	**Tlapan**	**4.23**	**297**	*e*P	**Pn**	**16 49 21.4**	**+0.5**
AOVM				*e*S	Sn	16 49 58.9	-11
APVM	**Azcapotzalco**	**4.24**	**301**		**Pn**	**16 49 20.6**	**-0.1**
APVM					Sn	16 49 58.8	-11
APVM	**Azcapotzalco**	**4.24**	**301**	*e*P	**Pn**	**16 49 20.6**	**-0.1**
APVM				*e*S	Sn	16 49 58.8	-11
CJVM	**Cuajimalpa**	**4.24**	**299**	*e*P	**Pn**	**16 49 19.6**	**-1.3**
CJVM				*e*S	Sn	16 49 59.0	-11
MAVM	**Malinalco, Edo**	**4.26**	**293**	*e*	Pn	16 49 07.3	-14
MAVM				*e*		16 49 50.9	
SCIG	**Sabancuy**	**4.27**	**67**	*e*P	**Pn**	**16 49 20.4**	**-0.6**
SCIG				*e*S	**Sn**	**16 50 05.6**	**-4.3**
SCIG	**Sabancuy**	**4.27**	**67**	*e*P	**Pn**	**16 49 19.6**	**-1.3**
SCIG				*e*S	**Sn**	**16 50 05.7**	**-4.3**
INVM	**La Marquesa**	**4.29**	**297**	*e*P	**Pn**	**16 49 21.3**	**-0.3**
INVM				*e*S	**Sn**	**16 50 08.8**	**-2.3**
INVM				*e*S		16 50 10.3	
VNTA	**La Mica**	**4.30**	**265**	*e*P	**Pn**	**16 49 19.2**	**-2.1**
VNTA				*i* S	**Sn**	**16 50 05.4**	**-5.2**
ACP2	**Acapulco**	**4.37**	**264**		**Pn**	**16 49 20.4**	**-1.9**
ACP2					**Sn**	**16 50 06.3**	**-5.9**
ACP2	**Acapulco**	**4.37**	**264**	*e*P	**Pn**	**16 49 20.4**	**-1.9**
ACP2				*e*S	**Sn**	**16 50 06.3**	**-5.9**
RTAL	**Retalhuleu**	**4.50**	**128**		**Pn**	**16 49 23.6**	**-0.4**
DHIG	**Demacu**	**4.56**	**311**		**Pn**	**16 49 26.5**	**+1.4**
DEIG	**Demacu**	**4.56**	**311**	*e*P	**Pn**	**16 49 26.5**	**+1.4**
CAIG	**El Cayaco**	**4.71**	**267**		**Pn**	**16 49 25.1**	**-1.8**
CAIG					**Sn**	**16 50 14.4**	**-6.1**
CAIG	**El Cayaco**	**4.71**	**267**	*e*P	**Pn**	**16 49 25.1**	**-1.8**
CAIG				*e*S	**Sn**	**16 50 14.4**	**-6.1**
ARIG	**Puente Sto Nin**	**4.85**	**282**		**Pn**	**16 49 29.8**	**+0.9**
ARIG					**Sn**	**16 50 18.9**	**-5.1**
ARIG	**Puente Sto Nin**	**4.85**	**282**	*e*P	**Pn**	**16 49 29.8**	**+0.9**
ARIG				*e*S	**Sn**	**16 50 18.9**	**-5.1**
ATYC	**Atoyac**	**4.86**	**269**	*e*P	**Pn**	**16 49 27.7**	**-1.2**
ATYC				*e*S	**Sn**	**16 50 18.3**	**-5.8**
ACIG	**Acambay**	**5.03**	**302**		**Pn**	**16 49 30.4**	**-0.9**
ACIG	**Acambay**	**5.03**	**302**	*e*P	**Pn**	**16 49 30.4**	**-0.9**
PETF	**Flores**	**5.26**	**94**		**Pn**	**16 49 33.6**	**-0.7**
PETF	**Flores**	**5.26**	**94**	*e*P	**Pn**	**16 49 34.2**	**-0.1**
PETF				*e*S	**Sn**	**16 50 29.7**	**-4.0**
PET2	**Petatlan**	**5.65**	**273**	*e*P	**Pn**	**16 49 39.3**	**-0.3**
PET2				*e*S	**Sn**	**16 50 37.2**	**-6.1**
ZIIG	**Zihuatanejo**	**5.84**	**273**		**Pn**	**16 49 41.6**	**-0.6**
ZIIG					**Sn**	**16 50 44.8**	**-3.2**
ZIIG	**Zihuatanejo**	**5.84**	**273**	*e*P	**Pn**	**16 49 41.6**	**-0.6**
ZIIG				*e*S	**Sn**	**16 50 44.8**	**-3.2**
JRQG	**Juriquilla Cam**	**5.87**	**305**		**Pn**	**16 49 42.5**	**-0.2**
MOIG	**Morelia**	**6.01**	**294**		**Pn**	**16 49 46.1**	**+1.5**
MOIG	**Morelia**	**6.01**	**294**	*e*P	**Pn**	**16 49 45.1**	**+0.5**
MOIG				*e*S	**Sn**	**16 50 51.9**	**-0.4**
UON	**La Union**	**6.20**	**277**	*e*P	**Pn**	**16 49 45.0**	**-1.9**
UON				*e*S	**Sn**	**16 50 51.7**	**-4.8**
RPIG	**Rio Verde**	**6.28**	**317**		**Pn**	**16 49 49.4**	**+1.2**
RPIG					**Sn**	**16 50 57.8**	**-0.9**
RPIG	**Rio Verde**	**6.28**	**317**	*e*P	**Pn**	**16 49 49.4**	**+1.2**
RPIG				*e*S	**Sn**	**16 50 57.8**	**-0.9**
MYIG	**Merida**	**6.40**	**55**	*e*P	**Pn**	**16 49 49.8**	**+0.1**
MYIG				*e*S	**Sn**	**16 50 58.3**	**-3.1**
ESQI	**Esquipulas**	**6.41**	**115**		**Pn**	**16 49 50.0**	**+0.1**
MTO3	**Montecristo**	**6.46**	**116**		**Pn**	**16 49 49.3**	**-1.5**
IGIG	**Irapuato, Guan**	**6.59**	**302**		**Pn**	**16 49 51.9**	**-0.7**
IGIG	**Irapuato, Guan**	**6.59**	**302**	*e*P	**Pn**	**16 49 51.9**	**-0.7**
TEIG	**Tepich**	**7.28**	**66**		**Pn**	**16 49 59.6**	**-2.1**
TEIG	**Tepich**	**7.28**	**66**	P	**Pn**	**16 49 59.8**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=78,slow=24,SNR=41						
TEIG				S	**Sn**	**16 51 15.8**	**-7.0**
	comp=Z,0.6nm,0.6s,baz=246,slow=24,SNR=4.1						
MMIG	**Aquila**	**7.68**	**278**		**Pn**	**16 50 06.8**	**-0.2**
MMIG					**Sn**	**16 51 30.1**	**-2.3**
MMIG	**Aquila**	**7.68**	**278**	*e*P	**Pn**	**16 50 06.8**	**-0.2**
MMIG				*e*S	**Sn**	**16 51 30.1**	**-2.3**
AAIG	**Aguscalientes**	**8.06**	**306**		Pn	16 50 17.4	+5.0
AAIG	**Aguscalientes**	**8.06**	**306**	*e*P	Pn	16 50 17.4	+5.0
INCO	**Volcan de Coli**	**8.13**	**287**	*e*P	**Pn**	**16 50 15.8**	**+2.2**
INCO				*e*S	**Sn**	**16 51 41.7**	**-2.4**
MNGA	**Volcan de Coli**	**8.13**	**286**	*e*P	**Pn**	**16 50 15.4**	**+2.0**
MNGA				*e*S	**Sn**	**16 51 41.3**	**-2.6**
SOMAC	**Volcano de Col**	**8.15**	**287**	*e*P	**Pn**	**16 50 15.6**	**+1.8**
SOMAC				*e*S	**Sn**	**16 51 41.3**	**-3.2**
CEGR	**Campo Tres**	**8.33**	**285**	*e*P	**Pn**	**16 50 17.4**	**+1.3**
CEGR				*e*S	**Sn**	**16 51 46.8**	**-1.8**
CDAR	**Ciudad de Arme**	**8.39**	**282**	*e*P	**Pn**	**16 50 16.3**	**-0.4**
CDAR				*e*S	**Sn**	**16 51 46.6**	**-3.1**
LNIG	**Linares**	**8.44**	**334**	*e*P	**Pn**	**16 50 16.7**	**-0.7**
LNIG				*e*S	**Sn**	**16 51 47.6**	**-3.3**
ZAIG	**Zacatecas**	**8.67**	**310**		**Pn**	**16 50 19.7**	**-0.9**
ZAIG	**Zacatecas**	**8.67**	**310**	*e*P	**Pn**	**16 50 20.2**	**-0.5**
ANIG	**Ahuacatlan**	**9.42**	**294**		**Pn**	**16 50 31.1**	**+0.4**
ANIG	**Ahuacatlan**	**9.42**	**294**	*e*P	**Pn**	**16 50 31.1**	**+0.4**
CJM	**Chamela**	**9.45**	**285**	*e*P	**Pn**	**16 50 30.7**	**-0.4**
CJM				*e*S	**Sn**	**16 52 11.8**	**-3.7**
MAIG	**Mazatlaan**	**11.91**	**301**		**Pn**	**16 51 03.9**	**-0.1**
MAIG	**Mazatlaan**	**11.91**	**301**	*e*P	**Pn**	**16 51 03.9**	**-0.1**
MCIG	**Muzquiz**	**11.91**	**333**		**Pn**	**16 51 03.8**	**-0.3**
MCIG	**Muzquiz**	**11.91**	**333**	*e*P	**Pn**	**16 51 03.8**	**-0.3**
PDIG	**Papasquiaro**	**12.10**	**311**		**Pn**	**16 51 02.8**	**-3.9**
PDIG	**Papasquiaro**	**12.10**	**311**	*e*P	**Pn**	**16 51 02.8**	**-3.9**
JTS	**Las Juntas de**	**12.29**	**123**		**Pn**	**16 51 08.8**	**-0.3**
JTS	**Las Juntas de**	**12.29**	**123**	P	**Pn**	**16 51 08.5**	**-0.6**
	comp=Z,5.0nm,0.3s,baz=301,slow=8.4,SNR=12						
JTS				S	**Sn**	**16 53 19.5**	**-4.9**
	comp=Z,2.1nm,0.3s,baz=356,slow=22,SNR=1.0						
JTS				LR	LR	16 55 07.6	
	comp=Z,75nm,20.9s,baz=325,slow=34						
HKT	**Hockley**	**12.55**	**358**		**Pn**	**16 51 12.2**	**-0.2**
HNDO	**Hondo**	**12.65**	**344**		**Pn**	**16 51 13.1**	**-0.7**
SOR	**Soroa**	**12.79**	**63**		**Pn**	**16 51 12.6**	**-3.1**
DRIO	**Del Rio**	**12.96**	**339**		**Pn**	**16 51 16.5**	**-1.3**
435B	**Jarrell**	**13.53**	**352**	P	**P**	**16 51 31.0**	**+0.7**
JCT	**Junction City**	**13.69**	**344**		**Pn**	**16 51 26.8**	**-0.5**
BCIG	**La Boquilla**	**13.76**	**319**		**Pn**	**16 51 29.1**	**+0.8**
BCIG	**La Boquilla**	**13.76**	**319**	*e*P	**Pn**	**16 51 29.1**	**+0.8**
SAND	**Sanderson**	**14.00**	**335**	P	**P**	**16 51 36.4**	**+0.9**
TXAR	**Lajitas Array**	**14.16**	**329**	P	**P**	**16 51 35.6**	**-1.8**
	comp=Z,3.1nm,0.7s,baz=159,slow=12,SNR=29						
TXAR				S	**Sn**	**16 54 13.0**	**+3.3**
	comp=Z,0.9nm,0.8s,baz=148,slow=14,SNR=1.1						
BRDY	**Brady**	**14.27**	**347**		**Pn**	**16 51 33.9**	**-0.9**
NATX	**Nacogdoches**	**14.36**	**2**		**Pn**	**16 51 35.1**	**-0.7**
SLBS	**Sierra La Lagu**	**15.05**	**297**	P	**Pn**	**16 51 46.1**	**+1.3**
SLBS	**Sierra La Lagu**	**15.05**	**297**	*e*P	**Pn**	**16 51 45.9**	**+1.1**
CSIG	**Choix**	**15.31**	**310**	P	**P**	**16 51 49.2**	**-0.9**
CSIG	**Choix**	**15.31**	**310**	*e*P	**P**	**16 51 49.2**	**-0.9**
LPIG	**La Paz**	**15.52**	**298**	P	**P**	**16 51 53.4**	**+1.0**
	comp=Z,13nm,0.3s,baz=333,slow=7.8,SNR=7.4						
LPIG				S	**S**	**16 54 46.5**	**-3.2**
	comp=Z,11nm,0.3s,baz=172,slow=15,SNR=1.6						
LPIG				LR	LR	16 57 38.6	
	comp=Z,105nm,21.1s,baz=32,slow=36						
DWPF	**Disney Wildern**	**16.70**	**48**		**Pn**	**16 52 05.0**	**-0.1**
UALR	**University of**	**17.56**	**8**	P	**P**	**16 52 15.0**	**+0.1**
HSIG		**18.43**	**312**	P	**Pn**	**16 52 26.3**	**+0.3**
319A	**Douglas**	**18.84**	**320**	Pn	**Pn**	**16 52 31.2**	**+0.3**
WVT	**Waverly**	**19.86**	**18**	P	**P**	**16 52 39.1**	**-0.8**
ANMO	**Albuquerque**	**20.14**	**333**	P	**P**	**16 52 44.3**	**+1.1**
ANMO	**Albuquerque**	**20.14**	**333**	P	Pn	16 52 44.8	-1.3
	comp=Z,7.3nm,0.7s,baz=311,slow=12,SNR=29						
ANMO				S	**S**	**16 56 22.5**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=14,slow=22,SNR=1.4						
	comp=Z,7.3nm,0.7s						
TUC	**Tucson**	**20.41**	**320**	P	Pn	16 52 47.8	-1.4
TUC	**Tucson**	**20.41**	**320**	*e*P	Pn	16 52 48.0	-1.2
TKL	**Tuckaleechee C**	**20.94**	**27**	P	**P**	**16 52 50.2**	**-1.4**
	comp=Z,31nm,0.8s,baz=191,slow=12,SNR=40						
TKL				S	**S**	**16 56 39.4**	**+0.8**
	comp=Z,3.3nm,0.6s,baz=312,slow=19,SNR=1.5						
	comp=Z,31nm,0.8s						
CCM	**Cathedral Cave**	**20.94**	**9**	P	**P**	**16 52 50.5**	**-1.1**
WCI	**Wyandotte Cave**	**22.27**	**19**	P	**P**	**16 53 03.7**	**-1.9**
OTAV	**Otavalo**	**23.78**	**134**	P	**P**	**16 53 22.1**	**+1.3**
YUH	**Yuha Desert**	**24.01**	**313**	P	**P**	**16 53 24.0**	**+1.8**
PV07	**Paradox Valley**	**24.02**	**334**	P	**P**	**16 53 23.3**	**+0.8**
RUSC	**La Rusia**	**24.56**	**115**	P	**P**	**16 53 27.9**	**0.0**
FLOC	**Florencia**	**24.91**	**127**	P	**P**	**16 53 31.5**	**+1.0**
S57A	**Dark Hollow, R**	**24.92**	**32**	IAmb	IAmb	16 53 30.7	
	comp=Z,42nm,0.8s						
PFO	**Pinyon Flats O**	**24.93**	**315**	LR	LR	17 04 57.1	
	comp=Z,75nm,19.9s,baz=86,slow=40						
T59A	**Double "B" Far**	**25.07**	**35**	IAmb	IAmb	16 53 31.5	
	comp=Z,77nm,1.1s						
V12A	**Nelson**	**25.20**	**320**	P	**P**	**16 53 34.4**	**+1.3**
O20A	**White River Ci**	**25.31**	**336**	IAmb	IAmb	16 53 41.3	
	comp=Z,18nm,0.8s						
MTPU	**Mount Pierson**	**25.36**	**328**	IAmb	IAmb	16 54 16.0	
	comp=Z,24nm,1.2s						
N49A	**Columbus Grove**	**25.39**	**20**	IAmb	IAmb	16 53 36.4	
	comp=Z,45nm,0.7s						
**

LPAZ	La Paz	42.85 140	P	P	16 56 06.4	+0.7
	comp=Z,3.3nm,0.7s,baz=344,slow=9.3,SNR=11					
LPAZ			pP	pP	16 56 32.4	+0.4
	comp=Z,2.2nm,0.6s,baz=326,slow=5.2,SNR=3.9					
LPAZ			sP	sP	16 56 44.6	-0.3
	comp=Z,3.8nm,0.7s,baz=328,slow=7.5,SNR=4.9					
	comp=Z,3.3nm,0.7s					
LPAZ	La Paz	42.85 140	eP	P	16 56 06.3	+0.6
LPAZ	La Paz	42.85 140	P	P	16 56 06.6	+0.8
LPAZ			pP	pP	16 56 32.1	+0.2
LPAZ			sP	sP	16 56 44.7	-0.2
PB11	IPOC Station P	44.68 145	IAmb	IAmb	16 56 27.8	
	comp=Z,14nm,0.8s					
GO01	Chusmiza	44.87 144	IAmb	IAmb	16 56 29.8	
	comp=Z,9.0nm,0.7s					
KUQ	Kuujjuuaa	45.32 20	P	P	16 56 23.5	-0.7
U35K	Hyder	46.60 334	P	P	16 56 35.1	+0.8
	baz=131					
TOAD	Toad River Com	46.87 339	P	P	16 56 37.3	+0.8
	baz=139					
V35K	Ketchikan	46.90 332	P	P	16 56 38.4	+1.7
	baz=129					
BLKN	Baker Lake	46.93 360	P	P	16 56 36.4	-0.3
YKA	Yellowknife Ar	47.07 348	P	P	16 56 38.2	+0.3
	comp=Z,1.8nm,0.5s,baz=155,slow=7.6,SNR=35					
YKA			pP	pP	16 57 04.0	-0.5
	comp=Z,2.2nm,0.8s,baz=155,slow=7.7,SNR=3.6					
YKA			PP	PP	16 58 30.7	+1.2
	comp=Z,1.3nm,0.9s,baz=153,slow=9.3,SNR=4.0					
	comp=Z,1.8nm,0.5s					
T35M	Bob Quinn	47.40 335	P	P	16 56 42.7	+2.1
	baz=132					
KOTAN	Kotaneelee Air	47.48 341	P	P	16 56 43.0	+1.9
	baz=141					
CRAG	Craig	47.66 332	P	P	16 56 44.3	+1.7
	baz=128					
WRAK	Wrangell Islan	47.91 333	P	P	16 56 46.3	+1.8
	baz=129					
U33K	Whale Pass	48.06 333	P	P	16 56 47.5	+2.0
	baz=128					
PTLB	Pontes e Lacer	48.34 130	P	P	16 56 49.1	+0.8
S34M	Telegraph Cree	48.38 335	P	P	16 56 49.6	+1.5
	baz=132					
WTLY	Watson Lake, Y	49.03 339	IAmb	IAmb	16 57 24.6	
	comp=Z,12nm,1.0s					
WTLY	Watson Lake, Y	49.03 339	P	P	16 56 55.0	+1.9
	baz=136					
R33M	Jennings River	49.32 337	IAmb	IAmb	16 57 27.9	
	comp=Z,14nm,1.2s					
R33M	Jennings River	49.32 337	P	P	16 56 56.8	+1.5
	baz=133					
Q32M	Nakina River	49.53 336	P	P	16 56 58.2	+1.2
	baz=131					
S32K	Killisnoo	49.53 333	P	P	16 56 58.5	+1.7
	baz=127					
SIT	Sitka	49.60 333	P	P	16 56 58.9	+1.6
	baz=126					
WRGLY	Wrigley	49.78 344	P	P	16 57 00.6	+2.0
	baz=144					
TGTN	Hyland Airport	49.89 340	P	P	16 57 01.1	+1.5
	baz=137					
R32K	Eaglecrest	50.00 334	P	P	16 57 01.6	+1.3
	baz=128					
P32M	Atlin	50.50 336	P	P	16 57 04.0	-0.1
	baz=130					
S31K	Pelican	50.53 333	P	P	16 57 05.5	+1.1
	baz=126					
P33M	Teslin, Yukon	50.56 337	P	P	16 57 06.2	+1.5
	baz=131					
N32M	Quiet Lake	51.28 338	IAmb	IAmb	16 57 42.2	
	comp=Z,15nm,0.8s					
N32M	Quiet Lake	51.28 338	P	P	16 57 10.8	+0.7
	baz=131,SNR=5.5					
TAOE	Nuku Hiva Isla	51.36 243	eLR	LR	17 11 26.6	
	comp=Z,276nm,35.0s					
WHY	Whitehorse	51.63 336	P	P	16 57 14.0	+1.2
	baz=129					
MMPY	Sheldon Lake,	51.66 340	IAmb	IAmb	16 57 45.2	
	comp=Z,18nm,1.2s					
MMPY	Sheldon Lake,	51.66 340	P	P	16 57 14.2	+1.4
	baz=134,SNR=5.3					
FARO	Faro, Yukon	52.10 339	P	P	16 57 17.4	+1.3
	baz=132					
P30M	Million Dollar	52.12 335	P	P	16 57 17.8	+1.5
	baz=126					
P29M	Windy Craggy	52.15 334	P	P	16 57 18.0	+1.6
	baz=125					
O30N	Mendenhall	52.17 336	P	P	16 57 18.5	+1.9
	baz=128					
M31M	Drury Creek, Y	52.45 338	P	P	16 57 20.2	+1.6
	baz=130					
N31M	Braeburn, Yuko	52.49 337	P	P	16 57 20.1	+1.1
	baz=128					
ILON	Igloolik, Nuna	52.69 6	P	P	16 57 19.9	-0.3
ILON			IAmb	IAmb	16 57 21.0	
	comp=Z,12nm,1.1s					
HYT	Haines Junctio	52.75 336	P	P	16 57 21.7	+0.7
	baz=126					
PNL	Peninsula	52.86 334	P	P	16 57 22.6	+0.8
	baz=123					
O29M	Mount Kennedy	52.88 335	P	P	16 57 22.8	+0.9
	baz=125					
N30M	Aishikik Lake	52.97 336	P	P	16 57 23.6	+1.1
	baz=127					
YUK6	Outpost Mounta	53.16 335	P	P	16 57 24.7	+0.5
	baz=125					
PINM	Pinnacle	53.46 334	P	P	16 57 27.3	+1.1
	baz=123					
YUK4	Talbot Arm	53.51 336	P	P	16 57 26.6	-0.1
	baz=125					
M30M	Minto, Yukon	53.55 338	P	P	16 57 26.7	-0.1
	baz=128					
O28M	Mount Upton	53.80 335	P	P	16 57 29.1	+0.2
	baz=123					
YUK8	Steele Glacier	53.92 335	P	P	16 57 29.5	-0.2
	baz=124					
M29M	Somme Creek	54.09 337	IAmb	IAmb	16 58 03.3	
	comp=Z,8.6nm,0.9s					
M29M	Somme Creek	54.09 337	P	P	16 57 33.0	+2.3
	baz=126,SNR=6.9					
MESA	MESA	54.22 333	P	P	16 57 32.4	+0.6
	baz=121					
L29M	L29M	54.36 338	IAmb	IAmb	16 57 34.9	
	comp=Z,5.0nm,0.7s					
L29M	L29M	54.36 338	P	P	16 57 33.9	+1.3
	baz=127,SNR=5.6					
YUK3	Moose Creek	54.47 336	P	P	16 57 34.5	+0.9
	baz=124					
K29M	Barlow Dome	54.59 339	P	P	16 57 35.0	+0.6
	baz=125					
J30M	Hart River	54.65 340	IAmb	IAmb	16 58 21.7	
	comp=Z,10nm,1.4s					
J30M	Hart River	54.65 340	P	P	16 57 35.7	+0.9
	baz=130					
H31M	Peel River	54.84 342	P	P	16 57 37.1	+1.1
	baz=132					
C36M	Paulatuk	54.95 348	P	P	16 57 38.2	+1.5
	baz=146					
BVCY	Beaver Creek	54.98 336	P	P	16 57 38.6	+1.5
	baz=124					
I30M	Mount Dempster	55.08 340	IAmb	IAmb	16 58 09.4	
	comp=Z,9.5nm,1.3s					
I30M	Mount Dempster	55.08 340	P	P	16 57 39.3	+1.4
	baz=130					
KAIM	Kayak Island	55.17 332	P	P	16 57 40.1	+1.6
	baz=118					
J29N	Klondike Camp	55.21 339	P	P	16 57 39.8	+1.1
	baz=128					
M27K	Edge Creek, AK	55.35 336	P	P	16 57 42.0	+2.1
	baz=122					
DAWY	Dawson	55.39 338	P	P	16 57 41.1	+1.1
	baz=126					
G31M	Satah River	55.58 343	IAmb	IAmb	16 57 43.0	
	comp=Z,9.3nm,0.9s					
G31M	Satah River	55.58 343	P	P	16 57 42.2	+1.0
	baz=133,SNR=8.9					
GLB	Gilahina Butte	55.65 334	IAmb	IAmb	16 58 14.2	
	comp=Z,11nm,1.3s					
L27K	Beaver Creek,	55.71 336	IAmb	IAmb	16 58 14.6	
	comp=Z,11nm,1.4s					
L27K	Beaver Creek,	55.71 336	P	P	16 57 43.7	+1.4
	baz=123					
F31M	Tsiigehtchic	55.79 343	IAmb	IAmb	16 58 13.8	
	comp=Z,32nm,1.9s					
F31M	Tsiigehtchic	55.79 343	P	P	16 57 44.3	+1.6
	baz=134					
M26K	Nabesna, AK	55.81 335	P	P	16 57 44.6	+1.5
	baz=121					
EPYK	Eagle Plains	55.94 341	P	P	16 57 45.2	+1.4
	baz=130					
MT08	Bocatoma Ro	56.00 154	IAmb	IAmb	16 57 48.6	
	comp=Z,9.7nm,0.8s					
EYAK	Cordova Ski Ar	56.05 333	P	P	16 57 45.6	+0.9
	baz=117					
N25K	Chitina, Valde	56.06 334	P	P	16 57 45.9	+1.0
	baz=119					
G30M	tAoh Zraii Nji	56.19 342	P	P	16 57 47.6	+1.9
	baz=131					
L26K	Log Cabin Wild	56.28 336	P	P	16 57 48.3	+2.0
	baz=121					
K27K	Chicken	56.34 337	IAmb	IAmb	16 58 18.4	
	comp=Z,16nm,1.6s					
K27K	Chicken	56.34 337	P	P	16 57 48.3	+1.6
	baz=123					
H29M	Whitestone	56.36 341	P	P	16 57 47.6	+0.8
	baz=128					
I28M	Miner Creek	56.40 339	P	P	16 57 48.7	+1.4
	baz=126					
F30M	Barrier River	56.48 343	IAmb	IAmb	16 57 49.7	
	comp=Z,10nm,0.9s					
F30M	Barrier River	56.48 343	P	P	16 57 48.6	+0.9
	baz=132,SNR=8.3					
P23K	Montague Islan	56.54 332	P	P	16 57 49.1	+0.9
	baz=115					
KLU	Klutina	56.56 334	P	P	16 57 49.6	+1.1
	baz=118					
HARP	HAARP	56.68 335	P	P	16 57 49.6	+0.4
	baz=119					
G29M	Pine Creek	56.68 341	IAmb	IAmb	16 57 51.1	
	comp=Z,6.2nm,1.1s					
G29M	Pine Creek	56.68 341	P	P	16 57 50.1	+0.9
	baz=129					
DOT	Dot Lake	56.88 336	IAmb	IAmb	16 58 22.9	
	comp=Z,9.8nm,1.2s					
M24K	Tolsona, Glenn	56.96 334	P	P	16 57 52.0	+0.7
	baz=118					
CPUP	Villa Florida	57.01 139	P	P	16 57 50.6	-1.3
	comp=Z,1.0nm,0.6s,baz=332,slow=5.2,SNR=7.9					
CPUP			pP	pP	16 58 18.1	-1.4
	comp=Z,2.1nm,0.8s,baz=320,slow=9.3,SNR=3.2					
CPUP			sP	sP	16 58 30.9	-1.1
	comp=Z,2.0nm,0.8s,baz=322,slow=9.5,SNR=2.7					
	comp=Z,1.0nm,0.6s					
CPUP	Villa Florida	57.01 139	eP	P	16 57 54.8	+2.9
CPUP	Villa Florida	57.01 139	P	P	16 57 55.8	+3.9
CPUP			PcP	PcP	16 58 46.5	+0.7
SCRK	Sand Creek	57.02 337	P	P	16 57 52.2	+0.5
	baz=121					
BDFB	Brasilia	57.03 122	P	P	16 57 52.2	-0.2
	comp=Z,2.9nm,0.9s,baz=284,slow=10,SNR=3.9					
BDFB			pP	pP	16 58 20.0	+0.2
	comp=Z,1.7nm,0.6s,baz=301,slow=13,SNR=2.4					
BDFB			sP	sP	16 58 31.7	-0.8
	comp=Z,4.7nm,0.9s,baz=208,slow=6.2,SNR=3.6					
	comp=Z,2.9nm,0.9s					
I27K	Kandik River	57.06 339	P	P	16 57 52.7	+0.9
	baz=124					
PAX	Paxson	57.09 335	P	P	16 57 53.4	+1.2
	baz=119					
J26L	Joseph Creek	57.14 337	IAmb	IAmb	16 58 36.5	
	comp=Z,6.8nm,1.1s					
J26L	Joseph Creek	57.14 337	P	P	16 57 53.6	+1.1
	baz=122					
RIDG	Independent Ri	57.23 336	IAmb	IAmb	16 57 55.4	
	comp=Z,8.5nm,1.1s					
RIDG	Independent Ri	57.23 336	P	P	16 57 54.3	+1.3
	baz=120,SNR=5.8					
SCM	Sheep Creek Mo	57.32 334	P	P	16 57 55.7	+1.9
	baz=116					
PWL	Port Wells	57.33 332	P	P	16 57 54.5	+0.8
	baz=115					
A36M	Sachs Harbour	57.37 349	IAmb	IAmb	16 58 24.2	
	comp=Z,8.7nm,1.2s					
A36M	Sachs Harbour	57.37 349	P	P	16 57 54.2	+0.3
	baz=145					
SFJD	Kangerlussuaq	57.37 19	LR	LR	17 24 00.0	
	comp=Z,158nm,18.4s,baz=125,slow=37					
H27K	Steamboat Moun	57.39 340	P	P	16 57 55.3	+1.1
	baz=125					
I26K	Coal Creek Min	57.43 338	P	P	16 57 55.5	+1.1
	baz=123					
M23K	Glacier View	57.47 333	P	P	16 57 55.3	+0.5
	baz=116					
E29M	Blow River	57.59 343	IAmb	IAmb	16 58 26.5	
	comp=Z,12nm,1.2s					
E29M	Blow River	57.59 343	P	P	16 57 56.2	+0.7
	baz=130					
K24K	Donnelly Dome	57.62 336	P	P	16 57 56.7	+0.9
	baz=119					
KNK	Knik Glacier	57.62 333	P	P	16 57 57.0	+1.2
	baz=115					
SML	Sawmill	57.73 333	P	P	16 57 57.4	+0.7
	baz=115					
G27K	Doyon Strip	57.77 340	P	P	16 57 57.7	+0.9
	baz=125,SNR=6.0					
O22K	Cooper Landing	57.80 332	P	P	16 57 58.2	+1.2
	baz=113					
J25K	Salcha River,	57.87 337	IAmb	IAmb	16 59 34.4	
	comp=Z,12nm,1.6s					
J25K	Salcha River,	57.87 337	P	P	16 57 58.6	+1.1
	baz=120					
BRSE	Bradley Lake S	57.98 331	P	P	16 57 58.9	+0.5
	baz=112					
PMR	Palmer	57.99 333	P	P	16 57 59.5	+1.2
	baz=114					
RC01	Rabbit Creek A	58.05 332	P	P	16 57 59.7	+0.9
	baz=114					
E28M	Babbage River	58.20 342	P	P	16 57 59.8	0.0
	baz=128,SNR=5.4					
HDA	Harding Lake	58.36 336	P	P	16 58 01.3	+0.4
	baz=118					
Q20K	Shuyak Island	58.37 329	P	P	16 58 01.9	+0.8
	baz=110					
OHAK	Old Harbor	58.37 327	P	P	16 58 01.7	+0.6
	baz=108					
PRP	Porcupine Dome	58.38 338		P	16 58 01.5	+0.3
PRP			IAmb	IAmb	16 58 32.9	
	comp=Z,9.1nm,1.4s					
PRP	Porcupine Dome	58.38 338	P	P	16 58 01.8	+0.6
	baz=120					
D28M	Stokes Point	58.43 343	P	P	16 58 02.0	+0.8
	baz=130					
M22K	Willow	58.48 333	P	P	16 58 02.7	+0.9
	baz=114					
ILAR	Eielson Array	58.51 337	P	P	16 58 02.7	+0.7
	comp=Z,1.4nm,0.8s,baz=116,slow=5.0,SNR=14					
ILAR			pP	pP	16 58 30.1	+0.5
	comp=Z,0.9nm,0.9s,baz=114,slow=7.1,SNR=3.7					
ILAR			sP	sP	16 58 43.8	+1.7
	comp=Z,0.9nm,0.8s,baz=116,slow=6.6,SNR=3.3					
ILAR			PP	PP	17 00 13.0	+0.6
	comp=Z,0.4nm,0.8s,baz=117,slow=8.7,SNR=2.4					
	comp=Z,1.4nm,0.8s					
G26K	Porcupine Rive	58.54 340	IAmb	IAmb	16 58 45.8	
	comp=Z,6.9nm,1.1s					
G26K	Porcupine Rive	58.54 340	P	P	16 58 02.5	+0.4
	baz=123					
E27K	Coleen River	58.55 342	P	P	16 58 02.9	+0.7
	baz=126					
CAPN	Captain Cook N	58.56 332	P	P	16 58 04.5	+2.2
	baz=112					
SII	Sitkinak Islan	58.64 326	P	P	16 58 04.1	+1.1
	baz=107					
SUA	Susitna One	58.64 332	IAmb	IAmb	16 58 05.3	
	comp=Z,8.3nm,1.0s					
SUA	Susitna One	58.64 332	P	P	16 58 03.9	+0.9
	baz=113					
CUT	Chulitna	58.81 334	P	P	16 58 04.9	+0.8
	baz=114					
MCK	McKinley	58.83 335	P	P	16 58 04.3	+0.2
	baz=116					
H25L	Birch Creek	58.87 339	P	P	16 58 04.4	+0.1
	baz=120					
POKR	Poker Plat Res	58.88 337	P	P	16 58 04.9	+0.4
	baz=118					
COLA	College	58.92 337	P	P	16 58 06.4	+1.6
	baz=118					
D27M	Malcolm River	59.00 343	P	P	16 58 06.3	+1.0
	baz=127					
BMAR	Burnt Mountain	59.06 340	P	P	16 58 06.8	+1.0
F26K	Sheenjek River	59.07 340	IAmb	IAmb	16 58 37.8	
	comp=Z,11nm,1.6s					
F26K	Sheenjek River	59.07 340	P	P	16 58 06.7	+0.9
	baz=123					
R18K	Karluk	59.08 327	P	P	16 58 06.9	+1.0
	baz=107					
Q19K	Cape Douglas,	59.09 329	P	P	16 58 07.2	+1.1
	baz=108					
P19K	Oil Pt	59.13 330	P	P	16 58 06.9	+0.5
	baz=109					
SKT	Skwentna	59.19 333	IAmb	IAmb	16 58 08.7	
	comp=Z,6.8nm,1.0s					
SKT	Skwentna	59.19 333	P	P	16 58 08.1	+1.4
	baz=112,SNR=5.7					
SPCR	Spurr Chakacha	59.20 332	P	P	16 58 08.0	+1.1
	baz=111					
CHIR	Chirikof Islan	59.21 325	P	P	16 58 07.4	+0.5
	baz=105					
G25K	Bearman Lake	59.22 339	P	P	16 58 06.8	0.0
	baz=120					
TRF	Thorofare Moun	59.25 335	IAmb	IAmb	16 58 53.7	
	comp=Z,13nm,0.8s					
TRF	Thorofare Moun	59.25 335	P	P	16 58 08.1	+0.8
	baz=114,SNR=7.4					
NEA2	Nenana	59.26 336	P	P	16 58 07.5	+0.4
	baz=116					
H24K	Noodor Dome	59.39 338	IAmb	IAmb	16 58 39.8	
	comp=Z,6.8nm,1.1s					
H24K	Noodor Dome	59.39 338	P	P	16 58 08.8	+0.7
	baz=118					
F25K	Christian Rive	59.50 340	IAmb	IAmb	16 58 40.3	
	comp=Z,8.3nm,1.2s					
F25K	Christian Rive	59.50 340	P	P	16 58 09.8	+1.0
	baz=121,SNR=7.2					
KTH	Kantishna Hill	59.55 335	IAmb	IAmb	16 58 52.4	
	comp=Z,6.6nm,1.0s					
I23K	Minto, Yukon-K	59.62 337	IAmb	IAmb	16 58 11.3	
	comp=Z,5.9nm,0.9s					
I23K	Minto, Yukon-K	59.62 337	P	P	16 58 10.1	+0.6
	baz=116,SNR=5.7					
G24K	Hadweenzic Riv	59.66 339	IAmb	IAmb	16 58 41.8	
	comp=Z,11nm,1.4s					
G24K	Hadweenzic Riv	59.66 339	P	P	16 58 10.5	+0.6
	baz=119					
Q18K	Katmai Hardscr	59.68 328	P	P	16 58 10.8	+0.5
	baz=107					
E25K	Arctic Village	59.75 341	IAmb	IAmb	16 58 41.9	
	comp=Z,8.4nm,1.3s					
E25K	Arctic Village	59.75 341	P	P	16 58 11.4	+0.9
	baz=122					
BPAW	Bear Paw Mtn.	59.80 335	IAmb	IAmb	16 58 56.5	
	comp=Z,5.0nm,0.9s					
BPAW	Bear Paw Mtn.	59.80 335	P	P	16 58 11.8	+0.9
	baz=114					
PPLA	Purkeypile	59.82 334	P	P	16 58 11.8	+0.6
	baz=112					
O19K	Port Alsworth	59.83 330	P	P	16 58 12.1	+1.0
	baz=109					
M20K	Styx River	59.85 332	IAmb	IAmb	16 58 13.1	
	comp=Z,4.2nm,0.8s					
M20K	Styx River	59.85 332	P	P	16 58 12.2	+0.9
	baz=111					
CAST	Castle Rocks	59.98 334	IAmb	IAmb	16 58 53.0	
	comp=Z,19nm,1.6s					
CAST	Castle Rocks	59.98 334	P	P	16 58 12.0	-0.1
	baz=113,SNR=5.4					
H23K	Yukon River	59.99 337	P	P	16 58 12.5	+0.4
	baz=116					
Q17K	Contact Creek	60.01 328	P	P	16 58 12.8	+0.3
	baz=106					
P18K	Big Mountain,	60.01 329	P	P	16 58 12.7	+0.2
P18K			IAmb	IAmb	16 58 14.0	
	comp=Z,9.8nm,1.1s					
P18K	Big Mountain,	60.01 329	P	P	16 58 13.0	+0.6
	baz=107					
C27K	Jago River	60.01 342	P	P	16 58 13.1	+0.9
	baz=124					
N19K	Bonanza Creek	60.10 331	IAmb	IAmb	16 58 14.7	
	comp=Z,7.8nm,0.8s					
N19K	Bonanza Creek	60.10 331	P	P	16 58 13.8	+0.7
	baz=109,SNR=7.8					
O18K	Koktuh Hills	60.14 330	P	P	16 58 13.9	+0.7
O18K			IAmb	IAmb	16 58 14.9	
	comp=Z,7.1nm,0.9s					
O18K	Koktuh Hills	60.14 330	P	P	16 58 13.7	+0.4
	baz=108					
F24K	Squaw Lake	60.20 339	P	P	16 58 14.8	+1.2
	baz=119					
CHUM	Lake Minchumin	60.25 335	P	P	16 58 15.0	+1.1
	baz=113					
L20K	Farewell, AK	60.40 333	P	P	16 58 15.6	+0.6
	baz=110,SNR=6.1					
M19K	Big River Lodg	60.42 332	IAmb	IAmb	16 58 16.9	
	comp=Z,6.2nm,0.9s					
M19K	Big River Lodg	60.42 332	P	P	16 58 15.5	+0.4
	baz=110					
Q16K	King Salmon	60.51 328	P	P	16 58 16.8	+1.1
	baz=106					
C26K	Camden Bay	60.52 342	P	P	16 58 16.3	+0.6
	baz=123					
P17K	Kvichak River	60.55 329	P	P	16 58 16.1	+0.1
	baz=106					
G23K	Bananza Creek	60.56 338	P	P	16 58 15.2	-0.8
	baz=116					
D25K	Kavik River	60.63 342	P	P	16 58 16.6	+0.1
	baz=121,SNR=5.9					
E24K	Your Creek	60.67 340	IAmb	IAmb	16 58 49.8	
	comp=Z,12nm,1.6s					
E24K	Your Creek	60.67 340	P	P	16 58 16.4	-0.4
	baz=119					
H22K	Ishtalitna Cre	60.70 337	P	P	16 58 16.6	-0.4
	baz=115					
N18K	Kilae Creek	60.72 331	P	P	16 58 17.1	-0.1
	baz=107					
L19K	White Mountain	60.72 332	P	P	16 58 16.8	-0.4
	baz=109					
K20K	Telida	60.79 334	IAmb	IAmb	16 58 49.5	
	comp=Z,24nm,1.8s					
K20K	Telida	60.79 334	P	P	16 58 17.5	-0.1
	baz=111					
CHGN	Chignik	60.85 325	P	P	16 58 18.2	+0.1
	baz=103					
COLD	Coldfoot	60.86 339	IAmb	IAmb	16 59 31.2	
	comp=Z,8.9nm,1.5s					
COLD	Coldfoot	60.86 339	P	P	16 58 18.6	+0.6
	baz=116					
KULLO	Kullorsuaq	60.88 11	eP	P	16 58 15.2	-2.9
KULLO			IAmb	IAmb	16 58 19.6	
	comp=Z,12nm,0.6s					
M18K	Stony River	60.94 331	P	P	16 58 18.8	+0.2
	baz=108,SNR=5.5					
O17K	Koliganek Bris	61.03 329	P	P	16 58 19.3	+0.1
	baz=106					
E23K	Chandalar	61.04 340	IAmb	IAmb	16 58 52.7	
	comp=Z,7.8nm,1.2s					
E23K	Chandalar	61.04 340	P	P	16 58 19.6	+0.2
	baz=118					
J20K	Nowinta River	61.11 335	P	P	16 58 20.4	+0.7
	baz=111,SNR=5.2					
H21K	Melozitna Rive	61.14 336	P	P	16 58 20.9	+0.9
	baz=113					
G22K	Bettles	61.18 338	P	P	16 58 20.7	+0.5
	baz=115					
CHNA	Chernabura Isl	61.20 324	P	P	16 58 20.9	+0.5
	baz=101					
N17K	Nushagak Hills	61.28 330	P	P	16 58 21.3	+0.3
	baz=106					
TOLK	Toolik Lake Re	61.30 340	P	P	16 58 22.1	+1.1
	baz=118					
D24K	Happy Valley	61.30 341	P	P	16 58 20.6	-0.3
	baz=119					
S14K	Fog Glacier	61.46 325	P	P	16 58 23.5	+1.1
	baz=102					
I20K	Naaghedeneel	61.47 335	IAmb	IAmb	16 58 23.9	
	comp=Z,9.6nm,0.8s					
I20K	Naaghedeneel	61.47 335	P	P	16 58 22.8	+0.7
	baz=111					
O16K	Kokwok River B	61.47 329	IAmb	IAmb	16 58 23.8	
	comp=Z,6.7nm,0.7s					
O16K	Kokwok River B	61.47 329	P	P	16 58 23.4	+1.2
	baz=105					
TTA	Tatalina	61.47 333	P	P	16 58 22.7	+0.4
	baz=108,SNR=5.0					
C24K	Franklin Bluff	61.54 341	P	P	16 58 23.1	+0.6
	baz=119					
L18K	Granite Mounta	61.55 332	P	P	16 58 23.7	+1.0
	baz=107					
M17K	Holitna River	61.65 331	P	P	16 58 24.1	+0.6
	baz=106					
J19K	Poorman	61.66 334	P	P	16 58 23.6	+0.1
J19K			IAmb	IAmb	16 58 24.5	
	comp=Z,7.4nm,0.8s					
J19K	Poorman	61.66 334	P	P	16 58 23.7	+0.3
	baz=109,SNR=9.1					

F22K	**John River**	**61.67 339**	P	**P**	**16 58 24.2 +0.7**
	baz=115				
G21K	**Allakaket**	**61.74 337**	P	**P**	**16 58 24.3 +0.4**
	baz=113				
D23K	**Nanushuk River**	**61.80 340**	P	**P**	**16 58 24.7 +0.3**
	baz=117				
E22K	**Anaktuvuk Pass**	**61.81 339**	IAmb	IAmb	16 58 57.7
	comp=Z,8.2nm,1.1s				
E22K	**Anaktuvuk Pass**	**61.81 339**	P	**P**	**16 58 24.8 +0.3**
	baz=115				
H20K	**Anotleneega Mo**	**61.88 336**	P	**P**	**16 58 25.7 +0.7**
	baz=111				
J18K	**Innoko River**	**61.95 333**	P	**P**	**16 58 25.8 +0.4**
	baz=108				
ICESG	**Greenland Ices**	**61.98 20**	*e*P	**P**	**16 58 25.3 -0.6**
ICESG			IAmb	IAmb	16 58 28.2
	comp=Z,29nm,1.2s				
F21K	**Alatna River**	**62.01 338**	IAmb	IAmb	16 58 58.3
	comp=Z,1.11nm,1.1s				
F21K	**Alatna River**	**62.01 338**	P	**P**	**16 58 26.2 +0.4**
	baz=113,SNR=10				
N16K	**Nishlik Lake**	**62.02 330**	P	**P**	**16 58 26.4 +0.4**
	baz=104				
C23K	**Itkillik River**	**62.18 341**	IAmb	IAmb	16 58 58.4
	comp=Z,13nm,1.1s				
C23K	**Itkillik River**	**62.18 341**	P	**P**	**16 58 26.9 0.0**
	baz=117				
PLCA	**Paso Flores**	**62.21 159**	P	**P**	**16 58 28.5 +1.0**
	comp=Z,7.8nm,0.9s,baz=342,slow=8.9,SNR=9.5				
	comp=Z,7.8nm,0.9s				
PLCA	**Paso Flores**	**62.21 159**	P	**P**	**16 58 28.4 +1.0**
PLCA			sP	**sP**	**16 59 07.5 -0.4**
O15K	**Ungalikthiuk R**	**62.23 328**	P	**P**	**16 58 27.4 +0.1**
	baz=103				
L17K	**Donlin**	**62.25 332**	P	**P**	**16 58 27.7 +0.3**
	baz=106				
M16K	**Timber Creek**	**62.26 330**	P	**P**	**16 58 27.9 +0.4**
	baz=105				
K17K	**Iditarod**	**62.41 332**	P	**P**	**16 58 28.9 +0.4**
	baz=106				
D22K	**Ayikyak River**	**62.42 340**	IAmb	IAmb	16 59 19.9
	comp=Z,7.1nm,0.9s				
D22K	**Ayikyak River**	**62.42 340**	P	**P**	**16 58 28.4 0.0**
	baz=115,SNR=5.7				
GCSA	**Galena City Sc**	**62.42 335**	P	**P**	**16 58 28.7 +0.2**
	baz=108				
H19K	**Roundabout Mou**	**62.51 336**	P	**P**	**16 58 29.2 +0.2**
	baz=109				
N15K	**Kwethluk River**	**62.59 329**	P	**P**	**16 58 29.7 -0.1**
	baz=103				
E21K	**Killik River**	**62.67 339**	P	**P**	**16 58 30.0 -0.1**
	baz=113				
L16K	**Owhat River**	**62.67 331**	P	**P**	**16 58 30.0 -0.3**
	baz=104				
F20K	**Avaraart Lake**	**62.76 337**	IAmb	IAmb	16 59 02.9
	comp=Z,8.5nm,1.2s				
F20K	**Avaraart Lake**	**62.76 337**	P	**P**	**16 58 30.6 -0.1**
	baz=111				
J17K	**VABM Dome**	**62.94 333**	P	**P**	**16 58 31.8 -0.2**
	baz=106				
G19K	**Purcell Mounta**	**62.96 336**	P	**P**	**16 58 31.9 -0.2**
	baz=109				
O14K	**Tigyukauivet M**	**62.97 328**	P	**P**	**16 58 32.1 -0.1**
	baz=102				
M15K	**Kasigluk River**	**63.00 330**	P	**P**	**16 58 32.5 +0.1**
	baz=103				
RCBR	**Riachuelo**	**63.05 106**	P	**P**	**16 58 34.7 +1.1**
RCBR			pP	**pP**	**16 59 00.9 -0.6**
H18K	**Honhosa River**	**63.15 335**	P	**P**	**16 58 33.3 0.0**
	baz=107				
C21K	**Knifeblade Rid**	**63.22 340**	P	**P**	**16 58 34.5 +0.7**
	baz=113				
B22K	**Teshekpuk Lake**	**63.27 341**	IAmb	IAmb	16 58 35.6
	comp=Z,6.7nm,0.8s				
B22K	**Teshekpuk Lake**	**63.27 341**	P	**P**	**16 58 34.8 +0.8**
	baz=115				
N14K	**Kuskokwak Cree**	**63.32 329**	P	**P**	**16 58 34.9 +0.5**
	baz=102				
B21K	**Ikpikpuk River**	**63.35 340**	P	**P**	**16 58 35.3 +0.8**
	baz=113				
E20K	**Nigu River**	**63.36 339**	P	**P**	**16 58 35.4 +0.7**
	baz=111				
FALS	**False Pass**	**63.38 323**	P	**P**	**16 58 35.9 +0.9**
	baz=98				
TRQA	**Tornquist**	**63.40 151**	*e*P	**P**	**16 58 38.6 +3.2**
F19K	**Shaleruckik Mo**	**63.44 337**	P	**P**	**16 58 36.4 +1.2**
	baz=109				
E19K	**Redstone River**	**63.45 338**	P	**P**	**16 58 36.0 +0.7**
	baz=110				
G18K	**Tagagawik**	**63.49 336**	P	**P**	**16 58 36.7 +1.1**
	baz=107				
J16K	**Anvik River**	**63.57 333**	P	**P**	**16 58 36.9 +0.7**
	baz=104				
L15K	**Ungalak Mounta**	**63.59 331**	P	**P**	**16 58 37.3 +1.0**
	baz=103				
M14K	**Bethel**	**63.62 330**	IAmb	IAmb	16 58 38.4
	comp=Z,10nm,0.7s				
M14K	**Bethel**	**63.62 330**	P	**P**	**16 58 37.7 +1.2**
	baz=102				
D20K	**Etivluk River**	**63.67 339**	P	**P**	**16 58 37.8 +1.1**
	baz=111				
PPT2	**Papeete2**	**63.67 240**	*e*LR	LR	17 17 52.1
	comp=Z,82nm,29.5s				
H17K	**Granite Mounta**	**63.72 335**	P	**P**	**16 58 38.1 +1.1**
	baz=106				
K15K	**Wolf Creek Mou**	**63.75 332**	P	**P**	**16 58 38.8 +1.4**
	baz=103				
SUMG	**Summit**	**63.91 16**	P	**P**	**16 58 38.8 +0.1**
SUMG			IAmb	IAmb	16 59 08.7
	comp=Z,12nm,1.0s				
SUMG	**Summit**	**63.91 16**	*i* P	**P**	**16 58 38.0 -0.7**
SUMG			IAmb	IAmb	16 58 39.8
	comp=Z,9.5nm,1.1s				
NEEM	**North Greenlan**	**63.98 10**	*e*P	**P**	**16 58 39.3 +0.3**
NEEM			IAmb	IAmb	16 58 40.7
	comp=Z,21nm,1.1s				
A22K	**Sinclair Lake**	**64.02 342**	P	**P**	**16 58 39.6 +0.8**
	baz=113				
L14K	**Kuka Creek**	**64.08 330**	P	**P**	**16 58 40.3 +0.8**
	baz=101				
D19K	**Kuna River**	**64.11 339**	P	**P**	**16 58 40.6 +1.0**
	baz=109				
G17K	**Kiwalik Mounta**	**64.17 335**	P	**P**	**16 58 41.4 +1.4**
	baz=105				
M13K	**Dall Lake**	**64.23 329**	P	**P**	**16 58 41.7 +1.2**
	baz=100				
B20K	**Meade River**	**64.31 340**	IAmb	IAmb	16 59 12.6
	comp=Z,6.4nm,0.8s				
B20K	**Meade River**	**64.31 340**	P	**P**	**16 58 41.6 +0.8**
	baz=111				
E18K	**Tukpahlearik C**	**64.68 337**	P	**P**	**16 58 44.2 +0.9**
	baz=106				
J14K	**Nanvaranak Lak**	**64.77 332**	P	**P**	**16 58 45.3 +1.3**
	baz=101				
E17K	**Hotham Inlet**	**65.04 337**	P	**P**	**16 58 46.6 +0.9**
	baz=105				
UNV	**Unalaska Valle**	**65.07 322**	P	**P**	**16 58 47.6 +1.5**
	baz=94				
A19K	**Wainwright**	**65.64 340**	P	**P**	**16 58 50.2 +0.7**
	baz=107				
B18K	**Kokolik River**	**65.65 339**	P	**P**	**16 58 50.9 +1.4**
	baz=106				
ALE	**Alert**	**66.48 4**	P	**P**	**16 58 54.4 -0.4**
EKA	**Eskdalemuir Ar**	**77.15 36**	P	**P**	**16 59 58.4 -0.5**
	comp=Z,3.7nm,0.7s,baz=285,slow=6.3,SNR=7.8				
EKA			pP	**pP**	**17 00 27.9 +0.1**
	comp=Z,2.1nm,0.6s,baz=286,slow=5.2,SNR=3.5				
	comp=Z,3.7nm,0.7s				
BILL	**Bilibino**	**77.16 338**	P	**P**	**16 59 59.8 +1.0**
SPITS	**Spitsbergen Ar**	**77.46 11**	P	**P**	**17 00 02.6 +2.4**
	comp=Z,9.1nm,0.9s,baz=290,slow=5.5,SNR=1.5				
SPITS			pP	**pP**	**17 00 29.4 +0.2**
	comp=Z,12nm,1.0s,baz=208,slow=8.2,SNR=1.7				
ESDC	**Sonseca Array**	**80.17 52**	P	**P**	**17 00 15.9 0.0**
ESDC			IAmb	IAmb	17 00 47.7
	comp=Z,24nm,1.4s				
ESDC	**Sonseca Array**	**80.17 52**	P	**P**	**17 00 15.7 -0.2**
	comp=Z,2.9nm,0.9s,baz=297,slow=5.2,SNR=16				
ESDC			pP	**pP**	**17 00 43.9 -1.0**
	comp=Z,3.1nm,1.0s,baz=292,slow=6.7,SNR=5.6				
	comp=Z,2.9nm,0.9s				
NB2	**NORSAR Subarra**	**82.74 28**	P	**P**	**17 00 29.8 +0.8**
	comp=Z,0.8nm,0.8s,baz=293,slow=5.3				
NOA	**NORSAR Array B**	**82.74 28**	P	**P**	**17 00 30.0 +1.0**
	comp=Z,1.0nm,0.8s,baz=291,slow=5.3,SNR=6.8				
NOA			pP	**pP**	**17 00 57.3 -0.8**
	comp=Z,4.1nm,0.9s,baz=298,slow=5.6,SNR=10				
	comp=Z,1.0nm,0.8s				
ARCES	**ARCESS Array B**	**83.96 18**	P	**P**	**17 00 35.7 +0.7**
	comp=Z,9.8nm,1.1s,baz=297,slow=5.3,SNR=8.1				
ARCES			pP	**pP**	**17 01 04.8 +0.5**
	comp=Z,5.9nm,0.7s,baz=294,slow=4.5,SNR=3.0				
	comp=Z,9.8nm,1.1s				
HFS	**Hagfors**	**84.23 28**	P	**P**	**17 00 36.6 +0.1**
	comp=Z,2.0nm,0.9s,baz=113,slow=3.7,SNR=2.5				
HFS			pP	**pP**	**17 01 05.9 +0.1**
	comp=Z,3.1nm,0.9s,baz=358,slow=5.0,SNR=3.6				
HFS			LR	LR	17 39 03.7
	comp=Z,26nm,18.8s,baz=268,slow=36				
	comp=Z,2.0nm,0.9s				
SEY	**Seymchan**	**84.38 335**	LR	LR	17 43 04.2
	comp=Z,42nm,18.9s,baz=354,slow=39				
PETK	**Petropavlovsk-**	**86.07 325**	P	**P**	**17 00 47.2 +1.3**
	comp=Z,1.7nm,0.8s,baz=81,slow=11,SNR=6.2				
PETK			pP	**pP**	**17 01 16.1 +0.8**
	comp=Z,1.7nm,0.9s,baz=93,slow=2.9,SNR=2.4				
	comp=Z,1.7nm,0.8s				
TIXI	**Tiksi**	**86.32 347**	P	**P**	**17 00 46.5 -0.1**
TIXI			IAmb	IAmb	17 01 33.0
	comp=Z,13nm,1.8s				
CLL	**Collm**	**87.59 37**	*e*P	**P**	**17 00 54.0 +0.7**
CLL			AMS	AMS	19 07 00.0
	comp=Z,200nm,19.8s				
DBIC	**Dimbokro**	**88.50 84**	P	**P**	**17 00 58.6 +0.3**
	comp=Z,2.3nm,0.6s,baz=142,slow=16,SNR=1.7				
	comp=Z,2.3nm,0.6s				
FINES	**FINESS Array B**	**88.82 24**	P	**P**	**17 00 58.8 -0.1**
	comp=Z,1.7nm,0.9s,baz=282,slow=1.8,SNR=5.0				
FINES			pP	**pP**	**17 01 29.1 +0.7**
	comp=Z,1.8nm,0.9s,baz=321,slow=1.8,SNR=2.1				
FINES			LR	LR	17 40 52.2
	comp=Z,31nm,20.0s,baz=300,slow=36				
	comp=Z,1.7nm,0.9s				
KEST	**Kesra**	**91.42 52**	P	**P**	**17 01 11.4 -0.2**
	comp=Z,2.5nm,0.8s,baz=73,slow=18,SNR=2.0				
	comp=Z,2.5nm,0.8s				
TORD	**Torodi Ar. Bea**	**92.70 75**	P	**P**	**17 01 17.3 -0.5**
	comp=Z,43nm,0.3s,baz=329,slow=2.5,SNR=1.3				
AKASG	**Malin Array Be**	**96.66 32**	PP	**PP**	**17 05 28.6 -1.9**
	comp=Z,0.1nm,0.3s,baz=304,slow=7.4,SNR=1.8				
AKASG			LR	LR	17 48 27.8
	comp=Z,29nm,19.0s,baz=18,slow=37				
DZM	**Mont Dzumac**	**103.72 251**	*e*LR	LR	17 36 20.3
	comp=Z,45nm,22.9s				
STKA	**Stephens Creek**	**126.80 243**	PKP	**PKiKP**	**17 07 09.1 -0.1**
	comp=Z,4.5nm,0.9s,baz=97,slow=5.2,SNR=6.1				
WRA	**Warramunga Arr**	**132.99 259**	PKP	**PKPdf**	**17 07 21.0 +0.3**
	comp=Z,1.7nm,0.6s,baz=83,slow=2.5,SNR=21				
WRA			pPKP	**pPKPdf**	**17 07 53.4 +1.7**
	comp=Z,0.6nm,0.7s,baz=85,slow=2.5,SNR=2.3				
ASAR	**Alice Springs**	**133.62 254**	PKhKP	PKPpre	17 07 09.0
	comp=Z,0.2nm,0.5s,baz=100,slow=2.5,SNR=4.8				
ASAR			PKP	**PKPdf**	**17 07 22.3 +0.4**
	comp=Z,0.9nm,0.7s,baz=74,slow=2.3,SNR=12				
ASAR			pPKP	pPKPdf	17 07 53.2 +0.4
	comp=Z,0.8nm,1.1s,baz=79,slow=2.4,SNR=2.1				
CMAR	**Chiang Mai Arr**	**141.74 338**	PKhKP	PKPpre	17 07 30.6
	comp=Z,1.1nm,1.0s,baz=348,slow=4.8,SNR=6.3				
CMAR			PKP	**PKPdf**	**17 07 37.4 +0.5**
	comp=Z,0.9nm,0.8s,baz=333,slow=2.4,SNR=8.8				

*MEX **14** 16:59:51.4±1.0, 14.°76N×92.°76W, h74km±17km, MD4.0*
*GCG **14** 16:59:51.3±0.9, 14.°59N×92.°61W, h69km±11km, MD3.8*
ISC 14 16:59:46.9±1.9, 14.4N±0.1×92.86W±0.09, h57km±30km,
n12, σ2°17/23, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.74**	**50**	*e*P	**Pn**	**17 00 02.8**	**+1.3**
THIG				*e*S	**Sn**	**17 00 12.8**	**+0.6**
PATR	**El Naranjo**	**0.91**	**41**	*e*P	**Pn**	**17 00 04.1**	**+0.2**
PATR				*e*S	**Sn**	**17 00 14.6**	**-1.8**
PAVE	**Pavencul**	**1.00**	**41**	*e*P	**Pn**	**17 00 05.6**	**+0.4**
PAVE				*e*S	**Sn**	**17 00 17.4**	**-1.2**
RTAL	**Retalhuleu**	**1.13**	**85**	*e*P	**Pn**	**17 00 09.6**	**+3.0**
RTAL				*e*S	**Sn**	**17 00 23.1**	**+1.9**
PCIG		**1.31**	**345**	*i* P	**Pn**	**17 00 09.3**	**+0.2**
PCIG				*e*S	**Sn**	**17 00 22.6**	**-3.1**
STG8	**El Palmar, Qui**	**1.46**	**89**	*e*P	**Pn**	**17 00 10.4**	**-0.8**
STG8				*e*S	**Sn**	**17 00 25.3**	**-4.1**
STG0	**El Palmar, Qui**	**1.47**	**90**	*e*S	**Sn**	**17 00 26.4**	**-3.1**
CCIG	**Comitan**	**1.97**	**21**	*e*P	**Pn**	**17 00 20.3**	**+2.2**
CCIG				*e*S	**Sn**	**17 00 41.1**	**-0.7**
CCIG	**Comitan**	**1.97**	**21**	*e*P	**Pn**	**17 00 20.6**	**+2.5**
CCIG				*e*S	**Sn**	**17 00 42.7**	**+0.9**
TGIG		**2.35**	**354**	*e*P	**Pn**	**17 00 23.7**	**+0.5**
TGIG				*e*S	**Sn**	**17 00 47.5**	**-3.5**
UXUV	**UXUV**	**3.13**	**337**	*e*P	**Pn**	**17 00 35.2**	**+1.4**
UXUV				*e*S	**Sn**	**17 01 08.7**	**-1.3**
CMIG	**Matias Romero**	**3.29**	**324**	*e*P	**Pn**	**17 00 38.1**	**+2.1**
CMIG				*e*S	**Sn**	**17 01 13.3**	**-0.6**

*IDC **14** 17:16:03.0±1.2, 1.°77S×122.°78E, h0km, mb3.4/6,*
mbtmp3.5/8, ML3.3/2, Error ellipse: s-maj=41.1km
s-min=18.8km az=58.0
*DJA **14** 17:16:06.2±0.8, 2.°S±2.°×12.°3E±.°, h16km±7km, M4.6/18,*
mB4.7/1, mb4.3/4, MLv4.7/18, Mw(mB)3.9/1
ISC 14 17:16:08.5±0.8, 1.955±0.04×122.56E±0.04, h35km, n21,
σ0°99/27, mb3.3/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.93**	**13**	P	**Pn**	**17 16 24.0**	**-1.1**
LUWI				S	**Sn**	**17 16 36.9**	**-0.3**
APSI	**Ampana**	**1.38**	**319**	P	**Pn**	**17 16 29.9**	**-1.4**
KMSI	**Cibinong**	**2.88**	**29**	P	**Pn**	**17 16 52.0**	**0.0**
KMSI				S	**Sn**	**17 17 27.0**	**+1.5**
PCI	**Palu**	**2.92**	**291**	P	**Pn**	**17 16 52.5**	**0.0**
PCI				S	**Sn**	**17 17 27.5**	**+1.2**
SANI	**Sanana**	**3.42**	**92**	P	**Pn**	**17 16 58.0**	**-1.4**
SANI				S	**Sn**	**17 17 39.4**	**+0.6**
SPSI	**Sidrap Palu**	**3.43**	**234**	P	**Pn**	**17 16 59.8**	**+0.3**
SPSI				S	**Sn**	**17 17 39.4**	**+0.4**
BNSI	**Bone**	**3.45**	**225**	P	**Pn**	**17 16 59.0**	**-0.8**
MPSI	**Mapaga**	**3.50**	**310**	P	**Pn**	**17 16 58.9**	**-1.6**
BBSI	**Bau Bau**	**3.51**	**180**	P	**Pn**	**17 16 58.9**	**-1.7**
KAPI	**Kappang**	**4.14**	**223**	Pn	**Pn**	**17 17 09.8**	**+0.6**
	5.8nm,0.3s,baz=31,slow=8.5,SNR=7.8						
KAPI				Sn	**Sn**	**17 17 57.2**	**+0.8**
	8.9nm,0.3s,baz=7.7,slow=20,SNR=2.8						
	17nm,0.3s						
BKSI	**Bulukumba**	**4.14**	**216**	P	**Pn**	**17 17 08.5**	**-0.7**
BSSI	**Bau Bau, Buton**	**4.65**	**206**	P	**Pn**	**17 17 14.5**	**-1.7**
NLAI	**Namlea**	**4.71**	**106**	P	**Pn**	**17 17 17.8**	**+0.7**
EDFI	**Ende, Flores**	**6.81**	**187**	P	**Pn**	**17 17 45.0**	**-1.0**
	0.2nm8.3nm,1.2s						
FITZ	**Fitzroy Crossi**	**16.32**	**170**	Pn	**Pn**	**17 19 55.7**	**+0.5**
	baz=348,slow=18,SNR=1.6						
	1.3nm,0.9s						
WRA	**Warramunga Arr**	**21.26**	**148**	P	**P**	**17 20 51.4**	**-0.5**
	1.2nm,0.9s,baz=332,slow=10,SNR=7.3						
	1.2nm,0.9s						
PSI	**Prapat**	**24.10**	**281**	P	**P**	**17 21 22.0**	**+0.8**
	6.0nm,0.8s,baz=135,slow=11,SNR=5.1						
	6.0nm,0.8s						
ASAR	**Alice Springs**	**24.22**	**154**	P	**P**	**17 21 22.5**	**+0.4**
	0.4nm,0.6s,baz=345,slow=15,SNR=16						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.85**	**312**	P	**P**	**17 22 21.8**	**+0.1**
	0.4nm,0.8s,baz=127,slow=7.7,SNR=5.4						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**60.05**	**329**	P	**P**	**17 26 11.6**	**-0.4**
	0.1nm,0.4s,baz=134,slow=8.3,SNR=2.2						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**64.43**	**331**	P	**P**	**17 26 40.8**	**-0.4**
	0.1nm,0.3s,baz=148,slow=5.2,SNR=2.6						
	0.1nm,0.3s						

*IDC **14** 17:17:30.0±0.6, 1.°81S×122.°54E, h0km, mb4.1/18,*
mbtmp4.2/21, ML3.9/3, MS3.4/5, Error ellipse:
s-maj=21.5km s-min=13.0km az=75.0
*NEIC **14** 17:17:30.6±2.4, 2.°00S±0.°06×122.°57E±0.°10, h10km±1km,*
mb4.6/18, Error ellipse: s-maj=16.8km s-min=9.8km
az=105.0
*DJA **14** 17:17:35.1±0.8, 2.°S±2.°×12.°3E±.°, h25km±9km, M4.7/25,*
mB5.2/10, mb5.0/17, MLv4.8/25, Mw(mB)4.5/10
ISC 14 17:17:34.9±0.4, 1.95S±0.04×122.56E±0.05, h35km, n88,
σ1°62/93, mb4.5/33, MS3.4/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.92**	**13**	Pn	**Pn**	**17 17 51.3**	**-0.1**
LUWI	**Luwuk**	**0.92**	**13**	P	**Pn**	**17 17 51.5**	**+0.1**
LUWI				S	**Sn**	**17 18 04.0**	**+0.6**
APSI	**Ampana**	**1.38**	**318**	P	**Pn**	**17 17 57.4**	**-0.2**
KMSI	**Cibinong**	**2.88**	**29**	P	**Pn**	**17 18 20.0**	**+1.7**
KMSI				S	**Sn**	**17 18 54.2**	**+2.5**
PCI	**Palu**	**2.92**	**291**	P	**Pn**	**17 18 20.7**	**+1.9**
SANI	**Sanana**	**3.42**	**92**	P	**Pn**	**17 18 24.9**	**-0.9**
SPSI	**Sidrap Palu**	**3.44**	**234**	P	**Pn**	**17 18 27.9**	**+1.9**
SPSI				S	**Sn**	**17 19 08.0**	**+2.5**
BNSI	**Bone**	**3.46**	**225**	P	**Pn**	**17 18 27.2**	**+0.9**
MPSI	**Mapaga**	**3.50**	**310**	P	**Pn**	**17 18 27.7**	**+0.8**
BBSI	**Bau Bau**	**3.52**	**180**	P	**Pn**	**17 18 29.2**	**+2.1**
TOLI2	**Tolitoli**	**3.52**	**330**	Pn	**Pn**	**17 18 27.2**	**0.0**
KAPI	**Kappang**	**4.14**	**223**	Pn	**Pn**	**17 18 34.8**	**-0.9**
KAPI	**Kappang**	**4.14**	**223**	Pn	**Pn**	**17 18 37.1**	**+1.4**
	21nm,0.3s,baz=336,slow=3.5,SNR=7.9						
KAPI				Sn	**Sn**	**17 19 25.0**	**+2.1**
	36nm,0.3s,baz=224,slow=21,SNR=6.7						
	57nm,0.4s						
BKSI	**Bulukumba**	**4.14**	**216**	P	**Pn**	**17 18 36.8**	**+1.1**
BSSI	**Bau Bau, Buton**	**4.65**	**206**	P	**Pn**	**17 18 44.6**	**+1.9**
NLAI	**Namlea**	**4.71**	**106**	P	**Pn**	**17 18 45.2**	**+1.7**
TNTI	**Ternate**	**5.51**	**61**		**Pn**	**17 18 55.2**	**+0.7**
TNTI	**Ternate**	**5.51**	**61**	P	**Pn**	**17 18 55.7**	**+1.2**
	0.5nm2μm128nm,0.5s						
SMKI	**Samarinda**	**5.56**	**285**	P	**Pn**	**17 18 55.8**	**+0.6**
	0.6nm80nm,0.6s						
BKB	**Balikpapan**	**5.71**	**277**	Pn	**Pn**	**17 18 56.8**	**-0.4**
AAI	**Ambon**	**5.88**	**107**	P	**Pn**	**17 19 01.7**	**+2.1**
	0.4nm115nm,0.9s						
MMRI	**Maumere**	**6.65**	**183**		**Pn**	**17 19 09.7**	**-0.6**
MMRI	**Maumere**	**6.65**	**183**	P	**Pn**	**17 19 11.7**	**+1.5**
	0.3nm56nm,0.6s						
EDFI	**Ende, Flores**	**6.81**	**187**	P	**Pn**	**17 19 14.1**	**+1.6**
	0.2nm45nm,0.5s						
BNDI	**Bandanaira**	**7.76**	**109**	P	**Pn**	**17 19 26.7**	**+1.2**
	115nm,0.7s						
SOEI	**Soe**	**7.94**	**168**		**Pn**	**17 19 26.9**	**-1.1**
SOEI	**Soe**	**7.94**	**168**	P	**Pn**	**17 19 29.8**	**+1.8**
	2μm125nm,0.8s						
MYLDM	**Lahad Datu**	**8.16**	**330**		**Pn**	**17 19 30.2**	**-0.8**
WBSI	**Waikabubak, Su**	**8.27**	**202**	P	**Pn**	**17 19 33.9**	**+1.4**
SWI	**Sorong**	**8.76**	**83**	P	**Pn**	**17 19 39.5**	**+0.3**
	1μm59nm,0.7s						
FAKI	**Fak Fak**	**9.72**	**96**		**Pn**	**17 19 51.0**	**-1.4**
FAKI	**Fak Fak**	**9.72**	**96**	P	**Pn**	**17 19 53.3**	**+0.9**
	755nm52nm,0.8s						
KMMI	**Kalianget**	**9.96**	**239**	P	**Pn**	**17 19 58.4**	**+2.8**
SBUM	**Sibu**	**11.23**	**293**	Pn	**Pn**	**17 20 09.5**	**-3.5**
KMPI	**Kaimana, Papua**	**11.26**	**99**	P	**Pn**	**17 20 14.9**	**+1.5**
MTN	**Manton Dam**	**13.76**	**142**	Pn	Pn	17 20 43.5	-4.0
KNRA	**Kununurra**	**14.95**	**156**		**Pn**	**17 21 01.1**	**-2.6**
LEM	**Lembang**	**15.67**	**252**	Pn	**Pn**	**17 21 13.5**	**+0.1**
	1.0nm,0.3s,baz=334,slow=21,SNR=1.2						
LEM				LR	LR	17 27 53.3	
	comp=Z,122nm,21.9s,baz=76,slow=40						
	4.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**16.33**	**170**	Pn	**Pn**	**17 21 22.5**	**+0.9**
	0.1nm,0.3s,baz=355,slow=8.6,SNR=6.3						
	2.3nm,0.7s						
MYKOM	**Kota Tinggi**	**19.08**	**281**	P	**P**	**17 21 54.0**	**-0.6**
MYKOM				IAmb	IAmb	17 21 58.5	
	comp=Z,32nm,1.5s						
WRA	**Warramunga Arr**	**21.27**	**148**	P	**P**	**17 22 15.6**	**-2.8**
WRA	**Warramunga Arr**	**21.27**	**148**	P	**P**	**17 22 18.8**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=336,slow=9.7,SNR=14						
	comp=Z,2.7nm,0.6s						
WR8	**Warramunga Arr**	**21.36**	**148**	P	**P**	**17 22 16.7**	**-2.7**
WR8				IAmb	IAmb	17 22 27.8	
	comp=Z,28nm,1.1s						
RPSI	**Rantau Prapat**	**24.08**	**281**		**P**	**17 22 45.8**	**-1.5**
RPSI	**Rantau Prapat**	**24.08**	**281**	P	**P**	**17 22 47.2**	**-0.1**
PSI	**Prapat**	**24.10**	**281**	P	**P**	**17 22 47.2**	**-0.4**
	comp=Z,23nm,0.9s,baz=118,slow=5.6,SNR=15						
	comp=Z,23nm,0.9s						
AS31	**Alice Springs**	**24.22**	**154**		**P**	**17 22 47.8**	**-0.8**
ASAR	**Alice Springs**	**24.22**	**154**		**P**	**17 22 48.3**	**-0.3**
ASAR	**Alice Springs**	**24.22**	**154**	P	**P**	**17 22 50.0**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=344,slow=14,SNR=21						
ASAR				PcP	**PcP**	**17 26 30.1**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=335,slow=2.5,SNR=1.6						
ASAR				LR	LR	17 33 17.6	
	comp=Z,100nm,18.5s,baz=292,slow=39						
	comp=Z,1.7nm,0.6s						
TPUB	**Ta-pu**	**25.17**	**356**	P	**P**	**17 22 52.8**	**-4.3**
GSI	**Gunungsitoli**	**25.19**	**277**		**P**	**17 22 55.7**	**-1.8**
GSI				IAmb	IAmb	17 23 02.2	
	comp=Z,29nm,1.0s						
PMG	**Port Moresby**	**25.55**	**108**	P	**P**	**17 22 58.3**	**-2.4**
PMG				IAmb	IAmb	17 23 05.2	
	comp=Z,23nm,1.1s						
FORT	**Forrest**	**29.14**	**170**	P	**P**	**17 23 31.9**	**-0.9**
CM31	**Chiang Mai Arr**	**30.85**	**312**	P	**P**	**17 23 45.6**	**-2.4**
CMAR	**Chiang Mai Arr**	**30.85**	**312**	P	**P**	**17 23 46.0**	**-2.0**
CMAR	**Chiang Mai Arr**	**30.85**	**312**	P	**P**	**17 23 47.2**	**-0.8**

comp=Z,1.6nm,0.7s,baz=141,slow=6.0,SNR=14
comp=Z,1.6nm,0.7s
BVAR Borovoye Array 69.92 329 P P 17 28 40.6 -1.8
comp=Z,0.7nm,0.7s,baz=133,slow=10,SNR=4.5
comp=Z,0.7nm,0.7s
NRIK Noril'sk 74.99 348 P P 17 29 11.8 -0.5
comp=Z,1.3nm,0.5s,baz=110,slow=3.2,SNR=6.2
comp=Z,1.3nm,0.5s
D19K Kuna River 87.89 21 P **P 17 30 19.3 -1.3**
D19K IAmb IAmb 17 30 45.2
comp=Z,6.8nm,1.5s
QSPA South Pole Qui 88.00 180 P **P 17 30 20.0 -1.3**
QSPA IAmb IAmb 17 30 24.5
comp=Z,4.5nm,1.4s
QSPA South Pole Qui 88.00 180 P **P 17 30 22.1 +0.8**
comp=Z,1.2nm,0.9s,baz=228,slow=1.4,SNR=5.7
comp=Z,1.2nm,0.9s
B21K Ikpikpuk River 89.31 20 P **P 17 30 28.6 +1.4**
B21K IAmb IAmb 17 30 29.8
comp=Z,3.1nm,1.2s
BMAR Burnt Mountain 92.89 23 P **P 17 30 43.0 -0.9**
ARCES ARCESS Array B 94.29 340 P **P 17 30 51.2 +0.9**
comp=Z,7.3nm,1.2s,baz=68,slow=3.6,SNR=1.5
comp=Z,7.3nm,1.2s
FINES FINESS Array B 94.81 331 P **P 17 30 53.2 +0.4**
comp=Z,1.9nm,1.0s,baz=48,slow=6.5,SNR=1.7
comp=Z,1.9nm,1.0s
SPITS Spitsbergen Ar 95.19 349 P **P 17 30 53.4 -0.9**
comp=Z,13nm,1.0s,baz=46,slow=8.3,SNR=2.2
MLR Muntele Rosu 96.03 315 LR LR 18 22 13.2
comp=Z,33nm,18.2s,baz=51,slow=40

*IDC **14** 17:21:54.5±2.6,2°.55S×128°.22E,h0km,mb3.3/2,*
mbtmp3.4/3,ML3.2/1,Error ellipse: s-maj=205.6km
s-min=29.2km az=68.0
*DJA **14** 17:22:01.7±0.4,3°.5±4°×12°.8E±°,h11km±5km,M3.4/9,*
MLv3.4/9
ISC 14 17:22:02.3±1.1,2°.96S±0°.07×127°.88E±0°.05,h35km,n10,
σ2°.09/13,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.79**	**157**	P	**Pn**	**17 22 16.6**	**-0.3**
AAI				S	**Sn**	**17 22 27.2**	**-0.3**
NLAI	**Namlea**	**0.83**	**250**	P	**Pn**	**17 22 19.3**	**+1.8**
NLAI				S	**Sn**	**17 22 32.1**	**+3.5**
MSAI	**Masohi**	**1.11**	**110**	P	**Pn**	**17 22 22.3**	**+0.9**
MSAI				S	**Sn**	**17 22 38.4**	**+2.9**
SANI	**Sanana**	**2.10**	**295**	P	**Pn**	**17 22 35.1**	**+0.2**
BNDI	**Bandanaira**	**2.55**	**128**	P	**Pn**	**17 22 42.8**	**+1.7**
SWI	**Sorong**	**3.96**	**58**	P	**Pn**	**17 23 02.4**	**+1.8**
FAKI	**Fak Fak**	**4.36**	**90**	P	**Pn**	**17 23 06.8**	**+0.7**
WRA	**Warramunga Arr**	**18.02**	**160**	P	**Pn**	**17 26 09.0**	**-1.1**
	0.1nm,0.3s,baz=340,slow=11,SNR=2.6						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**21.40**	**165**	P	**P**	**17 26 47.4**	**+0.2**
	2.5nm,0.9s,baz=345,slow=13,SNR=7.8						
	2.5nm,0.9s						
MKAR	**Makanchi Array**	**63.71**	**327**	P	**P**	**17 32 27.2**	**-3.2**
	0.1nm,0.6s,baz=123,slow=5.3,SNR=1.9						
	0.1nm,0.6s						

*IDC **14** 17:28:02.5±1.4,2°.72S×128°.56E,h0km,mb3.7/4,*
mbtmp3.9/7,ML3.9/2,MS3.2/2,Error ellipse: s-maj=50.1km
s-min=20.8km az=67.0
*DJA **14** 17:28:06.5±0.4,3°.5±3°×12°.8E±°,h12km±4km,M4.3/17,*
mb4.5/7,MLv4.2/17
ISC 14 17:28:05.1±0.8,3°.02S±0°.05×127°.91E±0°.04,h10km,n21,
σ1°.55/26,mb3.8/4,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.72**	**157**	P	**Pg**	**17 28 18.1**	**-1.0**
AAI				S	**Sb**	**17 28 31.4**	**+1.6**
NLAI	**Namlea**	**0.84**	**255**	P	**Pn**	**17 28 24.3**	**+1.2**
NLAI				S	**Sn**	**17 28 38.2**	**+2.7**
MSAI	**Masohi**	**1.06**	**108**	P	**Pn**	**17 28 27.8**	**+1.7**
MSAI				S	**Sn**	**17 28 41.9**	**+0.9**
SANI	**Sanana**	**2.15**	**296**	P	**Pn**	**17 28 41.1**	**0.0**
SANI				S	**Sn**	**17 29 07.2**	**-0.6**
BNDI	**Bandanaira**	**2.49**	**127**	P	**Pn**	**17 28 48.4**	**+2.7**
TNTI	**Ternate**	**3.80**	**352**	P	**Pn**	**17 29 06.7**	**+2.9**
SWI	**Sorong**	**3.97**	**57**	P	**Pn**	**17 29 06.8**	**+0.7**
SWI				S	**Sn**	**17 29 53.0**	**+0.2**
FAKI	**Fak Fak**	**4.33**	**89**	P	**Pn**	**17 29 12.6**	**+1.5**
KMSI	**Cibinong**	**5.31**	**312**	P	**Pn**	**17 29 26.0**	**+1.5**
LUWI	**Luwuk**	**5.50**	**291**	P	**Pn**	**17 29 28.7**	**+1.5**
	0.3nm53nm,0.8s						
KMPI	**Kaimana, Papua**	**5.82**	**96**	P	**Pn**	**17 29 31.3**	**-0.2**
	0.2nm26nm,0.5s						
SOEI	**Soe**	**7.61**	**208**	P	**Pn**	**17 29 58.4**	**+2.1**
	37nm,1.1s						
MMRI	**Maumere**	**7.94**	**225**	P	**Pn**	**17 30 00.5**	**-0.2**
KAPI	**Kappang**	**8.38**	**256**	Pn	Pn	17 30 14.3	+7.6
	7.9nm,0.3s,baz=54,slow=17,SNR=1.1						
FITZ	**Fitzroy Crossi**	**15.15**	**188**	Pn	**P**	**17 31 45.1**	**+0.5**
	0.2nm,0.3s,baz=13,slow=16,SNR=8.1						
FITZ				LR	LR	17 38 00.8	
	comp=Z,54nm,19.6s,baz=68,slow=38						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**17.95**	**160**	P	**Pn**	**17 32 14.9**	**-0.2**
	0.7nm,0.3s,baz=340,slow=11,SNR=30						
WRA				S	**Sn**	**17 35 34.0**	**-1.5**
	0.6nm,0.8s,baz=334,slow=20,SNR=2.2						
	1.9nm,0.3s						
ASAR	**Alice Springs**	**21.33**	**165**	P	**P**	**17 32 52.5**	**-0.1**
	4.4nm,0.4s,baz=344,slow=12,SNR=20						
ASAR				S	**S**	**17 36 47.5**	**-2.1**
	0.8nm,0.7s,baz=347,slow=21,SNR=5.9						
	4.4nm,0.4s						
STKA	**Stephens Creek**	**31.46**	**157**	P	**P**	**17 34 24.9**	**-2.1**
	1.7nm,0.7s,baz=346,slow=8.3,SNR=3.2						
	1.7nm,0.7s						
ASAJ	**Asahikawa**	**48.74**	**14**	LR	LR	17 56 30.9	
	comp=Z,41nm,20.2s,baz=333,slow=35						
MKAR	**Makanchi Array**	**63.78**	**327**	P	**P**	**17 38 37.8**	**+0.3**
	0.1nm,0.5s,baz=131,slow=7.9,SNR=3.7						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**68.05**	**329**	P	**P**	**17 39 04.6**	**-0.2**
	0.2nm,0.5s,baz=126,slow=6.3,SNR=4.1						
	0.2nm,0.5s						

*IDC **14** 17:29:06.9±7.5,58°.56S×25°.12W,h33km±57km,mb4.1/9,*
mbtmp4.3/10,ML5.0/1,MS3.8/22,Error ellipse:
s-maj=24.7km s-min=16.2km az=47.0
*NEIC **14** 17:29:06.9±2.6,58°.6S±0°.1×25°.1W±0°.2,h35km±2km,*
mb4.6/29,Error ellipse: s-maj=22.3km s-min=14.2km
az=220.0
ISC 14 17:29:05.5±0.5,58°.64S±0°.07×25°.11W±0°.10,h28km,n77,
σ1°.69/59,mb4.5/20,MS3.8/21,4C-7D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.66**	**300**	Pn	Pn	17 31 00.4	+5.3
VNA1	**Neumayer--Stat**	**13.96**	**156**	⇓P	**Pn**	**17 32 23.9**	**+2.7**
	comp=Z,17nm,0.4s						
VNA3	**Neumayer Olymp**	**14.17**	**159**	⇓P	**Pn**	**17 32 26.1**	**+2.2**
	comp=Z,8.4nm,0.3s						
VNA3				⇓sP	**P**	**17 32 35.2**	**+4.1**
VNA3				⇑S	Sn	17 34 49.9	-10
VNA2	**Neumayer--Watz**	**14.36**	**156**	⇓P	**Pn**	**17 32 28.7**	**+2.1**
	comp=Z,13nm,0.4s,baz=318,slow=14						
VNA2				⇓sP	P	17 32 39.3	+6.0
	baz=313,slow=14						
VNA2				⇑S	**Sn**	**17 34 57.9**	**-6.7**
	baz=314,slow=15						
SNAA	**Sanae**	**15.91**	**154**		**P**	**17 32 49.9**	**-0.6**
SNAA	**Sanae**	**15.91**	**154**	⇓P	**P**	**17 32 50.0**	**-0.6**
	comp=Z,325nm,0.4s						
SNAA				⇑sP	**sP**	**17 33 01.3**	**+0.3**
SNAA				⇑S	**Sn**	**17 35 39.9**	**-2.5**
SNAA	**Sanae**	**15.91**	**154**	Pn	**P**	**17 32 50.3**	**-0.3**
	comp=Z,5.3nm,0.3s,baz=322,slow=15,SNR=50						
SNAA				Sn	**Sn**	**17 35 37.2**	**-5.2**
	comp=Z,0.8nm,0.3s,baz=337,slow=20,SNR=3.0						
	comp=Z,11nm,0.4s						
TROLL	**Troll, Antarti**	**17.42**	**151**	⇓P	**P**	**17 33 09.0**	**+1.6**
	comp=Z,302nm,0.8s						
PMSA	**Palmer Station**	**19.19**	**235**	P	**P**	**17 33 26.2**	**-0.4**
PMSA				IAmb	IAmb	17 33 37.6	
	comp=Z,38nm,0.9s						
PMSA	**Palmer Station**	**19.19**	**235**	LR	LR	17 39 38.6	
	comp=Z,348nm,19.2s,baz=14,slow=33						
BELA	**Belgrano 2**	**19.59**	**186**	P	**P**	**17 33 28.7**	**-2.2**
EFI	**East Falkland**	**19.91**	**276**	P	**P**	**17 33 33.0**	**-1.6**
USHA	**Ushuaia**	**23.75**	**260**	LR	LR	17 41 03.2	
	comp=Z,467nm,21.9s,baz=99,slow=30						
TRQA	**Tornquist**	**31.40**	**295**	P	**P**	**17 35 22.8**	**-1.0**
TRQA				IAmb	IAmb	17 35 29.7	
	comp=Z,15nm,1.4s						
QSPA	**South Pole Qui**	**31.60**	**180**	P	**P**	**17 35 27.3**	**+1.7**
QSPA				IAmb	IAmb	17 35 40.9	
	comp=Z,9.8nm,1.4s						
QSPA	**South Pole Qui**	**31.60**	**180**	LR	LR	17 48 02.4	
	comp=Z,118nm,18.5s,baz=208,slow=36						
LL02	**Futaleuf**	**32.50**	**278**	P	**P**	**17 35 34.5**	**+1.1**
PLTB	**Pedras Altas**	**33.07**	**312**	P	**P**	**17 35 36.8**	**-1.7**
PLCA	**Paso Flores**	**33.60**	**282**	P	**P**	**17 35 43.8**	**+0.6**
PLCA				IAmb	IAmb	17 35 58.0	
	comp=Z,6.2nm,1.1s						
PLCA	**Paso Flores**	**33.60**	**282**	P	**P**	**17 35 44.0**	**+0.8**
	comp=Z,3.8nm,0.8s,baz=141,slow=8.3,SNR=6.8						
PLCA				LR	LR	17 47 15.9	
	comp=Z,74nm,21.5s,baz=162,slow=32						
	comp=Z,3.8nm,0.8s						
BI02	**San Fabin de**	**37.06**	**286**	P	**P**	**17 36 12.6**	**-0.4**
BI02				IAmb	IAmb	17 36 37.6	
	comp=Z,9.8nm,1.1s						
MAW	**Mawson**	**37.41**	**141**	P	**P**	**17 36 15.6**	**+0.2**
MAW	**Mawson**	**37.41**	**141**	P	**P**	**17 36 16.1**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=251,slow=8.7,SNR=3.3						
MAW				LR	LR	17 49 33.6	
	comp=Z,102nm,20.1s,baz=258,slow=33						
	comp=Z,3.1nm,0.8s						
BO02	**Sierra Bellavi**	**38.29**	**288**	P	**P**	**17 36 23.8**	**+0.5**
BO02				IAmb	IAmb	17 36 26.3	
	comp=Z,12nm,1.2s						
BO01	**Tunca**	**38.76**	**288**	P	**P**	**17 36 26.7**	**-0.4**
BO04	**La Punta**	**38.84**	**289**	P	**P**	**17 36 27.9**	**-0.1**
BO04				IAmb	IAmb	17 36 32.9	
	comp=Z,7.7nm,0.7s						
MT09	**Talagante**	**39.20**	**289**	P	**P**	**17 36 31.6**	**+0.5**
MT01	**Popeta**	**39.26**	**289**	P	**P**	**17 36 31.6**	**+0.2**
MT01				IAmb	IAmb	17 36 36.6	
	comp=Z,8.4nm,0.8s						
CPUP	**Villa Florida**	**39.37**	**311**	P	**P**	**17 36 32.6**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=171,slow=8.6,SNR=3.8						
	comp=Z,1.4nm,0.7s						
PEL	**Peldehue**	**39.56**	**290**	P	**P**	**17 36 32.2**	**-1.7**
MT02	**Curacav**	**39.69**	**289**	P	**P**	**17 36 34.4**	**-0.6**
SUR	**Sutherland**	**40.35**	**70**	LR	LR	17 49 02.3	
	comp=Z,192nm,20.5s,baz=180,slow=30						
AC05	**El Transito**	**42.90**	**294**	P	**P**	**17 36 59.4**	**-2.1**
AC05				IAmb	IAmb	17 37 27.6	
	comp=Z,12nm,0.9s						
SBA	**Scott Base**	**43.56**	**184**	P	**P**	**17 37 07.5**	**+1.4**
VNDA	**Vanda**	**44.03**	**182**	P	**P**	**17 37 11.1**	**+1.2**
VNDA	**Vanda**	**44.03**	**182**	P	**P**	**17 37 10.8**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=263,slow=6.3,SNR=3.5						
VNDA				LR	LR	17 55 14.7	
	comp=Z,50nm,18.3s,baz=160,slow=36						
	comp=Z,1.4nm,0.7s						
H04S2	**CROZET ISLANDS**	**45.52**	**110**	T	T	18 26 52.2	
	baz=226						
H04S3	**CROZET ISLANDS**	**45.53**	**110**	T	T	18 26 53.4	
	baz=226						
H04S1	**CROZET ISLANDS**	**45.54**	**110**	T	T	18 26 53.4	
	baz=226						
BOSA	**Boshof**	**45.62**	**71**	P	**P**	**17 37 21.8**	**-1.6**
BOSA				IAmb	IAmb	17 37 23.9	
	comp=Z,4.8nm,0.8s						
BOSA	**Boshof**	**45.62**	**71**	P	**P**	**17 37 23.3**	**0.0**
	comp=Z,4.0nm,0.8s,baz=196,slow=6.9,SNR=7.6						
BOSA				LR	LR	17 52 18.6	
	comp=Z,111nm,19.4s,baz=200,slow=30						
	comp=Z,4.0nm,0.8s						
BDFB	**Brasilia**	**46.17**	**329**	P	**P**	**17 37 27.2**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=124,slow=4.5,SNR=5.4						
	comp=Z,1.6nm,0.4s						
LBTB	**Lobatse**	**48.78**	**69**	P	**P**	**17 37 46.1**	**-1.8**
LBTB				IAmb	IAmb	17 37 49.0	
	comp=Z,4.4nm,0.8s						
LBTB	**Lobatse**	**48.78**	**69**	LR	LR	17 54 00.2	
	comp=Z,160nm,21.5s,baz=208,slow=31						
PTLB	**Pontes e Lacer**	**49.94**	**315**		**P**	**17 37 57.8**	**+1.1**
PTLB				IAmb	IAmb	17 38 00.7	
	comp=Z,3.9nm,0.9s						
TSUM	**Tsumeb**	**50.07**	**57**	LR	LR	17 54 15.3	
	comp=Z,97nm,21.9s,baz=194,slow=30						
H10S2	**ASCENSION HYDR**	**50.21**	**14**	T	T	18 32 21.2	
	baz=188,slow=74,SNR=7.3						
H10S3	**ASCENSION HYDR**	**50.22**	**13**	T	T	18 32 22.9	
	baz=32,slow=74,SNR=6.0						
GO01	**Chusmiza**	**50.27**	**302**	P	**P**	**17 37 57.7**	**-2.0**
GO01				IAmb	IAmb	17 38 11.6	
	comp=Z,10nm,1.4s						
LPAZ	**La Paz**	**52.79**	**305**		**P**	**17 38 18.8**	**0.0**
LPAZ	**La Paz**	**52.79**	**305**	P	**P**	**17 38 18.6**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=164,slow=11,SNR=11						
	comp=Z,2.2nm,0.5s						
SAML	**Samuel**	**57.42**	**314**		**P**	**17 38 51.2**	**-0.2**
SAML				IAmb	IAmb	17 38 54.3	
	comp=Z,8.7nm,1.1s						
LSZ	**Lusaka**	**58.34**	**65**	LR	LR	18 00 12.4	
	comp=Z,176nm,20.3s,baz=230,slow=32						
NNA	**Nana**	**60.47**	**298**	LR	LR	18 03 44.2	
	comp=Z,56nm,22.0s,baz=193,slow=34						
OPO	**Ambohidratompo**	**65.13**	**85**	LR	LR	18 02 13.6	
	comp=Z,67nm,18.8s,baz=343,slow=30						
ATAH	**Atahualpa**	**65.45**	**299**	LR	LR	18 11 38.6	
	comp=Z,19nm,18.6s,baz=162,slow=39						
DBIC	**Dimbokro**	**67.11**	**22**	P	**P**	**17 39 56.6**	**+0.4**
	comp=Z,8.8nm,0.7s,baz=176,slow=7.2,SNR=10.0						
	comp=Z,8.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**74.81**	**27**		**P**	**17 40 43.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**74.81**	**27**	P	**P**	**17 40 43.6**	**+0.7**
	comp=Z,34nm,0.3s,baz=201,slow=5.3,SNR=1.0						
KMBO	**Kilima Mbogo**	**74.98**	**67**	LR	LR	18 11 59.3	
	comp=Z,132nm,18.2s,baz=92,slow=34						
SDV	**Santo Domingo**	**76.63**	**314**	LR	LR	18 16 41.5	
	comp=Z,46nm,18.9s,baz=79,slow=37						
RPZ	**Rata Peaks**	**77.13**	**192**	LR	LR	18 12 00.8	
	comp=Z,45nm,18.7s,baz=132,slow=33						
URZ	**Urewera**	**81.69**	**198**	LR	LR	18 11 46.3	
	comp=Z,42nm,21.5s,baz=310,slow=31						
PPT	**Papeete**	**91.52**	**232**	LR	LR	18 15 51.3	
	comp=Z,51nm,18.1s,baz=150,slow=31						
MDT	**Middlett**	**92.71**	**17**	LR	LR	18 20 13.8	
	comp=Z,60nm,18.6s,baz=150,slow=33						
ASAR	**Alice Springs**	**96.17**	**161**	P	**P**	**17 42 31.9**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=186,slow=3.7,SNR=9.0						
ASAR				LR	LR	18 23 26.6	
	comp=Z,37nm,19.8s,baz=269,slow=34						
	comp=Z,0.8nm,0.9s						
KEST	**Kesra**	**98.32**	**28**	LR	LR	18 25 22.8	
	comp=Z,80nm,18.1s,baz=352,slow=34						
CMAR	**Chiang Mai Arr**	**123.11**	**110**	PKP	**PKPdf**	**17 47 59.0**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=226,slow=3.6,SNR=6.1						
FINES	**FINESS Array B**	**126.16**	**28**	PKP	**PKPdf**	**17 48 03.1**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=352,slow=2.9,SNR=3.8						
BVAR	**Borovoye Array**	**135.20**	**59**	PKP	**PKPdf**	**17 48 20.1**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=244,slow=0.9,SNR=4.4						
MKAR	**Makanchi Array**	**136.62**	**73**	PKhKP	PKPpre	17 48 14.8	
	comp=Z,0.3nm,0.8s,baz=282,slow=1.3,SNR=2.3						
MKAR				PKP	**PKPdf**	**17 48 24.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=252,slow=2.9,SNR=4.0						
KURBB	**Kurchatov Arra**	**137.36**	**66**	PKhKP	PKPpre	17 48 14.0	
	comp=Z,0.3nm,0.7s,baz=231,slow=2.8,SNR=2.2						
KURBB				PKP	**PKPdf**	**17 48 25.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=232,slow=2.7,SNR=3.6						
YKA	**Yellowknife Ar**	**138.83**	**315**	PKP	**PKPdf**	**17 48 27.8**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=124,slow=3.1,SNR=4.8						
ZALV	**Zalesovo Beam**	**142.46**	**66**	PKhKP	PKPpre	17 48 31.6	
	comp=Z,0.5nm,0.4s,baz=246,slow=1.9,SNR=2.2						
SONM	**Songino Array**	**149.70**	**89**	PKPbc	**PKiKP**	**17 48 52.5**	**-0.1**
	comp=Z,4.1nm,1.0s,baz=224,slow=2.5,SNR=18						
KSRS	**Korea Array**	**152.51**	**129**	PKPbc	**PKPbc**	**17 48 58.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=12,slow=37,SNR=2.8						
KSRS				PKPab	**sPKPbc**	**17 49 10.0**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=212,slow=4.3,SNR=4.4						
ILAR	**Eielson Array**	**152.64**	**308**	PKPbc	**PKiKP**	**17 48 58.1**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=139,slow=2.9,SNR=15						

*GCG **14** 17:45:01.5±1.6, 13°.39N×90°.29W,h58km±29km,MD3.7*
*CATAC **14** 17:45:01.1±0.8, 13°.N±5°×9°.0W±°,h30km±8km,M3.5/9,*
MLv3.5/9,Error ellipse: s-maj=11.7km s-min=10.5km
az=115.2,confirmed
*SNET **14** 17:45:01.2±1.2, 13°.32N×90°.29W,h31km±5km,ML3.4*
ISC 14 17:45:07.6±1.5,13°.46N±0°.07×90°.01W±0°.04,h35km,n41,
σ2°.23/51,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.49**	**282**	*e*P	**Pn**	**17 45 17.8**	**-0.3**
CEVE	**Cerro Verde**	**0.52**	**45**	*e*P	**Pn**	**17 45 17.0**	**-1.8**
CEVE				*e*S	**Sn**	**17 45 29.2**	**+2.7**
CEVE	**Cerro Verde**	**0.52**	**45**	P	**Pn**	**17 45 17.0**	**-1.8**
CEVE	**Cerro Verde**	**0.52**	**45**	S	**Sn**	**17 45 28.8**	**+2.3**
JAYA	**Jayaque - finc**	**0.57**	**70**	*e*P	**Pn**	**17 45 17.4**	**-2.0**
JAYA				*e*S	**Sn**	**17 45 29.7**	**+2.0**
JAYA	**Jayaque - finc**	**0.57**	**70**	*i* P	**Pn**	**17 45 17.2**	**-2.2**
JAYA				*e*S	**Sn**	**17 45 29.6**	**+1.9**
JAYA	**Jayaque - finc**	**0.57**	**70**	P	**Pn**	**17 45 17.4**	**-2.0**
SLOZ	**Alcaldia de Sa**	**0.60**	**21**	P	**Pn**	**17 45 17.3**	**-2.5**
SLOZ	**Alcaldia de Sa**	**0.60**	**21**	S	**Sn**	**17 45 29.6**	**+1.3**
LALI	**Alcalda de L**	**0.67**	**87**	*e*P	**Pn**	**17 45 18.1**	**-2.4**
LALI				*e*S	**Sn**	**17 45 31.4**	**+1.7**
UNIC	**Universidad Ca**	**0.68**	**40**	P	**Pn**	**17 45 18.8**	**-2.1**
UNIC	**Universidad Ca**	**0.68**	**40**	S	**Sn**	**17 45 31.9**	**+1.6**
CEDA	**San Andres**	**0.69**	**60**	*e*P	**Pn**	**17 45 19.1**	**-1.7**
CEDA				*e*S	**Sn**	**17 45 33.1**	**+2.8**
CEDA				IAML		17 45 36.3	
	comp=Z,2μm,0.3s						
PMON	**Piamonte**	**0.72**	**69**	*e*P	**Pn**	**17 45 19.8**	**-1.6**
PMON				*e*S	**Sn**	**17 45 33.6**	**+2.4**
PMON	**Piamonte**	**0.72**	**69**	P	**Pn**	**17 45 19.4**	**-1.9**
BOQS	**Boqueron**	**0.76**	**69**	*e*P	**Pn**	**17 45 20.1**	**-1.8**
PIC2	**El Picacho**	**0.78**	**69**	*e*P	**Pn**	**17 45 20.9**	**-1.5**
PIC2				*e*S	**Sn**	**17 45 37.5**	**+4.5**
LOMA	**Loma Larga**	**0.83**	**77**	*e*P	**Pn**	**17 45 20.9**	**-2.1**
LOMA				*e*S	**Sn**	**17 45 37.8**	**+3.7**
LOMA	**Loma Larga**	**0.83**	**77**	P	**Pn**	**17 45 20.9**	**-2.1**
LOMA	**Loma Larga**	**0.83**	**77**	S	**Sn**	**17 45 36.2**	**+2.1**
LFRS	**El Faro**	**0.93**	**80**	*e*P	**Pn**	**17 45 22.5**	**-1.8**
FG8	**Yepocapa, Chim**	**0.96**	**326**	*e*P	**Pn**	**17 45 22.8**	**-1.9**
FG8				*i* S	**Sn**	**17 45 40.6**	**+3.3**
COEG	**Centro de Oper**	**1.11**	**82**	*e*P	**Pn**	**17 45 24.8**	**-1.9**
COEG				IAML		17 45 26.7	
	comp=Z,320nm,0.3s						
COEG				*e*S	**Sn**	**17 45 42.4**	**+1.7**
COEG	**Centro de Oper**	**1.11**	**82**	P	**Pn**	**17 45 24.7**	**-1.9**
MTO3	**Montecristo**	**1.12**	**34**	*e*P	**Pn**	**17 45 25.0**	**-2.1**
MTO3				*e*S	**Sn**	**17 45 43.5**	**+2.0**
MTO3	**Montecristo**	**1.12**	**34**	*e*P	**Pn**	**17 45 24.9**	**-2.1**
MTO3	**Montecristo**	**1.12**	**34**	P	**Pn**	**17 45 24.9**	**-2.2**
MTO3	**Montecristo**	**1.12**	**34**	S	**Sn**	**17 45 43.0**	**+1.5**
TECO	**Alcaldia de Te**	**1.19**	**86**	P	**Pn**	**17 45 25.4**	**-2.4**
TECO	**Alcaldia de Te**	**1.19**	**86**	S	**Sn**	**17 45 44.0**	**+1.2**
ESSG	**Sabana Grande**	**1.22**	**319**	*e*P	Pn	17 45 20.7	-7.6
SCLA	**Alcaldia de Sa**	**1.27**	**79**	P	**Pn**	**17 45 26.9**	**-1.9**
SCLA	**Alcaldia de Sa**	**1.27**	**79**	S	**Sn**	**17 45 47.0**	**+2.4**
ESQI	**Esquipulas**	**1.27**	**30**	*e*P	**Pn**	**17 45 27.0**	**-1.9**
PQSS	**Presa 15 de Se**	**1.42**	**83**	*e*P	**Pn**	**17 45 29.0**	**-1.9**
PQSS	**Presa 15 de Se**	**1.42**	**83**	P	**Pn**	**17 45 28.9**	**-1.9**
PQSS	**Presa 15 de Se**	**1.42**	**83**	S	**Sn**	**17 45 50.1**	**+1.8**
STG0	**El Palmar, Qui**	**1.62**	**307**	*e*P	**Pn**	**17 45 31.1**	**-2.7**
PACA	**Pacayal**	**1.64**	**89**	*e*P	**Pn**	**17 45 32.8**	**-1.2**
STG8	**El Palmar, Qui**	**1.64**	**307**	*e*P	**Pn**	**17 45 31.5**	**-2.6**
LCND	**La Caada**	**2.06**	**94**	*e*P	**Pn**	**17 45 37.4**	**-2.3**

*SJA **14** 18:06:14.1±0.7,22°.71S×68°.80W,h124km±5km,ML3.5,*
MW3.5
*GUC **14** 18:06:15.1±0.7,22°.67S×68°.79W,h111km±3km,ML3.7*
ISC 14 18:06:14.2±1.3,22°.69S±0°.03×68°.75W±0°.04,h124km±9km,
n35,σ1°.14/54,1C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.58**	**116**	⇓*i*P	**Pn**	**18 06 34.2**	**+0.7**
AF01				*e*S	**Sn**	**18 06 47.5**	**-0.4**
AF01				IAML		18 06 48.2	
	comp=N,6μm,0.2s						
AF01	**San Pedro de A**	**0.58**	**116**	*e*S	Sn	18 06 34.2	-14
AF01				*e*P	Sn	18 06 34.2	-14
AF01				IAML		18 06 53.9	
	comp=Z,2μm,0.2s						
PB06	**IPOC Station P**	**0.76**	**269**	⇑*i*P	**Pn**	**18 06 34.8**	**+0.1**
PB06			

```
AC01                          eS      Sn   18 07 55.3 -0.8
AC01                          IAML          18 08 22.7
     comp=Z,65nm,0.3s
AC02 Maricunga       4.14 185 eP      Pn   18 07 18.3 +2.2
AC02                          i S     Sn   18 08 07.5 +3.4
AC02 Maricunga       4.14 185 eP      Pn   18 07 18.4 +2.3
AC02                          eS      Sn   18 08 03.0 -1.0
AC02                          IAML          18 08 48.0
     comp=Z,35nm,0.3s
PB12 IPOC Station P  4.32 340 eP      Pn   18 07 17.0 -1.2
PB12 IPOC Station P  4.32 340 eP      Pn   18 07 16.9 -1.4
PB12                          IAML          18 08 21.5
     comp=Z,32nm,0.6s
GO03 Copiapo         5.06 195 eP      Pn   18 07 28.1  0.0
GO03                          i S     Sn   18 08 24.0 -1.5
GO03 Copiapo         5.06 195 eP      Pn   18 07 28.0  0.0
GO03                          eS      Sn   18 08 25.3 -0.3
```

IDC ***14*** *18:31:05.6±0.5, 32°.19N×89°.26E, h0km, mb4.0/24, mbtmp4.0/27, ML3.3/3, MS3.9/55, Error ellipse: s-maj=18.5km s-min=11.9km az=54.0*

BJI ***14*** *18:31:06.5, 32°.34N×89°.42E, h6km, mB4.7/10, mb4.3/36, ML4.2/2, Ms4.3/41, Ms7 4.1/40*

NEIC ***14*** *18:31:06.1±2.6, 32°.38N±0°.07×89°.26E±0°.03, h10km±1km, mb4.5/36, ML4.2(BJI), Error ellipse: s-maj=13.0km s-min=3.6km az=161.0*

MOS ***14*** *18:31:06.1±1.6, 32°.19N×89°.42E, h10km, mb4.6/22, MS4.0/5, Error ellipse: s-maj=9.1km s-min=5.0km az=113.2*

GCMT ***14*** *18:31:10.1±0.3, 32°.23N±0°.02×89°.30E±0°.02, h26km±1km, MW4.7/67, Moment Tensor Solution. s9,c10; s67,c95; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.53±.15; Mθθ=1.18±.09; Mφφ=1.72±.10; Mrθ=0.24±.20; Mθφ=0.43±.07; Mφr=0.33±.15; Best double couple: M0=1.56500×10^16 NP1:φs=323.00000°, δ=73.00000°, λ=-175.00000°. NP2: φs=232.00000°, δ=86.00000°, λ=-17.00000°. Principal axes: T 1.8360, Plg=9.0000°, Azm=279.0000°; N -0.5360, Plg=72.0000°, Azm=38.0000°; P -1.2940, Plg=15.0000°, Azm=186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NDI ***14*** *18:31:40.0±0.7, 32°.39N×89°.28E, h10km, ML3.8, MW4.3, mb4.5(NEIC)*

ISC 14 18:31:10.6±0.3, 32°.27N±0°.04×89°.19E±0°.04, h35km, n191, σ2s65/142, mb4.4/52, MS3.9/60, 9C-1D, Xizang

```
Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                  Op    ISC         h m s     ISC
LSA  Lhasa           3.07 146      Pn    Pn          18 31 53.7 -3.3
LSA  Lhasa           3.07 146      Pn    Pn          18 32 00.1 +3.1
LSA                                Sn    Sn          18 32 40.0 +7.3
LSA                                LR    LR
     comp=N,10μm,7.9s
LSA                                LR    LR
     comp=Z,5μm,4.3s
LSA  Lhasa           3.07 146      P     Pn          18 31 53.7 -3.3
GTK  Tadong          4.96 186      eP    Pn          18 32 56.2 +33
GTK                                eS    Sn          18 33 51.6 +33
GTK                                IAML              18 34 00.1
     comp=E,152nm,1.4s
GTK                                IAML              18 34 01.9
     comp=N,139nm,3.0s
GOMU GeErMu          6.09  48      Pn    Pn          18 32 39.0 +0.6
SHL  Shillong        7.09 160            Pn          18 32 51.3 -0.7
SHL  Shillong        7.09 160      eP    Pn          18 33 25.3 +33
SHL                                eS    Sn          18 34 41.2 +30
SHL                                IAML              18 34 52.1
     comp=E,70nm,3.1s
SHL                                IAML              18 35 06.8
     comp=N,174nm,1.8s
SHL  Shillong        7.09 160      P     Pn          18 32 51.3 -0.7
KOHI KOHIMA          7.82 145      eP    Pn          18 33 33.8 +32
PTH  Pithoragarh     8.17 253      eP    Pn          18 33 39.1 +32
PTH                                eS    Sn          18 35 06.1 +28
LGTI Lohaghat        8.18 252      eP    Pn          18 33 41.3 +34
LGTI                               eS    Sn          18 35 11.1 +33
LGTI                               IAML              18 36 07.3
     comp=N,27nm,6.7s
LGTI                               IAML              18 36 31.7
     comp=E,21nm,6.7s
JOSI Joshimath       8.41 261      eS    Sn          18 35 12.1 +28
JOSI                               IAML              18 36 13.0
     comp=N,88nm,11.0s
AGT  Agartala        8.55 167      eS    Sn          18 35 15.2 +28
AZL  Aizawl          9.05 159      eP    Pn          18 33 51.4 +33
AZL                                eS    Sn          18 35 26.7 +27
ALBI Allahabad       9.49 225      IAML              18 35 19.8
     comp=N,37nm,0.3s
ALBI                               eS    Sn          18 35 38.3 +28
ALBI                               IAML              18 36 49.5
     comp=E,30nm,7.3s
BRDH Bariadhala      9.80 167      Sn    Sn          18 35 16.5 -1.4
     comp=E,44nm,0.3s,baz=205,slow=19,SNR=1.7
BRDH                               Lg    Lg          18 36 17.9
     comp=E,58nm,0.3s,baz=222,slow=15,SNR=2.3
BRDH                               LR    LR          18 37 25.9
     comp=E,585nm,19.6s,baz=350,slow=39
BNDA BANDA          10.29 231      eS    Sn          18 35 57.3 +27
TNCH TengChong      10.92 129      ⇑P    Pn          18 33 42.5 -2.0
TNCH                               sP                18 33 46.9
TNCH                               PP    PnPn        18 33 52.3 +0.1
TNCH                               S     Sn          18 35 40.3 -5.2
TNCH                               SS    SnSn        18 35 58.0 +0.6
TNCH                               pmax  pmax
     comp=E,7.0nm,1.2s
TNCH                               pmax  pmax
     comp=E,110nm,4.2s
TNCH                               LR    LR
     comp=E,2μm,14.1s
TNCH                               LR    LR
     comp=E,1μm,16.4s
GTA  Gaotai          11.18  47      eP    Pn          18 33 50.8 +2.8
GTA                                pP                18 33 55.9
GTA                                pmax  pmax
     comp=E,4.0nm,1.3s
GTA                                LR    LR
     comp=E,2μm,15.1s
GTA                                LR    LR
     comp=E,680nm,16.3s
WMQ  Urumqi         11.59 355      eP    Pn          18 33 55.4 +1.9
WMQ                                LR    LR
     comp=E,940nm,11.9s
WMQ                                LR    LR
     comp=E,500nm,14.9s
PZH  PanZhiHua      12.36 115      P     Pn          18 34 02.8 -1.4
PZH                                pmax  pmax
     comp=E,7.0nm,0.8s
LZH  Lanzhou        12.72  69      eP    Pn          18 34 12.6 +3.6
LZH                                pP    P           18 34 17.3 -2.5
LZH                                pmax  pmax
     comp=E,16nm,1.8s
LZH                                LR    LR
     comp=E,1μm,12.7s
LZH                                LR    LR
     comp=E,790nm,13.1s
KSH  Kashi          12.91 308      P     Pn          18 34 11.8 +0.1
KSH                                LR    LR
     comp=E,1μm,14.9s
KSH                                LR    LR
     comp=E,1μm,17.9s
PRZ  Przheval'sk    13.31 323      Pn    Pn          18 34 14.1 -3.0
PRZ  Przheval'sk    13.31 323      P     P           18 34 22.0 -4.3
PRZ                                pmax  pmax
     comp=Z,11nm,1.2s
NIL  Nilore         13.45 280            Pn          18 34 16.0 -3.0
NIL  Nilore         13.45 280      P     Pn          18 34 17.8 -1.2
NIL                                pmax  pmax
     comp=Z,10.0nm,0.7s
KMI  Kunming        13.86 118      P     Pn          18 34 23.6 -1.1
KMI                                pmax  pmax
     comp=Z,23nm,0.8s
KMI                                LR    LR
     comp=Z,760nm,15.6s
KMI                                LR    LR
     comp=Z,320nm,12.8s
KMI                                LR    LR
     comp=Z,510nm,11.0s
BOOM Boomskoye usch 14.64 318      P     P           18 34 41.0 -0.2
BOOM Boomskoye usch 14.64 318      P     P           18 34 41.0 -0.2
MK31 Makanchi Array 15.44 342      eP    P           18 34 46.7 -3.1
MKAR Makanchi Array 15.44 342            Pn          18 34 44.8 -0.8
MKAR Makanchi Array 15.44 342      Pn    Pn          18 34 43.7 -1.9
     comp=Z,0.1nm,0.3s,baz=146,slow=13,SNR=18
MKAR                               Sn    Sn          18 37 29.9 -5.5
     baz=169,slow=23,SNR=1.6
MKAR                               LR    LR          18 41 04.0
     comp=Z,185nm,20.5s,baz=154,slow=38
     comp=Z,1.1nm,0.7s
MKAR Makanchi Array 15.44 342      i P   P           18 34 47.5 -2.3
MKAR                               pmax  pmax
     comp=Z,6.0nm,0.9s
MAKZ Makanchi       15.53 341      P     Pn          18 34 46.1 -0.8
MAKZ Makanchi       15.53 341      P     Pn          18 34 46.1 -0.8
MAKZ                               pmax  pmax
     comp=Z,12nm,0.9s
AAK  Ala-Archa      15.57 316            Pn          18 34 45.2 -2.3
AAK  Ala-Archa      15.57 316      Pn    Pn          18 34 47.3 -0.3
     comp=Z,0.1nm,0.3s,baz=161,slow=8.7,SNR=9.6
AAK                                LR    LR          18 41 36.1
     comp=Z,206nm,20.8s,baz=142,slow=40
     comp=Z,0.7nm,0.5s
AAK  Ala-Archa      15.57 316      eP    P           18 34 52.4 +1.0
AAK                                pmax  pmax
     comp=Z,10.0nm,1.7s
CHTO Chiang Mai     16.02 144            Pn          18 34 50.6 -2.7
CHTO Chiang Mai     16.02 144      P     P           18 34 55.1 -1.3
CHTO Chiang Mai     16.02 144      P     Pn          18 34 50.6 -2.7
CHTO                               pmax  pmax
     comp=Z,3.0nm,0.8s
GYA  Guiyang        16.29 106      P     Pn          18 34 52.9 -3.9
GYA                                S     Sn          18 37 58.0 +1.4
GYA                                pmax  pmax
     comp=Z,16nm,1.1s
GYA                                LR    LR
     comp=Z,750nm,24.0s
CM31 Chiang Mai Arr 16.32 145      Pn    Pn          18 34 53.2 -3.9
CMAR Chiang Mai Arr 16.32 145      Pn    Pn          18 34 53.2 -3.9
CMAR Chiang Mai Arr 16.32 145      Pn    Pn          18 34 54.5 -2.7
     baz=329,slow=12,SNR=12
     comp=Z,1.1nm,0.9s
XAN  Xi'an          16.62  79      P     Pn          18 34 57.4 -3.5
XAN                                pP    P           18 35 04.9 +1.9
XAN                                S     Sn          18 37 56.8 -7.6
XAN                                pmax  pmax
     comp=Z,15nm,1.4s
XAN                                LR    LR
     comp=Z,1μm,9.6s
XAN                                LR    LR
     comp=Z,1μm,9.3s
ARK  Arkit          16.69 310      P     P           18 35 05.4 +1.6
ARK                                pmax  pmax
     comp=Z,9.0nm,0.9s
BTK  Batken         16.73 303      Pn    Pn          18 34 54.7 -7.5
BTK                                IAmb  IAmb        18 35 11.2
     comp=Z,34nm,0.8s
BTK  Batken         16.73 303      P     P           18 35 02.6 -1.6
BTK                                pmax  pmax
     comp=Z,51nm,1.2s
GAR  Garm           16.73 299      Pn    Pn          18 34 57.9 -4.4
KBL  Kabul          16.97 283            Pn          18 35 05.2 -0.3
KBL                                IAmb  IAmb        18 35 10.6
     comp=Z,31nm,0.9s
KBL  Kabul          16.97 283      P     Pn          18 35 05.2 -0.3
KBL                                pmax  pmax
     comp=Z,31nm,1.0s
SLVN Son La         17.05 126      P     P           18 35 08.6 +0.8
TRKS Terek-Say      17.11 308      P     P           18 35 09.0 +0.5
TRKS                               pmax  pmax
     comp=Z,9.0nm,1.2s
DZET Dzherino       17.79 297      P     P           18 35 15.4 -0.6
DZET                               pmax  pmax
     comp=Z,20nm,0.7s
KK31 Karatay Array  18.27 312      Pn    P           18 35 16.6 -4.6
KK31 Karatay Array  18.27 312      P     P           18 35 16.6 -4.6
KK31                               pmax  pmax
     comp=Z,8.0nm,1.1s
KKAR Karatay Array  18.27 312            P           18 35 17.7 -3.5
KKAR Karatay Array  18.27 312      P     P           18 35 17.7 -3.5
NONG Nongkai        18.94 135      P     Pn          18 35 31.0 +1.6
HHC  Hu-ho-hao-te   19.87  58      eP    Pn          18 35 40.4 -0.1
HHC                                pmax  pmax
     comp=Z,12nm,0.7s
HHC                                pmax  pmax
     comp=Z,100nm,5.1s
HHC                                LR    LR
     comp=Z,730nm,12.5s
HHC                                LR    LR
     comp=Z,960nm,14.0s
KURBB Kurchatov Arra 19.96 340     P     Pn          18 35 40.7 -0.7
     comp=Z,7.9nm,0.8s,baz=148,slow=11,SNR=34
KURBB                              LR    LR          18 43 47.7
     comp=Z,220nm,19.1s,baz=173,slow=38
     comp=Z,7.9nm,0.8s
SRDT SRDT           20.02 151      P     Pn          18 35 44.7 +2.4
KURK Kurchatov      20.02 340            P           18 35 37.0 -3.1
KURK                               IAmb  IAmb        18 35 50.0
     comp=Z,17nm,0.9s
KURK Kurchatov      20.02 340      eP    Pn          18 35 43.0 +1.0
KURK                               pmax  pmax
     comp=Z,18nm,1.3s
SONM Songino Array  20.30  35            P           18 35 40.2 -3.3
SONM                               IAmb  IAmb        18 35 49.7
     comp=Z,30nm,1.5s
SONM Songino Array  20.30  35      P     Pn          18 35 44.5 -1.1
     comp=Z,6.3nm,0.8s,baz=224,slow=9.8,SNR=40
SONM                               LR    LR          18 43 34.0
     comp=Z,163nm,19.2s,baz=226,slow=37
     comp=Z,6.3nm,0.8s
ULN  Ulaanbaatar    20.65  36            P           18 35 43.5 -3.7
ULN                                IAmb  IAmb        18 35 52.6
     comp=Z,19nm,0.7s
ULN  Ulaanbaatar    20.65  36      eP    Pn          18 35 47.8 -1.8
ULN                                pmax  pmax
     comp=Z,32nm,1.3s
ZAK  Zakamensk      20.90  26      eP    Pn          18 35 50.0 -2.5
ZAK                                pmax  pmax
     comp=Z,9.0nm,1.5s
NAYO Nakonayok      21.03 145      P     P           18 35 55.6 +4.2
MOY  Mondy          21.22  21      eP    P           18 35 54.4 +1.1
MOY                                pmax  pmax
     comp=Z,29nm,1.9s
HNS  HongShan       21.53  69      ⇓P    P           18 35 59.8 +3.2
HNS                                PP    PnPn        18 36 23.5 +5.9
HNS                                pmax  pmax
     comp=Z,13nm,0.5s
HNS                                LR    LR
     comp=Z,380nm,10.8s
HNS                                LR    LR
     comp=Z,440nm,10.6s
HNS                                LR    LR
     comp=Z,540nm,12.6s
ZAA0 Zalesovo Array 21.89 353      P     P           18 35 56.2 -4.1
ZAA0                               IAmb  IAmb        18 36 05.9
     comp=Z,14nm,1.0s
ZALV Zalesovo Beam  21.89 353            P           18 35 56.0 -4.3
ZALV Zalesovo Beam  21.89 353      P     P           18 36 01.7 +1.4
     comp=Z,14nm,0.9s,baz=169,slow=12,SNR=22
ZALV                               LR    LR          18 45 24.9
     comp=Z,383nm,19.5s,baz=166,slow=39
     comp=Z,14nm,0.9s
UBPT Khong Chiam    22.49 135            P           18 36 05.2 -1.8
UBPT                               IAmb  IAmb        18 36 12.6
     comp=Z,22nm,0.9s
UBPT Khong Chiam    22.49 135      P     P           18 36 08.4 +1.3
HRA  Herat          22.59 283      P     P           18 36 05.9 -2.4
QIZ  Qiongzhong     22.76 120      P     P           18 36 10.3 +0.3
QIZ                                S     S           18 40 19.4 +2.8
QIZ                                LR    LR
     comp=Z,300nm,12.4s
QIZ                                LR    LR
     comp=Z,250nm,14.4s
QIZ                                LR    LR
     comp=Z,360nm,8.9s
IRK  Irkutsk        22.78  24      eP    P           18 36 12.8 +2.9
IRK                                pmax  pmax
     comp=Z,36nm,2.1s
TIA  Tai'an         23.39  73      P     P           18 36 17.0 +0.8
TIA                                pmax  pmax
     comp=Z,9.0nm,0.8s
TIA                                pmax  pmax
     comp=Z,130nm,5.4s
TIA                                LR    LR
     comp=Z,620nm,11.4s
TIA                                LR    LR
     comp=Z,640nm,13.4s
BVAR Borovoye Array 24.78 332      P     P           18 36 30.8 +1.9
     comp=Z,4.5nm,1.0s,baz=141,slow=9.6,SNR=14
BVAR                               LR    LR          18 47 03.9
     comp=Z,274nm,18.0s,baz=137,slow=38
     comp=Z,4.5nm,1.0s
BRVK Borovoye       24.85 332      P     P           18 36 29.9 +0.4
BRVK                               IAmb  IAmb        18 36 40.0
     comp=Z,13nm,1.1s
BRVK Borovoye       24.85 332      eP    P           18 36 33.0 +3.5
BRVK                               pmax  pmax
     comp=Z,11nm,1.3s
NJ2  Nanjing        25.08  83      eP    P           18 36 33.3 +1.5
NJ2                                pmax  pmax
     comp=Z,8.0nm,0.5s
NJ2                                LR    LR
     comp=Z,510nm,7.7s
NJ2                                LR    LR
     comp=Z,690nm,10.9s
NJ2                                LR    LR
     comp=Z,650nm,11.5s
PALK Pallekele      26.10 199      P     P           18 36 37.6 -3.6
PALK                               IAmb  IAmb        18 36 42.1
     comp=Z,7.9nm,1.1s
PALK Pallekele      26.10 199      LR    LR          18 47 42.8
     comp=Z,109nm,20.5s,baz=26,slow=38
PALK Pallekele      26.10 199      P     P           18 36 37.6 -3.6
PALK                               pmax  pmax
     comp=Z,8.0nm,1.2s
KNMB Chin-men Tao   26.79  99      P     P           18 36 43.3 -4.0
AB31 Akbulak array  27.66 316      P     P           18 36 50.6 -4.3
ABKAR Akbulak array 27.66 316      P     P           18 36 51.4 -3.5
AKTO Aktyubinsk     29.30 317      LR    LR          18 49 53.5
     comp=Z,244nm,19.1s,baz=114,slow=38
KSRS Korea Array    32.04  70      LR    LR          18 50 27.3
     comp=Z,155nm,19.3s,baz=270,slow=36
ARTI Arti           32.19 328      i P   P           18 37 37.3 +2.4
ARTI                                                  18 38 38.6
ARTI                                                  18 40 18.6
ARTI                               S     S           18 42 51.5 +6.2
ARTI                               SS    SnSn        18 44 38.2 +0.5
ARTI                               pmax  pmax
     comp=Z,6.0nm,1.1s
PBSI Pulau Batu     33.28 163      P     P           18 37 48.4 +3.5
TGY  Tagaytay City  34.15 115      LR    LR          18 52 21.3
     comp=Z,145nm,18.8s,baz=188,slow=38
JOW  Kunigami       34.30  89      LR    LR          18 52 58.2
     comp=Z,212nm,19.2s,baz=0.5,slow=38
MAK  Makhachkala    34.38 300      eP    P           18 37 50.4 -3.8
MAK                                e                 18 39 08.1
MAK                                eS    S           18 43 16.7 -2.9
MAK                                eSS   SnSn        18 45 36.9 +5.7
MAK                                pmax  pmax
     comp=Z,36nm,0.6s
MAK                                MLR   MLR
     comp=Z,192nm,14.0s
ZEA  Zeya           34.54  40      eP    P           18 37 56.9 +1.4
ZEA                                MLR   MLR
     comp=E,300nm,13.0s
ZEA                                MLR   MLR
     comp=Z,300nm,12.0s
SISI Saibi          34.71 162      P     P           18 38 01.5 +4.3
     comp=Z,17nm,0.6s
JNU  Nakatsue       34.93  77      LR    LR          18 53 17.5
     comp=Z,222nm,21.4s,baz=270,slow=38
USA0B Ussuriysk Arra 35.29  58     P     P           18 38 02.9 +0.9
USA0B                              IAmb  IAmb        18 38 46.5
     comp=Z,10nm,1.1s
USA0B Ussuriysk Arra 35.29  58     P     P           18 38 02.9 +0.9
USA0B                              pmax  pmax
     comp=Z,10.0nm,1.1s
KLR  Kul'dur        35.87  49      eP    P           18 38 07.1 +0.1
KLR                                pmax  pmax
     comp=Z,5.0nm,1.1s
GNI  Garni          36.41 295      LR    LR          18 57 31.2
     comp=Z,66nm,21.1s,baz=111,slow=43
NRIK Noril'sk       37.12 359      P     P           18 38 18.4 +1.0
     comp=Z,1.0nm,0.3s,baz=166,slow=3.8,SNR=5.0
NRIK                               LR    LR          18 54 06.1
     comp=Z,188nm,21.1s,baz=184,slow=37
     comp=Z,1.0nm,0.3s
NRIK Noril'sk       37.12 359      eP    P           18 38 20.5 +3.1
NRIK                               pmax  pmax
     comp=Z,14nm,2.8s
KIRV Kirov          37.47 327      LR    LR          18 54 51.4
     comp=Z,159nm,19.0s,baz=121,slow=38
KIRV Kirov          37.47 327      i P   P           18 38 24.1 +3.7
KBZ  Khabaz         37.78 301      LR    LR          18 55 54.2
     comp=Z,167nm,21.6s,baz=92,slow=39
KIV  Kislovodsk     37.94 302      eP    P           18 38 29.4 +4.7
KIV                                pmax  pmax
     comp=Z,4.0nm,1.1s
KIV                                MLR   MLR
     comp=Z,84nm,16.0s
MYLDM Lahad Datu    38.43 128      P     P           18 38 27.8 -1.2
MYLDM                              IAmb  IAmb        18 38 35.6
     comp=Z,12nm,1.1s
RAYN Ar Rayn        39.36 269      P     P           18 38 43.1 +6.3
YAK  Yakutsk        39.44  29      LR    LR          18 55 57.7
     comp=Z,308nm,20.0s,baz=238,slow=38
YAK  Yakutsk        39.44  29      eP    P           18 38 36.5 -0.4
YAK                                pmax  pmax
     comp=Z,7.0nm,0.8s
MJAR Matsushiro Arr 40.32  70      P     P           18 38 44.0 -0.7
     comp=Z,1.9nm,0.9s,baz=270,slow=9.1,SNR=2.5
MJAR                               LR    LR          18 56 25.6
     comp=Z,107nm,18.1s,baz=276,slow=38
     comp=Z,1.9nm,0.9s
MJAR Matsushiro Arr 40.32  70      P     P           18 38 44.0 -0.7
DAV  Davao City (W) 42.12 119      LR    LR          18 56 47.5
     comp=Z,121nm,19.2s,baz=332,slow=37
ASAJ Asahikawa      42.92  58      LR    LR          18 57 26.0
     comp=Z,82nm,20.2s,baz=332,slow=37
KLMR Klimovskoe     42.97 327      eP    P           18 39 07.2 +1.3
KLMR                               e                 18 40 47.8
KLMR                               pmax  pmax
     comp=Z,16nm,1.1s
YSS  Yuzhno-Sakhali 42.97  54      eP    P           18 39 13.0 +6.9
YSS                                pmax  pmax
     comp=Z,10.0nm,0.9s
YSS                                MLR   MLR
     comp=Z,400nm,16.0s
OBN  Obninsk        43.08 318      eP    P           18 39 11.8 +4.9
OBN                                pmax  pmax
     comp=Z,27nm,2.7s
TIXI Tiksi          44.72  17      LR    LR          18 58 53.7
     comp=Z,194nm,18.5s,baz=208,slow=37
TIXI Tiksi          44.72  17      i P   P           18 39 19.5 -0.4
TIXI                               pmax  pmax
     comp=Z,4.0nm,0.8s
MMAI Mount Meron Ar 44.87 286      LR    LR          19 00 52.0
     comp=Z,149nm,21.8s,baz=76,slow=40
BR131 Keskin Array S 44.94 296     eP    P           18 39 25.6 +3.3
BRTR Keskin Array B 44.94 296      P     P           18 39 22.8 +0.5
     comp=Z,0.5nm,0.9s,baz=105,slow=9.1,SNR=3.8
     comp=Z,0.5nm,0.9s
BRTR Keskin Array B 44.94 296      i P   P           18 39 27.2 +4.9
BRTR                               pmax  pmax
     comp=Z,1.0nm,0.8s
EIL  Elat           46.16 282      LR    LR          19 01 48.4
     comp=Z,212nm,20.7s,baz=66,slow=40
KAPI Kappang        47.12 136      LR    LR          19 04 49.6
     comp=Z,52nm,18.1s,baz=296,slow=43
AKASG Malin Array Be 47.17 311     P     P           18 39 40.4 +0.9
     comp=Z,0.1nm,0.2s,baz=79,slow=7.1,SNR=8.1
AKASG                              LR    LR          19 03 28.7
     comp=Z,115nm,19.6s,baz=81,slow=41
     comp=Z,0.1nm,0.2s
MNK  Minsk          48.02 317      i P   P           18 39 48.3 +2.3
     comp=E,4.0nm,0.8s
MNK                                i P   P           18 39 48.3 +2.3
     comp=N,12nm,1.1s
MNK                                i P   pP          18 39 52.1 -5.9
     comp=Z,7.0nm,0.8s,baz=91
MNK                                i PP  PP          18 41 43.8 +5.7
MNK                                i PPP PPP         18 42 32.9
MNK                                i S   S           18 46 52.3 +11
MNK                                i SS  SS          18 50 12.2 +1.9
MNK                                i SSS SSS         18 51 38.3
MNK                                i LQ  LQ          18 56 38.4
MNK                                i LR  LR          18 59 39.3
MNK                                i LRM MLR         19 01 34.6
     comp=Z,84nm,15.1s
MNK                                i LRM MLR         19 01 44.9
     comp=N,54nm,13.8s
MNK                                i LRM MLR         19 02 06.8
     comp=E,96nm,13.6s
MNK  Minsk          48.02 317      i P   P           18 39 48.2 +2.3
```

MNK			*i*			18 41 43.7
MNK			*i* PPP		PPP	18 42 32.8
MNK			*i* S		S	18 46 52.2 +11
MNK			*i* SS		**SS**	**18 50 12.2 +1.9**
MNK			pmax		pmax	
	comp=N,12nm,1.1s					
MNK			pmax		pmax	
	comp=E,4.0nm,0.8s					
MNK			pmax		pmax	
	comp=Z,7.0nm,0.8s					
MNK			MLR		MLR	
	comp=Z,84nm,15.0s					
MNK			MLR		MLR	
	comp=N,54nm,14.0s					
MNK			MLR		MLR	
	comp=E,96nm,14.0s					
MA2	**Magadan**	**48.50 37**	LR		LR	19 01 51.2
	comp=E,284nm,18.4s,baz=272,slow=38					
FINES	**FINESS Array B**	**49.45 326**	P		**P**	**18 39 57.5 +0.6**
	comp=E,1.2nm,0.7s,baz=90,slow=7.6,SNR=5.8					
	comp=E,1.2nm,0.7s					
FINES	**FINESS Array B**	**49.45 326**	*i* P		P	18 40 03.0 +6.1
FINES			pmax		pmax	
	comp=Z,2.0nm,0.8s					
SEY	**Seymchan**	**49.66 32**	LR		LR	19 02 34.7
	comp=Z,213nm,19.4s,baz=263,slow=38					
SEY	**Seymchan**	**49.66 32**	*e*P		**P**	**18 40 00.3 +1.8**
SEY			pmax		pmax	
	comp=Z,4.0nm,0.8s					
MLR	**Muntele Rosu**	**49.76 305**	LR		LR	19 04 09.8
	comp=Z,219nm,20.6s,baz=75,slow=40					
MLR	**Muntele Rosu**	**49.76 305**	P		P	18 40 05.2 +5.5
MLR			pmax		pmax	
	comp=Z,9.0nm,0.9s					
ARCES	**ARCESS Array B**	**50.98 336**	P		**P**	**18 40 09.1 +0.7**
	comp=Z,9.6nm,1.2s,baz=98,slow=8.7,SNR=4.4					
ARCES			LR		LR	19 02 09.6
	comp=Z,100nm,19.0s,baz=83,slow=36					
	comp=Z,9.6nm,1.2s					
PETK	**Petropavlovsk-**	**52.34 45**	P		**P**	**18 40 17.7 -1.1**
	comp=Z,0.8nm,0.7s,baz=268,slow=7.2,SNR=1.4					
	comp=Z,0.8nm,0.7s					
GUMO	**Guam**	**53.95 97**	LR		LR	19 03 01.0
	comp=Z,66nm,21.5s,baz=164,slow=36					
VYHS	**Vyhne**	**54.11 309**	*e*P		P	18 40 38.6 +6.7
VYHS	**Vyhne**	**54.11 309**	*e*P		P	18 40 38.6 +6.7
SPITS	**Spitsbergen Ar**	**55.14 346**	LR		LR	19 09 40.0
	comp=Z,132nm,18.6s,baz=106,slow=42					
VRAC	**Vranov**	**55.41 311**	LR		LR	19 08 12.2
	comp=Z,115nm,21.4s,baz=84,slow=40					
HFS	**Hagfors**	**55.51 324**	P		**P**	**18 40 42.2 +0.4**
	comp=Z,2.6nm,0.9s,baz=141,slow=9.6,SNR=4.5					
HFS			LR		LR	19 06 20.5
	comp=Z,180nm,18.6s,baz=82,slow=38					
	comp=Z,2.6nm,0.9s					
BILL	**Bilibino**	**55.70 26**	*i* P		**P**	**18 40 45.5 +2.5**
BILL			pmax		pmax	
	comp=Z,4.0nm,0.9s					
NB2	**NORSAR Subarra**	**56.62 325**	P		P	18 40 55.3 +5.5
	comp=Z,2.1nm,0.8s,baz=83,slow=7.4					
NOA	**NORSAR Array B**	**56.62 325**	P		**P**	**18 40 50.1 +0.3**
	comp=Z,1.3nm,1.1s,baz=83,slow=7.1,SNR=8.3					
NOA			LR		LR	19 06 36.2
	comp=Z,208nm,18.3s,baz=70,slow=38					
	comp=Z,1.3nm,1.1s					
GERES	**GERESS Array B**	**57.37 311**	P		**P**	**18 40 57.4 +2.0**
	comp=Z,0.4nm,0.5s,baz=86,slow=6.8,SNR=8.2					
GERES			LR		LR	19 09 53.7
	comp=Z,119nm,19.5s,baz=84,slow=40					
	comp=Z,0.4nm,0.5s					
KMBO	**Kilima Mbogo**	**59.22 246**	P		**P**	**18 41 08.3 -0.6**
	comp=Z,0.4nm,0.4s,baz=43,slow=12,SNR=4.6					
KMBO			LR		LR	19 06 24.4
	comp=Z,64nm,18.1s,baz=88,slow=36					
	comp=Z,0.4nm,0.4s					
DAVOX	**Davos/Dischmat**	**60.39 309**	LR		LR	19 09 10.4
	comp=Z,131nm,18.3s,baz=62,slow=38					
FITZ	**Fitzroy Crossi**	**61.05 140**	P		**P**	**18 41 20.7 -0.2**
	comp=Z,1.0nm,0.8s,baz=295,slow=3.1,SNR=1.7					
FITZ			LR		LR	19 11 04.8
	comp=Z,70nm,18.2s,baz=308,slow=39					
	comp=Z,1.0nm,0.8s					
MBAR	**Mbarara**	**64.04 251**	P		P	18 41 46.6 +5.3
MBAR			pmax		pmax	
	comp=Z,5.0nm,1.2s					
KEST	**Kesra**	**64.50 297**	LR		LR	19 16 34.8
	comp=Z,52nm,19.1s,baz=266,slow=42					
EKA	**Eskdalemuir Ar**	**65.40 321**	P		**P**	**18 41 50.6 +1.3**
	comp=Z,1.9nm,0.8s,baz=56,slow=4.4,SNR=1.2					
	comp=Z,1.9nm,0.8s					
B20K	**Meade River**	**67.54 20**	IAmb		IAmb	18 42 17.1
	comp=Z,4.9nm,1.1s					
WRA	**Warramunga Arr**	**67.55 134**	P		**P**	**18 42 03.6 0.0**
	comp=Z,3.7nm,0.9s,baz=328,slow=6.4,SNR=14					
	comp=Z,3.7nm,0.9s					
B22K	**Teshekpuk Lake**	**68.40 19**	P		**P**	**18 42 07.4 -0.8**
B22K			IAmb		IAmb	18 42 22.1
	comp=Z,3.7nm,0.9s					
C23K	**Itkillik River**	**69.47 19**	P		**P**	**18 42 14.7 -0.1**
NWAO	**Narrogin (SRO)**	**70.04 155**	LR		LR	19 15 25.9
	comp=Z,43nm,21.0s,baz=286,slow=38					
ASAR	**Alice Springs**	**70.13 137**	P		**P**	**18 42 19.9 +0.4**
	comp=Z,2.1nm,0.9s,baz=321,slow=6.4,SNR=15					
	comp=Z,2.1nm,0.9s					
ASAR	**Alice Springs**	**70.13 137**	P		**P**	**18 42 20.0 +0.4**
F21K	**Alatna River**	**70.24 22**	IAmb		IAmb	18 42 43.9
	comp=Z,5.5nm,1.1s					
J20K	**Nowinta River**	**71.87 24**			**P**	**18 42 29.4 -0.2**
ESDC	**Sonseca Array**	**72.42 306**	P		**P**	**18 42 34.3 +0.9**
	comp=Z,1.2nm,0.8s,baz=74,slow=5.5,SNR=6.5					
ESDC			LR		LR	19 17 58.6
	comp=Z,104nm,18.7s,baz=47,slow=39					
	comp=Z,1.2nm,0.8s					
CAST	**Castle Rocks**	**73.06 24**			**P**	**18 42 36.8 +0.1**
RES	**Resolute Bay**	**73.28 1**	LR		LR	19 16 09.9
	comp=Z,71nm,19.0s,baz=10,slow=37					
NEA2	**Nenana**	**73.31 23**	IAmb		IAmb	18 42 48.3
	comp=Z,4.6nm,1.0s					
ILAR	**Eielson Array**	**73.89 22**	P		**P**	**18 42 42.0 +0.5**
	comp=Z,1.3nm,1.0s,baz=305,slow=4.8,SNR=9.6					
	comp=Z,1.3nm,1.0s					
SKT	**Skwentna**	**74.17 25**			**P**	**18 42 43.3 0.0**
C36M	**Paulatuk**	**75.79 12**	IAmb		IAmb	18 42 56.4
	comp=Z,6.3nm,1.2s					
MDT	**Midelt**	**76.15 300**	LR		LR	19 20 41.7
	comp=Z,62nm,19.7s,baz=9.5,slow=39					
SFJD	**Kangerlussuaq**	**76.45 345**	LR		LR	19 22 32.6
	comp=Z,102nm,18.0s,baz=106,slow=40					
KDAK	**Kodiak Island**	**76.46 29**	LR		LR	19 21 29.6
	comp=Z,66nm,18.0s,baz=134,slow=40					
HNR	**Honiara**	**79.11 108**	LR		LR	19 15 13.2
	comp=Z,24nm,21.5s,baz=172,slow=34					
STKA	**Stephens Creek**	**80.77 137**	P		**P**	**18 43 21.4 +0.9**
	comp=Z,2.2nm,0.9s,baz=310,slow=7.9,SNR=3.7					
STKA			LR		LR	19 24 17.7
	comp=Z,49nm,18.5s,baz=28,slow=40					
	comp=Z,2.2nm,0.9s					
TORD	**Torodi Ar. Bea**	**81.01 280**	P		**P**	**18 43 23.4 +1.2**
	comp=Z,55nm,0.4s,baz=39,slow=5.2,SNR=2.1					
FRB	**Frobisher Bay**	**82.69 350**	LR		LR	19 24 10.6
	comp=Z,130nm,18.3s,baz=4.0,slow=38					
YKA	**Yellowknife Ar**	**83.64 11**	P		**P**	**18 43 35.3 +0.2**
	comp=Z,0.5nm,0.9s,baz=335,slow=4.6,SNR=4.7					
YKA			LR		LR	19 25 02.9
	comp=Z,58nm,19.7s,baz=338,slow=39					
	comp=Z,0.5nm,0.9s					
BOSA	**Boshof**	**85.75 232**	P		**P**	**18 43 47.2 +0.8**
	comp=Z,2.3nm,0.8s,baz=245,slow=3.8,SNR=1.8					
BOSA			LR		LR	19 19 58.0
	comp=Z,46nm,18.5s,baz=36,slow=34					
	comp=Z,2.3nm,0.8s					
DBIC	**Dimbokro**	**89.89 278**	LR		LR	19 28 28.4
	comp=Z,106nm,19.5s,baz=70,slow=38					
SUR	**Sutherland**	**91.09 232**	LR		LR	19 22 21.7
	comp=Z,35nm,18.2s,baz=66,slow=34					
NEW	**Newport**	**96.43 17**	LR		LR	19 35 29.3
	comp=Z,77nm,18.4s,baz=22,slow=40					
MSVF	**Nonsavu**	**98.33 106**	LR		LR	19 25 20.6
	comp=Z,34nm,21.9s,baz=15,slow=33					
QSPA	**South Pole Qui**	**122.06 180**	PKP		**PKiKP**	**18 50 00.8 +0.1**
	comp=Z,0.9nm,0.8s,baz=56,slow=9.4,SNR=2.0					
CPUP	**Villa Florida**	**150.28 273**	PKP		**PKPdf**	**18 50 52.9 -0.2**
	comp=Z,0.7nm,0.6s,baz=219,slow=8.2,SNR=1.8					
CPUP			PKPbc		**PKiKP**	**18 50 58.9 -0.2**
	comp=Z,1.4nm,0.5s,baz=164,slow=2.7,SNR=4.4					

*JMA **14** 18:32:52.5±0.2,23°.8N±1°.0×122°.9E±0°.8,h50km,MV2.3/13,*

NEAR ISHIGAKIJIMA ISLAND
*TAP **14** 18:32:52.9,23°.79N×122°.90E,h46km,ML3.1,D*
ISC 14 18:32:49.2±1.2,23°.70N±0°.03×122°.89E±0°.02,h14km±9km,
n90,σ0°.84/149,6D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.68**	**309**	P	**Pn**	**18 33 05.5**	**+1.5**
EOS4				S	**Sn**	**18 33 14.7**	**+0.5**
JYNG	**Yonagunijimaku**	**0.75**	**4**	*e*P	**Pn**	**18 33 06.2**	**+0.8**
JYNG				*e*S	**Sn**	**18 33 16.2**	**-0.5**
YOJ	**Yonaguni jima**	**0.77**	**8**	*e*P	**Pn**	**18 33 06.7**	**+1.0**
YOJ				*e*S	**Sn**	**18 33 15.9**	**-1.1**
YOJ	**Yonaguni jima**	**0.77**	**8**	P	**Pn**	**18 33 06.5**	**+0.9**
YOJ				S	**Sn**	**18 33 16.0**	**-1.1**
EOS3	**EOS3**	**0.79**	**318**	P	**Pn**	**18 33 07.5**	**+1.7**
EOS3				S	**Sn**	**18 33 17.9**	**+0.7**
HATJ	**Hateruma jima**	**0.91**	**67**	P	**Pn**	**18 33 08.9**	**+1.3**
HATJ				*e*S	**Sn**	**18 33 20.8**	**+0.3**
EOS2	**EOS2**	**0.94**	**320**	P	**Pn**	**18 33 10.1**	**+2.3**
EOS2				*e*S	**Sn**	**18 33 23.0**	**+1.9**
IRIF	**Iriomote-Funau**	**1.00**	**50**	P	**Pn**	**18 33 10.2**	**+1.4**
JKRS	**Kuro-shima**	**1.16**	**62**	*e*P	**Pg**	**18 33 12.7**	**+1.2**
HWA	**Hwalien**	**1.21**	**284**	*e*P	**Pg**	**18 33 13.0**	**+0.4**
SHUL	**Shoufeng**	**1.22**	**275**	*e*P	**Pg**	**18 33 13.2**	**+0.4**
SHUL				*e*S	**Sb**	**18 33 27.5**	**-0.2**
TWD	**Chiawan**	**1.25**	**288**	*e*P	**Pg**	**18 33 13.1**	**-0.2**
TWD				*e*S	**Sg**	**18 33 29.4**	**-0.1**
ETL	**Fush Village**	**1.25**	**292**	*e*P	**Pg**	**18 33 13.5**	**+0.2**
ETL				*e*S	**Sn**	**18 33 28.4**	**-0.5**
EWUT	**Wuta**	**1.26**	**306**	*e*P	**Pg**	**18 33 13.8**	**+0.3**
NACB	**Ninganchiao**	**1.28**	**292**	P	**Pg**	**18 33 13.5**	**-0.3**
NACB				*e*S	**Sb**	**18 33 28.4**	**-0.9**
ENA	**Nanau**	**1.28**	**305**	*e*P	**Pg**	**18 33 14.2**	**+0.3**
ENA				*e*S	**Sg**	**18 33 29.9**	**-0.6**
ESAO	**Su ao**	**1.30**	**313**	*e*P	**Pg**	**18 33 14.3**	**+0.1**
ETM	**Tongmen**	**1.31**	**282**	P	**Pb**	**18 33 13.8**	**+0.3**
ETM				*e*S	**Sn**	**18 33 29.0**	**-1.4**
TWC	**Suao**	**1.32**	**314**	*e*P	**Pg**	**18 33 14.4**	**-0.2**
JIJ	**Ishigaki jima**	**1.32**	**60**	P	**Pg**	**18 33 14.4**	**-0.3**
ESL	**Shilin**	**1.34**	**275**	||P	**Pb**	**18 33 14.3**	**+0.1**
ESL				*e*S	**Sn**	**18 33 29.1**	**-2.0**
EGFH	**Guangfu**	**1.34**	**269**	*e*P	**Pb**	**18 33 14.5**	**+0.3**
EGFH				*e*S	**Sn**	**18 33 30.8**	**-0.4**
HGSD	**Ruisui**	**1.36**	**262**	||P	**Pb**	**18 33 14.9**	**+0.4**
HGSD				*e*S	**Sn**	**18 33 30.8**	**-0.9**
ECBN	**Changbin**	**1.38**	**254**	P	**Pb**	**18 33 15.4**	**+0.7**
ECBN				S	**Sn**	**18 33 31.7**	**-0.3**
WARBT	**Fenglin Townsh**	**1.38**	**271**	||P	**Pb**	**18 33 14.9**	**+0.1**
WARBT				*e*S	**Sn**	**18 33 31.1**	**-1.0**
ETLH	**Xiulin Townshi**	**1.39**	**292**	*e*P	**Pb**	**18 33 15.3**	**+0.3**
ETLH				*e*S	**Sn**	**18 33 31.6**	**-0.9**
LXIB	**Xiulin Townshi**	**1.39**	**284**	P	**Pb**	**18 33 15.3**	**+0.2**
LXIB				*e*S	**Sn**	**18 33 31.9**	**-0.7**
EHY	**Hungye**	**1.45**	**263**	*e*P	**Pb**	**18 33 16.7**	**+0.7**
EHY				*e*S	**Sn**	**18 33 34.2**	**+0.3**
CHKH	**Chenggong**	**1.46**	**250**	*e*S	**Sn**	**18 33 33.3**	**-0.8**
EYUL	**Yuli**	**1.48**	**257**	*e*P	**Pb**	**18 33 17.3**	**+0.7**
EYUL				*e*S	**Sn**	**18 33 35.0**	**+0.3**
LATG	**Datong**	**1.50**	**304**	*e*P	**Pg**	**18 33 17.4**	**-0.7**
TWF1	**Yuli**	**1.50**	**257**	||P	**Pb**	**18 33 17.3**	**+0.4**
TWF1				*e*S	**Sn**	**18 33 35.1**	**0.0**
TWE	**Neicheng**	**1.51**	**313**	*e*P	**Pg**	**18 33 17.8**	**-0.5**
CHKT	**Chengkung**	**1.52**	**247**	*e*P	**Pb**	**18 33 16.9**	**-0.3**
CHKT				*e*S	**Sn**	**18 33 34.5**	**-1.1**
ENTT	**Nioudou**	**1.53**	**308**	*e*P	**Pg**	**18 33 18.1**	**-0.6**
FULB	**Fuli**	**1.55**	**252**	*e*P	**Pb**	**18 33 17.5**	**-0.2**
FULB				*e*S	**Sn**	**18 33 35.3**	**-1.0**
WHF	**Hehuan Shan**	**1.56**	**287**	*e*P	**Pb**	**18 33 18.3**	**+0.2**
NNSB	**Datong**	**1.56**	**298**	||P	**Pg**	**18 33 18.5**	**-0.8**
NNSB				S	**Sb**	**18 33 36.9**	**-0.8**
JISG	**Ishigakijimahi**	**1.57**	**55**	*e*P	**Pb**	**18 33 17.5**	**-0.5**
NNS	**Nan Shan**	**1.57**	**298**	*e*P	**Pg**	**18 33 18.6**	**-0.8**
NNS				*e*S	**Sb**	**18 33 37.3**	**-0.7**
OWD	**Renai**	**1.59**	**280**	*e*P	**Pb**	**18 33 18.5**	**0.0**
OWD				*e*S	**Sn**	**18 33 36.9**	**-0.7**
FUSB	**Fushanzhiwuyua**	**1.59**	**312**	*e*P	**Pg**	**18 33 19.2**	**-0.6**
TIPB	**Shuangxi**	**1.60**	**323**	*e*P	**Pg**	**18 33 18.9**	**-1.1**
TIPB				*e*S	**Sb**	**18 33 37.7**	**-1.0**
FUSS	**Fushou**	**1.60**	**290**	*e*P	**Pb**	**18 33 19.1**	**+0.3**
FUSS				*e*S	**Sb**	**18 33 38.2**	**-0.8**
VWDT	**VWDT**	**1.61**	**272**	||P	**Pb**	**18 33 19.0**	**+0.4**
VWDT				*e*S	**Sn**	**18 33 37.8**	**+0.2**
EDH	**Donghe**	**1.63**	**244**	*e*S	**Sn**	**18 33 37.4**	**-0.8**
EHD	**Haiduan**	**1.64**	**251**	P	**Pb**	**18 33 19.3**	**0.0**
EHD				*e*S	**Sn**	**18 33 38.4**	**-0.2**
ECS	**Chishang**	**1.65**	**249**	*e*P	**Pg**	**18 33 20.7**	**-0.2**
ECS				*e*S	**Sb**	**18 33 39.9**	**-0.2**
WUSB	**Renai**	**1.65**	**281**	P	**Pb**	**18 33 19.6**	**+0.1**
WUSB				*e*S	**Sn**	**18 33 39.3**	**+0.3**
LDUT	**Ludao**	**1.66**	**232**	*e*S	**Sn**	**18 33 38.0**	**-0.9**
NWLT	**Wulai**	**1.66**	**311**	*e*P	**Pg**	**18 33 20.2**	**-1.0**
NWLT				*e*S	**Sb**	**18 33 39.3**	**-1.2**
SXI1	**Grass Mountain**	**1.67**	**327**	*e*P	**Pg**	**18 33 20.2**	**-1.4**
SXI1				*e*S	**Sb**	**18 33 38.9**	**-1.9**
YHNB	**Yeheng**	**1.69**	**305**	P	**Pb**	**18 33 20.4**	**+0.3**
NSK	**Sanguang**	**1.71**	**305**	P	**Pb**	**18 33 20.6**	**+0.2**
SSLB	**Suanglung**	**1.78**	**273**	*e*P	**Pb**	**18 33 21.5**	**-0.1**
SSLB				*e*S	**Sn**	**18 33 41.4**	**-0.6**
ELDTW	**Lidau**	**1.79**	**254**	P	**Pb**	**18 33 21.3**	**-0.6**
ELDTW				S	**Sn**	**18 33 42.0**	**-0.5**
SMLT	**Sun Moon Lake**	**1.83**	**276**	*e*P	**Pb**	**18 33 21.6**	**-1.0**
WCS	**Beigang Elemen**	**1.85**	**282**	*e*P	**Pb**	**18 33 22.8**	**0.0**
NFF	**Wufeng Townshi**	**1.87**	**300**	*e*P	**Pg**	**18 33 24.1**	**-1.0**
NFF				*e*S	**Sb**	**18 33 46.0**	**-0.5**
WHYT	**Xinyi Township**	**1.87**	**270**	*e*P	**Pb**	**18 33 23.4**	**+0.2**
WHP	**Taichung City**	**1.87**	**288**	*e*P	**Pg**	**18 33 24.5**	**-0.7**
WHP				*e*S	**Sb**	**18 33 45.7**	**-0.9**
TYC	**Yuchr**	**1.88**	**277**	*e*P	**Pb**	**18 33 23.1**	**-0.1**
KSHI	**Guanxi Townshi**	**1.90**	**305**	*e*P	**Pb**	**18 33 24.3**	**+0.6**
KSHI				*e*S	**Sb**	**18 33 47.2**	**-0.1**
JTJ	**Tarama**	**1.90**	**60**	*e*P	**Pb**	**18 33 23.4**	**-0.3**
ALS	**Alishan**	**1.92**	**265**	*e*P	**Pb**	**18 33 24.6**	**+0.3**
ALS				*e*S	**Sb**	**18 33 48.2**	**0.0**
LIOB	**Emei**	**1.96**	**299**	*e*P	**Pb**	**18 33 25.4**	**+0.7**
LIOB				*e*S	**Sb**	**18 33 47.9**	**-1.0**
NSTT	**Nanjuang**	**1.96**	**299**	*e*P	**Pb**	**18 33 25.2**	**+0.5**
WJS	**Zhushan**	**1.99**	**274**	*e*P	**Pb**	**18 33 25.7**	**+0.6**
WJS				*e*S	**Sb**	**18 33 50.2**	**+0.5**
STYH	**Taoyuan**	**2.01**	**255**	*e*P	**Pn**	**18 33 24.1**	**+1.4**
STYH				*e*S	**Sn**	**18 33 47.4**	**-0.3**
WNT	**Mingjian**	**2.03**	**276**	*e*P	**Pb**	**18 33 26.6**	**+0.7**
WNT				*e*S	**Sb**	**18 33 51.3**	**+0.3**
CHN5	**Tsauling**	**2.03**	**268**	*e*P	**Pb**	**18 33 26.5**	**+0.5**
CHN5				*e*S	**Sb**	**18 33 50.3**	**-0.9**
TWQ1	**Liyutan**	**2.04**	**289**	*e*P	**Pb**	**18 33 26.8**	**+0.6**
LYUB	**Lan-yu**	**2.07**	**216**	*e*P	**Pn**	**18 33 24.2**	**+0.7**
LYUB				*e*S	**Sn**	**18 33 47.2**	**-2.0**
NSY	**Sanyi**	**2.08**	**291**	*e*P	**Pn**	**18 33 24.2**	**+0.5**
ECL	**Taimali**	**2.09**	**239**	*e*P	**Pn**	**18 33 25.5**	**+1.7**
ECL				*e*S	**Sn**	**18 33 49.0**	**-0.7**
TPUB	**Ta-pu**	**2.11**	**260**	*e*P	**Pb**	**18 33 27.6**	**+0.3**
TPUB				*e*S	**Sb**	**18 33 52.9**	**-0.6**
WCKO	**Fanlu**	**2.11**	**263**	*e*P	**Pb**	**18 33 27.9**	**+0.6**
WCKO				*e*S	**Sb**	**18 33 53.9**	**+0.5**
WGK	**Gukeng**	**2.14**	**270**	*e*P	**Pb**	**18 33 27.6**	**-0.1**
WGK				*e*S	**Sb**	**18 33 54.5**	**+0.5**
CHN4	**Tsaushan**	**2.14**	**261**	*e*P	**Pb**	**18 33 28.1**	**+0.4**
CHN4				*e*S	**Sb**	**18 33 53.6**	**-0.5**
WTP	**Ta-pu**	**2.14**	**258**	*e*P	**Pb**	**18 33 28.2**	**+0.4**
WTP				*e*S	**Sb**	**18 33 53.1**	**-1.1**
SGST	**Jiashian**	**2.21**	**254**	*e*P	**Pb**	**18 33 28.2**	**-0.7**
SGST				*e*S	**Sn**	**18 33 54.6**	**+2.0**
CHN1	**Nanshi**	**2.23**	**257**	*e*P	**Pb**	**18 33 29.7**	**+0.4**
CHN1				*e*S	**Sb**	**18 33 56.3**	**-0.5**
TWK	**Hsinying**	**2.25**	**260**	*e*P	**Pb**	**18 33 29.7**	**+0.1**
TWK				*e*S	**Sb**	**18 33 56.4**	**-1.0**
SNST	**Tainan City**	**2.25**	**258**	*e*P	**Pb**	**18 33 29.7**	**+0.1**
SNST				*e*S	**Sb**	**18 33 56.4**	**-0.9**
SSD	**Sandimen**	**2.28**	**246**	*e*P	**Pb**	**18 33 30.2**	**0.0**
TAWH	**Dawu Township**	**2.29**	**234**	*e*P	**Pb**	**18 33 28.7**	**-1.5**
TAWH				*e*S	**Sn**	**18 33 54.0**	**-0.5**
EAST	**Anshuo**	**2.29**	**236**	*e*P	**Pn**	**18 33 28.6**	**+2.0**
WTK	**Tuku**	**2.29**	**270**	*e*P	**Pb**	**18 33 31.0**	**+0.6**
MASBT	**Mashibuluo**	**2.34**	**243**	*e*P	**Pb**	**18 33 30.1**	**-1.1**
SLIU	**Shizi**	**2.43**	**233**	*e*P	**Pn**	**18 33 30.7**	**+2.2**

*SJA **14** 18:58:39.5±0.7,28°.68S×70°.70W,h81km±3km,ML3.3,*

MW3.5
*GUC **14** 18:58:40.5±0.7,28°.71S×70°.60W,h87km±2km,ML3.4*
ISC 14 18:58:41.6±1.3,28°.70S±0°.02×70°.72W±0°.04,h73km±7km,
n40,σ1°.99/69,5C-1D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.31**	**177**	*e*P	**Pn**	**18 58 53.4**	**-0.3**
LCO				*e*S	**Sn**	**18 59 03.2**	**+0.7**
LCO	**Las Campanas**	**0.31**	**177**	*e*P	**Pn**	**18 58 53.4**	**-0.3**
LCO				*e*S	**Sn**	**18 59 03.5**	**+1.1**
LCO				IAML		18 59 03.6	
	comp=Z,3μm,0.2s						
AC05	**El Transito**	**0.42**	**110**	*e*P	**Pn**	**18 58 53.5**	**-0.7**
AC05				*e*S	**Sn**	**18 59 02.7**	**-0.8**
AC05				IAML		18 59 03.3	
	comp=N,2μm,0.1s						
AC05	**El Transito**	**0.42**	**110**	*e*P	**Pn**	**18 58 53.4**	**-0.8**
AC05				IAML		18 59 03.5	
	comp=Z,563nm,0.5s						
AC05				*e*S	**Sn**	**18 59 03.6**	**+0.2**
AC04	**Llanos de Chal**	**0.58**	**328**	||*i*P	**Pn**	**18 58 56.4**	**+0.8**
AC04				*e*S	**Sn**	**18 59 07.5**	**+1.7**
AC04				IAML		18 59 08.6	
	comp=E,3μm,0.3s						
AC04	**Llanos de Chal**	**0.58**	**328**	*e*P	**Pn**	**18 58 55.6**	**0.0**
AC04				*e*S	Sn	18 58 56.2	-10
AC04				IAML		18 58 56.6	
	comp=Z,1μm,0.1s						
GO03	**Copiapo**	**1.18**	**21**	*e*P	**Pn**	**18 59 01.8**	**-0.9**
GO03				*e*S	**Sn**	**18 59 17.8**	**-0.5**
GO03				IAML		18 59 18.6	
	comp=E,1μm,0.2s						
GO03	**Copiapo**	**1.18**	**21**	*e*P	**Pn**	**18 59 01.8**	**-0.9**
GO03				*e*S	**Sn**	**18 59 18.1**	**-0.3**
CO05	**La Serena**	**1.30**	**200**	*e*P	**Pn**	**18 59 04.1**	**0.0**
CO05				*e*S	**Sn**	**18 59 21.8**	**+0.9**
CO05				IAML		18 59 23.4	
	comp=E,599nm,0.2s						
AC06	**Mina Casimiro**	**1.37**	**14**	||*e*P	**Pn**	**18 59 04.3**	**-0.8**
AC06				*e*S	**Sn**	**18 59 21.5**	**-1.2**
AC06				IAML		18 59 26.3	
	comp=E,956nm,0.3s						
CO01	**Juntas del Tor**	**1.39**	**157**	||*e*P	**Pn**	**18 59 04.8**	**-0.8**
CO01				*e*S	**Sn**	**18 59 22.6**	**-0.8**
CO01				IAML		18 59 23.3	
	comp=E,359nm,0.2s						
CO01	**Juntas del Tor**	**1.39**	**157**	*e*P	**Pn**	**18 59 04.2**	**-1.3**
CO01				*e*S	**Sn**	**18 59 23.0**	**-0.4**
CO01				IAML		18 59 25.7	
	comp=Z,166nm,0.2s						
GO04	**Tololo Observa**	**1.47**	**183**	||*e*P	**Pn**	**18 59 06.2**	**-0.4**
GO04				*e*S	**Sn**	**18 59 25.5**	**+0.1**
GO04				IAML		18 59 32.3	
	comp=N,1μm,0.4s						
GO04	**Tololo Observa**	**1.47**	**183**	*e*P	**Pn**	**18 59 06.2**	**-0.4**
GO04				*e*S	**Sn**	**18 59 25.4**	**+0.1**
AROD	**Rodeo**	**1.82**	**144**	*e*P	**Pn**	**18 59 12.1**	**+0.7**
AROD				*e*S	**Sn**	**18 59 35.4**	**+1.5**
AGUA	**GUANDACOL**	**2.10**	**113**	*e*P	**Pn**	**18 59 15.8**	**+0.9**
AGUA				*e*S	**Sn**	**18 59 42.2**	**+2.0**
AGUA				IAML		18 59 44.3	
	comp=Z,148nm,0.4s						
CO06	**Fray Jorge**	**2.12**	**202**	*e*P	**Pn**	**18 59 15.3**	**+0.2**
CO06				IAML		18 59 51.7	
	comp=N,207nm,0.3s						
CO03	**El Pedregal**	**2.13**	**179**	||*e*P	**Pn**	**18 59 14.9**	**-0.3**
CO03				IAML		18 59 41.9	
	comp=E,333nm,0.4s						
CO03	**El Pedregal**	**2.13**	**179**	*e*P	**Pn**	**18 59 15.0**	**-0.3**
CO03				*e

19:13:03, This location: 2019/04/14 20:13:16 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km
*BEO **14** 19:11:56.8±0.5, 40°.15N×20°.81E, h7km±5km, ML2.3/4*
ISC 14 19:11:54.6±0.9, **40°.17N**±0°.02×**20°.73E**±0°.02, **h6**km±8km, **n39**, σ1°31/55, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.10**	**258**	Pg	**Pg**	**19 11 56.1**	**-0.8**
LSK				Sg	**Sg**	**19 11 57.9**	**-0.5**
LSK				AML	AML	19 12 00.9	
	169nm,0.4s						
PENT	**Pentalofos**	**0.31**	**85**	P	**Pg**	**19 12 01.2**	**+0.6**
NEST	**Nestorio**	**0.34**	**45**	Pg	**Pg**	**19 12 01.5**	**+0.2**
NEST				Sg	**Sb**	**19 12 08.0**	**-1.0**
NEST				AML	AML	19 12 13.5	
	1.9nm,0.5s						
NEST	**Nestorio**	**0.34**	**45**	P	**Pg**	**19 12 01.7**	**+0.4**
NEST				S	**Sg**	**19 12 06.9**	**+1.0**
KBN	**Korca**	**0.45**	**5**	Pg	**Pg**	**19 12 02.8**	**-0.6**
KBN				Sg	**Sg**	**19 12 10.3**	**+1.0**
KBN				AML	AML	19 12 17.3	
	1.3nm,0.5s						
JAN	**Janina**	**0.52**	**170**	P	**Pg**	**19 12 04.5**	**-0.1**
JAN				S	**Sg**	**19 12 12.1**	**+0.6**
MSVA	**Metsovo**	**0.53**	**139**	P	**Pg**	**19 12 05.2**	**+0.5**
SRN	**Sarande**	**0.63**	**243**	Pg	**Pg**	**19 12 06.1**	**-0.7**
SRN				Sg	**Sb**	**19 12 16.4**	**-0.7**
SRN				AML	AML	19 12 17.8	
	0.6nm,0.5s						
IGT	**Igoumenitsa**	**0.71**	**206**	Pg	**Pb**	**19 12 09.2**	**-0.1**
IGT				Sg	**Sb**	**19 12 19.3**	**0.0**
IGT				AML	AML	19 12 24.7	
	0.7nm,0.6s						
IGT	**Igoumenitsa**	**0.71**	**206**	*i* Pg	**Pg**	**19 12 08.7**	**+0.6**
IGT				*i* Sg	**Sn**	**19 12 21.6**	**-0.8**
IGT	**Igoumenitsa**	**0.71**	**206**	*e*Pg	**Pn**	**19 12 08.9**	**-0.4**
IGT				*e*Sg	**Sn**	**19 12 21.0**	**-1.4**
IGT	**Igoumenitsa**	**0.71**	**206**	P	**Pb**	**19 12 09.0**	**-0.3**
IGT				S	**Sb**	**19 12 18.9**	**-0.4**
KEK	**Kerkira**	**0.85**	**238**	P	**Pg**	**19 12 11.4**	**+0.5**
KEK				S	**Sb**	**19 12 23.5**	**0.0**
TETR	**Tetrakomo, Epi**	**0.93**	**153**	P	**Pb**	**19 12 12.8**	**-0.3**
OHR	**Ohrid**	**0.94**	**3**	*i* Pg	**Pn**	**19 12 14.3**	**0.0**
OHR				*i* Sg	**Sn**	**19 12 27.0**	**-1.3**
OHR	**Ohrid**	**0.94**	**3**	*e*Pg	**Pn**	**19 12 14.4**	**0.0**
OHR				*e*Sg	**Sn**	**19 12 27.3**	**-0.9**
THL	**Klokotos Trika**	**1.16**	**121**	P	**Pb**	**19 12 16.3**	**-0.7**
TSLK	**Tsoukalades, L**	**1.35**	**183**	P	**Pn**	**19 12 18.8**	**-1.1**
TIR	**Tirane**	**1.35**	**331**	*e*Pg	**Pg**	**19 12 21.5**	**+1.1**
LIT	**Litokhoron**	**1.35**	**92**	*i* Pg	**Pg**	**19 12 21.0**	**+0.6**
LIT	**Litokhoron**	**1.35**	**92**	P	**Pn**	**19 12 18.9**	**-1.1**
LKD2	**Lefkada island**	**1.38**	**182**	Pn	**Pg**	**19 12 22.2**	**+1.1**
LKD2				Sn	**Sg**	**19 12 42.2**	**+3.2**
LKD2				AML	AML	19 12 51.0	
	0.5nm,0.5s						
LKD2	**Lefkada island**	**1.38**	**182**	P	**Pn**	**19 12 19.4**	**-1.0**
PHP	**Peshkopia**	**1.53**	**352**	Pn	**Pg**	**19 12 25.0**	**+1.1**
PHP				Sn	**Sg**	**19 12 46.4**	**+2.8**
PHP				AML	AML	19 12 56.2	
	0.4nm,1.0s						
EVGI	**Lefkada island**	**1.55**	**182**	P	**Pb**	**19 12 23.6**	**-0.1**
PVO	**Paravola**	**1.67**	**158**	P	**Pb**	**19 12 24.6**	**-1.1**
AGG	**Agios Georgios**	**1.69**	**132**	P	**Pb**	**19 12 25.0**	**-1.0**
SCTE	**Santa Cesarea**	**1.74**	**267**	Pn	**Pb**	**19 12 27.4**	**+0.5**
SCTE	**Santa Cesarea**	**1.74**	**267**	P	**Pn**	**19 12 25.1**	**-0.2**
ANX	**Ano Chora**	**1.83**	**149**	P	**Pn**	**19 12 26.4**	**-0.2**
PUK	**Puka**	**1.97**	**342**	Pn	**Pg**	**19 12 32.2**	**-0.2**
PUK				Sn	**Sg**	**19 13 00.5**	**+2.5**
PUK				AML	AML	19 13 07.8	
	0.2nm,0.6s						
BOSS	**Bosilegrad**	**2.67**	**29**	*e*Pn	**Pn**	**19 12 39.3**	**+1.2**
BARS	**Barje**	**2.77**	**17**	*e*Pn	**Pb**	**19 12 42.3**	**-2.1**
SELS	**Selova**	**3.06**	**5**	*e*Pn	**Pb**	**19 12 46.5**	**-2.9**
VTS	**Vitosha**	**3.08**	**37**	*e*Pn	**Pn**	**19 12 44.6**	**+0.6**
SJES	**Sjenica**	**3.14**	**350**	*e*Pn	**Pb**	**19 12 48.0**	**-2.8**
ZAPS	**Zavoj**	**3.41**	**24**	*e*Pn	**Pn**	**19 12 50.9**	**+2.5**
IVAS	**Ivanjica**	**3.43**	**353**	*e*Pn	**Pn**	**19 12 51.5**	**+2.9**
TEKS	**Tekeris**	**4.46**	**349**	*e*Pn	**Pn**	**19 13 04.6**	**+1.8**

DJA 14 19:12:43.5±0.3, **3°.S**±2°.×**13°.7E**±°, **h51**km±10km, **M4.1**/13, **mb4.6**/5, **MLv3.8**/13, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.29**	**347**	P	Pn	19 13 05.5	+0.3
SRPI				S	Sn	19 13 21.1	-0.2
BAKI	**Biak**	**1.97**	**347**	P	Pn	19 13 16.1	+1.6
BAKI				S	Sn	19 13 37.9	-0.2
SMPI	**Sarmi**	**2.45**	**62**	P	Pn	19 13 20.8	-0.2
SMPI				S	Sn	19 13 49.5	-0.2
KMPI	**Kaimana, Papua**	**2.88**	**259**	P	Pn	19 13 27.9	+1.0
KMPI				S	Sn	19 14 00.6	+0.2
GENI	**Genyem**	**3.66**	**82**	P	Pn	19 13 38.4	+0.7
JAY	**Jayapura**	**4.20**	**82**	P	Pn	19 13 43.7	-1.5
FAKI	**Fak Fak**	**4.29**	**273**	P	Pn	19 13 47.5	+1.2
SWI	**Sorong**	**5.74**	**293**	P	Pn	19 14 06.6	+0.4
MMPI	**Merauke**	**6.54**	**144**	P	Pn	19 14 18.5	+1.4
BNDI	**Bandanaira**	**6.76**	**258**	P	Pn	19 14 19.0	-1.2
	84nm,1.2s						
SAUI	**Saumlaki**	**7.10**	**227**	P	Pn	19 14 23.5	-1.4

*ISK **14** 19:27:41.0, 40°.55N×33°.02E, h1km, ML3.6/32*
*AFAD **14** 19:27:42.2, 40°.54N×33°.05E, h15km, MW3.6*
*CFUSG **14** 19:27:43.7, 40°.56N×33°.10E, h8km, mb3.0/3, North Turkey Magtype MSH 3.2 from 1 stations*
ISC 14 19:27:42.3±1.0, **40°.54N**±0°.02×**33°.05E**±0°.01, **h8**km±9km, **n80**, σ0°73/110, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.29**	**100**	P	**Pg**	**19 27 48.5**	**+0.4**
ELDT				S	**Sg**	**19 27 52.8**	**+0.8**
CANT	**Cankiri**	**0.44**	**81**	Pg	**Pg**	**19 27 51.4**	**+0.6**
CANT				Sg	**Sb**	**19 27 58.6**	**-0.5**
CMDR	**Camlidere-ANKA**	**0.44**	**264**	P	**Pg**	**19 27 51.4**	**+0.5**
CMDR				S	**Sg**	**19 27 57.0**	**+0.2**
DERS	**Karabk-Eskip**	**0.49**	**309**	P	**Pg**	**19 27 52.3**	**+0.5**
DERS				S	**Sg**	**19 27 58.2**	**-0.2**
GOKD	**Ankara-Kalecik**	**0.57**	**145**	P	**Pg**	**19 27 53.7**	**+0.4**
YENC	**ankr-Yen**	**0.62**	**77**	P	**Pb**	**19 27 55.0**	**-0.5**
YENC				S	**Sg**	**19 28 02.3**	**0.0**
LOD	**Lodumlu**	**0.69**	**199**	Pg	**Pg**	**19 27 55.4**	**-0.1**
LOD				Sg	**Sb**	**19 28 05.9**	**-0.4**
ANTO	**Ankara**	**0.70**	**197**	Pg	**Pg**	**19 27 55.7**	**0.0**
ILGA	**Ilgaz**	**0.72**	**44**	P	**Pg**	**19 27 56.2**	**0.0**
ILGA				S	**Sg**	**19 28 05.7**	**+0.2**
SAFT	**Safranbolu**	**0.75**	**338**	Pg	**Pg**	**19 27 56.4**	**-0.4**
SAFT				Sg	**Sb**	**19 28 07.4**	**-0.7**
KBUK	**KARABUK-Merkez**	**0.77**	**335**	P	**Pg**	**19 27 56.9**	**-0.2**
PELI	**Kastamonı-Ara**	**0.79**	**14**	P	**Pg**	**19 27 57.5**	**+0.1**
PELI				S	**Sg**	**19 28 06.8**	**-0.8**
BCAM	**Yenicaga**	**0.80**	**290**	P	**Pg**	**19 27 57.8**	**+0.1**
BCAM				S	**Sg**	**19 28 07.2**	**-0.9**
DELI	**KIRIKKALE**	**0.86**	**129**	P	**Pg**	**19 27 59.0**	**+0.3**
DELI				S	**Sg**	**19 28 10.5**	**+0.6**
TOS	**Tosya**	**0.89**	**56**	Pg	**Pg**	**19 27 58.9**	**-0.5**
KIBS	**BOLU**	**0.92**	**263**	P	**Pg**	**19 28 00.1**	**0.0**
KIBS				S	**Sb**	**19 28 13.3**	**+0.1**
BR131	**Keskin Array S**	**0.93**	**151**	Pg	**Pg**	**19 27 59.9**	**-0.2**
BR131				Sg	**Sb**	**19 28 13.9**	**+0.6**
SUNG	**orum-Sungurl**	**0.98**	**111**	P	**Pb**	**19 28 01.2**	**-0.3**
KMON	**Kastamonu**	**1.00**	**33**	Pg	**Pg**	**19 28 01.4**	**-0.1**
KMON				Sg	**Sb**	**19 28 15.9**	**+0.6**
DEVR	**Zonguldak/Devr**	**1.02**	**307**	P	**Pg**	**19 28 01.5**	**-0.4**
DEVR				S	**Sg**	**19 28 13.8**	**-1.2**
YUVA	**Yuva-Kibriscik**	**1.05**	**262**	Pg	**Pg**	**19 28 02.1**	**-0.4**
BOLU	**Bolu-Merkez-Mu**	**1.07**	**283**	P	**Pg**	**19 28 02.9**	**0.0**
BOLU				S	**Sg**	**19 28 16.2**	**-0.6**
AFSR	**Afar-Bala (An**	**1.09**	**179**	Pn	**Pg**	**19 28 03.3**	**+0.1**
SEYI	**Kastamonu-Seyd**	**1.21**	**25**	P	**Pg**	**19 28 05.3**	**-0.2**
SEYI				S	**Sg**	**19 28 21.0**	**-0.3**
KAGI	**orum-Kargı**	**1.24**	**61**	P	**Pb**	**19 28 05.3**	**-0.6**
KAGI				S	**Sb**	**19 28 20.7**	**-1.4**
BTIN	**Bartın**	**1.25**	**331**	P	**Pn**	**19 28 05.6**	**-0.6**
BTIN				S	**Sn**	**19 28 22.9**	**-0.3**
CORM	**Corum**	**1.26**	**106**	Pn	**Pn**	**19 28 06.1**	**-0.2**
AKPI	**Kirsehir/Akpin**	**1.26**	**145**	P	**Pn**	**19 28 05.7**	**-0.7**
KAMT	**Kaman**	**1.27**	**156**	Pn	**Pn**	**19 28 06.4**	**-0.2**
YIGI	**Dzce**	**1.29**	**290**	P	**Pg**	**19 28 07.7**	**+0.7**
YIGI				S	**Sn**	**19 28 24.6**	**+0.5**
KURC	**Kurucasile-Bar**	**1.32**	**350**	Pn	**Pb**	**19 28 07.2**	**-0.2**
CIDE	**Kastamonu/Cide**	**1.34**	**357**	P	**Pg**	**19 28 07.9**	**-0.2**
CIDE				S	**Sg**	**19 28 26.3**	**+0.8**
CDAG	**Cicekdag**	**1.36**	**132**	P	**Pn**	**19 28 07.5**	**-0.2**
CDAG				S	**Sb**	**19 28 24.4**	**-1.4**
KKUL	**Konya-Kulu**	**1.37**	**184**	P	**Pg**	**19 28 08.5**	**-0.1**
KKUL				S	**Sg**	**19 28 26.4**	**+0.1**
AUMIH	**MIHALICIK**	**1.38**	**241**	P	**Pn**	**19 28 07.7**	**-0.3**
AUMIH				S	**Sg**	**19 28 26.9**	**+0.3**
AYAZ	**Ayas K¶y, M**	**1.38**	**84**	P	**Pn**	**19 28 08.0**	**0.0**
AYAZ				S	**Sb**	**19 28 24.8**	**-1.5**
MDUB	**Mudurnu**	**1.42**	**268**	Pn	**Pb**	**19 28 08.7**	**-0.4**
KDZE	**Karadeniz Ereo**	**1.44**	**303**	Pn	**Pn**	**19 28 08.9**	**+0.1**
KULU	**Kulu**	**1.50**	**182**	Pn	**Pb**	**19 28 10.3**	**-0.1**
COAL	**Corum-Alaca**	**1.50**	**100**	P	**Pb**	**19 28 10.1**	**-0.5**
COAL				S	**Sn**	**19 28 29.4**	**-0.1**
YOZG	**Bozok Univ. Me**	**1.54**	**119**	P	**Pb**	**19 28 10.6**	**-0.5**
YOZG				S	**Sn**	**19 28 29.8**	**-0.6**
KIRS	**Kirsehir-Merke**	**1.56**	**154**	P	**Pb**	**19 28 11.2**	**-0.2**
KIRS				S	**Sb**	**19 28 31.1**	**-0.2**
BTAS	**Taskesti**	**1.56**	**272**	P	**Pb**	**19 28 11.7**	**+0.1**
BOYA	**Sinop/Boyabat-**	**1.58**	**51**	P	**Pb**	**19 28 11.2**	**-0.6**
BOYA				S	**Sb**	**19 28 31.5**	**-0.5**
BZK	**Bozkurt**	**1.59**	**26**	Pn	**Pb**	**19 28 11.4**	**-0.5**
AUSIV	**SIVRIHISAR**	**1.60**	**227**	P	**Pn**	**19 28 11.3**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.60**	**228**	Pn	**Pn**	**19 28 10.7**	**-0.4**
SERE	**Serefiikochisa**	**1.64**	**166**	Pn	**Pb**	**19 28 12.3**	**-0.6**
SUSU	**Bolu-G¶ynk-**	**1.70**	**264**	P	**Pb**	**19 28 13.3**	**-0.6**
SAHE	**Sakarya_HENDEK**	**1.70**	**281**	P	**Pb**	**19 28 14.1**	**+0.2**
MCUR	**KIREHR**	**1.79**	**140**	P	**Pb**	**19 28 14.4**	**-0.9**
MCUR				S	**Sn**	**19 28 35.8**	**-0.7**
CBEY	**Konya-Cihanbey**	**1.86**	**187**	P	**Pn**	**19 28 15.0**	**+0.4**
CTIK	**Konya-Celtik**	**1.86**	**216**	P	**Pn**	**19 28 15.3**	**+0.7**
KIZT	**Kizilcal**	**1.89**	**209**	Pn	**Pn**	**19 28 15.4**	**+0.4**
KOZK	**Kozakli-Nevseh**	**1.93**	**133**	Pn	**Pb**	**19 28 16.6**	**-1.2**
CKRK	**Yozgat, Cekere**	**1.93**	**103**	P	**Pb**	**19 28 17.3**	**-0.5**
CIFT	**Cifteler, Eski**	**1.93**	**233**	Pn	**Pb**	**19 28 15.9**	**+0.4**
GULT	**Gulveren**	**1.94**	**268**	Pn	**Pn**	**19 28 16.3**	**+0.6**
YOZ	**Yozgat**	**1.96**	**117**	Pn	**Pb**	**19 28 17.1**	**-1.2**
CHBY	**Cihanbeyli**	**1.96**	**184**	Pn	**Pn**	**19 28 16.9**	**+0.9**
AKSY	**AKSARAY - Alti**	**1.96**	**164**	P	**Pn**	**19 28 16.9**	**+0.9**
SGAZ	**Eskisehir, Sey**	**1.98**	**240**	P	**Pn**	**19 28 16.5**	**+0.3**
DIKM	**Dikmen**	**2.00**	**56**	Pn	**Pb**	**19 28 17.0**	**+0.6**
SIRC	**Yozgat**	**2.01**	**126**	P	**Pb**	**19 28 18.2**	**-1.0**
SAUV	**Serdivan-Sakar**	**2.08**	**276**	Pn	**Pn**	**19 28 18.3**	**+0.7**
HAVZ	**Havza**	**2.09**	**74**	P	**Pn**	**19 28 17.9**	**+0.2**
GEYV	**SAKARYA_Geyve**	**2.10**	**269**	P	**Pn**	**19 28 18.2**	**+0.4**
KAYN	**Sakarya, Kayna**	**2.10**	**283**	P	**Pn**	**19 28 18.9**	**+1.1**
KAND	**Kocaeli-Kandir**	**2.24**	**285**	P	**Pb**	**19 28 21.3**	**-1.7**
KVT	**Kavak**	**2.33**	**76**	Pn	**Pn**	**19 28 22.2**	**+1.1**
SULT	**Sultanhani-AKS**	**2.37**	**171**	Pn	**Pn**	**19 28 22.7**	**+1.2**
GULA	**Gulagac**	**2.38**	**157**	Pn	**Pn**	**19 28 22.8**	**+1.1**
HISA	**Bilecik-Osmane**	**2.39**	**269**	P	**Pn**	**19 28 22.9**	**+1.0**
TOKT	**Tokat**	**2.67**	**94**	Pn	**Pn**	**19 28 27.3**	**+1.5**
BNN	**Bunyan**	**2.74**	**127**	Pn	**Pn**	**19 28 27.9**	**+1.2**
SVSK	**Karacayir**	**3.08**	**100**	Pn	**Pn**	**19 28 32.8**	**+1.5**
YAL	**Yalta**	**4.03**	**11**	*e*S	**Sn**	**19 29 34.5**	**+2.9**
YAL				Sm		19 29 41.4	
	comp=E,6.0nm,0.5s						
YAL				Sm		19 29 41.5	
	comp=N,11nm,0.7s						
SEV	**Sevastopol'**	**4.03**	**6**	*e*P	**Pn**	**19 28 44.8**	**+0.5**
SEV				Pm		19 28 52.7	
	comp=Z,2.0nm,0.3s						
SUDU	**Sudak**	**4.58**	**18**	x	x	19 28 49.3	
SUDU				Pm		19 28 58.6	
	comp=Z,14nm,0.7s						
DNZ2	**Donuzlav2**	**4.83**	**1**	*e*P	**Pn**	**19 28 57.0**	**+1.7**
DNZ2				Pm		19 28 57.9	
	comp=Z,58nm,0.4s						
DNZ2				*e*S	**Sn**	**19 29 52.4**	**+0.9**
DNZ2				Sm		19 30 01.4	
	comp=N,26nm,0.6s						
DNZ2				Sm		19 30 01.4	
	comp=E,33nm,0.7s						

*GCG **14** 19:31:29.5±1.3, 14°.59N×92°.37W, h71km±8km, MD4.2*
*MEX **14** 19:31:30.2±0.8, 14°.67N×92°.31W, h84km±5km, MD4.3*
ISC 14 19:31:26.9±1.3, **14°.47N**±0°.06×**92°.41W**±0°.04, **h81**km±9km, **n35**, σ2°24/56, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.46**	**18**	*i* P	**Pn**	**19 31 41.0**	**+0.6**
THIG				*e*S	**Sn**	**19 31 50.1**	**-0.2**
THIG		**0.46**	**18**	*i* P	**Pn**	**19 31 41.0**	**+0.6**
THIG				*e*S	**Sn**	**19 31 50.1**	**-0.2**
PATR	**El Naranjo**	**0.66**	**15**	*e*P	**Pn**	**19 31 42.5**	**-0.1**
PATR				*e*S	**Sn**	**19 31 52.5**	**-1.6**
RTAL	**Retalhuleu**	**0.70**	**86**	*e*P	**Pn**	**19 31 44.2**	**+1.6**
RTAL				*i* S	**Sn**	**19 31 54.8**	**+0.5**
PAVE	**Pavencul**	**0.75**	**18**	*i* P	**Pn**	**19 31 43.5**	**+0.1**
PAVE				*e*S	**Sn**	**19 31 54.5**	**-1.3**
QUEO	**Labor Ovalle**	**0.95**	**65**	*e*P	**Pn**	**19 31 47.6**	**+1.8**
QUEO				*i* S	**Sn**	**19 32 01.5**	**+1.6**
STG8	**El Palmar, Qui**	**1.03**	**91**	*e*P	**Pn**	**19 31 45.4**	**-1.2**
STG5	**El Palmar, Qui**	**1.03**	**94**	*e*S	**Sn**	**19 31 58.2**	**-3.0**
SOKI	**Kika Raxquin**	**1.04**	**70**	*e*P	**Pn**	**19 31 49.1**	**+2.2**
SOKI				*i* S	**Sn**	**19 32 04.5**	**+2.8**
STG0	**El Palmar, Qui**	**1.04**	**92**	*e*P	**Pn**	**19 31 45.6**	**-1.1**
STG0				*e*S	**Sn**	**19 31 57.9**	**-3.5**
HUEH	**Huehuetenango**	**1.22**	**46**	*i* P	**Pn**	**19 31 50.5**	**+1.6**
HUEH				*e*S	**Sn**	**19 32 05.7**	**+0.3**
HUEH	**Huehuetenango**	**1.22**	**46**	*e*P	**Pn**	**19 31 50.7**	**+1.8**
HUEH				*i* S	**Sn**	**19 32 07.1**	**+1.7**
PCIG		**1.45**	**328**	*i* P	**Pn**	**19 31 52.5**	**+0.9**
PCIG				*e*S	**Sn**	**19 32 09.6**	**-0.7**
ESSG	**Sabana Grande**	**1.54**	**93**	*e*P	**Pn**	**19 31 55.3**	**+2.5**
ESSG				*e*S	**Sn**	**19 32 14.5**	**+2.1**
FG8	**Yepocapa, Chim**	**1.81**	**97**	*e*P	Pn	19 31 53.9	-2.5
FG8				*e*S	**Sn**	**19 32 12.7**	**-6.1**
CCIG	**Comitan**	**1.82**	**8**	*e*P	**Pn**	**19 31 58.5**	**+1.9**
CCIG	**Comitan**	**1.82**	**8**	*i* P	**Pn**	**19 31 58.7**	**+2.0**
TGIG		**2.39**	**343**	*e*P	**Pn**	**19 32 03.6**	**-0.6**
TGIG				*e*S	**Sn**	**19 32 30.4**	**-2.3**
TGIG		**2.39**	**343**	*e*P	**Pn**	**19 32 04.4**	**+0.2**
UXUV	**UXUV**	**3.28**	**330**	*e*P	**Pn**	**19 32 17.4**	**+1.3**
UXUV				*i* P	**Pn**	**19 32 17.4**	**+1.3**
UXUV				*e*S	**Sn**	**19 32 55.2**	**+1.1**
CMIG	**Matias Romero**	**3.53**	**318**	*e*P	**Pn**	**19 32 20.5**	**+1.0**
CMIG				*e*S	**Sn**	**19 32 59.2**	**-0.8**
HUIG	**Huatulco**	**3.79**	**290**	*e*P	**Pn**	**19 32 24.1**	**+1.1**
HUIG				*e*S	**Sn**	**19 33 02.8**	**-3.8**
NEUV	**Arroyo Zacate**	**4.58**	**315**	*e*P	**Pn**	**19 32 37.1**	**+3.3**
NEUV				*e*S	Sn	19 33 14.0	-12
SCIG	**Sabancuy**	**4.62**	**15**	*e*P	**Pn**	**19 32 35.0**	**+0.7**
SCIG				*e*S	**Sn**	**19 33 21.8**	**-5.0**
PEIG	**Puerto Escondi**	**4.81**	**289**	*e*P	**Pn**	**19 32 38.6**	**+1.6**
PEIG				*e*S	**Sn**	**19 33 27.5**	**-4.1**
VHO	**Vista Hermosa**	**4.90**	**302**	*e*P	**Pn**	**19 32 39.1**	**+0.8**
VHO				*e*S	Sn	19 33 21.7	-12
YOIG	**Yosondua**	**5.48**	**296**	*e*P	**Pn**	**19 32 49.9**	**+3.5**
YOIG				*e*S	**Sn**	**19 33 46.9**	**-1.4**
TOIG	**Toxpalan**	**5.74**	**310**	*e*P	**Pn**	**19 32 52.0**	**+2.3**
TOIG				*e*S	Sn	19 33 46.5	-7.8
PNIG	**Pinotepa**	**5.83**	**290**	*e*P	**Pn**	**19 32 52.7**	**+1.8**
PNIG				*e*S	Sn	19 33 47.6	-8.9
TXIG	**Tlaxiaco**	**5.85**	**299**	*e*P	**Pn**	**19 32 53.7**	**+2.4**
TXIG				*e*S	Sn	19 33 47.7	-9.5
HLIG	**Huajuapan de L**	**6.16**	**304**	*e*P	Pn	19 33 00.8	+5.2
HLIG				*e*S	**Sn**	**19 34 04.3**	**-0.5**
JAUV	**Jalcomulco**	**6.43**	**320**	*e*P	**Pn**	**19 32 58.5**	**-0.6**
JAUV				*e*S	**Sn**	**19 34 07.4**	**-3.7**
FTIG	**Fresnillo de T**	**6.47**	**303**	*e*P	**Pn**	**19 33 02.3**	**+2.6**
FTIG				*e*S	**Sn**	**19 34 11.7**	**-0.4**
TLIG	**Tlapa**	**6.67**	**298**	*e*P	**Pn**	**19 33 06.1**	**+3.7**
TLIG				*e*S	Sn	19 34 10.0	-7.0
PPM	**Popocatepetl**	**7.50**	**308**	*e*P	Pn	19 33 19.4	+5.3
PPM				*e*S	Sn	19 34 30.1	-7.9

IDC 14 19:34:20.5±5.2, **7°.80S**×**119°.51E**, **h408**km±47km, **mb2.3**/2, **mbtmp3.1**/4, **Error ellipse: s-maj=228.0km s-min=22.2km az=55.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.78**	**5**	P	P	19 35 22.9	+0.2
	26nm,0.5s,baz=177,slow=8.8,SNR=8.3						
WRA	**Warramunga Arr**	**18.77**	**132**	P	P	19 38 12.6	-0.3
	0.2nm,0.6s,baz=310,slow=12,SNR=1.8						
ASAR	**Alice Springs**	**20.96**	**140**	P	P	19 38 33.6	+0.2
	0.2nm,0.6s,baz=316,slow=8.6,SNR=4.1						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**63.63**	**332**	P	P	19 44 09.7	-0.1
	0.1nm,0.4s,baz=158,slow=5.5,SNR=2.0						
	0.1nm,0.4s						

*GCG **14** 19:37:18.9±0.3, 12°.68N×88°.28W, h83km±22km, MD4.4*
*CATAC **14** 19:37:18.2±0.4, 13°.N±3°.×8°.8W±°, h37km±6km, M4.0/24, MLv4.0/24, Error ellipse: s-maj=7.2km s-min=2.0km az=29.8, confirmed*
*IDC **14** 19:37:20.6±3.4, 13°.15N×87°.49W, h68km±47km, mb3.1/3, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=123.2km s-min=24.9km az=47.0*
*SNET **14** 19:37:21.2±3.0, 12°.83N×88°.16W, h49km, ML3.8*
ISC 14 19:37:18.0±1.1, **12°.57N**±0°.06×**88°.21W**±0°.04, **h56**km±12km, **n76**, σ0°65/97, **mb3.4**/3, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.76**	**58**	P	**Pn**	**19 37 32.4**	**-0.4**
CSGN				S	**Sn**	**19 37 43.8**	**+0.1**
CNCH	**Conchagua**	**0.79**	**28**	*e*P	**Pn**	**19 37 33.5**	**+0.1**
CNCH				*e*S	**Sn**	**19 37 47.0**	**+2.4**
CNCH	**Conchagua**	**0.79**	**28**	P	**Pn**	**19 37 33.2**	**-0.2**
CNCH	**Conchagua**	**0.79**	**28**	S	**Sn**	**19 37 44.7**	**+0.1**
LCND	**La Caada**	**0.80**	**23**	*e*P	**Pn**	**19 37 33.3**	**-0.1**
LCND				*e*S	**Sn**	**19 37 44.6**	**0.0**
LCND	**La Caada**	**0.80**	**23**	P	**Pn**	**19 37 33.1**	**-0.2**
POTN	**Potosi Cosigui**	**0.81**	**58**	P	**Pn**	**19 37 33.3**	**-0.2**
POTN				S	**Sn**	**19 37 44.8**	**0.0**
ALJI	**Alcalda de J**	**0.83**	**335**	P	**Pn**	**19 37 33.5**	**-0.2**
ALJI	**Alcalda de J**	**0.83**	**335**	S	**Sn**	**19 37 44.9**	**-0.3**
LCY	**Lacayo**	**0.85**	**355**	*e*P	**Pn**	**19 37 34.2**	**+0.1**
RANC	**El Ranchito**	**0.86**	**355**	P	**Pn**	**19 37 34.2**	**-0.1**
RANC	**El Ranchito**	**0.86**	**355**	S	**Sn**	**19 37 46.0**	**-0.2**
BLLM	**Bellamira**	**0.87**	**358**	*e*P	**Pn**	**19 37 34.2**	**0.0**
CNRM	**Centro Naciona**	**0.90**	**3**	*e*P	**Pn**	**19 37 34.6**	**-0.1**
CNRM				*e*S	**Sn**	**19 37 47.4**	**+0.5**
CNRM	**Centro Naciona**	**0.90**	**3**	P	**Pn**	**19 37 34.7**	**+0.1**
PACA	**Pacayal**	**0.90**	**353**	*e*P	**Pn**	**19 37 35.2**	**+0.4**
PACA				*e*S	**Sn**	**19 37 47.2**	**+0.1**
PACA	**Pacayal**	**0.90**	**353**	P	**Pn**	**19 37 34.8**	**+0.1**
TECA	**Tecapa**	**0.96**	**343**	*e*P	**Pn**	**19 37 35.4**	**-0.2**
TECA				*e*P		19 37 35.5	
TECA				*e*S	**Sn**	**19 37 48.2**	**-0.4**
PQSS	**Presa 15 de Se**	**1.10**	**342**	*e*P	**Pn**	**19 37 37.8**	**+0.5**

YOIG eS **Sn** **19 41 04.8 -0.9**
NEUV Arroyo Zacate 2.71 358 eP **Pb** **19 40 39.6 -0.8**
NEUV eS **Sb** **19 41 11.7 -2.3**
PNIG Pinotepa 2.71 301 eP **Pn** **19 40 34.7 -1.2**
PNIG eS **Sn** **19 41 03.3 -5.8**
UXUV UXUV 2.76 33 eP **Pb** **19 40 39.1 -2.2**
UXUV eS **Sg** **19 41 16.1 -4.1**
TXIG Tlaxiaco 2.99 319 eP **Pn** **19 40 43.4 +3.4**
TXIG eS **Sn** **19 41 16.1 -0.3**
TGIG 3.06 54 eP **Pn** **19 40 42.6 +2.0**
TGIG eS **Sb** **19 41 22.7 -1.5**
TOIG Toxpalan 3.35 337 eP **Pb** **19 40 49.4 -2.1**
TOIG eS **Sb** **19 41 27.1 -5.5**
PATR El Naranjo 3.36 87 eP **Pn** **19 40 44.9 0.0**
PATR eS **Sn** **19 41 22.8 -2.6**
PAVE Pavencul 3.42 86 eP **Pn** **19 40 46.1 +0.4**
PAVE eS **Sn** **19 41 24.8 -2.0**
HLIG Huajuapan de L 3.46 325 eP **Pn** **19 40 49.6 +3.3**
HLIG eS **Sn** **19 41 28.6 +0.6**
PMUV Sontecomapan 3.58 9 *i* P **Pn** **19 40 49.7 +1.9**
PMUV eS **Sb** **19 41 33.4 -5.7**
MGIG Malinaltepec 3.59 309 eP **Pn** **19 40 49.7 +1.7**
MGIG eS **Sn** **19 41 28.5 -2.4**
CCIG Comitan 3.67 69 eP **Pn** **19 40 52.7 +3.5**
CCIG eS **Sb** **19 41 37.6 -4.4**
FTIG Fresnillo de T 3.72 322 eP **Pn** **19 40 52.7 +2.9**
FTIG eS **Sn** **19 41 33.4 -0.7**
TLIG Tlapa 3.75 313 eP **Pn** **19 40 52.7 +2.5**
TLIG eS **Sn** **19 41 30.3 -4.6**
TPIG Tehuac#an 3.76 335 eP **Pb** **19 40 59.8 +1.3**
TPIG eS **Sb** **19 41 39.1 -5.3**
DAIG Los Arroyos 4.29 299 eP **Pn** **19 40 57.7 +0.1**
DAIG eS **Sn** **19 41 40.8 -7.3**
POHV Veracruz 4.32 340 eP **Pb** **19 41 04.3 -4.0**
POHV eS **Sb** **19 41 54.2 -6.9**
JAUV Jalcomulco 4.47 347 eP **Pn** **19 41 02.8 +2.7**
JAUV eS **Sn** **19 41 52.7 +0.1**
MEIG Mezcala 4.75 308 eP **Pn** **19 41 03.5 -0.5**
MEIG eS **Sn** **19 41 56.0 -3.6**
CAIG El Cayaco 4.84 296 eP **Pn** **19 41 04.9 -0.1**
CAIG eS Sn 19 41 52.7 -8.8
PPM Popocatepetl 4.92 326 eP **Pn** **19 41 10.8 +4.2**
PPM eS **Sn** **19 42 03.5 -0.8**
PLIG Platanillo 4.96 313 eP **Pn** **19 41 09.1 +2.2**
PLIG eS **Sn** **19 42 01.4 -3.4**
YAIG Yautepec 5.01 321 eP **Pn** **19 41 11.8 +4.2**
YAIG eS **Sn** **19 42 05.0 -1.0**
ARIG Puente Sto Nin 5.52 307 eP **Pn** **19 41 17.6 +3.2**
ARIG eS **Sn** **19 42 15.6 -2.8**
ZIIG Zihuatanejo 6.11 296 eP **Pn** **19 41 23.8 +1.3**
ZIIG e 19 42 09.0
MNGA Volcan de Coli 8.77 302 eP Pn 19 42 04.3 +5.0
INCO Volcan de Coli 8.79 302 eP Pn 19 42 05.4 +5.8
TEIG Tepich 8.79 53 Pn **Pn** **19 42 00.9 +1.5**
baz=233,slow=24,SNR=17
TEIG Sn **Sn** **19 43 35.9 -3.0**
baz=180,slow=24,SNR=1.1
0.2nm,0.5s
SOMAC Volcano de Col 8.81 302 eP Pn 19 42 04.8 +4.8
CDAR Ciudad de Arme 8.86 297 eP **Pn** **19 42 03.1 +2.8**
CEGR Campo Tres 8.93 300 eP **Pn** **19 42 05.3 +3.9**
TXAR Lajitas Array 16.05 334 Pn **P** **19 43 43.7 +2.0**
baz=156,slow=12,SNR=3.5
0.4nm,0.8s
YKA Yellowknife Ar 49.29 349 P **P** **19 48 43.9 +2.7**
0.4nm,0.9s,baz=153,slow=8.0,SNR=4.6
0.4nm,0.9s
ILAR Eielson Array 60.53 337 P **P** **19 50 05.5 +2.9**
0.4nm,0.6s,baz=134,slow=5.5,SNR=6.0
0.4nm,0.6s
CMAR Chiang Mai Arr 143.76 336 PKP PKPab 19 59 27.4 +1.9
0.4nm,0.8s,baz=35,slow=4.3,SNR=3.2

*IDC **14** 19:42:12.2±6.4, 7°.57S×128°.43E, h138km±60km, mb3.4/3, mbtmp3.6/6, Error ellipse: s-maj=91.1km s-min=30.9km az=67.0*
ISC 14 19:42:13.7±1.3, 7°.8S±0°.1×128°.5E±0°.2, h150km, n6, σ3°.9 05/8, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.57 195**		P	**Pn**	**19 44 43.1**	**+1.9**
	1.2nm,0.3s,baz=19,slow=13,SNR=23						
FITZ				S	**Sn**	**19 46 36.5**	**-1.8**
	2.0nm,0.3s,baz=311,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**13.32 155**		P	**Pn**	**19 45 18.0**	**+1.0**
	0.2nm,0.4s,baz=334,slow=12,SNR=4.8						
WRA				S	Sn	19 47 38.0	-6.6
	1.0nm,0.6s,baz=333,slow=22,SNR=6.1						
ASAR	**Alice Springs**	**16.59 162**		P	**Pn**	**19 46 00.8**	**+3.1**
	0.5nm,0.6s,baz=338,slow=10,SNR=11						
ASAR				S	**S**	**19 48 57.4**	**-4.7**
	0.2nm,0.4s,baz=314,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**68.09 328**		P	**P**	**19 52 55.7**	**-1.6**
	0.4nm,0.5s,baz=129,slow=6.1,SNR=7.5						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**72.43 329**		P	**P**	**19 53 21.7**	**-1.7**
	0.2nm,0.3s,baz=123,slow=4.8,SNR=2.6						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**82.15 180**		P	**P**	**19 54 18.7**	**+1.1**
	2.2nm,1.2s,baz=119,slow=8.4,SNR=1.9						
	2.2nm,1.2s						

IDC 14 19:46:39.7±1.6, 26°.47N×141°.04E, h0km, mb3.2/2, mbtmp3.3/3, ML2.6/1, Error ellipse: s-maj=34.5km s-min=21.6km az=146.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.20 58**		Pn	Pb	19 47 03.4	0.0
	6.4nm,0.3s,baz=265,slow=22,SNR=15						
JCJ				Sn	Sn	19 47 22.6	+1.8
	37nm,0.3s,baz=285,slow=24,SNR=12						
MJAR	**Matsushiro Arr**	**10.33 347**		Pn	Pn	19 49 10.0	+0.8
	baz=166,slow=14,SNR=1.9						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**46.59 189**		P	P	19 55 09.8	+0.2
	0.4nm,0.8s,baz=13,slow=8.0,SNR=1.5						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**50.09 310**		P	P	19 55 35.9	-0.6
	0.1nm,0.4s,baz=92,slow=7.2,SNR=3.5						
	0.1nm,0.4s						

*TEH **14** 19:59:30.7, 37°.29N×57°.13E, h7km±28km*
*IDC **14** 19:59:31.3±0.7, 37°.26N×57°.05E, h0km, mb4.0/23, mbtmp4.1/32, ML4.1/7, MS3.2/6, Error ellipse: s-maj=14.0km s-min=10.0km az=178.0*
*MOS **14** 19:59:31.2±1.6, 37°.43N×57°.19E, h10km, mb4.3/18, Error ellipse: s-maj=5.1km s-min=4.7km az=63.5*
*NEIC **14** 19:59:32.9±2.5, 37°.63N±0°.09×57°.08E±0°.06, h10km±1km, mb4.3/24, Error ellipse: s-maj=15.3km s-min=6.4km az=164.0*
*THR **14** 19:59:32.0±0.0, 37°.28N×57°.12E, h8km±6km, mb4.3*
*NNC **14** 19:59:39.2±2.0, 37°.98N×57°.50E, h0km, mb4.4, Error ellipse: s-maj=22.7km s-min=13.9km az=47.0*
ISC 14 19:59:36.2±0.4, 37°.47N±0°.03×57°.22E±0°.03, h35km, n263, σ1°.86/255, mb4.2/50, MS3.0/3, 17C-5D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJRD	**Bojnurd**	**0.27 34**		ePg	**Pn**	**19 59 41.7**	**-2.3**
BJRD				IAML		19 59 53.3	
	comp=Z,11nm,1.0s						
ISFR	**Sfrayin**	**0.75 124**		Pg	**Pn**	**19 59 46.5**	**-4.1**
MRVT	**Maraveh tapeh**	**0.92 282**		Pg	**Pn**	**19 59 49.0**	**-3.6**
MRVT	**Maraveh tapeh**	**0.92 282**		ePg	**Pn**	**19 59 49.4**	**-3.2**
MRVT				eSg	**Sn**	**20 00 02.4**	**-2.2**
MRVT				IAML		20 00 04.5	
	comp=Z,8.8nm,1.0s						
SBZV	**Sabzevar**	**1.13 164**		Pg	Pn	19 59 50.6	-5.1
SBZV	**Sabzevar**	**1.13 164**		ePg	Pn	19 59 50.5	-5.2
SBZV				IAML		20 00 13.5	
	comp=Z,5.0nm,1.0s						
IEMG	**Emamgholi**	**1.14 92**		Pg	**Pn**	**19 59 55.2**	**-0.8**
IMND	**Minoodasht**	**1.46 262**		Pg	**Pn**	**19 59 57.9**	**-2.1**
IAKL	**Akhelmad**	**1.51 125**		Pg	**Pn**	**19 59 59.7**	**-1.3**
IPAY	**Payeh**	**1.75 125**		Pg	**Pn**	**20 00 03.5**	**-0.8**
SHRO	**Shahrood**	**1.77 214**		ePg	**Pn**	**20 00 00.5**	**-3.9**
SHRO				IAML		20 00 41.8	
	comp=Z,1.7nm,1.0s						
IKRD	**Kardeh**	**1.96 110**		Pn	**Pn**	**20 00 07.7**	**+0.5**
IMOG	**Moghan**	**2.18 128**		Pn	**Pn**	**20 00 10.1**	**-0.2**
TAPT	**Tabas- Tapeh t**	**2.58 181**		Pn	**Pn**	**20 00 13.7**	**-2.0**
TBHD	**Torbat heydari**	**2.62 141**		Pn	**Pn**	**20 00 16.5**	**+0.3**
IGLO	**Ghaloghah**	**2.88 251**		Pn	**Pn**	**20 00 18.3**	**-1.5**
IKIA	**Kiasar**	**3.10 247**		Pn	**Pn**	**20 00 22.6**	**-0.3**
IANJ	**Anjilo**	**3.33 234**		Pn	**Pn**	**20 00 24.2**	**-1.8**
TBJM	**Torbat-e-JAM**	**3.34 130**		Pn	**Pn**	**20 00 26.5**	**+0.4**
TNSJ	**Nastanj**	**3.54 188**		Pn	**Pn**	**20 00 26.3**	**-2.5**
TABS	**Tabas**	**3.82 181**		ePnA		20 00 30.4	
TABS				IAML		20 01 45.7	
	comp=Z,0.9nm,1.0s						
TKDS	**Koohdasht(Taba**	**3.85 181**		Pn	**Pn**	**20 00 30.9**	**-2.2**
ILAS	**Lasjerd**	**4.02 240**		Pn	**Pn**	**20 00 33.8**	**-1.7**
IPRN	**Peran**	**4.10 254**		Pn	**Pn**	**20 00 35.5**	**-1.0**
AFRZ	**Afriz**	**4.30 160**		Pn	**Pn**	**20 00 37.8**	**-1.4**
TPRV	**Parvadeh(Tabas**	**4.46 186**		Pn	**Pn**	**20 00 38.8**	**-2.6**
SHRT	**Shahrakht**	**4.57 146**		Pn	**Pn**	**20 00 41.3**	**-1.6**
SHRT	**Shahrakht**	**4.57 146**		ePnA		20 00 41.2	
SHRT				IAML		20 02 14.7	
	comp=Z,0.2nm,1.0s						
IDMV	**Damavand**	**4.58 247**		Pn	**Pn**	**20 00 41.9**	**-1.4**
DAMV	**Damavand**	**4.61 248**		ePnA		20 00 43.5	
DAMV				IAML		20 02 12.0	
	comp=Z,0.0nm,1.0s						
MZPU	**Pul - Mazandar**	**4.64 259**		Pn	**Pn**	**20 00 43.3**	**-0.7**
ITEG	**Tejag**	**4.74 164**		Pn	**Pn**	**20 00 44.1**	**-1.2**
KLST	**Kelardasht - M**	**5.02 261**		Pn	**Pn**	**20 00 48.0**	**-1.3**
IVRN	**Varamin**	**5.08 243**		Pn	**Pn**	**20 00 47.8**	**-2.1**
ISFB	**Sefidab**	**5.10 234**		Pn	**Pn**	**20 00 47.7**	**-2.5**
HRA	**Herat**	**5.11 126**		Pn	**Pn**	**20 00 50.5**	**+0.1**
ANAR	**Anarak**	**5.14 215**		Pn	**Pn**	**20 00 48.0**	**-2.8**
CHTH	**Charan**	**5.14 254**		ePnA		20 00 51.4	
CHTH				IAML		20 02 37.0	
	comp=Z,0.1nm,1.0s						
IKOO	**Kooshah**	**5.25 163**		Pn	**Pn**	**20 00 50.8**	**-1.6**
KRSH	**Karshahi**	**5.41 231**		Pn	**Pn**	**20 00 52.3**	**-2.2**
YZKH	**Yazd**	**5.51 204**		ePn	**Pn**	**20 00 53.0**	**-2.9**
YZKH				IAML		20 02 44.6	
	comp=Z,160nm,1.0s						
IQOM	**Qom**	**5.62 244**		Pn	**Pn**	**20 00 55.6**	**-2.0**
IGZV	**Ghazvin**	**5.71 261**		Pn	**Pn**	**20 00 58.6**	**-0.1**
GIDE	**GILAN DEYLAMAN**	**5.86 267**		ePn	**Pn**	**20 00 58.4**	**-2.3**
GIDE				IAML		20 03 00.0	
	comp=Z,550nm,1.0s						
NASN	**Na'in**	**5.90 219**		ePnA		20 00 58.4	
NASN				IAML		20 03 17.7	
	comp=Z,50nm,1.0s						
JIR1	**Jirandeh**	**5.98 265**		Pn	**Pn**	**20 01 00.0**	**-2.3**
QAMS	**Qamsar**	**6.03 234**		Pn	**Pn**	**20 01 00.9**	**-2.2**
IZEF	**Zefreh**	**6.07 223**		Pn	**Pn**	**20 01 01.7**	**-2.0**
IKLH	**Kolahrood**	**6.20 230**		Pn	**Pn**	**20 01 03.4**	**-2.0**
IRAZ	**Razeghan**	**6.23 253**		Pn	**Pn**	**20 01 04.8**	**-1.0**
ISAD	**Sadrabad**	**6.26 209**		Pn	**Pn**	**20 01 03.5**	**-2.9**
QABG	**Abgarm-Qazvin**	**6.39 256**		Pn	**Pn**	**20 01 07.3**	**-0.7**
IMEH	**Mehriz**	**6.44 200**		Pn	**Pn**	**20 01 06.7**	**-2.0**
ZRDN	**Zarand Kerman**	**6.51 185**		Pn	**Pn**	**20 01 08.3**	**-1.4**
ZNJK	**Zanjan**	**6.87 266**		ePnA		20 01 14.0	
ZNJK				IAML		20 02 34.3	
	comp=Z,170nm,1.0s						
IRAM	**Ramesheh**	**6.91 217**		Pn	**Pn**	**20 01 13.4**	**-1.8**
KRM1	**Kerman Provinc**	**6.95 180**		Pn	**Pn**	**20 01 14.2**	**-1.6**
HGHA	**Hamedan- Ghaye**	**7.02 256**		Pn	**Pn**	**20 01 15.4**	**-1.3**
HAGD	**Aghdareh**	**7.05 250**		Pn	**Pn**	**20 01 15.7**	**-1.4**
KHGB	**Koh Gabri**	**7.11 185**		Pn	**Pn**	**20 01 16.5**	**-1.4**
GRMI	**Germi**	**7.47 283**		IAML		20 02 48.3	
	comp=Z,60nm,1.0s						
ZNGN	**Zanjan**	**7.48 226**		Pn	**Pn**	**20 01 22.3**	**-0.8**
KRBR	**Kerman**	**7.48 183**		Pn	**Pn**	**20 01 21.9**	**-1.3**
KRBR	**Kerman**	**7.48 183**		ePnA		20 01 22.2	
KRBR				IAML		20 03 51.3	
	comp=Z,0.1nm,1.0s						
JHBN	**Jahan bin**	**7.50 228**		Pn	**Pn**	**20 01 22.4**	**-1.0**
BDRS	**Dareh Seyedi**	**7.63 245**		Pn	**Pn**	**20 01 24.3**	**-0.9**
NGRK	**Negar Kerman**	**7.82 183**		Pn	**Pn**	**20 01 26.7**	**-1.1**
IHSH	**Hashtrud**	**7.93 272**		Pn	**Pn**	**20 01 27.3**	**-1.9**
KLNJ	**Kolanjah**	**7.95 217**		Pn	**Pn**	**20 01 28.6**	**-1.0**
KLNJ	**Kolanjah**	**7.95 217**		IAML		20 02 15.3	
	comp=Z,33nm,1.0s						
IHRS	**Heris**	**8.09 279**		Pn	**Pn**	**20 01 30.2**	**-1.2**
ITBZ	**Tabriz**	**8.79 278**		Pn	**Pn**	**20 01 39.6**	**-1.3**
IMRD	**Marand**	**9.16 281**		Pn	**Pn**	**20 01 45.9**	**-0.2**
ISHB	**Shabestar**	**9.21 279**		Pn	**Pn**	**20 01 45.8**	**-0.9**
MAK	**Makhachkala**	**9.23 309**		eP	**Pn**	**20 01 41.9**	**-4.8**
MAK				eS	**Sn**	**20 03 26.0**	**-3.2**
MAK				pmax	pmax		
	comp=Z,71nm,0.9s						
MAK				MLR	MLR		
	comp=Z,84nm,14.0s						
DZET	**Dzherino**	**9.24 78**		P	**Pn**	**20 01 46.9**	**-0.2**
DZET				pmax	pmax		
	comp=Z,10.0nm,0.4s						
SIMJ	**Simiganj**	**9.38 79**			**Pn**	**20 01 49.0**	**+0.2**
KBL	**Kabul**	**10.02 103**		Pn	**Pn**	**20 02 00.0**	**+2.3**
KBL	**Kabul**	**10.02 103**		P	**Pn**	**20 02 00.0**	**+2.3**
GNI	**Garni**	**10.10 289**		Pn	**Pn**	**20 01 59.4**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=352,slow=7.9,SNR=7.0						
GNI				Sn	**Sn**	**20 03 53.4**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=322,slow=23,SNR=1.7						
	comp=Z,3.5nm,0.4s						
GAR	**Garm**	**10.42 78**			**Pn**	**20 02 02.8**	**-0.3**
BTK	**Batken**	**10.93 72**			**Pn**	**20 02 09.6**	**-0.5**
BTK	**Batken**	**10.93 72**		P	**Pn**	**20 02 09.6**	**-0.5**
TRKS	**Terek-Say**	**11.49 65**		P	**Pn**	**20 02 16.4**	**-1.5**
TRKS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KK31	**Karatay Array**	**11.60 57**			**Pn**	**20 02 18.2**	**-1.0**
KK31	**Karatay Array**	**11.60 57**		Pn	**Pn**	**20 02 19.4**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=254,slow=15,SNR=31						
KK31				⇓Sn	**Sn**	**20 04 25.3**	**-2.1**
	comp=Z,9.3nm,0.8s,baz=62,slow=7.0,SNR=3.6						
KK31	**Karatay Array**	**11.60 57**		P	**Pn**	**20 02 18.2**	**-1.0**
KKAR	**Karatay Array**	**11.60 57**			**Pn**	**20 02 17.6**	**-1.5**
KKAR	**Karatay Array**	**11.60 57**		P	**Pn**	**20 02 17.7**	**-1.5**
DRK	**Karamyk**	**11.61 76**		P	**Pn**	**20 02 19.9**	**+0.3**
AB31	**Akbulak array**	**11.94 9**		Pn	**Pn**	**20 02 19.6**	**-4.2**
AB31	**Akbulak array**	**11.94 9**		Pn	**Pn**	**20 02 23.2**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=190,slow=12,SNR=48						
AB31				Sn	**Sn**	**20 04 34.5**	**-1.2**
	comp=Z,5.5nm,0.5s,baz=196,slow=21,SNR=13						
AB31	**Akbulak array**	**11.94 9**		P	**Pn**	**20 02 23.2**	**-0.6**
AB31				S	**Sn**	**20 04 34.5**	**-1.2**
ABKAR	**Akbulak array**	**11.94 9**			**Pn**	**20 02 20.0**	**-3.8**
NCK	**Nalchik**	**11.98 304**		eP	**Pn**	**20 02 23.3**	**-1.2**
ARK	**Arkit**	**12.16 65**		P	**Pn**	**20 02 27.2**	**+0.3**
ARK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NEUR	**Neytrino**	**12.48 302**		eP	**Pn**	**20 02 29.9**	**-1.5**
KBZ	**Khabaz**	**12.54 304**		Pn	**Pn**	**20 02 29.6**	**-2.4**
	comp=Z,1.5nm,0.3s,baz=155,slow=3.3,SNR=32						
KBZ				Sn	Sn	20 04 39.9	-10
	comp=Z,0.1nm,0.3s,baz=277,slow=11,SNR=1.6						
	comp=Z,3.8nm,0.2s						
KBZ	**Khabaz**	**12.54 304**		*ce*P	**Pn**	**20 02 32.5**	**+0.5**
SHA1	**Shidzhatmaz**	**12.70 304**		*i* P	**Pn**	**20 02 32.6**	**-1.9**
KVAR	**Kislovodsk Arr**	**12.77 305**		Pn	**Pn**	**20 02 35.2**	**-0.1**
	baz=282,slow=21						
KVAR				Sn	Sn	20 04 46.5	-10
	baz=302,slow=17						
	comp=Z,5.1nm,0.5s						
KIV	**Kislovodsk**	**12.78 305**			**Pn**	**20 02 34.0**	**-1.4**
KIV	**Kislovodsk**	**12.78 305**		eP	**Pn**	**20 02 33.1**	**-2.2**
KIV				eS	**Sn**	**20 04 55.5**	**-0.8**
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV	**Kislovodsk**	**12.78 305**		P	**Pn**	**20 02 33.6**	**-1.7**
	comp=Z,19nm,0.7s						
ARSB	**Arslanbob**	**12.78 68**			**Pn**	**20 02 34.1**	**-1.4**
ARSB	**Arslanbob**	**12.78 68**		P	**Pn**	**20 02 34.2**	**-1.4**
AKTO	**Aktyubinsk**	**12.97 2**		Pn	**Pn**	**20 02 37.4**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=179,slow=14,SNR=21						
AKTO				Sn	**Sn**	**20 04 59.2**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=36,slow=16,SNR=5.7						
AKTO				LR	LR	20 09 04.5	
	comp=Z,125nm,18.8s,baz=31,slow=44						
	comp=Z,7.1nm,0.4s						
AKTO	**Aktyubinsk**	**12.97 2**		⇑Pn	**Pn**	**20 02 37.6**	**-0.3**
	comp=Z,15nm,0.8s						
AKTO				⇓Sn	**Sn**	**20 04 56.5**	**-4.3**
	comp=Z,9.2nm,0.7s						
GOF	**Gofitskoye**	**13.07 310**		*ce*P	**Pn**	**20 02 39.4**	**+0.2**
AML	**Almayashu**	**13.49 65**		P	**Pn**	**20 02 43.8**	**-1.6**
	SNR=14						
EKS2	**Erkin-Say**	**13.69 63**		P	**Pn**	**20 02 48.0**	**+0.1**
	SNR=14						
ARLS	**Aral**	**13.88 66**		P	**Pn**	**20 02 49.2**	**-1.3**
ARLS				pmax	pmax		
	comp=Z,11nm,0.5s						
AAK	**Ala-Archa**	**14.20 63**		Pn	**Pn**	**20 02 54.0**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=244,slow=7.6,SNR=22						
AAK				Sn	**Sn**	**20 05 31.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=216,slow=5.5,SNR=2.4						
AAK				Lg	Lg	20 07 03.3	
	baz=37,slow=4.5,SNR=2.3						
AAK				LR	LR	20 09 15.5	
	comp=Z,95nm,18.9s,baz=244,slow=40						
	comp=Z,6.4nm,0.6s						
AAK	**Ala-Archa**	**14.20 63**		P	**Pn**	**20 02 54.0**	**-0.8**
	SNR=13						
AAK	**Ala-Archa**	**14.20 63**		⇑Pn	**Pn**	**20 02 53.5**	**-1.4**
	comp=Z,12nm,1.1s						
AAK				⇑Sn	**Sn**	**20 05 33.3**	**+2.2**
	comp=Z,4.2nm,0.8s						
AAK	**Ala-Archa**	**14.20 63**		*i* P	**Pn**	**20 02 53.4**	**-1.4**
USP	**Ospenovka**	**14.38 61**		P	**Pn**	**20 02 55.3**	**-1.9**
	SNR=8.9						
KBK	**Karagaybulak**	**14.52 64**		P	**Pn**	**20 02 59.9**	**+0.6**
	SNR=5.6						
SOC	**Sochi**	**14.63 300**		eP	**Pn**	**20 02 57.6**	**-2.9**
SOC				*e*		20 05 40.2	
SOC				MLR	MLR		
	comp=Z,49nm,11.0s						
KSH	**Kashi**	**14.83 76**		P	Pn	20 02 57.6	-5.8
KSH				S	Sn	20 05 34.5	-12
KSH				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BOOM	**Boomskoye usch**	**15.20 65**			**Pn**	**20 03 06.7**	**-1.5**
BOOM				IAmb	IAmb	20 03 20.1	
	comp=Z,9.7nm,0.7s						
BOOM	**Boomskoye usch**	**15.20 65**		P	**Pn**	**20 03 07.9**	**-0.3**
BOOM				pmax	pmax		
	comp=Z,11nm,0.6s						
ULHL	**Ulahol**	**15.36 66**		P	**Pn**	**20 03 09.5**	**-1.0**
	SNR=8.8						
OTUK	**Ortayu**	**15.42 41**		P	**Pn**	**20 03 10.2**	**-0.9**
	comp=Z,17nm,1.0s						
OTUK	**Ortayu**	**15.42 41**		P	**Pn**	**20 03 10.2**	**-0.9**
KDJ	**Kajisay**	**16.02 67**		Pn	**Pn**	**20 03 18.6**	**-0.4**
KDJ	**Kajisay**	**16.02 67**		P	**Pn**	**20 03 18.6**	**-0.4**
KDJ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MDOK	**Medeo**	**16.14 63**		⇓P	**P**	**20 03 23.4**	**0.0**
	comp=Z,26nm,0.9s						
MDOK	**Medeo**	**16.14 63**		P	**P**	**20 03 23.4**	**0.0**
TARG	**Taragay, Kyrgy**	**16.42 69**			**Pn**	**20 03 22.2**	**-2.0**
TARG				IAmb	IAmb	20 03 34.1	
	comp=Z,11nm,0.7s						
TARG	**Taragay, Kyrgy**	**16.42 69**		P	**Pn**	**20 03 22.2**	**-2.0**
TARG				pmax	pmax		
	comp=Z,11nm,0.7s						
RAYN	**Ar Rayn**	**17.16 219**		Pn	**Pn**	**20 03 30.7**	**-2.6**
RAYN	**Ar Rayn**	**17.16 219**		P	**Pn**	**20 03 30.7**	**-2.6**
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DIKM	**Dikmen**	**17.43 291**		P	**P**	**20 03 36.6**	**-0.8**
ASF	**Jabal al Asfar**	**17.49 258**		P	**Pn**	**20 03 35.0**	**-2.5**
	comp=Z,1.3nm,0.7s,baz=202,slow=16,SNR=1.3						
ASF	**Jabal al Asfar**	**17.49 258**		P	**Pn**	**20 03 35.0**	**-2.5**
VRH	**Novokhopyorsk**	**17.59 326**		eP	**P**	**20 03 44.1**	**+5.0**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PDGK	**Podgornoye**	**17.92 64**		⇑P	**P**	**20 03 43.9**	**+0.9**
	comp=Z,5.7nm,0.9s						
PDGK	**Podgornoye**	**17.92 64**		P	**P**	**20 03 43.9**	**+0.9**
BRVK	**Borovoye**	**18.05 26**			**Pn**	**20 03 42.7**	**-1.3**
BRVK	**Borovoye**	**18.05 26**		⇑P	**P**	**20 03 44.6**	**+0.4**
	comp=Z,8.5nm,0.7s						
BRVK	**Borovoye**	**18.05 26**		*ce*P	**P**	**20 03 45.8**	**+1.6**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BVA0	**Borovoye Array**	**18.06 26**		⇓P	**P**	**20 03 44.5**	**+0.2**
	comp=Z,13nm,0.7s,baz=201,slow=11,SNR=59						
BVA0	**Borovoye Array**	**18.06 26**		P	**P**	**20 03 44.5**	**+0.2**
BVAR	**Borovoye Array**	**18.06 26**		P	**P**	**20 03 45.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=216,slow=12,SNR=40						
BVAR				S	**Sn**	**20 06 58.6**	**-5.8**
	comp=Z,1.1nm,0.6s,baz=228,slow=22,SNR=1.5						
BVAR				Lg	Lg	20 09 06.5	
	baz=233,slow=29,SNR=1.4						
	comp=Z,20nm,0.7s						
BR104	**Keskin Array S**	**18.56 284**		P	**Pn**	**20 03 50.9**	**+0.5**
	comp=Z,2.5nm,0.9s						
BRTR	**Keskin Array B**	**18.56 284**		P	**Pn**	**20 03 51.1**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=102,slow=12,SNR=8.1						
VORD	**Divnogorie**	**18.56 322**		eP	**P**	**20 03 45.6**	**-4.2**
VORD				pmax	pmax		
	comp=Z,6.0nm,0.9s

comp=Z,35nm,0.8s
OBN Obninsk 22.54 328 *e*P **P 20 04 33.3 +0.4**
OBN *e* 20 04 57.7
OBN *e*S **S 20 08 42.3 +4.7**
OBN pmax pmax
comp=Z,22nm,1.7s
SORM Soroca 23.57 306 P **P 20 04 43.3 -0.1**
SORM Soroca 23.57 306 P **P 20 04 43.3 -0.1**
comp=Z,10nm,0.6s
AK10 Malin Array Si 23.84 312 P **P 20 04 46.4 +0.5**
AK08 Malin Array Si 23.85 312 P **P 20 04 46.0 0.0**
AK05 Malin Array Si 23.88 312 P **P 20 04 46.6 +0.4**
AK02 Malin Array Si 23.89 312 P **P 20 04 46.4 0.0**
WMQ Urumqi 23.89 65 *e*P **P 20 04 48.8 +2.2**
WMQ pmax pmax
comp=Z,24nm,0.6s
AKASG Malin Array Be 23.89 313 P **P 20 04 46.6 +0.2**
comp=Z,1.5nm,0.6s,baz=112,slow=7.9,SNR=8.0
comp=Z,1.5nm,0.6s
AKASG Malin Array Be 23.89 313 *i* P **P 20 04 49.2 +2.8**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 23.89 313 P **P 20 04 44.4 -2.0**
AKBB IAmb IAmb 20 04 58.7
comp=Z,7.7nm,0.6s
AKBB Malin Array Si 23.89 313 *i* P **P 20 04 47.4 +1.0**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 23.89 313 P **P 20 04 46.5 +0.1**
KIEV Kiev 23.90 313 **P 20 04 44.2 -2.3**
KIEV Kiev 23.90 313 P **P 20 04 44.2 -2.3**
KIEV pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 23.90 313 P **P 20 04 46.5 0.0**
comp=Z,44nm,0.8s
AK20 Malin Array Si 24.04 313 P **P 20 04 48.7 +1.0**
PLOR5 Plostina Array 24.20 300 P **P 20 04 50.0 +0.7**
comp=Z,9.4nm,1.1s
PLOR3 Plostina Array 24.21 300 P **P 20 04 51.0 +1.5**
comp=Z,8.7nm,1.8s
LUBAR Lubar, Ukraine 24.49 310 P **P 20 04 53.3 +1.4**
MLR Muntele Rosu 24.64 299 **P 20 04 51.5 -2.0**
MLR IAmb IAmb 20 05 04.1
comp=Z,7.7nm,0.8s
MLR Muntele Rosu 24.64 299 P **P 20 04 53.7 +0.2**
comp=Z,2.9nm,0.6s,baz=337,slow=7.1,SNR=5.8
comp=Z,2.9nm,0.6s
MLR Muntele Rosu 24.64 299 P **P 20 04 54.9 +1.4**
comp=Z,11nm,0.8s
ZAA0 Zalesovo Array 25.12 40 IAmb IAmb 20 05 03.0
comp=Z,3.7nm,0.6s
ZALV Zalesovo Beam 25.12 40 **P 20 04 57.4 -0.2**
ZALV Zalesovo Beam 25.12 40 P **P 20 04 59.9 +2.3**
comp=Z,3.8nm,0.6s,baz=255,slow=11,SNR=18
ZALV LR LR 20 16 25.4
comp=Z,51nm,21.5s,baz=237,slow=40
comp=Z,3.8nm,0.6s
ZALV Zalesovo Beam 25.12 40 *i* P **P 20 05 00.4 +2.8**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
VOIR 25.26 299 P **P 20 05 01.5 +2.5**
VOIR pmax pmax
comp=Z,5.0nm,0.7s
VOIR 25.26 299 P **P 20 05 01.1 +2.1**
BURAR Bucovina Array 25.50 304 **P 20 05 03.0 +1.9**
BURAR Bucovina Array 25.50 304 P **P 20 05 03.1 +1.9**
BUR08 Bucovina Ar. S 25.52 304 P **P 20 05 01.2 -0.2**
BUR08 IAmb IAmb 20 05 31.2
comp=Z,9.8nm,1.4s
KLMR Klimovskoe 25.93 340 *e*P **P 20 05 05.5 +0.7**
RNPP5 Staryi Chortor 26.05 312 P **P 20 05 06.3 +0.2**
MNK Minsk 26.28 320 *i* P **P 20 05 06.3 -1.8**
comp=E,6.0nm,0.9s
MNK *i* P **P 20 05 06.3 -1.8**
comp=N,10.0nm,0.9s
MNK *i* P **P 20 05 06.3 -1.8**
comp=Z,5.0nm,1.1s,baz=118
MNK *i* PP **PnPn 20 05 45.3 -2.5**
MNK *i* PPP PPP 20 05 53.3
MNK *i* S **S 20 09 40.1 +1.9**
MNK *i* SS **SnSn 20 10 38.9 -0.4**
MNK *i* SSS SSS 20 10 54.0
MNK *i* LR LR 20 15 25.7
MNK Minsk 26.28 320 *i* P **P 20 05 06.3 -1.8**
MNK *i* PPP PPP 20 05 53.3
MNK *i* S **S 20 09 40.0 +1.9**
MNK *i* SSS SSS 20 10 53.9
MNK pmax pmax
comp=Z,5.0nm,1.1s
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.9s
DRGR 27.05 301 P **P 20 05 17.8 +2.6**
DRGR pmax pmax
comp=Z,6.0nm,1.6s
KOLS Kolonicke sedl 27.69 306 *e*P P 20 05 29.4 +8.6
KOLS Kolonicke sedl 27.69 306 *e*P P 20 05 29.3 +8.5
VYHS Vyhne 29.86 304 *e*P P 20 05 48.1 +7.9
VYHS Vyhne 29.86 304 *e*P P 20 05 48.1 +7.9
FINES FINESS Array B 30.85 331 P **P 20 05 48.2 -0.5**
FINES FINESS Array B 30.85 331 P **P 20 05 50.9 +2.3**
comp=Z,1.0nm,0.6s,baz=124,slow=7.6,SNR=7.5
comp=Z,1.0nm,0.6s
FINES FINESS Array B 30.85 331 *i* P **P 20 05 51.0 +2.3**
FINES pmax pmax
comp=Z,1.0nm,0.6s
ARSA Arzberg 31.98 301 *e*pP pP 20 06 03.6 -5.7
comp=Z,2.6nm,0.7s
GERES GERESS Array B 33.28 304 P **P 20 06 10.3 0.0**
comp=Z,0.3nm,0.5s,baz=96,slow=11,SNR=4.5
comp=Z,0.3nm,0.5s
LESA Schwarzleotal 33.92 301 *e*P **P 20 06 17.4 +1.5**
comp=Z,4.4nm,0.5s
ABTA Abfaltersbach 34.04 300 *e*P **P 20 06 17.8 +0.9**
comp=Z,1.4nm,0.7s
WTTA Wattenberg 34.63 301 *e*P **P 20 06 21.6 -0.6**
comp=Z,2.5nm,0.8s
SQTA Sankt Quirin 34.92 301 *i* pP pP 20 06 29.1 -6.0
comp=Z,1.0nm,0.4s
FETA Feichten 35.25 301 *i* pP pP 20 06 32.3 -5.6
comp=Z,0.8nm,0.4s
FUORN Ofenpass-Fuorn 35.59 300 P **P 20 06 28.8 -1.7**
FUORN IAmb IAmb 20 06 31.1
comp=Z,7.6nm,1.4s
HFS Hagfors 35.59 324 P **P 20 06 31.8 +1.8**
comp=Z,0.9nm,0.4s,baz=99,slow=7.7,SNR=11
comp=Z,0.9nm,0.4s
DAVA Damuels 35.83 301 *i* P **P 20 06 32.8 +0.4**
comp=Z,2.0nm,0.6s
DAVOX Davos/Dischmat 35.84 300 P **P 20 06 33.5 +0.9**
comp=Z,1.0nm,0.5s,baz=349,slow=17,SNR=2.5
comp=Z,1.0nm,0.5s
NRIK Noril'sk 35.90 18 P **P 20 06 34.1 +1.6**
comp=Z,1.2nm,0.6s,baz=183,slow=6.3,SNR=3.9
comp=Z,1.2nm,0.6s
NRIK Noril'sk 35.90 18 *ce*P **P 20 06 35.9 +3.4**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 36.38 342 P **P 20 06 38.3 +1.7**
comp=Z,4.0nm,1.0s,baz=140,slow=8.6,SNR=1.4
comp=Z,4.0nm,1.0s
NC405 NORSAR Array S 36.83 325 P **P 20 06 39.1 -1.6**
NB2 NORSAR Subarra 37.04 324 P **P 20 06 43.4 +1.0**
comp=Z,0.4nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 37.04 324 P **P 20 06 43.9 +1.4**
comp=Z,0.4nm,0.4s,baz=112,slow=8.2,SNR=6.7
comp=Z,0.4nm,0.4s
SONM Songino Array 37.05 58 P **P 20 06 44.1 +1.3**
comp=Z,0.5nm,0.6s,baz=277,slow=10,SNR=4.2
comp=Z,0.5nm,0.6s
ULN Ulaanbaatar 37.49 58 *ce*P **P 20 06 48.4 +1.8**
ULN pmax pmax
comp=Z,5.0nm,1.7s
SENIN Lac Senin/Sane 37.65 300 P **P 20 06 46.3 -1.7**
SENIN IAmb IAmb 20 07 21.7
comp=Z,9.1nm,1.4s
CHTO Chiang Mai 40.83 105 P **P 20 07 14.5 -0.1**
CHTO Chiang Mai 40.83 105 P **P 20 07 14.5 -0.1**
CHTO pmax pmax
comp=Z,2.0nm,0.6s
CM31 Chiang Mai Arr 41.04 106 P **P 20 07 19.9 +3.6**
CM31 IAmb IAmb 20 07 24.3
comp=Z,4.0nm,1.1s
CMAR Chiang Mai Arr 41.04 106 P **P 20 07 18.2 +1.9**
CMAR Chiang Mai Arr 41.04 106 P **P 20 07 17.3 +1.0**
comp=Z,1.8nm,0.6s,baz=299,slow=8.0,SNR=30
comp=Z,1.8nm,0.6s
CMAR Chiang Mai Arr 41.04 106 *i* P **P 20 07 18.0 +1.7**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
HHC Hu-ho-hao-te 41.71 68 *e*P **P 20 07 22.4 +0.7**
HHC pmax pmax
comp=Z,14nm,0.7s
CEST Esterri de Car 42.49 295 P **P 20 07 26.4 -1.7**
EKA Eskdalemuir Ar 43.79 314 P **P 20 07 39.6 +1.4**
comp=Z,0.3nm,0.3s,baz=97,slow=7.7,SNR=4.8
comp=Z,0.3nm,0.3s
SPITS Spitsbergen Ar 44.20 349 P **P 20 07 44.2 +2.9**
comp=Z,10nm,1.0s,baz=137,slow=11,SNR=5.1
comp=Z,10nm,1.0s
ESBB Sonseca Array 47.06 293 P **P 20 08 04.0 -0.5**
ESDC Sonseca Array 47.06 293 P **P 20 08 03.8 -0.6**
ESDC Sonseca Array 47.06 293 P **P 20 08 04.1 -0.3**
comp=Z,1.2nm,0.6s,baz=65,slow=7.9,SNR=22
comp=Z,1.2nm,0.6s
TIXI Tiksi 49.16 23 *ce*P **P 20 08 23.6 +3.5**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
KLR Kul'dur 53.37 52 *ce*P **P 20 08 53.9 +1.9**
KLR pmax pmax
comp=Z,6.0nm,1.7s
KSRS Korea Array 54.83 67 P **P 20 09 03.6 +0.9**
comp=Z,1.4nm,0.8s,baz=280,slow=6.0,SNR=4.3
comp=Z,1.4nm,0.8s
TORD Torodi Ar. Bea 54.85 259 P **P 20 09 02.1 -1.1**
comp=Z,46nm,0.3s,baz=48,slow=8.4,SNR=1.6
JNU Nakatsue 58.85 70 P **P 20 09 32.4 +1.0**
comp=Z,6.3nm,0.9s,baz=151,slow=23,SNR=2.0
comp=Z,6.3nm,0.9s
BILL Bilibino 62.38 24 *ce*P **P 20 09 57.2 +2.3**
BILL pmax pmax
comp=Z,10.0nm,2.5s
BOSA Boshof 72.25 209 P **P 20 10 56.4 -1.5**
comp=Z,2.7nm,0.8s,baz=46,slow=3.7,SNR=5.6
comp=Z,2.7nm,0.8s
ILAR Eielson Array 76.34 10 P **P 20 11 24.2 +3.0**
comp=Z,0.3nm,0.8s,baz=336,slow=5.7,SNR=2.6
comp=Z,0.3nm,0.8s
YKA Yellowknife Ar 80.16 356 P **P 20 11 44.1 +1.8**
comp=Z,0.5nm,0.7s,baz=2.4,slow=5.8,SNR=11
comp=Z,0.5nm,0.7s
QSPA South Pole Qui 127.28 180 PKP **PKiKP 20 18 35.7 -0.9**
comp=Z,0.9nm,0.9s,baz=158,slow=6.5,SNR=1.5

---

*JSN **14** 20:00:56.7±0.9, 18°.24N×7°.15W, h0km±27km, MD3.1*
*SSNC **14** 20:00:59.3±1.7, 18°.50N×78°.00W, h12km±12km, MD2.9, ML2.2*
ISC 14 20:00:55.3±2.9, 18°.48N±0°.09×78°.1W±0°.2, h23km±21km, n8, σ1§59/14, 2D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**0.63**	**113**	*e*P	**Pb**	**20 01 07.8**	**0.0**
MTDJ				*e*S	**Sb**	**20 01 16.1**	**-0.2**
MTDJ				IAML		20 01 16.9	
352nm,0.2s							
MTDJ				IAML		20 01 17.2	
comp=Z,96nm,0.2s							
MTDJ	**Mount Denham**	**0.63**	**113**	*i* P	**Pb**	**20 01 07.9**	**+0.1**
MTDJ				⇓*i*S	**Sb**	**20 01 16.7**	**+0.5**
MCJ	**Malvern**	**0.70**	**142**	*i* P	**Pb**	**20 01 07.5**	**-1.5**
STH	**Stony Hill**	**1.33**	**107**	⇓*i*P	**Pb**	**20 01 20.1**	**+0.4**
LMGC	**Las Mercedes**	**1.91**	**34**	*e*P	**Pn**	**20 01 27.8**	**+1.3**
LMGC				*e*S	**Sn**	**20 01 48.2**	**-1.5**
LMGC				*e*Sg	**Sb**	**20 01 51.6**	**-1.3**
LMGC				IAML		20 01 56.9	
comp=E,12nm,0.1s							
LMGC				IAML		20 01 56.9	
comp=N,25nm,0.1s							
CHIV	**Chivirico**	**2.21**	**47**	*e*P	**Pn**	**20 01 32.6**	**+2.0**
RCC	**Rio Carpintero**	**2.76**	**57**	*e*P	**Pn**	**20 01 38.6**	**+0.5**
RCC				*e*S	**Sn**	**20 02 08.4**	**-2.4**
PINC	**Pinares de May**	**2.98**	**48**	*e*P	**Pn**	**20 01 43.7**	**+2.5**
PINC				*e*S	**Sn**	**20 02 15.5**	**-0.9**
PINC				IAML		20 02 21.5	
comp=E,5.5nm,0.1s							
PINC				IAML		20 02 21.6	
comp=N,5.4nm,0.1s							

---

*IDC **14** 20:17:30.2±3.0, 33°.80N×38°.27W, h0km, mb3.6/8, mbtmp3.6/8, MS3.8/2, Error ellipse: s-maj=97.8km s-min=27.1km az=179.0*
ISC 14 20:17:31.9±2.7, 33°.8N±0°.6×38°.3W±0°.2, h10km, n14, σ0§72/9, mb3.6/8, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**28.11**	**83**	LR	LR	20 32 37.6	
comp=Z,48nm,18.1s,baz=288,slow=32							
H10N2	**ASCENSION HYDR**	**47.17**	**147**	T	T	21 16 27.7	
baz=333,slow=76,SNR=13							
H10N3	**ASCENSION HYDR**	**47.18**	**147**	T	T	21 16 15.3	
baz=333,slow=76,SNR=9.4							
H10N1	**ASCENSION HYDR**	**47.19**	**147**	T	T	21 16 29.8	
baz=333,slow=76,SNR=10							
H10S3	**ASCENSION HYDR**	**48.09**	**148**	T	T	21 17 11.9	
baz=332,slow=74,SNR=73							
H10S2	**ASCENSION HYDR**	**48.10**	**148**	T	T	21 17 13.0	
baz=248,slow=74,SNR=52							
YKA	**Yellowknife Ar**	**54.41**	**326**	P	P	**20 26 59.1**	**+0.4**
0.5nm,0.7s,baz=84,slow=7.8,SNR=8.9							
YKA				PcP	**PcP**	**20 28 02.0**	**-0.4**
0.3nm,0.7s,baz=82,slow=4.0,SNR=5.9							
0.5nm,0.7s							
TXAR	**Lajitas Array**	**55.04**	**284**	P	P	**20 27 04.2**	**+0.2**
0.1nm,0.5s,baz=69,slow=8.5,SNR=2.5							
0.1nm,0.5s							
PDAR	**Pinedale Array**	**55.13**	**302**	P	P	**20 27 04.4**	**-0.3**
0.6nm,0.9s,baz=92,slow=10,SNR=3.8							
0.6nm,0.9s							
BRTR	**Keskin Array B**	**56.53**	**62**	P	P	**20 27 15.7**	**+1.1**
0.5nm,0.8s,baz=266,slow=5.8,SNR=2.5							
0.5nm,0.8s							
ILAR	**Eielson Array**	**67.25**	**334**	P	P	**20 28 26.7**	**+0.4**
0.4nm,1.0s,baz=64,slow=5.2,SNR=3.0							
ILAR				LR	LR	20 57 52.1	
comp=Z,270nm,20.5s,baz=250,slow=36							
0.4nm,1.0s							
BVAR	**Borovoye Array**	**73.73**	**37**	P	P	**20 29 05.2**	**-0.8**
1.1nm,0.8s,baz=316,slow=4.0,SNR=5.0							
1.1nm,0.8s							
KURBB	**Kurchatov Arra**	**79.20**	**35**	P	P	**20 29 36.5**	**-0.5**
0.4nm,0.2s,baz=325,slow=5.8,SNR=2.4							
0.4nm,0.2s							
MKAR	**Makanchi Array**	**83.62**	**37**	P	P	**20 29 59.9**	**-0.7**
0.5nm,0.9s,baz=321,slow=3.7,SNR=4.1							
0.5nm,0.9s							

---

*BKK **14** 20:24:43.9±1.4, 26°.N±10°.×9°.3E±°, h17km±16km, M3.5/18, mB4.1/8, mb4.0/13, Mjma3.5/18, ML3.8/2, MLv3.6/2, Mw(mB)3.1/8*
*IDC **14** 20:25:10.2±2.7, 24°.08N×94°.36E, h84km±32km, mb3.2/4, mbtmp3.5/5, Error ellipse: s-maj=23.9km s-min=19.2km az=59.0*
ISC 14 20:25:10.4±0.9, 24°.2N±0°.1×94°.19E±0°.08, h100km, n19, σ1§36/23, mb3.5/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.77**	**238**	P	**Pn**	**20 25 53.0**	**0.0**
126nm,0.3s,baz=250,slow=22,SNR=1.5							
BRDH				S	**Sn**	**20 26 27.8**	**+1.9**
197nm,0.3s,baz=226,slow=22,SNR=23							
MHMT	**Maesarieng**	**6.90**	**149**	P	**Pn**	**20 26 48.5**	**-0.5**
0.1nm144nm8.4nm,0.8s							
PAYA	**Payao**	**7.12**	**131**	P	**Pn**	**20 26 51.0**	**-0.9**
0.0nm3.1nm,0.5s							
CM15	**Chiang Mai Arr**	**7.19**	**141**	P	**Pn**	**20 26 52.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**7.20**	**141**	P	**Pn**	**20 26 51.2**	**-1.8**
1.4nm,0.4s,baz=314,slow=13,SNR=29							
CM13	**Chiang Mai Arr**	**7.21**	**142**	P	**Pn**	**20 26 52.6**	**-0.6**
0.0nm56nm4.7nm,0.6s							
CM02	**Chiang Mai Arr**	**7.22**	**141**	P	**Pn**	**20 26 52.5**	**-0.8**
0.0nm5.0nm,0.8s							
CM09	**Chiang Mai Arr**	**7.24**	**141**	P	**Pn**	**20 26 53.1**	**-0.5**
0.0nm62nm5.6nm,0.7s							
CM01	**Chiang Mai Arr**	**7.24**	**141**	P	**Pn**	**20 26 52.9**	**-0.7**
0.0nm70nm6.4nm,0.8s							
CM05	**Chiang Mai Arr**	**7.25**	**141**	P	**Pn**	**20 26 52.7**	**-1.0**
0.0nm54nm4.5nm,0.7s							
CM04	**Chiang Mai Arr**	**7.27**	**141**	P	**Pn**	**20 26 53.8**	**-0.2**
0.0nm55nm4.9nm,0.6s							
RAMN	**Ramite**	**7.39**	**294**	Pg	**Pn**	**20 26 55.4**	**-0.5**
baz=349,slow=0.0							
RAMN				Sg	**Sn**	**20 28 17.7**	**-0.6**
22nm,0.3s,baz=349,slow=0.0							
LAMP	**Lampang**	**7.56**	**137**	P	**Pn**	**20 26 57.3**	**-0.7**
0.2nm6.3nm,0.6s							
PKIN	**Phulchoki**	**8.62**	**295**	Pg	**Pn**	**20 27 11.3**	**-1.2**
baz=342,slow=0.0							
PKIN				Sg	**Sn**	**20 28 45.9**	**-2.3**
17nm,0.2s,baz=342,slow=0.0							
UTHA	**Uthaitani**	**9.88**	**149**	P	**Pn**	**20 27 29.3**	**-0.2**
MKAR	**Makanchi Array**	**24.52**	**340**	P	**P**	**20 30 23.7**	**+3.3**
0.3nm,0.5s,baz=149,slow=10,SNR=6.4							
0.3nm,0.5s							
SONM	**Songino Array**	**25.54**	**19**	P	**P**	**20 30 30.9**	**+1.1**
1.3nm,0.6s,baz=198,slow=9.5,SNR=11							
1.3nm,0.6s							
WRA	**Warramunga Arr**	**58.75**	**135**	P	**P**	**20 34 57.8**	**-0.3**
0.3nm,0.8s,baz=323,slow=6.8,SNR=5.0							
0.3nm,0.8s							
ASAR	**Alice Springs**	**61.20**	**138**	P	**P**	**20 35 15.9**	**+1.1**
0.3nm,0.4s,baz=321,slow=6.8,SNR=6.3							
ASAR				pP	**pP**	**20 35 37.5**	**-2.2**
0.3nm,0.6s,baz=317,slow=6.5,SNR=2.7							
0.3nm,0.4s							

---

*BJI **14** 20:28:28.5, 42°.58N×144°.78E, h36km, mB5.3/43, mb5.2/86, Ms4.6/85, Ms7 4.5/82*
*MOS **14** 20:28:29.5±0.8, 42°.46N×144°.76E, h43km, mb5.5/121, MS4.8/10, Error ellipse: s-maj=5.1km s-min=3.3km az=114.3*
MOS Felt (II) at Yuzhno-Kuril'sk.
*SKHL **14** 20:28:30.0±0.6, 42°.40N×145°.00E, h60km±6km, mb5.9/4, mbv5.3/2, ms4.7/2, msh5.4/3*
*NIED **14** 20:28:30.3, 42°.49N×144°.82E, h43km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}3.01; $M_{\theta\theta}$-1.41; $M_{\phi\phi}$-1.60; $M_{r\theta}$1.43; $M_{\theta\phi}$-2.08; $M_{\phi r}$2.84; Fault plane solution: $M_0$4.59000×10^{16} NP1: ϕ_s239.00000°, δ25.00000°, λ116.00000°. NP2: ϕ_s31.00000°, δ67.00000°, λ79.00000°.*
*NEIC **14** 20:28:30.6, 42°.49N×144°.95E, h36km, Moment Tensor Solution. Duration: 1§6 Moment tensor: Scale 10^{16}Nm; M_{rr}2.51; $M_{\theta\theta}$-1.10; $M_{\phi\phi}$-1.40; $M_{r\theta}$1.63; $M_{\theta\phi}$-2.53; $M_{\phi r}$2.20; Fault plane solution: $M_0$4.18000×10^{16} NP1: ϕ_s233.93000°, δ25.23000°, λ105.65000°. NP2: ϕ_s36.72000°, δ65.77000°, λ82.75000°. Principal axes: T 3.5572, Plg68.0000°, Azm293.0000°; N 1.2405, Plg7.0000°, Azm40.0000°; P -4.7977, Plg20.0000°, Azm132.0000°;*
*IDC **14** 20:28:30.2±1.9, 42°.51N×144°.79E, h33km±13km, mb4.9/31, mbtmp5.1/39, ML4.0/6, MS4.3/74 Error ellipse: s-maj=12.0km s-min=10.0km az=115.0*
*NEIC **14** 20:28:30.6, 42°.49N×144°.81E, h36km*
*NEIC **14** 20:28:30.7±2.1, 42°.48N±0°.07×144°.8E±0°.1, h40km±7km, mb5.1/207, Mww5.0/17, Error ellipse: s-maj=13.1km s-min=8.8km az=112.0*
*JMA **14** 20:28:30.3±0.1, 42°.5N±0°.2×144°.8E±0°.5, h43km±1km, MD5.1/40, MW5.0/40, SE OFF TOKACHI*
JMA Felt III J1 at SE OFF TOKACHI .
*GCMT **14** 20:28:32.7±0.2, 42°.49N±0°.01×144°.86E±0°.02, h35km, MW5.1/103, Moment Tensor Solution. s62, c94; s103, c169; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.55±.16; $M_{\theta\theta}$-2.15±.11; $M_{\phi\phi}$-1.39±.10; $M_{r\theta}$2.13±.12; $M_{\theta\phi}$-2.20±.07; $M_{\phi r}$3.03±.13; Best double couple: $M_0$5.29700×10^{16} NP1:ϕ_s242.00000°, δ24.00000°, λ111.00000°. NP2:ϕ_s39.00000°, δ68.00000°, λ81.00000°. Principal axes: T 5.1430, Plg66.0000°, Azm293.0000°; N 0.3180, Plg9.0000°, Azm43.0000°; P -5.4520, Plg22.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **14** 20:28:34.2, 43°.45N×144°.89E, h33km, mb5.2, Ms4.8, Hypocentre not reviewed by the ISC*
ISC 14 20:28:31.1±0.3, 42°.52N±0°.03×144°.87E±0°.03, h45km±2km, h44km:pP-P, n1370, σ1§34/1287, mb5.2/349, MS4.5/105, 69C-58D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.49**	**345**	⇓P	**Pn**	**20 28 41.3**	**-0.6**
JAK				⇓S	**Sn**	**20 28 49.5**	**-0.1**
JAK	**Akkeshi**	**0.49**	**345**	A	A	20 28 41.3	
comp=N,267nm,0.5s,comp=E,538nm,1.8s							
AKK	**Akkeshi**	**0.49**	**358**	*e*P	**Pn**	**20 28 41.7**	**-0.3**
AKK				*e*S	**Sn**	**20 28 50.1**	**+0.4**
JKHN	**Kushirohamanak**	**0.60**	**21**	⇓P	**Pn**	**20 28 43.5**	**+0.2**
JKHN				⇓S	**Sn**	**20 28 53.8**	**+1.7**
JKHN	**Kushirohamanak**	**0.60**	**21**	A	A	20 28 43.5	
comp=N,275nm,1.2s,comp=E,480nm,1.9s							
JOB	**Onbets**	**0.85**	**297**	⇓P	**Pn**	**20 28 46.1**	**-0.6**
JOB	**Onbets**	**0.85**	**297**	A	A	20 28 46.1	
comp=N,92nm,0.5s,comp=E,163nm,3.1s							
NMR	**Nemuro--Hokkai**	**1.06**	**36**	⇑*i*PN	**Pn**	**20 28 49.6**	**+0.1**
NMR				*e*S	**Sn**	**20 29 04.1**	**+1.1**
NMR	**Nemuro--Hokkai**	**1.06**	**36**	*i* P	**Pn**	**20 28 49.6**	**+0.1**
NMR				AMB	AMB	20 28 50.4	
comp=E,3μm,0.2s							
NMR				*e*S	**Sn**	**20 29 03.8**	**+0.8**
NMR				A	A	20 29 05.9	
comp=E,41μm,0.5s							
NMR				A	A	20 29 05.9	
comp=E,42μm,0.5s							
NEM2	**Nemuro 2**	**1.06**	**37**	P	**Pn**	**20 28 49.5**	**0.0**
NEM2				*e*S	**Sn**	**20 29 04.0**	**+0.9**
NEM2	**Nemuro 2**	**1.06**	**37**	A	A	20 28 49.5	
comp=N,122nm,1.4s,comp=E,57nm,0.8s							
JNK	**Nakash**	**1.07**	**354**	⇓P	**Pn**	**20 28 49.2**	**-0.5**
JNK				⇓S	**Sn**	**20 29 03.0**	**-0.3**
JNK	**Nakash**	**1.07**	**354**	A	A	20 28 49.2	
comp=N,80nm,0.4s,comp=E,97nm,1.2s							
JCH	**Churui**	**1.12**	**275**	⇓P	**Pn**	**20 28 49.8**	**-0.5**
JCH	**Churui**	**1.12**	**275**	A	A	20 28 49.8	
comp=N,99nm,0.6s,comp=E,222nm,0.7s							
JAR	**Ashorobuto**	**1.12**	**314**	⇓P	**Pn**	**20 28 49.6**	**-0.7**
JAR	**Ashorobuto**	**1.12**	**314**	A	A	20 28 49.6	
comp=N,83nm,3.2s,comp=E,120nm,2.7s							
JTHR	**Tokachihiroo**	**1.19**	**259**	A	A	20 28 50.2	
comp=N,103nm,3.1s,comp=E,112nm,1.8s							
JNSB	**Nemuroshibetsu**	**1.26**	**5**	A	A	20 28 52.5	
comp=N,221nm,1.3s,comp=E,206nm,1.4s							
ERM	**Erimo**	**1.37**	**249**		**Pn**	**20 28 53.1**	**-0.6**
ERM	**Erimo**	**1.37**	**249**	P	**Pn**	**20 28 54.2**	**+0.5**
ERM	**Erimo**	**1.37**	**249**	*ce*PN	**Pn**	**20 28 53.6**	**-0.1**
JEM	**Erimo**	**1.37**	**249**	P	**Pn**	**20 28 54.4**	**+0.7**
JEM	**Erimo**	**1.37**	**249**	*e*P	**Pn**	**20 28 53.4**	**-0.3**
JEM	**Erimo**	**1.37**	**249**	A	A	20 28 53.4	
comp=N,57nm,1.8s,comp=E,65nm,2.9s							
JRA	**Rausu**	**1.43**	**7**	⇓P	**Pn**	**20 28 54.6**	**+0.1**
JRA				⇓S	**Sn**	**20 29 12.9**	**+0.8**
JRA	**Rausu**	**1.43**	**7**	A	A	20 28 54.6	
comp=N,48nm,2.0s,comp=E,47nm,4.0s							
JNBK	**Urakawa-nobuka**	**1.58**	**262**	P	**Pn**	**20 28 55.8**	**-0.9**
JNBK	**Urakawa-nobuka**	**1.58**	**262**	A	A	20 28 55.8	
comp=N,132nm,0.9s,comp=E,144nm,0.9s							
RUSJ	**Misakicho**	**1.60**	**10**	⇓*i*PN	**Pn**	**20 28 57.4**	**+0.4**
RUSJ				*e*S	**Sn**	**20 29 19.1**	**+2.6**
JTKR	**Abashiri--Toko**	**1.61**	**334**	⇓P	**Pn**	**20 28 57.3**	**+0.3**
JTKR				⇓*e*S	**Sn**	**20 29 18.5**	**+2.0**
JTKR	**Abashiri--Toko**	**1.61**	**334**	A	A	20 28 57.3	
comp=N,51nm,0.9s,comp=E,46nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**1.68**	**25**	*i* PN	**Pn**	**20 28 58.2**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.68**	**25**	*e*P	**Pn**	**20 28 58.5**	**+0.6**
YUK				AMB	AMB	20 28 59.2	
comp=E,3μm,0.2s							
YUK				*e*S	**Sn**	**20 29 17.4**	**-0.8**
YUK				A	A	20 29 20.4	
comp=E,44μm,0.8s							
YUK				A	A	20 29 20.4	
comp=E,41μm,0.8s							
JSHD	**Hidakashinhida**	**1.78**	**267**	A	A	20 28 58.9	
comp=N,127nm,2.2s,comp=E,129nm,1.3s				

JBT2	Biratori 2	1.86 279	A	A	20 29 00.3	
comp=N,27nm,1.9s,comp=E,34nm,1.1s						
SHO	Shikotan	1.97 46	*d i* PN	Pn	20 29 02.2	+0.3
SHO			*e*S	Sn	20 29 26.8	+1.4
SHO			pmax	pmax		
comp=N,126nm,0.2s						
SHO			pmax	pmax		
comp=E,222nm,0.2s						
SHO			pmax	pmax		
comp=Z,527nm,0.2s						
SHO			smax	smax		
comp=N,9μm,0.4s						
SHO			smax	smax		
comp=E,9μm,0.3s						
SHO	Shikotan	1.97 46	*e*P	Pn	20 29 01.5	-0.4
SHO			AMB	AMB	20 29 04.0	
comp=E,700nm,0.2s						
SHO			*e*S	Sn	20 29 25.3	-0.1
SHO			A	A	20 29 28.0	
comp=E,9μm,0.4s						
SHO			A	A	20 29 28.0	
comp=E,7μm,0.4s						
JKK2	Kamakawa 2	2.06 312	A	A	20 29 03.4	
comp=N,16nm,2.3s,comp=E,18nm,4.0s						
JAB	Ashibetsu	2.17 298	A	A	20 29 04.9	
comp=N,38nm,2.9s,comp=E,53nm,2.6s						
JIAM	Iburiatsuma	2.18 274	A	A	20 29 04.7	
comp=N,99nm,0.9s,comp=E,137nm,0.9s						
JKA	Kamikawa-asahi	2.30 315		Pn	20 29 07.5	+1.0
JKA	Kamikawa-asahi	2.30 315	*e*P	Pn	20 29 07.3	+0.8
ASAJ	Asahikawa	2.30 315	Pn	Pn	20 29 07.3	+0.8
comp=E,5μm,0.3s,baz=141,slow=11,SNR=5205						
ASAJ			Sn	Sn	20 29 33.6	+0.1
comp=E,714nm,0.3s,baz=312,slow=18,SNR=14						
ASAJ			LR	LR	20 30 11.5	
comp=E,12μm,19.6s,baz=216,slow=45						
ASAJ	Asahikawa	2.30 315	A	A	20 29 06.9	
comp=N,24nm,2.9s,comp=E,22nm,1.3s						
JEW	Eniwo	2.54 278	A	A	20 29 09.9	
comp=N,41nm,0.9s,comp=E,47nm,1.0s						
JHR	Hokuryu	2.60 299	A	A	20 29 11.1	
comp=N,25nm,4.8s,comp=E,30nm,5.1s						
JISS	Ishikarishitsu	2.64 288	A	A	20 29 11.5	
comp=N,154nm,0.8s,comp=E,88nm,1.5s						
JNB	Noboribetsu	2.83 270	A	A	20 29 14.0	
comp=N,10.0nm,2.1s,comp=E,13nm,3.4s						
JSS	Shosan	2.89 312	A	A	20 29 15.3	
comp=N,13nm,2.2s,comp=E,25nm,3.8s						
JKB	Kayabe	2.92 259	A	A	20 29 15.1	
comp=N,21nm,2.7s,comp=E,24nm,1.2s						
JAHD	Aomorihigashid	2.92 246	A	A	20 29 15.0	
comp=N,39nm,1.5s,comp=E,38nm,0.6s						
JSE	Soyaes	2.94 327	A	A	20 29 16.3	
comp=N,10.0nm,2.0s,comp=E,7.0nm,1.2s						
JARK	Aomorirokkasho	3.02 241	A	A	20 29 16.5	
comp=N,26nm,0.9s,comp=E,12nm,0.5s						
JOT	Ohata	3.07 249	A	A	20 29 17.2	
comp=N,10.0nm,4.7s,comp=E,11nm,1.9s						
JYG	Yagishiri	3.15 308	A	A	20 29 18.9	
comp=N,9.0nm,3.0s,comp=E,11nm,5.5s						
JANG	Nango	3.31 231	A	A	20 29 20.5	
comp=N,5.0nm,0.4s,comp=E,10.0nm,0.5s						
JKEN	Kujiedanarisaw	3.32 227	A	A	20 29 20.6	
comp=N,10.0nm,1.5s,comp=E,15nm,0.5s						
JSK	Shakotan	3.33 286	A	A	20 29 21.2	
comp=N,9.0nm,1.6s,comp=E,15nm,1.7s						
JTM	Tenmabayashi	3.33 240		Pn	20 29 19.9	-0.8
JTM	Tenmabayashi	3.33 240	P	Pn	20 29 20.3	-0.4
JTM	Tenmabayashi	3.33 240	A	A	20 29 20.9	
comp=N,13nm,1.3s,comp=E,13nm,2.1s						
JYM2	Yakumo 2	3.36 265	A	A	20 29 21.4	
comp=N,9.0nm,1.7s,comp=E,6.0nm,2.6s						
JSR	Shiriuchi	3.46 255	A	A	20 29 22.7	
comp=N,9.0nm,3.6s,comp=E,8.0nm,3.6s						
KUR	Kuril'sk	3.47 38	*d i* PN	Pn	20 29 24.2	+1.7
KUR			*i* S	Sn	20 30 04.7	+2.4
KUR			pmax	pmax		
comp=Z,1μm,0.7s						
KUR			pmax	pmax		
comp=E,527nm,0.6s						
KUR			pmax	pmax		
comp=N,379nm,0.4s						
KUR			pmax	pmax		
comp=Z,4μm,1.4s						
KUR			smax	smax		
comp=E,3μm,0.8s						
KUR			smax	smax		
comp=N,1μm,0.4s						
KUR			smax	smax		
comp=N,19μm,1.8s						
KUR			smax	smax		
comp=E,7μm,1.5s						
KUR	Kuril'sk	3.47 38	*e*P	Pn	20 29 24.1	+1.6
KUR			AMB	AMB	20 29 27.1	
comp=E,2μm,0.4s						
KUR			*e*S	Sn	20 30 02.5	+0.2
KUR			A	A	20 30 09.3	
comp=E,7μm,0.7s						
KUR			A	A	20 30 09.3	
comp=E,6μm,0.7s						
KUR			A	A	20 30 16.0	
comp=E,19μm,2.0s						
KUR			A	A	20 30 16.0	
comp=E,10μm,2.0s						
JWK2	Keihoku	3.52 323	A	A	20 29 24.4	
comp=N,8.0nm,3.0s,comp=E,12nm,2.8s						
JSH	Shimam	3.56 274	A	A	20 29 24.4	
comp=N,5.0nm,2.2s,comp=E,6.0nm,2.4s						
JSI2	Shiura 2	3.64 248	A	A	20 29 25.2	
comp=N,12nm,2.1s,comp=E,17nm,1.4s						
JRR	Rishiri	3.67 317	A	A	20 29 26.4	
comp=N,32nm,2.7s,comp=E,23nm,3.7s						
JHST	Hiyamasetana	3.69 270	A	A	20 29 26.1	
comp=N,9.0nm,2.7s,comp=E,11nm,2.4s						
JOMM	Oshimamatsumae	3.76 256	A	A	20 29 26.9	
comp=N,4.0nm,2.7s,comp=E,4.0nm,3.5s						
JHHS	Hirosakihyakuz	3.86 243	A	A	20 29 28.3	
comp=N,31nm,4.4s,comp=E,23nm,2.5s						
JAH	Hinai	3.95 235	A	A	20 29 29.5	
comp=N,9.0nm,4.1s,comp=E,6.0nm,2.3s						
JSZI	Iwateshizukuis	4.06 228	A	A	20 29 31.0	
comp=N,12nm,1.6s,comp=E,12nm,3.4s						
JOM	Ohasama	4.07 223	A	A	20 29 31.3	
comp=N,4.0nm,2.3s,comp=E,6.0nm,0.6s						
JIW	Iwasaki	4.12 244	A	A	20 29 32.0	
comp=N,6.0nm,1.6s,comp=E,6.0nm,4.0s						
JNTW	Noshirotokiwa	4.19 239	A	A	20 29 33.0	
comp=N,19nm,3.3s,comp=E,16nm,2.4s						
OFUJ	Ofunato	4.21 216	A	A	20 29 33.2	
comp=N,4.0nm,1.7s,comp=E,5.0nm,1.7s						
JRG	Rokugo	4.47 227	A	A	20 29 36.9	
comp=N,6.0nm,2.1s,comp=E,7.0nm,0.6s						
JMK	Ichinoseki	4.52 219	A	A	20 29 37.5	
comp=N,4.0nm,1.5s,comp=E,6.0nm,1.9s						
JYW	Yuwa	4.61 231	A	A	20 29 38.9	
comp=N,10.0nm,4.9s,comp=E,8.0nm,2.7s						
YSS	Yuzhno-Sakhali	4.68 342		Pn	20 29 39.7	+0.6
YSS	Yuzhno-Sakhali	4.68 342	P	Pn	20 29 40.9	+1.8
YSS	Yuzhno-Sakhali	4.68 342	*e*PN	Pn	20 29 40.1	+1.0
YSS			pmax	pmax		
comp=Z,170nm,0.5s						
YSS			pmax	pmax		
comp=Z,300nm,2.7s						
YSS			MLR	MLR		
comp=N,5μm,16.0s						
YSS			MLR	MLR		
comp=E,5μm,16.0s						
YSS			MLR	MLR		
comp=Z,7μm,16.0s						
YSS	Yuzhno-Sakhali	4.68 342	*e*P	Pn	20 29 40.9	+1.8
YSS			AMB	AMB	20 29 42.0	
comp=Z,160nm,0.4s						
YSS			AMB	AMB	20 29 46.0	
comp=Z,300nm,3.0s						
YSS			*e*S	Sn	20 30 33.9	+1.8
YSS			A	A	20 30 35.9	
comp=Z,1μm,3.0s						
YSS			A	A	20 30 35.9	
comp=Z,550nm,3.0s						
YSS			A	A	20 30 38.0	
comp=Z,400nm,0.6s						
YSS			A	A	20 30 38.0	
comp=Z,210nm,0.6s						
YSS			AMS	AMS	20 31 42.9	
comp=Z,5μm,16.0s						
YSS			AMS	AMS	20 31 42.9	
comp=Z,4μm,16.0s						
YSS			AMS	AMS	20 31 42.9	
comp=Z,8μm,16.0s						
JOG3	Oga3	5.08 241	A	A	20 29 38.9	
comp=N,7.0nm,3.6s,comp=E,5.0nm,3.9s						
JOU	Okura	5.25 219	A	A	20 29 47.7	
comp=N,5.0nm,0.7s,comp=E,5.0nm,2.2s						
JYA	Atsumi	5.55 227	A	A	20 29 52.0	
comp=N,5.0nm,1.6s,comp=E,4.0nm,0.7s						
JMM	Marumori	5.60 215		Pn	20 29 49.3	-2.5
JMM	Marumori	5.60 215	P	Pn	20 29 49.1	-2.7
JYAR	Yonezawaarcadi	5.85 220	A	A	20 29 56.2	
comp=N,14nm,1.4s,comp=E,10.0nm,1.3s						
TEY	Ternei	6.49 296⇑	*e*PN	Pn	20 30 03.1	-0.8
TEY			pmax	pmax		
comp=E,10.0nm,0.8s						
TEY			pmax	pmax		
comp=Z,10.0nm,0.6s						
TEY			pmax	pmax		
comp=N,10.0nm,0.7s						
TEY			pmax	pmax		
comp=N,30nm,0.7s						
TEY			pmax	pmax		
comp=E,60nm,0.7s						
TEY			pmax	pmax		
comp=Z,70nm,0.7s						
JSD	Sado	6.75 231		Pn	20 30 06.5	-1.1
JSD	Sado	6.75 231	P	Pn	20 30 06.7	-0.9
UGL	Uglegorsk	6.84 344⇑	*i* PN	Pn	20 30 11.1	+2.3
UGL			pmax	pmax		
comp=Z,125nm,0.7s						
UGL			MLR	MLR		
comp=N,6μm,13.0s						
UGL			MLR	MLR		
comp=Z,6μm,13.0s						
UGL			MLR	MLR		
comp=E,4μm,12.0s						
UGL	Uglegorsk	6.84 344	*e*P	Pn	20 30 11.4	+2.6
MAJO	Matsushiro	7.88 223		Pn	20 30 21.8	-1.4
MAJO	Matsushiro	7.88 223	P	Pn	20 30 21.7	-1.4
MAJO	Matsushiro	7.88 223	*i* PN	Pn	20 30 21.6	-1.5
MJAR	Matsushiro Arr	7.88 223	Pn	Pn	20 30 21.8	-1.4
comp=E,1.8nm,0.3s,baz=29,slow=14,SNR=195						
MJAR			Sn	Sn	20 31 48.1	-2.8
baz=223,slow=55						
MJAR			LR	LR	20 33 47.0	
comp=E,2μm,21.6s,baz=44,slow=40						
comp=E,49nm,0.7s						
MJB9	Matsu-Tunnel	7.88 223		Pn	20 30 22.7	-0.4
TYV	Tymovskoe	8.48 350	*e*PN	Pn	20 30 33.4	+2.2
TYV			*e*S	Sn	20 32 11.5	+6.0
TYV			pmax	pmax		
comp=Z,200nm,2.1s						
TYV			pmax	pmax		
comp=Z,76nm,0.8s						
TYV			smax	smax		
comp=N,32nm,1.1s						
TYV			smax	smax		
comp=E,21nm,1.1s						
TYV			smax	smax		
comp=E,400nm,4.8s						
TYV			MLR	MLR		
comp=Z,2μm,13.0s						
TYV	Tymovskoe	8.48 350	*e*P	Pn	20 30 33.2	+2.0
TYV			AMB	AMB	20 30 34.5	
comp=Z,200nm,2.0s						
TYV			AMB	AMB	20 30 34.7	
comp=Z,70nm,0.6s						
TYV			*e*S	Sn	20 32 07.1	+1.6
TYV			A	A	20 32 22.9	
comp=Z,250nm,5.0s						
TYV			A	A	20 32 22.9	
comp=Z,400nm,5.0s						
TYV			AMS	AMS	20 33 55.9	
comp=Z,2μm,12.0s						
TYV			AMS	AMS	20 33 55.9	
comp=Z,1μm,12.0s						
TYV			AMS	AMS	20 33 55.9	
comp=Z,2μm,12.0s						
JGF	Kuroka	9.05 223		Pn	20 30 38.2	-0.9
JGF	Kuroka	9.05 223	P	Pn	20 30 38.2	-0.9
INU	Inuyama	9.41 223		Pn	20 30 43.0	-1.1
INU	Inuyama	9.41 223	P	Pn	20 30 43.9	-0.2
INU	Inuyama	9.41 223	S	Sn	20 32 28.2	-0.4
USA0B	Ussuriysk Arra	9.53 284		Pn	20 30 45.1	-0.5
USA0B	Ussuriysk Arra	9.53 284	*i* PN	Pn	20 30 46.5	+0.8
USRK	Ussuriysk Ar.	9.53 284	Pn	Pn	20 30 45.1	-0.5
USRK	Ussuriysk Ar.	9.53 284	Pn	Pn	20 30 46.8	+1.1
comp=Z,4.7nm,0.3s,baz=90,slow=14,SNR=66						
USRK	Ussuriysk Ar.	9.53 284	PN	Pn	20 30 45.1	-0.5
VLA	Vladivostok	9.56 278	*i* PN	Pn	20 30 47.4	+1.3
VLA			pmax	pmax		
comp=Z,152nm,1.2s						
VLA	Vladivostok	9.56 278	*e*P	Pn	20 30 47.4	+1.3
GRNR	Gornyy	10.08 328⇑	*i* PN	Pn	20 30 56.0	+2.8
GRNR			*e*S	Sn	20 32 52.0	+7.2
GRNR			pmax	pmax		
comp=E,20nm,0.5s						
GRNR			pmax	pmax		
comp=N,20nm,0.7s						
GRNR			pmax	pmax		
comp=Z,30nm,0.6s						
GRNR			smax	smax		
comp=N,5.0nm,0.6s						
GRNR			MLR	MLR		
comp=N,690nm,15.0s						
GRNR			MLR	MLR		
comp=E,1μm,15.0s						
GRNR			MLR	MLR		
comp=Z,2μm,13.0s						
GRNR	Gornyy	10.08 328	*e*P	Pn	20 30 56.0	+2.8
MSHR	Mys Shultsa	10.12 275	*ce*PN	Pn	20 30 55.5	+1.8
MSHR			pmax	pmax		
comp=Z,136nm,1.0s						
JHJ2	Mitsune	10.21 205	Pn	Pn	20 30 52.5	-2.5
JHJ2	Mitsune	10.21 205	P	Pn	20 30 53.1	-1.8
JHJ	Hachijo jima 2	10.21 205	Pn	Pn	20 30 52.1	-2.9
comp=Z,25nm,0.3s,baz=76,slow=15,SNR=5.3						
JHJ			Sn	Sn	20 32 35.9	-12
comp=Z,55nm,0.3s,baz=49,slow=22,SNR=8.8						
comp=Z,65nm,0.4s						
PSTR	Posyet	10.38 275	*i* PN	Pn	20 30 58.7	+1.5
PSTR	Posyet	10.38 275	*e*P	Pn	20 30 58.7	+1.5
NKL	Nikolayevsk	11.00 347	*e*PN	Pn	20 31 07.3	+1.7
NKL			pmax	pmax		
comp=E,111nm,1.0s						
NKL			pmax	pmax		
comp=N,81nm,0.6s						
NKL			pmax	pmax		
comp=Z,197nm,1.1s						
NKL			MLR	MLR		
comp=E,3μm,13.0s						
NKL			MLR	MLR		
comp=N,2μm,11.0s						
NKL			MLR	MLR		
comp=Z,7μm,18.0s						
NKL	Nikolayevsk	11.00 347	*e*P	Pn	20 31 07.8	+2.2
OKH	Okha	11.11 354	*de*PN	Pn	20 31 06.6	-0.6
OKH			pmax	pmax		
comp=Z,100nm,10.3s						
OKH			MLR	MLR		
comp=N,3μm,15.0s						
OKH			MLR	MLR		
comp=Z,2μm,14.0s						
OKH	Okha	11.11 354	*e*P	Pn	20 31 07.7	+0.5
SKR	Severo-Kuril's	11.24 40	*e*PN	Pn	20 31 12.2	+3.3
SKR			pmax	pmax		
comp=Z,158nm,0.8s						
SKR			MLR	MLR		
comp=Z,2μm,15.0s						
SKR	Severo-Kuril's	11.24 40	*e*P	Pn	20 31 09.6	+0.7
SKR			AMB	AMB	20 31 13.1	
comp=Z,40nm,0.5s						
SKR			*e*S	Sn	20 33 09.5	-3.5
MDJ	Mudanjiang	11.28 286	P	Pn	20 31 10.8	+1.2
MDJ			pmax	pmax		
comp=Z,32nm,1.0s						
KLR	Kul'dur	11.33 311	Pn	Pn	20 31 09.5	-0.7
comp=Z,1.3nm,0.3s,baz=120,slow=14,SNR=61						
KLR			LR	LR	20 35 56.7	
comp=Z,5μm,19.4s,baz=136,slow=40						
comp=Z,64nm,1.3s						
KLR	Kul'dur	11.33 311	*e*PN	Pn	20 31 10.3	+0.1
KLR			pmax	pmax		
comp=Z,139nm,1.2s						
KLR	Kul'dur	11.33 311	*e*P	Pn	20 31 12.6	+2.4
JMN	Monobe	12.32 228		Pn	20 31 20.5	-3.4
JMN	Monobe	12.32 228	P	Pn	20 31 22.4	-1.4
BNX	BinXian	12.95 290 ⇓	P	Pn	20 31 32.3	-0.1
BNX			S	Sn	20 33 57.8	+2.9
BNX			pmax	pmax		
comp=Z,150nm,0.9s						
BNX			pmax	pmax		
comp=Z,500nm,4.6s						
BNX			LR	LR		
comp=Z,500nm,11.4s						
BNX			LR	LR		
comp=Z,1μm,15.7s						
BNX			LR	LR		
comp=Z,2μm,14.6s						
PEA0B	Petropavlovsk-	13.63 35		Pn	20 31 39.2	-2.4
PEA0B	Petropavlovsk-	13.63 35	*i* P	Pn	20 31 39.3	-2.4
PETK	Petropavlovsk-	13.63 35		Pn	20 31 38.3	-3.3
PETK	Petropavlovsk-	13.63 35	Pn	Pn	20 31 40.8	-0.9
comp=Z,1.3nm,0.3s,baz=199,slow=9.4,SNR=18						
PETK			LR	LR	20 37 14.4	
comp=Z,890nm,19.4s,baz=210,slow=38						
comp=Z,9.2nm,0.9s						
KSRS	Korea Array	13.94 254	Pn	Pn	20 31 45.0	-0.9
comp=Z,0.7nm,0.3s,baz=70,slow=12,SNR=33						
KSRS			Sn	Sn	20 34 18.6	-0.4
comp=Z,0.1nm,0.3s,baz=67,slow=25,SNR=2.7						
KSRS			LR	LR	20 36 54.5	
comp=Z,3μm,19.5s,baz=65,slow=36						
KSRS			PcP	PcP	20 37 06.5	+1.7
comp=Z,2.5nm,0.9s,baz=64,slow=1.8,SNR=5.2						
comp=Z,20nm,1.0s						
KS19	Wonju Array Si	13.96 255		Pn	20 31 45.6	-0.5
KSAR	Wonju Array Be	13.97 254	Pn	Pn	20 31 45.2	-1.1
KSAR	Wonju Array Be	13.97 254	P	Pn	20 31 45.2	-1.1
PET	Petropavlovsk	13.98 37	*i* P	Pn	20 31 46.7	+0.3
PET	Petropavlovsk	13.98 37	*e*P	Pn	20 31 45.5	-0.9
CN2	Changchun	14.23 282	P	Pn	20 31 48.9	-0.9
CN2			pmax	pmax		
comp=Z,30nm,0.7s						
CN2			pmax	pmax		
comp=Z,300nm,4.0s						
CN2			LR	LR		
comp=Z,700nm,16.0s						
CN2			LR	LR		
comp=Z,2μm,16.0s						
CN2			LR	LR		
comp=Z,2μm,18.0s						
HEH	HeiHe	14.29 309	*e*P	Pn	20 31 49.8	-0.8
HEH			pmax	pmax		
comp=Z,12nm,0.9s						
HEH			pmax	pmax		
comp=Z,390nm,8.7s						
HEH			LR	LR		
comp=Z,2μm,16.7s						
HEH			LR	LR		
comp=Z,3μm,19.8s						
HEH			LR	LR		
comp=Z,5μm,14.4s						
JNU	Nakatsue	14.48 234		Pn	20 31 49.4	-3.9
JNU	Nakatsue	14.48 234	Pn	Pn	20 31 50.0	-3.3
comp=Z,0.5nm,0.3s,baz=46,slow=11,SNR=7.9						
JNU			LR	LR	20 38 19.1	
comp=Z,2μm,18.9s,baz=48,slow=41						
comp=Z,22nm,0.8s						
JNU	Nakatsue	14.48 234	P	Pn	20 31 50.9	-2.4
JTU	Tsushima	14.49 242	P	Pn	20 31 53.6	+0.3
TJN	Taejon	14.84 251	*i* P	Pn	20 31 56.7	-1.2
INCN	Inchon	14.85 256	P	P	20 32 00.6	-2.4
INCN			P	P	20 32 00.6	-2.4
JCJ	Chichijima	15.55 189	Pn	Pn	20 32 01.7	-5.5
comp=Z,6.8nm,0.3s,baz=108,slow=23,SNR=6.3						
JCJ			Sn	Sn	20 34 40.8	-18
comp=Z,9.9nm,0.3s,baz=281,slow=22,SNR=1.9						
JCJ			LR	LR	20 37 53.8	
comp=Z,400nm,22.0s,baz=10,slow=36						
JCJ	Chichijima	15.55 189	P	Pn	20 32 07.4	+0.2
SNY	Shenyang	15.80 275 ⇑	P	Pn	20 32 08.3	-2.0
SNY			pP	P	20 32 13.1	-0.4
SNY			sP	pP	20 32 18.3	-5.5
SNY			pmax	pmax		
comp=Z,20nm,1.3s						
SNY			pmax	pmax		
comp=Z,170nm,3.5s						
SNY			LR	LR		
comp=Z,530nm,14.7s						
SNY			LR	LR		
comp=Z,580nm,19.8s						
SNY			LR	LR		
comp=Z,1μm,22.6s						
ZEA	Zeya	16.20 320	*e*P	P	20 32 16.9	-1.1
ZEA			*e*S	S	20 35 20.1	-5.1
ZEA			pmax	pmax		
comp=N,40nm,0.6s						
ZEA			pmax	pmax		
comp=E,30nm,0.5s						
ZEA			pmax	pmax		
comp=Z,80nm,0.5s						
ZEA			pmax	pmax		
comp=E,100nm,2.3s						
ZEA			pmax	pmax		
comp=N,100nm,1.8s						
ZEA			pmax	pmax		
comp=Z,200nm,3.2s						
ZEA			smax	smax		
comp=N,100nm,7.0s						
ZEA	Zeya	16.20 320	*e*P	Pn	20 32 14.6	-0.8
MA2	Magadan	17.46 10	P	Pn	20 32 29.5	-1.5
MA2	Magadan	17.46 10	P	Pn	20 32 29.8	-1.2
comp=N,16nm,0.8s,baz=201,slow=12,SNR=7.8						
MA2			LR	LR	20 39 15.3	
comp=N,573nm,19.9s,baz=199,slow=37						
MA2	Magadan	17.46 10	*ce*P	P	20 32 31.9	+0.1
MA2			pmax	pmax		
comp=Z,29nm,1.3s						
MA2	Magadan	17.46 10	P	Pn	20 32 31.4	+0.3
comp=Z,37nm,1.4s						
DL2	Dalian	17.97 266	P	Pn	20 32 36.3	-1.2
DL2			S	Sn	20 35 54.3	-2.6
DL2			pmax	pmax		
comp=Z,97nm,0.8s						
DL2			pmax	pmax		
comp=Z,690nm,6.0s						
DL2			LR	LR		
comp=Z,480nm,16.2s						
DL2			LR	LR		
comp=Z,2μm,16.7s						
DL2			LR	LR		
comp=Z,2μm,22.2s						
HIA	Hailar	18.69 300	P	P	20 32 42.6	-2.8
HIA	Hailar	18.69 300	P	P	20 32 42.7	-2.8
HIA			pmax	pmax		
comp=Z,47nm,0.7s						
JOW	Kunigami	20.71 226	P	P	20 33 04.0	-3.5
comp=Z,32nm,0.6s,baz=44,slow=10,SNR=3.8						
JOW			LR	LR	20 41 52.3	
comp=Z,976nm,21.7s,baz=97,slow=39						
SEY	Seymchan	20.92 10	P	P	20 33 07.2	-2.3
comp=Z,11nm,0.5s,baz=190,slow=8.7,SNR=31						
SEY			LR	LR	20 41 44.3	
comp=Z,537nm,18.5s,baz=188,slow=38						
SEY	Seymchan	20.92 10	*i* P	P	20 33 06.8	-2.7
XLT	XiLinHaoTe	20.99 284	*e*P	P	20 33 09.5	-1.1
XLT			pmax	pmax		
comp=Z,140nm,0.8s						
XLT			LR	LR		
comp=Z,1μm,19.4s						
XLT			LR	LR		
comp=Z,2μm,19.1s						
YAK	Yakutsk	21.53 340	P	P	20 33 12.7	-3.4
YAK	Yakutsk	21.53 340	P	P	20 33 12.5	-3.6
comp=Z,53nm,0.3s,baz=183,slow=2.4,SNR=27						
YAK			S	S	20 37 04.0	-8.0
comp=Z,26nm,0.9s,baz=30,slow=23,SNR=8.7						
YAK			ScP	ScP	20 40 51.2	+1.1
comp=Z,4.9nm,0.6s,baz=155,slow=2.9,SNR=1.9						
YAK			LR	LR	20 42 17.2	
comp=Z,2μm,18.5s,baz=146,slow=38						
YAK	Yakutsk	21.53 340	*d i* P	P	20 33 12.8	-3.2
YAK			*e*		20 33 24.8	
YAK			*e*S	S	20 37 05.8	-6.2
YAK			*e*		20 37 13.8	
YAK			*e**SS	sS	20 37 27.1	-1.7
YAK			*e*SSS	SSS	20 37 46.4	
YAK			*e*		20 44 31.8	
YAK			pmax	pmax		
comp=Z,50nm,0.9s						
YAK			pmax	pmax		

comp=N,17nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax smax
comp=N,185nm,1.5s
YAK smax smax
comp=E,127nm,1.5s
YAK MLR MLR
comp=Z,2μm,17.0s
YAK MLR MLR
comp=N,1μm,16.0s
YAK MLR MLR
comp=E,852nm,15.0s
BJI Beijing 21.66 273 P **P** **20 33 15.6 -2.1**
BJI S **S** **20 37 14.9 -0.1**
BJI pmax pmax
comp=E,27nm,0.8s
BJI pmax pmax
comp=E,160nm,3.1s
BJI LR LR
comp=E,290nm,15.6s
BJI LR LR
comp=E,590nm,21.0s
BJI LR LR
comp=E,820nm,19.9s
BJT Baijiatuau 21.67 273 P **P** **20 33 16.1 -1.7**
BJT pmax pmax
comp=Z,58nm,0.6s
SHEM Shemya Is, Ala 22.04 52 LR LR 20 44 59.8
comp=Z,88nm,18.1s,baz=284,slow=45
SSE Sheshan 22.05 247 P **P** **20 33 20.6 -1.3**
SSE S **S** **20 37 24.0 +1.5**
SSE pmax pmax
comp=Z,11nm,0.8s
SSE LR LR
comp=Z,500nm,18.5s
SSE LR LR
comp=Z,450nm,18.6s
TIA Tai'an 22.30 263 P **P** **20 33 21.8 -2.8**
TIA pmax pmax
comp=Z,69nm,0.8s
TIA pmax pmax
comp=Z,290nm,3.5s
TIA LR LR
comp=Z,520nm,18.0s
TIA LR LR
comp=Z,840nm,18.7s
TIA LR LR
comp=Z,1μm,18.8s
NJ2 Nanjing 23.10 252 ⇓P **P** **20 33 31.0 -2.0**
NJ2 S **S** **20 37 39.1 -1.7**
NJ2 pmax pmax
comp=Z,26nm,0.8s
NJ2 LR LR
comp=Z,1μm,20.8s
NJ2 LR LR
comp=Z,2μm,19.4s
NJ2 LR LR
comp=Z,3μm,17.8s
CIT Chita 23.11 305 *e*P **P** **20 33 32.2 -0.8**
CIT *e* 20 33 38.2
CIT *e* 20 33 47.2
CIT *e* 20 34 09.6
CIT *e*S **S** **20 37 42.0 +1.1**
CIT *e* 20 38 20.8
CIT pmax pmax
comp=Z,158nm,1.9s
HNS HongShan 23.61 268 ⇑P **P** **20 33 38.6 +0.8**
HNS pP **pP** **20 33 49.6 +0.6**
HNS pmax pmax
comp=Z,180nm,1.1s
HNS LR LR
comp=Z,340nm,16.7s
HNS LR LR
comp=Z,830nm,18.6s
HNS LR LR
comp=Z,1μm,18.6s
JMJ Miyako jima 2 23.93 229 P **P** **20 33 42.5 +1.6**
BOD Bodaibo 24.70 319 *e*P **P** **20 33 45.0 -2.7**
BOD pmax pmax
comp=Z,22nm,1.3s
HHC Hu-ho-hao-te 24.84 277 ⇓*i*P **P** **20 33 49.4 +0.1**
HHC S **S** **20 38 06.1 -2.9**
HHC pmax pmax
comp=Z,33nm,1.4s
HHC pmax pmax
comp=Z,350nm,5.1s
HHC LR LR
comp=Z,440nm,15.1s
HHC LR LR
comp=Z,550nm,21.0s
HHC LR LR
comp=Z,970nm,18.5s
TIY Taiyuan 25.17 270 P **P** **20 33 54.1 +1.8**
TIY S **S** **20 38 14.1 -0.2**
TIY pmax pmax
comp=Z,54nm,0.8s
TIY pmax pmax
comp=Z,440nm,4.6s
TIY LR LR
comp=Z,300nm,13.1s
TIY LR LR
comp=Z,670nm,17.9s
TIY LR LR
comp=Z,890nm,18.5s
TATO Taipei 26.02 235 P **P** **20 34 03.2 +3.2**
BTO Baotou 26.04 278 *e*P **P** **20 34 01.0 +0.9**
BTO pP **pP** **20 34 05.3 -6.2**
BTO PP **PnPn** **20 34 42.5 +3.0**
BTO S **S** **20 38 33.3 +5.3**
BTO SS **SnSn** **20 39 29.6 +1.3**
BTO pmax pmax
comp=Z,120nm,0.9s
BTO pmax pmax
comp=Z,280nm,3.8s
BTO LR LR
comp=Z,520nm,8.4s
BTO LR LR
comp=Z,650nm,8.4s
BTO LR LR
comp=Z,3μm,15.5s
YHNB Yeheng 26.32 235 P **P** **20 34 04.5 +1.8**
LYN LuoYang 26.44 263 ⇑P **P** **20 34 04.9 +1.2**
LYN S **S** **20 38 36.6 +2.3**
LYN pmax pmax
comp=Z,110nm,1.0s
LYN pmax pmax
comp=Z,850nm,4.3s
LYN LR LR
comp=Z,740nm,14.8s
LYN LR LR
comp=Z,980nm,17.2s
LYN LR LR
comp=Z,1μm,19.2s
NACB Ninganchiao 26.56 234 P **P** **20 34 06.2 +1.4**
ULN Ulaanbaatar 26.99 295 P **P** **20 34 08.8 +0.1**
ULN P **P** **20 34 08.8 +0.1**
ULN S **S** **20 38 42.3 -0.7**
ULN S **S** **20 38 42.3 -0.7**
ULN Ulaanbaatar 26.99 295 *ce*P **P** **20 34 07.9 -0.8**
ULN pmax pmax
comp=Z,100nm,1.3s
ULN Ulaanbaatar 26.99 295 *e*P **P** **20 34 07.9 -0.8**
WHN Wuhan 27.13 254 ⇑P **P** **20 34 10.6 +0.7**
WHN pP **pP** **20 34 22.8 +1.5**
WHN S **S** **20 38 48.6 +3.4**
WHN pmax pmax
comp=Z,210nm,0.7s
WHN LR LR
comp=Z,3μm,17.0s
WHN LR LR
comp=Z,2μm,16.5s
WHN LR LR
comp=Z,4μm,20.1s
SSLB Suanglung 27.23 234 P **P** **20 34 13.2 +2.3**
SONM Songino Array 27.43 295 P **P** **20 34 12.4 -0.2**
SONM Songino Array 27.43 295 P **P** **20 34 12.3 -0.3**
comp=Z,130nm,0.9s,baz=83,slow=8.1,SNR=196
SONM PcP **PcP** **20 37 30.3 +0.1**
comp=Z,2.1nm,0.6s,baz=115,slow=2.9,SNR=2.8
SONM ScP **ScP** **20 41 08.0 +1.0**
comp=Z,1.8nm,1.1s,baz=36,slow=2.8,SNR=4.6
SONM LR LR 20 46 04.5
comp=Z,1μm,18.8s,baz=92,slow=38
comp=Z,130nm,0.9s
TPUB Ta-pu 27.79 234 P **P** **20 34 18.3 +2.4**

QZH Quanzhou 27.85 239 *e*P **P** **20 34 17.3 +1.0**
QZH *e*S **S** **20 38 57.9 +1.4**
QZH LR LR
comp=Z,680nm,17.5s
QZH LR LR
comp=Z,1μm,19.6s
QZH LR LR
comp=Z,940nm,20.3s
TWGBT Beinan 27.89 233 P **P** **20 34 19.1 +2.3**
BILL Bilibino 28.01 17 P **P** **20 34 15.5 -1.9**
BILL Bilibino 28.01 17 *i*P **P** **20 34 14.8 -2.6**
BILL pmax pmax
comp=Z,13nm,1.3s
IRK Irkutsk 28.81 304 *e*P **P** **20 34 23.6 -1.1**
IRK pmax pmax
comp=Z,73nm,1.5s
GUMO Guam 28.83 180 LR LR 20 44 13.1
comp=Z,318nm,21.6s,baz=12,slow=33
XAN Xi'an 29.29 265 P **P** **20 34 29.4 +0.2**
XAN S **S** **20 39 23.5 +4.4**
XAN pmax pmax
comp=Z,57nm,0.6s
XAN pmax pmax
comp=Z,320nm,5.8s
XAN LR LR
comp=Z,560nm,16.1s
XAN LR LR
comp=Z,1μm,18.2s
XAN LR LR
comp=Z,1μm,18.5s
H11N2 WAKE ISLAND Hy 29.36 134 T T 21 05 43.4
baz=326,slow=75,SNR=4552
H11N1 WAKE ISLAND Hy 29.37 134 T T 21 05 47.6
baz=326,slow=75,SNR=5241
H11N3 WAKE ISLAND Hy 29.38 134 T T 21 05 46.5
baz=326,slow=75,SNR=7934
ZAK Zakamensk 29.39 300 *e*P **P** **20 34 29.8 -0.2**
ZAK *e* 20 37 34.5
ZAK pmax pmax
comp=Z,61nm,1.3s
CNSH ChangSha 29.52 251 P P 20 34 37.1 +5.9
CNSH S S 20 39 33.9 +11
CNSH LR LR
comp=N,1μm,18.6s
CNSH LR LR
comp=E,1μm,17.9s
CNSH LR LR
comp=Z,2μm,17.5s
TIXI Tiksi 30.25 350 P **P** **20 34 34.1 -3.1**
TIXI Tiksi 30.25 350 LR LR 20 47 30.8
comp=Z,692nm,21.0s,baz=168,slow=38
TIXI Tiksi 30.25 350 *i*P **P** **20 34 34.5 -2.7**
TIXI pmax pmax
comp=Z,7.0nm,1.1s
H11S1 WAKE ISLAND Hy 30.27 136 T T 21 06 58.4
baz=328,slow=76,SNR=7951
H11S3 WAKE ISLAND Hy 30.27 136 T T 21 06 52.4
baz=328,slow=76,SNR=6769
H11S2 WAKE ISLAND Hy 30.29 136 T T 21 06 50.7
baz=328,slow=76,SNR=6252
ENH Enshi 30.77 258 P **P** **20 34 39.1 -3.2**
ENH Enshi 30.77 258 P **P** **20 34 42.2 -0.1**
MOY Mondy 30.82 303 *e*P **P** **20 34 42.0 -0.7**
MOY pmax pmax
comp=Z,78nm,1.6s
MOY Mondy 30.82 303 *e*P **P** **20 34 42.0 -0.7**
SPIA Saint Paul Isl 31.78 47 P **P** **20 34 51.4 +0.5**
baz=262
P08K Saint George I 32.09 48 P **P** **20 34 53.6 0.0**
baz=264
LZH Lanzhou 32.15 272 ⇑P **P** **20 34 55.5 +1.0**
LZH pP pP 20 35 08.6 +2.5
LZH sP sP 20 35 14.8 +3.5
LZH pmax pmax
comp=Z,110nm,1.6s
LZH pmax pmax
comp=Z,340nm,4.3s
LZH LR LR
comp=Z,660nm,14.4s
LZH LR LR
comp=Z,740nm,15.5s
LZH LR LR
comp=Z,980nm,15.5s
NIKH Nikolski High 32.29 55 P **P** **20 34 55.7 +0.3**
baz=270
GAMB Gambell 32.67 34 P **P** **20 34 57.2 -1.3**
GAMB Gambell 32.67 34 P **P** **20 34 58.6 +0.1**
baz=250
UNV Unalaska Valle 33.70 53 P **P** **20 35 07.6 0.0**
baz=270
GTA Gaotai 33.86 280 P **P** **20 35 09.6 +0.2**
GTA sP sP 20 35 25.5 -0.6
GTA PcP **PcP** **20 37 49.4 +2.1**
GTA PcS **PcS** **20 41 35.0 +1.5**
GTA pmax pmax
comp=Z,18nm,1.0s
GTA LR LR
comp=Z,280nm,15.9s
GTA LR LR
comp=Z,460nm,16.3s
GTA LR LR
comp=Z,540nm,16.7s
M11K Mekoryuk 34.34 42 P **P** **20 35 13.6 +0.5**
baz=261
CD2 Chengdu 34.62 264 P **P** **20 35 14.4 -1.6**
CD2 sP sP 20 35 33.4 +0.7
CD2 S **S** **20 40 40.4 -1.9**
CD2 pmax pmax
comp=Z,60nm,0.6s
CD2 pmax pmax
comp=Z,390nm,3.2s
CD2 LR LR
comp=Z,830nm,17.4s
CD2 LR LR
comp=Z,540nm,18.1s
TNA Tin City 34.78 32 P **P** **20 35 16.8 -0.1**
TNA IAmb IAmb 20 35 24.6
comp=Z,70nm,1.6s
TNA Tin City 34.78 32 P **P** **20 35 17.1 +0.2**
baz=252
GYA Guiyang 34.99 255 ⇑P **P** **20 35 19.4 +0.1**
GYA pP pP 20 35 31.3 +0.4
GYA PcP **PcP** **20 37 52.0 +1.2**
GYA S **S** **20 40 52.4 +4.1**
GYA pmax pmax
comp=Z,54nm,1.1s
GYA LR LR
comp=Z,670nm,19.6s
GYA LR LR
comp=Z,530nm,20.8s
GYA LR LR
comp=Z,1μm,18.8s
K13K Kusilvak Mount 35.33 39 P **P** **20 35 22.1 +0.5**
baz=260,SNR=10
F14K Arctic Creek 35.39 33 P **P** **20 35 22.8 +0.6**
baz=254
ANM Nome 35.55 35 P **P** **20 35 23.2 -0.3**
ANM Nome 35.55 35 P **P** **20 35 23.2 -0.3**
ANM pmax pmax
comp=Z,93nm,1.6s
ANM Nome 35.55 35 P **P** **20 35 23.4 -0.1**
baz=256
M13K Dall Lake 35.75 42 IAmb IAmb 20 35 41.2
comp=Z,20nm,0.8s
M13K Dall Lake 35.75 42 P **P** **20 35 24.9 -0.3**
baz=264
J14K Nanvaranak Lak 35.97 38 IAmb IAmb 20 35 30.6
comp=Z,18nm,0.8s
J14K Nanvaranak Lak 35.97 38 P **P** **20 35 26.8 -0.3**
baz=260,SNR=9.5
F15K North Star Dit 36.13 33 P **P** **20 35 29.9 +1.4**
F15K North Star Dit 36.13 33 P **P** **20 35 29.1 +0.6**
baz=255
L14K Kuka Creek 36.18 40 P **P** **20 35 29.3 +0.5**
baz=263
G15K Niukluk 36.21 34 P **P** **20 35 29.6 +0.5**
baz=257,SNR=8.3
M14K Bethel 36.46 41 IAmb IAmb 20 35 49.4
comp=Z,21nm,0.8s
M14K Bethel 36.46 41 P **P** **20 35 31.9 +0.6**
baz=265,SNR=7.1
N14K Kuskokwak Cree 36.53 43 P **P** **20 35 32.6 +0.7**
baz=266
C16K Lisburne Hills 36.61 28 P **P** **20 35 32.1 -0.4**
C16K IAmb IAmb 20 35 34.1
comp=Z,23nm,0.9s

C16K Lisburne Hills 36.61 28 P **P** **20 35 32.9 +0.4**
baz=251,SNR=8.2
O14K Tigyukauivet M 36.71 44 IAmb IAmb 20 35 48.6
comp=Z,25nm,1.1s
O14K Tigyukauivet M 36.71 44 P **P** **20 35 34.7 +1.3**
baz=267
L15K Ungalak Mounta 36.78 40 P **P** **20 35 35.4 +1.3**
baz=264
K15K Wolf Creek Mou 36.84 39 IAmb IAmb 20 35 50.8
comp=Z,26nm,1.4s
K15K Wolf Creek Mou 36.84 39 P **P** **20 35 35.6 +1.1**
baz=263,SNR=6.3
H16K Elim 36.88 35 P **P** **20 35 35.8 +0.9**
baz=259,SNR=8.2
G16K Koyuk River 36.99 34 P **P** **20 35 36.2 +0.5**
baz=258,SNR=8.0
M15K Kasigluk River 37.08 42 P **P** **20 35 37.3 +0.7**
baz=266,SNR=17
SDPT Sand Point 37.15 50 P **P** **20 35 38.3 +1.0**
baz=273
D17K Noatak River 37.25 30 P **P** **20 35 38.7 +0.7**
baz=254,SNR=14
N15K Kwethluk River 37.34 42 IAmb IAmb 20 35 54.5
comp=Z,36nm,0.9s
N15K Kwethluk River 37.34 42 P **P** **20 35 40.4 +1.5**
baz=267,SNR=10.0
J16K Anvik River 37.38 37 IAmb IAmb 20 35 43.3
comp=Z,22nm,1.1s
J16K Anvik River 37.38 37 P **P** **20 35 40.7 +1.5**
baz=263,SNR=6.9
RDOG Red Dog Mine 37.41 29 P **P** **20 35 38.5 -0.9**
RDOG IAmb IAmb 20 35 40.9
comp=Z,22nm,1.2s
RDOG Red Dog Mine 37.41 29 P **P** **20 35 39.9 +0.5**
baz=254,SNR=12
I17K Unalakleet 37.42 36 P **P** **20 35 40.8 +1.3**
baz=262,SNR=7.1
O15K Ungalikthiuk R 37.45 44 P **P** **20 35 40.1 +0.4**
O15K IAmb IAmb 20 35 55.1
comp=Z,26nm,0.9s
O15K Ungalikthiuk R 37.45 44 P **P** **20 35 40.9 +1.1**
baz=269
E17K Hotham Inlet 37.57 31 P **P** **20 35 41.8 +1.1**
baz=256,SNR=12
S14K Fog Glacier 37.63 49 P **P** **20 35 41.1 -0.3**
baz=273
F17K Baldwin Pennin 37.65 32 P **P** **20 35 40.6 -0.8**
F17K IAmb IAmb 20 35 44.2
comp=Z,21nm,0.8s
F17K Baldwin Pennin 37.65 32 P **P** **20 35 42.2 +0.9**
baz=258
CHNA Chernabura Isl 37.70 51 P **P** **20 35 42.9 +1.0**
baz=274
G17K Kiwalik Mounta 37.70 34 P **P** **20 35 42.7 +0.9**
baz=260,SNR=37
QIZ Qiongzhong 37.72 243 P **P** **20 35 44.0 +1.5**
QIZ S **S** **20 41 30.0 +0.2**
QIZ sS **sS** **20 41 51.9 +2.5**
QIZ LR LR
comp=Z,580nm,19.2s
QIZ LR LR
comp=Z,450nm,19.2s
QIZ LR LR
comp=Z,850nm,18.6s
L16K Owhat River 37.74 40 IAmb IAmb 20 35 46.6
comp=Z,15nm,0.8s
L16K Owhat River 37.74 40 P **P** **20 35 43.1 +0.9**
baz=266,SNR=12
H17K Granite Mounta 37.92 35 IAmb IAmb 20 35 46.4
comp=Z,22nm,0.8s
H17K Granite Mounta 37.92 35 P **P** **20 35 44.7 +1.1**
baz=261,SNR=9.7
M16K Timber Creek 37.95 41 IAmb IAmb 20 35 52.5
comp=Z,15nm,0.8s
M16K Timber Creek 37.95 41 P **P** **20 35 45.3 +1.3**
baz=267
N16K Nishlik Lake 38.02 42 P **P** **20 35 46.0 +1.4**
baz=268,SNR=11
J17K VABM Dome 38.08 37 P **P** **20 35 46.9 +1.8**
baz=264,SNR=31
E18K Tukpahlearik C 38.11 31 P **P** **20 35 46.6 +1.3**
baz=257
B18K Kokolik River 38.17 27 P **P** **20 35 46.1 +0.4**
baz=254,SNR=44
C18K Utukok River 38.19 29 P **P** **20 35 45.9 0.0**
baz=255,SNR=47
F18K Selawik 38.31 32 P **P** **20 35 47.8 +0.9**
baz=259,SNR=15
L17K Donlin 38.33 39 P **P** **20 35 48.5 +1.4**
baz=266,SNR=17
O16K Kokwok River B 38.34 43 P **P** **20 35 48.8 +1.6**
baz=270
K17K Iditarod 38.37 38 P **P** **20 35 49.3 +1.8**
baz=266
P16K Nushagak River 38.39 44 P **P** **20 35 48.8 +1.1**
baz=270
PZH PanZhiHua 38.52 260 P **P** **20 35 49.8 +0.5**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,140nm,5.1s
G18K Tagagawik 38.59 33 IAmb IAmb 20 35 51.4
comp=Z,30nm,0.7s
G18K Tagagawik 38.59 33 P **P** **20 35 50.5 +1.2**
baz=261,SNR=35
H18K Honhosa River 38.60 35 P **P** **20 35 50.9 +1.5**
baz=262
KMI Kunming 38.62 257 ⇑P **P** **20 35 50.9 +0.7**
KMI pP pP 20 36 02.3 +0.3
KMI pmax pmax
comp=Z,48nm,1.0s
KMI LR LR
comp=Z,360nm,14.7s
KMI LR LR
comp=Z,600nm,15.8s
KMI LR LR
comp=Z,690nm,16.9s
KMI Kunming 38.62 257 P **P** **20 35 51.0 +0.8**
A19K Wainwright 38.65 26 P **P** **20 35 50.6 +0.9**
baz=253
M17K Holitna River 38.70 41 IAmb IAmb 20 35 59.0
comp=Z,30nm,0.8s
M17K Holitna River 38.70 41 P **P** **20 35 51.9 +1.7**
baz=268,SNR=16
GOMU GeErMu 38.75 278 P **P** **20 35 50.8 -0.6**
GOMU S **S** **20 41 44.3 -1.5**
GOMU pmax pmax
comp=Z,28nm,0.9s
GOMU LR LR
comp=Z,1μm,19.0s
GOMU LR LR
comp=Z,1μm,19.1s
GOMU LR LR
comp=Z,2μm,19.0s
N17K Nushagak Hills 38.80 42 P **P** **20 35 53.0 +1.9**
N17K Nushagak Hills 38.80 42 P **P** **20 35 53.0 +1.9**
baz=269,SNR=6.7
O17K Koliganek Bris 38.84 43 P **P** **20 35 53.2 +1.8**
baz=270,SNR=12
F19K Shaleruckik Mo 39.08 32 P **P** **20 35 53.5 +0.1**
F19K Shaleruckik Mo 39.08 32 P **P** **20 35 54.1 +0.7**
baz=261
L18K Granite Mounta 39.09 39 IAmb IAmb 20 35 58.8
comp=Z,32nm,1.1s
L18K Granite Mounta 39.09 39 P **P** **20 35 55.3 +1.8**
baz=268,SNR=22
Q16K King Salmon 39.09 45 P **P** **20 35 54.7 +1.2**
baz=272
J18K Innoko River 39.14 37 IAmb IAmb 20 35 58.0
comp=Z,24nm,0.8s
J18K Innoko River 39.14 37 P **P** **20 35 54.6 +0.6**
baz=266,SNR=36
GCSA Galena City Sc 39.18 35 P **P** **20 35 54.8 +0.6**
baz=264,SNR=14
P17K Kvichak River 39.19 44 P **P** **20 35 55.3 +1.0**
baz=272
DAV Davao City (W) 39.21 211 LR LR 20 50 11.5
comp=Z,274nm,21.1s,baz=56,slow=33
D19K Kuna River 39.25 29 P **P** **20 35 55.4 +0.5**
baz=259
G19K Purcell Mounta 39.26 33 P **P** **20 35 55.3 +0.4**
baz=262,SNR=18
E19K Redstone River 39.39 31 P **P** **20 35 56.7 +0.7**
baz=261
TTA Tatalina 39.43 38 IAmb IAmb 20 36 00.8
comp=Z,27nm,1.1s
TTA Tatalina 39.43 38 P **P** **20 35 57.9 +1.4**
TTA Tatalina 39.43 38 P **P** **20 35 57.4 +1.0**

baz=267,SNR=27
N18K Kilae Creek 39.44 42 IAmb IAmb 20 36 14.9
comp=Z,38nm,1.4s
N18K Kilae Creek 39.44 42 P **P 20 35 57.4 +0.9**
baz=270,SNR=11
H19K Roundabout Mou 39.44 34 P **P 20 35 57.8 +1.4**
baz=264,SNR=118
M18K Stony River 39.48 40 P **P 20 35 58.5 +1.8**
baz=269,SNR=10
Q17K Contact Creek 39.51 46 P **P 20 35 58.8 +1.6**
baz=273
NRIK Noril'sk 39.53 332 P **P 20 35 55.4 -1.7**
NRIK IAmb IAmb 20 35 57.2
comp=Z,13nm,0.5s
NRIK Noril'sk 39.53 332 P **P 20 35 55.8 -1.3**
comp=Z,12nm,0.4s,baz=120,slow=3.5,SNR=33
NRIK LR LR 20 54 44.3
comp=Z,349nm,18.4s,baz=98,slow=40
comp=Z,12nm,0.4s
NRIK Noril'sk 39.53 332 *ce*P **P 20 35 55.2 -1.9**
NRIK pmax pmax
comp=Z,7.0nm,0.4s
J19K Poorman 39.66 37 IAmb IAmb 20 36 02.0
comp=Z,35nm,0.8s
J19K Poorman 39.66 37 P **P 20 35 59.5 +1.2**
baz=266,SNR=58
O18K Koktuh Hills 39.80 43 IAmb IAmb 20 36 14.6
comp=Z,27nm,1.2s
O18K Koktuh Hills 39.80 43 P **P 20 36 01.0 +1.6**
baz=272
P18K Big Mountain, 39.80 44 P **P 20 36 01.0 +1.5**
P18K Big Mountain, 39.80 44 P **P 20 36 01.3 +1.8**
baz=272,SNR=9.4
D20K Etivluk River 39.84 29 P **P 20 36 00.2 +0.5**
baz=260
CHIR Chirikof Islan 39.86 49 P **P 20 36 01.2 +1.2**
B20K Meade River 39.90 27 P **P 20 36 00.4 +0.3**
baz=258
E20K Nigu River 39.91 30 P **P 20 36 01.1 +0.7**
baz=261
F20K Avaraart Lake 39.91 32 P **P 20 36 01.5 +1.2**
baz=263,SNR=9.9
L19K White Mountain 39.95 39 P **P 20 36 01.9 +1.2**
baz=269
Q18K Katmai Hardscr 39.95 45 P **P 20 36 01.8 +0.9**
baz=273
H20K Anotleneega Mo 40.09 34 P **P 20 36 03.1 +1.3**
baz=265,SNR=53
N19K Bonanza Creek 40.13 42 P **P 20 36 03.5 +1.1**
N19K Bonanza Creek 40.13 42 P **P 20 36 03.8 +1.5**
baz=271,SNR=7.1
M19K Big River Lodg 40.16 40 P **P 20 36 03.8 +1.4**
baz=270,SNR=8.4
I20K Naaghedeneel 40.21 35 IAmb IAmb 20 36 07.3
comp=Z,24nm,0.8s
I20K Naaghedeneel 40.21 35 P **P 20 36 04.2 +1.5**
baz=266,SNR=10
O19K Port Alsworth 40.23 42 P **P 20 36 04.5 +1.5**
baz=272
J20K Nowinta River 40.32 36 P **P 20 36 05.5 +1.8**
baz=268,SNR=71
K20K Telida 40.33 38 P **P 20 36 05.1 +1.3**
baz=269
R18K Karluk 40.33 47 P **P 20 36 04.3 +0.5**
baz=275
A21K Barrow 40.37 25 P **P 20 36 03.8 -0.2**
baz=257,SNR=6.9
L20K Farewell, AK 40.40 39 P **P 20 36 05.7 +1.2**
baz=270,SNR=17
ZAA0 Zalesovo Array 40.42 308 IAmb IAmb 20 36 05.4
comp=Z,47nm,0.8s
ZALV Zalesovo Beam 40.42 308 P **P 20 36 04.0 -0.6**
ZALV Zalesovo Beam 40.42 308 P **P 20 36 04.2 -0.4**
comp=Z,34nm,0.5s,baz=91,slow=8.4,SNR=164
ZALV PcP **PcP 20 38 07.7 +0.8**
comp=Z,48nm,0.8s,baz=89,slow=3.1,SNR=15
ZALV ScP **ScP 20 41 53.5 +1.2**
comp=Z,0.7nm,0.4s,baz=93,slow=5.1,SNR=3.1
ZALV LR LR 20 53 58.2
comp=Z,1μm,18.9s,baz=78,slow=38
comp=Z,34nm,0.5s
ZALV Zalesovo Beam 40.42 308 *i* P **P 20 36 04.1 -0.6**
ZALV pmax pmax
comp=Z,34nm,0.5s
C21K Knifeblade Rid 40.56 29 P **P 20 36 06.5 +0.8**
baz=261,SNR=25
SII Sitkinak Islan 40.58 48 P **P 20 36 08.7 +2.7**
Q19K Cape Douglas, 40.64 44 IAmb IAmb 20 36 23.1
comp=Z,32nm,0.7s
Q19K Cape Douglas, 40.64 44 P **P 20 36 07.5 +1.0**
baz=274,SNR=10
B21K Ikpikpuk River 40.70 28 P **P 20 36 07.0 +0.2**
baz=261,SNR=70
G21K Allakaket 40.73 33 P **P 20 36 08.3 +1.2**
baz=265
M20K Styx River 40.76 40 P **P 20 36 09.0 +1.5**
baz=271,SNR=14
F21K Alatna River 40.80 32 P **P 20 36 08.1 +0.4**
baz=265,SNR=34
P19K Oil Pt 40.80 43 IAmb IAmb 20 36 33.2
comp=Z,43nm,1.3s
P19K Oil Pt 40.80 43 P **P 20 36 09.2 +1.4**
baz=274
A22K Sinclair Lake 40.82 26 P **P 20 36 08.1 +0.4**
baz=259
ILSW Iliamna Southw 40.83 43 IAmb IAmb 20 36 15.4
comp=Z,28nm,0.7s
H21K Melozitna Rive 40.96 34 IAmb IAmb 20 36 11.4
comp=Z,27nm,0.8s
H21K Melozitna Rive 40.96 34 P **P 20 36 09.9 +0.9**
baz=267,SNR=32
OHAK Old Harbor 40.99 47 P **P 20 36 10.1 +0.8**
OHAK Old Harbor 40.99 47 P **P 20 36 10.1 +0.8**
baz=276
WMQ Urumqi 41.00 292 *e*P **P 20 36 10.1 +0.4**
WMQ pmax pmax
comp=Z,39nm,1.1s
WMQ LR LR
comp=Z,520nm,14.9s
WMQ LR LR
comp=Z,980nm,15.7s
WMQ LR LR
comp=Z,720nm,20.1s
CHUM Lake Minchumin 41.12 37 P **P 20 36 11.9 +1.6**
baz=270,SNR=30
PPLA Purkeypile 41.18 38 IAmb IAmb 20 36 16.4
comp=Z,34nm,0.8s
PPLA Purkeypile 41.18 38 P **P 20 36 12.7 +1.7**
baz=271,SNR=35
B22K Teshekpuk Lake 41.22 27 P **P 20 36 11.3 +0.3**
baz=261
CAST Castle Rocks 41.22 37 IAmb IAmb 20 36 15.9
comp=Z,48nm,0.8s
CAST Castle Rocks 41.22 37 P **P 20 36 12.6 +1.4**
baz=270,SNR=72
SPCR Spurr Chakacha 41.22 41 P **P 20 36 12.8 +1.5**
baz=273
D22K Ayikyak River 41.27 29 P **P 20 36 11.9 +0.4**
baz=264,SNR=34
KDAK Kodiak Island 41.30 46 P **P 20 36 13.3 +1.4**
KDAK IAmb IAmb 20 36 26.9
comp=Z,75nm,1.4s
KDAK Kodiak Island 41.30 46 P **P 20 36 13.3 +1.4**
KDAK pmax pmax
comp=Z,75nm,1.4s
KDAK Kodiak Island 41.30 46 P **P 20 36 12.5 +0.6**
baz=276
KDAK Kodiak Island 41.30 46 P **P 20 36 13.3 +1.4**
KDAK pP **pP 20 36 26.0 +2.1**
Q20K Shuyak Island 41.32 45 P **P 20 36 12.3 +0.3**
baz=276
SYI Shuyak Island 41.32 45 P **P 20 36 11.3 -0.7**
SYI IAmb IAmb 20 36 29.0
comp=Z,26nm,0.9s
F22K John River 41.33 31 P **P 20 36 12.9 +0.9**
baz=266,SNR=40
SKT Skwentna 41.51 40 P **P 20 36 14.4 +0.8**
baz=272
E22K Anaktuvuk Pass 41.52 30 P **P 20 36 14.6 +1.0**
baz=265,SNR=118
G22K Bettles 41.55 32 P **P 20 36 14.8 +1.0**
baz=267
H22K Ishtalitna Cre 41.56 34 P **P 20 36 15.5 +1.5**
baz=268,SNR=33
HOM Homer 41.61 43 P **P 20 36 15.2 +0.8**
baz=275
BPAW Bear Paw Mtn. 41.70 36 P **P 20 36 16.5 +1.3**
baz=270,SNR=27

TNCH TengChong 41.73 260 ⇑P **P 20 36 17.0 +1.0**
TNCH pP pP 20 36 27.5 -0.3
TNCH sP sP 20 36 32.9 0.0
TNCH PP **PP 20 37 53.0 0.0**
TNCH S **S 20 42 31.1 +1.0**
TNCH sS sS 20 42 51.3 +1.4
TNCH pmax pmax
comp=Z,97nm,0.8s
TNCH LR LR
comp=Z,320nm,18.5s
TNCH LR LR
comp=Z,220nm,14.1s
TNCH LR LR
comp=Z,500nm,21.1s
ZSN Zaisan 41.80 298 *e*P **P 20 36 16.2 +0.1**
ZSN Zaisan 41.80 298 *e*P **P 20 36 16.3 +0.1**
CNPM China Poot 41.83 43 P **P 20 36 16.2 0.0**
SUA Susitna One 41.91 40 P **P 20 36 17.4 +0.4**
baz=274,SNR=7.7
BRLK Bradley Lake 41.98 43 IAmb IAmb 20 36 26.2
comp=Z,16nm,0.6s
D23K Nanushuk River 42.00 29 P **P 20 36 18.6 +1.1**
baz=265,SNR=14
TRF Thorofare Moun 42.03 37 P **P 20 36 19.0 +1.0**
baz=272,SNR=21
BRSE Bradley Lake S 42.06 43 P **P 20 36 18.9 +0.8**
baz=276
COLD Coldfoot 42.08 32 P **P 20 36 18.9 +0.8**
baz=268,SNR=26
CUT Chulitna 42.08 39 IAmb IAmb 20 36 22.2
comp=Z,23nm,0.8s
CUT Chulitna 42.08 39 P **P 20 36 18.5 +0.4**
baz=273,SNR=6.5
C23K Itkillik River 42.10 28 P **P 20 36 18.8 +0.5**
baz=264,SNR=28
G23K Bananza Creek 42.13 33 P **P 20 36 19.2 +0.6**
baz=268,SNR=34
M22K Willow 42.19 40 P **P 20 36 19.5 +0.4**
baz=274
H23K Yukon River 42.31 34 P **P 20 36 22.0 +1.9**
baz=270
E23K Chandalar 42.34 31 P **P 20 36 20.9 +0.6**
baz=267
TOLK Toolik Lake Re 42.38 30 P **P 20 36 20.9 +0.3**
baz=267,SNR=27
I23K Minto, Yukon-K 42.39 35 IAmb IAmb 20 36 29.1
comp=Z,26nm,1.1s
I23K Minto, Yukon-K 42.39 35 P **P 20 36 21.8 +1.1**
baz=271,SNR=25
RC01 Rabbit Creek A 42.43 41 IAmb IAmb 20 36 37.9
comp=Z,21nm,0.7s
RC01 Rabbit Creek A 42.43 41 P **P 20 36 21.5 +0.5**
baz=275,SNR=8.2
O22K Cooper Landing 42.49 42 P **P 20 36 22.3 +0.8**
baz=276
NEA2 Nenana 42.53 36 P **P 20 36 23.1 +1.3**
baz=272,SNR=102
MCK McKinley 42.62 37 IAmb IAmb 20 36 26.6
comp=Z,36nm,0.9s
MCK McKinley 42.62 37 P **P 20 36 23.1 +0.5**
MCK McKinley 42.62 37 P **P 20 36 23.5 +0.9**
baz=273,SNR=33
SEW Seward 42.66 42 P **P 20 36 23.7 +0.8**
baz=276
PMR Palmer 42.67 40 P **P 20 36 23.4 +0.4**
baz=275
RND Reindeer 42.68 37 IAmb IAmb 20 36 26.8
comp=Z,34nm,1.0s
RND Reindeer 42.68 37 P **P 20 36 23.5 +0.4**
D24K Happy Valley 42.68 29 P **P 20 36 23.7 +0.7**
baz=267
C24K Franklin Bluff 42.76 28 P **P 20 36 24.0 +0.4**
baz=266
E24K Your Creek 42.76 31 P **P 20 36 24.6 +0.8**
baz=268,SNR=43
WRH Wood River Hil 42.96 36 IAmb IAmb 20 36 29.8
comp=Z,37nm,1.0s
F24K Squaw Lake 42.98 31 P **P 20 36 26.1 +0.6**
baz=270,SNR=22
H24K Noodor Dome 43.00 34 IAmb IAmb 20 36 28.6
comp=Z,33nm,0.8s
H24K Noodor Dome 43.00 34 P **P 20 36 27.4 +1.7**
baz=271,SNR=39
KNK Knik Glacier 43.01 40 IAmb IAmb 20 36 31.6
comp=Z,21nm,0.6s
KNK Knik Glacier 43.01 40 P **P 20 36 26.5 +0.7**
baz=276
SML Sawmill 43.03 40 P **P 20 36 26.8 +0.8**
baz=275,SNR=16
COLA College 43.04 35 P **P 20 36 27.6 +1.7**
COLA College 43.04 35 *e*P **P 20 36 26.3 +0.4**
COLA pmax pmax
comp=Z,79nm,0.9s
COLA College 43.04 35 P **P 20 36 27.1 +1.2**
baz=272
COLA College 43.04 35 P **P 20 36 27.4 +1.5**
PWL Port Wells 43.13 41 IAmb IAmb 20 36 47.9
comp=Z,42nm,1.4s
PWL Port Wells 43.13 41 P **P 20 36 27.7 +0.9**
baz=276,SNR=7.5
G24K Hadweenzic Riv 43.14 33 P **P 20 36 28.2 +1.4**
baz=271,SNR=52
POKR Poker Plat Res 43.21 35 IAmb IAmb 20 36 30.2
comp=Z,48nm,1.0s
POKR Poker Plat Res 43.21 35 P **P 20 36 28.8 +1.5**
baz=273,SNR=13
M23K Glacier View 43.32 40 P **P 20 36 29.6 +1.3**
baz=276,SNR=10
HDA Harding Lake 43.46 36 IAmb IAmb 20 36 32.6
comp=Z,24nm,0.5s
HDA Harding Lake 43.46 36 P **P 20 36 30.2 +0.9**
baz=274,SNR=29
IL31 43.46 35 IAmb IAmb 20 36 32.8
comp=Z,48nm,0.9s
ILAR Eielson Array 43.46 35 P **P 20 36 29.9 +0.6**
comp=Z,39nm,0.9s,baz=263,slow=6.2,SNR=151
ILAR ScP **ScP 20 42 05.0 +0.7**
comp=Z,0.4nm,1.0s,baz=301,slow=1.9,SNR=2.5
comp=Z,39nm,0.9s
SCM Sheep Creek Mo 43.51 40 IAmb IAmb 20 36 35.2
comp=Z,20nm,0.6s
SCM Sheep Creek Mo 43.51 40 P **P 20 36 31.0 +1.2**
baz=276,SNR=9.6
D25K Kavik River 43.56 29 P **P 20 36 30.6 +0.5**
baz=269,SNR=52
MK31 Makanchi Array 43.68 298 *i* P **P 20 36 31.1 -0.3**
MK31 pmax pmax
comp=Z,49nm,0.9s
MKAR Makanchi Array 43.68 298 P **P 20 36 31.2 -0.2**
comp=Z,22nm,0.8s,baz=81,slow=9.3,SNR=218
MKAR PcP **PcP 20 38 18.5 +0.7**
comp=Z,11nm,0.8s,baz=48,slow=3.1,SNR=4.6
MKAR ScP **ScP 20 42 06.1 +0.6**
comp=Z,0.9nm,0.8s,baz=60,slow=5.7,SNR=2.7
MKAR LR LR 20 55 28.6
comp=Z,502nm,21.5s,baz=82,slow=37
comp=Z,22nm,0.8s
MKAR Makanchi Array 43.68 298 *i* P **P 20 36 31.2 -0.2**
MKAR pmax pmax
comp=Z,23nm,0.8s
MKAR Makanchi Array 43.68 298 *e*P **P 20 36 31.1 -0.3**
G25K Bearman Lake 43.69 32 P **P 20 36 32.2 +1.1**
baz=272,SNR=22
P23K Montague Islan 43.70 42 P **P 20 36 32.3 +1.0**
baz=278
GLI Glacier Island 43.73 41 P **P 20 36 31.8 +0.2**
baz=277
H25L Birch Creek 43.82 33 P **P 20 36 33.8 +1.6**
baz=273
F25K Christian Rive 43.84 31 P **P 20 36 34.1 +1.7**
baz=272,SNR=18
E25K Arctic Village 43.86 30 P **P 20 36 33.8 +1.3**
baz=271,SNR=21
DLV Lat 43.87 237 IAmb IAmb 20 36 36.2
comp=Z,68nm,1.5s
MAKZ Makanchi 43.88 298 P **P 20 36 32.8 -0.2**
MAKZ IAmb IAmb 20 36 34.0
comp=Z,31nm,0.8s
MAKZ Makanchi 43.88 298 P **P 20 36 32.8 -0.2**
MAKZ pmax pmax
comp=Z,31nm,0.9s
MAKZ Makanchi 43.88 298 P **P 20 36 32.8 -0.2**
MAKZ PcP **PcP 20 38 19.2 +0.7**
PRP Porcupine Dome 43.99 34 IAmb IAmb 20 36 37.7
comp=Z,47nm,0.8s
PRP Porcupine Dome 43.99 34 P **P 20 36 35.0 +1.2**
baz=274,SNR=96

K24K Donnelly Dome 44.02 37 P **P 20 36 34.9 +1.0**
baz=275,SNR=21
M24K Tolsona, Glenn 44.02 39 IAmb IAmb 20 36 47.5
comp=Z,30nm,0.7s
M24K Tolsona, Glenn 44.02 39 P **P 20 36 35.3 +1.4**
baz=277,SNR=7.7
C26K Camden Bay 44.08 28 P **P 20 36 35.5 +1.3**
baz=270,SNR=20
J25K Salcha River, 44.12 36 P **P 20 36 35.9 +1.2**
baz=275,SNR=9.3
KLU Klutina 44.21 40 IAmb IAmb 20 36 53.6
comp=Z,31nm,1.1s
KLU Klutina 44.21 40 P **P 20 36 36.7 +1.1**
baz=278,SNR=12
PAX Paxson 44.24 38 P **P 20 36 37.1 +1.4**
baz=276,SNR=6.3
BMAR Burnt Mountain 44.26 31 P **P 20 36 37.4 +1.6**
DIV Divide 44.34 41 IAmb IAmb 20 36 50.3
comp=Z,18nm,0.8s
F26K Sheenjek River 44.41 31 P **P 20 36 38.5 +1.6**
baz=273,SNR=46
EYAK Cordova Ski Ar 44.43 41 P **P 20 36 39.0 +1.9**
EYAK Cordova Ski Ar 44.43 41 P **P 20 36 38.4 +1.3**
baz=279
RIDG Independent Ri 44.44 37 IAmb IAmb 20 36 41.4
comp=Z,26nm,0.7s
RIDG Independent Ri 44.44 37 P **P 20 36 37.6 +0.4**
baz=276,SNR=36
HARP HAARP 44.45 39 P **P 20 36 39.0 +1.7**
baz=277,SNR=19
C27K Jago River 44.50 28 P **P 20 36 38.4 +0.8**
baz=271,SNR=36
LSA Lhasa 44.55 271 P **P 20 36 39.1 0.0**
LSA pmax pmax
comp=Z,14nm,1.1s
LSA Lhasa 44.55 271 P **P 20 36 40.0 +0.9**
LSA pmax pmax
comp=Z,21nm,0.9s
LSA Lhasa 44.55 271 P **P 20 36 40.3 +1.2**
G26K Porcupine Rive 44.59 32 P **P 20 36 39.9 +1.5**
baz=274,SNR=43
SCRK Sand Creek 44.79 36 IAmb IAmb 20 36 43.5
comp=Z,41nm,0.8s
SCRK Sand Creek 44.79 36 P **P 20 36 40.5 +0.4**
baz=277,SNR=80
DOT Dot Lake 44.79 37 IAmb IAmb 20 36 44.1
comp=Z,21nm,0.7s
N25K Chitina, Valde 44.83 40 P **P 20 36 41.6 +1.2**
baz=279,SNR=6.9
KURK Kurchatov 44.84 304 P **P 20 36 39.9 -0.7**
KURK Kurchatov 44.84 304 P **P 20 36 40.5 0.0**
KURK S **S 20 43 12.8 -1.9**
KURK Kurchatov 44.84 304 *ce*P **P 20 36 40.2 -0.3**
KURK pmax pmax
comp=Z,131nm,0.8s
KURK Kurchatov 44.84 304 *e*P **P 20 36 40.2 -0.3**
KURK Kurchatov 44.84 304 P **P 20 36 40.2 -0.3**
KURK PcP **PcP 20 38 22.0 +0.4**
J26L Joseph Creek 44.91 36 P **P 20 36 41.7 +0.6**
baz=277,SNR=19
KURBB Kurchatov Arra 44.92 304 P **P 20 36 41.0 -0.1**
comp=Z,134nm,0.9s,baz=75,slow=8.8,SNR=432
KURBB PcP **PcP 20 38 22.5 +0.6**
comp=Z,15nm,0.7s,baz=80,slow=3.4,SNR=7.6
KURBB LR LR 20 56 25.8
comp=Z,354nm,19.0s,baz=164,slow=37
comp=Z,134nm,0.9s
BMRM Bremner River 44.92 41 IAmb IAmb 20 37 01.3
comp=Z,17nm,0.6s
BMRM Bremner River 44.92 41 P **P 20 36 42.1 +0.9**
baz=279,SNR=9.6
RAGM Ragged Mountai 44.98 41 IAmb IAmb 20 37 07.4
comp=Z,29nm,1.0s
I26K Coal Creek Min 44.99 34 P **P 20 36 42.6 +1.0**
baz=276
MENT Mentasta 45.04 38 IAmb IAmb 20 37 00.1
comp=Z,50nm,1.2s
KAIM Kayak Island 45.19 42 P **P 20 36 44.8 +1.5**
baz=280
HMT Hamilton 45.20 41 IAmb IAmb 20 37 11.8
comp=Z,86nm,1.8s
L26K Log Cabin Wild 45.20 38 IAmb IAmb 20 36 46.1
comp=Z,20nm,0.7s
L26K Log Cabin Wild 45.20 38 P **P 20 36 45.0 +1.7**
baz=278,SNR=32
CHTO Chiang Mai 45.33 253 P **P 20 36 44.8 -0.1**
CHTO IAmb IAmb 20 36 46.7
comp=Z,35nm,1.0s
CHTO Chiang Mai 45.33 253 P **P 20 36 45.7 +0.8**
CHTO Chiang Mai 45.33 253 P **P 20 36 44.8 -0.1**
CHTO pmax pmax
comp=Z,35nm,1.0s
CHTO Chiang Mai 45.33 253 P **P 20 36 45.5 +0.6**
CHTO pP **pwP 20 36 58.1 -0.7**
CHTO sP **sP 20 37 03.4 +1.6**
CHTO PcP **PcP 20 38 24.9 +1.0**
E27K Coleen River 45.34 30 P **P 20 36 45.6 +1.3**
baz=275,SNR=11
VRDI Verde Repeater 45.43 40 IAmb IAmb 20 37 00.8
comp=Z,12nm,0.6s
G27K Doyon Strip 45.44 32 P **P 20 36 47.0 +1.8**
baz=276,SNR=22
M26K Nabesna, AK 45.45 38 IAmb IAmb 20 36 51.1
comp=Z,48nm,1.0s
M26K Nabesna, AK 45.45 38 P **P 20 36 47.0 +1.7**
baz=279,SNR=43
D27M Malcolm River 45.49 29 P **P 20 36 46.8 +1.3**
baz=274
H27K Steamboat Moun 45.56 33 IAmb IAmb 20 36 51.5
comp=Z,15nm,0.8s
H27K Steamboat Moun 45.56 33 P **P 20 36 47.9 +1.7**
baz=277,SNR=35
CM31 Chiang Mai Arr 45.57 253 P **P 20 36 47.4 +0.6**
CM31 IAmb IAmb 20 36 48.3
comp=Z,13nm,0.8s
CM31 Chiang Mai Arr 45.57 253 P **P 20 36 47.9 +1.1**
CMAR Chiang Mai Arr 45.57 253 P **P 20 36 47.6 +0.8**
comp=Z,10nm,0.8s,baz=46,slow=7.0,SNR=84
CMAR PcP **PcP 20 38 26.3 +1.6**
comp=Z,4.3nm,0.8s,baz=14,slow=3.1,SNR=7.0
CMAR LR LR 20 57 32.1
comp=Z,968nm,18.9s,baz=55,slow=38
comp=Z,10nm,0.8s
CMAR Chiang Mai Arr 45.57 253 *i* P **P 20 36 47.5 +0.8**
CMAR pmax pmax
comp=Z,11nm,0.8s
I27K Kandik River 45.60 34 P **P 20 36 47.8 +1.4**
baz=277,SNR=16
K27K Chicken 45.61 36 P **P 20 36 48.1 +1.6**
baz=278
L27K Beaver Creek, 45.87 37 P **P 20 36 50.1 +1.5**
baz=279,SNR=75
BCAR Beaver Creek A 45.89 37 P **P 20 36 50.2 +1.5**
M27K Edge Creek, AK 45.97 38 P **P 20 36 50.9 +1.4**
baz=280,SNR=49
E28M Babbage River 46.06 30 P **P 20 36 50.9 +0.9**
baz=276,SNR=20
D28M Stokes Point 46.27 29 P **P 20 36 52.5 +0.9**
baz=276
SHL Shillong 46.29 266 IAmb IAmb 20 37 07.2
comp=Z,19nm,0.6s
SHL Shillong 46.29 266 P **P 20 36 52.7 +0.2**
SHL Shillong 46.29 266 P **P 20 36 52.0 -0.5**
SHL pmax pmax
comp=Z,27nm,0.6s
I28M Miner Creek 46.31 34 P **P 20 36 53.4 +1.3**
baz=279,SNR=51
MESA MESA 46.36 41 IAmb IAmb 20 37 08.0
comp=Z,23nm,0.7s
MESA MESA 46.36 41 P **P 20 36 53.3 +0.7**
baz=282
YAH Yahtse 46.42 41 IAmb IAmb 20 37 08.9
comp=Z,22nm,0.8s
BVCY Beaver Creek 46.43 38 P **P 20 36 54.4 +1.5**
baz=281,SNR=27
FAKI Fak Fak 46.65 197 P **P 20 36 57.4 +2.2**
E29M Blow River 46.69 30 IAmb IAmb 20 36 57.7
comp=Z,56nm,1.6s
E29M Blow River 46.69 30 P **P 20 36 56.4 +1.6**
baz=278,SNR=29
YUK3 Moose Creek 46.74 39 P **P 20 36 57.2 +1.5**
baz=282,SNR=15
PDGK Podgornoye 46.75 294 *i* P **P 20 36 54.7 -1.2**
PDGK pmax pmax
comp=Z,22nm,1.3s
DAWY Dawson 46.77 36 P **P 20 36 57.5 +1.8**
baz=280,SNR=12

H29M	Whitestone	46.83	33	IAmb	IAmb	20 37 24.9
	comp=Z,35nm,1.3s					
H29M	Whitestone	46.83	33	P	P	20 36 57.7 +1.6
	baz=279,SNR=17					
SHLS	Shalkode	46.83	294	eP	P	20 36 54.0 -2.5
SHLS	Shalkode	46.83	294	eP	P	20 36 54.0 -2.5
G29M	Pine Creek	46.85	32	P	P	20 36 58.2 +2.0
	baz=279,SNR=22					
I29M	Ogilvie Camp,	47.00	34	IAmb	IAmb	20 37 01.6
	comp=Z,24nm,0.8s					
I29M	Ogilvie Camp,	47.00	34	P	P	20 36 59.1 +1.7
	baz=280,SNR=41					
O28M	Mount Upton	47.08	40	P	P	20 36 60.0 +1.6
	baz=283					
UZB	Uzynbulak	47.13	294	eP	P	20 36 58.5 -0.4
UZB	Uzynbulak	47.13	294	eP	P	20 36 58.5 -0.4
YUK8	Steele Glacier	47.17	40	P	P	20 37 00.7 +1.6
	baz=283					
PINM	Pinnacle	47.20	41	P	P	20 37 01.0 +1.8
	baz=284					
J29N	Klondike Camp	47.20	35	P	P	20 37 01.2 +2.1
	baz=281					
KPKS	Kokpek	47.24	295	eP	P	20 36 59.4 -0.2
KPKS	Kokpek	47.24	295	eP	P	20 36 59.5 -0.2
EPYK	Eagle Plains	47.46	32	P	P	20 37 02.6 +1.6
	baz=281,SNR=43					
M29M	Somme Creek	47.51	38	P	P	20 37 03.8 +2.2
	baz=283,SNR=17					
L29M	L29M	47.52	37	P	P	20 37 03.5 +2.0
	baz=282,SNR=83					
ZHN	Zhinishke	47.52	295	eP	P	20 37 01.6 -0.3
ZHN	Zhinishke	47.52	295	eP	P	20 37 01.7 -0.3
G30M	tAoh Zraii Nji	47.54	32	P	P	20 37 02.7 +1.1
	baz=280,SNR=28					
SATY	Saty	47.58	294	eP	P	20 37 02.0 -0.4
SATY	Saty	47.58	294	eP	P	20 37 02.0 -0.4
F30M	Barrier River	47.59	31	P	P	20 37 04.0 +2.1
	baz=280,SNR=64					
K29M	Barlow Dome	47.63	36	IAmb	IAmb	20 37 07.5
	comp=Z,17nm,0.9s					
K29M	Barlow Dome	47.63	36	P	P	20 37 04.2 +1.8
	baz=282,SNR=28					
YUK4	Talbot Arm	47.68	39	P	P	20 37 04.8 +1.9
	baz=284,SNR=8.0					
WUS	Wushi	47.79	292	P	P	20 37 04.3 +0.3
I30M	Mount Dempster	47.82	34	P	P	20 37 05.5 +1.6
	baz=282,SNR=57					
YUK6	Outpost Mounta	47.91	40	P	P	20 37 05.8 +1.1
	baz=284					
O29M	Mount Kennedy	47.97	41	IAmb	IAmb	20 37 23.0
	comp=Z,48nm,1.9s					
O29M	Mount Kennedy	47.97	41	P	P	20 37 06.4 +1.3
	baz=285					
J30M	Hart River	47.98	35	IAmb	IAmb	20 37 09.9
	comp=Z,16nm,1.1s					
J30M	Hart River	47.98	35	P	P	20 37 06.7 +1.6
	baz=283,SNR=17					
BRDH	Bariadhala	48.17	263	LR	LR	20 57 53.3
	comp=Z,310nm,20.2s,baz=72,slow=37					
ANVS	Anan'yevo	48.19	294	P	P	20 37 07.6 +0.4
ANVS				pmax	pmax	
	comp=Z,15nm,0.6s					
CHKK	Chushkaly	48.22	296	eP	P	20 37 06.8 -0.3
CHKK	Chushkaly	48.22	296	eP	P	20 37 06.8 -0.3
M30M	Minto, Yukon	48.24	37	P	P	20 37 09.1 +2.1
	baz=284					
SRDT	SRDT	48.25	249	P	P	20 37 08.7 +1.0
INK	Inuvik	48.30	30	LR	LR	20 58 51.7
	comp=Z,287nm,20.5s,baz=253,slow=38					
G31M	Satah River	48.30	31	P	P	20 37 08.8 +1.3
	baz=282,SNR=42					
HYT	Haines Junctio	48.34	40	P	P	20 37 10.4 +2.4
	baz=285,SNR=57					
N30M	Aishikik Lake	48.38	39	P	P	20 37 10.5 +2.3
	baz=285,SNR=5.3					
F31M	Tsiigehtchic	48.40	31	P	P	20 37 09.3 +1.2
	baz=282,SNR=31					
MDOK	Medeo	48.45	295	eP	P	20 37 08.9 -0.2
MDOK	Medeo	48.45	295	eP	P	20 37 08.9 -0.2
H31M	Peel River	48.52	33	P	P	20 37 10.5 +1.3
	baz=283,SNR=30					
AAA	Alma-Ata	48.52	295	eP	P	20 37 09.4 -0.1
AAA				pmax	pmax	
	comp=Z,21nm,1.0s					
AAA	Alma-Ata	48.52	295	eP	P	20 37 09.5 -0.1
	comp=Z,21nm,1.0s					
P29M	Windy Craggy	48.55	41	P	P	20 37 11.9 +2.4
	baz=286,SNR=20					
TNSS	Tian-Shan	48.57	295	eP	P	20 37 09.7 -0.6
TNSS	Tian-Shan	48.57	295	eP	P	20 37 09.8 -0.6
BRZS	Berezniki	48.68	305	eP	P	20 37 10.5 -0.1
BRZS				pmax	pmax	
	comp=Z,32nm,1.1s					
BRZS	Berezniki	48.68	305	eP	P	20 37 10.6 -0.1
	comp=Z,32nm,1.1s					
KDJ	Kajisay	48.79	294	IAmb	IAmb	20 37 20.8
	comp=Z,12nm,0.6s					
KDJ	Kajisay	48.79	294	P	P	20 37 11.9 +0.1
KDJ				pmax	pmax	
	comp=Z,17nm,0.8s					
P30M	Million Dollar	48.79	41	P	P	20 37 13.8 +2.4
	baz=286,SNR=8.7					
N31M	Braeburn, Yuko	48.98	39	P	P	20 37 14.8 +2.1
	baz=286,SNR=20					
BVAR	Borovoye Array	48.99	310	P	P	20 37 13.1 +0.1
	comp=Z,76nm,0.4s,baz=78,slow=8.6,SNR=568					
BVAR				PcP	PcP	20 38 37.1 +0.8
	comp=Z,16nm,0.6s,baz=83,slow=4.6,SNR=4.7					
BVAR				LR	LR	20 59 34.7
	comp=Z,972nm,19.1s,baz=75,slow=38					
	comp=Z,76nm,0.4s					
O30N	Mendenhall	49.03	40	P	P	20 37 15.2 +2.1
	baz=286					
BRVK	Borovoye	49.04	310	P	P	20 37 13.4 +0.1
BRVK	Borovoye	49.04	310	P	P	20 37 13.6 +0.3
BRVK				P	P	20 37 13.7 +0.3
BRVK	Borovoye	49.04	310	i P	P	20 37 13.6 +0.3
BRVK				pmax	pmax	
	comp=Z,96nm,1.0s					
BRVK	Borovoye	49.04	310	eP	P	20 37 13.6 +0.3
BRVK	Borovoye	49.04	310	P	P	20 37 13.4 +0.1
BRVK				PcP	PcP	20 38 37.2 +0.7
ULHL	Ulahol	49.37	294	P	P	20 37 16.4 +0.1
	SNR=17					
M31M	Drury Creek, Y	49.41	38	IAmb	IAmb	20 37 21.9
	comp=Z,20nm,0.8s					
M31M	Drury Creek, Y	49.41	38	P	P	20 37 17.5 +1.4
	baz=286,SNR=23					
BOOM	Boomskoye usch	49.47	295	P	P	20 37 17.5 +0.5
BOOM				pmax	pmax	
	comp=Z,35nm,0.9s					
OTUK	Ortayu	49.52	303	i P	P	20 37 16.4 -0.7
OTUK				pmax	pmax	
	comp=Z,47nm,0.9s					
TKM2	Tokmak 2	49.52	295	P	P	20 37 17.9 +0.5
	SNR=17					
TKM2	Tokmak 2	49.52	295	i P	P	20 37 17.0 -0.4
TKM2				pmax	pmax	
	comp=Z,40nm,1.1s					
WHY	Whitehorse	49.63	40	P	P	20 37 19.7 +1.8
	baz=287,SNR=8.8					
SKAG	Skagway	49.77	41	IAmb	IAmb	20 37 38.1
	comp=Z,16nm,1.1s					
SKAG	Skagway	49.77	41	P	P	20 37 20.7 +1.9
	baz=288					
FARO	Faro, Yukon	49.88	37	IAmb	IAmb	20 37 25.2
	comp=Z,18nm,0.8s					
FARO	Faro, Yukon	49.88	37	P	P	20 37 21.2 +1.6
	baz=287,SNR=23					
SGDS	Sogindy	49.94	296	eP	P	20 37 20.1 -0.3
SGDS	Sogindy	49.94	296	eP	P	20 37 20.1 -0.3
KBK	Karagaybulak	50.07	295	P	P	20 37 22.0 +0.5
	SNR=17					
USP	Ospenovka	50.11	296	P	P	20 37 21.7 +0.1
	SNR=21					
A36M	Sachs Harbour	50.17	24	IAmb	IAmb	20 37 23.6
	comp=Z,23nm,0.9s					
A36M	Sachs Harbour	50.17	24	P	P	20 37 22.7 +1.1
	baz=286,SNR=19					
FRU1	Bishkek	50.21	296	P	P	20 37 22.8 +0.3
FRU1				pmax	pmax	
	comp=Z,21nm,1.0s					
N32M	Quiet Lake	50.32	39	P	P	20 37 24.6 +1.6
	baz=288					
AAK	Ala-Archa	50.38	296	P	P	20 37 23.5 -0.4
AAK	Ala-Archa	50.38	296	LR	LR	21 00 43.6
	comp=Z,819nm,18.8s,baz=72,slow=38					
AAK	Ala-Archa	50.38	296	P	P	20 37 23.9 0.0
AAK	Ala-Archa	50.38	296	P	P	20 37 23.8 0.0
	SNR=13					
AAK	Ala-Archa	50.38	296	i P	P	20 37 23.1 -0.7
AAK				pmax	pmax	
	comp=Z,21nm,1.7s					
AAK	Ala-Archa	50.38	296	i P	P	20 37 23.6 -0.2
	SNR=19					
AAK	Ala-Archa	50.38	296	eP	P	20 37 23.1 -0.7
AAK	Ala-Archa	50.38	296	P	P	20 37 23.6 -0.2
AAK				PcP	PcP	20 38 42.5 +0.7
P32M	Atlin	50.51	41	P	P	20 37 26.4 +1.9
	baz=289					
R32K	Eaglecrest	50.55	42	P	P	20 37 26.9 +2.2
	baz=289					
MMPY	Sheldon Lake,	50.68	36	P	P	20 37 28.1 +2.3
	baz=288,SNR=14					
P33M	Teslin, Yukon	50.74	40	IAmb	IAmb	20 37 43.0
	comp=Z,48nm,1.4s					
P33M	Teslin, Yukon	50.74	40	P	P	20 37 28.0 +1.7
	baz=289,SNR=15					
KSH	Kashi	50.75	291	P	P	20 37 30.3 +3.7
KSH				pP	pP	20 37 39.0 0.0
KSH				pmax	pmax	
	comp=Z,17nm,1.0s					
KSH				LR	LR	
	comp=Z,610nm,18.2s					
KSH				LR	LR	
	comp=Z,450nm,15.7s					
KSH				LR	LR	
	comp=Z,500nm,15.7s					
S32K	Killisnoo	50.79	43	P	P	20 37 28.2 +1.8
	baz=290					
ARLS	Aral	50.83	295	P	P	20 37 27.8 +0.6
ARLS				pmax	pmax	
	comp=Z,14nm,0.8s					
EKS2	Erkin-Say	50.85	296	P	P	20 37 27.3 -0.1
	SNR=16					
AML	Almayashu	51.13	295	P	P	20 37 30.3 +0.5
	SNR=18					
C36M	Paulatuk	51.34	27	P	P	20 37 31.3 +0.9
	baz=289,SNR=20					
Q32M	Nakina River	51.42	41	P	P	20 37 32.3 +0.8
	baz=290					
R33M	Jennings River	51.90	40	P	P	20 37 36.3 +1.3
	baz=291					
U33K	Whale Pass	52.02	45	P	P	20 37 37.2 +1.5
	baz=292					
CRAG	Craig	52.26	45	P	P	20 37 39.0 +1.5
	baz=292					
S34M	Telegraph Cree	52.36	42	P	P	20 37 39.8 +1.6
	baz=292					
DZA	Taraz	52.36	297	eP	P	20 37 38.5 0.0
DZA				pmax	pmax	
	comp=Z,30nm,0.9s					
DZA	Taraz	52.36	297	eP	P	20 37 38.5 0.0
	comp=Z,30nm,0.9s					
TGTN	Hyland Airport	52.38	37	P	P	20 37 40.1 +1.7
	baz=291,SNR=7.1					
ARK	Arkit	52.44	296	P	P	20 37 39.8 +0.6
ARK				pmax	pmax	
	comp=Z,23nm,0.8s					
OHH	Osh	52.47	294	P	P	20 37 39.4 0.0
OHH				pmax	pmax	
	comp=Z,10.0nm,0.8s					
KAPI	Kappang	52.53	212	LR	LR	21 03 17.7
	comp=Z,42nm,18.6s,baz=12,slow=40					
WTLY	Watson Lake, Y	52.66	39	IAmb	IAmb	20 37 46.6
	comp=Z,10nm,0.7s					
WTLY	Watson Lake, Y	52.66	39	P	P	20 37 42.6 +2.1
	baz=292,SNR=9.1					
KK31	Karatay Array	52.81	298	IAmb	IAmb	20 37 42.1
	comp=Z,17nm,0.8s					
KKAR	Karatay Array	52.81	298	P	P	20 37 40.9 -0.9
KKAR	Karatay Array	52.81	298	IAmb	IAmb	20 37 42.1
	comp=Z,17nm,0.8s					
KKAR	Karatay Array	52.81	298	P	P	20 37 40.9 -0.9
SVE	Sverdlovsk	52.89	317	d i P	P	20 37 42.3 +0.2
SVE				pmax	pmax	
	comp=Z,124nm,0.9s					
SVE				MLR	MLR	
	comp=Z,811nm,20.0s					
SVE	Sverdlovsk	52.89	317	eP	P	20 37 42.3 +0.2
TRKS	Terek-Say	53.11	296	P	P	20 37 44.2 0.0
TRKS				pmax	pmax	
	comp=Z,7.0nm,0.5s					
T35M	Bob Quinn	53.16	43	IAmb	IAmb	20 37 48.4
	comp=Z,15nm,0.9s					
T35M	Bob Quinn	53.16	43	P	P	20 37 45.9 +1.7
	baz=293					
BRLS	Borolday	53.28	298	eP	P	20 37 46.5 +1.2
BRLS	Borolday	53.28	298	eP	P	20 37 46.5 +1.2
HNR	Honiara	53.51	161	LR	LR	20 57 27.1
	comp=Z,326nm,22.0s,baz=353,slow=32					
IUG	Iuzhnay	53.56	297	eP	P	20 37 47.3 -0.1
IUG				pmax	pmax	
	comp=Z,34nm,1.3s					
IUG	Iuzhnay	53.56	297	eP	P	20 37 47.3 -0.1
	comp=Z,34nm,1.3s					
DRK	Karamyk	53.62	293	IAmb	IAmb	20 37 49.4
	comp=Z,20nm,1.1s					
DRK	Karamyk	53.62	293	P	P	20 37 47.2 -1.0
WRGLY	Wrigley	53.80	34	IAmb	IAmb	20 38 06.3
	comp=Z,13nm,0.9s					
WRGLY	Wrigley	53.80	34	P	P	20 37 50.8 +2.1
	baz=294					
KULM	Kulim	53.89	239	P	P	20 37 49.7 -0.4
KULM				IAmb	IAmb	20 37 51.9
	comp=Z,21nm,0.6s					
KULM	Kulim	53.89	239	P	P	20 37 51.5 +1.5
BTK	Batken	54.01	294	P	P	20 37 50.4 -0.4
BTK				pmax	pmax	
	comp=Z,18nm,0.6s					
ARTI	Arti	54.20	317	P	P	20 37 50.5 -1.3
ARTI	Arti	54.20	317	LR	LR	21 03 30.7
	comp=Z,814nm,19.9s,baz=67,slow=39					
ARTI	Arti	54.20	317	c i P	P	20 37 51.6 -0.2
ARTI				*PP	pP	20 38 04.9 +0.8
ARTI						20 38 55.4
ARTI						20 39 49.8
ARTI				S	S	20 45 28.2 +2.7
ARTI				SS	SKiKP	20 49 02.0 +3.3
ARTI				pmax	pmax	
	comp=Z,174nm,0.9s					
ARTI				MLR	MLR	
	comp=Z,751nm,16.0s					
ARTI	Arti	54.20	317	P	P	20 37 51.5 -0.3
ARTI				PcP	PcP	20 38 56.0 +0.2
ALE	Alert	54.46	4	P	P	20 37 53.0 -0.3
KOTAN	Kotaneelee Air	54.83	38	P	P	20 37 57.9 +1.6
	baz=295					
TOAD	Toad River Com	54.83	39	P	P	20 37 58.2 +1.8
	baz=295,SNR=14					
SOEI	Soe	55.34	205	P	P	20 37 59.4 -1.2
HOPEN	Hopen	55.38	346	eP	P	20 37 59.2 -0.7
NIL	Nilore	55.53	286	P	P	20 38 02.0 +0.2
NIL	Nilore	55.53	286	P	P	20 38 02.3 +0.5
NIL				pmax	pmax	
	comp=Z,60nm,1.2s					
NIL	Nilore	55.53	286	P	P	20 38 01.9 +0.1
NIL				pP	pP	20 38 14.1 +0.1
NIL				PcP	PcP	20 39 02.2 +0.9
SPA0	Spitsbergen Ar	55.66	349	eP	P	20 38 01.8 -0.2
SPITS	Spitsbergen Ar	55.66	349	P	P	20 38 01.8 -0.2
	comp=Z,7.8nm,0.4s,baz=72,slow=8.2,SNR=86					
SPITS				LR	LR	21 05 16.4
	comp=Z,304nm,18.5s,baz=9.0,slow=40					
	comp=Z,7.8nm,0.4s					
KBS	Kingsbay	55.71	350	P	P	20 38 01.8 -0.6
KBS	Kingsbay	55.71	350	P	P	20 38 01.8 -0.6
KBS				pmax	pmax	
	comp=Z,69nm,1.1s					
KBS	Kingsbay	55.71	350	i P	P	20 38 02.7 +0.3
KBS	Kingsbay	55.71	350	P	P	20 38 02.6 +0.2
KBS				pP	pP	20 38 15.1 +0.2
NOR	Nord	55.74	357	P	P	20 38 02.2 -0.3
NOR				pmax	pmax	
	comp=Z,34nm,1.0s					
NOR	Nord	55.74	357	i P	P	20 38 01.8 -0.7
SIMJ	Simiganj	55.92	294	P	P	20 38 02.7 -1.9
SIMJ	Simiganj	55.92	294	P	P	20 38 04.3 -0.4
DZET	Dzherino	55.97	294	P	P	20 38 04.7 -0.2
DZET				pmax	pmax	
	comp=Z,32nm,0.5s					
KDU	Kakadu	56.10	195	P	P	20 38 06.1 +0.3
	comp=Z,20nm,1.6s					
KDU	Kakadu	56.10	195	P	P	20 38 06.1 +0.3
COEN	Coen	56.22	182	P	P	20 38 09.4 +2.7
MTN	Manton Dam	56.52	196	P	P	20 38 09.4 +0.6
	comp=Z,32nm,1.5s					
AB31	Akbulak array	56.52	309	i P	P	20 38 08.6 0.0
AB31				pmax	pmax	
	comp=Z,47nm,0.7s					
ABKAR	Akbulak array	56.52	309	P	P	20 38 08.7 +0.1
ABKAR	Akbulak array	56.52	309	IAmb	IAmb	20 38 09.3
	comp=Z,45nm,0.8s					
RES	Resolute Bay	56.61	16	LR	LR	21 06 08.2
	comp=Z,97nm,18.3s,baz=354,slow=40					
PSI	Prapat	56.90	239	P	P	20 38 12.3 +0.5
	comp=Z,18nm,0.7s,baz=15,slow=6.2,SNR=16					
PSI				PcP	PcP	20 39 06.5 -0.3
	comp=Z,11nm,1.0s,baz=264,slow=2.9,SNR=3.6					
PSI				LR	LR	21 04 43.4
	comp=Z,170nm,19.5s,baz=24,slow=38					
	comp=Z,18nm,0.7s					
PSI	Prapat	56.90	239	P	P	20 38 12.5 +0.7
PSI				pmax	pmax	
	comp=Z,29nm,0.9s					
AKTO	Aktyubinsk	57.06	310	LR	LR	21 04 40.9
	comp=Z,835nm,19.9s,baz=84,slow=38					
AKTO	Aktyubinsk	57.06	310	i P	P	20 38 12.1 -0.3
AKTO				pmax	pmax	
	comp=Z,22nm,0.9s					
SRBI	Singaraja	57.18	216	P	P	20 38 14.7 +1.2
	comp=Z,52nm,1.3s					
KIRV	Kirov	57.53	322	LR	LR	21 05 35.0
	comp=Z,813nm,18.6s,baz=55,slow=39					
KIRV	Kirov	57.53	322	i P	P	20 38 15.0 -0.5
YKA	Yellowknife Ar	57.74	33	P	P	20 38 17.8 +0.8
	comp=Z,8.3nm,0.8s,baz=306,slow=6.5,SNR=59					
YKA				LR	LR	21 04 41.6
	comp=Z,177nm,20.9s,baz=291,slow=38					
	comp=Z,8.3nm,0.8s					
KBL	Kabul	58.03	289	P	P	20 38 19.0 -0.6
KBL	Kabul	58.03	289	P	P	20 38 18.7 -1.0
KBL				pmax	pmax	
	comp=Z,42nm,1.0s					
MNSI	Mandailing Nat	58.04	237	P	P	20 38 21.0 +1.4
	comp=Z,16nm,0.9s					
LVZ	Lovozero	58.22	335	P	P	20 38 19.1 -1.2
LVZ	Lovozero	58.22	335	P	P	20 38 19.8 -0.5
	comp=Z,64nm,2.2s					
VADS	Vadso	58.41	339	eP	P	20 38 21.2 -0.3
APA	Apatity	58.80	335	↓↓ i P	P	20 38 23.4 -0.9
APA				i		20 40 40.0
GSI	Gunungsitoli	58.90	239	P	P	20 38 26.1 +0.4
GSI	Gunungsitoli	58.90	239	P	P	20 38 26.3 +0.6
GSI	Gunungsitoli	58.90	239	P	P	20 38 26.8 +1.1
	comp=Z,50nm,0.8s					
MDSI	Maura Dua	59.57	229	P	P	20 38 30.2 0.0
	comp=Z,29nm,1.2s					
KNRA	Kununurra	59.78	198	P	P	20 38 31.0 -0.5
KNRA	Kununurra	59.78	198	P	P	20 38 31.6 +0.1
	comp=Z,22nm,1.1s					
KSI	Kapahiang	59.78	231	P	P	20 38 48.7 +17
ARA0	ARCESS Array S	59.81	339	eP	P	20 38 31.4 +0.2
ARCES	ARCESS Array B	59.81	339	P	P	20 38 31.2 0.0
	comp=Z,6.5nm,0.6s,baz=37,slow=7.1,SNR=42					
ARCES				LR	LR	21 08 52.4
	comp=Z,386nm,19.3s,baz=22,slow=40					
	comp=Z,6.5nm,0.6s					
NEEM	North Greenlan	59.90	4	i P	P	20 38 31.8 -0.3
NEEM				IAmb	IAmb	20 38 32.6
	comp=Z,24nm,0.6s					
SISI	Saibi	60.00	236	P	P	20 38 47.7 +14
KLMR	Klimovskoe	60.57	327	eP	P	20 38 27.8 -8.7
KLMR				pmax	pmax	
	comp=Z,36nm,0.7s					
KLMR				MLR	MLR	
	comp=Z,523nm,16.0s					
HYB	Hyderabad	61.06	267	eP	P	20 38 40.3 -0.3
HYB				IVmB_BB		20 38 40.5
	comp=Z,243nm,1.0s					
JETT	Jettan, Norway	61.09	341	eP	P	20 38 40.0 0.0
MSF	Maaselka	61.19	335	P	P	20 38 40.9 +0.2
MSF				pmax	pmax	
	comp=Z,42nm,1.4s					
TRO	Tromso	61.39	341	eP	P	20 38 41.9 0.0
KULLO	Kullorsuaq	62.25	7	i P	P	20 38 47.5 -0.2
JOF	Joensuu	62.38	332	eP	P	20 38 48.7 0.0
OUL	Oulu	62.72	335	P	P	20 38 50.4 -0.5
OUL				pmax	pmax	
	comp=Z,44nm,0.5s					
WB8	Warramunga Arr	62.77	191	P	P	20 38 51.3 -0.5
FITZ	Fitzroy Crossi	62.87	201	LR	LR	21 08 54.6
	comp=Z,45nm,18.0s,baz=356,slow=39					
WRAB	Tennant Creek	62.90	191	i P	P	20 38 51.0 -1.6
WRAB				pmax	pmax	
	comp=Z,10.0nm,1.0s					
WRA	Warramunga Arr	62.91	191	P	P	20 38 52.1 -0.6
	comp=Z,4.6nm,0.8s,baz=9.9,slow=6.6,SNR=14					
	comp=Z,4.6nm,0.8s					
QIS	Mount Isa	62.95	186	P	P	20 38 51.9 -1.0
	comp=Z,8.6nm,1.2s					
ILON	Igloolik, Nuna	63.26	17	P	P	20 38 53.9 -0.5
ILON				IAmb	IAmb	20 38 55.0
	comp=Z,27nm,1.1s					
BLKN	Baker Lake	63.30	25	P	P	20 38 54.9 +0.1
BLKN				IAmb	IAmb	20 38 56.2
	comp=Z,20nm,0.8s					
STEI	Steigen	63.56	341	eP	P	20 38 56.1 -0.3
LOF	Lofoten	63.80	342	eP	P	20 38 57.6 -0.4
FAUS	Fauske	63.97	341	eP	P	20 38 59.3 +0.1
D08A	Wollman Farm,	64.10	49	P	P	20 38 59.8 -0.6
D08A				IAmb	IAmb	20 39 16.1
	comp=Z,10nm,0.8s					
NEW	Newport	64.39	47	P	P	20 39 01.0 -1.4
NEW	Newport	64.39	47	LR	LR	21 07 07.8
	comp=Z,103nm,21.0s,baz=304,slow=36					
NEW	Newport	64.39	47	P	P	20 39 01.0 -1.4
NEW				pmax	pmax	
	comp=Z,9.0nm,0.8s					
MOS	Moscow	64.44	323	eP	P	20 39 01.6 -0.8
MOS				e		20 39 12.8
MOS				pmax	pmax	
	comp=Z,100nm,1.0s					
MOS				pmax	pmax	
	comp=Z,74nm,1.1s					
PINE	Pine Mountain	64.83	53	IAmb	IAmb	20 39 08.9
	comp=Z,15nm,0.8s					
L04D	Klamath Falls	64.93	55	IAmb	IAmb	20 39 09.5
	comp=Z,27nm,0.8s					
J05D	Fort Rock, OR	64.95	54	P	P	20 39 06.9 +0.6
J05D				IAmb	IAmb	20 39 25.4
	comp=Z,15nm,1.0s					
YBH	Yreka Blue Hor	64.96	56	LR	LR	21 03 44.0
	comp=Z,83nm,21.7s,baz=327,slow=32					
VAGH	Vaagaholmen	64.98	341	eP	P	20 39 05.5 -0.3
KEF	Keuruu	65.09	333	eP	P	20 39 06.5 0.0
MOR8	Moi Rana	65.13	340	eP	P	20 39 05.5 -1.3
VAF	Ylistaro	65.17	335	eP	P	20 39 07.4 +0.4
SUMG	Summit	65.18	1	P	P	20 39 07.5 +0.1
SUMG	Summit	65.18	1	P	P	20 39 07.6 +0.1
SUMG				pmax	pmax	
	comp=Z,32nm,0.6s					
SUMG	Summit	65.18	1	i P	P	20 39 08.1 +0.6
SUMG				IAmb	IAmb	20 39 09.0
	comp=Z,29nm,0.6s					
JMIC	Jan Mayen	65.19	351	LR	LR	21 09 07.5
	comp=Z,65nm,18.9s,baz=82,slow=37					
FIA1	FINESS Array S	65.19	332	P	P	20 39 06.1 -1.2
FINES	FINESS Array B	65.20	332	P	P	20 39 06.2 -1.0
FINES	FINESS Array B	65.20	332	P	P	20 39 07.0 -0.2
	comp=Z,70nm,0.5s,baz=46,slow=7.4,SNR=866					
FINES				LR	LR	21 10 49.7
	comp=Z,535nm,18.3s,baz=48,slow=39					
	comp=Z,70nm,0.5s					
KONS	Konsvik	65.20	341	eP	P	20 39 06.2 -1.0
OBN	Obninsk	65.30	323	P	P	20 39 07.3 -0.8
OBN	Obninsk	65.30	323	LR	LR	21 10 18.1
	comp=Z,574nm,18.2s,baz=15,slow=38					

OBN Obninsk 65.30 323 *e*P **P** **20 39 07.5 -0.5**
OBN Obninsk 65.30 323 P **P** **20 39 07.5 -0.5**
comp=Z,89nm,1.1s
OBN Obninsk 65.30 323 P **P** **20 39 07.3 -0.8**
VRH Novokhopyorsk 65.31 318 *e*P **P** **20 39 07.5 -0.7**
VRH pmax pmax
comp=Z,39nm,0.6s
STOK Stokkvaagen 65.36 341 *e*P **P** **20 39 07.8 -0.4**
LEIR Leirfjorden 65.51 340 *e*P **P** **20 39 08.9 -0.3**
LPSR Galich'ya Gora 65.81 320 *e*P **P** **20 39 10.9 -0.4**
LPSR pmax pmax
comp=Z,101nm,0.8s
PALK Pallekele 66.15 257 P **P** **20 39 14.4 +0.2**
comp=Z,12nm,0.7s,baz=29,slow=5.9,SNR=16
PALK LR LR 21 09 34.1
comp=Z,245nm,20.4s,baz=50,slow=37
comp=Z,12nm,0.7s
PALK Pallekele 66.15 257 P **P** **20 39 14.5 +0.3**
PALK Pallekele 66.15 257 P **P** **20 39 14.3 +0.2**
VORR Voronezh 66.26 319 *e*P **P** **20 39 14.0 -0.2**
VORR pmax pmax
comp=Z,43nm,0.4s
UMMG Uummannaq 66.44 6 *i*P **P** **20 39 14.3 -0.8**
VSR Storozhevoye 66.56 319 *e*P **P** **20 39 13.4 -2.8**
VSR pmax pmax
comp=Z,30nm,0.9s
AS01 Alice Springs 66.62 191 P **P** **20 39 18.8 +2.0**
AS31 Alice Springs 66.63 191 P **P** **20 39 17.1 +0.2**
AS31 Alice Springs 66.63 191 P **P** **20 39 15.9 -1.0**
comp=Z,2.0nm,0.7s
ASAR Alice Springs 66.63 191 P **P** **20 39 17.0 +0.1**
comp=Z,5.3nm,0.9s,baz=6.6,slow=4.5,SNR=30
ASAR LR LR 21 07 01.8
comp=Z,80nm,21.6s,baz=12,slow=35
comp=Z,5.3nm,0.9s
ASAR Alice Springs 66.63 191 P **P** **20 39 17.0 +0.1**
ARBE Arbavere 66.65 331 *e*P **P** **20 39 15.8 -0.8**
MEF Metsahovi 66.65 332 *e*P **P** **20 39 16.9 +0.3**
VORD Divnogorie 66.66 318 *e*P **P** **20 39 14.5 -2.3**
VORD pmax pmax
comp=Z,30nm,1.1s
SCO Scoresbysund 66.90 355 P **P** **20 39 17.4 -0.7**
SCO IAmb IAmb 20 39 19.3
comp=Z,16nm,0.9s
SCO Scoresbysund 66.90 355 P **P** **20 39 17.4 -0.7**
SCO pmax pmax
comp=Z,16nm,0.9s
SCO Scoresbysund 66.90 355 *i*P **P** **20 39 18.0 0.0**
SCO IAmb IAmb 20 39 19.7
comp=Z,11nm,0.8s
RAF Rauma 66.95 334 *e*P **P** **20 39 18.7 +0.2**
MSO Missoula 66.98 47 P **P** **20 39 18.8 -0.4**
MSO IAmb IAmb 20 39 21.5
comp=Z,11nm,0.9s
WVOR Wild Horse Val 67.00 53 P **P** **20 39 21.2 +1.9**
WVOR pmax pmax
comp=Z,9.0nm,0.9s
VSU Vasula 67.07 330 *e*P **P** **20 39 18.9 -0.4**
NSS Namsos 67.07 340 *e*P **P** **20 39 18.9 -0.3**
MAK Makhachkala 67.19 308 *e*P **P** **20 39 18.9 -1.4**
MAK *e* 20 41 45.9
MAK *e*PPP PPP 20 43 27.3
MAK *e*S **S** **20 48 10.3 -1.1**
MAK pmax pmax
comp=Z,110nm,1.1s
DZM Mont Dzumac 67.29 158 *e*S **S** **20 48 13.9 +0.9**
comp=Z,135nm,26.1s
DZM *e*SS **SS** **20 52 33.2 -0.7**
comp=Z,116nm,27.1s
DZM *e*LR LR 20 59 32.3
comp=Z,396nm,23.4s
BEKR Beckworth 67.50 56 P **P** **20 39 22.6 -0.1**
BEKR IAmb IAmb 20 39 25.2
comp=Z,13nm,0.9s
FFC Flin Flon 67.67 35 P **P** **20 39 24.3 +1.1**
FFC IAmb IAmb 20 39 25.3
comp=Z,17nm,0.8s
FFC Flin Flon 67.67 35 P **P** **20 39 24.3 +1.1**
FFC pmax pmax
comp=Z,17nm,0.8s
FFC Flin Flon 67.67 35 P **P** **20 39 24.0 +0.8**
MTSE Matsula 67.95 331 *e*P **P** **20 39 25.7 +0.9**
GOF Gofitskoye 68.43 312 *c i*P **P** **20 39 28.7 +0.6**
CMB Columbia Colle 68.60 58 P **P** **20 39 29.5 +0.1**
CMB Columbia Colle 68.60 58 P **P** **20 39 29.5 +0.1**
CMB pmax pmax
comp=Z,12nm,1.2s
DLMT Dillon 68.63 48 P **P** **20 39 29.6 +0.1**
DLMT IAmb IAmb 20 39 32.3
comp=Z,22nm,0.7s
ICESG Greenland Ices 68.66 2 *i*P **P** **20 39 30.4 +0.8**
ICESG IAmb IAmb 20 39 31.3
comp=Z,44nm,1.1s
KHAM Kharkiv 68.77 319 P **P** **20 39 30.0 -0.2**
WRKA Warakurna 68.94 196 P **P** **20 39 31.9 +0.5**
BOZ Bozeman (W) 69.00 47 P **P** **20 39 33.1 +1.2**
BOZ Bozeman (W) 69.00 47 P **P** **20 39 33.1 +1.2**
BOZ pmax pmax
comp=Z,30nm,0.6s
SLIT Slitere, Latvi 69.30 331 *e*P **P** **20 39 33.2 -0.1**
KVAR Kislovodsk Arr 69.32 311 LR LR 21 15 17.2
comp=Z,1μm,18.2s,baz=274,slow=40
KIV Kislovodsk 69.32 311 P **P** **20 39 33.6 -0.2**
KIV Kislovodsk 69.32 311 P **P** **20 39 34.7 +0.8**
KIV Kislovodsk 69.32 311 ⇓P **P** **20 39 34.9 +1.1**
KIV Kislovodsk 69.32 311 *e*P **P** **20 39 34.3 +0.5**
KIV pmax pmax
comp=Z,82nm,1.1s
KIV MLR MLR
comp=Z,995nm,17.0s
KIV Kislovodsk 69.32 311 *i*P **P** **20 39 34.3 +0.5**
SNR=33
KIV Kislovodsk 69.32 311 *e*P **P** **20 39 34.5 +0.6**
KIV Kislovodsk 69.32 311 P **P** **20 39 33.9 +0.1**
comp=Z,657nmcomp=Z,84nm,0.8s
KIV Kislovodsk 69.32 311 P **P** **20 39 34.4 +0.6**
KIV pP **pP** **20 39 47.8 +1.3**
KBZ Khabaz 69.35 311 P **P** **20 39 34.6 +0.8**
comp=Z,30nm,0.7s,baz=53,slow=3.1,SNR=94
KBZ LR LR 21 15 26.7
comp=Z,863nm,18.4s,baz=23,slow=41
comp=Z,30nm,0.7s
KBZ Khabaz 69.35 311 *i*P **P** **20 39 34.3 +0.5**
KBZ pmax pmax
comp=Z,32nm,0.8s
KBZ Khabaz 69.35 311 *e*P **P** **20 39 34.3 +0.5**
ISAL Salakas 69.37 328 *e*P **P** **20 39 34.5 +0.8**
ERBR Yeremizino-Bor 69.40 314 *e*P **P** **20 39 33.8 -0.4**
ERBR pmax pmax
comp=Z,42nm,0.6s
ERBR MLR MLR
comp=Z,972nm,18.0s
MNK Minsk 69.43 326 *i*P **P** **20 39 34.2 0.0**
comp=E,45nm,0.9s
MNK *i*P **P** **20 39 34.2 0.0**
comp=N,24nm,1.0s
MNK *i*P **P** **20 39 34.2 0.0**
comp=Z,108nm,0.8s,baz=45
MNK *i*pP **sP** **20 39 50.0 -1.8**
MNK *i*sP **PcP** **20 39 57.0 -0.3**
MNK *i*PP **PP** **20 42 08.4 +1.0**
MNK *i*PPP PPP 20 43 48.5
MNK *i*S **S** **20 48 36.9 -0.9**
MNK *i*sS **sS** **20 49 05.0 +5.6**
MNK *i*SS SS 20 53 18.6 +14
MNK *i*SSS SSS 20 56 26.2
MNK *i*LR LR 21 09 34.4
MNK *i*LRM MLR 21 12 25.2
comp=Z,567nm,18.7s
MNK *i*LRM MLR 21 12 32.5
comp=N,240nm,16.5s
MNK *i*LRM MLR 21 12 34.0
comp=E,254nm,15.7s
MNK Minsk 69.43 326 *i*P **P** **20 39 34.1 0.0**
MNK *i* *PP **sP** **20 39 50.0 -1.8**
MNK *i* *SP **PcP** **20 39 56.9 -0.3**
MNK *i* 20 42 08.3
MNK *i*PPP PPP 20 43 48.5
MNK *i*S **S** **20 48 36.8 -0.9**
MNK *i* *SS **sS** **20 49 05.0 +5.6**
MNK pmax pmax
comp=Z,108nm,0.8s
MNK pmax pmax
comp=N,24nm,1.0s
MNK pmax pmax
comp=E,45nm,0.9s
MNK MLR MLR
comp=Z,567nm,19.0s
MNK MLR MLR
comp=N,240nm,16.0s
MNK MLR MLR
comp=E,254nm,16.0s
NACGM Naroch 69.59 327 ⇑*i*P **P** **20 39 35.4 +0.2**
comp=Z,54nm,0.8s,baz=44
NVAR Mina Array Bea 69.65 56 P **P** **20 39 37.4 +1.3**
comp=Z,8.3nm,0.7s,baz=287,slow=6.4,SNR=30
NVAR LR LR 21 11 08.9
comp=Z,67nm,18.1s,baz=336,slow=37
comp=Z,8.3nm,0.7s
MOL Molde 69.81 340 *e*P **P** **20 39 37.0 +0.6**
DOMB Dombas 69.87 340 *e*P **P** **20 39 37.0 +0.2**
VSVD Vaisvydziai 69.92 329 *e*P **P** **20 39 37.6 +0.5**
LABN Labinsk 69.96 313 *e*P **P** **20 39 37.3 -0.3**
LABN *e*PP **sP** **20 39 53.2 -2.2**
LABN *e*S **S** **20 48 44.4 0.0**
LABN pmax pmax
comp=Z,35nm,0.7s
LABN MLR MLR
comp=N,473nm,14.0s
LABN MLR MLR
comp=Z,1μm,20.0s
LABN MLR MLR
comp=E,1μm,19.0s
ELK Elko 70.04 53 LR LR 21 07 59.1
comp=E,66nm,20.3s,baz=321,slow=34
ELK Elko 70.04 53 P **P** **20 39 38.5 0.0**
NB2 NORSAR Subarra 70.13 338 P **P** **20 39 38.2 -0.2**
comp=Z,38nm,0.7s,baz=34,slow=6.5
NB2 NORSAR Subarra 70.13 338 P **P** **20 39 34.2 -4.2**
NB2 pmax pmax
comp=Z,8.0nm,0.7s
NOA NORSAR Array B 70.13 338 P **P** **20 39 38.4 -0.1**
comp=Z,31nm,0.7s,baz=35,slow=6.1,SNR=206
NOA LR LR 21 15 41.8
comp=Z,364nm,18.3s,baz=20,slow=40
comp=Z,31nm,0.7s
HFS Hagfors 70.16 336 P **P** **20 39 38.4 -0.2**
comp=Z,49nm,0.5s,baz=48,slow=6.6,SNR=333
HFS LR LR 21 13 24.5
comp=Z,207nm,20.2s,baz=22,slow=38
comp=Z,49nm,0.5s
SFJD Kangerlussuaq 70.17 6 LR LR 21 11 22.6
comp=Z,139nm,20.7s,baz=346,slow=37
SFJD Kangerlussuaq 70.17 6 P **P** **20 39 38.7 +0.2**
PABE Paberze 70.25 329 *e*P **P** **20 39 39.6 +0.4**
AKN Aaknes 70.28 340 *e*P **P** **20 39 39.8 +0.6**
NC602 NORSAR Array S 70.29 338 *e*P **P** **20 39 38.9 -0.4**
NORES NORESS Array B 70.29 338 P **P** **20 39 38.8 -0.5**
GNI Garni 70.56 307 LR LR 21 14 36.4
comp=Z,297nm,18.6s,baz=82,slow=39
FRB Frobisher Bay 70.81 15 LR LR 21 14 13.1
comp=Z,159nm,18.9s,baz=319,slow=39
OSL Oslo 71.18 338 *e*P **P** **20 39 45.6 +0.9**
SOC Sochi 71.20 312 *e*P **P** **20 39 42.6 -2.6**
SOC *e* 20 42 21.3
SOC *e*PPP PPP 20 44 04.6
SOC *e*S **S** **20 48 56.6 -2.3**
SOC *e*SS **SS** **20 53 31.3 -1.1**
SOC MLR MLR
comp=Z,734nm,16.0s
SKAR Skarslia 71.22 339 *e*P **P** **20 39 45.6 +0.6**
KARS Kars 71.23 308 P **P** **20 39 47.3 +1.7**
KARS pmax pmax
comp=Z,61nm,0.9s
FOO Floro 71.25 341 *e*P **P** **20 39 45.8 +0.6**
HYA Hoyanger 71.35 340 *e*P **P** **20 39 46.2 +0.5**
AK03 Malin Array Si 71.55 323 P **P** **20 39 46.6 -0.5**
AKASG Malin Array Be 71.56 323 P **P** **20 39 47.0 -0.2**
comp=Z,13nm,0.5s,baz=42,slow=6.1,SNR=94
AKASG LR LR 21 13 45.3
comp=Z,423nm,18.5s,baz=48,slow=38
comp=Z,13nm,0.5s
AKBB Malin Array Si 71.56 323 *i*P **P** **20 39 46.7 -0.5**
AKBB pmax pmax
comp=Z,46nm,1.0s
AKBB Malin Array Si 71.56 323 P **P** **20 39 46.7 -0.5**
AK23 Malin Array Si 71.56 323 P **P** **20 39 47.0 -0.2**
AK04 Malin Array Si 71.57 323 P **P** **20 39 46.9 -0.4**
KIEV Kiev 71.57 323 ⇑P **P** **20 39 47.1 -0.2**
KIEV Kiev 71.57 323 P **P** **20 39 47.0 -0.3**
KIEV Kiev 71.57 323 *i*P **P** **20 39 46.8 -0.5**
SNR=17
KIEV Kiev 71.57 323 P **P** **20 39 46.7 -0.6**
comp=Z,175nm,1.0s
KIEV Kiev 71.57 323 P **P** **20 39 46.8 -0.5**
AK01 Malin Array Si 71.58 323 P **P** **20 39 46.9 -0.4**
AK22 Malin Array Si 71.59 323 P **P** **20 39 46.8 -0.6**
AK21 Malin Array Si 71.59 323 P **P** **20 39 46.8 -0.6**
ANN Anapa 71.63 314 *e*P **P** **20 39 46.6 -1.1**
ANN *e*PP **pP** **20 40 01.0 +0.5**
ANN *e* 20 40 04.8
ANN *e*S **S** **20 48 59.8 -3.9**
ANN pmax pmax
comp=Z,36nm,0.9s
ANN MLR MLR
comp=Z,223nm,12.0s
SUW Suwalki 71.67 328 *e*P **P** **20 39 47.3 -0.5**
SUW Suwalki 71.67 328 P **P** **20 39 47.5 -0.3**
SUW pmax pmax
comp=Z,50nm,1.0s
SUW Suwalki 71.67 328 *e*P **P** **20 39 47.7 -0.1**
KONO Kongsberg 71.73 338 P **P** **20 39 48.5 +0.4**
KONO Kongsberg 71.73 338 *e*P **P** **20 39 48.4 +0.2**
KONO Kongsberg 71.73 338 P **P** **20 39 48.1 0.0**
SUE Sulen 71.79 341 *e*P **P** **20 39 49.0 +0.6**
STRU Stroemstad 71.80 337 *i*P **P** **20 39 48.6 +0.1**
DUG Dugway, Tooele 71.81 52 P **P** **20 39 51.2 +2.0**
DUG pmax pmax
comp=Z,14nm,0.9s
BANOM Banah 71.97 289 P **P** **20 39 50.4 +0.3**
BANOM Banah 71.97 289 P **P** **20 39 50.1 -0.1**
PDAR Pinedale Array 71.97 48 P **P** **20 39 51.5 +1.3**
comp=Z,7.4nm,0.6s,baz=266,slow=1.1,SNR=90
PDAR LR LR 21 11 55.1
comp=Z,62nm,20.7s,baz=334,slow=36
comp=Z,7.4nm,0.6s
SHME Shamm 72.01 289 P **P** **20 39 50.6 +0.3**
SHME Shamm 72.01 289 P **P** **20 39 50.1 -0.2**
MI28 Mi28,Pidlybu 72.08 324 P **P** **20 39 50.0 -0.4**
JLN Jalan Bani Buh 72.14 284 P **P** **20 39 51.9 +0.7**
WBK Wadi Bani Khal 72.16 284 P **P** **20 39 52.6 +1.3**
ASK Askoy 72.18 340 *e*P **P** **20 39 51.5 +0.7**
BIDO Bidbid 72.19 286 P **P** **20 39 53.0 +1.5**
BER Bergen 72.23 340 P **P** **20 39 51.7 +0.7**
BER pmax pmax
comp=Z,58nm,0.9s
BER Bergen 72.23 340 *e*P **P** **20 39 51.8 +0.7**
ODD1 Odda 72.31 339 *e*P **P** **20 39 52.4 +0.8**
MDH Madha 72.37 288 P **P** **20 39 51.8 -0.7**
MASF Masafi 72.42 288 P **P** **20 39 53.5 +0.6**
MSFE Esma-Masafi 72.43 288 P **P** **20 39 53.4 +0.5**
BORU Boraas 72.47 335 *i*P **P** **20 39 51.8 -0.8**
TJOU Tjoern 72.50 336 *i*P **P** **20 39 52.5 -0.1**
RNPP9 Sopachiv 72.50 325 P **P** **20 39 52.5 -0.3**
BORG Borgarnes 72.52 354 LR LR 21 12 45.6
comp=Z,103nm,18.4s,baz=352,slow=37
SMDO Samad 72.54 285 P **P** **20 39 55.2 +1.6**
RNPP8 Varash 72.57 325 P **P** **20 39 53.0 -0.2**
BLEU Blekinge 72.57 333 *i*P **P** **20 39 52.7 -0.5**
BLEU IAmb IAmb 20 39 53.5
comp=Z,29nm,0.6s
RNPP5 Staryi Chortor 72.64 325 P **P** **20 39 53.3 -0.3**
UOSS Minazif 72.66 288 P **P** **20 39 54.2 0.0**
UOSS Minazif 72.66 288 P **P** **20 39 54.3 0.0**
HOQ Hoqain 72.73 286 P **P** **20 39 55.3 +0.6**
BLS5 Blasjo 72.78 339 *e*P **P** **20 39 55.2 +0.8**
LUBAR Lubar, Ukraine 72.78 323 P **P** **20 39 54.4 -0.1**
HATD Hatta, Dubai 72.78 288 P **P** **20 39 55.6 +0.6**
HATD Hatta, Dubai 72.78 288 *i*P **P** **20 39 55.5 +0.5**
SNR=6.4
LCRK Leigh Creek 72.87 186 P **P** **20 39 56.3 +1.2**
ASHO Ashiyiah 72.92 288 P **P** **20 39 56.5 +0.6**
ONAU Onsala 72.93 336 *i*P **P** **20 39 54.8 -0.5**
JMDO Jabal Madar 72.94 285 P **P** **20 39 56.4 +0.5**
SOHO SOHO 72.94 287 P **P** **20 39 56.2 +0.4**
SOHO SOHO 72.94 287 *i*P **P** **20 39 56.4 +0.5**
SNR=6.7
FABU Falkenberg 73.01 335 *i*P **P** **20 39 55.2 -0.5**
DEL Delary 73.08 334 *i*P **P** **20 39 55.5 -0.6**
HOMB Homborsund 73.20 338 *e*P **P** **20 39 56.3 -0.5**
HOMB Homborsund 73.20 338 *i*P **P** **20 39 57.2 +0.4**
FAQ Al Faqa, Dubai 73.21 288 P **P** **20 39 57.7 +0.2**
SIM Simferopol' 73.25 316 *e*P **P** **20 39 57.6 +0.2**
SIM 20 42 40.0
SIM pmax pmax
comp=Z,30nm,1.1s
SIM pmax pmax
comp=Z,70nm,6.8s
KMY Karmoy 73.27 340 *e*P **P** **20 39 58.2 +1.0**
BSY Bisya 73.34 286 P **P** **20 39 58.8 +0.4**
ARQ Araqi 73.45 287 P **P** **20 39 59.5 +0.6**
ASUD Al Ashush, Dub 73.47 288 P **P** **20 39 59.6 +0.5**
ULM Lac du Bonnet 73.48 36 P **P** **20 39 58.9 +0.3**
comp=Z,6.0nm,0.6s,baz=306,slow=8.5,SNR=9.6
ULM LR LR 21 15 04.7
comp=Z,198nm,19.2s,baz=315,slow=38
comp=Z,6.0nm,0.6s
SNART Snartemo 73.51 338 *e*P **P** **20 39 59.4 +0.7**
SNART Snartemo 73.51 338 *i*P **P** **20 39 59.5 +0.8**
SNART IAmb IAmb 20 40 00.2
comp=Z,62nm,0.9s
ALNE Al Ain 73.54 288 P **P** **20 39 59.6 +0.2**
ALNE Al Ain 73.54 288 *i*P **P** **20 39 59.8 +0.4**
SNR=17
BJUU Bjuv 73.67 334 *i*P **P** **20 40 00.1 +0.4**
AJN Ajban 73.75 288 P **P** **20 40 00.6 -0.1**
SORM Soroca 73.80 321 ⇑P **P** **20 40 00.5 -0.1**
SORM Soroca 73.80 321 P **P** **20 40 00.3 -0.3**
SORM Soroca 73.80 321 P **P** **20 40 00.0 -0.6**
comp=Z,36nm,0.9s
BSD Bornholm Skovb 73.83 333 *i*P **P** **20 40 01.4 +0.8**
PFO Pinyon Flats O 73.86 59 LR LR 21 05 21.3
comp=Z,158nm,21.4s,baz=252,slow=30
PFO Pinyon Flats O 73.86 59 P **P** **20 40 03.2 +1.9**
PFO pmax pmax
comp=Z,6.0nm,1.7s
HORU Horodok 73.89 323 P **P** **20 40 00.8 -0.3**
HORU Horodok 73.89 323 P **P** **20 40 00.8 -0.3**
MHTO MHTO 73.91 284 P **P** **20 40 02.2 +0.6**
SNR=12
NDNU Novodnistrovsk 73.92 322 P **P** **20 40 00.8 -0.5**
LRW Lerwick 73.97 343 *e*P **P** **20 40 02.0 +0.7**
LRW IAmb IAmb 20 40 02.6
comp=Z,31nm,0.7s
STKA Stephens Creek 74.10 183 P **P** **20 40 02.5 +0.2**
comp=Z,3.1nm,1.0s,baz=310,slow=10,SNR=3.0
STKA LR LR 21 13 31.4
comp=Z,80nm,20.2s,baz=19,slow=36
comp=Z,3.1nm,1.0s
PURM Purcari 74.25 319 ⇓P **P** **20 40 03.5 +0.3**
PURM Purcari 74.25 319 P **P** **20 40 02.5 -0.7**
comp=Z,56nm,1.8s
BEL Belsk 74.27 328 *e*P **P** **20 40 04.1 +0.9**
BEL Belsk 74.27 328 P **P** **20 40 04.3 +1.1**
BEL pmax pmax
comp=Z,199nm,1.0s
KMPD K-Podol'skiy 74.35 323 P **P** **20 40 02.5 -1.3**
KIS Kishinev 74.41 320 *e*P **P** **20 40 03.6 -0.5**
comp=Z,30nm,0.5s
KIS LRM MLR 21 16 21.0
comp=Z,200nm,16.0s
KIS Kishinev 74.41 320 *e*P **P** **20 40 03.6 -0.5**
KIS pmax pmax
comp=Z,30nm,0.5s
MILM Milestii Mici 74.47 320 *e*P **P** **20 40 04.0 -0.5**
comp=Z,60nm,0.7s
MILM *i*pP **pP** **20 40 17.0 -0.3**
MILM Milestii Mici 74.47 320 *e*PP PP 20 42 49.0 -1.7
MILM *e*L L 21 11 21.0
MILM LQM 21 13 54.0
comp=Z,400nm,17.0s
MILM LRM MLR 21 15 18.0
comp=Z,500nm,18.5s
MILM Milestii Mici 74.47 320 ⇓P **P** **20 40 04.4 -0.1**
MILM Milestii Mici 74.47 320 P **P** **20 40 04.4 -0.1**
GKP Gorka Klasztor 74.50 330 *e*P **P** **20 40 05.0 +0.5**
MUD Monsted U'grnd 74.55 336 *i*P **P** **20 40 05.7 +0.9**
MUD IAmb IAmb 20 40 06.2
comp=Z,11nm,0.6s
FORT Forrest 74.56 195 P **P** **20 40 06.1 +1.1**
DQM DQM 74.89 283 P **P** **20 40 07.5 +0.1**
DIKM Dikmen 74.94 313 ⇓P **P** **20 40 08.4 +1.1**
DIKM Dikmen 74.94 313 P **P** **20 40 07.0 -0.3**
comp=Z,35nm,1.0s
JRN Qarnain Island 75.00 290 P **P** **20 40 07.3 -0.6**
STNU Starunia 75.11 324 P **P** **20 40 07.8 -0.4**
KSV Kosov 75.16 323 P **P** **20 40 08.3 -0.2**
KSV Kosov 75.16 323 P **P** **20 40 08.3 -0.2**
BZK Bozkurt 75.39 314 ⇓P **P** **20 40 10.8 +0.9**
BZK Bozkurt 75.39 314 P **P** **20 40 09.7 -0.2**
comp=Z,44nm,0.7s
VLDR Vladesti 75.60 320 ⇓P **P** **20 40 12.0 +0.9**
GHWR Ruwais 75.61 289 P **P** **20 40 10.8 -0.7**
BURAR Bucovina Array 75.61 323 P **P** **20 40 11.6 +0.4**
MEZ Mezhgor'ye 75.69 324 P **P** **20 40 11.7 +0.2**
SHMA Al-Shehemyia 75.72 292 P **P** **20 40 11.9 -0.1**
TLCR 75.73 319 ⇓P **P** **20 40 12.1 +0.3**
TLCR 75.73 319 P **P** **20 40 12.0 +0.3**
RAKU Rahkiv 75.77 323 P **P** **20 40 10.6 -1.4**
TESR Tescani 75.78 321 ⇑P **P** **20 40 12.7 +0.6**
TESR Tescani 75.78 321 P **P** **20 40 12.1 0.0**
comp=Z,34nm,1.1s
MZR Muzera 75.81 288 P **P** **20 40 12.6 0.0**
MZR Muzera 75.81 288 *i*P **P** **20 40 12.7 0.0**
SNR=23
KOLS Kolonicke sedl 75.90 325 *e*P **P** **20 40 13.4 +0.7**
KOLS pmax pmax
comp=Z,23nm,0.9s
KOLS Kolonicke sedl 75.90 325 *e*P **P** **20 40 13.4 +0.7**
OJC Ojcow 75.92 327 *e*P **P** **20 40 13.7 +0.9**
OJC Ojcow 75.92 327 P **P** **20 40 13.7 +0.9**
OJC pmax pmax
comp=Z,85nm,1.8s
OJC Ojcow 75.92 327 P **P** **20 40 12.9 +0.1**
comp=Z,85nm,1.8s
SAKB Bahrain 75.93 292 P **P** **20 40 13.0 -0.2**
STHS Stebnicka Huta 75.96 326 *e*P **P** **20 40 13.4 +0.3**
STHS pmax pmax
comp=Z,11nm,0.7s
STHS Stebnicka Huta 75.96 326 *e*P **P** **20 40 13.4 +0.3**
PANC Panciu 76.02 320 ⇑P **P** **20 40 15.0 +1.5**
MORW Morawa 76.03 206 P **P** **20 40 14.4 +1.0**
MORW Morawa 76.03 206 P **P** **20 40 14.3 +0.8**
BRIU Brid 76.03 324 P **P** **20 40 13.2 -0.2**
CFR Carcaliu 76.06 319 ⇑P **P** **20 40 13.9 +0.2**
CFR Carcaliu 76.06 319 P **P** **20 40 13.3 -0.3**
MUKU Mukachevo 76.09 325 P **P** **20 40 13.5 -0.3**
KORU Korolevo 76.12 324 P **P** **20 40 13.7 -0.3**
ODBI Odobesti 76.15 320 ⇑P **P** **20 40 15.9 +1.7**
ODBI Odobesti 76.15 320 P **P** **20 40 13.8 -0.3**
comp=Z,32nm,0.5s
TPGR Topolog 76.16 319 ⇑P **P** **20 40 14.9 +0.6**
HOLU Holmets 76.16 325 P **P** **20 40 13.9 -0.3**
ISCO Idaho Springs 76.17 48 P **P** **20 40 16.7 +1.9**
ISCO pmax pmax
comp=Z,6.0nm,2.8s
VRI Vrincioaia 76.22 321 ⇓P **P** **20 40 15.6 +0.9**
VRI Vrincioaia 76.22 321 P **P** **20 40 15.5 +0.9**
VRI Vrincioaia 76.22 321 P **P** **20 40 14.3 -0.3**
comp=Z,17nm,1.5s
TRSU Trosnyk 76.25 324 P **P** **20 40 15.4 +0.7**
TRSU Trosnyk 76.25 324 P **P** **20 40 15.4 +0.7**
TRNA Turayna 76.27 291 P **P** **20 40 14.5 -0.7**
PLOR5 Plostina Array 76.27 321 P **P** **20 40 14.6 -0.3**
comp=Z,15nm,1.0s
PLOR Plostina 76.27 321 ⇑P **P** **20 40 15.5 +0.5**
PLOR Plostina 76.27 321 P **P** **20 40 15.4 +0.5**
PLOR3 Plostina Array 76.27 321 P **P** **20 40 14.7 -0.2**
comp=Z,12nm,0.8s
BERU Beregovo 76.28 324 P **P** **20 40 14.6 -0.2**
BSEG Bad Segeberg 76.32 334 P **P** **20 40 15.7 +0.7**
BSEG pmax pmax
comp=Z,36nm,1.4s
BSEG Bad Segeberg 76.33 334 *e*P 20 40 15.5
comp=Z,34nm,1.1s,baz=33,slow=5.6
NIE Niedzica 76.34 326 *e*P **P** **20 40 16.6 +1.3**
NIE Niedzica 76.34 326 P **P** **20 40 16.5 +1.3**
NIE pmax pmax
comp=Z,15nm,1.1s
NIE Niedzica 76.34 326 P **P** **20 40 15.0 -0.3**
comp=Z,15nm,1.1s
SLWR Sila 76.37 290 P **P** **20 40 15.7 -0.1**

RUE Ruedersdorf 76.37 332 *eP* 20 40 15.7
comp=Z,21nm,0.7s,baz=33,slow=5.6
ARCR ARCALIA 76.40 323 ⇑P **P 20 40 17.2 +1.6**
TIRR Tirgusor 76.46 319 P **P 20 40 15.7 -0.2**
TIRR Tirgusor 76.46 319 P **P 20 40 15.7 -0.2**
comp=Z,32nm,1.0s
COVR Voineasa-Covas 76.48 321 ⇑P **P 20 40 17.0 +0.9**
OZUR 76.49 321 ⇑P **P 20 40 17.6 +1.4**
SMRA Abu-Samra 76.53 291 P **P 20 40 16.2 -0.4**
TLBR Topalu 76.57 319 ⇑P **P 20 40 16.5 0.0**
MCD Coleburn Disti 76.75 343 *eP* **P 20 40 17.3 0.0**
DOPR Dopca 76.77 321 ⇑P **P 20 40 19.1 +1.3**
KSP Ksiaz 76.79 329 *eP* **P 20 40 18.6 +0.9**
KSP Ksiaz 76.79 329 P **P 20 40 18.6 +0.9**
KSP pmax pmax
comp=Z,42nm,1.1s
KSP Ksiaz 76.79 329 P **P 20 40 17.6 -0.1**
comp=Z,42nm,1.1s
GORT1 Trebel 76.80 333 *eP* 20 40 18.4
comp=Z,46nm,1.2s,baz=33,slow=5.6
ISR Istrita 76.87 320 P **P 20 40 18.0 -0.3**
ISR Istrita 76.87 320 P **P 20 40 18.0 -0.3**
comp=Z,101nm,1.0s
MLR Muntele Rosu 76.87 321 LR LR 21 17 22.7
comp=Z,420nm,18.3s,baz=72,slow=38
MLR Muntele Rosu 76.87 321 ⇓P **P 20 40 19.2 +0.8**
MLR Muntele Rosu 76.87 321 P **P 20 40 19.2 +0.8**
MLR Muntele Rosu 76.87 321 P **P 20 40 18.0 -0.4**
comp=Z,16nm,1.4s
LANS Liptovska Anna 76.89 327 *eP* **P 20 40 20.0 +1.6**
LANS Liptovska Anna 76.89 327 *eP* **P 20 40 20.0 +1.6**
STEB Steborice 76.95 328 *eP* **P 20 40 19.7 +1.1**
LEWI Lewis, Hebride 76.96 345 *eP* **P 20 40 18.7 +0.2**
KECS Kecovo 77.00 326 *eP* **P 20 40 20.0 +1.1**
KECS pmax pmax
comp=Z,12nm,0.8s
KECS Kecovo 77.00 326 *eP* **P 20 40 20.0 +1.1**
CJR Cluj-Napoca 77.02 323 ⇑P **P 20 40 20.4 +1.2**
CJR Cluj-Napoca 77.02 323 P **P 20 40 20.3 +1.2**
OSTC Ostas 77.05 329 *eP* **P 20 40 20.2 +1.0**
OSTC Ostas 77.05 329 *eP* **P 20 40 20.2 +1.0**
CHVC Chvalec 77.08 329 *eP* **P 20 40 20.2 +0.8**
CHVC Chvalec 77.08 329 *eP* **P 20 40 20.2 +0.8**
BRTR Keskin Array B 77.16 312 P **P 20 40 20.5 +0.3**
comp=Z,6.0nm,0.7s,baz=84,slow=3.7,SNR=49
BRTR PP **PP 20 43 13.5 -0.3**
comp=Z,2.2nm,0.9s,baz=54,slow=7.3,SNR=4.3
BRTR LR LR 21 21 23.1
comp=Z,302nm,18.1s,baz=19,slow=41
comp=Z,6.0nm,0.7s
BR106 Keskin Array S 77.17 313 P **P 20 40 19.8 -0.4**
comp=Z,77nmcomp=Z,9.6nm,0.7s
MORC Moravsky Berou 77.17 328 *eP* **P 20 40 20.7 +0.8**
MORC Moravsky Berou 77.17 328 ⇑P **P 20 40 20.9 +1.0**
MORC Moravsky Berou 77.17 328 P **P 20 40 20.4 +0.5**
UPC Upice 77.17 329 *eP* **P 20 40 20.9 +1.1**
UPC Upice 77.17 329 *eP* **P 20 40 20.9 +1.1**
BR104 Keskin Array S 77.17 312 P **P 20 40 19.8 -0.4**
comp=Z,77nmcomp=Z,9.9nm,0.8s
DPC Dobruska-Polom 77.17 329 *eP* **P 20 40 21.0 +1.1**
DPC Dobruska-Polom 77.17 329 *eP* **P 20 40 21.0 +1.1**
DPC Dobruska-Polom 77.17 329 P **P 20 40 19.7 -0.2**
comp=Z,28nm,1.3s
BR105 Keskin Array S 77.18 313 P **P 20 40 19.8 -0.5**
comp=Z,84nmcomp=Z,11nm,0.7s
DRUM Mains of Drumt 77.19 342 *eP* **P 20 40 20.5 +0.7**
KRLC Kraliky 77.22 329 *eP* **P 20 40 21.0 +0.8**
KRLC Kraliky 77.22 329 *eP* **P 20 40 21.0 +0.8**
MARR Marisel-Cluj 77.26 323 ⇑P **P 20 40 21.3 +0.7**
VOIR 77.33 321 ⇓P **P 20 40 22.1 +1.2**
VOIR 77.33 321 P **P 20 40 21.6 +0.7**
VOIR 77.33 321 P **P 20 40 20.4 -0.5**
comp=Z,19nm,1.0s
DRGR 77.35 323 ⇑P **P 20 40 21.5 +0.5**
DRGR 77.35 323 P **P 20 40 21.3 +0.3**
FLTG Flechtingen 77.37 333 *eP* 20 40 20.8
comp=Z,45nm,1.2s,baz=33,slow=5.6
KIRS Kirsehir-Merke 77.43 312 ⇓P **P 20 40 22.5 +0.9**
KPL Plockton 77.47 344 *eP* **P 20 40 22.2 +0.8**
KPL IAmb IAmb 20 40 22.9
comp=Z,64nm,1.0s
ANTO Ankara 77.52 313 P **P 20 40 23.0 +0.9**
ANTO pmax pmax
comp=Z,45nm,0.8s
ANTO Ankara 77.52 313 P **P 20 40 21.5 -0.6**
comp=Z,259nmcomp=Z,23nm,0.8s
ARR Arges 77.57 321 ⇑P **P 20 40 23.8 +1.5**
NRDL Niedersach Rie 77.61 334 *eP* 20 40 22.7
comp=Z,16nm,1.0s,baz=33,slow=5.6
CLL Collm 77.61 331 ⇑*i*P **P 20 40 22.3 0.0**
CLL *i* 20 40 34.7
CLL *e*S **S 20 50 17.0 +6.7**
CLL pmax pmax
comp=Z,48nm,1.1s
CLL Collm 77.61 331 P **P 20 40 21.5 -0.8**
comp=Z,39nm,1.0s
CLL Collm 77.61 331 ⇑*i*P **P 20 40 22.3 0.0**
comp=Z,48nm,1.1s
CLL *i* pP **pP 20 40 34.7 -0.5**
CLL *e*S **S 20 50 17.0 +6.7**
CLL *e*PS **PnS 20 50 58.0 +3.6**
CLL *e*x x 20 56 00.0
CLL *e*SSS SSS 20 58 36.0
CLL AMS AMS 21 13 00.0
comp=N,300nm,19.3s
CLL AMS AMS 21 13 00.0
comp=E,500nm,21.2s
CLL Collm 77.61 331 *eP* 20 40 22.3
comp=E,50nm,1.1s,baz=33,slow=5.6
BRG Berggiesshubel 77.63 331 *i* P **P 20 40 22.6 +0.2**
BRG Amp 20 40 24.1
comp=Z,11nm,0.9s
BRG Berggiesshubel 77.63 331 P P 20 40 35.4 +13
BRG Amp 20 40 36.8
comp=Z,4.7nm,0.8s
BRG Berggiesshubel 77.63 331 P **P 20 40 22.8 +0.4**
BRG pmax pmax
comp=Z,11nm,0.9s
BRG Berggiesshubel 77.63 331 *eP* 20 40 22.6
comp=Z,11nm,0.9s,baz=33,slow=5.6
RETH Rethem/Aller, 77.64 334 *eP* 20 40 22.7
comp=Z,75nm,0.9s,baz=33,slow=5.6
VYHS Vyhne 77.67 327 *eP* **P 20 40 23.6 +0.9**
VYHS pmax pmax
comp=Z,19nm,1.0s
VYHS Vyhne 77.67 327 *eP* **P 20 40 23.6 +0.9**
PSZ Piszkesteto 77.69 326 ⇑P **P 20 40 24.0 +1.1**
PSZ Piszkesteto 77.69 326 P **P 20 40 23.8 +0.9**
PSZ Piszkesteto 77.69 326 *eP* **P 20 40 23.2 +0.3**
PVCC Panska Ves 77.69 330 *eP* **P 20 40 23.5 +0.8**
PVCC AMS AMS 21 17 50.0
comp=Z,700nm,15.8s
PVCC Panska Ves 77.69 330 *eP* **P 20 40 23.5 +0.8**
PVCC MLR MLR
comp=Z,700nm,15.8s
ASSE Asse, Remlinge 77.73 333 *eP* 20 40 23.2
comp=Z,17nm,1.1s,baz=33,slow=5.6
JAVC Velka Javorina 77.85 327 *eP* **P 20 40 25.5 +1.8**
LOT Lotru 77.91 322 ⇑P **P 20 40 24.6 +0.4**
VRAC Vranov 77.91 328 LR LR 21 18 10.4
comp=Z,500nm,18.6s,baz=32,slow=38
VRAC Vranov 77.91 328 *eP* **P 20 40 25.0 +1.0**
VRAC Vranov 77.91 328 ⇓P **P 20 40 25.4 +1.4**
VRAC Vranov 77.91 328 P **P 20 40 25.4 +1.4**
INVG Invergeldie, C 77.98 343 *eP* **P 20 40 24.7 +0.4**
HSKC Hora Svate Kat 78.04 331 *eP* **P 20 40 25.3 +0.6**
HSKC AMS AMS 21 18 10.0
comp=Z,900nm,21.4s
CLZ Clausthal 78.07 333 *eP* 20 40 25.5
comp=Z,98nm,1.6s,baz=33,slow=5.6
GOPC GO Pecny, Ondr 78.11 330 *eP* **P 20 40 26.0 +0.9**
GOPC GO Pecny, Ondr 78.11 330 *eP* **P 20 40 26.0 +0.9**
PRA Prague 78.11 330 *eP* **P 20 40 26.1 +1.0**
PRA Prague 78.11 330 *eP* **P 20 40 26.1 +1.0**
NEUB Neuenburg 78.12 332 *eP* 20 40 25.2
comp=Z,29nm,0.9s,baz=33,slow=5.6
PRU Pruhonice 78.14 330 *eP* **P 20 40 26.0 +0.8**
PRU AMS AMS 21 17 50.0
comp=Z,700nm,17.4s
PRU Pruhonice 78.14 330 *eP* **P 20 40 26.0 +0.8**
PRU MLR MLR
comp=Z,700nm,17.4s
KRUC Moravsky 78.19 328 *eP* **P 20 40 26.3 +0.8**
KRUC Moravsky 78.19 328 P **P 20 40 26.6 +1.1**
KRUC pmax pmax
comp=Z,43nm,1.4s
DMTO DMTO 78.19 283 P **P 20 40 25.9 -0.2**
DOK Doka 78.19 284 P **P 20 40 25.7 -0.3**
SNR=6.3
SIRR Siria 78.22 324 ⇑P **P 20 40 26.5 +0.7**
SMOL Smolenice 78.22 327 *eP* **P 20 40 27.2 +1.5**
SMOL pmax pmax
comp=Z,11nm,0.9s
COPA Copaceanca 78.23 320 ⇓P **P 20 40 26.0 +0.2**
TREC Trest 78.35 329 *eP* **P 20 40 27.3 +0.8**
TREC Trest 78.35 329 *eP* **P 20 40 27.3 +0.8**
MODS Modra-Piesok 78.39 327 *eP* **P 20 40 28.2 +1.5**
MODS pmax pmax
comp=Z,65nm,1.3s
MODS Modra-Piesok 78.39 327 *eP* **P 20 40 28.2 +1.5**
GZR Gura Zlata 78.40 322 ⇑P **P 20 40 27.3 +0.4**
GZR Gura Zlata 78.40 322 P **P 20 40 27.2 +0.3**
SURR Surduc 78.41 323 ⇑P **P 20 40 27.6 +0.7**
SRO Srobarova 78.42 326 *eP* **P 20 40 28.2 +1.4**
SRO pmax pmax
comp=Z,36nm,1.1s
SRO Srobarova 78.42 326 *eP* **P 20 40 28.2 +1.4**
LAWE Loch Awe, Argy 78.43 344 *eP* **P 20 40 27.3 +0.7**
GTTG Gottingen 78.46 333 *eP* 20 40 27.5
comp=Z,30nm,1.1s,baz=33,slow=5.6
SZH Strazhitsa 78.52 319 P **P 20 40 27.5 0.0**
PGBU Glenifferbraes 78.65 343 *eP* **P 20 40 28.4 +0.5**
MOX Moxa 78.65 332 P **P 20 40 26.6 -1.5**
MOX Moxa 78.65 332 *eL* 21 18 19.5
comp=Z,414nm,20.7s
VLAD Vladila 78.72 321 ⇓P **P 20 40 29.1 +0.6**
ZVC Zvikov 78.72 330 *eP* **P 20 40 29.2 +0.7**
ZVC AMS AMS 21 18 00.0
comp=Z,700nm,18.5s
BZS Buzias 78.74 323 ⇑P **P 20 40 28.9 +0.2**
BZS Buzias 78.74 323 P **P 20 40 28.8 +0.2**
SRE Strehaia 78.77 322 ⇓P **P 20 40 29.9 +1.1**
SRE Strehaia 78.77 322 P **P 20 40 29.9 +1.1**
EKA Eskdalemuir Ar 78.79 342 P **P 20 40 29.3 +0.6**
comp=Z,9.0nm,0.5s,baz=22,slow=5.0,SNR=53
comp=Z,9.0nm,0.5s
ESK Eskdalemuir 78.82 342 *eP* **P 20 40 29.4 +0.5**
ESK IAmb IAmb 20 40 30.0
comp=Z,12nm,0.6s
RBK Rabkut 78.86 283 P **P 20 40 29.6 -0.3**
WHFO Wadi Hawf 78.90 284 P **P 20 40 29.4 -0.6**
SNR=24
HERR Herculane 78.96 322 ⇓P **P 20 40 30.0 +0.1**
EDMD Edmundbyers 78.97 341 *eP* **P 20 40 30.1 +0.3**
EDMD IAmb IAmb 20 40 33.1
comp=Z,19nm,1.0s
MANZ Manzenberg 79.03 331 *eP* 20 40 30.5
comp=Z,4.5nm,1.4s,baz=33,slow=5.6
CKRC Cesky Krumlov 79.18 329 *eP* **P 20 40 31.7 +0.6**
CKRC Cesky Krumlov 79.18 329 *eP* **P 20 40 31.7 +0.6**
KHC Kasperske Hory 79.20 330 *eP* **P 20 40 31.9 +0.7**
KHC AMS AMS 21 18 30.0
comp=Z,900nm,21.1s
KHC Kasperske Hory 79.20 330 *eP* **P 20 40 31.9 +0.7**
KHC MLR MLR
comp=Z,900nm,21.1s
KHC Kasperske Hory 79.20 330 P **P 20 40 31.1 -0.1**
comp=Z,32nm,1.1s
SOP Sopron 79.23 327 P **P 20 40 32.8 +1.5**
SOP pmax pmax
comp=Z,53nm,1.2s
MPLH Magyarpolny 79.25 326 P **P 20 40 31.4 0.0**
comp=Z,83nm,1.1s
CONA Conrad Observa 79.31 328 *i* P **P 20 40 33.0 +1.1**
comp=Z,22nm,1.0s,SNR=11
RONA Rosalia, Austr 79.33 327 *i* P **P 20 40 33.2 +1.3**
comp=Z,43nm,1.3s,SNR=14
MDVR Moldovita 79.35 323 ⇑P **P 20 40 32.3 +0.2**
GERES GERESS Array B 79.39 330 P **P 20 40 32.6 +0.3**
comp=Z,4.9nm,0.7s,baz=37,slow=5.9,SNR=40
GERES LR LR 21 18 56.5
comp=Z,670nm,20.4s,baz=34,slow=38
comp=Z,4.9nm,0.7s
GEC2 GERESS Array S 79.39 330 *eP* 20 40 32.5
comp=Z,9.7nm,0.9s,baz=33,slow=5.6
BUG Bochum--Univer 79.42 335 P **P 20 40 32.6 +0.4**
BUG pmax pmax
comp=Z,32nm,1.0s
BUG Bochum--Univer 79.42 335 *eP* 20 40 32.2
comp=Z,17nm,0.8s,baz=33,slow=5.6
WET Wettzell 79.45 330 P **P 20 40 33.5 +1.0**
WET pmax pmax
comp=Z,27nm,1.3s
WET Wettzell 79.45 330 *eP* 20 40 33.2
comp=Z,26nm,1.1s,baz=33,slow=5.6
KESW Keswick, Cumbr 79.47 342 *eP* **P 20 40 33.2 +0.7**
KESW IAmb IAmb 20 40 34.6
comp=Z,61nm,0.9s
MPEP Malo Peshtene 79.52 321 P **P 20 40 33.5 +0.5**
MORH Mrgy, Hungar 79.56 325 ⇑P **P 20 40 33.3 +0.2**
MORH Mrgy, Hungar 79.56 325 P **P 20 40 33.0 -0.1**
comp=Z,14nm,1.4s
GAL1 Galloway 79.57 343 *eP* **P 20 40 33.1 +0.1**
GAL1 IAmb IAmb 20 40 34.5
comp=Z,26nm,0.7s
GRF Grafenberg Arr 79.59 331 P **P 20 40 34.3 +1.1**
GRF pmax pmax
comp=Z,45nm,1.4s
GRF Grafenberg Arr 79.59 331 *eP* 20 40 34.0
comp=Z,29nm,0.9s,baz=33,slow=5.6
GRF *eL* 21 19 08.2
comp=Z,477nm,18.1s
ABTO Aybut 79.61 284 P **P 20 40 33.5 -0.4**
SNR=19
BAND Balkesir-Ban 79.64 316 ⇓P **P 20 40 34.7 +1.0**
HPK Haverah Park 79.69 341 *eP* **P 20 40 34.4 +0.7**
HPK IAmb IAmb 20 40 36.3
comp=Z,36nm,1.1s
FRGS Fruska Gora 79.89 324 ⇑*i*P **P 20 40 35.1 +0.1**
PGB Panagyurishte 79.96 320 P **P 20 40 36.0 +0.6**
IDGL Inch Island, C 79.97 344 *eP* **P 20 40 35.3 +0.2**
MOA Molln 80.00 329 *i* P **P 20 40 36.2 +0.7**
comp=Z,8.3nm,0.8s
ARSA Arzberg 80.00 328 *i* P **P 20 40 36.3 +0.8**
comp=Z,12nm,1.1s
LBWR Ladybower, Pea 80.22 340 *eP* **P 20 40 37.2 +0.7**
ALN Alexandroupoli 80.27 318 P **P 20 40 37.8 +0.8**
ALN pmax pmax
comp=Z,33nm,1.1s
VTS Vitosha 80.32 320 P **P 20 40 38.0 +0.5**
RDO Rodhopi 80.33 318 P **P 20 40 34.8 -2.6**
BIOA Bad Ischl, Aus 80.37 329 *eP* **P 20 40 38.2 +0.7**
comp=Z,29nm,1.1s,SNR=11
TEKS Tekeris 80.50 324 ⇑*i*P **P 20 40 38.0 -0.3**
BTNL Ternell 80.53 335 *dP* **P 20 40 38.4 +0.1**
comp=Z,8.7nm,0.9s
MEM Membach 80.54 335 *dP* **P 20 40 38.4 +0.1**
comp=Z,12nm,1.0s
GROS Grobnik 80.65 327 *i* P **P 20 40 39.3 +0.2**
RJOB Jochberg 80.65 329 *eP* 20 40 40.0
comp=Z,22nm,0.9s,baz=33,slow=5.6
SOKA Soboth 80.66 328 *eP* **P 20 40 39.8 +0.6**
comp=Z,53nm,1.2s,SNR=17
PERS Pernice 80.66 328 *i* P **P 20 40 39.7 +0.6**
ELMS Elmsett, Ipswi 80.70 338 *eP* **P 20 40 39.7 +0.6**
ELMS IAmb IAmb 20 40 40.5
comp=Z,50nm,0.6s
BSTI Sart Tilman 80.70 335 *dP* **P 20 40 39.6 +0.4**
CWF Charnwood Fore 80.72 340 *eP* **P 20 40 39.2 0.0**
BHOU Houvegnez 80.77 335 *dP* **P 20 40 40.0 +0.4**
WME Myndd Eilian 80.84 342 *eP* **P 20 40 39.3 -0.5**
FUR Furstenfeldbru 80.85 331 P **P 20 40 40.9 +0.8**
FUR pmax pmax
comp=Z,30nm,1.8s
FUR Furstenfeldbru 80.85 331 *eP* 20 40 40.6
comp=Z,21nm,0.7s,baz=33,slow=5.6
UCC Uccle 80.89 336 *dP* **P 20 40 40.2 0.0**
MMAI Mount Meron Ar 80.90 307 P **P 20 40 42.0 +1.4**
comp=Z,27nm,0.8s,baz=22,slow=5.4,SNR=22
MMAI LR LR 21 20 28.7
comp=Z,228nm,21.5s,baz=18,slow=39
comp=Z,27nm,0.8s
MMB Musomishta 80.90 319 P **P 20 40 40.5 0.0**
BCLA Clavier 80.93 335 *dP* **P 20 40 40.0 -0.4**
comp=Z,9.9nm,0.9s
EZN Ezine 80.94 317 P **P 20 40 40.5 -0.1**
EZN Ezine 80.94 317 P **P 20 40 40.5 -0.1**
comp=Z,19nm,1.2s
LESA Schwarzleotal 80.95 329 *eP* **P 20 40 41.4 +0.7**
comp=Z,25nm,0.8s,SNR=14
KKB Krupnik 80.97 320 P **P 20 40 41.0 +0.2**
RAYN Ar Rayn 80.98 294 P **P 20 40 41.3 +0.1**
RAYN IAmb IAmb 20 40 42.4
comp=Z,15nm,0.7s
RAYN Ar Rayn 80.98 294 P **P 20 40 41.5 +0.3**
RAYN Ar Rayn 80.98 294 P **P 20 40 41.3 +0.1**
RAYN pmax pmax
comp=Z,15nm,0.7s
RAYN Ar Rayn 80.98 294 *i* P **P 20 40 41.5 +0.3**
SNR=35
KBA Koelnbreinsper 80.99 329 P **P 20 40 42.3 +1.3**
KBA pmax pmax
comp=Z,45nm,0.8s
KBA Koelnbreinsper 80.99 329 *eP* **P 20 40 39.5 -1.6**
comp=Z,20nm,0.7s,SNR=11
OBKA Obir 80.99 328 ⇑*i*P **P 20 40 41.0 +0.1**
OBKA Obir 80.99 328 *eP* **P 20 40 41.3 +0.4**
comp=Z,18nm,0.7s,SNR=5.8
BGES Gesves 81.03 335 *dP* **P 20 40 41.1 +0.1**
comp=Z,8.5nm,0.9s
FOEL Foel Wylfa 81.05 341 *eP* **P 20 40 41.9 +0.9**
FOEL IAmb IAmb 20 40 44.5
comp=Z,38nm,0.7s
BBLS Lazi&#263i 81.09 323 ⇑*i*P **P 20 40 42.0 +0.5**
CRES Cresnjevec Ost 81.19 327 ⇑*i*P **P 20 40 42.0 +0.1**
CRES Cresnjevec Ost 81.19 327 *i* P **P 20 40 42.0 +0.1**
BMRD Maredsous 81.20 335 *dP* **P 20 40 41.9 +0.1**
comp=Z,16nm,0.9s
LLW Llanuwychllyn 81.20 341 *eP* **P 20 40 42.3 +0.5**
MYKA Terra Mystica 81.24 328 *i* P **P 20 40 42.2 -0.1**
comp=Z,20nm,1.1s
A051A Mrakovica 81.25 326 ⇑*i*P **P 20 40 41.9 -0.4**
RUDO Rudo 81.31 323 ⇑*i*P **P 20 40 42.4 -0.2**
SJES Sjenica 81.32 323 ⇑*i*P **P 20 40 43.3 +0.5**
BLY Banja Luka 81.35 325 ⇑*i*P **P 20 40 42.6 -0.1**
RAR Rarotonga 81.38 129 LR LR 21 10 29.0
comp=Z,150nm,21.9s,baz=305,slow=31
BALJ Balqa 81.41 306 P **P 20 40 43.8 +0.5**
PRED Cave del Predi 81.43 328 P **P 20 40 42.0 -1.2**
PRED IAmb IAmb 20 40 43.4
comp=Z,14nm,0.7s
DOU Dourbes 81.43 335 *dP* **P 20 40 43.0 -0.1**
WATA Walderalm 81.44 330 *i* P **P 20 40 43.9 +0.5**
comp=Z,15nm,0.5s,SNR=12
WTTA Wattenberg 81.48 330 P **P 20 40 44.4 +0.8**
WTTA pmax pmax
comp=Z,31nm,2.4s
WTTA Wattenberg 81.48 330 *i* P **P 20 40 44.3 +0.6**
comp=Z,15nm,0.5s,SNR=9.0
BOJS Bojanci 81.53 327 ⇑*i*P **P 20 40 43.2 -0.5**
ABTA Abfaltersbach 81.58 329 *i* P **P 20 40 43.6 -0.4**
comp=Z,8.7nm,0.6s
BAIF Baives 81.58 336 *eP* **P 20 40 47.5 +3.6**
BAIF pmax pmax
comp=Z,41nm,1.8s
KNT Kendrikon 81.60 320 P **P 20 40 44.8 +0.6**
KNT pmax pmax
comp=Z,18nm,1.1s
MOTA Moosalm 81.61 330 *i* P **P 20 40 44.8 +0.5**
comp=Z,45nm,1.0s
RETA Reutte 81.61 331 *i* P **P 20 40 45.0 +0.8**
comp=Z,23nm,1.0s,SNR=6.2
VAY Valandovo 81.64 320 *i* P **P 20 40 45.1 +0.8**
CEY Cerknica 81.67 327 ⇑*i*P **P 20 40 44.3 -0.2**
SQTA Sankt Quirin 81.67 330 *i* P **P 20 40 45.2 +0.7**
comp=Z,11nm,0.6s,SNR=9.2
STRD Stroud 81.82 340 *eP* **P 20 40 45.1 0.0**
STRD IAmb IAmb 20 40 46.8
comp=Z,290nm,1.7s
MCH1 Michaelchurch 81.82 341 *eP* **P 20 40 45.6 +0.5**
MCH1 IAmb IAmb 20 40 46.5
comp=Z,32nm,1.0s
A050A Klekovaca 81.84 325 ⇑*i*P **P 20 40 45.5 +0.1**
UPM Unac-Piva 81.84 323 ⇑*i*P **P 20 40 44.8 -0.8**
IGLA Glengowla, Co 81.90 345 *eP* **P 20 40 45.2 -0.2**
MONM Monmouth 81.92 340 *eP* **P 20 40 45.8 +0.2**
PLG Polygyros 81.95 319 P **P 20 40 43.5 -2.5**
SWN1 Swindon 81.97 340 *eP* **P 20 40 46.6 +0.7**
SWN1 IAmb IAmb 20 40 48.5
comp=Z,50nm,0.7s
CIMO Cimolais 81.97 329 P **P 20 40 45.4 -0.7**
WOL Wolverton 82.00 339 *eP* **P 20 40 46.3 +0.3**
GRG Griva 82.00 320 P **P 20 40 46.7 +0.4**
GRG pmax pmax
comp=Z,26nm,1.0s
FETA Feichten 82.02 330 *i* P **P 20 40 47.0 +0.5**
comp=Z,24nm,1.3s,SNR=7.0
CDF Champ du Feu 82.04 333 *eP* **P 20 40 46.1 -0.3**
CDF pmax pmax
comp=Z,17nm,1.0s
DAVA Damuels 82.10 331 *i* P **P 20 40 47.3 +0.4**
comp=Z,34nm,1.5s,SNR=5.1
PAIG Paliouri 82.18 318 P **P 20 40 45.4 -1.8**
PAIG Paliouri 82.18 318 P **P 20 40 47.4 +0.2**
PAIG pmax pmax
comp=Z,48nm,0.9s
ECH Echery 82.25 333 P **P 20 40 46.5 -1.0**
ECH IAmb IAmb 20 40 48.6
comp=Z,20nm,1.2s
ECH Echery 82.25 333 P **P 20 40 46.5 -1.0**
ECH pmax pmax
comp=Z,20nm,1.2s
PDG Podgorica 82.30 323 ⇑*i*P **P 20 40 48.0 +0.2**
PDG Podgorica 82.30 323 ⇑P **P 20 40 48.2 +0.4**
VLDQ Val d'Or 82.33 27 P **P 20 40 47.2 -0.6**
TREB Trebinje 82.47 323 ⇑*i*P **P 20 40 46.9 -1.8**
DRME Dracevica, Mon 82.53 322 ⇑*i*P **P 20 40 49.3 +0.3**
DAVOX Davos/Dischmat 82.53 331 LR LR 21 21 23.2
comp=Z,484nm,18.0s,baz=20,slow=38
HCY Herceg Novi 82.63 323 ⇑*i*P **P 20 40 49.0 -0.5**
OHR Ohrid 82.64 321 *i* P **P 20 40 50.0 +0.4**
STON Ston 82.64 324 ⇑*i*P **P 20 40 48.7 -0.8**
AOS Alonnisos 82.66 318 P **P 20 40 45.1 -4.6**
ARG Arkhangelos 82.70 313 P **P 20 40 49.6 -0.4**
HINF Hinteralfeld 82.70 333 *eP* **P 20 40 49.3 -0.5**
HINF pmax pmax
comp=Z,14nm,1.3s
HAU Haudompre 82.70 333 *eP* **P 20 40 49.3 -0.5**
HAU pmax pmax
comp=Z,20nm,1.2s
XOR Xorichti 82.85 318 P P 20 40 45.2 -5.5
NEO Neokhori 82.88 318 P **P 20 40 46.8 -4.1**
TIR Tirane 82.88 322 P **P 20 40 51.2 +0.4**
TIR pmax pmax
comp=Z,83nm,0.9s
TIR Tirane 82.88 322 P **P 20 40 50.8 0.0**
comp=Z,880nmcomp=Z,83nm,0.9s
TUE Stuetta 82.98 331 P **P 20 40 51.3 -0.2**
comp=Z,111nm,0.8s
NEST Nestorio 83.06 320 P **P 20 40 48.8 -3.1**
DION Dionisos Attik 83.47 317 P P 20 40 48.4 -5.6
LKR Lokris 83.50 318 P **P 20 40 52.4 -1.7**
EIL Elat 83.54 305 LR LR 21 25 07.3
comp=Z,198nm,18.0s,baz=58,slow=41
WMOK Wichita Mounta 83.58 48 P **P 20 40 54.9 +0.3**
EVR Evrytania 83.87 319 P P 20 40 42.3 -14
CABF La Chapelle 84.00 333 *eP* **P 20 40 56.9 +0.3**
CABF pmax pmax
comp=Z,74nm,1.9s
IGT Igoumenitsa 84.10 320 P P 20 40 50.2 -6.9
FLN La Foliniere 84.12 338 *eP* **P 20 40 57.1 +0.1**
FLN pmax pmax
comp=Z,23nm,0.8s
LOR Lormes 84.16 334 P **P 20 40 57.9 +0.6**
LOR pmax pmax
comp=Z,32nm,1.5s
LDF La Druitiere 84.17 337 *eP* **P 20 40 57.3 0.0**
LDF pmax pmax
comp=Z,251nm,2.6s
KEK Kerkira 84.21 321 P **P 20 40 55.9 -1.8**
EFP Efpalio 84.21 319 P P 20 40 45.0 -13
LPIG La Paz 84.23 63 LR LR 21 13 17.6
comp=Z,85nm,19.3s,baz=246,slow=32
GUR Goura 84.38 318 P P 20 40 41.7 -17
SSF Saint Saulge 84.45 335 *eP* **P 20 40 59.2 +0.4**
SSF pmax pmax
comp=Z,19nm,1.0s
LKD2 Lefkada island 84.53 320 P P 20 40 48.3 -11
GRR Gorron 84.56 338 *eP* **P 20 40 59.6 +0.3**
GRR pmax pmax
comp=Z,16nm,0.7s
EVGI Lefkada island 84.66 319 P P 20 40 51.1 -8.9
RLS Riolos of Patr 84.71 319 P **P 20 40 59.7 -0.5**

SMF	**Signal de Mont**	**84.71**	**334**	*eP*	**P**	**20 40 59.9**	**-0.2**
SMF				pmax	pmax		
	comp=Z,18nm,0.7s						
TXAR	**Lajitas Array**	**84.72**	**55**	P	**P**	**20 41 02.3**	**+1.7**
	comp=Z,3.5nm,0.7s,baz=297,slow=3.6,SNR=47						
	comp=Z,3.5nm,0.7s						
LPL	**La Plagne**	**84.73**	**332**	*eP*	**P**	**20 41 00.6**	**+0.1**
LPL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AVF	**Avril sur Loir**	**84.74**	**335**	*eP*	**P**	**20 41 00.1**	**-0.1**
AVF				pmax	pmax		
	comp=Z,27nm,0.8s						
LPG	**La Plagne**	**84.74**	**332**	*eP*	**P**	**20 41 00.8**	**+0.1**
LPG				pmax	pmax		
	comp=Z,10.0nm,0.6s						
FSK	**Fiskardo**	**84.84**	**319**	P	**P**	**20 40 57.4**	**-3.5**
PPT	**Papeete**	**84.85**	**119**	LR	LR	21 11 58.2	
	comp=Z,271nm,21.4s,baz=344,slow=31						
PPT2	**Papeete2**	**84.86**	**119**	*eP*	**P**	**20 40 56.8**	**-4.4**
	comp=Z,29nm,24.2s						
PPT2	**Papeete2**	**84.86**	**119**	*eS*	**S**	**20 51 23.6**	**-2.8**
	comp=Z,81nm,23.8s						
PPT2				*e*SS	**SS**	**20 56 54.3**	**-5.8**
	comp=Z,58nm,25.5s						
PPT2	**Papeete2**	**84.86**	**119**	*e*LR	LR	21 07 45.8	
	comp=Z,596nm,22.5s						
PPT2				*e*LR	LR	21 07 46.8	
	comp=Z,498nm,23.5s						
MATE	**Matera**	**84.87**	**323**	⇓P	**P**	**20 41 01.5**	**+0.5**
AQU	**L'Aquila**	**84.88**	**326**	P	**P**	**20 41 02.3**	**+1.2**
AQU				pmax	pmax		
	comp=Z,41nm,0.9s						
AQU	**L'Aquila**	**84.88**	**326**	P	**P**	**20 41 00.9**	**-0.2**
	comp=Z,41nm,0.9s						
RTZL	**Ratzakli, Kefa**	**85.04**	**319**	P	P	20 40 44.0	-18
TAOE	**Nuku Hiva Isla**	**85.05**	**107**	*e*LR	LR	21 07 54.3	
	comp=Z,876nm,24.1s						
DMLN	**Damoulianata-K**	**85.10**	**319**	P	**P**	**20 41 02.0**	**-0.2**
BGF	**Bois d'Agland**	**85.11**	**335**	*eP*	**P**	**20 41 02.7**	**+0.6**
BGF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SGMF	**Saint Gilles**	**85.15**	**339**	*eP*	**P**	**20 41 02.3**	**+0.1**
SGMF				pmax	pmax		
	comp=Z,52nm,1.2s						
BNI	**Bardonecchia**	**85.16**	**332**	P	**P**	**20 41 02.2**	**-0.3**
ROSF	**Rostrenen**	**85.26**	**339**	*eP*	**P**	**20 41 03.0**	**+0.2**
ROSF				pmax	pmax		
	comp=Z,122nm,1.4s						
MBDF	**Montbardon**	**85.41**	**331**	*eP*	**P**	**20 41 03.3**	**-0.5**
MBDF				pmax	pmax		
	comp=Z,10.0nm,0.7s						
IMMV	**Iera Moni Meta**	**85.46**	**315**	P	**P**	**20 41 04.2**	**+0.1**
URZ	**Urewera**	**85.59**	**155**	LR	LR	21 14 39.0	
	comp=Z,209nm,18.7s,baz=62,slow=32						
VIVF	**Saint-Julien-l**	**86.02**	**333**	*eP*	**P**	**20 41 06.8**	**+0.1**
VIVF				pmax	pmax		
	comp=Z,24nm,0.9s						
TIP	**Timpagrande**	**86.04**	**322**	⇑P	**P**	**20 41 07.2**	**+0.2**
TIP	**Timpagrande**	**86.04**	**322**	P	**P**	**20 41 06.6**	**-0.3**
	comp=Z,23nm,1.2s						
RJF	**Les Rejaudoux**	**86.64**	**335**	*eP*	**P**	**20 41 10.0**	**+0.3**
RJF				pmax	pmax		
	comp=Z,17nm,0.8s						
VAE	**Valguarnera**	**88.49**	**323**	LR	LR	21 24 31.1	
	comp=Z,212nm,18.2s,baz=7.5,slow=38						
EPF	**Esparros**	**89.06**	**335**	*eP*	**P**	**20 41 21.1**	**-0.3**
EPF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TBI	**Tubuai**	**89.17**	**123**	*eS*	**S**	**20 52 04.9**	**-2.6**
	comp=Z,444nm,28.0s						
TBI	**Tubuai**	**89.17**	**123**	*e*LR	LR	21 09 40.0	
	comp=Z,1μm,28.5s						
ETSF	**Etsaut**	**89.46**	**335**	*eP*	**P**	**20 41 23.9**	**+0.6**
ETSF				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TKL	**Tuckaleechee C**	**90.40**	**38**	LR	LR	21 26 17.2	
	comp=Z,91nm,18.3s,baz=304,slow=38						
ATD	**Arta Tunnel**	**90.98**	**287**	LR	LR	21 28 36.6	
	comp=Z,14nm,18.2s,baz=9.0,slow=40						
KEST	**Kesra**	**92.16**	**325**	P	**P**	**20 41 35.8**	**-0.2**
	comp=Z,12nm,0.8s,baz=320,slow=1.6,SNR=13						
KEST				LR	LR	21 29 05.7	
	comp=Z,312nm,18.1s,baz=14,slow=40						
	comp=Z,12nm,0.8s						
ESDC	**Sonseca Array**	**93.44**	**336**	P	**P**	**20 41 41.7**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=12,slow=4.3,SNR=30						
ESDC				PP	**PP**	**20 45 20.6**	**-4.7**
	comp=Z,0.8nm,0.8s,baz=27,slow=7.1,SNR=4.4						
ESDC				LR	LR	21 30 40.8	
	comp=Z,188nm,18.0s,baz=25,slow=40						
	comp=Z,3.6nm,0.8s						
MESJ	**Messejana**	**96.35**	**339**	*eP*	**P**	**20 41 54.2**	**-0.8**
RKT	**Rikitea**	**98.43**	**114**	*eS*	**S**	**20 53 27.9**	**-1.5**
	comp=Z,1μm,45.2s						
RKT				*e*SS	**SS**	**21 00 10.8**	**-4.3**
	comp=Z,1μm,36.5s						
RKT	**Rikitea**	**98.43**	**114**	*e*LR	LR	21 14 02.1	
	comp=Z,2μm,26.8s						
MDT	**Midelt**	**99.97**	**334**	LR	LR	21 32 12.3	
	comp=Z,171nm,19.0s,baz=31,slow=38						
KMBO	**Kilima Mbogo**	**103.70**	**281**	Pdiff	**Pdif**	**20 42 28.4**	**-0.1**
	comp=Z,2.0nm,1.0s,baz=314,slow=1.8,SNR=4.2						
VNDA	**Vanda**	**120.23**	**176**	PKP	**PKPdf**	**20 47 15.4**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=313,slow=5.1,SNR=7.4						
OTAV	**Otavalo**	**122.35**	**54**	*eP*	**PKiKP**	**20 47 23.0**	**+0.5**
DBIC	**Dimbokro**	**123.81**	**323**	PKP	**PKPdf**	**20 47 24.0**	**-0.5**
	comp=Z,8.0nm,1.1s,baz=115,slow=3.5,SNR=4.6						
BOAV	**Boa Vista**	**129.74**	**34**	*eP*	**PKPdf**	**20 47 35.8**	**0.0**
BOSA	**Boshof**	**129.94**	**266**	PKP	**PKPdf**	**20 47 33.6**	**-2.3**
	comp=Z,16nm,0.8s,baz=180,slow=2.0,SNR=6.6						
TBTG	**Tabatinga, AM**	**130.88**	**49**	*eP*	**PKiKP**	**20 47 39.0**	**+0.2**
CZSB	**Cruzeiro do Su**	**132.12**	**55**	*eP*	**PKiKP**	**20 47 41.0**	**-0.3**
QSPA	**South Pole Qui**	**132.26**	**180**	PKP	**PKPdf**	**20 47 38.8**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=292,slow=1.5,SNR=13						
SYO	**Syowa Base**	**134.29**	**209**	⇓*e*Pdiff	**Pdif**	**20 44 46.7**	**+3.9**
SYO	**Syowa Base**	**134.29**	**209**	⇓*e*PKiKP	**PKiKP**	**20 47 48.0**	**+4.0**
ITTB	**Itaituba**	**137.81**	**31**	*eP*	**PKiKP**	**20 47 52.2**	**-0.7**
TMAB	**Tom-Au,PA,Br**	**138.37**	**20**	*eP*	**PKiKP**	**20 47 53.4**	**-0.7**
LPAZ	**La Paz**	**141.55**	**57**	PKhKP	PKPpre	20 47 53.5	
	comp=Z,3.2nm,1.0s,baz=22,slow=2.1,SNR=4.3						
H03N2	**Juan Fernandez**	**144.64**	**90**	T	T	23 29 54.1	
	baz=301,slow=77,SNR=18						
H03N3	**Juan Fernandez**	**144.65**	**90**	T	T	23 29 52.8	
	baz=301,slow=77,SNR=17						
H03N1	**Juan Fernandez**	**144.65**	**90**	T	T	23 30 07.2	
	baz=301,slow=77,SNR=22						
SMTB	**Santa Maria do**	**144.73**	**22**	*eP*	PKPbc	20 48 02.7	+0.4
TROLL	**Troll, Antarti**	**145.28**	**199**	⇓P	**PKPab**	**20 48 03.3**	**+0.6**
	comp=Z,706nm,0.7s						
PTLB	**Pontes e Lacer**	**146.05**	**45**	*eP*	**PKPbc**	**20 48 06.3**	**-0.1**
SNDB	**Serra Nova Dou**	**146.47**	**30**	*eP*	**PKPdf**	**20 48 06.7**	**+0.4**
SNAA	**Sanae**	**146.78**	**198**	⇓P	**PKPbc**	**20 48 06.5**	**-0.5**
	comp=Z,134nm,0.6s						
SNAA	**Sanae**	**146.78**	**198**	PKPbc	**PKPbc**	**20 48 06.5**	**-0.5**
	comp=Z,12nm,1.0s,baz=170,slow=4.2,SNR=7.4						
VNA2	**Neumayer--Watz**	**148.33**	**197**	⇓P	**PKPbc**	**20 48 11.0**	**-0.1**
	comp=Z,29nm,0.6s,baz=126,slow=1.9						
VNA3	**Neumayer Olymp**	**148.55**	**195**	⇓P	**PKPbc**	**20 48 11.6**	**-0.1**
	comp=Z,14nm,0.6s						
VNA1	**Neumayer--Stat**	**148.73**	**197**	⇓P	**PKPbc**	**20 48 12.3**	**+0.2**
	comp=Z,19nm,0.8s						
BDFB	**Brasília**	**151.01**	**26**	PKPbc	**PKiKP**	**20 48 20.5**	**+0.5**
	comp=Z,16nm,0.7s,baz=287,slow=1.1,SNR=27						
GDU01	**Guandu, BA**	**151.04**	**9**	*eP*	**PKPdf**	**20 48 14.6**	**+1.0**
PLCA	**Paso Flores**	**153.58**	**98**	PKPbc	**PKiKP**	**20 48 24.8**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=22,slow=1.3,SNR=4.4						
CPUP	**Villa Florida**	**155.69**	**55**	PKP	**PKPdf**	**20 48 21.3**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=302,slow=4.2,SNR=3.2						
RIB01	**Linhares ES**	**156.44**	**13**	*eP*	**PKPdf**	**20 48 21.8**	**+0.6**

HEL 14 20:37:31.4±0.2, 67°.60N×33°.90E, h0km, ML1.6, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.41**	**44**	PG	Pg	20 37 38.9	-0.4
	baz=225						
LVZ				SG	Sg	20 37 44.2	-0.4
VRF	**Varrio**	**1.65**	**277**	PG	Pn	20 38 01.0	-0.5
VRF				MSG		20 38 20.6	
	comp=Z,2.4nm,0.2s						
VRF				SG	Sn	20 38 22.0	-1.3
OLKF	**Oulanka, Finla**	**2.19**	**236**	PG	Pb	20 38 10.8	-1.1
OLKF				MSG		20 38 36.2	
	comp=Z,2.7nm,0.2s						
OLKF				SG	Sb	20 38 38.2	-1.2
KU6	**Riekki**	**2.24**	**227**	PG	Pn	20 38 11.2	+1.4
KU6				MSG		20 38 37.7	
	comp=Z,4.7nm,0.2s						
KU6				SN	Sn	20 38 38.0	0.0
RAJF	**Raja-Jooseppi**	**2.28**	**295**	SB	Sn	20 38 38.2	-0.7
RANF	**Ranua**	**3.23**	**244**	PG	Pb	20 38 27.8	-1.8
KEV	**Kevo**	**3.32**	**314**	PN	Pn	20 38 24.7	+0.2
ARA0	**ARCESS Array S**	**3.64**	**306**	PN	Pn	20 38 28.3	-0.6
HEF	**Hetta**	**3.94**	**287**	PG	Pb	20 38 39.2	-2.3
TOF	**Tornio**	**4.08**	**252**	PG	Pb	20 38 45.2	+1.3
KTK1	**Kautokeino**	**4.20**	**295**	*eP*	Pn	20 38 37.8	+1.2
KTK1	**Kautokeino**	**4.20**	**295**	PN	Pn	20 38 37.5	+0.9
PAJU	**Pajala**	**4.22**	**267**	PG	Pb	20 38 47.0	+0.6
OBF4	**Vikkela, Lumij**	**4.53**	**236**	PG	Pb	20 38 53.9	+2.2
	baz=43						
KALU	**Kalix**	**4.53**	**252**	PG	Pb	20 38 52.0	+0.3
	baz=63						
ERTU	**Ertsjaerv**	**4.70**	**262**	PB	Pb	20 38 50.4	-4.1

*THE **14** 20:46:39.7, 40°.19N×20°.73E, h0km±3km, ML2.4/5, Error ellipse: s-maj=3.8km s-min=0.9km az=333.0*
*TIR **14** 20:46:39.1, 40°.20N×20°.67E, h5km, Md3.3/1, Ml2.7/6*
*ATH **14** 20:46:39.0, 40°.24N×20°.71E, h4km±2km, ML2.6/14, Manual Solution by A.Agalos First location: 2019/04/14 20:47:46, This location: 2019/04/14 21:16:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*BEO **14** 20:46:40.9±0.4, 40°.19N×20°.86E, h4km±3km, ML2.5/8*
*SKO **14** 20:46:41.6, 40°.16N×20°.74E, h15km*

ISC 14 20:46:39.6±1.1, 40°.19N±0°.02×20°.73E±0°.02, h2km±9km, n66, σ0°.81/92, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.11**	**246**	**Pg**	**Pg**	**20 46 40.6**	**-1.1**
LSK				Sg	**Sg**	**20 46 42.4**	**-0.7**
LSK				AML	AML	20 46 44.7	
	271nm,0.6s						
LSK				AMd		20 48 08.2	
PENT	**Pentalofos**	**0.32**	**89**	P	**Pg**	**20 46 45.5**	**-0.2**
PENT				S	**Sg**	**20 46 51.1**	**+1.3**
PENT	**Pentalofos**	**0.32**	**89**	P	**Pg**	**20 46 45.8**	**+0.1**
PENT				S	**Sg**	**20 46 50.3**	**+0.5**
NEST	**Nestorio**	**0.33**	**48**	P	**Pg**	**20 46 45.9**	**0.0**
NEST				S	**Sg**	**20 46 51.7**	**+1.4**
	1μm,0.5s						
NEST	**Nestorio**	**0.33**	**48**	Pg	**Pg**	**20 46 46.0**	**0.0**
NEST				Sg	**Sg**	**20 46 52.2**	**+1.9**
NEST				AML	AML	20 46 55.6	
	3.4nm,0.3s						
NEST	**Nestorio**	**0.33**	**48**	P	**Pg**	**20 46 46.1**	**+0.1**
NEST				S	**Sg**	**20 46 49.5**	**-0.8**
KBN	**Korca**	**0.43**	**6**	Pg	**Pg**	**20 46 47.2**	**-0.7**
KBN				Sg	**Sg**	**20 46 54.0**	**+0.5**
KBN				AML	AML	20 47 06.3	
	2.2nm,1.3s						
JAN	**Janina**	**0.54**	**170**	P	**Pg**	**20 46 49.5**	**-0.5**
JAN				S	**Sg**	**20 46 57.4**	**+0.3**
	668nm,0.4s						
JAN	**Janina**	**0.54**	**170**	P	**Pg**	**20 46 49.5**	**-0.5**
JAN				S	**Sg**	**20 46 58.5**	**+1.4**
MSVA	**Metsovo**	**0.55**	**140**	P	**Pg**	**20 46 50.9**	**+0.8**
MSVA				S	**Sb**	**20 46 59.4**	**-0.9**
SRN	**Sarande**	**0.64**	**241**	Pg	**Pg**	**20 46 50.4**	**-1.5**
SRN				Sg	**Sg**	**20 47 00.8**	**+0.7**
SRN				AML	AML	20 47 04.7	
	0.7nm,0.5s						
IGT	**Igoumenitsa**	**0.73**	**205**	P	**Pg**	**20 46 52.8**	**-0.7**
IGT				S	**Sb**	**20 47 04.8**	**-0.5**
	300nm,0.5s						
IGT	**Igoumenitsa**	**0.73**	**205**	Pg	**Pg**	**20 46 53.8**	**+0.3**
IGT				Sg	**Sb**	**20 47 04.4**	**-0.9**
IGT	**Igoumenitsa**	**0.73**	**205**	*i* Pg	**Pg**	**20 46 53.3**	**-0.2**
IGT				*i* Sg	**Sb**	**20 47 06.3**	**+1.0**
IGT	**Igoumenitsa**	**0.73**	**205**	*e*Pg	**Pg**	**20 46 53.5**	**0.0**
IGT				*e*Sg	**Sb**	**20 47 06.5**	**+1.2**
IGT	**Igoumenitsa**	**0.73**	**205**	P	**Pg**	**20 46 53.7**	**+0.2**
KEK	**Kerkira**	**0.86**	**236**	P	**Pg**	**20 46 55.5**	**-0.6**
KEK				S	**Sb**	**20 47 09.0**	**-0.2**
	192nm,0.5s						
KEK	**Kerkira**	**0.86**	**236**	P	**Pg**	**20 46 55.9**	**-0.2**
OHR	**Ohrid**	**0.92**	**3**	*i* Pg	**Pb**	**20 46 58.2**	**-0.1**
OHR				*i* Sg	**Sn**	**20 47 12.6**	**-0.8**
OHR	**Ohrid**	**0.92**	**3**	*e*Pg	**Pb**	**20 46 58.2**	**-0.1**
OHR				*e*Sg	**Sb**	**20 47 10.3**	**-0.7**
TETR	**Tetrakomo, Epi**	**0.95**	**153**	P	**Pg**	**20 46 57.4**	**-0.3**
KTI	**Kastanea**	**1.08**	**79**	P	**Pg**	**20 46 59.5**	**-0.8**
THL	**Klokotos Trika**	**1.17**	**122**	P	**Pg**	**20 47 00.4**	**-1.7**
THL				S	**Sn**	**20 47 19.4**	**-0.1**
THL	**Klokotos Trika**	**1.17**	**122**	P	**Pg**	**20 47 00.9**	**-1.2**
THL				S	**Sb**	**20 47 18.1**	**-0.1**
TIR	**Tirane**	**1.33**	**331**	*e*Pg	**Pg**	**20 47 05.3**	**+0.3**
LIT	**Litokhoron**	**1.35**	**93**	*i* Pg	**Pb**	**20 47 05.6**	**-0.1**
LIT	**Litokhoron**	**1.35**	**93**	P	**Pn**	**20 47 04.2**	**-1.3**
TSLK	**Tsoukalades, L**	**1.37**	**182**	P	**Pn**	**20 47 05.4**	**-0.3**
LKD2	**Lefkada island**	**1.40**	**182**	Pn	**Pg**	**20 47 07.0**	**+0.5**
LKD2				Sn	**Sn**	**20 47 27.1**	**+1.8**
LKD2				AML	AML	20 47 32.3	
	0.5nm,0.7s						
LKD2	**Lefkada island**	**1.40**	**182**	P	**Pb**	**20 47 06.2**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.48**	**181**	P	**Pn**	**20 47 07.0**	**-0.1**
NYDR				S	**Sg**	**20 47 28.6**	**+1.5**
	118nm,0.7s						
NYDR	**Nydri-Lefkada**	**1.48**	**181**	P	**Pn**	**20 47 07.0**	**-0.1**
GRG	**Griva**	**1.49**	**59**	*i* Pn	**Pn**	**20 47 07.5**	**+0.1**
PHP	**Peshkopia**	**1.51**	**352**	Pn	**Pb**	**20 47 08.0**	**-0.3**
EVR	**Evrytania**	**1.52**	**146**	P	**Pb**	**20 47 08.6**	**0.0**
EVR	**Evrytania**	**1.52**	**146**	P	**Pn**	**20 47 07.8**	**-0.1**
EVGI	**Lefkada island**	**1.57**	**182**	P	**Pb**	**20 47 09.2**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.60**	**137**	P	**Pn**	**20 47 09.0**	**+0.1**
PVO	**Paravola**	**1.69**	**158**	P	**Pb**	**20 47 10.8**	**-0.6**
AGG	**Agios Georgios**	**1.70**	**133**	P	**Pn**	**20 47 09.9**	**-0.5**
FSK	**Fiskardo**	**1.74**	**184**	P	**Pn**	**20 47 11.2**	**+0.4**
SCTE	**Santa Cesarea**	**1.74**	**267**	Pn	**Pb**	**20 47 11.5**	**-0.6**
SCTE	**Santa Cesarea**	**1.74**	**267**	P	**Pn**	**20 47 10.0**	**-0.7**
VAY	**Valandovo**	**1.80**	**51**	*i* Pn	**Pb**	**20 47 13.1**	**-0.1**
VAY	**Valandovo**	**1.80**	**51**	*e*Pg	**Pn**	**20 47 11.5**	**-0.1**
VAY				*e*Sg	**Sb**	**20 47 35.7**	**-0.5**
ANX	**Ano Chora**	**1.85**	**150**	P	**Pn**	**20 47 12.6**	**+0.3**
HORT	**Hortiatis**	**1.86**	**77**	P	**Pn**	**20 47 10.6**	**-1.9**
KNT	**Kendrikon**	**1.91**	**59**	*i* Pn	**Pn**	**20 47 12.4**	**-0.8**
KNT	**Kendrikon**	**1.91**	**59**	P	**Pn**	**20 47 11.4**	**-1.8**
PUK	**Puka**	**1.95**	**341**	Pn	**Pb**	**20 47 16.1**	**+0.2**
PUK				Sn	**Sg**	**20 47 43.2**	**+0.9**
PUK				AML	AML	20 47 50.7	
	0.2nm,0.8s						
EFP	**Efpalio**	**1.99**	**152**	P	**Pn**	**20 47 14.8**	**+0.6**
VLS	**Valsamata**	**2.02**	**183**	P	**Pn**	**20 47 14.3**	**-0.2**
SOH	**Sokhos**	**2.10**	**72**	P	**Pn**	**20 47 14.4**	**-1.3**
BCI	**Bajram Curri**	**2.23**	**347**	Pn	**Pb**	**20 47 21.1**	**+0.5**
SRS	**Serrai**	**2.37**	**66**	*e*Pn	**Pn**	**20 47 19.2**	**-0.2**
KKB	**Krupnik**	**2.45**	**47**	*i* Pn	**Pn**	**20 47 21.3**	**+0.7**
BOSS	**Bosilegrad**	**2.65**	**29**	*e*Pn	**Pn**	**20 47 23.9**	**+0.5**
MMB	**Musomishta**	**2.66**	**58**	*i* Pn	**Pn**	**20 47 23.6**	**+0.1**
BARS	**Barje**	**2.75**	**17**	*i* Pn	**Pn**	**20 47 25.4**	**+0.8**
BARS	**Barje**	**2.75**	**17**	*e*Pn	**Pn**	**20 47 25.7**	**+1.1**
BARS				*e*Sg	**Sg**	**20 48 07.3**	**-0.5**
SELS	**Selova**	**3.04**	**5**	*e*Pn	**Pn**	**20 47 29.9**	**+1.2**
VTS	**Vitosha**	**3.07**	**37**	*e*Pn	**Pn**	**20 47 29.6**	**+0.4**
SJES	**Sjenica**	**3.12**	**350**	*e*Pn	**Pn**	**20 47 31.0**	**+1.2**
IVAS	**Ivanjica**	**3.41**	**353**	*e*Pn	**Pn**	**20 47 34.7**	**+0.9**
GRUS	**Gruza**	**3.69**	**360**	*e*Pn	**Pn**	**20 47 38.8**	**+1.2**
ZAGS	**Zajecar**	**3.79**	**17**	*e*Pn	**Pn**	**20 47 38.6**	**-0.3**
ZAGS				*e*Sn	**Sn**	**20 48 23.3**	**-0.7**

TXNET 14 21:02:55.7, 31°.3N±0°.5×103°.6W±0°.5, h6km±1km, ML2.3/9, 1D, Error ellipse: s-maj=0.8km s-min=0.7km az=8.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB10	**Southeast of T**	**0.12**	**262**	P	Pg	21 02 58.7	+0.5
TPB10				S	Sg	21 03 01.0	+1.0
PCOS	**Crockett Middl**	**0.14**	**40**	P	Pg	21 02 59.0	+0.3
PCOS				S	Sg	21 03 01.6	+1.0
PECS	**Pecos**	**0.23**	**288**	P	Pg	21 03 00.8	+0.6
PECS				S	Sg	21 03 04.7	+1.5
TPB03	**Saragosa**	**0.23**	**158**	⇓P	Pg	21 03 01.2	+0.9
TPB03				S	Sg	21 03 05.2	+1.8
TPB07	**Mentone**	**0.28**	**351**	S	Sg	21 03 06.5	+1.4
TPB12	**Southwest of T**	**0.30**	**254**	P	Pg	21 03 02.4	+0.7
TPB12				S	Sg	21 03 07.3	+1.6
TPB04	**Verhalen**	**0.32**	**111**	P	Pg	21 03 02.9	+1.0
TPB04				S	Sg	21 03 07.7	+1.5
TPB16	**Coyonosa**	**0.36**	**119**	P	Pg	21 03 03.5	+0.8
TPB16				S	Sg	21 03 08.7	+1.3
TPB01	**Permian Basin**	**0.38**	**202**	P	Pg	21 03 03.6	+0.4
TPB01				S	Sg	21 03 09.5	+1.3
TPB05	**Hovey Rd**	**0.45**	**146**	P	Pg	21 03 05.0	+0.4
TPB05				S	Sb	21 03 12.0	-1.3
TPB06	**Permian Basin**	**0.49**	**44**	P	Pg	21 03 05.6	+0.5
TPB06				S	Sb	21 03 13.0	-1.2
TPB11	**China Draw**	**0.73**	**331**	S	Sg	21 03 20.1	+0.9
TPB08	**Permian Basin**	**0.73**	**124**	S	Sb	21 03 20.3	-1.0
MNHN	**Monahans**	**0.73**	**87**	P	Pg	21 03 09.5	-0.4
MNHN				S	Sg	21 03 19.5	+0.2
ALPN	**Alpine**	**0.92**	**181**	P	Pg	21 03 13.4	0.0
ALPN				S	Sg	21 03 25.7	+0.3
NM01	**Eunice**	**1.07**	**10**	S	Sb	21 03 30.7	-0.4
GDL2	**Guadalupe Moun**	**1.10**	**325**	P	Pn	21 03 18.1	+0.2
CLN7	**Carlsbad 7**	**1.12**	**352**	P	Pn	21 03 18.2	+0.1
ODSA	**Odessa**	**1.22**	**48**	P	Pg	21 03 19.2	0.0
ODSA				S	Sg	21 03 35.0	-0.1
VHRN	**Van Horn**	**1.28**	**247**	P	Pg	21 03 19.7	-0.6
VHRN				S	Sb	21 03 37.1	0.0
TMB02	**Rankin**	**1.36**	**94**	P	Pn	21 03 20.8	-0.5
TMB02				S	Sb	21 03 38.4	-0.8
MNTX	**Cornudas Mount**	**1.56**	**285**	P	Pb	21 03 24.9	-0.2
MNTX				S	Sg	21 03 46.3	+0.5
TMB04	**Seminole**	**1.63**	**36**	P	Pb	21 03 25.9	-0.4
TMB04				S	Sg	21 03 48.1	-0.1
SAND	**Sanderson**	**1.86**	**136**	P	Pb	21 03 29.3	-0.8
SAND				S	Sb	21 03 54.3	+0.6
TX31	**Lajitas Ar. Si**	**1.96**	**181**	P	Pb	21 03 31.2	-0.8
TX31				S	Sg	21 03 58.0	-0.7
TMB05	**Klondike**	**2.00**	**48**	P	Pb	21 03 31.4	-1.2
TMB05				S	Sb	21 03 57.5	-0.2
OZNA	**Ozona**	**2.17**	**99**	P	Pb	21 03 34.0	-1.5
OZNA				S	Sb	21 04 01.7	-0.9
SGCY	**Sterling City**	**2.21**	**73**	P	Pn	21 03 34.4	+1.3
SGCY				S	Sb	21 04 02.8	-1.1

*IDC **14** 21:15:34.3±2.7, 17°.56S×178°.62W, h629km±22km, mb2.8/5, mbtmp3.8/6, Error ellipse: s-maj=102.0km s-min=21.7km az=150.0*

ISC 14 21:15:35.7±1.7, 17°.4S±0°.6×178°.8W±0°.3, h650km, n9, σ1°.02/11, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.06**	**264**	P	**P**	**21 16 57.2**	**-2.3**
	3.2nm,0.4s,baz=289,slow=23,SNR=1.2						
WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**21 22 52.0**	**+0.4**
	0.5nm,0.3s,baz=93,slow=7.4,SNR=17						
WRA				PcP	**PcP**	**21 24 21.2**	**+0.7**
	0.3nm,0.5s,baz=93,slow=3.2,SNR=1.7						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**21 22 54.0**	**+0.9**
	2.2nm,0.6s,baz=86,slow=8.6,SNR=33						
ASAR				PcP	**PcP**	**21 24 21.8**	**+0.5**
	0.4nm,0.4s,baz=105,slow=3.6,SNR=4.1						
	2.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.78**	**260**	P	**P**	**21 23 53.6**	**+0.5**
	0.6nm,0.4s,baz=79,slow=5.2,SNR=3.2						
	0.6nm,0.4s						
ILAR	**Eielson Array**	**85.51**	**13**	P	**P**	**21 27 07.0**	**+0.6**
	0.2nm,0.5s,baz=220,slow

ISC 14 21:18:32.0±0.8, 1°89S±0°.04×122°.68E±0°.04, h10km, n20, σ1°32/26, mb3.8/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.85**	**6**	P	**Pg**	**21 18 47.3**	**-1.1**
LUWI				S	**Sb**	**21 19 00.7**	**+0.4**
APSI	**Ampana**	**1.42**	**313**	P	**Pn**	**21 18 57.3**	**-0.6**
KMSI	**Cibinong**	**2.77**	**28**	P	**Pn**	**21 19 18.2**	**+1.7**
KMSI				S	**Sn**	**21 19 52.0**	**+1.9**
PCI	**Palu**	**3.00**	**289**	P	**Pn**	**21 19 23.2**	**+3.4**
PCI				S	**Sn**	**21 19 57.3**	**+1.4**
SANI	**Sanana**	**3.31**	**93**	P	**Pn**	**21 19 23.3**	**-0.7**
SANI				S	**Sn**	**21 20 04.3**	**+0.9**
MPSI	**Mapaga**	**3.55**	**308**	P	**Pn**	**21 19 27.0**	**-0.3**
SPSI	**Sidrap Palu**	**3.56**	**235**	P	**Pn**	**21 19 28.4**	**+1.0**
SPSI				S	**Sn**	**21 20 10.3**	**+0.6**
BBSI	**Bau Bau**	**3.58**	**182**	P	**Pn**	**21 19 29.2**	**+1.6**
BNSI	**Bone**	**3.58**	**226**	P	**Pn**	**21 19 28.4**	**+0.7**
BKSI	**Bulukumba**	**4.26**	**217**	P	**Pn**	**21 19 37.8**	**+0.8**
KAPI	**Kappang**	**4.26**	**223**	Pn	**Pn**	**21 19 38.3**	**+1.2**
	13nm,0.3s,baz=323,slow=1.3,SNR=24						
KAPI				Sn	**Sn**	**21 20 26.2**	**-0.8**
	20nm,0.3s,baz=56,slow=22,SNR=11						
KAPI				LR	LR	21 21 21.3	
	comp=Z,70nm,19.9s,baz=6.0,slow=38						
	50nm,0.5s						
NLAI	**Namlea**	**4.62**	**107**	P	**Pn**	**21 19 43.0**	**+1.1**
BSSI	**Bau Bau, Buton**	**4.76**	**207**	P	**Pn**	**21 19 44.3**	**+0.4**
TNTI	**Ternate**	**5.38**	**61**	P	**Pn**	**21 19 53.6**	**+1.2**
	0.1nm20nm,0.9s						
EDFI	**Ende, Flores**	**6.89**	**188**	P	**Pn**	**21 20 13.3**	**0.0**
WRA	**Warramunga Arr**	**21.26**	**148**	P	**P**	**21 23 19.0**	**+0.4**
	2.8nm,0.8s,baz=334,slow=9.8,SNR=18						
	2.8nm,0.8s						
ASAR	**Alice Springs**	**24.23**	**154**	P	**P**	**21 23 49.9**	**+0.6**
	2.1nm,0.7s,baz=326,slow=7.8,SNR=25						
	2.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.89**	**312**	P	**P**	**21 24 49.2**	**+0.1**
	1.0nm,0.7s,baz=140,slow=7.3,SNR=10						
	1.0nm,0.7s						
STKA	**Stephens Creek**	**34.76**	**151**	P	**P**	**21 25 22.8**	**+0.1**
	3.1nm,1.1s,baz=315,slow=8.6,SNR=3.2						
	3.1nm,1.1s						
MKAR	**Makanchi Array**	**60.05**	**329**	P	**P**	**21 28 36.7**	**-2.6**
	0.3nm,0.6s,baz=115,slow=8.6,SNR=5.5						
	0.3nm,0.6s						

NIED ***14*** *21:23:20.4, 44°.85N×150°.00E, h30km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}1.88; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$-1.42; $M_{r\theta}$0.87; $M_{\theta\phi}$-1.08; $M_{\phi r}$1.17; Fault plane solution: $M_0$2.48000×10^15 NP1: ϕ_s210.00000°, δ27.00000°, λ85.00000°. NP2:ϕ_s35.00000°, δ63.00000°, λ92.00000°.*

MOS ***14*** *21:23:20.4±0.9, 44°.82N×149°.97E, h60km, mb4.7/22 Error ellipse: s-maj=7.4km s-min=6.0km az=105.0*

JMA ***14*** *21:23:20.4±0.6, 45°N×3°×15°0E±°, h30km, MV4.8/17, SE OFF ETOROFU*

NEIC ***14*** *21:23:22.0±1.1, 45°.07N±0°.09×149°.8E±0°.1, h35km±2km, mb4.6/100, Error ellipse: s-maj=18.3km s-min=12.5km az=135.0*

SKHL ***14*** *21:23:21.1±0.3, 44°.60N×150°.10E, h75km±6km, mb5.3/3*

IDC ***14*** *21:23:22.5±2.1, 44°.84N×149°.98E, h64km±18km, mb3.9/28, mbtmp4.1/34, MS3.4/22, Error ellipse: s-maj=13.9km s-min=11.4km az=148.0*

ISC 14 21:23:22.3±1.0, 44°.77N±0°.05×149°.96E±0°.05, h62km±8km, n480, σ1°11/495, mb4.5/102, 21C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.55**	**288**	*e*PN	**Pn**	**21 23 47.3**	**-0.4**
KUR				*e*S	**Sn**	**21 24 07.4**	**+0.5**
KUR				pmax	pmax		
	comp=E,350nm,0.3s						
KUR				pmax	pmax		
	comp=Z,1μm,0.3s						
KUR				pmax	pmax		
	comp=N,421nm,0.2s						
KUR				smax	smax		
	comp=N,3μm,0.2s						
KUR				smax	smax		
	comp=E,2μm,0.2s						
KUR	**Kuril'sk**	**1.55**	**288**	*i* P	**Pn**	**21 23 47.6**	**-0.1**
KUR				AMB	AMB	21 23 48.8	
	comp=E,2μm,0.5s						
KUR				*e*S	**Sn**	**21 24 07.7**	**+0.8**
KUR				A	A	21 24 10.0	
	comp=E,4μm,0.6s						
KUR				A	A	21 24 10.0	
	comp=E,2μm,0.6s						
SHO	**Shikotan**	**2.42**	**249**	*i* PN	**Pn**	**21 23 58.1**	**-1.3**
SHO				*e*S	**Sn**	**21 24 24.3**	**-3.6**
SHO				pmax	pmax		
	comp=N,40nm,0.2s						
SHO				pmax	pmax		
	comp=Z,88nm,0.2s						
SHO				smax	smax		
	comp=N,562nm,0.3s						
SHO				smax	smax		
	comp=E,346nm,0.4s						
SHO	**Shikotan**	**2.42**	**249**	*i* P	**Pn**	**21 23 58.4**	**-1.0**
SHO				AMB	AMB	21 23 58.5	
	comp=E,120nm,0.2s						
SHO				*e*S	**Sn**	**21 24 24.9**	**-3.0**
SHO				A	A	21 24 25.6	
	comp=E,800nm,0.4s						
SHO				A	A	21 24 25.6	
	comp=E,900nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.03**	**257**	*d i* PN	**Pn**	**21 24 07.3**	**-0.4**
YUK				*e*S	**Sn**	**21 24 41.6**	**-1.1**
YUK				pmax	pmax		
	comp=E,89nm,0.2s						
YUK				pmax	pmax		
	comp=Z,507nm,0.2s						
YUK				pmax	pmax		
	comp=N,37nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,559nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.03**	**257**	*i* P	**Pn**	**21 24 07.3**	**-0.4**
YUK				*e*S	**Sn**	**21 24 41.8**	**-0.9**
YUK				A	A	21 24 44.0	
	comp=E,2μm,0.5s						
YUK				A	A	21 24 44.0	
	comp=E,1μm,0.5s						
NEM2	**Nemuro 2**	**3.35**	**247**	P	**Pn**	**21 24 10.6**	**-1.5**
NEM2				*e*S	**Sn**	**21 24 48.4**	**-2.2**
NMR	**Nemuro--Hokkai**	**3.35**	**247**	*e*PN	**Pn**	**21 24 10.2**	**-2.0**
NMR				*e*S	**Sn**	**21 24 45.8**	**-5.0**
NMR	**Nemuro--Hokkai**	**3.35**	**247**	*e*P	**Pn**	**21 24 10.8**	**-1.4**
RUSJ	**Misakicho**	**3.44**	**260**	⇓*e*PN	**Pn**	**21 24 14.4**	**+1.0**
RUSJ				*e*S	**Sn**	**21 24 54.3**	**+1.5**
JRA	**Rausu**	**3.57**	**258**	P	**Pn**	**21 24 15.8**	**+0.7**
JRA				S	**Sn**	**21 24 56.4**	**+0.4**
JNK	**Nakash**	**3.95**	**254**	P	**Pn**	**21 24 20.1**	**-0.2**
JNK				*e*S	**Sn**	**21 25 04.8**	**-0.7**
AKK	**Akkeshi**	**4.09**	**246**	*e*P	**Pn**	**21 24 20.7**	**-1.6**
JAK	**Akkeshi**	**4.20**	**247**	P	**Pn**	**21 24 22.4**	**-1.3**
JAK				S	**Sn**	**21 25 08.3**	**-3.1**
JTKR	**Abashiri--Toko**	**4.41**	**262**	P	**Pn**	**21 24 27.6**	**+0.9**
JTKR				S	**Sn**	**21 25 20.5**	**+3.8**
JAR	**Ashorobuto**	**4.70**	**254**	P	**Pn**	**21 24 30.8**	**+0.2**
JAR				S	**Sn**	**21 25 24.4**	**+0.6**
JOB	**Onbets**	**4.81**	**249**	P	**Pn**	**21 24 31.3**	**-0.8**
JOB				S	**Sn**	**21 25 24.1**	**-2.4**
JCH	**Churui**	**5.25**	**248**	P	**Pn**	**21 24 37.2**	**-0.8**
JCH				S	**Sn**	**21 25 34.8**	**-2.4**
JKK2	**Kamakawa 2**	**5.25**	**263**	P	**Pn**	**21 24 39.5**	**+1.3**
JKK2				*e*S	**Sn**	**21 25 40.5**	**+3.2**
JKA	**Kamikawa-asahi**	**5.31**	**265**		**Pn**	**21 24 40.3**	**+1.4**
JKA	**Kamikawa-asahi**	**5.31**	**265**	*e*P	**Pn**	**21 24 40.8**	**+1.8**
ASAJ	**Asahikawa**	**5.31**	**265**	P	**Pn**	**21 24 40.8**	**+1.8**
	comp=E,26nm,0.5s,baz=74,slow=19,SNR=50						
ASAJ				S	**Sn**	**21 25 39.6**	**+0.8**
	comp=E,14nm,0.5s,baz=287,slow=29,SNR=1.5						
ASAJ				LR	LR	21 27 02.9	
	comp=E,215nm,18.1s,baz=150,slow=41						
YSS	**Yuzhno-Sakhali**	**5.48**	**296**		**Pn**	**21 24 40.0**	**-1.3**
YSS	**Yuzhno-Sakhali**	**5.48**	**296**	*e*PN	**Pn**	**21 24 42.9**	**+1.6**
YSS				*e*S	**Sn**	**21 25 43.9**	**+0.9**
YSS				pmax	pmax		
	comp=Z,70nm,0.3s						
YSS				smax	smax		
	comp=N,40nm,0.4s						
YSS				smax	smax		
	comp=E,40nm,0.4s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
YSS				MLR	MLR		
	comp=N,100nm,15.0s						
YSS				MLR	MLR		
	comp=E,200nm,15.0s						
YSS	**Yuzhno-Sakhali**	**5.48**	**296**	*e*P	**Pn**	**21 24 43.0**	**+1.6**
YSS				*e*S	**Sn**	**21 25 43.9**	**+0.9**
ERM	**Erimo**	**5.67**	**243**		**Pn**	**21 24 45.0**	**+1.1**
ERM	**Erimo**	**5.67**	**243**	*i* PN	**Pn**	**21 24 44.3**	**+0.4**
JWK2	**Keihoku**	**5.74**	**278**	P	**Pn**	**21 24 47.9**	**+3.1**
JNBK	**Urakawa-nobuka**	**5.80**	**247**	*e*P	**Pn**	**21 24 44.2**	**-1.5**
JNBK				*e*S	**Sn**	**21 25 49.8**	**-1.0**
JRBN	**Rebuntou**	**6.33**	**279**	P	**Pn**	**21 24 55.5**	**+2.7**
UGL	**Uglegorsk**	**6.91**	**311**	*e*P	**Pn**	**21 25 03.0**	**+2.2**
SKR	**Severo-Kuril's**	**7.22**	**33**	*e*PN	**Pn**	**21 25 05.8**	**+0.7**
SKR				pmax	pmax		
	comp=Z,53nm,0.9s						
SKR				MLR	MLR		
	comp=Z,300nm,13.0s						
SKR	**Severo-Kuril's**	**7.22**	**33**	*e*P	**Pn**	**21 25 05.6**	**+0.5**
SKR				*e*S	**Sn**	**21 26 23.8**	**-1.8**
JANG	**Nango**	**7.62**	**238**	S	Sn	21 26 25.8	-10
JTM	**Tenmabayashi**	**7.66**	**242**	Pn	**Pn**	**21 25 10.0**	**-1.1**
TYV	**Tymovskoe**	**7.83**	**324**	*e*PN	**Pn**	**21 25 15.1**	**+1.8**
TYV				*e*S	**Sn**	**21 26 41.4**	**+1.0**
TYV				pmax	pmax		
	comp=Z,100nm,4.7s						
TYV				pmax	pmax		
	comp=Z,15nm,1.1s						
TYV				smax	smax		
	comp=E,13nm,1.0s						
TYV				smax	smax		
	comp=E,500nm,5.7s						
TYV	**Tymovskoe**	**7.83**	**324**	*e*P	**Pn**	**21 25 14.7**	**+1.4**
TYV				*e*S	**Sn**	**21 26 41.4**	**+1.0**
JMM	**Marumori**	**9.75**	**228**	Pn	**Pn**	**21 25 42.9**	**+3.2**
PEA0B	**Petropavlovsk-**	**9.77**	**29**	Pn	**Pn**	**21 25 37.8**	**-2.1**
PEA0B	**Petropavlovsk-**	**9.77**	**29**	*i* PN	**Pn**	**21 25 38.6**	**-1.3**
PETK	**Petropavlovsk-**	**9.77**	**29**	P	**Pn**	**21 25 39.9**	**-0.1**
	comp=E,2.4nm,0.8s,baz=205,slow=13,SNR=3.7						
PETK				LR	LR	21 29 15.9	
	comp=E,159nm,18.2s,baz=205,slow=36						
OKH	**Okha**	**9.91**	**335**	*e*P	Pn	21 25 46.8	+5.0
NKL	**Nikolayevsk**	**10.36**	**327**	*i* P	**Pn**	**21 25 50.3**	**+2.4**
MJAR	**Matsushiro Arr**	**12.12**	**231**	P	**Pn**	**21 26 13.6**	**+1.5**
	comp=E,1.0nm,0.4s,baz=57,slow=13,SNR=4.2						
USRK	**Ussuriysk Ar.**	**12.85**	**274**	Pn	**Pn**	**21 26 22.2**	**+0.3**
USRK	**Ussuriysk Ar.**	**12.85**	**274**	P	**Pn**	**21 26 21.9**	**0.0**
	comp=E,3.2nm,0.6s,baz=80,slow=14,SNR=4.6						
USRK				LR	LR	21 31 06.1	
	comp=E,89nm,20.7s,baz=73,slow=36						
KLR	**Kul'dur**	**13.20**	**296**	P	**Pn**	**21 26 26.6**	**-0.1**
	comp=E,0.5nm,0.5s,baz=112,slow=12,SNR=5.3						
KLR				LR	LR	21 31 32.0	
	comp=E,88nm,20.2s,baz=100,slow=37						
KLR	**Kul'dur**	**13.20**	**296**	*i* PN	**Pn**	**21 26 25.0**	**-1.7**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KLR	**Kul'dur**	**13.20**	**296**	*e*P	**Pn**	**21 26 25.0**	**-1.7**
MA2	**Magadan**	**14.84**	**2**	LR	LR	21 31 55.1	
	comp=Z,99nm,18.5s,baz=158,slow=35						
HEH	**HeiHe**	**16.16**	**298**	*e*P	**P**	**21 27 07.4**	**0.0**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KSRS	**Korea Array**	**18.11**	**254**	LR	LR	21 33 50.4	
	comp=Z,55nm,21.5s,baz=40,slow=34						
SEY	**Seymchan**	**18.25**	**4**	P	**Pn**	**21 27 29.1**	**-1.8**
	comp=E,1.7nm,0.6s,baz=192,slow=7.9,SNR=6.2						
SEY				LR	LR	21 34 05.8	
	comp=Z,85nm,20.0s,baz=218,slow=35						
SEY	**Seymchan**	**18.25**	**4**	*e*P	**Pn**	**21 27 29.0**	**-1.8**
SEY				pmax	pmax		
	comp=Z,4.0nm,1.2s						
JNU	**Nakatsue**	**18.80**	**238**	LR	LR	21 34 14.0	
	comp=Z,78nm,21.5s,baz=39,slow=35						
YAK	**Yakutsk**	**20.93**	**333**		**P**	**21 27 58.5**	**-1.1**
YAK				IAmb	IAmb	21 27 59.6	
	comp=Z,23nm,0.8s						
YAK	**Yakutsk**	**20.93**	**333**	P	**P**	**21 27 57.6**	**-1.9**
	comp=Z,18nm,0.5s,baz=323,slow=1.3,SNR=9.5						
YAK				S	**S**	**21 31 41.2**	**-7.9**
	comp=Z,3.7nm,0.3s,baz=58,slow=4.5,SNR=1.1						
YAK				LR	LR	21 36 20.5	
	comp=Z,72nm,18.9s,baz=111,slow=37						
	comp=Z,18nm,0.5s						
YAK	**Yakutsk**	**20.93**	**333**	*e*P	**P**	**21 27 57.9**	**-1.6**
YAK				*e*		21 28 15.2	
YAK				*e*S	**S**	**21 31 46.1**	**-3.0**
YAK				*e*		21 32 02.9	
YAK				*e*SS	**SnSn**	**21 32 16.1**	**+2.2**
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,21nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				smax	smax		
	comp=N,43nm,2.0s						
YAK				smax	smax		
	comp=E,37nm,1.8s						
BILL	**Bilibino**	**24.84**	**15**	P	**P**	**21 28 38.8**	**+0.4**
BILL	**Bilibino**	**24.84**	**15**	*ce*P	**P**	**21 28 38.6**	**+0.2**
BILL				pmax	pmax		
	comp=Z,10.0nm,2.5s						
BILL	**Bilibino**	**24.84**	**15**	*e*P	**P**	**21 28 38.6**	**+0.2**
NJ2	**Nanjing**	**27.30**	**253**	*e*P	**P**	**21 29 04.1**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HNS	**HongShan**	**27.41**	**267**	⇑P	**P**	**21 29 05.1**	**+3.2**
HNS				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC	**Hu-ho-hao-te**	**28.26**	**276**	*e*P	**P**	**21 29 11.9**	**+2.3**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.67**	**145**	T	T	22 00 08.5	
	baz=334,slow=76,SNR=248						
H11N1	**WAKE ISLAND Hy**	**28.68**	**145**	T	T	22 00 15.8	
	baz=334,slow=76,SNR=106						
H11N3	**WAKE ISLAND Hy**	**28.68**	**145**	T	T	22 00 11.1	
	baz=334,slow=76,SNR=117						
GAMB	**Gambell**	**28.71**	**35**	P	**P**	**21 29 13.2**	**0.0**
	baz=247						
TIXI	**Tiksi**	**28.81**	**346**	P	**P**	**21 29 10.7**	**-3.3**
TIXI	**Tiksi**	**28.81**	**346**	LR	LR	21 41 01.3	
	comp=Z,70nm,19.7s,baz=190,slow=37						
TIXI	**Tiksi**	**28.81**	**346**	*ce*P	**P**	**21 29 11.2**	**-2.8**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ULN	**Ulaanbaatar**	**29.51**	**291**	*ce*P	**P**	**21 29 21.8**	**+1.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**29.51**	**291**	*e*P	**P**	**21 29 21.8**	**+1.1**
H11S1	**WAKE ISLAND Hy**	**29.69**	**147**	T	T	22 01 23.8	
	baz=335,slow=76,SNR=230						
H11S3	**WAKE ISLAND Hy**	**29.70**	**147**	T	T	22 01 33.5	
	baz=335,slow=76,SNR=111						
H11S2	**WAKE ISLAND Hy**	**29.71**	**147**	T	T	22 01 28.0	
	baz=335,slow=76,SNR=112						
SONM	**Songino Array**	**29.95**	**292**	P	**P**	**21 29 24.3**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=89,slow=9.2,SNR=6.8						
	comp=Z,0.8nm,0.7s						
GUMO	**Guam**	**31.38**	**190**	LR	LR	21 40 22.9	
	comp=Z,24nm,20.6s,baz=87,slow=32						
J14K	**Nanvaranak Lak**	**31.91**	**39**	P	**P**	**21 29 41.5**	**+0.1**
	baz=258						
L14K	**Kuka Creek**	**32.05**	**42**	P	**P**	**21 29 43.3**	**+0.6**
	baz=261						
C16K	**Lisburne Hills**	**32.87**	**29**	P	**P**	**21 29 49.5**	**-0.3**
	baz=248						
H16K	**Elim**	**32.91**	**36**	P	**P**	**21 29 49.9**	**-0.3**
	baz=257						
N15K	**Kwethluk River**	**33.17**	**44**	P	**P**	**21 29 52.9**	**+0.4**
	baz=266						
O15K	**Ungalikthiuk R**	**33.24**	**46**	P	**P**	**21 29 53.5**	**+0.3**
	baz=267						
J16K	**Anvik River**	**33.34**	**39**	P	**P**	**21 29 54.1**	**+0.2**
	baz=260						
S14K	**Fog Glacier**	**33.35**	**51**	P	**P**	**21 29 54.7**	**+0.5**
	baz=272						
CHNA	**Chernabura Isl**	**33.40**	**54**	P	**P**	**21 29 55.3**	**+0.8**
	baz=274						
D17K	**Noatak River**	**33.46**	**30**	P	**P**	**21 29 55.8**	**+0.9**
	baz=251						
L16K	**Owhat River**	**33.63**	**42**	P	**P**	**21 29 56.1**	**-0.4**
	baz=264						
E17K	**Hotham Inlet**	**33.73**	**32**	P	**P**	**21 29 56.9**	**-0.3**
	baz=254						
F17K	**Baldwin Pennin**	**33.77**	**33**	P	**P**	**21 29 57.1**	**-0.5**
	baz=255						
G17K	**Kiwalik Mounta**	**33.77**	**35**	P	**P**	**21 29 57.5**	**-0.2**
	baz=257						
M16K	**Timber Creek**	**33.80**	**43**	P	**P**	**21 29 57.3**	**-0.7**
	baz=265						
N16K	**Nishlik Lake**	**33.85**	**44**	P	**P**	**21 29 58.2**	**-0.3**
	baz=266						
H17K	**Granite Mounta**	**33.95**	**36**	P	**P**	**21 29 58.9**	**-0.4**
	baz=259						
J17K	**VABM Dome**	**34.03**	**39**	P	**P**	**21 29 59.9**	**-0.1**
	baz=262						
L17K	**Donlin**	**34.23**	**41**	P	**P**	**21 30 01.9**	**+0.2**
	baz=264						
K17K	**Iditarod**	**34.29**	**40**	P	**P**	**21 30 02.3**	**+0.1**
	baz=264						
F18K	**Selawik**	**34.43**	**33**	P	**P**	**21 30 03.2**	**-0.1**
	baz=256						
C18K	**Utukok River**	**34.43**	**29**		**P**	**21 30 03.4**	**0.0**
C18K				IAmb	IAmb	21 30 04.4	
	comp=Z,8.2nm,0.8s						
C18K	**Utukok River**	**34.43**	**29**	P	**P**	**21 30 03.1**	**-0.3**
	baz=252,SNR=6.9						
B18K	**Kokolik River**	**34.46**	**28**	P	**P**	**21 30 03.5**	**-0.1**
	baz=250						
M17K	**Holitna River**	**34.57**	**42**		**P**	**21 30 05.3**	**+0.7**
M17K				IAmb	IAmb	21 30 06.5	
	comp=Z,8.8nm,1.0s						
M17K	**Holitna River**	**34.57**	**42**	P	**P**	**21 30 04.4**	**-0.2**
	baz=266,SNR=5.6						
H18K	**Honhosa River**	**34.64**	**36**	P	**P**	**21 30 04.7**	**-0.5**
	baz=260						
N17K	**Nushagak Hills**	**34.64**	**44**	P	**P**	**21 30 05.8**	**+0.6**
	baz=268						
O17K	**Koliganek Bris**	**34.66**	**45**	P	**P**	**21 30 05.7**	**+0.3**
	baz=269						
G18K	**Tagagawik**	**34.66**	**34**	P	**P**	**21 30 05.6**	**+0.2**
	baz=258						
Q16K	**King Salmon**	**34.87**	**47**	P	**P**	**21 30 07.8**	**+0.6**
	baz=271						
L18K	**Granite Mounta**	**34.99**	**41**	P	**P**	**21 30 09.5**	**+1.2**
L18K				IAmb	IAmb	21 30 10.1	
	comp=Z,8.5nm,1.1s						
L18K	**Granite Mounta**	**34.99**	**41**	P	**P**	**21 30 07.8**	**-0.5**
	baz=266,SNR=5.1						
J18K	**Innoko River**	**35.10**	**39**		**P**	**21 30 09.4**	**+0.2**
J18K				IAmb	IAmb	21 30 10.4	
	comp=Z,3.7nm,0.8s						
J18K	**Innoko River**	**35.10**	**39**	P	**P**	**21 30 08.9**	**-0.2**
	baz=264,SNR=5.4						
F19K	**Shaleruckik Mo**	**35.21**	**33**	P	**P**	**21 30 10.0**	**0.0**
	baz=258						
N18K	**Kilae Creek**	**35.28**	**44**	P	**P**	**21 30 11.1**	**+0.3**
	baz=269						
Q17K	**Contact Creek**	**35.28**	**48**	P	**P**	**21 30 11.0**	**+0.1**
	baz=272						
M18K	**Stony River**	**35.35**	**42**	P	**P**	**21 30 11.5**	**+0.1**
	baz=268						
TTA	**Tatalina**	**35.36**	**40**	P	**P**	**21 30 11.0**	**-0.5**
	baz=265,SNR=6.5						
D19K	**Kuna River**	**35.47**	**30**	P	**P**	**21 30 11.3**	**-1.1**
	baz=255						
H19K	**Roundabout Mou**	**35.49**	**35**		**P**	**21 30 12.6**	**+0.2**
H19K	**Roundabout Mou**	**35.49**	**35**	P	**P**	**21 30 12.4**	**0.0**
	baz=261,SNR=22						
E19K	**Redstone River**	**35.55**	**32**	P	**P**	**21 30 13.4**	**+0.4**
	baz=258						
P18K	**Big Mountain,**	**35.60**	**46**	P	**P**	**21 30 13.8**	**+0.2**
	baz=271						
O18K	**Koktuh Hills**	**35.61**	**45**	P	**P**	**21 30 13.9**	**+0.3**
	baz=270						
J19K	**Poorman**	**35.64**	**38**		**P**	**21 30 13.6**	**-0.2**
J19K				IAmb	IAmb	21 30 15.3	
	comp=Z,10nm,1.0s						
J19K	**Poorman**	**35.64**	**38**	P	**P**	**21 30 14.0**	**+0.2**
	baz=264,SNR=11						
Q18K	**Katmai Hardscr**	**35.73**	**47**	P	**P**	**21 30 14.4**	**-0.4**
	baz=272						
LZH	**Lanzhou**	**35.75**	**272**	*e*P	P	21 30 06.3	-9.0
LZH				pP	pP	21 30 13.3	-17
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
L19K	**White Mountain**	**35.84**	**41**	P	**P**	**21 30 15.9**	**+0.3**
	baz=268						
N19K	**Bonanza Creek**	**35.98**	**43**	P	**P**	**21 30 17.2**	**+0.4**
	baz=270						
M19K	**Big River Lodg**	**36.05**	**42**	P	**P**	**21 30 17.8**	**+0.4**
	baz=268						
D20K	**Etivluk River**	**36.06**	**30**	P	**P**	**21 30 17.4**	**+0.1**
	baz=257						
E20K	**Nigu River**	**36.11**	**31**	P	**P**	**21 30 17.5**	**-0.3**
	baz=258						
H20K	**Anotleneega Mo**	**36.13**	**35**	P	**P**	**21 30 18.3**	**+0.2**
	baz=263,SNR=8.2						
B20K	**Meade River**	**36.20**	**28**	P	**P**	**21 30 18.5**	**-0.1**
B20K	**Meade River**	**36.20**	**28**	P	**P**	**21 30 18.4**	**-0.1**
	baz=254						
I20K	**Naaghedeneel**	**36.22**	**37**	P	**P**	**21 30 18.7**	**0.0**
	baz=264						
K20K	**Telida**	**36.27**	**39**	P	**P**	**21 30 19.3**	**+0.1**
	baz=267						
J20K	**Nowinta River**	**36.30**	**38**		**P**	**21 30 19.7**	**+0.2**
J20K				IAmb	IAmb	21 30 20.9	
	comp=Z,5.7nm,0.8s						
J20K	**Nowinta River**	**36.30**	**38**	P	**P**	**21 30 19.9**	**+0.4**
	baz=265,SNR=6.7						
L20K	**Farewell, AK**	**36.31**	**41**	P	**P**	**21 30 20.3**	**+0.7**
	baz=268						
M20K	**Styx River**	**36.64**	**42**	P	**P**	**21 30 23.1**	**+0.6**
M20K				IAmb	IAmb	21 30 24.4	
	comp=Z,8.4nm,1.4s						
M20K	**Styx River**	**36.64**	**42**	P	**P**	**21 30 23.2**	**+0.6**
	baz=270						
C21K	**Knifeblade Rid**	**36.80**	**29**	P	**P**	**21 30 23.8**	**+0.1**
	baz=258,SNR=17						
G21K	**Allakaket**	**36.83**	**34**	P	**P**	**21 30 24

B22K IAmb IAmb 21 30 30.8
comp=Z,8.3nm,0.7s
B22K Teshekpuk Lake 37.52 28 P **P 21 30 30.1 +0.4**
baz=258
H22K Ishtalitna Cre 37.62 35 P **P 21 30 31.2 +0.5**
baz=266,SNR=6.9
G22K Bettles 37.66 33 P **P 21 30 31.1 +0.2**
baz=264,SNR=19
BPAW Bear Paw Mtn. 37.68 38 **P 21 30 31.6 +0.4**
BPAW IAmb IAmb 21 30 32.7
comp=Z,7.7nm,1.3s
BPAW Bear Paw Mtn. 37.68 38 P **P 21 30 32.0 +0.8**
baz=268
KTH Kantishna Hill 37.69 39 **P 21 30 32.4 +1.0**
E22K Anaktuvuk Pass 37.70 31 **P 21 30 31.9 +0.6**
E22K Anaktuvuk Pass 37.70 31 P **P 21 30 31.8 +0.6**
baz=262,SNR=47
SUA Susitna One 37.78 42 P **P 21 30 33.1 +0.9**
baz=272
TRF Thorofare Moun 37.98 39 P **P 21 30 34.0 +0.1**
baz=270
COLD Coldfoot 38.20 33 **P 21 30 35.7 +0.2**
COLD IAmb IAmb 21 30 36.7
comp=Z,6.4nm,0.8s
COLD Coldfoot 38.20 33 P **P 21 30 36.0 +0.5**
baz=265,SNR=9.2
D23K Nanushuk River 38.22 30 **P 21 30 36.6 +0.9**
D23K IAmb IAmb 21 30 37.4
comp=Z,9.2nm,0.8s
D23K Nanushuk River 38.22 30 P **P 21 30 36.0 +0.3**
baz=262,SNR=9.9
G23K Bananza Creek 38.23 34 **P 21 30 36.4 +0.6**
G23K IAmb IAmb 21 30 37.0
comp=Z,5.1nm,0.8s
G23K Bananza Creek 38.23 34 P **P 21 30 36.5 +0.6**
baz=266,SNR=6.6
RC01 Rabbit Creek A 38.29 43 P **P 21 30 36.4 +0.1**
baz=274
H23K Yukon River 38.37 35 P **P 21 30 37.0 +0.1**
baz=268
C23K Itkillik River 38.38 29 **P 21 30 37.3 +0.4**
C23K Itkillik River 38.38 29 P **P 21 30 37.4 +0.5**
baz=261,SNR=22
I23K Minto, Yukon-K 38.41 36 **P 21 30 38.0 +0.7**
I23K Minto, Yukon-K 38.41 36 P **P 21 30 37.7 +0.4**
baz=269
SEW Seward 38.49 45 P **P 21 30 39.2 +1.2**
baz=275
E23K Chandalar 38.51 32 **P 21 30 39.0 +0.8**
E23K Chandalar 38.51 32 P **P 21 30 38.7 +0.6**
baz=265,SNR=15
NEA2 Nenana 38.53 37 P **P 21 30 38.9 +0.6**
NEA2 IAmb IAmb 21 30 39.5
comp=Z,9.6nm,1.5s
NEA2 Nenana 38.53 37 P **P 21 30 39.0 +0.7**
baz=270
PMR Palmer 38.55 42 P **P 21 30 39.5 +1.0**
baz=273
MCK McKinley 38.58 39 P **P 21 30 39.6 +0.8**
baz=271
TOLK Toolik Lake Re 38.58 31 **P 21 30 39.6 +0.9**
TOLK IAmb IAmb 21 30 40.1
comp=Z,9.1nm,0.8s
TOLK Toolik Lake Re 38.58 31 P **P 21 30 39.1 +0.4**
baz=264,SNR=11
RND Reindeer 38.62 39 **P 21 30 39.5 +0.4**
RND IAmb IAmb 21 30 56.1
comp=Z,13nm,1.4s
RND Reindeer 38.62 39 P **P 21 30 38.7 -0.5**
GHO Glory Hole Cre 38.64 42 P **P 21 30 39.8 +0.4**
GHO IAmb IAmb 21 30 40.9
comp=Z,8.1nm,1.2s
KNK Knik Glacier 38.88 42 P **P 21 30 41.7 +0.4**
baz=274
D24K Happy Valley 38.91 30 P **P 21 30 41.8 +0.4**
baz=264
SML Sawmill 38.92 42 **P 21 30 41.6 0.0**
SML IAmb IAmb 21 30 43.3
comp=Z,6.9nm,0.8s
SML Sawmill 38.92 42 P **P 21 30 41.6 0.0**
baz=274
E24K Your Creek 38.93 32 **P 21 30 42.2 +0.5**
E24K Your Creek 38.93 32 P **P 21 30 42.4 +0.7**
baz=266
WRH Wood River Hil 38.95 37 P **P 21 30 43.0 +1.2**
PWL Port Wells 38.98 43 P **P 21 30 42.7 +0.5**
baz=275
C24K Franklin Bluff 39.02 29 P **P 21 30 42.6 +0.3**
baz=264
COLA College 39.05 37 *i* P **P 21 30 43.0 +0.4**
COLA pmax pmax
comp=Z,10.0nm,1.0s
COLA College 39.05 37 P **P 21 30 43.4 +0.8**
baz=270
H24K Noodor Dome 39.05 35 **P 21 30 43.4 +0.7**
H24K Noodor Dome 39.05 35 P **P 21 30 43.4 +0.7**
baz=269,SNR=6.2
F24K Squaw Lake 39.12 33 **P 21 30 43.6 +0.4**
F24K Squaw Lake 39.12 33 P **P 21 30 43.3 +0.1**
baz=267,SNR=8.4
M23K Glacier View 39.21 42 P **P 21 30 44.6 +0.6**
baz=274
POKR Poker Plat Res 39.23 36 P **P 21 30 44.6 +0.4**
baz=270
G24K Hadweenzic Riv 39.24 34 **P 21 30 45.1 +0.9**
G24K Hadweenzic Riv 39.24 34 P **P 21 30 45.0 +0.9**
baz=268,SNR=16
NRIK Noril'sk 39.35 330 LR LR 21 47 04.4
comp=Z,70nm,20.0s,baz=166,slow=36
SCM Sheep Creek Mo 39.40 42 P **P 21 30 46.2 +0.5**
baz=275
HDA Harding Lake 39.45 38 P **P 21 30 46.2 +0.3**
baz=272,SNR=6.0
ILAR Eielson Array 39.47 37 P **P 21 30 46.1 +0.1**
ILAR Eielson Array 39.47 37 P **P 21 30 45.8 -0.3**
comp=Z,2.8nm,0.9s,baz=254,slow=7.6,SNR=23
ILAR PcP **PcP 21 32 51.1 -1.6**
comp=Z,0.3nm,0.6s,baz=276,slow=3.5,SNR=2.5
comp=Z,2.8nm,0.9s
GLI Glacier Island 39.59 43 P **P 21 30 48.0 +0.9**
baz=276
G25K Bearman Lake 39.79 34 P **P 21 30 49.2 +0.5**
baz=270,SNR=9.5
D25K Kavik River 39.79 30 P **P 21 30 49.0 +0.2**
baz=266
H25L Birch Creek 39.90 35 P **P 21 30 49.8 +0.2**
baz=270
F25K Christian Rive 39.98 33 **P 21 30 51.2 +0.8**
F25K Christian Rive 39.98 33 P **P 21 30 50.9 +0.5**
baz=269,SNR=8.1
K24K Donnelly Dome 39.98 38 P **P 21 30 50.4 0.0**
baz=274
E25K Arctic Village 40.02 32 P **P 21 30 51.8 +1.1**
E25K Arctic Village 40.02 32 P **P 21 30 51.1 +0.4**
baz=268,SNR=7.5
PRP Porcupine Dome 40.03 36 **P 21 30 52.2 +1.3**
PRP Porcupine Dome 40.03 36 P **P 21 30 51.7 +0.8**
baz=272,SNR=6.8
KLU Klutina 40.09 42 P **P 21 30 52.1 +0.6**
baz=276
J25K Salcha River, 40.12 37 P **P 21 30 51.1 -0.5**
J25K Salcha River, 40.12 37 P **P 21 30 51.5 -0.1**
baz=273
FYU Fort Yukon 40.13 34 **P 21 30 52.5 +0.9**
PAX Paxson 40.17 40 P **P 21 30 53.0 +0.9**
baz=275
C26K Camden Bay 40.34 29 P **P 21 30 54.5 +1.2**
baz=267,SNR=12
HARP HAARP 40.37 41 P **P 21 30 54.0 +0.4**
baz=276
BMAR Burnt Mountain 40.39 33 **P 21 30 54.4 +0.6**
RIDG Independent Ri 40.40 39 P **P 21 30 54.2 +0.3**
baz=274
F26K Sheenjek River 40.55 32 P **P 21 30 56.3 +1.2**
F26K IAmb IAmb 21 30 57.3
comp=Z,6.6nm,0.8s
F26K Sheenjek River 40.55 32 P **P 21 30 55.9 +0.7**
baz=270,SNR=12
G26K Porcupine Rive 40.70 34 **P 21 30 57.8 +1.6**
G26K IAmb IAmb 21 30 59.1
comp=Z,24nm,1.4s
G26K Porcupine Rive 40.70 34 P **P 21 30 56.9 +0.6**
baz=272,SNR=9.4
N25K Chitina, Valde 40.71 42 P **P 21 30 56.7 +0.2**
baz=277
C27K Jago River 40.75 29 P **P 21 30 56.8 +0.1**
baz=268,SNR=12

SCRK Sand Creek 40.76 38 P **P 21 30 56.8 -0.1**
baz=275
BMRM Bremner River 40.79 43 P **P 21 30 57.6 +0.5**
baz=278
J26L Joseph Creek 40.91 37 P **P 21 30 58.9 +0.8**
baz=275
L26K Log Cabin Wild 41.13 40 P **P 21 31 01.4 +1.5**
L26K IAmb IAmb 21 31 01.7
comp=Z,12nm,1.5s
L26K Log Cabin Wild 41.13 40 P **P 21 31 00.9 +0.9**
baz=276
M26K Nabesna, AK 41.37 40 P **P 21 31 03.0 +1.2**
M26K Nabesna, AK 41.37 40 P **P 21 31 02.5 +0.6**
baz=277,SNR=5.6
E27K Coleen River 41.51 32 P **P 21 31 03.8 +0.8**
E27K Coleen River 41.51 32 P **P 21 31 03.2 +0.3**
baz=272
G27K Doyon Strip 41.55 34 P **P 21 31 04.1 +0.9**
G27K Doyon Strip 41.55 34 P **P 21 31 04.4 +1.1**
baz=274
BGLC Bering Glacier 41.56 44 P **P 21 31 04.4 +1.1**
baz=280
K27K Chicken 41.60 38 P **P 21 31 04.5 +0.8**
baz=276
H27K Steamboat Moun 41.63 35 **P 21 31 05.0 +1.0**
H27K Steamboat Moun 41.63 35 P **P 21 31 04.8 +0.8**
baz=274,SNR=8.3
D27M Malcolm River 41.72 30 **P 21 31 05.2 +0.6**
D27M Malcolm River 41.72 30 P **P 21 31 05.1 +0.4**
baz=271
L27K Beaver Creek, 41.82 39 P **P 21 31 06.5 +0.9**
L27K Beaver Creek, 41.82 39 P **P 21 31 06.2 +0.7**
baz=278,SNR=7.5
M27K Edge Creek, AK 41.89 40 P **P 21 31 06.8 +0.6**
baz=278
ZALV Zalesovo Beam 42.00 307 P **P 21 31 06.1 -1.0**
comp=Z,0.4nm,0.4s,baz=64,slow=6.6,SNR=2.4
ZALV PcP **PcP 21 33 00.4 -0.7**
comp=Z,1.7nm,0.6s,baz=95,slow=3.7,SNR=7.9
comp=Z,0.4nm,0.4s
E28M Babbage River 42.26 31 **P 21 31 09.9 +0.9**
E28M Babbage River 42.26 31 P **P 21 31 09.4 +0.4**
baz=273
I28M Miner Creek 42.36 36 **P 21 31 10.7 +0.7**
I28M IAmb IAmb 21 31 12.0
comp=Z,6.9nm,0.8s
I28M Miner Creek 42.36 36 P **P 21 31 10.3 +0.3**
baz=277,SNR=14
D28M Stokes Point 42.51 30 P **P 21 31 11.4 +0.4**
baz=273
PZH PanZhiHua 42.54 261 P **P 21 31 14.8 +2.9**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,130nm,5.2s
YUK3 Moose Creek 42.64 41 P **P 21 31 12.6 +0.2**
baz=280
DAWY Dawson 42.76 38 P **P 21 31 13.7 +0.5**
baz=279
E29M Blow River 42.87 31 **P 21 31 15.1 +1.1**
E29M IAmb IAmb 21 31 16.2
comp=Z,9.3nm,0.9s
E29M Blow River 42.87 31 P **P 21 31 15.1 +1.1**
baz=275
H29M Whitestone 42.91 34 **P 21 31 14.9 +0.6**
H29M IAmb IAmb 21 31 16.3
comp=Z,7.4nm,1.0s
H29M Whitestone 42.91 34 P **P 21 31 14.9 +0.6**
baz=277
G29M Pine Creek 42.97 33 P **P 21 31 16.1 +1.3**
G29M IAmb IAmb 21 31 17.6
comp=Z,11nm,1.1s
G29M Pine Creek 42.97 33 P **P 21 31 15.1 +0.3**
baz=277,SNR=9.2
M29M Somme Creek 43.45 40 P **P 21 31 19.3 +0.5**
baz=281
L29M L29M 43.47 39 P **P 21 31 19.3 +0.3**
baz=281
EPYK Eagle Plains 43.55 34 P **P 21 31 20.8 +1.2**
EPYK IAmb IAmb 21 31 21.2
comp=Z,12nm,1.0s
EPYK Eagle Plains 43.55 34 P **P 21 31 20.1 +0.5**
baz=278,SNR=6.6
K29M Barlow Dome 43.61 38 P **P 21 31 20.9 +0.8**
baz=280
G30M tAoh Zraii Nji 43.66 33 **P 21 31 21.7 +1.2**
G30M IAmb IAmb 21 31 22.0
comp=Z,6.6nm,0.9s
G30M tAoh Zraii Nji 43.66 33 P **P 21 31 20.9 +0.5**
baz=278
F30M Barrier River 43.75 32 **P 21 31 21.9 +0.9**
F30M IAmb IAmb 21 31 23.5
comp=Z,16nm,1.1s
F30M Barrier River 43.75 32 P **P 21 31 22.0 +0.9**
baz=278
I30M Mount Dempster 43.87 36 **P 21 31 22.9 +0.7**
I30M IAmb IAmb 21 31 24.2
comp=Z,7.9nm,0.8s
I30M Mount Dempster 43.87 36 P **P 21 31 22.4 +0.2**
baz=280,SNR=12
J30M Hart River 44.00 37 P **P 21 31 23.5 +0.3**
baz=281
M30M Minto, Yukon 44.18 40 P **P 21 31 25.4 +0.8**
baz=282
HYT Haines Junctio 44.23 42 **P 21 31 26.4 +1.2**
HYT IAmb IAmb 21 31 27.4
comp=Z,6.4nm,0.9s
HYT Haines Junctio 44.23 42 P **P 21 31 25.8 +0.7**
baz=284,SNR=5.1
N30M Aishikik Lake 44.28 41 P **P 21 31 25.9 +0.5**
baz=283
P29M Windy Craggy 44.39 44 **P 21 31 27.5 +1.1**
P29M Windy Craggy 44.39 44 P **P 21 31 27.3 +0.9**
baz=284,SNR=6.3
G31M Satah River 44.43 33 P **P 21 31 26.6 +0.1**
G31M Satah River 44.43 33 P **P 21 31 26.5 +0.1**
baz=280
F31M Tsiigehtchic 44.55 32 **P 21 31 27.8 +0.4**
F31M Tsiigehtchic 44.55 32 P **P 21 31 27.5 +0.1**
baz=280
H31M Peel River 44.60 35 **P 21 31 28.9 +1.0**
H31M IAmb IAmb 21 31 29.4
comp=Z,10nm,1.2s
H31M Peel River 44.60 35 P **P 21 31 27.7 -0.2**
baz=281
P30M Million Dollar 44.65 43 P **P 21 31 28.9 +0.4**
baz=285
N31M Braeburn, Yuko 44.89 41 P **P 21 31 30.5 +0.3**
baz=284
O30N Mendenhall 44.91 42 P **P 21 31 31.1 +0.6**
baz=285
M31M Drury Creek, Y 45.35 40 P **P 21 31 34.2 +0.2**
baz=284
WHY Whitehorse 45.52 42 P **P 21 31 35.5 +0.2**
baz=286
S31K Pelican 45.59 46 P **P 21 31 36.5 +0.7**
baz=287
SKAG Skagway 45.62 44 P **P 21 31 36.8 +0.8**
baz=286
FARO Faro, Yukon 45.82 39 P **P 21 31 38.2 +0.6**
baz=285
MK31 Makanchi Array 45.90 298 *ce*P **P 21 31 38.9 +0.5**
MKAR Makanchi Array 45.90 298 P **P 21 31 38.1 -0.4**
comp=Z,1.7nm,0.7s,baz=74,slow=7.1,SNR=24
MKAR PcP **PcP 21 33 13.7 -0.9**
comp=Z,0.8nm,0.6s,baz=71,slow=4.0,SNR=4.7
MKAR LR LR 21 51 57.9
comp=Z,74nm,18.1s,baz=60,slow=37
comp=Z,1.7nm,0.7s
MAKZ Makanchi 46.09 298 **P 21 31 40.0 +0.1**
MAKZ Makanchi 46.09 298 P **P 21 31 39.6 -0.3**
P32M Atlin 46.38 43 P **P 21 31 43.2 +1.1**
baz=287
S32K Killisnoo 46.59 46 P **P 21 31 44.6 +1.0**
baz=289
A36M Sachs Harbour 46.59 25 **P 21 31 44.1 +0.6**
A36M Sachs Harbour 46.59 25 P **P 21 31 44.3 +0.9**
baz=283,SNR=11
P33M Teslin, Yukon 46.62 42 P **P 21 31 44.8 +0.8**
baz=288
KURK Kurchatov 46.63 304 **P 21 31 42.9 -1.1**
KURK Kurchatov 46.63 304 *ce*P **P 21 31 44.9 +0.8**
KURK pmax pmax
comp=Z,4.0nm,1.3s
KURK Kurchatov 46.63 304 *eP* **P 21 31 44.9 +0.8**
MMPY Sheldon Lake, 46.65 39 P **P 21 31 45.0 +0.9**
baz=286

KURBB Kurchatov Arra 46.72 304 P **P 21 31 44.8 +0.1**
comp=Z,2.4nm,0.8s,baz=70,slow=8.3,SNR=11
KURBB PcP **PcP 21 33 16.8 -0.5**
comp=Z,1.1nm,0.5s,baz=72,slow=3.5,SNR=6.4
comp=Z,2.4nm,0.8s
C36M Paulatuk 47.62 29 **P 21 31 51.9 +0.4**
C36M Paulatuk 47.62 29 P **P 21 31 52.1 +0.6**
baz=286,SNR=9.4
R33M Jennings River 47.77 43 P **P 21 31 53.9 +0.9**
baz=290
T35M Bob Quinn 48.97 46 P **P 21 32 03.8 +1.7**
baz=292
CMAR Chiang Mai Arr 49.74 255 P **P 21 32 08.9 +0.4**
comp=Z,1.0nm,0.6s,baz=42,slow=7.3,SNR=17
CMAR PcP **PcP 21 33 28.9 +0.2**
comp=Z,0.4nm,0.8s,baz=122,slow=1.1,SNR=4.1
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 49.74 255 *i* P **P 21 32 08.8 +0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
WUS Wushi 50.37 292 **P 21 32 13.6 +0.5**
BVAR Borovoye Array 50.41 310 P **P 21 32 12.0 -1.1**
comp=Z,1.7nm,0.5s,baz=83,slow=5.1,SNR=10
BVAR PcP **PcP 21 33 30.2 -0.4**
comp=Z,0.8nm,0.5s,baz=78,slow=3.4,SNR=2.9
comp=Z,1.7nm,0.5s
BRVK Borovoye 50.45 310 **P 21 32 13.8 +0.4**
BRVK IAmb IAmb 21 32 14.7
comp=Z,3.5nm,0.8s
BRVK Borovoye 50.45 310 *ce*P **P 21 32 13.0 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 50.45 310 *eP* **P 21 32 13.0 -0.4**
TOAD Toad River Com 50.72 42 P **P 21 32 16.6 +1.2**
baz=294
KDJ Kajisay 51.25 294 **P 21 32 20.2 +0.5**
KDJ Kajisay 51.25 294 P **P 21 32 20.0 +0.2**
LUWI Luwuk 51.62 216 **P 21 32 25.7 +3.2**
BOOM Boomskoye usch 51.87 295 **P 21 32 24.9 +0.5**
BOOM Boomskoye usch 51.87 295 P **P 21 32 24.7 +0.3**
AAK Ala-Archa 52.73 296 **P 21 32 30.9 +0.2**
AAK Ala-Archa 52.73 296 *ce*P **P 21 32 31.8 +1.1**
AAK pmax pmax
comp=Z,4.0nm,1.7s
AAK Ala-Archa 52.73 296 *eP* **P 21 32 31.8 +1.1**
RES Resolute Bay 53.40 17 LR LR 21 58 56.6
comp=Z,41nm,18.0s,baz=12,slow=40
YKA Yellowknife Ar 53.82 35 P **P 21 32 37.9 -0.3**
comp=Z,1.0nm,0.7s,baz=300,slow=6.7,SNR=15
YKA PcP **PcP 21 33 42.9 -0.3**
comp=Z,0.3nm,0.7s,baz=294,slow=4.2,SNR=3.7
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 53.82 35 *i* P **P 21 32 38.4 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.7s
KKAR Karatay Array 55.01 298 **P 21 32 47.0 -0.2**
ARTI Arti 55.08 317 P **P 21 32 47.7 +0.3**
ARTI IAmb IAmb 21 32 48.2
comp=Z,4.4nm,0.7s
ARTI Arti 55.08 317 P **P 21 32 46.0 -1.4**
comp=Z,2.8nm,0.6s,baz=109,slow=3.3,SNR=7.4
ARTI LR LR 21 58 11.9
comp=Z,47nm,18.4s,baz=25,slow=38
comp=Z,2.8nm,0.6s
ARTI Arti 55.08 317 *c i* P **P 21 32 46.4 -1.0**
ARTI 21 34 46.1
ARTI S **S 21 40 25.9 +0.8**
ARTI SS **SS 21 44 03.0 -5.9**
ARTI pmax pmax
comp=Z,9.0nm,1.8s
DRK Karamyk 56.11 294 P **P 21 32 56.0 +0.5**
BTK Batken 56.43 295 **P 21 32 57.8 +0.3**
BTK IAmb IAmb 21 32 58.5
comp=Z,2.7nm,0.7s
BTK Batken 56.43 295 P **P 21 32 57.6 +0.1**
GAR Garm 57.34 294 **P 21 33 03.8 -0.1**
ABKAR Akbulak array 57.99 309 **P 21 33 08.1 -0.1**
ABKAR Akbulak array 57.99 309 **P 21 33 08.3 +0.1**
ABKAR IAmb IAmb 21 33 09.2
comp=Z,5.5nm,0.7s
KIRV Kirov 58.02 323 LR LR 21 58 27.4
comp=Z,46nm,19.6s,baz=3.9,slow=36
SIMJ Simiganj 58.37 295 **P 21 33 11.0 -0.2**
AKTO Aktyubinsk 58.39 311 P **P 21 33 10.8 -0.2**
comp=Z,2.5nm,0.6s,baz=38,slow=4.0,SNR=7.4
AKTO LR LR 21 59 30.7
comp=Z,46nm,18.4s,baz=73,slow=37
comp=Z,2.5nm,0.6s
NIL Nilore 58.42 288 **P 21 33 11.8 +0.3**
NIL Nilore 58.42 288 P **P 21 33 12.4 +0.9**
NIL pmax pmax
comp=Z,10.0nm,0.9s
ARCES ARCESS Array B 58.98 340 P **P 21 33 14.1 -0.7**
comp=Z,7.0nm,1.1s,baz=46,slow=7.3,SNR=1.0
comp=Z,7.0nm,1.1s
BLKN Baker Lake 59.65 27 **P 21 33 19.1 -0.3**
BLKN IAmb IAmb 21 33 19.8
comp=Z,4.9nm,0.7s
SUMG Summit 62.81 3 *i* P **P 21 33 41.0 -0.2**
FFC Flin Flon 63.67 38 **P 21 33 46.5 -0.2**
FFC Flin Flon 63.67 38 P **P 21 33 47.0 +0.3**
FFC pmax pmax
comp=Z,7.0nm,0.8s
FINES FINESS Array B 64.86 334 P **P 21 33 53.2 -1.1**
comp=Z,2.6nm,0.6s,baz=28,slow=8.5,SNR=19
comp=Z,2.6nm,0.6s
FINES FINESS Array B 64.86 334 *i* P **P 21 33 53.5 -0.9**
FINES pmax pmax
comp=Z,3.0nm,0.6s
NVAR Mina Array Bea 65.32 60 P **P 21 33 57.8 -0.2**
comp=Z,0.9nm,0.7s,baz=305,slow=8.0,SNR=3.5
comp=Z,0.9nm,0.7s
OBN Obninsk 65.67 325 *eP* **P 21 33 59.7 +0.1**
OBN *e* 21 36 23.7
OBN pmax pmax
comp=Z,16nm,2.0s
OBN Obninsk 65.67 325 *eP* **P 21 33 59.2 -0.4**
WRA Warramunga Arr 65.96 196 P **P 21 34 01.5 -0.4**
comp=Z,1.6nm,0.7s,baz=15,slow=6.7,SNR=9.1
comp=Z,1.6nm,0.7s
PDAR Pinedale Array 67.70 52 P **P 21 34 12.9 -0.2**
comp=Z,0.5nm,0.7s,baz=263,slow=2.0,SNR=6.9
comp=Z,0.5nm,0.7s
NB2 NORSAR Subarra 69.36 340 P **P 21 34 22.7 -0.2**
comp=Z,0.3nm,0.4s,baz=28,slow=6.5
NB2 NORSAR Subarra 69.36 340 P **P 21 34 22.7 -0.2**
NOA NORSAR Array B 69.36 340 P **P 21 34 22.3 -0.6**
comp=Z,0.2nm,0.4s,baz=28,slow=6.6,SNR=12
NOA LR LR 22 07 44.3
comp=Z,18nm,18.1s,baz=325,slow=38
comp=Z,0.2nm,0.4s
HFS Hagfors 69.51 338 P **P 21 34 23.2 -0.6**
comp=Z,1.1nm,0.3s,baz=38,slow=4.2,SNR=16
comp=Z,1.1nm,0.3s
NORES NORESS Array B 69.54 340 P **P 21 34 23.6 -0.4**
GOF Gofitskoye 69.62 314 *ce*P **P 21 34 25.3 +0.6**
ASAR Alice Springs 69.67 196 P **P 21 34 25.8 +0.6**
comp=Z,1.1nm,0.7s,baz=11,slow=5.6,SNR=14
comp=Z,1.1nm,0.7s
KVAR Kislovodsk Arr 70.56 313 P **P 21 34 32.1 +1.4**
comp=Z,2.9nm,0.7s,baz=66,slow=13,SNR=3.8
comp=Z,2.9nm,0.7s
KIV Kislovodsk 70.56 313 **P 21 34 31.7 +1.0**
KIV Kislovodsk 70.56 313 ||P **P 21 34 32.5 +1.8**
KIV Kislovodsk 70.56 313 *eP* **P 21 34 30.6 -0.1**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 70.56 313 *eP* **P 21 34 30.6 -0.1**
KIV Kislovodsk 70.56 313 P **P 21 34 31.7 +1.0**
comp=Z,14nm,0.9s
KBZ Khabaz 70.61 313 P **P 21 34 31.9 +1.2**
comp=Z,8.7nm,0.8s,baz=56,slow=3.9,SNR=19
comp=Z,8.7nm,0.8s
KBZ Khabaz 70.61 313 *ce*P **P 21 34 31.4 +0.6**
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 70.61 313 *eP* **P 21 34 31.4 +0.6**
KONO Kongsberg 70.97 340 P **P 21 34 29.2 -3.5**
AK23 Malin Array Si 71.92 325 P **P 21 34 37.9 -0.7**
AKASG Malin Array Be 71.93 325 P **P 21 34 37.9 -0.7**
comp=Z,1.7nm,0.4s,baz=37,slow=6.1,SNR=19
AKASG LR LR 22 07 22.0
comp=Z,31nm,18.1s,baz=18,slow=37
comp=Z,1.7nm,0.4s
AKASG Malin Array Be 71.93 325 *i* P **P 21 34 37.9 -0.7**
AKASG pmax pmax
comp=Z,3.0nm,0.5s

AKBB	Malin Array Si	71.93 325			P	21 34 38.1	-0.5
AKBB	Malin Array Si	71.93 325	*c*eP		P	21 34 37.7	-0.9
AKBB				pmax	pmax		
	comp=Z,11nm,1.0s						
AK04	Malin Array Si	71.94 325	P		P	21 34 38.0	-0.7
KIEV	Kiev	71.94 325			P	21 34 38.1	-0.6
KIEV				IAmb	IAmb	21 34 39.0	
	comp=Z,7.9nm,0.9s						
KIEV	Kiev	71.94 325	⇑P		P	21 34 37.8	-0.9
KIEV	Kiev	71.94 325	⇑P		P	21 34 37.8	-0.9
AK01	Malin Array Si	71.94 325	P		P	21 34 38.0	-0.7
AK21	Malin Array Si	71.94 325	P		P	21 34 38.0	-0.7
GNI	Garni	72.09 309	LR		LR	22 10 56.8	
	comp=Z,25nm,18.2s,baz=18,slow=40						
RNPP9	Sopachiv	72.70 327	P		P	21 34 42.9	-0.3
LUBAR	Lubar, Ukraine	73.13 325	P		P	21 34 45.3	-0.5
HORU	Horodok	74.22 325	P		P	21 34 52.0	-0.2
HORU	Horodok	74.22 325	P		P	21 34 52.0	-0.2
SORM	Soroca	74.27 324	⇓P		P	21 34 52.3	-0.2
SORM	Soroca	74.27 324	⇓P		P	21 34 52.3	-0.2
SORM	Soroca	74.27 324	P		P	21 34 51.7	-0.8
	comp=Z,9.9nm,1.2s						
NDNU	Novodnistrovsk	74.32 324	P		P	21 34 52.4	-0.4
GURO	Guroymak-BITLI	74.71 309			P	21 34 56.6	+1.1
GURO				IAmb	IAmb	21 34 57.8	
	comp=Z,5.0nm,0.9s						
STNU	Starunia	75.39 326	P		P	21 34 58.3	-0.7
OJC	Ojcow	75.95 330	P		P	21 35 02.5	+0.4
OJC	Ojcow	75.95 330	P		P	21 35 02.5	+0.4
	comp=Z,9.1nm,1.4s						
BUR08	Bucovina Ar. S	75.97 325			P	21 35 02.6	+0.2
BUR08				IAmb	IAmb	21 35 03.5	
	comp=Z,4.2nm,0.8s						
BURAR	Bucovina Array	75.98 325	⇓P		P	21 35 04.2	+1.7
BURAR	Bucovina Array	75.98 325	⇓P		P	21 35 04.2	+1.7
KOLS	Kolonicke sedl	76.08 327	*e*P		P	21 35 03.0	0.0
KOLS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KOLS	Kolonicke sedl	76.08 327	*e*P		P	21 35 03.0	0.0
MUKU	Mukachevo	76.31 327	P		P	21 35 04.5	+0.3
KORU	Korolevo	76.38 327	P		P	21 35 05.0	+0.4
NIE	Niedzica	76.43 329	P		P	21 35 05.1	+0.2
NIE	Niedzica	76.43 329	P		P	21 35 05.1	+0.2
BERU	Beregovo	76.51 327	P		P	21 35 06.5	+1.2
LANS	Liptovska Anna	76.95 329	*e*P		P	21 35 09.3	+1.4
LANS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LANS	Liptovska Anna	76.95 329	*e*P		P	21 35 09.3	+1.4
MORC	Moravsky Berou	77.12 331			P	21 35 08.8	0.0
MORC				IAmb	IAmb	21 35 10.8	
	comp=Z,10nm,1.2s						
MORC	Moravsky Berou	77.12 331	*e*P		P	21 35 09.7	+0.9
MORC	Moravsky Berou	77.12 331	P		P	21 35 10.0	+1.2
MORC				pmax	pmax		
	comp=Z,9.0nm,2.4s						
CLL	Collm	77.31 334			P	21 35 09.5	-0.3
CLL				IAmb	IAmb	21 35 10.9	
	comp=Z,7.2nm,1.0s						
CLL	Collm	77.31 334	*i* P		P	21 35 08.9	-0.9
CLL			*i*			21 35 21.5	
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CLL	Collm	77.31 334	*i* P		P	21 35 08.9	-0.9
	comp=Z,7.0nm,1.0s						
CLL			*i* (pP)		PcP	21 35 21.5	+1.3
EKA	Eskdalemuir Ar	77.70 345	P		P	21 35 11.6	-0.3
	comp=Z,4.5nm,0.9s,baz=14,slow=5.9,SNR=3.7						
	comp=Z,4.5nm,0.9s						
VYHS	Vyhne	77.73 329	*e*P		P	21 35 13.2	+1.0
VYHS	Vyhne	77.73 329	*e*P		P	21 35 13.2	+1.0
BNN	Bunyan	77.80 313			P	21 35 13.2	+0.2
VRAC	Vranov	77.84 331	LR		LR	22 12 57.6	
	comp=Z,56nm,18.1s,baz=336,slow=38						
VRAC	Vranov	77.84 331	*e*P		P	21 35 13.5	+0.7
JAVC	Velka Javorina	77.85 330	*e*P		P	21 35 14.4	+1.5
ARR	Arges	78.02 324	⇑P		P	21 35 16.3	+2.3
KRUC	Moravsky	78.12 331	*e*P		P	21 35 14.4	0.0
BR131	Keskin Array S	78.27 315			P	21 35 15.8	+0.2
BR131				IAmb	IAmb	21 35 17.4	
	comp=Z,2.8nm,0.8s						
BRTR	Keskin Array B	78.27 315	P		P	21 35 16.2	+0.6
	comp=Z,2.5nm,0.7s,baz=87,slow=4.3,SNR=18						
	comp=Z,2.5nm,0.7s						
BRTR	Keskin Array B	78.27 315	*c*eP		P	21 35 16.2	+0.6
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SIRR	Siria	78.50 326	⇑P		P	21 35 17.3	+0.7
KIRS	Kirsehir-Merke	78.58 315	⇓P		P	21 35 18.4	+1.2
SURR	Surduc	78.74 326	⇑P		P	21 35 18.5	+0.7
KHC	Kasperske Hory	79.02 333	*c*eP		P	21 35 20.3	+1.0
KHC				pmax	pmax		
	comp=Z,18nm,2.5s						
BZS	Buzias	79.06 326	⇑P		P	21 35 19.8	+0.2
BZS	Buzias	79.06 326	⇑P		P	21 35 19.8	+0.2
GERES	GERESS Array B	79.22 332	P		P	21 35 20.5	0.0
	comp=Z,0.5nm,0.5s,baz=35,slow=7.3,SNR=5.9						
	comp=Z,0.5nm,0.5s						
CONA	Conrad Observa	79.27 331	*e*P		P	21 35 21.4	+0.6
	comp=Z,2.3nm,0.7s						
TXAR	Lajitas Array	80.40 58	P		P	21 35 27.1	-0.2
	comp=Z,2.2nm,0.5s,baz=297,slow=4.0,SNR=35						
	comp=Z,2.2nm,0.5s						
SOKA	Soboth	80.64 330	*i* P		P	21 35 28.8	+0.6
	comp=Z,2.7nm,0.8s						
LESA	Schwarzleotal	80.80 332	*e*P		P	21 35 30.1	+1.0
	comp=Z,1.6nm,0.4s						
RDO	Rodhopi	81.03 321			P	21 35 30.6	+0.3
RDO				IAmb	IAmb	21 35 32.1	
	comp=Z,8.3nm,1.0s						
WATA	Walderalm	81.24 333	*e*P		P	21 35 32.1	+0.6
	comp=Z,1.3nm,0.4s						
WTTA	Wattenberg	81.28 333	*e*P		P	21 35 32.1	+0.4
	comp=Z,3.6nm,0.6s						
MOTA	Moosalm	81.38 333	*e*P		P	21 35 32.8	+0.6
	comp=Z,3.5nm,0.9s						
SQTA	Sankt Quirin	81.46 333	*e*P		P	21 35 33.3	+0.7
	comp=Z,0.8nm,0.3s						
FETA	Feichten	81.79 333	*e*P		P	21 35 34.1	-0.3
	comp=Z,2.0nm,0.8s						
DRIO	Del Rio	82.16 56			P	21 35 36.1	-0.4
DRIO				IAmb	IAmb	21 35 36.7	
	comp=Z,5.9nm,0.8s						
MMAI	Mount Meron Ar	82.42 310	P		P	21 35 38.9	+1.1
	comp=Z,2.6nm,0.6s,baz=39,slow=11,SNR=4.6						
MMAI			LR		LR	22 14 51.9	
	comp=Z,26nm,18.8s,baz=18,slow=38						
	comp=Z,2.6nm,0.6s						
ESDC	Sonseca Array	92.72 340	P		P	21 36 27.5	-0.1
	comp=Z,0.7nm,0.9s,baz=352,slow=2.9,SNR=4.2						
	comp=Z,0.7nm,0.9s						
QSPA	South Pole Qui	134.51 180	PKP		PKPdf	21 42 32.3	+0.2
	comp=Z,0.4nm,0.5s,baz=90,slow=1.6,SNR=6.0						
H03N2	Juan Fernandez	140.96 90	T		T	00 20 33.8	
	baz=305,slow=77,SNR=6.5						
H03N3	Juan Fernandez	140.96 90	T		T	00 20 27.9	
	baz=305,slow=77,SNR=8.5						
H03N1	Juan Fernandez	140.96 90	T		T	00 20 29.2	
	baz=305,slow=77,SNR=6.5						
BDFB	Brasilia	147.23 33	PKPbc		PKPdf	21 42 56.8	+0.2
	comp=Z,0.7nm,0.4s,baz=214,slow=3.6,SNR=4.3						
SNAA	Sanae	150.03 197	PKPbc		PKPdf	21 43 03.2	+3.8
	comp=Z,3.1nm,0.8s,baz=209,slow=14,SNR=3.6						
PLCA	Paso Flores	150.20 97	PKPbc		PKPbc	21 43 05.3	-0.5
	comp=Z,3.4nm,0.8s,baz=217,slow=3.1,SNR=6.7						
CPUP	Villa Florida	151.37 59	PKPbc		PKPbc	21 43 07.8	-1.1
	comp=Z,0.4nm,0.3s,baz=15,slow=4.5,SNR=6.1						

TAP ***14*** *21:24:44.5,25.′01N×122.′89E,h151km,ML3.6,D*
JMA ***14*** *21:24:44.4±0.3,25.′N±3.′×122.′9E±0.′8,h153km±3km,*
MV3.3/17,NW OFF ISHIGAKIJIMA IS
ISC 14 21:24:44.4±1.7,**24.′94N**±0.′06×**122.′87E**±0.′03,**h155**km±9km,
n91,σ0**.74**/158,**5D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.49	165	*e*P	Pn	21 25 06.8	+0.5
YOJ				*e*S	Sn	21 25 24.2	+1.3
YOJ	Yonaguni jima	0.49	165	*e*P	Pn	21 25 06.5	+0.2
YOJ				*e*S	Sn	21 25 22.5	-0.5
EOS2	EOS2	0.78	229	*e*P	Pn	21 25 08.3	+0.4
EOS2				*e*S	Sn	21 25 26.1	+0.4
TWB1	Santiao Chiao	0.81	275	*e*S	Sn	21 25 26.4	+0.1
EOS3	EOS3	0.82	218	*e*P	Pn	21 25 08.9	+0.8
EOS3				*e*S	Sn	21 25 27.1	+0.9
SXI1	Grass Mountain	0.92	280	*e*P	Pn	21 25 09.3	+0.2
SXI1				*e*S	Sn	21 25 27.5	-0.4
TIPB	Shuangxi	0.95	272	*e*P	Pn	21 25 09.5	+0.2
TIPB				*e*S	Sn	21 25 27.2	-1.1
EOS4	EOS4	0.96	212	*e*P	Pn	21 25 09.9	+1.0
EOS4				*e*S	Sn	21 25 28.1	+0.4
IRIF	Iriomote-Funau	0.98	128	P	Pn	21 25 09.8	+0.2
TWC	Suao	0.99	251	*e*P	Pn	21 25 09.6	0.0
TWC				*e*S	Sn	21 25 27.5	-1.2
ESAO	Su ao	1.00	249	*e*S	Sn	21 25 27.3	-1.6
ILA	Ilan	1.04	261	*e*S	Sn	21 25 29.6	+0.2
EWUT	Wuta	1.11	244	*e*P	Pn	21 25 11.1	+0.5
EWUT				*e*S	Sn	21 25 30.3	-0.3
TWE	Neicheng	1.12	259	*e*P	Pn	21 25 10.8	+0.2
ENA	Nanau	1.15	244	*e*P	Pn	21 25 11.2	+0.3
ENA				*e*S	Sn	21 25 30.9	-0.3
FUSB	Fushanzhiwuyua	1.18	262	⇓P	Pn	21 25 11.3	0.0
FUSB				*e*S	Sn	21 25 31.0	-0.9
EAHA	Aohua	1.20	240	*e*S	Sn	21 25 31.9	-0.1
YM01	YM01	1.20	280	*e*P	Pn	21 25 11.7	+0.2
YM01				*e*S	Sn	21 25 32.3	+0.2
HATJ	Hateruma jima	1.22	136	P	Pn	21 25 12.5	+0.9
HATJ				*e*S	Sn	21 25 32.5	+0.1
NHDH	Xindian Distri	1.22	271	*e*P	Pn	21 25 11.9	+0.3
NHDH				*e*S	Sn	21 25 31.6	-0.8
ENTT	Nioudou	1.23	256	*e*P	Pn	21 25 12.1	+0.5
ENTT				*e*S	Sn	21 25 33.0	+0.5
ZUZH	Zhuzihu	1.23	281	*e*P	Pn	21 25 12.2	+0.6
ZUZH				*e*S	Sn	21 25 32.2	-0.3
JKRS	Kuro-shima	1.25	124	P	Pn	21 25 12.7	+0.8
JKRS				S	Sn	21 25 32.8	-0.1
NWLT	Wulai	1.26	263	*e*P	Pn	21 25 11.8	-0.1
NWLT				*e*S	Sn	21 25 32.3	-0.7
LATG	Datong	1.29	252	*e*P	Pn	21 25 12.8	+0.5
LATG				*e*S	Sn	21 25 33.8	+0.1
JIJ	Ishigaki jima	1.29	116	P	Pn	21 25 12.4	+0.2
JIJ				S	Sn	21 25 32.3	-1.3
TWS1	Kuangyinshan	1.33	277	*e*P	Pn	21 25 12.0	-0.6
JISG	Ishigakijimahi	1.35	105	P	Pn	21 25 12.9	0.0
JISG				S	Sn	21 25 33.9	-0.7
ETL	Fush Village	1.38	236	*e*P	Pn	21 25 13.3	+0.1
ETL				*e*S	Sn	21 25 34.6	-0.6
YHNB	Yeheng	1.39	259	⇓P	Pn	21 25 13.5	+0.2
YHNB				*e*S	Sn	21 25 34.9	-0.5
NACB	Ninganchiao	1.39	237	*e*P	Pn	21 25 13.0	-0.3
NACB				*e*S	Sn	21 25 34.1	-1.2
NSK	Sanguang	1.40	260	⇓P	Pn	21 25 13.6	+0.2
NSK				*e*S	Sn	21 25 34.9	-0.7
TWD	Chiawan	1.44	234	*e*P	Pn	21 25 13.5	-0.2
TWD				*e*S	Sn	21 25 35.4	-0.9
NNSB	Datong	1.45	250	⇓P	Pn	21 25 14.3	+0.3
NNSB				*e*S	Sn	21 25 35.9	-0.7
NNS	Nan Shan	1.45	250	*e*P	Pn	21 25 14.3	+0.3
NNS				*e*S	Sn	21 25 36.3	-0.4
ETLH	Xiulin Townshi	1.46	240	P	Pn	21 25 14.0	-0.1
ETLH				S	Sn	21 25 35.9	-0.9
HWA	Hwalien	1.50	231	*e*P	Pn	21 25 14.6	+0.2
HWA				S	Sn	21 25 37.8	+0.5
KSHI	Guanxi Townshi	1.55	264	*e*P	Pn	21 25 15.4	+0.5
KSHI				*e*S	Sn	21 25 38.6	+0.4
ETM	Tongmen	1.59	233	*e*P	Pn	21 25 15.0	-0.3
ETM				*e*S	Sn	21 25 38.2	-0.8
LXIB	Xiulin Townshi	1.61	236	⇓P	Pn	21 25 15.3	-0.5
LXIB				*e*S	Sn	21 25 38.5	-1.2
NFF	Wufeng Townshi	1.62	259	*e*P	Pn	21 25 15.8	0.0
NFF				*e*S	Sn	21 25 39.0	-0.7
FUSS	Fushou	1.64	245	*e*P	Pn	21 25 16.6	+0.5
FUSS				*e*S	Sn	21 25 39.6	-0.7
SHUL	Shoufeng	1.66	226	*e*P	Pn	21 25 16.0	0.0
SHUL				*e*S	Sn	21 25 39.9	-0.3
WHF	Hehuan Shan	1.67	242	*e*P	Pn	21 25 16.9	+0.4
WHF				*e*S	Sn	21 25 40.3	-0.9
JTJ	Tarama	1.69	100	P	Pn	21 25 16.7	+0.4
JTJ				S	Sn	21 25 40.4	-0.4
TWT	Tachien	1.69	246	*e*P	Pn	21 25 17.4	+0.8
TWT				*e*S	Sn	21 25 41.3	+0.1
TDCB	Techi	1.70	247	*e*P	Pn	21 25 17.1	+0.5
TDCB				*e*S	Sn	21 25 41.1	-0.3
LIOB	Emei	1.71	261	*e*P	Pn	21 25 16.9	+0.2
LIOB				*e*S	Sn	21 25 40.7	-0.7
ESL	Shilin	1.73	230	*e*P	Pn	21 25 16.2	-0.6
ESL				*e*S	Sn	21 25 40.0	-1.6
NSTT	Nanjuang	1.73	260	*e*P	Pn	21 25 16.9	+0.1
NSTT				*e*S	Sn	21 25 40.8	-0.9
HSN	Hsinchu	1.73	266	*e*S	Sn	21 25 40.9	-0.8
WARBT	Fenglin Townsh	1.82	228	*e*P	Pn	21 25 17.0	-0.8
WARBT				*e*S	Sn	21 25 41.7	-1.8
EGFH	Guangfu	1.83	226	*e*S	Sn	21 25 42.9	-0.8
OWD	Renai	1.83	238	*e*P	Pn	21 25 18.4	+0.3
OWD				*e*S	Sn	21 25 42.9	-1.0
WUSB	Renai	1.86	240	*e*P	Pn	21 25 19.0	+0.6
WUSB				*e*S	Sn	21 25 44.1	-0.3
WHP	Taichung City	1.87	250	*e*P	Pn	21 25 19.4	+0.8
WHP				*e*S	Sn	21 25 44.6	-0.1
NMLH	Miaoli	1.94	258	*e*S	Sn	21 25 45.7	-0.1
HGSD	Ruisui	1.96	223	*e*P	Pn	21 25 19.5	+0.2
HGSD				*e*S	Sn	21 25 45.6	-0.6
VWDT	VWDT	1.97	234	*e*P	Pn	21 25 19.9	+0.4
VWDT				*e*S	Sn	21 25 45.2	-1.2
NSY	Sanyi	1.99	255	*e*P	Pn	21 25 17.3	-2.5
NSY				*e*S	Sn	21 25 44.2	-2.7
WCS	Beigang Elemen	1.99	244	*e*P	Pn	21 25 20.5	+0.8
WCS				*e*S	Sn	21 25 47.3	+0.4
TWQ1	Liyutan	2.00	253	*e*P	Pn	21 25 20.1	+0.3
EHY	Hungye	2.01	225	*e*P	Pn	21 25 19.8	-0.2
EHY				*e*S	Sn	21 25 45.4	-1.9
ECBN	Changbin	2.07	219	*e*S	Sn	21 25 47.6	-1.0
SMLT	Sun Moon Lake	2.08	240	*e*P	Pn	21 25 21.0	+0.1
SMLT				*e*S	Sn	21 25 49.5	+0.4
JIRB	Irabujima	2.09	93	*e*S	Sn	21 25 47.9	-1.0
SSLB	Suanglung	2.09	237	*e*P	Pn	21 25 22.1	+1.1
SSLB				*e*S	Sn	21 25 49.8	+0.8
TYC	Yuchr	2.11	241	*e*P	Pn	21 25 22.0	+1.0
TYC				*e*S	Sn	21 25 49.8	+0.5
EYUL	Yuli	2.13	222	*e*P	Pn	21 25 22.0	+0.7
EYUL				*e*S	Sn	21 25 49.0	-0.8
TWF1	Yuli	2.14	223	*e*P	Pn	21 25 21.4	-0.1
TWF1				*e*S	Sn	21 25 49.2	-0.8
JIKM	Ikemajima	2.16	90	*e*S	Sn	21 25 49.9	-0.3
CHKH	Chenggong	2.20	218	*e*P	Pn	21 25 21.9	-0.4
CHKH				*e*S	Sn	21 25 50.1	-1.3
WHYT	Xinyi Township	2.22	237	*e*P	Pn	21 25 23.6	+1.1
WHYT				*e*S	Sn	21 25 53.4	+1.6
JMJ2	Miyako jima3	2.24	95	*e*P	Pn	21 25 23.5	+0.9
JMJ2				*e*S	Sn	21 25 51.3	-0.7
WJS	Zhushan	2.25	241	*e*S	Sn	21 25 53.3	+1.0
FULB	Fuli	2.26	220	*e*P	Pn	21 25 23.1	+0.2
FULB				*e*S	Sn	21 25 52.8	+0.2
CHKT	Chengkung	2.29	217	*e*S	Sn	21 25 52.0	-1.2
JOGS	Gusukube	2.31	94	*e*S	Sn	21 25 52.7	-0.8
ALS	Alishan	2.36	233	*e*P	Pn	21 25 25.5	+1.1
ALS				*e*S	Sn	21 25 56.6	+1.4
CHN5	Tsauling	2.41	237	*e*P	Pn	21 25 25.5	+0.7
CHN5				*e*S	Sn	21 25 56.3	+0.4
EDH	Donghe	2.43	217	*e*P	Pn	21 25 24.6	-0.4
EDH				*e*S	Sn	21 25 55.4	-0.8
ELDTW	Lidau	2.43	225	*e*P	Pn	21 25 25.0	-0.1
ELDTW				*e*S	Sn	21 25 55.6	-0.9
WDLH	Douliu	2.47	240	*e*P	Pn	21 25 26.0	+0.6
WDLH				*e*S	Sn	21 25 58.2	+1.2
WCKO	Fanlu	2.55	235	*e*P	Pn	21 25 27.2	+0.8
STYH	Taoyuan	2.60	228	*e*P	Pn	21 25 27.1	0.0
STYH				*e*S	Sn	21 25 59.6	-0.4
CHN4	Tsaushan	2.62	233	*e*P	Pn	21 25 28.1	+0.9
CHN4				*e*S	Sn	21 26 00.4	+0.2
TPUB	Ta-pu	2.62	232	*e*P	Pn	21 25 27.9	+0.6
WTP	Ta-pu	2.67	231	*e*P	Pn	21 25 28.5	+0.6
TWK	Hsinying	2.74	233	*e*P	Pn	21 25 29.2	+0.4
CHN1	Nanshi	2.77	231	*e*P	Pn	21 25 29.9	+0.8
SNST	Tainan City	2.77	232	*e*P	Pn	21 25 29.7	+0.6

NEIC ***14*** *21:27:07.0±0.7,19.′28N±0.′01×155.′232W±0.′008,*
h10km±1km,Error ellipse: s-maj=2.4km s-min=2.0km
az=32.0
HVO 14 21:27:07.0±0.9,**19.′29N**±0.′01×**155.′229W**±0.′009,
h8km±2km,**ML3.2**/42,**ML3.1**/42(NEIC),**Error ellipse:**
s-maj=1.6km s-min=1.0km az=153.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	Hilina Pali	0.07	273		Pg	21 27 09.6	+0.5
HLP				Sg	Sg	21 27 11.6	+1.0
PUH	Pauahi	0.08	9		Pg	21 27 09.6	+0.3
PUH				Sg	Sg	21 27 11.3	+0.6
PUH				IAML		21 27 11.7	
	comp=E,10μm,0.4s						
KNHH	Kane Nui o Ham	0.10	33		Pg	21 27 09.6	+0.1
KKO	Keanakako'i	0.11	342		Pg	21 27 10.0	+0.4
KKO					Sg	21 27 12.3	+0.8
RIM	Rim	0.11	338		Pg	21 27 09.9	+0.3
RIM					Sg	21 27 12.1	+0.6
SDHHI	Sand Hill	0.12	328		Pg	21 27 09.9	+0.2
SDHHI					Sg	21 27 12.1	+0.5
BYL	Byron's Ledge	0.12	346		Pg	21 27 09.8	0.0
BYL				Sg	Sg	21 27 12.3	+0.6
BYL				IAML		21 27 14.2	
	comp=E,8μm,0.6s						
WRMHI	West Rim	0.13	330		Pg	21 27 10.2	+0.2
WRMHI					Sg	21 27 12.6	+0.6
HATHI	Halema'uma'u T	0.13	347		Pg	21 27 10.2	+0.2
HATHI				Sg	Sg	21 27 12.7	+0.6
HATHI				IAML		21 27 13.0	
	comp=N,8μm,0.4s						
HATHI				IAML		21 27 13.2	
	comp=E,9μm,0.4s						
OBL	Observatory Le	0.14	338		Pg	21 27 10.3	+0.3
OBL					Sg	21 27 13.1	+1.0
STCH	Steam Cracks	0.14	47		Pg	21 27 10.2	+0.3
STCH				Sg	Sg	21 27 12.6	+0.6
SBLHI	Steaming Bluff	0.14	345		Pg	21 27 10.3	+0.2
SBLHI					Sg	21 27 12.9	+0.7
UWB	Uwekahuna Bluf	0.14	341		Pg	21 27 10.3	+0.2
UWB					Sg	21 27 13.0	+0.8
UWE	Uwekahuna	0.14	335		Pg	21 27 10.4	+0.3
UWE				Sg	Sg	21 27 12.9	+0.6
UWE				IAML		21 27 13.7	
	comp=E,6μm,0.5s						
UWE				IAML		21 27 15.4	
	comp=N,6μm,0.4s						
NPOC	North of Pu'u	0.15	48		Pg	21 27 10.6	+0.3
NPOC					Sg	21 27 13.2	+0.7
JCUZ	Jacuzzi	0.15	53		Pg	21 27 10.6	+0.4
JCUZ					Sg	21 27 13.2	+0.7
HTC	Hot Caves	0.17	251		Pg	21 27 11.2	+0.7
RSD	Rainshed	0.18	345	Pg	Pg	21 27 14.4	+3.7
MLH	Mauna Loa	0.25	324		Pg	21 27 12.2	+0.1
JOKA	Jonika Flow	0.26	56		Pg	21 27 12.1	0.0
HPO	Honuapo	0.37	237		Pg	21 27 14.1	0.0
HPO					Sg	21 27 19.4	+0.4
KHU	Kahuku	0.37	263		Pg	21 27 14.3	0.0
KHU				IAML		21 27 20.2	
	comp=N,2μm,0.5s						
KHU				IAML		21 27 20.4	
	comp=E,2μm,0.5s						
KHU	Kahuku	0.37	263		Sg	21 27 19.4	+0.3
HMH	Humu'ula Sheep	0.39	322		Pg	21 27 15.1	+0.4
HMH	Humu'ula Sheep	0.39	322		Sg	21 27 20.8	+0.8
MWH	Mokuaweoweo	0.40	299		Pg	21 27 14.7	-0.2
MWH				IAML		21 27 25.7	
	comp=E,2μm,0.5s						
MWH				IAML		21 27 26.5	
	comp=N,1μm,0.4s						
MWH	Mokuaweoweo	0.40	299		Sg	21 27 20.7	+0.5
MLOA	Mauna Loa Obse	0.41	307		Pg	21 27 14.9	-0.2
MLOA					Sg	21 27 20.7	+0.2
MLOA	Mauna Loa Obse	0.41	307	IAML		21 27 23.9	
	comp=N,25nm,2.7s						
MLOA				IAML		21 27 28.3	
	comp=E,28nm,3.8s						
ALEP	Alea Permanent	0.46	302		Pg	21 27 15.7	-0.4
POHA	Pohakuloa	0.55	328		Pg	21 27 16.9	-0.6
POHA				IAML		21 27 25.5	
	comp=E,1μm,0.5s						
POHA	Pohakuloa	0.55	328		Sg	21 27 24.9	+0.1
CPH	Captain Cook	0.68	287		Pg	21 27 19.0	-1.1
HUH	Hualalai	0.69	304		Pg	21 27 20.1	-0.3
HPAH	Hawaii Prepara	0.86	329		Pg	21 27 21.2	-2.3
HPAH				IAML		21 27 48.2	
	comp=E,540nm,0.6s						

IDC ***14*** *21:30:58.2±0.8,14.′01N×144.′96E,h198km±5km,mb3.2/11,*
mbtmp3.7/11,Error ellipse: s-maj=39.0km s-min=14.3km
az=88.0
NEIC ***14*** *21:30:59.5±1.5,13.′942N±0.′010×144.′8E±0.′1,*
h199km±5km,mb4.4/26,Error ellipse: s-maj=17.6km
s-min=1.2km az=92.0
ISC 14 21:30:59.1±0.6,**14.′00N**±0.′07×**144.′8E**±0.′1,**h200**km,**n44,**
σ0.91/45,mb4.1/24,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.42

LVA	Lava Point	55.44	33	P	P	21 40 11.9	-0.9
M13K	Dall Lake	59.60	27	P	P	21 40 41.1	-0.5
MKAR	Makanchi Array	61.12	316	P	P	21 40 52.9	+0.6
MKAR	Makanchi Array	61.12	316	P	P	21 40 52.7	+0.4
	comp=Z,0.3nm,0.4s,baz=89,slow=8.3,SNR=5.3 comp=Z,0.3nm,0.4s						
ZALV	Zalesovo Beam	61.23	324	P	P	21 40 54.4	+1.7
	comp=Z,0.4nm,0.3s,baz=100,slow=4.4,SNR=1.9 comp=Z,0.4nm,0.3s						
MAKZ	Makanchi	61.33	316	P	P	21 40 54.3	+0.6
N19K	Bonanza Creek	63.77	28	P	P	21 41 10.8	+1.1
N19K				IAmb	IAmb	21 41 39.0	
	comp=Z,5.7nm,1.4s						
KURK	Kurchatov	64.20	320	P	P	21 41 12.7	+0.2
KURBB	Kurchatov Arra	64.24	320	P	P	21 41 12.7	0.0
	comp=Z,1.0nm,0.5s,baz=102,slow=6.8,SNR=8.8 comp=Z,1.0nm,0.5s						
C18K	Utukok River	64.38	19	P	P	21 41 12.6	-0.9
C18K				IAmb	IAmb	21 41 27.5	
	comp=Z,3.6nm,1.4s						
H19K	Roundabout Mou	64.66	23	P	P	21 41 14.4	-0.7
ILAR	Eielson Array	68.25	25	P	P	21 41 36.5	-1.5
	comp=Z,0.2nm,0.5s,baz=257,slow=5.5,SNR=4.9 comp=Z,0.2nm,0.5s						
BVAR	Borovoye Array	69.54	322	P	P	21 41 46.1	-0.1
	comp=Z,1.4nm,0.6s,baz=103,slow=7.5,SNR=10 comp=Z,1.4nm,0.6s						
ABKAR	Akbulak array	76.16	318	P	P	21 42 24.6	-0.5

FUNV 14 21:35:34.2, 7°.87N×63°.87W, h5km, MW3.5, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	Puerto La Cruz	2.42	342	eP	Pn	21 36 12.8	-1.7
PCRV				eS	Sn	21 36 43.2	-1.4
CACV	CAICARA DEL OR	2.67	264	eP	Pn	21 36 10.0	-7.8
CACV				eS	Sn	21 36 37.2	-13
TACV	Tcata	3.85	306	eP	Pn	21 36 32.7	-1.5
TACV				eS	Sn	21 37 17.0	-2.9
BENV	Beln	4.24	300	eP	Pn	21 36 38.8	-0.7
BENV				eS	Sn	21 37 24.5	-4.9
BAUV	El Baul	4.27	285	eP	Pn	21 36 38.2	-1.7
BAUV				eS	Sn	21 37 26.0	-4.1
TEPV	Terepaima	5.66	292	eP	Pn	21 36 56.6	-2.5
TEPV				eS	Sn	21 37 57.9	-6.6

STR 14 21:38:42.4±0.6, 48°.N±3°×°.°±°.°, h10km, MLv2.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=52.0, preliminary
ZUR 14 21:38:41.8, 48°.01N×8°.06E, h14km±1km, MLh0.8/5, 3C-1D, Error ellipse: s-maj=3367.7km s-min=1275.8km az=95.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZ	Kirchzarten	0.11	239	⇑Pg	Pg	21 38 45.1	-0.1
KIZ				Sg	Sg	21 38 47.2	-0.3
KIZ	Kirchzarten	0.11	239	Pg	Pg	21 38 45.1	-0.1
KIZ				Sg	Sg	21 38 47.2	-0.2
BERGE	Lenzkirch (DE)	0.16	151	⇓Pg	Pg	21 38 45.8	-0.1
BERGE				Sg	Sg	21 38 48.4	-0.2
VOGT	Vogtsburg - To	0.27	285	Sg	Sg	21 38 52.0	+0.4
VOGT	Vogtsburg - To	0.27	285	Pg	Pg	21 38 47.8	+0.2
BFO	Black Forest	0.36	29	⇑Pg	Pg	21 38 49.1	-0.2
ENDD	Endenburg	0.37	216	⇑Pg	Pg	21 38 49.3	-0.1
ENDD				Sg	Sg	21 38 54.4	-0.1
ENDD	Endenburg	0.37	216	Pg	Pg	21 38 49.3	-0.1
SLE	Schleitheim	0.38	131	Pg	Pg	21 38 49.5	-0.1
SLE	Schleitheim	0.38	131	Sg	Sg	21 38 54.6	-0.2
SULZ	Cheisacher	0.49	176	Pg	Pg	21 38 51.4	-0.1
SULZ	Cheisacher	0.49	176	Sg	Sg	21 38 58.0	-0.1
OPP	Oppenau	0.49	10	Sg	Sg	21 38 57.8	-0.4
WALT	Westhalten	0.53	265	Pg	Pb	21 38 52.7	-0.2
WALT				Sg	Sb	21 39 00.1	-0.3

IDC 14 21:39:50.3±2.6, 8°.56S×112°.15E, h0km, mb3.2/5, mbtmp3.3/6, ML3.7/1, Error ellipse: s-maj=130.5km s-min=20.7km az=50.0
DJA 14 21:40:07.8±0.5, 9°.S±4°×11°.3E±°.°, h117km±6km, M3.3/13, MLv3.3/13
ISC 14 21:40:06.3±1.0, 8°.64S±0°.09×112°.64E±0°.05, h134km±8km, n15, σ1°.23/20, mb3.0/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	Gumukmas	0.87	66	P	Pn	21 40 28.6	+0.2
GMJI				S	Sn	21 40 44.9	-0.3
JAGI	Jajag, Banyuwa	1.51	84	P	Pn	21 40 35.0	+0.3
JAGI				S	Sn	21 40 55.9	-0.5
PCJI	Pacitan	1.51	287	P	Pn	21 40 36.0	+1.2
PCJI				S	Sn	21 40 56.7	+0.2
GRJI	Gresik	1.72	355	P	Pn	21 40 38.4	+1.3
GRJI				S	Sn	21 41 01.4	+0.7
NGJI	Ngawi	1.72	317	P	Pn	21 40 34.7	-2.4
NGJI				S	Sn	21 41 00.3	-0.4
TBJI	Tambak Boyo	1.97	336	P	Pn	21 40 41.3	+1.2
KMMI	Kalianget	2.05	40	P	Pn	21 40 41.7	+0.6
KMMI				S	Sn	21 41 07.5	-0.3
UGM	Wanagama	2.21	289	P	Pn	21 40 44.0	+0.9
DNP	Denpasar	2.54	91	P	Pn	21 40 48.0	+0.8
FITZ	Fitzroy Crossi	15.75	128	Pn	Pn	21 43 38.9	-2.0
	0.2nm,0.3s,baz=310,slow=7.9,SNR=1.9						
FITZ				Sn	Sn	21 46 23.2	-13
	0.1nm,0.3s,baz=359,slow=24,SNR=5.8 0.8nm,0.5s						
WRA	Warramunga Arr	23.81	120	P	P	21 45 08.8	+1.7
	0.3nm,0.8s,baz=300,slow=9.4,SNR=5.0 0.3nm,0.8s						
ASAR	Alice Springs	25.25	129	P	P	21 45 22.0	+1.8
	0.4nm,0.8s,baz=299,slow=8.5,SNR=5.2 0.4nm,0.8s						
CMAR	Chiang Mai Arr	30.12	333	P	P	21 45 58.1	-5.5
	0.2nm,0.7s,baz=150,slow=9.0,SNR=1.9 0.2nm,0.7s						
SONM	Songino Array	56.49	355	P	P	21 49 34.0	-0.5
	0.3nm,0.4s,baz=164,slow=7.4,SNR=3.1 0.3nm,0.4s						
MKAR	Makanchi Array	61.45	337	P	P	21 50 07.9	-0.7
	0.1nm,0.3s,baz=146,slow=7.7,SNR=4.8 0.1nm,0.3s						

IDC 14 21:55:31.2±2.0, 5°.41S×151°.29E, h0km, mb3.5/5, mbtmp3.6/6, ML2.0/1, Error ellipse: s-maj=91.3km s-min=22.9km az=125.0
ISC 14 21:55:34.9±2.0, 5°.8S±0°.4×151°.8E±0°.5, h35km, n7, σ0°.79/8, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.81	232	Pn	Pn	21 56 58.1	-0.5
	3.0nm,0.3s,baz=83,slow=2.5,SNR=1.8						
PMG				Sn	Sn	21 58 04.9	+0.8
	1.3nm,0.3s,baz=182,slow=15,SNR=1.3 7.3nm,0.2s						
WRA	Warramunga Arr	22.02	229	P	P	22 00 25.4	-1.1
	0.3nm,0.5s,baz=48,slow=11,SNR=2.5 0.3nm,0.5s						
ASAR	Alice Springs	24.73	222	P	P	22 00 53.9	+0.8
	0.4nm,0.5s,baz=58,slow=7.8,SNR=5.5 0.4nm,0.5s						
FITZ	Fitzroy Crossi	28.29	242	P	P	22 01 25.2	-0.1
	2.1nm,1.0s,baz=63,slow=7.6,SNR=2.3 2.1nm,1.0s						
ZALV	Zalesovo Beam	81.43	327	P	P	22 07 48.1	0.0
	0.4nm,0.4s,baz=93,slow=5.8,SNR=2.1 0.4nm,0.4s						
ILAR	Eielson Array	83.47	22	P	P	22 07 59.0	+0.3
	0.3nm,0.8s,baz=246,slow=4.9,SNR=5.9 0.3nm,0.8s						
TORD	Torodi Ar. Bea	149.63	286	PKPbc	PKPbc	22 15 21.3	-0.5
	54nm,0.4s,baz=98,slow=2.9,SNR=1.8						

BKK 14 21:57:55.9±0.8, 19°.N±6°.×9°.4E±°.°, h10km, M3.6/18, mB3.9/2, mb3.6/5, Mjma3.1/18, ML3.8/10, MLv3.8/12, Mw(mB)2.8/2, MwMwp4.8/1, Mwp5.1/1, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHMT	Maesarieng	3.94	101	P	Pn	21 58 56.3	-0.1
MHMT				Sg	Sn	21 59 37.2	-5.5
CM13	Chiang Mai Arr	4.81	96	P	Pn	21 59 08.4	0.0
CM15	Chiang Mai Arr	4.82	96	P	Pn	21 59 08.7	+0.1
CM02	Chiang Mai Arr	4.84	96	P	Pn	21 59 08.7	-0.2
CM05	Chiang Mai Arr	4.85	96	P	Pn	21 59 09.0	0.0
CM01	Chiang Mai Arr	4.86	96	P	Pn	21 59 08.7	-0.4
CM04	Chiang Mai Arr	4.88	96	P	Pn	21 59 09.3	-0.1
CM09	Chiang Mai Arr	4.88	96	P	Pn	21 59 09.4	-0.1
LAMP	Lampang	5.48	94	P	Pn	21 59 17.8	+0.1
	0.0nm0.2nm2.3nm,0.6s						
KHLT	Khaolaem Dam	6.15	132	P	Pn	21 59 27.2	+0.3
	0.0nm0.2nm7.7nm,1.6s						
UTHA	Uthaitani	6.33	122	P	Pn	21 59 29.8	+0.5
PHIT	Phitsanulok	6.48	105	P	Pn	21 59 31.0	-0.4

JMA 14 21:59:59.1±0.1, 22°.4N±0°.9×12°.1E±°.°, h45km±4km, MV3.6/11, TAIWAN REGION
TAP 14 22:00:00.2, 22°.45N×121°.40E, h27km, ML3.3, C
ISC 14 21:59:59.5±0.9, 22°.42N±0°.02×121°.45E±0°.02, h26km±8km, n104, σ1°.14/162, 10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	Ludao	0.25	4	P	Pb	22 00 06.6	+0.6
LDUT				S	Sn	22 00 11.6	-1.0
LAY	Lan-yu	0.39	166	P	Pn	22 00 09.3	-0.2
LAY				S	Sb	22 00 14.8	+0.9
TTN	Taitung	0.43	320	P	Pn	22 00 09.6	-0.5
TTN				S	Sn	22 00 16.0	-1.1
LYUB	Lan-yu	0.44	163	⇓P	Pb	22 00 09.0	+0.2
LYUB				eS	Sb	22 00 14.5	-0.6
ECL	Taimali	0.49	291	⇓iP	Pb	22 00 09.3	-0.4
ECL				S	Sb	22 00 15.5	-1.0
TAW	Tawu	0.52	263	⇓P	Pn	22 00 09.9	-1.2
TAW				eS	Sb	22 00 16.7	-0.6
TWGBT	Beinan	0.52	319	eP	Pb	22 00 09.8	-0.3
TWGBT				eS	Sn	22 00 17.5	-1.8
TAWH	Dawu Township	0.53	261	⇓P	Pn	22 00 10.2	-1.1
TAWH				S	Sb	22 00 17.0	-0.5
TWG	Pinlang	0.53	319	⇓P	Pb	22 00 09.9	-0.4
EAST	Anshuo	0.56	266	⇓P	Pn	22 00 10.6	-1.2
EAST				S	Sb	22 00 17.5	-1.0
EDH	Donghe	0.56	346	eP	Pb	22 00 10.4	-0.5
EDH				eS	Sb	22 00 17.8	-0.8
LONT	Longtian	0.56	329	P	Pb	22 00 10.7	-0.2
LONT				eS	Sn	22 00 19.5	-0.8
SLIU	Shizi	0.64	251	⇓P	Pn	22 00 11.9	-1.0
SLIU				eS	Sb	22 00 19.8	-0.8
CHKT	Chengkung	0.68	353	eP	Pb	22 00 12.2	-0.6
CHKT				eS	Sb	22 00 20.7	-1.1
SMST	Manzhou Townsh	0.69	235	eP	Pn	22 00 13.0	-0.6
SMST				eS	Sn	22 00 22.5	-1.0
ECS	Chishang	0.70	342	eP	Pn	22 00 13.6	-0.2
ECS				eS	Sn	22 00 24.0	+0.2
TSEB	Hengchuen, Pin	0.73	224	eS	Sn	22 00 24.8	+0.5
EHD	Haiduan	0.76	343	eP	Pb	22 00 13.6	-0.5
EHD				eS	Sb	22 00 23.7	-0.4
TWKBT	Hengchun	0.76	231	⇓P	Pn	22 00 14.2	-0.4
TWKBT				eS	Sn	22 00 23.9	-1.2
TWK1	Hengchun	0.76	231	eP	Pn	22 00 14.1	-0.5
TWK1				eS	Sb	22 00 23.2	-1.1
CHKH	Chenggong	0.77	356	eP	Pb	22 00 13.8	-0.5
CHKH				eS	Sb	22 00 23.3	-1.0
SCZT	Fangliau	0.77	266	⇓P	Pn	22 00 13.9	-0.7
MASBT	Mashibuluo	0.78	284	⇓P	Pn	22 00 13.9	-0.9
FULB	Fuli	0.79	350	eP	Pb	22 00 14.0	-0.6
FULB				eS	Sb	22 00 24.0	-1.0
TSMG	Majia	0.80	291	eP	Pb	22 00 14.1	-0.7
SSD	Sandimen	0.82	293	eP	Pb	22 00 14.3	-0.9
ELDTW	Lidau	0.86	332	eP	Pb	22 00 14.5	-1.5
ECBN	Changbin	0.89	0	eP	Pb	22 00 16.0	-0.4
ECBN				eS	Sb	22 00 26.9	-1.0
EYUL	Yuli	0.93	353	eP	Pn	22 00 17.3	+0.4
TWF1	Yuli	0.94	351	eP	Pb	22 00 16.7	-0.5
STYH	Taoyuan	0.97	320	eP	Pb	22 00 15.6	-2.1
SCST	Cishan	1.00	298	eP	Pn	22 00 18.5	+0.7
TWP	Hsiaoliuchiu	1.01	266	eP	Pn	22 00 20.5	+2.5
TWM1	Shoushan	1.03	293	eP	Pn	22 00 20.3	+2.1
SGST	Jiashian	1.03	310	eP	Pb	22 00 17.8	-1.0
SGST				eS	Sn	22 00 33.7	+1.7
HGSD	Ruisui	1.06	359	eP	Pb	22 00 18.2	-1.1
HGSD				eS	Sb	22 00 31.2	-1.7
EHYH	Wanrong	1.07	355	eP	Pn	22 00 19.2	+0.3
EHY	Hungye	1.08	354	eP	Pn	22 00 18.8	-0.3
WSSB	Gushan	1.12	281	eP	Pb	22 00 22.3	+2.1
WTP	Ta-pu	1.12	317	eP	Pb	22 00 20.2	-0.2
WTP				eS	Sn	22 00 38.1	+3.8
CHN1	Nanshi	1.14	312	eP	Pb	22 00 20.9	+0.3
CHN1				eS	Sn	22 00 37.1	+2.5
TPUB	Ta-pu	1.16	319	eP	Pb	22 00 20.7	-0.2
TPUB				eS	Sn	22 00 37.6	+2.6
SHHT	Tainan City	1.18	301	eP	Pb	22 00 22.8	+1.5
SHHT				eS	Sn	22 00 39.8	+4.3
SNST	Tainan City	1.18	312	eP	Pb	22 00 21.8	+0.4
SNST				eS	Sn	22 00 37.4	+1.7
CHN3	Shinhua	1.19	303	eP	Pb	22 00 23.2	+1.7
CHN4	Tsaushan	1.22	320	eP	Pb	22 00 21.9	0.0
CHN4				eS	Sn	22 00 39.4	+3.0
TWK	Hsinying	1.22	314	eP	Pb	22 00 22.0	0.0
ALS	Alishan	1.23	331	eP	Pb	22 00 22.2	-0.2
EGFH	Guangfu	1.24	359	eP	Pb	22 00 22.6	+0.2
EGFH				eS	Sb	22 00 37.5	-0.5
WCKO	Fanlu	1.28	323	eP	Pb	22 00 23.3	+0.4
WARBT	Fenglin Townsh	1.29	357	eP	Pb	22 00 22.5	-0.7
VWDT	VWDT	1.35	348	eP	Pb	22 00 23.6	-0.6
SHUL	Shoufeng	1.36	4	eP	Pn	22 00 23.4	+0.5
SHUL				eS	Sn	22 00 40.1	0.0
CHN5	Tsauling	1.37	329	eP	Pb	22 00 24.5	0.0
CHN5				eS	Sb	22 00 44.1	+2.5
WHYT	Xinyi Township	1.38	337	eP	Pb	22 00 24.4	-0.3
ESL	Shilin	1.39	359	eP	Pb	22 00 24.1	-0.7
ESL				eS	Sn	22 00 39.8	-0.8
ICHU	Yijhu	1.43	311	eP	Pb	22 00 25.1	-0.4
CHY	Chiayi	1.43	319	eP	Pb	22 00 25.3	-0.2
SSLB	Guanglung	1.43	342	eP	Pb	22 00 25.9	+0.3
TSCK	Chigu Township	1.45	300	eP	Pb	22 00 24.7	-1.2
TSCK				eS	Sb	22 00 42.6	-1.3
WDLH	Douliu	1.51	327	eP	Pb	22 00 26.9	0.0
ETM	Tongmen	1.54	1	eP	Pn	22 00 26.1	+0.8
SMLT	Sun Moon Lake	1.54	341	eP	Pb	22 00 26.3	-1.2
WJS	Zhushan	1.54	335	eP	Pb	22 00 27.5	+0.1
OWD	Renai	1.54	351	eP	Pb	22 00 26.8	-0.8
OWD				eS	Sn	22 00 45.0	+0.2
WSL	Shuilin Townsh	1.57	314	eP	Pb	22 00 27.0	-0.9
TYC	Yuchr	1.57	340	eP	Pb	22 00 27.6	-0.3
LXIB	Xiulin Townshi	1.59	359	eP	Pn	22 00 26.3	+0.1
LXIB				eS	Sn	22 00 45.4	-0.6
WUSB	Renai	1.59	349	eP	Pb	22 00 27.2	-1.2
WTK	Tuku	1.59	322	eP	Pb	22 00 27.7	-0.6
WTK				eS	Sb	22 00 48.6	+0.6
WNT	Mingjian	1.61	334	eP	Pb	22 00 28.2	-0.4
WNT				eS	Sb	22 00 48.9	+0.3
WCS	Beigang Elemen	1.70	343	eP	Pb	22 00 29.9	-0.3
WCS				eS	Sb	22 00 51.6	+0.5
WHF	Hehuan Shan	1.72	354	eP	Pb	22 00 29.8	-1.0
NACB	Ninganchiao	1.75	4	eP	Pn	22 00 27.9	-0.2
NACB				eS	Sn	22 00 48.2	-1.4
ETLH	Xiulin Townshi	1.78	1	eP	Pn	22 00 29.1	+0.5
FUSS	Fushou	1.83	354	eP	Pb	22 00 31.2	-1.2
FUSS				eS	Sb	22 00 54.8	-0.2
TWT	Tachien	1.84	352	eP	Pb	22 00 32.7	+0.1
TWT				eS	Sb	22 00 55.5	+0.2
EOS4	EOS4	1.87	25	eP	Pn	22 00 30.6	+1.1
EOS4				eS	Sn	22 00 51.6	-0.5
WHP	Taichung City	1.90	346	eP	Pb	22 00 32.7	-1.0
WHP				eS	Sb	22 00 56.2	-0.8
NNSB	Datong	2.00	358	eP	Pb	22 00 33.5	-1.8
NNS	Nan Shan	2.01	358	eP	Pb	22 00 35.6	+0.1
ENA	Nanau	2.01	8	eP	Pn	22 00 32.8	+1.0
ENA				eS	Sn	22 00 56.4	+0.2
TWQ1	Liyutan	2.02	342	eP	Pb	22 00 33.9	-1.6
TWQ1				eS	Sb	22 00 59.6	-0.5
EOS3	EOS3	2.02	23	eP	Pn	22 00 33.0	+1.3
EOS3				eS	Sn	22 00 56.4	+0.3
PHUB	P'eng-hu	2.04	302	eP	Pn	22 00 32.3	+0.1
PHUB				eS	Sn	22 00 55.5	-1.4
NSY	Sanyi	2.08	342	eS	Sn	22 00 58.9	+1.1
PNG	Penghu	2.08	303	eP	Pn	22 00 33.1	+0.3
LATG	Datong	2.10	2	eP	Pn	22 00 34.0	+0.8
EOS2	EOS2	2.11	20	eP	Pb	22 00 36.0	-1.1
EOS2				eS	Sn	22 00 59.6	+1.2
TWC	Suao	2.21	9	eP	Pb	22 00 38.4	-0.4
TWC				eS	Sn	22 01 01.2	+0.3
ENTT	Nioudou	2.21	3	eP	Pb	22 00 37.3	-1.6
NFF	Wufeng Townshi	2.22	352	eP	Pb	22 00 37.6	-1.4
NFF				eS	Sb	22 01 04.8	-1.4
YHNB	Yeheng	2.24	358	eP	Pn	22 00 37.0	+2.0
NSK	Sanguang	2.25	358	eP	Pb	22 00 37.3	-2.2
NSK				eS	Sn	22 01 02.6	+0.7
LIOB	Emei	2.25	350	eP	Pb	22 00 37.9	-1.6
LIOB				eS	Sb	22 01 05.3	-1.6
FUSB	Fushanzhiwuyua	2.33	3	eP	Pb	22 00 39.7	-1.3
NWLT	Wulai	2.34	1	eP	Pb	22 00 39.9	-1.2
KSHI	Guanxi Townshi	2.36	354	eP	Pb	22 00 41.8	+0.5
HATJ	Hateruma jima	2.71	53	eP	Pn	22 00 42.7	+1.4
HATJ				eS	Sn	22 01 12.9	-0.4
IRIF	Iriomote-Funau	2.83	47	eP	Pn	22 00 44.5	+1.4
IRIF				eS	Sn	22 01 17.5	+1.2
JKRS	Kuro-shima	2.97	52	eP	Pn	22 00 46.7	+1.8
JKRS				eS	Sn	22 01 20.2	+0.6
JIJ	Ishigaki jima	3.14	51	eP	Pn	22 00 48.9	+1.6
JIJ				eS	Sn	22 01 23.5	-0.5
JISG	Ishigakijimahi	3.40	50	P	Pn	22 00 52.2	+1.4
JISG				S	Sn	22 01 29.7	-0.6
JTJ	Tarama	3.71	53	eS	Sn	22 01 38.5	+0.4

IDC 14 22:00:37.3±5.9, 15°.13S×174°.61W, h0km, mb4.2/3, mbtmp4.2/3, MS3.4/1, Error ellipse: s-maj=228.9km s-min=57.6km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	19.23	246	LR	LR	22 11 47.9	
	comp=Z,118nm,19.6s,baz=238,slow=35						
STKA	Stephens Creek	43.17	239	P	P	22 08 40.1	+0.1
	1.1nm,0.4s,baz=78,slow=9.3,SNR=3.8 1.1nm,0.4s						
WRA	Warramunga Arr	48.77	257	P	P	22 09 23.9	-0.6
	1.1nm,1.0s,baz=92,slow=6.9,SNR=7.4 1.1nm,1.0s						
ASAR	Alice Springs	49.09	252	P	P	22 09 26.9	+0.1
	3.9nm,0.4s,baz=90,slow=7.6,SNR=62 3.9nm,0.4s						
BRTR	Keskin Array B	145.21	320	PKPbc	PKPbc	22 20 16.2	-0.8
	0.6nm,0.7s,baz=46,slow=4.2,SNR=5.4						

KRNET 14 22:02:39.5±0.1, 39°.04N×71°.66E, h19km, mb2.9
NNC 14 22:02:43.7±2.3, 39°.12N×71°.52E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=17.4km s-min=11.8km az=10.0
ISC 14 22:02:40.8±1.7, 39°.10N±0°.07×71°.61E±0°.05, h10km±10km, n14, σ2°.65/30, 24C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.41	22	⇑eP	Pg	22 02 48.5	-0.4
DRK				⇑eS	Sg	22 02 55.0	+0.6
GAR	Garm	1.01	265	⇑eP	Pb	22 02 59.0	-1.4
GAR				⇑eS	Sb	22 03 13.1	-0.7
BTK	Batken	1.14	328	⇑eP	Pb	22 03 01.9	-0.7
BTK				⇑eS	Sn	22 03 18.1	-0.5
OHH	Osh	1.69	32	⇑iP	Pn	22 03 10.7	+0.2
OHH				⇑eS	Sb	22 03 33.5	+0.2
SFK	Sufi-Kurgan	1.73	58	⇑eP	Pn	22 03 11.0	-0.1
SFK				⇑eS	Sn	22 03 34.0	+0.6
TRKS	Terek-Say	2.45	352	⇑eP	Pn	22 03 21.3	+0.2
TRKS				⇑eS	Sn	22 03 51.8	+0.6
SALK	Salom-Alik	2.46	43	⇓eP	Pn	22 03 21.8	+0.6
SALK				⇓eS	Sn	22 03 52.6	+1.1
ARK	Arkit	2.71	6	⇑eP	Pn	22 03 25.9	+1.4
ARK				⇑eS	Sb	22 03 59.8	-3.0
AML	Almayashu	3.42	27	⇑iP	Pn	22 03 35.5	+1.0
AML				⇑eS	Sn	22 04 16.3	+0.9
ARLS	Aral	3.45	36	⇓eP	Pn	22 03 35.5	+0.8
ARLS				⇓eS	Sn	22 04 16.4	+0.6
MNAS	Manas	3.45	11	⇑eP	Pn	22 03 36.0	+1.2
MNAS				⇑eS	Sn	22 04 17.2	+1.4
KK31	Karatay Array	4.08	349	⇓Pn	Pn	22 03 47.3	+3.9
	1.7nm,0.3s,baz=168,slow=12,SNR=27						
KK31				⇑Pg	Pb	22 03 56.0	+3.2
	1.4nm,0.3s,baz=157,slow=11,SNR=4.4						
KK31				⇑Sn	Sb	22 04 37.0	-5.3
	1.2nm,0.3s						
KK31				Lg	Lg	22 04 50.8	
	2.7nm,0.5s,baz=189,slow=35,SNR=4.5						
AAK	Ala-Archa	4.16	31	⇓Pn	Pn	22 03 48.7	+4.2
	1.1nm,0.5s						
AAK				⇑Pg	Pg	22 04 00.3	-0.1
	2.0nm,0.6s						
AAK				⇑Sn	Sb	22 04 38.9	-5.6
	4.5nm,0.8s						
CHMS	Chumysh	4.56	30	⇑Pn	Pn	22 03 54.4	+4.5
	3.7nm,0.7s						
CHMS				⇑Sn	Sb	22 04 49.9	-6.1
	6.3nm,0.6s						

NEIC 14 22:05:24.9±1.6, 20°.9S±0°.1×178°.4W±0°.1, h577km±7km, mb4.5/52, Error ellipse: s-maj=17.2km s-min=14.7km az=128.0
NOU 14 22:05:24.5, 20°.74S×178°.18W, h601km, mb4.6/14, Fiji Islands Region
IDC 14 22:05:25.2±1.4, 20°.69S×178°.47W, h585km±15km, mb3.5/15, mbtmp4.5/17, Error ellipse: s-maj=15.6km s-min=12.8km az=105.0
ISC 14 22:05:24.2±0.3, 20°.91S±0°.06×178°.39W±0°.06, h579km, n139, σ1°.46/149, mb4.4/43, 1C-5D, Fiji Islands region

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

MRZ Mangatainoka R 20.34 193 P **P** **22 09 19.9 -1.9**
TCW Tory Channel 21.17 195 P **P** **22 09 29.6 +0.4**
QRZ Quartz Range 21.30 199 P **P** **22 09 31.6 +1.2**
NNZ Nelson 21.41 197 P **P** **22 09 31.5 +0.2**
DSZ Denniston Nort 22.36 200 P **P** **22 09 40.2 +0.3**
TATA Tatamba Isabel 24.45 297 P **P** **22 09 58.4 -0.4**
MLZ Mavora Lakes 26.80 201 P **P** **22 10 20.3 +1.3**
MLZ IAmb IAmb 22 10 44.1
comp=Z,46nm,1.4s
WHZ Wether Hill Ro 27.32 201 P **P** **22 10 25.6 +2.0**
WHZ IAmb IAmb 22 10 42.4
comp=Z,42nm,1.4s
EIDS Eidsvold 28.38 255 P **P** **22 10 33.8 +0.6**
EIDS IAmb IAmb 22 10 39.7
comp=Z,27nm,1.5s
ARMA Armidale 28.56 245 P **P** **22 10 36.1 +1.4**
ARMA IAmb IAmb 22 10 36.8
comp=Z,8.7nm,0.7s
CMSA Cobar Meteorol 33.77 244 P **P** **22 11 20.0 +0.9**
PMG Port Moresby 35.08 284 **P** **22 11 30.5 +0.4**
PMG Port Moresby 35.08 284 P **P** **22 11 30.4 +0.2**
TOO Toolangi 35.36 234 P **P** **22 11 32.0 -0.2**
COEN Coen 37.24 274 P **P** **22 11 48.1 +0.1**
COEN IAmb IAmb 22 11 50.0
comp=Z,41nm,1.4s
STKA Stephens Creek 37.28 245 **P** **22 11 48.7 +0.7**
STKA Stephens Creek 37.28 245 P **P** **22 11 48.4 +0.3**
comp=Z,11nm,0.9s,baz=79,slow=10,SNR=15
comp=Z,11nm,0.9s
STKA Stephens Creek 37.28 245 P **P** **22 11 49.1 +1.1**
INKA Innaminka 37.72 251 P **P** **22 11 53.1 +1.4**
MANU Manus Island 38.28 295 P **P** **22 11 56.2 -0.2**
HTT Hallett 39.71 243 P **P** **22 12 08.1 +0.4**
LCRK Leigh Creek 40.04 247 P **P** **22 12 11.0 +0.7**
BBOO Buckleboo 42.03 244 P **P** **22 12 26.0 -0.1**
BBOO IAmb IAmb 22 12 27.2
comp=Z,15nm,0.8s
OOD Oodnadatta 42.20 251 P **P** **22 12 28.6 +1.2**
AS01 Alice Springs 44.02 257 P **P** **22 12 41.9 +0.2**
AS31 Alice Springs 44.07 257 **P** **22 12 42.4 +0.3**
AS31 IAmb IAmb 22 12 42.9
comp=Z,8.1nm,0.8s
ASAR Alice Springs 44.07 257 **P** **22 12 42.3 +0.2**
ASAR Alice Springs 44.07 257 P **P** **22 12 42.1 +0.1**
comp=Z,31nm,0.8s,baz=94,slow=7.5,SNR=236
ASAR PcP **PcP** **22 14 13.1 -1.4**
comp=Z,1.0nm,0.8s,baz=88,slow=4.9,SNR=2.2
ASAR ScP **ScP** **22 17 12.2 +0.5**
comp=Z,0.7nm,0.7s,baz=97,slow=4.1,SNR=4.6
ASAR S **S** **22 18 30.3 -3.2**
comp=Z,2.1nm,0.7s,baz=96,slow=14,SNR=12
comp=Z,31nm,0.8s
WRAB Tennant Creek 44.17 263 **P** **22 12 42.5 -0.4**
WRAB IAmb IAmb 22 12 43.2
comp=Z,25nm,0.9s
WRA Warramunga Arr 44.18 263 **P** **22 12 42.4 -0.6**
WRA Warramunga Arr 44.18 263 P **P** **22 12 42.5 -0.5**
comp=Z,16nm,0.5s,baz=98,slow=8.1,SNR=463
WRA S **S** **22 18 29.5 -5.5**
comp=Z,0.6nm,0.8s,baz=98,slow=14,SNR=2.7
comp=Z,16nm,0.5s
HPO Honuapo 45.62 31 P **P** **22 12 56.0 +2.3**
KDU Kakadu 47.59 272 P **P** **22 13 08.5 -0.3**
FORT Forrest 48.79 247 P **P** **22 13 17.4 -0.2**
FORT IAmb IAmb 22 13 34.6
comp=Z,23nm,0.9s
MTN Manton Dam 48.80 271 **P** **22 13 17.1 -0.7**
MTN Manton Dam 48.80 271 P **P** **22 13 17.4 -0.4**
WRKA Warakurna 49.00 255 P **P** **22 13 19.4 +0.2**
KNRA Kununurra 50.27 267 **P** **22 13 28.7 +0.2**
KNRA IAmb IAmb 22 13 29.2
comp=Z,9.8nm,0.8s
FAKI Fak Fak 51.24 284 P **P** **22 13 34.7 -0.9**
FAKI IAmb IAmb 22 13 35.9
comp=Z,42nm,1.2s
FITZ Fitzroy Crossi 52.61 263 P **P** **22 13 45.5 +0.1**
SOEI Soe 56.15 272 **P** **22 14 11.5 +1.1**
PSA00 Pilbara Seismi 57.22 257 P **P** **22 14 17.2 -0.2**
PSA00 Pilbara Seismi 57.22 257 P **P** **22 14 17.3 -0.2**
PSA00 IAmb IAmb 22 14 17.9
comp=Z,15nm,0.8s
MBWA Marble Bar 57.41 258 P **P** **22 14 18.5 -0.3**
MBWA IAmb IAmb 22 14 19.0
comp=Z,17nm,0.8s
SBA Scott Base 57.44 184 P **P** **22 14 20.6 +2.7**
VNDA Vanda 57.47 185 P **P** **22 14 20.1 +1.9**
VNDA Vanda 57.47 185 P **P** **22 14 20.7 +2.5**
comp=Z,1.2nm,0.6s,baz=20,slow=6.6,SNR=17
comp=Z,1.2nm,0.6s
MORW Morawa 59.33 248 P **P** **22 14 31.8 +0.2**
MORW IAmb IAmb 22 14 56.9
comp=Z,29nm,1.3s
GIRL Giralia 62.09 255 P **P** **22 14 50.3 +0.5**
TOLI2 Tolitoli 63.33 282 P **P** **22 14 58.6 +0.7**
TOLI2 IAmb IAmb 22 14 59.3
comp=Z,9.8nm,1.0s
CASY Casey 63.43 205 P **P** **22 14 58.2 +0.6**
CASY IAmb IAmb 22 15 02.5
comp=Z,15nm,1.1s
QSPA South Pole Qui 69.16 180 **P** **22 15 34.8 +1.6**
QSPA IAmb IAmb 22 15 35.6
comp=Z,8.7nm,0.9s
QSPA South Pole Qui 69.16 180 P **P** **22 15 34.8 +1.6**
comp=Z,6.0nm,0.6s,baz=16,slow=0.3,SNR=70
comp=Z,6.0nm,0.6s
KKM Kota Kinabalu 69.51 285 P **P** **22 15 36.0 -0.2**
MJAR Matsushiro Arr 70.33 324 P **P** **22 15 39.7 -0.7**
comp=Z,1.9nm,0.6s,baz=123,slow=4.5,SNR=3.4
comp=Z,1.9nm,0.6s
KSM Kuching 73.11 278 **P** **22 15 57.3 +0.2**
KSM IAmb IAmb 22 15 58.2
comp=Z,13nm,0.7s
PETK Petropavlovsk- 76.58 345 P **P** **22 16 15.0 -0.5**
PETK Petropavlovsk- 76.58 345 P **P** **22 16 14.1 -1.4**
comp=Z,2.8nm,0.7s,baz=153,slow=5.3,SNR=5.1
comp=Z,2.8nm,0.7s
KSRS Korea Array 76.95 319 P **P** **22 16 18.0 +0.1**
comp=Z,1.0nm,0.6s,baz=132,slow=7.3,SNR=4.3
comp=Z,1.0nm,0.6s
USRK Ussuriysk Ar. 79.10 326 P **P** **22 16 29.7 +0.4**
USRK Ussuriysk Ar. 79.10 326 P **P** **22 16 29.4 +0.1**
comp=Z,3.0nm,0.7s,baz=135,slow=3.4,SNR=4.7
comp=Z,3.0nm,0.7s
BELA Belgrano 2 79.20 173 **P** **22 16 29.6 +0.3**
O02D Mt. Diablo Mer 79.83 40 P **P** **22 16 34.7 +1.4**
SII Sitkinak Islan 79.83 13 P **P** **22 16 34.3 +1.5**
SII IAmb IAmb 22 16 56.3
comp=Z,47nm,1.2s
YBH Yreka Blue Hor 80.84 39 P **P** **22 16 39.4 +0.8**
J01E Myrtle Point 81.04 37 P **P** **22 16 41.0 +1.7**
NVAR Mina Array Bea 81.58 43 P **P** **22 16 42.6 +0.1**
comp=Z,1.0nm,0.6s,baz=244,slow=6.9,SNR=5.5
comp=Z,1.0nm,0.6s
N15K Kwethluk River 82.16 9 P **P** **22 16 44.5 -0.2**
N15K IAmb IAmb 22 16 46.9
comp=Z,12nm,1.4s
P18K Big Mountain, 82.25 12 P **P** **22 16 44.2 -1.0**
BNX BinXian 82.55 325 ⇑P **P** **22 16 46.6 -0.4**
BNX pmax pmax
comp=Z,5.0nm,0.6s
J05D Fort Rock, OR 82.66 38 P **P** **22 16 47.9 0.0**
J05D IAmb IAmb 22 16 48.9
comp=Z,4.7nm,0.7s
O18K Koktuh Hills 82.68 12 P **P** **22 16 46.0 -1.3**
M16K Timber Creek 83.14 9 P **P** **22 16 49.9 +0.3**
KULM Kulim 83.47 278 P **P** **22 16 52.5 +0.1**
KULM IAmb IAmb 22 17 21.7
comp=Z,16nm,1.3s
ELIB Princess Elisa 86.19 187 *d*P **P** **22 17 04.7 +0.1**
comp=Z,5.1nm,0.7s
RND Reindeer 87.18 13 P **P** **22 17 08.3 -0.8**
RND IAmb IAmb 22 17 08.6
comp=Z,3.9nm,1.0s
TROLL Troll, Antarti 87.32 180 ⇓P **P** **22 17 09.5 -0.4**
comp=Z,76nm,0.6s
TX31 Lajitas Ar. Si 87.59 57 P **P** **22 17 13.1 +1.2**
TXAR Lajitas Array 87.59 57 P **P** **22 17 12.5 +0.6**
comp=Z,1.4nm,0.8s,baz=241,slow=4.9,SNR=15
comp=Z,1.4nm,0.8s
VNA3 Neumayer Olymp 87.75 176 ⇓P **P** **22 17 10.9 -0.9**
comp=Z,12nm,0.6s
VNA2 Neumayer--Watz 88.19 177 ⇓P **P** **22 17 14.1 +0.2**
comp=Z,4.3nm,0.6s,baz=180,slow=4.3
VNA1 Neumayer--Stat 88.42 177 ⇓P **P** **22 17 14.7 -0.2**
comp=Z,16nm,1.0s

ILAR Eielson Array 88.80 13 P **P** **22 17 14.3 -2.3**
comp=Z,0.3nm,0.3s,baz=205,slow=4.5,SNR=21
comp=Z,0.3nm,0.3s
PLCA Paso Flores 89.25 134 P **P** **22 17 21.7 +2.2**
comp=Z,1.5nm,1.0s,baz=276,slow=9.2,SNR=3.1
comp=Z,1.5nm,1.0s
PDAR Pinedale Array 89.51 43 P **P** **22 17 20.2 -0.5**
comp=Z,0.9nm,0.6s,baz=244,slow=4.7,SNR=11
comp=Z,0.9nm,0.6s
CMAR Chiang Mai Arr 89.91 290 **P** **22 17 23.0 +0.2**
CMAR Chiang Mai Arr 89.91 290 P **P** **22 17 24.1 +1.3**
comp=Z,2.9nm,0.9s,baz=114,slow=4.6,SNR=20
comp=Z,2.9nm,0.9s
CHTO Chiang Mai 90.04 290 P **P** **22 17 23.9 +0.5**
CHTO IAmb IAmb 22 17 24.9
comp=Z,4.1nm,0.7s
MKAR Makanchi Array 111.21 313 PKiKP **PKiKP** **22 22 51.0 -1.7**
comp=Z,0.1nm,0.4s,baz=96,slow=2.9,SNR=5.0
MKAR PKKPbc **PKKPbc** **22 33 50.7 -0.7**
comp=Z,0.5nm,0.7s,baz=290,slow=4.3,SNR=4.8
MKAR PKKPab **PKKPab** **22 34 02.5 +1.0**
comp=Z,0.4nm,0.7s,baz=300,slow=2.8,SNR=3.0
BVAR Borovoye Array 119.16 320 PKP **PKPdf** **22 23 06.4 -1.4**
comp=Z,1.1nm,0.3s,baz=112,slow=4.0,SNR=7.0
ARCES ARCESS Array B 129.26 349 PKP **PKPdf** **22 23 25.3 -1.4**
comp=Z,1.1nm,1.2s,baz=28,slow=4.1,SNR=3.9
FINES FINESS Array B 136.06 343 PKP **PKPdf** **22 23 39.0 -0.6**
comp=Z,1.4nm,1.1s,baz=90,slow=4.2,SNR=3.6
FINES SKPbc **SKPbc** **22 26 16.8 -0.9**
comp=Z,1.3nm,0.8s,baz=24,slow=3.8,SNR=4.1
HFS Hagfors 139.89 351 PKhKP PKPpre 22 23 37.5
comp=Z,0.8nm,0.3s,baz=66,slow=4.9,SNR=9.8
AKASG Malin Array Be 143.19 331 PKhKP PKPpre 22 23 49.0
comp=Z,3.1nm,0.4s,baz=44,slow=4.2,SNR=43
BNN Bunyan 145.61 309 PKPdf **PKPdf** **22 23 58.2 +0.6**
BRTR Keskin Array B 146.84 312 PKPbc **PKPbc** **22 24 01.2 -1.3**
comp=Z,1.4nm,0.9s,baz=108,slow=3.1,SNR=8.1
MMAI Mount Meron Ar 147.70 299 PKPbc **PKPbc** **22 24 04.8 -0.1**
comp=Z,1.6nm,0.4s,baz=76,slow=6.1,SNR=11
GERES GERESS Array B 150.50 344 PKPbc **PKPbc** **22 24 10.0 -1.1**
comp=Z,1.0nm,0.9s,baz=20,slow=3.3,SNR=4.1
GERES PKPab **PKPab** **22 24 20.0 -0.4**
comp=Z,0.2nm,0.3s,baz=354,slow=6.1,SNR=3.4
TORD Torodi Ar. Bea 172.28 181 PKPab **PKPab** **22 25 56.6 +0.6**
comp=Z,62nm,0.3s,baz=177,slow=3.2,SNR=1.8

*CATAC **14** 22:19:38.2±0.7, 12°N±4°×8°8W±°, h31km±4km, M3.4/10, MLv3.4/10, Error ellipse: s-maj=9.6km s-min=3.6km az=36.1, confirmed*
*SNET **14** 22:19:39.6±1.0, 12°50N×88°09W, h17km±15km, ML3.0*
ISC 14 22:19:37.7±1.8, 12°39N±0°08×87°90W±0°05, h32km±12km, n26, σ0°52/36, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.67**	**29**	P	**Pn**	**22 19 51.2**	**+0.1**
CSGN				S	**Sn**	**22 20 00.8**	**+0.3**
POTN	**Potosi Cosigui**	**0.71**	**32**	P	**Pn**	**22 19 51.7**	**0.0**
POTN				S	**Sn**	**22 20 01.6**	**+0.1**
CRIN	**San Cristobal**	**0.88**	**69**	S	**Sb**	**22 20 07.7**	**+1.5**
CRIN	**San Cristobal**	**0.88**	**69**	P	**Pb**	**22 19 54.9**	**+0.3**
CNCH	**Conchagua**	**0.88**	**4**	*e*P	**Pb**	**22 19 54.1**	**-0.6**
CNCH				*e*S	**Sb**	**22 20 06.7**	**+0.5**
LCND	**La Caada**	**0.91**	**0**	*e*S	**Sb**	**22 20 06.7**	**-0.3**
QUEN	**Al S del Volca**	**1.04**	**79**	P	**Pn**	**22 19 56.3**	**+0.1**
PACN	**Al O del Volca**	**1.08**	**84**	P	**Pn**	**22 19 56.9**	**+0.2**
PACN				S	**Sb**	**22 20 11.3**	**-0.5**
BLLM	**Bellamira**	**1.10**	**342**	*e*P	**Pn**	**22 19 57.5**	**+0.5**
LCY	**Lacayo**	**1.10**	**339**	*e*P	**Pn**	**22 19 56.8**	**-0.2**
RANC	**El Ranchito**	**1.11**	**340**	S	**Sn**	**22 20 11.4**	**0.0**
PACA	**Pacayal**	**1.15**	**339**	*e*P	**Pn**	**22 19 58.0**	**+0.2**
PACA				*e*S	**Sn**	**22 20 12.3**	**-0.2**
PACA	**Pacayal**	**1.15**	**339**	P	**Pn**	**22 19 58.0**	**+0.2**
CNGA	**Al SSO del Vol**	**1.17**	**85**	P	**Pn**	**22 19 57.9**	**-0.1**
CNGA				S	**Sn**	**22 20 13.1**	**+0.2**
CNGN	**Cerro Negro**	**1.17**	**85**	P	**Pn**	**22 19 57.9**	**-0.2**
CNGN	**Cerro Negro**	**1.17**	**85**	S	**Sb**	**22 20 13.6**	**-0.8**
ILCN	**San Idelfonso**	**1.18**	**81**	P	**Pn**	**22 19 58.2**	**+0.1**
ILCN				S	**Sn**	**22 20 13.1**	**0.0**
COPN	**Copaltepe**	**1.29**	**99**	P	**Pn**	**22 19 59.8**	**+0.2**
CHOHN	**Orocuina**	**1.30**	**33**	P	**Pn**	**22 19 59.4**	**-0.4**
CHOHN	**Orocuina**	**1.30**	**33**	S	**Sn**	**22 20 15.8**	**-0.4**
MOMN	**Momotombo**	**1.32**	**89**	P	**Pn**	**22 19 59.9**	**-0.2**
MOMN				S	**Sn**	**22 20 16.3**	**-0.3**
PQSS	**Presa 15 de Se**	**1.39**	**332**	*e*P	**Pn**	**22 20 01.2**	**+0.3**
PQSS				*e*S	**Sn**	**22 20 17.1**	**-1.0**
PQSS	**Presa 15 de Se**	**1.39**	**332**	S	**Sn**	**22 20 18.5**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.54**	**328**	*e*P	**Pn**	**22 20 03.6**	**+0.6**
SCLA				*e*S	**Sn**	**22 20 23.1**	**+1.2**
COEG	**Centro de Oper**	**1.56**	**322**	*e*S	**Sn**	**22 20 21.9**	**-0.6**
COEG				IAML		22 20 25.6	
comp=Z,214nm,0.3s							
JAYA	**Jayaque - finc**	**1.97**	**310**	*e*P	**Pn**	**22 20 08.9**	**-0.1**

*IDC **14** 22:29:57.2±1.9, 49°99N×122°26E, h0km, mb3.3/1, mbtmp3.3/4, ML3.2/3, MS3.0/2, Error ellipse: s-maj=32.9km s-min=21.2km az=12.0*
ISC 14 22:29:58.5±1.0, 50°1N±0°1×122°38E±0°06, h10km, n10, σ1°39/9, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEH	**HeiHe**	**3.24**	**84**	Pn	**Pn**	**22 30 50.0**	**+0.6**
HEH				Sg	**Sg**	**22 31 40.8**	**-1.8**
HEH				smax	smax		
comp=N,700nm,0.8s							
HEH				smax	smax		
comp=E,620nm,0.6s							
KLR	**Kul'dur**	**6.14**	**94**	Pn	**Pn**	**22 31 29.4**	**+0.2**
comp=E,0.3nm,0.3s,baz=282,slow=17,SNR=6.8							
KLR				Sn	**Sn**	**22 32 39.3**	**-0.1**
comp=E,2.1nm,0.3s,baz=282,slow=20,SNR=5.2							
KLR				Lg	Lg	22 33 14.0	
comp=E,8.3nm,0.3s,baz=342,slow=20,SNR=9.3							
comp=E,1.4nm,0.5s							
USRK	**Ussuriysk Ar.**	**8.78**	**128**	Pn	**Pn**	**22 32 06.6**	**+1.2**
comp=E,0.3nm,0.3s,baz=316,slow=15,SNR=4.8							
USRK				Lg	Lg	22 34 33.5	
comp=E,1.1nm,0.3s,baz=318,slow=27,SNR=7.4							
comp=E,0.6nm,0.3s							
SONM	**Songino Array**	**10.75**	**264**	Pn	**Pn**	**22 32 30.4**	**-2.0**
comp=E,0.3nm,0.3s,baz=74,slow=13,SNR=5.3							
SONM				Sn	**Sn**	**22 34 33.6**	**+0.8**
comp=E,0.6nm,0.3s,baz=73,slow=24,SNR=5.5							
SONM				Lg	Lg	22 35 31.1	
comp=E,1.7nm,0.3s,baz=68,slow=28,SNR=8.4							
comp=E,0.7nm,0.4s							
YAK	**Yakutsk**	**12.67**	**16**	Lg	Lg	22 36 32.0	
comp=E,2.1nm,0.3s,baz=137,slow=19,SNR=6.8							
KSRS	**Korea Array**	**13.21**	**160**	Lg	Lg	22 36 56.5	
comp=E,0.1nm,0.3s,baz=342,slow=24,SNR=3.7							
SEY	**Seymchan**	**20.74**	**40**	LR	LR	22 44 01.8	
comp=E,12nm,19.5s,baz=8.5,slow=40							
TIXI	**Tiksi**	**21.88**	**6**	P	**P**	**22 34 51.7**	**+0.7**
comp=E,0.6nm,0.3s,baz=212,slow=3.7,SNR=5.6							
TIXI				Lg	Lg	22 41 34.6	
comp=E,0.1nm,0.3s,baz=197,slow=11,SNR=1.2							
AKASG	**Malin Array Be**	**55.43**	**310**	LR	LR	23 06 22.0	
comp=E,38nm,18.3s,baz=261,slow=39							
YKA	**Yellowknife Ar**	**59.07**	**27**	P	**P**	**22 39 59.3**	**+1.0**
comp=E,0.2nm,0.7s,baz=321,slow=7.1,SNR=5.2							
comp=E,0.2nm,0.7s							

*IDC **14** 22:42:40.0±0.8, 29°42N×81°38E, h0km, mb3.8/19, mbtmp3.9/22, ML3.8/3, MS3.0/5, Error ellipse: s-maj=23.1km s-min=14.8km az=41.0*
*DMN **14** 22:42:42.7±0.0, 29°71N×81°09E, h10km, Ml4.8/6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **14** 22:42:42.9±2.1, 29°5N±0°2×81°29E±0°10, h10km±1km, mb4.0/9, Error ellipse: s-maj=29.3km s-min=9.6km az=202.0*
*NDI **14** 22:42:44.7±1.3, 29°61N×81°43E, h10km, ML3.9, MW3.6, mb4.0(NEIC)*
ISC 14 22:42:44.3±0.4, 29°59N±0°05×81°43E±0°03, h27km, n76, σ2°17/91, mb3.9/24, MS3.5/3, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.04**	**263**	*e*P	Pb	22 43 07.3	+3.7
LGTI				*e*S	**Sn**	**22 43 23.2**	**+6.5**
LGTI				IAML		22 43 23.6	
comp=E,1μm,0.5s							
LGTI				IAML		22 43 25.3	
comp=N,1μm,0.1s							
PTH	**Pithoragarh**	**1.05**	**268**	*e*P	**Pb**	**22 43 05.0**	**+1.0**
PTH				*e*S	**Sn**	**22 43 19.0**	**+1.6**
JOSI	**Joshimath**	**1.89**	**301**	*e*P	**Pb**	**22 43 17.3**	**-0.9**
JOSI				*e*S	**Sb**	**22 43 40.9**	**-0.5**
JOSI				IAML		22 43 44.5	
comp=N,1μm,0.6s							
JOSI				IAML		22 43 47.4	
comp=E,2μm,0.3s							
TKRD	**Thakurdwara**	**2.29**	**260**	*e*P	**Pb**	**22 43 23.3**	**-1.6**
TKRD				*e*S	**Sb**	**22 43 51.5**	**-1.3**
TKRD				IAML		22 43 58.1	
comp=N,11μm,0.3s							
TKRD				IAML		22 43 58.4	
comp=E,11μm,0.3s							
KOLN	**Koldanda**	**2.63**	**133**	Pn	**Pn**	**22 43 27.8**	**+2.6**
baz=131,slow=0.0							
KOLN				Sn	**Sb**	**22 44 01.4**	**-1.5**
baz=131,slow=0.0							
FRKB	**FARRUKHABAD**	**2.72**	**217**	*e*S	**Sb**	**22 44 01.7**	**-3.6**
FRKB				IAML		22 44 08.0	
comp=N,1μm,0.5s							
FRKB				IAML		22 44 08.9	
comp=E,1μm,0.8s							
DDI	**Dehra Dun**	**3.02**	**285**	*e*S	**Sn**	**22 44 07.9**	**+2.3**
DDI				IAML		22 44 12.0	
comp=N,1μm,0.3s							
DDI				IAML		22 44 12.4	
comp=E,744nm,0.4s							
KLP	**Kalpa**	**3.36**	**306**	*e*P	**Pn**	**22 43 37.9**	**+2.5**
KLP				*e*S	**Sn**	**22 44 15.5**	**+1.0**
BISR	**Bishrakh**	**3.63**	**255**	*e*S	**Sn**	**22 44 22.5**	**+1.7**
KKN	**Kakani**	**3.83**	**117**	Pn	**Pn**	**22 43 45.4**	**+3.7**
baz=116,slow=0.0							
KKN				Sn	**Sn**	**22 44 29.2**	**+3.2**
comp=E,429nm,0.2s,baz=116,slow=0.0							
SMLA	**Simla**	**3.99**	**294**	*e*P	**Pn**	**22 43 46.1**	**+2.4**
SMLA				IAML		22 44 35.2	
comp=N,204nm,0.6s							
PKIN	**Phulchoki**	**4.03**	**119**	Pn	**Pn**	**22 43 46.9**	**+2.4**
baz=118,slow=0.0							
PKIN				Sn	**Sn**	**22 44 34.7**	**+3.8**
comp=N,210nm,0.2s,baz=118,slow=0.0							
SONA	**Sohna**	**4.03**	**252**	*e*P	**Pn**	**22 43 47.1**	**+2.8**
SONA				*e*S	**Sn**	**22 44 32.4**	**+1.8**
SONA				IAML		22 44 47.9	
comp=N,309nm,0.7s							
SONA				IAML		22 44 52.4	
comp=E,309nm,0.2s							
PKI	**Pulchoki**	**4.04**	**119**	Pn	**Pn**	**22 43 47.4**	**+2.7**
baz=118,slow=0.0							
PKI				Sn	**Sn**	**22 44 35.1**	**+3.8**
comp=E,178nm,0.3s,baz=118,slow=0.0							
GUN	**Gumba**	**4.25**	**112**	Pn	**Pn**	**22 43 50.4**	**+2.7**
baz=112,slow=0.0							
GUN				Sn	**Sn**	**22 44 41.2**	**+4.6**
comp=E,206nm,0.3s,baz=112,slow=0.0							
DHRM	**DHARAMSHALA**	**5.14**	**302**	*e*P	**Pn**	**22 44 01.3**	**+1.6**
DHRM				*e*S	**Sn**	**22 44 57.5**	**-0.8**
DHRM				IAML		22 45 03.1	
comp=N,141nm,0.2s							
DHRM				IAML		22 45 04.3	
comp=E,207nm,0.6s							
RAMN	**Ramite**	**5.26**	**119**	Pn	**Pn**	**22 44 03.9**	**+2.4**
baz=118,slow=0.0							
RAMN				Sn	**Sn**	**22 45 03.6**	**+2.2**
comp=E,420nm,0.3s,baz=118,slow=0.0							
ODAN	**Odare**	**5.92**	**116**	Pn	**Pn**	**22 44 12.5**	**+2.0**
baz=116,slow=0.0							
ODAN				Sn	**Sn**	**22 45 19.8**	**+2.2**
comp=E,194nm,0.3s,baz=116,slow=0.0							
GTK	**Tadong**	**6.71**	**108**	*e*P	**Pn**	**22 44 21.6**	**+0.4**
GTK				*e*S	**Sn**	**22 45 34.9**	**-2.0**
GTK				IAML		22 45 41.1	
comp=N,73nm,0.5s							
GTK				IAML		22 45 45.0	
comp=E,70nm,0.2s							
NIL	**Nilore**	**8.06**	**302**		**Pn**	**22 44 39.4**	**-0.2**
LSA	**Lhasa**	**8.46**	**87**		**Pn**	**22 44 43.2**	**-2.4**
SHL	**Shillong**	**10.10**	**111**		**Pn**	**22 45 07.3**	**-0.6**
KSH	**Kashi**	**10.88**	**337**	P	**Pn**	**22 45 16.8**	**-1.5**
KSH				pP		22 45 21.3	
KSH				S	**Sn**	**22 47 12.8**	**-6.3**
KSH				pmax	pmax		
comp=Z,9.0nm,0.9s							
KBL	**Kabul**	**11.60**	**298**		**Pn**	**22 45 27.2**	**-1.2**
AZL	**Aizawl**	**11.63**	**117**	*e*P	**Pn**	**22 45 29.5**	**+0.8**
AZL				*e*S	**Sn**	**22 47 31.1**	**-6.7**
AZL				IAML		22 47 39.5	
comp=E,17nm,0.8s							
AZL				IAML		22 47 39.5	
comp=N,25nm,0.8s							
HYB	**Hyderabad**	**12.40**	**193**	*e*P	**Pn**	**22 45 35.2**	**-3.9**
HYB				*e*		22 47 45.4	
TARG	**Taragay, Kyrgy**	**12.47**	**347**	Pn	**Pn**	**22 45 40.0**	**-0.3**
KDJ	**Kajisay**	**12.98**	**346**		**Pn**	**22 45 45.3**	**-1.8**
PRZ	**Przheval'sk**	**13.10**	**350**	Pn	**Pn**	**22 45 47.2**	**-1.5**
ARSB	**Arslanbob**	**13.57**	**332**	Pn	**Pn**	**22 45 53.9**	**-1.3**
BTK	**Batken**	**13.59**	**323**		**Pn**	**22 45 53.4**	**-2.0**
BOOM	**Boomskoye usch**	**13.62**	**343**		**Pn**	**22 45 55.8**	**+0.1**
SIMJ	**Simiganj**	**13.69**	**315**	Pn	**Pn**	**22 45 54.4**	**-2.3**
AAK	**Ala-Archa**	**14.17**	**339**		**Pn**	**22 46 04.3**	**+1.0**
AAK	**Ala-Archa**	**14.17**	**339**	Pn	**Pn**	**22 46 03.1**	**-0.2**
comp=N,0.8nm,0.3s,baz=155,slow=11,SNR=16							
AAK				LR	LR	22 52 08.7	
comp=N,32nm,18.3s,baz=161,slow=40							
comp=N,1.6nm,0.4s							
WMQ	**Urumqi**	**15.06**	**18**	*e*P	**P**	**22 46 17.6**	**-2.8**
KKAR	**Karatay Array**	**16.08**	**330**	Pn	**Pn**	**22 46 26.8**	**-1.7**
KKAR	**Karatay Array**	**16.08**	**330**	Pn	**Pn**	**22 46 26.4**	**-2.2**
KKAR				IAmb	IAmb	22 46 47.7	
comp=Z,2.9nm,0.7s							
MKAR	**Makanchi Array**	**17.19**	**2**	Pn	**Pn**	**22 46 41.4**	**-1.2**
MKAR	**Makanchi Array**	**17.19**	**2**	P	**Pn**	**22 46 41.7**	**-0.8**
comp=Z,0.2nm,0.3s,baz=181,slow=12,SNR=16							
MKAR				LR	LR	22 53 49.5	
comp=Z,15nm,20.8s,baz=186,slow=39							
comp=Z,1.6nm,0.6s							
MAKZ	**Makanchi**	**17.20**	**1**	P	**Pn**	**22 46 41.4**	**-1.2**
PZH	**PanZhiHua**	**18.20**	**95**	P	**P**	**22 46 58.3**	**+3.0**
PZH				pmax	pmax		
comp=Z,6.0nm,0.6s							
PZH				pmax	pmax		
comp=Z,9.0nm,4.2s							
CMAR	**Chiang Mai Arr**	**19.43**	**121**	P	**P**	**22 47 07.5**	**-1.3**
comp=Z,0.1nm,0.3s,baz=308,slow=12,SNR=13							
comp=Z,1.4nm,0.7s							
KURBB	**Kurchatov Arra**	**21.12**	**355**	P	**P**	**22 47 27.8**	**+0.9**
comp=Z,1.5nm,0.5s,baz=180,slow=10,SNR=21							
comp=Z,1.5nm,0.5s							
KURK	**Kurchatov**	**21.21**	**355**		**P**	**22 47 28.1**	**+0.3**
KURK				IAmb	IAmb	22 47 49.3	
comp=Z,4.2nm,0.8s							
ZAA0	**Zalesovo Array**	**24.47**	**5**		**P**	**22 48 02.4**	**+1.5**
ZALV	**Zalesovo Beam**	**24.47**	**5**		**P**	**22 48 02.1**	**+1.2**
ZALV	**Zalesovo Beam**	**24.47**	**5**	P	**P**	**22 48 02.4**	**+1.5**
comp

NRIK	Noril'sk	39.95	3	P	P	22 50 17.0	+1.0
	comp=Z,1.2nm,0.5s,baz=190,slow=18,SNR=2.7						
	comp=Z,1.2nm,0.5s						
BRTR	Keskin Array B	40.18	298	P	P	22 50 18.8	+0.4
	comp=Z,0.4nm,0.8s,baz=109,slow=8.3,SNR=2.7						
	comp=Z,0.4nm,0.8s						
AKASG	Malin Array Be	44.06	314	P	P	22 50 50.2	+0.5
	comp=Z,0.4nm,0.5s,baz=75,slow=6.5,SNR=5.3						
	comp=Z,0.4nm,0.5s						
MLR	Muntele Rosu	45.86	306	P	P	22 51 05.2	+0.8
FINES	FINESS Array B	48.03	328	P	P	22 51 21.5	+0.7
	comp=Z,2.9nm,0.5s,baz=103,slow=8.0,SNR=28						
	comp=Z,2.9nm,0.5s						
ARCES	ARCESS Array B	50.84	338	P	P	22 51 43.7	+1.5
	comp=Z,6.5nm,1.0s,baz=107,slow=7.6,SNR=7.9						
	comp=Z,6.5nm,1.0s						
HFS	Hagfors	53.81	325	P	P	22 52 05.2	+0.8
	comp=Z,2.1nm,0.7s,baz=93,slow=8.7,SNR=8.7						
	comp=Z,2.1nm,0.7s						
GERES	GERESS Array B	54.06	311	P	P	22 52 07.5	+0.9
	comp=Z,0.4nm,0.5s,baz=69,slow=8.3,SNR=3.0						
	comp=Z,0.4nm,0.5s						
NB2	NORSAR Subarra	55.06	326	P	P	22 52 14.0	+0.5
	comp=Z,0.6nm,0.6s,baz=88,slow=7.4						
NOA	NORSAR Array B	55.06	326	P	P	22 52 14.2	+0.7
	comp=Z,1.3nm,0.8s,baz=89,slow=7.5,SNR=7.0						
	comp=Z,1.3nm,0.8s						
OPO	Ambohidratompo	58.16	219	LR	LR	23 14 59.6	
	comp=Z,44nm,18.2s,baz=4.0,slow=33						
KEST	Kesra	59.76	296	LR	LR	23 26 14.5	
	comp=Z,32nm,18.9s,baz=12,slow=44						
EKA	Eskdalemuir Ar	63.25	320	P	P	22 53 09.4	-0.9
	comp=Z,1.2nm,0.6s,baz=74,slow=7.1,SNR=3.7						
	comp=Z,1.2nm,0.6s						
ESDC	Sonseca Array	68.51	304	P	P	22 53 44.8	+0.4
	comp=Z,0.5nm,0.7s,baz=69,slow=6.1,SNR=5.2						
	comp=Z,0.5nm,0.7s						
WRA	Warramunga Arr	70.88	127	P	P	22 53 58.6	-0.5
	comp=Z,0.2nm,0.4s,baz=316,slow=5.9,SNR=5.0						
	comp=Z,0.2nm,0.4s						
ASAR	Alice Springs	73.12	131	P	P	22 54 12.0	-0.5
	comp=Z,0.2nm,0.3s,baz=314,slow=6.0,SNR=5.4						
	comp=Z,0.2nm,0.3s						
TORD	Torodi Ar. Bea	74.79	277	P	P	22 54 22.1	-0.5
	comp=Z,35nm,0.3s,baz=65,slow=4.7,SNR=1.7						
ILAR	Eielson Array	78.72	19	P	P	22 54 44.5	+0.6
	comp=Z,0.2nm,0.6s,baz=323,slow=5.7,SNR=4.4						
	comp=Z,0.2nm,0.6s						
YKA	Yellowknife Ar	87.34	7	P	P	22 55 28.5	0.0
	comp=Z,0.3nm,0.8s,baz=350,slow=4.7,SNR=5.0						
	comp=Z,0.3nm,0.8s						
TXAR	Lajitas Array	121.21	5	PKP	PKiKP	23 01 36.2	+0.7
	comp=Z,0.1nm,0.4s,baz=343,slow=3.6,SNR=3.6						

*IDC **14** 22:49:29.4±2.0, 1°.98S×122°.66E, h0km, mb3.4/3, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=40.9km s-min=27.6km az=49.0*
*DJA **14** 22:49:30.5±0.6, 2°.S±2°×12°.3E±°, h11km±5km, M4.0/12, mB5.0/1, mb4.4/1, MLv3.8/12, Mw(mB)4.3/1*
ISC 14 22:49:34.0±1.0, **1°.94S**±0°.04×**122°.58E**±0°.04, **h35**km, **n16**, σ1**9**°**27**/22, **mb3.3**/3, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.91	12	P	Pn	22 49 48.3	-2.1
LUWI				S	Sn	22 50 01.7	-0.6
APSI	Ampana	1.38	318	P	Pn	22 49 55.1	-1.7
KMSI	Cibinong	2.86	29	P	Pn	22 50 17.2	0.0
KMSI				S	Sn	22 50 52.4	+1.9
PCI	Palu	2.93	291	P	Pn	22 50 16.6	-1.5
PCI				S	Sn	22 50 53.1	+1.0
SANI	Sanana	3.41	92	P	Pn	22 50 23.3	-1.4
SANI				S	Sn	22 51 05.0	+1.1
SPSI	Sidrap Palu	3.45	234	P	Pn	22 50 24.9	-0.4
SPSI				S	Sn	22 51 05.6	+0.6
BNSI	Bone	3.47	225	P	Pn	22 50 24.4	-1.2
MPSI	Mapaga	3.51	310	P	Pn	22 50 24.7	-1.4
BBSI	Bau Bau	3.52	180	P	Pn	22 50 24.4	-1.9
BKSI	Bulukumba	4.16	216	P	Pn	22 50 33.7	-1.3
KAPI	Kappang	4.16	223	Pn	Pn	22 50 35.2	+0.2
	3.4nm,0.3s,baz=26,slow=4.5,SNR=7.8						
KAPI				Sn	Sn	22 51 23.7	+1.3
	3.5nm,0.3s,baz=52,slow=17,SNR=5.8						
	7.8nm,0.3s						
BSSI	Bau Bau, Buton	4.67	206	P	Pn	22 50 41.4	-0.6
TNTI	Ternate	5.49	61	P	Pn	22 50 53.6	+0.2
WRA	Warramunga Arr	21.27	148	P	P	22 54 17.0	-0.5
	2.4nm,1.1s,baz=323,slow=10,SNR=5.9						
	2.4nm,1.1s						
ASAR	Alice Springs	24.22	154	P	P	22 54 47.3	-0.4
	0.6nm,0.6s,baz=329,slow=9.0,SNR=8.7						
	0.6nm,0.6s						
CMAR	Chiang Mai Arr	30.85	312	P	P	22 55 48.3	+1.2
	0.3nm,0.6s,baz=124,slow=9.0,SNR=2.4						
	0.3nm,0.6s						

STR 14 23:09:29.6±0.8, **50°.N**±3°.×°.±°., **h5**km, **MLv2.3**/11, **Error ellipse: s-maj=0.0km s-min=0.0km az=68.5, preliminary, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABH	Alteburg	0.55	311	Pg	Pg	23 09 40.1	-0.1
ABH	Alteburg	0.55	311	Sg	Sg	23 09 47.9	+0.4
LEMB	Lembach	0.56	211	Pg	Pg	23 09 39.5	-0.8
LEMB				Sg	Sg	23 09 47.7	+0.1
NEEW	Neewiller pres	0.57	186	Pg	Pg	23 09 40.6	+0.2
NEEW				Sg	Sg	23 09 48.7	+1.0
SZBH	soultz borehol	0.62	200	Pg	Pg	23 09 41.9	+0.3
SZBH				Sg	Sg	23 09 50.3	+0.7
BABA	Baden-Baden-Ne	0.80	180	Pg	Pg	23 09 45.0	0.0
BABA	Baden-Baden-Ne	0.80	180	Sg	Sg	23 09 55.2	0.0
CIEL	Dossenheim-sur	0.88	219	Pg	Pg	23 09 45.7	-0.6
CIEL				Sg	Sg	23 09 58.2	+0.5
VOEL	Voellerdingen	0.89	232	Pg	Pg	23 09 45.9	-0.8
HOHE	HOHENGOEFT	0.98	209	Pg	Pg	23 09 47.5	-0.8
HOHE				Sg	Sg	23 10 01.5	+0.5
OPP	Oppenau	1.02	180	Pg	Pg	23 09 48.5	-0.6
OPP	Oppenau	1.02	180	Sg	Sg	23 10 01.8	-0.6
ECH	Echery	1.47	208	Pn	Pn	23 09 56.7	0.0
ECH				Sn	Sn	23 10 16.3	-0.2
XAFF	Xaffevillers	1.52	224	Pn	Pn	23 09 56.1	-1.3
XAFF				Sn	Sb	23 10 18.0	+0.2
GUT	Gutenstein	1.57	157	Pg	Pn	23 09 58.6	+0.4
GUT	Gutenstein	1.57	157	Sn	Sn	23 10 18.5	-0.4
KIZ	Kirchzarten	1.57	187	Sn	Sn	23 10 18.9	-0.1
KIZ	Kirchzarten	1.57	187	Pg	Pb	23 09 58.8	-0.4
WALT	Westhalten	1.67	202	Pg	Pb	23 10 00.9	+0.1
WALT				Sn	Sg	23 10 23.1	0.0
ENDD	Endenburg	1.83	190	Pg	Pb	23 10 03.8	+0.3
ENDD	Endenburg	1.83	190	Sn	Sb	23 10 27.1	+0.3
ETNF	Estrennes	1.90	229	Pn	Pb	23 10 04.0	-0.7

*HEL **14** 23:18:04.6±0.2, 67°.83N×20°.17E, h0km, ML1.7, Explosion*
*IDC **14** 23:18:04.8±1.4, 67°.75N×21°.05E, h0km, mbtmp2.7/3, ML2.0/3, Error ellipse: s-maj=20.9km s-min=7.9km az=112.0*
*UPP **14** 23:18:04.2±0.0, 67°.86N×20°.21E, h0km, ML1.8, Unknown*
ISC 14 23:18:03.2±0.8, **67°.79N**±0°.02×**20°.36E**±0°.03, **h0**km, **n31**, σ1**9**°**25**/52, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.17	357	P	Pg	23 18 06.6	+0.2
KUA				S	Sg	23 18 08.4	-0.1
RATU	Laukkuluspa	0.29	277	P	Pg	23 18 09.0	+0.1
RATU				S	Sg	23 18 12.4	-0.2
KOVU	Salmi	0.44	350	P	Pg	23 18 11.0	-0.7
KOVU				S	Sg	23 18 16.4	-1.0
LANU	Lannavaara	0.67	67	P	Pb	23 18 17.6	-0.2
LANU				S	Sb	23 18 27.2	-0.5
LANU	Lannavaara	0.67	67	PG	Pb	23 18 17.6	-0.2
LANU				SG	Sb	23 18 26.9	-0.8
DUNU	Dundret	0.68	173	P	Pb	23 18 18.3	+0.4
DUNU				S	Sb	23 18 28.6	+0.7
SALU	Saltoluokta	0.82	241	P	Pg	23 18 19.5	+0.5
KIF	Kilpisjarvi	1.23	7	eP	Pb	23 18 27.2	-0.1
KIF	Kilpisjarvi	1.23	7	PG	Pg	23 18 27.1	+0.3
KIF				MSG		23 18 42.2	
	comp=Z,12nm,0.2s						
KIF				SG	Sg	23 18 42.6	-0.2
PAJU	Pajala	1.31	125	P	Pn	23 18 29.9	+1.0
PAJU	Pajala	1.31	125	PG	Pn	23 18 29.6	+0.8
	baz=304						
PAJU				SN	Sn	23 18 48.8	+1.7
HEF	Hetta	1.39	62	eP	Pb	23 18 30.2	+0.2
HEF	Hetta	1.39	62	PG	Pb	23 18 30.2	+0.2
HEF				MSG		23 18 47.6	
	comp=Z,5.5nm,0.2s						
HEF				SG	Sn	23 18 49.0	+0.2
ERTU	Ertsjaerv	1.43	149	P	Pb	23 18 31.9	+1.1
ERTU	Ertsjaerv	1.43	149	PG	Pb	23 18 31.8	+1.1
ERTU				SN	Sn	23 18 52.7	+2.8
KLF	Kolari	1.50	110	PG	Pg	23 18 32.9	+1.0
	baz=294						
KLF				MSG		23 18 51.8	
	comp=Z,4.6nm,0.2s						
KLF				SN	Sn	23 18 54.7	+3.2
KTK1	Kautokeino	1.62	40	PG	Pg	23 18 34.5	+0.1
KTK1				SN	Sg	23 18 57.1	+1.7
TRO	Tromso	1.92	345	PG	Pn	23 18 37.9	+0.7
TRO				SG	Sn	23 19 02.7	+0.7
KALU	Kalix	2.27	147	PB	Pb	23 18 45.2	+0.2
KALU				SG	Sg	23 19 15.9	-0.3
TOF	Tornio	2.32	136	PB	Pb	23 18 46.3	+0.4
TOF				MSG		23 19 15.6	
	comp=Z,2.9nm,0.2s						
TOF				SG	Sg	23 19 18.1	+0.4
RNF	Rovaniemi	2.50	116	PB	Pb	23 18 49.2	+0.2
RNF				SG	Sg	23 19 23.0	-0.5
ARA0	ARCESS Array S	2.57	45	PB	Pb	23 18 49.2	-0.9
ARA0				SB	Sb	23 19 21.9	-0.4
ARCES	ARCESS Array B	2.57	45	Pn	Pn	23 18 47.7	+1.6
	comp=Z,0.4nm,0.3s,baz=226,slow=16,SNR=14						
ARCES				Lg	Lg	23 19 20.0	
	comp=Z,1.2nm,0.3s,baz=228,slow=23,SNR=13						
	comp=Z,0.9nm,0.3s						
RAJF	Raja-Jooseppi	3.06	73	PG	Pg	23 19 01.4	-0.4
RAJF				SG	Sg	23 19 39.7	-1.5
RANF	Ranua	3.10	122	SG	Sg	23 19 42.3	-0.4
KEV	Kevo	3.12	48	PB	Pb	23 18 58.6	-0.9
KEV				SN	Sn	23 19 33.9	+2.4
BURU	Burvik	3.25	172	PB	Pb	23 19 00.2	-1.5
BURU				SB	Sb	23 19 39.7	-2.0
OUL	Oulu	3.51	138	SG	Sg	23 19 53.0	-2.8
KU6	Riekki	4.15	111	PG	Pg	23 19 20.3	-2.4
	baz=295						
FINES	FINESS Array B	6.83	156	Pn	Pn	23 19 42.4	-2.1
	comp=Z,0.1nm,0.3s,baz=15,slow=17,SNR=2.0						
FINES				Sn	Sn	23 21 00.9	-1.8
	comp=Z,0.1nm,0.3s,baz=346,slow=23,SNR=1.6						
FINES				Lg	Lg	23 21 36.2	
	comp=Z,0.2nm,0.3s,baz=344,slow=28,SNR=3.4						
	comp=Z,3.9nm,1.1s						
NOA	NORSAR Array B	7.84	215	Pn	Pn	23 19 59.7	+1.3
	baz=24,slow=12,SNR=1.5						
NOA				Lg	Lg	23 22 07.0	
	baz=32,slow=22,SNR=2.1						
	comp=Z,0.2nm,0.7s						

*JMA **14** 23:30:41.8±0.1, 28°.6N±0°.4×130°.8E±0°.8, h68km±1km, MV3.4/33, NEAR AMAMI-OSHIMA ISLAND*
*IDC **14** 23:30:41.1±2.8, 28°.86N×130°.25E, h0km, mb3.8/10, mbtmp3.8/12, ML3.3/2, MS3.3/1, Error ellipse: s-maj=67.3km s-min=21.7km az=113.0*
ISC 14 23:30:39.1±3.2, **28°.57N**±0°.04×**130°.83E**±0°.06, **h11**km±20km, **n32**, σ1**9**°**32**/52, **mb3.9**/10, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	Kikaishima	0.79	251	eP	Pn	23 30 57.3	+1.1
JZK				S	Sn	23 31 09.2	+1.2
JAM	Amami Oshima	1.08	262	P	Pn	23 31 00.8	+0.5
JAM				S	Sn	23 31 15.3	+0.1
JAMN	Amaminishikomi	1.49	258	i P	Pn	23 31 06.6	+0.9
JAMN				S	Sn	23 31 24.9	-0.3
JNN	Nakanoshima	1.51	327	P	Pb	23 31 06.9	-0.3
JNN				eS	Sn	23 31 24.8	-1.0
JTAJ	Takarajima	1.54	292	eP	Pn	23 31 07.0	+0.5
JYAK	Yakushimahirau	1.68	351	P	Pb	23 31 09.3	-0.8
JYAK				S	Sn	23 31 28.6	-1.3
JMTN	Minamitane	1.82	2	P	Pb	23 31 11.3	-1.1
JMTN				eS	Sn	23 31 32.7	-0.7
JTK	Tokunoshima	1.83	245	i P	Pn	23 31 11.7	+1.2
JTK				eS	Sn	23 31 33.6	0.0
JTN	Tanegashima 3	2.08	4	P	Pn	23 31 14.9	+1.0
JTN				eS	Sn	23 31 38.8	-1.0
JOKE	Okinoerabujima	2.33	239	P	Pn	23 31 18.4	+1.1
JOKE				eS	Sn	23 31 45.2	-0.8
JYRO	Yoronjima	2.61	234	P	Pn	23 31 22.2	+1.0
JYRO				S	Sn	23 31 51.7	-1.1
JKDJ	Kitadaitoujima	2.65	171	eS	Sn	23 31 51.4	-2.3
JOW	Kunigami	2.85	233	Pn	Pn	23 31 25.4	+0.9
	10nm,0.3s,baz=85,slow=12,SNR=23						
JOW				Sn	Sn	23 31 57.4	-1.4
	15nm,0.3s,baz=42,slow=15,SNR=11						
	21nm,0.3s						
JOW	Kunigami	2.85	233	eP	Pn	23 31 25.2	+0.7
JOW				S	Sn	23 31 58.0	-0.8
JIH	Iheya	2.96	239	eP	Pn	23 31 26.5	+0.5
JIH				eS	Sn	23 31 59.8	-1.6
JNAR	Kushima--Naru	2.97	7	P	Pn	23 31 28.1	+2.0
JNTH	Nagotoyohara	3.22	231	P	Pn	23 31 30.4	+0.8
JNTH				eS	Sn	23 32 05.5	-2.5
JSJ	Shimokoshiki	3.24	343	eP	Pn	23 31 29.9	0.0
JSJ				eS	Sn	23 32 06.0	-2.4
JTZ	Takazaki	3.32	4	P	Pn	23 31 32.8	+1.7
JTZ				eS	Sn	23 32 09.6	-0.9
JAGN	Aguni-jima	3.74	239	eP	Pn	23 31 37.5	+0.7
JAGN				eS	Sn	23 32 18.7	-2.1
JKE	Kume jima 2	4.23	239	P	Pn	23 31 43.8	+0.3
JKE				eS	Sn	23 32 31.4	-1.5
JNU	Nakatsue	4.53	1	Pn	Pn	23 31 49.4	+1.7
	1.5nm,0.3s,baz=197,slow=19,SNR=5.6						
JNU				Sn	Sn	23 32 38.1	-2.3
	2.4nm,0.3s,baz=198,slow=20,SNR=7.4						
	4.1nm,0.7s						
SONM	Songino Array	26.98	322	P	P	23 36 18.8	-2.1
	0.2nm,0.5s,baz=119,slow=5.1,SNR=2.4						
	0.2nm,0.5s						
MKAR	Makanchi Array	41.77	309	P	P	23 38 27.5	-0.9
	0.5nm,0.9s,baz=98,slow=10,SNR=2.8						
MKAR				PcP	PcP	23 40 27.6	+3.1
	0.3nm,0.8s,baz=107,slow=1.5,SNR=2.4						
	0.5nm,0.9s						
ZALV	Zalesovo Beam	41.85	320	P	P	23 38 28.9	0.0
	0.8nm,0.3s,baz=108,slow=8.7,SNR=5.5						
	0.8nm,0.3s						
KURBB	Kurchatov Arra	44.81	314	P	P	23 38 52.5	-0.3
	0.2nm,0.4s,baz=99,slow=8.7,SNR=7.3						
KURBB				LR	LR	23 58 46.3	
	comp=Z,37nm,18.8s,baz=178,slow=38						
	0.2nm,0.4s						
NRIK	Noril'sk	47.77	341	P	P	23 39 15.2	-0.7
	2.0nm,0.5s,baz=111,slow=17,SNR=15						
	2.0nm,0.5s						
BVAR	Borovoye Array	50.11	317	P	P	23 39 34.0	-0.1
	0.7nm,0.4s,baz=94,slow=9.2,SNR=6.9						
	0.7nm,0.4s						
FINES	FINESS Array B	71.96	331	P	P	23 42 02.5	+0.2
	0.8nm,0.4s,baz=63,slow=5.2,SNR=16						
	0.8nm,0.4s						
BRTR	Keskin Array B	77.41	308	P	P	23 42 35.6	+1.0
	1.0nm,0.8s,baz=90,slow=5.8,SNR=7.3						
	1.0nm,0.8s						
HFS	Hagfors	77.81	333	P	P	23 42 37.7	+1.5
	0.8nm,0.6s,baz=90,slow=7.2,SNR=1.5						
	0.8nm,0.6s						
NOA	NORSAR Array B	78.22	334	P	P	23 42 38.8	+0.3
	0.5nm,0.7s,baz=51,slow=5.4,SNR=2.1						
	0.5nm,0.7s						

*IDC **14** 23:34:37.1±13.0, 4°.84N×123°.80E, h453km±179km, mb2.8/8, mbtmp3.7/8, Error ellipse: s-maj=96.0km s-min=29.3km az=67.0*
ISC 14 23:34:36.9±1.0, **4°.8N**±0°.3×**123°.7E**±0°.7, **h450**km, **n8**, σ0**8**°**48**/8, **mb3.2**/8, **Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.85	175	P	P	23 39 04.1	-0.1
	2.0nm,0.9s,baz=354,slow=12,SNR=1.8						
	2.0nm,0.9s						
WRA	Warramunga Arr	26.73	157	P	P	23 39 38.0	-0.9
	0.4nm,0.4s,baz=339,slow=8.9,SNR=5.7						
	0.4nm,0.4s						
ASAR	Alice Springs	30.01	161	P	P	23 40 07.4	-0.1
	0.7nm,0.4s,baz=341,slow=8.8,SNR=6.9						
	0.7nm,0.4s						
STKA	Stephens Creek	40.27	156	P	P	23 41 34.0	+0.4
	1.3nm,0.5s,baz=315,slow=11,SNR=3.9						
	1.3nm,0.5s						
SONM	Songino Array	45.36	344	P	P	23 42 13.8	+0.2
	0.2nm,0.5s,baz=152,slow=7.7,SNR=2.2						
	0.2nm,0.5s						
MKAR	Makanchi Array	54.97	326	P	P	23 43 24.2	-0.1
	0.4nm,0.5s,baz=120,slow=9.0,SNR=4.9						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	59.22	328	P	P	23 43 53.2	-0.3
	0.6nm,0.8s,baz=122,slow=6.0,SNR=5.4						
	0.6nm,0.8s						
BVAR	Borovoye Array	64.78	328	P	P	23 44 29.8	0.0
	0.5nm,0.6s,baz=134,slow=8.3,SNR=2.5						
	0.5nm,0.6s						

*STR **15** 00:07:39.4±1.3, 42°.N±7°.×°.±°., h3km, MLv2.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=16.5, preliminary*
*MDD **15** 00:07:39.0±0.5, 42°.29N×1°.56E, h6km±14km, mb_Lg1.2/15, Error ellipse: s-maj=2.4km s-min=2.0km az=167.0*
MRB 15 00:07:38.3±0.5, **42°.27N**×**1°.55E**, **h1**km±6km, **ML0.1**/15, **Error ellipse: s-maj=2.9km s-min=2.4km az=136.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARBS	La Rabassa	0.17	360	P	Pg	00 07 38.1	-3.6
ARBS				S	Sg	00 07 41.6	-2.4
	1.4nm,0.2s						
ARBS	La Rabassa	0.17	360	P	Pg	00 07 41.7	0.0
ARBS				S	Sg	00 07 44.1	0.0
	13nm,0.3s						
CORG	Organya	0.18	256	P	Pg	00 07 38.5	-3.2
CORG				S	Sg	00 07 41.7	-2.3
	1.2nm,0.1s						
CORG	Organya	0.18	256	P	Pg	00 07 41.7	-0.1
CORG				S	Sg	00 07 45.1	+1.1
	4.2nm,0.1s						
CSOR	Sort	0.33	288	P	Pg	00 07 40.6	-4.0
CSOR				S	Sg	00 07 45.3	-3.5
	0.6nm,0.2s						
CSOR	Sort	0.33	288	P	Pg	00 07 44.8	+0.3
CSOR				S	Sg	00 07 50.0	+1.2
	2.7nm,0.2s						
EMIR	Miracle	0.36	183	Pg	Pg	00 07 46.3	+1.1
EMIR				Sg	Sg	00 07 50.9	+1.1
EMIR				i Vmb_Lg		00 07 52.6	
EMIR	Miracle	0.36	183	S	Sg	00 07 47.5	-2.3
EMIR	Miracle	0.36	183	S	Sg	00 07 51.1	+1.3
	3.6nm,0.1s						
CLLI	Llivia	0.38	57	P	Pg	00 07 41.4	-4.1
CLLI	Llivia	0.38	57	P	Pg	00 07 45.3	-0.2
VALC	Valcebollere	0.38	73	Pg	Pg	00 07 45.6	0.0
VALC				Sg	Sg	00 07 51.2	+0.7
CEST	Esterri de Car	0.39	326	S	Sg	00 07 47.0	-3.9
	0.8nm,0.1s						
CEST	Esterri de Car	0.39	326	P	Pg	00 07 46.6	+0.8
CEST				S	Sg	00 07 51.3	+0.3
	0.8nm,0.2s						
SALF	Salau	0.56	331	Sg	Sg	00 07 56.9	+0.8
CTRE	Tremp	0.58	275	S	Sg	00 07 58.4	+1.5
	0.8nm,0.2s						
CARF	Carcanieres	0.60	43	P	Pg	00 07 50.3	+0.4
CARF				S	Sg	00 07 58.4	+0.7
	0.7nm,0.1s						
CARF	Carcanieres	0.60	43	Pg	Pg	00 07 49.6	-0.3
CARF				Sg	Sg	00 07 57.5	-0.2
CAVN	Les Avellanes	0.71	237	S	Sg	00 08 02.2	+1.1
	1.0nm,0.2s						
FNEB	Nbias	0.75	33	S	Sg	00 08 02.8	+0.3
	1.1nm,0.3s						
FNEB	Nbias	0.75	33	Pg	Pg	00 07 52.1	-0.7
FNEB				Sg	Sg	00 08 02.6	+0.1
MLS	Moulis	0.76	334	Pg	Pg	00 07 53.6	+0.7
FILF	Fillols	0.80	69	Pg	Pg	00 07 52.0	-1.7
FILF				Sg	Sg	00 08 01.4	-2.7
CFON	Fontmartina	0.83	127	S	Sb	00 08 06.5	-0.9
	1.2nm,0.1s						
CBEU	Beuda	0.84	91	S	Sg	00 08 06.2	+1.1
	1.5nm,0.1s						
EPOB	Poblet	0.98	201	Pg	Pg	00 07 57.6	+0.4
EPOB				Sg	Sg	00 08 10.5	+0.5
EPOB				i Vmb_Lg		00 08 11.4	
EPOB	Poblet	0.98	201	S	Sg	00 08 10.7	+0.8
	0.6nm,0.1s						
SJAF	Saint Jean de	1.01	77	Pg	Pg	00 07 57.6	0.0
CCAS	Cassa de la Se	1.08	111	S	Sb	00 08 13.7	-0.7
	1.7nm,0.1s						
MTLF	Montolieu	1.18	24	Pg	Pg	00 08 00.7	-0.1
MTLF				Pn	Pb	00 08 01.7	+0.2
MTLF				Sg	Sg	00 08 16.3	+0.2
CPAL	Palau Saverder	1.20	88	S	Sb	00 08 17.3	-0.5
	1.8nm,0.2s						

*IDC **15** 00:08:42.0±2.0, 7°.40S×120°.15E, h0km, mb3.1/2, mbtmp3.4/4, ML3.6/2, MS2.9/1, Error ellipse: s-maj=172.0km s-min=26.7km az=56.0*
*DJA **15** 00:08:57.8±1.1, 9°.S±3°.×11°.9E±°., h25km±9km, M4.0/7, mb4.3/1, MLv3.8/7*
ISC 15 00:08:49.5±2.0, **8°.84S**±0°.07×**118°.6E**±0°.1, **h150**km, **n11**, σ2**8**°**83**/15, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.81	271	P	Pn	00 09 19.6	+6.8
WBSI	Waikabubak, Su	1.12	135	P	Pn	00 09 19.6	+4.2
WBSI				S	Sn	00 09 36.1	+0.8
WSI	Waingapu	1.88	116	P	Pn	00 09 26.3	+3.1
WSI				S	S

W35A			IAML		00 41 05.8	
	comp=E,61nm,0.3s					
OK052	**Battle Ridge R**	**1.48 308**		Pg	00 40 48.3	+0.1
QUOK	**Quay**	**1.54 315**		Pn	00 40 48.3	+0.4
QUOK			Sg	Sg	00 41 10.3	+1.0
MIAR	**Mount Ida**	**1.56 110**		Pg	00 40 50.1	+0.4
MIAR				Sg	00 41 11.4	+1.4
U38A	**Gravette**	**1.56 30**		Pg	00 40 49.7	-0.1
U38A				Sg	00 41 10.3	+0.2
HHAR	**Hobbs**	**1.66 44**		Pb	00 40 50.8	0.0
HHAR			Sg	Sg	00 41 12.9	-0.1
FNO	**Franklin**	**1.68 276**		Pb	00 40 50.7	-0.5
OKCSW	**OKLAHOMA CITY**	**1.73 281**		Pn	00 40 51.1	+0.6
OK048	**Pawnee Station**	**1.85 316**		Pn	00 40 52.6	+0.4
Z38A	**Mt. Pleasant**	**1.85 170**	Pn	Pn	00 40 52.1	0.0
OK029	**Liberty Lake**	**1.85 293**		Pb	00 40 53.5	-0.6
OK051	**E0350 and S346**	**1.86 320**		Pn	00 40 52.0	-0.2
T35A	**Sooner Cattle**	**2.05 333**	Pn	Pn	00 40 55.5	+0.6
X34A	**Smith Ranch, M**	**2.09 257**		Pn	00 40 56.7	+1.2
X40A	**Basin Creek Fa**	**2.16 105**		Pn	00 40 56.6	+0.2
X40A			IAmb_Lg		00 41 33.4	
	comp=Z,18nm,0.8s					
Z35A	**Perchaven, San**	**2.35 222**	Pn	Pn	00 41 00.1	+1.1
WHAR	**Wooly Hollow**	**2.52 85**		Pn	00 41 02.5	+1.1
WHAR			IAmb_Lg		00 41 44.6	
	comp=Z,5.8nm,0.9s					
CROK	**Carrier**	**2.56 304**	IAmb_Lg		00 41 44.1	
	comp=Z,7.9nm,0.7s					
KAN14	**Manchester OK**	**2.82 312**	IAmb_Lg		00 41 54.1	
	comp=Z,14nm,0.9s					
WMOK	**Wichita Mounta**	**2.83 264**	Pn	Pn	00 41 07.0	+1.3
R40A	**Maddies Statio**	**4.05 37**	IAmb_Lg		00 42 34.9	
	comp=Z,8.5nm,0.7s					
KSU1	**Kansas State U**	**4.13 346**	IAmb_Lg		00 42 32.4	
	comp=Z,9.9nm,0.8s					
PBMO	**Poplar Bluff**	**4.34 66**	IAmb_Lg		00 42 43.1	
	comp=Z,9.8nm,0.9s					
DRIO	**Del Rio**	**7.19 220**		Pn	00 42 06.4	+0.8

TAP 15 00:54:48.8, 24°.18N×120°.94E, h7km±1km, ML1.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHP	**Taichung City**	**0.10**	**2**	P	Pg	00 54 51.8	+0.5
WHP				*eS*	Sg	00 54 54.1	+1.1
WCS	**Beigang Elemen**	**0.12**	**193**	*eP*	Pg	00 54 52.2	+0.7
WCS				*eS*	Sg	00 54 54.8	+1.4
WUSB	**Renai**	**0.24**	**139**	*eP*	Pg	00 54 54.9	+1.2
WUSB				*eS*	Sg	00 54 59.0	+2.0
WHF	**Hehuan Shan**	**0.30**	**96**	*eP*	Pb	00 54 57.2	+0.5

*TAP **15** 00:54:59.0, 24°.84N×121°.99E, h102km±1km, ML3.3, B*
*JMA **15** 00:54:59.8±0.3, 24°.8N±0°.9×122°.0E±0°.6, h93km±2km, MV2.6/11, TAIWAN REGION*

ISC 15 00:54:59.3±1.5, 24°.83N±0°.04×121°.98E±0°.03, h100km±7km, n81, σ0°.54/121, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.05**	**284**	*eP*	**Pn**	**00 55 13.1**	**-0.1**
TWB1	**Santiao Chiao**	**0.17**	**2**	*i* P	**Pn**	**00 55 13.3**	**-0.2**
TWB1				*i* S	**Sn**	**00 55 23.1**	**-0.9**
TIPB	**Shuangxi**	**0.20**	**314**	P	**Pn**	**00 55 13.4**	**-0.2**
TWC	**Suao**	**0.25**	**208**	*i* P	**Pn**	**00 55 13.6**	**-0.2**
TWC				*eS*	**Sn**	**00 55 23.7**	**-0.8**
SXI1	**Grass Mountain**	**0.28**	**340**	*i* P	**Pn**	**00 55 13.8**	**-0.1**
SXI1				*eS*	**Sn**	**00 55 24.7**	**-0.1**
ESAO	**Su ao**	**0.29**	**206**	*i* P	**Pn**	**00 55 13.9**	**0.0**
TWE	**Neicheng**	**0.31**	**249**	*eP*	**Pn**	**00 55 14.2**	**+0.2**
NDS	**Dongshan**	**0.31**	**230**	*eP*	**Pn**	**00 55 13.6**	**-0.4**
FUSB	**Fushanzhiwuyua**	**0.36**	**258**	*i* P	**Pn**	**00 55 14.4**	**+0.1**
FUSB				S	**Sn**	**00 55 25.6**	**0.0**
TWA	**Mucha**	**0.39**	**292**	*eP*	**Pn**	**00 55 15.2**	**+0.8**
TWA				*eS*	**Sn**	**00 55 26.6**	**+0.9**
ENTT	**Nioudou**	**0.42**	**243**	*i* P	**Pn**	**00 55 15.1**	**+0.5**
ENTT				*i* S	**Sn**	**00 55 26.8**	**+0.7**
EWUT	**Wuta**	**0.43**	**206**	P	**Pn**	**00 55 14.8**	**+0.1**
EWUT				*eS*	**Sn**	**00 55 26.3**	**+0.2**
NWLT	**Wulai**	**0.44**	**263**	*i* P	**Pn**	**00 55 14.8**	**0.0**
NWLT				*eS*	**Sn**	**00 55 26.0**	**-0.3**
ENA	**Nanau**	**0.46**	**208**	*i* P	**Pn**	**00 55 15.0**	**+0.1**
ENA				*eS*	**Sn**	**00 55 26.9**	**+0.4**
EOS2	**EOS2**	**0.47**	**151**	P	**Pn**	**00 55 15.2**	**+0.4**
EOS2				*eS*	**Sn**	**00 55 27.1**	**+0.8**
YM01	**YM01**	**0.49**	**310**	P	**Pn**	**00 55 14.9**	**-0.2**
LATG	**Datong**	**0.51**	**234**	*i* P	**Pn**	**00 55 15.7**	**+0.3**
LATG				*eS*	**Sn**	**00 55 27.7**	**+0.4**
ZUZH	**Zhuzihu**	**0.51**	**310**	*eP*	**Pn**	**00 55 15.2**	**-0.1**
ZUZH				*eS*	**Sn**	**00 55 27.1**	**-0.1**
ANP	**Anpu**	**0.55**	**310**	*eP*	**Pn**	**00 55 15.7**	**+0.1**
EAHA	**Aohua**	**0.55**	**204**	*eP*	**Pn**	**00 55 15.6**	**+0.1**
YHNB	**Yeheng**	**0.57**	**254**	P	**Pn**	**00 55 15.6**	**-0.1**
YHNB				*eS*	**Sn**	**00 55 27.2**	**-0.9**
TWS1	**Kuangyinshan**	**0.58**	**298**	P	**Pn**	**00 55 15.1**	**-0.6**
TWS1				*eS*	**Sn**	**00 55 28.1**	**+0.1**
NTST	**Danshui**	**0.58**	**304**	*eS*	**Sn**	**00 55 29.1**	**+1.0**
NSK	**Sanguang**	**0.59**	**255**	P	**Pn**	**00 55 15.7**	**-0.2**
NSK				*eS*	**Sn**	**00 55 27.4**	**-0.9**
EOS3	**EOS3**	**0.62**	**151**	*eP*	**Pn**	**00 55 16.5**	**+0.6**
EOS3				*eS*	**Sn**	**00 55 29.5**	**+1.1**
NNS	**Nan Shan**	**0.68**	**235**	*i* P	**Pn**	**00 55 16.9**	**+0.2**
NNS				*eS*	**Sn**	**00 55 29.7**	**-0.1**
NNSB	**Datong**	**0.68**	**234**	*i* P	**Pn**	**00 55 16.8**	**+0.1**
NNSB				*eS*	**Sn**	**00 55 29.5**	**-0.2**
KSHI	**Guanxi Townshi**	**0.73**	**266**	P	**Pn**	**00 55 17.5**	**+0.4**
KSHI				*i* S	**Sn**	**00 55 31.0**	**+0.6**
NCUH	**Zhongli**	**0.73**	**281**	*eS*	**Sn**	**00 55 30.7**	**+0.3**
NACB	**Ninganchiao**	**0.74**	**208**	P	**Pn**	**00 55 16.4**	**-0.8**
ETL	**Fush Village**	**0.75**	**206**	*eP*	**Pn**	**00 55 17.1**	**-0.2**
ETLH	**Xiulin Townshi**	**0.77**	**216**	*i* P	**Pn**	**00 55 17.3**	**-0.2**
EOS4	**EOS4**	**0.77**	**157**	*eP*	**Pn**	**00 55 16.9**	**-0.2**
EOS4				*eS*	**Sn**	**00 55 30.1**	**-0.3**
NFF	**Wufeng Townshi**	**0.81**	**256**	*i* P	**Pn**	**00 55 17.9**	**0.0**
NFF				*i* S	**Sn**	**00 55 31.1**	**-0.7**
TWD	**Chiawan**	**0.83**	**205**	*eP*	**Pn**	**00 55 17.3**	**-0.7**
TWD				*eS*	**Sn**	**00 55 30.9**	**-1.1**
FUSS	**Fushou**	**0.89**	**229**	*i* P	**Pn**	**00 55 19.2**	**+0.4**
FUSS				*i* S	**Sn**	**00 55 33.2**	**-0.3**
LIOB	**Emei**	**0.90**	**258**	*i* P	**Pn**	**00 55 18.9**	**+0.1**
LIOB				*eS*	**Sn**	**00 55 32.9**	**-0.4**
NSTT	**Nanjuang**	**0.91**	**257**	P	**Pn**	**00 55 18.9**	**0.0**
NSTT				S	**Sn**	**00 55 32.9**	**-0.6**
HSN	**Hsinchu**	**0.92**	**268**	*eS*	**Sn**	**00 55 32.9**	**-0.7**
TWT	**Tachien**	**0.93**	**232**	*eS*	**Sn**	**00 55 34.9**	**+0.7**
TDCB	**Techi**	**0.95**	**233**	*eP*	**Pn**	**00 55 20.0**	**+0.7**
WHF	**Hehuan Shan**	**0.95**	**224**	*eP*	**Pn**	**00 55 20.0**	**+0.3**
WHF				S	**Sn**	**00 55 34.6**	**-0.3**
JYNG	**Yonagunijimaku**	**0.96**	**113**	*eP*	**Pn**	**00 55 19.1**	**-0.2**
LXIB	**Xiulin Townshi**	**0.96**	**213**	P	**Pn**	**00 55 18.9**	**-0.6**
ETM	**Tongmen**	**0.97**	**207**	*eP*	**Pn**	**00 55 18.7**	**-0.8**
YOJ	**Yonaguni jima**	**1.01**	**111**	*eP*	**Pn**	**00 55 19.8**	**0.0**
YOJ	**Yonaguni jima**	**1.01**	**111**	*eP*	**Pn**	**00 55 19.9**	**+0.1**
WHP	**Taichung City**	**1.09**	**240**	*eP*	**Pn**	**00 55 21.5**	**+0.6**
WHP				*i* S	**Sn**	**00 55 37.2**	**+0.1**
SHUL	**Shoufeng**	**1.11**	**200**	*eP*	**Pn**	**00 55 20.9**	**-0.1**
SHUL				*eS*	**Sn**	**00 55 37.1**	**-0.2**
ESL	**Shilin**	**1.13**	**206**	*eP*	**Pn**	**00 55 21.7**	**+0.4**
OWD	**Renai**	**1.14**	**220**	P	**Pn**	**00 55 21.9**	**+0.4**
OWD				S	**Sn**	**00 55 37.8**	**-0.4**
WUSB	**Renai**	**1.15**	**223**	P	**Pn**	**00 55 22.1**	**+0.6**
TWQ1	**Liyutan**	**1.20**	**247**	*eS*	**Sn**	**00 55 38.9**	**-0.3**
WARBT	**Fenglin Townsh**	**1.24**	**206**	*eP*	**Pn**	**00 55 21.2**	**-1.3**
WCS	**Beigang Elemen**	**1.24**	**232**	*eP*	**Pn**	**00 55 22.9**	**+0.4**
WCS				S	**Sn**	**00 55 40.1**	**0.0**
VWDT	**VWDT**	**1.32**	**216**	*eP*	**Pn**	**00 55 23.7**	**+0.3**
VWDT				*eS*	**Sn**	**00 55 41.8**	**+0.2**
SMLT	**Sun Moon Lake**	**1.37**	**226**	*eP*	**Pn**	**00 55 24.5**	**+0.4**
SMLT				S	**Sn**	**00 55 43.3**	**+0.5**
TYC	**Yuchr**	**1.38**	**228**	*eP*	**Pn**	**00 55 25.0**	**+0.9**
TYC				*eS*	**Sn**	**00 55 43.5**	**+0.6**
SSLB	**Suanglung**	**1.40**	**222**	*eP*	**Pn**	**00 55 24.9**	**+0.4**
SSLB				*eS*	**Sn**	**00 55 43.8**	**+0.3**
HGSD	**Ruisui**	**1.43**	**201**	*eP*	**Pn**	**00 55 24.7**	**-0.1**
HGSD				*eS*	**Sn**	**00 55 43.7**	**-0.3**
WHYT	**Xinyi Township**	**1.53**	**222**	P	**Pn**	**00 55 26.8**	**+0.7**
WHYT				*i* S	**Sn**	**00 55 47.0**	**+0.7**
TWF1	**Yuli**	**1.60**	**203**	*eP*	**Pn**	**00 55 26.2**	**-0.7**
IRIF	**Iriomote-Funau**	**1.67**	**107**	P	**Pn**	**00 55 27.8**	**+0.1**
ALS	**Alishan**	**1.70**	**219**	*eP*	**Pn**	**00 55 29.0**	**+0.6**
CHN5	**Tsauling**	**1.71**	**224**	*eP*	**Pn**	**00 55 28.8**	**+0.5**
CHN5				*eS*	**Sn**	**00 55 50.9**	**+0.5**
CHKH	**Chenggong**	**1.72**	**198**	*eS*	**Sn**	**00 55 49.0**	**-1.4**
FULB	**Fuli**	**1.75**	**201**	*eP*	**Pn**	**00 55 29.5**	**+0.8**
HATJ	**Hateruma jima**	**1.83**	**115**	*eS*	**Sn**	**00 55 53.5**	**+0.5**
WTK	**Tuku**	**1.85**	**232**	*eS*	**Sn**	**00 55 53.3**	**0.0**
ELDTW	**Lidau**	**1.86**	**208**	*eP*	**Pn**	**00 55 30.7**	**+0.5**
JKRS	**Kuro-shima**	**1.94**	**107**	*eP*	**Pn**	**00 55 31.4**	**+0.3**
JKRS				*eS*	**Sn**	**00 55 55.4**	**0.0**
CHN4	**Tsaushan**	**1.95**	**221**	*eP*	**Pn**	**00 55 32.0**	**+0.8**
EDH	**Donghe**	**1.95**	**199**	*eP*	**Pn**	**00 55 30.8**	**-0.6**
EDH				*eS*	**Sn**	**00 55 53.7**	**-2.0**
TPUB	**Ta-pu**	**1.96**	**219**	*eS*	**Sn**	**00 55 56.3**	**+0.3**
STYH	**Taoyuan**	**1.99**	**214**	*eP*	**Pn**	**00 55 31.8**	**+0.1**
WTP	**Ta-pu**	**2.02**	**219**	*eP*	**Pn**	**00 55 32.9**	**+0.8**
JIJ	**Ishigaki jima**	**2.02**	**103**	*eP*	**Pn**	**00 55 32.0**	**-0.2**
TWK	**Hsinying**	**2.07**	**221**	*eP*	**Pn**	**00 55 33.4**	**+0.5**
TWK				*eS*	**Sn**	**00 55 58.6**	**+0.1**
MATB	**Ma-tsu**	**2.26**	**306**	*eP*	**Pn**	**00 55 35.0**	**-0.2**
VWUC	**VWUC**	**2.30**	**274**	*eP*	**Pn**	**00 55 35.5**	**-0.3**
PTMZ	**Houxiangcun**	**2.60**	**275**	*eP*	**Pn**	**00 55 39.6**	**-0.2**

*BKK **15** 01:07:15.6±1.4, 14°.N±6°.×8°.8E±1°.2, h10km, M4.1/10, mb3.9/4, Mjma3.8/10, Mw(mB)4.5/7*
*IDC **15** 01:08:27.6±1.7, 14°.97N×94°.03E, h0km, mb3.5/5, mbtmp3.4/6, ML3.6/1, MS3.2/1, Error ellipse: s-maj=58.3km s-min=22.1km az=60.0*

ISC 15 01:08:33.8±1.4, 15°.3N±0°.1×94°.2E±0°.1, h35km, n22, σ1§46/21, mb3.5/5, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLT	**Khaolaem Dam**	**4.28**	**96**	P	**Pn**	**01 09 37.7**	**+1.3**
MHMT	**Maesarieng**	**4.61**	**51**	P	**Pn**	**01 09 39.1**	**-1.9**
SRDT	**SRDT**	**4.86**	**100**	P	**Pn**	**01 09 44.4**	**0.0**
UTHA	**Uthaitani**	**5.08**	**86**	P	**Pn**	**01 09 48.8**	**+1.4**
CM13	**Chiang Mai Arr**	**5.50**	**55**	P	**Pn**	**01 09 54.0**	**+0.7**
CM05	**Chiang Mai Arr**	**5.52**	**55**	P	**Pn**	**01 09 56.4**	**+2.8**
CM15	**Chiang Mai Arr**	**5.53**	**54**	P	**Pn**	**01 09 53.1**	**-0.6**
CM02	**Chiang Mai Arr**	**5.54**	**55**	P	**Pn**	**01 09 54.4**	**+0.6**
	0.0nm3.1nm,0.8s						
CM01	**Chiang Mai Arr**	**5.54**	**55**	P	**Pn**	**01 09 51.7**	**-2.1**
CM04	**Chiang Mai Arr**	**5.55**	**55**	P	**Pn**	**01 09 53.6**	**-0.3**
	0.1nm4.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**5.55**	**54**	Pn	**Pn**	**01 09 55.6**	**+1.7**
	0.4nm,0.3s,baz=242,slow=15,SNR=8.5						
CMAR				Sn	**Sn**	**01 10 55.8**	**-0.8**
	1.2nm,0.3s,baz=237,slow=25,SNR=12						
	0.6nm,0.3s						
CM09	**Chiang Mai Arr**	**5.58**	**55**	P	**Pn**	**01 09 54.9**	**+0.5**
LAMP	**Lampang**	**6.14**	**57**	P	Pn	01 10 07.7	+5.7
PHIT	**Phitsanulok**	**6.28**	**71**	P	**Pn**	**01 10 05.3**	**+1.3**
PAYA	**Payao**	**6.78**	**52**	P	**Pn**	**01 10 12.4**	**+1.5**
NAYO	**Nakonayok**	**6.96**	**97**	P	**Pn**	**01 10 14.4**	**+1.0**
MKAR	**Makanchi Array**	**32.97**	**345**	P	**P**	**01 15 06.2**	**+1.0**
	0.2nm,0.6s,baz=144,slow=8.7,SNR=2.9						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**37.47**	**344**	P	**P**	**01 15 44.7**	**+0.8**
	0.4nm,0.6s,baz=156,slow=8.4,SNR=6.1						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**39.29**	**351**	P	**P**	**01 16 00.4**	**+1.2**
	0.3nm,0.4s,baz=167,slow=8.4,SNR=1.7						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**52.75**	**130**	P	**P**	**01 17 43.9**	**-1.7**
	0.3nm,0.4s,baz=311,slow=7.7,SNR=6.5						
	0.3nm,0.4s						
ASF	**Jabal al Asfar**	**54.48**	**299**	LR	LR	01 44 39.0	
	comp=Z,20nm,18.7s,baz=353,slow=40						
ASAR	**Alice Springs**	**54.81**	**134**	P	**P**	**01 17 59.0**	**-1.6**
	0.2nm,0.4s,baz=318,slow=7.2,SNR=2.4						
	0.2nm,0.4s						

*NEIC **15** 01:09:21.2±1.1, 19°.77N±0°.03×155°.80W±0°.06, h31km±10km, Error ellipse: s-maj=8.5km s-min=2.8km az=117.0*

HVO 15 01:09:23±1.4, 19°.77N±0°.03×155°.81W±0°.04, h22km±8km, ML2.5/17, ML2.6/34(NEIC), Error ellipse: s-maj=6.8km s-min=1.6km az=120.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUH	**Hualalai**	**0.09**	**195**		Pb	01 09 27.0	-0.5
HUH					Sb	01 09 29.8	-0.8
HUH				IAML		01 09 32.8	
	comp=N,1μm,0.2s						
HUH				IAML		01 09 35.0	
	comp=E,967nm,0.1s						
KKH	**Kailua Kona**	**0.23**	**240**	Pg	Pb	01 09 28.5	-0.3
POHA	**Pohakuloa**	**0.26**	**93**	Pg	Pb	01 09 28.4	-1.1
POHA				Sg	Sb	01 09 32.3	-1.6
POHA	**Pohakuloa**	**0.26**	**93**	IAML		01 09 32.8	
	comp=E,816nm,0.5s						
POHA				IAML		01 09 33.2	
	comp=E,535nm,0.2s						
HPAH	**Hawaii Prepara**	**0.28**	**23**	Pg	Pb	01 09 28.8	-0.8
HPAH				Sg	Sb	01 09 33.1	-0.9
ALEP	**Alea Permanent**	**0.28**	**146**		Pb	01 09 29.4	-0.5
ALEP					Sb	01 09 34.0	-0.5
CPH	**Captain Cook**	**0.30**	**200**		Pb	01 09 29.3	-0.6
CPH					Sb	01 09 34.2	-0.3
MLOA	**Mauna Loa Obse**	**0.32**	**137**		Pb	01 09 29.8	-0.7
MLOA					Sb	01 09 34.9	-0.8
MLOA	**Mauna Loa Obse**	**0.32**	**137**	IAML		01 09 35.2	
	comp=E,24nm,4.7s						
MLOA				IAML		01 09 35.2	
	comp=N,23nm,4.7s						
MWH	**Mokuaweoweo**	**0.35**	**145**	Pg	Pb	01 09 29.9	-1.1
MWH				Sg	Sb	01 09 34.6	-1.8
MWH				IAML		01 09 43.7	
	comp=N,501nm,0.4s						
MWH				IAML		01 09 44.7	
	comp=E,580nm,0.5s						
HMH	**Humu'ula Sheep**	**0.35**	**119**	Pg	Pb	01 09 30.2	-0.7
HMH				Sg	Sb	01 09 35.0	-1.2
HMH				IAML		01 09 37.1	
	comp=N,810nm,0.2s						
HMH				IAML		01 09 38.0	
	comp=E,672nm,0.2s						
MHA	**Mahukona**	**0.42**	**348**	Pg	Pb	01 09 31.1	-0.7
MLH	**Mauna Loa**	**0.49**	**125**	Pg	Pb	01 09 31.7	-1.3
MLH				Sg	Sb	01 09 37.9	-2.0
KHU	**Kahuku**	**0.56**	**161**	Pg	Pb	01 09 32.8	-1.5
KHU				Sg	Sb	01 09 39.6	-2.2
KHU				IAML		01 09 51.8	
	comp=E,281nm,2.5s						
KHU				IAML		01 09 53.6	
	comp=N,283nm,3.1s						
RSD	**Rainshed**	**0.59**	**121**		Sb	01 09 40.6	-2.2
RSD	**Rainshed**	**0.59**	**121**	Pg	Pb	01 09 33.7	-1.0
UWE	**Uwekahuna**	**0.60**	**125**	Pg	Pb	01 09 33.0	-1.9
UWE				Sg	Sb	01 09 40.5	-2.6
WRMHI	**West Rim**	**0.60**	**127**		Pb	01 09 33.1	-1.9
OBL	**Observatory Le**	**0.61**	**125**		Pb	01 09 33.2	-1.9
OBL					Sb	01 09 41.9	-1.4
UWB	**Uwekahuna Bluf**	**0.61**	**124**		Pb	01 09 33.1	-2.0
UWB					Sb	01 09 41.7	-1.6
SBLHI	**Steaming Bluff**	**0.62**	**124**		Sb	01 09 42.0	-1.5
SDHHI	**Sand Hill**	**0.62**	**128**		Pb	01 09 33.4	-1.9
SDHHI					Sb	01 09 42.4	-1.2
HATHI	**Halema'uma'u T**	**0.62**	**124**	Pg	Pb	01 09 33.7	-1.6
HATHI				IAML		01 09 47.7	
	comp=E,235nm,1.2s						
HATHI				IAML		01 09 51.1	
	comp=N,250nm,2.2s						
HTC	**Hot Caves**	**0.66**	**144**		Pb	01 09 34.0	-1.8
HLP	**Hilina Pali**	**0.67**	**135**	Pg	Pb	01 09 34.1	-2.0
KNHH	**Kane Nui o Ham**	**0.72**	**123**	Pg	Pb	01 09 34.6	-2.4
STCH	**Steam Cracks**	**0.75**	**121**	Pg	Pb	01 09 34.8	-2.7
STCH				Sg	Sb	01 09 43.7	-3.6
STCH				IAML		01 09 46.8	
	comp=E,271nm,0.1s						
STCH				IAML		01 09 47.0	
	comp=N,230nm,0.1s						
NPOC	**North of Pu'u**	**0.76**	**120**		Sb	01 09 44.3	-3.3
JOKA	**Jonika Flow**	**0.83**	**114**	Pg	Pb	01 09 35.8	-3.0
JOKA				IAML		01 09 45.8	
	comp=E,208nm,2.2s						

*IDC **15** 01:32:57.5±0.4, 19°.07N×121°.14E, h0km, mb4.8/31, mbtmp4.9/35, ML4.4/3, MS4.3/66, Error ellipse: s-maj=12.9km s-min=10.9km az=78.0*
*MAN **15** 01:32:58.1, 19°.22N×120°.84E, h1km, mb5.7, ML4.8, MS5.1*
MAN INTENSITY IV - CALAYAN CAGAYAN; INTENSITY III - LAOAG CITY; ADAMS BANGUI PAGUDPUD AND PASUQUIN ILOCOS NORTE; INTENSITY II - BADOC BACARRA BURGOS AND CURRIMAO ILOCOS NORTE; SINAIT ILOCOS SUR.
*MOS **15** 01:32:59.4±0.8, 19°.23N×121°.10E, h18km, mb5.3/67, MS4.7/21, Error ellipse: s-maj=6.5km s-min=3.8km az=113.6*
*NEIC **15** 01:33:00.2, 19°.29N×121°.00E, h12km*
*NEIC **15** 01:33:00.2, 19°.29N×121°.00E, h12km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.77; $M_{\theta\theta}$0.62; $M_{\phi\phi}$3.14; $M_{r\theta}$-1.79; $M_{\phi\theta}$-2.74; $M_{\phi r}$3.32; Fault plane solution: $M_0$5.75000×10^{16} NP1: ϕ_s322.32000°, δ24.67000°, λ-97.76000°. NP2: ϕ_s150.85000°, δ65.57000°, λ-86.45000°. Principal axes: T 6.3059, Plg20.0000°, Azm238.0000°; N -1.1165, Plg3.0000°, Azm329.0000°; P -5.1894, Plg69.0000°, Azm68.0000°;*
*NEIC **15** 01:33:00.3±2.3, 19°.30N±0°.06×120°.98E±0°.08, h10km±1km, mb5.2/344, Mww5.1/38 Error ellipse: s-maj=12.3km s-min=9.5km az=97.0*
*GCMT **15** 01:33:01.3±0.2, 19°.20N±0°.01×120°.90E±0°.01, h18km, MW5.1/108, Moment Tensor Solution. s63,c95; s108,c178; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.82±.17; $M_{\theta\theta}$0.88±.12; $M_{\phi\phi}$3.94±.13; $M_{r\theta}$-0.86±.28; $M_{\phi\theta}$-4.00±.09; $M_{\phi r}$0.40±.28; Best double couple: $M_0$5.85000×10^{16} NP1:ϕ_s335.00000°, δ42.00000°, λ-77.00000°. NP2:ϕ_s137.00000°, δ50.00000°, λ-102.00000°. Principal axes: T 6.7490, Plg4.0000°, Azm235.0000°; N -1.7990, Plg9.0000°, Azm145.0000°; P -4.9520, Plg80.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **15** 01:33:01.3, 19°.40N×120°.97E, h15km, mB5.2/47, mb4.8/81, ML4.8/4, Ms4.8/90, Ms7 4.6/87*
*DJA **15** 01:33:01.8±0.2, 19°N±2°.×12°1E±°, h10km, M5.0/57, mb5.2/57, mB5.5/26, MLv5.2/4, Mw(mB)5.0/26, MwMwp5.1/4, Mwp5.3/4*

ISC 15 01:33:01.1±0.5, 19°.18N±0°.03×121°.07E±0°.04, h18km±1km, h18km:pP-P, n1144, σ1§21/1017, mb5.2/331, MS4.5/98, 48C-33D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZP	**Santa**	**1.73**	**200**	P	**Pn**	**01 33 29.8**	**-0.4**
TWGBT	**Beinan**	**3.62**	**0**	P	**Pn**	**01 33 55.8**	**-0.4**
TWG	**Pinlang**	**3.62**	**0**		**Pn**	**01 33 53.9**	**-2.3**
TPUB	**Ta-pu**	**4.12**	**354**	Pn	**Pn**	**01 34 01.1**	**-2.0**
TPUB	**Ta-pu**	**4.12**	**354**	P	**Pn**	**01 34 02.7**	**-0.4**
SSLB	**Suanglung**	**4.58**	**359**	Pn	**Pn**	**01 34 08.5**	**-1.0**
SSLB	**Suanglung**	**4.58**	**359**	P	**Pn**	**01 34 10.0**	**+0.5**
NACB	**Ninganchiao**	**4.99**	**6**	Pn	**Pn**	**01 34 14.7**	**-0.4**
NACB	**Ninganchiao**	**4.99**	**6**	P	**Pn**	**01 34 16.0**	**+0.9**
TGY	**Tagaytay City**	**5.05**	**181**	Pn	**Pn**	**01 34 19.0**	**+3.0**
	115nm,0.3s,baz=324,slow=2.9,SNR=19						
TGY				Sn	**Sb**	**01 35 25.2**	**-4.3**
	74nm,0.3s,baz=41,slow=20,SNR=1.3						
TGY				LR	LR	01 36 34.5	
	comp=Z,8μm,20.7s,baz=350,slow=44						
YHNB	**Yeheng**	**5.47**	**3**	Pn	**Pn**	**01 34 20.9**	**-0.8**
YHNB	**Yeheng**	**5.47**	**3**	P	**Pn**	**01 34 22.6**	**+0.9**
YOJ	**Yonaguni jima**	**5.55**	**19**	Pn	**Pn**	**01 34 22.5**	**-0.3**
YOJ	**Yonaguni jima**	**5.55**	**19**	P	**Pn**	**01 34 24.2**	**+1.4**
YOJ	**Yonaguni jima**	**5.55**	**19**	P	**Pn**	**01 34 22.5**	**-0.3**
QZH	**Quanzhou**	**6.17**	**339**	Pn	**Pn**	**01 34 29.9**	**-1.4**
QZH				Sn	**Sn**	**01 35 38.0**	**-3.5**
QZH				smax	smax		
	comp=N,120nm,1.1s						
QZH				smax	smax		
	comp=E,240nm,0.9s						
QZH				LR	LR		
	comp=N,4μm,14.5s					

ENH				IAmb	IAmb	01 36 37.8
	comp=Z,164nm,1.2s					
ENH	**Enshi**	**15.24**	**319**	P	**Pn**	**01 36 36.4 +1.0**
UBPT	**Khong Chiam**	**15.40**	**258**	Pn	**Pn**	**01 36 37.3 -0.3**
UBPT	**Khong Chiam**	**15.40**	**258**	P	**Pn**	**01 36 38.7 +1.2**
SLVN	**Son La**	**16.25**	**280**	Pn	**Pn**	**01 36 48.2 -0.4**
SLVN	**Son La**	**16.25**	**280**	P	**Pn**	**01 36 49.7 +1.1**
JNU	**Nakatsue**	**16.42**	**30**	Pn	**Pn**	**01 36 50.1 -0.5**
JNU	**Nakatsue**	**16.42**	**30**	Pn	**Pn**	**01 36 50.6 0.0**
	comp=Z,0.7nm,0.3s,baz=197,slow=7.1,SNR=20					
JNU				LR	LR	01 44 00.4
	comp=Z,694nm,18.7s,baz=218,slow=40					
	comp=Z,106nm,1.0s					
JNU	**Nakatsue**	**16.42**	**30**	P	**P**	**01 36 52.1 -1.2**
NONG	**Nongkai**	**17.03**	**269**	P	**P**	**01 36 59.3 -0.8**
LYN	**LuoYang**	**17.11**	**335**	⇓P	**P**	**01 37 00.8 -0.1**
LYN				pP	pP	01 37 03.4 -2.3
LYN				PP	**PnPn**	**01 37 15.5 +6.2**
LYN				sS	S	01 40 19.1 +0.6
LYN				SS	**SnSn**	**01 40 28.8 +6.1**
LYN				pmax	pmax	
	comp=Z,55nm,0.9s					
LYN				pmax	pmax	
	comp=Z,600nm,3.6s					
LYN				LR	LR	
	comp=Z,2μm,15.7s					
LYN				LR	LR	
	comp=Z,2μm,16.7s					
LYN				LR	LR	
	comp=Z,3μm,13.1s					
TIA	**Tai'an**	**17.32**	**349**	P	**P**	**01 37 04.6 +1.4**
TIA				PP	**PnPn**	**01 37 17.8 +5.7**
TIA				pmax	pmax	
	comp=Z,38nm,1.1s					
TIA				pmax	pmax	
	comp=Z,1μm,6.5s					
TIA				LR	LR	
	comp=Z,1μm,15.4s					
TIA				LR	LR	
	comp=Z,2μm,19.5s					
TIA				LR	LR	
	comp=Z,2μm,16.6s					
TOLI2	**Tolitoli**	**17.96**	**181**	Pn	**Pn**	**01 37 09.9 -0.1**
TOLI2	**Tolitoli**	**17.96**	**181**	P	**P**	**01 37 10.8 +0.3**
KMI	**Kunming**	**17.97**	**292**	⇑P	**P**	**01 37 12.3 +1.5**
KMI				pP	pwP	01 37 19.9 +1.6
KMI				pmax	pmax	
	comp=Z,32nm,1.6s					
KMI				pmax	pmax	
	comp=Z,240nm,5.5s					
KMI				LR	LR	
	comp=Z,6μm,18.3s					
KMI				LR	LR	
	comp=Z,2μm,18.5s					
KMI				LR	LR	
	comp=Z,2μm,15.2s					
TJN	**Taejon**	**18.00**	**17**		**Pn**	**01 37 09.3 -1.0**
TJN				IAmb	IAmb	01 37 12.3
	comp=Z,100nm,0.6s					
TJN	**Taejon**	**18.00**	**17**	P	**P**	**01 37 12.1 +1.4**
TJN	**Taejon**	**18.00**	**17**	*i* P	**Pn**	**01 37 09.2 -1.1**
XAN	**Xi'an**	**18.33**	**326**	P	**P**	**01 37 14.8 +0.3**
XAN				pP	sP	01 37 22.6 +0.9
XAN				pmax	pmax	
	comp=Z,67nm,1.7s					
XAN				pmax	pmax	
	comp=Z,1μm,5.3s					
XAN				LR	LR	
	comp=Z,3μm,14.1s					
XAN				LR	LR	
	comp=Z,2μm,13.4s					
XAN				LR	LR	
	comp=Z,4μm,14.6s					
JMN	**Monobe**	**18.45**	**36**	P	**P**	**01 37 15.5 -0.3**
JMN	**Monobe**	**18.45**	**36**	P	**P**	**01 37 15.4 -0.3**
KMSI	**Cibinong**	**18.71**	**171**	P	Pn	01 37 40.4 +21
SBUM	**Sibu**	**18.75**	**209**	P	**P**	**01 37 18.6 -0.5**
SBUM	**Sibu**	**18.75**	**209**	P	**Pn**	**01 37 20.4 +0.8**
MPSI	**Mapaga**	**18.77**	**184**	P	**P**	**01 37 19.4 +0.1**
HNS	**HongShan**	**18.98**	**344**	⇓P	**Pn**	**01 37 23.9 +1.6**
HNS				sP	**pwP**	**01 37 30.1 +3.8**
HNS				SS	**SnSn**	**01 41 10.9 +2.2**
HNS				pmax	pmax	
	comp=Z,91nm,1.2s					
HNS				LR	LR	
	comp=Z,1μm,14.6s					
HNS				LR	LR	
	comp=Z,2μm,17.9s					
HNS				LR	LR	
	comp=Z,2μm,16.6s					
KSAR	**Wonju Array Be**	**19.14**	**17**	P	**P**	**01 37 22.9 -0.4**
KSAR	**Wonju Array Be**	**19.14**	**17**	P	**P**	**01 37 22.9 -0.4**
KSRS	**Korea Array**	**19.16**	**17**	P	**P**	**01 37 23.5 0.0**
	comp=Z,2.2nm,0.3s,baz=194,slow=11,SNR=30					
KSRS				LR	LR	01 45 31.1
	comp=Z,1μm,18.8s,baz=200,slow=39					
	comp=Z,13nm,0.8s					
KS19	**Wonju Array Si**	**19.19**	**17**	P	**P**	**01 37 22.8 -1.1**
PZH	**PanZhiHua**	**19.23**	**296**	P	**Pn**	**01 37 26.9 +1.4**
PZH				S	**S**	**01 41 01.5 -0.4**
PZH				pmax	pmax	
	comp=Z,30nm,1.3s					
PZH				pmax	pmax	
	comp=Z,510nm,4.8s					
PZH				LR	LR	
	comp=Z,4μm,18.4s					
PZH				LR	LR	
	comp=Z,2μm,17.3s					
PZH				LR	LR	
	comp=Z,2μm,14.7s					
TNTI	**Ternate**	**19.31**	**161**	P	**Pn**	**01 37 26.5 +0.1**
TNTI	**Ternate**	**19.31**	**161**	P	**Pn**	**01 37 30.2 +3.8**
NAYO	**Nakonayok**	**19.52**	**259**	P	**Pn**	**01 37 28.3 -0.6**
CD2	**Chengdu**	**19.52**	**310**	P	**Pn**	**01 37 28.8 -0.1**
CD2				pP	sP	01 37 32.5 -2.3
CD2				sP	pwP	01 37 37.5 +1.6
CD2				S	**S**	**01 41 07.3 -0.3**
CD2				pmax	pmax	
	comp=Z,110nm,1.1s					
CD2				pmax	pmax	
	comp=Z,950nm,3.3s					
CD2				LR	LR	
	comp=Z,3μm,18.8s					
CD2				LR	LR	
	comp=Z,2μm,17.9s					
DL2	**Dalian**	**19.66**	**1**	P	**P**	**01 37 28.1 -0.8**
DL2				S	**Sn**	**01 41 11.3 +0.6**
DL2				pmax	pmax	
	comp=Z,48nm,1.2s					
DL2				pmax	pmax	
	comp=Z,530nm,6.2s					
DL2				LR	LR	
	comp=Z,670nm,18.0s					
DL2				LR	LR	
	comp=Z,3μm,16.3s					
DL2				LR	LR	
	comp=Z,1μm,13.9s					
TIY	**Taiyuan**	**19.94**	**340**	*e*P	**Pn**	**01 37 34.4 +0.6**
TIY				pmax	pmax	
	comp=Z,87nm,0.9s					
APSI	**Ampana**	**19.98**	**178**	P	**Pn**	**01 37 35.2 +0.9**
	comp=Z,2μmcomp=Z,170nm,1.1s					
PCI	**Palu**	**20.00**	**184**	P	Pn	01 37 54.2 +20
LUWI	**Luwuk**	**20.17**	**175**	P	Pn	01 37 36.0 -0.6
LUWI	**Luwuk**	**20.17**	**175**	P	**P**	**01 37 35.1 +0.5**
LUWI	**Luwuk**	**20.17**	**175**	P	Pn	01 37 36.8 +0.2
	comp=Z,4μmcomp=Z,273nm,1.2s					
KSM	**Kuching**	**20.52**	**212**	P	**P**	**01 37 37.4 -1.1**
KSM	**Kuching**	**20.52**	**212**	P	**P**	**01 37 38.2 -0.3**
BKB	**Balikpapan**	**20.73**	**192**	P	**P**	**01 37 39.9 -0.8**
BKB	**Balikpapan**	**20.73**	**192**	P	**P**	**01 37 39.9 -0.8**
BKB	**Balikpapan**	**20.73**	**192**	P	Pn	01 37 44.1 +1.0
	comp=Z,3μmcomp=Z,3μmcomp=Z,177nm,0.8s					
CHTO	**Chiang Mai**	**20.93**	**273**	P	**P**	**01 37 43.2 +0.3**
CHTO	**Chiang Mai**	**20.93**	**273**	P	**P**	**01 37 43.9 +1.0**
CHTO	**Chiang Mai**	**20.93**	**273**	P	**P**	**01 37 43.2 +0.3**
CHTO				pmax	pmax	
	comp=Z,46nm,1.1s					
JCJ	**Chichijima**	**20.93**	**64**	P	**P**	**01 37 42.5 -0.4**
	comp=Z,48nm,0.7s,baz=248,slow=19,SNR=1.7					
	comp=Z,48nm,0.7s					
CM31	**Chiang Mai Arr**	**20.96**	**272**	P	**P**	**01 37 43.5 +0.2**
CMAR	**Chiang Mai Arr**	**20.96**	**272**	P	**P**	**01 37 43.1 -0.1**
CMAR	**Chiang Mai Arr**	**20.96**	**272**	P	**P**	**01 37 44.1 +0.9**
	comp=Z,9.8nm,1.1s,baz=78,slow=9.1,SNR=47					
CMAR				LR	LR	01 46 23.5
	comp=Z,783nm,19.2s,baz=95,slow=38					
	comp=Z,9.8nm,1.1s					
BJT	**Baijiatuau**	**21.19**	**350**	P	**P**	**01 37 46.8 +1.3**
STKI	**Sintang**	**21.20**	**207**	P	**P**	**01 37 46.6 +0.7**
	comp=Z,99nm,0.7s					
BJI	**Beijing**	**21.21**	**350**	P	**P**	**01 37 46.6 +0.9**
BJI				sP	**sP**	**01 37 50.8 -2.4**
BJI				PP	**PnPn**	**01 38 09.9 +4.5**
BJI				S	**S**	**01 41 40.3 -0.5**
BJI				SS	**SnSn**	**01 42 07.3 +4.0**
BJI				pmax	pmax	
	comp=Z,67nm,0.9s					
BJI				pmax	pmax	
	comp=Z,320nm,9.8s					
BJI				LR	LR	
	comp=Z,410nm,15.9s					
BJI				LR	LR	
	comp=Z,610nm,16.8s					
BJI				LR	LR	
	comp=Z,710nm,16.6s					
INU	**Inuyama**	**21.40**	**38**	P	**P**	**01 37 47.9 0.0**
INU				IAmb	IAmb	01 37 59.3
	comp=Z,75nm,0.8s					
INU	**Inuyama**	**21.40**	**38**	P	**P**	**01 37 49.6 +1.7**
SRDT	**SRDT**	**21.55**	**260**	P	**P**	**01 37 50.9 +1.3**
SANI	**Sanana**	**21.65**	**167**	P	**P**	**01 37 49.0 -1.6**
TNCH	**TengChong**	**21.68**	**290**	⇓P	**P**	**01 37 52.6 +1.5**
TNCH				pP	pwP	01 37 57.4 -1.4
TNCH				sP	sP	01 38 01.0 +2.8
TNCH				PP	**PnPn**	**01 38 18.3 +6.3**
TNCH				S	**S**	**01 41 46.9 -3.7**
TNCH				sS	sS	01 41 52.5 -5.2
TNCH				pmax	pmax	
	comp=Z,300nm,2.1s					
TNCH				LR	LR	
	comp=Z,2μm,10.1s					
TNCH				LR	LR	
	comp=Z,2μm,11.9s					
TNCH				LR	LR	
	comp=Z,3μm,15.7s					
JHJ	**Hachijo jima 2**	**21.74**	**47**	P	**P**	**01 37 52.5 +1.0**
	comp=Z,207nm,0.8s,baz=228,slow=15,SNR=2.8					
	comp=Z,207nm,0.8s					
JGF	**Kuroka**	**21.78**	**38**	P	**P**	**01 37 51.1 -0.8**
JGF				IAmb	IAmb	01 37 57.6
	comp=Z,107nm,1.1s					
JGF	**Kuroka**	**21.78**	**38**	P	**P**	**01 37 53.1 +1.2**
SWI	**Sorong**	**22.29**	**152**	P	**P**	**01 38 02.1 +4.5**
	comp=Z,49nm,0.9s					
LZH	**Lanzhou**	**22.66**	**321**	⇓P	**P**	**01 38 02.8 +1.2**
LZH				pP	sP	01 38 08.0 -0.9
LZH				S	**S**	**01 42 08.8 -0.3**
LZH				SS	**SnSn**	**01 42 45.8 +6.6**
LZH				pmax	pmax	
	comp=Z,110nm,1.0s					
LZH				pmax	pmax	
	comp=Z,820nm,4.3s					
LZH				LR	LR	
	comp=Z,3μm,13.7s					
LZH				LR	LR	
	comp=Z,2μm,15.3s					
LZH				LR	LR	
	comp=Z,2μm,14.8s					
SNY	**Shenyang**	**22.67**	**5**	⇑P	**P**	**01 38 01.0 -0.4**
SNY				S	**S**	**01 42 07.3 -1.4**
SNY				pmax	pmax	
	comp=Z,46nm,1.1s					
SNY				pmax	pmax	
	comp=Z,350nm,5.9s					
SNY				LR	LR	
	comp=Z,930nm,15.3s					
SNY				LR	LR	
	comp=Z,370nm,13.2s					
SNY				LR	LR	
	comp=Z,1μm,15.3s					
MAJO	**Matsushiro**	**22.93**	**38**	P	**P**	**01 38 03.2 -1.0**
MAJO	**Matsushiro**	**22.93**	**38**	P	**P**	**01 38 04.9 +0.7**
MAJO	**Matsushiro**	**22.93**	**38**	*i* P	**P**	**01 38 02.4 -1.8**
MJAR	**Matsushiro Arr**	**22.93**	**38**	P	**P**	**01 38 03.9 -0.3**
	comp=Z,20nm,1.0s,baz=225,slow=9.2,SNR=17					
	comp=Z,20nm,1.0s					
MJB9	**Matsu-Tunnel**	**22.93**	**38**	P	**P**	**01 38 04.5 +0.3**
SPSI	**Sidrap Palu**	**23.04**	**183**	P	**P**	**01 38 07.0 +1.6**
	comp=Z,50nm,1.1s					
NLAI	**Namlea**	**23.06**	**164**	P	**P**	**01 38 10.0 +4.4**
	comp=Z,60nm,0.9s					
HHC	**Hu-ho-hao-te**	**23.08**	**341**	*e*P	**P**	**01 38 06.9 +1.1**
HHC				sP	pwP	01 38 13.4 +2.7
HHC				S	**S**	**01 42 15.1 -1.0**
HHC				sS	pS	01 42 20.8 0.0
HHC				pmax	pmax	
	comp=Z,75nm,1.0s					
HHC				pmax	pmax	
	comp=Z,560nm,5.4s					
HHC				LR	LR	
	comp=Z,2μm,14.9s					
HHC				LR	LR	
	comp=Z,1μm,14.1s					
HHC				LR	LR	
	comp=Z,2μm,14.5s					
SRIT	**Nakonsritamara**	**23.32**	**246**	P	**P**	**01 38 07.6 -0.7**
SRIT	**Nakonsritamara**	**23.32**	**246**	P	**P**	**01 38 09.1 +0.8**
BTO	**Baotou**	**23.36**	**338**	*e*P	**P**	**01 38 08.5 -0.1**
BTO				pP	**pP**	**01 38 12.5 -1.1**
BTO				sP	**pwP**	**01 38 15.6 +2.0**
BTO				S	**S**	**01 42 21.8 +1.0**
BTO				SS	**SnSn**	**01 42 58.6 +2.5**
BTO				pmax	pmax	
	comp=Z,44nm,0.8s					
BTO				pmax	pmax	
	comp=Z,620nm,4.3s					
BTO				LR	LR	
	comp=Z,3μm,14.0s					
BTO				LR	LR	
	comp=Z,3μm,14.5s					
BTO				LR	LR	
	comp=Z,3μm,14.3s					
BNSI	**Bone**	**23.46**	**182**	P	P	01 38 16.8 +7.2
	comp=Z,728nmcomp=Z,43nm,1.2s					
GUMO	**Guam**	**23.49**	**100**	LR	LR	01 47 29.2
	comp=Z,541nm,18.1s,baz=282,slow=37					
MSAI	**Masohi**	**23.69**	**160**	P	**P**	**01 38 16.5 +4.6**
	comp=Z,3μcomp=Z,88nm,1.2s					
KAPI	**Kappang**	**24.08**	**183**	P	**P**	**01 38 15.7 +0.1**
KAPI	**Kappang**	**24.08**	**183**	LR	LR	01 48 26.1
	comp=Z,739nm,19.2s,baz=352,slow=39					
KAPI	**Kappang**	**24.08**	**183**	P	**P**	**01 38 16.1 +0.5**
KAPI	**Kappang**	**24.08**	**183**	P	**P**	**01 38 15.7 +0.1**
KAPI				pmax	pmax	
	comp=Z,46nm,1.2s					
MYKOM	**Kota Tinggi**	**24.15**	**226**	P	**P**	**01 38 14.8 -1.5**
MYKOM				IAmb	IAmb	01 38 18.6
	comp=Z,136nm,1.6s					
MYKOM	**Kota Tinggi**	**24.15**	**226**	P	**P**	**01 38 16.8 +0.5**
KULM	**Kulim**	**24.23**	**238**	P	**P**	**01 38 16.6 -0.4**
KULM				IAmb	IAmb	01 38 31.9
	comp=Z,68nm,1.0s					
KULM	**Kulim**	**24.23**	**238**	P	**P**	**01 38 17.5 +0.5**
FAKI	**Fak Fak**	**24.56**	**152**	P	**P**	**01 38 23.2 +3.1**
	comp=Z,27nm,1.0s					
CN2	**Changchun**	**24.82**	**8**	P	**P**	**01 38 23.4 +1.3**
CN2				S	**S**	**01 42 42.4 -1.5**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.8s					
CN2				pmax	pmax	
	comp=Z,200nm,5.0s					
CN2				LR	LR	
	comp=Z,900nm,16.0s					
CN2				LR	LR	
	comp=Z,2μm,16.0s					
CN2				LR	LR	
	comp=Z,1μm,19.0s					
MSHR	**Mys Shultsa**	**24.84**	**18**	*i* P	**P**	**01 38 22.1 -0.2**
XLT	**XiLinHaoTe**	**25.00**	**351**	*e*P	**P**	**01 38 25.8 +2.0**
XLT				pmax	pmax	
	comp=Z,55nm,1.0s					
XLT				pmax	pmax	
	comp=Z,610nm,3.6s					
XLT				LR	LR	
	comp=Z,2μm,16.4s					
XLT				LR	LR	
	comp=Z,1μm,15.5s					
TPI	**Tanjungpandan**	**25.48**	**213**	P	**P**	**01 38 27.9 -0.5**
	comp=Z,58nm,0.8s					
VLA	**Vladivostok**	**25.55**	**19**	*i* P	**P**	**01 38 28.8 +0.1**
VLA				pmax	pmax	
	comp=Z,18nm,0.9s					
PPBI	**Pangkal Pinang**	**25.80**	**216**	P	P	01 38 42.4 +11
MDJ	**Mudanjiang**	**26.34**	**14**	P	**P**	**01 38 36.3 +0.4**
MDJ				PP	**PnPn**	**01 39 17.3 +1.8**
MDJ				S	**S**	**01 43 15.1 +7.1**
MDJ				pmax	pmax	
	comp=Z,29nm,1.7s					
MDJ				pmax	pmax	
	comp=Z,340nm,7.0s					
MDJ				LR	LR	
	comp=Z,1μm,18.2s					
MDJ				LR	LR	
	comp=Z,2μm,16.4s					
MDJ				LR	LR	
	comp=Z,1μm,16.5s					
MDJ	**Mudanjiang**	**26.34**	**14**	P	**P**	**01 38 36.2 +0.4**
USA0B	**Ussuriysk Arra**	**26.57**	**18**	P	**P**	**01 38 38.1 +0.1**
USA0B	**Ussuriysk Arra**	**26.57**	**18**	*i* P	**P**	**01 38 36.6 -1.3**
USRK	**Ussuriysk Ar.**	**26.57**	**18**	P	**P**	**01 38 37.3 -0.6**
USRK	**Ussuriysk Ar.**	**26.57**	**18**	P	**P**	**01 38 38.4 +0.5**
	comp=Z,9.6nm,0.8s,baz=185,slow=5.5,SNR=9.4					
USRK				LR	LR	01 49 44.9
	comp=Z,438nm,19.7s,baz=192,slow=38					
	comp=Z,9.6nm,0.8s					
KMMI	**Kalianget**	**26.99**	**196**	P	**P**	**01 38 43.6 +1.6**
	comp=Z,72nm,1.0s					
BNX	**BinXian**	**27.00**	**10**	⇑P	**P**	**01 38 42.0 +0.2**
BNX				pP	**pP**	**01 38 45.5 -1.6**
BNX				PcP	**PcP**	**01 42 02.3 -0.8**
BNX				S	**S**	**01 43 19.3 +0.9**
BNX				sS	**pS**	**01 43 23.1 -0.3**
BNX				pmax	pmax	
	comp=Z,22nm,1.0s					
BNX				pmax	pmax	
	comp=Z,190nm,3.8s					
BNX				LR	LR	
	comp=Z,610nm,21.7s					
BNX				LR	LR	
	comp=Z,880nm,17.9s					
BNX				LR	LR	
	comp=Z,850nm,18.4s					
PSI	**Prapat**	**27.10**	**236**	LR	LR	01 50 03.5
	comp=Z,798nm,18.1s,baz=68,slow=38					
PSI	**Prapat**	**27.10**	**236**	P	**P**	**01 38 43.7 +0.5**
PSI	**Prapat**	**27.10**	**236**	P	**P**	**01 38 42.8 -0.4**
PSI				pmax	pmax	
	comp=Z,43nm,1.2s					
BKNI	**Bangkinang**	**27.15**	**229**	P	**P**	**01 38 43.5 -0.1**
RPSI	**Rantau Prapat**	**27.16**	**236**	P	**P**	**01 38 42.8 -0.8**
GTA	**Gaotai**	**27.26**	**322**	P	**P**	**01 38 46.3 +1.9**
GTA				pP	sP	01 38 50.8 -1.3
GTA				sS	sS	01 43 33.9 +1.9
GTA				pmax	pmax	
	comp=Z,16nm,1.1s					
GTA				LR	LR	
	comp=Z,440nm,17.1s					
GTA				LR	LR	
	comp=Z,780nm,17.5s					
GTA				LR	LR	
	comp=Z,1μm,16.7s					
GRJI	**Gresik**	**27.28**	**199**	P	**P**	**01 38 50.0 +5.4**
TBJI	**Tambak Boyo**	**27.39**	**200**	P	**P**	**01 38 51.2 +5.6**
JTM	**Tenmabayashi**	**27.51**	**34**	P	**P**	**01 38 44.0 -2.5**
JTM	**Tenmabayashi**	**27.51**	**34**	P	**P**	**01 38 46.4 -0.1**
BRDH	**Bariadhala**	**27.68**	**282**	P	**P**	**01 38 49.2 +0.9**
	comp=Z,71nm,0.3s,baz=81,slow=11,SNR=5.5					
BRDH				LR	LR	01 49 48.0
	comp=Z,611nm,20.4s,baz=108,slow=36					
SHL	**Shillong**	**27.69**	**289**	P	**P**	**01 38 47.9 -0.6**
SHL				IAmb	IAmb	01 39 00.9
	comp=Z,52nm,1.0s					
SHL	**Shillong**	**27.69**	**289**	P	**P**	**01 38 47.9 -0.6**
SHL				pmax	pmax	
	comp=Z,52nm,1.0s					
EDFI	**Ende, Flores**	**27.76**	**179**	P	**P**	**01 38 51.1 +2.0**
	comp=Z,40nm,1.2s					
MNSI	**Mandailing Nat**	**27.89**	**232**	P	**P**	**01 38 53.6 +3.5**
	comp=Z,40nm,0.6s					
PLAI	**Plampang**	**28.02**	**187**	P	**P**	**01 38 51.4 +0.1**
PLAI	**Plampang**	**28.02**	**187**	P	**P**	**01 38 52.4 +1.1**
	comp=Z,650nmcomp=Z,48nm,1.2s					
NGJI	**Ngawi**	**28.03**	**201**	P	**P**	**01 38 54.1 +2.8**
	comp=Z,75nm,1.2s					
SMRI	**Semarang**	**28.09**	**203**	P	**P**	**01 38 53.1 +1.2**
SMRI	**Semarang**	**28.09**	**203**	P	**P**	**01 38 52.5 +0.6**
SMRI	**Semarang**	**28.09**	**203**	P	P	01 39 02.6 +11
PPI	**Padang Panjang**	**28.16**	**228**	P	**P**	**01 38 53.2 +0.7**
	comp=Z,76nm,1.2s					
MLSI	**Meulaboh, Aceh**	**28.27**	**241**	P	**P**	**01 38 54.2 +0.6**
JAGI	**Jajag, Banyuwa**	**28.31**	**195**	P	**P**	**01 38 54.5 +0.6**
BSI	**Banda Aceh**	**28.56**	**245**	P	P	01 39 06.8 +11
GOMU	**GeErMu**	**28.64**	**312**	P	**P**	**01 38 58.1 +1.0**
GOMU				pP	pP	01 39 01.8 -0.5
GOMU				sP	sP	01 39 05.5 +0.8
GOMU				S	**S**	**01 43 40.9 -4.3**
GOMU				pmax	pmax	
	comp=Z,37nm,1.1s					
GOMU				LR	LR	
	comp=Z,2μm,16.8s					
GOMU				LR	LR	
	comp=Z,2μm,17.0s					
GOMU				LR	LR	
	comp=Z,2μm,16.6s					
MDSI	**Maura Dua**	**28.81**	**217**	P	**P**	**01 38 59.6 +1.3**
	comp=Z,859nmcomp=Z,22nm,1.2s					
TNG	**Tangerang**	**28.93**	**211**	P	P	01 39 06.9 +7.6
TNG				P	pwP	01 39 07.0 +2.5
JAY	**Jayapura**	**28.94**	**136**	LR	LR	01 51 07.1
	comp=Z,513nm,19.2s,baz=358,slow=38					
GSI	**Gunungsitoli**	**29.08**	**235**	P	**P**	**01 38 59.2 -1.5**
GSI				IAmb	IAmb	01 39 11.5
	comp=Z,30nm,0.7s					
GSI	**Gunungsitoli**	**29.08**	**235**	P	**P**	**01 38 59.9 -0.8**
GSI	**Gunungsitoli**	**29.08**	**235**	P	**P**	**01 39 01.8 +1.1**
	comp=Z,47nm,0.8s					
BBJI	**Bungbulang**	**29.60**	**208**	P	**P**	**01 39 05.8 +0.4**
SISI	**Saibi**	**29.69**	**229**	P	P	01 39 13.1 +6.9
	comp=Z,86nm,0.9s					
HIA	**Hailar**	**30.03**	**358**	P	**P**	**01 39 09.1 +0.3**
HIA	**Hailar**	**30.03**	**358**	*i* P	**P**	**01 39 08.1 -0.7**
HIA				pmax	pmax	
	comp=Z,16nm,0.8s					
ULN	**Ulaanbaatar**	**30.80**	**341**	P	**P**	**01 39 15.6 -0.3**
ULN				IAmb	IAmb	01 39 18.3
	comp=Z,73nm,1.6s					
ULN	**Ulaanbaatar**	**30.80**	**341**	*ce*P	**P**	**01 39 16.9 +1.1**
ULN				pmax	pmax	
	comp=Z,47nm,1.7s					
SONM	**Songino Array**	**30.98**	**341**	P	**P**	**01 39 17.6 +0.2**
SONM	**Songino Array**	**30.98**	**341**	P	**P**	**01 39 18.5 +1.1**
	comp=Z,15nm,0.9s,baz=161,slow=10.0,SNR=69					
SONM				PcP	**PcP**	**01 42 13.1 -0.2**
	comp=Z,2.0nm,0.8s,baz=160,slow=4.0,SNR=3.8					
SONM				LR	LR	01 53 14.6
	comp=Z,936nm,18.9s,baz=153,slow=39					
	comp=Z,15nm,0.9s					
KLR	**Kul'dur**	**31.18**	**14**	LR	LR	01 53 46.4
	comp=Z,1μm,19.5s,baz=204,slow=40					
KLR	**Kul'dur**	**31.18**	**14**	*ce*P	**P**	**01 39 19.3 +0.3**
KLR				pmax	pmax	
	comp=Z,32nm,1.7s					
HEH	**HeiHe**	**31.41**	**8**	*e*P	**P**	**01 39 21.3 +0.4**
HEH				pmax	pmax	
	comp=Z,12nm,1.4s					
HEH				LR	LR	
	comp=Z,990nm,16.7s					
HEH				LR	LR	
	comp=Z,520nm,20.4s					
HEH				LR	LR	
	comp=Z,990nm,18.4s					
YSS	**Yuzhno-Sakhali**	**32.90**	**28**	P	**P**	**01 39 33.1 -1.0**
YSS				IAmb	IAmb	01 39 38.7
	comp=Z,66nm,1.4s					
YSS	**Yuzhno-Sakhali**	**32.90**	**28**	P	**P**	**01 39 34.6 +0.5**
YSS	**Yuzhno-Sakhali**	**32.90**	**28**	*ce*P	**P**	**01 39 35.0 +0.9**
YSS				pmax	pmax	
	comp=Z,62nm,1.7s					
CIT	**Chita**	**33.30**	**352**	*e*P	**P**	**01 39 37.6 0.0**
CIT				*e*		01 39 44.2
CIT				*e*		01 40 45.6
CIT				*e*		01 41 01.6
CIT				pmax	pmax	
	comp=Z,53nm,2.4s					
ZAK	**Zakamensk**	**34.20**	**340**	*e*P	**P**	**01 39 45.5 0.0**

ZAK pmax pmax
comp=Z,16nm,1.3s
ZEA Zeya 34.82 6 *e*P **P 01 39 51.3 +0.6**
ZEA *e* 01 50 04.9
ZEA pmax pmax
comp=Z,100nm,1.9s
ZEA pmax pmax
comp=Z,30nm,1.4s
ZEA MLR MLR
comp=E,200nm,14.0s
TYV Tymovskoe 35.94 23 *e*P P 01 40 07.9 +7.6
TYV pmax pmax
comp=Z,9.0nm,1.0s
TYV pmax pmax
comp=Z,100nm,5.4s
MOY Mondy 36.06 339 *e*P **P 01 40 02.4 +0.9**
MOY pmax pmax
comp=Z,53nm,2.6s
WMQ Urumqi 37.19 319 *e*P **P 01 40 13.9 +2.7**
WMQ sP sP 01 40 19.8 +0.9
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ LR LR
comp=Z,980nm,15.9s
WMQ LR LR
comp=Z,750nm,15.9s
WMQ LR LR
comp=Z,400nm,16.9s
FITZ Fitzroy Crossi 37.32 173 LR LR 01 58 26.3
comp=Z,151nm,18.3s,baz=340,slow=41
MBWA Marble Bar 40.12 182 P **P 01 40 36.0 +0.1**
HYB Hyderabad 40.34 275 *e*P **P 01 40 36.9 -1.0**
PSA00 Pilbara Seismi 40.52 182 P **P 01 40 37.9 -1.4**
PSA00 Pilbara Seismi 40.52 182 P **P 01 40 38.6 -0.6**
comp=Z,31nm,1.1s
PSA00 Pilbara Seismi 40.52 182 P **P 01 40 37.5 -1.7**
ZSN Zaisan 40.76 322 *e*P **P 01 40 41.1 +0.1**
ZSN pmax pmax
comp=Z,15nm,0.8s
ZSN Zaisan 40.76 322 *e*P **P 01 40 41.2 +0.1**
comp=Z,15nm,0.8s
PALK Pallekele 40.94 259 P **P 01 40 41.9 -1.0**
PALK Pallekele 40.94 259 P **P 01 40 42.7 -0.2**
comp=Z,7.4nm,0.8s,baz=63,slow=7.6,SNR=8.7
PALK LR LR 01 56 51.0
comp=Z,254nm,19.4s,baz=68,slow=35
comp=Z,7.4nm,0.8s
PALK Pallekele 40.94 259 P **P 01 40 43.4 +0.5**
WRAB Tennant Creek 41.00 161 P **P 01 40 42.6 -0.6**
WRAB Tennant Creek 41.00 161 *i* P **P 01 40 43.0 -0.2**
WRAB pmax pmax
comp=Z,14nm,0.8s
WRA Warramunga Arr 41.00 161 P **P 01 40 43.1 -0.2**
WRA Warramunga Arr 41.00 161 P **P 01 40 39.8 -3.4**
comp=Z,6.5nm,0.9s,baz=342,slow=9.1,SNR=29
WRA PcP **PcP 01 42 42.9 -0.4**
comp=Z,5.3nm,0.8s,baz=345,slow=3.2,SNR=6.3
WRA ScP **ScP 01 46 31.3 -1.0**
comp=Z,3.3nm,1.2s,baz=334,slow=3.7,SNR=5.3
WRA LR LR 02 00 40.2
comp=Z,215nm,19.4s,baz=334,slow=41
comp=Z,6.5nm,0.9s
WRA Warramunga Arr 41.00 161 P **P 01 40 43.1 -0.2**
SKR Severo-Kuril's 41.90 33*ce*P **P 01 40 50.9 +0.6**
MK31 Makanchi Array 41.97 320*ce*P **P 01 40 52.1 +1.2**
MKAR Makanchi Array 41.97 320 P **P 01 40 51.6 +0.7**
MKAR Makanchi Array 41.97 320 P **P 01 40 52.1 +1.2**
comp=Z,25nm,0.9s,baz=113,slow=9.3,SNR=130
MKAR PcP **PcP 01 42 45.9 -0.2**
comp=Z,5.7nm,0.9s,baz=136,slow=2.1,SNR=3.3
MKAR LR LR 01 59 03.5
comp=Z,451nm,20.2s,baz=110,slow=37
comp=Z,25nm,0.9s
MAKZ Makanchi 42.16 320 P **P 01 40 52.9 +0.3**
MAKZ IAmb IAmb 01 40 55.2
comp=Z,76nm,1.4s
MAKZ Makanchi 42.16 320 P **P 01 40 53.9 +1.4**
SHLS Shalkode 42.29 314 *e*P **P 01 40 51.3 -2.5**
SHLS pmax pmax
comp=Z,19nm,1.1s
SHLS Shalkode 42.29 314 *e*P **P 01 40 51.3 -2.5**
comp=Z,19nm,1.1s
UZB Uzynbulak 42.59 314 *e*P **P 01 40 56.1 -0.1**
UZB pmax pmax
comp=Z,19nm,1.1s
UZB Uzynbulak 42.59 314 *e*P **P 01 40 56.1 -0.1**
comp=Z,19nm,1.1s
KPKS Kokpek 42.93 314 *e*P **P 01 40 59.0 +0.1**
KPKS Kokpek 42.93 314 *e*P **P 01 40 59.0 +0.1**
SATY Saty 42.98 313 *e*P **P 01 40 59.3 -0.1**
SATY Saty 42.98 313 *e*P **P 01 40 59.3 -0.1**
ZHN Zhinishke 43.00 313 *e*P **P 01 40 59.3 -0.2**
ZHN pmax pmax
comp=Z,1.0nm,0.1s
ZHN Zhinishke 43.00 313 *e*P **P 01 40 59.4 -0.2**
comp=Z,1.4nm,0.1s
H11S3 WAKE ISLAND Hy 43.08 83 T T 02 26 36.8
baz=277,slow=74,SNR=120
H11S1 WAKE ISLAND Hy 43.09 83 T T 02 26 40.4
baz=277,slow=74,SNR=44
H11S2 WAKE ISLAND Hy 43.10 83 T T 02 26 41.4
baz=277,slow=74,SNR=56
H11N1 WAKE ISLAND Hy 43.11 81 T T 02 26 57.6
baz=277,slow=75,SNR=359
H11N2 WAKE ISLAND Hy 43.11 81 T T 02 26 34.5
baz=277,slow=75,SNR=251
H11N3 WAKE ISLAND Hy 43.12 81 T T 02 26 58.8
baz=277,slow=75,SNR=150
YAK Yakutsk 43.23 6 P **P 01 41 00.1 -0.8**
YAK IAmb IAmb 01 41 13.9
comp=Z,35nm,0.8s
YAK Yakutsk 43.23 6 LR LR 02 01 17.8
comp=Z,458nm,18.0s,baz=190,slow=39
YAK Yakutsk 43.23 6 *e*P **P 01 41 01.0 +0.1**
YAK *e**PP **pwP 01 41 10.0 +1.1**
YAK *e* 01 42 41.8
YAK *e* 01 42 49.8
YAK *e*PPP PPP 01 43 15.2
YAK *e*S **S 01 47 26.5 -0.3**
YAK *e* 01 50 58.9
YAK *e*SSS SSS 01 51 18.5
YAK pmax pmax
comp=Z,23nm,0.8s
YAK pmax pmax
comp=N,19nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,10.0nm,0.4s
YAK pmax pmax
comp=N,50nm,2.0s
YAK pmax pmax
comp=E,14nm,1.7s
YAK smax smax
comp=N,145nm,4.6s
YAK smax smax
comp=E,72nm,4.4s
YAK MLR MLR
comp=Z,315nm,16.0s
YAK MLR MLR
comp=N,73nm,14.0s
YAK MLR MLR
comp=E,129nm,17.0s
QIS Mount Isa 43.47 154 P **P 01 41 01.5 -1.8**
comp=Z,14nm,0.6s
QIS Mount Isa 43.47 154 P **P 01 41 01.6 -1.8**
KDJ Kajisay 43.53 312 P **P 01 41 04.2 +0.2**
KDJ Kajisay 43.53 312 P **P 01 41 04.2 +0.2**
KDJ pmax pmax
comp=Z,20nm,1.1s
KSH Kashi 43.69 308 P **P 01 41 09.0 +3.8**
KSH pP sP 01 41 13.6 +0.7
KSH sP pP 01 41 18.3 +7.8
KSH S S 01 47 44.0 +9.5
KSH pmax pmax
comp=Z,33nm,1.0s
KSH LR LR
comp=Z,1μm,20.6s
KSH LR LR
comp=Z,560nm,21.4s
KSH LR LR
comp=Z,1μm,18.0s
MDOK Medeo 43.95 313 *e*P **P 01 41 07.1 -0.2**
MDOK Medeo 43.95 313 *e*P **P 01 41 07.1 -0.2**
TNSS Tian-Shan 43.98 313 *e*P **P 01 41 07.5 -0.3**
TNSS Tian-Shan 43.98 313 *e*P **P 01 41 07.6 -0.3**

AAA Alma-Ata 44.06 313 *e*P **P 01 41 08.0 0.0**
AAA pmax pmax
comp=Z,12nm,0.6s
AAA Alma-Ata 44.06 313 *e*P **P 01 41 08.0 0.0**
comp=Z,12nm,0.6s
PEA0B Petropavlovsk- 44.12 31 P **P 01 41 07.6 -0.6**
PEA0B IAmb IAmb 01 41 09.6
comp=Z,62nm,1.2s
PEA0B Petropavlovsk- 44.12 31*ce*P **P 01 41 08.7 +0.5**
PETK Petropavlovsk- 44.12 31 P **P 01 41 06.8 -1.4**
PETK Petropavlovsk- 44.12 31 P **P 01 41 07.4 -0.9**
comp=Z,25nm,1.1s,baz=222,slow=2.0,SNR=16
PETK LR LR 02 01 05.0
comp=Z,228nm,19.3s,baz=225,slow=38
comp=Z,25nm,1.1s
CHKK Chushkaly 44.22 314 *e*P **P 01 41 09.1 -0.1**
CHKK Chushkaly 44.22 314 *e*P **P 01 41 09.2 -0.1**
ULHL Ulahol 44.23 311 P **P 01 41 11.4 +1.8**
SNR=31
AS31 Alice Springs 44.39 163 P **P 01 41 09.0 -1.7**
AS31 Alice Springs 44.39 163 P **P 01 41 09.0 -1.7**
comp=Z,5.1nm,0.7s
ASAR Alice Springs 44.39 163 P **P 01 41 10.3 -0.5**
ASAR Alice Springs 44.39 163 P **P 01 41 08.4 -2.3**
comp=Z,2.3nm,0.4s,baz=338,slow=6.9,SNR=24
ASAR PcP **PcP 01 42 53.3 -1.2**
comp=Z,4.9nm,0.9s,baz=352,slow=3.1,SNR=3.3
ASAR ScP **ScP 01 46 44.7 -1.1**
comp=Z,1.9nm,1.1s,baz=345,slow=4.1,SNR=5.5
ASAR LR LR 02 02 18.4
comp=Z,174nm,19.5s,baz=349,slow=40
comp=Z,2.3nm,0.4s
ASAR Alice Springs 44.39 163 P **P 01 41 10.3 -0.5**
AS01 Alice Springs 44.40 163 P **P 01 41 10.9 +0.1**
ZAA0 Zalesovo Array 44.44 330 P **P 01 41 10.1 -0.7**
ZAA0 IAmb IAmb 01 41 12.3
comp=Z,28nm,0.9s
ZALV Zalesovo Beam 44.44 330 P **P 01 41 10.6 -0.2**
ZALV Zalesovo Beam 44.44 330 P **P 01 41 11.2 +0.4**
comp=Z,19nm,0.8s,baz=118,slow=7.4,SNR=84
ZALV PcP **PcP 01 42 54.1 -0.1**
comp=Z,3.1nm,0.8s,baz=114,slow=3.5,SNR=1.8
ZALV LR LR 02 00 38.4
comp=Z,425nm,20.8s,baz=126,slow=37
comp=Z,19nm,0.8s
WRKA Warakurna 44.51 171 P **P 01 41 10.6 -1.1**
comp=Z,25nm,1.2s
WRKA Warakurna 44.51 171 P **P 01 41 10.7 -1.0**
BOOM Boomskoye usch 44.52 312 P **P 01 41 13.0 +1.2**
BOOM Boomskoye usch 44.52 312 P **P 01 41 13.0 +1.2**
BOOM pmax pmax
comp=Z,12nm,1.0s
PET Petropavlovsk 44.54 32 P **P 01 41 11.4 -0.1**
PET IAmb IAmb 01 41 17.9
comp=Z,28nm,0.8s
PET Petropavlovsk 44.54 32 P **P 01 41 12.4 +0.8**
PET Petropavlovsk 44.54 32 *e*P **P 01 41 10.9 -0.7**
PET *e* 01 42 57.4
PET *e*S **S 01 47 44.1 -2.1**
PET *e*SS **SS 01 51 03.9 -2.0**
PET pmax pmax
comp=Z,100nm,7.3s
PET pmax pmax
comp=Z,300nm,5.6s
PET pmax pmax
comp=Z,40nm,1.8s
PET Petropavlovsk 44.54 32 P **P 01 41 11.3 -0.3**
comp=Z,43nm,1.6s
KUU Kurty 44.68 314 *e*P **P 01 41 12.9 +0.1**
KUU pmax pmax
comp=Z,27nm,1.2s
KUU Kurty 44.68 314 *e*P **P 01 41 13.0 +0.1**
comp=Z,27nm,1.2s
NIL Nilore 44.80 299 P **P 01 41 13.8 -0.3**
NIL Nilore 44.80 299 P **P 01 41 13.8 -0.3**
NIL pmax pmax
comp=Z,80nm,0.9s
TKM2 Tokmak 2 44.89 312 P **P 01 41 16.5 +1.6**
SNR=11
UCH Uchtor 45.46 311 P **P 01 41 22.1 +2.5**
SNR=8.2
CHMS Chumysh 45.51 312 P **P 01 41 21.4 +1.9**
SNR=7.2
FRU1 Bishkek 45.54 312 P **P 01 41 19.3 -0.5**
FRU1 IAmb IAmb 01 41 22.7
comp=Z,39nm,1.2s
FRU1 Bishkek 45.54 312 P **P 01 41 19.3 -0.5**
FRU1 pmax pmax
comp=Z,39nm,1.2s
AAK Ala-Archa 45.59 311 P **P 01 41 21.5 +1.2**
AAK Ala-Archa 45.59 311 LR LR 02 02 08.2
comp=Z,668nm,18.9s,baz=112,slow=38
AAK Ala-Archa 45.59 311 P **P 01 41 22.1 +1.9**
SNR=7.0
AAK Ala-Archa 45.59 311*ce*P **P 01 41 22.3 +2.0**
AAK pmax pmax
comp=Z,28nm,2.5s
AAK Ala-Archa 45.59 311 *i* P **P 01 41 22.2 +1.9**
SNR=8.9
MEEK Meekatharra 45.61 183 P **P 01 41 19.8 -0.6**
comp=Z,32nm,1.0s
MEEK Meekatharra 45.61 183 P **P 01 41 19.7 -0.7**
MA2 Magadan 45.65 21 LR LR 02 01 44.7
comp=Z,460nm,20.5s,baz=237,slow=38
MA2 Magadan 45.65 21 *i* P **P 01 41 20.7 +0.4**
MA2 pmax pmax
comp=Z,19nm,1.2s
MA2 Magadan 45.65 21 P **P 01 41 19.9 -0.4**
comp=Z,42nm,1.5s
SGDS Sogindy 45.72 313 *e*P **P 01 41 21.0 -0.2**
SGDS Sogindy 45.72 313 *e*P **P 01 41 21.1 -0.2**
USP Ospenovka 45.76 312 P **P 01 41 22.8 +1.3**
SNR=13
KURK Kurchatov 45.94 323 P **P 01 41 22.9 +0.2**
KURK Kurchatov 45.94 323*ce*P **P 01 41 23.6 +0.9**
KURK pmax pmax
comp=Z,76nm,1.3s
KURBB Kurchatov Arra 45.94 323 P **P 01 41 23.7 +0.9**
comp=Z,36nm,0.8s,baz=121,slow=7.9,SNR=214
KURBB PcP **PcP 01 42 58.8 -0.6**
comp=Z,2.2nm,0.8s,baz=117,slow=3.7,SNR=1.4
KURBB LR LR 02 01 14.1
comp=Z,403nm,19.7s,baz=174,slow=37
comp=Z,36nm,0.8s
AML Almayashu 46.02 310 P **P 01 41 26.1 +2.1**
SNR=48
EKS2 Erkin-Say 46.10 311 P **P 01 41 25.9 +1.6**
SNR=9.3
DRK Karamyk 46.83 306 P **P 01 41 29.9 -0.4**
TATA Tatamba Isabel 46.99 122 P **P 01 41 31.7 +0.3**
BTK Batken 47.68 307 P **P 01 41 36.5 -0.2**
HNR Honiara 47.72 123 LR LR 01 58 55.7
comp=Z,344nm,21.7s,baz=333,slow=33
DZA Taraz 47.90 311 *e*P **P 01 41 38.3 +0.1**
DZA pmax pmax
comp=Z,24nm,1.2s
DZA Taraz 47.90 311 *e*P **P 01 41 38.4 +0.1**
comp=Z,24nm,1.2s
MORW Morawa 48.22 186 P **P 01 41 40.2 -0.5**
MORW IAmb IAmb 01 41 45.2
comp=Z,26nm,0.9s
MORW Morawa 48.22 186 P **P 01 41 39.5 -1.2**
comp=Z,36nm,1.0s
MORW Morawa 48.22 186 P **P 01 41 39.7 -1.0**
KBL Kabul 48.36 299 P **P 01 41 42.0 -0.2**
KBL Kabul 48.36 299 P **P 01 41 42.0 -0.2**
KBL pmax pmax
comp=Z,41nm,0.9s
KKAR Karatay Array 48.53 311 P **P 01 41 43.4 +0.2**
KKAR Karatay Array 48.53 311 IAmb IAmb 01 41 45.5
comp=Z,53nm,1.1s
KKAR Karatay Array 48.53 311 P **P 01 41 43.4 +0.2**
IUG Iuzhnay 48.67 310 *e*P **P 01 41 44.3 -0.1**
IUG Iuzhnay 48.67 310 *e*P **P 01 41 44.3 -0.1**
SEY Seymchan 48.71 18 LR LR 02 03 29.1
comp=Z,218nm,19.2s,baz=224,slow=38
SEY Seymchan 48.71 18*ce*P **P 01 41 45.1 +1.0**
SEY pmax pmax
comp=Z,20nm,2.5s
OOD Oodnadatta 48.80 163 P **P 01 41 44.5 -0.7**
SIMJ Simiganj 48.84 305 P **P 01 41 45.5 -0.2**
SIMJ IAmb IAmb 01 42 12.9
comp=Z,24nm,1.0s
BRLS Borolday 49.00 311 *e*P **P 01 41 47.3 +0.5**
BRLS pmax pmax
comp=Z,14nm,1.1s

BRLS Borolday 49.00 311 *e*P **P 01 41 47.3 +0.5**
comp=Z,14nm,1.1s
BRZS Berezniki 49.11 320 *e*P **P 01 41 47.5 +0.1**
BRZS Berezniki 49.11 320 *e*P **P 01 41 47.6 +0.1**
FORT Forrest 50.13 172 P **P 01 41 55.7 +0.4**
comp=Z,56nm,0.9s
FORT Forrest 50.13 172 P **P 01 41 56.2 +0.9**
KMBL Kambalda 50.27 179 P **P 01 41 56.0 -0.4**
comp=Z,52nm,1.3s
KMBL Kambalda 50.27 179 P **P 01 41 55.8 -0.6**
INKA Innaminka 50.39 157 P **P 01 41 57.3 0.0**
BVAR Borovoye Array 51.53 323 P **P 01 42 06.6 +0.9**
comp=Z,13nm,0.9s,baz=113,slow=11,SNR=44
BVAR PcP **PcP 01 43 19.2 -0.4**
comp=Z,7.0nm,0.8s,baz=144,slow=2.8,SNR=5.7
BVAR LR LR 02 04 38.6
comp=Z,340nm,21.2s,baz=115,slow=37
comp=Z,13nm,0.9s
BRVK Borovoye 51.60 323 P **P 01 42 06.5 +0.3**
BRVK IAmb IAmb 01 42 08.7
comp=Z,45nm,1.1s
BRVK Borovoye 51.60 323*ce*P **P 01 42 07.5 +1.3**
BRVK pmax pmax
comp=Z,63nm,1.3s
NWAO Narrogin (SRO) 51.95 184 LR LR 02 06 54.9
comp=Z,88nm,20.0s,baz=339,slow=39
LCRK Leigh Creek 52.03 161 P **P 01 42 10.1 +0.5**
TIXI Tiksi 52.67 3 P **P 01 42 12.7 -1.2**
TIXI Tiksi 52.67 3 LR LR 02 07 44.6
comp=Z,622nm,19.2s,baz=204,slow=40
TIXI Tiksi 52.67 3*ce*P **P 01 42 13.2 -0.6**
TIXI pmax pmax
comp=Z,112nm,1.7s
BBOO Buckleboo 53.65 164 IAmb IAmb 01 42 36.4
comp=Z,30nm,0.8s
BBOO Buckleboo 53.65 164 P **P 01 42 21.5 0.0**
comp=Z,53nm,1.2s
BBOO Buckleboo 53.65 164 P **P 01 42 21.1 -0.5**
NRIK Noril'sk 54.19 346 P **P 01 42 25.7 +0.6**
comp=Z,59nm,1.0s,baz=134,slow=7.3,SNR=67
NRIK LR LR 02 09 58.5
comp=Z,406nm,19.9s,baz=148,slow=41
comp=Z,59nm,1.0s
NRIK Noril'sk 54.19 346*ce*P **P 01 42 25.6 +0.5**
NRIK pmax pmax
comp=Z,115nm,1.3s
STKA Stephens Creek 54.45 158 P **P 01 42 27.1 -0.3**
STKA Stephens Creek 54.45 158 P **P 01 42 26.7 -0.7**
comp=Z,3.3nm,0.7s,baz=340,slow=9.5,SNR=5.8
comp=Z,3.3nm,0.7s
STKA Stephens Creek 54.45 158 P **P 01 42 27.3 -0.1**
STKA Stephens Creek 54.45 158 P **P 01 42 27.1 -0.3**
STKA pmax pmax
comp=Z,45nm,1.0s
CMSA Cobar Meteorol 55.69 154 P **P 01 42 37.2 +0.8**
comp=Z,13nm,1.0s
CMSA Cobar Meteorol 55.69 154 P **P 01 42 36.7 +0.3**
BILL Bilibino 56.42 19 P **P 01 42 40.3 -0.9**
BILL IAmb IAmb 01 42 41.9
comp=Z,29nm,1.1s
BILL Bilibino 56.42 19*ce*P **P 01 42 41.1 0.0**
BILL pmax pmax
comp=Z,36nm,1.3s
ABKAR Akbulak array 56.92 317 P **P 01 42 45.1 +0.1**
ABKAR IAmb IAmb 01 42 47.0
comp=Z,35nm,1.1s
SVE Sverdlovsk 58.05 326*ce*P **P 01 42 53.5 +0.7**
SVE pmax pmax
comp=Z,90nm,0.9s
SVE MLR MLR
comp=Z,490nm,15.0s
AKTO Aktyubinsk 58.33 318 LR LR 02 09 19.4
comp=Z,393nm,19.1s,baz=94,slow=37
ARPS Mount Arapiles 59.01 161 P **P 01 42 59.1 -0.6**
ARTI Arti 59.16 325 P **P 01 42 59.8 -0.8**
ARTI Arti 59.16 325 LR LR 02 10 56.4
comp=Z,434nm,18.5s,baz=101,slow=38
ARTI Arti 59.16 325*d i*P **P 01 43 00.5 -0.1**
ARTI 01 43 50.4
ARTI 01 45 06.4
ARTI S **S 01 51 09.0 +1.9**
ARTI SS **SS 01 54 59.9 -1.3**
ARTI pmax pmax
comp=Z,46nm,0.9s
ARTI MLR MLR
comp=Z,404nm,17.0s
SOHO SOHO 59.73 287 P **P 01 43 05.1 0.0**
MSFE Esma-Masafi 59.89 289 P **P 01 43 07.8 +1.6**
UOSS Minazif 59.91 288 P **P 01 43 06.3 0.0**
HATD Hatta, Dubai 59.99 288 P **P 01 43 06.9 0.0**
ASHO Ashiyiah 60.08 288 P **P 01 43 07.7 +0.1**
NAZ Nazwa, Dubai 60.39 288 P **P 01 43 09.4 -0.2**
DZM Mont Dzumac 60.41 131 *e*P **P 01 43 10.9 +1.1**
comp=Z,143nm,31.9s
DZM Mont Dzumac 60.41 131 *e*SS SS 01 55 22.5 0.0
comp=Z,165nm,27.8s
DZM *e*LR LR 02 00 57.3
comp=Z,636nm,22.8s
DZM Mont Dzumac 60.41 131 LR LR 02 05 32.5
comp=Z,383nm,20.9s,baz=300,slow=32
FAQ Al Faqa, Dubai 60.49 288 P **P 01 43 09.8 -0.5**
P08K Saint George I 62.86 36 P **P 01 43 25.5 -0.2**
baz=264
GAMB Gambell 62.92 27 P **P 01 43 24.9 -1.0**
GAMB IAmb IAmb 01 43 28.0
comp=Z,23nm,1.3s
GAMB Gambell 62.92 27 P **P 01 43 25.1 -0.9**
baz=258
NIKH Nikolski High 62.94 40 P **P 01 43 25.2 -1.1**
baz=266
KIRV Kirov 64.28 327 LR LR 02 14 09.5
comp=Z,547nm,19.8s,baz=97,slow=38
KIRV Kirov 64.28 327*ce*P **P 01 43 35.0 0.0**
UNV Unalaska Valle 64.39 39 P **P 01 43 34.9 -0.9**
baz=268
TNA Tin City 64.85 26 P **P 01 43 38.0 -0.7**
baz=261
M11K Mekoryuk 64.98 32 P **P 01 43 39.2 -0.4**
baz=265
MAK Makhachkala 65.29 309 *e*P **P 01 43 39.0 -2.9**
MAK *e*S **S 01 52 21.3 -3.5**
MAK pmax pmax
comp=Z,109nm,1.1s
MAK MLR MLR
comp=Z,484nm,17.0s
F14K Arctic Creek 65.49 26 P **P 01 43 42.6 -0.2**
baz=262
ANM Nome 65.78 27 P **P 01 43 44.6 -0.1**
baz=264
K13K Kusilvak Mount 65.86 30 P **P 01 43 44.5 -0.7**
K13K IAmb IAmb 01 43 46.7
comp=Z,16nm,1.0s
K13K Kusilvak Mount 65.86 30 P **P 01 43 44.9 -0.4**
baz=266,SNR=6.8
F15K North Star Dit 66.21 26 IAmb IAmb 01 43 49.8
comp=Z,25nm,1.1s
F15K North Star Dit 66.21 26 P **P 01 43 47.1 -0.4**
baz=264,SNR=6.3
C16K Lisburne Hills 66.26 23 P **P 01 43 47.8 +0.1**
baz=262,SNR=5.3
M13K Dall Lake 66.40 32 P **P 01 43 48.9 +0.2**
baz=267
G15K Niukluk 66.40 27 P **P 01 43 48.4 -0.2**
baz=265
J14K Nanvaranak Lak 66.43 29 IAmb IAmb 01 43 50.3
comp=Z,28nm,1.2s
J14K Nanvaranak Lak 66.43 29 P **P 01 43 48.4 -0.5**
baz=266,SNR=6.8
L14K Kuka Creek 66.76 31 P **P 01 43 50.7 -0.3**
L14K Kuka Creek 66.76 31 P **P 01 43 51.1 +0.1**
baz=268,SNR=17
MSVF Nonsavu 66.92 120 LR LR 02 08 42.7
comp=Z,156nm,21.5s,baz=331,slow=32
MSVF Nonsavu 66.92 120 *i* P **P 01 43 53.4 +0.6**
D17K Noatak River 67.04 24 P **P 01 43 52.8 +0.1**
baz=264,SNR=20
M14K Bethel 67.09 31 P **P 01 43 52.4 -0.7**
baz=268,SNR=10
G16K Koyuk River 67.14 26 IAmb IAmb 01 43 55.5
comp=Z,24nm,1.1s
G16K Koyuk River 67.14 26 P **P 01 43 53.2 -0.1**
baz=266
H16K Elim 67.14 27 P **P 01 43 53.1 -0.3**
baz=267
RDOG Red Dog Mine 67.14 23 P **P 01 43 53.4 0.0**
RDOG IAmb IAmb 01 43 54.8

comp=Z,17nm,1.0s
N14K Kuskokwak Cree 67.21 32 P P 01 43 53.6 -0.3
baz=269
K15K Wolf Creek Mou 67.35 30 IAmb IAmb 01 44 01.3
comp=Z,23nm,1.1s
K15K Wolf Creek Mou 67.35 30 P P 01 43 54.6 -0.2
baz=268,SNR=8.0
L15K Ungalak Mounta 67.35 30 P P 01 43 54.4 -0.4
baz=268
O14K Tigyukauivet M 67.42 33 P P 01 43 54.3 -1.0
baz=270
E17K Hotham Inlet 67.47 24 P P 01 43 55.3 -0.1
baz=266,SNR=6.9
GNI Garni 67.61 306 LR LR 02 17 14.5
comp=Z,200nm,19.7s,baz=80,slow=39
F17K Baldwin Pennin 67.66 25 P P 01 43 56.9 +0.3
baz=267
B18K Kokolik River 67.66 22 P P 01 43 57.2 +0.6
baz=265
M15K Kasigluk River 67.72 31 P P 01 43 57.1 -0.1
baz=270,SNR=7.9
I17K Unalakleet 67.78 28 P P 01 43 57.6 +0.2
baz=268
J16K Anvik River 67.80 29 P P 01 43 58.0 +0.4
baz=269
C18K Utukok River 67.82 23 IAmb IAmb 01 43 59.1
comp=Z,17nm,0.9s
C18K Utukok River 67.82 23 P P 01 43 57.8 0.0
baz=266,SNR=12
G17K Kiwalik Mounta 67.85 26 P P 01 43 58.3 +0.4
baz=268,SNR=21
SDPT Sand Point 67.90 37 P P 01 43 58.2 -0.2
baz=272
E18K Tukpahlearik C 67.97 24 IAmb IAmb 01 44 08.2
comp=Z,13nm,0.8s
E18K Tukpahlearik C 67.97 24 P P 01 43 59.0 +0.4
baz=267
A19K Wainwright 67.99 21 P P 01 43 59.5 +0.9
baz=265,SNR=33
N15K Kwethluk River 68.01 32 P P 01 43 58.3 -0.8
N15K Kwethluk River 68.01 32 P P 01 43 59.2 +0.1
baz=270,SNR=11
NCK Nalchik 68.09 310 *i* P P 01 43 59.1 -0.8
NCK pmax pmax
comp=Z,10.0nm,1.0s
H17K Granite Mounta 68.15 27 IAmb IAmb 01 44 02.1
comp=Z,23nm,1.0s
H17K Granite Mounta 68.15 27 P P 01 43 59.9 +0.2
baz=269,SNR=11
O15K Ungalikthiuk R 68.16 33 P P 01 43 59.0 -1.0
O15K IAmb IAmb 01 44 08.1
comp=Z,18nm,1.1s
O15K Ungalikthiuk R 68.16 33 P P 01 44 00.2 +0.2
baz=271,SNR=6.1
F18K Selawik 68.30 25 P P 01 44 01.3 +0.6
baz=268,SNR=23
L16K Owhat River 68.31 30 IAmb IAmb 01 44 02.7
comp=Z,25nm,1.3s
L16K Owhat River 68.31 30 P P 01 44 01.3 +0.5
baz=270,SNR=11
GOF Gofitskoye 68.32 312 *ce*P P 01 44 01.6 +0.3
J17K VABM Dome 68.49 28 P P 01 44 01.8 -0.1
J17K VABM Dome 68.49 28 P P 01 44 02.5 +0.5
baz=270,SNR=13
M16K Timber Creek 68.56 31 P P 01 44 02.6 +0.1
baz=271,SNR=11
KBZ Khabaz 68.57 310 P P 01 44 03.1 +0.4
comp=Z,11nm,0.9s,baz=88,slow=3.4,SNR=16
KBZ LR LR 02 18 01.5
comp=Z,374nm,18.2s,baz=94,slow=39
comp=Z,11nm,0.9s
KBZ Khabaz 68.57 310 *ce*P P 01 44 02.4 -0.4
KBZ pmax pmax
comp=Z,24nm,1.1s
VRH Novokhopyorsk 68.67 318 *e*P P 01 44 02.6 -0.7
VRH pmax pmax
comp=Z,44nm,0.7s
N16K Nishlik Lake 68.67 32 P P 01 44 03.3 +0.2
baz=271,SNR=9.4
G18K Tagagawik 68.69 26 IAmb IAmb 01 44 04.9
comp=Z,24nm,1.1s
G18K Tagagawik 68.69 26 P P 01 44 03.1 -0.1
baz=269,SNR=18
KIV Kislovodsk 68.69 311 P P 01 44 03.3 -0.4
KIV Kislovodsk 68.69 311 ||P P 01 44 04.2 +0.5
KIV Kislovodsk 68.69 311 *e*P P 01 44 03.6 -0.1
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,211nm,17.0s
KIV Kislovodsk 68.69 311 *i* P P 01 44 04.1 +0.3
SNR=6.3
KIV Kislovodsk 68.69 311 P P 01 44 03.8 +0.1
comp=Z,384nmcomp=Z,33nm,0.9s
SHA1 Shidzhatmaz 68.74 310 *i* P P 01 44 03.1 -1.1
H18K Honhosa River 68.81 27 IAmb IAmb 01 44 05.2
comp=Z,18nm,1.1s
H18K Honhosa River 68.81 27 P P 01 44 03.6 -0.3
baz=270,SNR=9.0
K17K Iditarod 68.85 29 P P 01 44 04.5 +0.3
K17K Iditarod 68.85 29 P P 01 44 04.4 +0.3
baz=271,SNR=14
L17K Donlin 68.86 30 P P 01 44 04.6 +0.3
baz=271,SNR=19
D19K Kuna River 68.94 23 P P 01 44 05.0 +0.2
baz=269
O16K Kokwok River B 69.03 33 IAmb IAmb 01 44 06.5
comp=Z,18nm,1.0s
O16K Kokwok River B 69.03 33 P P 01 44 05.0 -0.4
baz=272,SNR=12
F19K Shaleruckik Mo 69.05 25 IAmb IAmb 01 44 07.2
comp=Z,50nm,1.9s
F19K Shaleruckik Mo 69.05 25 P P 01 44 05.5 +0.1
baz=270,SNR=7.9
P16K Nushagak River 69.11 33 P P 01 44 05.1 -0.8
baz=273
E19K Redstone River 69.27 24 IAmb IAmb 01 44 08.8
comp=Z,23nm,1.0s
E19K Redstone River 69.27 24 P P 01 44 06.8 0.0
baz=270,SNR=27
M17K Holitna River 69.29 31 P P 01 44 06.7 -0.3
M17K IAmb IAmb 01 44 20.9
comp=Z,24nm,1.1s
M17K Holitna River 69.29 31 P P 01 44 07.2 +0.2
baz=272,SNR=11
B20K Meade River 69.31 21 P P 01 44 07.4 +0.5
baz=269
G19K Purcell Mounta 69.33 25 IAmb IAmb 01 44 09.0
comp=Z,23nm,1.1s
G19K Purcell Mounta 69.33 25 P P 01 44 07.2 0.0
baz=271,SNR=7.2
KLMR Klimovskoe 69.34 329 *e*P P 01 44 04.2 -3.1
KLMR *e**SP **sP** 01 44 14.4 -1.0
KLMR S S 01 53 11.1 -1.9
KLMR pmax pmax
comp=Z,67nm,1.2s
KLMR MLR MLR
comp=Z,820nm,15.0s
GCSA Galena City Sc 69.44 27 P P 01 44 07.9 +0.1
baz=271
N17K Nushagak Hills 69.45 32 IAmb IAmb 01 44 10.3
comp=Z,34nm,1.2s
N17K Nushagak Hills 69.45 32 P P 01 44 08.1 +0.1
baz=273,SNR=16
D20K Etivluk River 69.50 23 P P 01 44 08.6 +0.4
baz=270,SNR=59
A21K Barrow 69.52 20 P P 01 44 08.9 +0.7
baz=269,SNR=24
O17K Koliganek Bris 69.53 32 P P 01 44 08.1 -0.4
baz=273,SNR=9.3
J18K Innoko River 69.55 28 P P 01 44 08.3 -0.2
baz=272,SNR=13
H19K Roundabout Mou 69.61 26 P P 01 44 08.9 +0.1
baz=272,SNR=40
L18K Granite Mounta 69.61 30 IAmb IAmb 01 44 10.6
comp=Z,27nm,1.2s
L18K Granite Mounta 69.61 30 P P 01 44 09.1 +0.1
baz=272,SNR=18
E20K Nigu River 69.66 23 P P 01 44 09.3 +0.1
baz=271
RAYN Ar Rayn 69.77 289 P P 01 44 09.6 -1.1
RAYN IAmb IAmb 01 44 11.2
comp=Z,17nm,0.8s
RAYN Ar Rayn 69.77 289 P P 01 44 10.6 -0.1
RAYN Ar Rayn 69.77 289 *i* P P 01 44 10.1 -0.6
SNR=30
Q16K King Salmon 69.82 33 P P 01 44 10.5 +0.2
baz=274

F20K Avaraart Lake 69.86 25 IAmb IAmb 01 44 11.9
comp=Z,15nm,0.9s
F20K Avaraart Lake 69.86 25 P P 01 44 11.2 +0.9
baz=272,SNR=22
TTA Tatalina 69.89 29 IAmb IAmb 01 44 19.8
comp=Z,15nm,1.0s
TTA Tatalina 69.89 29 P P 01 44 11.0 +0.2
TTA Tatalina 69.89 29 P P 01 44 11.4 +0.7
baz=273,SNR=15
GURO Guoynak-BITLI 69.90 305 IAmb IAmb 01 44 13.3
comp=Z,19nm,1.2s
P17K Kvichak River 69.90 33 P P 01 44 10.4 -0.4
baz=274,SNR=22
J19K Poorman 70.02 28 P P 01 44 11.3 -0.1
baz=273,SNR=13
A22K Sinclair Lake 70.05 20 P P 01 44 11.9 +0.5
baz=271
M18K Stony River 70.06 30 P P 01 44 11.7 0.0
baz=274,SNR=16
N18K Kilae Creek 70.08 31 IAmb IAmb 01 44 14.1
comp=Z,31nm,1.5s
N18K Kilae Creek 70.08 31 P P 01 44 12.3 +0.4
baz=274,SNR=9.3
C21K Knifeblade Rid 70.15 22 P P 01 44 12.2 +0.1
baz=272,SNR=23
VORR Voronezh 70.19 319 *e*P P 01 44 12.3 -0.4
VORR pmax pmax
comp=Z,23nm,0.5s
B21K Ikpikpuk River 70.20 22 P P 01 44 12.6 +0.2
baz=272
Q17K Contact Creek 70.26 34 P P 01 44 11.5 -1.6
baz=275,SNR=16
H20K Anotleneega Mo 70.26 26 P P 01 44 12.9 0.0
baz=273,SNR=13
LPSR Galich'ya Gora 70.27 320 *e*P P 01 44 12.5 -0.6
LPSR pmax pmax
comp=Z,36nm,0.7s
VSR Storozhevoye 70.27 319 *e*P P 01 44 09.9 -3.2
VSR pmax pmax
comp=Z,10.0nm,1.0s
I20K Naaghedeneel 70.47 27 P P 01 44 14.4 +0.3
baz=274,SNR=12
L19K White Mountain 70.47 30 IAmb IAmb 01 44 16.5
comp=Z,32nm,1.2s
L19K White Mountain 70.47 30 P P 01 44 14.6 +0.3
baz=274,SNR=20
E21K Killik River 70.47 23 IAmb IAmb 01 44 16.0
comp=Z,23nm,1.0s
E21K Killik River 70.47 23 P P 01 44 14.1 -0.1
baz=273,SNR=25
O18K Koktuh Hills 70.48 32 P P 01 44 13.6 -0.8
O18K Koktuh Hills 70.48 32 P P 01 44 14.5 +0.1
baz=275,SNR=31
P18K Big Mountain, 70.51 33 IAmb IAmb 01 44 27.3
comp=Z,22nm,0.9s
P18K Big Mountain, 70.51 33 P P 01 44 14.1 -0.5
baz=275,SNR=14
ACHA Angle Creek He 70.56 34 IAmb IAmb 01 44 28.3
comp=Z,13nm,0.8s
B22K Teshekpuk Lake 70.58 21 IAmb IAmb 01 44 16.2
comp=Z,26nm,0.9s
B22K Teshekpuk Lake 70.58 21 P P 01 44 14.5 -0.2
baz=272
CHIR Chirikof Islan 70.62 36 P P 01 44 14.5 -0.8
baz=276
J20K Nowinta River 70.65 28 IAmb IAmb 01 44 17.0
comp=Z,22nm,1.0s
J20K Nowinta River 70.65 28 P P 01 44 15.6 +0.3
baz=274,SNR=17
Q18K Katmai Hardscr 70.68 33 P P 01 44 14.8 -1.0
baz=275,SNR=6.0
MOS Moscow 70.71 323 *e*P P 01 44 13.4 -2.3
MOS *e* 01 44 34.4
MOS *e* 01 46 51.0
MOS pmax pmax
comp=Z,30nm,0.8s
MOS MLR MLR
comp=Z,300nm,17.0s
M19K Big River Lodg 70.71 30 P P 01 44 16.0 +0.3
baz=275,SNR=7.5
F21K Alatna River 70.73 24 P P 01 44 15.5 -0.2
baz=274
K20K Telida 70.75 28 P P 01 44 16.0 +0.1
baz=274
N19K Bonanza Creek 70.76 31 IAmb IAmb 01 44 17.5
comp=Z,36nm,1.4s
N19K Bonanza Creek 70.76 31 P P 01 44 16.1 -0.1
baz=275,SNR=17
G21K Allakaket 70.76 25 P P 01 44 15.8 -0.1
baz=274,SNR=32
O19K Port Alsworth 70.89 32 P P 01 44 16.7 -0.1
O19K Port Alsworth 70.89 32 P P 01 44 16.9 +0.1
baz=275,SNR=12
L20K Farewell, AK 70.90 29 P P 01 44 17.1 +0.1
baz=275,SNR=12
D22K Ayikyak River 70.92 22 IAmb IAmb 01 44 19.2
comp=Z,36nm,1.2s
D22K Ayikyak River 70.92 22 P P 01 44 17.0 +0.1
baz=274,SNR=22
MARD Mardin 71.08 304 P P 01 44 18.3 -0.3
MARD IAmb IAmb 01 44 19.3
comp=Z,14nm,0.8s
R18K Karluk 71.08 35 P P 01 44 17.7 -0.3
baz=276
H21K Melozitna Rive 71.11 26 P P 01 44 18.4 +0.3
baz=275,SNR=39
F22K John River 71.21 24 P P 01 44 19.0 +0.3
baz=275,SNR=18
E22K Anaktuvuk Pass 71.30 23 IAmb IAmb 01 44 21.2
comp=Z,28nm,1.1s
E22K Anaktuvuk Pass 71.30 23 P P 01 44 19.2 0.0
baz=275
M20K Styx River 71.31 30 P P 01 44 19.5 +0.1
baz=276,SNR=16
SII Sitkinak Islan 71.34 36 P P 01 44 18.6 -1.0
baz=277
Q19K Cape Douglas, 71.36 33 P P 01 44 18.0 -1.7
baz=276,SNR=6.6
OBN Obninsk 71.38 323 P P 01 44 18.7 -1.0
OBN IAmb IAmb 01 44 21.1
comp=Z,28nm,1.0s
OBN Obninsk 71.38 323 *c i* P P 01 44 19.9 +0.1
OBN *i* 01 44 37.9
OBN pmax pmax
comp=Z,39nm,1.3s
OBN MLR MLR
comp=Z,243nm,17.0s
OBN Obninsk 71.38 323 P P 01 44 18.9 -0.9
comp=Z,28nm,1.6s
CHUM Lake Minchumin 71.48 28 P P 01 44 20.3 0.0
baz=276,SNR=14
P19K Oil Pt 71.49 32 IAmb IAmb 01 44 28.4
comp=Z,18nm,0.8s
P19K Oil Pt 71.49 32 P P 01 44 19.6 -0.9
baz=276,SNR=7.7
G22K Bettles 71.52 25 P P 01 44 21.0 +0.5
baz=276
C23K Itkillik River 71.58 21 IAmb IAmb 01 44 22.2
comp=Z,23nm,1.1s
C23K Itkillik River 71.58 21 P P 01 44 21.1 +0.3
baz=275,SNR=15
CAST Castle Rocks 71.63 28 IAmb IAmb 01 44 22.6
comp=Z,28nm,0.9s
CAST Castle Rocks 71.63 28 P P 01 44 21.2 -0.1
baz=276,SNR=34
D23K Nanushuk River 71.64 22 P P 01 44 21.7 +0.5
baz=276,SNR=35
PPLA Purkeypile 71.64 29 IAmb IAmb 01 44 57.0
comp=Z,22nm,1.1s
PPLA Purkeypile 71.64 29 P P 01 44 21.4 -0.1
baz=276,SNR=7.7
H22K Ishtalitna Cre 71.67 26 P P 01 44 21.9 +0.4
baz=276,SNR=29
OHAK Old Harbor 71.75 35 IAmb IAmb 01 44 34.3
comp=Z,24nm,1.0s
OHAK Old Harbor 71.75 35 P P 01 44 21.5 -0.5
OHAK Old Harbor 71.75 35 P P 01 44 21.5 -0.5
baz=277
SPCR Spurr Chakacha 71.82 31 P P 01 44 22.5 0.0
baz=277,SNR=5.8
STLK Strandline Lak 71.97 30 IAmb IAmb 01 46 38.1
comp=Z,10nm,0.5s
COLD Coldfoot 72.00 24 P P 01 44 23.1 -0.3
COLD Coldfoot 72.00 24 P P 01 44 23.7 +0.3
baz=276,SNR=14
BPAW Bear Paw Mtn. 72.04 27 IAmb IAmb 01 44 25.6
comp=Z,38nm,1.2s
BPAW Bear Paw Mtn. 72.04 27 P P 01 44 23.4 -0.3

baz=277,SNR=34
Q20K Shuyak Island 72.05 33 P P 01 44 23.1 -0.7
baz=277,SNR=6.5
SKT Skwentna 72.05 30 IAmb IAmb 01 44 24.5
comp=Z,40nm,1.4s
SKT Skwentna 72.05 30 P P 01 44 23.0 -0.8
baz=277,SNR=15
SYI Shuyak Island 72.05 33 IAmb IAmb 01 44 24.5
comp=Z,25nm,0.9s
KDAK Kodiak Island 72.06 34 P P 01 44 21.9 -2.0
KDAK Kodiak Island 72.06 34 LR LR 02 17 35.6
comp=Z,58nm,19.4s,baz=112,slow=37
KDAK Kodiak Island 72.06 34 *i* P P 01 44 23.3 -0.6
KDAK pmax pmax
comp=Z,69nm,1.7s
KDAK Kodiak Island 72.06 34 P P 01 44 22.9 -1.0
baz=278
TOLK Toolik Lake Re 72.07 23 IAmb IAmb 01 44 25.7
comp=Z,17nm,0.9s
TOLK Toolik Lake Re 72.07 23 P P 01 44 23.9 +0.1
baz=277,SNR=14
E23K Chandalar 72.12 23 IAmb IAmb 01 44 37.0
comp=Z,25nm,1.0s
E23K Chandalar 72.12 23 P P 01 44 24.4 +0.1
baz=277,SNR=25
G23K Bananza Creek 72.13 25 IAmb IAmb 01 44 26.4
comp=Z,34nm,1.2s
G23K Bananza Creek 72.13 25 P P 01 44 24.6 +0.4
baz=277,SNR=23
C24K Franklin Bluff 72.25 21 P P 01 44 24.7 -0.1
baz=277
D24K Happy Valley 72.28 22 IAmb IAmb 01 44 27.0
comp=Z,35nm,1.1s
D24K Happy Valley 72.28 22 P P 01 44 24.8 -0.2
baz=277
HOM Homer 72.29 32 P P 01 44 24.8 -0.4
baz=278
TRF Thorofare Moun 72.43 28 P P 01 44 26.0 -0.3
baz=278,SNR=10
H23K Yukon River 72.43 26 P P 01 44 25.9 -0.2
baz=278
SUA Susitna One 72.49 30 P P 01 44 24.8 -1.8
SUA IAmb IAmb 01 44 27.2
comp=Z,32nm,1.0s
SUA Susitna One 72.49 30 P P 01 44 26.0 -0.5
baz=278,SNR=24
CNPM China Poot 72.52 32 IAmb IAmb 01 44 37.0
comp=Z,15nm,0.8s
E24K Your Creek 72.54 23 IAmb IAmb 01 44 28.7
comp=Z,30nm,1.1s
E24K Your Creek 72.54 23 P P 01 44 27.0 +0.3
baz=278
CUT Chulitna 72.58 29 P P 01 44 26.1 -0.8
baz=278
I23K Minto, Yukon-K 72.60 26 IAmb IAmb 01 44 28.9
comp=Z,37nm,1.4s
I23K Minto, Yukon-K 72.60 26 P P 01 44 27.1 +0.1
baz=278,SNR=16
BRLK Bradley Lake 72.66 32 IAmb IAmb 01 44 28.9
comp=Z,16nm,0.7s
BRSE Bradley Lake S 72.73 32 P P 01 44 27.6 -0.3
baz=278,SNR=6.9
M22K Willow 72.74 30 P P 01 44 26.8 -1.0
baz=278,SNR=15
NEA2 Nenana 72.80 27 IAmb IAmb 01 44 29.6
comp=Z,22nm,0.9s
NEA2 Nenana 72.80 27 P P 01 44 27.6 -0.6
baz=278,SNR=22
F24K Squaw Lake 72.85 24 IAmb IAmb 01 44 30.6
comp=Z,30nm,1.1s
F24K Squaw Lake 72.85 24 P P 01 44 28.8 +0.3
baz=278,SNR=31
MCK McKinley 72.99 28 P P 01 44 28.1 -1.3
MCK McKinley 72.99 28 P P 01 44 28.1 -1.3
MCK pmax pmax
comp=Z,41nm,1.1s
MCK McKinley 72.99 28 P P 01 44 28.6 -0.8
baz=279,SNR=26
JOF Joensuu 73.01 331 *e*P P 01 44 29.4 0.0
RC01 Rabbit Creek A 73.03 31 P P 01 44 28.4 -1.2
baz=279
RND Reindeer 73.07 28 P P 01 44 29.0 -1.0
H24K Noodor Dome 73.11 25 P P 01 44 29.4 -0.7
H24K IAmb IAmb 01 44 32.4
comp=Z,28nm,1.2s
H24K Noodor Dome 73.11 25 P P 01 44 29.7 -0.4
baz=279,SNR=24
D25K Kavik River 73.12 22 P P 01 44 29.9 -0.2
baz=279
G24K Hadweenzic Riv 73.13 25 IAmb IAmb 01 44 32.3
comp=Z,28nm,1.1s
G24K Hadweenzic Riv 73.13 25 P P 01 44 30.5 +0.3
baz=279,SNR=26
PMR Palmer 73.23 30 IAmb IAmb 01 44 30.7
comp=Z,15nm,0.8s
PMR Palmer 73.23 30 P P 01 44 29.8 -1.0
PMR Palmer 73.23 30 P P 01 44 29.5 -1.3
baz=279,SNR=12
COLA College 73.28 26 P P 01 44 30.0 -1.0
COLA College 73.28 26 P P 01 44 30.8 -0.2
COLA College 73.28 26 *i* P P 01 44 29.5 -1.5
COLA pmax pmax
comp=Z,21nm,1.4s
COLA College 73.28 26 P P 01 44 30.3 -0.7
baz=279
GHO Glory Hole Cre 73.30 30 IAmb IAmb 01 44 47.1
comp=Z,14nm,0.8s
SEW Seward 73.32 32 IAmb IAmb 01 45 02.3
comp=Z,21nm,1.0s
SEW Seward 73.32 32 P P 01 44 30.8 -0.5
baz=279
POKR Poker Plat Res 73.41 26 IAmb IAmb 01 44 33.6
comp=Z,20nm,1.1s
POKR Poker Plat Res 73.41 26 P P 01 44 30.7 -1.1
baz=280
C26K Camden Bay 73.52 21 P P 01 44 32.2 -0.2
baz=280
SML Sawmill 73.57 30 P P 01 44 32.1 -0.8
baz=280,SNR=19
KNK Knik Glacier 73.58 30 IAmb IAmb 01 44 33.9
comp=Z,27nm,1.0s
KNK Knik Glacier 73.58 30 P P 01 44 32.1 -0.8
baz=280,SNR=20
E25K Arctic Village 73.62 23 P P 01 44 33.3 +0.3
baz=280,SNR=12
G25K Bearman Lake 73.66 24 P P 01 44 33.3 +0.1
baz=280,SNR=20
F25K Christian Rive 73.69 24 IAmb IAmb 01 44 35.9
comp=Z,30nm,1.3s
F25K Christian Rive 73.69 24 P P 01 44 33.7 +0.3
baz=281,SNR=27
IL31 73.70 27 P P 01 44 31.7 -1.7
ILAR Eielson Array 73.70 27 P P 01 44 32.1 -1.5
ILAR Eielson Array 73.70 27 P P 01 44 32.5 -1.0
comp=Z,3.8nm,0.8s,baz=266,slow=4.7,SNR=25
ILAR LR LR 02 19 44.5
comp=Z,74nm,18.1s,baz=284,slow=38
comp=Z,3.8nm,0.8s
HDA Harding Lake 73.74 27 IAmb IAmb 01 44 34.0
comp=Z,23nm,1.2s
HDA Harding Lake 73.74 27 P P 01 44 33.2 -0.6
baz=280,SNR=9.7
PWL Port Wells 73.74 31 P P 01 44 33.3 -0.5
baz=280,SNR=23
TOKA Tokat 73.82 308 IAmb IAmb 01 47 08.2
comp=Z,10nm,0.4s
M23K Glacier View 73.86 30 P P 01 44 33.8 -0.8
baz=280,SNR=11
H25L Birch Creek 73.86 25 P P 01 44 35.0 +0.6
baz=281
C27K Jago River 73.99 21 IAmb IAmb 01 44 37.2
comp=Z,28nm,1.1s
C27K Jago River 73.99 21 P P 01 44 35.6 +0.5
baz=282,SNR=33
FYU Fort Yukon 74.04 25 IAmb IAmb 01 44 37.7
comp=Z,27nm,1.2s
SCM Sheep Creek Mo 74.04 30 P P 01 44 35.5 -0.1
baz=281,SNR=20
BMAR Burnt Mountain 74.12 24 P P 01 44 34.9 -1.1
ARCES ARCESS Array B 74.12 339 P P 01 44 36.0 +0.1
comp=Z,9.6nm,1.0s,baz=72,slow=7.9,SNR=17
ARCES LR LR 02 21 05.3
comp=Z,320nm,18.0s,baz=62,slow=39
comp=Z,9.6nm,1.0s
PRP Porcupine Dome 74.12 26 P P 01 44 36.2 +0.1
baz=281,SNR=7.0
F26K Sheenjek River 74.23 23 IAmb IAmb 01 44 39.0
comp=Z,42nm,1.4s

F26K	Sheenjek River	74.23	23	P	P	01 44 37.3	+0.6
	baz=282,SNR=20						
SPITS	Spitsbergen Ar	74.33	348	P	P	01 44 37.1	+0.1
	comp=Z,11nm,0.8s,baz=87,slow=8.5,SNR=6.6						
SPITS				LR	LR	02 21 49.0	
	comp=Z,385nm,18.6s,baz=33,slow=39						
	comp=Z,11nm,0.8s						
GLI	Glacier Island	74.33	31	IAmb	IAmb	01 44 38.2	
	comp=Z,39nm,1.1s						
GLI	Glacier Island	74.33	31	P	P	01 44 36.9	-0.4
	baz=281,SNR=14						
P23K	Montague Islan	74.35	31	P	P	01 44 37.1	-0.3
	baz=281,SNR=6.6						
K24K	Donnelly Dome	74.36	27	IAmb	IAmb	01 44 38.4	
	comp=Z,25nm,0.8s						
K24K	Donnelly Dome	74.36	27	P	P	01 44 37.1	-0.4
	baz=282,SNR=17						
J25K	Salcha River,	74.37	27	P	P	01 44 37.2	-0.3
	baz=282,SNR=8.0						
M24K	Tolsona, Glenn	74.52	29	P	P	01 44 38.9	+0.5
	baz=282,SNR=11						
G26K	Porcupine Rive	74.52	24	IAmb	IAmb	01 44 40.5	
	comp=Z,41nm,1.4s						
G26K	Porcupine Rive	74.52	24	P	P	01 44 38.8	+0.5
	baz=282,SNR=22						
SIM	Simferopol'	74.59	313	*e*P	P	01 44 38.9	-0.2
SIM				pmax	pmax		
	comp=Z,32nm,0.9s						
FID	Port Fidalgo	74.65	31	IAmb	IAmb	01 44 40.3	
	comp=Z,35nm,1.1s						
PAX	Paxson	74.66	28	P	P	01 44 37.9	-1.4
PAX	Paxson	74.66	28	P	P	01 44 37.9	-1.4
PAX				pmax	pmax		
	comp=Z,11nm,0.9s						
PAX	Paxson	74.66	28	P	P	01 44 38.8	-0.5
	baz=282,SNR=11						
HIN	Hinchinbrook I	74.71	31	IAmb	IAmb	01 44 40.7	
	comp=Z,27nm,1.0s						
KLU	Klutina	74.76	30	IAmb	IAmb	01 44 41.2	
	comp=Z,22nm,1.1s						
KLU	Klutina	74.76	30	P	P	01 44 39.9	0.0
	baz=282,SNR=8.8						
RIDG	Independent Ri	74.78	27	IAmb	IAmb	01 44 40.7	
	comp=Z,42nm,1.2s						
RIDG	Independent Ri	74.78	27	P	P	01 44 39.5	-0.4
	baz=282,SNR=22						
DIV	Divide	74.91	30	IAmb	IAmb	01 44 42.1	
	comp=Z,30nm,1.0s						
HARP	HAARP	74.92	29	P	P	01 44 41.2	+0.5
	baz=282,SNR=6.0						
D27M	Malcolm River	75.02	21	IAmb	IAmb	01 44 43.2	
	comp=Z,42nm,1.2s						
D27M	Malcolm River	75.02	21	P	P	01 44 41.5	+0.3
	baz=284,SNR=12						
EYAK	Cordova Ski Ar	75.04	31	P	P	01 44 41.9	+0.5
EYAK	Cordova Ski Ar	75.04	31	P	P	01 44 42.1	+0.7
	baz=282						
E27K	Coleen River	75.06	23	IAmb	IAmb	01 44 43.4	
	comp=Z,29nm,1.1s						
E27K	Coleen River	75.06	23	P	P	01 44 41.9	+0.5
	baz=284,SNR=20						
SCRK	Sand Creek	75.09	27	P	P	01 44 41.1	-0.7
	baz=283,SNR=13						
DOT	Dot Lake	75.14	27	P	P	01 44 40.4	-1.5
I26K	Coal Creek Min	75.14	26	IAmb	IAmb	01 44 43.0	
	comp=Z,30nm,1.1s						
I26K	Coal Creek Min	75.14	26	P	P	01 44 41.4	-0.5
	baz=283						
J26L	Joseph Creek	75.16	26	IAmb	IAmb	01 44 42.9	
	comp=Z,26nm,1.3s						
J26L	Joseph Creek	75.16	26	P	P	01 44 41.7	-0.4
	baz=283,SNR=19						
ASF	Jabal al Asfar	75.26	299	LR	LR	02 19 09.7	
	comp=Z,108nm,21.7s,baz=129,slow=37						
BZK	Bozkurt	75.31	310	P	P	01 44 43.3	0.0
	comp=Z,572nmcomp=Z,40nm,1.0s						
N25K	Chitina, Valde	75.36	30	IAmb	IAmb	01 44 45.0	
	comp=Z,27nm,1.2s						
N25K	Chitina, Valde	75.36	30	P	P	01 44 43.5	+0.1
	baz=283,SNR=7.6						
G27K	Doyon Strip	75.37	24	P	P	01 44 43.4	+0.1
	baz=284,SNR=18						
MENT	Mentasta	75.45	28	IAmb	IAmb	01 44 55.8	
	comp=Z,14nm,0.7s						
MENT	Mentasta	75.45	28	P	P	01 44 43.8	0.0
BMRM	Bremner River	75.50	30	IAmb	IAmb	01 44 45.4	
	comp=Z,26nm,1.0s						
BMRM	Bremner River	75.50	30	P	P	01 44 44.0	-0.1
	baz=283,SNR=13						
H27K	Steamboat Moun	75.57	25	IAmb	IAmb	01 44 46.8	
	comp=Z,52nm,1.6s						
H27K	Steamboat Moun	75.57	25	P	P	01 44 44.7	+0.4
	baz=285,SNR=24						
L26K	Log Cabin Wild	75.59	28	P	P	01 44 44.9	+0.3
	baz=284,SNR=9.0						
RAGM	Ragged Mountai	75.60	31	P	P	01 44 44.2	-0.5
E28M	Babbage River	75.69	22	IAmb	IAmb	01 44 46.2	
	comp=Z,17nm,0.8s						
E28M	Babbage River	75.69	22	P	P	01 44 45.2	+0.2
	baz=286						
I27K	Kandik River	75.69	25	P	P	01 44 45.4	+0.3
	baz=285,SNR=23						
FINES	FINESS Array B	75.70	330	P	P	01 44 44.0	-1.2
FINES	FINESS Array B	75.70	330	P	P	01 44 45.0	-0.2
	comp=Z,8.3nm,0.8s,baz=94,slow=7.6,SNR=20						
FINES				LR	LR	02 19 53.6	
	comp=Z,419nm,21.9s,baz=78,slow=37						
	comp=Z,8.3nm,0.8s						
FINES	FINESS Array B	75.70	330	*i* P	P	01 44 45.0	-0.2
FINES				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ILGA	Ilgaz	75.72	309	IAmb	IAmb	01 44 47.4	
	comp=Z,53nm,1.5s						
D28M	Stokes Point	75.76	21	P	P	01 44 45.4	0.0
	baz=286						
GLB	Gilahina Butte	75.76	30	IAmb	IAmb	01 44 47.1	
	comp=Z,37nm,1.2s						
HMT	Hamilton	75.81	31	IAmb	IAmb	01 44 47.3	
	comp=Z,18nm,1.0s						
KAIM	Kayak Island	75.83	31	P	P	01 44 45.8	-0.1
	baz=284						
K27K	Chicken	75.90	27	IAmb	IAmb	01 44 48.4	
	comp=Z,36nm,1.2s						
K27K	Chicken	75.90	27	P	P	01 44 46.4	+0.1
	baz=285						
M26K	Nabesna, AK	75.90	29	IAmb	IAmb	01 44 47.9	
	comp=Z,27nm,1.0s						
M26K	Nabesna, AK	75.90	29	P	P	01 44 46.3	-0.1
	baz=284,SNR=17						
KIRS	Kirsehir-Merke	76.01	307	⇓P	P	01 44 47.0	-0.5
BERG	Berg Lake	76.07	31	IAmb	IAmb	01 44 48.8	
	comp=Z,31nm,1.0s						
BRTR	Keskin Array B	76.08	307	P	P	01 44 46.3	-1.7
BRTR	Keskin Array B	76.08	307	P	P	01 44 47.2	-0.8
	comp=Z,2.2nm,0.9s,baz=111,slow=6.8,SNR=16						
	comp=Z,2.2nm,0.9s						
BR104	Keskin Array S	76.08	307	P	P	01 44 47.0	-1.0
	comp=Z,44nmcomp=Z,5.6nm,1.0s						
KEF	Keuruu	76.08	331	*e*P	P	01 44 46.6	-0.7
BR106	Keskin Array S	76.09	307	P	P	01 44 47.4	-0.6
	comp=Z,44nmcomp=Z,4.7nm,0.9s						
VSU	Vasula	76.09	327	*ce*P	P	01 44 47.0	-0.4
VSU				pmax	pmax		
	comp=Z,33nm,1.0s						
VSU	Vasula	76.09	327	*e*P	P	01 44 46.5	-1.0
BR105	Keskin Array S	76.10	307	P	P	01 44 47.6	-0.5
	comp=Z,55nmcomp=Z,6.8nm,1.0s						
ARBE	Arbavere	76.23	328	*e*P	P	01 44 48.4	+0.2
L27K	Beaver Creek,	76.26	28	IAmb	IAmb	01 44 50.0	
	comp=Z,17nm,1.0s						
L27K	Beaver Creek,	76.26	28	P	P	01 44 48.8	+0.4
	baz=285,SNR=22						
BCAR	Beaver Creek A	76.27	28	P	P	01 44 48.3	-0.1
MMAI	Mount Meron Ar	76.28	300	P	P	01 44 48.6	-0.5
	comp=Z,1.1nm,0.6s,baz=117,slow=1.6,SNR=1.7						
MMAI				LR	LR	02 22 43.9	
	comp=Z,174nm,19.3s,baz=74,slow=39						
	comp=Z,1.1nm,0.6s						
E29M	Blow River	76.33	22	IAmb	IAmb	01 44 50.1	
	comp=Z,18nm,0.9s						
E29M	Blow River	76.33	22	P	P	01 44 48.5	-0.2
	baz=287						
I28M	Miner Creek	76.41	25	IAmb	IAmb	01 44 51.3	
	comp=Z,33nm,1.1s						
I28M	Miner Creek	76.41	25	P	P	01 44 49.6	+0.3
	baz=286,SNR=21						
M27K	Edge Creek, AK	76.42	28	P	P	01 44 49.2	-0.2
	baz=285,SNR=11						
MNK	Minsk	76.43	323	*i* P	P	01 44 48.1	-1.3
MNK				*i*		01 44 58.7	
MNK				*i*		01 47 38.4	
MNK				*i* PPP	PPP	01 49 26.1	
MNK				*i* S	S	01 54 33.9	0.0
MNK				pmax	pmax		
	comp=Z,42nm,0.9s						
MNK				pmax	pmax		
	comp=N,24nm,1.2s						
MNK				pmax	pmax		
	comp=E,16nm,0.9s						
MNK				MLR	MLR		
	comp=E,427nm,19.0s						
MNK				MLR	MLR		
	comp=Z,168nm,18.0s						
MNK				MLR	MLR		
	comp=N,189nm,17.0s						
WAX	Waxell Ridge	76.46	30	IAmb	IAmb	01 44 51.2	
	comp=Z,34nm,1.2s						
AK03	Malin Array Si	76.54	319	P	P	01 44 48.5	-1.6
AK08	Malin Array Si	76.54	319	P	P	01 44 48.5	-1.6
AKASG	Malin Array Be	76.54	319	P	P	01 44 48.9	-1.2
AKASG	Malin Array Be	76.54	319	P	P	01 44 49.1	-1.1
	comp=Z,12nm,0.8s,baz=64,slow=5.7,SNR=33						
AKASG				LR	LR	02 22 40.1	
	comp=Z,178nm,19.1s,baz=68,slow=39						
	comp=Z,12nm,0.8s						
AKASG	Malin Array Be	76.54	319	*i* P	P	01 44 49.0	-1.2
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKBB	Malin Array Si	76.54	319	IAmb	IAmb	01 44 50.1	
	comp=Z,16nm,0.9s						
AKBB	Malin Array Si	76.54	319	*ce*P	P	01 44 49.0	-1.1
AKBB				pmax	pmax		
	comp=Z,18nm,0.9s						
AKBB	Malin Array Si	76.54	319	P	P	01 44 48.6	-1.5
AK10	Malin Array Si	76.55	319	P	P	01 44 48.6	-1.6
KIEV	Kiev	76.55	319	P	P	01 44 48.5	-1.7
KIEV	Kiev	76.55	319	⇑P	P	01 44 49.4	-0.8
KIEV	Kiev	76.55	319	P	P	01 44 49.4	-0.8
KIEV	Kiev	76.55	319	*i* P	P	01 44 49.2	-1.0
	SNR=8.6						
KIEV	Kiev	76.55	319	P	P	01 44 48.6	-1.6
	comp=Z,68nm,1.1s						
ANTO	Ankara	76.68	308	P	P	01 44 50.0	-1.2
ANTO				IAmb	IAmb	01 44 52.0	
	comp=Z,15nm,0.8s						
ANTO	Ankara	76.68	308	⇑P	P	01 44 51.3	+0.1
ANTO	Ankara	76.68	308	P	P	01 44 51.3	+0.1
ANTO	Ankara	76.68	308	P	P	01 44 50.9	-0.4
	comp=Z,9.7nm,1.0s						
G29M	Pine Creek	76.72	23	P	P	01 44 50.9	0.0
	baz=288,SNR=31						
H29M	Whitestone	76.80	24	IAmb	IAmb	01 44 52.9	
	comp=Z,36nm,1.1s						
H29M	Whitestone	76.80	24	P	P	01 44 51.4	0.0
	baz=287,SNR=23						
MEF	Metsahovi	76.81	329	*e*P	P	01 44 51.6	+0.2
VAF	Ylistaro	76.83	332	*e*P	P	01 44 51.2	-0.3
BVCY	Beaver Creek	76.86	28	P	P	01 44 52.3	+0.5
	baz=286						
MESA	MESA	76.97	31	P	P	01 44 52.7	+0.1
	baz=286						
YAH	Yahtse	77.02	30	IAmb	IAmb	01 45 04.5	
	comp=Z,43nm,1.5s						
DAWY	Dawson	77.03	26	IAmb	IAmb	01 44 54.2	
	comp=Z,36nm,1.2s						
DAWY	Dawson	77.03	26	P	P	01 44 52.8	+0.1
	baz=287,SNR=37						
I29M	Ogilvie Camp,	77.08	25	P	P	01 44 52.9	-0.1
I29M				IAmb	IAmb	01 44 54.4	
	comp=Z,24nm,1.1s						
I29M	Ogilvie Camp,	77.08	25	P	P	01 44 53.5	+0.5
	baz=288,SNR=7.8						
ISAL	Salakas	77.14	325	*e*P	P	01 44 53.3	-0.1
YUK3	Moose Creek	77.22	29	P	P	01 44 54.5	+0.4
	baz=287,SNR=13						
NOR	Nord	77.28	354	*i* P	P	01 44 53.5	-0.3
NOR				IAmb	IAmb	01 44 55.0	
	comp=Z,12nm,1.4s						
F30M	Barrier River	77.33	22	P	P	01 44 54.3	0.0
	baz=289						
G30M	tAn Zraii Nji	77.38	23	P	P	01 44 53.9	-0.7
	baz=289,SNR=30						
EPYK	Eagle Plains	77.39	24	IAmb	IAmb	01 44 55.5	
	comp=Z,26nm,0.8s						
EPYK	Eagle Plains	77.39	24	P	P	01 44 54.2	-0.5
	baz=289,SNR=21						
J29N	Klondike Camp	77.40	26	P	P	01 44 55.4	+0.6
	baz=288,SNR=10.0						
MI28	Mi28,Pidlybu	77.44	320	P	P	01 44 54.5	-0.7
EIL	Elat	77.50	297	LR	LR	02 21 38.5	
	comp=Z,346nm,21.0s,baz=68,slow=38						
MTSE	Matsula	77.51	328	*e*P	P	01 44 55.1	-0.3
URZ	Urewera	77.63	138	LR	LR	02 17 33.6	
	comp=Z,98nm,21.8s,baz=35,slow=34						
O28M	Mount Upton	77.64	30	P	P	01 44 54.8	-1.7
O28M				IAmb	IAmb	01 44 58.6	
	comp=Z,20nm,1.1s						
O28M	Mount Upton	77.64	30	P	P	01 44 57.2	+0.7
	baz=287,SNR=8.9						
YUK8	Steele Glacier	77.68	29	P	P	01 44 57.1	+0.4
	baz=287,SNR=13						
SORM	Soroca	77.73	317	⇑P	P	01 44 56.3	-0.6
SORM	Soroca	77.73	317	P	P	01 44 56.3	-0.6
SORM	Soroca	77.73	317	P	P	01 44 55.5	-1.4
	comp=Z,403nmcomp=Z,25nm,1.3s						
PINM	Pinnacle	77.81	30	P	P	01 44 58.5	+1.3
	baz=287,SNR=5.8						
RAF	Rauma	77.83	331	*e*P	P	01 44 55.8	-1.3
L29M	L29M	77.86	27	P	P	01 44 57.6	+0.2
L29M	L29M	77.86	27	P	P	01 44 58.4	+1.0
	baz=288,SNR=30						
K29M	Barlow Dome	77.88	26	IAmb	IAmb	01 44 59.6	
	comp=Z,39nm,1.4s						
K29M	Barlow Dome	77.88	26	P	P	01 44 58.1	+0.5
	baz=289,SNR=18						
INK	Inuvik	77.88	22	LR	LR	02 22 27.6	
	comp=Z,138nm,20.1s,baz=263,slow=38						
I30M	Mount Dempster	77.90	25	IAmb	IAmb	01 44 59.0	
	comp=Z,25nm,1.1s						
I30M	Mount Dempster	77.90	25	P	P	01 44 57.9	+0.2
	baz=289,SNR=27						
M29M	Somme Creek	77.92	28	IAmb	IAmb	01 45 00.1	
	comp=Z,32nm,1.1s						
M29M	Somme Creek	77.92	28	P	P	01 44 58.5	+0.7
	baz=288,SNR=34						
G31M	Satah River	78.12	23	IAmb	IAmb	01 44 58.6	
	comp=Z,15nm,0.8s						
G31M	Satah River	78.12	23	P	P	01 44 57.6	-1.0
	baz=291,SNR=16						
F31M	Tsiigehtchic	78.12	22	IAmb	IAmb	01 44 58.9	
	comp=Z,25nm,0.8s						
F31M	Tsiigehtchic	78.12	22	P	P	01 44 57.8	-0.8
	baz=291,SNR=22						
J30M	Hart River	78.13	25	P	P	01 44 58.0	-1.0
J30M	Hart River	78.13	25	P	P	01 44 59.1	+0.1
	baz=290,SNR=7.6						
YUK4	Talbot Arm	78.18	29	P	P	01 44 59.8	+0.4
	baz=288,SNR=10						
TLCR		78.19	314	⇑P	P	01 44 59.4	-0.2
TLCR		78.19	314	P	P	01 44 59.3	-0.2
VSVD	Vaisvydziai	78.22	325	*e*P	P	01 44 59.6	+0.1
NDNU	Novodnistrovsk	78.25	317	P	P	01 44 58.8	-0.9
PABE	Paberze	78.34	325	*e*P	P	01 44 60.0	-0.1
PNL	Peninsula	78.34	31	P	P	01 45 01.0	+0.9
	baz=288						
RNPP9	Sopachiv	78.39	320	P	P	01 44 59.2	-1.3
RNPP8	Varash	78.44	320	P	P	01 44 59.6	-1.1
YUK6	Outpost Mounta	78.44	29	P	P	01 45 01.4	+0.6
	baz=289,SNR=9.2						
RNPP5	Staryi Chortor	78.45	320	P	P	01 44 59.7	-1.1
H31M	Peel River	78.49	24	IAmb	IAmb	01 45 01.7	
	comp=Z,35nm,1.1s						
H31M	Peel River	78.49	24	P	P	01 45 00.1	-0.7
	baz=291,SNR=20						
O29M	Mount Kennedy	78.54	30	P	P	01 45 01.6	+0.3
	baz=288						
M30M	Minto, Yukon	78.61	28	IAmb	IAmb	01 45 03.8	
	comp=Z,41nm,1.2s						
M30M	Minto, Yukon	78.61	28	P	P	01 45 02.2	+0.7
	baz=290,SNR=23						
CFR	Carcaliu	78.66	314	⇓P	P	01 45 01.4	-0.7
CFR	Carcaliu	78.66	314	P	P	01 45 01.3	-0.7
HORU	Horodok	78.67	318	P	P	01 45 00.7	-1.4
HORU	Horodok	78.67	318	P	P	01 45 00.7	-1.4
KMPD	K-Podol'skiy	78.83	318	P	P	01 45 01.6	-1.4
N30M	Aishikik Lake	78.85	29	IAmb	IAmb	01 45 05.2	
	comp=Z,38nm,1.1s						
N30M	Aishikik Lake	78.85	29	P	P	01 45 03.8	+0.8
	baz=290,SNR=18						
HYT	Haines Junctio	78.87	29	P	P	01 45 03.3	+0.2
HYT				IAmb	IAmb	01 45 05.3	
	comp=Z,36nm,1.2s						
HYT	Haines Junctio	78.87	29	P	P	01 45 03.8	+0.6
	baz=289,SNR=21						
A36M	Sachs Harbour	78.91	17	P	P	01 45 02.5	-0.4
	baz=298,SNR=41						
ISP	Isparta	78.91	306	IAmb	IAmb	01 45 03.6	
	comp=Z,31nm,1.1s						
ISP	Isparta	78.91	306	*ce*P	P	01 45 02.9	-0.9
ISP				pmax	pmax		
	comp=Z,68nm,2.5s						
YLV	Yalova	79.03	309	P	P	01 45 03.8	-0.5
	comp=Z,24nm,1.0s						
P29M	Windy Craggy	79.16	30	IAmb	IAmb	01 45 06.8	
	comp=Z,27nm,0.9s						
P29M	Windy Craggy	79.16	30	P	P	01 45 05.4	+0.8
	baz=289,SNR=9.9						
SUW	Suwalki	79.22	323	*e*P	P	01 45 04.2	-0.7
SUW	Suwalki	79.22	323	*e*P	P	01 45 04.3	-0.7
TESR	Tescani	79.29	316	⇓P	P	01 45 05.0	-0.5
TESR	Tescani	79.29	316	P	P	01 45 04.8	-0.7
	comp=Z,31nm,1.0s						
P30M	Million Dollar	79.36	30	P	P	01 45 06.4	+0.6
	baz=290						
VRI	Vrincioaia	79.42	315	⇑P	P	01 45 06.8	+0.5
VRI	Vrincioaia	79.42	315	P	P	01 45 06.8	+0.5
VRI	Vrincioaia	79.42	315	P	P	01 45 05.8	-0.5
	comp=Z,34nm,1.2s						
N31M	Braeburn, Yuko	79.43	28	IAmb	IAmb	01 45 08.2	
	comp=Z,36nm,1.1s						
N31M	Braeburn, Yuko	79.43	28	P	P	01 45 06.7	+0.6
	baz=291,SNR=11						
PLOR5	Plostina Array	79.47	315	P	P	01 45 06.2	-0.4
	comp=Z,27nm,1.4s						
PLOR	Plostina	79.47	315	⇓P	P	01 45 06.8	+0.1
PLOR	Plostina	79.47	315	P	P	01 45 06.7	+0.1
PLOR3	Plostina Array	79.48	315	P	P	01 45 06.2	-0.4
	comp=Z,15nm,1.7s						
O30N	Mendenhall	79.54	29	IAmb	IAmb	01 45 08.7	
	comp=Z,24nm,1.1s						
O30N	Mendenhall	79.54	29	P	P	01 45 07.2	+0.5
	baz=290,SNR=14						
ELL	Elmali	79.68	305	P	P	01 45 08.1	+0.1
ELL				pmax	pmax		
	comp=Z,41nm,1.1s						
COVR	Voineasa-Covas	79.77	315	⇑P	P	01 45 07.8	-0.5
M31M	Drury Creek, Y	79.79	27	P	P	01 45 06.7	-1.2
M31M	Drury Creek, Y	79.79	27	P	P	01 45 08.3	+0.4
	baz=292,SNR=16						
NEHR	Nehoiu	79.83	315	⇑P	P	01 45 08.5	-0.1
BURAR	Bucovina Array	79.90	317	P	P	01 45 08.6	-0.4
BURAR	Bucovina Array	79.90	317	⇑P	P	01 45 09.0	0.0
BURAR	Bucovina Array	79.90	317	P	P	01 45 09.0	0.0
OZUR		79.98	315	⇓P	P	01 45 09.6	+0.3
BAND	Balkesir-Ban	80.02	309	⇑P	P	01 45 09.6	-0.1
STNU	Starunia	80.03	318	P	P	01 45 09.3	-0.2
MLR	Muntele Rosu	80.05	315	LR	LR	02 24 59.6	
	comp=Z,140nm,18.3s,baz=66,slow=39						
MLR	Muntele Rosu	80.05	315	⇑P	P	01 45 10.2	+0.3
MLR	Muntele Rosu	80.05	315	P	P	01 45 10.2	+0.3
MLR	Muntele Rosu	80.05	315	P	P	01 45 09.6	-0.3
	comp=Z,20nm,1.2s						
WHY	Whitehorse	80.14	29	P	P	01 45 10.4	+0.4
	baz=292,SNR=16						
FARO	Faro, Yukon	80.23	27	IAmb	IAmb	01 45 12.0	
	comp=Z,27nm,1.0s						
FARO	Faro, Yukon	80.23	27	P	P	01 45 10.6	+0.2
	baz=293,SNR=29						
DOPR	Dopca	80.28	315	⇓P	P	01 45 11.0	0.0
SKAG	Skagway	80.37	30	IAmb	IAmb	01 45 13.3	
	comp=Z,28nm,1.1s						
SKAG	Skagway	80.37	30	P	P	01 45 12.1	+1.0
SKAG	Skagway	80.37	30	P	P	01 45 11.8	+0.7
	baz=291,SNR=6.0						
S31K	Pelican	80.47	32	P	P	01 45 11.9	+0.3
	baz=291						
C36M	Paulatuk	80.54	19	IAmb	IAmb	01 45 11.8	
	comp=Z,23nm,0.8s						
C36M	Paulatuk	80.54	19	P	P	01 45 11.1	-0.7
	baz=300,SNR=38						
ARCR	ARCALIA	80.62	317	⇑P	P	01 45 13.5	+0.8
VOIR		80.67	315	⇓P	P	01 45 12.3	-0.9
VOIR		80.67	315	P	P	01 45 12.2	-0.9
VOIR		80.67	315	P	P	01 45 12.7	-0.4
	comp=Z,5.9nm,0.9s						
MEZ	Mezhgor'ye	80.72	318	P	P	01 45 13.1	-0.1
N32M	Quiet Lake	80.77	28	P	P	01 45 13.4	+0.1
	baz=293,SNR=20						
BESE	Bessie Mountai	80.92	31	P	P	01 45 13.3	-0.9
BESE				IAmb	IAmb	01 45 23.7	
	comp=Z,20nm,1.0s						
MMPY	Sheldon Lake,	80.97	26	P	P	01 45 14.4	+0.1
	baz=294,SNR=7.5						
ARR	Arges	80.97	315	⇓P	P	01 45 14.8	+0.1
HUMR	Humele	80.99	314	⇑P	P	01 45 14.3	-0.5
KORU	Korolevo	81.07	318	P	P	01 45 15.4	+0.3
P32M	Atlin	81.08	30	P	P	01 45 15.0	0.0
	baz=293						
BRIU	Brid	81.08	318	P	P	01 45 15.4	+0.2
TNR	Turnu Rosu	81.12	315	⇑P	P	01 45 16.1	+0.6
TNR	Turnu Rosu	81.12	315	P	P	01 45 16.0	+0.6
R32K	Eaglecrest	81.20	31	IAmb	IAmb	01 45 17.3	
	comp=Z,23nm,1.1s						
R32K	Eaglecrest	81.20	31	P	P	01 45 16.0	+0.4
	baz=292,SNR=7.0						
CJR	Cluj-Napoca	81.23	316	⇑P	P	01 45 16.4	+0.3
CJR	Cluj-Napoca	81.23	316	P	P	01 45 16.4	+0.3
CBBR	Cluj-Babes-Bol	81.25	316	⇑P	P	01 45 16.6	+0.5
SIT	Sitka	81.25	32	P	P	01 45 16.2	+0.4
	baz=292						
P33M	Teslin, Yukon	81.25	29	IAmb	IAmb	01 45 17.8	
	comp=Z,25nm,1.2s						
P33M	Teslin, Yukon	81.25	29	P	P	01 45 16.1	+0.1
	baz=293,SNR=11						
MUKU	Mukachevo	81.26	318	P	P	01 45 16.3	+0.2
JIS	Juneau Island	81.26	31	P	P	01 45 17.1	+1.2
BEL	Belsk

OJC Ojcow 82.44 321 *e*P **P 01 45 21.9 -0.4**
OJC Ojcow 82.44 321 P **P 01 45 22.4 +0.1**
OJC Ojcow 82.44 321 P **P 01 45 22.4 +0.1**
comp=Z,29nm,0.9s
R33M Jennings River 82.44 29 P **P 01 45 22.2 -0.1**
baz=295,SNR=8.0
SURR Surduc 82.51 316 ⇑P **P 01 45 22.4 -0.4**
NB2 NORSAR Subarra 82.58 333 P **P 01 45 21.5 -1.4**
comp=Z,11nm,0.9s,baz=64,slow=5.3
NB2 NORSAR Subarra 82.58 333 P **P 01 45 20.3 -2.6**
NOA NORSAR Array B 82.58 333 P **P 01 45 21.7 -1.2**
comp=Z,3.8nm,0.8s,baz=64,slow=5.1,SNR=25
NOA LR LR 02 26 40.2
comp=Z,535nm,18.3s,baz=65,slow=39
comp=Z,3.8nm,0.8s
HERR Herculane 82.61 315 ⇓P **P 01 45 23.0 -0.3**
SIRR Siria 82.64 316 ⇓P **P 01 45 23.4 -0.1**
NC204 NORSAR Array S 82.67 333 P **P 01 45 21.5 -1.8**
NC204 IAmb IAmb 01 45 29.9
comp=Z,37nm,1.6s
TGTN Hyland Airport 82.71 27 P **P 01 45 24.0 +0.4**
baz=297,SNR=17
U33K Whale Pass 82.74 33 P **P 01 45 24.2 +0.6**
baz=294
GKP Gorka Klasztor 82.80 324 *e*P **P 01 45 23.9 -0.1**
BZS Buzias 82.89 316 ⇓P **P 01 45 23.9 -0.9**
BZS Buzias 82.89 316 P **P 01 45 23.8 -0.9**
S34M Telegraph Cree 82.99 31 P **P 01 45 25.6 +0.6**
baz=295,SNR=5.1
CRAG Craig 83.00 34 P **P 01 45 25.7 +0.7**
baz=294
WRAK Wrangell Islan 83.01 32 P **P 01 45 26.0 +0.9**
baz=294
LANS Liptovska Anna 83.02 320 *e*P **P 01 45 26.2 +0.8**
LANS pmax pmax
comp=Z,2.0nm,0.9s
LANS Liptovska Anna 83.02 320 *e*P **P 01 45 26.2 +0.8**
MDVR Moldovita 83.12 315 ⇓P **P 01 45 25.7 -0.3**
WTLY Watson Lake, Y 83.12 28 P **P 01 45 25.0 -0.7**
WTLY Watson Lake, Y 83.12 28 P **P 01 45 25.9 +0.2**
baz=297,SNR=13
PSZ Piszkesteto 83.20 318 ⇑P **P 01 45 26.4 0.0**
PSZ Piszkesteto 83.20 318 P **P 01 45 26.4 0.0**
PSZ Piszkesteto 83.20 318 *e*P **P 01 45 25.9 -0.4**
VOI Vohitsoka 83.30 244 P **P 01 45 27.8 +0.4**
NEEM North Greenlan 83.46 358 *i*P **P 01 45 27.4 0.0**
NEEM IAmb IAmb 01 45 31.3
comp=Z,28nm,1.0s
DBG Daneborg 83.48 350 *i*P **P 01 45 26.1 -1.1**
DBG IAmb IAmb 01 45 27.9
comp=Z,9.7nm,0.9s
BOVS Bovan 83.52 314 ⇑P **P 01 45 27.8 -0.2**
OKC Ostrava-Krasne 83.57 321 *e*P **P 01 45 28.4 +0.3**
OKC AMS AMS 02 28 00.0
comp=Z,400nm,18.6s
OKC Ostrava-Krasne 83.57 321 *e*P **P 01 45 28.4 +0.3**
OKC MLR MLR
comp=Z,400nm,18.6s
RES Resolute Bay 83.59 9 LR LR 02 28 26.5
comp=Z,118nm,18.5s,baz=324,slow=40
JMIC Jan Mayen 83.61 345 LR LR 02 25 28.2
comp=Z,244nm,21.7s,baz=79,slow=38
VYHS Vyhne 83.65 319 *e*P **P 01 45 29.1 +0.4**
VYHS pmax pmax
comp=Z,14nm,1.1s
VYHS Vyhne 83.65 319 *e*P **P 01 45 29.0 +0.4**
VAY Valandovo 83.71 311 *i*P **P 01 45 27.8 -1.3**
T35M Bob Quinn 83.82 31 P **P 01 45 29.9 +0.5**
baz=296
WRGLY Wrigley 83.85 24 IAmb IAmb 01 45 30.2
comp=Z,14nm,0.9s
WRGLY Wrigley 83.85 24 P **P 01 45 29.9 +0.6**
baz=301,SNR=5.7
MORC Moravsky Berou 83.95 321 *e*P **P 01 45 30.1 -0.1**
MORC Moravsky Berou 83.95 321 ⇓P **P 01 45 30.1 -0.1**
MORC Moravsky Berou 83.95 321 P **P 01 45 30.1 -0.1**
JAVC Velka Javorina 84.23 320 *e*P **P 01 45 32.9 +1.3**
FRGS Fruska Gora 84.25 316 *e*P **P 01 45 31.3 -0.5**
KSP Ksiaz 84.28 322 *e*P **P 01 45 31.9 +0.2**
KSP Ksiaz 84.28 322 P **P 01 45 31.8 +0.1**
KSP Ksiaz 84.28 322 P **P 01 45 31.8 +0.1**
comp=Z,43nm,1.0s
KRLC Kraliky 84.29 321 *e*P **P 01 45 32.0 +0.1**
KRLC AMS AMS 02 27 20.0
comp=Z,400nm,17.9s
KRLC Kraliky 84.29 321 *e*P **P 01 45 32.0 +0.1**
KRLC MLR MLR
comp=Z,400nm,17.9s
OSTC Ostas 84.43 322 *e*P **P 01 45 33.3 +0.7**
OSTC AMS AMS 02 26 40.0
comp=Z,500nm,19.4s
OSTC Ostas 84.43 322 *e*P **P 01 45 33.3 +0.7**
OSTC MLR MLR
comp=Z,500nm,19.4s
DPC Dobruska-Polom 84.45 322 *e*P **P 01 45 32.9 +0.2**
DPC AMS AMS 02 26 40.0
comp=Z,500nm,16.8s
DPC Dobruska-Polom 84.45 322 *e*P **P 01 45 32.9 +0.2**
DPC MLR MLR
comp=Z,500nm,16.8s
SMOL Smolenice 84.51 320 *e*P **P 01 45 33.8 +0.8**
SMOL pmax pmax
comp=Z,6.0nm,1.1s
CHVC Chvalec 84.52 322 *e*P **P 01 45 33.1 +0.1**
CHVC AMS AMS 02 26 30.0
comp=Z,400nm,12.1s
CHVC Chvalec 84.52 322 *e*P **P 01 45 33.1 +0.1**
CHVC MLR MLR
comp=Z,400nm,12.1s
KMBO Kilima Mbogo 84.53 267 P **P 01 45 32.6 -1.4**
KMBO IAmb IAmb 01 45 36.0
comp=Z,17nm,1.2s
KMBO Kilima Mbogo 84.53 267 P **P 01 45 33.3 -0.7**
comp=Z,8.5nm,1.1s,baz=37,slow=8.3,SNR=19
KMBO LR LR 02 23 34.2
comp=Z,51nm,18.5s,baz=90,slow=36
comp=Z,8.5nm,1.1s
KMBO Kilima Mbogo 84.53 267 *i*P **P 01 45 34.8 +0.8**
SNR=15
UPC Upice 84.57 322 *e*P **P 01 45 33.5 +0.2**
UPC AMS AMS 02 27 00.0
comp=Z,500nm,16.9s
UPC Upice 84.57 322 *e*P **P 01 45 33.5 +0.2**
UPC MLR MLR
comp=Z,500nm,16.9s
MORH Mrgy, Hungar 84.62 317 ⇑P **P 01 45 33.6 0.0**
MORH Mrgy, Hungar 84.62 317 P **P 01 45 33.7 +0.2**
comp=Z,493nmcomp=Z,14nm,1.6s
MODS Modra-Piesok 84.65 319 *e*P **P 01 45 34.2 +0.5**
MODS pmax pmax
comp=Z,27nm,1.4s
MODS Modra-Piesok 84.65 319 *e*P **P 01 45 34.2 +0.5**
LIRD Liard River Hi 84.66 28 P **P 01 45 34.1 +0.6**
baz=299
TEKS Tekeris 84.66 315 *e*P **P 01 45 31.8 -2.0**
VRAC Vranov 84.70 320 LR LR 02 26 08.1
comp=Z,281nm,19.8s,baz=68,slow=38
VRAC Vranov 84.70 320 *e*P **P 01 45 34.2 +0.2**
VRAC Vranov 84.70 320 ⇓P **P 01 45 34.2 +0.2**
VRAC Vranov 84.70 320 P **P 01 45 34.2 +0.2**
SJES Sjenica 84.83 314 *e*P **P 01 45 34.6 -0.2**
KRUC Moravsky 84.92 320 *e*P **P 01 45 35.2 +0.2**
MPLH Magyarpolny 84.96 318 P **P 01 45 35.4 +0.1**
comp=Z,66nm,1.6s
BBLS Lazi&#263i 84.99 315 *e*P **P 01 45 34.1 -1.5**
OHR Ohrid 85.03 312 *i*P **P 01 45 34.4 -1.4**
RUE Ruedersdorf 85.03 324 *e*P **P 01 45 35.9 +0.5**
RUDO Rudo 85.11 314 *e*P **P 01 45 34.6 -1.5**
KOTAN Kotaneelee Air 85.19 27 P **P 01 45 36.9 +0.7**
baz=301
TOAD Toad River Com 85.32 29 P **P 01 45 37.5 +0.7**
baz=300,SNR=14
TREC Trest 85.37 321 *e*P **P 01 45 37.6 +0.3**
TREC AMS AMS 02 26 00.0
comp=Z,600nm,17.0s
TREC Trest 85.37 321 *e*P **P 01 45 37.6 +0.3**
TREC MLR MLR
comp=Z,600nm,17.0s
PVCC Panska Ves 85.41 322 *e*P **P 01 45 37.9 +0.5**
PVCC AMS AMS 02 23 50.0
comp=Z,500nm,5.3s
PVCC Panska Ves 85.41 322 *e*P **P 01 45 37.9 +0.5**
PVCC MLR MLR
comp=Z,500nm,5.3s

RONA Rosalia, Austr 85.52 319 *i*P **P 01 45 37.9 -0.3**
comp=Z,9.8nm,1.0s
GOPC GO Pecny, Ondr 85.53 322 *e*P **P 01 45 38.2 +0.1**
GOPC AMS AMS 02 27 30.0
comp=Z,500nm,6.6s
GOPC GO Pecny, Ondr 85.53 322 *e*P **P 01 45 38.2 +0.1**
GOPC MLR MLR
comp=Z,500nm,6.6s
CASY Casey 85.57 184 P **P 01 45 39.0 +1.4**
TIR Tirane 85.60 312 IAmb IAmb 01 45 39.0
comp=Z,23nm,0.9s
TIR Tirane 85.60 312 ⇑P **P 01 45 38.5 -0.2**
TIR Tirane 85.60 312 P **P 01 45 38.4 -0.2**
TIR Tirane 85.60 312 P **P 01 45 37.7 -0.9**
comp=Z,26nm,1.2s
BRG Berggiesshubel 85.62 323 *i*P **P 01 45 38.6 +0.1**
BRG Amp 01 45 39.5
comp=Z,13nm,1.0s
BRG Berggiesshubel 85.62 323 P **P 01 45 42.7 +4.2**
BRG Amp 01 45 43.5
comp=Z,10nm,1.0s
PDG Podgorica 85.62 313 IAmb IAmb 01 45 39.0
comp=Z,15nm,1.0s
PDG Podgorica 85.62 313 *e*P **P 01 45 37.3 -1.4**
PDG Podgorica 85.62 313 ⇑P **P 01 45 38.4 -0.3**
PRU Pruhonice 85.65 322 *e*P **P 01 45 38.9 +0.3**
PRU AMS AMS 02 27 50.0
comp=Z,400nm,17.2s
PRU Pruhonice 85.65 322 *e*P **P 01 45 38.9 +0.3**
PRU MLR MLR
comp=Z,400nm,17.2s
RICC Richard 85.67 322 *e*P **P 01 45 39.1 +0.4**
RICC AMS AMS 02 28 10.0
comp=Z,500nm,14.4s
PRA Prague 85.68 322 *e*P **P 01 45 39.1 +0.3**
PRA AMS AMS 02 23 40.0
comp=Z,500nm,18.4s
PRA Prague 85.68 322 *e*P **P 01 45 39.1 +0.3**
PRA MLR MLR
comp=Z,500nm,18.4s
CONA Conrad Observa 85.70 319 *e*P **P 01 45 39.1 +0.1**
comp=Z,19nm,1.4s
DRME Dracevica, Mon 85.76 313 *e*P **P 01 45 37.5 -1.9**
CLL Collm 85.97 323 *i*P **P 01 45 39.8 -0.4**
CLL *i* 01 45 42.9
CLL *e*S **SKSac 01 56 04.0 -1.3**
CLL pmax pmax
comp=Z,13nm,1.1s
CLL MLR MLR
comp=Z,300nm,18.5s
CLL Collm 85.97 323 P **P 01 45 39.8 -0.4**
comp=Z,16nm,2.1s
CLL Collm 85.97 323 *i*P **P 01 45 39.8 -0.4**
comp=Z,13nm,1.1s
CLL *i*pP **PcP 01 45 42.9 0.0**
CLL *i*x x 01 45 50.1
CLL *e*PP **PP 01 49 00.0 +0.3**
CLL *e*S **SKSac 01 56 09.0 +3.7**
CLL AMS AMS 02 29 00.0
comp=N,200nm,20.0s
CLL AMS AMS 02 29 00.0
comp=E,300nm,20.8s
CLL AMS AMS 02 29 00.0
comp=Z,300nm,18.5s
HSKC Hora Svate Kat 86.03 323 *e*P **P 01 45 41.4 +0.8**
HSKC AMS AMS 02 27 10.0
comp=Z,500nm,7.4s
ZVC Zvikov 86.08 321 *e*P **P 01 45 41.0 +0.2**
ZVC AMS AMS 02 25 00.0
comp=Z,400nm,9.7s
BLY Banja Luka 86.13 316 *e*P **P 01 45 40.2 -0.9**
HCY Herceg Novi 86.14 314 *e*P **P 01 45 39.8 -1.5**
ARSA Arzberg 86.19 319 *e*P **P 01 45 41.5 0.0**
comp=Z,12nm,1.0s
A051A Mrakovica 86.20 316 *e*P **P 01 45 40.6 -1.0**
CKRC Cesky Krumlov 86.28 321 *e*P **P 01 45 42.5 +0.7**
CKRC AMS AMS 02 29 10.0
comp=Z,400nm,17.4s
CKRC Cesky Krumlov 86.28 321 *e*P **P 01 45 42.5 +0.7**
CKRC MLR MLR
comp=Z,400nm,17.4s
PRIJ Prijedor 86.34 316 *e*P **P** 01 45 31.2 -11
KULLO Kullorsuaq 86.45 360 *i*P **P 01 45 42.5 +0.3**
KULLO IAmb IAmb 01 45 44.0
comp=Z,15nm,0.8s
STON Ston 86.52 314 *e*P **P 01 45 41.4 -1.7**
KHC Kasperske Hory 86.58 321 *e*P **P 01 45 43.7 +0.4**
KHC AMS AMS 02 25 10.0
comp=Z,400nm,16.1s
KHC Kasperske Hory 86.58 321 *e*P **P 01 45 43.7 +0.4**
KHC MLR MLR
comp=Z,400nm,16.1s
KHC Kasperske Hory 86.58 321 P **P 01 45 42.6 -0.7**
comp=Z,10nm,2.1s
GERES GERESS Array B 86.63 321 P **P 01 45 42.5 -1.2**
GERES GERESS Array B 86.63 321 P **P 01 45 43.3 -0.3**
comp=Z,3.7nm,0.8s,baz=59,slow=5.1,SNR=24
comp=Z,3.7nm,0.8s
A050A Klekovaca 86.66 316 *e*P **P 01 45 41.1 -2.8**
MOA Molln 86.71 320 *i*PcP **P 01 45 44.1 +0.1**
comp=Z,13nm,1.0s
SOKA Soboth 86.73 318 *e*P **P 01 45 43.5 -0.7**
comp=Z,8.3nm,0.9s,SNR=7.1
NKC Novy Kostel 86.76 322 AMS AMS 02 27 20.0
comp=Z,800nm,6.8s
CRES Cresnjevec Ost 86.81 318 *e*P **P 01 45 43.7 -0.8**
OBKA Obir 87.10 318 *e*P **P 01 45 45.2 -0.8**
OBKA Obir 87.10 318 *e*P **P 01 45 45.3 -0.7**
comp=Z,7.1nm,0.8s
BIOA Bad Ischl, Aus 87.16 320 *e*P **P 01 45 45.3 -0.9**
comp=Z,6.3nm,0.9s
RAR Rarotonga 87.22 113 LR LR 02 18 02.8
comp=Z,32nm,21.0s,baz=280,slow=31
SUMG Summit 87.44 354 P **P 01 45 46.7 -0.8**
SUMG Summit 87.44 354 P **P 01 45 46.7 -0.8**
SUMG pmax pmax
comp=Z,44nm,1.8s
SUMG Summit 87.44 354 *i*P **P 01 45 46.8 -0.8**
SUMG IAmb IAmb 01 45 48.2
comp=Z,11nm,1.1s
CEY Cerknica 87.50 318 *e*P **P 01 45 44.4 -3.5**
YKA Yellowknife Ar 87.60 23 P **P 01 45 48.0 +0.1**
comp=Z,13nm,0.8s,baz=315,slow=4.4,SNR=191
YKA LR LR 02 29 02.7
comp=Z,56nm,19.3s,baz=292,slow=38
comp=Z,13nm,0.8s
KBA Koelnbreinsper 87.61 319 *e*P **P 01 45 47.8 -0.8**
comp=Z,10nm,1.3s
LESA Schwarzleotal 87.86 320 *i*P **P 01 45 48.8 -0.9**
comp=Z,6.7nm,1.2s
ABTA Abfaltersbach 88.26 319 *e*P **P 01 45 50.3 -1.3**
comp=Z,8.3nm,1.1s
WTTA Wattenberg 88.57 320 *e*P **P 01 45 52.1 -1.0**
comp=Z,11nm,0.9s,SNR=5.4
WATA Walderalm 88.57 320 *e*P **P 01 45 51.9 -1.2**
comp=Z,4.6nm,0.8s
TIP Timpagrande 88.63 311 P **P 01 45 53.3 -0.1**
comp=Z,9.7nm,1.3s
SQTA Sankt Quirin 88.85 320 *e*P **P 01 45 53.8 -0.6**
comp=Z,6.9nm,0.9s
MOTA Moosalm 88.85 320 *i*P **P 01 45 53.7 -0.7**
comp=Z,6.8nm,1.0s
FETA Feichten 89.23 320 *e*P **P 01 45 54.8 -1.5**
comp=Z,11nm,1.0s
DAVA Damuels 89.62 321 *i*P **P 01 45 57.1 -0.9**
comp=Z,8.7nm,1.2s
CEL Celeste 89.62 311 IAmb IAmb 01 45 58.8
comp=Z,20nm,0.9s
FUORN Ofenpass-Fuorn 89.70 320 IAmb IAmb 01 46 14.8
comp=Z,18nm,1.1s
DAVOX Davos/Dischmat 89.86 320 LR LR 02 29 12.6
comp=Z,322nm,21.9s,baz=50,slow=38
ILON Igloolik, Nuna 90.18 8 IAmb IAmb 01 46 13.5
comp=Z,14nm,1.1s
MEM Membach 90.19 325 *d*P **P 01 45 59.7 -0.7**
comp=Z,6.1nm,1.3s
TUE Stuetta 90.33 320 P **P 01 46 00.1 -1.3**
TUE IAmb IAmb 01 46 02.1
comp=Z,17nm,1.2s
TUE Stuetta 90.33 320 P **P 01 46 00.9 -0.5**
BSTI Sart Tilman 90.45 325 *d*P **P 01 46 01.6 0.0**
MBAR Mbarara 90.51 270 *i*P **P 01 46 01.6 -1.2**
MBAR pmax pmax
comp=Z,6.0nm,1.3s
WLF Walferdange 90.60 324 *d*P **P 01 46 01.9 -0.5**
WLF *d*pP **pP 01 46 06.9 -1.1**

RCHB Rochefort 90.86 325 *d*P **P 01 46 02.1 -1.4**
UCC Uccle 90.98 325 *d*P **P 01 46 03.3 -0.7**
BMRD Maredsous 91.03 325 *d*P **P 01 46 02.8 -1.5**
BMRD *d*pP **pP 01 46 08.7 -1.2**
LLLB Lillooet 91.27 35 IAmb IAmb 01 46 20.3
comp=Z,16nm,1.0s
BORG Borgarnes 91.50 345 LR LR 02 33 58.9
comp=Z,115nm,18.5s,baz=26,slow=40
EKA Eskdalemuir Ar 92.05 332 P **P 01 46 08.2 -0.7**
comp=Z,2.2nm,0.8s,baz=45,slow=10,SNR=2.6
comp=Z,2.2nm,0.8s
BNI Bardonecchia 92.65 320 IAmb IAmb 01 46 17.9
comp=Z,18nm,1.1s
BNI Bardonecchia 92.65 320 P **P 01 46 13.7 +1.6**
BNI pmax pmax
comp=Z,71nm,1.4s
LTY Liberty 93.76 37 IAmb IAmb 01 46 18.0
comp=Z,9.0nm,1.1s
SFJD Kangerlussuaq 93.85 357 LR LR 02 29 26.0
comp=Z,133nm,22.0s,baz=14,slow=36
B08A Colville Reser 93.90 36 IAmb IAmb 01 46 19.4
comp=Z,14nm,1.1s
MXC Moxie City 94.36 37 P **P 01 46 19.7 -0.1**
MXC IAmb IAmb 01 46 21.8
comp=Z,13nm,1.0s
E07A Sunnyside 94.62 37 IAmb IAmb 01 46 23.1
comp=Z,18nm,1.2s
WAH2 Wahluke Slope 94.67 37 IAmb IAmb 01 46 22.5
comp=Z,8.9nm,0.8s
PPT Papeete 95.04 107 LR LR 02 22 09.9
comp=Z,63nm,21.1s,baz=296,slow=31
PPT2 Papeete2 95.04 107 *e*P **P 01 46 21.4 -2.1**
comp=Z,40nm,26.0s
PPT2 Papeete2 95.04 107 *e*SS SS 02 03 58.2 -5.8
comp=Z,70nm,25.0s
PPT2 Papeete2 95.04 107 *e*LR LR 02 16 57.5
comp=Z,129nm,22.5s
PPT2 *e*LR LR 02 17 05.6
comp=Z,143nm,35.0s
J04A Umpqua Nationa 95.09 41 P **P 01 46 23.6 +0.1**
NEW Newport 95.15 35 P **P 01 46 22.9 -0.5**
NEW IAmb IAmb 01 46 25.1
comp=Z,10nm,1.1s
NEW Newport 95.15 35 LR LR 02 29 31.5
comp=Z,24nm,21.4s,baz=346,slow=36
NEW Newport 95.15 35 P **P 01 46 22.9 -0.5**
NEW pmax pmax
comp=Z,10.0nm,1.1s
J05D Fort Rock, OR 95.60 41 IAmb IAmb 01 46 27.6
comp=Z,8.7nm,1.0s
MAW Mawson 96.36 199 LR LR 02 28 17.9
comp=Z,82nm,18.5s,baz=57,slow=34
TBI Tubuai 96.93 112 *e*SS SS 02 04 25.6 -4.8
comp=Z,278nm,29.2s
TBI Tubuai 96.93 112 *e*LR LR 02 17 50.0
comp=Z,1μm,31.5s
TBI *e*LR LR 02 17 56.0
comp=Z,539nm,28.2s
FRB Frobisher Bay 97.00 4 LR LR 02 32 29.6
comp=Z,127nm,20.4s,baz=348,slow=37
LSZ Lusaka 97.55 256 LR LR 02 26 34.7
comp=Z,99nm,20.6s,baz=76,slow=33
WVOR Wild Horse Val 97.66 40 IAmb IAmb 01 46 46.4
comp=Z,8.1nm,1.3s
FFC Flin Flon 97.73 24 P **P 01 46 34.5 -0.5**
FFC Flin Flon 97.73 24 P **P 01 46 34.5 -0.5**
FFC pmax pmax
comp=Z,4.0nm,1.0s
VNDA Vanda 99.39 172 P **Pdif 01 46 42.7 +1.0**
VNDA Vanda 99.39 172 P **Pdif 01 46 41.0 -0.7**
comp=Z,2.6nm,1.0s,baz=306,slow=5.2,SNR=11
VNDA LR LR 02 33 05.7
comp=Z,71nm,19.1s,baz=324,slow=36
comp=Z,2.6nm,1.0s
VNDA Vanda 99.39 172 P **Pdif 01 46 42.7 +1.0**
VNDA pmax pmax
comp=Z,5.0nm,1.2s
NVAR Mina Array Bea 100.14 43 P **Pdif 01 46 46.3 -0.1**
comp=Z,1.0nm,0.7s,baz=278,slow=4.7,SNR=6.9
TAOE Nuku Hiva Isla 101.10 96 *e*LR LR 02 19 42.6
comp=Z,284nm,30.5s
ESDC Sonseca Array 102.18 320 PP **PP 01 50 59.4 -7.2**
comp=Z,1.0nm,0.9s,baz=35,slow=8.9,SNR=5.2
SYO Syowa Base 104.73 202⇑*e*Pdiff **Pdif 01 47 08.5 +3.0**
RKT Rikitea 109.72 108 *e*LR LR 02 23 51.5
comp=Z,687nm,33.2s
ELIB Princess Elisa 110.48 199 *d*PKP **PKiKP 01 51 34.4 +2.6**
TXAR Lajitas Array 115.28 43 PKP **PKPdf 01 51 42.4 +0.1**
comp=Z,1.4nm,0.7s,baz=241,slow=0.4,SNR=18
TXAR PKKPab **PKKPab 02 02 22.1 -1.9**
comp=Z,0.4nm,0.8s,baz=145,slow=4.6,SNR=3.6
BRDY Brady 116.77 38 **PKPdf 01 51 43.9 -1.1**
JCT Junction City 116.88 39 PKPdf **PKPdf 01 51 43.8 -1.4**
JCT Junction City 116.88 39 PKIKP **PKPdf 01 51 43.8 -1.4**
WVT Waverly 118.56 26 PKPdf **PKPdf 01 51 47.1 -1.1**
WVT Waverly 118.56 26 PKIKP **PKPdf 01 51 47.1 -1.1**
SDV Santo Domingo 149.81 23 *e*P **PKPdf 01 52 47.5 +1.0**
RUSC La Rusia 151.45 31 PKPbc **PKPbc 01 52 54.1 -1.3**
ROSC El Rosal 151.72 34 PKPdf **PKPdf 01 52 49.0 -0.6**
ROSC El Rosal 151.72 34 PKPbc **PKiKP 01 52 56.4 0.0**
comp=Z,30nm,0.8s,baz=305,slow=3.7,SNR=12
ROSC El Rosal 151.72 34 PKIKP **PKPdf 01 52 49.1 -0.6**
AY01 Puyuhuapi 152.35 159 **PKPbc 01 52 55.8 -0.2**
OTAV Otavalo 152.81 47 PKPdf **PKPdf 01 52 49.8 -1.6**
OTAV Otavalo 152.81 47 PKIKP **PKPdf 01 52 49.8 -1.6**
OTAV Otavalo 152.81 47 *e*P **PKPdf 01 52 51.7 +0.3**
PLCA Paso Flores 156.32 158 PKP **PKPdf 01 52 55.9 +0.9**
comp=Z,2.7nm,1.1s,baz=276,slow=10,SNR=2.6
TBTG Tabatinga, AM 161.64 37 **PKPab 01 53 45.0 -1.7**
TBTG Tabatinga, AM 161.64 37 *e*P **PKPdf 01 53 04.2 +2.3**
CZSB Cruzeiro do Su 162.44 51 *e*P **PKPdf 01 53 04.6 +1.8**
RIB01 Linhares ES 162.50 267 *e*P **PKPdf 01 53 04.8 +2.2**
TEFE Tefe 163.45 20 *e*P **PKPdf 01 53 04.3 +0.6**
ITTB Itaituba 164.95 348 *e*P **PKPdf 01 53 05.4 +0.3**
SMTB Santa Maria do 164.97 311 *e*P **PKPdf 01 53 06.9 +1.8**
DIAM Diamantina, MG 165.52 271 *e*P **PKPdf 01 53 07.1 +1.5**
BDFB Brasilia 169.00 287 PKP **PKPdf 01 53 07.6 -0.5**
comp=Z,4.2nm,1.0s,baz=102,slow=4.2,SNR=4.1
SAML Samuel 169.02 23 *e*P **PKPdf 01 53 09.6 +1.5**
IPMB Ipameri, GO 169.77 275 *e*P **PKPdf 01 53 10.6 +2.1**
LPAZ La Paz 170.77 73 PKP **PKPdf 01 53 10.1 +0.3**
comp=Z,3.1nm,1.1s,baz=0.9,slow=3.7,SNR=5.4
LPAZ PKPab **PKPab 01 54 26.7 -1.2**
comp=Z,0.9nm,0.7s,baz=342,slow=9.6,SNR=1.0
LPAZ La Paz 170.77 73 *e*P **PKPdf 01 53 11.4 +1.6**
CLDB Colider 171.20 339 *e*P **PKPdf 01 53 10.5 +1.2**
CPUP Villa Florida 172.74 191 PKP **PKPdf 01 53 09.3 -0.3**
comp=Z,1.5nm,0.8s,baz=90,slow=2.0,SNR=3.1
CPUP PKPab **PKPab 01 54 34.9 -0.3**
comp=Z,4.6nm,1.0s,baz=243,slow=3.4,SNR=6.6
CPUP Villa Florida 172.74 191 *e*P **PKPdf 01 53 13.0 +3.4**
SJPY San Joaquin 173.65 204 *e*P **PKPdf 01 53 11.4 +1.3**
PTLB Pontes e Lacer 176.28 3 *e*P **PKPdf 01 53 13.4 +2.4**

BKK ***15*** *01:39:43.1±0.6,23°N±6°×9°3E±°,h10km,M4.4/27,*
mB5.0/25,mb4.7/25,Mjma4.2/27,ML4.7/9,MLv4.7/16,
Mw(mB)4.2/25,MwMwp5.2/1,Mwp5.5/1
BJI ***15*** *01:39:43.3,22°71N×93°32E,h54km,mB5.0/11,mb4.4/37,*
ML4.0/2,Ms4.5/12,Ms7 4.2/12
NEIC ***15*** *01:39:45.8±1.4,22°75N±0°07×93°42E±0°07,h56km±6km,*
mb4.6/109,Error ellipse: s-maj=10.3km s-min=7.9km
az=213.0
IDC ***15*** *01:39:46.4±1.2,22°74N×93°42E,h66km±11km,mb4.0/28,*
mbtmp4.3/30,MS3.8/5,Error ellipse: s-maj=12.1km
s-min=8.5km az=33.0
NDI ***15*** *01:39:54.0±2.6,23°56N×93°47E,h43km±12km,ML4.2,*
MW4.5,mb4.6(NEIC)
ISC 15 01:39:45.5±0.3,22°73N±0°04×93°41E±0°04,h59km,n226,
σ1°29/228,mb4.6/95,MS4.1/8,2C-2D,Myanmar-India
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZL	**Aizawl**	**1.20**	**327**	*e*P	**Pn**	**01 40 06.6**	**+0.3**
AZL				*e*S	**Sn**	**01 40 19.3**	**-2.4**
AZL				IAML		01 40 23.0	
	comp=N,16μm,0.5s						
AZL				IAML		01 40 23.9	
	comp=E,21μm,0.5s						
BRDH	**Bariadhala**	**1.63**	**268**	P	**Pn**	**01 40 12.3**	**+0.3**
	comp=E,1μm,0.3s,baz=73,slow=11,SNR=64						
BRDH				S	**Sn**	**01 40 33.6**	**+1.7**
	comp=E,16μm,0.3s,baz=234,slow=20,SNR=34						

BRDH LR LR 01 41 06.3
comp=E,861nm,18.3s,baz=120,slow=49
IMP Imphal 2.15 13 *e*P **Pn 01 40 16.7 -2.4**
IMP *e*S Sn 01 40 30.4 -14
IMP IAML 01 40 31.8
comp=N,676nm,0.5s
IMP IAML 01 40 35.9
comp=E,424nm,0.7s
AGT Agartala 2.29 300 *e*P Pn 01 40 27.1 +6.1
AGT *e*S **Sn 01 40 49.3 +1.3**
AGT IAML 01 40 50.9
comp=N,12µm,0.5s
AGT IAML 01 40 51.0
comp=E,9µm,0.6s
KOHI KOHIMA 3.04 12 *e*P **Pn 01 40 30.0 -1.4**
KOHI *ex* **Sn 01 41 05.9 -0.8**
KOHI IAML 01 41 06.3
comp=E,1µm,0.7s
KOHI IAML 01 41 07.8
comp=N,1µm,0.6s
SHL Shillong 3.15 334 Pn **Pn 01 40 32.0 -0.8**
SHL Shillong 3.15 334 *e*P **Pn 01 40 31.3 -1.5**
SHL *e*S Sn 01 40 58.2 -11
SHL IAML 01 41 11.3
comp=E,820nm,0.2s
SHL IAML 01 41 12.1
comp=N,1µm,0.2s
ZIRO ZIRO 4.79 5⇑ *e*P **Pn 01 40 52.4 -2.9**
ZIRO *e*S Sn 01 41 35.4 -14
ZIRO IAML 01 41 54.2
comp=E,2µm,0.5s
ZIRO IAML 01 41 57.3
comp=N,2µm,0.6s
TNCH TengChong 5.21 63 P **Pn 01 41 02.3 +1.2**
TNCH S **Sn 01 41 54.8 -5.1**
TNCH LR LR
comp=N,2µm,11.5s
TNCH LR LR
comp=N,2µm,14.0s
TNCH LR LR
comp=N,3µm,15.1s
MHMT Maesarieng 6.21 136 P **Pn 01 41 15.9 +1.3**
GTK Tadong 6.31 317 *e*P **Pn 01 41 16.6 +0.4**
GTK *e*S Sn 01 42 17.1 -10
GTK IAML 01 42 27.7
comp=N,490nm,0.5s
GTK IAML 01 42 28.9
comp=E,576nm,0.3s
CHTO Chiang Mai 6.48 126 Pn **Pn 01 41 17.6 -0.8**
CM15 Chiang Mai Arr 6.70 128 P **Pn 01 41 22.3 +1.0**
comp=E,0.3nmcomp=E,0.2nmcomp=E,929nmcomp=E,87nm,0.9s
CM13 Chiang Mai Arr 6.70 129 P **Pn 01 41 22.3 +0.9**
comp=E,0.2nmcomp=E,0.2nmcomp=E,668nmcomp=E,83nm,0.7s
CM31 Chiang Mai Arr 6.71 128 Pn **Pn 01 41 21.9 +0.4**
CMAR Chiang Mai Arr 6.71 128 Pn **Pn 01 41 21.0 -0.5**
CMAR Chiang Mai Arr 6.71 128 P **Pn 01 41 22.0 +0.5**
comp=E,23nm,0.5s,baz=306,slow=14,SNR=66
CMAR S **Sn 01 42 39.1 +2.6**
comp=E,7.6nm,0.6s,baz=232,slow=23,SNR=1.4
CM02 Chiang Mai Arr 6.72 128 P **Pn 01 41 22.4 +0.7**
CM01 Chiang Mai Arr 6.74 129 P **Pn 01 41 22.9 +0.9**
comp=E,0.4nmcomp=E,0.3nmcomp=E,1µmcomp=E,121nm,1.0s
CM05 Chiang Mai Arr 6.74 129 P **Pn 01 41 22.4 +0.4**
comp=E,0.3nmcomp=E,0.2nmcomp=E,664nmcomp=E,61nm,0.7s
CM09 Chiang Mai Arr 6.75 128 P **Pn 01 41 22.7 +0.6**
CM04 Chiang Mai Arr 6.77 129 P **Pn 01 41 23.5 +1.1**
comp=E,0.3nmcomp=E,0.2nmcomp=E,734nmcomp=E,79nm,0.7s
PAYA Payao 6.91 118 P **Pn 01 41 25.2 +1.0**
comp=E,0.0nmcomp=E,0.1nmcomp=E,31nm,0.8s
LAMP Lampang 7.18 125 P **Pn 01 41 28.0 +0.1**
comp=E,0.4nmcomp=E,1.0nmcomp=E,663nmcomp=E,45nm,0.8s
LSA Lhasa 7.23 344 **Pn 01 41 28.9 -0.1**
LSA Lhasa 7.23 344 P **Pn 01 41 29.3 +0.3**
LSA LR LR
comp=E,1µm,10.1s
LSA LR LR
comp=E,620nm,15.1s
NANT Nan 7.87 119 P **Pn 01 41 37.7 +0.4**
comp=E,0.1nmcomp=E,0.1nmcomp=E,0.1nmcomp=E,499nm
comp=E,27nm,0.7s
PZH PanZhiHua 8.46 62 P **Pn 01 41 48.6 +3.0**
PZH pmax pmax
comp=E,20nm,0.8s
PHIT Phitsanulok 8.59 129 P **Pn 01 41 48.4 +1.1**
KMI Kunming 8.86 73 P Pn 01 41 58.8 +7.6
KMI pmax pmax
comp=Z,28nm,1.1s
UTHA Uthaitani 9.13 140 P **Pn 01 41 55.3 +0.6**
comp=Z,18nm,0.8s
KHLT Khaolaem Dam 9.29 147 P **Pn 01 41 52.6 -4.3**
SLVN Son La 9.84 96 Pn **Pn 01 42 04.6 +0.2**
SRDT SRDT 9.94 146 P **Pn 01 42 04.6 -1.2**
comp=Z,0.6nmcomp=Z,18nm,0.6s
NONG Nongkai 10.24 115 P **Pn 01 42 11.5 +1.6**
comp=Z,24nm,0.9s
CHAI Chaiyaphum 10.57 129 P **Pn 01 42 14.7 +0.4**
comp=Z,14nm,0.7s
KHON Khomkaen 10.92 124 P **Pn 01 42 19.2 +0.1**
PBA Port Blair 11.04 183 Pn **Pn 01 42 18.3 -2.4**
SKNT Sakolnakorn 11.48 118 P **Pn 01 42 28.8 +2.0**
comp=Z,20nm,1.1s
PANO Nakornpanom 11.91 116 P **Pn 01 42 34.7 +2.1**
comp=Z,0.1nmcomp=Z,329nmcomp=Z,28nm,1.1s
UBPT Khong Chiam 13.60 121 Pn **Pn 01 42 55.6 -0.1**
UBPT Khong Chiam 13.60 121 P **Pn 01 42 55.7 0.0**
HYB Hyderabad 14.92 252 *e*P **Pn 01 43 13.5 +0.4**
HYB *e* 01 45 41.9
SRIT Nakonsritamara 15.26 156 **P 01 43 20.8 -0.5**
LZH Lanzhou 16.10 32 *e*P **P 01 43 36.8 +6.2**
LZH pP pP 01 43 43.3 -0.3
LZH pmax pmax
comp=Z,27nm,1.0s
XAN Xi'an 17.67 47 P **P 01 43 51.9 +4.0**
XAN pmax pmax
comp=Z,12nm,0.8s
KULM Kulim 18.70 157 P **P 01 43 59.0 -0.3**
PALK Pallekele 19.64 220 P **P 01 44 09.0 -0.6**
PALK Pallekele 19.64 220 P **P 01 44 09.7 +0.1**
comp=Z,10.0nm,0.7s,baz=31,slow=11,SNR=7.4
PALK S S 01 47 33.4 -15
comp=Z,5.2nm,0.4s,baz=59,slow=12,SNR=8.3
TSI Tuntungan 19.76 165 P **Pn 01 44 12.4 -0.4**
comp=Z,7µmcomp=Z,214nm,0.9s
PSI Prapat 20.52 164 P **P 01 44 20.1 +0.8**
comp=Z,8.4nm,0.5s,baz=338,slow=13,SNR=7.7
comp=Z,8.4nm,0.5s
RPSI Rantau Prapat 20.63 164 P **P 01 44 19.0 -1.2**
RPSI IAmb IAmb 01 44 27.3
comp=Z,15nm,0.6s
NIL Nilore 20.79 306 P **P 01 44 20.6 -1.4**
WMQ Urumqi 21.56 349 *e*P **P 01 44 30.5 +0.4**
WMQ sP sP 01 44 50.8 -0.2
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ LR LR
comp=Z,980nm,14.9s
WMQ LR LR
comp=Z,730nm,14.1s
WMQ LR LR
comp=Z,490nm,16.3s
GSI Gunungsitoli 21.68 169 P **P 01 44 29.5 -2.1**
GSI IAmb IAmb 01 44 31.7
comp=Z,37nm,0.7s
GSI Gunungsitoli 21.68 169 P **P 01 44 29.7 -1.8**
comp=Z,39nm,0.6s
KSH Kashi 22.35 322 P **P 01 44 38.5 -0.3**
KSH pP pP 01 44 52.3 +0.3
KSH S **S 01 48 36.8 -4.0**
KSH pmax pmax
comp=Z,51nm,0.9s
KSH LR LR
comp=Z,1µm,20.4s
KSH LR LR
comp=Z,560nm,21.4s
KSH LR LR
comp=Z,1µm,17.5s
BTO Baotou 22.68 34 *e*P P 01 44 51.5 +9.3
BTO pP pP 01 44 55.8 +0.2
BTO sP sP 01 44 57.8 -5.4
BTO PP **PnPn 01 45 14.9 +6.7**
BTO S Sn 01 49 05.3 +1.3
BTO SS SnSn 01 49 49.6 +29
BTO pmax pmax
comp=Z,20nm,0.5s
BTO pmax pmax
comp=Z,240nm,3.5s
BTO LR LR
comp=N,830nm,9.1s
BTO LR LR
comp=E,1µm,12.3s
BTO LR LR
comp=Z,880nm,13.0s
MYKOM Kota Tinggi 23.16 153 P **P 01 44 46.2 -0.9**
PRZ Przheval'sk 23.34 331 P **P 01 44 49.2 +0.3**
PRZ IAmb IAmb 01 45 07.5
comp=Z,47nm,1.3s
BKNI Bangkinang 23.48 161 P P 01 44 41.3 -8.8
KDJ Kajisay 23.62 329 P **P 01 44 52.2 +0.7**
KDJ IAmb IAmb 01 45 09.2
comp=Z,25nm,1.0s
HHC Hu-ho-hao-te 23.67 36 *e*P **P 01 44 51.5 -0.4**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,84nm,4.9s
ULHL Ulahol 24.17 328 P **P 01 44 58.4 +1.9**
SNR=13
KBL Kabul 24.34 304 P **P 01 44 58.5 +0.3**
KBL IAmb IAmb 01 45 12.6
comp=Z,25nm,0.9s
NJ2 Nanjing 24.38 62 *e*P **P 01 45 00.3 +2.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
BOOM Boomskoye usch 24.50 328 P **P 01 45 01.3 +1.9**
BOOM IAmb IAmb 01 45 24.1
comp=Z,24nm,1.1s
SISI Saibi 24.55 166 P **P 01 45 00.9 +1.0**
comp=Z,74nm,0.8s
TIA Tai'an 24.55 52 P **P 01 45 00.5 +0.7**
TIA pmax pmax
comp=Z,13nm,0.9s
DRK Karamyk 24.82 317 P **P 01 45 02.7 +0.1**
TKM2 Tokmak 2 24.99 328 P **P 01 45 06.6 +2.6**
SNR=14
KBK Karagaybulak 25.12 327 P **P 01 45 06.7 +1.6**
SNR=8.1
ARSB Arslanbob 25.26 322 P **P 01 45 07.5 +1.1**
AAK Ala-Archa 25.34 326 P **P 01 45 07.7 +0.6**
AAK Ala-Archa 25.34 326 P **P 01 45 08.7 +1.6**
SNR=7.8
FRU1 Bishkek 25.39 326 P **P 01 45 08.2 +0.7**
FRU1 IAmb IAmb 01 45 23.9
comp=Z,21nm,0.5s
AML Almayashu 25.40 324 P **P 01 45 10.8 +2.9**
SNR=9.2
GAR Garm 25.50 315 P **P 01 45 08.0 -0.5**
GAR IAmb IAmb 01 45 27.2
comp=Z,36nm,1.1s
MKAR Makanchi Array 25.63 342 P **P 01 45 09.4 -0.1**
MKAR Makanchi Array 25.63 342 P **P 01 45 09.9 +0.4**
comp=Z,7.0nm,0.6s,baz=159,slow=7.8,SNR=22
comp=Z,7.0nm,0.6s
EKS2 Erkin-Say 25.73 325 P **P 01 45 11.7 +1.1**
SNR=10.0
MAKZ Makanchi 25.73 342 P **P 01 45 10.3 -0.2**
BTK Batken 25.77 317 P **P 01 45 11.6 +0.6**
USP Ospenovka 25.79 327 P **P 01 45 14.4 +3.4**
SNR=8.8
SIMJ Simiganj 26.19 313 P **P 01 45 13.6 -1.3**
SIMJ IAmb IAmb 01 45 34.3
comp=Z,16nm,0.7s
SONM Songino Array 27.12 19 P **P 01 45 23.9 +0.9**
SONM Songino Array 27.12 19 P **P 01 45 23.8 +0.8**
comp=Z,3.9nm,0.7s,baz=197,slow=8.8,SNR=18
comp=Z,3.9nm,0.7s
ULN Ulaanbaatar 27.35 20 P **P 01 45 24.8 -0.4**
KKAR Karatay Array 27.81 322 P **P 01 45 29.5 +0.4**
KURBB Kurchatov Arra 30.17 341 P **P 01 45 50.1 +0.2**
comp=Z,1.9nm,0.7s,baz=153,slow=8.7,SNR=5.4
KURBB PcP **PcP 01 48 49.9 +0.1**
comp=Z,0.9nm,0.6s,baz=161,slow=2.3,SNR=3.6
comp=Z,1.9nm,0.7s
KURK Kurchatov 30.22 341 P **P 01 45 50.9 +0.5**
KURK IAmb IAmb 01 46 10.2
comp=Z,7.1nm,0.8s
ZAA0 Zalesovo Array 31.84 350 P **P 01 46 05.0 +0.4**
ZALV Zalesovo Beam 31.84 350 P **P 01 46 04.7 +0.1**
ZALV Zalesovo Beam 31.84 350 P **P 01 46 05.3 +0.7**
comp=Z,1.9nm,0.4s,baz=165,slow=8.1,SNR=8.7
comp=Z,1.9nm,0.4s
KSRS Korea Array 33.06 56 LR LR 01 59 59.5
comp=Z,133nm,19.5s,baz=190,slow=37
BVAR Borovoye Array 34.97 336 P **P 01 46 31.9 0.0**
comp=Z,1.2nm,0.4s,baz=132,slow=9.6,SNR=4.9
comp=Z,1.2nm,0.4s
BNX BinXian 35.87 42 ⇑P **P 01 46 39.9 +0.2**
BNX pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 37.35 323 P **P 01 46 52.3 0.0**
ABKAR IAmb IAmb 01 47 07.8
comp=Z,6.7nm,0.7s
USRK Ussuriysk Ar. 38.18 47 P **P 01 46 59.0 -0.4**
comp=Z,1.4nm,0.4s,baz=231,slow=6.7,SNR=2.3
comp=Z,1.4nm,0.4s
HEH HeiHe 38.19 35 *e*P **P 01 46 57.5 -1.9**
HEH pmax pmax
comp=Z,10.0nm,0.7s
MJAR Matsushiro Arr 40.95 60 P **P 01 47 22.1 -0.4**
comp=Z,5.9nm,0.9s,baz=278,slow=9.0,SNR=7.6
comp=Z,5.9nm,0.9s
ARTI Arti 42.28 332 P **P 01 47 33.2 +0.1**
RAYN Ar Rayn 43.90 281 P **P 01 47 46.3 -0.4**
SOEI Soe 44.23 134 P **P 01 47 48.3 -1.1**
FAKI Fak Fak 45.67 119 P **P 01 47 59.6 -1.2**
KBZ Khabaz 46.35 309 P **P 01 48 05.8 +0.1**
comp=Z,1.3nm,0.8s,baz=101,slow=5.2,SNR=1.8
comp=Z,1.3nm,0.8s
NRIK Noril'sk 46.75 357 P **P 01 48 09.0 +0.5**
comp=Z,1.2nm,0.3s,baz=144,slow=6.8,SNR=3.9
comp=Z,1.2nm,0.3s
MBWA Marble Bar 50.62 148 P **P 01 48 38.3 -0.5**
MBWA Marble Bar 50.62 148 P **P 01 48 38.6 -0.2**
comp=Z,28nm,0.8s
PSA00 Pilbara Seismi 51.02 148 P **P 01 48 40.7 -1.1**
PSA00 IAmb IAmb 01 48 42.9
comp=Z,11nm,1.2s
PSA00 Pilbara Seismi 51.02 148 P **P 01 48 41.6 -0.2**
comp=Z,17nm,1.0s
KNRA Kununurra 51.53 135 P **P 01 48 45.1 -0.6**
KNRA Kununurra 51.53 135 P **P 01 48 45.3 -0.4**
comp=Z,14nm,0.7s
BRTR Keskin Array B 52.91 303 P **P 01 48 55.9 0.0**
comp=Z,0.4nm,0.8s,baz=88,slow=6.9,SNR=1.5
comp=Z,0.4nm,0.8s
TIXI Tiksi 52.94 13 P **P 01 48 54.6 -0.8**
MORW Morawa 55.93 156 P **P 01 49 17.8 +0.2**
ELL Elmali 55.96 300 P **P 01 49 16.6 -1.5**
AKASG Malin Array Be 56.48 317 P **P 01 49 20.7 -0.7**
comp=Z,0.4nm,0.3s,baz=80,slow=6.8,SNR=7.4
comp=Z,0.4nm,0.3s
AKBB Malin Array Si 56.48 317 P **P 01 49 20.2 -1.2**
AKBB IAmb IAmb 01 49 52.9
comp=Z,10nm,1.3s
KIEV Kiev 56.49 317 P **P 01 49 19.9 -1.6**
KIEV IAmb IAmb 01 49 53.0
comp=Z,10nm,1.4s
PETK Petropavlovsk- 56.77 40 P **P 01 49 23.4 -0.1**
comp=Z,1.7nm,0.8s,baz=279,slow=3.8,SNR=6.3
comp=Z,1.7nm,0.8s
WRA Warramunga Arr 58.27 134 P **P 01 49 33.6 -0.8**
WRA Warramunga Arr 58.27 134 P **P 01 49 34.4 -0.1**
comp=Z,8.0nm,0.6s,baz=322,slow=7.4,SNR=89
comp=Z,8.0nm,0.6s
WRAB Tennant Creek 58.27 134 P **P 01 49 34.3 -0.1**
WRKA Warakurna 58.32 142 P **P 01 49 34.6 -0.1**
comp=Z,35nm,0.7s
MLR Muntele Rosu 58.53 310 P **P 01 49 35.8 -0.3**
MLR IAmb IAmb 01 50 06.1
comp=Z,8.8nm,1.0s
ALN Alexandroupoli 58.67 305 P **P 01 49 36.8 -0.1**
BURAR Bucovina Array 59.00 313 P **P 01 49 39.4 +0.1**
FIA1 FINESS Array S 59.47 329 P **P 01 49 41.7 -0.5**
FINES FINESS Array B 59.47 329 P **P 01 49 41.9 -0.2**
FINES FINESS Array B 59.47 329 P **P 01 49 42.0 -0.1**
comp=Z,1.9nm,0.6s,baz=98,slow=5.6,SNR=11
comp=Z,1.9nm,0.6s
KMBO Kilima Mbogo 59.56 254 P **P 01 49 44.0 +0.2**
comp=Z,0.9nm,0.6s,baz=41,slow=12,SNR=2.7
comp=Z,0.9nm,0.6s
PABE Paberze 59.97 322 P **P 01 49 45.3 -0.3**
AS31 Alice Springs 60.64 137 P **P 01 49 50.6 -0.1**
AS31 IAmb IAmb 01 49 51.7
comp=Z,5.3nm,0.6s
AS31 Alice Springs 60.64 137 P **P 01 49 50.8 +0.1**
comp=Z,7.4nm,0.6s
ASAR Alice Springs 60.64 137 P **P 01 49 50.6 -0.1**
ASAR Alice Springs 60.64 137 P **P 01 49 51.1 +0.4**
comp=Z,11nm,0.5s,baz=318,slow=6.9,SNR=130
comp=Z,11nm,0.5s
OPO Ambohidratompo 61.03 232 LR LR 02 11 49.2
comp=Z,27nm,20.5s,baz=194,slow=32
ARCES ARCESS Array B 61.19 338 P **P 01 49 54.1 +0.3**
comp=Z,15nm,1.3s,baz=94,slow=4.9,SNR=4.8
comp=Z,15nm,1.3s
ABPO Ambohimpanom 61.29 231 P **P 01 49 55.8 +0.4**
ABPO IAmb IAmb 01 50 14.0
comp=Z,15nm,1.4s
FORT Forrest 62.74 147 P **P 01 50 04.4 -0.2**
VOI Vohitsoka 63.49 229 P **P 01 50 09.9 -0.1**
MBAR Mbarara 65.17 258 P **P 01 50 21.1 -0.1**
SPITS Spitsbergen Ar 65.25 347 P **P 01 50 20.2 -0.4**
comp=Z,9.9nm,1.0s,baz=123,slow=5.3,SNR=1.4
comp=Z,9.9nm,1.0s
HFS Hagfors 65.47 327 P **P 01 50 22.0 -0.2**
comp=Z,2.2nm,0.4s,baz=100,slow=6.2,SNR=18
comp=Z,2.2nm,0.4s
NC405 NORSAR Array S 66.38 328 P **P 01 50 27.1 -1.0**
NC405 IAmb IAmb 01 50 56.4
comp=Z,7.2nm,1.0s
GERES GERESS Array B 66.58 315 P **P 01 50 29.8 +0.1**
comp=Z,1.2nm,0.5s,baz=75,slow=6.7,SNR=7.9
comp=Z,1.2nm,0.5s
NB2 NORSAR Subarra 66.63 328 P **P 01 50 29.0 -0.7**
comp=Z,0.5nm,0.5s,baz=84,slow=6.2
NOA NORSAR Array B 66.63 328 P **P 01 50 29.0 -0.7**
comp=Z,1.3nm,0.7s,baz=86,slow=6.3,SNR=7.6
comp=Z,1.3nm,0.7s
CLL Collm 66.69 318 *e*P **P 01 50 28.0 -2.2**
comp=Z,4.0nm,0.9s
NC204 NORSAR Array S 66.83 329 P **P 01 50 30.0 -0.9**
NC204 IAmb IAmb 01 50 43.3
comp=Z,6.4nm,0.9s
BBOO Buckleboo 68.62 142 P **P 01 50 41.9 -0.6**
FUORN Ofenpass-Fuorn 69.25 313 P **P 01 50 46.1 -0.6**
FUORN IAmb IAmb 01 51 20.1
comp=Z,7.6nm,1.3s
QLP Quilpie 69.44 132 P **P 01 50 48.5 +0.8**
comp=Z,23nm,0.6s
STKA Stephens Creek 71.23 138 P **P 01 50 58.2 -0.3**
STKA Stephens Creek 71.23 138 P **P 01 50 58.5 -0.1**
comp=Z,1.4nm,0.4s,baz=344,slow=6.3,SNR=6.4
comp=Z,1.4nm,0.4s
SENIN Lac Senin/Sane 71.30 313 P **P 01 50 59.5 +0.3**
SENIN IAmb IAmb 01 51 07.6
comp=Z,8.5nm,1.3s
BCLA Clavier 71.65 318 *d*PcP **PcP 01 51 19.8 -0.1**
BMRD Maredsous 72.01 318 *d*PcP **PcP 01 51 20.0 -1.4**
C16K Lisburne Hills 73.17 22 P **P 01 51 10.8 +1.2**
C16K IAmb IAmb 01 51 24.3
comp=Z,9.8nm,1.1s
EIDS Eidsvold 73.57 127 P **P 01 51 12.6 0.0**
EIDS IAmb IAmb 01 51 27.5
comp=Z,21nm,1.4s
CMSA Cobar Meteorol 73.61 135 P **P 01 51 13.2 +0.4**
comp=Z,18nm,0.8s
LSZ Lusaka 74.17 246 P **P 01 51 16.6 +0.1**
LSZ IAmb IAmb 01 51 17.3
comp=Z,6.9nm,0.7s
EKA Eskdalemuir Ar 75.23 324 P **P 01 51 22.2 +0.4**
comp=Z,1.8nm,0.8s,baz=73,slow=6.5,SNR=1.5
comp=Z,1.8nm,0.8s
F19K Shaleruckik Mo 76.41 23 P **P 01 51 28.7 +0.4**
L14K Kuka Creek 76.72 29 P **P 01 51 31.4 +1.2**
L14K IAmb IAmb 01 51 47.3
comp=Z,7.3nm,1.0s
J16K Anvik River 76.83 27 P **P 01 51 31.6 +0.8**
J16K IAmb IAmb 01 51 59.7
comp=Z,19nm,1.5s
H18K Honhosa River 76.92 24 P **P 01 51 31.7 +0.4**
H18K IAmb IAmb 01 51 57.0
comp=Z,6.5nm,1.2s
F20K Avaraart Lake 77.03 22 P **P 01 51 32.1 +0.2**
C23K Itkillik River 77.28 19 P **P 01 51 34.0 +0.8**
EUNU Eureka 77.42 360 P **P 01 51 34.7 +0.7**
EUNU IAmb IAmb 01 51 50.8
comp=Z,4.7nm,0.7s
H19K Roundabout Mou 77.47 24 P **P 01 51 34.4 0.0**
POGA Pongola 77.66 233 P **P 01 51 36.4 +0.4**
K17K Iditarod 78.03 27 P **P 01 51 37.7 +0.2**
K17K IAmb IAmb 01 51 58.8
comp=Z,11nm,1.2s
TOLK Toolik Lake Re 78.24 19 P **P 01 51 38.8 +0.1**
TOLK IAmb IAmb 01 52 02.1
comp=Z,4.9nm,0.8s
J18K Innoko River 78.33 26 P **P 01 51 39.2 0.0**
H21K Melozitna Rive 78.74 23 P **P 01 51 41.9 +0.5**
H21K IAmb IAmb 01 51 57.4
comp=Z,4.0nm,0.7s
J20K Nowinta River 78.99 24 P **P 01 51 42.5 -0.3**
KHWEE KHWEE 79.70 241 P **P 01 51 46.9 -0.5**
KHWEE IAmb IAmb 01 52 11.9
comp=Z,7.5nm,0.9s
E25K Arctic Village 79.75 19 P **P 01 51 47.7 +0.7**
N18K Kilae Creek 79.99 28 P **P 01 51 49.1 +0.8**
G24K Hadwenzic Riv 79.99 21 P **P 01 51 48.5 +0.3**
F25K Christian Rive 80.05 20 P **P 01 51 49.5 +0.9**
F25K IAmb IAmb 01 52 07.8
comp=Z,4.4nm,0.8s
CAST Castle Rocks 80.16 25 P **P 01 51 48.7 -0.5**
CAST IAmb IAmb 01 52 20.9
comp=Z,9.6nm,1.4s
BPAW Bear Paw Mtn. 80.21 24 P **P 01 51 49.9 +0.5**
PPLA Purkeypile 80.39 25 P **P 01 51 51.3 +0.6**
BMAR Burnt Mountain 80.47 19 P **P 01 51 52.2 +1.4**
M20K Styx River 80.55 26 P **P 01 51 52.4 +1.0**
O18K Koktuh Hills 80.69 28 P **P 01 51 53.4 +1.3**
O18K IAmb IAmb 01 52 29.1
comp=Z,7.9nm,1.4s
TRF Thorofare Moun 80.83 24 P **P 01 51 55.0 +2.0**
P18K Big Mountain, 80.91 29 P **P 01 51 53.5 +0.3**
P18K IAmb IAmb 01 52 19.9
comp=Z,14nm,1.5s
G26K Porcupine Rive 81.01 20 P **P 01 51 54.5 +0.9**
G26K IAmb IAmb 01 52 11.2
comp=Z,7.8nm,1.1s
LBTB Lobatse 81.10 238 P **P 01 51 55.0 +0.1**
LBTB IAmb IAmb 01 52 13.5
comp=Z,15nm,1.2s
SKT Skwentna 81.14 26 P **P 01 51 54.7 +0.2**
SKT IAmb IAmb 01 52 17.9
comp=Z,8.5nm,1.2s
ESDC Sonseca Array 81.20 309 P **P 01 51 57.3 +2.0**
comp=Z,0.8nm,1.2s,baz=61,slow=6.5,SNR=1.0
ESDC LR LR 02 33 46.1
comp=Z,49nm,19.0s,baz=38,slow=40
comp=Z,0.8nm,1.2s
ILAR Eielson Array 81.31 22 P **P 01 51 55.5 +0.2**
comp=Z,0.5nm,0.7s,baz=302,slow=5.6,SNR=5.3
comp=Z,0.5nm,0.7s
RND Reindeer 81.39 24 P **P 01 51 55.4 -0.4**
RND IAmb IAmb 01 52 21.0
comp=Z,9.4nm,1.5s
SUA Susitna One 81.73 26 P **P 01 51 58.6 +0.9**
SUA IAmb IAmb 01 52 21.1
comp=Z,6.0nm,1.2s
A36M Sachs Harbour 81.90 11 P **P 01 51 59.0 +0.7**
H27K Steamboat Moun 82.17 20 P **P 01 52 00.0 +0.2**
H27K IAmb IAmb 01 52 17.5
comp=Z,4.3nm,0.8s
K24K Donnelly Dome 82.28 23 P **P 01 52 02.0 +1.6**
SML Sawmill 82.50 25 P **P 01 52 01.7 0.0**
SML IAmb IAmb 01 52 40.1
comp=Z,5.9nm,0.8s
BRLK Bradley Lake 82.60 27 P **P 01 52 01.1 -1.1**
BRLK IAmb IAmb 01 52 16.5
comp=Z,4.2nm,0.7s
SCRK Sand Creek 82.80 22 P **P 01 52 03.3 +0.1**
SCRK IAmb IAmb 01 52 21.2
comp=Z,8.5nm,1.3s
KDAK Kodiak Island 82.92 30 P **P 01 52 03.2 -0.6**
PWL Port Wells 83.04 26 P **P 01 52 04.6 +0.2**
PWL IAmb IAmb 01 52 40.8
comp=Z,5.9nm,0.8s
H29M Whitestone 83.13 19 P **P 01 52 04.7 -0.1**
H29M IAmb IAmb 01 52 35.2
comp=Z,8.9nm,1.4s
BOSA Boshof 83.16 235 P **P 01 52 05.9 +0.2**
BOSA IAmb IAmb 01 52 31.6

comp=Z,5.3nm,0.9s
BOSA Boshof 83.16 235 P **P 01 52 06.0 +0.3**
comp=Z,5.7nm,0.6s,baz=58,slow=3.0,SNR=21
BOSA LR LR 02 23 55.9
comp=Z,100nm,21.7s,baz=60,slow=32
comp=Z,5.7nm,0.6s
I28M Miner Creek 83.18 20 P **P 01 52 04.7 -0.5**
KLU Klutina 83.62 25 P **P 01 52 07.5 +0.1**
KLU IAmb IAmb 01 52 31.9
comp=Z,9.0nm,1.0s
G31M Satah River 83.80 17 P **P 01 52 07.9 -0.3**
G31M IAmb IAmb 01 52 38.6
comp=Z,7.4nm,1.2s
N25K Chitina, Valde 84.05 24 P **P 01 52 10.9 +1.2**
N25K IAmb IAmb 01 52 28.6
comp=Z,17nm,1.5s
L27K Beaver Creek, 84.13 22 P **P 01 52 11.2 +1.2**
L27K IAmb IAmb 01 52 28.0
comp=Z,5.9nm,1.2s
BCAR Beaver Creek A 84.14 22 P **P 01 52 11.6 +1.5**
LKGWB Lokgwabe 84.15 241 P **P 01 52 09.0 -1.9**
C36M Paulatuk 84.30 13 P **P 01 52 10.8 +0.1**
C36M IAmb IAmb 01 52 33.5
comp=Z,9.6nm,1.1s
I30M Mount Dempster 84.42 19 P **P 01 52 11.6 +0.1**
I30M IAmb IAmb 01 52 29.8
comp=Z,3.1nm,0.7s
H31M Peel River 84.59 18 P **P 01 52 11.6 -0.7**
H31M IAmb IAmb 01 52 19.0
comp=Z,15nm,1.5s
TORD Torodi Ar. Bea 86.56 283 P **P 01 52 23.1 +0.2**
comp=Z,53nm,0.3s,baz=54,slow=4.7,SNR=1.2
SUR Sutherland 88.34 234 LR LR 02 30 57.5
comp=Z,57nm,21.0s,baz=86,slow=35
YKA Yellowknife Ar 92.19 13 P **P 01 52 48.6 +0.1**
comp=Z,0.5nm,0.7s,baz=331,slow=4.3,SNR=8.3
comp=Z,0.5nm,0.7s
TXAR Lajitas Array 125.69 18 PKP **PKiKP 01 58 41.6 0.0**
comp=Z,0.2nm,0.6s,baz=345,slow=5.2,SNR=2.6
ROSC El Rosal 150.08 335 PKPbc **PKiKP 01 59 32.0 +0.2**
comp=Z,8.6nm,0.6s,baz=131,slow=6.5,SNR=7.4
CPUP Villa Florida 153.16 256 PKPbc **PKPbc 01 59 36.8 -0.5**
comp=Z,4.3nm,0.6s,baz=115,slow=1.7,SNR=15
PLCA Paso Flores 157.52 213 PKPab **PKPab 02 00 06.7 -0.6**
comp=Z,1.6nm,0.8s,baz=98,slow=3.8,SNR=4.4

---

*DNK **15** 01:40:43.6±1.3, 80°.93N×2°.67W, h36km±13km, ML0.9*
BER 15 01:40:42.7±1.9, 80°.86N×3°.10W, h10km, mb(Pn)2.8,
Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.21**	**296**	*e*P	Pn	01 41 17.7	-1.6
NOR				*e*S	Sn	01 41 42.7	-3.8
NOR	**Nord**	**2.21**	**296**	*i* P	Pn	01 41 17.7	-1.6
NOR				*i* S	Sn	01 41 41.6	-5.0
NOR				IAML		01 41 46.4	
comp=Z,1.2nm,0.4s							
KBS	**Kingsbay**	**3.28**	**119**	*e*P	Pn	01 41 32.5	-1.5
KBS				IAML		01 41 33.6	
comp=Z,2.8nm,0.1s							
KBS	**Kingsbay**	**3.28**	**119**	*i* P	Pn	01 41 31.7	-2.3
KBS				*i* S	Sn	01 42 05.3	-7.6
BRBB	**Barentsburg B**	**4.20**	**122**	*e*P	Pn	01 41 46.0	-0.6
SPA0	**Spitsbergen Ar**	**4.43**	**117**	*e*P	Pn	01 41 49.0	-0.9
SPA0				IAML		01 41 49.8	
comp=Z,2.3nm,0.2s							
SPA0				*e*S	Sn	01 42 34.6	-6.8
DBG	**Daneborg**	**7.49**	**218**	*i* P	Pn	01 42 29.0	-2.8
DBG				*e*S	Sn	01 43 46.9	-10
DBG	**Daneborg**	**7.49**	**218**	*i* P	Pn	01 42 29.0	-2.8
DBG				*e*S	Sn	01 43 46.9	-10

---

*ISN **15** 01:43:24.3±1.2, 33°.99N×45°.37E, h8km±6km, ML2.6*
*TEH **15** 01:43:24.8, 33°.97N×45°.38E, h6km±532km*
ISC 15 01:43:25.3±1.6, 33°.98N±0°.04×45°.36E±0°.05, h13km±17km,
n9, σ0s83/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.48**	**74**	Pg	**Pb**	**01 43 34.6**	**-1.0**
KGS1	**Ghasr-e-Shirin**	**0.56**	**20**	Pg	**Pb**	**01 43 36.4**	**-0.5**
KGS1				Sg	**Sb**	**01 43 45.1**	**+0.3**
IBDR	**Badra**	**0.99**	**151**	*e*Pg	**Pb**	**01 43 44.0**	**-0.3**
IBDR				*e*Sg	**Sb**	**01 43 57.0**	**-0.3**
IBDR				AML	AML	01 44 09.8	
comp=N,135nm,0.6s							
IBDR				AML	AML	01 44 30.3	
comp=E,82nm,0.4s							
IGHG	**Ghaleghazi**	**1.06**	**71**	Pg	**Pn**	**01 43 45.9**	**-0.2**
BHD	**Baghdad**	**1.08**	**229**	*e*Pg	**Pn**	**01 43 46.0**	**-0.1**
BHD				*e*Sg	**Sb**	**01 44 00.0**	**+0.2**
IDHR	**Dehrash**	**1.11**	**50**	Pg	**Pn**	**01 43 47.9**	**+1.1**
KCHF	**Cheshme Sefid,**	**1.43**	**78**	Pg	**Pg**	**01 43 53.1**	**+0.4**
IKRK	**Kirkuk**	**1.65**	**330**	*e*Pn	**Pb**	**01 43 55.0**	**-0.5**
IKRK				*e*Sn	**Sg**	**01 44 18.0**	**-0.2**
IKRK				AML	AML	01 44 21.5	
comp=N,130nm,0.2s							
IKRK				AML	AML	01 44 23.4	
comp=E,95nm,0.5s							
RAFI	**Al-Rafai**	**2.34**	**164**	*e*Pn	**Pn**	**01 44 05.0**	**+1.5**
RAFI				*e*Sn	**Sb**	**01 44 35.0**	**-1.1**

---

*IDC **15** 02:03:06.2±1.1, 7°.34N×93°.77E, h0km, mb3.7/11,*
mbtmp3.7/12, ML3.6/1, Error ellipse: s-maj=46.3km
s-min=21.9km az=55.0
ISC 15 02:03:07.2±0.8, 7°.2N±0°.1×93°.8E±0°.2, h10km, n19,
σ0s92/13, mb3.8/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.71**	**131**	Pn	**Pn**	**02 04 44.7**	**-1.3**
0.6nm,0.3s,baz=320,slow=16,SNR=1.8							
CMAR	**Chiang Mai Arr**	**12.22**	**24**	Pn	**Pn**	**02 06 01.9**	**+0.4**
0.1nm,0.3s,baz=185,slow=13,SNR=1.6							
0.2nm,0.3s							
H08S3	**Diego Garcia H**	**25.91**	**236**	T	T	02 35 16.9	
baz=56,slow=75,SNR=8.4							
H08S2	**Diego Garcia H**	**25.91**	**236**	T	T	02 35 17.0	
baz=56,slow=75,SNR=7.9							
H08S1	**Diego Garcia H**	**25.93**	**236**	T	T	02 35 18.3	
baz=56,slow=75,SNR=6.8							
MKAR	**Makanchi Array**	**40.65**	**348**	P	**P**	**02 10 46.7**	**-0.9**
0.9nm,0.6s,baz=168,slow=7.7,SNR=12							
0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**45.10**	**346**	P	**P**	**02 11 23.0**	**-0.5**
1.1nm,0.7s,baz=169,slow=7.0,SNR=15							
1.1nm,0.7s							
ZALV	**Zalesovo Beam**	**47.15**	**353**	P	**P**	**02 11 38.8**	**-0.8**
0.3nm,0.3s,baz=170,slow=9.5,SNR=4.8							
0.3nm,0.3s							
WRA	**Warramunga Arr**	**48.14**	**125**	P	**P**	**02 11 49.3**	**+1.4**
0.6nm,1.1s,baz=302,slow=7.6,SNR=2.5							
0.6nm,1.1s							
BVAR	**Borovoye Array**	**49.50**	**342**	P	**P**	**02 11 57.1**	**-0.8**
0.8nm,0.6s,baz=142,slow=10,SNR=4.8							
0.8nm,0.6s							
ASAR	**Alice Springs**	**49.74**	**129**	P	**P**	**02 12 01.2**	**+1.1**
0.4nm,0.6s,baz=301,slow=8.3,SNR=1.6							
0.4nm,0.6s							
BRTR	**Keskin Array B**	**62.62**	**311**	P	**P**	**02 13 31.6**	**-0.6**
0.4nm,0.6s,baz=141,slow=8.0,SNR=3.5							
0.4nm,0.6s							
H04N2	**CROZET ISLANDS**	**65.02**	**211**	T	T	03 23 58.3	
baz=46,slow=74							
H04N1	**CROZET ISLANDS**	**65.03**	**211**	T	T	03 23 59.6	
baz=46,slow=74							
H04N3	**CROZET ISLANDS**	**65.04**	**211**	T	T	03 23 58.3	
baz=46,slow=74							
GERES	**GERESS Array B**	**78.11**	**318**	P	**P**	**02 15 07.0**	**+0.4**
0.4nm,0.7s,baz=40,slow=4.4,SNR=3.7							
0.4nm,0.7s							
HFS	**Hagfors**	**78.86**	**330**	P	**P**	**02 15 10.3**	**-0.2**
1.0nm,0.5s,baz=114,slow=9.6,SNR=4.2							
1.0nm,0.5s							
EKA	**Eskdalemuir Ar**	**88.08**	**325**	P	**P**	**02 15 58.0**	**+0.1**
2.5nm,0.9s,baz=101,slow=3.7,SNR=2.0							
2.5nm,0.9s							
ESDC	**Sonseca Array**	**91.40**	**310**	P	**P**	**02 16 14.8**	**+0.9**
0.2nm,0.6s,baz=39,slow=2.9,SNR=2.6							
0.2nm,0.6s							

---

*NAO **15** 02:05:40.6, 39°.47N×24°.71E, h10km, mb3.5*
*TIR **15** 02:05:53.2, 40°.16N×20°.76E, h0km±1km, Ml3.5/13*
*IDC **15** 02:05:54.1±1.0, 40°.11N×20°.62E, h0km, mb3.7/8,*
mbtmp3.6/14, ML3.1/5, MS3.5/2, Error ellipse:
s-maj=18.3km s-min=13.3km az=45.0
*BEO **15** 02:05:55.6±0.3, 40°.15N×20°.76E, h2km±3km, ML3.2/17*
*ATH **15** 02:05:55.0, 40°.18N×20°.76E, h7km±3km, ML3.4/10,*
Manual Solution by A.Moschou First location: 2019/04/15
02:06:54, This location: 2019/04/15 07:25:02 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 3 km;
Longitude uncertainty: 3 km
*THE **15** 02:05:55.1, 40°.23N×20°.69E, h0km±1km, ML3.3/20, Error*
ellipse: s-maj=1.8km s-min=0.6km az=316.0
*SKO **15** 02:05:56.8, 40°.12N×20°.71E, h24km, ML3.2*
ISC 15 02:05:54.9±0.9, 40°.18N±0°.01×20°.72E±0°.02, h5km±6km,
n173, σ1s52/241, mb3.7/7, 11C-9D, Greece-Albania
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.10**	**255**	Pg	**Pg**	**02 05 55.6**	**-1.4**
LSK				Sg	**Sg**	**02 05 57.8**	**-0.6**
LSK				AML	AML	02 05 58.0	
961nm,0.2s							
PENT	**Pentalofos**	**0.32**	**86**	P	**Pg**	**02 06 00.8**	**-0.4**
PENT	**Pentalofos**	**0.32**	**86**	P	**Pg**	**02 06 00.9**	**-0.4**
PENT				S	**Sg**	**02 06 06.3**	**+0.9**
NEST	**Nestorio**	**0.35**	**46**	P	**Pg**	**02 06 01.6**	**-0.1**
NEST				S	**Sg**	**02 06 07.0**	**+0.7**
5μm,0.6s							
NEST	**Nestorio**	**0.35**	**46**	Pg	**Pg**	**02 06 01.2**	**-0.4**
NEST				Sg	**Sg**	**02 06 07.5**	**+1.2**
NEST				AML	AML	02 06 11.2	
22nm,0.7s							
NEST	**Nestorio**	**0.35**	**46**	P	**Pg**	**02 06 01.6**	**-0.1**
NEST				S	**Sg**	**02 06 06.2**	**-0.1**
KBN	**Korca**	**0.45**	**7**	Pg	**Pg**	**02 06 02.5**	**-1.2**
KBN				Sg	**Sg**	**02 06 10.4**	**+0.9**
KBN				AML	AML	02 06 27.7	
15nm,1.4s							
KBN				AML	AML	02 06 28.5	
15nm,1.1s							
JAN	**Janina**	**0.53**	**169**	P	**Pg**	**02 06 05.2**	**+0.1**
JAN				S	**Sb**	**02 06 13.6**	**-1.0**
7μm,0.4s							
JAN	**Janina**	**0.53**	**169**	P	**Pg**	**02 06 05.2**	**+0.1**
JAN				S	**Sb**	**02 06 13.4**	**-1.2**
MSVA	**Metsovo**	**0.54**	**138**	P	**Pg**	**02 06 05.0**	**-0.3**
MSVA				S	**Sg**	**02 06 13.3**	**+1.0**
SRN	**Sarande**	**0.63**	**242**	Pg	**Pg**	**02 06 06.3**	**-0.6**
SRN				Sg	**Sg**	**02 06 15.8**	**+0.8**
SRN				AML	AML	02 06 21.7	
6.6nm,0.6s							
IGT	**Igoumenitsa**	**0.71**	**205**	P	**Pg**	**02 06 08.6**	**+0.1**
IGT				S	**Sb**	**02 06 20.3**	**+0.5**
2μm,0.6s							
IGT	**Igoumenitsa**	**0.71**	**205**	Pg	**Pg**	**02 06 08.2**	**-0.3**
IGT				Sg	**Sb**	**02 06 19.1**	**-0.7**
IGT				AML	AML	02 06 26.6	
4.7nm,0.5s							
IGT	**Igoumenitsa**	**0.71**	**205**	*i* Pg	**Pg**	**02 06 08.2**	**-0.3**
IGT				*i* Sg	**Sb**	**02 06 21.2**	**+1.5**
IGT	**Igoumenitsa**	**0.71**	**205**	*e*Pg	**Pg**	**02 06 08.1**	**-0.3**
IGT				*e*Sg	**Sg**	**02 06 18.5**	**+0.8**
IGT	**Igoumenitsa**	**0.71**	**205**	P	**Pg**	**02 06 08.8**	**+0.3**
IGT				S	**Sb**	**02 06 20.2**	**+0.5**
KEK	**Kerkira**	**0.84**	**237**	P	**Pg**	**02 06 11.0**	**-0.1**
KEK				S	**Sb**	**02 06 24.1**	**+0.4**
1μm,0.6s							
KEK	**Kerkira**	**0.84**	**237**	P	**Pb**	**02 06 12.2**	**+0.1**
KEK				S	**Sb**	**02 06 24.3**	**+0.6**
OHR	**Ohrid**	**0.94**	**4**	*i* Pg	**Pb**	**02 06 13.9**	**+0.2**
OHR				*i* Sg	**Sn**	**02 06 29.4**	**+0.7**
OHR				*e*Lg	Lg	02 06 30.2	
comp=E,660nm,0.6s							
OHR				*e*Lg	Lg	02 06 31.1	
comp=N,344nm,0.6s							
OHR	**Ohrid**	**0.94**	**4**	*e*Pg	**Pg**	**02 06 12.8**	**-0.1**
OHR				*e*Sg	**Sb**	**02 06 26.7**	**+0.2**
VLO	**Vlora**	**0.98**	**288**	Pn	**Pg**	**02 06 13.0**	**-0.7**
VLO				Sn	**Sb**	**02 06 27.9**	**+0.3**
VLO				AML	AML	02 06 35.1	
comp=N,16nm,0.7s							
KTI	**Kastanea**	**1.09**	**78**	P	**Pg**	**02 06 15.3**	**-0.5**
THL	**Klokotos Trika**	**1.17**	**121**	P	**Pg**	**02 06 16.6**	**-0.7**
THL				S	**Sn**	**02 06 36.2**	**+2.0**
comp=N,950nm,0.9s							
THL	**Klokotos Trika**	**1.17**	**121**	P	**Pg**	**02 06 16.5**	**-0.8**
THL				S	**Sg**	**02 06 32.4**	**0.0**
TYRN	**Tyrnavos**	**1.25**	**111**	P	**Pg**	**02 06 18.5**	**-0.4**
TYRN				S	**Sg**	**02 06 34.5**	**-0.7**
TIR	**Tirane**	**1.34**	**331**	Pn	**Pb**	**02 06 20.6**	**+0.1**
TIR				Sn	**Sn**	**02 06 40.9**	**+2.4**
TIR				AML	AML	02 06 46.0	
comp=N,2.3nm,0.9s							
TIR				AML	AML	02 06 50.7	
comp=N,2.4nm,0.6s							
TIR	**Tirane**	**1.34**	**331**	⇓P	**Pg**	**02 06 21.4**	**+0.8**
TIR	**Tirane**	**1.34**	**331**	*e*Pg	**Pb**	**02 06 20.6**	**+0.1**
TIR				*e*Sg	**Sn**	**02 06 39.2**	**+0.7**
TSLK	**Tsoukalades, L**	**1.35**	**182**	P	**Pg**	**02 06 20.7**	**-0.1**
TSLK				S	**Sn**	**02 06 41.3**	**+2.6**
comp=N,1μm,0.8s							
TSLK	**Tsoukalades, L**	**1.35**	**182**	P	**Pg**	**02 06 20.8**	**+0.1**
TSLK				S	**Sn**	**02 06 38.7**	**0.0**
LIT	**Litokhoron**	**1.36**	**93**	P	**Pn**	**02 06 19.9**	**-0.7**
LIT				S	**Sn**	**02 06 41.7**	**+2.7**
comp=N,965nm,0.5s							
LIT	**Litokhoron**	**1.36**	**93**	*i* Pg	**Pn**	**02 06 20.7**	**+0.1**
LIT				*i* Sg	**Sn**	**02 06 40.7**	**+1.7**
LIT	**Litokhoron**	**1.36**	**93**	P	**Pn**	**02 06 20.1**	**-0.5**
LIT				S	**Sg**	**02 06 38.3**	**-0.3**
LKD2	**Lefkada island**	**1.39**	**182**	P	**Pn**	**02 06 20.9**	**0.0**
LKD2				S	**Sn**	**02 06 41.4**	**+1.8**
comp=N,2μm,0.9s							
LKD2	**Lefkada island**	**1.39**	**182**	Pn	**Pb**	**02 06 21.1**	**-0.2**
LKD2				Sn	**Sn**	**02 06 41.6**	**+2.0**
LKD2				AML	AML	02 06 52.2	
comp=N,6.8nm,0.8s							
LKD2	**Lefkada island**	**1.39**	**182**	P	**Pg**	**02 06 21.4**	**-0.1**
LKD2				S	**Sb**	**02 06 39.2**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.46**	**181**	P	**Pb**	**02 06 22.4**	**-0.1**
NYDR				S	**Sg**	**02 06 44.5**	**+2.7**
comp=N,1μm,1.2s							
NYDR	**Nydri-Lefkada**	**1.46**	**181**	P	**Pb**	**02 06 22.6**	**0.0**
NYDR				S	**Sg**	**02 06 42.0**	**+0.2**
GRG	**Griva**	**1.50**	**58**	P	**Pn**	**02 06 22.7**	**+0.1**
GRG				S	**Sg**	**02 06 44.3**	**+1.2**
comp=N,595nm,0.8s							
GRG	**Griva**	**1.50**	**58**	*i* Pn	**Pn**	**02 06 22.6**	**+0.1**
GRG	**Griva**	**1.50**	**58**	P	**Pn**	**02 06 22.1**	**-0.4**
GRG				S	**Sn**	**02 06 41.7**	**-0.8**
EVR	**Evrytania**	**1.51**	**146**	P	**Pb**	**02 06 23.5**	**0.0**
EVR				S	**Sg**	**02 06 45.0**	**+1.5**
comp=N,1μm,1.1s							
EVR	**Evrytania**	**1.51**	**146**	P	**Pn**	**02 06 22.9**	**+0.2**
PHP	**Peshkopia**	**1.52**	**352**	Pn	**Pn**	**02 06 23.3**	**+0.5**
PHP				Sn	**Sg**	**02 06 46.4**	**+2.5**
PHP				AML	AML	02 06 54.9	
comp=N,4.6nm,1.4s							
EVGI	**Lefkada island**	**1.55**	**182**	P	**Pb**	**02 06 24.2**	**+0.1**
EVGI				S	**Sg**	**02 06 47.0**	**+2.2**
comp=N,930nm,0.7s							
EVGI	**Lefkada island**	**1.55**	**182**	P	**Pb**	**02 06 23.7**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.59**	**136**	P	**Pb**	**02 06 24.9**	**+0.1**
MAKR				S	**Sg**	**02 06 48.5**	**+2.4**
comp=N,3μm,0.7s							
AGG	**Agios Georgios**	**1.70**	**132**	P	**Pn**	**02 06 25.3**	**+0.1**
FSK	**Fiskardo**	**1.72**	**184**	P	**Pn**	**02 06 26.0**	**+0.5**
FSK				S	**Sg**	**02 06 50.9**	**+0.8**
comp=N,812nm,0.7s							
SCTE	**Santa Cesarea**	**1.73**	**267**	Pn	**Pb**	**02 06 27.5**	**+0.3**
SCTE				AML	AML	02 06 52.8	
comp=N,3.2nm,0.5s							
THE	**Thessaloniki**	**1.77**	**74**	P	**Pn**	**02 06 25.7**	**-0.5**
THE	**Thessaloniki**	**1.77**	**74**	Pn	**Pn**	**02 06 25.9**	**-0.3**
THE				S	**Sg**	**02 06 52.3**	**+0.4**
THE				AML	AML	02 06 58.3	
comp=N,1.4nm,0.9s							
THE	**Thessaloniki**	**1.77**	**74**	*i* Pn	**Pn**	**02 06 25.9**	**-0.3**
VAY	**Valandovo**	**1.81**	**50**	*i* Pn	**Pb**	**02 06 27.9**	**-0.6**
VAY	**Valandovo**	**1.81**	**50**	*e*Pg	**Pn**	**02 06 27.5**	**+0.7**
VAY				*e*Sg	**Sg**	**02 06 52.9**	**-0.3**
ANX	**Ano Chora**	**1.83**	**149**	P	**Pb**	**02 06 28.1**	**-0.9**
ANX				S	**Sg**	**02 06 54.0**	**+0.2**
comp=N,1μm,0.6s							
HORT	**Hortiatis**	**1.87**	**76**	P	**Pn**	**02 06 27.2**	**-0.4**
HORT				S	**Sn**	**02 06 52.2**	**+0.6**
KNT	**Kendrikon**	**1.93**	**59**	P	**Pn**	**02 06 28.2**	**-0.2**
KNT	**Kendrikon**	**1.93**	**59**	*i* Pn	**Pn**	**02 06 28.1**	**-0.2**
DMLN	**Damoulianata-K**	**1.95**	**188**	P	**Pn**	**02 06 29.5**	**+0.8**
PUK	**Puka**	**1.97**	**342**	Pg	**Pb**	**02 06 31.0**	**-0.3**
PUK				Sn	**Sg**	**02 07 00.3**	**+2.2**
PUK				AML	AML	02 07 08.6	
comp=N,2.5nm,0.8s							
EFP	**Efpalio**	**1.97**	**152**	P	**Pb**	**02 06 31.6**	**+0.3**
EFP				S	**Sg**	**02 06 57.4**	**-0.9**
comp=N,948nm,0.8s							
VLS	**Valsamata**	**2.00**	**183**	P	**Pn**	**02 06 29.7**	**+0.4**
AXAR	**Agios Charalam**	**2.06**	**133**	P	**Pn**	**02 06 31.4**	**+1.2**
XOR	**Xorichti**	**2.07**	**112**	P	**Pn**	**02 06 30.6**	**+0.2**
XOR				S	**Sb**	**02 06 58.4**	**-0.6**
comp=N,438nm,0.7s							
KALE	**Kalithea**	**2.10**	**148**	P	**Pb**	**02 06 32.6**	**-0.8**
PLG	**Polygyros**	**2.10**	**84**	P	**Pn**	**02 06 31.0**	**+0.3**
PLG				S	**Sn**	**02 06 58.4**	**+1.2**
comp=N,248nm,0.6s							
RTZL	**Ratzakli, Kefa**	**2.10**	**179**	P	**Pn**	**02 06 30.9**	**+0.2**
ULC	**Ulcinj**	**2.11**	**329**	Pn	**Pb**	**02 06 32.6**	**-1.0**
SOH	**Sokhos**	**2.11**	**71**	P	**Pn**	**02 06 31.7**	**+0.8**
SOH				S	**Sb**	**02 06 59.6**	**-0.6**
comp=N,250nm,0.8s							
NEO	**Neokhori**	**2.12**	**113**	P	**Pn**	**02 06 31.3**	**+0.3**
NEO				S	**Sb**	**02 07 00.8**	**+0.4**
comp=N,405nm,0.8s							
BCI	**Bajram Curri**	**2.24**	**348**	Pn	**Pb**	**02 06 35.8**	**-0.1**
BCI				Sn	**Sg**	**02 07 07.7**	**+0.7**
BCI				AML	AML	02 07 14.8	
comp=N,3.2nm,0.9s							
PAIG	**Paliouri**	**2.29**	**95**	P	**Pn**	**02 06 33.0**	**-0.3**
DRME	**Dracevica, Mon**	**2.32**	**331**	*e*Pn	**Pn**	**02 06 35.0**	**+1.2**
SRS	**Serrai**	**2.38**	**66**	P	**Pn**	**02 06 34.2**	**-0.4**
SRS	**Serrai**	**2.38**	**66**	*i* Pn	**Pn**	**02 06 34.2**	**-0.4**
SRS	**Serrai**	**2.38**	**66**	*e*Pn	**Pn**	**02 06 34.5**	**-0.1**
KKB	**Krupnik**	**2.47**	**47**	*i* Pn	**Pn**	**02 06 36.6**	**+0.7**
PDG	**Podgorica**	**2.51**	**334**	*e*Pn	**Pn**	**02 06 37.1**	**+0.8**
PDG	**Podgorica**	**2.51**	**334**	⇑P	**Pn**	**02 06 37.5**	**+1.1**
PDG	**Podgorica**	**2.51**	**334**	*e*Pn	**Pn**	**02 06 37.7**	**+1.4**
PDG				*e*Sg	**Sg**	**02 07 15.6**	**+0.1**
GUR	**Goura**	**2.57**	**150**	P	**Pb**	**02 06 39.8**	**-1.7**
BOSS	**Bosilegrad**	**2.67**	**29**	*e*Pn	**Pn**	**02 06 39.7**	**+1.1**
MMB	**Musomishta**	**2.68**	**58**	*i* Pn	**Pn**	**02 06 38.6**	**-0.1**
BARS	**Barje**	**2.77**	**17**	*i* Pn	**Pn**	**02 06 41.3**	**+1.3**
BARS	**Barje**	**2.77**	**17**	*e*Pn	**Pn**	**02 06 41.2**	**+1.3**
HCY	**Herceg Novi**	**2.82**	**324**	*e*Pn	**Pn**	**02 06 39.5**	**-1.2**
VILL	**Villia**	**2.84**	**134**	P	**Pn**	**02 06 42.7**	**+1.7**
SELS	**Selova**	**3.06**	**5**	*e*Pn	**Pn**	**02 06 45.8**	**+1.9**
VTS	**Vitosha**	**3.09**	**37**	*e*Pn	**Pn**	**02 06 45.2**	**+0.7**
MATE	**Matera**	**3.10**	**280**	⇑P	**Pn**	**02 06 44.4**	**-0.1**
TREB	**Trebinje**	**3.10**	**326**	*e*Pn	**Pn**	**02 06 45.0**	**+0.5**
SJES	**Sjenica**	**3.13**	**350**	*e*Pn	**Pn**	**02 06 47.5**	**+2.4**
SJES	**Sjenica**	**3.13**	**350**	*e*Pn	**Pn**	**02 06 46.5**	**+1.4**
TIP	**Timpagrande**	**3.21**	**253**	⇑P	**Pn**	**02 06 45.9**	**-0.2**
UPM	**Unac-Piva**	**3.32**	**336**	*e*Pn	**Pb**	**02 06 54.8**	**+0.5**
GOCS	**Kraljevo Serbi**	**3.39**	**2**	*e*Pn	**Pn**	**02 06 50.1**	**+1.6**
ZAPS	**Zavoj**	**3.41**	**24**	*e*Pn	**Pn**	**02 06 50.2**	**+1.4**
IVAS	**Ivanjica**	**3.42**	**353**	*e*Pn	**Pn**	**02 06 51.5**	**+2.5**
STON	**Ston**	**3.52**	**321**	*e*Pn	**Pn**	**02 06 49.9**	**-0.3**
STON	**Ston**	**3.52**	**321**	*e*Pn	**Pn**	**02 06 50.1**	**-0.1**
BOVS	**Bovan**	**3.54**	**12**	⇑P	**Pn**	**02 06 52.9**	**+2.4**
BOVS	**Bovan**	**3.54**	**12**	*e*Pn	**Pn**	**02 06 51.1**	**+0.6**
RUDO	**Rudo**	**3.58**	**344**	*e*Pn	**Pn**	**02 06 52.2**	**+1.0**
GRUS	**Gruza**	**3.71**	**360**	*e*Pn	**Pn**	**02 06 54.3**	**+1.4**
ZAGS	**Zajecar**	**3.81**	**17**	*e*Pn	**Pn**	**02 06 55.4**	**+1.2**
BBLS	**Lazi&#263i**	**3.82**	**346**	*e*Pn	**Pn**	**02 06 55.9**	**+1.5**
BBLS	**Lazi&#263i**	**3.82**	**346**	*e*Pn	**Pn**	**02 06 56.4**	**+2.0**
DIVS	**Divibare**	**3.96**	**352**	*e*Pn	**Pn**	**02 06 58.0**	**+1.6**
TRUS	**Trudelj**	**4.05**	**357**	*e*Pn	**Pn**	**02 06 58.8**	**+1.2**
KUBS	**Kucevo**	**4.29**	**9**	*e*Pn	**Pn**	**02 07 00.4**	**-0.5**
TEKS	**Tekeris**	**4.46**	**349**	*e*Pn	**Pn**	**02 07 03.0**	**-0.2**
TEKS	**Tekeris**	**4.46**	**349**	*e*Pn	**Pn**	**02 07 04.0**	**+0.8**
AVAS	**Avala Beograd**	**4.52**	**358**	*e*Pn	**Pn**	**02 07 04.3**	**+0.3**
MDVR	**Moldovita**	**4.66**	**9**	⇓P	**Pn**	**02 07 07.6**	**+1.6**
HERR	**Herculane**	**4.87**	**14**	⇑P	**Pn**	**02 07 11.0**	**+2.2**
APE	**Apeiranthos**	**4.88**	**128**	⇓P	**Pn**	**02 07 11.7**	**+2.7**
VRSS	**Vrsac**	**4.96**	**5**	*e*Pn	**Pn**	**02 07 11.1**	**+1.0**
FRGS	**Fruska Gora**	**5.03**	**353**	*e*Pn	**Pn**	**02 07 11.1**	**+0.1**
FRGS	**Fruska Gora**	**5.03**	**353**	*e*Pn	**Pn**	**02 07 11.6**	**+0.6**
BLY	**Banja Luka**	**5.26**	**331**	*e*Pn

comp=N,0.2nm,0.4s
FETA Feichten 9.96 317 Pn **Pn 02 08 22.6 +3.8**
comp=N,1.7nm,0.6s
FETA *e*Sn **Sn 02 10 07.4 -3.6**
comp=N,2.1nm,0.8s
MOTA Moosalm 9.98 319 *e*Pn **Pn 02 08 21.2 +2.1**
comp=N,4.0nm,0.6s
MOTA Sn **Sn 02 10 07.0 -4.5**
comp=N,6.2nm,0.8s
GERES GERESS Array B 10.01 332 Pn **Pn 02 08 20.1 +0.8**
baz=155,slow=13,SNR=4.7
GERES Sn **Sn 02 10 12.2 +0.1**
baz=148,slow=25,SNR=1.8
comp=N,0.9nm,0.8s
DAVOX Davos/Dischmat 10.27 314 Pn **Pn 02 08 23.9 +0.8**
comp=N,0.3nm,0.3s,baz=120,slow=22,SNR=6.5
DAVOX Sn **Sn 02 10 14.6 -4.1**
comp=N,0.2nm,0.3s,baz=316,slow=21,SNR=2.5
comp=N,1.3nm,0.5s
DAVA Damuels 10.58 316 *e*Pn **Pn 02 08 27.4 +0.1**
comp=N,1.6nm,0.6s
DAVA Sn **Sn 02 10 22.6 -3.5**
comp=N,2.9nm,0.7s
OBN Obninsk 18.30 30 LR LR 02 17 20.4
comp=N,344nm,20.0s,baz=32,slow=37
ESDC Sonseca Array 18.93 276 P **P 02 10 16.1 -0.5**
baz=62,slow=11,SNR=3.0
comp=N,0.6nm,1.0s
HFS Hagfors 20.46 350 P **P 02 10 32.2 -0.9**
comp=N,1.7nm,0.6s,baz=163,slow=11,SNR=8.8
comp=N,1.7nm,0.6s
FINES FINESS Array B 21.55 7 P **P 02 10 44.4 -0.4**
comp=N,0.8nm,0.3s,baz=182,slow=11,SNR=13
comp=N,0.8nm,0.3s
NB2 NORSAR Subarra 21.70 347 P **P 02 10 45.9 -0.6**
comp=Z,0.8nm,0.5s,baz=153,slow=10
NOA NORSAR Array B 21.70 347 P **P 02 10 46.4 -0.1**
comp=Z,1.5nm,0.9s,baz=146,slow=10,SNR=7.6
comp=Z,1.5nm,0.9s
ARCES ARCESS Array B 29.53 3 P **P 02 11 59.8 -0.2**
comp=Z,4.1nm,0.9s,baz=185,slow=9.7,SNR=3.6
comp=Z,4.1nm,0.9s
TORD Torodi Ar. Bea 31.70 217 P **P 02 12 19.3 -0.3**
comp=Z,67nm,0.3s,baz=28,slow=9.6,SNR=1.2
MKAR Makanchi Array 44.15 60 P **P 02 14 03.9 -0.5**
comp=Z,0.7nm,0.7s,baz=297,slow=4.7,SNR=4.9
comp=Z,0.7nm,0.7s
ZALV Zalesovo Beam 44.26 50 P **P 02 14 05.3 +0.1**
comp=Z,0.4nm,0.4s,baz=292,slow=7.6,SNR=1.8
comp=Z,0.4nm,0.4s
SONM Songino Array 59.08 52 P **P 02 15 56.2 0.0**
comp=Z,0.8nm,0.8s,baz=285,slow=7.3,SNR=5.8
comp=Z,0.8nm,0.8s
TXAR Lajitas Array 93.71 314 P **P 02 19 13.3 +0.4**
comp=Z,0.3nm,0.8s,baz=90,slow=3.8,SNR=4.4
comp=Z,0.3nm,0.8s

NAO ***15*** *02:09:06.3, 39.°24N×23.°98E, h10km, mb3.3*
IDC ***15*** *02:09:19.9±1.3, 40.°20N×20.°38E, h0km, mb3.5/5, mbtmp3.5/10, ML3.0/3, Error ellipse: s-maj=22.3km s-min=17.4km az=54.0*
TIR ***15*** *02:09:19.9, 40.°17N×20.°72E, h0km±1km, Ml3.6/11*
PDG ***15*** *02:09:19.6±0.5, 40.°05N×20.°61E, h2km±1km, ML3.3/11, Error ellipse: s-maj=1.7km s-min=1.4km az=90.0*
THE ***15*** *02:09:21.2, 40.°22N×20.°71E, h0km±1km, ML3.2/14, Error ellipse: s-maj=2.1km s-min=0.7km az=322.0*
ATH ***15*** *02:09:21.5, 40.°15N×20.°79E, h6km±3km, ML3.3/22, Manual Solution by A.Moschou First location: 2019/04/15 02:10:24, This location: 2019/04/15 09:27:09 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
BEO ***15*** *02:09:22.4±0.3, 40.°10N×20.°77E, h11km±3km, ML3.1/9*
SKO ***15*** *02:09:22.7, 40.°16N×20.°78E, h12km, ML3.1*
ISC 15 02:09:21.2±0.9, 40.°16N±0.°01×20.°72E±0.°02, h4km±7km, n183, σ1§45/250, mb3.5/4, 10C-9D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.09**	**262**	Pg	**Pg**	**02 09 22.3**	**-0.8**
LSK				Sg	**Sg**	**02 09 23.9**	**-0.6**
LSK				AML	AML	02 09 24.3	
	1μm,0.4s						
PENT	**Pentalofos**	**0.32**	**84**	P	**Pg**	**02 09 27.3**	**-0.2**
PENT				S	**Sg**	**02 09 32.7**	**+0.9**
PENT	**Pentalofos**	**0.32**	**84**	P	**Pg**	**02 09 27.2**	**-0.2**
PENT				S	**Sg**	**02 09 31.4**	**-0.4**
NEST	**Nestorio**	**0.36**	**45**	P	**Pg**	**02 09 27.8**	**-0.4**
NEST				S	**Sg**	**02 09 33.5**	**+0.6**
	4μm,0.6s						
NEST	**Nestorio**	**0.36**	**45**	Pg	**Pg**	**02 09 27.7**	**-0.5**
NEST				Sg	**Sg**	**02 09 33.5**	**+0.6**
NEST				AML	AML	02 09 37.9	
	10nm,0.3s						
NEST	**Nestorio**	**0.36**	**45**	P	**Pg**	**02 09 28.0**	**-0.2**
NEST				S	**Sg**	**02 09 32.7**	**-0.2**
KBN	**Korca**	**0.46**	**7**	Pg	**Pg**	**02 09 28.9**	**-1.2**
KBN				Sg	**Sg**	**02 09 36.4**	**+0.2**
KBN				AML	AML	02 09 54.0	
	13nm,0.7s						
JAN	**Janina**	**0.52**	**168**	P	**Pg**	**02 09 30.1**	**-1.0**
JAN				S	**Sb**	**02 09 40.0**	**-0.7**
	6μm,0.6s						
JAN	**Janina**	**0.52**	**168**	P	**Pg**	**02 09 31.6**	**+0.5**
JAN				S	**Sg**	**02 09 38.5**	**+0.7**
MSVA	**Metsovo**	**0.53**	**137**	P	**Pg**	**02 09 31.0**	**-0.4**
MSVA				S	**Sg**	**02 09 38.9**	**+0.6**
SRN	**Sarande**	**0.62**	**243**	Pg	**Pg**	**02 09 31.8**	**-1.2**
SRN				Sg	**Sb**	**02 09 43.2**	**-0.4**
SRN				AML	AML	02 09 46.4	
	6.3nm,0.5s						
IGT	**Igoumenitsa**	**0.69**	**205**	P	**Pg**	**02 09 34.4**	**-0.1**
IGT				S	**Sb**	**02 09 46.6**	**+0.8**
	2μm,0.5s						
IGT	**Igoumenitsa**	**0.69**	**205**	Pg	**Pg**	**02 09 34.7**	**+0.2**
IGT				Sg	**Sb**	**02 09 45.9**	**+0.1**
IGT	**Igoumenitsa**	**0.69**	**205**	*i* Pg	**Pg**	**02 09 34.8**	**+0.3**
IGT				*i* Sg	**Sb**	**02 09 47.3**	**+1.5**
IGT	**Igoumenitsa**	**0.69**	**205**	*e*Pg	**Pg**	**02 09 34.4**	**-0.1**
IGT				*e*Sg	**Sb**	**02 09 45.2**	**-0.6**
IGT	**Igoumenitsa**	**0.69**	**205**	P	**Pg**	**02 09 34.9**	**+0.4**
IGT				S	**Sb**	**02 09 45.3**	**-0.6**
KEK	**Kerkira**	**0.84**	**238**	P	**Pg**	**02 09 37.3**	**+0.1**
KEK				S	**Sb**	**02 09 50.6**	**+0.7**
	1μm,0.6s						
KEK	**Kerkira**	**0.84**	**238**	P	**Pb**	**02 09 37.8**	**-0.5**
KEK				S	**Sb**	**02 09 49.3**	**-0.6**
TETR	**Tetrakomo, Epi**	**0.92**	**152**	P	**Pg**	**02 09 39.2**	**+0.4**
OHR	**Ohrid**	**0.95**	**4**	*i* Pg	**Pg**	**02 09 39.2**	**-0.2**
OHR				*i* Sg	**Sb**	**02 09 53.4**	**+0.2**
OHR				*e*Lg	Lg	02 09 55.8	
	comp=E,463nm,0.5s						
OHR				*e*Lg	Lg	02 09 57.5	
	comp=N,237nm,0.5s						
OHR	**Ohrid**	**0.95**	**4**	*e*Pg	**Pg**	**02 09 39.9**	**+0.5**
OHR				*e*Sg	**Sb**	**02 09 54.4**	**+1.2**
VLO	**Vlora**	**0.98**	**289**	Pn	**Pg**	**02 09 39.4**	**-0.6**
VLO				AML	AML	02 10 01.3	
	comp=N,15nm,0.5s						
KTI	**Kastanea**	**1.09**	**77**	P	**Pg**	**02 09 41.0**	**-1.2**
THL	**Klokotos Trika**	**1.16**	**120**	P	**Pg**	**02 09 42.1**	**-1.4**
THL				S	**Sn**	**02 10 01.2**	**+0.7**
	comp=N,682nm,0.8s						
THL	**Klokotos Trika**	**1.16**	**120**	P	**Pg**	**02 09 42.2**	**-1.4**
THL				S	**Sg**	**02 09 57.8**	**-0.7**
TYRN	**Tyrnavos**	**1.25**	**111**	P	**Pg**	**02 09 44.3**	**-0.9**
TYRN				S	**Sg**	**02 10 00.0**	**-1.3**
TSLK	**Tsoukalades, L**	**1.34**	**182**	P	**Pg**	**02 09 46.7**	**-0.1**
TSLK				S	**Sn**	**02 10 07.5**	**+2.7**
	comp=N,1μm,0.7s						
TSLK	**Tsoukalades, L**	**1.34**	**182**	P	**Pn**	**02 09 45.9**	**-0.7**
TSLK				S	**Sg**	**02 10 03.1**	**-1.1**
TIR	**Tirane**	**1.35**	**332**	Pn	**Pn**	**02 09 46.9**	**+0.1**
TIR				Sn	**Sn**	**02 10 07.5**	**+2.3**
TIR				AML	AML	02 10 12.3	
	comp=N,1.3nm,0.8s						
TIR	**Tirane**	**1.35**	**332**	⇓P	**Pg**	**02 09 47.2**	**0.0**
TIR	**Tirane**	**1.35**	**332**	*e*Pg	**Pg**	**02 09 47.1**	**0.0**
TIR				*e*Sg	**Sn**	**02 10 08.2**	**+3.0**
LIT	**Litokhoron**	**1.36**	**92**	P	**Pn**	**02 09 45.5**	**-1.5**
LIT				S	**Sn**	**02 10 07.4**	**+1.9**
	comp=N,715nm,0.7s						
LIT	**Litokhoron**	**1.36**	**92**	*i* Pg	**Pn**	**02 09 46.3**	**-0.7**
LIT	**Litokhoron**	**1.36**	**92**	P	**Pn**	**02 09 45.4**	**-1.6**
LIT				S	**Sg**	**02 10 02.5**	**-2.4**
LKD2	**Lefkada island**	**1.37**	**182**	P	**Pn**	**02 09 47.2**	**+0.1**
LKD2				S	**Sn**	**02 10 08.8**	**+3.0**
	comp=N,1μm,0.6s						
LKD2	**Lefkada island**	**1.37**	**182**	Pn	**Pg**	**02 09 47.5**	**0.0**
LKD2				Sn	**Sn**	**02 10 08.4**	**+2.6**
LKD2				AML	AML	02 10 18.4	
	comp=N,5.4nm,0.6s						
LKD2	**Lefkada island**	**1.37**	**182**	P	**Pn**	**02 09 46.9**	**-0.2**
LRSO	**Larissa Observ**	**1.38**	**110**	P	**Pn**	**02 09 47.0**	**-0.2**
LRSO	**Larissa Observ**	**1.38**	**110**	P	**Pn**	**02 09 45.7**	**-1.4**
NYDR	**Nydri-Lefkada**	**1.45**	**181**	P	**Pb**	**02 09 48.6**	**-0.1**
NYDR				S	**Sg**	**02 10 10.4**	**+2.7**
	comp=N,888nm,1.0s						
NYDR	**Nydri-Lefkada**	**1.45**	**181**	P	**Pn**	**02 09 48.0**	**-0.1**
NYDR				S	**Sb**	**02 10 06.9**	**-0.6**
EVR	**Evrytania**	**1.50**	**145**	P	**Pb**	**02 09 49.6**	**-0.1**
EVR	**Evrytania**	**1.50**	**145**	P	**Pn**	**02 09 48.8**	**-0.3**
EVR				S	**Sn**	**02 10 07.5**	**-1.7**
GRG	**Griva**	**1.51**	**58**	P	**Pn**	**02 09 48.5**	**-0.5**
GRG				S	**Sb**	**02 10 09.4**	**+0.1**
	comp=N,388nm,0.7s						
GRG	**Griva**	**1.51**	**58**	*i* Pn	**Pn**	**02 09 49.0**	**-0.1**
GRG	**Griva**	**1.51**	**58**	P	**Pn**	**02 09 48.6**	**-0.4**
PHP	**Peshkopia**	**1.54**	**352**	Pn	**Pn**	**02 09 49.5**	**0.0**
PHP				Sn	**Sg**	**02 10 12.5**	**+1.9**
PHP				AML	AML	02 10 21.2	
	comp=N,2.8nm,1.4s						
EVGI	**Lefkada island**	**1.54**	**182**	P	**Pb**	**02 09 50.4**	**+0.1**
EVGI				S	**Sg**	**02 10 12.8**	**+2.1**
	comp=N,838nm,0.5s						
EVGI	**Lefkada island**	**1.54**	**182**	P	**Pb**	**02 09 49.9**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.58**	**136**	P	**Pn**	**02 09 50.5**	**+0.4**
MAKR				S	**Sg**	**02 10 13.6**	**+1.5**
	comp=N,2μm,0.6s						
MAKR	**Makrakomi, Fth**	**1.58**	**136**	P	**Pn**	**02 09 49.9**	**-0.1**
PVO	**Paravola**	**1.67**	**158**	P	**Pn**	**02 09 51.6**	**+0.5**
AGG	**Agios Georgios**	**1.69**	**132**	P	**Pn**	**02 09 51.4**	**-0.1**
AGG				S	**Sg**	**02 10 16.0**	**+0.6**
	comp=N,472nm,0.5s						
AGG	**Agios Georgios**	**1.69**	**132**	P	**Pn**	**02 09 51.5**	**-0.1**
FSK	**Fiskardo**	**1.71**	**184**	P	**Pn**	**02 09 52.3**	**+0.6**
FSK				S	**Sg**	**02 10 16.3**	**+0.3**
	comp=N,658nm,0.6s						
FSK	**Fiskardo**	**1.71**	**184**	P	**Pn**	**02 09 52.1**	**+0.4**
SCTE	**Santa Cesarea**	**1.73**	**268**	Pn	**Pn**	**02 09 52.7**	**+0.7**
SCTE				Sn	**Sb**	**02 10 15.3**	**-0.2**
SCTE				AML	AML	02 10 19.1	
	comp=N,2.8nm,0.4s						
THE	**Thessaloniki**	**1.78**	**74**	Pn	**Pb**	**02 09 54.2**	**-0.2**
THE	**Thessaloniki**	**1.78**	**74**	*i* Pn	**Pn**	**02 09 51.9**	**-0.8**
VAY	**Valandovo**	**1.82**	**50**	*i* Pn	**Pn**	**02 09 53.8**	**+0.5**
VAY	**Valandovo**	**1.82**	**50**	*e*Pg	**Pn**	**02 09 53.6**	**+0.3**
VAY				*e*Sg	**Sg**	**02 10 22.0**	**+2.2**
ANX	**Ano Chora**	**1.82**	**149**	P	**Pb**	**02 09 54.3**	**-0.9**
HORT	**Hortiatis**	**1.87**	**76**	P	**Pn**	**02 09 53.1**	**-1.0**
HORT	**Hortiatis**	**1.87**	**76**	P	**Pn**	**02 09 53.7**	**-0.4**
KNT	**Kendrikon**	**1.94**	**58**	P	**Pn**	**02 09 54.3**	**-0.6**
KNT	**Kendrikon**	**1.94**	**58**	*i* Pn	**Pn**	**02 09 54.2**	**-0.7**
DMLN	**Damoulianata-K**	**1.94**	**188**	P	**Pn**	**02 09 55.2**	**+0.2**
EFP	**Efpalio**	**1.96**	**152**	P	**Pb**	**02 09 57.2**	**-0.3**
EFP	**Efpalio**	**1.96**	**152**	P	**Pb**	**02 09 56.9**	**-0.5**
PUK	**Puka**	**1.98**	**342**	Pn	**Pb**	**02 09 58.0**	**+0.2**
PUK				Sn	**Sg**	**02 10 26.4**	**+1.6**
PUK				AML	AML	02 10 34.0	
	comp=N,1.3nm,0.6s						
VLS	**Valsamata**	**1.98**	**183**	P	**Pn**	**02 09 56.1**	**+0.5**
PSDA	**Pessada-Kefalo**	**2.05**	**183**	P	**Pn**	**02 09 56.9**	**+0.5**
AXAR	**Agios Charalam**	**2.05**	**132**	P	**Pn**	**02 09 57.3**	**+0.8**
KALE	**Kalithea**	**2.08**	**148**	P	**Pb**	**02 09 58.8**	**-0.8**
PLG	**Polygyros**	**2.10**	**83**	P	**Pn**	**02 09 56.4**	**-0.7**
NEO	**Neokhori**	**2.11**	**113**	P	**Pn**	**02 09 57.4**	**+0.1**
NEO	**Neokhori**	**2.11**	**113**	P	**Pn**	**02 09 57.5**	**+0.1**
SOH	**Sokhos**	**2.12**	**71**	P	**Pn**	**02 09 57.3**	**-0.1**
ULC	**Ulcinj**	**2.12**	**329**	⇑*i* Pn	**Pn**	**02 09 57.5**	**+0.1**
ULC				*i* Sn	**Sb**	**02 10 26.3**	**-0.5**
RLS	**Riolos of Patr**	**2.18**	**164**	P	**Pb**	**02 10 00.9**	**-0.3**
BCI	**Bajram Curri**	**2.26**	**348**	Pn	**Pb**	**02 10 02.5**	**0.0**
BCI				Sn	**Sg**	**02 10 33.6**	**-0.1**
BCI				AML	AML	02 10 38.8	
	comp=N,1.9nm,1.3s						
LKR	**Lokris**	**2.33**	**130**	P	**Pn**	**02 10 01.1**	**+0.9**
DRME	**Dracevica, Mon**	**2.33**	**331**	Pn	**Pn**	**02 10 01.4**	**+1.1**
DRME	**Dracevica, Mon**	**2.33**	**331**	*e*Pn	**Pn**	**02 10 00.8**	**+0.5**
DRME	**Dracevica, Mon**	**2.33**	**331**	⇑*i* Pn	**Pn**	**02 10 00.6**	**+0.3**
DRME				*i* Sn	**Sb**	**02 10 31.4**	**-1.5**
SRS	**Serrai**	**2.39**	**66**	*i* Pn	**Pn**	**02 10 01.5**	**+0.4**
SRS	**Serrai**	**2.39**	**66**	*e*Pn	**Pn**	**02 10 01.0**	**-0.1**
KKB	**Krupnik**	**2.48**	**47**	*i* Pn	**Pn**	**02 10 03.1**	**+0.7**
PVY	**Plav**	**2.50**	**347**	*e*Pn	**Pn**	**02 10 03.4**	**+0.7**
PVY				*i* Sn	**Sb**	**02 10 36.4**	**-1.4**
OUR	**Ouranopolis**	**2.50**	**85**	P	**Pn**	**02 10 02.6**	**-0.1**
PDG	**Podgorica**	**2.52**	**335**	*e*Pn	**Pn**	**02 10 03.3**	**+0.4**
PDG	**Podgorica**	**2.52**	**335**	⇓P	**Pn**	**02 10 04.1**	**+1.1**
PDG	**Podgorica**	**2.52**	**335**	*e*Pn	**Pn**	**02 10 04.0**	**+1.1**
PDG	**Podgorica**	**2.52**	**335**	*e*Pn	**Pn**	**02 10 03.4**	**+0.5**
PDG				*i* Sn	**Sn**	**02 10 36.0**	**+2.0**
BUM	**Brajici-Budva**	**2.54**	**328**	⇓*i* Pn	**Pn**	**02 10 03.4**	**+0.1**
BUM				*i* Sn	**Sn**	**02 10 36.1**	**+1.4**
GUR	**Goura**	**2.56**	**150**	P	**Pn**	**02 10 05.4**	**+1.8**
GUR	**Goura**	**2.56**	**150**	P	**Pn**	**02 10 05.3**	**+1.8**
KOKK	**Kokkinochori,**	**2.59**	**74**	P	**Pn**	**02 10 03.8**	**0.0**
KOKK	**Kokkinochori,**	**2.59**	**74**	P	**Pn**	**02 10 03.8**	**0.0**
BOSS	**Bosilegrad**	**2.68**	**29**	*e*Pn	**Pn**	**02 10 05.4**	**+0.2**
MMB	**Musomishta**	**2.68**	**58**	*i* Pn	**Pn**	**02 10 04.7**	**-0.5**
CEME	**Cevo**	**2.74**	**331**	⇓*i* Pn	**Pn**	**02 10 06.3**	**+0.3**
CEME				*i* Sn	**Sn**	**02 10 41.3**	**+1.7**
BARS	**Barje**	**2.78**	**17**	*i* Pn	**Pn**	**02 10 07.0**	**+0.5**
BARS	**Barje**	**2.78**	**17**	*e*Pn	**Pn**	**02 10 06.8**	**+0.3**
IVA	**Berane**	**2.78**	**347**	*e*Pn	**Pn**	**02 10 07.2**	**+0.7**
IVA				*i* Sn	**Sn**	**02 10 43.0**	**+2.5**
HCY	**Herceg Novi**	**2.83**	**324**	*e*Pn	**Pn**	**02 10 07.2**	**0.0**
KOME	**Kolasin**	**2.83**	**342**	*e*Pn	**Pn**	**02 10 07.9**	**+0.6**
KOME				*i* Sn	**Sn**	**02 10 44.2**	**+2.3**
NKME	**Niksic**	**2.92**	**334**	*e*Pn	**Pn**	**02 10 08.7**	**+0.2**
NKME				*i* Sn	**Sn**	**02 10 45.6**	**+1.6**
SELS	**Selova**	**3.07**	**5**	*e*Pn	**Pn**	**02 10 12.0**	**+1.5**
VTS	**Vitosha**	**3.10**	**37**	*e*Pn	**Pn**	**02 10 11.8**	**+0.8**
MATE	**Matera**	**3.10**	**280**	⇑P	**Pn**	**02 10 10.3**	**-0.6**
TREB	**Trebinje**	**3.11**	**326**	*e*Pn	**Pn**	**02 10 10.5**	**-0.5**
SJES	**Sjenica**	**3.15**	**350**	*e*Pn	**Pn**	**02 10 13.9**	**+2.3**
SJES	**Sjenica**	**3.15**	**350**	*e*Pn	**Pn**	**02 10 14.4**	**+2.8**
TIP	**Timpagrande**	**3.21**	**253**	⇑P	**Pn**	**02 10 12.1**	**-0.4**
DION	**Dionisos Attik**	**3.25**	**129**	P	**Pn**	**02 10 13.5**	**+0.5**
PLE	**Pljevlja**	**3.32**	**343**	*e*Pn	**Pn**	**02 10 14.6**	**+0.6**
PLE				*i* Sn	**Sn**	**02 10 55.8**	**+1.9**
UPM	**Unac-Piva**	**3.33**	**337**	*e*Pn	**Pn**	**02 10 14.5**	**+0.3**
UPM				*i* Sn	**Sn**	**02 10 55.7**	**+1.4**
GOCS	**Kraljevo Serbi**	**3.40**	**2**	*e*Pn	**Pn**	**02 10 15.9**	**+0.8**
ZAPS	**Zavoj**	**3.42**	**24**	*e*Pn	**Pn**	**02 10 16.6**	**+1.2**
IVAS	**Ivanjica**	**3.44**	**353**	*e*Pn	**Pn**	**02 10 17.9**	**+2.3**
STON	**Ston**	**3.53**	**321**	*e*Pn	**Pn**	**02 10 15.8**	**-1.0**
STON	**Ston**	**3.53**	**321**	*e*Pn	**Pn**	**02 10 16.5**	**-0.3**
BOVS	**Bovan**	**3.55**	**12**	⇓P	**Pn**	**02 10 19.2**	**+2.2**
BOVS	**Bovan**	**3.55**	**12**	*e*Pn	**Pn**	**02 10 17.2**	**+0.2**
RUDO	**Rudo**	**3.60**	**344**	*e*Pn	**Pn**	**02 10 18.8**	**+1.1**
GRUS	**Gruza**	**3.72**	**360**	*e*Pn	**Pn**	**02 10 20.8**	**+1.3**
ZAGS	**Zajecar**	**3.82**	**17**	*e*Pn	**Pn**	**02 10 21.4**	**+0.7**
BBLS	**Lazi&#263i**	**3.83**	**346**	*e*Pn	**Pn**	**02 10 22.9**	**+1.9**
BBLS	**Lazi&#263i**	**3.83**	**346**	*e*Pn	**Pn**	**02 10 22.9**	**+1.9**
DIVS	**Divibare**	**3.97**	**352**	*e*Pn	**Pn**	**02 10 24.4**	**+1.5**
TRUS	**Trudelj**	**4.07**	**357**	*e*Pn	**Pn**	**02 10 25.5**	**+1.3**
KUBS	**Kucevo**	**4.31**	**9**	*e*Pn	**Pn**	**02 10 28.0**	**+0.5**
TEKS	**Tekeris**	**4.47**	**349**	*e*Pn	**Pn**	**02 10 30.1**	**+0.3**
TEKS	**Tekeris**	**4.47**	**349**	*e*Pn	**Pn**	**02 10 29.9**	**+0.1**
AVAS	**Avala Beograd**	**4.53**	**358**	*e*Pn	**Pn**	**02 10 30.9**	**+0.3**
APE	**Apeiranthos**	**4.87**	**128**	⇓P	**Pn**	**02 10 37.8**	**+2.5**
HERR	**Herculane**	**4.88**	**14**	⇑P	**Pn**	**02 10 38.2**	**+2.9**
VRSS	**Vrsac**	**4.98**	**5**	*e*Pn	**Pn**	**02 10 36.5**	**-0.2**
FRGS	**Fruska Gora**	**5.04**	**353**	*e*Pn	**Pn**	**02 10 38.3**	**+0.8**
FRGS	**Fruska Gora**	**5.04**	**353**	*e*Pn	**Pn**	**02 10 38.4**	**+0.9**
BLY	**Banja Luka**	**5.28**	**331**	*e*Pn	**Pn**	**02 10 42.9**	**+2.1**
A050A	**Klekovaca**	**5.32**	**326**	*e*Pn	**Pn**	**02 10 41.1**	**-0.3**
GZR	**Gura Zlata**	**5.44**	**15**	⇓P	**Pn**	**02 10 44.6**	**+1.5**
BZS	**Buzias**	**5.49**	**7**	⇑P	**Pn**	**02 10 45.3**	**+1.6**
A051A	**Mrakovica**	**5.60**	**331**	*e*Pn	**Pn**	**02 10 45.0**	**-0.3**
IDI	**Anoyia**	**5.88**	**144**	Pn	**Pn**	**02 10 51.7**	**+2.5**
	comp=N,8.7nm,1.0s,baz=164,slow=9.2,SNR=1.6						
IDI				Sn	**Sn**	**02 11 57.2**	**+0.1**
	comp=N,1.0nm,0.3s,baz=250,slow=6.4,SNR=6.1						
ARR	**Arges**	**5.95**	**28**	⇑P	**Pn**	**02 10 51.6**	**+1.6**
SIRR	**Siria**	**6.14**	**6**	⇑P	**Pn**	**02 10 55.0**	**+2.3**
VOIR		**6.16**	**30**	⇓P	**Pn**	**02 10 55.9**	**+2.9**
MORH	**Mrgy, Hungar**	**6.24**	**347**	⇑P	**Pn**	**02 10 55.9**	**+2.0**
MLR	**Muntele Rosu**	**6.57**	**34**	Pn	**Pn**	**02 11 02.3**	**+3.7**
	comp=N,0.5nm,0.3s,baz=199,slow=18,SNR=3.8						
	comp=N,1.5nm,0.4s						
BOJS	**Bojanci**	**6.68**	**325**	*e*Pn	**Pn**	**02 10 59.2**	**-0.8**
CRES	**Cresnjevec Ost**	**6.85**	**327**	*e*Pn	**Pn**	**02 11 01.8**	**-0.6**
PLOR	**Plostina**	**7.16**	**35**	⇓P	**Pn**	**02 11 09.8**	**+3.2**
VRI	**Vrincioaia**	**7.20**	**36**	⇑P	**Pn**	**02 11 10.3**	**+3.1**
CEY	**Cerknica**	**7.23**	**322**	*e*Pn	**Pn**	**02 11 06.5**	**-1.2**
SOKA	**Soboth**	**7.71**	**329**	Pn	**Pn**	**02 11 17.0**	**+2.7**
	comp=N,2.1nm,0.6s						
OBKA	**Obir**	**7.77**	**327**	*e*Pn	**Pn**	**02 11 14.7**	**-0.4**
OBKA	**Obir**	**7.77**	**327**	*e*Pn	**Pn**	**02 11 15.4**	**+0.2**
	comp=N,1.5nm,0.6s						
OBKA				Sn	**Sn**	**02 12 39.2**	**-4.4**
	comp=N,3.0nm,0.6s						
MYKA	**Terra Mystica**	**8.26**	**324**	*e*Pn	**Pn**	**02 11 24.0**	**+2.1**
	comp=N,2.0nm,0.7s						
MYKA				Sn	**Sn**	**02 12 54.0**	**-1.6**
	comp=N,1.5nm,0.7s						
KBA	**Koelnbreinsper**	**8.74**	**325**	Pn	**Pn**	**02 11 32.2**	**+3.8**
	comp=N,2.5nm,0.7s						
KBA				*e*Sn	**Sn**	**02 13 04.4**	**-3.0**
	comp=N,2.4nm,0.8s						
ABTA	**Abfaltersbach**	**8.88**	**321**	Pn	**Pn**	**02 11 31.9**	**+1.5**
	comp=N,2.5nm,0.7s						
ABTA				Sn	**Sn**	**02 13 09.6**	**-1.3**
	comp=N,5.3nm,0.7s						
BIOA	**Bad Ischl, Aus**	**9.09**	**328**	Pn	**Pn**	**02 11 34.0**	**+0.8**
	comp=N,1.1nm,0.6s						
LESA	**Schwarzleotal**	**9.30**	**324**	Pn	**Pn**	**02 11 36.4**	**+0.4**
	comp=N,0.9nm,0.6s						
LESA				Sn	**Sn**	**02 13 18.3**	**-2.7**
	comp=N,1.7nm,0.6s						
WTTA	**Wattenberg**	**9.67**	**320**	Pn	**Pn**	**02 11 41.6**	**+0.4**
	comp=N,1.7nm,0.7s						
WTTA				Sn	**Sn**	**02 13 25.8**	**-4.5**
	comp=N,4.2nm,0.6s						
WATA	**Walderalm**	**9.75**	**320**	*e*Pn	**Pn**	**02 11 43.3**	**+1.0**
	comp=N,4.3nm,0.6s						
WATA				Sn	**Sn**	**02 13 30.1**	**-2.1**
	comp=N,3.8nm,0.7s						
SQTA	**Sankt Quirin**	**9.85**	**319**	*e*Pn	**Pn**	**02 11 47.3**	**+3.6**
	comp=N,3.6nm,0.6s						
SQTA				Sn	**Sn**	**02 13 31.3**	**-3.4**
	comp=N,3.5nm,0.7s						
BRTR	**Keskin Array B**	**9.94**	**88**	Pn	**Pn**	**02 11 49.6**	**+4.7**
	comp=N,0.1nm,0.3s,baz=278,slow=14,SNR=1.9						
	comp=N,0.3nm,0.7s						
FETA	**Feichten**	**9.97**	**317**	Pn	**Pn**	**02 11 48.9**	**+3.6**
	comp=N,1.5nm,0.6s						
FETA				Sn	**Sn**	**02 13 32.6**	**-5.0**
	comp=N,1.2nm,0.9s						
MOTA	**Moosalm**	**9.99**	**319**	Pn	**Pn**	**02 11 47.0**	**+1.4**
	comp=N,5.6nm,1.1s						
MOTA				*e*Sn	**Sn**	**02 13 38.1**	**0.0**
	comp=N,4.7nm,0.7s						
GERES	**GERESS Array B**	**10.02**	**332**	Pn	**Pn**	**02 11 44.3**	**-1.6**
	baz=147,slow=13,SNR=2.1						
	comp=N,0.5nm,0.7s						
DAVOX	**Davos/Dischmat**	**10.28**	**314**	Pn	**Pn**

WR8			IAmb	IAmb	02 15 39.4	
	comp=Z,19nm,0.8s					
MEEK	**Meekatharra**	**19.10 184**	P	**P**	**02 15 42.4**	**+0.3**
WRKA	**Warakurna**	**19.18 157**	P	**P**	**02 15 43.5**	**+0.6**
AS31	**Alice Springs**	**20.91 142**	P	**P**	**02 15 59.5**	**+0.6**
AS31			IAmb	IAmb	02 15 59.8	
	comp=Z,6.8nm,0.4s					
ASAR	**Alice Springs**	**20.91 142**	P	**P**	**02 15 59.2**	**+0.2**
ASAR	**Alice Springs**	**20.91 142**	P	**P**	**02 15 59.5**	**+0.5**
	comp=Z,12nm,0.4s,baz=316,slow=8.3,SNR=197					
	comp=Z,12nm,0.4s					
AS01	**Alice Springs**	**20.93 142**	P	**P**	**02 15 59.7**	**+0.5**
MORW	**Morawa**	**21.80 189**	P	**P**	**02 16 07.0**	**0.0**
MORW			IAmb	IAmb	02 16 14.2	
	comp=Z,22nm,1.2s					
MORW	**Morawa**	**21.80 189**	P	**P**	**02 16 06.9**	**0.0**
QIS	**Mount Isa**	**23.00 126**	P	**P**	**02 16 17.8**	**-0.2**
BLDU	**Ballidu**	**23.22 187**	P	**P**	**02 16 19.6**	**-0.2**
RPSI	**Rantau Prapat**	**23.33 295**	P	**P**	**02 16 23.0**	**+2.0**
PSI	**Prapat**	**23.38 295**	P	**P**	**02 16 23.0**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=90,slow=1.0,SNR=2.5					
	comp=Z,1.8nm,0.3s					
KMBL	**Kambalda**	**23.83 176**	P	**P**	**02 16 25.1**	**-0.2**
FORT	**Forrest**	**24.38 163**	P	**P**	**02 16 30.0**	**-0.2**
FORT	**Forrest**	**24.38 163**	P	**P**	**02 16 30.3**	**+0.1**
OOD	**Oodnadatta**	**25.08 146**	P	**P**	**02 16 36.6**	**+0.1**
INKA	**Innaminka**	**28.14 138**	P	**P**	**02 17 03.6**	**0.0**
LCRK	**Leigh Creek**	**28.52 146**	P	**P**	**02 17 07.5**	**+0.5**
BBOO	**Buckleboo**	**29.28 152**	P	**P**	**02 17 13.3**	**-0.3**
BBOO			IAmb	IAmb	02 17 14.2	
	comp=Z,11nm,0.8s					
BBOO	**Buckleboo**	**29.28 152**	P	**P**	**02 17 13.6**	**0.0**
HTT	**Hallett**	**31.20 148**	P	**P**	**02 17 31.0**	**+0.6**
STKA	**Stephens Creek**	**31.53 143**	P	**P**	**02 17 33.1**	**-0.1**
STKA	**Stephens Creek**	**31.53 143**	P	**P**	**02 17 33.2**	**0.0**
	comp=Z,2.5nm,0.3s,baz=328,slow=7.4,SNR=16					
	comp=Z,2.5nm,0.3s					
STKA	**Stephens Creek**	**31.53 143**	P	**P**	**02 17 33.6**	**+0.4**
CMSA	**Cobar Meteorol**	**33.87 138**	P	**P**	**02 17 53.0**	**-0.3**
ARPS	**Mount Arapiles**	**35.30 149**	P	**P**	**02 18 04.9**	**-0.4**
SONM	**Songino Array**	**56.37 349**	P	**P**	**02 20 46.0**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=164,slow=9.5,SNR=3.8					
	comp=Z,0.5nm,0.4s					
MKAR	**Makanchi Array**	**63.58 332**	P	**P**	**02 21 33.7**	**-2.1**
MKAR	**Makanchi Array**	**63.58 332**	P	**P**	**02 21 34.0**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=140,slow=7.4,SNR=16					
	comp=Z,1.5nm,0.6s					
BOOM	**Boomskoye usch**	**63.89 325**	P	**P**	**02 21 36.0**	**-2.1**
ZALV	**Zalesovo Beam**	**67.99 338**	P	**P**	02 22 00.4	-3.0
ZALV	**Zalesovo Beam**	**67.99 338**	P	**P**	**02 22 00.8**	**-2.6**
	comp=Z,2.5nm,0.4s,baz=135,slow=4.5,SNR=12					
	comp=Z,2.5nm,0.4s					
KURBB	**Kurchatov Arra**	**68.06 333**	P	**P**	**02 22 01.6**	**-2.3**
	comp=Z,0.4nm,0.4s,baz=150,slow=5.7,SNR=5.9					
	comp=Z,0.4nm,0.4s					
KURK	**Kurchatov**	**68.09 333**	P	P	02 22 01.1	-3.0
VNDA	**Vanda**	**73.33 171**	P	**P**	**02 22 33.7**	**-1.2**
VNDA	**Vanda**	**73.33 171**	P	**P**	**02 22 34.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=317,slow=6.5,SNR=1.9					
	comp=Z,0.3nm,0.5s					
BVAR	**Borovoye Array**	**73.44 331**	P	**P**	**02 22 33.8**	**-2.1**
	comp=Z,0.8nm,0.6s,baz=105,slow=5.1,SNR=4.5					
	comp=Z,0.8nm,0.6s					
AB31	**Akbulak array**	**76.90 324**	P	**P**	**02 22 52.7**	**-2.8**
AB31			IAmb	IAmb	02 22 55.7	
	comp=Z,2.9nm,1.4s					
ABKAR	**Akbulak array**	**76.90 324**	P	**P**	**02 22 52.8**	**-2.7**
ABKAR			IAmb	IAmb	02 22 55.7	
	comp=Z,2.9nm,1.4s					
QSPA	**South Pole Qui**	**82.50 180**	P	**P**	**02 23 23.3**	**-1.8**
QSPA	**South Pole Qui**	**82.50 180**	P	**P**	**02 23 24.0**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=179,slow=0.8,SNR=5.3					
	comp=Z,0.6nm,0.7s					
TORD	**Torodi Ar. Bea**	**119.16 281**	PKPdf	**PKPdf**	**02 29 46.6**	**-2.7**

GCG ***15*** *02:26:22.7±0.8, 13°.62N×90°.02W, h105km±8km, MD3.7*
SNET ***15*** *02:26:23.1±1.4, 13°.68N×90°.18W, h90km, ML3.2*
CATAC ***15*** *02:26:26.8±0.8, 14°N±4°×9°0W±°, h34km±4km, M3.5/4, MLv3.5/4, Error ellipse: s-maj=10.9km s-min=8.3km az=46.6, confirmed*

ISC 15 02:26:30.2±1.7, 13°.78N±0°.07×89°.80W±0°.05, h65km±8km**, n35,** σ1§85/42**, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.18**	**74**	*eP*	**Pn**	**02 26 39.7**	**-0.8**
CEVE				*eS*	**Sn**	**02 26 51.3**	**+3.5**
CEVE	**Cerro Verde**	**0.18**	**74**	P	**Pn**	**02 26 37.9**	**-2.6**
CEVE	**Cerro Verde**	**0.18**	**74**	S	**Sn**	**02 26 46.0**	**-1.8**
SBLS	**San Blas**	**0.19**	**70**	*eP*	**Pn**	**02 26 39.4**	**-1.1**
SBLS				*eP*		02 26 39.5	
SBLS				*eS*	**Sn**	**02 26 50.7**	**+2.8**
SLOZ	**Alcaldia de Sa**	**0.25**	**5**	*eP*	**Pn**	**02 26 39.1**	**-1.4**
SLOZ				*eS*	**Sn**	**02 26 50.5**	**+2.4**
SLOZ	**Alcaldia de Sa**	**0.25**	**5**	P	**Pn**	**02 26 38.8**	**-1.8**
SLOZ	**Alcaldia de Sa**	**0.25**	**5**	S	**Sn**	**02 26 47.6**	**-0.4**
UNIC	**Universidad Ca**	**0.32**	**51**	P	**Pn**	**02 26 39.8**	**-1.2**
UNIC	**Universidad Ca**	**0.32**	**51**	S	**Sn**	**02 26 49.8**	**+0.8**
JAYA	**Jayaque - finc**	**0.37**	**109**	*eP*	**Pn**	**02 26 40.5**	**-1.0**
JAYA				*eS*	**Sn**	**02 26 52.8**	**+3.1**
JAYA	**Jayaque - finc**	**0.37**	**109**	P	**Pn**	**02 26 39.0**	**-2.5**
JAYA	**Jayaque - finc**	**0.37**	**109**	S	**Sn**	**02 26 48.4**	**-1.3**
CEDA	**San Andres**	**0.40**	**86**	*eP*	**Pn**	**02 26 40.8**	**-0.8**
CEDA				*eS*	**Sn**	**02 26 53.5**	**+3.5**
PMON	**Piamonte**	**0.48**	**98**	*eP*	**Pn**	**02 26 41.6**	**-0.9**
PMON	**Piamonte**	**0.48**	**98**	P	**Pn**	**02 26 40.9**	**-1.6**
PMON	**Piamonte**	**0.48**	**98**	S	**Sn**	**02 26 51.2**	**-0.2**
BOQS	**Boqueron**	**0.51**	**95**	*eP*	**Pn**	**02 26 41.6**	**-1.3**
LALI	**Alcalda de L**	**0.55**	**121**	*eP*	**Pn**	**02 26 42.0**	**-1.0**
LALI				*eS*	**Sn**	**02 26 55.6**	**+3.2**
LOMA	**Loma Larga**	**0.63**	**102**	P	**Pn**	**02 26 42.5**	**-1.6**
LOMA	**Loma Larga**	**0.63**	**102**	S	**Sn**	**02 26 54.3**	**+0.1**
MTO3	**Montecristo**	**0.75**	**35**	*eP*	**Pn**	**02 26 44.3**	**-1.4**
MTO3	**Montecristo**	**0.75**	**35**	*eP*	**Pn**	**02 26 44.1**	**-1.5**
MTO3	**Montecristo**	**0.75**	**35**	P	**Pn**	**02 26 44.2**	**-1.4**
MTO3	**Montecristo**	**0.75**	**35**	S	**Sn**	**02 26 59.1**	**+2.2**
PAVA	**Las Pavas**	**0.84**	**94**	P	**Pn**	**02 26 45.2**	**-1.4**
PAVA	**Las Pavas**	**0.84**	**94**	S	**Sn**	**02 26 59.5**	**+0.8**
FG8	**Yepocapa, Chim**	**0.88**	**303**	*eP*	**Pn**	**02 26 46.4**	**-0.7**
COEG	**Centro de Oper**	**0.91**	**100**	*eP*	**Pn**	**02 26 46.5**	**-0.9**
COEG				*eS*	**Sn**	**02 27 03.5**	**+3.4**
COEG	**Centro de Oper**	**0.91**	**100**	P	**Pn**	**02 26 46.0**	**-1.4**
COEG	**Centro de Oper**	**0.91**	**100**	S	**Sn**	**02 27 00.7**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.05**	**94**	P	**Pn**	**02 26 48.1**	**-1.0**
SCLA	**Alcaldia de Sa**	**1.05**	**94**	S	**Sn**	**02 27 04.2**	**+1.0**
PACA	**Pacayal**	**1.47**	**102**	P	**Pn**	**02 26 53.6**	**-1.2**
PACA	**Pacayal**	**1.47**	**102**	S	**Sn**	**02 27 14.1**	**+0.9**
STG0	**El Palmar, Qui**	**1.63**	**294**	*eS*	**Sn**	**02 27 18.4**	**+1.4**

IDC ***15*** *02:38:07.7±1.2, 29°.67N×130°.64E, h0km, mb3.8/10, mbtmp3.8/13, ML3.4/3, MS3.4/6, Error ellipse: s-maj=36.5km s-min=16.2km az=86.0*
NIED ***15*** *02:38:13.3, 29°.67N×130°.63E, h31km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr0.50; Mθθ-1.43; Mφφ0.93; Mrθ-0.25; Mθφ-0.50; Mφr-1.07; Fault plane solution: M0 1.74000×10^15 NP1: φs117.00000°, δ52.00000°, λ161.00000°. NP2: φs219.00000°, δ75.00000°, λ40.00000°.*
JMA ***15*** *02:38:13.3±0.2, 29°.7N±0°.8×130°.6E±0°.9, h31km±2km, MV3.5/18, NEAR AMAMI-OSHIMA ISLAND*
NEIC ***15*** *02:38:13.7±1.7, 29°.59N±0°.07×130°.6E±0°.1, h38km±7km, mb4.3/13, Error ellipse: s-maj=14.7km s-min=9.8km az=114.0*

ISC 15 02:38:12.8±0.7, 29°.62N±0°.05×130°.64E±0°.07, h34km**, n49,** σ0§93/50**, mb4.0/17, MS3.7/5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**0.63**	**349**	*i P*	**Pn**	**02 38 24.6**	**-0.6**
JYAK				*eS*	**Sb**	**02 38 32.2**	**-2.0**
JNN	**Nakanoshima**	**0.70**	**288**	*eP*	**Pn**	**02 38 26.5**	**+0.1**
JMTN	**Minamitane**	**0.81**	**16**	*i P*	**Pn**	**02 38 27.8**	**0.0**
JKC	**Kuchinoerabu**	**0.92**	**335**	P	**Pn**	**02 38 30.0**	**+0.6**
JKC				*eS*	**Sn**	**02 38 41.5**	**0.0**
JTN	**Tanegashima 3**	**1.07**	**16**	P	**Pn**	**02 38 31.8**	**+0.3**
JTN				*eS*	**Sb**	**02 38 47.4**	**+0.7**
JAM	**Amami Oshima**	**1.51**	**217**	*eP*	**Pn**	**02 38 38.9**	**+1.4**
JTSR	**Tashiro 2**	**1.56**	**9**	P	**Pn**	**02 38 38.9**	**+0.7**
JTSR				*eS*	**Sn**	**02 38 59.1**	**+1.9**
JAMN	**Amaminishikomi**	**1.88**	**223**	*eP*	**Pn**	**02 38 44.1**	**+1.6**
JOW	**Kunigami**	**3.48**	**218**	Pn	**Pn**	**02 39 04.3**	**-0.2**
JOW	**Kunigami**	**3.48**	**218**	Pn	**Pn**	**02 39 04.5**	**0.0**
	6.8nm,0.3s,baz=108,slow=19,SNR=7.9						
JOW				Sn	**Sn**	**02 39 46.1**	**+1.6**
	6.5nm,0.3s,baz=128,slow=21,SNR=2.1						
	18nm,0.4s						
JNU	**Nakatsue**	**3.50**	**3**		**Pn**	**02 39 05.9**	**+1.0**
JNU	**Nakatsue**	**3.50**	**3**	Pn	**Pn**	**02 39 04.9**	**0.0**
	3.7nm,0.3s,baz=184,slow=14,SNR=13						
JNU				Sn	**Sn**	**02 39 45.7**	**+0.6**
	7.0nm,0.3s,baz=295,slow=18,SNR=5.1						
	27nm,0.6s						
JMN	**Monobe**	**4.94**	**33**	Pn	**Pn**	**02 39 24.4**	**-0.3**
INU	**Inuyama**	**7.85**	**42**	Pn	**Pn**	**02 40 06.0**	**+1.5**
KSRS	**Korea Array**	**8.14**	**345**	Pn	**Pn**	**02 40 11.4**	**+2.9**
	0.2nm,0.3s,baz=162,slow=13,SNR=4.9						
KSRS				LR	LR	02 43 27.6	
	comp=Z,86nm,19.4s,baz=170,slow=40						
JGF	**Kuroka**	**8.22**	**42**	Pn	**Pn**	**02 40 10.6**	**+0.8**
KLR	**Kul'dur**	**19.60**	**2**	P	**P**	**02 42 37.3**	**-0.7**
	0.3nm,0.3s,baz=190,slow=9.3,SNR=5.9						
	1.3nm,0.5s						
GUMO	**Guam**	**20.69**	**137**	LR	LR	02 50 09.9	
	comp=Z,27nm,18.7s,baz=96,slow=35						
SONM	**Songino Array**	**26.07**	**321**	P	**P**	**02 43 43.6**	**+0.4**
SONM	**Songino Array**	**26.07**	**321**	P	**P**	**02 43 43.0**	**-0.2**
	1.0nm,0.7s,baz=118,slow=8.0,SNR=6.1						
	1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.91**	**256**	LR	LR	02 59 39.7	
	comp=Z,18nm,18.9s,baz=125,slow=42						
ZALV	**Zalesovo Beam**	**40.95**	**320**	P	**P**	**02 45 51.2**	**-0.8**
	0.6nm,0.5s,baz=133,slow=10,SNR=1.8						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**40.99**	**308**	P	**P**	**02 45 51.9**	**-0.6**
MKAR	**Makanchi Array**	**40.99**	**308**	P	**P**	**02 45 52.1**	**-0.3**
	0.9nm,0.4s,baz=91,slow=10,SNR=15						
	0.9nm,0.4s						
KURK	**Kurchatov**	**43.93**	**314**	P	**P**	**02 46 15.8**	**-0.5**
KURK				IAmb	IAmb	02 46 16.6	
	comp=Z,2.2nm,0.5s						
KURBB	**Kurchatov Arra**	**43.97**	**314**	P	**P**	**02 46 16.2**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=92,slow=8.6,SNR=21						
	comp=Z,1.1nm,0.4s						
KNRA	**Kununurra**	**45.07**	**183**	P	**P**	**02 46 25.6**	**0.0**
FITZ	**Fitzroy Crossi**	**47.69**	**186**	P	**P**	**02 46 47.2**	**+1.1**
WB0	**Warramunga Arr**	**49.23**	**175**	P	**P**	**02 46 58.4**	**+0.3**
WB0				IAmb	IAmb	02 47 18.9	
	comp=Z,5.9nm,1.3s						
BVAR	**Borovoye Array**	**49.24**	**316**	P	**P**	**02 46 57.7**	**-0.2**
	comp=Z,3.0nm,0.5s,baz=96,slow=9.6,SNR=18						
	comp=Z,3.0nm,0.5s						
KKAR	**Karatay Array**	**49.28**	**303**	P	**P**	**02 46 58.6**	**+0.3**
BRVK	**Borovoye**	**49.31**	**316**	P	**P**	**02 46 58.4**	**+0.1**
WRA	**Warramunga Arr**	**49.40**	**175**	P	**P**	**02 46 59.7**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=354,slow=7.8,SNR=3.9						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**53.07**	**176**	P	**P**	**02 47 27.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=358,slow=7.1,SNR=4.6						
	comp=Z,0.2nm,0.3s						
D19K	**Kuna River**	**55.92**	**25**	P	**P**	**02 47 47.5**	**+0.4**
D19K				IAmb	IAmb	02 48 10.0	
	comp=Z,6.1nm,1.5s						
ABKAR	**Akbulak array**	**55.94**	**312**	P	**P**	**02 47 47.0**	**-0.4**
ARTI	**Arti**	**56.20**	**320**	P	**P**	**02 47 48.5**	**-0.7**
D20K	**Etivluk River**	**56.49**	**25**	P	**P**	**02 47 51.6**	**+0.5**
D20K				IAmb	IAmb	02 48 13.5	
	comp=Z,4.8nm,1.5s						
J19K	**Poorman**	**56.71**	**30**	P	**P**	**02 47 53.5**	**+0.7**
J19K				IAmb	IAmb	02 48 05.3	
	comp=Z,1.4nm,0.9s						
AKTO	**Aktyubinsk**	**57.02**	**313**	LR	LR	03 14 18.8	
	comp=Z,61nm,19.2s,baz=324,slow=38						
D22K	**Ayikyak River**	**57.92**	**25**	P	**P**	**02 48 01.1**	**-0.2**
D22K				IAmb	IAmb	02 48 44.3	
	comp=Z,4.6nm,1.5s						
OBN	**Obninsk**	**68.47**	**322**	LR	LR	03 20 50.8	
	comp=Z,243nm,21.9s,baz=54,slow=38						
FINES	**FINESS Array B**	**70.97**	**331**	P	**P**	**02 49 25.1**	**-1.5**
FINES	**FINESS Array B**	**70.97**	**331**	P	**P**	**02 49 25.3**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=62,slow=5.5,SNR=5.6						
	comp=Z,0.5nm,0.5s						
BRTR	**Keskin Array B**	**76.64**	**308**	P	**P**	**02 50 00.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=46,slow=8.3,SNR=2.7						
	comp=Z,0.4nm,0.6s						
NOA	**NORSAR Array B**	**77.21**	**334**	P	**P**	**02 50 01.9**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=51,slow=5.6,SNR=1.8						
	comp=Z,0.3nm,0.7s						
ILON	**Igloolik, Nuna**	**78.49**	**11**	P	**P**	**02 50 09.9**	**-0.1**
ILON				IAmb	IAmb	02 50 48.0	
	comp=Z,2.3nm,1.0s						
SFJD	**Kangerlussuaq**	**83.68**	**0**	LR	LR	03 28 02.8	
	comp=Z,27nm,18.1s,baz=178,slow=36						
PETF	**Flores**	**119.44**	**46**	PKPdf	**PKPdf**	**02 56 59.9**	**+0.4**

IDC ***15*** *02:46:24.1±1.8, 19°.14N×71°.91E, h0km, mb3.6/9, mbtmp3.7/10, ML3.5/1, MS3.4/1, Error ellipse: s-maj=55.9km s-min=20.2km az=61.0*

ISC 15 02:46:23.8±1.1, 18°.8N±0°.1×71°.7E±0°.1, h10km**, n11,** σ1§32/12**, mb3.8/9, Arabian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGP	**Nagpur**	**7.25**	**70**	*eS*	**Sn**	**02 49 32.7**	**+0.2**
NGP				IAML		02 50 03.5	
	comp=N,209nm,0.8s						
NGP				IAML		02 50 03.6	
	comp=E,129nm,0.7s						
PALK	**Pallekele**	**14.42**	**142**	Pn	**P**	**02 49 53.4**	**-1.8**
	comp=E,0.2nm,0.3s,baz=349,slow=16,SNR=1.6						
PALK				Sn	**Sn**	**02 52 28.3**	**-0.1**
	comp=E,0.1nm,0.3s,baz=42,slow=17,SNR=1.6						
	comp=E,2.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**25.77**	**86**	P	**P**	**02 51 55.5**	**+0.5**
	comp=E,1.6nm,0.8s,baz=277,slow=9.9,SNR=14						
	comp=E,1.6nm,0.8s						
MKAR	**Makanchi Array**	**29.20**	**15**	P	**P**	**02 52 24.3**	**-1.3**
	comp=E,0.2nm,0.5s,baz=210,slow=9.7,SNR=2.6						
	comp=E,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**32.18**	**8**	P	**P**	**02 52 50.8**	**-0.9**
	comp=E,0.1nm,0.4s,baz=203,slow=7.8,SNR=2.4						
KURBB				LR	LR	03 06 22.9	
	comp=E,67nm,18.1s,baz=170,slow=38						
	comp=E,0.1nm,0.4s						
BVAR	**Bovoye Array**	**34.14**	**359**	P	**P**	**02 53 08.0**	**-0.8**
	comp=E,0.5nm,0.6s,baz=153,slow=9.7,SNR=2.2						
	comp=E,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**36.47**	**13**	P	**P**	**02 53 27.9**	**-1.1**
	comp=E,0.8nm,0.6s,baz=186,slow=12,SNR=4.4						
	comp=E,0.8nm,0.6s						
FINES	**FINESS Array B**	**53.17**	**335**	P	**P**	**02 55 42.5**	**+0.7**
	comp=E,2.3nm,1.1s,baz=111,slow=9.1,SNR=1.3						
	comp=E,2.3nm,1.1s						
WRA	**Warramunga Arr**	**72.47**	**119**	P	**P**	**02 57 52.9**	**+1.8**
	comp=E,0.5nm,0.6s,baz=300,slow=6.1,SNR=5.4						
	comp=E,0.5nm,0.6s						
ASAR	**Alice Springs**	**73.90**	**122**	P	**P**	**02 58 01.5**	**+2.0**
	comp=E,0.7nm,0.6s,baz=301,slow=5.8,SNR=8.9						
	comp=E,0.7nm,0.6s						
ILAR	**Eielson Array**	**91.56**	**16**	P	**P**	**02 59 30.6**	**0.0**
	comp=E,0.1nm,0.6s,baz=325,slow=6.2,SNR=1.9						
	comp=E,0.1nm,0.6s						

MEX ***15*** *02:47:37.2±0.4, 13°.36N×92°.06W, h14km±47km, MD4.2*
GCG ***15*** *02:47:38.1±1.5, 13°.70N×91°.86W, h0km±449km, MD4.5*
CATAC ***15*** *02:47:38.8±4.0, 14°N±20°×9°2W±3°0, h10km, M3.6/6, MLv3.6/6, confirmed*
IDC ***15*** *02:48:04.8±8.4, 15°.55N×91°.89W, h140km±53km, mb3.1/5, mbtmp3.5/6, Error ellipse: s-maj=89.8km s-min=45.7km az=4.0*

ISC 15 02:47:36.6±1.1, 13°.58N±0°.07×92°.02W±0°.05, h10km**, n30,** σ1§84/37**, mb3.5/5, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.99**	**19**	*i P*	**Pg**	**02 47 55.8**	**0.0**
RTAL				*eS*	**Sn**	**02 48 10.7**	**-0.2**
RTAL	**Retalhuleu**	**0.99**	**19**	P	**Pb**	**02 47 56.1**	**+0.1**
STG5	**El Palmar, Qui**	**1.05**	**38**	*eP*	**Pn**	**02 47 58.0**	**+0.5**
STG0	**El Palmar, Qui**	**1.07**	**38**	*eP*	**Pn**	**02 47 58.1**	**+0.2**
STG8	**El Palmar, Qui**	**1.09**	**37**	*eP*	**Pn**	**02 47 58.5**	**+0.4**
FG8	**Yepocapa, Chim**	**1.57**	**64**	*i P*	**Pn**	**02 48 00.7**	**-4.0**
HUEH	**Huehuetenango**	**1.80**	**16**	*eP*	**Pn**	**02 48 07.7**	**-0.3**
HUEH				*i S*	**Sb**	**02 48 31.3**	**-1.4**
SLOZ	**Alcaldia de Sa**	**2.22**	**78**	P	**Pn**	**02 48 13.0**	**-0.6**
PCIG		**2.41**	**331**	*i P*	**Pn**	**02 48 16.7**	**+0.5**
PCIG				*i S*	**Sn**	**02 48 41.7**	**-4.1**
JAYA	**Jayaque - finc**	**2.50**	**88**	*eP*	**Pn**	**02 48 17.5**	**-0.1**
JAYA	**Jayaque - finc**	**2.50**	**88**	P	**Pn**	**02 48 16.5**	**-1.0**
PMON	**Piamonte**	**2.63**	**87**	P	**Pn**	**02 48 19.2**	**-0.2**
CCIG	**Comitan**	**2.69**	**358**	*eP*	**Pn**	**02 48 21.0**	**+0.8**
CCIG				*i S*	**Sn**	**02 48 53.9**	**+0.9**
CCIG	**Comitan**	**2.69**	**358**	*eP*	**Pn**	**02 48 22.0**	**+1.8**
MTO3	**Montecristo**	**2.71**	**72**	P	**Pn**	**02 48 20.0**	**-0.5**
LOMA	**Loma Larga**	**2.77**	**88**	P	**Pn**	**02 48 21.2**	**-0.1**
TGIG		**3.36**	**342**	*eP*	**Pn**	**02 48 28.4**	**-0.9**
TGIG				*eS*	**Sn**	**02 49 09.2**	**0.0**
UXUV	**UXUV**	**4.25**	**331**	*eP*	**Pn**	**02 48 41.6**	**+0.2**
UXUV				*eS*	**Sn**	**02 49 30.9**	**-0.2**
CMIG	**Matias Romero**	**4.45**	**322**	*eP*	**Pn**	**02 48 43.0**	**-1.3**
CMIG				*i S*	**Sn**	**02 49 32.5**	**-3.8**
NEUV	**Arroyo Zacate**	**5.49**	**319**	*eP*	Pn	02 48 56.1	-2.5
NEUV				*eS*	**Sn**	**02 49 58.4**	**-3.4**
PEIG	**Puerto Escondi**	**5.51**	**297**	*eP*	Pn	02 48 57.2	-1.7
PEIG				*eS*	Sn	02 49 55.7	-6.6
YOIG	**Yosondua**	**6.25**	**302**	*eP*	**Pn**	**02 49 10.5**	**+1.2**
YOIG				*eS*	**Sn**	**02 50 18.3**	**-2.7**
TEIG	**Tepich**	**7.52**	**28**	P	**Pn**	**02 49 27.7**	**+1.3**
	0.2nm,0.5s,baz=33,slow=24,SNR=9.4						
TXAR	**Lajitas Array**	**19.04**	**327**	P	**P**	**02 52 00.6**	**+1.5**
	0.6nm,0.6s,baz=149,slow=8.1,SNR=8.3						
TKL	**Tuckaleechee C**	**23.21**	**17**	P	**P**	**02 52 42.0**	**-1.9**
	3.5nm,0.9s,baz=195,slow=12,SNR=2.5						
	3.5nm,0.9s						
PDAR	**Pinedale Array**	**32.80**	**336**	P	**P**	**02 54 11.1**	**+0.7**
	0.1nm,0.4s,baz=144,slow=8.7,SNR=1.9						
	0.1nm,0.4s						
NVAR	**Mina Array Bea**	**33.99**	**322**	P	**P**	**02 54 22.9**	**+2.0**
	0.4nm,0.6s,baz=127,slow=9.4,SNR=5.7						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**51.43**	**347**	P	**P**	**02 56 40.2**	**-1.5**
	0.8nm,0.6s,baz=152,slow=7.6,SNR=20						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**63.22**	**337**	P	**P**	**02 58 05.3**	**+0.4**
	0.2nm,0.7s,baz=117,slow=7.2,SNR=5.4						
	0.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**146.38**	**341**	PKP	**PKiKP**	**03 07 26.6**	**+4.7**
	0.7nm,0.6s,baz=16,slow=3.1,SNR=5.4						

DJA ***15*** *02:48:02.3±0.4, 2°S±3°×12°3E±°, h10km, M4.5/12, mB5.0/1, mb4.5/2, MLv4.4/12, Mw(mB)4.3/1*
IDC ***15*** *02:48:05.0±1.4, 2°.45S×122°.72E, h0km, mb3.3/4, mbtmp3.4/4, ML4.7/1, MS3.5/1, Error ellipse: s-maj=36.2km s-min=23.8km az=69.0*

ISC 15 02:48:01.2±1.1, 1°.92S±0°.05×122°.70E±0°.06, h10km**, n17,** σ1§27/14**, mb3.5/5, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.88**	**5**	P	**Pg**	**02 48 19.7**	**+1.6**
APSI	**Ampana**	**1.45**	**314**	P	**Pn**	**02 48 26.7**	**-0.8**
KDI	**Kendari**	**2.03**	**182**	P	**Pn**	**02 48 36.5**	**+1.1**
PCI	**Palu**	**3.03**	**289**	P	**Pn**	**02 48 49.6**	**+0.3**
SANI	**Sanana**	**3.29**	**92**	P	**Pn**	**02 48 51.2**	**-1.7**
SPSI	**Sidrap Palu**	**3.56**	**235**	P	**Pn**	**02 48 56.0**	**-0.6**
BNSI	**Bone**	**3.57**	**226**	P	**Pn**	**02 48 56.0**	**-0.7**
MPSI	**

MPSI Mapaga 3.27 5 P **Pn 02 57 06.3 -0.6**
BSSI Bau Bau, Buton 3.29 165 P **Pn 02 57 08.8 +1.5**
PLAI Plampang 6.13 198 P **Pn 02 57 44.0 -2.4**
PSI Prapat 21.48 285 P **P 03 01 06.4 +1.6**
1.9nm,0.4s,baz=146,slow=15,SNR=3.8
PSI LR LR 03 09 40.9
comp=Z,121nm,21.7s,baz=180,slow=37
1.9nm,0.4s
WRA Warramunga Arr 22.17 141 P **P 03 01 12.9 +0.8**
0.6nm,0.6s,baz=318,slow=11,SNR=3.1
0.6nm,0.6s
ASAR Alice Springs 24.80 147 P **P 03 01 39.4 +1.4**
0.2nm,0.3s,baz=339,slow=12,SNR=4.1
0.2nm,0.3s
CMAR Chiang Mai Arr 29.45 317 LR LR 03 15 24.0
comp=Z,36nm,20.6s,baz=120,slow=39
SONM Songino Array 51.88 349 P **P 03 05 23.8 -0.6**
0.6nm,0.5s,baz=159,slow=4.5,SNR=1.5
0.2nm,0.5s
MKAR Makanchi Array 59.44 331 P **P 03 06 18.2 -0.4**
0.7nm,0.9s,baz=128,slow=7.9,SNR=4.1
0.7nm,0.9s
KURBB Kurchatov Arra 63.90 332 P **P 03 06 48.7 +0.1**
0.1nm,0.3s,baz=132,slow=7.6,SNR=2.5
0.1nm,0.3s

---

*IDC **15** 02:57:49.3±1.2,2.75S×119.68E, h0km, mb3.5/5, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=48.5km s-min=20.2km az=61.0*
*DJA **15** 02:57:50.5±0.3,3.3S±3.3×12.0E±.9, h10km, M4.3/11, mb4.5/2, MLv4.1/11*
ISC 15 02:57:50.5±0.8,2.91S±0.05×119.51E±0.10, h10km, n14, σ1§26/15, mb3.6/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.33**	**114**	P	**Pg**	**02 57 57.5**	**+0.3**
SPSI	**Sidrap Palu**	**1.08**	**166**	P	**Pb**	**02 58 10.0**	**-1.3**
BNSI	**Bone**	**1.60**	**158**	P	**Pn**	**02 58 19.5**	**+0.7**
PCI	**Palu**	**2.02**	**9**	P	**Pn**	**02 58 24.9**	**+0.3**
KAPI	**Kappang**	**2.10**	**174**	Pn	**Pn**	**02 58 26.9**	**+1.1**
	37nm,0.3s,baz=12,slow=6.6,SNR=7.5						
KAPI				Sn	**Sb**	**02 58 53.8**	**-1.2**
	108nm,0.3s,baz=194,slow=23,SNR=12						
	125nm,0.4s						
MPSI	**Mapaga**	**3.25**	**7**	P	**Pn**	**02 58 41.7**	**+0.2**
BSSI	**Bau Bau, Buton**	**3.36**	**163**	P	**Pn**	**02 58 44.3**	**+1.2**
LUWI	**Luwuk**	**3.75**	**60**	P	**Pn**	**02 58 49.1**	**+0.7**
PLAI	**Plampang**	**6.13**	**196**	P	**Pn**	**02 59 20.6**	**-0.6**
	0.1nm18nm,1.2s						
PSI	**Prapat**	**21.35**	**285**	P	**P**	**03 02 40.2**	**+2.0**
	2.5nm,0.4s,baz=246,slow=4.1,SNR=3.9						
	2.5nm,0.4s						
WRA	**Warramunga Arr**	**22.27**	**141**	P	**P**	**03 02 47.3**	**-0.8**
	0.7nm,0.8s,baz=314,slow=10,SNR=0.9						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**24.89**	**147**	P	**P**	**03 03 15.9**	**+2.1**
	0.6nm,0.8s,baz=315,slow=9.1,SNR=4.2						
	0.6nm,0.8s						
SONM	**Songino Array**	**51.82**	**349**	P	**P**	**03 06 57.2**	**-1.7**
	0.4nm,0.5s,baz=171,slow=10,SNR=2.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.35**	**331**	P	**P**	**03 07 53.2**	**+0.3**
	0.5nm,0.7s,baz=134,slow=7.3,SNR=4.3						
	0.5nm,0.7s						

---

*RSNC **15** 03:06:24.9±0.0,5.1N±1.7×7.4W±.9, h154km±2km, M3.5, mB4.6, mb4.1, ML3.2, Mw(mB)3.8*
*IDC **15** 03:06:26.7±0.7,5.17N×74.67W, h160km±15km, mb3.1/2, mbtmp3.5/2, Error ellipse: s-maj=72.8km s-min=28.4km az=104.0*
ISC 15 03:06:24.4±0.8,5.32N±0.03×73.73W±0.03, h159km±6km, n45, σ1§57/78, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	**Chingaza**	**0.69**	**180**	P	**Pn**	**03 06 48.0**	**-0.3**
CHIC				S	**Sn**	**03 07 04.6**	**-2.0**
ROSC	**El Rosal**	**0.76**	**231**	P	**Pn**	**03 06 49.7**	**+1.0**
	1μm,0.3s,baz=314,slow=9.1,SNR=888						
ROSC				S	**Sn**	**03 07 08.4**	**+1.2**
	224nm,0.4s,baz=267,slow=20,SNR=5.6						
ROSC	**El Rosal**	**0.76**	**231**	P	**Pn**	**03 06 49.5**	**+0.8**
ROSC				S	**Sn**	**03 07 07.1**	**-0.1**
RUSC	**La Rusia**	**0.86**	**48**	P	**Pn**	**03 06 50.3**	**+0.8**
RUSC				S	**Sn**	**03 07 08.5**	**-0.2**
CVER	**Cruz Verde, Cu**	**0.86**	**203**	P	**Pn**	**03 06 49.9**	**+0.3**
CVER				S	**Sn**	**03 07 07.5**	**-1.3**
NORC	**Norcasia**	**1.16**	**282**	P	**Pn**	**03 06 51.3**	**-0.1**
NORC				S	**Sn**	**03 07 11.2**	**-0.9**
BARC	**Barichara**	**1.38**	**23**	P	**Pn**	**03 06 53.8**	**+0.1**
BARC				S	**Sn**	**03 07 15.5**	**-0.7**
PTBC	**PUERTO BERRIO,**	**1.41**	**329**	P	**Pn**	**03 06 53.5**	**-0.3**
PTBC				S	**Sn**	**03 07 15.0**	**-1.4**
GUY2C	**Guyana, Caldas**	**1.63**	**267**	P	**Pn**	**03 06 56.4**	**-0.1**
GUY2C				S	**Sn**	**03 07 20.7**	**-0.4**
BRJC	**Barrancabermej**	**1.64**	**360**	P	**Pn**	**03 06 56.9**	**+0.7**
BRJC				S	**Sn**	**03 07 21.3**	**+0.6**
ANIL	**Santa Ana**	**1.86**	**244**	P	**Pn**	**03 06 58.8**	**0.0**
ANIL				S	**Sn**	**03 07 23.6**	**-1.6**
PTGC	**Puerto Gaitan,**	**1.94**	**125**	P	**Pn**	**03 06 59.2**	**-0.2**
PTGC				S	**Sn**	**03 07 23.0**	**-3.4**
PRAC	**Prado**	**1.97**	**216**	P	**Pn**	**03 06 59.7**	**-0.1**
PRAC				S	**Sn**	**03 07 25.6**	**-1.4**
ORTC	**Ortega, Tolima**	**2.06**	**227**	P	**Pn**	**03 07 00.5**	**-0.3**
ORTC				S	**Sn**	**03 07 26.9**	**-2.0**
URMC	**La Uribe, Meta**	**2.16**	**197**	P	**Pn**	**03 07 02.0**	**0.0**
URMC				S	**Sn**	**03 07 29.8**	**-1.3**
TAMC	**Tame, Arauca**	**2.23**	**60**	P	**Pn**	**03 07 03.6**	**+0.9**
TAMC				S	**Sn**	**03 07 31.8**	**-0.5**
PAMC	**Pamplona, Colo**	**2.25**	**27**	P	**Pn**	**03 07 04.9**	**+1.4**
PAMC				S	**Sn**	**03 07 34.6**	**+0.9**
CBOC	**Ciudad Bolivar**	**2.33**	**284**	P	**Pn**	**03 07 04.7**	**+0.6**
CBOC				S	**Sn**	**03 07 34.6**	**-0.2**
ZARC	**Zaragoza, Cauc**	**2.43**	**333**	P	**Pn**	**03 07 04.2**	**-1.0**
ZARC				S	**Sn**	**03 07 34.9**	**-1.8**
YOTC	**Yotoco, Valle**	**2.92**	**243**	P	**Pn**	**03 07 10.8**	**-0.5**
YOTC				S	**Sn**	**03 07 47.8**	**+0.2**
OCAC	**Ocana**	**2.93**	**8**	P	**Pn**	**03 07 12.3**	**+0.9**
OCAC				S	**Sn**	**03 07 48.5**	**+0.6**
GUVC	**San Jose del G**	**2.97**	**158**	P	**Pn**	**03 07 10.6**	**-1.2**
GUVC				S	**Sn**	**03 07 45.6**	**-2.9**
DBBC	**Dabeiba**	**2.99**	**305**	P	**Pn**	**03 07 12.7**	**+0.6**
DBBC				S	**Sn**	**03 07 49.3**	**+0.3**
UREC	**San Jos de Ur**	**3.01**	**324**	P	**Pn**	**03 07 11.0**	**-1.2**
UREC				S	**Sn**	**03 07 46.4**	**-3.0**
BETC	**Betania**	**3.13**	**213**	P	**Pn**	**03 07 12.6**	**-1.2**
MACC	**Macarena, Meta**	**3.15**	**182**	P	**Pn**	**03 07 12.3**	**-1.8**
MACC				S	**Sn**	**03 07 49.0**	**-3.8**
GARC	**Garzon, Huila**	**3.57**	**210**	P	**Pn**	**03 07 18.7**	**-1.0**
PIZC	**Pizarro, Choco**	**3.63**	**265**	P	**Pn**	**03 07 21.4**	**+1.2**
PIZC				S	**Sn**	**03 08 04.6**	**+1.1**
APAC	**Apartado, Choc**	**3.82**	**312**	P	**Pn**	**03 07 22.9**	**+0.3**
APAC				S	**Sn**	**03 08 07.4**	**-0.5**
MALC	**Bahia Malaga**	**3.82**	**250**	P	**Pn**	**03 07 23.2**	**+0.6**
POPC	**Popayan, Colom**	**4.03**	**227**	P	**Pn**	**03 07 25.4**	**-0.2**
FLOC	**Florencia**	**4.18**	**207**	P	**Pn**	**03 07 27.0**	**-0.3**
LCBC	**Los crdobas,**	**4.38**	**323**	P	**Pn**	**03 07 28.9**	**-1.0**
LCBC				S	**Sn**	**03 08 19.2**	**-1.8**
PTAC	**Punta Ardita,**	**4.44**	**294**	P	**Pn**	**03 07 30.5**	**-0.2**
ARGC	**Ariguani, Magd**	**4.54**	**354**	P	**Pn**	**03 07 32.7**	**+0.8**
ARGC				S	**Sn**	**03 08 23.0**	**-1.7**
SDV	**Santo Domingo**	**4.69**	**41**	P	**Pn**	**03 07 34.8**	**+0.7**
SDV				S	**Sn**	**03 08 27.3**	**-1.2**
SJCC	**San Jacinto, C**	**4.77**	**343**	P	**Pn**	**03 07 33.0**	**-2.0**
SJCC				S	**Sn**	**03 08 25.8**	**-4.4**
GR1C	**Gorgona, Isla**	**4.99**	**243**	P	**Pn**	**03 07 35.7**	**-2.1**
CRJC	**Cerrejon, Guaj**	**5.73**	**8**	P	**Pn**	**03 07 46.4**	**-1.3**
	756nm12nm,0.5s						
CRJC				S	**Sn**	**03 08 48.9**	**-4.0**
	756nm12nm,0.5s						
URIC	**Uribia, Colomb**	**6.57**	**15**	P	**Pn**	**03 07 57.2**	**-1.6**
	19nm,0.7s						
URIC				S	**Sn**	**03 09 07.9**	**-5.0**
	19nm,0.7s						
BCIP	**Isla Barro Col**	**7.16**	**303**	P	**Pn**	**03 08 05.1**	**-1.6**
YKA	**Yellowknife Ar**	**64.46**	**340**	P	**P**	**03 16 44.8**	**+1.2**
	0.5nm,0.6s,baz=138,slow=6.4,SNR=19						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**78.06**	**335**	P	**P**	**03 18 06.2**	**+0.9**
	0.2nm,0.5s,baz=91,slow=5.3,SNR=5.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**147.74**	**233**	PKPbc	**PKPdf**	**03 25 50.1**	**+1.8**
	0.4nm,0.5s,baz=123,slow=3.4,SNR=8.3						
WRA	**Warramunga Arr**	**149.07**	**239**	PKPbc	**PKPbc**	**03 25 54.6**	**-0.3**
	0.2nm,0.5s,baz=110,slow=2.5,SNR=9.7						

---

*IDC **15** 03:09:18.4±0.8, 1.75S×122.72E, h0km, mb3.9/8, mbtmp4.0/9, ML4.1/1, MS3.4/4, Error ellipse: s-maj=46.5km s-min=15.7km az=62.0*
*DJA **15** 03:09:21.5±0.3,2.3S±3.3×12.3E±.9, h10km, M4.3/13, mb4.4/2, MLv4.2/13*
*NEIC **15** 03:09:21.6±2.7, 1.82S±0.03×122.8E±0.1, h10km±1km, mb4.4/9, Error ellipse: s-maj=21.0km s-min=5.6km az=271.0*
ISC 15 03:09:20.4±0.5,1.87S±0.06×122.65E±0.07, h10km, n44, σ1§10/45, mb4.2/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.83**	**8**	Pn	**Pb**	**03 09 37.3**	**+0.3**
LUWI	**Luwuk**	**0.83**	**8**	P	**Pb**	**03 09 37.4**	**+0.4**
APSI	**Ampana**	**1.38**	**314**	P	**Pn**	**03 09 45.8**	**0.0**
KDI	**Kendari**	**2.07**	**181**	P	**Pn**	**03 09 55.4**	**+0.1**
SANI	**Sanana**	**3.34**	**93**	P	**Pn**	**03 10 13.0**	**+0.3**
TOLI2	**Tolitoli**	**3.50**	**328**	Pn	**Pn**	**03 10 16.4**	**+1.4**
MPSI	**Mapaga**	**3.52**	**309**	P	**Pn**	**03 10 16.0**	**+0.8**
SPSI	**Sidrap Palu**	**3.55**	**234**	P	**Pn**	**03 10 16.5**	**+0.9**
BNSI	**Bone**	**3.57**	**225**	P	**Pn**	**03 10 18.2**	**+2.3**
KAPI	**Kappang**	**4.26**	**223**	Pn	**Pn**	**03 10 27.1**	**+1.7**
KAPI	**Kappang**	**4.26**	**223**	Pn	**Pn**	**03 10 26.2**	**+0.8**
	9.6nm,0.3s,baz=230,slow=23,SNR=25						
KAPI				Sn	**Sn**	**03 11 14.9**	**-0.2**
	16nm,0.3s,baz=39,slow=23,SNR=10						
KAPI				LR	LR	03 12 06.9	
	comp=Z,115nm,20.1s,baz=8.0,slow=38						
	37nm,0.5s						
NLAI	**Namlea**	**4.65**	**107**	P	**Pn**	**03 10 32.0**	**+1.3**
BSSI	**Bau Bau, Buton**	**4.76**	**207**	P	**Pn**	**03 10 33.3**	**+1.1**
EDFI	**Ende, Flores**	**6.90**	**188**	P	**Pn**	**03 11 02.0**	**+0.2**
	0.1nm15nm,0.6s						
SOEI	**Soe**	**8.00**	**168**	Pn	**Pn**	**03 11 16.9**	**+0.1**
MYLDM	**Lahad Datu**	**8.14**	**329**	Pn	**Pn**	**03 11 19.2**	**+0.5**
FAKI	**Fak Fak**	**9.65**	**96**	P	**Pn**	**03 11 40.7**	**+1.3**
LEM	**Lembang**	**15.77**	**251**	LR	LR	03 19 45.2	
	comp=Z,106nm,18.9s,baz=84,slow=40						
TGY	**Tagaytay City**	**15.96**	**354**	LR	LR	03 18 08.8	
	comp=Z,296nm,20.6s,baz=23,slow=34						
FITZ	**Fitzroy Crossi**	**16.39**	**170**		**Pn**	**03 13 13.4**	**+2.7**
FITZ	**Fitzroy Crossi**	**16.39**	**170**	Pn	**Pn**	**03 13 07.5**	**-3.2**
	0.1nm,0.3s,baz=15,slow=5.4,SNR=7.4						
FITZ				Sn	Sn	03 15 56.3	-17
	0.1nm,0.3s,baz=264,slow=9.2,SNR=1.0						
WB0	**Warramunga Arr**	**21.17**	**148**	P	**P**	**03 14 05.9**	**-0.2**
WB0				IAmb	IAmb	03 14 10.2	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**21.29**	**148**	P	**P**	**03 14 08.4**	**+1.1**
WRA	**Warramunga Arr**	**21.29**	**148**	P	**P**	**03 14 07.0**	**-0.3**
	comp=Z,6.3nm,0.7s,baz=333,slow=9.8,SNR=32						
	comp=Z,6.3nm,0.7s						
WR8	**Warramunga Arr**	**21.38**	**148**	P	**P**	**03 14 08.5**	**+0.2**
WR8				IAmb	IAmb	03 14 12.3	
	comp=Z,12nm,0.8s						
AS31	**Alice Springs**	**24.25**	**154**	P	**P**	**03 14 38.4**	**+0.5**
ASAR	**Alice Springs**	**24.25**	**154**	P	**P**	**03 14 38.8**	**+0.9**
ASAR	**Alice Springs**	**24.25**	**154**	P	**P**	**03 14 38.5**	**+0.6**
	comp=Z,4.3nm,0.7s,baz=326,slow=7.7,SNR=53						
ASAR				PcP	**PcP**	**03 18 18.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=338,slow=2.1,SNR=1.8						
	comp=Z,4.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.86**	**312**	P	**P**	**03 15 37.1**	**0.0**
	comp=Z,0.5nm,0.3s,baz=137,slow=6.9,SNR=8.8						
	comp=Z,0.5nm,0.3s						
BBOO	**Buckleboo**	**33.26**	**159**	P	**P**	**03 15 57.4**	**-0.6**
STKA	**Stephens Creek**	**34.78**	**151**	P	**P**	**03 16 12.2**	**+0.9**
STKA	**Stephens Creek**	**34.78**	**151**	P	**P**	**03 16 11.8**	**+0.5**
	comp=Z,4.0nm,0.9s,baz=328,slow=5.4,SNR=5.8						
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	**60.02**	**329**	P	**P**	**03 19 26.4**	**-1.0**
MKAR	**Makanchi Array**	**60.02**	**329**	P	**P**	**03 19 26.8**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=131,slow=8.8,SNR=6.8						
MKAR				PcP	**PcP**	**03 20 12.8**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=124,slow=4.5,SNR=5.2						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**64.40**	**331**	P	**P**	**03 19 54.9**	**-1.8**
KURBB				PcP	**PcP**	**03 20 31.5**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=126,slow=4.5,SNR=1.9						
	comp=Z,0.5nm,0.7s						
BVAR	**Borovoye Array**	**69.90**	**329**	P	**P**	**03 20 29.6**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=112,slow=6.7,SNR=2.1						
	comp=Z,0.4nm,0.4s						
VNDA	**Vanda**	**78.45**	**172**	P	**P**	**03 21 20.7**	**-0.4**
VNDA				IAmb	IAmb	03 21 25.2	
	comp=Z,2.3nm,1.1s						
VNDA	**Vanda**	**78.45**	**172**	P	**P**	**03 21 20.6**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=305,slow=8.1,SNR=5.5						
	comp=Z,1.0nm,0.8s						
H19K	**Roundabout Mou**	**87.92**	**24**	P	**P**	**03 22 10.8**	**+0.7**
H19K				IAmb	IAmb	03 22 14.5	
	comp=Z,4.5nm,0.9s						
ARCES	**ARCESS Array B**	**94.25**	**340**	LR	LR	04 08 45.3	
	comp=Z,39nm,18.3s,baz=206,slow=38						
I28M	**Miner Creek**	**94.78**	**25**	P	**P**	**03 22 42.6**	**+0.4**
I28M				IAmb	IAmb	03 22 46.5	
	comp=Z,1.5nm,0.8s						
PLTB	**Pedras Altas**	**146.36**	**186**		**PKPdf**	**03 29 00.2**	**-0.9**
AC05	**El Transito**	**147.05**	**159**	PKPbc	**PKPbc**	**03 29 05.3**	**+0.9**
AC02	**Maricunga**	**149.28**	**159**	PKPbc	**PKPbc**	**03 29 10.5**	**-0.4**

---

*IDC **15** 03:11:28.8±1.9,2.99S×75.41W, h138km±18km, mb3.8/14, mbtmp4.3/21, Error ellipse: s-maj=16.9km s-min=9.3km az=57.0*
*VAO **15** 03:11:29.3±0.4,3.05S×75.50W, h152km±3km, mb4.4*
*NEIC **15** 03:11:29.7±2.2,3.02S±0.06×75.48W±0.08, h140km±5km, mb4.5/146, Error ellipse: s-maj=11.5km s-min=8.7km az=70.0*
ISC 15 03:11:28.9±0.3,3.07S±0.04×75.50W±0.05, h144km, n232, σ1§12/216, mb4.4/79, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTLC	**Puerto Leguiza**	**3.29**	**12**	P	**Pn**	**03 12 16.5**	**-3.3**
PTLC				S	Sn	03 13 07.9	+8.7
COHC	**Cochancay**	**3.80**	**279**	P	**Pn**	**03 12 25.2**	**-1.2**
COHC				S	**Sn**	**03 13 08.0**	**-3.0**
OTAV	**Otavalo**	**4.42**	**318**		**Pn**	**03 12 35.1**	**+0.2**
OTAV	**Otavalo**	**4.42**	**318**	eP	**Pn**	**03 12 34.4**	**-0.5**
OTAV	**Otavalo**	**4.42**	**318**	P	**Pn**	**03 12 36.5**	**+1.6**
CUSE	**Cuicocha Este**	**4.43**	**319**	P	**Pn**	**03 12 36.4**	**+1.3**
FLOC	**Florencia**	**4.62**	**358**	Pn	**Pn**	**03 12 37.2**	**0.0**
FLOC	**Florencia**	**4.62**	**358**	P	**Pn**	**03 12 37.4**	**+0.2**
CRUC	**La Cruz**	**4.83**	**342**	P	**Pn**	**03 12 40.5**	**+0.2**
ATAH	**Atahualpa**	**4.97**	**215**	P	**Pn**	**03 12 43.0**	**+0.8**
	101nm,0.4s,baz=33,slow=3.6,SNR=342						
ATAH				S	**Sn**	**03 13 37.5**	**-1.7**
	132nm,0.6s,baz=336,slow=2.6,SNR=6.9						
GARC	**Garzon, Huila**	**5.22**	**0**	P	**Pn**	**03 12 45.7**	**+0.3**
CZSB	**Cruzeiro do Su**	**5.40**	**149**	Pn	**Pn**	**03 12 48.1**	**+0.5**
CZSB	**Cruzeiro do Su**	**5.40**	**149**	P	**Pn**	**03 12 48.5**	**+0.9**
	5μm253nm,0.5s						
CZSB				S	**Sn**	**03 13 46.8**	**-2.2**
	5μm253nm,0.5s						
CZSB	**Cruzeiro do Su**	**5.40**	**149**	eP	**Pn**	**03 12 49.0**	**+1.4**
MACC	**Macarena, Meta**	**5.43**	**18**	P	**Pn**	**03 12 48.1**	**+0.1**
	4μm291nm,0.6s						
TBTG	**Tabatinga, AM**	**5.69**	**101**	Pn	**Pn**	**03 12 52.5**	**+1.2**
TBTG	**Tabatinga, AM**	**5.69**	**101**	P	**Pn**	**03 12 51.7**	**+0.3**
	5μm227nm,0.8s						
TBTG				S	**Sn**	**03 13 54.3**	**-1.5**
	5μm227nm,0.8s						
TBTG	**Tabatinga, AM**	**5.69**	**101**	eP	**Pn**	**03 12 52.8**	**+1.4**
POPC	**Popayan, Colom**	**5.69**	**348**	P	**Pn**	**03 12 52.3**	**+0.6**
	933nm79nm,1.0s						
ORTC	**Ortega, Tolima**	**6.93**	**2**	P	**Pn**	**03 13 09.1**	**+1.0**
	1μm85nm,0.5s						
MALC	**Bahia Malaga**	**7.27**	**345**	P	**Pn**	**03 13 13.8**	**+1.3**
ANIL	**Santa Ana**	**7.51**	**1**	P	**Pn**	**03 13 16.4**	**+0.4**
	2μm191nm,0.5s						
CHIC	**Chingaza**	**7.84**	**13**	P	**Pn**	**03 13 21.5**	**+0.9**
	878nm72nm,0.7s						
ROSC	**El Rosal**	**7.94**	**9**	Pn	**Pn**	**03 13 24.1**	**+2.2**
ROSC	**El Rosal**	**7.94**	**9**	P	**Pn**	**03 13 24.9**	**+3.0**
	8.4nm,0.3s,baz=310,slow=23,SNR=5.2						
GUY2C	**Guyana, Caldas**	**8.23**	**1**	P	**Pn**	**03 13 28.0**	**+2.1**
	56nm,0.7s						
NORC	**Norcasia**	**8.59**	**4**	P	**Pn**	**03 13 32.0**	**+1.6**
	521nm38nm,0.9s						
CBOC	**Ciudad Bolivar**	**8.88**	**357**	P	**Pn**	**03 13 34.2**	**-0.2**
	31nm,0.9s						
NNA	**Nana**	**8.96**	**188**	Pn	**Pn**	**03 13 35.9**	**+0.6**
NNA	**Nana**	**8.96**	**188**	P	**Pn**	**03 13 35.7**	**+0.4**
	74nm,0.3s,baz=3.3,slow=7.3,SNR=75						
NNA				S	Sn	03 15 06.6	-8.2
	112nm,0.4s,baz=329,slow=24,SNR=8.1						
NNA	**Nana**	**8.96**	**188**	P	**Pn**	**03 13 35.4**	**+0.1**
SGC2	**Sao Gabriel da**	**8.99**	**71**	P	**Pn**	**03 13 34.2**	**-1.4**
RUSC	**La Rusia**	**9.22**	**15**	Pn	**Pn**	**03 13 40.7**	**+1.6**
RUSC	**La Rusia**	**9.22**	**15**	P	**Pn**	**03 13 40.9**	**+1.8**
	577nm36nm,0.7s						
PTBC	**PUERTO BERRIO,**	**9.60**	**6**	P	**Pn**	**03 13 44.1**	**+0.4**
	212nm25nm,0.9s						
PAMC	**Pamplona, Colo**	**10.71**	**15**	P	**Pn**	**03 14 01.1**	**+2.2**
TEFE	**Tefe**	**10.85**	**93**	eP	**Pn**	**03 13 59.8**	**-0.5**
OCAC	**Ocana**	**11.44**	**11**	P	**Pn**	**03 14 08.8**	**+0.6**
	1μm94nm,0.5s						
SDV	**Santo Domingo**	**12.82**	**22**	Pn	**Pn**	**03 14 26.6**	**+0.3**
SDV	**Santo Domingo**	**12.82**	**22**	P	**Pn**	**03 14 25.8**	**-0.5**
	3.9nm,0.4s,baz=26,slow=6.9,SNR=10						
SDV				S	**Sn**	**03 16 47.8**	**-0.4**
	4.7nm,0.6s,baz=258,slow=20,SNR=1.5						
SDV	**Santo Domingo**	**12.82**	**22**	P	**Pn**	**03 14 26.3**	**0.0**
	15nm,0.8s						
SDV	**Santo Domingo**	**12.82**	**22**	eP	**Pn**	**03 14 26.0**	**-0.3**
SJCC	**San Jacinto, C**	**12.88**	**1**	P	**Pn**	**03 14 28.2**	**+1.3**
	28nm,0.8s						
SAML	**Samuel**	**13.56**	**116**	Pn	**Pn**	**03 14 35.4**	**-0.2**
SAML	**Samuel**	**13.56**	**116**	eP	**Pn**	**03 14 35.4**	**-0.2**
BAUV	**El Baul**	**14.05**	**32**	Pn	**Pn**	**03 14 41.4**	**-0.5**
SMRC	**Santa Marta, M**	**14.19**	**5**	Pn	**Pn**	**03 14 44.0**	**+0.4**
MACA	**Manacapuru-AM**	**14.79**	**91**	Pn	**Pn**	**03 14 50.8**	**-0.3**
MACA	**Manacapuru-AM**	**14.79**	**91**	eP	**Pn**	**03 14 51.0**	**-0.1**
LPAZ	**La Paz**	**15.00**	**152**	Pn	**Pn**	**03 14 52.4**	**-1.9**
LPAZ				IAmb	IAmb	03 14 59.9	
	comp=Z,28nm,1.4s						
LPAZ	**La Paz**	**15.00**	**152**	P	**Pn**	**03 14 53.2**	**-1.1**
	comp=Z,2.1nm,0.3s,baz=325,slow=7.3,SNR=15						
LPAZ	**La Paz**	**15.00**	**152**	eP	**Pn**	**03 14 51.8**	**-2.5**
PB18	**Visviri**	**15.59**	**158**		**P**	**03 15 03.9**	**+1.2**
BOAV	**Boa Vista**	**15.92**	**70**	eP	**Pn**	**03 15 04.8**	**-0.3**
PB12	**IPOC Station P**	**16.26**	**162**	Pn	**Pn**	**03 15 08.1**	**-1.1**
PB16	**IPOC Station P**	**16.27**	**159**		**Pn**	**03 15 10.1**	**+0.2**
JTS	**Las Juntas de**	**16.27**	**325**	P	**P**	**03 15 11.1**	**+1.4**
	comp=Z,4.8nm,0.6s,baz=135,slow=11,SNR=5.4						
PCRV	**Puerto La Cruz**	**17.03**	**39**	P	**Pn**	**03 15 19.1**	**+0.5**
	comp=Z,17nm,0.9s,baz=206,slow=6.6,SNR=9.3						
PB11	**IPOC Station P**	**17.55**	**161**	P	**P**	**03 15 22.6**	**-1.2**
GO01	**Chusmiza**	**17.61**	**160**	P	**P**	**03 15 24.0**	**-1.0**
TA02	**Huaiquique**	**17.88**	**163**	P	**Pn**	**03 15 29.5**	**+0.8**
HMBC	**Humberstone**	**17.96**	**163**	P	**P**	**03 15 28.6**	**+0.2**
PB08	**IPOC Station P**	**18.07**	**160**	P	**P**	**03 15 29.7**	**0.0**
TA01	**Diego Aracena**	**18.15**	**164**	P	**P**	**03 15 30.1**	**-0.2**
PB01	**IPOC Station P**	**18.80**	**162**	P	**P**	**03 15 39.5**	**+2.0**
SIV	**San Ignacio**	**19.14**	**133**	P	**P**	**03 15 42.0**	**+0.8**
	comp=Z,2.6nm,0.3s,baz=309,slow=12,SNR=32						
SIV				S	**S**	**03 19 11.8**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=273,slow=19,SNR=2.1						
PB09	**IPOC Station P**	**19.59**	**162**	P	**P**	**03 15 48.8**	**+2.7**
ITTB	**Itaituba**	**19.76**	**94**	eP	**P**	**03 15 46.4**	**-1.5**
PTLB	**Pontes e Lacer**	**20.27**	**128**	P	**P**	**03 15 54.2**	**+0.9**
PTLB	**Pontes e Lacer**	**20.27**	**128**	eP	**P**	**03 15 52.5**	**-0.9**
NPGB	**Novo Progresso**	**20.44**	**102**	eP	**P**	**03 15 54.4**	**-0.8**
PDRB	**Porto dos Gac**	**20.44**	**116**	eP	**P**	**03 15 55.1**

T59A	Double "B" Far	39.88 357	P	P	03 18 48.6	+0.1
T59A			IAmb	IAmb	03 18 50.0	
comp=Z,10nm,0.8s						
T57A	Hurt	40.01 355	P	P	03 18 50.3	+0.7
TZTN	Tazewell	40.12 350	P	P	03 18 50.9	+0.4
WVT	Waverly	40.66 345	P	P	03 18 53.7	-1.3
WVT			IAmb	IAmb	03 18 54.5	
comp=Z,6.3nm,0.5s						
MIAR	Mount Ida	41.10 337	P	P	03 18 58.0	-0.7
WHAR	Wooly Hollow	41.28 339	P	P	03 18 59.6	-0.4
WHAR			IAmb	IAmb	03 19 00.3	
comp=Z,9.2nm,0.9s						
LCAR	Lake Charles	41.59 341	IAmb	IAmb	03 19 02.7	
comp=Z,13nm,1.2s						
OZNA	Ozona	41.71 326	P	P	03 19 03.7	0.0
TXAR	Lajitas Array	42.03 322	P	P	03 19 07.5	+1.0
comp=Z,1.5nm,0.9s,baz=144,slow=7.7,SNR=13						
TXAR			PcP	PcP	03 20 59.8	+0.9
comp=Z,0.7nm,0.6s,baz=125,slow=3.9,SNR=8.1						
comp=Z,1.5nm,0.9s						
T42A	Van Buren	42.45 341	P	P	03 19 08.0	-1.6
T42A			IAmb	IAmb	03 19 08.9	
comp=Z,6.9nm,0.7s						
SIUC	Southern Illin	42.53 344	IAmb	IAmb	03 19 10.1	
comp=Z,12nm,0.7s						
MGMO	Mountain Grove	42.95 340	IAmb	IAmb	03 19 13.7	
comp=Z,9.6nm,0.9s						
O53A	New Philadelph	43.42 354	P	P	03 19 17.6	+0.3
O53A			IAmb	IAmb	03 19 59.1	
comp=Z,23nm,1.4s						
CCM	Cathedral Cave	43.44 342	P	P	03 19 16.2	-1.3
CCM			IAmb	IAmb	03 19 17.1	
comp=Z,6.6nm,0.6s						
WMOK	Wichita Mounta	43.51 332	IAmb	IAmb	03 19 19.1	
comp=Z,6.7nm,0.8s						
SSPA	Standing Stone	43.55 357	P	P	03 19 18.8	+0.5
SSPA			IAmb	IAmb	03 19 19.9	
comp=Z,7.6nm,0.8s						
N58A	Sunbury	43.71 359	IAmb	IAmb	03 19 21.9	
comp=Z,12nm,0.9s						
VHRN	Van Horn	43.87 322	IAmb	IAmb	03 19 23.5	
comp=Z,6.9nm,0.9s						
M57A	Sunshine Farm,	44.22 358	P	P	03 19 24.7	+1.1
L56A	Greenwood	45.03 358	P	P	03 19 30.8	+0.7
P38A	Dawn	45.60 340	P	P	03 19 33.8	-0.9
P38A			IAmb	IAmb	03 19 34.1	
comp=Z,7.0nm,0.7s						
LONY	Lake Ozonia	47.48 1	P	P	03 19 49.6	+0.4
LONY			IAmb	IAmb	03 20 24.0	
comp=Z,12nm,1.3s						
ANMO	Albuquerque	47.69 325	P	P	03 19 52.4	+1.1
ANMO			IAmb	IAmb	03 19 53.5	
comp=Z,5.9nm,0.6s						
ANMO	Albuquerque	47.69 325	P	P	03 19 52.5	+1.3
ANMO			IAmb	IAmb	03 19 53.5	
comp=Z,5.5nm,0.7s						
T25A	Trinidad	48.20 329	IAmb	IAmb	03 19 57.6	
comp=Z,6.3nm,1.0s						
MNTQ	Montreal, Queb	48.38 2	P	P	03 19 56.4	+0.3
X18A	Snowflake	49.47 322	P	P	03 20 06.2	+1.3
ECSD	EROS Data Cent	50.31 340	P	P	03 20 09.7	-1.2
SPMN	Marine on St.	50.49 344	IAmb	IAmb	03 20 12.0	
comp=Z,8.4nm,1.0s						
LDAQ	Lac Daran	50.95 4	P	P	03 20 15.5	-0.1
LDAQ			IAmb	IAmb	03 20 59.4	
comp=Z,14nm,1.4s						
VLDQ	Val d'Or	50.99 358	IAmb	IAmb	03 20 17.2	
comp=Z,9.6nm,0.7s						
WUAZ	Wupatki	51.00 322	IAmb	IAmb	03 20 19.0	
comp=Z,9.2nm,1.2s						
Y14A	Wickenburg	51.02 319	P	P	03 20 17.4	+1.0
TBO	Thunder Bay	52.91 348	P	P	03 20 28.8	-1.3
V12A	Nelson	53.32 320	P	P	03 20 34.9	+1.5
V12A			IAmb	IAmb	03 20 35.8	
comp=Z,4.9nm,0.8s						
AGMN	Agassiz Nation	54.16 343	IAmb	IAmb	03 20 39.3	
comp=Z,7.8nm,0.7s						
TCUT	Toone Canyon	54.81 327	IAmb	IAmb	03 20 47.8	
comp=Z,8.3nm,0.8s						
EPLO	Experimental L	54.84 346	IAmb	IAmb	03 20 44.0	
comp=Z,8.6nm,1.0s						
TPNV	Topopah Spring	54.96 320	P	P	03 20 47.1	+1.8
TPNV			IAmb	IAmb	03 20 48.1	
comp=Z,3.9nm,0.9s						
PDAR	Pinedale Array	55.02 330	P	P	03 20 45.4	-0.4
comp=Z,1.1nm,0.8s,baz=131,slow=8.4,SNR=9.0						
PDAR			PcP	PcP	03 21 45.6	-0.1
comp=Z,0.3nm,0.5s,baz=126,slow=6.4,SNR=5.0						
comp=Z,1.1nm,0.8s						
HWUT	Hardware Ranch	55.24 327	P	P	03 20 47.7	+0.4
HWUT			IAmb	IAmb	03 20 48.5	
comp=Z,3.4nm,0.6s						
ULM	Lac du Bonnet	55.93 344	IAmb	IAmb	03 20 51.6	
comp=Z,8.1nm,0.8s						
ULM	Lac du Bonnet	55.93 344	P	P	03 20 50.9	-0.9
comp=Z,5.4nm,0.5s,baz=154,slow=8.6,SNR=8.0						
comp=Z,5.4nm,0.5s						
DSP	Deep Springs	56.31 320	P	P	03 20 56.6	+1.8
NVAR	Mina Array Bea	57.15 321	P	P	03 21 02.1	+1.2
NVAR	Mina Array Bea	57.15 321	P	P	03 21 01.8	+0.8
comp=Z,2.6nm,0.7s,baz=120,slow=7.5,SNR=19						
comp=Z,2.6nm,0.7s						
YHL	Hebgen Lake	57.34 330	IAmb	IAmb	03 21 04.9	
comp=Z,6.8nm,0.8s						
BOZ	Bozeman (W)	58.10 331	IAmb	IAmb	03 21 09.6	
comp=Z,10nm,1.4s						
HLID	Hailey	58.11 327	P	P	03 21 08.2	+0.7
MSO	Missoula	60.11 330	IAmb	IAmb	03 21 22.9	
comp=Z,3.4nm,0.9s						
FFC	Flin Flon	61.63 343	P	P	03 21 31.1	+0.1
FFC			IAmb	IAmb	03 21 31.4	
comp=Z,4.0nm,0.8s						
L04D	Klamath Falls	61.83 322	P	P	03 21 33.4	+0.5
L04D			IAmb	IAmb	03 22 16.6	
comp=Z,11nm,1.3s						
LTY	Liberty	63.86 327	P	P	03 21 47.2	+1.0
LTY			IAmb	IAmb	03 22 24.1	
comp=Z,4.6nm,1.1s						
D05A	Enumclaw	64.53 327	P	P	03 21 51.1	+0.7
BLKN	Baker Lake	68.92 351	P	P	03 22 16.6	-1.2
BLKN			IAmb	IAmb	03 22 18.3	
comp=Z,10.0nm,1.2s						
DBIC	Dimbokro	71.17 82	P	P	03 22 32.6	0.0
DBIC	Dimbokro	71.17 82	P	P	03 22 32.7	+0.1
comp=Z,12nm,0.6s,baz=257,slow=4.7,SNR=16						
comp=Z,12nm,0.6s						
YKA	Yellowknife Ar	71.78 342	P	P	03 22 34.9	-0.4
comp=Z,0.8nm,0.7s,baz=159,slow=9.4,SNR=25						
comp=Z,0.8nm,0.7s						
ILON	Igloolik, Nuna	72.42 358	P	P	03 22 38.6	-0.3
ILON			IAmb	IAmb	03 22 39.9	
comp=Z,5.9nm,0.8s						
MORF	Marmelete	73.68 50	P	P	03 22 48.1	+1.1
MORF			IAmb	IAmb	03 22 48.9	
comp=Z,15nm,1.2s						
PESTR	Estremoz	74.93 49	P	P	03 22 54.7	+0.4
R33M	Jennings River	75.88 334	P	P	03 23 00.5	+1.1
PAB	San Pablo	77.54 49	P	P	03 23 08.7	-0.4
PAB			IAmb	IAmb	03 23 35.2	
comp=Z,9.5nm,1.4s						
MMPY	Sheldon Lake,	77.72 337	P	P	03 23 10.9	+1.3
ESDC	Sonseca Array	77.86 48	P	P	03 23 10.2	-0.7
comp=Z,0.7nm,0.6s,baz=255,slow=5.4,SNR=12						
comp=Z,0.7nm,0.6s						
TORD	Torodi Ar. Bea	78.25 76		P	03 23 12.7	-0.7
M31M	Drury Creek, Y	78.76 336	P	P	03 23 16.3	+1.0
SUMG	Summit	79.08 11	P	P	03 23 17.2	-0.1
SUMG			IAmb	IAmb	03 23 18.6	
comp=Z,16nm,1.1s						
SUMG	Summit	79.08 11	*i* P	P	03 23 17.0	-0.3
N30M	Aishikik Lake	79.54 335	P	P	03 23 21.2	+1.6
L29M	L29M	80.71 336	IAmb	IAmb	03 23 27.9	
comp=Z,4.9nm,0.7s						
K29M	Barlow Dome	80.79 337	IAmb	IAmb	03 23 27.8	
comp=Z,3.0nm,0.6s						
I30M	Mount Dempster	80.99 338	IAmb	IAmb	03 23 29.5	
comp=Z,4.5nm,0.8s						
G31M	Satah River	81.07 340	IAmb	IAmb	03 23 29.3	
comp=Z,9.3nm,0.8s						
F31M	Tsiigehtchic	81.16 341	P	P	03 23 28.7	+0.7
F31M			IAmb	IAmb	03 23 29.7	
comp=Z,4.8nm,0.8s						
NEEM	North Greenlan	81.54 5	*eP*	P	03 23 30.8	+0.5
DAWY	Dawson	81.63 336	P	P	03 23 29.9	-0.7
F30M	Barrier River	81.92 340	P	P	03 23 32.3	+0.3
F30M			IAmb	IAmb	03 23 33.8	
comp=Z,6.6nm,0.9s						
H29M	Whitestone	82.18 339	IAmb	IAmb	03 23 35.4	
comp=Z,5.9nm,0.9s						
BCAR	Beaver Creek A	82.21 335	P	P	03 23 34.8	+1.1
GLB	Gilahina Butte	82.49 333	P	P	03 23 36.1	+1.0
GLB			IAmb	IAmb	03 23 36.7	
comp=Z,3.2nm,0.6s						
EKA	Eskdalemuir Ar	82.56 33	P	P	03 23 34.9	-0.6
comp=Z,2.0nm,0.8s,baz=236,slow=3.8,SNR=4.5						
comp=Z,2.0nm,0.8s						
E29M	Blow River	82.99 341	P	P	03 23 38.0	+0.4
SCRK	Sand Creek	83.46 336	P	P	03 23 40.5	+0.2
E27K	Coleen River	84.15 340	P	P	03 23 44.1	+0.6
BMAR	Burnt Mountain	84.92 339	P	P	03 23 47.3	-0.1
ILAR	Eielson Array	84.92 336	P	P	03 23 47.1	-0.3
comp=Z,1.2nm,0.8s,baz=118,slow=3.7,SNR=12						
comp=Z,1.2nm,0.8s						
QSPA	South Pole Qui	87.01 180	P	P	03 23 59.2	+1.3
comp=Z,2.6nm,1.1s,baz=213,slow=0.9,SNR=6.1						
comp=Z,2.6nm,1.1s						
C23K	Itkillik River	87.76 340	P	P	03 24 02.0	+0.9
C23K			IAmb	IAmb	03 24 02.8	
comp=Z,5.0nm,0.6s						
NOA	NORSAR Array B	91.06 29	P	P	03 24 16.6	-0.2
comp=Z,0.5nm,0.7s,baz=269,slow=4.6,SNR=2.2						
comp=Z,0.5nm,0.7s						
ABKAR	Akbulak array	120.42 32	PKPdf	PKPdf	03 30 04.1	+0.8
BVAR	Borovoye Array	122.80 24	PKP	PKPdf	03 30 08.7	+0.9
comp=Z,0.4nm,0.3s,baz=264,slow=3.9,SNR=2.4						
ZALV	Zalesovo Beam	126.77 14	PKPdf	PKPdf	03 30 15.8	+0.4
ZALV	Zalesovo Beam	126.77 14	PKP	PKPdf	03 30 15.9	+0.5
comp=Z,1.9nm,0.4s,baz=232,slow=1.7,SNR=10						
KURBB	Kurchatov Arra	127.79 21	PKP	PKPdf	03 30 18.2	+0.8
comp=Z,1.6nm,0.7s,baz=320,slow=2.1,SNR=14						
MKAR	Makanchi Array	132.36 21	PKPdf	PKPdf	03 30 25.9	-0.3
MKAR	Makanchi Array	132.36 21	P	PKPdf	03 30 26.0	-0.3
comp=Z,0.5nm,0.5s,baz=318,slow=2.0,SNR=7.9						
ASAR	Alice Springs	140.94 226	PKhKP	PKPpre	03 30 36.5	
comp=Z,0.5nm,0.8s,baz=110,slow=3.3,SNR=2.4						
HHC	Hu-ho-hao-te	141.85 351	*eP*	PKPdf	03 30 41.3	-2.8
WR8	Warramunga Arr	142.71 231	PKPdf	PKPdf	03 30 42.6	-3.4
WRA	Warramunga Arr	142.84 231	PKhKP	PKPpre	03 30 41.0	
comp=Z,1.2nm,0.7s,baz=120,slow=2.9,SNR=10						
WB0	Warramunga Arr	142.89 231	PKPdf	PKPdf	03 30 42.9	-3.4
NJ2	Nanjing	148.16 336	*eP*	PKPdf	03 30 54.8	-0.2
NJ2			pmax	pmax		
comp=Z,15nm,0.6s						
MTN	Manton Dam	149.19 239	PKPbc	PKPbc	03 31 01.2	-0.3
KNRA	Kununurra	149.62 232	PKPbc	PKPbc	03 31 03.1	+0.7
FITZ	Fitzroy Crossi	150.40 224	PKPbc	PKPbc	03 31 04.0	-0.3
MBWA	Marble Bar	151.68 211	PKPbc	PKPbc	03 31 06.5	-0.7
PZH	PanZhiHua	156.54 6	PKP	PKPdf	03 31 06.3	-1.4

*ATH **15** 03:51:02.8, 40.18N×20.73E, h10km±3km, ML2.5/9, Manual Solution by A.Moschou First location: 2019/04/15 03:52:08, This location: 2019/04/15 11:53:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*

*TIR **15** 03:51:03.1, 40.17N×20.62E, h5km, Ml2.8/9*

*THE **15** 03:51:03.1, 40.20N×20.69E, h0km±3km, ML2.4/8, Error ellipse: s-maj=3.4km s-min=1.0km az=313.0*

*BEO **15** 03:51:05.0±0.5, 40.15N×20.70E, h12km±5km, ML2.3/3*

*SKO **15** 03:51:05.2, 40.16N×20.67E, h16km*

ISC 15 03:51:03.0±1.0, 40.16N±0.02×20.68E±0.02, h2km±9km, n48, σ1s20/82, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	Leskovik	0.06	258	Pg	Pg	03 51 03.9	-0.4
LSK				Sg	Sg	03 51 05.4	+0.2
LSK				AML	AML	03 51 07.4	
118nm,0.5s							
LSK				AML	AML	03 51 08.6	
158nm,0.5s							
PENT	Pentalofos	0.35	85	P	Pg	03 51 09.0	-0.9
PENT				S	Sg	03 51 14.7	+0.2
PENT	Pentalofos	0.35	85	P	Pg	03 51 09.1	-0.7
PENT				S	Sg	03 51 14.6	+0.2
NEST	Nestorio	0.38	48	P	Pg	03 51 09.4	-1.0
NEST				S	Sg	03 51 15.9	+0.6
672nm,0.8s							
NEST	Nestorio	0.38	48	Pg	Pg	03 51 09.4	-1.0
NEST				Sg	Sg	03 51 15.9	+0.6
NEST				AML	AML	03 51 19.1	
2.0nm,0.6s							
NEST	Nestorio	0.38	48	P	Pg	03 51 09.9	-0.5
NEST				S	Sg	03 51 14.8	-0.5
KBN	Korca	0.47	10	Pg	Pg	03 51 10.6	-1.5
KBN				Sg	Sg	03 51 18.5	+0.3
KBN				AML	AML	03 51 27.6	
1.5nm,0.8s							
JAN	Janina	0.52	165	P	Pg	03 51 12.8	-0.3
JAN				S	Sg	03 51 21.5	+1.7
872nm,0.5s							
JAN	Janina	0.52	165	P	Pg	03 51 13.2	+0.1
JAN				S	Sg	03 51 21.2	+1.4
SRN	Sarande	0.59	242	Pg	Pg	03 51 13.8	-0.6
SRN				Sg	Sb	03 51 23.5	-1.4
SRN				AML	AML	03 51 30.5	
1.0nm,0.6s							
IGT	Igoumenitsa	0.68	203	P	Pg	03 51 16.0	-0.1
IGT				S	Sb	03 51 28.3	+0.7
298nm,0.7s							
IGT	Igoumenitsa	0.68	203	Pg	Pb	03 51 17.0	-0.7
IGT				Sg	Sb	03 51 27.7	+0.1
IGT				AML	AML	03 51 35.8	
0.8nm,0.4s							
IGT	Igoumenitsa	0.68	203	*i* Pg	Pb	03 51 16.8	-0.8
IGT				*i* Sg	Sn	03 51 29.2	-1.7
IGT	Igoumenitsa	0.68	203	*e*Pg	Pb	03 51 16.9	-0.7
IGT				*e*Sg	Sb	03 51 28.2	+0.7
IGT	Igoumenitsa	0.68	203	P	Pb	03 51 16.9	-0.8
IGT				S	Sb	03 51 27.4	-0.2
KEK	Kerkira	0.81	237	P	Pb	03 51 19.2	-0.7
KEK	Kerkira	0.81	237	P	Pb	03 51 19.8	-0.1
KEK				S	Sn	03 51 31.5	-2.5
TETR	Tetrakomo, Epi	0.94	150	P	Pg	03 51 20.9	-0.1
OHR	Ohrid	0.95	5	*i* Pg	Pb	03 51 21.9	-0.5
OHR				*i* Sg	Sn	03 51 36.6	-1.0
OHR	Ohrid	0.95	5	*e*Pg	Pb	03 51 21.8	-0.5
OHR				*e*Sg	Sn	03 51 36.2	-1.5
THL	Klokotos Trika	1.19	120	P	Pg	03 51 24.3	-1.5
THL				S	Sb	03 51 43.5	+1.4
95nm,0.6s							
THL	Klokotos Trika	1.19	120	P	Pg	03 51 25.3	-0.5
THL				S	Sg	03 51 41.9	+0.7
TSLK	Tsoukalades, L	1.34	181	P	Pn	03 51 27.3	-1.4
TSLK				S	Sb	03 51 45.2	-1.1
LKD2	Lefkada island	1.37	181	P	Pb	03 51 29.3	-0.1
LKD2				S	Sn	03 51 48.9	+1.0
180nm,0.9s							
LKD2	Lefkada island	1.37	181	Pn	Pg	03 51 29.7	+0.4
LKD2				Sn	Sn	03 51 52.3	+4.4
LKD2				AML	AML	03 52 00.2	
0.7nm,0.9s							
LKD2	Lefkada island	1.37	181	P	Pn	03 51 27.7	-1.5
LKD2				S	Sb	03 51 47.5	+0.1
LIT	Litokhoron	1.39	92	P	Pn	03 51 28.8	-0.7
LIT				S	Sb	03 51 49.0	+1.1
122nm,0.6s							
LIT	Litokhoron	1.39	92	*i* Pg	Pn	03 51 29.0	-0.5
LIT				*i* Sg	Sg	03 51 50.6	+2.9
LIT	Litokhoron	1.39	92	P	Pn	03 51 27.5	-2.0
LIT				S	Sb	03 51 46.4	-1.5
NYDR	Nydri-Lefkada	1.45	179	P	Pn	03 51 29.1	-1.1
NYDR				S	Sb	03 51 49.7	+0.2
EVR	Evrytania	1.52	145	P	Pn	03 51 31.9	+0.6
EVR				S	Sg	03 51 53.5	+1.6
120nm,0.8s							
EVR	Evrytania	1.52	145	P	Pn	03 51 30.7	-0.6
EVR				S	Sn	03 51 51.2	-0.5
PHP	Peshkopia	1.53	353	Pn	Pg	03 51 33.0	+0.6
PHP				Sn	Sg	03 51 54.1	+1.9
PHP				AML	AML	03 52 03.9	
0.4nm,0.9s							
GRG	Griva	1.53	58	*i* Pn	Pn	03 51 31.7	+0.2
MAKR	Makrakomi, Fth	1.61	135	P	Pn	03 51 32.8	+0.4
SCTE	Santa Cesarea	1.70	268	S	Sg	03 51 58.4	+0.8
SCTE				AML	AML	03 52 26.1	
0.5nm,1.2s							
AGG	Agios Georgios	1.71	131	P	Pn	03 51 33.8	-0.1
AGG				S	Sb	03 51 58.6	+1.4
78nm,0.6s							
AGG	Agios Georgios	1.71	131	P	Pn	03 51 33.1	-0.8
AGG				S	Sn	03 51 54.6	-1.7
PUK	Puka	1.97	343	Pn	Pg	03 51 39.8	-1.0
PUK				Sg	Sg	03 52 08.3	+2.0
PUK				AML	AML	03 52 16.2	
0.2nm,0.6s							
BCI	Bajram Curri	2.25	348	Pn	Pb	03 51 44.4	0.0
BOSS	Bosilegrad	2.70	30	*e*Pn	Pn	03 51 47.4	0.0
BARS	Barje	2.79	17	*i* Pn	Pn	03 51 50.3	+1.7
BARS	Barje	2.79	17	*e*Pn	Pn	03 51 50.3	+1.7
SJES	Sjenica	3.14	351	*e*Pn	Pn	03 51 54.9	+1.3
IVAS	Ivanjica	3.43	354	*e*Pn	Pn	03 51 59.2	+1.6
ZAPS	Zavoj	3.44	25	*e*Pn	Pn	03 51 58.4	+0.8
ZAGS	Zajecar	3.83	17	*e*Pn	Pn	03 52 04.6	+1.7
TEKS	Tekeris	4.47	349	*e*Pn	Pn	03 52 12.1	+0.4

*IDC **15** 04:37:27.0±1.1, 12.75S×45.38E, h0km, mb4.1/3, mbtmp4.3/6, ML4.9/2, Error ellipse: s-maj=38.6km s-min=25.9km az=170.0*

*NEIC **15** 04:37:28.6±2.1, 12.83S±0.09×45.5E±0.1, h10km±1km, mb4.4/8, Error ellipse: s-maj=23.0km s-min=14.9km az=72.0*

ISC 15 04:37:28.3±0.7, 12.95S±0.06×45.52E±0.08, h10km, n32, σ2s31/40, mb4.3/6, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	Sambava	4.32	97	P	Pn	04 38 35.2	+1.1
SBV				S	Sn	04 39 21.4	-3.2
OPO	Ambohidratompo	5.82	164	Pn	Pn	04 38 57.2	+2.3
5.5nm,0.3s,baz=336,slow=12,SNR=366							
OPO				Sn	Sn	04 39 59.0	-2.8
5.4nm,0.3s,baz=230,slow=7.5,SNR=12							
137nm,0.4s							
OPO	Ambohidratompo	5.82	164	P	Pn	04 38 57.4	+2.5
OPO				S	Sn	04 39 59.4	-2.4
FIRM	Firavahana	5.87	167	P	Pn	04 38 58.1	+2.5
FIRM				S	Sn	04 40 00.8	-2.3
ATG	Ambohiby	5.94	174	P	Pn	04 38 58.3	+1.9
ABPO	Ambohimpanom	6.26	165	Pn	Pn	04 39 02.4	+1.5
ABPO	Ambohimpanom	6.26	165	P	Pn	04 39 03.0	+2.0
ABPO				S	Sn	04 40 07.9	-4.7
AVY	Angavokely	6.32	161	P	Pn	04 39 03.7	+1.8
AVY				S	Sn	04 40 10.5	-3.7
DGRM	Ambatolahisoa	6.34	172	P	Pn	04 39 04.4	+2.4
DGRM				S	Sn	04 40 12.2	-2.3
ABM	Ambohimiarambe	7.03	166	P	Pn	04 39 13.8	+2.3
ABM				S	Sn	04 40 27.2	-4.4
VOI	Vohitsoka	8.99	172	Pn	Pn	04 39 39.8	+1.4
FOMA	Nahampoana Res	12.05	174	Pn	Pn	04 40 21.1	+1.0
RER	Riviere de l'E	12.74	131	Pn	Pn	04 40 30.5	+0.8
KIBK	Kibwezi	12.87	324	Pn	Pn	04 40 27.8	-3.7
LSZ	Lusaka	16.96	260	Pn	Pn	04 41 25.4	-0.6
LSZ	Lusaka	16.96	260	Pn	Pn	04 41 25.4	-0.6
0.4nm,0.3s,baz=86,slow=9.6,SNR=16							
13nm,0.8s							
MATP	Matopo	17.91	243	P	Pn	04 41 38.7	+0.9
1.7nm,0.8s,baz=66,slow=13,SNR=6.0							
LPHEP	Lephephe	21.33	238	P	P	04 42 17.0	+1.2
LPHEP				IAmb	IAmb	04 42 17.9	
comp=Z,31nm,1.3s							
LBTB	Lobatse	22.30	235	P	P	04 42 26.2	0.0
MAKGR	Makgori	23.31	234	P	P	04 42 38.0	+1.1
MAKGR				IAmb	IAmb	04 42 56.6	
comp=Z,17nm,1.4s							
BOSA	Boshof	24.47	227	P	P	04 42 47.6	-0.2
BOSA				IAmb	IAmb	04 43 06.0	
comp=Z,12nm,1.4s							
BOSA	Boshof	24.47	227	P	P	04 42 47.9	+0.1
comp=Z,3.0nm,0.6s,baz=66,slow=8.9,SNR=10							
comp=Z,3.0nm,0.6s							
GRTLG	Ghanzi	24.65	247	P	P	04 42 50.2	+0.7
GRTLG				IAmb	IAmb	04 43 13.4	
comp=Z,11nm,1.5s							
LKGWB	Lokgwabe	25.53	241	P	P	04 42 54.6	-2.8
KOOLE	Kule	26.03	244	P	P	04 43 02.8	+0.7
ABKAR	Akbulak array	63.23	11	P	P	04 47 55.7	-1.0
ASAR	Alice Springs	83.45	113	P	P	04 49 58.5	+1.7
comp=Z,1.1nm,0.7s,baz=257,slow=5.0,SNR=12							
comp=Z,1.1nm,0.7s							
WRA	Warramunga Arr	84.59	109	P	P	04 50 04.1	+1.5
comp=Z,1.5nm,0.8s,baz=264,slow=4.3,SNR=8.1							
comp=Z,1.5nm,0.8s							
EGMT	Eagleton	139.41	334	PKPdf	PKPdf	04 56 55.4	-0.8
TXAR	Lajitas Array	147.09	305	PKPbc	PKPdf	04 57 13.1	+2.8
TXAR	Lajitas Array	147.09	305	PKPbc	PKPdf	04 57 12.7	+2.5
comp=Z,0.2nm,0.7s,baz=62,slow=2.6,SNR=2.4							
NVAR	Mina Array Bea	150.83	333	PKPbc	PKPdf	04 57 19.6	+3.4
comp=Z,0.5nm,0.7s,baz=64,slow=3.4,SNR=4.2							

*ISK **15** 04:41:28.6, 38.76N×38.12E, h3km, ML4.5/84*

*AFAD **15** 04:41:28.1, 38.77N×38.16E, h18km±1km, MW4.5*

*MED_RC **15** 04:41:29.0±0.4, 38.76N×38.17E, h10km, MW4.5/31, Moment Tensor Solution.Mantle waves: s31,c45; Duration: 1s0 Moment tensor: Scale 1016Nm; Mrr=0.51±.03; Mθθ=0.34±.04; Mφφ0.86±.02; Mrθ0.28±.11; Mrφ0.21±.03; Mθφ0.23±.11; Best double couple: M0=0.84000×1016 NP1:φs337.00000°, δ45.00000°, λ-141.00000°. NP2:φs218.00000°, δ64.00000°, λ-52.00000°. Principal axes: T 0.9400, Plg11.0000°, Azm281.0000°; N -0.2200, Plg33.0000°, Azm19.0000°; P -0.7300, Plg54.0000°, Azm176.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*IDC **15** 04:41:30.6±0.7, 38.84N×38.01E, h0km, mb4.1/13, mbtmp4.0/21, ML3.8/8, MS3.7/36 Error ellipse: s-maj=13.2km s-min=9.2km az=173.0*

*NEIC **15** 04:41:31.9±1.6, 38.70N±0.05×38.07E±0.06, h10km±1km, mb4.5/63, Error ellipse: s-maj=8.6km s-min=7.7km az=175.0*

*MOS **15** 04:41:31.2±1.3, 38.82N×38.07E, h12km, mb4.4/28, Error ellipse: s-maj=5.9km s-min=4.0km az=100.7*

**ISC 15 04:41:31.5±0.3, 38.74N±0.02×38.14E±0.02, h10km, n382, σ1s69/368,

URFA Urfa 1.40 157 Pn **Pn 04 41 56.1 -1.1**
GZT Gaziantep 1.46 198 P **Pn 04 41 57.3 -0.7**
GZT S **Sn 04 42 16.3 -1.0**
SUSE Susehri 1.47 2 P **Pn 04 41 56.6 -1.6**
SVSK Karacayir 1.47 323 Pn **Pn 04 41 56.4 -1.7**
SVSK Sn **Sn 04 42 16.9 -0.5**
ERZN Erzincan 1.49 55 Pn **Pn 04 41 56.8 -1.7**
KAHM Kahramanmaras, 1.52 217 P **Pn 04 41 57.4 -1.4**
KAHM S **Sg 04 42 18.7 -1.8**
KHMN Narli-Kahraman 1.55 210 Pn **Pn 04 41 58.7 -0.6**
KMRS Kahramanmaras 1.57 219 Pn **Pn 04 41 58.3 -1.2**
KMRS Sn **Sg 04 42 19.9 -2.2**
CUSAR Sarkisla-SIVAS 1.62 295 P **Pn 04 41 58.5 -1.8**
CUSAR S **Sn 04 42 20.5 -0.9**
KELT Kelkit 1.65 31 P **Pn 04 41 58.7 -2.1**
KELT S **Sn 04 42 19.8 -2.3**
ALUC Giresun/Alucra 1.67 17 P **Pn 04 42 00.0 -1.0**
SANL SANLIURFA_Merk 1.70 157 P **Pn 04 42 00.6 -0.7**
GAZ Gaziantep 1.73 205 Pn **Pn 04 42 00.5 -1.2**
GAZ Gaziantep 1.73 205 **Pn 04 42 00.7 -1.0**
NZIP Nizip/Gaziante 1.73 192 P **Pn 04 42 00.6 -1.1**
DIYA Diyarbakir 1.76 117 P **Pn 04 42 00.9 -1.2**
DIYA S **Sn 04 42 25.5 +0.9**
RSDY Resadiye-TOKAT 1.77 339 Pn **Pn 04 42 01.2 -1.0**
RSDY Sn **Sn 04 42 24.1 -0.8**
BNN Bunyan 1.80 274 Pn **Pn 04 42 01.9 -0.8**
BNN Bunyan 1.80 274 Pn **Pn 04 42 01.6 -1.1**
HANI Diyarbakir_Han 1.80 100 P **Pn 04 42 01.2 -1.5**
ANDN Andirin 1.83 231 P **Pn 04 42 02.1 -1.0**
SURC SANLIURFA_SURC 1.90 168 P **Pn 04 42 02.4 -1.6**
KAMA Osmaniye 1.94 217 P **Pn 04 42 03.3 -1.3**
KAMA S **Sg 04 42 31.7 -2.1**
GUNE Kayseri 1.97 276 P **Pn 04 42 04.9 -0.2**
YEDI Yedisu-Bingol 2.00 69 Pn **Pn 04 42 04.6 -0.9**
BNGB Bingl 2.00 82 Pn **Pn 04 42 04.1 -1.3**
TOKT Tokat 2.00 322 Pn **Pn 04 42 04.2 -1.3**
TOKA Tokat 2.04 321 Pn **Pn 04 42 05.0 -0.9**
TOKA Tokat 2.04 321 P **Pn 04 42 04.7 -1.3**
HACI Hacifakili, Ak 2.10 298 P **Pn 04 42 04.9 -2.0**
KOZT Kozan 2.22 236 Pn **Pn 04 42 07.5 -0.9**
ESPY Espiye-Giresun 2.22 12 Pn **Pn 04 42 07.3 -1.1**
KOPT Kop Dagi 2.23 54 Pn **Pn 04 42 09.0 +0.2**
BAYB BAYBURT 2.23 47 P **Pn 04 42 08.0 -0.8**
ORDU Ordu-Boztepe 2.26 355 P **Pn 04 42 07.9 -1.1**
BAYT Aydıntepe-Bayb 2.26 42 Pn **Pn 04 42 08.3 -0.8**
SLHN Bingol, Solhan 2.26 84 P **Pn 04 42 07.5 -1.6**
KARO Karliova-Bingo 2.33 75 Pn **Pn 04 42 09.7 -0.5**
ECAT Cat-ERZURUM 2.37 68 P **Pn 04 42 08.3 -2.3**
YOZ Yozgat 2.37 293 Pn **Pn 04 42 09.3 -1.3**
SIRC Yozgat 2.41 285 P **Pn 04 42 09.1 -2.0**
SVAN Silvan-Diyarba 2.47 103 Pn **Pn 04 42 11.2 -0.7**
SVAN Silvan-Diyarba 2.47 103 P **Pn 04 42 09.4 -2.5**
MARD Mardin 2.52 124 Pn **Pn 04 42 11.5 -1.2**
MARD Mardin 2.52 124 P **Pn 04 42 10.8 -1.9**
CEYT Ceyhan 2.56 228 Pn **Pn 04 42 12.4 -0.7**
KTUT Trabzon 2.57 29 Pn **Pn 04 42 12.3 -0.9**
AVNS Nevsehir-Avano 2.58 273 P **Pn 04 42 11.6 -1.8**
KOZK Kozakli-Nevseh 2.59 281 Pn **Pn 04 42 12.4 -1.2**
BTMN Batman 2.60 108 P **Pn 04 42 11.1 -2.6**
VRTB Varto-Mus 2.62 80 Pn **Pn 04 42 13.2 -0.8**
MUSM Mu-Merkez 2.64 89 P **Pn 04 42 12.1 -2.1**
CMRD Camardi-Nigde 2.71 248 Pn **Pn 04 42 14.3 -0.9**
KIZO Buyukkizoglu-L 2.75 322 Pn **Pn 04 42 14.7 -1.0**
YARM Yarimca-Ladik(2.82 321 Pn **Pn 04 42 15.5 -1.2**
TAHT Tahtakopru-Hat 2.83 214 Pn **Pn 04 42 16.3 -0.4**
KVT Kavak 2.84 326 Pn **Pn 04 42 15.9 -1.0**
NIG Nigde 2.84 258 Pn **Pn 04 42 16.1 -1.1**
MCUR KIREHR 2.85 280 P **Pn 04 42 15.3 -1.8**
KARA Karaisali 2.85 240 Pn **Pn 04 42 16.4 -0.7**
GURO Guroymak-BITLI 3.05 92 Pn **Pn 04 42 19.7 -0.3**
GURO Guroymak-BITLI 3.05 92 Pn **Pn 04 42 21.1 +1.1**
CORM Corum 3.07 299 Pn **Pn 04 42 19.2 -1.1**
GULA Gulagac 3.09 264 Pn **Pn 04 42 19.5 -0.9**
CHOM Cayeli-Rize 3.10 40 Pn **Pn 04 42 19.9 -0.6**
KOPR Koprukoy-ERZUR 3.14 65 Pn **Pn 04 42 20.7 -0.5**
DED Mersin 3.19 237 P **Pn 04 42 20.8 -0.9**
KIRS Kirsehir-Merke 3.32 278 ⇓P **Pn 04 42 23.2 -0.4**
MERS Mersin 3.42 238 Pn **Pn 04 42 24.7 -0.3**
MLAZ Malazgirt-MUS 3.46 82 Pn **Pn 04 42 25.4 -0.2**
KAMT Kaman 3.50 282 Pn **Pn 04 42 25.4 -0.8**
SERE Sereflikochisa 3.58 275 Pn **Pn 04 42 26.4 -0.8**
YESY Yesilyurt 3.59 256 Pn **Pn 04 42 26.9 -0.5**
BR131 Keskin Array S 3.63 287 Pn **Pn 04 42 27.2 -0.7**
BR131 Keskin Array S 3.63 287 Pn **Pn 04 42 27.1 -0.7**
BR131 Keskin Array S 3.63 287 *i* P **Pn 04 42 27.3 -0.7**
BRTR Keskin Array B 3.63 287 P **Pn 04 42 26.7 -1.3**
BRTR Keskin Array B 3.63 287 Pn **Pn 04 42 27.4 -0.6**
5.7nm,0.3s,baz=109,slow=15,SNR=177
BRTR Lg Lg 04 43 24.1
12nm,0.3s,baz=114,slow=27,SNR=7.5
BRTR LR LR 04 44 03.9
comp=Z,2µm,19.2s,baz=106,slow=44
26nm,0.7s
DIKM Dikmen 3.65 324 Pn **Pn 04 42 27.4 -0.6**
DIKM Dikmen 3.65 324 ⇓P **Pn 04 42 28.1 +0.1**
HOPA Hopa-Artvin 3.66 43 Pn **Pn 04 42 27.8 -0.4**
SULT Sultanhani-AKS 3.67 263 Pn **Pn 04 42 27.9 -0.5**
SENK Senkaya-Erzuru 3.72 59 Pn **Pn 04 42 29.0 -0.3**
BCA Borcka 3.80 44 Pn **Pn 04 42 29.7 -0.4**
AGRB Hanur-Agry 3.86 76 Pn **Pn 04 42 31.1 0.0**
GEVA Gevas 3.88 95 Pn **Pn 04 42 31.0 -0.4**
KIZK Mersin 3.89 236 Pn **Pn 04 42 31.5 +0.1**
CANT Cankiri 3.96 300 Pn **Pn 04 42 31.6 -0.7**
SNOP Sinop 3.97 327 Pn **Pn 04 42 31.9 -0.5**
AFSR Afar-Bala (An 4.01 282 Pn **Pn 04 42 32.7 -0.4**
KULU Kulu 4.02 276 Pn **Pn 04 42 32.9 -0.4**
SILI Silifke-Mersin 4.10 236 Pn **Pn 04 42 34.1 -0.2**
VANB Van 4.11 90 Pn **Pn 04 42 35.2 +0.7**
ILGA Ilgaz 4.11 306 Pn **Pn 04 42 33.8 -0.8**
CHBY Cihanbeyli 4.11 269 Pn **Pn 04 42 34.1 -0.4**
KRMN Karaman 4.16 249 Pn **Pn 04 42 34.9 -0.3**
KEBE Keben-Mersin 4.20 238 Pn **Pn 04 42 35.6 0.0**
KARS Kars 4.25 62 Pn **Pn 04 42 37.4 +0.9**
KARS Kars 4.25 62 P **Pn 04 42 37.4 +0.9**
ANTO Ankara 4.30 287 Pn **Pn 04 42 36.8 -0.2**
ANTO Ankara 4.30 287 Pn **Pn 04 42 36.4 -0.6**
ANTO Ankara 4.30 287 ⇑P **Pn 04 42 37.2 +0.2**
ANTO Ankara 4.30 287 P **Pn 04 42 37.2 +0.2**
LOD Lodumlu 4.33 287 Pn **Pn 04 42 37.0 -0.4**
IKL Isikli 4.33 236 Pn **Pn 04 42 37.9 +0.4**
TEVE Tevekalti-Mers 4.38 240 Pn **Pn 04 42 38.2 0.0**
AKKU Akkuyu-Mersin 4.47 236 Pn **Pn 04 42 39.4 +0.1**
BEIL Beino 4.48 201 *eP* Pn **Pn 04 42 39.7 +0.3**
BZK Bozkurt 4.51 317 Pn **Pn 04 42 39.8 0.0**
BZK Bozkurt 4.51 317 Pn **Pn 04 42 40.5 +0.7**
BZK Bozkurt 4.51 317 ⇓P **Pn 04 42 41.1 +1.2**
CUKT Cukurca 4.57 107 Pn **Pn 04 42 41.3 +0.5**
BERE Bereket-Mersin 4.58 240 Pn **Pn 04 42 41.0 0.0**
KONT Konya--Tatoy 4.61 262 Pn **Pn 04 42 41.3 0.0**
FKH Fakeheh 4.70 198 *eP* Pn **Pn 04 42 42.2 -0.4**
TEKE Tekeli-Mersin 4.77 239 Pn **Pn 04 42 43.8 +0.4**
HWQ Hawqa 4.79 202 *eP* Pn **Pn 04 42 44.7 +0.8**
HDMB Hadim 4.81 250 Pn **Pn 04 42 44.3 0.0**
TASB TASBURUN-IGDIR 4.89 73 Pn **Pn 04 42 45.6 +0.5**
KIZT Kizilcal 4.89 274 Pn **Pn 04 42 47.2 +2.0**
VSLR Vesyoloye 4.93 16 *i* P **Pn 04 42 49.4 +3.8**
SOC Sochi 4.98 13 *eP* **Pn 04 42 48.7 +2.4**
SOC *e* 04 43 50.4
SOC pmax pmax
comp=Z,34nm,0.7s
SOC MLR MLR
comp=Z,275nm,13.0s
LFK Lefkose 5.05 228 Pn **Pn 04 42 47.9 +0.5**
SEYD Seydisehir-KON 5.15 257 Pn **Pn 04 42 49.0 +0.2**
KURC Kurucasile-Bar 5.16 309 Pn **Pn 04 42 48.9 +0.1**
SVRH Sivrihisar-ESK 5.20 280 Pn **Pn 04 42 49.1 -0.3**
BHL Bhannes 5.23 203 *eP* **Pn 04 42 52.5 +2.7**
YUVA Yuva-Kibriscik 5.25 290 Pn **Pn 04 42 50.0 -0.2**
GAZI Gazipasa 5.26 243 Pn **Pn 04 42 51.1 +0.8**
GNI Garni 5.30 73 Pn **Pn 04 42 53.1 +2.2**
comp=Z,2.0nm,0.3s,baz=64,slow=20,SNR=4.2
GNI LR LR 04 45 16.3
comp=Z,1µm,19.4s,baz=266,slow=42
comp=Z,5.9nm,0.4s
CSS Mathiatis 5.39 227 Pn **Pn 04 42 52.9 +0.9**
CSS Mathiatis 5.39 227 Pn **Pn 04 42 52.3 +0.2**
DQRL Deir Qamar 5.44 203 *eP* **Pn 04 42 55.8 +3.1**
LEF Lefka 5.54 231 Pn **Pn 04 42 55.4 +1.3**
CIFT Cifteler, Eski 5.55 279 Pn **Pn 04 42 54.4 +0.2**
QRWL Qaraoun 5.55 202 *eP* **Pn 04 42 56.7 +2.5**

RCY Rachaya 5.55 200 *eP* **Pn 04 42 57.5 +3.1**
MDUB Mudurnu 5.63 290 Pn **Pn 04 42 55.3 -0.1**
MDUB Mudurnu 5.63 290 Pn **Pn 04 42 55.5 +0.1**
SHBL Chebaa 5.72 201 *eP* **Pn 04 42 59.1 +2.5**
SHUT Suhut-Afyon 5.95 271 Pn **Pn 04 43 00.5 +0.8**
SHA1 Shidzhatmaz 6.04 33 *i* P **Pn 04 43 05.1 +4.0**
ISP Isparta 6.06 264 Pn **Pn 04 43 01.3 0.0**
ISP Isparta 6.06 264 *ceP* **Pn 04 43 01.1 -0.2**
ISP pmax pmax
comp=Z,17nm,1.0s
ANN Anapa 6.08 355 *eP* **Pn 04 43 03.8 +2.4**
ANN *eS* **Sn 04 44 16.9 +6.0**
ANN pmax pmax
comp=Z,34nm,1.1s
GULT Gulveren 6.13 288 Pn **Pn 04 43 02.3 +0.1**
MMAI Mount Meron Ar 6.13 202 Pn **Pn 04 43 03.6 +1.4**
comp=Z,3.0nm,0.3s,baz=64,slow=15,SNR=4.3
MMAI Lg Lg 04 44 48.7
comp=Z,7.8nm,0.3s,baz=40,slow=28,SNR=2.7
MMAI LR LR 04 45 28.7
comp=Z,448nm,20.2s,baz=0.5,slow=38
comp=Z,1.1nm,0.3s
KBZ Khabaz 6.14 34 Pn **Pn 04 43 04.5 +2.4**
comp=Z,0.6nm,0.3s,baz=240,slow=4.6,SNR=7.6
KBZ LR LR 04 45 29.0
comp=Z,568nm,19.5s,baz=222,slow=39
comp=Z,2.9nm,0.7s
KBZ Khabaz 6.14 34 *ceP* **Pn 04 43 03.9 +1.7**
LABN Labinsk 6.21 17 *eP* **Pn 04 43 03.3 +0.2**
LABN *eS* **Sn 04 44 14.5 +0.4**
LABN pmax pmax
comp=Z,16nm,0.5s
KIV Kislovodsk 6.23 32 Pn **Pn 04 43 05.5 +1.9**
KIV Kislovodsk 6.23 32 *eP* **Pn 04 43 05.4 +1.9**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,183nm,10.0s
ASF Jabal al Asfar 6.63 189 Pn **Pn 04 43 10.8 +1.7**
comp=Z,2.2nm,0.3s,baz=216,slow=21,SNR=10.0
ASF Lg Lg 04 45 04.3
comp=Z,5.3nm,0.3s,baz=26,slow=23,SNR=3.3
ASF LR LR 04 45 58.8
comp=Z,492nm,20.1s,baz=31,slow=40
comp=Z,9.9nm,0.5s
ERBR Yeremizino-Bor 7.18 13 *eP* **Pn 04 43 20.1 +3.6**
ERBR *eS* Sn 04 44 49.0 +11
ERBR pmax pmax
comp=Z,56nm,0.9s
MANT Manisa 7.51 271 Pn **Pn 04 43 20.8 -0.4**
MAK Makhachkala 8.25 56 *eP* **Pn 04 43 29.4 -1.8**
MAK *eS* **Sn 04 45 04.6 +0.1**
MAK pmax pmax
comp=Z,163nm,1.0s
MAK MLR MLR
comp=Z,810nm,10.0s
EIL Elat 9.42 197 LR LR 04 47 55.9
comp=Z,519nm,20.3s,baz=60,slow=41
TPGR Topolog 9.48 313 ⇓P **Pn 04 43 48.4 +0.3**
CFR Carcaliu 9.84 314 ⇑P **Pn 04 43 52.7 -0.2**
CFR Carcaliu 9.84 314 P **Pn 04 43 52.7 -0.2**
RDO Rodhopi 9.97 288 Pn **Pn 04 43 54.8 0.0**
MILM Milestii Mici 10.66 323 *eP* Pn 04 44 10.0 +5.8
MILM pmax pmax
comp=Z,400nm,12.0s
VRI Vrincioaia 11.04 314 ⇑P **Pn 04 44 10.1 +0.5**
VRI Vrincioaia 11.04 314 P **Pn 04 44 10.0 +0.5**
IDI Anoyia 11.14 256 LR LR 04 49 23.0
comp=Z,474nm,20.2s,baz=92,slow=43
MLR Muntele Rosu 11.29 311 Pn **Pn 04 44 11.3 -1.6**
comp=Z,0.3nm,0.3s,baz=185,slow=12,SNR=3.9
MLR LR LR 04 49 40.3
comp=Z,506nm,20.0s,baz=114,slow=44
comp=Z,1.8nm,0.5s
MLR Muntele Rosu 11.29 311 ⇑P **Pn 04 44 13.3 +0.3**
MLR Muntele Rosu 11.29 311 P **Pn 04 44 13.2 +0.3**
COVR Voineasa-Covas 11.33 313 ⇓P **Pn 04 44 13.9 +0.4**
TESR Tescani 11.48 316 ⇓P **Pn 04 44 15.6 +0.1**
VOIR 11.80 309 ⇓P **Pn 04 44 19.8 -0.1**
VOIR 11.80 309 P **Pn 04 44 19.7 -0.1**
DOPR Dopca 11.87 312 ⇑P **Pn 04 44 20.9 0.0**
VSR Storozhevoye 12.50 3 *eP* **Pn 04 44 29.5 +0.2**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VRH Novokhopyorsk 12.71 10 *eP* **Pn 04 44 29.1 -3.1**
VRH pmax pmax
comp=Z,10.0nm,0.8s
BURAR Bucovina Array 12.93 317 Pn **Pn 04 44 36.2 +0.9**
BUR08 Bucovina Ar. S 12.96 318 Pn **Pn 04 44 35.8 0.0**
KIEV Kiev 13.52 335 Pn **Pn 04 44 42.5 -0.8**
KIEV Kiev 13.52 335 P **Pn 04 44 42.5 -0.8**
AKASG Malin Array Be 13.52 335 Pn **Pn 04 44 41.7 -1.5**
comp=Z,0.6nm,0.3s,baz=155,slow=13,SNR=5.8
AKASG LR LR 04 50 25.5
comp=Z,178nm,21.6s,baz=146,slow=40
comp=Z,1.7nm,0.7s
AKBB Malin Array Si 13.52 335 Pn **Pn 04 44 42.2 -1.1**
AKBB Malin Array Si 13.52 335 *i* P **Pn 04 44 42.2 -1.1**
LPSR Galich'ya Gora 13.87 2 *eP* **Pn 04 44 47.4 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
KOLS Kolonicke sedl 15.30 317 *eP* **P 04 45 14.5 +2.2**
KOLS Kolonicke sedl 15.30 317 *eP* **P 04 45 14.5 +2.2**
PSZ Piszkesteto 16.11 311 Pn **Pn 04 45 18.9 +0.9**
PSZ Piszkesteto 16.11 311 P **Pn 04 45 18.9 +0.9**
PSZ pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 16.41 357 *i* P **Pn 04 45 22.4 +0.6**
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,110nm,15.0s
RAYN Ar Rayn 16.42 155 P **P 04 45 26.1 +1.2**
RAYN Ar Rayn 16.42 155 P **P 04 45 26.1 +1.2**
RAYN pmax pmax
comp=Z,3.0nm,0.8s
TIP Timpagrande 16.64 278 Pn **Pn 04 45 24.5 -0.3**
VYHS Vyhne 17.00 311 *eP* **P 04 45 35.7 +4.5**
VYHS Vyhne 17.00 311 *eP* **P 04 45 35.7 +4.5**
MOS Moscow 17.01 359 *eP* **Pn 04 45 30.0 +0.7**
MOS pmax pmax
comp=Z,34nm,0.7s
OJC Ojcow 17.36 317 **Pn 04 45 34.2 +0.5**
OJC Ojcow 17.36 317 P **Pn 04 45 34.2 +0.5**
JAVC Velka Javorina 17.85 311 *eP* **P 04 45 44.6 +4.0**
MODS Modra-Piesok 17.88 309 *eP* **P 04 45 44.6 +3.7**
MODS Modra-Piesok 17.88 309 *eP* **P 04 45 44.6 +3.7**
RONA Rosalia, Austr 18.22 306 P **P 04 45 50.7 +6.1**
comp=Z,8.2nm,1.0s
AKTO Aktyubinsk 18.29 44 P **Pn 04 45 46.0 +0.7**
comp=Z,0.4nm,0.3s,baz=225,slow=8.7,SNR=5.8
comp=Z,1.3nm,0.3s
AKTO Aktyubinsk 18.29 44 P **Pn 04 45 46.0 +0.7**
MORC Moravsky Berou 18.36 314 **Pn 04 45 46.0 -0.2**
MORC Moravsky Berou 18.36 314 *eP* **P 04 45 47.0 +0.8**
MORC Moravsky Berou 18.36 314 P **Pn 04 45 46.0 -0.2**
MORC pmax pmax
comp=Z,9.0nm,1.1s
SUW Suwalki 18.37 331 P **P 04 45 48.8 +2.6**
SUW pmax pmax
comp=Z,41nm,1.1s
ARSA Arzberg 18.55 305 *eP* **Pn 04 45 54.0 +5.5**
comp=Z,8.2nm,1.2s
CONA Conrad Observa 18.57 307 P **Pn 04 45 54.4 +5.6**
comp=Z,20nm,2.3s
VRAC Vranov 18.69 311 LR LR 04 53 53.3
comp=Z,172nm,21.7s,baz=113,slow=40
VRAC Vranov 18.69 311 *eP* **Pn 04 45 53.0 +2.9**
KRUC Moravsky 18.70 311 *eP* **Pn 04 45 51.8 +1.6**
KRUC Moravsky 18.70 311 P **Pn 04 45 52.5 +2.3**
KRUC pmax pmax
comp=Z,12nm,2.2s
VAE Valguarnera 18.71 274 LR LR 04 54 39.0
comp=Z,172nm,19.1s,baz=360,slow=42
ABKAR Akbulak array 18.82 49 P **P 04 45 50.6 -0.6**
KRLC Kraliky 18.93 314 *eP* **Pn 04 45 58.2 +5.1**
KRLC Kraliky 18.93 314 P **Pn 04 45 53.3 +0.2**
KRLC pmax pmax
comp=Z,11nm,1.1s
DPC Dobruska-Polom 19.33 314 *eP* **Pn 04 46 00.2 +2.4**
DPC AMS AMS 04 53 10.0
comp=Z,400nm,27.3s
DPC Dobruska-Polom 19.33 314 P **P 04 45 57.2 +0.4**
DPC pmax pmax
comp=Z,6.0nm,0.9s

TREC Trest 19.34 310 P **P 04 45 54.8 -2.1**
TREC pmax pmax
comp=Z,10.0nm,2.0s
FDMO Fiordimonte 19.40 291 P **Pn 04 45 58.5 -0.2**
FDMO IAmb IAmb 04 46 02.4
comp=Z,43nm,1.2s
MOA Molln 19.55 305 *eP* **Pn 04 46 04.2 +3.6**
comp=Z,15nm,1.3s
UPC Upice 19.57 314 P **Pn 04 46 02.0 +1.2**
UPC pmax pmax
comp=Z,8.0nm,1.0s
MYKA Terra Mystica 19.61 302 *epP* **Pn 04 46 05.6 +4.3**
comp=Z,0.7nm,0.7s
CESX Cesi 19.74 289 P **Pn 04 46 03.0 +0.1**
CESX IAmb IAmb 04 46 06.0
comp=Z,22nm,1.0s
HRA Herat 19.82 95 P **P 04 46 03.4 +0.8**
CKRC Cesky Krumlov 19.86 308 *eP* **Pn 04 46 07.1 +2.8**
CKRC AMS AMS 04 55 30.0
comp=Z,300nm,15.4s
CKRC Cesky Krumlov 19.86 308 *eP* **Pn 04 46 07.1 +2.8**
CKRC MLR MLR
comp=Z,300nm,15.4s
BIOA Bad Ischl, Aus 19.91 305 P **Pn 04 46 07.4 +2.6**
comp=Z,1.9nm,0.6s
KBA Koelnbreinsper 19.92 303 *eP* **Pn 04 46 06.8 +1.7**
comp=Z,3.1nm,0.8s
ZVC Zvikov 20.17 310 *eP* Pn 04 46 09.7 +1.9
PRU Pruhonice 20.19 312 *eP* Pn 04 46 10.0 +2.0
PRU AMS AMS 04 55 30.0
comp=Z,400nm,18.6s
PRU Pruhonice 20.19 312 P Pn 04 46 08.1 +0.1
PRU pmax pmax
comp=Z,18nm,2.2s
GEC2 GERESS Array S 20.25 308 P **P 04 46 06.1 -0.8**
GEC2 GERESS Array S 20.25 308 P Pn 04 46 10.5 +1.6
GEC2 pmax pmax
comp=Z,12nm,1.6s
GERES GERESS Array B 20.25 308 P **P 04 46 05.7 -1.2**
GERES GERESS Array B 20.25 308 P **P 04 46 06.9 0.0**
comp=Z,3.6nm,0.8s,baz=111,slow=10,SNR=20
GERES LR LR 04 56 19.1
comp=Z,188nm,18.2s,baz=126,slow=44
comp=Z,3.6nm,0.8s
PRA Prague 20.28 312 AMS AMS 04 55 40.0
comp=Z,400nm,15.9s
ABTA Abfaltersbach 20.39 301 *epP* Pn 04 46 13.7 +3.1
comp=Z,2.0nm,0.8s
PVCC Panska Ves 20.40 313 P Pn 04 46 09.9 -0.7
PVCC pmax pmax
comp=Z,25nm,1.4s
KHC Kasperske Hory 20.43 309 *eP* **P 04 46 09.1 +0.3**
KHC AMS AMS 04 56 40.0
comp=Z,400nm,9.2s
KHC Kasperske Hory 20.43 309 *eP* **P 04 46 09.1 +0.3**
KHC MLR MLR
comp=Z,400nm,9.2s
LESA Schwarzleotal 20.45 303 P Pn 04 46 10.9 -0.4
comp=Z,2.5nm,0.8s
CTI Castel Tesino 20.82 299 P **P 04 46 13.1 -0.1**
CTI IAmb IAmb 04 46 17.4
comp=Z,17nm,0.9s
CTI Castel Tesino 20.82 299 P **P 04 46 13.1 -0.1**
CTI pmax pmax
comp=Z,17nm,0.9s
WET Wettzell 20.86 308 P Pn 04 46 15.0 -1.0
WET pmax pmax
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 20.91 313 *eP* Pn 04 46 17.7 +1.2
BRG Amp 04 46 22.1
comp=Z,8.5nm,1.0s
VSU Vasula 21.07 343 *ceP* **P 04 46 15.3 -0.3**
VSU pmax pmax
comp=Z,6.0nm,0.6s
WTTA Wattenberg 21.10 302 P **P 04 46 19.0 +2.8**
WTTA pmax pmax
comp=Z,14nm,1.3s
WTTA Wattenberg 21.10 302 *epP* **P 04 46 19.6 +3.4**
comp=Z,3.6nm,0.6s
WATA Walderalm 21.15 303 pP **P 04 46 19.5 +2.7**
comp=Z,6.1nm,0.9s
KIRV Kirov 21.15 16 P **P 04 46 16.9 +0.4**
comp=Z,19nm,0.6s,baz=220,slow=13,SNR=5.6
KIRV LR LR 04 55 01.6
comp=Z,161nm,18.8s,baz=210,slow=38
comp=Z,19nm,0.6s
KIRV Kirov 21.15 16 *i* P **P 04 46 15.8 -0.7**
SQTA Sankt Quirin 21.37 302 P **P 04 46 20.8 +1.7**
comp=Z,7.3nm,0.7s
MOTA Moosalm 21.47 302 pP **P 04 46 23.1 +2.9**
comp=Z,14nm,0.8s
CLL Collm 21.64 314 P **P 04 46 21.0 -0.8**
CLL IAmb IAmb 04 46 26.6
comp=Z,29nm,1.3s
CLL Collm 21.64 314 *i* P **P 04 46 21.8 0.0**
CLL *eS* **S 04 50 20.0 -1.2**
CLL pmax pmax
comp=Z,88nm,1.9s
CLL Collm 21.64 314 *i* P **P 04 46 21.8 0.0**
comp=Z,88nm,1.9s
CLL *ePP* **PnPn 04 46 41.0 -1.3**
CLL *eS* **S 04 50 20.0 -1.2**
FETA Feichten 21.64 301 *epP* **P 04 46 24.4 +2.3**
comp=Z,3.3nm,0.8s
RETA Reutte 21.73 303 pP **P 04 46 24.7 +1.8**
comp=Z,5.1nm,0.9s
FUORN Ofenpass-Fuorn 21.87 300 P **P 04 46 25.7 +1.1**
FUORN IAmb IAmb 04 46 32.2
comp=Z,26nm,1.3s
GRF Grafenberg Arr 22.07 308 P **P 04 46 29.2 +2.8**
GRF pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 22.15 2 *eP* **P 04 46 24.3 -2.9**
KLMR pmax pmax
comp=Z,28nm,1.3s
DAVOX Davos/Dischmat 22.16 300 LR LR 04 57 10.7
comp=Z,107nm,19.7s,baz=91,slow=43
ARTI Arti 22.18 31 P **P 04 46 26.5 -1.0**
ARTI Arti 22.18 31 LR LR 04 56 21.0
comp=Z,98nm,20.0s,baz=190,slow=40
ARTI Arti 22.18 31 *d i P* **P 04 46 25.6 -1.9**
ARTI 04 47 09.2
ARTI S Sn 04 51 13.4 +31
ARTI pmax pmax
comp=Z,20nm,1.2s
DAVA Damuels 22.27 302 *epP* **P 04 46 27.9 -0.8**
comp=Z,8.2nm,0.6s
KEST Kesra 23.08 272 P **P 04 46 36.9 -0.5**
comp=Z,6.1nm,0.8s,baz=45,slow=3.2,SNR=7.9
KEST LR LR 04 57 58.6
comp=Z,128nm,18.2s,baz=316,slow=43
comp=Z,6.1nm,0.8s
SVE Sverdlovsk 23.39 32 *eP* **P 04 46 39.9 -0.3**
SVE pmax pmax
comp=Z,29nm,1.1s
SENIN Lac Senin/Sane 23.85 299 P **P 04 46 44.6 -0.5**
SENIN IAmb IAmb 04 47 01.3
comp=Z,22nm,1.4s
FINES FINESS Array B 23.93 346 P **P 04 46 45.7 +0.3**
FINES FINESS Array B 23.93 346 P **P 04 46 44.9 -0.5**
comp=Z,2.9nm,0.7s,baz=151,slow=11,SNR=8.7
comp=Z,2.9nm,0.7s
FINES FINESS Array B 23.93 346 *i* P **P 04 46 46.2 +0.8**
FINES pmax pmax
comp=Z,3.0nm,0.7s
SIMJ Simiganj 24.04 80 P **P 04 46 46.8 0.0**
BNI Bardonecchia 24.15 295 P **P 04 46 48.2 +0.3**
BNI Bardonecchia 24.15 295 P **P 04 46 48.2 +0.3**
BNI pmax pmax
comp=Z,27nm,1.4s
ECH Echery 24.25 303 P **P 04 46 48.5 -0.1**
ECH IAmb IAmb 04 46 52.4
comp=Z,14nm,1.2s
ECH Echery 24.25 303 P **P 04 46 48.5 -0.1**
ECH pmax pmax
comp=Z,14nm,1.2s
KK31 Karatay Array 24.75 69 P **P 04 46 52.9 -0.3**
KK31 IAmb IAmb 04 47 00.5
comp=Z,8.7nm,0.9s
KK31 Karatay Array 24.75 69 P **P 04 46 52.9 -0.3**
KK31 pmax pmax
comp=Z,9.0nm,1.0s
KKAR Karatay Array 24.75 69 P **P 04 46 53.0 -0.1**
KKAR IAmb IAmb 04 47 00.5
comp=Z,9.1nm,0.9s
KKAR Karatay Array 24.75 69 P **P 04 46 53.1 -0.1**

KKAR pmax pmax
comp=Z,9.0nm,1.0s
GAR Garm 24.99 79 P **P 04 46 56.9 +1.4**
BRVK Borovoye 26.29 46 P **P 04 47 07.5 +0.5**
BRVK Borovoye 26.29 46 *ceP* **P 04 47 09.6 +2.6**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 26.34 47 P **P 04 47 08.2 +0.8**
comp=Z,1.4nm,0.6s,baz=230,slow=6.9,SNR=8.6
comp=Z,1.4nm,0.6s
HFS Hagfors 26.38 332 P **P 04 47 08.0 +0.3**
comp=Z,2.6nm,0.7s,baz=139,slow=12,SNR=9.0
HFS LR LR 04 58 13.9
comp=Z,199nm,18.8s,baz=146,slow=38
comp=Z,2.6nm,0.7s
HFS Hagfors 26.38 332 P **P 04 47 08.0 +0.3**
OHH Osh 26.64 75 P **P 04 47 06.4 -4.0**
OHH pmax pmax
comp=Z,11nm,0.9s
AAK Ala-Archa 27.70 70 LR LR 04 59 56.5
comp=Z,158nm,19.8s,baz=278,slow=40
NOA NORSAR Array B 27.90 332 LR LR 05 01 05.9
comp=Z,115nm,19.5s,baz=140,slow=42
BOOM Boomskoye usch 28.78 70 P **P 04 47 30.8 +1.2**
BOOM Boomskoye usch 28.78 70 P **P 04 47 30.8 +1.2**
BOOM pmax pmax
comp=Z,4.0nm,1.2s
KURBB Kurchatov Arra 30.70 54 P **P 04 47 47.3 +1.0**
comp=Z,1.4nm,0.6s,baz=265,slow=8.8,SNR=13
KURBB LR LR 05 01 45.7
comp=Z,156nm,20.3s,baz=176,slow=40
comp=Z,1.4nm,0.6s
KURK Kurchatov 30.77 54 P **P 04 47 47.4 +0.5**
KURK Kurchatov 30.77 54 *i P* **P 04 47 47.8 +0.9**
KURK pmax pmax
comp=Z,12nm,3.5s
ARCES ARCESS Array B 31.59 352 P **P 04 47 54.2 +0.2**
comp=Z,8.8nm,1.1s,baz=150,slow=8.9,SNR=4.7
comp=Z,8.8nm,1.1s
TAM Tamanrasset 32.01 250 P **P 04 48 00.6 +2.3**
TAM pmax pmax
comp=Z,4.0nm,1.6s
ESDC Sonseca Array 32.42 285 P **P 04 47 59.5 -2.2**
comp=Z,1.4nm,0.8s,baz=69,slow=8.0,SNR=10
ESDC LR LR 05 02 37.0
comp=Z,102nm,19.0s,baz=62,slow=39
comp=Z,1.4nm,0.8s
MK31 Makanchi Array 33.03 61 *ceP* **P 04 48 09.8 +2.9**
MKAR Makanchi Array 33.03 61 P **P 04 48 07.2 +0.3**
MKAR Makanchi Array 33.03 61 P **P 04 48 07.8 +1.0**
comp=Z,0.7nm,0.7s,baz=268,slow=8.3,SNR=8.1
MKAR LR LR 05 04 21.9
comp=Z,117nm,18.2s,baz=260,slow=42
comp=Z,0.7nm,0.7s
MDT Midelt 34.94 274 LR LR 05 04 57.6
comp=Z,68nm,18.8s,baz=84,slow=40
WMQ Urumqi 37.13 66 *eP* **P 04 48 45.9 +3.6**
WMQ pmax pmax
comp=Z,50nm,0.7s
WMQ LR LR
comp=Z,140nm,24.1s
NRIK Noril'sk 40.25 25 P **P 04 49 09.4 +1.3**
NRIK Noril'sk 40.25 25 LR LR 05 08 28.7
comp=Z,36nm,18.5s,baz=278,slow=40
NRIK Noril'sk 40.25 25 *i P* **P 04 49 07.7 -0.4**
NRIK pmax pmax
comp=Z,6.0nm,1.0s
TORD Torodi Ar. Bea 41.09 242 P **P 04 49 15.2 -0.4**
BORG Borgarnes 42.83 327 LR LR 05 09 58.7
comp=Z,45nm,20.9s,baz=109,slow=40
ULN Ulaanbaatar 49.44 56 *ceP* **P 04 50 24.3 +2.5**
ULN pmax pmax
comp=Z,9.0nm,2.5s
PALK Pallekele 49.47 118 LR LR 05 11 34.2
comp=Z,92nm,19.4s,baz=320,slow=36
DBIC Dimbokro 50.20 242 LR LR 05 16 10.9
comp=Z,61nm,18.2s,baz=20,slow=42
TIXI Tiksi 53.98 23 LR LR 05 18 32.4
comp=Z,55nm,18.1s,baz=352,slow=41
TIXI Tiksi 53.98 23 *i P* **P 04 50 55.1 0.0**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
LSZ Lusaka 54.53 192 LR LR 05 13 45.1
comp=Z,72nm,18.4s,baz=37,slow=35
HHC Hu-ho-hao-te 54.88 63 *eP* **P 04 51 01.1 -1.1**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,99nm,5.0s
HHC LR LR
comp=N,180nm,14.5s
HHC LR LR
comp=E,110nm,12.2s
HHC LR LR
comp=Z,130nm,13.8s
CMAR Chiang Mai Arr 56.06 93 P **P 04 51 12.8 +1.9**
comp=Z,0.5nm,0.4s,baz=293,slow=9.0,SNR=6.5
CMAR LR LR 05 20 29.5
comp=Z,36nm,19.3s,baz=310,slow=42
comp=Z,0.5nm,0.4s
ILON Igloolik, Nuna 63.62 340 P **P 04 52 02.1 0.0**
ILON IAmb IAmb 04 52 07.8
comp=Z,4.1nm,0.9s
NJ2 Nanjing 64.13 69 *eP* **P 04 52 06.3 +0.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
LBTB Lobatse 64.50 193 LR LR 05 19 42.8
comp=Z,76nm,20.1s,baz=2.0,slow=36
SEY Seymchan 65.96 27 *ceP* **P 04 52 20.0 +2.5**
SEY pmax pmax
comp=Z,9.0nm,1.7s
BILL Bilibino 66.68 19 *i P* **P 04 52 22.4 +0.4**
BILL pmax pmax
comp=Z,3.0nm,0.9s
KSRS Korea Array 67.68 59 LR LR 05 25 25.1
comp=Z,86nm,18.2s,baz=315,slow=39
BOSA Boshof 68.08 192 LR LR 05 23 27.8
comp=Z,72nm,18.1s,baz=20,slow=37
A36M Sachs Harbour 68.95 355 P **P 04 52 36.5 +0.3**
B20K Meade River 70.99 6 P **P 04 52 49.9 +1.1**
B20K IAmb IAmb 04 52 54.1
comp=Z,4.9nm,1.1s
BLKN Baker Lake 71.12 341 P **P 04 52 49.7 +0.1**
BLKN IAmb IAmb 04 52 53.7
comp=Z,3.0nm,1.0s
C36M Paulatuk 71.43 353 P **P 04 52 51.5 0.0**
C36M IAmb IAmb 04 52 53.0
comp=Z,3.0nm,0.8s
C23K Itkillik River 71.55 3 P **P 04 52 53.4 +1.2**
C27K Jago River 71.94 1 IAmb IAmb 04 52 57.2
comp=Z,3.3nm,0.9s
D25K Kavik River 72.20 2 IAmb IAmb 04 52 59.1
comp=Z,4.1nm,0.9s
D22K Ayikyak River 72.39 4 P **P 04 52 58.2 +0.9**
SUR Sutherland 72.57 195 LR LR 05 25 51.0
comp=Z,109nm,19.4s,baz=20,slow=37
E23K Chandalar 73.36 3 IAmb IAmb 04 53 08.5
comp=Z,4.2nm,1.1s
E27K Coleen River 73.39 360 IAmb IAmb 04 53 05.5
comp=Z,3.7nm,0.9s
E25K Arctic Village 73.42 1 P **P 04 53 04.0 +0.5**
E25K IAmb IAmb 04 53 06.2
comp=Z,4.4nm,1.1s
G31M Satah River 74.50 357 IAmb IAmb 04 53 11.0
comp=Z,3.2nm,0.8s
G29M Pine Creek 74.63 358 P **P 04 53 10.5 -0.1**
G29M IAmb IAmb 04 53 18.4
comp=Z,8.0nm,1.5s
G27K Doyon Strip 74.78 360 IAmb IAmb 04 53 17.0
comp=Z,4.9nm,1.2s
MJAR Matsushiro Arr 74.97 55 LR LR 05 27 23.1
comp=Z,79nm,21.2s,baz=316,slow=37
H27K Steamboat Moun 75.36 360 P **P 04 53 16.9 +2.1**
H27K IAmb IAmb 04 53 17.4
comp=Z,8.5nm,1.4s
I28M Miner Creek 76.13 359 IAmb IAmb 04 53 23.9
comp=Z,2.7nm,0.9s
I26K Coal Creek Min 76.28 1 P **P 04 53 20.8 +0.8**
I26K IAmb IAmb 04 53 33.4
comp=Z,3.7nm,1.1s
I30M Mount Dempster 76.28 358 IAmb IAmb 04 53 21.8
comp=Z,3.9nm,1.0s
YKA Yellowknife Ar 76.75 347 P **P 04 53 22.9 +0.2**
YKA Yellowknife Ar 76.75 347 P **P 04 53 23.4 +0.8**
comp=Z,1.8nm,0.8s,baz=26,slow=5.7,SNR=28
comp=Z,1.8nm,0.8s
J30M Hart River 76.93 358 IAmb IAmb 04 53 29.6
comp=Z,6.1nm,1.3s
HDA Harding Lake 77.11 2 P **P 04 53 25.0 +0.3**
HDA IAmb IAmb 04 53 26.2
comp=Z,2.4nm,0.7s
K27K Chicken 77.57 0 P **P 04 53 28.5 +1.2**
K27K IAmb IAmb 04 53 34.2
comp=Z,4.6nm,1.2s
CAST Castle Rocks 77.86 5 IAmb IAmb 04 53 30.6
comp=Z,5.0nm,1.1s
BCAR Beaver Creek A 78.54 360 P **P 04 53 33.6 +0.9**
MMPY Sheldon Lake, 78.63 355 IAmb IAmb 04 53 39.7
comp=Z,6.1nm,1.3s
M29M Somme Creek 79.12 358 IAmb IAmb 04 53 39.9
comp=Z,2.5nm,0.8s
SKT Skwentna 79.32 5 P **P 04 53 36.4 -0.6**
SCM Sheep Creek Mo 79.68 3 P **P 04 53 39.6 +0.6**
SCM Sheep Creek Mo 79.68 3 P **P 04 53 39.6 +0.6**
SCM pmax pmax
comp=Z,11nm,1.2s
HYT Haines Junctio 80.72 358 P **P 04 53 46.5 +1.8**
HYT IAmb IAmb 04 53 50.4
comp=Z,7.5nm,1.1s
O15K Ungalikthiuk R 81.30 9 P **P 04 53 48.5 +0.8**
O15K IAmb IAmb 04 54 04.0
comp=Z,9.3nm,1.4s
ULM Lac du Bonnet 82.59 332 P **P 04 53 54.6 0.0**
comp=Z,2.6nm,0.6s,baz=62,slow=4.2,SNR=3.4
comp=Z,2.6nm,0.6s
P53A Whipple 84.47 317 P **P 04 54 04.7 +0.2**
BBB Bella Bella 88.66 352 LR LR 05 36 33.5
comp=Z,38nm,18.0s,baz=76,slow=37

GEN 15 04:43:15.6,44°.39N×10°.08E,h11$^{km\pm1km}$,MI0.4,
Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAM	**Graiana**	**0.10**	**355**	P	Pg	04 43 18.6	+0.2
GRAM				S	Sg	04 43 20.6	+0.1
EQUI	**Equi**	**0.23**	**167**	P	Pg	04 43 20.8	+0.4
EQUI				S	Sg	04 43 24.6	+0.9
SARO	**Sassorosso**	**0.31**	**132**	P	Pg	04 43 22.0	+0.1
SARO				S	Sg	04 43 27.2	+1.0
VLC	**Villacollemand**	**0.32**	**136**	P	Pg	04 43 22.4	+0.3
VLC				S	Sg	04 43 27.3	+0.9
PLMA	**Palmaria, Port**	**0.38**	**206**	P	Pg	04 43 23.6	+0.4
PLMA				S	Sg	04 43 28.6	+0.4
BDI	**Bagni Di Lucca**	**0.50**	**131**	S	Sb	04 43 32.9	-0.8

SOME ***15*** *04:48:01.0,41°.43N×71°.83E,h20^{km}*
NNC ***15*** *04:48:03.9±2.3,41°.73N×71°.75E,h0^{km},mb3.3,mpv3.2,*
Error ellipse: s-maj=25.3km s-min=6.8km az=177.0
KRNET ***15*** *04:48:03.2±0.1,41°.79N×71°.73E,h16^{km},mb2.8*
ISC 15 04:48:03.1±0.9,41°.73N±0°.02×71°.75E±0°.02,h12$^{km\pm7km}$,
n30,σ1^{s}48/54,26C-10D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.17**	**67**	⇑*iP*	**Pg**	**04 48 06.8**	**-0.3**
ARK				⇑*iS*	**Sg**	**04 48 09.4**	**-0.5**
TRKS	**Terek-Say**	**0.50**	**247**	⇑*iP*	**Pb**	**04 48 13.6**	**-0.3**
TRKS				⇑*iS*	**Sb**	**04 48 21.1**	**-0.2**
MNAS	**Manas**	**0.94**	**36**	⇓*iP*	**Pb**	**04 48 20.4**	**-1.0**
MNAS				⇓*iS*	**Sb**	**04 48 32.7**	**-1.1**
ARSB	**Arslanbob**	**1.01**	**113**	⇑*iP*	**Pn**	**04 48 23.2**	**+0.1**
ARSB				⇑*iS*	**Sn**	**04 48 37.5**	**+0.2**
IUG	**Iuzhnay**	**1.35**	**288**	P	**Pg**	**04 48 28.8**	**-0.3**
IUG	36nm,0.2s			S	**Sg**	**04 48 49.0**	**+2.4**
OHH	**Osh**	**1.44**	**147**	⇑*eP*	**Pg**	**04 48 30.7**	**0.0**
OHH				⇑*eS*	**Sg**	**04 48 51.2**	**+1.9**
MRKS	**Merke**	**1.49**	**47**	P	**Pg**	**04 48 31.9**	**+0.2**
MRKS	10nm,0.3s			S	**Sg**	**04 48 54.4**	**+3.3**
MRKS	**Merke**	**1.49**	**47**	*eP*	**Pg**	**04 48 31.9**	**+0.2**
MRKS	10nm,0.3s			*eS*	**Sg**	**04 48 54.4**	**+3.3**
AML	**Almayashu**	**1.50**	**74**	⇑*iP*	**Pb**	**04 48 31.2**	**+0.1**
AML				⇑*iS*	**Sg**	**04 48 51.7**	**+0.2**
KK31	**Karatay Array**	**1.65**	**327**	⇑P	**Pb**	**04 48 32.9**	**-0.6**
KK31	2.2nm,0.2s,baz=135,slow=17,SNR=35			⇑S	**Sn**	**04 48 52.7**	**-0.3**
KKAR	**Karatay Array**	**1.65**	**327**	⇓*iP*	**Pb**	**04 48 32.8**	**-0.6**
KKAR				⇓*iS*	**Sb**	**04 48 54.1**	**-0.1**
EKS2	**Erkin-Say**	**1.77**	**58**	⇑*iP*	**Pb**	**04 48 35.5**	**0.0**
EKS2				⇑*iS*	**Sg**	**04 48 59.0**	**-0.9**
SALK	**Salom-Alik**	**1.77**	**118**	⇓*iP*	**Pg**	**04 48 36.7**	**-0.4**
SALK				⇓*iS*	**Sg**	**04 49 01.3**	**+1.2**
BTK	**Batken**	**1.82**	**203**	⇑*eP*	**Pg**	**04 48 37.5**	**-0.4**
BTK				⇑*eS*	**Sg**	**04 49 02.8**	**+1.3**
BRLS	**Borolday**	**1.92**	**313**	Pg	**Pb**	**04 48 37.9**	**-0.2**
BRLS	14nm,0.2s			Lg	Lg	04 49 04.6	
BRLS	**Borolday**	**1.92**	**313**	*eP*	**Pb**	**04 48 37.9**	**-0.2**
BRLS	14nm,0.2s			*eS*	**Sg**	**04 49 04.6**	**-0.4**
ARLS	**Aral**	**1.93**	**85**	⇑*iP*	**Pb**	**04 48 38.8**	**+0.6**
ARLS				⇑*iS*	**Sg**	**04 49 04.7**	**-0.3**
SFK	**Sufi-Kurgan**	**2.17**	**142**	⇓*eP*	**Pb**	**04 48 42.7**	**+0.3**
SFK				⇓*eS*	**Sg**	**04 49 11.7**	**-1.1**
AAK	**Ala-Archa**	**2.23**	**65**	⇓Pg	**Pg**	**04 48 45.9**	**0.0**
AAK	2.1nm,0.3s			⇑Lg	Lg	04 49 15.3	
AAK	**Ala-Archa**	**2.23**	**65**	⇑*iP*	**Pb**	**04 48 42.6**	**-0.7**
AAK				⇑*iS*	**Sb**	**04 49 11.4**	**+0.5**
DRK	**Karamyk**	**2.25**	**179**	⇑*eP*	**Pb**	**04 48 43.9**	**+0.1**
DRK				⇑*eS*	**Sg**	**04 49 13.7**	**-1.7**
KBK	**Karagaybulak**	**2.55**	**68**	⇑*iP*	**Pb**	**04 48 47.2**	**-1.6**
KBK				⇑*iS*	**Sb**	**04 49 19.2**	**-0.9**
TKM2	**Tokmak 2**	**3.09**	**66**	⇓Pg	**Pb**	**04 48 59.8**	**+1.8**
TKM2	0.9nm,0.3s			⇑Lg	Lg	04 49 39.5	
KST	**Kastek**	**3.38**	**66**	Pg	**Pb**	**04 49 02.7**	**-0.3**
KST	4.1nm,0.6s 2.5nm,0.4s			Lg	Lg	04 49 47.1	
KST	**Kastek**	**3.38**	**66**	*eP*	**Pb**	**04 49 02.7**	**-0.3**
KST	7.6nm,0.6s 2.5nm,0.4s			*eS*	**Sb**	**04 49 47.1**	**+3.0**
KUU	**Kurty**	**4.00**	**56**	Pg	**Pb**	**04 49 15.6**	**+2.0**
KUU	0.8nm,0.2s			Lg	Lg	04 50 09.3	
KUU	**Kurty**	**4.00**	**56**	*eP*	**Pb**	**04 49 15.6**	**+2.0**
KUU	0.8nm,0.2s 3.0nm,0.5s			*eS*	**Sg**	**04 50 09.2**	**-2.4**
TNSS	**Tian-Shan**	**4.06**	**70**	*eP*	**Pb**	**04 49 15.1**	**+0.4**
TNSS	0.5nm,0.1s 1.4nm,0.5s			*eS*	**Sg**	**04 50 08.7**	**-4.8**
KTBS	**Karatobe**	**4.13**	**60**	Pg	**Pb**	**04 49 17.7**	**+2.0**
KTBS	1.1nm,0.2s 3.1nm,0.4s			Lg	Lg	04 50 13.0	
SATY	**Saty**	**5.10**	**73**	*eP*	**Pg**	**04 49 38.6**	**-2.2**
SATY	1.3nm,0.3s 3.7nm,0.4s			*eS*	**Sg**	**04 50 48.3**	**+1.5**

IDC ***15*** *04:48:54.4±0.6,2°.02S×139°.21E,h0^{km},mb4.2/13,*
mbtmp4.2/14,ML4.3/1,MS3.7/8,Error ellipse:
s-maj=22.0km s-min=14.7km az=71.0
DJA ***15*** *04:48:55.5±0.8,2°.5±9°×13°.9E±°,h13$^{km\pm6km}$,M4.5/6,*
mb4.4/2,MLv4.5/6
NEIC ***15*** *04:48:57.9±2.3,2°.01S±0°.05×139°.21E±0°.06,h18$^{km\pm3km}$,*
mb4.4/31,Error ellipse: s-maj=9.9km s-min=6.3km
az=119.0
ISC 15 04:48:58.5±0.4,2°.04S±0°.05×139°.22E±0°.04,h29^{km},n75,
σ1^{s}32/73,mb4.4/28,MS3.6/7,1D,Near north coast of
Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.51**	**276**	P	**Pn**	**04 49 08.2**	**-1.6**
GENI	**Genyem**	**1.10**	**120**	P	**Pn**	**04 49 16.9**	**-1.0**
JAY	**Jayapura**	**1.56**	**107**	Pn	**Pn**	**04 49 23.1**	**-1.3**
JAY	39nm,0.3s,baz=255,slow=8.4,SNR=55			Sn	**Sn**	**04 49 43.3**	**-0.4**
JAY	65nm,0.3s,baz=135,slow=22,SNR=16			LR	LR	04 49 50.8	
JAY	comp=Z,319nm,21.2s,baz=346,slow=36 **Jayapura**	**1.56**	**107**	P	**Pn**	**04 49 21.5**	**-2.9**
WAMI	**Wamena**	**1.90**	**195**	P	**Pb**	**04 49 33.4**	**+0.9**
SRPI	**Serui, Papua**	**2.98**	**273**	P	**Pn**	**04 49 43.2**	**-0.7**
BAKI	**Biak**	**3.22**	**285**	P	**Pn**	**04 49 46.5**	**-0.7**
FAKI	**Fak Fak**	**7.01**	**263**		**Pn**	**04 50 39.6**	**+0.2**
FAKI	**Fak Fak**	**7.01**	**263**	P	**Pn**	**04 50 40.6**	**+1.2**
COEN	0.2nm39nm,1.3s **Coen**	**12.47**	**162**	Pn	**Pn**	**04 51 57.8**	**+3.7**
MTN	**Manton Dam**	**13.39**	**216**	Pn	**Pn**	**04 52 05.6**	**-1.1**
GUMO	**Guam**	**16.51**	**20**	LR	LR	04 58 52.2	
SOEI	comp=Z,68nm,19.3s,baz=124,slow=36 **Soe**	**16.72**	**242**	P	**P**	**04 52 52.3**	**-0.7**
SOEI				IAmb	IAmb	04 53 15.6	
KNRA	comp=Z,40nm,1.0s **Kununurra**	**17.02**	**217**	Pn	**Pn**	**04 52 53.9**	**-0.7**
WB0	**Warramunga Arr**	**18.23**	**195**	P	**Pn**	**04 53 10.2**	**+0.5**
WR8	**Warramunga Arr**	**18.39**	**194**	P	**Pn**	**04 53 10.8**	**-0.7**
WR8				IAmb	IAmb	04 53 21.9	
WRAB	comp=Z,13nm,0.6s **Tennant Creek**	**18.41**	**195**	P	**Pn**	**04 53 12.6**	**+0.9**
WRAB				IAmb	IAmb	04 53 22.1	
WRA	comp=Z,15nm,0.8s **Warramunga Arr**	**18.42**	**195**	P	**Pn**	**04 53 11.5**	**-0.4**
WRA	**Warramunga Arr**	**18.42**	**195**	P	**Pn**	**04 53 11.0**	**-0.9**
TOLI2	comp=Z,1.0nm,0.3s,baz=17,slow=12,SNR=30 **Tolitoli**	**18.70**	**279**	P	**Pn**	**04 53 15.2**	**-0.1**
FITZ	comp=Z,7.7nm,0.8s **Fitzroy Crossi**	**20.78**	**219**	P	**P**	**04 53 35.5**	**-2.0**
FITZ	**Fitzroy Crossi**	**20.78**	**219**	P	Pn	04 53 37.7	-2.3
FITZ	comp=Z,3.2nm,0.7s,baz=96,slow=6.3,SNR=12			S	**S**	**04 57 22.6**	**-5.5**
FITZ	comp=Z,26nm,0.8s,baz=198,slow=15,SNR=7.7			LR	LR	05 02 37.8	
AS31	comp=Z,187nm,21.2s,baz=350,slow=40 **Alice Springs**	**22.10**	**193**	P	**P**	**04 53 53.0**	**+1.3**
ASAR	comp=Z,3.2nm,0.7s **Alice Springs**	**22.10**	**193**	P	**P**	**04 53 51.9**	**+0.2**
ASAR	**Alice Springs**	**22.10**	**193**	P	**P**	**04 53 52.5**	**+0.8**
ASAR	comp=Z,5.8nm,0.6s,baz=27,slow=10,SNR=47			S	**S**	**04 57 53.1**	**-0.9**
ASAR	comp=Z,2.8nm,1.0s,baz=16,slow=23,SNR=6.8			LR	LR	05 02 39.1	
EIDS	comp=Z,75nm,20.0s,baz=352,slow=37 **Eidsvold**	**25.86**	**155**	P	**P**	**04 54 29.8**	**+2.0**
MBWA	comp=Z,5.8nm,0.6s **Marble Bar**	**26.86**	**224**	P	**P**	**04 54 36.3**	**-0.6**
MBWA				IAmb	IAmb	04 54 55.0	
PSA00	comp=Z,7.4nm,0.9s **Pilbara Seismi**	**27.06**	**223**	P	**P**	**04 54 38.1**	**-0.6**
PSA00				IAmb	IAmb	04 55 14.7	
STKA	comp=Z,9.0nm,1.4s **Stephens Creek**	**29.76**	**176**	P	**P**	**04 55 02.8**	**+0.2**
STKA	comp=Z,2.3nm,0.9s,baz=356,slow=12,SNR=3.3			LR	LR	05 08 20.7	
FORT	comp=Z,92nm,19.0s,baz=18,slow=39 **Forrest**	**30.47**	**199**	P	**P**	**04 55 09.6**	**+0.7**
BBOO	comp=Z,2.3nm,0.9s **Buckleboo**	**30.75**	**185**	P	**P**	**04 55 11.3**	**-0.1**
MORW	**Morawa**	**34.77**	**217**	P	**P**	**04 55 46.5**	**-0.2**
NWAO	**Narrogin (SRO)**	**37.01**	**212**	LR	LR	05 12 55.5	
CM31	comp=Z,311nm,19.2s,baz=60,slow=39 **Chiang Mai Arr**	**44.55**	**299**	P	**P**	**04 57 07.9**	**-0.3**
CM31				IAmb	IAmb	04 57 09.9	
CMAR	comp=Z,9.5nm,1.2s **Chiang Mai Arr**	**44.55**	**299**	P	**P**	**04 57 07.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**44.55**	**299**	P	**P**	**04 57 07.7**	**-0.6**
CMAR	comp=Z,4.4nm,1.0s,baz=120,slow=6.6,SNR=24			PcP	**PP**	**04 58 52.5**	**0.0**
CHTO	comp=Z,0.9nm,0.7s,baz=155,slow=2.4,SNR=5.2 **Chiang Mai**	**44.69**	**299**	P	**P**	**04 57 08.9**	**-0.5**
CHTO	comp=Z,4.4nm,1.0s			IAmb	IAmb	04 57 10.1	
BNX	comp=Z,6.2nm,1.2s **BinXian**	**48.72**	**349**	⇓P	**P**	**04 57 40.4**	**0.0**
BNX				pmax	pmax		
HHC	comp=Z,9.0nm,0.8s **Hu-ho-hao-te**	**49.58**	**332**	*eP*	**P**	**04 57 50.0**	**+2.8**
HHC				pmax	pmax		
NIUE	comp=Z,8.0nm,0.6s **Niue**	**52.54**	**112**	P	**P**	**04 58 13.2**	**+3.4**
HEH	**HeiHe**	**53.07**	**351**	*eP*	**P**	**04 58 12.8**	**-0.3**
HEH				pmax	pmax		
PETK	comp=Z,7.0nm,1.1s **Petropavlovsk-**	**57.10**	**13**	P	**P**	**04 58 42.5**	**+0.3**
PETK	**Petropavlovsk-**	**57.10**	**13**	P	**P**	**04 58 43.2**	**+1.1**
SONM	comp=Z,2.0nm,0.7s,baz=177,slow=5.6,SNR=3.7 **Songino Array**	**57.34**	**334**	P	**P**	**04 58 44.6**	**+0.5**
SONM	**Songino Array**	**57.34**	**334**	P	**P**	**04 58 44.9**	**+0.8**
MKAR	comp=Z,0.8nm,0.6s,baz=158,slow=7.9,SNR=4.4 **Makanchi Array**	**69.58**	**322**	P	**P**	**05 00 05.3**	**+0.4**
MKAR	**Makanchi Array**	**69.58**	**322**	P	**P**	**05 00 05.8**	**+0.9**
MAKZ	comp=Z,2.6nm,0.8s,baz=115,slow=8.1,SNR=19 **Makanchi**	**69.77**	**322**	P	**P**	**05 00 07.5**	**+1.3**
KDJ	**Kajisay**	**71.04**	**316**	P	**P**	**05 00 14.8**	**+0.6**
KDJ	comp=Z,2.6nm,0.8s			IAmb	IAmb	05 00 15.6	
NIL	comp=Z,2.5nm,0.9s **Nilore**	**71.34**	**306**	P	**P**	**05 00 16.1**	**+0.1**
ZALV	**Zalesovo Beam**	**71.62**	**330**	P	**P**	**05 00 16.4**	**-0.8**
ZALV	**Zalesovo Beam**	**71.62**	**330**	P	**P**	**05 00 16.1**	**-1.1**
BOOM	comp=Z,0.9nm,0.6s,baz=111,slow=8.1,SNR=3.5 **Boomskoye usch**	**72.03**	**316**	P	**P**	**05 00 20.5**	**+0.3**
BOOM	comp=Z,0.9nm,0.6s			IAmb	IAmb	05 00 21.8	
KURK	comp=Z,2.2nm,0.7s **Kurchatov**	**73.47**	**325**	P	**P**	**05 00 28.2**	**0.0**
KURK				IAmb	IAmb	05 00 29.5	
KURBB	comp=Z,3.2nm,0.9s **Kurchatov Arra**	**73.48**	**325**	P	**P**	**05 00 28.8**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=112,slow=5.6,SNR=10 comp=Z,1.9nm,0.9s						
SIMJ	**Simiganj**	**75.94**	**311**	P	**P**	**05 00 43.1**	**0.0**
SIMJ				IAmb	IAmb	05 00 44.4	
KK31	comp=Z,4.8nm,0.9s **Karatay Array**	**76.01**	**315**	P	**P**	**05 00 42.5**	**-0.7**
KK31				IAmb	IAmb	05 00 49.1	
KKAR	comp=Z,5.7nm,1.4s **Karatay Array**	**76.01**	**315**	P	**P**	**05 00 42.5**	**-0.7**
KKAR				IAmb	IAmb	05 00 49.1	
VNDA	comp=Z,5.9nm,1.4s **Vanda**	**76.39**	**175**	LR	LR	05 34 13.8	
BVAR	comp=Z,27nm,18.7s,baz=292,slow=36 **Borovoye Array**	**79.06**	**325**	P	**P**	**05 01 00.2**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=117,slow=8.5,SNR=13 comp=Z,3.7nm,0.7s						
BRVK	**Borovoye**	**79.13**	**325**	P	**P**	**05 00 59.9**	**-0.5**
BRVK				IAmb	IAmb	05 01 01.8	
NRIK	comp=Z,4.3nm,0.8s **Noril'sk**	**79.23**	**344**	P	**P**	**05 01 00.8**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=106,slow=9.0,SNR=3.6 comp=Z,1.3nm,0.3s						
E19K	**Redstone River**	**82.01**	**20**	P	**P**	**05 01 16.0**	**+0.4**
E19K				IAmb	IAmb	05 01 19.6	
MAW	comp=Z,4.8nm,1.2s **Mawson**	**82.93**	**202**	LR	LR	05 37 44.6	
	comp=Z,48nm,18.0s,baz=275,slow=35						
ABKAR	**Akbulak array**	**84.54**	**320**	P	**P**	**05 01 28.6**	**-0.4**
ABKAR				IAmb	IAmb	05 01 30.1	
ILAR	comp=Z,2.3nm,0.9s **Eielson Array**	**85.02**	**24**	P	**P**	**05 01 30.4**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=278,slow=4.9,SNR=6.1 comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**87.90**	**180**	P	**P**	**05 01 44.9**	**-0.5**
	comp=Z,4.3nm,1.1s,baz=339,slow=3.2,SNR=7.2 comp=Z,4.3nm,1.1s						
DLBC	**Dease Lake**	**92.12**	**32**	LR	LR	05 38 29.4	
	comp=Z,237nm,19.4s,baz=58,slow=32						
TORD	**Torodi Ar. Bea**	**136.55**	**287**	PKPdf	**PKiKP**	**05 08 19.5**	**-1.2**
PB11	**IPOC Station P**	**144.32**	**129**	PKPdf	**PKPdf**	**05 08 32.4**	**-0.7**
ROSC	**El Rosal**	**146.41**	**84**	PKPbc	**PKiKP**	**05 08 40.0**	**-1.4**
	comp=Z,2.5nm,0.4s,baz=96,slow=22,SNR=4.2						
LPAZ	**La Paz**	**147.42**	**125**	PKPbc	**PKPab**	**05 08 41.8**	**-1.6**

comp=Z,2.6nm,0.7s,baz=212,slow=3.3,SNR=12
RUSC La Rusia 147.56 82 PKPbc PKPbc 05 08 41.2 -0.6
CPUP Villa Florida 147.58 152 PKPbc PKPab 05 08 40.9 -2.0
comp=Z,1.6nm,0.8s,baz=100,slow=1.3,SNR=6.6
SDV Santo Domingo 149.54 76 PKPbc PKiKP 05 08 46.4 -1.2

IDC ***15*** *05:00:21.2±1.7, 1°.64N×126°.55E, h0km, mb3.6/4, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=118.0km s-min=21.0km az=69.0*
DJA ***15*** *05:00:28.1±1.0, 2°N±5°×12°6E±°, h64km±41km, M3.5/7, MLv3.5/7*
ISC 15 05:00:28.1±1.3, 1°.5N±0°.1×126°.3E±0°.2, h47km, n7, σ1°11/7, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.32	123	P	Pn	05 00 50.3	+0.3
SANI	Sanana	3.53	185	P	Pn	05 01 20.6	+0.1
FITZ	Fitzroy Crossi	19.48	182	P	P	05 04 51.0	-0.3
	0.1nm,0.3s,baz=356,slow=12,SNR=2.1						
	1.5nm,0.8s						
WRA	Warramunga Arr	22.73	160	P	P	05 05 24.6	-1.7
	1.4nm,0.5s,baz=340,slow=11,SNR=27						
	1.4nm,0.5s						
ASAR	Alice Springs	26.09	164	P	P	05 05 58.5	+1.0
	0.3nm,0.3s,baz=343,slow=11,SNR=7.5						
	0.3nm,0.3s						
MKAR	Makanchi Array	59.13	326	P	P	05 10 24.5	+0.5
	0.2nm,0.3s,baz=123,slow=7.0,SNR=5.0						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	63.37	328	P	P	05 10 51.7	-0.8
	0.2nm,0.3s,baz=118,slow=7.5,SNR=2.9						
	0.2nm,0.3s						

IDC ***15*** *05:15:46.6±0.5, 33°.75N×38°.18W, h0km, mb4.4/28, mbtmp4.4/28, MS4.0/65, Error ellipse: s-maj=15.4km s-min=11.6km az=152.0*
MOS ***15*** *05:15:46.5±1.0, 33°.77N×38°.20W, h10km, mb5.0/49, Error ellipse: s-maj=9.1km s-min=5.1km az=51.7*
NEIC ***15*** *05:15:48.7±1.4, 33°.78N±0°.10×38°.1W±0°.1, h10km±1km, mb4.9/375, Error ellipse: s-maj=16.6km s-min=15.2km az=172.0*
IGIL ***15*** *05:15:48.4, 33°.74N×38°.23W, h10km, Mb4.7*
GCMT ***15*** *05:15:50.7±0.2, 33°.70N±0°.03×38°.10W±0°.01, h12km, MW4.8/104, Moment Tensor Solution. s26,c32; s104,c153; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.04±.06; Mθθ=0.33±.07; Mφφ=2.37±.05; Mrθ=0.08±.31; Mθφ=0.65±.05; Mφr=0.75±.17; Best double couple: M=2.40600×10^16 NP1:φs=201.00000°, δ=37.00000°, λ=-77.00000°. NP2:φs=5.00000°, δ=54.00000°, λ=-100.00000°. Principal axes: T 2.6280, Plg=9.0000°, Azm=102.0000°; N -0.4440, Plg=8.0000°, Azm=11.0000°; P -2.1840, Plg=78.0000°, Azm=240.0000°; nsta=1 refers to body waves, cutoff=40s. nsta=2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 05:15:48.1±0.3, 33°.72N±0°.05×38°.13W±0°.05, h10km, n781, σ0°.84/575, mb4.9/267, MS4.1/83, 15C-1D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	9.03	55	eLQ	LQ	05 20 04.0	
CALA	Caldeira	9.03	55	eLQ	LQ	05 20 04.0	
ROSA	Rosais	9.41	55	eLQ	LQ	05 20 02.0	
ROSA	Rosais	9.41	55	eLQ	LQ	05 20 02.0	
PAGU	Agualva, Azore	10.17	57	eLQ	LQ	05 20 31.9	
PAGU	Agualva, Azore	10.17	57	eLQ	LQ	05 20 31.9	
PSMN	Pico do Norte,	11.15	69	eLQ	LQ	05 20 45.9	
PSMN	Pico do Norte,	11.15	69	eLQ	LQ	05 20 45.9	
GBN	Guysborough	21.39	310	P	P	05 20 34.2	-1.6
HAL	Halifax	22.46	307		P	05 20 46.9	-0.4
HAL				IAmb	IAmb	05 20 51.7	
	comp=Z,55nm,1.3s						
HAL	Halifax	22.46	307	P	P	05 20 46.9	-0.4
HAL				pmax	pmax		
	comp=Z,55nm,1.3s						
LMN	Caledonia Moun	23.69	309	P	P	05 21 00.3	+0.4
MESJ	Messejana	24.55	72	eP	P	05 21 09.1	+1.0
MESJ				IAmb	IAmb	05 21 10.6	
	comp=Z,31nm,1.7s						
GGN	Saint George	24.80	306	P	P	05 21 10.3	+0.1
BATG	Bathurst New B	25.03	311	P	P	05 21 10.7	-1.5
BATG				IAmb	IAmb	05 21 43.0	
	comp=Z,51nm,1.6s						
AVE	Averroes	25.57	82	P	P	05 21 15.4	-1.9
F64A	Sherman	26.04	307		P	05 21 20.9	-0.5
E62A	Clayton Lake	27.04	308	P	P	05 21 28.8	-1.6
MBO	M'Bour	27.18	130	P	P	05 21 31.2	-0.7
BBTS	Babate	27.25	129	LR	LR	05 30 04.4	
	comp=Z,542nm,18.1s,baz=194,slow=31						
PAB	San Pablo	27.61	68	P	P	05 21 38.9	+3.1
PAB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ESDC	Sonseca Array	27.91	68	P	P	05 21 38.3	-0.1
ESDC				IAmb	IAmb	05 21 42.3	
	comp=Z,55nm,1.6s						
ESDC	Sonseca Array	27.91	68	P	P	05 21 38.1	-0.4
	comp=Z,7.3nm,1.3s,baz=270,slow=8.1,SNR=11						
ESDC				LR	LR	05 30 17.1	
	comp=Z,253nm,20.2s,baz=263,slow=31						
	comp=Z,7.3nm,1.3s						
MDT	Midelt	27.97	82	LR	LR	05 30 30.1	
	comp=Z,656nm,19.4s,baz=303,slow=32						
PDPR	Patillas Dam,	29.45	245	P	P	05 21 52.4	+0.2
SJG	San Juan	29.49	245	LR	LR	05 31 10.4	
	comp=Z,145nm,21.9s,baz=69,slow=31						
MDP	Montagnes des	31.52	209	LR	LR	05 32 28.6	
	comp=Z,136nm,18.0s,baz=329,slow=32						
KUQ	Kuujjuuaa	31.75	329	P	P	05 22 12.3	+0.2
KUQ				IAmb	IAmb	05 22 13.3	
	comp=Z,34nm,1.5s						
VLDQ	Val d'Or	32.63	308		P	05 22 21.7	+1.8
VLDQ				IAmb	IAmb	05 22 23.9	
	comp=Z,24nm,1.4s						
BORG	Borgarnes	32.71	13	LR	LR	05 31 31.9	
	comp=Z,383nm,18.9s,baz=209,slow=29						
PCRV	Puerto La Cruz	33.77	232	LR	LR	05 33 31.3	
	comp=Z,130nm,20.7s,slow=32						
SFJD	Kangerlussuaq	34.11	351	LR	LR	05 33 05.0	
	comp=Z,235nm,21.0s,baz=169,slow=30						
FRB	Frobisher Bay	35.45	337	LR	LR	05 35 14.3	
	comp=Z,177nm,20.4s,baz=131,slow=33						
BNI	Bardonecchia	36.01	58		P	05 22 49.8	+0.4
BNI				IAmb	IAmb	05 23 25.9	
	comp=Z,27nm,1.5s						
BNI	Bardonecchia	36.01	58	P	P	05 22 49.8	+0.4
BNI				pmax	pmax		
	comp=Z,27nm,1.5s						
P51A	Williamsport	36.24	292	P	P	05 22 52.2	+0.9
P51A				IAmb	IAmb	05 22 55.2	
	comp=Z,38nm,1.3s						
ECH	Echery	36.58	53	P	P	05 22 53.0	-1.2
ECH				IAmb	IAmb	05 23 21.7	
	comp=Z,33nm,1.9s						
ECH	Echery	36.58	53	P	P	05 22 53.0	-1.2
ECH				pmax	pmax		
	comp=Z,33nm,1.9s						
S51A	Beattyville	36.87	289	P	P	05 22 55.0	-1.7
BAUV	El Baul	36.96	235	P	P	05 22 57.3	-0.3
TMAB	Tom-Au,PA,Br	37.11	197	eP	P	05 22 59.8	+0.9
TKL	Tuckaleechee C	37.33	286	LR	LR	05 36 36.6	
	comp=Z,541nm,18.3s,baz=88,slow=34						
R50A	Paris	37.35	291	P	P	05 23 00.8	-0.1
R50A				IAmb	IAmb	05 23 10.1	
	comp=Z,22nm,1.1s						
BFO	Black Forest	37.37	53		P	05 23 00.6	-0.3
BFO				IAmb	IAmb	05 23 04.6	
	comp=Z,59nm,1.7s						
BFO	Black Forest	37.37	53	P	P	05 23 00.6	-0.3
BFO				pmax	pmax		
	comp=Z,59nm,1.7s						
SCO	Scoresbysund	37.86	9	P	P	05 23 03.4	-1.3
SCO				IAmb	IAmb	05 24 07.9	
	comp=Z,20nm,1.0s						
SCO	Scoresbysund	37.86	9	P	P	05 23 03.4	-1.3
SCO				pmax	pmax		
	comp=Z,21nm,1.0s						
TUE	Stuetta	37.93	56		P	05 23 04.8	-1.1
TUE				IAmb	IAmb	05 23 10.6	
	comp=Z,33nm,1.3s						
TUE	Stuetta	37.93	56	P	P	05 23 07.5	+1.6
	comp=Z,80nm,1.5s						
T50A	Nancy	37.94	289	P	P	05 23 05.6	-0.2
T50A				IAmb	IAmb	05 23 08.9	
	comp=Z,54nm,1.8s						
DAVOX	Davos/Dischmat	38.31	55	LR	LR	05 35 56.1	
	comp=Z,185nm,21.8s,baz=264,slow=32						
DAVA	Damuels	38.34	55	epP	pP	05 23 10.6	-0.9
	comp=Z,32nm,1.4s						
FUORN	Ofenpass-Fuorn	38.57	56	P	P	05 23 10.4	-0.9
152A	Waverly Hall	38.75	282	P	P	05 23 12.1	-0.6
U49A	Red Boiling Sp	38.77	288	P	P	05 23 14.1	+1.3
KEST	Kesra	38.77	73	LR	LR	05 37 08.7	
	comp=Z,57nm,19.4s,baz=273,slow=33						
SDV	Santo Domingo	38.80	238	P	P	05 23 14.1	+0.7
SDV	Santo Domingo	38.80	238	LR	LR	05 36 42.7	
	comp=Z,109nm,20.9s,baz=74,slow=32						
SDV	Santo Domingo	38.80	238	eP	P	05 23 13.8	+0.4
FETA	Feichten	38.90	55	epP	pP	05 23 15.5	-0.7
	comp=Z,19nm,1.4s						
SUMG	Summit	38.92	360	P	P	05 23 13.5	-0.6
SUMG	Summit	38.92	360	P	P	05 23 13.5	-0.6
SUMG				pmax	pmax		
	comp=Z,14nm,0.9s						
SUMG	Summit	38.92	360	eP	P	05 23 13.2	-0.9
BLO	Bloomington	38.94	292	P	P	05 23 14.8	+0.6
BLO	Bloomington	38.94	292	P	P	05 23 14.8	+0.6
BLO				pmax	pmax		
	comp=Z,23nm,1.2s						
RETA	Reutte	38.94	54	eP	P	05 23 15.3	+1.1
	comp=Z,30nm,1.3s						
ZCCA	Zocca	39.06	59		P	05 23 16.1	+0.8
MOTA	Moosalm	39.17	55	eP	P	05 23 17.2	+1.0
	comp=Z,30nm,1.2s						
SQTA	Sankt Quirin	39.24	55	epP	pP	05 23 18.1	-0.9
	comp=Z,37nm,1.2s						
CLTN	Cedars of Leba	39.29	288	P	P	05 23 18.2	+1.0
OSSC	Osservatorio P	39.29	61	P	P	05 23 16.7	-0.3
OSSC				IAmb	IAmb	05 23 21.0	
	comp=Z,55nm,1.2s						
BSEG	Bad Segeberg	39.41	44	P	P	05 23 18.9	+1.0
BSEG				pmax	pmax		
	comp=Z,30nm,1.6s						
WATA	Walderalm	39.49	55	epP	pP	05 23 20.4	-0.7
	comp=Z,25nm,1.2s						
CTI	Castel Tesino	39.52	57		P	05 23 20.0	+0.9
CTI	Castel Tesino	39.52	57	P	P	05 23 20.0	+0.9
CTI				pmax	pmax		
	comp=Z,29nm,1.5s						
WTTA	Wattenberg	39.53	55	P	P	05 23 20.7	+1.5
WTTA				pmax	pmax		
	comp=Z,31nm,1.3s						
WTTA	Wattenberg	39.53	55	epP	pP	05 23 20.5	-1.0
	comp=Z,43nm,1.3s						
TAM	Tamanrasset	39.70	94		P	05 23 21.6	+0.8
TAM				IAmb	IAmb	05 23 24.8	
	comp=Z,33nm,1.1s						
TAM	Tamanrasset	39.70	94	P	P	05 23 21.7	+0.8
TAM				pmax	pmax		
	comp=Z,33nm,1.1s						
ABTA	Abfaltersbach	40.12	56	eP	P	05 23 24.2	+0.1
	comp=Z,26nm,1.2s						
NKC	Novy Kostel	40.23	50	AMS	AMS	05 37 20.0	
	comp=Z,500nm,18.5s						
LESA	Schwarzleotal	40.24	55	eP	P	05 23 26.0	+1.0
	comp=Z,14nm,1.3s						
WET	Wettzell	40.43	52	P	P	05 23 25.0	-1.5
WET				pmax	pmax		
	comp=Z,9.0nm,1.8s						
TBO	Thunder Bay	40.60	307	P	P	05 23 28.3	+0.4
CLL	Collm	40.67	49	eP	P	05 23 30.0	+1.6
CLL				eS	S	05 29 38.0	-0.2
CLL				MLR	MLR		
	comp=Z,300nm,20.0s						
CLL	Collm	40.67	49	eP	P	05 23 30.0	+1.6
CLL				eS	S	05 29 38.0	-0.2
CLL				ex	x	05 30 18.0	
CLL				eSS	SnSn	05 32 45.0	+0.7
CLL				eSSSS		05 33 18.0	
CLL				AMS	AMS	05 37 00.0	
	comp=Z,300nm,20.0s						
KBA	Koelnbreinsper	40.69	55	P	P	05 23 29.5	+0.6
KBA				pmax	pmax		
	comp=Z,21nm,1.3s						
KBA	Koelnbreinsper	40.69	55	eP	P	05 23 29.8	+0.9
	comp=Z,30nm,1.4s						
PRED	Cave del Predi	40.85	56		P	05 23 30.4	+0.4
PRED				IAmb	IAmb	05 23 39.4	
	comp=Z,25nm,1.3s						
HSKC	Hora Svate Kat	40.88	50	AMS	AMS	05 37 20.0	
	comp=Z,500nm,20.5s						
DBIC	Dimbokro	40.89	124	LR	LR	05 38 36.7	
	comp=Z,342nm,19.9s,baz=304,slow=34						
KHC	Kasperske Hory	40.89	52	eP	P	05 23 26.5	-3.9
KHC				AMS	AMS	05 37 20.0	
	comp=Z,300nm,18.9s						
KHC	Kasperske Hory	40.89	52	ceP	P	05 23 30.2	-0.2
KHC				pmax	pmax		
	comp=Z,27nm,1.7s						
KHC	Kasperske Hory	40.89	52	P	P	05 23 32.4	+2.0
BIOA	Bad Ischl, Aus	40.90	54	P	P	05 23 31.5	+1.1
	comp=Z,14nm,1.0s						
MYKA	Terra Mystica	40.90	56	eP	P	05 23 31.3	+0.8
	comp=Z,22nm,1.6s						
GERES	GERESS Array B	40.96	52	P	P	05 23 30.8	-0.2
GERES	GERESS Array B	40.96	52	P	P	05 23 31.4	+0.4
	comp=Z,2.1nm,1.0s,baz=263,slow=12,SNR=5.6						
GERES				LR	LR	05 38 02.6	
	comp=Z,108nm,19.1s,baz=262,slow=33						
	comp=Z,2.1nm,1.0s						
PRPB	Paraua pebas	41.20	198	eP	P	05 23 33.2	+0.1
SIUC	Southern Illin	41.26	291	P	P	05 23 32.8	-0.6
SIUC				IAmb	IAmb	05 23 43.1	
	comp=Z,24nm,0.9s						
ZVC	Zvikov	41.31	52	AMS	AMS	05 38 00.0	
	comp=Z,600nm,5.6s						
MOA	Molln	41.32	54	epP	pP	05 23 35.3	-0.4
	comp=Z,19nm,1.4s						
CKRC	Cesky Krumlov	41.36	52	AMS	AMS	05 36 40.0	
	comp=Z,500nm,6.0s						
ITTB	Itaituba	41.38	207	eP	P	05 23 33.6	-1.1
NBO00	NORSAR Array S	41.46	34	P	P	05 23 34.1	-0.8
PRA	Prague	41.49	51	AMS	AMS	05 39 00.0	
	comp=Z,400nm,16.3s						
OBKA	Obir	41.52	56	eP	P	05 23 36.5	+0.9
	comp=Z,28nm,1.2s						
NC204	NORSAR Array S	41.53	33	P	P	05 23 34.6	-0.8
TORD	Torodi Ar. Bea	41.54	110	P	P	05 23 34.5	-1.6
TORD	Torodi Ar. Bea	41.54	110	P	P	05 23 34.8	-1.2
	comp=Z,118nm,0.3s,baz=314,slow=7.7,SNR=5.2						
TORD				LR	LR	05 39 15.1	
	comp=Z,583nm,19.7s,baz=328,slow=34						
PRU	Pruhonice	41.55	51	AMS	AMS	05 38 40.0	
	comp=Z,300nm,16.6s						
PRU	Pruhonice	41.55	51	P	P	05 23 34.1	-1.6
PRU				pmax	pmax		
	comp=Z,12nm,2.8s						
PVCC	Panska Ves	41.60	50	AMS	AMS	05 37 40.0	
	comp=Z,500nm,18.2s						
NB2	NORSAR Subarra	41.67	34	P	P	05 23 36.3	-0.2
	comp=Z,20nm,1.4s,baz=254,slow=8.6						
NOA	NORSAR Array B	41.67	34	P	P	05 23 36.6	+0.1
	comp=Z,2.3nm,0.7s,baz=254,slow=8.5,SNR=10						
	comp=Z,2.3nm,0.7s						
CGM3	Cape Girardeau	41.68	290	P	P	05 23 35.9	-1.0
NB201	NORSAR Array S	41.70	34	P	P	05 23 36.6	-0.2
NB201				IAmb	IAmb	05 23 47.5	
	comp=Z,44nm,1.6s						
GOPC	GO Pecny, Ondr	41.71	51	AMS	AMS	05 39 10.0	
	comp=Z,400nm,16.1s						
NC303	NORSAR Array S	41.79	34	P	P	05 23 37.5	-0.1
SOKA	Soboth	41.85	56	P	P	05 23 38.4	0.0
	comp=Z,11nm,1.3s						
EYMN	Ely	41.98	306		P	05 23 39.1	-0.1
N41A	Harden Midland	42.04	295	P	P	05 23 40.1	+0.3
N41A				IAmb	IAmb	05 23 48.8	
	comp=Z,27nm,1.1s						
E38A	The Farm, Brul	42.04	304		P	05 23 40.2	+0.4
OXF	Oxford	42.09	286	P	P	05 23 38.9	-1.4
OXF				IAmb	IAmb	05 23 56.0	
	comp=Z,21nm,0.9s						
OXF	Oxford	42.09	286	P	P	05 23 38.9	-1.4
OXF				pmax	pmax		
	comp=Z,21nm,1.0s						
L40A	Anamosa	42.14	297	P	P	05 23 40.1	-0.5
L40A				IAmb	IAmb	05 23 52.4	
	comp=Z,32nm,1.4s						
ARSA	Arzberg	42.18	55		P	05 23 40.1	-0.8
ARSA	Arzberg	42.18	55	eP	P	05 23 41.4	+0.5
	comp=Z,13nm,1.4s						
Y45A	Yeager Farm, C	42.35	285	P	P	05 23 43.0	+0.5
PBMO	Poplar Bluff	42.39	290	P	P	05 23 42.8	+0.1
CONA	Conrad Observa	42.39	54	eP	P	05 23 40.8	-2.0
	comp=Z,7.2nm,1.2s						
VAE	Valguarnera	42.43	69	LR	LR	05 38 02.3	
	comp=Z,178nm,19.7s,baz=223,slow=32						
UPC	Upice	42.52	50	AMS	AMS	05 39 00.0	
	comp=Z,600nm,17.3s						
UPC	Upice	42.52	50	P	P	05 23 44.8	+1.2
UPC				pmax	pmax		
	comp=Z,12nm,2.4s						
CHVC	Chvalec	42.55	50	AMS	AMS	05 39 20.0	
	comp=Z,400nm,18.2s						
HFS	Hagfors	42.59	36	P	P	05 23 42.9	-1.1
	comp=Z,1.7nm,0.7s,baz=230,slow=9.3,SNR=4.0						
HFS				LR	LR	05 39 19.4	
	comp=Z,142nm,18.9s,baz=245,slow=33						
	comp=Z,1.7nm,0.7s						
RUSC	La Rusia	42.62	237	P	P	05 23 44.5	-0.9
OSTC	Ostas	42.65	50	AMS	AMS	05 38 10.0	
	comp=Z,500nm,20.9s						
RONA	Rosalia, Austr	42.69	54	P	P	05 23 45.3	+0.3
	comp=Z,4.9nm,0.9s						
DPC	Dobruska-Polom	42.71	50	AMS	AMS	05 38 20.0	
	comp=Z,400nm,17.7s						
DPC	Dobruska-Polom	42.71	50	P	P	05 23 47.1	+1.9
DPC	Dobruska-Polom	42.71	50	P	P	05 23 47.1	+1.9
	comp=Z,10nm,1.9s						
KRUC	Moravsky	42.74	52	P	P	05 23 46.5	+1.1
KRUC				pmax	pmax		
	comp=Z,7.0nm,1.7s						
T42A	Van Buren	42.86	290		P	05 23 46.6	+0.1
VRAC	Vranov	42.87	52	LR	LR	05 38 52.8	
	comp=Z,107nm,19.0s,baz=253,slow=32						
KRLC	Kralicky	43.00	51	AMS	AMS	05 39 20.0	
	comp=Z,200nm,18.3s						
ILON	Igloolik, Nuna	43.09	339	P	P	05 23 47.3	-0.6
P40A	Paris	43.12	294		P	05 23 49.1	+0.4
SMTB	Santa Maria do	43.29	194	eP	P	05 23 51.9	+1.7
MODS	Modra-Piesok	43.33	53	eP	P	05 23 50.4	+0.1
MODS	Modra-Piesok	43.33	53	eP	P	05 23 50.4	+0.1
EPLO	Experimental L	43.45	309		P	05 23 51.1	-0.1
R40A	Maddies Statio	43.52	292		P	05 23 51.4	-0.5
MPLH	Magyarpolny	43.55	55	P	P	05 23 52.9	+0.9
	comp=Z,54nm,1.3s						
NPGB	Novo Progresso	43.72	205	eP	P	05 23 52.6	-1.0
MGMO	Mountain Grove	43.75	291	IAmb	IAmb	05 23 59.1	
	comp=Z,23nm,1.5s						
143A	Socs Landing,	44.17	284	IAmb	IAmb	05 24 00.3	
	comp=Z,43nm,1.4s						
NEEM	North Greenlan	44.20	356	i P	P	05 23 58.3	+1.1
ROSC	El Rosal	44.23	238	LR	LR	05 40 29.0	
	comp=Z,329nm,21.1s,baz=46,slow=34						
MORH	Mrgy, Hungar	44.37	56	P	P	05 23 58.5	-0.1
	comp=Z,13nm,1.4s						
TEFE	Tefe	44.70	219	eP	P	05 24 01.6	+0.1
ULM	Lac du Bonnet	44.83	310	IAmb	IAmb	05 24 04.8	
	comp=Z,17nm,1.1s						
ULM	Lac du Bonnet	44.83	310	P	P	05 24 01.4	-0.8
	comp=Z,6.5nm,0.6s,baz=84,slow=7.2,SNR=9.3						
ULM				LR	LR	05 41 48.8	
	comp=Z,404nm,20.1s,baz=100,slow=35						
	comp=Z,6.5nm,0.6s						
ULM	Lac du Bonnet	44.83	310	i P	P	05 24 00.7	-1.5
AGMN	Agassiz Nation	44.89	307	IAmb	IAmb	05 24 03.5	
	comp=Z,9.1nm,0.8s						
PSZ	Piszkesteto	45.10	54	IAmb	IAmb	05 24 29.9	
	comp=Z,21nm,1.5s						
PSZ	Piszkesteto	45.10	54	P	P	05 24 08.0	+3.5
PSZ				pmax	pmax		
	comp=Z,7.0nm,1.7s						
WLAR	White Oak Lake	45.27	286	IAmb	IAmb	05 24 15.1	
	comp=Z,20nm,0.8s						
MIAR	Mount Ida	45.41	287	IAmb	IAmb	05 24 21.3	
	comp=Z,42nm,1.9s						
MIAR	Mount Ida	45.41	287	P	P	05 24 06.5	-0.5
U38A	Gravette	45.57	290	IAmb	IAmb	05 24 11.1	
	comp=Z,13nm,1.2s						
ECSD	EROS Data Cent	45.86	301	IAmb	IAmb	05 24 13.6	
	comp=Z,19nm,1.2s						
SDBA	SAO DESIDERIO	46.33	189	eP	P	05 24 13.4	-1.0
BLKN	Baker Lake	46.33	329	P	P	05 24 13.5	-0.4
BZS	Buzias	46.50	57	P	P	05 24 16.8	+1.3
KSU1	Kansas State U	46.68	294	P	P	05 24 16.8	-0.2
KSU1				IAmb	IAmb	05 24 19.1	
	comp=Z,13nm,1.1s						
HOLU	Holmets	46.72	53	P	P	05 24 17.7	+0.6
TUL3	Leonard	46.80	290	IAmb	IAmb	05 24 26.5	
	comp=Z,15nm,0.9s						
BERU	Beregovo	46.92	53	P	P	05 24 20.4	+1.7
H10N2	ASCENSION HYDR	47.02	147	T	T	06 14 19.1	
	baz=332,slow=75,SNR=199						
H10N3	ASCENSION HYDR	47.03	147	T	T	06 14 18.7	
	baz=332,slow=75,SNR=246						
H10N1	ASCENSION HYDR	47.04	147	T	T	06 14 16.4	
	baz=332,slow=75,SNR=216						
T35A	Sooner Cattle	47.11	291	IAmb	IAmb	05 24 28.8	
	comp=Z,14nm,0.9s						
SNDB	Serra Nova Dou	47.14	198	eP	P	05 24 20.3	-0.4
BRIU	Brid	47.16	53	P	P	05 24 22.1	+1.5
GZR	Gura Zlata	47.34	57	P	P	05 24 23.2	+1.1
W35A	Tecumseh	47.85	289	P	P	05 24 26.0	-0.2
H10S3	ASCENSION HYDR	47.94	148	T	T	06 15 27.7	
	baz=332,slow=74,SNR=1987						
H10S2	ASCENSION HYDR	47.95	148	T	T	06 15 28.7	
	baz=248,slow=74,SNR=1779						
ACON	Acoyapa	47.97	255	P	P	05 24 27.7	+0.4
TBTG	Tabatinga, AM	48.20	225	eP	P	05 24 28.7	-0.3
FNO	Franklin	48.24	289	IAmb	IAmb	05 24 32.8	
	comp=Z,19nm,1.2s						
FFC	Flin Flon	48.46	316	P	P	05 24 30.6	+0.1
FFC				IAmb	IAmb	05 24 47.0	
	comp=Z,13nm,1.2s						
FFC	Flin Flon	48.46	316	P	P	05 24 30.6	+0.1
FFC				pmax	pmax		
	comp=Z,13nm,1.2s						
HKT	Hockley	48.63	282	i P	P	05 24 32.0	-0.1
HKT				pmax	pmax		
	comp=Z,16nm,2.0s						
SAML	Samuel	48.66	214	P	P	05 24 31.9	-0.6
SAML				IAmb	IAmb	05 24 40.3	
	comp=Z,21nm,1.4s						
SAML	Samuel	48.66	214	P	P	05 24 31.9	-0.6
SAML				pmax	pmax		
	comp=Z,21nm,1.4s						
SAML	Samuel	48.66	214	eP	P	05 24 29.9	-2.6
JTS	Las Juntas de	48.76	253	LR	LR	05 42 26.2	
	comp=Z,202nm,20.7s,baz=47,slow=33						
FINES	FINESS Array B

MNK *i* LRM MLR 05 43 46.3
comp=E,433nm,21.5s
MNK *i* LRM MLR 05 43 55.0
comp=N,254nm,19.9s
MNK *i* LRM MLR 05 43 59.8
comp=Z,241nm,17.9s
MNK Minsk 49.72 44 *i* P **P 05 24 39.6 -0.6**
MNK *i* 05 26 34.1
MNK *i* PPP PPP 05 27 27.7
MNK *i* S **S 05 31 49.4 +0.4**
MNK *i* SS **SS 05 35 23.6 +2.6**
MNK *i* SSS SSS 05 36 44.6
MNK pmax pmax
comp=E,13nm,0.8s
MNK pmax pmax
comp=N,11nm,0.8s
MNK pmax pmax
comp=Z,35nm,1.1s
MNK pmax pmax
comp=E,433nm,21.0s
MNK pmax pmax
comp=N,254nm,20.0s
MNK pmax pmax
comp=Z,241nm,18.0s
PLOR3 Plostina Array 49.95 56 P **P 05 24 43.1 +0.9**
comp=Z,12nm,1.1s
PLOR5 Plostina Array 49.96 56 P **P 05 24 42.6 +0.3**
comp=Z,15nm,1.4s
BDFB Brasilia 49.99 192 P **P 05 24 43.1 +0.3**
BDFB IAmb IAmb 05 24 45.1
comp=Z,16nm,0.9s
BDFB Brasilia 49.99 192 P **P 05 24 43.0 +0.3**
comp=Z,14nm,1.0s,baz=14,slow=9.8,SNR=20
BDFB LR LR 05 43 54.8
comp=Z,121nm,18.0s,baz=110,slow=34
comp=Z,14nm,1.0s
BDFB Brasilia 49.99 192 P **P 05 24 43.1 +0.3**
BDFB pmax pmax
comp=Z,16nm,0.9s
VRI Vrincioaia 50.00 56 P P 05 24 47.6 +5.1
MTO3 Montecristo 50.04 260 P **P 05 24 43.7 +0.3**
MTO3 IAmb IAmb 05 25 40.9
comp=Z,19nm,0.8s
RDO Rodhopi 50.10 62 IAmb IAmb 05 24 47.4
comp=Z,27nm,1.4s
SPITS Spitsbergen Ar 50.17 13 LR LR 05 41 04.5
comp=Z,133nm,18.1s,baz=179,slow=30
OTAV Otavalo 50.38 237 P **P 05 24 45.8 -0.5**
OTAV IAmb IAmb 05 24 55.3
comp=Z,18nm,1.1s
OTAV Otavalo 50.38 237 P **P 05 24 45.8 -0.5**
OTAV pmax pmax
comp=Z,18nm,1.1s
OTAV Otavalo 50.38 237 *e*P **P 05 24 46.2 -0.1**
SMWD Samnorwood 50.51 290 IAmb IAmb 05 24 55.5
comp=Z,13nm,0.9s
SORM Soroca 50.72 53 P **P 05 24 47.5 -0.4**
SORM Soroca 50.72 53 P **P 05 24 47.5 -0.4**
comp=Z,751nmcomp=Z,4.9nm,0.9s
AK20 Malin Array Si 50.77 49 P **P 05 24 47.8 -0.4**
AK19 Malin Array Si 50.77 49 P **P 05 24 47.9 -0.3**
AK21 Malin Array Si 50.78 49 P **P 05 24 48.1 -0.2**
AK22 Malin Array Si 50.80 49 P **P 05 24 48.0 -0.5**
ARAG Araguaiana, MT 50.86 197 *e*P **P 05 24 49.0 -0.2**
AK11 Malin Array Si 50.87 49 P **P 05 24 50.2 +1.2**
KIEV Kiev 50.90 49 P **P 05 24 49.2 0.0**
KIEV Kiev 50.90 49 P **P 05 24 49.2 0.0**
KIEV pmax pmax
comp=Z,12nm,1.1s
KIEV Kiev 50.90 49 P **P 05 24 50.5 +1.3**
comp=Z,41nm,1.4s
AKASG Malin Array Be 50.91 49 P **P 05 24 48.6 -0.6**
comp=Z,4.5nm,0.9s,baz=277,slow=7.1,SNR=17
comp=Z,4.5nm,0.9s
AKBB Malin Array Si 50.91 49 IAmb IAmb 05 24 51.3
comp=Z,13nm,1.1s
AKBB Malin Array Si 50.91 49 *ce*P **P 05 24 48.2 -1.1**
AKBB pmax pmax
comp=Z,14nm,1.1s
AKBB Malin Array Si 50.91 49 P **P 05 24 50.5 +1.2**
AK10 Malin Array Si 50.94 49 P **P 05 24 49.3 -0.2**
APMT Aspermont 50.96 288 **P 05 24 49.6 -0.4**
APMT IAmb IAmb 05 24 58.2
comp=Z,13nm,0.9s
IDI Anoyia 51.16 69 P **P 05 24 52.2 +0.8**
comp=Z,26nm,1.2s,baz=190,slow=5.1,SNR=3.5
comp=Z,26nm,1.2s
KSCO Kaye Shedlock' 51.25 296 IAmb IAmb 05 24 55.5
comp=Z,18nm,1.2s
JCT Junction City 51.66 284 P **P 05 24 54.3 -1.0**
DIAM Diamantina, MG 52.00 187 *e*P **P 05 24 58.6 +0.8**
LAO LASA Array 52.06 306 IAmb IAmb 05 25 00.7
comp=Z,20nm,1.2s
SALV Santo Antonio 52.12 202 *e*P **P 05 24 58.4 -0.2**
POST Post 52.14 288 IAmb IAmb 05 25 07.2
comp=Z,12nm,0.9s
SJMB Sao Joao De Ma 52.21 184 *e*P **P 05 24 59.3 0.0**
APA Apatity 52.29 27 ↓*i*P **P 05 24 59.3 -0.1**
APA *i* 05 26 10.3
APA *i* 05 26 56.0
APA pmax pmax
comp=Z,16nm,1.1s
IPMB Ipameri, GO 52.31 192 *e*P **P 05 25 00.5 +0.4**
PMNB Patos De Minas 52.57 190 *e*P **P 05 25 02.9 +0.9**
CZSB Cruzeiro do Su 52.68 225 IAmb IAmb 05 25 11.1
comp=Z,19nm,1.0s
CZSB Cruzeiro do Su 52.68 225 *e*P **P 05 25 00.7 -2.2**
PTLB Pontes e Lacer 52.84 206 P **P 05 25 04.4 +0.4**
PTLB Pontes e Lacer 52.84 206 *e*P **P 05 25 03.0 -0.9**
MANT Manisa 53.03 64 IAmb IAmb 05 25 09.1
comp=Z,17nm,1.3s
C2SB Chapadao do Su 54.05 197 *e*P **P 05 25 12.8 0.0**
SIV San Ignacio 54.06 208 LR LR 05 47 36.9
comp=Z,60nm,18.6s,baz=94,slow=35
EGMT Eagleton 54.13 308 IAmb IAmb 05 25 14.7
comp=Z,22nm,1.1s
ITRB Iturama 54.40 194 *e*P **P 05 25 16.6 +1.2**
RLMT Red Lodge 54.48 305 IAmb IAmb 05 25 22.2
comp=Z,21nm,1.5s
YKA Yellowknife Ar 54.56 326 P **P 05 25 15.8 -0.3**
comp=Z,1.7nm,0.7s,baz=84,slow=7.7,SNR=42
YKA PcP **PcP 05 26 18.6 -0.6**
comp=Z,2.5nm,0.7s,baz=88,slow=4.4,SNR=19
YKA LR LR 05 47 39.5
comp=Z,430nm,20.0s,baz=79,slow=35
comp=Z,1.7nm,0.7s
OBN Obninsk 54.64 43 *ce*P **P 05 25 17.2 +0.4**
OBN *i* 05 26 18.8
OBN pmax pmax
comp=Z,66nm,1.3s
ALPN Alpine 54.79 286 IAmb IAmb 05 25 20.1
comp=Z,17nm,1.7s
YNE Yellowstone No 55.02 305 IAmb IAmb 05 25 20.7
comp=Z,11nm,1.0s
O20A White River Ci 55.10 298 IAmb IAmb 05 25 42.0
comp=Z,18nm,1.3s
MOS Moscow 55.13 42 *e*P **P 05 25 21.1 +0.8**
MOS pmax pmax
comp=Z,37nm,0.8s
TXAR Lajitas Array 55.20 285 P **P 05 25 20.8 -0.7**
TXAR Lajitas Array 55.20 285 P **P 05 25 21.2 -0.2**
comp=Z,1.9nm,1.1s,baz=95,slow=7.7,SNR=9.8
TXAR LR LR 05 46 56.5
comp=Z,334nm,20.9s,baz=74,slow=34
comp=Z,1.9nm,1.1s
PD31 Pinedale Array 55.30 302 IAmb IAmb 05 25 30.3
comp=Z,12nm,1.1s
PDAR Pinedale Array 55.30 302 P **P 05 25 21.2 -0.8**
comp=Z,4.7nm,1.0s,baz=77,slow=7.8,SNR=26
PDAR LR LR 05 47 00.4
comp=Z,102nm,21.8s,baz=64,slow=34
comp=Z,4.7nm,1.0s
KLMR Klimovskoe 55.31 36 *e*P **P 05 25 19.6 -1.9**
KLMR pmax pmax
comp=Z,27nm,1.4s
ANMO Albuquerque 55.40 292 P **P 05 25 23.3 +0.4**
ANMO Albuquerque 55.40 292 IAmb IAmb 05 25 32.5
comp=Z,2.9nm,0.9s
ANMO Albuquerque 55.40 292 LR LR 05 48 28.9
comp=Z,271nm,18.5s,baz=233,slow=36
ANMO Albuquerque 55.40 292 *ce*P **P 05 25 23.8 +0.9**
ANMO pmax pmax
comp=Z,4.0nm,1.7s
YFT Old Faithful 55.73 304 P **P 05 25 26.4 +1.3**
ATAH Atahualpa 55.74 231 LR LR 05 49 16.0
comp=Z,57nm,19.5s,baz=34,slow=36

YMR Madison River 55.76 304 P **P 05 25 26.1 +0.7**
YMR IAmb IAmb 05 25 35.5
comp=Z,24nm,1.1s
RPRD Ribas do Rio P 55.91 198 *e*P **P 05 25 26.7 +0.4**
SNOW Snow King Moun 55.95 303 IAmb IAmb 05 25 35.7
comp=Z,10nm,0.9s
TPAW Teton Pass 56.08 303 IAmb IAmb 05 25 30.1
comp=Z,28nm,1.7s
MVCO Mesa Verde 56.20 295 IAmb IAmb 05 25 45.4
comp=Z,9.7nm,1.1s
AHID Auburn Hatcher 56.39 302 IAmb IAmb 05 25 32.7
comp=Z,26nm,1.4s
BR106 Keskin Array S 56.41 62 P **P 05 25 30.0 0.0**
comp=Z,49nmcomp=Z,6.0nm,1.1s
BR105 Keskin Array S 56.42 62 P **P 05 25 29.8 -0.3**
comp=Z,51nmcomp=Z,6.5nm,1.1s
BRTR Keskin Array B 56.43 62 P **P 05 25 30.1 -0.1**
BRTR Keskin Array B 56.43 62 P **P 05 25 30.4 +0.3**
comp=Z,4.1nm,1.0s,baz=287,slow=5.9,SNR=15
BRTR LR LR 05 49 16.5
comp=Z,64nm,18.1s,baz=304,slow=36
comp=Z,4.1nm,1.0s
BR104 Keskin Array S 56.44 62 P **P 05 25 30.0 -0.2**
comp=Z,55nmcomp=Z,6.3nm,1.1s
AQDB Aquidauana 56.44 200 P **P 05 25 30.1 +0.1**
AQDB IAmb IAmb 05 25 32.6
comp=Z,12nm,1.0s
AQDB Aquidauana 56.44 200 *e*P **P 05 25 29.7 -0.3**
LPSR Galich'ya Gora 56.51 45 *e*P **P 05 25 30.3 0.0**
LPSR pmax pmax
comp=Z,51nm,1.5s
DLMT Dillon 56.69 306 IAmb IAmb 05 25 41.5
comp=Z,20nm,1.1s
VORR Voronezh 56.89 46 *e*P **P 05 25 32.6 -0.4**
VORR pmax pmax
comp=Z,22nm,1.2s
VSR Storozhevoye 56.98 47 *e*P **P 05 25 30.6 -3.0**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VAO Valinhos 57.03 190 *e*P **P 05 25 35.5 +1.1**
VORD Divnogorie 57.12 47 *e*P **P 05 25 32.6 -2.0**
VORD pmax pmax
comp=Z,10.0nm,0.9s
MSO Missoula 57.18 308 IAmb IAmb 05 25 36.3
comp=Z,13nm,1.4s
LPAZ La Paz 57.38 215 P **P 05 25 36.6 -0.9**
comp=Z,11nm,1.2s,baz=18,slow=9.3,SNR=12
LPAZ LR LR 05 48 43.6
comp=Z,122nm,20.1s,baz=24,slow=34
comp=Z,11nm,1.2s
LPAZ La Paz 57.38 215 *e*P **P 05 25 36.7 -0.9**
A36M Sachs Harbour 57.44 338 IAmb IAmb 05 25 40.2
comp=Z,12nm,1.0s
A36M Sachs Harbour 57.44 338 P **P 05 25 36.8 +0.3**
baz=81
C36M Paulatuk 57.48 335 P **P 05 25 36.8 -0.1**
baz=80
MURT Porto Murtinho 58.12 201 *e*P **P 05 25 42.7 +0.8**
DUG Dugway, Tooele 58.41 300 IAmb IAmb 05 25 52.5
comp=Z,27nm,1.6s
DUG Dugway, Tooele 58.41 300 P **P 05 25 44.0 -0.1**
VRH Novokhopyorsk 58.53 47 *e*P **P 05 25 43.1 -1.5**
VRH pmax pmax
comp=Z,27nm,1.4s
MVU Marysvale 58.54 298 IAmb IAmb 05 26 42.6
comp=Z,7.3nm,0.6s
NEW Newport 58.84 310 LR LR 05 50 38.3
comp=Z,357nm,20.1s,baz=66,slow=36
NEW Newport 58.84 310 P **P 05 25 46.3 -0.5**
KOTAN Kotaneelee Air 59.47 325 P **P 05 25 51.5 +0.5**
baz=75,SNR=6.2
KNB Kanab 59.51 296 IAmb IAmb 05 25 53.8
comp=Z,11nm,1.4s
F10A Beach Ranch, E 59.61 307 IAmb IAmb 05 26 25.1
comp=Z,26nm,1.9s
TUC Tucson 59.72 291 P **P 05 25 53.2 0.0**
TUC Tucson 59.72 291 P **P 05 25 53.2 0.0**
TUC pmax pmax
comp=Z,3.0nm,1.1s
PSUT Pine Spring 59.74 298 IAmb IAmb 05 25 55.4
comp=Z,10nm,1.0s
BMO Blue Mountains 60.02 306 IAmb IAmb 05 26 06.6
comp=Z,12nm,1.4s
TOAD Toad River Com 60.40 323 P **P 05 25 57.3 -0.1**
baz=73
LIRD Liard River Hi 60.66 324 P **P 05 25 59.4 +0.3**
baz=73
KIRV Kirov 60.69 37 LR LR 05 49 43.6
comp=Z,150nm,21.8s,baz=285,slow=34
KIRV Kirov 60.69 37 *ce*P **P 05 25 58.9 -0.4**
GO01 Chusmiza 60.80 214 IAmb IAmb 05 26 08.4
comp=Z,20nm,1.3s
Y14A Wickenburg 60.80 293 IAmb IAmb 05 26 02.6
comp=Z,20nm,1.9s
SJPY San Joaquin 60.85 199 *e*P **P 05 25 59.5 -1.3**
PRN Pahroc Range 61.03 298 IAmb IAmb 05 26 12.4
comp=Z,8.8nm,1.0s
TGTN Hyland Airport 61.05 327 P **P 05 26 02.5 +0.7**
baz=72,SNR=9.9
INK Inuvik 61.06 335 LR LR 05 50 54.3
comp=Z,167nm,20.9s,baz=16,slow=34
PB11 IPOC Station P 61.10 214 P **P 05 26 01.6 -1.1**
PB08 IPOC Station P 61.19 214 P **P 05 26 03.4 -0.2**
PB08 IAmb IAmb 05 26 10.8
comp=Z,9.9nm,0.9s
KOPT Kop Dagi 61.30 59 P **P 05 26 03.4 -0.7**
F31M Tsiigehtchic 61.42 334 P **P 05 26 04.5 +0.3**
F31M Tsiigehtchic 61.42 334 P **P 05 26 04.6 +0.5**
baz=71,SNR=14
KIV Kislovodsk 61.42 54 *e*P **P 05 26 05.1 +0.4**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,36nm,17.0s
SHA1 Shidzhatmaz 61.48 55 *i*P **P 05 26 03.1 -2.1**
V12A Nelson 61.51 296 IAmb IAmb 05 26 15.0
comp=Z,8.6nm,0.9s
ASF Jabal al Asfar 61.61 69 LR LR 05 54 06.0
comp=Z,29nm,18.1s,baz=329,slow=37
KBZ Khabaz 61.65 54 P **P 05 26 07.0 +1.0**
comp=Z,1.1nm,1.0s,baz=306,slow=3.5,SNR=8.3
comp=Z,8.1nm,1.0s
WTLY Watson Lake, Y 61.74 325 IAmb IAmb 05 26 11.3
comp=Z,19nm,1.6s
WTLY Watson Lake, Y 61.74 325 P **P 05 26 06.9 +0.4**
baz=71
WVOR Wild Horse Val 61.76 304 P **P 05 26 07.9 +0.9**
I07A Izee 61.76 306 IAmb IAmb 05 26 12.2
comp=Z,9.7nm,1.3s
G31M Satah River 61.79 334 IAmb IAmb 05 26 09.4
comp=Z,16nm,1.1s
G31M Satah River 61.79 334 P **P 05 26 07.0 +0.4**
baz=70,SNR=7.3
113A Mohawk Valley, 61.85 292 IAmb IAmb 05 26 16.9
comp=Z,7.2nm,1.1s
MMPY Sheldon Lake, 62.04 328 P **P 05 26 09.0 +0.6**
baz=70
TPNV Topopah Spring 62.09 297 IAmb IAmb 05 26 38.5
comp=Z,6.8nm,1.1s
F30M Barrier River 62.10 335 P **P 05 26 09.5 +0.7**
baz=69,SNR=11
H31M Peel River 62.21 332 IAmb IAmb 05 26 12.9
comp=Z,19nm,1.4s
H31M Peel River 62.21 332 P **P 05 26 10.0 +0.5**
baz=69
CPUP Villa Florida 62.45 199 P **P 05 26 11.4 -0.1**
CPUP Villa Florida 62.45 199 P **P 05 26 11.6 +0.2**
comp=Z,3.1nm,1.0s,baz=5.9,slow=6.2,SNR=4.9
CPUP LR LR 05 53 14.1
comp=Z,58nm,18.1s,baz=20,slow=36
comp=Z,3.1nm,1.0s
CPUP Villa Florida 62.45 199 *e*P **P 05 26 11.8 +0.3**
D28M Stokes Point 62.48 337 P **P 05 26 11.5 +0.3**
baz=68
G30M tAoh Zraii Nji 62.49 334 P **P 05 26 11.6 +0.2**
baz=68,SNR=13
E29M Blow River 62.55 336 IAmb IAmb 05 26 14.6
comp=Z,12nm,1.2s
E29M Blow River 62.55 336 P **P 05 26 12.3 +0.6**
baz=68
MZP Montezuma Peak 62.63 299 IAmb IAmb 05 26 14.3
comp=Z,14nm,1.8s
LPIG La Paz 62.78 282 LR LR 05 52 32.6
comp=Z,119nm,19.7s,baz=21,slow=35
EPYK Eagle Plains 62.90 333 P **P 05 26 14.9 +0.8**
baz=68,SNR=5.4
NVAR Mina Array Bea 63.02 300 P **P 05 26 14.8 -0.8**

NVAR Mina Array Bea 63.02 300 P **P 05 26 15.4 -0.2**
comp=Z,2.1nm,0.8s,baz=76,slow=6.9,SNR=15
NVAR LR LR 05 51 40.3
comp=Z,318nm,21.9s,baz=103,slow=34
comp=Z,2.1nm,0.8s
R33M Jennings River 63.02 325 IAmb IAmb 05 26 18.8
comp=Z,8.5nm,1.1s
R33M Jennings River 63.02 325 P **P 05 26 15.8 +0.6**
baz=69
E28M Babbage River 63.03 336 IAmb IAmb 05 26 17.5
comp=Z,12nm,1.3s
E28M Babbage River 63.03 336 P **P 05 26 15.1 +0.2**
baz=66
FARO Faro, Yukon 63.08 328 IAmb IAmb 05 26 16.6
comp=Z,15nm,1.4s
FARO Faro, Yukon 63.08 328 P **P 05 26 15.9 +0.5**
baz=68
RYN Ryan 63.10 300 IAmb IAmb 05 26 17.0
comp=Z,27nm,1.9s
GSC Goldstone, Bar 63.15 296 IAmb IAmb 05 26 26.8
comp=Z,24nm,1.6s
G29M Pine Creek 63.17 334 P **P 05 26 16.6 +0.6**
baz=67,SNR=5.7
DSP Deep Springs 63.19 299 IAmb IAmb 05 26 17.7
comp=Z,13nm,1.6s
I30M Mount Dempster 63.21 332 IAmb IAmb 05 26 26.4
comp=Z,14nm,1.6s
I30M Mount Dempster 63.21 332 P **P 05 26 16.5 +0.2**
baz=68
J05D Fort Rock, OR 63.22 306 P **P 05 26 17.6 +0.8**
D27M Malcolm River 63.24 337 P **P 05 26 16.5 +0.1**
baz=66,SNR=6.2
N32M Quiet Lake 63.36 327 P **P 05 26 17.4 +0.1**
baz=68
J30M Hart River 63.44 331 IAmb IAmb 05 26 21.2
comp=Z,16nm,1.7s
J30M Hart River 63.44 331 P **P 05 26 17.9 0.0**
baz=67
T35M Bob Quinn 63.54 322 P **P 05 26 19.3 +0.7**
baz=68
M31M Drury Creek, Y 63.55 329 IAmb IAmb 05 26 22.7
comp=Z,7.8nm,1.1s
M31M Drury Creek, Y 63.55 329 P **P 05 26 19.2 +0.7**
baz=68,SNR=8.5
PFO Pinyon Flats O 63.57 294 LR LR 05 53 42.0
comp=Z,275nm,18.5s,baz=57,slow=36
H29M Whitestone 63.58 334 IAmb IAmb 05 26 19.9
comp=Z,11nm,0.9s
H29M Whitestone 63.58 334 P **P 05 26 19.5 +0.9**
baz=66,SNR=9.5
P33M Teslin, Yukon 63.59 326 IAmb IAmb 05 26 21.7
comp=Z,8.2nm,1.2s
P33M Teslin, Yukon 63.59 326 P **P 05 26 19.1 +0.2**
baz=68
S34M Telegraph Cree 63.64 323 P **P 05 26 19.4 +0.3**
baz=68
Q32M Nakina River 63.80 325 P **P 05 26 20.7 +0.3**
baz=68
E27K Coleen River 63.90 336 IAmb IAmb 05 26 24.2
comp=Z,15nm,1.1s
E27K Coleen River 63.90 336 P **P 05 26 21.1 +0.3**
baz=64,SNR=10.0
I29M Ogilvie Camp, 63.90 333 IAmb IAmb 05 26 22.7
comp=Z,15nm,1.2s
I29M Ogilvie Camp, 63.90 333 P **P 05 26 21.4 +0.7**
baz=66,SNR=10
C27K Jago River 63.95 338 IAmb IAmb 05 26 24.8
comp=Z,11nm,1.1s
C27K Jago River 63.95 338 P **P 05 26 22.0 +1.0**
baz=63,SNR=12
C26K Camden Bay 64.19 338 P **P 05 26 23.1 +0.6**
baz=62,SNR=6.4
K29M Barlow Dome 64.21 331 IAmb IAmb 05 26 25.3
comp=Z,13nm,1.6s
K29M Barlow Dome 64.21 331 P **P 05 26 23.2 +0.3**
baz=66
J29N Klondike Camp 64.24 332 P **P 05 26 23.1 0.0**
baz=66
P32M Atlin 64.25 326 P **P 05 26 22.6 -0.6**
baz=67
GNI Garni 64.26 58 LR LR 05 55 12.9
comp=Z,37nm,19.1s,baz=312,slow=37
L04D Klamath Falls 64.36 305 P **P 05 26 24.8 +0.5**
WHY Whitehorse 64.36 327 P **P 05 26 23.8 -0.2**
baz=67
M30M Minto, Yukon 64.43 330 IAmb IAmb 05 26 27.3
comp=Z,16nm,1.6s
M30M Minto, Yukon 64.43 330 P **P 05 26 24.4 +0.1**
baz=66
N31M Braeburn, Yuko 64.43 328 IAmb IAmb 05 26 28.0
comp=Z,12nm,1.1s
N31M Braeburn, Yuko 64.43 328 P **P 05 26 24.0 -0.3**
baz=66
I28M Miner Creek 64.48 333 P **P 05 26 24.9 +0.2**
baz=65,SNR=12
G27K Doyon Strip 64.52 335 IAmb IAmb 05 26 35.7
comp=Z,13nm,1.6s
G27K Doyon Strip 64.52 335 P **P 05 26 25.2 +0.4**
baz=64,SNR=6.3
H27K Steamboat Moun 64.73 334 IAmb IAmb 05 26 29.9
comp=Z,9.3nm,1.1s
H27K Steamboat Moun 64.73 334 P **P 05 26 26.5 +0.3**
baz=64,SNR=7.4
L29M L29M 64.77 330 IAmb IAmb 05 26 58.1
comp=Z,21nm,1.8s
L29M L29M 64.77 330 P **P 05 26 26.7 +0.2**
baz=65
WRAK Wrangell Islan 64.83 322 P **P 05 26 27.2 +0.3**
baz=67
YBH Yreka Blue Hor 64.83 305 LR LR 05 55 12.6
comp=Z,208nm,18.1s,baz=58,slow=36
O30N Mendenhall 64.86 328 P **P 05 26 27.7 +0.6**
baz=66
DAWY Dawson 64.87 332 IAmb IAmb 05 26 30.6
comp=Z,21nm,1.5s
DAWY Dawson 64.87 332 P **P 05 26 28.0 +0.8**
baz=64
V35K Ketchikan 64.88 321 P **P 05 26 27.9 +0.7**
baz=67
D25K Kavik River 64.92 338 IAmb IAmb 05 27 10.7
comp=Z,11nm,1.2s
D25K Kavik River 64.92 338 P **P 05 26 27.6 +0.2**
baz=61,SNR=7.3
F26K Sheenjek River 64.98 336 IAmb IAmb 05 26 32.1
comp=Z,12nm,1.2s
F26K Sheenjek River 64.98 336 P **P 05 26 28.3 +0.5**
baz=62,SNR=12
N30M Aishikik Lake 65.02 328 IAmb IAmb 05 27 03.8
comp=Z,18nm,1.5s
N30M Aishikik Lake 65.02 328 P **P 05 26 28.5 +0.3**
baz=65
I27K Kandik River 65.04 334 P **P 05 26 29.1 +0.8**
baz=63,SNR=8.6
SKAG Skagway 65.06 326 P **P 05 26 28.9 +0.6**
baz=66
R32K Eaglecrest 65.16 325 P **P 05 26 29.6 +0.5**
baz=66
M29M Somme Creek 65.19 330 IAmb IAmb 05 26 33.3
comp=Z,11nm,1.4s
M29M Somme Creek 65.19 330 P **P 05 26 29.8 +0.5**
baz=64
G26K Porcupine Rive 65.20 335 IAmb IAmb 05 26 33.3
comp=Z,15nm,1.3s
G26K Porcupine Rive 65.20 335 P **P 05 26 30.1 +1.0**
baz=62,SNR=9.0
E25K Arctic Village 65.25 337 P **P 05 26 30.4 +0.9**
baz=61,SNR=13
BMAR Burnt Mountain 65.25 336 P **P 05 26 30.1 +0.5**
CPSB Cacapava Do Su 65.41 195 *e*P **P 05 26 32.0 +1.2**
C24K Franklin Bluff 65.43 339 P **P 05 26 31.2 +0.6**
baz=59,SNR=9.0
ITQB Itaqui 65.44 198 *e*P **P 05 26 31.5 +0.4**
HYT Haines Junctio 65.47 328 P **P 05 26 31.6 +0.3**
baz=65
P30M Million Dollar 65.53 327 P **P 05 26 32.4 +0.9**
baz=65
F25K Christian Rive 65.53 336 IAmb IAmb 05 26 34.0
comp=Z,15nm,1.4s
F25K Christian Rive 65.53 336 P **P 05 26 32.1 +0.7**
baz=61,SNR=9.0
CRAG Craig 65.61 321 P **P 05 26 32.0 0.0**
baz=66
YUK4 Talbot Arm 65.74 329 P **P 05 26 32.7 -0.4**
baz=64
I26K Coal Creek Min 65.75 334 IAmb IAmb 05 26 36.9
comp=Z,20nm,1.5s
I26K Coal Creek Min 65.75 334 P **P 05 26 33.4 +0.7**
baz=62

D24K	Happy Valley	65.76 338	IAmb	IAmb	05 26 34.1
	comp=Z,9.4nm,0.9s				
D24K	Happy Valley	65.76 338	P	P	05 26 33.5 +0.7
	baz=59				
YUK6	Outpost Mounta	65.80 328	P	P	05 26 33.8 +0.3
	baz=64				
C23K	Itkillik River	65.93 339	P	P	05 26 34.6 +0.7
	baz=58,SNR=16				
K27K	Chicken	65.94 332	P	P	05 26 34.7 +0.6
	baz=62				
ARTI	Arti	66.00 37	P	P	05 26 33.8 -0.7
ARTI	Arti	66.00 37	LR	LR	05 54 57.8
	comp=Z,160nm,18.3s,baz=302,slow=36				
ARTI	Arti	66.00 37 *c i*	P	P	05 26 32.9 -1.6
ARTI			S	S	05 35 20.9 -1.2
ARTI			pmax	pmax	
	comp=Z,18nm,0.9s				
P29M	Windy Craggy	66.09 327	P	P	05 26 35.7 +0.6
	baz=64				
G25K	Bearman Lake	66.10 336	P	P	05 26 35.4 +0.5
	baz=60,SNR=10				
BVCY	Beaver Creek	66.20 330	P	P	05 26 36.6 +0.8
	baz=63				
E24K	Your Creek	66.22 337	P	P	05 26 37.1 +1.3
	baz=59,SNR=13				
H25L	Birch Creek	66.25 335	P	P	05 26 37.2 +1.3
	baz=60				
YUK8	Steele Glacier	66.25 329	P	P	05 26 36.6 +0.2
	baz=63				
TOLK	Toolik Lake Re	66.26 338	IAmb	IAmb	05 27 07.7
	comp=Z,9.5nm,0.8s				
TOLK	Toolik Lake Re	66.26 338	P	P	05 26 36.8 +0.7
	baz=58,SNR=7.9				
BCAR	Beaver Creek A	66.28 331	P	P	05 26 35.8 -0.5
J26L	Joseph Creek	66.29 333	IAmb	IAmb	05 26 38.7
	comp=Z,17nm,1.4s				
J26L	Joseph Creek	66.29 333	P	P	05 26 37.4 +1.0
	baz=61,SNR=9.4				
L27K	Beaver Creek,	66.29 331	P	P	05 26 37.3 +0.9
	baz=62,SNR=6.2				
F24K	Squaw Lake	66.31 337	IAmb	IAmb	05 26 40.5
	comp=Z,14nm,1.3s				
F24K	Squaw Lake	66.31 337	P	P	05 26 37.6 +1.2
	baz=59,SNR=8.9				
YUK3	Moose Creek	66.33 330	P	P	05 26 37.1 +0.2
	baz=63				
D23K	Nanushuk River	66.43 339	IAmb	IAmb	05 27 00.6
	comp=Z,8.6nm,1.2s				
D23K	Nanushuk River	66.43 339	P	P	05 26 37.9 +0.8
	baz=57				
B22K	Teshekpuk Lake	66.45 341	IAmb	IAmb	05 26 40.9
	comp=Z,14nm,1.1s				
B22K	Teshekpuk Lake	66.45 341	P	P	05 26 38.0 +0.8
	baz=55,SNR=14				
A22K	Sinclair Lake	66.49 341	P	P	05 26 38.6 +1.2
	baz=54				
PRP	Porcupine Dome	66.52 334	IAmb	IAmb	05 26 40.2
	comp=Z,18nm,1.4s				
PRP	Porcupine Dome	66.52 334	P	P	05 26 39.0 +1.1
	baz=60,SNR=11				
E23K	Chandalar	66.59 338	IAmb	IAmb	05 26 39.7
	comp=Z,8.5nm,1.2s				
E23K	Chandalar	66.59 338	P	P	05 26 39.6 +1.3
	baz=58,SNR=5.3				
G24K	Hadweenzic Riv	66.60 336	P	P	05 26 39.6 +1.4
	baz=59,SNR=12				
M27K	Edge Creek, AK	66.65 330	P	P	05 26 39.3 +0.6
	baz=62				
SCRK	Sand Creek	66.70 332	IAmb	IAmb	05 26 51.1
	comp=Z,25nm,2.0s				
SCRK	Sand Creek	66.70 332	P	P	05 26 40.5 +1.4
	baz=61,SNR=5.4				
A21K	Barrow	66.73 342	P	P	05 26 39.8 +0.8
	baz=53				
PLTB	Pedras Altas	66.75 194 *eP*	P	P	05 26 41.0 +1.5
PNL	Peninsula	66.83 327	P	P	05 26 40.9 +1.1
	baz=63				
J25K	Salcha River,	66.91 333	IAmb	IAmb	05 26 43.6
	comp=Z,15nm,1.4s				
J25K	Salcha River,	66.91 333	P	P	05 26 41.1 +0.8
	baz=60,SNR=7.1				
L26K	Log Cabin Wild	66.92 331	IAmb	IAmb	05 26 47.3
	comp=Z,24nm,1.9s				
L26K	Log Cabin Wild	66.92 331	P	P	05 26 41.1 +0.7
	baz=61				
SVE	Sverdlovsk	66.93 36 *eP*	P	P	05 26 40.8 +0.3
SVE			pmax	pmax	
	comp=Z,28nm,1.4s				
PINM	Pinnacle	67.02 328	P	P	05 26 40.9 -0.2
	baz=62				
D22K	Ayikyak River	67.08 339	IAmb	IAmb	05 26 56.5
	comp=Z,17nm,1.4s				
D22K	Ayikyak River	67.08 339	P	P	05 26 42.7 +1.5
	baz=55,SNR=7.6				
M26K	Nabesna, AK	67.08 331	P	P	05 26 42.7 +1.2
	baz=61				
RIDG	Independent Ri	67.15 332	P	P	05 26 43.0 +1.2
	baz=60,SNR=10.0				
H24K	Noodor Dome	67.19 335	IAmb	IAmb	05 26 43.6
	comp=Z,6.9nm,0.9s				
H24K	Noodor Dome	67.19 335	P	P	05 26 43.0 +1.0
	baz=58,SNR=12				
TBOT	Tacuaremb	67.19 196 *eP*	P	P	05 26 43.0 +0.8
B21K	Ikpikpuk River	67.21 340	P	P	05 26 42.9 +0.8
	baz=54,SNR=6.0				
COLD	Coldfoot	67.23 337	IAmb	IAmb	05 26 45.9
	comp=Z,18nm,1.4s				
COLD	Coldfoot	67.23 337	P	P	05 26 43.5 +1.3
	baz=57,SNR=9.0				
E22K	Anaktuvuk Pass	67.24 338	IAmb	IAmb	05 26 51.1
	comp=Z,14nm,1.4s				
E22K	Anaktuvuk Pass	67.24 338	P	P	05 26 43.0 +0.7
	baz=56,SNR=7.4				
ILAR	Eielson Array	67.39 334	P	P	05 26 42.6 -0.7
ILAR	Eielson Array	67.39 334	P	P	05 26 43.6 +0.4
	comp=Z,2.7nm,1.0s,baz=50,slow=4.5,SNR=14				
ILAR			LR	LR	05 54 51.7
	comp=Z,95nm,19.4s,baz=58,slow=35				
	comp=Z,2.7nm,1.0s				
POKR	Poker Plat Res	67.41 334	P	P	05 26 44.5 +1.1
	baz=58				
G23K	Bananza Creek	67.45 336	P	P	05 26 45.0 +1.3
	baz=57,SNR=17				
K24K	Donnelly Dome	67.48 333	P	P	05 26 45.5 +1.6
	baz=59,SNR=5.4				
C21K	Knifeblade Rid	67.53 340	P	P	05 26 44.9 +0.8
	baz=54				
HDA	Harding Lake	67.61 334	IAmb	IAmb	05 26 47.8
	comp=Z,7.9nm,1.1s				
HDA	Harding Lake	67.61 334	P	P	05 26 45.0 +0.4
	baz=58				
B20K	Meade River	67.68 341	IAmb	IAmb	05 26 49.0
	comp=Z,12nm,1.1s				
B20K	Meade River	67.68 341	P	P	05 26 46.0 +1.0
	baz=52,SNR=13				
COLA	College	67.69 334 *i*	P	P	05 26 44.2 -0.9
COLA			pmax	pmax	
	comp=Z,23nm,2.7s				
COLA	College	67.69 334	P	P	05 26 45.7 +0.6
	baz=58				
F22K	John River	67.71 338	P	P	05 26 45.8 +0.5
	baz=55				
E21K	Killik River	67.72 339	IAmb	IAmb	05 27 00.1
	comp=Z,14nm,1.2s				
E21K	Killik River	67.72 339	P	P	05 26 45.7 +0.4
	baz=54				
H23K	Yukon River	67.78 336	P	P	05 26 46.3 +0.6
	baz=57,SNR=12				
PAX	Paxson	67.79 332	IAmb	IAmb	05 26 48.0
	comp=Z,17nm,1.6s				
PAX	Paxson	67.79 332	P	P	05 26 46.4 +0.5
	baz=59				
G22K	Bettles	67.82 337	P	P	05 26 46.6 +0.7
	baz=56				
GLB	Gilahina Butte	67.89 330	IAmb	IAmb	05 26 49.5
	comp=Z,11nm,1.3s				
HARP	HAARP	67.96 331	P	P	05 26 47.6 +0.7
	baz=59				
WRH	Wood River Hil	67.99 334	IAmb	IAmb	05 26 50.1
	comp=Z,10nm,1.1s				
I23K	Minto, Yukon-K	68.08 335	IAmb	IAmb	05 26 49.1
	comp=Z,6.5nm,0.9s				
I23K	Minto, Yukon-K	68.08 335	P	P	05 26 48.1 +0.5
	baz=57,SNR=6.3				
N25K	Chitina, Valde	68.14 330	P	P	05 26 48.4 +0.3
	baz=59				
NEA2	Nenana	68.28 334	IAmb	IAmb	05 26 50.7
	comp=Z,14nm,1.3s				
NEA2	Nenana	68.28 334	P	P	05 26 49.4 +0.4
	baz=57,SNR=5.6				
F21K	Alatna River	68.28 338	IAmb	IAmb	05 26 50.9
	comp=Z,18nm,1.4s				
F21K	Alatna River	68.28 338	P	P	05 26 49.7 +0.8
	baz=54,SNR=9.3				
D20K	Etivluk River	68.33 340	IAmb	IAmb	05 27 04.5
	comp=Z,10.0nm,1.1s				
D20K	Etivluk River	68.33 340	P	P	05 26 49.5 +0.4
	baz=52				
BGLC	Bering Glacier	68.33 329	P	P	05 26 50.1 +0.9
	baz=60				
H22K	Ishtalitna Cre	68.36 336	P	P	05 26 50.3 +0.9
	baz=55,SNR=10				
AKTO	Aktyubinsk	68.42 43	LR	LR	05 55 59.0
	comp=Z,254nm,19.4s,baz=262,slow=35				
BMRM	Bremner River	68.47 330	P	P	05 26 50.5 +0.3
	baz=59				
E20K	Nigu River	68.49 339	P	P	05 26 51.4 +1.2
	baz=52,SNR=10				
M24K	Tolsona, Glenn	68.52 331	P	P	05 26 51.2 +0.8
	baz=58				
A19K	Wainwright	68.58 342	P	P	05 26 51.2 +0.6
	baz=49,SNR=5.8				
MCK	McKinley	68.71 333	IAmb	IAmb	05 27 02.3
	comp=Z,12nm,1.1s				
MCK	McKinley	68.71 333	P	P	05 26 52.4 +0.8
	baz=57,SNR=6.2				
G21K	Allakaket	68.71 337	P	P	05 26 52.4 +0.9
	baz=54,SNR=10				
KLU	Klutina	68.74 331	IAmb	IAmb	05 26 54.8
	comp=Z,12nm,1.2s				
KLU	Klutina	68.74 331	P	P	05 26 52.6 +0.7
	baz=58				
RND	Reindeer	68.86 333	IAmb	IAmb	05 27 26.8
	comp=Z,9.0nm,1.2s				
RND	Reindeer	68.86 333	P	P	05 26 52.4 -0.2
D19K	Kuna River	68.90 340	IAmb	IAmb	05 27 03.6
	comp=Z,16nm,1.4s				
D19K	Kuna River	68.90 340	P	P	05 26 53.5 +0.8
	baz=51				
KAIM	Kayak Island	68.92 329	P	P	05 26 53.8 +0.8
	baz=59				
H21K	Melozitna Rive	68.98 336	IAmb	IAmb	05 26 57.4
	comp=Z,7.3nm,1.1s				
H21K	Melozitna Rive	68.98 336	P	P	05 26 54.2 +0.9
	baz=54,SNR=8.8				
F20K	Avaraart Lake	69.09 338	IAmb	IAmb	05 26 55.3
	comp=Z,8.1nm,0.9s				
F20K	Avaraart Lake	69.09 338	P	P	05 26 54.7 +0.9
	baz=52,SNR=12				
SCM	Sheep Creek Mo	69.12 331	P	P	05 26 54.3 +0.1
	baz=57				
BPAW	Bear Paw Mtn.	69.25 334	P	P	05 26 55.5 +0.5
	baz=55,SNR=6.2				
E19K	Redstone River	69.30 339	IAmb	IAmb	05 26 58.5
	comp=Z,8.4nm,1.0s				
E19K	Redstone River	69.30 339	P	P	05 26 55.9 +0.7
	baz=51,SNR=8.4				
M23K	Glacier View	69.30 331	P	P	05 26 55.7 +0.3
	baz=57				
B18K	Kokolik River	69.34 342	P	P	05 26 56.6 +1.3
	baz=48,SNR=6.6				
TRF	Thorofare Moun	69.37 334	IAmb	IAmb	05 26 58.8
	comp=Z,24nm,1.7s				
TRF	Thorofare Moun	69.37 334	P	P	05 26 55.8 -0.1
	baz=56				
SML	Sawmill	69.54 332	P	P	05 26 57.0 +0.2
	baz=56				
KTH	Kantishna Hill	69.54 334	IAmb	IAmb	05 26 58.2
	comp=Z,14nm,1.1s				
GLI	Glacier Island	69.55 330	P	P	05 26 57.0 +0.1
	baz=57				
C18K	Utkok River	69.66 341	IAmb	IAmb	05 27 00.5
	comp=Z,8.6nm,1.1s				
C18K	Utukok River	69.66 341	P	P	05 26 57.8 +0.3
	baz=48				
H20K	Anotleneega Mo	69.77 337	P	P	05 26 58.9 +0.7
	baz=52,SNR=8.1				
GHO	Glory Hole Cre	69.79 332	IAmb	IAmb	05 27 08.9
	comp=Z,22nm,1.4s				
KNK	Knik Glacier	69.81 331	IAmb	IAmb	05 27 01.8
	comp=Z,14nm,1.1s				
KNK	Knik Glacier	69.81 331	P	P	05 26 59.2 +0.8
	baz=56,SNR=6.4				
F19K	Shaleruckik Mo	69.86 339	P	P	05 26 59.4 +0.8
	baz=50,SNR=7.2				
CHUM	Lake Minchumin	69.86 335	P	P	05 26 58.6 -0.1
	baz=54,SNR=9.2				
NRIK	Noril'sk	69.87 18	P	P	05 26 59.6 +1.0
	comp=Z,1.9nm,0.7s,baz=315,slow=5.0,SNR=6.2				
	comp=Z,1.9nm,0.7s				
NRIK	Noril'sk	69.87 18 *ceP*	P	P	05 26 58.7 0.0
NRIK			pmax	pmax	
	comp=Z,13nm,1.8s				
CUT	Chulitna	69.96 333	P	P	05 26 59.4 +0.2
	baz=55				
PMR	Palmer	69.97 332	IAmb	IAmb	05 27 02.7
	comp=Z,20nm,1.3s				
PMR	Palmer	69.97 332	P	P	05 26 59.9 +0.5
	baz=56,SNR=10				
CAST	Castle Rocks	70.05 334	IAmb	IAmb	05 27 10.5
	comp=Z,22nm,1.9s				
CAST	Castle Rocks	70.05 334	P	P	05 26 59.8 -0.1
	baz=54				
I20K	Naaghedeneel	70.06 336	P	P	05 27 00.3 +0.4
	baz=52				
PWL	Port Wells	70.06 331	P	P	05 27 00.0 0.0
	baz=56				
ABKAR	Akbulak array	70.07 44	P	P	05 27 00.5 +0.2
G19K	Purcell Mounta	70.08 338	P	P	05 27 00.5 +0.5
	baz=51,SNR=9.0				
P23K	Montague Islan	70.16 330	P	P	05 27 00.9 +0.4
	baz=57				
CO01	Juntas del Tor	70.20 209	P	P	05 27 01.7 +0.2
CO01			IAmb	IAmb	05 27 04.8
	comp=Z,16nm,1.1s				
H19K	Roundabout Mou	70.27 337		P	05 27 01.5 +0.4
H19K			IAmb	IAmb	05 27 04.5
	comp=Z,19nm,1.3s				
H19K	Roundabout Mou	70.27 337	P	P	05 27 02.0 +0.9
	baz=51,SNR=8.1				
E18K	Tukpahlearik C	70.31 340	P	P	05 27 02.3 +0.9
	baz=48				
J20K	Nowinta River	70.33 335	IAmb	IAmb	05 27 02.9
	comp=Z,14nm,1.1s				
J20K	Nowinta River	70.33 335	P	P	05 27 02.2 +0.7
	baz=53,SNR=11				
PPLA	Purkeypile	70.39 334	P	P	05 27 01.1 -1.1
PPLA			IAmb	IAmb	05 27 35.8
	comp=Z,14nm,1.3s				
PPLA	Purkeypile	70.39 334	P	P	05 27 01.9 -0.3
	baz=54				
RC01	Rabbit Creek A	70.50 331	P	P	05 27 03.1 +0.4
RC01	Rabbit Creek A	70.50 331	P	P	05 27 03.3 +0.6
	baz=55				
RDOG	Red Dog Mine	70.53 341	P	P	05 27 03.5 +0.8
RDOG	Red Dog Mine	70.53 341	P	P	05 27 03.3 +0.6
	baz=46				
F18K	Selawik	70.58 339	P	P	05 27 03.3 +0.3
	baz=49				
SUA	Susitna One	70.68 332		P	05 27 02.8 -1.1
SUA	Susitna One	70.68 332	P	P	05 27 04.1 +0.2
	baz=54				
SKT	Skwentna	70.69 333	P	P	05 27 04.0 +0.2
	baz=54				
G18K	Tagagawik	70.73 338	P	P	05 27 04.8 +0.7
G18K			IAmb	IAmb	05 27 18.1
	comp=Z,19nm,1.6s				
G18K	Tagagawik	70.73 338	P	P	05 27 04.4 +0.4
	baz=50				
K20K	Telida	70.80 335	P	P	05 27 04.7 +0.2
	baz=52				
D17K	Noatak River	70.82 341	P	P	05 27 04.9 +0.4
	baz=46				
O22K	Cooper Landing	70.84 331	P	P	05 27 05.4 +0.6
	baz=55				
E17K	Hotham Inlet	70.89 340	P	P	05 27 05.7 +0.8
	baz=47				
GCSA	Galena City Sc	70.90 337	P	P	05 27 05.8 +0.8
	baz=51				
SEW	Seward	70.95 330	P	P	05 27 05.9 +0.5
	baz=55				
J19K	Poorman	70.95 336	IAmb	IAmb	05 27 08.2
	comp=Z,8.4nm,1.1s				
J19K	Poorman	70.95 336	P	P	05 27 05.3 -0.1
	baz=51,SNR=6.4				
C16K	Lisburne Hills	71.02 342	P	P	05 27 06.2 +0.5
	baz=44				
SLKM	Skilak Lake	71.03 331	IAmb	IAmb	05 27 17.1
	comp=Z,18nm,1.4s				
H18K	Honhosa River	71.12 337	IAmb	IAmb	05 27 16.1
	comp=Z,22nm,1.6s				
H18K	Honhosa River	71.12 337	P	P	05 27 07.2 +0.8
	baz=50				
F17K	Baldwin Pennin	71.16 339	P	P	05 27 07.5 +1.0
	baz=48				
L20K	Farewell, AK	71.27 334	P	P	05 27 07.0 -0.4
	baz=52,SNR=5.5				
M20K	Styx River	71.35 333	IAmb	IAmb	05 27 09.0
	comp=Z,13nm,1.3s				
M20K	Styx River	71.35 333	P	P	05 27 07.8 -0.1
	baz=53,SNR=6.7				
G17K	Kiwalik Mounta	71.61 338	P	P	05 27 10.2 +0.8
	baz=48				
J18K	Innoko River	71.66 335	IAmb	IAmb	05 27 11.5
	comp=Z,16nm,1.4s				
J18K	Innoko River	71.66 335	P	P	05 27 10.6 +0.9
	baz=50,SNR=7.3				
BRSE	Bradley Lake S	71.69 330	P	P	05 27 11.0 +1.1
	baz=54				
H17K	Granite Mounta	71.76 338	P	P	05 27 11.2 +0.9
	baz=48,SNR=5.6				
L19K	White Mountain	71.81 334	P	P	05 27 10.5 -0.1
	baz=52				
M19K	Big River Lodg	71.81 333	IAmb	IAmb	05 27 13.2
	comp=Z,16nm,1.4s				
M19K	Big River Lodg	71.81 333	P	P	05 27 10.5 -0.1
	baz=52				
HOM	Homer	72.11 331	P	P	05 27 12.6 +0.2
	baz=53				
G16K	Koyuk River	72.21 339	P	P	05 27 13.6 +0.7
	baz=46				
RAYN	Ar Rayn	72.29 73	P	P	05 27 13.4 -0.8
RAYN	Ar Rayn	72.29 73	P	P	05 27 13.4 -0.8
RAYN			pmax	pmax	
	comp=Z,6.0nm,1.2s				
L18K	Granite Mounta	72.45 334	P	P	05 27 15.0 +0.6
	baz=50				
ILSW	Iliamna Southw	72.51 331	IAmb	IAmb	05 27 25.4
	comp=Z,13nm,1.6s				
J17K	VABM Dome	72.52 336	IAmb	IAmb	05 27 18.4
	comp=Z,13nm,1.2s				
J17K	VABM Dome	72.52 336	P	P	05 27 15.3 +0.5
	baz=48				
N19K	Bonanza Creek	72.53 333	P	P	05 27 15.1 +0.1
	baz=52				
M18K	Stony River	72.60 334	P	P	05 27 15.2 -0.1
	baz=51				
F15K	North Star Dit	72.67 340	IAmb	IAmb	05 27 20.2
	comp=Z,14nm,1.1s				
F15K	North Star Dit	72.67 340	P	P	05 27 16.5 +0.8
	baz=44				
K17K	Iditarod	72.70 335	P	P	05 27 16.8 +0.9
	baz=49				
I17K	Unalakleet	72.72 337	P	P	05 27 16.7 +0.7
	baz=47				
P19K	Oil Pt	72.75 331	P	P	05 27 16.3 0.0
	baz=52				
O19K	Port Alsworth	72.85 332	IAmb	IAmb	05 27 18.9
	comp=Z,11nm,1.2s				
O19K	Port Alsworth	72.85 332	P	P	05 27 16.6 -0.2
	baz=51				
MBAR	Mbarara	72.86 103	P	P	05 27 17.6 -0.2
MBAR			IAmb	IAmb	05 27 21.3
	comp=Z,10nm,1.1s				
MBAR	Mbarara	72.86 103 *i*	P	P	05 27 17.4 -0.4
MBAR			pmax	pmax	
	comp=Z,16nm,1.4s				
G15K	Niukluk	73.00 339	P	P	05 27 18.8 +1.2
	baz=45				
Q20K	Shuyak Island	73.05 330	P	P	05 27 19.3 +1.3
	baz=52				
L17K	Donlin	73.08 335	P	P	05 27 18.9 +0.7
	baz=49				
J16K	Anvik River	73.10 337	P	P	05 27 19.3 +1.0
	baz=47				
N18K	Kilae Creek	73.14 333	P	P	05 27 19.6 +1.0
	baz=50				
M17K	Holitna River	73.25 334	P	P	05 27 20.0 +0.8
	baz=49				
F14K	Arctic Creek	73.32 340	P	P	05 27 20.6 +1.1
	baz=43				
Q19K	Cape Douglas,	73.37 331	P	P	05 27 20.5 +0.5
	baz=52				
O18K	Koktuh Hills	73.41 332	IAmb	IAmb	05 27 20.6
	comp=Z,9.8nm,1.1s				
O18K	Koktuh Hills	73.41 332	P	P	05 27 19.9 -0.2
	baz=51,SNR=5.3				
KDAK	Kodiak Island	73.63 329	LR	LR	06 00 23.6
	comp=Z,335nm,18.3s,baz=270,slow=36				
KDAK	Kodiak Island	73.63 329	P	P	05 27 21.4 -0.1
	baz=52				
BRVK	Borovoye	73.64 37	P	P	05 27 21.2 -0.3
BRVK			IAmb	IAmb	05 27 25.4
	comp=Z,10nm,1.1s				
BRVK	Borovoye	73.64 37 *ceP*	P	P	05 27 22.1 +0.5
BRVK			pmax	pmax	
	comp=Z,13nm,1.3s				
TNA	Tin City	73.71 341	P	P	05 27 21.4 -0.4
	baz=42				
BVAR	Borovoye Array	73.71 37	P	P	05 27 22.5 +0.5
	comp=Z,5.2nm,0.8s,baz=305,slow=5.2,SNR=23				
	comp=Z,5.2nm,0.8s				
P18K	Big Mountain,	73.71 332	P	P	05 27 22.0 +0.1
	baz=50				
N17K	Nushagak Hills	73.73 333	P	P	05 27 22.6 +0.6
	baz=49				
L16K	Owhat River	73.78 335	P	P	05 27 23.3 +1.0
	baz=48				
M16K	Timber Creek	74.06 334	P	P	05 27 25.0 +1.0
	baz=48				
K15K	Wolf Creek Mou	74.09 336	P	P	05 27 25.0 +0.9
	baz=46				
Q18K	Katmai Hardscr	74.10 331	P	P	05 27 24.8 +0.4
	baz=50				
O17K	Koliganek Bris	74.19 333	P	P	05 27 24.5 -0.2
	baz=49				
OHAK	Old Harbor	74.28 329	P	P	05 27 25.4 +0.2
	baz=52				
P17K	Kvichak River	74.31 332	P	P	05 27 25.7 +0.3
	baz=50				
N16K	Nishlik Lake	74.36 334	P	P	05 27 26.7 +1.0
	baz=48				
LODK	Lodwar	74.38 96	P	P	05 27 27.1 +0.5
LODK			IAmb	IAmb	05 27 31.1
	comp=Z,24nm,1.3s				
J14K	Nanvaranak Lak	74.44 337	P	P	05 27 26.5 +0.4
	baz=45				
H09W1	TRISTAN DA CUN	74.45 159	T	T	06 48 36.1
	SNR=11				
ACHA	Angle Creek He	74.50 331	IAmb	IAmb	05 27 29.3
	comp=Z,13nm,1.4s				
L15K	Ungalak Mounta	74.51 336	P	P	05 27 27.1 +0.6
	baz=46				
TIXI	Tiksi	74.52 4	P	P	05 27 27.1 +0.7
TIXI			IAmb	IAmb	05 27 29.6
	comp=Z,9.6nm,1.1s				
TIXI	Tiksi	74.52 4 *i*	P	P	05 27 26.0 -0.4
TIXI			pmax	pmax	
	comp=Z,10.0nm,1.0s				
R18K	Karluk	74.56 330	P	P	05 27 26.5 -0.3
	baz=51				
O16K	Kokwok River B	74.69 333	P	P	05 27 28.2 +0.6
	baz=48				
Q17K	Contact Creek	74.70 331	P	P	05 27 28.0 +0.2
	baz=50,SNR=5.7				
TSUM	Tsumeb	74.75 126	LR	LR	05 56 14.9
	comp=Z,120nm,20.4s,baz=344,slow=32				
M15K	Kasigluk River	74.91 335	P	P	05 27 29.4 +0.6
	baz=47				
P16K	Nushagak River	75.03 332	P	P	05 27 29.2 -0.3
	baz=48				
N15K	Kwethluk River	75.05 334	P	P	05 27 29.6 -0.1
	baz=47				
SII	Sitkinak Islan	75.08 329	P	P	05 27 30.5 +0.5
	baz=51				
L14K	Kuka Creek	75.15 336	IAmb	IAmb	05 27 34.6
	comp=Z,19nm,1.1s				
L14K	Kuka Creek	75.15 336	P	P	05 27 31.7 +1.5
	baz=45,SNR=7.1				
M14K	Bethel	75.32 335	P	P	05 27 31.8 +0.6
	baz=46				
K13K	Kusilvak Mount	75.39 337	IAmb	IAmb	05 27 36.1
	comp=Z,14nm,1.1s				
K13K	Kusilvak Mount	75.39 337	P	P	05 27 32.3 +0.7

baz=44
O15K Ungalikthiuk R 75.63 333 IAmb IAmb 05 27 45.7
comp=Z,9.8nm,1.1s
O15K Ungalikthiuk R 75.63 333 P **P** **05 27 33.8 +0.8**
baz=47
N14K Kuskokwak Cree 75.80 334 P **P** **05 27 34.9 +1.0**
baz=46
M13K Dall Lake 76.04 335 P **P** **05 27 36.2 +0.8**
baz=44
O14K Tigyukauivet M 76.11 334 P **P** **05 27 35.3 -0.4**
baz=46
GAMB Gambell 76.12 341 P **P** **05 27 36.2 +0.5**
baz=38
ATD Arta Tunnel 76.24 85 LR LR 06 01 54.8
comp=Z,8.0nm,18.1s,baz=14,slow=36
BRZS Berezniki 76.65 38 *eP* **P** **05 27 39.5 +0.5**
BRZS Berezniki 76.65 38 *eP* **P** **05 27 39.5 +0.5**
BILL Bilibino 76.91 351 P **P** **05 27 40.4 +0.2**
BILL IAmb IAmb 05 27 42.0
comp=Z,14nm,1.3s
BILL Bilibino 76.91 351 *ceP* **P** **05 27 41.5 +1.3**
BILL pmax pmax
comp=Z,14nm,1.7s
M11K Mekoryuk 77.04 336 P **P** **05 27 41.1 +0.2**
baz=42
KMBO Kilima Mbogo 78.49 99 P **P** **05 27 50.8 +0.6**
KMBO IAmb IAmb 05 27 55.2
comp=Z,12nm,1.4s
KMBO Kilima Mbogo 78.49 99 P **P** **05 27 51.8 +1.6**
comp=Z,1.3nm,0.2s,baz=345,slow=7.8,SNR=8.9
KMBO LR LR 06 03 15.7
comp=Z,190nm,18.3s,baz=288,slow=36
comp=Z,1.3nm,0.2s
SDPT Sand Point 78.53 331 P **P** **05 27 49.7 +0.4**
baz=46
KURK Kurchatov 79.16 35 P **P** **05 27 52.5 -0.4**
KURK IAmb IAmb 05 27 56.2
comp=Z,14nm,1.2s
KURK Kurchatov 79.16 35 *ceP* **P** **05 27 53.2 +0.3**
KURK pmax pmax
comp=Z,14nm,1.3s
KURBB Kurchatov Arra 79.17 35 P **P** **05 27 52.8 -0.3**
comp=Z,3.6nm,0.8s,baz=313,slow=5.9,SNR=41
KURBB LR LR 06 01 38.9
comp=Z,71nm,18.9s,baz=168,slow=35
comp=Z,3.6nm,0.8s
BRLS Borolday 79.21 45 *eP* **P** **05 27 54.1 +0.7**
BRLS Borolday 79.21 45 *eP* **P** **05 27 54.1 +0.7**
KKAR Karatay Array 79.56 45 P **P** **05 27 55.8 +0.4**
KKAR Karatay Array 79.56 45 P **P** **05 27 55.8 +0.4**
LSZ Lusaka 79.72 116 P **P** **05 27 56.5 -0.1**
LSZ IAmb IAmb 05 28 00.0
comp=Z,20nm,1.3s
LSZ Lusaka 79.72 116 P **P** **05 27 56.5 -0.1**
LSZ pmax pmax
comp=Z,20nm,1.3s
ZALV Zalesovo Beam 79.76 30 P **P** **05 27 55.4 -0.8**
ZALV Zalesovo Beam 79.76 30 P **P** **05 27 56.5 +0.3**
comp=Z,0.8nm,0.3s,baz=316,slow=6.2,SNR=8.2
ZALV LR LR 06 02 51.1
comp=Z,40nm,19.2s,baz=262,slow=35
comp=Z,0.8nm,0.3s
KIBK Kibwezi 79.83 100 IAmb IAmb 05 28 02.5
comp=Z,17nm,1.2s
IUG Iuzhnay 79.84 46 *eP* **P** **05 27 57.6 +0.6**
IUG Iuzhnay 79.84 46 *eP* **P** **05 27 57.6 +0.6**
PLCA Paso Flores 79.90 204 **P** **05 27 59.1 +2.1**
PLCA IAmb IAmb 05 27 59.6
comp=Z,16nm,1.2s
PLCA Paso Flores 79.90 204 P **P** **05 27 58.1 +1.1**
comp=Z,5.3nm,1.0s,baz=55,slow=3.7,SNR=6.5
PLCA LR LR 06 02 38.3
comp=Z,74nm,18.9s,baz=71,slow=35
comp=Z,5.3nm,1.0s
PLCA Paso Flores 79.90 204 P **P** **05 27 59.1 +2.1**
PLCA pmax pmax
comp=Z,16nm,1.3s
PLCA Paso Flores 79.90 204 *eP* **P** **05 27 58.5 +1.5**
FALS False Pass 80.07 331 P **P** **05 27 57.8 0.0**
baz=44
SEM Semipalatinsk 80.14 35 *eP* **P** **05 27 58.7 +0.1**
SEM Semipalatinsk 80.14 35 *eP* **P** **05 27 58.7 +0.1**
DZA Taraz 80.17 45 *eP* **P** **05 27 59.0 +0.4**
DZA Taraz 80.17 45 *eP* **P** **05 27 59.1 +0.4**
SIMJ Simiganj 81.28 49 P **P** **05 28 05.0 +0.2**
SGDS Sogindy 81.72 43 *eP* **P** **05 28 07.2 +0.2**
SGDS Sogindy 81.72 43 *eP* **P** **05 28 07.3 +0.2**
AAK Ala-Archa 82.16 43 P **P** **05 28 09.0 -0.4**
AAK Ala-Archa 82.16 43 LR LR 06 04 45.7
comp=Z,127nm,19.2s,baz=320,slow=36
AAK Ala-Archa 82.16 43 *ceP* **P** **05 28 08.2 -1.2**
AAK pmax pmax
comp=Z,5.0nm,1.3s
KUU Kurty 82.40 42 *eP* **P** **05 28 10.8 +0.3**
KUU Kurty 82.40 42 *eP* **P** **05 28 10.8 +0.3**
CHKK Chushkaly 82.78 41 *eP* **P** **05 28 12.8 +0.3**
CHKK Chushkaly 82.78 41 *eP* **P** **05 28 12.9 +0.3**
AAA Alma-Ata 83.16 42 *eP* **P** **05 28 14.7 +0.2**
AAA pmax pmax
comp=Z,5.0nm,0.5s
AAA Alma-Ata 83.16 42 *eP* **P** **05 28 14.8 +0.2**
comp=Z,5.4nm,0.5s
MATP Matopo 83.20 120 LR LR 06 03 44.0
comp=Z,73nm,20.1s,baz=241,slow=35
MDOK Medeo 83.27 42 *eP* **P** **05 28 15.3 +0.1**
MDOK Medeo 83.27 42 *eP* **P** **05 28 15.3 +0.1**
TNSS Tian-Shan 83.29 42 *eP* **P** **05 28 15.4 -0.2**
TNSS Tian-Shan 83.29 42 *eP* **P** **05 28 15.4 -0.2**
SEY Seymchan 83.31 355 LR LR 06 03 17.6
comp=Z,76nm,20.2s,baz=3.5,slow=34
SEY Seymchan 83.31 355 *ceP* **P** **05 28 15.9 +1.1**
SEY pmax pmax
comp=Z,10.0nm,1.7s
MAKZ Makanchi 83.43 37 P **P** **05 28 15.4 -0.3**
MAKZ IAmb IAmb 05 28 19.0
comp=Z,15nm,1.4s
MAKZ Makanchi 83.43 37 P **P** **05 28 15.4 -0.3**
MAKZ pmax pmax
comp=Z,15nm,1.4s
MK31 Makanchi Array 83.59 37 *ceP* **P** **05 28 16.8 +0.2**
MKAR Makanchi Array 83.59 37 P **P** **05 28 16.3 -0.3**
MKAR Makanchi Array 83.59 37 P **P** **05 28 16.4 -0.2**
comp=Z,7.1nm,1.1s,baz=316,slow=5.1,SNR=20
MKAR LR LR 06 05 25.8
comp=Z,138nm,18.4s,baz=293,slow=36
comp=Z,7.1nm,1.1s
ZHN Zhinishke 84.03 41 *eP* **P** **05 28 19.1 +0.1**
ZHN pmax pmax
comp=Z,5.0nm,1.0s
ZHN Zhinishke 84.03 41 *eP* **P** **05 28 19.2 +0.1**
comp=Z,5.1nm,1.0s
SATY Saty 84.08 41 *eP* **P** **05 28 19.6 +0.3**
SATY pmax pmax
comp=Z,6.0nm,1.1s
SATY Saty 84.08 41 *eP* **P** **05 28 19.6 +0.3**
comp=Z,5.7nm,1.1s
LBTB Lobatse 84.12 125 LR LR 06 02 37.5
comp=Z,107nm,18.5s,baz=320,slow=33
UZB Uzynbulak 84.36 41 *eP* **P** **05 28 20.9 +0.2**
UZB Uzynbulak 84.36 41 *eP* **P** **05 28 21.0 +0.2**
ZSN Zaisan 84.39 35 *eP* **P** **05 28 20.8 +0.2**
ZSN Zaisan 84.39 35 *eP* **P** **05 28 20.8 +0.2**
SHLS Shalkode 84.59 41 *eP* **P** **05 28 23.2 +1.3**
SHLS pmax pmax
comp=Z,7.0nm,1.0s
SHLS Shalkode 84.59 41 *eP* **P** **05 28 23.2 +1.3**
comp=Z,7.2nm,1.0s
KSH Kashi 85.01 45 P **P** **05 28 25.5 +1.4**
KSH pmax pmax
comp=Z,13nm,1.4s
SUR Sutherland 86.02 133 LR LR 06 02 13.6
comp=Z,76nm,18.8s,baz=328,slow=32
BOSA Boshof 86.27 128 LR LR 06 04 30.7
comp=Z,96nm,18.4s,baz=347,slow=34
MA2 Magadan 86.75 355 LR LR 06 05 56.6
comp=Z,50nm,19.5s,baz=320,slow=35
WMQ Urumqi 88.38 36 *eP* **P** **05 28 42.0 +1.6**
WMQ LR LR
comp=Z,110nm,21.5s
PETK Petropavlovsk- 92.44 351 LR LR 06 10 54.1
comp=Z,99nm,18.5s,baz=355,slow=36
SONM Songino Array 92.80 23 P **P** **05 29 00.3 -0.7**
comp=Z,0.7nm,0.6s,baz=343,slow=4.6,SNR=4.5
comp=Z,0.7nm,0.6s
ULN Ulaanbaatar 92.99 23 *ceP* **P** **05 29 00.9 -1.0**
ULN pmax pmax
comp=Z,14nm,2.9s
OPO Ambohidratompo 96.33 108 LR LR 06 12 21.7
comp=Z,69nm,19.8s,baz=182,slow=35
KLR Kul'dur 96.92 7 LR LR 06 12 29.3
comp=Z,39nm,18.1s,baz=292,slow=35
HHC Hu-ho-hao-te 100.71 23 *eP* **Pdif** **05 29 35.0 -1.9**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.7s
HHC LR LR
comp=N,170nm,14.5s
HHC LR LR
comp=E,140nm,16.8s
HHC LR LR
comp=Z,100nm,16.0s
TAOE Nuku Hiva Isla 104.84 269 *eLR* LR 06 04 26.0
comp=Z,163nm,25.8s
PZH PanZhiHua 109.01 38 PKP **PKiKP** **05 34 17.6 -1.0**
CMAR Chiang Mai Arr 113.91 45 PP **PP** **05 35 22.1 +1.5**
comp=Z,0.2nm,0.3s,baz=322,slow=8.0,SNR=4.3
PPT2 Papeete2 117.17 266 *eLR* LR 06 10 03.1
comp=Z,138nm,32.5s
TBI Tubuai 119.77 260 *eLR* LR 06 11 11.1
comp=Z,287nm,25.8s
DZM Mont Dzumac 155.44 292 *eLR* LR 06 27 44.8
comp=Z,136nm,25.1s
ASAR Alice Springs 167.78 37 PKP **PKPdf** **05 35 54.6 -0.5**
comp=Z,0.2nm,0.3s,baz=202,slow=1.3,SNR=4.5
ASAR PKPab **PKPab** **05 37 01.3 -0.4**
comp=Z,2.1nm,1.0s,baz=352,slow=2.5,SNR=8.7

---

*ASRS **15** 05:20:22.0±0.7,54°.20N×87°.13E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 05:20:23.6±3.8,54°.26N×87°.41E,h0km,mbtmp2.6/2, ML2.2/2,Error ellipse: s-maj=33.5km s-min=20.9km az=46.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**259**	I	I	05 30 45.0	
baz=78,slow=329,SNR=2.1							
ZALV	**Zalesovo Beam**	**1.56**	**259**	Pg	Pn	05 20 50.6	-1.9
1.4nm,0.3s,baz=77,slow=16,SNR=6.4							
ZALV				Lg	Lg	05 21 13.4	
1.1nm,0.3s,baz=78,slow=27,SNR=3.6							
KURBB	**Kurchatov Arra**	**6.54**	**240**	Pn	Pn	05 22 01.6	+0.7
0.1nm,0.3s,baz=56,slow=14,SNR=2.5							
0.2nm,0.4s							
MKAR	**Makanchi Array**	**8.15**	**206**	Pn	Pn	05 22 24.7	+1.5
baz=28,slow=13,SNR=1.4							
0.1nm,0.3s							

---

*NAO **15** 05:26:22.8,39°.63N×24°.58E,h10km,mb3.4*
*IDC **15** 05:26:33.4±1.2,40°.03N×20°.50E,h0km,mb3.6/6, mbtmp3.6/10,ML3.0/4,MS3.2/3,Error ellipse: s-maj=19.6km s-min=17.5km az=177.0*
*TIR **15** 05:26:34.8,40°.18N×20°.72E,h0km,Md2.6/1,Ml3.5/9*
*THE **15** 05:26:35.8,40°.23N×20°.71E,h0km±2km,ML3.3/12,Error ellipse: s-maj=2.9km s-min=1.0km az=320.0*
*PDG **15** 05:26:35.4±0.4,40°.13N×20°.71E,h2km±1km,ML3.4/11, Error ellipse: s-maj=1.0km s-min=1.1km az=0.0*
*ATH **15** 05:26:35.5,40°.22N×20°.73E,h6km±1km,ML3.4/22, Manual Solution by I.Dede First location: 2019/04/15 05:27:40, This location: 2020/10/14 23:24:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*BEO **15** 05:26:36.1±0.3,40°.14N×20°.93E,h0km,ML3.2/9*
*SKO **15** 05:26:37.4,40°.18N×20°.74E,h13km,ML3.1*
ISC 15 05:26:35.4±0.9,40°.18N±0°.01×20°.71E±0°.02,h5km±7km, n178,σ1§51/224,mb3.6/5,6C-6D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.09**	**249**	Pg	**Pg**	**05 26 36.6**	**-0.8**
LSK				Sg	**Sg**	**05 26 38.7**	**-0.1**
LSK				AML	AML	05 26 41.8	
425nm,0.5s							
LSK				AMd		05 27 19.7	
PENT	**Pentalofos**	**0.33**	**88**	P	**Pg**	**05 26 41.7**	**-0.1**
PENT				S	**Sg**	**05 26 47.3**	**+1.1**
PENT	**Pentalofos**	**0.33**	**88**	P	**Pg**	**05 26 41.4**	**-0.4**
PENT				S	**Sg**	**05 26 46.0**	**-0.2**
NEST	**Nestorio**	**0.35**	**48**	P	**Pg**	**05 26 42.2**	**0.0**
NEST				S	**Sg**	**05 26 47.8**	**+1.0**
6μm,0.6s							
NEST	**Nestorio**	**0.35**	**48**	Pg	**Pg**	**05 26 42.1**	**-0.1**
NEST				Sg	**Sg**	**05 26 48.5**	**+1.7**
NEST				AML	AML	05 26 51.9	
20nm,0.3s							
NEST				AML	AML	05 26 54.9	
19nm,0.6s							
NEST	**Nestorio**	**0.35**	**48**	P	**Pg**	**05 26 41.8**	**-0.4**
NEST				S	**Sg**	**05 26 46.7**	**0.0**
KBN	**Korca**	**0.44**	**8**	Pg	**Pg**	**05 26 43.4**	**-0.6**
KBN				Sg	**Sg**	**05 26 51.1**	**+1.3**
KBN				AML	AML	05 27 09.0	
13nm,1.3s							
JAN	**Janina**	**0.54**	**168**	P	**Pg**	**05 26 44.6**	**-1.2**
JAN				S	**Sb**	**05 26 54.5**	**-0.9**
5μm,0.5s							
JAN	**Janina**	**0.54**	**168**	P	**Pg**	**05 26 44.7**	**-1.1**
JAN				S	**Sb**	**05 26 54.5**	**-0.9**
SRN	**Sarande**	**0.62**	**241**	Pg	**Pg**	**05 26 46.9**	**-0.5**
SRN				Sg	**Sb**	**05 26 58.1**	**+0.3**
SRN				AML	AML	05 27 01.6	
5.4nm,0.8s							
IGT	**Igoumenitsa**	**0.71**	**204**	P	**Pg**	**05 26 49.0**	**-0.1**
IGT				S	**Sb**	**05 27 01.4**	**+0.9**
2μm,0.7s							
IGT	**Igoumenitsa**	**0.71**	**204**	Pg	**Pg**	**05 26 49.6**	**+0.5**
IGT				Sg	**Sb**	**05 27 00.9**	**+0.4**
IGT	**Igoumenitsa**	**0.71**	**204**	*i* Pg	**Pg**	**05 26 48.8**	**-0.3**
IGT				*i* Sg	**Sn**	**05 27 02.5**	**-1.0**
IGT	**Igoumenitsa**	**0.71**	**204**	*e*Pg	**Pg**	**05 26 48.7**	**-0.3**
IGT				*e*Sg	**Sb**	**05 27 01.2**	**+0.7**
IGT	**Igoumenitsa**	**0.71**	**204**	P	**Pg**	**05 26 47.7**	**-1.4**
IGT				S	**Sb**	**05 27 00.2**	**-0.3**
KEK	**Kerkira**	**0.84**	**236**	P	**Pg**	**05 26 51.6**	**0.0**
KEK				S	**Sb**	**05 27 05.5**	**+1.3**
1μm,0.6s							
KEK	**Kerkira**	**0.84**	**236**	P	**Pb**	**05 26 53.0**	**+0.5**
OHR	**Ohrid**	**0.93**	**4**	*i* Pg	**Pb**	**05 26 54.2**	**+0.1**
OHR				*i* Sg	**Sb**	**05 27 07.3**	**+0.5**
OHR				*e*Lg	Lg	05 27 09.5	
comp=E,667nm,0.8s							
OHR				*e*Lg	Lg	05 27 11.8	
comp=N,284nm,0.5s							
OHR	**Ohrid**	**0.93**	**4**	*e*Pg	**Pg**	**05 26 53.8**	**+0.5**
OHR				*e*Sg	**Sn**	**05 27 08.7**	**-0.3**
TETR	**Tetrakomo, Epi**	**0.94**	**152**	P	**Pn**	**05 26 54.9**	**-0.5**
VLO	**Vlora**	**0.97**	**287**	Pn	**Pb**	**05 26 54.6**	**-0.1**
VLO				S	**Sb**	**05 27 08.9**	**+0.9**
THL	**Klokotos Trika**	**1.18**	**121**	P	**Pg**	**05 26 56.8**	**-1.2**
THL				S	**Sn**	**05 27 16.4**	**+1.4**
comp=N,968nm,0.6s							
THL	**Klokotos Trika**	**1.18**	**121**	P	**Pg**	**05 26 56.5**	**-1.5**
TIR	**Tirane**	**1.33**	**331**	Pn	**Pg**	**05 27 01.5**	**+0.6**
TIR				Sn	**Sn**	**05 27 21.3**	**+2.5**
TIR				AML	AML	05 27 25.6	
comp=N,2.5nm,0.6s							
TIR	**Tirane**	**1.33**	**331**	⇓P	**Pg**	**05 27 01.4**	**+0.6**
TIR	**Tirane**	**1.33**	**331**	*e*Pg	**Pg**	**05 27 01.3**	**+0.4**
TIR	**Tirane**	**1.33**	**331**	P	**Pn**	**05 27 00.0**	**-0.7**
TIR				S	**Sg**	**05 27 17.8**	**-0.3**
TSLK	**Tsoukalades, L**	**1.36**	**182**	P	**Pg**	**05 27 02.6**	**+1.2**
TSLK				S	**Sn**	**05 27 23.1**	**+3.6**
comp=N,1μm,1.4s							
TSLK	**Tsoukalades, L**	**1.36**	**182**	P	**Pg**	**05 27 01.7**	**+0.3**
LIT	**Litokhoron**	**1.37**	**93**	P	**Pn**	**05 27 00.1**	**-1.1**
LIT	**Litokhoron**	**1.37**	**93**	*i* Pg	**Pn**	**05 27 01.4**	**+0.1**
LIT	**Litokhoron**	**1.37**	**93**	P	**Pn**	**05 27 00.1**	**-1.1**
LKD2	**Lefkada island**	**1.39**	**182**	P	**Pg**	**05 27 02.3**	**+0.2**
LKD2				S	**Sn**	**05 27 23.7**	**+3.3**
comp=N,1μm,0.7s							
LKD2	**Lefkada island**	**1.39**	**182**	Pn	**Pg**	**05 27 02.5**	**+0.4**
LKD2				Sn	**Sn**	**05 27 23.9**	**+3.5**
LKD2				AML	AML	05 27 31.5	
comp=N,4.2nm,0.6s							
LKD2	**Lefkada island**	**1.39**	**182**	P	**Pn**	**05 27 01.5**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.47**	**180**	P	**Pn**	**05 27 02.9**	**+0.3**
NYDR				S	**Sg**	**05 27 25.5**	**+2.9**
comp=N,1μm,1.1s							
NYDR	**Nydri-Lefkada**	**1.47**	**180**	P	**Pg**	**05 27 03.5**	**-0.1**
GRG	**Griva**	**1.50**	**59**	P	**Pn**	**05 27 03.3**	**+0.2**
GRG				S	**Sb**	**05 27 23.5**	**+0.3**
comp=N,702nm,0.6s							
GRG	**Griva**	**1.50**	**59**	*i* Pn	**Pn**	**05 27 03.1**	**0.0**
GRG	**Griva**	**1.50**	**59**	P	**Pn**	**05 27 03.4**	**+0.3**
PHP	**Peshkopia**	**1.51**	**352**	Pg	**Pb**	**05 27 04.3**	**+0.2**
PHP				Sg	**Sg**	**05 27 26.7**	**+2.6**
PHP				AML	AML	05 27 32.6	
comp=N,2.7nm,1.3s							
EVR	**Evrytania**	**1.52**	**146**	P	**Pb**	**05 27 04.0**	**-0.2**
EVGI	**Lefkada island**	**1.56**	**182**	P	**Pg**	**05 27 05.1**	**-0.2**
EVGI				S	**Sg**	**05 27 28.1**	**+2.5**
comp=N,702nm,0.8s							
EVGI	**Lefkada island**	**1.56**	**182**	P	**Pn**	**05 27 04.3**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.60**	**136**	P	**Pb**	**05 27 05.5**	**-0.1**
MAKR				S	**Sg**	**05 27 29.0**	**+2.1**
comp=N,2μm,0.6s							
MAKR	**Makrakomi, Fth**	**1.60**	**136**	P	**Pn**	**05 27 05.0**	**+0.5**
AGG	**Agios Georgios**	**1.71**	**132**	P	**Pn**	**05 27 06.6**	**+0.7**
AGG				S	**Sg**	**05 27 31.0**	**+0.8**
AGG	**Agios Georgios**	**1.71**	**132**	P	**Pn**	**05 27 06.3**	**+0.4**
SCTE	**Santa Cesarea**	**1.72**	**267**	P	**Pn**	**05 27 05.9**	**-0.2**
FSK	**Fiskardo**	**1.73**	**184**	P	**Pb**	**05 27 07.9**	**+0.3**
FSK	**Fiskardo**	**1.73**	**184**	P	**Pb**	**05 27 07.4**	**-0.2**
VAY	**Valandovo**	**1.81**	**51**	*i* Pn	**Pn**	**05 27 08.3**	**+1.0**
VAY	**Valandovo**	**1.81**	**51**	*e*Pn	**Pn**	**05 27 08.4**	**+1.0**
ANX	**Ano Chora**	**1.84**	**149**	P	**Pb**	**05 27 09.1**	**-0.6**
ANX	**Ano Chora**	**1.84**	**149**	P	**Pn**	**05 27 08.8**	**+0.9**
HORT	**Hortiatis**	**1.87**	**76**	P	**Pn**	**05 27 07.8**	**-0.4**
HORT				S	**Sb**	**05 27 33.5**	**-0.4**
comp=N,230nm,0.7s							
HORT	**Hortiatis**	**1.87**	**76**	P	**Pn**	**05 27 07.8**	**-0.4**
KNT	**Kendrikon**	**1.93**	**59**	P	**Pn**	**05 27 08.9**	**-0.1**
KNT	**Kendrikon**	**1.93**	**59**	*i* Pn	**Pn**	**05 27 08.8**	**-0.2**
KNT	**Kendrikon**	**1.93**	**59**	P	**Pn**	**05 27 08.4**	**-0.6**
PUK	**Puka**	**1.96**	**342**	Pn	**Pb**	**05 27 12.3**	**+0.6**
PUK				Sn	**Sg**	**05 27 41.2**	**+2.9**
PUK				AML	AML	05 27 53.2	
comp=N,1.7nm,0.8s							
DMLN	**Damoulianata-K**	**1.96**	**188**	P	**Pn**	**05 27 08.8**	**-0.5**
EFP	**Efpalio**	**1.98**	**152**	P	**Pn**	**05 27 10.1**	**+0.4**
VLS	**Valsamata**	**2.01**	**183**	P	**Pn**	**05 27 10.4**	**+0.4**
AXS	**Araxos**	**2.05**	**165**	P	**Pb**	**05 27 12.5**	**-0.7**
SERG	**Sergoula**	**2.05**	**149**	P	**Pb**	**05 27 13.0**	**-0.2**
PSDA	**Pessada-Kefalo**	**2.07**	**183**	P	**Pn**	**05 27 11.7**	**+0.9**
XOR	**Xorichti**	**2.08**	**112**	P	**Pn**	**05 27 11.2**	**+0.2**
XOR	**Xorichti**	**2.08**	**112**	P	**Pn**	**05 27 10.6**	**-0.4**
ULC	**Ulcinj**	**2.10**	**329**	*i* Pn	**Pb**	**05 27 13.5**	**-0.5**
ULC	**Ulcinj**	**2.10**	**329**	*e*Pn	**Pb**	**05 27 12.9**	**-1.1**
ULC				*i* Sn	**Sb**	**05 27 41.7**	**+1.4**
PLG	**Polygyros**	**2.10**	**84**	P	**Pn**	**05 27 11.8**	**+0.5**
KALE	**Kalithea**	**2.11**	**148**	P	**Pb**	**05 27 13.6**	**-0.6**
KALE	**Kalithea**	**2.11**	**148**	P	**Pn**	**05 27 12.7**	**+1.2**
NEO	**Neokhori**	**2.13**	**114**	P	**Pn**	**05 27 11.7**	**0.0**
NEO	**Neokhori**	**2.13**	**114**	P	**Pn**	**05 27 11.9**	**+0.3**
YRMI	**Loutra Irminis**	**2.14**	**166**	P	**Pn**	**05 27 12.5**	**+0.8**
BCI	**Bajram Curri**	**2.23**	**348**	Sn	**Sg**	**05 27 48.3**	**+1.1**
BCI				AML	AML	05 27 55.4	
comp=N,3.3nm,0.8s							
DRME	**Dracevica, Mon**	**2.31**	**331**	Pn	**Pb**	**05 27 16.1**	**-1.5**
DRME	**Dracevica, Mon**	**2.31**	**331**	*e*Pn	**Pn**	**05 27 14.9**	**+0.7**
DRME	**Dracevica, Mon**	**2.31**	**331**	*e*Pn	**Pn**	**05 27 15.7**	**+1.5**
DRME				*i* Sn	**Sb**	**05 27 46.8**	**+0.4**
LKR	**Lokris**	**2.34**	**130**	P	**Pn**	**05 27 15.4**	**+0.8**
SRS	**Serrai**	**2.38**	**66**	*e*Pn	**Pn**	**05 27 15.8**	**+0.6**
SRS				*e*Sg	**Sn**	**05 27 45.8**	**+1.0**
SRS	**Serrai**	**2.38**	**66**	P	**Pn**	**05 27 15.6**	**+0.4**
KLV	**Kalavryta, Ach**	**2.41**	**152**	P	**Pb**	**05 27 18.0**	**-1.4**
KKB	**Krupnik**	**2.47**	**47**	*i* Pn	**Pn**	**05 27 17.9**	**+1.5**
PVY	**Plav**	**2.48**	**347**	*e*Pn	**Pn**	**05 27 18.3**	**+1.7**
PVY				*i* Sn	**Sb**	**05 27 51.0**	**-0.3**
PDG	**Podgorica**	**2.50**	**334**	*e*Pn	**Pb**	**05 27 20.8**	**0.0**
PDG	**Podgorica**	**2.50**	**334**	⇓P	**Pn**	**05 27 18.4**	**+1.7**
PDG	**Podgorica**	**2.50**	**334**	*e*Pn	**Pn**	**05 27 18.4**	**+1.7**
PDG				*i* Sn	**Sb**	**05 27 51.4**	**-0.5**
BUM	**Brajici-Budva**	**2.52**	**328**	⇑*i* Pn	**Pn**	**05 27 18.7**	**+1.6**
BUM				*i* Sn	**Sb**	**05 27 51.6**	**-1.0**
GUR	**Goura**	**2.58**	**150**	P	**Pn**	**05 27 19.0**	**+1.0**
KOKK	**Kokkinochori,**	**2.59**	**75**	P	**Pn**	**05 27 18.1**	**+0.1**
BOSS	**Bosilegrad**	**2.67**	**29**	*e*Pn	**Pn**	**05 27 19.8**	**+0.7**
MMB	**Musomishta**	**2.68**	**58**	*i* Pn	**Pn**	**05 27 19.3**	**0.0**
CEME	**Cevo**	**2.72**	**331**	*e*Pn	**Pn**	**05 27 21.3**	**+1.4**
CEME				*i* Sn	**Sb**	**05 27 56.4**	**-1.9**
IVA	**Berane**	**2.75**	**347**	*e*Pn	**Pn**	**05 27 22.1**	**+1.7**
IVA				*i* Sn	**Sb**	**05 27 57.5**	**-1.9**
AMT	**Artemida-Makis**	**2.76**	**163**	P	**Pn**	**05 27 20.8**	**+0.4**
BARS	**Barje**	**2.76**	**17**	*i* Pn	**Pn**	**05 27 21.4**	**+1.0**
BARS	**Barje**	**2.76**	**17**	*e*Pn	**Pn**	**05 27 21.6**	**+1.2**
VIL2	**Platees**	**2.80**	**134**	P	**Pn**	**05 27 21.5**	**+0.6**
HCY	**Herceg Novi**	**2.81**	**324**	*e*Pn	**Pn**	**05 27 22.3**	**+1.2**
HCY	**Herceg Novi**	**2.81**	**324**	*e*Pn	**Pn**	**05 27 22.7**	**+1.6**
HCY				*i* Sn	**Sn**	**05 27 58.4**	**+3.0**
KOME	**Kolasin**	**2.81**	**342**	*e*Pn	**Pn**	**05 27 22.9**	**+1.7**
KOME				*i* Sn	**Sb**	**05 27 59.0**	**-2.0**
NKME	**Niksic**	**2.90**	**333**	*e*Pn	**Pn**	**05 27 23.9**	**+1.6**
NKME				*i* Sn	**Sn**	**05 28 00.8**	**+3.2**
KAVA	**Kavala**	**3.01**	**73**	P	**Pn**	**05 27 23.3**	**-0.5**
KYMI	**Kymi, Euboea I**	**3.05**	**119**	P	**Pn**	**05 27 24.4**	**0.0**
SELS	**Selova**	**3.05**	**6**	*e*Pn	**Pn**	**05 27 26.6**	**+2.2**
VTS	**Vitosha**	**3.09**	**37**	*e*Pn	**Pn**	**05 27 25.9**	**+0.9**
TREB	**Trebinje**	**3.09**	**326**	*e*Pn	**Pn**	**05 27 25.1**	**+0.2**
MATE	**Matera**	**3.09**	**280**	⇓P	**Pn**	**05 27 23.7**	**-1.2**
SJES	**Sjenica**	**3.12**	**350**	*e*Pn	**Pn**	**05 27 28.0**	**+2.5**
SJES	**Sjenica**	**3.12**	**350**	*e*Pn	**Pb**	**05 27 28.8**	**-2.8**
TIP	**Timpagrande**	**3.21**	**253**	⇑P	**Pn**	**05 27 26.0**	**-0.7**
PLE	**Pljevlja**	**3.30**	**343**	*e*Pn	**Pn**	**05 27 29.5**	**+1.6**
PLE				*i* Sn	**Sn**	**05 28 10.3**	**+2.8**
UPM	**Unac-Piva**	**3.31**	**336**	*e*Pn	**Pb**	**05 27 34.8**	**+0.1**
UPM	**Unac-Piva**	**3.31**	**336**	*e*Pn	**Pn**	**05 27 29.6**	**+1.5**
UPM				*i* Sn	**Sn**	**05 28 10.4**	**+2.5**
GOCS	**Kraljevo Serbi**	**3.38**	**2**	*e*Pn	**Pn**	**05 27 31.7**	**+2.7**
ZAPS	**Zavoj**	**3.41**	**24**	*e*Pn	**Pn**	**05 27 30.9**	**+1.6**
IVAS	**Ivanjica**	**3.42**	**353**	*e*Pn	**Pn**	**05 27 30.2**	**+0.7**
STON	**Ston**	**3.51**	**321**	*e*Pn	**Pn**	**05 27 30.9**	**+0.3**
BOVS	**Bovan**	**3.53**	**12**	⇓P	**Pn**	**05 27 32.7**	**+1.8**
BOVS	**Bovan**	**3.53**	**12**	*e*Pn	**Pn**	**05 27 31.6**	**+0.7**
RUDO	**Rudo**	**3.58**	**344**	*e*Pn	**Pn**	**05 27 32.7**	**+1.1**
**GR

KBA	**Koelnbreinsper**	**8.72**	**325**	Pn	Pn	05 28 50.5 +8.2
	comp=N,1.6nm,0.9s					
ABTA	**Abfaltersbach**	**8.86**	**320**	Pn	**Pn**	**05 28 44.0 -0.2**
	comp=N,4.8nm,0.6s					
ABTA				Sn	**Sn**	**05 30 21.1 -3.4**
	comp=N,3.9nm,0.6s					
BIOA	**Bad Ischl, Aus**	**9.07**	**328**	Pn	**Pn**	**05 28 51.5 +4.5**
	comp=N,0.9nm,0.7s					
LESA	**Schwarzleotal**	**9.28**	**324**	Pn	**Pn**	**05 28 50.1 +0.2**
	comp=N,1.4nm,0.6s					
LESA				Sn	**Sn**	**05 30 30.3 -4.4**
	comp=N,1.7nm,0.7s					
WTTA	**Wattenberg**	**9.65**	**320**	*e*Pn	**Pn**	**05 28 55.9 +0.8**
	comp=N,1.9nm,0.5s					
WTTA				Sn	**Sn**	**05 30 47.5 +3.5**
	comp=N,3.8nm,0.7s					
WATA	**Walderalm**	**9.73**	**320**	Pn	**Pn**	**05 28 54.5 -1.7**
	comp=N,9.3nm,0.7s					
SQTA	**Sankt Quirin**	**9.83**	**319**	Pn	**Pn**	**05 28 57.6 0.0**
	comp=N,1.3nm,0.5s					
BRTR	**Keskin Array B**	**9.94**	**88**	Pn	**Pn**	**05 29 02.5 +3.4**
	comp=N,0.2nm,0.3s,baz=195,slow=6.6,SNR=4.2					
	comp=N,0.4nm,0.7s					
FETA	**Feichten**	**9.95**	**317**	Pn	**Pn**	**05 29 03.6 +4.4**
	comp=N,1.7nm,0.8s					
FETA				*e*Sn	**Sn**	**05 30 50.0 -1.3**
	comp=N,1.8nm,0.7s					
MOTA	**Moosalm**	**9.97**	**319**	Pn	**Pn**	**05 28 59.0 -0.5**
	comp=N,4.3nm,0.7s					
MOTA				*e*Sn	**Sn**	**05 30 49.2 -2.6**
	comp=N,3.6nm,0.8s					
GERES	**GERESS Array B**	**10.00**	**332**	Pn	**Pn**	**05 29 00.8 +1.1**
	baz=155,slow=16,SNR=3.0					
	comp=N,0.3nm,0.3s					
RETA	**Reutte**	**10.24**	**319**	Sn	**Sn**	**05 30 55.7 -2.6**
	comp=N,1.2nm,0.5s					
DAVA	**Damuels**	**10.57**	**316**	Pn	**Pn**	**05 29 10.4 +2.7**
	comp=N,3.2nm,0.7s					
MMAI	**Mount Meron Ar**	**13.79**	**117**	LR	LR	05 36 07.6
	comp=N,51nm,21.4s,baz=330,slow=41					
HFS	**Hagfors**	**20.45**	**350**	P	**P**	**05 31 12.7 -0.9**
	comp=N,3.2nm,0.6s,baz=167,slow=14,SNR=6.4					
	comp=N,3.2nm,0.6s					
FINES	**FINESS Array B**	**21.54**	**7**	P	**P**	**05 31 25.8 +0.5**
	comp=N,1.2nm,0.6s,baz=168,slow=13,SNR=7.6					
	comp=N,1.2nm,0.6s					
NB2	**NORSAR Subarra**	**21.69**	**347**	P	**P**	**05 31 26.3 -0.7**
	comp=Z,0.9nm,0.6s,baz=153,slow=10					
NOA	**NORSAR Array B**	**21.69**	**347**	P	**P**	**05 31 26.0 -1.0**
	comp=Z,0.8nm,0.7s,baz=153,slow=10,SNR=5.5					
	comp=Z,0.8nm,0.7s					
TORD	**Torodi Ar. Bea**	**31.70**	**217**	P	**P**	**05 32 58.5 -1.6**
	comp=Z,36nm,0.3s,baz=33,slow=8.9,SNR=1.6					
MKAR	**Makanchi Array**	**44.15**	**60**	P	**P**	**05 34 44.9 -0.1**
	comp=Z,0.8nm,0.6s,baz=286,slow=6.1,SNR=6.4					
	comp=Z,0.8nm,0.6s					
ZALV	**Zalesovo Beam**	**44.26**	**50**	P	**P**	**05 34 44.8 -0.9**
	comp=Z,0.7nm,0.6s,baz=279,slow=10,SNR=2.1					
	comp=Z,0.7nm,0.6s					
SFJD	**Kangerlussuaq**	**46.58**	**329**	LR	LR	05 56 53.7
	comp=Z,95nm,20.8s,baz=95,slow=39					
KSRS	**Korea Array**	**77.95**	**51**	LR	LR	06 15 48.8
	comp=Z,11nm,21.9s,baz=0.0,slow=38					
TXAR	**Lajitas Array**	**93.70**	**314**	P	**P**	**05 39 51.3 -2.2**
	comp=Z,0.2nm,0.7s,baz=28,slow=3.0,SNR=3.6					
	comp=Z,0.2nm,0.7s					

KRSC ***15*** *05:32:14.5±1.4, 52.°00N×157.°62E, h148km±10km, Mc4.1, Ml4.8*
MOS ***15*** *05:32:15.5±0.9, 52.°08N×157.°33E, h147km, mb4.5/18, Error ellipse: s-maj=9.3km s-min=3.8km az=70.0*
IDC ***15*** *05:32:16.9±0.5, 52.°14N×157.°30E, h143km±3km, mb3.9/21, mbtmp4.4/27, MS3.5/2, Error ellipse: s-maj=11.9km s-min=7.8km az=156.0*
NEIC ***15*** *05:32:17.5±1.4, 52.°20N±0.°09×157.°3E±0.°1, h143km±6km, mb4.6/314, Error ellipse: s-maj=14.9km s-min=10.2km az=145.0*

ISC 15 05:32:16.4±0.4,**52.°06N**±0.°04×**157.°46E**±0.°04,**h141**km±3km, **n620**,σ1§13/562,**mb4.5**/175,**3C-5D, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.45**	**123**	PN	**Pn**	**05 32 36.0**	**-0.4**
KDTR				S	**Sn**	**05 32 50.6**	**-1.0**
KDTR	**Khodutka, Kamc**	**0.45**	**123**	*e*P	**Pn**	**05 32 36.0**	**-0.4**
KDTR				*e*S	**Sn**	**05 32 50.6**	**-1.0**
GRL	**Gorelyy**	**0.62**	**37**	PN	**Pn**	**05 32 37.8**	**+0.3**
GRL	**Gorelyy**	**0.62**	**37**	*e*P	**Pn**	**05 32 37.9**	**+0.3**
PAU	**Pauzhetka**	**0.72**	**215**	PN	**Pn**	**05 32 38.2**	**+0.2**
PAU				S	**Sn**	**05 32 54.7**	**+0.3**
PAU	**Pauzhetka**	**0.72**	**215**	*e*P	**Pn**	**05 32 38.2**	**+0.2**
PAU				*e*S	**Sn**	**05 32 54.8**	**+0.3**
RUS	**Russkaya**	**0.75**	**59**	PN	**Pn**	**05 32 38.0**	**-0.2**
RUS				S	**Sn**	**05 32 54.6**	**-0.2**
RUS	**Russkaya**	**0.75**	**59**	*e*P	**Pn**	**05 32 38.1**	**-0.2**
RUS				*e*S	**Sn**	**05 32 54.6**	**-0.2**
KRMR	**Karymshinskiy**	**0.88**	**28**	PN	**Pn**	**05 32 39.2**	**0.0**
KRMR				S	**Sn**	**05 32 57.1**	**+0.5**
KRMR	**Karymshinskiy**	**0.88**	**28**	*e*P	**Pn**	**05 32 39.3**	**0.0**
KRMR				*e*S	**Sn**	**05 32 57.2**	**+0.5**
APC	**Apacha**	**0.89**	**348**	PN	**Pn**	**05 32 39.4**	**+0.1**
APC				S	**Sn**	**05 32 56.5**	**-0.3**
APC	**Apacha**	**0.89**	**348**	*e*P	**Pn**	**05 32 39.5**	**+0.1**
APC				*e*S	**Sn**	**05 32 56.5**	**-0.3**
PEA0B	**Petropavlovsk-**	**1.06**	**8**		**Pn**	**05 32 41.2**	**+0.4**
PEA0B				Sn	**Sn**	**05 33 00.3**	**+0.7**
PEA0B	**Petropavlovsk-**	**1.06**	**8**	*i* PN	**Pn**	**05 32 41.0**	**+0.1**
PETK	**Petropavlovsk-**	**1.06**	**8**	P	**Pn**	**05 32 40.3**	**-0.6**
	2μm,0.7s,baz=166,slow=9.0,SNR=1067						
PETK				S	**Sn**	**05 33 00.1**	**+0.5**
	3μm,1.1s,baz=202,slow=14,SNR=9.2						
PET	**Petropavlovsk**	**1.21**	**36**		**Pn**	**05 32 42.2**	**0.0**
PET				Sn	**Sn**	**05 33 01.1**	**-0.9**
PET	**Petropavlovsk**	**1.21**	**36**	P	**Pn**	**05 32 42.2**	**0.0**
PET	**Petropavlovsk**	**1.21**	**36**	⇓*i* PN	**Pn**	**05 32 42.3**	**0.0**
PET				*e*S	**Sn**	**05 33 01.1**	**-0.9**
PET				pmax	pmax		
	comp=Z,1μm,0.7s						
PET				smax	smax		
	comp=E,2μm,0.8s						
PET				smax	smax		
	comp=N,3μm,0.7s						
PET	**Petropavlovsk**	**1.21**	**36**	*e*P	**Pn**	**05 32 42.3**	**0.0**
PET				*e*S	**Sn**	**05 33 02.4**	**+0.4**
INSR	**Institute**	**1.23**	**34**	PN	**Pn**	**05 32 42.7**	**+0.3**
INSR				S	**Sn**	**05 33 02.8**	**+0.5**
INSR	**Institute**	**1.23**	**34**	*e*P	**Pn**	**05 32 42.7**	**+0.3**
INSR				*e*S	**Sn**	**05 33 02.9**	**+0.5**
DALK	**Dalny**	**1.25**	**38**	PN	**Pn**	**05 32 42.8**	**+0.2**
DALK				S	**Sn**	**05 33 03.1**	**+0.4**
DALK	**Dalny**	**1.25**	**38**	*e*P	**Pn**	**05 32 42.9**	**+0.2**
DALK				*e*S	**Sn**	**05 33 03.2**	**+0.4**
UGLR	**Uglovaya**	**1.42**	**35**	PN	**Pn**	**05 32 45.4**	**+0.9**
UGLR				S	**Sn**	**05 33 06.7**	**+0.7**
UGLR	**Uglovaya**	**1.42**	**35**	*e*P	**Pn**	**05 32 45.5**	**+0.9**
UGLR				*e*S	**Sn**	**05 33 06.8**	**+0.7**
KOK	**Koryaka**	**1.43**	**30**	PN	**Pn**	**05 32 45.6**	**+1.1**
KOK				S	**Sn**	**05 33 07.6**	**+1.5**
KOK	**Koryaka**	**1.43**	**30**	*e*P	**Pn**	**05 32 45.7**	**+1.1**
KOK				*e*S	**Sn**	**05 33 07.6**	**+1.5**
AVH	**Avacha**	**1.44**	**32**	PN	**Pn**	**05 32 45.7**	**+1.0**
AVH				S	**Sn**	**05 33 07.4**	**+1.1**
AVH	**Avacha**	**1.44**	**32**	*e*P	**Pn**	**05 32 45.7**	**+1.0**
AVH				*e*S	**Sn**	**05 33 07.5**	**+1.1**
KRER	**Koryakskii**	**1.47**	**32**	PN	**Pn**	**05 32 45.9**	**+0.8**
KRER				S	**Sn**	**05 33 08.4**	**+1.2**
KRER	**Koryakskii**	**1.47**	**32**	*e*P	**Pn**	**05 32 46.0**	**+0.8**
KRER				*e*S	**Sn**	**05 33 08.5**	**+1.2**
KRX	**Arik**	**1.49**	**28**	PN	**Pn**	**05 32 45.9**	**+0.7**
KRX				S	**Sn**	**05 33 08.1**	**+0.7**
KRX	**Arik**	**1.49**	**28**	*e*P	**Pn**	**05 32 46.0**	**+0.7**
KRX				*e*S	**Sn**	**05 33 08.2**	**+0.7**
SDLR	**Sedlovina**	**1.50**	**35**	PN	**Pn**	**05 32 45.7**	**+0.4**
SDLR				S	**Sn**	**05 33 08.6**	**+1.1**
SDLR	**Sedlovina**	**1.50**	**35**	*e*P	**Pn**	**05 32 45.8**	**+0.4**
SDLR				*e*S	**Sn**	**05 33 08.6**	**+1.1**
NLC	**Nalytchevo**	**1.60**	**45**	PN	**Pn**	**05 32 45.7**	**-0.6**
NLC				S	**Sn**	**05 33 08.0**	**-1.2**
NLC	**Nalytchevo**	**1.60**	**45**	*e*P	**Pn**	**05 32 45.8**	**-0.6**
NLC				*e*S	**Sn**	**05 33 08.0**	**-1.2**
SKR	**Severo-Kuril's**	**1.61**	**212**	⇓*i* PN	**Pn**	**05 32 46.8**	**+0.3**
SKR				*e*S	**Sn**	**05 33 09.8**	**+0.4**
SKR				pmax	pmax		
	comp=Z,1μm,0.6s						
SKR				smax	smax		
	comp=N,2μm,0.3s						
SKR				smax	smax		
	comp=E,7μm,0.6s						
SKR	**Severo-Kuril's**	**1.61**	**212**	*e*P	**Pn**	**05 32 46.7**	**+0.3**
SKR				*e*S	**Sn**	**05 33 09.9**	**+0.4**
GNL	**Ganaly**	**1.67**	**10**	PN	**Pn**	**05 32 47.5**	**+0.3**
GNL				S	**Sn**	**05 33 11.5**	**+0.7**
GNL	**Ganaly**	**1.67**	**10**	*e*P	**Pn**	**05 32 47.5**	**+0.3**
GNL				*e*S	**Sn**	**05 33 11.5**	**+0.7**
SPN	**Mys Shipunski**	**1.88**	**55**	PN	**Pn**	**05 32 49.4**	**-0.1**
SPN				S	**Sn**	**05 33 12.9**	**-2.0**
SPN	**Mys Shipunski**	**1.88**	**55**	*e*P	**Pn**	**05 32 49.4**	**-0.1**
SPN				*e*S	**Sn**	**05 33 12.9**	**-2.0**
KII	**Karymskiy**	**2.32**	**30**	PN	**Pn**	**05 32 55.5**	**+0.7**
KII	**Karymskiy**	**2.32**	**30**	*e*P	**Pn**	**05 32 55.6**	**+0.7**
MKZ	**Mys Kozlova**	**3.58**	**44**	PN	**Pn**	**05 33 09.6**	**-1.1**
MKZ				S	**Sn**	**05 33 49.2**	**-3.8**
MKZ	**Mys Kozlova**	**3.58**	**44**	*e*P	**Pn**	**05 33 09.7**	**-1.1**
MKZ				*e*S	**Sn**	**05 33 49.2**	**-3.8**
TUMD	**Tumrok D**	**3.60**	**28**	PN	**Pn**	**05 33 11.5**	**+0.3**
TUMD				S	**Sn**	**05 33 52.1**	**-1.5**
TUMD	**Tumrok D**	**3.60**	**28**	*e*P	**Pn**	**05 33 11.5**	**+0.3**
TUMD				*e*S	**Sn**	**05 33 52.1**	**-1.5**
ESO	**Esso**	**3.94**	**10**	PN	**Pn**	**05 33 16.6**	**+1.0**
ESO	**Esso**	**3.94**	**10**	*e*P	**Pn**	**05 33 16.6**	**+1.0**
KMNR	**Kamenistaya**	**4.05**	**23**	PN	**Pn**	**05 33 18.6**	**+1.5**
KMNR	**Kamenistaya**	**4.05**	**23**	*e*P	**Pn**	**05 33 18.7**	**+1.5**
KPT	**Kopyto**	**4.24**	**21**	PN	**Pn**	**05 33 20.1**	**+0.5**
KPT	**Kopyto**	**4.24**	**21**	*e*P	**Pn**	**05 33 20.1**	**+0.5**
KOZ	**Kozyrevsk**	**4.25**	**19**	PN	**Pn**	**05 33 19.7**	**+0.1**
KOZ	**Kozyrevsk**	**4.25**	**19**	*e*P	**Pn**	**05 33 19.8**	**+0.1**
KIRR	**Kirishev**	**4.26**	**22**	PN	**Pn**	**05 33 20.5**	**+0.7**
KIRR	**Kirishev**	**4.26**	**22**	*e*P	**Pn**	**05 33 20.6**	**+0.7**
BZWR	**Bezymyannyi-We**	**4.30**	**23**	PN	**Pn**	**05 33 21.2**	**+0.7**
BZWR	**Bezymyannyi-We**	**4.30**	**23**	*e*P	**Pn**	**05 33 21.2**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**4.33**	**25**	PN	**Pn**	**05 33 21.9**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**4.33**	**25**	*e*P	**Pn**	**05 33 22.0**	**+1.1**
ZLN	**Zelenaya**	**4.43**	**25**	PN	**Pn**	**05 33 24.0**	**+2.0**
ZLN	**Zelenaya**	**4.43**	**25**	*e*P	**Pn**	**05 33 24.1**	**+2.0**
LGNR	**Loginova**	**4.46**	**24**	PN	**Pn**	**05 33 23.2**	**+0.6**
LGNR	**Loginova**	**4.46**	**24**	*e*P	**Pn**	**05 33 23.2**	**+0.6**
CIRR	**Tsirk**	**4.50**	**24**	PN	**Pn**	**05 33 24.7**	**+1.6**
CIRR	**Tsirk**	**4.50**	**24**	*e*P	**Pn**	**05 33 24.7**	**+1.6**
KRSR	**Krestovskiy**	**4.55**	**22**	PN	**Pn**	**05 33 24.2**	**+0.6**
KRSR	**Krestovskiy**	**4.55**	**22**	*e*P	**Pn**	**05 33 24.3**	**+0.6**
KLY	**Klyuchi**	**4.66**	**22**	PN	**Pn**	**05 33 26.6**	**+1.7**
KLY	**Klyuchi**	**4.66**	**22**	*e*P	**Pn**	**05 33 26.7**	**+1.7**
KBG	**Krutoberegovo**	**5.21**	**34**	PN	**Pn**	**05 33 32.1**	**-0.2**
KBG				S	**Sn**	**05 34 27.8**	**-3.7**
KBG	**Krutoberegovo**	**5.21**	**34**	*e*P	**Pn**	**05 33 32.1**	**-0.2**
KBG				*e*S	**Sn**	**05 34 27.9**	**-3.7**
KBTR	**Krutoberegovo**	**5.22**	**35**	PN	**Pn**	**05 33 32.1**	**-0.3**
KBTR				S	**Sn**	**05 34 26.9**	**-4.8**
KBTR	**Krutoberegovo**	**5.22**	**35**	*e*P	**Pn**	**05 33 32.1**	**-0.3**
KBTR				*e*S	**Sn**	**05 34 26.9**	**-4.8**
BKI	**Bering**	**5.96**	**55**	PN	**Pn**	**05 33 41.6**	**-0.7**
BKI	**Bering**	**5.96**	**55**	*e*P	**Pn**	**05 33 41.6**	**-0.7**
BKI				*e*S	**Sn**	**05 34 42.9**	**-6.6**
PALN	**Palana**	**7.19**	**10**	PN	**Pn**	**05 33 59.7**	**+1.0**
PALN	**Palana**	**7.19**	**10**	*e*P	**Pn**	**05 33 59.8**	**+1.0**
MA2	**Magadan**	**8.42**	**336**	Pn	**Pn**	**05 34 15.1**	**-0.1**
MA2	**Magadan**	**8.42**	**336**	P	**Pn**	**05 34 15.3**	**0.0**
	comp=E,16nm,0.7s,baz=131,slow=7.6,SNR=9.2						
MA2	**Magadan**	**8.42**	**336**	*i* PN	**Pn**	**05 34 15.9**	**+0.6**
KUR	**Kuril'sk**	**9.32**	**227**	*e*PN	**Pn**	**05 34 27.3**	**-0.1**
KUR				*e*S	**Sn**	**05 36 13.9**	**+3.4**
KUR				pmax	pmax		
	comp=Z,138nm,0.8s						
KUR				pmax	pmax		
	comp=E,33nm,0.4s						
KUR				pmax	pmax		
	comp=N,45nm,0.7s						
TYV	**Tymovskoe**	**9.32**	**268**	*e*PN	**Pn**	**05 34 29.6**	**+2.2**
TYV				*e*S	**Sn**	**05 36 07.3**	**-3.2**
TYV				pmax	pmax		
	comp=Z,300nm,2.6s						
TYV				pmax	pmax		
	comp=Z,47nm,1.3s						
TYV				smax	smax		
	comp=E,200nm,4.0s						
TYV				smax	smax		
	comp=N,8.0nm,1.1s						
TYV				smax	smax		
	comp=E,6.0nm,1.1s						
TYV	**Tymovskoe**	**9.32**	**268**	*e*P	**Pn**	**05 34 29.2**	**+1.8**
SHEM	**Shemya Is, Ala**	**10.20**	**80**	P	**Pn**	**05 34 40.6**	**+1.7**
	comp=E,78nm,0.6s,baz=183,slow=2.3,SNR=5.0						
SHEM				S	**Sn**	**05 36 31.1**	**-0.4**
	comp=E,35nm,0.5s,baz=251,slow=22,SNR=3.7						
SMY	**Shemya**	**10.20**	**80**	Pn	**Pn**	**05 34 39.6**	**+0.7**
SMY	**Shemya**	**10.20**	**80**	PN	**Pn**	**05 34 39.7**	**+0.7**
UGL	**Uglegorsk**	**10.24**	**259**	⇓*e*PN	**Pn**	**05 34 41.9**	**+2.3**
UGL				pmax	pmax		
	comp=Z,121nm,1.1s						
YSS	**Yuzhno-Sakhali**	**10.84**	**248**		**Pn**	**05 34 48.4**	**+0.9**
YSS	**Yuzhno-Sakhali**	**10.84**	**248**	P	**Pn**	**05 34 49.1**	**+1.6**
YSS	**Yuzhno-Sakhali**	**10.84**	**248**	*i* PN	**Pn**	**05 34 48.4**	**+0.9**
YSS				pmax	pmax		
	comp=Z,50nm,1.1s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
SHO	**Shikotan**	**10.85**	**225**	*e*PN	**Pn**	**05 34 43.1**	**-4.6**
SHO				pmax	pmax		
	comp=Z,102nm,0.4s						
SHO				pmax	pmax		
	comp=N,47nm,0.5s						
SHO				pmax	pmax		
	comp=E,39nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**11.16**	**229**	*e*PN	**Pn**	**05 34 50.8**	**-0.9**
SEY	**Seymchan**	**11.24**	**348**	P	**Pn**	**05 34 53.4**	**+0.8**
	comp=E,1.9nm,0.8s,baz=161,slow=12,SNR=4.4						
SEY	**Seymchan**	**11.24**	**348**	*e*PN	**Pn**	**05 34 52.9**	**+0.2**
SEY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
JKA	**Kamikawa-asahi**	**12.70**	**237**		**Pn**	**05 35 13.2**	**+1.2**
ASAJ	**Asahikawa**	**12.71**	**237**	P	**Pn**	**05 35 12.4**	**+0.5**
	comp=Z,388nm,0.9s,baz=69,slow=10,SNR=98						
GRNR	**Gornyy**	**13.19**	**273**	⇓*i* PN	**Pn**	**05 35 19.8**	**+1.6**
GRNR				pmax	pmax		
	comp=E,6.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
JEM	**Erimo**	**13.97**	**230**	P	**Pn**	**05 35 26.5**	**-1.7**
ERM	**Erimo**	**13.98**	**230**		**Pn**	**05 35 27.1**	**-1.1**
ERM	**Erimo**	**13.98**	**230**	P	**Pn**	**05 35 26.2**	**-2.0**
ERM	**Erimo**	**13.98**	**230**	*i* P	**Pn**	**05 35 26.8**	**-1.4**
TEY	**Ternei**	**15.46**	**251**	⇑*e*P	**Pn**	**05 35 47.2**	**+0.4**
TEY				pmax	pmax		
	comp=E,10.0nm,1.0s						
TEY				pmax	pmax		
	comp=Z,20nm,1.0s						
TEY				pmax	pmax		
	comp=N,10.0nm,1.0s						
KLR	**Kul'dur**	**16.52**	**270**	P	**P**	**05 36 00.8**	**+1.0**
	comp=N,11nm,0.8s,baz=66,slow=13,SNR=22						
KLR	**Kul'dur**	**16.52**	**270**	*e*P	**Pn**	**05 35 58.7**	**-1.0**
KLR				pmax	pmax		
	comp=Z,24nm,1.4s						
BILL	**Bilibino**	**16.59**	**12**	*i* P	**P**	**05 36 00.7**	**+0.3**
YAK	**Yakutsk**	**17.96**	**315**	P	**P**	**05 36 13.4**	**-2.1**
YAK	**Yakutsk**	**17.96**	**315**	P	**P**	**05 36 14.8**	**-0.7**
	comp=Z,45nm,0.6s,baz=253,slow=1.3,SNR=11						
YAK	**Yakutsk**	**17.96**	**315**	*e*P	**P**	**05 36 15.1**	**-0.4**
YAK				*e*S	**S**	**05 39 35.3**	**+1.2**
YAK				pmax	pmax		
	comp=Z,26nm,0.6s						
YAK				pmax	pmax		
	comp=N,1.0nm,0.6s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.7s						
YAK				smax	smax		
	comp=N,67nm,2.3s						
YAK				smax	smax		
	comp=E,41nm,2.5s						
ZEA	**Zeya**	**18.24**	**287**	*e*P	**P**	**05 36 18.1**	**-0.5**
ZEA				pmax	pmax		
	comp=N,20nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.6s						
JMM	**Marumori**	**18.39**	**226**	P	**P**	**05 36 20.5**	**+0.1**
USA0B	**Ussuriysk Arra**	**18.66**	**255**	P	**P**	**05 36 22.9**	**-0.4**
USA0B				IAmb	IAmb	05 36 25.7	
	comp=Z,16nm,0.8s						
USA0B	**Ussuriysk Arra**	**18.66**	**255**	*i* P	**P**	**05 36 21.6**	**-1.7**
USRK	**Ussuriysk Ar.**	**18.66**	**255**	P	**P**	**05 36 21.6**	**-1.7**
USRK	**Ussuriysk Ar.**	**18.66**	**255**	P	**P**	**05 36 22.7**	**-0.6**
	comp=Z,12nm,0.7s,baz=63,slow=12,SNR=16						
HEH	**HeiHe**	**18.88**	**276**	*e*P	**P**	**05 36 24.9**	**-0.6**
HEH				pmax	pmax		
	comp=Z,32nm,0.8s						
HEH				pmax	pmax		
	comp=Z,140nm,3.7s						
SPIA	**Saint Paul Isl**	**19.27**	**62**	P	**P**	**05 36 30.3**	**+0.6**
	baz=269						
JSD	**Sado**	**19.42**	**231**	P	**P**	**05 36 30.9**	**-0.7**
MDJ	**Mudanjiang**	**19.88**	**259**	P	**P**	**05 36 35.5**	**-1.0**
MDJ				IAmb	IAmb	05 36 42.9	
	comp=Z,20nm,0.8s						
MDJ	**Mudanjiang**	**19.88**	**259**	P	**P**	**05 36 35.9**	**-0.6**
MDJ				S	Sn	05 40 59.3	+35
MDJ				pmax	pmax		
	comp=Z,11nm,0.7s						
MDJ	**Mudanjiang**	**19.88**	**259**	P	**Pn**	**05 36 42.7**	**+3.2**
BNX	**BinXian**	**20.65**	**264**	⇑P	**P**	**05 36 43.8**	**-0.9**
BNX	**BinXian**	**20.65**	**264**	⇓P	Pn	05 37 15.0	+26
BNX				S	**S**	**05 40 27.1**	**-0.4**
MJB9	**Matsu-Tunnel**	**20.65**	**229**	P	**P**	**05 36 45.9**	**+1.2**
MAJO	**Matsushiro**	**20.65**	**229**		**P**	**05 36 45.0**	**+0.2**
MAJO	**Matsushiro**	**20.65**	**229**	P	**P**	**05 36 45.1**	**+0.3**
MAJO	**Matsushiro**	**20.65**	**229**	*e*P	**P**	**05 36 44.4**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,103nm,0.8s						
MJAR	**Matsushiro Arr**	**20.65**	**229**	P	**P**	**05 36 45.3**	**+0.5**
	comp=Z,71nm,0.8s,baz=24,slow=11,SNR=108						
	comp=Z,71nm,0.8s						
M11K	**Mekoryuk**	**21.60**	**53**	P	**P**	**05 36 54.6**	**-0.1**
	baz=264						
JGF	**Kuroka**	**21.81**	**229**	P	**P**	**05 36 56.5**	**-0.7**
JGF	**Kuroka**	**21.81**	**229**	P	**P**	**05 36 57.2**	**-0.1**
TNA	**Tin City**	**22.07**	**39**	P	**P**	**05 37 00.1**	**+0.6**
	baz=250						
INU	**Inuyama**	**22.18**	**229**		**P**	**05 37 00.3**	**-0.5**
INU	**Inuyama**	**22.18**	**229**	P	**P**	**05 37 00.4**	**-0.5**
K13K	**Kusilvak Mount**	**22.55**	**49**	P	**P**	**05 37 05.0**	**+0.8**
	baz=262						
F14K	**Arctic Creek**	**22.67**	**40**	P	**P**	**05 37 05.9**	**+0.5**
	baz=252						
CN2	**Changchun**	**22.83**	**262**	P	**P**	**05 37 04.8**	**-2.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
M13K	**Dall Lake**	**23.01**	**53**	P	**P**	**05 37 10.1**	**+1.5**
M13K				IAmb	IAmb	05 37 11.4	
	comp=Z,41nm,1.1s						
M13K	**Dall Lake**	**23.01**	**53**	P	**P**	**05 37 09.8**	**+1.2**
	baz=267						
J14K	**Nanvaranak Lak**	**23.18**	**47**	P	**P**	**05 37 11.0**	**+0.8**
J14K	**Nanvaranak Lak**	**23.18**	**47**	P	**P**	**05 37 11.3**	**+1.2**
	baz=261						
F15K	**North Star Dit**	**23.40**	**40**	P	**P**	**05 37 12.7**	**+0.5**
	baz=253						
L14K	**Kuka Creek**	**23.41**	**51**	P	**P**	**05 37 12.8**	**+0.5**
L14K	**Kuka Creek**	**23.41**	**51**	P	**P**	**05 37 12.7**	**+0.5**
	baz=265						
G15K	**Niukluk**	**23.45**	**42**	P	**P**	**05 37 12.6**	**0.0**
	baz=256						
M14K	**Bethel**	**23.72**	**53**	P	**P**	**05 37 16.6**	**+1.6**
M14K				IAmb	IAmb	05 37 17.7	
	comp=Z,17nm,1.1s						
M14K	**Bethel**	**23.72**	**53**	P	**P**	**05 37 15.9**	**+0.9**
	baz=267,SNR=6.2						
N14K	**Kuskokwak Cree**	**23.82**	**55**	P	**P**	**05 37 17.0**	**+1.0**
	baz=270						
HIA	**Hailar**	**23.90**	**278**	P	**P**	**05 37 15.7**	**-1.2**
HIA	**Hailar**	**23.90**	**278**	P	**P**	**05 37 15.7**	**-1.2**
HIA				pmax	pmax		
	comp=Z,28nm,0.6s						
L15K	**Ungalak Mounta**	**24.01**	**50**	P	**P**	**05 37 18.6**	**+0.9**
	baz=266,SNR=7.2						
O14K	**Tigyukauivet M**	**24.04**	**56**		**P**	**05 37 19.3**	**+1.3**
O14K				IAmb	IAmb	05 37 21.1	
	comp=Z,23nm,1.1s						
O14K	**Tigyukauivet M**	**24.04**	**56**	P	**P**	**05 37 19.2**	**+1.3**
	baz=

M17K	Holitna River	25.94	51	P	P	05 37 36.2 +1.0
M17K				IAmb	IAmb	05 37 37.3
	comp=Z,23nm,1.0s					
M17K	Holitna River	25.94	51	P	P	05 37 35.8 +0.6
	baz=270,SNR=12					
N17K	Nushagak Hills	26.07	53	P	P	05 37 36.7 +0.3
	baz=272,SNR=5.3					
O17K	Koliganek Bris	26.14	55	P	P	05 37 38.0 +1.0
	baz=274,SNR=7.4					
A19K	Wainwright	26.21	31	P	P	05 37 37.7 +0.2
	baz=248					
L18K	Granite Mounta	26.31	49	P	P	05 37 39.3 +0.9
	baz=269,SNR=5.8					
J18K	Innoko River	26.35	47	P	P	05 37 39.4 +0.5
J18K	Innoko River	26.35	47	P	P	05 37 39.5 +0.6
	baz=266					
F19K	Shaleruckik Mo	26.38	39	P	P	05 37 39.2 +0.2
	baz=259					
Q16K	King Salmon	26.45	57	P	P	05 37 40.3 +0.5
	baz=276					
P17K	Kvichak River	26.52	56	P	P	05 37 40.9 +0.6
	baz=275					
G19K	Purcell Mounta	26.52	40	P	P	05 37 40.5 +0.2
	baz=261					
TTA	Tatalina	26.64	48		P	05 37 42.1 +0.6
TTA	Tatalina	26.64	48	P	P	05 37 42.7 +1.1
TTA	Tatalina	26.64	48	P	P	05 37 42.2 +0.6
TTA				pmax	pmax	
	comp=Z,9.0nm,1.2s					
TTA	Tatalina	26.64	48	P	P	05 37 41.8 +0.3
	baz=268,SNR=8.4					
D19K	Kuna River	26.65	35	P	P	05 37 41.1 -0.4
	baz=255					
H19K	Roundabout Mou	26.68	42	IAmb	IAmb	05 37 43.5
	comp=Z,25nm,1.1s					
H19K	Roundabout Mou	26.68	42	P	P	05 37 42.5 +0.8
	baz=263,SNR=18					
N18K	Kilae Creek	26.70	53	P	P	05 37 42.5 +0.5
	baz=273,SNR=6.9					
M18K	Stony River	26.71	51	P	P	05 37 42.7 +0.6
	baz=271,SNR=5.0					
E19K	Redstone River	26.72	38	P	P	05 37 42.2 +0.1
	baz=258					
J19K	Poorman	26.88	45	P	P	05 37 43.8 +0.3
	baz=266,SNR=6.2					
Q17K	Contact Creek	26.90	58	P	P	05 37 44.2 +0.2
	baz=278					
JNU	Nakatsue	26.98	236	P	P	05 37 46.2 +1.4
O18K	Koktuh Hills	27.09	55	P	P	05 37 45.5 0.0
	baz=275					
P18K	Big Mountain,	27.12	56	P	P	05 37 45.8 0.0
	baz=276					
L19K	White Mountain	27.17	49	P	P	05 37 47.0 +0.8
L19K					PcP	05 41 04.0 +1.4
L19K	White Mountain	27.17	49	P	P	05 37 46.0 -0.2
	baz=271					
F20K	Avaraart Lake	27.21	39	P	P	05 37 46.2 -0.3
	baz=260					
D20K	Etivluk River	27.24	35	P	P	05 37 46.4 -0.3
	baz=256					
E20K	Nigu River	27.28	36	P	P	05 37 46.8 -0.3
	baz=258					
Q18K	Katmai Hardscr	27.31	57	P	P	05 37 48.2 +0.6
	baz=278,SNR=6.1					
H20K	Anotleneega Mo	27.33	42	P	P	05 37 47.6 0.0
	baz=264,SNR=6.9					
N19K	Bonanza Creek	27.39	52	P	P	05 37 48.4 +0.2
	baz=274,SNR=6.4					
M19K	Big River Lodg	27.39	50	P	P	05 37 48.5 +0.4
	baz=272,SNR=5.8					
B20K	Meade River	27.40	32	IAmb	IAmb	05 37 49.6
	comp=Z,5.4nm,0.5s					
B20K	Meade River	27.40	32	P	P	05 37 48.1 0.0
	baz=253,SNR=9.7					
J20K	Nowinta River	27.54	45	IAmb	IAmb	05 37 51.7
	comp=Z,13nm,1.2s					
J20K	Nowinta River	27.54	45	P	P	05 37 49.5 +0.1
	baz=268,SNR=8.5					
K20K	Telida	27.54	47	P	P	05 37 49.9 +0.4
	baz=269,SNR=5.7					
L20K	Farewell, AK	27.62	49	P	P	05 37 50.4 +0.2
	baz=271					
R18K	Karluk	27.76	59	P	P	05 37 52.4 +1.0
	baz=280					
Q19K	Cape Douglas,	27.98	56	P	P	05 37 53.5 0.0
	baz=278					
C21K	Knifeblade Rid	27.98	34	P	P	05 37 53.1 -0.2
	baz=257,SNR=6.3					
M20K	Styx River	27.98	50	P	P	05 37 54.3 +0.8
	baz=273					
A21K	Barrow	27.99	30	P	P	05 37 52.5 -0.8
	baz=251					
G21K	Allakaket	28.00	40	P	P	05 37 53.6 +0.1
	baz=264,SNR=5.7					
F21K	Alatna River	28.11	39	P	P	05 37 54.7 +0.2
	baz=262					
P19K	Oil Pt	28.11	55	P	P	05 37 55.2 +0.6
	baz=277					
E21K	Killik River	28.12	36	P	P	05 37 55.1 +0.5
	baz=260					
B21K	Ikpikpuk River	28.15	33	IAmb	IAmb	05 37 56.4
	comp=Z,17nm,1.3s					
B21K	Ikpikpuk River	28.15	33	P	P	05 37 54.9 +0.1
	baz=257,SNR=12					
H21K	Melozitna Rive	28.20	42	P	P	05 37 55.6 +0.2
	baz=266,SNR=5.6					
CHUM	Lake Minchumin	28.33	46	P	P	05 37 56.7 +0.3
	baz=270					
PPLA	Purkeypile	28.39	48	P	P	05 37 57.6 +0.4
	baz=272					
A22K	Sinclair Lake	28.40	31	P	P	05 37 56.5 -0.4
	baz=254					
CAST	Castle Rocks	28.43	47	P	P	05 37 57.4 0.0
	baz=271,SNR=5.9					
OHAK	Old Harbor	28.44	60	P	P	05 37 57.7 +0.2
	baz=281					
SPCR	Spurr Chakacha	28.46	51	P	P	05 37 58.2 +0.4
	baz=275					
F22K	John River	28.64	38	P	P	05 37 58.6 -0.6
	baz=263					
D22K	Ayikyak River	28.67	35	P	P	05 37 59.4 0.0
	baz=260					
Q20K	Shuyak Island	28.67	57	P	P	05 37 59.9 +0.4
	baz=279					
KDAK	Kodiak Island	28.71	59	P	P	05 37 59.7 -0.2
	baz=281					
B22K	Teshekpuk Lake	28.72	32	P	P	05 37 59.1 -0.7
	baz=257					
SKT	Skwentna	28.73	50	P	P	05 38 00.2 +0.1
	baz=274					
H22K	Ishtalitna Cre	28.81	42	P	P	05 38 00.3 -0.4
	baz=267					
G22K	Bettles	28.84	39	P	P	05 38 00.5 -0.4
	baz=265					
E22K	Anaktuvuk Pass	28.86	37	P	P	05 38 00.8 -0.4
E22K	Anaktuvuk Pass	28.86	37	P	P	05 38 01.1 -0.1
	baz=262,SNR=5.7					
BPAW	Bear Paw Mtn.	28.92	45	P	P	05 38 02.5 +0.8
BPAW				IAmb	IAmb	05 38 03.5
	comp=Z,10nm,1.2s					
BPAW	Bear Paw Mtn.	28.92	45	P	P	05 38 01.9 +0.2
	baz=271,SNR=5.5					
CAPN	Captain Cook N	29.02	52	P	P	05 38 02.7 +0.1
	baz=276					
CNPM	China Poot	29.13	55	IAmb	IAmb	05 38 05.6
	comp=Z,11nm,1.0s					
SUA	Susitna One	29.15	51	P	P	05 38 03.3 -0.5
SUA					PcP	05 41 07.8 +0.1
SUA	Susitna One	29.15	51	P	P	05 38 04.0 +0.1
	baz=276					
TRF	Thorofare Moun	29.24	47	P	P	05 38 04.6 -0.1
	baz=272,SNR=6.9					
CUT	Chulitna	29.30	49	IAmb	IAmb	05 38 06.5
	comp=Z,8.9nm,0.7s					
CUT	Chulitna	29.30	49	P	P	05 38 05.7 +0.6
	baz=274					
BRSE	Bradley Lake S	29.35	54	P	P	05 38 05.9 +0.3
	baz=279					
COLD	Coldfoot	29.38	39	P	P	05 38 06.0 +0.3
COLD	Coldfoot	29.38	39	P	P	05 38 05.6 0.0
	baz=266,SNR=6.0					
D23K	Nanushuk River	29.40	35	P	P	05 38 06.0 +0.1
	baz=262					
G23K	Bananza Creek	29.41	40	P	P	05 38 06.6 +0.6
G23K	Bananza Creek	29.41	40	P	P	05 38 06.4 +0.4
	baz=267,SNR=5.3					
M22K	Willow	29.42	50	P	P	05 38 06.1 +0.1
	baz=276					
H23K	Yukon River	29.56	42	P	P	05 38 07.5 +0.1
	baz=269,SNR=11					
C23K	Itkillik River	29.56	34	P	P	05 38 07.4 +0.1
	baz=261					
I23K	Minto, Yukon-K	29.62	43	P	P	05 38 08.1 +0.3
	baz=270					
RC01	Rabbit Creek A	29.67	51	P	P	05 38 08.9 +0.6
	baz=277					
E23K	Chandalar	29.67	37	P	P	05 38 08.5 0.0
	baz=265,SNR=5.6					
NEA2	Nenana	29.75	44	P	P	05 38 09.2 +0.2
	baz=271					
O22K	Cooper Landing	29.75	53	P	P	05 38 10.2 +1.1
	baz=278					
TOLK	Toolik Lake Re	29.75	36	P	P	05 38 09.0 -0.1
	baz=264					
MCK	McKinley	29.83	46	IAmb	IAmb	05 38 11.6
	comp=Z,9.6nm,1.0s					
MCK	McKinley	29.83	46	P	P	05 38 10.6 +0.8
	baz=273,SNR=7.0					
RND	Reindeer	29.89	47	IAmb	IAmb	05 38 11.2
	comp=Z,11nm,1.0s					
RND	Reindeer	29.89	47	P	P	05 38 10.4 +0.1
PMR	Palmer	29.90	50	P	P	05 38 11.2 +0.9
	baz=277					
SEW	Seward	29.94	53	IAmb	IAmb	05 38 13.6
	comp=Z,8.5nm,0.9s					
SEW	Seward	29.94	53	P	P	05 38 11.0 +0.4
	baz=279					
GHO	Glory Hole Cre	29.98	50	IAmb	IAmb	05 38 12.3
	comp=Z,5.5nm,0.4s					
D24K	Happy Valley	30.08	35	P	P	05 38 11.7 -0.2
	baz=264					
E24K	Your Creek	30.10	37	IAmb	IAmb	05 38 13.4
	comp=Z,3.8nm,0.5s					
E24K	Your Creek	30.10	37	P	P	05 38 12.1 -0.1
	baz=266,SNR=9.1					
WRH	Wood River Hil	30.18	45	P	P	05 38 13.9 +1.2
WRH					PcP	05 41 09.7 -0.4
C24K	Franklin Bluff	30.20	34	P	P	05 38 13.0 +0.2
	baz=263					
H24K	Noodor Dome	30.24	42	P	P	05 38 14.6 +1.2
H24K					PcP	05 41 10.8 +0.5
H24K	Noodor Dome	30.24	42	P	P	05 38 13.7 +0.3
	baz=270,SNR=5.0					
KNK	Knik Glacier	30.25	51	IAmb	IAmb	05 38 15.2
	comp=Z,16nm,0.9s					
KNK	Knik Glacier	30.25	51	P	P	05 38 13.4 -0.1
	baz=277,SNR=13					
SML	Sawmill	30.26	50	P	P	05 38 13.6 0.0
	baz=277,SNR=15					
COLA	College	30.27	44	P	P	05 38 14.7 +1.2
COLA				IAmb	IAmb	05 38 15.7
	comp=Z,15nm,0.9s					
COLA	College	30.27	44	P	P	05 38 14.7 +1.2
COLA	College	30.27	44	*i* P	P	05 38 13.0 -0.5
COLA				pmax	pmax	
	comp=Z,19nm,1.1s					
COLA	College	30.27	44	P	P	05 38 13.4 -0.1
	baz=272					
F24K	Squaw Lake	30.29	38	P	P	05 38 13.5 -0.2
	baz=267					
CCB	Clear Creek Bu	30.29	44	IAmb	IAmb	05 38 15.9
	comp=Z,15nm,1.2s					
PWL	Port Wells	30.38	52	P	P	05 38 14.3 -0.3
PWL				IAmb	IAmb	05 38 15.3
	comp=Z,9.1nm,1.1s					
PWL					PcP	05 41 11.2 +0.5
PWL	Port Wells	30.38	52	P	P	05 38 14.8 +0.2
	baz=278,SNR=5.1					
G24K	Hadweenzic Riv	30.42	40	IAmb	IAmb	05 38 17.1
	comp=Z,20nm,1.2s					
G24K	Hadweenzic Riv	30.42	40	P	P	05 38 14.8 -0.1
	baz=269,SNR=16					
POKR	Poker Plat Res	30.44	43	P	P	05 38 14.9 -0.2
	baz=272					
M23K	Glacier View	30.55	50	P	P	05 38 16.6 +0.5
	baz=277,SNR=6.1					
HDA	Harding Lake	30.67	45	IAmb	IAmb	05 38 19.3
	comp=Z,10nm,1.3s					
HDA	Harding Lake	30.67	45	P	P	05 38 17.3 +0.1
	baz=274,SNR=6.9					
IL31		30.68	44	IAmb	IAmb	05 38 18.4
	comp=Z,8.4nm,0.8s					
ILAR	Eielson Array	30.68	44	P	P	05 38 17.2 -0.1
ILAR	Eielson Array	30.68	44	P	P	05 38 17.3 +0.1
	comp=Z,5.6nm,0.8s,baz=266,slow=8.5,SNR=60					
ILAR				pP	pP	05 38 47.0 -0.3
	comp=Z,2.7nm,0.9s,baz=266,slow=8.5,SNR=3.6					
ILAR				PcP	PcP	05 41 10.2 -1.2
	comp=Z,0.8nm,0.8s,baz=286,slow=3.3,SNR=4.7					
	comp=Z,5.6nm,0.8s					
SCM	Sheep Creek Mo	30.73	50	IAmb	IAmb	05 38 19.2
	comp=Z,15nm,1.0s					
SCM	Sheep Creek Mo	30.73	50	P	P	05 38 17.9 +0.2
	baz=278,SNR=7.0					
G25K	Bearman Lake	30.96	40	P	P	05 38 19.6 0.0
	baz=270					
D25K	Kavik River	30.97	35	IAmb	IAmb	05 38 23.1
	comp=Z,6.1nm,0.6s					
D25K	Kavik River	30.97	35	P	P	05 38 19.6 -0.2
	baz=266,SNR=16					
P23K	Montague Islan	30.97	53	P	P	05 38 20.2 +0.4
	baz=281					
GLI	Glacier Island	30.97	52	P	P	05 38 19.6 -0.3
	baz=279					
H25L	Birch Creek	31.08	41	P	P	05 38 20.7 0.0
	baz=271					
F25K	Christian Rive	31.15	38	P	P	05 38 21.7 +0.3
	baz=269,SNR=5.9					
E25K	Arctic Village	31.19	37	P	P	05 38 21.9 +0.1
	baz=269					
PRP	Porcupine Dome	31.22	42	P	P	05 38 22.3 +0.2
	baz=273,SNR=22					
K24K	Donnelly Dome	31.23	46	P	P	05 38 22.0 -0.1
K24K				IAmb	IAmb	05 38 23.4
	comp=Z,12nm,0.9s					
K24K					PcP	05 41 13.7 +0.7
K24K	Donnelly Dome	31.23	46	P	P	05 38 22.4 +0.3
	baz=276					
M24K	Tolsona, Glenn	31.23	49	P	P	05 38 23.0 +0.8
	baz=278					
FYU	Fort Yukon	31.31	40	IAmb	IAmb	05 38 25.1
	comp=Z,16nm,1.2s					
J25K	Salcha River,	31.34	44	P	P	05 38 23.0 -0.1
	baz=275,SNR=6.1					
KLU	Klutina	31.44	50	P	P	05 38 24.1 0.0
	baz=279					
PAX	Paxson	31.45	47	P	P	05 38 23.8 -0.3
	baz=277					
C26K	Camden Bay	31.53	34	P	P	05 38 24.3 -0.3
	baz=266,SNR=6.6					
BMAR	Burnt Mountain	31.56	39	P	P	05 38 25.8 +0.8
RIDG	Independent Ri	31.65	46	IAmb	IAmb	05 38 26.4
	comp=Z,9.6nm,1.0s					
RIDG	Independent Ri	31.65	46	P	P	05 38 25.7 0.0
	baz=276,SNR=9.3					
HARP	HAARP	31.67	48	P	P	05 38 26.4 +0.4
	baz=278					
EYAK	Cordova Ski Ar	31.68	52	P	P	05 38 26.4 +0.4
	baz=281					
F26K	Sheenjek River	31.73	38	P	P	05 38 26.4 0.0
	baz=271					
G26K	Porcupine Rive	31.88	40	IAmb	IAmb	05 38 35.2
	comp=Z,11nm,1.2s					
G26K	Porcupine Rive	31.88	40	P	P	05 38 27.9 +0.2
	baz=272,SNR=10					
C27K	Jago River	31.93	35	P	P	05 38 28.2 +0.2
	baz=268,SNR=5.7					
SCRK	Sand Creek	32.00	45	IAmb	IAmb	05 38 29.6
	comp=Z,13nm,1.0s					
SCRK	Sand Creek	32.00	45	P	P	05 38 28.9 0.0
	baz=277,SNR=15					
N25K	Chitina, Valde	32.05	50	IAmb	IAmb	05 38 34.2
	comp=Z,8.2nm,1.3s					
N25K	Chitina, Valde	32.05	50	P	P	05 38 30.2 +0.9
	baz=280,SNR=6.2					
J26L	Joseph Creek	32.13	44	P	P	05 38 30.8 +0.8
	baz=276					
BMRM	Bremner River	32.16	51	IAmb	IAmb	05 38 41.0
	comp=Z,9.9nm,1.1s					
BMRM	Bremner River	32.16	51	P	P	05 38 31.0 +0.8
	baz=281,SNR=5.9					
ULN	Ulaanbaatar	32.16	283	*ce*P	P	05 38 31.6 +1.0
ULN				pmax	pmax	
	comp=Z,2.0nm,0.8s					
I26K	Coal Creek Min	32.23	43	P	P	05 38 31.5 +0.8
	baz=275					
L26K	Log Cabin Wild	32.41	47	P	P	05 38 32.5 +0.1
	baz=279					
GLB	Gilahina Butte	32.45	50	IAmb	IAmb	05 38 52.2
	comp=Z,13nm,1.4s					
KAIM	Kayak Island	32.45	53	P	P	05 38 33.8 +1.0
	baz=283					
SONM	Songino Array	32.57	283	P	P	05 38 33.8 -0.4
	comp=Z,1.1nm,0.6s,baz=86,slow=9.6,SNR=4.5					
SONM				ScP	ScP	05 44 47.7 +0.2
	comp=Z,0.7nm,0.8s,baz=70,slow=1.7,SNR=3.9					
SONM				LR	LR	05 52 19.3
	comp=Z,53nm,18.4s,baz=261,slow=37					
	comp=Z,1.1nm,0.6s					
M26K	Nabesna, AK	32.66	48	IAmb	IAmb	05 38 37.2
	comp=Z,7.9nm,0.9s					
M26K	Nabesna, AK	32.66	48	P	P	05 38 36.5 +1.9
	baz=280,SNR=8.8					
E27K	Coleen River	32.68	37	P	P	05 38 35.5 +0.8
	baz=272					
G27K	Doyon Strip	32.72	40	P	P	05 38 35.9 +0.8
	baz=274,SNR=6.7					
H27K	Steamboat Moun	32.82	41	P	P	05 38 37.6 +1.7
	baz=275,SNR=16					
K27K	Chicken	32.83	45	P	P	05 38 37.1 +1.1
	baz=278					
I27K	Kandik River	32.84	42	P	P	05 38 36.9 +0.7
	baz=276					
D27M	Malcolm River	32.89	35	P	P	05 38 37.3 +0.7
	baz=271					
HHC	Hu-ho-hao-te	33.02	269	*e*P	P	05 38 38.8 +0.7
HHC				pmax	pmax	
	comp=Z,14nm,0.6s					
HHC				pmax	pmax	
	comp=Z,50nm,4.0s					
L27K	Beaver Creek,	33.08	47	P	P	05 38 39.1 +0.8
	baz=280,SNR=21					
H11N2	WAKE ISLAND Hy	33.10	164	T	T	06 14 07.4
	baz=350					
BCAR	Beaver Creek A	33.10	47	P	P	05 38 39.7 +1.3
H11N3	WAKE ISLAND Hy	33.11	164	T	T	06 14 14.7
	baz=350,slow=74					
H11N1	WAKE ISLAND Hy	33.11	164	T	T	06 14 16.2
	baz=350,slow=74					
M27K	Edge Creek, AK	33.18	48	IAmb	IAmb	05 38 42.4
	comp=Z,17nm,1.2s					
M27K	Edge Creek, AK	33.18	48	P	P	05 38 40.2 +0.9
	baz=281,SNR=8.8					
E28M	Babbage River	33.43	36	P	P	05 38 41.6 +0.5
	baz=273					
I28M	Miner Creek	33.55	42	IAmb	IAmb	05 38 44.9
	comp=Z,11nm,1.1s					
I28M	Miner Creek	33.55	42	P	P	05 38 42.9 +0.5
	baz=278,SNR=10.0					
MESA	MESA	33.60	52	P	P	05 38 44.1 +1.0
	baz=284					
BVCY	Beaver Creek	33.64	48	P	P	05 38 44.2 +1.1
	baz=282,SNR=8.4					
D28M	Stokes Point	33.68	35	P	P	05 38 43.8 +0.5
	baz=273					
YUK3	Moose Creek	33.95	49	P	P	05 38 46.9 +0.9
	baz=283					
DAWY	Dawson	33.99	45	P	P	05 38 47.1 +0.9
	baz=280					
E29M	Blow River	34.04	37	P	P	05 38 47.5 +1.0
	baz=275					
H29M	Whitestone	34.09	41	IAmb	IAmb	05 38 49.3
	comp=Z,7.9nm,1.1s					
H29M	Whitestone	34.09	41	P	P	05 38 47.4 +0.5
	baz=278,SNR=5.7					
G29M	Pine Creek	34.14	39	IAmb	IAmb	05 38 50.1
	comp=Z,18nm,1.2s					
G29M	Pine Creek	34.14	39	P	P	05 38 48.4 +1.0
	baz=277,SNR=7.5					
I29M	Ogilvie Camp,	34.24	42	IAmb	IAmb	05 38 50.0
	comp=Z,14nm,1.1s					
I29M	Ogilvie Camp,	34.24	42	P	P	05 38 49.4 +1.2
	baz=279,SNR=12					
H11S1	WAKE ISLAND Hy	34.26	164	T	T	06 15 23.9
	baz=350					
H11S3	WAKE ISLAND Hy	34.27	164	T	T	06 15 28.3
	baz=350					
H11S2	WAKE ISLAND Hy	34.28	164	T	T	06 15 21.9
	baz=350					
O28M	Mount Upton	34.31	50	IAmb	IAmb	05 38 51.2
	comp=Z,11nm,0.9s					
O28M	Mount Upton	34.31	50	P	P	05 38 50.4 +1.2
	baz=284,SNR=5.5					
YUK8	Steele Glacier	34.39	49	P	P	05 38 51.0 +1.1
	baz=284					
NJ2	Nanjing	34.40	250	*e*P	P	05 38 50.9 +1.0
NJ2				pmax	pmax	
	comp=Z,9.0nm,0.5s					
PINM	Pinnacle	34.45	52	P	P	05 38 51.7 +1.5
	baz=285					
M29M	Somme Creek	34.72	47	IAmb	IAmb	05 38 54.6
	comp=Z,5.4nm,0.6s					
M29M	Somme Creek	34.72	47	P	P	05 38 53.5 +1.0
	baz=283,SNR=8.8					
L29M	L29M	34.73	46	P	P	05 38 53.6 +1.1
	baz=283,SNR=16					
EPYK	Eagle Plains	34.73	40	P	P	05 38 52.9 +0.4
	baz=279					
G30M	tAoh Zraii Nji	34.84	39	P	P	05 38 53.9 +0.6
	baz=279					
K29M	Barlow Dome	34.84	45	P	P	05 38 54.3 +0.8
	baz=282					
YUK4	Talbot Arm	34.90	49	P	P	05 38 55.2 +1.0
	baz=285					
F30M	Barrier River	34.92	38	IAmb	IAmb	05 38 57.3
	comp=Z,11nm,1.1s					
F30M	Barrier River	34.92	38	P	P	05 38 54.5 +0.5
	baz=278,SNR=11					
PNL	Peninsula	34.98	52	P	P	05 38 55.6 +1.0
	baz=286					
I30M	Mount Dempster	35.06	42	IAmb	IAmb	05 38 57.2
	comp=Z,13nm,1.0s					
I30M	Mount Dempster	35.06	42	P	P	05 38 56.2 +0.8
	baz=281,SNR=16					
YUK6	Outpost Mounta	35.13	50	P	P	05 38 57.1 +0.9
	baz=286					
J30M	Hart River	35.21	43	P	P	05 38 57.4 +0.8
	baz=282					
M30M	Minto, Yukon	35.45	47	P	P	05 38 59.8 +1.2
	baz=284					
HYT	Haines Junctio	35.57	50	IAmb	IAmb	05 39 02.3
	comp=Z,9.3nm,1.0s					
HYT	Haines Junctio	35.57	50	P	P	05 39 01.2 +1.4
	baz=286,SNR=5.5					
N30M	Aishikik Lake	35.59	49	P	P	05 39 00.7 +0.8
	baz=286					
G31M	Satah River	35.61	39	P	P	05 39 00.5 +0.6
	baz=280					
F31M	Tsiigehtchic	35.72	38	P	P	05 39 01.3 +0.5
F31M	Tsiigehtchic	35.72	38	P	P	05 39 01.6 +0.8
	baz=280					
H31M	Peel River	35.78	41	P	P	05 39 02.6 +1.2
	baz=282					
P29M	Windy Craggy	35.80	52	P	P	05 39 03.2 +1.5
	baz=288					
NRIK	Noril'sk	35.84	325	P	P	05 39 00.9 -0.9
NRIK	Noril'sk	35.84	325	P	P	05 39 02.3 +0.5
	comp=Z,3.3nm,0.5s,baz=124,slow=4.6,SNR=4.2					
	comp=Z,3.3nm,0.5s					
NRIK	Noril'sk	35.84	325	P	P	05 39 00.9 -0.9
NRIK				pmax	pmax	
	comp=Z,3.0nm,0.6s					
P30M	Million Dollar	36.03	51	P	P	05 39 05.2 +1.6
	baz=288					
N31M	Braeburn, Yuko	36.19	48	IAmb	IAmb	05 39 08.0
	comp=Z,12nm,0.8s					
N31M	Braeburn, Yuko	36.19	48	P	P	05 39 06.4 +1.4
	baz=286,SNR=6.1					
O30N	Mendenhall	36.25	50	IAmb	IAmb	05 39 08.2
	comp=Z,16nm,1.1s					
O30N	Mendenhall	36.25	50	P	P	05 39 06.9 +1.4
	baz=287,SNR=9.5					
M31M	Drury Creek, Y	36.62	47	IAmb	IAmb	05 39 11.5
	comp=Z,13nm,1.1s					
M31M	Drury Creek, Y	36.62	47	P	P	05 39 09.7 +1.1
	baz=287,SNR=13					
WHY	Whitehorse	36.85	49	P	P	05 39 11.9 +1.2
	baz=288,SNR=8.6					
SKAG	Skagway	37.02	51	IAmb	IAmb	05 39 15.2
	comp=Z,12nm,1.0s					
SKAG	Skagway	37.02	51	P	P	05 39 13.3 +1.4
	baz=289					
FARO	Faro, Yukon	37.09	47	IAmb	IAmb	05 39 15.6
	comp=Z,8.0nm,1.1s					

FARO Faro, Yukon 37.09 47 P **P** **05 39 13.2 +0.6**
baz=287,SNR=6.0
N32M Quiet Lake 37.53 48 IAmb IAmb 05 39 18.5
comp=Z,9.3nm,0.9s
N32M Quiet Lake 37.53 48 P **P** **05 39 17.7 +1.3**
baz=289
P32M Atlin 37.75 51 P **P** **05 39 19.2 +1.1**
baz=290
R32K Eaglecrest 37.82 53 P **P** **05 39 20.4 +1.6**
baz=291
A36M Sachs Harbour 37.83 30 IAmb IAmb 05 39 20.4
comp=Z,7.8nm,1.0s
A36M Sachs Harbour 37.83 30 P **P** **05 39 18.8 +0.2**
baz=281,SNR=5.7
SIT Sitka 37.86 55 P **P** **05 39 20.7 +1.7**
baz=292
MMPY Sheldon Lake, 37.90 45 IAmb IAmb 05 39 22.3
comp=Z,9.5nm,1.1s
MMPY Sheldon Lake, 37.90 45 P **P** **05 39 20.6 +1.2**
baz=288,SNR=7.6
P33M Teslin, Yukon 37.96 50 IAmb IAmb 05 39 23.9
comp=Z,13nm,1.1s
P33M Teslin, Yukon 37.96 50 P **P** **05 39 21.1 +1.1**
baz=290,SNR=11
S32K Killisnoo 38.09 54 P **P** **05 39 22.4 +1.5**
baz=292
Q32M Nakina River 38.67 51 IAmb IAmb 05 39 32.0
comp=Z,15nm,1.4s
Q32M Nakina River 38.67 51 P **P** **05 39 27.0 +1.0**
baz=292
C36M Paulatuk 38.81 34 IAmb IAmb 05 39 28.3
comp=Z,11nm,1.1s
C36M Paulatuk 38.81 34 P **P** **05 39 27.5 +0.7**
baz=286,SNR=11
XAN Xi'an 38.95 262 P P 05 39 44.0 +16
R33M Jennings River 39.13 50 IAmb IAmb 05 39 33.1
comp=Z,14nm,1.0s
R33M Jennings River 39.13 50 P **P** **05 39 30.8 +1.0**
baz=292,SNR=9.7
TGTN Hyland Airport 39.59 46 P **P** **05 39 34.2 +0.7**
baz=292,SNR=10
S34M Telegraph Cree 39.62 52 IAmb IAmb 05 39 36.6
comp=Z,10nm,1.1s
S34M Telegraph Cree 39.62 52 P **P** **05 39 34.7 +1.0**
baz=294
WRAK Wrangell Islan 39.62 55 P **P** **05 39 35.0 +1.3**
baz=295
WTLY Watson Lake, Y 39.88 49 IAmb IAmb 05 39 38.5
comp=Z,11nm,0.9s
WTLY Watson Lake, Y 39.88 49 P **P** **05 39 37.1 +1.3**
baz=293,SNR=8.0
T35M Bob Quinn 40.44 54 IAmb IAmb 05 39 44.7
comp=Z,16nm,1.0s
T35M Bob Quinn 40.44 54 P **P** **05 39 42.1 +1.5**
baz=295,SNR=6.6
V35K Ketchikan 40.46 56 P **P** **05 39 42.7 +2.0**
baz=296
LIRD Liard River Hi 41.41 49 P **P** **05 39 49.5 +1.2**
baz=295
ZAA0 Zalesovo Array 41.98 302 P **P** **05 39 52.3 -0.8**
ZALV Zalesovo Beam 41.98 302 P **P** **05 39 52.0 -1.1**
comp=Z,0.5nm,0.4s,baz=65,slow=14,SNR=2.1
ZALV pP **pP** **05 40 23.7 -0.7**
comp=Z,3.5nm,0.8s,baz=64,slow=6.8,SNR=7.4
comp=Z,0.5nm,0.4s
KOTAN Kotaneelee Air 42.04 47 P **P** **05 39 54.9 +1.4**
baz=296
TOAD Toad River Com 42.05 49 P **P** **05 39 54.9 +1.2**
baz=296,SNR=20
YKA Yellowknife Ar 45.01 41 P **P** **05 40 18.0 +0.8**
comp=Z,5.2nm,0.9s,baz=300,slow=7.7,SNR=45
YKA pP **pP** **05 40 48.4 -0.6**
comp=Z,0.9nm,0.8s,baz=301,slow=8.5,SNR=3.0
YKA PcP **PcP** **05 41 56.0 +0.4**
comp=Z,0.8nm,0.9s,baz=304,slow=3.4,SNR=5.7
comp=Z,5.2nm,0.9s
WMQ Urumqi 45.79 289 *e*P **P** **05 40 22.1 -1.6**
WMQ pP pP 05 40 57.0 +1.5
WMQ PcP **PcP** **05 42 03.5 +4.7**
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ LR LR
comp=Z,150nm,24.2s
KURK Kurchatov 46.91 301 P **P** **05 40 30.4 -1.8**
KURK Kurchatov 46.91 301 *i*P **P** **05 40 30.2 -2.0**
KURBB Kurchatov Arra 47.01 301 P **P** **05 40 31.6 -1.4**
comp=Z,1.0nm,0.7s,baz=62,slow=7.8,SNR=6.7
KURBB pP **pP** **05 41 04.1 -0.8**
comp=Z,18nm,0.8s,baz=60,slow=8.0,SNR=46
KURBB ScP **ScP** **05 45 42.3 -0.8**
comp=Z,0.5nm,0.5s,baz=61,slow=3.3,SNR=5.0
comp=Z,1.0nm,0.7s
MK31 Makanchi Array 47.15 295 *i*P **P** **05 40 32.1 -2.1**
MKAR Makanchi Array 47.15 295 P **P** **05 40 33.0 -1.1**
comp=Z,0.7nm,0.5s,baz=50,slow=7.5,SNR=8.9
MKAR pP **pP** **05 41 06.1 0.0**
comp=Z,4.8nm,0.7s,baz=49,slow=6.9,SNR=19
MKAR ScP **ScP** **05 45 42.5 -1.3**
comp=Z,0.4nm,0.6s,baz=51,slow=4.8,SNR=4.1
comp=Z,0.7nm,0.5s
SPITS Spitsbergen Ar 47.88 350 P **P** **05 40 38.9 -0.5**
comp=Z,9.5nm,0.9s,baz=78,slow=7.8,SNR=6.0
comp=Z,9.6nm,0.9s
LLLB Lillooet 47.92 58 IAmb IAmb 05 40 42.2
comp=Z,11nm,1.0s
PZH PanZhiHua 48.64 261 P **P** **05 40 46.5 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,40nm,3.9s
BVAR Borovoye Array 49.77 308 P **P** **05 40 51.8 -2.3**
comp=Z,0.7nm,0.5s,baz=43,slow=8.9,SNR=4.5
BVAR pP **pP** **05 41 26.1 -0.3**
comp=Z,6.7nm,0.8s,baz=60,slow=8.8,SNR=12
comp=Z,0.7nm,0.5s
BRVK Borovoye 49.80 308 *i*P **P** **05 40 50.9 -3.4**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
B08A Colville Reser 50.59 59 IAmb IAmb 05 41 02.5
comp=Z,13nm,1.1s
BLKN Baker Lake 50.84 33 P **P** **05 41 02.0 +0.1**
BLKN IAmb IAmb 05 41 02.9
comp=Z,7.0nm,0.7s
ILON Igloolik, Nuna 51.41 23 P **P** **05 41 06.1 0.0**
ILON IAmb IAmb 05 41 07.4
comp=Z,14nm,1.5s
C09A Chrisman Ranch 51.50 59 IAmb IAmb 05 41 09.0
comp=Z,7.4nm,0.8s
HAWA Hanford 51.70 61 IAmb IAmb 05 41 10.8
comp=Z,7.5nm,1.0s
NEW Newport 51.81 58 IAmb IAmb 05 41 11.4
comp=Z,9.4nm,1.1s
NEW Newport 51.81 58 P **P** **05 41 10.4 +0.9**
NEW pmax pmax
comp=Z,13nm,1.1s
PINE Pine Mountain 52.57 64 IAmb IAmb 05 41 18.3
comp=Z,6.8nm,0.9s
J05D Fort Rock, OR 52.73 65 P **P** **05 41 18.6 +2.2**
J05D IAmb IAmb 05 41 19.2
comp=Z,8.7nm,0.7s
L04D Klamath Falls 52.81 67 P **P** **05 41 18.9 +1.8**
YBH Yreka Blue Hor 52.90 67 IAmb IAmb 05 41 21.1
comp=Z,11nm,1.2s
KDJ Kajisay 52.90 293 P **P** **05 41 16.5 -1.3**
KDJ Kajisay 52.90 293 P **P** **05 41 16.5 -1.3**
KDJ pmax pmax
comp=Z,2.0nm,0.6s
TKM2 Tokmak 2 53.28 295 P pP 05 41 54.2 +0.9
SNR=5.6
USP Ospenovka 53.67 296 P pP 05 41 57.4 +1.5
SNR=8.1
BMO Blue Mountains 53.88 61 IAmb IAmb 05 41 27.1
comp=Z,7.8nm,1.2s
AAK Ala-Archa 54.08 295 P pP 05 42 00.4 +1.3
SNR=5.2
PLID Pearl Lake 54.44 60 IAmb IAmb 05 41 31.2
comp=Z,12nm,0.8s
EKS2 Erkin-Say 54.46 296 P pP 05 42 03.4 +1.5
SNR=5.3
WVOR Wild Horse Val 54.73 64 P **P** **05 41 33.1 +2.1**
WVOR pmax pmax
comp=Z,19nm,1.1s
AML Almayashu 54.86 295 P pP 05 42 07.1 +2.0
SNR=6.1
FFC Flin Flon 54.89 44 P **P** **05 41 32.9 +1.1**
FFC IAmb IAmb 05 41 33.9
comp=Z,14nm,1.3s
FFC Flin Flon 54.89 44 P **P** **05 41 32.9 +1.1**
FFC pmax pmax
comp=Z,14nm,1.3s
SHL Shillong 55.38 268 P **P** **05 41 34.8 -1.1**
SHL Shillong 55.38 268 P **P** **05 41 34.8 -1.1**
SHL pmax pmax
comp=Z,9.0nm,0.7s
BEKR Beckworth 55.47 68 P **P** **05 41 38.0 +1.6**
BEKR IAmb IAmb 05 41 39.0
comp=Z,9.4nm,1.0s
MFID Camas Ranch 55.63 62 IAmb IAmb 05 41 40.7
comp=Z,8.9nm,1.2s
EGMT Eagleton 55.74 54 P **P** **05 41 39.0 +0.9**
KKAR Karatay Array 55.97 298 P **P** **05 41 39.3 -0.4**
KKAR Karatay Array 55.97 298 P **P** **05 41 39.3 -0.4**
DLMT Dillon 56.06 58 P **P** **05 41 41.9 +1.4**
DLMT IAmb IAmb 05 41 43.1
comp=Z,8.2nm,0.9s
CHTO Chiang Mai 56.11 257 P **P** **05 41 40.0 -1.0**
CHTO IAmb IAmb 05 41 42.9
comp=Z,3.6nm,0.7s
CHTO Chiang Mai 56.11 257 P **P** **05 41 40.0 -1.0**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
PAHR Pah Rah Range 56.13 67 IAmb IAmb 05 41 43.8
comp=Z,6.9nm,1.1s
HLID Hailey 56.30 61 P **P** **05 41 43.9 +1.7**
HLID IAmb IAmb 05 41 45.0
comp=Z,6.3nm,1.1s
CMAR Chiang Mai Arr 56.39 256 P **P** **05 41 42.5 -0.5**
comp=Z,1.7nm,0.8s,baz=23,slow=7.7,SNR=13
comp=Z,1.7nm,0.8s
CMAR Chiang Mai Arr 56.39 256 *i*P **P** **05 41 43.2 +0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 56.41 57 P **P** **05 41 44.2 +1.2**
BOZ Bozeman (W) 56.41 57 P **P** **05 41 44.2 +1.2**
BOZ pmax pmax
comp=Z,12nm,1.0s
CMB Columbia Colle 56.69 69 IAmb IAmb 05 41 47.6
comp=Z,6.2nm,1.2s
WAKR Walker 56.91 68 IAmb IAmb 05 41 49.7
comp=Z,8.9nm,1.0s
YHL Hebgen Lake 57.15 58 P **P** **05 41 50.3 +2.0**
YHL IAmb IAmb 05 41 51.1
comp=Z,9.7nm,0.9s
YHB Horse Butte 57.21 58 P **P** **05 41 50.4 +1.7**
ABKAR Akbulak array 57.23 309 P **P** **05 41 46.7 -1.7**
RYN Ryan 57.35 68 IAmb IAmb 05 41 52.5
comp=Z,6.3nm,0.9s
YNR Norris Junctio 57.50 58 IAmb IAmb 05 41 54.1
comp=Z,11nm,1.1s
NVAR Mina Array Bea 57.61 68 P **P** **05 41 53.2 +1.6**
NVAR Mina Array Bea 57.61 68 P **P** **05 41 53.4 +1.8**
comp=Z,4.4nm,0.7s,baz=292,slow=7.6,SNR=33
NVAR pP **pP** **05 42 25.4 +0.6**
comp=Z,1.8nm,0.7s,baz=293,slow=6.5,SNR=5.6
comp=Z,4.4nm,0.7s
YNE Yellowstone No 57.65 57 P **P** **05 41 53.3 +1.5**
NV11 Mina Array Sit 57.70 68 IAmb IAmb 05 41 54.4
comp=Z,4.5nm,0.9s
FXWY Fox Creek 58.05 59 IAmb IAmb 05 41 57.8
comp=Z,11nm,1.0s
MOOW Moose Ponds 58.13 59 IAmb IAmb 05 41 58.4
comp=Z,12nm,1.1s
HVU Hansel Valley 58.40 61 IAmb IAmb 05 41 60.0
comp=Z,4.9nm,1.0s
DSP Deep Springs 58.53 68 IAmb IAmb 05 42 01.0
comp=Z,6.4nm,1.0s
PDAR Pinedale Array 59.43 59 P **P** **05 42 05.5 +1.3**
PDAR Pinedale Array 59.43 59 P **P** **05 42 05.7 +1.5**
comp=Z,13nm,0.8s,baz=323,slow=2.5,SNR=120
PDAR pP **pP** **05 42 37.4 -0.2**
comp=Z,2.2nm,0.7s,baz=315,slow=2.8,SNR=4.3
comp=Z,13nm,0.8s
DUG Dugway, Tooele 59.47 63 IAmb IAmb 05 42 07.3
comp=Z,10nm,1.1s
DUG Dugway, Tooele 59.47 63 P **P** **05 42 06.3 +1.9**
DUG pmax pmax
comp=Z,10.0nm,1.0s
TPNV Topopah Spring 59.81 68 IAmb IAmb 05 42 09.4
comp=Z,9.5nm,0.9s
PRN Phroc Range 60.17 66 IAmb IAmb 05 42 12.0
comp=Z,6.9nm,1.0s
BSUT Blindstream Ca 60.35 61 IAmb IAmb 05 42 13.6
comp=Z,7.9nm,0.9s
FINES FINESS Array B 60.41 336 P **P** **05 42 08.9 -1.4**
comp=Z,2.0nm,0.8s,baz=10,slow=6.8,SNR=3.0
FINES pP **pP** **05 42 43.3 -0.5**
comp=Z,1.9nm,0.8s,baz=24,slow=15,SNR=2.9
comp=Z,2.0nm,0.8s
ULM Lac du Bonnet 60.70 45 P **P** **05 42 11.7 -0.7**
comp=Z,2.9nm,0.5s,baz=331,slow=7.2,SNR=4.5
comp=Z,2.9nm,0.5s
SHPR Sheep Range 60.74 67 P **P** **05 42 14.9 +1.8**
TMUT Trail Mountain 60.98 63 IAmb IAmb 05 42 17.5
comp=Z,9.4nm,0.9s
Q16A Castle Valley 61.27 63 IAmb IAmb 05 42 19.5
comp=Z,8.1nm,1.0s
P18A Preston Nutter 61.27 62 IAmb IAmb 05 42 19.2
comp=Z,8.4nm,1.1s
LCMT Little Creek M 61.47 66 IAmb IAmb 05 42 20.9
comp=Z,7.0nm,1.0s
V12A Nelson 61.47 68 P **P** **05 42 19.6 +1.6**
KNB Kanab 61.70 65 IAmb IAmb 05 42 22.7
comp=Z,9.7nm,1.1s
O20A White River Ci 61.99 60 IAmb IAmb 05 42 23.8
comp=Z,9.3nm,0.8s
EPLO Experimental L 62.05 44 P **P** **05 42 21.4 -0.2**
SBUM Sibu 62.11 233 P **P** **05 42 21.8 -0.4**
AGMN Agassiz Nation 62.15 46 IAmb IAmb 05 42 23.4
comp=Z,6.2nm,0.9s
U15A North Rim 62.42 65 IAmb IAmb 05 42 27.5
comp=Z,7.6nm,1.3s
GLA Glamis 63.40 70 IAmb IAmb 05 42 33.2
comp=Z,10nm,0.9s
WUAZ Wupatki 63.59 66 IAmb IAmb 05 42 35.1
comp=Z,16nm,1.3s
ISCO Idaho Springs 63.63 59 IAmb IAmb 05 42 35.3
comp=Z,12nm,1.1s
ISCO Idaho Springs 63.63 59 P **P** **05 42 34.3 +1.8**
ISCO pmax pmax
comp=Z,11nm,1.1s
SRIT Nakonsritamara 63.79 249 P **P** **05 42 32.9 -0.5**
Y14A Wickenburg 63.81 68 IAmb IAmb 05 42 36.0
comp=Z,6.7nm,0.9s
MVCO Mesa Verde 63.96 62 IAmb IAmb 05 42 37.0
comp=Z,9.8nm,0.9s
NOA NORSAR Array B 64.07 343 pP pP 05 43 07.9 -0.7
comp=Z,0.9nm,0.7s,baz=22,slow=6.8,SNR=2.6
X16A Lo Mia Camp, P 64.35 66 IAmb IAmb 05 42 40.1
comp=Z,6.0nm,1.0s
S22A 4UR Ranch, Cre 64.48 61 IAmb IAmb 05 42 41.0
comp=Z,12nm,1.1s
X18A Snowflake 65.11 65 IAmb IAmb 05 42 45.0
comp=Z,11nm,1.0s
SDCO Great Sand Dun 65.19 60 IAmb IAmb 05 42 45.2
comp=Z,6.4nm,1.1s
PIX Pinacate 65.28 70 IAmb IAmb 05 42 45.1
comp=Z,9.3nm,1.3s
T25A Trinidad 66.22 60 IAmb IAmb 05 42 51.4
comp=Z,13nm,1.2s
TUC Tucson 66.27 68 P **P** **05 42 50.9 +1.5**
TUC Tucson 66.27 68 P **P** **05 42 50.9 +1.5**
TUC pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 66.75 63 P **P** **05 42 54.0 +1.5**
ANMO IAmb IAmb 05 42 55.0
comp=Z,6.5nm,1.1s
ANMO Albuquerque 66.75 63 P **P** **05 42 53.9 +1.4**
ANMO IAmb IAmb 05 42 54.9
comp=Z,6.8nm,1.1s
ANMO Albuquerque 66.75 63 IAmb IAmb 05 42 55.0
comp=Z,6.8nm,1.1s
ANMO Albuquerque 66.75 63 P **P** **05 42 54.0 +1.5**
ANMO pmax pmax
comp=Z,7.0nm,1.1s
RTBA Rita Blanca 67.64 59 IAmb IAmb 05 42 59.5
comp=Z,7.1nm,0.8s
I40A Norwalk 67.86 46 IAmb IAmb 05 43 00.1
comp=Z,14nm,1.0s
MSTX Muleshoe 69.48 61 IAmb IAmb 05 43 11.8
comp=Z,9.8nm,1.0s
P38A Dawn 69.86 51 IAmb IAmb 05 43 12.6
comp=Z,14nm,1.0s
VHRN Van Horn 70.68 65 IAmb IAmb 05 43 19.2
comp=Z,8.9nm,0.9s
PECS Pecos 70.86 64 IAmb IAmb 05 43 20.1
comp=Z,10nm,1.3s
APMT Aspermont 71.40 60 P **P** **05 43 21.5 +0.5**
APMT IAmb IAmb 05 43 22.2
comp=Z,23nm,1.5s
MNHN Monahans 71.49 63 P **P** **05 43 22.7 +1.1**
R40A Maddies Statio 71.51 51 IAmb IAmb 05 43 22.4
comp=Z,12nm,1.0s
EKA Eskdalemuir Ar 71.78 348 P **P** **05 43 21.5 -1.3**
comp=Z,0.5nm,0.4s,baz=26,slow=5.0,SNR=3.6
comp=Z,0.5nm,0.4s
HHAR Hobbs 72.28 54 IAmb IAmb 05 43 26.4
comp=Z,7.4nm,0.5s
TX31 Lajitas Ar. Si 72.53 65 P **P** **05 43 29.1 +1.3**
TXAR Lajitas Array 72.53 65 P **P** **05 43 29.1 +1.2**
comp=Z,17nm,0.8s,baz=298,slow=4.6,SNR=184
TXAR pP **pP** **05 44 02.1 -0.4**
comp=Z,1.8nm,0.7s,baz=295,slow=4.0,SNR=3.3
LMQ La Malbaie 72.69 32 P **P** **05 43 28.0 -0.4**
LMQ IAmb IAmb 05 43 29.4
comp=Z,16nm,1.4s
OZNA Ozona 72.71 62 IAmb IAmb 05 43 30.5
comp=Z,9.6nm,1.1s
SAND Sanderson 72.91 63 IAmb IAmb 05 43 32.1
comp=Z,12nm,1.1s
PBMO Poplar Bluff 73.60 51 IAmb IAmb 05 43 35.9
comp=Z,12nm,1.2s
WHAR Wooly Hollow 73.88 53 P **P** **05 43 35.6 0.0**
WHAR IAmb IAmb 05 43 36.6
comp=Z,20nm,1.2s
DRIO Del Rio 74.14 63 IAmb IAmb 05 43 38.7
comp=Z,6.3nm,0.7s
WRA Warramunga Art 74.48 203 P **P** **05 43 39.4 +0.3**
WRA Warramunga Arr 74.48 203 P **P** **05 43 39.5 +0.4**
comp=Z,3.9nm,0.9s,baz=18,slow=6.2,SNR=5.1
comp=Z,3.9nm,0.9s
WRA Warramunga Arr 74.48 203 *i*P **P** **05 43 36.2 -2.9**
WRA pmax pmax
comp=Z,4.0nm,0.9s
H62A Milan 75.02 34 P **P** **05 43 42.9 +0.9**
H62A IAmb IAmb 05 43 43.4
comp=Z,18nm,1.0s
HNVL Huntsville, TX 75.86 58 IAmb IAmb 05 43 49.4
comp=Z,18nm,1.1s
OXF Oxford 75.91 52 IAmb IAmb 05 43 48.9
comp=Z,18nm,1.0s
CLTN Cedars of Leba 76.08 48 P **P** **05 43 48.7 +0.5**
CLTN IAmb IAmb 05 43 49.1
comp=Z,5.0nm,0.6s
ASAR Alice Springs 78.17 202 P **P** **05 44 01.1 +1.2**
comp=Z,3.9nm,0.6s,baz=14,slow=5.1,SNR=47
comp=Z,3.9nm,0.6s
ZAIG Zacatecas 78.23 68 P **P** **05 44 02.0 +1.3**
ZAIG IAmb IAmb 05 44 03.2
comp=Z,9.4nm,1.1s
PPT Papeete 83.18 130 LR LR 06 18 31.7
comp=Z,37nm,19.1s,baz=342,slow=33
STKA Stephens Creek 84.73 194 P **P** **05 44 33.9 -0.2**
comp=Z,3.5nm,0.9s,baz=334,slow=6.3,SNR=5.4
comp=Z,3.5nm,0.9s
ESDC Sonseca Array 87.22 346 P **P** **05 44 44.8 -1.9**
comp=Z,1.7nm,0.8s,baz=2.8,slow=4.4,SNR=9.5
comp=Z,1.7nm,0.8s
H03N2 Juan Fernandez 135.82 88 T T 08 22 17.8
baz=314,slow=77,SNR=71
H03N1 Juan Fernandez 135.84 88 T T 08 22 19.7
baz=314,slow=77,SNR=97
H03N3 Juan Fernandez 135.84 88 T T 08 22 18.2
baz=314,slow=77,SNR=79
QSPA South Pole Qui 141.80 180 PKhKP PKPpre 05 51 23.5
comp=Z,1.3nm,0.5s,baz=338,slow=0.4,SNR=16
CPUP Villa Florida 143.33 59 PKhKP PKPpre 05 51 30.8
comp=Z,1.4nm,0.7s,baz=106,slow=0.6,SNR=4.0
PLCA Paso Flores 145.61 90 PKPbc **PKPdf** **05 51 37.2 0.0**
comp=Z,3.9nm,0.7s,baz=302,slow=3.9,SNR=17

TIR 15 05:33:18.5, 40°.21N×20°.66E, h11km, Md2.1/1, Ml1.6/3,
Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.07**	**220**	Pg	Pg	05 33 20.9	-0.1
LSK				Sg	Sg	05 33 22.8	0.0
LSK				AML	AML	05 33 24.4	
	16nm,0.4s						
LSK				AML	AML	05 33 25.5	
	21nm,0.5s						
LSK				AMd		05 33 48.4	
NEST	**Nestorio**	**0.36**	**55**	Pg	Pg	05 33 26.1	+0.3
NEST				Sg	Sb	05 33 31.8	-0.9
NEST				AML	AML	05 33 34.5	
	0.3nm,0.5s						
NEST				AML	AML	05 33 38.0	
	0.3nm,0.4s						
SRN	**Sarande**	**0.60**	**238**	Pg	Pn	05 33 32.0	-0.9
SRN				Sg	Sb	05 33 40.4	+0.9
SRN				AML	AML	05 33 45.8	
	0.1nm,0.3s						
IGT	**Igoumenitsa**	**0.72**	**201**	Pg	Pn	05 33 34.0	-0.6
IGT				Sg	Sb	05 33 43.7	+0.8

ATH 15 05:33:51.3, 39°.05N×20°.65E, h15km±5km, ML2.3/1,
Manual Solution by E.Daskalaki First location:
2019/04/15 05:34:41, This location: 2019/04/15 06:34:42
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude
uncertainty: 3 km; Longitude uncertainty: 8 km,
Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.23**	**180**	P	Pg	05 33 56.6	+0.2
TSLK				S	Sb	05 34 00.5	-0.6
LKD2	**Lefkada island**	**0.26**	**179**	P	Pg	05 33 57.1	+0.1
LKD2				S	Sg	05 34 01.4	+0.5
NYDR	**Nydri-Lefkada**	**0.34**	**174**	P	Pg	05 33 58.3	0.0
NYDR				S	Sg	05 34 03.4	+0.4
EVGI	**Lefkada island**	**0.43**	**180**	P	Pg	05 33 59.7	-0.2
EVGI				S	Sb	05 34 06.7	-0.2
IGT	**Igoumenitsa**	**0.54**	**333**	P	Pb	05 34 02.4	-0.1
IGT				S	Sg	05 34 08.6	-0.6
FSK	**Fiskardo**	**0.60**	**187**	P	Pg	05 34 02.4	-0.6
DMLN	**Damoulianata-K**	**0.84**	**195**	P	Pn	05 34 08.4	-0.3
DMLN				S	Sb	05 34 19.2	+0.4
VLS	**Valsamata**	**0.88**	**183**	P	Pb	05 34 07.7	-0.5
KEK	**Kerkira**	**0.94**	**315**	P	Pn	05 34 11.6	+1.7
ANX	**Ano Chora**	**1.09**	**114**	P	Pn	05 34 12.1	-0.1
YRMI	**Loutra Irminis**	**1.09**	**150**	P	Pb	05 34 11.6	-0.3

SDD ***15*** *05:43:17.9±1.9, 19°.19N×73°.31W, h30km±291km, MD2.9, ML2.6, MW2.4*
SSNC ***15*** *05:43:19.9±1.1, 19°.72N×73°.14W, h11km±9km, MD3.1, ML1.6*
ISC 15 05:43:19.8±1.8, 19°.7N±0°.2×73°.20W±0°.06, h28km±19km,
n12, σ0:67/20, 7C, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	**Montecristi**	**1.46**	**83⇑**	*e*Pg	**Pb**	**05 43 46.5**	**+0.1**
MCDR				IAML		05 44 10.9	
	comp=N,70nm,3.7s						
QMBU	**Quimbuelo**	**1.59**	**288**	*e*P	**Pn**	**05 43 46.0**	**-0.1**
QMBU				*e*S	**Sn**	**05 44 06.0**	**+0.2**
QMBU				*e*Sg	**Sb**	**05 44 07.8**	**-0.6**
QMBU				IAML		05 44 08.7	
	comp=N,14nm,0.1s						
QMBU				IAML		05 44 08.8	
	comp=E,6.5nm,0.2s						
REDR	**Restauracion**	**1.79**	**107⇑**	*e*Pg	Pn	05 43 43.3	-5.5
REDR				IAML		05 44 08.2	
	comp=N,47nm,0.1s						
GTBY	**Guantanamo Bay**	**1.81**	**277**	*e*P	**Pn**	**05 43 49.4**	**+0.3**
GTBY				*e*S	**Sn**	**05 44 10.2**	**-1.0**
GTBY	**Guantanamo Bay**	**1.81**	**277⇑**	*e*Pg	**Pn**	**05 43 49.3**	**+0.2**
GTBY				⇑*e*Sg	**Sn**	**05 44 10.6**	**-0.6**
GTBY				IAML		05 44 21.1	
	comp=N,45nm,2.4s						
NMDO	**Nuevo Mundo**	**1.88**	**297**	*e*P	**Pn**	**05 43 50.2**	**+0.2**
MOAC	**Moa**	**1.90**	**300**	*e*P	**Pn**	**05 43 50.1**	**-0.3**
MOAC				*e*S	**Sn**	**05 44 12.9**	**-0.5**
MOAC				IAML		05 44 14.9	
	comp=N,2.4nm,0.1s						
MOAC				IAML		05 44 14.9	

	comp=E,2.9nm,0.1s					
SDDR	Presa de Saban	1.94 112	⇑	*e*Pg	Pn	05 43 50.5 -0.5
SDDR			⇑	*e*Sg	Sn	05 44 13.6 -1.0
SDDR				IAML		05 44 50.1
	comp=N,23nm,3.6s					
RCC	Rio Carpintero	2.37 277		*e*P	Pn	05 43 57.3 +0.5
RCC				*e*S	Sn	05 44 25.3 +0.4
PINC	Pinares de May	2.56 288		*e*P	Pn	05 43 59.7 +0.4
PINC				*e*S	Sn	05 44 30.1 +0.6
PINC				IAML		05 44 33.1
	comp=E,2.5nm,0.1s					
PINC				IAML		05 44 34.1
	comp=N,3.1nm,0.1s					
MARVS	Santiago de Cu	2.56 277		*e*P	Pn	05 44 00.3 +0.9
MARVS				*e*S	Sn	05 44 29.1 -0.5
HATOM	Hato Mayor del	3.72 104	⇑	*e*Pg	Pn	05 44 16.8 +1.3
HATOM				IAML		05 45 21.9
	comp=N,27nm,2.9s					

CRAAG ***15*** *06:02:04.4, 35°.69N×0°.91W, Ml3.4, Algerie 02km SW Les-Andalouses*
CNRM ***15*** *06:02:04.9, 35°.91N×1°.13W, h42km, ML2.4*
MDD ***15*** *06:02:07.0±0.8, 35°.99N×0°.98W, h16km±12km, mb_Lg2.8/19, Error ellipse: s-maj=12.9km s-min=4.0km az=163.0*

ISC 15 06:02:04.5±3.0, 35°.83N±0°.03×0°.97W±0°.03, h39km±6km, n53, σ1§51/74, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	Oran	0.35	106	P	Pn	06 02 14.1	+0.9
OLHC	Oulhaca	0.69	213	P	Pn	06 02 17.5	-0.3
OSBL	Sidi Abdelli	0.76	191	P	Pn	06 02 18.2	-0.6
ODJA	Bouhanifia	0.83	127	P	Pn	06 02 20.0	+0.2
OFRG	Douar Fergoug	0.88	110	P	Pn	06 02 19.2	-1.1
OBBL	Beni Bahdel	1.20	202	P	Pn	06 02 26.0	+1.1
EKMS	Oued Kramis	1.39	69	P	Pn	06 02 29.5	+2.1
OJGS	Djebel Guires	1.43	103	P	Pn	06 02 30.1	+2.0
ENIJ	Nijar	1.52	319	Pn	Pn	06 02 29.2	+0.1
ENIJ				Sg	Sn	06 02 46.3	-1.4
ENIJ	Nijar	1.52	319	Pn	Pn	06 02 29.1	-0.1
ENIJ				Sn	Sn	06 02 46.6	-1.1
ENIJ				*i* Vmb_Lg		06 02 50.4	
TAF	Taforalt	1.56	230	P	Pn	06 02 29.6	-0.2
TAF	Taforalt	1.56	230	S	Sn	06 02 49.3	+0.5
CART	Cartagena	1.75	359	Pn	Pn	06 02 32.0	-0.4
CART				Sn	Sn	06 02 49.7	-3.7
CART	Cartagena	1.75	359	P	Pn	06 02 31.8	-0.5
CART	Cartagena	1.75	359	S	Sn	06 02 52.5	-1.0
GOG	Mont Gurugu	1.76	250	P	Pn	06 02 31.7	-0.9
GOG	Mont Gurugu	1.76	250	S	Sn	06 02 52.7	-1.1
EXMAZ	Mazarron	1.78	351	Pn	Pn	06 02 33.2	+0.5
EXMAZ				Sn	Sn	06 02 52.0	-2.1
EBER	Berja	1.88	305	Pn	Pn	06 02 34.7	+0.4
EBER	Berja	1.88	305	Pn	Pn	06 02 34.4	+0.1
EBER				*i* Vmb_Lg		06 03 27.8	
JBK	JBK	1.99	222	P	Pn	06 02 37.1	+1.3
JBK	JBK	1.99	222	S	Sn	06 03 01.2	+1.6
EMUR	La Murta	2.02	354	Pn	Pn	06 02 36.2	+0.2
EMUR				Sn	Sn	06 02 57.7	-2.4
EMUR				*i* Vmb_Lg		06 03 02.0	
EZAR	Zarzadilla de	2.12	344	Pn	Pn	06 02 38.1	+0.6
EZAR				Sn	Sn	06 03 02.0	-0.8
EZAR				*i* Vmb_Lg		06 03 07.3	
ELGU	Los Guajares,	2.38	297	Pn	Pn	06 02 41.1	0.0
ELGU	Los Guajares,	2.38	297	Pn	Pn	06 02 40.4	-0.7
ELGU				Sn	Sn	06 03 09.3	+0.2
EQUE	Quentar	2.42	305	Pn	Pn	06 02 43.3	+1.6
EQUE				Sn	Sn	06 03 10.9	+0.9
EQTA	Presa de Quent	2.42	305	Pn	Pn	06 02 43.5	+1.8
PALE	Palemas	2.50	257	P	Pn	06 02 41.7	-1.0
EQES	Quesada	2.59	320	Pn	Pn	06 02 46.8	+2.7
EQES				*i* Vmb_Lg		06 02 49.6	
EQES				Sn	Sn	06 03 16.7	+2.3
AKLM	AKL	2.71	242	P	Pn	06 02 46.2	+0.5
E0803	Jimena (Jaen)	2.84	316	Pn	Pn	06 02 50.0	+2.7
E0803				Sn	Sn	06 03 23.0	+2.7
EGOR	Sierra Gorda,	2.84	298	Pn	Pn	06 02 49.6	+2.2
EGOR	Sierra Gorda,	2.84	298	Pn	Pn	06 02 49.3	+1.9
EBEN2	Beniarda presa	2.91	12	Pn	Pn	06 02 49.5	+1.2
EBEN2				Sn	Sn	06 03 20.3	-1.6
EBEN2				*i* Vmb_Lg		06 03 23.2	
JAND	Jandula	3.39	316	Pn	Pn	06 02 56.8	+2.0
JAND				*i* Vmb_Lg		06 03 02.1	
JAND				Sn	Sn	06 03 33.6	-0.2
EVIV	Cofrentes, Val	3.43	358	Pn	Pn	06 02 58.3	+2.8
EVIV				Sn	Sn	06 03 34.0	-1.0
EVIV				*i* Vmb_Lg		06 03 47.8	
SMIR	Smir Dam	3.59	269	P	Pn	06 02 56.1	-1.5
SMIR	Smir Dam	3.59	269	S	Sn	06 03 37.4	-1.5
EIBI	Ibiza	3.68	29	Pn	Pn	06 02 59.7	+0.8
EIBI				Sn	Sn	06 03 41.3	+0.3
EIBI	Ibiza	3.68	29	Pn	Pn	06 02 59.5	+0.6
EIBI				Sn	Sn	06 03 39.3	-1.8
EIBI				*i* Vmb_Lg		06 03 50.5	
EADA	Adamuz	3.71	310	Pn	Pn	06 03 01.2	+1.9
EADA				*i* Vmb_Lg		06 03 55.3	
ECAB	El Cabril	4.21	303	Pn	Pn	06 03 06.7	+0.5
ECAB				Sn	Sn	06 03 54.4	+0.2
ECAB	El Cabril	4.21	303	Pn	Pn	06 03 06.6	+0.4
ECAB				*i* Vmb_Lg		06 03 07.3	
ECAB				Sn	Sn	06 03 54.2	0.0
MDT	Midelt	4.26	226	P	Pn	06 03 07.0	+0.1
MD31	MD31	4.31	228	P	Pn	06 03 08.2	+0.6
EMOS	Mosqueruela	4.54	5	Pn	Pn	06 03 13.3	+2.4
EMOS				*i* Vmb_Lg		06 03 18.0	
EMOS				Sn	Sn	06 04 01.1	-1.4
PAB	San Pablo	4.58	325	Pn	Pn	06 03 13.2	+2.0
PAB				Sn	Sn	06 04 01.3	-2.0
PAB				*i* Vmb_Lg		06 04 16.7	
ETOS	Mallorca	4.94	36	Pn	Pn	06 03 17.3	+1.1
ETOS	Mallorca	4.94	36	Pn	Pn	06 03 17.1	+0.9
ETOS				Sn	Sn	06 04 10.5	-1.6
EBAD	Badajoz	5.64	303	Pn	Pn	06 03 26.3	+0.5
PVAQ	Vaqueiros	5.65	288	P	Pn	06 03 23.8	-2.2
EPOB	Poblet	5.74	16	Pn	Pn	06 03 28.3	+1.1
EPOB				Sn	Sn	06 04 28.9	-2.9

ASRS ***15*** *06:03:57.0±0.5, 54°.17N×87°.06E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 15 06:03:57.6±3.1, 54°.23N×87°.37E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=26.3km s-min=17.9km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.53	261	I	I	06 14 10.0	
	baz=80,slow=336,SNR=0.9						
ZALV	Zalesovo Beam	1.53	261	Pg	Pn	06 04 24.1	-2.0
	0.8nm,0.3s,baz=80,slow=17,SNR=11						
ZALV				Lg	Lg	06 04 45.9	
	1.8nm,0.3s,baz=83,slow=29,SNR=9.0						
KURBB	Kurchatov Arra	6.50	240	Pn	Pn	06 05 34.4	0.0
	baz=54,slow=14,SNR=6.0						
KURBB				Lg	Lg	06 07 27.3	
	baz=56,slow=32,SNR=4.3						
	0.4nm,0.5s						
MKAR	Makanchi Array	8.11	206	Pn	Pn	06 05 58.4	+1.9
	0.1nm,0.3s,baz=25,slow=14,SNR=5.3						
MKAR				Lg	Lg	06 08 18.6	
	baz=32,slow=29,SNR=5.3						
	0.1nm,0.3s						

CATAC 15 06:19:23.8±0.4, 14°N±7°×8°9W±°, h5km, M1.9/6, MLv1.9/6, confirmed, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAVA	Las Pavas	0.08	62	P	Pg	06 19 26.0	+0.3
COEG	Centro de Oper	0.14	112	P	Pg	06 19 27.3	+0.6
LOMA	Loma Larga	0.15	259	P	Pg	06 19 27.3	+0.4
UESV	Universidad de	0.22	99	P	Pg	06 19 28.8	+0.6
TECO	Alcaldia de Te	0.26	121	P	Pg	06 19 29.4	+0.4
SCLA	Alcaldia de Sa	0.28	84	P	Pg	06 19 30.0	+0.7
PMON	Piamonte	0.29	278	P	Pg	06 19 30.2	+0.6
JAYA	Jayaque - finc	0.42	267	P	Pg	06 19 32.5	+0.4

SNET 15 06:20:03.8±1.5, 13°.67N×89°.02W, h2km, ML2.2, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.06	220	‖ *i*P	Pg	06 20 06.2	+1.1
AEIL	Aeropuerto Ilo	0.10	288	*e*P	Pg	06 20 06.9	+1.2
AEIL				*e*S	Sg	06 20 09.3	+2.4
PAVA	Las Pavas	0.10	62	*e*P	Pg	06 20 06.6	+0.9
PAVA				*e*S	Sg	06 20 08.7	+1.6
LOMA	Loma Larga	0.14	261	*e*P	Pg	06 20 07.8	+1.1
LOMA				*e*S	Sg	06 20 09.3	+0.7
COEG	Centro de Oper	0.15	109	*e*P	Pg	06 20 07.8	+1.1
COEG				*e*S	Sg	06 20 09.8	+1.1

IDC ***15*** *06:27:51.8±1.6, 13°.64S×166°.92E, h0km, mb4.1/4, mbtmp4.2/5, ML4.4/1, Error ellipse: s-maj=52.5km s-min=29.1km az=128.0*
NEIC ***15*** *06:27:53.4±2.0, 13°.62S±0°.04×167°.1E±0°.1, h10km±2km, mb4.5/10, Error ellipse: s-maj=22.0km s-min=7.7km az=86.0*
NOU ***15*** *06:28:07.9, 14°.53S×167°.45E, h137km, mb4.3/23, Vanuatu Islands*

ISC 15 06:27:53.1±0.9, 13°.68S±0°.08×167°.11E±0°.09, h10km, n38, σ1§25/36, mb4.4/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	2.43	173	P	Pb	06 28 37.5	+0.5
VLAKA	Lakatoro	2.43	173	S	Sn	06 29 00.4	-2.3
LUES	Luesalemba Tem	3.22	339	P	Pg	06 29 09.4	+15
DVP	Devils Point	4.16	166	P	Pn	06 28 57.9	+1.3
NGOA	Tingoa Renbel	7.19	286	P	Pb	06 29 58.3	+0.2
KOUNC	Koumac, New Ca	7.35	201	P	Pn	06 29 44.1	+3.6
YATNC	Mamie plateau,	8.34	181	P	Pn	06 29 53.8	-0.3
DZM	Mont Dzumac	8.37	184	Pn	Pn	06 29 55.3	+0.7
	4.4nm,0.3s,baz=360,slow=19,SNR=6.4						
DZM				Sn	Sn	06 31 20.1	-9.2
	1.5nm,0.3s,baz=313,slow=23,SNR=1.6						
	13nm,0.3s						
DZM	Mont Dzumac	8.37	184	P	Pn	06 29 55.3	+0.7
ONTNC	Ouen Toro	8.60	184	Pn	Pn	06 29 57.6	-0.1
ONTNC	Ouen Toro	8.60	184	P	Pn	06 29 59.5	+1.7
OUENC	Ouen Island, N	8.70	182	P	Pn	06 30 00.5	+1.5
TATA	Tatamba Isabel	8.89	306	P	Pg	06 30 24.6	-19
PINNC	Pines Island,	8.89	178	Pn	Pn	06 30 03.0	+1.3
MSVF	Nonsavu	11.28	112	Pn	Pn	06 30 35.2	+0.6
EIDS	Eidsvold	19.04	230		Pn	06 32 17.4	+1.2
EIDS				IAmb	IAmb	06 32 18.1	
	comp=Z,13nm,0.8s						
EIDS	Eidsvold	19.04	230	P	P	06 32 15.6	+0.1
CMSA	Cobar Meteorol	26.50	224	P	P	06 33 29.4	-1.4
STKA	Stephens Creek	29.56	228	P	P	06 33 57.2	-1.1
STKA	Stephens Creek	29.56	228	P	P	06 33 57.1	-1.1
	comp=Z,5.5nm,0.6s,baz=40,slow=10,SNR=11						
	comp=Z,5.5nm,0.6s						
STKA	Stephens Creek	29.56	228	P	P	06 33 57.1	-1.1
LCRK	Leigh Creek	31.41	233	P	P	06 34 13.8	-0.8
WR8	Warramunga Arr	31.79	254	P	P	06 34 18.2	+0.2
WR8				IAmb	IAmb	06 34 18.8	
	comp=Z,6.5nm,1.1s						
WB0	Warramunga Arr	31.87	255	P	P	06 34 18.7	-0.1
WB0				IAmb	IAmb	06 34 19.3	
	comp=Z,4.9nm,1.1s						
WRA	Warramunga Arr	31.94	254	P	P	06 34 18.8	-0.6
	comp=Z,1.3nm,0.8s,baz=84,slow=8.6,SNR=14						
	comp=Z,1.3nm,0.8s						
HTT	Hallett	32.29	228	P	P	06 34 21.2	-1.2
OOD	Oodnadatta	32.45	239	P	P	06 34 24.6	+0.9
AS31	Alice Springs	32.91	248	P	P	06 34 27.6	-0.3
ASAR	Alice Springs	32.91	248	P	P	06 34 27.3	-0.6
ASAR	Alice Springs	32.91	248	P	P	06 34 26.4	-1.5
	comp=Z,1.6nm,0.5s,baz=77,slow=9.0,SNR=17						
	comp=Z,1.6nm,0.5s						
BBOO	Buckleboo	34.11	231	P	P	06 34 36.8	-1.3
BBOO				IAmb	IAmb	06 34 37.0	
	comp=Z,10nm,0.6s						
BBOO	Buckleboo	34.11	231	P	P	06 34 36.6	-1.6
FORT	Forrest	39.70	238	P	P	06 35 24.2	-1.6
FORT				IAmb	IAmb	06 35 25.0	
	comp=Z,18nm,0.8s						
FITZ	Fitzroy Crossi	40.06	258	P	P	06 35 29.3	+0.4
MORW	Morawa	49.59	243	P	P	06 36 43.6	-1.2
ILAR	Eielson Array	85.58	18	P	P	06 40 32.5	+1.2
	comp=Z,0.3nm,0.7s,baz=225,slow=5.0,SNR=2.8						
	comp=Z,0.3nm,0.7s						
J25K	Salcha River,	85.93	19	P	P	06 40 33.0	-0.1
J25K				IAmb	IAmb	06 41 01.0	
	comp=Z,4.1nm,1.5s						
ARCES	ARCESS Array B	119.20	346	PKP	PKPdf	06 46 41.1	-0.8
	comp=Z,4.9nm,0.9s,baz=50,slow=1.9,SNR=5.5						

NAO ***15*** *06:34:13.6, 32°.46N×47°.19E, h33km, mb3.9*
IDC ***15*** *06:34:29.8±0.6, 34°.47N×45°.72E, h0km, mb4.2/19, mbtmp4.1/25, ML3.5/8, MS3.3/14, Error ellipse: s-maj=14.2km s-min=13.0km az=155.0*
MOS ***15*** *06:34:30.6±1.6, 34°.40N×45°.59E, h15km, mb4.4/21, Error ellipse: s-maj=6.9km s-min=4.4km az=96.3*
DSN ***15*** *06:34:30.7±0.6, 34°.28N×45°.56E, h10km, mb4.8/2, Error ellipse: s-maj=13.0km s-min=5.6km az=59.0*
TEH ***15*** *06:34:31.1, 34°.51N×45°.73E, h11km±14km*
ISN ***15*** *06:34:32.7±0.8, 34°.53N×45°.69E, h24km±5km, ML4.3*
NEIC ***15*** *06:34:32.9±1.5, 34°.55N±0°.05×45°.61E±0°.05, h10km±1km, mb4.4/37, Error ellipse: s-maj=9.4km s-min=4.8km az=38.0*
THR ***15*** *06:34:32.0±0.0, 34°.45N×45°.73E, h7km±6km, mb4.2*

ISC 15 06:34:31.9±0.8, 34°.39N±0°.03×45°.69E±0°.03, h12km±5km, n328, σ1§84/353, mb4.3/43, MS3.3/11, 25C-5D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.14	323	Pg	Pg	06 34 34.8	-0.6
GLG1	Gilan-e-Gharb	0.33	147	Pg	Pb	06 34 40.7	+0.9
IDHR	Dehrash	0.65	62	Pg	Pg	06 34 43.5	-1.1
IGHG	Ghaleghazi	0.73	95	Pg	Pg	06 34 46.4	+0.4
KCHF	Cheshme Sefid,	1.12	96	Pg	Pn	06 34 53.5	0.0
ILIN	Lien	1.17	63	Pg	Pn	06 34 53.1	-1.1
IBDR	Badra	1.29	171	*e*Pg	Pg	06 34 59.0	+2.3
IBDR				*e*Sg	Sg	06 35 17.0	+3.4
IKRK	Kirkuk	1.50	312	*e*Pn	Pn	06 34 59.0	+0.4
IKRK				*e*Sn	Sn	06 35 18.0	0.0
IKRK				AML	AML	06 35 26.9	
	comp=E,6μm,0.6s						
IKRK				AML	AML	06 35 30.5	
	comp=N,6μm,0.6s						
SNGE	Sanandaj	1.53	62	*e*Pg	Pn	06 34 59.8	+0.6
BHD	Baghdad	1.56	225	*e*Pn	Pg	06 35 02.0	+0.1
BHD				*e*Sn	Sg	06 35 24.0	+1.8
SNQR	Sonqor, Kerman	1.66	73	Pg	Pn	06 35 02.2	+1.2
SRSL	SARDASHT	1.83	353	*e*Pn	Pn	06 35 04.5	+1.3
SRSL				*e*Sg	Sb	06 35 29.4	+1.2
IKFM	Kafar-mosalman	1.99	115	Pn	Pb	06 35 07.9	-0.1
IDOB	Doab	2.15	106	Pn	Pn	06 35 09.7	+2.1
MAHB	Mahabad	2.37	0	Pn	Pn	06 35 11.9	+1.3
BDRS	Dareh Seyedi	2.68	98	Pn	Pn	06 35 17.0	+2.0
RAFI	Al-Rafai	2.69	172	*e*Pn	Pb	06 35 18.0	-1.8
RAFI				*e*Sn	Sb	06 35 52.0	-0.7
HGHA	Hamedan- Ghaye	2.82	66	Pn	Pn	06 35 18.2	+1.3
HAGD	Aghdareh	2.88	80	Pn	Pn	06 35 19.8	+2.2
IHSH	Hashtrud	3.17	23	Pn	Pn	06 35 22.3	+0.4
IAZR	Azarshahr	3.29	4	Pn	Pn	06 35 24.0	+0.6
ZNJK	Zanjan	3.33	46	*e*Pn	Pn	06 35 26.0	+2.0
GTMR	Gotvand	3.44	123	*e*PnA		06 35 28.4	
QABG	Abgarm-Qazvin	3.45	67	Pn	Pn	06 35 27.3	+1.7
ASAO	Ashtian	3.58	86	*e*Pn	Pn	06 35 30.5	+3.1
ITBZ	Tabriz	3.85	5	Pn	Pn	06 35 32.2	+1.2
IHRS	Heris	4.07	15	Pn	Pn	06 35 34.9	+0.8
IGZV	Ghazvin	4.20	60	Pn	Pn	06 35 37.2	+1.4
IMRD	Marand	4.31	0	Pn	Pn	06 35 38.3	+0.9
GEVA	Gevas	4.45	332		Pn	06 35 38.7	-0.6
IQOM	Qom	4.46	83	Pn	Pn	06 35 41.2	+1.8
IPIR	Pirpir	4.66	110	Pn	Pn	06 35 44.4	+2.0
JHBN	Jahan bin	4.69	116	Pn	Pn	06 35 45.1	+2.4
GAS1	Astara - Iran	4.72	32	Pn	Pn	06 35 43.6	+0.7
GRMI	Germi	4.75	21	*e*Pn	Pn	06 35 44.4	+1.1
MARD	Mardin	4.94	308		Pn	06 35 46.6	+0.6
IVRN	Varamin	5.01	81	Pn	Pn	06 35 48.8	+1.9
IKLH	Kolahrood	5.01	101	Pn	Pn	06 35 49.6	+2.5
MAKU	Maku	5.02	351	Pn	Pn	06 35 48.3	+1.2
GURO	Guroymak-BITLI	5.09	326		Pn	06 35 48.4	+0.3
MZPU	Pul - Mazandar	5.21	65	Pn	Pn	06 35 51.7	+1.9
IBRJ	Brojen	5.29	116	Pn	Pn	06 35 52.7	+1.8
DAMV	Damavand	5.30	75	*e*Pn	Pn	06 35 52.9	+1.9
DAMV				IAML		06 36 19.9	
	comp=Z,91nm,0.8s						
IDMV	Damavand	5.34	75	Pn	Pn	06 35 52.9	+1.4
KRSH	Karshahi	5.36	93	Pn	Pn	06 35 53.8	+2.0
ISFB	Sefidab	5.42	89	Pn	Pn	06 35 53.7	+1.2
KBD	Kabd	5.47	161	P	Pn	06 35 55.0	+1.8
KBD				S	Sn	06 36 58.3	+2.3
KBD	Kabd	5.47	161	Pn	Pn	06 35 55.0	+1.8
KBD				Sn	Sn	06 36 58.6	+2.6
KBD	Kabd	5.47	161	Pn	Pn	06 35 55.0	+1.8
KBD				Sn	Sn	06 36 54.9	-1.2
IZEF	Zefreh	5.73	103	Pn	Pn	06 35 59.1	+2.1
GNI	Garni	5.80	353	Pn	Pn	06 36 00.3	+2.5
	comp=Z,0.8nm,0.3s,baz=180,slow=9.1,SNR=2.0						
GNI				Lg	Lg	06 37 32.9	
	comp=Z,0.8nm,0.3s,baz=238,slow=23,SNR=3.1						
	comp=Z,5.5nm,0.5s						
KLNJ	Kolanjah	6.01	123	Pn	Pn	06 36 02.7	+1.9
KLNJ	Kolanjah	6.01	123	*e*Pn	Pn	06 36 01.9	+1.0
KLNJ				IAML		06 36 28.4	
	comp=Z,23nm,0.7s						
IRAM	Ramesheh	6.17	113	Pn	Pn	06 36 05.6	+2.6
KARS	Kars	6.56	342	Pn	Pn	06 36 07.2	-1.0
KARS	Kars	6.56	342	P	Pn	06 36 07.3	-1.0
ANAR	Anarak	6.80	98	Pn	Pn	06 36 12.7	+1.2
KOPT	Kop Dagi	6.98	325	Pn	Pn	06 36 11.8	-2.3
GAZ	Gaziantep	7.43	294	Pn	Pn	06 36 19.0	-1.1
ASF	Jabal al Asfar	7.69	256	Pn	Pn	06 36 25.4	+1.7
	comp=Z,4.3nm,0.3s,baz=73,slow=2.3,SNR=19						
ASF				Lg	Lg	06 38 35.7	
	comp=Z,3.8nm,0.3s,baz=113,slow=23,SNR=4.4						
ASF				LR	LR	06 40 15.8	
	comp=Z,275nm,19.7s,baz=89,slow=45						
	comp=Z,9.2nm,0.4s						
MAK	Makhachkala	8.67	9	*e*P	Pn	06 36 36.6	-0.4
MAK				*e*S	Sn	06 38 16.6	+1.9
MAK				pmax	pmax		
	comp=Z,153nm,1.0s						
MAK				MLR	MLR		
	comp=Z,223nm,9.0s						
MMAI	Mount Meron Ar	8.68	264	Pn	Pn	06 36 39.1	+1.8
	comp=Z,2.7nm,0.3s,baz=64,slow=16,SNR=2.3						
MMAI				Lg	Lg	06 39 08.4	
	comp=Z,4.9nm,0.3s,baz=64,slow=42,SNR=2.3						
MMAI				LR	LR	06 40 54.8	
	comp=Z,233nm,18.5s,baz=54,slow=44						
	comp=Z,1.4nm,0.3s						
MRVT	Maraveh tapeh	9.03	66	*e*Pn	Pn	06 36 45.0	+2.9
MRVT				IAML		06 37 00.3	
	comp=Z,4.2nm,0.9s						
GHAJ	Ghor Haditha	9.06	253	Pn	Pn	06 36 42.8	+0.5
BNN	Bunyan	9.08	302	Pn	Pn	06 36 40.5	-2.3
KBZ	Khabaz	9.57	348	Pn	Pn	06 36 52.7	+3.3
	comp=Z,0.1nm,0.3s,baz=155,slow=7.8,SNR=6.3						
	comp=Z,1.0nm,0.7s						
KBZ	Khabaz	9.57	348	*i* P	Pn	06 36 50.9	+1.5
SHA1	Shidzhatmaz	9.62	347	*i* P	Pn	06 36 51.6	+1.3
SHMA	Al-Shehemyia	9.65	150	Pn	Pn	06 36 51.0	+0.5
SHMA				Sn	Sn	06 38 40.2	+1.3
SHMA	Al-Shehemyia	9.65	150	Pn	Pn	06 36 50.6	0.0
SHMA				Sn	Sn	06 38 35.4	-3.5
KIV	Kislovodsk	9.83	347	*e*P	Pn	06 36 54.7	+1.7
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,30nm,12.0s						
KIV	Kislovodsk	9.83	347	P	Pn	06 36 53.9	+0.9
	comp=Z,12nm,1.0s						
SBZV	Sabzevar	9.93	75	IAML		06 37 07.3	
	comp=Z,5.2nm,1.0s						
BJRD	Bojnurd	10.04	67	*e*Pn	Pn	06 36 58.9	+2.9
BJRD				IAML		06 37 04.0	
	comp=Z,6.4nm,1.3s						
EIL	Elat	10.26	246	Pn	Pn	06 36 59.3	+0.4
	comp=Z,1.0nm,0.3s,baz=34,slow=10,SNR=4.4						
EIL				Lg	Lg	06 39 54.9	
	comp=Z,0.8nm,0.3s,baz=61,slow=12,SNR=4.0						
EIL				LR	LR	06 41 57.9	
	comp=Z,181nm,19.7s,baz=65,slow=44						
	comp=Z,3.4nm,0.4s						
SOC	Sochi	10.29	335	*e*P	Pn	06 36 57.6	-1.5
SOC				*e*		06 38 55.2	
SOC				MLR	MLR		
	comp=Z,162nm,15.0s						
SMRA	Abu-Samra	10.60	154	P	Pn	06 37 04.3	+0.9
SMRA				S	Sn	06 39 01.2	-0.9
SMRA	Abu-Samra	10.60	154	Pn	Pn	06 37 04.3	+0.9
SMRA				Sn	Sn	06 39 01.2	-0.9
TRNA	Turayna	10.75	152	P	Pn	06 37 06.5	+0.9
	SNR=5.9						
TRNA				S	Sn	06 39 03.1	-2.8
TRNA	Turayna	10.75	152	Pn	Pn	06 37 06.5	+0.9
	SNR=5.9						
TRNA				Sn	Sn	06 39 05.7	-0.2
TRNA	Turayna	10.75	152	Pn	Pn	06 37 06.5	+0.9
	SNR=5.9						
TRNA				Sn	Sn	06 39 02.9	-3.0
RAYN	Ar Rayn	10.83	181		P

ASUD Al Ashush, Dub 12.84 137 P **Pn** **06 37 33.8 -0.4**
ASUD Al Ashush, Dub 12.84 137 Pn **Pn** **06 37 33.8 -0.4**
ASUD Sn **Sn** **06 39 52.3 -4.8**
ASUD Al Ashush, Dub 12.84 137 P **Pn** **06 37 33.6 -0.6**
MDH Madha 12.91 132 P **Pn** **06 37 34.2 -0.9**
SNR=5.8
MDH Madha 12.91 132 Pn **Pn** **06 37 34.2 -0.9**
SNR=5.8
MDH Madha 12.91 132 *i* P **Pn** **06 37 33.8 -1.3**
SNR=5.8
UOSS Minazif 13.11 133 **Pn** **06 37 37.4 -0.5**
UOSS Minazif 13.11 133 P **Pn** **06 37 37.4 -0.5**
UOSS Minazif 13.11 133 Pn **Pn** **06 37 37.4 -0.5**
UOSS Minazif 13.11 133 *i* P **Pn** **06 37 36.9 -0.9**
SNR=6.8
HATD Hatta, Dubai 13.16 134 P **Pn** **06 37 38.0 -0.5**
SNR=10
HATD Hatta, Dubai 13.16 134 Pn **Pn** **06 37 38.0 -0.5**
SNR=10
HATD Hatta, Dubai 13.16 134 *i* P **Pn** **06 37 37.4 -1.1**
SNR=10
ASHO Ashiyiah 13.22 134 P **Pn** **06 37 38.5 -0.9**
SNR=17
ASHO Ashiyiah 13.22 134 Pn **Pn** **06 37 38.5 -0.9**
SNR=17
ASHO Ashiyiah 13.22 134 *i* P **Pn** **06 37 38.3 -1.2**
SNR=17
MZR Muzera 13.24 147 P **Pn** **06 37 39.2 -0.5**
SNR=7.4
MZR Muzera 13.24 147 Pn **Pn** **06 37 39.2 -0.5**
SNR=7.4
MZR Muzera 13.24 147 *i* P **Pn** **06 37 39.2 -0.5**
SNR=7.4
ALNE Al Ain 13.53 137 P **Pn** **06 37 43.2 -0.4**
ALNE Al Ain 13.53 137 Pn **Pn** **06 37 43.2 -0.4**
ALNE Al Ain 13.53 137 P **Pn** **06 37 42.9 -0.6**
SOHO SOHO 13.92 134 P **Pn** **06 37 47.9 -1.0**
SOHO SOHO 13.92 134 Pn **Pn** **06 37 47.9 -1.0**
SOHO SOHO 13.92 134 P **Pn** **06 37 47.1 -1.8**
YLV Yalova 14.34 300 P **Pn** **06 37 52.3 -2.4**
comp=Z,14nm,0.9s
ARQ Araqi 14.53 136 P **Pn** **06 37 56.7 -0.5**
SNR=6.3
ARQ Araqi 14.53 136 Pn **Pn** **06 37 56.7 -0.5**
SNR=6.3
HOQ Hoqain 14.80 134 P **Pn** **06 37 59.8 -1.1**
HOQ Hoqain 14.80 134 Pn **Pn** **06 37 59.8 -1.1**
KLYT Kilyos 14.82 302 P **Pn** **06 38 00.9 -0.3**
comp=Z,56nm,1.5s
KARP Karpathos 15.24 280 P **Pn** **06 38 06.0 -0.9**
BIDO Bidbid 15.34 132 P **Pn** **06 38 06.8 -1.4**
BIDO Bidbid 15.34 132 Pn **Pn** **06 38 06.8 -1.4**
BSY Bisya 15.37 136 P **Pn** **06 38 07.7 -0.9**
BSY Bisya 15.37 136 Pn **Pn** **06 38 07.7 -0.9**
CTYL Yalikoy Yolu 15.43 302 P **Pn** **06 38 09.0 -0.3**
comp=Z,29nm,0.7s
SMDO Samad 15.63 133 P **Pn** **06 38 10.9 -1.2**
SMDO Samad 15.63 133 Pn **Pn** **06 38 10.9 -1.2**
WSAR Wadi Sarin 15.86 131 Pn **Pn** **06 38 13.1 -1.8**
baz=331,slow=24,SNR=16
WSAR Sn **Sn** **06 41 02.5 -8.2**
baz=340,slow=24,SNR=4.6
WSAR Wadi Sarin 15.86 131 P **Pn** **06 38 12.5 -2.4**
SNR=5.7
WSAR Wadi Sarin 15.86 131 Pn **Pn** **06 38 12.5 -2.4**
SNR=5.7
NGCH Negor - Chabah 16.12 120 P **Pn** **06 38 20.3 +2.0**
NGCH Negor - Chabah 16.12 120 Pn **Pn** **06 38 17.5 -0.8**
JMDO Jabal Madar 16.19 134 P **Pn** **06 38 17.5 -1.7**
JMDO Jabal Madar 16.19 134 Pn **Pn** **06 38 17.5 -1.7**
WBK Wadi Bani Khal 16.53 132 P **Pn** **06 38 22.5 -1.1**
WBK Wadi Bani Khal 16.53 132 Pn **Pn** **06 38 22.5 -1.1**
APE Apeiranthos 16.59 285 *i* P **Pn** **06 38 23.4 -0.9**
TIRR Tirgusor 16.68 312 P **Pn** **06 38 25.4 +0.1**
comp=Z,23nm,1.5s
VRH Novokhopyorsk 17.05 351 *e*P **Pn** **06 38 30.7 +0.8**
VRH pmax pmax
comp=Z,10.0nm,0.9s
IDI Anoyia 17.10 279 Pn **Pn** **06 38 30.5 -0.3**
IDI IAmb IAmb 06 39 14.1
comp=Z,32nm,1.3s
JLN Jalan Bani Buh 17.14 132 Pn **Pn** **06 38 30.7 -0.6**
JLN Jalan Bani Buh 17.14 132 P **Pn** **06 38 30.1 -1.2**
MHTO MHTO 17.20 138 P **Pn** **06 38 30.0 -1.9**
SNR=12
VORD Divnogorie 17.21 346 *e*P **Pn** **06 38 32.3 +0.4**
VORD pmax pmax
comp=Z,20nm,0.9s
DOK Doka 17.42 152 P **Pn** **06 38 32.2 -2.5**
DOK Doka 17.42 152 P **Pn** **06 38 32.0 -2.6**
VSR Storozhevoye 17.47 346 *e*P **Pn** **06 38 36.3 +1.2**
VSR pmax pmax
comp=Z,10.0nm,0.9s
DQM DQM 17.83 141 P **Pn** **06 38 38.0 -1.8**
SNR=7.5
VORR Voronezh 17.90 347 *e*P **Pn** **06 38 40.6 +0.2**
VORR pmax pmax
comp=Z,34nm,0.3s
WHFO Wadi Hawf 17.92 154 P **Pn** **06 38 38.1 -2.9**
SNR=7.5
ISR Istrita 18.16 312 P **Pn** **06 38 43.5 -0.3**
comp=Z,23nm,0.8s
ABKAR Abkulak array 18.21 31 **Pn** **06 38 44.2 -0.1**
ABKAR Abkulak array 18.21 31 **Pn** **06 38 45.3 +1.0**
ABTO Aybut 18.28 156 P **Pn** **06 38 42.1 -3.3**
SNR=6.0
AKTO Aktyubinsk 18.39 26 P **P** **06 38 44.2 -2.3**
comp=Z,0.3nm,0.3s,baz=220,slow=10,SNR=4.8
AKTO LR LR 06 46 55.0
comp=Z,36nm,19.8s,baz=290,slow=41
comp=Z,3.8nm,0.8s
VRI Vrincioaia 18.43 314 ⇑P **P** **06 38 43.1 -3.9**
VRI Vrincioaia 18.43 314 ⇑P **P** **06 38 43.1 -3.9**
VRI Vrincioaia 18.43 314 P **P** **06 38 46.8 -0.2**
RBK Rabkut 18.46 154 P **P** **06 38 45.1 -2.4**
PLOR Plostina 18.47 314 ⇓P **P** **06 38 43.3 -4.2**
PLOR Plostina 18.47 314 ⇓P **P** **06 38 43.3 -4.2**
PLOR3 Plostina Array 18.48 314 P **P** **06 38 47.3 -0.2**
comp=Z,5.5nm,0.9s
DMTO DMTO 18.55 151 P **P** **06 38 45.7 -2.8**
SNR=7.7
MLR Muntele Rosu 18.71 312 ⇑P **P** **06 38 46.0 -4.3**
MLR Muntele Rosu 18.71 312 ⇑P **P** **06 38 46.0 -4.3**
MLR Muntele Rosu 18.71 312 P **P** **06 38 49.9 -0.3**
comp=Z,5.7nm,2.3s
TESR Tescani 18.83 316 ⇑P **P** **06 38 47.7 -3.6**
TESR Tescani 18.83 316 P **P** **06 38 50.9 -0.4**
comp=Z,8.1nm,0.7s
LPSR Galich'ya Gora 18.84 347 *e*P **P** **06 38 49.3 -2.0**
LPSR pmax pmax
comp=Z,53nm,0.8s
SORM Soroca 18.87 322 ⇑P **P** **06 38 50.0 -1.7**
DZET Dzherino 19.07 70 P **Pn** **06 38 56.4 +1.4**
DZET pmax pmax
comp=Z,6.0nm,0.7s
SIMJ Simiganj 19.20 70 P **P** **06 38 57.0 +1.3**
VOIR 19.24 311 ⇑P **P** **06 38 53.5 -2.5**
VOIR 19.24 311 P **Pn** **06 38 58.1 +1.1**
VOIR pmax pmax
comp=Z,11nm,1.1s
VOIR 19.24 311 P **P** **06 38 55.8 -0.2**
KBL Kabul 19.25 83 P **Pn** **06 38 58.2 +0.9**
KBL Kabul 19.25 83 P **Pn** **06 38 58.2 +0.9**
KBL pmax pmax
comp=Z,5.0nm,0.7s
DOPR Dopca 19.29 313 ⇑P **P** **06 38 54.5 -2.0**
CHGR Chuyangaron 19.32 70 P **P** **06 38 57.7 +0.8**
CHGR Chuyangaron 19.32 70 P **P** **06 38 57.7 +0.8**
LOT Lotru 20.05 310 ⇓P **P** **06 39 04.7 -0.2**
KMPD K-Podol'skiy 20.12 320 P Pn 06 39 04.1 -3.2
KMPD P **P** **06 39 03.7 -1.7**
AK07 Malin Array Si 20.14 328 P **P** **06 39 04.8 -0.8**
AK09 Malin Array Si 20.15 329 P **P** **06 39 04.7 -1.1**
AK10 Malin Array Si 20.16 328 P **P** **06 39 04.4 -1.4**
AK06 Malin Array Si 20.17 328 P **P** **06 39 05.0 -0.9**
AK08 Malin Array Si 20.18 329 P **P** **06 39 04.6 -1.5**
AK02 Malin Array Si 20.22 328 P **P** **06 39 05.0 -1.5**
AKASG Malin Array Be 20.24 329 P **P** **06 39 05.5 -1.2**
AKASG Malin Array Be 20.24 329 P **P** **06 39 05.6 -1.2**
comp=Z,6.3nm,0.8s,baz=138,slow=10.0,SNR=13
comp=Z,6.3nm,0.8s
AKASG Malin Array Be 20.24 329 *ce*P **P** **06 39 05.5 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s

AKBB Malin Array Si 20.24 329 **P** **06 39 06.1 -0.6**
AKBB IAmb IAmb 06 39 11.8
comp=Z,15nm,1.0s
AKBB Malin Array Si 20.24 329 *i* P **P** **06 39 07.7 +1.0**
AKBB pmax pmax
comp=Z,1.0nm,0.2s
AKBB Malin Array Si 20.24 329 P **P** **06 39 05.6 -1.1**
KIEV Kiev 20.25 329 **P** **06 39 06.1 -0.7**
KIEV IAmb IAmb 06 39 11.8
comp=Z,13nm,1.0s
KIEV Kiev 20.25 329 ⇑P Pn 06 39 10.3 +1.6
KIEV Kiev 20.25 329 ⇑P Pn 06 39 10.3 +1.6
KIEV Kiev 20.25 329 P **P** **06 39 05.7 -1.1**
GAR Garm 20.25 70 **P** **06 39 08.0 +0.9**
GAR IAmb IAmb 06 39 15.1
comp=Z,20nm,1.0s
BURAR Bucovina Array 20.25 317 **P** **06 39 07.1 +0.1**
BURAR Bucovina Array 20.25 317 ⇑P **P** **06 39 07.8 +0.8**
BURAR Bucovina Array 20.25 317 ⇑P **P** **06 39 07.8 +0.8**
BUR08 Bucovina Ar. S 20.28 317 **P** **06 39 07.4 +0.1**
GZR Gura Zlata 20.66 309 ⇑P **P** **06 39 10.7 -0.7**
GZR Gura Zlata 20.66 309 ⇑P **P** **06 39 10.7 -0.7**
HERR Herculane 20.69 307 ⇑P **P** **06 39 11.5 -0.2**
BOVS Bovan 20.74 304 ⇓P **P** **06 39 13.4 +1.2**
BTK Batken 20.76 67 P Pn 06 39 17.1 +2.1
BTK pmax pmax
comp=Z,17nm,1.0s
MARR Marisel-Cluj 21.01 312 ⇑P **P** **06 39 16.0 +0.8**
MDVR Moldovita 21.12 307 ⇑P **P** **06 39 18.5 +2.1**
KK31 Karatay Array 21.16 58 **P** **06 39 17.2 +0.4**
KK31 IAmb IAmb 06 39 25.7
comp=Z,22nm,1.4s
KK31 Karatay Array 21.16 58 P **P** **06 39 17.2 +0.4**
KK31 pmax pmax
comp=Z,22nm,1.4s
KKAR Karatay Array 21.16 58 **P** **06 39 16.8 0.0**
KKAR Karatay Array 21.16 58 P **P** **06 39 16.8 0.0**
TRKS Terek-Say 21.25 63 P **P** **06 39 18.8 +0.9**
TRKS pmax pmax
comp=Z,7.0nm,1.3s
OBN Obninsk 21.67 346 P **P** **06 39 22.9 +0.8**
comp=Z,14nm,0.4s,baz=129,slow=22,SNR=4.4
comp=Z,14nm,0.4s
OBN Obninsk 21.67 346 *i* P **P** **06 39 22.9 +0.8**
OBN *i* 06 39 32.4
OBN *i* 06 39 42.3
OBN pmax pmax
comp=Z,17nm,0.8s
OBN MLR MLR
comp=Z,55nm,15.0s
ARK Arkit 21.90 63 P **P** **06 39 25.7 +0.8**
ARK pmax pmax
comp=Z,20nm,0.9s
MOS Moscow 22.06 348 *e*P **P** **06 39 31.5 +5.2**
LVV L'vov 22.15 321 P **P** **06 39 27.0 -0.3**
LVV pP **pP** **06 39 29.7 -1.3**
ARSB Arslanbob 22.57 64 **P** **06 39 33.3 +1.2**
ARSB IAmb IAmb 06 39 47.0
comp=Z,18nm,1.1s
ARSB Arslanbob 22.57 64 P **P** **06 39 33.3 +1.2**
ARSB pmax pmax
comp=Z,18nm,1.1s
KOLS Kolonicke sedl 22.62 317 *e*P **P** **06 39 32.1 -0.3**
KOLS Kolonicke sedl 22.62 317 *e*P **P** **06 39 32.1 -0.3**
ARLS Aral 23.65 63 P **P** **06 39 45.7 +2.6**
ARLS pmax pmax
comp=Z,10.0nm,1.1s
MORH Mrgy, Hungar 23.65 308 ⇑P **P** **06 39 44.8 +1.9**
ARTI Arti 23.66 18 P **P** **06 39 42.2 -0.6**
ARTI IAmb IAmb 06 39 52.5
comp=Z,10nm,1.0s
ARTI Arti 23.66 18 LR LR 06 50 59.9
comp=Z,62nm,18.7s,baz=76,slow=42
ARTI Arti 23.66 18 *d i*P **P** **06 39 45.3 +2.5**
ARTI 06 40 10.4
ARTI S **S** **06 44 02.9 +5.7**
ARTI SS **SnSn** **06 44 35.4 +0.9**
ARTI pmax pmax
comp=Z,9.0nm,2.7s
AAK Ala-Archa 23.91 61 **P** **06 39 46.4 +0.7**
AAK Ala-Archa 23.91 61 *ce*P **P** **06 39 48.5 +2.9**
AAK pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 23.91 61 P **P** **06 39 47.1 +1.5**
KIRV Kirov 24.33 5 *i* P **P** **06 39 51.0 +1.9**
VYHS Vyhne 24.41 313 *e*P **P** **06 39 51.3 +1.2**
VYHS Vyhne 24.41 313 *e*P **P** **06 39 51.2 +1.2**
KSH Kashi 24.67 69 P **P** **06 39 51.0 -1.6**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH LR LR
comp=N,990nm,22.6s
KSH LR LR
comp=E,570nm,21.0s
BOOM Boomskoye usch 24.93 62 **P** **06 39 56.6 +1.6**
BOOM IAmb IAmb 06 40 01.9
comp=Z,9.5nm,0.7s
BOOM Boomskoye usch 24.93 62 P **P** **06 39 56.6 +1.6**
BOOM pmax pmax
comp=Z,9.0nm,0.7s
SUW Suwalki 25.21 328 **P** **06 39 56.8 -0.3**
SUW Suwalki 25.21 328 P **P** **06 39 56.8 -0.3**
BRVK Borovoye 25.55 36 **P** **06 39 59.7 -0.6**
BRVK IAmb IAmb 06 40 07.3
comp=Z,8.3nm,1.1s
BRVK Borovoye 25.55 36 *i* P **P** **06 40 00.0 -0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 25.59 36 P **P** **06 40 00.7 +0.1**
comp=Z,1.7nm,0.6s,baz=220,slow=7.4,SNR=16
BVAR PcP **PcP** **06 43 31.7 +0.3**
comp=Z,1.4nm,0.6s,baz=259,slow=1.5,SNR=5.3
BVAR LR LR 06 53 01.4
comp=Z,51nm,18.0s,baz=200,slow=44
comp=Z,1.7nm,0.6s
MORC Moravsky Berou 25.74 315 P **P** **06 40 01.2 -0.9**
MORC IAmb IAmb 06 40 08.1
comp=Z,8.4nm,1.1s
MORC Moravsky Berou 25.74 315 ⇑P **P** **06 40 07.2 +5.1**
MORC Moravsky Berou 25.74 315 P **P** **06 40 01.2 -0.9**
MORC pmax pmax
comp=Z,8.0nm,1.1s
KDJ Kajisay 25.80 63 **P** **06 40 04.5 +1.6**
KDJ Kajisay 25.80 63 P **P** **06 40 04.5 +1.6**
KDJ pmax pmax
comp=Z,6.0nm,1.2s
ARSA Arzberg 26.02 309 P **P** **06 40 04.2 -0.4**
KLMR Klimovskoe 26.78 353 *e*P **P** **06 40 10.0 -1.3**
KLMR *e* 06 40 51.1
KLMR pmax pmax
comp=Z,18nm,1.6s
GERES GERESS Array B 27.70 311 LR LR 06 52 54.1
comp=Z,115nm,22.0s,baz=39,slow=40
KURBB Kurchatov Arra 28.83 46 P **P** **06 40 29.6 -0.2**
comp=Z,2.2nm,0.8s,baz=253,slow=9.5,SNR=11
KURBB PcP **PcP** **06 43 39.1 -0.1**
comp=Z,0.9nm,0.6s,baz=249,slow=2.7,SNR=7.9
comp=Z,2.2nm,0.8s
KURK Kurchatov 28.92 46 **P** **06 40 32.2 +1.6**
KURK IAmb IAmb 06 40 32.6
comp=Z,9.9nm,1.4s
KURK Kurchatov 28.92 46 *ce*P **P** **06 40 31.2 +0.6**
KURK pmax pmax
comp=Z,5.0nm,1.1s
FIA1 FINESS Array S 29.84 341 P **P** **06 40 37.3 -1.2**
FIA1 IAmb IAmb 06 40 41.8
comp=Z,12nm,0.9s
FINES FINESS Array B 29.84 341 P **P** **06 40 37.2 -1.3**
comp=Z,1.3nm,0.4s,baz=154,slow=15,SNR=7.3
comp=Z,1.3nm,0.4s
MK31 Makanchi Array 30.15 55 *ce*P **P** **06 40 41.9 +0.3**
MKAR Makanchi Array 30.15 55 **P** **06 40 42.6 +1.1**
MKAR Makanchi Array 30.15 55 P **P** **06 40 41.4 -0.2**
comp=Z,1.6nm,0.5s,baz=251,slow=8.2,SNR=18
MKAR LR LR 06 53 51.4
comp=Z,28nm,19.9s,baz=264,slow=39
comp=Z,1.6nm,0.5s
MKAR Makanchi Array 30.15 55 *ce*P **P** **06 40 42.2 +0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
SENIN Lac Senin/Sane 31.30 304 P **P** **06 40 51.9 0.0**
SENIN IAmb IAmb 06 41 26.7
comp=Z,3.5nm,0.9s
HFS Hagfors 33.09 331 P **P** **06 41 06.1 -1.1**
comp=Z,4.4nm,0.5s,baz=126,slow=10.0,SNR=14
comp=Z,4.4nm,0.5s
WMQ Urumqi 33.62 61 *e*P **P** **06 41 15.6 +3.5**
WMQ pmax pmax
comp=Z,23nm,0.7s
ZAA0 Zalesovo Array 33.62 42 P **P** **06 41 12.0 +0.1**
ZALV Zalesovo Beam 33.62 42 P **P** **06 41 12.4 +0.5**
ZALV Zalesovo Beam 33.62 42 LR LR 06 55 44.5
comp=Z,51nm,18.2s,baz=248,slow=38
ZALV Zalesovo Beam 33.62 42 P **P** **06 41 12.4 +0.5**
NC405 NORSAR Array S 34.46 331 P **P** **06 41 17.9 -1.3**
NC405 IAmb IAmb 06 41 18.7
comp=Z,8.7nm,1.1s
NB2 NORSAR Subarra 34.62 331 P **P** **06 41 18.8 -1.7**
comp=Z,1.5nm,0.7s,baz=124,slow=8.6
NB2 NORSAR Subarra 34.62 331 P **P** **06 41 22.6 +2.1**
NOA NORSAR Array B 34.62 331 P **P** **06 41 18.5 -2.0**
comp=Z,1.0nm,0.7s,baz=125,slow=8.6,SNR=4.5
comp=Z,1.0nm,0.7s
NAO01 NORSAR Array S 34.64 331 P **P** **06 41 21.2 +0.5**
NAO01 IAmb IAmb 06 41 33.0
comp=Z,10nm,1.1s
ARCES ARCESS Array B 36.93 348 P **P** **06 41 38.7 -1.6**
comp=Z,7.0nm,1.0s,baz=163,slow=8.6,SNR=6.6
comp=Z,7.0nm,1.0s
EKA Eskdalemuir Ar 39.43 317 P **P** **06 42 00.2 -1.2**
comp=Z,0.7nm,0.3s,baz=104,slow=8.8,SNR=6.1
comp=Z,0.7nm,0.3s
ESDC Sonseca Array 39.58 293 P **P** **06 42 02.3 -0.7**
comp=Z,0.3nm,0.4s,baz=96,slow=8.1,SNR=2.4
ESDC LR LR 06 59 41.8
comp=Z,57nm,18.2s,baz=60,slow=38
comp=Z,0.3nm,0.4s
TORD Torodi Ar. Bea 45.04 253 P **P** **06 42 48.7 +1.1**
TORD Torodi Ar. Bea 45.04 253 P **P** **06 42 47.8 +0.2**
comp=Z,1.0nm,0.4s,baz=29,slow=8.2,SNR=5.0
comp=Z,1.0nm,0.4s
SPB2 Spitsbergen Ar 45.66 352 P **P** **06 42 52.3 +0.5**
SPITS Spitsbergen Ar 45.66 352 P **P** **06 42 51.0 -0.9**
comp=Z,15nm,1.0s,baz=144,slow=11,SNR=14
comp=Z,15nm,1.0s
SPITS Spitsbergen Ar 45.66 352 P **P** **06 42 52.0 +0.2**
SPITS pmax pmax
comp=Z,28nm,1.1s
PZH PanZhiHua 48.44 83 P **P** **06 43 17.4 +3.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
CMAR Chiang Mai Arr 49.72 94 P **P** **06 43 22.9 -1.2**
comp=Z,1.9nm,0.7s,baz=296,slow=8.3,SNR=15
CMAR LR LR 07 09 40.8
comp=Z,21nm,18.4s,baz=185,slow=42
comp=Z,1.9nm,0.7s
HHC Hu-ho-hao-te 51.48 62 *e*P **P** **06 43 39.0 +1.8**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,39nm,4.2s
DBIC Dimbokro 54.07 251 P **P** **06 43 56.1 -0.4**
DBIC Dimbokro 54.07 251 P **P** **06 43 56.1 -0.4**
comp=Z,4.0nm,0.7s,baz=41,slow=6.8,SNR=4.4
comp=Z,4.0nm,0.7s
LPHEP Lephephe 60.45 201 P **P** **06 44 42.9 +1.4**
KDWAN Kaudwane 60.83 202 P **P** **06 44 46.1 +2.0**
SFJD Kangerlussuaq 61.23 334 LR LR 07 12 56.5
comp=Z,40nm,19.1s,baz=110,slow=38
LBTB Lobatse 62.09 201 P **P** **06 44 54.6 +2.1**
LBTB Lobatse 62.09 201 P **P** **06 44 54.6 +2.1**
LBTB pmax pmax
comp=Z,12nm,1.2s
KLR Kul'dur 62.49 48 *ce*P **P** **06 44 53.3 -1.7**
KLR pmax pmax
comp=Z,6.0nm,2.5s
EUNU Eureka 62.79 352 P **P** **06 44 56.8 +0.3**
EUNU IAmb IAmb 06 45 01.4
comp=Z,5.3nm,1.1s
KSRS Korea Array 64.57 61 P **P** **06 45 08.1 -0.8**
comp=Z,1.7nm,0.6s,baz=286,slow=7.2,SNR=6.4
comp=Z,1.7nm,0.6s
BOSA Boshof 65.58 200 P **P** **06 45 17.3 +1.8**
BOSA Boshof 65.58 200 P **P** **06 45 16.8 +1.2**
comp=Z,3.0nm,0.7s,baz=18,slow=6.2,SNR=7.6
comp=Z,3.0nm,0.7s
BOSA Boshof 65.58 200 P **P** **06 45 17.3 +1.8**
BOSA pmax pmax
comp=Z,7.0nm,1.2s
ILON Igloolik, Nuna 69.68 343 P **P** **06 45 40.1 -0.7**
ILON IAmb IAmb 06 46 02.4
comp=Z,6.4nm,1.4s
SUR Sutherland 70.42 202 LR LR 07 20 35.2
comp=Z,40nm,20.9s,baz=234,slow=39
ILAR Eielson Array 80.67 5 P **P** **06 46 43.2 -1.0**
comp=Z,0.5nm,0.8s,baz=307,slow=3.3,SNR=5.0
comp=Z,0.5nm,0.8s
YKA Yellowknife Ar 82.15 351 P **P** **06 46 51.0 -1.1**
comp=Z,0.8nm,0.8s,baz=15,slow=5.3,SNR=18
comp=Z,0.8nm,0.8s
QSPA South Pole Qui 124.22 180 PKP **PKiKP** **06 53 30.0 +0.2**
comp=Z,1.5nm,0.9s,baz=57,slow=1.1,SNR=10

---

*ASRS **15** 06:40:33.0±0.7,54°.19N×87°.15E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 15 06:40:31.4±3.5,54°.33N×87°.44E,h0km,mbtmp2.6/2, ML2.2/2,Error ellipse: s-maj=30.4km s-min=21.0km az=36.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.59**	**257**	I	I	06 50 58.2	
	baz=78,slow=330,SNR=10						
ZALV	**Zalesovo Beam**	**1.59**	**257**	Pg	Pn	06 40 59.0	-1.8
	0.6nm,0.3s,baz=76,slow=19,SNR=7.4						
ZALV				Lg	Lg	06 41 22.9	
	0.6nm,0.3s,baz=79,slow=38,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.59**	**239**	Pn	Pn	06 42 08.6	-0.9
	baz=56,slow=14,SNR=4.9						
KURBB				Lg	Lg	06 44 01.8	
	baz=54,slow=30,SNR=4.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.23**	**206**	Pn	Pn	06 42 34.9	+2.9
	baz=28,slow=14,SNR=1.2						
	0.1nm,0.4s						

---

*GCG **15** 06:46:36.4±1.4, 14°.58N×92°.31W,h60km±18km,MD4.0*
*MEX **15** 06:46:36.9±0.6, 14°.51N×92°.49W,h32km±62km,MD3.9*

ISC 15 06:46:28.5±2.3,14°.2N±0°.1×92°.45W±0°.08,h94km±24km, n14,σ2°.90/24,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.79**	**67**	*e*P	**Pn**	**06 46 49.3**	**+3.0**
RTAL				*e*S	**Sn**	**06 46 59.3**	**-0.3**
STG5	**El Palmar, Qui**	**1.08**	**79**	*e*P	**Pn**	**06 46 50.8**	**+1.3**
STG8	**El Palmar, Qui**	**1.09**	**77**	*e*S	**Sn**	**06 47 02.6**	**-3.1**
STG0	**El Palmar, Qui**	**1.09**	**78**	*e*P	**Pn**	**06 46 50.9**	**+1.2**
STG0				*e*S	**Sn**	**06 47 02.4**	**-3.3**
HUEH	**Huehuetenango**	**1.43**	**39**	*e*P	**Pn**	**06 46 56.1**	**+2.2**
HUEH				*e*S	**Sn**	**06 47 11.5**	**-1.5**
HUEH	**Huehuetenango**	**1.43**	**39**	*e*P	**Pn**	**06 46 56.2**	**+2.4**
HUEH				*e*S	**Sn**	**06 47 12.7**	**-0.3**
PCIG		**1.67**	**333**	*e*P	**Pn**	**06 46 58.2**	**+1.6**
PCIG				*i* S	**Sn**	**06 47 14.7**	**-3.2**
FG8	**Yepocapa, Chim**	**1.83**	**88**	*i* P	**Pn**	**06 46 59.6**	**+0.8**
CCIG	**Comitan**	**2.08**	**8**	*i* P	**Pn**	**06 47 04.4**	**+2.2**
CCIG				*i* S	**Sn**	**06 47 24.5**	**-3.3**
CCIG	**Comitan**	**2.08**	**8**	*i* P	**Pn**	**06 47 04.4**	**+2.2**
TGIG		**2.64**	**346**	*e*P	**Pn**	**06 47 10.5**	**+1.1**
TGIG				*e*S	**Sn**	**06 47 40.6**	**-0.2**
UXUV	**UXUV**	**3.50**	**332**	*e*P	**Pn**	**06 47 23.5**	**+2.7**
UXUV				*e*S	**Sn**	**06 47 58.8**	**-2.6**
CMIG	**Matias Romero**	**3.71**	**321**	*e*P	**Pn**	**06 47 27.8**	**+4.1**
CMIG				*e*S	**Sn**	**06 48 02.1**	**-4.2**
NEUV	**Arroyo Zacate**	**4.75**	**318**	*e*P	**Pn**	**06 47 41.1**	**+3.2**
NEUV				*e*S	**Sn**	**06 48 26.3**	**-5.4**

WEL 15 06:47:02.9±1.1,39°S±5°×17°9E±°,h12km,M2.4/7, ML2.6/13,MLv2.4/7,Error ellipse: s-maj=9.3km s-min=4.3km az=122.7,confirmed,Off east coast of North Island

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

GKBS	Kaiti Beach	0.48 300	P	Pb	06 47 13.5	+0.2
CNGZ	Carnagh Statio	0.53 327	P	Pb	06 47 14.7	+0.7
PRGZ	Paritu Road	0.53 270	P	Pb	06 47 14.0	-0.3
MHGZ	Mahia Peninsul	0.56 246	P	Pb	06 47 15.1	+0.4
MHGZ			S	Sn	06 47 24.6	-1.3
RIGZ	Rimuhau	0.67 289	P	Pg	06 47 15.9	0.0
RIGZ			S	Sn	06 47 27.2	-1.4
KNZ	Kokohu	0.70 262	P	Pg	06 47 16.5	0.0
KNZ			S	Sb	06 47 26.7	0.0
TKGZ	Te Karaka	0.74 311	P	Pg	06 47 17.4	+0.1
TWGZ	Tauwhareparae	0.88 328	P	Pb	06 47 20.1	0.0
TWGZ			S	Sn	06 47 33.3	-0.6
MWZ	Matawai	1.01 306	P	Pb	06 47 21.2	-1.1
MWZ			S	Sg	06 47 34.4	-1.0
WMGZ	Waiomatatini S	1.11 354	P	Pg	06 47 24.5	+0.2
WMGZ			S	Sn	06 47 40.0	+0.5
PKGZ	Pakihiroa	1.13 340	P	Pb	06 47 23.7	-0.6
PKGZ			S	Sb	06 47 38.8	-0.1
RAHZ	Arahi	1.16 270	P	Pb	06 47 23.9	-0.9
RAHZ			S	Sb	06 47 40.0	+0.2
RUGZ	Raukumara Rang	1.19 324	P	Pb	06 47 24.0	-1.4
HAZ	Te Kaha	1.32 332	P	Pn	06 47 26.4	-0.8
URZ	Urewera	1.32 300	P	Pn	06 47 26.1	-1.1
MTHZ	Maungataniwha	1.35 273	P	Pn	06 47 26.6	-1.0
BKZ	Black Stump Fm	1.63 261	P	Pn	06 47 30.6	-0.9
TMVZ	Te Maari	2.24 264	P	Pn	06 47 38.2	-1.7
TMVZ	Te Maari	2.24 264	S	Pn	06 47 39.9	0.0
KATZ	Kakaramea	2.24 268	P	Pn	06 47 37.9	-2.0
KATZ	Kakaramea	2.24 268	S	Pn	06 47 39.5	-0.4
NTVZ	North Tongarir	2.26 265	P	Pn	06 47 38.1	-2.1
NTVZ	North Tongarir	2.26 265	S	Pn	06 47 39.6	-0.6
OTVZ	Oturere	2.27 263	P	Pn	06 47 39.3	-1.1
OTVZ	Oturere	2.27 263	S	Pn	06 47 41.5	+1.1
KRVZ	Karewarewa	2.29 265	P	Pn	06 47 38.0	-2.5
SNVZ	South Ngauruho	2.29 263	P	Pn	06 47 40.6	-0.1
NNVZ	North Ngauruho	2.31 264	P	Pn	06 47 38.8	-2.1
NNVZ	North Ngauruho	2.31 264	S	Pn	06 47 41.1	+0.2
WTVZ	West Tongariro	2.33 264	P	Pn	06 47 38.8	-2.4
WTVZ	West Tongariro	2.33 264	S	Pn	06 47 41.3	+0.1
TWVZ	Taurewa	2.44 266	P	Pn	06 47 40.2	-2.5
MKAZ	Moumakai	3.25 303	P	Pn	06 47 51.2	-2.4

WEL 15 06:47:16.3±0.6, 32°S±12°×17°9W±3°2, h12km, M4.4/7, mB4.8/6, ML4.8/12, MLv4.6/7, Mw(mB)4.1/6, Error ellipse: s-maj=44.2km s-min=3.9km az=110.5, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.97	16	P	Pn	06 48 03.1	-0.2
GLKZ				S	Sn	06 48 39.2	+0.4
MXZ	Matakaoa Point	5.90	202	P	Pn	06 48 43.4	-0.1
MXZ				S	Sn	06 49 52.0	+0.9
WMGZ	Waiomatatini S	6.10	201	P	Pn	06 48 47.0	+0.6
WMGZ				S	Sn	06 49 58.6	+2.5
PKGZ	Pakihiroa	6.25	203	P	Pn	06 48 49.1	+0.6
PKGZ				S	Sn	06 50 01.8	+2.0
HAZ	Te Kaha	6.25	205	P	Pn	06 48 50.1	+1.7
HAZ				S	Sn	06 50 04.6	+4.8
PUZ	Puketiti	6.38	201	P	Pn	06 48 50.1	-0.1
PUZ				S	Sn	06 50 04.4	+1.4
RUGZ	Raukumara Rang	6.48	205	P	Pn	06 48 52.2	+0.6
TWGZ	Tauwhareparae	6.57	202	P	Pn	06 48 52.9	+0.2
TWGZ				S	Sn	06 50 09.5	+1.9
CNGZ	Carnagh Statio	6.78	200	P	Pn	06 48 54.8	-0.8
TKGZ	Te Karaka	6.85	202	S	Sn	06 50 13.5	-1.0
MWZ	Matawai	6.86	204	P	Pn	06 48 57.3	+0.5
MWZ				S	Sn	06 50 16.3	+1.4
URZ	Urewera	6.95	207	P	Pn	06 48 58.8	+0.8
URZ				S	Sn	06 50 19.5	+2.6
RIGZ	Rimuhau	7.12	202	P	Pn	06 48 59.7	-0.6
RIGZ				S	Sn	06 50 21.2	+0.1
MUGZ	Murupara	7.27	208	P	Pn	06 49 03.0	+0.7
MUGZ				S	Sn	06 50 26.0	+1.1
PRGZ	Paritu Road	7.28	200	S	Sn	06 50 24.3	-0.8
MHGZ	Mahia Peninsul	7.49	200	S	Sn	06 50 29.8	-0.4
NMHZ	Naumai	7.80	206	P	Pn	06 49 10.7	+1.0
NMHZ				P	Sn	06 50 39.9	+2.0
MCHZ	McNeill Hill	8.14	205	P	Pn	06 49 14.8	+0.4
MCHZ				S	Sn	06 50 47.7	+1.4
KWHZ	Kaweka Forest	8.22	206	P	Pn	06 49 14.4	-1.2
KWHZ				S	Sn	06 50 48.2	-0.2
KRHZ	Kereru	8.44	206	P	Sn	06 50 52.4	-1.2
WAZ	Wanganui	9.10	211	P	Pn	06 49 24.8	-2.6

NEIC 15 06:49:37.0±2.1, 9°09S±0°06×120°51E±0°06, h113km±7km, mb4.6/46, Error ellipse: s-maj=9.5km s-min=9.2km az=225.0
IDC 15 06:49:36.7±2.3, 8°87S×120°79E, h108km±21km, mb4.1/12, mbtmp4.5/16, MS2.8/1, Error ellipse: s-maj=36.5km s-min=12.3km az=62.0
DJA 15 06:49:37.1±0.1, 9°S±2°×12°1E±°, h106km±2km, M4.5/34, mb4.6/34, mB5.1/7, MLv4.6/22, Mw(mB)4.4/7
ISC 15 06:49:35.7±0.4, 9°11S±0°04×120°57E±0°04, h100km, n140, σ1°69/147, mb4.6/33, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	0.61	206	P	Pn	06 49 55.4	+3.0
WSI				S	Sn	06 50 08.2	+3.3
EDFI	Ende, Flores	1.17	72	P	Pn	06 50 00.1	+2.0
EDFI				S	Sn	06 50 16.9	+1.9
WBSI	Waikabubak, Su	1.27	246	P	Pn	06 50 01.8	+2.5
WBSI				S	Sn	06 50 19.3	+2.1
MMRI	Maumere	1.72	74		Pn	06 50 07.1	+2.4
MMRI				Sn	Sn	06 50 29.3	+2.5
MMRI	Maumere	1.72	74	P	Pn	06 50 06.8	+2.1
MMRI	Maumere	1.72	74	P	Pn	06 50 07.1	+2.4
PLAI	Plampang	2.77	276	P	Pn	06 50 21.6	+3.1
PLAI	Plampang	2.77	276	S	Sn	06 50 54.6	+3.3
PLAI	Plampang	2.77	276	P	Pn	06 50 21.8	+3.3
BSSI	Bau Bau, Buton	2.95	359	P	Pn	06 50 22.7	+1.8
TWSI	Taliwang, Sumb	3.66	276	P	Pn	06 50 33.3	+2.9
SOEI	Soe	3.71	100		Pn	06 50 33.6	+2.5
SOEI				Sn	Sn	06 51 15.0	+1.0
SOEI	Soe	3.71	100	P	Pn	06 50 33.6	+2.5
BKSI	Bulukumba	3.79	353	P	Pn	06 50 34.3	+2.2
BBSI	Bau Bau	4.11	29	P	Pn	06 50 38.8	+2.3
KAPI	Kappang	4.15	349		Pn	06 50 36.5	-0.1
KAPI	Kappang	4.15	349	P	Pn	06 50 36.5	-0.5
	19nm,0.4s,baz=148,slow=11,SNR=17						
KAPI				S	Sn	06 51 26.8	+2.3
	124nm,0.8s,baz=49,slow=23,SNR=28						
KAPI	Kappang	4.15	349	P	Pn	06 50 38.7	+1.7
BNSI	Bone	4.70	354	P	Pn	06 50 47.3	+2.8
SPSI	Sidrap Palu	5.17	351	P	Pn	06 50 53.7	+2.8
	0.2nm41nm,1.0s						
DNP	Denpasar	5.31	274	P	Pn	06 50 54.3	+1.6
SRBI	Singaraja	5.39	281	P	Pn	06 50 55.2	+1.4
	0.4nm1μm66nm,0.6s						
JAGI	Jajag, Banyuwa	6.37	275		Pn	06 51 06.6	-0.5
JAGI	Jajag, Banyuwa	6.37	275	P	Pn	06 51 07.0	-0.1
JAGI	Jajag, Banyuwa	6.37	275	P	Pn	06 51 07.0	-0.1
ABJI	Asem Bagus	6.40	281	P	Pn	06 51 09.4	+1.9
	0.4nm81nm,0.6s						
KMMI	Kalianget	6.85	287	P	Pn	06 51 16.5	+2.9
	0.2nm27nm,0.5s						
GMJI	Gumukmas	7.09	276	P	Pn	06 51 16.4	-0.5
	0.3nm1μm63nm,0.8s						
LUWI	Luwuk	8.31	15	Pn	Pn	06 51 32.8	-0.7
PCJI	Pacitan	9.33	275	P	Pn	06 51 46.0	-1.4
	28nm,0.5s						
UGM	Wanagama	10.01	276	Pn	Pn	06 51 55.4	-1.2
UGM	Wanagama	10.01	276	P	Pn	06 51 58.1	+1.5
UGM	Wanagama	10.01	276	P	Pn	06 51 57.4	+0.8
	50nm,1.3s						
TOLI2	Tolitoli	10.16	1	Pn	Pn	06 52 00.8	+2.1
FITZ	Fitzroy Crossi	10.20	152	Pn	Pn	06 51 59.3	+0.1
FITZ	Fitzroy Crossi	10.20	152	P	Pn	06 51 59.8	+0.5
	7.2nm,0.3s,baz=333,slow=8.2,SNR=104						
FITZ				S	Sn	06 53 46.4	-5.3
	25nm,0.3s,baz=174,slow=22,SNR=14						
KNRA	Kununurra	10.32	130		Pn	06 51 59.7	-1.2
DRS	Darwin Rock St	10.67	109	P	Pn	06 52 04.5	-1.2
SAUI	Saumlaki	10.67	85	Pn	Pn	06 52 05.6	0.0
MTN	Manton Dam	11.02	111		Pn	06 52 09.4	-0.9
MTN	Manton Dam	11.02	111	P	Pn	06 52 09.8	-0.5
MBWA	Marble Bar	12.01	184		Pn	06 52 23.6	+0.1
MBWA	Marble Bar	12.01	184	P	Pn	06 52 23.4	-0.1
CMJI	Cimerak	12.06	275	P	Pn	06 52 22.8	-1.5
	31nm,1.5s						
KDU	Kakadu	12.22	108	P	Pn	06 52 25.2	-1.2
PSA00	Pilbara Seismi	12.41	183		Pn	06 52 28.6	-0.3
PSA00	Pilbara Seismi	12.41	183	P	Pn	06 52 28.6	-0.3
BBJI	Bungbulang	12.89	276	P	Pn	06 52 34.6	-0.7
FAKI	Fak Fak	13.14	63	Pn	Pn	06 52 38.3	-0.3
FAKI	Fak Fak	13.14	63	P	Pn	06 52 39.8	+1.2
FAKI	Fak Fak	13.14	63	P	Pn	06 52 39.7	+1.2
	27nm,0.8s						
SBUM	Sibu	14.18	324	Pn	Pn	06 52 50.2	-1.9
KSM	Kuching	14.66	315	Pn	Pn	06 52 56.2	-2.2
GIRL	Giralia	14.76	204	P	Pn	06 53 00.7	+1.2
KKM	Kota Kinabalu	15.67	344	Pn	Pn	06 53 08.8	-2.3
KKM				IAmb	IAmb	06 53 14.8	
	comp=Z,21nm,0.6s						
WB0	Warramunga Arr	17.06	130	P	Pn	06 53 27.1	-1.1
WRA	Warramunga Arr	17.12	130		Pn	06 53 27.8	-1.1
WRA	Warramunga Arr	17.12	130	P	Pn	06 53 28.3	-0.6
	comp=Z,11nm,0.7s,baz=305,slow=10,SNR=83						
WRA				S	Sn	06 56 26.3	-13
	comp=Z,12nm,0.7s,baz=307,slow=24,SNR=14						
WRAB	Tennant Creek	17.12	130		Pn	06 53 28.0	-1.0
WRAB				IAmb	IAmb	06 53 31.5	
	comp=Z,24nm,0.7s						
WR8	Warramunga Arr	17.25	130	P	P	06 53 29.8	-0.7
WR8				IAmb	IAmb	06 53 33.2	
	comp=Z,28nm,1.1s						
WRKA	Warakurna	17.46	156	P	Pn	06 53 35.0	+1.9
MEEK	Meekatharra	17.53	186	P	Pn	06 53 36.3	+2.4
AS31	Alice Springs	19.29	140	P	P	06 53 54.0	+1.1
ASAR	Alice Springs	19.29	140	P	P	06 53 54.6	+1.8
	comp=Z,19nm,0.5s,baz=320,slow=11,SNR=214						
ASAR				S	S	06 57 20.2	-5.9
	comp=Z,7.7nm,0.8s,baz=314,slow=24,SNR=13						
AS01	Alice Springs	19.32	140	P	P	06 53 55.1	+1.9
MORW	Morawa	20.30	191	P	Pn	06 54 07.7	+1.1
QIS	Mount Isa	21.61	124	P	P	06 54 19.1	+1.3
BLDU	Ballidu	21.70	189	P	P	06 54 21.5	+2.9
KMBL	Kambalda	22.18	177	P	P	06 54 25.3	+1.6
COEN	Coen	22.66	104		P	06 54 28.9	0.0
COEN	Coen	22.66	104	P	P	06 54 29.1	+0.2
FORT	Forrest	22.66	163	P	P	06 54 29.8	+1.1
FORT				IAmb	IAmb	06 54 54.6	
	comp=Z,17nm,0.8s						
FORT	Forrest	22.66	163	P	P	06 54 29.9	+1.1
OOD	Oodnadatta	23.43	144	P	P	06 54 37.4	+1.3
COCO	West Island	23.52	260	P	P	06 54 35.8	-1.2
KULM	Kulim	24.47	305	P	P	06 54 44.0	-1.7
INKA	Innaminka	26.57	137	P	P	06 55 06.5	+2.0
LCRK	Leigh Creek	26.87	145	P	P	06 55 08.9	+1.7
TV1H	Townsville Har	27.32	115	P	P	06 55 13.7	+2.4
BBOO	Buckleboo	27.59	151		P	06 55 14.8	+1.1
BBOO				IAmb	IAmb	06 55 15.5	
	comp=Z,17nm,0.7s						
BBOO	Buckleboo	27.59	151	P	P	06 55 15.0	+1.3
HTT	Hallett	29.53	148	P	P	06 55 33.0	+2.1
STKA	Stephens Creek	29.90	142	P	P	06 55 35.6	+1.4
STKA	Stephens Creek	29.90	142	P	P	06 55 35.8	+1.7
	comp=Z,2.9nm,0.4s,baz=325,slow=9.2,SNR=13						
	comp=Z,2.9nm,0.4s						
STKA	Stephens Creek	29.90	142	P	P	06 55 35.9	+1.7
KRVT	Keravat (AS076	31.59	83	LR	LR	07 09 44.7	
	comp=Z,20nm,21.8s,baz=114,slow=38						
ARPS	Mount Arapiles	33.62	148	P	P	06 56 08.9	+2.2
CMAR	Chiang Mai Arr	34.73	322	P	P	06 56 14.8	-1.7
CMAR	Chiang Mai Arr	34.73	322	P	P	06 56 17.1	+0.7
	comp=Z,1.8nm,0.7s,baz=152,slow=6.7,SNR=14						
CMAR				PcP	PcP	06 58 49.6	+1.4
	comp=Z,1.3nm,0.6s,baz=181,slow=3.0,SNR=9.5						
	comp=Z,1.8nm,0.7s						
CHTO	Chiang Mai	35.00	323	P	P	06 56 18.7	-0.1
CHTO				IAmb	IAmb	06 56 20.7	
	comp=Z,4.5nm,0.7s						
TATA	Tatamba Isabel	38.77	92	P	P	06 56 51.1	+0.2
NJ2	Nanjing	40.96	358	eP	P	06 57 10.8	+2.1
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC	Hu-ho-hao-te	50.40	351	eP	P	06 58 26.8	+3.8
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,91nm,4.0s						
GTA	Gaotai	51.98	340	eP	P	06 58 36.3	+1.4
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FOZ	Fox Glacier	54.77	138	P	P	06 58 56.2	+1.1
SONM	Songino Array	58.07	349	P	P	06 59 17.8	-0.8
SONM	Songino Array	58.07	349	P	P	06 59 16.9	-1.7
	comp=Z,2.0nm,0.6s,baz=165,slow=7.9,SNR=9.5						
	comp=Z,2.0nm,0.6s						
KBL	Kabul	65.27	315		P	07 00 06.6	-0.7
KBL				IAmb	IAmb	07 00 07.1	
	comp=Z,6.1nm,0.7s						
MKAR	Makanchi Array	65.27	332		P	07 00 06.7	-0.2
MKAR	Makanchi Array	65.27	332	P	P	07 00 06.2	-0.6
	comp=Z,2.1nm,0.4s,baz=148,slow=7.4,SNR=38						
	comp=Z,2.1nm,0.4s						
MAKZ	Makanchi	65.43	332	P	P	07 00 07.8	-0.1
BOOM	Boomskoye usch	65.55	325	P	P	07 00 08.8	-0.1
PEA0B	Petropavlovsk-	69.56	23	P	P	07 00 32.9	-0.9
PEA0B				IAmb	IAmb	07 01 04.7	
	comp=Z,17nm,1.1s						
PETK	Petropavlovsk-	69.56	23	P	P	07 00 32.9	-0.9
PETK	Petropavlovsk-	69.56	23	P	P	07 00 32.3	-1.4
	comp=Z,3.2nm,0.7s,baz=200,slow=2.8,SNR=9.7						
	comp=Z,3.2nm,0.7s						
ZAA0	Zalesovo Array	69.70	338		P	07 00 33.8	-0.8
ZALV	Zalesovo Beam	69.70	338		P	07 00 33.4	-1.2
ZALV	Zalesovo Beam	69.70	338	P	P	07 00 33.0	-1.5
	comp=Z,15nm,0.5s,baz=139,slow=4.9,SNR=67						
	comp=Z,15nm,0.5s						
KURBB	Kurchatov Arra	69.76	333	P	P	07 00 34.4	-0.6
	comp=Z,1.5nm,0.3s,baz=141,slow=5.9,SNR=8.6						
	comp=Z,1.5nm,0.3s						
KURK	Kurchatov	69.79	333		P	07 00 34.7	-0.5
KURK				IAmb	IAmb	07 00 35.2	
	comp=Z,11nm,1.4s						
PET	Petropavlovsk	69.87	23	P	P	07 00 34.9	-0.7
PET				IAmb	IAmb	07 01 02.0	
	comp=Z,14nm,1.1s						
ABPO	Ambohimpanom	71.41	253	P	P	07 00 44.4	-1.5
ABPO				IAmb	IAmb	07 01 08.7	
	comp=Z,11nm,1.4s						
BVAR	Borovoye Array	75.13	331	P	P	07 01 06.1	-0.7
	comp=Z,1.0nm,0.5s,baz=120,slow=5.3,SNR=6.5						
	comp=Z,1.0nm,0.5s						
BRVK	Borovoye	75.20	331	P	P	07 01 07.1	-0.1
BRVK				IAmb	IAmb	07 01 07.2	
	comp=Z,10nm,1.5s						
ABKAR	Akbulak array	78.55	324		P	07 01 25.9	-0.2
RAYN	Ar Rayn	80.14	296	P	P	07 01 33.7	-1.8
AKTO	Aktyubinsk	80.20	325	P	P	07 01 33.8	-1.3
	comp=Z,2.5nm,0.6s,baz=96,slow=6.1,SNR=7.1						
	comp=Z,2.5nm,0.6s						
TIXI	Tiksi	80.78	3		P	07 01 35.6	-2.1
TIXI				IAmb	IAmb	07 01 36.1	
	comp=Z,4.1nm,0.5s						
TIXI	Tiksi	80.78	3	P	P	07 01 35.8	-1.9
	comp=Z,2.9nm,0.3s,baz=196,slow=1.9,SNR=10						
	comp=Z,2.9nm,0.3s						
QSPA	South Pole Qui	80.88	180	P	P	07 01 37.0	-1.7
QSPA	South Pole Qui	80.88	180	P	P	07 01 39.6	+0.9
	comp=Z,0.4nm,0.5s,baz=276,slow=0.7,SNR=7.1						
	comp=Z,0.4nm,0.5s						
ARTI	Arti	82.79	330	P	P	07 01 48.0	-0.6
ARTI				IAmb	IAmb	07 01 48.8	
	comp=Z,4.3nm,0.5s						
O14K	Tigyukauivet M	91.77	30	P	P	07 02 31.6	-0.4
G16K	Koyuk River	92.89	24	P	P	07 02 36.9	-0.1
G16K				IAmb	IAmb	07 02 59.2	
	comp=Z,6.8nm,1.1s						
L16K	Owhat River	93.23	28	P	P	07 02 38.2	-0.5
L16K				IAmb	IAmb	07 03 19.2	
	comp=Z,7.2nm,1.4s						
H17K	Granite Mounta	93.77	25	P	P	07 02 41.2	+0.1
H17K				IAmb	IAmb	07 02 41.6	
	comp=Z,3.2nm,0.8s						
K17K	Iditarod	93.98	27	P	P	07 02 41.6	-0.5
E18K	Tukpahlearik C	94.09	22	P	P	07 02 42.5	0.0
E18K				IAmb	IAmb	07 02 43.0	
	comp=Z,4.0nm,0.8s						
C18K	Utukok River	94.17	21	P	P	07 02 42.5	-0.5
C18K				IAmb	IAmb	07 02 43.5	
	comp=Z,2.4nm,0.8s						
G18K	Tagagawik	94.50	24	P	P	07 02 43.8	-0.7
G18K				IAmb	IAmb	07 03 01.4	
	comp=Z,3.0nm,1.2s						
L18K	Granite Mounta	94.62	28	P	P	07 02 45.6	+0.5
L18K				IAmb	IAmb	07 02 56.3	
	comp=Z,6.4nm,1.4s						
G19K	Purcell Mounta	95.18	24	P	P	07 02 47.3	-0.3
D19K	Kuna River	95.24	21		P	07 02 47.6	-0.3
E19K	Redstone River	95.36	23		P	07 02 48.2	-0.2
D20K	Etivluk River	95.82	21	P	P	07 02 50.3	-0.2
D20K				IAmb	IAmb	07 02 50.9	
	comp=Z,2.4nm,0.8s						
B20K	Meade River	95.86	20		P	07 02 50.7	+0.2
F20K	Avaraart Lake	95.87	23	P	P	07 02 50.8	+0.1
F20K				IAmb	IAmb	07 02 51.3	
	comp=Z,1.8nm,0.8s						
B21K	Ikpikpuk River	96.67	21		P	07 02 54.2	0.0
ILAR	Eielson Array	99.26	26	P	Pdif	07 03 03.7	-2.3
	comp=Z,0.3nm,0.7s,baz=236,slow=5.8,SNR=6.2						
	comp=Z,0.3nm,0.7s						
YKA	Yellowknife Ar	113.65	25	PKiKP	PKiKP	07 08 02.1	+0.1
	comp=Z,0.3nm,0.5s,baz=306,slow=1.8,SNR=11						

RSNC 15 06:52:20.5±0.0, 9°N±1°×7°7W±°, h29km±2km, M3.1, mB4.9, mb4.1, ML2.9, Mw(mB)4.1
ISC 15 06:52:20.0±2.1, 9°15N±0°04×77°12W±0°04, h35km±7km, n39, σ2°01/57, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	Capurgana	0.56	205	P	Pb	06 52 30.1	-1.6
CAPC				S	Sb	06 52 37.7	-2.0
LCBC	Los crdobas,	0.79	112	P	Pn	06 52 36.0	+1.3
LCBC				S	Sn	06 52 48.9	+3.6
APAC	Apartado, Choc	1.35	157	P	Pn	06 52 42.6	+0.2
APAC				S	Sn	06 53 00.5	+1.4
SJCC	San Jacinto, C	2.05	69	P	Pn	06 52 52.9	+0.9
SJCC				S	Sn	06 53 16.5	+0.1
UREC	San Jos de Ur	2.09	132	P	Pn	06 52 52.3	-0.3
UREC				S	Sn	06 53 15.6	-1.9
DBBC	Dabeiba	2.30	157	P	Pn	06 52 54.5	-1.1
DBBC				S	Sn	06 53 21.1	-1.6
BCIP	Isla Barro Col	2.69	271	P	Pn	06 53 01.6	+0.8
BCIP				S	Sn	06 53 32.7	+0.6
ZARC	Zaragoza, Cauc	2.78	126	P	Pn	06 53 01.8	-0.2
ZARC				S	Sn	06 53 31.9	-2.4
ARGC	Ariguani, Magd	2.92	76	P	Pn	06 53 03.0	-0.9
ARGC				S	Sn	06 53 38.6	+0.8
MEDEC	Medelln, Ant	3.23	152	P	Pn	06 53 07.5	-0.9
MEDEC				S	Sn	06 53 44.8	-1.1
AZU	Azuero	3.41	247	P	Pn	06 53 11.7	+1.1
AZU				S	Sn	06 53 49.2	-0.6
CBOC	Ciudad Bolivar	3.44	161	P	Pn	06 53 12.2	+0.8
CBOC				S	Sn	06 53 51.6	+0.5
SMRC	Santa Marta, M	3.48	55	P	Pn	06 53 12.8	+1.2
SMRC				S	Sn	06 53 50.9	-0.7
PTBC	PUERTO BERRIO,	3.70	134	P	Pn	06 53 14.0	-0.7
PTBC				S	Sn	06 53 54.9	-2.2
OCAC	Ocana	3.86	103	P	Pn	06 53 16.6	-0.4
OCAC				S	Sn	06 54 00.6	-0.7
BRJC	Barrancabermej	3.98	123	P	Pn	06 53 18.9	+0.4
BRJC				S	Sn	06 54 03.0	-1.0
NORC	Norcasia	4.20	148	P	Pn	06 53 21.5	-0.2
NORC				S	Sn	06 54 09.2	-0.4
GUY2C	Guyana, Caldas	4.27	156	P	Pn	06 53 23.8	+0.8
GUY2C				S	Sn	06 54 11.7	-0.2
GMAL	Guarumal, Vera	4.30	252	P	Pn	06 53 24.7	+1.7
GMAL				S	Sn	06 54 13.8	+1.8
CRJC	Cerrejon, Guaj	4.56	66	P	Pn	06 53 26.9	+0.2
CRJC				S	Sn	06 54 15.7	-2.9
BARC	Barichara	4.65	123	P	Pn	06 53 28.1	+0.1
BARC				S	Sn	06 54 17.4	-3.6
PAMC	Pamplona, Colo	4.73	112	P	Pn	06 53 28.5	-0.8
PAMC				S	Sn	06 54 22.1	-1.0
ROSC	El Rosal	5.10	147	P	Pn	06 53 35.4	+1.0
	13nm,0.7s						
ROSC				S	Sn	06 54 33.7	+1.4
	13nm,0.7s						
RUSC	La Rusia	5.14	129	P	Pn	06 53 34.5	-0.5
	11nm,0.9s						
RUSC				S	Sn	06 54 31.9	-1.5
	11nm,0.9s						
YOTC	Yotoco, Valle	5.19	171	P	Pn	06 53 34.5	-0.8
	2.9nm,0.9s						
YOTC				S	Sn	06 54 30.7	-3.4
	2.9nm,0.9s						
RNCC	Cayo Roncador,	5.28	327	P	Pn	06 53 38.8	+2.4
	141nm,1.5s						
RNCC				S	Sn	06 54 31.5	-4.5
	141nm,1.5s						
CVER	Cruz Verde, Cu	5.50	147	P	Pn	06 53 41.0	+1.1
	1μm17nm,0.7s						
SAIC	Isla e San And	5.63	307	P	Pn	06 53 43.2	+1.9
	46nm,1.2s						
SAIC				S	Sn	06 54 41.

*JMA **15** 06:59:29.9±0.3, 33°.3N±0°.8×14°.2E±°, h67km, MV3.6/21, E OFF HACHIJOJIMA ISLAND*
*NEIC **15** 06:59:30.4±1.8, 33°.32N±0°.06×141°.55E±0°.08, h10km±1km, mb4.4/84, Error ellipse: s-maj=11.8km s-min=10.8km az=95.0*
ISC 15 06:59:33.4±0.4, **33°.27N**±0°.05×**141°.59E**±0°.06, **h41**km, **n170**, σ1§**50**/173, **mb4.3**/71, **MS3.3**/7, **9C, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.47**	**340**	P	**Pn**	**06 59 55.2**	**-1.7**
JHJ2	**Mitsune**	**1.49**	**264**		**Pn**	**06 59 56.6**	**-1.1**
JHJ2	**Mitsune**	**1.49**	**264**	P	**Pn**	**06 59 56.9**	**-0.8**
JHJ2				*e*S	**Sn**	**07 00 16.9**	**+0.9**
JHCJ	**Hachijojimakas**	**1.52**	**263**	*e*P	**Pn**	**06 59 56.8**	**-1.3**
JHJ	**Hachijo jima 2**	**1.52**	**265**	Pn	**Pn**	**06 59 56.8**	**-1.4**
	68nm,0.3s,baz=286,slow=22,SNR=16						
JHJ				Sn	**Sn**	**07 00 14.2**	**-2.5**
	175nm,0.3s,baz=40,slow=23,SNR=7.2						
BSO3	**Boso 3**	**1.77**	**330**	*e*P	**Pn**	**06 59 59.6**	**-1.6**
JIM2	**Oshima 3**	**2.30**	**309**	*e*P	**Pn**	**07 00 07.6**	**-1.3**
JIZS	**Izushimoda**	**2.67**	**303**	*e*P	**Pn**	**07 00 12.7**	**-1.3**
JOD2	**Odawara 2**	**2.87**	**315**	P	**Pn**	**07 00 14.2**	**-2.4**
JYN	**Shimob**	**3.36**	**312**	*e*P	**Pn**	**07 00 22.4**	**-1.0**
JRY	**Ryogami san**	**3.52**	**322**	P	**Pn**	**07 00 24.6**	**-1.1**
JAG	**Ashikaga**	**3.60**	**331**	P	**Pn**	**07 00 25.2**	**-1.5**
JAG				*e*S	**Sn**	**07 01 07.2**	**-0.8**
JGF	**Kuroka**	**4.20**	**305**		**Pn**	**07 00 33.0**	**-1.9**
MJAR	**Matsushiro Arr**	**4.28**	**321**	Pn	**Pn**	**07 00 34.9**	**-1.2**
	0.5nm,0.3s,baz=155,slow=12,SNR=15						
MJAR				LR	LR	07 02 24.7	
	comp=Z,208nm,20.5s,baz=122,slow=42						
	7.7nm,0.6s						
MAJO	**Matsushiro**	**4.29**	**321**		**Pn**	**07 00 35.9**	**-0.2**
MAJO	**Matsushiro**	**4.29**	**321**	*i* P	**Pn**	**07 00 34.7**	**-1.4**
MJB9	**Matsu-Tunnel**	**4.29**	**321**		**Pn**	**07 00 35.7**	**-0.4**
INU	**Inuyama**	**4.31**	**300**	Pn	**Pn**	**07 00 34.2**	**-2.3**
JMM	**Marumori**	**4.63**	**352**		**Pn**	**07 00 38.1**	**-2.7**
JSD	**Sado**	**5.47**	**331**	Pn	**Pn**	**07 00 50.9**	**-1.5**
JCJ	**Chichijima**	**6.18**	**175**	Pn	**Pn**	**07 01 01.4**	**-0.7**
JCJ	**Chichijima**	**6.18**	**175**	Pn	**Pn**	**07 01 00.2**	**-1.9**
	7.3nm,0.3s,baz=283,slow=23,SNR=10						
JCJ				Sn	**Sn**	**07 02 05.2**	**-6.3**
	8.4nm,0.3s,baz=307,slow=22,SNR=1.8						
JCJ				LR	LR	07 03 19.0	
	comp=Z,224nm,19.7s,baz=87,slow=37						
	57nm,0.8s						
JTM	**Tenmabayashi**	**7.51**	**357**	Pn	**Pn**	**07 01 18.8**	**-1.6**
ERM	**Erimo**	**8.82**	**8**	Pn	**Pn**	**07 01 34.7**	**-3.5**
ERM	**Erimo**	**8.82**	**8**	P	**Pn**	**07 01 34.7**	**-3.5**
JNU	**Nakatsue**	**8.98**	**272**	LR	LR	07 04 54.2	
	comp=Z,142nm,18.6s,baz=70,slow=37						
ASAJ	**Asahikawa**	**10.86**	**4**	Pn	**Pn**	**07 02 02.1**	**-4.1**
	1.4nm,0.3s,baz=267,slow=5.1,SNR=7.2						
	3.9nm,0.4s						
JKA	**Kamikawa-asahi**	**10.86**	**4**	Pn	**Pn**	**07 02 02.0**	**-4.2**
KSRS	**Korea Array**	**11.91**	**294**	Pn	**Pn**	**07 02 20.5**	**-0.1**
	0.3nm,0.3s,baz=102,slow=12,SNR=4.6						
KSRS				LR	LR	07 06 56.1	
	comp=Z,206nm,18.5s,baz=105,slow=38						
	0.5nm,0.4s						
USRK	**Ussuriysk Ar.**	**13.22**	**328**	LR	LR	07 07 37.0	
	comp=Z,79nm,19.2s,baz=104,slow=37						
YSS	**Yuzhno-Sakhali**	**13.70**	**3**	*e*P	Pn	07 02 40.0	-4.9
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
KLR	**Kul'dur**	**17.55**	**338**	P	**Pn**	**07 03 34.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=137,slow=6.3,SNR=5.7						
KLR				LR	LR	07 10 11.3	
	comp=Z,117nm,19.2s,baz=181,slow=37						
	comp=Z,1.8nm,0.6s						
KLR	**Kul'dur**	**17.55**	**338**	*e*P	**Pn**	**07 03 30.8**	**-4.0**
KLR				pmax	pmax		
	comp=Z,8.0nm,2.2s						
ZEA	**Zeya**	**22.87**	**338**	*e*P	**P**	**07 04 33.3**	**+0.2**
ZEA				pmax	pmax		
	comp=N,20nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.7s						
ULN	**Ulaanbaatar**	**29.73**	**310**	*ce*P	**P**	**07 05 36.3**	**+0.5**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YAK	**Yakutsk**	**29.77**	**349**	LR	LR	07 18 42.8	
	comp=Z,59nm,18.2s,baz=144,slow=39						
SONM	**Songino Array**	**30.14**	**309**	P	**P**	**07 05 40.0**	**+0.6**
SONM	**Songino Array**	**30.14**	**309**	P	**P**	**07 05 39.5**	**0.0**
	comp=Z,3.7nm,1.0s,baz=121,slow=9.0,SNR=14						
	comp=Z,3.7nm,1.0s						
SONM	**Songino Array**	**30.14**	**309**	*e*P	**P**	**07 05 40.3**	**+0.8**
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SEY	**Seymchan**	**30.46**	**10**	LR	LR	07 19 09.2	
	comp=Z,63nm,18.6s,baz=198,slow=39						
SEY	**Seymchan**	**30.46**	**10**	*ce*P	**P**	**07 05 39.7**	**-2.2**
SEY				pmax	pmax		
	comp=Z,5.0nm,1.7s						
TIXI	**Tiksi**	**39.04**	**354**	P	**P**	**07 06 55.0**	**-0.7**
	comp=Z,3.4nm,0.2s,baz=32,slow=1.6,SNR=3.9						
TIXI				LR	LR	07 24 22.6	
	comp=Z,28nm,19.6s,baz=206,slow=38						
	comp=Z,3.4nm,0.2s						
TIXI	**Tiksi**	**39.04**	**354**	P	**P**	**07 06 55.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**40.82**	**260**	P	**P**	**07 07 10.3**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=52,slow=7.3,SNR=11						
CMAR				LR	LR	07 24 38.9	
	comp=Z,21nm,20.5s,baz=225,slow=37						
	comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**44.62**	**315**	P	**P**	**07 07 41.2**	**-0.3**
ZALV				PcP	**PcP**	**07 09 24.0**	**+0.3**
ZALV	**Zalesovo Beam**	**44.62**	**315**	P	**P**	**07 07 41.2**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=97,slow=7.8,SNR=5.4						
ZALV				PcP	**PcP**	**07 09 23.6**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=127,slow=2.4,SNR=5.8						
	comp=Z,0.9nm,0.4s						
SOEI	**Soe**	**45.86**	**204**	P	**P**	**07 07 51.4**	**-0.4**
HNR	**Honiara**	**45.92**	**154**	LR	LR	07 25 30.9	
	comp=Z,25nm,19.8s,baz=46,slow=34						
C16K	**Lisburne Hills**	**46.04**	**24**	P	**P**	**07 07 53.7**	**+1.2**
C16K				IAmb	IAmb	07 07 53.9	
	comp=Z,5.4nm,1.2s						
O15K	**Ungalikthiuk R**	**46.14**	**38**	P	**P**	**07 07 54.8**	**+1.3**
MK31	**Makanchi Array**	**46.32**	**305**	*ce*P	**P**	**07 07 54.3**	**-0.9**
MKAR	**Makanchi Array**	**46.32**	**305**		**P**	**07 07 55.1**	**-0.1**
MKAR	**Makanchi Array**	**46.32**	**305**	P	**P**	**07 07 54.9**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=90,slow=9.7,SNR=20						
MKAR				LR	LR	07 29 35.2	
	comp=Z,33nm,18.0s,baz=136,slow=39						
	comp=Z,1.9nm,0.6s						
MAKZ	**Makanchi**	**46.53**	**305**		**P**	**07 07 56.6**	**-0.2**
MAKZ				IAmb	IAmb	07 07 57.5	
	comp=Z,2.1nm,0.7s						
MAKZ	**Makanchi**	**46.53**	**305**	P	**P**	**07 07 56.6**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NRIK	**Noril'sk**	**46.76**	**337**	*ce*P	**P**	**07 07 56.3**	**-1.9**
NRIK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
F17K	**Baldwin Pennin**	**46.95**	**28**	P	**P**	**07 07 60.0**	**+0.2**
K17K	**Ilditarod**	**47.39**	**33**	P	**P**	**07 08 05.7**	**+2.4**
K17K				IAmb	IAmb	07 08 11.0	
	comp=Z,6.8nm,1.4s						
C18K	**Utukok River**	**47.61**	**25**	P	**P**	**07 08 06.2**	**+1.2**
C18K				IAmb	IAmb	07 08 47.1	
	comp=Z,4.4nm,1.4s						
N17K	**Nushagak Hills**	**47.62**	**36**	P	**P**	**07 08 07.7**	**+2.6**
H18K	**Honhosa River**	**47.81**	**30**	P	**P**	**07 08 07.1**	**+0.7**
H18K				IAmb	IAmb	07 08 25.8	
	comp=Z,4.9nm,1.2s						
G18K	**Tagagawik**	**47.84**	**29**	P	**P**	**07 08 07.5**	**+0.7**
G18K				IAmb	IAmb	07 08 35.6	
	comp=Z,4.0nm,1.1s						
L18K	**Granite Mounta**	**48.06**	**34**	P	**P**	**07 08 09.2**	**+0.8**
L18K				IAmb	IAmb	07 08 11.0	
	comp=Z,5.9nm,1.4s						
KURK	**Kurchatov**	**48.43**	**311**	P	**P**	**07 08 10.9**	**-0.5**
KURK	**Kurchatov**	**48.43**	**311**	*ce*P	**P**	**07 08 10.2**	**-1.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KURBB	**Kurchatov Arra**	**48.49**	**311**	P	**P**	**07 08 11.7**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=85,slow=7.3,SNR=27						
KURBB				PcP	**PcP**	**07 09 37.3**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=94,slow=3.8,SNR=5.2						
	comp=Z,3.4nm,0.6s						
P18K	**Big Mountain,**	**48.51**	**38**	P	**P**	**07 08 13.1**	**+1.1**
P18K				IAmb	IAmb	07 08 49.5	
	comp=Z,7.3nm,1.4s						
E19K	**Redstone River**	**48.74**	**27**	P	**P**	**07 08 15.2**	**+1.6**
E19K				IAmb	IAmb	07 08 15.7	
	comp=Z,2.7nm,0.9s						
B20K	**Meade River**	**49.36**	**23**	P	**P**	**07 08 19.7**	**+1.5**
B20K				IAmb	IAmb	07 08 22.6	
	comp=Z,2.4nm,0.8s						
K20K	**Telida**	**49.39**	**32**	P	**P**	**07 08 20.7**	**+2.0**
K20K				IAmb	IAmb	07 08 31.5	
	comp=Z,4.0nm,1.2s						
KDAK	**Kodiak Island**	**49.85**	**40**	P	**P**	**07 08 22.9**	**+0.8**
KDAK				IAmb	IAmb	07 08 29.5	
	comp=Z,9.5nm,1.2s						
KDAK	**Kodiak Island**	**49.85**	**40**	P	**P**	**07 08 22.9**	**+0.8**
KDAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
B21K	**Ikpikpuk River**	**50.13**	**24**	P	**P**	**07 08 25.6**	**+1.4**
B21K				IAmb	IAmb	07 08 55.5	
	comp=Z,7.8nm,1.5s						
E21K	**Killik River**	**50.14**	**26**	P	**P**	**07 08 25.9**	**+1.7**
H21K	**Melozitna Rive**	**50.18**	**29**	P	**P**	**07 08 26.3**	**+1.7**
I21K	**Tanana**	**50.48**	**30**	P	**P**	**07 08 28.3**	**+1.5**
D22K	**Ayikyak River**	**50.68**	**25**	P	**P**	**07 08 29.9**	**+1.5**
E22K	**Anaktuvuk Pass**	**50.88**	**26**	P	**P**	**07 08 31.3**	**+1.4**
BOOM	**Boomskoye usch**	**51.47**	**301**		**P**	**07 08 35.5**	**+0.6**
BOOM	**Boomskoye usch**	**51.47**	**301**	P	**P**	**07 08 35.5**	**+0.6**
BOOM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
C23K	**Itkillik River**	**51.54**	**24**	P	**P**	**07 08 36.1**	**+1.3**
C23K				IAmb	IAmb	07 08 40.7	
	comp=Z,6.4nm,1.4s						
RND	**Reindeer**	**51.74**	**32**	P	**P**	**07 08 37.3**	**+0.9**
RND	**Reindeer**	**51.74**	**32**	P	**P**	**07 08 37.3**	**+0.9**
RND				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SML	**Sawmill**	**51.97**	**35**	P	**P**	**07 08 39.9**	**+1.7**
SML				IAmb	IAmb	07 08 40.7	
	comp=Z,8.9nm,1.4s						
CCB	**Clear Creek Bu**	**52.22**	**31**	P	**P**	**07 08 40.1**	**+0.2**
AAK	**Ala-Archa**	**52.47**	**301**	P	**P**	**07 08 41.8**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=45,slow=0.5,SNR=4.3						
	comp=Z,1.3nm,0.6s						
KEKH	**Kekaha**	**52.61**	**86**	P	**P**	**07 08 44.9**	**+1.5**
ILAR	**Eielson Array**	**52.62**	**31**	P	**P**	**07 08 42.9**	**0.0**
	comp=Z,1.1nm,0.7s,baz=261,slow=5.9,SNR=15						
	comp=Z,1.1nm,0.7s						
WB0	**Warramunga Arr**	**53.19**	**188**	P	**P**	**07 08 48.2**	**+0.7**
WB0				IAmb	IAmb	07 08 48.9	
	comp=Z,5.9nm,0.7s						
BVAR	**Borovoye Array**	**53.26**	**314**	P	**P**	**07 08 47.0**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=86,slow=7.6,SNR=16						
	comp=Z,4.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.30**	**199**	P	**P**	**07 08 49.2**	**+0.9**
BRVK	**Borovoye**	**53.31**	**315**		**P**	**07 08 48.2**	**0.0**
BRVK				IAmb	IAmb	07 08 49.0	
	comp=Z,3.6nm,0.8s						
BRVK	**Borovoye**	**53.31**	**315**	*ce*P	**P**	**07 08 46.0**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WR8	**Warramunga Arr**	**53.36**	**188**	P	**P**	**07 08 50.1**	**+1.3**
WR8				IAmb	IAmb	07 09 20.2	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**53.37**	**189**	P	**P**	**07 08 49.6**	**+0.8**
WRA	**Warramunga Arr**	**53.37**	**189**	P	**P**	**07 08 49.3**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=5.0,slow=7.6,SNR=41						
	comp=Z,2.9nm,0.6s						
DOT	**Dot Lake**	**53.88**	**32**	P	**P**	**07 08 53.2**	**+1.0**
SCRK	**Sand Creek**	**53.90**	**32**	P	**P**	**07 08 52.6**	**+0.2**
C27K	**Jago River**	**53.92**	**25**		**P**	**07 08 54.4**	**+2.0**
J26L	**Joseph Creek**	**54.05**	**31**		**P**	**07 08 54.4**	**+0.9**
K27K	**Chicken**	**54.73**	**32**	P	**P**	**07 09 00.1**	**+1.8**
K27K				IAmb	IAmb	07 09 40.2	
	comp=Z,4.9nm,1.4s						
BCAR	**Beaver Creek A**	**54.95**	**33**	P	**P**	**07 09 01.6**	**+1.6**
KK31	**Karatay Array**	**55.20**	**302**	P	**P**	**07 09 02.4**	**+0.3**
KK31				IAmb	IAmb	07 09 16.2	
	comp=Z,4.1nm,1.1s						
KK31	**Karatay Array**	**55.20**	**302**	P	**P**	**07 09 02.4**	**+0.3**
KK31				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KKAR	**Karatay Array**	**55.20**	**302**		**P**	**07 09 01.8**	**-0.2**
KKAR	**Karatay Array**	**55.20**	**302**	P	**P**	**07 09 01.8**	**-0.2**
E29M	**Blow River**	**56.06**	**26**	P	**P**	**07 09 10.1**	**+2.3**
M29M	**Somme Creek**	**56.54**	**33**		**P**	**07 09 13.6**	**+2.1**
M29M				IAmb	IAmb	07 09 15.6	
	comp=Z,2.4nm,0.8s						
L29M	**L29M**	**56.59**	**32**	P	**P**	**07 09 14.4**	**+2.6**
L29M				IAmb	IAmb	07 09 20.7	
	comp=Z,3.0nm,1.1s						
EPYK	**Eagle Plains**	**56.74**	**28**	P	**P**	**07 09 15.3**	**+2.6**
EPYK				IAmb	IAmb	07 09 27.6	
	comp=Z,6.0nm,1.4s						
K29M	**Barlow Dome**	**56.75**	**32**	P	**P**	**07 09 14.3**	**+1.3**
K29M				IAmb	IAmb	07 09 41.1	
	comp=Z,6.8nm,1.4s						
F30M	**Barrier River**	**56.94**	**27**	P	**P**	**07 09 15.6**	**+1.5**
F30M				IAmb	IAmb	07 09 39.8	
	comp=Z,8.0nm,1.5s						
I30M	**Mount Dempster**	**57.04**	**30**	P	**P**	**07 09 16.6**	**+1.6**
AS31	**Alice Springs**	**57.09**	**188**	P	**P**	**07 09 17.3**	**+1.6**
ASAR	**Alice Springs**	**57.09**	**188**	P	**P**	**07 09 16.8**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=353,slow=6.3,SNR=13						
	comp=Z,0.8nm,0.8s						
J30M	**Hart River**	**57.16**	**31**	P	**P**	**07 09 15.3**	**-0.5**
HYT	**Haines Junctio**	**57.26**	**35**	P	**P**	**07 09 17.4**	**+0.9**
M30M	**Minto, Yukon**	**57.28**	**33**	P	**P**	**07 09 18.9**	**+2.2**
M30M				IAmb	IAmb	07 09 45.8	
	comp=Z,4.2nm,1.4s						
SIMJ	**Simiganj**	**57.59**	**298**		**P**	**07 09 17.5**	**-1.8**
H31M	**Peel River**	**57.78**	**29**	P	**P**	**07 09 21.7**	**+1.7**
H31M				IAmb	IAmb	07 09 56.3	
	comp=Z,5.3nm,1.3s						
MBWA	**Marble Bar**	**58.01**	**204**	P	**P**	**07 09 22.6**	**+0.6**
MBWA				IAmb	IAmb	07 09 26.5	
	comp=Z,6.8nm,1.0s						
M31M	**Drury Creek, Y**	**58.45**	**33**	P	**P**	**07 09 26.6**	**+1.8**
M31M				IAmb	IAmb	07 09 28.0	
	comp=Z,3.5nm,1.3s						
WHY	**Whitehorse**	**58.55**	**35**	P	**P**	**07 09 28.4**	**+2.8**
P32M	**Atlin**	**59.37**	**36**	P	**P**	**07 09 33.1**	**+1.9**
ARTI	**Arti**	**59.41**	**320**		**P**	**07 09 31.1**	**-0.4**
ARTI	**Arti**	**59.41**	**320**	P	**P**	**07 09 31.2**	**-0.3**
	comp=Z,9.0nm,0.6s,baz=84,slow=2.9,SNR=17						
	comp=Z,9.0nm,0.6s						
ARTI	**Arti**	**59.41**	**320**	*c i* P	**P**	**07 09 31.1**	**-0.4**
ARTI						07 10 19.8	
ARTI				S	**S**	**07 17 41.7**	**+4.3**
ARTI				SS	**SS**	**07 21 31.9**	**-0.3**
ARTI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
A36M	**Sachs Harbour**	**59.70**	**21**	P	**P**	**07 09 35.2**	**+2.0**
A36M				IAmb	IAmb	07 09 36.7	
	comp=Z,2.9nm,0.9s						
Q32M	**Nakina River**	**60.25**	**37**	P	**P**	**07 09 38.6**	**+1.1**
AB31	**Akbulak array**	**60.51**	**312**	P	**P**	**07 09 39.1**	**0.0**
AB31				IAmb	IAmb	07 09 39.5	
	comp=Z,3.2nm,0.7s						
ABKAR	**Akbulak array**	**60.51**	**312**		**P**	**07 09 39.0**	**-0.2**
C36M	**Paulatuk**	**60.79**	**24**	P	**P**	**07 09 41.6**	**+0.9**
C36M				IAmb	IAmb	07 09 52.3	
	comp=Z,2.9nm,1.0s						
AKTO	**Aktyubinsk**	**61.33**	**314**	P	**P**	**07 09 44.6**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=85,slow=11,SNR=7.5						
	comp=Z,2.9nm,0.7s						
KIRV	**Kirov**	**63.35**	**324**	*ce*P	**P**	**07 09 59.2**	**+1.1**
EUNU	**Eureka**	**63.88**	**8**	P	**P**	**07 10 02.1**	**+0.7**
EUNU				IAmb	IAmb	07 10 10.2	
	comp=Z,3.3nm,1.1s						
FORT	**Forrest**	**64.98**	**193**	P	**P**	**07 10 10.6**	**+1.6**
YKAW3	**Yellowknife Wh**	**66.96**	**29**	P	**P**	**07 10 21.4**	**0.0**
YKAW3				IAmb	IAmb	07 11 04.4	
	comp=Z,2.8nm,1.5s						
YKA	**Yellowknife Ar**	**67.00**	**29**	P	**P**	**07 10 22.3**	**+0.7**
YKA	**Yellowknife Ar**	**67.00**	**29**	P	**P**	**07 10 21.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=298,slow=6.2,SNR=15						
	comp=Z,0.7nm,0.7s						
YKAW1	**Yellowknife Wh**	**67.05**	**29**	P	**P**	**07 10 22.7**	**+0.7**
YKAW1				IAmb	IAmb	07 10 24.6	
	comp=Z,2.1nm,0.9s						
FIA1	**FINESS Array S**	**72.21**	**333**	P	**P**	**07 10 54.8**	**+1.0**
FINES	**FINESS Array B**	**72.21**	**333**	P	**P**	**07 10 54.1**	**+0.3**
FINES	**FINESS Array B**	**72.21**	**333**	P	**P**	**07 10 53.9**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=84,slow=6.7,SNR=6.5						
	comp=Z,2.2nm,0.7s						
BLKN	**Baker Lake**	**72.79**	**23**	P	**P**	**07 10 57.5**	**+0.3**
BLKN				IAmb	IAmb	07 10 58.5	
	comp=Z,2.9nm,0.7s						
ILON	**Igloolik, Nuna**	**72.85**	**15**	P	**P**	**07 10 58.0**	**+0.6**
ILON				IAmb	IAmb	07 11 31.1	
	comp=Z,4.1nm,1.4s						
KBZ	**Khabaz**	**73.48**	**312**	P	**P**	**07 11 02.7**	**+1.1**
	comp=Z,5.6nm,0.9s,baz=189,slow=5.0,SNR=10						
	comp=Z,5.6nm,0.9s						
KBZ	**Khabaz**	**73.48**	**312**	*ce*P	**P**	**07 11 02.5**	**+0.9**
KIV	**Kislovodsk**	**73.50**	**312**	*e*P	**P**	**07 11 00.7**	**-1.2**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NVAR	**Mina Array Bea**	**77.14**	**52**	P	**P**	**07 11 24.9**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=287,slow=6.0,SNR=7.6						
	comp=Z,0.9nm,0.8s						
AKASG	**Malin Array Be**	**77.37**	**323**	P	**P**	**07 11 23.7**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=49,slow=6.0,SNR=8.4						
	comp=Z,1.1nm,0.6s						
NC405	**NORSAR Array S**	**77.49**	**338**	P	**P**	**07 11 24.7**	**+0.3**
HFS	**Hagfors**	**77.57**	**336**	P	**P**	**07 11 24.1**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=86,slow=6.7,SNR=6.5						
	comp=Z,1.5nm,0.5s						
NC204	**NORSAR Array S**	**77.67**	**338**	P	**P**	**07 11 25.3**	**-0.1**
NB2	**NORSAR Subarra**	**77.71**	**338**	P	**P**	**07 11 25.6**	**0.0**
	comp=Z,1.6nm,0.7s,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**77.71**	**338**	P	**P**	**07 11 25.9**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=40,slow=5.6,SNR=15						
NOA				LR	LR	07 49 12.6	
	comp=Z,28nm,18.6s,baz=15,slow=38						
	comp=Z,2.0nm,0.7s						
PDAR	**Pinedale Array**	**80.21**	**45**	P	**P**	**07 11 41.3**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=280,slow=2.4,SNR=6.0						
	comp=Z,0.4nm,0.6s						
LTZ	**Lake Taylor**	**80.74**	**158**	P	**P**	**07 11 43.1**	**+1.0**
LCMT	**Little Creek M**	**81.27**	**51**	P	**P**	**07 11 46.6**	**+1.1**
BR131	**Keskin Array S**	**81.46**	**312**	P	**P**	**07 11 44.9**	**-1.7**
BR131				IAmb	IAmb	07 11 50.1	
	comp=Z,5.4nm,1.1s						
BR131	**Keskin Array S**	**81.46**	**312**	P	**P**	**07 11 44.9**	**-1.7**
BR131				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRTR	**Keskin Array B**	**81.46**	**312**	P	**P**	**07 11 46.3**	**-0.2**
BRTR	**Keskin Array B**	**81.46**	**312**	P	**P**	**07 11 47.5**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=136,slow=4.2,SNR=10						
	comp=Z,2.1nm,0.8s						
SRU	**San Rafael Swe**	**81.79**	**48**	P	**P**	**07 11 48.8**	**+0.5**
SRU				IAmb	IAmb	07 11 51.1	
	comp=Z,3.6nm,0.7s						
SRU	**San Rafael Swe**	**81.79**	**48**	P	**P**	**07 11 48.8**	**+0.5**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
RAYN	**Ar Rayn**	**82.23**	**293**		**P**	**07 11 50.8**	**+0.1**
RAYN				IAmb	IAmb	07 11 52.1	
	comp=Z,2.8nm,0.8s						
RAYN	**Ar Rayn**	**82.23**	**293**	P	**P**	**07 11 50.8**	**+0.1**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PV10	**Paradox Valley**	**83.16**	**48**	P	**P**	**07 11 57.9**	**+2.4**
PV22	**Blue Mesa, Par**	**83.22**	**48**	P	**P**	**07 11 56.4**	**+0.5**
PV22				IAmb	IAmb	07 11 59.6	
	comp=Z,3.7nm,1.2s						
TXAR	**Lajitas Array**	**92.30**	**53**	P	**P**	**07 12 40.2**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=305,slow=3.2,SNR=3.6						
	comp=Z,0.2nm,0.6s						
LPAZ	**La Paz**	**148.31**	**65**	PKPbc	**PKPbc**	**07 19 17.8**	**+1.3**
	comp=Z,2.1nm,0.9s,baz=345,slow=5.7,SNR=7.2						

*ASRS **15** 07:01:12.0±0.7, 54°.62N×83°.66E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 07:01:13.6±1.6, **54°.63N**×**83°.76E, h0**km, **mbtmp3.3**/3, **ML2.7**/3, **Error ellipse: s-maj=15.6km s-min=9.8km az=13.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**137**	I	I	07 06 43.1	
	0.4nm,0.9s,baz=315,slow=332,SNR=10.0						
ZALV	**Zalesovo Beam**	**0.

comp=E,1μm,0.3s
PB01 IPOC Station P 1.37 317 *e*P **Pn 07 07 06.9 +0.1**
PB01 IAML 07 07 29.4
comp=Z,589nm,0.1s
PATCX Punta Patache 1.98 308 ⇑*i*P **Pn 07 07 13.8 -0.3**
PATCX *i*S **Sn 07 07 38.1 -1.4**
PATCX IAML 07 07 43.9
comp=E,681nm,0.3s
PATCX Punta Patache 1.98 308 *e*P **Pn 07 07 14.0 -0.1**
PATCX IAML 07 07 43.8
comp=Z,357nm,0.3s
PB08 IPOC Station P 2.00 342 *e*P **Pn 07 07 16.2 +1.6**
PB08 *i*S **Sn 07 07 41.2 +0.8**
PB08 IAML 07 07 43.6
comp=E,174nm,0.3s
PB08 IPOC Station P 2.00 342 *e*P **Pn 07 07 12.4 -2.2**
PB08 *e*S **Sn 07 07 42.1 +1.6**
TA01 Diego Aracena 2.17 313 *e*P **Pn 07 07 16.5 +0.3**
TA01 Diego Aracena 2.17 313 *e*P **Pn 07 07 16.0 -0.3**
TA01 *e*S **Sn 07 07 43.1 -0.4**
TA01 IAML 07 07 48.6
comp=Z,203nm,0.5s
HMBC Humberstone 2.20 323 *e*P **Pn 07 07 15.7 -1.2**
HMBC Humberstone 2.20 323 *e*P **Pn 07 07 15.5 -1.4**
HMBC *e*S **Sn 07 07 43.7 -0.7**
HMBC IAML 07 07 49.5
comp=Z,285nm,0.2s
TA02 Huaiquique 2.34 319 *e*P **Pn 07 07 17.6 -1.0**
TA02 Huaiquique 2.34 319 *e*P **Pn 07 07 19.1 +0.5**
TA02 *e*S **Sn 07 07 47.1 -0.5**
TA02 IAML 07 07 48.1
comp=Z,161nm,0.2s
PB10 IPOC Station P 2.41 232 *e*P **Pn 07 07 19.0 -0.3**
PB10 *i*S **Sn 07 07 46.3 -2.7**
PB10 IPOC Station P 2.41 232 *e*P **Pn 07 07 19.9 +0.6**
PB10 *e*S **Sn 07 07 46.8 -2.2**
GO01 Chusmiza 2.46 344 *e*P **Pn 07 07 22.5 +1.9**
GO01 Chusmiza 2.46 344 *e*P **Pn 07 07 17.5 -3.0**
GO01 *e*S **Sn 07 07 52.4 +1.4**
PB11 IPOC Station P 2.53 334 *e*P **Pn 07 07 20.9 -0.1**
PB11 *i*S **Sn 07 07 51.0 -1.1**
PB11 IPOC Station P 2.53 334 *e*P Pn 07 07 14.7 -6.4
PB11 *e*S **Sn 07 07 51.8 -0.3**
PB11 IAML 07 07 57.9
comp=Z,81nm,0.3s
YJA Yavi 2.75 93 *e*P **Pn 07 07 22.4 -1.8**
PB14 IPOC Station P 3.12 214 *e*P **Pn 07 07 28.9 +0.1**
PB14 *e*S Sn 07 07 54.6 -11
PB14 IAML 07 08 15.6
comp=Z,90nm,1.4s
GO02 Mina Guanaco 3.26 198 *e*P **Pn 07 07 31.4 +0.6**
GO02 *e*S **Sn 07 08 10.7 +1.3**
AZAP Zapla 3.82 125 *e*P Pn 07 07 20.7 -17
PB12 IPOC Station P 3.83 333 *e*P **Pn 07 07 38.1 -0.1**
PB12 *e*S Sn 07 08 31.3 +8.7
PB12 IAML 07 08 37.5
comp=Z,46nm,0.7s
AC02 Maricunga 4.80 187 *e*P **Pn 07 07 52.4 +0.9**
AC02 *e*S Sn 07 08 34.0 -12
LPAZ La Paz 5.74 3 P **Pn 07 08 07.3 +3.1**
comp=Z,1.3nm,0.4s,baz=197,slow=7.2,SNR=14
PLCA Paso Flores 18.71 185 P P 07 10 41.1 -8.7
comp=Z,2.5nm,1.1s,baz=22,slow=19,SNR=5.2
BDFB Brasília 20.38 75 P **P 07 11 07.8 -0.4**
comp=Z,0.9nm,0.5s,baz=252,slow=6.4,SNR=3.3
comp=Z,0.9nm,0.5s
TORD Torodi Ar. Bea 77.17 70 P **P 07 18 22.4 +0.8**
comp=Z,1.1nm,0.3s,baz=250,slow=4.3,SNR=2.8
comp=Z,1.1nm,0.3s
YKA Yellowknife Ar 91.83 340 P **P 07 19 35.6 +1.1**
comp=Z,0.2nm,0.7s,baz=134,slow=3.5,SNR=3.8
comp=Z,0.2nm,0.7s
MKAR Makanchi Array 145.84 37 PKPbc **PKiKP 07 26 07.3 -1.9**
comp=Z,0.4nm,0.7s,baz=325,slow=2.3,SNR=3.8

---

*NEIC **15** 07:28:00.3±1.1,32°.76N±0°.07×46°.3E±0°.1,h10km±1km, mb4.2/27,Error ellipse: s-maj=17.4km s-min=8.8km az=59.0*
*IDC **15** 07:28:00.5±1.4,33°.07N×46°.60E,h0km,mb4.1/10, mbtmp4.1/11,ML3.0/2,MS3.2/1,Error ellipse: s-maj=29.0km s-min=20.6km az=17.0*
*TEH **15** 07:28:01.6,32°.87N×46°.54E,h17km±16km*
*ISN **15** 07:28:02.1±1.1,32°.89N×46°.51E,h7km±5km,ML3.4*
*NAO **15** 07:28:22.9,34°.81N×45°.11E,h33km,mb3.5*
ISC 15 07:28:01.2±0.5,32°.89N±0°.03×46°.40E±0°.04,h13km,n79, σ0s89/81,mb4.2/22,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.45**	**299**	*e*Pg		**Pn**	**07 28 13.0**		**-0.3**
IBDR				*e*Sg		**Sn**	**07 28 20.0**		**-1.3**
RAFI	**Al-Rafai**	**1.19**	**192**	*e*Pg		**Pg**	**07 28 25.0**		**+1.0**
RAFI				*e*Sg		**Sn**	**07 28 43.0**		**+3.5**
GLG1	**Gilan-e-Gharb**	**1.29**	**342**	Pg		**Pg**	**07 28 26.7**		**+0.8**
NSR4	**Al Neser**	**1.36**	**187**	Pg		**Pg**	**07 28 26.9**		**-0.3**
IKFM	**Kafar-mosalman**	**1.37**	**62**	Pg		**Pb**	**07 28 26.1**		**-0.6**
IGHG	**Ghaleghazi**	**1.44**	**6**	Pg		**Pg**	**07 28 28.9**		**0.0**
KCHF	**Cheshme Sefid,**	**1.48**	**21**	Pg		**Pb**	**07 28 28.9**		**+0.2**
BHD	**Baghdad**	**1.73**	**283**	*e*Pn		**Pg**	**07 28 35.0**		**+0.5**
BHD				*e*Sn		**Sg**	**07 29 00.0**		**+3.0**
IDOB	**Doab**	**1.74**	**59**	Pg		**Pb**	**07 28 32.4**		**-0.6**
KGS1	**Ghasr-e-Shirin**	**1.75**	**338**	Pn		**Pb**	**07 28 33.8**		**+0.7**
IDHR	**Dehrash**	**1.80**	**360**	Pn		**Pb**	**07 28 34.0**		**-0.2**
ILIN	**Lien**	**2.08**	**13**	Pn		**Pb**	**07 28 38.2**		**-0.7**
SNQR	**Sonqor, Kerman**	**2.21**	**27**	Pn		**Pn**	**07 28 39.5**		**+1.6**
BDRS	**Dareh Seyedi**	**2.33**	**62**	Pn		**Pn**	**07 28 40.0**		**+0.5**
HAGD	**Aghdareh**	**2.99**	**49**	Pn		**Pn**	**07 28 49.0**		**+0.5**
IKRK	**Kirkuk**	**3.03**	**326**	*e*Pn		**Pb**	**07 28 53.0**		**-1.9**
IKRK				*e*Sn		**Sb**	**07 29 31.0**		**-0.8**
IKRK				AML		AML	07 29 45.9		
	comp=E,202nm,0.4s								
IKRK				AML		AML	07 29 53.4		
	comp=N,196nm,0.6s								
HGHA	**Hamedan- Ghaye**	**3.30**	**38**	Pn		**Pn**	**07 28 54.3**		**+1.6**
JHBN	**Jahan bin**	**3.66**	**99**	Pn		**Pn**	**07 28 57.9**		**+0.1**
IPIR	**Pirpir**	**3.79**	**92**	Pn		**Pn**	**07 28 59.9**		**+0.3**
QABG	**Abgarm-Qazvin**	**3.85**	**42**	Pn		**Pn**	**07 29 01.6**		**+1.2**
IBRJ	**Brojen**	**4.23**	**102**	Pn		**Pn**	**07 29 05.2**		**-0.3**
IQOM	**Qom**	**4.35**	**62**	Pn		**Pn**	**07 29 07.4**		**+0.2**
IMHD	**Mahdasht**	**4.50**	**51**	Pn		**Pn**	**07 29 09.7**		**+0.5**
KLNJ	**Kolanjah**	**4.80**	**112**	Pn		**Pn**	**07 29 13.5**		**0.0**
IVRN	**Varamin**	**4.90**	**63**	Pn		**Pn**	**07 29 14.8**		**+0.2**
KRSH	**Karshahi**	**4.92**	**76**	Pn		**Pn**	**07 29 15.3**		**+0.3**
IZEF	**Zefreh**	**4.99**	**88**	Pn		**Pn**	**07 29 15.8**		**-0.2**
ISFB	**Sefidab**	**5.09**	**72**	Pn		**Pn**	**07 29 17.5**		**+0.3**
IRAM	**Ramesheh**	**5.18**	**100**	Pn		**Pn**	**07 29 18.5**		**-0.1**
IDMV	**Damavand**	**5.38**	**59**	Pn		**Pn**	**07 29 21.5**		**+0.1**
MZPU	**Pul - Mazandar**	**5.54**	**49**	Pn		**Pn**	**07 29 24.6**		**+1.1**
GEVA	**Gevas**	**6.05**	**334**	Pn		**Pn**	**07 29 29.4**		**-1.1**
DSBU	**Dashti - Bushe**	**6.16**	**136**	Pn		**Pn**	**07 29 31.9**		**0.0**
MARD	**Mardin**	**6.38**	**315**			**Pn**	**07 29 34.9**		**-0.1**
RAYN	**Ar Rayn**	**9.37**	**185**			**Pn**	**07 30 13.6**		**-2.4**
WSAR	**Wadi Sarin**	**14.45**	**129**	Pn		**Pn**	**07 31 24.1**		**-1.4**
	baz=48,slow=24,SNR=5.3								
RDO	**Rodhopi**	**18.55**	**302**	P		**P**	**07 32 15.7**		**-1.8**
RDO				IAmb		IAmb	07 32 21.8		
	comp=Z,20nm,1.4s								
AB31	**Akbulak array**	**19.23**	**28**	P		**P**	**07 32 25.1**		**+0.2**
ABKAR	**Akbulak array**	**19.23**	**28**	P		**P**	**07 32 24.7**		**-0.2**
AKTO	**Aktyubinsk**	**19.52**	**23**	P		**P**	**07 32 27.4**		**-0.7**
	comp=Z,0.4nm,0.3s,baz=202,slow=6.6,SNR=5.2								
	comp=Z,1.5nm,0.3s								
KK31	**Karatay Array**	**21.50**	**55**	P		**P**	**07 32 50.2**		**+0.6**
KKAR	**Karatay Array**	**21.50**	**55**	P		**P**	**07 32 50.1**		**+0.4**
BURAR	**Bucovina Array**	**21.75**	**319**	P		**P**	**07 32 53.1**		**+0.6**
BUR08	**Bucovina Ar. S**	**21.78**	**319**	P		**P**	**07 32 53.3**		**+0.5**
BRVK	**Borovoye**	**26.46**	**33**	P		**P**	**07 33 37.8**		**+0.1**
BVAR	**Borovoye Array**	**26.49**	**33**	P		**P**	**07 33 37.9**		**-0.1**
	comp=Z,2.0nm,0.6s,baz=201,slow=7.8,SNR=11								
	comp=Z,2.0nm,0.6s								
KURBB	**Kurchatov Arra**	**29.49**	**43**	P		**P**	**07 34 04.5**		**-0.3**
	comp=Z,1.6nm,0.7s,baz=248,slow=9.2,SNR=5.4								
	comp=Z,1.6nm,0.7s								
MKAR	**Makanchi Array**	**30.57**	**52**	P		**P**	**07 34 15.2**		**+0.7**
MKAR	**Makanchi Array**	**30.57**	**52**	P		**P**	**07 34 14.9**		**+0.4**
	comp=Z,1.5nm,0.7s,baz=249,slow=7.5,SNR=11								
	comp=Z,1.5nm,0.7s								
FINES	**FINESS Array B**	**31.45**	**341**	P		**P**	**07 34 22.1**		**+0.2**
FINES	**FINESS Array B**	**31.45**	**341**	P		**P**	**07 34 21.5**		**-0.5**
	comp=Z,0.4nm,0.3s,baz=142,slow=9.5,SNR=6.0								
	comp=Z,0.4nm,0.3s								
HFS	**Hagfors**	**34.69**	**332**	P		**P**	**07 34 50.7**		**+0.4**
	comp=Z,5.2nm,0.5s,baz=127,slow=9.4,SNR=27								
	comp=Z,5.2nm,0.5s								
NC405	**NORSAR Array S**	**36.06**	**332**	P		**P**	**07 35 01.9**		**-0.2**
NB2	**NORSAR Subarra**	**36.21**	**332**	P		**P**	**07 35 03.3**		**-0.2**
	comp=Z,0.4nm,0.5s,baz=125,slow=9.3								
NOA	**NORSAR Array B**	**36.21**	**332**	P		**P**	**07 35 02.9**		**-0.6**
	comp=Z,0.4nm,0.5s,baz=125,slow=8.6,SNR=4.1								
	comp=Z,0.4nm,0.5s								
NC204	**NORSAR Array S**	**36.53**	**332**	P		**P**	**07 35 05.4**		**-0.8**
KEV	**Kevo**	**38.47**	**349**	P		**P**	**07 35 22.9**		**+0.5**
ARCES	**ARCESS Array B**	**38.52**	**348**	P		**P**	**07 35 23.1**		**+0.2**
	comp=Z,2.8nm,0.8s,baz=167,slow=8.8,SNR=12								
	comp=Z,2.8nm,0.8s								
TORD	**Torodi Ar. Bea**	**45.20**	**255**	P		P	07 36 22.8		+4.7
	comp=Z,2.4nm,0.7s,baz=60,slow=6.5,SNR=1.7								
	comp=Z,2.4nm,0.7s								
SPITS	**Spitsbergen Ar**	**47.23**	**352**	P		**P**	**07 36 33.4**		**+0.1**
	comp=Z,6.7nm,0.8s,baz=144,slow=10,SNR=14								
	comp=Z,6.7nm,0.8s								
CMAR	**Chiang Mai Arr**	**49.02**	**94**	P		**P**	**07 36 46.9**		**-1.1**
	comp=Z,0.9nm,0.6s,baz=294,slow=8.3,SNR=6.3								
	comp=Z,0.9nm,0.6s								
YAK	**Yakutsk**	**58.47**	**33**	LR		LR	08 04 00.4		
	comp=Z,19nm,18.5s,baz=169,slow=37								
ILON	**Igloolik, Nuna**	**71.28**	**343**	P		**P**	**07 39 20.2**		**+0.4**
A36M	**Sachs Harbour**	**75.25**	**357**	P		**P**	**07 39 43.3**		**+0.2**
A36M				IAmb		IAmb	07 39 43.7		
	comp=Z,1.8nm,0.8s								
B20K	**Meade River**	**75.98**	**8**	P		**P**	**07 39 48.1**		**+0.7**
TOLI2	**Tolitoli**	**76.30**	**98**	P		**P**	**07 39 49.6**		**-0.5**
B21K	**Ikpikpuk River**	**76.64**	**7**	P		**P**	**07 39 51.6**		**+0.4**
B21K				IAmb		IAmb	07 39 55.7		
	comp=Z,2.2nm,1.0s								
C18K	**Utukok River**	**76.71**	**10**	P		**P**	**07 39 51.3**		**-0.4**
C18K				IAmb		IAmb	07 40 32.4		
	comp=Z,4.1nm,1.4s								
D19K	**Kuna River**	**77.28**	**9**	P		**P**	**07 39 55.4**		**+0.5**
D19K				IAmb		IAmb	07 40 11.3		
	comp=Z,4.6nm,1.4s								
D22K	**Ayikyak River**	**77.55**	**7**	P		**P**	**07 39 56.4**		**0.0**
E21K	**Killik River**	**77.84**	**8**	P		**P**	**07 39 58.2**		**+0.3**
E21K				IAmb		IAmb	07 40 20.2		
	comp=Z,2.7nm,1.4s								
TOLK	**Toolik Lake Re**	**78.08**	**6**	P		**P**	**07 40 00.3**		**+1.0**
TOLK				IAmb		IAmb	07 40 00.4		
	comp=Z,1.8nm,0.8s								
E22K	**Anaktuvuk Pass**	**78.36**	**7**	P		**P**	**07 40 01.4**		**+0.5**
E22K				IAmb		IAmb	07 40 15.9		
	comp=Z,4.6nm,1.4s								
E19K	**Redstone River**	**78.38**	**9**	P		**P**	**07 40 01.0**		**+0.1**
E19K				IAmb		IAmb	07 40 14.9		
	comp=Z,2.2nm,1.1s								
E29M	**Blow River**	**78.98**	**2**	P		**P**	**07 40 04.7**		**+0.5**
G19K	**Purcell Mounta**	**79.64**	**9**	P		**P**	**07 40 07.9**		**0.0**
G19K				IAmb		IAmb	07 40 10.5		
	comp=Z,3.5nm,1.1s								
F30M	**Barrier River**	**79.80**	**1**	P		**P**	**07 40 08.7**		**-0.1**
F30M				IAmb		IAmb	07 40 29.1		
	comp=Z,5.5nm,1.5s								
F31M	**Tsiigehtchic**	**79.98**	**0**	P		**P**	**07 40 09.8**		**+0.1**
F31M				IAmb		IAmb	07 40 26.2		
	comp=Z,5.7nm,1.4s								
H21K	**Melozitna Rive**	**80.65**	**8**	P		**P**	**07 40 12.9**		**-0.4**
H21K				IAmb		IAmb	07 40 25.7		
	comp=Z,3.6nm,1.4s								

---

*ASRS **15** 07:30:07.0±0.8,54°.26N×87°.13E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 07:30:08.9±3.3,54°.29N×87°.22E,h0km,mbtmp2.8/2, ML2.5/2,Error ellipse: s-maj=28.7km s-min=20.3km az=52.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**258**		I		I	07 40 25.0	
	baz=77,slow=329,SNR=6.2								
ZALV	**Zalesovo Beam**	**1.46**	**257**	Pg			Pn	07 30 33.6	-2.8
	0.9nm,0.3s,baz=74,slow=18,SNR=8.0								
ZALV				Lg			Lg	07 30 55.4	
	0.6nm,0.3s,baz=77,slow=25,SNR=4.2								
KURBB	**Kurchatov Arra**	**6.46**	**239**	Pn			Pn	07 31 46.2	+1.2
	0.1nm,0.3s,baz=56,slow=14,SNR=6.3								
KURBB				Lg			Lg	07 33 33.1	
	baz=49,slow=31								
	1.2nm,0.7s								
MKAR	**Makanchi Array**	**8.13**	**205**	Pn			Pn	07 32 09.4	+1.3
	0.1nm,0.3s,baz=20,slow=13,SNR=2.7								
	0.1nm,0.3s								

---

*ASRS **15** 07:34:47.0±0.7,54°.37N×86°.92E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 07:34:47.5±3.4,54°.43N×87°.24E,h0km,mbtmp2.8/2, ML2.7/2,Error ellipse: s-maj=30.0km s-min=20.9km az=38.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**252**		I		I	07 44 49.6	
	baz=72,slow=330,SNR=3.4								
ZALV	**Zalesovo Beam**	**1.50**	**252**	Pg			Pn	07 35 13.4	-2.2
	1.0nm,0.3s,baz=68,slow=16,SNR=7.3								
ZALV				Lg			Lg	07 35 34.9	
	1.0nm,0.3s,baz=73,slow=36,SNR=5.1								
ZALV				Rg			Rg	07 35 44.1	
	5.6nm,0.9s,baz=66,slow=30,SNR=9.1								
KURBB	**Kurchatov Arra**	**6.54**	**238**	Pn			Pn	07 36 25.9	+1.1
	0.1nm,0.3s,baz=54,slow=13,SNR=3.2								
KURBB				Lg			Lg	07 38 15.8	
	baz=54,slow=31								
	0.4nm,0.3s								
MKAR	**Makanchi Array**	**8.27**	**204**	Pn			Pn	07 36 49.7	+1.1
	0.1nm,0.3s,baz=25,slow=12,SNR=5.1								
	0.1nm,0.3s								

---

*NEIC **15** 07:48:01.8±1.3,53°.3N±0°.2×166°.15E±0°.05,h10km±1km, mb4.0/53,Error ellipse: s-maj=41.9km s-min=5.3km az=178.0*
*IDC **15** 07:48:05.3±1.0,55°.16N×164°.64E,h0km,mb3.4/8, mbtmp3.4/9,ML3.0/1,MS2.9/6,Error ellipse: s-maj=40.5km s-min=17.6km az=161.0*
*KRSC **15** 07:48:06.3±1.4,55°.10N×164°.70E,h60km±22km,Ml4.1*
*MOS **15** 07:48:09.1±0.9,55°.13N×164°.65E,h52km,mb4.1/4,Error ellipse: s-maj=7.4km s-min=6.1km az=135.6*
ISC 15 07:48:09.0±1.6,55°.09N±0°.04×164°.81E±0°.05,h23km±13km, n160,σ2s28/200,mb3.9/32,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.68**	**80**	PN			**Pb**	**07 48 21.5**	**-0.6**
BKI				S			**Sb**	**07 48 31.6**	**+0.6**
BKI	**Bering**	**0.68**	**80**	*e*P			**Pb**	**07 48 21.6**	**-0.6**
BKI				*e*S			**Sb**	**07 48 31.7**	**+0.6**
KBTR	**Krutoberegovo**	**1.59**	**316**	PN			**Pn**	**07 48 32.4**	**-3.4**
KBTR				S			**Sn**	**07 48 50.2**	**-5.4**
KBTR	**Krutoberegovo**	**1.59**	**316**	*e*P			**Pn**	**07 48 32.5**	**-3.4**
KBTR				*e*S			**Sn**	**07 48 50.3**	**-5.4**
KBG	**Krutoberegovo**	**1.67**	**315**	PN			**Pn**	**07 48 34.1**	**-2.7**
KBG				S			**Sn**	**07 48 54.4**	**-3.1**
KBG	**Krutoberegovo**	**1.67**	**315**	*e*P			**Pn**	**07 48 34.2**	**-2.7**
KBG				*e*S			**Sn**	**07 48 54.5**	**-3.1**
MKZ	**Mys Kozlova**	**1.86**	**254**	PN			**Pn**	**07 48 37.5**	**-2.0**
MKZ				S			**Sn**	**07 48 58.9**	**-3.4**
MKZ	**Mys Kozlova**	**1.86**	**254**	*e*P			**Pn**	**07 48 37.6**	**-2.0**
MKZ				*e*S			**Sn**	**07 48 58.9**	**-3.4**
SMKR	**Semkarok**	**2.41**	**310**	PN			**Pn**	**07 48 45.6**	**-1.5**
SMKR				S			**Sn**	**07 49 13.3**	**-2.5**
SMKR	**Semkarok**	**2.41**	**310**	*e*P			**Pn**	**07 48 45.6**	**-1.5**
SMKR				*e*S			**Sn**	**07 49 13.4**	**-2.5**
ZLN	**Zelenaya**	**2.46**	**294**	PN			**Pn**	**07 48 47.0**	**-0.8**
ZLN	**Zelenaya**	**2.46**	**294**	*e*P			**Pn**	**07 48 47.1**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**2.49**	**292**	PN			**Pn**	**07 48 46.8**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**2.49**	**292**	*e*P			**Pn**	**07 48 46.8**	**-1.4**
TUMD	**Tumrok D**	**2.54**	**274**	PN			**Pn**	**07 48 47.2**	**-1.6**
TUMD				S			**Sn**	**07 49 16.5**	**-2.5**
TUMD	**Tumrok D**	**2.54**	**274**	*e*P			**Pn**	**07 48 47.2**	**-1.6**
TUMD				*e*S			**Sn**	**07 49 16.5**	**-2.5**
LGNR	**Loginova**	**2.54**	**295**	PN			**Pn**	**07 48 47.3**	**-1.8**
LGNR	**Loginova**	**2.54**	**295**	*e*P			**Pn**	**07 48 47.3**	**-1.8**
BZWR	**Bezymyannyi-We**	**2.60**	**291**	PN			**Pn**	**07 48 48.9**	**-1.0**
BZWR				S			**Sn**	**07 49 18.6**	**-2.2**
BZWR	**Bezymyannyi-We**	**2.60**	**291**	*e*P			**Pn**	**07 48 48.9**	**-1.0**
BZWR				*e*S			**Sn**	**07 49 18.7**	**-2.2**
KLY	**Klyuchi**	**2.65**	**299**	PN			**Pn**	**07 48 47.9**	**-2.4**
KLY				S			**Sn**	**07 49 16.7**	**-5.1**
KLY	**Klyuchi**	**2.65**	**299**	*e*P			**Pn**	**07 48 48.0**	**-2.4**
KLY				*e*S			**Sn**	**07 49 16.7**	**-5.1**
KRSR	**Krestovskiy**	**2.66**	**297**	PN			**Pn**	**07 48 49.0**	**-1.6**
KRSR				S			**Sn**	**07 49 19.5**	**-2.6**
KRSR	**Krestovskiy**	**2.66**	**297**	*e*P			**Pn**	**07 48 49.0**	**-1.6**
KRSR				*e*S			**Sn**	**07 49 19.6**	**-2.6**
KIRR	**Kirishev**	**2.68**	**291**	PN			**Pn**	**07 48 49.9**	**-1.1**
KIRR				S			**Sn**	**07 49 19.8**	**-3.0**
KIRR	**Kirishev**	**2.68**	**291**	*e*P			**Pn**	**07 48 49.9**	**-1.1**
KIRR				*e*S			**Sn**	**07 49 19.8**	**-3.0**
KMNR	**Kamenistaya**	**2.69**	**286**	PN			**Pn**	**07 48 50.0**	**-1.0**
KMNR				S			**Sn**	**07 49 21.5**	**-1.4**
KMNR	**Kamenistaya**	**2.69**	**286**	*e*P			**Pn**	**07 48 50.1**	**-1.0**
KMNR				*e*S			**Sn**	**07 49 21.6**	**-1.4**
KPT	**Kopyto**	**2.75**	**290**	PN			**Pn**	**07 48 51.4**	**-0.4**
KPT				S			**Sn**	**07 49 21.7**	**-2.7**
KPT	**Kopyto**	**2.75**	**290**	*e*P			**Pn**	**07 48 51.5**	**-0.4**
KPT				*e*S			**Sn**	**07 49 21.8**	**-2.7**
KOZ	**Kozyrevsk**	**2.97**	**291**	PN			**Pn**	**07 48 54.2**	**-0.5**
KOZ				S			**Sn**	**07 49 27.7**	**-1.9**
KOZ	**Kozyrevsk**	**2.97**	**291**	*e*P			**Pn**	**07 48 54.3**	**-0.5**
KOZ				*e*S			**Sn**	**07 49 27.7**	**-1.9**
KII	**Karymskiy**	**3.30**	**253**	PN			**Pn**	**07 48 58.1**	**-1.2**
KII				S			**Sn**	**07 49 35.4**	**-2.4**
KII	**Karymskiy**	**3.30**	**253**	*e*P			**Pn**	**07 48 58.2**	**-1.2**
KII				*e*S			**Sn**	**07 49 35.5**	**-2.4**
SPN	**Mys Shipunski**	**3.46**	**237**	PN			**Pn**	**07 48 59.5**	**-1.9**
SPN				S			**Sn**	**07 49 37.1**	**-4.5**
SPN	**Mys Shipunski**	**3.46**	**237**	*e*P			**Pn**	**07 48 59.6**	**-1.9**
SPN				*e*S			**Sn**	**07 49 37.1**	**-4.5**
ESO	**Esso**	**3.58**	**286**	PN			**Pn**	**07 49 02.3**	**-0.8**
ESO				S			**Sn**	**07 49 42.3**	**-2.2**
ESO	**Esso**	**3.58**	**286**	*e*P			**Pn**	**07 49 02.4**	**-0.8**
ESO				*e*S			**Sn**	**07 49 42.4**	**-2.2**
NLC	**Nalytchevo**	**3.75**	**241**	PN			**Pn**	**07 49 03.7**	**-1.7**
NLC				S			**Sn**	**07 49 44.6**	**-4.2**
NLC	**Nalytchevo**	**3.75**	**241**	*e*P			**Pn**	**07 49 03.7**	**-1.7**
NLC				*e*S			**Sn**	**07 49 44.7**	**-4.2**
SDLR	**Sedlovina**	**3.93**	**245**	PN			**Pn**	**07 49 07.6**	**-0.4**
SDLR				S			**Sn**	**07 49 50.7**	**-2.7**
SDLR	**Sedlovina**	**3.93**	**245**	*e*P			**Pn**	**07 49 07.7**	**-0.4**
SDLR				*e*S			**Sn**	**07 49 50.8**	**-2.7**
KRER	**Koryakskii**	**3.99**	**246**	PN			**Pn**	**07 49 09.1**	**+0.2**
KRER				S			**Sn**	**07 49 53.0**	**-2.0**
KRER	**Koryakskii**	**3.99**	**246**	*e*P			**Pn**	**07 49 09.2**	**+0.2**
KRER				*e*S			**Sn**	**07 49 53.1**	**-2.0**
UGLR	**Uglovaya**	**3.99**	**244**	PN			**Pn**	**07 49 09.1**	**+0.2**
UGLR	**Uglovaya**	**3.99**	**244**	*e*P			**Pn**	**07 49 09.2**	**+0.2**
AVH	**Avacha**	**4.01**	**245**	PN			**Pn**	**07 49 09.1**	**0.0**
AVH				S			**Sn**	**07 49 52.9**	**-2.5**
AVH	**Avacha**	**4.01**	**245**	*e*P			**Pn**	**07 49 09.2**	**0.0**
AVH				*e*S			**Sn**	**07 49 53.0**	**-2.5**
KRX	**Arik**	**4.01**	**247**	PN			**Pn**	**07 49 09.1**	**-0.1**
KRX				S			**Sn**	**07 49 52.6**	**-2.9**
KRX	**Arik**	**4.01**	**247**	*e*P			**Pn**	**07 49 09.2**	**-0.1**
KRX				*e*S			**Sn**	**07 49 52.7**	**-2.9**
KOK	**Koryaka**	**4.05**	**246**	PN			**Pn**	**07 49 09.6**	**-0.1**
KOK				S			**Sn**	**07 49 53.3**	**-3.1**
KOK	**Koryaka**	**4.05**	**246**	*e*P			**Pn**	**07 49 09.7**	**-0.1**
KOK				*e*S			**Sn**	**07 49 53.4**	**-3.1**
DALK	**Dalny**	**4.12**	**242**	PN			**Pn**	**07 49 10.0**	**-0.5**
DALK				S			**Sn**	**07 49 54.1**	**-3.9**
DALK	**Dalny**	**4.12**	**242**	*e*P			**Pn**	**07 49 10.1**	**-0.5**
DALK				*e*S			**Sn**	**07 49 54.2**	**-3.9**
PET	**Petropavlovsk**	**4.18**	**243**				**Pn**	**07

TTA	Tatalina	21.33	53	P	P	07 52 54.9	+0.7
TTA				pmax	pmax			
comp=Z,7.0nm,1.5s								
N18K	Kilae Creek	21.37	59	P	P	07 52 52.1	-2.5
J19K	Poorman	21.59	50	P	P	07 52 58.1	+1.2
ZEA	Zeya	21.73	282	*i* P	P	07 53 04.6	+6.1
P18K	Big Mountain,	21.80	62	P	P	07 52 55.6	-3.6
P18K				IAmb	IAmb	07 53 04.9		
comp=Z,6.2nm,1.4s								
ACHA	Angle Creek He	21.91	65	P	P	07 52 56.6	-3.8
M19K	Big River Lodg	22.06	55	P	P	07 53 01.3	-0.6
M19K				IAmb	IAmb	07 53 10.1		
comp=Z,7.5nm,1.4s								
K20K	Telida	22.24	52	P	P	07 53 04.0	+0.2
J20K	Nowinta River	22.26	49	P	P	07 53 03.7	-0.3
J20K				IAmb	IAmb	07 53 18.8		
comp=Z,4.7nm,0.8s								
TIXI	Tiksi	22.55	331		P	07 53 18.7	+12
TIXI	Tiksi	22.55	331	*i* P	P	07 53 18.6	+12
TIXI				pmax	pmax			
comp=Z,3.0nm,1.1s								
M20K	Styx River	22.66	55	P	P	07 53 06.9	-1.5
ILSW	Iliamna Southw	22.79	60	P	P	07 53 06.0	-3.8
ILSW				IAmb	IAmb	07 53 38.0		
comp=Z,6.4nm,1.5s								
PPLA	Purkeypile	23.08	53	P	P	07 53 12.2	-0.7
PPLA				IAmb	IAmb	07 53 32.0		
comp=Z,3.9nm,1.0s								
CAST	Castle Rocks	23.13	51	P	P	07 53 13.3	0.0
OHAK	Old Harbor	23.17	67	P	P	07 53 08.7	-4.9
SYI	Shuyak Island	23.36	64	P	P	07 53 12.0	-3.6
SKT	Skwentna	23.41	55	P	P	07 53 14.3	-1.8
KDAK	Kodiak Island	23.42	66	P	P	07 53 11.2	-4.9
KDAK	Kodiak Island	23.42	66	*eP*	P	07 53 12.8	-3.3
HOM	Homer	23.58	61	P	P	07 53 14.9	-2.7
BPAW	Bear Paw Mtn.	23.64	50	P	P	07 53 18.3	+0.1
BPAW				IAmb	IAmb	07 53 32.0		
comp=Z,4.9nm,1.1s								
KTH	Kantishna Hill	23.66	51	P	P	07 53 17.6	-0.9
KTH				IAmb	IAmb	07 53 38.6		
comp=Z,3.5nm,1.1s								
USA0B	Ussuriysk Arra	23.66	256	*i* P	P	07 53 17.3	-1.3
CNPM	China Poot	23.80	61	P	P	07 53 16.5	-3.4
CNPM				IAmb	IAmb	07 53 34.3		
comp=Z,4.5nm,1.0s								
SUA	Susitna One	23.82	56	P	P	07 53 17.0	-3.1
SUA				IAmb	IAmb	07 53 33.6		
comp=Z,5.5nm,1.0s								
TRF	Thorofare Moun	23.94	51	P	P	07 53 19.2	-2.1
BRLK	Bradley Lake	23.94	61	P	P	07 53 18.6	-2.6
D23K	Nanushuk River	24.34	38	P	P	07 53 28.1	+3.3
D23K				IAmb	IAmb	07 54 06.0		
comp=Z,4.4nm,1.3s								
I23K	Minto, Yukon-K	24.37	47	P	P	07 53 25.4	+0.3
RND	Reindeer	24.59	51		P	07 53 27.6	+0.5
RND				IAmb	IAmb	07 53 40.1		
comp=Z,3.2nm,0.7s								
RND	Reindeer	24.59	51	P	P	07 53 27.6	+0.5
RND				pmax	pmax			
comp=Z,3.0nm,0.7s								
SEW	Seward	24.61	59	P	P	07 53 24.1	-3.1
WRH	Wood River Hil	24.90	49		P	07 53 30.4	+0.5
WRH				IAmb	IAmb	07 53 42.5		
comp=Z,3.4nm,0.8s								
E24K	Your Creek	24.98	40		P	07 53 33.6	+3.0
E24K				IAmb	IAmb	07 53 43.1		
comp=Z,3.0nm,0.9s								
CCB	Clear Creek Bu	25.03	49	P	P	07 53 31.6	+0.7
CCB				IAmb	IAmb	07 53 43.5		
comp=Z,3.9nm,0.8s								
IL31		25.42	48	P	P	07 53 33.4	-1.1
IL31				IAmb	IAmb	07 53 47.0		
comp=Z,2.8nm,1.0s								
ILAR	Eielson Array	25.42	48	P	P	07 53 33.8	-0.7
comp=Z,0.6nm,0.8s,baz=262,slow=8.6,SNR=10								
comp=Z,0.6nm,0.8s								
M24K	Tolsona, Glenn	25.91	54	P	P	07 53 38.0	-1.2
PRP	Porcupine Dome	25.99	46		P	07 53 40.3	+0.5
PRP				IAmb	IAmb	07 53 57.0		
comp=Z,4.2nm,1.2s								
FYU	Fort Yukon	26.12	44	P	P	07 53 42.2	+1.4
FYU				IAmb	IAmb	07 53 56.1		
comp=Z,5.9nm,1.2s								
RIDG	Independent Ri	26.36	50	P	P	07 53 43.1	-0.1
RIDG				IAmb	IAmb	07 54 12.6		
comp=Z,5.0nm,1.2s								
BMAR	Burnt Mountain	26.41	42	P	P	07 53 43.8	+0.3
SCRK	Sand Creek	26.72	50	P	P	07 53 45.9	-0.6
BMRM	Bremner River	26.83	57	P	P	07 53 44.7	-2.7
L29M	L29M	29.43	51	P	P	07 54 09.7	-0.9
H11N2	WAKE ISLAND Hy	35.34	177	T	T	08 33 00.4	
baz=359,slow=76,SNR=50								
H11N3	WAKE ISLAND Hy	35.35	177	T	T	08 33 03.8	
baz=359,slow=76,SNR=37								
H11N1	WAKE ISLAND Hy	35.35	177	T	T	08 33 04.0	
baz=359,slow=76,SNR=54								
ULN	Ulaanbaatar	35.76	283	*i* P	P	07 55 09.1	+2.9
ULN				pmax	pmax			
comp=Z,2.0nm,0.6s								
HHC	Hu-ho-hao-te	37.43	270	*eP*	P	07 55 22.8	+2.4
HHC				pmax	pmax			
comp=Z,8.0nm,0.6s								
HHC				pmax	pmax			
comp=Z,110nm,4.6s								
YKA	Yellowknife Ar	39.79	46	P	P	07 55 39.9	+0.1
comp=Z,0.1nm,0.5s,baz=298,slow=8.5,SNR=5.1								
comp=Z,0.1nm,0.5s								
KURK	Kurchatov	49.01	303	P	P	07 56 53.4	-0.2
KURBB	Kurchatov Arra	49.12	303	P	P	07 56 53.4	-1.0
comp=Z,0.6nm,0.5s,baz=56,slow=7.6,SNR=4.9								
comp=Z,0.6nm,0.5s								
MKAR	Makanchi Array	49.76	297	P	P	07 56 57.8	-1.7
comp=Z,0.5nm,0.8s,baz=46,slow=6.9,SNR=4.8								
MKAR				LR	LR	08 19 38.7		
comp=Z,25nm,18.1s,baz=236,slow=38								
comp=Z,0.5nm,0.8s								
NVAR	Mina Array Bea	52.49	75	P	P	07 57 20.9	+0.7
comp=Z,0.4nm,0.7s,baz=313,slow=7.2,SNR=2.2								
comp=Z,0.4nm,0.7s								
PZH	PanZhiHua	53.38	264	P	P	07 57 27.8	+1.0
PZH				pmax	pmax			
comp=Z,10.0nm,0.5s								
PZH				pmax	pmax			
comp=Z,100nm,4.5s								
PDAR	Pinedale Array	54.14	65	P	P	07 57 32.8	+0.5
comp=Z,0.2nm,0.7s,baz=326,slow=6.9,SNR=1.9								
comp=Z,0.2nm,0.7s								
TXAR	Lajitas Array	67.33	71	P	P	07 59 02.7	+0.6
comp=Z,0.2nm,0.5s,baz=296,slow=3.5,SNR=5.7								
comp=Z,0.2nm,0.5s								
ASAR	Alice Springs	82.78	208	P	P	08 00 30.3	-0.7
comp=Z,0.2nm,0.6s,baz=11,slow=5.4,SNR=4.2								
comp=Z,0.2nm,0.6s								

IDC 15 07:52:32.6±7.1, 9°.77S×160°.97E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=200.8km s-min=47.5km az=119.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.62	245	P	P	07 58 22.1	0.0
0.3nm,0.4s,baz=73,slow=9.2,SNR=5.5							
0.3nm,0.4s							
SONM	Songino Array	74.91	325	P	P	08 04 16.6	+1.0
1.1nm,0.6s,baz=133,slow=5.4,SNR=5.4							
1.1nm,0.6s							
MKAR	Makanchi Array	89.41	318	P	P	08 05 29.8	-1.6
0.2nm,0.5s,baz=87,slow=5.0,SNR=2.9							
0.2nm,0.5s							

IDC 15 07:57:50.8±2.0, 24°.29S×179°.77E, h493km±22km, mb3.3/9, mbtmp4.2/11, Error ellipse: s-maj=21.7km s-min=16.4km az=70.0

NEIC 15 07:57:52.5±1.3, 24°.2S±0°.1×180°.0E±0°.1, h528km±9km, mb4.3/21, Error ellipse: s-maj=21.9km s-min=15.8km az=150.0

ISC 15 07:57:51.9±0.5, 24°.33S±0°.06×179°.91E±0°.08, h517km, n68, σ1§65/74, mb4.2/17, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	5.29	159	S	S	08 00 28.5	-7.6
MSVF	Nonsavu	6.79	345		P	07 59 36.0	-0.8
MSVF	Nonsavu	6.79	345	P	P	07 59 34.3	-2.4
5.4nm,0.3s,baz=274,slow=24,SNR=29							
NIUE	Niue	10.79	63	P	P	08 00 16.9	-0.9
NIUE	Niue	10.79	63	P	P	08 00 18.9	+1.1
NIUE				S	S	08 02 19.6	+1.7
PINNC	Pines Island,	11.56	276	P	P	08 00 26.4	+0.5
OUZ	Omahuta	12.16	205	P	P	08 00 34.1	+2.2
DZM	Mont Dzumac	12.59	278	P	P	08 00 38.4	+1.7
KUZ	Kuaotunu	12.89	195	P	P	08 00 40.8	+1.2
AFI	Afiamalu	13.00	39	P	P	08 00 40.3	-0.8
WIAZ	Waiheke Island	13.09	197	P	P	08 00 43.2	+1.5
MBAZ	Motutapu North	13.13	198	P	P	08 00 43.3	+1.2
MXZ	Matakaoa Point	13.27	186	P	P	08 00 45.1	+1.6
ETAZ	East Tamaki Re	13.29	198	P	P	08 00 43.3	-0.5
MKAZ	Moumakai	13.37	197	P	P	08 00 47.9	+3.2
AWAZ	Awhitu Peninsu	13.48	198	P	P	08 00 45.3	-0.5
HAZ	Te Kaha	13.51	187	P	P	08 00 43.8	-2.2
HAZ				S	S	08 03 11.0	+1.3
WMGZ	Waiomatatini S	13.51	185	P	P	08 00 47.5	+1.4
PKGZ	Pakihiroa	13.59	186	P	P	08 00 44.5	-2.4
PKGZ				S	S	08 03 11.9	+0.7
RUGZ	Raukumara Rang	13.73	187	P	P	08 00 48.9	+0.4
RUGZ				S	S	08 03 09.0	-5.2
TWGZ	Tauwhareparae	13.91	186	P	P	08 00 50.0	-0.3
TWGZ				S	S	08 03 20.8	+3.4
URZ	Urewera	14.09	189	P	P	08 00 50.4	-1.8
22nm,0.5s,baz=342,slow=1.0,SNR=35							
URZ	Urewera	14.09	189	P		08 00 49.2	-2.9
URZ				S	S	08 03 18.1	-2.8
MWZ	Matawai	14.11	188	P	P	08 00 51.1	-1.3
MWZ				S	S	08 03 19.5	-1.8
CNGZ	Carnagh Statio	14.19	185	P	P	08 00 54.5	+1.3
RRRZ	Republican Roa	14.27	191	P	P	08 00 52.4	-1.6
MUGZ	Murupara	14.36	190	S	S	08 03 20.7	-5.3
PRGZ	Paritu Road	14.65	186	P	P	08 00 58.9	+0.8
NGZ	Ngauruhoe	15.25	193	P	P	08 01 02.8	-1.7
WAZ	Wanganui	15.94	194	P	P	08 01 09.3	-2.1
RPZ	Rata Peaks	20.66	198	P	P	08 01 55.4	-0.1
9.1nm,0.5s,baz=29,slow=1.4,SNR=6.5							
9.1nm,0.5s							
STKA	Stephens Creek	34.49	249	P	P	08 03 57.1	+0.6
STKA	Stephens Creek	34.49	249	P	P	08 03 55.6	-0.9
1.8nm,0.6s,baz=83,slow=9.2,SNR=5.7							
1.8nm,0.6s							
COEN	Coen	36.10	280	P	P	08 04 10.3	+0.2
COEN				IAmb	IAmb	08 04 18.9	
comp=Z,11nm,1.1s							
BBOO	Buckleboo	39.20	247	P	P	08 04 35.0	-0.3
AS31	Alice Springs	41.88	261	P	P	08 04 56.7	-0.2
ASAR	Alice Springs	41.88	261	P	P	08 04 56.1	-0.8
ASAR	Alice Springs	41.88	261	P	P	08 04 56.6	-0.2
comp=Z,2.2nm,0.6s,baz=94,slow=8.3,SNR=25							
comp=Z,2.2nm,0.6s							
WR8	Warramunga Arr	42.15	267	P	P	08 04 58.2	-0.8
WR8				IAmb	IAmb	08 05 19.0	
comp=Z,6.5nm,1.2s							
WRAB	Tennant Creek	42.29	267	P	P	08 04 59.3	-0.8
WRAB				IAmb	IAmb	08 04 59.6	
comp=Z,4.8nm,0.5s							
WB0	Warramunga Arr	42.29	267	P	P	08 04 59.4	-0.7
WB0				IAmb	IAmb	08 04 60.0	
comp=Z,8.5nm,0.7s							
WRA	Warramunga Arr	42.30	267	P	P	08 04 59.5	-0.7
WRA	Warramunga Arr	42.30	267	P	P	08 04 59.3	-0.8
comp=Z,5.1nm,0.6s,baz=97,slow=8.3,SNR=102							
comp=Z,5.1nm,0.6s							
FORT	Forrest	46.09	250	P	P	08 05 29.2	-0.1
MTN	Manton Dam	47.41	275	P	P	08 05 38.4	-1.0
MTN				IAmb	IAmb	08 05 52.8	
comp=Z,14nm,1.4s							
KNRA	Kununurra	48.60	270		P	08 05 48.3	-0.1
KNRA				IAmb	IAmb	08 05 49.0	
comp=Z,7.8nm,0.8s							
FITZ	Fitzroy Crossi	50.71	266	P	P	08 06 04.3	+0.4
SBA	Scott Base	53.95	183	P	P	08 06 26.7	+0.5
VNDA	Vanda	53.95	185	P	P	08 06 27.5	+1.2
VNDA	Vanda	53.95	185	P	P	08 06 27.5	+1.2
comp=Z,0.7nm,0.5s,baz=354,slow=9.6,SNR=5.4							
comp=Z,0.7nm,0.5s							
MORW	Morawa	56.65	250	P	P	08 06 45.8	-0.2
MORW				IAmb	IAmb	08 06 56.5	
comp=Z,21nm,1.4s							
CASY	Casey	59.69	206	P	P	08 07 06.1	+0.3
CASY				IAmb	IAmb	08 07 40.6	
comp=Z,30nm,1.4s							
QSPA	South Pole Qui	65.76	180	P	P	08 07 46.7	+1.5
QSPA				IAmb	IAmb	08 07 47.6	
comp=Z,7.6nm,0.9s							
QSPA	South Pole Qui	65.76	180	P	P	08 07 46.8	+1.6
comp=Z,4.9nm,0.6s,baz=324,slow=1.0,SNR=23							
comp=Z,4.9nm,0.6s							
BELA	Belgrano 2	76.02	173	P	P	08 08 45.8	+0.5
TROLL	Troll, Antarti	83.91	181	⇑P	P	08 09 27.1	+0.2
comp=Z,292nm,0.7s							
SNAA	Sanae	84.24	179	P	P	08 09 28.5	0.0
SNAA				IAmb	IAmb	08 09 42.6	
comp=Z,9.2nm,1.5s							
SNAA	Sanae	84.24	179	P	P	08 09 28.1	-0.3
comp=Z,1.3nm,0.8s,baz=232,slow=4.8,SNR=1.5							
comp=Z,1.3nm,0.8s							
O18K	Koktuh Hills	86.33	12	P	P	08 09 38.5	+0.1
O18K				IAmb	IAmb	08 09 56.4	
comp=Z,4.9nm,1.3s							
CMAR	Chiang Mai Arr	89.59	290	P	P	08 09 56.4	+1.8
comp=Z,0.2nm,0.3s,baz=140,slow=4.4,SNR=4.3							
comp=Z,0.2nm,0.3s							
R32K	Eaglecrest	90.59	22	P	P	08 09 58.0	-0.3
TXAR	Lajitas Array	90.73	58	P	P	08 10 01.3	+1.5
comp=Z,0.3nm,0.8s,baz=235,slow=4.4,SNR=3.5							
comp=Z,0.3nm,0.8s							
PV23	Carpenter Ridg	91.23	48	P	P	08 09 59.7	-2.4
FINES	FINESS Array B	138.82	341	SKPbc	SKPbc	08 19 05.6	+1.0
comp=Z,2.0nm,0.8s,baz=106,slow=3.5,SNR=3.7							
HFS	Hagfors	142.94	349	PKhKP	PKPpre	08 16 22.7	
comp=Z,1.0nm,0.5s,baz=61,slow=3.6,SNR=5.0							
AKASG	Malin Array Be	145.28	327	PKPbc	PKPdf	08 16 30.9	+0.7
comp=Z,0.2nm,0.3s,baz=52,slow=1.7,SNR=4.1							
BRTR	Keskin Array B	147.76	307	PKPbc	PKPbc	08 16 38.5	-0.2
comp=Z,0.8nm,0.7s,baz=115,slow=3.9,SNR=4.4							
TORD	Torodi Ar. Bea	168.75	189	PKPdf	PKPdf	08 16 57.5	-2.6
TORD				PKPab	PKPab	08 18 12.0	-1.8

FUNV 15 08:00:58.1, 7°.96N×72°.37W, h5km, MW3.1

RSNC 15 08:00:58.7±0.0, 8°N±2°×7°3W±°, h4km±5km, M2.1, ML2.0

ISC 15 08:00:55.1±1.1, 8°.07N±0°.02×72°.46W±0°.02, h3km±10km, n17, σ1§38/34, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	0.25	145	*eP*	Pg	08 00 59.9	-0.2
CAPV				*eS*	Sg	08 01 02.8	-0.6
PAMC	Pamplona, Colo	0.76	198	P	Pg	08 01 09.2	-0.7
PAMC				S	Sg	08 01 18.5	-1.3
OCAC	Ocana	0.87	281	P	Pg	08 01 12.5	+0.7
OCAC				S	Sg	08 01 24.1	+1.1
SOCV	Socops	1.60	82	*eP*	Pb	08 01 25.7	+0.3
SOCV				*eS*	Sg	08 01 46.6	-0.1
BARC	Barichara	1.63	206	P	Pn	08 01 25.2	+0.2
BARC				S	Sn	08 01 46.3	-0.3
TAMC	Tame, Arauca	1.76	158	P	Pg	08 01 30.3	+1.5
TAMC				S	Sg	08 01 51.8	+0.2
MCQV	Machiques	1.97	358	*eP*	Pg	08 01 33.0	+0.1
MCQV				⇓*eS*	Sg	08 01 59.2	+0.7
SDV	Santo Domingo	1.98	66	P	Pg	08 01 33.8	+0.6
SDV				S	Sg	08 02 00.0	+1.1
RUSC	La Rusia	2.25	196	P	Pb	08 01 36.4	-0.3
RUSC				S	Sb	08 02 05.0	-0.2
ZARC	Zaragoza, Cauc	2.44	257	P	Pn	08 01 37.9	+2.0
ZARC				S	Sb	08 02 10.7	+0.4
ARGC	Ariguani, Magd	2.50	315	P	Pg	08 01 42.6	-0.6
ARGC				S	Sg	08 02 15.1	-0.5
CRJC	Cerrejon, Guaj	2.96	352	P	Pb	08 01 48.5	-0.1
CRJC				S	Sg	08 02 29.1	-1.2
UREC	San Jos de Ur	3.06	264	P	Pb	08 01 47.9	-2.3
UREC				S	Sn	08 02 22.8	+1.3
SJCC	San Jacinto, C	3.24	304	P	Pn	08 01 50.2	+3.3
SJCC				S	Sb	08 02 31.6	-1.7
URIC	Uribia, Colomb	3.64	7	P	Pb	08 01 59.6	-0.5
URIC				S	Sg	08 02 49.4	-2.7
TEPV	Terepaima	3.74	60	*eP*	Pn	08 01 55.5	+1.7
TEPV				*eS*	Sn	08 02 36.4	-1.9
BAUV	El Baul	4.46	78	*eP*	Pn	08 02 04.5	+0.9
BAUV				*eS*	Sn	08 02 53.4	-2.6

SNET 15 08:18:29.8±3.2, 12°.81N×89°.04W, h18km, ML3.2

CATAC 15 08:18:32.1±0.8, 13°N±5°×8°9W±°, h30km±7km, M3.6/4, MLv3.6/4, Error ellipse: s-maj=10.7km s-min=5.3km az=14.6, confirmed

ISC 15 08:18:31.4±2.7, 12°.9N±0°.1×89°.08W±0°.05, h27km±13km, n29, σ0§35/37, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.64	50	*eP*	Pn	08 18 44.9	+0.1
ALJI				*eS*	Sn	08 18 54.5	+0.4
ALJI	Alcalda de J	0.64	50	P	Pn	08 18 44.9	+0.1
ALJI	Alcalda de J	0.64	50	S	Sn	08 18 55.0	+0.9
TECO	Alcaldia de Te	0.68	25	P	Pn	08 18 45.0	-0.4
TECO	Alcaldia de Te	0.68	25	S	Sn	08 18 54.7	-0.4
COEG	Centro de Oper	0.73	15	*eP*	Pn	08 18 45.7	-0.4
COEG				*eS*	Sb	08 18 55.6	+0.4
COEG	Centro de Oper	0.73	15	P	Pn	08 18 45.7	-0.4
LOMA	Loma Larga	0.73	353	*i* P	Pn	08 18 46.1	0.0
LOMA				*eS*	Sn	08 18 56.3	-0.1
LOMA	Loma Larga	0.73	353	P	Pn	08 18 46.1	0.0
UESV	Universidad de	0.77	22	P	Pb	08 18 46.2	-0.1
UESV	Universidad de	0.77	22	S	Sb	08 18 56.8	+0.4
PAVA	Las Pavas	0.81	10	*i* P	Pn	08 18 47.2	0.0
PAVA				*eS*	Sn	08 18 58.1	-0.2
PAVA	Las Pavas	0.81	10	P	Pb	08 18 46.7	-0.2
PAVA	Las Pavas	0.81	10	S	Sb	08 18 57.8	+0.3
JAYA	Jayaque - finc	0.82	334	*eP*	Pn	08 18 47.6	+0.3
JAYA				*eS*	Sb	08 18 58.2	+0.3
JAYA	Jayaque - finc	0.82	334	P	Pb	08 18 46.8	-0.4
PMON	Piamonte	0.82	344	*eP*	Pn	08 18 47.5	+0.1
PMON				*eS*	Sb	08 18 58.6	+0.6
PMON	Piamonte	0.82	344	P	Pb	08 18 46.9	-0.4
BOQS	Boqueron	0.84	347	*eP*	Pn	08 18 48.1	+0.4
BOQS				*eS*	Sn	08 18 59.5	+0.3
SCLA	Alcaldia de Sa	0.85	24	P	Pb	08 18 47.3	-0.4
SCLA	Alcaldia de Sa	0.85	24	S	Sb	08 18 59.0	+0.2
PQSS	Presa 15 de Se	0.87	36	P	Pn	08 18 47.7	-0.2
PQSS	Presa 15 de Se	0.87	36	S	Sn	08 18 59.3	-0.3
PACA	Pacayal	0.92	53	*eP*	Pn	08 18 49.0	+0.3
PACA				*eS*	Sn	08 19 01.1	0.0
PACA	Pacayal	0.92	53	P	Pn	08 18 48.4	-0.3
RANC	El Ranchito	0.93	56	P	Pn	08 18 48.6	-0.3
RANC	El Ranchito	0.93	56	S	Sn	08 19 01.3	0.0
CEDA	San Andres	0.93	341	P	Pb	08 18 48.5	-0.5
CEDA	San Andres	0.93	341	S	Sb	08 19 01.2	+0.1

NOU 15 08:18:45.8, 20°.57S×177°.94W, h606km, mb4.5/28, Fiji Islands Region

NEIC 15 08:18:49.0±1.4, 20°.8S±0°.1×178°.6W±0°.1, h573km±7km, mb4.3/93, Error ellipse: s-maj=19.9km s-min=15.7km az=150.0

IDC 15 08:18:50.1±1.7, 20°.87S×178°.69W, h589km±18km, mb3.3/14, mbtmp4.3/17, Error ellipse: s-maj=18.1km s-min=13.9km az=110.0

ISC 15 08:18:48.7±0.4, 20°.96S±0°.07×178°.57W±0°.07, h579km, n216, σ1§31/218, mb4.3/64, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.53	315		P	08 20 17.7	+0.9
MSVF	Nonsavu	4.53	315	P	P	08 20 18.1	+1.4
6.1nm,0.4s,baz=110,slow=23,SNR=12							
FUTU	Fugatoga	6.63	4	P	P	08 20 35.1	+0.5
NIUE	Niue	8.34	78	P	P	08 20 48.9	-1.7
AFI	Afiamalu	9.55	44	P	P	08 21 01.2	-1.5
PINNC	Pines Island,	13.10	260	P	P	08 21 39.7	+1.1
DZM	Mont Dzumac	14.00	263	P	P	08 21 48.4	+0.5
14nm,0.6s,baz=75,slow=22,SNR=14							
DZM	Mont Dzumac	14.00	263	P	P	08 21 50.4	+2.5
OUZ	Omahuta	15.79	204	P	P	08 22 06.9	+2.0
OUZ	Omahuta	15.79	204	P	P	08 22 07.9	+3.0
KOUNC	Koumac, New Ca	16.05	268	P	P	08 22 09.9	+2.4
GRZ	Great Barrier	16.10	198	P	P	08 22 10.2	+2.4
KUZ	Kuaotunu	16.50	196	P	P	08 22 13.3	+1.9
KUZ	Kuaotunu	16.50	196	P	P	08 22 14.0	+2.6
WIAZ	Waiheke Island	16.70	198	P	P	08 22 16.3	+3.0
MBAZ	Motutapu North	16.75	198	P	P	08 22 17.0	+3.4
MXZ	Matakaoa Point	16.76	189	P	P	08 22 15.2	+1.4
MXZ	Matakaoa Point	16.76	189	P	P	08 22 14.7	+0.9
ETAZ	East Tamaki Re	16.91	198	P	P	08 22 18.4	+3.2
MKAZ	Moumakai	16.98	197	P	P	08 22 18.7	+2.9
WTAZ	Waiatarua	17.00	199	P	P	08 22 19.3	+3.3
HAZ	Te Kaha	17.03	190	P	P	08 22 16.9	+0.7
HAZ				S	S	08 25 01.2	-3.9
KBAZ	Karaka Road Bo	17.05	198	P	P	08 22 20.4	+4.0
AWAZ	Awhitu Peninsu	17.10	199	P	P	08 22 19.8	+3.0
MWZ	Matawai	17.64	190	P	P	08 22 21.8	0.0
URZ	Urewera	17.64	191	P	P	08 22 21.4	-0.4
45nm,1.0s,baz=337,slow=2.5,SNR=24							
URZ				S	S	08 25 11.3	-3.7
7.7nm,1.0s,baz=129,slow=17,SNR=2.2							
URZ	Urewera	17.64	191	P	P	08 22 21.3	-0.4
URZ	Urewera	17.64	191	P	P	08 22 21.3	-0.4
URZ				S	S	08 25 10.1	-4.9
RTZ	Ruatahuna	18.01	191	P	P	08 22 26.2	+1.0
TLZ	Tolley Road	18.04	195	P	P	08 22 28.7	+3.2
HIZ	Hauiti	18.39	197	P	P	08 22 30.2	+

FORT	Forrest	48.63	247	P	P	08 26 40.8	0.0
FORT	Forrest	48.63	247	P	P	08 26 40.6	-0.2
MTN	Manton Dam	48.64	271		P	08 26 40.4	-0.7
WRKA	Warakurna	48.83	255	P	P	08 26 42.2	-0.3
KNRA	Kununurra	50.10	267		P	08 26 51.6	-0.2
FITZ	Fitzroy Crossi	52.44	263		P	08 27 08.9	+0.2
FITZ	Fitzroy Crossi	52.44	263	P	P	08 27 08.9	+0.2
SOEI	Soe	55.99	272	P	P	08 27 32.3	-1.5
PSA00	Pilbara Seismi	57.05	257		P	08 27 40.6	-0.2
PSA00				IAmb	IAmb	08 27 41.2	
	comp=Z,16nm,0.8s						
MBWA	Marble Bar	57.24	258		P	08 27 41.9	-0.3
MBWA				IAmb	IAmb	08 27 42.3	
	comp=Z,14nm,0.7s						
VNDA	Vanda	57.40	185	P	P	08 27 45.1	+2.8
VNDA	Vanda	57.40	185	P	P	08 27 45.0	+2.8
	comp=Z,0.7nm,0.7s,baz=110,slow=9.1,SNR=2.3						
	comp=Z,0.7nm,0.7s						
MORW	Morawa	59.16	248	P	P	08 27 55.0	0.0
MORW				IAmb	IAmb	08 27 55.3	
	comp=Z,10nm,0.8s						
TOLI2	Tolitoli	63.19	282	P	P	08 28 20.4	-1.1
TOLI2				IAmb	IAmb	08 28 24.9	
	comp=Z,8.3nm,0.8s						
QSPA	South Pole Qui	69.11	180	P	P	08 29 00.0	+2.6
QSPA	South Pole Qui	69.11	180	P	P	08 28 59.3	+1.9
	comp=Z,1.8nm,0.8s,baz=75,slow=0.4,SNR=6.9						
	comp=Z,1.8nm,0.8s						
UGM	Wanagama	69.43	269	P	P	08 28 59.9	-0.2
MJAR	Matsushiro Arr	70.27	324	P	P	08 29 04.0	-0.5
	comp=Z,3.2nm,0.6s,baz=163,slow=5.8,SNR=8.6						
	comp=Z,3.2nm,0.6s						
MAJO	Matsushiro	70.27	324	P	P	08 29 04.7	+0.1
JMN	Monobe	70.79	319	P	P	08 29 07.2	-0.5
TPUB	Ta-pu	73.78	303	P	P	08 29 24.4	-0.8
JKA	Kamikawa-asahi	73.88	332	P	P	08 29 25.3	0.0
PETK	Petropavlovsk-	76.58	346	P	P	08 29 40.0	-0.1
	comp=Z,3.8nm,0.7s,baz=120,slow=7.0,SNR=7.0						
	comp=Z,3.8nm,0.7s						
KSRS	Korea Array	76.89	319	P	P	08 29 42.2	+0.2
	comp=Z,1.3nm,0.6s,baz=120,slow=6.4,SNR=6.0						
	comp=Z,1.3nm,0.6s						
SDPT	Sand Point	77.56	10	P	P	08 29 45.1	-0.2
USRK	Ussuriysk Ar.	79.05	326	P	P	08 29 53.9	+0.3
	comp=Z,3.3nm,0.7s,baz=72,slow=6.6,SNR=4.2						
	comp=Z,3.3nm,0.7s						
SII	Sitkinak Islan	79.92	13	P	P	08 29 58.4	+0.7
OHAK	Old Harbor	80.72	14	P	P	08 30 02.5	+0.6
OHAK				IAmb	IAmb	08 30 10.4	
	comp=Z,11nm,1.3s						
DSP	Deep Springs	81.34	45	P	P	08 30 07.7	+2.1
KDAK	Kodiak Island	81.39	14	P	P	08 30 05.6	+0.3
KDAK				IAmb	IAmb	08 30 37.9	
	comp=Z,8.7nm,1.2s						
NVAR	Mina Array Bea	81.72	44	P	P	08 30 09.5	+1.7
	comp=Z,0.3nm,0.5s,baz=255,slow=6.3,SNR=2.2						
	comp=Z,0.3nm,0.5s						
N14K	Kuskokwak Cree	81.77	8	P	P	08 30 08.2	+1.1
O16K	Kokwok River B	82.00	10	P	P	08 30 07.6	-0.8
Q19K	Cape Douglas,	82.21	13	P	P	08 30 09.0	-0.5
N15K	Kwethluk River	82.23	9	P	P	08 30 10.3	+0.7
N15K				IAmb	IAmb	08 30 11.0	
	comp=Z,5.7nm,0.9s						
P18K	Big Mountain,	82.33	12	P	P	08 30 10.3	+0.1
BNX	BinXian	82.50	325	⇓P	P	08 30 11.6	+0.3
BNX				pmax	pmax		
	comp=Z,11nm,0.8s						
O18K	Koktuh Hills	82.76	12		P	08 30 12.5	+0.3
O18K				IAmb	IAmb	08 30 13.0	
	comp=Z,7.2nm,0.8s						
N17K	Nushagak Hills	83.04	10	P	P	08 30 13.8	+0.2
N17K				IAmb	IAmb	08 30 51.7	
	comp=Z,10nm,1.5s						
CNPM	China Poot	83.27	14	P	P	08 30 15.3	+0.5
CNPM				IAmb	IAmb	08 30 53.3	
	comp=Z,14nm,1.5s						
ILSW	Iliamna Southw	83.28	13	P	P	08 30 15.2	+0.1
ILSW				IAmb	IAmb	08 30 15.3	
	comp=Z,8.1nm,0.8s						
N18K	Kilae Creek	83.41	11	P	P	08 30 15.5	0.0
BRLK	Bradley Lake	83.56	14	P	P	08 30 16.6	+0.3
BRLK				IAmb	IAmb	08 30 17.1	
	comp=Z,6.6nm,1.0s						
N19K	Bonanza Creek	83.79	12	P	P	08 30 17.0	-0.4
K15K	Wolf Creek Mou	84.08	8	P	P	08 30 19.7	+1.0
K15K				IAmb	IAmb	08 30 21.2	
	comp=Z,7.8nm,1.1s						
L18K	Granite Mounta	84.71	10	P	P	08 30 22.3	+0.4
M19K	Big River Lodg	84.82	11	P	P	08 30 22.8	+0.4
STLK	Strandline Lak	84.94	13	P	P	08 30 22.1	-1.0
L19K	White Mountain	84.99	11	P	P	08 30 23.4	+0.2
PWL	Port Wells	85.12	14	P	P	08 30 23.6	-0.3
PWL				IAmb	IAmb	08 30 24.5	
	comp=Z,5.0nm,0.9s						
SUA	Susitna One	85.13	13		P	08 30 24.3	+0.3
GLI	Glacier Island	85.43	15	P	P	08 30 25.8	+0.5
GLI				IAmb	IAmb	08 30 26.0	
	comp=Z,5.1nm,0.7s						
PMR	Palmer	85.59	14	P	P	08 30 26.1	+0.1
PMR				IAmb	IAmb	08 30 40.4	
	comp=Z,6.0nm,1.4s						
GHO	Glory Hole Cre	85.80	14	P	P	08 30 27.3	+0.2
GHO				IAmb	IAmb	08 30 27.9	
	comp=Z,5.5nm,0.8s						
SML	Sawmill	85.96	14	P	P	08 30 27.7	-0.2
BMRM	Bremner River	86.12	16	P	P	08 30 29.0	+0.3
BMRM				IAmb	IAmb	08 30 38.9	
	comp=Z,8.6nm,1.4s						
ELIB	Princess Elisa	86.12	187	dP	P	08 30 29.5	+0.6
	comp=Z,3.0nm,0.9s						
SCM	Sheep Creek Mo	86.21	14	P	P	08 30 29.3	+0.2
SCM				IAmb	IAmb	08 30 30.0	
	comp=Z,6.0nm,0.7s						
J19K	Poorman	86.55	10	P	P	08 30 30.5	-0.1
CAST	Castle Rocks	86.64	12		P	08 30 30.0	-1.0
VRDI	Verde Repeater	86.64	16	P	P	08 30 31.6	+0.3
VRDI				IAmb	IAmb	08 30 32.5	
	comp=Z,8.0nm,1.4s						
N25K	Chitina, Valde	86.67	16	P	P	08 30 31.9	+0.6
N25K				IAmb	IAmb	08 30 32.3	
	comp=Z,2.7nm,0.7s						
GLB	Gilahina Butte	86.73	16	P	P	08 30 31.8	+0.2
GLB				IAmb	IAmb	08 30 47.0	
	comp=Z,5.6nm,1.4s						
J20K	Nowinta River	86.96	10	P	P	08 30 32.3	-0.2
KTH	Kantishna Hill	86.98	12	P	P	08 30 32.5	-0.2
TRF	Thorofare Moun	87.01	12	P	P	08 30 32.6	-0.4
TRF				IAmb	IAmb	08 30 33.1	
	comp=Z,5.2nm,0.7s						
O28M	Mount Upton	87.15	18	P	P	08 30 34.7	+0.9
O29M	Mount Kennedy	87.24	19	P	P	08 30 33.6	-0.5
O29M				IAmb	IAmb	08 30 39.2	
	comp=Z,9.8nm,1.4s						
RND	Reindeer	87.27	13		P	08 30 34.1	+0.1
MCK	McKinley	87.54	13	P	P	08 30 35.0	-0.2
MCK				IAmb	IAmb	08 30 36.7	
	comp=Z,4.1nm,0.8s						
TXAR	Lajitas Array	87.75	58	P	P	08 30 37.5	+0.4
	comp=Z,0.4nm,0.8s,baz=210,slow=6.3,SNR=6.0						
	comp=Z,0.4nm,0.8s						
XAN	Xi'an	87.99	308	P	P	08 30 39.1	+1.0
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
K24K	Donnelly Dome	88.28	14	P	P	08 30 39.3	+0.5
WRH	Wood River Hil	88.37	13		P	08 30 38.8	-0.2
WRH				IAmb	IAmb	08 30 39.4	
	comp=Z,4.2nm,0.8s						
O30N	Mendenhall	88.37	19	P	P	08 30 40.1	+0.9
O30N				IAmb	IAmb	08 31 12.6	
	comp=Z,5.2nm,1.2s						
RIDG	Independent Ri	88.44	14	P	P	08 30 39.8	+0.3
RIDG				IAmb	IAmb	08 30 51.0	
	comp=Z,5.5nm,1.2s						
HDA	Harding Lake	88.55	13	P	P	08 30 39.8	-0.2
HDA				IAmb	IAmb	08 30 40.2	
	comp=Z,3.9nm,0.8s						
H21K	Melozitna Rive	88.56	10	P	P	08 30 40.3	+0.4
H21K				IAmb	IAmb	08 31 02.3	
	comp=Z,6.1nm,1.4s						
CCB	Clear Creek Bu	88.58	13		P	08 30 39.3	-0.7
CCB				IAmb	IAmb	08 30 40.2	
	comp=Z,4.1nm,0.7s						
BCAR	Beaver Creek A	88.61	16	P	P	08 30 40.8	+0.4
SCRK	Sand Creek	88.84	15	P	P	08 30 41.9	+0.5
ILAR	Eielson Array	88.88	13	P	P	08 30 41.4	-0.1
ILAR	Eielson Array	88.88	13	P	P	08 30 40.7	-0.8
	comp=Z,1.0nm,0.6s,baz=218,slow=4.9,SNR=13						
	comp=Z,1.0nm,0.6s						
F19K	Shaleruckik Mo	88.91	8	P	P	08 30 41.7	+0.2
F19K				IAmb	IAmb	08 30 42.2	
	comp=Z,2.3nm,0.8s						
M29M	Somme Creek	88.99	17	P	P	08 30 43.0	+0.9
M29M				IAmb	IAmb	08 30 43.7	
	comp=Z,2.6nm,0.7s						
J25K	Salcha River,	89.07	14	P	P	08 30 42.9	+0.5
J25K				IAmb	IAmb	08 30 43.2	
	comp=Z,1.9nm,0.8s						
G21K	Allakaket	89.23	10	P	P	08 30 43.6	+0.5
G21K				IAmb	IAmb	08 30 44.0	
	comp=Z,4.3nm,0.9s						
J26L	Joseph Creek	89.39	14	P	P	08 30 44.6	+0.7
J26L				IAmb	IAmb	08 30 45.9	
	comp=Z,5.7nm,1.1s						
E19K	Redstone River	89.57	8		P	08 30 45.0	+0.4
E19K				IAmb	IAmb	08 30 45.6	
	comp=Z,4.2nm,0.8s						
L29M	L29M	89.62	17		P	08 30 45.9	+0.9
L29M				IAmb	IAmb	08 30 46.7	
	comp=Z,3.6nm,0.9s						
PDAR	Pinedale Array	89.66	43	P	P	08 30 45.8	-0.1
PDAR	Pinedale Array	89.66	43	P	P	08 30 47.1	+1.2
	comp=Z,0.6nm,0.7s,baz=206,slow=2.8,SNR=6.9						
	comp=Z,0.6nm,0.7s						
CMAR	Chiang Mai Arr	89.77	290		P	08 30 47.9	+1.2
CMAR	Chiang Mai Arr	89.77	290	P	P	08 30 48.4	+1.7
	comp=Z,3.5nm,0.9s,baz=126,slow=3.1,SNR=26						
	comp=Z,3.5nm,0.9s						
K29M	Barlow Dome	90.37	17	P	P	08 30 48.7	+0.2
K29M				IAmb	IAmb	08 31 17.8	
	comp=Z,3.9nm,1.4s						
D19K	Kuna River	90.44	7	P	P	08 30 48.6	-0.1
D19K				IAmb	IAmb	08 30 49.5	
	comp=Z,2.6nm,0.9s						
G24K	Hadweenzic Riv	90.46	12	P	P	08 30 49.0	+0.2
G24K				IAmb	IAmb	08 30 56.0	
	comp=Z,4.3nm,1.5s						
D20K	Etivluk River	90.84	8	P	P	08 30 50.6	+0.2
D20K				IAmb	IAmb	08 31 28.2	
	comp=Z,5.8nm,1.4s						
ISCO	Idaho Springs	90.90	47	P	P	08 30 51.5	-0.3
ISCO				IAmb	IAmb	08 30 51.9	
	comp=Z,5.5nm,1.5s						
BMAR	Burnt Mountain	91.66	12	P	P	08 30 55.5	+1.2
B20K	Meade River	91.99	7	P	P	08 30 56.1	+0.5
B20K				IAmb	IAmb	08 30 56.8	
	comp=Z,2.8nm,1.0s						
H29M	Whitestone	92.04	15	P	P	08 30 56.5	+0.5
G31M	Satah River	93.62	16	P	P	08 31 03.2	0.0
G31M				IAmb	IAmb	08 31 03.9	
	comp=Z,1.7nm,0.8s						
F31M	Tsiigehtchic	94.15	16	P	P	08 31 05.6	0.0
MKAR	Makanchi Array	111.13	313	PKiKP	PKiKP	08 36 16.2	-0.8
	comp=Z,0.3nm,0.4s,baz=38,slow=0.8,SNR=6.5						
KURBB	Kurchatov Arra	114.03	317	PKiKP	PKPdf	08 36 21.4	-1.1
	comp=Z,1.0nm,0.7s,baz=98,slow=1.7,SNR=9.1						
BVAR	Borovoye Array	119.09	320	PKP	PKPdf	08 36 31.3	-0.8
	comp=Z,2.7nm,0.5s,baz=100,slow=1.3,SNR=12						
SPITS	Spitsbergen Ar	122.29	356	PKP	PKPdf	08 36 37.0	-0.7
	comp=Z,6.5nm,1.0s,baz=98,slow=5.1,SNR=4.1						
ARTI	Arti	125.39	325		PKPdf	08 36 44.1	0.0
ARTI	Arti	125.39	325	PKP	PKPdf	08 36 44.0	-0.1
	comp=Z,1.3nm,0.5s,baz=40,slow=1.8,SNR=7.1						
ABKAR	Akbulak array	126.06	316	PKPdf	PKPdf	08 36 45.6	0.0
AKTO	Aktyubinsk	127.06	318	PKP	PKPdf	08 36 47.2	-0.3
	comp=Z,2.6nm,0.8s,baz=296,slow=1.2,SNR=6.6						
ARCES	ARCESS Array B	129.28	349	PKP	PKPdf	08 36 50.8	-0.4
	comp=Z,8.1nm,1.1s,baz=318,slow=1.6,SNR=8.3						
FINES	FINESS Array B	136.06	343	PKP	PKiKP	08 37 05.2	-0.7
	comp=Z,1.7nm,0.7s,baz=79,slow=4.1,SNR=6.0						
NB2	NORSAR Subarra	139.37	353	PKP	PKPpre	08 37 03.6	
	comp=Z,0.4nm,0.6s,baz=6.6,slow=3.2						
NOA	NORSAR Array B	139.37	353	PKhKP	PKPpre	08 37 03.2	
	comp=Z,0.5nm,0.8s,baz=13,slow=2.3,SNR=4.1						
HFS	Hagfors	139.91	351	PKhKP	PKPpre	08 37 04.0	
	comp=Z,1.4nm,0.3s,baz=59,slow=3.8,SNR=17						
LODK	Lodwar	142.68	247		PKPdf	08 37 16.4	-1.3
AKASG	Malin Array Be	143.16	330	PKP	PKPab	08 37 14.6	-0.7
	comp=Z,9.6nm,0.5s,baz=44,slow=4.3,SNR=79						
AKBB	Malin Array Si	143.16	330		PKPab	08 37 14.8	-0.4
EKA	Eskdalemuir Ar	145.51	5	PKPbc	PKPbc	08 37 21.9	-0.7
	comp=Z,3.4nm,0.8s,baz=267,slow=1.7,SNR=4.4						
BNN	Bunyan	145.51	309	PKPbc	PKPbc	08 37 23.9	+0.5
ILGA	Ilgaz	146.13	314	PKPbc	PKPbc	08 37 25.8	+0.6
BR131	Keskin Array S	146.75	311		PKPbc	08 37 26.5	-0.3
BRTR	Keskin Array B	146.75	311		PKPbc	08 37 26.4	-0.3
BRTR	Keskin Array B	146.75	311	PKPbc	PKPbc	08 37 26.3	-0.5
	comp=Z,3.9nm,0.7s,baz=137,slow=4.5,SNR=19						
BUR08	Bucovina Ar. S	147.19	330		PKPbc	08 37 27.7	+0.1
BURAR	Bucovina Array	147.20	330		PKPbc	08 37 28.3	+0.6
ANTO	Ankara	147.28	312	PKPbc	PKPbc	08 37 28.3	+0.2
OJC	Ojcow	147.39	338	PKPbc	PKPbc	08 37 28.3	+0.4
MMAI	Mount Meron Ar	147.58	299	PKPbc	PKiKP	08 37 29.9	-0.7
	comp=Z,5.0nm,0.5s,baz=61,slow=6.8,SNR=7.8						
MDUB	Mudurnu	148.09	314	PKPbc	PKPbc	08 37 30.3	+0.2
MLR	Muntele Rosu	148.32	326	PKPbc	PKiKP	08 37 31.2	-0.6
CLL	Collm	148.39	346		PKPbc	08 37 30.5	+0.1
KHC	Kasperske Hory	150.27	344	ePKP	PKPbc	08 37 35.0	0.0
GERES	GERESS Array B	150.50	343	PKPbc	PKPbc	08 37 34.0	-1.7
GERES	GERESS Array B	150.50	343	PKPbc	PKPbc	08 37 35.0	-0.6
	comp=Z,2.3nm,0.7s,baz=18,slow=1.7,SNR=11						
ELL	Elmali	150.66	309	PKPbc	PKiKP	08 37 36.6	-0.3
MANT	Manisa	150.84	313	PKPbc	PKPbc	08 37 36.9	0.0
RDO	Rodhopi	151.33	320	PKPbc	PKPbc	08 37 37.0	-0.6
ECH	Echery	152.42	352	PKPdf	PKPdf	08 37 31.9	-0.6
PRED	Cave del Predi	152.72	342	PKPdf	PKPdf	08 37 31.2	-1.8
PRED				PKPab	PKPab	08 37 53.9	-0.4
DAVOX	Davos/Dischmat	153.34	347	PKPbc	PKPbc	08 37 41.9	-0.2
	comp=Z,2.3nm,0.5s,baz=39,slow=2.4,SNR=6.4						
FUORN	Ofenpass-Fuorn	153.41	346	PKPab	PKPab	08 37 56.1	-1.4

RSNC 15 08:21:48.4±0.0, 8°N±1°×7°7W±°, h30km±2km, M2.6, mb3.6, ML2.4, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	Capurgana	0.37	322	P	Pb	08 21 56.1	-0.8
CAPC				S	Sb	08 22 03.3	+0.6
APAC	Apartado, Choc	0.69	129	P	Pb	08 22 01.6	-0.4
APAC				S	Sn	08 22 13.0	+1.1
LCBC	Los crdobas,	0.90	55	P	Pn	08 22 04.9	-0.2
LCBC				S	Sb	08 22 20.0	+2.7
PTAC	Punta Ardita,	1.37	210	P	Pn	08 22 10.4	-1.1
PTAC				S	Sn	08 22 28.0	-0.6
DBBC	Dabeiba	1.59	145	P	Pn	08 22 13.9	-0.8
DBBC				S	Sn	08 22 34.9	+0.6
UREC	San Jos de Ur	1.68	110	P	Pn	08 22 14.6	-1.1
UREC				S	Sn	08 22 34.6	-1.7
ZARC	Zaragoza, Cauc	2.39	110	P	Pn	08 22 24.7	-0.9
ZARC				S	Sn	08 22 51.7	-2.3
SJCC	San Jacinto, C	2.46	51	P	Pn	08 22 26.2	-0.4
SJCC				S	Sn	08 22 55.1	-0.6
CBOC	Ciudad Bolivar	2.69	156	P	Pn	08 22 31.0	+1.1
CBOC				S	Sb	08 23 05.5	-3.3
BCIP	Isla Barro Col	2.81	287	P	Pn	08 22 30.6	-0.7
BCIP				S	Sn	08 23 05.2	+1.0
PTBC	PUERTO BERRIO,	3.19	124	P	Pn	08 22 35.0	-1.6
PTBC				S	Sn	08 23 10.6	-3.0
ARGC	Ariguani, Magd	3.21	62	P	Pn	08 22 35.8	-1.1
ARGC				S	Sn	08 23 13.3	-0.9
BRJC	Barrancabermej	3.61	112	P	Pn	08 22 41.6	-0.8
BRJC				S	Sn	08 23 21.2	-2.8
OCAC	Ocana	3.76	91	P	Pn	08 22 44.0	-0.6
OCAC				S	Sn	08 23 25.8	-2.2
BARC	Barichara	4.27	114	P	Pn	08 22 50.9	-0.8
BARC				S	Sn	08 23 38.8	-1.9
PAMC	Pamplona, Colo	4.49	102	P	Pn	08 22 55.2	+0.3
PAMC				S	Sn	08 23 45.1	-1.3
RUSC	La Rusia	4.69	121	P	Pn	08 22 57.0	-0.6
RUSC				S	Sn	08 23 48.8	-2.4
BOG	Bogota	4.78	140	P	Pn	08 23 00.1	+1.4
BOG				S	Sn	08 23 51.8	-1.5
CRJC	Cerrejon, Guaj	4.96	57	P	Pn	08 23 00.5	-0.4
CRJC				S	Sn	08 23 52.2	-5.1
TAMC	Tame, Arauca	5.61	109	P	Pn	08 23 11.1	+1.2
TAMC				S	Sn	08 24 13.4	-0.1

ASRS 15 08:30:20.0±1.1, 53°.64N×87°.97E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 15 08:30:22.9±3.3, 53°.62N×87°.97E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=29.9km s-min=19.3km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	1.90	281	Pn	Pn	08 30 56.4	-0.1
	0.6nm,0.3s,baz=99,slow=15,SNR=10						
ZALV				Lg	Lg	08 31 22.4	
	1.0nm,0.3s,baz=103,slow=24,SNR=8.7						
I46RU	ZALESOVO INFRA	1.90	281	I	I	08 43 45.0	
	baz=95,slow=332,SNR=6.9						
KURBB	Kurchatov Arra	6.54	246	Pn	Pn	08 32 01.2	+0.9
	baz=63,slow=15,SNR=3.1						
KURBB				Lg	Lg	08 33 50.6	
	baz=66,slow=33,SNR=4.3						
	0.2nm,0.4s						
MKAR	Makanchi Array	7.74	210	Pn	Pn	08 32 17.9	+1.0
	baz=24,slow=12,SNR=2.0						
	0.1nm,0.3s						

ASRS 15 08:39:55.0±1.4, 54°.65N×83°.63E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 15 08:39:55.9±1.5, 54°.69N×83°.74E, h0km, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=14.1km s-min=9.4km az=8.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.97	139	I	I	08 45 30.0	
	0.4nm,0.8s,baz=317,slow=333,SNR=27						
ZALV	Zalesovo Beam	0.97	139	Pg	Pg	08 40 13.9	-0.6
	3.4nm,0.3s,baz=320,slow=19,SNR=20						
ZALV				Lg	Lg	08 40 28.6	
	8.2nm,0.3s,baz=320,slow=29,SNR=34						
ZALV				Rg	Rg	08 40 33.8	
	90nm,1.0s,baz=324,slow=42,SNR=18						
KURBB	Kurchatov Arra	5.16	220	Pn	Pn	08 41 14.5	+0.3
	0.1nm,0.3s,baz=41,slow=13,SNR=5.5						
KURBB				Sn	Sn	08 42 13.9	-0.5
	0.1nm,0.3s,baz=38,slow=26,SNR=4.4						
KURBB				Lg	Lg	08 42 42.6	
	0.1nm,0.3s,baz=43,slow=32,SNR=12						
	0.3nm,0.3s						
MKAR	Makanchi Array	7.96	187	Pn	Pn	08 41 53.3	+0.6
	0.1nm,0.3s,baz=9.2,slow=11,SNR=2.9						
MKAR				Lg	Lg	08 44 07.1	
	0.1nm,0.3s,baz=3.9,slow=24,SNR=5.4						
	0.1nm,0.3s						
BVAR	Borovoye Array	8.07	264	Pn	Pn	08 41 52.8	-1.4
	0.1nm,0.3s,baz=60,slow=15,SNR=8.2						
	0.9nm,0.2s						

GCG 15 08:47:22.4±0.9, 13°.94N×89°.74W, h1km±12km, MD3.7
CATAC 15 08:47:22.2±0.6, 14°N±2°×9°0W±°, h9km±1km, M3.0/7, MLv3.0/7, Error ellipse: s-maj=7.3km s-min=3.5km az=67.1, confirmed
SNET 15 08:47:22.4±1.0, 13°.91N×89°.73W, h3km±4km, ML2.3, ML2.7

ISC 15 08:47:23.3±1.1, 13°.92N±0°.03×89°.77W±0°.05, h14km±6km, n49, σ0°75/51, 1C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLOZ	Alcaldia de Sa	0.11	354	⇓iP	Pg	08 47 26.1	-0.4
SLOZ				IAML		08 47 26.3	
	comp=Z,2μm,0.2s						
SLOZ				eS	Sg	08 47 27.7	-1.1
SLOZ	Alcaldia de Sa	0.11	354	IAML		08 47 38.8	
	comp=Z,3μm,0.6s						
SLOZ	Alcaldia de Sa	0.11	354	P	Pg	08 47 26.1	-0.4
SLOZ	Alcaldia de Sa	0.11	354	S	Sb	08 47 29.2	-0.6
SLOZ	Alcaldia de Sa	0.11	354	eP	Pb	08 47 28.2	+1.0
SLOZ	Alcaldia de Sa	0.11	354	eS	Sb	08 47 29.1	-0.6
SBLS	San Blas	0.17	119	eP	Pg	08 47 26.3	-1.2
SBLS				eP	Pg	08 47 26.3	-1.2
SBLS				eS	Sg	08 47 28.5	-1.8
SBLS				IAML		08 47 30.7	
	comp=Z,543nm,0.2s						
SBLS	San Blas	0.17	119	eS	Sb	08 47 31.4	-0.2
SBLS	San Blas	0.17	119	eP	Pb	08 47 29.5	+1.2
SNJE	San Jose	0.17	108	⇑iP	Pg	08 47 26.6	-0.9
SNJE	San Jose	0.17	108	IAML		08 47 38.9	
	comp=Z,674nm,0.6s						
SNJE	San Jose	0.17	108	eP	Pb	08 47 29.6	+1.3
CEVE	Cerro Verde	0.17	123	eP	Pg	08 47 26.6	-0.9
CEVE	Cerro Verde	0.17	123	eP	Pb	08 47 29.6	+1.3
CEVE	Cerro Verde	0.17	123	P	Pg	08 47 26.5	-1.0
CEVE	Cerro Verde	0.17	123	S	Sb	08 47 31.3	-0.4
UNIC	Universidad Ca	0.23	74	IAML		08 47 34.6	
	comp=Z,486nm,0.2s						
UNIC	Universidad Ca	0.23	74	P	Pg	08 47 27.5	-0.8
UNIC	Universidad Ca	0.23	74	S	Sb	08 47 32.7	-0.4
UNIC	Universidad Ca	0.23	74	eP	Pb	08 47

ZARC S **Sn** **08 56 13.3 -0.8**
NORC Norcasia 2.19 235 P **Pn** **08 55 51.1 -0.4**
NORC S **Sn** **08 56 18.5 -2.0**
CHIC Chingaza 2.29 197 P **Pn** **08 55 53.3 +0.2**
CHIC S **Sn** **08 56 22.7 -0.7**
ROSC El Rosal 2.34 212 **Pn** **08 55 55.0 +1.3**
ROSC Sn **Sn** **08 56 23.8 -0.6**
ROSC El Rosal 2.34 212 P **Pn** **08 55 55.2 +1.5**
231nm,0.4s,baz=125,slow=23,SNR=180
ROSC S **Sn** **08 56 24.4 0.0**
939nm,0.4s,baz=131,slow=17,SNR=19
ROSC El Rosal 2.34 212 P **Pn** **08 55 55.0 +1.3**
ROSC S **Sn** **08 56 23.8 -0.6**
CVER Cruz Verde, Cu 2.51 203 P **Pn** **08 55 56.6 +0.8**
CVER S **Sn** **08 56 28.2 +0.1**
UREC San Jos de Ur 2.60 290 P **Pn** **08 55 55.2 -1.2**
UREC S **Sn** **08 56 29.0 -0.3**
PTGC Puerto Gaitan, 2.79 160 P **Pn** **08 55 58.0 -0.7**
PTGC S **Sn** **08 56 31.3 -2.2**
GUY2C Guyana, Caldas 2.79 235 P **Pn** **08 56 00.0 +0.8**
GUY2C S **Sn** **08 56 32.7 -1.5**
NIZA Niza - Manizal 2.97 233 P **Pn** **08 56 05.1 +3.8**
NIZA S **Sn** **08 56 41.7 +3.7**
CBOC Ciudad Bolivar 3.08 252 P **Pn** **08 56 02.9 +0.4**
CBOC S **Sn** **08 56 39.4 -0.8**
DBBC Dabeiba 3.12 273 P **Pn** **08 56 02.6 -0.3**
DBBC S **Sn** **08 56 38.7 -2.2**
SDV Santo Domingo 3.16 50 P **Pn** **08 56 04.8 +1.3**
124nm,0.3s,baz=168,slow=2.8,SNR=338
SDV S **Sn** **08 56 41.7 -0.3**
68nm,0.4s,baz=250,slow=20,SNR=12
SDV Santo Domingo 3.16 50 P **Pn** **08 56 04.7 +1.2**
SDV S **Sn** **08 56 41.7 -0.3**
ARGC Ariguani, Magd 3.21 339 P **Pn** **08 56 05.4 +1.4**
ARGC S **Sn** **08 56 43.7 +0.7**
ANIL Santa Ana 3.29 225 P **Pn** **08 56 06.7 +1.3**
ANIL S **Sn** **08 56 46.0 +0.7**
PRAC Prado 3.59 210 P **Pn** **08 56 08.9 -0.1**
PRAC S **Sn** **08 56 50.5 -1.4**
APAC Apartado, Choc 3.63 287 P **Pn** **08 56 09.2 -0.2**
APAC S **Sn** **08 56 50.0 -2.6**
SJCC San Jacinto, C 3.68 326 P **Pn** **08 56 08.9 -1.2**
SJCC S **Sn** **08 56 50.7 -3.2**
URMC La Uribe, Meta 3.80 200 P **Pn** **08 56 12.1 +0.4**
URMC S **Sn** **08 56 55.4 -1.4**
LCBC Los crdobas, 3.83 302 P **Pn** **08 56 11.9 -0.1**
LCBC S **Sn** **08 56 57.5 +0.3**
CRJC Cerrejon, Guaj 4.15 3 P **Pn** **08 56 15.6 -0.7**
CRJC S **Sn** **08 57 02.4 -2.6**
GUVC San Jose del G 4.29 174 P **Pn** **08 56 17.3 -0.8**
GUVC S **Sn** **08 57 05.7 -2.4**
YOTC Yotoco, Valle 4.32 229 P **Pn** **08 56 17.9 -0.6**
YOTC S **Sn** **08 57 09.2 +0.3**
SOLC Bahia Solano 4.35 262 P **Pn** **08 56 20.5 +1.7**
SOLC S **Sn** **08 57 07.7 -1.7**
SMRC Santa Marta, M 4.44 345 **Pn** **08 56 19.8 -0.2**
SMRC Santa Marta, M 4.44 345 P **Pn** **08 56 19.9 -0.1**
SMRC S **Sn** **08 57 08.7 -2.8**
CAPC Capurgana 4.60 293 P **Pn** **08 56 23.5 +1.5**
CAPC S **Sn** **08 57 10.7 -4.5**
PIZC Pizarro, Choco 4.66 247 P **Pn** **08 56 24.5 +1.7**
PIZC S **Sn** **08 57 16.3 -0.2**
MACC Macarena, Meta 4.73 189 P **Pn** **08 56 22.2 -1.6**
MACC S **Sn** **08 57 13.4 -5.0**
BETC Betania 4.76 210 P **Pn** **08 56 22.9 -1.3**
BETC S **Sn** **08 57 15.7 -3.5**
URIC Uribia, Colomb 4.94 12 P **Pn** **08 56 25.7 -0.9**
URIC S **Sn** **08 57 20.5 -2.9**
GARC Garzon, Huila 5.22 208 P **Pn** **08 56 29.4 -1.0**
GARC S **Sn** **08 57 26.3 -4.0**
BAUV El Baul 5.40 67 **Pn** **08 56 31.4 -1.2**
BAUV Sn **Sn** **08 57 30.8 -3.5**
POPC Popayan, Colom 5.58 220 P **Pn** **08 56 34.9 -0.4**
15nm,0.6s
POPC S **Sn** **08 57 36.4 -2.5**
15nm,0.6s
FLOC Florencia 5.83 206 **Pn** **08 56 37.8 -0.5**
FLOC Florencia 5.83 206 P **Pn** **08 56 37.8 -0.5**
FLOC S **Sn** **08 57 43.2 -1.2**
OTAV Otavalo 8.48 219 **Pn** **08 57 14.2 +0.2**
PCRV Puerto La Cruz 8.98 68 P **Pn** **08 57 21.1 +0.8**
6.3nm,0.7s,baz=288,slow=4.4,SNR=9.7
STH Stony Hill 11.74 342 *eP* **Pn** **08 57 59.4 +2.7**
MTDJ Mount Denham 12.12 339 *eP* **Pn** **08 58 03.9 +2.2**
JTS Las Juntas de 12.23 287 P **Pn** **08 58 06.1 +2.9**
1.8nm,0.4s,baz=290,slow=19,SNR=4.0
PDPR Patillas Dam, 13.06 31 Pn **Pn** **08 58 12.7 -1.0**
GTMV Guantanamo Bay 13.15 352 *eP* **P** **08 58 17.8 -1.4**
EMPR Esperanza - Ma 13.20 28 Pn **Pn** **08 58 12.9 -2.6**
BOAV Boa Vista 13.27 109 Pn **Pn** **08 58 15.3 -1.0**
RCC Rio Carpintero 13.32 349 *eP* **Pn** **08 58 19.3 +2.4**
PINC Pinares de May 13.82 349 *eP* **P** **08 58 25.9 -0.7**
CZSB Cruzeiro do Su 14.48 179 **Pn** **08 58 32.0 +0.4**
SAML Samuel 18.53 148 P **P** **08 59 18.4 -0.2**
LPAZ La Paz 23.50 168 P **P** **09 00 09.9 -0.6**
LPAZ La Paz 23.50 168 P **P** **09 00 09.4 -1.2**
0.8nm,0.6s,baz=329,slow=11,SNR=3.1
0.8nm,0.6s
656A Willston 24.12 339 P **P** **09 00 13.5 -1.9**
WHAR Wooly Hollow 33.37 331 P **P** **09 01 38.4 +1.0**
HNDO Hondo 33.44 316 P **P** **09 01 37.2 -1.0**
LCAR Lake Charles 33.47 333 P **P** **09 01 37.5 -0.8**
LCAR IAmb IAmb 09 01 39.8
comp=Z,5.1nm,1.1s
T42A Van Buren 34.24 334 P **P** **09 01 44.4 -0.5**
T42A IAmb IAmb 09 01 46.5
comp=Z,2.8nm,0.7s
KSPA Keystone Colle 34.65 356 P **P** **09 01 47.9 -0.6**
CCM Cathedral Cave 35.17 335 P **P** **09 01 54.2 +1.2**
SFIN Lafayette 35.68 341 P **P** **09 01 58.7 +1.5**
SGCY Sterling City 36.15 317 P **P** **09 02 00.7 -0.8**
SGCY IAmb IAmb 09 02 10.9
comp=Z,3.4nm,0.6s
TXAR Lajitas Array 36.48 312 P **P** **09 02 05.4 +1.1**
TXAR Lajitas Array 36.48 312 P **P** **09 02 05.2 +0.8**
comp=Z,0.4nm,0.4s,baz=126,slow=8.8,SNR=12
comp=Z,0.4nm,0.4s
TX31 Lajitas Ar. Si 36.48 312 P **P** **09 02 05.6 +1.2**
P38A Dawn 37.47 334 P **P** **09 02 11.1 -1.3**
JFWS Jewell Farm 38.99 340 P **P** **09 02 25.7 +0.6**
E46A Sault Ste Mari 40.55 348 P **P** **09 02 39.5 +1.6**
BATG Bathurst New B 40.73 7 P **P** **09 02 41.0 +1.6**
ECSD EROS Data Cent 42.15 334 P **P** **09 02 51.4 +0.4**
ECSD IAmb IAmb 09 02 56.4
comp=Z,6.9nm,1.4s
EYMN Ely 43.86 342 P **P** **09 03 05.1 +0.3**
EYMN IAmb IAmb 09 03 05.3
comp=Z,3.3nm,0.6s
EPLO Experimental L 46.08 341 P **P** **09 03 23.0 +0.8**
EPLO IAmb IAmb 09 03 55.5
comp=Z,3.6nm,1.1s
ULM Lac du Bonnet 47.28 340 P **P** **09 03 30.7 -0.8**
ULM IAmb IAmb 09 03 32.8
comp=Z,6.6nm,1.4s
ULM Lac du Bonnet 47.28 340 P **P** **09 03 30.9 -0.6**
comp=Z,2.5nm,0.5s,baz=160,slow=5.7,SNR=3.2
comp=Z,2.5nm,0.5s
PDAR Pinedale Array 48.09 324 P **P** **09 03 38.2 0.0**
comp=Z,0.3nm,0.5s,baz=132,slow=6.6,SNR=2.9
comp=Z,0.3nm,0.5s
DGMT Dagmar 49.15 333 P **P** **09 03 46.3 +0.4**
DGMT IAmb IAmb 09 04 19.9
comp=Z,4.4nm,0.8s
BLKN Baker Lake 59.67 349 P **P** **09 05 00.9 -0.5**
BLKN IAmb IAmb 09 05 01.9
comp=Z,2.9nm,0.8s
YKAW1 Yellowknife Wh 63.21 340 P **P** **09 05 25.5 +0.2**
YKAW1 IAmb IAmb 09 05 41.8
comp=Z,3.1nm,1.5s
YKA Yellowknife Ar 63.26 340 P **P** **09 05 25.8 +0.1**
comp=Z,0.8nm,0.6s,baz=136,slow=6.5,SNR=35
comp=Z,0.8nm,0.6s
YKAW3 Yellowknife Wh 63.31 340 P **P** **09 05 26.4 +0.4**
YKAW3 IAmb IAmb 09 06 06.2
comp=Z,5.1nm,1.4s
O30N Mendenhall 71.08 332 P **P** **09 06 16.5 +1.5**
O30N IAmb IAmb 09 06 39.0
comp=Z,5.4nm,1.3s
M30M Minto, Yukon 72.03 334 P **P** **09 06 22.0 +1.3**
M30M IAmb IAmb 09 06 27.9
comp=Z,3.2nm,1.2s
A36M Sachs Harbour 72.42 345 P **P** **09 06 23.4 +0.6**
A36M IAmb IAmb 09 06 23.8
comp=Z,2.4nm,0.7s
G31M Satah River 72.70 339 P **P** **09 06 25.7 +1.3**
G31M IAmb IAmb 09 06 44.6
comp=Z,6.2nm,1.4s
F31M Tsiigehtchic 72.73 339 P **P** **09 06 25.5 +0.8**
F31M IAmb IAmb 09 07 01.3
comp=Z,5.5nm,1.5s
I30M Mount Dempster 72.82 337 P **P** **09 06 26.0 +0.5**
F30M Barrier River 73.52 339 P **P** **09 06 30.3 +1.0**
F30M IAmb IAmb 09 06 32.3
comp=Z,6.3nm,1.5s
H29M Whitestone 73.95 337 P **P** **09 06 32.8 +0.9**
G29M Pine Creek 74.06 338 P **P** **09 06 33.3 +0.7**
G29M IAmb IAmb 09 06 36.9
comp=Z,6.2nm,1.4s
E29M Blow River 74.55 340 P **P** **09 06 36.1 +0.8**
E28M Babbage River 75.19 340 P **P** **09 06 39.3 +0.3**
DOT Dot Lake 75.51 334 P **P** **09 06 41.8 +0.9**
E27K Coleen River 75.78 339 P **P** **09 06 43.3 +0.9**
SUA Susitna One 78.13 331 P **P** **09 06 56.7 +0.9**
C24K Franklin Bluff 78.64 340 P **P** **09 06 59.6 +1.4**
C24K IAmb IAmb 09 07 15.5
comp=Z,3.6nm,1.2s
PPLA Purkeypile 78.98 333 P **P** **09 07 01.1 +0.7**
M20K Styx River 79.31 332 P **P** **09 07 02.4 +0.2**
M20K IAmb IAmb 09 07 18.3
comp=Z,3.9nm,1.4s
J20K Nowinta River 79.98 334 P **P** **09 07 06.4 +0.8**
L19K White Mountain 80.15 332 P **P** **09 07 06.9 +0.3**
L19K IAmb IAmb 09 07 25.8
comp=Z,4.6nm,1.4s
O18K Koktuh Hills 80.17 330 P **P** **09 07 07.2 +0.4**
B22K Teshekpuk Lake 80.34 340 P **P** **09 07 08.7 +1.2**
N18K Kilae Creek 80.55 330 P **P** **09 07 08.7 -0.1**
N18K IAmb IAmb 09 07 20.6
comp=Z,2.8nm,1.1s
B21K Ikpikpuk River 80.67 339 P **P** **09 07 10.2 +1.0**
B21K IAmb IAmb 09 07 15.2
comp=Z,4.1nm,1.3s
D19K Kuna River 81.86 338 P **P** **09 07 16.8 +1.3**
D19K IAmb IAmb 09 07 48.7
comp=Z,6.7nm,1.4s
ASAR Alice Springs 149.16 234 PKPbc **PKPbc** **09 14 43.9 -1.1**
comp=Z,0.7nm,0.7s,baz=112,slow=3.3,SNR=9.2
WRA Warramunga Arr 150.39 241 PKPbc **PKPbc** **09 14 47.1 -0.9**
comp=Z,0.5nm,0.4s,baz=108,slow=2.6,SNR=15

---

*IDC **15** 09:13:24.4±30.0, 6°.43N×124°.57E, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=506.0km s-min=121.4km az=158.0*
*NEIC **15** 09:13:58.5±0.3, 4°.6N±0°.1×125°.5E±0°.1, h146km±19km, mb4.2/13, Error ellipse: s-maj=24.2km s-min=15.1km az=216.0*
*DJA **15** 09:13:59.5±0.7, 5°.N±4°.×12°.5E±°, h152km±6km, M3.6/6, MLv3.6/6*
ISC 15 09:13:57.7±2.7, 4°.6N±0°.3×125°.5E±0°.1, h150km, n25, σ0.94/26, mb4.1/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.94**	**180**	P	**Pn**	**09 14 23.2**	**+1.1**
SGSI				S	**Sn**	**09 14 42.5**	**+1.8**
TNTI	**Ternate**	**4.25**	**154**	Pn	**Pn**	**09 15 00.7**	**-0.6**
TNTI	**Ternate**	**4.25**	**154**	P	**Pn**	**09 15 02.0**	**+0.7**
TOLI2	**Tolitoli**	**5.90**	**234**	Pn	**Pn**	**09 15 23.2**	**+0.1**
MYLDM	**Lahad Datu**	**7.03**	**275**	Pn	**Pn**	**09 15 38.8**	**+0.6**
JAGI	**Jajag, Banyuwa**	**17.27**	**221**	P	**P**	**09 17 49.2**	**0.0**
JAGI				IAmb	IAmb	09 18 11.4	
comp=Z,40nm,1.5s							
MTN	**Manton Dam**	**18.23**	**162**	P	**P**	**09 17 59.4**	**-0.2**
KNRA	**Kununurra**	**20.43**	**171**	P	**P**	**09 18 22.9**	**-0.5**
KNRA				IAmb	IAmb	09 18 23.4	
comp=Z,6.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**22.59**	**180**	P	**P**	**09 18 45.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**22.59**	**180**	P	**P**	**09 18 45.3**	**-0.5**
comp=Z,1.4nm,0.3s,baz=355,slow=7.5,SNR=16							
comp=Z,1.4nm,0.3s							
WB0	**Warramunga Arr**	**25.77**	**161**	P	**P**	**09 19 14.2**	**-0.6**
WB0				IAmb	IAmb	09 19 14.7	
comp=Z,7.6nm,1.2s							
WRAB	**Tennant Creek**	**25.91**	**161**	P	**P**	**09 19 15.5**	**-0.5**
WRAB				IAmb	IAmb	09 19 44.4	
comp=Z,8.2nm,1.5s							
WRA	**Warramunga Arr**	**25.91**	**161**	P	**P**	**09 19 13.5**	**-2.6**
WRA	**Warramunga Arr**	**25.91**	**161**	P	**P**	**09 19 15.3**	**-0.7**
comp=Z,1.0nm,0.5s,baz=339,slow=9.3,SNR=15							
comp=Z,1.0nm,0.5s							
WB2	**Warramunga Arr**	**25.92**	**161**	P	**P**	**09 19 15.5**	**-0.6**
WB2				IAmb	IAmb	09 19 31.5	
comp=Z,11nm,1.5s							
WR8	**Warramunga Arr**	**25.98**	**160**	P	**P**	**09 19 15.9**	**-0.8**
WR8				IAmb	IAmb	09 19 56.9	
comp=Z,8.8nm,1.4s							
WR0	**Warramunga Arr**	**26.00**	**160**	P	**P**	**09 19 16.3**	**-0.5**
WR0				IAmb	IAmb	09 19 21.8	
comp=Z,8.5nm,1.4s							
PSA00	**Pilbara Seismi**	**26.64**	**192**	P	**P**	**09 19 20.9**	**-1.6**
AS31	**Alice Springs**	**29.29**	**164**	P	**P**	**09 19 45.8**	**-0.4**
ASAR	**Alice Springs**	**29.29**	**164**	P	**P**	**09 19 45.0**	**-1.2**
ASAR	**Alice Springs**	**29.29**	**164**	P	**P**	**09 19 45.8**	**-0.4**
comp=Z,0.6nm,0.4s,baz=340,slow=6.8,SNR=23							
comp=Z,0.6nm,0.4s							
FORT	**Forrest**	**35.30**	**176**	P	**P**	**09 20 38.0**	**-0.4**
BBOO	**Buckleboo**	**38.56**	**166**	P	**P**	**09 21 05.9**	**0.0**
STKA	**Stephens Creek**	**39.40**	**158**	P	**P**	**09 21 13.3**	**+0.3**
STKA	**Stephens Creek**	**39.40**	**158**	P	**P**	**09 21 13.7**	**+0.7**
comp=Z,2.5nm,0.7s,baz=320,slow=10,SNR=5.3							
comp=Z,2.5nm,0.7s							

---

*ASRS **15** 09:17:58.0±1.2, 54°.66N×83°.59E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 09:17:59.2±1.7, 54°.71N×83°.75E, h0km, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=16.0km s-min=10.2km az=14.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**140**	I	I	09 23 40.0	
0.2nm,0.8s,baz=319,slow=319,SNR=0.7							
ZALV	**Zalesovo Beam**	**0.99**	**140**	Pg	Pg	09 18 17.6	-0.5
3.3nm,0.3s,baz=321,slow=18,SNR=16							
ZALV				Lg	Lg	09 18 33.6	
5.2nm,0.3s,baz=322,slow=35,SNR=12							
KURBB	**Kurchatov Arra**	**5.18**	**220**	Pn	Pn	09 19 17.7	-0.2
0.1nm,0.3s,baz=40,slow=14,SNR=6.1							
KURBB				Lg	Lg	09 20 46.4	
0.1nm,0.3s,baz=38,slow=27,SNR=6.3							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**7.98**	**187**	Pn	Pn	09 19 54.7	-1.7
0.2nm,0.3s,baz=13,slow=11,SNR=5.3							
MKAR				Lg	Lg	09 22 14.8	
0.1nm,0.3s,baz=14,slow=30,SNR=6.3							
0.2nm,0.4s							
BVAR	**Borovoye Array**	**8.08**	**263**	Pn	Pn	09 19 57.7	0.0
0.1nm,0.3s,baz=66,slow=13,SNR=5.7							
1.1nm,0.4s							

IDC 15 09:26:00.1±2.1, 21°.68S×179°.67W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=165.0km s-min=33.0km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.88**	**245**	P	P	09 33 00.9	-1.0
0.9nm,0.5s,baz=104,slow=8.3,SNR=3.6							
0.9nm,0.5s							
ASAR	**Alice Springs**	**42.74**	**258**	P	P	09 33 59.5	0.0
1.0nm,0.5s,baz=100,slow=8.2,SNR=13							
1.0nm,0.5s							
WRA	**Warramunga Arr**	**42.91**	**264**	P	P	09 34 01.1	+0.3
1.2nm,0.4s,baz=96,slow=8.1,SNR=61							
1.2nm,0.4s							
TXAR	**Lajitas Array**	**89.00**	**58**	P	P	09 38 57.3	0.0
0.3nm,0.8s,baz=241,slow=5.5,SNR=4.1							
0.3nm,0.8s							

---

*GCG **15** 09:26:38.5±0.8, 13°.92N×89°.71W, h3km±5km, MD4.4, ML2.8, MW3.7*
*SNET **15** 09:26:39.0±1.5, 13°.94N×89°.66W, h4km, ML3.6*
*CATAC **15** 09:26:39.3±0.2, 14°.N±2°.×9°.0W±°, h9km±1km, M3.6/8, MLv3.6/8, Error ellipse: s-maj=4.2km s-min=2.1km az=35.7, confirmed*
ISC 15 09:26:40.4±0.9, 13°.92N±0°.03×89°.66W±0°.02, h8km±5km, n66, σ0.94/74, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJE	**San Jose**	**0.07**	**137**	*eP*	**Pg**	**09 26 42.2**	**-0.4**
SBLS	**San Blas**	**0.09**	**158**	*eP*	**Pg**	**09 26 42.0**	**-0.8**
CEVE	**Cerro Verde**	**0.10**	**161**	*eP*	**Pg**	**09 26 42.3**	**-0.6**
CEVE	**Cerro Verde**	**0.10**	**161**	P	**Pg**	**09 26 42.5**	**-0.4**
CEVE	**Cerro Verde**	**0.10**	**161**	S	**Sg**	**09 26 46.6**	**+2.0**
UNIC	**Universidad Ca**	**0.12**	**60**	*eP*	**Pg**	**09 26 43.2**	**0.0**
UNIC				IAML		09 26 47.1	
comp=Z,3μm,0.4s							
UNIC	**Universidad Ca**	**0.12**	**60**	P	**Pg**	**09 26 43.3**	**+0.2**
UNIC	**Universidad Ca**	**0.12**	**60**	S	**Sg**	**09 26 47.2**	**+2.2**
SLOZ	**Alcaldia de Sa**	**0.16**	**310**	*eP*	**Pg**	**09 26 41.8**	**-2.0**
SLOZ				*eS*	**Sg**	**09 26 44.6**	**-1.5**
SLOZ				IAML		09 26 52.8	
comp=Z,17μm,0.6s							
SLOZ	**Alcaldia de Sa**	**0.16**	**310**	P	**Pg**	**09 26 42.0**	**-1.8**
SLOZ	**Alcaldia de Sa**	**0.16**	**310**	S	**Sg**	**09 26 46.3**	**+0.2**
CEDA	**San Andres**	**0.28**	**115**	P	**Pg**	**09 26 45.9**	**0.0**
CEDA	**San Andres**	**0.28**	**115**	S	**Sb**	**09 26 52.3**	**-0.3**
JAYA	**Jayaque - finc**	**0.33**	**143**	*i* P	**Pg**	**09 26 46.4**	**-0.6**
JAYA	**Jayaque - finc**	**0.33**	**143**	P	**Pg**	**09 26 46.6**	**-0.4**
JAYA	**Jayaque - finc**	**0.33**	**143**	S	**Sb**	**09 26 53.7**	**-0.6**
PMON	**Piamonte**	**0.39**	**122**	P	**Pg**	**09 26 48.2**	**+0.1**
PMON	**Piamonte**	**0.39**	**122**	S	**Sb**	**09 26 55.7**	**-0.3**
ITCA	**Escuela Especi**	**0.44**	**124**	P	**Pg**	**09 26 48.9**	**-0.1**
ITCA	**Escuela Especi**	**0.44**	**124**	S	**Sb**	**09 26 57.1**	**-0.3**
SEMO	**Seminario San**	**0.47**	**117**	P	**Pg**	**09 26 49.5**	**-0.1**
SEMO	**Seminario San**	**0.47**	**117**	S	**Sb**	**09 26 58.1**	**-0.2**
UTEC	**Universidad Te**	**0.49**	**116**	P	**Pg**	**09 26 50.2**	**+0.2**
UTEC	**Universidad Te**	**0.49**	**116**	S	**Sb**	**09 26 58.9**	**0.0**
UDBS	**Universidad Do**	**0.53**	**113**	P	**Pg**	**09 26 50.7**	**0.0**
UDBS	**Universidad Do**	**0.53**	**113**	S	**Sb**	**09 26 59.9**	**0.0**
LALI	**Alcalda de L**	**0.54**	**143**	*i* P	**Pg**	**09 26 50.1**	**-0.7**
LALI				*eS*	**Sb**	**09 26 59.1**	**-1.0**
LALI	**Alcalda de L**	**0.54**	**143**	P	**Pg**	**09 26 50.7**	**-0.2**
LOMA	**Loma Larga**	**0.55**	**120**	P	**Pg**	**09 26 50.8**	**-0.2**
LOMA	**Loma Larga**	**0.55**	**120**	S	**Sb**	**09 27 00.3**	**-0.1**
MTO3	**Montecristo**	**0.56**	**31**	*eP*	**Pg**	**09 26 50.7**	**-0.5**
MTO3				IAML		09 27 00.3	
comp=Z,530nm,0.5s							
MTO3	**Montecristo**	**0.56**	**31**	P	**Pg**	**09 26 50.7**	**-0.5**
ESQI	**Esquipulas**	**0.70**	**26**	P	**Pg**	**09 26 53.5**	**-0.6**
ESQI	**Esquipulas**	**0.70**	**26**	S	**Sb**	**09 27 04.2**	**-0.8**
PAVA	**Las Pavas**	**0.73**	**106**	P	**Pg**	**09 26 54.6**	**+0.1**
PAVA	**Las Pavas**	**0.73**	**106**	S	**Sb**	**09 27 05.8**	**+0.1**
LLGN	**La Laguna**	**0.73**	**71**	P	**Pg**	**09 26 54.4**	**-0.1**
LLGN	**La Laguna**	**0.73**	**71**	S	**Sb**	**09 27 05.8**	**+0.1**
COEG	**Centro de Oper**	**0.81**	**112**	P	**Pg**	**09 26 56.1**	**0.0**
COEG	**Centro de Oper**	**0.81**	**112**	S	**Sb**	**09 27 08.6**	**+0.6**
UESV	**Universidad de**	**0.89**	**108**	P	**Pb**	**09 26 57.7**	**-0.5**
UESV	**Universidad de**	**0.89**	**108**	S	**Sb**	**09 27 11.4**	**+1.1**
SCLA	**Alcaldia de Sa**	**0.93**	**103**	P	**Pg**	**09 26 58.1**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.93**	**103**	S	**Sb**	**09 27 12.5**	**+1.2**
TECO	**Alcaldia de Te**	**0.93**	**114**	P	**Pb**	**09 26 58.3**	**-0.5**
TECO	**Alcaldia de Te**	**0.93**	**114**	S	**Sn**	**09 27 13.1**	**-0.3**
FG8	**Yepocapa, Chim**	**0.94**	**291**	*eP*	**Pn**	**09 27 02.7**	**+2.6**
PQSS	**Presa 15 de Se**	**1.10**	**105**	P	**Pg**	**09 27 01.0**	**-0.6**
ALJI	**Alcalda de J**	**1.21**	**119**	P	**Pg**	**09 27 02.5**	**-1.1**
ALJI	**Alcalda de J**	**1.21**	**119**	S	**Sg**	**09 27 19.5**	**+0.2**
PACA	**Pacayal**	**1.37**	**109**	P	**Pn**	**09 27 04.6**	**-1.4**
RANC	**El Ranchito**	**1.42**	**110**	P	**Pn**	**09 27 05.5**	**-1.1**
RANC	**El Ranchito**	**1.42**	**110**	S	**Sb**	**09 27 24.8**	**-0.7**
MARCA	**Marcala la Paz**	**1.59**	**81**	*eP*	**Pn**	**09 27 08.5**	**-0.5**
MARCA				*eS*	**Sg**	**09 27 32.0**	**+0.4**
STG0	**El Palmar, Qui**	**1.71**	**287**	*eP*	**Pg**	**09 27 13.4**	**+0.2**
STG0				*eS*	**Sg**	**09 27 39.3**	**+3.8**
LCND	**La Caada**	**1.82**	**109**	P	**Pn**	**09 27 11.5**	**-0.6**
LCND	**La Caada**	**1.82**	**109**	S	**Sn**	**09 27 35.8**	**+0.4**
CNCH	**Conchagua**	**1.89**	**110**	P	**Pn**	**09 27 12.3**	**-0.8**
CNCH	**Conchagua**	**1.89**	**110**	S	**Sn**	**09 27 37.3**	**+0.2**
CSGN	**Cosiguina Volc**	**2.25**	**114**	P	**Pn**	**09 27 17.3**	**-0.7**
CSGN				S	**Sn**	**09 27 46.5**	**+0.5**
POTN	**Potosi Cosigui**	**2.28**	**113**	P	**Pn**	**09 27 17.7**	**-0.7**
POTN				S	**Sn**	**09 27 47.0**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.32**	**86**	P	**Pn**	**09 27 18.4**	**-0.7**
TGUH				S	**Sn**	**09 27 48.8**	**+1.0**
POLN	**Al Sur del Vol**	**3.04**	**114**	P	**Pn**	**09 27 28.1**	**-0.8**
POLN				S	**Sn**	**09 28 06.6**	**+1.0**
RCVN	**Varillal2**	**3.38**	**95**	P	**Pn**	**09 27 32.8**	**-0.9**
RCVN	**Varillal2**	**3.38**	**95**	S	**Sn**	**09 28 14.4**	**+0.2**
COPN	**Copaltepe**	**3.45**	**120**	P	**Pn**	**09 27 33.6**	**-1.0**

---

*NEIC **15** 09:32:45.2±1.5, 18°.25N±0°.06×67°.37W±0°.04, h33km±4km, ML2.7/26, Md2.7/15(RSPR), Error ellipse: s-maj=9.3km s-min=4.4km az=192.0*
*OSPL **15** 09:32:45.2±0.3, 18°.25N×67°.47W, h19km±1km, ML2.5*
*RSPR **15** 09:32:45.7, 18°.24N×67°.43W, h10km±1km, MD2.7/15*
ISC 15 09:32:42.4±1.2, 18°.15N±0°.05×67°.46W±0°.02, h12km±9km, n52, σ1.10/59, 10C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRSN	**Puerto Rico Se**	**0.30**	**78**		**Pn**	**09 32 51.5**	**-1.1**
PRSN					**Sb**	**09 32 56.7**	**+2.0**
PRSN	**Puerto Rico Se**	**0.30**	**78**	IAML		09 32 57.5	
comp=E,2μm,0.1s							
PRSN				IAML		09 32 59.5	
comp=N,3μm,0.2s							
PRSN	**Puerto Rico Se**	**0.30**	**78**	↑*eP*	**Pn**	**09 32 51.5**	**-1.1**
PRSN	**Puerto Rico Se**	**0.30**	**78**	*eS*	**Sb**	**09 32 56.7**	**+2.0**
CRPR	**Cabo Rojo, PR**	**0.36**	**114**		**Pn**	**09 32 53.1**	**-0.3**
CRPR					**Sb**	**09 32 59.3**	**+3.0**
CRPR	**Cabo Rojo, PR**	**0.36**	**114**	IAML		09 33 01.1	
comp=E,301nm,0.2s							
CRPR				IAML		09 33 01.3	
comp=N,226nm,0.2s							
CRPR	**Cabo Rojo, PR**	**0.36**	**114**	↑*eP*	**Pn**	**09 32 53.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.36**	**114**	*i* P	**Pn**	**09 32 53.1**	**-0.3**
CRPR				*eS*	**Sb**	**09 32 59.0**	**+2.7**
CRPR				IAML		09 33 00.9	
comp=Z,414nm,0.1s							
MLPR	**Magueyes Islan**	**0.43**	**115**	↑*eP*	**Pn**	**09 32 54.0**	**-0.4**
MLPR	**Magueyes Islan**	**0.43**	**115**	*eS*	**Sb**	**09 33 01.3**	**+2.9**
AGPR	**Aguadilla, PR**	**0.45**	**46**		**Pb**	**09 32 52.8**	**+0.5**
AGPR					**Sg**	**09 32 58.9**	**+1.4**
AGPR	**

comp=N,194nm,1.2s
PCDR Punta Cana, DR 0.95 292⇑ eP Pn 09 33 01.1 -0.4
PCDR Punta Cana, DR 0.95 292 eS Sn 09 33 15.2 +0.2
PCDR Punta Cana, DR 0.95 292 i P Pn 09 33 01.2 -0.4
PCDR IAML 09 33 17.7
comp=Z,145nm,1.1s
ECPR Experimental S 1.05 81⇑ eP Pn 09 33 02.7 -0.2
ECPR Experimental S 1.05 81 eS Sb 09 33 16.8 +0.5
SJG San Juan 1.24 92 i P Pg 09 33 06.3 0.0
SJG eS **Sn 09 33 21.9 -0.3**
SJG IAML 09 33 30.6
comp=Z,43nm,0.3s
IGPR InterUniversit 1.30 98 Pg 09 33 06.8 -0.5
IGPR **Sb 09 33 22.5 -0.8**
IGPR InterUniversit 1.30 98 IAML 09 33 28.6
comp=E,107nm,0.3s
IGPR IAML 09 33 32.0
comp=N,72nm,0.2s
IGPR InterUniversit 1.30 98⇑ eP Pg 09 33 06.8 -0.5
IGPR InterUniversit 1.30 98 eS Sb 09 33 22.5 -0.8
GCPR Guaynabo City 1.31 83 Pg 09 33 06.6 -1.1
GCPR **Sb 09 33 23.6 -0.2**
GCPR Guaynabo City 1.31 83 IAML 09 33 25.5
comp=N,65nm,0.3s
GCPR Guaynabo City 1.31 83⇓ eP Pg 09 33 06.6 -1.1
GCPR Guaynabo City 1.31 83 eS Sb 09 33 23.6 -0.2
PDPR Patillas Dam, 1.37 95 Pg 09 33 08.6 -0.2
PDPR IAML 09 33 28.1
comp=E,51nm,0.1s
PDPR IAML 09 33 30.5
comp=N,50nm,0.1s
PDPR Patillas Dam, 1.37 95⇑ eP Pg 09 33 08.1 -0.7
PDPR Patillas Dam, 1.37 95 eS Sg 09 33 25.8 -0.7
DR12 Loma Pena Alta 1.93 289 Pn **Pg 09 33 17.8 -1.7**
BANI BANI 2.77 275 Pn **Pb 09 33 30.8 -1.1**
SDDR Presa de Saban 3.73 283 Pn **Pn 09 33 42.2 +2.4**
SDDR IAML 09 34 42.0
comp=N,25nm,3.0s
SDDR IAML 09 36 14.1
comp=N,28nm,2.9s

TRN 15 09:35:56.0, 14.89N×60.44W, h40km, MD4.0, 2C-1D, East of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**0.44**	**254**	eP	Pn	09 36 07.3	+1.3
ILAM				eS	Sn	09 36 14.9	+2.0
SVN	**Savane Anatole**	**0.71**	**266**	eP	Pn	09 36 11.2	+1.5
SVN				eS	Sn	09 36 21.7	+2.3
BIM	**Bigot**	**0.72**	**239**	eP	Pn	09 36 11.2	+1.4
BIM				eS	Sn	09 36 21.9	+2.3
DLPL	**La Plaine**	**0.90**	**299**	eP	Pn	09 36 13.5	+1.4
DLPL				eS	Sn	09 36 26.1	+2.2
DRTD	**Roseau, Domini**	**1.00**	**294**	eP	Pn	09 36 15.3	+1.8
DRTD				eS	Sn	09 36 29.3	+2.9
SLBI	**Saint Lucia, B**	**1.01**	**211**	⇓ iP	Pn	09 36 14.9	+1.2
SLBI				eS	Sn	09 36 27.9	+1.2
MDN	**Morne-Daniel**	**1.01**	**295**	eP	Pn	09 36 15.5	+1.7
MDN				eS	Sn	09 36 30.0	+3.2
DWS	**Wesley**	**1.08**	**309**	eP	Pn	09 36 15.4	+0.8
DWS				eS	Sn	09 36 29.8	+1.4
SLAC	**Saint Lucia, A**	**1.08**	**204**	eP	Pn	09 36 15.9	+1.1
SLAC				eS	Sn	09 36 30.1	+1.5
DSLB	**Salisbury**	**1.09**	**300**	⇑ iP	Pn	09 36 16.3	+1.4
DSLB				eS	Sn	09 36 30.6	+1.8
TBG	**Guadaloupe-3**	**1.51**	**309**	⇑ iP	Pn	09 36 21.5	+1.0
TBG				eS	Sn	09 36 39.7	+0.7
SVB	**Belmont**	**1.79**	**206**	eP	Pn	09 36 26.2	+1.7
SVB				eS	Sn	09 36 47.1	+0.9
SVT	**Saint Vincent**	**1.88**	**205**	eP	Pn	09 36 26.8	+1.1
SVT				eS	Sn	09 36 48.8	+0.6
SVOC	**Richmond Hill,**	**1.89**	**204**	eP	Pn	09 36 26.8	+1.0
SVOC				eS	Sn	09 36 47.9	-0.5
ANBD	**Bethesda, Anti**	**2.50**	**329**	eP	Pn	09 36 35.1	+1.0
ANBD				eS	Sn	09 37 04.5	+1.2
MBWH		**2.50**	**318**	eS	Sn	09 37 05.0	+1.6
MBFL	**Flemmings, Mon**	**2.52**	**317**	eP	Pn	09 36 36.2	+1.7
GCMP	**Grenada, Carri**	**2.58**	**202**	eP	Pn	09 36 36.9	+1.6
GCMP				eS	Sn	09 37 06.4	+1.0
GRSS	**Sisters**	**2.82**	**204**	eP	Pn	09 36 40.5	+1.9
GRSS				eS	Sn	09 37 13.2	+1.8
GRW	**Mount Saint Ca**	**2.97**	**204**	eP	Pn	09 36 43.2	+2.5
GRW				eS	Sn	09 37 16.2	+1.1
GRGR	**Grenville**	**2.99**	**203**	eP	Pn	09 36 43.3	+2.4
GRGR				eS	Sn	09 37 17.7	+2.1
ANWB	**Willy Bob**	**3.05**	**335**	eP	Pn	09 36 44.1	+2.3
ANWB				eS	Sn	09 37 18.8	+1.8
GRFF	**Grenada Fort F**	**3.10**	**204**	eP	Pn	09 36 43.9	+1.5
GRFF				eS	Sn	09 37 20.0	+1.8
SKI	**Saint Kitts**	**3.28**	**318**	eP	Pn	09 36 47.4	+2.4
SKI				eS	Sn	09 37 24.9	+2.0
TRN	**Trinidad (W)**	**4.32**	**193**	eP	Pn	09 37 01.2	+1.9
BAUV	**El Baul**	**9.50**	**232**	eP	Pn	09 38 11.2	+0.8
BAUV				eS	Sn	09 39 51.1	-4.8

*NEIC **15** 09:40:16.4±1.8, 34.03N±0.01×97.42W±0.02, h6km±5km, Error ellipse: s-maj=2.5km s-min=1.6km az=89.0*
NEIC 15 09:40:16.4±1.6, 34.03N±0.01×97.39W±0.02, h8km±5km, mb_Lg2.6/78, ML2.4/12, ML2.8/16, Error ellipse: s-maj=2.5km s-min=1.7km az=89.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X34A	**Smith Ranch, M**	**0.68**	**327**		Pg	09 40 29.5	+0.1
X34A					Sb	09 40 39.5	-0.5
X34A				IAML		09 40 43.9	
comp=E,398nm,1.1s							
Z35A	**Perchaven, San**	**0.71**	**171**		Pg	09 40 30.3	+0.3
Z35A					Sb	09 40 40.2	-0.7
Z35A				IAML		09 40 41.6	
comp=E,311nm,0.2s							
WTFS	**Witchita Falls**	**0.93**	**254**		Pg	09 40 33.7	-0.6
WTFS					Sg	09 40 46.2	-0.3
FW06	**Azle**	**1.07**	**188**		Pb	09 40 37.0	-0.1
FW06					Sn	09 40 52.3	-0.4
FW03	**Perrin-Whitt E**	**1.14**	**210**		Pg	09 40 36.8	-1.4
FW03					Sb	09 40 53.5	+0.1
FW03				IAML		09 41 01.5	
comp=E,238nm,0.3s							
FW03				IAML		09 41 04.4	
comp=E,257nm,0.2s							
FW05	**UT at Dallas**	**1.17**	**153**		Pg	09 40 37.1	-1.7
W35A	**Tecumseh**	**1.20**	**21**		Pb	09 40 38.5	-0.8
W35A					Sb	09 40 55.1	+0.1
W35A				IAML		09 41 00.3	
comp=E,218nm,0.5s							
W35A				IAML		09 41 00.3	
comp=N,222nm,0.4s							
FNO	**Franklin**	**1.22**	**359**		Pb	09 40 38.7	-1.1
FNO					Sg	09 40 55.0	-0.7
FNO				IAML		09 41 02.5	
comp=E,173nm,0.2s							
WMOK	**Wichita Mounta**	**1.35**	**302**		Pn	09 40 39.2	-2.4
WMOK	**Wichita Mounta**	**1.35**	**302**	IAmb_Lg		09 41 00.9	
comp=Z,26nm,0.7s							
FW07	**Weatherford**	**1.37**	**194**		Pn	09 40 41.2	-0.6
FW07					Sg	09 41 01.3	+1.0
FW01	**Dallas Executi**	**1.41**	**162**		Pn	09 40 41.7	-0.7
FW01					Sn	09 41 01.2	0.0
PLPT	**Palo Pinto**	**1.44**	**213**		Pn	09 40 42.8	0.0
PLPT					Sg	09 41 03.6	+0.9
FW16	**Waxahatchie**	**1.60**	**165**	IAmb_Lg		09 41 10.4	
comp=Z,44nm,0.8s							
FW14	**Alvarado**	**1.64**	**174**		Pn	09 40 44.5	-1.0
FW13	**Cleburne**	**1.68**	**181**		Pb	09 40 47.8	+0.3
OK029	**Liberty Lake**	**1.76**	**358**		Pn	09 40 48.0	+0.8
OK029					Sb	09 41 11.4	+0.2
CSTR	**Hydro, Custer**	**1.93**	**327**		Pb	09 40 51.4	-0.5
CSTR					Sg	09 41 18.2	-0.3
DEOK	**Depew**	**1.95**	**22**		Pn	09 40 50.9	+1.1
DEOK					Sb	09 41 16.7	0.0
OK052	**Battle Ridge R**	**2.02**	**14**		Pb	09 40 52.0	-1.3
OK052					Sb	09 41 18.5	-0.1
WHTX	**Lake Whitney,**	**2.04**	**182**		Pb	09 40 53.8	+0.2
WHTX					Sb	09 41 19.5	+0.4
Z38A	**Mt. Pleasant**	**2.15**	**110**	Pn	Pn	09 40 53.3	+0.8
QUOK	**Quay**	**2.21**	**14**		Pn	09 40 54.9	+1.6
QUOK					Sb	09 41 23.1	-0.9
TUL3	**Leonard**	**2.29**	**35**		Pn	09 40 55.6	+1.2
TUL3					Sb	09 41 25.2	-1.1
TUL3				IAmb_Lg		09 41 34.8	
comp=Z,24nm,0.9s							
ABTX	**Abilene, Hawle**	**2.35**	**234**	Pn	Pn	09 40 57.2	+1.8
ABTX				IAmb_Lg		09 41 37.0	
comp=Z,26nm,0.8s							
APMT	**Aspermont**	**2.39**	**254**		Pn	09 40 57.0	+1.2
APMT				IAmb_Lg		09 41 33.4	
comp=Z,20nm,0.7s							
OK048	**Pawnee Station**	**2.41**	**9**		Pn	09 40 57.0	+0.9
237A	**Washetta, Mont**	**2.42**	**146**	Pn	Pn	09 40 57.7	+1.5
237A				IAmb_Lg		09 41 33.5	
comp=Z,20nm,0.8s							
OK051	**E0350 and S346**	**2.51**	**10**		Pn	09 40 58.6	+1.1
OK051					Sb	09 41 32.5	-0.2
OK051				IAmb_Lg		09 41 39.2	
comp=Z,15nm,1.0s							
CROK	**Carrier**	**2.52**	**349**	IAmb_Lg		09 41 36.6	
comp=Z,32nm,0.7s							
SMWD	**Samnorwood**	**2.59**	**295**		Pb	09 41 00.9	-2.2
SMWD					Sb	09 41 35.3	+0.2
ELIS	**Ellis County**	**2.62**	**321**	IAmb_Lg		09 41 40.6	
comp=Z,28nm,0.8s							
NOKA	**Waynoka**	**2.89**	**335**	IAmb_Lg		09 41 46.7	
comp=Z,16nm,0.8s							
DKNS	**Dickens**	**2.96**	**264**		Pn	09 41 06.0	+2.2
DKNS				IAmb_Lg		09 41 56.0	
comp=Z,32nm,0.7s							
T35A	**Sooner Cattle**	**2.96**	**14**	Pn	Pn	09 41 04.7	+0.9
T35A				IAmb_Lg		09 41 51.8	
comp=Z,22nm,1.1s							
BRDY	**Brady**	**3.06**	**207**		Pn	09 41 05.5	+0.4
BRDY				IAmb_Lg		09 41 59.9	
comp=Z,33nm,0.8s							
MIAR	**Mount Ida**	**3.20**	**80**		Pn	09 41 09.6	+2.6
MIAR				IAmb_Lg		09 41 58.4	
comp=Z,12nm,0.7s							
U38A	**Gravette**	**3.44**	**45**		Pn	09 41 11.1	+0.8
U38A				IAmb_Lg		09 42 11.0	
comp=Z,11nm,0.7s							
WLAR	**White Oak Lake**	**3.57**	**94**	IAmb_Lg		09 42 18.3	
comp=Z,12nm,0.9s							
HHAR	**Hobbs**	**3.61**	**51**		Pn	09 41 13.2	+0.6
SGCY	**Sterling City**	**3.79**	**237**	IAmb_Lg		09 42 20.8	
comp=Z,16nm,0.8s							
Z41A	**Richland Creek**	**3.90**	**100**	IAmb_Lg		09 42 29.1	
comp=Z,18nm,0.9s							
JCT	**Junction City**	**4.09**	**211**	IAmb_Lg		09 42 31.5	
comp=Z,18nm,0.7s							
WHAR	**Wooly Hollow**	**4.39**	**72**	IAmb_Lg		09 42 45.1	
comp=Z,9.7nm,0.9s							
OZNA	**Ozona**	**4.43**	**227**		Pn	09 41 24.1	+0.1
OZNA				IAmb_Lg		09 42 45.7	
comp=Z,13nm,0.9s							
R32A	**Long Quarter,**	**4.51**	**347**	IAmb_Lg		09 42 42.4	
comp=Z,17nm,0.8s							
ODSA	**Odessa**	**4.73**	**248**	IAmb_Lg		09 42 44.1	
comp=Z,8.8nm,0.9s							
HNDO	**Hondo**	**4.77**	**200**		Pn	09 41 28.7	+0.1
CBKS	**Cedar Bluff**	**5.13**	**339**	IAmb_Lg		09 43 05.5	
comp=Z,12nm,0.8s							
MGMO	**Mountain Grove**	**5.21**	**52**	IAmb_Lg		09 43 07.5	
comp=Z,6.9nm,0.8s							
MNHN	**Mohanns**	**5.27**	**241**	IAmb_Lg		09 43 07.7	
comp=Z,13nm,0.7s							
DRIO	**Del Rio**	**5.36**	**212**	IAmb_Lg		09 43 10.3	
comp=Z,8.0nm,0.8s							
SAND	**Sanderson**	**5.72**	**226**	IAmb_Lg		09 43 33.6	
comp=Z,8.2nm,0.7s							
R40A	**Maddies Statio**	**5.93**	**43**	IAmb_Lg		09 43 27.6	
comp=Z,8.0nm,1.0s							
PECS	**Pecos**	**6.07**	**246**	IAmb_Lg		09 43 32.8	
comp=Z,9.4nm,0.9s							
CCM	**Cathedral Cave**	**6.39**	**49**	IAmb_Lg		09 43 38.1	
comp=Z,8.2nm,1.0s							
ALPN	**Alpine**	**6.43**	**237**	IAmb_Lg		09 43 52.5	
comp=Z,10nm,1.0s							
KSCO	**Kaye Shedlock'**	**6.52**	**321**	IAmb_Lg		09 43 55.6	
comp=Z,7.5nm,0.9s							
MNTX	**Cornudas Mount**	**7.12**	**253**	IAmb_Lg		09 44 03.5	
comp=Z,12nm,1.0s							
Q24A	**Divide**	**7.95**	**310**	IAmb_Lg		09 44 41.3	
comp=Z,7.1nm,0.9s							

IDC 15 09:48:08.7±2.3, 5.50S×130.19E, h0km, mb3.5/1, mbtmp3.5/4, ML3.6/3, MS3.2/2, Error ellipse: s-maj=89.4km s-min=29.4km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.29**	**199**	Pn	Pn	09 51 19.5	+0.7
0.2nm,0.3s,baz=24,slow=9.8,SNR=10.0							
0.6nm,0.3s							
WRA	**Warramunga Arr**	**14.91**	**165**	Pn	Pn	09 51 41.7	+0.7
0.2nm,0.3s,baz=344,slow=9.4,SNR=13							
0.2nm,0.4s							
ASAR	**Alice Springs**	**18.41**	**169**	P	Pn	09 52 24.6	-1.1
0.4nm,0.3s,baz=346,slow=10,SNR=37							
1.0nm,0.4s							
MSVF	**Nonsavu**	**48.29**	**109**	LR	LR	10 17 00.5	
comp=Z,43nm,18.3s,baz=113,slow=36							
MKAR	**Makanchi Array**	**67.09**	**326**	P	P	09 59 04.2	+0.1
0.3nm,0.5s,baz=115,slow=7.4,SNR=3.7							
0.3nm,0.5s							
YAK	**Yakutsk**	**67.34**	**360**	LR	LR	10 26 36.2	
comp=Z,11nm,21.8s,baz=219,slow=34							

*IDC **15** 09:49:56.4±2.9, 5.76S×147.59E, h91km±25km, mb4.0/12, mbtmp4.3/15, MS3.4/19, Error ellipse: s-maj=28.6km s-min=13.5km az=89.0*
*NEIC **15** 09:49:59.3±1.3, 5.86S±0.06×147.46E±0.05, h100km±7km, mb4.5/31, Error ellipse: s-maj=9.4km s-min=7.8km az=178.0*
ISC 15 09:49:58.3±0.5, 5.89S±0.05×147.38E±0.07, h100km, n100, σ1§45/88, mb4.4/24, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.50**	**184**		**Pn**	**09 50 50.2**	**-0.6**
PMG	**Port Moresby**	**3.50**	**184**	P	**Pn**	**09 50 49.9**	**-0.8**
58nm,0.3s,baz=27,slow=11,SNR=87							
PMG				S	**Sn**	**09 51 30.0**	**-1.4**
542nm,0.6s,baz=41,slow=12,SNR=5.8							
PMG				LR	LR	09 52 40.8	
comp=Z,616nm,18.2s,baz=61,slow=45							
PMG	**Port Moresby**	**3.50**	**184**	S	**Sn**	**09 51 30.6**	**-0.8**
PMG	**Port Moresby**	**3.50**	**184**	P	**Pn**	**09 50 49.8**	**-1.0**
PMG	**Port Moresby**	**3.50**	**184**	S	**Sn**	**09 51 30.7**	**-0.7**
MANU	**Manus Island**	**3.82**	**360**		**Pn**	**09 50 54.6**	**-0.5**
RABL	**Rabaul**	**5.05**	**71**		**Pn**	**09 51 10.7**	**-1.1**
JAY	**Jayapura**	**7.45**	**296**	P	**Pn**	**09 51 45.5**	**+1.1**
5.7nm,0.3s,baz=187,slow=4.4,SNR=8.9							
COEN	**Coen**	**9.02**	**207**		**Pn**	**09 52 05.6**	**-0.2**
COEN	**Coen**	**9.02**	**207**	P	**Pn**	**09 52 03.7**	**-2.1**
COEN	**Coen**	**9.02**	**207**	S	**Sn**	**09 53 42.3**	**-3.4**
MTSU	**Mount Surprise**	**12.53**	**194**	P	**Pn**	**09 52 53.0**	**-0.1**
TATA	**Tatamba Isabel**	**12.58**	**102**	P	**P**	**09 52 59.7**	**-1.5**
HNR	**Honiara**	**12.94**	**107**	LR	LR	09 57 13.1	
comp=Z,39nm,19.1s,baz=215,slow=34							
ALEG	**Aligegeo Malai**	**13.51**	**103**	P	**P**	**09 53 10.7**	**-0.9**
QIS	**Mount Isa**	**16.42**	**207**	P	**Pn**	**09 53 44.1**	**+1.2**
MTN	**Manton Dam**	**17.45**	**246**	P	**P**	**09 53 56.9**	**+1.6**
DRS	**Darwin Rock St**	**17.51**	**247**	P	**P**	**09 53 54.3**	**-1.6**
WB0	**Warramunga Arr**	**18.70**	**221**	P	**P**	**09 54 10.7**	**+1.7**
WB0				IAmb	IAmb	09 54 13.2	
comp=Z,16nm,1.1s							
WR8	**Warramunga Arr**	**18.77**	**221**	P	**P**	**09 54 11.0**	**+1.3**
WRAB	**Tennant Creek**	**18.85**	**221**		**P**	**09 54 11.5**	**+0.9**
WRAB				IAmb	IAmb	09 54 16.1	
comp=Z,23nm,1.1s							
WRA	**Warramunga Arr**	**18.86**	**221**		**P**	**09 54 11.5**	**+0.7**
WRA	**Warramunga Arr**	**18.86**	**221**	P	**P**	**09 54 12.4**	**+1.7**
comp=Z,11nm,0.7s,baz=37,slow=12,SNR=64							
WRA				S	**S**	**09 57 35.0**	**-5.2**
comp=Z,9.0nm,1.1s,baz=46,slow=20,SNR=10							
GUMO	**Guam**	**19.51**	**353**	LR	LR	10 00 17.2	
comp=Z,74nm,18.4s,baz=174,slow=32							
EIDS	**Eidsvold**	**19.69**	**170**	P	**P**	**09 54 21.2**	**+1.5**
EIDS				IAmb	IAmb	09 54 25.3	
comp=Z,30nm,0.9s							
KNRA	**Kununurra**	**20.69**	**240**		**P**	**09 54 31.7**	**+1.1**
QLP	**Quilpie**	**20.80**	**188**	P	**P**	**09 54 34.2**	**+2.6**
AS01	**Alice Springs**	**21.90**	**215**	P	**P**	**09 54 45.3**	**+1.9**
AS31	**Alice Springs**	**21.92**	**215**		**P**	**09 54 45.2**	**+1.5**
AS31				IAmb	IAmb	09 54 47.1	
comp=Z,13nm,0.3s							
ASAR	**Alice Springs**	**21.92**	**215**		**P**	**09 54 45.2**	**+1.5**
ASAR	**Alice Springs**	**21.92**	**215**	P	**P**	**09 54 45.0**	**+1.3**
comp=Z,8.4nm,0.4s,baz=46,slow=9.7,SNR=152							
ASAR				S	**S**	**09 58 36.8**	**-3.2**
comp=Z,8.6nm,1.0s,baz=34,slow=22,SNR=16							
ASAR				LR	LR	10 05 00.4	
comp=Z,70nm,18.8s,baz=309,slow=41							
comp=Z,8.4nm,0.4s							
INKA	**Innaminka**	**22.63**	**195**	P	**P**	**09 54 52.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.45**	**238**	P	**P**	**09 55 09.6**	**+1.7**
FITZ	**Fitzroy Crossi**	**24.45**	**238**	P	**P**	**09 55 09.4**	**+1.5**
comp=Z,17nm,0.3s,baz=40,slow=7.3,SNR=38							
FITZ				LR	LR	10 06 33.7	
comp=Z,115nm,20.2s,baz=25,slow=40							
comp=Z,17nm,0.3s							
OOD	**Oodnadatta**	**24.45**	**206**	P	**P**	**09 55 09.5**	**+1.6**
DZM	**Mont Dzumac**	**24.46**	**133**	P	**P**	**09 55 07.8**	**-0.4**
DZM				IAmb	IAmb	09 55 09.9	
comp=Z,33nm,1.3s							
DZM	**Mont Dzumac**	**24.46**	**133**	LR	LR	10 02 05.3	
comp=Z,92nm,20.6s,baz=27,slow=30							
ARMA	**Armidale**	**24.73**	**171**	P	**P**	**09 55 11.4**	**+0.9**
ARMA				IAmb	IAmb	09 55 14.1	
comp=Z,17nm,1.2s							
LCRK	**Leigh Creek**	**25.91**	**198**	P	**P**	**09 55 24.0**	**+2.9**
WRKA	**Warakurna**	**26.40**	**222**	P	**P**	**09 55 26.6**	**+0.9**
STKA	**Stephens Creek**	**26.42**	**191**		**P**	**09 55 26.5**	**+0.8**
STKA				IAmb	IAmb	09 55 50.5	
comp=Z,20nm,0.8s							
STKA	**Stephens Creek**	**26.42**	**191**	P	**P**	**09 55 26.1**	**+0.5**
comp=Z,1.7nm,0.4s,baz=1.5,slow=7.0,SNR=9.1							
comp=Z,1.7nm,0.4s							
STKA	**Stephens Creek**	**26.42**	**191**	P	**P**	**09 55 27.4**	**+1.7**
KAPI	**Kappang**	**27.52**	**270**	LR	LR	10 09 20.9	
comp=Z,65nm,19.1s,baz=174,slow=42							
HTT	**Hallett**	**28.51**	**195**	P	**P**	**09 55 46.7**	**+2.3**
BBOO	**Buckleboo**	**28.79**	**200**	P	**P**	**09 55 48.2**	**+1.4**
BBOO				IAmb	IAmb	09 56 10.3	
comp=Z,17nm,1.2s							
BBOO	**Buckleboo**	**28.79**	**200**	P	**P**	**09 55 49.8**	**+3.0**
CAN	**Canberra**	**29.33**	**177**	P	**P**	**09 55 52.3**	**+0.6**
CAN				IAmb	IAmb	09 56 24.8	
comp=Z,13nm,1.3s							
FORT	**Forrest**	**30.70**	**214**	P	**P**	**09 56 04.3**	**+0.6**
FORT	**Forrest**	**30.70**	**214**	P	**P**	**09 56 05.1**	**+1.3**
MBWA	**Marble Bar**	**30.79**	**238**	P	**P**	**09 56 05.9**	**+1.2**
MBWA				IAmb	IAmb	09 56 43.1	
comp=Z,10nm,1.2s							
MBWA	**Marble Bar**	**30.79**	**238**	P	**P**	**09 56 04.9**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**30.82**	**38**	T	T	10 28 33.3	
baz=220,slow=74,SNR=8.6							
H11S2	**WAKE ISLAND Hy**	**30.82**	**38**	T	T	10 28 33.4	
baz=220,slow=74,SNR=5.5							
H11S1	**WAKE ISLAND Hy**	**30.83**	**38**	T	T	10 28 34.4	
baz=220,slow=74,SNR=5.6							
PSA00	**Pilbara Seismi**	**30.87**	**237**	P	**P**	**09 56 06.5**	**+1.1**
PSA00				IAmb	IAmb	09 56 14.3	
comp=Z,12nm,1.2s							
ARPS	**Mount Arapiles**	**31.15**	**189**	P	**P**	**09 56 09.2**	**+1.6**
MEEK	**Meekatharra**	**34.31**	**230**	P	**P**	**09 56 36.8**	**+1.4**
KMBL	**Kambalda**	**34.83**	**220**	P	**P**	**09 56 41.0**	**+1.2**
GIRL	**Giralia**	**36.05**	**239**	P	**P**	**09 56 51.2**	**+0.9**
JOW	**Kunigami**	**37.42**	**331**	LR	LR	10 08 49.7	
comp=Z,63nm,20.7s,baz=51,slow=30							
MORW	**Morawa**	**37.53**	**228**	P	**P**	**09 57 04.2**	**+1.3**
MORW	**Morawa**	**37.53**	**228**	P	**P**	**09 57 03.1**	**+0.3**
KLBR	**Kellerberrin**	**37.71**	**224**	P	**P**	**09 57 05.3**	**+0.9**
BLDU	**Ballidu**	**37.88**	**226**	P	**P**	**09 57 08.2**	**+2.4**
NWAO	**Narrogin (SRO)**	**38.87**	**222**	LR	LR	10 16 22.7	
comp=Z,78nm,19.8s,baz=94,slow=41							
URZ	**Urewera**	**42.02**	**144**	LR	LR	10 12 54.3	
comp=Z,60nm,21.7s,baz=33,slow=33							
RTZ	**Ruatahuna**	**42.19**	**145**	P	**P**	**09 57 42.2**	**+0.8**
BKZ	**Black Stump Fm**	**42.29**	**146**	P	**P**	**09 57 42.6**	**+0.5**
MJAR	**Matsushiro Arr**	**43.07**	**349**	LR	LR	10 12 54.7	
comp=Z,49nm,19.1s,baz=182,slow=32							
BFZ	**Birch Farm**	**43.22**	**148**	P	**P**	**09 57 49.8**	**+0.2**
KSRS	**Korea Array**	**46.78**	**339**	P	**P**	**09 58 15.7**	**-2.0**
comp=Z,0.7nm,0.5s,baz=151,slow=7.9,SNR=2.3							
KSRS				LR	LR	10 16 59.8	
comp=Z,17nm,21.1s,baz=150,slow=35							
comp=Z,0.7nm,0.5s							
USRK	**Ussurivsk Ar.**	**51.75**	**346**	P	**P**	**09 58 56.3**	**+0.8**
PETK	**Petropavlovsk-**	**59.42**	**7**	P	**P**	**09 59 50.8**	**+0.5**
PETK	**Petropavlovsk-**	**59.42**	**7**	P	**P**	**09 59 49.0**	**-1.3**
comp=Z,0.7nm,0.5s,baz=174,slow=6.9,SNR=8.4							
comp=Z,0.7nm,0.5s							
SONM	**Songino Array**	**64.49**	**331**	P	**P**	**10 00 23.8**	**-0.7**
comp=Z,1.6nm,1.0s,baz=146,slow=2.9,SNR=6.0							
comp=Z,1.6nm,1.0s							
CASY	**Casey**	**65.46**	**195**	P	**P**	**10 00 31.6**	**+1.3**
VNDA	**Vanda**	**72.00**	**177**	P	**P**	**10 01 11.7**	**+0.9**
VNDA	**Vanda**	**72.00**	**177**	P	**P**	**10 01 10.2**	**-0.5**
comp=Z,2.0nm,0.9s,baz=317,slow=6.9,SNR=5.8							
VNDA				LR	LR	10 29 06.8	
comp=Z,30nm,20.5s,baz=266,slow=33							
comp=Z,2.0nm,0.9s							
MKAR	**Makanchi Array**	**77.65**	**320**	P	**P**	**10 01 44.5**	**+0.6**
MKAR	**Makanchi Array**	**77.65**	**320**	P	**P**	**10 01 43.0**	**-0.9**
comp=Z,0.5nm,0.4s,baz=100,slow=9.0,SNR=9.0							
comp=

CNJI	**Cibinong**	**2.02 120**	P	Pn	09 52 09.5	-0.2
CNJI			S	Sn	09 52 35.8	+0.1
MDSI	**Maura Dua**	**2.16 327**	P	Pn	09 52 11.3	-0.2
JCJI	**Jatiwangi**	**2.90 94**	P	Pn	09 52 21.3	+0.4
MNAI	**Manna**	**3.08 309**	P	Pn	09 52 23.4	+0.1
CMJI	**Cimerak**	**3.40 116**	P	Pn	09 52 27.7	+0.2
KSI	**Kapahiang**	**3.82 314**	P	Pn	09 52 33.2	+0.1
TPI	**Tanjungpandan**	**4.21 33**	P	Pn	09 52 36.8	-1.4
UGM	**Wanagama**	**5.37 108**	P	Pn	09 52 54.0	+0.2
	0.4nm57nm,1.7s					
PCJI	**Pacitan**	**6.07 108**	P	Pn	09 53 02.9	-0.3

RSNC 15 09:54:06.3±0.0, 6°N±1°×7°4W±°, h111km±2km, M2.5, mb3.8, ML2.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.62**	**49**	P	Pn	09 54 23.8	-0.6
BARC				S	Sn	09 54 38.0	0.0
RUSC	**La Rusia**	**0.63**	**117**	P	Pn	09 54 23.8	-1.0
RUSC				S	Sn	09 54 37.8	-0.8
BRJC	**Barrancabermej**	**0.79**	**353**	P	Pn	09 54 24.7	-0.9
BRJC				S	Sn	09 54 39.8	-0.3
PTBC	**PUERTO BERRIO,**	**0.88**	**294**	P	Pn	09 54 24.4	-2.0
PTBC				S	Sn	09 54 39.8	-1.7
VMM09	**Lebrija**	**1.01**	**21**	P	Pn	09 54 27.2	-0.6
VMM09				S	Sn	09 54 44.0	0.0
VMM07	**Puerto Wilches**	**1.19**	**350**	P	Pn	09 54 28.9	-0.7
VMM07				S	Sn	09 54 47.7	+0.4
NORC	**Norcasia**	**1.36**	**243**	P	Pn	09 54 29.9	-1.7
NORC				S	Sn	09 54 49.1	-1.6
EZNC	**La Esperanza**	**1.47**	**13**	P	Pn	09 54 32.2	-0.7
EZNC				S	Sn	09 54 52.8	-0.3
PAMC	**Pamplona, Colo**	**1.49**	**39**	P	Pn	09 54 32.8	-0.7
PAMC				S	Sn	09 54 53.4	-0.8
ROSC	**El Rosal**	**1.49**	**207**	P	Pn	09 54 33.6	+0.1
ROSC				S	Sn	09 54 53.1	-0.9
CHIC	**Chingaza**	**1.54**	**183**	P	Pn	09 54 32.9	-1.2
CHIC				S	Sn	09 54 54.6	-0.6
CVER	**Cruz Verde, Cu**	**1.70**	**194**	P	Pn	09 54 35.7	-0.4
CVER				S	Sn	09 54 58.5	-0.2
ZARC	**Zaragoza, Cauc**	**1.77**	**317**	P	Pn	09 54 35.3	-1.2
ZARC				S	Sn	09 54 58.8	-0.7
TAMC	**Tame, Arauca**	**1.86**	**82**	P	Pn	09 54 36.7	-1.0
TAMC				S	Sn	09 54 59.2	-2.4
GUY2C	**Guyana, Caldas**	**1.95**	**241**	P	Pn	09 54 38.8	-0.4
GUY2C				S	Sn	09 55 04.4	+0.1
OCAC	**Ocana**	**2.07**	**9**	P	Pn	09 54 39.1	-1.3
OCAC				S	Sn	09 55 05.8	-0.7
AGCC	**Aguachica**	**2.32**	**2**	P	Pn	09 54 41.9	-1.6
AGCC				S	Sn	09 55 11.6	-0.4
CBOC	**Ciudad Bolivar**	**2.37**	**263**	P	Pn	09 54 43.7	-0.5
CBOC				S	Sn	09 55 13.0	-0.3
ANIL	**Santa Ana**	**2.42**	**226**	P	Pn	09 54 44.2	-0.8
ANIL				S	Sn	09 55 14.4	-0.3
UREC	**San Jos de Ur**	**2.44**	**310**	P	Pn	09 54 42.5	-2.5
UREC				S	Sn	09 55 11.1	-3.5
DBBC	**Dabeiba**	**2.68**	**288**	P	Pn	09 54 47.1	-1.1
DBBC				S	Sn	09 55 18.8	-1.5
PRAC	**Prado**	**2.74**	**207**	P	Pn	09 54 47.3	-1.7
PRAC				S	Sn	09 55 20.4	-1.5
URMC	**La Uribe, Meta**	**3.00**	**194**	P	Pn	09 54 51.3	-1.2
URMC				S	Sn	09 55 27.7	-0.4
APAC	**Apartado, Choc**	**3.37**	**301**	P	Pn	09 54 55.8	-1.5
YOTC	**Yotoco, Valle**	**3.46**	**231**	P	Pn	09 54 56.4	-2.2
ARGC	**Ariguani, Magd**	**3.70**	**351**	P	Pn	09 55 01.1	-0.6
SJCC	**San Jacinto, C**	**3.99**	**338**	P	Pn	09 55 02.6	-3.0
SJCC				S	Sn	09 55 48.0	-3.6
MACC	**Macarena, Meta**	**4.01**	**183**	P	Pn	09 55 02.7	-3.2
MACC				S	Sn	09 55 47.1	-5.0
SDV	**Santo Domingo**	**4.02**	**48**	P	Pn	09 55 04.8	-1.4
SDV				S	Sn	09 55 50.9	-1.6
GARC	**Garzon, Huila**	**4.37**	**205**	P	Pn	09 55 08.8	-2.1
GARC				S	Sn	09 55 58.2	-2.9
CRJC	**Cerrejon, Guaj**	**4.87**	**9**	P	Pn	09 55 16.1	-1.4
CRJC				S	Sn	09 56 11.7	-1.1
URIC	**Uribia, Colomb**	**5.73**	**16**	P	Pn	09 55 27.1	-1.9
URIC				S	Sn	09 56 30.7	-2.7

*HEL **15** 10:07:48.9±0.2, 64°.73N×30°.72E, h0km, ML1.9, Suspected explosion*
*IDC **15** 10:07:50.2±3.0, 64°.71N×30°.88E, h0km, mbtmp2.9/3, ML1.8/3, Error ellipse: s-maj=44.6km s-min=10.2km az=103.0*
*KOLA **15** 10:07:52.7, 64°.87N×30°.43E, h0km, ML2.0, Karelia*
ISC 15 10:07:47.4±0.9, 64°.77N±0°.03×30°.81E±0°.04, h0km, n31, σ1°29/46, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.67**	**215**	PG	**Pg**	**10 08 00.4**	**+0.1**
	baz=30						
RMF				MSG		10 08 08.6	
	comp=Z,21nm,0.2s						
RMF				SG	**Sg**	**10 08 08.7**	**-0.3**
KU1	**Kurvinen**	**0.96**	**327**	PG	**Pb**	**10 08 06.4**	**-0.4**
KU6	**Riekki**	**1.32**	**343**	PG	**Pn**	**10 08 13.2**	**+0.2**
	baz=163						
KU6				MSG		10 08 29.3	
	comp=Z,6.9nm,0.2s						
KU6				SB	**Sn**	**10 08 31.0**	**-0.3**
MSF	**Maaselka**	**1.36**	**328**	PG	**Pg**	**10 08 13.6**	**+0.1**
	baz=152						
MSF				SG	**Sb**	**10 08 31.8**	**0.0**
KU2	**Taivalkoski**	**1.44**	**312**	PG	**Pg**	**10 08 15.0**	**+0.1**
	baz=128						
JOF	**Joensuu**	**1.87**	**173**	PG	**Pn**	**10 08 21.6**	**+1.0**
JOF				SN	**Sb**	**10 08 47.3**	**+0.9**
NIF	**Nilsia**	**1.91**	**225**	PG	**Pn**	**10 08 22.4**	**+1.2**
	baz=40						
RANF	**Ranua**	**2.10**	**308**	PG	**Pb**	**10 08 26.2**	**0.0**
	baz=128						
RANF				SG	**Sb**	**10 08 52.5**	**-0.3**
KVDA	**Kovda**	**2.11**	**23**	P	**Pg**	**10 08 28.1**	**+0.4**
KVDA				S	**Sb**	**10 08 54.2**	**+1.1**
OUL	**Oulu**	**2.12**	**281**	PG	**Pb**	**10 08 26.0**	**-0.6**
OUL				SG	**Sb**	**10 08 52.6**	**-0.8**
OBF4	**Vikkela, Lumij**	**2.44**	**274**	PG	**Pb**	**10 08 30.9**	**-1.2**
	baz=89						
OBF4				MSG		10 09 00.2	
	comp=Z,6.9nm,0.2s						
OBF4				SG	**Sb**	**10 09 03.1**	**+0.4**
OUF	**Merijarvi**	**2.66**	**264**	PB	**Pn**	**10 08 33.6**	**+2.2**
OUF				MSG		10 09 05.9	
	comp=Z,10nm,0.2s						
OUF				SG	**Sb**	**10 09 08.5**	**-0.3**
RNF	**Rovaniemi**	**2.71**	**315**	PG	**Pb**	**10 08 37.5**	**+0.8**
RNF				SG	**Sg**	**10 09 14.1**	**-0.2**
OBF0	**Syolatti, Pyha**	**2.84**	**267**	PG	**Pb**	**10 08 38.3**	**-0.6**
OBF0				MSG		10 09 11.3	
	comp=Z,4.0nm,0.2s						
OBF0				SG	**Sb**	**10 09 15.5**	**+1.3**
SUF	**Sumiainen**	**2.92**	**227**	PB	**Pb**	**10 08 38.5**	**-1.8**
SUF				MSG		10 09 13.4	
	comp=Z,2.2nm,0.2s						
SUF				SG	**Sb**	**10 09 16.4**	**-0.1**
APA0	**Apatity Array**	**2.98**	**16**	P	**Pb**	**10 08 40.7**	**-0.6**
APA0				S	**Sb**	**10 09 17.9**	**-0.3**
TOF	**Tornio**	**3.01**	**299**	MSG		10 09 17.0	
	comp=Z,1.8nm,0.2s						
TOF				SG	**Sb**	**10 09 19.2**	**+0.1**
VRF	**Varrio**	**3.03**	**351**	PB	**Pn**	**10 08 39.4**	**+2.9**
VRF				MSG		10 09 18.8	
	comp=Z,2.0nm,0.2s						
VRF				SG	**Sg**	**10 09 23.2**	**-1.3**
LVZ	**Lovozero**	**3.50**	**25**	SB	**Sb**	**10 09 32.2**	**-1.0**
KLF	**Kolari**	**3.73**	**315**	PB	**Pb**	**10 08 50.9**	**-3.2**
RAJF	**Raja-Jooseppi**	**3.85**	**346**	PN	**Pn**	**10 08 50.4**	**+2.6**
FIA0	**FINESS Array S**	**3.97**	**215**	PB	**Pb**	**10 08 55.7**	**-2.5**
FINES	**FINESS Array B**	**3.97**	**215**	Pn	**Pn**	**10 08 50.8**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=2.0						
FINES				Lg	Lg	10 09 53.1	
	comp=Z,0.6nm,0.3s,baz=27,slow=28,SNR=7.0						
	comp=Z,1.7nm,0.9s						
VAF	**Ylistaro**	**3.99**	**248**	PG	**Pb**	**10 09 00.4**	**+1.9**
BURU	**Burvik**	**4.06**	**272**	PN	**Pn**	**10 08 52.0**	**+1.4**
HEF	**Hetta**	**4.63**	**325**	PN	**Pn**	**10 08 59.0**	**+0.5**
ARCES	**ARCESS Array B**	**5.21**	**339**	Pn	**Pn**	**10 09 07.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=156,slow=13,SNR=9.7						
ARCES				Sn	**Sn**	**10 10 06.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=157,slow=24,SNR=1.4						
ARCES				Lg	Lg	10 10 27.6	
	comp=Z,0.2nm,0.3s,baz=157,slow=30,SNR=5.3						
	comp=Z,1.7nm,0.9s						
ARCES	**ARCESS Array B**	**5.21**	**339**	P	**Pn**	**10 09 07.9**	**+1.4**
ARCES				S	**Sn**	**10 10 05.0**	**-2.2**
VADS	**Vadso**	**5.40**	**355**	S	**Sn**	**10 10 10.7**	**-1.1**
I37NO	**I37NO**	**6.45**	**317**	I	I	10 50 40.0	
	baz=127,slow=327,SNR=4.9						
HFS	**Hagfors**	**9.18**	**247**	Pn	**Pn**	**10 10 01.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=65,slow=14,SNR=1.8						
	comp=Z,0.7nm,0.7s						

IDC 15 10:13:45.0±1.6, 5°.25S×151°.59E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=94.1km s-min=30.1km az=137.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.25**	**227**	P	P	10 18 44.4	+0.7
	0.9nm,0.4s,baz=52,slow=9.8,SNR=15						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**25.01**	**221**	P	P	10 19 10.9	+0.1
	0.8nm,0.7s,baz=58,slow=8.9,SNR=16						
	0.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.38**	**241**	P	P	10 19 40.4	-0.9
	2.2nm,0.7s,baz=66,slow=10,SNR=6.3						
	2.2nm,0.7s						
NVAR	**Mina Array Bea**	**93.31**	**52**	P	P	10 27 02.5	0.0
	0.5nm,0.7s,baz=252,slow=5.9,SNR=4.3						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.29**	**287**	PKPbc	PKPbc	10 33 36.5	-0.4
	1.6nm,0.6s,baz=54,slow=3.4,SNR=1.4						

*IDC **15** 10:33:57.4±1.3, 1°.70S×122°.82E, h0km, mb3.7/5, mbtmp3.8/6, ML3.8/1, MS2.7/3, Error ellipse: s-maj=49.7km s-min=20.3km az=56.0*
*DJA **15** 10:34:00.5±0.2, 2°.5±2°×12°.3E±°, h10km, M4.1/15, mb4.2/1, MLv4.0/15*
ISC 15 10:33:59.8±0.8, 1°.89S±0°.04×122°.61E±0°.05, h10km, n20, σ1°20/22, mb3.8/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.85**	**11**	P	**Pg**	**10 34 15.0**	**-1.3**
LUWI				S	**Sb**	**10 34 28.9**	**+0.6**
KDI	**Kendari**	**2.06**	**180**	P	**Pn**	**10 34 34.7**	**+0.3**
KMSI	**Cibinong**	**2.80**	**29**	P	**Pn**	**10 34 46.4**	**+1.7**
KMSI				S	**Sn**	**10 35 20.3**	**+1.7**
PCI	**Palu**	**2.94**	**289**	P	**Pn**	**10 34 48.0**	**+1.3**
SANI	**Sanana**	**3.38**	**93**	P	**Pn**	**10 34 52.6**	**0.0**
MPSI	**Mapaga**	**3.50**	**309**	P	**Pn**	**10 34 54.8**	**+0.5**
SPSI	**Sidrap Palu**	**3.51**	**234**	P	**Pn**	**10 34 55.6**	**+1.1**
SPSI				S	**Sn**	**10 35 37.2**	**+1.1**
BNSI	**Bone**	**3.54**	**225**	P	**Pn**	**10 34 55.5**	**+0.7**
BBSI	**Bau Bau**	**3.58**	**181**	P	**Pn**	**10 34 56.7**	**+1.3**
KAPI	**Kappang**	**4.22**	**223**	Pn	**Pn**	**10 35 06.0**	**+1.8**
	4.8nm,0.3s,baz=21,slow=3.0,SNR=14						
KAPI				Sn	**Sn**	**10 35 54.7**	**+1.1**
	9.3nm,0.3s,baz=20,slow=22,SNR=8.5						
KAPI				LR	LR	10 36 46.5	
	comp=Z,38nm,20.3s,baz=328,slow=38						
	14nm,0.3s						
BKSI	**Bulukumba**	**4.22**	**216**	P	**Pn**	**10 35 05.0**	**+0.8**
NLAI	**Namlea**	**4.68**	**107**	P	**Pn**	**10 35 12.6**	**+2.1**
BSSI	**Bau Bau, Buton**	**4.73**	**207**	P	**Pn**	**10 35 11.8**	**+0.6**
WRA	**Warramunga Arr**	**21.29**	**148**	P	**P**	**10 38 46.6**	**-0.1**
	4.5nm,0.8s,baz=333,slow=9.7,SNR=23						
	4.5nm,0.8s						
ASAR	**Alice Springs**	**24.26**	**154**	P	**P**	**10 39 17.4**	**+0.1**
	2.0nm,0.7s,baz=331,slow=8.0,SNR=29						
	2.0nm,0.7s						
KRVT	**Keravat (AS076**	**29.46**	**95**	LR	LR	10 54 23.4	
	comp=Z,6.1nm,19.0s,baz=25,slow=42						
CMAR	**Chiang Mai Arr**	**30.84**	**312**	P	**P**	**10 40 16.2**	**-0.2**
	0.8nm,0.9s,baz=137,slow=7.4,SNR=6.0						
	0.8nm,0.9s						
STKA	**Stephens Creek**	**34.79**	**151**	P	**P**	**10 40 49.8**	**-0.9**
	1.9nm,0.8s,baz=326,slow=15,SNR=3.4						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**60.02**	**329**	P	**P**	**10 44 05.5**	**-1.2**
	0.3nm,0.6s,baz=126,slow=7.3,SNR=2.4						
	0.3nm,0.6s						
RAR	**Rarotonga**	**77.77**	**111**	LR	LR	11 20 33.7	
	comp=Z,21nm,18.5s,baz=258,slow=36						

*NNC **15** 10:44:27.4±2.8, 37°.65N×71°.77E, h145km±49km, mb3.0, mpv3.7, Error ellipse: s-maj=26.0km s-min=16.9km az=10.0*
*IDC **15** 10:44:28.1±8.0, 37°.63N×71°.96E, h173km±50km, mb3.0/5, mbtmp3.7/10, MS3.3/1, Error ellipse: s-maj=78.3km s-min=32.2km az=173.0*
ISC 15 10:44:25.4±1.8, 37°.5N±0°.2×71°.8E±0°.1, h150km, n21, σ0°88/24, mb3.4/5, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.84**	**17**	P	**Pn**	**10 45 37.6**	**+0.5**
	SNR=192						
UCH	**Uchtor**	**5.15**	**23**	P	**Pn**	**10 45 42.0**	**+0.9**
	SNR=7.9						
EKS2	**Erkin-Say**	**5.37**	**15**	P	**Pn**	**10 45 45.2**	**+1.5**
	SNR=10						
AAK	**Ala-Archa**	**5.52**	**21**	P	**Pn**	**10 45 46.8**	**+1.0**
	14nm,0.3s,baz=166,slow=6.3,SNR=43						
AAK				S	**Sn**	**10 46 48.4**	**-0.3**
	11nm,0.4s,baz=129,slow=23,SNR=4.0						
AAK	**Ala-Archa**	**5.52**	**21**	P	**Pn**	**10 45 46.8**	**+1.0**
	SNR=22						
AAK	**Ala-Archa**	**5.52**	**21**	P	**Pn**	**10 45 46.3**	**+0.4**
	6.1nm,0.3s						
AAK				⇓S	**Sn**	**10 46 48.2**	**-0.4**
	24nm,0.6s						
KK31	**Karatay Array**	**5.69**	**350**	P	**Pn**	**10 45 48.7**	**+0.7**
	0.9nm,0.2s,baz=164,slow=11,SNR=42						
KK31				⇑S	**Sn**	**10 46 50.9**	**-1.5**
	17nm,0.4s,baz=174,slow=25,SNR=18						
TKM2	**Tokmak 2**	**6.13**	**27**	P	**Pn**	**10 45 54.3**	**+0.4**
	SNR=8.8						
TKM2	**Tokmak 2**	**6.13**	**27**	⇑P	**Pn**	**10 45 53.7**	**-0.2**
	6.2nm,0.7s						
TKM2				⇑S	**Sn**	**10 47 03.6**	**+0.3**
	7.0nm,0.8s						
MKAR	**Makanchi Array**	**12.09**	**37**	P	**Pn**	**10 47 12.2**	**-0.5**
	0.8nm,0.6s,baz=223,slow=15,SNR=9.2						
KURBB	**Kurchatov Arra**	**13.96**	**18**	P	**Pn**	**10 47 37.8**	**+1.1**
	0.9nm,0.5s,baz=207,slow=10,SNR=6.2						
AB31	**Akbulak array**	**14.57**	**328**	⇓P	**Pn**	**10 47 43.2**	**-1.1**
	1.6nm,0.7s,baz=161,slow=10,SNR=7.1						
AKTO	**Aktyubinsk**	**16.28**	**327**	P	**Pn**	**10 48 06.7**	**+1.3**
	1.3nm,0.3s,baz=131,slow=7.0,SNR=6.4						
AKTO	**Aktyubinsk**	**16.28**	**327**	⇓P	**Pn**	**10 48 06.7**	**+1.3**
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**18.73**	**24**	P	**P**	**10 48 32.3**	**0.0**
	2.7nm,0.4s,baz=221,slow=10,SNR=12						
BRDH	**Bariadhala**	**22.55**	**125**	LR	LR	10 59 27.0	
	comp=Z,79nm,20.2s,baz=116,slow=40						
AKASG	**Malin Array Be**	**32.86**	**307**	P	**P**	**10 50 45.2**	**+0.4**
	0.2nm,0.3s,baz=110,slow=8.5,SNR=2.1						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**37.04**	**325**	P	**P**	**10 51 20.5**	**+0.2**
	0.8nm,0.4s,baz=107,slow=8.2,SNR=1.9						
	0.8nm,0.4s						
HFS	**Hagfors**	**42.71**	**321**	P	**P**	**10 52 06.9**	**-0.3**
	0.9nm,0.5s,baz=96,slow=12,SNR=2.0						
	0.9nm,0.5s						
NOA	**NORSAR Array B**	**44.00**	**322**	P	**P**	**10 52 17.0**	**-0.6**
	0.1nm,0.5s,baz=96,slow=7.7,SNR=1.9						
	0.1nm,0.5s						
YKA	**Yellowknife Ar**	**80.22**	**3**	P	**P**	**10 56 17.9**	**-0.8**
	0.1nm,0.5s,baz=354,slow=5.6,SNR=4.9						
	0.1nm,0.5s						

*IDC **15** 10:49:51.7±3.4, 49°.79S×163°.26E, h0km, mb4.0/4, mbtmp4.0/4, MS3.4/5, Error ellipse: s-maj=240.6km s-min=42.7km az=28.0*
*NEIC **15** 10:49:53.0±1.0, 50°.3S±0°.1×162°.6E±0°.2, h10km±1km, mb4.1/8, Error ellipse: s-maj=24.0km s-min=21.1km az=214.0*
ISC 15 10:49:52.7±2.0, 50°.3S±0°.3×162°.6E±0°.1, h10km, n35, σ0°64/20, mb4.1/8, MS3.5/4, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**5.66**	**41**	Pn	**Pn**	**10 51 16.6**	**-0.2**
DCZ	**Deep Cove**	**5.70**	**34**	Pn	**Pn**	**10 51 16.8**	**-0.6**
MLZ	**Mavora Lakes**	**6.16**	**39**	Pn	**Pn**	**10 51 24.3**	**+0.6**
TAU	**Tasmania Unive**	**12.81**	**299**	Pn	**Pn**	**10 52 54.1**	**-0.7**
URZ	**Urewera**	**15.85**	**46**	LR	LR	11 00 17.6	
	comp=Z,62nm,19.0s,baz=312,slow=41						
CAN	**Canberra**	**17.92**	**321**		**Pn**	**10 54 02.4**	**+0.4**
CAN				IAmb	IAmb	10 54 04.8	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**24.11**	**312**	P	**P**	**10 55 09.1**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=142,slow=15,SNR=3.9						
STKA				LR	LR	11 03 29.3	
	comp=Z,72nm,19.6s,baz=103,slow=34						
	comp=Z,2.4nm,0.8s						
BBOO	**Buckleboo**	**26.23**	**302**	P	**P**	**10 55 27.6**	**-0.1**
AS31	**Alice Springs**	**34.69**	**309**		**P**	**10 56 43.2**	**+0.6**
AS31				IAmb	IAmb	10 56 44.0	
	comp=Z,1.4nm,0.7s						
ASAR	**Alice Springs**	**34.69**	**309**	P	**P**	**10 56 43.2**	**+0.7**
ASAR	**Alice Springs**	**34.69**	**309**	P	**P**	**10 56 43.5**	**+1.0**
	comp=Z,2.5nm,0.6s,baz=145,slow=8.3,SNR=45						
ASAR				LR	LR	11 10 48.8	
	comp=Z,68nm,18.0s,baz=260,slow=36						
	comp=Z,2.5nm,0.6s						
NWAO	**Narrogin (SRO)**	**37.43**	**280**	LR	LR	11 08 43.3	
	comp=Z,108nm,21.3s,baz=350,slow=30						
WR8	**Warramunga Arr**	**37.56**	**313**	P	**P**	**10 57 07.2**	**0.0**
WR8				IAmb	IAmb	10 57 08.0	
	comp=Z,4.7nm,0.7s						
WRA	**Warramunga Arr**	**37.65**	**313**	P	**P**	**10 57 07.2**	**-0.7**
WRA	**Warramunga Arr**	**37.65**	**313**	P	**P**	**10 57 08.0**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=144,slow=8.1,SNR=25						
	comp=Z,3.0nm,0.8s						
WRAB	**Tennant Creek**	**37.65**	**313**	P	**P**	**10 57 07.3**	**-0.6**
WRAB				IAmb	IAmb	10 57 21.4	
	comp=Z,8.8nm,1.4s						
WB0	**Warramunga Arr**	**37.77**	**313**	P	**P**	**10 57 08.9**	**0.0**
WB0				IAmb	IAmb	10 57 18.6	
	comp=Z,3.2nm,0.9s						
H01W1	**Cape Leeuwin H**	**38.13**	**275**	T	T	11 37 20.9	
	baz=130,slow=75,SNR=23						
H01W2	**Cape Leeuwin H**	**38.13**	**275**	T	T	11 37 22.0	
	baz=130,slow=75,SNR=39						
H01W3	**Cape Leeuwin H**	**38.14**	**275**	T	T	11 37 22.7	
	baz=130,slow=75,SNR=30						
FITZ	**Fitzroy Crossi**	**43.57**	**304**	P	**P**	**10 57 57.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**43.57**	**304**	LR	LR	11 15 35.8	
	comp=Z,75nm,20.9s,baz=178,slow=35						
KNRA	**Kununurra**	**44.00**	**309**	P	**P**	**10 57 59.7**	**-0.5**
H03S2	**Juan Fernandez**	**80.19**	**132**	T	T	12 30 46.9	
	baz=213,slow=74,SNR=7.9						
H03S1	**Juan Fernandez**	**80.19**	**132**	T	T	12 30 47.0	
	baz=213,slow=74,SNR=8.0						
H03S3	**Juan Fernandez**	**80.20**	**132**	T	T	12 30 50.8	
	baz=213,slow=74,SNR=9.8						
H03N3	**Juan Fernandez**	**80.50**	**132**	T	T	12 31 06.5	
	baz=217,slow=72,SNR=9.5						
H03N2	**Juan Fernandez**	**80.51**	**132**	T	T	12 31 03.5	
	baz=217,slow=72,SNR=17						
H03N1	**Juan Fernandez**	**80.52**	**132**	T	T	12 31 08.5	
	baz=217,slow=72,SNR=5.2						
H08S2	**Diego Garcia H**	**84.25**	**265**	T	T	12 34 51.6	
	baz=140,slow=76,SNR=18						
H08S1	**Diego Garcia H**	**84.26**	**265**	T	T	12 34 52.6	
	baz=140,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**84.27**	**265**	T	T	12 34 51.7	
	baz=140,slow=76,SNR=17						
CMAR	**Chiang Mai Arr**	**88.34**	**302**	P	**P**	**11 02 45.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=127,slow=4.7,SNR=2.5						
	comp=Z,0.2nm,0.3s						
ILAR	**Eielson Array**	**121.20**	**23**	PKP	**PKPdf**	**11 08 43.5**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=236,slow=1.0,SNR=4.1						
SPITS	**Spitsbergen Ar**	**149.37**	**347**	PKPbc	**PKPbc**	**11 09 39.7**	**-0.4**
	comp=Z,12nm,1.0s,baz=79,slow=4.4,SNR=5.7						

IDC 15 11:05:42.5±9.3, 7°.61N×92°.70E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=467.1km s-min=23.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**25.21**	**234**	T	T	11 37 55.1	
	baz=54,slow=75,SNR=14						
H08S2	**Diego Garcia H**	**25.21**	**233**	T	T	11 37 54.0	
	baz=54,slow=75,SNR=9.4						
H08S1	**Diego Garcia H**	**25.23**	**234**	T	T	11 37 52.9	
	baz=54,slow=75,SNR=9.2						
MKAR	**Makanchi Array**	**40.05**	**349**	P	P	11 13 19.6	+0.1
	1.2nm,0.8s,baz=160,slow=7.6,SNR=9.4						
	1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**44.47**	**347**	P	P	11 13 55.5	+0.1
	1.0nm,0.2s,baz=163,slow=6.6,SNR=5.2						
	1.0nm,0.2s						
ZALV	**Zalesovo Beam**	**46.64**	**354**	P	P	11 14 11.9	-0.7
	1.4nm,0.7s,baz=163,slow=5.3,SNR=5.1						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**49.28**	**124**	P	P	11 14 33.9	+0.3
	0.3nm,0.7s,baz=301,slow=7.5,SNR=2.1						

*TAP **15** 11:07:52.6,23°.93N×121°.57E,h9km,ML2.8,C*
ISC 15 11:07:52.9±0.8,23°.93N±0°.01×121°.58E±0°.02,h10km±4km,
n94,σ0°.48/147,1C-13D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.05**	**30**	⇓P	**Pg**	**11 07 55.0**	**0.0**
HWA				S	**Sg**	**11 07 57.0**	**+0.5**
ETM	**Tongmen**	**0.08**	**294**	⇓P	**Pg**	**11 07 55.2**	**-0.2**
ETM				S	**Sg**	**11 07 56.7**	**-0.5**
SHUL	**Shoufeng**	**0.14**	**185**	P	**Pg**	**11 07 56.6**	**+0.3**
SHUL				S	**Sg**	**11 07 59.4**	**+0.8**
TWD	**Chiawan**	**0.15**	**7**	⇓*i*P	**Pg**	**11 07 56.3**	**0.0**
TWD				S	**Sg**	**11 07 58.9**	**+0.2**
LXIB	**Xiulin Townshi**	**0.17**	**301**	⇓P	**Pg**	**11 07 56.8**	**0.0**
LXIB				S	**Sg**	**11 08 00.1**	**+0.5**
ESL	**Shilin**	**0.18**	**228**	⇓*i*P	**Pg**	**11 07 56.5**	**-0.2**
ESL				*i* S	**Sg**	**11 07 58.9**	**-0.5**
TEGC	**Jichi Village**	**0.23**	**189**	P	**Pb**	**11 07 58.5**	**-0.6**
TEGC				S	**Sg**	**11 08 02.0**	**+1.2**
ETL	**Fush Village**	**0.23**	**11**	P	**Pg**	**11 07 57.6**	**-0.1**
ETL				S	**Sg**	**11 08 01.4**	**+0.4**
NACB	**Ninganchiao**	**0.24**	**4**	P	**Pg**	**11 07 57.6**	**-0.3**
NACB	**Ninganchiao**	**0.24**	**4**	⇓P	**Pg**	**11 07 57.8**	**-0.1**
NACB				S	**Sg**	**11 08 01.3**	**+0.1**
WARBT	**Fenglin Townsh**	**0.28**	**219**	⇓P	**Pg**	**11 07 58.3**	**-0.3**
WARBT				S	**Sg**	**11 08 01.8**	**-0.5**
ETLH	**Xiulin Townshi**	**0.29**	**342**	⇓P	**Pg**	**11 07 58.9**	**+0.1**
ETLH				S	**Sg**	**11 08 03.3**	**+0.5**
EGFH	**Guangfu**	**0.30**	**208**	P	**Pg**	**11 07 58.9**	**0.0**
EGFH				S	**Sg**	**11 08 02.6**	**-0.3**
WHF	**Hehuan Shan**	**0.35**	**307**	P	**Pg**	**11 08 00.2**	**0.0**
WHF				S	**Sg**	**11 08 05.7**	**+0.8**
OWD	**Renai**	**0.37**	**274**	P	**Pg**	**11 08 00.5**	**+0.2**
OWD				S	**Sg**	**11 08 06.0**	**+0.8**
EAHA	**Aohua**	**0.42**	**21**	*e*P	**Pg**	**11 08 01.2**	**-0.1**
WUSB	**Renai**	**0.42**	**278**	*e*P	**Pg**	**11 08 01.9**	**+0.5**
WUSB				*e*S	**Sg**	**11 08 07.4**	**+0.4**
VWDT	**VWDT**	**0.44**	**246**	⇓P	**Pg**	**11 08 02.0**	**+0.5**
VWDT				*e*S	**Sg**	**11 08 07.7**	**+0.4**
FUSS	**Fushou**	**0.44**	**316**	*i* P	**Pg**	**11 08 02.0**	**+0.4**
FUSS				S	**Sb**	**11 08 08.9**	**-0.7**
HGSD	**Ruisui**	**0.46**	**198**	*e*P	**Pb**	**11 08 02.9**	**-0.2**
EHY	**Hungye**	**0.48**	**209**	P	**Pg**	**11 08 02.2**	**-0.2**
EHYH	**Wanrong**	**0.48**	**206**	*e*P	**Pg**	**11 08 02.5**	**+0.1**
EHYH				*e*S	**Sb**	**11 08 09.8**	**-0.9**
TWT	**Tachien**	**0.49**	**311**	*e*P	**Pb**	**11 08 03.3**	**-0.4**
TWT				*e*S	**Sb**	**11 08 10.0**	**-0.9**
TDCB	**Techi**	**0.50**	**310**	*e*P	**Pb**	**11 08 03.2**	**-0.6**
TDCB				*e*S	**Sg**	**11 08 09.3**	**0.0**
ENA	**Nanau**	**0.52**	**17**	*e*P	**Pg**	**11 08 02.9**	**-0.2**
NNSB	**Datong**	**0.53**	**340**	*e*P	**Pg**	**11 08 03.5**	**+0.3**
NNSB				*e*S	**Sg**	**11 08 10.4**	**+0.3**
NNS	**Nan Shan**	**0.54**	**340**	⇓P	**Pg**	**11 08 03.8**	**+0.3**
EWUT	**Wuta**	**0.54**	**20**	*e*P	**Pg**	**11 08 03.5**	**0.0**
SSLB	**Suanglung**	**0.59**	**256**	P	**Pg**	**11 08 04.2**	**+0.2**
SSLB	**Suanglung**	**0.59**	**256**	S	**Sg**	**11 08 12.5**	**+0.4**
SSLB	**Suanglung**	**0.59**	**256**	*e*P	**Pg**	**11 08 04.6**	**+0.2**
SSLB				*e*S	**Sg**	**11 08 12.1**	**0.0**
LATG	**Datong**	**0.60**	**356**	*e*P	**Pg**	**11 08 04.8**	**+0.1**
SMLT	**Sun Moon Lake**	**0.62**	**266**	P	**Pg**	**11 08 04.8**	**-0.2**
SMLT				*e*S	**Sg**	**11 08 13.2**	**0.0**
WCS	**Beigang Elemen**	**0.62**	**282**	*e*P	**Pb**	**11 08 05.9**	**0.0**
WCS				*e*S	**Sb**	**11 08 14.2**	**-0.4**
EYUL	**Yuli**	**0.63**	**202**	*e*P	**Pb**	**11 08 06.2**	**+0.2**
TWF1	**Yuli**	**0.63**	**204**	*e*P	**Pg**	**11 08 05.0**	**-0.2**
TYC	**Yuchr**	**0.66**	**268**	*e*P	**Pb**	**11 08 06.1**	**-0.4**
TYC				*e*S	**Sb**	**11 08 14.9**	**-0.8**
WHP	**Taichung City**	**0.67**	**301**	⇓P	**Pb**	**11 08 06.8**	**+0.1**
WHP				*e*S	**Sb**	**11 08 16.5**	**+0.4**
ESAO	**Su ao**	**0.69**	**21**	*e*P	**Pb**	**11 08 06.9**	**0.0**
WHYT	**Xinyi Township**	**0.70**	**251**	*e*P	**Pb**	**11 08 07.0**	**-0.2**
WHYT				*e*S	**Sb**	**11 08 16.4**	**-0.6**
EOS4	**EOS4**	**0.70**	**74**	*e*P	**Pb**	**11 08 07.4**	**+0.4**
EOS4				*e*S	**Sn**	**11 08 18.5**	**-0.7**
ENTT	**Nioudou**	**0.70**	**359**	⇓P	**Pg**	**11 08 06.8**	**+0.2**
ENTT				*e*S	**Sb**	**11 08 17.1**	**+0.1**
NDS	**Dongshan**	**0.71**	**10**	*e*P	**Pg**	**11 08 05.7**	**-1.0**
NDS				*e*S	**Sg**	**11 08 16.2**	**+0.2**
TWC	**Suao**	**0.72**	**20**	*e*P	**Pg**	**11 08 06.9**	**+0.1**
TWC				*e*S	**Sb**	**11 08 17.3**	**-0.1**
CHKH	**Chenggong**	**0.76**	**193**	*e*P	**Pb**	**11 08 08.3**	**+0.2**
CHKH				*e*S	**Sn**	**11 08 20.1**	**-1.0**
YHNB	**Yeheng**	**0.76**	**346**	P	**Pb**	**11 08 08.0**	**-0.2**
YHNB	**Yeheng**	**0.76**	**346**	*e*P	**Pb**	**11 08 08.1**	**-0.2**
YHNB				*e*S	**Sb**	**11 08 18.3**	**-0.4**
EOS3	**EOS3**	**0.76**	**62**	*e*P	**Pn**	**11 08 10.4**	**+0.8**
NSK	**Sanguang**	**0.77**	**345**	⇓P	**Pb**	**11 08 08.2**	**-0.2**
NSK				*e*S	**Sb**	**11 08 18.6**	**-0.3**
EOS2	**EOS2**	**0.77**	**51**	*e*P	**Pn**	**11 08 10.0**	**+0.3**
FULB	**Fuli**	**0.78**	**200**	*e*P	**Pb**	**11 08 08.9**	**+0.4**
WJS	**Zhushan**	**0.78**	**262**	*e*P	**Pn**	**11 08 09.7**	**-0.4**
WJS				*e*S	**Sn**	**11 08 21.6**	**-0.2**
TWE	**Neicheng**	**0.79**	**6**	*e*P	**Pg**	**11 08 08.5**	**+0.3**
TWE				*e*S	**Sb**	**11 08 20.0**	**+0.5**
NFF	**Wufeng Townshi**	**0.81**	**329**	*e*P	**Pb**	**11 08 09.4**	**+0.2**
NFF				*e*S	**Sb**	**11 08 20.2**	**0.0**
WNT	**Mingjian**	**0.82**	**266**	*e*P	**Pn**	**11 08 10.2**	**-0.3**
WNT				*e*S	**Sn**	**11 08 22.1**	**-0.5**
ALS	**Alishan**	**0.82**	**239**	*e*P	**Pb**	**11 08 09.2**	**-0.2**
ALS				*e*S	**Sb**	**11 08 21.4**	**+0.7**
FUSB	**Fushanzhiwuyua**	**0.82**	**1**	⇑P	**Pb**	**11 08 09.2**	**-0.2**
FUSB				*e*S	**Sb**	**11 08 20.2**	**-0.3**
TWQ1	**Liyutan**	**0.84**	**300**	*e*P	**Pn**	**11 08 11.4**	**+0.5**
NWLT	**Wulai**	**0.84**	**355**	*e*P	**Pb**	**11 08 09.6**	**-0.1**
NWLT				*e*S	**Sg**	**11 08 20.4**	**+0.1**
CHKT	**Chengkung**	**0.85**	**193**	*e*P	**Pg**	**11 08 09.6**	**+0.3**
CHKT				*e*S	**Sn**	**11 08 22.5**	**-1.0**
EHD	**Haiduan**	**0.85**	**204**	*e*P	**Pg**	**11 08 09.3**	**0.0**
NSTT	**Nanjuang**	**0.87**	**323**	*e*P	**Pn**	**11 08 10.7**	**-0.5**
NSTT				*e*S	**Sb**	**11 08 22.4**	**+0.6**
LIOB	**Emei**	**0.88**	**324**	*e*P	**Pn**	**11 08 11.0**	**-0.3**
LIOB				*e*S	**Sn**	**11 08 23.2**	**-0.9**
NSY	**Sanyi**	**0.89**	**303**	*e*P	**Pg**	**11 08 09.3**	**-0.8**
CHN5	**Tsauling**	**0.89**	**248**	*e*P	**Pn**	**11 08 11.3**	**-0.3**
CHN5				*e*S	**Sn**	**11 08 24.8**	**+0.3**
ELDTW	**Lidau**	**0.90**	**215**	*e*P	**Pg**	**11 08 09.9**	**-0.4**
KSHI	**Guanxi Townshi**	**0.92**	**337**	*e*P	**Pn**	**11 08 11.8**	**-0.1**
NMLH	**Miaoli**	**0.94**	**310**	*e*P	**Pn**	**11 08 12.5**	**+0.3**
WCHH	**Zhanghua**	**0.94**	**279**	*e*P	**Pn**	**11 08 12.6**	**+0.4**
WDLH	**Douliu**	**0.98**	**256**	*e*P	**Pn**	**11 08 13.3**	**+0.6**
WDLH				*e*S	**Sn**	**11 08 27.1**	**+0.5**
EDH	**Donghe**	**0.99**	**195**	*e*P	**Pg**	**11 08 11.3**	**-0.6**
EDH				*e*S	**Sn**	**11 08 26.6**	**-0.2**
WCKO	**Fanlu**	**1.02**	**241**	*e*P	**Pn**	**11 08 13.4**	**+0.2**
WCKO				*e*S	**Sn**	**11 08 28.5**	**+1.0**
STYH	**Taoyuan**	**1.06**	**224**	*e*P	**Pb**	**11 08 12.0**	**-1.2**
STYH				*e*S	**Sg**	**11 08 26.7**	**-0.3**
TIPB	**Shuangxi**	**1.06**	**12**	*e*P	**Pg**	**11 08 13.4**	**0.0**
TIPB				*e*S	**Sn**	**11 08 28.4**	**-0.3**
CHN4	**Tsaushan**	**1.07**	**238**	*e*P	**Pn**	**11 08 14.5**	**+0.5**
TPUB	**Ta-pu**	**1.07**	**234**	P	**Pn**	**11 08 14.2**	**+0.2**
TPUB	**Ta-pu**	**1.07**	**234**	S	**Sn**	**11 08 29.7**	**+0.8**
TPUB	**Ta-pu**	**1.07**	**234**	*e*P	**Pn**	**11 08 14.1**	**+0.2**
TPUB				*e*S	**Sn**	**11 08 29.6**	**+0.7**
LONT	**Longtian**	**1.10**	**202**	*e*P	**Pb**	**11 08 13.7**	**-0.4**
WTP	**Ta-pu**	**1.12**	**232**	*e*P	**Pn**	**11 08 15.2**	**+0.6**
WTP				*e*S	**Sn**	**11 08 29.6**	**-0.5**
CHY	**Chiayi**	**1.14**	**248**	*e*P	**Pn**	**11 08 16.0**	**+1.1**
CHY				*e*S	**Sn**	**11 08 31.9**	**+1.3**
SXI1	**Grass Mountain**	**1.19**	**13**	*e*P	**Pg**	**11 08 16.0**	**+0.2**
TWK	**Hsinying**	**1.20**	**237**	*e*P	**Pg**	**11 08 16.3**	**+0.3**
TWG	**Pinlang**	**1.20**	**203**	*e*P	**Pn**	**11 08 15.4**	**-0.3**
TWGBT	**Beinan**	**1.20**	**202**	P	**Pg**	**11 08 17.5**	**+1.5**
TWGBT	**Beinan**	**1.20**	**202**	*e*P	**Pn**	**11 08 15.3**	**-0.5**
YM01	**YM01**	**1.21**	**360**	*e*P	**Pg**	**11 08 16.2**	**0.0**
CHN1	**Nanshi**	**1.22**	**233**	*e*P	**Pg**	**11 08 16.7**	**+0.4**
ZUZH	**Zhuzihu**	**1.23**	**359**	*e*P	**Pn**	**11 08 16.0**	**-0.1**
SGST	**Jiashian**	**1.24**	**227**	*e*P	**Pg**	**11 08 17.0**	**+0.1**
WSL	**Shuilin Townsh**	**1.30**	**252**	*e*P	**Pg**	**11 08 18.6**	**+0.6**
ICHU	**Yijhu**	**1.32**	**245**	*e*P	**Pg**	**11 08 18.6**	**+0.4**
ECL	**Taimali**	**1.45**	**203**	*e*P	**Pb**	**11 08 19.8**	**-0.2**
EAST	**Anshuo**	**1.68**	**204**	*e*P	**Pb**	**11 08 23.6**	**-0.4**

RSNC 15 11:14:43.9±0.0,7°.N±1°.×7°.6W±°,h0km±2km,M2.9,mb4.0,
ML2.7,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.14**	**25**	P	**Pg**	**11 14 45.9**	**-0.7**
DBBC				S	**Sg**	**11 14 48.5**	**+0.1**
APAC	**Apartado, Choc**	**1.05**	**343**	P	**Pg**	**11 15 03.8**	**-0.3**
APAC				S	**Sn**	**11 15 20.3**	**-1.0**
CBOC	**Ciudad Bolivar**	**1.05**	**166**	P	**Pg**	**11 15 02.5**	**-1.6**
CBOC				S	**Sg**	**11 15 17.6**	**-0.1**
UREC	**San Jos de Ur**	**1.13**	**40**	P	**Pg**	**11 15 04.5**	**-1.0**
UREC				S	**Sg**	**11 15 20.3**	**+0.2**
ZARC	**Zaragoza, Cauc**	**1.52**	**67**	P	**Pn**	**11 15 10.3**	**-2.1**
ZARC				S	**Sg**	**11 15 30.8**	**-2.1**
PTAC	**Punta Ardita,**	**1.55**	**280**	P	**Pn**	**11 15 09.3**	**-3.5**
PTAC				S	**Sn**	**11 15 33.1**	**-0.5**
PTBC	**PUERTO BERRIO,**	**1.83**	**101**	P	**Pn**	**11 15 15.1**	**-1.6**
PTBC				S	**Sn**	**11 15 39.7**	**-1.0**
GUY2C	**Guyana, Caldas**	**1.88**	**151**	P	**Pn**	**11 15 16.8**	**-1.0**
GUY2C				S	**Sn**	**11 15 42.5**	**0.0**
NORC	**Norcasia**	**1.92**	**133**	P	**Pn**	**11 15 16.5**	**-1.4**
NORC				S	**Sn**	**11 15 41.9**	**-0.9**
LCBC	**Los crdobas,**	**1.96**	**357**	P	**Pn**	**11 15 16.6**	**-1.8**
LCBC				S	**Sn**	**11 15 43.0**	**-0.7**
CAPC	**Capurgana**	**2.04**	**328**	P	**Pn**	**11 15 18.7**	**-0.8**
CAPC				S	**Sn**	**11 15 45.7**	**0.0**
BRJC	**Barrancabermej**	**2.51**	**88**	P	**Pn**	**11 15 25.2**	**-0.8**
BRJC				S	**Sn**	**11 15 57.7**	**+0.4**
ANIL	**Santa Ana**	**2.54**	**160**	P	**Pb**	**11 15 28.7**	**-1.8**
ANIL				S	**Sb**	**11 16 01.6**	**-0.8**
ROSC	**El Rosal**	**2.81**	**136**	P	**Pb**	**11 15 33.3**	**-2.0**
YOTC	**Yotoco, Valle**	**2.89**	**181**	P	**Pn**	**11 15 29.5**	**-1.8**
YOTC				S	**Sn**	**11 16 01.6**	**-5.3**
BARC	**Barichara**	**3.08**	**95**	P	**Pn**	**11 15 34.4**	**+0.3**
BARC				S	**Sn**	**11 16 12.4**	**+0.6**
SJCC	**San Jacinto, C**	**3.18**	**20**	P	**Pn**	**11 15 33.3**	**-1.9**
SJCC				S	**Sn**	**11 16 09.5**	**-4.4**
OCAC	**Ocana**	**3.22**	**65**	P	**Pn**	**11 15 34.3**	**-1.6**
OCAC				S	**Sn**	**11 16 13.9**	**-1.1**
RUSC	**La Rusia**	**3.32**	**107**	P	**Pn**	**11 15 37.3**	**-0.3**
RUSC				S	**Sb**	**11 16 24.9**	**-0.2**
PRAC	**Prado**	**3.44**	**156**	P	**Pn**	**11 15 41.3**	**+2.4**
PRAC				S	**Sg**	**11 16 33.7**	**-0.9**
PAMC	**Pamplona, Colo**	**3.57**	**83**	P	**Pn**	**11 15 41.6**	**+0.6**
PAMC				S	**Sn**	**11 16 24.4**	**+0.2**
AZU	**Azuero**	**4.07**	**283**	P	**Pn**	**11 15 45.0**	**-2.5**
AZU				S	**Sn**	**11 16 29.3**	**-6.6**
BCIP	**Isla Barro Col**	**4.20**	**303**	P	**Pn**	**11 15 46.6**	**-2.6**
BCIP				S	**Sn**	**11 16 36.5**	**-2.4**
POPC	**Popayan, Colom**	**4.34**	**185**	P	**Pn**	**11 15 51.2**	**-0.2**
POPC				S	**Sn**	**11 16 42.8**	**-0.1**
CRJC	**Cerrejon, Guaj**	**5.29**	**39**	P	**Pn**	**11 16 03.9**	**-0.5**
CRJC				S	**Sn**	**11 16 57.9**	**-8.3**

IDC 15 11:15:45.7±8.5,17°.90S×177°.27W,h0km,mb3.6/3,
mbtmp3.6/3,Error ellipse: s-maj=377.5km
s-min=37.5km az=142.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.70**	**259**	P	P	**11 24 07.8**	**-1.0**
	0.5nm,1.0s,baz=97,slow=7.4,SNR=4.8						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**45.84**	**254**	P	P	**11 24 10.4**	**+0.5**
	1.1nm,0.6s,baz=89,slow=8.6,SNR=25						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**85.64**	**13**	P	P	**11 28 25.7**	**0.0**
	0.2nm,0.6s,baz=226,slow=4.6,SNR=5.9						
	0.2nm,0.6s						

*IDC **15** 11:54:02.8±1.5,38°.76N×122°.79W,h0km,mb3.3/3,*
mbtmp3.4/9,ML3.2/6,MS3.4/18,Error ellipse:
s-maj=19.7km s-min=11.3km az=39.0
*NEIC **15** 11:54:03.3±1.2,38°.82N±0°.01×122°.78W±0°.02,h5km±2km,*
Error ellipse: s-maj=3.1km s-min=2.8km az=263.0
*NCEDC **15** 11:54:03.2±1.3,38°.82N±0°.01×122°.80W±0°.02,h1km±2km,*
Mwr4.1/6,ML3.4/86(NEIC),Error ellipse: s-maj=2.6km
s-min=1.9km az=77.0
ISC 15 11:54:03.2±1.0,38°.79N±0°.02×122°.78W±0°.02,h4km±7km,
n155,σ1°.01/133,mb3.2/3,MS3.4/9,Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.02**	**322**		**Pg**	**11 54 03.6**	**-0.5**
GGPM	**Geyser Peak**	**0.06**	**242**		**Pg**	**11 54 04.7**	**+0.1**
GBGM	**Boggs Mountain**	**0.08**	**74**		**Pg**	**11 54 05.5**	**+0.5**
GSGM	**Seigler Mounta**	**0.09**	**36**		**Pg**	**11 54 05.6**	**+0.5**
GRTM	**Round Top Moun**	**0.17**	**30**		**Pg**	**11 54 06.6**	**+0.1**
NHSM	**Mount Saint He**	**0.19**	**136**		**Pg**	**11 54 07.6**	**+0.7**
NMTM	**Middletown**	**0.26**	**87**		**Pg**	**11 54 09.0**	**+0.7**
MNRC	**McLaughlin Min**	**0.28**	**72**		**Pg**	**11 54 09.7**	**+1.1**
MNRC					**Sb**	**11 54 15.2**	**-0.6**
MNRC	**McLaughlin Min**	**0.28**	**72**	IAML		11 54 17.9	
	comp=E,7μm,1.4s						
MNRC				IAML		11 54 18.6	
	comp=N,9μm,0.9s						
HOPS	**Hopland Field**	**0.30**	**311**		**Pg**	**11 54 09.2**	**+0.1**
HOPS					**Sg**	**11 54 14.2**	**+1.1**
HOPS	**Hopland Field**	**0.30**	**311**	IAML		11 54 14.3	
	comp=E,8μm,0.9s						
HOPS				IAML		11 54 16.3	
	comp=N,15μm,0.8s						
GHCM	**House Creek**	**0.38**	**241**		**Pg**	**11 54 11.2**	**+0.7**
OAKV	**Oakville Exper**	**0.46**	**141**		**Pb**	**11 54 13.0**	**-0.9**
CVS	**Carmenet Viney**	**0.51**	**151**		**Pb**	**11 54 13.9**	**-0.8**
CVS	**Carmenet Viney**	**0.51**	**151**	IAML		11 54 23.3	
	comp=E,4μm,0.5s						
CVS				IAML		11 54 24.7	
	comp=N,3μm,1.0s						
GWRM	**Wonder Ranch**	**0.58**	**316**		**Pg**	**11 54 14.5**	**+0.1**
MCCM	**Marconi Confer**	**0.65**	**187**		**Pn**	**11 54 17.0**	**-2.2**
MCCM	**Marconi Confer**	**0.65**	**187**	Pg	**Pb**	**11 54 16.9**	**-0.2**
MCCM				IAML		11 54 34.0	
	comp=N,3μm,1.1s						
MCCM				IAML		11 54 34.3	
	comp=E,3μm,0.8s						
GFC	**Funks Creek**	**0.66**	**35**		**Pn**	**11 54 18.2**	**-1.1**
NGVM		**0.68**	**139**		**Pb**	**11 54 17.2**	**-0.3**
NADM	**Allendale**	**0.71**	**117**		**Pn**	**11 54 19.2**	**-0.8**
NOLM	**Olema**	**0.75**	**181**		**Pb**	**11 54 18.4**	**-0.4**
RUSS	**Russell Ranch**	**0.76**	**109**		**Pn**	**11 54 19.8**	**-0.8**
GCK	**Clark Valley**	**0.80**	**19**		**Pn**	**11 54 20.6**	**-0.7**
DCMP	**DeCamp, Califo**	**0.80**	**327**		**Pg**	**11 54 18.6**	**-0.1**
NPRM	**Point Reyes**	**0.82**	**193**		**Pb**	**11 54 19.9**	**0.0**
PINL	**Point Pinole R**	**0.84**	**157**		**Pb**	**11 54 20.4**	**0.0**
GTC	**Three Chop Rid**	**0.86**	**315**		**Pg**	**11 54 20.0**	**+0.3**
OSUM	**Sutter Buttes**	**0.87**	**56**		**Pg**	**11 54 19.9**	**+0.1**
SUTB	**Sutter Butte**	**0.89**	**60**		**Pg**	**11 54 19.6**	**-0.6**
SUTB	**Sutter Butte**	**0.89**	**60**	IAML		11 54 35.6	
	comp=N,834nm,0.8s						
SUTB				IAML		11 54 38.1	
	comp=E,902nm,0.5s						
CPMM	**Point Molate**	**0.89**	**161**		**Pb**	**11 54 21.0**	**-0.2**
C067	**Fleetwood El S**	**0.90**	**155**		**Pn**	**11 54 21.6**	**-1.0**
CSPM	**San Pablo Ridg**	**0.91**	**156**		**Pb**	**11 54 21.4**	**-0.2**
CPIM	**Pinole Ridge**	**0.92**	**151**		**Pb**	**11 54 21.4**	**-0.2**
JEPS	**Jepson Natural**	**0.92**	**125**		**Pn**	**11 54 22.6**	**-0.2**
RFSB	**Richmond Field**	**0.94**	**158**		**Pb**	**11 54 22.0**	**-0.1**
CTAM	**Taylor**	**0.97**	**142**		**Pn**	**11 54 23.1**	**-0.6**
GVV	**Valley View**	**0.98**	**5**		**Pb**	**11 54 22.9**	**-0.1**
BRK	**Berkeley--Havi**	**1.00**	**156**		**Pb**	**11 54 23.2**	**0.0**
VAK	**Adit at Lawren**	**1.00**	**155**		**Pb**	**11 54 23.0**	**-0.1**
BL67	**Building 67, L**	**1.00**	**156**		**Pn**	**11 54 23.3**	**-0.8**
CVPM	**Vollmer Peak**	**1.01**	**154**		**Pb**	**11 54 23.1**	**-0.2**
BKS	**Berkeley--Byer**	**1.01**	**155**		**Pg**	**11 54 22.7**	**+0.2**
JPRM	**Presidio of Sa**	**1.02**	**166**		**Pb**	**11 54 23.3**	**-0.2**
CYBM	**Yerba Buena Is**	**1.03**	**161**		**Pb**	**11 54 23.4**	**-0.2**
OSTM	**Stimpson Lane**	**1.08**	**58**		**Pg**	**11 54 23.3**	**-0.7**
KCPM	**Cahto Peak**	**1.09**	**325**		**Pn**	**11 54 25.1**	**-0.3**
BDM	**Black Diamond**	**1.10**	**139**		**Pg**	**11 54 23.7**	**-0.6**
FARB	**Farallon Islan**	**1.11**	**189**		**Pg**	**11 54 24.4**	**-0.1**
FARB	**Farallon Islan**	**1.11**	**189**	IAML		11 54 45.4	
	comp=E,801nm,1.2s						
CMCM	**Mills College**	**1.11**	**155**		**Pg**	**11 54 24.6**	**+0.1**
BGC	**Bolinger Road**	**1.12**	**150**		**Pg**	**11 54 24.4**	**-0.3**
GROM	**Round Mountain**	**1.13**	**4**		**Pg**	**11 54 25.1**	**+0.2**
KBNM	**Bluenose Ridge**	**1.15**	**344**		**Pb**	**11 54 25.5**	**-0.2**
JSBM	**San Bruno Moun**	**1.15**	**165**		**Pg**	**11 54 25.1**	**-0.1**
KIPM	**Iron Peak**	**1.15**	**332**		**Pg**	**11 54 25.0**	**-0.4**
JMGM	**Milagra Ridge**	**1.18**	**168**		**Pb**	**11 54 25.5**	**-0.6**
PAM	**Palermo**	**1.18**	**56**		**Pb**	**11 54 24.3**	**-1.8**
CSLM	**San Leandro Hi**	**1.19**	**154**		**Pb**	**11 54 25.0**	**-1.3**
CLCB	**Lake Chabot**	**1.19**	**152**		**Pb**	**11 54 26.1**	**-0.3**
SFRE	**Sierra Foothil**	**1.23**	**67**		**Pn**	**11 54 25.2**	**-2.0**
SAC	**San Andreas**	**1.24**	**167**		**Pn**	**11 54 25.8**	**-1.5**
CMOB	**Morgan Territo**	**1.25**	**142**		**Pn**	**11 54 25.6**	**-1.9**
ORV	**Oroville**	**1.25**	**52**		**Pn**	**11 54 26.0**	**-1.5**
ORV	**Oroville**	**1.25**	**52**	Pg	**Pn**	**11 54 25.5**	**-2.0**
JCPM	**Coyote Point**	**1.25**	**163**		**Pn**	**11 54 26.3**	**-1.2**
JCHM	**Cahill Ridge**	**1.31**	**166**		**Pn**	**11 54 26.9**	**-1.4**
CBSNC	**Byron Hot Spri**	**1.32**	**137**		**Pn**	**11 54 27.0**	**-1.5**
CNIC	**Niles Canyon**	**1.34**	**151**		**Pn**	**11 54 27.5**	**-1.3**
CBZL	**Buffer Zone**	**1.38**	**142**		**Pn**	**11 54 28.3**	**-0.9**
O02D	**Mt. Diablo Mer**	**1.38**	**360**		**Pb**	**11 54 29.3**	**-0.4**
O02D	**Mt. Diablo Mer**	**1.38**	**360**		**Pb**	**11 54 29.5**	**-0.2**
O02D				IAML		11 54 34.1	
	comp=N,400nm,1.1s						
O02D				IAML		11 54 56.4	
	comp=E,396nm,1.4s						
WENL	**Wente Vineyard**	**1.42**	**145**		**Pn**	**11 54 28.0**	**-1.8**
JRSC	**Jasper Ridge**	**1.45**	**163**		**Pn**	**11 54 28.4**	**-1.8**
BGH	**Bear Gulch**	**1.49**	**166**		**Pg**	**11 54 32.3**	**+0.5**
JFP	**Foothills Park**	**1.50**	**162**		**Pn**	**11 54 29.4**	**-1.5**
LTCM	**Tuscan Springs**	**1.50**	**19**		**Pn**	**11 54 29.2**	**-1.8**
LBPM	**Beegum Peak**	**1.53**	**357**		**Pn**	**11 54 31.5**	**+0.1**
CSTL	**Corral Hollow**	**1.53**	**138**		**Pn**	**11 54 30.8**	**-0.5**
JBMM	**Black Mountain**	**1.55**	**161**		**Pn**	**11 54 30.3**	**-1.4**
JSJM	**St Joseph**	**1.55**	**159**		**Pn**	**11 54 30.5**	**-1.1**
BRIC	**Briceland Vine**	**1.58**	**327**		**Pn**	**11 54 31.3**	**-0.7**
CMLM	**Mount Lewis**	**1.58**	**146**		**Pn**	**11 54 31.5**	**-0.7**
KMRM	**Mail Ridge**	**1.60**	**334**		**Pn**	**11 54 30.4**	**-2.0**
KMRM	**Mail Ridge**	**1.60**	**334**	IAML		11 55 11.9	
	comp=E,641nm,1.2s						
KMRM				IAML		11 55 23.5	
	comp=N,601nm,2.1s						
JPSM		**1.63**	**168**		**Pn**	**11 54 31.4**	**-1.2**
O03E	**Paynes Creek**	**1.68**	**26**		**Pn**	**11 54 32.5**	**-1.0**
MHC	**Mount Hamilton**	**1.70**	**148**		**Pn**	**11 54 33.2**	**-0.7**
JJOM	**Saint Joseph's**	**1.71**	**158**		**Pn**	**11 54 32.7**	**-1.0**
MTOS	**Mt Oso, Westle**	**1.72**	**138**		**Pn**	**11 54 32.8**	**-1.2**
ARN	**Arnold Ranch**	**1.74**	**145**		**Pn**	**11 54 33.5**	**-0.8**
**CCOB

comp=N,216nm,19.1s,baz=335,slow=38
TXAR Lajitas Array 18.40 115 P **P 11 58 19.9 +0.5**
baz=297,slow=8.3,SNR=17
TXAR LR LR 12 06 19.5
comp=N,31nm,19.6s,baz=298,slow=40
comp=N,3.5nm,1.2s
ULM Lac du Bonnet 22.21 50 P **P 11 58 59.0 -1.5**
comp=N,1.6nm,0.6s,baz=242,slow=4.9,SNR=2.9
comp=N,1.6nm,0.6s
YKA Yellowknife Ar 24.25 9 P **P 11 59 21.2 +0.2**
comp=N,0.2nm,0.9s,baz=203,slow=12,SNR=2.2
YKA LR LR 12 10 36.6
comp=N,114nm,19.0s,baz=98,slow=41
comp=N,0.2nm,0.9s
KDAK Kodiak Island 27.11 324 LR LR 12 07 28.0
comp=N,79nm,21.7s,baz=298,slow=30
ILAR Eielson Array 29.61 339 P **P 12 00 09.7 +0.6**
comp=N,0.4nm,0.9s,baz=165,slow=4.1,SNR=4.5
comp=N,0.4nm,0.9s
FRB Frobisher Bay 40.36 34 LR LR 12 18 43.9
comp=N,60nm,18.5s,baz=228,slow=37
JTS Las Juntas de 44.09 120 LR LR 12 20 46.0
comp=N,46nm,21.5s,baz=299,slow=36
SFJD Kangerlussuaq 48.10 30 LR LR 12 24 25.2
comp=N,60nm,19.2s,baz=286,slow=38
SJG San Juan 53.01 96 LR LR 12 29 24.0
comp=N,37nm,18.1s,baz=214,slow=40
SDV Santo Domingo 55.28 108 LR LR 12 31 16.5
comp=N,25nm,19.4s,baz=332,slow=40
ROSC El Rosal 55.34 115 LR LR 12 30 56.0
comp=N,41nm,18.2s,baz=250,slow=40
MA2 Magadan 55.83 322 LR LR 12 27 05.2
comp=N,14nm,18.8s,baz=152,slow=36

---

*IDC **15** 12:00:08.2±5.9, 4°.62S×153°.77E, h119km±48km, mb3.6/5, mbtmp4.1/7, Error ellipse: s-maj=51.2km s-min=27.7km az=99.0*
ISC 15 12:00:06.4±1.4, 4°.7S±0°.2×153°.8E±0°.2, h100km, n7, σ1§35/8, mb3.8/5, New Ireland region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.12 234**	P	**Pn**	**12 02 02.7**	**+1.1**
	34nm,0.4s,baz=48,slow=8.4,SNR=29					
PMG			S	**Sn**	**12 03 29.6**	**-2.2**
	19nm,0.3s,baz=140,slow=21,SNR=12					
JAY	**Jayapura**	**13.29 279**	P	**Pn**	**12 03 12.4**	**+1.1**
	9.7nm,0.8s,baz=42,slow=5.5,SNR=5.1					
WRA	**Warramunga Arr**	**24.30 230**	P	**P**	**12 05 14.7**	**-0.1**
	7.4nm,0.4s,baz=54,slow=10.0,SNR=96					
	7.4nm,0.4s					
ASAR	**Alice Springs**	**26.94 224**	P	**P**	**12 05 38.5**	**-0.2**
	0.6nm,0.4s,baz=56,slow=9.1,SNR=31					
	0.6nm,0.4s					
STKA	**Stephens Creek**	**29.39 202**	P	**P**	**12 06 00.9**	**+0.6**
	1.4nm,0.6s,baz=43,slow=10,SNR=4.0					
	1.4nm,0.6s					
CMAR	**Chiang Mai Arr**	**58.77 295**	P	**P**	**12 09 53.6**	**-1.0**
	0.3nm,0.4s,baz=107,slow=7.6,SNR=2.6					
	0.3nm,0.4s					
ILAR	**Eielson Array**	**81.67 22**	P	**P**	**12 12 12.7**	**-0.6**
	0.3nm,0.8s,baz=238,slow=6.0,SNR=2.2					
	0.3nm,0.8s					

---

*IDC **15** 12:08:36.4±5.5, 47°.26N×152°.45E, h111km±48km, mb3.3/7, mbtmp3.7/8, Error ellipse: s-maj=33.3km s-min=26.3km az=78.0*
*SKHL **15** 12:08:38.5±0.4, 45°.40N×153°.20E, h45km±9km, mb4.8/3*
ISC 15 12:08:34.9±1.2, 47°.1N±0°.2×152°.6E±0°.1, h100km, n13, σ2§55/17, mb3.7/6, Kuril Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.75 243**	*e*P	**Pn**	**12 09 35.0**	**+4.4**
KUR			AMB	AMB	12 09 36.4	
	60nm,0.4s					
KUR			*e*S	**Sn**	**12 10 17.0**	**+3.3**
KUR			A	A	12 10 19.1	
	100nm,0.5s					
KUR			A	A	12 10 19.1	
	80nm,0.5s					
SHO	**Shikotan**	**5.14 234**	*e*P	**Pn**	**12 09 49.9**	**+0.4**
SHO			AMB	AMB	12 09 53.8	
	60nm,0.5s					
SHO			*e*S	**Sn**	**12 10 43.5**	**-4.1**
SHO			A	A	12 10 46.9	
	40nm,0.5s					
SHO			A	A	12 10 46.9	
	80nm,0.5s					
YUK	**Yuzh-Kuril'sk**	**5.60 240**	*e*P	**Pn**	**12 09 57.9**	**+2.2**
YUK			*e*S	**Sn**	**12 10 57.7**	**-0.9**
YUK			A	A	12 10 59.0	
	210nm,0.7s					
YUK			A	A	12 10 59.0	
	240nm,0.7s					
NMR	**Nemuro--Hokkai**	**6.08 235**	*e*P	**Pn**	**12 10 02.3**	**+0.1**
NMR			*e*S	**Sn**	**12 11 05.2**	**-5.1**
AKK	**Akkeshi**	**6.80 236**	*e*P	**Pn**	**12 10 13.3**	**+1.3**
ASAJ	**Asahikawa**	**7.59 251**	P	**Pn**	**12 10 24.0**	**+1.2**
	7.2nm,0.9s,baz=54,slow=17,SNR=4.8					
KSRS	**Korea Array**	**20.54 251**	P	**P**	**12 13 06.5**	**+1.2**
	0.7nm,0.6s,baz=66,slow=9.6,SNR=2.1					
	0.7nm,0.6s					
MKAR	**Makanchi Array**	**46.48 297**	P	**P**	**12 16 50.6**	**-1.1**
	0.5nm,0.5s,baz=69,slow=6.8,SNR=7.6					
	0.5nm,0.5s					
KURBB	**Kurchatov Arra**	**46.99 303**	P	**P**	**12 16 54.4**	**-1.2**
	1.0nm,0.7s,baz=69,slow=8.5,SNR=4.6					
	1.0nm,0.7s					
FINES	**FINESS Array B**	**63.62 334**	P	**P**	**12 18 53.0**	**-1.6**
	1.3nm,0.8s,baz=61,slow=6.0,SNR=4.4					
	1.3nm,0.8s					
HFS	**Hagfors**	**68.05 339**	P	**P**	**12 19 22.2**	**-0.9**
	1.1nm,0.6s,baz=74,slow=6.2,SNR=5.8					
	1.1nm,0.6s					
ASAR	**Alice Springs**	**72.38 198**	P	**P**	**12 19 51.1**	**+1.2**
	0.3nm,0.7s,baz=11,slow=6.1,SNR=6.9					
	0.3nm,0.7s					
TXAR	**Lajitas Array**	**77.66 60**	P	**P**	**12 20 20.8**	**+0.3**
	0.3nm,0.6s,baz=312,slow=5.3,SNR=5.3					
	0.3nm,0.6s					

---

*HEL **15** 12:09:40.2±0.1, 62°.31N×24°.70E, h0km, ML1.6, Explosion*
*IDC **15** 12:09:40.5±0.9, 62°.31N×24°.76E, h0km, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=10.8km s-min=6.3km az=47.0*
ISC 15 12:09:39.2±0.8, 62°.32N±0°.02×24°.70E±0°.03, h0km, n22, σ0§68/32, Finland

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.17 152**	*e*P	**Pg**	**12 09 42.5**	**0.0**
KEF	**Keuruu**	**0.17 152**	*e*P	**Pg**	**12 09 42.8**	**+0.3**
KEF			*e*S	**Sg**	**12 09 45.0**	**+0.3**
KAF	**Kangasniemi**	**0.78 105**	*e*P	**Pg**	**12 09 54.2**	**0.0**
KAF			MSG		12 10 03.7	
	comp=Z,5.4nm,0.2s					
KAF			*e*S	**Sg**	**12 10 04.6**	**+0.4**
SUF	**Sumiainen**	**0.78 59**	*e*P	**Pg**	**12 09 54.5**	**+0.3**
SUF			MSG		12 10 04.5	
	comp=Z,3.6nm,0.2s					
FIA0	**FINESS Array S**	**1.09 143**	*e*P	**Pg**	**12 09 59.6**	**-0.6**
FIA0			MSG		12 10 12.2	
	comp=Z,2.7nm,0.2s					
FIA0			*e*SN	**Sn**	**12 10 17.0**	**-0.6**
FINES	**FINESS Array B**	**1.09 143**	Pg	**Pg**	**12 10 00.0**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=323,slow=16,SNR=29					
FINES			Lg	Lg	12 10 14.8	
	comp=Z,0.9nm,0.3s,baz=326,slow=31,SNR=10					
VAF	**Ylistaro**	**1.18 309**	*e*P	**Pg**	**12 10 02.2**	**+0.3**
VAF	**Ylistaro**	**1.18 309**	*e*P	**Pg**	**12 10 01.9**	**0.0**
VAF			MSG		12 10 17.2	
	comp=Z,3.7nm,0.2s					
VAF			*e*SB	**Sb**	**12 10 18.7**	**+0.3**
KPF	**Kankaanpaa**	**1.33 250**	*e*P	**Pg**	**12 10 04.0**	**-0.7**
KPF			*e*SN	**Sn**	**12 10 24.4**	**+1.0**
NIF	**Nilsia**	**1.79 52**	*e*PG	**Pb**	**12 10 12.4**	**-0.4**
NIF			*e*SN	**Sg**	**12 10 36.0**	**-0.5**
NUR	**Nurmijarvi**	**1.82 181**	MSG		12 10 33.2	
	comp=Z,4.6nm,0.2s					
NUR			*e*SN	**Sb**	**12 10 36.6**	**0.0**
RAF	**Rauma**	**1.91 228**	*e*P	**Pn**	**12 10 13.6**	**+0.6**
RAF	**Rauma**	**1.91 228**	*e*PN	**Pn**	**12 10 14.0**	**+1.1**
RAF			MSG		12 10 36.6	
	comp=Z,7.3nm,0.2s					
RAF			*e*SG	**Sb**	**12 10 39.2**	**-0.1**
OUF	**Merijarvi**	**2.06 0**	*e*PG	**Pb**	**12 10 17.2**	**-0.1**
OUF			MSG		12 10 42.0	
	comp=Z,2.5nm,0.2s					
OUF			*e*SG	**Sb**	**12 10 43.6**	**+0.2**
MEF	**Metsahovi**	**2.12 184**	*e*P	**Pn**	**12 10 16.5**	**+0.7**
MEF	**Metsahovi**	**2.12 184**	*e*PG	**Pb**	**12 10 17.6**	**-0.7**
MEF			MSG		12 10 41.8	
	comp=Z,11nm,0.2s					
MEF			*e*SG	**Sb**	**12 10 45.0**	**-0.1**
OBF0	**Syolatti, Pyha**	**2.20 355**	*e*PG	**Pb**	**12 10 19.4**	**-0.3**
OBF0			MSG		12 10 46.2	
	comp=Z,3.4nm,0.2s					
OBF0			*e*SG	**Sg**	**12 10 48.8**	**-0.9**
OBF4	**Vikkela, Lumij**	**2.51 4**	MSG		12 10 55.2	
	comp=Z,1.4nm,0.2s					
OBF4			*e*SG	**Sb**	**12 10 57.8**	**+1.4**
RMF	**Romuvaara**	**3.04 49**	MSG		12 11 09.5	
	comp=Z,1.7nm,0.2s					
HFS	**Hagfors**	**5.75 252**	Pn	**Pn**	**12 11 06.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=63,slow=14,SNR=4.1					
HFS			Lg	Lg	12 12 34.9	
	comp=Z,0.5nm,0.3s,baz=70,slow=30,SNR=6.2					
	comp=Z,0.4nm,0.3s					
NOA	**NORSAR Array B**	**6.54 265**	Pn	**Pn**	**12 11 16.9**	**+0.2**
	baz=78,slow=11,SNR=4.2					
NOA			Lg	Lg	12 13 06.4	
	baz=40,slow=21,SNR=4.5					
	comp=Z,0.1nm,0.3s					
ARCES	**ARCESS Array B**	**7.25 2**	Pn	**Pn**	**12 11 26.5**	**+0.2**
	baz=176,slow=13,SNR=1.1					
ARCES			Sn	**Sn**	**12 12 47.2**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=189,slow=22,SNR=0.9					
	comp=Z,1.3nm,0.8s					

WEL 15 12:28:05.1±1.7, 35°.S±23°.×17°.9E±2°.1, h208km±36km, M3.7/8, ML3.8/11, MLv3.7/8, Error ellipse: s-maj=31.2km s-min=25.5km az=151.8, confirmed, South of Kermadec Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.14 195**	P	Pn	12 28 56.8	+0.1
MXZ			S	S	12 29 36.7	-0.1
WMGZ	**Waiomatatini S**	**3.36 193**	P	Pn	12 28 59.2	-0.1
WMGZ			S	S	12 29 44.4	+2.8
HAZ	**Te Kaha**	**3.45 201**	P	Pn	12 29 00.5	0.0
PKGZ	**Pakihiroa**	**3.48 197**	P	Pn	12 29 01.0	+0.2
PUZ	**Puketiti**	**3.64 194**	P	Pn	12 29 03.6	+0.9
RUGZ	**Raukumara Rang**	**3.68 201**	P	Pn	12 29 03.4	+0.1
RUGZ			S	S	12 29 48.4	-0.3
KUZ	**Kuaotunu**	**3.69 232**	P	Pn	12 29 03.0	-0.2
CNGZ	**Carnagh Statio**	**4.05 193**	P	Pn	12 29 07.2	-0.5
MWZ	**Matawai**	**4.07 201**	P	Pn	12 29 07.4	-0.6
MWZ			S	S	12 29 57.8	+0.7
URZ	**Urewera**	**4.13 205**	P	Pn	12 29 08.1	-0.6
MUGZ	**Murupara**	**4.45 207**	P	Pn	12 29 12.0	-0.7
PRRZ	**Plateau Road**	**4.62 210**	P	Pn	12 29 15.0	+0.2
ALRZ	**Allen Road**	**4.69 210**	P	Pn	12 29 15.9	+0.2
MTHZ	**Maungataniwha**	**4.76 204**	P	Pn	12 29 16.1	-0.5
BKZ	**Black Stump Fm**	**5.16 206**	P	Pn	12 29 20.7	-1.0
HIZ	**Hauiti**	**5.37 221**	P	Pn	12 29 26.4	+2.1
SNVZ	**South Ngauruho**	**5.51 212**	P	Pn	12 29 25.4	-0.9
TSZ	**Takapari Road**	**6.14 205**	P	Pn	12 29 31.3	-2.9

---

*IDC **15** 12:48:28.6±6.3, 38°.22N×70°.97E, h0km, mb3.8/2, mbtmp3.7/6, ML3.1/4, Error ellipse: s-maj=84.9km s-min=29.8km az=176.0*
*NNC **15** 12:48:30.3±8.8, 38°.31N×70°.31E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=92.4km s-min=43.6km az=160.0*
ISC 15 12:48:32.5±2.0, 38°.6N±0°.2×70°.2E±0°.1, h10km, n11, σ2§96/14, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.54 3**	P	**Pn**	**12 49 42.1**	**+0.9**
	8.6nm,0.5s,baz=189,slow=14,SNR=73					
KK31			⇑S	**Sb**	**12 50 47.9**	**+0.9**
	11nm,0.5s,baz=187,slow=30,SNR=4.7					
AAK	**Ala-Archa**	**5.23 38**	⇑P	**Pn**	**12 49 53.4**	**+2.4**
	6.0nm,0.5s					
AAK			S	**Sn**	**12 50 54.6**	**+3.1**
	5.4nm,0.6s					
TKM2	**Tokmak 2**	**6.00 42**	⇑P	**Pn**	**12 50 04.5**	**+3.1**
	8.8nm,0.6s					
TKM2			⇓S	**Sn**	**12 51 12.7**	**+2.4**
	8.3nm,0.7s					
MKAR	**Makanchi Array**	**12.12 43**	Pn	**Pn**	**12 51 22.1**	**-3.2**
	baz=230,slow=17,SNR=3.6					
	0.2nm,0.6s					
AB31	**Akbulak array**	**12.96 329**	P	**Pn**	**12 51 34.4**	**-2.3**
	0.8nm,0.4s,baz=144,slow=12,SNR=26					
BVAR	**Borovoye Array**	**14.46 1**	Pn	**Pn**	**12 51 54.2**	**-2.9**
	baz=155,slow=11,SNR=5.3					
	1.0nm,0.6s					
AKTO	**Aktyubinsk**	**14.66 328**	Pn	**Pn**	**12 52 04.1**	**+4.2**
	0.7nm,0.3s,baz=136,slow=11,SNR=13					
	6.3nm,0.6s					
AKTO	**Aktyubinsk**	**14.66 328**	⇓P	**P**	**12 52 05.8**	**-0.5**
	4.5nm,0.8s					
ZALV	**Zalesovo Beam**	**18.36 28**	P	**P**	**12 52 43.2**	**-3.9**
	0.1nm,0.3s,baz=224,slow=10,SNR=5.3					
	0.7nm,0.6s					
ARTI	**Arti**	**19.47 340**	P	**Pn**	**12 53 01.6**	**+1.1**
	1.5nm,0.6s,baz=152,slow=16,SNR=3.2					
	1.5nm,0.6s					
FINES	**FINESS Array B**	**35.40 325**	P	**P**	**12 55 30.7**	**+2.5**
	2.6nm,1.1s,baz=98,slow=7.4,SNR=3.3					
	2.6nm,1.1s					

IDC 15 13:02:42.0±3.4, 6°.25S×149°.68E, h0km, mb3.3/2, mbtmp3.7/3, ML2.3/1, Error ellipse: s-maj=121.3km s-min=37.0km az=118.0, New Britain region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.01 218**	Pn	Pn	13 03 46.9	+2.2
	13nm,0.3s,baz=41,slow=9.3,SNR=43					
PMG			Sn	Sn	13 04 32.7	+0.2
	24nm,0.3s,baz=351,slow=19,SNR=11					
	31nm,0.3s					
WRA	**Warramunga Arr**	**20.18 226**	P	P	13 07 17.0	-1.4
	1.6nm,0.6s,baz=52,slow=11,SNR=15					
	1.6nm,0.6s					
ASAR	**Alice Springs**	**23.02 220**	P	P	13 07 48.7	-0.3
	0.6nm,0.7s,baz=54,slow=9.6,SNR=13					
	0.6nm,0.7s					
TORD	**Torodi Ar. Bea**	**147.73 285**	PKPbc	PKPbc	13 22 29.6	-0.3
	146nm,0.4s,baz=67,slow=2.4,SNR=4.8					

---

*BER **15** 13:13:03.3±0.5, 67°.90N×33°.86E, h0km, ML2.0, Suspected explosion*
*HEL **15** 13:13:04.5±0.2, 68°.15N×33°.33E, h0km, ML1.8, Explosion*
*KOLA **15** 13:13:05.5, 68°.08N×33°.38E, h0km, ML2.1, Error ellipse: s-maj=2.3km s-min=1.5km az=80.0, Olenegorsk City, Mines*
*IDC **15** 13:13:06.8±2.7, 68°.15N×33°.10E, h0km, mbtmp3.3/3, ML2.1/3, Error ellipse: s-maj=28.8km s-min=10.7km az=69.0*
ISC 15 13:13:03.3±0.8, 68°.02N±0°.03×33°.47E±0°.03, h0km, n36, σ1§17/60, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.45 183**	P	**Pb**	**13 13 14.3**	**+0.2**
APA			S	**Sb**	**13 13 21.4**	**0.0**
APA0	**Apatity Array**	**0.45 204**	P	**Pb**	**13 13 13.7**	**-0.4**
APA0			S	**Sb**	**13 13 20.5**	**-0.9**
LVZ	**Lovozero**	**0.46 105**	P	**Pb**	**13 13 14.8**	**+0.4**
LVZ			S	**Sb**	**13 13 21.3**	**-0.5**
LVZ	**Lovozero**	**0.46 105**	PG	**Pb**	**13 13 14.9**	**+0.6**
LVZ			SG	**Sb**	**13 13 21.2**	**-0.5**
TERR	**Teriberka**	**1.33 26**	P	**Pg**	**13 13 28.1**	**-0.7**
TERR			S	**Sg**	**13 13 45.4**	**-0.7**
KVDA	**Kovda**	**1.35 190**	P	**Pn**	**13 13 30.2**	**+0.8**
KVDA			S	**Sn**	**13 13 49.4**	**+1.4**
VRF	**Varrio**	**1.49 261**	PG	**Pn**	**13 13 30.7**	**-0.5**
	baz=71					
VRF			MSG		13 13 48.3	
	comp=Z,7.7nm,0.2s					
VRF			SG	**Sg**	**13 13 50.3**	**-0.7**
RAJF	**Raja-Jooseppi**	**1.98 286**	PG	**Pn**	**13 13 38.3**	**+0.3**
RAJF			SG	**Sn**	**13 14 02.9**	**-0.5**
KU6	**Riekki**	**2.45 217**	PB	**Pb**	**13 13 47.6**	**-0.4**
KU6			MSG		13 14 18.9	
	comp=Z,2.3nm,0.2s					
KU6			SG	**Sg**	**13 14 21.4**	**-0.4**
VADS	**Vadso**	**2.58 327**	P	**Pn**	**13 13 46.9**	**+0.7**
VADS			S	**Sn**	**13 14 18.1**	**0.0**
VADS	**Vadso**	**2.58 327**	*e*P	**Pn**	**13 13 46.5**	**+0.3**
VADS			IAML		13 14 22.7	
	comp=Z,15nm,0.3s					
MSF	**Maaselka**	**2.74 222**	PB	**Pb**	**13 13 51.8**	**-1.3**
MSF			SB	**Sb**	**13 14 28.8**	**+1.5**
KU1	**Kurvinen**	**2.91 214**	PB	**Pb**	**13 13 56.0**	**0.0**
KEV	**Kevo**	**2.92 310**	*e*P	**Pn**	**13 13 52.0**	**+1.1**
KEV	**Kevo**	**2.92 310**	PB	**Pn**	**13 13 51.9**	**+1.1**
KEV			MSG		13 14 26.9	
	comp=Z,7.0nm,0.2s					
KEV			SB	**Sn**	**13 14 26.9**	**+0.4**
KU2	**Taivalkoski**	**3.11 224**	PB	**Pb**	**13 13 58.1**	**-1.3**
	baz=39					
RNF	**Rovaniemi**	**3.22 247**	PN	**Pn**	**13 13 56.5**	**+1.5**
	baz=62					
RNF			SN	**Sn**	**13 14 35.7**	**+1.7**
ARA0	**ARCESS Array S**	**3.27 301**	*e*P	**Pn**	**13 13 56.3**	**+0.5**
ARA0	**ARCESS Array S**	**3.27 301**	PB	**Pn**	**13 13 56.4**	**+0.6**
ARA0			SG	**Sb**	**13 14 42.0**	**-0.5**
ARCES	**ARCESS Array B**	**3.27 301**	Pn	**Pn**	**13 13 56.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=118,slow=13,SNR=26					
ARCES			Pg	**Pb**	**13 14 02.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=112,slow=16,SNR=7.1					
ARCES			Sn	**Sn**	**13 14 32.8**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=109,slow=22,SNR=5.4					
ARCES			Lg	Lg	13 14 43.0	
	comp=Z,1.0nm,0.3s,baz=110,slow=34,SNR=5.6					
	comp=Z,4.6nm,0.8s					
ARCES	**ARCESS Array B**	**3.27 301**	P	**Pn**	**13 13 56.2**	**+0.4**
ARCES			S	**Sn**	**13 14 34.3**	**-1.0**
RANF	**Ranua**	**3.31 236**	PN	**Pn**	**13 13 57.4**	**+1.2**
	baz=47					
RANF			SB	**Sb**	**13 14 43.6**	**+0.2**
HEF	**Hetta**	**3.68 281**	*e*P	**Pn**	**13 14 01.6**	**+0.3**
HEF			*e*S	**Sn**	**13 14 45.0**	**-0.3**
HEF	**Hetta**	**3.68 281**	PN	**Pn**	**13 14 01.2**	**-0.2**
KLF	**Kolari**	**3.72 262**	PN	**Pn**	**13 14 02.8**	**+0.9**
KTK1	**Kautokeino**	**3.90 290**	*e*P	**Pn**	**13 14 05.0**	**+0.7**
KTK1	**Kautokeino**	**3.90 290**	PN	**Pn**	**13 14 05.1**	**+0.7**
KTK1			SG	**Sb**	**13 15 03.7**	**+3.4**
TOF	**Tornio**	**4.08 246**	PN	**Pn**	**13 14 08.0**	**+1.2**
	baz=55					
TOF			SN	**Sn**	**13 14 54.2**	**-0.8**
RMF	**Romuvaara**	**4.08 202**	PN	**Pn**	**13 14 08.4**	**+1.6**
LANU	**Lannavaara**	**4.31 276**	PN	**Pn**	**13 14 10.0**	**0.0**
LANU			SG	**Sb**	**13 15 15.0**	**+2.6**
ERTU	**Ertsjaerv**	**4.61 257**	PN	**Pn**	**13 14 14.6**	**+0.4**
ERTU			SN	**Sn**	**13 15 07.2**	**-1.2**
KIF	**Kilpisjarvi**	**4.76 288**	PN	**Pn**	**13 14 16.5**	**+0.3**
KIF			SG	**Sb**	**13 15 27.9**	**+2.7**
I37NO	**I37NO**	**5.55 288**	I	I	13 49 00.0	
	baz=95,slow=326,SNR=1.8					
FAUS	**Fauske**	**6.94 273**	S	**Sn**	**13 16 03.6**	**-2.1**
FINES	**FINESS Array B**	**7.32 209**	Pn	**Pn**	**13 14 53.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=2.7					
FINES			Sn	**Sn**	**13 16 14.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=35,slow=17,SNR=1.6					
FINES			Lg	Lg	13 16 49.7	
	comp=Z,0.3nm,0.3s,baz=22,slow=27,SNR=5.3					
	comp=Z,1.9nm,0.9s					
HFS	**Hagfors**	**11.66 237**	Pn	**Pn**	**13 15 48.5**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=31,slow=17,SNR=2.2					
	comp=Z,0.9nm,0.6s					

---

*NDI **15** 13:33:48.3±1.0, 12°.47N×93°.63E, h10km, ML4.0, MW4.1, mb4.2(NEIC)*
*NEIC **15** 13:33:49.3±1.4, 12°.44N±0°.08×93°.51E±0°.10, h106km±10km, mb4.2/7, Error ellipse: s-maj=15.1km s-min=10.3km az=124.0*
*IDC **15** 13:33:50.9±8.8, 12°.36N×93°.59E, h115km±73km, mb3.4/6, mbtmp3.8/7, Error ellipse: s-maj=71.9km s-min=16.9km az=63.0*
ISC 15 13:33:48.3±0.6, 12°.41N±0°.06×93°.53E±0°.06, h93km, n26, σ1§62/30, mb4.0/10, Andaman Islands region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.96 323**	*e*P	**Pn**	**13 34 07.9**	**+0.2**
DGPR			*e*S	**Sn**	**13 34 21.4**	**-0.9**
PBA	**Port Blair**	**1.07 226**	Pn	**Pn**	**13 34 10.9**	**+1.9**
PBA			Sn	**Sn**	**13 34 27.1**	**+2.5**
PBA	**Port Blair**	**1.07 226**	*e*P	**Pn**	**13 34 11.2**	**+2.2**
PBA			IAML		13 34 31.2	
	comp=E,4μm,0.1s					
LHMI	**Lhok Sumawe**	**7.90 154**	Pn	**Pn**	**13 35 41.6**	**+1.1**
CM31	**Chiang Mai Arr**	**7.96 40**	Pn	**Pn**	**13 35 42.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**7.96 40**	Pn	**Pn**	**13 35 42.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**7.96 40**	P	**Pn**	**13 35 44.5**	**+3.1**
	comp=E,3.3nm,0.7s,baz=234,slow=14,SNR=45					
CMAR			S	**Sn**	**13 37 11.9**	**+2.1**
	comp=E,2.1nm,0.9s,baz=234,slow=28,SNR=5.8					
VIS	**Vishakhapatnam**	**11.17 299**	*e*P	**Pn**	**13 36 27.3**	**+2.3**
VIS			IAmL		13 38 20.4	
	comp=E,3μm,0.6s					
VIS			*e*S	**Sn**	**13 38 24.4**	**-3.7**
SHL	**Shillong**	**13.18 353**	Pn	**Pn**	**13 36 51.2**	**-0.7**
MKAR	**Makanchi Array**	**35.56 347**	P	**P**	**13 40 36.2**	**-0.3**
MKAR	**Makanchi Array**	**35.56 347**	P	**P**	**13 40 37.3**	**+0.8**
	comp=E,0.2nm,0.6s,baz=151,slow=3.3,SNR=1.7					
	comp=E,0.2nm,0.6s					
SONM	**Songino Array**	**36.92 14**	P	**P**	**13 40 50.0**	**+1.8**
	comp=E,0.4nm,0.3s,baz=200,slow=8.0,SNR=3.2					
	comp=E,0.4nm,0.3s					
ZAA0	**Zalesovo Array**	**42.01 352**	P	**P**	**13 41 28.7**	**-1.6**
ZAA0			IAmb	IAmb	13 41 59.4	
	comp=Z,2.0nm,1.0s					
ZALV	**Zalesovo Beam**	**42.01 352**	P	**P**	**13 41 28.5**	**-1.7**
ZALV	**Zalesovo Beam**	**42.01 352**	P	**P**	**13 41 30.4**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=184,slow=8.7,SNR=6.9					
	comp=Z,1.0nm,0.3s					
FITZ	**Fitzroy Crossi**	**43.86 133**	P	**P**	**13 41 45.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**43.86 133**	P	**P**	**13 41 45.4**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=324,slow=6.5,SNR=22					
	comp=Z,2.2nm,0.5s					
ABKAR	**Akbulak array**	**46.01 330**	P	**P**	**13 42 02.4**	**+0.1**
WRA	**Warramunga Arr**	**51.45 128**	P	**P**	**13 42 43.5**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=310,slow=10,SNR=8.4					
	comp=Z,0.5nm,0.7s					
AS31	**Alice Springs**	**53.34 132**	P

ZARC	**Zaragoza, Cauc**	**1.51**	**68**	P	Pn	13 46 09.2	-2.1
ZARC				S	Sg	13 46 28.3	-3.2
PTAC	**Punta Ardita,**	**1.54**	**278**	P	Pn	13 46 08.8	-3.0
PTAC				S	Sn	13 46 30.4	-2.1
PTBC	**PUERTO BERRIO,**	**1.84**	**102**	P	Pn	13 46 14.1	-1.8
PTBC				S	Sn	13 46 38.9	-1.1
LCBC	**Los crdobas,**	**1.92**	**357**	P	Pn	13 46 15.7	-1.2
LCBC				S	Sb	13 46 42.9	-0.5
GUY2C	**Guyana, Caldas**	**1.92**	**152**	P	Pn	13 46 16.2	-1.2
GUY2C				S	Sb	13 46 44.0	+0.1
NORC	**Norcasia**	**1.94**	**134**	P	Pn	13 46 15.7	-1.7
NORC				S	Sn	13 46 40.8	-1.8
CAPC	**Capurgana**	**2.00**	**328**	P	Pn	13 46 17.2	-0.9
CAPC				S	Sn	13 46 44.0	0.0
NIZA	**Niza - Manizal**	**2.02**	**157**	P	Pn	13 46 18.5	-0.2
NIZA				S	Sb	13 46 46.5	-0.2
BRJC	**Barrancabermej**	**2.51**	**89**	P	Pn	13 46 25.7	+0.6
BRJC				S	Sn	13 46 58.3	+1.9
ANIL	**Santa Ana**	**2.57**	**160**	P	Pb	13 46 28.3	-1.9
ANIL				S	Sb	13 47 02.1	-0.4
ROSC	**El Rosal**	**2.84**	**137**	P	Pn	13 46 32.2	+2.2
ROSC				S	Sb	13 47 10.2	-0.2
YOTC	**Yotoco, Valle**	**2.93**	**181**	P	Pn	13 46 28.2	-2.8
YOTC				S	Sn	13 47 04.1	-2.8
BARC	**Barichara**	**3.08**	**96**	P	Pn	13 46 32.7	-0.5
BARC				S	Sn	13 47 12.2	+1.2
MALC	**Bahia Malaga**	**3.09**	**200**	P	Pn	13 46 33.1	+0.1
SJCC	**San Jacinto, C**	**3.14**	**20**	P	Pn	13 46 35.1	+1.3
SJCC				S	Sn	13 47 08.1	-4.0
ORTC	**Ortega, Tolima**	**3.17**	**161**	P	Pn	13 46 35.5	+1.3
ORTC				S	Sb	13 47 17.5	-2.0
BOG	**Bogota**	**3.17**	**136**	P	Pn	13 46 36.2	+1.7
BOG				S	Sn	13 47 15.5	+2.2
OCAC	**Ocana**	**3.20**	**66**	P	Pn	13 46 34.0	-0.8
OCAC				S	Sn	13 47 14.1	+0.4
CVER	**Cruz Verde, Cu**	**3.24**	**137**	P	Pn	13 46 37.3	+1.7
CVER				S	Sn	13 47 11.2	-3.9
RUSC	**La Rusia**	**3.33**	**108**	P	Pn	13 46 36.6	-0.2
RUSC				S	Sn	13 47 19.1	+1.7
PRAC	**Prado**	**3.48**	**157**	P	Pn	13 46 39.9	+1.4
PRAC				S	Sb	13 47 30.8	+2.4
PAMC	**Pamplona, Colo**	**3.57**	**83**	P	Pn	13 46 39.8	-0.3
PAMC				S	Sn	13 47 22.8	-0.4
AZU	**Azuero**	**4.06**	**282**	P	Pn	13 46 44.4	-2.1
AZU				S	Sn	13 47 30.2	-4.6
POPC	**Popayan, Colom**	**4.38**	**185**	P	Pn	13 46 50.3	-0.7
POPC				S	Sn	13 47 41.5	-1.4
SDV	**Santo Domingo**	**5.91**	**70**	P	Pn	13 47 12.3	+0.2
SDV				S	Sn	13 48 18.4	-2.3

*NEIC **15** 13:49:58.5±1.0, 17°.46N±0°.06×145°.7E±0°.1, h194km±7km, mb4.4/44, Error ellipse: s-maj=19.8km s-min=8.2km az=93.0*
*IDC **15** 13:49:58.3±1.6, 17°.45N×145°.68E, h208km±15km, mb3.3/14, mbtmp4.0/16, MS3.1/1, Error ellipse: s-maj=18.9km s-min=10.6km az=84.0*
ISC 15 13:49:58.4±0.5,**17°.47N**±0°.06×**145°.66E**±0°.10,**h200**km,**n71,** σ**0**s**78**/65,**mb4.2**/35,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.93**	**191**	Pn	**Pn**	**13 50 59.1**	**-0.3**
GUMO	**Guam**	**3.93**	**191**	P	**Pn**	**13 50 59.3**	**-0.1**
	111nm,0.3s,baz=32,slow=3.4,SNR=18						
GUMO				S	**Sn**	**13 51 47.9**	**+0.6**
	104nm,0.3s,baz=6.9,slow=22,SNR=7.6						
JOW	**Kunigami**	**18.58**	**303**	P	**Pn**	**13 54 03.1**	**-0.3**
JOW	**Kunigami**	**18.58**	**303**	P	**P**	**13 54 01.7**	**+1.1**
	27nm,0.5s,baz=122,slow=12,SNR=14						
H11S3	**WAKE ISLAND Hy**	**20.03**	**84**	T	T	14 15 21.7	
	baz=265						
H11S1	**WAKE ISLAND Hy**	**20.05**	**84**	T	T	14 15 24.8	
	baz=265						
H11S2	**WAKE ISLAND Hy**	**20.05**	**84**	T	T	14 15 20.9	
	baz=265						
MJB9	**Matsu-Tunnel**	**20.11**	**342**	P	**P**	**13 54 15.3**	**-1.7**
MJB9				IAmb	IAmb	13 54 19.7	
	comp=Z,31nm,1.5s						
H11N1	**WAKE ISLAND Hy**	**20.25**	**80**	T	T	14 15 43.4	
	baz=264,slow=74,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**20.26**	**80**	T	T	14 15 33.4	
	baz=264,slow=74,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**20.27**	**80**	T	T	14 15 45.0	
	baz=264,slow=74,SNR=6.9						
RABL	**Rabaul**	**22.46**	**163**	P	**P**	**13 54 41.0**	**-0.1**
YHNB	**Yeheng**	**23.74**	**292**	P	**P**	**13 54 53.6**	**+0.9**
TGY	**Tagaytay City**	**24.01**	**266**	LR	LR	14 03 36.3	
	comp=Z,43nm,20.5s,baz=201,slow=34						
FAKI	**Fak Fak**	**24.19**	**214**	P	**P**	**13 54 56.4**	**-0.4**
FAKI				IAmb	IAmb	13 55 13.2	
	comp=Z,15nm,1.0s						
KSRS	**Korea Array**	**25.29**	**325**	P	**P**	**13 55 05.5**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=141,slow=10,SNR=2.3						
	comp=Z,0.6nm,0.7s						
PMG	**Port Moresby**	**26.74**	**177**	P	**P**	**13 55 18.7**	**-1.0**
TOLI2	**Tolitoli**	**29.36**	**239**	P	**P**	**13 55 43.2**	**+0.1**
TOLI2				IAmb	IAmb	13 56 00.2	
	comp=Z,13nm,1.0s						
KKM	**Kota Kinabalu**	**30.92**	**252**	P	**P**	**13 55 57.2**	**+0.3**
COEN	**Coen**	**31.32**	**185**	P	**P**	**13 56 00.1**	**-0.1**
SBUM	**Sibu**	**36.05**	**249**	P	**P**	**13 56 41.5**	**+0.4**
SBUM				IAmb	IAmb	13 56 42.0	
	comp=Z,4.5nm,0.5s						
PETK	**Petropavlovsk-**	**36.80**	**12**	P	**P**	**13 56 47.4**	**+0.5**
KNRA	**Kununurra**	**36.91**	**208**	P	**P**	**13 56 47.8**	**-0.4**
KNRA				IAmb	IAmb	13 56 48.4	
	comp=Z,6.2nm,0.8s						
WB0	**Warramunga Arr**	**38.62**	**197**	P	**P**	**13 57 01.9**	**-0.6**
WB0				IAmb	IAmb	13 57 03.4	
	comp=Z,9.3nm,1.4s						
WR8	**Warramunga Arr**	**38.77**	**197**	P	**P**	**13 57 03.5**	**-0.3**
WR8				IAmb	IAmb	13 57 04.3	
	comp=Z,6.1nm,1.0s						
WRA	**Warramunga Arr**	**38.80**	**197**	P	**P**	**13 57 01.9**	**-2.1**
	comp=Z,3.2nm,0.9s,baz=19,slow=9.0,SNR=19						
	comp=Z,3.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.46**	**210**	P	**P**	**13 57 17.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**40.46**	**210**	P	**P**	**13 57 16.6**	**-1.1**
	comp=Z,4.9nm,0.7s,baz=24,slow=10,SNR=24						
	comp=Z,4.9nm,0.7s						
AS31	**Alice Springs**	**42.46**	**196**	P	**P**	**13 57 33.8**	**-0.2**
ASAR	**Alice Springs**	**42.46**	**196**	P	**P**	**13 57 33.8**	**-0.2**
ASAR	**Alice Springs**	**42.46**	**196**	P	**P**	**13 57 33.1**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=17,slow=9.1,SNR=24						
	comp=Z,0.4nm,0.4s						
SONM	**Songino Array**	**44.08**	**322**	P	**P**	**13 57 48.1**	**+1.3**
SONM	**Songino Array**	**44.08**	**322**	P	**P**	**13 57 45.9**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=118,slow=7.5,SNR=2.5						
	comp=Z,0.4nm,0.5s						
DZM	**Mont Dzumac**	**44.26**	**152**	P	**P**	**13 57 48.8**	**+0.5**
DZM				IAmb	IAmb	13 57 50.0	
	comp=Z,17nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.35**	**279**	P	**P**	**13 57 49.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=72,slow=6.5,SNR=5.4						
	comp=Z,0.3nm,0.4s						
KULM	**Kulim**	**45.63**	**260**	P	**P**	**13 58 00.7**	**+1.4**
KULM				IAmb	IAmb	13 58 21.5	
	comp=Z,6.2nm,1.0s						
MBWA	**Marble Bar**	**46.04**	**215**	P	**P**	**13 58 02.1**	**-0.2**
MBWA				IAmb	IAmb	13 58 26.8	
	comp=Z,15nm,1.3s						
PSA00	**Pilbara Seismi**	**46.31**	**214**	P	**P**	**13 58 04.9**	**+0.4**
PSA00				IAmb	IAmb	13 58 42.4	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**49.22**	**185**	P	**P**	**13 58 26.9**	**+0.3**
STKA	**Stephens Creek**	**49.22**	**185**	P	**P**	**13 58 26.1**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=359,slow=4.7,SNR=6.4						
	comp=Z,1.9nm,0.5s						
BBOO	**Buckleboo**	**50.83**	**190**	P	**P**	**13 58 38.3**	**-0.3**
BBOO				IAmb	IAmb	13 58 47.2	
	comp=Z,23nm,1.4s						
FORT	**Forrest**	**50.87**	**200**	P	**P**	**13 58 38.8**	**-0.2**
FORT				IAmb	IAmb	13 58 45.3	
	comp=Z,22nm,1.1s						
UNV	**Unalaska Valle**	**51.69**	**34**	P	**P**	**13 58 45.3**	**+0.5**
LVA	**Lava Point**	**52.08**	**34**	P	**P**	**13 58 48.2**	**+0.5**
BILL	**Bilibino**	**52.23**	**10**	P	**P**	**13 58 48.5**	**-0.1**
MORW	**Morawa**	**54.39**	**212**	P	**P**	**13 59 04.3**	**-0.6**
O14K	**Tigyukauivet M**	**56.60**	**29**	P	**P**	**13 59 21.1**	**+0.9**
O15K	**Ungalikthiuk R**	**57.25**	**30**	P	**P**	**13 59 25.5**	**+0.7**
O15K				IAmb	IAmb	13 59 59.0	
	comp=Z,14nm,1.4s						

N15K	**Kwethluk River**	**57.51**	**29**	P	**P**	**13 59 27.8**	**+1.2**
N15K				IAmb	IAmb	14 00 04.2	
	comp=Z,16nm,1.4s						
L16K	**Owhat River**	**58.40**	**27**	P	**P**	**13 59 33.0**	**+0.3**
L16K				IAmb	IAmb	13 59 46.3	
	comp=Z,7.9nm,1.3s						
ZALV	**Zalesovo Beam**	**58.96**	**323**	P	**P**	**13 59 35.8**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=104,slow=6.1,SNR=2.0						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**59.28**	**314**	P	**P**	**13 59 37.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=76,slow=11,SNR=12						
	comp=Z,0.2nm,0.3s						
C16K	**Lisburne Hills**	**59.34**	**19**	P	**P**	**13 59 39.1**	**+0.1**
C16K				IAmb	IAmb	14 00 08.4	
	comp=Z,6.2nm,1.5s						
H18K	**Honhosa River**	**60.26**	**24**	P	**P**	**13 59 45.9**	**+0.5**
H18K				IAmb	IAmb	13 59 48.1	
	comp=Z,5.2nm,1.1s						
J20K	**Nowinta River**	**61.58**	**26**	P	**P**	**13 59 55.1**	**+0.8**
J20K				IAmb	IAmb	14 00 10.9	
	comp=Z,6.0nm,1.4s						
PPLA	**Purkeypile**	**62.01**	**27**	P	**P**	**13 59 57.7**	**+0.3**
PPLA				IAmb	IAmb	14 00 05.7	
	comp=Z,5.6nm,1.3s						
KURBB	**Kurchatov Arra**	**62.20**	**318**	P	**P**	**13 59 57.4**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=98,slow=7.1,SNR=18						
	comp=Z,1.5nm,0.5s						
D20K	**Etivluk River**	**62.37**	**20**	P	**P**	**14 00 00.0**	**+0.5**
D20K				IAmb	IAmb	14 00 00.3	
	comp=Z,3.1nm,0.5s						
BPAW	**Bear Paw Mtn.**	**62.87**	**26**	P	**P**	**14 00 03.0**	**+0.1**
D22K	**Ayikyak River**	**63.75**	**21**	P	**P**	**14 00 09.4**	**+0.8**
CCB	**Clear Creek Bu**	**64.35**	**26**	P	**P**	**14 00 11.6**	**-0.9**
H24K	**Noodor Dome**	**64.61**	**25**	P	**P**	**14 00 14.8**	**+0.5**
TOLK	**Toolik Lake Re**	**64.75**	**21**	P	**P**	**14 00 15.3**	**+0.2**
ILAR	**Eielson Array**	**64.76**	**26**	P	**P**	**14 00 13.9**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=250,slow=5.8,SNR=25						
	comp=Z,0.7nm,0.4s						
RIDG	**Independent Ri**	**65.42**	**27**	P	**P**	**14 00 19.4**	**-0.1**
RIDG				IAmb	IAmb	14 00 21.0	
	comp=Z,2.3nm,0.6s						
BMAR	**Burnt Mountain**	**66.26**	**23**	P	**P**	**14 00 25.7**	**+1.0**
H27K	**Steamboat Mount**	**67.23**	**25**	P	**P**	**14 00 31.3**	**+0.4**
BVAR	**Borovoye Array**	**67.39**	**321**	P	**P**	**14 00 30.7**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=105,slow=6.8,SNR=8.1						
	comp=Z,1.0nm,0.4s						
L29M	**L29M**	**68.34**	**28**	P	**P**	**14 00 38.5**	**+0.6**
YKA	**Yellowknife Ar**	**79.09**	**28**	P	**P**	**14 01 39.5**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=290,slow=5.2,SNR=4.8						
	comp=Z,0.2nm,0.7s						
NVAR	**Mina Array Bea**	**83.93**	**52**	P	**P**	**14 02 07.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=276,slow=6.4,SNR=7.6						
	comp=Z,0.9nm,0.6s						

*IDC **15** 13:53:25.1±9.1, 18°.31N×77°.28W, h0km, mb3.4/1, mbtmp3.4/1, MS2.9/1, Error ellipse: s-maj=621.8km s-min=59.5km az=43.0*
*JSN **15** 13:53:30.2±0.8, 18°.13N×78°.02W, h12km±9km, MD4.0*
*SSNC **15** 13:53:31.8±1.2, 18°.29N×77°.97W, h10km±9km, MD3.8, ML3.6*
ISC 15 13:53:29.7±1.8,**18°.26N**±0°.09×**77°.95W**±0°.04,**h15**km±15km, **n26,** σ1s**51**/43,**4D,Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**0.40**	**95**	*e*P	**Pb**	**13 53 39.1**	**+0.5**
MTDJ				*e*S	**Sb**	**13 53 45.5**	**+0.9**
MTDJ				IAML		13 53 49.3	
	11μm,0.5s						
MTDJ				IAML		13 53 54.4	
	comp=Z,9μm,0.3s						
MTDJ	**Mount Denham**	**0.40**	**95**	↓*i*P	**Pb**	**13 53 39.1**	**+0.5**
MTDJ				*i* S	**Sb**	**13 53 45.7**	**+1.1**
MCJ	**Malvern**	**0.42**	**143**	↓*i*P	**Pg**	**13 53 37.5**	**-0.7**
STH	**Stony Hill**	**1.10**	**99**	*e*P	**Pb**	**13 53 50.1**	**-0.5**
STH				*e*S	**Sb**	**13 54 05.0**	**+0.2**
STH	**Stony Hill**	**1.10**	**99**	↓*i*P	**Pb**	**13 53 50.1**	**-0.5**
HOJ	**Hope**	**1.17**	**102**	↓*i*P	**Pb**	**13 53 51.4**	**-0.4**
PILO	**Pilon**	**1.72**	**17**	*e*P	**Pn**	**13 53 59.3**	**+0.1**
PILO				*e*S	**Sn**	**13 54 18.8**	**-2.2**
PILO				IAML		13 54 23.0	
	comp=N,230nm,0.3s						
PILO				IAML		13 54 23.0	
	comp=E,469nm,0.3s						
LMGC	**Las Mercedes**	**2.00**	**26**	*e*P	**Pn**	**13 54 03.2**	**+0.1**
LMGC				*e*S	**Sn**	**13 54 26.2**	**-1.8**
LMGC				IAML		13 54 30.0	
	comp=E,295nm,0.1s						
LMGC				IAML		13 54 31.5	
	comp=N,364nm,0.0s						
CHIV	**Chivirico**	**2.24**	**40**	*e*P	**Pn**	**13 54 06.1**	**-0.3**
CHIV				*e*S	**Sn**	**13 54 32.0**	**-1.8**
CHIV				IAML		13 54 38.4	
	comp=E,91nm,0.1s						
CHIV				IAML		13 54 38.8	
	comp=N,77nm,0.2s						
CBCY	**The Bluff, Cay**	**2.25**	**311**	*e*P	**Pn**	**13 54 06.0**	**-0.5**
CBCY				*e*S	**Sn**	**13 54 32.0**	**-2.1**
CBCY				IAML		13 54 32.9	
	comp=E,746nm,0.2s						
CBCY				IAML		13 54 34.1	
	comp=N,612nm,0.3s						
MARVS	**Santiago de Cu**	**2.60**	**48**	*e*P	**Pn**	**13 54 10.6**	**-0.7**
MARVS				*e*S	**Sn**	**13 54 40.6**	**-2.1**
MARVS				IAML		13 54 41.4	
	comp=E,72nm,0.3s						
MARVS				IAML		13 54 43.7	
	comp=N,84nm,0.1s						
RCC	**Rio Carpintero**	**2.74**	**51**	*e*P	**Pn**	**13 54 12.9**	**-0.4**
RCC				*e*S	**Sn**	**13 54 44.2**	**-2.0**
RCC				IAML		13 54 47.1	
	comp=N,76nm,0.8s						
RCC				IAML		13 54 54.9	
	comp=E,59nm,0.8s						
PINC	**Pinares de May**	**3.01**	**42**	*e*P	**Pn**	**13 54 17.6**	**+0.6**
PINC				*e*S	**Sn**	**13 54 53.7**	**+0.9**
PINC				IAML		13 54 55.3	
	comp=N,90nm,0.2s						
PINC				IAML		13 54 57.6	
	comp=E,89nm,0.1s						
GTBY	**Guantanamo Bay**	**3.16**	**58**	*e*P	**Pn**	**13 54 18.9**	**-0.1**
GTBY				*e*S	**Sn**	**13 54 53.7**	**-2.7**
GTBY				IAML		13 54 59.1	
	comp=E,75nm,0.2s						
GTBY				IAML		13 54 59.2	
	comp=E,110nm,0.5s						
HLGC	**Holguin**	**3.17**	**34**	*e*P	**Pn**	**13 54 19.9**	**+0.7**
HLGC				*e*S	**Sn**	**13 54 56.5**	**-0.1**
HLGC				IAML		13 55 04.9	
	comp=N,140nm,0.5s						
HLGC				IAML		13 55 05.5	
	comp=E,123nm,0.8s						
QMBU	**Quimbuelo**	**3.54**	**56**	*e*P	**Pn**	**13 54 24.1**	**-0.2**
QMBU				*i* P	**Pn**	**13 54 24.4**	**+0.1**
QMBU				*e*S	**Sn**	**13 55 03.4**	**-2.5**
QMBU				IAML		13 55 07.0	
	comp=E,152nm,0.5s						
QMBU				IAML		13 55 08.8	
	comp=N,170nm,0.3s						
NMDO	**Nuevo Mundo**	**3.62**	**50**	*i* P	**Pn**	**13 54 26.5**	**+1.2**
NMDO				*i* S	**Sn**	**13 55 04.2**	**-3.6**
MOAC	**Moa**	**3.70**	**49**	*e*P	**Pn**	**13 54 29.6**	**+3.2**
MOAC				*e*S	**Sn**	**13 55 10.8**	**+1.1**
MOAC				IAML		13 55 16.0	
	comp=E,58nm,0.7s						
MOAC				IAML		13 55 19.0	
	comp=N,70nm,0.6s						
MASC	**Masc**	**4.00**	**61**	*e*P	**Pn**	**13 54 31.9**	**+1.4**
MASC				*e*S	**Sn**	**13 55 17.1**	**-0.1**
MASC				IAML		13 55 24.7	
	comp=E,54nm,0.5s						
MASC				IAML		13 55 25.8	
	comp=N,45nm,0.4s						
CAIB	**Caibarien**	**4.45**	**342**	*e*P	**Pn**	**13 54 38.7**	**+2.1**
CAIB				*e*S	**Sn**	**13 55 28.2**	**0.0**
CAIB				IAML		13 55 32.6	
	comp=E,84nm,0.8s						
CAIB				IAML		13 55 33.1	
	comp=N,100nm,0.1s						
SDDR	**Presa de Saban**	**6.36**	**82**	*e*P	**Pn**	**13 55 04.5**	**+1.4**
GRTK	**Grand Turk**	**7.18**	**62**	*i* P	**Pn**	**13 55 16.1**	**+1.7**
TXAR	**Lajitas Array**	**25.92**	**300**	P	**P**	**13 59 04.2**	**+2.5**
	comp=N,0.4nm,0.6s,baz=118,slow=9.3,SNR=5.4						
	comp=N,0.4nm,0.6s						

ELK	**Elko**	**39.02**	**313**	LR	LR	14 17 57.3	
	comp=N,16nm,20.1s,baz=5.0,slow=37						
WRA	**Warramunga Arr**	**149.46**	**262**	PKPbc	**PKPbc**	**14 13 18.5**	**-0.8**
	comp=N,0.7nm,0.5s,baz=85,slow=2.9,SNR=7.4						
ASAR	**Alice Springs**	**149.81**	**254**	PKPbc	**PKPbc**	**14 13 18.9**	**-1.1**
	comp=N,1.5nm,0.7s,baz=89,slow=2.0,SNR=22						

IDC 15 14:20:13.8±2.3,**4°.31S**×**141°.16E,h0**km,**mb3.6**/2, **mbtmp3.7**/3,**ML3.8**/1,**Error ellipse: s-maj=77.0km s-min=13.9km az=83.0,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.84**	**346**	Pn	Pb	14 20 47.7	-0.7
	3.9nm,0.3s,baz=163,slow=12,SNR=17						
JAY				Lg	Lg	14 21 11.4	
	7.1nm,0.3s,baz=315,slow=13,SNR=10						
WRA	**Warramunga Arr**	**16.90**	**203**	Pn	P	14 24 13.3	-0.8
	0.3nm,0.3s,baz=27,slow=12,SNR=18						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**20.48**	**199**	P	P	14 24 52.0	-1.5
	0.6nm,0.6s,baz=29,slow=11,SNR=16						
	0.6nm,0.6s						
STKA	**Stephens Creek**	**27.43**	**179**	P	P	14 26 01.9	+0.4
	0.7nm,0.3s,baz=349,slow=10,SNR=1.9						
	0.7nm,0.3s						

*IDC **15** 14:25:25.1±0.9, 60°.66N×141°.64W, h0km, mb3.8/12, mbtmp3.8/16, ML3.4/4, MS3.2/12, Error ellipse: s-maj=17.7km s-min=14.1km az=9.0*
*AEIC **15** 14:25:27.0±1.3, 60°.65N±0°.02×141°.51W±0°.02, h15km±7km, ML3.8, ML3.8/180(NEIC), Mwr3.9/103(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=174.0*
*PGC **15** 14:25:27.4, 60°.55N×141°.50W, h10km, ML4.0/32, 146km northwest of Yakutat, Ak Southeastern Alaska*
*NEIC **15** 14:25:27.7±2.6, 60°.63N±0°.03×141°.53W±0°.05, h25km±6km, Error ellipse: s-maj=4.3km s-min=3.4km az=209.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}-0.19; $M_{\theta\theta}$0.33; $M_{r\theta}$-0.13; $M_{r\phi}$0.95; $M_{\theta\phi}$-0.21; $M_{\phi\phi}$-0.05; Fault plane solution: $M_0$1.02000×10^15^ NP1: ϕ_s146.36000°, δ13.07000°, λ-36.47000°. NP2: ϕ_s272.11000°, δ82.27000°, λ-100.58000°. Principal axes: T 1.0834, Plg36.0000°, Azm11.0000°; N -0.1542, Plg10.0000°, Azm274.0000°; P -0.9293, Plg52.0000°, Azm170.0000°;*
*NEIC **15** 14:25:27, 60°.65N×141°.52W, h15km*
*ANF **15** 14:25:28.2±0.3, 60°.53N×141°.41W, h20km±2km, ML4.1/69, Error ellipse: s-maj=1.2km s-min=0.8km az=1.0*
ISC 15 14:25:27.5±0.8,**60°.61N**±0°.02×**141°.48W**±0°.01,**h18**km±6km, **n486,** σ1s**46**/532,**mb3.8**/12,**MS3.1**/8,**Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAH	**Yahtse**	**0.28**	**207**	Pg	**Pg**	**14 25 33.7**	**-0.2**
RKAV	**Rock Avalanche**	**0.32**	**168**		**Pg**	**14 25 34.0**	**-0.5**
RKAV					**Sg**	**14 25 38.9**	**-0.3**
RKAV	**Rock Avalanche**	**0.32**	**168**	P	**Pg**	**14 25 33.5**	**-0.9**
RKAV				S	**Sg**	**14 25 38.9**	**-0.3**
MESA	**MESA**	**0.49**	**208**		**Pg**	**14 25 37.6**	**+0.2**
MESA	**MESA**	**0.49**	**208**		**Sg**	**14 25 45.2**	**+1.0**
MESA	**MESA**	**0.49**	**208**	P	**Pg**	**14 25 37.4**	**-0.1**
MESA				S	**Sg**	**14 25 44.7**	**+0.5**
MESA	**MESA**	**0.49**	**208**	P	**Pg**	**14 25 37.7**	**+0.2**
	baz=37,SNR=1000						
MESA				S	**Sg**	**14 25 44.8**	**+0.5**
	baz=37						
KIAG	**Kiagna River**	**0.53**	**306**		**Pg**	**14 25 37.7**	**-0.5**
KIAG					**Sg**	**14 25 44.9**	**-0.4**
KIAG	**Kiagna River**	**0.53**	**306**	P	**Pg**	**14 25 37.4**	**-0.8**
KIAG				S	**Sg**	**14 25 45.0**	**-0.4**
BARK	**Barkley Ridge**	**0.54**	**248**		**Pg**	**14 25 38.0**	**-0.3**
BARK					**Sg**	**14 25 45.3**	**-0.3**
CHX	**Chaix Hills**	**0.58**	**162**		**Pg**	**14 25 39.1**	**0.0**
CHX					**Sg**	**14 25 47.8**	**+1.0**
SAMH	**Samovar Hills**	**0.60**	**144**		**Pg**	**14 25 39.1**	**-0.2**
SAMH					**Sg**	**14 25 48.3**	**+1.0**
SAMH	**Samovar Hills**	**0.60**	**144**	P	**Pg**	**14 25 39.1**	**-0.2**
SAMH				S	**Sg**	**14 25 48.4**	**+1.0**
BALM	**Baldy**	**0.60**	**316**		**Pg**	**14 25 38.7**	**-0.7**
BALM					**Sg**	**14 25 46.7**	**-0.8**
BALM	**Baldy**	**0.60**	**316**	P	**Pg**	**14 25 38.4**	**-1.0**
BALM				S	**Sg**	**14 25 47.2**	**-0.2**
O28M	**Mount Upton**	**0.66**	**75**		**Pg**	**14 25 39.7**	**-0.8**
O28M	**Mount Upton**	**0.66**	**75**		**Sg**	**14 25 48.6**	**-0.7**
O28M	**Mount Upton**	**0.66**	**75**	P	**Pg**	**14 25 39.6**	**-0.9**
O28M				S	**Sg**	**14 25 48.6**	**-0.7**
O28M	**Mount Upton**	**0.66**	**75**	P	**Pg**	**14 25 39.8**	**-0.8**
	baz=249,SNR=280						
O28M				S	**Sg**	**14 25 49.2**	**-0.1**
	baz=249						
WAX	**Waxell Ridge**	**0.70**	**257**		**Pg**	**14 25 40.6**	**-0.6**
WAX	**Waxell Ridge**	**0.70**	**257**		**Sg**	**14 25 50.7**	**+0.3**
CYK	**Cape Yakataga**	**0.73**	**224**		**Pg**	**14 25 41.5**	**-0.2**
CYK					**

O29M	**Mount Kennedy**	**1.47 101**	P	**Pn**	**14 25 53.4 +0.1**
	baz=281,SNR=218				
O29M			S	**Sn**	**14 26 12.5 +0.4**
	baz=281				
YUK4	**Talbot Arm**	**1.57 61**	P	**Pb**	**14 25 57.0 +1.0**
YUK4			S	**Sg**	**14 26 19.7 +1.7**
YUK4	**Talbot Arm**	**1.57 61**	P	**Pb**	**14 25 57.5 +1.5**
	baz=238,SNR=154				
YUK4			Sb	**Sg**	**14 26 19.8 +1.7**
	baz=238				
YUK6	**Outpost Mounta**	**1.57 76**		**Pn**	**14 25 55.5 +0.9**
YUK6	**Outpost Mounta**	**1.57 76**	P	**Pn**	**14 25 55.5 +0.9**
YUK6			S	**Sb**	**14 26 17.1 +1.5**
YUK6	**Outpost Mounta**	**1.57 76**	P	**Pn**	**14 25 55.6 +0.9**
	baz=256,SNR=189				
YUK6			Sb	**Sb**	**14 26 16.9 +1.3**
	baz=256				
BMRM	**Bremner River**	**1.57 284**		**Pn**	**14 25 53.9 -0.6**
BMRM			IAML		14 26 19.6
	comp=E,2µm,0.6s				
BMRM	**Bremner River**	**1.57 284**	P	**Pn**	**14 25 53.9 -0.6**
	baz=104,SNR=337				
BMRM			S	**Sn**	**14 26 14.9 +0.5**
	baz=104				
RAGM	**Ragged Mountai**	**1.59 263**		**Pn**	**14 25 55.2 +0.3**
GOAT	**Goat Mountain**	**1.60 270**		**Pn**	**14 25 55.4 +0.4**
KAIM	**Kayak Island**	**1.62 246**		**Pn**	**14 25 55.0 0.0**
KAIM			IAML		14 26 31.0
	comp=E,799nm,0.9s				
KAIM			IAML		14 26 31.0
	comp=N,963nm,0.6s				
KAIM	**Kayak Island**	**1.62 246**	P	**Pn**	**14 25 55.2 +0.1**
	baz=66,SNR=27				
KAIM			S	**Sn**	**14 26 16.5 +1.1**
	baz=66				
YUK7	**Dusty Glacier**	**1.65 91**		**Pn**	**14 25 56.4 +0.7**
YUK7	**Dusty Glacier**	**1.65 91**	P	**Pn**	**14 25 56.2 +0.4**
YUK7			S	**Sn**	**14 26 19.1 +2.4**
M27K	**Edge Creek, AK**	**1.76 354**		**Pn**	**14 25 58.7 +1.5**
M27K			IAML		14 26 37.0
	comp=N,848nm,0.9s				
M27K			IAML		14 26 37.8
	comp=E,744nm,1.1s				
M27K	**Edge Creek, AK**	**1.76 354**	P	**Pn**	**14 25 58.7 +1.5**
M27K	**Edge Creek, AK**	**1.76 354**	P	**Pn**	**14 25 59.0 +1.8**
	baz=172,SNR=394				
M27K			S	**Sb**	**14 26 21.8 +0.7**
	baz=172				
N25K	**Chitina, Valde**	**1.81 305**		**Pn**	**14 25 58.2 +0.4**
N25K			IAML		14 26 24.4
	comp=N,762nm,0.5s				
N25K	**Chitina, Valde**	**1.81 305**	P	**Pn**	**14 25 57.4 -0.4**
N25K			S	**Sn**	**14 26 22.2 +1.8**
N25K	**Chitina, Valde**	**1.81 305**	P	**Pn**	**14 25 57.9 +0.1**
	baz=123,SNR=216				
N25K			S	**Sb**	**14 26 22.7 +0.2**
	baz=123				
BVCY	**Beaver Creek**	**1.83 9**		**Pn**	**14 26 00.1 +2.0**
BVCY	**Beaver Creek**	**1.83 9**	P	**Pn**	**14 26 00.1 +2.0**
BVCY			S	**Sb**	**14 26 23.9 +0.9**
BVCY	**Beaver Creek**	**1.83 9**	P	**Pn**	**14 26 00.0 +2.0**
	baz=188,SNR=501				
BVCY			Sb	**Sg**	**14 26 25.9 -0.6**
	baz=188				
YUK5	**Granite Creek**	**1.85 72**		**Pn**	**14 25 59.8 +1.4**
YUK5	**Granite Creek**	**1.85 72**	P	**Pn**	**14 25 59.7 +1.4**
YUK5			S	**Sn**	**14 26 23.7 +2.4**
M26K	**Nabesna, AK**	**1.94 339**		**Pn**	**14 26 01.2 +1.6**
M26K			IAML		14 26 28.2
	comp=E,913nm,0.7s				
M26K			IAML		14 26 30.4
	comp=N,976nm,0.5s				
M26K	**Nabesna, AK**	**1.94 339**	P	**Pn**	**14 26 01.1 +1.6**
M26K			S	**Sb**	**14 26 27.3 +1.3**
M26K	**Nabesna, AK**	**1.94 339**	P	**Pn**	**14 26 01.3 +1.8**
	baz=157,SNR=539				
M26K			S	**Sb**	**14 26 27.0 +1.0**
	baz=157				
WACK	**Wrangell Chich**	**1.94 316**		**Pn**	**14 26 00.7 +0.9**
HYT	**Haines Junctio**	**1.97 82**		**Pn**	**14 26 00.4 +0.4**
HYT			IAML		14 26 29.8
	comp=E,993nm,0.7s				
HYT	**Haines Junctio**	**1.97 82**	P	**Pn**	**14 26 00.4 +0.4**
HYT			S	**Sn**	**14 26 25.5 +1.2**
HYT	**Haines Junctio**	**1.97 82**	P	**Pn**	**14 26 00.5 +0.5**
	baz=263,SNR=84				
EYAK	**Cordova Ski Ar**	**2.11 270**		**Pn**	**14 26 01.9 +0.2**
EYAK			IAML		14 26 42.6
	comp=E,523nm,0.8s				
EYAK			IAML		14 26 44.3
	comp=N,457nm,0.8s				
EYAK	**Cordova Ski Ar**	**2.11 270**	P	**Pn**	**14 26 02.9 +1.1**
EYAK	**Cordova Ski Ar**	**2.11 270**	P	**Pn**	**14 26 02.1 +0.3**
	baz=88,SNR=75				
EYAK			S	**Sn**	**14 26 29.7 +2.2**
	baz=88				
P29M	**Windy Craggy**	**2.12 116**		**Pn**	**14 26 01.7 -0.3**
P29M	**Windy Craggy**	**2.12 116**	P	**Pn**	**14 26 01.4 -0.6**
P29M			S	**Sn**	**14 26 29.5 +1.7**
P29M	**Windy Craggy**	**2.12 116**	P	**Pn**	**14 26 01.2 -0.8**
	baz=298,SNR=538				
P29M			Sb	**Sn**	**14 26 30.3 +2.4**
	baz=298				
DIV	**Divide**	**2.16 286**		**Pn**	**14 26 01.8 -0.8**
DIV			IAML		14 26 34.7
	comp=N,458nm,0.6s				
DIV	**Divide**	**2.16 286**	P	**Pn**	**14 26 03.1 +0.5**
DIV			S	**Sb**	**14 26 32.5 0.0**
N30M	**Aishikik Lake**	**2.30 66**		**Pn**	**14 26 05.1 +0.6**
N30M			IAML		14 26 47.8
	comp=N,390nm,0.7s				
N30M	**Aishikik Lake**	**2.30 66**	P	**Pn**	**14 26 05.1 +0.6**
N30M			S	**Sn**	**14 26 32.8 +0.4**
N30M	**Aishikik Lake**	**2.30 66**	P	**Pn**	**14 26 04.8 +0.2**
	baz=248,SNR=36				
N30M			S	**Sn**	**14 26 32.9 +0.5**
	baz=248				
P30M	**Million Dollar**	**2.30 100**		**Pn**	**14 26 04.7 +0.2**
P30M	**Million Dollar**	**2.30 100**	IAML		14 26 41.1
	comp=N,517nm,0.9s				
P30M			IAML		14 26 44.2
	comp=E,512nm,1.1s				
P30M	**Million Dollar**	**2.30 100**	P	**Pn**	**14 26 04.4 -0.2**
P30M	**Million Dollar**	**2.30 100**	P	**Pn**	**14 26 04.2 -0.3**
	baz=283				
KLU	**Klutina**	**2.33 294**		**Pn**	**14 26 05.8 +0.8**
KLU			IAML		14 26 41.7
	comp=E,728nm,0.5s				
KLU			IAML		14 26 44.5
	comp=N,807nm,0.8s				
KLU	**Klutina**	**2.33 294**	P	**Pn**	**14 26 05.9 +0.9**
	baz=111,SNR=179				
M29M	**Somme Creek**	**2.34 37**		**Pn**	**14 26 06.8 +1.7**
M29M	**Somme Creek**	**2.34 37**	P	**Pn**	**14 26 06.8 +1.7**
M29M			S	**Sn**	**14 26 35.7 +2.3**
M29M	**Somme Creek**	**2.34 37**	P	**Pn**	**14 26 06.8 +1.7**
	baz=218,SNR=152				
M29M			S	**Sn**	**14 26 35.1 +1.7**
	baz=218				
FID	**Port Fidalgo**	**2.46 275**	IAML		14 26 45.3
	comp=E,437nm,0.6s				
FID			IAML		14 26 55.9
	comp=N,327nm,0.6s				
L27K	**Beaver Creek,**	**2.46 356**	P	**Pn**	**14 26 08.0 +1.2**
L27K	**Beaver Creek,**	**2.46 356**	P	**Pn**	**14 26 08.1 +1.4**
	baz=175,SNR=178				
L27K			S	**Sn**	**14 26 38.7 +2.3**
	baz=175				
BCAR	**Beaver Creek A**	**2.47 357**		**Pn**	**14 26 08.1 +1.3**
HIN	**Hinchinbrook I**	**2.49 267**		**Pn**	**14 26 06.4 -0.8**
HIN			IAML		14 26 43.4
	comp=N,473nm,0.6s				
HIN			IAML		14 26 51.6
	comp=E,527nm,0.9s				
HARP	**HAARP**	**2.51 317**	P	**Pn**	**14 26 08.7 +1.3**
	baz=134,SNR=142				
L26K	**Log Cabin Wild**	**2.58 341**		**Pn**	**14 26 10.1 +1.8**
L26K	**Log Cabin Wild**	**2.58 341**	IAML		14 26 44.0
	comp=N,595nm,0.8s				
L26K	**Log Cabin Wild**	**2.58 341**	P	**Pn**	**14 26 10.1 +1.8**
L26K			S	**Sn**	**14 26 42.5 +3.3**
L26K	**Log Cabin Wild**	**2.58 341**	P	**Pn**	**14 26 10.2 +1.8**
	baz=159,SNR=220				
L26K			S	**Sb**	**14 26 43.2 -1.2**
	baz=159				
O30N	**Mendenhall**	**2.66 84**		**Pn**	**14 26 09.2 -0.3**
O30N			IAML		14 26 53.2
	comp=N,466nm,0.6s				
O30N			IAML		14 26 59.7
	comp=E,287nm,0.7s				
O30N	**Mendenhall**	**2.66 84**	P	**Pn**	**14 26 09.1 -0.3**
O30N			S	**Sn**	**14 26 42.4 +1.2**
O30N	**Mendenhall**	**2.66 84**	P	**Pn**	**14 26 09.4 -0.1**
	baz=267,SNR=20				
O30N			S	**Sn**	**14 26 41.4 +0.2**
	baz=267				
M24K	**Tolsona, Glenn**	**2.71 306**		**Pn**	**14 26 11.8 +1.6**
M24K	**Tolsona, Glenn**	**2.71 306**	IAML		14 26 52.2
	comp=E,429nm,1.0s				
M24K			IAML		14 27 00.9
	comp=N,409nm,1.1s				
M24K	**Tolsona, Glenn**	**2.71 306**	P	**Pn**	**14 26 11.8 +1.6**
	baz=122,SNR=47				
GLI	**Glacier Island**	**2.77 278**		**Pn**	**14 26 10.3 -0.6**
GLI			IAML		14 26 58.3
	comp=N,331nm,0.6s				
GLI			IAML		14 26 58.4
	comp=E,338nm,0.8s				
GLI	**Glacier Island**	**2.77 278**	P	**Pn**	**14 26 11.6 +0.7**
	baz=94,SNR=47				
N31M	**Braeburn, Yuko**	**2.91 70**		**Pn**	**14 26 13.4 +0.5**
N31M			IAML		14 27 08.6
	comp=N,433nm,0.6s				
N31M	**Braeburn, Yuko**	**2.91 70**	P	**Pn**	**14 26 13.6 +0.7**
N31M			Sn	**Sn**	**14 26 48.1 +0.8**
N31M			Sg	**Sg**	**14 26 59.8 -1.0**
N31M	**Braeburn, Yuko**	**2.91 70**	P	**Pn**	**14 26 12.9 +0.1**
	baz=253,SNR=7.6				
N31M			S	**Sn**	**14 26 48.2 +0.8**
	baz=253				
L29M	**L29M**	**2.97 31**		**Pn**	**14 26 15.5 +1.9**
L29M			IAML		14 27 09.3
	comp=N,382nm,0.6s				
L29M			IAML		14 27 09.6
	comp=E,336nm,0.7s				
L29M	**L29M**	**2.97 31**	P	**Pn**	**14 26 15.5 +1.9**
L29M	**L29M**	**2.97 31**	P	**Pn**	**14 26 15.6 +1.9**
	baz=212,SNR=261				
M30M	**Minto, Yukon**	**2.98 47**		**Pn**	**14 26 15.2 +1.3**
M30M	**Minto, Yukon**	**2.98 47**	IAML		14 27 06.1
	comp=N,274nm,0.9s				
M30M			IAML		14 27 09.8
	comp=E,234nm,1.1s				
M30M	**Minto, Yukon**	**2.98 47**	P	**Pn**	**14 26 15.2 +1.3**
M30M			Sg	**Sg**	**14 27 02.0 -1.3**
M30M	**Minto, Yukon**	**2.98 47**	P	**Pn**	**14 26 15.0 +1.1**
	baz=229				
M30M			Sb	**Sg**	**14 27 00.8 -2.5**
	baz=229				
P23K	**Montague Islan**	**3.01 261**		**Pn**	**14 26 13.8 -0.4**
P23K			IAML		14 27 17.0
	comp=N,239nm,0.7s				
P23K	**Montague Islan**	**3.01 261**	P	**Pn**	**14 26 13.7 -0.5**
	baz=77,SNR=22				
PAX	**Paxson**	**3.03 323**		**Pn**	**14 26 15.6 +1.0**
PAX	**Paxson**	**3.03 323**	P	**Pn**	**14 26 15.7 +1.2**
PAX	**Paxson**	**3.03 323**	P	**Pn**	**14 26 15.5 +1.0**
	baz=140,SNR=36				
PAX			Sb	**Sg**	**14 27 02.1 -2.6**
	baz=140				
SCM	**Sheep Creek Mo**	**3.08 296**	IAML		14 27 10.6
	comp=E,392nm,1.0s				
SCM	**Sheep Creek Mo**	**3.08 296**	P	**Pn**	**14 26 16.1 +0.8**
	baz=112,SNR=98				
SCM			S	**Sn**	**14 26 54.4 +2.8**
	baz=112				
M23K	**Glacier View**	**3.25 294**	P	**Pn**	**14 26 18.8 +1.4**
	baz=110				
M23K			S	**Sn**	**14 26 57.2 +1.6**
	baz=110				
WHY	**Whitehorse**	**3.25 86**		**Pn**	**14 26 17.8 +0.2**
WHY	**Whitehorse**	**3.25 86**	P	**Pn**	**14 26 17.9 +0.2**
WHY			Sn	**Sn**	**14 26 56.3 +0.3**
WHY	**Whitehorse**	**3.25 86**	P	**Pn**	**14 26 17.9 +0.2**
	baz=271,SNR=22				
WHY			S	**Sn**	**14 26 55.5 -0.4**
	baz=271				
DOT	**Dot Lake**	**3.28 339**	IAML		14 26 60.0
	comp=N,157nm,0.5s				
DOT	**Dot Lake**	**3.28 339**	P	**Pn**	**14 26 19.1 +1.2**
DOT			Sn	**Sn**	**14 26 58.6 +2.2**
SKAG	**Skagway**	**3.30 108**	IAML		14 27 16.1
	comp=N,175nm,1.1s				
SKAG	**Skagway**	**3.30 108**	S	**Sn**	**14 26 59.0 +2.2**
SKAG	**Skagway**	**3.30 108**	Pb	**Pb**	**14 26 24.4 -1.0**
	baz=292				
PWL	**Port Wells**	**3.37 277**		**Pn**	**14 26 20.6 +1.4**
PWL			IAML		14 27 17.3
	comp=N,171nm,0.9s				
PWL	**Port Wells**	**3.37 277**	P	**Pn**	**14 26 20.0 +0.7**
	baz=92				
K27K	**Chicken**	**3.44 356**		**Pn**	**14 26 21.7 +1.6**
K27K	**Chicken**	**3.44 356**	IAML		14 27 19.1
	comp=E,183nm,0.8s				
K27K	**Chicken**	**3.44 356**	P	**Pn**	**14 26 21.7 +1.6**
K27K			Sn	**Sn**	**14 27 01.6 +1.2**
K27K			Sg	**Sg**	**14 27 15.3 -2.5**
K27K	**Chicken**	**3.44 356**	P	**Pn**	**14 26 21.8 +1.7**
	baz=174				
K27K			S	**Sn**	**14 27 01.8 +1.5**
	baz=174				
KNK	**Knik Glacier**	**3.49 286**		**Pn**	**14 26 21.9 +1.1**
KNK	**Knik Glacier**	**3.49 286**	IAML		14 27 24.7
	comp=E,257nm,0.8s				
KNK	**Knik Glacier**	**3.49 286**	P	**Pn**	**14 26 22.1 +1.2**
	baz=101				
RIDG	**Independent Ri**	**3.51 335**		**Pn**	**14 26 23.0 +1.8**
RIDG	**Independent Ri**	**3.51 335**	IAML		14 27 27.4
	comp=E,153nm,1.1s				
RIDG			IAML		14 27 40.9
	comp=N,132nm,1.2s				
RIDG	**Independent Ri**	**3.51 335**	P	**Pn**	**14 26 22.8 +1.6**
	baz=152,SNR=26				
SML	**Sawmill**	**3.52 293**		**Pn**	**14 26 22.0 +0.7**
SML			IAML		14 27 16.5
	comp=E,206nm,0.8s				
SML			IAML		14 27 32.7
	comp=N,192nm,1.1s				
SML	**Sawmill**	**3.52 293**	P	**Pn**	**14 26 22.0 +0.7**
	baz=108				
SCRK	**Sand Creek**	**3.57 342**		**Pn**	**14 26 23.0 +1.0**
SCRK	**Sand Creek**	**3.57 342**	P	**Pn**	**14 26 23.3 +1.3**
	baz=159,SNR=142				
SCRK			S	**Sn**	**14 27 06.5 +2.6**
	baz=159				
DAWY	**Dawson**	**3.60 15**		**Pn**	**14 26 23.9 +1.6**
DAWY	**Dawson**	**3.60 15**	P	**Pn**	**14 26 24.1 +1.7**
DAWY			Sg	**Sb**	**14 27 18.4 +4.5**
DAWY	**Dawson**	**3.60 15**	P	**Pn**	**14 26 24.2 +1.8**
	baz=196,SNR=241				
DAWY			Sb	**Sg**	**14 27 19.5 -3.5**
	baz=196				
R31K	**City Hall, Gus**	**3.67 125**	P	**Pn**	**14 26 22.8 -0.4**
K29M	**Barlow Dome**	**3.73 28**		**Pn**	**14 26 26.5 +2.2**
K29M	**Barlow Dome**	**3.73 28**	IAML		14 27 37.4
	comp=E,124nm,0.9s				
K29M	**Barlow Dome**	**3.73 28**	P	**Pn**	**14 26 26.3 +2.0**
K29M	**Barlow Dome**	**3.73 28**	P	**Pn**	**14 26 26.4 +2.2**
	baz=210,SNR=483				
M31M	**Drury Creek, Y**	**3.76 62**	IAML		14 27 29.5
	comp=N,168nm,0.9s				
M31M			IAML		14 27 34.0
	comp=E,197nm,0.7s				
M31M	**Drury Creek, Y**	**3.76 62**	P	**Pn**	**14 26 25.8 +1.2**
M31M	**Drury Creek, Y**	**3.76 62**	P	**Pn**	**14 26 25.4 +0.8**
	baz=247,SNR=38				
K24K	**Donnelly Dome**	**3.78 330**	IAML		14 27 32.4
	comp=N,176nm,0.9s				
K24K			IAML		14 27 39.1
	comp=E,153nm,1.0s				
K24K	**Donnelly Dome**	**3.78 330**	P	**Pn**	**14 26 27.0 +2.1**
	baz=146,SNR=56				
GHO	**Glory Hole Cre**	**3.78 291**	IAML		14 27 29.9
	comp=E,247nm,0.8s				
S31K	**Pelican**	**3.79 132**		**Pn**	**14 26 23.8 -1.1**
S31K			IAML		14 27 32.7
	comp=N,113nm,0.8s				
S31K	**Pelican**	**3.79 132**	P	**Pn**	**14 26 23.7 -1.1**
S31K	**Pelican**	**3.79 132**	P	**Pn**	**14 26 23.9 -0.9**
	baz=317				
PMR	**Palmer**	**3.84 288**	IAML		14 27 33.2
	comp=E,120nm,1.0s				
PMR	**Palmer**	**3.84 288**	P	**Pn**	**14 26 28.4 +2.8**
PMR	**Palmer**	**3.84 288**	P	**Pn**	**14 26 27.1 +1.5**
	baz=102				
BESE	**Bessie Mountai**	**3.94 118**		**Pn**	**14 26 26.1 -1.0**
BESE			IAML		14 27 35.5
	comp=E,145nm,0.8s				
BESE			IAML		14 27 36.7
	comp=N,145nm,1.0s				
BESE	**Bessie Mountai**	**3.94 118**	P	**Pn**	**14 26 26.0 -1.0**
SEW	**Seward**	**3.99 266**		**Pn**	**14 26 26.8 -0.8**
SEW	**Seward**	**3.99 266**	P	**Pn**	**14 26 27.5 -0.2**
	baz=80				
SEW			S	**Sn**	**14 27 15.4 +1.5**
	baz=80				
J26L	**Joseph Creek**	**4.02 347**	IAML		14 27 36.9
	comp=N,112nm,0.9s				
J26L			IAML		14 27 41.2
	comp=E,114nm,0.9s				
J26L	**Joseph Creek**	**4.02 347**	P	**Pn**	**14 26 30.0 +1.8**
	baz=165,SNR=310				
J26L			S	**Sn**	**14 27 16.5 +1.7**
	baz=165				
P32M	**Atlin**	**4.02 101**	IAML		14 27 41.2
	comp=N,94nm,1.0s				
P32M			IAML		14 27 41.5
	comp=E,86nm,0.6s				
P32M	**Atlin**	**4.02 101**	P	**Pn**	**14 26 27.4 -0.8**
P32M	**Atlin**	**4.02 101**	P	**Pn**	**14 26 27.2 -1.0**
	baz=287				
P32M			S	**Sn**	**14 27 14.0 -0.9**
	baz=287				
RC01	**Rabbit Creek A**	**4.07 280**		**Pn**	**14 26 29.5 +0.8**
RC01	**Rabbit Creek A**	**4.07 280**	IAML		14 27 38.1
	comp=E,103nm,0.8s				
RC01			IAML		14 27 39.1
	comp=N,188nm,0.7s				
RC01	**Rabbit Creek A**	**4.07 280**	P	**Pn**	**14 26 30.4 +1.6**
	baz=94,SNR=15				
O22K	**Cooper Landing**	**4.07 272**	P	**Pn**	**14 26 29.8 +1.1**
	baz=86				
J29N	**Klondike Camp**	**4.14 20**		**Pn**	**14 26 31.9 +2.1**
J29N	**Klondike Camp**	**4.14 20**	P	**Pn**	**14 26 31.9 +2.1**
J29N	**Klondike Camp**	**4.14 20**	P	**Pn**	**14 26 32.0 +2.3**
	baz=202,SNR=140				
N32M	**Quiet Lake**	**4.14 79**	P	**Pn**	**14 26 29.3 -0.5**
FARO	**Faro, Yukon**	**4.23 64**		**Pn**	**14 26 32.2 +1.2**
FARO	**Faro, Yukon**	**4.23 64**	P	**Pn**	**14 26 32.4 +1.4**
FARO	**Faro, Yukon**	**4.23 64**	P	**Pn**	**14 26 32.5 +1.4**
	baz=250,SNR=45				
FARO			S	**Sn**	**14 27 20.6 +0.7**
	baz=250				
R32K	**Eaglecrest**	**4.26 120**	IAML		14 27 38.4
	comp=N,70nm,0.6s				
R32K	**Eaglecrest**	**4.26 120**	P	**Pn**	**14 26 30.3 -1.1**
R32K	**Eaglecrest**	**4.26 120**	P	**Pn**	**14 26 30.5 -0.9**
	baz=306,SNR=5.1				
SLKM	**Skilak Lake**	**4.31 272**		**Pn**	**14 26 31.3 -0.8**
SLKM	**Skilak Lake**	**4.31 272**	IAML		14 27 45.1
	comp=E,102nm,0.7s				
SLKM			IAML		14 27 49.8
	comp=N,86nm,0.8s				
JIS	**Juneau Island**	**4.32 120**	P	**Pn**	**14 26 31.7 -0.4**
P33M	**Teslin, Yukon**	**4.32 92**		**Pn**	**14 26 31.6 -0.6**
P33M	**Teslin, Yukon**	**4.32 92**	IAML		14 27 47.3
	comp=E,70nm,1.0s				
P33M			IAML		14 27 55.5
	comp=N,76nm,0.9s				
P33M	**Teslin, Yukon**	**4.32 92**	P	**Pn**	**14 26 31.7 -0.6**
P33M	**Teslin, Yukon**	**4.32 92**	P	**Pn**	**14 26 31.8 -0.4**
	baz=278				
P33M			S	**Sn**	**14 27 22.0 -0.1**
	baz=278				
J25K	**Salcha River,**	**4.40 338**	P	**Pn**	**14 26 34.3 +0.9**
J25K	**Salcha River,**	**4.40 338**	P	**Pn**	**14 26 34.5 +1.2**
	baz=154,SNR=41				
J25K			S	**Sn**	**14 27 26.6 +2.6**
	baz=154				
RND	**Reindeer**	**4.46 312**		**Pn**	**14 26 35.4 +1.1**
RND			IAML		14 28 02.1
	comp=E,63nm,1.0s				
HDA	**Harding Lake**	**4.57 329**	P	**Pn**	**14 26 37.3 +1.6**
	baz=144,SNR=14				
CUT	**Chulitna**	**4.58 297**	P	**Pn**	**14 26 37.2 +1.6**
	baz=110,SNR=40				
CUT			S	**Sn**	**14 27 30.9 +2.6**
	baz=110				
SUA	**Susitna One**	**4.58 285**	IAML		14 27 52.2
	comp=N,103nm,1.0s				
SUA			IAML		14 27 55.3
	comp=E,103nm,0.9s				
SUA	**Susitna One**	**4.58 285**	P	**Pn**	**14 26 37.4 +1.5**
	baz=97,SNR=33				
J30M	**Hart River**	**4.63 29**		**Pn**	**14 26 38.9 +2.2**
J30M	**Hart River**	**4.63 29**	IAML		14 27 59.3
	comp=N,109nm,1.0s				
J30M			IAML		14 28 02.5
	comp=E,129nm,1.0s				
J30M	**Hart River**	**4.63 29**	P	**Pn**	**14 26 38.9 +2.2**
J30M	**Hart River**	**4.63 29**	P	**Pn**	**14 26 39.1 +2.4**
	baz=212,SNR=296				
MCK	**McKinley**	**4.69 315**	IAML		14 27 59.0
	comp=E,80nm,1.0s				
MCK			IAML		14 28 00.8
	comp=N,84nm,1.2s				
BRSE	**Bradley Lake S**	**4.71 263**		**Pn**	**14 26 36.6 -0.9**
BRSE	**Bradley Lake S**	**4.71 263**	P	**Pn**	**14 26 38.1 +0.6**
	baz=76				
BRSE			S	**Sn**	**14 27 32.8 +1.2**
	baz=76				
S32K	**Killisnoo**	**4.76 128**		**Pn**	**14 26 37.0 -1.2**
S32K	**Killisnoo**	**4.76 128**	P	**Pn**	**14 26 38.1 -0.1**
S32K	**Killisnoo**	**4.76 128**	P	**Pn**	**14 26 37.5 -0.7**
	baz=314				
I26K	**Coal Creek Min**	**4.77 352**		**Pn**	**14 26 40.5 +2.0**
I26K	**Coal Creek Min**	**4.77 352**	P	**Pn**	**14 26 40.4 +2.0**
I26K	**Coal Creek Min**	**4.77 352**	P	**Pn**	**14 26 40.4 +2.0**
	baz=170				
SIT	**Sitka**	**4.79 135**		**Pn**	**14 26 37.3 -1.3**
SIT	**Sitka**	**4.79 135**	P	**Pn**	**14 26 37.4 -1.3**
SIT	**Sitka**	**4.79 135**	P	**Pn**	**14 26 37.9 -0.8**
	baz=320				
SIT			S	**Sn**	**14 27 32.1 -1.4**
	baz=320				
IL31		**4.86 332**		**Pn**	**14 26 39.6 +0.1**
ILAR	**Eielson Array**	**4.86 332**		**Pn**	**14 26 40.3 +0.7**
ILAR	**Eielson Array**	**4.86 332**	Pn	**Pn**	**14 26 39.4 -0.2**
	comp=N,1.2nm,0.3s,baz=152,slow=13,SNR=73				
ILAR			Lg	Lg	14 27 58.9
	comp=N,1.1nm,0.3s,baz=139,slow=28,SNR=5.9				
ILAR			LR	LR	14 28 51.1
	comp=N,330nm,18.1s,baz=132,slow=43				
	comp=N,5.1nm,0.6s				
I28M	**Miner Creek**	**4.91 8**	P	**Pn**	**14 26 42.0 +1.6**
I28M	**Miner Creek**	**4.91 8**	P	**Pn**	**14 26 42.1 +1.8**
	baz=188,SNR=169				
Q32M	**Nakina River**	**4.94 106**		**Pn**	**14 26 40.0 -1.0**
Q32M	**Nakina River**	**4.94 106**	IAML		14 28 08.5
	comp=N,77nm,1.2s				
Q32M			IAML		14 28 16.2
	comp=E,76nm,1.1s				
Q32M	**Nakina River**	**4.94 106**	P	**Pn**	**14 26 40.1 -0.8**
Q32M	**Nakina River**	**4.94 106**	P	**Pn**	**14 26 40.3 -0.6**
	baz=293				
I29M	**Ogilvie Camp,**	**4.98 16**	IAML		14 28 07.5
	comp=E,100nm,0.8s				
I29M			IAML		14 28 14.1
	comp=N,96nm,0.8s				
I29M	**Ogilvie Camp,**	**4.98 16**	P	**Pn**	**14 26 43.1 +1.8**
I29M	**Ogilvie Camp,**	**4.98 16**	P	**Pn**	**14 26 42.7 +1.4**
	baz=198,SNR=134				
CNPM	**China Poot**	**5.01 262**		**Pn**	**14 26 41.4 -0.2**
I27K	**Kandik River**	**5.01 359**	P	**Pn**	**14 26 43.7 +2.0**
I27K	**Kandik River**	**5.01 359**	P	**Pn**	**14 26 43.7 +2.0**
	baz=179,SNR=216				
TRF	**Thorofare Moun**	**5.03 308**	IAML		14 28 02.6
	comp=E,50nm,1.2s				
TRF			IAML		14 28 09.9
	comp=N,84nm,1.1s				
TRF	**Thorofare Moun**	**5.03 308**	P	**Pn**	**14 26 43.4 +1.3**
	baz=121,SNR=19				
SKT	**

SKT	Skwentna	5.04 290	P	Pn	14 26 43.7 +1.7
	baz=102,SNR=13				
STLK	Strandline Lak	5.11 285		Pn	14 26 44.2 +1.1
COLA	College	5.18 328	P	Pn	14 26 50.5 +6.5
I30M	Mount Dempster	5.18 25		Pn	14 26 45.9 +1.8
I30M	Mount Dempster	5.18 25	IAML		14 28 13.7
	comp=E,86nm,0.8s				
I30M			IAML		14 28 14.2
	comp=N,86nm,1.2s				
I30M	Mount Dempster	5.18 25	P	Pn	14 26 45.6 +1.4
I30M	Mount Dempster	5.18 25	P	Pn	14 26 45.5 +1.4
	baz=208,SNR=141				
PRP	Porcupine Dome	5.25 341	IAML		14 27 48.7
	comp=N,44nm,0.5s				
PRP			IAML		14 28 18.6
	comp=E,53nm,0.8s				
PRP	Porcupine Dome	5.25 341	P	Pn	14 26 46.5 +1.4
	baz=158,SNR=72				
POKR	Poker Plat Res	5.28 332	P	Pn	14 26 46.6 +1.3
	baz=146				
NEA2	Nenana	5.31 322		Pn	14 26 46.6 +0.8
NEA2	Nenana	5.31 322	P	Pn	14 26 46.6 +0.8
	baz=135				
KTH	Kantishna Hill	5.33 308		Pn	14 26 47.4 +1.3
R33M	Jennings River	5.42 98	P	Pn	14 26 46.8 -0.6
R33M	Jennings River	5.42 98	P	Pn	14 26 47.0 -0.4
	baz=287,SNR=6.0				
PPLA	Purkeypile	5.58 299		Pn	14 26 50.0 +0.4
PPLA	Purkeypile	5.58 299	P	Pn	14 26 50.9 +1.3
	baz=110				
BPAW	Bear Paw Mtn.	5.64 312		Pn	14 26 50.5 +0.2
BPAW	Bear Paw Mtn.	5.64 312	P	Pn	14 26 51.8 +1.5
	baz=124				
H27K	Steamboat Moun	5.64 360		Pn	14 26 52.4 +2.1
H27K	Steamboat Moun	5.64 360	P	Pn	14 26 52.6 +2.2
H27K	Steamboat Moun	5.64 360	P	Pn	14 26 52.3 +1.9
	baz=179,SNR=133				
CAST	Castle Rocks	5.73 304		Pn	14 26 52.7 +1.2
CAST	Castle Rocks	5.73 304	P	Pn	14 26 52.9 +1.3
	baz=115				
M20K	Styx River	5.77 288		Pn	14 26 53.4 +1.3
M20K	Styx River	5.77 288	P	Pn	14 26 53.4 +1.3
	baz=98				
H29M	Whitestone	5.80 13	P	Pn	14 26 53.4 +1.0
H29M	Whitestone	5.80 13	P	Pn	14 26 53.6 +1.1
	baz=195,SNR=44				
I23K	Minto, Yukon-K	5.80 325	P	Pn	14 26 53.5 +1.0
	baz=138				
SYI	Shuyak Island	5.89 255		Pn	14 26 54.2 +0.5
Q20K	Shuyak Island	5.89 255	P	Pn	14 26 54.4 +0.7
	baz=66				
P19K	Oil Pt	5.95 266		Pn	14 26 55.7 +1.1
P19K	Oil Pt	5.95 266	P	Pn	14 26 55.8 +1.1
	baz=76				
H24K	Noodor Dome	5.98 334	P	Pn	14 26 56.3 +1.2
	baz=148,SNR=42				
H25L	Birch Creek	6.00 343		Pn	14 26 57.3 +2.1
H25L	Birch Creek	6.00 343	P	Pn	14 26 57.3 +2.1
	baz=159				
CHUM	Lake Minchumin	6.03 308		Pn	14 26 56.2 +0.6
CHUM	Lake Minchumin	6.03 308	P	Pn	14 26 56.6 +1.0
	baz=118,SNR=7.8				
H31M	Peel River	6.13 29	P	Pn	14 26 58.9 +1.9
H31M	Peel River	6.13 29	P	Pn	14 26 58.7 +1.7
	baz=214,SNR=15				
EPYK	Eagle Plains	6.16 18	P	Pn	14 26 58.4 +0.9
EPYK	Eagle Plains	6.16 18	P	Pn	14 26 58.6 +1.2
	baz=202,SNR=8.4				
FYU	Fort Yukon	6.21 346		Pn	14 27 00.0 +2.0
L20K	Farewell, AK	6.21 293		Pn	14 26 58.2 0.0
L20K	Farewell, AK	6.21 293	P	Pn	14 26 59.1 +0.9
	baz=102,SNR=6.6				
G27K	Doyon Strip	6.22 359		Pn	14 27 00.4 +2.1
G27K	Doyon Strip	6.22 359	P	Pn	14 27 00.3 +1.9
G27K	Doyon Strip	6.22 359	P	Pn	14 27 00.2 +1.9
	baz=179				
U33K	Whale Pass	6.30 132		Pn	14 26 58.7 -0.6
U33K	Whale Pass	6.30 132	P	Pn	14 26 59.1 -0.3
U33K	Whale Pass	6.30 132	P	Pn	14 26 59.0 -0.3
	baz=319				
M19K	Big River Lodg	6.36 287	P	Pn	14 27 01.4 +1.2
	baz=96				
KDAK	Kodiak Island	6.37 248		Pn	14 26 59.7 -0.5
KDAK	Kodiak Island	6.37 248	Pn	Pn	14 26 58.7 -1.6
	comp=E,1.4nm,0.3s,baz=220,slow=4.9,SNR=70				
KDAK			Sn	Sn	14 28 06.6 -5.8
	comp=E,1.8nm,0.3s,baz=62,slow=12,SNR=8.2				
KDAK			LR	LR	14 29 50.9
	comp=E,105nm,20.0s,baz=259,slow=42				
	comp=E,3.6nm,0.4s				
KDAK	Kodiak Island	6.37 248	P	Pn	14 26 59.8 -0.5
	baz=60				
WRAK	Wrangell Islan	6.37 127	P	Pn	14 26 59.4 -0.9
WRAK	Wrangell Islan	6.37 127	P	Pn	14 26 59.3 -0.9
	baz=315				
H23K	Yukon River	6.37 329	P	Pn	14 27 02.0 +1.7
	baz=142				
Q19K	Cape Douglas,	6.37 260	P	Pn	14 27 00.9 +0.5
	baz=70,SNR=19				
N19K	Bonanza Creek	6.38 277	P	Pn	14 27 02.0 +1.4
	baz=87				
G26K	Porcupine Rive	6.44 352		Pn	14 27 03.5 +2.3
G26K	Porcupine Rive	6.44 352	P	Pn	14 27 03.8 +2.5
G26K	Porcupine Rive	6.44 352	P	Pn	14 27 03.3 +2.0
	baz=170,SNR=53				
TGTN	Hyland Airport	6.48 76		Pn	14 27 02.4 +0.5
TGTN	Hyland Airport	6.48 76	P	Pn	14 27 02.0 +0.1
TGTN	Hyland Airport	6.48 76	P	Pn	14 27 02.2 +0.3
	baz=267				
G29M	Pine Creek	6.51 12		Pn	14 27 02.5 +0.3
G29M	Pine Creek	6.51 12	P	Pn	14 27 02.4 +0.2
G29M	Pine Creek	6.51 12	P	Pn	14 27 02.9 +0.7
	baz=195				
G25K	Bearman Lake	6.51 344		Pn	14 27 03.8 +1.7
G25K	Bearman Lake	6.51 344	P	Pn	14 27 03.9 +1.8
G25K	Bearman Lake	6.51 344	P	Pn	14 27 03.9 +1.7
	baz=159				
K20K	Telida	6.54 300		Pn	14 27 03.2 +0.6
K20K	Telida	6.54 300	P	Pn	14 27 03.2 +0.6
	baz=110				
L19K	White Mountain	6.61 290		Pn	14 27 04.5 +0.9
L19K	White Mountain	6.61 290	P	Pn	14 27 04.4 +0.7
	baz=98,SNR=13				
I21K	Tanana	6.63 318		Pn	14 27 05.0 +1.1
I21K	Tanana	6.63 318	P	Pn	14 27 05.2 +1.4
	baz=129				
G24K	Hadweenzic Riv	6.66 339		Pn	14 27 05.6 +1.3
G24K	Hadweenzic Riv	6.66 339	P	Pn	14 27 05.8 +1.5
	baz=154				
CRAG	Craig	6.80 136		Pn	14 27 05.0 -1.2
CRAG	Craig	6.80 136	P	Pn	14 27 05.1 -1.2
CRAG	Craig	6.80 136	P	Pn	14 27 05.0 -1.2
	baz=323				
G30M	tAoh Zraii Nji	6.80 18		Pn	14 27 07.1 +0.9
G30M	tAoh Zraii Nji	6.80 18	P	Pn	14 27 06.8 +0.6
G30M	tAoh Zraii Nji	6.80 18	P	Pn	14 27 07.1 +0.9
	baz=202				
T35M	Bob Quinn	6.88 117	P	Pn	14 27 07.3 0.0
T35M	Bob Quinn	6.88 117	P	Pn	14 27 06.6 -0.8
	baz=306				
O18K	Koktuh Hills	6.88 270		Pn	14 27 07.7 +0.4
O18K	Koktuh Hills	6.88 270	P	Pn	14 27 08.1 +0.7
	baz=78				
J20K	Nowinta River	6.88 307		Pn	14 27 07.5 +0.2
J20K	Nowinta River	6.88 307	P	Pn	14 27 08.6 +1.3
	baz=116,SNR=7.3				
H22K	Ishtalitna Cre	6.92 324	P	Pn	14 27 08.9 +1.0
	baz=135				
BMAR	Burnt Mountain	6.98 350		Pn	14 27 10.7 +2.0
OHAK	Old Harbor	6.99 246		Pn	14 27 07.4 -1.4
OHAK	Old Harbor	6.99 246	P	Pn	14 27 07.1 -1.7
OHAK	Old Harbor	6.99 246	P	Pn	14 27 07.3 -1.5
	baz=57				
P18K	Big Mountain,	7.00 266	P	Pn	14 27 09.8 +0.8
	baz=75				
M18K	Stony River	7.02 283		Pn	14 27 09.4 +0.2
M18K	Stony River	7.02 283	P	Pn	14 27 09.5 +0.3
	baz=91				
N18K	Kilae Creek	7.08 277	P	Pn	14 27 11.5 +1.3
	baz=85				
G31M	Satah River	7.09 24	P	Pn	14 27 10.6 +0.5
G31M	Satah River	7.09 24	P	Pn	14 27 10.8 +0.7
	baz=210,SNR=17				
Q18K	Katmai Hardscr	7.13 260	P	Pn	14 27 11.5 +0.6
	baz=69				
G23K	Bananza Creek	7.20 332		Pn	14 27 13.1 +1.4
G23K	Bananza Creek	7.20 332	P	Pn	14 27 12.6 +0.9
	baz=144,SNR=34				
H21K	Melozitna Rive	7.20 320	P	Pn	14 27 13.3 +1.6
	baz=130				
F26K	Sheenjek River	7.20 352		Pn	14 27 14.0 +2.2
F26K	Sheenjek River	7.20 352	P	Pn	14 27 14.0 +2.2
F26K	Sheenjek River	7.20 352	P	Pn	14 27 13.3 +1.5
	baz=169,SNR=132				
F25K	Christian Rive	7.24 347	P	Pn	14 27 14.6 +2.4
F25K	Christian Rive	7.24 347	P	Pn	14 27 14.5 +2.2
	baz=163,SNR=63				
TTA	Tatalina	7.27 295	P	Pn	14 27 12.6 -0.2
	baz=102				
I20K	Naaghedeneel	7.29 311	P	Pn	14 27 14.7 +1.7
	baz=119				
R18K	Karluk	7.34 251	P	Pn	14 27 14.0 +0.3
	baz=61				
J19K	Poorman	7.41 303	P	Pn	14 27 15.6 +1.1
	baz=111				
F30M	Barrier River	7.45 17		Pn	14 27 15.5 +0.4
F30M	Barrier River	7.45 17	P	Pn	14 27 15.5 +0.4
F30M	Barrier River	7.45 17	P	Pn	14 27 15.7 +0.6
	baz=202,SNR=12				
V35K	Ketchikan	7.45 131	P	Pn	14 27 15.8 +0.6
V35K	Ketchikan	7.45 131	P	Pn	14 27 14.8 -0.4
	baz=319				
F24K	Squaw Lake	7.47 341		Pn	14 27 17.1 +1.6
F24K	Squaw Lake	7.47 341	P	Pn	14 27 17.5 +2.0
	baz=155				
E27K	Coleen River	7.61 360		Pn	14 27 19.0 +1.7
E27K	Coleen River	7.61 360	P	Pn	14 27 19.1 +1.9
E27K	Coleen River	7.61 360	P	Pn	14 27 19.3 +2.0
	baz=179,SNR=40				
F31M	Tsiigehtchic	7.64 23		Pn	14 27 18.0 +0.2
F31M	Tsiigehtchic	7.64 23	P	Pn	14 27 17.9 +0.2
F31M	Tsiigehtchic	7.64 23	P	Pn	14 27 18.0 +0.2
	baz=209,SNR=9.5				
P17K	Kvichak River	7.65 266		Pn	14 27 18.6 +0.6
P17K	Kvichak River	7.65 266	P	Pn	14 27 18.5 +0.6
	baz=73				
COLD	Coldfoot	7.66 334	P	Pn	14 27 19.2 +1.3
COLD	Coldfoot	7.66 334	P	Pn	14 27 19.3 +1.3
	baz=146,SNR=15				
J18K	Innoko River	7.71 298	P	Pn	14 27 19.0 +0.4
	baz=105				
CNTC	Contact Creek	7.71 259		Pn	14 27 18.8 0.0
Q17K	Contact Creek	7.71 259	P	Pn	14 27 18.9 +0.1
	baz=67				
N17K	Nushagak Hills	7.74 276		Pn	14 27 19.3 +0.2
N17K	Nushagak Hills	7.74 276	P	Pn	14 27 19.5 +0.4
	baz=83				
E25K	Arctic Village	7.74 349		Pn	14 27 21.5 +2.4
E25K	Arctic Village	7.74 349	P	Pn	14 27 21.8 +2.6
E25K	Arctic Village	7.74 349	P	Pn	14 27 21.6 +2.5
	baz=165,SNR=65				
SII	Sitkinak Islan	7.78 244	P	Pn	14 27 18.4 -1.2
M17K	Holitna River	7.79 283	P	Pn	14 27 20.3 +0.4
	baz=89				
H20K	Anotleneega Mo	7.80 315	P	Pn	14 27 21.9 +1.9
	baz=123				
O17K	Koliganek Bris	7.83 271		Pn	14 27 21.2 +1.0
O17K	Koliganek Bris	7.83 271	P	Pn	14 27 21.1 +0.8
	baz78				
Q16K	King Salmon	7.93 262	P	Pn	14 27 22.6 +1.0
	baz=70				
E29M	Blow River	7.96 10		Pn	14 27 23.3 +1.2
E29M	Blow River	7.96 10	P	Pn	14 27 23.2 +1.2
E29M	Blow River	7.96 10	P	Pn	14 27 23.2 +1.2
	baz=192,SNR=12				
G21K	Allakaket	7.98 323		Pn	14 27 23.7 +1.3
G21K	Allakaket	7.98 323	P	Pn	14 27 23.5 +1.1
	baz=132				
E28M	Babbage River	8.07 5		Pn	14 27 25.4 +1.8
E28M	Babbage River	8.07 5	P	Pn	14 27 25.2 +1.6
E28M	Babbage River	8.07 5	P	Pn	14 27 25.0 +1.4
	baz=186,SNR=18				
E24K	Your Creek	8.08 341		Pn	14 27 25.9 +2.2
E24K	Your Creek	8.08 341	P	Pn	14 27 26.2 +2.4
	baz=155				
L17K	Donlin	8.21 288	P	Pn	14 27 26.6 +1.0
	baz=94				
E23K	Chandalar	8.26 338	P	Pn	14 27 28.6 +2.4
	baz=151				
K17K	Iditarod	8.27 292	P	Pn	14 27 27.5 +1.1
	baz=98				
F22K	John River	8.35 331	P	Pn	14 27 29.5 +2.2
	baz=141				
H19K	Roundabout Mou	8.38 312	P	Pn	14 27 28.7 +0.9
	baz=119				
INK	Inuvik	8.45 21	Pn	Pn	14 27 28.3 -0.4
	comp=E,0.5nm,0.3s,baz=222,slow=14,SNR=20				
INK			LR	LR	14 31 03.5
	comp=E,242nm,18.3s,baz=230,slow=40				
	comp=E,2.3nm,0.5s				
F21K	Alatna River	8.47 327	P	Pn	14 27 30.5 +1.5
	baz=136,SNR=17				
N16K	Nishlik Lake	8.52 277		Pn	14 27 31.5 +1.7
N16K	Nishlik Lake	8.52 277	P	Pn	14 27 31.1 +1.3
	baz=82				
D27M	Malcolm River	8.67 1	P	Pn	14 27 34.6 +2.8
D27M	Malcolm River	8.67 1	P	Pn	14 27 34.1 +2.2
	baz=181				
J17K	VABM Dome	8.73 296	P	Pn	14 27 33.9 +1.3
	baz=101				
E22K	Anaktuvuk Pass	8.76 334	P	Pn	14 27 35.8 +2.7
	baz=144,SNR=16				
L16K	Owhat River	8.76 285		Pn	14 27 34.2 +1.1
L16K	Owhat River	8.76 285	P	Pn	14 27 34.2 +1.1
	baz=90				
TOLK	Toolik Lake Re	8.77 340	P	Pn	14 27 35.7 +2.5
	baz=153,SNR=22				
D28M	Stokes Point	8.83 6	P	Pn	14 27 36.4 +2.5
D28M	Stokes Point	8.83 6	P	Pn	14 27 36.7 +2.7
	baz=188				
CHIR	Chirikof Islan	8.87 243	P	Pn	14 27 33.1 -1.4
D25K	Kavik River	8.98 349	P	Pn	14 27 39.4 +3.3
D25K	Kavik River	8.98 349	P	Pn	14 27 39.4 +3.3
	baz=164				
F20K	Avaraart Lake	8.99 322	P	Pn	14 27 38.9 +2.6
	baz=129				
C27K	Jago River	9.10 355	P	Pn	14 27 41.7 +4.0
C27K	Jago River	9.10 355	P	Pn	14 27 41.2 +3.5
	baz=173				
D24K	Happy Valley	9.12 343	P	Pn	14 27 41.4 +3.5
	baz=156,SNR=22				
GRNB	Grenville Isla	9.21 132	P	Pn	14 27 39.9 +0.6
D23K	Nanushuk River	9.24 339	P	Pn	14 27 42.5 +2.8
	baz=150				
C26K	Camden Bay	9.45 353	P	Pn	14 27 46.4 +3.9
C26K	Camden Bay	9.45 353	P	Pn	14 27 46.0 +3.5
	baz=169				
F19K	Shaleruckik Mo	9.52 318	P	Pn	14 27 46.6 +3.2
	baz=123				
C24K	Franklin Bluff	9.62 345	P	Pn	14 27 48.1 +3.2
	baz=158				
E19K	Redstone River	9.71 322	P	Pn	14 27 49.7 +3.7
	baz=128				
E20K	Nigu River	9.93 327	P	Pn	14 27 52.2 +3.1
	baz=134				
C23K	Itkillik River	10.01 342		Pn	14 27 52.1 +2.0
C23K	Itkillik River	10.01 342	P	Pn	14 27 52.2 +2.2
	baz=153,SNR=12				
C21K	Knifeblade Rid	10.24 332	P	Pn	14 27 55.1 +1.8
	baz=140				
D20K	Etivluk River	10.36 328	P	Pn	14 27 57.8 +2.9
	baz=134				
B21K	Ikpikpuk River	10.57 334	P	Pn	14 27 59.8 +2.1
	baz=142				
J14K	Nanvaranak Lak	10.68 291	P	Pn	14 28 03.0 +3.6
	baz=92				
E18K	Tukpahlearik C	10.77 317	P	Pn	14 28 02.3 +1.7
	baz=120				
B22K	Teshekpuk Lake	10.92 338		Pn	14 28 04.3 +1.8
B22K	Teshekpuk Lake	10.92 338	P	Pn	14 28 04.9 +2.4
	baz=147				
E17K	Hotham Inlet	11.03 315	P	Pn	14 28 06.6 +2.5
	baz=116				
C36M	Paulatuk	11.40 33		Pn	14 28 08.4 -0.6
C36M	Paulatuk	11.40 33	P	Pn	14 28 08.6 -0.5
C36M	Paulatuk	11.40 33	P	Pn	14 28 08.6 -0.5
	baz=228,SNR=14				
B20K	Meade River	11.43 332	P	Pn	14 28 12.4 +2.9
	baz=138				
C18K	Utukok River	11.62 322		Pn	14 28 13.2 +1.1
C18K	Utukok River	11.62 322	P	Pn	14 28 16.2 +4.1
	baz=124				
A22K	Sinclair Lake	11.76 338	P	Pn	14 28 14.8 +0.7
	baz=146				
A19K	Wainwright	12.53 328	P	Pn	14 28 26.0 +1.5
	baz=130				
YKA	Yellowknife Ar	12.91 70	Pn	Pn	14 28 29.7 -0.1
	comp=E,0.2nm,0.3s,baz=284,slow=18,SNR=9.5				
	comp=E,0.2nm,0.3s				
A36M	Sachs Harbour	13.08 23		Pn	14 28 31.0 -1.0
A36M	Sachs Harbour	13.08 23	P	Pn	14 28 31.2 -0.8
A36M	Sachs Harbour	13.08 23	P	Pn	14 28 31.3 -0.8
	baz=217,SNR=20				
NEW	Newport	18.66 121	LR	LR	14 37 48.3
	comp=E,89nm,19.6s,baz=332,slow=40				
RES	Resolute Bay	21.77 31	P	P	14 30 17.2 -0.4
	comp=E,1.6nm,0.8s,baz=246,slow=9.3,SNR=11				
RES			LR	LR	14 39 23.1
	comp=E,92nm,19.2s,baz=32,slow=38				
	comp=E,1.6nm,0.8s				
YBH	Yreka Blue Hor	22.12 140	LR	LR	14 38 26.4
	comp=E,16nm,18.6s,baz=28,slow=35				
PDAR	Pinedale Array	26.26 118	LR	LR	14 41 25.3
	comp=E,41nm,18.1s,baz=316,slow=36				
NVAR	Mina Array Bea	26.55 136	P	P	14 31 06.8 +2.5
	comp=E,0.5nm,0.6s,baz=276,slow=5.8,SNR=3.5				
	comp=E,0.5nm,0.6s				
SEY	Seymchan	30.14 304	P	P	14 31 35.4 -0.4
	comp=E,1.5nm,0.7s,baz=84,slow=9.1,SNR=16				
SEY			LR	LR	14 44 05.9
	comp=E,37nm,19.4s,baz=115,slow=37				
	comp=E,1.5nm,0.7s				
PETK	Petropavlovsk-	32.96 285	P	P	14 32 01.1 +0.4
	comp=E,0.6nm,0.6s,baz=61,slow=15,SNR=1.9				
	comp=E,0.6nm,0.6s				
SFJD	Kangerlussuaq	37.16 41	LR	LR	14 49 30.3
	comp=E,56nm,18.3s,baz=321,slow=39				
YAK	Yakutsk	39.48 312	LR	LR	14 51 54.3
	comp=E,23nm,19.8s,baz=194,slow=40				
NRIK	Noril'sk	45.69 338	P	P	14 33 46.9 +0.3
	comp=E,2.9nm,0.6s,baz=41,slow=7.7,SNR=6.6				
	comp=E,2.9nm,0.6s				
FINES	FINESS Array B	57.90 7	P	P	14 35 16.9 -0.7
	comp=E,1.3nm,0.6s,baz=3.4,slow=9.5,SNR=7.2				
	comp=E,1.3nm,0.6s				
ZALV	Zalesovo Beam	59.98 330	P	P	14 35 31.0 -1.2
	comp=E,0.7nm,0.6s,baz=27,slow=7.3,SNR=3.0				
ZALV			LR	LR	15 04 10.1
	comp=E,40nm,18.3s,baz=26,slow=39				
	comp=E,0.7nm,0.6s				
BVAR	Borovoye Array	63.88 339	P	P	14 35 56.6 -1.9
	comp=E,0.4nm,0.4s,baz=25,slow=8.4,SNR=3.3				
	comp=E,0.4nm,0.4s				
KURBB	Kurchatov Array	64.53 333	P	P	14 36 01.8 -0.9
	comp=E,0.4nm,0.7s,baz=28,slow=6.9,SNR=3.3				
	comp=E,0.4nm,0.7s				
MKAR	Makanchi Array	67.21 329	P	P	14 36 18.2 -1.9
	comp=E,0.2nm,0.4s,baz=46,slow=8.7,SNR=4.4				
	comp=E,0.2nm,0.4s				
AKASG	Malin Array Be	68.79 6	P	P	14 36 29.1 -0.8
	comp=E,2.3nm,0.6s,baz=356,slow=6.0,SNR=11				
	comp=E,2.3nm,0.6s				
GNI	Garni	79.46 355	LR	LR	15 16 40.0
	comp=E,14nm,19.1s,baz=346,slow=39				
CMAR	Chiang Mai Arr	87.55 304	P	P	14 38 14.2 0.0
	comp=E,0.4nm,0.8s,baz=351,slow=3.2,SNR=4.7				
	comp=E,0.4nm,0.8s				

MOS ***15*** *14:30:49.9±1.1,38°.23N×140°.53E,h106km,mb4.5/15, Error ellipse: s-maj=9.2km s-min=5.4km az=81.2*
BJI ***15*** *14:30:50.4,38°.14N×140°.45E,h114km,mB4.7/6,mb4.7/16*
NIED ***15*** *14:30:51.8,38°.13N×140°.51E,h110km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}1.43; $M_{\theta\theta}$-0.33; $M_{\phi\phi}$-1.10; $M_{r\theta}$0.16; $M_{\theta\phi}$0.26; $M_{\phi r}$-0.77; Fault plane solution: $M_0$1.52000×10^15^ NP1: ϕ_s342.00000°,δ30.00000°,λ87.00000°. NP2: ϕ_s165.00000°,δ61.00000°,λ92.00000°.*
JMA ***15*** *14:30:51.8±0.1,38°.1N±0°.4×140°.5E±0°.4,h110km, MD3.8/32,MV4.0/32,SOUTHERN MIYAGI PREF*
JMA Felt I J1 at SOUTHERN MIYAGI PREF .
NEIC ***15*** *14:30:52.4±1.6,38°.23N±0°.07×140°.46E±0°.07, h102km±7km,mb4.5/90,Error ellipse: s-maj=10.6km s-min=7.8km az=164.0*
IDC ***15*** *14:30:52.5±1.2,38°.19N×140°.37E,h115km±11km, mb3.8/25,mbtmp4.2/31,Error ellipse: s-maj=12.8km s-min=9.0km az=114.0*

ISC 15 14:30:51.8±0.6,38°.19N±0°.04×140°.56E±0°.04,h111km±5km, n409,σ1°23/395,mb4.4/80,7C-6D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOU	Okura	0.20	24	P	Pn	14 31 07.8	+0.6
JOU				eS	Sn	14 31 19.6	+0.7
JOU	Okura	0.20	24	A	A	14 31 07.8	
	comp=N,22nm,0.6s,comp=E,18nm,1.1s						
JMM	Marumori	0.37	150		Pn	14 31 07.8	-0.1
JMM				Sn	Sn	14 31 19.5	-0.5
JMM	Marumori	0.37	150	P	Pn	14 31 07.9	0.0
JMM	Marumori	0.37	150	P	Pn	14 31 07.9	0.0
JMM				eS	Sn	14 31 19.7	-0.3
JMM	Marumori	0.37	150	A	A	14 31 07.9	
	comp=N,9.0nm,0.6s,comp=E,14nm,0.4s						
JYS	Shirataka	0.39	275	P	Pn	14 31 07.9	-0.1
JYS				eS	Sn	14 31 20.4	+0.2
JYS	Shirataka	0.39	275	A	A	14 31 07.9	
	comp=N,5.0nm,2.1s,comp=E,7.0nm,1.5s						
JYAR	Yonezawaarcadi	0.43	230	P	Pn	14 31 07.9	-0.4
JYAR				eS	Sn	14 31 20.3	-0.2
JYAR	Yonezawaarcadi	0.43	230	A	A	14 31 07.9	
	comp=N,11nm,1.1s,comp=E,11nm,1.2s						
JOFO	Osakifurukawao	0.50	33	A	A	14 31 09.3	
	comp=N,23nm,4.6s,comp=E,36nm,1.2s						
JMST	Minamisoumatoc	0.53	151	A	A	14 31 08.8	
	comp=N,14nm,0.5s,comp=E,11nm,0.6s						
JOTO	OTAMA OYAMA	0.65	196	P	Pn	14 31 09.5	-0.3
JOTO				eS	Sn	14 31 23.1	-0.3
JIO	Ouri	0.68	66	⇓P	Pn	14 31 10.6	+0.6
JIO				⇓S	Sn	14 31 24.2	+0.6
JYK	Kaneyama	0.75	348	P	Pn	14 31 11.1	+0.6
JYK				S	Sn	14 31 25.5	+0.7
JYA	Atsumi	0.78	302	P	Pn	14 31 10.7	-0.1
JYA				eS	Sn	14 31 25.0	-0.2
JYA	Atsumi	0.78	302	A	A	14 31 10.7	
	comp=N,6.0nm,0.7s,comp=E,11nm,0.8s						
JFK	Kawauchi	0.85	163	P	Pn	14 31 11.3	-0.4
JFK				S	Sn	14 31 25.4	-1.1
JMK	Ichinoseki	0.92	34	⇓P	Pn	14 31 13.2	+1.0
JMK				⇓eS	Sn	14 31 29.2	+1.6
JFY	Yanaizu	1.03	221	P	Pn	14 31 12.8	-0.5
JFY				eS	Sn	14 31 29.1	-0.5
JNS	Sasagawa	1.05	250	P	Pn	14 31 12.8	-0.7
JNS				S	Sn	14 31 28.3	-1.6
JNS	Sasagawa	1.05	250	A	A	14 31 12.8	
	comp=N,5.0nm,1.2s,comp=E,4.0nm,3.6s						
JAW	Awa shima	1.07	285	P	Pn	14 31 13.3	-0.3
JAW				eS	Sn	14 31 29.1	-1.1
ONAJ	Iwakimizuishiy	1.10	170	A	A	14 31 13.7	
	comp=N,7.0nm,0.5s,comp=E,13nm,0.3s						
JRG	Rokugo	1.21	3	A	A	14 31 16.2	
	comp=N,8.0nm,0.7s,comp=E,5.0nm,0.5s						
JSD	Sado	1.82	266		Pn	14 31 21.2	-1.2
JSD	Sado	1.82	266	P	Pn	14 31 21.4	-1.1
MAJO	Matsushiro	2.49	230		Pn	14 31 30.9	-

JEM	Erimo	4.31	27	S	Sn	14 32 43.1	-1.4
JHJ	Hachijo jima 2	5.09	187	P	Pn	14 32 03.2	-2.7
	comp=E,63nm,0.3s,baz=156,slow=23,SNR=6.9						
JHJ				S	Sn	14 32 58.4	-5.2
	comp=E,119nm,0.3s,baz=74,slow=23,SNR=7.1						
JHJ2	Mitsune	5.10	187	P	Pn	14 32 06.4	+0.5
ASAJ	Asahikawa	6.12	14	P	Pn	14 32 19.3	-0.3
	comp=E,5.7nm,0.3s,baz=222,slow=13,SNR=38						
ASAJ				S	Sn	14 33 27.2	-1.1
	comp=E,20nm,0.7s,baz=186,slow=29,SNR=4.1						
NMR	Nemuro--Hokkai	6.49	35	⇑*i*P	Pn	14 32 22.2	-2.5
NMR				*e*S	Sn	14 33 31.6	-5.7
RUSJ	Misakicho	6.89	29	⇑*i*P	Pn	14 32 29.1	-0.9
RUSJ				*e*S	Sn	14 33 44.1	-2.8
JMN	Monobe	7.01	233	P	Pn	14 32 31.3	-0.5
YUK	Yuzh-Kuril'sk	7.08	33	*d i*P	Pn	14 32 30.7	-1.9
YUK				*i* S	Sn	14 33 46.1	-5.4
YUK				pmax	pmax		
	comp=Z,242nm,0.2s						
YUK				pmax	pmax		
	comp=E,64nm,0.3s						
SHO	Shikotan	7.39	38	*e*P	Pn	14 32 34.1	-2.8
SHO				*e*S	Sn	14 33 52.0	-7.1
SHO				pmax	pmax		
	comp=N,4.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,12nm,0.2s						
SHO				pmax	pmax		
	comp=Z,14nm,0.2s						
MSHR	Mys Shultsa	8.41	304	*i* P	Pn	14 32 51.2	+0.5
USRK	Ussuriysk Ar.	8.82	316	P	Pn	14 32 56.7	+0.5
	comp=Z,6.2nm,0.8s,baz=136,slow=12,SNR=8.2						
KUR	Kuril'sk	8.91	35	*e*P	Pn	14 32 56.6	-0.8
KUR				*i* S	Sn	14 34 32.6	-3.3
KUR				pmax	pmax		
	comp=Z,47nm,0.4s						
KUR				smax	smax		
	comp=E,69nm,0.4s						
KUR				smax	smax		
	comp=N,37nm,0.5s						
YSS	Yuzhno-Sakhali	8.91	10	*e*P	Pn	14 32 57.3	-0.1
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
JNU	Nakatsue	9.36	240	Pn	Pn	14 33 03.3	-0.3
JNU	Nakatsue	9.36	240	P	Pn	14 33 03.5	-0.1
	comp=Z,3.7nm,0.6s,baz=198,slow=1.9,SNR=6.6						
JNU	Nakatsue	9.36	240	P	Pn	14 33 03.8	+0.2
KSRS	Korea Array	10.03	270	P	Pn	14 33 12.8	+0.2
	comp=Z,5.4nm,0.7s,baz=82,slow=15,SNR=17						
KLR	Kul'dur	12.74	333	*i* P	Pn	14 33 45.4	-3.3
TYV	Tymovskoe	12.76	6	*e*P	P	14 33 56.9	+1.2
TYV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TYV				pmax	pmax		
	comp=Z,200nm,4.4s						
ZEA	Zeya	18.05	334	*e*P	P	14 34 54.2	+0.1
NJ2	Nanjing	18.76	258	*e*P	Pn	14 35 03.8	-0.1
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
PEA0B	Petropavlovsk-	19.06	33	P	Pn	14 35 06.8	-0.4
PEA0B				IAmb	IAmb	14 35 22.7	
	comp=Z,22nm,1.3s						
PEA0B	Petropavlovsk-	19.06	33	P	Pn	14 35 06.8	-0.4
PEA0B				pmax	pmax		
	comp=Z,22nm,1.3s						
PETK	Petropavlovsk-	19.06	33	P	Pn	14 35 06.8	-0.4
PETK	Petropavlovsk-	19.06	33	P	P	14 35 06.6	+1.4
	comp=Z,1.0nm,0.6s,baz=224,slow=10,SNR=8.9						
PETK	Petropavlovsk-	19.06	33	P	Pn	14 35 06.8	-0.4
YHNB	Yeheng	21.15	236	P	P	14 35 28.3	+0.3
MA2	Magadan	22.38	14	P	P	14 35 40.3	-0.3
	comp=Z,10nm,0.7s,baz=203,slow=10.0,SNR=8.7						
	comp=Z,10nm,0.7s						
MA2	Magadan	22.38	14	*ce*P	P	14 35 40.8	+0.2
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC	Hu-ho-hao-te	22.48	286	*e*P	P	14 35 42.6	+0.6
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,77nm,5.1s						
WHN	Wuhan	22.89	258	P	P	14 35 42.3	-3.7
WHN				pmax	pmax		
	comp=Z,26nm,0.7s						
YAK	Yakutsk	24.80	348		P	14 36 02.3	-0.8
YAK				IAmb	IAmb	14 36 04.9	
	comp=Z,11nm,0.7s						
YAK	Yakutsk	24.80	348	P	P	14 36 01.2	-1.8
	comp=Z,9.5nm,0.5s,baz=131,slow=6.0,SNR=5.6						
	comp=Z,9.5nm,0.5s						
YAK	Yakutsk	24.80	348	*e*P	P	14 36 03.1	0.0
YAK				pmax	pmax		
	comp=Z,15nm,1.3s						
SEY	Seymchan	25.80	12	P	P	14 36 13.5	+1.3
	comp=Z,1.7nm,0.7s,baz=196,slow=8.0,SNR=13						
	comp=Z,1.7nm,0.7s						
SEY	Seymchan	25.80	12	*e*P	P	14 36 14.0	+1.9
SEY				pmax	pmax		
	comp=Z,5.0nm,1.2s						
XAN	Xi'an	25.82	271	P	P	14 36 11.6	-1.1
XAN				pmax	pmax		
	comp=Z,17nm,0.6s						
ULN	Ulaanbaatar	26.16	303	*ce*P	P	14 36 15.7	0.0
SONM	Songino Array	26.59	302	P	P	14 36 19.1	-0.5
	comp=Z,0.7nm,0.4s,baz=104,slow=8.8,SNR=5.1						
	comp=Z,0.7nm,0.4s						
ENH	Enshi	26.79	262		P	14 36 19.6	-1.8
BILL	Bilibino	33.12	17	*i* P	P	14 37 17.9	+1.0
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	Tiksi	34.07	353		P	14 37 24.1	-0.9
TIXI				IAmb	IAmb	14 37 25.0	
	comp=Z,3.3nm,0.5s						
TIXI	Tiksi	34.07	353	*ce*P	P	14 37 24.4	-0.6
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PZH	PanZhiHua	34.57	262	P	P	14 37 31.6	+1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
MIDW	Midway	36.31	93	P	P	14 37 46.1	+1.4
SPIA	Saint Paul Isl	37.17	43	P	P	14 37 52.3	+0.6
	baz=261						
P08K	Saint George I	37.47	44	P	P	14 37 54.8	+0.6
	baz=262						
NIKH	Nikolski High	37.54	50	P	P	14 37 56.1	+1.2
	baz=268						
GAMB	Gambell	38.09	32	P	P	14 37 59.8	+0.4
	baz=251						
UNV	Unalaska Valle	38.98	49	P	P	14 38 07.3	+0.4
	baz=268						
WMQ	Urumqi	39.73	295	*e*P	P	14 38 14.8	+1.5
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
M11K	Mekoryuk	39.77	38	P	P	14 38 13.7	+0.3
	baz=261						
ZALV	Zalesovo Beam	40.64	311	P	P	14 38 19.6	-1.1
	comp=Z,1.0nm,0.6s,baz=90,slow=8.9,SNR=4.9						
ZALV				PcP	PcP	14 40 20.0	-0.3
	comp=Z,1.0nm,0.4s,baz=88,slow=3.7,SNR=4.7						
	comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	40.64	311	*i* P	P	14 38 21.7	+1.0
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
K13K	Kusilvak Mount	40.77	36	P	P	14 38 22.2	+0.6
	baz=260						
FALS	False Pass	40.80	47	P	P	14 38 22.7	+0.8
	baz=270						
ANM	Nome	40.98	32	P	P	14 38 23.7	+0.4
	baz=257						
CMAR	Chiang Mai Arr	41.16	253	P	P	14 38 25.1	-0.3
	comp=Z,1.3nm,0.6s,baz=51,slow=8.6,SNR=12						
	comp=Z,1.3nm,0.6s						
M13K	Dall Lake	41.18	39	P	P	14 38 25.9	+1.0
	baz=264						
J14K	Nanvaranak Lak	41.41	35	P	P	14 38 27.6	+0.8
	baz=261						
F15K	North Star Dit	41.54	31	P	P	14 38 28.6	+0.7
	baz=256						
L14K	Kuka Creek	41.61	37	P	P	14 38 29.4	+0.9
	baz=263						
G15K	Niukluk	41.63	32	P	P	14 38 29.1	+0.5
	baz=258						
M14K	Bethel	41.90	38	P	P	14 38 30.9	+0.1
	baz=264						
N14K	Kuskokwak Cree	41.96	40	P	P	14 38 31.6	+0.3
	baz=266						
C16K	Lisburne Hills	41.98	27	P	P	14 38 32.1	+0.7
	baz=253						
O14K	Tigyukauivet M	42.13	41	P	P	14 38 32.8	+0.1
	baz=267						
L15K	Ungalak Mounta	42.22	37	P	P	14 38 33.9	+0.4
	baz=264						
K15K	Wolf Creek Mou	42.27	36	P	P	14 38 33.9	+0.1
	baz=263						
G16K	Koyuk River	42.41	31	P	P	14 38 35.6	+0.7
	baz=259						
SDPT	Sand Point	42.49	46	P	P	14 38 36.2	+0.5
	baz=272						
M15K	Kasigluk River	42.52	38	P	P	14 38 36.3	+0.4
	baz=266						
D17K	Noatak River	42.64	28	P	P	14 38 37.2	+0.5
	baz=256						
N15K	Kwethluk River	42.77	39	P	P	14 38 39.1	+1.2
	baz=267						
RDOG	Red Dog Mine	42.79	27	P	P	14 38 39.0	+1.0
	baz=256						
J16K	Anvik River	42.82	35	P	P	14 38 38.8	+0.5
	baz=263						
I17K	Unalakleet	42.86	34	P	P	14 38 39.6	+1.1
	baz=262						
O15K	Ungalikthiuk R	42.86	41	P	P	14 38 40.1	+1.4
	baz=268						
MK31	Makanchi Array	42.94	301	*ce*P	P	14 38 38.6	-0.9
MKAR	Makanchi Array	42.94	301	P	P	14 38 38.8	-0.7
	comp=Z,0.6nm,0.5s,baz=82,slow=9.7,SNR=11						
	comp=Z,0.6nm,0.5s						
MKAR	Makanchi Array	42.94	301	*i* P	P	14 38 38.7	-0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
E17K	Hotham Inlet	42.97	29	P	P	14 38 41.0	+1.6
	baz=258,SNR=6.4						
S14K	Fog Glacier	42.99	45	P	P	14 38 40.4	+0.5
	baz=271						
CHNA	Chernabura Isl	43.02	47	P	P	14 38 41.3	+1.4
	baz=273						
F17K	Baldwin Pennin	43.06	30	P	P	14 38 41.1	+1.0
	baz=259						
G17K	Kiwalik Mounta	43.13	31	P	P	14 38 41.5	+0.8
	baz=260						
L16K	Owhat River	43.18	37	P	P	14 38 41.7	+0.5
	baz=266						
H17K	Granite Mounta	43.34	32	P	P	14 38 43.3	+0.8
	baz=262						
M16K	Timber Creek	43.38	38	P	P	14 38 43.9	+1.1
	baz=267						
N16K	Nishlik Lake	43.45	39	P	P	14 38 44.7	+1.3
	baz=268						
E18K	Tukpahlearik C	43.50	29	P	P	14 38 45.9	+2.2
E18K				IAmb	IAmb	14 38 46.4	
	comp=Z,4.3nm,0.7s						
E18K	Tukpahlearik C	43.50	29	P	P	14 38 43.9	+0.2
	baz=259,SNR=5.2						
B18K	Kokolik River	43.52	26	P	P	14 38 44.5	+0.7
	baz=255						
J17K	VABM Dome	43.52	35	P	P	14 38 44.8	+0.9
	baz=264						
C18K	Utukok River	43.55	27		P	14 38 45.4	+1.2
C18K				IAmb	IAmb	14 38 46.3	
	comp=Z,6.6nm,0.8s						
C18K	Utukok River	43.55	27	P	P	14 38 45.5	+1.4
	baz=257,SNR=6.8						
F18K	Selawik	43.72	30	P	P	14 38 46.9	+1.5
	baz=260						
O16K	Kokwok River B	43.76	40	P	P	14 38 47.4	+1.6
	baz=269						
L17K	Donlin	43.77	37	P	P	14 38 47.3	+1.4
	baz=266						
P16K	Nushagak River	43.80	41	P	P	14 38 47.3	+1.1
	baz=274						
K17K	Iditarod	43.81	36	P	P	14 38 47.1	+0.9
	baz=266						
A19K	Wainwright	43.98	25	P	P	14 38 48.7	+1.3
	baz=255						
G18K	Tagagawik	44.00	31	P	P	14 38 48.8	+1.0
	baz=262						
H18K	Honhosa River	44.03	32	P	P	14 38 49.1	+1.1
	baz=263						
M17K	Holitna River	44.14	38	P	P	14 38 50.2	+1.4
	baz=268						
N17K	Nushagak Hills	44.23	39	P	P	14 38 51.2	+1.6
	baz=269						
O17K	Koliganek Bris	44.27	40	P	P	14 38 50.9	+1.0
	baz=270						
F19K	Shaleruckik Mo	44.49	30	P	P	14 38 52.1	+0.6
	baz=262						
Q16K	King Salmon	44.50	42	P	P	14 38 52.4	+0.7
	baz=271						
L18K	Granite Mounta	44.52	36	P	P	14 38 52.9	+0.9
	baz=268						
J18K	Innoko River	44.58	35	P	P	14 38 53.1	+0.7
	baz=266						
P17K	Kvichak River	44.60	41	P	P	14 38 53.8	+1.2
	baz=271						
D19K	Kuna River	44.63	27	P	P	14 38 53.8	+1.1
	baz=260						
G19K	Purcell Mounta	44.67	31	P	P	14 38 53.8	+0.8
	baz=263						
KURK	Kurchatov	44.69	307		P	14 38 52.7	-0.7
KURK	Kurchatov	44.69	307	*ce*P	P	14 38 52.5	-0.9
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KURBB	Kurchatov Arra	44.76	307	P	P	14 38 53.4	-0.6
	comp=Z,6.8nm,0.6s,baz=83,slow=8.1,SNR=70						
	comp=Z,6.8nm,0.6s						
E19K	Redstone River	44.79	29		P	14 38 55.7	+1.8
E19K				IAmb	IAmb	14 38 57.4	
	comp=Z,8.6nm,1.1s						
E19K	Redstone River	44.79	29	P	P	14 38 55.0	+1.0
	baz=262,SNR=10						
H19K	Roundabout Mou	44.87	32		P	14 38 56.8	+2.2
H19K				IAmb	IAmb	14 38 57.5	
	comp=Z,6.7nm,0.9s						
H19K	Roundabout Mou	44.87	32	P	P	14 38 55.7	+1.2
	baz=264,SNR=6.8						
TTA	Tatalina	44.87	35	P	P	14 38 55.3	+0.6
	baz=268						
N18K	Kilae Creek	44.87	39	P	P	14 38 57.1	+2.4
N18K				IAmb	IAmb	14 38 58.2	
	comp=Z,6.1nm,0.8s						
N18K	Kilae Creek	44.87	39	P	P	14 38 56.3	+1.6
	baz=270,SNR=5.1						
M18K	Stony River	44.91	38	P	P	14 38 56.5	+1.5
	baz=269						
Q17K	Contact Creek	44.92	42	P	P	14 38 56.4	+1.2
	baz=272						
J19K	Poorman	45.10	34		P	14 38 58.2	+1.7
J19K	Poorman	45.10	34	P	P	14 38 57.8	+1.3
	baz=267						
D20K	Etivluk River	45.21	27	P	P	14 38 59.0	+1.7
D20K	Etivluk River	45.21	27	P	P	14 38 58.5	+1.2
	baz=261,SNR=12						
O18K	Koktuh Hills	45.22	40		P	14 38 59.5	+2.0
O18K				IAmb	IAmb	14 39 02.4	
	comp=Z,4.1nm,0.7s						
O18K	Koktuh Hills	45.22	40	P	P	14 38 59.9	+2.4
	baz=271						
P18K	Big Mountain,	45.22	40	P	P	14 38 59.0	+1.4
	baz=272						
B20K	Meade River	45.24	25	P	P	14 38 58.6	+1.1
	baz=259						
E20K	Nigu River	45.29	28	P	P	14 38 59.0	+1.0
	baz=262,SNR=7.6						
F20K	Avaraart Lake	45.32	30	P	P	14 38 58.8	+0.7
	baz=264						
Q18K	Katmai Hardscr	45.36	42	P	P	14 38 59.7	+0.9
	baz=273						
L19K	White Mountain	45.38	37	P	P	14 38 59.8	+1.0
	baz=269						
H20K	Anotleneega Mo	45.51	32	P	P	14 39 00.8	+1.1
	baz=266						
N19K	Bonanza Creek	45.56	38	P	P	14 39 01.2	+0.9
	baz=271						
M19K	Big River Lodg	45.60	37	P	P	14 39 01.8	+1.3
	baz=270						
I20K	Naaghedeneel	45.64	33	P	P	14 39 02.1	+1.4
	baz=267						
O19K	Port Alsworth	45.66	39	P	P	14 39 03.0	+2.1
O19K				IAmb	IAmb	14 39 04.0	
	comp=Z,4.9nm,0.7s						
O19K	Port Alsworth	45.66	39	P	P	14 39 01.7	+0.8
	baz=272						
A21K	Barrow	45.67	24	P	P	14 39 01.5	+0.7
	baz=259,SNR=9.8						
J20K	Nowinta River	45.76	34	P	P	14 39 03.9	+2.3
J20K	Nowinta River	45.76	34	P	P	14 39 02.6	+1.0
	baz=268						
K20K	Telida	45.77	35	P	P	14 39 03.0	+1.2
	baz=269,SNR=5.4						
L20K	Farewell, AK	45.84	36	P	P	14 39 03.0	+0.6
	baz=270						
C21K	Knifeblade Rid	45.93	27	P	P	14 39 04.1	+1.2
	baz=263,SNR=7.3						
B21K	Ikpikpuk River	46.05	26		P	14 39 05.4	+1.6
B21K	Ikpikpuk River	46.05	26	P	P	14 39 04.9	+1.1
	baz=262,SNR=19						
Q19K	Cape Douglas,	46.06	41	P	P	14 39 05.3	+1.2
Q19K	Cape Douglas,	46.06	41	P	P	14 39 05.3	+1.2
	baz=274						
E21K	Killik River	46.13	28	P	P	14 39 05.6	+1.0
	baz=264						
A22K	Sinclair Lake	46.14	24	P	P	14 39 05.4	+0.9
	baz=261						
G21K	Allakaket	46.15	30	P	P	14 39 05.9	+1.2
	baz=266						
M20K	Styx River	46.20	37	P	P	14 39 06.2	+1.0
	baz=271						
F21K	Alatna River	46.20	30	P	P	14 39 06.2	+1.0
	baz=266						
P19K	Oil Pt	46.23	40	P	P	14 39 06.8	+1.3
	baz=273						
OHAK	Old Harbor	46.38	43	P	P	14 39 07.2	+0.6
	baz=276						
H21K	Melozitna Rive	46.38	32	P	P	14 39 07.4	+0.8
	baz=268						
B22K	Teshekpuk Lake	46.55	25	IAmb	IAmb	14 39 09.7	
	comp=Z,6.6nm,0.6s						
B22K	Teshekpuk Lake	46.55	25	P	P	14 39 08.5	+0.7
	baz=263,SNR=11						
CHUM	Lake Minchumin	46.56	34	P	P	14 39 09.0	+1.1
	baz=270						
PPLA	Purkeypile	46.62	36	P	P	14 39 08.9	+0.3
	baz=271						
D22K	Ayikyak River	46.65	27	P	P	14 39 09.7	+1.1
	baz=265,SNR=15						
SPCR	Spurr Chakacha	46.66	38	P	P	14 39 10.0	+1.1
	baz=273						
CAST	Castle Rocks	46.66	35	P	P	14 39 09.7	+0.9
	baz=271						
KDAK	Kodiak Island	46.70	43	P	P	14 39 10.4	+1.3
	baz=276						
I21K	Tanana	46.71	32	P	P	14 39 10.4	+1.3
	baz=269						
F22K	John River	46.73	29	P	P	14 39 10.4	+1.1
	baz=267						
Q20K	Shuyak Island	46.73	41	P	P	14 39 10.5	+1.2
	baz=275,SNR=6.1						
SYI	Shuyak Island	46.73	41		P	14 39 10.2	+0.9
SYI				IAmb	IAmb	14 39 11.0	
	comp=Z,8.2nm,0.8s						
E22K	Anaktuvuk Pass	46.91	28	IAmb	IAmb	14 39 13.4	
	comp=Z,10nm,1.1s						
E22K	Anaktuvuk Pass	46.91	28	P	P	14 39 11.9	+1.2
	baz=266,SNR=13						
SKT	Skwentna	46.95	37	P	P	14 39 11.9	+0.8
	baz=272						
G22K	Bettles	46.96	30	P	P	14 39 12.4	+1.4
	baz=268						
H22K	Ishtalitna Cre	46.98	31	P	P	14 39 11.7	+0.5
	baz=269						
HOM	Homer	47.03	40	P	P	14 39 12.4	+0.8
	baz=274						
BPAW	Bear Paw Mtn.	47.14	34	P	P	14 39 13.1	+0.6
	baz=271						
KTH	Kantishna Hill	47.18	35	IAmb	IAmb	14 39 15.8	
	comp=Z,6.5nm,0.9s						
CAPN	Captain Cook N	47.20	38	P	P	14 39 13.6	+0.7
	baz=274						
SUA	Susitna One	47.35	37	IAmb	IAmb	14 39 17.7	
	comp=Z,6.2nm,0.8s						
SUA	Susitna One	47.35	37	P	P	14 39 15.4	+1.2
	baz=274,SNR=6.9						
D23K	Nanushuk River	47.38	27	P	P	14 39 15.4	+1.1
	baz=267						
C23K	Itkillik River	47.46	26	IAmb	IAmb	14 39 17.6	
	comp=Z,7.8nm,0.8s						
C23K	Itkillik River	47.46	26	P	P	14 39 16.0	+1.2
	baz=266,SNR=8.2						
TRF	Thorofare Moun	47.47	35	P	P	14 39 15.9	+0.7
	baz=272						
BRSE	Bradley Lake S	47.48	40	P	P	14 39 16.7	+1.5
	baz=275,SNR=5.5						
COLD	Coldfoot	47.48	30	P	P	14 39 16.1	+1.0
	baz=269						
G23K	Bananza Creek	47.54	30	P	P	14 39 16.1	+0.5
	baz=269						
KDJ	Kajisay	47.62	296		P	14 39 16.2	-0.5
KDJ	Kajisay	47.62	296	P	P	14 39 16.2	-0.5
KDJ				pmax	pmax		
	comp=Z,3.0nm,1.3s						
E23K	Chandalar	47.73	28	P	P	14 39 18.1	+1.0
	baz=269,SNR=15						
H23K	Yukon River	47.73	32	IAmb	IAmb	14 39 20.4	
	comp=Z,6.3nm,0.9s						
H23K	Yukon River	47.73	32	P	P	14 39 18.4	+1.4
	baz=271						
TOLK	Toolik Lake Re	47.76	28	P	P	14 39 18.0	+0.7
	baz=268						
RC01	Rabbit Creek A	47.86	38	P	P	14 39 19.3	+1.2
	baz=275						
O22K	Cooper Landing	47.92	39	P	P	14 39 19.9	+1.4
	baz=275						
NEA2	Nenana	47.96	33	IAmb	IAmb	14 39 21.7	
	comp=Z,9.1nm,1.4s						
NEA2	Nenana	47.96	33	P	P	14 39 20.0	+1.2
	baz=272						
D24K	Happy Valley	48.05	27	IAmb	IAmb	14 39 22.1	
	comp=Z,7.6nm,0.7s						
D24K	Happy Valley	48.05	27	P	P	14 39 20.3	+0.9
	baz=268,SNR=13						
MCK	McKinley	48.06	34	P	P	14 39 20.4	+0.8
	baz=273						
SEW	Seward	48.09	39	P	P	14 39 20.9	+1.1
	baz=276						
PMR	Palmer	48.11	37	P	P	14 39 21.1	+1.1
	baz=275						
C24K	Franklin Bluff	48.11	26	P	P	14 39 20.9	+1.1
	baz=268,SNR=13						
RND	Reindeer	48.11	35	IAmb	IAmb	14 39 22.0	
	comp=Z,3.6nm,0.7s						
E24K	Your Creek	48.15	28	IAmb	IAmb	14 39 23.2	
	comp=Z,4.7nm,0.6s						
E24K	Your Creek	48.15	28	P	P	14 39 21.6	+1.3
	baz=270						
GHO	Glory Hole Cre	48.20	37	IAmb	IAmb	14 39 22.6	
	comp=Z,5.8nm,0.6s						
F24K	Squaw Lake	48.38	29	P	P	14 39 22.9	+0.9
	baz=271						
H24K	Noodor Dome	48.42	31	P	P	14 39 23.4	+1.1
	baz=272						
KNK	Knik Glacier	48.45	37	IAmb	IAmb	14 39 24.9	
	comp=Z,4.5nm,0.9s						
KNK	Knik Glacier	48.45	37	P	P	14 39 23.3	+0.7
	baz=276						
COLA	College	48.47	33	P	P	14 39 23.6	+0.9
	baz=273						
SML	Sawmill	48.47	37	IAmb	IAmb	14 39 25.1	
	comp=Z,5.7nm,0.9s						
SML	Sawmill	48.47	37	P	P	14 39 23.8	+1.0
	baz=275						
G24K	Hadweenzic Riv	48.55	30	P	P	14 39 24.0	+0.7
	baz=272						
PWL	Port Wells	48.56	38	IAmb	IAmb	14 39 26.9	
	comp=Z,3.7nm,0.7s						
PWL	Port Wells	48.56	38	P	P	14 39 24.1	+0.6
	baz=276						
POKR	Poker Plat Res	48.64	32	P	P	14 39 24.9	+0.9
	baz=273						
M23K	Glacier View	48.76	37	P	P	14 39 25.7	+0.7
	baz=276						
HDA	Harding Lake	48.89	33	IAmb	IAmb	14 39 27.5	
	comp=Z,4.1nm,0.8s						
HDA	Harding Lake	48.89	33	P	P	14 39 27.2	+1.3
	baz=274						
IL31		48.89	33	IAmb	IAmb	14 39 29.3	
	comp=Z,4.2nm,0.9s						
ILAR	Eielson Array	48.89	33	P	P	14 39 27.

D25K Kavik River 48.93 27 P **P 14 39 27.1 +0.9**
baz=270,SNR=8.5
SCM Sheep Creek Mo 48.95 37 P **P 14 39 28.2 +1.7**
baz=276
G25K Bearman Lake 49.10 30 P **P 14 39 28.8 +1.4**
baz=273
P23K Montague Islan 49.13 39 P **P 14 39 28.7 +1.0**
baz=278
GLI Glacier Island 49.16 38 P **P 14 39 28.8 +0.7**
baz=277
F25K Christian Rive 49.24 29 IAmb IAmb 14 39 32.0
comp=Z,3.2nm,0.8s
F25K Christian Rive 49.24 29 P **P 14 39 29.6 +1.0**
baz=273,SNR=6.0
H25L Birch Creek 49.24 31 P **P 14 39 29.6 +1.1**
baz=274
E25K Arctic Village 49.25 28 P **P 14 39 29.1 +0.5**
baz=272
BVAR Borovoye Array 49.30 311 P **P 14 39 28.9 -0.4**
comp=Z,1.3nm,0.5s,baz=72,slow=7.6,SNR=11
BVAR PcP **PcP 14 40 50.2 0.0**
comp=Z,1.8nm,0.5s,baz=82,slow=3.4,SNR=9.0
comp=Z,1.3nm,0.5s
AAK Ala-Archa 49.35 297 *i* P **P 14 39 29.8 -0.2**
AAK pmax pmax
comp=Z,1.0nm,0.3s
PRP Porcupine Dome 49.41 32 IAmb IAmb 14 39 32.7
comp=Z,3.2nm,0.9s
PRP Porcupine Dome 49.41 32 P **P 14 39 30.4 +0.4**
baz=274
C26K Camden Bay 49.43 26 P **P 14 39 30.8 +0.9**
baz=271
K24K Donnelly Dome 49.45 34 IAmb IAmb 14 39 32.0
comp=Z,4.9nm,0.8s
K24K Donnelly Dome 49.45 34 P **P 14 39 31.3 +1.1**
baz=276
M24K Tolsona, Glenn 49.46 36 P **P 14 39 31.2 +0.8**
baz=277
J25K Salcha River, 49.55 33 P **P 14 39 32.0 +0.9**
baz=275
KLU Klutina 49.65 37 IAmb IAmb 14 39 34.5
comp=Z,5.0nm,0.9s
KLU Klutina 49.65 37 P **P 14 39 33.5 +1.6**
baz=278
PAX Paxson 49.68 35 P **P 14 39 33.4 +1.4**
baz=277
F26K Sheenjek River 49.80 29 IAmb IAmb 14 39 36.5
comp=Z,5.6nm,0.8s
F26K Sheenjek River 49.80 29 P **P 14 39 33.5 +0.6**
baz=274,SNR=14
C27K Jago River 49.86 26 P **P 14 39 34.1 +0.9**
baz=273
EYAK Cordova Ski Ar 49.87 38 P **P 14 39 34.5 +1.2**
baz=279
RIDG Independent Ri 49.87 34 P **P 14 39 34.4 +0.9**
baz=277
HARP HAARP 49.89 36 P **P 14 39 34.6 +1.0**
baz=278
G26K Porcupine Rive 50.00 30 IAmb IAmb 14 39 37.8
comp=Z,6.0nm,1.4s
G26K Porcupine Rive 50.00 30 P **P 14 39 35.4 +1.1**
baz=275
SCRK Sand Creek 50.22 34 IAmb IAmb 14 39 37.9
comp=Z,2.4nm,0.8s
SCRK Sand Creek 50.22 34 P **P 14 39 36.2 0.0**
baz=277,SNR=5.2
N25K Chitina, Valde 50.26 37 P **P 14 39 36.9 +0.5**
baz=279
J26L Joseph Creek 50.34 33 P **P 14 39 37.9 +0.9**
baz=277
BMRM Bremner River 50.36 38 P **P 14 39 38.7 +1.5**
baz=279
I26K Coal Creek Min 50.42 32 P **P 14 39 38.7 +1.2**
baz=277
KAIM Kayak Island 50.62 39 P **P 14 39 40.2 +1.2**
baz=280
L26K Log Cabin Wild 50.63 35 P **P 14 39 39.9 +0.7**
baz=278
E27K Coleen River 50.73 28 P **P 14 39 40.6 +0.8**
baz=276
G27K Doyon Strip 50.85 30 P **P 14 39 41.6 +0.8**
baz=277
D27M Malcolm River 50.85 27 P **P 14 39 41.4 +0.7**
baz=276
M26K Nabesna, AK 50.89 36 P **P 14 39 42.3 +1.2**
baz=279
H27K Steamboat Moun 50.97 31 P **P 14 39 42.8 +1.1**
baz=277
I27K Kandik River 51.02 31 P **P 14 39 42.2 +0.1**
baz=278
K27K Chicken 51.05 34 P **P 14 39 42.9 +0.7**
baz=279
L27K Beaver Creek, 51.31 35 IAmb IAmb 14 39 47.4
comp=Z,3.2nm,0.8s
L27K Beaver Creek, 51.31 35 P **P 14 39 45.0 +0.7**
baz=280
M27K Edge Creek, AK 51.41 36 P **P 14 39 45.7 +0.6**
baz=280
E28M Babbage River 51.44 28 P **P 14 39 45.1 0.0**
baz=277
D28M Stokes Point 51.63 27 P **P 14 39 47.0 +0.5**
baz=277
I28M Miner Creek 51.73 32 P **P 14 39 47.5 +0.1**
baz=279
BVCY Beaver Creek 51.87 35 P **P 14 39 49.2 +0.8**
baz=281,SNR=6.6
E29M Blow River 52.06 28 IAmb IAmb 14 39 53.0
comp=Z,6.4nm,1.2s
E29M Blow River 52.06 28 P **P 14 39 50.9 +1.2**
baz=279,SNR=5.4
YUK3 Moose Creek 52.18 36 P **P 14 39 52.2 +1.3**
baz=282
H29M Whitestone 52.24 30 P **P 14 39 51.8 +0.7**
baz=280
G29M Pine Creek 52.26 30 P **P 14 39 52.6 +1.4**
baz=280
I29M Ogilvie Camp, 52.42 32 P **P 14 39 53.5 +1.0**
baz=281
O28M Mount Upton 52.52 37 P **P 14 39 54.7 +1.2**
baz=283
YUK8 Steele Glacier 52.60 37 P **P 14 39 55.1 +1.0**
baz=283
EPYK Eagle Plains 52.87 30 P **P 14 39 56.5 +0.8**
baz=282,SNR=8.1
G30M tAoh Zraii Nji 52.94 29 P **P 14 39 57.3 +1.0**
baz=282
M29M Somme Creek 52.95 35 IAmb IAmb 14 39 59.9
comp=Z,4.2nm,0.7s
M29M Somme Creek 52.95 35 P **P 14 39 57.2 +0.7**
baz=283,SNR=5.1
L29M L29M 52.95 34 IAmb IAmb 14 40 00.1
comp=Z,6.0nm,0.9s
L29M L29M 52.95 34 P **P 14 39 57.5 +1.1**
baz=283
F30M Barrier River 52.98 28 P **P 14 39 57.9 +1.4**
baz=281
K29M Barlow Dome 53.06 33 P **P 14 39 58.3 +1.0**
baz=283
YUK4 Talbot Arm 53.12 37 P **P 14 39 58.9 +1.0**
baz=284
PNL Peninsula 53.16 39 P **P 14 39 59.0 +1.1**
baz=284
I30M Mount Dempster 53.24 31 P **P 14 39 59.5 +0.9**
baz=283,SNR=15
YUK6 Outpost Mounta 53.35 37 P **P 14 40 00.6 +1.0**
baz=284
O29M Mount Kennedy 53.40 38 P **P 14 40 00.9 +1.0**
baz=284
J30M Hart River 53.41 32 P **P 14 40 00.9 +1.1**
baz=283
M30M Minto, Yukon 53.67 35 P **P 14 40 03.0 +1.4**
baz=284
G31M Satah River 53.70 29 P **P 14 40 02.6 +0.9**
baz=283
HYT Haines Junctio 53.78 37 IAmb IAmb 14 40 05.9
comp=Z,5.8nm,1.0s
HYT Haines Junctio 53.78 37 P **P 14 40 04.3 +1.7**
baz=285,SNR=5.2
F31M Tsiigehtchic 53.79 28 IAmb IAmb 14 40 04.7
comp=Z,2.9nm,0.7s
F31M Tsiigehtchic 53.79 28 P **P 14 40 04.1 +1.8**
baz=283
H31M Peel River 53.94 31 IAmb IAmb 14 40 06.3
comp=Z,5.6nm,0.8s
H31M Peel River 53.94 31 P **P 14 40 04.8 +1.2**
baz=284,SNR=6.3
P29M Windy Craggy 53.98 38 P **P 14 40 05.3 +1.4**
baz=286
P30M Million Dollar 54.23 38 P **P 14 40 07.3 +1.6**
baz=286
N31M Braeburn, Yuko 54.42 36 P **P 14 40 07.9 +0.8**
baz=286
O30N Mendenhall 54.47 37 P **P 14 40 08.6 +1.1**
baz=286
M31M Drury Creek, Y 54.85 35 P **P 14 40 12.0 +1.8**
baz=286
WHY Whitehorse 55.07 37 P **P 14 40 12.9 +1.0**
baz=287
ARTI Arti 55.16 318 **P 14 40 11.7 -0.7**
ARTI Arti 55.16 318 *d* P **P 14 40 11.3 -1.1**
ARTI S **S 14 47 47.1 +0.4**
ARTI SS **SS 14 51 32.3 +0.6**
ARTI pmax pmax
comp=Z,7.0nm,1.2s
FARO Faro, Yukon 55.31 35 P **P 14 40 14.6 +1.1**
baz=287
A36M Sachs Harbour 55.45 22 P **P 14 40 15.0 +0.8**
baz=288,SNR=8.5
P32M Atlin 55.95 38 P **P 14 40 18.9 +0.8**
baz=289
SIT Sitka 55.96 41 P **P 14 40 18.8 +0.7**
baz=289
P33M Teslin, Yukon 56.18 37 P **P 14 40 20.1 +0.3**
baz=289
C36M Paulatuk 56.67 25 IAmb IAmb 14 40 24.8
comp=Z,4.1nm,0.9s
C36M Paulatuk 56.67 25 P **P 14 40 23.9 +1.0**
baz=290,SNR=7.8
ABKAR Akbulak array 56.68 309 **P 14 40 22.7 -0.7**
Q32M Nakina River 56.86 38 P **P 14 40 25.1 +0.3**
baz=290
R33M Jennings River 57.34 37 P **P 14 40 29.4 +1.3**
baz=291
U33K Whale Pass 57.43 42 P **P 14 40 29.6 +1.1**
baz=291
CRAG Craig 57.66 42 P **P 14 40 31.1 +0.9**
baz=292
WRAK Wrangell Islan 57.72 41 P **P 14 40 31.3 +0.8**
baz=292
TGTN Hyland Airport 57.81 34 P **P 14 40 32.2 +0.9**
baz=292
WRA Warramunga Arr 58.11 187 P **P 14 40 32.8 -0.9**
comp=Z,2.0nm,0.6s,baz=2.3,slow=7.6,SNR=36
WRA PcP **PcP 14 41 24.2 0.0**
comp=Z,0.9nm,0.6s,baz=360,slow=4.4,SNR=6.7
comp=Z,2.0nm,0.6s
V35K Ketchikan 58.51 42 P **P 14 40 37.0 +0.9**
baz=293
T35M Bob Quinn 58.58 40 P **P 14 40 37.8 +1.1**
baz=293
LIRD Liard River Hi 59.63 36 P **P 14 40 45.3 +1.5**
baz=294
RES Resolute Bay 61.66 14 P **P 14 40 57.5 +0.2**
comp=Z,3.5nm,0.5s,baz=310,slow=6.1,SNR=28
comp=Z,3.5nm,0.5s
ASAR Alice Springs 61.84 187 P **P 14 40 58.6 -0.5**
comp=Z,1.2nm,0.7s,baz=7.0,slow=4.6,SNR=23
ASAR PcP **PcP 14 41 39.5 +0.4**
comp=Z,0.5nm,0.8s,baz=8.9,slow=3.5,SNR=5.7
comp=Z,1.2nm,0.7s
ARCES ARCESS Array B 62.68 339 P **P 14 41 03.6 -0.6**
comp=Z,3.0nm,0.8s,baz=27,slow=8.2,SNR=4.5
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 63.15 30 P **P 14 41 07.9 +0.5**
comp=Z,1.0nm,0.7s,baz=304,slow=6.7,SNR=18
YKA PcP **PcP 14 41 44.8 +0.8**
comp=Z,0.6nm,1.0s,baz=302,slow=4.1,SNR=4.2
comp=Z,1.0nm,0.7s
FINES FINESS Array B 67.48 332 P **P 14 41 35.0 -0.3**
comp=Z,2.3nm,0.7s,baz=43,slow=7.7,SNR=8.2
comp=Z,2.3nm,0.7s
PINE Pine Mountain 70.11 50 **P 14 41 54.4 +2.2**
YBH Yreka Blue Hor 70.17 52 P **P 14 41 54.2 +1.6**
comp=Z,2.1nm,0.7s,baz=181,slow=1.6,SNR=5.2
comp=Z,2.1nm,0.7s
HFS Hagfors 72.76 335 P **P 14 42 07.8 +0.2**
comp=Z,1.4nm,0.6s,baz=4.2,slow=6.1,SNR=8.8
comp=Z,1.4nm,0.6s
NB2 NORSAR Subarra 72.86 337 P **P 14 42 08.0 -0.3**
comp=Z,0.9nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 72.86 337 P **P 14 42 08.0 -0.3**
comp=Z,1.6nm,0.7s,baz=39,slow=5.9,SNR=8.4
comp=Z,1.6nm,0.7s
NOA NORSAR Array B 72.86 337 P **P 14 42 08.0 -0.3**
AKASG Malin Array Be 72.97 322 P **P 14 42 08.0 -1.0**
comp=Z,1.9nm,0.6s,baz=46,slow=6.0,SNR=11
comp=Z,1.9nm,0.6s
AKASG Malin Array Be 72.97 322 P **P 14 42 08.0 -1.0**
FFC Flin Flon 73.10 33 P **P 14 42 10.7 +1.0**
FFC IAmb IAmb 14 42 11.2
comp=Z,5.7nm,1.0s
FFC Flin Flon 73.10 33 P **P 14 42 10.7 +1.0**
FFC pmax pmax
comp=Z,6.0nm,1.0s
DLMT Dillon 74.00 45 IAmb IAmb 14 42 17.9
comp=Z,5.8nm,0.9s
NVAR Mina Array Bea 74.84 53 P **P 14 42 22.6 +2.2**
comp=Z,1.7nm,0.6s,baz=304,slow=5.8,SNR=10
comp=Z,1.7nm,0.6s
TPNV Topopah Spring 77.03 53 P **P 14 42 34.2 +1.4**
TPNV IAmb IAmb 14 42 35.5
comp=Z,6.0nm,1.1s
TPNV Topopah Spring 77.03 53 P **P 14 42 34.2 +1.4**
TPNV pmax pmax
comp=Z,6.0nm,1.1s
DUG Dugway, Tooele 77.11 49 P **P 14 42 35.2 +2.0**
DUG pmax pmax
comp=Z,7.0nm,1.1s
PDAR Pinedale Array 77.34 45 P **P 14 42 35.8 +1.3**
comp=Z,1.4nm,0.6s,baz=316,slow=0.8,SNR=16
comp=Z,1.4nm,0.6s
ULM Lac du Bonnet 78.91 33 P **P 14 42 43.0 +0.2**
comp=Z,2.5nm,0.6s,baz=330,slow=5.6,SNR=4.7
comp=Z,2.5nm,0.6s
ULM Lac du Bonnet 78.91 33 P **P 14 42 43.0 +0.2**
CLL Collm 79.76 330 *i* P **P 14 42 46.9 -0.4**
CLL Collm 79.76 330 *i* P **P 14 42 46.9 -0.4**
GERES GERESS Array B 81.38 328 P **P 14 42 55.5 -0.6**
comp=Z,1.0nm,0.6s,baz=32,slow=7.8,SNR=6.3
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 89.95 52 P **P 14 43 40.1 +1.2**
comp=Z,1.3nm,0.7s,baz=297,slow=3.2,SNR=17
comp=Z,1.3nm,0.7s
LPAZ La Paz 146.66 57 PKPbc **PKPbc 14 50 22.1 +0.4**
comp=Z,3.5nm,0.6s,baz=289,slow=2.9,SNR=15

IDC 15 14:36:47.5±1.7, 22°.37N×93°.14E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=61.2km s-min=19.3km az=53.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.69**	**125**	Pg	Pb	14 38 47.6	+2.9
	0.2nm,0.3s,baz=303,slow=18,SNR=6.0						
CMAR				Lg	Lg	14 40 21.8	
	baz=306,slow=28,SNR=2.4						
MKAR	**Makanchi Array**	**25.90**	**343**	P	P	14 42 20.9	-0.2
	1.3nm,0.8s,baz=150,slow=9.8,SNR=12						
	1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**30.43**	**342**	P	P	14 43 02.0	+0.4
	0.4nm,0.6s,baz=156,slow=9.3,SNR=4.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**60.54**	**137**	P	P	14 46 59.9	-0.1
	0.3nm,0.6s,baz=322,slow=6.7,SNR=7.2						
	0.3nm,0.6s						

---

*IDC **15** 14:55:14.4±2.3, 6°.48N×93°.26E, h0km, mb3.5/5, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=92.3km s-min=22.7km az=60.0*

ISC 15 14:55:19.4±1.9, 6°.6N±0°.2×93°.4E±0°.3, h32km, n9, σ1.9 27/6, mb3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.03**	**24**	Pn	**Pn**	**14 58 22.6**	**+0.2**
	0.1nm,0.3s,baz=214,slow=11,SNR=4.5						
	0.3nm,0.7s						
H08S3	**Diego Garcia H**	**25.13**	**236**	T	T	15 27 36.9	
	baz=56,slow=76,SNR=14						
H08S2	**Diego Garcia H**	**25.13**	**236**	T	T	15 27 32.0	
	baz=56,slow=76,SNR=19						
H08S1	**Diego Garcia H**	**25.15**	**236**	T	T	15 27 28.8	
	baz=56,slow=76,SNR=15						
MKAR	**Makanchi Array**	**41.21**	**348**	P	**P**	**15 03 00.6**	**-0.6**
	0.7nm,0.8s,baz=160,slow=7.6,SNR=7.2						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**45.64**	**347**	P	**P**	**15 03 38.4**	**+1.5**
	0.7nm,0.6s,baz=166,slow=6.8,SNR=10						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**47.77**	**353**	P	**P**	**15 03 52.1**	**-1.3**
	0.5nm,0.4s,baz=164,slow=7.5,SNR=2.0						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**48.15**	**124**	P	**P**	**15 03 57.3**	**+0.4**
	0.4nm,0.9s,baz=303,slow=7.5,SNR=2.2						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**49.68**	**129**	P	**P**	**15 04 08.4**	**-0.3**
	0.3nm,0.9s,baz=295,slow=7.1,SNR=5.3						
	0.3nm,0.9s						

---

*VIE **15** 15:00:13.7±0.3, 49°.69N×18°.59E, h0km, mb2.2/1, ml2.5/2, Error ellipse: s-maj=3.2km s-min=1.8km az=164.0 29 km ESE of Ostrava Suspected Mining induced.*
*IPEC **15** 15:00:14.9±0.3, 49°.84N×18°.54E, h1km, ML2.4/4, Error ellipse: s-maj=2.1km s-min=1.7km az=70.0*
*PRU **15** 15:00:17.5, 49°.83N×18°.39E, h0km, Mining Induced Event Csm, E=4.1e+05*

ISC 15 15:00:13.4±0.8, 49°.82N±0°.03×18°.53E±0°.02, h0km, n25, σ0.89/49, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**273**	*e*PG	**Pb**	**15 00 20.0**	**+1.9**
OKC				*e*SG	**Sb**	**15 00 24.4**	**+3.1**
	comp=Z,112nm,0.2s						
MORC	**Moravsky Berou**	**0.64**	**266**	*e*Pg	**Pb**	**15 00 27.5**	**+0.1**
	baz=84						
MORC				*e*Sg	**Sg**	**15 00 35.5**	**+1.7**
	72nm,0.4s,baz=84						
MORC	**Moravsky Berou**	**0.64**	**266**	*e*PG	**Pb**	**15 00 27.6**	**+0.1**
MORC				*e*SG	**Sg**	**15 00 35.6**	**+1.7**
LANS	**Liptovska Anna**	**0.91**	**137**	*e*PG	**Pb**	**15 00 32.2**	**+0.1**
LANS				*e*SG	**Sb**	**15 00 45.5**	**+0.7**
LANS				*e*LG	Lg	15 00 49.2	
OJC	**Ojcow**	**0.91**	**64**	*e*Pg	**Pg**	**15 00 31.1**	**+0.2**
OJC				*e*Sg	**Sb**	**15 00 45.1**	**+0.4**
JAVC	**Velka Javorina**	**1.12**	**210**	*e*Pg	**Pn**	**15 00 36.9**	**+0.6**
	baz=30						
NIE	**Niedzica**	**1.22**	**109**	*e*Pg	**Pn**	**15 00 37.6**	**-0.2**
NIE				*e*Sg	**Sn**	**15 00 55.4**	**+0.3**
VYHS	**Vyhne**	**1.35**	**171**	*e*PG	**Pb**	**15 00 39.9**	**+0.4**
VYHS				*e*SG	**Sn**	**15 00 58.3**	**+0.3**
VRAC	**Vranov**	**1.36**	**248**	*e*Pg	**Pb**	**15 00 40.3**	**+0.6**
	baz=67						
VRAC				*e*Sg	**Sb**	**15 00 57.8**	**+0.2**
	32nm,0.2s,baz=67						
DPC	**Dobruska-Polom**	**1.51**	**291**	*e*PG	**Pg**	**15 00 42.7**	**+0.3**
DPC				*e*SG	**Sn**	**15 01 03.3**	**+1.1**
	comp=Z,40nm,0.3s						
KRUC	**Moravsky**	**1.59**	**242**	*e*Pg	**Pg**	**15 00 43.9**	**+0.1**
	baz=60						
KRUC				*e*Sg	**Sg**	**15 01 05.0**	**+0.7**
	24nm,0.2s,baz=60						
OSTC	**Ostas**	**1.66**	**297**	*e*PG	**Pg**	**15 00 45.4**	**+0.3**
OSTC				*e*SG	**Sg**	**15 01 07.3**	**+0.7**
	comp=Z,32nm,0.6s						
MODS	**Modra-Piesok**	**1.67**	**210**	*e*PG	**Pb**	**15 00 45.2**	**+0.2**
MODS				*e*SG	**Sb**	**15 01 06.8**	**+0.3**
UPC	**Upice**	**1.75**	**294**	*e*PG	**Pb**	**15 00 46.8**	**+0.3**
UPC				*e*SG	**Sg**	**15 01 10.6**	**+0.9**
	comp=Z,23nm,0.6s						
KSP	**Ksiaz**	**1.76**	**306**	*e*Pg	**Pg**	**15 00 47.1**	**+0.1**
KSP				*e*Sg	**Sb**	**15 01 09.2**	**+0.1**
CHVC	**Chvalec**	**1.76**	**297**	*e*PG	**Pg**	**15 00 47.7**	**+0.6**
CHVC				*e*SG	**Sg**	**15 01 11.0**	**+1.0**
	comp=Z,40nm,0.9s						
KECS	**Kecovo**	**1.86**	**135**	*e*PN	**Pn**	**15 00 46.9**	**+0.4**
KECS				*e*SN	**Sn**	**15 01 10.1**	**-0.6**
TREC	**Trest**	**2.05**	**256**	*e*PG	**Pg**	**15 00 52.6**	**0.0**
TREC				*e*SG	**Sg**	**15 01 19.4**	**+0.3**
	comp=Z,22nm,0.4s						
PRU	**Pruhonice**	**2.58**	**275**	*e*PG	**Pg**	**15 01 02.4**	**-0.4**
PRU				*e*SG	**Sg**	**15 01 35.1**	**-1.2**
	comp=Z,9.5nm,0.7s						
CONA	**Conrad Observa**	**2.59**	**224**	*i* Pn	**Pn**	**15 00 55.9**	**-0.7**
	0.3nm,0.1s						
CONA				*e*Sn	**Sn**	**15 01 27.8**	**-0.9**
	2.1nm,0.2s						
RONA	**Rosalia, Austr**	**2.59**	**216**	*e*Pn	**Pn**	**15 00 56.3**	**-0.2**
	1.3nm,0.2s						
RONA				*e*Sn	**Sn**	**15 01 27.8**	**-0.9**
	1.9nm,0.2s						
KOLS	**Kolonicke sedl**	**2.61**	**109**	*e*PN	**Pb**	**15 01 00.1**	**-0.9**
KOLS				*e*SN	**Sn**	**15 01 27.6**	**-1.5**
KOLS				*e*LG	Lg	15 01 46.2	
CKRC	**Cesky Krumlov**	**2.94**	**252**	*e*PG	**Pg**	**15 01 10.0**	**+0.4**
CKRC				*e*SG	**Sg**	**15 01 46.7**	**-0.9**
	comp=Z,8.8nm,0.6s						
BRG	**Berggiesshubel**	**3.12**	**291**	Pg	**Pg**	**15 01 12.2**	**-0.9**
BRG				Sg	**Sg**	**15 01 52.5**	**-1.0**
BRG				Amp		15 01 57.1	
	comp=Z,11nm,0.5s						
KHC	**Kasperske Hory**	**3.30**	**260**	*e*PG	**Pg**	**15 01 16.0**	**-0.6**
KHC				*e*SG	**Sg**	**15 01 58.9**	**-0.5**
	comp=Z,8.4nm,0.3s						

---

*BUT **15** 15:05:03.4±0.7, 46°.97N±0°.03×112°.72W±0°.02, h12km±6km, Error ellipse: s-maj=4.8km s-min=1.3km az=195.0*

NEIC 15 15:05:03.0±0.9, 46°.99N±0°.02×112°.72W±0°.01, h10km±2km, ML2.3/14, ML2.6/18(BUT), Error ellipse: s-maj=3.6km s-min=3.0km az=356.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVMT	**Ovando**	**0.21**	**293**		Pg	15 05 08.0	+0.5
BEMT	**Mount Belmont**	**0.36**	**132**		Pg	15 05 10.4	+0.2
BEMT					Sg	15 05 15.5	+0.6
CHMT	**Chamberlain Mo**	**0.37**	**259**		Pg	15 05 10.8	+0.3
CHMT					Sg	15 05 16.1	+0.6
SLMT	**Seeley Lake**	**0.59**	**296**		Pg	15 05 14.9	+0.4
HRY	**Holter Researc**	**0.67**	**114**		Pg	15 05 16.2	+0.3
BPMT	**Black Pine Rid**	**0.74**	**223**		Pg	15 05 17.1	-0.3
MSO	**Missoula**	**0.85**	**260**		Pg	15 05 19.3	-0.2
MSO	**Missoula**	**0.85**	**260**	IAML		15 05 34.7	
	138nm,0.2s						
MSO				IAML		15 05 35.4	
	113nm,0.4s						
BUT	**Butte**	**0.98**	**174**		Pg	15 05 21.8	0.0
SWMT	**Swartz Lake**	**1.02**	**301**		Pg	15 05 22.0	-0.6
VCMT	**Victor**	**1.15**	**242**		Pb	15 05 24.8	-0.2
LRM	**Limekiln Ridge**	**1.18**	**171**		Pb	15 05 25.3	-0.3
ALMT	**Alberton, Mont**	**1.18**	**273**		Pb	15 05 25.0	-0.6
HBMT	**Mount Humbug**	**1.20**	**176**		Pb	15 05 25.5	-0.4
FBMT	**Ferry Basin**	**1.24**	**291**		Pn	15 05 26.1	-0.4
YBMT	**Yellow Bay**	**1.24**	**315**		Pn	15 05 26.3	-0.3
JTMT	**Jette**	**1.31**	**306**		Pn	15 05 27.3	-0.2
SXM	**Sixmile**	**1.33**	**128**		Pg	15 05 28.5	-0.1
NDMT	**Ninemile Divid**	**1.45**	**282**		Pb	15 05 29.9	-0.3
BOZ	**Bozeman (W)**	**1.58**	**151**		Pn	15 05 30.9	-0.3
BOZ	**Bozeman (W)**	**1.58**	**151**	IAML		15 05 55.2	
	31nm,0.3s						
DLMT	**Dillon**	**1.62**	**177**		Pn	15 05 32.5	+0.6
DLMT				IAML		15 05 55.6	
	48nm,0.7s						
MKMT	**Mink Peak**	**1.64**	**275**		Pn	15 05 32.3	+0.1
BGMT	**Barton Gulch**	**1.81**	**165**		Pn	15 05 34.7	+0.2
BZMT	**Bozeman Pass**	**1.89**	**134**		Pg	15 05 39.0	-0.2
MCMT	**McKenzie Canyo**	**2.16**	**182**		Pn	15 05 38.9	-0.4
TPMT	**Tepee Creek**	**2.37**	**162**		Pg	15 05 47.6	-0.9
YHL	**Hebgen Lake**	**2.39**	**153**	Pn	Pn	15 05 42.3	-0.1
YHL				IAML		15 06 22.2	
	comp=E,21nm,0.9s						
YMR	**Madison River**	**2.62**	**152**	Pn	Pn	15 05 45.5	0.0
YMR				IAML		15 06 30.1	
	comp=E,15nm,1.4s						
YNE	**Yellowstone No**	**2.73**	**135**	Pn	Pn	15 05 46.6	-0.6
YNE				IAML		15 06 30.3	
	comp=E,9.7nm,0.6s						
YNE				IAML		15 06 33.1	
	comp=N,9.7nm,0.4s						
PLID	**Pearl Lake**	**2.97**	**232**	Pn	Pn	15 05 50.5	0.0

---

*JMA **15** 15:15:22.7±0.1, 26°.2N±0°.8×129°.5E±0°.5, h44km, MV3.0/17, NEAR OKINAWAJIMA ISLAND*
*IDC **15** 15:15:23.6±8.2, 25°.83N×128°.20E, h0km, mb3.3/3,*

mbtmp3.3/3, Error ellipse: s-maj=420.5km s-min=32.4km az=62.0

ISC 15 15:15:19.8±1.6, **26°.23N**±0°.05×**129°.50E**±0°.04, **h4**km±11km, **n17**, σ1§**49**/29, **mb3.3**/3, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.23**	**310**	*eP*	**Pg**	**15 15 44.0**	**+0.6**
JYRO				S	**Sg**	**15 15 59.5**	**+0.2**
JOW	**Kunigami**	**1.25**	**299**	P	**Pg**	**15 15 44.4**	**+0.6**
JOW				S	**Sg**	**15 15 59.6**	**-0.5**
JNTH	**Nagotoyohara**	**1.36**	**282**	P	**Pg**	**15 15 45.7**	**-0.2**
JNTH				S	**Sg**	**15 16 01.1**	**-2.4**
JOKE	**Okinoerabujima**	**1.40**	**324**	*eP*	**Pn**	**15 15 46.8**	**+0.6**
JOKE				S	**Sg**	**15 16 03.6**	**-1.2**
JJT3	**Tamagusuku3**	**1.55**	**267**	*eP*	**Pn**	**15 15 48.9**	**+0.7**
JJT3				S	**Sn**	**15 16 07.8**	**-1.0**
JIH	**Iheya**	**1.59**	**300**	P	**Pn**	**15 15 49.4**	**+0.6**
JIH				S	**Sn**	**15 16 08.3**	**-1.5**
JMZ	**Minamidaito 2**	**1.60**	**105**	P	**Pn**	**15 15 49.0**	**+0.1**
JMZ				S	**Sn**	**15 16 06.9**	**-3.2**
JTK	**Tokunoshima**	**1.62**	**342**	P	**Pn**	**15 15 50.0**	**+0.8**
JTK				*eS*	**Sn**	**15 16 08.7**	**-2.0**
JKDJ	**Kitadaitoujima**	**1.64**	**100**	*eP*	**Pn**	**15 15 49.9**	**+0.5**
JKDJ				S	**Sn**	**15 16 09.0**	**-1.9**
JAMN	**Amaminishikomi**	**2.02**	**352**	*eP*	**Pn**	**15 15 55.8**	**+1.0**
JAGN	**Aguni-jima**	**2.06**	**280**	P	**Pn**	**15 15 55.9**	**+0.7**
JAGN				S	**Sn**	**15 16 19.7**	**-1.7**
JZK	**Kikaishima**	**2.12**	**11**	P	**Pn**	**15 15 57.4**	**+1.4**
JZK				*eS*	**Sn**	**15 16 22.6**	**-0.2**
JAM	**Amami Oshima**	**2.17**	**2**	*eP*	**Pn**	**15 15 57.1**	**+0.3**
JAM				*eS*	**Sn**	**15 16 21.5**	**-2.6**
JKE	**Kume jima 2**	**2.44**	**273**	P	**Pn**	**15 16 00.5**	**0.0**
MKAR	**Makanchi Array**	**42.39**	**312**	P	**P**	**15 23 14.6**	**-0.7**
	0.3nm,0.8s,baz=97,slow=10,SNR=2.4 0.3nm,0.8s						
WRA	**Warramunga Arr**	**46.14**	**174**	P	**P**	**15 23 46.9**	**+1.3**
	0.5nm,0.8s,baz=356,slow=8.0,SNR=2.9 0.5nm,0.8s						
ASAR	**Alice Springs**	**49.79**	**175**	P	**P**	**15 24 16.9**	**+3.0**
	0.3nm,0.7s,baz=354,slow=7.0,SNR=4.4 0.3nm,0.7s						

---

*NEIC **15** 15:21:01.6±2.2, 33°.44N±0°.01×116°.43W±0°.02, h21km±2km, Error ellipse: s-maj=2.9km s-min=1.8km az=79.0*

PAS 15 15:21:02.6±0.9, **33°.470N**±0°.007×**116°.44W**±0°.02, **h11**km±3km, **ML2.9**/142, **ML2.6**/22(NEIC), **Error ellipse: s-maj=2.1km s-min=1.0km az=79.0, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRD	**Ford Ranch, An**	**0.14**	**280**		Pb	15 21 08.4	+1.1
FRD	**Ford Ranch, An**	**0.14**	**280**		Pb	15 21 08.7	+1.3
XPFO	**Pinon Flat**	**0.14**	**354**		Pb	15 21 08.3	+0.9
PFO	**Pinyon Flats O**	**0.14**	**352**		Pg	15 21 05.8	-0.3
PFO				IAML		15 21 08.4	
	1μm,0.4s						
PFO	**Pinyon Flats O**	**0.14**	**352**		Pg	15 21 05.9	-0.2
PFO					Sg	15 21 08.3	-0.3
SNDA	**J Saunders Pla**	**0.17**	**299**		Pb	15 21 09.7	+1.8
PMD	**Palm Desert**	**0.18**	**16**		Pb	15 21 09.0	+0.9
BZNA	**Buzz No.'s Pla**	**0.19**	**276**		Pb	15 21 10.2	+2.0
BORC	**Borrego Spring**	**0.20**	**175**		Pg	15 21 06.9	-0.1
BORC					Sg	15 21 09.9	-0.1
CRY	**Cary Ranch**	**0.27**	**291**		Sg	15 21 12.0	0.0
GVDA	**Garner Valley**	**0.28**	**315**		Pg	15 21 08.2	-0.3
GVDA					Sg	15 21 12.2	-0.2
SLH	**Sleepy Hollow**	**0.32**	**151**		Pg	15 21 09.0	0.0
SLH					Sg	15 21 13.7	+0.4
MATG	**Mataguay Scout**	**0.32**	**213**		Pg	15 21 09.1	-0.1
MATG					Sg	15 21 13.5	-0.1
PLM	**Palomar**	**0.37**	**252**		Sg	15 21 15.6	+0.4
CTCC	**Cactus City**	**0.42**	**64**		Sg	15 21 16.7	+0.3
SALN	**Salton City**	**0.42**	**117**		Pg	15 21 10.9	0.0
SALN					Sg	15 21 17.2	+0.7
POB	**Polly Butte**	**0.46**	**298**		Pg	15 21 11.3	-0.4
POB					Sg	15 21 17.4	-0.4
EW2	**E Wide Canyon**	**0.47**	**3**		Sg	15 21 18.3	+0.1
DEVC	**Devers**	**0.48**	**346**		Sg	15 21 18.5	+0.1
DGR	**Domenigoni Val**	**0.51**	**291**		Sg	15 21 18.9	-0.6
CTW	**Cottonwood Mou**	**0.52**	**66**		Pg	15 21 12.3	-0.4
CTW					Sg	15 21 19.4	-0.1
BACC	**Bachelor Mtn.**	**0.52**	**286**		Sg	15 21 19.3	-0.6
HMTC	**Hemet**	**0.53**	**297**		Pg	15 21 12.4	-0.6
HMTC					Sg	15 21 19.4	-0.7
MONP2	**Monument Peak**	**0.58**	**179**		Pg	15 21 13.5	-0.4
MONP2					Sg	15 21 21.3	-0.2
BLAC	**Blackrock camp**	**0.60**	**4**		Pg	15 21 13.8	-0.5
BLAC					Sg	15 21 22.1	-0.2
5271	**Bombay Beach**	**0.60**	**101**		Pg	15 21 14.2	-0.1
ERRC	**Elmore Ranch**	**0.62**	**124**		Pb	15 21 15.3	-0.2
ERRC					Sb	15 21 24.3	+0.1
DPP	**Dos Picos Cty**	**0.63**	**222**		Pg	15 21 14.3	-0.6
DPP					Sg	15 21 22.5	-0.8
BBSC	**Beaumont Base**	**0.64**	**315**		Sg	15 21 23.5	0.0
BELC	**Belle Mtn. Jos**	**0.64**	**35**		Sg	15 21 23.1	-0.5
MURC	**Murrieta**	**0.65**	**282**		Pg	15 21 14.6	-0.6
MURC					Sg	15 21 23.1	-0.6
FRK	**Frink**	**0.67**	**96**		Pg	15 21 14.8	-0.8
FRK					Sg	15 21 23.9	-0.6
HAY	**Hayfield**	**0.67**	**69**		Pg	15 21 15.8	+0.1
HAY					Sb	15 21 25.2	-0.5
EML	**El Monte Cty P**	**0.67**	**211**		Pg	15 21 14.9	-0.8
EML					Sg	15 21 23.7	-0.8
CRR	**Carrizo Plain**	**0.70**	**146**		Pg	15 21 15.8	-0.5
CRR					Sg	15 21 25.6	+0.1
SUP	**Superstition M**	**0.73**	**135**		Pg	15 21 16.5	-0.2
SUP					Sg	15 21 26.2	0.0
GORC	**Green Oak Ranc**	**0.73**	**245**		Pg	15 21 15.9	-1.0
GORC					Sg	15 21 25.6	-0.9
PEC	**Perris**	**0.74**	**305**		Pg	15 21 16.3	-0.6
PEC					Sg	15 21 26.1	-0.5
CFT	**Crafton Hills**	**0.80**	**315**		Pg	15 21 17.7	-0.4
CPE	**Camp Elliot**	**0.81**	**224**		Sg	15 21 27.6	-1.2
CPE	**Camp Elliot**	**0.81**	**224**	IAML		15 21 27.9	
	comp=N,1μm,0.2s						
CPE				IAML		15 21 28.3	
	comp=E,2μm,0.2s						
BAR	**Barrett**	**0.81**	**194**		Sg	15 21 27.8	-1.2
GTM	**Goat Mountain**	**0.82**	**5**		Pg	15 21 17.6	-1.0
GTM					Sg	15 21 28.7	-0.7
MTRP	**Mission Trails**	**0.83**	**219**		Pg	15 21 17.6	-1.1
MTRP					Sg	15 21 28.3	-1.2
SVD	**Seven Oaks Dam**	**0.84**	**319**		Pg	15 21 18.4	-0.5
SVD					Sg	15 21 29.6	-0.2
BC3	**Big Chuckawall**	**0.84**	**77**		Pg	15 21 17.8	-1.1
BC3					Sg	15 21 29.4	-0.5
ELS	**Elsinore Mount**	**0.85**	**282**		Pg	15 21 17.8	-1.2
ELS				IAML		15 21 30.3	
	comp=E,119nm,0.3s						
ELS				IAML		15 21 30.6	
	comp=N,150nm,0.2s						
ELS	**Elsinore Mount**	**0.85**	**282**		Sg	15 21 28.9	-1.1
SDRC	**San Diego Road**	**0.85**	**210**		Pg	15 21 17.8	-1.2
SDRC					Sg	15 21 28.7	-1.4
IKP	**In-Ko-Pah, Jac**	**0.86**	**161**		Pg	15 21 18.5	-0.8
IKP					Sg	15 21 29.8	-0.7
BBRC	**Big Bear Solar**	**0.89**	**333**		Pg	15 21 19.1	-0.7
BBRC					Sg	15 21 30.9	-0.5
RSBC	**Riverside Bore**	**0.90**	**304**		Sg	15 21 30.3	-1.3
SDMC	**San Diego Miss**	**0.90**	**221**		Sg	15 21 30.6	-1.2
DUZA	**Dulzura**	**0.91**	**198**		Pg	15 21 18.9	-1.2
DUZA					Sg	15 21 30.2	-1.7
WESC	**Westside Schoo**	**0.92**	**140**		Pg	15 21 19.3	-1.1
YUH	**Yuha Desert**	**0.93**	**152**		Pg	15 21 18.7	-1.8
YUH				IAML		15 21 33.0	
	comp=E,248nm,0.2s						
YUH				IAML		15 21 33.3	
	comp=N,177nm,0.1s						
SGL	**Mount Signal**	**1.01**	**144**		Pg	15 21 20.1	-2.0
CBX	**Cerro Bola**	**1.17**	**189**		Pb	15 21 23.5	-1.4
IRM	**Iron Mountain**	**1.27**	**57**		Pn	15 21 25.9	-0.5
GLA	**Glamis**	**1.41**	**107**		Pn	15 21 26.4	-1.9
GLA				IAML		15 21 48.8	
	comp=E,73nm,0.6s						
ESJX	**Sierra Juarez**	**1.52**	**164**		Pn	15 21 28.3	-1.6
ESJX				IAML		15 21 51.9	
	comp=N,100nm,0.1s						
PASC	**Pasadena Art C**	**1.61**	**296**		Pn	15 21 30.6	-0.5
PASC				IAML		15 21 52.6	
	comp=N,120nm,0.3s						
PASC				IAML		15 21 52.7	
	comp=E,148nm,0.4s						
BLYC	**Blythe**	**1.62**	**80**		Pn	15 21 29.1	-2.0
GSC	**Goldstone, Bar**	**1.85**	**351**		Pn	15 21 33.3	-1.1
GSC				IAML		15 22 08.1	
	comp=E,41nm,1.0s						
VTX	**Valle De La Tr**	**2.15**	**165**	Pn	Pn	15 21 38.6	+0.2
W13A	**Hualapai Mount**	**2.67**	**52**		Pn	15 21 44.5	-1.2
GWY	**Greenwater Val**	**2.72**	**356**		Pn	15 21 45.4	-1.0
PRN	**Pahroc Range**	**4.09**	**16**	Pn	Pn	15 22 05.0	-0.2
X16A	**Lo Mia Camp, P**	**4.26**	**76**		Pn	15 22 06.9	-0.7

---

*IDC **15** 15:22:30.9±0.8, 26°.20N×129°.44E, h0km, mb3.9/18, mbtmp3.9/20, ML3.8/2, MS3.3/11, Error ellipse: s-maj=22.1km s-min=16.9km az=70.0*

*NEIC **15** 15:22:32.4±1.3, 26°.23N±0°.07×129°.45E±0°.06, h5km±4km, mb4.5/33, Error ellipse: s-maj=11.4km s-min=7.2km az=203.0*

*JMA **15** 15:22:33.0±0.1, 26°.2N±0°.7×129°.5E±0°.5, h46km, MV3.7/18, NEAR OKINAWAJIMA ISLAND*

*NIED **15** 15:22:33.0, 26°.22N×129°.51E, h46km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}=1.12; $M_{\theta\theta}$0.55; $M_{\phi\phi}$0.57; $M_{r\theta}$-0.31; $M_{\theta\phi}$0.53; $M_{\phi r}$-0.57; Fault plane solution: $M_0$1.28000×10^15^ NP1: ϕ_s232.00000°, δ31.00000°, λ-77.00000°. NP2:ϕ_s37.00000°, δ60.00000°, λ-98.00000°.*

ISC 15 15:22:32.7±4.3, **26°.23N**±0°.04×**129°.49E**±0°.03, **h12**km±27km, **n94**, σ1§**60**/104, **mb4.4**/36, **MS3.6**/8, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.22**	**310**	*i* P	**Pn**	**15 22 54.6**	**-1.1**
JYRO				*eS*	**Sb**	**15 23 09.9**	**-1.6**
JOW	**Kunigami**	**1.24**	**299**		**Pn**	**15 22 54.8**	**-1.0**
JOW	**Kunigami**	**1.24**	**299**	Pn	**Pn**	**15 22 54.9**	**-1.0**
	292nm,0.3s,baz=122,slow=24,SNR=235						
JOW				Sn	**Sb**	**15 23 09.6**	**-2.6**
	445nm,0.3s,baz=289,slow=25,SNR=31						
JOW				LR	LR	15 23 35.4	
	comp=Z,905nm,19.6s,baz=162,slow=53						
JOW	**Kunigami**	**1.24**	**299**	P	**Pn**	**15 22 55.0**	**-1.0**
JOW	**Kunigami**	**1.24**	**299**	P	**Pn**	**15 22 54.9**	**-1.0**
JOW				S	**Sb**	**15 23 09.9**	**-2.2**
JNTH	**Nagotoyohara**	**1.35**	**283**	P	**Pn**	**15 22 56.0**	**-1.3**
JNTH				*eS*	**Sn**	**15 23 12.0**	**-3.3**
JOKE	**Okinoerabujima**	**1.39**	**324**	P	**Pn**	**15 22 57.1**	**-0.9**
JOKE				*eS*	**Sn**	**15 23 14.1**	**-2.2**
JJT3	**Tamagusuku3**	**1.54**	**267**	P	**Pn**	**15 22 59.3**	**-0.7**
JJT3				S	**Sn**	**15 23 17.9**	**-2.0**
JIH	**Iheya**	**1.58**	**301**	P	**Pn**	**15 22 59.9**	**-0.7**
JIH				*eS*	**Sn**	**15 23 18.8**	**-2.2**
JMZ	**Minamidaito 2**	**1.61**	**104**		**Pn**	**15 22 59.5**	**-1.4**
JMZ	**Minamidaito 2**	**1.61**	**104**	P	**Pn**	**15 22 59.3**	**-1.7**
JMZ	**Minamidaito 2**	**1.61**	**104**	P	**Pn**	**15 22 59.3**	**-1.7**
JMZ				S	**Sn**	**15 23 17.6**	**-4.0**
JTK	**Tokunoshima**	**1.62**	**343**	P	**Pn**	**15 23 00.3**	**-0.8**
JTK				S	**Sn**	**15 23 18.6**	**-3.4**
JKDJ	**Kitadaitoujima**	**1.65**	**99**	P	**Pn**	**15 23 00.1**	**-1.4**
JKDJ				S	**Sn**	**15 23 18.5**	**-4.0**
JAMN	**Amaminishikomi**	**2.02**	**352**	P	**Pn**	**15 23 05.9**	**-0.7**
JAMN				S	**Sn**	**15 23 28.9**	**-2.9**
JAGN	**Aguni-jima**	**2.05**	**280**	P	**Pn**	**15 23 06.5**	**-0.4**
JAGN				S	**Sn**	**15 23 30.3**	**-2.2**
JZK	**Kikaishima**	**2.12**	**12**	P	**Pn**	**15 23 07.3**	**-0.6**
JZK				S	**Sn**	**15 23 32.6**	**-1.6**
JAM	**Amami Oshima**	**2.17**	**3**	P	**Pn**	**15 23 07.8**	**-0.9**
JAM				S	**Sn**	**15 23 32.1**	**-3.5**
JKE	**Kume jima 2**	**2.43**	**273**	P	**Pn**	**15 23 10.9**	**-1.4**
JTAJ	**Takarajima**	**2.92**	**355**	*eP*	**Pn**	**15 23 18.3**	**-0.7**
JTAJ				S	**Sn**	**15 23 50.3**	**-3.8**
JMJ	**Miyako jima 2**	**4.05**	**251**	P	**Pn**	**15 23 32.9**	**-1.6**
YOJ	**Yonaguni jima**	**6.12**	**255**	Pn	**Pn**	**15 24 02.8**	**-0.2**
JNU	**Nakatsue**	**6.97**	**10**	Pn	**Pn**	**15 24 15.5**	**+0.8**
	2.8nm,0.3s,baz=207,slow=10,SNR=34						
JNU				Sn	**Sn**	**15 25 28.7**	**-5.3**
	1.1nm,0.3s,baz=82,slow=8.8,SNR=1.4						
JNU				LR	LR	15 27 08.5	
	comp=Z,60nm,19.8s,baz=304,slow=40 8.2nm,0.4s						
JNU	**Nakatsue**	**6.97**	**10**	P	**Pn**	**15 24 15.4**	**+0.8**
NACB	**Ninganchiao**	**7.44**	**256**	Pn	**Pn**	**15 24 18.1**	**-3.1**
NACB	**Ninganchiao**	**7.44**	**256**	P	**Pn**	**15 24 18.1**	**-3.1**
SSLB	**Suanglung**	**8.12**	**254**	P	Pn	15 24 26.9	-3.6
JMN	**Monobe**	**8.38**	**26**	Pn	**Pn**	**15 24 33.8**	**-0.3**
TPUB	**Ta-pu**	**8.57**	**252**	P	**Pn**	**15 24 34.1**	**-2.5**
KSRS	**Korea Array**	**11.27**	**354**	Pn	**Pn**	**15 25 14.5**	**+1.0**
	0.1nm,0.3s,baz=172,slow=14,SNR=2.2						
KSRS				LR	LR	15 29 58.3	
	comp=Z,59nm,18.1s,baz=180,slow=40 0.7nm,0.5s						
ENH	**Enshi**	**18.08**	**287**	P	**Pn**	**15 26 44.4**	**+0.6**
GUMO	**Guam**	**19.14**	**128**	LR	LR	15 32 40.1	
	comp=Z,21nm,18.3s,baz=17,slow=32						
XAN	**Xi'an**	**19.40**	**299**	P	**P**	**15 26 58.8**	**+0.1**
XAN				pmax	pmax		
	comp=Z,20nm,0.6s						
GTA	**Gaotai**	**28.05**	**305**	*eP*	**P**	**15 28 23.6**	**-0.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**28.18**	**326**	P	**P**	**15 28 26.6**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=115,slow=7.7,SNR=3.0						
SONM				LR	LR	15 41 01.8	
	comp=Z,67nm,18.4s,baz=103,slow=39 comp=Z,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**29.24**	**261**	P	**P**	**15 28 34.9**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=74,slow=11,SNR=1.7 comp=Z,0.2nm,0.5s						
KAPI	**Kappang**	**32.47**	**198**	P	**P**	**15 29 04.3**	**+1.2**
KAPI				IAmb	IAmb	15 29 19.7	
	comp=Z,7.0nm,1.1s						
PETK	**Petropavlovsk-**	**34.11**	**31**	P	**P**	**15 29 19.0**	**+1.8**
	comp=Z,1.5nm,1.0s,baz=228,slow=5.6,SNR=1.8 comp=Z,1.5nm,1.0s						
YAK	**Yakutsk**	**35.79**	**0**	LR	LR	15 44 37.3	
	comp=Z,33nm,19.7s,baz=212,slow=37						
MTN	**Manton Dam**	**38.87**	**177**	P	**P**	**15 29 58.3**	**+0.2**
KNRA	**Kununurra**	**41.66**	**181**	P	**P**	**15 30 21.5**	**+0.3**
MKAR	**Makanchi Array**	**42.38**	**312**	P	**P**	**15 30 26.6**	**-0.4**
MKAR	**Makanchi Array**	**42.38**	**312**	P	**P**	**15 30 26.1**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=98,slow=11,SNR=7.0 comp=Z,0.4nm,0.6s						
MAKZ	**Makanchi**	**42.59**	**312**	P	**P**	**15 30 28.9**	**+0.3**
ZALV	**Zalesovo Beam**	**42.93**	**322**	P	**P**	**15 30 30.5**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=106,slow=9.1,SNR=2.5 comp=Z,0.4nm,0.4s						
TIXI	**Tiksi**	**45.45**	**360**	P	**P**	**15 30 51.7**	**+0.5**
KURK	**Kurchatov**	**45.60**	**316**	P	**P**	**15 30 52.2**	**-0.5**
KURBB	**Kurchatov Arra**	**45.63**	**316**	P	**P**	**15 30 51.9**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=102,slow=8.9,SNR=11 comp=Z,0.7nm,0.5s						
WB0	**Warramunga Arr**	**45.97**	**174**	P	**P**	**15 30 56.0**	**+0.2**
WB0				IAmb	IAmb	15 31 19.8	
	comp=Z,6.7nm,1.2s						
WRA	**Warramunga Arr**	**46.14**	**174**	P	**P**	**15 30 56.2**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=354,slow=8.4,SNR=5.9 comp=Z,1.1nm,0.8s						
WR8	**Warramunga Arr**	**46.17**	**173**	P	**P**	**15 30 57.5**	**+0.1**
WR8				IAmb	IAmb	15 31 20.7	
	comp=Z,4.9nm,1.1s						
BILL	**Bilibino**	**47.32**	**18**	P	**P**	**15 31 07.0**	**+1.1**
BILL				IAmb	IAmb	15 31 07.8	
	comp=Z,4.4nm,1.1s						
PSA00	**Pilbara Seismi**	**48.43**	**192**	P	**P**	**15 31 15.0**	**0.0**
NRIK	**Noril'sk**	**49.60**	**342**	LR	LR	15 53 25.3	
	comp=Z,47nm,18.1s,baz=114,slow=37						
ASAR	**Alice Springs**	**49.79**	**175**	P	**P**	**15 31 24.9**	**-0.5**
ASAR	**Alice Springs**	**49.79**	**175**	P	**P**	**15 31 25.8**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=2.9,slow=12,SNR=9.3 comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**51.03**	**318**	P	**P**	**15 31 35.4**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=96,slow=9.1,SNR=7.4						
BVAR				LR	LR	15 55 05.8	
	comp=Z,76nm,20.1s,baz=113,slow=38 comp=Z,1.8nm,0.7s						
K13K	**Kusilvak Mount**	**55.87**	**31**	P	**P**	**15 32 11.0**	**+1.1**
AB31	**Akbulak array**	**57.47**	**313**	P	**P**	**15 32 21.6**	**+0.1**
AB31				IAmb	IAmb	15 32 22.9	
	comp=Z,5.8nm,1.4s						
ABKAR	**Akbulak array**	**57.47**	**313**	P	**P**	**15 32 21.5**	**0.0**
ARTI	**Arti**	**58.19**	**322**	P	**P**	**15 32 26.6**	**+0.1**
ARTI				IAmb	IAmb	15 32 26.8	
	comp=Z,3.2nm,0.6s						
ARTI	**Arti**	**58.19**	**322**	LR	LR	16 00 08.2	
	comp=Z,68nm,18.3s,baz=40,slow=39						
C18K	**Utukok River**	**58.31**	**24**	P	**P**	**15 32 28.5**	**+1.3**
STKA	**Stephens Creek**	**58.93**	**168**	LR	LR	16 00 43.9	
	comp=Z,16nm,18.1s,baz=37,slow=39						
D20K	**Etivluk River**	**59.98**	**24**	P	**P**	**15 32 40.3**	**+1.5**
D20K				IAmb	IAmb	15 32 41.2	
	comp=Z,3.6nm,0.8s						
B21K	**Ikpikpuk River**	**60.76**	**23**	P	**P**	**15 32 45.8**	**+1.8**
B21K				IAmb	IAmb	15 32 46.7	
	comp=Z,4.0nm,0.8s						
D22K	**Ayikyak River**	**61.42**	**24**	P	**P**	**15 32 49.8**	**+1.3**
D22K				IAmb	IAmb	15 32 51.3	
	comp=Z,4.1nm,0.9s						
SUA	**Susitna One**	**62.47**	**32**	P	**P**	**15 32 57.0**	**+1.2**
SUA				IAmb	IAmb	15 32 58.3	
	comp=Z,3.1nm,0.8s						
MCK	**McKinley**	**63.11**	**30**	P	**P**	**15 33 00.4**	**+0.5**
RND	**Reindeer**	**63.18**	**30**	P	**P**	**15 33 00.9**	**+0.5**
F24K	**Squaw Lake**	**63.24**	**25**	P	**P**	**15 33 02.2**	**+1.5**
F24K				IAmb	IAmb	15 33 03.5	
	comp=Z,2.9nm,0.8s						
ILAR	**Eielson Array**	**63.90**	**28**	P	**P**	**15 33 04.0**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=261,slow=7.0,SNR=5.2 comp=Z,0.5nm,0.8s						
SCM	**Sheep Creek Mo**	**64.05**	**32**	P	**P**	**15 33 07.0**	**+0.7**
BMAR	**Burnt Mountain**	**64.52**	**25**	P	**P**	**15 33 10.8**	**+1.6**
F26K	**Sheenjek River**	**64.65**	**25**	P	**P**	**15 33 12.3**	**+2.3**
F26K				IAmb	IAmb	15 33 28.3	
	comp=Z,3.7nm,1.1s						
DOT	**Dot Lake**	**65.27**	**29**	P	**P**	**15 33 14.6**	**+0.5**
DOT				IAmb	IAmb	15 33 26.5	
	comp=Z,2.4nm,0.9s						
BCAR	**Beaver Creek A**	**66.39**	**30**	P	**P**	**15 33 23.1**	**+1.7**
M30M	**Minto, Yukon**	**68.73**	**30**	P	**P**	**15 33 38.1**	**+2.0**
M30M				IAmb	IAmb	15 34 12.4	
	comp=Z,2.9nm,1.2s						
KBZ	**Khabaz**	**70.03**	**310**	P	**P**	**15 33 44.6**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=242,slow=7.8,SNR=4.1 comp=Z,2.7nm,0.8s						
FARO	**Faro, Yukon**	**70.37**	**30**	P	**P**	**15 33 48.0**	**+1.7**
FARO				IAmb	IAmb	15 33 48.7	
	comp=Z,3.1nm,0.8s						
FIA1	**FINESS Array S**	**73.42**	**331**	P	**P**	**15 34 04.8**	**+0.4**
FINES	**FINESS Array B**	**73.42**	**331**	P	**P**	**15 34 04.7**	**+0.2**
FINES	**FINESS Array B**	**73.42**	**331**	P	**P**	**15 34 05.0**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=55,slow=6.6,SNR=13 comp=Z,3.3nm,0.7s						
AKASG	**Malin Array Be**	**76.26**	**320**	P	**P**	**15 34 21.2**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=64,slow=6.0,SNR=5.5						
AKASG				LR	LR	16 10 37.2	
	comp=Z,61nm,19.3s,baz=59,slow=38 comp=Z,0.9nm,0.5s						
BRTR	**Keskin Array B**	**77.92**	**308**	P	**P**	**15 34 31.5**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=86,slow=8.0,SNR=6.3 comp=Z,1.3nm,0.8s						
YKA	**Yellowknife Ar**	**78.04**	**25**	P	**P**	**15 34 31.8**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=306,slow=6.0,SNR=4.5 comp=Z,0.3nm,0.8s						
HFS	**Hagfors**	**79.34**	**333**	P	**P**	**15 34 38.1**	**0.0**
	comp=Z,2.7nm,0.7s,baz=134,slow=8.6,SNR=4.9 comp=Z,2.7nm,0.7s						
NC405	**NORSAR Array S**	**79.57**	**334**	P	**P**	**15 34 39.1**	**-0.3**
NB2	**NORSAR Subarra**	**79.81**	**334**	P	**P**	**15 34 40.7**	**0.0**
	comp=Z,0.8nm,0.6s,baz=52,slow=5.6						
NOA	**NORSAR Array B**	**79.81**	**334**	P	**P**	**15 34 40.5**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=51,slow=5.5,SNR=8.5						
NOA				LR	LR	16 16 35.9	
	comp=Z,34nm,18.3s,baz=320,slow=41 comp=Z,1.7nm,0.8s						
NC204	**NORSAR Array S**	**79.84**	**335**	P	**P**	**15 34 41.1**	**+0.1**
NC204				IAmb	IAmb	15 35 05.1	
	comp=Z,7.7nm,1.2s						
NBO00	**NORSAR Array S**	**79.98**	**334**	P	**P**	**15 34 42.5**	**+0.8**
NBO00				IAmb	IAmb	15 35 11.3	
	comp=Z,8.3nm,1.3s						
GERES	**GERESS Array B**	**85.88**	**323**	P	**P**	**15 35 12.5**	**-0.1**
	comp=Z,0.2nm,0.2s,baz=32,slow=7.8,SNR=4.5 comp=Z,0.2nm,0.2s						
ITM	**Ithomi**	**87.25**	**310**	P	**P**	**15 35 19.4**	**0.0**

JMA 15 15:25:27.4

TDCB	Techi	0.42 302	⇓iP	Pb	15 26 31.8	+0.6
TDCB			S	Sg	15 26 37.4	+0.5
NNSB	Datong	0.43 339	⇓iP	Pb	15 26 31.8	+0.5
NNSB			iS	Sg	15 26 37.4	+0.3
ENA	Nanau	0.44 23	⇑iP	Pb	15 26 31.8	+0.4
ENA			S	Sb	15 26 38.1	+0.5
NNS	Nan Shan	0.44 338	⇓iP	Pb	15 26 32.0	+0.5
NNS			S	Sg	15 26 37.7	+0.2
VWDT	VWDT	0.46 234	⇑iP	Pb	15 26 32.4	+0.7
VWDT			S	Sb	15 26 38.9	+0.6
EWUT	Wuta	0.47 26	⇑iP	Pb	15 26 32.3	+0.5
EWUT			S	Sg	15 26 38.4	+0.4
LATG	Datong	0.51 357	⇓eP	Pb	15 26 33.1	+0.6
LATG			eS	Sb	15 26 39.9	+0.3
HGSD	Ruisui	0.54 192	eP	Pg	15 26 33.7	+0.6
HGSD			S	Sg	15 26 42.5	+2.1
EHY	Hungye	0.56 202	⇓P	Pb	15 26 32.8	-0.4
EHY			iS	Sb	15 26 41.2	+0.3
EHYH	Wanrong	0.56 200	eP	Pb	15 26 33.2	-0.2
EHYH			eS	Sg	15 26 41.6	+0.6
WCS	Beigang Elemen	0.59 273	⇓P	Pg	15 26 34.4	+0.6
WCS			S	Sb	15 26 42.0	+0.4
SSLB	Suanglung	0.60 247		Pb	15 26 34.3	+0.5
SSLB	Suanglung	0.60 247	P	Pb	15 26 34.4	+0.5
SSLB	Suanglung	0.60 247	S	Sb	15 26 41.8	-0.1
SSLB	Suanglung	0.60 247	⇑iP	Pb	15 26 34.4	+0.5
SSLB			S	Sb	15 26 41.8	-0.1
WHP	Taichung City	0.61 294	⇓iP	Pg	15 26 34.8	+0.6
WHP			iS	Sb	15 26 42.8	+0.5
ESAO	Su ao	0.61 26	⇑eP	Pb	15 26 34.4	+0.3
ESAO			iS	Sg	15 26 42.6	+0.2
ENTT	Nioudou	0.61 1	⇑iP	Pg	15 26 34.8	+0.5
ENTT			S	Sg	15 26 43.2	+0.6
SMLT	Sun Moon Lake	0.61 257	⇑P	Pb	15 26 33.8	-0.4
SMLT			S	Sb	15 26 41.9	-0.6
NDS	Dongshan	0.62 14	eP	Pb	15 26 34.3	-0.1
NDS			S	Sb	15 26 42.4	-0.3
TWC	Suao	0.64 25	⇑P	Pg	15 26 35.1	+0.3
TWC			eS	Sg	15 26 44.1	+0.6
TYC	Yuchr	0.65 259	⇓P	Pb	15 26 35.3	+0.5
TYC			eS	Sb	15 26 43.2	-0.1
YHNB	Yeheng	0.66 346	Pg	Pg	15 26 35.6	+0.4
YHNB	Yeheng	0.66 346	P	Pg	15 26 35.7	+0.4
YHNB	Yeheng	0.66 346	S	Sb	15 26 43.9	0.0
YHNB	Yeheng	0.66 346	⇓P	Pb	15 26 35.5	+0.4
YHNB			S	Sb	15 26 44.3	+0.4
NSK	Sanguang	0.67 345	⇓P	Pb	15 26 35.6	+0.4
NSK			S	Sg	15 26 44.8	+0.3
TWE	Neicheng	0.70 9	⇑iP	Pb	15 26 36.2	+0.4
TWE			S	Sg	15 26 46.0	+0.7
EOS4	EOS4	0.71 82	eP	Pn	15 26 37.2	+0.4
EOS4			eS	Sn	15 26 47.5	+0.5
EYUL	Yuli	0.71 198	eP	Pg	15 26 36.8	+0.7
EYUL			eS	Sg	15 26 46.5	+1.0
TWF1	Yuli	0.71 199	eP	Pb	15 26 34.9	-1.0
TWF1			eS	Sg	15 26 46.2	+0.6
ECBN	Changbin	0.71 187	eP	Pg	15 26 36.6	+0.5
ECBN			eS	Sn	15 26 49.1	+1.5
WHYT	Xinyi Township	0.72 243	P	Pg	15 26 36.9	+0.6
WHYT			eS	Sb	15 26 46.3	+0.7
NFF	Wufeng Townshi	0.72 327	⇓iP	Pg	15 26 36.8	+0.4
NFF			eS	Sg	15 26 47.2	+1.2
FUSB	Fushanzhiwuyua	0.73 3	⇑P	Pg	15 26 36.9	+0.3
FUSB			S	Sb	15 26 45.5	-0.5
EOS2	EOS2	0.73 58	eP	Pn	15 26 38.6	+1.3
EOS3	EOS3	0.75 70	eP	Pn	15 26 38.7	+1.2
NWLT	Wulai	0.75 357	P	Pg	15 26 37.3	+0.4
NWLT			iS	Sb	15 26 46.3	-0.2
ILA	Ilan	0.76 14	eP	Pg	15 26 37.7	+0.7
ILA			eS	Sg	15 26 48.1	+1.0
TWQ1	Liyutan	0.78 294	⇓P	Pn	15 26 38.5	+0.3
TWQ1			eS	Sb	15 26 47.7	+0.4
WJS	Zhushan	0.78 255	eP	Pn	15 26 38.7	+0.5
WJS			S	Sn	15 26 49.7	+0.4
NSTT	Nanjuang	0.78 320	⇓iP	Pg	15 26 38.2	+0.6
NSTT			eS	Sg	15 26 48.1	+0.2
LIOB	Emei	0.79 322	⇓iP	Pn	15 26 38.4	+0.1
LIOB			eS	Sn	15 26 49.8	+0.2
WNT	Mingjian	0.81 260	⇓iP	Pn	15 26 39.2	+0.7
WNT			iS	Sn	15 26 50.8	+0.7
TCU	Taichung	0.81 279	⇓P	Pn	15 26 39.4	+0.8
TCU			S	Sn	15 26 50.9	+0.9
KSHI	Guanxi Townshi	0.82 335	⇑P	Pn	15 26 39.3	+0.6
KSHI			eS	Sg	15 26 49.8	+0.6
CHKH	Chenggong	0.84 190	eP	Pb	15 26 38.4	+0.2
CHKH			eS	Sb	15 26 49.7	+0.6
ALS	Alishan	0.85 233	⇑iP	Pg	15 26 39.6	+0.7
ALS			eS	Sg	15 26 51.5	+1.2
FULB	Fuli	0.86 196	eP	Pb	15 26 39.0	+0.6
FULB			eS	Sn	15 26 52.5	+1.2
NMLH	Miaoli	0.86 306	eP	Pn	15 26 40.7	+1.4
NMLH			eS	Sn	15 26 53.3	+2.0
EGS		0.89 23	⇓P	Pn	15 26 40.1	+0.5
WDJ	Dajia District	0.89 291	eP	Pn	15 26 40.7	+1.0
WDJ			eS	Sn	15 26 53.5	+1.4
CHN5	Tsauling	0.91 242	P	Pn	15 26 40.7	+0.7
CHN5			iS	Sn	15 26 53.9	+1.3
WCHH	Zhanghua	0.91 274	eP	Pg	15 26 40.9	+1.1
WCHH			S	Sn	15 26 54.1	+1.6
WCH1	Changhua City	0.92 273	eP	Pg	15 26 41.2	+1.2
WCH1			eS	Sn	15 26 53.9	+1.2
SBCB	Hsinchu	0.92 326	⇓P	Pg	15 26 41.3	+1.2
SBCB			eS	Sn	15 26 53.5	+0.7
EHD	Haiduan	0.93 200	eP	Pb	15 26 40.2	+0.3
EHD			eS	Sb	15 26 52.2	+0.6
NHDH	Xindian Distri	0.93 359	eP	Pg	15 26 40.9	+0.6
HSN	Hsinchu	0.94 326	eP	Pg	15 26 41.9	+1.5
HSN			eS	Sn	15 26 54.1	+0.9
CHKT	Chengkung	0.94 191	eP	Pb	15 26 39.8	0.0
CHKT			eS	Sb	15 26 52.4	+0.6
TWA	Mucha	0.95 2	⇓P	Pg	15 26 42.0	+1.3
TWA			eS	Sg	15 26 53.3	+0.1
ELDTW	Lidau	0.97 211	eP	Pb	15 26 39.6	-0.8
TIPB	Shuangxi	0.97 15	eP	Pb	15 26 40.7	+0.2
TIPB			eS	Sb	15 26 52.8	-0.1
ECS	Chishang	0.97 198	eP	Pn	15 26 41.5	+0.6
WDL	Douliou City	0.98 252	eP	Pg	15 26 42.3	+1.1
WDL			eS	Sn	15 26 56.2	+2.0
WDLH	Douliu	0.99 250	P	Pg	15 26 42.2	+0.9
WDLH			iS	Sg	15 26 56.0	+1.7
NCUH	Zhongli	0.99 340	iP	Pg	15 26 42.6	+1.1
NCUH			iS	Sg	15 26 56.8	+2.2
NHY	Taipei	1.01 1	eP	Pg	15 26 42.7	+0.9
NHY			eS	Sb	15 26 54.6	+0.7
TAP	Taipei	1.01 358	eP	Pg	15 26 42.0	+0.2
TAP			eS	Sn	15 26 54.9	-0.1
WCKO	Fanlu	1.05 236	eP	Pg	15 26 42.9	+0.5
WCKO			eS	Sg	15 26 57.7	+1.5
TWB1	Santiao Chiao	1.06 22	eP	Pn	15 26 42.3	+0.4
TWB1			eS	Sn	15 26 56.2	0.0
NWF	Wu-fen Shan	1.06 11	P	Pn	15 26 42.7	+0.6
NWF			eS	Sb	15 26 56.1	+0.6
WFSB	Wu-fen Shan	1.06 11	eP	Pn	15 26 42.5	+0.4
WFSB			eS	Sb	15 26 55.6	+0.1
EDH	Donghe	1.07 192	eP	Pb	15 26 41.9	-0.2
EDH			eS	Sb	15 26 56.0	+0.2
TWS1	Kuangyinshan	1.08 354	iP	Pn	15 26 42.6	+0.4
TWS1			S	Sg	15 26 57.9	+0.7
CHN2	Minshiung	1.10 244	eP	Pg	15 26 44.4	+0.9
CHN2			eS	Sg	15 26 59.7	+1.7
SXI1	Grass Mountain	1.10 15	eP	Pb	15 26 43.2	+0.6
SXI1			S	Sg	15 26 58.4	+0.3
CHN4	Tsaushan	1.11 233	eP	Pg	15 26 44.3	+0.7
CHN4			eS	Sg	15 27 00.7	+2.6
STYH	Taoyuan	1.11 220	eP	Pn	15 26 42.9	+0.3
STYH			iS	Sn	15 26 57.9	+0.4
TPUB	Ta-pu	1.11 230	Pn	Pg	15 26 44.0	+0.3
TPUB	Ta-pu	1.11 230	P	Pg	15 26 44.4	+0.7
TPUB	Ta-pu	1.11 230	S	Sg	15 26 58.7	+0.4
TPUB	Ta-pu	1.11 230	eP	Pg	15 26 44.3	+0.7
TPUB			eS	Sg	15 26 58.6	+0.4
YM01	YM01	1.11 1	eP	Pn	15 26 43.1	+0.3
YM01			eS	Sn	15 26 58.0	+0.3
WTK	Tuku	1.12 253	eP	Pg	15 26 44.2	+0.4
WTK			S	Sg	15 27 00.0	+1.6
ZUZH	Zhuzihu	1.13 360	eP	Pn	15 26 43.3	+0.2
ZUZH			eS	Sb	15 26 57.7	+0.2
NTST	Danshui	1.14 355	eP	Pg	15 26 44.5	+0.3
NTST			eS	Sg	15 27 00.9	+1.8
TNOU	National Taiwa	1.14 10	eP	Pg	15 26 44.2	0.0
ANP	Anpu	1.16 359	eP	Pb	15 26 44.3	+0.7
ANP			eS	Sb	15 26 58.5	+0.3
WTP	Ta-pu	1.16 228	⇑P	Pg	15 26 45.0	+0.4
WTP			eS	Sg	15 27 00.7	+0.9
CHY	Chiayi	1.16 243	eP	Pg	15 26 44.9	+0.3
CHY			eS	Sg	15 27 00.6	+0.7
WTCT	Ta-ch'eng	1.17 262	iP	Pg	15 26 45.1	+0.2
WTCT			eS	Sg	15 27 00.9	+0.6
LONT	Longtian	1.18 199	eP	Pn	15 26 43.6	-0.1
TWK	Hsinying	1.23 232	eP	Pg	15 26 46.4	+0.4
TWK			eS	Sg	15 27 02.8	+0.6
TWY	Chenhua	1.25 2	eP	Pn	15 26 44.1	-0.4
SNST	Tainan City	1.26 230	eP	Pg	15 26 46.9	+0.4
SNST			eS	Sg	15 27 03.5	+0.6
CHN1	Nanshi	1.26 228	eP	Pg	15 26 46.9	+0.4
CHN1			eS	Sg	15 27 04.0	+1.1
WSF	Szhu	1.28 253	eP	Pb	15 26 46.6	+1.1
WSF			S	Sg	15 27 03.5	0.0
TWG	Pinlang	1.28 200		Pn	15 26 43.3	-1.7
TWG	Pinlang	1.28 200	eP	Pn	15 26 43.4	-1.7
TWGBT	Beinan	1.28 200	P	Pn	15 26 44.3	-0.7
TWGBT	Beinan	1.28 200	eP	Pn	15 26 43.2	-1.9
SGST	Jiashian	1.29 224	eP	Pb	15 26 46.7	+0.8
SGST			eS	Sg	15 27 04.6	+0.5
WSL	Shuilin Townsh	1.31 248	eP	Pb	15 26 47.4	+1.2
WSL			eS	Sg	15 27 07.2	+2.5
ICHU	Yijhu	1.34 241	eP	Pb	15 26 47.8	+1.2
ICHU			S	Sg	15 27 06.6	+1.0
JYNG	Yonagunijimaku	1.34 71	P	Pb	15 26 46.7	0.0
JYNG			S	Sb	15 27 04.2	+0.8
LDUT	Ludao	1.35 183	eP	Pn	15 26 45.8	-0.1
LDUT			eS	Sn	15 27 03.5	-0.1
YOJ	Yonaguni jima	1.40 72		Pn	15 26 47.2	+0.6
YOJ	Yonaguni jima	1.40 72	P	Pb	15 26 47.5	-0.2
YOJ	Yonaguni jima	1.40 72	S	Sb	15 27 06.4	+1.2
YOJ	Yonaguni jima	1.40 72	P	Pb	15 26 47.6	-0.2
YOJ			S	Sb	15 27 05.7	+0.5
YOJ	Yonaguni jima	1.40 72	⇑P	Pb	15 26 47.5	-0.2
YOJ			iS	Sg	15 27 06.8	-0.7
CHN8	Yiju	1.40 241	eP	Pb	15 26 48.7	+1.0
CHN8			eS	Sg	15 27 08.6	+1.0
CHN3	Shinhua	1.44 229	eP	Pg	15 26 50.7	+0.8
CHN3			eS	Sg	15 27 09.8	+1.0
SSHA	Shanhua	1.46 233	eP	Pg	15 26 50.4	+0.1
SSHA			eS	Sg	15 27 09.5	+0.2
SHHT	Tainan City	1.49 228	eP	Pg	15 26 51.1	+0.2
SCST	Cishan	1.49 221	eP	Pb	15 26 50.4	+1.1
SCST			eS	Sg	15 27 11.5	+1.1
SCLT	Jiali	1.51 236	eP	Pb	15 26 50.5	+1.0
SCLT			S	Sg	15 27 11.1	+0.2
ECL	Taimali	1.52 201	eP	Pn	15 26 47.9	-0.5
SSD	Sandimen	1.53 214	P	Pb	15 26 50.4	+0.5
SSD			eS	Sg	15 27 11.1	-0.4
TSMG	Majia	1.56 213	eP	Pb	15 26 51.1	+0.7
TAI1	Yung-k'ang	1.56 231	eP	Pb	15 26 50.4	-0.1
TWM1	Shoushan	1.58 221	eP	Pg	15 26 53.2	+0.6
TWM1			eS	Sg	15 27 15.2	+1.9
TSCK	Chigu Township	1.60 237	eP	Pn	15 26 50.8	+1.3
TSCK			eS	Sg	15 27 13.4	-0.5
SGLT	Jiouru	1.62 217	eP	Pb	15 26 52.5	+1.0
MASBT	Mashibuluo	1.64 211	eP	Pb	15 26 51.9	+0.1
MASBT			eS	Sg	15 27 14.8	-0.4
PCYT	Pengchaiyu	1.67 16	eP	Pn	15 26 50.6	+0.2
EAST	Anshuo	1.76 202	eP	Pn	15 26 52.3	+0.7
TAW	Tawu	1.77 200	eP	Pn	15 26 52.5	+0.8
TAWH	Dawu Township	1.79 200	eP	Pn	15 26 53.0	+1.0
WSSB	Gushan	1.82 221	eP	Pn	15 26 54.1	+1.6
SCZT	Fangliau	1.86 208	eP	Pb	15 26 54.9	-0.6
PHUB	P'eng-hu	1.88 255	eP	Pn	15 26 54.1	+0.7
PHUB			S	Sb	15 27 18.5	-0.6
PNG	Penghu	1.89 256	P	Pn	15 26 54.9	+1.5
PNG			eS	Sb	15 27 18.6	-0.5
WDGT	Dungji	1.90 247	P	Pn	15 26 55.2	+1.8
WDGT			eS	Sb	15 27 20.1	+0.6
SLIU	Shizi	1.93 201	eP	Pb	15 26 55.9	-0.8
LAY	Lan-yu	1.98 180	eP	Pn	15 26 55.1	+0.5
TWP	Hsiaoliuchiu	2.00 213	eP	Pg	15 27 00.3	-0.2
IRIF	Iriomote-Funau	2.01 81	P	Pn	15 26 55.7	+0.6
LYUB	Lan-yu	2.02 179	eP	Pn	15 26 53.8	-1.4
HATJ	Hateruma jima	2.06 89	P	Pn	15 26 56.9	+1.1
SMST	Manzhou Townsh	2.10 198	eP	Pn	15 26 57.6	+1.3
VCHM	Qimei	2.11 248	eP	Pn	15 26 58.3	+1.9
VCHM			S	Sb	15 27 24.5	-1.1
VWUC	VWUC	2.14 297	eP	Pn	15 26 56.8	-0.5
HEN	Hengchun	2.15 201	eP	Pb	15 27 00.3	-0.1
TWK1	Hengchun	2.18 198	eP	Pn	15 26 58.9	+1.4
TWKBT	Hengchun	2.19 198	eP	Pb	15 26 60.0	-1.1
TSEB	Hengchuen, Pin	2.20 196	eP	Pn	15 26 58.2	+0.6
JKRS	Kuro-shima	2.26 84	P	Pn	15 26 59.9	+1.4
JKRS			S	Sn	15 27 28.0	+2.3
JIJ	Ishigaki jima	2.39 81	P	Pn	15 27 01.0	+0.7
JIJ			S	Sn	15 27 29.9	+0.7
PTMZ	Houxiangcun	2.43 295	eP	Pn	15 27 00.8	-0.1
MATB	Ma-tsu	2.57 326	eP	Pn	15 27 02.8	0.0
JISG	Ishigakijimahi	2.58 77	P	Pn	15 27 03.3	+0.4
JISG			S	Sn	15 27 33.6	-0.1
KNM	Kinmen	2.87 278	eP	Pn	15 27 08.7	+1.7
KNMB	Chin-men Tao	2.92 279	Pn	Pn	15 27 07.5	0.0
KNMB	Chin-men Tao	2.92 279	eP	Pn	15 27 07.6	0.0
MHZQ	Yeshan	3.08 313	eP	Pn	15 27 09.7	-0.1
XPSS	Dashiqiu	3.14 337	eP	Pn	15 27 10.6	0.0
AXDP	Jialang	3.38 286	eP	Pn	15 27 13.8	-0.1
ZPLA	Ao Xicun	3.48 269	eP	Pn	15 27 15.9	+0.7
JIKM	Ikemajima	3.48 74	eP	Pn	15 27 16.5	+1.2
JIKM			eS	Sn	15 27 57.9	+1.8
JMJ	Miyako jima 2	3.50 76	P	Pn	15 27 17.8	+2.2
JMJ2	Miyako jima3	3.52 78	eP	Pn	15 27 17.4	+1.6
JOGS	Gusukube	3.59 77	eP	Pn	15 27 18.4	+1.6
DSXP	Dongshan	3.79 266	eP	Pn	15 27 19.8	+0.2
SXFK	Yanhouchang	4.25 305	eP	Pn	15 27 26.3	+0.4
JOW	Kunigami	6.69 64	Pn	Pn	15 27 59.0	-0.4
JOW	Kunigami	6.69 64	Pn	Pn	15 27 58.1	-1.3
	5.9nm,0.3s,baz=220,slow=7.9,SNR=3.2					
	14nm,0.3s					
KSRS	Korea Array	14.46 21	Pn	Pn	15 29 48.0	+2.3
	0.3nm,0.3s,baz=201,slow=12,SNR=14					
DAV	Davao City (W)	17.30 166	Pn	Pn	15 30 18.5	-4.3
JMM	Marumori	21.45 45	P	P	15 31 09.3	0.0
CM31	Chiang Mai Arr	21.78 260	P	P	15 31 12.5	-0.5
CMAR	Chiang Mai Arr	21.78 260	P	P	15 31 13.6	+0.5
	0.5nm,0.9s,baz=59,slow=9.5,SNR=5.6					
	0.5nm,0.9s					
GUMO	Guam	24.35 111	P	P	15 31 37.4	-1.8
LUWI	Luwuk	24.95 177	P	P	15 31 42.3	-2.2
ULN	Ulaanbaatar	26.44 338	P	P	15 31 58.4	+0.4
ULN			IAmb	IAmb	15 32 37.6	
	comp=Z,3.1nm,0.5s					
SONM	Songino Array	26.64 337	P	P	15 32 00.2	+0.5
	comp=Z,0.8nm,0.6s,baz=163,slow=9.6,SNR=4.4					
	comp=Z,0.8nm,0.6s					
MTN	Manton Dam	37.82 165	P	P	15 33 35.4	-2.2
MTN			IAmb	IAmb	15 33 51.0	
	comp=Z,13nm,1.4s					
MKAR	Makanchi Array	38.68 316	P	P	15 33 45.6	+0.9
MKAR	Makanchi Array	38.68 316	P	P	15 33 44.5	-0.2
	comp=Z,1.5nm,0.8s,baz=103,slow=10,SNR=12					
MKAR			LR	LR	15 50 46.6	
	comp=Z,42nm,20.8s,baz=119,slow=38					
	comp=Z,1.5nm,0.8s					
MAKZ	Makanchi	38.89 316	P	P	15 33 47.3	+0.9
ZAA0	Zalesovo Array	40.56 327	P	P	15 33 59.9	-0.2
ZALV	Zalesovo Beam	40.56 327	P	P	15 33 59.5	-0.7
ZALV	Zalesovo Beam	40.56 327	P	P	15 33 58.0	-2.2
	comp=Z,1.0nm,0.5s,baz=116,slow=10,SNR=4.6					
	comp=Z,1.0nm,0.5s					
H11N1	WAKE ISLAND Hy 42.16	87	T	T	16 19 31.8	
	baz=283,slow=75,SNR=7.9					
H11N2	WAKE ISLAND Hy 42.16	87	T	T	16 19 23.8	
	baz=283,slow=75,SNR=7.9					
H11N3	WAKE ISLAND Hy 42.18	87	T	T	16 19 26.6	
	baz=283,slow=75,SNR=8.2					
H11S3	WAKE ISLAND Hy 42.29	89	T	T	16 19 25.4	
	baz=281,SNR=31					
H11S1	WAKE ISLAND Hy 42.30	89	T	T	16 19 22.1	
	baz=281,slow=74,SNR=16					
H11S2	WAKE ISLAND Hy 42.30	89	T	T	16 19 25.4	
	baz=281,slow=74,SNR=17					
KURK	Kurchatov	42.43 320	P	P	15 34 15.8	+0.2
KURBB	Kurchatov Arra	42.44 320	P	P	15 34 15.9	+0.2
	comp=Z,0.4nm,0.5s,baz=109,slow=9.8,SNR=5.5					
	comp=Z,0.4nm,0.5s					
WB0	Warramunga Arr	45.29 163	P	P	15 34 37.1	-1.8
WB0			IAmb	IAmb	15 35 02.4	
	comp=Z,9.0nm,1.5s					
WRA	Warramunga Arr	45.45 163	P	P	15 34 37.8	-2.3
	comp=Z,0.6nm,0.5s,baz=345,slow=8.7,SNR=10.0					
	comp=Z,0.6nm,0.5s					
WR8	Warramunga Arr	45.50 163	P	P	15 34 39.1	-1.5
WR8			IAmb	IAmb	15 34 47.2	
	comp=Z,8.7nm,1.5s					
BVAR	Borovoye Array	48.01 321	P	P	15 34 59.9	0.0
	comp=Z,0.7nm,0.6s,baz=86,slow=8.5,SNR=4.4					
	comp=Z,0.7nm,0.6s					
AS31	Alice Springs	48.90 165	P	P	15 35 06.4	-0.6
ASAR	Alice Springs	48.90 165	P	P	15 35 06.2	-0.8
	comp=Z,0.3nm,0.3s,baz=339,slow=6.8,SNR=28					
	comp=Z,0.3nm,0.3s					
ABKAR	Akbulak array	53.79 314	P	P	15 35 44.0	+0.6
N15K	Kwethluk River	63.71 33	P	P	15 36 52.3	0.0
D19K	Kuna River	64.34 24	P	P	15 36 56.4	+0.1
D19K			IAmb	IAmb	15 37 29.6	
	comp=Z,5.1nm,1.4s					
B21K	Ikpikpuk River	65.57 22	P	P	15 37 04.4	+0.2
B21K			IAmb	IAmb	15 37 12.5	
	comp=Z,2.3nm,1.1s					
G21K	Allakaket	66.22 26	P	P	15 37 08.7	+0.2
G21K			IAmb	IAmb	15 37 18.6	
	comp=Z,4.9nm,1.4s					
D22K	Ayikyak River	66.31 23	P	P	15 37 09.4	+0.3
D22K			IAmb	IAmb	15 37 10.0	
	comp=Z,2.0nm,0.7s					
TOLK	Toolik Lake Re	67.46 23	P	P	15 37 16.4	-0.1
TOLK			IAmb	IAmb	15 37 24.6	
	comp=Z,3.0nm,1.4s					
F24K	Squaw Lake	68.27 24	P	P	15 37 21.8	+0.3
F24K			IAmb	IAmb	15 37 45.0	
	comp=Z,5.7nm,1.5s					
RND	Reindeer	68.63 29		P	15 37 23.0	-0.9
RND			IAmb	IAmb	15 37 25.2	
	comp=Z,3.7nm,0.7s					
ILAR	Eielson Array	69.20 27	P	P	15 37 27.1	-0.2
	comp=Z,0.2nm,0.5s,baz=273,slow=4.9,SNR=6.5					
	comp=Z,0.2nm,0.5s					
BMAR	Burnt Mountain	69.53 24	P	P	15 37 30.1	+0.7
BCAR	Beaver Creek A	71.81 28	P	P	15 37 44.1	+0.8
M27K	Edge Creek, AK	71.98 29	P	P	15 37 44.9	+0.4
M27K			IAmb	IAmb	15 38 18.0	
	comp=Z,3.9nm,1.3s					
F30M	Barrier River	72.71 23	P	P	15 37 48.3	-0.3
F30M			IAmb	IAmb	15 38 11.7	
	comp=Z,4.4nm,1.3s					
MLR	Muntele Rosu	77.00 314	LR	LR	16 14 48.8	
	comp=Z,74nm,18.5s,baz=360,slow=38					
YKA	Yellowknife Ar	82.98 23	P	P	15 38 45.4	-0.4
	comp=Z,0.4nm,0.7s,baz=316,slow=4.7,SNR=8.9					
	comp=Z,0.4nm,0.7s					

*IDC **15** 15:32:38.7±6.2, 8°.21S×121°.00E, h169km±68km, mb3.6/5, mbtmp4.0/8, Error ellipse: s-maj=125.4km s-min=23.5km az=55.0*

*NEIC **15** 15:32:41.9±2.2, 8°.3S±0°.1×121°.1E±0°.1, h194km±8km, mb4.0/8, Error ellipse: s-maj=17.1km s-min=12.8km az=214.0*

*DJA **15** 15:32:42.4±0.3, 8°S±4°×12°1E±°, h198km±4km, M4.2/11, mB4.7/2, mb4.2/7, MLv4.2/11, Mw(mB)3.9/2*

ISC 15 15:32:41.8±0.5, 8°38S±0°.05×121°.15E±0°.05, h200km, n66, σ1§53/71, mb4.0/6, Flores region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
EDFI	Ende, Flores	0.65	125	P	Pn	15 33 10.4	+0.7
MMRI	Maumere	1.11	104		Pn	15 33 13.8	+1.5
MMRI	Maumere	1.11	104	P	Pn	15 33 13.9	+1.5
MMRI	Maumere	1.11	104	P	Pn	15 33 13.8	+1.5
WSI	Waingapu	1.54	213	P	Pn	15 33 16.1	+0.3
WSI				S	Sn	15 33 41.4	-1.0
WBSI	Waikabubak, Su	2.14	234	P	Pn	15 33 22.3	+0.4
WBSI				S	Sn	15 33 51.3	-1.8
BSSI	Bau Bau, Buton	2.31	344	P	Pn	15 33 25.2	+1.5
BKSI	Bulukumba	3.20	341	P	Pn	15 33 35.3	+1.4
PLAI	Plampang	3.36	262	P	Pn	15 33 37.5	+1.7
PLAI	Plampang	3.36	262	S	Sn	15 34 18.0	-0.1
PLAI	Plampang	3.36	262	P	Pn	15 33 37.2	+1.4
SOEI	Soe	3.37	114		Pn	15 33 35.6	-0.4
SOEI	Soe	3.37	114	P	Pn	15 33 36.1	+0.1
SOEI	Soe	3.37	114	P	Pn	15 33 36.1	+0.1
SRBI	Singaraja	5.88	272	P	Pn	15 34 08.7	+1.1
	0.2nm38nm,0.6s						
JAGI	Jajag, Banyuwa	6.92	269	Pn	Pn	15 34 19.0	-2.1
JAGI	Jajag, Banyuwa	6.92	269	P	Pn	15 34 20.2	-0.9
JAGI	Jajag, Banyuwa	6.92	269	P	Pn	15 34 20.4	-0.7
	1μm27nm,0.7s						
GMJI	Gumukmas	7.62	270	P	Pn	15 34 30.9	+0.7
	0.1nm9.7

ZALV	**Zalesovo Beam**	**69.24 338**	P	**P**		**15 43 25.2**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=145,slow=5.6,SNR=6.7						
	comp=Z,0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**69.38 333**	P	**P**		**15 43 26.1**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=143,slow=5.7,SNR=5.2						
	comp=Z,0.2nm,0.5s						

*HEL **15** 15:51:54.8±0.3, 60°.92N×29°.42E, h0km, ML1.6, Explosion*
*IDC **15** 15:51:56.2±3.9, 60°.77N×29°.12E, h0km, mbtmp4.0/1, ML2.5/1, Error ellipse: s-maj=41.9km s-min=15.2km az=2.0*

ISC 15 15:51:52.2±1.3, 60°.87N±0°.05×29°.48E±0°.06, h0km, n21, σ1§37/31, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.61**	**335**	PG	**Pb**	**15 52 05.0**	**-0.7**
RUF				SG	**Sg**	**15 52 11.8**	**+0.1**
RUF				MSG		15 52 12.4	
	comp=Z,12nm,0.2s						
VJF	**Virojoki**	**1.00**	**251**	PG	**Pn**	**15 52 13.0**	**-0.4**
	baz=64						
VJF				MSG		15 52 25.1	
	comp=Z,14nm,0.2s						
VJF				SB	**Sb**	**15 52 26.4**	**+0.4**
FIA0	**FINESS Array S**	**1.75**	**291**	PG	**Pb**	**15 52 25.0**	**0.0**
	baz=110						
FIA0				MSG		15 52 45.6	
	comp=Z,4.1nm,0.2s						
FIA0				SN	**Sg**	**15 52 48.5**	**+0.3**
FINES	**FINESS Array B**	**1.75**	**291**	Pg	**Pb**	**15 52 25.1**	**0.0**
	comp=Z,0.5nm,0.3s,baz=111,slow=15,SNR=16						
FINES				Lg	Lg	15 52 47.1	
	comp=Z,1.3nm,0.3s,baz=101,slow=29,SNR=21						
FINES				Rg	Rg	15 52 54.2	
	comp=Z,29nm,0.8s,baz=111,slow=32,SNR=19						
PVF	**Pernaja**	**1.81**	**261**	PG	**Pg**	**15 52 26.5**	**-0.2**
	baz=73						
PVF				MSG		15 52 48.2	
	comp=Z,6.7nm,0.2s						
PVF				SN	**Sg**	**15 52 51.0**	**+0.8**
KAF	**Kangasniemi**	**1.96**	**311**	PG	**Pg**	**15 52 29.5**	**-0.3**
	baz=130						
KAF				MSG		15 52 51.6	
	comp=Z,3.8nm,0.2s						
KAF				SG	**Sb**	**15 52 53.8**	**+0.1**
JOF	**Joensuu**	**2.23**	**22**	*e*P	**Pg**	**15 52 34.7**	**-0.1**
JOF	**Joensuu**	**2.23**	**22**	PG	**Pg**	**15 52 34.1**	**-0.7**
JOF				SG	**Sg**	**15 53 02.1**	**-1.6**
NUR	**Nurmijarvi**	**2.40**	**263**	PG	**Pb**	**15 52 36.1**	**-0.1**
NUR				MSG		15 53 05.0	
	comp=Z,2.0nm,0.2s						
SUF	**Sumiainen**	**2.44**	**321**	PG	**Pb**	**15 52 37.4**	**+0.6**
SUF				MSG		15 53 05.0	
	comp=Z,0.9nm,0.2s						
SUF				SG	**Sb**	**15 53 08.2**	**+0.9**
KEF	**Keuruu**	**2.56**	**302**	*e*P	**Pb**	**15 52 38.7**	**-0.2**
KEF	**Keuruu**	**2.56**	**302**	PG	**Pb**	**15 52 38.9**	**0.0**
KEF				MSG		15 53 08.9	
	comp=Z,1.4nm,0.2s						
KEF				SG	**Sb**	**15 53 11.5**	**+0.6**
MEF	**Metsahovi**	**2.60**	**258**	*e*P	**Pb**	**15 52 38.7**	**-0.8**
MEF	**Metsahovi**	**2.60**	**258**	PB	**Pb**	**15 52 38.6**	**-0.8**
MEF				MSG		15 53 10.7	
	comp=Z,2.7nm,0.2s						
MEF				SG	**Sb**	**15 53 12.4**	**+0.6**
NIF	**Nilsia**	**2.65**	**344**	PG	**Pb**	**15 52 40.0**	**-0.3**
	baz=164						
NIF				SG	**Sb**	**15 53 14.2**	**+0.9**
KPF	**Kankaanpaa**	**3.69**	**288**	PG	**Pb**	**15 52 58.7**	**+0.5**
	baz=104						
RAF	**Rauma**	**3.77**	**276**	*e*P	**Pb**	**15 52 55.9**	**-3.5**
VAF	**Ylistaro**	**3.88**	**307**	*e*P	**Pb**	**15 52 57.6**	**-3.7**
VAF	**Ylistaro**	**3.88**	**307**	PB	**Pb**	**15 52 59.2**	**-2.2**
	baz=120						
VAF				SG	**Sg**	**15 53 54.3**	**-2.4**
I43RU	**DUBNA INFRASON**	**5.79**	**133**	I	I	16 26 40.0	
	baz=320,slow=323,SNR=5.3						
ARCES	**ARCESS Array B**	**8.86**	**351**	Pn	**Pn**	**15 54 03.7**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=2.3						
	comp=Z,9.0nm,1.2s						

*IDC **15** 15:57:06.9±1.6, 31°.19N×66°.81E, h0km, mb3.7/4, mbtmp3.6/5, ML2.4/2, Error ellipse: s-maj=50.6km s-min=24.5km az=99.0*

ISC 15 15:57:11.4±1.1, 31°.3N±0°.2×66°.6E±0°.3, h35km, n6, σ1§21/6, mb3.7/4, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**10.70**	**224**	Pn	**Pn**	**15 59 42.0**	**-0.1**
	baz=73,slow=19,SNR=4.8						
MKAR	**Makanchi Array**	**19.66**	**33**	P	**P**	**16 01 36.2**	**-1.0**
	0.1nm,0.3s,baz=216,slow=12,SNR=6.9						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**21.28**	**21**	P	**P**	**16 01 56.2**	**+1.6**
	1.1nm,0.8s,baz=212,slow=12,SNR=8.6						
	1.1nm,0.8s						
BVAR	**Borovoye Array**	**21.93**	**6**	P	**P**	**16 02 01.6**	**0.0**
	1.7nm,0.7s,baz=183,slow=10,SNR=9.4						
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**82.49**	**119**	P	**P**	**16 09 30.1**	**-0.6**
	0.8nm,0.8s,baz=313,slow=5.1,SNR=5.0						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**84.41**	**122**	P	**P**	**16 09 41.4**	**+0.9**
	1.1nm,0.7s,baz=308,slow=5.2,SNR=26						
	1.1nm,0.7s						

*REN **15** 15:58:47.9±0.9, 37°.38N±0°.02×118°.54W±0°.02, h10km±5km, Error ellipse: s-maj=2.9km s-min=1.7km az=209.0*
*NEIC **15** 15:58:47.7±1.0, 37°.37N±0°.02×118°.54W±0°.02, h10km±5km, Error ellipse: s-maj=2.8km s-min=1.5km az=205.0*

NCEDC 15 15:58:47.9±0.9, 37°.38N±0°.02×118°.54W±0°.02, h9km±7km, Mwr3.3/3, ML3.1/76(NEIC), ML3.2/3(REN), Error ellipse: s-maj=2.7km s-min=1.6km az=205.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUM	**Tungsten Hills**	**0.04**	**215**		Pg	15 58 49.9	0.0
BHPR	**Bishop**	**0.09**	**154**		Pg	15 58 50.6	+0.1
MFBM	**Five Bridges**	**0.10**	**62**		Pg	15 58 50.9	+0.3
MCDM	**Chidago Canyon**	**0.18**	**25**		Pg	15 58 52.2	+0.4
POCCA	**Poleta Canyon**	**0.21**	**95**		Pg	15 58 52.4	+0.1
MLNR	**Milner Canyon**	**0.26**	**36**		Pg	15 58 53.5	+0.3
MRCM	**Red Rock Canyo**	**0.29**	**5**		Pg	15 58 53.9	0.0
MCVM	**Convict Lake**	**0.31**	**312**		Pg	15 58 54.3	0.0
BENR	**Benton**	**0.33**	**355**		Pg	15 58 54.5	-0.1
MDRNC	**Doe Ridge**	**0.35**	**317**		Pg	15 58 55.2	+0.3
MLHM	**Little Hot Cre**	**0.37**	**323**		Pg	15 58 55.7	+0.4
MLCM	**Laurel Creek C**	**0.38**	**308**		Pg	15 58 55.5	0.0
MCBM	**Casa Benchmark**	**0.39**	**313**		Pg	15 58 55.9	+0.2
MCBM					Sg	15 59 01.8	+1.1
MCSM	**Casa Diablo Ho**	**0.40**	**313**		Pg	15 58 56.1	+0.3
TIN	**Tinemaha, Big**	**0.41**	**143**		Pg	15 58 56.2	+0.2
TIN					Sg	15 59 02.3	+0.9
MEMM	**East Mammoth H**	**0.43**	**312**		Pg	15 58 56.5	+0.2
MMLB	**Mammoth Lakes**	**0.45**	**308**		Pg	15 58 56.9	+0.2
MGNR	**McGee Canyon**	**0.45**	**344**		Pg	15 58 56.9	+0.2
MMPM	**Mammoth Pass**	**0.45**	**300**		Pg	15 58 56.7	-0.1
DSP	**Deep Springs**	**0.45**	**91**		Pg	15 58 56.7	0.0
DSP				IAML		15 59 03.4	
	comp=E,1μm,0.6s						
DSP	**Deep Springs**	**0.45**	**91**		Sg	15 59 03.0	+0.4
MLIM	**Lincoln Peak**	**0.46**	**304**		Pg	15 58 57.2	+0.3
MRDM	**Red Cones**	**0.47**	**298**		Pg	15 58 57.1	0.0
LMCR	**Lookout Mounta**	**0.47**	**317**		Pg	15 58 57.7	+0.5
MINS	**Minaret Summit**	**0.50**	**303**		Pg	15 58 57.5	-0.1
MDCM	**Deadman Creek**	**0.52**	**309**		Pg	15 58 58.0	0.0
ANTCA	**Antelope Range**	**0.54**	**358**		Pg	15 58 58.2	-0.1
KCC	**Kaiser Creek**	**0.62**	**265**		Pg	15 58 59.7	-0.3
KCC					Sg	15 59 08.0	-0.2
LHV	**Little Huntoon**	**0.87**	**2**		Pg	15 59 04.6	0.0
LHV					Sb	15 59 17.8	+0.9
LHV	**Little Huntoon**	**0.87**	**2**	IAML		15 59 18.9	
	comp=N,526nm,0.6s						
LHV				IAML		15 59 21.8	
	comp=E,651nm,0.5s						
MZP	**Montezuma Peak**	**0.97**	**71**		Pg	15 59 06.2	-0.4
MZP					Sg	15 59 19.1	-0.2
CWC	**Cottonwood Cre**	**1.01**	**159**		Pg	15 59 06.7	-0.6
CWC					Sg	15 59 20.0	-0.5
FRI	**Friant**	**1.01**	**248**		Pg	15 59 06.6	-0.7
GRAC	**Grapevine Rang**	**1.01**	**112**		Pb	15 59 07.6	-0.1
GRAC					Sn	15 59 22.1	-0.7
GRAC	**Grapevine Rang**	**1.01**	**112**	Pg	Pb	15 59 07.5	-0.1
CGO	**Cerro Gordo**	**1.02**	**144**		Pg	15 59 06.7	-0.8
NV08	**Mina Array Sit**	**1.03**	**10**		Pg	15 59 07.5	-0.3
NVAR	**Mina Array Bea**	**1.06**	**10**		Pg	15 59 07.9	-0.4
NV09	**Mina Array Sit**	**1.06**	**9**		Pg	15 59 08.1	-0.3
TVH1	**TV Hill, Hawth**	**1.09**	**351**		Pg	15 59 08.8	-0.1
NV11	**Mina Array Sit**	**1.09**	**16**		Pg	15 59 08.4	-0.4
NV11	**Mina Array Sit**	**1.09**	**16**		Sg	15 59 23.1	0.0
KARE	**Kearney REC, C**	**1.10**	**225**		Pg	15 59 08.2	-0.8
SPG2	**Springville 2**	**1.19**	**189**		Pb	15 59 09.9	-0.8
RYN	**Ryan**	**1.24**	**1**		Pn	15 59 11.3	-0.3
RYN				IAML		15 59 29.1	
	comp=E,249nm,0.4s						
VOG	**Valley Oaks Go**	**1.26**	**213**		Pn	15 59 11.5	-0.2
SGV	**South Grapevin**	**1.27**	**108**		Pn	15 59 11.8	-0.2
SGV					Sb	15 59 28.5	-0.1
LEGD	**La Grand CA**	**1.29**	**263**		Pn	15 59 11.8	-0.3
WAKR	**Walker**	**1.33**	**328**		Pn	15 59 12.5	-0.3
WAKR				IAML		15 59 35.4	
	comp=E,197nm,0.8s						
WAKR	**Walker**	**1.33**	**328**		Sn	15 59 30.7	0.0
VES	**Vestal, Richgr**	**1.60**	**196**		Pb	15 59 17.2	-0.4
CMB	**Columbia Colle**	**1.60**	**295**		Pn	15 59 16.9	+0.4
CMB					Sb	15 59 37.9	-0.2
CMB	**Columbia Colle**	**1.60**	**295**	IAML		15 59 38.8	
	comp=E,428nm,0.3s						
CMB				IAML		15 59 39.7	
	comp=N,460nm,0.6s						
WNMM	**Nine Mile Cany**	**1.62**	**161**		Pb	15 59 17.6	-0.3
WCT	**Wildcat Mounta**	**1.64**	**110**		Pn	15 59 17.4	+0.4
WCT	**Wildcat Mounta**	**1.64**	**110**	IAML		15 59 42.6	
	comp=N,366nm,0.5s						
WCT				IAML		15 59 45.5	
	comp=E,261nm,0.4s						
WASM	**Alta Sierra Ca**	**1.64**	**181**		Pb	15 59 18.1	-0.4
PWMM	**Westland Maint**	**1.64**	**235**		Pb	15 59 18.4	+0.1
WORM	**Onyx Ranch**	**1.70**	**172**		Pb	15 59 18.9	-0.5
ISA	**Isabella, Lake**	**1.72**	**178**		Pb	15 59 19.2	-0.4
ISA	**Isabella, Lake**	**1.72**	**178**	IAML		15 59 43.4	
	comp=E,399nm,0.2s						
ISA				IAML		15 59 48.7	
	comp=N,470nm,0.3s						
PDRM	**Domengine Ranc**	**1.80**	**235**		Pb	15 59 20.8	-0.3
PKEM	**Kettleman Hill**	**1.82**	**224**		Pb	15 59 21.2	-0.2
TPNV	**Topopah Spring**	**1.88**	**103**		Pn	15 59 20.0	-0.4
TPNV				IAML		15 59 55.2	
	comp=N,219nm,1.2s						
TPNV				IAML		15 59 56.4	
	comp=N,207nm,0.7s						
SDH	**Striped Hills**	**1.91**	**112**		Pn	15 59 21.4	+0.7
GWY	**Greenwater Val**	**1.92**	**128**		Pn	15 59 20.3	-0.6
GWY				IAML		15 59 59.9	
	comp=N,111nm,0.9s						
GWY				IAML		16 00 03.5	
	comp=E,102nm,0.7s						
NSP	**Numbskull Pass**	**1.97**	**109**		Pn	15 59 22.4	+0.7
PJUM	**Juniper Ridge**	**2.01**	**236**		Pb	15 59 23.6	-1.1
SCKWR	**San Luis Creek**	**2.03**	**265**		Pb	15 59 24.8	-0.2
AMDNV	**Amargosa**	**2.03**	**116**		Pn	15 59 23.1	+0.8
CPY	**CP-1**	**2.03**	**102**		Pb	15 59 24.3	-0.8
CTM	**Castle Mountai**	**2.05**	**226**		Pb	15 59 24.3	-1.0
PSRM	**Scobie Ranch**	**2.07**	**223**		Pn	15 59 24.2	+1.4
PMRM	**Maxey Ranch**	**2.10**	**221**		Pn	15 59 24.6	+1.3
PSMM	**Smith Mountain**	**2.11**	**232**		Pn	15 59 24.8	+1.4
PHFM	**Heflinger Ranc**	**2.12**	**226**		Pn	15 59 24.6	+1.1
BAVM	**Antelope Valle**	**2.12**	**251**		Pn	15 59 24.9	+1.3
GHC	**Gold Hill**	**2.13**	**224**		Pn	15 59 24.7	+1.0
PSTM	**Stockdale Moun**	**2.15**	**228**		Pn	15 59 25.0	+1.0
TEJ	**El Tejon**	**2.15**	**183**		Pb	15 59 26.4	-0.7
BBGB	**Big Mountain B**	**2.16**	**249**		Pn	15 59 25.6	+1.4
PKD	**Bear Valley Ra**	**2.16**	**229**		Pn	15 59 25.0	+1.0
PMPB	**Monarch Peak**	**2.16**	**238**		Pn	15 59 25.5	+1.4
SLD	**San Luis Dam**	**2.16**	**263**		Pb	15 59 25.7	-1.5
PKLM	**Kerr Lake**	**2.16**	**223**		Pn	15 59 25.3	+1.1
PPTM	**Peach Tree Val**	**2.17**	**235**		Pn	15 59 25.5	+1.3
PVCM	**Vineyard Canyo**	**2.17**	**228**		Pn	15 59 25.6	+1.3
BEMM	**Emmet**	**2.17**	**251**		Pb	15 59 25.9	-1.5
PHPM	**Hope Ranch**	**2.17**	**231**		Pn	15 59 25.3	+1.0
PBPM	**Bitterwater Pu**	**2.19**	**215**		Pn	15 59 25.7	+1.2
LRV	**Little Rabbit**	**2.21**	**245**		Pn	15 59 26.3	+1.6
HPCM	**Pacheco Lake**	**2.21**	**262**		Pb	15 59 26.4	-1.6
CMPM	**Mikes Peak**	**2.21**	**270**		Pb	15 59 26.6	-1.5
MTOS	**Mt Oso, Westle**	**2.22**	**274**		Pb	15 59 26.9	-1.4
PACP	**Pacheco Peak**	**2.23**	**261**		Pb	15 59 26.9	-1.5
PWKM	**Work Ranch**	**2.23**	**226**		Pn	15 59 26.1	+1.1
TRAY	**Twisselman Ran**	**2.23**	**215**		Pn	15 59 25.8	+0.7
MPK	**Martis Peak**	**2.24**	**329**		Pb	15 59 29.7	+0.9
MPK				IAML		16 00 08.6	
	comp=N,143nm,0.9s						
MPK				IAML		16 00 29.7	
	comp=E,96nm,0.6s						
PPO	**Portuguese Can**	**2.25**	**228**		Pn	15 59 26.6	+1.2
TCHL	**Shandon**	**2.26**	**222**		Pn	15 59 26.9	+1.4
ARVC	**Arvin**	**2.26**	**186**		Pb	15 59 28.5	-0.4
BPIM	**Pinnacles**	**2.29**	**248**		Pn	15 59 26.8	+1.0
HFEM	**San Felipe**	**2.32**	**261**		Pb	15 59 28.2	-1.8
GHS	**Gilroy Hot Spr**	**2.34**	**264**		Pn	15 59 28.3	+1.7
CRGC	**Crocker Grade**	**2.34**	**205**		Pb	15 59 28.5	-1.8
TSCN	**Private Proper**	**2.34**	**219**		Pn	15 59 28.3	+1.7
BJOM	**Mount Johnson**	**2.34**	**252**		Pn	15 59 28.2	+1.7
CSTL	**Corral Hollow**	**2.37**	**277**		Pb	15 59 29.2	-1.4
CDC	**Canada Road**	**2.38**	**262**		Pb	15 59 29.4	-1.5
BSGM	**Shirttail Gulc**	**2.38**	**247**		Pn	15 59 28.2	+1.1
ARN	**Arnold Ranch**	**2.39**	**270**		Pn	15 59 29.0	+1.8
SAO	**San Andreas Ge**	**2.41**	**256**		Pn	15 59 29.3	+1.8
SCZ	**Santa Cruz**	**2.42**	**252**		Pn	15 59 29.2	+1.5
SCZ	**Santa Cruz**	**2.42**	**252**	IAML		16 00 04.8	
	comp=N,88nm,0.5s						
SCZ				IAML		16 00 04.8	
	comp=E,77nm,0.8s						
BJCM	**Johnson Can.**	**2.43**	**251**		Pn	15 59 29.4	+1.6
FRP	**Fremont Peak**	**2.44**	**256**		Pn	15 59 29.4	+1.4
PCCM	**Crazy Canyon**	**2.47**	**239**		Pn	15 59 29.8	+1.4
MHC	**Mount Hamilton**	**2.47**	**270**		Pn	15 59 30.3	+1.8
CMLM	**Mount Lewis**	**2.48**	**273**		Pn	15 59 30.6	+2.0
PANM	**San Antonio Re**	**2.49**	**231**		Pn	15 59 29.8	+1.2
BSRM	**Salinas Radio**	**2.49**	**254**		Pn	15 59 30.0	+1.4
HLPM	**Lions Peak**	**2.49**	**263**		Pn	15 59 30.4	+1.8
CCOB	**Coe Ranch Numb**	**2.50**	**268**		Pb	15 59 31.4	-1.6
R11B	**Troy Canyon, C**	**2.53**	**67**		Pn	15 59 29.0	-0.3
BCW	**Bitter Crk WRg**	**2.54**	**196**		Pn	15 59 29.3	-0.1
GMRC	**Granite Mounta**	**3.49**	**137**		Pn	15 59 42.6	+0.2
ELS	**Elsinore Mount**	**3.83**	**166**	Pn	Pn	15 59 47.1	-0.1
ELS				IAML		16 00 55.8	
	comp=N,18nm,0.8s						
PSUT	**Pine Spring**	**3.88**	**71**		Pb	15 59 58.8	+2.2
PSUT				IAML		16 00 58.7	
	comp=E,31nm,1.2s						
PSUT				IAML		16 01 00.4	
	comp=N,33nm,1.0s						
HATC	**Hat Creek Radi**	**4.11**	**327**		Pg	16 00 04.4	-2.3
HATC				IAML		16 01 08.2	
	comp=N,56nm,3.5s						
HATC				IAML		16 01 08.7	
	comp=E,51nm,2.9s						
PFO	**Pinyon Flats O**	**4.13**	**155**	Pn	Pn	15 59 51.3	0.0
LCMT	**Little Creek M**	**4.24**	**93**		Pg	16 00 06.7	-2.5
W13A	**Hualapai Mount**	**4.40**	**120**		Pg	16 00 10.9	-1.3
PKCU	**Pink Cliffs**	**4.96**	**87**		Pg	16 00 24.8	+1.9
PKCU				IAML		16 00 40.1	
	comp=N,21nm,4.5s						
BRIC	**Briceland Vine**	**5.00**	**305**		Pn	16 00 05.2	+2.1
WVOR	**Wild Horse Val**	**5.05**	**359**		Pg	16 00 22.1	-2.4
WVOR				IAML		16 01 46.0	
	comp=N,8.4nm,5.0s						
WVOR				IAML		16 01 57.6	
	comp=N,8.9nm,3.6s						
U15A	**North Rim**	**5.10**	**99**		Pg	16 00 21.6	-3.9
U15A				IAML		16 01 30.7	
	comp=E,12nm,1.1s						
U15A				IAML		16 01 36.5	
	comp=N,12nm,1.1s						
YUH	**Yuha Desert**	**5.19**	**155**		Pg	16 00 24.2	-3.1
YUH				IAML		16 01 30.1	
	comp=N,6.7nm,4.7s						
YUH				IAML		16 01 52.8	
	comp=E,11nm,4.9s						
DUG	**Dugway, Tooele**	**5.28**	**56**		Pg	16 00 27.6	-1.4
CCX	**Cicese**	**5.71**	**164**		Pb	16 00 25.2	-2.5
HLID	**Hailey**	**6.93**	**26**		Pb	16 00 48.2	-0.3

DJA 15 16:14:32.1±0.5, 10°.5S±5°.×11°.9E±°, h10km, M3.7/9, mB4.8/1, mb3.9/3, MLv3.6/9, Mw(mB)4.0/1, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.84**	**15**	P	Pg	16 14 47.7	-0.7
WBSI				S	Sg	16 14 59.6	+0.2
WSI	**Waingapu**	**1.36**	**55**	P	Pn	16 14 56.7	-0.5
WSI				S	Sg	16 15 16.4	+0.5
PLAI	**Plampang**	**2.13**	**320**	P	Pn	16 15 06.6	-1.1
EDFI	**Ende, Flores**	**3.01**	**56**	P	Pn	16 15 19.3	-0.7
MMRI	**Maumere**	**3.53**	**59**	P	Pn	16 15 26.1	-0.9
BSSI	**Bau Bau, Buton**	**4.48**	**17**	P	Pn	16 15 41.1	+0.9
SRBI	**Singaraja**	**4.56**	**301**	P	Pn	16 15 42.9	+1.6
SOEI	**Soe**	**5.07**	**83**	P	Pn	16 15 47.8	-0.5
	16nm,0.8s						
BNSI	**Bone**	**6.09**	**9**	P	Pn	16 16 02.7	+0.4

*IDC **15** 16:26:09.6±1.6, 1°.24N×120°.89E, h0km, mb3.6/4, mbtmp3.6/5, ML3.8/1, MS2.8/2, Error ellipse: s-maj=146.4km s-min=26.4km az=62.0*
*DJA **15** 16:26:13.8±0.3, 1°.N±3°.×12°.0E±°, h10km, M3.9/11, mb4.0/4, MLv3.9/11*
*NEIC **15** 16:26:14.5±1.9, 1°.32N±0°.09×121°.06E±0°.08, h35km±2km, mb4.5/13, Error ellipse: s-maj=19.1km s-min=6.1km az=219.0*

ISC 15 16:26:11.5±0.8, 1°.12N±0°.06×120°.26E±0°.05, h10km, n33, σ2§47/26, mb4.2/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**0.53**	**91**	Pg	**Pg**	**16 26 23.6**	**+1.9**
TOLI2				Sg	**Sg**	**16 26 29.9**	**+1.3**
MPSI	**Mapaga**	**0.86**	**205**	P	**Pg**	**16 26 29.6**	**+1.5**
MPSI				S	**Sb**	**16 26 41.8**	**+1.8**
PCI	**Palu**	**2.06**	**192**	P	**Pn**	**16 26 47.9**	**+1.7**
APSI	**Ampana**	**2.45**	**145**	P	**Pn**	**16 26 53.5**	**+1.9**
LUWI	**Luwuk**	**3.31**	**130**	P	**Pn**	**16 27 05.5**	**+2.1**
KMSI	**Cibinong**	**3.76**	**98**	P	**Pn**	**16 27 12.4**	**+2.7**
BKB	**Balikpapan**	**4.11**	**235**	P	**Pn**	**16 27 15.0**	**+0.6**
MYLDM	**Lahad Datu**	**4.40**	**337**		**Pn**	**16 27 21.5**	**+3.1**
BNSI	**Bone**	**5.49**	**182**	P	**Pn**	**16 27 35.9**	**+2.5**
	0.1nm8.5nm,0.6s						
KKM	**Kota Kinabalu**	**6.34**	**321**	Pn	**Pn**	**16 27 47.8**	**+2.6**
SANI	**Sanana**	**6.54**	**119**	P	**Pn**	**16 27 49.9**	**+2.1**
TNTI	**Ternate**	**7.12**	**93**	Pn	Pn	16 27 44.6	-11
TGY	**Tagaytay City**	**12.92**	**3**	LR	LR	16 33 05.3	
	comp=Z,23nm,21.6s,baz=266,slow=32						
KNRA	**Kununurra**	**18.69**	**154**	P	**P**	**16 30 27.3**	**-2.8**
FITZ	**Fitzroy Crossi**	**19.82**	**165**	P	**P**	**16 30 40.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**19.82**	**165**	P	**P**	**16 30 41.6**	**-0.9**
	0.2nm,0.3s,baz=0.7,slow=11,SNR=7.9						
	1.5nm,0.6s						
NACB	**Ninganchiao**	**22.95**	**3**	P	**P**	**16 31 13.4**	**-2.8**
NACB				IAmb	IAmb	16 31 30.8	
	comp=Z,19nm,0.9s						
WB0	**Warramunga Arr**	**24.96**	**147**	P	**P**	**16 31 32.3**	**-3.2**
WB0				IAmb	IAmb	16 31 45.2	
	comp=Z,7.1nm,1.4s						
WRA	**Warramunga Arr**	**25.08**	**147**	P	**P**	**16 31 33.9**	**-2.6**
	comp=Z,1.2nm,0.8s,baz=325,slow=11,SNR=12						
	comp=Z,1.2nm,0.8s						
WR8	**Warramunga Arr**	**25.18**	**147**	P	**P**	**16 31 34.8**	**-2.6**
WR8				IAmb	IAmb	16 31 37.5	
	comp=Z,12nm,1.5s						
JOW	**Kunigami**	**26.70**	**16**	P	**P**	**16 31 47.1**	**-4.0**
JOW				IAmb	IAmb	16 32 20.5	
	comp=Z,50nm,1.3s						
CHTO	**Chiang Mai**	**27.31**	**311**	P	**P**	**16 31 59.2**	**+2.4**
CHTO				IAmb	IAmb	16 32 33.8	
	comp=Z,6.7nm,1.4s						
ASAR	**Alice Springs**	**27.98**	**153**	P	P	16 31 57.3	-5.4
ASAR	**Alice Springs**	**27.98**	**153**	P	**P**	**16 32 00.9**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=327,slow=8.3,SNR=22						
	comp=Z,0.2nm,0.3s						
BBOO	**Buckleboo**	**36.90**	**158**	P	**P**	**16 33 18.1**	**-2.5**
BBOO				IAmb	IAmb	16 33 24.4	
	comp=Z,26nm,1.5s						
STKA	**Stephens Creek**	**38.55**	**150**	P	**P**	**16 33 31.8**	**-2.7**
	comp=Z,1.1nm,0.5s,baz=336,slow=12,SNR=3.4						
	comp=Z,1.1nm,0.5s						
MAJO	**Matsushiro**	**38.97**	**23**	P	P	16 33 32.

HOWZ Holdsworth Sta 0.74 96 P **Pn 16 44 31.0 +1.0**
HOWZ S **Sn 16 44 42.3 -0.8**
TUWZ Tuamarina 0.76 217 P **Pn 16 44 31.8 +1.6**
TUWZ S **Sn 16 44 43.2 -0.1**
MSWZ Moikau Station 0.79 138 P **Pn 16 44 32.1 +1.6**
MTW Mount Morrison 0.79 115 P **Pn 16 44 31.9 +1.4**
MRZ Mangatainoka R 0.80 78 P **Pn 16 44 31.4 +0.8**
MRZ S **Sn 16 44 43.0 -1.0**
OHWZ Ohakea 0.85 43 P **Pn 16 44 32.2 +1.1**
OHWZ S **Sn 16 44 45.3 +0.3**
PAWZ Paruwai Farm 0.86 130 P **Pn 16 44 32.9 +1.6**
PLWZ Palliser 0.91 144 P **Pn 16 44 33.5 +1.7**
CMWZ Cape Campbell 0.95 195 P **Pn 16 44 34.5 +2.3**
NNZ Nelson 0.97 246 P **Pn 16 44 32.9 +0.6**
TIWZ Tintock 1.02 87 P **Pn 16 44 34.1 +1.1**
BSWZ Blackbirch Sta 1.02 210 P **Pn 16 44 34.5 +1.5**
POWZ Post Office Ro 1.03 65 P **Pn 16 44 33.7 +0.7**
TMWZ Te Maipa 1.05 106 P **Pn 16 44 34.8 +1.5**
PRWZ Pori Road 1.12 76 P **Pn 16 44 35.2 +1.1**
WAZ Wanganui 1.12 17 P **Pn 16 44 35.5 +1.3**
TKNZ Takaka Hill 1.22 260 P **Pn 16 44 36.1 +0.8**
CPWZ Castlepoint 1.26 94 P **Pn 16 44 37.6 +1.9**
BFZ Birch Farm 1.30 84 P **Pn 16 44 37.1 +0.9**
BFZ Birch Farm 1.30 84 P **Sn 16 44 53.6 -0.4**
BFZ Birch Farm 1.30 84 P **Pn 16 44 37.1 +0.9**
TSZ Takapari Road 1.32 55 P **Pn 16 44 37.1 +0.6**
DVHZ Dannevirke 1.34 67 P **Pn 16 44 37.3 +0.6**
LREZ Lake Rotokare 1.37 355 P **Pn 16 44 38.3 +1.2**
MRNZ Matariki Terra 1.47 247 P **Pn 16 44 39.7 +1.4**
KHLK Kaihoka Lakes 1.50 280 P **Pn 16 44 39.0 +0.4**
NMEZ Namu Road 1.50 340 P **Pn 16 44 40.0 +1.3**
ANWZ Angora Road 1.51 77 P **Pn 16 44 39.7 +0.9**
PREZ Palmer Road 1.52 348 P **Pn 16 44 40.4 +1.5**
QRZ Quartz Range 1.53 269 P **Pn 16 44 39.3 +0.2**
QRZ Quartz Range 1.53 269 S **Sn 16 44 59.0 -0.1**
QRZ Quartz Range 1.53 269 P **Pn 16 44 39.5 +0.4**
THZ Tophouse 1.55 232 P **Pn 16 44 40.7 +1.3**
PNHZ Pukenui 1.56 55 P **Pn 16 44 39.9 +0.4**
KHEZ Kahui Hut 1.59 345 P **Pn 16 44 41.0 +1.2**
KHEZ Kahui Hut 1.59 345 S **Sn 16 45 01.3 +0.9**
KHEZ Kahui Hut 1.59 345 P **Pn 16 44 41.1 +1.2**
NEZ North Egmont 1.59 347 P **Pn 16 44 41.4 +1.4**
MTVZ Mangateitei 1.61 26 P **Pn 16 44 41.7 +1.6**
WPHZ Waipukurau 1.63 63 P **Pn 16 44 41.0 +0.7**
NBEZ Newall Road No 1.64 341 P **Pn 16 44 41.5 +1.1**
PKVZ Pokaka 1.66 22 P **Pn 16 44 41.8 +1.1**
DREZ Durham Road 1.66 351 P **Pn 16 44 42.2 +1.5**
PRHZ Porangahau 1.69 71 P **Pn 16 44 41.9 +0.8**
MOVZ Moawhango 1.69 33 P **Pn 16 44 41.8 +0.6**
WNVZ Wahianoa 1.70 29 P **Pn 16 44 42.7 +1.3**
TRVZ Turoa 1.71 27 P **Pn 16 44 42.9 +1.3**
VRZ Vera Road 1.71 5 P **Pn 16 44 42.8 +1.4**
WHVZ Whangaehu Hut 1.74 28 P **Pn 16 44 43.2 +1.3**
FWVZ Far West T-bar 1.75 26 P **Pn 16 44 43.3 +1.2**
KHZ Kahutara 1.76 205 P **Pn 16 44 43.7 +1.8**
KHZ Kahutara 1.76 205 S **Sn 16 45 04.1 0.0**
KHZ Kahutara 1.76 205 P **Pn 16 44 43.8 +2.0**
TUVZ Tukino 1.77 29 P **Pn 16 44 43.8 +1.5**
COVZ Chateau Observ 1.80 25 P **Pn 16 44 43.8 +1.3**
KRHZ Kereru 1.83 50 P **Pn 16 44 43.3 +0.4**
NGZ Ngauruhoe 1.84 26 P **Pn 16 44 44.5 +1.4**
SNVZ South Ngauruho 1.84 27 P **Pn 16 44 44.6 +1.4**
OTVZ Oturere 1.87 28 P **Pn 16 44 45.0 +1.4**
NNVZ North Ngauruho 1.88 26 P **Pn 16 44 44.9 +1.2**
TWVZ Taurewa 1.88 22 P **Pn 16 44 44.7 +1.0**
WTVZ West Tongariro 1.89 25 P **Pn 16 44 44.8 +1.1**
ETVZ East Tongariro 1.91 26 P **Pn 16 44 45.3 +1.2**
KRVZ Karewarewa 1.93 26 P **Pn 16 44 45.2 +1.0**
TMVZ Te Maari 1.93 28 P **Pn 16 44 45.4 +1.2**
NTVZ North Tongarir 1.93 27 P **Pn 16 44 45.7 +1.4**
PXZ Pawanui 1.94 66 P **Pn 16 44 44.6 +0.4**
KWHZ Kaweka Forest 2.01 46 P **Pn 16 44 45.7 +0.5**
KATZ Kakaramea 2.05 26 P **Pn 16 44 48.1 +2.2**
KAHZ Kahuranaki 2.06 61 P **Pn 16 44 46.4 +0.5**
MCHZ McNeill Hill 2.15 51 P **Pn 16 44 47.8 +0.8**
RATZ Rangitukua 2.17 26 P Pn 16 44 52.8 +5.4
BKZ Black Stump Fm 2.23 43 P **Pn 16 44 48.3 +0.1**
BKZ Black Stump Fm 2.23 43 P **Pn 16 44 48.4 +0.2**
DSZ Denniston Nort 2.26 245 P **Pn 16 44 49.2 +0.6**
WATZ Wairara 2.31 24 P **Pn 16 44 50.2 +1.0**
HIZ Hauiti 2.33 6 P **Pn 16 44 50.7 +1.4**
HIZ Hauiti 2.33 6 P **Pn 16 44 50.9 +1.6**
GVZ Greta Valley S 2.42 207 P **Pn 16 44 51.9 +1.4**
ARHZ Aropaoanui 2.44 51 P **Pn 16 44 51.9 +1.0**
NMHZ Naumai 2.45 46 P **Pn 16 44 51.6 +0.5**
MRHZ Matea Rd 2.46 36 P **Pn 16 44 51.0 -0.1**
KUTZ Kaahu Road 2.54 23 P Pn 16 44 58.9 +6.8
LTZ Lake Taylor 2.59 220 P **Pn 16 44 54.0 +1.2**
TLZ Tolley Road 2.61 17 P **Pn 16 44 53.9 +0.7**
MTHZ Maungataniwha 2.65 43 P **Pn 16 44 53.6 0.0**
RAHZ Arahi 2.73 46 P **Pn 16 44 54.6 -0.2**
AMCZ Amberley 2.74 210 P **Pn 16 44 55.7 +0.9**
MUGZ Murupara 2.91 37 P **Pn 16 44 56.3 -0.8**
SNGZ Shannon Statio 2.97 47 P **Pn 16 44 58.9 +1.0**
INZ Inchbonnie 3.00 230 P **Pn 16 44 59.2 +1.0**
MHGZ Mahia Peninsul 3.08 58 P **Pn 16 44 59.2 -0.2**
OKCZ Okains Bay 3.10 200 P **Pn 16 45 00.4 +0.8**
OXZ Oxford 3.12 216 P **Pn 16 44 59.9 +0.1**
TOZ Tahuroa Road 3.18 14 P **Pn 16 45 01.5 +0.8**
PRGZ Paritu Road 3.19 55 P **Pn 16 45 00.1 -0.9**
MQZ McQueen's Vall 3.20 205 P **Pn 16 45 00.8 -0.1**
URZ Urewera 3.24 38 P **Pn 16 45 00.3 -1.2**
URZ Urewera 3.24 38 P **Pn 16 45 00.5 -1.0**
RIGZ Rimuhau 3.26 52 P **Pn 16 45 01.9 -0.8**
AKCZ Akaroa Harbour 3.27 201 P **Pn 16 45 02.7 +0.7**
MWZ Matawai 3.39 44 P **Pn 16 45 02.4 -1.2**
RACZ Rakaia 3.40 211 P **Pn 16 45 03.6 -0.1**
TKGZ Te Karaka 3.49 48 P **Pn 16 45 04.1 -0.8**
MHCZ Mount Hutt 3.49 218 P **Pn 16 45 04.8 -0.2**
WVZ Waitaha Valley 3.62 230 P **Pn 16 45 07.3 +0.7**
CNGZ Carnagh Statio 3.67 52 P **Pn 16 45 06.2 -1.1**
WACZ Wakanui South 3.70 212 P **Pn 16 45 07.7 0.0**
RUGZ Raukumara Rang 3.75 41 P **Pn 16 45 07.1 -1.3**
MKAZ Moumakai 3.75 8 P **Pn 16 45 09.3 +0.9**
TWGZ Tauwhareparae 3.75 46 P **Pn 16 45 08.0 -0.4**
AWAZ Awhitu Peninsu 3.76 1 P **Pn 16 45 10.0 +1.5**
RPZ Rata Peaks 3.88 221 P **Pn 16 45 10.8 +0.7**
RPZ Rata Peaks 3.88 221 S **Sn 16 45 53.6 -1.0**
ETAZ East Tamaki Re 3.88 4 P **Pn 16 45 11.6 +1.5**
ARCZ Arundel 3.99 218 P **Pn 16 45 12.1 +0.4**
GCSZ Gaunt Creek Bo 4.01 230 P **Pn 16 45 12.8 +1.0**
PKGZ Pakihiroa 4.03 44 P **Pn 16 45 11.0 -1.2**
WIAZ Waiheke Island 4.06 7 P **Pn 16 45 14.4 +1.9**
WMGZ Waiomatatini S 4.25 46 P **Pn 16 45 13.7 -1.4**
MXZ Matakaoa Point 4.38 43 P **Pn 16 45 16.0 -0.9**
MXZ Matakaoa Point 4.38 43 P **Pn 16 45 15.9 -0.9**
TMZ Timaru 4.41 215 P **Pn 16 45 17.1 -0.2**
FOZ Fox Glacier 4.43 231 P **Pn 16 45 17.7 +0.1**
LBZ Lake Benmore 4.80 221 P **Pn 16 45 22.0 -0.5**
ODZ Otahua Downs 5.09 213 P **Pn 16 45 26.9 +0.3**
ODZ Otahua Downs 5.09 213 P **Pn 16 45 26.3 -0.3**
JCZ Jackson Bay 5.36 231 P **Pn 16 45 30.6 +0.4**
JCZ Jackson Bay 5.36 231 P **Pn 16 45 30.0 -0.2**
TUZ Tuapeka 6.25 213 P **Pn 16 45 42.6 +0.4**
CTZ Chatham Island 7.17 117 P **Pn 16 45 56.8 +2.1**

---

*NEIC **15** 16:48:45.3±1.3, 10.°93N±0.°09×125.°37E±0.°07, h114km±9km, mb4.2/14, Error ellipse: s-maj=15.8km s-min=6.6km az=145.0*
*IDC **15** 16:48:47.5±8.3, 10.°89N×125.°38E, h135km±77km, mb3.5/12, mbtmp3.9/12, Error ellipse: s-maj=44.2km s-min=12.7km az=64.0*
ISC 15 16:48:42.3±0.6, 10.°96N±0.°07×125.°5E±0.°1, h88km, n36, σ1§14/34, mb4.1/20, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	**Lahad Datu**	**9.02**	**231**	Pn	**Pn**	**16 50 51.1**	**+1.3**
LUWI	**Luwuk**	**12.23**	**193**	Pn	**Pn**	**16 51 34.8**	**+1.4**
TWG	**Pinlang**	**12.55**	**341**	Pn	**Pn**	**16 51 38.0**	**+0.3**
JMZ	**Minamidaito 2**	**15.73**	**19**	Pn	**P**	**16 52 20.7**	**-0.4**
SAUI	**Saumlaki**	**19.67**	**163**	S	**S**	**16 56 40.2**	**-1.5**
ENH	**Enshi**	**24.34**	**325**	P	**P**	**16 53 51.8**	**-0.2**
ENH				IAmb	IAmb	16 53 59.8	
comp=Z,11nm,1.3s							
CM31	**Chiang Mai Arr**	**26.76**	**289**	P	**P**	**16 54 12.3**	**-1.8**
CMAR	**Chiang Mai Arr**	**26.76**	**289**	P	**P**	**16 54 13.9**	**-0.2**
comp=Z,1.1nm,0.8s,baz=95,slow=7.0,SNR=12							
comp=Z,1.1nm,0.8s							
FITZ	**Fitzroy Crossi**	**28.87**	**180**	P	**P**	**16 54 32.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**28.87**	**180**	P	**P**	**16 54 32.4**	**-0.4**
comp=Z,1.4nm,0.9s,baz=10,slow=10.0,SNR=2.2							
comp=Z,1.4nm,0.9s							
WB0	**Warramunga Arr**	**31.75**	**164**	P	**P**	**16 54 57.1**	**-1.1**
WB0				IAmb	IAmb	16 55 17.4	
comp=Z,4.8nm,1.1s							
WRA	**Warramunga Arr**	**31.90**	**164**	P	**P**	**16 54 58.7**	**-0.9**
comp=Z,0.2nm,0.4s,baz=345,slow=7.5,SNR=1.6							
comp=Z,0.2nm,0.4s							
WR8	**Warramunga Arr**	**31.96**	**164**	P	**P**	**16 54 59.4**	**-0.7**
WR8				IAmb	IAmb	16 55 01.9	
comp=Z,9.1nm,1.4s							
ASAR	**Alice Springs**	**35.37**	**167**	P	**P**	**16 55 30.1**	**+0.4**
comp=Z,0.4nm,0.3s,baz=346,slow=7.5,SNR=18							
ASAR				PcP	**PcP**	**16 57 57.2**	**-0.9**
comp=Z,0.4nm,0.5s,baz=337,slow=2.8,SNR=8.0							
comp=Z,0.4nm,0.3s							
SONM	**Songino Array**	**40.13**	**340**	P	**P**	**16 56 10.9**	**+1.3**
comp=Z,0.3nm,0.3s,baz=161,slow=10.0,SNR=2.8							
comp=Z,0.3nm,0.3s							
H11N1	**WAKE ISLAND Hy**	**40.73**	**73**	T	T	17 40 12.7	
baz=265,slow=75,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**40.74**	**73**	T	T	17 40 15.4	
baz=265,slow=75,SNR=3.8							
H11N3	**WAKE ISLAND Hy**	**40.75**	**73**	T	T	17 40 11.6	
baz=265,slow=75,SNR=5.7							
FORT	**Forrest**	**41.56**	**177**	P	**P**	**16 56 20.4**	**-1.0**
BBOO	**Buckleboo**	**44.66**	**167**	P	**P**	**16 56 46.5**	**+0.1**
BBOO				IAmb	IAmb	16 56 56.6	
comp=Z,22nm,1.4s							
STKA	**Stephens Creek**	**45.28**	**161**	P	**P**	**16 56 52.7**	**+1.4**
comp=Z,0.4nm,0.3s,baz=355,slow=11,SNR=1.6							
comp=Z,0.4nm,0.3s							
MKAR	**Makanchi Array**	**51.05**	**323**	P	**P**	**16 57 34.8**	**-0.8**
MKAR	**Makanchi Array**	**51.05**	**323**	P	**P**	**16 57 36.0**	**+0.4**
comp=Z,1.2nm,0.5s,baz=124,slow=8.2,SNR=17							
comp=Z,1.2nm,0.5s							
MAKZ	**Makanchi**	**51.24**	**323**	P	**P**	**16 57 35.9**	**-1.2**
MAKZ				IAmb	IAmb	16 57 38.0	
comp=Z,4.2nm,1.4s							
KURK	**Kurchatov**	**55.10**	**326**	P	**P**	**16 58 04.5**	**-0.8**
KURK				IAmb	IAmb	16 58 43.2	
comp=Z,1.8nm,0.8s							
KURBB	**Kurchatov Arra**	**55.10**	**325**	P	**P**	**16 58 04.8**	**-0.4**
comp=Z,1.0nm,0.5s,baz=124,slow=6.9,SNR=19							
comp=Z,1.0nm,0.5s							
O14K	**Tigyukauivet M**	**72.07**	**31**	P	**P**	**16 59 56.1**	**-0.8**
B22K	**Teshekpuk Lake**	**76.74**	**20**	P	**P**	**17 00 25.7**	**+2.0**
B22K				IAmb	IAmb	17 00 53.7	
comp=Z,4.4nm,1.4s							
BPAW	**Bear Paw Mtn.**	**77.37**	**27**	P	**P**	**17 00 29.6**	**+2.2**
C23K	**Itkillik River**	**77.67**	**21**	P	**P**	**17 00 31.4**	**+2.5**
C23K				IAmb	IAmb	17 00 34.0	
comp=Z,3.7nm,1.4s							
ILAR	**Eielson Array**	**79.14**	**26**	P	**P**	**17 00 37.8**	**+0.7**
comp=Z,0.2nm,0.6s,baz=248,slow=5.8,SNR=4.1							
comp=Z,0.2nm,0.6s							
SPITS	**Spitsbergen Ar**	**83.21**	**349**	P	**P**	**17 00 58.1**	**-0.4**
comp=Z,7.4nm,0.9s,baz=94,slow=5.9,SNR=6.5							
comp=Z,7.4nm,0.9s							
ARCES	**ARCESS Array B**	**83.31**	**340**	P	**P**	**17 00 57.8**	**-1.3**
comp=Z,9.1nm,1.0s,baz=50,slow=3.8,SNR=3.7							
comp=Z,9.1nm,1.0s							
FINES	**FINESS Array B**	**84.95**	**332**	P	**P**	**17 01 06.5**	**-1.0**
FINES	**FINESS Array B**	**84.95**	**332**	P	**P**	**17 01 06.7**	**-0.9**
comp=Z,0.4nm,0.3s,baz=67,slow=3.6,SNR=8.7							
comp=Z,0.4nm,0.3s							
PLCA	**Paso Flores**	**147.12**	**157**	PKPbc	**PKPbc**	**17 08 15.2**	**-0.5**
comp=Z,0.9nm,0.8s,baz=207,slow=5.5,SNR=3.6							

---

*IDC **15** 16:55:26.0±2.0, 5.°74S×130.°54E, h0km, mb3.8/2, mbtmp3.9/5, ML4.0/3, Error ellipse: s-maj=92.9km s-min=25.5km az=78.0*
*DJA **15** 16:55:38.7±0.4, 6.°S±4.°×13.°1E±.°, h151km±16km, M4.0/11, mB4.9/3, mb4.0/6, MLv4.0/11, Mw(mB)4.2/3*
*NEIC **15** 16:55:39.4±2.2, 5.°9S±0.°1×130.°5E±0.°1, h123km±24km, mb4.2/3, Error ellipse: s-maj=22.3km s-min=18.9km az=51.0*
ISC 15 16:55:38.4±0.8, 6.°03S±0.°06×130.°51E±0.°08, h124km, n38, σ2§15/39, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.61**	**338**	P	**Pn**	**16 56 09.2**	**+1.7**
BNDI	**Bandanaira**	**1.61**	**338**	P	**Pn**	**16 56 09.1**	**+1.6**
SAUI	**Saumlaki**	**2.09**	**158**	Pn	**Pn**	**16 56 15.8**	**+2.6**
SAUI	**Saumlaki**	**2.09**	**158**	P	**Pn**	**16 56 15.1**	**+1.8**
MSAI	**Masohi**	**3.10**	**329**	P	**Pn**	**16 56 27.6**	**+1.5**
FAKI	**Fak Fak**	**3.55**	**29**	Pn	**Pn**	**16 56 31.8**	**-0.3**
FAKI	**Fak Fak**	**3.55**	**29**	P	**Pn**	**16 56 31.8**	**-0.3**
FAKI	**Fak Fak**	**3.55**	**29**	P	**Pn**	**16 56 32.0**	**-0.1**
KMPI	**Kaimana, Papua**	**3.96**	**54**	P	**Pn**	**16 56 37.8**	**+0.2**
SWI	**Sorong**	**5.19**	**8**	P	**Pn**	**16 56 52.9**	**-1.1**
0.4nm4um28nm,0.8s							
DRS	**Darwin Rock St**	**6.37**	**177**	P	**Pn**	**16 57 11.1**	**+1.2**
DRS	**Darwin Rock St**	**6.37**	**177**	S	**Sn**	**16 58 20.0**	**-1.4**
MTN	**Manton Dam**	**6.80**	**175**		**Pn**	**16 57 15.6**	**-0.1**
MTN	**Manton Dam**	**6.80**	**175**	P	**Pn**	**16 57 16.2**	**+0.5**
KDU	**Kakadu**	**6.89**	**164**	P	**Pn**	**16 57 16.6**	**-0.4**
SOEI	**Soe**	**7.20**	**239**	Pn	**Pn**	**16 57 22.9**	**+1.6**
SOEI	**Soe**	**7.20**	**239**	P	**Pn**	**16 57 22.9**	**+1.6**
BAKI	**Biak**	**7.37**	**50**	P	**Pn**	**16 57 23.7**	**+0.2**
KNRA	**Kununurra**	**9.74**	**190**		**Pn**	**16 57 54.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**12.90**	**201**	Pn	**Pn**	**16 58 33.9**	**-3.4**
FITZ	**Fitzroy Crossi**	**12.90**	**201**	Pn	**Pn**	**16 58 33.6**	**-3.7**
1.1nm,0.3s,baz=19,slow=7.5,SNR=30							
FITZ				Sn	Sn	17 00 47.5	-12
0.7nm,0.3s,baz=154,slow=16,SNR=4.8							
2.6nm,0.3s							
WB0	**Warramunga Arr**	**14.17**	**165**	Pn	**Pn**	**16 58 50.6**	**-3.0**
WRA	**Warramunga Arr**	**14.32**	**165**	Pn	**Pn**	**16 58 52.9**	**-2.7**
0.5nm,0.3s,baz=347,slow=9.3,SNR=16							
WRA				Sn	Sn	17 01 23.8	-10
0.7nm,0.3s,baz=340,slow=22,SNR=9.0							
0.7nm,0.3s							
WR8	**Warramunga Arr**	**14.38**	**165**	Pn	**Pn**	**16 58 53.7**	**-2.6**
COEN	**Coen**	**14.75**	**123**	P	**P**	**16 59 04.6**	**+0.8**
QIS	**Mount Isa**	**16.93**	**149**	P	**Pn**	**16 59 29.9**	**+2.0**
AS31	**Alice Springs**	**17.84**	**170**	P	**Pn**	**16 59 38.8**	**-0.1**
AS31				IAmb	IAmb	16 59 41.3	
comp=Z,1.1nm,0.5s							
ASAR	**Alice Springs**	**17.84**	**170**	P	**Pn**	**16 59 38.4**	**-0.5**
ASAR	**Alice Springs**	**17.84**	**170**	P	**Pn**	**16 59 40.1**	**+1.2**
comp=Z,0.6nm,0.3s,baz=351,slow=11,SNR=69							
ASAR				S	**S**	**17 02 49.6**	**-7.2**
comp=Z,0.6nm,0.7s,baz=353,slow=27,SNR=5.9							
comp=Z,2.4nm,0.7s							
AS01	**Alice Springs**	**17.84**	**170**	P	**Pn**	**16 59 40.1**	**+1.1**
WRKA	**Warakurna**	**19.02**	**186**	P	**Pn**	**16 59 52.8**	**-0.1**
SMRI	**Semarang**	**19.96**	**266**	P	**P**	**16 59 59.8**	**-1.3**
SMRI				IAmb	IAmb	17 00 11.8	
comp=Z,38nm,1.0s							
OOD	**Oodnadatta**	**22.20**	**168**	P	**P**	**17 00 26.3**	**+1.6**
LCRK	**Leigh Creek**	**25.35**	**164**	P	**P**	**17 00 58.0**	**+4.1**
BBOO	**Buckleboo**	**27.14**	**170**	P	**P**	**17 01 11.7**	**+1.6**
BBOO				IAmb	IAmb	17 01 51.4	
comp=Z,12nm,1.3s							
MKAR	**Makanchi Array**	**67.70**	**326**	P	**P**	**17 06 23.9**	**+1.4**
MKAR	**Makanchi Array**	**67.70**	**326**	P	**P**	**17 06 24.3**	**+1.9**
comp=Z,0.7nm,0.8s,baz=125,slow=7.5,SNR=10							
comp=Z,0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**71.95**	**328**	P	**P**	**17 06 49.4**	**+1.0**
comp=Z,0.3nm,0.4s,baz=118,slow=4.9,SNR=4.6							
comp=Z,0.3nm,0.4s							

---

*NEIC **15** 17:13:07.4±2.0, 16.°9S±0.°3×179.°3W±0.°2, h546km±12km, mb4.1/35, Error ellipse: s-maj=51.5km s-min=16.5km az=155.0*
*IDC **15** 17:13:07.9±1.4, 16.°79S×179.°41W, h546km±15km, mb3.3/12, mbtmp4.2/14, Error ellipse: s-maj=33.5km s-min=14.3km az=149.0*
ISC 15 17:13:07.1±0.8, 17.°0S±0.°2×179.°3W±0.°1, h550km, n52, σ1§24/52, mb4.0/27, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.68**	**253**	P	**P**	**17 14 21.7**	**+1.3**
MSVF	**Nonsavu**	**2.68**	**253**	P	**P**	**17 14 21.3**	**+1.0**
313nm,0.7s,baz=213,slow=12,SNR=297							
AFI	**Afiamalu**	**7.83**	**68**	P	**P**	**17 15 00.6**	**-2.7**
PINNC	**Pines Island,**	**13.71**	**244**	P	**P**	**17 16 03.6**	**+0.2**
DZM	**Mont Dzumac**	**14.40**	**247**	P	**P**	**17 16 09.9**	**-0.7**
DZM	**Mont Dzumac**	**14.40**	**247**	P	**P**	**17 16 10.4**	**-0.1**
5.5nm,0.6s,baz=89,slow=21,SNR=8.2							
PMG	**Port Moresby**	**33.51**	**279**	P	**P**	**17 19 02.7**	**+1.0**
COEN	**Coen**	**36.30**	**269**	P	**P**	**17 19 25.5**	**+0.6**
STKA	**Stephens Creek**	**38.39**	**240**	P	**P**	**17 19 44.1**	**+2.3**
0.5nm,0.3s,baz=73,slow=11,SNR=4.0							
0.5nm,0.3s							
WRA	**Warramunga Arr**	**44.02**	**259**	P	**P**	**17 20 25.1**	**-1.4**
WRA	**Warramunga Arr**	**44.02**	**259**	P	**P**	**17 20 25.3**	**-1.2**
1.0nm,0.3s,baz=93,slow=7.9,SNR=43							
1.0nm,0.3s							
AS31	**Alice Springs**	**44.27**	**253**	P	**P**	**17 20 27.6**	**-0.9**
ASAR	**Alice Springs**	**44.28**	**253**	P	**P**	**17 20 27.0**	**-1.5**
ASAR	**Alice Springs**	**44.28**	**253**	P	**P**	**17 20 28.0**	**-0.6**
4.6nm,0.5s,baz=87,slow=8.5,SNR=138							
ASAR				ScP	**ScP**	**17 25 03.1**	**+2.4**
1.0nm,0.7s,baz=92,slow=4.6,SNR=10.0							
ASAR				S	**S**	**17 26 18.6**	**-4.2**
0.8nm,0.8s,baz=87,slow=16,SNR=6.3							
4.6nm,0.5s							
MTN	**Manton Dam**	**48.02**	**268**	P	**P**	**17 20 56.1**	**-0.9**
KNRA	**Kununurra**	**49.78**	**264**	P	**P**	**17 21 09.5**	**-0.5**
KNRA				IAmb	IAmb	17 21 10.3	
comp=Z,5.7nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.39**	**260**	P	**P**	**17 21 29.0**	**+0.1**
SOEI	**Soe**	**55.26**	**270**		**P**	**17 21 49.6**	**+0.2**
MMRI	**Maumere**	**57.48**	**270**	P	**P**	**17 22 03.1**	**-1.3**
MBWA	**Marble Bar**	**57.52**	**255**	P	**P**	**17 22 02.9**	**-1.8**
MBWA				IAmb	IAmb	17 22 13.9	
comp=Z,13nm,1.2s							
MORW	**Morawa**	**60.12**	**246**	P	**P**	**17 22 21.5**	**-0.5**
MJAR	**Matsushiro Arr**	**66.67**	**324**	P	**P**	**17 23 03.4**	**-0.3**
comp=Z,2.9nm,0.6s,baz=159,slow=6.3,SNR=8.8							
comp=Z,2.9nm,0.6s							
PETK	**Petropavlovsk-**	**72.57**	**346**	P	**P**	**17 23 38.8**	**+0.3**
comp=Z,2.0nm,0.9s,baz=89,slow=11,SNR=5.1							
comp=Z,2.0nm,0.9s							
KSRS	**Korea Array**	**73.47**	**319**	P	**P**	**17 23 44.9**	**+0.9**
comp=Z,1.1nm,0.7s,baz=122,slow=6.8,SNR=4.2							
comp=Z,1.1nm,0.7s							
DSP	**Deep Springs**	**78.99**	**45**		**P**	**17 24 15.4**	**+1.1**
NVAR	**Mina Array Bea**	**79.31**	**44**	P	**P**	**17 24 17.3**	**+1.0**
comp=Z,1.9nm,0.6s,baz=224,slow=7.7,SNR=11							
comp=Z,1.9nm,0.6s							
NV11	**Mina Array Sit**	**79.42**	**44**	P	**P**	**17 24 17.5**	**+0.7**
ILSW	**Iliamna Southw**	**79.55**	**13**	P	**P**	**17 24 16.1**	**-0.8**
ILSW				IAmb	IAmb	17 24 17.2	
comp=Z,4.7nm,0.8s							
J05D	**Fort Rock, OR**	**80.10**	**39**		**P**	**17 24 21.4**	**+1.2**
WVOR	**Wild Horse Val**	**81.22**	**41**	P	**P**	**17 24 26.5**	**+0.4**
WVOR				IAmb	IAmb	17 24 28.1	
comp=Z,4.3nm,0.9s							
SUA	**Susitna One**	**81.41**	**13**		**P**	**17 24 26.2**	**-0.3**
I07A	**Izee**	**81.58**	**39**	P	**P**	**17 24 28.7**	**+0.9**
I07A				IAmb	IAmb	17 24 29.7	
comp=Z,3.6nm,0.7s							
TUC	**Tucson**	**81.77**	**53**	P	**P**	**17 24 29.2**	**+0.1**
TUC				IAmb	IAmb	17 24 31.9	
comp=Z,5.5nm,1.0s							
X16A	**Lo Mia Camp, P**	**82.21**	**51**	P	**P**	**17 24 32.7**	**+1.4**
X16A				IAmb	IAmb	17 24 33.9	
comp=Z,5.6nm,0.9s							
PSUT	**Pine Spring**	**82.39**	**46**	P	**P**	**17 24 33.2**	**+1.0**
PSUT				IAmb	IAmb	17 24 33.9	
comp=Z,5.2nm,0.6s							
U15A	**North Rim**	**82.50**	**48**		**P**	**17 24 34.4**	**+1.5**
U15A				IAmb	IAmb	17 24 35.3	
comp=Z,5.9nm,0.7s							
ELK	**Elko**	**82.53**	**44**		**P**	**17 24 33.2**	**+0.2**
CAST	**Castle Rocks**	**82.88**	**12**		**P**	**17 24 32.5**	**-1.4**
CAST				IAmb	IAmb	17 24 33.7	
comp=Z,3.7nm,0.7s							
TRF	**Thorofare Moun**	**83.27**	**13**	P	**P**	**17 24 35.1**	**-0.9**
TRF				IAmb	IAmb	17 24 37.0	
comp=Z,5.3nm,0.9s							
RND	**Reindeer**	**83.54**	**13**	P	**P**	**17 24 37.0**	**-0.2**
RND				IAmb	IAmb	17 24 38.1	
comp=Z,5.2nm,1.0s							
F10A	**Beach Ranch, E**	**83.96**	**38**	P	**P**	**17 24 40.0**	**+0.3**
F10A				IAmb	IAmb	17 24 40.9	
comp=Z,6.5nm,1.0s							
HLID	**Hailey**	**84.46**	**41**		**P**	**17 24 43.0**	**+0.6**
ILAR	**Eielson Array

mbtmp4.2/14, MS3.4/12, Error ellipse: s-maj=23.1km s-min=13.1km az=113.0

ISC 15 17:42:22.5±0.7, 5°15S±0°08×152°4E±0°1, h55km, n71, σ1°29/63, mb4.5/28, MS3.4/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.98**	**347**		**Pn**	**17 42 40.8**	**+0.7**
PMG	**Port Moresby**	**6.68**	**230**		**Pn**	**17 43 57.9**	**-0.2**
PMG				Sn	**Sn**	**17 45 06.7**	**-6.2**
PMG	**Port Moresby**	**6.68**	**230**	P	**Pn**	**17 43 60.0**	**+1.8**
	87nm,0.7s,baz=66,slow=4.7,SNR=49						
PMG				S	**Sn**	**17 45 14.5**	**+1.6**
	178nm,0.6s,baz=151,slow=23,SNR=16						
PMG				LR	LR	17 46 46.3	
	comp=Z,233nm,21.6s,baz=56,slow=39						
PMG	**Port Moresby**	**6.68**	**230**	P		**17 43 59.8**	**+1.7**
PMG	**Port Moresby**	**6.68**	**230**	S	**Sn**	**17 45 15.0**	**+2.1**
PMG	**Port Moresby**	**6.68**	**230**	P	**Pn**	**17 43 59.9**	**+1.8**
PMG	**Port Moresby**	**6.68**	**230**	S	**Sn**	**17 45 15.2**	**+2.3**
COEN	**Coen**	**12.60**	**225**	Pn	**Pn**	**17 45 20.8**	**+1.7**
MTSU	**Mount Surprise**	**15.12**	**211**	P	**P**	**17 45 55.4**	**-1.5**
QIS	**Mount Isa**	**19.71**	**218**	P	**Pn**	**17 46 48.9**	**-0.6**
GUMO	**Guam**	**20.06**	**338**	LR	LR	17 54 02.0	
	comp=Z,14nm,20.4s,baz=86,slow=35						
EIDS	**Eidsvold**	**20.14**	**183**	Pn	Pn	17 46 55.6	+1.2
KDU	**Kakadu**	**21.03**	**248**	P	**P**	**17 47 02.4**	**+0.5**
DRS	**Darwin Rock St**	**22.41**	**250**	P	**P**	**17 47 16.7**	**0.0**
WB0	**Warramunga Arr**	**22.75**	**229**	P	**P**	**17 47 19.3**	**-1.0**
WB0				IAmb	IAmb	17 47 22.1	
	comp=Z,39nm,1.2s						
WR8	**Warramunga Arr**	**22.79**	**228**	P	**P**	**17 47 19.8**	**-0.9**
WR8				IAmb	IAmb	17 47 22.4	
	comp=Z,37nm,1.4s						
WRAB	**Tennant Creek**	**22.88**	**228**		**P**	**17 47 20.6**	**-1.1**
WRA	**Warramunga Arr**	**22.90**	**228**		**P**	**17 47 20.4**	**-1.5**
WRA	**Warramunga Arr**	**22.90**	**228**	P	**P**	**17 47 21.3**	**-0.5**
	comp=Z,10nm,0.7s,baz=53,slow=10,SNR=49						
WRA				S	**S**	**17 51 27.1**	**-0.6**
	comp=Z,3.5nm,1.3s,baz=50,slow=18,SNR=5.9						
WRA				LR	LR	17 56 12.7	
	comp=Z,121nm,19.5s,baz=359,slow=36						
	comp=Z,10nm,0.7s						
INKA	**Innaminka**	**25.05**	**205**	P	**P**	**17 47 43.6**	**+1.9**
KNRA	**Kununurra**	**25.44**	**244**		**P**	**17 47 44.4**	**-1.0**
AS31	**Alice Springs**	**25.61**	**222**		**P**	**17 47 46.2**	**-0.7**
ASAR	**Alice Springs**	**25.61**	**222**	P	**P**	**17 47 46.7**	**-0.2**
	comp=Z,5.8nm,0.5s,baz=58,slow=8.8,SNR=130						
ASAR				LR	LR	17 58 23.3	
	comp=Z,87nm,18.8s,baz=8.5,slow=38						
	comp=Z,5.8nm,0.5s						
CMSA	**Cobar Meteorol**	**26.99**	**193**	P	**P**	**17 48 01.5**	**+2.3**
STKA	**Stephens Creek**	**28.44**	**200**	P	**P**	**17 48 11.8**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=56,slow=12,SNR=3.8						
STKA				LR	LR	17 59 49.8	
	comp=Z,46nm,18.4s,baz=23,slow=37						
	comp=Z,1.7nm,0.7s						
LCRK	**Leigh Creek**	**28.48**	**206**	P	**P**	**17 48 13.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**29.12**	**242**		**P**	**17 48 17.6**	**-0.8**
DAV	**Davao City (W)**	**29.37**	**294**	LR	LR	17 59 10.8	
	comp=Z,37nm,21.9s,baz=134,slow=34						
KAPI	**Kappang**	**32.50**	**269**	LR	LR	18 02 55.7	
	comp=Z,64nm,21.6s,baz=322,slow=38						
FORT	**Forrest**	**34.25**	**219**	P	**P**	**17 49 02.5**	**-0.8**
MBWA	**Marble Bar**	**35.43**	**240**	P	**P**	**17 49 12.7**	**-0.9**
PSA00	**Pilbara Seismi**	**35.49**	**240**	P	**P**	**17 49 13.1**	**-1.1**
PSA00				IAmb	IAmb	17 49 13.8	
	comp=Z,9.7nm,0.8s						
MORW	**Morawa**	**41.80**	**231**	P	**P**	**17 50 06.0**	**-0.9**
MORW				IAmb	IAmb	17 50 07.0	
	comp=Z,21nm,1.2s						
CM31	**Chiang Mai Arr**	**57.65**	**296**	P	**P**	**17 52 08.3**	**+0.7**
CM31				IAmb	IAmb	17 52 09.7	
	comp=Z,6.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**57.65**	**296**		**P**	**17 52 07.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**57.65**	**296**	P	**P**	**17 52 07.8**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=107,slow=5.3,SNR=25						
	comp=Z,3.1nm,0.9s						
CHTO	**Chiang Mai**	**57.76**	**296**		**P**	**17 52 08.5**	**+0.1**
CHTO				IAmb	IAmb	17 52 09.6	
	comp=Z,7.4nm,1.1s						
SHL	**Shillong**	**66.12**	**301**	P	**P**	**17 53 04.3**	**-0.4**
SONM	**Songino Array**	**66.40**	**328**	P	**P**	**17 53 06.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=140,slow=5.3,SNR=5.8						
	comp=Z,0.9nm,0.6s						
LSA	**Lhasa**	**68.09**	**305**	P	**P**	**17 53 18.1**	**+0.6**
LSA				IAmb	IAmb	17 53 18.6	
	comp=Z,4.2nm,0.8s						
VNDA	**Vanda**	**72.50**	**178**	P	**P**	**17 53 43.0**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=322,slow=7.9,SNR=4.8						
	comp=Z,1.0nm,0.8s						
KDAK	**Kodiak Island**	**76.68**	**27**	LR	LR	18 20 31.1	
	comp=Z,42nm,21.8s,baz=29,slow=30						
MKAR	**Makanchi Array**	**80.31**	**319**		**P**	**17 54 27.6**	**-0.2**
MKAR	**Makanchi Array**	**80.31**	**319**	P	**P**	**17 54 27.2**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=101,slow=6.3,SNR=10						
	comp=Z,1.5nm,0.9s						
I21K	**Tanana**	**81.00**	**21**	P	**P**	**17 54 30.6**	**-0.4**
ZALV	**Zalesovo Beam**	**81.21**	**326**	P	**P**	**17 54 31.7**	**-0.7**
ZALV	**Zalesovo Beam**	**81.21**	**326**	P	**P**	**17 54 32.3**	**0.0**
	comp=Z,1.3nm,0.6s,baz=120,slow=6.0,SNR=5.6						
	comp=Z,1.3nm,0.6s						
MCK	**McKinley**	**81.35**	**23**		**P**	**17 54 33.0**	**+0.1**
MCK				IAmb	IAmb	17 54 34.5	
	comp=Z,8.0nm,1.1s						
ILAR	**Eielson Array**	**82.64**	**22**	P	**P**	**17 54 39.1**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=244,slow=5.4,SNR=12						
	comp=Z,1.7nm,0.8s						
J25K	**Salcha River,**	**83.14**	**23**	P	**P**	**17 54 42.5**	**+0.2**
J25K				IAmb	IAmb	17 54 43.8	
	comp=Z,6.2nm,1.1s						
D23K	**Nanushuk River**	**83.51**	**18**	P	**P**	**17 54 45.6**	**+1.6**
TOLK	**Toolik Lake Re**	**83.68**	**18**	P	**P**	**17 54 45.1**	**+0.1**
KURBB	**Kurchatov Arra**	**83.81**	**322**	P	**P**	**17 54 46.0**	**0.0**
	comp=Z,0.3nm,0.5s,baz=101,slow=4.8,SNR=2.9						
	comp=Z,0.3nm,0.5s						
D24K	**Happy Valley**	**84.18**	**18**	P	**P**	**17 54 49.2**	**+1.7**
D24K				IAmb	IAmb	17 54 49.5	
	comp=Z,4.0nm,0.7s						
C24K	**Franklin Bluff**	**84.51**	**17**	P	**P**	**17 54 50.3**	**+1.2**
C24K				IAmb	IAmb	17 54 51.1	
	comp=Z,3.4nm,0.8s						
AAK	**Ala-Archa**	**84.60**	**314**		**P**	**17 54 50.3**	**-0.1**
G26K	**Porcupine Rive**	**84.78**	**21**	IAmb	IAmb	17 54 53.3	
	comp=Z,6.6nm,1.3s						
QSPA	**South Pole Qui**	**84.81**	**180**	P	**P**	**17 54 50.8**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=86,slow=0.2,SNR=13						
QSPA				LR	LR	18 30 39.2	
	comp=Z,45nm,19.0s,baz=216,slow=34						
	comp=Z,1.8nm,0.8s						
MAW	**Mawson**	**85.09**	**203**	P	**P**	**17 54 52.3**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=322,slow=19,SNR=1.5						
	comp=Z,1.3nm,0.6s						
ARSB	**Arslanbob**	**85.45**	**312**	P	**P**	**17 54 54.9**	**+0.3**
C27K	**Jago River**	**85.99**	**18**	IAmb	IAmb	17 54 58.7	
	comp=Z,3.3nm,0.8s						
E27K	**Coleen River**	**86.07**	**20**	P	**P**	**17 54 58.3**	**+1.3**
E27K				IAmb	IAmb	17 54 59.5	
	comp=Z,3.8nm,0.9s						
D27M	**Malcolm River**	**86.71**	**19**	IAmb	IAmb	17 55 02.3	
	comp=Z,3.4nm,0.8s						
BVAR	**Borovoye Array**	**89.27**	**323**	P	**P**	**17 55 12.4**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=100,slow=5.7,SNR=20						
	comp=Z,3.1nm,0.7s						
YBH	**Yreka Blue Hor**	**89.60**	**48**	LR	LR	18 27 59.9	
	comp=Z,26nm,19.7s,baz=302,slow=30						
NVAR	**Mina Array Bea**	**92.63**	**52**	LR	LR	18 30 09.7	
	comp=Z,33nm,20.8s,baz=140,slow=31						
PDAR	**Pinedale Array**	**99.39**	**48**	LR	LR	18 33 21.0	
	comp=Z,14nm,21.6s,baz=306,slow=31						
NOA	**NORSAR Array B**	**117.10**	**340**	PKP	**PKPdf**	**18 01 00.8**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=46,slow=1.8,SNR=4.2						
GERES	**GERESS Array B**	**124.13**	**328**	PKP	**PKPdf**	**18 01 15.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=124,slow=2.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**150.01**	**287**	PKPbc	**PKPbc**	**18 02 07.4**	**-0.6**
	comp=Z,61nm,0.3s,baz=57,slow=3.8,SNR=1.2						
BDFB	**Brasilia**	**151.11**	**136**	PKPbc	**PKPbc**	**18 02 10.5**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=142,slow=8.9,SNR=3.1						

*NIC **15** 17:42:23.8, 36°60N×28°74E, h5km±1km, Ml3.7/13*
*MOS **15** 17:42:24.5±1.1, 36°30N×28°79E, h11km, mb4.4/7, Error ellipse: s-maj=6.7km s-min=3.6km az=97.5*
*AFAD **15** 17:42:25.8, 36°44N×28°72E, h7km±2km, MW3.9*
*ISK **15** 17:42:25.1, 36°48N×28°73E, h5km, ML4.1/41*

*GII **15** 17:42:26.8±0.0, 36°130N±0°004×28°719E±0°001, h10km, Mws3.9/6, confirmed*
*NEIC **15** 17:42:26.2±1.4, 36°39N±0°04×28°89E±0°05, h10km±1km, mb4.0/7, Error ellipse: s-maj=7.9km s-min=5.9km az=159.0*
*THE **15** 17:42:26.6, 36°35N×28°72E, h0km±1km, ML3.9/4, Error ellipse: s-maj=3.7km s-min=0.9km az=4.0*
*HLW **15** 17:42:27.5, 36°45N×28°86E, h33km±45km, Md4.7, Ml4.0*
*MCSM **15** 17:42:27.5±0.4, 36°N±3°×2°9E±°, h10km, mb4.4, mB4.6, MLv4.0, Mw(mB)3.8*
*ATH **15** 17:42:28.1, 36°43N×28°87E, h23km±4km, ML3.9/22, Manual Solution by M.Charalampakis First location: 2019/04/15 17:43:49, This location: 2020/10/06 08:47:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*IDC **15** 17:42:28.2±3.8, 36°33N×28°78E, h28km±27km, mb3.8/14, mbtmp3.9/25, ML3.9/11, MS3.2/13, Error ellipse: s-maj=14.2km s-min=11.7km az=12.0*

ISC 15 17:42:26.4±0.8, 36°40N±0°02×28°76E±0°01, h11km±5km, n417, σ1°78/466, mb4.0/17, MS3.3/7, 23C-14D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.36**	**48**	Pg	**Pg**	**17 42 32.4**	**-1.1**
FETY				Sg	**Sg**	**17 42 38.3**	**0.0**
FETY	**Fethiye**	**0.36**	**48**	P	**Pg**	**17 42 32.9**	**-0.6**
IZZE	**Mula-Seydike**	**0.38**	**84**	P	**Pg**	**17 42 33.7**	**-0.3**
IZZE				S	**Sb**	**17 42 39.9**	**-1.3**
DALY	**Dalyan (Mula)**	**0.43**	**349**	Pg	**Pg**	**17 42 33.1**	**-1.8**
DALY				Sg	**Sg**	**17 42 38.8**	**-1.8**
SABU	**Mula-Dalaman**	**0.46**	**22**	P	**Pg**	**17 42 34.4**	**-1.1**
SABU				S	**Sg**	**17 42 40.7**	**-0.9**
ARG	**Arkhangelos**	**0.54**	**251**	P	**Pg**	**17 42 36.6**	**-0.3**
ARG				S	**Sg**	**17 42 45.2**	**+1.2**
	10μm,0.6s						
ARG	**Arkhangelos**	**0.54**	**251**	Pg	**Pg**	**17 42 36.8**	**-0.1**
ARG				Sg	**Sb**	**17 42 45.8**	**+0.2**
ARG	**Arkhangelos**	**0.54**	**251**	Pg	**Pg**	**17 42 36.4**	**-0.5**
ARG				Sg	**Sb**	**17 42 46.0**	**+0.4**
ARG	**Arkhangelos**	**0.54**	**251**	P	**Pg**	**17 42 36.6**	**-0.3**
ARG				S	**Sg**	**17 42 45.2**	**+1.2**
ARG	**Arkhangelos**	**0.54**	**251**	P	**Pg**	**17 42 36.4**	**-0.5**
ARG				S	**Sb**	**17 42 46.5**	**+0.8**
ARG				AML	AML	17 42 46.9	
	21nm,0.7s						
ARG				AML	AML	17 42 49.5	
	21nm,0.7s						
TURN	**Turunc**	**0.56**	**313**	Pg	**Pg**	**17 42 35.8**	**-1.5**
TURN				Sg	**Sg**	**17 42 43.8**	**-0.9**
TURN	**Turunc**	**0.56**	**313**	P	**Pg**	**17 42 35.5**	**-1.7**
TURN				S	**Sg**	**17 42 43.5**	**-1.2**
CAME	**Cameli-Denizli**	**0.70**	**39**	Pg	**Pg**	**17 42 38.5**	**-1.5**
CAME				Sg	**Sg**	**17 42 49.0**	**-0.3**
AKAS	**Kas**	**0.70**	**103**	Pg	**Pb**	**17 42 40.7**	**-0.1**
AKAS				Sg	**Sn**	**17 42 52.1**	**-1.3**
AKAS	**Kas**	**0.70**	**103**		**Pg**	**17 42 39.7**	**-0.4**
AKAS	**Kas**	**0.70**	**103**	P	**Pb**	**17 42 40.6**	**-0.2**
AKAS				S	**Sn**	**17 42 52.3**	**-1.2**
KSL	**Kastellorizon**	**0.71**	**110**	P	**Pb**	**17 42 40.8**	**0.0**
KSL				S	**Sn**	**17 42 53.3**	**-0.1**
	8μm,0.6s						
KSL	**Kastellorizon**	**0.71**	**110**	P	**Pg**	**17 42 39.9**	**-0.3**
KSL				S	**Sn**	**17 42 52.5**	**-0.9**
KSL				AML	AML	17 42 56.2	
	10nm,0.6s						
KSL				AML	AML	17 42 57.8	
	19nm,0.6s						
KSL	**Kastellorizon**	**0.71**	**110**	P	**Pg**	**17 42 39.9**	**-0.3**
KSL				S	**Sg**	**17 42 49.3**	**-0.2**
KNIK	**Mula-Seydike**	**0.80**	**55**	P	**Pg**	**17 42 40.8**	**-1.0**
KNIK				S	**Sb**	**17 42 52.8**	**-0.4**
YER	**Yerkesik**	**0.83**	**333**	Pg	**Pg**	**17 42 40.7**	**-1.7**
YER	**Yerkesik**	**0.83**	**333**	P	**Pg**	**17 42 40.7**	**-1.7**
CAEL	**Denizli, Camel**	**0.86**	**32**	P	**Pg**	**17 42 42.0**	**-0.9**
CAEL				S	**Sg**	**17 42 52.9**	**-1.3**
DNZT	**Denizli-Tavas-**	**0.91**	**14**	P	**Pg**	**17 42 42.7**	**-1.2**
DNZT				P	**Pb**	**17 42 44.1**	**-0.2**
DNZT				S	**Sg**	**17 42 54.2**	**-1.6**
MULA	**Mugla, Merkez-**	**0.93**	**338**	P	**Pg**	**17 42 43.0**	**-1.3**
MULA				S	**Sg**	**17 42 55.6**	**-0.8**
DEMR	**Demre-Antalya**	**0.94**	**99**	Pg	**Pb**	**17 42 45.1**	**+0.3**
DATC	**Datca-Mugla**	**0.95**	**293**	Pg	**Pg**	**17 42 44.0**	**-0.8**
ELL	**Elmali**	**0.99**	**69**	Pg	**Pg**	**17 42 45.2**	**-0.3**
ELL	**Elmali**	**0.99**	**69**		**Pg**	**17 42 43.0**	**-2.5**
ELL	**Elmali**	**0.99**	**69**	P	**Pg**	**17 42 43.0**	**-2.5**
ELL	**Elmali**	**0.99**	**69**	P	**Pg**	**17 42 43.9**	**-1.6**
ELL				AML	AML	17 43 08.5	
	46nm,1.0s						
ELL				AML	AML	17 43 08.9	
	48nm,0.5s						
ELL	**Elmali**	**0.99**	**69**	P	**Pg**	**17 42 44.4**	**-1.2**
GOLH	**Golhisar**	**1.06**	**37**	P	**Pg**	**17 42 45.8**	**-1.0**
GOLH				S	**Sb**	**17 43 01.3**	**+0.5**
TAVA	**DENIZLI_Tavas**	**1.08**	**7**	P	**Pg**	**17 42 46.0**	**-1.2**
TAVA				S	**Sn**	**17 43 03.0**	**+0.5**
YAZI	**Mula-Dat§a-**	**1.09**	**286**	P	**Pb**	**17 42 46.5**	**-0.8**
YAZI				S	**Sg**	**17 43 00.8**	**-0.7**
APMY	**Acipayam-Deniz**	**1.16**	**22**	Pn	**Pb**	**17 42 47.2**	**-1.4**
MLSB	**Milas**	**1.19**	**319**	Pn	**Pb**	**17 42 47.7**	**-1.4**
BDRM	**Kayabasi**	**1.25**	**303**	P	**Pn**	**17 42 49.1**	**-0.7**
BDRM				S	**Sb**	**17 43 06.8**	**+0.7**
DNIZ	**Denizli-Tavas-**	**1.25**	**10**	P	**Pn**	**17 42 48.5**	**-1.5**
DNIZ				S	**Sn**	**17 43 09.2**	**+2.3**
AKUM	**Antalya-Kumluc**	**1.28**	**93**	P	**Pb**	**17 42 50.4**	**-0.1**
AKUM				S	**Sn**	**17 43 12.5**	**+5.0**
NISR	**Nisiros**	**1.33**	**280**	P	**Pn**	**17 42 50.9**	**0.0**
NISR				S	**Sb**	**17 43 09.3**	**+0.9**
	4μm,0.7s						
BODT	**Bodrum**	**1.34**	**300**	Pn	**Pn**	**17 42 50.7**	**-0.4**
YKAV	**Yalikavak-Bodr**	**1.39**	**302**	Pn	**Pn**	**17 42 51.7**	**-0.1**
ESEN	**Aydn-Nazilli**	**1.44**	**347**	P	**Pn**	**17 42 51.8**	**-0.6**
ESEN				S	**Sn**	**17 43 11.6**	**+0.3**
AYDN	**Tasoluk**	**1.45**	**331**	P	**Pn**	**17 42 52.4**	**-0.2**
AYDN				S	**Sn**	**17 43 11.1**	**-0.5**
INCE	**Denizli-Bozkur**	**1.47**	**26**	P	**Pn**	**17 42 53.2**	**+0.3**
INCE				S	**Sb**	**17 43 12.7**	**+0.2**
KLNA	**Kalymnos**	**1.54**	**292**	P	**Pn**	**17 42 53.8**	**0.0**
KARP	**Karpathos**	**1.54**	**237**	P	**Pn**	**17 42 54.3**	**+0.4**
KARP				S	**Sn**	**17 43 14.2**	**+0.2**
	7μm,0.8s						
KARP	**Karpathos**	**1.54**	**237**	Pn	**Pb**	**17 42 55.4**	**+0.3**
KARP	**Karpathos**	**1.54**	**237**		**Pn**	**17 42 54.8**	**+0.8**
KARP				Sn	**Sg**	**17 43 16.5**	**+0.3**
KARP	**Karpathos**	**1.54**	**237**	P	**Pb**	**17 42 55.1**	**+0.1**
KARP	**Karpathos**	**1.54**	**237**	P	**Pn**	**17 42 54.8**	**+0.8**
KARP				S	**Sg**	**17 43 16.4**	**+0.3**
KARP				AML	AML	17 43 20.9	
	16nm,0.8s						
KARP				AML	AML	17 43 25.1	
	14nm,0.8s						
KARP	**Karpathos**	**1.54**	**237**	P	**Pb**	**17 42 55.2**	**+0.1**
KARP				S	**Sg**	**17 43 16.4**	**+0.3**
ANTB	**Antalya**	**1.61**	**71**	Pn	**Pb**	**17 42 55.9**	**-0.2**
NAZL	**Nazilli-Aydin**	**1.61**	**347**	Pn	**Pn**	**17 42 54.8**	**0.0**
DDIM	**Aydin, Didim**	**1.61**	**312**	P	**Pn**	**17 42 55.5**	**+0.7**
DDIM				S	**Sg**	**17 43 18.7**	**+0.5**
BRDR	**BURDUR-Merkez**	**1.67**	**38**	P	**Pb**	**17 42 56.7**	**-0.5**
BRDR				S	**Sg**	**17 43 20.8**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.70**	**336**	Pn	**Pn**	**17 42 56.1**	**0.0**
BUCA	**Burdur, Bucak-**	**1.72**	**57**	P	**Pb**	**17 42 58.3**	**+0.3**
BUCA				S	**Sg**	**17 43 23.0**	**+1.3**
GCAM	**G?zelcaml?**	**1.78**	**317**	Pn	**Pn**	**17 42 57.1**	**-0.1**
BCK	**Bucak**	**1.81**	**54**	Pn	**Pn**	**17 42 58.2**	**+0.5**
BCK	**Bucak**	**1.81**	**54**	P	**Pn**	**17 42 58.4**	**+0.7**
KIRA	**zmir-Kiraz**	**1.82**	**351**	P	**Pn**	**17 42 58.4**	**+0.6**
KIRA				S	**Sn**	**17 43 21.1**	**+0.2**
BASM	**Basmaki-Afyon**	**1.84**	**34**	Pn	**Pn**	**17 42 58.2**	**+0.2**
ODEM	**Odemis-Izmir**	**1.96**	**344**	Pn	**Pn**	**17 42 59.5**	**-0.1**
ISP	**Isparta**	**2.01**	**44**	Pn	**Pn**	**17 43 01.4**	**+1.1**
ISP	**Isparta**	**2.01**	**44**		**Pn**	**17 42 59.1**	**-1.2**
ISP	**Isparta**	**2.01**	**44**	*i* P	**Pn**	**17 43 01.6**	**+1.2**
ISP	**Isparta**	**2.01**	**44**	P	**Pb**	**17 43 01.8**	**-1.2**
ISP	**Isparta**	**2.01**	**44**	P	**Pn**	**17 43 01.1**	**+0.8**
MANT	**Manisa**	**2.10**	**356**		**Pn**	**17 43 01.5**	**-0.2**
KULA	**Kula-Manisa**	**2.12**	**358**	Pn	**Pn**	**17 43 02.1**	**+0.2**
BLCB	**Balcova**	**2.41**	**326**	Pn	**Pn**	**17 43 05.5**	**-0.3**
ZKR	**Zakros**	**2.43**	**239**	Pn	**Pn**	**17 43 07.9**	**+1.9**
ZKR	**Zakros**	**2.43**	**239**	P	**Pn**	**17 43 08.4**	**+2.4**
ZKR				AML	AML	17 43 41.8	
	1.7nm,0.7s						
ZKR				AML	AML	17 43 45.7	
	3.6nm,1.0s						
ZKR	**Zakros**	**2.43**	**239**	P	**Pb**	**17 43 08.6**	**-1.5**
GORD	**Gordes-Manisa**	**2.55**	**350**	Pn	**Pn**	**17 43 07.9**	**+0.1**
SHUT	**Suhut-Afyon**	**2.58**	**33**	Pn	**Pn**	**17 43 09.1**	**+0.8**
SEYD	**Seydisehir-KON**	**2.67**	**67**	Pn	**Pn**	**17 43 11.4**	**+1.9**
APE	**Apeiranthos**	**2.68**	**286**	P	**Pn**	**17 43 09.6**	**0.0**
APE	**Apeiranthos**	**2.68**	**286**	Pn	**Pn**	**17 43 09.9**	**+0.3**
APE	**Apeiranthos**	**2.68**	**286**	⇑P	**Pb**	**17 43 12.8**	**-1.5**
APE				⇑S	**Sb**	**17 43 45.5**	**-1.8**
APE	**Apeiranthos**	**2.68**	**286**	*i* P	**Pn**	**17 43 09.5**	**0.0**
APE	**Apeiranthos**	**2.68**	**286**	P	**Pn**	**17 43 09.8**	**+0.3**
APE	**Apeiranthos**	**2.68**	**286**	P	**Pn**	**17 43 09.5**	**0.0**
SIMA	**Simav-Kutahya**	**2.69**	**4**	Pn	**Pn**	**17 43 09.9**	**+0.2**
GEDZ	**Gediz**	**2.69**	**11**	Pn	**Pn**	**17 43 10.3**	**+0.5**
CMBO	**Columbo, Santo**	**2.70**	**273**	P	**Pn**	**17 43 12.2**	**+2.4**
SAP3	**Santorini-Thir**	**2.75**	**272**	P	**Pn**	**17 43 12.9**	**+2.4**
GAZI	**Gazipasa**	**2.88**	**92**	Pn	**Pn**	**17 43 12.5**	**+0.2**
SOMA	**Soma-Manisa**	**2.92**	**341**	Pn	**Pn**	**17 43 13.1**	**+0.3**
EAG2	**Marmaro, Chios**	**3.01**	**316**	P	**Pn**	**17 43 14.1**	**+0.2**
DKL	**Dikili**	**3.05**	**332**	Pn	**Pn**	**17 43 14.9**	**+0.4**
DKL	**Dikili**	**3.05**	**332**	P	**Pn**	**17 43 14.7**	**+0.2**
HDMB	**Hadim**	**3.05**	**78**	Pn	**Pn**	**17 43 17.0**	**+2.2**
TVSB	**Tavsanli**	**3.10**	**10**	Pn	**Pn**	**17 43 15.6**	**+0.2**
AKMS	**Akamas**	**3.22**	**114**	P	**Pn**	**17 43 16.6**	**-0.4**
AKMS				S	**Sn**	**17 43 56.4**	**+1.1**
AKMS				AML	AML	17 43 58.7	
	0.6nm,0.7s						
AKMS				AML	AML	17 43 60.0	
	0.8nm,0.5s						
AKMS	**Akamas**	**3.22**	**114**	P	**Pn**	**17 43 16.4**	**-0.6**
KONT	**Konya--Tatoy**	**3.27**	**61**	Pn	**Pn**	**17 43 19.6**	**+2.0**
IDI	**Anoyia**	**3.33**	**252**		**Pn**	**17 43 19.3**	**+0.8**
IDI	**Anoyia**	**3.33**	**252**	Pn	**Pn**	**17 43 19.4**	**+0.9**
	124nm,0.5s,baz=59,slow=14,SNR=131						
IDI				Sn	**Sn**	**17 43 59.2**	**+1.2**
	67nm,0.3s,baz=143,slow=8.7,SNR=11						
IDI	**Anoyia**	**3.33**	**252**	P	**Pn**	**17 43 19.2**	**+0.7**
ALFC	**Alefka**	**3.36**	**110**	P	**Pn**	**17 43 19.1**	**+0.2**
ALFC				S	**Sn**	**17 44 01.4**	**+2.6**
ALFC				AML	AML	17 44 06.5	
	0.6nm,0.5s						
ALFC				AML	AML	17 44 07.0	
	0.5nm,0.4s						
ALFC	**Alefka**	**3.36**	**110**	P	**Pn**	**17 43 18.2**	**-0.7**
CIFT	**Cifteler, Eski**	**3.48**	**31**	Pn	**Pn**	**17 43 20.9**	**+0.3**
NATA	**Nata**	**3.50**	**116**	P	**Pn**	**17 43 21.1**	**+0.3**
NATA				S	**Sn**	**17 44 04.6**	**+2.3**
NATA				AML	AML	17 44 10.5	
	1.2nm,0.7s						
NATA				AML	AML	17 44 15.5	
	1.1nm,0.6s						
KIZT	**Kizilcal**	**3.51**	**44**	Pn	**Pn**	**17 43 21.1**	**+0.1**
TROD	**Troodos**	**3.65**	**112**	P	**Pn**	**17 43 22.4**	**-0.6**
TROD				S	**Sn**	**17 44 08.7**	**+2.6**
TROD				AML	AML	17 44 19.2	
	0.4nm,0.5s						
TROD				AML	AML	17 44 20.6	
	0.4nm,0.6s						
TROD	**Troodos**	**3.65**	**112**	P	**Pn**	**17 43 22.3**	**-0.7**
APOL	**The Sanctuary**	**3.77**	**116**	P	**Pn**	**17 43 24.4**	**0.0**
APOL				S	**Sn**	**17 44 10.7**	**+1.9**
APOL				AML	AML	17 44 12.4	
	0.4nm,0.5s						
APOL				AML	AML

HWQ Hawqa 6.25 108 *eP* **Pn 17 43 58.3 -0.3**
BEIL Beino 6.34 105 *eP* **Pn 17 43 59.0 -0.8**
QRWL Qaraoun 6.36 115 *eP* **Pn 17 43 59.3 -0.8**
ZAHL Zahle 6.37 111 *eP* **Pn 17 43 58.8 -1.5**
OFRI `Ofer 6.37 124 P **Pn 17 43 60.0 -0.3**
MMA0B Mount Meron ar 6.43 120 P **Pn 17 44 00.2 -0.9**
MMAI Mount Meron Ar 6.43 120 Pn **Pn 17 44 00.3 -0.8**
18nm,0.3s,baz=306,slow=12,SNR=61
MMAI Sn **Sn 17 45 11.3 -3.2**
14nm,0.3s,baz=306,slow=27,SNR=7.5
MMAI LR LR 17 47 27.3
comp=Z,94nm,21.0s,baz=302,slow=47
10nm,0.3s
RCY Rachaya 6.49 114 *eP* **Pn 17 44 01.1 -1.0**
SHBL Chebaa 6.50 116 *eP* **Pn 17 44 01.2 -0.9**
GEM Giv'at Ha'Em 6.51 117 P **Pn 17 44 01.6 -0.5**
GEM Giv'at Ha'Em 6.51 117 S **Sn 17 45 14.4 -2.0**
NATI Neve Ativ 6.54 117 P **Pn 17 44 01.8 -0.7**
FKH Fakeheh 6.62 107 *eP* **Pn 17 44 03.0 -0.7**
SLTI Sal'it 6.65 127 P **Pn 17 44 02.3 -1.8**
KSHT Keshet 6.74 118 P **Pn 17 44 05.0 -0.3**
GRG Griva 6.74 314 P **Pn 17 44 08.6 +3.3**
GRG pmax pmax
comp=Z,55nm,0.7s
MMLI Mount Malkishu 6.78 124 P **Pn 17 44 05.8 -0.1**
MMLI Mount Malkishu 6.78 124 S **Sn 17 45 21.2 -1.9**
NYDR Nydri-Lefkada 6.81 292 P **Pn 17 44 06.7 +0.5**
EVGI Lefkada island 6.81 291 P **Pn 17 44 07.6 +1.3**
GAZ Gaziantep 6.83 81 Pn 17 44 04.9 -1.7
HNAT Natroun 6.92 166 P **Pn 17 44 07.2 -0.6**
KOT Kottamia 6.95 157 P **Pn 17 44 07.9 -0.3**
KOT S **Sn 17 45 21.1 -6.1**
HMDT Nahal Hemdat 6.96 124 P **Pn 17 44 08.3 0.0**
HHAG Hagoal 7.01 155 P **Pn 17 44 08.9 -0.2**
AMAZ Amatzia 7.05 132 P **Pn 17 44 08.5 -1.1**
AMAZ Amatzia 7.05 132 S **Sn 17 45 26.7 -3.1**
PENT Pentalofos 7.09 305 P **Pn 17 44 10.9 +0.7**
UJAP Al Uja 7.11 127 P **Pn 17 44 09.7 -0.6**
BALJ Balqa 7.14 125 Pn 17 44 09.7 -1.1
KZIT Kziot 7.22 138 P **Pn 17 44 11.1 -0.8**
KZIT Kziot 7.22 138 S **Sn 17 45 29.9 -3.9**
YTIR Yattir 7.29 132 P **Pn 17 44 12.1 -0.9**
DSI Dead Sea 7.31 129 P **Pn 17 44 12.3 -0.8**
DSI Dead Sea 7.31 129 S **Sn 17 45 33.9 -2.2**
RAZG Razgrad 7.37 347 ⇑P **Pn 17 44 15.8 +1.9**
RYAN Fayoum 7.40 170 P **Pn 17 44 13.8 -0.6**
RYAN S **Sn 17 45 32.3 -6.2**
MSBI Mazada 7.47 131 P **Pn 17 44 14.8 -0.6**
GHAJ Ghor Haditha 7.61 130 Pn 17 44 17.1 -0.1
GHAJ Ghor Haditha 7.61 130 P **Pn 17 44 17.4 +0.2**
SWA2 7.65 202 P **Pn 17 44 17.9 +0.1**
ICOR Ion Corvin 7.75 355 ⇓P **Pn 17 44 20.9 +1.8**
ZAF Zafarana 7.78 155 P **Pn 17 44 19.6 +0.1**
ZNM Zenema 7.81 153 P **Pn 17 44 20.0 0.0**
ASF Jabal al Asfar 7.95 120 Pn **Pn 17 44 21.4 -0.5**
comp=Z,2.0nm,0.3s,baz=328,slow=5.0,SNR=11
ASF LR LR 17 48 25.7
comp=Z,76nm,19.5s,baz=333,slow=45
comp=Z,4.2nm,0.3s
PRNI Paran 7.97 137 P **Pn 17 44 20.7 -1.6**
PRNI Paran 7.97 137 S **Sn 17 45 47.7 -4.8**
KRMI Paran Flat 8.01 140 P **Pn 17 44 21.1 -1.7**
KRMI Paran Flat 8.01 140 S **Sn 17 45 50.2 -3.2**
NBNS Bani Suef 8.04 164 P **Pn 17 44 21.9 -1.3**
TIRR Tirgusor 8.06 358 Pn 17 44 23.9 +0.6
TIRR Tirgusor 8.06 358 P **Pn 17 44 23.9 +0.6**
HRFI Mount Harif 8.24 139 P **Pn 17 44 24.8 -1.2**
HRFI Mount Harif 8.24 139 S **Sn 17 45 55.0 -4.1**
HARR Harsova 8.31 356 ⇓P **Pn 17 44 27.8 +0.9**
HARR Harsova 8.31 356 P **Pn 17 44 27.7 +0.9**
MBRI Mt Berech 8.37 140 P **Pn 17 44 26.3 -1.4**
MBRI Mt Berech 8.37 140 S **Sn 17 45 58.0 -4.3**
TPGR Topolog 8.46 358 ⇑P **Pn 17 44 31.0 +2.2**
EIL Elat 8.48 140 Pn **Pn 17 44 28.2 -1.1**
comp=Z,9.8nm,0.3s,baz=328,slow=4.4,SNR=70
EIL Sn **Sn 17 46 00.8 -4.2**
comp=Z,16nm,0.3s,baz=125,slow=24,SNR=11
EIL LR LR 17 49 26.1
comp=Z,62nm,18.6s,baz=20,slow=50
comp=Z,20nm,0.3s
EIL Elat 8.48 140 P **Pn 17 44 27.8 -1.5**
TLCR 8.78 0 ⇑P **Pn 17 44 34.4 +1.1**
TLCR 8.78 0 P **Pn 17 44 34.4 +1.1**
CFR Carcaliu 8.79 357 ⇑P **Pn 17 44 34.6 +1.2**
CFR Carcaliu 8.79 357 P **Pn 17 44 34.5 +1.2**
SCTE Santa Cesarea 8.89 297 P **Pn 17 44 37.1 +2.4**
SEV Sevastopol' 8.96 23 *eP* **Pn 17 44 36.9 +1.2**
SEV Pm 17 44 44.7
comp=Z,4.0nm,0.3s
BOVS Bovan 9.03 325 ⇓P **Pn 17 44 39.3 +2.7**
YAL Yalta 9.07 25 *eP* **Pn 17 44 40.1 +2.9**
YAL pmax pmax
comp=Z,7.0nm,0.4s
YAL Yalta 9.07 25 *eP* **Pn 17 44 40.1 +2.9**
YAL Pm 17 44 44.2
comp=Z,7.0nm,0.4s
NEHR Nehoiu 9.21 349 ⇓P **Pn 17 44 41.1 +1.9**
HFRF Wahat Farafira 9.23 182 P **Pn 17 44 38.1 -1.4**
MLR Muntele Rosu 9.33 348 Pn **Pn 17 44 42.1 +1.2**
comp=Z,0.5nm,0.3s,baz=178,slow=2.4,SNR=20
MLR Muntele Rosu 9.33 348 ⇓P **Pn 17 44 43.7 +2.7**
MLR Muntele Rosu 9.33 348 P **Pn 17 44 43.6 +2.7**
MLR Muntele Rosu 9.33 348 P **Pn 17 44 43.2 +2.3**
comp=Z,45nm,1.0s
VLDR Vladesti 9.45 357 ⇓P **Pn 17 44 44.9 +2.4**
VOIR 9.46 344 ⇓P **Pn 17 44 45.0 +2.4**
VOIR 9.46 344 P **Pn 17 44 45.0 +2.4**
PDG Podgorica 9.50 312 Pn 17 44 45.9 +2.8
PDG Podgorica 9.50 312 ⇑P **Pn 17 44 46.1 +2.9**
PLOR5 Plostina Array 9.57 351 P **Pn 17 44 46.6 +2.4**
comp=Z,27nm,0.9s
PLOR Plostina 9.58 351 ⇑P **Pn 17 44 46.2 +1.9**
PLOR Plostina 9.58 351 P **Pn 17 44 46.1 +1.9**
DNZ2 Donuzlav2 9.58 19 *eP* **Pn 17 44 47.1 +2.9**
DNZ2 Pm 17 44 50.0
comp=Z,15nm,0.3s
PLOR3 Plostina Array 9.58 351 P **Pn 17 44 46.7 +2.4**
comp=Z,31nm,1.0s
VRI Vrincioaia 9.58 351 ⇓P **Pn 17 44 46.7 +2.4**
VRI Vrincioaia 9.58 351 P **Pn 17 44 46.7 +2.4**
VRI Vrincioaia 9.58 351 P **Pn 17 44 46.3 +2.0**
comp=Z,20nm,0.6s
COVR Voineasa-Covas 9.63 349 ⇓P **Pn 17 44 47.6 +2.5**
DOPR Dopca 9.89 346 ⇑P **Pn 17 44 50.8 +2.2**
TIP Timpagrande 9.89 290 Pn 17 44 49.8 +1.2
TIP Timpagrande 9.89 290 ⇑P **Pn 17 44 50.4 +1.8**
TIP Timpagrande 9.89 290 P **Pn 17 44 50.2 +1.6**
comp=Z,21nm,0.9s
TIP Timpagrande 9.89 290 P **Pn 17 44 50.0 +1.4**
MDVR Moldovita 9.94 330 ⇑P **Pn 17 44 51.6 +2.4**
OZUR 9.95 348 ⇓P **Pn 17 44 51.6 +2.3**
GZR Gura Zlata 10.06 335 ⇓P **Pn 17 44 52.0 +1.1**
GZR Gura Zlata 10.06 335 P **Pn 17 44 51.9 +1.1**
ONER Baraj Valea Uz 10.09 351 ⇑P **Pn 17 44 53.5 +2.3**
TESR Tescani 10.23 352 ⇓P **Pn 17 44 54.8 +1.7**
TESR Tescani 10.23 352 P **Pn 17 44 54.9 +1.7**
comp=Z,18nm,0.7s
MATE Matera 10.35 298 ⇑P **Pn 17 44 58.0 +3.3**
MILM Milestii Mici 10.52 0 ⇑P **Pn 17 44 58.6 +1.5**
MILM Milestii Mici 10.52 0 P **Pn 17 44 58.5 +1.5**
BZS Buzias 10.67 332 ⇑P **Pn 17 45 01.8 +2.6**
BZS Buzias 10.67 332 P **Pn 17 45 01.7 +2.6**
CUC Castrocucco 10.80 293 Pn 17 45 02.9 +1.9
SOC Sochi 11.05 46 *eP* **Pn 17 45 03.2 -1.1**
SOC *e* 17 47 08.7
SOC MLR MLR
comp=Z,52nm,13.0s
BURAR Bucovina Array 11.51 348 Pn 17 45 12.9 +2.1
BURAR Bucovina Array 11.51 348 ⇑P **Pn 17 45 13.9 +3.1**
BURAR Bucovina Array 11.51 348 P **Pn 17 45 13.9 +3.1**
BUR08 Bucovina Ar. S 11.54 348 Pn 17 45 13.2 +1.9
SORM Soroca 11.74 359 ⇑P **Pn 17 45 14.6 +0.9**
SORM Soroca 11.74 359 P **Pn 17 45 14.6 +0.9**
BERU Beregovo 12.66 341 P **Pn 17 45 28.6 +2.3**
SHA1 Shidzhatmaz 12.92 51 *i* P **Pn 17 45 32.1 +2.0**
HORU Horodok 12.92 353 P **Pn 17 45 32.2 +2.2**
HORU Horodok 12.92 353 P **Pn 17 45 32.2 +2.2**
KIV Kislovodsk 13.05 50 *eP* **Pn 17 45 33.3 +1.6**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,22nm,13.0s

KBZ Khabaz 13.07 52 Pn **Pn 17 45 36.5 +4.6**
comp=Z,0.1nm,0.3s,baz=200,slow=6.8,SNR=7.2
comp=Z,0.6nm,0.7s
KBZ Khabaz 13.07 52 *i* P **Pn 17 45 33.5 +1.6**
GNI Garni 13.11 69 LR LR 17 51 54.9
comp=Z,126nm,21.9s,baz=275,slow=43
PSZ Piszkesteto 13.25 333 P **Pn 17 45 38.7 +4.3**
PSZ pmax pmax
comp=Z,5.0nm,1.1s
KOLS Kolonicke sedl 13.40 341 *eP* **P 17 45 49.0 +3.0**
KECS Kecovo 13.52 336 *eP* **P 17 45 52.0 +4.6**
MPLH Magyarpolny 13.62 326 P **Pn 17 45 41.6 +2.2**
comp=Z,19nm,1.2s
VYHS Vyhne 14.12 332 *eP* P 17 45 59.6 +5.6
VYHS *e* 18 01 57.9
AK07 Malin Array Si 14.15 1 P **Pn 17 45 49.0 +2.3**
AK10 Malin Array Si 14.20 1 P **Pn 17 45 50.0 +2.6**
AK09 Malin Array Si 14.22 1 P **Pn 17 45 50.2 +2.6**
AK05 Malin Array Si 14.22 1 P **Pn 17 45 50.1 +2.4**
AK02 Malin Array Si 14.26 1 P **Pn 17 45 50.7 +2.5**
AK16 Malin Array Si 14.27 1 P **Pn 17 45 50.9 +2.6**
AKASG Malin Array Be 14.30 1 Pn **Pn 17 45 49.8 +1.0**
comp=Z,0.4nm,0.3s,baz=190,slow=12,SNR=2.7
comp=Z,0.1nm,0.3s
AK04 Malin Array Si 14.32 1 P **Pn 17 45 51.7 +2.6**
SOKA Soboth 14.51 319 *e*Pn **Pn 17 45 54.5 +2.7**
comp=Z,5.3nm,1.4s
MI28 Mi28,Pidlybu 14.55 357 P **Pn 17 45 54.8 +2.6**
RONA Rosalia, Austr 14.58 325 *e*Pn **Pn 17 45 54.7 +2.0**
comp=Z,7.4nm,1.7s
ARSA Arzberg 14.64 322 *i* Pn **Pn 17 45 55.9 +2.5**
comp=Z,4.5nm,1.0s
MODS Modra-Piesok 14.65 328 *eP* **P 17 46 01.2 +1.3**
MODS Modra-Piesok 14.65 328 *eP* **P 17 46 01.2 +1.3**
OBKA Obir 14.66 318 *e*Pn **Pn 17 45 53.0 -0.8**
comp=Z,8.8nm,1.6s
CONA Conrad Observa 14.95 324 *e*Pn **Pn 17 45 58.8 +1.1**
comp=Z,4.9nm,1.4s
RNPP5 Staryi Chortor 14.97 353 P **Pn 17 46 00.5 +2.6**
MYKA Terra Mystica 15.23 317 *e*Pn **Pn 17 46 03.2 +1.8**
comp=Z,0.9nm,0.4s
VRAC Vranov 15.66 329 Pn **P 17 46 09.6 -1.4**
comp=Z,0.4nm,0.3s,baz=134,slow=11,SNR=5.7
comp=Z,1.0nm,0.3s
KBA Koelnbreinsper 15.66 318 P **Pn 17 46 09.5 +2.3**
KBA Koelnbreinsper 15.66 318 *e*Pn **P 17 46 12.5 +1.2**
comp=Z,15nm,1.2s
MOA Molln 15.67 321 *i* Pn **P 17 46 10.9 -0.4**
comp=Z,7.1nm,1.3s
KEST Kesra 15.71 273 Pn 17 46 09.5 +1.7
KEST Kesra 15.71 273 Pn **Pn 17 46 08.2 +0.4**
comp=Z,0.5nm,0.3s,baz=170,slow=3.2,SNR=7.1
KEST LR LR 17 52 37.1
comp=Z,70nm,18.1s,baz=287,slow=39
comp=Z,5.0nm,1.0s
BIOA Bad Ischl, Aus 15.89 320 *e*Pn **P 17 46 14.1 +0.4**
comp=Z,4.3nm,1.1s
ABTA Abfaltersbach 15.93 316 *i* Pn **P 17 46 14.4 +0.2**
comp=Z,5.0nm,0.8s
CTI Castel Tesino 16.05 312 Pn 17 46 12.7 +0.6
CTI IAmb IAmb 17 46 19.7
comp=Z,12nm,1.0s
CTI Castel Tesino 16.05 312 P **Pn 17 46 12.7 +0.6**
CTI pmax pmax
comp=Z,13nm,1.0s
TREC Trest 16.12 327 P **P 17 46 16.0 -0.2**
TREC pmax pmax
comp=Z,9.0nm,1.5s
KRLC Kraliky 16.19 331 *eP* **P 17 46 20.0 +3.0**
KRLC Kraliky 16.19 331 *eP* **P 17 46 20.0 +3.0**
LESA Schwarzleotal 16.23 318 *e*Pn **P 17 46 20.2 +2.7**
comp=Z,3.3nm,0.7s
CKRC Cesky Krumlov 16.31 324 *eP* **P 17 46 21.5 +3.2**
CKRC Cesky Krumlov 16.31 324 *eP* **P 17 46 21.5 +3.2**
DPC Dobruska-Polom 16.59 331 *eP* **P 17 46 24.8 +3.4**
DPC Dobruska-Polom 16.59 331 *eP* **P 17 46 24.8 +3.4**
DPC Dobruska-Polom 16.59 331 P **P 17 46 21.3 -0.1**
comp=Z,11nm,1.4s
GEC2 GERESS Array S 16.62 323 P **P 17 46 23.7 +1.9**
GEC2 IAmb IAmb 17 46 29.3
comp=Z,15nm,0.9s
GERES GERESS Array B 16.62 323 P 17 46 23.9 +2.1
GERES GERESS Array B 16.62 323 Pn **P 17 46 22.1 +0.3**
baz=140,slow=10,SNR=21
comp=Z,2.8nm,0.7s
WTTA Wattenberg 16.72 316 *e*Pn **P 17 46 23.8 +0.8**
comp=Z,5.0nm,1.1s
WATA Walderalm 16.79 316 *i* Pn **P 17 46 25.2 +1.4**
comp=Z,6.1nm,1.1s
ZVC Zvikov 16.80 325 *eP* **P 17 46 30.1 +6.3**
UPC Upice 16.83 331 P **P 17 46 24.1 0.0**
UPC pmax pmax
comp=Z,12nm,1.3s
KHC Kasperske Hory 16.88 324 *eP* **P 17 46 28.0 +3.4**
KHC Kasperske Hory 16.88 324 *i* P **Pn 17 46 24.0 +1.5**
KHC Kasperske Hory 16.88 324 P **P 17 46 24.9 +0.3**
CHVC Chvalec 16.88 331 *eP* **P 17 46 31.2 +6.6**
CHVC Chvalec 16.88 331 *eP* **P 17 46 31.2 +6.6**
SQTA Sankt Quirin 16.93 315 *i* Pn **Pn 17 46 23.9 +0.5**
comp=Z,7.3nm,1.1s
PRU Pruhonice 17.05 327 *eP* **P 17 46 30.9 +4.5**
PRU Pruhonice 17.05 327 *eP* **P 17 46 30.9 +4.5**
MOTA Moosalm 17.06 315 *i* Pn **Pn 17 46 24.3 -0.8**
comp=Z,5.8nm,1.1s
FETA Feichten 17.10 314 *i* Pn **P 17 46 28.2 +1.0**
comp=Z,6.1nm,0.9s
FUORN Ofenpass-Fuorn 17.17 312 Pn 17 46 25.9 -0.6
FUORN IAmb IAmb 17 46 50.4
comp=Z,18nm,1.5s
WET Wettzell 17.22 323 P **P 17 46 33.3 +4.9**
WET pmax pmax
comp=Z,18nm,0.9s
RETA Reutte 17.33 315 *e*Pn **P 17 46 30.8 +1.1**
comp=Z,3.6nm,0.9s
PVCC Panska Ves 17.44 329 P **P 17 46 32.9 +2.2**
PVCC pmax pmax
comp=Z,19nm,1.1s
DAVOX Davos/Dischmat 17.48 312 P **Pn 17 46 30.9 +0.6**
comp=Z,0.1nm,0.3s,baz=161,slow=18,SNR=2.9
DAVOX LR LR 17 54 07.9
comp=Z,62nm,18.4s,baz=83,slow=40
comp=Z,0.8nm,0.5s
DAVA Damuels 17.73 314 *e*Pn **P 17 46 36.6 +2.3**
comp=Z,4.0nm,0.8s
SUW Suwalki 18.04 349 P **Pn 17 46 37.2 +0.3**
SUW Suwalki 18.04 349 P **Pn 17 46 37.2 +0.3**
NACGM Naroch 18.56 356 *eP* **P 17 46 42.3 -0.8**
CLL Collm 18.68 328 *eP* **P 17 46 45.0 +0.6**
CLL Collm 18.68 328 *eP* **P 17 46 45.0 +0.6**
CLL *es*P **pwP 17 46 50.0 0.0**
CLL *e*(PP) 17 47 00.0
MOX Moxa 18.84 324 P **Pn 17 46 49.5 +2.8**
MOX pmax pmax
comp=Z,16nm,1.1s
SENIN Lac Senin/Sane 18.88 308 IAmb IAmb 17 46 56.7
comp=Z,6.7nm,0.7s
RAYN Ar Rayn 19.33 127 P **P 17 46 50.4 -1.4**
RAYN Ar Rayn 19.33 127 P **P 17 46 50.4 -1.4**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
OBN Obninsk 19.48 14 *i* P **P 17 46 53.3 +0.2**
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,75nm,18.0s
VSU Vasula 22.12 357 *ce*P **P 17 47 22.3 +0.7**
VSU pmax pmax
comp=Z,16nm,1.0s
VSU Vasula 22.12 357 *eP* **P 17 47 22.9 +1.2**
MTSE Matsula 22.57 353 *eP* **P 17 47 27.4 +1.0**
ARBE Arbavere 23.13 356 *eP* **P 17 47 34.1 +1.8**
MEF Metsahovi 24.00 355 *eP* **P 17 47 41.9 +1.0**
RAF Rauma 25.05 352 *eP* **P 17 47 51.9 +1.5**
FINES FINESS Array B 25.13 357 P 17 47 51.2 +0.1
FINES FINESS Array B 25.13 357 P **P 17 47 51.3 +0.2**
comp=Z,10.0nm,0.5s,baz=158,slow=9.5,SNR=38
FINES PcP **PcP 17 51 24.2 -0.7**
comp=Z,1.7nm,0.9s,baz=158,slow=5.6,SNR=6.0
comp=Z,10.0nm,0.5s
FINES FINESS Array B 25.13 357 *i* P **P 17 47 51.2 +0.1**
FINES pmax pmax
comp=Z,10.0nm,0.5s
KLMR Klimovskoe 25.42 12 *eP* **P 17 47 50.4 -3.4**
KLMR pmax pmax
comp=Z,13nm,1.0s

HFS Hagfors 25.66 343 P **P 17 47 55.1 -0.9**
comp=Z,1.2nm,0.4s,baz=158,slow=16,SNR=5.5
comp=Z,1.2nm,0.4s
ESDC Sonseca Array 25.90 287 P **P 17 47 56.9 -1.5**
comp=Z,0.6nm,0.5s,baz=80,slow=9.1,SNR=8.7
ESDC LR LR 17 57 24.5
comp=Z,61nm,18.2s,baz=170,slow=35
comp=Z,0.6nm,0.5s
KEF Keuruu 25.91 356 *e*P **P 17 47 59.5 +1.3**
NOA NORSAR Array B 27.06 341 P **P 17 48 08.9 +0.2**
comp=Z,0.2nm,0.5s,baz=143,slow=8.9,SNR=4.4
comp=Z,0.2nm,0.5s
MDT Midelt 27.61 272 LR LR 18 01 20.2
comp=Z,37nm,18.6s,baz=358,slow=41
ARCES ARCESS Array B 33.24 358 P **P 17 49 02.8 -0.4**
comp=Z,4.6nm,0.9s,baz=170,slow=2.1,SNR=5.0
comp=Z,4.6nm,0.9s
BVAR Borovoye Array 33.38 47 LR LR 18 06 48.7
comp=Z,48nm,19.1s,baz=279,slow=44
AAK Ala-Archa 35.49 66 LR LR 18 07 57.1
comp=Z,48nm,18.4s,baz=263,slow=43
KURBB Kurchatov Arra 38.06 52 P **P 17 49 44.0 -0.8**
comp=Z,1.4nm,0.6s,baz=276,slow=8.8,SNR=14
KURBB PcP **PcP 17 51 59.4 -0.5**
comp=Z,0.4nm,0.4s,baz=275,slow=3.9,SNR=4.1
comp=Z,1.4nm,0.6s
KURK Kurchatov 38.13 52 **P 17 49 44.0 -1.4**
KURK IAmb IAmb 17 49 50.7
comp=Z,3.0nm,0.9s
KURK Kurchatov 38.13 52 *ce*P **P 17 49 46.4 +1.1**
KURK pmax pmax
comp=Z,4.0nm,1.0s
MK31 Makanchi Array 40.65 58 *ce*P **P 17 50 05.7 -0.8**
MKAR Makanchi Array 40.65 58 P **P 17 50 05.5 -1.0**
MKAR Makanchi Array 40.65 58 P **P 17 50 05.7 -0.8**
comp=Z,1.7nm,0.6s,baz=275,slow=7.2,SNR=22
comp=Z,1.7nm,0.6s
MKAR Makanchi Array 40.65 58 *ce*P **P 17 50 05.6 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 42.03 47 P **P 17 50 16.2 -1.5**
comp=Z,1.2nm,0.6s,baz=275,slow=8.6,SNR=5.0
comp=Z,1.2nm,0.6s
ZALV Zalesovo Beam 42.03 47 *i* P **P 17 50 18.7 +1.0**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
SPITS Spitsbergen Ar 42.22 356 P **P 17 50 18.9 0.0**
comp=Z,1.1nm,0.5s,baz=150,slow=12,SNR=6.3
comp=Z,1.1nm,0.5s
DBIC Dimbokro 42.64 234 P **P 17 50 22.0 -1.0**
comp=Z,1.4nm,0.4s,baz=8.9,slow=7.8,SNR=4.5
comp=Z,1.4nm,0.4s
NRIK Noril'sk 45.52 25 P **P 17 50 45.4 -0.2**
comp=Z,0.9nm,0.5s,baz=191,slow=10,SNR=1.6
comp=Z,0.9nm,0.5s
LSZ Lusaka 51.39 181 LR LR 18 13 51.7
comp=Z,106nm,18.8s,baz=310,slow=37
YAK Yakutsk 63.33 31 LR LR 18 25 41.9
comp=Z,37nm,18.8s,baz=210,slow=41
CMAR Chiang Mai Arr 63.55 86 P **P 17 52 56.6 -0.6**
comp=Z,0.7nm,0.8s,baz=302,slow=8.9,SNR=5.8
comp=Z,0.7nm,0.8s
KSRS Korea Array 75.20 54 P **P 17 54 08.5 -0.6**
comp=Z,1.5nm,0.8s,baz=312,slow=5.2,SNR=4.7
KSRS LR LR 18 32 58.6
comp=Z,16nm,19.4s,baz=220,slow=40
comp=Z,1.5nm,0.8s
YKA Yellowknife Ar 77.14 343 P **P 17 54 19.0 -0.6**
comp=Z,0.1nm,0.5s,baz=36,slow=6.0,SNR=2.5
comp=Z,0.1nm,0.5s
QSPA South Pole Qui 126.24 180 PKP **PKPdf 18 01 27.0 -1.1**
comp=Z,0.7nm,0.6s,baz=156,slow=1.4,SNR=3.2

---

*REN **15** 17:55:57.7±0.9, 37.°38N±0.°02×118.°54W±0.°01, h10km±6km, Error ellipse: s-maj=2.4km s-min=1.5km az=178.0*
*NCEDC **15** 17:55:58.0±1.0, 37.°38N±0.°02×118.°54W±0.°02, h9km±7km, Mwr3.9/3, ML3.8/130(NEIC), ML3.9/30(REN), Error ellipse: s-maj=2.8km s-min=2.2km az=217.0*
*NEIC **15** 17:55:57.8±1.1, 37.°391N±0.°009×118.°53W±0.°02, h12km±6km, Error ellipse: s-maj=2.5km s-min=1.2km az=77.0*
*IDC **15** 17:55:58.0±0.9, 37.°41N×118.°54W, h0km, mb3.5/2, mbtmp3.5/6, ML3.8/4, MS3.1/6, Error ellipse: s-maj=12.7km s-min=7.1km az=87.0*

ISC 15 17:55:58.2±0.8, 37.°38N±0.°02×118.°54W±0.°02, h11km±5km, n194, σ1§11/187, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUM	**Tungsten Hills**	**0.04**	**218**		**Pg**	**17 55 60.0**	**-0.5**
BHPR	**Bishop**	**0.09**	**155**		**Pg**	**17 56 00.7**	**-0.3**
MFBM	**Five Bridges**	**0.10**	**61**		**Pg**	**17 56 01.0**	**0.0**
MCDM	**Chidago Canyon**	**0.18**	**24**		**Pg**	**17 56 02.3**	**+0.1**
POCCA	**Poleta Canyon**	**0.20**	**95**		**Pg**	**17 56 02.5**	**-0.1**
POCCA					**Sg**	**17 56 05.9**	**+0.2**
MLNR	**Milner Canyon**	**0.26**	**36**		**Pg**	**17 56 03.6**	**-0.1**
MRCM	**Red Rock Canyo**	**0.29**	**5**		**Pg**	**17 56 04.0**	**-0.3**
MCVM	**Convict Lake**	**0.31**	**312**		**Pg**	**17 56 04.3**	**-0.3**
BENR	**Benton**	**0.33**	**355**		**Pg**	**17 56 04.6**	**-0.4**
BCKR	**Birch Creek**	**0.34**	**22**		**Sb**	**17 56 10.4**	**-1.5**
MDRNC	**Doe Ridge**	**0.35**	**317**		**Pg**	**17 56 05.3**	**0.0**
MLHM	**Little Hot Cre**	**0.37**	**323**		**Pg**	**17 56 05.8**	**+0.1**
MLCM	**Laurel Creek C**	**0.38**	**307**		**Pg**	**17 56 05.5**	**-0.3**
MCBM	**Casa Benchmark**	**0.39**	**313**		**Pg**	**17 56 06.0**	**0.0**
MCBM					**Sg**	**17 56 11.7**	**+0.5**
MCSM	**Casa Diablo Ho**	**0.40**	**313**		**Pg**	**17 56 06.2**	**0.0**
TIN	**Tinemaha, Big**	**0.41**	**143**		**Pg**	**17 56 06.3**	**+0.1**
TIN					**Sg**	**17 56 12.5**	**+0.8**
MEMM	**East Mammoth H**	**0.43**	**312**		**Pg**	**17 56 06.7**	**-0.1**
MMLB	**Mammoth Lakes**	**0.45**	**308**		**Pg**	**17 56 07.0**	**-0.1**
MGNR	**McGee Canyon**	**0.45**	**344**		**Pg**	**17 56 07.0**	**-0.1**
DSP	**Deep Springs**	**0.45**	**91**		**Pg**	**17 56 06.9**	**-0.1**
DSP				IAML		17 56 13.6	
	comp=E,8μm,0.6s						
DSP				IAML		17 56 14.1	
	comp=N,5μm,0.9s						
DSP	**Deep Springs**	**0.45**	**91**		**Sg**	**17 56 13.2**	**+0.2**
MMPM	**Mammoth Pass**	**0.45**	**300**		**Pg**	**17 56 06.8**	**-0.3**
MLIM	**Lincoln Peak**	**0.46**	**304**		**Pg**	**17 56 07.2**	**-0.1**
MRDM	**Red Cones**	**0.47**	**298**		**Pg**	**17 56 07.2**	**-0.3**
LMCR	**Lookout Mounta**	**0.47**	**317**		**Pg**	**17 56 07.8**	**+0.2**
MINS	**Minaret Summit**	**0.50**	**303**		**Pg**	**17 56 07.7**	**-0.3**
MINS					**Sg**	**17 56 14.7**	**0.0**
MDPB	**Devils Postpil**	**0.50**	**300**		**Pg**	**17 56 07.7**	**-0.3**
MDPB					**Sg**	**17 56 14.5**	**-0.1**
MDPB	**Devils Postpil**	**0.50**	**300**	IAML		17 56 14.7	
	comp=E,15μm,0.6s						
MDPB				IAML		17 56 15.1	
	comp=N,14μm,0.7s						
MDCM	**Deadman Creek**	**0.52**	**309**		**Pg**	**17 56 08.1**	**-0.3**
ANTCA	**Antelope Range**	**0.54**	**358**		**Pg**	**17 56 08.3**	**-0.3**
KCC	**Kaiser Creek**	**0.63**	**265**		**Pg**	**17 56 09.8**	**-0.5**
KCC					**Sg**	**17 56 18.0**	**-0.6**
LUL	**Lundy Lake**	**0.84**	**323**		**Pg**	**17 56 14.4**	**-0.1**
LHV	**Little Huntoon**	**0.87**	**2**		**Pg**	**17 56 14.6**	**-0.3**
LHV				IAML		17 56 31.5	
	comp=N,3μm,0.6s						
LHV				IAML		17 56 41.4	
	comp=E,3μm,0.7s						
LHV	**Little Huntoon**	**0.87**	**2**		**Sb**	**17 56 26.6**	**-0.3**
MZP	**Montezuma Peak**	**0.97**	**71**		**Pg**	**17 56 16.3**	**-0.6**
MZP	**Montezuma Peak**	**0.97**	**71**		**Sg**	**17 56 29.3**	**-0.3**
CWC	**Cottonwood Cre**	**1.01**	**159**		**Pg**	**17 56 16.7**	**-0.9**
CWC					**Sg**	**17 56 30.2**	**-0.5**
GRAC	**Grapevine Rang**	**1.01**	**112**		**Pg**	**17 56 17.4**	**-0.3**
GRAC	**Grapevine Rang**	**1.01**	**112**		**Sn**	**17 56 31.9**	**-0.6**
FRI	**Friant**	**1.01**	**248**		**Pg**	**17 56 16.7**	**-1.0**
CGO	**Cerro Gordo**	**1.02**	**145**		**Pg**	**17 56 16.8**	**-1.0**
NV08	**Mina Array Sit**	**1.03**	**10**		**Pg**	**17 56 17.6**	**-0.5**
NVAR	**Mina Array Bea**	**1.06**	**10**		**Pg**	**17 56 17.9**	**-0.8**
NVAR	**Mina Array Bea**	**1.06**	**10**	Pg	**Pg**	**17 56 18.1**	**-0.5**
	comp=E,272nm,0.3s,baz=188,slow=18,SNR=1491						
NVAR				Lg	Lg	17 56 31.2	
	comp=E,230nm,0.3s,baz=185,slow=31,SNR=6.2						
NVAR				LR	LR	17 56 42.2	
	comp=E,134nm,21.6s,baz=20,slow=41						
NV09	**Mina Array Sit**	**1.06**	**9**		**Pg**	**17 56 18.2**	**-0.5**
TVH1	**TV Hill, Hawth**	**1.09**	**350**		**Pg**	**17 56 18.8**	**-0.4**
NV11	**Mina Array Sit**	**1.09**	**16**	Pg	**Pg**	**17 56 18.5**	**-0.7**
NV11				IAML		17 56 34.4	
	comp=E,1μm,1.1s					

SPG2	Springville 2	1.19	189		Pb	17 56 20.0	-0.8
RYN	Ryan	1.24	0		Pn	17 56 21.5	-0.2
RYN				IAML		17 56 39.2	
	comp=E,1μm,0.5s						
RYN				IAML		17 56 39.3	
	comp=N,1μm,0.3s						
RYN	Ryan	1.24	0		Sn	17 56 38.5	-0.1
VOG	Valley Oaks Go	1.26	213		Pn	17 56 21.5	-0.2
SGV	South Grapevin	1.27	108		Pn	17 56 21.9	-0.1
SGV					Sg	17 56 38.7	-0.2
LEGD	La Grand CA	1.30	263		Pn	17 56 21.9	-0.3
WAKR	Walker	1.33	328		Pb	17 56 22.9	-0.3
WAKR				IAML		17 56 45.5	
	comp=E,984nm,0.8s						
WAKR	Walker	1.33	328		Sg	17 56 42.3	+1.3
VES	Vestal, Richgr	1.60	196		Pb	17 56 27.4	-0.4
CMB	Columbia Colle	1.61	294		Pn	17 56 26.8	+0.2
CMB				IAML		17 56 50.1	
	comp=E,2μm,0.5s						
WNMM	Nine Mile Cany	1.62	162		Pb	17 56 27.8	-0.3
FURC	Furnace Creek,	1.62	124		Pg	17 56 29.1	-0.2
WCT	Wildcat Mounta	1.64	110		Pn	17 56 27.4	+0.3
WCT				IAML		17 56 55.7	
	comp=E,1μm,0.5s						
WASM	Alta Sierra Ca	1.64	181		Pb	17 56 28.1	-0.4
PWMM	Westland Maint	1.64	235		Pb	17 56 28.5	+0.1
WORM	Onyx Ranch	1.70	172		Pb	17 56 28.8	-0.7
ISA	Isabella, Lake	1.72	178		Pb	17 56 29.1	-0.6
ISA				IAML		17 56 59.0	
	comp=E,1μm,0.7s						
ISA				IAML		17 56 59.2	
	comp=N,2μm,0.6s						
Q09A	Carvers	1.80	36		Pn	17 56 29.5	+0.2
PDRM	Domengine Ranc	1.80	235		Pb	17 56 30.8	-0.5
PKEM	Kettleman Hill	1.83	224		Pb	17 56 31.3	-0.3
TPNV	Topopah Spring	1.88	103		Pn	17 56 30.4	0.0
TPNV				IAML		17 57 04.7	
	comp=N,1μm,0.9s						
TPNV				IAML		17 57 06.5	
	comp=N,1μm,0.7s						
PNTR	Pine Nut	1.90	334		Pn	17 56 31.4	+0.7
PNTR				IAML		17 57 17.9	
	comp=E,764nm,0.8s						
PNTR				IAML		17 57 21.6	
	comp=N,498nm,1.2s						
SDH	Striped Hills	1.91	112		Pn	17 56 31.5	+0.8
GWY	Greenwater Val	1.92	128		Pn	17 56 30.4	-0.5
GWY				IAML		17 57 04.8	
	comp=E,503nm,1.0s						
GWY				IAML		17 57 10.1	
	comp=N,611nm,0.9s						
NSP	Numbskull Pass	1.97	109		Pn	17 56 32.4	+0.8
PJUM	Juniper Ridge	2.01	236		Pn	17 56 33.4	+1.3
AMDNV	Amargosa	2.03	116		Pn	17 56 32.8	+0.4
SCKWR	San Luis Creek	2.03	265		Pb	17 56 34.6	-0.4
CPY	CP-1	2.03	102		Pn	17 56 33.0	+0.5
MAGC	SCE Magundon P	2.04	189		Pb	17 56 35.1	-0.2
CTM	Castle Mountai	2.05	226		Pb	17 56 34.4	-1.0
PSRM	Scobie Ranch	2.07	223		Pn	17 56 34.2	+1.3
CCCA	Chr Cany lake	2.08	153		Pn	17 56 33.7	+0.7
PMRM	Maxey Ranch	2.10	221		Pn	17 56 34.6	+1.3
PSMM	Smith Mountain	2.11	232		Pn	17 56 34.9	+1.4
PHFM	Heflinger Ranc	2.12	226		Pn	17 56 34.7	+1.1
BAVM	Antelope Valle	2.13	251		Pn	17 56 35.0	+1.3
GHC	Gold Hill	2.13	224		Pn	17 56 34.5	+0.8
THIS	South End of C	2.14	220		Pn	17 56 35.2	+1.3
PAGB	Antelope Grade	2.15	220		Pn	17 56 35.2	+1.2
TEJ	El Tejon	2.15	183		Pb	17 56 36.5	-0.7
PKD	Bear Valley Ra	2.16	229		Pn	17 56 35.1	+1.0
BBGB	Big Mountain B	2.16	249		Pn	17 56 35.6	+1.4
PMPB	Monarch Peak	2.16	238		Pn	17 56 35.4	+1.3
PKLM	Kerr Lake	2.17	223		Pn	17 56 35.4	+1.2
SLD	San Luis Dam	2.17	263		Pn	17 56 35.5	+1.3
PPTM	Peach Tree Val	2.17	235		Pn	17 56 35.4	+1.1
PVCM	Vineyard Canyo	2.17	228		Pn	17 56 35.4	+1.1
BEMM	Emmet	2.17	251		Pn	17 56 35.8	+1.5
PHPM	Hope Ranch	2.17	231		Pn	17 56 35.4	+1.0
MCY	Mercury	2.18	108		Pn	17 56 35.5	+1.0
PBPM	Bitterwater Pu	2.19	215		Pn	17 56 35.8	+1.3
TRAM	Private Proper	2.20	220		Pn	17 56 36.0	+1.3
LRV	Little Rabbit	2.21	245		Pn	17 56 36.2	+1.4
HPCM	Pacheco Lake	2.21	262		Pn	17 56 35.9	+1.1
CMPM	Mikes Peak	2.22	270		Pb	17 56 36.5	-1.8
MTOS	Mt Oso, Westle	2.23	274		Pn	17 56 36.3	+1.3
PACP	Pacheco Peak	2.23	261		Pb	17 56 36.8	-1.7
PWKM	Work Ranch	2.23	226		Pn	17 56 36.2	+1.1
TRAY	Twisselman Ran	2.23	216		Pn	17 56 36.2	+1.1
S11A	Rachel	2.23	82		Pn	17 56 34.8	-0.4
MPK	Martis Peak	2.24	329		Pb	17 56 39.4	+0.5
MPK				IAML		17 57 19.0	
	comp=N,731nm,1.0s						
MPK				IAML		17 57 28.9	
	comp=E,436nm,0.9s						
PPO	Portuguese Can	2.25	229		Pn	17 56 36.7	+1.2
TCHL	Shandon	2.26	222		Pn	17 56 37.0	+1.5
ARVC	Arvin	2.26	186		Pb	17 56 38.1	-1.0
CCAC	Calif City Air	2.26	169		Pn	17 56 35.6	0.0
HFEM	San Felipe	2.32	261		Pn	17 56 37.7	+1.3
CARC	Carrizo Plain	2.32	207		Pn	17 56 38.2	+1.8
PSAM	San Ardo	2.33	235		Pn	17 56 38.0	+1.6
CRGC	Crocker Grade	2.34	205		Pb	17 56 38.6	-1.8
GHS	Gilroy Hot Spr	2.34	264		Pn	17 56 38.2	+1.6
SHOC	Shoshone, Teco	2.34	128		Pb	17 56 41.4	+1.0
TSCN	Private Proper	2.34	219		Pn	17 56 38.2	+1.5
BJOM	Mount Johnson	2.35	252		Pn	17 56 38.1	+1.4
TJR	Tejon Ranch	2.36	184		Pb	17 56 39.3	-1.4
CSTL	Corral Hollow	2.37	277		Pb	17 56 39.3	-1.6
CSTL	Corral Hollow	2.37	277		Pn	17 56 38.6	+1.7
CDC	Canada Road	2.38	262		Pn	17 56 39.0	+1.8
BSGM	Shirttail Gulc	2.38	247		Pn	17 56 38.4	+1.2
ARN	Arnold Ranch	2.39	270		Pn	17 56 39.1	+1.8
TCAS	Cass Winery, P	2.41	223		Pn	17 56 38.9	+1.4
SAO	San Andreas Ge	2.41	256		Pn	17 56 39.2	+1.7
SAO	San Andreas Ge	2.41	256	Pn	Pn	17 56 39.2	+1.7
PAHR	Pah Rah Range	2.41	344		Pn	17 56 37.8	+0.1
DONR	Donner Summit	2.42	325		Pn	17 56 39.2	+1.4
SCZ	Santa Cruz	2.42	252		Pn	17 56 39.4	+1.6
SCZ	Santa Cruz	2.42	252	IAML		17 57 14.9	
	comp=E,345nm,0.8s						
SCZ				IAML		17 57 19.5	
	comp=N,300nm,0.6s						
BJCM	Johnson Can.	2.43	251		Pn	17 56 39.4	+1.5
FRP	Fremont Peak	2.44	256		Pn	17 56 39.4	+1.4
PCCM	Crazy Canyon	2.47	239		Pn	17 56 39.9	+1.5
CADM	Anderson Res.	2.47	266		Pn	17 56 40.4	+2.0
MHC	Mount Hamilton	2.48	270		Pn	17 56 40.4	+1.9
CMLM	Mount Lewis	2.48	273		Pn	17 56 40.1	+1.4
PEAR	Peavine Mounta	2.49	334		Pn	17 56 40.2	+1.3
PANM	San Antonio Re	2.49	231		Pn	17 56 40.0	+1.4
BSRM	Salinas Radio	2.49	254		Pn	17 56 40.1	+1.5
HLPM	Lions Peak	2.50	263		Pn	17 56 40.3	+1.6
GSC	Goldstone, Bar	2.50	146		Pn	17 56 38.9	0.0
GSC				IAML		17 57 38.4	
	comp=E,282nm,1.6s						
CBSNC	Byron Hot Spri	2.50	281		Pb	17 56 41.7	-1.5
CCOB	Coe Ranch Numb	2.50	268		Pb	17 56 41.0	-2.1
BSMM	Soledad Missio	2.52	248		Pn	17 56 40.5	+1.3
R11B	Troy Canyon, C	2.53	67		Pn	17 56 39.2	-0.2
HCBM	Chamberlain	2.54	261		Pn	17 56 40.5	+1.2
BCW	Bitter Crk WRg	2.54	196		Pn	17 56 41.4	+2.0
HTUM	Tustin Road	2.54	258		Pn	17 56 40.5	+1.1
PHSB	Hesperia Broad	2.55	233		Pn	17 56 40.7	+1.1
HULI	Fort Hunter Li	2.56	239		Pn	17 56 40.7	+1.1
HULI	Fort Hunter Li	2.56	239	IAML		17 57 19.7	
	comp=N,680nm,0.9s						
HULI				IAML		17 57 24.4	
	comp=E,568nm,0.6s						
RAMR	Ramage Ranch	2.56	228		Pn	17 56 41.0	+1.4
WENL	Wente Vineyard	2.57	276		Pb	17 56 42.5	-1.8
BPCNC	Pine Canyon	2.60	253		Pn	17 56 41.9	+1.7
HERM	Elkhorn Road	2.60	258		Pn	17 56 41.6	+1.4
CMOB	Morgan Territo	2.63	280		Pn	17 56 42.5	+1.9
PTAM	Tassajara Cree	2.65	222		Pn	17 56 40.2	-0.7
BDM	Black Diamond	2.70	283		Pn	17 56 43.7	+2.2
PRN	Pahroc Range	2.78	88		Pn	17 56 43.2	+0.5
PRN				IAML		17 57 33.3	
	comp=N,556nm,0.9s						
PRN				IAML		17 57 38.6	
	comp=E,474nm,0.7s						
SHPR	Sheep Range	2.84	107		Pn	17 56 44.6	+0.9
BEKR	Beckworth	2.86	331		Pn	17 56 45.0	+1.1
BEKR				IAML		17 57 44.5	
	comp=N,203nm,0.6s						
BEKR				IAML		17 57 53.4	
	comp=E,317nm,0.6s						
ORV	Oroville	3.18	314		Pn	17 56 48.5	+0.3
ORV				IAML		17 57 39.5	
	comp=N,188nm,0.8s						
ORV				IAML		17 57 45.2	
	comp=E,279nm,1.0s						
PASC	Pasadena Art C	3.22	175	IAML		17 57 43.7	
	comp=E,357nm,0.9s						
PASC				IAML		17 57 45.0	
	comp=N,255nm,1.0s						
Q12A	Willow Creek R	3.36	59		Pn	17 56 53.0	+2.3
GMRC	Granite Mounta	3.48	137		Pn	17 56 52.4	0.0
MCCM	Marconi Confer	3.53	284		Pn	17 56 52.8	0.0
MCCM				IAML		17 57 47.3	
	comp=E,327nm,1.0s						
MCCM				IAML		17 57 50.3	
	comp=N,220nm,0.9s						
GDXM	Geysers	3.65	294		Pn	17 56 54.4	-0.2
GDXM				IAML		17 57 50.7	
	comp=N,99nm,1.1s						
GDXM				IAML		17 57 57.6	
	comp=E,142nm,1.2s						
ELS	Elsinore Mount	3.83	166		Pn	17 56 57.0	-0.3
ELS				IAML		17 58 05.9	
	comp=N,102nm,0.7s						
ELS				IAML		17 58 06.2	
	comp=E,92nm,0.8s						
PSUT	Pine Spring	3.87	71		Pn	17 56 57.6	-0.3
PSUT				IAML		17 58 06.1	
	comp=N,172nm,0.7s						
PSUT				IAML		17 58 12.9	
	comp=E,144nm,0.9s						
PFO	Pinyon Flats O	4.13	155		Pn	17 57 02.0	+0.7
PFO	Pinyon Flats O	4.13	155	Pn	Pn	17 57 02.3	+1.0
	comp=E,1.7nm,0.3s,baz=336,slow=12,SNR=12						
PFO				Lg	Lg	17 58 11.1	
	comp=E,4.9nm,0.3s,baz=52,slow=23,SNR=6.3						
	comp=E,3.5nm,0.3s						
ELK	Elko	4.23	36		Pn	17 57 03.4	+0.7
ELK				IAML		17 58 13.2	
	comp=E,70nm,0.7s						
ELK				IAML		17 58 13.2	
	comp=E,80nm,0.6s						
ELK	Elko	4.23	36	Pn	Pn	17 57 03.6	+0.9
	comp=E,6.5nm,0.3s,baz=225,slow=14,SNR=78						
ELK				Lg	Lg	17 58 10.5	
	comp=E,2.8nm,0.3s,baz=200,slow=22,SNR=3.7						
ELK				LR	LR	17 59 06.2	
	comp=E,81nm,21.2s,baz=200,slow=45						
	comp=E,19nm,0.3s						
O02D	Mt. Diablo Mer	4.34	311	IAML		17 58 30.8	
	comp=N,109nm,1.1s						
O02D				IAML		17 58 34.3	
	comp=E,90nm,1.4s						
KNB	Kanab	4.58	93	IAML		17 58 28.3	
	comp=N,84nm,1.4s						
KNB				IAML		17 58 29.8	
	comp=E,63nm,1.0s						
BLYC	Blythe	4.88	137	IAML		17 58 38.2	
	comp=E,44nm,1.9s						
PKCU	Pink Cliffs	4.96	87	IAML		17 58 49.1	
	comp=E,112nm,0.9s						
PKCU				IAML		17 58 51.7	
	comp=N,90nm,2.0s						
TCRU	Three Creeks R	4.96	74	IAML		17 58 47.4	
	comp=N,62nm,0.9s						
TCRU				IAML		17 58 53.9	
	comp=E,43nm,0.8s						
TKX	Tecate	5.06	161	IAML		18 00 26.8	
	comp=N,89nm,0.1s						
MTPU	Mount Pierson	5.08	81	IAML		17 58 54.0	
	comp=N,42nm,1.3s						
YBH	Yreka Blue Hor	5.41	325	Pn	Pn	17 57 21.4	+2.5
	comp=N,0.7nm,0.3s,baz=134,slow=12,SNR=8.3						
YBH				Lg	Lg	17 58 48.3	
	comp=N,0.4nm,0.3s,baz=33,slow=20,SNR=3.8						
YBH				LR	LR	17 59 31.1	
	comp=N,100nm,18.1s,baz=62,slow=40						
	comp=N,1.3nm,0.5s						
J08A	Circle Bar Ran	5.97	0		Pg	17 57 47.8	-4.7
PDAR	Pinedale Array	8.73	49	Pn	Pn	17 58 09.8	+5.2
	comp=N,0.2nm,0.3s,baz=220,slow=14,SNR=6.9						
PDAR				Lg	Lg	18 00 31.1	
	comp=N,0.2nm,0.3s,baz=227,slow=27,SNR=7.7						
PDAR				LR	LR	18 01 30.5	
	comp=N,35nm,20.7s,baz=244,slow=38						
	comp=N,0.7nm,0.6s						
ANMO	Albuquerque	10.06	100	LR	LR	18 02 59.5	
	comp=N,48nm,18.3s,baz=94,slow=42						
YKA	Yellowknife Ar	25.26	4	P	P	18 01 26.8	+2.8
	comp=N,0.3nm,0.8s,baz=194,slow=10,SNR=4.0						
	comp=N,0.3nm,0.8s						
ROSC	El Rosal	51.72	118	LR	LR	18 29 49.4	
	comp=N,127nm,18.7s,baz=96,slow=39						
ATAH	Atahualpa	58.02	131	LR	LR	18 28 49.4	
	comp=N,88nm,20.4s,baz=105,slow=34						
BVAR	Borovoye Array	89.63	355	P	P	18 08 56.4	+0.6
	comp=N,0.5nm,0.6s,baz=355,slow=3.0,SNR=3.7						
	comp=N,0.5nm,0.6s						

NEIC ***15*** *17:57:02.0±1.5, 2°.45N±0°.06×95°.55E±0°.08, h10km±2km, mb4.1/1, Error ellipse: s-maj=14.5km s-min=9.6km az=298.0*
IDC ***15*** *17:57:02.9±2.3, 2°.44N×95°.72E, h0km, mb3.8/6, mbtmp3.7/8, ML3.4/2, MS3.4/2, Error ellipse: s-maj=62.8km s-min=25.4km az=44.0*
DJA ***15*** *17:57:04.0±0.8, 2°N±3°×9°6E±°, h13km±4km, M4.0/12, mb4.3/5, MLv3.9/12*
ISC 15 17:57:02.7±0.9, 2°.44N±0°.06×95°.62E±0°.07, h10km, n41, σ1§29/31, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.71	93	P	Pb	17 57 17.9	+0.7
SNSI				S	Sg	17 57 25.6	-0.2
MLSI	Meulaboh, Aceh	1.97	23	P	Pn	17 57 37.0	+0.8
MLSI				S	Sb	17 58 02.9	-0.5
GSI	Gunungsitoli	2.26	120		Pn	17 57 40.4	+0.3
GSI	Gunungsitoli	2.26	120	P	Pn	17 57 40.9	+0.7
GSI				S	Sn	17 58 07.5	-0.7
BSI	Banda Aceh	3.05	354	P	Pn	17 57 51.7	+0.7
LHMI	Lhok Sumawe	3.07	26	Pn	Pn	17 57 50.7	-0.5
LHMI	Lhok Sumawe	3.07	26	P	Pn	17 57 52.2	+1.0
TSI	Tuntungan	3.13	70	P	Pn	17 57 51.9	-0.1
RPSI	Rantau Prapat	3.31	86		Pn	17 57 54.1	-0.5
RPSI	Rantau Prapat	3.31	86		Pn	17 57 55.4	+0.8
PSI	Prapat	3.32	84	Pn	Pn	17 57 55.4	+0.6
	1.6nm,0.3s,baz=283,slow=15,SNR=4.2						
	5.6nm,0.3s						
PBSI	Pulau Batu	3.64	133	P	Pn	17 57 59.5	+0.4
MNSI	Mandailing Nat	4.29	112	P	Pn	17 58 07.8	-0.2
SISI	Saibi	5.11	137	P	Pn	17 58 19.3	0.0
	0.1nm15nm,1.1s						
KULM	Kulim	5.76	60		Pn	17 58 28.1	-0.2
BKNI	Bangkinang	5.82	111	P	Pn	17 58 28.7	-0.4
CMAR	Chiang Mai Arr	16.25	11	Pn	P	18 00 52.5	-1.7
	0.1nm,0.3s,baz=199,slow=11,SNR=10						
	0.8nm,0.8s						
H08S2	Diego Garcia H	25.15	246	T	T	18 28 42.1	
	baz=67,slow=75,SNR=215						
H08S3	Diego Garcia H	25.15	246	T	T	18 28 42.2	
	baz=67,slow=75,SNR=198						
H08S1	Diego Carcia H	25.17	246	T	T	18 28 43.4	
	baz=67,slow=75,SNR=99						
TGY	Tagaytay City	27.56	64	LR	LR	18 14 50.2	
	comp=Z,35nm,18.1s,baz=300,slow=39						
H01W3	Cape Leeuwin H	41.00	157	T	T	18 48 16.8	
	baz=332,slow=76,SNR=45						
H01W2	Cape Leeuwin H	41.01	157	T	T	18 48 17.7	
	baz=332,slow=76,SNR=55						
H01W1	Cape Leeuwin H	41.02	157	T	T	18 48 18.0	
	baz=332,slow=76,SNR=35						
WRA	Warramunga Arr	44.03	122	P	P	18 05 11.8	+0.8
	0.6nm,1.0s,baz=298,slow=8.2,SNR=2.6						
WRA				LR	LR	18 25 02.0	
	comp=Z,111nm,20.4s,baz=106,slow=38						
	0.6nm,1.0s						
MKAR	Makanchi Array	45.67	347	P	P	18 05 22.1	-1.6
MKAR	Makanchi Array	45.67	347	P	P	18 05 26.4	+2.7
	1.2nm,0.6s,baz=165,slow=8.4,SNR=14						
	1.2nm,0.6s						
SONM	Songino Array	46.17	10	P	P	18 05 28.6	+0.9
	0.9nm,0.7s,baz=186,slow=9.6,SNR=4.6						
	0.9nm,0.7s						
KKAR	Karatay Array	46.25	335	P	P	18 05 25.6	-2.6
KURBB	Kurchatov Arra	50.14	346	P	P	18 06 00.2	+2.1
	0.5nm,0.6s,baz=168,slow=6.9,SNR=6.9						
	0.5nm,0.6s						
ZALV	Zalesovo Beam	52.10	352	P	P	18 06 14.2	+1.3
ZALV	Zalesovo Beam	52.10	352	P	P	18 06 14.0	+1.2
	0.9nm,0.4s,baz=175,slow=8.9,SNR=5.6						
	0.9nm,0.4s						
BVAR	Borovoye Array	54.57	342	P	P	18 06 33.3	+2.2
	1.2nm,0.8s,baz=145,slow=8.2,SNR=8.1						
	1.2nm,0.8s						
AB31	Akbulak array	55.68	332	P	P	18 06 37.7	-1.4
AB31				IAmb	IAmb	18 06 52.6	
	comp=Z,2.8nm,1.4s						
ABKAR	Akbulak array	55.68	332	P	P	18 06 36.9	-2.2
H04N2	CROZET ISLANDS	61.93	213	T	T	19 14 52.6	
	baz=53,slow=75,SNR=922						
H04N1	CROZET ISLANDS	61.94	213	T	T	19 14 53.2	
	baz=53,slow=75,SNR=718						
H04N3	CROZET ISLANDS	61.94	213	T	T	19 14 51.8	
	baz=53,slow=75,SNR=693						
H04S1	CROZET ISLANDS	62.29	212	T	T	19 15 18.7	
	baz=52,slow=75,SNR=48						
H04S3	CROZET ISLANDS	62.30	212	T	T	19 15 19.3	
	baz=52,slow=75,SNR=64						
H04S2	CROZET ISLANDS	62.31	212	T	T	19 15 16.1	
	baz=52,slow=75,SNR=32						

IDC ***15*** *18:14:14.4±1.8, 2°.72S×140°.69E, h0km, mb3.4/2, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=60.2km s-min=9.0km az=102.0*
DJA ***15*** *18:14:15.8±1.5, 3°S±8°×14°1E±°, h10km, M3.5/3, MLv3.5/3*
ISC 15 18:14:14.8±2.4, 2°.7S±0°.1×140°.7E±0°.1, h3km±23km, n13, σ0§37/10, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	0.20	10	Pg	Pg	18 14 18.4	-0.3
	3μm,0.3s,baz=260,slow=3.0						
JAY				Lg	Lg	18 14 21.1	
	567nm,0.3s,baz=56,slow=19,SNR=3.7						
JAY	Jayapura	0.20	10	P	Pg	18 14 19.1	+0.4
JAY				S	Sg	18 14 21.3	0.0
GENI	Genyem	0.52	283	P	Pb	18 14 26.2	-0.4
GENI				S	Sb	18 14 34.5	+0.1
SMPI	Sarmi	2.08	290	P	Pn	18 14 51.0	+0.3
SMPI				S	Sn	18 15 17.5	+0.3
WRA	Warramunga Arr	18.21	199	P	Pn	18 18 29.2	+0.3
	0.3nm,0.3s,baz=22,slow=12,SNR=11						
	2.3nm,0.8s						
ASAR	Alice Springs	21.84	197	P	P	18 19 08.7	0.0
	0.6nm,0.6s,baz=28,slow=11,SNR=13						
	0.6nm,0.6s						
H11S3	WAKE ISLAND Hy	33.17	50	T	T	18 55 37.9	
	baz=232,slow=75,SNR=62						
H11S2	WAKE ISLAND Hy	33.18	50	T	T	18 55 39.7	
	baz=232,slow=75,SNR=22						
H11S1	WAKE ISLAND Hy	33.18	50	T	T	18 55 37.8	
	baz=232,slow=75,SNR=22						
H11N1	WAKE ISLAND Hy	34.06	48	T	T	18 56 50.7	
	baz=229,slow=76,SNR=9.8						
H11N2	WAKE ISLAND Hy	34.07	48	T	T	18 56 50.2	
	baz=229,slow=76,SNR=12						
H11N3	WAKE ISLAND Hy	34.07	48	T	T	18 56 50.9	
	baz=229,slow=76,SNR=9.2						
CMAR	Chiang Mai Arr	46.14	299	P	P	18 22 40.7	-0.4
	0.7nm,0.7s,baz=120,slow=6.3,SNR=8.2						
	0.7nm,0.7s						

JMA ***15*** *18:17:24.2±0.1, 24°.2N±0°.6×124°.2E±0°.6, h15km±1km, MV3.6/14, NEAR ISHIGAKIJIMA ISLAND*
IDC ***15*** *18:17:27.0±6.3, 23°.05N×121°.98E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=459.3km s-min=29.0km az=60.0*
ISC 15 18:17:24.3±1.1, 24°.20N±0°.06×124°.24E±0°.04, h16km±7km, n15, σ0§36/27, mb3.3/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIJ	Ishigaki jima	0.18	333	P	Pg	18 17 28.8	0.0
JIJ				S	Sg	18 17 31.7	-0.2
JKRS	Kuro-shima	0.21	281	P	Pg	18 17 29.4	+0.2
JKRS				S	Sg	18 17 32.8	+0.3
JISG	Ishigakijimahi	0.39	10	P	Pg	18 17 32.0	-0.3
JISG				S	Sg	18 17 38.3	+0.6
HATJ	Hateruma jima	0.42	250	P	Pg	18 17 32.3	-0.4
HATJ				S	Sg	18 17 38.6	+0.1
IRIF	Iriomote-Funau	0.48	286	P	Pg	18 17 33.9	0.0
IRIF				S	Sg	18 17 40.8	+0.4
JTJ	Tarama	0.61	44	P	Pg	18 17 36.4	+0.1
JTJ				S	Sb	18 17 45.2	+0.2
JIRB	Irabujima	1.06	54	P	Pb	18 17 43.4	-0.8
JIRB				eS	Sb	18 17 57.3	-0.5
JMJ2	Miyako jima3	1.13	61	P	Pb	18 17 45.2	-0.2
JMJ2				S	Sg	18 18 01.2	+0.2
YOJ	Yonaguni jima	1.15	283	P	Pn	18 17 45.3	-0.4
YOJ				eS	Sb	18 18 00.4	0.0
JIKM	Ikemajima	1.17	52	P	Pn	18 17 45.7	-0.3
JIKM				eS	Sn	18 18 02.0	+0.3
JOGS	Gusukube	1.20	62	P	Pb	18 17 46.9	+0.2
JOGS				eS	Sn	18 18 02.6	+0.1
JYNG	Yonagunijimaku	1.20	282	P	Pn	18 17 46.2	-0.2
JYNG				S	Sb	18 18 02.1	+0.1
MKAR	Makanchi Array	40.29	315	P	P	18 25 00.6	-0.1
	0.2nm,0.4s,baz=100,slow=9.3,SNR=4.7						
	0.2nm,0.4s						
WRA	Warramunga Arr	44.97	166	P	P	18 25 39.6	+0.7
	0.6nm,0.7s,baz=344,slow=8.2,SNR=2.9

LIT	Litokhoron	1.36 93	P	Pb	18 19 59.3	-0.5
LKD2	Lefkada island	1.39 182	P	Pg	18 20 00.7	+0.2
PHP	Peshkopia	1.52 352	P	Pg	18 20 03.2	+0.4
PHP			S	Sg	18 20 24.7	+2.2
PHP			AML	AML	18 20 34.5	
	0.2nm,0.8s					
MAKR	Makrakomi, Fth	1.60 136	P	Pb	18 20 03.8	-0.1
FSK	Fiskardo	1.73 184	P	Pb	18 20 05.4	-0.5
ANX	Ano Chora	1.84 149	P	Pb	18 20 08.1	0.0

NEIC 15 18:29:19.3±1.1, 35°.15N±0°.03×95°.351W±0°.008, h5km±2km, mb_Lg2.5/24, ML2.8/10, Error ellipse: s-maj=4.7km s-min=3.0km az=190.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEOK	Depew	1.16 307			Pg	18 29 41.7	+0.1
DEOK				IAML		18 30 02.2	
	comp=N,191nm,0.3s						
DEOK				IAML		18 30 02.4	
	comp=E,149nm,0.2s						
W35A	Tecumseh	1.25 270		Pg	Pg	18 29 42.5	-0.7
W35A					Sb	18 30 00.1	+0.3
W35A				IAML		18 30 01.1	
	comp=E,199nm,0.2s						
W35A				IAML		18 30 06.4	
	comp=N,275nm,0.3s						
QUOK	Quay	1.50 313			Pb	18 29 47.4	-0.3
QUOK				IAmb_Lg		18 30 06.9	
	comp=Z,41nm,1.1s						
QUOK					Sg	18 30 08.7	+1.1
U38A	Gravette	1.50 31			Pb	18 29 47.5	-0.3
MIAR	Mount Ida	1.58 112			Pb	18 29 49.0	0.0
HHAR	Hobbs	1.61 45			Pb	18 29 49.0	-0.5
FNO	Franklin	1.68 274			Pb	18 29 50.1	-0.6
OK048	Pawnee Station	1.81 315			Pb	18 29 52.4	-0.5
OK051	E0350 and S346	1.81 319			Pb	18 29 52.4	-0.6
OK029	Liberty Lake	1.83 291			Pn	18 29 52.3	+0.8
Z38A	Mt. Pleasant	1.91 171		IAmb_Lg		18 30 22.6	
	comp=Z,31nm,0.8s						
X40A	Basin Creek Fa	2.17 107			Pb	18 29 58.8	-0.4
UALR	University of	2.50 98		IAmb_Lg		18 30 40.5	
	comp=Z,21nm,0.8s						
WHAR	Wooly Hollow	2.51 86			Pb	18 30 04.8	-0.1
CROK	Carrier	2.53 303			Pn	18 29 59.5	-1.6
GC02	Grant County #	2.65 311	Pn		Pn	18 30 01.4	-1.3
MGMO	Mountain Grove	3.19 50		IAmb_Lg		18 31 07.8	
	comp=Z,10nm,0.7s						
NOKA	Waynoka	3.26 298		IAmb_Lg		18 31 02.7	
	comp=Z,11nm,1.1s						
LCAR	Lake Charles	3.54 74		IAmb_Lg		18 31 13.1	
	comp=Z,8.6nm,0.8s						
T42A	Van Buren	3.92 60		IAmb_Lg		18 31 26.3	
	comp=Z,20nm,0.8s						
R40A	Maddies Statio	3.99 37		IAmb_Lg		18 31 32.5	
	comp=Z,15nm,0.7s						
SMWD	Samnorwood	4.01 271		IAmb_Lg		18 31 33.9	
	comp=Z,10nm,0.8s						
KSU1	Kansas State U	4.07 346		IAmb_Lg		18 31 36.2	
	comp=Z,17nm,0.7s						
P38A	Dawn	4.69 17		IAmb_Lg		18 31 48.1	
	comp=Z,8.5nm,0.9s						
SN07	Snyder 07	5.04 247		IAmb_Lg		18 32 11.6	
	comp=Z,6.2nm,0.8s						

DJA 15 18:54:29.5±0.2, 2°.S±2°.×12°.3E±°, h10km, M3.9/15, mb4.1/5, MLv3.8/15, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.89 13		P	Pg	18 54 44.6	-2.0
LUWI				S	Sb	18 54 59.0	+0.1
APSI	Ampana	1.35 317		P	Pn	18 54 51.7	-2.8
KMSI	Cibinong	2.84 30		P	Pn	18 55 15.6	+0.6
KMSI				S	Sn	18 55 51.0	+1.7
PCI	Palu	2.91 290		P	Pn	18 55 16.4	+0.5
SANI	Sanana	3.42 92		P	Pn	18 55 21.0	-1.9
SPSI	Sidrap Palu	3.46 234		P	Pn	18 55 23.9	+0.4
SPSI				S	Sn	18 56 05.7	+1.1
MPSI	Mapaga	3.48 310		P	Pn	18 55 24.8	+1.0
BNSI	Bone	3.49 225		P	Pn	18 55 24.2	+0.3
BNSI				S	Sn	18 56 06.1	+0.8
BBSI	Bau Bau	3.55 180		P	Pn	18 55 25.8	+1.0
BSSI	Bau Bau, Buton	4.69 206		P	Pn	18 55 40.7	+0.3
BSSI				S	Sn	18 56 36.2	+1.3
TNTI	Ternate	5.49 61		P	Pn	18 55 51.0	-0.4
	0.1nm14nm,0.6s						

IDC 15 19:32:45.2±5.5, 15°.92N×146°.12E, h0km, mb3.7/6, mbtmp3.7/6, MS2.8/1, Error ellipse: s-maj=167.5km s-min=40.1km az=2.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	28.27 355		LR	LR	19 51 18.8	
	comp=Z,18nm,18.8s,baz=172,slow=39						
KURBB	Kurchatov Arra	63.66 319		P	P	19 43 18.4	+0.2
	0.2nm,0.3s,baz=91,slow=7.7,SNR=5.1						
	0.2nm,0.3s						
ILAR	Eielson Array	65.95 26		P	P	19 43 33.4	+0.3
	0.4nm,0.4s,baz=259,slow=5.7,SNR=8.4						
	0.4nm,0.4s						
BVAR	Borovoye Array	68.87 321		P	P	19 43 51.4	-0.4
	0.5nm,0.4s,baz=86,slow=9.9,SNR=5.6						
	0.5nm,0.4s						
YKA	Yellowknife Ar	80.25 28		P	P	19 44 57.0	-0.6
	0.2nm,0.7s,baz=291,slow=5.3,SNR=3.9						
	0.2nm,0.7s						
NVAR	Mina Array Bea	84.53 52		P	P	19 45 20.9	0.0
	0.4nm,0.6s,baz=284,slow=5.3,SNR=3.8						
	0.4nm,0.6s						
FINES	FINESS Array B	89.57 335		P	P	19 45 45.0	+0.4
	0.4nm,0.4s,baz=68,slow=6.1,SNR=7.0						
	0.4nm,0.4s						

IDC 15 19:35:52.5±1.2, 47°.08N×28°.18W, h0km, mb3.8/7, mbtmp3.8/7, MS3.2/5, Error ellipse: s-maj=36.5km s-min=26.4km az=3.0

ISC 15 19:35:54.1±1.1, 47°.1N±0°.2×28°.2W±0°.2, h10km, n13, σ0°48/10, mb4.0/7, MS3.2/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	Midelt	22.89 120		LR	LR	19 47 27.9	
	comp=Z,38nm,20.6s,baz=350,slow=30						
DAVOX	Davos/Dischmat	25.82 77		LR	LR	19 50 29.3	
	comp=Z,30nm,18.3s,baz=285,slow=34						
VRAC	Vranov	29.60 69		LR	LR	19 52 02.5	
	comp=Z,79nm,18.1s,baz=295,slow=33						
AKASG	Malin Array Be	37.10 63		P	P	19 43 03.7	-0.6
	0.2nm,0.3s,baz=289,slow=8.7,SNR=1.6						
AKASG				LR	LR	19 56 38.3	
	comp=Z,38nm,21.2s,baz=38,slow=34						
	0.2nm,0.3s						
TORD	Torodi Ar. Bea	42.07 134		P	P	19 43 46.4	+0.3
	73nm,0.3s,baz=334,slow=9.7,SNR=1.4						
BVAR	Borovoye Array	58.65 44		P	P	19 45 51.8	+0.6
	1.1nm,0.7s,baz=318,slow=2.0,SNR=6.2						
	1.1nm,0.7s						
ILAR	Eielson Array	58.75 334		P	P	19 45 52.1	+0.4
	0.3nm,0.4s,baz=37,slow=6.7,SNR=6.1						
	0.3nm,0.4s						
TXAR	Lajitas Array	59.65 282		P	P	19 45 58.4	-0.2
	0.4nm,0.9s,baz=72,slow=6.3,SNR=5.0						
TXAR				LR	LR	20 09 30.3	
	comp=Z,20nm,20.3s,baz=21,slow=34						
	0.4nm,0.9s						
KURBB	Kurchatov Arra	64.05 43		P	P	19 46 27.5	-0.2
	1.3nm,0.2s,baz=315,slow=6.7,SNR=9.0						
	1.3nm,0.2s						
MKAR	Makanchi Array	68.51 44		P	P	19 46 56.7	+0.2
	1.4nm,0.8s,baz=326,slow=5.5,SNR=13						
	1.4nm,0.8s						
SONM	Songino Array	77.51 29		P	P	19 47 49.6	-0.3
	1.2nm,0.8s,baz=318,slow=5.9,SNR=11						
	1.2nm,0.8s						
WRA	Warramunga Arr	149.40 34		PKPbc	PKPbc	19 55 43.3	-0.1
	1.1nm,0.8s,baz=335,slow=2.7,SNR=5.5						
ASAR	Alice Springs	152.57 38		PKPbc	PKPbc	19 55 50.2	-0.6
	0.8nm,0.7s,baz=341,slow=1.9,SNR=14						

AUST 15 19:37:05.6±1.1, 26°.S±3°.×13°.0E±°, h12km±8km, mb3.7/9, ML2.9/8, Error ellipse: s-maj=5.6km s-min=4.8km az=10.3
IDC 15 19:37:09.3±4.7, 25°.17S×130°.03E, h0km, mbtmp3.0/3, ML2.9/3, Error ellipse: s-maj=37.0km s-min=27.1km az=85.0

ISC 15 19:37:05.1±0.8, 25°.52S±0°.06×129°.80E±0°.05, h10km, n19, σ1°20/22, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRKA	Warakurna	1.45 289		P	Pn	19 37 31.4	-0.1
WRKA				S	Sg	19 37 52.4	+0.7
ASAR	Alice Springs	4.17 65		Pn	Pn	19 38 09.3	+0.5
	0.3nm,0.3s,baz=244,slow=12,SNR=22						
ASAR				Pg	Pb	19 38 20.6	+1.9
	0.5nm,0.3s,baz=242,slow=17,SNR=16						
ASAR				Sn	Sn	19 38 56.8	-0.9
	0.5nm,0.3s,baz=248,slow=22,SNR=8.5						
ASAR				Lg	Lg	19 39 10.8	
	0.3nm,0.3s,baz=246,slow=21,SNR=4.7						
	0.5nm,0.3s						
AS31	Alice Springs	4.17 65		P	Pn	19 38 09.5	+0.6
AS31	Alice Springs	4.17 65		S	Sn	19 38 58.0	+0.2
FORT	Forrest	5.46 196		P	Pn	19 38 28.1	+1.6
	comp=Z,0.1nmcomp=Z,26nm,2.8s						
FORT	Forrest	5.46 196		S	Sn	19 39 30.0	+0.6
OOD	Oodnadatta	5.73 115		P	Pn	19 38 30.6	+0.3
	comp=Z,0.0nmcomp=Z,6.5nm,2.4s						
OOD	Oodnadatta	5.73 115		S	Sn	19 39 36.1	-0.1
MULG	Mulgathing	6.05 142		P	Pn	19 38 34.6	-0.2
WRA	Warramunga Arr	6.96 38		Pn	Pn	19 38 46.9	-0.4
	comp=Z,0.2nm,0.3s,baz=212,slow=13,SNR=15						
WRA				Sn	Sn	19 40 03.5	-3.0
	comp=Z,0.2nm,0.3s,baz=216,slow=23,SNR=5.2						
WRA				Lg	Lg	19 40 37.5	
	comp=Z,0.3nm,0.3s,baz=219,slow=28,SNR=5.5						
	comp=Z,0.2nm,0.3s						
WB2	Warramunga Arr	6.96 38		P	Pn	19 38 46.9	-0.4
FITZ	Fitzroy Crossi	8.34 332		P	Pn	19 39 07.7	+1.6
	comp=Z,0.0nmcomp=Z,1.4nm,2.8s						
LCRK	Leigh Creek	8.91 125		P	Pn	19 39 13.2	-0.7
	comp=Z,0.1nmcomp=Z,9.6nm,1.3s						
BBOO	Buckleboo	9.09 144		P	Pn	19 39 14.9	-1.6
	comp=Z,0.1nmcomp=Z,15nm,2.4s						
YAPP	Yappala Statio	9.78 132		P	Pn	19 39 25.0	-1.0
	comp=Z,0.0nmcomp=Z,3.1nm,2.3s						
KNRA	Kununurra	9.85 354		P	Pn	19 39 27.3	+0.5
	comp=Z,0.0nmcomp=Z,7.5nm,2.2s						
INKA	Innaminka	10.04 105		P	Pn	19 39 29.9	+0.4
	comp=Z,0.1nmcomp=Z,8.9nm,3.0s						
MEEK	Meekatharra	10.12 261		P	Pn	19 39 28.8	-1.8
	comp=Z,0.1nmcomp=Z,18nm,2.4s						
STKA	Stephens Creek	12.13 124		Pn	Pn	19 40 04.0	+6.0
	comp=Z,0.1nm,0.3s,baz=303,slow=17,SNR=2.2						
	comp=Z,1.6nm,0.9s						

IDC 15 19:46:26.5±4.5, 30°.93S×179°.97E, h398km±43km, mb3.0/3, mbtmp4.0/4, Error ellipse: s-maj=43.5km s-min=23.7km az=41.0
WEL 15 19:46:35.0±0.9, 31°.S±7°.×18°.0W±1°.7, h280km±16km, M4.9/10, MLv4.9/10, Error ellipse: s-maj=23.3km s-min=5.5km az=107.2, confirmed

ISC 15 19:46:27.2±0.8, 31°.10S±0°.08×180°.0W±0°.1, h400km, n27, σ2°34/39, mb3.3/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.56 45		P	Pn	19 47 28.6	+1.5
GLKZ				S	S	19 48 04.4	-11
RIZ	Raoul Island	2.57 45		P	Pn	19 47 28.9	+1.8
MXZ	Matakaoa Point	6.60 192		P	P	19 48 07.7	+0.8
MXZ				S	S	19 49 26.3	-0.9
WCZ	Waipu Caves	6.76 223		P	P	19 48 12.8	+4.1
OUZ	Omahuta	6.77 231		P	P	19 48 12.6	+3.7
HAZ	Te Kaha	6.89 195		P	P	19 48 13.6	+3.5
HAZ				S	S	19 49 33.2	+0.1
PUZ	Puketiti	7.11 191		P	P	19 48 15.6	+3.1
PUZ				S	S	19 49 35.2	-2.4
MWZ	Matawai	7.50 195		P	P	19 48 20.0	+3.0
MWZ				S	S	19 49 43.7	-2.1
URZ	Urewera	7.53 198		P	P	19 48 19.6	+2.3
	46nm,0.4s,baz=356,slow=4.3,SNR=59						
URZ				S	S	19 49 44.6	-1.7
	29nm,0.4s,baz=353,slow=7.1,SNR=20						
URZ	Urewera	7.53 198		P	P	19 48 19.4	+2.1
URZ				S	S	19 49 44.3	-2.1
RIGZ	Rimuhau	7.81 193		P	P	19 48 23.2	+2.8
RIGZ				S	S	19 49 49.6	-2.7
SNGZ	Shannon Statio	7.97 195		P	P	19 48 25.8	+3.6
SNGZ				S	S	19 49 53.2	-2.4
PRGZ	Paritu Road	8.00 192		P	P	19 48 26.5	+4.0
PRGZ				P	S	19 49 54.9	-1.3
KNZ	Kokohu	8.13 193		S	S	19 49 57.8	-1.1
RAHZ	Arahi	8.16 196		P	P	19 48 26.1	+1.8
RAHZ				P	S	19 49 58.3	-1.3
NMHZ	Naumai	8.40 197		P	P	19 48 29.0	+2.0
NMHZ				P	S	19 50 05.3	+0.5
ARHZ	Aropaoanui	8.51 196		P	P	19 48 31.5	+3.4
MCHZ	McNeill Hill	8.76 197		P	S	19 50 12.1	-0.1
KWHZ	Kaweka Forest	8.81 198		P	Pn	19 48 31.2	-0.3
KWHZ				S	S	19 50 10.5	-2.9
ASAR	Alice Springs	41.37 269		P	P	19 53 35.6	-0.9
	0.3nm,0.5s,baz=106,slow=7.3,SNR=8.2						
	0.3nm,0.5s						
WRA	Warramunga Arr	42.42 274		P	P	19 53 44.0	-1.0
	0.7nm,0.5s,baz=111,slow=8.0,SNR=14						
	0.7nm,0.5s						
QSPA	South Pole Qui	59.01 180		P	P	19 55 47.6	+1.1
	1.6nm,0.8s,baz=318,slow=1.0,SNR=6.9						
	1.6nm,0.8s						
FINES	FINESS Array B	145.18 338		PKPbc	PKPdf	20 05 16.1	-1.0
	1.7nm,0.4s,baz=53,slow=4.3,SNR=24						
NOA	NORSAR Array B	149.15 349		PKPbc	PKPbc	20 05 26.3	-2.2
	0.5nm,0.7s,baz=18,slow=4.2,SNR=3.3						
HFS	Hagfors	149.55 346		PKPbc	PKPbc	20 05 27.1	-2.4
	1.5nm,0.9s,baz=122,slow=5.4,SNR=4.6						
MMAI	Mount Meron Ar	150.03 283		PKPbc	PKiKP	20 05 31.2	-1.0
	0.4nm,0.4s,baz=111,slow=3.2,SNR=1.4						
BRTR	Keskin Array B	151.40 297		PKPbc	PKPbc	20 05 32.7	-1.9
	0.3nm,0.4s,baz=46,slow=4.2,SNR=2.7						

IDC 15 20:02:21.1±4.7, 18°.71S×12°.61W, h0km, mb3.8/6, mbtmp3.8/6, MS3.7/34, Error ellipse: s-maj=141.8km s-min=100.1km az=100.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	9.89 348		T	T	20 14 06.5	
	baz=51,slow=74,SNR=42						
H10S3	ASCENSION HYDR	9.90 348		T	T	20 14 03.6	
	baz=169,slow=74,SNR=59						
RCBR	Riachuelo	26.07 296		LR	LR	20 16 16.0	
	comp=Z,0.5nm,18.9s,baz=82,slow=32						
DBIC	Dimbokro	26.35 18		P	P	20 07 59.0	0.0
	8.3nm,1.0s,baz=182,slow=8.5,SNR=4.6						
DBIC				LR	LR	20 15 24.9	
	comp=Z,108nm,21.3s,baz=162,slow=30						
	8.3nm,1.0s						
SUR	Sutherland	32.93 121		LR	LR	20 19 32.5	
	comp=Z,138nm,21.0s,baz=284,slow=31						
BBTS	Babate	33.38 353		LR	LR	20 20 01.2	
	comp=Z,112nm,20.3s,baz=12,slow=32						
BDFB	Brasília	33.93 270		LR	LR	20 20 08.2	
	comp=Z,184nm,21.2s,baz=118,slow=31						
TORD	Torodi Ar. Bea	34.65 25		P	P	20 09 12.0	-0.4
	86nm,0.5s,baz=210,slow=6.9,SNR=1.7						
LBTB	Lobatse	35.92 107		LR	LR	20 22 25.8	
	comp=Z,169nm,19.1s,baz=258,slow=34						
BOSA	Boshof	35.92 113		LR	LR	20 21 38.7	
	comp=Z,121nm,21.1s,baz=290,slow=32						
LSZ	Lusaka	39.10 91		LR	LR	20 24 54.0	
	comp=Z,157nm,18.7s,baz=268,slow=35						
CPUP	Villa Florida	41.84 251		LR	LR	20 24 26.8	
	comp=Z,102nm,21.7s,baz=104,slow=32						
MDP	Montagnes des	46.00 297		LR	LR	20 27 48.8	
	comp=Z,36nm,20.3s,baz=138,slow=33						
SIV	San Ignacio	46.23 266		LR	LR	20 28 06.9	
	comp=Z,109nm,19.8s,baz=110,slow=33						
MDT	Midelt	51.80 9		LR	LR	20 32 00.4	
	comp=Z,37nm,19.6s,baz=160,slow=34						
KMBO	Kilima Mbogo	51.89 76		LR	LR	20 32 43.1	
	comp=Z,80nm,18.6s,baz=92,slow=35						
LPAZ	La Paz	52.83 263		LR	LR	20 32 32.1	
	comp=Z,124nm,19.5s,baz=78,slow=34						
PLCA	Paso Flores	53.88 233		LR	LR	20 31 39.7	
	comp=Z,102nm,20.4s,baz=96,slow=33						
KEST	Kesra	58.00 21		LR	LR	20 35 10.9	
	comp=Z,58nm,21.3s,baz=303,slow=34						
ESDC	Sonseca Array	58.64 8		P	P	20 12 20.2	+0.2
	0.4nm,0.8s,baz=190,slow=6.1,SNR=2.1						
	0.4nm,0.8s						
PCRV	Puerto La Cruz	58.79 295		LR	LR	20 36 35.7	
	comp=Z,48nm,18.3s,slow=35						
VAE	Valguarnera	61.41 24		LR	LR	20 37 42.4	
	comp=Z,143nm,18.4s,baz=148,slow=35						
NNA	Nana	62.04 266		LR	LR	20 37 49.3	
	comp=Z,98nm,20.8s,baz=122,slow=34						
SJG	San Juan	64.08 302		LR	LR	20 35 11.9	
	comp=Z,34nm,21.4s,baz=143,slow=31						
ATAH	Atahualpa	64.84 271		LR	LR	20 39 30.9	
	comp=Z,108nm,20.4s,baz=124,slow=34						
ROSC	El Rosal	65.11 285		LR	LR	20 40 41.5	
	comp=Z,241nm,18.5s,baz=108,slow=35						
MAW	Mawson	67.32 156		LR	LR	20 37 38.8	
	comp=Z,51nm,18.3s,baz=233,slow=32						
DAVOX	Davos/Dischmat	68.27 16		LR	LR	20 41 13.7	
	comp=Z,37nm,22.0s,baz=262,slow=34						
MMAI	Mount Meron Ar	68.91 42		LR	LR	20 41 35.3	
	comp=Z,27nm,18.1s,baz=224,slow=34						
GERES	GERESS Array B	71.22 18		P	P	20 13 42.5	+0.5
	0.1nm,0.4s,baz=247,slow=1.0,SNR=4.0						
	0.1nm,0.4s						
BRTR	Keskin Array B	72.39 36		P	P	20 13 48.9	-0.4
	1.1nm,0.8s,baz=145,slow=7.5,SNR=4.5						
	1.1nm,0.8s						
VRAC	Vranov	72.52 20		LR	LR	20 44 12.1	
	comp=Z,62nm,19.9s,baz=218,slow=35						
MLR	Muntele Rosu	72.86 27		LR	LR	20 45 08.6	
	comp=Z,29nm,19.4s,baz=251,slow=35						
JTS	Las Juntas de	76.92 286		LR	LR	20 47 41.4	
	comp=Z,94nm,20.3s,baz=110,slow=35						
AKASG	Malin Array Be	78.28 26		P	P	20 14 23.6	+0.9
	1.3nm,0.7s,baz=220,slow=5.4,SNR=5.5						
	1.3nm,0.7s						
GNI	Garni	79.21 41		LR	LR	20 49 04.8	
	comp=Z,17nm,20.2s,baz=282,slow=35						
HFS	Hagfors	81.42 13		LR	LR	20 50 24.9	
	comp=Z,35nm,18.9s,baz=326,slow=35						
NOA	NORSAR Array B	81.75 11		P	P	20 14 40.2	-1.0
	0.5nm,0.9s,baz=203,slow=5.5,SNR=3.7						
NOA				LR	LR	20 49 44.5	
	comp=Z,14nm,18.1s,baz=10.0,slow=35						
	0.5nm,0.9s						
TKL	Tuckaleechee C	86.32 309		LR	LR	20 44 28.4	
	comp=Z,25nm,21.3s,baz=117,slow=29						
PALK	Pallekele	95.42 84		LR	LR	20 51 31.2	
	comp=Z,46nm,20.3s,baz=126,slow=31						
ULM	Lac du Bonnet	99.97 320		LR	LR	20 55 20.3	
	comp=Z,24nm,20.6s,baz=286,slow=32						

ISK 15 20:10:56.7, 36°.12N×36°.07E, h6km, ML2.9/24
NEIC 15 20:10:58.8±0.9, 36°.28N±0°.06×35°.96E±0°.07, h10km±2km, ML3.0/12, Error ellipse: s-maj=11.5km s-min=8.2km az=223.0
AFAD 15 20:10:58.5, 36°.25N×36°.04E, h15km±2km, ML2.9
GRAL 15 20:11:00.0±1.2, 36°.23N×36°.00E, h14km±920km, MD3.4

ISC 15 20:10:58.5±1.1, 36°.22N±0°.03×36°.03E±0°.02, h12km±9km, n73, σ0°78/97, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAHT	Tahtakopru-Hat	0.20 40		Pg	Pg	20 11 02.5	-0.3
RHAN	Hatay/Reyhanl	0.47 85		P	Pg	20 11 07.9	+0.3
RHAN				S	Sg	20 11 14.3	+0.5
RHAN				*i* AML	AML	20 11 15.0	
	comp=N,671nm,0.6s						
RHAN				*i* AML	AML	20 11 15.0	
	comp=E,837nm,0.4s						
HASA	Hatay-Hassa-Ha	0.64 35		P	Pg	20 11 10.6	-0.5
HASA				S	Sg	20 11 19.4	-0.1
HASA				*i* AML	AML	20 11 21.0	
	comp=E,554nm,0.3s						
HASA				*i* AML	AML	20 11 22.0	
	comp=N,517nm,0.2s						
CEYT	Ceyhan	0.82 344		Pg	Pb	20 11 14.9	+0.3
CEYT				Sg	Sn	20 11 28.5	+0.6
KUZU	Kuzuini	1.01 57		P	Pg	20 11 17.9	+0.1
KUZU				S	Sn	20 11 31.8	-0.9
KAMA	Osmaniye	1.09 28		P	Pb	20 11 18.6	-0.7
KAMA				S	Sn	20 11 33.9	-0.9
DED	Mersin	1.23 307		P	Pn	20 11 21.3	-0.3
DED				S	Sn	20 11 37.7	-0.5
KOZT	Kozan	1.27 353		Pn	Pg	20 11 22.9	+0.1
KARA	Karaisali	1.30 323		Pn	Pb	20 11 22.8	0.0
AKO	Adana	1.32 340		P	Pg	20 11 23.7	-0.1
AKO				S	Sb	20 11 39.3	-0.9
GAZ	Gaziantep	1.34 45		Pn	Pb	20 11 23.4	-0.3
GAZ				Sn	Sg	20 11 42.6	+0.8
GAZ	Gaziantep	1.34 45		Pn	Pb	20 11 23.8	+0.1
GAZ				Sn	Sg	20 11 41.5	-0.3
GAZ				IAML		20 11 43.4	
	comp=E,182nm,0.5s						
GAZ				IAML		20 11 45.0	
	comp=N,197nm,0.4s						
MERS	Mersin	1.37 298		Pn	Pb	20 11 24.2	+0.1
ANDN	Andirin	1.38 11		P	Pg	20 11 25.7	+0.7
ANDN				S	Sg	20 11 42.6	-0.3
GULE	Gulek	1.46 317		P	Pb	20 11 26.0	+0.3
GULE				S	Sb	20 11 44.6	+0.3
GULE				*i* AML	AML	20 11 49.0	
	comp=N,184nm,0.4s						
KMRS	Kahramanmaras	1.46 28		Pn	Pb	20 11 25.2	-0.4
KMRS				Sn	Sg	20 11 46.4	+0.9
KHMN	Narli-Kahraman	1.48 38		Pn	Pb	20 11 25.5	-0.4
KAHM	Kahramanmaras,	1.50 31		P	Pg	20 11 27.5	+0.1
KAHM				S	Sb	20 11 45.0	-0.4
KIZK	Mersin	1.54 280		Pn	Pn	20 11 26.3	+0.5
KIZK	Mersin	1.54 280		P	Pn	20 11 25.6	-0.2
KIZK				S	Sb	20 11 46.6	+0.1
NZIP	Nizip/Gaziante	1.56 58		P	Pn	20 11 26.5	+0.4
NZIP				S	Sb	20 11 46.5	-0.5
NZIP				*i* AML	AML	20 11 49.0	
	comp=N,179nm,0.7s						
NZIP				*i* AML	AML	20 12 01.0	
	comp=N,154nm,1.0s						
CMRD	Camardi-Nigde	1.66 330		Pn	Pb	20 11 28.5	-0.6
EREN	Erenkoy	1.66 246		Pn	Pn	20 11 27.1	-0.3
GZT	Gaziantep	1.67 47		P	Pn	20 11 27.9	+0.1
GZ

ZAHL	Zahle	2.36 183	eP	Pn	20 11 37.6	+0.3
YESY	Yesilyurt	2.40 311	Pn	Pn	20 11 39.1	+1.3
KRMN	Karaman	2.42 294	Pn	Pn	20 11 38.9	+1.0
BSIR	Belisirma, Guz	2.47 326	P	Pb	20 11 42.5	-0.4
BSIR			S	Sb	20 12 13.2	-0.1
CSS	Mathiatis	2.53 241	Pn	Pn	20 11 39.3	-0.2
CSS	Mathiatis	2.53 241	P	Pn	20 11 37.5	-2.0
DQRL	Deir Qamar	2.54 189	eP	Pn	20 11 39.6	0.0
URFA	Urfa	2.55 61	Pn	Pn	20 11 40.1	+0.3
GULA	Gulagac	2.55 327	Pn	Pn	20 11 41.4	+1.6
DARE	Darende-Malaty	2.62 26	Pn	Pn	20 11 41.9	+1.2
BNN	Bunyan	2.63 357	Pn	Pn	20 11 40.0	-0.9
BNN			IAML		20 12 31.3	
	comp=N,41nm,1.3s					
KKBE	Karaman, Kazim	2.67 293	P	Pn	20 11 42.8	+1.3
KKBE			S	Sb	20 12 16.7	-2.5
QRWL	Qaraoun	2.68 186	eP	Pn	20 11 41.7	+0.1
SHBL	Chebaa	2.88 185	eP	Pn	20 11 44.6	+0.3
NATI	Neve Ativ	2.96 185	P	Pn	20 11 45.9	+0.6
GEM	Giv'at Ha'Em	3.02 186	P	Pn	20 11 46.4	+0.3
MMB1	Mount Meron ar	3.24 189	P	Pn	20 11 49.9	+0.7
OFRI	`Ofer	3.69 194	P	Pn	20 11 56.6	+1.1
MARD	Mardin	3.97 73	Pn	Pn	20 11 59.8	+0.5
ASF	Jabal al Asfar	4.10 170	P	Pn	20 12 03.2	+2.1
BALJ	Balqa	4.14 185	Pn	Pn	20 12 02.7	+1.2
BALJ			IAML		20 13 10.7	
	comp=N,18nm,0.8s					
BALJ			IAML		20 13 17.1	
	comp=E,25nm,1.1s					
DSI	Dead Sea	4.67 187	P	Pn	20 12 10.0	+1.1
YTIR	Yattir	4.91 189	P	Pn	20 12 13.3	+1.1
GHAJ	Ghor Haditha	4.92 185	Pn	Pn	20 12 13.5	+1.3
GHAJ			IAML		20 13 56.6	
	comp=E,27nm,0.5s					
ELL	Elmali	4.96 278	Pn	Pn	20 12 13.6	+0.7
PRNI	Paran	5.92 189	P	Pn	20 12 27.5	+1.5

*IDC **15** 20:17:41.6±0.9, 32°.31N×105°.24E, h0km, mb3.8/7, mbtmp3.7/10, ML3.4/3, MS2.9/2, Error ellipse: s-maj=37.5km s-min=17.2km az=56.0*
*BJI **15** 20:17:43.4, 32°.31N×105°.12E, h19km, mb3.7/3, ML3.9/15, Ms3.6/10, Ms7 3.5/7*

ISC 15 20:17:44.6±0.6, 32°28N±0°.04×105°20E±0°.04, h15km, n19, σ2°54/31, mb4.0/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAN	Xi'an	3.58	60	Pn	Pn	20 18 40.0	+0.4
XAN				Pg	Pb	20 18 47.8	+0.1
XAN				Sn	Sn	20 19 20.9	-0.8
XAN				Sg	Sb	20 19 34.0	+3.0
XAN				LR	LR		
	comp=N,750nm,5.3s						
XAN				LR	LR		
	comp=E,1μm,7.0s						
XAN				LR	LR		
	comp=Z,860nm,8.2s						
LZH	Lanzhou	3.96	344	Pn	Pn	20 18 46.8	+1.9
LZH				Pg	Pb	20 18 56.8	+2.7
LZH				Sn	Sn	20 19 29.8	-1.3
LZH				Sg	Sg	20 19 47.1	-4.5
LZH				LR	LR		
	comp=N,670nm,5.7s						
LZH				LR	LR		
	comp=E,1μm,5.7s						
LZH				LR	LR		
	comp=Z,410nm,7.0s						
LYN	LuoYang	6.49	68	Pn	Pn	20 19 22.1	+2.6
LYN				Pg	Pb	20 19 40.9	+3.8
LYN				Sn	Sn	20 20 31.8	-1.4
LYN				Sg	Sg	20 21 07.3	-5.4
LYN				LR	LR		
	comp=N,530nm,9.2s						
LYN				LR	LR		
	comp=E,390nm,7.3s						
LYN				LR	LR		
	comp=Z,460nm,9.1s						
PZH	PanZhiHua	6.50	208	Pn	Pn	20 19 20.1	+0.2
PZH				Sn	Sn	20 20 38.1	+4.3
PZH				Sg	Sg	20 21 08.4	-4.9
PZH				smax	smax		
	comp=N,40nm,0.7s						
PZH				smax	smax		
	comp=E,60nm,0.8s						
PZH				LR	LR		
	comp=N,210nm,10.0s						
PZH				LR	LR		
	comp=E,430nm,11.6s						
PZH				LR	LR		
	comp=Z,200nm,9.4s						
CNSH	ChangSha	7.84	119	eP	Pn	20 19 41.6	+3.5
CNSH				S	Sn	20 21 03.1	-3.5
CNSH				smax	smax		
	comp=N,44nm,0.7s						
CNSH				smax	smax		
	comp=E,42nm,0.5s						
GTA	Gaotai	8.34	330	P	Pn	20 19 46.1	+1.0
GTA				S	Sn	20 21 17.5	-1.6
GTA				smax	smax		
	comp=N,17nm,0.8s						
GTA				smax	smax		
	comp=E,12nm,1.0s						
CMAR	Chiang Mai Arr	14.88	204	Pn	Pn	20 21 14.1	-0.4
	baz=17,slow=11,SNR=7.2						
	0.3nm,0.7s						
SONM	Songino Array	15.56	3	Pn	Pn	20 21 23.7	+0.3
	0.1nm,0.3s,baz=186,slow=12,SNR=4.4						
	0.5nm,0.7s						
WMQ	Urumqi	17.92	315	eP	P	20 21 55.8	+2.0
KSRS	Korea Array	19.33	68	P	P	20 22 07.7	-1.6
	0.3nm,0.3s,baz=255,slow=11,SNR=5.9						
KSRS				LR	LR	20 30 47.0	
	comp=Z,14nm,18.1s,baz=235,slow=41						
	1.2nm,0.5s						
MKAR	Makanchi Array	22.74	316	P	P	20 22 45.7	-0.4
	1.1nm,0.6s,baz=124,slow=12,SNR=9.1						
	1.1nm,0.6s						
AAK	Ala-Archa	26.34	302	LR	LR	20 34 57.5	
	comp=Z,64nm,19.9s,baz=164,slow=39						
KURBB	Kurchatov Arra	26.89	321	P	P	20 23 25.1	+0.4
	1.2nm,0.2s,baz=124,slow=12,SNR=4.5						
	1.2nm,0.2s						
FINES	FINESS Array B	57.11	326	P	P	20 27 29.1	-1.0
	0.9nm,0.7s,baz=90,slow=5.7,SNR=6.1						
	0.9nm,0.7s						
WRA	Warramunga Arr	58.95	148	P	P	20 27 42.5	-0.9
	1.2nm,0.6s,baz=341,slow=7.6,SNR=14						
	1.2nm,0.6s						
ASAR	Alice Springs	62.03	150	P	P	20 28 04.5	0.0
	0.9nm,0.9s,baz=338,slow=7.1,SNR=6.9						
	0.9nm,0.9s						
HFS	Hagfors	63.31	326	P	P	20 28 11.5	-1.2
	1.1nm,0.8s,baz=111,slow=8.1,SNR=4.4						
	1.1nm,0.8s						
NB2	NORSAR Subarra	64.17	327	P	P	20 28 16.8	-1.5
	comp=Z,0.6nm,0.6s,baz=72,slow=6.9						
NOA	NORSAR Array B	64.17	327	P	P	20 28 17.0	-1.3
	comp=Z,0.3nm,0.5s,baz=70,slow=6.6,SNR=3.4						
	comp=Z,0.3nm,0.5s						

*NOU **15** 20:19:24.4, 37°.78S×176°.12E, h227km, MLv3.8/16, North Island, New Zealand*
*WEL **15** 20:19:26.4±0.7, 38°S±3°×17°6E±°, h212km±6km, M3.0/34, MLv3.0/34, Error ellipse: s-maj=4.3km s-min=3.9km az=113.9, confirmed*

ISC 15 20:19:20.5±1.8, 37°66S±0°.05×176°34E±0°.05, h256km±10km, n135, σ1°92/172, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	Tauranga	0.09	223	P	Pn	20 19 52.8	-0.5
OPRZ	Ohinepanea	0.25	137	P	Pn	20 19 54.9	+1.4
MYRZ	Mayor Island	0.39	349	P	Pn	20 19 55.4	+1.4
TOZ	Tahuroa Road	0.67	264	P	Pn	20 19 56.1	+1.5
RRRZ	Republican Roa	0.69	168	P	Pn	20 19 56.4	+1.6
HRRZ	Handcock Road	0.73	183	P	Pn	20 19 56.8	+1.9
PRRZ	Plateau Road	0.83	177	P	Pn	20 19 56.2	+0.9
URZ	Urewera	0.85	134	P	Pn	20 19 56.4	+1.1
URZ	Urewera	0.85	134	P	Pn	20 19 56.5	+1.1
URZ				S	S	20 20 19.7	-3.2
WPRZ	Whakapapatarin	0.87	189	P	Pn	20 19 57.7	+2.2
MUGZ	Murupara	0.88	157	P	Pn	20 19 57.1	+1.6
ALRZ	Allen Road	0.90	180	P	Pn	20 19 57.5	+1.9
TLZ	Tolley Road	0.92	223	P	Pn	20 19 57.6	+1.8
KUZ	Kuaotunu	1.04	332	P	Pn	20 19 57.5	+1.1
RTZ	Ruatahuna	1.08	152	P	Pn	20 19 58.4	+1.7
RTZ				S	S	20 20 23.2	-2.0
MKAZ	Moumakai	1.09	300	P	Pn	20 19 58.2	+1.5
MKAZ				S	S	20 20 23.1	-2.1
RUGZ	Raukumara Rang	1.10	106	P	Pn	20 19 57.6	+0.7
RUGZ				S	S	20 20 21.6	-4.0
WATZ	Wairara	1.15	204	P	Pn	20 19 59.3	+2.2
HAZ	Te Kaha	1.15	95	P	Pn	20 19 58.2	+1.2
HAZ				S	S	20 20 23.2	-2.6
MWZ	Matawai	1.15	126	P	Pn	20 19 58.6	+1.5
MWZ				S	S	20 20 23.9	-2.0
MRHZ	Matea Rd	1.17	177	P	Pn	20 19 58.9	+1.7
MRHZ				S	S	20 20 23.6	-2.6
RAGZ	Rawiri	1.19	135	P	Pn	20 19 59.6	+2.3
RAGZ				S	S	20 20 24.5	-1.9
MTHZ	Maungataniwha	1.25	162	P	Pn	20 19 59.8	+2.1
MTHZ				S	S	20 20 25.2	-1.9
WIAZ	Waiheke Island	1.30	312	P	Pn	20 19 59.5	+1.5
ETAZ	East Tamaki Re	1.33	302	P	Pn	20 19 59.9	+1.7
SNGZ	Shannon Statio	1.37	145	P	Pn	20 00 8.8	+2.4
SNGZ				S	S	20 20 26.8	-1.7
RAHZ	Arahi	1.38	155	P	Pn	20 20 01.1	+2.5
RAHZ				S	S	20 20 27.3	-1.3
PKGZ	Pakihiroa	1.40	99	P	Pn	20 20 00.8	+2.2
PKGZ				S	S	20 20 26.3	-2.4
TWGZ	Tauwhareparae	1.40	112	P	Pn	20 20 01.0	+2.4
TWGZ				S	S	20 20 27.8	-1.0
KATZ	Kakaramea	1.40	201	P	Pn	20 19 59.9	+1.1
TKGZ	Te Karaka	1.42	123	P	Pn	20 20 01.2	+2.4
TKGZ				S	S	20 20 26.9	-2.1
MBAZ	Motutapu North	1.46	307	P	Pn	20 20 00.8	+1.7
AWAZ	Awhitu Peninsu	1.48	293	P	Pn	20 20 00.9	+1.7
NMHZ	Naumai	1.48	166	P	Pn	20 20 02.4	+3.1
NMHZ				S	S	20 20 28.4	-1.5
BKZ	Black Stump Fm	1.50	175	P	Pn	20 20 01.1	+1.7
BKZ	Black Stump Fm	1.50	175	S	S	20 20 28.2	-2.1
BKZ	Black Stump Fm	1.50	175	P	Pn	20 20 01.1	+1.7
BKZ				S	S	20 20 27.9	-2.4
NTVZ	North Tongarir	1.52	200	P	Pn	20 20 01.9	+2.3
KRVZ	Karewarewa	1.53	201	P	Pn	20 20 01.8	+2.1
RIGZ	Rimuhau	1.53	133	P	Pn	20 20 02.3	+2.7
TMVZ	Te Maari	1.53	199	P	Pn	20 20 01.8	+2.1
WTVZ	West Tongariro	1.56	202	P	Pn	20 20 02.0	+2.0
MXZ	Matakaoa Point	1.57	87	P	Pn	20 20 01.8	+2.0
MXZ	Matakaoa Point	1.57	87	P	Pn	20 20 01.8	+2.0
MXZ				S	S	20 20 29.3	-1.6
NNVZ	North Ngauruho	1.57	201	P	Pn	20 20 02.4	+2.3
PUZ	Puketiti	1.57	106	P	Pn	20 20 02.2	+2.2
PUZ				S	S	20 20 29.0	-2.1
TWVZ	Taurewa	1.57	206	P	Pn	20 20 02.2	+2.1
GRZ	Great Barrier	1.58	333	P	Pn	20 20 01.4	+1.4
WTAZ	Waiatarua	1.58	297	P	Pn	20 20 02.0	+2.0
OTVZ	Oturere	1.59	199	P	Pn	20 20 02.6	+2.4
OTVZ				S	S	20 20 31.1	-0.5
ABAZ	Army Bay	1.60	311	P	Pn	20 20 02.2	+2.0
SNVZ	South Ngauruho	1.62	200	P	Pn	20 20 02.6	+2.2
SNVZ				S	S	20 20 33.1	+1.1
NGZ	Ngauruhoe	1.62	201	P	Pn	20 20 02.7	+2.3
WMGZ	Waiomatatini S	1.65	96	P	Pn	20 20 02.8	+2.3
WMGZ				S	S	20 20 31.2	-0.9
COVZ	Chateau Observ	1.66	202	P	Pn	20 20 02.8	+2.1
ARHZ	Aropaoanui	1.68	162	P	Pn	20 20 03.5	+2.8
ARHZ				S	S	20 20 32.2	-0.4
CNGZ	Carnagh Statio	1.69	120	P	Pn	20 20 04.1	+3.3
CNGZ				S	S	20 20 33.5	+0.8
TUVZ	Tukino	1.69	198	P	Pn	20 20 03.2	+2.2
FWVZ	Far West T-bar	1.71	201	P	Pn	20 20 03.4	+2.2
KNZ	Kokohu	1.71	143	P	Pn	20 20 03.5	+2.5
KNZ				S	S	20 20 31.6	-1.4
WHVZ	Whangaehu Hut	1.72	200	P	Pn	20 20 03.2	+1.9
TRVZ	Turoa	1.75	201	P	Pn	20 20 03.7	+2.2
PRGZ	Paritu Road	1.75	136	P	Pn	20 20 04.1	+2.7
PRGZ				S	S	20 20 30.8	-2.8
KWHZ	Kaweka Forest	1.76	178	P	Pn	20 20 03.9	+2.4
KWHZ				S	S	20 20 32.7	-1.2
WNVZ	Wahianoa	1.76	199	P	Pn	20 20 03.5	+2.0
WNVZ				S	S	20 20 33.5	-0.6
MCHZ	McNeill Hill	1.80	171	P	Pn	20 20 04.7	+3.0
MCHZ				S	S	20 20 33.1	-1.3
MOVZ	Moawhango	1.80	195	P	Pn	20 20 03.6	+1.8
MOVZ				S	S	20 20 32.8	-1.7
MTVZ	Mangateitei	1.85	201	P	Pn	20 20 04.3	+2.2
MTVZ				S	S	20 20 34.9	-0.3
VRZ	Vera Road	1.92	220	P	Pn	20 20 05.7	+3.0
VRZ				S	S	20 20 37.6	+1.6
MHGZ	Mahia Peninsul	1.93	141	P	Pn	20 20 05.6	+2.8
KRHZ	Kereru	1.98	179	P	Pn	20 20 05.6	+2.4
KRHZ				S	S	20 20 35.1	-2.0
CKHZ	Cape Kidnapper	2.07	164	P	Pn	20 20 07.1	+3.0
CKHZ				S	S	20 20 37.2	-1.4
KAHZ	Kahuranaki	2.17	169	P	Pn	20 20 07.7	+2.7
PNHZ	Pukenui	2.25	183	P	Pn	20 20 08.0	+2.3
PNHZ				S	S	20 20 39.6	-2.0
WCZ	Waipu Caves	2.35	316	P	Pn	20 20 09.0	+2.2
NEZ	North Egmont	2.38	227	P	Pn	20 20 11.2	+4.1
PXZ	Pawanui	2.40	170	P	Pn	20 20 09.8	+2.7
PXZ				S	S	20 20 43.1	-1.0
TSZ	Takapari Road	2.41	187	P	Pn	20 20 09.2	+2.0
KHEZ	Kahui Hut	2.44	228	P	Pn	20 20 11.3	+3.6
PRHZ	Porangahau	2.61	175	P	Pn	20 20 11.7	+2.5
PRHZ				S	S	20 20 44.2	-3.7
DVHZ	Dannevirke	2.63	183	P	Pn	20 20 11.5	+2.0
DVHZ				S	S	20 20 45.9	-2.5
POWZ	Post Office Ro	2.76	189	P	Pn	20 20 12.6	+1.8
BFZ	Birch Farm	3.02	181	P	Pn	20 20 15.3	+1.9
BFZ	Birch Farm	3.02	181	P	S	20 20 53.9	-1.6
BFZ	Birch Farm	3.02	181	P	Pn	20 20 15.6	+2.1
MRZ	Mangatainoka R	3.05	191	P	Pn	20 20 15.3	+1.5
TIWZ	Tintock	3.13	186	P	Pn	20 20 16.7	+2.1
OGWZ	Otaki Gorge	3.28	196	P	Pn	20 20 17.9	+1.6
HOWZ	Holdsworth Sta	3.29	191	P	Pn	20 20 17.8	+1.4
OUZ	Omahuta	3.29	317	P	Pn	20 20 18.7	+2.2
OUZ	Omahuta	3.29	317	P	Pn	20 20 18.9	+2.4
KIW	Kapiti Island	3.38	199	P	Pn	20 20 18.6	+1.2
TMWZ	Te Maipa	3.46	186	P	Pn	20 20 18.8	+0.5
MTW	Mount Morrison	3.55	190	P	Pn	20 20 20.5	+1.2
CAW	Cannon Point	3.58	196	P	Pn	20 20 20.9	+1.3
DUWZ	D'Urville Isla	3.65	210	P	Pn	20 20 21.5	+1.0
PAWZ	Paruwai Farm	3.78	190	P	Pn	20 20 23.2	+1.3
MSWZ	Moikau Station	3.84	192	P	Pn	20 20 22.0	-0.6
SNZO	South Karori	3.85	199	P	Pn	20 20 23.7	+1.0
SNZO	South Karori	3.85	199	S	S	20 21 10.0	-2.3
TCW	Tory Channel	3.88	204	P	Pn	20 20 24.3	+1.2
BHW	Baring Head	3.91	196	P	Pn	20 20 24.4	+1.0
PLWZ	Palliser	3.99	192	P	Pn	20 20 25.5	+1.1
TUWZ	Tuamarina	4.19	205	P	Pn	20 20 28.0	+1.3
NNZ	Nelson	4.22	212	P	Pn	20 20 28.2	+1.1
TKNZ	Takaka Hill	4.26	217	P	Pn	20 20 27.6	0.0
QRZ	Quartz Range	4.33	222	P	Pn	20 20 28.9	+0.7
QRZ	Quartz Range	4.33	222	S	S	20 21 20.0	-2.3
QRZ	Quartz Range	4.33	222	P	Pn	20 20 29.0	+0.7
BSWZ	Blackbirch Sta	4.47	204	P	Pn	20 20 31.1	+1.2
MRNZ	Matariki Terra	4.64	215	P	Pn	20 20 32.4	+0.3
THZ	Tophouse	4.88	212	P	Pn	20 20 35.6	+0.7
KHZ	Kahutara	5.21	203	P	Pn	20 20 40.2	+1.3
KHZ	Kahutara	5.21	203	S	S	20 21 39.5	-2.0
KHZ	Kahutara	5.21	203	P	Pn	20 20 40.3	+1.5
DSZ	Denniston Nort	5.37	219	P	Pn	20 20 41.2	+0.3
GVZ	Greta Valley S	5.87	204	P	Pn	20 20 48.1	+1.1
LTZ	Lake Taylor	5.99	210	P	Pn	20 20 49.2	+0.8
AMCZ	Amberley	6.18	206	P	Pn	20 20 51.6	+0.8
OXZ	Oxford	6.54	209	P	Pn	20 20 55.6	+0.3
OKCZ	Okains Bay	6.55	201	P	Pn	20 20 56.8	+1.4
MQZ	McQueen's Vall	6.65	204	P	Pn	20 20 57.0	+0.3
WVZ	Waitaha Valley	6.89	217	P	Pn	20 21 00.8	+1.1
MHCZ	Mount Hutt	6.89	210	P	Pn	20 21 00.4	+0.6
WACZ	Wakanui South	7.14	207	P	Pn	20 21 03.9	+1.1
RPZ	Rata Peaks	7.25	212	P	Pn	20 21 05.6	+1.3
RPZ	Rata Peaks	7.25	212	P	Pn	20 21 05.6	+1.3
GCSZ	Gaunt Creek Bo	7.27	217	P	Pn	20 21 05.4	+1.0
ARCZ	Arundel	7.40	210	P	Pn	20 21 07.1	+1.0
FOZ	Fox Glacier	7.68	218	P	Pn	20 21 10.4	+0.8
TMZ	Timaru	7.83	209	P	Pn	20 21 12.5	+1.0
ODZ	Otahua Downs	8.52	208	P	Pn	20 21 21.9	+1.7
ODZ	Otahua Downs	8.52	208	P	Pn	20 21 21.9	+1.7
JCZ	Jackson Bay	8.58	219	P	Pn	20 21 21.4	+0.3
JCZ	Jackson Bay	8.58	219	P	Pn	20 21 21.7	+0.5

*NEIC **15** 20:29:22.8±1.9, 10°.3N±0°.2×56°.5E±0°.2, h10km±2km, mb4.2/10, Error ellipse: s-maj=38.0km s-min=26.1km az=276.0*
*IDC **15** 20:29:24.1±1.2, 10°.69N×57°.12E, h0km, mb3.8/14, mbtmp3.8/14, Error ellipse: s-maj=34.4km s-min=18.8km az=37.0*

ISC 15 20:29:26.4±1.3, 10°6N±0°.2×57°0E±0°.2, h16km, n26, σ1°07/26, mb4.0/19, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UOSS	Minazif	14.24	357	Pn	Pn	20 32 47.8	+0.2
RAYN	Ar Rayn	16.85	321	P	Pn	20 33 19.1	-2.8
HRA	Herat	24.12	11	P	P	20 34 41.4	-0.5
DRK	Karamyk	31.60	22	P	P	20 35 49.8	+0.9
DRK				IAmb	IAmb	20 35 51.0	
	comp=Z,3.1nm,0.7s						
BTK	Batken	31.76	20		P	20 35 51.9	+1.8
KK31	Karatay Array	34.42	18	P	P	20 36 14.0	+0.9
KK31				IAmb	IAmb	20 36 15.1	
	comp=Z,2.4nm,0.6s						
KKAR	Karatay Array	34.42	18	P	P	20 36 13.9	+0.7
KBZ	Khabaz	35.16	342	P	P	20 36 19.7	+0.3
	comp=Z,1.1nm,0.6s,baz=192,slow=2.1,SNR=2.6						
	comp=Z,1.1nm,0.6s						
AAK	Ala-Archa	35.35	23	P	P	20 36 23.0	+1.6
AAK				IAmb	IAmb	20 36 24.2	
	comp=Z,2.2nm,0.9s						
BRTR	Keskin Array B	35.63	328	P	P	20 36 25.6	+1.8
	comp=Z,0.3nm,0.5s,baz=128,slow=6.3,SNR=2.6						
	comp=Z,0.3nm,0.5s						
ABKAR	Akbulak array	38.57	3	P	P	20 36 48.9	+0.5
CMAR	Chiang Mai Arr	41.27	74	P	P	20 37 10.8	-0.5
	comp=Z,0.6nm,0.8s,baz=267,slow=7.8,SNR=6.9						
	comp=Z,0.6nm,0.8s						
MAKZ	Makanchi	41.81	26	P	P	20 37 16.0	+0.6
MAKZ				IAmb	IAmb	20 37 16.8	
	comp=Z,2.2nm,0.9s						
MKAR	Makanchi Array	41.93	26	P	P	20 37 16.6	+0.2
MKAR	Makanchi Array	41.93	26	P	P	20 37 15.6	-0.8
	comp=Z,0.9nm,0.6s,baz=212,slow=9.1,SNR=8.0						
	comp=Z,0.9nm,0.6s						
KURBB	Kurchatov Arra	43.63	20	P	P	20 37 29.4	-0.6
	comp=Z,1.2nm,0.7s,baz=217,slow=8.0,SNR=9.2						
	comp=Z,1.2nm,0.7s						
ZAA0	Zalesovo Array	48.56	22	P	P	20 38 08.0	-0.9
ZAA0				IAmb	IAmb	20 38 09.2	
	comp=Z,2.2nm,0.8s						
ZALV	Zalesovo Beam	48.56	22	P	P	20 38 08.5	-0.3
	comp=Z,1.8nm,0.5s,baz=217,slow=8.1,SNR=8.6						
	comp=Z,1.8nm,0.5s						
FINES	FINESS Array B	55.52	343	P	P	20 39 00.3	-0.2
	comp=Z,1.2nm,0.7s,baz=103,slow=6.1,SNR=5.6						
	comp=Z,1.2nm,0.7s						
HFS	Hagfors	58.87	336	P	P	20 39 23.5	-0.8
	comp=Z,0.5nm,0.5s,baz=132,slow=8.6,SNR=1.8						
	comp=Z,0.5nm,0.5s						
NOA	NORSAR Array B	60.40	336	P	P	20 39 34.2	-0.7
	comp=Z,0.2nm,0.8s,baz=110,slow=5.3,SNR=1.8						
	comp=Z,0.2nm,0.8s						
ESDC	Sonseca Array	60.98	310	P	P	20 39 40.9	+1.6
	comp=Z,2.2nm,0.7s,baz=86,slow=5.9,SNR=17						
	comp=Z,2.2nm,0.7s						
ARCES	ARCESS Array B	62.19	348	P	P	20 39 46.7	-0.1
	comp=Z,2.3nm,0.8s,baz=153,slow=8.5,SNR=4.7						
	comp=Z,2.3nm,0.8s						
EKA	Eskdalemuir Ar	64.52	327	P	P	20 40 02.0	-0.5
	comp=Z,0.5nm,0.5s,baz=116,slow=6.7,SNR=4.2						
	comp=Z,0.5nm,0.5s						
WRA	Warramunga Arr	81.93	112	P	P	20 41 45.9	-0.1
	comp=Z,1.5nm,0.7s,baz=298,slow=4.3,SNR=9.4						
	comp=Z,1.5nm,0.7s						
ASAR	Alice Springs	82.48	116	P	P	20 41 48.4	-0.5
	comp=Z,1.0nm,0.5s,baz=292,slow=5.1,SNR=17						
	comp=Z,1.0nm,0.5s						

*IDC **15** 20:39:40.7±1.2, 1°.71S×122°.68E, h0km, mb3.4/5, mbtmp3.5/6, ML3.8/1, Error ellipse: s-maj=45.8km s-min=20.0km az=64.0*
*DJA **15** 20:39:44.5±0.2, 2°S±2°×12°3E±°, h10km, M3.8/18, mB4.8/1, mb3.9/3, MLv3.8/18, Mw(mB)4.0/1*

ISC 15 20:39:46.3±0.8, 1°77S±0°.04×122°61E±0°.05, h35km, n18, σ1°13/23, mb3.5/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.74	12	P	Pn	20 39 59.2	-1.1
LUWI				S	Sn	20 40 11.4	+1.1
APSI	Ampana	1.29	311	P	Pn	20 40 07.5	-0.3
KMSI	Cibinong	2.70	30	P	Pn	20 40 29.1	+1.9
PCI	Palu	2.91	287	P	Pn	20 40 31.3	+1.2
SANI	Sanana	3.38	95	P	Pn	20 40 36.0	-0.7
MPSI	Mapaga	3.43	308	P	Pn	20 40 38.2	+1.0
SPSI	Sidrap Palu	3.58	232	P	Pn	20 40 39.3	-0.1
SPSI				S	Sn	20 41 22.0	+1.5
BNSI	Bone	3.62	224	P	Pn	20 40 39.1	-0.8
BNSI				S	Sn	20 41 22.9	+1.5
BBSI	Bau Bau	3.69	181	P	Pn	20 40 41.3	+0.4
KAPI	Kappang	4.31	221	Pn	Pn	20 40 49.5	+0.2
	5.3nm,0.3s,baz=270,slow=2.7,SNR=14						
KAPI				Sn	Sn	20 41 38.0	-0.4
	4.4nm,0.3s,baz=162,slow=23,SNR

I26DE FREYUNG INFRAS 10.46 130 I I 22 07 43.9
baz=319,slow=327,SNR=0.8
I43RU DUBNA INFRASON 19.51 74 I I 23 02 28.8
0.1nm,1.3s,baz=283,slow=325,SNR=6.7
I31KZ AKTYUBINSK INF 33.34 76 I I 00 23 44.6
baz=300,slow=324,SNR=2.3

*IDC **15** 21:04:51.5±1.8, 24°.72N×94°.41E, h0km, mb3.5/4, mbtmp3.3/5, ML2.9/1, MS3.4/1, Error ellipse: s-maj=74.2km s-min=20.8km az=69.0*
ISC 15 21:04:52.2±0.9, 24°.6N±0°.2×93°.7E±0°.1, h10km, n14, σ3°58/20, mb3.6/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	**6.15**	**293**	Pn	**Pn**	**21 06 28.2**	**+4.8**
	baz=308,slow=0.0						
ODAN				Sn	**Sn**	**21 07 34.1**	**+0.1**
	baz=308,slow=0.0						
RAMN	**Ramite**	**6.85**	**292**	Pn	**Pn**	**21 06 37.4**	**+4.4**
	baz=306,slow=0.0						
RAMN				Sn	**Sn**	**21 07 48.4**	**-2.7**
	27nm,0.2s,baz=306,slow=0.0						
CMAR	**Chiang Mai Arr**	**7.77**	**140**	Pn	**Pn**	**21 06 44.2**	**-1.3**
	baz=322,slow=14,SNR=4.7						
CMAR				Pg	**Pb**	**21 07 08.7**	**+1.5**
	0.1nm,0.3s,baz=320,slow=15,SNR=4.5						
	0.1nm,0.6s						
GUN	**Gumba**	**7.79**	**297**	Pn	Pn	21 06 50.9	+4.8
	baz=309,slow=0.0						
GUN				Sn	**Sn**	**21 08 14.1**	**-0.4**
	baz=309,slow=0.0						
PKI	**Pulchoki**	**8.05**	**294**	Pn	**Pn**	**21 06 53.2**	**+3.6**
	baz=305,slow=0.0						
PKIN	**Phulchoki**	**8.06**	**294**	Pn	**Pn**	**21 06 53.8**	**+4.1**
	baz=305,slow=0.0						
PKIN				Sn	**Sn**	**21 08 18.4**	**-2.8**
	18nm,0.2s,baz=305,slow=0.0						
KKN	**Kakani**	**8.24**	**295**	Pn	**Pn**	**21 06 56.8**	**+4.8**
	baz=306,slow=0.0						
KKN				Sn	**Sn**	**21 08 23.7**	**-1.6**
	baz=306,slow=0.0						
KOLN	**Koldanda**	**9.64**	**292**	Pn	**Pn**	**21 07 14.2**	**+3.0**
	baz=301,slow=0.0						
KOLN				Sn	**Sn**	**21 08 53.4**	**-6.3**
	12nm,0.2s,baz=301,slow=0.0						
PYUN	**Piuthan**	**10.25**	**292**	Pn	**Pn**	**21 07 22.1**	**+2.5**
	baz=301,slow=0.0						
PYUN				Sn	**Sn**	**21 09 08.7**	**-6.1**
	baz=301,slow=0.0						
MKAR	**Makanchi Array**	**24.01**	**340**	P	**P**	**21 10 08.4**	**+1.3**
	0.2nm,0.5s,baz=147,slow=11,SNR=4.8						
	0.2nm,0.5s						
SONM	**Songino Array**	**25.32**	**20**	P	**P**	**21 10 17.0**	**-2.2**
	0.1nm,0.5s,baz=206,slow=13,SNR=5.0						
	0.1nm,0.5s						
ASAJ	**Asahikawa**	**44.12**	**51**	LR	LR	21 31 43.0	
	comp=Z,39nm,18.1s,baz=80,slow=37						
WRA	**Warramunga Arr**	**59.33**	**135**	P	**P**	**21 14 53.1**	**-1.6**
	1.3nm,0.5s,baz=323,slow=7.4,SNR=30						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**61.77**	**138**	P	**P**	**21 15 10.1**	**-1.3**
	0.7nm,0.3s,baz=319,slow=6.9,SNR=12						
	0.7nm,0.3s						

*TIR **15** 21:08:36.9, 40°.17N×20°.71E, h5km, Md2.9/5, Ml2.7/7*
*ATH **15** 21:08:37.6, 40°.21N×20°.70E, h5km±2km, ML2.9/27, Manual Solution by N.Liadopoulou First location: 2019/04/15 21:09:39, This location: 2019/04/16 06:55:14 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
*BEO **15** 21:08:38.9±0.4, 40°.09N×20°.83E, h0km, ML2.6/2*
*THE **15** 21:08:38.7, 40°.16N×20°.77E, h0km±2km, ML2.6/10, Error ellipse: s-maj=2.9km s-min=0.6km az=330.0*
*SKO **15** 21:08:39.6, 40°.15N×20°.71E, h12km, ML2.5*
ISC 15 21:08:37.6±1.1, 40°.20N±0°.01×20°.70E±0°.02, h1km±10km, n85, σ1°30/115, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.09**	**240**	Pg	**Pg**	**21 08 38.9**	**-0.4**
LSK				Sg	**Sg**	**21 08 40.4**	**-0.1**
LSK				AML	AML	21 08 41.1	
	266nm,0.6s						
LSK				AMd		21 09 50.9	
PENT	**Pentalofos**	**0.33**	**90**	P	**Pg**	**21 08 44.0**	**0.0**
PENT				S	**Sg**	**21 08 49.2**	**+0.8**
PENT	**Pentalofos**	**0.33**	**90**	P	**Pg**	**21 08 44.0**	**0.0**
PENT				S	**Sg**	**21 08 49.4**	**+1.0**
NEST	**Nestorio**	**0.34**	**50**	P	**Pg**	**21 08 44.6**	**+0.4**
NEST				S	**Sb**	**21 08 50.5**	**-2.1**
	1μm,0.7s						
NEST	**Nestorio**	**0.34**	**50**	Pg	**Pg**	**21 08 44.4**	**+0.2**
NEST				S	**Sg**	**21 08 49.9**	**+1.2**
NEST				AML	AML	21 08 55.0	
	3.8nm,0.9s						
NEST				AMd		21 09 46.8	
NEST	**Nestorio**	**0.34**	**50**	P	**Pg**	**21 08 44.5**	**+0.2**
NEST				S	**Sg**	**21 08 49.5**	**+0.8**
KBN	**Korca**	**0.43**	**9**	Pg	**Pg**	**21 08 45.7**	**-0.2**
KBN				Sg	**Sg**	**21 08 52.4**	**+0.8**
KBN				AML	AML	21 09 02.7	
	2.4nm,0.9s						
KBN				AMd		21 09 44.5	
JAN	**Janina**	**0.55**	**168**	P	**Pg**	**21 08 47.9**	**-0.2**
JAN				S	**Sg**	**21 08 55.7**	**+0.4**
	2μm,0.4s						
JAN	**Janina**	**0.55**	**168**	P	**Pg**	**21 08 47.9**	**-0.2**
JAN				S	**Sg**	**21 08 56.2**	**+0.9**
MSVA	**Metsovo**	**0.56**	**139**	P	**Pg**	**21 08 48.9**	**+0.5**
SRN	**Sarande**	**0.62**	**240**	Pg	**Pg**	**21 08 48.7**	**-0.9**
SRN				Sg	**Sb**	**21 08 59.3**	**-1.3**
SRN				AML	AML	21 09 05.2	
	1.1nm,0.8s						
SRN				AMd		21 09 39.4	
IGT	**Igoumenitsa**	**0.72**	**203**	P	**Pg**	**21 08 51.9**	**+0.5**
IGT				S	**Sb**	**21 09 03.1**	**-0.2**
	530nm,0.5s						
IGT	**Igoumenitsa**	**0.72**	**203**	Pg	**Pg**	**21 08 51.5**	**+0.1**
IGT				Sg	**Sg**	**21 09 01.3**	**+0.5**
IGT				AMd		21 09 42.2	
IGT	**Igoumenitsa**	**0.72**	**203**	*i* Pg	**Pg**	**21 08 51.6**	**+0.1**
IGT				*i* Sg	**Sb**	**21 09 02.7**	**-0.6**
IGT	**Igoumenitsa**	**0.72**	**203**	*e*Pg	**Pg**	**21 08 49.9**	**-1.5**
IGT				*e*Sg	**Sg**	**21 09 01.7**	**+1.0**
IGT	**Igoumenitsa**	**0.72**	**203**	P	**Pg**	**21 08 51.7**	**+0.3**
KEK	**Kerkira**	**0.84**	**236**	P	**Pb**	**21 08 54.6**	**-0.5**
KEK				S	**Sb**	**21 09 07.8**	**+0.9**
	350nm,0.5s						
KEK	**Kerkira**	**0.84**	**236**	P	**Pb**	**21 08 54.4**	**-0.6**
KEK				S	**Sg**	**21 09 05.7**	**+0.9**
OHR	**Ohrid**	**0.92**	**5**	*i* Pg	**Pn**	**21 08 56.5**	**-1.3**
OHR				*i* Sg	**Sn**	**21 09 11.6**	**0.0**
OHR				*e*Lg	Lg	21 09 12.7	
	comp=E,149nm,0.6s						
OHR				*e*Lg	Lg	21 09 13.2	
	comp=N,75nm,0.6s						
OHR	**Ohrid**	**0.92**	**5**	*e*Pg	**Pn**	**21 08 56.4**	**-1.3**
OHR				*e*Sg	**Sn**	**21 09 11.6**	**0.0**
PRGA	**Parga**	**0.94**	**194**	P	**Pg**	**21 08 54.8**	**-0.8**
TETR	**Tetrakomo, Epi**	**0.96**	**152**	P	**Pg**	**21 08 55.7**	**-0.2**
TETR				S	**Sb**	**21 09 09.9**	**-0.3**
ARTB	**Arta**	**1.06**	**168**	P	**Pg**	**21 08 56.7**	**-1.2**
THL	**Klokotos Trika**	**1.19**	**122**	P	**Pg**	**21 08 59.5**	**-0.9**
THL				S	**Sg**	**21 09 16.3**	**+0.5**
	comp=N,180nm,0.8s						
THL	**Klokotos Trika**	**1.19**	**122**	P	**Pg**	**21 08 59.6**	**-0.8**
TIR	**Tirane**	**1.31**	**331**	Pn	**Pg**	**21 09 07.0**	**+4.2**
TIR				Sn	**Sn**	**21 09 23.1**	**+1.8**
TIR				AML	AML	21 09 29.0	
	comp=N,0.5nm,0.9s						
TIR	**Tirane**	**1.31**	**331**	*e*Pg	**Pg**	**21 09 05.5**	**+2.7**
TIR				*e*Sg	**Sn**	**21 09 25.0**	**+3.7**
TIR	**Tirane**	**1.31**	**331**	P	**Pg**	**21 09 02.6**	**-0.2**
TSLK	**Tsoukalades, L**	**1.37**	**182**	P	**Pg**	**21 09 04.4**	**+0.6**
TSLK	**Tsoukalades, L**	**1.37**	**182**	P	**Pg**	**21 09 04.5**	**+0.6**
LIT	**Litokhoron**	**1.37**	**93**	P	**Pn**	**21 09 02.9**	**-1.0**
LIT	**Litokhoron**	**1.37**	**93**	*i* Pg	**Pb**	**21 09 03.9**	**-0.2**
LIT				*i* Sg	**Sn**	**21 09 24.0**	**+1.2**
LIT	**Litokhoron**	**1.37**	**93**	P	**Pn**	**21 09 02.8**	**-1.2**
LKD2	**Lefkada island**	**1.41**	**181**	P	**Pb**	**21 09 04.6**	**0.0**
LKD2	**Lefkada island**	**1.41**	**181**	P	**Pb**	**21 09 04.4**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.48**	**180**	P	**Pb**	**21 09 05.5**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.48**	**180**	P	**Pb**	**21 09 05.8**	**-0.1**
GRG	**Griva**	**1.50**	**59**	*i* Pn	**Pg**	**21 09 06.5**	**+0.2**
GRG				*i* Sg	**Sg**	**21 09 27.7**	**+1.8**
GRG	**Griva**	**1.50**	**59**	P	**Pn**	**21 09 05.5**	**-0.2**
PHP	**Peshkopia**	**1.50**	**353**	Pg	**Pg**	**21 09 06.8**	**+0.4**
PHP				Sg	**Sg**	**21 09 29.2**	**+3.4**
PHP				AML	AML	21 09 37.9	
	comp=N,0.9nm,1.5s						
EVR	**Evrytania**	**1.54**	**146**	P	**Pn**	**21 09 06.2**	**-0.1**
EVR	**Evrytania**	**1.54**	**146**	P	**Pb**	**21 09 07.0**	**+0.1**
EVGI	**Lefkada island**	**1.57**	**181**	P	**Pb**	**21 09 07.1**	**-0.4**
EVGI	**Lefkada island**	**1.57**	**181**	P	**Pb**	**21 09 07.0**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.62**	**136**	P	**Pb**	**21 09 07.8**	**-0.5**
PVO	**Paravola**	**1.70**	**158**	P	**Pb**	**21 09 09.1**	**-0.5**
SCTE	**Santa Cesarea**	**1.72**	**267**	P	**Pn**	**21 09 08.3**	**-0.3**
FSK	**Fiskardo**	**1.74**	**184**	P	**Pn**	**21 09 09.4**	**+0.5**
FSK	**Fiskardo**	**1.74**	**184**	P	**Pb**	**21 09 09.6**	**-0.7**
THE	**Thessaloniki**	**1.78**	**75**	*i* Pn	**Pb**	**21 09 10.7**	**-0.4**
VAY	**Valandovo**	**1.81**	**51**	*i* Pn	**Pb**	**21 09 11.1**	**-0.5**
VAY				*i* Sg	**Sg**	**21 09 36.8**	**+1.0**
VAY				*e*Lg	Lg	21 09 40.3	
	comp=N,38nm,0.8s						
VAY				*e*Lg	Lg	21 09 40.5	
	comp=E,48nm,0.7s						
VAY	**Valandovo**	**1.81**	**51**	*e*Pn	**Pb**	**21 09 11.5**	**0.0**
ANX	**Ano Chora**	**1.86**	**149**	P	**Pb**	**21 09 11.4**	**-1.0**
SKO	**Skopje**	**1.86**	**17**	*e*Pn	**Pb**	**21 09 11.2**	**-1.3**
SKO				*i* Sg	**Sg**	**21 09 40.0**	**+2.6**
HORT	**Hortiatis**	**1.88**	**77**	P	**Pn**	**21 09 10.2**	**-0.7**
PUK	**Puka**	**1.94**	**342**	Pn	**Pg**	**21 09 14.6**	**-0.3**
PUK				Sn	**Sg**	**21 09 41.9**	**+1.8**
PUK				AML	AML	21 09 50.7	
	comp=E,0.3nm,0.7s						
DMLN	**Damoulianata-K**	**1.97**	**188**	P	**Pn**	**21 09 12.0**	**-0.1**
EFP	**Efpalio**	**2.00**	**152**	P	**Pn**	**21 09 12.8**	**+0.4**
VLS	**Valsamata**	**2.02**	**183**	P	**Pn**	**21 09 13.0**	**+0.2**
AXS	**Araxos**	**2.06**	**165**	P	**Pn**	**21 09 12.2**	**-1.2**
SERG	**Sergoula**	**2.07**	**149**	P	**Pn**	**21 09 13.9**	**+0.4**
PSDA	**Pessada-Kefalo**	**2.08**	**183**	P	**Pn**	**21 09 13.6**	**0.0**
AXAR	**Agios Charalam**	**2.08**	**133**	P	**Pn**	**21 09 13.8**	**+0.2**
PLG	**Polygyros**	**2.11**	**84**	P	**Pn**	**21 09 12.9**	**-1.1**
SOH	**Sokhos**	**2.12**	**72**	P	**Pn**	**21 09 14.3**	**+0.1**
NEO	**Neokhori**	**2.14**	**114**	P	**Pn**	**21 09 14.5**	**+0.1**
YRMI	**Loutra Irminis**	**2.15**	**166**	P	**Pn**	**21 09 14.3**	**-0.3**
BCI	**Bajram Curri**	**2.22**	**348**	Pn	**Pg**	**21 09 19.3**	**-0.9**
BCI				Sn	**Sg**	**21 09 49.1**	**+0.1**
KLV	**Kalavryta, Ach**	**2.43**	**152**	P	**Pn**	**21 09 19.3**	**+0.9**
KKB	**Krupnik**	**2.46**	**47**	*i* Pn	**Pb**	**21 09 20.8**	**-2.0**
PDG	**Podgorica**	**2.48**	**334**	*e*Pn	**Pb**	**21 09 21.7**	**-1.3**
KOKK	**Kokkinochori,**	**2.59**	**75**	P	**Pn**	**21 09 20.3**	**-0.3**
GUR	**Goura**	**2.59**	**150**	P	**Pn**	**21 09 21.7**	**+0.9**
MMB	**Musomishta**	**2.68**	**59**	*i* Pn	**Pn**	**21 09 22.9**	**+1.1**
BARS	**Barje**	**2.75**	**17**	*i* Pn	**Pn**	**21 09 23.7**	**+0.9**
BARS	**Barje**	**2.75**	**17**	*e*Pn	**Pn**	**21 09 23.5**	**+0.7**
BARS				*e*Sn	**Sb**	**21 10 01.6**	**-0.2**
AMT	**Artemida-Makis**	**2.77**	**163**	P	**Pn**	**21 09 23.9**	**+0.8**
VIL2	**Platees**	**2.81**	**134**	P	**Pn**	**21 09 23.6**	**-0.1**
SELS	**Selova**	**3.04**	**6**	*e*Pn	**Pb**	**21 09 29.2**	**-3.3**
VTS	**Vitosha**	**3.08**	**37**	*e*Pn	**Pn**	**21 09 28.4**	**+0.9**
SJES	**Sjenica**	**3.11**	**350**	*e*Pn	**Pb**	**21 09 31.6**	**-2.2**
TIP	**Timpagrande**	**3.21**	**253**	P	**Pn**	**21 09 28.1**	**-1.1**
IVAS	**Ivanjica**	**3.40**	**353**	*e*Pn	**Pb**	**21 09 35.2**	**-3.5**
GRUS	**Gruza**	**3.69**	**0**	*e*Pn	**Pn**	**21 09 38.8**	**+3.0**
BBLS	**Lazi&#263i**	**3.79**	**346**	*e*Sn	**Sb**	**21 10 26.5**	**-5.3**

*NAO **15** 21:52:36.2, 35°.66N×22°.52E, h10km, mb3.7*
*IDC **15** 21:52:40.2±1.2, 36°.46N×23°.22E, h0km, mb3.8/10, mbtmp3.6/16, ML3.3/6, MS3.2/2, Error ellipse: s-maj=24.9km s-min=13.5km az=33.0*
*ATH **15** 21:52:41.9, 36°.36N×23°.15E, h6km±1km, ML3.6/24, Manual Solution by M.Papanikolaou First location: 2019/04/15 21:53:46, This location: 2021/03/28 20:29:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*BEO **15** 21:52:42.7±4.1, 35°.91N×22°.64E, h43km±9km, ML3.7/3*
*THE **15** 21:52:42.0, 36°.32N×23°.02E, h1km±3km, ML3.7/6, Error ellipse: s-maj=3.1km s-min=0.7km az=239.0*
*NEIC **15** 21:52:44.6±2.4, 36°.25N±0°.09×22°.94E±0°.09, h36km±11km, mb4.2/13, Error ellipse: s-maj=15.6km s-min=7.1km az=213.0*
ISC 15 21:52:41.8±1.0, 36°.31N±0°.03×23°.07E±0°.04, h17km±6km, n146, σ1°88/163, mb4.1/16, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.42**	**346**	P	**Pg**	**21 52 49.8**	**-0.7**
VLI				S	**Sg**	**21 52 55.2**	**-1.2**
	7μm,0.5s						
VLI	**Veliai**	**0.42**	**346**	P	**Pg**	**21 52 49.7**	**-0.9**
VLI				S	**Sg**	**21 52 55.5**	**-0.9**
ANKY	**Antikythira Is**	**0.48**	**156**	P	**Pb**	**21 52 51.7**	**-0.1**
ANKY				S	**Sb**	**21 52 58.5**	**+0.1**
	24μm,0.4s						
ANKY	**Antikythira Is**	**0.48**	**156**	P	**Pb**	**21 52 51.6**	**-0.1**
ANKY				S	**Sb**	**21 52 58.6**	**+0.1**
KRND	**KRANIDI**	**1.08**	**4**	P	**Pb**	**21 53 02.4**	**+0.4**
KRND				S	**Sn**	**21 53 18.0**	**+1.3**
	2μm,0.5s						
CHAN	**Chania**	**1.11**	**134**	P	**Pg**	**21 53 03.4**	**0.0**
CHAN				S	**Sn**	**21 53 17.7**	**+0.1**
IMMV	**Iera Moni Meta**	**1.12**	**138**	P	**Pg**	**21 53 03.6**	**0.0**
IMMV				S	**Sn**	**21 53 19.8**	**+2.0**
	5μm,0.5s						
IMMV	**Iera Moni Meta**	**1.12**	**138**	P	**Pg**	**21 53 03.7**	**+0.1**
MHLO	**Agia Marina, M**	**1.14**	**70**	P	**Pg**	**21 53 04.1**	**+0.1**
MHLO				S	**Sg**	**21 53 20.5**	**+1.6**
	10μm,0.5s						
MHLO	**Agia Marina, M**	**1.14**	**70**	P	**Pn**	**21 53 02.7**	**-0.4**
CHNB	**Souda**	**1.15**	**135**	P	**Pg**	**21 53 04.0**	**-0.1**
ITM	**Ithomi**	**1.26**	**314**	P	**Pn**	**21 53 03.8**	**-1.0**
ITM				S	**Sn**	**21 53 22.4**	**+1.1**
	2μm,0.5s						
ITM	**Ithomi**	**1.26**	**314**		**Pn**	**21 53 03.8**	**-1.0**
ITM	**Ithomi**	**1.26**	**314**	P	**Pn**	**21 53 03.6**	**-1.1**
MET5	**Makryloggos,Me**	**1.33**	**10**	P	**Pn**	**21 53 06.3**	**+0.6**
AMT	**Artemida-Makis**	**1.64**	**319**	P	**Pn**	**21 53 10.5**	**+0.7**
VLY	**Voula,Athens**	**1.65**	**29**	P	**Pn**	**21 53 10.2**	**+0.2**
GVD	**Gavdhos**	**1.68**	**150**	P	**Pg**	**21 53 13.5**	**-0.7**
GVD	**Gavdhos**	**1.68**	**150**	P	**Pb**	**21 53 12.3**	**-0.1**
LTK	**Loutraki**	**1.72**	**357**	P	**Pn**	**21 53 12.0**	**+1.0**
GUR	**Goura**	**1.73**	**341**	P	**Pn**	**21 53 12.5**	**+1.3**
ATH	**Athens Observa**	**1.74**	**17**	P	**Pn**	**21 53 12.1**	**+0.8**
ATH	**Athens Observa**	**1.74**	**17**	P	**Pn**	**21 53 11.7**	**+0.4**
ATHU	**Athens Univers**	**1.75**	**19**	P	**Pn**	**21 53 12.7**	**+1.3**
IDI	**Anoyia**	**1.80**	**124**		**Pb**	**21 53 13.3**	**-1.0**
IDI	**Anoyia**	**1.80**	**124**	Pn	**Pb**	**21 53 12.8**	**-1.5**
	4.4nm,0.3s,baz=239,slow=9.5,SNR=64						
IDI				Sn	**Sb**	**21 53 35.5**	**-1.1**
	62nm,0.3s,baz=329,slow=9.7,SNR=8.2						
IDI	**Anoyia**	**1.80**	**124**	P	**Pb**	**21 53 13.8**	**-0.6**
PTL	**Penteli**	**1.85**	**20**	P	**Pn**	**21 53 13.6**	**+0.7**
PTL	**Penteli**	**1.85**	**20**	P	**Pn**	**21 53 13.3**	**+0.4**
KLV	**Kalavryta, Ach**	**1.88**	**337**	P	**Pn**	**21 53 15.1**	**+1.8**
KLV	**Kalavryta, Ach**	**1.88**	**337**	P	**Pn**	**21 53 14.9**	**+1.7**
THR3	**Thira Island,**	**1.89**	**86**	P	**Pb**	**21 53 15.1**	**-0.7**
DION	**Dionisos Attik**	**1.90**	**21**	P	**Pn**	**21 53 14.3**	**+0.8**
DION	**Dionisos Attik**	**1.90**	**21**	P	**Pn**	**21 53 14.2**	**+0.6**
VIL2	**Platees**	**1.91**	**5**	P	**Pn**	**21 53 13.4**	**-0.2**
KARY	**Karystos**	**2.04**	**32**	P	**Pn**	**21 53 16.1**	**+0.7**
TNSA	**Tinos**	**2.08**	**53**	P	**Pn**	**21 53 16.5**	**+0.5**
ALIK	**Aliki, Aigiali**	**2.10**	**339**	P	**Pn**	**21 53 17.6**	**+1.5**
APE	**Apeiranthos**	**2.12**	**68**	P	**Pn**	**21 53 17.2**	**+0.6**
RLS	**Riolos of Patr**	**2.17**	**324**	P	**Pn**	**21 53 19.5**	**+2.4**
KALE	**Kalithea**	**2.21**	**341**	P	**Pn**	**21 53 19.5**	**+1.8**
EFP	**Efpalio**	**2.31**	**337**	P	**Pn**	**21 53 20.9**	**+1.8**
EFP	**Efpalio**	**2.31**	**337**	P	**Pn**	**21 53 20.4**	**+1.3**
LKR	**Lokris**	**2.34**	**359**	P	**Pn**	**21 53 20.3**	**+0.7**
LKR	**Lokris**	**2.34**	**359**	P	**Pn**	**21 53 20.2**	**+0.7**
ANX	**Ano Chora**	**2.46**	**339**	P	**Pn**	**21 53 23.1**	**+1.8**
KYMI	**Kymi, Euboea I**	**2.47**	**19**	P	**Pn**	**21 53 22.3**	**+1.1**
AXAR	**Agios Charalam**	**2.48**	**353**	P	**Pn**	**21 53 22.3**	**+0.9**
PVO	**Paravola**	**2.61**	**333**	P	**Pn**	**21 53 25.5**	**+2.2**
VLS	**Valsamata**	**2.72**	**314**	P	**Pn**	**21 53 26.5**	**+1.8**
VLS	**Valsamata**	**2.72**	**314**	P	**Pn**	**21 53 26.2**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.80**	**345**	P	**Pn**	**21 53 27.8**	**+1.9**
DMLN	**Damoulianata-K**	**2.89**	**313**	P	**Pn**	**21 53 28.3**	**+1.3**
DMLN	**Damoulianata-K**	**2.89**	**313**	P	**Pn**	**21 53 28.5**	**+1.4**
NEO	**Neokhori**	**3.00**	**2**	P	**Pn**	**21 53 27.9**	**-0.7**
NYDR	**Nydri-Lefkada**	**3.05**	**323**	P	**Pn**	**21 53 31.6**	**+2.3**
LKD2	**Lefkada island**	**3.13**	**323**	P	**Pn**	**21 53 32.4**	**+1.9**
TSLK	**Tsoukalades, L**	**3.16**	**323**	P	**Pn**	**21 53 32.8**	**+2.0**
KARP	**Karpathos**	**3.41**	**102**	Pn	**Pn**	**21 53 36.3**	**+2.0**
KARP	**Karpathos**	**3.41**	**102**	P	**Pn**	**21 53 35.4**	**+1.1**
SIGR	**SIGRI**	**3.65**	**36**	P	**Pn**	**21 53 38.1**	**+0.7**
LIT	**Litokhoron**	**3.82**	**353**	Pn	**Pn**	**21 53 40.9**	**+1.1**
IGT	**Igoumenitsa**	**3.88**	**327**	P	**Pn**	**21 53 42.5**	**+1.8**
IGT	**Igoumenitsa**	**3.88**	**327**	*e*Pn	**Pn**	**21 53 42.6**	**+1.8**
IGT				*e*Sn	**Sn**	**21 54 27.3**	**+1.5**
IGT	**Igoumenitsa**	**3.88**	**327**	P	**Pn**	**21 53 42.5**	**+1.8**
ARG	**Arkhangelos**	**4.09**	**90**	Pn	**Pn**	**21 53 46.6**	**+3.0**
ARG	**Arkhangelos**	**4.09**	**90**	P	**Pn**	**21 53 45.6**	**+2.0**
KEK	**Kerkira**	**4.27**	**324**	Pn	**Pn**	**21 53 47.4**	**+1.4**
ALN	**Alexandroupoli**	**5.14**	**26**	Pn	**Pn**	**21 54 01.6**	**+3.5**
SCTE	**Santa Cesarea**	**5.22**	**317**	Pn	**Pn**	**21 53 59.2**	**+0.1**
AKAS	**Kas**	**5.29**	**89**	Pn	**Pn**	**21 54 04.3**	**+4.2**
ELL	**Elmali**	**5.53**	**83**	Pn	**Pn**	**21 54 08.1**	**+4.6**
TIP	**Timpagrande**	**5.76**	**302**	Pn	**Pn**	**21 54 06.7**	**+0.1**
CEL	**Celeste**	**6.04**	**291**	Pn	**Pn**	**21 54 09.9**	**-0.6**
BOSS	**Bosilegrad**	**6.20**	**356**	*e*Pn	**Pn**	**21 54 14.9**	**+2.3**
VTS	**Vitosha**	**6.31**	**1**	*e*Pn	**Pn**	**21 54 16.8**	**+2.6**
BARS	**Barje**	**6.57**	**352**	*e*Pn	**Pn**	**21 54 22.0**	**+4.3**
CUC	**Castrocucco**	**6.80**	**305**	Pn	**Pn**	**21 54 22.7**	**+1.9**
VAE	**Valguarnera**	**7.03**	**282**	Pn	**Pn**	**21 54 27.7**	**+3.7**
	2.9nm,0.5s,baz=49,slow=18,SNR=3.1						
VAE				Sn	**Sn**	**21 55 47.3**	**+3.7**
	1.6nm,0.3s,baz=268,slow=11,SNR=5.3						
SELS	**Selova**	**7.07**	**348**	*e*Pn	**Pn**	**21 54 26.5**	**+2.0**
SELS				*e*Sn	**Sn**	**21 55 47.3**	**+2.9**
SJES	**Sjenica**	**7.34**	**342**	*e*Pn	**Pn**	**21 54 31.0**	**+2.7**
SJES				*e*Sn	**Sn**	**21 55 49.9**	**-1.4**
IVAS	**Ivanjica**	**7.60**	**344**	*e*Pn	**Pn**	**21 54 34.6**	**+2.8**
STON	**Ston**	**7.75**	**329**	*e*Pn	**Pn**	**21 54 33.2**	**-0.7**
STON				*e*Sn	**Sn**	**21 55 57.0**	**-4.2**
SGRT	**San Giovanni R**	**7.88**	**316**	Pn	**Pn**	**21 54 35.8**	**+0.2**
BBLS	**Lazi&#263i**	**8.05**	**341**	*e*Sn	**Sn**	**21 56 06.6**	**-2.2**
DIVS	**Divibare**	**8.13**	**344**	*e*Pn	**Pn**	**21 54 41.5**	**+2.4**
PAOL	**Paolisi**	**8.15**	**308**	Pn	**Pn**	**21 54 42.3**	**+2.9**
CSS	**Mathiatis**	**8.46**	**96**	Pn	**Pn**	**21 54 44.7**	**+1.0**
TEKS	**Tekeris**	**8.66**	**343**	*e*Pn	**Pn**	**21 54 46.5**	**+0.1**
BRTR	**Keskin Array B**	**9.02**	**65**	Pn	**Pn**	**21 54 52.5**	**+1.1**
	0.1nm,0.3s,baz=241,slow=14,SNR=15						
INTR	**Introdacqua**	**9.11**	**311**	Pn	**Pn**	**21 54 53.5**	**+1.0**
BZS	**Buzias**	**9.37**	**354**	*e*Pn	**Pn**	**21 54 59.0**	**+3.0**
CAMP	**Campotosto**	**9.72**	**313**	Pn	**Pn**	**21 55 02.2**	**+1.3**
NRCA	**Norcia**	**10.07**	**313**	Pn	**Pn**	**21 55 07.7**	**+2.0**
GUMA	**Gualdo di Mace**	**10.08**	**315**	Pn	**Pn**	**21 55 09.7**	**+3.8**
FDMO	**Fiordimonte**	**10.21**	**314**	Pn	**Pn**	**21 55 09.1**	**+1.5**
MMAI	**Mount Meron Ar**	**10.68**	**104**	Pn	**Pn**	**21 55 14.5**	**+0.5**
	1.1nm,0.3s,baz=328,slow=12,SNR=6.0						
MMAI				Sn	**Sn**	**21 57 09.3**	**-3.9**
	1.8nm,0.3s,baz=280,slow=25,SNR=6.1						
	0.4nm,0.3s						
BOJS	**Bojanci**	**10.92**	**330**	*e*Pn	**Pn**	**21 55 17.4**	**+0.1**
BOJS		

SJA 15 21:54:12.4±0.7, 23°.14S×66°.76W, h225km±6km, ML3.5, MW3.5
GUC 15 21:54:15.2±0.7, 23°.13S×66°.84W, h202km±7km, ML3.9
ISC 15 21:54:11.1±1.8, **23°.13S**±0°.04×**66°.75W**±0°.05, **h235**km±13km, **n31**, σ2°**10**/52, **5C-2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**1.15**	**161**	‖*iP*	**Pn**	**21 54 46.8**	**+0.7**
SALTA		**1.15**	**161**	*eP*	**Pn**	**21 54 46.8**	**+0.7**
SALTA				*eP*		21 54 46.8	
AF01	**San Pedro de A**	**1.33**	**277**	*eP*	**Pn**	**21 54 47.0**	**-0.1**
AF01	**San Pedro de A**	**1.33**	**277**	*eP*	**Pn**	**21 54 48.5**	**+1.5**
AF01				*eS*	**S**	**21 55 20.8**	**+5.7**
AF01				IAML		21 56 08.2	
	comp=Z,138nm,0.3s						
YJA	**Yavi**	**1.48**	**50**	⇑*iP*	**Pn**	**21 54 49.5**	**+1.1**
YJA				*eS*	**S**	**21 55 15.8**	**-1.8**
YJA	**Yavi**	**1.48**	**50**	*eP*	**Pn**	**21 54 49.6**	**+1.1**
YJA				*eP*		21 54 50.2	
YJA				*eS*	**S**	**21 55 10.7**	**-6.8**
AZAP	**Zapla**	**1.89**	**126**	*eP*	**Pn**	**21 54 52.4**	**+0.9**
AZAP				*eS*	**S**	**21 55 24.2**	**+1.0**
SLA	**San Lorenzo**	**1.95**	**145**	‖*pP*	**Pn**	**21 54 54.0**	**+2.0**
ASTB	**Santa Barbara**	**2.26**	**112**	*eP*	Pn	21 55 05.2	+10
ALOL	**LOMAS DE OLMED**	**2.63**	**106**	*eP*	**Pn**	**21 55 00.2**	**+1.6**
PB06	**IPOC Station P**	**2.64**	**279**	*eP*	**Pn**	**21 55 00.0**	**+1.1**
PB06				*eS*	**S**	**21 55 34.0**	**-2.5**
PB06				IAML		21 55 36.3	
	comp=E,373nm,0.1s						
PB06	**IPOC Station P**	**2.64**	**279**	*eP*	**Pn**	**21 55 00.1**	**+1.1**
PB06				*eS*	**S**	**21 55 35.0**	**-1.4**
PB06				IAML		21 55 40.4	
	comp=Z,117nm,0.3s						
PB09	**IPOC Station P**	**2.66**	**299**	⇑*iP*	**Pn**	**21 55 01.0**	**+1.7**
PB09				*eS*	**S**	**21 55 35.1**	**-1.8**
PB09				IAML		21 55 39.1	
	comp=N,108nm,0.3s						
PB09	**IPOC Station P**	**2.66**	**299**	*eP*	**Pn**	**21 55 00.9**	**+1.7**
PB09				*eS*	**S**	**21 55 35.8**	**-1.1**
PB09				IAML		21 55 40.9	
	comp=Z,99nm,0.4s						
PB03	**IPOC Station P**	**2.98**	**291**	⇑*iP*	**Pn**	**21 55 03.6**	**+1.0**
PB03				IAML		21 55 40.8	
	comp=N,386nm,0.2s						
PB03	**IPOC Station P**	**2.98**	**291**	*eP*	**Pn**	**21 55 03.7**	**+1.0**
PB03				*eS*	**S**	**21 55 40.5**	**-2.6**
PB03				IAML		21 55 43.2	
	comp=Z,332nm,0.3s						
PB01	**IPOC Station P**	**3.28**	**309**	*eP*	**Pn**	**21 55 07.4**	**+1.4**
PB01				*eS*	**S**	**21 55 47.3**	**-1.9**
PB01				IAML		21 55 48.5	
	comp=E,214nm,0.2s						
PB01	**IPOC Station P**	**3.28**	**309**	*eP*	**Pn**	**21 55 07.4**	**+1.4**
PB01				*eS*	**S**	**21 55 48.0**	**-1.2**
PB01				IAML		21 55 50.4	
	comp=Z,190nm,0.2s						
GO02	**Mina Guanaco**	**3.29**	**232**	⇑*iP*	**Pn**	**21 55 07.5**	**+1.3**
GO02				*eS*	**S**	**21 55 48.8**	**-0.9**
GO02				IAML		21 55 51.0	
	comp=N,266nm,0.1s						
GO02	**Mina Guanaco**	**3.29**	**232**	*eP*	**Pn**	**21 55 07.7**	**+1.5**
GO02				*eS*	**S**	**21 55 49.6**	**-0.1**
PB10	**IPOC Station P**	**3.52**	**263**	⇑*iP*	**Pn**	**21 55 09.9**	**+1.3**
PB10				IAML		21 55 52.4	
	comp=N,108nm,0.4s						
PB10	**IPOC Station P**	**3.52**	**263**	*eP*	**Pn**	**21 55 09.9**	**+1.3**
PB10				*eS*	**S**	**21 55 51.2**	**-2.6**
PB10				IAML		21 55 51.8	
	comp=Z,38nm,0.4s						
PB14	**IPOC Station P**	**3.66**	**245**	*eP*	**Pn**	**21 55 11.6**	**+1.0**
PB14				*eS*	**S**	**21 55 55.5**	**-1.9**
PB14				IAML		21 55 57.2	
	comp=Z,42nm,0.2s						
PB08	**IPOC Station P**	**3.72**	**323**	*eP*	**Pn**	**21 55 14.2**	**+2.8**
PB08				*eS*	**S**	**21 55 58.6**	**-0.3**
PB08				IAML		21 56 00.9	
	comp=E,58nm,0.2s						
PB08	**IPOC Station P**	**3.72**	**323**	*eP*	**Pn**	**21 55 14.2**	**+2.8**
PB08				*eS*	**S**	**21 55 59.2**	**+0.3**
PB08				IAML		21 56 03.3	
	comp=Z,36nm,0.5s						
HMBC	**Humberstone**	**4.07**	**314**	*eP*	**Pn**	**21 55 16.5**	**+1.2**
HMBC				*eS*	**S**	**21 56 03.3**	**-2.7**
HMBC				IAML		21 56 05.8	
	comp=Z,103nm,0.6s						
TA01	**Diego Aracena**	**4.09**	**308**	*eP*	**Pn**	**21 55 17.4**	**+2.1**
TA01				*eS*	**S**	**21 56 04.0**	**-2.1**
TA01				IAML		21 56 06.1	
	comp=Z,45nm,0.6s						
AC02	**Maricunga**	**4.27**	**210**	*eP*	**Pn**	**21 55 19.9**	**+2.0**
AC02				*eS*	S	21 55 51.5	-19
PB11	**IPOC Station P**	**4.31**	**321**	*eP*	**Pn**	**21 55 19.8**	**+1.6**
PB11				*eS*	**S**	**21 56 09.1**	**-2.2**
PB11				IAML		21 56 10.8	
	comp=Z,60nm,0.4s						
AC01	**Pan de Azucar**	**4.61**	**229**	*eP*	**Pn**	**21 55 22.0**	**+0.4**
AC01				*eS*	**S**	**21 56 15.4**	**-2.2**
AC01				IAML		21 56 27.5	
	comp=Z,17nm,1.3s						
GO03	**Copiapo**	**5.45**	**215**	*eP*	**Pn**	**21 55 32.6**	**+0.6**
GO03				*eS*	**S**	**21 56 33.7**	**-2.7**

IDC 15 22:15:13.8±1.8, **1°.87S×139°.22E, h0**km, **mb3.2**/2, **mbtmp3.2**/3, **ML3.4**/1, **Error ellipse: s-maj=34.1km s-min=15.6km az=20.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.62**	**113**	Pg	Pn	22 15 42.5	-1.2
	5.9nm,0.3s,baz=248,slow=14,SNR=22						
JAY				Lg	Lg	22 16 06.0	
	7.5nm,0.3s,baz=105,slow=16,SNR=5.6						
WRA	**Warramunga Arr**	**18.59**	**195**	P	Pn	22 19 33.2	+0.4
	0.1nm,0.3s,baz=19,slow=11,SNR=6.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**22.27**	**193**	P	P	22 20 11.6	-1.2
	0.6nm,0.6s,baz=24,slow=11,SNR=5.9						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**69.44**	**322**	P	P	22 26 24.5	+0.6
	0.2nm,0.7s,baz=101,slow=7.5,SNR=2.5						
	0.2nm,0.7s						

RSNC 15 22:16:20.4±0.0, **6°N**±1°×**7°4W**±°, **h118**km±2km, **M2.8, mb3.8, ML2.6, MwMwp4.6, Mwp4.9, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.44**	**57**	P	Pn	22 16 37.3	-0.8
BARC				S	Sn	22 16 50.8	-0.5
BRJC	**Barrancabermej**	**0.65**	**343**	P	Pn	22 16 37.9	-1.3
BRJC				S	Sn	22 16 51.8	-1.5
RUSC	**La Rusia**	**0.65**	**134**	P	Pn	22 16 38.6	-1.1
RUSC				S	Sn	22 16 53.0	-1.3
VMM09	**Lebrija**	**0.81**	**18**	P	Pn	22 16 40.0	-0.7
VMM09				S	Sn	22 16 55.2	-0.8
PTBC	**PUERTO BERRIO,**	**0.92**	**282**	P	Pn	22 16 39.1	-2.4
PTBC				S	Sn	22 16 54.1	-3.3
VMM07	**Puerto Wilches**	**1.05**	**343**	P	Pn	22 16 41.9	-0.9
VMM07				S	Sn	22 17 00.3	+0.6
EZNC	**La Esperanza**	**1.29**	**10**	P	Pn	22 16 44.4	-1.0
EZNC				S	Sn	22 17 04.2	-0.1
PAMC	**Pamplona, Colo**	**1.30**	**41**	P	Pn	22 16 45.3	-0.6
PAMC				S	Sn	22 17 05.2	0.0
NORC	**Norcasia**	**1.53**	**239**	P	Pn	22 16 46.6	-1.5
NORC				S	Sn	22 17 07.3	-1.8
VMM05	**San Martn**	**1.55**	**360**	P	Pn	22 16 47.9	-0.4
ROSC	**El Rosal**	**1.69**	**207**	P	Pn	22 16 50.8	+0.5
ROSC				S	Sn	22 17 13.4	+0.4
CHIC	**Chingaza**	**1.72**	**186**	P	Pn	22 16 49.4	-1.3
CHIC				S	Sn	22 17 12.7	-1.1
ZARC	**Zaragoza, Cauc**	**1.73**	**311**	P	Pn	22 16 48.8	-1.6
ZARC				S	Sn	22 17 11.0	-2.3
TAMC	**Tame, Arauca**	**1.75**	**87**	P	Pn	22 16 50.1	-0.6
TAMC				S	Sn	22 17 11.4	-2.4
CVER	**Cruz Verde, Cu**	**1.89**	**196**	P	Pn	22 16 52.7	-0.2
CVER				S	Sn	22 17 16.4	-1.2
OCAC	**Ocana**	**1.89**	**7**	P	Pn	22 16 51.2	-1.4
OCAC				S	Sn	22 17 16.7	-0.4
GUY2C	**Guyana, Caldas**	**2.12**	**238**	P	Pn	22 16 54.5	-1.3
GUY2C				S	Sn	22 17 22.1	-0.7
AGCC	**Aguachica**	**2.15**	**359**	P	Pn	22 16 54.1	-1.6
AGCC				S	Sn	22 17 22.6	-0.1
UREC	**San Jos de Ur**	**2.41**	**305**	P	Pn	22 16 56.6	-2.4
UREC				S	Sn	22 17 25.0	-3.6
CBOC	**Ciudad Bolivar**	**2.50**	**259**	P	Pn	22 16 59.1	-1.1
CBOC				S	Sn	22 17 28.0	-2.8
PTGC	**Puerto Gaitan,**	**2.56**	**147**	P	Pn	22 16 58.8	-2.1
PTGC				S	Sn	22 17 29.3	-2.8
ANIL	**Santa Ana**	**2.61**	**225**	P	Pn	22 17 01.5	-0.3
ANIL				S	Sn	22 17 34.1	+0.4
DBBC	**Dabeiba**	**2.72**	**284**	P	Pn	22 17 02.0	-1.1
DBBC				S	Sn	22 17 33.0	-3.0
PRAC	**Prado**	**2.94**	**207**	P	Pn	22 17 04.2	-1.7
PRAC				S	Sn	22 17 40.3	-0.6
ORTC	**Ortega, Tolima**	**2.96**	**215**	P	Pn	22 17 04.8	-1.3
ORTC				S	Sn	22 17 41.4	+0.1
URMC	**La Uribe, Meta**	**3.19**	**195**	P	Pn	22 17 09.2	-0.1
URMC				S	Sn	22 17 46.5	-0.5
APAC	**Apartado, Choc**	**3.38**	**297**	P	Pn	22 17 10.1	-1.5
APAC				S	Sn	22 17 49.3	-1.9
ARGC	**Ariguani, Magd**	**3.55**	**349**	P	Pn	22 17 15.0	+1.0
ARGC				S	Sn	22 17 54.4	-1.0
YOTC	**Yotoco, Valle**	**3.64**	**230**	P	Pn	22 17 13.0	-2.3
SDV	**Santo Domingo**	**3.83**	**49**	P	Pn	22 17 17.2	-0.7
SDV				S	Sn	22 18 00.3	-2.1
SJCC	**San Jacinto, C**	**3.88**	**336**	P	Pn	22 17 16.2	-2.1
SJCC				S	Sn	22 17 58.8	-4.4
BETC	**Betania**	**4.10**	**207**	P	Pn	22 17 19.1	-2.3
BETC				S	Sn	22 18 07.4	-1.3
MACC	**Macarena, Meta**	**4.19**	**184**	P	Pn	22 17 20.1	-2.4
MACC				S	Sn	22 18 06.0	-4.6
GARC	**Garzon, Huila**	**4.57**	**205**	P	Pn	22 17 25.6	-2.2
GARC				S	Sn	22 18 17.1	-3.0
CRJC	**Cerrejon, Guaj**	**4.69**	**8**	P	Pn	22 17 27.3	-1.9
CRJC				S	Sn	22 18 20.4	-2.3
URIC	**Uribia, Colomb**	**5.54**	**16**	P	Pn	22 17 38.2	-2.4
URIC				S	Sn	22 18 40.2	-2.9

NEIC 15 22:25:54.9±1.5, 18°.8S×70°.2W±0°.1, h220km±12km, mb4.2/13, Error ellipse: s-maj=30.8km s-min=6.4km az=209.0
IDC 15 22:26:00.3±4.6, 18°.68S×175°.55W, h254km±32km, mb3.7/5, mbtmp4.3/6, Error ellipse: s-maj=48.0km s-min=23.5km az=52.0
ISC 15 22:25:56.9±1.2, **18°.6S**±0°.1×**175°.3W**±0°.2, **h238**km, **n27**, σ1§**40**/26, **mb4.2**/11, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**5.02**	**327**		**Pn**	**22 27 13.1**	**+0.4**
NIUE	**Niue**	**5.13**	**96**	Pn	Pn	22 27 09.6	-4.3
MSVF	**Nonsavu**	**6.37**	**276**	Pn	**Pn**	**22 27 30.6**	**+1.0**
MSVF	**Nonsavu**	**6.37**	**276**	P	**Pn**	**22 27 30.9**	**+1.4**
	5.8nm,0.4s,baz=112,slow=19,SNR=8.0						
URZ	**Urewera**	**20.70**	**197**	P	**P**	**22 30 18.8**	**-0.3**
	6.3nm,0.5s,baz=67,slow=1.6,SNR=7.5						
	6.3nm,0.5s						
BKZ	**Black Stump Fm**	**21.72**	**197**		**P**	**22 30 27.9**	**-1.4**
QRZ	**Quartz Range**	**24.51**	**203**	P	**P**	**22 30 57.1**	**+2.4**
LTZ	**Lake Taylor**	**26.33**	**201**	P	**P**	**22 31 13.5**	**+2.5**
ARMA	**Armidale**	**32.19**	**242**	P	**P**	**22 32 03.8**	**+0.7**
ARMA				IAmb	IAmb	22 32 11.8	
	comp=Z,10nm,1.1s						
COEN	**Coen**	**40.05**	**270**	P	**P**	**22 33 09.3**	**-0.2**
COEN				IAmb	IAmb	22 33 09.6	
	comp=Z,9.5nm,1.1s						
STKA	**Stephens Creek**	**40.91**	**243**	P	**P**	**22 33 17.4**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=89,slow=12,SNR=3.6						
	comp=Z,0.7nm,0.4s						
BBOO	**Buckleboo**	**45.68**	**242**	P	**P**	**22 33 53.6**	**-0.7**
BBOO				IAmb	IAmb	22 34 19.4	
	comp=Z,3.6nm,1.1s						
WR8	**Warramunga Arr**	**47.26**	**260**	P	**P**	**22 34 05.7**	**-1.1**
WB0	**Warramunga Arr**	**47.38**	**260**	P	**P**	**22 34 06.7**	**-1.0**
WB0				IAmb	IAmb	22 34 07.5	
	comp=Z,3.3nm,0.7s						
WRA	**Warramunga Arr**	**47.41**	**260**	P	**P**	**22 34 06.4**	**-1.5**
WRA	**Warramunga Arr**	**47.41**	**260**	P	**P**	**22 34 07.4**	**-0.5**
	comp=Z,2.2nm,0.4s,baz=97,slow=7.0,SNR=36						
	comp=Z,2.2nm,0.4s						
ASAR	**Alice Springs**	**47.45**	**255**	P	**P**	**22 34 05.6**	**-2.6**
ASAR	**Alice Springs**	**47.45**	**255**	P	**P**	**22 34 07.8**	**-0.5**
	comp=Z,8.8nm,0.6s,baz=88,slow=8.6,SNR=105						
	comp=Z,8.8nm,0.6s						
KNRA	**Kununurra**	**53.35**	**264**	P	**P**	**22 34 51.9**	**-0.4**
KNRA				IAmb	IAmb	22 34 52.5	
	comp=Z,8.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**55.82**	**260**	P	**P**	**22 35 09.8**	**-0.2**
PSA00	**Pilbara Seismi**	**60.59**	**255**	P	**P**	**22 35 42.1**	**-0.8**
PSA00				IAmb	IAmb	22 36 07.9	
	comp=Z,7.5nm,0.9s						
CASY	**Casey**	**66.78**	**205**	P	**P**	**22 36 19.9**	**-2.6**
CASY				IAmb	IAmb	22 36 32.7	
	comp=Z,9.1nm,0.8s						
QSPA	**South Pole Qui**	**71.49**	**180**	P	**P**	**22 36 52.8**	**+1.2**
QSPA	**South Pole Qui**	**71.49**	**180**	P	**P**	**22 36 53.2**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=59,slow=1.2,SNR=8.2						
	comp=Z,1.2nm,0.7s						
BVAR	**Borovoye Array**	**119.21**	**321**	PKP	**PKPdf**	**22 44 18.0**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=78,slow=4.5,SNR=4.3						
BUR08	**Bucovina Ar. S**	**146.51**	**335**	PKPbc	**PKPdf**	**22 45 09.6**	**+1.1**
BURAR	**Bucovina Array**	**146.53**	**335**	PKPbc	**PKPdf**	**22 45 08.8**	**+0.3**

IDC 15 22:29:42.6±2.7, 27°.65S×66°.06E, h0km, mb3.8/8, mbtmp3.8/8, MS3.4/1, Error ellipse: s-maj=82.9km s-min=40.3km az=37.0
ISC 15 22:29:43.8±2.6, **27°.7S**±0°.5×**66°.0E**±0°.4, **h10**km, **n16**, σ0§**68**/9, **mb3.8**/8, **Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**20.91**	**18**	T	T	22 55 47.5	
	baz=197,slow=76,SNR=6.9						
H08S2	**Diego Carcia H**	**20.91**	**18**	T	T	22 55 49.2	
	baz=197,slow=76,SNR=6.5						
H08S3	**Diego Garcia H**	**20.93**	**18**	T	T	22 55 51.1	
	baz=197,slow=76,SNR=7.5						
H04N2	**CROZET ISLANDS**	**21.55**	**208**	T	T	22 57 04.9	
	baz=37,slow=73,SNR=346						
H04N1	**CROZET ISLANDS**	**21.56**	**208**	T	T	22 57 06.7	
	baz=37,slow=73,SNR=287						
H04N3	**CROZET ISLANDS**	**21.57**	**208**	T	T	22 56 58.0	
	baz=37,slow=73,SNR=305						
TSUM	**Tsumeb**	**44.99**	**270**	LR	LR	22 56 33.1	
	comp=Z,39nm,18.3s,baz=67,slow=36						
CMAR	**Chiang Mai Arr**	**55.92**	**39**	P	**P**	**22 39 22.4**	**+0.2**
	0.3nm,0.4s,baz=212,slow=8.4,SNR=4.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**60.62**	**103**	P	**P**	**22 39 55.3**	**0.0**
	0.2nm,0.4s,baz=244,slow=5.6,SNR=2.0						
	0.2nm,0.4s						
BRTR	**Keskin Array B**	**73.58**	**335**	P	**P**	**22 41 17.6**	**+0.3**
	0.8nm,0.9s,baz=160,slow=7.5,SNR=3.9						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**75.63**	**11**	P	**P**	**22 41 28.1**	**-0.8**
	0.4nm,0.5s,baz=168,slow=4.0,SNR=7.7						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**78.80**	**8**	P	**P**	**22 41 47.1**	**+0.6**
	0.6nm,0.9s,baz=215,slow=5.8,SNR=5.3						
	0.6nm,0.9s						
BVAR	**Borovoye Array**	**80.51**	**3**	P	**P**	**22 41 55.6**	**-0.2**
	0.7nm,0.7s,baz=188,slow=8.7,SNR=2.4						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**82.97**	**11**	P	**P**	**22 42 07.5**	**-1.2**
	1.5nm,0.8s,baz=174,slow=3.0,SNR=5.6						
	1.5nm,0.8s						
SONM	**Songino Array**	**83.53**	**26**	P	**P**	**22 42 12.5**	**+0.6**
	0.5nm,0.7s,baz=224,slow=4.1,SNR=4.3						
	0.5nm,0.7s						
YKA	**Yellowknife Ar**	**145.25**	**0**	PKPbc	**PKPbc**	**22 49 20.7**	**-0.1**
	0.3nm,0.5s,baz=347,slow=3.5,SNR=9.9						

ISN 15 22:32:43.7±1.0, 33°.73N×45°.70E, h11km±5km, ML2.9
TEH 15 22:32:46.1, 33°.74N×45°.74E, h17km±36km
ISC 15 22:32:45.0±0.9, **33°.73N**±0°.03×**45°.72E**±0°.04, **h13**km, **n15**, σ1§**24**/19, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.42**	**23**	Pg	**Pb**	**22 32 53.8**	**-0.5**
IBDR	**Badra**	**0.64**	**164**	*e*Pg	**Pg**	**22 32 57.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**22 33 05.0**	**-0.9**
KGS1	**Ghasr-e-Shirin**	**0.78**	**352**	Pg	**Pn**	**22 33 01.3**	**-0.5**
IGHG	**Ghaleghazi**	**0.93**	**49**	Pg	**Pn**	**22 33 03.8**	**-0.2**
IDHR	**Dehrash**	**1.12**	**30**	Pg	**Pn**	**22 33 07.1**	**+0.6**
BHD	**Baghdad**	**1.21**	**248**	*e*Pn	**Pg**	**22 33 08.0**	**-0.2**
BHD				*e*Sn	**Sg**	**22 33 26.0**	**+2.1**
KCHF	**Cheshme Sefid,**	**1.23**	**63**	Pg	**Pg**	**22 33 09.2**	**+0.5**
ILIN	**Lien**	**1.57**	**41**	Pg	**Pg**	**22 33 15.1**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.94**	**54**	Pn	**Pb**	**22 33 19.7**	**-0.8**
IKRK	**Kirkuk**	**2.02**	**326**	*e*Pn	**Pn**	**22 33 19.0**	**+0.3**
IKRK				*e*Sn	**Sb**	**22 33 46.0**	**-0.6**
IKRK				AML	AML	22 33 55.0	
	comp=E,143nm,0.5s						
IKRK				AML	AML	22 34 04.8	
	comp=N,124nm,0.6s						
RAFI	**Al-Rafai**	**2.03**	**170**	*e*Pn	**Pn**	**22 33 20.0**	**+1.2**
RAFI				*e*Sn	**Sb**	**22 33 46.0**	**-0.8**
IDOB	**Doab**	**2.05**	**88**	Pn	**Pb**	**22 33 21.5**	**-0.8**
HSAM	**Samen**	**2.45**	**78**	Pn	**Pb**	**22 33 27.1**	**-1.9**
BDRS	**Dareh Seyedi**	**2.64**	**84**	Pn	**Pn**	**22 33 29.7**	**+2.1**
HGHA	**Hamedan- Ghaye**	**3.13**	**55**	Pn	**Pn**	**22 33 36.7**	**+2.5**

WEL 15 22:47:12.1±0.3, **42°S**±2°×**17°4E**±°, **h5**km, **M3.5**/13, **ML3.9**/12, **MLv3.5**/13, **Error ellipse: s-maj=3.7km s-min=2.2km az=112.0, confirmed, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.18**	**192**	P	Pg	22 47 15.6	0.0
KHZ				S	Sg	22 47 18.6	+0.6
KIKS	**Kaikoura**	**0.20**	**159**	P	Pg	22 47 16.1	+0.1
KIKS				S	Sg	22 47 19.8	+1.2
MOLW	**Molesworth Sta**	**0.29**	**302**	P	Pg	22 47 17.9	+0.2
MOLW				S	Sg	22 47 22.6	+0.9
KEKS	**Kekerengu Vall**	**0.41**	**46**	P	Pg	22 47 20.4	+0.3
KEKS				S	Sg	22 47 26.7	+1.3
WTMC	**Te Mara Farm W**	**0.55**	**226**	P	Pg	22 47 23.0	+0.4
WTMC				S	Sb	22 47 31.7	-0.7
BSWZ	**Blackbirch Sta**	**0.57**	**22**	P	Pg	22 47 23.3	+0.2
BSWZ				S	Sb	22 47 31.9	-1.1
WDFS	**Ward Fire Stat**	**0.58**	**45**	P	Pb	22 47 24.2	-0.6
CECS	**Cheviot Emerge**	**0.62**	**202**	P	Pb	22 47 24.8	-0.6
CECS				S	Sb	22 47 34.6	+0.2
HSES	**Hanmer Springs**	**0.63**	**243**	P	Pg	22 47 24.0	-0.2
CMWZ	**Cape Campbell**	**0.68**	**44**	P	Pb	22 47 26.2	-0.3
THZ	**Tophouse**	**0.70**	**313**	P	Pg	22 47 25.9	+0.3
THZ				S	Sb	22 47 35.7	-1.0
GVZ	**Greta Valley S**	**0.83**	**209**	P	Pb	22 47 28.6	-0.5
GVZ				S	Sb	22 47 41.6	+0.9
BWRS	**Waikakaho Road**	**0.84**	**17**	P	Pg	22 47 28.2	0.0
TUWZ	**Tuamarina**	**0.85**	**18**	P	Pb	22 47 29.1	-0.4
TUWZ				S	Sb	22 47 41.3	+0.2
WAKC	**Waikari**	**0.97**	**222**	P	Pg	22 47 30.9	+0.1
HAVS	**Havelock**	**0.98**	**9**	P	Pg	22 47 30.4	-0.5
NNZ	**Nelson**	**1.04**	**351**	P	Pg	22 47 31.7	-0.3
MRNZ	**Matariki Terra**	**1.05**	**323**	P	Pg	22 47 32.2	0.0
MRNZ				S	Sn	22 47 47.8	-0.6
LTZ	**Lake Taylor**	**1.11**	**241**	P	Pg	22 47 32.4	-1.1
LTZ				S	Sb	22 47 49.1	+0.4
TCW	**Tory Channel**	**1.15**	**27**	P	Pg	22 47 33.5	-0.7
TCW				S	Sb	22 47 49.9	+0.2
AMCZ	**Amberley**	**1.16**	**216**	P	Pg	22 47 33.4	-1.0
BHW	**Baring Head**	**1.27**	**49**	P	Pg	22 47 34.7	-1.8
TKNZ	**Takaka Hill**	**1.30**	**339**	P	Pn	22 47 36.4	-0.5
WEL	**Wellington**	**1.30**	**43**	P	Pn	22 47 35.9	-1.1
DSZ	**Denniston Nort**	**1.42**	**290**	P	Pn	22 47 38.8	+0.1
DSZ				S	Sg	22 47 58.8	+1.1
DUWZ	**D'Urville Isla**	**1.46**	**10**	P	Pn	22 47 38.4	-0.8
OKCZ	**Okains Bay**	**1.53**	**194**	P	Pn	22 47 37.6	-2.6
OXZ	**Oxford**	**1.57**	**226**	P	Pn	22 47 38.2	-2.5
OXZ				S	Sn	22 47 58.5	-3.0
CAW	**Cannon Point**	**1.59**	**45**	P	Pn	22 47 39.1	-1.8
CAW				S	Sn	22 47 59.3	-2.4
MOZ	**McQueen's Vall**	**1.61**	**205**	P	Pn	22 47 38.1	-3.2
MOZ				S	Sn	22 47 58.3	-4.2
QRZ	**Quartz Range**	**1.62**	**330**	P	Pn	22 47 41.9	+0.5
QRZ				S	Sb	22 48 03.6	+0.2
INZ	**Inchbonnie**	**1.66**	**252**	P	Pn	22 47 42.0	+0.1
KIW	**Kapiti Island**	**1.70**	**36**	P	Pn	22 47 41.5	-1.0
AKCZ	**Akaroa Harbour**	**1.70**	**197**	P	Pn	22 47 39.9	-2.6
AKCZ				S	Sn	22 48 00.8	-3.9
RACZ	**Rakaia**	**1.82**	**215**	P	Pn	22 47 41.6	-2.6
RACZ				S	Sn	22 48 04.3	-3.4
OGWZ	**Otaki Gorge**	**1.85**	**40**	P	Pn	22 47 42.8	-1.8
MHCZ	**Mount Hutt**	**1.96**	**228**	P	Pn	22 47 43.7	-2.5
MHCZ				S	Sn	22 48 07.9	-3

mbtmp3.4/6, ML3.1/2, MS3.8/2, Error ellipse: s-maj=33.9km s-min=24.8km az=107.0
*ATH **15** 23:11:29.4, 37°.60N×20°.64E, h12km±2km, ML3.5/22, Manual Solution by A.Fokaefs First location: 2019/04/15 23:12:26, This location: 2019/04/16 06:46:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
*THE **15** 23:11:30.4, 37°.65N×20°.73E, h0km±3km, ML3.3/8, Error ellipse: s-maj=3.5km s-min=0.7km az=206.0*

ISC 15 23:11:29.7±1.1, 37°.63N±0°.04×20°.65E±0°.04, h14km±6km, n77, σ0°98/96, mb3.5/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.17**	**63**	P	**Pg**	**23 11 33.5**	**-0.2**
LTHK				S	**Sg**	**23 11 35.9**	**-0.6**
ORTH	**Orthonies,Zaky**	**0.22**	**10**	P	**Pg**	**23 11 35.1**	**+0.4**
ORTH				S	**Sg**	**23 11 38.7**	**+0.7**
KYPS	**Kipseli, Zakin**	**0.23**	**37**	P	**Pg**	**23 11 35.2**	**+0.4**
KYPS				S	**Sb**	**23 11 39.4**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.45**	**13**	P	**Pg**	**23 11 39.0**	**+0.3**
RTZL				S	**Sb**	**23 11 45.8**	**-0.3**
	5μm,0.5s						
CLEM	**Kyllini,Ilia,G**	**0.46**	**56**	P	**Pg**	**23 11 38.9**	**0.0**
CLEM				S	**Sb**	**23 11 46.5**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.48**	**354**	P	**Pg**	**23 11 39.5**	**+0.2**
PSDA				S	**Sb**	**23 11 46.7**	**-0.2**
	5μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.48**	**354**	P	**Pg**	**23 11 39.5**	**+0.2**
PSDA				S	**Sb**	**23 11 46.5**	**-0.4**
VLS	**Valsamata**	**0.54**	**355**	P	**Pg**	**23 11 40.5**	**+0.1**
VLS				S	**Sb**	**23 11 48.6**	**-0.1**
	5μm,0.4s						
VLS	**Valsamata**	**0.54**	**355**	P	**Pg**	**23 11 40.4**	**-0.1**
VLS				S	**Sb**	**23 11 48.8**	**+0.1**
LCHA	**Lechaina**	**0.57**	**58**	P	**Pg**	**23 11 41.1**	**+0.1**
LXR1	**Lixouri, Cepha**	**0.59**	**344**	P	**Pb**	**23 11 41.9**	**+0.1**
SMHA	**Samh**	**0.62**	**0**	P	**Pg**	**23 11 40.8**	**-1.0**
SMHA				S	**Sb**	**23 11 50.6**	**-0.2**
DMLN	**Damoulianata-K**	**0.64**	**340**	P	**Pg**	**23 11 42.4**	**+0.1**
DMLN				S	**Sb**	**23 11 52.3**	**+0.8**
	7μm,0.6s						
DMLN	**Damoulianata-K**	**0.64**	**340**	P	**Pg**	**23 11 42.3**	**+0.1**
DMLN				S	**Sb**	**23 11 51.4**	**-0.1**
YRMI	**Loutra Irminis**	**0.73**	**50**	P	**Pg**	**23 11 43.3**	**-0.6**
YRMI				S	**Sb**	**23 11 54.1**	**+0.2**
RLS	**Riolos of Patr**	**0.78**	**57**	P	**Pb**	**23 11 44.3**	**-0.7**
RLS				S	**Sg**	**23 11 54.3**	**-0.7**
	2μm,0.6s						
RLS	**Riolos of Patr**	**0.78**	**57**	P	**Pb**	**23 11 44.3**	**-0.7**
RLS				S	**Sb**	**23 11 56.0**	**+0.7**
AXS	**Araxos**	**0.81**	**46**	P	**Pb**	**23 11 44.8**	**-0.7**
AXS				S	**Sg**	**23 11 57.1**	**+1.2**
ZARO	**Zacharo**	**0.81**	**100**	P	**Pb**	**23 11 45.2**	**-0.3**
FSK	**Fiskardo**	**0.83**	**355**	P	**Pb**	**23 11 45.4**	**-0.4**
FSK				S	**Sn**	**23 11 58.5**	**-0.4**
	2μm,0.5s						
FSK	**Fiskardo**	**0.83**	**355**	P	**Pb**	**23 11 45.2**	**-0.7**
AMT	**Artemida-Makis**	**0.85**	**97**	P	**Pb**	**23 11 45.6**	**-0.6**
AST1	**Astakos**	**0.97**	**21**	P	**Pb**	**23 11 47.9**	**-0.4**
EVGI	**Lefkada island**	**0.99**	**0**	P	**Pb**	**23 11 48.3**	**-0.3**
EVGI				S	**Sn**	**23 12 03.1**	**+0.2**
	2μm,0.3s						
EVGI	**Lefkada island**	**0.99**	**0**	P	**Pb**	**23 11 47.9**	**-0.6**
PATG	**Patra B**	**1.05**	**54**	P	**Pb**	**23 11 49.5**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.08**	**2**	P	**Pb**	**23 11 50.0**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.08**	**2**	P	**Pb**	**23 11 49.4**	**-0.7**
UPR	**University Cam**	**1.11**	**54**	P	**Pn**	**23 11 51.0**	**+0.2**
UPR				S	**Sb**	**23 12 05.2**	**+0.2**
UPR	**University Cam**	**1.11**	**54**	P	**Pg**	**23 11 51.5**	**+0.4**
ITM	**Ithomi**	**1.12**	**114**	P	**Pb**	**23 11 50.3**	**-0.5**
ITM	**Ithomi**	**1.12**	**114**	P	**Pb**	**23 11 49.9**	**-0.9**
LKD2	**Lefkada island**	**1.15**	**0**	P	**Pn**	**23 11 51.1**	**-0.4**
LKD2	**Lefkada island**	**1.15**	**0**	P	**Pn**	**23 11 50.9**	**-0.5**
TSLK	**Tsoukalades, L**	**1.19**	**0**	P	**Pb**	**23 11 52.0**	**0.0**
TSLK	**Tsoukalades, L**	**1.19**	**0**	P	**Pn**	**23 11 51.8**	**-0.1**
PVO	**Paravola**	**1.20**	**35**	P	**Pn**	**23 11 52.1**	**+0.1**
KLV	**Kalavryta, Ach**	**1.26**	**71**	P	**Pn**	**23 11 52.4**	**-0.5**
KLV	**Kalavryta, Ach**	**1.26**	**71**	P	**Pn**	**23 11 52.2**	**-0.7**
EFP	**Efpalio**	**1.27**	**51**	P	**Pn**	**23 11 52.7**	**-0.3**
EFP				S	**Sg**	**23 12 10.7**	**0.0**
	870nm,0.6s						
EFP	**Efpalio**	**1.27**	**51**	P	**Pn**	**23 11 52.5**	**-0.5**
ALIK	**Aliki, Aigiali**	**1.32**	**61**	P	**Pn**	**23 11 53.6**	**0.0**
GUR	**Goura**	**1.38**	**77**	P	**Pn**	**23 11 54.7**	**+0.1**
GUR	**Goura**	**1.38**	**77**	P	**Pn**	**23 11 54.0**	**-0.6**
ANX	**Ano Chora**	**1.39**	**46**	P	**Pn**	**23 11 54.5**	**-0.2**
KALE	**Kalithea**	**1.40**	**57**	P	**Pn**	**23 11 54.6**	**-0.3**
VLX	**Vlachokerasia**	**1.40**	**100**	P	**Pn**	**23 11 54.6**	**-0.4**
EVR	**Evrytania**	**1.57**	**35**	P	**Pb**	**23 11 59.1**	**+0.5**
EVR	**Evrytania**	**1.57**	**35**	P	**Pb**	**23 11 59.2**	**+0.6**
TETR	**Tetrakomo, Epi**	**1.78**	**16**	P	**Pb**	**23 12 02.3**	**+0.2**
IGT	**Igoumenitsa**	**1.91**	**353**	P	**Pn**	**23 12 03.0**	**+1.1**
IGT	**Igoumenitsa**	**1.91**	**353**	P	**Pn**	**23 12 02.9**	**+1.0**
AXAR	**Agios Charalam**	**1.95**	**54**	P	**Pb**	**23 12 04.0**	**-0.9**
VLI	**Veliai**	**2.04**	**116**	P	**Pn**	**23 12 05.0**	**+1.3**
KEK	**Kerkira**	**2.18**	**343**	P	**Pb**	**23 12 08.1**	**-0.8**
DION	**Dionisos Attik**	**2.64**	**79**	P	**Pn**	**23 12 13.4**	**+1.5**
DRME	**Dracevica, Mon**	**4.68**	**347**	*e*Pn	**Pn**	**23 12 40.2**	**+0.3**
PDG	**Podgorica**	**4.91**	**348**	*e*Pn	**Pn**	**23 12 42.0**	**-1.0**
TREB	**Trebinje**	**5.37**	**342**	*e*Pn	**Pn**	**23 12 46.2**	**-3.2**
SJES	**Sjenica**	**5.64**	**355**	*e*Pn	**Pn**	**23 12 54.5**	**+1.3**
STON	**Ston**	**5.70**	**338**	*e*Pn	**Pn**	**23 12 52.9**	**-0.9**
RUDO	**Rudo**	**6.06**	**351**	*e*Pn	**Pn**	**23 13 02.3**	**+3.5**
A050A	**Klekovaca**	**7.51**	**337**	*e*Pn	**Pn**	**23 13 18.7**	**-0.2**
BLY	**Banja Luka**	**7.57**	**341**	*e*Pn	**Pn**	**23 13 17.8**	**-1.8**
A051A	**Mrakovica**	**7.89**	**340**	*e*Pn	**Pn**	**23 13 21.0**	**-3.0**
BOJS	**Bojanci**	**8.84**	**335**	*e*Pn	**Pn**	**23 13 38.6**	**+1.6**
CRES	**Cresnjevec Ost**	**9.06**	**336**	*e*Pn	**Pn**	**23 13 37.7**	**-2.2**
CEY	**Cerknica**	**9.34**	**332**	*e*Pn	**Pn**	**23 13 43.7**	**-0.1**
OBKA	**Obir**	**9.98**	**335**	*e*Pn	**Pn**	**23 13 49.7**	**-2.7**
GERES	**GERESS Array B**	**12.29**	**338**	Pn	**Pn**	**23 14 21.3**	**-3.0**
	baz=151,slow=15,SNR=2.9						
	0.2nm,0.3s						
AKASG	**Malin Array Be**	**14.43**	**22**	Pn	**Pn**	**23 14 53.6**	**+0.3**
	0.5nm,0.3s,baz=209,slow=8.5,SNR=4.4						
AKASG				LR	LR	23 21 27.3	
	comp=Z,78nm,18.1s,baz=66,slow=42						
	0.2nm,0.4s						
HFS	**Hagfors**	**22.95**	**351**	P	**P**	**23 16 33.7**	**+0.4**
	1.3nm,0.7s,baz=159,slow=13,SNR=5.1						
	1.3nm,0.7s						
FINES	**FINESS Array B**	**24.08**	**6**	P	**P**	**23 16 44.1**	**-0.2**
	0.4nm,0.4s,baz=189,slow=11,SNR=4.4						
	0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**29.67**	**220**	P	**P**	**23 17 37.0**	**+1.9**
	99nm,0.3s,baz=37,slow=9.4,SNR=1.3						
MKAR	**Makanchi Array**	**45.50**	**58**	P	**P**	**23 19 48.1**	**-0.4**
	0.2nm,0.6s,baz=275,slow=7.1,SNR=2.1						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**45.98**	**48**	P	**P**	**23 19 51.2**	**-0.9**
	0.3nm,0.3s,baz=282,slow=7.2,SNR=2.1						
	0.3nm,0.3s						
JCJ	**Chichijima**	**95.44**	**50**	LR	LR	00 10 18.9	
	comp=Z,159nm,20.8s,baz=104,slow=37						

*TIR **15** 23:22:17.0, 41°.08N×20°.29E, h0km±1km, Md2.5/3, Ml2.0/7*
*BEO **15** 23:22:19.1±0.3, 41°.06N×20°.22E, h0km, ML2.0/2*

ISC 15 23:22:18.3±1.2, 41°.07N±0°.02×20°.25E±0°.03, h1km±11km, n18, σ0°96/33, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.40**	**314**	Pg	**Pg**	**23 22 25.5**	**-0.4**
TIR				Sg	**Sg**	**23 22 32.7**	**+1.6**
TIR				AML	AML	23 22 34.2	
	0.5nm,0.2s						
TIR	**Tirane**	**0.40**	**314**	*e*Pg	**Pg**	**23 22 25.3**	**-0.6**
TIR				*e*Sg	**Sg**	**23 22 32.2**	**+1.1**
OHR	**Ohrid**	**0.42**	**85**	*i* Pg	**Pg**	**23 22 26.4**	**+0.1**
OHR				*i* Sg	**Sg**	**23 22 33.1**	**+1.3**
OHR	**Ohrid**	**0.42**	**85**	*e*Pg	**Pg**	**23 22 26.2**	**-0.1**
OHR				*e*Sg	**Sg**	**23 22 33.1**	**+1.3**
KBN	**Korca**	**0.61**	**138**	Pg	**Pg**	**23 22 28.9**	**-1.0**
KBN				Sg	**Sg**	**23 22 38.4**	**+0.6**
KBN				AML	AML	23 22 42.7	
	0.4nm,0.5s						
KBN				AMd		23 23 02.1	
PHP	**Peshkopia**	**0.63**	**13**	Pg	**Pg**	**23 22 29.7**	**-0.6**
PHP				S	**Sg**	**23 22 39.1**	**+0.7**
PHP				AML	AML	23 22 40.8	
	0.6nm,0.4s						
PHP				AMd		23 23 09.0	
VLO	**Vlora**	**0.83**	**224**	Pg	**Pg**	**23 22 33.7**	**-0.5**
VLO				Sg	**Sb**	**23 22 46.9**	**-0.3**
NEST	**Nestorio**	**0.90**	**137**	Pg	**Pg**	**23 22 34.6**	**-0.9**
NEST				Sg	**Sb**	**23 22 48.3**	**-1.0**
NEST				AML	AML	23 22 51.8	
	0.1nm,0.4s						
NEST				AMd		23 23 13.2	
LSK	**Leskovik**	**0.96**	**164**	Pg	**Pg**	**23 22 36.0**	**-0.7**
LSK				Sg	**Sb**	**23 22 50.5**	**-0.5**
LSK				AML	AML	23 22 55.8	
	0.2nm,0.4s						
PUK	**Puka**	**1.00**	**345**	Pg	**Pg**	**23 22 36.8**	**-0.8**
PUK				Sg	**Sb**	**23 22 52.7**	**+0.4**
PUK				AML	AML	23 22 56.8	
	0.3nm,0.2s						
SRN	**Sarande**	**1.21**	**189**	Pn	**Pn**	**23 22 42.1**	**-0.3**
SRN				Sn	**Sn**	**23 23 00.6**	**+1.3**
SRN				AML	AML	23 23 03.2	
	0.1nm,0.6s						
BCI	**Bajram Curri**	**1.30**	**354**	Pg	**Pb**	**23 22 43.3**	**-0.2**
BCI				Sg	**Sn**	**23 23 02.1**	**+0.4**
IGT	**Igoumenitsa**	**1.54**	**178**	*e*Pg	**Pg**	**23 22 47.6**	**-0.2**
IGT				*e*Sg	**Sb**	**23 23 08.1**	**+0.4**
PDG	**Podgorica**	**1.54**	**332**	*e*Pg	**Pn**	**23 22 45.1**	**-1.9**
PDG				*e*Sg	**Sg**	**23 23 10.0**	**+2.1**
SCTE	**Santa Cesarea**	**1.69**	**234**	Pn	**Pb**	**23 22 50.1**	**0.0**
BARS	**Barje**	**2.10**	**33**	*e*Pn	**Pn**	**23 22 55.5**	**+0.9**
BARS				*e*Sn	**Sg**	**23 23 24.7**	**-1.0**
BOSS	**Bosilegrad**	**2.19**	**49**	*e*Pn	**Pn**	**23 22 56.1**	**+0.2**
SJES	**Sjenica**	**2.19**	**355**	*e*Pn	**Pb**	**23 22 58.0**	**-0.9**

*IDC **15** 23:26:15.9±1.2, 51°.50S×139°.20E, h0km, mb4.0/4, mbtmp3.9/5, ML3.7/1, MS4.0/12, Error ellipse: s-maj=102.6km s-min=20.0km az=85.0*
*NEIC **15** 23:26:16.5±2.1, 51°.4S±0°.1×139°.1E±0°.2, h10km±1km, mb4.8/23, Error ellipse: s-maj=25.7km s-min=17.8km az=76.0*

ISC 15 23:26:15.8±0.6, 51°.36S±0°.08×139°.1E±0°.1, h10km, n49, σ1°25/33, mb4.7/16, MS4.0/11, 1C-1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGBR	**Mount Gambier**	**13.67**	**5**	Pn	**Pn**	**23 29 30.3**	**+0.7**
STKA	**Stephens Creek**	**19.55**	**6**	P	**Pn**	**23 30 44.5**	**-0.3**
STKA	**Stephens Creek**	**19.55**	**6**	P	**Pn**	**23 30 47.5**	**+2.7**
	0.1nm,0.3s,baz=166,slow=10,SNR=5.8						
STKA				LR	LR	23 37 21.8	
	comp=Z,486nm,18.8s,baz=190,slow=34						
	1.4nm,0.7s						
WHZ	**Wether Hill Ro**	**19.75**	**85**	P	**Pn**	**23 30 46.0**	**-1.2**
WHZ				IAmb	IAmb	23 30 49.4	
	comp=Z,57nm,1.7s						
MLZ	**Mavora Lakes**	**20.10**	**84**	P	**P**	**23 30 48.9**	**-0.5**
FORT	**Forrest**	**22.14**	**334**	P	**P**	**23 31 12.2**	**+0.7**
FORT				IAmb	IAmb	23 31 20.0	
	comp=Z,30nm,1.1s						
RPZ	**Rata Peaks**	**22.74**	**83**	P	**P**	**23 31 16.9**	**-1.0**
H01W1	**Cape Leeuwin H**	**24.37**	**303**	T	T	23 57 05.6	
	baz=139,slow=75,SNR=6.6						
H01W2	**Cape Leeuwin H**	**24.38**	**303**	T	T	23 57 07.9	
	baz=139,slow=75,SNR=6.8						
NWAO	**Narrogin (SRO)**	**24.39**	**311**	LR	LR	23 39 01.2	
	comp=Z,102nm,21.0s,baz=72,slow=31						
H01W3	**Cape Leeuwin H**	**24.39**	**303**	T	T	23 57 06.8	
	baz=139,slow=75,SNR=5.4						
THZ	**Tophouse**	**24.94**	**81**	P	**P**	**23 31 39.6**	**+0.5**
THZ				IAmb	IAmb	23 31 43.4	
	comp=Z,49nm,1.4s						
QRZ	**Quartz Range**	**25.25**	**78**	P	**P**	**23 31 42.9**	**+1.0**
SNZO	**South Karori**	**26.31**	**82**	P	**P**	**23 31 52.5**	**+1.1**
VNDA	**Vanda**	**27.61**	**170**	P	**P**	**23 32 03.4**	**+0.6**
	comp=Z,2.1nm,1.2s,baz=314,slow=4.7,SNR=4.0						
VNDA				LR	LR	23 41 32.5	
	comp=Z,268nm,18.6s,baz=334,slow=33						
	comp=Z,2.1nm,1.2s						
ASAR	**Alice Springs**	**27.94**	**350**	P	**P**	**23 32 08.0**	**+1.7**
ASAR	**Alice Springs**	**27.94**	**350**	P	**P**	**23 32 09.9**	**+3.7**
	comp=Z,1.1nm,0.8s,baz=175,slow=9.4,SNR=6.3						
	comp=Z,1.1nm,0.8s						
WR8	**Warramunga Arr**	**31.55**	**352**	P	**P**	**23 32 36.9**	**-1.3**
WR8				IAmb	IAmb	23 32 58.7	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**31.57**	**351**	P	**P**	**23 32 38.5**	**+0.1**
WB2				IAmb	IAmb	23 32 45.7	
	comp=Z,9.1nm,1.1s						
WRA	**Warramunga Arr**	**31.57**	**351**	P	**P**	**23 32 38.9**	**+0.4**
WRA	**Warramunga Arr**	**31.57**	**351**	P	**P**	**23 32 40.1**	**+1.7**
	comp=Z,2.7nm,0.8s,baz=174,slow=7.6,SNR=12						
	comp=Z,2.7nm,0.8s						
WRAB	**Tennant Creek**	**31.58**	**351**	P	**P**	**23 32 37.7**	**-0.9**
WRAB				IAmb	IAmb	23 32 41.8	
	comp=Z,6.5nm,0.7s						
WB0	**Warramunga Arr**	**31.74**	**352**	P	**P**	**23 32 40.0**	**+0.1**
WB0				IAmb	IAmb	23 32 47.4	
	comp=Z,16nm,1.6s						
PSA00	**Pilbara Seismi**	**33.31**	**326**	P	**P**	**23 32 52.6**	**-1.0**
PSA00				IAmb	IAmb	23 33 06.5	
	comp=Z,66nm,2.0s						
MBWA	**Marble Bar**	**33.73**	**326**	P	**P**	**23 32 57.4**	**+0.1**
MBWA				IAmb	IAmb	23 33 07.0	
	comp=Z,19nm,1.4s						
FITZ	**Fitzroy Crossi**	**34.87**	**337**	LR	LR	23 46 43.9	
	comp=Z,214nm,21.3s,baz=173,slow=35						
QSPA	**South Pole Qui**	**38.76**	**180**	P	**P**	**23 33 40.5**	**+0.5**
QSPA	**South Pole Qui**	**38.76**	**180**	P	**P**	**23 33 40.0**	**-0.1**
	comp=Z,2.4nm,1.0s,baz=336,slow=6.1,SNR=3.8						
QSPA				LR	LR	23 48 58.0	
	comp=Z,380nm,18.4s,baz=5.5,slow=35						
	comp=Z,2.4nm,1.0s						
MAW	**Mawson**	**39.04**	**216**	LR	LR	23 47 37.1	
	comp=Z,278nm,20.9s,baz=95,slow=33						
SOEI	**Soe**	**43.23**	**338**	P	**P**	**23 34 16.5**	**-0.8**
SOEI				IAmb	IAmb	23 35 24.1	
	comp=Z,22nm,1.2s						
SYO	**Syowa Base**	**46.42**	**209** ‖	*e*P	**P**	**23 34 42.1**	**+0.1**
SYO	**Syowa Base**	**46.42**	**209** ‖	*e*sP	sP	23 34 46.1	+1.1
H04S1	**CROZET ISLANDS**	**54.02**	**238**	T	T	00 34 45.8	
	baz=129,slow=75,SNR=12						
H04S2	**CROZET ISLANDS**	**54.02**	**238**	T	T	00 34 42.3	
	baz=129,slow=75,SNR=17						
H04S3	**CROZET ISLANDS**	**54.04**	**238**	T	T	00 34 40.8	
	baz=129,slow=75,SNR=15						
SNAA	**Sanae**	**54.35**	**194**	P	**P**	**23 35 42.1**	**+0.1**
SNAA				IAmb	IAmb	23 35 48.6	
	comp=Z,14nm,1.6s						
SNAA	**Sanae**	**54.35**	**194**	LR	LR	23 57 53.6	
	comp=Z,289nm,21.6s,baz=123,slow=35						
TOLI2	**Tolitoli**	**54.54**	**337**	P	**P**	**23 35 43.4**	**-0.6**
TOLI2				IAmb	IAmb	23 36 46.9	
	comp=Z,6.1nm,0.9s						
PMSA	**Palmer Station**	**62.82**	**169**	LR	LR	00 01 22.2	
	comp=Z,137nm,18.2s,baz=228,slow=34						
DGAR	**Diego Garcia**	**69.75**	**284**	P	**P**	**23 37 24.9**	**-1.2**
VOI	**Vohitsoka**	**74.61**	**254**	P	**P**	**23 37 56.5**	**+1.1**
VOI				IAmb	IAmb	23 37 58.4	
	comp=Z,48nm,1.7s						
YOJ	**Yonaguni jima**	**76.81**	**345**	P	**P**	**23 38 08.2**	**+0.8**
OPO	**Ambohidratompo**	**76.90**	**257**	LR	LR	00 03 56.0	
	comp=Z,61nm,18.5s,baz=350,slow=29						
KNMB	**Chin-men Tao**	**77.67**	**341**	P	**P**	**23 38 12.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**77.90**	**321**	LR	LR	00 12 26.8	
	comp=Z,49nm,19.7s,baz=135,slow=36						
CHTO	**Chiang Mai**	**78.22**	**321**	P	**P**	**23 38 15.9**	**+0.4**
SUR	**Sutherland**	**80.58**	**229**	LR	LR	00 06 49.8	
	comp=Z,62nm,19.9s,baz=143,slow=30						
JHJ	**Hachijo jima 2**	**84.11**	**1**	LR	LR	00 13 56.8	
	comp=Z,177nm,19.5s,baz=164,slow=34						
GERES	**GERESS Array B**	**145.57**	**288**	PKPbc	**PKiKP**	**23 45 55.4**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=111,slow=1.9,SNR=5.4						

UPP 15 23:28:23.6±0.0, 67°.83N×20°.20E, h0km, ML2.0, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**23**	P	Pg	23 28 26.4	+0.2
KUA				S	Sg	23 28 28.4	+0.5
RATU	**Laukkuluspa**	**0.23**	**268**	P	Pg	23 28 28.2	+0.2
RATU				S	Sg	23 28 31.5	+0.5
KOVU	**Salmi**	**0.39**	**358**	P	Pg	23 28 31.2	0.0
KOVU				S	Sg	23 28 36.5	+0.3
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 28 37.0	-0.2
LANU				S	Sg	23 28 46.5	0.0
DUNU	**Dundret**	**0.73**	**169**	P	Pg	23 28 37.2	-0.3
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	23 28 38.3	-0.3
MASU				S	Sg	23 28 49.0	+0.3
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	23 28 46.7	+0.2
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 28 49.1	-1.0
PAJU				S	Sg	23 29 07.5	-0.5
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	23 28 49.9	-0.7
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23 28 51.5	-0.2

BER 15 23:28:32.7±1.5, 61°.17N×10°.34E, h12km±8km, ML1.2, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NC602	**NORSAR Array S**	**0.73**	**126**	*e*P	Pg	23 28 45.0	-1.8
NC602				*e*S	Sg	23 28 54.8	-1.5
NC602				IAML		23 28 55.0	
	comp=Z,7.8nm,0.1s						
DOMB	**Dombas**	**1.07**	**326**	*e*P	Pb	23 28 52.6	-0.6
DOMB				*e*S	Sb	23 29 05.2	-1.8
DOMB				IAML		23 29 08.5	
	comp=Z,8.6nm,0.1s						
SKAR	**Skarslia**	**1.10**	**245**	*e*P	Pb	23 28 51.5	-2.2
SKAR				*e*S	Sb	23 29 05.4	-2.7
SKAR				IAML		23 29 08.6	
	comp=Z,9.9nm,0.2s						
KONO	**Kongsberg**	**1.57**	**194**	*e*P	Pn	23 28 59.5	-0.8
KONO				*e*S	Sn	23 29 18.5	-1.9
KONO				IAML		23 29 20.4	
	comp=Z,1.6nm,0.1s						
AKN	**Aaknes**	**1.89**	**304**	*e*P	Pn	23 29 03.5	-1.3
AKN				*e*Sg	Sn	23 29 29.1	+0.6
AKN				IAML		23 29 30.3	
	comp=Z,6.9nm,0.1s						
MOL	**Molde**	**1.93**	**318**	*e*Sg	Sb	23 29 30.6	-1.1
MOL				IAML		23 29 31.4	
	comp=Z,4.8nm,0.2s						
HYA	**Hoyanger**	**2.01**	**272**	*e*Sg	Sb	23 29 32.8	-1.3
ODD1	**Odda**	**2.22**	**237**	*e*Sg	Sb	23 29 39.5	-0.7
FOO	**Floro**	**2.58**	**282**	*e*Sg	Sb	23 29 49.6	-0.9
BLS5	**Blasjo**	**2.61**	**230**	*e*Sg	Sb	23 29 50.0	-1.3
ASK	**Askoy**	**2.61**	**257**	*e*Sg	Sb	23 29 50.1	-1.2
SUE	**Sulen**	**2.71**	**270**	*e*Pg	Pb	23 29 18.7	-2.3

*IDC **15** 23:33:04.5±2.5, 26°.15N×129°.02E, h0km, mb3.6/4, mbtmp3.6/4, MS3.4/2, Error ellipse: s-maj=146.1km s-min=31.0km az=66.0*
*JMA **15** 23:33:06.0±0.1, 26°.2N±0°.7×129°.6E±0°.4, h43km, MV3.3/21, NEAR OKINAWAJIMA ISLAND*

ISC 15 23:33:03.8±3.0, 26°.25N±0°.04×129°.56E±0°.03, h9km±20km, n23, σ1°31/33, mb3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.25**	**308**	*i* P	**Pn**	**23 33 27.6**	**+0.1**
JYRO				S	**Sb**	**23 33 43.4**	**-0.6**
JOW	**Kunigami**	**1.29**	**297**	LR	LR	23 33 43.4	
	comp=Z,45nm,21.0s,baz=131,slow=41						
JOW	**Kunigami**	**1.29**	**297**	*i* P	**Pb**	**23 33 28.2**	**-0.1**
JOW				S	**Sn**	**23 33 43.5**	**-1.9**
JNTH	**Nagotoyohara**	**1.41**	**281**	P	**Pn**	**23 33 29.5**	**-0.1**
JOKE	**Okinoerabujima**	**1.41**	**321**	P	**Pb**	**23 33 30.3**	**-0.1**
JOKE				S	**Sn**	**23 33 48.1**	**-0.4**
JMZ	**Minamidaito 2**	**1.56**	**106**	P	**Pb**	**23 33 31.8**	**-1.0**
JMZ				*e*S	**Sn**	**23 33 50.1**	**-1.9**
JKDJ	**Kitadaitoujima**	**1.59**	**101**	P	**Pb**	**23 33 32.5**	**-0.9**
JKDJ				S	**Sn**	**23 33 51.7**	**-1.2**
JJT3	**Tamagusuku3**	**1.60**	**266**	P	**Pb**	**23 33 32.8**	**-0.7**
JJT3				S	**Sn**	**23 33 52.4**	**-0.7**
JTK	**Tokunoshima**	**1.62**	**340**	*i* P	**Pb**	**23 33 33.4**	**-0.5**
JTK				S	**Sn**	**23 33 51.6**	**-2.0**
JIH	**Iheya**	**1.62**	**299**	P	**Pn**	**23 33 33.1**	**+0.5**
JIH				S	**Sn**	**23 33 52.4**	**-1.3**
JAMN	**Amaminishikomi**	**2.01**	**350**	P	**Pn**	**23 33 38.6**	**+0.7**
JAMN				*e*S	**Sn**	**23 34 02.2**	**-1.

comp=Z,33nm,21.6s,baz=118,slow=34
PMG Port Moresby 42.56 12 LR LR 00 06 33.8
comp=Z,165nm,19.5s,baz=226,slow=35
SOEI Soe 43.41 339 P **P** **23 49 50.9 +0.4**
MMRI Maumere 44.98 336 P **P** **23 50 03.0 +0.1**
KAPI Kappang 49.10 334 P **P** **23 50 36.5 +1.4**
H04S1 CROZET ISLANDS 53.88 238 T T 00 50 13.7
baz=129,slow=75,SNR=12
H04S2 CROZET ISLANDS 53.88 238 T T 00 50 12.6
baz=129,slow=75,SNR=13
H04S3 CROZET ISLANDS 53.89 238 T T 00 50 10.6
baz=129,slow=75,SNR=11
SNAA Sanae 54.14 194 LR LR 00 13 47.9
comp=Z,92nm,20.9s,baz=205,slow=36
SBUM Sibu 58.45 328 P **P** **23 51 44.7 +1.2**
CROK Carrier 137.43 88 PKPdf **PKPdf** **00 01 09.7 -1.2**
ARCES ARCESS Array B 144.99 326 PKPbc **PKPab** **00 01 23.0 +0.2**
comp=Z,4.4nm,1.0s,baz=77,slow=4.0,SNR=3.9
GERES GERESS Array B 145.60 288 PKPbc **PKPdf** **00 01 23.8 -1.4**
comp=Z,0.8nm,0.9s,baz=134,slow=2.8,SNR=5.0

BJI ***15*** *23:42:51.1, 10°.37S×162°.03E, h38km, mB5.1/14, mb5.0/54, Ms4.7/10, Ms7 4.4/12*
MOS ***15*** *23:42:55.4±0.8, 10°.41S×161°.29E, h55km, mb5.3/50, Error ellipse: s-maj=7.4km s-min=6.1km az=118.9*
NEIC ***15*** *23:42:55.3±1.2, 10°.40S±0°.08×161°.37E±0°.08, h35km±1km, mb5.3/369, Error ellipse: s-maj=16.1km s-min=10.1km az=219.0*
GCMT ***15*** *23:42:56.3±0.3, 10°.61S±0°.02×161°.22E±0°.02, h54km±2km, MW4.9/65, Moment Tensor Solution. s25,c30; s65,c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.31±.21; Mθθ-0.17±.15; Mφφ-1.14±.14; Mrθ0.43±.11; Mθφ2.05±.10; Mφr-1.77±.11; Best double couple: M0 2.89600×10^16 NP1:φs284.00000°, δ38.00000°, λ29.00000°. NP2: φs170.00000°, δ73.00000°, λ125.00000°. Principal axes: T 2.4290, Plg50.0000°, Azm119.0000°; N 0.9360, Plg33.0000°, Azm339.0000°; P -3.3640, Plg20.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***15*** *23:42:57.7, 10°.51S×161°.45E, h62km, mb5.1/85, Solomon Islands*
IDC ***15*** *23:42:58.1±1.7, 10°.45S×161°.31E, h70km±14km, mb4.7/25, mbtmp5.0/28, MS4.1/38, Error ellipse: s-maj=15.7km s-min=10.5km az=81.0*

ISC 15 23:42:55.6±0.4, 10°.50S±0°.04×161°.42E±0°.04, h44km±3km, h44km:pP-P, n951, σ0°.92/941, mb5.2/278, MS4.2/43, 18C-6D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGOA	**Tingoa Renbel**	**1.69**	**232**	P	**Pn**	**23 43 21.8**	**-0.9**
HNR	**Honiara**	**1.80**	**306**	Pn	**Pn**	**23 43 24.4**	**+0.3**
HNR				Sn	**Sn**	**23 43 47.6**	**+1.9**
HNR	**Honiara**	**1.80**	**306**	P	**Pn**	**23 43 24.8**	**+0.6**
2μm,0.4s,baz=182,slow=6.2,SNR=84							
HNR				S	**Sn**	**23 43 46.5**	**+0.7**
8μm,0.3s,baz=79,slow=7.1,SNR=9.0							
HNR	**Honiara**	**1.80**	**306**	P	**Pn**	**23 43 24.6**	**+0.5**
HNR	**Honiara**	**1.80**	**306**	S	**Sn**	**23 43 48.4**	**+2.6**
ALEG	**Aligegeo Malai**	**1.88**	**338**	P	**Pn**	**23 43 28.1**	**+2.9**
ALEG	**Aligegeo Malai**	**1.88**	**338**	S	**Sn**	**23 43 53.8**	**+6.1**
SAVO	**Savo Central**	**2.08**	**310**	P	**Pn**	**23 43 29.2**	**+1.2**
SAVO	**Savo Central**	**2.08**	**310**	S	Sn	23 43 59.0	+6.3
TATA	**Tatamba Isabel**	**2.64**	**323**	P	**Pn**	**23 43 38.6**	**+2.9**
TATA	**Tatamba Isabel**	**2.64**	**323**	S	**Sn**	**23 44 11.4**	**+5.0**
LUES	**Luesalemba Tem**	**4.42**	**92**	P	**Pn**	**23 43 59.4**	**-0.8**
LUES	**Luesalemba Tem**	**4.42**	**92**	S	**Sn**	**23 44 51.0**	**+0.6**
VLAKA	**Lakatoro**	**8.07**	**134**	P	**Pn**	**23 44 51.3**	**+1.0**
VLAKA	**Lakatoro**	**8.07**	**134**	S	**Sn**	**23 46 19.8**	**-0.5**
KOUNC	**Koumac, New Ca**	**10.37**	**165**	P	**Pn**	**23 45 23.5**	**+1.8**
DZM	**Mont Dzumac**	**12.47**	**158**		**Pn**	**23 45 52.8**	**+2.2**
DZM	**Mont Dzumac**	**12.47**	**158**	*e*P	**Pn**	**23 45 47.8**	**-2.8**
110nm,1.6s							
DZM				*e*LR	LR	23 48 42.9	
989nm,23.1s							
DZM	**Mont Dzumac**	**12.47**	**158**	P	**Pn**	**23 45 52.4**	**+1.8**
16nm,0.5s,baz=7.6,slow=8.1,SNR=36							
DZM				S	**Sn**	**23 48 07.5**	**-0.7**
5.2nm,0.6s,baz=316,slow=21,SNR=4.2							
DZM				LR	LR	23 50 19.1	
comp=Z,854nm,19.1s,baz=1.0,slow=35							
DZM	**Mont Dzumac**	**12.47**	**158**	P	**Pn**	**23 45 52.9**	**+2.3**
ONTNC	**Ouen Toro**	**12.69**	**158**		**Pn**	**23 45 56.5**	**+3.0**
ONTNC	**Ouen Toro**	**12.69**	**158**	P	Pn	23 45 57.3	+3.8
PMG	**Port Moresby**	**14.09**	**273**		**Pn**	**23 46 11.7**	**-0.9**
PMG	**Port Moresby**	**14.09**	**273**	P	**Pn**	**23 46 14.5**	**+1.9**
41nm,0.9s,baz=104,slow=7.5,SNR=9.7							
PMG				LR	LR	23 51 18.4	
comp=Z,2μm,21.4s,baz=115,slow=36							
PMG	**Port Moresby**	**14.09**	**273**	P	**Pn**	**23 46 14.8**	**+2.2**
MANU	**Manus Island**	**16.29**	**300**		**P**	**23 46 42.5**	**-1.4**
GD1S	**Gladstone Soft**	**16.48**	**215**	P	**P**	**23 46 45.1**	**-0.7**
RK1H	**Rockhampton Ha**	**16.52**	**218**	P	**P**	**23 46 46.8**	**+0.5**
TV1H	**Townsville Har**	**16.59**	**237**	P	**P**	**23 46 47.5**	**+0.4**
MSVF	**Nonsavu**	**17.65**	**116**		**P**	**23 47 00.4**	**+1.4**
MSVF	**Nonsavu**	**17.65**	**116**	P	**P**	**23 47 00.8**	**+1.8**
33nm,1.0s,baz=284,slow=8.8,SNR=10							
MSVF				LR	LR	23 52 37.7	
comp=Z,420nm,21.1s,baz=282,slow=33							
MSVF	**Nonsavu**	**17.65**	**116**	P	**P**	**23 47 01.5**	**+2.5**
EIDS	**Eidsvold**	**17.74**	**212**		**Pn**	**23 46 59.8**	**+0.4**
EIDS				IAmb	IAmb	23 47 05.2	
comp=Z,283nm,1.8s							
EIDS	**Eidsvold**	**17.74**	**212**	P	**P**	**23 47 00.0**	**+0.2**
comp=Z,73nm,1.3s							
EIDS	**Eidsvold**	**17.74**	**212**	P	**P**	**23 47 02.0**	**+2.2**
COEN	**Coen**	**18.16**	**257**		**P**	**23 47 04.9**	**+0.4**
COEN	**Coen**	**18.16**	**257**	P	**P**	**23 47 06.1**	**+1.6**
comp=Z,119nm,1.2s							
COEN	**Coen**	**18.16**	**257**	P	**P**	**23 47 07.3**	**+2.8**
MTSU	**Mount Surprise**	**18.21**	**243**	P	**P**	**23 47 07.9**	**+2.8**
comp=Z,152nm,0.9s							
MTSU	**Mount Surprise**	**18.21**	**243**	P	**P**	**23 47 07.5**	**+2.4**
GC1S	**Gold Coast 1 S**	**19.07**	**202**	P	**Pn**	**23 47 17.4**	**+1.9**
RMQ	**Roma**	**19.90**	**215**	P	**Pn**	**23 47 25.3**	**-0.1**
comp=Z,71nm,1.0s							
RMQ	**Roma**	**19.90**	**215**	P	**Pn**	**23 47 26.5**	**+1.1**
ARMA	**Armidale**	**21.81**	**203**		**P**	**23 47 44.7**	**+0.5**
ARMA	**Armidale**	**21.81**	**203**	P	**P**	**23 47 44.9**	**+0.7**
comp=Z,40nm,1.4s							
ARMA	**Armidale**	**21.81**	**203**	P	**P**	**23 47 45.4**	**+1.2**
JAY	**Jayapura**	**22.04**	**290**	P	**P**	**23 47 46.5**	**-0.3**
comp=Z,20nm,0.5s,baz=124,slow=6.9,SNR=7.7							
comp=Z,20nm,0.5s							
QLP	**Quilpie**	**22.79**	**223**	P	**P**	**23 47 54.7**	**+0.1**
comp=Z,90nm,1.0s							
QLP	**Quilpie**	**22.79**	**223**	P	**P**	**23 47 54.9**	**+0.4**
QIS	**Mount Isa**	**23.25**	**242**	P	**P**	**23 47 59.3**	**0.0**
comp=Z,67nm,1.2s							
QIS	**Mount Isa**	**23.25**	**242**	P	**P**	**23 47 59.7**	**+0.4**
SMPI	**Sarmi**	**24.09**	**289**	P	**P**	**23 48 07.5**	**+0.3**
comp=Z,2μcomp=Z,130nm,1.3s							
CMSA	**Cobar Meteorol**	**25.50**	**213**	P	**P**	**23 48 20.0**	**+0.1**
comp=Z,27nm,1.1s							
CMSA	**Cobar Meteorol**	**25.50**	**213**	P	**P**	**23 48 20.2**	**+0.2**
INKA	**Innaminka**	**25.92**	**226**	P	**P**	**23 48 24.8**	**+1.0**
AFI	**Afiamalu**	**26.41**	**100**	P	**P**	**23 48 30.7**	**+2.3**
AFI				IAmb	IAmb	23 48 56.3	
comp=Z,72nm,1.3s							
AFI	**Afiamalu**	**26.41**	**100**	P	**P**	**23 48 30.7**	**+2.3**
AFI				pmax	pmax		
comp=Z,72nm,1.3s							
OUZ	**Omahuta**	**26.99**	**158**	P	**P**	**23 48 35.2**	**+1.9**
CAN	**Canberra**	**27.17**	**203**	P	**P**	**23 48 35.8**	**+0.8**
CAN	**Canberra**	**27.17**	**203**	P	**P**	**23 48 35.8**	**+0.8**
CAN				pmax	pmax		
comp=Z,14nm,1.0s							
WR8	**Warramunga Arr**	**27.58**	**247**	P	**P**	**23 48 37.8**	**-1.1**
WB0	**Warramunga Arr**	**27.63**	**247**	P	**P**	**23 48 38.7**	**-0.6**
WB0				IAmb	IAmb	23 48 39.6	
comp=Z,52nm,0.6s							
WRAB	**Tennant Creek**	**27.71**	**247**		**P**	**23 48 39.5**	**-0.6**
WRAB	**Tennant Creek**	**27.71**	**247**	*d i*P	**P**	**23 48 39.7**	**-0.3**
WRAB				pmax	pmax		
comp=Z,24nm,0.6s							
WRA	**Warramunga Arr**	**27.73**	**247**	P	**P**	**23 48 39.0**	**-1.2**
WRA	**Warramunga Arr**	**27.73**	**247**	P	**P**	**23 48 39.9**	**-0.3**
comp=Z,23nm,0.5s,baz=77,slow=8.9,SNR=119							
comp=Z,23nm,0.5s							
WRA	**Warramunga Arr**	**27.73**	**247**	*i* P	**P**	**23 48 39.9**	**-0.3**
WRA				pmax	pmax		
comp=Z,25nm,0.5s							
STKA	**Stephens Creek**	**28.08**	**218**		**P**	**23 48 43.1**	**0.0**
STKA				IAmb	IAmb	23 48 56.6	
comp=Z,60nm,0.8s							
STKA	**Stephens Creek**	**28.08**	**218**	P	**P**	**23 48 43.5**	**+0.3**
comp=Z,91nm,1.2s							
STKA	**Stephens Creek**	**28.08**	**218**	P	**P**	**23 48 43.4**	**+0.3**
comp=Z,7.6nm,0.9s,baz=37,slow=13,SNR=11							
STKA				LR	LR	23 59 36.7	
comp=Z,1μm,19.9s,baz=47,slow=36							
comp=Z,7.6nm,0.9s							
STKA	**Stephens Creek**	**28.08**	**218**	P	**P**	**23 48 43.9**	**+0.7**
KDU	**Kakadu**	**28.43**	**263**	P	**P**	**23 48 46.0**	**-0.5**
comp=Z,32nm,0.8s							
KDU	**Kakadu**	**28.43**	**263**	P	**P**	**23 48 46.2**	**-0.3**
GUMO	**Guam**	**29.03**	**325**	LR	LR	23 59 32.8	
comp=Z,270nm,21.6s,baz=130,slow=34							
AS01	**Alice Springs**	**29.27**	**240**	P	**P**	**23 48 53.3**	**-0.6**
AS31	**Alice Springs**	**29.30**	**240**		**P**	**23 48 53.2**	**-1.0**
AS31	**Alice Springs**	**29.30**	**240**	P	**P**	**23 48 53.4**	**-0.8**
comp=Z,5.3nm,0.7s							
ASAR	**Alice Springs**	**29.31**	**240**	P	**P**	**23 48 52.7**	**-1.5**
ASAR	**Alice Springs**	**29.31**	**240**	P	**P**	**23 48 53.2**	**-1.0**
comp=Z,10nm,0.7s,baz=63,slow=10,SNR=80							
ASAR				LR	LR	00 00 41.5	
comp=Z,1μm,18.8s,baz=66,slow=36							
comp=Z,10nm,0.7s							
LCRK	**Leigh Creek**	**29.32**	**224**	P	**P**	**23 48 54.2**	**0.0**
OOD	**Oodnadatta**	**29.67**	**231**	P	**P**	**23 48 57.3**	**0.0**
MTN	**Manton Dam**	**29.74**	**263**		**P**	**23 48 57.8**	**-0.4**
MTN	**Manton Dam**	**29.74**	**263**	P	**P**	**23 48 57.6**	**-0.5**
comp=Z,22nm,0.7s							
MTN	**Manton Dam**	**29.74**	**263**	P	**P**	**23 48 58.1**	**0.0**
TOZ	**Tahuroa Road**	**29.92**	**157**	P	**P**	**23 49 02.2**	**+2.8**
HIZ	**Hauiti**	**30.38**	**159**	P	**P**	**23 49 05.3**	**+1.9**
HIZ				IAmb	IAmb	23 49 06.8	
comp=Z,87nm,1.2s							
TOO	**Toolangi**	**30.53**	**205**		**P**	**23 49 05.5**	**+0.7**
TOO	**Toolangi**	**30.53**	**205**	P	**P**	**23 49 05.5**	**+0.7**
comp=Z,12nm,1.0s							
TOO	**Toolangi**	**30.53**	**205**	P	**P**	**23 49 05.5**	**+0.7**
TOO				pmax	pmax		
comp=Z,8.0nm,0.8s							
HTT	**Hallett**	**30.78**	**219**	P	**P**	**23 49 07.6**	**+0.4**
HAZ	**Te Kaha**	**30.87**	**154**	P	**P**	**23 49 10.2**	**+2.5**
MXZ	**Matakaoa Point**	**30.93**	**153**	P	**P**	**23 49 10.0**	**+1.6**
URZ	**Urewera**	**31.02**	**156**	LR	LR	00 00 09.1	
comp=Z,270nm,18.3s,baz=52,slow=33							
URZ	**Urewera**	**31.02**	**156**	P	**P**	**23 49 11.2**	**+2.2**
NGZ	**Ngauruhoe**	**31.23**	**158**	P	**P**	**23 49 13.9**	**+2.7**
MWZ	**Matawai**	**31.25**	**155**	P	**P**	**23 49 13.3**	**+2.1**
RTZ	**Ruatahuna**	**31.27**	**156**	P	**P**	**23 49 12.8**	**+1.4**
RTZ				IAmb	IAmb	23 49 15.4	
comp=Z,40nm,1.0s							
PUZ	**Puketiti**	**31.34**	**154**	P	**P**	**23 49 13.9**	**+2.0**
BKZ	**Black Stump Fm**	**31.55**	**157**	P	**P**	**23 49 15.0**	**+1.2**
BKZ				IAmb	IAmb	23 49 16.1	
comp=Z,27nm,0.7s							
BKZ	**Black Stump Fm**	**31.55**	**157**	P	**P**	**23 49 15.1**	**+1.2**
BKZ	**Black Stump Fm**	**31.55**	**157**	P	**P**	**23 49 15.0**	**+1.2**
ARPS	**Mount Arapiles**	**31.57**	**211**	P	**P**	**23 49 15.1**	**+1.1**
comp=Z,19nm,0.8s							
ARPS	**Mount Arapiles**	**31.57**	**211**	P	**P**	**23 49 15.4**	**+1.4**
QRZ	**Quartz Range**	**31.76**	**164**	P	**P**	**23 49 17.6**	**+2.0**
KNZ	**Kokohu**	**31.89**	**156**	P	**P**	**23 49 19.1**	**+2.3**
TSZ	**Takapari Road**	**32.14**	**159**	P	**P**	**23 49 19.9**	**+0.8**
KNRA	**Kununurra**	**32.20**	**257**	P	**P**	**23 49 19.5**	**-0.2**
KNRA	**Kununurra**	**32.20**	**257**	P	**P**	**23 49 19.8**	**0.0**
comp=Z,144nm,0.8s							
BBOO	**Buckleboo**	**32.22**	**223**	P	**P**	**23 49 19.1**	**-0.6**
BBOO	**Buckleboo**	**32.22**	**223**	P	**P**	**23 49 19.9**	**+0.1**
comp=Z,77nm,0.9s							
BBOO	**Buckleboo**	**32.22**	**223**	P	**P**	**23 49 19.8**	**+0.1**
PXZ	**Pawanui**	**32.45**	**158**	P	**P**	**23 49 22.3**	**+0.7**
MRZ	**Mangatainoka R**	**32.55**	**160**	P	**P**	**23 49 23.7**	**+1.2**
TCW	**Tory Channel**	**32.62**	**162**	P	**P**	**23 49 23.7**	**+0.6**
TUWZ	**Tuamarina**	**32.72**	**162**	P	**P**	**23 49 25.1**	**+1.1**
THZ	**Tophouse**	**32.73**	**164**	P	**P**	**23 49 25.8**	**+1.6**
THZ				IAmb	IAmb	23 49 27.8	
comp=Z,60nm,1.5s							
THZ	**Tophouse**	**32.73**	**164**	P	**P**	**23 49 25.9**	**+1.7**
BFZ	**Birch Farm**	**32.80**	**159**	P	**P**	**23 49 25.4**	**+0.7**
MGBR	**Mount Gambier**	**32.95**	**211**	P	**P**	**23 49 27.0**	**+0.9**
KHZ	**Kahutara**	**33.52**	**164**	P	**P**	**23 49 31.9**	**+1.0**
LTZ	**Lake Taylor**	**33.52**	**165**	P	**P**	**23 49 33.0**	**+2.0**
FOZ	**Fox Glacier**	**33.71**	**169**	P	**P**	**23 49 34.3**	**+1.7**
JCZ	**Jackson Bay**	**34.05**	**170**	P	**P**	**23 49 37.0**	**+1.3**
MQZ	**McQueen's Vall**	**34.49**	**166**	P	**P**	**23 49 39.7**	**+0.4**
WRKA	**Warakurna**	**34.58**	**241**	P	**P**	**23 49 39.6**	**-0.9**
comp=Z,35nm,0.9s							
WRKA	**Warakurna**	**34.58**	**241**	P	**P**	**23 49 39.8**	**-0.7**
MLZ	**Mavora Lakes**	**35.21**	**172**	P	**P**	**23 49 47.7**	**+2.0**
FITZ	**Fitzroy Crossi**	**35.43**	**254**	P	**P**	**23 49 47.1**	**-0.7**
FITZ				IAmb	IAmb	23 49 48.0	
comp=Z,17nm,0.6s							
FITZ	**Fitzroy Crossi**	**35.43**	**254**	LR	LR	00 04 06.5	
comp=Z,187nm,20.3s,baz=98,slow=36							
SANI	**Sanana**	**36.17**	**281**	P	**P**	**23 49 54.9**	**+0.7**
SANI	**Sanana**	**36.17**	**281**	P	**P**	**23 49 54.6**	**+0.4**
comp=Z,35nm,0.9s							
SOEI	**Soe**	**36.57**	**268**	P	**P**	**23 49 56.7**	**-1.1**
SOEI				IAmb	IAmb	23 51 08.2	
comp=Z,36nm,1.2s							
FORT	**Forrest**	**36.95**	**232**	P	**P**	**23 50 00.8**	**+0.1**
FORT				IAmb	IAmb	23 50 01.5	
comp=Z,60nm,1.2s							
MMRI	**Maumere**	**38.66**	**269**	P	**P**	**23 50 14.1**	**-1.3**
MMRI				IAmb	IAmb	23 50 15.2	
comp=Z,46nm,0.8s							
MMRI	**Maumere**	**38.66**	**269**	P	**P**	**23 50 14.8**	**-0.6**
RAR	**Rarotonga**	**38.72**	**111**	LR	LR	00 03 59.6	
comp=Z,95nm,18.1s,baz=283,slow=32							
EDFI	**Ende, Flores**	**39.19**	**269**	P	**P**	**23 50 17.2**	**-2.7**
comp=Z,26nm,0.9s							
BSSI	**Bau Bau, Buton**	**40.70**	**273**	P	**P**	**23 50 30.3**	**-2.1**
comp=Z,63nm,0.8s							
BKSI	**Bulukumba**	**41.20**	**274**	P	**P**	**23 50 37.2**	**+0.8**
comp=Z,15nm,0.8s							
PSA00	**Pilbara Seismi**	**41.32**	**249**	P	**P**	**23 50 36.7**	**-0.7**
PSA00				IAmb	IAmb	23 50 38.0	
comp=Z,29nm,0.8s							
PSA00	**Pilbara Seismi**	**41.32**	**249**	P	**P**	**23 50 35.8**	**-1.5**
PSA00				IAmb	IAmb	23 50 37.9	
comp=Z,13nm,0.8s							
PSA00	**Pilbara Seismi**	**41.32**	**249**	P	**P**	**23 50 36.9**	**-0.4**
comp=Z,53nm,0.8s							
PSA00	**Pilbara Seismi**	**41.32**	**249**	P	**P**	**23 50 36.9**	**-0.4**
MBWA	**Marble Bar**	**41.37**	**250**	P	**P**	**23 50 37.2**	**-0.5**
MBWA				IAmb	IAmb	23 50 38.2	
comp=Z,45nm,0.9s							
MBWA	**Marble Bar**	**41.37**	**250**	P	**P**	**23 50 37.3**	**-0.3**
comp=Z,60nm,0.9s							
MBWA	**Marble Bar**	**41.37**	**250**	P	**P**	**23 50 37.5**	**-0.2**
MBWA	**Marble Bar**	**41.37**	**250**	P	**P**	**23 50 37.4**	**-0.3**
BNSI	**Bone**	**41.38**	**275**	P	**P**	**23 50 37.8**	**-0.1**
comp=Z,49nm,0.9s							
KAPI	**Kappang**	**41.62**	**274**	P	**P**	**23 50 39.5**	**-0.3**
KAPI				IAmb	IAmb	23 50 52.5	
comp=Z,19nm,1.1s							
KAPI	**Kappang**	**41.62**	**274**	P	**P**	**23 50 39.8**	**0.0**
KAPI	**Kappang**	**41.62**	**274**	*i* P	**P**	**23 50 38.8**	**-1.0**
KAPI				pmax	pmax		
comp=Z,27nm,1.1s							
KAPI	**Kappang**	**41.62**	**274**	P	**P**	**23 50 39.6**	**-0.2**
SPSI	**Sidrap Palu**	**41.79**	**276**	P	**P**	**23 50 39.8**	**-1.5**
comp=Z,18nm,0.8s							
TOLI2	**Tolitoli**	**42.04**	**284**	P	**P**	**23 50 42.2**	**-1.1**
TOLI2	**Tolitoli**	**42.04**	**284**	P	**P**	**23 50 44.7**	**+1.4**
PCI	**Palu**	**42.41**	**280**	P	**P**	**23 50 46.7**	**+0.4**
comp=Z,82nm,1.0s							
MPSI	**Mapaga**	**42.67**	**282**	P	**P**	**23 50 49.7**	**+1.3**
comp=Z,19nm,0.8s							
PLAI	**Plampang**	**43.03**	**268**	P	**P**	**23 50 50.0**	**-1.4**
PLAI	**Plampang**	**43.03**	**268**	P	**P**	**23 50 51.7**	**+0.3**
comp=Z,42nm,1.1s							
MEEK	**Meekatharra**	**43.40**	**242**	P	**P**	**23 50 54.0**	**-0.2**
comp=Z,51nm,0.9s							
MEEK	**Meekatharra**	**43.40**	**242**	P	**P**	**23 50 54.6**	**+0.3**
MYLDM	**Lahad Datu**	**45.49**	**288**	P	**P**	**23 51 11.6**	**+0.6**
MYLDM				IAmb	IAmb	23 51 32.0	
comp=Z,40nm,1.1s							
MYLDM	**Lahad Datu**	**45.49**	**288**	P	**P**	**23 51 10.9**	**-0.1**
SRBI	**Singaraja**	**45.63**	**269**	P	**P**	**23 51 12.0**	**-0.2**
comp=Z,914nmcomp=Z,48nm,1.1s							
BLDU	**Ballidu**	**46.03**	**237**	P	**P**	**23 51 14.8**	**-0.3**
comp=Z,78nm,0.9s							
NWAO	**Narrogin (SRO)**	**46.28**	**234**	LR	LR	00 10 42.6	
comp=Z,298nm,20.2s,baz=130,slow=36							
NWAO	**Narrogin (SRO)**	**46.28**	**234**	P	**P**	**23 51 16.5**	**-0.6**
GIRL	**Giralia**	**46.62**	**249**	P	**P**	**23 51 20.8**	**+1.0**
JAGI	**Jajag, Banyuwa**	**46.63**	**268**		**P**	**23 51 18.4**	**-1.7**
JAGI	**Jajag, Banyuwa**	**46.63**	**268**	P	**P**	**23 51 18.6**	**-1.5**
JAGI	**Jajag, Banyuwa**	**46.63**	**268**	P	**P**	**23 51 18.0**	**-2.1**
comp=Z,1μcomp=Z,89nm,1.1s							
KKM	**Kota Kinabalu**	**47.92**	**288**	P	**P**	**23 51 29.9**	**-0.3**
KKM				IAmb	IAmb	23 51 56.0	
comp=Z,48nm,1.3s							
PPT	**Papeete**	**47.95**	**104**	LR	LR	00 07 04.7	
comp=Z,213nm,21.4s,baz=278,slow=30							
JOW	**Kunigami**	**49.12**	**320**	P	**P**	**23 51 39.8**	**+0.8**
PCJI	**Pacitan**	**49.59**	**268**	P	**P**	**23 51 42.0**	**-0.9**
KEKH	**Kekaha**	**49.96**	**50**	P	**P**	**23 51 46.0**	**+0.4**
UGM	**Wanagama**	**50.27**	**268**	P	**P**	**23 51 47.7**	**-0.4**
SMRI	**Semarang**	**50.46**	**270**	P	**P**	**23 51 49.9**	**+0.4**
SMRI				IAmb	IAmb	23 51 54.7	
comp=Z,46nm,0.9s							
SBUM	**Sibu**	**50.63**	**282**	P	**P**	**23 51 50.8**	**0.0**
SBUM				IAmb	IAmb	23 52 01.8	
comp=Z,10nm,1.0s							
SBUM	**Sibu**	**50.63**	**282**	P	**P**	**23 51 52.4**	**+1.6**
KIP	**Kipapa**	**50.92**	**51**	P	**P**	**23 51 53.3**	**+0.5**
KIP	**Kipapa**	**50.92**	**51**	P	**P**	**23 51 53.3**	**+0.5**
KIP				pmax	pmax		
comp=Z,84nm,0.9s							
INU	**Inuyama**	**51.11**	**334**	P	**P**	**23 51 53.9**	**0.0**
INU				IAmb	IAmb	23 51 55.4	
comp=Z,27nm,0.9s							
INU	**Inuyama**	**51.11**	**334**	P	**P**	**23 51 54.1**	**+0.1**
INU	**Inuyama**	**51.11**	**334**	P	**P**	**23 51 54.0**	**+0.1**
JGF	**Kuroka**	**51.18**	**335**		**P**	**23 51 53.6**	**-1.0**
JGF				IAmb	IAmb	23 52 01.5	
comp=Z,96nm,2.0s							
JMN	**Monobe**	**51.20**	**330**	P	**P**	**23 51 54.4**	**-0.3**
JMN				IAmb	IAmb	23 51 56.5	
comp=Z,56nm,1.0s							
JMN	**Monobe**	**51.20**	**330**	P	**P**	**23 51 55.1**	**+0.4**
KHU	**Kahuku**	**51.64**	**55**	P	**P**	**23 51 57.4**	**-1.1**
KHU	**Kahuku**	**51.64**	**55**	P	**P**	**23 51 57.4**	**-1.1**
KHU				pmax	pmax		
comp=Z,199nm,0.9s							
MJAR	**Matsushiro Arr**	**51.64**	**336**	P	**P**	**23 51 56.2**	**-1.7**
comp=Z,9.0nm,0.6s,baz=170,slow=8.4,SNR=26							
comp=Z,9.0nm,0.6s							
MAJO	**Matsushiro**	**51.65**	**336**	P	**P**	**23 51 56.9**	**-1.1**
MAJO				IAmb	IAmb	23 51 58.2	
comp=Z,19nm,0.7s							
MAJO	**Matsushiro**	**51.65**	**336**	P	**P**	**23 51 56.8**	**-1.2**
MAJO	**Matsushiro**	**51.65**	**336**	P	**P**	**23 51 56.9**	**-1.1**
MAJO				pmax	pmax		
comp=Z,19nm,0.7s							
MAJO	**Matsushiro**	**51.65**	**336**	P	**P**	**23 51 57.0**	**-1.0**
MAJO				pP	**pP**	**23 52 07.9**	**-2.5**
MAJO				sP	**sP**	**23 52 13.0**	**-2.5**
MAJO				PcP	**PcP**	**23 53 11.8**	**+0.5**
MJB9	**Matsu-Tunnel**	**51.65**	**336**	P	**P**	**23 51 57.6**	**-0.4**
MJB9				IAmb	IAmb	23 51 59.2	
comp=Z,18nm,0.7s							
JMM	**Marumori**	**51.85**	**339**		**P**	**23 51 59.3**	**-0.1**
JMM				IAmb	IAmb	23 52 00.7	
comp=Z,31nm,0.6s							
HMH	**Humu'ula Sheep**	**51.93**	**55**	P	**P**	**23 52 01.8**	**+1.0**
NACB	**Ninganchiao**	**51.97**	**312**	P	**P**	**23 52 00.2**	**-0.4**
NACB				IAmb	IAmb	23 52 03.7	
comp=Z,24nm,0.8s							
POHA	**Pohakuloa**	**51.97**	**55**	P	**P**	**23 52 00.7**	**-0.3**
POHA	**Pohakuloa**	**51.97**	**55**	P	**P**	**23 52 02.1**	**+1.1**
POHA	**Pohakuloa**	**51.97**	**55**	P	**P**	**23 52 02.1**	**+1.1**
HPAH	**Hawa

comp=Z,26nm,1.1s
PET Petropavlovsk 63.32 358 *ce*P **P 23 53 19.8 0.0**
PET pmax pmax
comp=Z,19nm,1.3s
PEA0B Petropavlovsk- 63.44 357 P **P 23 53 20.5 -0.1**
PEA0B IAmb IAmb 23 53 38.2
comp=Z,22nm,1.1s
PEA0B Petropavlovsk- 63.44 357 ⇓ *i*P **P 23 53 19.7 -1.0**
PETK Petropavlovsk- 63.44 357 P **P 23 53 20.7 0.0**
PETK Petropavlovsk- 63.44 357 P **P 23 53 20.1 -0.5**
comp=Z,12nm,0.8s,baz=154,slow=5.8,SNR=22
PETK LR LR 00 16 22.5
comp=Z,175nm,21.9s,baz=173,slow=32
comp=Z,12nm,0.8s
PETK Petropavlovsk- 63.44 357 P **P 23 53 20.7 0.0**
RPSI Rantau Prapat 63.56 278 P **P 23 53 21.0 -1.3**
PSI Prapat 63.59 278 P **P 23 53 21.2 -1.4**
PSI Prapat 63.59 278 P **P 23 53 21.0 -1.6**
PSI pmax pmax
comp=Z,10.0nm,1.0s
BNX BinXian 63.79 334 ⇓P **P 23 53 23.4 +0.3**
BNX pP **pP 23 53 35.9 +0.1**
BNX sP **sP 23 53 41.8 +1.0**
BNX pmax pmax
comp=Z,23nm,0.8s
BNX LR LR
comp=Z,110nm,20.6s
SHEM Shemya Is, Ala 63.91 9 LR LR 00 17 20.8
comp=Z,94nm,19.3s,baz=290,slow=32
NONG Nongkai 64.14 296 P **P 23 53 25.2 -0.8**
ENH Enshi 64.29 311 P **P 23 53 26.0 -0.9**
ENH IAmb IAmb 23 53 56.6
comp=Z,31nm,1.4s
SRIT Nakonsritamara 64.38 285 P **P 23 53 26.6 -1.0**
LYN LuoYang 64.48 316 ⇑P **P 23 53 29.1 +1.2**
LYN pmax pmax
comp=Z,24nm,0.9s
NAYO Nakonayok 64.48 291 P **P 23 53 28.3 0.0**
GSI Gunungsitoli 64.58 276 P **P 23 53 28.2 -0.7**
HNS HongShan 64.69 320 ⇓P **P 23 53 29.8 +0.6**
HNS pmax pmax
comp=Z,15nm,0.7s
HNS LR LR
comp=Z,100nm,15.8s
HNS LR LR
comp=Z,170nm,15.7s
HNS LR LR
comp=Z,160nm,16.1s
KIWB Kanaga Island 64.80 15 P **P 23 53 30.7 +1.1**
KLR Kul'dur 64.95 339 LR LR 00 18 35.6
comp=Z,135nm,21.7s,baz=175,slow=33
KLR Kul'dur 64.95 339 *e*P **P 23 53 29.8 -0.8**
KLR pmax pmax
comp=Z,22nm,1.3s
SRDT SRDT 66.52 291 P **P 23 53 41.6 +0.2**
XAN Xi'an 66.65 314 ⇑P **P 23 53 41.3 -0.7**
XAN pmax pmax
comp=Z,43nm,0.7s
XAN pmax pmax
comp=Z,120nm,4.0s
XAN LR LR
comp=Z,180nm,17.0s
XAN LR LR
comp=Z,200nm,16.3s
XAN LR LR
comp=Z,290nm,20.1s
XAN Xi'an 66.65 314 P **P 23 53 41.9 -0.1**
VNDA Vanda 67.00 180 **P 23 53 44.0 +0.5**
VNDA Vanda 67.00 180 P **P 23 53 43.6 +0.2**
comp=Z,8.1nm,0.9s,baz=339,slow=6.9,SNR=27
VNDA LR LR 00 17 41.4
comp=Z,61nm,21.0s,baz=356,slow=31
comp=Z,8.1nm,0.9s
VNDA Vanda 67.00 180 P **P 23 53 44.0 +0.5**
VNDA pmax pmax
comp=Z,9.0nm,0.9s
VNDA Vanda 67.00 180 P **P 23 53 44.2 +0.7**
VNDA pP **pP 23 53 55.9 -0.3**
HEH HeiHe 67.39 337 *e*P **P 23 53 45.4 -0.9**
HEH pmax pmax
comp=Z,32nm,0.9s
HEH LR LR
comp=Z,110nm,15.9s
HEH LR LR
comp=Z,200nm,15.9s
HEH LR LR
comp=Z,220nm,19.5s
SBA Scott Base 67.39 179 P **P 23 53 47.8 +1.8**
SBA Scott Base 67.39 179 P **P 23 53 47.8 +1.8**
SBA pmax pmax
comp=Z,12nm,1.0s
SBA Scott Base 67.39 179 P **P 23 53 47.5 +1.5**
CCD Concordia, Ant 67.97 190 P **P 23 53 50.7 +0.5**
XLT XiLinHaoTe 68.00 326 *e*P **P 23 53 50.0 -0.4**
XLT pP pP 23 54 01.8 -1.0
XLT pmax pmax
comp=Z,56nm,0.8s
CM31 Chiang Mai Arr 68.01 295 P **P 23 53 50.3 -0.6**
CMAR Chiang Mai Arr 68.01 295 P **P 23 53 49.9 -1.0**
comp=Z,2.1nm,0.6s,baz=110,slow=4.6,SNR=22
CMAR LR LR 00 23 01.7
comp=Z,28nm,21.0s,baz=115,slow=35
comp=Z,2.1nm,0.6s
CMAR Chiang Mai Arr 68.01 295 *ce*P **P 23 53 50.7 -0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CHTO Chiang Mai 68.13 295 **P 23 53 49.9 -1.7**
CHTO Chiang Mai 68.13 295 P **P 23 53 50.8 -0.8**
CHTO Chiang Mai 68.13 295 P **P 23 53 49.9 -1.7**
CHTO pmax pmax
comp=Z,12nm,1.4s
NIKH Nikolski High 68.14 19 P **P 23 53 51.0 +0.1**
NIKH Nikolski High 68.14 19 P **P 23 53 51.7 +0.8**
baz=212
PZH PanZhiHua 68.62 304 P **P 23 53 58.0 +3.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.0s
HHC Hu-ho-hao-te 68.72 322 *e*P **P 23 53 57.6 +2.6**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,73nm,4.1s
HHC LR LR
comp=Z,57nm,13.0s
HHC LR LR
comp=Z,110nm,11.5s
HHC LR LR
comp=Z,99nm,13.0s
UNV Unalaska Valle 69.64 20 P **P 23 54 01.4 +1.2**
baz=214
HIA Hailar 69.86 332 P **P 23 54 01.6 -0.1**
HIA IAmb IAmb 23 54 03.1
comp=Z,18nm,0.7s
HIA Hailar 69.86 332 P **P 23 54 01.8 0.0**
HIA Hailar 69.86 332 *i* P **P 23 54 01.6 -0.1**
HIA pmax pmax
comp=Z,19nm,0.9s
HIA Hailar 69.86 332 P **P 23 54 01.7 -0.1**
ZEA Zeya 70.26 339 *e*P **P 23 54 04.4 +0.3**
ZEA pmax pmax
comp=Z,30nm,0.7s
MA2 Magadan 70.37 354 P **P 23 54 03.8 -0.8**
MA2 IAmb IAmb 23 54 05.0
comp=Z,16nm,0.6s
MA2 Magadan 70.37 354 P **P 23 54 04.0 -0.6**
MA2 Magadan 70.37 354 *ce*P **P 23 54 03.9 -0.6**
MA2 pmax pmax
comp=Z,15nm,0.7s
MA2 Magadan 70.37 354 P **P 23 54 04.0 -0.6**
MA2 pP **pP 23 54 15.5 -1.8**
LZH Lanzhou 71.28 314 *e*P **P 23 54 14.8 +3.9**
LZH pP pP 23 54 22.8 -0.7
LZH sP sP 23 54 27.3 -1.2
LZH pmax pmax
comp=Z,28nm,1.1s
SPIA Saint Paul Isl 71.36 16 P **P 23 54 11.5 +0.8**
baz=210
CHNA Chernabura Isl 72.87 22 P **P 23 54 20.3 +0.6**
baz=220
SDPT Sand Point 72.94 22 P **P 23 54 20.4 +0.2**
baz=219
SEY Seymchan 73.54 356 LR LR 00 23 23.1
comp=Z,128nm,21.6s,baz=184,slow=33
SEY Seymchan 73.54 356 *e*P **P 23 54 22.8 -0.7**
SEY pmax pmax
comp=Z,10.0nm,0.8s
S14K Fog Glacier 74.00 21 P **P 23 54 27.2 +0.8**
baz=220
ULN Ulaanbaatar 75.41 326 P **P 23 54 34.6 -0.4**
ULN IAmb IAmb 23 54 36.8
comp=Z,23nm,0.7s
ULN Ulaanbaatar 75.41 326 *ce*P **P 23 54 34.4 -0.5**
ULN pmax pmax
comp=Z,19nm,0.6s
GTA Gaotai 75.65 315 *e*P **P 23 54 37.0 +0.5**
GTA pP pP 23 54 45.5 -3.7
GTA pmax pmax
comp=Z,12nm,1.1s
O14K Tigyukauivet M 75.73 19 **P 23 54 36.4 +0.1**
O14K Tigyukauivet M 75.73 19 P **P 23 54 37.3 +1.0**
baz=218,SNR=5.2
SONM Songino Array 75.76 325 **P 23 54 36.5 -0.5**
SONM IAmb IAmb 23 54 38.6
comp=Z,26nm,0.7s
SONM Songino Array 75.76 325 P **P 23 54 36.9 0.0**
comp=Z,26nm,0.7s,baz=141,slow=5.5,SNR=142
SONM LR LR 00 29 22.6
comp=Z,87nm,18.8s,baz=112,slow=37
comp=Z,26nm,0.7s
M13K Dall Lake 76.03 17 P **P 23 54 38.9 +0.9**
M13K IAmb IAmb 23 54 40.7
comp=Z,47nm,0.9s
M13K Dall Lake 76.03 17 P **P 23 54 38.8 +0.9**
baz=216
N14K Kuskokwak Cree 76.13 18 P **P 23 54 39.2 +0.7**
N14K Kuskokwak Cree 76.13 18 P **P 23 54 39.3 +0.7**
baz=218
O15K Ungalikthiuk R 76.13 19 P **P 23 54 39.5 +0.9**
O15K IAmb IAmb 23 56 21.4
comp=Z,42nm,1.6s
O15K Ungalikthiuk R 76.13 19 P **P 23 54 39.4 +0.8**
baz=219
SII Sitkinak Islan 76.22 24 P **P 23 54 39.9 +0.7**
baz=225
YAK Yakutsk 76.43 345 **P 23 54 39.4 -0.7**
YAK Yakutsk 76.43 345 LR LR 00 25 36.4
comp=Z,137nm,21.9s,baz=134,slow=34
YAK Yakutsk 76.43 345 *e*P **P 23 54 39.5 -0.7**
YAK *e**PP **pP 23 54 50.7 -2.4**
YAK *e* 23 57 30.6
YAK *e*PPP PPP 23 59 17.9
YAK *e*S **S 00 04 22.3 +0.2**
YAK *e**SS **sS 00 04 42.6 -0.4**
YAK *e*SS **SS 00 09 17.0 -0.7**
YAK *e*SSS SSS 00 12 39.8
YAK pmax pmax
comp=Z,96nm,1.2s
YAK pmax pmax
comp=N,14nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK pmax pmax
comp=Z,120nm,4.6s
YAK pmax pmax
comp=N,101nm,6.3s
YAK pmax pmax
comp=E,88nm,6.1s
YAK smax smax
comp=N,159nm,5.8s
YAK smax smax
comp=E,98nm,5.3s
P16K Nushagak River 76.63 20 P **P 23 54 40.7 -0.7**
P16K Nushagak River 76.63 20 P **P 23 54 41.9 +0.5**
baz=221,SNR=6.4
M14K Bethel 76.71 18 P **P 23 54 41.8 0.0**
M14K Bethel 76.71 18 P **P 23 54 42.3 +0.5**
baz=217,SNR=15
Q17K Contact Creek 76.80 22 P **P 23 54 42.9 +0.4**
baz=223,SNR=20
N15K Kwethluk River 76.82 19 P **P 23 54 43.1 +0.6**
N15K IAmb IAmb 23 54 44.9
comp=Z,37nm,0.9s
N15K Kwethluk River 76.82 19 P **P 23 54 43.3 +0.9**
baz=219,SNR=11
R18K Karluk 76.83 23 P **P 23 54 43.3 +0.8**
baz=225
GAMB Gambell 76.85 12 P **P 23 54 43.2 +0.7**
GAMB Gambell 76.85 12 P **P 23 54 43.3 +0.7**
baz=207
K13K Kusilvak Mount 76.91 16 **P 23 54 43.5 +0.6**
K13K Kusilvak Mount 76.91 16 P **P 23 54 43.8 +0.9**
baz=214,SNR=10
ACHA Angle Creek He 76.97 22 P **P 23 54 42.9 -0.6**
ACHA IAmb IAmb 23 54 48.8
comp=Z,19nm,0.9s
L14K Kuka Creek 76.97 17 P **P 23 54 43.3 0.0**
L14K IAmb IAmb 23 54 45.7
comp=Z,51nm,1.1s
L14K Kuka Creek 76.97 17 P **P 23 54 44.2 +0.9**
baz=216,SNR=7.9
O16K Kokwok River B 77.02 20 **P 23 54 43.3 -0.3**
O16K Kokwok River B 77.02 20 P **P 23 54 43.4 -0.2**
baz=221,SNR=5.1
OHAK Old Harbor 77.03 23 P **P 23 54 44.2 +0.5**
OHAK IAmb IAmb 23 54 45.4
comp=Z,31nm,1.0s
OHAK Old Harbor 77.03 23 P **P 23 54 44.4 +0.7**
OHAK Old Harbor 77.03 23 P **P 23 54 44.1 +0.5**
baz=226,SNR=6.7
M15K Kasigluk River 77.05 18 P **P 23 54 44.3 +0.6**
baz=218,SNR=14
P17K Kvichak River 77.29 21 P **P 23 54 44.8 -0.3**
baz=223,SNR=11
Q18K Katmai Hardscr 77.40 22 P **P 23 54 45.6 -0.3**
baz=224,SNR=40
N16K Nishlik Lake 77.47 19 P **P 23 54 47.1 +0.9**
baz=220,SNR=16
O17K Koliganek Bris 77.49 20 P **P 23 54 46.3 0.0**
baz=222,SNR=8.6
L15K Ungalak Mounta 77.59 17 P **P 23 54 47.0 +0.2**
baz=217,SNR=8.7
KDAK Kodiak Island 77.70 23 **P 23 54 47.6 +0.2**
KDAK Kodiak Island 77.70 23 P **P 23 54 47.7 +0.3**
comp=Z,32nm,0.7s,baz=83,slow=3.1,SNR=35
KDAK LR LR 00 25 03.0
comp=Z,161nm,19.1s,baz=71,slow=32
comp=Z,32nm,0.7s
KDAK Kodiak Island 77.70 23 *i* P **P 23 54 48.1 +0.7**
KDAK pmax pmax
comp=Z,48nm,0.8s
KDAK Kodiak Island 77.70 23 P **P 23 54 47.9 +0.5**
baz=226
M16K Timber Creek 77.83 19 **P 23 54 48.4 +0.3**
M16K Timber Creek 77.83 19 P **P 23 54 48.9 +0.7**
baz=220,SNR=28
P18K Big Mountain, 77.86 21 **P 23 54 48.1 -0.2**
P18K Big Mountain, 77.86 21 P **P 23 54 48.2 -0.2**
baz=224,SNR=12
J14K Nanvaranak Lak 77.88 16 P **P 23 54 49.2 +0.9**
J14K Nanvaranak Lak 77.88 16 P **P 23 54 48.8 +0.5**
baz=215,SNR=9.8
N17K Nushagak Hills 78.03 20 P **P 23 54 49.9 +0.7**
N17K IAmb IAmb 23 54 51.4
comp=Z,33nm,0.7s
N17K Nushagak Hills 78.03 20 P **P 23 54 49.9 +0.7**
baz=222,SNR=18
K15K Wolf Creek Mou 78.07 17 **P 23 54 49.9 +0.4**
K15K Wolf Creek Mou 78.07 17 P **P 23 54 50.2 +0.8**
baz=217,SNR=17
Q19K Cape Douglas, 78.10 22 P **P 23 54 49.7 0.0**
Q19K Cape Douglas, 78.10 22 P **P 23 54 49.3 -0.4**
baz=225,SNR=25
O18K Koktuh Hills 78.20 21 **P 23 54 50.3 +0.1**
O18K IAmb IAmb 23 54 52.3
comp=Z,18nm,0.7s
O18K Koktuh Hills 78.20 21 P **P 23 54 49.8 -0.4**
baz=224,SNR=12
L16K Owhat River 78.21 18 **P 23 54 50.2 0.0**
L16K IAmb IAmb 23 54 51.9
comp=Z,26nm,0.7s
L16K Owhat River 78.21 18 P **P 23 54 50.9 +0.7**
baz=219,SNR=13
BOD Bodaibo 78.28 336 *e*P **P 23 54 49.4 -1.3**
BOD pmax pmax
comp=Z,11nm,1.8s
Q20K Shuyak Island 78.34 23 P **P 23 54 51.3 +0.3**
baz=226,SNR=11
SYI Shuyak Island 78.34 23 **P 23 54 51.0 0.0**
SYI IAmb IAmb 23 54 52.8
comp=Z,28nm,0.8s
BILL Bilibino 78.42 2 P **P 23 54 51.5 +0.3**
BILL IAmb IAmb 23 54 53.2
comp=Z,29nm,0.8s
BILL Bilibino 78.42 2 *ce*P **P 23 54 51.4 +0.2**
BILL pmax pmax
comp=Z,33nm,0.9s
N18K Kilae Creek 78.57 20 P **P 23 54 52.5 +0.2**
N18K IAmb IAmb 23 54 54.3
comp=Z,23nm,1.1s
N18K Kilae Creek 78.57 20 P **P 23 54 52.9 +0.7**
baz=223,SNR=10.0
M17K Holitna River 78.60 19 P **P 23 54 52.5 +0.2**
M17K IAmb IAmb 23 54 55.0
comp=Z,27nm,0.8s
M17K Holitna River 78.60 19 P **P 23 54 52.9 +0.5**
baz=221,SNR=14
O19K Port Alsworth 78.76 21 P **P 23 54 52.7 -0.5**
O19K IAmb IAmb 23 54 54.1
comp=Z,23nm,1.1s
O19K Port Alsworth 78.76 21 P **P 23 54 53.2 0.0**
baz=224
P19K Oil Pt 78.76 22 P **P 23 54 53.0 -0.4**
P19K Oil Pt 78.76 22 P **P 23 54 53.3 -0.1**
baz=226,SNR=30
ZAK Zakamensk 78.86 326 *e*P **P 23 54 52.4 -1.8**
ZAK pmax pmax
comp=Z,10.0nm,0.9s
L17K Donlin 78.89 18 P **P 23 54 54.3 +0.3**
baz=220,SNR=12
ANM Nome 78.93 14 P **P 23 54 54.6 +0.5**
baz=213
ILSW Iliamna Southw 79.02 21 P **P 23 54 54.8 -0.1**
ILSW IAmb IAmb 23 54 56.2
comp=Z,40nm,1.0s
J16K Anvik River 79.11 16 **P 23 54 56.2 +1.0**
J16K IAmb IAmb 23 54 57.6
comp=Z,39nm,0.8s
J16K Anvik River 79.11 16 P **P 23 54 55.6 +0.5**
baz=218,SNR=13
N19K Bonanza Creek 79.14 20 **P 23 54 55.6 +0.1**
N19K IAmb IAmb 23 54 57.1
comp=Z,27nm,0.8s
N19K Bonanza Creek 79.14 20 P **P 23 54 56.0 +0.5**
baz=224,SNR=20
M18K Stony River 79.19 19 P **P 23 54 56.5 +0.9**
baz=223,SNR=27
TNA Tin City 79.20 12 **P 23 54 55.9 +0.4**
TNA IAmb IAmb 23 54 57.5
comp=Z,26nm,0.8s
TNA Tin City 79.20 12 P **P 23 54 56.0 +0.4**
baz=211
K17K Iditarod 79.34 18 **P 23 54 57.0 +0.6**
K17K IAmb IAmb 23 54 59.2
comp=Z,36nm,0.8s
K17K Iditarod 79.34 18 P **P 23 54 57.4 +1.0**
baz=220,SNR=12
HOM Homer 79.34 22 P **P 23 54 57.3 +0.9**
HOM Homer 79.34 22 P **P 23 54 57.1 +0.6**
baz=227,SNR=6.4
CNPM China Poot 79.41 22 **P 23 54 57.5 +0.7**
L18K Granite Mounta 79.45 19 **P 23 54 58.2 +1.2**
L18K Granite Mounta 79.45 19 P **P 23 54 57.9 +0.8**
baz=222,SNR=67
F14K Arctic Creek 79.48 13 P **P 23 54 57.6 +0.5**
baz=212
QSPA South Pole Qui 79.50 180 **P 23 54 57.7 +0.2**
QSPA IAmb IAmb 23 54 59.6
comp=Z,22nm,1.1s
QSPA South Pole Qui 79.50 180 P **P 23 54 57.5 0.0**
comp=Z,17nm,0.9s,baz=336,slow=2.4,SNR=45
comp=Z,17nm,0.9s
I17K Unalakleet 79.57 16 P **P 23 54 58.2 +0.7**
I17K IAmb IAmb 23 54 60.0
comp=Z,30nm,0.6s
I17K Unalakleet 79.57 16 P **P 23 54 57.9 +0.3**
baz=218
G15K Niukluk 79.61 14 P **P 23 54 57.8 0.0**
baz=215
J17K VABM Dome 79.63 17 **P 23 54 58.7 +0.7**
J17K VABM Dome 79.63 17 P **P 23 54 58.9 +0.9**
baz=220,SNR=28
BRLK Bradley Lake 79.70 22 P **P 23 54 58.1 -0.4**
BRLK IAmb IAmb 23 55 00.4
comp=Z,37nm,0.9s
BRSE Bradley Lake S 79.74 22 P **P 23 54 59.2 +0.5**
baz=228,SNR=16
M19K Big River Lodg 79.96 20 **P 23 55 00.7 +0.8**
M19K Big River Lodg 79.96 20 P **P 23 55 00.5 +0.7**
baz=224,SNR=100
L19K White Mountain 80.01 19 **P 23 55 00.8 +0.7**
L19K White Mountain 80.01 19 P **P 23 55 00.5 +0.4**
baz=224,SNR=62
F15K North Star Dit 80.06 14 P **P 23 55 00.7 +0.5**
F15K North Star Dit 80.06 14 P **P 23 55 00.4 +0.2**
baz=214
TTA Tatalina 80.19 18 **P 23 55 01.6 +0.5**
TTA IAmb IAmb 23 55 03.0
comp=Z,35nm,0.7s
TTA Tatalina 80.19 18 P **P 23 55 01.4 +0.3**
TTA Tatalina 80.19 18 P **P 23 55 01.6 +0.5**
TTA pmax pmax
comp=Z,35nm,0.7s
TTA Tatalina 80.19 18 P **P 23 55 01.7 +0.6**
baz=222,SNR=40
SPCR Spurr Chakacha 80.20 21 P **P 23 55 01.8 +0.6**
baz=226
CAPN Captain Cook N 80.28 22 P **P 23 55 03.0 +1.5**
CAPN Captain Cook N 80.28 22 P **P 23 55 02.8 +1.3**
baz=227,SNR=6.0
G16K Koyuk River 80.34 15 **P 23 55 02.1 +0.4**
G16K IAmb IAmb 23 55 03.7
comp=Z,23nm,0.7s
G16K Koyuk River 80.34 15 P **P 23 55 02.3 +0.5**
baz=216
M20K Styx River 80.36 20 **P 23 55 02.0 -0.1**
M20K IAmb IAmb 23 55 04.4
comp=Z,26nm,0.8s
M20K Styx River 80.36 20 P **P 23 55 02.1 -0.1**
baz=225,SNR=23
J18K Innoko River 80.38 18 **P 23 55 01.9 -0.1**
J18K IAmb IAmb 23 55 03.8
comp=Z,26nm,0.7s
J18K Innoko River 80.38 18 P **P 23 55 02.6 +0.5**
baz=222,SNR=26
SLKM Skilak Lake 80.45 22 P **P 23 55 02.2 -0.3**
SLKM IAmb IAmb 23 55 04.3
comp=Z,44nm,0.8s
SEW Seward 80.47 23 P **P 23 55 03.0 +0.5**
SEW IAmb IAmb 23 55 07.0
comp=Z,26nm,0.8s
SEW Seward 80.47 23 P **P 23 55 03.0 +0.5**
baz=229,SNR=6.7
L20K Farewell, AK 80.54 19 P **P 23 55 03.3 +0.3**
baz=225,SNR=64
STLK Strandline Lak 80.54 21 P **P 23 55 01.7 -1.3**
H17K Granite Mounta 80.61 16 **P 23 55 03.1 -0.1**
H17K IAmb IAmb 23 55 05.0
comp=Z,25nm,0.7s
H17K Granite Mounta 80.61 16 P **P 23 55 03.9 +0.7**
baz=219,SNR=17
O22K Cooper Landing 80.61 22 P **P 23 55 04.1 +0.8**
O22K Cooper Landing 80.61 22 P **P 23 55 04.0 +0.8**
baz=229,SNR=9.4
MOY Mondy 80.76 327 *e*P **P 23 55 04.3 -0.2**
MOY pmax pmax
comp=Z,10.0nm,1.6s
G17K Kiwalik Mounta 80.86 15 P **P 23 55 05.0 +0.5**
baz=218,SNR=11
FIS Fire Island 80.87 22 P **P 23 55 05.2 +0.5**
SUA Susitna One 80.90 21 **P 23 55 04.8 -0.2**
SUA IAmb IAmb 23 55 07.5
comp=Z,31nm,0.7s
SUA Susitna One 80.90 21 P **P 23 55 05.0 0.0**
baz=228,SNR=35
SKT Skwentna 80.98 20 **P 23 55 04.5 -0.8**
SKT Skwentna 80.98 20 P **P 23 55 05.3 0.0**
baz=227,SNR=11
RC01 Rabbit Creek A 81.01 22 P **P 23 55 05.6 +0.2**
RC01 IAmb IAmb 23 55 06.9
comp=Z,22nm,0.8s
RC01 Rabbit Creek A 81.01 22 P **P 23 55 05.3 -0.1**
baz=229,SNR=14
J19K Poorman 81.10 18 **P 23 55 06.6 +0.8**
J19K IAmb IAmb 23 55 08.0
comp=Z,23nm,0.8s

J19K	Poorman	81.10	18	P	P	23 55 06.3 +0.5
	baz=223,SNR=23					
K20K	Telida	81.11	19		P	23 55 06.5 +0.6
K20K				IAmb	IAmb	23 55 08.1
	comp=Z,32nm,0.8s					
K20K	Telida	81.11	19	P	P	23 55 06.3 +0.3
	baz=224,SNR=27					
P23K	Montague Islan	81.18	23	P	P	23 55 06.7 +0.3
	baz=231					
H18K	Honhosa River	81.19	16	P	P	23 55 06.2 -0.1
H18K	Honhosa River	81.19	16	P	P	23 55 06.2 -0.1
	baz=220					
GCSA	Galena City Sc	81.29	17	P	P	23 55 07.2 +0.4
	baz=222					
M22K	Willow	81.32	21	P	P	23 55 07.1 +0.1
M22K	Willow	81.32	21	P	P	23 55 07.5 +0.4
	baz=228					
PWL	Port Wells	81.38	22	P	P	23 55 07.8 +0.3
PWL				IAmb	IAmb	23 55 11.0
	comp=Z,34nm,0.8s					
PWL	Port Wells	81.38	22	P	P	23 55 08.1 +0.7
	baz=230,SNR=31					
PPLA	Purkeypile	81.39	20		P	23 55 07.1 -0.5
PPLA	Purkeypile	81.39	20	P	P	23 55 07.6 0.0
	baz=226,SNR=6.4					
F17K	Baldwin Pennin	81.46	14		P	23 55 07.8 +0.1
F17K				IAmb	IAmb	23 55 09.6
	comp=Z,24nm,0.7s					
F17K	Baldwin Pennin	81.46	14	P	P	23 55 07.9 +0.3
	baz=217					
PMR	Palmer	81.56	22		P	23 55 08.1 -0.2
PMR				IAmb	IAmb	23 55 10.1
	comp=Z,25nm,0.6s					
PMR	Palmer	81.56	22	P	P	23 55 09.0 +0.7
PMR	Palmer	81.56	22	P	P	23 55 08.1 -0.2
PMR				pmax	pmax	
	comp=Z,25nm,0.6s					
PMR	Palmer	81.56	22	P	P	23 55 08.6 +0.3
	baz=229,SNR=8.4					
J20K	Nowinta River	81.68	18		P	23 55 09.5 +0.6
J20K				IAmb	IAmb	23 55 11.1
	comp=Z,29nm,0.8s					
J20K	Nowinta River	81.68	18	P	P	23 55 09.5 +0.6
	baz=224,SNR=22					
G18K	Tagagawik	81.68	15	P	P	23 55 08.6 -0.4
G18K	Tagagawik	81.68	15	P	P	23 55 09.0 0.0
	baz=220					
KNK	Knik Glacier	81.69	22	P	P	23 55 08.8 -0.3
KNK				IAmb	IAmb	23 55 13.2
	comp=Z,14nm,0.7s					
KNK	Knik Glacier	81.69	22	P	P	23 55 09.6 +0.5
	baz=230,SNR=13					
CUT	Chulitna	81.70	21	P	P	23 55 09.0 0.0
CUT	Chulitna	81.70	21	P	P	23 55 09.1 0.0
	baz=228					
GHO	Glory Hole Cre	81.76	21	P	P	23 55 09.8 +0.3
GHO				IAmb	IAmb	23 55 11.4
	comp=Z,28nm,0.6s					
HIN	Hinchinbrook I	81.78	23	P	P	23 55 09.7 +0.1
HIN				IAmb	IAmb	23 55 13.2
	comp=Z,28nm,0.7s					
CAST	Castle Rocks	81.79	19		P	23 55 08.9 -0.7
CAST	Castle Rocks	81.79	19	P	P	23 55 09.3 -0.2
	baz=226,SNR=118					
E17K	Hotham Inlet	81.84	14	P	P	23 55 10.1 +0.4
	baz=216,SNR=24					
GLI	Glacier Island	81.86	23	P	P	23 55 09.9 -0.1
GLI				IAmb	IAmb	23 55 13.5
	comp=Z,31nm,0.7s					
GLI	Glacier Island	81.86	23	P	P	23 55 10.1 +0.1
	baz=231,SNR=23					
F18K	Selawik	81.98	15	P	P	23 55 10.2 -0.2
	baz=219,SNR=20					
SML	Sawmill	81.99	22	P	P	23 55 10.9 +0.2
SML				IAmb	IAmb	23 55 14.0
	comp=Z,22nm,0.7s					
SML	Sawmill	81.99	22	P	P	23 55 10.9 +0.2
SML				pmax	pmax	
	comp=Z,22nm,0.7s					
SML	Sawmill	81.99	22	P	P	23 55 11.0 +0.3
	baz=230,SNR=18					
H19K	Roundabout Mou	82.00	16		P	23 55 10.7 +0.2
H19K				IAmb	IAmb	23 55 12.4
	comp=Z,20nm,0.8s					
H19K	Roundabout Mou	82.00	16	P	P	23 55 11.0 +0.4
	baz=222,SNR=18					
FID	Port Fidalgo	82.01	23	P	P	23 55 10.5 -0.3
FID				IAmb	IAmb	23 55 14.2
	comp=Z,21nm,0.8s					
I20K	Naaghedeneel	82.03	18		P	23 55 11.6 +0.9
I20K				IAmb	IAmb	23 55 13.1
	comp=Z,35nm,0.8s					
I20K	Naaghedeneel	82.03	18	P	P	23 55 11.4 +0.7
	baz=224,SNR=17					
CHUM	Lake Minchumin	82.04	19	P	P	23 55 10.8 0.0
	baz=226,SNR=28					
D17K	Noatak River	82.06	13	P	P	23 55 10.7 -0.1
	baz=215					
C16K	Lisburne Hills	82.06	12		P	23 55 10.7 -0.1
C16K	Lisburne Hills	82.06	12	P	P	23 55 10.9 +0.1
	baz=213,SNR=5.7					
EYAK	Cordova Ski Ar	82.17	23	P	P	23 55 11.4 -0.1
EYAK				IAmb	IAmb	23 55 14.7
	comp=Z,18nm,0.7s					
EYAK	Cordova Ski Ar	82.17	23	P	P	23 55 11.8 +0.3
EYAK	Cordova Ski Ar	82.17	23	P	P	23 55 11.5 0.0
	baz=232					
M23K	Glacier View	82.20	22	P	P	23 55 12.1 +0.3
	baz=230,SNR=18					
KTH	Kantishna Hill	82.26	20		P	23 55 11.5 -0.6
PALK	Pallekele	82.26	279	LR	LR	00 36 38.7
	comp=Z,53nm,18.4s,baz=108,slow=39					
G19K	Purcell Mounta	82.29	16		P	23 55 12.5 +0.4
G19K				IAmb	IAmb	23 55 14.0
	comp=Z,26nm,0.8s					
G19K	Purcell Mounta	82.29	16	P	P	23 55 12.9 +0.8
	baz=221					
KAIM	Kayak Island	82.33	24	P	P	23 55 13.6 +1.2
KAIM	Kayak Island	82.33	24	P	P	23 55 13.2 +0.8
	baz=234					
SCM	Sheep Creek Mo	82.38	22	P	P	23 55 13.3 +0.5
SCM				IAmb	IAmb	23 55 16.2
	comp=Z,31nm,0.7s					
SCM	Sheep Creek Mo	82.38	22	P	P	23 55 13.3 +0.5
SCM				pmax	pmax	
	comp=Z,31nm,0.7s					
SCM	Sheep Creek Mo	82.38	22	P	P	23 55 13.1 +0.4
	baz=231,SNR=24					
RDOG	Red Dog Mine	82.39	13		P	23 55 13.1 +0.6
RDOG				IAmb	IAmb	23 55 14.8
	comp=Z,30nm,0.7s					
RDOG	Red Dog Mine	82.39	13	P	P	23 55 13.2 +0.6
	baz=215,SNR=6.9					
E18K	Tukpahlearik C	82.40	14		P	23 55 12.2 -0.4
E18K				IAmb	IAmb	23 55 14.8
	comp=Z,27nm,0.8s					
E18K	Tukpahlearik C	82.40	14	P	P	23 55 12.8 +0.2
	baz=218,SNR=26					
TRF	Thorofare Moun	82.40	20		P	23 55 12.4 -0.6
TRF				IAmb	IAmb	23 55 13.9
	comp=Z,27nm,0.8s					
TRF	Thorofare Moun	82.40	20	P	P	23 55 12.3 -0.6
	baz=228,SNR=21					
H20K	Anotleneega Mo	82.42	17	P	P	23 55 13.0 +0.2
	baz=223,SNR=21					
RAGM	Ragged Mountai	82.50	24	P	P	23 55 13.7 +0.3
RAGM				IAmb	IAmb	23 55 15.9
	comp=Z,27nm,1.1s					
DIV	Divide	82.52	23		P	23 55 13.6 +0.1
DIV				IAmb	IAmb	23 55 16.5
	comp=Z,21nm,0.7s					
BPAW	Bear Paw Mtn.	82.61	19		P	23 55 13.0 -0.9
BPAW				IAmb	IAmb	23 55 14.4
	comp=Z,15nm,0.8s					
BPAW	Bear Paw Mtn.	82.61	19	P	P	23 55 13.3 -0.5
	baz=227,SNR=19					
HMT	Hamilton	82.63	24	P	P	23 55 14.7 +0.6
HMT				IAmb	IAmb	23 55 17.1
	comp=Z,27nm,0.7s					
F19K	Shaleruckik Mo	82.63	15		P	23 55 13.8 -0.1
F19K				IAmb	IAmb	23 55 15.3
	comp=Z,20nm,0.8s					
F19K	Shaleruckik Mo	82.63	15	P	P	23 55 13.5 -0.4
	baz=220,SNR=23					
SUCK	Suckling Hills	82.67	24	P	P	23 55 15.1 +0.9
KLU	Klutina	82.69	23	P	P	23 55 14.9 +0.6
KLU				IAmb	IAmb	23 55 20.6
	comp=Z,18nm,0.7s					
KLU	Klutina	82.69	23	P	P	23 55 14.7 +0.3
	baz=232,SNR=15					
RND	Reindeer	82.85	20		P	23 55 14.9 -0.3
RND				IAmb	IAmb	23 55 16.2
	comp=Z,28nm,0.7s					
RND	Reindeer	82.85	20	P	P	23 55 14.9 -0.3
RND				pmax	pmax	
	comp=Z,28nm,0.7s					
BMRM	Bremner River	82.87	23	P	P	23 55 15.2 -0.1
BMRM				IAmb	IAmb	23 55 20.1
	comp=Z,21nm,0.8s					
BMRM	Bremner River	82.87	23	P	P	23 55 15.8 +0.5
	baz=233,SNR=8.4					
M24K	Tolsona, Glenn	82.97	22	P	P	23 55 16.6 +0.7
M24K	Tolsona, Glenn	82.97	22	P	P	23 55 16.5 +0.7
	baz=232,SNR=34					
MCK	McKinley	83.04	20		P	23 55 15.5 -0.6
MCK	McKinley	83.04	20	P	P	23 55 15.5 -0.6
MCK				pmax	pmax	
	comp=Z,78nm,0.8s					
MCK	McKinley	83.04	20	P	P	23 55 15.4 -0.6
	baz=229,SNR=60					
I21K	Tanana	83.05	18	P	P	23 55 16.1 0.0
I21K	Tanana	83.05	18	P	P	23 55 16.3 +0.3
	baz=226,SNR=37					
SNH	Sunshine Point	83.12	25	P	P	23 55 17.8 +1.2
H21K	Melozitna Rive	83.14	17		P	23 55 17.2 +0.6
H21K				IAmb	IAmb	23 55 18.5
	comp=Z,18nm,0.8s					
H21K	Melozitna Rive	83.14	17	P	P	23 55 17.1 +0.5
	baz=225,SNR=21					
BWN	Browne	83.16	19	P	P	23 55 16.7 +0.1
C18K	Utukok River	83.24	13		P	23 55 16.8 -0.3
C18K				IAmb	IAmb	23 55 18.5
	comp=Z,25nm,0.7s					
C18K	Utukok River	83.24	13	P	P	23 55 16.8 -0.3
	baz=217,SNR=34					
E19K	Redstone River	83.25	15	P	P	23 55 17.6 +0.5
N25K	Chitina, Valde	83.26	23		P	23 55 17.7 +0.3
N25K	Chitina, Valde	83.26	23	P	P	23 55 17.6 +0.3
	baz=233,SNR=26					
WAX	Waxell Ridge	83.27	24	P	P	23 55 17.9 +0.5
F20K	Avaraart Lake	83.33	16		P	23 55 17.4 0.0
F20K	Avaraart Lake	83.33	16	P	P	23 55 18.0 +0.6
	baz=222,SNR=22					
GLB	Gilahina Butte	83.47	23		P	23 55 18.6 +0.2
GLB				IAmb	IAmb	23 55 20.5
	comp=Z,32nm,0.9s					
VRDI	Verde Repeater	83.48	24		P	23 55 18.4 -0.2
VRDI				IAmb	IAmb	23 55 21.1
	comp=Z,23nm,0.7s					
MESA	MESA	83.48	25	P	P	23 55 19.0 +0.3
MESA	MESA	83.48	25	P	P	23 55 19.1 +0.5
	baz=236,SNR=6.1					
HARP	HAARP	83.53	22	P	P	23 55 18.9 +0.3
	baz=233,SNR=5.2					
G21K	Allakaket	83.55	17		P	23 55 18.7 +0.1
G21K				IAmb	IAmb	23 55 20.3
	comp=Z,20nm,0.7s					
G21K	Allakaket	83.55	17	P	P	23 55 18.6 +0.1
	baz=224					
NEA2	Nenana	83.56	19	P	P	23 55 18.5 -0.2
NEA2	Nenana	83.56	19	P	P	23 55 18.2 -0.5
	baz=229,SNR=40					
MAW	Mawson	83.61	202		P	23 55 19.5 +0.5
MAW	Mawson	83.61	202	P	P	23 55 19.3 +0.2
	comp=Z,7.9nm,1.1s					
MAW	Mawson	83.61	202	P	P	23 55 19.6 +0.6
	comp=Z,19nm,0.6s,baz=108,slow=6.6,SNR=33					
MAW				LR	LR	00 27 13.0
	comp=Z,91nm,21.7s,baz=96,slow=32					
	comp=Z,19nm,0.6s					
YAH	Yahtse	83.67	25	P	P	23 55 19.5 -0.1
YAH				IAmb	IAmb	23 55 21.8
	comp=Z,18nm,0.7s					
B18K	Kokolik River	83.69	12	P	P	23 55 19.7 +0.5
	baz=216,SNR=21					
H22K	Ishtalitna Cre	83.72	18	P	P	23 55 20.0 +0.4
	baz=227,SNR=31					
PAX	Paxson	83.76	22		P	23 55 19.8 -0.1
PAX	Paxson	83.76	22	P	P	23 55 19.8 -0.1
PAX				pmax	pmax	
	comp=Z,6.0nm,0.8s					
PAX	Paxson	83.76	22	P	P	23 55 20.0 +0.1
	baz=232,SNR=7.0					
WRH	Wood River Hil	83.81	20		P	23 55 19.8 -0.2
D19K	Kuna River	83.83	14	P	P	23 55 20.1 0.0
D19K				IAmb	IAmb	23 55 21.5
	comp=Z,25nm,0.7s					
D19K	Kuna River	83.83	14	P	P	23 55 20.4 +0.4
	baz=220					
I23K	Minto, Yukon-K	83.84	19		P	23 55 20.0 0.0
I23K				IAmb	IAmb	23 55 22.6
	comp=Z,16nm,0.7s					
I23K	Minto, Yukon-K	83.84	19	P	P	23 55 20.1 0.0
	baz=229,SNR=24					
CCB	Clear Creek Bu	84.01	20		P	23 55 20.3 -0.6
CCB				IAmb	IAmb	23 55 21.5
	comp=Z,24nm,0.6s					
F21K	Alatna River	84.06	16		P	23 55 21.5 +0.3
F21K				IAmb	IAmb	23 55 22.8
	comp=Z,14nm,0.8s					
F21K	Alatna River	84.06	16	P	P	23 55 21.6 +0.3
	baz=224,SNR=27					
E20K	Nigu River	84.11	15	P	P	23 55 22.2 +0.6
	baz=222					
PCA	Pinnacle	84.14	25	P	P	23 55 22.4 +0.5
COLA	College	84.14	19	P	P	23 55 20.8 -0.8
COLA	College	84.14	19	P	P	23 55 21.4 -0.2
COLA	College	84.14	19	*i* P	P	23 55 21.0 -0.6
COLA				pmax	pmax	
	comp=Z,60nm,0.8s					
COLA	College	84.14	19	P	P	23 55 21.7 +0.1
	baz=230					
PINM	Pinnacle	84.14	25	P	P	23 55 22.5 +0.7
	baz=237,SNR=6.1					
HDA	Harding Lake	84.15	20	P	P	23 55 21.6 -0.1
HDA	Harding Lake	84.15	20	P	P	23 55 22.0 +0.3
	baz=231,SNR=56					
K24K	Donnelly Dome	84.17	21	P	P	23 55 22.1 +0.2
K24K	Donnelly Dome	84.17	21	P	P	23 55 22.5 +0.6
	baz=232,SNR=18					
H23K	Yukon River	84.23	18	P	P	23 55 22.9 +0.8
H23K	Yukon River	84.23	18	P	P	23 55 22.6 +0.5
	baz=228					
PNL	Peninsula	84.28	26	P	P	23 55 22.9 +0.4
	baz=238					
M26K	Nabesna, AK	84.34	23	P	P	23 55 22.3 -0.5
M26K	Nabesna, AK	84.34	23	P	P	23 55 23.2 +0.4
	baz=235,SNR=40					
D20K	Etivluk River	84.35	14		P	23 55 22.9 +0.2
D20K				IAmb	IAmb	23 55 24.3
	comp=Z,21nm,0.8s					
D20K	Etivluk River	84.35	14	P	P	23 55 23.4 +0.7
	baz=221,SNR=24					
MENT	Mentasta	84.38	22	P	P	23 55 22.9 0.0
MENT	Mentasta	84.38	22	P	P	23 55 24.0 +1.0
IL31		84.40	20		P	23 55 22.4 -0.5
IL31				IAmb	IAmb	23 55 24.3
	comp=Z,17nm,0.6s					
ILAR	Eielson Array	84.40	20	P	P	23 55 22.1 -0.8
	comp=Z,15nm,0.8s,baz=246,slow=4.7,SNR=100					
ILAR				LR	LR	00 29 30.2
	comp=Z,224nm,18.8s,baz=238,slow=33					
	comp=Z,15nm,0.8s					
G22K	Bettles	84.40	17	P	P	23 55 23.5 +0.6
	baz=226					
POKR	Poker Plat Res	84.44	19	P	P	23 55 22.8 -0.4
POKR				IAmb	IAmb	23 55 24.1
	comp=Z,17nm,0.7s					
POKR	Poker Plat Res	84.44	19	P	P	23 55 23.3 +0.1
	baz=230,SNR=8.0					
RIDG	Independent Ri	84.46	21		P	23 55 23.5 +0.1
RIDG				IAmb	IAmb	23 55 25.0
	comp=Z,28nm,1.0s					
RIDG	Independent Ri	84.46	21	P	P	23 55 23.2 -0.1
	baz=233,SNR=21					
A19K	Wainwright	84.52	12	P	P	23 55 24.0 +0.6
	baz=217,SNR=52					
O28M	Mount Upton	84.54	25	P	P	23 55 24.0 -0.1
O28M	Mount Upton	84.54	25	P	P	23 55 24.4 +0.3
	baz=237,SNR=22					
L26K	Log Cabin Wild	84.57	22	P	P	23 55 23.5 -0.4
L26K	Log Cabin Wild	84.57	22	P	P	23 55 24.2 +0.3
	baz=234,SNR=35					
F22K	John River	84.62	16	P	P	23 55 24.7 +0.6
	baz=226,SNR=21					
DOT	Dot Lake	84.68	21		P	23 55 24.7 +0.2
G23K	Bananza Creek	84.68	17		P	23 55 24.4 0.0
G23K				IAmb	IAmb	23 55 26.4
	comp=Z,15nm,0.8s					
G23K	Bananza Creek	84.68	17	P	P	23 55 25.3 +0.9
	baz=228					
M27K	Edge Creek, AK	84.74	23		P	23 55 24.8 -0.2
M27K	Edge Creek, AK	84.74	23	P	P	23 55 25.6 +0.6
	baz=236,SNR=20					
H24K	Noodor Dome	84.76	19		P	23 55 24.4 -0.4
H24K	Noodor Dome	84.76	19	P	P	23 55 25.5 +0.6
	baz=230,SNR=7.6					
TIXI	Tiksi	84.79	350		P	23 55 23.4 -1.4
TIXI	Tiksi	84.79	350	LR	LR	00 36 27.3
	comp=Z,57nm,18.4s,baz=194,slow=38					
TIXI	Tiksi	84.79	350	*ce*P	P	23 55 23.6 -1.2
TIXI				pmax	pmax	
	comp=Z,20nm,1.7s					
E21K	Killik River	84.81	15		P	23 55 24.9 -0.1
E21K				IAmb	IAmb	23 55 26.7
	comp=Z,15nm,0.7s					
E21K	Killik River	84.81	15	P	P	23 55 25.5 +0.5
	baz=224,SNR=12					
J25K	Salcha River,	84.81	20		P	23 55 25.3 +0.2
J25K	Salcha River,	84.81	20	P	P	23 55 25.4 +0.3
	baz=232,SNR=45					
S31K	Pelican	84.83	28	P	P	23 55 25.6 +0.3
	baz=241					
SCRK	Sand Creek	84.90	21		P	23 55 25.6 -0.1
SCRK	Sand Creek	84.90	21	P	P	23 55 26.1 +0.3
	baz=234,SNR=50					
O29M	Mount Kennedy	84.97	26	P	P	23 55 25.5 -0.6
O29M	Mount Kennedy	84.97	26	P	P	23 55 26.6 +0.5
	baz=239					
YUK3	Moose Creek	84.97	24	P	P	23 55 26.5 +0.3
	baz=237,SNR=20					
COLD	Coldfoot	84.98	17		P	23 55 26.5 +0.6
COLD	Coldfoot	84.98	17	P	P	23 55 26.9 +1.0
	baz=228,SNR=13					
P29M	Windy Craggy	84.98	26	P	P	23 55 26.3 +0.2
P29M	Windy Craggy	84.98	26	P	P	23 55 25.9 -0.1
	baz=240					
YUK8	Steele Glacier	84.99	25	P	P	23 55 26.3 0.0
	baz=238,SNR=32					
C21K	Knifeblade Rid	85.13	14	P	P	23 55 27.2 +0.6
	baz=223,SNR=48					
E22K	Anaktuvuk Pass	85.16	16		P	23 55 27.1 +0.3
E22K				IAmb	IAmb	23 55 28.5
	comp=Z,12nm,0.8s					
E22K	Anaktuvuk Pass	85.16	16	P	P	23 55 27.4 +0.6
	baz=226,SNR=20					
L27K	Beaver Creek,	85.16	22		P	23 55 27.1 +0.2
L27K				IAmb	IAmb	23 55 29.9
	comp=Z,14nm,0.8s					
L27K	Beaver Creek,	85.16	22	P	P	23 55 27.8 +0.9
	baz=236,SNR=16					
BVCY	Beaver Creek	85.17	23	P	P	23 55 27.7 +0.8
	baz=237,SNR=17					
BCAR	Beaver Creek A	85.18	22		P	23 55 26.7 -0.3
B20K	Meade River	85.20	13		P	23 55 26.3 -0.5
B20K	Meade River	85.20	13	P	P	23 55 27.5 +0.6
	baz=221,SNR=37					
PRP	Porcupine Dome	85.31	20		P	23 55 27.1 -0.7
PRP	Porcupine Dome	85.31	20	P	P	23 55 27.5 -0.2
	baz=232,SNR=10					
J26L	Joseph Creek	85.36	21	P	P	23 55 28.6 +0.7
J26L	Joseph Creek	85.36	21	P	P	23 55 28.8 +0.8
	baz=234,SNR=19					
S32K	Killisnoo	85.38	29	P	P	23 55 29.1 +1.1
	baz=242					
YUK6	Outpost Mounta	85.39	25	P	P	23 55 29.0 +0.6
	baz=239					
G24K	Hadweenzic Riv	85.44	18		P	23 55 28.5 +0.3
G24K				IAmb	IAmb	23 55 31.1
	comp=Z,24nm,0.8s					
G24K	Hadweenzic Riv	85.44	18	P	P	23 55 28.9 +0.7
	baz=230,SNR=31					
D22K	Ayikyak River	85.45	15		P	23 55 28.6 +0.4
D22K	Ayikyak River	85.45	15	P	P	23 55 29.1 +0.9
	baz=225,SNR=47					
YUK4	Talbot Arm	85.48	25	P	P	23 55 29.6 +0.8
	baz=239,SNR=35					
B21K	Ikpikpuk River	85.51	14		P	23 55 28.3 -0.1
B21K	Ikpikpuk River	85.51	14	P	P	23 55 29.1 +0.7
	baz=223,SNR=43					
P30M	Million Dollar	85.57	26	P	P	23 55 29.6 +0.6
	baz=240					
K27K	Chicken	85.62	22	P	P	23 55 30.0 +0.9
K27K				IAmb	IAmb	23 55 32.8
	comp=Z,15nm,0.8s					
K27K	Chicken	85.62	22	P	P	23 55 30.3 +1.1
	baz=235					
HYT	Haines Junctio	85.69	25		P	23 55 30.2 +0.5
HYT				IAmb	IAmb	23 55 32.4
	comp=Z,16nm,0.8s					
HYT	Haines Junctio	85.69	25	P	P	23 55 30.2 +0.5
	baz=240,SNR=11					
E23K	Chandalar	85.71	17		P	23 55 30.1 +0.5
E23K	Chandalar	85.71	17	P	P	23 55 30.6 +1.0
	baz=228,SNR=13					
WMQ	Urumqi	85.72	316	*e*P	P	23 55 31.0 +0.8
BESE	Bessie Mountai	85.77	28		P	23 55 29.9 -0.1
BESE				IAmb	IAmb	23 55 31.9
	comp=Z,12nm,0.7s					
R32K	Eaglecrest	85.78	28	P	P	23 55 30.7 +0.7
	baz=242					
F24K	Squaw Lake	85.85	17		P	23 55 30.7 +0.4
F24K				IAmb	IAmb	23 55 33.4
	comp=Z,13nm,0.7s					
F24K	Squaw Lake	85.85	17	P	P	23 55 31.6 +1.4
	baz=230,SNR=25					
G25K	Bearman Lake	85.91	18	P	P	23 55 31.8 +1.4
	baz=232,SNR=25					
V35K	Ketchikan	85.91	32	P	P	23 55 31.7 +1.0
	baz=245					
SKAG	Skagway	85.97	27	P	P	23 55 31.5 +0.6
SKAG	Skagway	85.97	27	P	P	23 55 32.0 +1.2
	baz=242					
I26K	Coal Creek Min	85.98	20	P	P	23 55 30.9 +0.1
I26K				IAmb	IAmb	23 55 32.9
	comp=Z,17nm,1.1s					
I26K	Coal Creek Min	85.98	20	P	P	23 55 32.0 +1.1
	baz=234					
D23K	Nanushuk River	86.03	16		P	23 55 31.6 +0.5
D23K	Nanushuk River	86.03	16	P	P	23 55 32.4 +1.4
	baz=227,SNR=23					
E24K	Your Creek	86.04	17		P	23 55 31.5 +0.3
E24K				IAmb	IAmb	23 55 33.4
	comp=Z,24nm,1.6s					
E24K	Your Creek	86.04	17	P	P	23 55 32.2 +1.0
	baz=229,SNR=10					
FYU	Fort Yukon	86.05	19		P	23 55 31.7 +0.5
FYU				IAmb	IAmb	23 55 33.8
	comp=Z,11nm,0.7s					
O02D	Mt. Diablo Mer	86.07	48		P	23 55 32.7 +0.7
O02D				IAmb	IAmb	23 55 34.8
	comp=Z,28nm,1.4s					
TOLK	Toolik Lake Re	86.11	16		P	23 55 31.7 +0.2
TOLK				IAmb	IAmb	23 55 33.4
	comp=Z,9.7nm,0.6s					
TOLK	Toolik Lake Re	86.11	16	P	P	23 55 32.4 +0.9
	baz=228,SNR=17					
M29M	Somme Creek	86.13	24		P	23 55 32.4 +0.6
M29M				IAmb	IAmb	23 55 34.0
	comp=Z,12nm,1.0s					
M29M	Somme Creek	86.13	24	P	P	23 55 32.6 +0.8
	baz=239,SNR=11					
N30M	Aishikik Lake	86.18	25		P	23 55 32.2 +0.2
N30M				IAmb	IAmb	23 55 34.2
	comp=Z,9.4nm,0.8s					
N30M	Aishikik Lake	86.18	25	P	P	23 55 32.7 +0.7
	baz=240,SNR=10					
O30N	Mendenhall	86.26	26	P	P	23 55 32.5 +0.1
O30N				IAmb	IAmb	23 55 34.8
	comp=Z,12nm,1.0s					
O30N	Mendenhall	86.26	26	P	P	23 55 32.7 +0.3
	baz=241,SNR=8.0					
B22K	Teshekpuk Lake	86.31	14		P	23 55 32.8 +0.4
B22K				IAmb	IAmb	23 55 34.1
	comp=Z,22nm,0.8s					
B22K	Tesh

baz=221
HYB Hyderabad 86.40 288 *e*P **P 23 55 33.8 -0.2**
A22K Sinclair Lake 86.44 13 P **P 23 55 33.8 +0.8**
baz=223,SNR=32
F25K Christian Rive 86.56 18 P 23 55 34.1 +0.3
F25K Christian Rive 86.56 18 P **P 23 55 34.9 +1.1**
baz=232,SNR=12
YBH Yreka Blue Hor 86.58 47 LR LR 00 26 50.4
comp=Z,156nm,21.6s,baz=286,slow=30
L29M L29M 86.60 23 P 23 55 35.1 +1.0
L29M L29M 86.60 23 P **P 23 55 35.1 +1.0**
baz=239,SNR=26
DAWY Dawson 86.63 22 P 23 55 35.1 +0.9
DAWY IAmb IAmb 23 55 37.1
comp=Z,32nm,1.1s
DAWY Dawson 86.63 22 P **P 23 55 34.7 +0.5**
baz=238,SNR=25
C23K Itkillik River 86.65 15 P 23 55 35.0 +1.0
C23K IAmb IAmb 23 55 37.1
comp=Z,29nm,1.2s
C23K Itkillik River 86.65 15 P **P 23 55 35.0 +1.0**
baz=227,SNR=14
D24K Happy Valley 86.66 16 P 23 55 34.6 +0.5
D24K IAmb IAmb 23 55 37.0
comp=Z,14nm,0.9s
D24K Happy Valley 86.66 16 P **P 23 55 35.0 +0.9**
baz=229,SNR=16
I27K Kandik River 86.68 20 P **P 23 55 35.5 +1.1**
baz=236,SNR=28
WHY Whitehorse 86.73 26 P 23 55 35.4 +0.5
WHY Whitehorse 86.73 26 P **P 23 55 35.6 +0.8**
baz=242
N31M Braeburn, Yuko 86.74 25 P 23 55 34.6 -0.2
N31M IAmb IAmb 23 55 37.5
comp=Z,21nm,0.8s
N31M Braeburn, Yuko 86.74 25 P **P 23 55 36.0 +1.3**
baz=241,SNR=6.2
G26K Porcupine Rive 86.74 19 P 23 55 35.4 +0.8
G26K Porcupine Rive 86.74 19 P **P 23 55 35.6 +1.0**
baz=234,SNR=29
P32M Atlin 86.76 27 P 23 55 35.4 +0.5
P32M Atlin 86.76 27 P **P 23 55 36.0 +1.1**
baz=243
BMAR Burnt Mountain 86.78 18 P 23 55 35.4 +0.6
ORV Oroville 86.84 49 P **P 23 55 35.9 +0.2**
ORV Oroville 86.84 49 P **P 23 55 35.9 +0.2**
ORV pmax pmax
comp=Z,7.0nm,1.1s
M30M Minto, Yukon 86.86 24 P **P 23 55 36.6 +1.3**
baz=240
E25K Arctic Village 86.91 17 P 23 55 35.6 +0.2
E25K Arctic Village 86.91 17 P **P 23 55 36.6 +1.2**
baz=232,SNR=17
C24K Franklin Bluff 87.06 15 P 23 55 36.4 +0.3
C24K IAmb IAmb 23 55 38.4
comp=Z,35nm,1.1s
C24K Franklin Bluff 87.06 15 P **P 23 55 37.2 +1.2**
baz=229,SNR=20
H27K Steamboat Moun 87.06 20 P 23 55 36.9 +0.7
H27K Steamboat Moun 87.06 20 P **P 23 55 37.5 +1.3**
baz=236,SNR=23
F26K Sheenjek River 87.08 18 P 23 55 37.1 +0.9
F26K Sheenjek River 87.08 18 P **P 23 55 37.4 +1.2**
baz=233,SNR=14
Q32M Nakina River 87.14 28 P 23 55 37.6 +0.6
baz=244
I28M Miner Creek 87.17 21 P 23 55 37.0 +0.1
I28M Miner Creek 87.17 21 P **P 23 55 37.8 +0.9**
baz=237,SNR=35
BCW Bitter Crk WRg 87.21 54 P **P 23 55 37.4 -0.4**
BCW IAmb IAmb 23 55 40.5
comp=Z,19nm,0.8s
K29M Barlow Dome 87.22 23 P 23 55 38.0 +0.9
K29M IAmb IAmb 23 55 40.1
comp=Z,21nm,1.1s
K29M Barlow Dome 87.22 23 P **P 23 55 38.2 +1.1**
baz=240,SNR=21
CMB Columbia Colle 87.26 51 P 23 55 38.1 +0.3
CMB Columbia Colle 87.26 51 P **P 23 55 38.1 +0.3**
CMB pmax pmax
comp=Z,9.0nm,1.4s
J29N Klondike Camp 87.27 22 P **P 23 55 38.4 +1.1**
J29N Klondike Camp 87.27 22 P **P 23 55 38.6 +1.4**
baz=239,SNR=37
G27K Doyon Strip 87.35 19 P 23 55 38.0 +0.5
G27K IAmb IAmb 23 55 40.0
comp=Z,11nm,0.7s
G27K Doyon Strip 87.35 19 P **P 23 55 38.8 +1.2**
baz=236,SNR=28
D25K Kavik River 87.43 16 P 23 55 38.0 0.0
D25K IAmb IAmb 23 55 40.1
comp=Z,18nm,0.8s
D25K Kavik River 87.43 16 P **P 23 55 38.0 0.0**
baz=231,SNR=34
P33M Teslin, Yukon 87.44 27 P 23 55 38.0 -0.2
P33M Teslin, Yukon 87.44 27 P **P 23 55 38.9 +0.7**
baz=244
J04A Umpqua Nationa 87.45 45 P 23 55 39.2 +0.3
M31M Drury Creek, Y 87.66 25 P 23 55 39.5 +0.3
M31M Drury Creek, Y 87.66 25 P **P 23 55 40.0 +0.8**
baz=242
N32M Quiet Lake 87.74 26 P 23 55 40.1 +0.5
N32M IAmb IAmb 23 55 41.6
comp=Z,10nm,0.8s
N32M Quiet Lake 87.74 26 P **P 23 55 40.3 +0.7**
baz=244
BEKR Beckworth 87.77 49 P 23 55 40.1 -0.3
BEKR IAmb IAmb 23 55 42.6
comp=Z,15nm,1.4s
R33M Jennings River 87.93 28 P 23 55 40.1 -0.6
R33M Jennings River 87.93 28 P **P 23 55 41.5 +0.8**
baz=246
J30M Hart River 88.03 22 P 23 55 41.6 +0.6
J30M IAmb IAmb 23 55 47.8
comp=Z,6.5nm,0.6s
J30M Hart River 88.03 22 P **P 23 55 41.7 +0.6**
baz=241,SNR=14
J05D Fort Rock, OR 88.07 45 P **P 23 55 42.1 +0.3**
J05D IAmb IAmb 23 55 44.3
comp=Z,10nm,0.7s
WAKR Walker 88.11 50 P P 23 55 41.6 -0.5
WAKR IAmb IAmb 23 58 30.2
comp=Z,10nm,0.8s
FARO Faro, Yukon 88.11 25 P **P 23 55 42.1 +0.8**
baz=243
H29M Whitestone 88.13 21 P 23 55 41.6 +0.3
H29M Whitestone 88.13 21 P **P 23 55 41.8 +0.5**
baz=239,SNR=9.0
PNTR Pine Nut 88.13 50 P P 23 55 41.3 -0.9
ISA Isabella, Lake 88.14 53 P P 23 55 42.1 0.0
ISA IAmb IAmb 23 55 45.3
comp=Z,14nm,1.4s
ISA Isabella, Lake 88.14 53 P **P 23 55 42.1 0.0**
ISA pmax pmax
comp=Z,14nm,1.4s
E27K Coleen River 88.15 18 P 23 55 42.1 +0.8
E27K Coleen River 88.15 18 P **P 23 55 42.3 +0.9**
baz=236,SNR=33
PGC Sidney 88.18 40 P P 23 55 42.4 +0.6
PGC IAmb IAmb 23 55 45.8
comp=Z,10nm,1.0s
C26K Camden Bay 88.20 16 P **P 23 55 42.7 +1.2**
baz=232,SNR=70
I05D Terrebonne, OR 88.30 44 P P 23 55 42.6 0.0
I05D IAmb IAmb 23 56 04.0
comp=Z,28nm,1.6s
I30M Mount Dempster 88.34 22 P 23 55 42.4 0.0
I30M Mount Dempster 88.34 22 P **P 23 55 43.0 +0.6**
baz=241,SNR=36
HOOD Mount Hood Mea 88.36 43 P P 23 55 43.5 +0.4
HOOD IAmb IAmb 23 55 55.4
comp=Z,10nm,0.8s
C27K Jago River 88.36 17 P P 23 55 43.0 +0.7
C27K Jago River 88.36 17 P **P 23 55 43.3 +1.0**
baz=234,SNR=34
PINE Pine Mountain 88.42 45 P 23 55 43.8 +0.3
PINE IAmb IAmb 23 55 46.1
comp=Z,10nm,0.8s
ELS Elsinore Mount 88.49 56 P **P 23 55 43.5 -0.4**
ELS IAmb IAmb 23 55 46.7
comp=Z,32nm,1.9s
G29M Pine Creek 88.61 20 P 23 55 44.1 +0.5
G29M Pine Creek 88.61 20 P **P 23 55 44.3 +0.7**
baz=239,SNR=21
ZSN Zaisan 88.73 319 *e*P **P 23 55 43.8 -0.7**
ZSN pmax pmax
comp=Z,9.0nm,0.7s
ZSN Zaisan 88.73 319 *e*P **P 23 55 43.9 -0.7**
comp=Z,9.2nm,0.7s
LHV Little Huntoon 88.75 51 P **P 23 55 45.9 +1.1**
LHV IAmb IAmb 23 55 47.5
comp=Z,7.8nm,0.8s
EPYK Eagle Plains 88.78 21 P 23 55 44.7 +0.3
EPYK Eagle Plains 88.78 21 P **P 23 55 45.5 +1.1**
baz=240,SNR=47
RYN Ryan 88.83 51 P P 23 55 46.0 +0.6
D27M Malcolm River 88.94 18 P 23 55 46.0 +0.9
D27M IAmb IAmb 23 55 48.3
comp=Z,9.7nm,0.7s
D27M Malcolm River 88.94 18 P **P 23 55 46.6 +1.5**
baz=236,SNR=23
DSP Deep Springs 88.95 52 P 23 55 46.1 +0.4
DSP IAmb IAmb 23 55 48.4
comp=Z,27nm,1.6s
NVAR Mina Array Bea 88.95 51 P 23 55 46.6 +0.5
NVAR Mina Array Bea 88.95 51 P **P 23 55 46.1 0.0**
comp=Z,5.5nm,0.7s,baz=237,slow=6.8,SNR=26
NVAR LR LR 00 28 24.7
comp=Z,88nm,20.9s,baz=248,slow=31
comp=Z,5.5nm,0.7s
E28M Babbage River 89.02 18 P 23 55 46.0 +0.5
E28M Babbage River 89.02 18 P **P 23 55 46.6 +1.2**
baz=238,SNR=9.7
NV11 Mina Array Sit 89.06 51 P **P 23 55 47.0 +0.4**
NV11 IAmb IAmb 23 55 50.3
comp=Z,15nm,1.4s
MMPY Sheldon Lake, 89.15 25 P **P 23 55 47.1 +0.8**
baz=245
WTLY Watson Lake, Y 89.23 28 P P 23 55 46.6 0.0
WTLY Watson Lake, Y 89.23 28 P **P 23 55 46.8 +0.2**
baz=247
G30M tAoh Zraii Nji 89.26 20 P 23 55 47.7 +1.0
G30M IAmb IAmb 23 55 49.2
comp=Z,28nm,1.5s
G30M tAoh Zraii Nji 89.26 20 P **P 23 55 47.6 +1.0**
baz=241,SNR=9.6
PFO Pinyon Flats O 89.27 56 P **P 23 55 48.6 +0.9**
PFO Pinyon Flats O 89.27 56 LR LR 00 27 18.3
comp=Z,265nm,21.4s,baz=240,slow=30
PFO Pinyon Flats O 89.27 56 *i*P **P 23 55 48.5 +0.9**
PFO pmax pmax
comp=Z,5.0nm,0.9s
ESJX Sierra Juarez 89.33 57 P **P 23 55 48.9 +0.9**
ESJX IAmb IAmb 23 55 51.7
comp=Z,19nm,1.2s
H31M Peel River 89.36 22 P 23 55 46.8 -0.4
H31M Peel River 89.36 22 P **P 23 55 47.7 +0.6**
baz=242,SNR=20
GSC Goldstone, Bar 89.38 54 P **P 23 55 48.0 0.0**
GSC Goldstone, Bar 89.38 54 P **P 23 55 48.0 0.0**
GSC pmax pmax
comp=Z,13nm,0.3s
E29M Blow River 89.42 19 P 23 55 48.0 +0.7
E29M Blow River 89.42 19 P **P 23 55 48.5 +1.2**
baz=239,SNR=6.5
YUH Yuha Desert 89.50 57 P 23 55 48.8 +0.3
I07A Izee 89.50 45 P 23 55 48.3 -0.1
LTY Liberty 89.56 42 P **P 23 55 48.7 +0.1**
D28M Stokes Point 89.65 18 P **P 23 55 49.9 +1.6**
baz=238,SNR=5.6
GWY Greenwater Val 89.69 53 P **P 23 55 50.3 +0.8**
WVOR Wild Horse Val 89.69 47 P 23 55 50.1 +0.8
WVOR IAmb IAmb 23 55 52.7
comp=Z,30nm,1.5s
WVOR Wild Horse Val 89.69 47 P **P 23 55 50.2 +0.8**
WVOR pmax pmax
comp=Z,30nm,1.5s
F30M Barrier River 89.72 20 P 23 55 49.1 +0.4
F30M IAmb IAmb 23 55 51.3
comp=Z,12nm,0.9s
F30M Barrier River 89.72 20 P **P 23 55 50.3 +1.5**
baz=241,SNR=7.6
WCT Wildcat Mounta 89.86 53 P **P 23 55 50.8 +0.6**
G31M Satah River 89.91 21 P 23 55 49.9 +0.3
G31M IAmb IAmb 23 55 52.1
comp=Z,13nm,0.7s
G31M Satah River 89.91 21 P **P 23 55 50.0 +0.5**
baz=242,SNR=13
E07A Sunnyside 89.91 43 P **P 23 55 50.7 +0.6**
E07A IAmb IAmb 23 55 54.9
comp=Z,39nm,1.9s
TGTN Hyland Airport 90.01 27 P **P 23 55 51.0 +0.8**
baz=248
J08A Circle Bar Ran 90.04 46 P 23 55 51.0 +0.1
J08A IAmb IAmb 23 55 53.2
comp=Z,23nm,1.4s
HAWA Hanford 90.08 43 P **P 23 55 51.4 +0.5**
G08A Pilot Rock 90.18 44 P **P 23 55 51.7 +0.2**
TPNV Topopah Spring 90.19 53 P 23 55 51.7 -0.2
TPNV Topopah Spring 90.19 53 P **P 23 55 51.7 -0.2**
TPNV pmax pmax
comp=Z,10.0nm,1.1s
MK31 Makanchi Array 90.24 318 P **P 23 55 51.0 -0.7**
MK31 Makanchi Array 90.24 318 P **P 23 55 51.0 -0.7**
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 90.24 318 P **P 23 55 50.4 -1.3**
comp=Z,6.9nm,0.6s,baz=99,slow=5.5,SNR=70
comp=Z,6.9nm,0.6s
F31M Tsiigehtchic 90.33 20 P 23 55 51.7 +0.1
F31M IAmb IAmb 23 55 53.9
comp=Z,13nm,0.7s
F31M Tsiigehtchic 90.33 20 P **P 23 55 52.5 +1.0**
baz=243
YPT Yellepit 90.37 43 P **P 23 55 52.3 0.0**
E08A Dider Farm, El 90.42 43 P **P 23 55 53.1 +0.6**
E08A IAmb IAmb 23 56 16.7
comp=Z,12nm,1.0s
MAKZ Makanchi 90.45 318 P 23 55 51.7 -0.9
MAKZ Makanchi 90.45 318 P **P 23 55 51.7 -0.9**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
TOAD Toad River Com 90.47 30 P **P 23 55 52.7 +0.3**
baz=250
GLA Glamis 90.48 57 P **P 23 55 53.9 +0.8**
GLA IAmb IAmb 23 55 56.1
comp=Z,14nm,1.0s
GLA Glamis 90.48 57 P **P 23 55 53.9 +0.8**
GLA pmax pmax
comp=Z,14nm,1.0s
ZAA0 Zalesovo Array 90.65 325 P 23 55 51.3 -2.0
ZALV Zalesovo Beam 90.65 325 P **P 23 55 51.3 -2.1**
comp=Z,3.3nm,0.6s,baz=118,slow=5.8,SNR=16
ZALV LR LR 00 35 48.2
comp=Z,54nm,21.2s,baz=89,slow=35
comp=Z,3.3nm,0.6s
ZALV Zalesovo Beam 90.65 325 *i*P **P 23 55 52.2 -1.1**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
B08A Colville Reser 90.72 41 P 23 55 53.6 -0.2
B08A IAmb IAmb 23 55 56.0
comp=Z,16nm,1.4s
S11A Rachel 90.73 52 P **P 23 55 54.2 -0.2**
S11A IAmb IAmb 23 55 55.6
comp=Z,8.7nm,0.6s
INK Inuvik 90.80 20 LR LR 00 32 13.7
comp=Z,247nm,20.6s,baz=232,slow=33
BLYC Blythe 90.88 56 P 23 55 54.9 0.0
BLYC IAmb IAmb 23 55 57.5
comp=Z,8.2nm,0.8s
SHPR Sheep Range 90.94 53 P 23 55 55.9 +0.5
R11B Troy Canyon, C 91.01 51 P 23 55 55.3 -0.3
V12A Nelson 91.02 54 P 23 55 56.1 +0.4
V12A IAmb IAmb 23 55 58.1
comp=Z,10nm,1.2s
SYO Syowa Base 91.03 198 ‖*e*P **P 23 55 56.1 +1.2**
SYO Syowa Base 91.03 198 ‖*es*P sP 23 56 09.4 -2.3
E09A Wood Farm, Sta 91.04 43 P **P 23 55 55.4 +0.1**
E09A IAmb IAmb 23 55 59.0
comp=Z,9.4nm,0.8s
WUS Wushi 91.04 312 P **P 23 55 54.5 -1.1**
BMO Blue Mountains 91.21 45 P 23 55 56.4 0.0
BMO Blue Mountains 91.21 45 P **P 23 55 56.4 0.0**
BMO pmax pmax
comp=Z,7.0nm,1.1s
PRN Pahroc Range 91.22 52 P 23 55 57.3 +0.7
PRN IAmb IAmb 23 55 59.4
comp=Z,13nm,0.9s
113A Mohawk Valley, 91.30 57 P 23 55 57.6 +0.8
SHLS Shalkode 91.30 314 *e*P **P 23 55 54.8 -2.0**
SHLS pmax pmax
comp=Z,9.0nm,1.1s
SHLS Shalkode 91.30 314 *e*P **P 23 55 54.9 -2.0**
comp=Z,8.6nm,1.1s
BELA Belgrano 2 91.31 177 P 23 55 55.2 -0.9
BELA IAmb IAmb 23 55 57.9
comp=Z,16nm,1.0s
KOTAN Kotaneelee Air 91.46 29 P **P 23 55 57.0 +0.1**
baz=252
F10A Beach Ranch, E 91.53 44 P **P 23 55 57.5 -0.3**
F10A IAmb IAmb 23 56 00.3
comp=Z,11nm,0.8s
UZB Uzynbulak 91.61 313 *e*P **P 23 55 57.5 -0.8**
UZB pmax pmax
comp=Z,6.0nm,0.9s
UZB Uzynbulak 91.61 313 *e*P **P 23 55 57.6 -0.8**
comp=Z,6.1nm,0.9s
W13A Hualapai Mount 91.67 55 P 23 55 59.6 +0.7
ELK Elko 91.78 49 P 23 55 59.5 +0.2
ELK IAmb IAmb 23 56 01.7
comp=Z,12nm,1.2s
ELK Elko 91.78 49 LR LR 00 31 11.9
comp=Z,120nm,20.0s,baz=240,slow=32
ELK Elko 91.78 49 P **P 23 55 59.5 +0.2**
ELK pmax pmax
comp=Z,12nm,1.3s
PRZ Przheval'sk 91.92 313 P 23 55 59.5 -0.3
PRZ IAmb IAmb 23 56 01.8
comp=Z,12nm,0.8s
PRZ Przheval'sk 91.92 313 P **P 23 55 59.5 -0.3**
PRZ pmax pmax
comp=Z,12nm,0.8s
KPKS Kokpek 91.92 314 *e*P **P 23 55 59.0 -0.7**
KPKS Kokpek 91.92 314 *e*P **P 23 55 59.0 -0.7**
MFID Camas Ranch 91.93 46 P 23 55 59.8 +0.1
MFID IAmb IAmb 23 56 02.1
comp=Z,9.0nm,1.0s
SATY Saty 92.03 313 *e*P **P 23 55 59.5 -0.7**
SATY Saty 92.03 313 *e*P **P 23 55 59.6 -0.7**
NEW Newport 92.13 41 P 23 56 00.0 -0.4
NEW Newport 92.13 41 LR LR 00 30 27.9
comp=Z,118nm,20.5s,baz=267,slow=31
NEW Newport 92.13 41 P **P 23 56 00.0 -0.4**
NEW pmax pmax
comp=Z,5.0nm,0.8s
PLID Pearl Lake 92.17 45 P 23 56 01.1 +0.2
PLID IAmb IAmb 23 56 02.6
comp=Z,6.9nm,0.7s
TARG Taragay, Kyrgy 92.19 312 P **P 23 56 00.3 -1.1**
TARG Taragay, Kyrgy 92.19 312 P **P 23 56 00.3 -1.1**
TARG pmax pmax
comp=Z,5.0nm,0.7s
PSUT Pine Spring 92.38 51 P **P 23 56 01.4 -0.6**
PSUT IAmb IAmb 23 56 04.9
comp=Z,17nm,1.7s
HLID Hailey 92.96 46 P 23 56 04.3 -0.3
MDOK Medeo 93.03 313 *e*P **P 23 56 04.0 -0.8**
MDOK Medeo 93.03 313 *e*P **P 23 56 04.1 -0.8**
TNSS Tian-Shan 93.08 313 *e*P **P 23 56 04.4 -1.0**
TNSS Tian-Shan 93.08 313 *e*P **P 23 56 04.5 -1.0**
KSH Kashi 93.12 309 P **P 23 56 05.9 +0.6**
KSH pmax pmax
comp=Z,2.0nm,1.1s
AAA Alma-Ata 93.13 313 *e*P **P 23 56 04.6 -0.6**
AAA Alma-Ata 93.13 313 *e*P **P 23 56 04.7 -0.6**
U15A North Rim 93.19 54 P 23 56 06.3 +0.3
ELIB Princess Elisa 93.21 192 *d*P **P 23 56 04.5 -0.7**
BGU Big Grassy Mou 93.46 49 P **P 23 56 07.1 +0.2**
X16A Lo Mia Camp, P 93.52 56 P **P 23 56 07.3 0.0**
KURK Kurchatov 93.52 321 P **P 23 56 05.2 -1.5**
KURK IAmb IAmb 23 56 06.4
comp=Z,6.0nm,0.8s
KURK Kurchatov 93.52 321*ce*P **P 23 56 05.7 -1.0**
KURK pmax pmax
comp=Z,15nm,1.7s
KURBB Kurchatov Arra 93.56 321 P **P 23 56 04.8 -2.1**
comp=Z,5.5nm,0.7s,baz=106,slow=3.4,SNR=47
comp=Z,5.5nm,0.7s
MTPU Mount Pierson 93.57 52 P **P 23 56 07.0 -0.8**
TUC Tucson 93.69 58 P **P 23 56 09.3 +1.3**
NRIK Noril'sk 94.15 340 P 23 56 08.1 -1.1
NRIK Noril'sk 94.15 340 P **P 23 56 07.1 -2.0**
comp=Z,2.6nm,0.5s,baz=110,slow=3.0,SNR=6.7
NRIK LR LR 00 37 22.2
comp=Z,223nm,21.5s,baz=113,slow=35
comp=Z,2.6nm,0.5s
NRIK Noril'sk 94.15 340*ce*P **P 23 56 07.4 -1.8**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
C36M Paulatuk 94.37 20 P **P 23 56 09.6 -0.5**
C36M IAmb IAmb 23 56 11.3
comp=Z,14nm,0.8s
C36M Paulatuk 94.37 20 P **P 23 56 10.2 0.0**
baz=252
DLMT Dillon 94.58 45 P **P 23 56 12.3 +0.3**
DLMT IAmb IAmb 23 56 14.2
comp=Z,23nm,1.6s
SGDS Sogindy 94.82 313 *e*P **P 23 56 11.8 -1.1**
SGDS Sogindy 94.82 313 *e*P **P 23 56 11.9 -1.1**
A36M Sachs Harbour 94.84 17 P 23 56 12.5 +0.3
A36M IAmb IAmb 23 56 14.2
comp=Z,15nm,0.8s
A36M Sachs Harbour 94.84 17 P **P 23 56 12.2 -0.1**
baz=251
BSUT Blindstream Ca 95.09 50 P **P 23 56 15.0 +0.4**
BSUT IAmb IAmb 23 57 22.2
comp=Z,15nm,1.8s
BOZ Bozeman (W) 95.29 45 P **P 23 56 15.3 +0.1**
BOZ Bozeman (W) 95.29 45 P **P 23 56 15.3 +0.1**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
FXWY Fox Creek 95.40 47 P **P 23 56 15.8 -0.1**
YHL Hebgen Lake 95.48 46 P **P 23 56 17.4 +1.2**
ARSB Arslanbob 95.68 311 P 23 56 17.4 +0.4
ARSB IAmb IAmb 00 00 04.7
comp=Z,15nm,1.8s
ARSB Arslanbob 95.68 311 P **P 23 56 17.4 +0.4**
ARSB pmax pmax
comp=Z,15nm,1.8s
PD31 Pinedale Array 96.33 48 P 23 56 19.7 -0.3
PDAR Pinedale Array 96.33 48 P **P 23 56 20.5 +0.4**
comp=Z,0.9nm,0.7s,baz=228,slow=2.3,SNR=10
comp=Z,0.9nm,0.7s
YKA Yellowknife Ar 96.46 28 P **P 23 56 19.1 -0.8**
comp=Z,4.8nm,0.7s,baz=259,slow=4.6,SNR=79
YKA PP PP 00 00 25.3 +11
comp=Z,0.4nm,0.9s,baz=253,slow=7.6,SNR=3.9
YKA LR LR 00 32 24.3
comp=Z,135nm,21.5s,baz=276,slow=31
comp=Z,4.8nm,0.7s
TROLL Troll, Antarti 96.49 186 ⇑P **P 23 56 19.7 -0.4**
comp=Z,446nm,1.0s
EGMT Eagleton 96.93 43 P **P 23 56 22.5 0.0**
EGMT IAmb IAmb 23 56 24.2
comp=Z,8.5nm,0.8s
DZA Taraz 97.12 312 *e*P **P 23 56 22.6 -0.8**
DZA Taraz 97.12 312 *e*P **P 23 56 22.7 -0.8**
BRZS Berezniki 97.14 319 *e*P **P 23 56 22.8 -0.5**
BRZS Berezniki 97.14 319 *e*P **P 23 56 22.9 -0.5**
SNAA Sanae 97.34 185 ⇑P **P 23 56 23.2 -0.7**
comp=Z,76nm,0.8s
SNAA Sanae 97.34 185 P **P 23 56 23.2 -0.7**
comp=Z,3.0nm,0.8s,baz=238,slow=6.4,SNR=5.7
SNAA LR LR 00 37 49.8
comp=Z,65nm,19.7s,baz=324,slow=34
comp=Z,3.0nm,0.8s
SNAA Sanae 97.34 185*ce*P Pdif 23 56 25.3 +1.3
SNAA pmax pmax
comp=Z,13nm,2.5s
ANMO Albuquerque 97.65 56*ce*P **P 23 56 26.6 +0.4**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
IUG Iuzhnay 97.98 311 *e*P **P 23 56 26.5 -0.8**
IUG Iuzhnay 97.98 311 *e*P **P 23 56 26.6 -0.8**
BRLS Borolday 98.22 312 *e*P **P 23 56 27.8 -0.6**
BRLS Borolday 98.22 312 *e*P **P 23 56 27.8 -0.6**
BVAR Borovoye Array 98.92 322 P **P 23 56 28.9 -2.2**
comp=Z,4.4nm,0.8s,baz=96,slow=6.0,SNR=13
BVAR LR LR 00 43 01.0
comp=Z,49nm,19.3s,baz=90,slow=36
comp=Z,4.4nm,0.8s
BVAR Borovoye Array 98.92 322 P **P 23 56 29.0 -2.2**
BRVK Borovoye 98.98 322*ce*P **P 23 56 29.5 -2.0**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
TXAR Lajitas Array 99.31 62 P **Pdif 23 56 34.4 +0.7**

comp=Z,0.5nm,0.7s,baz=245,slow=5.2,SNR=5.2
TXAR PP **PP** **00 00 36.0 -1.2**
comp=Z,2.9nm,1.2s,baz=256,slow=5.0,SNR=11
TXAR LR LR 00 32 29.1
comp=Z,118nm,21.8s,baz=207,slow=30
comp=Z,0.5nm,0.7s
CO03 El Pedregal 115.29 131 PKiKP **00 01 33.4 +0.2**
KIV Kislovodsk 117.82 314 *i* PKIKP **PKPdf** **00 01 35.7 -1.9**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,53nm,22.0s
FINES FINESS Array B 119.67 337 PKP **PKPdf** **00 01 38.8 -1.6**
comp=Z,0.9nm,0.6s,baz=17,slow=2.0,SNR=3.4
BOSA Boshof 122.51 226 PKP **PKPdf** **00 01 45.6 -1.5**
comp=Z,1.7nm,0.7s,baz=114,slow=3.7,SNR=6.5
MNK Minsk 122.83 330 *i* PKIKP **PKiKP** **00 01 48.7 +1.8**
MNK *i* 00 03 27.2
MNK *i* PPP PPP 00 06 04.4
MNK *i* PS **PS** **00 13 23.1 +1.6**
MNK *i* SS SS 00 20 09.4 +4.7
MNK *i* SSS SSS 00 24 41.5
MNK pmax pmax
comp=N,5.0nm,1.0s
MNK pmax pmax
comp=Z,3.0nm,1.1s
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK MLR MLR
comp=N,92nm,17.0s
MNK MLR MLR
comp=Z,98nm,18.0s
MNK MLR MLR
comp=E,202nm,21.0s
AKASG Malin Array Be 124.04 325 PKP **PKPdf** **00 01 47.2 -1.9**
comp=E,1.4nm,0.7s,baz=55,slow=2.3,SNR=5.1
AKASG Malin Array Be 124.04 325*c* *i* PKIKP **PKPdf** **00 01 49.5 +0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 124.22 118 PKP **PKPdf** **00 01 50.2 -1.1**
comp=Z,1.0nm,0.6s,baz=262,slow=3.1,SNR=4.2
NOA NORSAR Array B 125.00 343 PKhKP PKPpre 00 01 45.8
comp=Z,0.7nm,0.9s,baz=42,slow=1.9,SNR=5.1
BRTR Keskin Array B 125.45 312 PKP **PKPdf** **00 01 50.4 -2.0**
comp=Z,0.7nm,0.7s,baz=197,slow=2.6,SNR=3.9
CPUP Villa Florida 127.48 135 PKP **PKPdf** **00 01 55.6 -1.0**
comp=Z,1.5nm,0.7s,baz=23,slow=4.3,SNR=4.9
SDV Santo Domingo 128.71 87 **PKPdf** **00 01 58.9 -0.6**
BDFB Brasilia 140.96 131 PKhKP PKPpre 00 02 14.1
comp=Z,3.6nm,0.7s,baz=164,slow=1.0,SNR=8.4
KEST Kesra 144.32 319 PKPbc 00 02 26.1 +0.3
KEST Kesra 144.32 319 **PKPab** **00 02 24.2 -1.3**
comp=Z,9.8nm,0.9s,baz=182,slow=1.8,SNR=13
ESDC Sonseca Array 148.17 338 **PKPbc** **00 02 37.8 +0.7**
ESDC Sonseca Array 148.17 338 PKPbc **PKPbc** **00 02 36.5 -0.7**
comp=Z,2.2nm,0.7s,baz=9.0,slow=3.4,SNR=20

*IDC **15** 23:56:20.6±1.6, 24°.38N×121°.80E, h0km, mb3.6/6, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=67.7km s-min=27.1km az=67.0*
*JMA **15** 23:56:23.3±0.2, 24°.3N±1°.0×122°.0E±0°.5, h55km±2km, MV3.2/12, TAIWAN REGION*
*ASIES **15** 23:56:24.7, 24°.41N×121°.95E, h30km, ML3.8, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^21^Nm; Mrr0.34; Mθθ-1.16; Mφφ-0.56; Mrθ0.23; Mθφ1.53; Mφr1.59; Fault plane solution: M0 2.41029×10^21^ NP1:φs92.99000°, δ45.56000°, λ20.84000°. NP2:φs348.06000°, δ75.28000°, λ133.62000°. Principal axes: T Plg42.4310°, Azm299.4380°; N Plg41.8570°, Azm154.4580°; P Plg18.3900°, Azm47.1300°;*
*TAP **15** 23:56:24.7, 24°.41N×121°.95E, h30km, ML3.8, B*
ISC 15 23:56:24.3±0.7, 24°37N±0°.02×122°.04E±0°.02, h28km±4km, n141, σ0s95/240, mb3.5/6, 5C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.19**	**74⇑**	*i*P	**Pb**	**23 56 30.6**	**+0.6**
EOS2				eS	**Sn**	**23 56 35.8**	**+1.9**
EWUT	**Wuta**	**0.25**	**289**	P	**Pb**	**23 56 30.4**	**-0.5**
EWUT				S	**Sb**	**23 56 34.9**	**-0.5**
EOS3	**EOS3**	**0.27**	**107⇑**	*i*P	**Pb**	**23 56 31.6**	**+0.6**
EOS3				S	**Sn**	**23 56 37.8**	**+0.4**
ESAO	**Su ao**	**0.27**	**320**	P	**Pb**	**23 56 30.7**	**-0.5**
ESAO				S	**Sb**	**23 56 34.8**	**-1.2**
EAHA	**Aohua**	**0.27**	**262**	eP	**Pb**	**23 56 31.0**	**-0.3**
EAHA				eS	**Sb**	**23 56 36.3**	**+0.3**
EHP	**Heping Village**	**0.28**	**258**	eP	**Pb**	**23 56 30.9**	**-0.4**
EHP				eS	**Sb**	**23 56 36.2**	**+0.2**
ENA	**Nanau**	**0.28**	**283**	P	**Pb**	**23 56 30.8**	**-0.5**
ENA				S	**Sb**	**23 56 35.6**	**-0.5**
TWC	**Suao**	**0.30**	**325**	P	**Pb**	**23 56 30.9**	**-0.7**
TWC				S	**Sb**	**23 56 35.7**	**-0.8**
EOS4	**EOS4**	**0.35**	**134**	P	**Pb**	**23 56 32.5**	**+0.3**
EOS4				S	**Sn**	**23 56 39.3**	**+0.1**
NDS	**Dongshan**	**0.40**	**312**	eP	**Pb**	**23 56 31.8**	**-1.2**
ETL	**Fush Village**	**0.43**	**241**	eP	**Pb**	**23 56 33.6**	**0.0**
ETL				eS	**Sn**	**23 56 41.7**	**+0.1**
NACB	**Ninganchiao**	**0.45**	**245⇓**	*i*P	**Pb**	**23 56 33.5**	**-0.3**
NACB				S	**Sn**	**23 56 41.7**	**-0.3**
ILA	**Ilan**	**0.48**	**327**	eP	**Pb**	**23 56 34.5**	**+0.2**
ILA				eS	**Sb**	**23 56 41.0**	**-0.1**
EGS		**0.49**	**349**	⇑P	**Pb**	**23 56 34.5**	**0.0**
EGS				eS	**Sb**	**23 56 41.4**	**0.0**
TWE	**Neicheng**	**0.49**	**316**	P	**Pb**	**23 56 34.1**	**-0.4**
TWE				S	**Sb**	**23 56 40.5**	**-0.9**
TWD	**Chiawan**	**0.49**	**235**	eP	**Pb**	**23 56 34.4**	**-0.2**
TWD				eS	**Sn**	**23 56 42.9**	**-0.2**
LATG	**Datong**	**0.49**	**290**	⇓P	**Pb**	**23 56 34.4**	**-0.3**
LATG				eS	**Sb**	**23 56 41.9**	**+0.2**
ENTT	**Nioudou**	**0.51**	**303**	eP	**Pb**	**23 56 34.7**	**-0.1**
ETLH	**Xiulin Townshi**	**0.53**	**253**	eP	**Pb**	**23 56 35.2**	**-0.1**
ETLH				eS	**Sb**	**23 56 43.4**	**+0.7**
HWA	**Hwalien**	**0.55**	**226**	eP	**Pn**	**23 56 36.3**	**-0.1**
HWA				eS	**Sn**	**23 56 46.0**	**+1.4**
FUSB	**Fushanzhiwuyua**	**0.57**	**314**	eP	**Pb**	**23 56 35.6**	**-0.2**
NNSB	**Datong**	**0.60**	**276**	⇓P	**Pb**	**23 56 36.3**	**-0.1**
NNSB				eS	**Sb**	**23 56 44.9**	**+0.2**
NNS	**Nan Shan**	**0.61**	**277**	eP	**Pb**	**23 56 36.5**	**-0.1**
NNS				eS	**Sb**	**23 56 45.2**	**+0.2**
TIPB	**Shuangxi**	**0.63**	**342**	eP	**Pb**	**23 56 36.9**	**-0.1**
TIPB				eS	**Sb**	**23 56 45.0**	**-0.5**
NWLT	**Wulai**	**0.64**	**310**	eP	**Pb**	**23 56 36.9**	**-0.1**
ETM	**Tongmen**	**0.64**	**231**	eP	**Pb**	**23 56 36.6**	**-0.3**
ETM				eS	**Sn**	**23 56 46.9**	**+0.2**
TWB1	**Santiao Chiao**	**0.64**	**356**	P	**Pb**	**23 56 36.8**	**-0.2**
TWB1				eS	**Sb**	**23 56 44.9**	**-0.8**
LXIB	**Xiulin Townshi**	**0.67**	**239**	⇓P	**Pb**	**23 56 37.0**	**-0.6**
LXIB				S	**Sn**	**23 56 47.8**	**+0.2**
YHNB	**Yeheng**	**0.67**	**297**	⇑P	**Pb**	**23 56 37.4**	**-0.2**
YHNB				eS	**Sb**	**23 56 46.8**	**+0.1**
NSK	**Sanguang**	**0.69**	**297**	P	**Pb**	**23 56 37.6**	**-0.4**
NSK				S	**Sb**	**23 56 46.9**	**-0.3**
SHUL	**Shoufeng**	**0.72**	**217**	eP	**Pn**	**23 56 38.5**	**-0.1**
SHUL				eS	**Sn**	**23 56 51.0**	**+2.2**
FUSS	**Fushou**	**0.73**	**261**	eP	**Pn**	**23 56 38.4**	**-0.6**
FUSS				eS	**Sb**	**23 56 49.0**	**+0.5**
TWA	**Mucha**	**0.74**	**326**	eP	**Pb**	**23 56 40.1**	**+1.4**
WHF	**Hehuan Shan**	**0.74**	**253**	eP	**Pn**	**23 56 38.5**	**-0.8**
WHF				eS	**Sb**	**23 56 49.1**	**+0.2**
NWF	**Wu-fen Shan**	**0.74**	**342**	P	**Pb**	**23 56 39.0**	**+0.2**
NWF				eS	**Sn**	**23 56 49.0**	**-0.4**
SXI1	**Grass Mountain**	**0.74**	**349**	⇓P	**Pn**	**23 56 38.5**	**-0.5**
SXI1				eS	**Sb**	**23 56 48.8**	**+0.3**
WFSB	**Wu-fen Shan**	**0.74**	**342**	eP	**Pn**	**23 56 38.8**	**-0.1**
WFSB				S	**Sn**	**23 56 49.1**	**-0.1**
NHDH	**Xindian Distri**	**0.76**	**322**	eP	**Pb**	**23 56 39.5**	**+0.6**
NHDH				eS	**Sn**	**23 56 49.7**	**+0.1**
ESL	**Shilin**	**0.78**	**225**	⇑P	**Pb**	**23 56 38.8**	**-0.6**
ESL				eS	**Sn**	**23 56 50.3**	**+0.1**
TWT	**Tachien**	**0.79**	**262**	eP	**Pb**	**23 56 39.9**	**+0.2**
TWT				eS	**Sb**	**23 56 50.4**	**+0.3**
TEGC	**Jichi Village**	**0.80**	**215**	eP	**Pn**	**23 56 39.6**	**-0.1**
TDCB	**Techi**	**0.81**	**262**	eP	**Pn**	**23 56 40.0**	**0.0**
TDCB				eS	**Sb**	**23 56 50.7**	**+0.1**
TNOU	**National Taiwa**	**0.82**	**343**	eP	**Pb**	**23 56 40.5**	**+0.5**
TNOU				eS	**Sb**	**23 56 51.4**	**+0.7**
TAP	**Taipei**	**0.83**	**324**	eP	**Pb**	**23 56 40.7**	**+0.6**
TAP				eS	**Sb**	**23 56 51.5**	**+0.6**
JYNG	**Yonagunijimaku**	**0.83**	**84**	P	**Pn**	**23 56 39.9**	**-0.3**
JYNG				S	**Sb**	**23 56 51.4**	**+0.4**
NFF	**Wufeng Townshi**	**0.88**	**288**	eP	**Pb**	**23 56 41.4**	**+0.3**
NFF				eS	**Sb**	**23 56 53.4**	**+0.9**
WARBT	**Fenglin Townsh**	**0.88**	**223**	eP	**Pn**	**23 56 40.0**	**-0.9**
WARBT				eS	**Sn**	**23 56 52.4**	**-0.3**
KSHI	**Guanxi Townshi**	**0.88**	**298**	eP	**Pb**	**23 56 41.8**	**+0.7**
KSHI				eS	**Sb**	**23 56 54.8**	**+2.2**
YM01	**YM01**	**0.89**	**331**	eP	**Pn**	**23 56 41.0**	**+0.1**
OWD	**Renai**	**0.89**	**243**	eP	**Pn**	**23 56 40.6**	**-0.5**
OWD				eS	**Sn**	**23 56 52.8**	**-0.3**
EGFH	**Guangfu**	**0.89**	**219**	eP	**Pn**	**23 56 41.1**	**+0.1**
YOJ	**Yonaguni jima**	**0.89**	**84**	P	**Pn**	**23 56 40.8**	**-0.3**
YOJ				S	**Sn**	**23 56 53.0**	**0.0**
YOJ	**Yonaguni jima**	**0.89**	**84**	⇓P	**Pn**	**23 56 40.6**	**-0.4**
YOJ				eS	**Sn**	**23 56 52.8**	**-0.3**
ZUZH	**Zhuzihu**	**0.91**	**331**	eP	**Pn**	**23 56 41.2**	**-0.1**
ZUZH				eS	**Sn**	**23 56 53.1**	**-0.4**
WUSB	**Renai**	**0.92**	**246**	⇓P	**Pn**	**23 56 41.2**	**-0.3**
TWS1	**Kuangyinshan**	**0.92**	**323**	eP	**Pn**	**23 56 41.0**	**-0.5**
TWS1				eS	**Sb**	**23 56 54.7**	**+1.1**
ANP	**Anpu**	**0.94**	**330**	eP	**Pn**	**23 56 41.8**	**0.0**
NTST	**Danshui**	**0.96**	**326**	eP	**Pb**	**23 56 42.5**	**+0.1**
NTST				eS	**Sb**	**23 56 55.8**	**+1.2**
LIOB	**Emei**	**0.97**	**287**	eP	**Pb**	**23 56 42.9**	**+0.3**
LIOB				eS	**Sb**	**23 56 56.9**	**+1.8**
NCUH	**Zhongli**	**0.98**	**308**	eP	**Pb**	**23 56 42.7**	**0.0**
NCUH				eS	**Sb**	**23 56 57.1**	**+1.9**
NSTT	**Nanjuang**	**0.98**	**286**	eP	**Pb**	**23 56 43.2**	**+0.4**
NSTT				eS	**Sb**	**23 56 56.3**	**+1.1**
TWY	**Chenhua**	**0.99**	**336**	eP	**Pn**	**23 56 42.2**	**-0.1**
TWY				eS	**Sb**	**23 56 55.5**	**-0.1**
WHP	**Taichung City**	**1.00**	**265**	eP	**Pb**	**23 56 43.3**	**+0.2**
WHP				eS	**Sb**	**23 56 56.0**	**+0.1**
HGSD	**Ruisui**	**1.03**	**213**	P	**Pn**	**23 56 42.3**	**-0.7**
SBCB	**Hsinchu**	**1.05**	**294**	P	**Pb**	**23 56 44.1**	**+0.3**
SBCB				S	**Sb**	**23 56 59.2**	**+2.0**
HSN	**Hsinchu**	**1.06**	**294**	P	**Pn**	**23 56 43.6**	**+0.2**
HSN				S	**Sb**	**23 56 58.8**	**+1.1**
WCS	**Beigang Elemen**	**1.07**	**254**	eP	**Pn**	**23 56 44.0**	**+0.5**
EHYH	**Wanrong**	**1.07**	**216**	eP	**Pn**	**23 56 43.1**	**-0.4**
EHY	**Hungye**	**1.08**	**218**	eP	**Pn**	**23 56 42.5**	**-1.0**
SMLT	**Sun Moon Lake**	**1.15**	**245**	eP	**Pn**	**23 56 44.5**	**-0.1**
SMLT				eS	**Sb**	**23 57 00.3**	**+0.2**
SSLB	**Suanglung**	**1.15**	**240**	P	**Pn**	**23 56 44.5**	**-0.1**
NMLH	**Miaoli**	**1.15**	**279**	eP	**Pn**	**23 56 44.3**	**-0.2**
NMLH				eS	**Sb**	**23 57 02.4**	**+2.3**
TWQ1	**Liyutan**	**1.15**	**269**	P	**Pb**	**23 56 46.7**	**+1.1**
TWQ1				S	**Sb**	**23 57 01.6**	**+1.4**
NSY	**Sanyi**	**1.16**	**273**	P	**Pn**	**23 56 44.0**	**-0.8**
NSY				S	**Sn**	**23 56 59.3**	**-0.5**
TYC	**Yuchr**	**1.17**	**247**	eP	**Pb**	**23 56 45.8**	**-0.1**
TYC				eS	**Sb**	**23 57 01.1**	**+0.3**
EYUL	**Yuli**	**1.21**	**213**	eP	**Pn**	**23 56 45.3**	**-0.1**
TWF1	**Yuli**	**1.22**	**214**	eP	**Pn**	**23 56 44.3**	**-1.2**
PCYT	**Pengchaiyu**	**1.26**	**1**	eP	**Pn**	**23 56 45.6**	**-0.5**
TCU	**Taichung**	**1.26**	**260**	eP	**Pb**	**23 56 47.5**	**0.0**
TCU				eS	**Sb**	**23 57 06.0**	**+2.6**
WHYT	**Xinyi Township**	**1.27**	**239**	eP	**Pb**	**23 56 47.4**	**-0.3**
WHYT				eS	**Sb**	**23 57 03.8**	**+0.1**
WDJ	**Dajia District**	**1.27**	**269**	eS	**Sb**	**23 57 05.2**	**+1.5**
CHKH	**Chenggong**	**1.31**	**207**	eP	**Pn**	**23 56 46.1**	**-0.7**
CHKH				eS	**Sn**	**23 57 02.5**	**-0.8**
WJS	**Zhushan**	**1.31**	**246**	eP	**Pb**	**23 56 49.0**	**+0.6**
WJS				eS	**Sb**	**23 57 07.8**	**+3.0**
WNT	**Mingjian**	**1.33**	**249**	eP	**Pb**	**23 56 49.4**	**0.7**
WNT				eS	**Sb**	**23 57 07.6**	**+2.3**
FULB	**Fuli**	**1.35**	**210**	eP	**Pn**	**23 56 46.5**	**-0.8**
WCHH	**Zhanghua**	**1.38**	**258**	eP	**Pb**	**23 56 49.9**	**+0.4**
WCHH				eS	**Sb**	**23 57 08.8**	**+2.1**
CHKT	**Chengkung**	**1.40**	**206**	eP	**Pn**	**23 56 46.4**	**-1.6**
ALS	**Alishan**	**1.41**	**233**	eP	**Pb**	**23 56 49.5**	**-0.7**
ALS				eS	**Sb**	**23 57 11.0**	**+3.0**
CHN5	**Tsauling**	**1.46**	**239**	eP	**Pb**	**23 56 50.5**	**-0.4**
CHN5				eS	**Sb**	**23 57 10.6**	**+1.5**
ELDTW	**Lidau**	**1.50**	**219**	eP	**Pn**	**23 56 49.6**	**+0.1**
ELDTW				eS	**Sn**	**23 57 08.7**	**+0.6**
WGK	**Gukeng**	**1.51**	**244**	eP	**Pb**	**23 56 51.3**	**-0.4**
WGK				eS	**Sb**	**23 57 12.4**	**+1.9**
WDLH	**Douliu**	**1.53**	**244**	eP	**Pb**	**23 56 52.1**	**+0.1**
WDLH				eS	**Sb**	**23 57 12.3**	**+1.4**
EDH	**Donghe**	**1.54**	**206**	eP	**Pn**	**23 56 48.4**	**-1.5**
EDH				eS	**Sn**	**23 57 07.1**	**-2.0**
IRIF	**Iriomote-Funau**	**1.54**	**91**	P	**Pn**	**23 56 49.9**	**0.0**
IRIF				S	**Sn**	**23 57 09.1**	**0.0**
WCKO	**Fanlu**	**1.60**	**235**	eP	**Pb**	**23 56 53.4**	**+0.1**
WCKO				eS	**Sb**	**23 57 15.1**	**+1.9**
HATJ	**Hateruma jima**	**1.64**	**100**	eP	**Pb**	**23 56 53.1**	**-0.9**
HATJ				eS	**Sn**	**23 57 12.8**	**+1.2**
WTK	**Tuku**	**1.65**	**246**	eP	**Pb**	**23 56 53.7**	**-0.4**
WTK				eS	**Sb**	**23 57 15.5**	**+1.0**
CHN2	**Minshiung**	**1.65**	**240**	eP	**Pn**	**23 56 51.7**	**+0.2**
CHN2				eS	**Sb**	**23 57 17.7**	**+3.2**
STYH	**Taoyuan**	**1.66**	**224**	eP	**Pn**	**23 56 51.4**	**-0.1**
STYH				eS	**Sn**	**23 57 13.1**	**+1.2**
CHN4	**Tsaushan**	**1.66**	**233**	eP	**Pb**	**23 56 53.6**	**-0.8**
CHN4				eS	**Sb**	**23 57 16.7**	**+1.8**
TPUB	**Ta-pu**	**1.67**	**231**	eP	**Pb**	**23 56 53.5**	**-0.9**
TPUB				eS	**Sb**	**23 57 15.8**	**+0.8**
LONT	**Longtian**	**1.67**	**210**	eP	**Pn**	**23 56 52.1**	**+0.3**
CHY	**Chiayi**	**1.71**	**240**	eP	**Pb**	**23 56 54.9**	**-0.2**
CHY				eS	**Sb**	**23 57 17.5**	**+1.3**
WTP	**Ta-pu**	**1.71**	**230**	eP	**Pb**	**23 56 54.3**	**-1.0**
WTP				eS	**Sb**	**23 57 16.2**	**-0.2**
LDUT	**Ludao**	**1.76**	**197**	eP	**Pn**	**23 56 51.1**	**-1.9**
LDUT				eS	**Sn**	**23 57 11.8**	**-2.7**
TWGBT	**Beinan**	**1.77**	**210**	eP	**Pn**	**23 56 52.0**	**-1.2**
TWG	**Pinlang**	**1.77**	**210**	eP	**Pn**	**23 56 52.2**	**-1.0**
TWK	**Hsinying**	**1.79**	**233**	eP	**Pn**	**23 56 55.0**	**+1.6**
JKRS	**Kuro-shima**	**1.80**	**94**	P	**Pn**	**23 56 54.2**	**+0.7**
JKRS				S	**Sn**	**23 57 16.6**	**+1.1**
WSF	**Szhu**	**1.81**	**247**	eS	**Sb**	**23 57 19.2**	**+0.1**
CHN1	**Nanshi**	**1.81**	**230**	eP	**Pb**	**23 56 55.5**	**-1.4**
CHN1				eS	**Sb**	**23 57 19.8**	**+0.5**
SGST	**Jiashian**	**1.85**	**226**	eP	**Pn**	**23 56 55.2**	**+1.1**
SGST				eS	**Sb**	**23 57 19.9**	**-0.3**
WSL	**Shuilin Townsh**	**1.86**	**243**	eP	**Pb**	**23 56 56.5**	**-1.1**
WSL				eS	**Sb**	**23 57 21.1**	**+0.7**
ICHU	**Yijhu**	**1.90**	**238**	eP	**Pb**	**23 56 57.0**	**-1.3**
ICHU				eS	**Sb**	**23 57 21.9**	**+0.4**
JIJ	**Ishigaki jima**	**1.92**	**90**	P	**Pn**	**23 56 55.3**	**+0.1**
JIJ				eS	**Sn**	**23 57 17.2**	**-1.2**
SSD	**Sandimen**	**2.06**	**219**	eP	**Pn**	**23 56 59.4**	**-1.8**
JISG	**Ishigakijimahi**	**2.08**	**83**	P	**Pn**	**23 56 57.5**	**+0.1**
JISG				S	**Sn**	**23 57 22.3**	**-0.1**
TSMG	**Majia**	**2.09**	**218**	eP	**Pn**	**23 56 59.3**	**+1.8**
MASBT	**Mashibuluo**	**2.17**	**217**	eP	**Pn**	**23 56 59.4**	**+0.8**
MASBT				eS	**Sn**	**23 57 26.5**	**+1.9**
LAY	**Lan-yu**	**2.36**	**191**	eP	**Pn**	**23 56 59.4**	**-1.9**
LYUB	**Lan-yu**	**2.39**	**190**	eP	**Pn**	**23 56 58.8**	**-2.8**
PNG	**Penghu**	**2.41**	**251**	eP	**Pn**	**23 57 02.2**	**+0.3**
PNG				eS	**Sn**	**23 57 30.1**	**-0.3**
PHUB	**P'eng-hu**	**2.41**	**250**	eP	**Pn**	**23 57 02.1**	**+0.3**
PHUB				eS	**Sn**	**23 57 30.5**	**0.0**
VWUC	**VWUC**	**2.44**	**285**	eP	**Pn**	**23 57 02.3**	**0.0**
VWUC				eS	**Sn**	**23 57 30.8**	**-0.3**
WDGT	**Dungji**	**2.44**	**244**	eP	**Pn**	**23 57 02.8**	**+0.5**
WDGT				eS	**Sn**	**23 57 32.2**	**+1.0**
JTJ	**Tarama**	**2.44**	**83**	eS	**Sn**	**23 57 32.4**	**+1.1**
MATB	**Ma-tsu**	**2.60**	**314**	eP	**Pn**	**23 57 04.1**	**-0.4**
VCHM	**Qimei**	**2.65**	**245**	eP	**Pn**	**23 57 04.1**	**-1.1**
VCHM				eS	**Sn**	**23 57 36.4**	**0.0**
TWKBT	**Hengchun**	**2.66**	**205**	eP	**Pn**	**23 57 05.0**	**-0.4**
TWK1	**Hengchun**	**2.67**	**205**	eP	**Pn**	**23 57 05.3**	**-0.1**
PTMZ	**Houxiangcun**	**2.74**	**285**	eP	**Pn**	**23 57 06.2**	**-0.2**
PTMZ				eS	**Sn**	**23 57 37.3**	**-1.2**
XPSS	**Dashiqiu**	**3.05**	**327**	eP	**Pn**	**23 57 10.0**	**-0.6**
KNMB	**Chin-men Tao**	**3.33**	**272**	eP	**Pn**	**23 57 13.8**	**-0.7**
KNMB				eS	**Sn**	**23 57 51.5**	**-1.7**
AXDP	**Jialang**	**3.74**	**279**	eP	**Pn**	**23 57 20.6**	**+0.4**
AXDP				eS	**Sn**	**23 58 02.4**	**-0.9**
KSRS	**Korea Array**	**13.98**	**20**	Pn	**Pn**	**23 59 41.6**	**+1.0**
	0.4nm,0.3s,baz=196,slow=11,SNR=5.0						
	0.4nm,0.3s						
SONM	**Songino Array**	**26.51**	**336**	P	**P**	**00 01 58.1**	**-1.4**
	1.3nm,0.9s,baz=150,slow=8.5,SNR=7.0						
	1.3nm,0.9s						
MKAR	**Makanchi Array**	**38.75**	**315**	P	**P**	**00 03 45.2**	**-1.0**
	0.5nm,0.7s,baz=106,slow=9.6,SNR=4.5						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**40.52**	**327**	P	**P**	**00 03 59.4**	**-1.3**
	0.9nm,0.4s,baz=114,slow=7.1,SNR=2.2						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**42.47**	**320**	P	**P**	**00 04 17.1**	**+0.3**
	0.2nm,0.4s,baz=130,slow=8.3,SNR=2.5						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**45.64**	**164**	P	**P**	**00 04 43.5**	**+0.9**
	0.4nm,0.8s,baz=344,slow=8.1,SNR=2.0						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**48.03**	**320**	P	**P**	**00 05 00.2**	**-0.7**
	0.5nm,0.5s,baz=134,slow=8.3,SNR=2.8						
	0.5nm,0.5s						

*IDC **16** 00:07:54.8±1.1, 55°.43N×154°.62W, h0km, mb3.8/9, mbtmp3.7/12, ML3.2/3, Error ellipse: s-maj=24.4km s-min=19.4km az=139.0*
*NEIC **16** 00:07:57.3±1.7, 55°.56N±0°.06×154°.4W±0°.1, h10km±1km, ML3.2/44, Error ellipse: s-maj=12.0km s-min=9.1km az=244.0*
ISC 16 00:07:58.5±0.9, 55°.66N±0°.09×154°.39W±0°.06, h20km, n148, σ1s47/138, mb4.1/9, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.72**	**284**		**Pb**	**00 08 11.1**	**-1.1**
CHIR				IAML		00 08 38.9	
	comp=E,740nm,1.4s						
SII	**Sitkinak Islan**	**0.91**	**7**	Pg	**Pb**	**00 08 15.1**	**-0.6**
SII				IAML		00 08 47.2	
	comp=E,532nm,1.4s						
SII				IAML		00 08 48.8	
	comp=N,492nm,0.9s						
OHAK	**Old Harbor**	**1.69**	**21**		**Pn**	**00 08 25.8**	**-1.0**
CHGN	**Chignik**	**2.35**	**288**	Pn	**Pn**	**00 08 34.3**	**-1.6**
CHGN				IAML		00 09 35.2	
	comp=E,114nm,0.8s						
CHGN				IAML		00 09 41.5	
	comp=N,97nm,0.9s						
KDAK	**Kodiak Island**	**2.35**	**24**		**Pn**	**00 08 35.7**	**-0.3**
KDAK	**Kodiak Island**	**2.35**	**24**	Pn	**Pn**	**00 08 35.7**	**-0.3**
	comp=N,2.2nm,0.3s,baz=178,slow=1.9,SNR=246						
KDAK				Sn	**Sn**	**00 09 03.6**	**-0.6**
	comp=N,5.0nm,0.3s,baz=72,slow=10,SNR=4.2						
	comp=N,10nm,0.4s						
ACHA	**Angle Creek He**	**2.61**	**349**		**Pn**	**00 08 41.0**	**+1.4**
SYI	**Shuyak Island**	**3.16**	**19**		**Pn**	**00 08 47.2**	**+0.3**
SYI				IAML		00 10 18.4	
	comp=E,53nm,1.2s						
Q19K	**Cape Douglas,**	**3.31**	**7**		**Pn**	**00 08 50.6**	**+1.5**
P18K	**Big Mountain,**	**3.77**	**353**	Pn	**Pn**	**00 08 56.4**	**+0.9**
P16K	**Nushagak River**	**3.91**	**332**	Pn	**Pn**	**00 08 58.4**	**+1.1**
P19K	**Oil Pt**	**4.06**	**8**	Pn	**Pn**	**00 09 00.3**	**+0.9**
O18K	**Koktuh Hills**	**4.23**	**354**		**Pn**	**00 09 03.5**	**+1.8**
O18K				IAML		00 10 48.3	
	comp=N,24nm,1.4s						
O18K				IAML		00 10 55.8	
	comp=E,24nm,1.3s						
CNPM	**China Poot**	**4.24**	**22**		**Pn**	**00 09 02.1**	**+0.3**
CNPM				IAML		00 10 46.6	
	comp=E,30nm,1.4s						
CNPM				IAML		00 10 53.4	
	comp=N,33nm,1.5s						
ILSW	**Iliamna Southw**	**4.39**	**8**	Pn	**Pn**	**00 09 04.8**	**+0.8**
ILSW				IAML		00 10 12.5	
	comp=E,18nm,1.1s						
O16K	**Kokwok River B**	**4.42**	**335**		**Pn**	**00 09 05.8**	**+1.4**
O16K				IAML		00 10 52.4	
	comp=E,23nm,1.4s						
O16K				IAML		00 10 55.0	
	comp=N,19nm,1.3s						
BRLK	**Bradley Lake**	**4.53**	**23**		**Pn**	**00 09 05.1**	**-0.7**
O15K	**Ungaliktiuk R**	**4.59**	**322**	Pn	**Pn**	**00 09 07.7**	**+1.0**
O15K				IAML		00 10 53.8	
	comp=N,20nm,1.0s						
O15K				IAML		00 10 53.9	
	comp=E,26nm,1.4s						
N18K	**Kilae Creek**	**5.10**	**352**	Pn	**Pn**	**00 09 15.6**	**+1.9**
N18K				IAML		00 10 02.1	
	comp=N,14nm,1.3s						
N17K	**Nushagak Hills**	**5.11**	**344**	Pn	**Pn**	**00 09 14.7**

baz=82,slow=24,SNR=2.1
comp=N,1.2nm,0.7s

H19K	**Roundabout Mou**	**9.96**	**355**	Pn	**Pn**	**00 10 23.0**	**+2.8**
J25K	**Salcha River,**	**10.04**	**23**	Pn	**Pn**	**00 10 22.8**	**+1.5**
H21K	**Melozitna Rive**	**10.06**	**4**	Pn	**Pn**	**00 10 22.0**	**+0.3**
J26L	**Joseph Creek**	**10.37**	**27**	Pn	**Pn**	**00 10 27.3**	**+1.3**
M29M	**Somme Creek**	**10.63**	**44**	Pn	**Pn**	**00 10 30.3**	**+0.7**
H24K	**Noodor Dome**	**10.69**	**15**	Pn	**Pn**	**00 10 31.0**	**+0.7**
N30M	**Aishikik Lake**	**10.73**	**50**	Pn	**Pn**	**00 10 34.5**	**+3.7**
PRP	**Porcupine Dome**	**10.80**	**20**	Pn	**Pn**	**00 10 33.1**	**+1.3**
G21K	**Allakaket**	**10.91**	**2**	Pn	**Pn**	**00 10 34.5**	**+1.3**
L29M	**L29M**	**11.13**	**41**	Pn	**Pn**	**00 10 38.3**	**+2.0**
F21K	**Alatna River**	**11.62**	**2**	Pn	**Pn**	**00 10 43.9**	**+1.0**
K29M	**Barlow Dome**	**11.78**	**39**	Pn	**Pn**	**00 10 46.7**	**+1.4**
I28M	**Miner Creek**	**12.09**	**30**	Pn	**Pn**	**00 10 49.5**	**+0.1**
M31M	**Drury Creek, Y**	**12.20**	**49**	Pn	**Pn**	**00 10 54.1**	**+3.2**
H27K	**Steamboat Moun**	**12.28**	**25**	Pn	**Pn**	**00 10 52.5**	**+0.6**
F24K	**Squaw Lake**	**12.29**	**12**	Pn	**Pn**	**00 10 51.3**	**-0.8**
G26K	**Porcupine Rive**	**12.40**	**20**	Pn	**Pn**	**00 10 53.6**	**+0.1**
J30M	**Hart River**	**12.64**	**38**	Pn	**Pn**	**00 10 59.4**	**+2.5**
F25K	**Christian Rive**	**12.66**	**15**	Pn	**Pn**	**00 10 57.5**	**+0.3**
BMAR	**Burnt Mountain**	**12.68**	**17**	Pn	**Pn**	**00 10 58.5**	**+1.1**
G27K	**Doyon Strip**	**12.72**	**23**	Pn	**Pn**	**00 10 57.9**	**-0.1**
E24K	**Your Creek**	**12.76**	**10**	Pn	**Pn**	**00 10 58.5**	**-0.1**
D20K	**Etivluk River**	**13.15**	**356**	Pn	**Pn**	**00 11 04.5**	**+0.7**
E25K	**Arctic Village**	**13.16**	**15**	Pn	**Pn**	**00 11 03.8**	**-0.2**
D23K	**Nanushuk River**	**13.47**	**6**	Pn	**Pn**	**00 11 09.0**	**+0.9**
MMPY	**Sheldon Lake,**	**13.71**	**50**	Pn	**Pn**	**00 11 12.5**	**+1.0**
H31M	**Peel River**	**14.05**	**36**	Pn	**P**	**00 11 20.1**	**-3.7**
D25K	**Kavik River**	**14.19**	**12**	Pn	**Pn**	**00 11 18.6**	**+0.7**
C23K	**Itkillik River**	**14.33**	**5**	P	**P**	**00 11 26.9**	**0.0**
C24K	**Franklin Bluff**	**14.35**	**8**	Pn	**Pn**	**00 11 19.1**	**-1.0**
B20K	**Meade River**	**14.46**	**356**	P	**P**	**00 11 29.4**	**+1.2**
E28M	**Babbage River**	**14.66**	**22**	P	**P**	**00 11 31.5**	**+0.9**
B22K	**Teshekpuk Lake**	**14.75**	**1**	Pn	**Pn**	**00 11 24.5**	**-1.1**
G31M	**Satah River**	**14.77**	**32**	Pn	**Pn**	**00 11 27.4**	**+1.5**
F30M	**Barrier River**	**14.80**	**29**	P	**P**	**00 11 32.1**	**0.0**
C27K	**Jago River**	**14.81**	**15**	Pn	**Pn**	**00 11 25.9**	**-0.6**
E29M	**Blow River**	**14.85**	**24**		**Pn**	**00 11 29.8**	**+2.8**
D27M	**Malcolm River**	**14.92**	**19**	P	**P**	**00 11 32.8**	**-0.7**
INK	**Inuvik**	**15.90**	**29**	Pn	**P**	**00 11 42.8**	**-1.5**
	comp=N,0.1nm,0.3s,baz=242,slow=14,SNR=11						
	comp=N,2.1nm,0.7s						
YKA	**Yellowknife Ar**	**21.27**	**55**	P	**P**	**00 12 43.5**	**+0.4**
	comp=N,0.8nm,0.8s,baz=273,slow=9.4,SNR=15						
	comp=N,0.8nm,0.8s						
TXAR	**Lajitas Array**	**44.37**	**105**	P	**P**	**00 16 08.2**	**+0.8**
	comp=N,0.2nm,0.6s,baz=336,slow=2.7,SNR=4.2						
	comp=N,0.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**46.13**	**235**	T	T	01 05 48.4	
	baz=29,slow=76,SNR=54						
H11N3	**WAKE ISLAND Hy**	**46.13**	**235**	T	T	01 05 43.4	
	baz=29,slow=76,SNR=41						
H11N1	**WAKE ISLAND Hy**	**46.14**	**235**	T	T	01 05 50.9	
	baz=29,slow=76,SNR=40						
H11S1	**WAKE ISLAND Hy**	**47.28**	**234**	T	T	01 07 14.5	
	baz=28,slow=76,SNR=116						
H11S2	**WAKE ISLAND Hy**	**47.29**	**234**	T	T	01 07 15.6	
	baz=28,slow=76,SNR=99						
H11S3	**WAKE ISLAND Hy**	**47.30**	**234**	T	T	01 07 13.4	
	baz=28,slow=76,SNR=93						
NRIK	**Noril'sk**	**47.49**	**335**	P	**P**	**00 16 32.1**	**+0.7**
	comp=N,1.8nm,0.3s,baz=59,slow=6.6,SNR=5.5						
	comp=N,1.8nm,0.3s						
SONM	**Songino Array**	**56.79**	**307**	P	**P**	**00 17 41.0**	**0.0**
	comp=N,1.6nm,0.8s,baz=53,slow=5.8,SNR=10						
	comp=N,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**60.46**	**324**	P	**P**	**00 18 07.0**	**+0.8**
	comp=N,0.6nm,0.4s,baz=22,slow=4.8,SNR=5.0						
	comp=N,0.6nm,0.4s						
NOA	**NORSAR Array B**	**63.09**	**8**	P	**P**	**00 18 23.6**	**-0.3**
	comp=N,0.9nm,0.8s,baz=351,slow=6.6,SNR=4.3						
	comp=N,0.9nm,0.8s						
BVAR	**Borovoye Array**	**65.57**	**332**	P	**P**	**00 18 40.5**	**+0.3**
	comp=N,1.1nm,0.7s,baz=35,slow=5.6,SNR=6.1						
	comp=N,1.1nm,0.7s						
MKAR	**Makanchi Array**	**67.37**	**322**	P	**P**	**00 18 51.2**	**-0.7**
	comp=N,0.4nm,0.8s,baz=39,slow=6.2,SNR=3.6						
	comp=N,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**83.97**	**294**	P	**P**	**00 20 27.1**	**-0.1**
	comp=N,1.0nm,0.8s,baz=18,slow=5.0,SNR=7.1						
	comp=N,1.0nm,0.8s						
H03N2	**Juan Fernandez**	**109.44**	**121**	T	T	02 24 50.6	
	baz=331						
H03N1	**Juan Fernandez**	**109.46**	**121**	T	T	02 24 50.8	
	baz=331,slow=74,SNR=7.3						
H03N3	**Juan Fernandez**	**109.46**	**121**	T	T	02 24 50.4	
	baz=331,slow=74,SNR=5.8						
QSPA	**South Pole Qui**	**145.44**	**180**	PKPbc	**PKPdf**	**00 27 31.8**	**-1.6**
	comp=N,1.1nm,0.8s,baz=62,slow=5.9,SNR=2.5						

*UPA **16** 00:11:33.9±16.0, 8°.84N×78°.65W, h75km±125km, MD3.6, MW4.0*
*RSNC **16** 00:11:39.9±0.3, 9°N±3°×7°9W±°, h49km±10km, M2.7, mb4.3, ML2.6*

ISC 16 00:11:40.1±1.2,**9°.42N**±0°.05×**79°.25W**±0°.03,**h61**km±8km,
n29,σ1§**26**/45,**5C-6D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPO	**Chepo, Panama**	**0.28**	**152**	⇑*i*P	**Pn**	**00 11 50.1**	**0.0**
CHPO				*i*S	**Sn**	**00 11 57.0**	**-0.3**
CNTA3	**Canitas, Panam**	**0.41**	**119**	⇑*i*P	**Pn**	**00 11 50.8**	**-0.3**
CNTA3				*i*S	**Sn**	**00 11 58.4**	**-0.8**
UPA	**Univ. de Panam**	**0.52**	**213**	⇓*i*P	**Pn**	**00 11 52.3**	**0.0**
UPA				*i*S	**Sn**	**00 12 00.8**	**-0.3**
ARRA3	**Arraijan, Pana**	**0.60**	**222**	⇑*i*P	**Pn**	**00 11 53.6**	**+0.4**
ARRA3				*i*S	**Sn**	**00 12 03.2**	**+0.3**
BCIP	**Isla Barro Col**	**0.63**	**247**	P	**Pn**	**00 11 54.1**	**+0.6**
BCIP				S	**Sn**	**00 12 04.3**	**+0.9**
BCIP	**Isla Barro Col**	**0.63**	**247**	⇑*i*P	**Pn**	**00 11 54.1**	**+0.6**
BCIP				*i*S	**Sn**	**00 12 04.0**	**+0.6**
TABO3	**Taboga, Panama**	**0.69**	**206**	⇑*e*P	**Pn**	**00 11 54.4**	**+0.2**
TABO3				*e*S	**Sn**	**00 12 03.8**	**-0.8**
CHOR3	**La Chorrera**	**0.73**	**225**	⇓*e*P	**Pn**	**00 11 55.2**	**+0.5**
CHOR3				*i*S	**Sn**	**00 12 05.9**	**+0.6**
PNME	**Penonome**	**1.41**	**229**	*e*P	**Pn**	**00 12 04.0**	**+0.4**
PNME				*e*S	**Sn**	**00 12 47.0**	**-0.3**
CHIT3	**Chitre**	**1.86**	**219**	*e*P	**Pn**	**00 12 09.5**	**-0.1**
CHIT3				*e*S	**Sn**	**00 12 31.0**	**-1.0**
AZU	**Azuero**	**1.91**	**212**	P	**Pn**	**00 12 10.1**	**-0.2**
AZU				S	**Sn**	**00 12 32.7**	**-0.6**
AZU	**Azuero**	**1.91**	**212**	⇓*i*P	**Pn**	**00 12 10.3**	**0.0**
AZU				*i*S	**Sn**	**00 12 29.9**	**-3.4**
CALO3	**Calobre, Verag**	**1.91**	**235**	*e*P	**Pn**	**00 12 10.9**	**+0.5**
CALO3				*e*S	**Sn**	**00 12 33.5**	**+0.1**
CAPC	**Capurgana**	**2.03**	**112**	P	**Pn**	**00 12 14.7**	**+2.7**
STIA3	**Santiago, Vera**	**2.15**	**232**	*e*P	**Pn**	**00 12 13.0**	**-0.6**
MESA3	**La Mesa, Verag**	**2.29**	**237**	⇓*e*P	**Pn**	**00 12 16.3**	**+0.8**
GMAL	**Guarumal, Vera**	**2.56**	**230**	*e*P	**Pn**	**00 12 19.2**	**0.0**
CACAO	**El Cacao, Vera**	**2.61**	**218**	P	**Pn**	**00 12 20.7**	**+0.9**
CACAO				S	**Sn**	**00 12 52.3**	**+2.0**
CACAO	**El Cacao, Vera**	**2.61**	**218**	*e*P	**Pn**	**00 12 20.3**	**+0.5**
PTAC	**Punta Ardita,**	**2.67**	**148**	P	**Pn**	**00 12 19.3**	**-1.4**
PTAC	**Punta Ardita,**	**2.67**	**148**	⇓*e*P	**Pn**	**00 12 19.4**	**-1.4**
LCBC	**Los crdobas,**	**2.90**	**101**	P	**Pn**	**00 12 25.3**	**+1.5**
LCBC				S	**Sn**	**00 13 00.8**	**+3.3**
LCBC	**Los crdobas,**	**2.90**	**101**	⇓*e*P	**Pn**	**00 12 25.6**	**+1.8**
APAC	**Apartado, Choc**	**3.04**	**120**	P	Pn	00 12 29.7	+3.9
DRK0	**Durika**	**3.95**	**268**	*e*P	**Pn**	**00 12 39.1**	**+0.8**
UREC	**San Jos de Ur**	**4.03**	**114**	*e*S	**Pn**	**00 12 39.0**	**-0.4**
SJCC	**San Jacinto, C**	**4.04**	**83**	P	**Pn**	**00 12 39.8**	**+0.3**
SJCC				S	**Sn**	**00 13 22.6**	**-3.1**
RNCC	**Cayo Roncador,**	**4.21**	**349**	P	**Pn**	**00 12 41.7**	**-0.1**
RNCC				S	**Sn**	**00 13 27.7**	**-2.0**
ZARC	**Zaragoza, Cauc**	**4.75**	**113**	P	**Pn**	**00 12 49.5**	**+0.3**

*ISN **16** 00:21:58.5±0.4, 33°.33N×46°.80E, h7km±1km, ML2.8*
*TEH **16** 00:21:59.0, 33°.34N×46°.80E, h8km±157km*

ISC 16 00:21:59.2±0.9,**33°.34N**±0°.04×**46°.80E**±0°.03,**h10**km,**n16,**
σ1§**16**/21,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.76**	**253**	*e*Pg	**Pg**	**00 22 13.5**	**-0.4**
IBDR				*e*Sg	**Sb**	**00 22 24.0**	**-1.0**
IBDR				AML	AML	00 22 31.2	
	comp=E,311nm,0.6s						
IBDR				AML	AML	00 22 35.4	
	comp=N,323nm,0.5s						
IKFM	**Kafar-mosalman**	**0.90**	**78**	Pg	**Pb**	**00 22 16.0**	**-0.8**
IKFM				Sg	**Sb**	**00 22 28.9**	**+0.2**
KCHF	**Cheshme Sefid,**	**0.96**	**12**	Pg	**Pb**	**00 22 17.3**	**-0.7**
IGHG	**Ghaleghazi**	**1.01**	**349**	Pg	**Pb**	**00 22 18.5**	**-0.4**
GLG1	**Gilan-e-Gharb**	**1.07**	**316**	Pg	**Pg**	**00 22 18.0**	**-1.8**
IDOB	**Doab**	**1.23**	**68**	Pg	**Pg**	**00 22 23.3**	**+0.4**
IDHR	**Dehrash**	**1.40**	**346**	Pg	**Pg**	**00 22 25.2**	**-0.9**
KGS1	**Ghasr-e-Shirin**	**1.54**	**320**	Pg	**Pg**	**00 22 28.3**	**-0.5**
ILIN	**Lien**	**1.58**	**5**	Pg	**Pg**	**00 22 29.7**	**+0.1**
SNQR	**Sonqor, Kerman**	**1.67**	**24**	Pg	**Pg**	**00 22 31.3**	**+0.2**
RAFI	**Al-Rafai**	**1.71**	**200**	*e*Pn	**Pb**	**00 22 30.5**	**-0.2**
RAFI				*e*Sn	**Sg**	**00 22 54.0**	**-0.1**
HSAM	**Samen**	**1.74**	**59**	Pg	**Pg**	**00 22 31.7**	**-0.8**
BDRS	**Dareh Seyedi**	**1.84**	**70**	Pn	**Pg**	**00 22 33.2**	**-1.3**
BHD	**Baghdad**	**2.03**	**269**	*e*Pn	**Pb**	**00 22 34.7**	**-1.4**
BHD				*e*Sn	**Sb**	**00 23 01.5**	**+0.1**
HGHA	**Hamedan- Ghaye**	**2.74**	**38**	Pn	**Pb**	**00 22 46.1**	**-2.3**
IKRK	**Kirkuk**	**2.89**	**316**	*e*Pn	**Pn**	**00 22 47.0**	**+1.7**
IKRK				*e*Sn	**Sn**	**00 23 22.5**	**+2.3**
IKRK				AML	AML	00 23 38.2	
	comp=N,43nm,0.3s						
IKRK				AML	AML	00 23 47.1	
	comp=E,54nm,0.7s						

*IDC **16** 00:27:04.5±4.8, 69°.43N×144°.85W, h0km, mb4.3/1, mbtmp3.1/4, ML2.5/3, Error ellipse: s-maj=67.3km s-min=25.9km az=143.0*
*AEIC **16** 00:27:07.2±1.6, 69°.19N±0°.02×144°.66W±0°.07, h2km±6km, ML2.7, ML2.6/122(NEIC), Error ellipse: s-maj=4.0km s-min=2.7km az=124.0*
*NEIC **16** 00:27:07.5±1.6, 69°.18N±0°.03×144°.51W±0°.08, h10km±2km, Error ellipse: s-maj=5.5km s-min=4.5km az=359.0*

ISC 16 00:27:05.6±1.3,**69°.20N**±0°.04×**144°.56W**±0°.03,**h3**km±11km,
n100,σ1§**22**/104,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.53**	**34**	Pg	**Pb**	**00 27 17.6**	**+0.2**
C27K				Sg	**Sb**	**00 27 24.9**	**-0.5**
E25K	**Arctic Village**	**1.14**	**199**	Pn	**Pg**	**00 27 26.6**	**-0.8**
E25K					**Sg**	**00 27 42.5**	**+0.3**
E25K				IAML		00 27 45.4	
	comp=N,124nm,0.8s						
E25K				IAML		00 27 46.0	
	comp=E,126nm,0.8s						
D27M	**Malcolm River**	**1.28**	**86**	Pn	**Pg**	**00 27 30.6**	**+0.4**
D27M				Sn	**Sg**	**00 27 47.5**	**+0.7**
D27M				IAML		00 27 54.2	
	comp=E,101nm,0.6s						
E27K	**Coleen River**	**1.48**	**132**		**Pn**	**00 27 33.7**	**+0.6**
E27K				Sn	**Sg**	**00 27 53.9**	**+0.7**
F26K	**Sheenjek River**	**1.52**	**174**	Pn	**Pn**	**00 27 33.9**	**+0.3**
F26K				Sn	**Sg**	**00 27 54.2**	**-0.1**
F26K				IAML		00 27 57.5	
	comp=E,84nm,0.3s						
F26K				IAML		00 27 58.6	
	comp=N,68nm,0.4s						
D24K	**Happy Valley**	**1.52**	**270**		**Pn**	**00 27 34.5**	**+0.8**
D24K				Sn	**Sg**	**00 27 55.9**	**+1.4**
C24K	**Franklin Bluff**	**1.55**	**292**		**Pn**	**00 27 34.5**	**+0.4**
C24K				Sn	**Sn**	**00 27 55.4**	**+0.8**
C24K				IAML		00 27 59.6	
	comp=E,69nm,0.5s						
F25K	**Christian Rive**	**1.66**	**194**		**Pn**	**00 27 36.4**	**+0.9**
F25K				Sn	**Sn**	**00 27 58.2**	**+0.8**
F25K				IAML		00 28 03.8	
	comp=E,58nm,0.4s						
BMAR	**Burnt Mountain**	**1.78**	**180**	Pn	**Pn**	**00 27 38.3**	**+1.1**
E24K	**Your Creek**	**1.83**	**234**	Pn	**Pn**	**00 27 37.5**	**-0.4**
E24K				Sn	**Sn**	**00 28 02.5**	**+1.0**
TOLK	**Toolik Lake Re**	**1.90**	**255**	Pn	**Pn**	**00 27 40.0**	**+1.2**
TOLK				IAML		00 28 10.5	
	comp=N,52nm,0.6s						
TOLK				IAML		00 28 11.7	
	comp=E,53nm,0.9s						
E28M	**Babbage River**	**1.91**	**106**		**Pn**	**00 27 40.4**	**+1.4**
E28M				IAML		00 28 08.7	
	comp=N,52nm,0.8s						
F24K	**Squaw Lake**	**2.09**	**218**		**Pn**	**00 27 42.4**	**+0.9**
F24K				IAML		00 28 17.0	
	comp=E,39nm,0.4s						
E23K	**Chandalar**	**2.18**	**241**		**Pn**	**00 27 43.7**	**+1.0**
D23K	**Nanushuk River**	**2.21**	**267**		**Pn**	**00 27 44.5**	**+1.4**
C23K	**Itkillik River**	**2.22**	**290**		**Pn**	**00 27 43.1**	**-0.1**
C23K				IAML		00 28 20.5	
	comp=E,47nm,0.6s						
G26K	**Porcupine Rive**	**2.28**	**172**		**Pn**	**00 27 44.0**	**+0.1**
G26K				IAML		00 28 21.4	
	comp=N,43nm,0.7s						
E29M	**Blow River**	**2.56**	**105**		**Pn**	**00 27 47.6**	**-0.2**
E29M				IAML		00 28 27.3	
	comp=E,36nm,0.8s						
G27K	**Doyon Strip**	**2.64**	**154**		**Pn**	**00 27 49.9**	**+0.9**
FYU	**Fort Yukon**	**2.66**	**186**		**Pn**	**00 27 49.2**	**0.0**
FYU				IAML		00 28 31.4	
	comp=E,34nm,0.7s						
G24K	**Hadweenzic Riv**	**2.74**	**205**		**Pn**	**00 27 50.6**	**+0.3**
G24K				IAML		00 28 38.5	
	comp=E,29nm,1.2s						
E22K	**Anaktuvuk Pass**	**2.86**	**251**		**Pn**	**00 27 53.7**	**+1.7**
COLD	**Coldfoot**	**2.89**	**229**		**Pn**	**00 27 53.0**	**+0.7**
D22K	**Ayikyak River**	**2.94**	**268**		**Pn**	**00 27 53.8**	**+0.7**
D22K				IAML		00 28 48.3	
	comp=E,21nm,1.1s						
H27K	**Steamboat Moun**	**3.20**	**157**		**Pn**	**00 27 57.2**	**+0.5**
G23K	**Bananza Creek**	**3.24**	**222**		**Pn**	**00 27 58.2**	**+1.0**
G23K				IAML		00 28 53.3	
	comp=N,16nm,0.7s						
G23K				IAML		00 28 53.7	
	comp=E,15nm,0.8s						
B22K	**Teshekpuk Lake**	**3.29**	**295**		**Pn**	**00 27 58.5**	**+0.8**
B22K				IAML		00 28 59.0	
	comp=E,20nm,1.2s						
B22K				IAML		00 29 00.3	
	comp=N,20nm,1.4s						
G29M	**Pine Creek**	**3.36**	**130**		**Pn**	**00 28 00.2**	**+1.4**
E21K	**Killik River**	**3.50**	**262**		**Pn**	**00 28 01.2**	**+0.4**
E21K				IAML		00 29 07.5	
	comp=E,11nm,0.5s						
E21K				IAML		00 29 16.6	
	comp=N,12nm,1.0s						
B21K	**Ikpikpuk River**	**3.58**	**282**		**Pn**	**00 28 04.2**	**+2.4**
B21K				IAML		00 29 21.5	
	comp=E,14nm,1.2s						
H24K	**Noodor Dome**	**3.61**	**202**		**Pn**	**00 28 02.4**	**+0.1**
H24K				IAML		00 28 47.3	
	comp=N,11nm,0.6s						
H24K				IAML		00 29 06.0	
	comp=E,11nm,0.8s						
F30M	**Barrier River**	**3.61**	**112**	IAML		00 29 06.7	
	comp=E,13nm,1.0s						
PRP	**Porcupine Dome**	**3.72**	**186**		**Pn**	**00 28 04.0**	**+0.1**
PRP				IAML		00 28 51.4	
	comp=N,12nm,0.3s						
PRP				IAML		00 28 51.7	
	comp=E,9.5nm,0.3s						
H29M	**Whitestone**	**3.81**	**139**		**Pn**	**00 28 06.4**	**+1.4**
H29M				IAML		00 29 12.9	
	comp=E,12nm,1.4s						
H29M				IAML		00 29 15.4	
	comp=N,9.9nm,0.8s						
G30M	**tAoh Zraii Nji**	**3.84**	**122**		**Pn**	**00 28 05.7**	**+0.3**
G30M				IAML		00 29 17.3	
	comp=N,8.9nm,1.1s						
F21K	**Alatna River**	**3.87**	**243**	IAML		00 29 08.4	
	comp=N,7.8nm,0.7s						
F21K				IAML		00 29 15.8	
	comp=E,8.9nm,0.8s						
H23K	**Yukon River**	**3.89**	**212**	IAML		00 29 10.7	
	comp=E,11nm,1.1s						
I26K	**Coal Creek Min**	**3.95**	**171**	IAML		00 29 16.1	
	comp=E,9.7nm,1.0s						
I26K				IAML		00 29 19.9	
	comp=N,12nm,0.9s						
EPYK	**Eagle Plains**	**4.11**	**130**		**Pn**	**00 28 10.0**	**+0.8**
INK	**Inuvik**	**4.12**	**97**	Pn	**Pn**	**00 28 12.3**	**+3.2**
	comp=N,0.2nm,0.3s,baz=297,slow=10,SNR=10						
INK				Sn	**Sn**	**00 28 58.7**	**+1.0**
	comp=N,0.3nm,0.3s,baz=331,slow=13,SNR=3.8						
	comp=N,0.7nm,0.5s						
I28M	**Miner Creek**	**4.17**	**152**		**Pn**	**00 28 11.2**	**+1.1**
I28M				IAML		00 29 24.9	
	comp=E,8.8nm,1.3s						
POKR	**Poker Plat Res**	**4.25**	**197**	Pn	**Pn**	**00 28 12.4**	**+1.3**
POKR				IAML		00 29 04.5	
	comp=N,8.1nm,0.3s						
POKR				IAML		00 29 23.1	
	comp=E,9.4nm,0.8s						
G21K	**Allakaket**	**4.33**	**236**	IAML		00 29 33.5	
	comp=E,8.1nm,0.8s						
D20K	**Etivluk River**	**4.37**	**269**		**Pn**	**00 28 14.1**	**+1.3**
D20K				IAML		00 29 42.8	
	comp=E,7.6nm,1.3s						
D20K				IAML		00 29 54.2	
	comp=N,5.6nm,1.1s						
F31M	**Tsiigehtchic**	**4.38**	**109**	Pn	**Pn**	**00 28 14.0**	**+1.2**
F31M				IAML		00 29 31.7	
	comp=N,7.3nm,1.2s						
F31M				IAML		00 29 37.5	
	comp=E,6.8nm,1.1s						
I23K	**Minto, Yukon-K**	**4.48**	**207**	Pn	**Pn**	**00 28 14.7**	**+0.5**
I23K				IAML		00 29 10.0	
	comp=E,5.1nm,1.4s						
I23K				IAML		00 29 46.0	
	comp=N,7.5nm,1.1s						
B20K	**Meade River**	**4.48**	**286**	IAML		00 29 09.4	
	comp=N,8.0nm,0.9s						
G31M	**Satah River**	**4.48**	**116**		**Pn**	**00 28 15.4**	**+1.2**
IL31		**4.54**	**193**	Pn	**Pn**	**00 28 17.2**	**+2.2**
ILAR	**Eielson Array**	**4.54**	**193**	Pn	**Pn**	**00 28 16.6**	**+1.6**
ILAR	**Eielson Array**	**4.54**	**193**	Pn	**Pn**	**00 28 15.9**	**+0.9**
	comp=N,0.3nm,0.3s,baz=7.6,slow=11,SNR=12						
ILAR				Sn	**Sn**	**00 29 08.9**	**+0.7**
	comp=N,0.2nm,0.3s,baz=9.0,slow=24,SNR=4.1						
ILAR				Lg	Lg	00 29 25.9	
	comp=N,0.7nm,0.3s,baz=10,slow=32,SNR=7.9						
	comp=N,0.3nm,0.4s						
I29M	**Ogilvie Camp,**	**4.55**	**145**	Pn	**Pn**	**00 28 17.2**	**+2.0**
J25K	**Salcha River,**	**4.62**	**184**	Pn	**Pn**	**00 28 17.6**	**+1.5**
J25K				IAML		00 29 18.6	
	comp=N,5.1nm,0.5s						
J25K				IAML		00 29 35.4	
	comp=E,5.1nm,0.9s						
F20K	**Avaraart Lake**	**4.70**	**248**		**Pn**	**00 28 19.9**	**+2.6**
J26L	**Joseph Creek**	**4.73**	**175**		**Pn**	**00 28 19.4**	**+1.6**
CCB	**Clear Creek Bu**	**4.75**	**197**		**Pn**	**00 28 18.9**	**+1.1**
CCB				IAML		00 29 14.9	
	comp=E,5.2nm,0.7s						
H21K	**Melozitna Rive**	**4.77**	**226**	Pn	**Pn**	**00 28 19.8**	**+1.6**
H21K				IAML		00 29 45.9	
	comp=E,5.7nm,1.4s						
HDA	**Harding Lake**	**4.90**	**192**		**Pn**	**00 28 20.2**	**+0.2**
HDA				IAML		00 29 47.8	
	comp=N,5.7nm,1.2s						
WRH	**Wood River Hil**	**4.95**	**198**		**Pn**	**00 28 21.3**	**+0.6**
WRH				IAML		00 29 19.6	
	comp=N,5.2nm,0.6s						
NEA2	**Nenana**	**4.95**	**203**	Pn	**Pn**	**00 28 22.8**	**+2.0**
NEA2				IAML		00 29 47.3	
	comp=E,4.7nm,1.0s						
I21K	**Tanana**	**4.96**	**219**	Pn	**Pn**	**00 28 21.2**	**+0.4**
I21K				IAML		00 29 49.8	
	comp=E,5.2nm,1.4s						
E19K	**Redstone River**	**5.01**	**256**		**Pn**	**00 28 22.8**	**+1.3**
E19K				IAML		00 29 24.8	
	comp=N,4.6nm,0.6s						
E19K				IAML		00 29 58.3	
	comp=E,5.6nm,1.0s						
I30M	**Mount Dempster**	**5.10**	**138**	IAML		00 29 46.9	
	comp=N,4.0nm,1.4s						
H31M	**Peel River**	**5.19**	**126**	Pn	**Pn**	**00 28 24.5**	**+0.5**
H31M				IAML		00 29 36.1	
	comp=E,4.0nm,1.5s						
H31M				IAML		00 30 03.7	
	comp=N,3.6nm,1.4s						
SCRK	**Sand Creek**	**5.25**	**177**		**Pn**	**00 28 26.5**	**+1.6**
SCRK				IAML		00 29 56.3	
	comp=E,3.0nm,0.9s						
K24K	**Donnelly Dome**	**5.44**	**186**	Pn	**Pn**	**00 28 28.4**	**+1.0**
RIDG	**Independent Ri**	**5.48**	**181**		**Pn**	**00 28 29.3**	**+1.2**
DAWY	**Dawson**	**5.55**	**156**	Pn	**Pn**	**00 28 29.1**	**+0.1**
DOT	**Dot Lake**	**5.58**	**178**	Pn	**Pn**	**00 28 30.8**	**+1.5**
J30M	**Hart River**	**5.66**	**141**	Pn	**Pn**	**00 28 31.7**	**+1.2**
BPAW	**Bear Paw Mtn.**	**5.72**	**210**	Pn	**Pn**	**00 28 32.6**	**+1.3**
MCK	**McKinley**	**5.76**	**200**	Pn	**Pn**	**00 28 31.5**	**-0.4**
H19K	**Roundabout Mou**	**5.88**	**237**		**Pn**	**00 28 35.2**	**+1.8**
**K29

COHC Cochancay 7.09 131 P **Pn 00 49 30.0 -2.8**
831nm57nm,1.2s
GCUF Volcan Galeras 7.29 98 P **Pn 00 49 35.4 -0.7**
671nm37nm,0.9s
BBAC Balboa, Cauca 7.32 92 P **Pn 00 49 35.1 -1.1**
867nm51nm,0.8s
MALC Bahia Malaga 7.43 76 P **Pn 00 49 37.3 -0.3**
LCR2 La Lucha 2 7.46 4 *eP* **Pn 00 49 37.6 -0.6**
JCR1 Jicaral 7.56 356 *eP* **Pn 00 49 39.2 -0.3**
CVTV Tajo 7.74 6 *eP* **Pn 00 49 44.0 +1.8**
POPC Popayan, Colom 7.89 88 P **Pn 00 49 44.2 +0.1**
22nm,0.8s
JTS Las Juntas de 7.99 357 Pn **Pn 00 49 45.6 +0.2**
63nm,0.4s,baz=115,slow=9.7,SNR=43
JTS Sn **Sn 00 51 09.2 -5.8**
3.8nm,0.3s,baz=334,slow=22,SNR=6.1
JTS Las Juntas de 7.99 357 P **Pn 00 49 45.5 +0.2**
1µm132nm,0.8s
JTS Las Juntas de 7.99 357 *eP* **Pn 00 49 45.3 0.0**
SOCE Pocosol 8.07 360 **Pn 00 49 47.7 +1.3**
SOCE Pocosol 8.07 360 *eP* **Pn 00 49 47.5 +1.1**
SOCE *eS* **Sn 00 51 12.9 -4.1**
SOCE Pocosol 8.07 360 P **Pn 00 49 47.8 +1.3**
SOCE Pocosol 8.07 360 S **Sn 00 51 13.2 -3.8**
ARE1 Arenal 1 8.15 359 *eP* **Pn 00 49 48.9 +1.4**
CEDE Laguna Cedeo 8.18 359 *eP* **Pn 00 49 49.6 +1.7**
INVE Universidad In 8.18 357 *eP* **Pn 00 49 48.7 +0.7**
BCIP Isla Barro Col 8.32 34 **Pn 00 49 51.0 +1.2**
BCIP Isla Barro Col 8.32 34 P **Pn 00 49 51.5 +1.7**
108nm,1.2s
CUI Cuipilapa 8.37 356 *eP* **Pn 00 49 51.0 +0.5**
YOTC Yotoco, Valle 8.39 78 P **Pn 00 49 50.8 0.0**
14nm,1.3s
VMAR Armenia, Volca 8.52 356 *eP* **Pn 00 49 53.1 +0.5**
FLOC Florencia 8.94 94 **Pn 00 49 58.0 -0.3**
FLOC Florencia 8.94 94 P **Pn 00 49 58.6 +0.3**
732nm83nm,1.3s
CBOC Ciudad Bolivar 9.26 67 P **Pn 00 50 02.6 -0.2**
542nm42nm,1.5s
ORTC Ortega, Tolima 9.45 80 P **Pn 00 50 04.8 -0.6**
948nm75nm,1.3s
DBBC Dabeiba 9.58 60 P **Pn 00 50 08.9 +1.8**
8µm65nm,2.2s
GUY2C Guyana, Caldas 9.64 72 P **Pn 00 50 08.6 +0.2**
689nm40nm,0.9s
ACON Acoyapa 9.67 356 **Pn 00 50 09.5 +1.2**
ACON Acoyapa 9.67 356 P **Pn 00 50 10.1 +1.8**
25nm,0.5s
APAC Apartado, Choc 9.73 55 P **Pn 00 50 11.7 +2.5**
2µm1µm84nm,1.2s
NANN Nandasmo 9.74 351 P **Pn 00 50 12.0 +2.7**
ESPN Las Esperanzas 9.88 2 **Pn 00 50 12.7 +1.5**
ESPN Las Esperanzas 9.88 2 P **Pn 00 50 12.7 +1.5**
802nm67nm,1.0s
UNAN Cigeo UNAN 9.94 350 P **Pn 00 50 14.5 +2.6**
MGAN Managua 9.97 350 Pn **Pn 00 50 14.2 +1.8**
PTLC Puerto Leguiza 9.98 102 P **Pn 00 50 12.1 -0.6**
1µm103nm,1.1s
SAPS Ciudad Sandino 10.02 350 P **Pn 00 50 15.7 +2.6**
COPN Copaltepe 10.06 349 P **Pn 00 50 16.2 +2.5**
NORC Norcasia 10.22 71 P **Pn 00 50 16.4 +0.5**
655nm48nm,1.4s
MOMN Momotombo 10.28 349 P **Pn 00 50 19.0 +2.3**
CNGN Cerro Negro 10.40 348 **Pn 00 50 20.7 +2.4**
CNGN Cerro Negro 10.40 348 P **Pn 00 50 21.2 +2.9**
1µm,0.9s
ROCN Rota Cerro Neg 10.42 348 P Pn 00 50 11.3 -7.3
UREC San Jos de Ur 10.53 58 P **Pn 00 50 21.2 +1.1**
502nm30nm,1.1s
HERN Volcan Telica 10.53 348 **Pn 00 50 22.8 +2.7**
ROSC El Rosal 10.54 76 Pn **Pn 00 50 21.4 +0.8**
1.9nm,0.3s,baz=102,slow=7.1,SNR=7.7
ROSC LR LR 00 53 36.4
comp=Z,196nm,21.2s,baz=240,slow=33
13nm,0.6s
ROSC El Rosal 10.54 76 P **Pn 00 50 23.8 +3.1**
39nm,0.8s
CRIN San Cristobal 10.66 347 **Pn 00 50 24.7 +2.7**
CRIN San Cristobal 10.66 347 P **Pn 00 50 23.8 +1.8**
4µm331nm,0.6s
MACC Macarena, Meta 10.71 90 P **Pn 00 50 21.7 -0.9**
36nm,0.9s
PTBC PUERTO BERRIO, 10.94 67 P **Pn 00 50 27.0 +1.2**
397nm48nm,0.7s
ZARC Zaragoza, Cauc 10.98 61 P **Pn 00 50 27.0 +0.7**
953nm79nm,1.4s
CSGN Cosiguina Volc 11.06 345 *eP* **Pn 00 50 30.2 +2.9**
CSGN Cosiguina Volc 11.06 345 P **Pn 00 50 29.5 +2.1**
ATAH Atahualpa 11.18 147 Pn **Pn 00 50 32.0 +2.7**
0.9nm,0.3s,baz=19,slow=12,SNR=6.1
ATAH LR LR 00 54 21.3
comp=Z,956nm,18.6s,baz=320,slow=35
4.4nm,0.6s
CNCH Conchagua 11.42 344 P **Pn 00 50 35.8 +3.4**
LCND La Caada 11.46 344 P **Pn 00 50 36.5 +3.6**
PRVC Isla de Provid 11.50 16 Pn **Pn 00 50 34.7 +1.4**
PACA Pacayal 11.74 342 P **Pn 00 50 41.0 +4.2**
RUSC La Rusia 12.01 72 **Pn 00 50 40.9 +0.1**
TGUH Tegucigalpa,Un 12.03 347 **Pn 00 50 43.9 +3.2**
TGUH Tegucigalpa,Un 12.03 347 P **Pn 00 50 43.2 +2.5**
1µm192nm,0.9s
SCLA Alcaldia de Sa 12.10 340 P **Pn 00 50 44.9 +3.3**
BARC Barichara 12.14 69 P **Pn 00 50 43.2 +0.8**
JAYA Jayaque - finc 12.31 337 P **Pn 00 50 48.4 +3.8**
PMON Piamonte 12.31 338 P **Pn 00 50 48.7 +4.1**
PAMC Pamplona, Colo 12.86 66 P **Pn 00 50 55.8 +3.4**
MTO3 Montecristo 12.96 339 **Pn 00 50 55.9 +2.3**
ESQI Esquipulas 13.10 339 Pn **Pn 00 50 58.3 +2.9**
RTAL Retalhuleu 14.08 330 Pn **Pn 00 51 11.2 +2.6**
HUEH Huehuetenango 14.67 333 P **P 00 51 24.3 +1.3**
SDV Santo Domingo 15.35 64 **Pn 00 51 25.0 -0.9**
SDV Santo Domingo 15.35 64 Pn **Pn 00 51 24.1 -1.9**
0.3nm,0.3s,baz=231,slow=14,SNR=6.5
SDV LR LR 00 56 54.7
comp=Z,420nm,20.1s,baz=250,slow=36
5.5nm,0.8s
SDV Santo Domingo 15.35 64 P **Pn 00 51 24.7 -1.2**
433nm30nm,1.2s
SDV Santo Domingo 15.35 64 *eP* **Pn 00 51 24.4 -1.6**
CZSB Cruzeiro do Su 15.44 130 **Pn 00 51 24.4 -2.6**
CZSB IAmb IAmb 00 51 33.8
comp=Z,55nm,1.2s
CZSB Cruzeiro do Su 15.44 130 P **Pn 00 51 25.4 -1.6**
comp=Z,41nm,1.1s
CZSB Cruzeiro do Su 15.44 130 *eP* **Pn 00 51 24.0 -3.0**
PETF Flores 15.47 341 **Pn 00 51 29.6 +2.2**
URIC Uribia, Colomb 15.61 52 P **Pn 00 51 27.5 -1.6**
comp=Z,47nm,1.2s
CCIG Comitan 15.81 332 **Pn 00 51 33.5 +1.6**
TBTG Tabatinga, AM 15.99 114 Pn **Pn 00 51 31.2 -2.8**
TBTG IAmb IAmb 00 51 38.6
comp=Z,44nm,1.0s
TBTG Tabatinga, AM 15.99 114 *eP* **Pn 00 51 30.5 -3.6**
BAUV El Baul 17.73 67 P **Pn 00 51 56.0 0.0**
TEIG Tepich 18.23 349 P **P 00 52 02.7 +0.6**
TEIG IAmb IAmb 00 52 03.9
comp=Z,59nm,1.2s
CHIV Chivirico 19.33 24 P **P 00 52 15.6 +1.4**
CHIV IAmb IAmb 00 52 20.4
comp=Z,38nm,1.2s
PAPH Port-au-Prince 20.15 36 P **P 00 52 24.7 +1.5**
NMDO Nuevo Mundo 20.46 27 P **P 00 52 27.5 +1.0**
NMDO IAmb IAmb 00 52 30.6
comp=Z,26nm,1.1s
TLIG Tlapa 20.50 319 P Pn 00 52 29.3 -0.1
TLIG IAmb IAmb 00 52 31.5
comp=Z,58nm,1.3s
TEFE Tefe 20.73 106 *eP* **P 00 52 27.7 -1.8**
SDDR Presa de Saban 21.11 37 P **P 00 52 35.3 +1.7**
BANI BANI 21.24 40 P **P 00 52 35.7 +0.5**
BANI IAmb IAmb 00 52 38.2
comp=Z,43nm,0.9s
PCRV Puerto La Cruz 21.31 67 LR LR 01 02 08.2
comp=Z,136nm,19.2s,slow=40
SC01 Santiago de lo 21.79 37 P **P 00 52 43.1 +2.3**
OBIP Obispado Ponce 23.59 47 P **P 00 53 00.2 +0.5**
UUPR Utuado, UPR, P 23.64 47 P **P 00 53 01.2 +1.1**
UUPR IAmb IAmb 00 53 07.2
comp=Z,16nm,0.9s
AOPR Arecibo Observ 23.68 46 P **P 00 53 02.1 +1.6**
AOPR IAmb IAmb 00 53 10.0
comp=Z,27nm,0.9s
IGPR InterUniversit 23.91 48 P **P 00 53 03.8 +1.1**
IGPR IAmb IAmb 00 53 05.4
comp=Z,24nm,1.0s

SJG San Juan 23.97 48 P **P 00 53 03.4 +1.0**
SJG San Juan 23.97 48 LR LR 01 02 05.3
comp=Z,141nm,21.6s,baz=238,slow=36
BOAV Boa Vista 24.03 89 P **P 00 53 03.8 0.0**
BOAV Boa Vista 24.03 89 *eP* **P 00 53 03.3 -0.6**
SAML Samuel 24.05 118 P **P 00 53 02.6 -1.4**
SAML IAmb IAmb 00 53 15.2
comp=Z,30nm,1.3s
SAML Samuel 24.05 118 *eP* **P 00 53 03.8 -0.2**
MACA Manacapuru-AM 24.47 103 P **P 00 53 06.6 -1.4**
MACA IAmb IAmb 00 53 20.4
comp=Z,39nm,1.4s
MACA Manacapuru-AM 24.47 103 *eP* **P 00 53 07.8 -0.2**
LPAZ La Paz 24.56 139 P **P 00 53 09.3 -0.1**
LPAZ IAmb IAmb 00 53 12.9
comp=Z,27nm,1.4s
LPAZ La Paz 24.56 139 P **P 00 53 09.8 +0.4**
comp=Z,18nm,1.2s,baz=340,slow=12,SNR=22
LPAZ LR LR 01 03 41.1
comp=Z,597nm,18.1s,baz=316,slow=39
comp=Z,18nm,1.2s
LPAZ La Paz 24.56 139 *eP* **P 00 53 11.4 +2.0**
LPAZ La Paz 24.56 139 P **P 00 53 09.6 +0.2**
PB16 IPOC Station P 25.27 145 P **P 00 53 13.3 -2.4**
PB11 IPOC Station P 26.33 147 P **P 00 53 23.5 -1.4**
PB11 IAmb IAmb 00 53 28.9
comp=Z,22nm,1.1s
GO01 Chusmiza 26.51 146 P **P 00 53 25.5 -1.3**
SIV San Ignacio 29.46 129 P **P 00 53 52.9 +0.1**
comp=Z,2.0nm,1.0s,baz=299,slow=12,SNR=4.7
SIV LR LR 01 06 12.5
comp=Z,914nm,18.5s,baz=342,slow=38
comp=Z,2.0nm,1.0s
HKT Hockley 29.55 340 P **P 00 53 54.2 +0.9**
HKT IAmb IAmb 00 53 56.6
comp=Z,25nm,1.5s
ITTB Itaituba 29.55 103 *eP* **P 00 53 52.9 -0.8**
250A Grady 29.61 357 P **P 00 53 55.3 +1.4**
LRAL Lakeview Retre 30.70 356 P **P 00 54 03.9 +0.4**
GOGA Godfrey 31.01 2 P **P 00 54 06.9 +0.6**
GOGA IAmb IAmb 00 54 11.8
comp=Z,8.2nm,1.0s
DRIO Del Rio 31.03 332 P **P 00 54 07.8 +1.3**
Y45A Yeager Farm, C 31.79 352 P **P 00 54 14.2 +1.0**
BRDY Brady 31.93 336 P **P 00 54 14.6 +0.2**
BRDY IAmb IAmb 00 54 16.6
comp=Z,13nm,1.1s
WLAR White Oak Lake 32.28 347 **P 00 54 18.4 +1.0**
TXAR Lajitas Array 32.48 328 P **P 00 54 21.0 +1.5**
TXAR Lajitas Array 32.48 328 P **P 00 54 19.9 +0.5**
comp=Z,1.8nm,0.7s,baz=144,slow=9.1,SNR=24
TXAR LR LR 01 06 19.5
comp=Z,107nm,21.4s,baz=141,slow=34
comp=Z,1.8nm,0.7s
TX31 Lajitas Ar. Si 32.49 328 P **P 00 54 20.3 +0.8**
OZNA Ozona 32.53 333 P **P 00 54 20.7 +1.0**
KMSC Kings Mountain 32.86 5 P **P 00 54 23.0 +0.5**
LPIG La Paz 33.03 313 LR LR 01 05 32.2
comp=Z,115nm,18.2s,baz=182,slow=32
TKL Tuckaleechee C 33.24 1 LR LR 01 07 28.9
comp=Z,67nm,18.9s,baz=184,slow=36
ALPN Alpine 33.30 329 P **P 00 54 27.4 +0.8**
ABTX Abilene, Hawle 33.37 336 P **P 00 54 27.6 +0.6**
ABTX IAmb IAmb 00 54 28.5
comp=Z,9.0nm,0.9s
SGCY Sterling City 33.37 334 P **P 00 54 27.8 +0.7**
SGCY IAmb IAmb 00 54 28.9
comp=Z,15nm,1.2s
V48A Smith Brothers 33.38 357 P **P 00 54 26.5 -0.6**
V48A IAmb IAmb 00 54 28.0
comp=Z,7.8nm,0.8s
MNHN Monahans 33.65 331 P **P 00 54 30.5 +0.9**
MNHN IAmb IAmb 00 54 31.7
comp=Z,14nm,1.0s
WTFS Witchita Falls 33.94 339 P **P 00 54 32.4 +0.5**
U49A Red Boiling Sp 34.11 358 P **P 00 54 33.8 +0.4**
U49A IAmb IAmb 00 54 36.8
comp=Z,14nm,1.2s
APMT Aspermont 34.17 336 P **P 00 54 34.3 +0.3**
APMT IAmb IAmb 00 54 36.2
comp=Z,14nm,1.1s
ODSA Odessa 34.19 332 P **P 00 54 34.4 +0.1**
ODSA IAmb IAmb 00 54 35.9
comp=Z,9.0nm,1.1s
U54A Nelsons Funny 34.19 4 P **P 00 54 35.3 +1.1**
LCAR Lake Charles 34.20 350 P **P 00 54 34.3 +0.2**
LCAR IAmb IAmb 00 54 34.8
comp=Z,13nm,1.0s
PECS Pecos 34.22 330 P **P 00 54 35.5 +1.0**
SN07 Snyder 07 34.28 335 P **P 00 54 35.7 +0.7**
SN07 IAmb IAmb 00 54 36.6
comp=Z,7.4nm,0.7s
VHRN Van Horn 34.33 328 P **P 00 54 36.8 +1.2**
POST Post 34.52 334 P **P 00 54 38.0 +0.9**
POST IAmb IAmb 00 54 38.7
comp=Z,12nm,0.9s
DKNS Dickens 34.80 336 P **P 00 54 40.8 +1.4**
WMOK Wichita Mounta 34.92 339 P **P 00 54 41.4 +0.9**
T42A Van Buren 35.12 351 P **P 00 54 42.0 -0.1**
T42A IAmb IAmb 00 54 42.7
comp=Z,12nm,1.0s
CGM3 Cape Girardeau 35.19 353 P **P 00 54 42.1 -0.5**
CGM3 IAmb IAmb 00 54 43.1
comp=Z,9.4nm,1.0s
U38A Gravette 35.21 346 P **P 00 54 42.6 -0.3**
MNTX Cornudas Mount 35.26 328 P **P 00 54 44.3 +0.9**
MNTX IAmb IAmb 00 54 45.5
comp=Z,16nm,1.1s
MURT Porto Murtinho 35.49 133 *eP* **P 00 54 48.0 +2.4**
S54A Dingess, Beckl 35.50 4 P **P 00 54 45.5 0.0**
SIUC Southern Illin 35.55 354 P **P 00 54 45.5 -0.2**
SIUC IAmb IAmb 00 54 46.8
comp=Z,17nm,1.1s
CPRX Cap Rock 35.57 331 **P 00 54 47.4 +1.2**
USIN University of 35.65 356 P **P 00 54 45.9 -0.8**
PRPB Parauapebas 35.70 104 *eP* **P 00 54 48.2 +0.8**
SMWD Samnorwood 35.79 338 **P 00 54 48.3 +0.3**
MSTX Muleshoe 35.84 334 P **P 00 54 48.4 -0.1**
MSTX IAmb IAmb 00 54 50.2
comp=Z,13nm,1.1s
H03N2 Juan Fernandez 35.90 172 T T 01 32 54.2
baz=351,slow=76,SNR=41
H03N1 Juan Fernandez 35.90 172 T T 01 32 54.2
baz=351,slow=76,SNR=44
H03N3 Juan Fernandez 35.92 172 T T 01 32 46.9
baz=351,slow=76,SNR=48
CCM Cathedral Cave 36.15 351 P **P 00 54 50.3 -0.7**
CCM IAmb IAmb 00 54 51.8
comp=Z,17nm,0.9s
AMTX Amarillo 36.16 336 P **P 00 54 51.5 +0.2**
OLIL Olney 36.45 355 P **P 00 54 53.6 +0.2**
OK038 West end E0370 36.49 341 P **P 00 54 53.8 -0.1**
R40A Maddies Statio 36.55 350 P **P 00 54 54.0 -0.4**
R40A IAmb IAmb 00 55 04.1
comp=Z,14nm,1.4s
Q51A Peebles 36.62 2 IAmb IAmb 00 54 55.5
comp=Z,16nm,0.9s
KAN14 Manchester OK 36.68 342 P **P 00 54 54.2 -1.2**
NOKA Waynoka 36.69 340 P **P 00 54 56.3 +0.7**
Q44A Meyer Farm, Va 36.70 354 **P 00 54 56.0 +0.4**
KAN05 Bluff City Nor 36.79 342 P **P 00 54 57.0 +0.6**
319A Douglas 37.19 324 IAmb IAmb 00 55 03.2
comp=Z,18nm,1.0s
P43A Skaggs, Pawnee 37.48 354 P **P 00 55 02.0 -0.2**
P40A Paris 37.72 351 **P 00 55 03.8 -0.5**
P40A IAmb IAmb 00 55 05.0
comp=Z,15nm,0.9s
CRNM Carthage 37.73 329 P **P 00 55 06.4 +1.8**
BNM Barren Site 37.83 329 **P 00 55 07.2 +1.6**
RTBA Rita Blanca 37.93 336 **P 00 55 06.5 +0.2**
RTBA IAmb IAmb 00 55 08.9
comp=Z,16nm,0.9s
DUN6 Lazy B Ranch 37.94 325 P **P 00 55 07.6 +1.2**
SBM South Baldy 37.98 329 P **P 00 55 07.5 +0.4**
SFIN Lafayette 38.02 357 IAmb IAmb 00 55 06.6
comp=Z,18nm,1.0s
P38A Dawn 38.08 349 P **P 00 55 07.0 -0.3**
P38A IAmb IAmb 00 55 08.0
comp=Z,16nm,1.1s
HDIL Hopedale 38.37 354 P **P 00 55 08.7 -1.1**
ANMO Albuquerque 38.37 330 **P 00 55 11.3 +1.1**
ANMO IAmb IAmb 00 55 12.8
comp=Z,12nm,0.9s
ANMO Albuquerque 38.37 330 P **P 00 55 11.5 +1.3**

ANMO IAmb IAmb 00 55 12.9
comp=Z,12nm,0.9s
ANMO Albuquerque 38.37 330 **P 00 55 11.5 +1.3**
ANMO IAmb IAmb 00 55 12.9
comp=Z,13nm,1.0s
ANMO Albuquerque 38.37 330 LR LR 01 10 51.8
comp=Z,71nm,20.8s,baz=300,slow=36
TUC Tucson 38.75 323 P **P 00 55 14.1 +0.9**
CBKS Cedar Bluff 38.94 341 **P 00 55 14.6 0.0**
N38A Joes South For 39.16 350 P **P 00 55 15.8 -0.6**
N38A IAmb IAmb 00 55 17.2
comp=Z,19nm,0.9s
T25A Trinidad 39.23 335 **P 00 55 16.7 -0.6**
T25A IAmb IAmb 00 55 20.4
comp=Z,16nm,1.0s
L42A Oliver, Polo 39.84 354 P **P 00 55 21.0 -1.0**
L42A IAmb IAmb 00 55 22.2
comp=Z,21nm,0.9s
X18A Snowflake 39.88 326 P **P 00 55 24.2 +1.5**
X18A IAmb IAmb 00 55 25.7
comp=Z,12nm,0.9s
KSCO Kaye Shedlock' 40.12 338 P **P 00 55 25.8 +1.2**
SDCO Great Sand Dun 40.21 334 P **P 00 55 26.8 +1.2**
SDCO IAmb IAmb 00 55 28.3
comp=Z,18nm,1.0s
BDFB Brasilia 40.28 117 LR LR 01 12 17.3
comp=Z,356nm,18.5s,baz=256,slow=36
X16A Lo Mia Camp, P 40.64 325 **P 00 55 30.2 +1.2**
S22A 4UR Ranch, Cre 40.81 333 **P 00 55 28.5 -2.0**
113A Mohawk Valley, 40.89 321 P **P 00 55 32.2 +1.4**
113A IAmb IAmb 00 55 33.7
comp=Z,10nm,0.9s
IPMB Ipameri, GO 41.07 121 *eP* **P 00 55 33.0 +0.4**
MVCO Mesa Verde 41.17 331 **P 00 55 34.4 +1.0**
MVCO IAmb IAmb 00 55 37.1
comp=Z,24nm,1.4s
Y14A Wickenburg 41.22 323 **P 00 55 33.9 +0.3**
Y14A IAmb IAmb 00 55 36.5
comp=Z,17nm,1.0s
WUAZ Wupatki 41.40 326 P **P 00 55 36.0 +0.8**
WUAZ IAmb IAmb 00 55 38.2
comp=Z,20nm,0.9s
ITQB Itaqui 41.50 142 *eP* P 00 55 40.4 +4.6
I40A Norwalk 41.81 353 P **P 00 55 37.5 -0.8**
I40A IAmb IAmb 00 55 38.4
comp=Z,9.3nm,0.7s
ISCO Idaho Springs 41.98 336 P **P 00 55 40.5 +0.4**
SDBA SAO DESIDERIO 42.00 111 *eP* **P 00 55 39.5 -0.8**
BLYC Blythe 42.02 322 P **P 00 55 41.3 +1.2**
PV15 Paradox Valley 42.06 332 P **P 00 55 41.9 +1.2**
PV15 IAmb IAmb 00 55 43.5
comp=Z,22nm,1.2s
PV13 Radium Mtn., P 42.08 331 P **P 00 55 42.1 +1.2**
PV13 IAmb IAmb 00 55 43.5
comp=Z,12nm,1.0s
BRIGG Briggsdale 42.13 337 P **P 00 55 42.2 +1.1**
PV11 David Mesa, Pa 42.21 331 P **P 00 55 42.0 +0.1**
PV11 IAmb IAmb 00 55 44.3
comp=Z,26nm,1.4s
PV07 Paradox Valley 42.22 332 **P 00 55 42.7 +0.7**
PV07 IAmb IAmb 00 55 44.0
comp=Z,9.4nm,0.8s
PV10 Paradox Valley 42.35 331 P **P 00 55 42.5 -0.6**
PV10 IAmb IAmb 00 55 44.8
comp=Z,20nm,1.2s
PV23 Carpenter Ridg 42.40 331 P **P 00 55 43.6 +0.1**
PV23 IAmb IAmb 00 55 45.8
comp=Z,18nm,1.1s
K30B Basset 42.43 344 **P 00 55 44.2 +0.7**
CBX Cerro Bola 42.47 318 P **P 00 55 44.1 +0.1**
CBX IAmb IAmb 00 55 47.2
comp=Z,21nm,1.2s
W13A Hualapai Mount 42.54 324 **P 00 55 45.6 +1.0**
W13A IAmb IAmb 00 55 47.7
comp=Z,12nm,0.9s
U15A North Rim 42.57 326 **P 00 55 45.9 +0.9**
U15A IAmb IAmb 00 55 48.1
comp=Z,16nm,1.1s
ECSD EROS Data Cent 42.67 347 **P 00 55 44.6 -0.7**
ECSD IAmb IAmb 00 55 45.9
comp=Z,16nm,1.1s
ITAB Concordia 42.85 135 *eP* **P 00 55 50.1 +3.1**
HMU Henry Mountain 42.86 329 P **P 00 55 48.3 +1.0**
HMU IAmb IAmb 00 55 50.9
comp=Z,21nm,1.2s
G40A Rib Lake 43.12 354 P **P 00 55 47.9 -1.0**
PFO Pinyon Flats O 43.15 320 P **P 00 55 50.6 +1.1**
PFO Pinyon Flats O 43.15 320 LR LR 01 12 11.5
comp=Z,144nm,21.5s,baz=66,slow=34
BUKO Buck Lake 43.25 5 P **P 00 55 49.6 -0.3**
BUKO IAmb IAmb 00 55 49.8
comp=Z,16nm,1.1s
KNB Kanab 43.29 326 P **P 00 55 51.3 +0.6**
KNB IAmb IAmb 00 55 53.7
comp=Z,16nm,1.1s
O20A White River Ci 43.39 333 **P 00 55 52.4 +1.0**
JANB Januaria 43.40 115 *eP* **P 00 55 52.5 +0.9**
SPMN Marine on St. 43.40 352 P **P 00 55 50.2 -0.9**
LCMT Little Creek M 43.52 326 P **P 00 55 53.1 +0.7**
V12A Nelson 43.55 323 **P 00 55 53.9 +1.2**
V12A IAmb IAmb 00 55 55.3
comp=Z,14nm,0.9s
SRU San Rafael Swe 43.65 330 P **P 00 55 54.4 +0.9**
SRU IAmb IAmb 00 55 55.8
comp=Z,9.2nm,1.0s
MTPU Mount Pierson 43.69 328 **P 00 55 54.1 0.0**
Q16A Castle Valley 43.83 330 **P 00 55 56.3 +1.3**
COWI Conover 43.85 355 P **P 00 55 55.6 +0.8**
SUSD Miller 43.90 345 P **P 00 55 54.9 -0.4**
P18A Preston Nutter 43.92 331 P **P 00 55 56.3 +0.5**
MSU Marysvale 44.04 328 P **P 00 55 57.8 +1.1**
MVU Marysvale 44.05 328 P **P 00 55 57.3 +0.5**
MVU IAmb IAmb 00 55 59.5
comp=Z,11nm,1.1s
TMUT Trail Mountain 44.13 330 P **P 00 55 58.4 +0.8**
TCRU Three Creeks R 44.25 328 P **P 00 55 58.6 +0.2**
SHPR Sheep Range 44.26 324 **P 00 55 59.0 +0.5**
RDMU Red Mountain 44.34 333 P **P 00 55 59.6 +0.5**
RDMU IAmb IAmb 00 56 00.9
comp=Z,13nm,0.9s
GSC Goldstone, Bar 44.45 321 P **P 00 56 01.1 +1.2**
F33A 5 Mile Ranch, 44.61 348 **P 00 56 00.5 -0.4**
PLCA Paso Flores 44.66 165 P **P 00 56 03.5 +2.2**
comp=Z,1.7nm,0.8s,baz=21,slow=8.5,SNR=2.9
PLCA LR LR 01 11 26.5
comp=Z,91nm,18.7s,baz=338,slow=32
comp=Z,1.7nm,0.8s
K22A Casper 44.76 337 P **P 00 56 03.3 +1.0**
K22A IAmb IAmb 00 56 04.2
comp=Z,14nm,1.2s
PRN Pahroc Range 44.82 325 P **P 00 56 03.6 +0.8**
PRN IAmb IAmb 00 56 12.1
comp=Z,13nm,1.4s
BSUT Blindstream Ca 44.87 332 **P 00 56 04.2 +0.7**
MPU Maple Canyon 44.90 330 P **P 00 56 03.5 0.0**
GWY Greenwater Val 44.95 323 P **P 00 56 04.8 +0.8**
PSUT Pine Spring 44.95 327 **P 00 56 04.8 +0.9**
PSUT IAmb IAmb 00 56 06.6
comp=Z,7.8nm,1.0s
CCAC Calif City Air 45.12 320 P **P 00 56 06.0 +0.8**
TPNV Topopah Spring 45.20 324 **P 00 56 06.4 +0.5**
TPNV IAmb IAmb 00 56 08.9
comp=Z,6.9nm,0.9s
WCT Wildcat Mounta 45.32 323 P **P 00 56 07.5 +0.7**
WCT IAmb IAmb 00 56 09.8
comp=Z,10nm,1.1s
S11A Rachel 45.38 325 P **P 00 56 07.0 -0.3**
S11A IAmb IAmb 00 56 09.8
comp=Z,9.8nm,0.9s
DUG Dugway, Tooele 45.62 330 P **P 00 56 10.1 +0.9**
TCUT Toone Canyon 45.63 331 P **P 00 56 09.7 +0.3**
R11B Troy Canyon, C 45.77 326 **P 00 56 10.1 -0.4**
BCW Bitter Crk WRg 45.89 319 P **P 00 56 11.4 0.0**
GRAC Grapevine Rang 45.90 323 P **P 00 56 11.9 +0.6**
GRAC IAmb IAmb 00 56 14.3
comp=Z,11nm,1.0s
EYMN Ely 45.91 354 IAmb IAmb 00 56 11.5
comp=Z,8.5nm,1.0s
HWUT Hardware Ranch 46.09 332 P **P 00 56 13.3 +0.4**
VLDQ Val d'Or 46.09 7 P **P 00 56 13.6 +1.1**
VLDQ IAmb IAmb 00 56 16.7
comp=Z,10nm,1.1s
BW06 Boulder Array 46.10 334 P **P 00 56 12.7 -0.4**
BW06 IAmb IAmb 00 56 14.2

comp=Z,7.5nm,1.1s
PD31 Pinedale Array 46.10 334 P P 00 56 12.6 -0.5
PD31 IAmb IAmb 00 56 14.3
comp=Z,7.4nm,1.1s
PDAR Pinedale Array 46.10 334 P 00 56 13.2 +0.2
PDAR Pinedale Array 46.10 334 P P 00 56 13.4 +0.4
comp=Z,2.9nm,0.8s,baz=132,slow=8.8,SNR=22
PDAR LR LR 01 16 11.1
comp=Z,184nm,19.4s,baz=146,slow=37
comp=Z,2.9nm,0.8s
BGU Big Grassy Mou 46.28 330 P P 00 56 15.1 +0.7
BGU IAmb IAmb 00 56 16.4
comp=Z,7.0nm,0.8s
E28A Huff 46.33 345 P P 00 56 14.9 +0.4
TBO Thunder Bay 46.40 356 P 00 56 14.6 -0.5
DSP Deep Springs 46.51 323 P 00 56 16.7 +0.7
AHID Auburn Hatcher 46.78 333 P P 00 56 18.6 +0.2
ELK Elko 47.28 328 IAmb IAmb 00 56 24.4
comp=Z,5.9nm,0.9s
ELK Elko 47.28 328 LR LR 01 16 09.7
comp=Z,329nm,18.7s,baz=138,slow=36
TPAW Teton Pass 47.29 334 IAmb IAmb 00 56 33.9
comp=Z,8.4nm,1.1s
NVAR Mina Array Bea 47.40 324 P P 00 56 24.7 +1.4
comp=Z,6.2nm,0.8s,baz=130,slow=7.5,SNR=43
NVAR LR LR 01 16 19.0
comp=Z,121nm,18.2s,baz=154,slow=36
comp=Z,6.2nm,0.8s
LHV Little Huntoon 47.41 323 P P 00 56 24.4 +1.4
MOOW Moose Ponds 47.41 334 P P 00 56 23.1 -0.2
FXWY Fox Creek 47.44 334 P P 00 56 23.6 +0.1
RYN Ryan 47.66 324 P P 00 56 25.7 +0.4
RYN IAmb IAmb 00 56 27.8
comp=Z,7.5nm,1.1s
H17A Grant Village 47.85 335 P P 00 56 27.5 +0.8
CMC01 Camacan, BA 47.87 113 *e*P **P 00 56 26.9 -0.1**
RLMT Red Lodge 47.91 337 P P 00 56 27.2 +0.1
YFT Old Faithful 48.01 335 P P 00 56 29.0 +1.0
YFT IAmb IAmb 00 56 30.7
comp=Z,7.3nm,1.0s
LAO LASA Array 48.11 340 P P 00 56 28.9 +0.4
LAO IAmb IAmb 00 56 29.8
comp=Z,6.6nm,0.8s
YNE Yellowstone No 48.11 336 IAmb IAmb 00 56 29.9
comp=Z,5.3nm,0.9s
WAKR Walker 48.13 323 P P 00 56 28.6 -0.3
YMR Madison River 48.24 335 IAmb IAmb 00 56 34.3
comp=Z,7.6nm,0.9s
YHB Horse Butte 48.40 335 P P 00 56 31.9 +0.9
YHB IAmb IAmb 00 57 09.7
comp=Z,6.2nm,1.0s
CMB Columbia Colle 48.41 322 P P 00 56 31.4 +0.5
YHL Hebgen Lake 48.48 335 P 00 56 32.1 +0.5
YHL IAmb IAmb 00 56 34.1
comp=Z,8.9nm,1.1s
ULM Lac du Bonnet 48.78 350 P 00 56 32.5 -0.9
ULM Lac du Bonnet 48.78 350 P P 00 56 33.4 0.0
comp=Z,15nm,0.8s,baz=164,slow=7.7,SNR=18
comp=Z,15nm,0.8s
HLID Hailey 48.94 331 P P 00 56 35.5 +0.4
RCBR Riachuelo 49.26 100 LR LR 01 17 55.2
comp=Z,58nm,18.1s,baz=240,slow=37
BOZ Bozeman (W) 49.26 335 P P 00 56 37.3 -0.2
BOZ IAmb IAmb 00 56 39.2
comp=Z,7.9nm,0.8s
DLMT Dillon 49.49 334 P P 00 56 40.1 +0.9
MFID Camas Ranch 49.52 330 P P 00 56 40.4 +1.0
BEKR Beckworth 49.55 324 P P 00 56 40.1 +0.3
ORV Oroville 50.04 323 P P 00 56 43.5 +0.2
ORV IAmb IAmb 00 56 45.9
comp=Z,11nm,1.1s
WVOR Wild Horse Val 50.28 327 IAmb IAmb 00 56 46.9
comp=Z,13nm,1.1s
PLID Pearl Lake 50.83 332 IAmb IAmb 00 56 50.3
comp=Z,7.6nm,0.8s
I07A Izee 51.87 328 P 00 56 57.5 +0.4
F10A Beach Ranch, E 52.07 332 IAmb IAmb 00 57 00.5
comp=Z,10nm,0.9s
J05D Fort Rock, OR 52.27 327 IAmb IAmb 00 57 02.5
comp=Z,15nm,1.1s
PINE Pine Mountain 52.44 327 P P 00 57 01.0 -0.5
PINE IAmb IAmb 00 57 06.2
comp=Z,12nm,1.1s
LNOR Lincton Mounta 52.51 331 P P 00 57 01.8 +0.1
NEW Newport 53.71 334 LR LR 01 20 37.8
comp=Z,100nm,20.2s,baz=141,slow=37
MXC Moxie City 53.99 330 P P 00 57 12.7 +0.1
MXC IAmb IAmb 00 57 21.8
comp=Z,12nm,1.3s
LLLB Lillooet 57.56 333 P P 00 57 38.3 +0.1
LLLB IAmb IAmb 00 57 40.2
comp=Z,11nm,1.0s
BLKN Baker Lake 62.49 354 IAmb IAmb 00 58 12.8
comp=Z,8.9nm,1.2s
YKAW1 Yellowknife Wh 64.09 345 P P 00 58 22.6 +0.3
YKAW1 IAmb IAmb 00 58 23.6
comp=Z,9.2nm,0.9s
YKA Yellowknife Ar 64.14 345 P P 00 58 22.2 -0.3
comp=Z,4.7nm,0.9s,baz=143,slow=6.8,SNR=62
YKA LR LR 01 28 56.2
comp=Z,62nm,18.2s,baz=229,slow=39
comp=Z,4.7nm,0.9s
YKAW3 Yellowknife Wh 64.19 345 P P 00 58 22.3 -0.7
YKAW3 IAmb IAmb 00 58 23.8
comp=Z,6.7nm,0.9s
PPT Papeete 66.98 250 LR LR 01 20 14.9
comp=Z,164nm,18.7s,baz=6.5,slow=29
PPT2 Papeete2 66.99 250 *e*LR LR 01 18 46.7
comp=Z,276nm,25.8s
PPT2 *e*LR LR 01 18 47.3
comp=Z,248nm,26.8s
ILON Igloolik, Nuna 67.03 1 P 00 58 41.0 -0.2
ILON IAmb IAmb 00 58 44.7
comp=Z,5.4nm,1.0s
R33M Jennings River 67.28 336 P 00 58 44.0 +0.9
TBI Tubuai 68.02 244 *e*LR LR 01 19 15.6
comp=Z,570nm,27.0s
P33M Teslin, Yukon 68.53 336 P P 00 58 51.4 +0.5
MMPY Sheldon Lake, 69.42 339 P P 00 58 57.7 +1.4
MMPY IAmb IAmb 00 59 05.1
comp=Z,9.1nm,1.4s
M30M Minto, Yukon 71.46 337 P P 00 59 09.2 +0.4
M29M Somme Creek 72.03 337 P 00 59 13.8 +1.4
M29M IAmb IAmb 00 59 14.8
comp=Z,7.3nm,1.0s
L29M L29M 72.26 337 IAmb IAmb 00 59 15.7
comp=Z,10.0nm,1.1s
K29M Barlow Dome 72.43 338 P P 00 59 15.4 +0.6
H31M Peel River 72.45 341 IAmb IAmb 00 59 16.9
comp=Z,9.1nm,1.2s
RES Resolute Bay 72.61 357 LR LR 01 32 07.5
comp=Z,55nm,18.2s,baz=15,slow=37
I30M Mount Dempster 72.80 340 IAmb IAmb 00 59 20.6
comp=Z,7.7nm,1.1s
G31M Satah River 73.10 342 IAmb IAmb 00 59 23.6
comp=Z,7.3nm,0.9s
F31M Tsiigehtchic 73.25 342 IAmb IAmb 00 59 28.3
comp=Z,12nm,1.2s
M27K Edge Creek, AK 73.36 336 IAmb IAmb 00 59 22.7
comp=Z,9.5nm,1.2s
EPYK Eagle Plains 73.57 341 P 00 59 21.8 +0.5
BCAR Beaver Creek A 73.67 336 P P 00 59 22.4 +0.4
L27K Beaver Creek, 73.69 336 IAmb IAmb 00 59 31.6
comp=Z,10nm,1.4s
INK Inuvik 73.73 343 LR LR 01 33 17.9
comp=Z,110nm,19.3s,baz=240,slow=37
A36M Sachs Harbour 74.16 348 IAmb IAmb 00 59 26.2
comp=Z,9.5nm,1.1s
I28M Miner Creek 74.17 339 P 00 59 26.6 +1.7
I28M IAmb IAmb 00 59 42.6
comp=Z,9.2nm,1.4s
K27K Chicken 74.25 337 P P 00 59 26.2 +0.9
G29M Pine Creek 74.30 341 IAmb IAmb 00 59 34.5
comp=Z,12nm,1.2s
MENT Mentasta 74.39 336 P P 00 59 25.9 -0.2
MENT IAmb IAmb 00 59 47.8
comp=Z,6.5nm,0.7s
DIV Divide 74.47 334 P P 00 59 27.6 +0.9
DIV IAmb IAmb 00 59 30.5
comp=Z,14nm,1.4s
DOT Dot Lake 74.85 337 P 00 59 30.0 +1.1
DOT IAmb IAmb 00 59 30.8
comp=Z,6.0nm,1.0s
SCRK Sand Creek 74.97 337 P P 00 59 30.3 +0.7
J26L Joseph Creek 75.05 337 P P 00 59 30.2 +0.2
J26L **pP 00 59 31.2 -6.2**
J26L IAmb IAmb 00 59 32.2
comp=Z,9.0nm,1.1s
E29M Blow River 75.09 342 IAmb IAmb 00 59 37.6
comp=Z,9.8nm,1.3s
PAX Paxson 75.12 336 P P 00 59 30.5 0.0
H27K Steamboat Moun 75.13 339 P P 00 59 30.9 +0.5
H27K IAmb IAmb 00 59 33.2
comp=Z,9.3nm,1.4s
RIDG Independent Ri 75.20 336 P P 00 59 31.5 +0.6
I26K Coal Creek Min 75.27 338 P P 00 59 31.9 +0.7
I26K IAmb IAmb 00 59 32.7
comp=Z,11nm,1.5s
E28M Babbage River 75.71 342 IAmb IAmb 00 59 41.2
comp=Z,7.4nm,1.3s
SUMG Summit 75.76 13 P P 00 59 34.7 +0.3
SUMG IAmb IAmb 00 59 37.6
comp=Z,14nm,1.5s
KNK Knik Glacier 75.77 334 P P 00 59 34.9 +0.7
KNK IAmb IAmb 00 59 35.9
comp=Z,9.7nm,1.0s
J25K Salcha River, 75.80 337 P P 00 59 35.0 +0.8
J25K **P 00 59 35.1 +0.8**
SML Sawmill 75.87 334 P P 00 59 34.7 0.0
E27K Coleen River 76.14 341 IAmb IAmb 00 59 37.8
comp=Z,6.0nm,1.1s
RC01 Rabbit Creek A 76.23 333 P P 00 59 36.9 +0.2
RC01 IAmb IAmb 00 59 37.8
comp=Z,11nm,1.4s
PRP Porcupine Dome 76.25 338 P P 00 59 37.5 +0.5
BRLK Bradley Lake 76.30 332 P P 00 59 37.8 +0.6
BRLK IAmb IAmb 00 59 38.8
comp=Z,8.2nm,1.0s
HDA Harding Lake 76.33 337 P P 00 59 37.5 +0.3
HDA IAmb IAmb 00 59 38.5
comp=Z,9.6nm,1.1s
IL31 76.45 337 P P 00 59 38.4 +0.5
IL31 IAmb IAmb 00 59 38.7
comp=Z,6.7nm,1.2s
IL31 **pP 00 59 38.9 -6.3**
ILAR Eielson Array 76.45 337 P P 00 59 37.8 -0.1
ILAR Eielson Array 76.45 337 P P 00 59 38.4 +0.4
comp=Z,2.2nm,0.9s,baz=129,slow=4.1,SNR=18
ILAR LR LR 01 34 46.8
comp=Z,128nm,20.1s,baz=108,slow=37
comp=Z,2.2nm,0.9s
D27M Malcolm River 76.49 342 P 00 59 38.9 +0.8
KDAK Kodiak Island 76.50 329 LR LR 01 34 02.0
comp=Z,69nm,18.6s,baz=296,slow=36
M22K Willow 76.64 334 P P 00 59 38.8 -0.2
RND Reindeer 76.70 335 P P 00 59 39.5 +0.1
F26K Sheenjek River 76.75 340 IAmb IAmb 00 59 43.3
comp=Z,7.9nm,1.4s
BMAR Burnt Mountain 76.77 340 P P 00 59 40.1 +0.4
BORG Borgarnes 76.80 23 LR LR 01 32 39.0
comp=Z,18nm,19.1s,baz=152,slow=35
SUA Susitna One 76.82 333 P P 00 59 41.1 +0.9
F25K Christian Rive 77.21 340 IAmb IAmb 00 59 51.0
comp=Z,6.8nm,1.4s
NEA2 Nenana 77.24 336 P P 00 59 42.4 0.0
H24K Noodor Dome 77.27 338 P P 00 59 43.2 +0.6
H24K IAmb IAmb 00 59 44.5
comp=Z,12nm,1.3s
E25K Arctic Village 77.42 340 P P 00 59 43.5 +0.1
E25K IAmb IAmb 00 59 50.5
comp=Z,6.5nm,1.2s
C27K Jago River 77.52 342 P P 00 59 44.2 +0.3
I23K Minto, Yukon-K 77.57 337 P P 00 59 44.8 +0.6
I23K IAmb IAmb 00 59 46.0
comp=Z,7.3nm,1.2s
BPAW Bear Paw Mtn. 77.84 336 P P 00 59 45.8 +0.1
BPAW IAmb IAmb 00 59 47.1
comp=Z,7.0nm,1.2s
PPLA Purkeypile 77.94 334 P P 00 59 46.7 +0.2
CAST Castle Rocks 78.06 335 P P 00 59 47.0 -0.1
G23K Bananza Creek 78.41 338 P P 00 59 49.6 +0.7
I21K Tanana 78.61 337 P P 00 59 49.5 -0.4
I21K IAmb IAmb 00 59 51.1
comp=Z,6.2nm,1.1s
COLD Coldfoot 78.67 339 P P 00 59 51.0 +0.7
E23K Chandalar 78.78 340 IAmb IAmb 01 00 00.1
comp=Z,7.2nm,1.2s
K20K Telida 78.89 335 IAmb IAmb 00 59 53.4
comp=Z,14nm,1.4s
N18K Kilae Creek 78.96 332 IAmb IAmb 00 59 53.2
comp=Z,12nm,1.1s
D23K Nanushuk River 79.48 340 P 00 59 55.7 +1.0
H18K Honhosa River 81.19 336 P P 01 00 05.1 +1.2
ESDC Sonseca Array 81.33 50 P P 01 00 07.4 +2.1
comp=Z,1.7nm,1.1s,baz=270,slow=4.5,SNR=6.0
comp=Z,1.7nm,1.1s
G18K Tagagawik 81.48 336 P P 01 00 06.4 +0.9
G18K IAmb IAmb 01 00 07.6
comp=Z,12nm,1.4s
NOA NORSAR Array B 90.85 29 LR LR 01 37 04.4
comp=Z,14nm,21.6s,baz=295,slow=33
HFS Hagfors 92.18 30 LR LR 01 38 50.8
comp=Z,18nm,21.6s,baz=264,slow=33
QSPA South Pole Qui 92.29 180 P P 01 01 00.7 +2.3
comp=Z,1.1nm,0.7s,baz=148,slow=1.8,SNR=5.8
comp=Z,1.1nm,0.7s
VRAC Vranov 95.57 40 LR LR 01 36 42.9
comp=Z,58nm,21.1s,baz=292,slow=31
FINES FINESS Array B 97.76 27 LR LR 01 48 36.6
comp=Z,17nm,18.1s,baz=282,slow=37
DZM Mont Dzumac 108.43 248 *e*LR LR 01 38 00.1
comp=Z,67nm,29.2s
BVAR Borovoye Array 121.04 17 PKP **PKiKP 01 06 41.4 +0.2**
comp=Z,0.4nm,0.6s,baz=354,slow=4.3,SNR=2.8
ZALV Zalesovo Beam 123.30 7 PKP **PKiKP 01 06 45.6 0.0**
comp=Z,0.6nm,0.6s,baz=1.9,slow=4.3,SNR=2.0
KURBB Kurchatov Arra 125.37 13 PKP **PKiKP 01 06 50.3 +0.5**
comp=Z,0.7nm,0.8s,baz=340,slow=2.6,SNR=7.0
HHC Hu-ho-hao-te 134.65 343 *e*P **PKPdf 01 07 03.1 -4.4**
ASAR Alice Springs 137.13 237 PKP **PKiKP 01 07 14.2 -0.2**
comp=Z,0.9nm,0.9s,baz=117,slow=3.3,SNR=4.5
WRA Warramunga Arr 138.14 242 PKP **PKiKP 01 07 15.4 -1.0**
comp=Z,1.0nm,0.8s,baz=102,slow=1.6,SNR=4.5
NJ2 Nanjing 139.28 329 *e*P **PKPdf 01 07 15.4 -0.8**
NJ2 pmax pmax
comp=Z,11nm,0.6s
FITZ Fitzroy Crossi 146.45 240 PKPbc **PKPab 01 07 31.9 +0.4**
comp=Z,3.7nm,1.0s,baz=19,slow=4.2,SNR=4.3
PZH PanZhiHua 150.77 348 PKPbc **PKPdf 01 07 34.9 -1.3**

NEIC 16 00:47:55.8±2.1, 37°.658N±0°.010×105°.46W±0°.04, h5km±1km, ML1.7/14, Error ellipse: s-maj=5.8km s-min=2.6km az=259.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.09**	**338**	Pg	Pg	00 47 58.4	+0.3
SDCO				Sg	Sg	00 48 00.2	+0.6
SDCO				IAML		00 48 00.7	
368nm,0.1s							
T25A	**Trinidad**	**0.98**	**122**	Pg	Pb	00 48 15.2	-0.2
T25A				IAML		00 48 28.5	
comp=N,16nm,0.7s							
T25A					Sb	00 48 28.5	-0.3
Q24A	**Divide**	**1.33**	**10**	Pg	Pg	00 48 20.5	-0.8
Q24A				Sg	Sg	00 48 37.5	-1.0
Q24A				IAML		00 48 38.9	
comp=N,23nm,0.2s							
Q24A				IAML		00 48 39.2	
comp=E,13nm,0.3s							
MVCO	**Mesa Verde**	**2.46**	**260**	Pn	Pn	00 48 35.6	-1.2
RTBA	**Rita Blanca**	**2.49**	**118**	Pn	Pn	00 48 36.4	-0.9
PV01	**Paradox Valley**	**2.51**	**282**	Pn	Pn	00 48 36.9	-0.6
PV02	**Paradox Valley**	**2.65**	**283**	Pn	Pn	00 48 38.9	-0.5
PV13	**Radium Mtn., P**	**2.71**	**282**	Pn	Pn	00 48 38.0	-2.2
PV03	**Paradox Valley**	**2.75**	**284**	Pn	Pn	00 48 39.8	-0.9
PV04	**Paradox Valley**	**2.82**	**286**	Pn	Pn	00 48 41.9	+0.1
PV17	**East Wray Mesa**	**2.84**	**284**		Pb	00 48 44.6	-2.5

---

*SJA **16** 00:54:09.4±0.7, 27°.79S×71°.57W, h12km±2km, ML4.9, MW4.5*
*IDC **16** 00:54:10.7±0.7, 27°.76S×71°.30W, h0km, mb4.0/8, mbtmp4.1/12, ML4.3/4, MS3.4/4, Error ellipse: s-maj=26.4km s-min=17.0km az=83.0*
*NEIC **16** 00:54:12.9, 27°.83S×71°.49W, h24km*
*GUC **16** 00:54:12.7±0.8, 27°.89S×71°.36W, h27km±7km, ML4.7*
*VAO **16** 00:54:13.1±0.5, 27°.76S×71°.30W, h10km, mb4.4*
*NEIC **16** 00:54:13.9±2.1, 27°.83S±0°.03×71°.46W±0°.05, h35km±6km, mb4.7/16, Mwr4.6/52, Error ellipse: s-maj=7.0km s-min=4.8km az=100.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.62; $M_{\theta\theta}$8.17; $M_{\phi\phi}$-8.79; $M_{r\theta}$-0.45; $M_{\theta\phi}$-1.17; $M_{\phi r}$-0.96; Fault plane solution: $M_0$8.64000×10^{15} NP1:ϕ_s49.03000°, δ87.89000°, λ-173.75000°. NP2:ϕ_s318.80000°, δ83.76000°, λ-2.12000°. Principal axes: T 8.2692, Plg3.0000°, Azm184.0000°; N 0.7025, Plg83.0000°, Azm68.0000°; P -8.9716, Plg6.0000°, Azm274.0000°;*

ISC 16 00:54:10.3±1.6, 27°.82S±0°.03×71°.51W±0°.05, h5km±10km, n175, σ1°34/176, mb4.7/12, 5C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.54**	**135**		**Pb**	**00 54 22.7**	**+0.4**
AC04				Sn	**Sg**	**00 54 28.2**	**+0.5**
AC04	**Llanos de Chal**	**0.54**	**135**	*i* P	**Pb**	**00 54 22.1**	**-0.2**
AC04				*e*S	**Sg**	**00 54 28.3**	**+0.5**
AC04				IAML		00 54 28.6	
comp=N,94μm,0.5s							
AC04	**Llanos de Chal**	**0.54**	**135**	*i* P	**Pg**	**00 54 21.7**	**+1.0**
AC04				IAML		00 54 32.2	
comp=Z,30μm,0.6s							
AC04				IAML		00 54 32.2	
comp=Z,30μm,0.6s							
AC06	**Mina Casimiro**	**1.12**	**66**		**Pb**	**00 54 31.9**	**-0.3**
AC06				Sn	**Sb**	**00 54 44.7**	**-2.4**
AC06	**Mina Casimiro**	**1.12**	**66**	*e*P	**Pb**	**00 54 31.9**	**-0.3**
AC06				IAML		00 54 49.5	
comp=N,22μm,0.6s							
GO03	**Copiapo**	**1.15**	**79**	Pn	**Pn**	**00 54 32.5**	**-0.6**
GO03				Sn	**Sb**	**00 54 45.1**	**-2.9**
GO03	**Copiapo**	**1.15**	**79**	⇓*i*P	**Pn**	**00 54 32.4**	**-0.7**
GO03				IAML		00 54 49.9	
comp=E,23μm,0.2s							
GO03	**Copiapo**	**1.15**	**79**	*i* P	**Pn**	**00 54 32.1**	**-1.0**
GO03				*i* S	**Sg**	**00 54 49.0**	**+1.6**
LCO	**Las Campanas**	**1.38**	**149**		**Pb**	**00 54 36.9**	**+0.2**
LCO				Sn	**Sb**	**00 54 53.3**	**-1.5**
LCO	**Las Campanas**	**1.38**	**149**	⇑*e*P	**Pb**	**00 54 36.7**	**0.0**
LCO	**Las Campanas**	**1.38**	**149**	*i* P	**Pb**	**00 54 36.7**	**0.0**
LCO				IAML		00 55 01.4	
comp=Z,16μm,0.3s							
AC05	**El Transito**	**1.48**	**133**		**Pb**	**00 54 38.5**	**+0.1**
AC05				Sn	**Sb**	**00 54 55.9**	**-1.7**
AC05	**El Transito**	**1.48**	**133**	*e*P	**Pb**	**00 54 38.3**	**-0.1**
AC05				IAML		00 54 57.5	
comp=N,19μm,0.4s							
AC05	**El Transito**	**1.48**	**133**	*i* P	**Pb**	**00 54 38.5**	**+0.1**
AC05				IAML		00 54 57.1	
comp=Z,10μm,0.5s							
AC05				*i* S	**Sg**	**00 55 00.2**	**+2.1**
AC05				IAML		00 55 01.9	
comp=Z,10μm,0.6s							
AC01	**Pan de Azucar**	**1.86**	**26**		**Pn**	**00 54 43.5**	**+0.7**
AC01				Sn	**Sn**	**00 55 06.3**	**-0.3**
AC01	**Pan de Azucar**	**1.86**	**26**	⇑*i*P	**Pn**	**00 54 43.5**	**+0.7**
AC01	**Pan de Azucar**	**1.86**	**26**	*i* P	**Pn**	**00 54 43.4**	**+0.6**
AC01				*e*S	**Sb**	**00 55 07.6**	**-0.6**
AC01				IAML		00 55 14.7	
comp=Z,6μm,0.6s							
AC01				IAML		00 55 14.7	
comp=Z,6μm,0.6s							
CO05	**La Serena**	**2.10**	**174**	Pn	**Pn**	**00 54 46.9**	**+0.8**
CO05				Sn	**Sn**	**00 55 11.8**	**-0.8**
CO05	**La Serena**	**2.10**	**174**	*e*P	**Pb**	**00 54 47.2**	**-1.7**
CO05				IAML		00 55 19.5	
comp=E,18μm,0.5s							
AC02	**Maricunga**	**2.33**	**66**		**Pn**	**00 54 51.3**	**+1.5**
AC02				Sn	**Sn**	**00 55 19.7**	**+0.6**
AC02	**Maricunga**	**2.33**	**66**	*e*P	**Pb**	**00 54 52.0**	**-1.1**
AC02	**Maricunga**	**2.33**	**66**	*i* P	**Pn**	**00 54 51.2**	**+1.5**
AC02				IAML		00 55 24.1	
comp=Z,8μm,0.6s							
AC02				IAML		00 55 25.3	
comp=Z,8μm,0.9s							
GO04	**Tololo Observa**	**2.42**	**165**		**Pn**	**00 54 51.4**	**+0.7**
GO04	**Tololo Observa**	**2.42**	**165**	*i* P	**Pn**	**00 54 52.0**	**+1.3**
GO04				*e*S	**Sb**	**00 55 23.8**	**-1.0**
CO01	**Juntas del Tor**	**2.48**	**150**		**Pn**	**00 54 52.0**	**+0.5**
CO01	**Juntas del Tor**	**2.48**	**150**	*e*P	**Pb**	**00 54 53.5**	**-2.0**
CO01				IAML		00 55 29.1	
comp=N,5μm,0.5s							
CO01	**Juntas del Tor**	**2.48**	**150**	*i* P	**Pn**	**00 54 52.9**	**+1.4**
CO01				*e*S	**Sb**	**00 55 25.4**	**-1.0**
CO01				IAML		00 55 28.6	
comp=Z,4μm,0.5s							
CO01				IAML		00 55 28.6	
comp=Z,4μm,0.5s							
CO06	**Fray Jorge**	**2.84**	**182**		**Pn**	**00 54 56.1**	**-0.2**
AROD	**Rodeo**	**2.94**	**143**	*i* P	**Pb**	**00 55 00.7**	**-2.6**
AROD				*e*S	**Sb**	**00 55 37.7**	**-1.9**
VCA	**Vinchina**	**3.05**	**108**	*i* P	**Pn**	**00 55 01.2**	**+1.9**
VCA				*e*S	**Sb**	**00 55 40.1**	**-2.7**
VCA				IAML		00 55 48.5	
comp=Z,7μm,0.5s							
CO03	**El Pedregal**	**3.09**	**167**	Pn	**Pn**	**00 55 00.9**	**+1.1**
CO03	**El Pedregal**	**3.09**	**167**	*e*P	**Pn**	**00 55 00.9**	**+1.1**
CO03	**El Pedregal**	**3.09**	**167**	*i* P	**Pn**	**00 55 01.3**	**+1.5**
CO03				IAML		00 55 54.4	
comp=Z,4μm,0.9s							
CO03				IAML		00 55 54.4	
comp=Z,4μm,0.9s							
AGUA	**GUANDACOL**	**3.13**	**123**	*i* P	**Pb**	**00 55 05.0**	**-1.4**
AGUA				IAML		00 55 57.4	
comp=Z,4μm,0.5s							
AGUA				IAML		00 55 57.4	
comp=Z,4μm,0.5s							
ACDV	**Cuesta del Vie**	**3.14**	**139**	*i* P	**Pn**	**00 55 03.0**	**+2.4**
ACDV				IAML		00 56 01.0	
comp=Z,3μm,1.6s							
ACDV				IAML		00 56 01.0	
comp=Z,3μm,1.6s							
GO02	**Mina Guanaco**	**3.16**	**33**		**Pn**	**00 55 01.4**	**+0.4**
GO02	**Mina Guanaco**	**3.16**	**33**	*i* P	**Pn**	**00 55 02.1**	**+1.2**
PB14	**IPOC Station P**	**3.33**	**18**		**Pn**	**00 55 03.3**	**-0.1**
PB14	**IPOC Station P**	**3.33**	**18**	*i* P	**Pn**	**00 55 03.4**	**0.0**
PB14				IAML		00 55 59.3	
comp=Z,4μm,0.5s							
CO02	**Combarbal**	**3.40**	**173**		**Pn**	**00 55 04.0**	**0.0**
CO02	**Combarbal**	**3.40**	**173**	*i* P	**Pn**	**00 55 05.4**	**+1.4**
CO02				IAML		00 56 01.1	
comp=Z,7μm,0.7s							
ACCO	**Cerro Coronel**	**3.49**	**143**	*i* P	**Pb**	**00 55 11.0**	**-1.6**
ACCO				*e*S	**Sb**	**00 55 51.1**	**-4.3**
DOCA	**Reserva Natura**	**3.77**	**146**	*i* P	**Pn**	**00 55 11.7**	**+2.4**
DOCA				IAML		00 56 09.3	
comp=Z,2μm,0.8s							
DOCA				IAML		00 56 13.6	
comp=Z,2μm,1.4s							
ACLC	**CERRO LA CRUZ**	**4.31**	**113**	*i* P	**Pn**	**00 55 18.9**	**+2.2**
ACLC				IAML		00 56 29.3	
comp=Z,1μm,0.6s							
ACLC				IAML		00 56 29.3	
comp=Z,1μm,0.6s							
PB10	**IPOC Station P**	**4.38**	**12**		**Pn**	**00 55 16.6**	**-0.8**
PB10	**IPOC Station P**	**4.38**	**12**	*i* P	**Pn**	**00 55 16.9**	**-0.5**
PB10				IAML		00 56 47.1	
comp=Z,780nm,0.7s							
PB10				IAML		00 56 47.1	
comp=Z,780nm,0.7s							
RTLS	**Leoncito**	**4.40**	**155**	*i* P	Pn	00 55 22.3	+4.3
RTLS				IAML		00 56 32.7	
comp=Z,9μm,0.7s							
ZON	**Zonda**	**4.45**	**147**		**Pn**	**00 55 20.2**	**+1.7**
ZON	**Zonda**	**4.45**	**147**	*i* P	**Pn**	**00 55 21.2**	**+2.7**
ZON				IAML		00 56 33.7	
comp=Z,1μm,1.0s							
ZON				IAML		00 56 33.7	
comp=Z,1μm,1.0s							
AVFE	**Valle Fertil**	**4.53**	**130**	*i* P	**Pn**	**00 55 21.8**	**+2.2**
AVFE				IAML		00 56 22.4	
comp=Z,1μm,0.7s							
AVFE				IAML		00 56 37.7	
comp=Z,900nm,0.6s							
CFA	**Coronel Fontan**	**4.72**	**144**	Pn	**Pn**	**00 55 24.1**	**+1.9**
comp=Z,33nm,0.3s,baz=334,slow=12,SNR=222							
CFA				Sn	**Sn**	**00 56 21.9**	**+4.6**
comp=Z,19nm,0.3s,baz=98,slow=16,SNR=3.8							
comp=Z,81nm,0.3s							
CFA	**Coronel Fontan**	**4.72**	**144**	*i* P	**Pn**	**00 55 24.6**	**+2.4**
CFA				IAML		00 56 42.0	

comp=Z,7μm,1.3s
VA06 Catapilco 4.73 178 Pn 00 55 22.1 0.0
VA03 San Esteban 4.99 171 Pn 00 55 26.2 +0.2
VA03 San Esteban 4.99 171 *i* P **Pn 00 55 28.6 +2.6**
VA03 IAML 00 56 51.5
comp=Z,2μm,0.8s
APLL PUNTA DE LOS L 5.05 122 *e*P **Pn 00 55 29.3 +2.5**
APLL IAML 00 56 51.0
comp=Z,180nm,1.6s
APLL IAML 00 56 52.3
comp=Z,144nm,1.9s
CYA Choya 5.08 98 *i* P **Pn 00 55 29.7 +2.6**
CYA IAML 00 56 49.7
comp=Z,548nm,0.6s
CYA IAML 00 56 55.1
comp=Z,331nm,0.8s
VA01 Torpederas 5.18 181 Pn 00 55 28.0 -0.4
PEL Peldehue 5.35 173 Pn 00 55 31.4 +0.6
PB06 IPOC Station P 5.39 19 *i* P **Pn 00 55 31.3 -0.1**
PB06 IAML 00 57 05.8
comp=Z,1μm,0.8s
MT05 Renca 5.59 173 Pn 00 55 34.3 +0.1
MT16 CCHEN 5.65 172 Pn 00 55 35.9 +1.0
AF01 San Pedro de A 5.71 33 Pn 00 55 37.2 +1.2
MT03 Universidad Ad 5.72 172 Pn 00 55 36.5 +0.6
MT08 Bocatoma Ro 5.75 167 Pn 00 55 37.2 +0.8
VA05 Santo Domingo 5.82 181 Pn 00 55 37.1 0.0
MT09 Talagante 5.95 176 Pn 00 55 38.7 -0.5
MT13 San Alfonso 6.00 170 Pn 00 55 39.6 -0.1
MT01 Popeta 6.03 178 Pn 00 55 40.1 +0.1
LMEL Las Melosas 6.11 170 Pn 00 55 42.1 +0.7
BO04 La Punta 6.20 173 Pn 00 55 42.4 0.0
PB09 IPOC Station P 6.34 19 Pn 00 55 43.9 -0.7
BO01 Tunca 6.56 177 Pn 00 55 46.3 -1.1
BO02 Sierra Bellavi 6.98 175 Pn 00 55 52.5 -0.7
PB01 IPOC Station P 7.00 16 Pn 00 55 52.9 -0.6
TA01 Diego Aracena 7.33 10 Pn **Pn 00 55 58.2 +0.2**
TA02 Huaiquique 7.62 10 Pn **Pn 00 56 0.0 -0.1**
HMBC Humberstone 7.66 11 Pn 00 56 01.4 -1.2
H03N1 Juan Fernandez 8.48 227 T T 01 04 53.7
baz=55,slow=72,SNR=6159
H03N2 Juan Fernandez 8.50 227 T T 01 04 53.7
baz=55,slow=72,SNR=5825
H03N3 Juan Fernandez 8.50 227 T T 01 04 55.8
baz=55,slow=72,SNR=4513
VA04 Juan Fernndez 8.56 226 Pn 00 56 14.6 -0.3
PB12 IPOC Station P 9.23 7 Pn 00 56 22.4 -1.8
PB16 IPOC Station P 9.62 11 Pn 00 56 28.6 -1.3
PB18 Visviri 10.36 11 Pn 00 56 40.7 +0.7
LR03 Panguipulli 11.80 183 Pn 00 56 58.4 -0.9
LPAZ La Paz 11.90 16 Pn 00 57 00.3 -0.9
LPAZ La Paz 11.90 16 Pn **Pn 00 57 00.9 -0.2**
comp=Z,1.8nm,0.3s,baz=231,slow=4.6,SNR=22
comp=Z,5.5nm,0.4s
LPAZ La Paz 11.90 16 *e*P **Pn 00 57 00.8 -0.4**
LR05 Currie 12.38 182 Pn 00 57 06.1 -1.1
CPUP Villa Florida 12.72 87 Pn 00 57 10.8 -1.0
CPUP Villa Florida 12.72 87 Pn **Pn 00 57 09.6 -2.3**
comp=Z,0.2nm,0.3s,baz=263,slow=12,SNR=10
CPUP LR LR 01 02 27.8
comp=Z,272nm,20.6s,baz=234,slow=40
comp=Z,4.7nm,0.9s
CPUP Villa Florida 12.72 87 *e*P **Pn 00 57 11.6 -0.3**
PLCA Paso Flores 12.90 177 Pn **Pn 00 57 14.9 +0.6**
comp=Z,0.2nm,0.3s,baz=343,slow=16,SNR=4.2
PLCA LR LR 01 03 02.6
comp=Z,142nm,19.8s,baz=344,slow=41
comp=Z,1.9nm,0.8s
PLCA Paso Flores 12.90 177 *e*P **Pn 00 57 16.6 +2.3**
TRQA Tornquist 12.96 144 Pn 00 57 16.2 +1.1
TRQA Tornquist 12.96 144 *e*P **Pn 00 57 16.1 +1.1**
ITQB Itaqui 13.19 102 Pn 00 57 18.1 -0.1
ITQB Itaqui 13.19 102 *e*P **Pn 00 57 18.3 +0.1**
LL03 Petrohue 13.30 183 Pn **Pn 00 57 20.6 +0.9**
MURT Porto Murtinho 14.04 67 *e*P **Pn 00 57 29.7 -0.1**
TBOT Tacuaremb 14.06 110 *e*P **Pn 00 57 29.6 -0.6**
SJPY San Joaquin 14.09 82 *e*P **Pn 00 57 30.1 -0.5**
LL01 San Ignacio de 14.54 183 Pn 00 57 36.6 0.0
BBSD Serra de San D 14.60 46 *e*P Pn 00 57 32.1 -5.5
SIV San Ignacio 15.23 42 Pn **Pn 00 57 39.7 -6.4**
comp=Z,0.3nm,0.3s,baz=238,slow=9.2,SNR=24
BDQN Bodoquena, MS 15.33 65 *e*P **Pn 00 57 47.0 -0.5**
AMBA Amambai (Brazi 15.70 76 *e*P **Pn 00 57 52.2 0.0**
CPSB Cacapava Do Su 16.00 104 *e*P **Pn 00 57 56.2 +0.1**
PLTB Pedras Altas 16.03 109 Pn 00 57 55.1 -1.4
PLTB Pedras Altas 16.03 109 *e*P **Pn 00 57 56.6 +0.1**
AQDB Aquidauana 16.17 67 *e*P **Pn 00 57 58.2 -0.1**
CCRS Cacerres, MT, 16.35 53 *e*P **Pn 00 58 01.0 +0.3**
PTLB Pontes e Lacer 16.83 46 P **Pn 00 58 05.3 -1.5**
VBST Vila Bela da S 17.00 41 *e*P **Pn 00 58 09.6 +0.7**
ITAB Concordia 17.20 93 Pn 00 58 09.5 -1.8
ITAB Concordia 17.20 93 *e*P **Pn 00 58 11.3 0.0**
RVDE Rio Verde (Bra 17.53 64 *e*P **P 00 58 15.8 -0.9**
POCN Pocone 17.63 54 *e*P **P 00 58 17.0 -0.8**
PTGB Pitanga 17.71 84 *e*P **Pn 00 58 17.6 -0.2**
COYC Coyhaique 17.72 181 P 00 58 18.2 -0.4
RPRD Ribas do Rio P 17.81 70 *e*P **Pn 00 58 18.9 -0.1**
PTET Porto Estrela 18.18 50 *e*P **P 00 58 24.1 +0.3**
CNLB Canela 18.21 100 *e*P **P 00 58 23.9 -0.3**
PP1B Ponte de Pedra 18.39 60 *e*P **Pn 00 58 26.2 +0.1**
SALV Santo Antonio 18.85 54 *e*P **Pn 00 58 31.6 -0.1**
LDASE Londrina, Braz 18.91 81 *e*P **Pn 00 58 32.0 -0.5**
C2SB Chapadao do Su 19.35 66 *e*P **Pn 00 58 37.0 -0.8**
PCMB Pacaembu 19.40 76 *e*P **P 00 58 36.5 -0.7**
AY03 Cochrane 19.41 182 P **P 00 58 36.9 -0.3**
NBRS Nobres 19.87 51 *e*P **Pn 00 58 43.0 -1.0**
CZSB Cruzeiro do Su 20.02 357 P Pn 00 58 45.8 0.0
CZSB IAmb IAmb 00 58 49.3
comp=Z,23nm,0.8s
CZSB Cruzeiro do Su 20.02 357 *e*P Pn 00 58 45.9 +0.2
FRTB Fartura 20.28 82 *e*P Pn 00 58 47.5 -1.4
SAML Samuel 20.35 24 P **P 00 58 48.0 +0.3**
SAML IAmb IAmb 00 58 50.0
comp=Z,12nm,0.7s
SAML Samuel 20.35 24 *e*P Pn 00 58 48.7 -0.9
ITRB Iturama 20.95 72 *e*P **P 00 58 54.5 +0.3**
DVLD Doverlandia 21.05 62 *e*P **P 00 58 55.8 +0.4**
PDRB Porto dos Gac 21.26 44 *e*P **P 00 58 56.8 -0.7**
BB19B Bebedouro 21.96 77 *e*P **P 00 59 04.7 -0.4**
PET01 Itanhaem-SP 22.04 86 *e*P **P 00 59 06.4 +0.5**
RCLB Rio Claro- Sao 22.35 81 *e*P **P 00 59 08.9 -0.4**
VAO Valinhos 22.67 83 P **P 00 59 11.2 -1.5**
VAO IAmb IAmb 00 59 13.9
comp=Z,35nm,0.7s
TBTG Tabatinga, AM 23.55 4 P **P 00 59 22.9 +1.2**
BDFB Brasilia 24.91 66 P **P 00 59 33.6 -0.8**
BDFB IAmb IAmb 00 59 52.8
comp=Z,15nm,1.2s
BDFB Brasilia 24.91 66 P **P 00 59 32.6 -1.8**
comp=Z,3.2nm,0.8s,baz=256,slow=11,SNR=5.1
comp=Z,3.2nm,0.8s
MACA Manacapuru-AM 26.61 25 P **P 00 59 49.4 -0.4**
MACA IAmb IAmb 01 00 02.8
comp=Z,20nm,0.6s
RUSC La Rusia 33.55 357 P **P 01 00 52.6 +0.9**
RUSC IAmb IAmb 01 01 14.3
comp=Z,15nm,1.0s
SDV Santo Domingo 36.50 1 P **P 01 01 17.2 +0.3**
comp=Z,1.8nm,0.6s,baz=318,slow=19,SNR=2.2
comp=Z,1.8nm,0.6s
BAUV El Baul 36.70 6 P **P 01 01 18.4 0.0**
SJG San Juan 45.96 7 LR LR 01 22 38.3
comp=Z,30nm,19.7s,baz=184,slow=37
VNA2 Neumayer--Watz 55.56 159 ⇑P **P 01 03 46.6 +0.5**
comp=Z,6.7nm,0.6s,baz=291,slow=7.9
SNAA Sanae 57.16 159 P **P 01 03 57.0 -0.6**
SNAA IAmb IAmb 01 04 10.3
comp=Z,6.8nm,0.8s
SNAA Sanae 57.16 159 ⇑P **P 01 03 58.2 +0.5**
comp=Z,104nm,0.6s
SNAA Sanae 57.16 159 P **P 01 03 57.7 +0.1**
comp=Z,2.6nm,0.5s,baz=258,slow=8.9,SNR=10
comp=Z,2.6nm,0.5s
TROLL Troll, Antarti 58.87 160 ⇑P **P 01 04 10.0 +0.3**
comp=Z,231nm,0.7s
QSPA South Pole Qui 62.39 180 P **P 01 04 34.0 +0.2**
QSPA IAmb IAmb 01 04 52.1
comp=Z,8.5nm,1.1s
QSPA South Pole Qui 62.39 180 P **P 01 04 35.7 +1.8**
comp=Z,3.6nm,0.8s,baz=158,slow=1.4,SNR=16
comp=Z,3.6nm,0.8s
TXAR Lajitas Array 64.63 329 P **P 01 04 49.0 0.0**
comp=Z,0.2nm,0.7s,baz=151,slow=9.2,SNR=5.3
comp=Z,0.2nm,0.7s

OK038 West end E0370 68.91 337 P **P 01 05 13.7 -2.4**
DBIC Dimbokro 72.84 73 P **P 01 05 40.9 +0.5**
comp=Z,5.0nm,0.8s,baz=228,slow=4.9,SNR=6.2
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 78.49 332 P **P 01 06 15.5 +3.0**
comp=Z,0.2nm,0.5s,baz=130,slow=6.1,SNR=3.6
comp=Z,0.2nm,0.5s
TORD Torodi Ar. Bea 81.70 70 P **P 01 06 31.1 +0.9**
comp=Z,213nm,0.4s,baz=264,slow=4.3,SNR=2.0
FRB Frobisher Bay 91.29 1 LR LR 01 49 40.7
comp=Z,21nm,19.9s,baz=312,slow=36
YKA Yellowknife Ar 96.37 341 P **P 01 07 39.4 -0.1**
comp=Z,0.1nm,0.7s,baz=138,slow=4.3,SNR=2.3
comp=Z,0.1nm,0.7s
H11S2 WAKE ISLAND Hyt 26.09 273 T T 03 32 31.8
baz=112,slow=75,SNR=71
H11S1 WAKE ISLAND Hyt 26.11 273 T T 03 32 26.0
baz=112,slow=75,SNR=85
H11S3 WAKE ISLAND Hyt 26.11 273 T T 03 32 26.5
baz=112,slow=75,SNR=71
H11N3 WAKE ISLAND Hyt 26.35 275 T T 03 32 51.6
baz=113,slow=75,SNR=17
H11N1 WAKE ISLAND Hyt 26.36 275 T T 03 32 45.3
baz=113,slow=75,SNR=12
H11N2 WAKE ISLAND Hyt 26.36 275 T T 03 32 52.8
baz=113,slow=75,SNR=21
KAPI Kappang 145.59 200 PKPbc **PKPab 01 13 51.8 +1.0**
comp=Z,6.0nm,0.7s,baz=224,slow=7.9,SNR=4.2
KURBB Kurchatov Arra 147.85 37 PKPbc **PKiKP 01 13 57.6 -0.4**
comp=Z,0.7nm,0.6s,baz=304,slow=3.3,SNR=4.6
ZALV Zalesovo Beam 148.65 27 PKPbc **PKiKP 01 13 59.9 +0.3**
comp=Z,3.8nm,0.9s,baz=300,slow=3.4,SNR=7.3
MKAR Makanchi Array 152.05 40 PKPab **PKPab 01 14 15.6 -0.3**
comp=Z,1.3nm,0.5s,baz=325,slow=2.4,SNR=5.6

MOS ***16*** *01:04:52.1±1.3, 37.°47N×20.°46E, h11km, mb4.1/5, Error ellipse: s-maj=9.9km s-min=4.0km az=78.4*
IDC ***16*** *01:04:53.6±0.9, 37.°73N×20.°66E, h0km, mb3.7/11, mbtmp3.7/22, ML3.4/9, MS3.5/15, Error ellipse: s-maj=16.6km s-min=13.7km az=177.0*
HLW ***16*** *01:04:54.2, 37.°72N×21.°11E, h10km±12km, Md4.5, Ml4.2*
MED_RC ***16*** *01:04:54.0±0.8, 37.°58N×20.°60E, h10km, MW4.2/7, Moment Tensor Solution.Mantle waves: s7,c12; Duration: 1s0 Moment tensor: Scale 10^15Nm; Mrr-0.56±.36; Mθθ2.28±.26; Mφφ-1.72±.28; Mrθ-1.36±.83; Mθφ1.16±.27; Mφr-1.08±.89; Best double couple: M=2.83000×10^15 NP1:φ=302.00000°, δ=53.00000°, λ=-3.00000°. NP2: φ=34.00000°, δ=87.00000°, λ=-143.00000°. Principal axes: T 3.2700, Plg23.0000°, Azm162.0000°; N -0.8800, Plg53.0000°, Azm37.0000°; P -2.3900, Plg27.0000°, Azm264.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NAO ***16*** *01:04:54.6, 37.°58N×20.°60E, h10km, mb3.4*
THE ***16*** *01:04:54.8, 37.°59N×20.°64E, h1km±1km, ML3.9/11, Error ellipse: s-maj=1.9km s-min=0.4km az=222.0*
NEIC ***16*** *01:04:55.6±2.2, 37.°56N±0.°04×20.°68E±0.°05, h12km±6km, mb4.3/6, Mwr4.3/14, Error ellipse: s-maj=6.6km s-min=5.0km az=145.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr-0.02; Mθθ3.03; Mφφ-3.01; Mrθ0.51; Mθφ0.31; Mφr-1.01; Fault plane solution: M=3.24000×10^15 NP1:φ=43.23000°, δ=71.38000°, λ=-173.66000°. NP2:φ=311.20000°, δ=83.99000°, λ=-18.73000°. Principal axes: T 3.1167, Plg9.0000°, Azm359.0000°; N 0.2386, Plg70.0000°, Azm114.0000°; P -3.3553, Plg17.0000°, Azm266.0000°;*
PDG ***16*** *01:04:55.3±0.2, 37.°59N×20.°58E, h16km, ML4.1/11 Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
ATH ***16*** *01:04:56.4, 37.°71N×20.°71E, h9km±2km, ML3.9/31, Manual Solution by M.Papanikolaou First location: 2019/04/16 01:05:46, This location: 2019/04/16 01:17:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*
BEO ***16*** *01:04:56.9±0.5, 37.°77N×20.°48E, h0km, ML4.0/6*
NEIC ***16*** *01:04:58, 37.°57N×20.°65E, h35km*
ISC 16 01:04:54.9±0.8, 37.°62N±0.°03×20.°63E±0.°02, h16km±5km, n334, σ2.°09/400, mb3.9/19, MS3.6/11, 36C-20D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.19**	**62**	P	**Pg**	**01 04 58.9**	**-0.5**
LTHK				S	**Sg**	**01 05 01.4**	**-1.0**
78μm,0.2s							
LTHK	**Lithakia**	**0.19**	**62**	P	**Pg**	**01 04 58.8**	**-0.5**
LTHK				S	**Sg**	**01 05 00.9**	**-1.4**
RTZL	**Ratzakli, Kefa**	**0.47**	**14**	P	**Pg**	**01 05 04.2**	**-0.1**
RTZL				S	**Sg**	**01 05 11.1**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.49**	**356**	P	**Pg**	**01 05 04.9**	**+0.2**
PSDA				S	**Sb**	**01 05 12.2**	**0.0**
PSDA	**Pessada-Kefalo**	**0.49**	**356**	P	**Pb**	**01 05 05.1**	**-0.1**
PSDA				S	**Sg**	**01 05 09.9**	**-1.5**
VLS	**Valsamata**	**0.56**	**357**	P	**Pg**	**01 05 05.8**	**-0.1**
VLS				S	**Sb**	**01 05 14.6**	**+0.5**
18μm,0.4s							
VLS	**Valsamata**	**0.56**	**357**	P	**Pg**	**01 05 05.8**	**-0.1**
VLS				S	**Sb**	**01 05 14.6**	**+0.5**
VLS	**Valsamata**	**0.56**	**357**	P	**Pg**	**01 05 05.9**	**-0.1**
VLS				S	**Sg**	**01 05 12.6**	**-0.8**
LXR1	**Lixouri, Cepha**	**0.60**	**345**	P	**Pb**	**01 05 06.9**	**-0.1**
LXR1				S	**Sb**	**01 05 16.1**	**+0.9**
SMHA	**Samh**	**0.63**	**1**	P	**Pg**	**01 05 06.1**	**-1.2**
SMHA				S	**Sg**	**01 05 13.7**	**-1.9**
DMLN	**Damoulianata-K**	**0.65**	**342**	P	**Pg**	**01 05 07.8**	**+0.2**
DMLN				S	**Sb**	**01 05 17.6**	**+0.9**
DMLN	**Damoulianata-K**	**0.65**	**342**	P	**Pb**	**01 05 08.1**	**+0.2**
DMLN				S	**Sg**	**01 05 15.7**	**-0.5**
VSK1	**VASILIKIADES**	**0.79**	**356**	P	**Pg**	**01 05 09.8**	**-0.5**
VSK1				S	**Sn**	**01 05 22.1**	**-0.8**
13μm,0.5s							
RLS	**Riolos of Patr**	**0.79**	**56**	P	**Pg**	**01 05 09.5**	**-0.8**
RLS				S	**Sb**	**01 05 21.6**	**+0.7**
7μm,0.8s							
RLS	**Riolos of Patr**	**0.79**	**56**	P	**Pg**	**01 05 09.8**	**-0.5**
RLS				S	**Sg**	**01 05 18.8**	**-2.0**
FSK	**Fiskardo**	**0.84**	**356**	P	**Pb**	**01 05 10.7**	**-0.4**
FSK				S	**Sn**	**01 05 24.2**	**+0.1**
8μm,0.6s							
FSK	**Fiskardo**	**0.84**	**356**	P	**Pb**	**01 05 10.8**	**-0.4**
FSK				S	**Sb**	**01 05 21.1**	**-1.1**
AMT	**Artemida-Makis**	**0.86**	**96**	P	**Pb**	**01 05 11.1**	**-0.4**
AMT				S	**Sb**	**01 05 22.3**	**-0.6**
AST1	**Astakos**	**0.99**	**21**	P	**Pb**	**01 05 13.2**	**-0.5**
EVGI	**Lefkada island**	**1.00**	**1**	P	**Pb**	**01 05 13.6**	**-0.3**
EVGI	**Lefkada island**	**1.00**	**1**	P	**Pb**	**01 05 13.5**	**-0.3**
EVGI				S	**Sb**	**01 05 26.5**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.09**	**3**	P	**Pb**	**01 05 15.4**	**0.0**
NYDR				S	**Sn**	**01 05 32.2**	**+1.8**
4μm,0.6s							
NYDR	**Nydri-Lefkada**	**1.09**	**3**	P	**Pb**	**01 05 14.8**	**-0.7**
ITM	**Ithomi**	**1.12**	**113**	P	**Pb**	**01 05 15.4**	**-0.5**
ITM				S	**Sg**	**01 05 32.2**	**+0.9**
5μm,0.7s							
ITM	**Ithomi**	**1.12**	**113**		**Pb**	**01 05 15.4**	**-0.5**
ITM				Sn	**Sn**	**01 05 31.0**	**-0.2**
ITM	**Ithomi**	**1.12**	**113**	P	**Pb**	**01 05 15.5**	**-0.5**
UPR	**University Cam**	**1.13**	**54**	P	**Pg**	**01 05 16.5**	**-0.2**
UPR	**University Cam**	**1.13**	**54**	P	**Pb**	**01 05 16.1**	**0.0**
LKD2	**Lefkada island**	**1.17**	**1**	P	**Pn**	**01 05 16.7**	**0.0**
LKD2	**Lefkada island**	**1.17**	**1**	P	**Pn**	**01 05 16.2**	**-0.4**
TSLK	**Tsoukalades, L**	**1.20**	**1**	P	**Pb**	**01 05 17.6**	**+0.3**
TSLK				S	**Sg**	**01 05 35.4**	**+1.6**
5μm,0.8s							
TSLK	**Tsoukalades, L**	**1.20**	**1**	P	**Pn**	**01 05 17.1**	**-0.1**
PVO	**Paravola**	**1.22**	**35**	P	**Pb**	**01 05 17.5**	**-0.1**
KLV	**Kalavryta, Ach**	**1.27**	**70**	P	**Pb**	**01 05 18.4**	**-0.2**
KLV				S	**Sg**	**01 05 37.4**	**+1.3**
2μm,0.8s							
KLV	**Kalavryta, Ach**	**1.27**	**70**	P	**Pb**	**01 05 18.4**	**-0.2**
EFP	**Efpalio**	**1.29**	**51**	P	**Pn**	**01 05 18.5**	**+0.2**
EFP				S	**Sg**	**01 05 38.0**	**+1.4**
4μm,0.8s							
EFP	**Efpalio**	**1.29**	**51**	P	**Pn**	**01 05 18.0**	**-0.3**
GUR	**Goura**	**1.39**	**76**	P	**Pb**	**01 05 20.3**	**-0.3**
GUR	**Goura**	**1.39**	**76**	P	**Pn**	**01 05 20.0**	**+0.1**
ANX	**Ano Chora**	**1.41**	**46**	P	**Pb**	**01 05 20.8**	**-0.1**
ANX				S	**Sg**	**01 05 42.1**	**+1.8**
8μm,0.5s							
ANX	**Ano Chora**	**1.41**	**46**	P	**Pn**	**01 05 20.2**	**+0.2**
KALE	**Kalithea**	**1.42**	**57**	P	**Pn**	**01 05 20.4**	**+0.2**
KALE	**Kalithea**	**1.42**	**57**	P	**Pn**	**01 05 20.2**	**0.0**
EVR	**Evrytania**	**1.59**	**35**	P	**Pb**	**01 05 23.9**	**-0.1**
EVR	**Evrytania**	**1.59**	**35**	P	**Pb**	**01 05 23.7**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.82**	**40**	P	**Pn**	**01 05 26.7**	**+1.0**
LTK	**Loutraki**	**1.89**	**77**	P	**Pb**	**01 05 28.5**	**-0.7**
IGT	**Igoumenitsa**	**1.92**	**353**	P	**Pb**	**01 05 28.4**	**-1.2**
IGT	**Igoumenitsa**	**1.92**	**353**	P	**Pb**	**01 05 28.4**	**-1.2**
IGT	**Igoumenitsa**	**1.92**	**353**	*e*Pn	**Pb**	**01 05 28.4**	**-1.2**
IGT				*e*Sn	**Sb**	**01 05 53.5**	**+0.1**
IGT	**Igoumenitsa**	**1.92**	**353**	P	**Pn**	**01 05 27.6**	**+0.6**
AXAR	**Agios Charalam**	**1.96**	**54**	P	**Pb**	**01 05 29.1**	**-1.3**
AXAR	**Agios Charalam**	**1.96**	**54**	P	**Pb**	**01 05 29.6**	**-0.8**
KRND	**KRANIDI**	**2.02**	**96**	P	**Pn**	**01 05 29.6**	**+1.3**
KRND	**KRANIDI**	**2.02**	**96**	P	**Pb**	**01 05 29.8**	**-1.4**
JAN	**Janina**	**2.04**	**5**	P	**Pg**	**01 05 33.2**	**-0.8**
JAN	**Janina**	**2.04**	**5**	P	**Pn**	**01 05 29.8**	**+1.2**
VLI	**Veliai**	**2.05**	**115**	P	**Pb**	**01 05 31.6**	**-0.2**
VIL2	**Platees**	**2.17**	**73**	P	**Pb**	**01 05 32.7**	**-1.2**
KEK	**Kerkira**	**2.19**	**343**	P	**Pb**	**01 05 32.5**	**-1.6**
KEK	**Kerkira**	**2.19**	**343**		**Pb**	**01 05 33.7**	**-0.4**
VILL	**Villia**	**2.19**	**75**	P	**Pn**	**01 05 31.9**	**+1.2**
VILL				S	**Sb**	**01 06 00.8**	**-0.3**
THL	**Klokotos Trika**	**2.22**	**29**	P	**Pn**	**01 05 32.9**	**+1.8**
THL				S	**Sb**	**01 06 01.1**	**-0.9**
THL	**Klokotos Trika**	**2.22**	**29**	P	**Pb**	**01 05 33.0**	**-1.7**
LRSO	**Larissa Observ**	**2.47**	**33**	P	**Pn**	**01 05 35.7**	**+1.2**
VLY	**Voula,Athens**	**2.52**	**84**	P	**Pn**	**01 05 36.3**	**+1.1**
ATHU	**Athens Univers**	**2.52**	**81**	P	**Pn**	**01 05 36.9**	**+1.6**
NEO	**Neokhori**	**2.64**	**50**	P	**Pn**	**01 05 38.4**	**+1.5**
DION	**Dionisos Attik**	**2.65**	**79**	P	**Pn**	**01 05 38.9**	**+1.8**
ANKY	**Antikythira Is**	**2.77**	**128**	P	**Pn**	**01 05 40.6**	**+2.0**
NEST	**Nestorio**	**2.81**	**7**	P	**Pn**	**01 05 41.3**	**+2.0**
LIT	**Litokhoron**	**2.87**	**30**		**Pn**	**01 05 42.1**	**+2.0**
LIT	**Litokhoron**	**2.87**	**30**	P	**Pn**	**01 05 42.1**	**+2.0**
LIT	**Litokhoron**	**2.87**	**30**	P	**Pn**	**01 05 41.9**	**+1.8**
KYMI	**Kymi, Euboea I**	**2.92**	**69**	P	**Pn**	**01 05 41.2**	**+0.5**
SCTE	**Santa Cesarea**	**2.97**	**326**		**Pn**	**01 05 42.7**	**+1.3**
SCTE	**Santa Cesarea**	**2.97**	**326**	P	**Pn**	**01 05 42.3**	**+0.8**
PLAC	**Placanica**	**3.41**	**285**	⇓P	**Pn**	**01 05 48.6**	**+1.0**
PLAC				AML	AML		
comp=E,409μm,1.6s							
PLAC				AML	AML		
comp=N,284μm,0.5s							
PLAC				AML	AML		
comp=E,294μm,0.5s							
PLAC				AML	AML		
comp=N,418μm,0.7s							
PLAC				AML	AML		
comp=N,418μm,1.3s							
PLAC				AML	AML		
comp=N,284μm,1.5s							
PLAC				AML	AML		
comp=E,294μm,1.5s							
TIP	**Timpagrande**	**3.42**	**298**		**Pn**	**01 05 48.7**	**+1.1**
TIP	**Timpagrande**	**3.42**	**298**	⇑P	**Pn**	**01 05 48.9**	**+1.3**
TIP	**Timpagrande**	**3.42**	**298**	P	**Pn**	**01 05 48.6**	**+1.1**
TIP				AML	AML		
comp=E,214μm,0.8s							
TIP				AML	AML		
comp=N,174μm,0.8s							
TIP				AML	AML		
comp=N,197μm,0.8s							
TIP				AML	AML		
comp=E,246μm,0.8s							
TIP				AML	AML		
comp=N,197μm,1.2s							
TIP				AML	AML		
comp=N,174μm,1.2s							
IMMV	**Iera Moni Meta**	**3.45**	**128**	P	**Pn**	**01 05 49.5**	**+1.4**
OHR	**Ohrid**	**3.49**	**2**	*i* Pn	**Pn**	**01 05 51.9**	**+3.3**
OHR	**Ohrid**	**3.49**	**2**	P	**Pn**	**01 05 51.9**	**+3.3**
OHR	**Ohrid**	**3.49**	**2**	*e*Pn	**Pn**	**01 05 52.1**	**+3.5**
PLG	**Polygyros**	**3.52**	**38**	P	**Pn**	**01 05 50.3**	**+1.3**
PIPA	**Pietrapaola**	**3.52**	**303**	P	**Pn**	**01 05 50.3**	**+1.2**
PIPA				AML	AML		
comp=E,362μm,0.6s							
PIPA				AML	AML		
comp=N,550μm,1.2s							
PIPA				AML	AML		
comp=E,358μm,0.9s							
PIPA				AML	AML		
comp=N,510μm,0.9s							
PIPA				AML	AML		
comp=E,362μm,1.4s							
PIPA				AML	AML		
comp=E,358μm,1.1s							
PIPA				AML	AML		
comp=N,550μm,0.8s							
PIPA				AML	AML		
comp=N,510μm,1.1s							
TIR	**Tirane**	**3.77**	**351**		**Pn**	**01 05 55.1**	**+2.7**
TIR	**Tirane**	**3.77**	**351**	⇑P	**Pn**	**01 05 55.6**	**+3.2**
TIR	**Tirane**	**3.77**	**351**	P	**Pn**	**01 05 55.1**	**+2.7**
TIR	**Tirane**	**3.77**	**351**	*e*Pn	**Pn**	**01 05 54.8**	**+2.4**
TIR				*e*Sn	**Sn**	**01 06 37.8**	**+1.4**
CEL	**Celeste**	**3.80**	**281**		**Pn**	**01 05 54.1**	**+1.2**
CEL	**Celeste**	**3.80**	**281**	P	**Pn**	**01 05 53.8**	**+0.9**
CEL				S	**Sn**	**01 06 37.3**	**0.0**
CEL				AML	AML		
comp=N,512μm,0.9s							
CEL				AML	AML		
comp=N,623μm,0.9s							
CEL				AML	AML		
comp=N,512μm,1.1s							
CEL				AML	AML		
comp=N,623μm,1.1s							
CEL				AML	AML		
comp=E,717μm,0.5s							
CEL				AML	AML		
comp=E,882μm,0.5s							
CAR1	**CAROLEI**	**3.83**	**297**	P	**Pn**	**01 05 55.5**	**+2.2**
CAR1				S	**Sn**	**01 06 39.4**	**+1.3**
CAR1				AML	AML		
comp=E,712μm,0.8s							
CAR1				AML	AML		
comp=N,756μm,0.6s							
CAR1				AML	AML		
comp=N,842μm,0.6s							
CAR1				AML	AML		
comp=E,581μm,0.6s							
MTTG	**Motta San Giov**	**3.93**	**277**	P	**Pn**	**01 05 55.5**	**+0.9**
MTTG				AML	AML		
comp=N,718μm,1.2s							
MTTG				AML	AML		
comp=N,718μm,0.8s							
MTTG				AML	AML		
comp=E,682μm,1.2s							
APE	**Apeiranthos**	**3.94**	**97**	*i* P	**Pn**	**01 05 55.4**	**+0.5**
VAY	**Valandovo**	**3.99**	**22**	*i* Pn	**Pn**	**01 05 57.8**	**+2.4**
VAY	**Valandovo**	**3.99**	**22**	P	**Pn**	**01 05 59.9**	**+4.5**
VAY				S	**Sn**	**01 06 42.5**	**+0.7**
VAY	**Valandovo**	**3.99**	**22**	*e*Pn	**Pn**	**01 05 58.0**	**+2.6**
VAY				*e*Sn	**Sn**	**01 06 42.7**	**+0.9**
SALB	**San Lorenzo Be**	**4.04**	**305**	P	**Pn**	**01 05 58.3**	**+2.1**
SALB				AML	AML		
comp=E,290μm,0.3s

comp=N,986µm,0.8s
NOCI AML AML
AIO Antiillo 4.29 276 ⇑P Pn 01 06 01.1 +1.5
AIO AML AML
comp=E,372µm,1.2s
AIO AML AML
comp=E,372µm,0.8s
AIO AML AML
comp=N,314µm,0.4s
MATE Matera 4.29 316 ⇑P Pg 01 06 24.0 +6.9
AGST Augusta-Monte 4.32 267 P Pn 01 05 59.4 -0.5
AGST AML AML
comp=E,416µm,1.4s
AGST AML AML
comp=N,576µm,1.0s
AGST AML AML
comp=N,576µm,1.0s
AGST AML AML
comp=E,416µm,0.6s
HAGA Augusta 4.37 267 ⇑P Pn 01 06 00.2 -0.4
HAGA AML AML
comp=N,375µm,0.5s
HAGA AML AML
comp=E,316µm,0.3s
HAGA AML AML
comp=N,375µm,1.5s
CUC Castrocucco 4.44 304 Pn 01 06 04.0 +2.3
SSY Sortino 4.45 266 ⇑P Pn 01 06 01.4 -0.4
SSY AML AML
comp=E,1330µm,1.2s
SSY AML AML
comp=N,2035µm,0.5s
ULC Ulcinj 4.47 347⇑*i*Pn Pn 01 06 02.5 +0.5
ULC *i* Sn **Sn 01 06 51.7 -2.0**
HPAC Pachino 4.50 260 P Pn 01 06 04.9 +2.4
HPAC AML AML
comp=E,949µm,1.5s
HPAC AML AML
comp=N,952µm,0.7s
HPAC AML AML
comp=E,949µm,0.5s
AMUR Altamura 4.53 318 P Pn 01 06 04.8 +1.9
AMUR S **Sn 01 06 55.4 +0.1**
ESML S. M. di Licod 4.57 272 P Pn 01 06 04.1 +0.7
ESML S **Sn 01 06 54.7 -1.5**
ESML AML AML
comp=E,468µm,0.9s
ESML AML AML
comp=E,468µm,1.1s
ESML AML AML
comp=N,418µm,0.4s
MUCR Ucria 4.58 277 ⇓P Pn 01 06 04.9 +1.3
MUCR AML AML
comp=N,420µm,0.7s
MUCR AML AML
comp=N,420µm,1.3s
MUCR AML AML
comp=E,368µm,1.6s
EPZF Pizzo Felice 4.58 274 P Pn 01 06 04.9 +1.2
EPZF S **Sn 01 06 56.7 +0.1**
HLNI Lentini 4.59 268 P Pn 01 06 03.0 -0.7
HLNI AML AML
comp=E,973µm,1.3s
HLNI AML AML
comp=E,973µm,0.7s
HLNI AML AML
comp=N,620µm,0.5s
MCEL Monticello 4.63 307 P Pn 01 06 07.0 +2.7
MCEL AML AML
comp=E,278µm,0.7s
MCEL AML AML
comp=N,292µm,1.3s
MCEL AML AML
comp=N,288µm,0.9s
MCEL AML AML
comp=E,293µm,0.7s
MCEL AML AML
comp=N,292µm,0.7s
KKB Krupnik 4.63 24 P Pn 01 06 07.2 +2.9
DRME Dracevica, Mon 4.69 347 *e*Pn Pn 01 06 05.6 +0.5
DRME Dracevica, Mon 4.69 347⇑*i*Pn Pn 01 06 05.6 +0.5
DRME *i* Sn **Sn 01 06 59.1 -0.1**
MNO Monte Soro 4.71 276 ⇑P Pn 01 06 07.2 +1.6
MNO AML AML
comp=E,560µm,1.1s
MNO AML AML
comp=N,470µm,0.9s
MNO AML AML
comp=E,560µm,0.9s
SLCN Sala Consilina 4.77 307 P Pn 01 06 09.6 +3.3
SLCN AML AML
comp=E,585µm,0.7s
SLCN AML AML
comp=N,676µm,1.0s
SLCN AML AML
comp=E,719µm,0.8s
SLCN AML AML
comp=N,712µm,1.0s
SLCN AML AML
comp=N,676µm,1.0s
SLCN AML AML
comp=N,712µm,1.0s
SLCN AML AML
comp=E,585µm,1.3s
MSFR San Fratello 4.80 277 ⇓P Pn 01 06 08.2 +1.6
MSFR AML AML
comp=E,134µm,0.9s
MSFR AML AML
comp=N,160µm,1.4s
MSFR AML AML
comp=N,160µm,0.6s
GALF Gagliano Caste 4.81 273 P Pn 01 06 08.1 +1.3
GALF AML AML
comp=E,808µm,0.4s
GALF AML AML
comp=N,898µm,0.4s
GALF AML AML
comp=E,808µm,1.6s
MRVN Minervino Murg 4.86 316 ⇑P Pn 01 06 09.7 +2.3
MRVN AML AML
comp=E,172µm,0.5s
MRVN AML AML
comp=N,160µm,1.0s
BUM Brajici-Budva 4.86 345⇑*i*Pn Pn 01 06 08.0 +0.5
BUM *i* Sn **Sn 01 07 02.7 -0.7**
IFIL Filicudi I Eol 4.88 283 P Pn 01 06 08.9 +1.3
IFIL AML AML
comp=E,1078µm,0.6s
IFIL AML AML
comp=N,402µm,0.9s
IFIL AML AML
comp=E,1078µm,1.4s
PDG Podgorica 4.92 348 Pn 01 06 08.9 +0.7
PDG Podgorica 4.92 348 *e*Pn Pn 01 06 08.2 0.0
PDG Podgorica 4.92 348 ⇑P Pn 01 06 09.2 +1.1
PDG Podgorica 4.92 348 *e*Pn Pn 01 06 07.4 -0.8
PDG *e*Sn **Sn 01 07 02.6 -2.1**
PDG *e*Sn **Sn 01 07 04.2 -0.5**
PDG Podgorica 4.92 348⇑*i*Pn Pn 01 06 08.2 0.0
PDG *i* Sn **Sn 01 07 03.6 -1.1**
CROCE Santa Croce Ca 4.93 263 ⇓P Pn 01 06 08.5 +0.2
CROCE AML AML
comp=E,478µm,0.6s
CROCE AML AML
comp=N,668µm,0.6s
CROCE AML AML
comp=E,523µm,0.6s
CROCE AML AML
comp=E,523µm,1.4s
CROCE AML AML
comp=E,478µm,1.4s
CROCE AML AML
comp=N,657µm,0.7s
VAE Valguarnera 4.94 270 Pn Pn 01 06 10.2 +1.6
comp=N,30nm,0.8s,baz=123,slow=10,SNR=10
VAE Sn **Sn 01 07 07.0 +1.5**
comp=N,14nm,0.3s,baz=203,slow=7.2,SNR=7.5
CMPR Campora 4.95 305 P Pn 01 06 10.7 +2.0
CMPR AML AML
comp=E,121µm,0.9s
CMPR AML AML
comp=N,110µm,0.4s
CMPR AML AML
comp=E,121µm,1.1s
EZN Ezine 4.97 62 P Pn 01 06 13.3 +4.4

PVY Plav 4.99 354⇓*i*Pn Pn 01 06 11.2 +1.8
PVY *i* Sn **Sn 01 07 05.7 -1.1**
BOSS Bosilegrad 5.07 16 *e*Pn Pn 01 06 12.0 +1.7
CEME Cevo 5.09 346⇓*i*Pn Pn 01 06 11.2 +0.6
CEME *i* Sn **Sn 01 07 07.5 -1.6**
HCY Herceg Novi 5.09 342 *e*Pn Pn 01 06 10.2 -0.4
HCY Herceg Novi 5.09 342⇓*i*Pn Pn 01 06 10.2 -0.4
HCY *i* Sn **Sn 01 07 07.7 -1.3**
CPTP Pietraperzia 5.15 270 P Pn 01 06 13.3 +1.9
CPTP AML AML
comp=N,496µm,1.1s
CPTP AML AML
comp=E,438µm,0.9s
CPTP AML AML
comp=N,496µm,0.9s
RZN Rozhen 5.16 37 P Pn 01 06 14.4 +2.8
RDO Rodhopi 5.18 46 Pn 01 06 12.6 +0.8
WDD Wied Dalam 5.22 252 Pn 01 06 13.6 +1.3
WDD Wied Dalam 5.22 252 P Pn 01 06 13.5 +1.3
WDD S **Sn 01 07 11.1 -1.0**
WDD AML AML
comp=N,1315µm,0.5s
WDD AML AML
comp=E,1180µm,0.7s
BARS Barje 5.27 10 *e*Pn Pn 01 06 14.4 +1.4
IVA Berane 5.27 354⇓*i*Pn Pn 01 06 14.2 +1.0
IVA *i* Sn **Sn 01 07 12.0 -1.7**
KOME Kolasin 5.29 351⇓*i*Pn Pn 01 06 13.8 +0.4
KOME *i* Sn **Sn 01 07 12.9 -1.2**
NKME Niksic 5.30 346⇓*i*Pn Pn 01 06 13.9 +0.5
NKME *i* Sn **Sn 01 07 11.4 -2.8**
CLTA Licata 5.33 267 P Pn 01 06 15.2 +1.4
CLTA AML AML
comp=E,300µm,1.3s
CLTA AML AML
comp=N,259µm,1.2s
VTS Vitosha 5.37 21 P Pn 01 06 17.3 +2.7
VTS S **Sn 01 07 16.6 +0.4**
VTS Vitosha 5.37 21 *e*Pn Pn 01 06 16.6 +2.0
TREB Trebinje 5.38 342 *e*Pn Pn 01 06 13.7 -0.8
MTMR Montemarano 5.47 309 P Pn 01 06 19.9 +4.0
SGRT San Giovanni R 5.59 319 Pn Pn 01 06 19.0 +1.5
SGRT San Giovanni R 5.59 319 P Pn 01 06 19.0 +1.5
SELS Selova 5.60 4 *e*Pn Pn 01 06 18.8 +1.2
SELS *e*Sn **Sn 01 07 20.3 -1.4**
SJES Sjenica 5.66 355 *e*Pn Pn 01 06 18.3 -0.1
SJES Sjenica 5.66 355 *e*Pn Pn 01 06 19.7 +1.3
SJES *e*Sn **Sn 01 07 22.2 -0.9**
STON Ston 5.70 338 *e*Pn Pn 01 06 18.2 -0.7
STON Ston 5.70 338 *e*Pn Pn 01 06 18.8 -0.1
STON *e*Sn **Sn 01 07 20.9 -3.1**
UPM Unac-Piva 5.73 347 *e*Pn Pn 01 06 20.0 +0.6
UPM Unac-Piva 5.73 347⇑*i*Pn Pn 01 06 20.1 +0.6
UPM *i* Sn **Sn 01 07 23.5 -1.5**
PLE Pljevlja 5.78 351⇓*i*Pn Pn 01 06 20.6 +0.5
PLE *i* Sn **Sn 01 07 24.8 -1.4**
PAOL Paolisi 5.80 308 Pn 01 06 23.9 +3.5
ZAPS Zavoj 5.85 15 *e*Pn Pn 01 06 23.1 +2.1
GOCS Kraljevo Serbi 5.94 2 *e*Pn Pn 01 06 23.4 +1.1
GOCS *e*Sn **Sn 01 07 29.1 -0.9**
IVAS Ivanjica 5.96 357 *e*Pn Pn 01 06 23.7 +1.1
BOVS Bovan 6.06 7 ⇑P Pn 01 06 25.1 +1.2
BOVS Bovan 6.06 7 *e*Pn Pn 01 06 24.9 +1.0
GRUS Gruza 6.26 1 *e*Pn Pn 01 06 27.2 +0.6
ZAGS Zajecar 6.30 11 *e*Pn Pn 01 06 29.3 +2.1
BBLS Lazi&#263i 6.31 352 *e*Pn Pn 01 06 28.6 +1.3
BBLS Lazi&#263i 6.31 352 *e*Pn Pn 01 06 29.0 +1.7
BBLS *e*Sn **Sn 01 07 37.6 -1.5**
DIVS Divibare 6.49 356 *e*Pn Pn 01 06 30.2 +0.4
DIVS *e*Sn **Sn 01 07 40.5 -3.1**
TRUS Trudelj 6.60 359 *e*Pn Pn 01 06 31.6 +0.3
INTR Introdacqua 6.78 312 Pn 01 06 36.2 +2.3
KUBS Kucevo 6.83 6 *e*Pn Pn 01 06 33.7 -0.7
TEKS Tekeris 6.97 353 *e*Pn Pn 01 06 35.0 -1.4
TEKS Tekeris 6.97 353 *e*Pn Pn 01 06 36.1 -0.3
TEKS *e*Sn **Sn 01 07 51.6 -3.8**
SLUM Salum 7.19 147 P Pn 01 06 39.9 +0.5
MDVR Moldovita 7.20 6 ⇑P Pn 01 06 38.9 -0.7
MDVR Moldovita 7.20 6 *e*Pn Pn 01 06 39.7 +0.1
HERR Herculane 7.38 10 ⇓P Pn 01 06 42.4 +0.5
VRSS Vrsac 7.51 4 *e*Pn Pn 01 06 44.8 +1.0
A050A Klekovaca 7.52 337 *e*Pn Pn 01 06 44.7 +0.7
FRGS Fruska Gora 7.55 356 *e*Pn Pn 01 06 43.0 -1.4
FRGS Fruska Gora 7.55 356 *e*Pn Pn 01 06 45.6 +1.2
FRGS *e*Sn **Sn 01 08 06.3 -3.4**
BLY Banja Luka 7.58 341 *e*Pn Pn 01 06 45.2 +0.5
BLY Banja Luka 7.58 341 *e*Pn Pn 01 06 45.2 +0.5
SLATY Slatina 7.62 342 *e*Pn Pn 01 06 44.4 -0.9
NRCA Norcia 7.75 315 Pn 01 06 49.2 +2.0
GUMA Gualdo di Mace 7.78 317 Pn Pn 01 06 50.4 +2.9
A051A Mrakovica 7.90 340 *e*Pn Pn 01 06 48.5 -0.6
FDMO Fiordimonte 7.90 316 Pn 01 06 51.7 +2.6
GZR Gura Zlata 7.93 11 ⇓P Pn 01 06 51.0 +1.4
GZR Gura Zlata 7.93 11 ⇓P Pn 01 06 51.0 +1.4
BZS Buzias 8.02 5 ⇑P Pn 01 06 50.6 -0.2
BZS Buzias 8.02 5 ⇑P Pn 01 06 50.6 -0.2
BZS Buzias 8.02 5 *e*Pn Pn 01 06 50.5 -0.3
LOT Lotru 8.16 16 ⇓P Pn 01 06 54.8 +1.9
SURR Surduc 8.20 7 ⇑P Pn 01 06 58.2 +4.9
ARR Arges 8.30 20 ⇑P Pn 01 06 56.1 +1.4
VOIR 8.48 22 ⇓P Pn 01 06 58.8 +1.6
VOIR 8.48 22 ⇓P Pn 01 06 58.8 +1.6
SIRR Siria 8.67 5 ⇑P Pn 01 07 00.8 +1.1
ISR Istrita 8.71 29 ⇑P Pn 01 07 03.1 +2.8
ISR Istrita 8.71 29 ⇑P Pn 01 07 03.1 +2.8
MORH Mrgy, Hungar 8.71 351 ⇑P Pn 01 06 59.7 -0.6
MLR Muntele Rosu 8.81 25 Pn 01 07 04.1 +2.3
MLR Muntele Rosu 8.81 25 Pn Pn 01 07 03.9 +2.2
comp=N,0.5nm,0.3s,baz=146,slow=8.5,SNR=11
MLR LR LR 01 10 33.5
comp=N,170nm,19.8s,baz=206,slow=39
comp=N,4.9nm,0.8s
MLR Muntele Rosu 8.81 25 ⇑P Pn 01 07 07.4 +5.6
MLR Muntele Rosu 8.81 25 P Pn 01 07 04.1 +2.3
MLR Muntele Rosu 8.81 25 *e*Pn Pn 01 07 04.4 +2.7
BOJS Bojanci 8.84 335 *e*Pn Pn 01 07 02.2 +0.1
BOJS Bojanci 8.84 335 *e*Pn Pn 01 07 02.5 +0.5
BOJS Bojanci 8.84 335 *e*Pn Pn 01 07 02.6 +0.5
BOJS *e*Sn **Sn 01 08 35.9 -5.5**
NEHR Nehoiu 8.88 27 ⇓P Pn 01 07 07.9 +5.3
RIY Rijeka 8.97 331 *e*Pn Pn 01 07 04.5 +0.7
RIY *e*Sn **Sn 01 08 40.5 -4.0**
CRES Cresnjevec Ost 9.06 336 *e*Pn Pn 01 07 04.4 -0.7
CRES Cresnjevec Ost 9.06 336 *e*Pn Pn 01 07 04.9 -0.1
DOPR Dopca 9.06 22 ⇑P Pn 01 07 07.1 +2.1
COVR Voineasa-Covas 9.21 25 ⇑P Pn 01 07 10.1 +2.9
MARR Marisel-Cluj 9.23 11 ⇑P Pn 01 07 06.8 -0.7
KEST Kesra 9.26 262 Pn **Pn 01 07 09.4 +1.5**
KEST Kesra 9.26 262 Pn **Pn 01 07 09.6 +1.7**
comp=N,0.5nm,0.3s,baz=68,slow=7.8,SNR=8.6
comp=N,3.8nm,0.5s
SWA2 9.28 153 P Pn 01 07 07.5 -0.5
SWA2 S **Sn 01 08 45.0 -7.0**
OZUR 9.30 23 ⇑P Pn 01 07 10.5 +2.2
CEY Cerknica 9.34 332 *e*Pn Pn 01 07 09.5 +0.6
CEY Cerknica 9.34 332 *e*Pn Pn 01 07 09.8 +0.9
CEY Cerknica 9.34 332 *e*Pn Pn 01 07 09.5 +0.6
CEY *e*Sn **Sn 01 08 48.8 -4.8**
PLOR Plostina 9.37 27 ⇑P Pn 01 07 13.3 +4.0
PLOR Plostina 9.37 27 ⇑P Pn 01 07 13.3 +4.0
VRI Vrincioaia 9.41 27 ⇓P Pn 01 07 15.0 +5.2
VRI Vrincioaia 9.41 27 ⇓P Pn 01 07 15.0 +5.2
SABO M.te Sabotino 9.86 330 Pn 01 07 16.6 +0.6
SOKA Soboth 9.96 337 *e*Pn Pn 01 07 16.9 -0.5
comp=N,1.7nm,0.3s,SNR=9.8
SOKA *e*Sn **Sn 01 09 02.0 -6.8**
comp=N,6.0nm,0.6s
OBKA Obir 9.96 335 *e*Pn Pn 01 07 17.9 +0.4
OBKA Obir 9.96 335 *e*Pn Pn 01 07 19.0 +1.5
comp=N,1.2nm,0.6s
OBKA *e*Sn **Sn 01 09 05.5 -3.5**
comp=N,15nm,0.4s
PRED Cave del Predi 10.26 331 Pn Pn 01 07 22.2 +0.7
ARSA Arzberg 10.33 340 Pn Pn 01 07 22.4 -0.1
ARSA Arzberg 10.33 340 Pn Pn 01 07 28.0 +5.5
comp=N,1.3nm,0.6s
MYKA Terra Mystica 10.38 332 Pn Pn 01 07 28.7 +5.4
comp=N,2.3nm,0.7s
MYKA *e*Sn **Sn 01 09 13.1 -6.2**
comp=N,3.9nm,0.6s
BRTR Keskin Array B 10.39 74 Pn **Pn 01 07 27.3 +3.9**

comp=N,0.1nm,0.3s,baz=268,slow=13,SNR=2.9
comp=N,0.4nm,0.6s
BURAR Bucovina Array 10.54 17 ⇑P Pn 01 07 29.0 +3.6
BURAR Bucovina Array 10.54 17 ⇑P Pn 01 07 29.0 +3.6
RONA Rosalia, Austr 10.56 344 Pn Pn **01 07 25.7 0.0**
comp=N,0.1nm,0.4s
CTI Castel Tesino 10.75 324 Pn 01 07 29.3 +1.0
CTI Castel Tesino 10.75 324 P **Pn 01 07 29.3 +1.0**
KBA Koelnbreinsper 10.87 333 P **Pn 01 07 34.7 +4.7**
KBA Koelnbreinsper 10.87 333 Pn **Pn 01 07 32.3 +2.3**
comp=N,0.8nm,0.3s
KBA *e*Sn **Sn 01 09 25.6 -5.8**
comp=N,3.2nm,0.4s
CONA Conrad Observa 10.88 343 Pn Pn 01 07 40.0 +10
comp=N,1.0nm,0.6s
CONA Sn **Sn 01 09 26.0 -5.3**
comp=N,1.7nm,0.5s
ABTA Abfaltersbach 10.92 329 Pn Pn 01 07 35.4 +4.8
comp=N,2.4nm,0.6s
ABTA Sn **Sn 01 09 25.5 -6.9**
comp=N,19nm,0.7s
MOA Molln 11.24 337 *e*Pn Pn 01 07 37.9 +3.1
comp=N,1.1nm,0.3s,SNR=4.3
MOA *e*Sn **Sn 01 09 33.6 -6.5**
comp=N,3.4nm,0.4s
BIOA Bad Ischl, Aus 11.30 335 *e*Pn Pn 01 07 38.7 +3.0
comp=N,3.0nm,0.3s
BIOA Sn **Sn 01 09 35.8 -5.8**
comp=N,7.0nm,0.6s
LESA Schwarzleotal 11.41 332 *e*Pn Pn 01 07 39.1 +1.8
comp=N,3.2nm,0.6s,SNR=4.6
LESA *e*Sn **Sn 01 09 38.3 -6.2**
comp=N,7.7nm,0.6s
WTTA Wattenberg 11.69 328 Pn **Pn 01 07 44.2 +2.9**
comp=N,2.2nm,0.7s
WTTA Sn **Sn 01 09 47.9 -3.7**
comp=N,9.3nm,0.7s
RYAN Fayoum 11.72 134 P **Pn 01 07 40.3 -1.2**
WATA Walderalm 11.78 328 *e*Pn Pn 01 07 45.3 +3.0
comp=N,2.7nm,1.1s
WATA *e*Sn **Sn 01 09 48.7 -4.8**
comp=N,10nm,0.7s
SQTA Sankt Quirin 11.84 327 Pn **Pn 01 07 46.3 +3.0**
comp=N,1.9nm,0.6s
SQTA Sn **Sn 01 09 49.9 -5.1**
comp=N,6.4nm,0.7s
FETA Feichten 11.90 325 Pn Pn 01 07 52.7 +8.7
comp=N,0.8nm,0.7s
FETA Sn **Sn 01 09 49.5 -7.1**
comp=N,2.1nm,0.6s
MOTA Moosalm 11.98 327 *e*Pn Pn 01 07 48.0 +2.8
comp=N,2.6nm,0.7s
MOTA *e*Sn **Sn 01 09 52.6 -6.0**
comp=N,5.9nm,0.9s
VRAC Vranov 12.04 347 LR LR 01 13 34.2
comp=N,88nm,19.5s,baz=182,slow=44
DAVOX Davos/Dischmat 12.12 322 Pn **Pn 01 07 47.4 +0.2**
comp=N,0.1nm,0.3s,baz=193,slow=23,SNR=1.4
DAVOX Sn **Sn 01 09 58.9 -3.2**
comp=N,0.6nm,0.3s,baz=303,slow=22,SNR=6.1
DAVOX LR LR 01 13 08.0
comp=N,201nm,18.7s,baz=103,slow=41
comp=N,0.7nm,0.7s
TUE Stuetta 12.18 320 Pn **Pn 01 07 50.1 +2.2**
RETA Reutte 12.24 327 *e*Sn Sn 01 10 03.5 -1.3
comp=N,7.3nm,0.7s
HFRF Wahat Farafira 12.29 146 P **Pn 01 07 47.1 -2.2**
GERES GERESS Array B 12.29 338 Pn **Pn 01 07 49.6 +0.3**
baz=144,slow=12,SNR=4.0
GERES Sn **Sn 01 10 01.1 -5.0**
comp=N,0.1nm,0.3s,baz=153,slow=23,SNR=5.6
comp=N,0.5nm,0.5s
DAVA Damuels 12.49 324 *e*Sn Sn 01 10 02.2 -8.7
comp=N,8.7nm,0.6s
KHC Kasperske Hory 12.59 338 *e*PN Pn 01 07 56.3 +3.0
KHC *e*SN **Sn 01 10 05.4 -7.8**
KHC Kasperske Hory 12.59 338 *e*P Pn 01 07 56.3 +3.0
MMAI Mount Meron Ar 12.91 106 Pn **Pn 01 07 57.4 -0.4**
comp=N,0.9nm,0.3s,baz=292,slow=12,SNR=5.2
MMAI Sn **Sn 01 10 18.3 -2.9**
comp=N,1.6nm,0.3s,baz=301,slow=25,SNR=5.5
comp=N,0.2nm,0.3s
UPC Upice 13.30 347 *e*SN Sn 01 10 28.6 -1.9
OSTC Ostas 13.31 348 *e*SN Sn 01 10 27.9 -2.9
BALJ Balqa 13.50 110 Pn **Pn 01 08 05.7 -0.1**
EIL Elat 14.31 119 Pn **Pn 01 08 16.5 -0.5**
comp=N,0.4nm,0.3s,baz=306,slow=4.3,SNR=9.9
EIL Sn Sn 01 10 44.4 -11
comp=N,0.9nm,0.3s,baz=193,slow=9.8,SNR=7.0
comp=N,1.1nm,0.3s
KIEV Kiev 14.43 22 Pn **Pn 01 08 20.7 +2.2**
KIEV Kiev 14.43 22 P **Pn 01 08 20.7 +2.2**
AKASG Malin Array Be 14.44 22 Pn **Pn 01 08 16.6 -2.0**
comp=N,0.2nm,0.3s,baz=208,slow=13,SNR=4.1
AKASG LR LR 01 14 05.0
comp=N,149nm,18.3s,baz=223,slow=38
comp=N,0.2nm,0.4s
AKASG Malin Array Be 14.44 22 *i* P Pn 01 08 17.8 -0.8
AKBB Malin Array Si 14.44 22 *i* P Pn 01 08 19.9 +1.3
SOC Sochi 15.66 62 *e*P Pn 01 08 33.6 -1.3
SOC *e* 01 11 29.6
SOC MLR MLR
comp=Z,40nm,16.0s
SUW Suwalki 16.49 5 Pn **Pn 01 08 46.6 +1.2**
SUW Suwalki 16.49 5 P **Pn 01 08 46.6 +1.2**
KIV Kislovodsk 17.84 62 *e*P P 01 09 06.2 +3.1
KIV pmax pmax
comp=Z,3.0nm,1.1s
KIV MLR MLR
comp=Z,28nm,14.0s
PABE Paberze 18.03 6 Pn **Pn 01 09 04.2 -0.4**
PABE IAmb IAmb 01 09 04.8
comp=Z,22nm,0.7s
PABE Paberze 18.03 6 *e*P Pn 01 09 04.7 0.0
GNI Garni 18.93 75 LR LR 01 18 17.5
comp=Z,73nm,18.5s,baz=268,slow=43
ESBB Sonseca Array 19.30 284 P **Pn 01 09 20.0 -0.3**
ESDC Sonseca Array 19.31 284 P **Pn 01 09 20.4 0.0**
baz=77,slow=12,SNR=9.7
comp=Z,2.1nm,0.9s
OBN Obninsk 20.58 27 *i* P Pn 01 09 34.3 -0.9
OBN *i* 01 09 59.9
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,130nm,15.0s
MAK Makhachkala 21.14 67 *e*P P 01 09 36.0 -3.1
MAK *e*S **S 01 13 32.2 -1.4**
MAK pmax pmax
comp=Z,58nm,1.0s
MAK MLR MLR
comp=Z,49nm,9.0s
MDT Midelt 21.14 264 P **P 01 09 41.4 +2.0**
comp=Z,1.0nm,0.4s,baz=91,slow=13,SNR=3.7
comp=Z,1.0nm,0.4s
MTSE Matsula 21.21 5 *e*P P 01 09 41.4 +1.8
VSU Vasula 21.23 9 *i* P P 01 09 39.8 -0.1
VSU pmax pmax
comp=Z,17nm,0.7s
VSU Vasula 21.23 9 *e*P P 01 09 40.4 +0.5
ARBE Arbavere 22.10 7 *e*P P 01 09 50.9 +1.6
HFS Hagfors 22.96 351 P **P 01 09 57.6 -0.8**
comp=Z,4.6nm,0.7s,baz=155,slow=11,SNR=23
HFS LR LR 01 21 29.3
comp=Z,77nm,20.0s,baz=216,slow=44
comp=Z,4.6nm,0.7s
RAF Rauma 23.43 1⇑*e*P P 01 10 03.1 0.0
NC602 NORSAR Array S 23.84 349 P **P 01 10 08.7 +1.5**
NORES NORESS Array B 23.84 349 P **P 01 10 11.1 +4.0**
EKA Eskdalemuir Ar 23.93 325 P **P 01 10 08.2 +0.2**
comp=Z,2.1nm,0.7s,baz=129,slow=7.9,SNR=4.4
comp=Z,2.1nm,0.7s
NAO01 NORSAR Array S 24.05 348 P **P 01 10 09.8 +0.7**
NAO01 IAmb IAmb 01 10 23.2
comp=Z,8.8nm,1.1s
FINES FINESS Array B 24.09 6 P **P 01 10 08.5 -1.0**
FINES FINESS Array B 24.09 6 P **P 01 10 09.2 -0.3**
comp=Z,1.7nm,0.5s,baz=171,slow=10,SNR=32
FINES LR LR 01 21 40.9
comp=Z,87nm,20.0s,baz=186,slow=42
comp=Z,1.7nm,0.5s
NB2 NORSAR Subarra 24.18 349 P **P 01 10 10.3 -0.1**
comp=Z,0.3nm,0.4s,baz=162,slow=9.3
NOA NORSAR Array B 24.18 349 P **P 01 10 10.3 -0.1**
comp=Z,0.5nm,0.4s,baz=150,slow=11,SNR=8.9
NOA LR LR 01 20 55.8
comp=Z,53nm,19.1s,baz=5.0,slow=40

comp=Z,0.5nm,0.4s
KEF Keuruu 24.71 5 *e*P **P 01 10 16.8 +1.7**
VAF Ylistaro 25.48 2 *e*P **P 01 10 23.8 +1.8**
KIRV Kirov 28.08 32 LR LR 01 21 40.6
comp=Z,67nm,21.2s,baz=233,slow=36
TORD Torodi Ar. Bea 29.66 220 P **P 01 11 01.6 +1.7**
comp=Z,139nm,0.4s,baz=35,slow=7.8,SNR=1.3
ARCES ARCESS Array B 32.08 3 P **P 01 11 20.2 -0.7**
comp=Z,4.5nm,1.0s,baz=188,slow=11,SNR=7.5
ARCES LR LR 01 25 41.6
comp=Z,130nm,19.5s,baz=166,slow=39
comp=Z,4.5nm,1.0s
AAK Ala-Archa 40.91 66 *i* P **P 01 12 34.8 -1.8**
AAK pmax pmax
comp=Z,1.0nm,1.2s
KURBB Kurchatov Arra 42.49 53 P **P 01 12 49.0 -0.3**
comp=Z,0.5nm,0.5s,baz=279,slow=8.7,SNR=4.5
comp=Z,0.5nm,0.5s
KURK Kurchatov 42.54 53 P **P 01 12 49.0 -0.6**
MK31 Makanchi Array 45.52 58 *i* P **P 01 13 14.4 +0.7**
MKAR Makanchi Array 45.52 58 P **P 01 13 14.3 +0.6**
comp=Z,0.5nm,0.5s,baz=271,slow=7.9,SNR=10
comp=Z,0.5nm,0.5s
ZAA0 Zalesovo Array 46.00 48 P **P 01 13 21.5 +4.2**
ZAA0 IAmb IAmb 01 14 01.3
comp=Z,3.1nm,0.8s
ZALV Zalesovo Beam 46.00 48 P **P 01 13 17.1 -0.2**
comp=Z,1.2nm,0.5s,baz=276,slow=8.2,SNR=7.6
comp=Z,1.2nm,0.5s
ZALV Zalesovo Beam 46.00 48 *i* P **P 01 13 20.1 +2.8**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
NRIK Noril'sk 47.25 26 *i* P **P 01 13 27.8 +0.9**
NRIK pmax pmax
comp=Z,1.0nm,1.2s
BOSA Boshof 66.03 176 LR LR 01 46 02.2
comp=Z,80nm,21.1s,baz=242,slow=37
HHC Hu-ho-hao-te 67.28 55 *e*P **P 01 15 49.3 +0.3**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.0s
PZH PanZhiHua 67.68 73 P **P 01 15 53.3 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
CMAR Chiang Mai Arr 69.88 82 P **P 01 16 07.0 +1.6**
comp=Z,0.4nm,0.7s,baz=298,slow=5.2,SNR=1.8
comp=Z,0.4nm,0.7s
CMAR Chiang Mai Arr 69.88 82 P **P 01 16 07.0 +1.6**
YKA Yellowknife Ar 73.94 340 P **P 01 16 29.9 +0.9**
comp=Z,0.1nm,0.5s,baz=49,slow=6.0,SNR=4.4
comp=Z,0.1nm,0.5s
MA2 Magadan 74.77 24 LR LR 01 52 33.3
comp=Z,31nm,18.6s,baz=71,slow=38
SJG San Juan 76.69 283 LR LR 01 47 00.3
comp=Z,31nm,19.0s,baz=80,slow=33
ASAJ Asahikawa 83.17 38 LR LR 01 59 07.8
comp=Z,49nm,18.0s,baz=122,slow=39
ELK Elko 92.17 328 LR LR 02 02 52.3
comp=Z,36nm,19.4s,baz=360,slow=38

GCG 16 01:06:11.2±0.5, 15°.05N×92°.21W, h29km±3km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG8	**El Palmar, Qui**	**1.02**	**126**	*i* P	Pn	01 06 25.0	-4.9
STG0	**El Palmar, Qui**	**1.05**	**126**	*i* P	Pn	01 06 25.2	-4.9
FG8	**Yepocapa, Chim**	**1.78**	**116**	*i* P	Pn	01 06 35.1	-5.0
PETF	**Flores**	**2.92**	**50**	*i* P	Pn	01 06 55.9	+0.2

*IDC **16** 01:07:52.1±6.4, 8°.60S×117°.45E, h157km±57km, mb3.3/5, mbtmp3.8/8, Error ellipse: s-maj=95.6km s-min=16.6km az=63.0*
*NEIC **16** 01:07:53.8±1.7, 8°.57S±0°.10×117°.57E±0°.08, h171km±9km, mb4.5/14, Error ellipse: s-maj=14.7km s-min=11.5km az=162.0*
*DJA **16** 01:07:53.2±0.3, 9°S±4°×11°8E±°, h155km±4km, M4.2/14, mb4.3/5, MLv4.2/14*
ISC 16 01:07:51.4±0.5, 8°.63S±0°.06×117°.64E±0°.04, h145km, n47, σ2°18/62, mb3.8/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.24**	**146**	P	**Pn**	01 08 14.7	+3.5
PLAI				S	**Sn**	01 08 31.1	+4.8
TWSI	**Taliwang, Sumb**	**0.76**	**261**	P	**Pn**	01 08 17.6	+3.8
TWSI				S	**Sn**	01 08 36.1	+5.3
WBSI	**Waikabubak, Su**	**2.00**	**120**	P	**Pn**	01 08 29.8	+3.5
WBSI				S	**Sn**	01 08 54.8	+1.7
SRBI	**Singaraja**	**2.46**	**282**	P	**Pn**	01 08 35.5	+3.7
WSI	**Waingapu**	**2.82**	**112**	P	**Pn**	01 08 38.5	+2.2
WSI				S	**Sn**	01 09 13.5	+2.5
JAGI	**Jajag, Banyuwa**	**3.45**	**272**		**Pn**	01 08 46.3	+1.8
JAGI				Sn	**Sn**	01 09 27.5	+2.1
JAGI	**Jajag, Banyuwa**	**3.45**	**272**	P	**Pn**	01 08 46.3	+1.8
JAGI				S	**Sn**	01 09 27.6	+2.1
BSSI	**Bau Bau, Buton**	**3.75**	**49**	P	**Pn**	01 08 50.4	+2.0
BSSI				S	**Sn**	01 09 35.2	+2.7
KMMI	**Kalianget**	**3.96**	**293**	P	**Pn**	01 08 54.7	+3.6
EDFI	**Ende, Flores**	**4.01**	**92**	P	**Pn**	01 08 52.5	+0.7
EDFI				S	**Sn**	01 09 40.6	+2.0
KAPI	**Kappang**	**4.16**	**30**		**Pn**	01 08 55.1	+1.5
KAPI	**Kappang**	**4.16**	**30**	P	**Pn**	01 08 55.8	+2.1
KAPI	7.4nm,0.5s,baz=203,slow=7.5,SNR=6.4			S	**Sn**	01 09 43.2	+1.2
	5.6nm,0.7s,baz=27,slow=22,SNR=5.9						
GMJI	**Gumukmas**	**4.17**	**275**	P	**Pn**	01 08 55.8	+2.0
GMJI				S	**Sn**	01 09 45.8	+3.6
MMRI	**Maumere**	**4.55**	**90**	P	**Pn**	01 09 01.8	+3.0
MMRI				S	**Sn**	01 09 53.1	+1.9
PCJI	**Pacitan**	**6.41**	**273**	P	**Pn**	01 09 25.8	+2.2
PCJI				S	**Sn**	01 10 37.2	+1.5
SOEI	**Soe**	**6.64**	**100**		**Pn**	01 09 26.9	+0.1
SOEI	**Soe**	**6.64**	**100**	P	**Pn**	01 09 27.6	+0.8
	40nm,0.8s						
UGM	**Wanagama**	**7.08**	**275**	Pn	**Pn**	01 09 31.9	-0.7
UGM	**Wanagama**	**7.08**	**275**	P	**Pn**	01 09 35.0	+2.4
	57nm,1.6s						
UGM				S	**Sn**	01 10 54.5	+2.6
	57nm,1.6s						
FITZ	**Fitzroy Crossi**	**12.21**	**141**	P	**Pn**	01 10 42.2	+1.6
	2.4nm,0.9s,baz=318,slow=10,SNR=9.9						
FITZ				S	**Sn**	01 12 53.7	-2.0
	3.9nm,0.3s,baz=175,slow=20,SNR=12						
MBWA	**Marble Bar**	**12.62**	**171**	Pn	**Pn**	01 10 46.7	+0.7
KNRA	**Kununurra**	**12.93**	**124**		**Pn**	01 10 50.3	+0.3
PSA00	**Pilbara Seismi**	**13.05**	**171**	Pn	**Pn**	01 10 50.2	-1.2
MTN	**Manton Dam**	**13.90**	**109**	Pn	**Pn**	01 11 02.6	+0.2
GIRL	**Giralia**	**14.32**	**193**	Pn	**Pn**	01 11 08.0	+0.4
WB0	**Warramunga Arr**	**19.64**	**126**	P	**P**	01 12 10.3	+1.3
WB0				IAmb	IAmb	01 12 10.8	
	comp=Z,8.6nm,0.5s						
WRA	**Warramunga Arr**	**19.69**	**127**	P	**P**	01 12 10.4	+0.9
WRA	**Warramunga Arr**	**19.69**	**127**	P	**P**	01 12 10.9	+1.4
	comp=Z,4.9nm,0.3s,baz=302,slow=12,SNR=131						
WRA				S	**S**	01 15 44.1	+0.3
	comp=Z,0.4nm,0.3s,baz=301,slow=24,SNR=4.7						
WRAB	**Tennant Creek**	**19.69**	**127**	P	**P**	01 12 10.8	+1.3
WRAB				IAmb	IAmb	01 12 11.5	
	comp=Z,9.8nm,0.4s						
WB2	**Warramunga Arr**	**19.70**	**127**	P	**P**	01 12 11.1	+1.4
WR8	**Warramunga Arr**	**19.82**	**126**	P	**P**	01 12 12.2	+1.2
WR8				IAmb	IAmb	01 12 13.3	
	comp=Z,9.6nm,0.6s						
WR0	**Warramunga Arr**	**19.86**	**126**	P	**P**	01 12 12.7	+1.3
WR0				IAmb	IAmb	01 12 13.6	
	comp=Z,7.9nm,0.6s						
AS31	**Alice Springs**	**21.59**	**136**	P	**P**	01 12 30.9	+1.0
ASAR	**Alice Springs**	**21.59**	**136**	P	**P**	01 12 31.7	+1.8
	comp=Z,1.1nm,0.4s,baz=312,slow=9.5,SNR=15						
	comp=Z,1.1nm,0.4s						
COEN	**Coen**	**25.58**	**104**	P	**P**	01 13 08.3	+1.0
COEN				IAmb	IAmb	01 13 10.3	
	comp=Z,17nm,1.2s						
BBOO	**Buckleboo**	**29.49**	**147**	P	**P**	01 13 42.1	+0.1
BBOO				IAmb	IAmb	01 14 02.5	
	comp=Z,18nm,1.4s						
SONM	**Songino Array**	**57.09**	**351**	P	**P**	01 17 21.6	-1.0
	comp=Z,0.4nm,0.6s,baz=162,slow=6.0,SNR=2.9						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**63.52**	**334**	P	**P**	01 18 05.1	-1.1
	comp=Z,0.7nm,0.6s,baz=147,slow=6.0,SNR=5.7						
	comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**68.05**	**334**	P	**P**	01 18 33.8	-1.3
	comp=Z,0.4nm,0.7s,baz=141,slow=5.6,SNR=2.7						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**73.34**	**332**	P	**P**	01 19 05.8	-1.3
	comp=Z,0.8nm,0.7s,baz=126,slow=7.5,SNR=5.0						
	comp=Z,0.8nm,0.7s						
ABKAR	**Abkulak array**	**76.49**	**325**	P	**P**	01 19 22.9	-2.4
ABKAR	**Abkulak array**	**76.49**	**325**	P	**P**	01 19 23.8	-1.5
ABKAR				IAmb	IAmb	01 19 49.4	
	comp=Z,4.1nm,1.5s						
RAYN	**Ar Rayn**	**77.33**	**296**	P	**P**	01 19 29.0	-1.6
QSPA	**South Pole Qui**	**81.37**	**180**	P	**P**	01 19 50.9	-0.9
QSPA				IAmb	IAmb	01 20 00.6	
	comp=Z,4.3nm,1.4s						
SNAA	**Sanae**	**90.99**	**196**	P	**P**	01 20 38.1	-0.8
SNAA				IAmb	IAmb	01 20 44.6	
	comp=Z,7.5nm,1.3s						
SUR	**Sutherland**	**91.15**	**237**	P	**P**	01 20 36.6	-4.0
L16K	**Owhat River**	**94.17**	**28**	P	**P**	01 20 53.8	+0.3

NNC 16 01:13:54.2±1.0, 37°.78N×72°.00E, h148km±21km, mb2.7, mpv3.5, 2C-2D, Error ellipse: s-maj=11.0km s-min=6.5km az=17.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.22**	**21**	⇓P	Pn	01 15 10.4	-0.2
	3.4nm,0.5s						
AAK				⇑S	Sn	01 16 10.7	+0.5
	6.9nm,0.8s						
KK31	**Karatay Array**	**5.44**	**348**	⇓P	Pn	01 15 13.5	+0.1
	0.7nm,0.1s,baz=191,slow=14,SNR=23						
KK31				⇑S	Sn	01 16 15.7	+0.5
	5.1nm,0.3s,baz=169,slow=15,SNR=19						
AB31	**Akbulak array**	**14.41**	**327**	P	Pn	01 17 11.1	0.0
	0.3nm,0.5s,baz=136,slow=12,SNR=7.9						

*IDC **16** 01:25:32.8±9.3, 56°.49S×26°.77W, h102km±82km, mb3.8/3, mbtmp4.1/4, ML4.0/1, MS3.5/1, Error ellipse: s-maj=43.7km s-min=26.9km az=65.0*
ISC 16 01:25:32.6±0.8, 56°.5S±0°.1×26°.8W±0°.3, h101km, n12, σ0°55/11, mb4.2/3, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**16.52**	**160**	⇑P	**P**	01 29 19.1	+0.4
	comp=Z,4.8nm,0.6s						
VNA2	**Neumayer--Watz**	**16.72**	**158**	⇑P	**P**	01 29 21.4	+0.5
	comp=Z,3.7nm,0.5s,baz=316,slow=13						
SNAA	**Sanae**	**18.27**	**156**	P	**P**	01 29 37.3	-0.6
	comp=Z,0.5nm,0.3s,baz=299,slow=12,SNR=13						
	comp=Z,3.7nm,0.6s						
QSPA	**South Pole Qui**	**33.78**	**180**	P	**P**	01 32 04.2	-0.2
	comp=Z,2.0nm,0.5s,baz=207,slow=2.7,SNR=31						
	comp=Z,2.0nm,0.5s						
MAW	**Mawson**	**39.69**	**143**	LR	LR	01 48 57.0	
	comp=Z,62nm,18.6s,baz=242,slow=35						
VNDA	**Vanda**	**46.16**	**183**	P	**P**	01 33 46.6	+0.3
	comp=Z,1.8nm,0.7s,baz=158,slow=5.4,SNR=4.5						
	comp=Z,1.8nm,0.7s						
LPAZ	**La Paz**	**50.79**	**305**	P	**P**	01 34 23.4	+0.3
	comp=Z,1.0nm,0.4s,baz=93,slow=3.1,SNR=5.0						
	comp=Z,1.0nm,0.4s						
TORD	**Torodi Ar. Bea**	**73.32**	**29**	P	**P**	01 36 53.5	+0.5
	comp=Z,248nm,0.5s,baz=197,slow=5.6,SNR=1.6						
FINES	**FINESS Array B**	**124.66**	**28**	PKP	**PKPdf**	01 44 17.8	-0.8
	comp=Z,0.6nm,0.5s,baz=5.7,slow=2.8,SNR=5.1						
YKA	**Yellowknife Ar**	**136.62**	**318**	PKP	**PKPdf**	01 44 40.5	-0.7
	comp=Z,0.1nm,0.6s,baz=126,slow=2.4,SNR=4.0						
SONM	**Songino Array**	**150.54**	**87**	PKPbc	**PKPbc**	01 45 11.6	-0.1
	comp=Z,1.0nm,0.5s,baz=211,slow=2.5,SNR=7.3						
ILAR	**Eielson Array**	**150.55**	**311**	PKPbc	**PKPbc**	01 45 10.8	-0.2
	comp=Z,1.1nm,0.8s,baz=128,slow=2.2,SNR=8.3						

*IDC **16** 01:53:10.5±12.0, 5°.15S×130°.17E, h149km±130km, mb3.6/6, mbtmp4.1/9, ML4.1/3, Error ellipse: s-maj=97.7km s-min=35.0km az=48.0*
*NEIC **16** 01:53:14.4±1.8, 5°.43S±0°.08×129°.83E±0°.06, h170km±9km, mb4.4/19, Error ellipse: s-maj=13.5km s-min=7.0km az=150.0*
*DJA **16** 01:53:17.6±0.4, 5°S±4°×13°0E±°, h194km±7km, M4.6/12, mB4.6/1, mb4.6/4, MLv4.6/12, Mw(mB)3.8/1, MwMwp5.2/1, Mwp5.5/1*
ISC 16 01:53:15.8±0.5, 5°.38S±0°.05×129°.97E±0°.06, h200km, n73, σ1°43/74, mb4.2/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.86**	**355**	P	**Pn**	01 53 47.0	+2.3
BNDI	**Bandanaira**	**0.86**	**355**	P	**Pn**	01 53 46.6	+1.9
MSAI	**Masohi**	**2.28**	**333**	P	**Pn**	01 53 57.9	+0.6
MSAI				S	**Sn**	01 54 27.7	-1.9
AAI	**Ambon**	**2.45**	**313**	P	**Pn**	01 53 58.9	-0.2
AAI				S	**Sn**	01 54 32.4	-0.5
SAUI	**Saumlaki**	**2.90**	**153**	Pn	Pn	01 54 00.5	-3.8
SAUI	**Saumlaki**	**2.90**	**153**	P	**Pn**	01 54 06.9	+2.6
FAKI	**Fak Fak**	**3.34**	**43**		**Pn**	01 54 09.6	0.0
FAKI	**Fak Fak**	**3.34**	**43**	P	**Pn**	01 54 09.7	+0.2
FAKI	**Fak Fak**	**3.34**	**43**	P	**Pn**	01 54 09.7	+0.2
FAKI				S	**Sn**	01 54 50.2	-1.4
NLAI	**Namlea**	**3.57**	**307**	P	**Pn**	01 54 15.2	+2.9
KMPI	**Kaimana, Papua**	**4.09**	**65**	P	**Pn**	01 54 19.6	+0.8
SWI	**Sorong**	**4.67**	**16**	P	**Pn**	01 54 25.4	-0.7
SWI				S	**Sn**	01 55 18.4	-3.0
SANI	**Sanana**	**5.17**	**310**	P	**Pn**	01 54 32.7	+0.2
SANI	**Sanana**	**5.17**	**310**	P	**Pn**	01 54 32.2	-0.3
	0.2nm1000nm55nm,0.8s						
RKPI	**Ransiki, Papua**	**5.69**	**48**	P	**Pn**	01 54 40.3	+1.1
	177nm,0.7s						
DRS	**Darwin Rock St**	**7.06**	**173**	P	**Pn**	01 54 57.7	+0.8
SOEI	**Soe**	**7.13**	**232**	Pn	Pn	01 54 53.6	-4.3
SOEI	**Soe**	**7.13**	**232**	P	**Pn**	01 54 59.5	+1.6
MTN	**Manton Dam**	**7.50**	**171**		**Pn**	01 55 01.5	-1.1
MTN	**Manton Dam**	**7.50**	**171**	P	**Pn**	01 55 02.3	-0.3
KDU	**Kakadu**	**7.67**	**161**	P	**Pn**	01 55 03.9	-0.8
KNRA	**Kununurra**	**10.30**	**187**		Pn	01 55 37.0	-1.9
TOLI2	**Tolitoli**	**11.22**	**305**	P	**Pn**	01 55 51.1	+0.2
PLAI	**Plampang**	**12.58**	**254**	P	**Pn**	01 56 09.3	+1.2
FITZ	**Fitzroy Crossi**	**13.33**	**198**	Pn	Pn	01 56 15.6	-1.9
FITZ	**Fitzroy Crossi**	**13.33**	**198**	P	**Pn**	01 56 16.4	-1.0
	0.6nm,0.3s,baz=20,slow=9.9,SNR=29						
FITZ				S	S	01 58 33.1	-13
	4.0nm,0.4s,baz=354,slow=4.6,SNR=5.1						
	7.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**13.33**	**198**	P	**Pn**	01 56 17.0	-0.5
WB0	**Warramunga Arr**	**14.93**	**164**	Pn	**Pn**	01 56 35.8	-1.5
WRAB	**Tennant Creek**	**15.08**	**164**	Pn	**Pn**	01 56 38.2	-0.8
WRA	**Warramunga Arr**	**15.08**	**164**		**Pn**	01 56 38.4	-0.8
WRA	**Warramunga Arr**	**15.08**	**164**	P	**Pn**	01 56 38.0	-1.1
	0.6nm,0.3s,baz=339,slow=13,SNR=27						
WRA				S	S	01 59 15.8	-11
	1.9nm,0.4s,baz=333,slow=22,SNR=9.7						
	1.0nm,0.3s						
WR8	**Warramunga Arr**	**15.14**	**163**	Pn	**Pn**	01 56 38.6	-1.2
WR0	**Warramunga Arr**	**15.16**	**163**		**Pn**	01 56 39.7	-0.3
COEN	**Coen**	**15.55**	**124**		**P**	01 56 45.7	+0.8
COEN				IAmb	IAmb	01 56 52.9	
	comp=Z,18nm,1.2s						
COEN	**Coen**	**15.55**	**124**	P	**P**	01 56 45.2	+0.3
JAGI	**Jajag, Banyuwa**	**16.00**	**258**	P	**P**	01 56 50.1	+0.2
QIS	**Mount Isa**	**17.75**	**149**	P	**P**	01 57 10.1	+1.1
MBWA	**Marble Bar**	**18.57**	**211**	P	**P**	01 57 16.7	-1.1
MBWA				IAmb	IAmb	01 57 18.3	
	comp=Z,11nm,0.9s						
AS31	**Alice Springs**	**18.57**	**169**	P	**P**	01 57 18.6	+0.7
ASAR	**Alice Springs**	**18.57**	**169**	P	**P**	01 57 18.9	+1.0
	comp=Z,1.9nm,0.3s,baz=348,slow=10,SNR=74						
ASAR				S	**S**	02 00 34.7	-4.5
	comp=Z,1.1nm,0.8s,baz=350,slow=21,SNR=5.5						
	comp=Z,8.5nm,0.5s						
AS01	**Alice Springs**	**18.58**	**168**	P	**P**	01 57 18.9	+0.9
PSA00	**Pilbara Seismi**	**18.85**	**210**	P	**P**	01 57 19.7	-1.2
PSA00	**Pilbara Seismi**	**18.85**	**210**	P	**P**	01 57 20.7	-0.3
PSA00				IAmb	IAmb	01 57 21.4	
	comp=Z,14nm,0.6s						
PSA00	**Pilbara Seismi**	**18.85**	**210**	P	**P**	01 57 20.8	-0.1
WRKA	**Warakurna**	**19.61**	**185**	P	**P**	01 57 29.1	0.0
BBJI	**Bungbulang**	**22.28**	**263**	P	**P**	01 57 56.3	-0.6
GIRL	**Giralia**	**22.93**	**220**	P	**P**	01 58 02.7	+0.1
OOD	**Oodnadatta**	**22.94**	**167**	P	**P**	01 58 02.9	+0.2
MEEK	**Meekatharra**	**23.76**	**206**	P	**P**	01 58 09.2	-1.0
QLP	**Quilpie**	**25.10**	**149**	P	**P**	01 58 22.1	-0.2
FORT	**Forrest**	**25.33**	**184**	P	**P**	01 58 24.3	+0.1
FORT	**Forrest**	**25.33**	**184**	P	**P**	01 58 24.0	-0.3
KMBL	**Kambalda**	**26.94**	**195**	P	**P**	01 58 38.3	-0.5
MORW	**Morawa**	**27.00**	**208**	P	**P**	01 58 38.6	-0.7
MORW				IAmb	IAmb	01 58 57.4	
	comp=Z,18nm,1.4s						
BBOO	**Buckleboo**	**27.87**	**169**	P	**P**	01 58 47.0	0.0
BBOO				IAmb	IAmb	01 58 47.4	
	comp=Z,15nm,1.3s						
BBOO	**Buckleboo**	**27.87**	**169**	P	**P**	01 58 46.9	-0.1
CMAR	**Chiang Mai Arr**	**38.69**	**308**	P	**P**	02 00 20.4	-0.2
	comp=Z,1.4nm,0.5s,baz=134,slow=6.8,SNR=12						
	comp=Z,1.4nm,0.5s						
SONM	**Songino Array**	**56.91**	**341**	P	**P**	02 02 39.1	-1.0
	comp=Z,0.4nm,0.5s,baz=159,slow=6.3,SNR=4.0						
	comp=Z,0.4nm,0.5s						
KSH	**Kashi**	**66.82**	**317**	P	**P**	02 03 47.1	+0.8
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**66.87**	**326**	P	**P**	02 03 46.2	-0.2
	comp=Z,2.1nm,0.4s,baz=112,slow=8.0,SNR=49						
	comp=Z,2.1nm,0.4s						
ZALV	**Zalesovo Beam**	**70.13**	**334**	P	**P**	02 04 05.4	-0.9
	comp=Z,0.8nm,0.5s,baz=116,slow=6.9,SNR=3.9						
	comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**71.13**	**328**	P	**P**	02 04 12.0	-0.5
	comp=Z,2.1nm,0.9s,baz=128,slow=5.1,SNR=16						
	comp=Z,2.1nm,0.9s						
KURK	**Kurchatov**	**71.13**	**328**	P	**P**	02 04 12.2	-0.3
KURK				IAmb	IAmb	02 04 12.9	
	comp=Z,3.8nm,1.1s						
KKAR	**Karatay Array**	**72.12**	**318**	P	**P**	02 04 19.0	+0.4
BVAR	**Borovoye Array**	**76.69**	**328**	P	**P**	02 04 44.0	-0.7
	comp=Z,0.4nm,0.3s,baz=93,slow=7.4,SNR=5.2						
	comp=Z,0.4nm,0.3s						
VOI	**Vohitsoka**	**81.70**	**249**	P	**P**	02 05 11.9	-0.7
VOI				IAmb	IAmb	02 05 27.7	
	comp=Z,19nm,1.5s						
O15K	**Ungaliktiuk R**	**84.62**	**29**	P	**P**	02 05 30.2	+3.6
N15K	**Kwethluk River**	**84.83**	**28**	P	**P**	02 05 30.5	+2.8
G18K	**Tagagawik**	**87.38**	**23**	P	**P**	02 05 42.7	+2.7
G18K				IAmb	IAmb	02 05 55.6	
	comp=Z,4.8nm,1.4s						
E21K	**Killik River**	**89.88**	**21**	P	**P**	02 05 54.5	+2.8
E21K				IAmb	IAmb	02 05 56.5	
	comp=Z,6.9nm,1.4s						
O22K	**Cooper Landing**	**89.88**	**29**	P	**P**	02 05 54.0	+2.2
ILAR	**Eielson Array**	**91.90**	**25**	P	**P**	02 06 02.7	+1.6
D27M	**Malcolm River**	**94.66**	**21**	P	**P**	02 06 17.0	+3.2
D27M				IAmb	IAmb	02 06 29.1	
	comp=Z,3.2nm,1.4s						

*NOU **16** 02:02:51.6, 21°.86S×179°.08W, h603km, mb4.7/36, Fiji Islands Region*
*IDC **16** 02:02:54.7±0.7, 21°.95S×179°.50W, h604km±7km, mb3.9/22, mbtmp4.8/25, Error ellipse: s-maj=12.3km s-min=9.9km az=164.0*
*NEIC **16** 02:02:55.3±1.9, 21°.9S±0°.1×179°.5W±0°.1, h609km±6km, mb4.6/93, Error ellipse: s-maj=18.5km s-min=14.8km az=156.0*
ISC 16 02:02:54.0±0.3, 22°.00S±0°.06×179°.49W±0°.06, h600km, n345, σ0°80/371, mb4.6/74, 46C-24D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.83**	**331**		**P**	02 04 27.1	+1.4
MSVF	**Nonsavu**	**4.83**	**331**	P	**P**	02 04 27.0	+1.3
	301nm,0.5s,baz=201,slow=6.9,SNR=458						
MSVF				S	**S**	02 05 42.4	+1.9
	26nm,0.8s,baz=132,slow=18,SNR=4.7						
NIUE	**Niue**	**9.42**	**74**	P	**P**	02 05 08.2	+1.1
AFI	**Afiamalu**	**10.89**	**44**		**P**	02 05 20.0	-1.8
MARNC	**Mare, Loyalty**	**11.61**	**270**	P	**P**	02 05 29.7	+0.9
YATNC	**Mamie plateau,**	**12.63**	**267**	P	**P**	02 05 39.7	+0.6
OUENC	**Ouen Island, N**	**12.67**	**266**	P	**P**	02 05 41.4	+2.0
DZM	**Mont Dzumac**	**13.04**	**267**	P	**P**	02 05 43.3	-0.1
	16nm,0.7s,baz=141,slow=4.8,SNR=9.3						
DZM	**Mont Dzumac**	**13.04**	**267**	P	**P**	02 05 43.4	0.0
KUZ	**Kuautunu**	**15.27**	**195**	P	**P**	02 06 03.9	-0.5
URZ	**Urewera**	**16.47**	**189**	P	**P**	02 06 13.6	-1.8
	5.2nm,0.3s,baz=6.3,slow=3.4,SNR=12						
URZ				S	**S**	02 08 56.9	-2.5
	8.3nm,0.4s,baz=142,slow=23,SNR=14						
URZ	**Urewera**	**16.47**	**189**	P	**P**	02 06 13.9	-1.5
RAR	**Rarotonga**	**18.35**	**91**	P	**P**	02 06 32.5	-0.3
	25nm,0.9s,baz=296,slow=9.5,SNR=3.7						
QRZ	**Quartz Range**	**19.95**	**198**	P	**P**	02 06 47.4	+0.4
JCZ	**Jackson Bay**	**24.06**	**201**	P	**P**	02 07 24.3	+0.5
TATA	**Tatamba Isabel**	**24.09**	**301**	P	**P**	02 07 23.7	-0.6
MLZ	**Mavora Lakes**	**25.43**	**201**	P	**P**	02 07 37.0	+1.3
MLZ				IAmb	IAmb	02 07 41.7	
	comp=Z,38nm,1.5s						
WHZ	**Wether Hill Ro**	**25.95**	**200**	P	**P**	02 07 41.8	+1.6
WHZ				IAmb	IAmb	02 08 15.5	
	comp=Z,26nm,1.3s

comp=Z,3.9nm,0.9s,baz=97,slow=3.6,SNR=5.7
WRA ScP **ScP** 02 14 34.6 +1.1
comp=Z,5.8nm,0.9s,baz=94,slow=4.0,SNR=12
WRA S **S** 02 15 42.1 -4.1
comp=Z,1.6nm,0.7s,baz=95,slow=13,SNR=7.7
comp=Z,36nm,0.7s
JAY Jayapura 43.24 291 P **P** 02 10 03.9 -0.3
comp=Z,52nm,0.7s,baz=153,slow=4.3,SNR=15
comp=Z,52nm,0.7s
FORT Forrest 47.43 248 P 02 10 35.8 0.0
FORT Forrest 47.43 248 P **P** 02 10 35.6 -0.2
WRKA Warakurna 47.73 256 P **P** 02 10 38.1 -0.1
MTN Manton Dam 47.81 272 P 02 10 38.4 -0.4
MTN Manton Dam 47.81 272 P **P** 02 10 38.4 -0.4
DRS Darwin Rock St 48.16 273 P **P** 02 10 41.3 0.0
KNRA Kununurra 49.19 268 P 02 10 49.1 +0.1
KMBL Kambalda 52.69 247 P **P** 02 11 14.0 -0.1
SOEI Soe 55.18 273 P 02 11 32.5 +0.6
PSA00 Pilbara Seismi 55.99 258 P 02 11 37.3 +0.1
PSA00 IAmb IAmb 02 11 37.9
comp=Z,33nm,0.9s
KLBR Kellerberrin 56.17 246 P **P** 02 11 38.3 -0.1
MBWA Marble Bar 56.18 259 P **P** 02 11 38.5 -0.1
MBWA IAmb IAmb 02 11 39.1
comp=Z,39nm,0.8s
VNDA Vanda 56.30 185 P **P** 02 11 39.4 +1.0
comp=Z,1.0nm,0.7s,baz=326,slow=7.1,SNR=4.9
BLDU Ballidu 57.18 247 P **P** 02 11 45.0 -0.3
MUN Mundaring 57.43 245 P **P** 02 11 46.9 -0.1
MORW Morawa 57.98 249 P **P** 02 11 50.6 -0.1
GIRL Giralia 60.82 256 P **P** 02 12 10.5 +0.8
PLAI Plampang 61.51 272 P **P** 02 12 14.2 -0.1
TOLI2 Toliboli 62.58 283 P 02 12 20.2 -1.0
TOLI2 IAmb IAmb 02 12 21.7
comp=Z,28nm,1.0s
JAGI Jajag, Banyuwa 65.00 271 P 02 12 35.4 -1.2
JAGI Jajag, Banyuwa 65.00 271 P **P** 02 12 35.8 -0.8
QSPA South Pole Qui 68.08 180 P 02 12 55.9 +1.1
QSPA South Pole Qui 68.08 180 P **P** 02 12 55.4 +0.7
comp=Z,1.9nm,0.9s,baz=34,slow=1.6,SNR=5.5
QSPA pP **pwP** 02 14 57.2 +0.5
comp=Z,5.2nm,1.0s,baz=20,slow=6.8,SNR=5.0
comp=Z,1.9nm,0.9s
MJAR Matsushiro Arr 70.61 325 P **P** 02 13 10.2 +0.1
comp=Z,11nm,0.7s,baz=158,slow=5.6,SNR=21
comp=Z,11nm,0.7s
MAJO Matsushiro 70.61 325 P 02 13 10.1 0.0
MAJO IAmb IAmb 02 13 11.0
comp=Z,12nm,0.8s
MJB9 Matsu-Tunnel 70.61 325 P 02 13 10.6 +0.5
MJB9 IAmb IAmb 02 13 12.0
comp=Z,12nm,0.7s
KSM Kuching 72.26 279 P 02 13 19.3 -0.9
JNU Nakatsue 72.43 318 P 02 13 20.3 -0.5
JNU IAmb IAmb 02 13 22.0
comp=Z,19nm,1.1s
NACB Ninganchiao 73.38 305 P **P** 02 13 25.9 -0.4
SSLB Suanglung 73.66 305 P 02 13 27.1 -0.9
KSRS Korea Array 77.10 320 P **P** 02 13 47.2 +0.5
comp=Z,2.8nm,0.7s,baz=132,slow=5.2,SNR=12
comp=Z,2.8nm,0.7s
KSAR Wonju Array Be 77.12 320 P 02 13 46.9 +0.1
PEA0B Petropavlovsk- 77.37 346 P 02 13 47.6 -0.2
PEA0B IAmb IAmb 02 13 48.8
comp=Z,21nm,0.7s
PETK Petropavlovsk- 77.37 346 P 02 13 47.8 0.0
PETK Petropavlovsk- 77.37 346 P **P** 02 13 47.9 +0.1
comp=Z,20nm,0.7s,baz=133,slow=7.1,SNR=33
comp=Z,20nm,0.7s
USA0B Ussuriysk Arra 79.43 327 P **P** 02 13 59.3 +0.4
USA0B IAmb IAmb 02 14 01.2
comp=Z,20nm,1.1s
USRK Ussuriysk Ar. 79.43 327 P 02 13 59.2 +0.2
USRK Ussuriysk Ar. 79.43 327 P **P** 02 14 00.3 +1.4
comp=Z,11nm,1.0s,baz=127,slow=3.2,SNR=16
comp=Z,11nm,1.0s
WHN Wuhan 82.22 307 P **P** 02 14 14.5 +0.9
KULM Kulim 82.61 279 P **P** 02 14 16.4 +0.4
CN2 Changchun 82.65 323 P **P** 02 14 14.8 -0.7
CN2 pmax pmax
comp=Z,20nm,0.9s
BNX BinXian 82.86 326 ⇓P **P** 02 14 16.3 -0.2
BNX pmax pmax
comp=Z,26nm,0.9s
NVAR Mina Array Bea 83.06 44 P **P** 02 14 18.9 +1.0
comp=Z,1.5nm,0.9s,baz=224,slow=9.8,SNR=8.9
NVAR pP **pwP** 02 16 26.4 -1.5
comp=Z,0.2nm,0.5s,baz=207,slow=5.0,SNR=2.2
comp=Z,1.5nm,0.9s
RPSI Rantau Prapat 83.21 276 P 02 14 18.9 0.0
RPSI IAmb IAmb 02 14 19.5
comp=Z,15nm,0.9s
RPSI Rantau Prapat 83.21 276 P **P** 02 14 18.4 -0.6
PSI Prapat 83.25 276 P **P** 02 14 18.4 -1.0
comp=Z,11nm,0.8s,baz=352,slow=0.2,SNR=14
comp=Z,11nm,0.8s
N15K Kwethluk River 83.39 10 P 02 14 19.7 +0.9
O18K Koktuh Hills 83.95 12 P 02 14 21.6 +0.1
O18K IAmb IAmb 02 14 22.2
comp=Z,18nm,0.9s
W13A Hualapai Mount 84.20 49 P **P** 02 14 23.4 -0.2
O19K Port Alsworth 84.44 12 P **P** 02 14 23.7 -0.1
O19K IAmb IAmb 02 14 24.3
comp=Z,23nm,0.8s
ILSW Iliamna Southw 84.48 13 P **P** 02 14 23.6 -0.8
ILSW IAmb IAmb 02 14 24.6
comp=Z,17nm,0.8s
BRLK Bradley Lake 84.77 14 P **P** 02 14 25.2 -0.4
BRLK IAmb IAmb 02 14 26.4
comp=Z,14nm,1.0s
SRIT Nakonsritamara 84.85 281 P 02 14 28.3 +1.3
MA2 Magadan 84.86 345 P 02 14 25.7 -0.3
MA2 IAmb IAmb 02 14 26.7
comp=Z,21nm,1.0s
MA2 Magadan 84.86 345 P **P** 02 14 25.4 -0.6
comp=Z,15nm,0.9s,baz=140,slow=4.4,SNR=11
comp=Z,15nm,0.9s
MA2 Magadan 84.86 345 P **P** 02 14 25.7 -0.3
comp=Z,24nm,1.1s
N19K Bonanza Creek 84.97 12 P 02 14 26.1 -0.6
M17K Holitna River 84.99 10 P **P** 02 14 27.6 +1.0
SLKM Skilak Lake 85.59 14 P **P** 02 14 29.4 -0.1
SLKM IAmb IAmb 02 14 30.1
comp=Z,12nm,0.8s
LYN LuoYang 85.63 310 ⇑P **P** 02 14 31.9 +1.6
LYN pmax pmax
comp=Z,33nm,0.7s
HEH HeiHe 85.86 329 *e*P **P** 02 14 31.1 +0.1
HEH pmax pmax
comp=Z,19nm,0.6s
U15A North Rim 85.99 48 P 02 14 33.5 +1.2
STLK Strandline Lak 86.13 13 P **P** 02 14 30.8 -1.3
L19K White Mountain 86.17 11 P 02 14 32.8 +0.6
L19K IAmb IAmb 02 14 33.4
comp=Z,8.3nm,0.8s
RC01 Rabbit Creek A 86.22 14 P **P** 02 14 31.6 -0.8
SUA Susitna One 86.33 13 P 02 14 32.4 -0.7
SUA IAmb IAmb 02 14 33.4
comp=Z,13nm,0.6s
PWL Port Wells 86.33 15 P **P** 02 14 32.6 -0.4
PWL IAmb IAmb 02 14 33.5
comp=Z,10nm,0.8s
GLI Glacier Island 86.65 15 P **P** 02 14 33.9 -0.5
GLI IAmb IAmb 02 14 35.0
comp=Z,18nm,0.8s
M22K Willow 86.72 14 P **P** 02 14 34.3 -0.5
M22K IAmb IAmb 02 14 35.2
comp=Z,18nm,0.8s
PMR Palmer 86.80 14 P **P** 02 14 34.9 -0.2
GHO Glory Hole Cre 87.00 14 P **P** 02 14 35.9 -0.4
J18K Innoko River 87.04 10 P 02 14 35.8 -0.5
J18K IAmb IAmb 02 14 37.2
comp=Z,8.9nm,0.8s
CUT Chulitna 87.27 13 P **P** 02 14 36.6 -0.7
K20K Telida 87.39 11 P 02 14 37.4 -0.5
SCM Sheep Creek Mo 87.42 15 P **P** 02 14 37.8 -0.4
SEY Seymchan 87.52 348 P **P** 02 14 38.5 +0.1
comp=Z,7.0nm,0.7s,baz=149,slow=5.4,SNR=30
comp=Z,7.0nm,0.7s
J19K Poorman 87.72 10 P **P** 02 14 39.3 -0.1
CAST Castle Rocks 87.82 12 P 02 14 38.6 -1.3
CAST IAmb IAmb 02 14 39.4
comp=Z,12nm,0.8s
N25K Chitina, Valde 87.89 16 P **P** 02 14 39.5 -0.9
N25K IAmb IAmb 02 14 41.4
comp=Z,6.4nm,0.7s
XAN Xi'an 87.94 308 ⇑P **P** 02 14 42.8 +1.5
XAN pmax pmax
comp=Z,30nm,0.8s
KTH Kantishna Hill 88.17 12 P 02 14 40.7 -0.9
KTH IAmb IAmb 02 14 41.7
comp=Z,9.0nm,0.9s
TMUT Trail Mountain 88.19 46 P **P** 02 14 42.3 -0.4
TRF Thorofare Moun 88.20 13 P 02 14 41.2 -0.7
RND Reindeer 88.46 13 P 02 14 43.0 0.0
MCK McKinley 88.74 13 P 02 14 43.6 -0.6
MCK IAmb IAmb 02 14 45.4
comp=Z,7.0nm,0.9s
H19K Roundabout Mou 89.02 9 P 02 14 45.6 +0.3
H19K IAmb IAmb 02 14 46.0
comp=Z,6.8nm,1.0s
TX31 Lajitas Ar. Si 89.03 58 P **P** 02 14 46.8 +0.3
TXAR Lajitas Array 89.03 58 P **P** 02 14 47.2 +0.7
comp=Z,2.6nm,0.9s,baz=216,slow=5.9,SNR=22
TXAR pP **pwP** 02 16 58.4 +0.7
comp=Z,0.9nm,1.1s,baz=223,slow=5.1,SNR=4.1
TXAR PKKPbc **PKKPbc** 02 32 21.8 +0.6
comp=Z,0.3nm,0.7s,baz=347,slow=5.9,SNR=4.7
comp=Z,2.6nm,0.9s
M27K Edge Creek, AK 89.23 17 P 02 14 46.9 +0.2
M27K IAmb IAmb 02 14 49.4
comp=Z,6.7nm,1.0s
PLCA Paso Flores 89.25 134 P **P** 02 14 48.7 +1.4
comp=Z,2.0nm,0.8s,baz=194,slow=5.9,SNR=4.8
comp=Z,2.0nm,0.8s
CM31 Chiang Mai Arr 89.31 290 P **P** 02 14 48.6 +0.7
CMAR Chiang Mai Arr 89.31 290 P 02 14 48.8 +0.9
CMAR Chiang Mai Arr 89.31 290 P **P** 02 14 49.8 +1.9
comp=Z,14nm,0.8s,baz=133,slow=3.3,SNR=94
CMAR PP **PP** 02 18 30.4 +0.1
comp=Z,0.8nm,0.7s,baz=132,slow=7.4,SNR=5.2
comp=Z,14nm,0.8s
ANMO Albuquerque 89.42 52 P **P** 02 14 48.6 +0.3
ANMO Albuquerque 89.42 52 P **P** 02 14 48.8 +0.5
ANMO IAmb IAmb 02 14 49.8
comp=Z,2.0nm,0.9s
ANMO Albuquerque 89.42 52 P 02 14 48.9 +0.6
ANMO IAmb IAmb 02 14 49.8
comp=Z,1.7nm,0.8s
I21K Tanana 89.44 11 P **P** 02 14 47.4 0.0
I21K IAmb IAmb 02 14 47.9
comp=Z,6.9nm,0.8s
CHTO Chiang Mai 89.45 290 P 02 14 49.3 +0.8
ALPN Alpine 89.50 57 P 02 14 49.0 +0.3
ALPN IAmb IAmb 02 14 50.4
comp=Z,4.0nm,0.6s
WRH Wood River Hil 89.56 13 P 02 14 47.6 -0.3
WRH IAmb IAmb 02 14 48.2
comp=Z,6.7nm,0.9s
HDA Harding Lake 89.75 14 P **P** 02 14 48.4 -0.4
HDA IAmb IAmb 02 14 50.1
comp=Z,7.6nm,1.2s
DOT Dot Lake 89.76 15 P **P** 02 14 49.3 +0.3
CCB Clear Creek Bu 89.78 13 P 02 14 48.5 -0.4
CCB IAmb IAmb 02 14 48.9
comp=Z,4.6nm,0.6s
F19K Shaleruckik Mo 90.05 8 P **P** 02 14 49.8 -0.4
F19K IAmb IAmb 02 14 50.8
comp=Z,5.6nm,0.9s
SCRK Sand Creek 90.06 15 P 02 14 50.7 +0.3
ILAR Eielson Array 90.08 13 P **P** 02 14 49.4 -1.0
comp=Z,1.4nm,0.7s,baz=220,slow=4.7,SNR=12
comp=Z,1.4nm,0.7s
E18K Tukpahlearik C 90.26 7 P **P** 02 14 51.2 +0.1
E18K IAmb IAmb 02 14 52.1
comp=Z,6.3nm,0.8s
J25K Salcha River, 90.28 14 P **P** 02 14 51.4 0.0
BILL Bilibino 90.39 355 P 02 14 51.9 +0.2
BILL IAmb IAmb 02 14 52.7
comp=Z,8.0nm,0.8s
G21K Allakaket 90.39 10 P 02 14 52.2 +0.4
G21K IAmb IAmb 02 14 53.1
comp=Z,5.3nm,0.9s
F20K Avaraart Lake 90.55 9 P 02 14 52.5 +0.1
J26L Joseph Creek 90.60 15 P 02 14 53.1 +0.2
J26L IAmb IAmb 02 14 54.1
comp=Z,6.0nm,1.1s
E19K Redstone River 90.72 8 P 02 14 53.4 +0.2
E19K IAmb IAmb 02 14 54.3
comp=Z,6.5nm,0.8s
PDAR Pinedale Array 91.00 44 P **P** 02 14 56.5 +1.0
comp=Z,0.5nm,0.7s,baz=256,slow=3.8,SNR=4.7
comp=Z,0.5nm,0.7s
D20K Etivluk River 91.98 8 P **P** 02 14 59.4 +0.3
D20K **PcP** 02 14 59.5 0.0
D20K IAmb IAmb 02 15 00.1
comp=Z,6.2nm,1.0s
SONM Songino Array 95.97 319 P **P** 02 15 18.7 +0.9
comp=Z,0.5nm,0.5s,baz=110,slow=5.0,SNR=3.5
SONM PP **PP** 02 19 23.2 +2.0
comp=Z,0.4nm,0.6s,baz=149,slow=6.1,SNR=3.6
comp=Z,0.5nm,0.5s
INK Inuvik 96.08 16 P **P** 02 15 16.8 -0.8
comp=Z,1.0nm,0.8s,baz=207,slow=2.9,SNR=4.5
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 110.78 321 PKiKP **PKiKP** 02 20 17.9 -1.4
comp=Z,1.3nm,0.6s,baz=124,slow=1.5,SNR=8.0
MKAR Makanchi Array 111.21 313 PKiKP **PKiKP** 02 20 19.2 -1.2
comp=Z,1.0nm,0.6s,baz=84,slow=1.8,SNR=7.9
KURBB Kurchatov Arra 114.19 317 PKP PKPdf 02 20 24.8 -1.1
comp=Z,1.2nm,0.5s,baz=104,slow=1.8,SNR=12
KURBB PP **PP** 02 21 30.9 -2.2
comp=Z,0.3nm,0.5s,baz=90,slow=6.1,SNR=5.1
GAR Garm 118.89 303 PKPdf 02 20 35.1 -0.5
KK31 Karatay Array 119.08 308 PKPdf 02 20 35.1 -0.5
KKAR Karatay Array 119.08 308 PKPdf 02 20 35.1 -0.5
KKAR Karatay Array 119.08 308 PKPdf 02 20 34.9 -0.7
BVAR Borovoye Array 119.32 319 PKP **PKPdf** 02 20 34.8 -1.0
comp=Z,3.8nm,0.5s,baz=112,slow=0.7,SNR=25
KBL Kabul 119.38 298 PKiKP 02 20 36.3 -0.5
SPITS Spitsbergen Ar 123.27 356 PKP **PKPdf** 02 20 41.9 -0.8
comp=Z,4.2nm,0.6s,baz=117,slow=2.9,SNR=7.7
ARCES ARCESS Array B 130.13 349 PKP **PKPdf** 02 20 55.3 -0.7
comp=Z,3.1nm,0.7s,baz=42,slow=2.2,SNR=16
ARCES SKPbc **SKPab** 02 23 23.9 -0.2
comp=Z,2.5nm,0.8s,baz=45,slow=5.5,SNR=4.9
FINES FINESS Array B 136.79 342 PKhKP PKPpre 02 20 56.0
comp=Z,1.9nm,0.8s,baz=25,slow=5.0,SNR=6.8
FINES PKP **PKPdf** 02 21 08.0 -0.6
comp=Z,2.8nm,0.6s,baz=72,slow=3.1,SNR=10
FINES SKPbc **SKPbc** 02 23 46.0 +0.3
comp=Z,1.6nm,0.6s,baz=55,slow=4.0,SNR=8.0
KMBO Kilima Mbogo 137.41 242 PKP **PKPdf** 02 21 12.1 +0.5
comp=Z,1.6nm,0.9s,baz=206,slow=2.9,SNR=4.0
NB2 NORSAR Subarra140.28 352 PKP PKPpre 02 21 08.3
comp=Z,0.8nm,0.6s,baz=10,slow=3.2
NB2 pPKP **SKPbc** 02 23 55.6 +0.1
comp=Z,0.9nm,0.9s,baz=17,slow=2.7
NOA NORSAR Array B140.28 352 PKhKP PKPpre 02 21 07.9
comp=Z,1.6nm,0.7s,baz=16,slow=4.6,SNR=12
NOA SKPbc **SKPbc** 02 23 55.5 +0.1
comp=Z,1.1nm,0.8s,baz=15,slow=4.3,SNR=5.0
HFS Hagfors 140.78 350 PKhKP PKPpre 02 21 09.7
comp=Z,5.8nm,0.6s,baz=90,slow=3.0,SNR=37
HFS SKPbc **SKPbc** 02 23 56.6 -0.2
comp=Z,3.4nm,0.9s,baz=301,slow=0.9,SNR=5.2
KOPT Kop Dagi 141.69 307 PKPdf 02 21 16.3 -2.3
MARD Mardin 142.13 303 PKPdf 02 21 16.5 -2.7
MBAR Mbarara 142.93 237 PKPdf 02 21 20.7 -0.7
TJOU Tjoern 143.11 350 *i* P PKPab 02 21 17.7 -0.4
BORU Boraas 143.30 349 *i* P PKPab 02 21 18.1 -0.8
HOMB Homborsund 143.31 353 *i* P PKPbc 02 21 18.7 -0.4
SNART Snartemo 143.38 354 *i* P PKPbc 02 21 18.8 -0.5
AKASG Malin Array Be 143.61 329 PKPbc 02 21 19.4 -0.9
AKASG Malin Array Be 143.61 329 PKP PKPbc 02 21 19.2 -1.0
comp=Z,9.7nm,0.4s,baz=43,slow=4.4,SNR=134
AKASG SKPbc **SKiKP** 02 24 04.0 -0.8
comp=Z,0.3nm,0.3s,baz=45,slow=2.5,SNR=9.2
AKBB Malin Array Si 143.61 329 PKPbc 02 21 19.4 -0.9
KIEV Kiev 143.62 329 PKPbc 02 21 19.6 -0.7
KIEV Kiev 143.62 329 ⇑P PKPbc 02 21 18.7 -1.5
ONAU Onsala 143.67 350 *i* P PKPbc 02 21 19.3 -0.9
SUW Suwalki 143.71 337 *e*PKP **PKPdf** 02 21 20.7 -0.6
SUW Suwalki 143.71 337 PKPab 02 21 20.3 -0.2
FABU Falkenberg 143.91 349 *i* P PKPbc 02 21 20.1 -0.9
BLEU Blekinge 143.91 346 *i* P PKPbc 02 21 20.1 -0.9
DEL Delary 144.19 347 *i* P PKPbc 02 21 21.2 -0.7
TOKA Tokat 144.52 309 PKPab 02 21 23.4 -0.8
RNPP9 Sopachiv 144.63 332 PKP **PKPdf** 02 21 22.5 -0.5
RNPP8 Varash 144.70 332 PKP PKPbc 02 21 22.9 -0.7
BJUU Bjuv 144.72 348 *e*P PKPbc 02 21 22.7 -0.8
RNPP5 Staryi Chortor 144.77 332 PKP PKPbc 02 21 23.1 -0.7
LUBAR Lubar, Ukraine 144.83 329 PKP **PKPdf** 02 21 23.1 -0.3
GAZ Gaziantep 144.93 304 PKPab 02 21 25.4 -0.5
MUD Monsted U'grnd 145.00 352 *i* P PKPbc 02 21 24.2 -0.1
BAL3X Bal3x, Balta 145.18 325 PKP **PKPbc** 02 21 24.2 -1.0
BSD Bornholm Skovb 145.21 345 *e*P **PKPbc** 02 21 24.5 -0.5
BNN Bunyan 145.47 307 PKPbc 02 21 25.6 -0.9
SORM Soroca 145.71 326 ⇑P **PKPbc** 02 21 26.5 -0.1
SORM Soroca 145.71 326 PKP **PKPbc** 02 21 25.9 -0.7
PURM Purcari 145.88 323 ⇓P **PKPbc** 02 21 27.0 -0.1
ILGA Ilgaz 146.19 312 PKPbc 02 21 29.0 +0.5
MILM Milestii Mici 146.23 324 ⇑P **PKPbc** 02 21 27.6 -0.6
GKP Gorka Klasztor 146.26 342 *e*PKP **PKPbc** 02 21 27.7 -0.3
BEL Belsk 146.33 337 *e*PKP **PKPbc** 02 21 28.8 +0.5
EKA Eskdalemuir Ar 146.60 4 PKPbc **PKPbc** 02 21 28.2 -0.6
comp=Z,9.8nm,1.1s,baz=11,slow=2.0,SNR=4.5
BR131 Keskin Array S 146.77 310 PKPbc 02 21 29.4 -0.6
BRTR Keskin Array B 146.77 310 PKPbc 02 21 29.6 -0.4
BRTR Keskin Array B 146.77 310 PKPbc **PKPbc** 02 21 29.4 -0.6
comp=Z,7.0nm,0.7s,baz=131,slow=4.3,SNR=42
KIRS Kirsehir-Merke 146.79 309 ⇓P **PKPdf** 02 21 27.2 +0.1
TLCR 147.26 322 ⇑P **PKPbc** 02 21 30.6 -0.3
BALJ Balqa 147.26 295 PKPbc 02 21 31.0 -0.4
VLDR Vladesti 147.29 323 ⇓P **PKPbc** 02 21 31.2 +0.3
MMAI Mount Meron Ar 147.30 297 PKPbc **PKiKP** 02 21 32.0 -1.1
comp=Z,13nm,0.6s,baz=68,slow=4.6,SNR=34
ANTO Ankara 147.31 310 PKPbc 02 21 30.8 -0.6
ANTO Ankara 147.31 310 ⇑P **PKPbc** 02 21 31.6 +0.2
GHRR 147.52 324 ⇓P **PKiKP** 02 21 32.3 -0.8
BUR08 Bucovina Ar. S 147.62 328 PKPbc 02 21 31.8 -0.2
BURAR Bucovina Array 147.64 328 PKPbc 02 21 31.4 -0.6
BURAR Bucovina Array 147.64 328 ⇓P **PKiKP** 02 21 32.9 -0.5
TESR Tescani 147.64 325 ⇑P **PKPbc** 02 21 31.3 -0.7
CFR Carcaliu 147.66 322 ⇓P **PKPbc** 02 21 31.9 0.0
TPGR Topolog 147.68 321 ⇑P **PKiKP** 02 21 32.4 -1.1
PANC Panciu 147.78 324 ⇑P **PKiKP** 02 21 32.6 -1.0
ONER Baraj Valea Uz 147.89 325 ⇑P **PKPbc** 02 21 32.4 -0.1
OJC Ojcow 148.01 336 *e*PKP **PKPbc** 02 21 32.6 -0.1
OJC Ojcow 148.01 336 PKPbc 02 21 32.3 -0.4
VRI Vrincioaia 148.01 324 ⇑P **PKPbc** 02 21 32.8 -0.1
KOLS Kolonicke sedl 148.03 332 *e*PKP **PKiKP** 02 21 33.7 -0.4
KOLS *e* 02 21 37.0
HARR Harsova 148.06 322 ⇑P **PKPbc** 02 21 32.9 0.0
PLOR Plostina 148.07 324 ⇑P **PKPdf** 02 21 29.4 +0.4
TLBR Topalu 148.08 321 ⇑P **PKiKP** 02 21 33.5 -0.7
STHS Stebnicka Huta 148.09 334 *e*PKP **PKPbc** 02 21 32.6 -0.4
STHS *e* 02 21 37.9
MDUB Mudurnu 148.17 312 PKPbc 02 21 33.1 -0.5
MANR Mangalia 148.18 320 ⇓P **PKPbc** 02 21 33.1 -0.2
COVR Voineasa-Covas 148.31 325 ⇑P **PKPbc** 02 21 32.9 -0.7
OZUR 148.37 325 ⇓P **PKiKP** 02 21 34.0 -1.0
BMR Baia Mare 148.42 330 ⇑P **PKPab** 02 21 39.7 +0.2
NIE Niedzica 148.47 335 *e*PKP **PKiKP** 02 21 34.6 -0.4
NEHR Nehoiu 148.53 324 ⇑P **PKPbc** 02 21 33.8 -0.4
CSS Mathiatis 148.54 301 PKPbc 02 21 33.8 -0.8
DOPR Dopca 148.66 326 ⇓P **PKiKP** 02 21 35.1 -0.4
KSP Ksiaz 148.67 341 *e*PKP **PKiKP** 02 21 34.8 -0.5
MLR Muntele Rosu 148.68 324 PKPbc 02 21 34.0 -0.7
MLR Muntele Rosu 148.68 324 ⇑P **PKPdf** 02 21 30.5 +0.4
OKC Ostrava-Krasne 148.92 338⇑*e*PKP **PKiKP** 02 21 35.1 -0.8
OSTC Ostas 148.95 340⇑*e*PKP **PKiKP** 02 21 35.4 -0.5
CHVC Chvalec 148.97 341⇑*e*PKP **PKiKP** 02 21 35.4 -0.6
STEB Steborice 148.97 338⇑*e*PKP **PKiKP** 02 21 35.4 -0.6
LANS Liptovska Anna 149.00 336 *e*PKP **PKiKP** 02 21 36.5 +0.4
LANS *e* 02 21 42.1
CBBR Cluj-Babes-Bol 149.04 328 ⇓P **PKiKP** 02 21 35.5 -0.7
UPC Upice 149.05 341⇑*e*PKP **PKiKP** 02 21 35.6 -0.5
CJR Cluj-Napoca 149.06 328 ⇓P **PKiKP** 02 21 35.6 -0.7
MDB Medias 149.06 327 ⇓P **PKiKP** 02 21 36.2 -0.1
DPC Dobruska-Polom 149.09 340⇑*e*PKP **PKiKP** 02 21 35.8 -0.5
KECS Kecovo 149.13 334 *e*PKP **PKiKP** 02 21 36.4 +0.1
CLL Collm 149.17 345 PKPbc 02 21 35.2 -0.3
CLL Collm 149.17 345 *e*PKPdf **PKPdf** 02 21 32.0 +1.5
CLL ⇓*i*PKPbc **PKiKP** 02 21 35.5 -0.8
comp=Z,36nm,0.9s
CLL ⇑*i*PKPab **PKPab** 02 21 42.4 0.0
comp=Z,15nm,0.7s
CLL *e*pPKPab **pPKPab** 02 23 58.0 +4.1
CLL *i* SKPdf **SKPdf** 02 24 06.5 -1.6
comp=Z,12nm,1.4s
KRLC Kraliky 149.19 339⇑*e*PKP **PKiKP** 02 21 36.0 -0.5
MORC Moravsky Berou 149.19 338 PKiKP 02 21 36.0 -0.5
MORC Moravsky Berou 149.19 338 *e*PKP **PKiKP** 02 21 36.1 -0.4
MORC *e* 02 21 43.2
MORC Moravsky Berou 149.19 338 ⇑P PKPdf 02 21 21.3 -9.4
VOIR 149.19 325 ⇑P **PKPbc** 02 21 35.8 -0.1
MARR Marisel-Cluj 149.32 329 ⇓P **PKPbc** 02 21 36.0 -0.2
BRG Berggiesshubel 149.32 343 *i* PKP **PKiKP** 02 21 36.2 -0.5
BRG Amp 02 21 37.0
comp=Z,24nm,0.8s
BRG Berggiesshubel 149.32 343 P **PKPab** 02 21 43.7 +0.6
BRG Amp 02 21 44.0
comp=Z,10.0nm,0.7s
ARR Arges 149.46 325 ⇑P **PKiKP** 02 21 37.8 +0.6
PVCC Panska Ves 149.46 342⇑*e*PKP **PKiKP** 02 21 36.6 -0.4
HSKC Hora Svate Kat 149.70 344⇑*e*PKP **PKiKP** 02 21 36.8 -0.7
VYHS Vyhne 149.78 335 *e*PKP **PKiKP** 02 21 37.2 -0.5
VYHS *e* 02 21 45.6
HUMR Humele 149.82 324 ⇓P **PKPbc** 02 21 36.3 -0.9
PSZ Piszkesteto 149.82 334 PKPbc 02 21 37.0 -0.3
PSZ Piszkesteto 149.82 334 ⇑P **PKPbc** 02 21 37.3 -0.6
LOT Lotru 149.85 326 ⇓P **PKiKP** 02 21 37.3 -0.8
VRAC Vranov 149.91 339 *e*PKP **PKiKP** 02 21 37.6 -0.4
VRAC *e* 02 21 46.4
VRAC Vranov 149.91 339 ⇑P **PKiKP** 02 21 37.5 -0.4
JAVC Velka Javorina 149.91 337 *e*PKP **PKiKP** 02 21 38.5 +0.6
COPA Copaceanca 149.94 323 ⇑P **PKPbc** 02 21 36.8 -0.7
GOPC GO Pecny, Ondr 149.95 341⇑*e*PKP **PKiKP** 02 21 37.7 -0.3
PRU Pruhonice 149.95 342⇑*e*PKP **PKPbc** 02 21 37.1 -0.3
PRU *e*PKPAB **PKPab** 02 21 46.2 +0.4
DEV Deva 149.99 328 ⇑P **PKiKP** 02 21 37.5 -0.7
KRUC Moravsky 150.19 339 *e*PKP **PKiKP** 02 21 38.0 -0.5
KRUC *e* 02 21 47.3
TREC Trest 150.28 340 *e*PKPAB **PKPab** 02 21 47.3 +0.1
SIRR Siria 150.31 330 ⇓P **PKiKP** 02 21 38.4 -0.5
BAND Balkesir-Ban 150.32 314 ⇓P **PKPbc** 02 21 37.8 -0.7
GZR Gura Zlata 150.39 327 ⇑P **PKiKP** 02 21 38.5 -0.6
SURR Surduc 150.46 328 ⇓P **PKPbc** 02 21 38.0 -0.7
MODS Modra-Piesok 150.46 337 *e*PKP **PKiKP** 02 21 39.3 +0.2
MODS *e* 02 21 49.5
SRO Srobarova 150.54 335 *e*PKP **PKiKP** 02 21 39.3 +0.1
SRO *e* 02 21 49.1
ZVC Zvikov 150.55 342⇑*e*PKP **PKiKP** 02 21 38.0 -0.4
ZVC *e*PKPAB **PKPab** 02 21 49.4 +0.7
ELL Elmali 150.61 307 PKPbc 02 21 39.0 -0.5
SRE Strehaia 150.68 326 ⇓P **PKiKP** 02 21 40.0 +0.4
BZS Buzias 150.80 329 ⇑P **PKiKP** 02 21 39.5 -0.3
MANT Manisa 150.88 311 PKiKP 02 21 39.9 -0.6
HERR Herculane 150.94 327 ⇑P **PKiKP** 02 21 39.9 -0.3
KHC Kasperske Hory 151.00 342 *e*PKPDF **PKPdf** 02 21 33.7 +0.2
KHC ⇑*e*PKP **PKiKP** 02 21 40.0 -0.2
KHC *e*PKPAB **PKPab** 02 21 50.6 +0.3
BAIL Bailesti 151.04 325 ⇓P **PKiKP** 02 21 41.4 +1.0
CKRC Cesky Krumlov 151.06 341⇑*e*PKP **PKiKP** 02 21 40.0 -0.4
CKRC *e*PKPAB **PKPab** 02 21 50.9 +0.4
BANR Banloc 151.21 329 ⇑P **PKiKP** 02 21 40.4 -0.3
GEC2 GERESS Array S 151.22 342 PKiKP 02 21 40.3 -0.5
GERES GERESS Array B 151.22 342 PKPbc **PKiKP** 02 21 40.1 -0.6
comp=Z,5.6nm,0.8s,baz=30,slow=1.9,SNR=32
GERES PKPab **PKPab** 02 21 51.4 +0.1
comp=Z,1.7nm,0.6s,baz=27,slow=3.3,SNR=7.6
CONA Conrad Observa 151.34 338 *i* PKP **PKiKP** 02 21 40.9 -0.2
comp=Z,6.4nm,0.7s
CONA *i* PKP **PKPab** 02 21 53.1 +1.3
comp=Z,4.2nm,0.7s
MDVR Moldovita 151.36 327 ⇓P **PKPbc** 02 21 40.2 -0.6
RONA Rosalia, Austr 151.39 337 *e*PKP **PKiKP** 02 21 40.8 -0.3
comp=Z,7.2nm,0.7s,SNR=14
RONA *i* PKP **PKPab** 02 21 53.2 +1.3
comp=Z,3.0nm,0.7s
MORH Mrgy, Hungar 151.69 333 ⇑P **PKPdf** 02 21 34.6 +0.1
MOA Molln 151.94 340 *e*PKP **PKiKP** 02 21 41.7 -0.5
comp=Z,2.0nm,0.6s,SNR=4.4
MOA *i* PKP **PKPab** 02 21 55.1 +0.9
comp=Z,2.4nm,0.7s
BOVS Bovan 152.17 326 ⇓P **PKPbc** 02 21 42.1 -0.5
BIOA Bad Ischl, Aus 152.28 341 *e*PKP **PKiKP** 02 21 42.4 -0.5
comp=Z,1.6nm,0.7s
BIOA *i* PKP **PKPab** 02 21 56.7 +1.0
comp=Z,6.3nm,0.6s
SOKA Soboth 152.71 338 *i* PKP **PKPbc** 02 21 42.9 -0.9

comp=Z,1.8nm,0.7s
SOKA *i* PKP **PKPab** 02 21 57.8 +0.2
comp=Z,3.3nm,0.9s
KBA Koelnbreinsper 152.91 341 *e*PKP **PKPbc** 02 21 42.9 -1.5
comp=Z,1.8nm,0.8s
KBA *e*PKP **PKPab** 02 21 58.7 +0.1
comp=Z,4.1nm,0.6s
OBKA Obir 153.02 338 *i* PKP **PKiKP** 02 21 44.0 -0.5
comp=Z,1.0nm,0.6s
OBKA *e*PKP **PKPab** 02 21 59.0 0.0
comp=Z,3.5nm,0.7s
WATA Walderalm 153.19 343 *e*PKP **PKPbc** 02 21 44.4 -0.5
comp=Z,1.4nm,0.5s
WATA *e*PKP **PKPab** 02 22 00.4 +0.7
comp=Z,5.7nm,1.2s
MYKA Terra Mystica 153.22 340 *e*PKP **PKPbc** 02 21 44.0 -0.9
comp=Z,2.6nm,0.7s
MYKA *i* PKP **PKPab** 02 21 59.7 -0.1
comp=Z,4.7nm,0.7s
WTTA Wattenberg 153.24 343 *i* PKP **PKiKP** 02 21 44.9 -0.2
comp=Z,3.7nm,0.7s
WTTA *e*PKP **PKPab** 02 22 00.6 +0.6
comp=Z,7.2nm,0.6s
MOTA Moosalm 153.31 344 *i* PKP **PKPdf** 02 21 36.6 -0.5
comp=Z,1.8nm,0.9s
MOTA *i* PKP **PKPbc** 02 21 44.7 -0.5
comp=Z,2.9nm,1.3s
MOTA *e*PKP **PKPab** 02 22 00.5 +0.2
comp=Z,5.6nm,0.8s
SQTA Sankt Quirin 153.39 344 *e*PKP **PKPdf** 02 21 36.8 -0.3
comp=Z,1.4nm,0.9s
SQTA *e*PKP **PKiKP** 02 21 45.1 -0.3
comp=Z,1.7nm,0.6s
SQTA *e*PKP **PKPab** 02 22 01.1 +0.5
comp=Z,5.0nm,0.9s
PRED Cave del Predi 153.41 340 **PKPab** 02 22 00.2 -0.4
ABTA Abfaltersbach 153.46 341 *e*PKP **PKPbc** 02 21 44.8 -0.7
comp=Z,2.5nm,0.7s
ABTA *e*PKP **PKPab** 02 22 00.8 -0.1
comp=Z,6.0nm,0.6s,SNR=6.4
DAVA Damuels 153.66 346 *e*PKP **PKPab** 02 22 01.8 +0.1
comp=Z,6.7nm,0.8s,SNR=5.9
FETA Feichten 153.70 344 *e*PKP **PKPdf** 02 21 37.4 -0.3
comp=Z,2.1nm,0.8s
FETA *e*PKP **PKPab** 02 22 02.4 +0.4
comp=Z,2.5nm,0.8s
FUORN Ofenpass-Fuorn 154.19 344 **PKPab** 02 22 04.5 +0.3
CTI Castel Tesino 154.35 342 **PKPab** 02 22 04.4 -0.3
SENIN Lac Senin/Sane 155.07 349 **PKPab** 02 22 07.7 -0.2
FDMO Fiordimonte 156.55 336 **PKPab** 02 22 14.1 -0.1
NRCA Norcia 156.71 336 **PKPab** 02 22 15.0 +0.1
ESDC Sonseca Array 161.97 11 PKPab **PKPab** 02 22 36.9 -1.0
comp=Z,1.4nm,0.9s,baz=324,slow=5.9,SNR=5.4
KEST Kesra 164.29 333 PKPab **PKPab** 02 22 48.0 -0.4
comp=Z,5.5nm,0.8s,baz=242,slow=1.5,SNR=5.8
TORD Torodi Ar. Bea 171.12 188 PKPab **PKPab** 02 23 18.3 -0.5
comp=Z,183nm,0.3s,baz=147,slow=3.4,SNR=1.4

CATAC 16 02:06:40.7±0.3, 12°N±2°×8°7W±°, h140km±2km, M3.3/49, MLv3.3/49, Error ellipse: s-maj=4.8km s-min=2.6km az=42.1, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.22**	**72**	P	Pn	02 07 01.6	+1.6
CRUN				S	Sn	02 07 16.0	+1.4
COPN	**Copaltepe**	**0.27**	**344**	P	Pn	02 07 01.1	+1.1
COPN				S	Sn	02 07 16.7	+1.9
SAPS	**Ciudad Sandino**	**0.27**	**23**	P	Pn	02 07 01.2	+1.1
ABCN	**Banco Central**	**0.29**	**44**	P	Pn	02 07 01.1	+1.0
UNAN	**Cigeo UNAN**	**0.31**	**51**	P	Pn	02 07 01.3	+1.2
UNAN				S	Sn	02 07 16.9	+2.0
USIM	**UNAN**	**0.31**	**50**	P	Pn	02 07 01.0	+0.9
USIM	**UNAN**	**0.31**	**50**	S	Sn	02 07 16.8	+1.9
ENAN	**Enatrel Managu**	**0.32**	**51**	P	Pn	02 07 01.4	+1.2
MAFN	**Magfor**	**0.32**	**56**	P	Pn	02 07 01.4	+1.2
TISN	**Laguna Tiscapa**	**0.33**	**47**	P	Pn	02 07 01.2	+1.0
AMTN	**Mateare**	**0.33**	**14**	P	Pn	02 07 01.1	+0.8
ALLN	**Telcor Managua**	**0.33**	**45**	P	Pn	02 07 00.7	+0.5
APQ2	**Apoyeque**	**0.34**	**33**	P	Pn	02 07 01.4	+1.2
APQ2				S	Sn	02 07 17.8	+2.7
SABN	**Sabanita**	**0.35**	**83**	P	Pn	02 07 00.5	+0.2
MGAN	**Managua**	**0.35**	**49**	P	Pn	02 07 01.3	+1.0
MGAN	**Managua**	**0.35**	**49**	S	Sn	02 07 17.1	+2.0
MAS3	**Al N del Volca**	**0.35**	**72**	P	Pn	02 07 01.3	+0.9
R4DEC	**Barrio San Lui**	**0.35**	**48**	P	Pn	02 07 01.2	+0.9
R4DEC	**Barrio San Lui**	**0.35**	**48**	S	Sn	02 07 17.3	+2.2
BC86	**Nagarote**	**0.35**	**352**	P	Pn	02 07 01.3	+1.0
BC86	**Nagarote**	**0.35**	**352**	S	Sn	02 07 17.6	+2.3
NANN	**Nandasmo**	**0.39**	**87**	P	Pn	02 07 02.6	+2.1
NANN	**Nandasmo**	**0.39**	**87**	S	Sn	02 07 18.1	+2.7
WILN	**Americas 2**	**0.40**	**53**	P	Pn	02 07 01.3	+0.8
WILN				S	Sn	02 07 17.9	+2.4
MOMN	**Momotombo**	**0.49**	**357**	P	Pn	02 07 01.7	+0.6
MOMN				S	Sn	02 07 18.2	+1.7
LEVN	**Ruinas Leon Vi**	**0.49**	**348**	P	Pn	02 07 01.8	+0.9
HUGN	**San Franciso L**	**0.49**	**40**	P	Pn	02 07 01.8	+0.9
NADN	**Granada**	**0.50**	**109**	P	Pn	02 07 01.7	+0.8
NADN				S	Sn	02 07 18.7	+2.4
MIRN	**Miramar**	**0.56**	**340**	P	Pn	02 07 02.2	+0.8
MACN	**El Madrono**	**0.57**	**344**	P	Pn	02 07 02.2	+0.7
MACN				S	Sn	02 07 19.1	+1.8
SBEN	**San Benito**	**0.59**	**49**	P	Pn	02 07 02.1	+0.6
CNGA	**Al SSO del Vol**	**0.60**	**342**	P	Pn	02 07 02.4	+0.7
CNGN	**Cerro Negro**	**0.61**	**343**	P	Pn	02 07 02.3	+0.6
BC87	**San Francisco**	**0.63**	**20**	P	Pn	02 07 02.5	+0.7
ROCN	**Rota Cerro Neg**	**0.64**	**339**	P	Pn	02 07 02.8	+0.9
ALEN	**Leon**	**0.64**	**327**	P	Pn	02 07 02.6	+0.8
PACN	**Al O del Volca**	**0.64**	**335**	P	Pn	02 07 02.7	+0.9
ILCN	**San Idelfonso**	**0.68**	**345**	P	Pn	02 07 02.5	+0.4
PLRN	**Geotermica Pol**	**0.71**	**339**	P	Pn	02 07 02.7	+0.3
QUEN	**Al S del Volca**	**0.75**	**334**	P	Pn	02 07 03.6	+1.0
TELN	**Telica**	**0.75**	**336**	P	Pn	02 07 02.6	-0.1
HERN	**Volcan Telica**	**0.76**	**336**	P	Pn	02 07 03.1	+0.4
POLN	**Al Sur del Vol**	**0.79**	**338**	P	Pn	02 07 03.6	+0.7
PKGN	**Cerro Pekin**	**0.88**	**329**	P	Pn	02 07 04.1	+0.5
MORN	**Al O del Volca**	**0.92**	**113**	P	Pn	02 07 04.3	+0.4
CONN	**Concepcion**	**0.94**	**112**	P	Pn	02 07 04.9	+0.8
CRIN	**San Cristobal**	**0.94**	**326**	P	Pn	02 07 04.8	+0.6
CRIN	**San Cristobal**	**0.94**	**326**	S	Sn	02 07 22.7	+0.7
MATN	**Matagalpa**	**1.16**	**30**	P	Pn	02 07 06.4	+0.2
MATN	**Matagalpa**	**1.16**	**30**	S	Sn	02 07 26.1	+0.5
ACON	**Acoyapa**	**1.31**	**88**	P	Pn	02 07 08.0	+0.4
ACON	**Acoyapa**	**1.31**	**88**	S	Sn	02 07 29.0	+1.0
POTN	**Potosi Cosigui**	**1.45**	**318**	P	Pn	02 07 09.3	+0.3
POTN				S	Sn	02 07 31.4	+0.7
CSGN	**Cosiguina Volc**	**1.47**	**316**	P	Pn	02 07 09.4	+0.1
CSGN				S	Sn	02 07 31.8	+0.7
RCPN	**Sur Rio San Ju**	**1.65**	**14**	P	Pn	02 07 11.3	-0.1
CHOHN	**Orocuina**	**1.68**	**338**	P	Pn	02 07 12.2	+0.5
CHOHN	**Orocuina**	**1.68**	**338**	S	Sn	02 07 36.5	+1.1
RCVN	**Varilla2**	**1.69**	**11**	P	Pn	02 07 12.1	+0.3
RCVN	**Varilla2**	**1.69**	**11**	S	Sn	02 07 35.6	0.0
CNCH	**Conchagua**	**1.87**	**317**	P	Pn	02 07 13.6	-0.3
CNCH	**Conchagua**	**1.87**	**317**	S	Sn	02 07 40.0	+0.7
LCND	**La Caada**	**1.93**	**316**	P	Pn	02 07 14.6	+0.2
LCND	**La Caada**	**1.93**	**316**	S	Sn	02 07 40.6	+0.3
YUSH	**Yuscaran**	**2.05**	**351**	P	Pn	02 07 16.3	+0.3
YUSH	**Yuscaran**	**2.05**	**351**	S	Sn	02 07 43.8	+0.7
CMARA	**Lajas Hojancha**	**2.17**	**150**	P	Pn	02 07 17.9	+0.5
CMARA	**Lajas Hojancha**	**2.17**	**150**	S	Sn	02 07 45.5	-0.1
ESPN	**Las Esperanzas**	**2.18**	**82**	P	Pn	02 07 17.5	+0.1
ESPN	**Las Esperanzas**	**2.18**	**82**	S	Sn	02 07 46.3	+0.6
CNRM	**Centro Naciona**	**2.24**	**314**	P	Pn	02 07 17.5	-0.6
TGUH	**Tegucigalpa,Un**	**2.25**	**341**	P	Pn	02 07 18.8	+0.3
TGUH				S	Sn	02 07 48.4	+0.9
INDI	**Punta indio, G**	**2.27**	**154**	P	Pn	02 07 18.9	+0.4
INDI	**Punta indio, G**	**2.27**	**154**	S	Sn	02 07 47.3	-0.3
SOCE	**Pocosol**	**2.40**	**129**	P	Pn	02 07 20.6	+0.3
SOCE	**Pocosol**	**2.40**	**129**	S	Sn	02 07 51.4	+0.8
SIUN	**Universidad Ur**	**2.47**	**43**	P	Pn	02 07 20.6	-0.4
SIUN				S	Sn	02 07 51.4	-0.6
MARCA	**Marcala la Paz**	**2.68**	**327**	P	Pn	02 07 24.2	+0.5
MARCA	**Marcala la Paz**	**2.68**	**327**	S	Sn	02 07 57.4	+0.5
BLUN	**Bluefields**	**2.68**	**88**	P	Pn	02 07 23.5	-0.2
COMHN	**El Horno**	**2.71**	**338**	P	Pn	02 07 24.3	0.0
TECO	**Alcaldia de Te**	**2.74**	**306**	P	Pn	02 07 24.5	+0.1
TECO	**Alcaldia de Te**	**2.74**	**306**	S	Sn	02 07 57.0	-1.0
SCLA	**Alcaldia de Sa**	**2.80**	**310**	P	Pn	02 07 25.6	+0.5
SCLA	**Alcaldia de Sa**	**2.80**	**310**	S	Sn	02 07 59.3	-0.2
PAVA	**Las Pavas**	**2.96**	**307**	P	Pn	02 07 27.5	+0.1

DJA 16 02:24:45.9±0.3, 10°S±5°×12°0E±°, h45km±9km, M3.8/8, mb4.1/4, MLv3.6/8, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.27**	**26**	P	Pn	02 24 56.0	+1.7
WBSI	**Waikabubak, Su**	**0.82**	**289**	P	Pn	02 25 01.5	+0.3
WBSI				S	Sn	02 25 13.4	+1.1
EDFI	**Ende, Flores**	**1.88**	**52**	P	Pn	02 25 15.5	-0.2
MMRI	**Maumere**	**2.39**	**58**	P	Pn	02 25 22.4	-0.2
PLAI	**Plampang**	**2.60**	**294**	P	Pn	02 25 26.3	+0.8
PLAI				S	Sn	02 25 56.1	+0.1
BSSI	**Bau Bau, Buton**	**3.76**	**5**	P	Pn	02 25 41.8	+0.4
SOEI	**Soe**	**4.03**	**88**	P	Pn	02 25 45.2	-0.1
JAGI	**Jajag, Banyuwa**	**6.12**	**283**	P	Pn	02 26 13.1	-0.8
	13nm,0.9s						
PCJI	**Pacitan**	**9.05**	**280**	P	Pn	02 26 54.3	+0.2
	33nm,1.4s						

IDC 16 02:27:47.8±7.4, 20°96S×179°91E, h0km, mb4.2/2, mbtmp4.2/2, Error ellipse: s-maj=305.8km s-min=71.2km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.51**	**257**	P	P	02 35 44.4	-0.9
	1.2nm,0.5s,baz=95,slow=8.2,SNR=15						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**42.60**	**263**	P	P	02 35 46.6	+0.6
	2.6nm,0.5s,baz=96,slow=8.4,SNR=50						
	2.6nm,0.5s						
BRTR	**Keskin Array B**	**145.67**	**311**	PKPbc	PKPdf	02 47 28.1	-0.6
	0.4nm,0.5s,baz=76,slow=4.3,SNR=2.7						

---

*IDC **16** 03:01:06.4±1.1, 10°17N×126°55E, h0km, mb3.9/10, mbtmp3.9/10, MS3.3/6, Error ellipse: s-maj=59.8km s-min=17.6km az=71.0*
*NEIC **16** 03:01:12.0±1.2, 10°15N±0°09×126°4E±0°1, h35km±2km, mb4.4/26, Error ellipse: s-maj=27.1km s-min=3.7km az=54.0*

ISC 16 03:01:12.1±0.6, 10°11N±0°08×126°5E±0°2, h42km, n44, σ0=92/40, mb4.3/24, MS3.4/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.14**	**196**	LR	LR	03 03 38.4	
	comp=Z,290nm,20.4s,baz=353,slow=47						
LEM	**Lembang**	**25.20**	**229**	LR	LR	03 17 44.3	
	comp=Z,116nm,20.1s,baz=150,slow=39						
KNRA	**Kunumurra**	**25.72**	**175**	P	**P**	**03 06 39.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**27.90**	**290**	P	**P**	**03 06 58.7**	**+0.3**
	0.4nm,0.3s,baz=104,slow=7.6,SNR=5.9						
CMAR				LR	LR	03 18 09.3	
	comp=Z,17nm,18.8s,baz=270,slow=37						
	0.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**28.04**	**182**	P	**P**	**03 06 59.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**28.04**	**182**	P	**P**	**03 07 01.7**	**+2.2**
	1.9nm,0.9s,baz=16,slow=6.9,SNR=5.6						
	1.9nm,0.9s						
WB0	**Warramunga Arr**	**30.70**	**165**	P	**P**	**03 07 23.3**	**+0.2**
WB0				IAmb	IAmb	03 07 35.3	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**30.85**	**165**	P	**P**	**03 07 24.8**	**+0.3**
	comp=Z,0.7nm,1.0s,baz=334,slow=10,SNR=2.2						
	comp=Z,0.7nm,1.0s						
WR8	**Warramunga Arr**	**30.91**	**165**	P	**P**	**03 07 26.0**	**+1.1**
WR8				IAmb	IAmb	03 07 41.9	
	comp=Z,5.8nm,1.1s						
MBWA	**Marble Bar**	**31.77**	**192**	P	**P**	**03 07 31.2**	**-1.3**
MBWA				IAmb	IAmb	03 07 46.1	
	comp=Z,14nm,1.2s						
ASAR	**Alice Springs**	**34.35**	**168**	P	**P**	**03 07 54.3**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=354,slow=7.3,SNR=4.2						
	comp=Z,0.2nm,0.5s						
ERM	**Erimo**	**35.00**	**22**	P	**P**	**03 07 58.6**	**-1.9**
BRDH	**Bariadhala**	**35.56**	**295**	LR	LR	03 24 12.5	
	comp=Z,92nm,18.8s,baz=152,slow=39						
MORW	**Morawa**	**40.23**	**194**	P	**P**	**03 08 45.2**	**+0.4**
ULN	**Ulaanbaatar**	**41.04**	**340**	P	**P**	**03 08 50.7**	**-0.8**
SONM	**Songino Array**	**41.23**	**339**	P	**P**	**03 08 53.9**	**+0.8**
SONM	**Songino Array**	**41.23**	**339**	P	**P**	**03 08 54.6**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=162,slow=11,SNR=7.1						
	comp=Z,1.4nm,0.7s						
BBOO	**Buckleboo**	**43.65**	**168**	P	**P**	**03 09 12.7**	**0.0**
BBOO				IAmb	IAmb	03 09 26.7	
	comp=Z,12nm,1.4s						
NWAO	**Narrogin (SRO)**	**43.69**	**191**	P	**P**	**03 09 13.4**	**+0.4**
CAN	**Canberra**	**49.96**	**156**	P	**P**	**03 10 02.4**	**+0.3**
TOO	**Toolangi**	**50.67**	**160**	P	**P**	**03 10 07.1**	**-0.3**
MKAR	**Makanchi Array**	**52.27**	**323**	P	**P**	**03 10 19.9**	**+0.6**
MKAR	**Makanchi Array**	**52.27**	**323**	P	**P**	**03 10 19.6**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=117,slow=8.8,SNR=8.2						
	comp=Z,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**56.31**	**325**	P	**P**	**03 10 48.2**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=124,slow=6.9,SNR=6.0						
KURBB				LR	LR	03 37 52.3	
	comp=Z,34nm,18.0s,baz=165,slow=39						
	comp=Z,0.5nm,0.5s						
SHEM	**Shemya Is, Ala**	**57.19**	**32**	LR	LR	03 34 42.2	
	comp=Z,26nm,19.2s,baz=318,slow=35						
BTK	**Batken**	**57.43**	**311**	P	**P**	**03 10 56.5**	**-0.4**
BTK				IAmb	IAmb	03 11 08.5	
	comp=Z,3.2nm,1.1s						
KKAR	**Karatay Array**	**58.50**	**315**	P	**P**	**03 11 03.6**	**-0.6**
BRVK	**Borovoye**	**61.98**	**325**	P	**P**	**03 11 27.3**	**-0.5**
BRVK				IAmb	IAmb	03 11 39.8	
	comp=Z,1.8nm,0.9s						
ABKAR	**Akbulak array**	**67.12**	**319**	P	**P**	**03 12 01.2**	**-0.2**
L16K	**Owhat River**	**73.61**	**29**	P	**P**	**03 12 41.2**	**+0.4**
L16K				IAmb	IAmb	03 12 50.1	
	comp=Z,6.9nm,1.2s						
F17K	**Baldwin Pennin**	**73.73**	**24**	P	**P**	**03 12 41.0**	**-0.5**
F17K				IAmb	IAmb	03 12 53.5	
	comp=Z,9.9nm,1.1s						
M16K	**Timber Creek**	**73.75**	**29**	P	**P**	**03 12 41.3**	**-0.3**
M16K				IAmb	IAmb	03 12 51.8	
	comp=Z,15nm,1.5s						
N17K	**Nushagak Hills**	**74.55**	**30**	P	**P**	**03 12 46.0**	**-0.3**
O18K	**Koktuh Hills**	**75.46**	**31**	P	**P**	**03 12 54.2**	**+2.6**
D20K	**Etivluk River**	**75.90**	**22**	P	**P**	**03 12 54.8**	**+0.9**
B20K	**Meade River**	**75.91**	**20**	P	**P**	**03 12 55.0**	**+1.1**
B20K				IAmb	IAmb	03 13 14.2	
	comp=Z,5.7nm,1.5s						
KDAK	**Kodiak Island**	**76.69**	**33**	P	**P**	**03 12 59.3**	**+0.7**
KDAK				IAmb	IAmb	03 13 02.2	
	comp=Z,8.8nm,1.4s						
B21K	**Ikpikpuk River**	**76.73**	**21**	P	**P**	**03 12 58.5**	**-0.1**
B21K				IAmb	IAmb	03 13 15.3	
	comp=Z,3.4nm,1.2s						
F21K	**Alatna River**	**76.89**	**23**	P	**P**	**03 12 59.8**	**+0.2**
F21K				IAmb	IAmb	03 13 04.4	
	comp=Z,4.8nm,1.4s						
B22K	**Teshekpuk Lake**	**77.22**	**20**	P	**P**	**03 13 02.5**	**+1.2**
C23K	**Itkillik River**	**78.14**	**21**	P	**P**	**03 13 07.2**	**+0.7**
C23K				IAmb	IAmb	03 13 20.8	
	comp=Z,2.2nm,0.8s						
ARCES	**ARCESS Array B**	**84.41**	**340**	P	**P**	**03 13 40.8**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=77,slow=6.8,SNR=8.8						
	comp=Z,3.2nm,0.8s						
FINES	**FINESS Array B**	**86.12**	**332**	P	**P**	**03 13 48.0**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=48,slow=5.7,SNR=5.7						
	comp=Z,0.9nm,0.7s						
HFS	**Hagfors**	**92.28**	**332**	P	**P**	**03 14 17.1**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=74,slow=11,SNR=2.7						
	comp=Z,2.5nm,1.0s						

---

*IDC **16** 03:13:46.2±1.2, 12°95S×45°43E, h0km, mb3.8/6, mbtmp4.0/8, ML4.6/2, MS3.3/2, Error ellipse: s-maj=31.9km s-min=27.2km az=6.0*

ISC 16 03:13:47.7±0.9, 13°03S±0°07×45°59E±0°08, h10km, n18, σ0=37/25, mb3.9/6, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.24**	**96**	P	**Pn**	**03 14 53.5**	**+1.1**
SBV				S	**Sn**	**03 15 39.8**	**-2.2**
OPO	**Ambohidratompo**	**5.72**	**165**	Pn	**Pn**	**03 15 15.7**	**+2.8**
	3.6nm,0.3s,baz=334,slow=13,SNR=161						
OPO				Sn	**Sn**	**03 16 17.0**	**-1.7**
	11nm,0.3s,baz=56,slow=22,SNR=17						
	69nm,0.3s						
OPO	**Ambohidratompo**	**5.72**	**165**	P	**Pn**	**03 15 15.8**	**+2.9**
OPO				S	**Sn**	**03 16 17.9**	**-0.8**
FIRM	**Firavahana**	**5.77**	**168**	P	**Pn**	**03 15 16.5**	**+2.8**
FIRM				S	**Sn**	**03 16 18.8**	**-1.3**
ATG	**Ambohiby**	**5.84**	**174**	P	**Pn**	**03 15 17.0**	**+2.4**
ATG				S	**Sn**	**03 16 18.9**	**-2.9**
ABPO	**Ambohimpanom**	**6.16**	**165**	P	**Pn**	**03 15 21.4**	**+2.5**
ABPO				S	**Sn**	**03 16 27.2**	**-2.4**
AVY	**Angavokely**	**6.22**	**161**	P	**Pn**	**03 15 21.9**	**+2.2**
AVY				S	**Sn**	**03 16 29.8**	**-1.2**
DGRM	**Ambatolahisoa**	**6.25**	**173**	P	**Pn**	**03 15 22.8**	**+2.8**
DGRM				S	**Sn**	**03 16 29.5**	**-2.1**
ABM	**Ambohimiarambe**	**6.93**	**166**	P	**Pn**	**03 15 32.2**	**+2.7**
ABM				S	**Sn**	**03 16 43.2**	**-5.3**
KMBO	**Kilima Mbogo**	**14.42**	**324**	LR	LR	03 22 12.4	
	comp=Z,49nm,18.8s,baz=138,slow=36						
LSZ	**Lusaka**	**17.02**	**260**	Pn	**Pn**	**03 17 44.3**	**-1.8**
	0.2nm,0.3s,baz=78,slow=9.3,SNR=7.8						
	4.2nm,1.0s						
LBTB	**Lobatse**	**22.31**	**235**	P	**P**	**03 18 44.4**	**-1.2**
	3.2nm,0.8s,baz=41,slow=11,SNR=3.8						
	3.2nm,0.8s						
BOSA	**Boshof**	**24.46**	**228**	P	**P**	**03 19 06.2**	**-1.0**
	1.1nm,0.7s,baz=66,slow=10,SNR=3.9						
	1.1nm,0.7s						
ESDC	**Sonseca Array**	**69.78**	**321**	P	**P**	**03 24 58.2**	**-0.2**
	0.5nm,0.8s,baz=122,slow=5.4,SNR=4.2						
	0.5nm,0.8s						
QSPA	**South Pole Qui**	**77.07**	**180**	P	**P**	**03 25 42.2**	**+1.2**
	2.8nm,1.0s,baz=236,slow=5.6,SNR=4.5						
	2.8nm,1.0s						
ASAR	**Alice Springs**	**83.36**	**113**	P	**P**	**03 26 16.1**	**+0.4**
	0.5nm,0.8s,baz=257,slow=5.4,SNR=4.6						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**84.50**	**109**	P	**P**	**03 26 22.1**	**+0.6**
	0.9nm,1.0s,baz=263,slow=4.2,SNR=3.0						
	0.9nm,1.0s						
PMG	**Port Moresby**	**99.01**	**102**	LR	LR	04 16 27.7	
	comp=Z,26nm,18.0s,baz=326,slow=38						

---

*GCMT **16** 03:19:25.3±0.6, 8°38S±0°05×71°70W±0°06, h579km±3km, MW5.4/63, Moment Tensor Solution. s63,c71; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19±.04; $M_{\theta\theta}$0.07±.07; $M_{\phi\phi}$0.11±.09; $M_{r\theta}$0.07±.07; $M_{\theta\phi}$-0.34±.06; $M_{\phi r}$1.31±.07; Best double couple: $M_0$1.36300×10^{17} NP1:ϕ_s284.00000°, δ15.00000°, λ-167.00000°. NP2: ϕ_s181.00000°, δ87.00000°, λ-76.00000°. Principal axes: T 1.3170, Plg40.0000°, Azm257.0000°; N 0.0910, Plg14.0000°, Azm360.0000°; P -1.4090, Plg46.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*VAO **16** 03:19:29.9±0.2, 8°19S×71°75W, h588km±2km, mb5.2*
*OSUNB **16** 03:19:30.3±0.2, 8°10S×71°67W, h588km±2km, mb5.2/60, Error ellipse: s-maj=1.9km s-min=2.3km az=0.0*
*IDC **16** 03:19:30.2±0.3, 8°10S×71°70W, h590km±3km, mb4.3/26, mbtmp5.1/33, Error ellipse: s-maj=9.8km s-min=7.2km az=64.0*
*NEIC **16** 03:19:30.3±1.7, 8°11S±0°06×71°69W±0°10, h584km±6km, mb4.8/399, Error ellipse: s-maj=13.7km s-min=8.5km az=97.0*

ISC 16 03:19:30.0±0.3, 8°10S±0°04×71°70W±0°04, h592km±2km, h593km:pP-P, n859, σ1=01/829, mb4.8/232, 1C-8D, Western Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**1.06**	**290**		**P**	**03 20 40.1**	**-0.5**
CZSB	**Cruzeiro do Su**	**1.06**	**290**	*e*P	**P**	**03 20 40.3**	**-0.3**
CZSB				*e*S	**S**	**03 21 36.4**	**-1.5**
CZSB	**Cruzeiro do Su**	**1.06**	**290**	P	**P**	**03 20 40.2**	**-0.3**
CZSB				S	**S**	**03 21 35.9**	**-2.0**
CZSB	**Cruzeiro do Su**	**1.06**	**290**	P	**P**	**03 20 40.4**	**-0.2**
CZSB				S	**S**	**03 21 35.8**	**-2.0**
TBTG	**Tabatinga, AM**	**4.27**	**25**		**P**	**03 20 57.6**	**+0.7**
TBTG	**Tabatinga, AM**	**4.27**	**25**	*e*P	**P**	**03 20 57.7**	**+0.9**
TBTG	**Tabatinga, AM**	**4.27**	**25**	P	**P**	**03 20 57.5**	**+0.7**
TBTG				S	**S**	**03 22 06.0**	**-1.6**
TBTG	**Tabatinga, AM**	**4.27**	**25**	P	**P**	**03 20 57.6**	**+0.7**
TBTG				S	**S**	**03 22 07.1**	**-0.5**
NNA	**Nana**	**6.37**	**232**	P	**P**	**03 21 14.4**	**+0.4**
	464nm,0.4s,baz=35,slow=7.5,SNR=216						
NNA				PP		03 22 54.1	
	247nm,0.6s,baz=106,slow=7.7,SNR=3.9						
NNA				ScP	**ScP**	**03 29 30.6**	**-0.8**
	10nm,0.6s,baz=300,slow=2.5,SNR=3.9						
NNA	**Nana**	**6.37**	**232**	P	**P**	**03 21 14.2**	**+0.2**
	11μm950nm,0.8s						
NNA				S	**S**	**03 22 37.3**	**-1.8**
	11μm950nm,0.8s						
ATAH	**Atahualpa**	**6.71**	**278**	P	**P**	**03 21 19.0**	**+1.5**

POPC Popayan, Colom 11.68 335 P P 03 22 07.4 +1.6
818nm61nm,0.7s
POPC S **S** 03 24 13.1 -0.6
818nm61nm,0.7s
GO01 Chusmiza 11.76 168 P **P 03 22 05.8 -0.9**
MACA Manacapuru-AM 12.01 67 P 03 22 08.7 -0.1
MACA Manacapuru-AM 12.01 67 *eP* **P 03 22 08.9 +0.1**
MACA Manacapuru-AM 12.01 67 P **P 03 22 08.9 +0.1**
MACA S **S** 03 24 18.4 -1.0
PB08 IPOC Station P 12.22 169 P **P 03 22 10.6 -0.7**
ORTC Ortega, Tolima 12.44 343 P **P 03 22 13.1 -0.2**
ORTC S **S** 03 24 23.4 -4.2
TA01 Diego Aracena 12.48 173 P **P 03 22 11.9 -1.6**
GR1C Gorgona, Isla 12.78 329 P **P 03 22 18.2 +1.6**
SIV San Ignacio 13.02 128 P **P 03 22 19.1 0.0**
70nm,0.4s,baz=298,slow=9.6,SNR=149
SIV S **S** 03 24 37.3 -0.8
21nm,0.4s,baz=308,slow=15,SNR=5.5
PB01 IPOC Station P 13.05 171 P 03 22 18.5 -0.9
ROSC El Rosal 13.12 348 P 03 22 20.8 +0.2
ROSC El Rosal 13.12 348 P **P 03 22 21.3 +0.7**
19nm,0.5s,baz=119,slow=7.8,SNR=2.5
PB09 IPOC Station P 13.82 170 P **P 03 22 26.7 -0.7**
RUSC La Rusia 13.97 354 P 03 22 28.1 -1.2
PTLB Pontes e Lacer 14.30 122 P 03 22 32.1 +0.2
PTLB Pontes e Lacer 14.30 122 *eP* **P 03 22 32.2 +0.3**
PTLB Pontes e Lacer 14.30 122 P **P 03 22 32.0 +0.1**
AF01 San Pedro de A 15.15 167 P 03 22 41.7 +1.6
PDRB Porto dos Gac 15.15 105 *eP* **P 03 22 40.3 +0.4**
PDRB Porto dos Gac 15.15 105 P **P 03 22 40.3 +0.4**
PDRB S **S** 03 25 16.2 +1.0
BOAV Boa Vista 15.26 47 P **P 03 22 42.0 +1.0**
BOAV Boa Vista 15.26 47 *eP* **P 03 22 41.7 +0.8**
BOAV Boa Vista 15.26 47 P **P 03 22 41.7 +0.8**
BOAV S **S** 03 25 18.4 +1.5
CLDB Colider 15.93 101 *eP* **P 03 22 47.8 +0.7**
CLDB Colider 15.93 101 P **P 03 22 47.9 +0.8**
CLDB S **S** 03 25 28.1 +0.3
NPGB Novo Progresso 16.23 87 *eP* **P 03 22 50.3 +0.3**
NPGB Novo Progresso 16.23 87 P **P 03 22 50.3 +0.3**
NPGB S **S** 03 25 32.0 -0.9
ITTB Itaituba 16.30 78 *eP* **P 03 22 51.5 +1.0**
ITTB Itaituba 16.30 78 P **P 03 22 51.5 +1.0**
ITTB S **S** 03 25 34.1 +0.2
PB14 IPOC Station P 16.48 176 P **P 03 22 52.5 +0.1**
PB14 IAmb IAmb 03 22 54.0
comp=Z,34nm,0.7s
SDV Santo Domingo 16.91 4 P **P 03 22 56.9 +0.6**
SDV IAmb IAmb 03 23 06.5
comp=Z,26nm,0.5s
SDV Santo Domingo 16.91 4 P **P 03 22 56.9 +0.6**
comp=Z,17nm,0.4s,baz=333,slow=17,SNR=26
SDV S **S** 03 25 46.4 +2.3
comp=Z,31nm,0.8s,baz=82,slow=22,SNR=9.1
SDV Santo Domingo 16.91 4 *eP* **P 03 22 56.9 +0.6**
SDV Santo Domingo 16.91 4 P **P 03 22 56.9 +0.6**
SDV S **S** 03 25 42.2 -2.0
GO02 Mina Guanaco 17.09 173 P **P 03 22 58.9 +0.9**
GO02 IAmb IAmb 03 23 04.7
comp=Z,29nm,0.6s
BAUV El Baul 17.32 12 P **P 03 23 00.9 +1.1**
BAUV El Baul 17.32 12 *eP* **P 03 23 00.9 +1.1**
SALV Santo Antonio 17.46 118 *eP* **P 03 23 02.5 +1.4**
SALV Santo Antonio 17.46 118 P **P 03 23 02.5 +1.4**
MAL2 Monte Alegre, 18.46 72 P **P 03 23 11.1 +0.8**
MAL2 Monte Alegre, 18.46 72 P **P 03 23 11.3 +1.0**
AC02 Maricunga 18.80 173 P **P 03 23 14.7 +1.0**
AC02 IAmb IAmb 03 23 16.2
comp=Z,18nm,0.7s
BCIP Isla Barro Col 18.97 335 P **P 03 23 16.8 +1.9**
MURT Porto Murtinho 19.14 136 *eP* **P 03 23 16.4 +0.1**
AC06 Mina Casimiro 19.20 176 P **P 03 23 17.7 +0.9**
AC06 IAmb IAmb 03 23 18.6
comp=Z,26nm,0.8s
SMRC Santa Marta, M 19.30 352 P **P 03 23 17.2 -0.6**
PCRV Puerto La Cruz 19.47 21 P **P 03 23 21.0 +1.5**
comp=Z,32nm,0.5s,baz=59,slow=1.7,SNR=72
AQDB Aquidauana 19.77 130 P **P 03 23 23.0 +1.0**
AQDB Aquidauana 19.77 130 *eP* **P 03 23 23.1 +1.0**
AQDB Aquidauana 19.77 130 P **P 03 23 23.0 +1.0**
PAYG Puerto Ayora 19.93 291 P **P 03 23 25.4 +1.7**
BRU2 Volcan 20.04 327 P **P 03 23 25.9 +1.2**
BRU2 IAmb IAmb 03 23 41.1
comp=Z,31nm,0.8s
BMO2 UHE Belo Monte 20.17 78 P **P 03 23 26.4 +0.7**
BMO2 S **S** 03 26 34.6 -1.6
BMO1 UHE Belo Monte 20.44 77 P **P 03 23 28.7 +0.5**
SNDB Serra Nova Dou 20.45 103 *eP* **P 03 23 29.7 +1.3**
SNDB Serra Nova Dou 20.45 103 P **P 03 23 29.7 +1.3**
AC05 El Transito 20.67 176 P **P 03 23 30.6 +0.4**
AC05 IAmb IAmb 03 23 32.4
comp=Z,30nm,0.8s
LCO Las Campanas 20.82 178 P **P 03 23 32.5 +0.8**
LCO IAmb IAmb 03 23 34.0
comp=Z,26nm,1.0s
ARAG Araguaiana, MT 20.86 113 *eP* **P 03 23 32.8 +0.8**
ARAG Araguaiana, MT 20.86 113 P **P 03 23 32.8 +0.8**
C2SB Chapadao do Su 21.16 122 *eP* **P 03 23 34.6 0.0**
C2SB Chapadao do Su 21.16 122 P **P 03 23 36.1 +1.4**
RPRD Ribas do Rio P 21.32 127 *eP* **P 03 23 37.1 +1.1**
PRPB Parauapebas 21.80 86 *eP* **P 03 23 40.8 +0.4**
PRPB Parauapebas 21.80 86 P **P 03 23 40.6 +0.2**
PRPB S **S** 03 27 01.3 -0.8
SOCE Pocosol 22.42 325 P **P 03 23 48.5 +2.6**
GRGR Grenville 22.44 27 P **P 03 23 46.0 -0.1**
SJPY San Joaquin 22.45 140 *eP* **P 03 23 45.6 -0.4**
JTS Las Juntas de 22.54 324 P **P 03 23 48.9 +2.0**
JTS Las Juntas de 22.54 324 P **P 03 23 48.4 +1.4**
comp=Z,36nm,0.7s,baz=153,slow=1.7,SNR=32
comp=Z,36nm,0.7s
CO03 El Pedregal 22.64 178 P **P 03 23 48.1 +0.3**
CO03 IAmb IAmb 03 23 49.0
comp=Z,17nm,0.5s
CPUP Villa Florida 22.70 145 P **P 03 23 47.5 -0.8**
CPUP IAmb IAmb 03 23 48.5
comp=Z,16nm,0.8s
CPUP Villa Florida 22.70 145 P **P 03 23 47.4 -0.8**
comp=Z,11nm,0.6s,baz=329,slow=8.9,SNR=38
CPUP PcP **PcP** 03 27 18.3 +0.6
comp=Z,4.9nm,0.4s,baz=25,slow=1.6,SNR=4.6
CPUP ScP **ScP** 03 30 00.5 +0.2
comp=Z,18nm,0.6s,baz=328,slow=2.3,SNR=28
comp=Z,11nm,0.6s
CPUP Villa Florida 22.70 145 *eP* **P 03 23 47.5 -0.8**
CPUP Villa Florida 22.70 145 P **P 03 23 47.3 -0.9**
MDP Montagnes des 23.09 56 P **P 03 23 52.3 +0.4**
comp=Z,69nm,0.5s,baz=240,slow=10,SNR=112
MDP ScP **ScP** 03 29 59.2 -2.4
comp=Z,19nm,0.6s,baz=270,slow=7.1,SNR=4.4
comp=Z,69nm,0.5s
LAJE UHE Lajeado 23.16 96 P **P 03 23 53.5 +1.0**
ZON Zonda 23.50 174 P **P 03 23 55.8 +0.5**
ZON IAmb IAmb 03 23 57.4
comp=Z,36nm,1.2s
CAN3 Cana Brava 23.53 104 P **P 03 23 57.0 +1.2**
SSV2 Sao Salvador 23.56 104 P **P 03 23 57.5 +1.4**
SVB Belmont 23.63 26 *eP* **P 03 23 56.2 -0.4**
ITRB Iturama 23.68 121 *eP* **P 03 23 56.7 -0.3**
ITRB Iturama 23.68 121 P **P 03 23 57.6 +0.5**
ESPN Las Esperanzas 23.74 328 P **P 03 23 59.1 +1.6**
ESPN IAmb IAmb 03 24 00.1
comp=Z,21nm,0.9s
SMTB Santa Maria do 23.86 94 *eP* **P 03 23 59.9 +1.2**
SMTB Santa Maria do 23.86 94 P **P 03 23 59.9 +1.2**
PAL01 Palmeiras do T 23.98 88 P **P 03 24 00.7 +0.9**
ACON Acoyapa 24.02 326 P **P 03 24 01.4 +1.3**
ACON IAmb IAmb 03 24 08.3
comp=Z,24nm,0.7s
PAL2 UHE Estreito - 24.20 88 P **P 03 24 03.3 +1.5**
BDFB Brasilia 24.34 110 P **P 03 24 04.0 +1.0**
BDFB Brasilia 24.34 110 P **P 03 24 04.3 +1.2**
comp=Z,73nm,0.6s,baz=280,slow=10,SNR=172
BDFB ScP **ScP** 03 30 05.5 +0.4
comp=Z,39nm,0.7s,baz=28,slow=2.7,SNR=13
comp=Z,73nm,0.6s
BDFB Brasilia 24.34 110 P **P 03 24 04.3 +1.2**
ITU3 Corumbazu 24.37 117 P **P 03 24 03.2 0.0**
VA03 San Esteban 24.57 178 P **P 03 24 06.1 +1.3**
MPOM Morne Pois Mar 24.84 26 P **P 03 24 06.9 -0.4**
IPMB Ipameri, GO 24.87 116 *eP* **P 03 24 08.1 +0.4**
IPMB Ipameri, GO 24.87 116 P **P 03 24 08.0 +0.3**
LDASE Londrina, Braz 24.92 130 *eP* **P 03 24 07.6 -0.4**
PTGB Pitanga 25.00 134 *eP* **P 03 24 08.4 -0.3**
PTGB Pitanga 25.00 134 P **P 03 24 08.5 -0.2**
SVN Savane Anatole 25.07 25 P **P 03 24 08.8 -0.6**
MT08 Bocatoma Ro 25.27 177 P **P 03 24 12.2 +1.0**
MT08 IAmb IAmb 03 24 14.5
comp=Z,26nm,0.6s
BAT3 Ipameri 25.28 114 P **P 03 24 12.1 +0.8**
BAT2 UHE Batalha 25.33 114 P **P 03 24 12.6 +0.8**
MT13 San Alfonso 25.55 177 P **P 03 24 13.7 +0.2**
MT13 IAmb IAmb 03 24 16.0
comp=Z,21nm,0.6s
MT09 Talagante 25.56 179 P **P 03 24 13.6 0.0**
MT09 IAmb IAmb 03 24 15.4
comp=Z,48nm,1.1s
LMEL Las Melosas 25.66 177 P **P 03 24 15.0 +0.5**
LMEL IAmb IAmb 03 24 32.0
comp=Z,37nm,1.4s
ITQB Itaqui 25.71 149 P **P 03 24 14.0 -0.8**
ITQB Itaqui 25.71 149 *eP* **P 03 24 14.0 -0.8**
ITQB Itaqui 25.71 149 P **P 03 24 14.0 -0.8**
BO04 La Punta 25.79 178 P **P 03 24 15.7 +0.3**
BO04 IAmb IAmb 03 24 17.4
comp=Z,20nm,0.7s
BB19B Bebedouro 25.82 122 *eP* **P 03 24 15.9 0.0**
BB19B Bebedouro 25.82 122 P **P 03 24 15.9 0.0**
FRTB Fartura 26.09 128 *eP* **P 03 24 17.6 -0.7**
FRTB Fartura 26.09 128 P **P 03 24 17.6 -0.7**
CRPR Cabo Rojo, PR 26.33 10 P **P 03 24 20.5 +0.1**
NBBC Barra do Corda 26.35 86 P **P 03 24 21.9 +1.3**
OBIP Obispado Ponce 26.46 11 P **P 03 24 20.8 -0.7**
IGPR InterUniversit 26.48 12 P **P 03 24 21.5 -0.2**
IGPR IAmb IAmb 03 24 24.0
comp=Z,36nm,0.8s
CELP Cerrillos 26.49 11 P **P 03 24 22.0 +0.2**
PRSN Puerto Rico Se 26.53 10 P **P 03 24 22.7 +0.6**
PDPR Patillas Dam, 26.55 12 P **P 03 24 22.1 -0.1**
ITAB Concordia 26.57 138 P **P 03 24 22.2 -0.2**
ITAB Concordia 26.57 138 *eP* **P 03 24 21.9 -0.4**
ITAB Concordia 26.57 138 P **P 03 24 22.0 -0.4**
BO02 Sierra Bellavi 26.58 178 P **P 03 24 23.3 +0.9**
BO02 IAmb IAmb 03 24 24.7
comp=Z,21nm,1.1s
SJG San Juan 26.61 12 P **P 03 24 22.7 -0.1**
UUPR Utuado, UPR, P 26.64 11 P **P 03 24 23.4 +0.4**
PMNB Patos De Minas 26.64 115 *eP* **P 03 24 23.6 +0.3**
PMNB Patos De Minas 26.64 115 P **P 03 24 23.8 +0.5**
SDBA SAO DESIDERIO 26.70 101 *eP* **P 03 24 24.7 +0.9**
SDBA SAO DESIDERIO 26.70 101 P **P 03 24 24.7 +0.9**
AOPR Arecibo Observ 26.73 10 P **P 03 24 24.3 +0.4**
DR12 Loma Pena Alta 26.81 5 P **P 03 24 24.2 -0.5**
DR12 IAmb IAmb 03 24 26.9
comp=Z,59nm,1.4s
GCPR Guaynabo City 26.82 12 P **P 03 24 24.5 -0.1**
TGUH Tegucigalpa,Un 26.90 325 P **P 03 24 26.0 +0.4**
TGUH IAmb IAmb 03 24 27.7
comp=Z,31nm,0.8s
SDDR Presa de Saban 26.91 1 P **P 03 24 25.4 -0.1**
SDDR IAmb IAmb 03 24 35.6
comp=Z,14nm,0.6s
TIJ01 Guaruva-PR 27.59 131 P **P 03 24 33.7 +2.2**
TBOT Tacuaremb 27.68 150 *eP* **P 03 24 31.4 -0.6**
JANB Januaria 27.69 107 *eP* **P 03 24 33.0 +0.6**
JANB Januaria 27.69 107 P **P 03 24 32.9 +0.6**
VABB Valinhos 27.98 125 P **P 03 24 34.4 -0.5**
VAO Valinhos 27.99 125 *eP* **P 03 24 34.4 -0.5**
CPSB Cacapava Do Su 28.01 145 *eP* **P 03 24 33.8 -1.2**
CPSB Cacapava Do Su 28.01 145 P **P 03 24 33.8 -1.2**
JQT1 Jequitai-MG 28.15 111 P **P 03 24 36.6 +0.2**
PET01 Itanhaem-SP 28.37 127 *eP* **P 03 24 37.4 -0.7**
PET01 Itanhaem-SP 28.37 127 P **P 03 24 37.5 -0.6**
BI02 San Fabin de 28.44 179 IAmb IAmb 03 24 40.5
comp=Z,13nm,1.1s
CNLB Canela 28.80 140 *eP* **P 03 24 41.0 -0.9**
CNLB Canela 28.80 140 P **P 03 24 41.0 -0.9**
MAJ01 Sao Joao Batis 28.80 135 *eP* **P 03 24 41.2 -0.7**
MAJ01 Sao Joao Batis 28.80 135 P **P 03 24 41.0 -0.8**
PLTB Pedras Altas 28.95 147 P **P 03 24 42.2 -0.9**
PLTB Pedras Altas 28.95 147 *eP* **P 03 24 41.9 -1.2**
PLTB Pedras Altas 28.95 147 P **P 03 24 42.2 -0.9**
DIAM Diamantina, MG 29.06 113 *eP* **P 03 24 44.8 +0.4**
DIAM Diamantina, MG 29.06 113 P **P 03 24 44.9 +0.4**
PARB Paraibuna 29.24 124 P **P 03 24 45.5 -0.3**
TER01 Tubaro-SC 29.42 137 *eP* **P 03 24 46.1 -1.1**
TER01 Tubaro-SC 29.42 137 P **P 03 24 46.2 -1.0**
NBPS Pedro II - PI 30.29 85 P **P 03 24 55.8 +0.8**
VAS01 Vassouras-RJ 30.62 121 *eP* **P 03 24 57.2 -0.4**
CAR01 Carai MG 30.89 110 P **P 03 25 00.5 +0.5**
ANA01 Lindo Horizont 30.99 105 P **P 03 25 01.5 +0.5**
TRQA Tornquist 31.09 165 *eP* **P 03 25 01.5 +0.1**
TRQA Tornquist 31.09 165 P **P 03 25 01.4 0.0**
SJMB Sao Joao De Ma 31.44 113 *eP* **P 03 25 04.5 -0.1**
SJMB Sao Joao De Ma 31.44 113 P **P 03 25 04.7 +0.1**
DUB01 Friburgo-RJ 31.46 119 *eP* **P 03 25 04.8 0.0**
DUB01 Friburgo-RJ 31.46 119 P **P 03 25 04.8 0.0**
SBBR Sobral 31.55 84 P **P 03 25 05.3 -0.3**
CCIG Comitan 31.56 320 P **P 03 25 06.8 +1.0**
NBMO Morrinhos-CE 31.85 83 P **P 03 25 08.6 +0.5**
NBPB Pedra_Branca-C 31.98 88 *eP* **P 03 25 09.8 +0.4**
NBPB Pedra_Branca-C 31.98 88 P **P 03 25 09.9 +0.6**
CAM01 Campos-RJ 31.99 119 *eP* **P 03 25 09.0 -0.1**
CAM01 Campos-RJ 31.99 119 P **P 03 25 09.0 -0.1**
LR05 Currie 32.00 180 IAmb IAmb 03 25 10.0
comp=Z,18nm,0.5s
GDU01 Guandu, BA 32.01 103 *eP* **P 03 25 09.6 +0.1**
GDU01 Guandu, BA 32.01 103 P **P 03 25 09.9 +0.4**
GUA01 Guaratinga, BA 32.24 108 *eP* **P 03 25 11.7 +0.3**
GUA01 Guaratinga, BA 32.24 108 P **P 03 25 11.9 +0.5**
CMC01 Camacan, BA 32.29 106 *eP* **P 03 25 12.5 +0.6**
CMC01 Camacan, BA 32.29 106 P **P 03 25 12.7 +0.9**
NBIT Itapeh - BA 32.31 105 P **P 03 25 13.1 +1.1**
RIB01 Linhares ES 32.33 113 *eP* **P 03 25 12.1 0.0**
RIB01 Linhares ES 32.33 113 P **P 03 25 12.2 +0.1**
PLCA Paso Flores 32.51 178 IAmb IAmb 03 25 14.7
comp=Z,11nm,0.7s
PLCA Paso Flores 32.51 178 P **P 03 25 14.3 +0.8**
comp=Z,9.4nm,0.5s,baz=349,slow=9.9,SNR=73
PLCA PcP **PcP** 03 27 43.1 +1.1
comp=Z,11nm,0.6s,baz=357,slow=4.2,SNR=10
PLCA ScP **ScP** 03 30 31.1 +0.5
comp=Z,12nm,0.7s,baz=358,slow=4.4,SNR=18
comp=Z,9.4nm,0.5s
PLCA Paso Flores 32.51 178 *eP* **P 03 25 14.2 +0.8**
PLCA Paso Flores 32.51 178 P **P 03 25 14.1 +0.7**
PLCA pP **pP** 03 26 49.0 -2.1
PLCA PcP **PcP** 03 27 42.6 +0.5
PLCA ScP **ScP** 03 30 31.1 +0.5
PLCA Paso Flores 32.51 178 P **P 03 25 14.2 +0.8**
TEIG Tepich 32.53 330 P **P 03 25 14.0 +0.3**
TEIG Tepich 32.53 330 P **P 03 25 13.8 0.0**
TEIG ScP **ScP** 03 30 31.6 +0.7
NBMA Muriti-CE 32.64 91 P **P 03 25 15.6 +0.7**
NBCL Cascavel-CE 33.43 85 P **P 03 25 22.2 +0.7**
LL01 San Ignacio de 34.15 181 IAmb IAmb 03 25 27.5
comp=Z,10nm,0.6s
LL01 **PcP** 03 27 47.3 +0.8
NBPA Parau_RN 34.41 88 P **P 03 25 30.0 +0.3**
LL02 Futaleuf 34.95 180 IAmb IAmb 03 25 34.5
comp=Z,16nm,0.6s
NBAN Anadia - AL 35.02 95 P **P 03 25 35.3 +0.5**
NBCA Caruaru-PE 35.32 93 P **P 03 25 37.9 +0.6**
RCBR Riachuelo 35.60 89 P **P 03 25 40.2 +0.7**
RCBR Riachuelo 35.60 89 *eP* **P 03 25 40.5 +0.9**
RCBR Riachuelo 35.60 89 P **P 03 25 40.3 +0.7**
RCBR pP **pP** 03 27 18.7 +0.8
RCBR sP **sP** 03 28 25.5 -0.2
RCBR Riachuelo 35.60 89 P **P 03 25 40.3 +0.8**
NBPV Pedro Velho 36.15 90 P **P 03 25 44.9 +0.8**
TLIG Tlapa 36.81 314 P **P 03 25 50.3 +0.7**
COYC Coyhaique 37.34 180 P **P 03 25 53.5 +0.2**
COYC ScP **ScP** 03 30 48.2 +0.3
MOIG Morelia 40.07 314 P **P 03 26 16.6 +0.6**
BBSR BB Station 40.79 9 P **P 03 26 20.2 -0.9**
BBSR pP **pP** 03 28 02.6 -0.5
152A Waverly Hall 42.40 344 IAmb IAmb 03 26 35.6
comp=Z,24nm,1.3s
GOGA Godfrey 42.77 345 P **P 03 26 36.7 +0.1**
GOGA IAmb IAmb 03 26 37.5
comp=Z,12nm,0.6s
ZAIG Zacatecas 43.06 316 P **P 03 26 40.8 +1.3**
ZAIG IAmb IAmb 03 26 42.3
comp=Z,20nm,1.0s
W57A Gilead 43.73 350 IAmb IAmb 03 26 44.8
comp=Z,24nm,0.7s
KMSC Kings Mountain 43.96 349 IAmb IAmb 03 26 47.0
comp=Z,19nm,0.9s
HKT Hockley 44.38 330 P **P 03 26 50.4 +1.3**
HKT IAmb IAmb 03 26 51.2
comp=Z,11nm,0.8s
HKT Hockley 44.38 330 P **P 03 26 49.8 +0.7**
HKT ScP **ScP** 03 31 17.1 +1.0
W52A Murphy 44.48 346 IAmb IAmb 03 26 51.0
comp=Z,36nm,1.4s
V55A Taylorsville 44.62 349 IAmb IAmb 03 26 52.4
comp=Z,20nm,0.8s
X48A Hartselle 44.74 342 IAmb IAmb 03 26 51.7
comp=Z,9.4nm,0.5s
V53A Saluda 44.78 347 IAmb IAmb 03 26 53.0
comp=Z,15nm,0.7s
EFI East Falkland 44.87 168 P **P 03 26 53.8 +1.2**
W50A Signal Mountai 44.94 344 IAmb IAmb 03 26 54.5
comp=Z,22nm,1.1s
U56A King 44.96 350 IAmb IAmb 03 26 54.6
comp=Z,35nm,0.7s
TKL Tuckaleechee C 44.99 346 IAmb IAmb 03 26 54.6
comp=Z,12nm,0.8s
SWET Sewanee 45.13 343 IAmb IAmb 03 26 54.9
comp=Z,12nm,0.6s
T59A Double "B" Far 45.17 353 IAmb IAmb 03 26 55.8
comp=Z,27nm,0.8s
NATX Nacogdoches 45.31 332 IAmb IAmb 03 26 57.5
comp=Z,21nm,0.6s
U54A Nelsons Funny 45.39 349 IAmb IAmb 03 26 57.9
comp=Z,47nm,1.0s
TZTN Tazewell 45.78 347 IAmb IAmb 03 27 00.2
comp=Z,18nm,0.7s
BLA Blacksburg 45.81 350 IAmb IAmb 03 27 02.2
comp=Z,30nm,1.1s
V48A Smith Brothers 45.87 343 IAmb IAmb 03 27 00.2
comp=Z,11nm,0.7s
435B Jarrell 45.94 328 IAmb IAmb 03 27 04.3
comp=Z,13nm,0.7s
237A Washetta, Mont 46.05 331 IAmb IAmb 03 27 03.9
comp=Z,37nm,0.8s
S57A Dark Hollow, R 46.12 352 IAmb IAmb 03 27 03.5
comp=Z,33nm,0.8s
U49A Red Boiling Sp 46.30 344 IAmb IAmb 03 27 03.5
comp=Z,8.6nm,0.6s
T50A Nancy 46.54 345 IAmb IAmb 03 27 05.5
comp=Z,10nm,0.6s
DRIO Del Rio 46.55 324 IAmb IAmb 03 27 06.9
comp=Z,25nm,0.8s
R55A Marlinton 46.80 351 IAmb IAmb 03 27 09.1
comp=Z,31nm,1.1s
S51A Beattyville 46.84 347 IAmb IAmb 03 27 08.8
comp=Z,28nm,1.3s
WHTX Lake Whitney, 46.84 330 IAmb IAmb 03 27 09.5
comp=Z,55nm,1.3s
JCT Junction City 46.89 326 IAmb IAmb 03 27 09.5
comp=Z,12nm,0.8s
FW14 Alvarado 47.04 330 IAmb IAmb 03 27 11.5
comp=Z,31nm,0.8s
T47A Sharon Grove 47.12 343 IAmb IAmb 03 27 09.6
comp=Z,13nm,0.9s
Q56A Snyder Ridge, 47.41 352 IAmb IAmb 03 27 13.6
comp=Z,33nm,0.8s
R50A Paris 47.62 347 IAmb IAmb 03 27 13.8
comp=Z,26nm,1.2s
FW06 Azle 47.69 330 IAmb IAmb 03 27 16.0
comp=Z,61nm,1.2s
P57A Homestead Farm 47.70 353 IAmb IAmb 03 27 13.7
comp=Z,29nm,1.1s
Z35A Perchaven, San 47.83 331 IAmb IAmb 03 27 17.1
comp=Z,40nm,0.8s
Q52A Bidwell 47.84 349 IAmb IAmb 03 27 15.9
comp=Z,25nm,0.9s
WUPA West Chester U 47.92 356 IAmb IAmb 03 27 16.1
comp=Z,10nm,0.6s
HPIG 47.93 318 IAmb IAmb 03 27 17.9
comp=Z,18nm,0.7s
PLPT Palo Pinto 47.94 329 IAmb IAmb 03 27 18.4
comp=Z,27nm,0.7s
OZNA Ozona 47.97 325 IAmb IAmb 03 27 17.4
comp=Z,60nm,1.2s
MVL Millersville 48.05 355 IAmb IAmb 03 27 17.6
comp=Z,26nm,0.8s
WCI Wyandotte Cave 48.06 345 P **P 03 27 16.0 -0.8**
WCI IAmb IAmb 03 27 16.5
comp=Z,25nm,1.0s
WCI Wyandotte Cave 48.06 345 P **P 03 27 15.6 -1.2**
WCI PcP **PcP** 03 28 32.6 -0.2
WCI ScP **ScP** 03 31 30.9 -0.6
MCWV Mont Chateau 48.11 352 IAmb IAmb 03 27 18.6
comp=Z,47nm,0.8s
USIN University of 48.19 343 IAmb IAmb 03 27 17.5
comp=Z,34nm,0.7s
TXAR Lajitas Array 48.30 322 P **P 03 27 19.3 +0.4**
comp=Z,10nm,0.6s,baz=129,slow=7.9,SNR=198
TXAR pP **pP** 03 29 06.8 +0.5
comp=Z,1.7nm,0.6s,baz=150,slow=8.8,SNR=3.1
TXAR ScP **ScP** 03 31 33.3 +0.4
comp=Z,7.4nm,0.7s,baz=135,slow=5.8,SNR=17
comp=Z,10nm,0.6s
TX31 Lajitas Ar. Si 48.30 322 IAmb IAmb 03 27 20.3
comp=Z,14nm,0.7s
SIUC Southern Illin 48.43 341 IAmb IAmb 03 27 20.1
comp=Z,35nm,1.2s
P52A Corning 48.47 349 IAmb IAmb 03 27 20.3
comp=Z,42nm,0.8s
P51A Williamsport 48.50 348 IAmb IAmb 03 27 20.5
comp=Z,12nm,0.8s
O54A Avella 48.70 351 IAmb IAmb 03 27 23.7
comp=Z,23nm,0.7s
SGCY Sterling City 48.72 326 IAmb IAmb 03 27 23.1
comp=Z,28nm,0.7s
SSPA Standing Stone 48.83 354 P **P 03 27 22.5 +0.1**
SSPA IAmb IAmb 03 27 23.1
comp=Z,14nm,0.6s
SSPA PcP **PcP** 03 28 35.9 +0.2
SSPA Standing Stone 48.83 354 P **P 03 27 22.6 +0.1**
SSPA PcP **PcP** 03 28 35.8 +0.2
SSPA ScP **ScP** 03 31 34.4 -0.4
O53A New Philadelph 48.90 350 P **P 03 27 23.4 +0.4**
O53A PcP **PcP** 03 28 36.4 +0.5
SLBS Sierra La Lagu 48.93 311 P **P 03 27 25.1 +1.5**
SLBS IAmb IAmb 03 27 25.9
comp=Z,60nm,1.2s
SLBS Sierra La Lagu 48.93 311 P **P 03 27 24.7 +1.1**
SLBS pP **pP** 03 29 13.0 +1.5
SLBS ScP **ScP** 03 31 36.4 +0.6
BLO Bloomington 49.00 345 IAmb IAmb 03 27 23.6
comp=Z,34nm,0.7s
ALPN Alpine 49.02 323 IAmb IAmb 03 27 25.6
comp=Z,23nm,0.8s
FVM French Village 49.06 340 IAmb IAmb 03 27 24.8
comp=Z,24nm,0.5s
ACSO Alum Creek Sta 49.20 349 IAmb IAmb 03 27 25.5
comp=Z,28nm,1.0s
MNHN Monahans 49.21 324 IAmb IAmb 03 27 27.6
comp=Z,17nm,0.6s
APMT Aspermont 49.27 328 IAmb IAmb 03 27 26.9
comp=Z,26nm,0.5s
TUL3 Leonard 49.30 334 IAmb IAmb 03 27 26.7
comp=Z,12nm,0.5s
SN05 Snyder 5 49.32 327 IAmb IAmb 03 27 27.8
comp=Z,25nm,0.9s
CCM Cathedral Cave 49.41 340 P **P 03 27 26.4 -0.4**
CCM IAmb IAmb 03 27 27.4
comp=Z,25nm,1.4s
CCM Cathedral Cave 49.41 340 P **P 03 27 26.0 -0.7**
CCM PcP **PcP** 03 28 37.8 -0.1
CCM ScP **ScP** 03 31 37.1 -0.2
M57A Sunshine Farm, 49.44 355 IAmb IAmb 03 27 28.1
comp=Z,37nm,0.8s
O49A Covington 49.44 347 IAmb IAmb 03 27 27.3
comp=Z,16nm,0.8s
Q44A Meyer Farm, Va 49.46 342 IAmb IAmb 03 27 27.1
comp=Z,28nm,0.8s
SN07 Snyder 07 49.49 327 IAmb IAmb 03 27 28.8
comp=Z,31nm,0.6s
DEOK Depew 49.55 333 IAmb IAmb 03 27 28.7
comp=Z,39nm,1.1s
P46A Rosedale 49.60 344 IAmb IAmb 03 27 27.4
comp=Z,21nm,1.1s
ODSA Odessa 49.66 325 IAmb IAmb 03 27 30.3
comp=Z,34nm,1.0s
O48B Farmland 49.69 346 IAmb IAmb 03 27 28.4
comp=Z,23nm,0.7s
WMOK Wichita Mounta 49.71 331 IAmb IAmb 03 27 30.5
comp=Z,11nm,0.8s
N51A Ashland 49.76 349 IAmb IAmb 03 27 29.4

comp=Z,32nm,0.8s
PECS Pecos 49.88 323 P **P 03 27 31.1 +0.7**
QUOK Quay 49.92 333 IAmb IAmb 03 27 43.8
comp=Z,26nm,0.5s
DKNS Dickens 49.95 328 IAmb IAmb 03 27 32.2
comp=Z,29nm,0.9s
VHRN Van Horn 50.13 322 IAmb IAmb 03 27 33.7
comp=Z,35nm,0.7s
P43A Skaggs, Pawnee 50.29 342 IAmb IAmb 03 27 32.7
comp=Z,19nm,0.7s
SFIN Lafayette 50.29 345 IAmb IAmb 03 27 31.8
comp=Z,16nm,0.5s
M50A Fremont 50.35 349 IAmb IAmb 03 27 33.7
comp=Z,25nm,0.7s
HRV Adam Dziewonsk 50.36 0 P **P 03 27 33.6 0.0**
N47A Urbana 50.41 346 IAmb IAmb 03 27 33.4
comp=Z,25nm,0.6s
P40A Paris 51.00 340 IAmb IAmb 03 27 38.2
comp=Z,22nm,1.0s
ELIS Ellis County 51.09 331 IAmb IAmb 03 27 40.7
comp=Z,38nm,0.6s
MSTX Muleshoe 51.17 327 IAmb IAmb 03 27 40.7
comp=Z,22nm,0.7s
NOKA Waynoka 51.32 332 IAmb IAmb 03 27 42.1
comp=Z,39nm,1.1s
J59A Piesco 51.38 357 IAmb IAmb 03 27 41.7
comp=Z,22nm,0.6s
J57A Williamstown 51.41 356 IAmb IAmb 03 27 41.6
comp=Z,46nm,0.6s
K50A Casco 51.60 350 IAmb IAmb 03 27 42.4
comp=Z,43nm,0.6s
L46A Eue Claire 51.63 346 IAmb IAmb 03 27 41.8
comp=Z,20nm,0.7s
PECO Prince Edward 52.01 355 IAmb IAmb 03 27 46.0
comp=Z,34nm,0.5s
KSU1 Kansas State U 52.35 336 IAmb IAmb 03 27 48.1
comp=Z,20nm,0.3s
LONY Lake Ozonia 52.54 357 IAmb IAmb 03 27 49.8
comp=Z,16nm,0.7s
DELO Deloro Mine 52.64 355 IAmb IAmb 03 27 50.3
comp=Z,27nm,0.7s
SACV Santiago Islan 52.89 64 P **P 03 27 52.8 +0.4**
SACV IAmb IAmb 03 27 53.7
comp=Z,47nm,0.8s
L40A Anamosa 53.02 342 IAmb IAmb 03 27 52.7
comp=Z,30nm,1.4s
G62A West of Eustis 53.08 1 P **P 03 27 53.8 +0.7**
G62A IAmb IAmb 03 27 54.6
comp=Z,35nm,0.8s
319A Douglas 53.23 319 IAmb IAmb 03 27 56.4
comp=Z,52nm,0.7s
JFWS Jewell Farm 53.51 343 P **P 03 27 55.4 -0.8**
JFWS IAmb IAmb 03 27 56.2
comp=Z,23nm,0.6s
JFWS PcP **PcP 03 28 53.7 +0.4**
ANMO Albuquerque 53.95 325 P **P 03 28 00.1 +0.4**
ANMO Albuquerque 53.95 325 P **P 03 28 00.6 +0.8**
ANMO IAmb IAmb 03 28 02.4
comp=Z,9.5nm,0.6s
ANMO pP **pP 03 29 49.6 -1.3**
ANMO Albuquerque 53.95 325 P **P 03 28 00.1 +0.4**
ANMO IAmb IAmb 03 28 02.4
comp=Z,9.3nm,0.6s
ANMO **pP 03 29 49.3 -1.6**
ANMO Albuquerque 53.95 325 P **P 03 28 00.2 +0.4**
ANMO pP **pP 03 29 49.1 -1.7**
ANMO ScP **ScP 03 31 58.1 +0.7**
HOPE Hope Point 54.00 155 P **P 03 28 00.5 +1.0**
HOPE PcP **PcP 03 28 55.6 +0.6**
HOPE Hope Point 54.00 155 P **P 03 28 00.3 +0.9**
HOPE PcP **PcP 03 28 55.7 +0.7**
I42A Draeger Farm, 54.05 345 IAmb IAmb 03 27 59.4
comp=Z,18nm,0.6s
LMN Caledonia Moun 54.06 6 P **P 03 27 59.7 -0.3**
LMN IAmb IAmb 03 28 00.8
comp=Z,74nm,1.0s
LMN PcP **PcP 03 28 55.1 -0.2**
TRQ Mont Tremblant 54.13 358 IAmb IAmb 03 28 01.5
comp=Z,19nm,0.7s
H43A Windswept, Lux 54.30 346 IAmb IAmb 03 28 01.2
comp=Z,23nm,0.7s
T25A Trinidad 54.44 328 IAmb IAmb 03 28 04.9
comp=Z,20nm,0.7s
I40A Norwalk 54.51 343 IAmb IAmb 03 28 02.9
comp=Z,30nm,0.5s
L34A Svendsen Farm, 54.71 338 IAmb IAmb 03 28 04.5
comp=Z,25nm,0.6s
TUC Tucson 54.80 319 P **P 03 28 06.3 +0.7**
TUC Tucson 54.80 319 P **P 03 28 06.2 +0.6**
TUC pP **pP 03 29 58.3 +1.0**
TUC ScP **ScP 03 32 01.5 +0.4**
KSCO Kaye Shedlock' 54.97 331 IAmb IAmb 03 28 08.3
comp=Z,15nm,0.6s
D62A Allapoint, All 54.98 2 IAmb IAmb 03 28 07.5
comp=Z,61nm,0.7s
BATG Bathurst New B 55.36 5 P **P 03 28 09.3 +0.3**
BATG IAmb IAmb 03 28 09.7
comp=Z,48nm,0.6s
BATG PcP **PcP 03 29 00.3 -0.1**
E46A Sault Ste Mari 55.38 349 IAmb IAmb 03 28 08.8
comp=Z,38nm,0.6s
LMQ La Malbaie 55.41 1 IAmb IAmb 03 28 09.7
comp=Z,38nm,0.5s
I37A Lemond, Waseca 55.47 341 IAmb IAmb 03 28 09.6
comp=Z,18nm,0.8s
F42A Maple Grove Fa 55.60 346 IAmb IAmb 03 28 25.7
comp=Z,34nm,1.5s
LDAQ Lac Daran 55.82 0 P **P 03 28 12.5 +0.2**
LDAQ IAmb IAmb 03 28 13.1
comp=Z,55nm,0.8s
COWI Conover 56.17 345 P **P 03 28 13.8 -0.8**
COWI PcP **PcP 03 29 04.2 +0.5**
VLDQ Val d'Or 56.20 355 P **P 03 28 14.7 -0.1**
VLDQ IAmb IAmb 03 28 15.5
comp=Z,39nm,1.1s
VLDQ PcP **PcP 03 29 04.1 +0.5**
ECSD EROS Data Cent 56.32 338 P **P 03 28 15.1 -0.7**
SPMN Marine on St. 56.37 342 IAmb IAmb 03 28 16.4
comp=Z,32nm,1.3s
K30B Basset 56.58 336 IAmb IAmb 03 28 26.4
comp=Z,16nm,0.6s
X16A Lo Mia Camp, P 56.59 321 IAmb IAmb 03 28 20.1
comp=Z,22nm,0.9s
MVCO Mesa Verde 56.72 325 IAmb IAmb 03 28 20.6
comp=Z,27nm,0.7s
WUAZ Wupatki 57.26 322 IAmb IAmb 03 28 24.6
comp=Z,31nm,0.8s
E38A The Farm, Brul 57.27 344 IAmb IAmb 03 28 21.9
comp=Z,18nm,0.6s
PV15 Paradox Valley 57.51 326 IAmb IAmb 03 28 26.3
comp=Z,31nm,0.7s
PV13 Radium Mtn., P 57.57 326 P **P 03 28 25.6 +0.9**
PV13 IAmb IAmb 03 28 26.4
comp=Z,20nm,0.7s
PV13 **pP 03 30 17.5 -0.5**
ESJX Sierra Juarez 58.08 316 P **P 03 28 29.2 +1.0**
ESJX **pP 03 30 20.4 -1.3**
EYMN Ely 58.48 345 IAmb IAmb 03 28 30.1
comp=Z,47nm,0.5s
TBO Thunder Bay 58.61 346 IAmb IAmb 03 28 30.8
comp=Z,46nm,0.5s
MBO M'Bour 58.72 68 P **P 03 28 33.8 +1.4**
MBO M'Bour 58.72 68 P **P 03 28 34.2 +1.7**
KNB Kanab 59.13 322 IAmb IAmb 03 28 37.7
comp=Z,42nm,0.9s
SRU San Rafael Swe 59.19 325 IAmb IAmb 03 28 36.9
comp=Z,21nm,0.8s
PFO Pinyon Flats O 59.36 317 P **P 03 28 37.6 +0.9**
PFO Pinyon Flats O 59.36 317 P **P 03 28 37.7 +1.1**
PFO pP **pP 03 30 31.9 +0.9**
PFO ScP **ScP 03 32 21.6 +0.3**
K22A Casper 59.66 331 IAmb IAmb 03 28 39.9
comp=Z,12nm,0.4s
TCRU Three Creeks R 59.95 324 IAmb IAmb 03 28 42.7
comp=Z,20nm,0.8s
AGMN Agassiz Nation 60.06 342 IAmb IAmb 03 28 41.1
comp=Z,20nm,0.7s
E28A Huff 60.26 337 IAmb IAmb 03 28 43.7
comp=Z,81nm,0.9s
EPLO Experimental L 60.66 344 IAmb IAmb 03 28 44.8
comp=Z,37nm,0.6s
PASC Pasadena Art C 60.86 316 P **P 03 28 46.6 +0.2**
PASC IAmb IAmb 03 28 48.4
comp=Z,33nm,1.4s
TCUT Toone Canyon 61.06 327 IAmb IAmb 03 28 49.6
comp=Z,24nm,0.7s

TPNV Topopah Spring 61.22 320 IAmb IAmb 03 28 51.3
comp=Z,23nm,1.1s
PDAR Pinedale Array 61.25 329 P **P 03 28 49.4 +0.4**
PDAR PcP **PcP 03 29 24.3 -0.2**
PDAR Pinedale Array 61.25 329 P **P 03 28 49.0 0.0**
comp=Z,4.2nm,0.5s,baz=121,slow=9.2,SNR=100
PDAR PcP **PcP 03 29 23.9 -0.5**
comp=Z,2.6nm,0.5s,baz=136,slow=7.5,SNR=6.0
PDAR ScP **ScP 03 32 28.6 -1.0**
comp=Z,3.3nm,0.9s,baz=138,slow=6.9,SNR=5.8
comp=Z,4.2nm,0.5s
CCAC Calif City Air 61.30 318 IAmb IAmb 03 28 51.3
comp=Z,38nm,0.7s
ULM Lac du Bonnet 61.80 343 IAmb IAmb 03 28 52.1
comp=Z,42nm,0.8s
ULM Lac du Bonnet 61.80 343 P **P 03 28 51.2 -0.9**
comp=Z,63nm,0.8s,baz=152,slow=6.2,SNR=55
ULM ScP **ScP 03 32 31.2 -0.3**
comp=Z,8.3nm,0.8s,baz=152,slow=4.9,SNR=5.7
ULM S **S 03 36 24.6 -5.8**
comp=Z,10.0nm,1.0s,baz=261,slow=22,SNR=12
comp=Z,63nm,0.8s
ISA Isabella, Lake 61.90 318 P **P 03 28 54.0 +0.8**
ISA IAmb IAmb 03 28 55.4
comp=Z,16nm,0.8s
YNE Yellowstone No 63.09 330 IAmb IAmb 03 29 02.6
comp=Z,15nm,0.7s
YMR Madison River 63.32 330 IAmb IAmb 03 29 04.8
comp=Z,14nm,0.7s
NVAR Mina Array Bea 63.41 320 P **P 03 29 03.3 +0.2**
NVAR Mina Array Bea 63.41 320 P **P 03 29 03.5 +0.5**
comp=Z,3.5nm,0.7s,baz=147,slow=6.4,SNR=25
NVAR PcP **PcP 03 29 33.0 -0.4**
comp=Z,1.5nm,0.7s,baz=138,slow=3.9,SNR=4.5
NVAR pP **pP 03 31 01.1 +1.4**
comp=Z,4.1nm,0.8s,baz=122,slow=6.7,SNR=8.0
NVAR PP PP 03 31 43.7 +11
comp=Z,2.5nm,0.9s,baz=134,slow=5.3,SNR=3.9
comp=Z,3.5nm,0.7s
YHB Horse Butte 63.50 330 IAmb IAmb 03 29 05.8
comp=Z,13nm,0.7s
YHL Hebgen Lake 63.56 330 IAmb IAmb 03 29 06.7
comp=Z,12nm,0.7s
PMPB Monarch Peak 63.77 317 IAmb IAmb 03 29 07.4
comp=Z,30nm,0.7s
BBGB Big Mountain B 64.13 317 IAmb IAmb 03 29 18.5
comp=Z,13nm,0.8s
MACI Morro de la Ar 64.36 53 P **P 03 29 10.9 +1.7**
PNTR Pine Nut 64.61 320 IAmb IAmb 03 29 13.1
comp=Z,18nm,0.8s
MFID Camas Ranch 65.04 326 IAmb IAmb 03 29 15.3
comp=Z,23nm,0.8s
PMOZ Porto Moniz, M 65.88 49 P **P 03 29 19.5 +0.9**
KUQ Kuujjuuaa 66.03 2 P **P 03 29 17.9 -0.9**
KUQ IAmb IAmb 03 29 18.7
comp=Z,16nm,0.9s
ORV Oroville 66.09 320 P **P 03 29 19.8 +0.2**
ORV IAmb IAmb 03 29 22.0
comp=Z,16nm,0.9s
HATC Hat Creek Radi 66.78 321 IAmb IAmb 03 29 25.3
comp=Z,23nm,0.7s
I07A Izee 67.53 325 IAmb IAmb 03 29 30.9
comp=Z,18nm,1.2s
FFC Flin Flon 67.54 342 P **P 03 29 28.6 +0.4**
FFC IAmb IAmb 03 29 28.9
comp=Z,9.8nm,0.7s
FFC Flin Flon 67.54 342 P **P 03 29 28.0 -0.1**
J05D Fort Rock, OR 68.06 323 IAmb IAmb 03 29 33.9
comp=Z,12nm,0.8s
PINE Pine Mountain 68.18 324 IAmb IAmb 03 29 35.1
comp=Z,20nm,0.7s
DBIC Dimbokro 68.24 80 P **P 03 29 33.9 +0.6**
DBIC Dimbokro 68.24 80 P **P 03 29 33.8 +0.6**
comp=Z,138nm,0.3s,baz=254,slow=5.0,SNR=503
DBIC pP **pP 03 31 32.3 -0.1**
comp=Z,29nm,0.9s,baz=256,slow=6.2,SNR=6.3
DBIC Dimbokro 68.24 80 P **P 03 29 33.7 +0.4**
DBIC pP **pP 03 31 31.6 -0.8**
DBIC sP **sP 03 32 31.7 -2.3**
DBIC Dimbokro 68.24 80 P **P 03 29 33.9 +0.6**
J04A Umpqua Nationa 68.56 323 IAmb IAmb 03 29 36.7
comp=Z,34nm,0.7s
I05D Terrebonne, OR 68.74 324 IAmb IAmb 03 29 38.2
comp=Z,20nm,0.6s
IVI Ivigtut 71.51 12 P **P 03 29 51.2 -0.4**
NRS Narsarsuaq 72.06 13 P **P 03 29 54.3 -0.5**
NRS IAmb IAmb 03 29 55.4
comp=Z,64nm,1.1s
NRS Narsarsuaq 72.06 13 *i* P **P 03 29 54.4 -0.4**
ACRG Accra 72.59 82 P **P 03 29 59.1 +0.2**
TIO Tiouine 72.81 54 P **P 03 30 01.9 +1.9**
AVE Averroes 73.54 52 P **P 03 30 05.6 +1.7**
AVE Averroes 73.54 52 P **P 03 30 05.8 +1.9**
VNA3 Neumayer Olymp 73.58 163 ⇓P **P 03 30 04.2 +0.7**
comp=Z,30nm,0.4s
NUUK Nuuk 73.64 9 *i* P **P 03 30 03.8 +0.1**
VNA1 Neumayer--Stat 73.77 162 ⇓P **P 03 30 05.6 +1.2**
comp=Z,66nm,1.0s
PFVI Vila Bisbo 73.94 48 P **P 03 30 07.8 +1.8**
MORF Marmelete 74.13 48 *e*P **P 03 30 08.5 +1.3**
MORF IAmb IAmb 03 30 09.8
comp=Z,63nm,0.8s
VNA2 Neumayer--Watz 74.14 162 ⇓P **P 03 30 07.2 +0.6**
comp=Z,45nm,0.6s,baz=293,slow=5.3
LIS Lisbon 74.34 46 *e*P **P 03 30 09.5 +1.2**
LIS IAmb IAmb 03 30 10.1
comp=Z,37nm,0.6s
PMAFR Mafra 74.34 46 P **P 03 30 08.1 -0.2**
BLKN Baker Lake 74.50 349 IAmb IAmb 03 30 08.8
comp=Z,32nm,0.7s
MESJ Messejana 74.66 47 *e*P **P 03 30 11.2 +1.1**
MESJ IAmb IAmb 03 30 12.5
comp=Z,28nm,1.1s
PCVE Castro Verde 74.71 48 P **P 03 30 12.2 +1.8**
PVAQ Vaqueiros 74.86 48 P **P 03 30 12.9 +1.7**
EGRO El Granado 75.08 48 P **P 03 30 14.2 +1.7**
EVO Evora 75.08 47 P **P 03 30 13.6 +1.2**
IFR Ifrane 75.41 52 P **P 03 30 16.2 +1.6**
PESTR Estremoz 75.52 46 IAmb IAmb 03 30 17.2
comp=Z,37nm,0.9s
PESTR Estremoz 75.52 46 P **P 03 30 15.9 +1.0**
PBAR Barrancos 75.65 47 P **P 03 30 16.9 +1.3**
EMIN Mina Concepcio 75.76 48 P **P 03 30 17.5 +1.3**
SNAA Sanae 75.78 162 P **P 03 30 16.7 +0.9**
SNAA Sanae 75.78 162 ⇓P **P 03 30 16.4 +0.6**
comp=Z,1μm,0.6s
SNAA Sanae 75.78 162 P **P 03 30 16.4 +0.6**
comp=Z,44nm,0.6s,baz=277,slow=7.1,SNR=298
comp=Z,44nm,0.6s
TOA0 Torodi Ar. Sit 75.88 74 P **P 03 30 17.3 0.0**
TORD Torodi Ar. Bea 75.88 74 P **P 03 30 17.6 +0.2**
TORD Torodi Ar. Bea 75.88 74 P **P 03 30 17.4 +0.1**
comp=Z,161nm,0.3s,baz=258,slow=4.9,SNR=1.4
TORD pP **pP 03 32 18.9 -1.1**
comp=Z,128nm,0.3s,baz=282,slow=5.0,SNR=1.6
EBAD Badajoz 75.89 47 P **P 03 30 17.6 +0.7**
ESPR Espera 76.03 49 P **P 03 30 19.5 +1.8**
ECEU Ceuta 76.04 50 P **P 03 30 19.8 +2.0**
MTE Manteigas 76.15 45 P **P 03 30 19.0 +0.6**
SFJD Kangerlussuaq 76.44 8 P **P 03 30 18.3 -0.9**
SFJD IAmb IAmb 03 30 19.0
comp=Z,43nm,1.2s
SFJD Kangerlussuaq 76.44 8 *i* P **P 03 30 17.9 -1.3**
SFJD Kangerlussuaq 76.44 8 P **P 03 30 18.1 -1.3**
ECAB El Cabril 76.80 48 P **P 03 30 22.9 +1.0**
EMAL Malaga-Limoner 77.06 49 P **P 03 30 25.5 +2.1**
ISOG Isortoq, Green 77.32 13 *i* P **P 03 30 22.7 -1.4**
ECAL Calabor 77.32 44 P **P 03 30 25.5 +0.8**
EGOR Sierra Gorda, 77.43 49 P **P 03 30 27.4 +1.9**
EADA Adamuz 77.45 48 P **P 03 30 26.4 +1.0**
TROLL Troll, Antarti 77.49 162 ⇓P **P 03 30 26.2 +1.0**
comp=Z,3μm,0.7s
ILON Igloolik, Nuna 77.61 356 IAmb IAmb 03 30 25.9
comp=Z,34nm,0.9s
ELGU Los Guajares, 77.71 50 P **P 03 30 28.6 +1.7**
YKA Yellowknife Ar 77.71 341 P **P 03 30 26.4 +0.1**
comp=Z,13nm,0.7s,baz=137,slow=5.9,SNR=304
YKA S **S 03 39 29.1 -1.7**
comp=Z,1.0nm,1.0s,baz=124,slow=14,SNR=6.7
comp=Z,13nm,0.7s
EQTA Presa de Quent 77.96 49 P **P 03 30 29.6 +1.3**
EBER Berja 78.27 50 P **P 03 30 31.2 +1.1**
ESDC Sonseca Array 78.43 47 P **P 03 30 31.9 +1.2**
comp=Z,14nm,0.8s,baz=270,slow=5.7,SNR=88
ESDC pP **pP 03 32 35.7 +1.1**
comp=Z,1.6nm,0.8s,baz=246,slow=5.8,SNR=3.8

comp=Z,14nm,0.8s
ENIJ Nijar 78.81 50 P **P 03 30 33.1 +0.3**
UCM Universidad Co 79.17 46 P **P 03 30 35.8 +1.2**
TOAD Toad River Com 79.26 335 P **P 03 30 35.6 +1.0**
baz=126
VAL Valentia 79.45 34 P **P 03 30 36.2 +0.5**
KOTAN Kotaneelee Air 79.54 336 P **P 03 30 37.2 +1.2**
baz=127
UMMG Uummannaq 79.71 7 *i* P **P 03 30 35.9 -0.8**
UMMG IAmb IAmb 03 30 37.0
comp=Z,15nm,0.4s
EMUR La Murta 79.82 49 P **P 03 30 38.0 -0.1**
CART Cartagena 79.92 50 P **P 03 30 39.0 +0.4**
ICESG Greenland Ices 80.17 11 *i* P **P 03 30 39.2 -0.4**
T35M Bob Quinn 80.46 332 P **P 03 30 41.1 +0.1**
baz=121
ECHE Chera 80.58 48 P **P 03 30 43.5 +1.5**
IGLA Glengowla, Co 80.61 32 P **P 03 30 42.0 +0.3**
S34M Telegraph Cree 81.35 332 P **P 03 30 46.7 +1.2**
baz=120
U33K Whale Pass 81.41 330 P **P 03 30 46.1 +0.3**
baz=118
WTLY Watson Lake, Y 81.48 335 P **P 03 30 47.0 +0.9**
baz=123
IWEX Carrickbyrne, 81.56 34 P **P 03 30 46.4 -0.3**
QSPA South Pole Qui 82.01 180 P **P 03 30 49.6 +0.6**
QSPA IAmb IAmb 03 30 50.9
comp=Z,37nm,0.8s
QSPA South Pole Qui 82.01 180 P **P 03 30 49.9 +1.0**
comp=Z,30nm,0.7s,baz=173,slow=1.1,SNR=175
QSPA PKKPbc **PKKPbc 03 49 11.7 -5.4**
comp=Z,1.4nm,0.5s,baz=234,slow=0.8,SNR=15
comp=Z,30nm,0.7s
R33M Jennings River 82.03 334 P **P 03 30 49.6 +0.5**
baz=121
TGTN Hyland Airport 82.04 336 P **P 03 30 49.4 +0.5**
baz=124
EIBI Ibiza 82.11 49 P **P 03 30 50.6 +0.8**
DSB Dublin 82.15 33 P **P 03 30 49.9 +0.3**
DSB Dublin 82.15 33 P **P 03 30 49.7 +0.1**
IDGL Inch Island, C 82.33 31 P **P 03 30 50.1 -0.4**
Q32M Nakina River 82.39 333 P **P 03 30 51.9 +0.9**
Q32M IAmb IAmb 03 30 54.8
comp=Z,21nm,1.5s
Q32M Nakina River 82.39 333 P **P 03 30 51.3 +0.3**
baz=120
ILTH Belurgan, Co L 82.50 33 P **P 03 30 51.6 +0.3**
S32K Killisnoo 82.75 331 P **P 03 30 53.3 +0.8**
baz=117
KULLO Kullorsuaq 83.01 4 *i* P **P 03 30 52.8 -0.7**
R32K Eaglecrest 83.10 332 P **P 03 30 55.3 +1.0**
baz=118
P33M Teslin, Yukon 83.25 334 P **P 03 30 55.7 +0.6**
baz=119
SUMG Summit 83.34 10 *i* P **P 03 30 55.7 0.0**
ETOS Mallorca 83.42 48 P **P 03 30 56.8 +0.5**
S31K Pelican 83.77 331 P **P 03 30 57.7 +0.2**
baz=116
MMPY Sheldon Lake, 83.81 336 P **P 03 30 58.6 +0.8**
baz=121
N32M Quiet Lake 83.82 335 P **P 03 30 58.7 +0.8**
baz=119
RES Resolute Bay 83.86 354 PKKPbc PKKPbc 03 49 09.6 -3.0
comp=Z,0.7nm,0.7s,baz=352,slow=2.8,SNR=7.3
ELIB Princess Elisa 83.92 162 *d*P **P 03 30 59.2 +0.8**
comp=Z,40nm,0.8s
WHY Whitehorse 84.36 334 P **P 03 31 01.3 +0.7**
baz=117
FARO Faro, Yukon 84.46 336 P **P 03 31 01.4 +0.5**
baz=119
EKA Eskdalemuir Ar 84.71 32 P **P 03 31 01.9 -0.4**
comp=Z,1.8nm,0.4s,baz=236,slow=5.6,SNR=39
comp=Z,1.8nm,0.4s
M31M Drury Creek, Y 84.87 335 P **P 03 31 03.6 +0.6**
baz=118
O30N Mendenhall 84.94 334 P **P 03 31 03.9 +0.6**
baz=116
N31M Braeburn, Yuko 85.13 334 P **P 03 31 04.4 +0.2**
baz=117
P29M Windy Craggy 85.19 332 P **P 03 31 05.6 +1.1**
baz=115
C36M Paulatuk 85.20 344 P **P 03 31 04.1 -0.2**
baz=128
SCO Scoresbysund 85.23 15 *i* P **P 03 31 04.9 +0.4**
SCO IAmb IAmb 03 31 05.7
comp=Z,20nm,0.7s
HYT Haines Junctio 85.59 333 P **P 03 31 07.6 +1.0**
baz=115
N30M Aishikik Lake 85.68 334 P **P 03 31 08.1 +1.2**
baz=116,SNR=8.8
O29M Mount Kennedy 85.86 333 P **P 03 31 08.8 +0.9**
baz=114
PNL Peninsula 85.98 332 P **P 03 31 09.6 +1.3**
baz=113
YUK6 Outpost Mounta 86.02 333 P **P 03 31 09.6 +0.9**
baz=114
M30M Minto, Yukon 86.04 335 P **P 03 31 09.0 +0.4**
baz=116
NEEM North Greenlan 86.21 4 *i* P **P 03 31 09.6 +0.2**
NEEM IAmb IAmb 03 31 10.9
comp=Z,93nm,0.6s
YUK4 Talbot Arm 86.31 334 P **P 03 31 10.5 +0.4**
baz=114,SNR=10
PINM Pinnacle 86.54 332 P **P 03 31 11.5 +0.5**
baz=113
H31M Peel River 86.56 338 P **P 03 31 11.6 +0.7**
baz=118,SNR=13
M29M Somme Creek 86.69 335 P **P 03 31 12.5 +0.8**
baz=114,SNR=14
J30M Hart River 86.74 337 P **P 03 31 12.4 +0.5**
baz=116,SNR=15
O28M Mount Upton 86.78 333 P **P 03 31 13.1 +0.7**
baz=113
YUK8 Steele Glacier 86.78 333 P **P 03 31 13.4 +1.1**
baz=113,SNR=6.4
L29M L29M 86.83 335 P **P 03 31 13.0 +0.8**
baz=115,SNR=21
K29M Barlow Dome 86.89 336 P **P 03 31 13.1 +0.4**
baz=115,SNR=12
I30M Mount Dempster 87.05 338 P **P 03 31 14.0 +0.6**
baz=116,SNR=17
G31M Satah River 87.07 339 P **P 03 31 13.9 +0.7**
baz=118,SNR=22
A36M Sachs Harbour 87.13 345 P **P 03 31 13.6 +0.2**
baz=127,SNR=69
F31M Tsiigehtchic 87.14 340 P **P 03 31 14.1 +0.6**
baz=119,SNR=18
YUK3 Moose Creek 87.28 334 P **P 03 31 15.5 +0.9**
baz=112,SNR=7.9
MESA MESA 87.36 332 P **P 03 31 15.6 +0.6**
baz=111
J29N Klondike Camp 87.42 337 P **P 03 31 15.6 +0.6**
baz=115,SNR=8.7
KEST Kesra 87.48 54 P **P 03 31 16.1 +0.2**
comp=Z,18nm,0.7s,baz=206,slow=1.2,SNR=23
comp=Z,18nm,0.7s
KEST Kesra 87.48 54 P **P 03 31 16.3 +0.4**
KEST S **SKSac 03 40 49.6 +1.4**
INK Inuvik 87.48 341 S **SKSac 03 40 43.2 -3.3**
comp=Z,2.4nm,0.9s,baz=171,slow=32,SNR=36
INK PKKPbc PKKPbc 03 48 59.8 -4.0
comp=Z,0.4nm,0.4s,baz=234,slow=0.4,SNR=6.1
EPYK Eagle Plains 87.68 339 P **P 03 31 16.8 +0.6**
baz=116,SNR=6.8
BVCY Beaver Creek 87.70 334 P **P 03 31 17.3 +1.0**
baz=112
DAWY Dawson 87.73 336 P **P 03 31 16.6 +0.2**
baz=114,SNR=9.0
G30M tAoh Zraii Nji 87.78 339 P **P 03 31 17.6 +1.0**
baz=116
SUR Sutherland 87.83 122 P **P 03 31 18.7 +0.8**
I29M Ogilvie Camp, 87.84 337 P **P 03 31 17.8 +0.9**
baz=115
F30M Barrier River 87.91 340 P **P 03 31 17.6 +0.4**
baz=117
M27K Edge Creek, AK 88.12 334 P **P 03 31 18.8 +0.4**
baz=111,SNR=6.0
H29M Whitestone 88.22 338 P **P 03 31 18.6 0.0**
baz=114,SNR=16
WLF Walferdange 88.34 39 P **P 03 31 20.1 +0.6**
L27K Beaver Creek, 88.36 335 P **P 03 31 19.9 +0.5**
baz=111,SNR=12
G29M Pine Creek 88.38 339 P **P 03 31 19.6 +0.2**
baz=115
KAIM Kayak Island 88.44 331 P **P 03 31 20.3 +0.5**
baz=109
I28M Miner Creek 88.50 337 P **P 03 31 20.6 +0.6**

baz=113,SNR=5.4
KOOLE **Kule** 88.61 113 *i* P **P** 03 31 21.8 +0.2
K27K **Chicken** 88.81 335 P **P** 03 31 22.4 +0.9
baz=111
E29M **Blow River** 88.97 340 P **P** 03 31 22.6 +0.5
baz=115
I27K **Kandik River** 89.20 337 P **P** 03 31 23.3 0.0
baz=112,SNR=6.8
LKGWB **Lokgwabe** 89.38 114 *i* P **P** 03 31 24.5 -0.7
H27K **Steamboat Moun** 89.40 338 P **P** 03 31 24.3 +0.1
baz=112
VNDA **Vanda** 89.51 190 P **P** 03 31 24.6 +0.1
comp=Z,2.2nm,0.8s,baz=133,slow=4.6,SNR=10
VNDA pP **pP** 03 33 33.4 +0.7
comp=Z,1.7nm,0.9s,baz=139,slow=3.6,SNR=4.4
comp=Z,2.2nm,0.8s
SCRK **Sand Creek** 89.58 335 P **P** 03 31 25.1 -0.1
baz=109
J26L **Joseph Creek** 89.58 336 P **P** 03 31 25.3 +0.2
baz=110,SNR=6.4
E28M **Babbage River** 89.61 340 P **P** 03 31 24.9 -0.2
baz=114
KLU **Klutina** 89.64 333 P **P** 03 31 25.5 +0.1
baz=108
D28M **Stokes Point** 89.64 341 P **P** 03 31 25.2 +0.1
baz=114
G27K **Doyon Strip** 89.66 338 P **P** 03 31 25.5 +0.1
baz=112
I26K **Coal Creek Min** 89.70 337 P **P** 03 31 25.7 +0.2
baz=110
GRTLG **Ghanzi** 89.78 111 *i* P **P** 03 31 25.4 -1.7
RIDG **Independent Ri** 89.86 335 P **P** 03 31 27.2 +0.8
baz=109
PAX **Paxson** 89.89 334 P **P** 03 31 27.3 +0.7
baz=108
M24K **Tolsona, Glenn** 89.94 333 P **P** 03 31 26.9 +0.1
baz=107
SYO **Syowa Base** 89.94 160‖ *e*PcP **PcP** 03 31 27.1 -0.3
SYO **Syowa Base** 89.94 160‖ *e*pP pP 03 33 31.2 -3.7
VLC **Villacollemand** 89.94 45 P **P** 03 31 26.7 -0.5
GLI **Glacier Island** 90.00 332 P **P** 03 31 27.3 +0.3
baz=107
DAVOX **Davos/Dischmat** 90.11 43 P **P** 03 31 28.4 +0.3
comp=Z,9.2nm,0.4s,baz=248,slow=5.2,SNR=33
comp=Z,9.2nm,0.4s
E27K **Coleen River** 90.15 339 P **P** 03 31 27.6 0.0
baz=112
DAVA **Damuels** 90.22 42 *e*P **P** 03 31 28.4 -0.1
comp=Z,5.2nm,0.5s
XAUDM **Khaudum** 90.32 109 *i* P P 03 31 24.5 -5.1
D27M **Malcolm River** 90.33 341 P **P** 03 31 28.9 +0.4
baz=112,SNR=18
J25K **Salcha River,** 90.36 336 P **P** 03 31 29.4 +0.8
baz=108,SNR=6.0
KGCAE **Kacgae** 90.47 113 *i* P **P** 03 31 30.1 -0.1
G26K **Porcupine Rive** 90.50 338 P **P** 03 31 29.7 +0.5
baz=110,SNR=6.6
M23K **Glacier View** 90.55 333 P **P** 03 31 29.8 +0.3
baz=106
PWL **Port Wells** 90.58 332 P **P** 03 31 29.7 +0.1
baz=106
PHPEN **Phepeng** 90.64 116 *i* P **P** 03 31 30.6 -0.4
PRP **Porcupine Dome** 90.70 336 P **P** 03 31 30.7 +0.3
baz=108,SNR=6.0
FETA **Feichten** 90.73 43 *e*P **P** 03 31 30.9 -0.1
comp=Z,14nm,1.2s,SNR=6.0
KNK **Knik Glacier** 90.78 332 P **P** 03 31 31.5 +0.8
baz=105
SML **Sawmill** 90.83 332 P **P** 03 31 31.9 +1.0
baz=106
RETA **Reutte** 90.84 42 *i* P **P** 03 31 31.3 0.0
comp=Z,0.8nm,0.2s
F26K **Sheenjek River** 90.88 339 P **P** 03 31 31.9 +0.9
baz=109,SNR=15
BLS5 **Blasjo** 90.94 30 *e*P **P** 03 31 32.3 +0.9
HDA **Harding Lake** 90.95 335 P **P** 03 31 32.4 +1.1
baz=107
ILAR **Eielson Array** 91.03 336 P **P** 03 31 31.8 +0.1
comp=Z,2.1nm,0.8s,baz=133,slow=3.2,SNR=14
ILAR pP **pP** 03 33 38.8 -1.3
comp=Z,3.8nm,1.1s,baz=115,slow=3.7,SNR=11
ILAR PKKPbc **PKKPdf** 03 48 51.0 +0.4
comp=Z,0.5nm,0.4s,baz=289,slow=3.3,SNR=7.4
comp=Z,2.1nm,0.8s
MOTA **Moosalm** 91.05 42 *e*P **P** 03 31 32.2 -0.1
comp=Z,13nm,0.6s
H25L **Birch Creek** 91.05 337 P **P** 03 31 32.6 +1.0
baz=108
SQTA **Sankt Quirin** 91.09 43 *i* P **P** 03 31 32.5 0.0
comp=Z,28nm,1.3s,SNR=8.6
ODD1 **Odda** 91.14 30 *e*P **P** 03 31 33.2 +0.9
RC01 **Rabbit Creek A** 91.30 332 P **P** 03 31 34.0 +1.0
baz=104
G25K **Bearman Lake** 91.31 338 P **P** 03 31 33.7 +0.9
baz=108
POKR **Poker Plat Res** 91.35 336 P **P** 03 31 34.4 +1.2
baz=106
WATA **Walderalm** 91.36 43 *e*P **P** 03 31 33.8 0.0
comp=Z,4.5nm,0.3s,SNR=6.0
C27K **Jago River** 91.38 341 P **P** 03 31 34.3 +1.1
baz=110
WTTA **Wattenberg** 91.39 43 *e*P **P** 03 31 34.0 +0.1
comp=Z,7.0nm,0.4s,SNR=8.1
F25K **Christian Rive** 91.39 338 P **P** 03 31 34.6 +1.2
baz=108
BRSE **Bradley Lake S** 91.45 330 P **P** 03 31 34.6 +0.8
baz=104
COLA **College** 91.45 336 P **P** 03 31 34.6 +1.0
baz=106
COLA **College** 91.45 336 P **P** 03 31 34.3 +0.7
E25K **Arctic Village** 91.53 339 P **P** 03 31 34.5 +0.5
baz=108,SNR=10
MCK **McKinley** 91.60 334 P **P** 03 31 35.5 +1.2
baz=105
H24K **Noodor Dome** 91.73 336 P **P** 03 31 35.9 +1.0
baz=106,SNR=5.3
G24K **Hadweenzic Riv** 91.81 337 P **P** 03 31 35.8 +0.6
baz=106,SNR=10
SUA **Susitna One** 91.86 332 P **P** 03 31 36.1 +0.3
baz=103
CUT **Chulitna** 91.86 333 P **P** 03 31 36.2 +0.7
baz=104
AKN **Aaknes** 91.86 27 *e*P **P** 03 31 36.4 +0.8
C26K **Camden Bay** 91.87 341 P **P** 03 31 36.1 +0.7
baz=108
NEA2 **Nenana** 91.88 335 P **P** 03 31 36.2 +0.6
baz=105,SNR=11
ABTA **Abfaltersbach** 91.89 43 *i* P **P** 03 31 36.1 -0.1
comp=Z,5.6nm,0.5s,SNR=8.7
KDAK **Kodiak Island** 91.96 328 P **P** 03 31 37.3 +1.3
baz=102
Q20K **Shuyak Island** 92.03 329 P **P** 03 31 36.9 +0.6
baz=102
LESA **Schwarzleotal** 92.11 43 *e*P **P** 03 31 37.2 +0.1
comp=Z,0.8nm,0.2s,SNR=5.4
TRF **Thorofare Moun** 92.12 334 P **P** 03 31 37.1 +0.1
baz=104,SNR=6.3
SKAR **Skarslia** 92.13 29 *e*P **P** 03 31 37.6 +0.7
I23K **Minto, Yukon-K** 92.14 336 P **P** 03 31 36.7 -0.1
baz=104,SNR=5.9
D25K **Kavik River** 92.17 340 P **P** 03 31 37.0 +0.1
baz=107
F24K **Squaw Lake** 92.19 338 P **P** 03 31 37.3 +0.3
baz=106,SNR=11
OHAK **Old Harbor** 92.22 327 P **P** 03 31 37.5 +0.2
baz=101
BOSA **Boshof** 92.22 119 P **P** 03 31 38.1 -0.1
comp=Z,8.6nm,0.6s,baz=255,slow=4.4,SNR=19
comp=Z,8.6nm,0.6s
BOSA **Boshof** 92.22 119 P **P** 03 31 38.2 0.0
MAKGR **Makgori** 92.32 116 *i* P **P** 03 31 38.7 0.0
SKT **Skwentna** 92.34 332 P **P** 03 31 38.2 +0.4
baz=103
H23K **Yukon River** 92.39 336 P **P** 03 31 38.3 +0.4
baz=104
SPCR **Spurr Chakacha** 92.49 331 P **P** 03 31 39.1 +0.5
baz=102
KBA **Koelnbreinsper** 92.50 43 *i* P **P** 03 31 38.9 -0.2
comp=Z,0.9nm,0.0s,SNR=6.4
KONO **Kongsberg** 92.55 30 *e*P **P** 03 31 39.3 +0.6
E24K **Your Creek** 92.56 339 P **P** 03 31 39.1 +0.3
baz=105,SNR=8.0
BPAW **Bear Paw Mtn.** 92.57 334 P **P** 03 31 39.0 +0.2
baz=103,SNR=10
MYKA **Terra Mystica** 92.64 43 *e*P **P** 03 31 39.6 0.0
comp=Z,8.7nm,0.4s,SNR=5.0
Q19K **Cape Douglas,** 92.73 329 P **P** 03 31 40.0 +0.3
baz=101
DOMB **Dombas** 92.78 28 *e*P **P** 03 31 40.7 +0.9
G23K **Bananza Creek** 92.79 337 P **P** 03 31 40.5 +0.7
baz=104
BIOA **Bad Ischl, Aus** 92.80 42 *e*P **P** 03 31 40.3 +0.1
comp=Z,6.2nm,0.2s,SNR=7.0
JAVS **Javornik** 92.81 44 *i* P **P** 03 31 40.4 0.0
PPLA **Purkeypile** 92.84 333 P **P** 03 31 39.7 -0.5
baz=102
CAST **Castle Rocks** 92.90 334 P **P** 03 31 40.0 -0.3
baz=102,SNR=5.8
D24K **Happy Valley** 92.96 340 P **P** 03 31 40.4 0.0
baz=105
E23K **Chandalar** 92.97 338 P **P** 03 31 41.3 +0.7
baz=104
KHC **Kasperske Hory** 92.98 41 *e*P **P** 03 31 41.2 +0.2
COLD **Coldfoot** 92.98 338 P **P** 03 31 41.2 +0.6
baz=104,SNR=8.9
GERES **GERESS Array B** 93.02 41 P **P** 03 31 41.3 0.0
comp=Z,7.9nm,0.8s,baz=251,slow=3.6,SNR=49
comp=Z,7.9nm,0.8s
C24K **Franklin Bluff** 93.07 340 P **P** 03 31 41.3 +0.4
baz=105
TOLK **Toolik Lake Re** 93.10 339 P **P** 03 31 41.1 0.0
baz=104,SNR=5.4
CHUM **Lake Minchumin** 93.10 334 P **P** 03 31 41.2 0.0
baz=102
MOZS **Mozjanca** 93.13 44 *i* P **P** 03 31 41.9 +0.1
NOR **Nord** 93.15 7 *i* P **P** 03 31 40.8 -0.3
OSL **Oslo** 93.16 30 *e*P **P** 03 31 42.4 +0.9
LBTB **Lobatse** 93.17 116 P **P** 03 31 42.4 -0.2
comp=Z,16nm,0.7s,baz=269,slow=4.9,SNR=23
comp=Z,16nm,0.7s
I21K **Tanana** 93.23 335 P **P** 03 31 42.3 +0.5
baz=102
OBKA **Obir** 93.24 44 *i* P **P** 03 31 42.2 -0.1
comp=Z,2.8nm,0.4s
MOA **Molln** 93.24 42 *e*P **P** 03 31 42.1 -0.1
comp=Z,4.9nm,0.4s,SNR=8.2
GBRS **Gornja Briga** 93.28 45 *i* P **P** 03 31 42.7 +0.2
CKRC **Cesky Krumlov** 93.41 41 *e*P **P** 03 31 42.7 -0.3
ZVC **Zvikov** 93.42 41 *e*P **P** 03 31 42.7 -0.3
D23K **Nanushuk River** 93.57 339 P **P** 03 31 43.5 +0.3
baz=103
SOKA **Soboth** 93.59 44 *e*P **P** 03 31 43.7 -0.3
comp=Z,8.4nm,1.3s
NB2 **NORSAR Subarra** 93.60 29 P **P** 03 31 43.9 +0.3
comp=Z,7.2nm,0.7s,baz=260,slow=4.6
NB2 **NORSAR Subarra** 93.60 29 P **P** 03 31 43.9 +0.3
baz=260,slow=4.6
NOA **NORSAR Array B** 93.60 29 P **P** 03 31 44.1 +0.6
comp=Z,4.4nm,0.7s,baz=258,slow=4.4,SNR=28
comp=Z,4.4nm,0.7s
H21K **Melozitna Rive** 93.66 336 P **P** 03 31 44.6 +0.8
baz=101
C23K **Itkillik River** 93.74 340 P **P** 03 31 44.5 +0.5
baz=103
K20K **Telida** 93.77 333 P **P** 03 31 44.1 -0.1
baz=100
CRES **Cresnjevec Ost** 93.77 44 *i* P **P** 03 31 45.0 +0.3
E22K **Anaktuvuk Pass** 93.79 338 P **P** 03 31 44.8 +0.5
baz=102,SNR=8.0
F22K **John River** 93.79 338 P **P** 03 31 45.0 +0.7
baz=102
ARSA **Arzberg** 94.00 43 *i* P **P** 03 31 45.7 0.0
comp=Z,1.0nm,0.3s
G21K **Allakaket** 94.11 337 P **P** 03 31 46.9 +1.1
baz=101
N18K **Kilae Creek** 94.16 331 P **P** 03 31 47.2 +1.1
baz=99
F21K **Alatna River** 94.23 337 P **P** 03 31 47.0 +0.7
baz=101
TREC **Trest** 94.24 41 *e*P **P** 03 31 47.1 +0.3
D22K **Ayikyak River** 94.25 339 P **P** 03 31 47.1 +0.7
baz=101
CONA **Conrad Observa** 94.31 42 *i* P **P** 03 31 47.4 +0.2
comp=Z,7.2nm,0.5s,SNR=8.0
H20K **Anotlenenega Mo** 94.48 335 P **P** 03 31 47.6 +0.1
baz=100
NSS **Namsos** 94.53 26 *e*P **P** 03 31 48.7 +1.1
TTA **Tatalina** 94.56 333 P **P** 03 31 48.5 +0.6
baz=99
RONA **Rosalia, Austr** 94.58 43 *e*P **P** 03 31 48.2 -0.2
comp=Z,0.5nm,0.2s,SNR=5.8
O17K **Koliganek Bris** 94.62 330 P **P** 03 31 48.5 +0.4
baz=98
E21K **Killik River** 94.64 338 P **P** 03 31 48.4 +0.3
baz=100
HFS **Hagfors** 94.67 30 P **P** 03 31 48.3 -0.1
comp=Z,2.8nm,0.5s,baz=236,slow=1.6,SNR=18
comp=Z,2.8nm,0.5s
UPC **Upice** 94.73 40 *e*P **P** 03 31 49.6 +0.7
CHVC **Chvalec** 94.77 40 *e*P **P** 03 31 49.7 +0.6
N17K **Nushagak Hills** 94.77 330 P **P** 03 31 48.8 -0.1
baz=98
B22K **Teshekpuk Lake** 94.79 340 P **P** 03 31 48.1 -0.6
baz=100,SNR=12
KRUC **Moravsky** 94.80 41 *e*P **P** 03 31 49.6 +0.3
CHGN **Chignik** 94.85 326 P **P** 03 31 49.3 0.0
baz=97
OSTC **Ostas** 94.86 40 *e*P **P** 03 31 50.4 +0.8
DPC **Dobruska-Polom** 94.91 40 *e*P **P** 03 31 50.6 +0.8
VRAC **Vranov** 94.96 41 P **P** 03 31 50.4 +0.4
comp=Z,8.1nm,0.9s,baz=260,slow=6.2,SNR=6.4
comp=Z,8.1nm,0.9s
VRAC **Vranov** 94.96 41 *e*P **P** 03 31 50.7 +0.7
C21K **Knifeblade Rid** 95.05 339 P **P** 03 31 50.1 +0.2
baz=99
B21K **Ikpikpuk River** 95.07 340 P **P** 03 31 50.1 +0.1
baz=99,SNR=8.5
F20K **Avaraart Lake** 95.07 337 P **P** 03 31 50.2 +0.1
baz=99
H19K **Roundabout Mou** 95.13 335 P **P** 03 31 50.0 -0.3
baz=98
KRLC **Kraliky** 95.17 40 *e*P **P** 03 31 52.0 +1.0
GCSA **Galena City Sc** 95.21 335 P **P** 03 31 51.3 +0.6
baz=98
MODS **Modra-Piesok** 95.31 42 *e*PDIFF **P** 03 31 51.7 +0.1
CHNA **Chernabura Isl** 95.34 324 P **P** 03 31 51.9 +0.4
baz=96
A22K **Sinclair Lake** 95.41 341 P **P** 03 31 52.0 +0.6
baz=99
E20K **Nigu River** 95.42 338 P **P** 03 31 51.9 +0.2
baz=98
G19K **Purcell Mounta** 95.48 336 P **P** 03 31 51.6 -0.4
baz=98
L17K **Donlin** 95.50 332 P **P** 03 31 52.8 +0.7
baz=97
JAVC **Velka Javorina** 95.62 42 *e*P **P** 03 31 54.2 +1.2
MORC **Moravsky Berou** 95.63 41 *e*P **P** 03 31 53.8 +0.8
D20K **Etivluk River** 95.64 339 P **P** 03 31 53.6 +0.9
baz=98
E19K **Redstone River** 95.70 337 P **P** 03 31 53.6 +0.6
baz=97
STEB **Steborice** 95.79 41 *e*P **P** 03 31 54.4 +0.7
F19K **Shaleruckik Mo** 95.84 337 P **P** 03 31 53.8 +0.2
baz=97
H18K **Honhosa River** 95.88 335 P **P** 03 31 54.0 +0.2
baz=96
A21K **Barrow** 95.98 341 P **P** 03 31 54.2 +0.2
baz=97
B20K **Meade River** 96.00 340 P **P** 03 31 54.7 +0.5
baz=97
G18K **Tagagawik** 96.08 336 P **P** 03 31 55.2 +0.5
baz=96
D19K **Kuna River** 96.16 338 P **P** 03 31 55.7 +0.7
baz=96
F18K **Selawik** 96.56 336 P **P** 03 31 57.0 +0.2
baz=95
MATP **Matopo** 96.65 112 P **P** 03 31 58.7 +0.3
comp=Z,2.4nm,0.4s,baz=258,slow=5.7,SNR=26
comp=Z,2.4nm,0.4s
L15K **Ungalak Mounta** 96.97 331 P **P** 03 31 58.7 +0.1
baz=94
K15K **Wolf Creek Mou** 97.03 332 P **P** 03 31 59.5 +0.6
baz=94
M14K **Bethel** 97.13 330 P Pdif 03 31 59.4 0.0
baz=94
F17K **Baldwin Pennin** 97.18 336 P **P** 03 32 00.2 +0.7
baz=94
C18K **Utukok River** 97.30 338 P **P** 03 32 00.6 +0.4
baz=93
A19K **Wainwright** 97.35 340 P **P** 03 32 00.7 +0.5
baz=93
E17K **Hotham Inlet** 97.45 337 P **P** 03 32 01.4 +0.7
baz=93
SPITS **Spitsbergen Ar** 97.47 12 PKKPbc PKKPbc 03 48 35.2 -3.1
comp=Z,18nm,1.1s,baz=114,slow=5.7,SNR=11
H16K **Elim** 97.49 334 P **P** 03 32 01.4 +0.5
baz=93
B18K **Kokolik River** 97.56 339 P **P** 03 32 01.7 +0.5
baz=93
G16K **Koyuk River** 97.58 335 P **P** 03 32 02.1 +0.8
baz=93
TRO **Tromso** 97.75 21 *e*P **P** 03 32 02.4 +0.4
M13K **Dall Lake** 97.80 330 P **P** 03 32 03.2 +0.9
baz=93
MAW **Mawson** 97.88 164 P **P** 03 32 02.8 +0.1
comp=Z,3.9nm,0.7s,baz=233,slow=3.0,SNR=4.3
comp=Z,3.9nm,0.7s
D17K **Noatak River** 97.96 337 P **P** 03 32 03.5 +0.5
baz=92
STHS **Stebnicka Huta** 98.00 41 *e*PDIFF **P** 03 32 07.0 +3.3
JETT **Jettan, Norway** 98.27 21 *e*P **P** 03 32 04.6 +0.2
KTK1 **Kautokeino** 99.28 21 *e*P **Pdif** 03 32 09.2 +0.4
ARCES **ARCESS Array B** 100.06 21 P **Pdif** 03 32 11.8 -0.5
comp=Z,3.4nm,0.6s,baz=267,slow=3.5,SNR=26
ARCES pP **pPdif** 03 34 20.4 -1.1
comp=Z,2.0nm,0.7s,baz=251,slow=3.7,SNR=1.7
ARCES PKKPbc **PKKPbc** 03 48 28.0 -3.0
comp=Z,3.0nm,0.9s,baz=114,slow=1.5,SNR=11
FINES **FINESS Array B** 100.78 29 P **Pdif** 03 32 15.6 -0.1
comp=Z,0.8nm,0.6s,baz=238,slow=3.6,SNR=3.8
FINES PKKPbc **PKKPbc** 03 48 25.4 -3.3
comp=Z,0.7nm,0.6s,baz=145,slow=7.0,SNR=3.5
FINES SKKPbc SKKPbc 03 51 10.3 -4.4
comp=Z,0.6nm,0.4s,baz=113,slow=4.4,SNR=6.6
MLR **Muntele Rosu** 101.08 45 PP **PP** 03 36 36.4 +0.6
comp=Z,3.0nm,1.0s,baz=216,slow=12,SNR=3.1
BRTR **Keskin Array B** 106.92 51 PP **PP** 03 37 18.0 -0.7
comp=Z,1.0nm,0.9s,baz=280,slow=5.6,SNR=4.2
VOI **Vohitsoka** 112.75 118 P **PKiKP** 03 37 01.8 +0.6
KBZ **Khabaz** 113.28 46 PKiKP **PKiKP** 03 37 01.9 +0.5
comp=Z,3.8nm,0.5s,baz=191,slow=2.3,SNR=13
GNI **Garni** 115.33 49 PKP **PKiKP** 03 37 05.9 +0.2
comp=Z,6.8nm,0.6s,baz=15,slow=12,SNR=4.1
ARTI **Arti** 118.09 29 PKP **PKiKP** 03 37 10.6 +0.2
comp=Z,9.4nm,0.3s,baz=272,slow=2.7,SNR=21
RAYN **Ar Rayn** 118.10 68 P **PKiKP** 03 37 11.5 +0.1
KBD **Kabd** 119.53 61 P **PKiKP** 03 37 13.9 0.0
SAKB **Bahrain** 122.44 64 P **PKPdf** 03 37 19.6 0.0
SHMA **Al-Shehemyia** 122.83 65 P **PKPdf** 03 37 20.1 -0.3
SMRA **Abu-Samra** 122.84 66 P **PKPdf** 03 37 20.3 -0.1
SNR=7.1
TRNA **Turayna** 123.19 66 P **PKPdf** 03 37 20.9 -0.1
SLWR **Sila** 123.70 67 P **PKiKP** 03 37 22.3 0.0
JRN **Qarnain Island** 124.64 65 P **PKPdf** 03 37 23.8 +0.1
MZR **Muzera** 125.45 68 P **PKiKP** 03 37 25.8 -0.1
BRVK **Borovoye** 125.62 27 P **PKiKP** 03 37 25.8 +0.5
BVAR **Borovoye Array** 125.69 27 PKP **PKiKP** 03 37 25.5 +0.1
comp=Z,11nm,0.6s,baz=296,slow=3.3,SNR=49
BVAR pPKP **pPKPdf** 03 39 41.4 -0.7
comp=Z,2.6nm,0.7s,baz=298,slow=3.0,SNR=3.0
BVAR SKKPbc SKKPbc 03 49 55.8 -4.3
comp=Z,1.2nm,0.7s,baz=169,slow=3.0,SNR=5.7
ABTO **Aybut** 125.72 75 P **PKiKP** 03 37 26.4 -0.2
MSEY **Mahe Island** 125.81 102 P **PKiKP** 03 37 27.4 +0.5
WHFO **Wadi Hawf** 126.14 74 P **PKPdf** 03 37 27.0 +0.1
SNR=19
DOK **Doka** 126.44 73 P **PKPdf** 03 37 27.5 +0.1
SNR=9.5
ASUD **Al Ashush, Dub** 126.92 65 P **PKiKP** 03 37 28.7 0.0
UMZA **Um Al Zommool** 127.03 68 P **PKiKP** 03 37 28.9 -0.1
FAQ **Al Faqa, Dubai** 127.14 65 P **PKiKP** 03 37 29.2 0.0
DMTO **DMTO** 127.28 74 P **PKPdf** 03 37 29.2 +0.2
SNR=8.3
ALNE **Al Ain** 127.38 66 P **PKiKP** 03 37 29.6 -0.1
SHME **Shamm** 127.41 63 P **PKiKP** 03 37 29.8 +0.1
MASF **Masafi** 127.54 64 P **PKiKP** 03 37 29.9 -0.1
ASHO **Ashiyiah** 127.56 65 P **PKPdf** 03 37 29.6 +0.1
BANOM **Banah** 127.57 64 P **PKPdf** 03 37 29.8 +0.3
HATD **Hatta, Dubai** 127.61 65 P **PKPdf** 03 37 29.7 +0.2
UOSS **Minazif** 127.65 65 P **PKPdf** 03 37 29.5 -0.1
MDH **Madha** 127.68 64 P **PKiKP** 03 37 30.2 -0.1
SOHO **SOHO** 128.08 66 P **PKPdf** 03 37 30.5 +0.1
ARQ **Araqi** 128.18 67 P **PKPdf** 03 37 30.8 +0.2
HOQ **Hoqain** 128.87 66 P **PKPdf** 03 37 31.8 -0.2
BSY **Bisya** 128.89 67 P **PKPdf** 03 37 32.2 +0.1
STKA **Stephens Creek** 129.09 217 PKP **PKiKP** 03 37 32.6 -0.3
comp=Z,6.4nm,0.7s,baz=87,slow=1.5,SNR=19
STKA PP **PP** 03 39 49.6 +0.9
comp=Z,1.5nm,0.7s,baz=149,slow=7.9,SNR=3.7
STKA SKPbc SKPab 03 39 57.9 -0.7
comp=Z,4.1nm,0.6s,baz=108,slow=5.4,SNR=7.3
DQM **DQM** 129.54 71 P **PKiKP** 03 37 33.9 -0.3
BIDO **Bidbid** 129.61 66 P **PKPdf** 03 37 33.7 +0.3
SMDO **Samad** 129.62 67 P **PKPdf** 03 37 33.9 +0.4
JMDO **Jabal Madar** 129.77 68 P **PKPdf** 03 37 33.4 -0.3
MHTO **MHTO** 129.82 69 P **PKPdf** 03 37 34.1 +0.3
WSAR **Wadi Sarin** 130.12 66 P **PKPdf** 03 37 34.7 +0.4
ZALV **Zalesovo Beam** 130.52 18 PKhKP PKPpre 03 37 24.6
comp=Z,0.9nm,0.4s,baz=299,slow=2.5,SNR=4.9
ZALV PKP **PKPdf** 03 37 34.6 +0.5
comp=Z,18nm,0.4s,baz=306,slow=2.5,SNR=96
ZALV pPKP pPKPdf 03 39 51.7 +0.4
comp=Z,6.1nm,0.7s,baz=299,slow=3.1,SNR=7.2
ZALV SKPbc **SKPbc** 03 40 03.4 0.0
comp=Z,59nm,0.7s,baz=329,slow=4.5,SNR=57
WBK **Wadi Bani Khal** 130.52 67 P **PKiKP** 03 37 36.2 +0.1
KURK **Kurchatov** 130.91 25 P **PKiKP** 03 37 35.7 -0.2
KURBB **Kurchatov Arra** 130.95 25 PKhKP PKPpre 03 37 29.6
comp=Z,0.3nm,0.4s,baz=318,slow=1.3,SNR=4.0
KURBB PKP **PKiKP** 03 37 35.8 -0.3
comp=Z,11nm,0.4s,baz=311,slow=2.4,SNR=74
KURBB pPKP pPKPdf 03 39 52.4 +0.2
comp=Z,2.3nm,0.8s,baz=310,slow=2.8,SNR=6.9
KURBB SKPbc **SKPbc** 03 40 05.1 0.0
comp=Z,25nm,0.9s,baz=313,slow=4.4,SNR=22
KURBB SKKPbc **SKKPbc** 03 49 37.4 -4.4
comp=Z,0.5nm,0.5s,baz=139,slow=3.0,SNR=5.2
JLN **Jalan Bani Buh** 131.00 68 P **PKiKP** 03 37 36.6 -0.4
EKS2 **Erkin-Say** 134.13 36 P **PKiKP** 03 37 43.4 +0.4
SNR=8.3
USP **Ospenovka** 134.15 34 P **PKiKP** 03 37 42.5 -0.4
SNR=6.0
AML **Almayashu** 134.41 36 P **PKiKP** 03 37 43.9 0.0
SNR=11
KLR **Kul'dur** 134.52 339 PKP **PKPdf** 03 37 41.8 0.0
comp=Z,4.6nm,0.4s,baz=96,slow=1.5,SNR=21
KLR SKPbc **SKPbc** 03 40 17.2 +0.2
comp=Z,8.9nm,0.7s,baz=56,slow=3.5,SNR=16
AAK **Ala-Archa** 134.55 35 P **PKiKP** 03 37 44.0 +0.1
AAK **Ala-Archa** 134.55 35 P **PKiKP** 03 37 43.7 -0.1
SNR=7.0
AAK **Ala-Archa** 134.55 35 PKP **PKiKP** 03 37 44.1 +0.2
TKM2 **Tokmak 2** 134.99 34 P **PKiKP** 03 37 44.6 -0.2
SNR=6.2
HEH **HeiHe** 135.06 343 PKP PKPpre 03 37 32.3
MKAR **Makanchi Array** 135.49 25 PKhKP PKPpre 03 37 32.8
comp=Z,0.6nm,0.5s,baz=354,slow=3.5,SNR=6.7
MKAR PKP **PKPdf** 03 37 43.6 -0.2
comp=Z,10nm,0.6s,baz=320,slow=1.9,SNR=57
MKAR pPKP pPKPdf 03 40 00.8 -0.2
comp=Z,3.1nm,0.8s,baz=352,slow=2.5,SNR=7.4
MKAR SKPbc **SKPbc** 03 40 19.8 -0.5
comp=Z,9.4nm,0.7s,baz=334,slow=3.8,SNR=19
MKAR SKKPbc **SKKPbc** 03 49 21.6 -3.6
comp=Z,0.8nm,0.5s,baz=153,slow=5.2,SNR=9.6
KSH **Kashi** 137.38 38 PKP **PKPdf** 03 37 42.1 -5.5
NWAO **Narrogin (SRO)** 138.33 191 SKPbc **SKPbc** 03 40 28.1 -0.8
comp=Z,5.8nm,0.5s,baz=146,slow=7.3,SNR=5.4
USRK **Ussuriysk Ar.** 138.54 334 PKhKP PKPpre 03 37 41.0
comp=Z,1.0nm,0.6s,baz=255,slow=5.1,SNR=4.5
USRK PKP **PKPdf** 03 37 49.6 +0.2
comp=Z,4.1nm,0.7s,baz=227,slow=1.9,SNR=9.1
USRK SKPbc **SKPbc** 03 40 29.6 +0.6
comp=Z,12nm,0.6s,baz=350,slow=1.2,SNR=24
ASAR **Alice Springs** 139.72 218 PKhKP PKPpre 03 37 44.6
comp=Z,0.9nm,0.4s,baz=137,slow=3.3,SNR=12
ASAR PKP **PKPdf** 03 37 52.1 -0.1
comp=Z,5.1nm,0.7s,baz=124,slow=1.9,SNR=39
ASAR pPKP pPKPdf 03 40 09.8 +0.2
comp=Z,1.6nm,0.8s,baz=138,slow=1.9,SNR=3.0
ASAR SKPbc **SKPbc** 03 40 32.2 -0.8
comp=Z,42nm,0.6s,baz=132,slow=3.5,SNR=91
ASAR SKKPbc **SKKPbc** 03 49 07.0 -0.6
comp=Z,1.4nm,0.8s,baz=316,slow=3.9,SNR=7.1
SONM **Songino Array** 140.37 2 PKhKP PKPpre 03 37 46.9
comp=Z,3.2nm,0.3s,baz=320,slow=2.9,SNR=23
SONM SKPbc **SKPbc** 03 40 34.3 +0.2
comp=Z,20nm,0.6s,baz=326,slow=1.8,SNR=41
SONM SKKPbc **SKKPbc** 03 49 03.6 -3.3
comp=Z,2.2nm,0.7s,baz=180,slow=4.6,SNR=8.7
MJAR **Matsushiro Arr** 140.73 321 PKP **PKPdf** 03 37 51.8 -1.9

comp=Z,2.6nm,0.5s,baz=43,slow=1.1,SNR=7.0
MJAR SKPbc **SKPbc** **03 40 35.3 +0.1**
comp=Z,2.6nm,0.5s,baz=56,slow=1.8,SNR=5.2
WRA Warramunga Arr 142.14 222 PKP **PKPdf** **03 37 54.1 -2.5**
comp=Z,7.6nm,0.6s,baz=134,slow=2.3,SNR=55
WRA SKPbc **SKPbc** **03 40 38.8 -0.4**
comp=Z,32nm,0.5s,baz=134,slow=2.6,SNR=48
WRA SKKPbc **SKKPbc** **03 48 57.3 -0.8**
comp=Z,2.5nm,0.8s,baz=320,slow=4.4,SNR=13
XLT XiLinHaoTe 143.69 350 *e*PKP PKPab 03 37 58.3 +0.5
XLT XiLinHaoTe 143.69 350 SS SS 03 59 17.8 +4.4
KAAM Kaadhehdhoo 144.02 100 P **PKPdf** **03 38 00.3 +0.3**
HMDM Hanimaadhoo 145.16 90 P **PKPbc** **03 38 03.2 +0.1**
SNR=5.7
KSRS Korea Array 145.79 332 PKPbc **PKPbc** **03 38 03.5 -0.7**
comp=Z,19nm,0.7s,baz=21,slow=1.9,SNR=50
KSRS pPKPbc pPKPab 03 40 18.3 +0.3
comp=Z,7.6nm,1.0s,baz=35,slow=2.1,SNR=7.9
KSRS SKPbc **SKPbc** **03 40 47.4 +0.2**
comp=Z,5.6nm,0.7s,baz=31,slow=2.5,SNR=5.7
HHC Hu-ho-hao-te 147.26 355 *e*P **PKiKP** **03 38 09.4 -0.5**
JNU Nakatsue 147.50 323 pPKPbc pPKPbc 03 40 22.7 -1.5
comp=Z,16nm,0.9s,baz=43,slow=2.5,SNR=6.5
GTA Gaotai 147.91 12 *e*PKPbc **PKPdf** **03 38 07.1 +1.0**
GTA pPKP pPKPdf 03 40 22.3 -1.3
FITZ Fitzroy Crossi 148.84 213 PKP **PKPdf** **03 38 08.6 +0.6**
comp=Z,14nm,0.5s,baz=182,slow=1.3,SNR=19
FITZ PKPbc **PKiKP** **03 38 13.2 -0.5**
comp=Z,14nm,0.5s,baz=192,slow=4.8,SNR=21
FITZ pPKPbc **pPKPdf** **03 40 25.9 +0.4**
comp=Z,11nm,0.8s,baz=182,slow=5.5,SNR=9.1
GOMU GeErMu 149.44 22 PKPbc **PKPdf** **03 38 08.8 -0.1**
HNS HongShan 150.26 350 ||PKPbc **PKiKP** **03 38 16.3 +0.3**
LZH Lanzhou 151.84 8 *e*P **PKPdf** **03 38 12.4 +0.1**
LZH pP PKiKP 03 38 20.6 +1.0
LZH pmax pmax
comp=Z,16nm,1.3s
PALK Pallekele 152.64 90 PKP **PKPdf** **03 38 14.7 +0.8**
LYN LuoYang 153.40 352 PKPbc **PKPbc** **03 38 22.4 -0.1**
NJ2 Nanjing 154.22 339 *e*P **PKPdf** **03 38 16.3 +0.7**
NJ2 pmax pmax
comp=Z,15nm,0.6s
PZH PanZhiHua 160.66 18 PKP **PKPdf** **03 38 21.9 -1.9**
CHTO Chiang Mai 166.00 40 PKP **PKPdf** **03 38 28.6 -0.1**
CM31 Chiang Mai Arr 166.26 41 P **PKPdf** **03 38 30.0 +1.0**
SNR=5.3
CMAR Chiang Mai Arr 166.26 41 PKP **PKPdf** **03 38 29.0 0.0**
comp=Z,6.6nm,0.8s,baz=277,slow=1.6,SNR=49
CMAR PKPab **PKPab** **03 39 34.3 0.0**
comp=Z,3.7nm,0.7s,baz=312,slow=6.0,SNR=16

*THE **16** 03:28:49.5, 37.°58N×20.°62E, h7km±1km, ML3.1/5, Error ellipse: s-maj=1.2km s-min=0.6km az=39.0*
*ATH **16** 03:28:50.0, 37.°66N×20.°58E, h17km±3km, ML3.1/7, Manual Solution by A.Moschou First location: 2019/04/16 03:29:50, This location: 2019/04/16 05:07:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 5 km*
ISC 16 03:28:49.3±1.9, 37.°61N±0.°07×20.°60E±0.°06, h11km±8km, n29, σ0.9 45/46, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.21**	**63**	P	**Pg**	**03 28 53.9**	**+0.1**
LTHK				S	**Sg**	**03 28 56.7**	**-0.1**
KYPS	**Kipseli, Zakin**	**0.27**	**41**	P	**Pb**	**03 28 55.6**	**-0.6**
KYPS				S	**Sb**	**03 29 00.1**	**-0.7**
RTZL	**Ratzakli, Kefa**	**0.48**	**16**	P	**Pg**	**03 28 59.1**	**+0.4**
RTZL				S	**Sb**	**03 29 06.4**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.50**	**358**	P	**Pb**	**03 28 59.9**	**-0.2**
PSDA				S	**Sb**	**03 29 07.4**	**+0.1**
VLS	**Valsamata**	**0.56**	**359**	P	**Pb**	**03 29 00.8**	**-0.4**
VLS				S	**Sb**	**03 29 09.1**	**-0.1**
1μm,0.2s
VLS	**Valsamata**	**0.56**	**359**	P	**Pb**	**03 29 00.8**	**-0.4**
VLS				S	**Sg**	**03 29 08.1**	**+0.4**
LXR1	**Lixouri, Cepha**	**0.60**	**348**	P	**Pb**	**03 29 01.7**	**-0.1**
DMLN	**Damoulianata-K**	**0.65**	**344**	P	**Pb**	**03 29 02.8**	**+0.2**
DMLN				S	**Sb**	**03 29 12.7**	**+1.0**
YRMI	**Loutra Irminis**	**0.77**	**50**	P	**Pg**	**03 29 04.0**	**-0.1**
YRMI				S	**Sg**	**03 29 14.7**	**+0.5**
VSK1	**VASILIKIADES**	**0.79**	**358**	P	**Pb**	**03 29 04.8**	**-0.3**
VSK1				S	**Sn**	**03 29 17.6**	**-0.7**
RLS	**Riolos of Patr**	**0.82**	**57**	P	**Pg**	**03 29 04.8**	**-0.3**
RLS				S	**Sb**	**03 29 16.9**	**+0.4**
1μm,0.7s
RLS	**Riolos of Patr**	**0.82**	**57**	P	**Pg**	**03 29 05.1**	**0.0**
RLS				S	**Sb**	**03 29 16.7**	**+0.3**
ZARO	**Zacharo**	**0.84**	**98**	P	**Pb**	**03 29 06.2**	**+0.3**
FSK	**Fiskardo**	**0.84**	**358**	P	**Pg**	**03 29 05.4**	**-0.2**
FSK				S	**Sn**	**03 29 18.9**	**-0.6**
1μm,0.7s
FSK	**Fiskardo**	**0.84**	**358**	P	**Pb**	**03 29 05.7**	**-0.3**
FSK				S	**Sg**	**03 29 16.1**	**-0.6**
EVGI	**Lefkada island**	**1.01**	**2**	P	**Pb**	**03 29 08.5**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.10**	**4**	P	**Pb**	**03 29 10.1**	**-0.2**
ITM	**Ithomi**	**1.14**	**112**	P	**Pb**	**03 29 10.4**	**-0.6**
LKD2	**Lefkada island**	**1.17**	**2**	P	**Pn**	**03 29 11.3**	**-0.4**
LKD2				S	**Sn**	**03 29 29.2**	**+1.5**
705nm,0.6s
TSLK	**Tsoukalades, L**	**1.21**	**2**	P	**Pb**	**03 29 12.2**	**0.0**
KLV	**Kalavryta, Ach**	**1.30**	**70**	P	**Pn**	**03 29 13.2**	**-0.2**
KLV	**Kalavryta, Ach**	**1.30**	**70**	P	**Pn**	**03 29 13.5**	**0.0**
KLV				S	**Sn**	**03 29 31.0**	**+0.2**
EFP	**Efpalio**	**1.31**	**51**	P	**Pn**	**03 29 13.2**	**-0.3**
GUR	**Goura**	**1.42**	**76**	P	**Pn**	**03 29 15.0**	**-0.1**
ANX	**Ano Chora**	**1.43**	**46**	P	**Pn**	**03 29 15.4**	**+0.2**
ANX				S	**Sg**	**03 29 35.6**	**+0.3**
1μm,0.6s
KALE	**Kalithea**	**1.44**	**57**	P	**Pn**	**03 29 15.3**	**-0.1**
LKR	**Lokris**	**2.15**	**61**	P	**Pn**	**03 29 25.4**	**+0.3**
LKR				S	**Sn**	**03 29 51.8**	**0.0**
THL	**Klokotos Trika**	**2.24**	**29**	P	**Pn**	**03 29 26.1**	**-0.1**
NEO	**Neokhori**	**2.66**	**50**	P	**Pn**	**03 29 32.7**	**+0.6**

*AFAD **16** 03:33:45.7, 38.°73N×38.°16E, h7km±1km, ML2.6*
*ISK **16** 03:33:45.9, 38.°74N×38.°17E, h6km, ML2.3/10*
ISC 16 03:33:46.1±1.0, 38.°74N±0.°02×38.°16E±0.°03, h8km±9km, n17, σ0.9 74/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.21**	**312**	P	**Pg**	**03 33 50.4**	**-0.1**
HEKM				S	**Sg**	**03 33 54.0**	**+0.4**
HEKM				*i* AML	AML	03 33 54.0	
comp=N,1μm,0.6s
HEKM				*i* AML	AML	03 33 54.0	
comp=E,2μm,0.3s
ARPR	**Arapgir-MALATY**	**0.38**	**21**	Pg	**Pg**	**03 33 53.9**	**+0.2**
ARPR				Sg	**Sg**	**03 33 59.6**	**+0.9**
MAYA	**Malatya/Merkez**	**0.46**	**153**	P	**Pg**	**03 33 54.9**	**-0.2**
MAYA				S	**Sg**	**03 34 01.6**	**+0.5**
MAYA				*i* AML	AML	03 34 02.0	
comp=N,413nm,0.4s
AKCD	**Akcadag**	**0.48**	**203**	P	**Pg**	**03 33 55.2**	**-0.2**
AKCD				S	**Sb**	**03 34 02.8**	**-1.3**
AKCD				*i* AML	AML	03 34 04.0	
comp=N,719nm,0.2s
AKCD				*i* AML	AML	03 34 04.0	
comp=E,574nm,0.3s
DARE	**Darende-Malaty**	**0.56**	**253**	Pg	**Pg**	**03 33 56.7**	**-0.2**
DARE				Sg	**Sb**	**03 34 05.5**	**-0.8**
KEMA	**Kemaliye**	**0.59**	**26**	P	**Pg**	**03 33 56.7**	**-0.9**
KEMA				S	**Sb**	**03 34 06.3**	**-1.1**
ELZG	**Elazig**	**0.69**	**110**	P	**Pg**	**03 33 59.0**	**-0.4**
ELZG				*i* AML	AML	03 34 09.0	
comp=E,259nm,0.3s
ELZG				S	**Sb**	**03 34 09.5**	**-0.7**
ELZG				*i* AML	AML	03 34 10.0	
comp=N,250nm,0.2s
CUGUR	**Gurin_SVAS**	**0.69**	**269**	P	**Pg**	**03 33 59.0**	**-0.6**
CUGUR				S	**Sb**	**03 34 09.3**	**-1.0**
CUGUR				*i* AML	AML	03 34 13.0	
comp=N,255nm,0.3s
CUGUR				*i* AML	AML	03 34 14.0	
comp=E,237nm,0.5s
CUKAN	**kangal_SIVAS**	**0.79**	**317**	P	**Pg**	**03 34 00.3**	**-1.1**
URFA	**Urfa**	**1.40**	**158**	Pn	**Pg**	**03 34 12.5**	**-0.4**
URFA				Sn	**Sg**	**03 34 31.8**	**+0.8**
SARI	**SarD1z-Kayseri**	**1.41**	**257**	Pn	**Pg**	**03 34 12.9**	**-0.2**
SARI				Sn	**Sn**	**03 34 32.4**	**+1.4**
ERZN	**Erzincan**	**1.48**	**55**	Pn	**Pb**	**03 34 13.6**	**-0.4**
SVSK	**Karacayir**	**1.48**	**323**	Pn	**Pb**	**03 34 13.9**	**0.0**
KMRS	**Kahramanmaras**	**1.58**	**219**	Pn	**Pb**	**03 34 15.3**	**-0.3**
KMRS				Sn	**Sg**	**03 34 36.7**	**-0.3**
RSDY	**Resadiye-TOKAT**	**1.78**	**339**	Pn	**Pn**	**03 34 17.8**	**+0.6**
BNN	**Bunyan**	**1.81**	**274**	Pn	**Pn**	**03 34 18.4**	**+0.7**
TOKT	**Tokat**	**2.02**	**322**	Pn	**Pn**	**03 34 21.0**	**+0.5**

GCG 16 03:36:07.9±1.1, 14.°51N×90.°72W, h5km±2km, MD4.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.16**	**221**	*i* P	Pg	03 36 12.1	+0.9
ESSG				*i* S	Sg	03 36 15.2	+1.8
GCG4	**OSOP**	**0.20**	**66**	*i* P	Pg	03 36 12.1	+0.1
FG8	**Yepocapa, Chim**	**0.29**	**148**	*i* P	Pg	03 36 13.7	+0.1
FG8				*i* S	Sg	03 36 17.9	+0.4
PS001	**Antigua, Sacat**	**0.34**	**125**	*e*P	Pg	03 36 09.7	-4.8
PS001				*e*		03 36 09.7	
baz=187,slow=28
PS001				*e*S	Sg	03 36 11.2	-7.8
STG0	**El Palmar, Qui**	**0.61**	**262**	*i* P	Pn	03 36 25.0	+1.7
STG0				*e*S	Sn	03 36 37.3	+3.8
SOKI	**Kika Raxquin**	**0.73**	**295**	*e*P	Pb	03 36 23.5	+0.1

IDC 16 03:46:09.6±44.0, 17.°06S×179.°24W, h552km±93km, mb2.8/3, mbtmp3.8/4, Error ellipse: s-maj=867.8km s-min=135.8km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.67**	**255**	P	P	03 47 23.0	+0.1
26nm,0.8s,baz=118,slow=5.8,SNR=15
STKA	**Stephens Creek**	**38.35**	**240**	P	P	03 52 43.1	-0.7
0.9nm,0.5s,baz=79,slow=5.2,SNR=2.1
0.9nm,0.5s
WRA	**Warramunga Arr**	**44.01**	**259**	P	P	03 53 28.1	-0.7
0.4nm,0.8s,baz=90,slow=8.2,SNR=5.7
0.4nm,0.8s
ASAR	**Alice Springs**	**44.26**	**253**	P	P	03 53 31.1	+0.4
2.1nm,0.5s,baz=88,slow=8.1,SNR=24
2.1nm,0.5s

DJA 16 04:04:21.7±0.3, 2.°S±2.°×12.°3E±.°, h10km, M3.6/12, mb3.6/1, MLv3.6/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.78**	**10**	P	Pg	04 04 36.3	-0.6
LUWI				S	Sb	04 04 48.2	+0.1
APSI	**Ampana**	**1.34**	**312**	P	Pn	04 04 44.9	-1.6
PCI	**Palu**	**2.95**	**288**	P	Pn	04 05 08.7	+0.1
SANI	**Sanana**	**3.35**	**94**	P	Pn	04 05 14.0	-0.2
MPSI	**Mapaga**	**3.48**	**308**	P	Pn	04 05 16.5	+0.6
SPSI	**Sidrap Palu**	**3.57**	**233**	P	Pn	04 05 17.0	-0.2
SPSI				S	Sn	04 06 00.0	+0.5
BNSI	**Bone**	**3.60**	**225**	P	Pn	04 05 18.5	+0.9
BBSI	**Bau Bau**	**3.64**	**181**	P	Pn	04 05 19.0	+0.8
EDFI	**Ende, Flores**	**6.95**	**188**	P	Pn	04 06 03.6	-0.2

*GCG **16** 04:04:48.8±1.7, 14.°52N×90.°70W, h1km±5km, MD4.7, ML4.7, MW4.4*
*NEIC **16** 04:04:50.2±1.2, 14.°45N±0.°06×90.°73W±0.°04, h79km±9km, mb4.5/13, Error ellipse: s-maj=9.2km s-min=6.2km az=184.0*
*SNET **16** 04:04:50.8±2.5, 14.°40N×90.°90W, h38km, ML4.4*
*CATAC **16** 04:04:51.5±0.1, 14.°N±2.°×.°9.°1W±.°, h10km, M4.6/51, mb4.7/5, mB4.7/1, MLv4.5/51, Mw(mB)3.9/1, Error ellipse: s-maj=4.4km s-min=1.9km az=27.8, confirmed*
*IDC **16** 04:04:57.8±3.2, 14.°37N×90.°73W, h74km±27km, mb3.7/9, mbtmp4.0/11, MS3.6/30, Error ellipse: s-maj=42.4km s-min=18.9km az=39.0*
ISC 16 04:04:48.3±1.1, 14.°55N±0.°03×90.°72W±0.°02, h1km±8km, n178, σ1.9 94/150, mb4.2/13, MS3.6/28, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG4	**OSOP**	**0.18**	**79**	*i* P	**Pg**	**04 04 53.4**	**+1.5**
GCG4				*i* S	**Sg**	**04 04 56.5**	**+2.2**
ESSG	**Sabana Grande**	**0.20**	**213**	*i* P	**Pg**	**04 04 53.4**	**+1.3**
ESSG				*i* S	**Sg**	**04 04 56.2**	**+1.5**
FG8	**Yepocapa, Chim**	**0.33**	**152**	*i* P	**Pg**	**04 04 55.0**	**+0.4**
STG0	**El Palmar, Qui**	**0.62**	**258**	*i* P	**Pn**	**04 05 06.3**	**+2.0**
STG0				*i* S	**Sn**	**04 05 18.3**	**+3.4**
STG8	**El Palmar, Qui**	**0.62**	**261**	*i* P	**Pn**	**04 05 06.7**	**+2.3**
SOKI	**Kika Raxquin**	**0.71**	**292**	*i* P	**Pb**	**04 05 04.9**	**+1.1**
SOKI				IAML		04 05 24.4	
comp=N,21μm,0.8s
RTAL	**Retalhuleu**	**0.94**	**269**		**Pn**	**04 05 08.5**	**-0.2**
RTAL					**Sn**	**04 05 22.6**	**-0.2**
RTAL	**Retalhuleu**	**0.94**	**269**	*e*P	**Pn**	**04 05 08.5**	**-0.2**
RTAL	**Retalhuleu**	**0.94**	**269**	P	**Pn**	**04 05 08.7**	**0.0**
RTAL	**Retalhuleu**	**0.94**	**269**	S	**Sn**	**04 05 23.2**	**+0.4**
AVCB	**Coban**	**0.96**	**18**	*i* S	**Sb**	**04 05 21.3**	**+0.1**
AVCB				IAML		04 05 28.8	
comp=E,95μm,0.4s
FAME	**Alcaldia de Sa**	**0.98**	**136**	P	**Pg**	**04 05 07.6**	**+0.5**
FAME	**Alcaldia de Sa**	**0.98**	**136**	S	**Sn**	**04 05 23.9**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.05**	**120**	P	**Pg**	**04 05 08.4**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.05**	**120**	S	**Sn**	**04 05 24.8**	**-0.5**
HUEH	**Huehuetenango**	**1.07**	**315**		**Pn**	**04 05 11.2**	**+0.5**
HUEH	**Huehuetenango**	**1.07**	**315**	*e*P	**Pn**	**04 05 10.9**	**+0.3**
HUEH				*e*S	**Sn**	**04 05 25.9**	**-0.4**
HUEH	**Huehuetenango**	**1.07**	**315**	*i* P	**Pn**	**04 05 11.0**	**+0.3**
HUEH				IAML		04 05 39.3	
comp=E,23μm,0.7s
HUEH	**Huehuetenango**	**1.07**	**315**	P	**Pn**	**04 05 11.1**	**+0.4**
HUEH	**Huehuetenango**	**1.07**	**315**	S	**Sn**	**04 05 27.8**	**+1.4**
UNIC	**Universidad Ca**	**1.27**	**116**	P	**Pn**	**04 05 12.4**	**-0.8**
UNIC	**Universidad Ca**	**1.27**	**116**	S	**Sg**	**04 05 29.1**	**0.0**
CEVE	**Cerro Verde**	**1.28**	**124**	*e*P	**Pg**	**04 05 13.0**	**+0.1**
CEVE	**Cerro Verde**	**1.28**	**124**	P	**Pg**	**04 05 13.4**	**+0.5**
CEVE	**Cerro Verde**	**1.28**	**124**	S	**Sg**	**04 05 30.2**	**+0.7**
MTO3	**Montecristo**	**1.32**	**96**		**Pn**	**04 05 13.6**	**-0.6**
MTO3	**Montecristo**	**1.32**	**96**	*i* P	**Pn**	**04 05 13.5**	**-0.6**
comp=Z,804nm,1.7s
MTO3	**Montecristo**	**1.32**	**96**	P	**Pn**	**04 05 13.7**	**-0.4**
MTO3	**Montecristo**	**1.32**	**96**	S	**Sn**	**04 05 34.1**	**+1.6**
ESQI	**Esquipulas**	**1.33**	**89**		**Pn**	**04 05 13.8**	**-0.3**
ESQI	**Esquipulas**	**1.33**	**89**	*i* P	**Pn**	**04 05 14.2**	**+0.1**
ESQI	**Esquipulas**	**1.33**	**89**	P	**Pn**	**04 05 14.2**	**+0.1**
ESQI	**Esquipulas**	**1.33**	**89**	S	**Sn**	**04 05 34.2**	**+1.6**
CEDA	**San Andres**	**1.48**	**120**	*e*P	**Pn**	**04 05 15.9**	**-0.2**
CEDA				*e*S	**Sg**	**04 05 36.7**	**+0.7**
CEDA	**San Andres**	**1.48**	**120**	P	**Pn**	**04 05 16.4**	**+0.3**
CEDA	**San Andres**	**1.48**	**120**	S	**Sg**	**04 05 37.5**	**+1.5**
JAYA	**Jayaque - finc**	**1.52**	**126**	*e*P	**Pn**	**04 05 16.4**	**-0.4**
JAYA	**Jayaque - finc**	**1.52**	**126**	*i* P	**Pn**	**04 05 16.2**	**-0.6**
JAYA				IAML		04 05 52.8	
comp=N,6μm,0.4s
JAYA	**Jayaque - finc**	**1.52**	**126**	P	**Pn**	**04 05 16.6**	**-0.1**
JAYA	**Jayaque - finc**	**1.52**	**126**	S	**Sb**	**04 05 37.6**	**+0.4**
PMON	**Piamonte**	**1.60**	**121**	P	**Pn**	**04 05 18.3**	**+0.5**
PMON	**Piamonte**	**1.60**	**121**	S	**Sb**	**04 05 39.9**	**+0.5**
BOQS	**Boqueron**	**1.61**	**120**	*e*P	**Pn**	**04 05 18.7**	**+0.6**
PIC2	**El Picacho**	**1.63**	**119**	*e*P	**Pn**	**04 05 18.9**	**+0.6**
ITCA	**Escuela Especi**	**1.65**	**122**	P	**Pn**	**04 05 19.0**	**+0.6**
UEES	**Universidad Ev**	**1.66**	**120**	P	**Pn**	**04 05 19.4**	**+0.8**
SEMO	**Seminario San**	**1.68**	**120**	P	**Pn**	**04 05 19.5**	**+0.7**
SEMO	**Seminario San**	**1.68**	**120**	S	**Sg**	**04 05 42.8**	**+0.5**
UTEC	**Universidad Te**	**1.70**	**120**	P	**Pn**	**04 05 19.8**	**+0.7**
UTEC	**Universidad Te**	**1.70**	**120**	S	**Sg**	**04 05 43.4**	**+0.5**
LALI	**Alcalda de L**	**1.72**	**128**	*e*P	**Pn**	**04 05 19.7**	**+0.4**
LALI	**Alcalda de L**	**1.72**	**128**	*i* P	**Pn**	**04 05 19.5**	**+0.2**
LALI	**Alcalda de L**	**1.72**	**128**	P	**Pn**	**04 05 19.9**	**+0.6**
LALI	**Alcalda de L**	**1.72**	**128**	S	**Sb**	**04 05 43.0**	**+0.2**
UDBS	**Universidad Do**	**1.73**	**119**	P	**Pn**	**04 05 20.2**	**+0.6**
LFU	**La Fuente**	**1.75**	**117**	*i* Pg	**Pn**	**04 05 20.9**	**+1.1**
LOMA	**Loma Larga**	**1.75**	**121**	P	**Pb**	**04 05 21.1**	**-0.2**
LLGN	**La Laguna**	**1.76**	**102**	*e*P	**Pn**	**04 05 21.1**	**+1.0**
LLGN	**La Laguna**	**1.76**	**102**	P	**Pn**	**04 05 20.7**	**+0.7**
LLGN	**La Laguna**	**1.76**	**102**	S	**Sg**	**04 05 45.7**	**+0.7**
PAVA	**Las Pavas**	**1.92**	**116**	P	**Pn**	**04 05 22.8**	**+0.6**
COEG	**Centro de Oper**	**2.01**	**117**	*e*P	**Pn**	**04 05 23.9**	**+0.5**
COEG	**Centro de Oper**	**2.01**	**117**	P	**Pn**	**04 05 24.1**	**+0.7**
UESV	**Universidad de**	**2.08**	**116**	P	**Pb**	**04 05 26.5**	**-0.4**
SCLA	**Alcaldia de Sa**	**2.11**	**113**	P	**Pn**	**04 05 25.2**	**+0.5**
TECO	**Alcaldia de Te**	**2.13**	**118**	P	**Pb**	**04 05 27.0**	**-0.8**
CCIG	**Comitan**	**2.20**	**322**		**Pn**	**04 05 26.9**	**+0.8**
CCIG	**Comitan**	**2.20**	**322**	P	**Pb**	**04 05 30.1**	**+1.2**
CCIG	**Comitan**	**2.20**	**322**	S	**Sb**	**04 05 57.6**	**+0.9**
PQSS	**Presa 15 de Se**	**2.29**	**113**	P	**Pb**	**04 05 29.5**	**-0.9**
PQSS	**Presa 15 de Se**	**2.29**	**113**	S	**Sb**	**04 05 58.7**	**-0.5**
IZABA	**Izabal, Puerto**	**2.37**	**60**	*e*P	**Pn**	**04 05 28.9**	**+0.6**
IZABA	**Izabal, Puerto**	**2.37**	**60**	P	**Pn**	**04 05 29.8**	**+1.5**
ALJI	**Alcalda de J**	**2.42**	**120**	P	**Pb**	**04 05 33.1**	**+0.6**
ALJI	**Alcalda de J**	**2.42**	**120**	S	**Sn**	**04 06 01.0**	**+1.8**
PETF	**Flores**	**2.49**	**19**		**Pn**	**04 05 30.8**	**+0.8**
PETF	**Flores**	**2.49**	**19**	*i* P	**Pn**	**04 05 32.0**	**+2.0**
PETF				IAML		04 06 20.4	
comp=N,11μm,0.7s
PETF	**Flores**	**2.49**	**19**	P	**Pb**	**04 05 32.6**	**-1.2**
PACA	**Pacayal**	**2.56**	**115**	P	**Pg**	**04 05 37.4**	**-0.1**
RANC	**El Ranchito**	**2.61**	**115**	P	**Pb**	**04 05 36.4**	**+0.5**
MARCA	**Marcala la Paz**	**2.63**	**98**	*i* P	**Pn**	**04 05 32.4**	**+0.4**
MARCA	**Marcala la Paz**	**2.63**	**98**	P	**Pb**	**04 05 36.2**	**-0.1**
LCND	**La Caada**	**3.01**	**114**	P	**Pb**	**04 05 40.7**	**-2.0**
CNCH	**Conchagua**	**3.08**	**114**	P	**Pb**	**04 05 44.0**	**+0.1**
TGUH	**Tegucigalpa,Un**	**3.38**	**98**	Pn	**Pn**	**04 05 40.9**	**-1.4**
TGUH	**Tegucigalpa,Un**	**3.38**	**98**	P	**Pb**	**04 05 49.6**	**+0.6**
CSGN	**Cosiguina Volc**	**3.45**	**117**	P	**Pn**	**04 05 46.0**	**+2.8**
POTN	**Potosi Cosigui**	**3.48**	**116**	P	**Pb**	**04 05 48.3**	**-2.5**
CHOHN	**Orocuina**	**3.62**	**107**	P	**Pb**	**04 05 52.6**	**-0.5**
YUSH	**Yuscaran**	**3.81**	**98**	P	**Pn**	**04 05 49.0**	**+0.8**
CRIN	**San Cristobal**	**4.01**	**117**		**Pn**	**04 05 49.6**	**-1.4**
CRIN	**San Cristobal**	**4.01**	**117**	P	**Pn**	**04 05 54.3**	**+3.3**
PKGN	**Cerro Pekin**	**4.09**	**117**	P	**Pn**	**04 05 54.7**	**+2.8**
PKGN				S	**Sn**	**04 06 44.2**	**+3.7**
POLN	**Al Sur del Vol**	**4.24**	**116**	P	**Pn**	**04 05 56.7**	**+2.6**
HERN	**Volcan Telica**	**4.25**	**117**		**Pn**	**04 05 51.1**	**-3.0**
HERN	**Volcan Telica**	**4.25**	**117**	P	**Pn**	**04 05 56.5**	**+2.3**
PLRN	**Geotermica Pol**	**4.31**	**117**	P	**Pn**	**04 05 56.2**	**+1.2**
PACN	**Al O del Volca**	**4.33**	**118**	P	**Pn**	**04 05 57.7**	**+2.4**
ILCN	**San Idelfonso**	**4.37**	**116**	P	**Pn**	**04 05 59.2**	**+3.3**
ILCN				S	**Sn**	**04 06 51.8**	**+4.3**
CNGA	**Al SSO del Vol**	**4.41**	**117**	P	**Pn**	**04 05 58.3**	**+1.9**
CNGN	**Cerro Negro**	**4.41**	**117**	Pn	**Pn**	**04 05 54.9**	**-1.5**
CNGN	**Cerro Negro**	**4.41**	**117**	P	**Pn**	**04 05 58.4**	**+2.0**
MIRN	**Miramar**	**4.43**	**118**	P	**Pn**	**04 05 58.9**	**+2.3**
MACN	**El Madrono**	**4.45**	**117**	P	**Pn**	**04 05 59.0**	**+2.1**
RCVN	**Varilla2**	**4.50**	**102**	P	**Pn**	**04 06 00.4**	**+2.8**
MOMN	**Momotombo**	**4.59**	**117**	P	**Pn**	**04 06 00.7**	**+1.9**
COPN	**Copaltepe**	**4.66**	**120**	P	**Pn**	**04 05 58.3**	**-1.5**
SAPS	**Ciudad Sandino**	**4.82**	**119**	P	**Pn**	**04 06 03.0**	**+1.0**
MATN	**Matagalpa**	**4.93**	**109**	P	**Pn**	**04 06 07.0**	**+3.5**
TISN	**Laguna Tiscapa**	**4.95**	**118**	P	**Pn**	**04 06 04.4**	**+0.6**
UNAN	**Cigeo UNAN**	**4.96**	**119**	P	**Pn**	**04 06 05.0**	**+1.1**
R4DEC	**Barrio San Lui**	**4.96**	**118**	P	**Pn**	**04 06 05.5**	**+1.5**
MGAN	**Managua**	**4.97**	**118**	Pn	**Pn**	**04 06 01.2**	**-2.8**
MGAN	**Managua**	**4.97**	**118**	P	**Pn**	**04 06 04.0**	**0.0**
MGAN	**Managua**	**4.97**	**118**	S	**Sn**	**04 07 04.7**	**+2.6**
WILN	**Americas 2**	**5.01**	**118**	P	**Pb**	**04 06 12.6**	**-4.2**
SIUN	**Universidad Ur**	**5.83**	**97**	P	**Pb**	**04 06 34.3**	**+3.5**
ACON	**Acoyapa**	**5.98**	**115**	P	Pb	04 06 26.4	-6.9
ACON				S	**Sb**	**04 07 42.5**	**-3.0**
ACON	**Acoyapa**	**5.98**	**115**	P	**Pn**	**04 06 19.0**	**+1.1**
TEIG	**Tepich**	**6.11**	**22**	Pn	**Pn**	**04 06 21.1**	**+1.4**
TEIG	**Tepich**	**6.11**	**22**	P	Pn	04 06 26.4	+6.7
comp=N,0.2nm,0.4s,baz=197,slow=24,SNR=88
ESPN	**Las Esperanzas**	**6.67**	**110**	Pn	**Pn**	**04 06 25.0**	**-2.4**
ESPN	**Las Esperanzas**	**6.67**	**110**	P	Pn	04 06 34.8	+7.3
ESPN				S	**Sn**	**04 07 46.8**	**+2.6**
ESPN	**Las Esperanzas**	**6.67**	**110**	P	Pn	04 06 34.3	+6.8
JTS	**Las Juntas de**	**7.05**	**126**	P	**Pn**	**04 06 36.6**	**+4.0**
comp=N,5.7nm,0.7s,baz=283,slow=12,SNR=8.0
JTS	**Las Juntas de**	**7.05**	**126**	P	Pn

comp=Z,55nm,18.3s,baz=102,slow=40
comp=Z,0.2nm,0.7s
BMAR Burnt Mountain 63.21 340 P P 04 15 10.0 -7.9
D25K Kavik River 64.69 341 P P 04 15 18.8 -8.9
EUNU Eureka 65.56 1 P P 04 15 25.8 -7.3
EUNU IAmb IAmb 04 15 39.8
comp=Z,6.0nm,1.1s
PPT Papeete 66.24 243 LR LR 04 38 53.0
comp=Z,52nm,20.2s,baz=174,slow=31
PPT2 Papeete2 66.25 243 eLR LR 04 35 23.8
comp=Z,73nm,28.2s
TBI Tubuai 68.69 237 eLR LR 04 36 36.0
comp=Z,312nm,30.8s
BBTS Babate 71.45 79 LR LR 04 41 57.9
comp=Z,43nm,21.0s,baz=163,slow=31
ESDC Sonseca Array 78.40 52 P **P 04 16 50.6 -0.3**
comp=Z,0.8nm,0.8s,baz=293,slow=4.4,SNR=4.9
comp=Z,0.8nm,0.8s
MDT Midelt 79.05 59 LR LR 04 49 08.5
comp=Z,35nm,19.0s,baz=328,slow=34
NOA NORSAR Array B 83.07 29 P **P 04 17 15.7 +0.2**
comp=Z,0.3nm,0.7s,baz=290,slow=5.2,SNR=3.3
NOA LR LR 04 54 10.0
comp=Z,26nm,18.4s,baz=15,slow=36
comp=Z,0.3nm,0.7s
DAVOX Davos/Dischmat 86.62 43 LR LR 04 50 23.7
comp=Z,28nm,19.9s,baz=293,slow=31
GERES GERESS Array B 88.39 40 P **P 04 17 43.1 +0.9**
comp=Z,0.5nm,0.8s,baz=242,slow=2.9,SNR=4.1
comp=Z,0.5nm,0.8s
VAE Valguarnera 92.86 50 LR LR 04 52 23.5
comp=Z,51nm,21.8s,baz=330,slow=31
AKASG Malin Array Be 96.58 34 LR LR 05 01 34.5
comp=Z,18nm,19.7s,baz=344,slow=35

*RSNC **16** 04:05:02.2±0.3, 18°N±1°×7°0W±°, h30km, M3.1, mb4.5, mB5.1, ML3.1, Mw(mB)4.5*
*SDD **16** 04:05:03.8±3.6, 17°.61N×69°.98W, h12km±7km, MD3.4, ML3.9, MW3.8*
*OSPL **16** 04:05:06.5±2.2, 17°.58N×70°.01W, h32km±30km, ML3.7*
*JSN **16** 04:05:14.0±0.6, 18°.60N×70°.84W, h0km±999km*
ISC 16 04:05:04.4±0.8, 17°.52N±0°.05×70°.05W±0°.03, h47km±34km, n100, σ2°25/156, 5C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BAN1	**Bani Escuela**	**0.80**	**340**	*i* P		**Pn**	**04 05 19.6**	**+0.3**
BAN1				IAML			04 05 31.7	
comp=N,6μm,0.3s								
BANI	**BANI**	**0.91**	**341**	*i* P		**Pn**	**04 05 20.9**	**0.0**
BANI				*e*Pg		**Pn**	**04 05 21.0**	**0.0**
BANI				*i* S		**Sn**	**04 05 33.3**	**+0.2**
BANI				IAML			04 05 34.6	
comp=N,9μm,0.2s								
BANI				IAML			04 05 34.6	
comp=N,932nm,0.2s								
BANI				IAML			04 05 34.6	
comp=N,9μm,0.2s								
SDD	**Santo Domingo**	**0.94**	**8**	IAML			04 05 34.2	
comp=N,163nm,0.3s								
SDD	**Santo Domingo**	**0.94**	**8**	*i* P		**Pn**	**04 05 20.3**	**-0.9**
SPM1	**San Pedro UASD**	**1.16**	**37**	*e*Pg		**Pn**	**04 05 24.1**	**-0.1**
SPM1				*e*Sg		**Sn**	**04 05 37.9**	**-0.9**
SPM1				IAML			04 05 38.0	
comp=N,2μm,0.8s								
BRH1	**Barahona**	**1.21**	**305**	*e*Pg		**Pn**	**04 05 25.6**	**+0.8**
BRH1				*e*Sg		**Sn**	**04 05 39.9**	**-0.1**
LOVI	**El Cajuil, Ovi**	**1.29**	**282**	*i* P		**Pn**	**04 05 27.0**	**+1.1**
LOVI				*e*S		**Sn**	**04 05 42.4**	**+0.4**
LOVI				IAML			04 05 43.3	
comp=Z,1μm,0.3s								
PODR	**Polo**	**1.34**	**299**	*e*Pg		**Pn**	**04 05 27.5**	**+0.7**
PODR				*e*Sg		**Sn**	**04 05 44.3**	**+0.8**
PODR				IAML			04 05 47.2	
comp=N,2μm,0.2s								
PODR				IAML			04 05 47.3	
comp=N,2μm,0.2s								
PODR	**Polo**	**1.34**	**299**	*i* P		**Pn**	**04 05 27.3**	**+0.5**
ABDR	**Alto Bandera**	**1.40**	**337↑**	*e*Pg		**Pn**	**04 05 27.6**	**-0.1**
ABDR				*e*Sg		**Sn**	**04 05 44.4**	**-0.8**
ABDR				IAML			04 05 45.2	
comp=N,5μm,0.3s								
HATOM	**Hato Mayor del**	**1.41**	**27↓↓**	*e*Pg		**Pn**	**04 05 27.5**	**-0.2**
HATOM			**↑↑**	*e*Sg		**Sn**	**04 05 43.2**	**-1.9**
HATOM				IAML			04 05 44.1	
comp=N,806nm,0.5s								
DR08	**Loma La Naviza**	**1.43**	**1↑**	*e*Pg		**Pn**	**04 05 27.3**	**-0.6**
DR08				*e*Sg		**Sn**	**04 05 43.9**	**-1.7**
DR08				IAML			04 05 44.7	
comp=N,30μm,0.2s								
LOBH	**Bahia de las A**	**1.55**	**283**	*i* P		**Pn**	**04 05 30.9**	**+1.4**
LOBH				*e*S		**Sn**	**04 05 49.2**	**+0.7**
LOBH				IAML			04 05 58.6	
comp=Z,1μm,0.7s								
MIDR	**Miches**	**1.74**	**33↑**	*e*Pg		**Pn**	**04 05 31.8**	**-0.2**
MIDR				*e*Sg		**Sn**	**04 05 50.8**	**-2.2**
MIDR				IAML			04 05 52.0	
comp=N,823nm,0.2s								
SFDR	**San Fco. de Ma**	**1.76**	**354**	*e*Pg		**Pn**	**04 05 32.9**	**+0.4**
SFDR				*e*Sg		**Sn**	**04 05 53.6**	**-0.1**
SFDR				IAML			04 05 53.8	
comp=N,4μm,0.3s								
NADR	**Nagua**	**1.83**	**6**	*e*Pg		**Pn**	**04 05 33.4**	**+0.1**
NADR				*e*Sg		**Sn**	**04 05 55.0**	**-0.3**
NADR				IAML			04 06 04.4	
comp=N,2μm,0.2s								
LONA1	**Toro Cenizo, N**	**1.85**	**5**	*i* P		Pn	04 05 19.6	-14
PCDR	**Punta Cana, DR**	**1.87**	**58**	*e*Pg		**Pn**	**04 05 35.1**	**+1.3**
PCDR				*e*Sg		**Sn**	**04 05 57.0**	**+0.7**
PCDR				IAML			04 05 58.0	
comp=N,2μm,0.7s								
PCDR				IAML			04 05 58.1	
comp=N,2μm,0.7s								
PCDR	**Punta Cana, DR**	**1.87**	**58**	*i* P		**Pn**	**04 05 35.0**	**+1.1**
PCDR				*e*S		**Sn**	**04 05 54.3**	**-2.0**
PCDR				IAML			04 05 58.8	
comp=Z,450nm,0.3s								
SDDR	**Presa de Saban**	**1.87**	**321**	*e*P		**Pn**	**04 05 34.2**	**+0.3**
SDDR				*e*S		**Sn**	**04 05 54.7**	**-1.7**
SDDR				IAML			04 05 58.0	
comp=Z,963nm,0.4s								
SDDR				IAML			04 05 58.1	
comp=Z,1μm,0.4s								
SDDR	**Presa de Saban**	**1.87**	**321↓↓**	*e*Pg		**Pn**	**04 05 34.8**	**+0.9**
SDDR				*i* S		**Sn**	**04 05 55.9**	**-0.5**
SDDR	**Presa de Saban**	**1.87**	**321**	*e*P		**Pn**	**04 05 34.6**	**+0.7**
SDDR	**Presa de Saban**	**1.87**	**321**	*i* P		**Pn**	**04 05 34.7**	**+0.7**
SDDR				*e*S		**Sn**	**04 05 55.0**	**-1.4**
SDDR				IAML			04 05 58.1	
comp=Z,1μm,0.4s								
SDDR	**Presa de Saban**	**1.87**	**321**	P		**Pn**	**04 05 34.6**	**+0.7**
SDDR				S		**Sn**	**04 05 55.0**	**-1.4**
SMDR	**Samana, DR**	**1.94**	**25**	*e*Pg		**Pn**	**04 05 34.7**	**-0.1**
SMDR				IAML			04 06 08.2	
comp=N,220nm,0.3s								
SC01	**Santiago de lo**	**2.00**	**341**	*e*Pg		**Pn**	**04 05 37.0**	**+1.3**
SC01				**↑** *e*Sg		**Sn**	**04 06 01.4**	**+1.8**
SC01				IAML			04 06 06.4	
comp=N,1μm,0.7s								
SC01	**Santiago de lo**	**2.00**	**341**	*i* P		**Pn**	**04 05 36.9**	**+1.2**
SC01				*e*S		**Sn**	**04 06 00.7**	**+1.2**
SC01				IAML			04 06 07.2	
comp=Z,990nm,1.4s								
REDR	**Restauracion**	**2.07**	**322**	*e*Pg		Pn	04 05 41.3	+4.6
REDR				*i* S		**Sn**	**04 06 05.7**	**+4.4**
REDR				IAML			04 06 10.0	
comp=N,909nm,0.2s								
CADR	**Cabrera**	**2.13**	**3**	*e*Pg		**Pn**	**04 05 39.2**	**+1.7**
CADR				IAML			04 06 06.1	
comp=N,3μm,0.5s								
MADR	**Mao Valverde**	**2.26**	**334**	*e*Pg		**Pn**	**04 05 41.4**	**+2.1**
MADR				*e*Sg		**Sn**	**04 06 08.0**	**+1.9**
MADR				IAML			04 06 16.0	
comp=N,2μm,0.3s								
PAPH	**Port-au-Prince**	**2.36**	**295**	*e*P		**Pn**	**04 05 43.2**	**+2.5**
PAPH				*e*S		**Sn**	**04 06 12.2**	**+3.8**
PAPH	**Port-au-Prince**	**2.36**	**295**	*i* P		**Pn**	**04 05 43.3**	**+2.7**
PAPH				IAML			04 06 14.7	
comp=Z,226nm,0.6s								
LUDR	**Luperon**	**2.51**	**340**	*e*Pg		**Pn**	**04 05 45.0**	**+2.3**
LODA1	**ITESIL, Dajabo**	**2.55**	**322**	*i* P		**Pn**	**04 05 44.0**	**+0.7**
LODA1				*e*S		**Sn**	**04 06 11.7**	**-1.4**
LODA1				IAML			04 06 14.3	
comp=Z,866nm,0.6s								
MCDR	**Montecristi**	**2.81**	**327**	*e*Pg		**Pn**	**04 05 48.8**	**+2.1**
MCDR				*i* S		**Sn**	**04 06 19.1**	**-0.2**
MCDR				IAML			04 06 27.6	
comp=N,536nm,0.2s								
CRPR	**Cabo Rojo, PR**	**2.84**	**80**	*i* P		**Pn**	**04 05 47.7**	**+0.5**
CRPR				*i* S		**Sn**	**04 06 16.9**	**-3.3**
CRPR				IAML			04 06 19.7	
comp=N,213nm,0.5s								
CRPR	**Cabo Rojo, PR**	**2.84**	**80**	*i* P		**Pn**	**04 05 47.5**	**+0.2**
CRPR				IAML			04 06 19.8	
comp=Z,166nm,0.6s								
PRSN	**Puerto Rico Se**	**2.85**	**76**	*e*Pg		**Pn**	**04 05 48.9**	**+1.5**
PRSN				*i* S		**Sn**	**04 06 16.0**	**-4.5**
PRSN				IAML			04 06 37.3	
comp=N,323nm,0.2s								
MLPR	**Magueyes Islan**	**2.90**	**81**	*i* P		**Pn**	**04 05 48.1**	**+0.1**
MLPR				*i* S		**Sn**	**04 06 18.8**	**-2.8**
MLPR				IAML			04 06 29.6	
comp=N,42nm,0.6s								
AGPR	**Aguadilla, PR**	**2.95**	**71**	*e*Pg		**Pn**	**04 05 50.1**	**+1.3**
AGPR				IAML			04 06 32.9	
comp=N,419nm,0.2s								
AGPR	**Aguadilla, PR**	**2.95**	**71**	*i* P		**Pn**	**04 05 49.8**	**+1.0**
AGPR				IAML			04 06 32.2	
comp=Z,184nm,0.3s								
AOPR	**Arecibo Observ**	**3.24**	**75**	*i* P		**Pn**	**04 05 53.4**	**+0.6**
AOPR				*i* S		**Sn**	**04 06 26.8**	**-3.4**
AOPR				IAML			04 06 36.1	
comp=N,562nm,0.7s								
AOPR	**Arecibo Observ**	**3.24**	**75**	*e*P		**Pn**	**04 05 53.4**	**+0.6**
CELP	**Cerrillos**	**3.35**	**80**	*i* P		**Pn**	**04 05 54.8**	**+0.5**
CELP				*i* S		**Sn**	**04 06 29.7**	**-3.2**
CELP				IAML			04 06 33.0	
comp=N,255nm,0.3s								
SJG	**San Juan**	**3.76**	**80**	*i* P		**Pn**	**04 06 00.2**	**+0.4**
SJG				*i* S		**Sn**	**04 06 38.6**	**-4.3**
SJG	**San Juan**	**3.76**	**80**	*e*P		**Pn**	**04 05 59.9**	**+0.1**
SJG	**San Juan**	**3.76**	**80**	P		**Pn**	**04 05 59.9**	**+0.1**
SJG				S		**Sn**	**04 06 39.6**	**-3.3**
GRTK	**Grand Turk**	**4.10**	**346↓↓**	*e*P		**Pn**	**04 06 04.0**	**-0.4**
GRTK				*e*S		**Sn**	**04 06 47.6**	**-3.6**
GRTK	**Grand Turk**	**4.10**	**346**	*i* P		**Pn**	**04 06 03.8**	**-0.7**
GRTK				*i* S		**Sn**	**04 06 48.6**	**-2.5**
GRTK				IAML			04 06 51.1	
comp=N,183nm,0.3s								
GRTK	**Grand Turk**	**4.10**	**346**	*i* P		**Pn**	**04 06 04.1**	**-0.4**
GRTK				*e*S		**Sn**	**04 06 48.0**	**-3.2**
GRTK				IAML			04 06 57.2	
comp=Z,54nm,3.1s								
GRTK	**Grand Turk**	**4.10**	**346**	P		**Pn**	**04 06 03.9**	**-0.6**
GRTK				S		**Sn**	**04 06 48.0**	**-3.2**
MASC	**Masc**	**4.76**	**304**	*e*P		**Pn**	**04 06 13.6**	**+0.1**
MASC				*e*S		**Sn**	**04 07 09.2**	**+1.7**
MASC	**Masc**	**4.76**	**304**	*i* P		**Pn**	**04 06 13.9**	**+0.3**
QMBU	**Quimbuelo**	**5.24**	**301**	*e*P		**Pn**	**04 06 19.2**	**-1.0**
QMBU				*e*S		**Sn**	**04 07 17.4**	**-1.9**
GTBY	**Guantanamo Bay**	**5.36**	**297**	*e*P		**Pn**	**04 06 22.4**	**+0.6**
GTBY				*e*S		**Sn**	**04 07 20.6**	**-1.7**
GTBY	**Guantanamo Bay**	**5.36**	**297**	*i* P		**Pn**	**04 06 23.1**	**+1.3**
GTBY				IAML			04 08 24.9	
comp=N,28nm,3.5s								
GTBY	**Guantanamo Bay**	**5.36**	**297**	*i* P		**Pn**	**04 06 23.1**	**+1.3**
GTBY	**Guantanamo Bay**	**5.36**	**297**	P		**Pn**	**04 06 22.4**	**+0.6**
comp=N,21nm,1.0s								
GTBY				S		**Sn**	**04 07 21.2**	**-1.1**
comp=N,21nm,1.0s								
NMDO	**Nuevo Mundo**	**5.56**	**304**	*e*P		**Pn**	**04 06 23.8**	**-0.8**
NMDO				*e*S		**Sn**	**04 07 21.4**	**-5.8**
MOAC	**Moa**	**5.59**	**305**	*e*P		**Pn**	**04 06 22.4**	**-2.6**
MOAC				*e*S		**Sn**	**04 07 19.8**	**-8.2**
RCC	**Rio Carpintero**	**5.89**	**296**	*e*P		**Pn**	**04 06 29.5**	**+0.4**
RCC				*e*S		**Sn**	**04 07 31.3**	**-4.0**
MARVS	**Santiago de Cu**	**6.07**	**295**	*e*P		**Pn**	**04 06 32.0**	**+0.5**
URIC	**Uribia, Colomb**	**6.08**	**198**	P		**Pn**	**04 06 32.8**	**+1.0**
comp=N,22nm,0.5s								
URIC				S		**Sn**	**04 07 38.7**	**-1.5**
comp=N,22nm,0.5s								
PINC	**Pinares de May**	**6.18**	**299**	*e*P		**Pn**	**04 06 33.0**	**-0.1**
HOJ	**Hope**	**6.40**	**275↓↓**	*i* P		**Pn**	**04 06 38.0**	**+1.9**
STH	**Stony Hill**	**6.46**	**276↓↓**	*i* P		**Pn**	**04 06 38.6**	**+1.6**
STH				*i* S		**Sn**	**04 07 42.0**	**-7.6**
CHIV	**Chivirico**	**6.51**	**293**	*e*P		**Pn**	**04 06 37.0**	**-0.6**
CRJC	**Cerrejon, Guaj**	**7.02**	**203**	P		**Pn**	**04 06 45.7**	**+0.9**
comp=N,1μmcomp=N,23nm,0.6s								
CRJC				S		**Sn**	**04 08 01.6**	**-1.8**
comp=N,1μmcomp=N,23nm,0.6s								
LMGC	**Las Mercedes**	**7.06**	**292**	*e*P		**Pn**	**04 06 44.4**	**-0.8**
MTDJ	**Mount Denham**	**7.16**	**277**	*i* P		**Pn**	**04 06 47.7**	**+1.0**
MTDJ				*i* S		**Sn**	**04 08 00.8**	**-6.1**
MTDJ				IAML			04 08 18.0	
comp=N,36nm,1.2s								
MTDJ	**Mount Denham**	**7.16**	**277**	*i* P		**Pn**	**04 06 48.0**	**+1.4**
MTDJ				IAML			04 08 04.1	
comp=Z,34nm,2.1s								
MTDJ	**Mount Denham**	**7.16**	**277**	P		**Pn**	**04 06 46.7**	**0.0**
comp=Z,48nm,1.4s								
MTDJ				S		**Sn**	**04 08 05.6**	**-1.2**
comp=Z,48nm,1.4s								
PILO	**Pilon**	**7.36**	**290**	*e*P		**Pn**	**04 06 49.9**	**+0.5**
SMRC	**Santa Marta, M**	**7.50**	**213**	P		**Pn**	**04 06 50.6**	**-0.7**
comp=Z,20nm,0.7s								
SMRC				S		**Sn**	**04 08 09.2**	**-5.9**
comp=Z,20nm,0.7s								
MBFL	**Flemmings, Mon**	**7.53**	**95**	*e*P		**Pn**	**04 06 53.0**	**+1.3**
MLYT	**Lee's Yard**	**7.56**	**95**	*e*P		**Pn**	**04 06 53.3**	**+1.3**
ANBD	**Bethesda, Anti**	**7.93**	**92**	*e*		**Pn**	**04 06 57.6**	**+0.5**
DSLB	**Salisbury**	**8.53**	**103**	*e*		**Pn**	**04 07 07.2**	**+1.8**
SDV	**Santo Domingo**	**8.60**	**184**	P		**Pn**	**04 07 10.3**	**+3.8**
SDV				S		**Sn**	**04 08 41.4**	**-1.0**
ARGC	**Ariguani, Magd**	**8.64**	**209**	P		**Pn**	**04 07 08.8**	**+1.9**
ARGC				S		**Sn**	**04 08 38.0**	**-5.1**
BAUV	**El Baul**	**8.75**	**167**	*e*P		**Pn**	**04 07 11.3**	**+3.0**
PCRV	**Puerto La Cruz**	**9.00**	**144**	*e*P		**Pn**	**04 07 09.2**	**-2.5**
SJCC	**San Jacinto, C**	**9.07**	**214**	P		**Pn**	**04 07 15.1**	**+2.3**
SJCC				S		**Sn**	**04 08 46.2**	**-7.5**
BIM	**Bigot**	**9.13**	**108**	*e*		**Pn**	**04 07 13.1**	**-0.6**
SLBI	**Saint Lucia, B**	**9.40**	**110**	*e*		**Pn**	**04 07 18.5**	**+1.2**
SVB	**Belmont**	**9.48**	**115**	*e*		**Pn**	**04 07 20.6**	**+2.3**
GRFF	**Grenada Fort F**	**9.71**	**123**	*e*		**Pn**	**04 07 23.2**	**+1.8**
GCMP	**Grenada, Carri**	**9.72**	**120**	*e*		**Pn**	**04 07 22.9**	**+1.2**
GRGR	**Grenville**	**9.72**	**122**	*e*		**Pn**	**04 07 23.8**	**+2.1**
GRGR	**Grenville**	**9.72**	**122**	P		**Pn**	**04 07 23.6**	**+1.9**
GRGR				S		Sn	04 08 59.5	-10
OCAC	**Ocana**	**9.76**	**199**	P		**Pn**	**04 07 24.6**	**+2.2**
OCAC				S		**Sn**	**04 09 07.4**	**-3.4**
PAMC	**Pamplona, Colo**	**10.45**	**195**	P		**Pn**	**04 07 34.0**	**+2.0**
PAMC				S		**Sn**	**04 09 24.8**	**-3.2**
TRN	**Trinidad (W)**	**10.82**	**128**	*e*P		**Pn**	**04 07 40.5**	**+3.9**
ZARC	**Zaragoza, Cauc**	**11.02**	**206**	P		**Pn**	**04 07 41.0**	**+1.6**
ZARC				S		**Sn**	**04 09 42.0**	**+0.6**
UREC	**San Jos de Ur**	**11.09**	**210**	P		**Pn**	**04 07 42.5**	**+2.1**
UREC				S		**Sn**	**04 09 43.4**	**+0.4**
BARC	**Barichara**	**11.29**	**196**	P		**Pn**	**04 07 45.1**	**+1.8**
PTBC	**PUERTO BERRIO,**	**11.73**	**202**	P		**Pn**	**04 07 51.7**	**+2.5**
PTBC				S		**Sn**	**04 09 59.1**	**+0.2**
RUSC	**La Rusia**	**11.93**	**195**	P		**Pn**	**04 07 54.7**	**+2.3**
RUSC				S		**Sn**	**04 10 02.3**	**-2.1**
CBOC	**Ciudad Bolivar**	**12.97**	**207**	P		**Pn**	**04 08 08.9**	**+2.6**
CBOC				S		Sn	04 10 21.4	-8.0
GUY2C	**Guyana, Caldas**	**13.28**	**204**	P		**Pn**	**04 08 13.3**	**+2.5**

HEL 16 04:05:45.5±0.2, 67°.66N×34°.09E, h0km, ML1.2, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.32**	**41**	PG		Pg	04 05 51.3	-0.4
baz=225								
VRF	**Varrio**	**1.71**	**275**	PG		Pn	04 06 16.0	-0.6
VRF				MSG			04 06 36.6	
comp=Z,1.9nm,0.2s								
VRF				SG		Sn	04 06 38.1	-1.0
OLKF	**Oulanka, Finla**	**2.28**	**236**	PG		Pb	04 06 26.3	-1.2
OLKF				MSG			04 06 52.9	
comp=Z,1.0nm,0.2s								
OLKF				SG		Sb	04 06 55.8	-0.3
RAJF	**Raja-Jooseppi**	**2.32**	**293**	PG		Pn	04 06 26.2	+1.4
RAJF				SB		Sb	04 06 55.9	-1.4
KU6	**Riekki**	**2.33**	**227**	PG		Pb	04 06 27.2	-1.1
baz=46								
KU6				MSG			04 06 54.4	
comp=Z,0.7nm,0.2s								
KU6				SG		Sb	04 06 57.3	-0.3
MSF	**Maaselka**	**2.66**	**231**	PG		Pb	04 06 32.9	-1.0
MSF				SG		Sg	04 07 09.0	-1.8
RANF	**Ranua**	**3.32**	**244**	SG		Sb	04 07 25.8	-0.3
KEV	**Kevo**	**3.33**	**312**	SB		Sn	04 07 22.5	+3.5
ARA0	**ARCESS Array S**	**3.67**	**305**	PN		Pn	04 06 43.5	+0.1
PAJU	**Pajala**	**4.29**	**267**	PN		Pn	04 06 52.8	+0.8

KOLA 16 04:06:30.7, 67°.69N×33°.70E, h0km, ML1.4, Error ellipse: s-maj=4.4km s-min=0.8km az=160.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.17**	**223**	P		Pg	04 06 33.9	-0.1
APA0	**Apatity Array**	**0.29**	**253**	P		Pg	04 06 36.0	-0.2
APA0				S		Sg	04 06 39.9	+0.1
LVZ	**Lovozero**	**0.41**	**60**	S		Sg	04 06 44.5	+0.4
ARCES	**ARCESS Array B**	**3.53**	**305**	P		Pn	04 07 25.6	-1.1

IDC 16 04:13:36.9±7.2, 18°.89S×176°.57W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=300.3km s-min=115.5km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.18**	**260**	P		P	04 22 03.8	0.0
0.6nm,0.3s,baz=97,slow=7.7,SNR=13								
0.6nm,0.3s								
ASAR	**Alice Springs**	**46.21**	**255**	P		P	04 22 04.0	-0.2
1.2nm,0.5s,baz=94,slow=7.7,SNR=14								
1.2nm,0.5s								
AKASG	**Malin Array Be**	**142.22**	**333**	PKP		PKPdf	04 33 10.2	-1.0
0.6nm,0.3s,baz=52,slow=3.3,SNR=6.8								

TAP 16 04:21:55.3, 23°.58N×120°.72E, h13km, ML1.6, 1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHN5	**Tsauling**	**0.04**	**290↓↓**	*i* P		Pg	04 21 58.2	+0.4
CHN5				*i* S		Sg	04 22 00.3	+0.7
ALS	**Alishan**	**0.11**	**132**	P		Pb	04 21 59.4	-0.1
ALS				S		Sb	04 22 02.1	0.0
WHYT	**Xinyi Township**	**0.17**	**48**	P		Pb	04 21 60.0	-0.4
WHYT				S		Sb	04 22 03.3	-0.3
WGK	**Gukeng**	**0.18**	**305**	P		Pb	04 22 00.2	-0.2
WGK				S		Sb	04 22 04.1	+0.2
WCKO	**Fanlu**	**0.18**	**216**	P		Pb	04 22 00.1	-0.4
WCKO				S		Sb	04 22 03.7	-0.2
WDLH	**Douliu**	**0.20**	**302**	P		Pb	04 22 00.6	-0.2
WDLH				S		Sb	04 22 04.5	+0.1
CHN4	**Tsaushan**	**0.26**	**207**	P		Pb	04 22 01.9	0.0
CHN4				*e*S		Sb	04 22 06.1	-0.1
CHY	**Chiayi**	**0.28**	**253**	P		Pb	04 22 01.8	-0.5
CHY				S		Sb	04 22 07.1	+0.2
SSLB	**Suanglung**	**0.30**	**47**	P		Pb	04 22 02.1	-0.4
SSLB				S		Sb	04 22 06.9	-0.5
TYC	**Yuchr**	**0.34**	**22**	P		Pb	04 22 03.4	+0.1
TYC				*e*S		Sb	04 22 09.1	+0.4
TWK	**Hsinying**	**0.38**	**214**	*e*S		Sb	04 22 09.9	+0.1
VWDT	**VWDT**	**0.42**	**66**	P		Pb	04 22 04.9	+0.2
VWDT				S		Sb	04 22 11.2	+0.2
WCS	**Beigang Elemen**	**0.50**	**20**	P		Pb	04 22 05.8	-0.2
WCS				S		Sb	04 22 13.4	0.0
WARBT	**Fenglin Townsh**	**0.63**	**77**	P		Pb	04 22 08.3	+0.1
WARBT				*e*S		Sb	04 22 17.1	+0.2

*JMA **16** 04:35:55.8±0.2, 25°N±2°×122°.4E±0°.3, h108km±1km, MV2.1/10, TAIWAN REGION*
*TAP **16** 04:35:55.8, 24°.79N×122°.31E, h111km, ML3.1, D*
ISC 16 04:35:55.8±1.6, 24°.73N±0°.05×122°.39E±0°.03, h107km±9km, n64, σ0°81/120, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.34**	**204**	*i* P		**Pn**	**04 36 11.8**	**+0.6**
EOS2				S		**Sn**	**04 36 24.1**	**+1.4**
EOS3	**EOS3**	**0.45**	**188**	*i* P		**Pn**	**04 36 12.5**	**+0.7**
EOS3				*i* S		**Sn**	**04 36 26.0**	**+2.3**
TWC	**Suao**	**0.51**	**256**	*i* P		**Pn**	**04 36 12.0**	**-0.2**
TWC				*i* S		**Sn**	**04 36 24.0**	**-0.6**
ESAO	**Su ao**	**0.52**	**253**	*e*S		**Sn**	**04 36 24.0**	**-0.8**
TIPB	**Shuangxi**	**0.56**	**295**	*i* P		**Pn**	**04 36 12.7**	**0.0**
TIPB				*i* S		**Sn**	**04 36 25.1**	**-0.4**
JYNG	**Yonagunijimaku**	**0.58**	**119**	P		**Pn**	**04 36 12.9**	**+0.1**
JYNG				*e*S		**Sn**	**04 36 25.4**	**-0.3**
SXI1	**Grass Mountain**	**0.59**	**308**	*i* P		**Pn**	**04 36 12.8**	**-0.1**
SXI1				*e*S		**Sn**	**04 36 24.4**	**-1.5**
EOS4	**EOS4**	**0.61**	**186**	*e*P		**Pn**	**04 36 13.0**	**+0.3**
EOS4				S		**Sn**	**04

OWD			*e*S		**Sn**	**04 36 38.7**	**-0.9**
WARBT	**Fenglin Townsh**	**1.36 222**	P		**Pn**	**04 36 19.6**	**-1.2**
WARBT			*e*S		**Sn**	**04 36 37.6**	**-2.1**
WUSB	**Renai**	**1.37 238**	P		**Pn**	**04 36 21.5**	**+0.5**
WUSB			S		**Sn**	**04 36 39.9**	**-0.2**
EGFH	**Guangfu**	**1.38 220**	*e*S		**Sn**	**04 36 39.2**	**-0.8**
WHP	**Taichung City**	**1.39 251**	P		**Pn**	**04 36 22.0**	**+0.8**
WHP			S		**Sn**	**04 36 40.8**	**+0.5**
VWDT	**VWDT**	**1.50 230**	P		**Pn**	**04 36 22.7**	**+0.4**
VWDT			*e*S		**Sn**	**04 36 42.2**	**-0.3**
WCS	**Beigang Elemen**	**1.50 244**	P		**Pn**	**04 36 23.3**	**+0.9**
WCS			*e*S		**Sn**	**04 36 43.5**	**+0.8**
HGSD	**Ruisui**	**1.52 216**	P		**Pn**	**04 36 22.3**	**-0.3**
HGSD			*e*S		**Sn**	**04 36 42.8**	**-0.1**
JKRS	**Kuro-shima**	**1.56 108**	*e*P		**Pn**	**04 36 23.6**	**+0.5**
JKRS			*e*S		**Sn**	**04 36 44.0**	**+0.2**
EHY	**Hungye**	**1.56 219**	*e*P		**Pn**	**04 36 22.2**	**-0.9**
SMLT	**Sun Moon Lake**	**1.60 238**	*e*P		**Pn**	**04 36 24.0**	**+0.3**
SMLT			*e*S		**Sn**	**04 36 46.3**	**+1.4**
SSLB	**Suanglung**	**1.61 235**	P		**Pn**	**04 36 24.9**	**+1.1**
SSLB			S		**Sn**	**04 36 46.7**	**+1.7**
TYC	**Yuchr**	**1.62 240**	P		**Pn**	**04 36 25.3**	**+1.5**
TYC			S		**Sn**	**04 36 47.0**	**+1.8**
JIJ	**Ishigaki jima**	**1.64 103**	*e*P		**Pn**	**04 36 24.0**	**-0.1**
JIJ			*e*S		**Sn**	**04 36 45.1**	**-0.5**
TWF1	**Yuli**	**1.70 216**	*e*P		**Pn**	**04 36 23.9**	**-0.9**
TWF1			*e*S		**Sn**	**04 36 45.2**	**-1.7**
WHYT	**Xinyi Township**	**1.74 234**	*e*P		**Pn**	**04 36 26.7**	**+1.3**
WHYT			S		**Sn**	**04 36 49.6**	**+1.7**
JISG	**Ishigakijimahi**	**1.76 94**	*e*P		**Pn**	**04 36 25.9**	**+0.4**
JISG			*e*S		**Sn**	**04 36 47.9**	**-0.3**
FULB	**Fuli**	**1.83 213**	P		**Pn**	**04 36 26.3**	**-0.2**
FULB			*e*S		**Sn**	**04 36 49.3**	**-0.5**
ALS	**Alishan**	**1.89 230**	P		**Pn**	**04 36 28.2**	**+0.6**
ALS			*e*S		**Sn**	**04 36 53.4**	**+1.8**
CHN5	**Tsauling**	**1.93 234**	*e*P		**Pn**	**04 36 28.9**	**+1.1**
CHN5			*e*S		**Sn**	**04 36 53.6**	**+1.4**
ELDTW	**Lidau**	**1.98 219**	*e*P		**Pn**	**04 36 28.4**	**-0.1**
ELDTW			*e*S		**Sn**	**04 36 52.4**	**-1.1**
EDH	**Donghe**	**2.01 210**	P		**Pn**	**04 36 27.9**	**-0.9**
EDH			*e*S		**Sn**	**04 36 52.4**	**-1.6**
LDUT	**Ludao**	**2.22 202**	*e*P		**Pn**	**04 36 30.1**	**-1.3**

MOS ***16*** *05:07:46.5±1.0, 66°.37N×157°.07W, h11km, mb4.8/43, MS4.1/4, Error ellipse: s-maj=16.0km s-min=7.1km az=105.2*

ANF ***16*** *05:07:46.8±0.2, 66°.31N×157°.26W, h7km±1km, ML5.2/104, Error ellipse: s-maj=0.9km s-min=0.8km az=115.0*

NEIC ***16*** *05:07:46.9, 66°.31N×157°.00W, h12km, Moment Tensor Solution. Duration: 1s2 Moment tensor: Scale 10^16^Nm; Mrr=1.22; Mθθ=1.08; Mφφ=0.14; Mrθ=-0.43; Mθφ=-1.12; Mφr=0.49; Fault plane solution: M0=1.67000×10^16^ NP1: φs=289.74000°, δ35.18000°, λ=-110.47000°. NP2: φs=134.28000°, δ57.33000°, λ=-76.15000°. Principal axes: T 1.9498, Plg11.0000°, Azm214.0000°; N -0.5659, Plg12.0000°, Azm307.0000°; P -1.3840, Plg74.0000°, Azm81.0000°;*

NEIC ***16*** *05:07:46.9, 66°.31N×157°.24W, h12km*

NEIC ***16*** *05:07:46.9, 66°.31N×157°.24W, h9km*

AEIC ***16*** *05:07:46.9±1.4, 66°.31N±0°.02×157°.24W±0°.05, h9km±4km, ML4.7, mb4.9/150(NEIC), ML5.0/170(NEIC), Mwr4.7/92(NEIC), Mww4.7/118(NEIC), Error ellipse: s-maj=3.5km s-min=2.8km az=205.0*

NEIC ***16*** *05:07:47.5±1.5, 66°.31N±0°.02×157°.23W±0°.05, h10km±1km, Error ellipse: s-maj=3.8km s-min=3.3km az=323.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=0.99; Mθθ=0.90; Mφφ=0.09; Mrθ=0.11; Mθφ=-0.85; Mφr=0.63; Fault plane solution: M0=1.42000×10^16^ NP1: φs=150.11000°, δ58.46000°, λ=-52.05000°. NP2: φs=273.95000°, δ47.77000°, λ=-135.07000°. Principal axes: T 1.4576, Plg6.0000°, Azm214.0000°; N -0.0745, Plg32.0000°, Azm308.0000°; P -1.3831, Plg58.0000°, Azm115.0000°;*

GCMT ***16*** *05:07:47.9±0.3, 66°.34N±0°.02×157°.37W±0°.06, h14km±1km, MW4.9/85, Moment Tensor Solution. s27,c30; s85,c115; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.97±.16; Mθθ=1.52±.11; Mφφ=0.45±.10; Mrθ=-0.05±.20; Mθφ=-1.57±.07; Mφr=0.61±.23; Best double couple: M0=2.41600×10^16^ NP1:φs=288.00000°, δ43.00000°, λ=-116.00000°. NP2: φs=142.00000°, δ52.00000°, λ=-68.00000°. Principal axes: T 2.6790, Plg5.0000°, Azm216.0000°; N -0.5260, Plg17.0000°, Azm308.0000°; P -2.1530, Plg72.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***16*** *05:07:47.5±0.4, 66°.49N×157°.26W, h0km, mb4.4/30, mbtmp4.4/34, ML4.4/5, MS3.8/58 Error ellipse: s-maj=12.3km s-min=8.3km az=24.0*

ISC 16 05:07:47.5±0.6, 66°.32N±0°.02×157°.15W±0°.02, h7km±3km, n18, σ1§13/550, mb4.8/152, MS3.9/67, 19C-2D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.18**	**171**	Pg	**Pg**	**05 07 50.9**	**-0.2**
G19K				IAML		05 07 54.8	
	comp=N,432μm,0.2s						
G19K	**Purcell Mounta**	**0.18**	**171**	P	**Pg**	**05 07 50.6**	**-0.5**
	baz=340,SNR=1000						
G19K				S	**Sg**	**05 07 53.4**	**-0.2**
	baz=340						
F19K	**Shaleruckik Mo**	**0.57**	**335**		**Pg**	**05 07 57.9**	**-0.6**
F19K	**Shaleruckik Mo**	**0.57**	**335**	P	**Pg**	**05 07 57.8**	**-0.8**
	baz=158,SNR=1000						
F19K				S	**Sg**	**05 08 05.9**	**-0.1**
	baz=158						
G18K	**Tagagawik**	**0.74**	**236**		**Sg**	**05 08 10.7**	**-0.8**
G18K	**Tagagawik**	**0.74**	**236**		**Pg**	**05 08 00.5**	**-1.3**
G18K	**Tagagawik**	**0.74**	**236**	P	**Pg**	**05 08 00.6**	**-1.3**
	baz=54,SNR=1000						
G18K				S	**Sg**	**05 08 10.7**	**-0.8**
	baz=54						
H19K	**Roundabout Mou**	**0.85**	**160**		**Pg**	**05 08 03.0**	**-0.8**
H19K				IAML		05 08 19.1	
	comp=N,33μm,0.6s						
H19K				IAML		05 08 19.0	
	comp=E,49μm,0.4s						
H19K	**Roundabout Mou**	**0.85**	**160**		**Sg**	**05 08 14.4**	**-0.2**
H19K	**Roundabout Mou**	**0.85**	**160**	P	**Pg**	**05 08 02.8**	**-0.9**
	baz=338,SNR=1000						
H19K				S	**Sg**	**05 08 14.5**	**-0.2**
	baz=338						
F20K	**Avaraart Lake**	**0.93**	**37**		**Pg**	**05 08 04.7**	**-0.6**
F20K				IAML		05 08 21.6	
	comp=N,42μm,0.8s						
F20K	**Avaraart Lake**	**0.93**	**37**	P	**Pg**	**05 08 04.7**	**-0.6**
	baz=220,SNR=1000						
F20K				S	**Sb**	**05 08 17.6**	**-0.7**
	baz=220						
F18K	**Selawik**	**1.04**	**287**		**Pg**	**05 08 05.8**	**-1.6**
F18K					**Sg**	**05 08 19.8**	**-1.1**
F18K	**Selawik**	**1.04**	**287**	P	**Pg**	**05 08 06.1**	**-1.4**
	baz=106,SNR=1000						
F18K				S	**Sg**	**05 08 20.0**	**-1.0**
	baz=106						
E19K	**Redstone River**	**1.14**	**358**		**Pg**	**05 08 07.9**	**-1.5**
E19K				IAML		05 08 26.6	
	comp=E,20μm,0.7s						
E19K				IAML		05 08 27.2	
	comp=N,21μm,0.6s						
E19K	**Redstone River**	**1.14**	**358**		**Sg**	**05 08 23.1**	**-1.1**
E19K	**Redstone River**	**1.14**	**358**	P	**Pg**	**05 08 08.5**	**-0.9**
	baz=180,SNR=1000						
E19K				S	**Sg**	**05 08 23.3**	**-0.9**
	baz=180						
H20K	**Anotleneega Mo**	**1.25**	**131**		**Pn**	**05 08 10.6**	**-0.8**
H20K					**Sg**	**05 08 27.5**	**-0.1**
H20K	**Anotleneega Mo**	**1.25**	**131**	P	**Pn**	**05 08 10.7**	**-0.7**
	baz=311,SNR=1000						
H20K				S	**Sn**	**05 08 28.2**	**-0.2**
	baz=311						
H18K	**Honhosa River**	**1.27**	**204**		**Sb**	**05 08 26.4**	**-1.9**
H18K	**Honhosa River**	**1.27**	**204**	Pn	**Pn**	**05 08 10.0**	**-1.6**
H18K				IAML		05 08 30.0	
	comp=E,28μm,0.5s						
H18K	**Honhosa River**	**1.27**	**204**	P	**Pn**	**05 08 09.9**	**-1.8**
	baz=21,SNR=1000						
H18K				S	**Sb**	**05 08 26.8**	**-1.5**
	baz=21						
G21K	**Allakaket**	**1.48**	**81**		**Pn**	**05 08 13.9**	**-0.6**
G21K				IAML		05 08 36.2	
	comp=N,24μm,0.7s						
G21K	**Allakaket**	**1.48**	**81**	P	**Pn**	**05 08 13.9**	**-0.6**
	baz=264,SNR=1000						
G21K				S	**Sg**	**05 08 34.5**	**-0.5**
	baz=264						
GCSA	**Galena City Sc**	**1.58**	**176**		**Pn**	**05 08 15.2**	**-0.8**
GCSA					**Sn**	**05 08 35.9**	**-0.6**
GCSA	**Galena City Sc**	**1.58**	**176**	P	**Pn**	**05 08 15.1**	**-0.8**
	baz=355,SNR=1000						
GCSA				S	**Sn**	**05 08 36.1**	**-0.5**
	baz=355						
G17K	**Kiwalik Mounta**	**1.65**	**242**		**Pn**	**05 08 15.2**	**-1.7**
G17K					**Sn**	**05 08 35.9**	**-2.4**
G17K	**Kiwalik Mounta**	**1.65**	**242**	P	**Pn**	**05 08 15.2**	**-1.7**
	baz=58,SNR=1000						
G17K				S	**Sn**	**05 08 36.8**	**-1.5**
	baz=58						
F17K	**Baldwin Pennin**	**1.66**	**276**		**Pn**	**05 08 15.8**	**-1.1**
F17K				IAML		05 08 40.9	
	comp=N,20μm,1.1s						
F17K				IAML		05 08 41.1	
	comp=E,16μm,0.9s						
F17K	**Baldwin Pennin**	**1.66**	**276**	P	**Pn**	**05 08 15.7**	**-1.2**
	baz=93,SNR=862						
F17K				S	**Sn**	**05 08 37.0**	**-1.3**
	baz=93						
F21K	**Alatna River**	**1.71**	**56**		**Pn**	**05 08 17.5**	**-0.3**
F21K				IAML		05 08 44.9	
	comp=N,13μm,1.0s						
F21K				IAML		05 08 45.0	
	comp=E,14μm,0.6s						
F21K	**Alatna River**	**1.71**	**56**	P	**Pn**	**05 08 17.4**	**-0.4**
	baz=240,SNR=1000						
F21K				S	**Sb**	**05 08 40.1**	**-0.9**
	baz=240						
E18K	**Tukpahlearik C**	**1.75**	**311**		**Pn**	**05 08 18.0**	**-0.3**
E18K	**Tukpahlearik C**	**1.75**	**311**	P	**Pn**	**05 08 17.3**	**-1.0**
	baz=128,SNR=1000						
E18K				Sb	**Sb**	**05 08 42.2**	**0.0**
	baz=128						
H17K	**Granite Mounta**	**1.80**	**221**		**Pn**	**05 08 17.3**	**-1.6**
H17K				IAML		05 08 44.6	
	comp=E,14μm,0.9s						
H17K	**Granite Mounta**	**1.80**	**221**		**Sn**	**05 08 40.4**	**-1.6**
H17K	**Granite Mounta**	**1.80**	**221**	P	**Pn**	**05 08 17.6**	**-1.3**
	baz=38,SNR=1000						
H17K				S	**Sn**	**05 08 40.9**	**-1.0**
	baz=38						
I20K	**Naaghedeneel**	**1.89**	**143**		**Pn**	**05 08 20.2**	**+0.1**
I20K	**Naaghedeneel**	**1.89**	**143**	P	**Pn**	**05 08 20.1**	**0.0**
	baz=324,SNR=1000						
I20K				Sb	**Sg**	**05 08 47.2**	**-1.0**
	baz=324						
H21K	**Melozitna Rive**	**1.90**	**108**		**Pn**	**05 08 19.7**	**-0.6**
H21K				IAML		05 08 50.2	
	comp=E,11μm,0.4s						
H21K	**Melozitna Rive**	**1.90**	**108**	P	**Pn**	**05 08 19.4**	**-0.8**
	baz=292,SNR=1000						
H21K				Sb	**Sg**	**05 08 47.9**	**-0.6**
	baz=292						
E20K	**Nigu River**	**1.98**	**10**	P	**Pn**	**05 08 22.5**	**+1.1**
	baz=192,SNR=1000						
E17K	**Hotham Inlet**	**2.01**	**295**		**Pn**	**05 08 21.0**	**-0.8**
E17K	**Hotham Inlet**	**2.01**	**295**	P	**Pn**	**05 08 21.0**	**-0.8**
	baz=111,SNR=1000						
D19K	**Kuna River**	**2.22**	**351**		**Pn**	**05 08 25.0**	**+0.3**
D19K				IAML		05 09 02.5	
	comp=E,7μm,0.8s						
D19K				IAML		05 09 06.8	
	comp=N,8μm,0.8s						
D19K	**Kuna River**	**2.22**	**351**	P	**Pn**	**05 08 25.4**	**+0.7**
	baz=171,SNR=1000						
D19K				Sb	**Sb**	**05 08 56.1**	**+0.6**
	baz=171						
F22K	**John River**	**2.30**	**56**	P	**Pn**	**05 08 25.8**	**+0.1**
	baz=241						
F22K				Sb	**Sg**	**05 08 59.3**	**-1.9**
	baz=241						
G16K	**Koyuk River**	**2.33**	**249**	IAML		05 09 04.9	
	comp=N,6μm,1.0s						
G16K				IAML		05 09 07.5	
	comp=E,5μm,1.1s						
G16K	**Koyuk River**	**2.33**	**249**	P	**Pn**	**05 08 24.1**	**-2.1**
	baz=64						
G16K				Sb	**Sb**	**05 08 58.4**	**-0.3**
	baz=64						
G22K	**Bettles**	**2.33**	**72**	P	**Pn**	**05 08 25.5**	**-0.7**
	baz=258						
G22K				Sb	**Sg**	**05 09 00.7**	**-1.7**
	baz=258						
H22K	**Ishtalitna Cre**	**2.39**	**98**	P	**Pn**	**05 08 26.6**	**-0.4**
	baz=283,SNR=605						
H22K				Sb	**Sb**	**05 09 01.6**	**+1.2**
	baz=283						
D20K	**Etivluk River**	**2.41**	**5**		**Pn**	**05 08 27.8**	**+0.5**
D20K				IAML		05 09 05.7	
	comp=N,7μm,1.1s						
D20K				IAML		05 09 08.8	
	comp=E,6μm,1.1s						
D20K	**Etivluk River**	**2.41**	**5**	P	**Pn**	**05 08 27.8**	**+0.5**
	baz=186,SNR=898						
D20K				Sb	**Sb**	**05 09 01.8**	**+0.7**
	baz=186						
I21K	**Tanana**	**2.42**	**116**		**Pn**	**05 08 27.0**	**-0.4**
I21K				IAML		05 09 11.2	
	comp=N,7μm,0.9s						
I21K				IAML		05 09 12.4	
	comp=E,8μm,0.7s						
I21K	**Tanana**	**2.42**	**116**	P	**Pn**	**05 08 27.1**	**-0.4**
	baz=300,SNR=1000						
I21K				Sb	**Sg**	**05 09 03.3**	**-1.9**
	baz=300						
J19K	**Poorman**	**2.42**	**164**		**Pn**	**05 08 26.7**	**-0.8**
J19K	**Poorman**	**2.42**	**164**	P	**Pn**	**05 08 27.1**	**-0.3**
	baz=344,SNR=1000						
J19K				Sb	**Sb**	**05 09 01.8**	**+0.5**
	baz=344						
E21K	**Killik River**	**2.46**	**29**	IAML		05 09 13.7	
	comp=N,7μm,1.3s						
E21K				IAML		05 09 15.2	
	comp=E,5μm,0.7s						
E21K	**Killik River**	**2.46**	**29**	P	**Pn**	**05 08 28.4**	**+0.4**
	baz=212						
J20K	**Nowinta River**	**2.50**	**148**		**Pn**	**05 08 28.3**	**-0.1**
J20K				IAML		05 09 11.6	
	comp=N,5μm,0.7s						
J20K				IAML		05 09 14.0	
	comp=E,4μm,0.7s						
J20K	**Nowinta River**	**2.50**	**148**	P	**Pn**	**05 08 27.9**	**-0.5**
	baz=330,SNR=393						
J20K				Sb	**Sb**	**05 09 05.4**	**+2.0**
	baz=330						
D17K	**Noatak River**	**2.71**	**303**	P	**Pn**	**05 08 30.9**	**-0.5**
	baz=119,SNR=140						
H16K	**Elim**	**2.71**	**234**	P	**Pn**	**05 08 29.2**	**-2.2**
	baz=49						
H16K				Sb	**Sb**	**05 09 10.2**	**+0.6**
	baz=49						
E22K	**Anaktuvuk Pass**	**2.76**	**46**		**Pn**	**05 08 33.4**	**+1.2**
E22K				IAML		05 09 22.9	
	comp=E,4μm,1.1s						
E22K	**Anaktuvuk Pass**	**2.76**	**46**	P	**Pn**	**05 08 33.2**	**+1.0**
	baz=232,SNR=691						
E22K				S	**Sn**	**05 09 06.5**	**+0.8**
	baz=232						
C18K	**Utukok River**	**2.81**	**328**		**Pn**	**05 08 32.0**	**-0.8**
C18K	**Utukok River**	**2.81**	**328**	P	**Pn**	**05 08 32.5**	**-0.3**
	baz=145,SNR=174						
RDOG	**Red Dog Mine**	**2.84**	**310**		**Pn**	**05 08 33.7**	**+0.6**
RDOG	**Red Dog Mine**	**2.84**	**310**	P	**Pn**	**05 08 33.6**	**+0.4**
	baz=126,SNR=64						
I17K	**Unalakleet**	**2.87**	**213**		**Pn**	**05 08 32.7**	**-0.8**
I17K				IAML		05 09 25.0	
	comp=N,5μm,0.9s						
I17K				IAML		05 09 26.6	
	comp=E,7μm,0.7s						
I17K	**Unalakleet**	**2.87**	**213**	P	**Pn**	**05 08 32.6**	**-0.9**
	baz=30,SNR=209						
J18K	**Innoko River**	**2.87**	**176**		**Pn**	**05 08 33.2**	**-0.4**
J18K	**Innoko River**	**2.87**	**176**	P	**Pn**	**05 08 33.0**	**-0.6**
	baz=356,SNR=222						
J18K				Sb	**Sb**	**05 09 14.9**	**+0.6**
	baz=356						
G23K	**Bananza Creek**	**2.88**	**79**	P	**Pn**	**05 08 32.8**	**-1.0**
	baz=265,SNR=99						
G23K				Sb	**Sg**	**05 09 16.8**	**-3.2**
	baz=265						
COLD	**Coldfoot**	**2.90**	**69**		**Pn**	**05 08 33.3**	**-0.7**
COLD				IAML		05 09 32.2	
	comp=E,3μm,1.1s						
COLD	**Coldfoot**	**2.90**	**69**	P	**Pn**	**05 08 33.4**	**-0.7**
	baz=255,SNR=207						
C21K	**Knifeblade Rid**	**2.99**	**16**	P	**Pn**	**05 08 35.5**	**+0.3**
	baz=199,SNR=116						
J17K	**VABM Dome**	**3.05**	**197**		**Pn**	**05 08 35.4**	**-0.6**
J17K				IAML		05 09 26.9	
	comp=E,4μm,1.8s						
J17K	**VABM Dome**	**3.05**	**197**	P	**Pn**	**05 08 35.5**	**-0.6**
	baz=14,SNR=241						
J17K				Sb	**Sb**	**05 09 20.2**	**+0.8**
	baz=14						
D22K	**Ayikyak River**	**3.09**	**32**	P	**Pn**	**05 08 37.4**	**+0.8**
	baz=216,SNR=211						
F15K	**North Star Dit**	**3.12**	**262**		**Pn**	**05 08 37.0**	**-0.1**
F15K				IAML		05 09 28.5	
	comp=N,6μm,1.4s						
F15K				IAML		05 09 29.7	
	comp=E,4μm,1.5s						
F15K	**North Star Dit**	**3.12**	**262**	P	**Pn**	**05 08 35.0**	**-2.0**
	baz=75,SNR=32						
H23K	**Yukon River**	**3.14**	**96**	IAML		05 09 38.9	
	comp=E,5μm,0.8s						
H23K	**Yukon River**	**3.14**	**96**	P	**Pn**	**05 08 37.0**	**-0.3**
	baz=282						
H23K				Sb	**Sg**	**05 09 25.1**	**-3.2**
	baz=282						
G15K	**Niukluk**	**3.15**	**248**	P	**Pn**	**05 08 34.9**	**-2.5**
	baz=62,SNR=13						
G15K				Sb	**Sb**	**05 09 22.8**	**+0.6**
	baz=62						
CHUM	**Lake Minchumin**	**3.19**	**138**	P	**Pn**	**05 08 37.9**	**0.0**
	baz=322,SNR=303						
K20K	**Telida**	**3.25**	**155**		**Pn**	**05 08 38.8**	**-0.1**
K20K	**Telida**	**3.25**	**155**	P	**Pn**	**05 08 38.7**	**-0.1**
	baz=337,SNR=145						
J16K	**Anvik River**	**3.38**	**207**		**Pn**	**05 08 40.3**	**-0.4**
J16K				IAML		05 09 38.3	
	comp=E,4μm,2.0s						
J16K				IAML		05 09 42.7	
	comp=N,4μm,0.8s						
J16K	**Anvik River**	**3.38**	**207**	P	**Pn**	**05 08 40.0**	**-0.7**
	baz=24,SNR=354						
E23K	**Chandalar**	**3.42**	**56**	IAML		05 09 40.4	
	comp=E,3μm,1.2s						
E23K				IAML		05 09 44.4	
	comp=N,3μm,0.7s						
E23K	**Chandalar**	**3.42**	**56**	P	**Pn**	**05 08 41.5**	**+0.3**
	baz=243,SNR=309						
E23K				Sb	**Sb**	**05 09 32.5**	**+2.5**
	baz=243						
BPAW	**Bear Paw Mtn.**	**3.42**	**128**		**Pn**	**05 08 40.9**	**-0.3**
BPAW	**Bear Paw Mtn.**	**3.42**	**128**	P	**Pn**	**05 08 40.7**	**-0.5**
	baz=313,SNR=585						
BPAW				S	**Sn**	**05 09 22.0**	**0.0**
	baz=313						
I23K	**Minto, Yukon-K**	**3.43**	**106**		**Pn**	**05 08 41.5**	**+0.3**
I23K				IAML		05 09 42.4	
	comp=N,4μm,1.3s						
I23K	**Minto, Yukon-K**	**3.43**	**106**	P	**Pn**	**05 08 40.4**	**-0.7**
	baz=293,SNR=541						
I23K				Sb	**Sg**	**05 09 33.7**	**-3.8**
	baz=293						
TTA	**Tatalina**	**3.44**	**171**	IAML		05 09 41.8	
	comp=N,2μm,0.7s						
TTA	**Tatalina**	**3.44**	**171**	P	**Pn**	**05 08 41.2**	**-0.3**
	baz=352,SNR=98						
B21K	**Ikpikpuk River**	**3.45**	**15**	IAML		05 09 41.6	
	comp=N,4μm,1.6s						
B21K	**Ikpikpuk River**	**3.45**	**15**	P	**Pn**	**05 08 40.9**	**-0.6**
	baz=198,SNR=88						
B21K				Sb	**Sb**	**05 09 33.7**	**+2.8**
	baz=198						
B18K	**Kokolik River**	**3.53**	**332**		**Pn**	**05 08 42.6**	**0.0**
B18K	**Kokolik River**	**3.53**	**332**	P	**Pn**	**05 08 42.5**	**-0.1**
	baz=148,SNR=81						
CAST	**Castle Rocks**	**3.63**	**141**		**Pn**	**05 08 43.8**	**-0.2**
CAST				IAML		05 09 53.1	
	comp=N,2μm,0.8s						
CAST	**Castle Rocks**	**3.63**	**141**	P	**Pn**	**05 08 43.8**	**-0.2**
	baz=325,SNR=788						
CAST				S	**Sn**	**05 09 27.1**	**+0.1**
	baz=325						
D23K	**Nanushuk River**	**3.63**	**40**	P	**Pn**	**05 08 44.8**	**+0.7**
	baz=226,SNR=132						
D23K				S	**Sn**	**05 09 28.1**	**+1.0**
	baz=226						
K17K	**Iditarod**	**3.65**	**188**	IAML		05 09 48.8	
	comp=E,2μm,0.8s						
K17K				IAML		05 09 49.9	
	comp=N,2μm,1.4s						
K17K	**Iditarod**	**3.65**	**188**	P	**Pn**	**05 08 43.5**	**-0.8**
	baz=6.8,SNR=156						
K17K				S	**Sn**	**05 09 26.1**	**-1.5**
	baz=6.8						
B20K	**Meade River**	**3.71**	**360**	IAML		05 09 51.7	
	comp=N,4μm,1.1s						
B20K	**Meade River**	**3.71**	**360**	P	**Pn**	**05 08 45.3**	**+0.2**
	baz=180,SNR=500						
C16K	**Lisburne Hills**	**3.73**	**305**		**Pn**	**05 08 45.7**	**+0.3**
C16K	**Lisburne Hills**	**3.73**	**305**	P	**Pn**	**05 08 44.9**	**-0.4**
	baz=118,SNR=96						
TOLK	**Toolik Lake Re**	**3.73**	**48**	P	**Pn**	**05 08 45.8**	**+0.4**
	baz=235,SNR=153						
NEA2	**Nenana**	**3.79**	**113**		**Pn**	**05 08 46.2**	**0.0**
NEA2				IAML		05 09 59.0	
	comp=N,2μm,1.0s						
NEA2	**Nenana**	**3.79**	**113**	P	**Pn**	**05 08 45.4**	**-0.8**
	baz=300,SNR=488						
NEA2				S	**Sn**	**05 09 30.4**	**-0.6**
	baz=300						
E24K	**Your Creek**	**3.81**	**58**	IAML		05 09 53.2	
	comp=N,2μm,0.7s						
E24K				IAML		05 09 57.6	
	comp=E,3μm,0.7s						
E24K	**Your Creek**	**3.81**	**58**	P	**Pn**	**05 08 46.5**	**0.0**
	baz=247,SNR=236						
H24K	**Noodor Dome**	**3.81**	**93**	IAML		05 09 59.8	
	comp=E,2μm,0.9s						
H24K	**Noodor Dome**	**3.81**	**93**	P	**Pn**	**05 08 45.9**	**-0.7**
	baz=281,SNR=238						
KTH	**Kantishna Hill**	**3.84**	**133**		**Pn**	**05 08 47.3**	**+0.3**
KTH				IAML		05 09 55.0	
	comp=N,2μm,1.5s						
KTH				IAML		05 09 59.8	
	comp=E,2μm,0.9s						
F24K	**Squaw Lake**	**3.84**	**68**	IAML		05 09 51.3	
	comp=E,3μm,0.6s						
F24K	**Squaw Lake**	**3.84**	**68**	P	**Pn**	**05 08 46.2**	**-0.8**
	baz=256,SNR=84						
ANM	**Nome**	**3.86**	**247**		**Pn**	**05 08 48.8**	**+1.7**
ANM				IAML		05 09 55.1	
	comp=N,2μm,1.4s						
ANM				IAML		05 10 01.3	
	comp=E,2μm,1.3s						
ANM	**Nome**	**3.86**	**247**	P	**Pn**	**05 08 48.8**	**+1.7**
ANM	**Nome**	**3.86**	**247**	P	**Pn**	**05 08 44.4**	**-2.7**
	baz=59						
F14K	**Arctic Creek**	**3.86**	**262**	P	**Pn**	**05 08 45.0**	**-2.1**
	ba

baz=276,slow=33
I53US I I 05 32 00.0
baz=289,slow=330,SNR=0.6
L18K Granite Mounta 4.12 177 IAML 05 10 08.1
comp=E,1µm,1.1s
L18K IAML 05 10 16.6
comp=N,1µm,1.5s
L18K Granite Mounta 4.12 177 P **Pn 05 08 50.7 -0.1**
baz=357,SNR=104
COLA College 4.12 106 Pn 05 08 50.3 -0.5
COLA College 4.12 106 *i* P **Pn 05 08 50.3 -0.5**
COLA College 4.12 106 Pn 05 08 50.8 0.0
baz=295
A19K Wainwright 4.17 341 P **Pn 05 08 51.4 +0.1**
baz=158,SNR=248
POKR Poker Plat Res 4.19 102 IAML 05 10 03.8
comp=E,2µm,0.8s
POKR IAML 05 10 15.8
comp=N,2µm,1.6s
POKR Poker Plat Res 4.19 102 P **Pn 05 08 51.1 -0.6**
baz=291,SNR=272
WRH Wood River Hil 4.22 112 IAML 05 10 12.8
comp=N,1µm,2.1s
L17K Donlin 4.23 187 P **Pn 05 08 51.7 -0.6**
baz=5.8,SNR=175
CCB Clear Creek Bu 4.24 109 IAML 05 10 05.1
comp=E,1µm,0.7s
D24K Happy Valley 4.26 44 P **Pn 05 08 52.3 -0.3**
baz=232,SNR=107
B22K Teshekpuk Lake 4.27 17 Pn 05 08 52.3 -0.4
B22K Teshekpuk Lake 4.27 17 P **Pn 05 08 51.5 -1.2**
baz=201,SNR=472
L19K White Mountain 4.27 165 Pn 05 08 53.0 +0.1
L19K IAML 05 10 10.0
comp=N,1µm,0.8s
L19K IAML 05 10 26.2
comp=E,1µm,2.2s
L19K White Mountain 4.27 165 P **Pn 05 08 52.6 -0.3**
baz=347,SNR=270
C23K Itkillik River 4.30 32 Pn 05 08 53.1 0.0
C23K Itkillik River 4.30 32 P **Pn 05 08 52.6 -0.6**
baz=218,SNR=97
MCK McKinley 4.34 123 Pn 05 08 53.5 -0.3
MCK McKinley 4.34 123 P **Pn 05 08 53.5 -0.3**
MCK McKinley 4.34 123 P **Pn 05 08 53.6 -0.3**
baz=310,SNR=107
G25K Bearman Lake 4.44 79 P **Pn 05 08 54.3 -0.8**
baz=269,SNR=43
K15K Wolf Creek Mou 4.47 207 IAML 05 10 22.3
comp=E,1µm,2.0s
K15K IAML 05 10 27.9
comp=N,1µm,1.6s
K15K Wolf Creek Mou 4.47 207 P **Pn 05 08 54.9 -0.6**
baz=23,SNR=41
TNA Tin City 4.47 265 Pn 05 08 55.2 -0.3
TNA IAML 05 10 15.4
comp=E,2µm,1.4s
TNA Tin City 4.47 265 P **Pn 05 08 53.8 -1.8**
baz=75,SNR=6.8
J14K Nanvaranak Lak 4.52 221 Pn 05 08 54.8 -1.5
J14K IAML 05 10 25.6
comp=E,2µm,1.4s
J14K IAML 05 10 27.1
comp=N,2µm,1.1s
J14K Nanvaranak Lak 4.52 221 P **Pn 05 08 54.4 -1.9**
baz=34,SNR=23
ILAR Eielson Array 4.54 105 Pn 05 08 56.5 0.0
ILAR Eielson Array 4.54 105 Pn **Pn 05 08 56.1 -0.4**
comp=N,84nm,0.3s,baz=292,slow=13,SNR=3262
ILAR Sn **Sn 05 09 48.1 -1.4**
comp=N,33nm,0.3s,baz=304,slow=20,SNR=4.9
ILAR Lg Lg 05 10 09.2
comp=N,32nm,0.3s,baz=286,slow=23,SNR=4.9
ILAR Eielson Array 4.54 105 P **Pn 05 08 56.5 0.0**
H25L Birch Creek 4.58 85 P **Pn 05 08 56.3 -0.7**
baz=276
RND Reindeer 4.59 126 Pn 05 08 57.5 +0.2
RND Reindeer 4.59 126 P **Pn 05 08 57.5 +0.2**
M19K Big River Lodg 4.59 163 IAML 05 10 31.4
comp=E,1µm,1.1s
M19K Big River Lodg 4.59 163 P **Pn 05 08 57.4 +0.1**
baz=346,SNR=271
C24K Franklin Bluff 4.66 39 Pn 05 08 58.3 +0.2
C24K Franklin Bluff 4.66 39 P **Pn 05 08 57.7 -0.4**
baz=227,SNR=88
HDA Harding Lake 4.68 109 P **Pn 05 08 57.2 -1.2**
baz=298,SNR=244
F25K Christian Rive 4.70 69 IAML 05 10 24.8
comp=N,2µm,1.4s
F25K IAML 05 10 28.2
comp=E,2µm,1.1s
F25K Christian Rive 4.70 69 P **Pn 05 08 58.0 -0.8**
baz=260,SNR=73
L16K Owhat River 4.74 194 IAML 05 10 24.9
comp=E,1µm,2.6s
L16K Owhat River 4.74 194 P **Pn 05 08 57.9 -1.3**
baz=11,SNR=39
A22K Sinclair Lake 4.77 9 P **Pn 05 08 59.4 -0.2**
baz=191,SNR=190
A22K S **Sn 05 09 55.5 +0.4**
baz=191
M20K Styx River 4.79 157 IAML 05 10 24.5
comp=E,910nm,1.2s
M20K Styx River 4.79 157 P **Pn 05 09 00.8 +0.7**
baz=340,SNR=236
M20K S **Sn 05 09 55.6 -0.2**
baz=340
PRP Porcupine Dome 4.83 94 Pn 05 09 00.3 -0.3
PRP IAML 05 10 22.0
comp=E,1µm,0.8s
PRP IAML 05 10 26.8
comp=N,1µm,1.5s
PRP Porcupine Dome 4.83 94 P **Pn 05 08 59.7 -0.9**
baz=285,SNR=207
E25K Arctic Village 4.85 63 IAML 05 10 26.9
comp=N,1µm,0.9s
E25K IAML 05 10 32.5
comp=E,1µm,0.8s
E25K Arctic Village 4.85 63 P **Pn 05 09 00.0 -0.8**
baz=254,SNR=130
E25K S **Sn 05 09 56.8 -0.4**
baz=254
M18K Stony River 4.88 172 P **Pn 05 09 00.9 -0.3**
baz=353,SNR=284
CUT Chulitna 4.94 140 P **Pn 05 09 03.0 +1.1**
baz=325,SNR=9.4
M17K Holitna River 4.94 182 IAML 05 10 45.3
comp=N,1µm,0.9s
M17K Holitna River 4.94 182 P **Pn 05 09 01.7 -0.3**
baz=0.9,SNR=54
M17K S **Sn 05 09 58.9 -0.4**
baz=0.9
SKT Skwentna 5.00 148 IAML 05 10 34.5
comp=E,881nm,0.9s
SKT Skwentna 5.00 148 P **Pn 05 09 03.7 +0.9**
baz=333,SNR=334
SKT S **Sn 05 10 00.4 -0.4**
baz=333
A21K Barrow 5.03 2 P **Pn 05 09 02.4 -0.8**
baz=183,SNR=307
A21K S **Sn 05 10 00.5 -1.0**
baz=183
L15K Ungalak Mounta 5.03 204 P **Pn 05 09 02.4 -0.9**
baz=20,SNR=39
D25K Kavik River 5.07 49 IAML 05 10 40.3
comp=E,1µm,1.4s
D25K Kavik River 5.07 49 P **Pn 05 09 03.2 -0.7**
baz=239,SNR=196
BMAR Burnt Mountain 5.08 72 Pn 05 09 04.4 +0.5
J25K Salcha River, 5.20 104 IAML 05 10 38.9
comp=N,906nm,1.1s
J25K IAML 05 10 40.9
comp=E,645nm,1.2s
J25K Salcha River, 5.20 104 P **Pn 05 09 04.8 -0.8**
baz=294,SNR=228
F26K Sheenjek River 5.28 69 IAML 05 10 50.3
comp=E,974nm,1.2s
F26K Sheenjek River 5.28 69 P **Pn 05 09 06.5 -0.2**
baz=261,SNR=33
G26K Porcupine Rive 5.36 77 P **Pn 05 09 07.0 -0.7**
baz=269,SNR=45
M16K Timber Creek 5.38 189 P **Pn 05 09 06.7 -1.3**
baz=7.5,SNR=28
K24K Donnelly Dome 5.43 112 P **Pn 05 09 08.3 -0.5**
baz=302,SNR=70
K13K Kusilvak Mount 5.49 220 P **Pn 05 09 07.8 -1.8**
baz=33
M22K Willow 5.53 143 P **Pn 05 09 10.1 +0.1**
baz=329,SNR=40
L14K Kuka Creek 5.56 209 P **Pn 05 09 10.0 -0.5**
baz=23,SNR=8.0
SPCR Spurr Chakacha 5.59 155 P **Pn 05 09 11.3 +0.3**
baz=339,SNR=31
SUA Susitna One 5.63 147 P **Pn 05 09 11.0 -0.7**
baz=332,SNR=79
N19K Bonanza Creek 5.66 167 P **Pn 05 09 11.8 -0.1**
baz=349,SNR=64
N18K Kilae Creek 5.69 174 P **Pn 05 09 12.4 +0.1**
baz=354,SNR=159
N17K Nushagak Hills 5.82 180 P **Pn 05 09 13.8 -0.2**
baz=360,SNR=218
RIDG Independent Ri 5.82 111 P **Pn 05 09 13.3 -0.8**
baz=302,SNR=44
C26K Camden Bay 5.83 46 P **Pn 05 09 13.8 -0.3**
baz=238,SNR=460
I26K Coal Creek Min 5.84 94 P **Pn 05 09 13.7 -0.7**
baz=286
M15K Kasigluk River 5.86 197 P **Pn 05 09 13.6 -1.0**
baz=14,SNR=24
N16K Nishlik Lake 5.91 188 P **Pn 05 09 14.5 -0.9**
baz=6.0,SNR=61
PMR Palmer 5.91 140 P **Pn 05 09 15.0 -0.4**
baz=327,SNR=66
SML Sawmill 5.95 135 P **Pn 05 09 16.1 +0.2**
baz=323,SNR=79
J26L Joseph Creek 5.96 102 P **Pn 05 09 15.6 -0.5**
baz=294,SNR=285
M14K Bethel 5.99 203 P **Pn 05 09 14.6 -1.8**
baz=19,SNR=9.2
SCRK Sand Creek 6.03 107 P **Pn 05 09 16.1 -0.9**
baz=299,SNR=59
PAX Paxson 6.04 118 P **Pn 05 09 16.9 -0.2**
baz=309,SNR=60
C27K Jago River 6.04 51 P **Pn 05 09 17.3 +0.1**
baz=243,SNR=144
M23K Glacier View 6.14 133 P **Pn 05 09 18.1 -0.4**
baz=322
CAPN Captain Cook N 6.18 152 P **Pn 05 09 18.7 -0.3**
baz=337
RC01 Rabbit Creek A 6.20 144 P **Pn 05 09 18.3 -0.9**
baz=331,SNR=8.1
G27K Doyon Strip 6.20 78 P **Pn 05 09 18.5 -0.8**
baz=273,SNR=35
SCM Sheep Creek Mo 6.23 132 P **Pn 05 09 19.6 -0.2**
baz=320,SNR=45
KNK Knik Glacier 6.24 138 P **Pn 05 09 19.9 0.0**
baz=326,SNR=76
O19K Port Alsworth 6.28 167 P **Pn 05 09 19.9 -0.4**
baz=349,SNR=22
H27K Steamboat Moun 6.31 84 P **Pn 05 09 20.4 -0.4**
baz=278,SNR=29
E27K Coleen River 6.32 66 P **Pn 05 09 19.9 -1.0**
baz=260,SNR=27
N15K Kwethluk River 6.32 193 P **Pn 05 09 19.7 -1.1**
baz=11,SNR=14
M24K Tolsona, Glenn 6.38 126 P **Pn 05 09 23.1 +1.3**
baz=316,SNR=49
I27K Kandik River 6.39 89 P **Pn 05 09 21.2 -0.7**
baz=283,SNR=44
HARP HAARP 6.52 122 P **Pn 05 09 24.6 +0.9**
baz=312,SNR=56
O18K Koktuh Hills 6.55 171 P **Pn 05 09 23.5 -0.6**
baz=353,SNR=25
O17K Koliganek Bris 6.57 180 P **Pn 05 09 23.7 -0.7**
baz=360
O22K Cooper Landing 6.74 147 P **Pn 05 09 27.2 +0.5**
baz=333,SNR=9.0
N14K Kuskokwak Cree 6.74 200 P **Pn 05 09 26.3 -0.3**
baz=16,SNR=6.2
PWL Port Wells 6.74 140 P **Pn 05 09 27.2 +0.5**
baz=328,SNR=32
K27K Chicken 6.75 103 P **Pn 05 09 26.7 -0.1**
baz=296
O16K Kokwok River B 6.76 184 P **Pn 05 09 26.4 -0.7**
baz=2.9,SNR=61
L26K Log Cabin Wild 6.78 113 P **Pn 05 09 27.2 0.0**
baz=305,SNR=30
D27M Malcolm River 6.79 57 P **Pn 05 09 28.1 +0.6**
baz=252,SNR=146
KLU Klutina 6.92 129 P **Pn 05 09 29.4 +0.1**
baz=319,SNR=58
P19K Oil Pt 6.92 163 P **Pn 05 09 29.8 +0.6**
baz=346,SNR=42
P18K Big Mountain, 7.01 172 P **Pn 05 09 29.5 -1.0**
baz=353,SNR=25
GLI Glacier Island 7.06 136 P **Pn 05 09 31.7 +0.7**
baz=325,SNR=34
I28M Miner Creek 7.11 89 P **Pn 05 09 31.4 -0.4**
baz=285,SNR=74
SEW Seward 7.14 147 P **Pn 05 09 33.4 +1.3**
baz=334,SNR=14
HOM Homer 7.14 157 P **Pn 05 09 31.3 -0.8**
baz=342,SNR=9.5
E28M Babbage River 7.14 63 P **Pn 05 09 32.0 -0.2**
baz=260,SNR=79
P17K Kvichak River 7.16 177 P **Pn 05 09 32.2 -0.2**
baz=357,SNR=80
BRSE Bradley Lake S 7.21 153 P **Pn 05 09 34.2 +1.0**
baz=339,SNR=11
N25K Chitina, Valde 7.26 125 P **Pn 05 09 34.9 +0.9**
baz=316,SNR=52
O15K Ungalikthiuk R 7.27 191 P **Pn 05 09 32.7 -1.3**
baz=8.3
M26K Nabesna, AK 7.28 116 P **Pn 05 09 34.0 -0.2**
baz=309,SNR=30
P16K Nushagak River 7.33 183 P **Pn 05 09 34.6 -0.1**
baz=2.4,SNR=18
L27K Beaver Creek, 7.33 109 P **Pn 05 09 33.8 -1.0**
baz=303,SNR=128
O14K Tigyukauivet M 7.34 197 P **Pn 05 09 34.3 -0.5**
baz=13
BCAR Beaver Creek A 7.34 109 Pn 05 09 34.2 -0.8
H29M Whitestone 7.58 82 P **Pn 05 09 38.4 +0.2**
baz=279,SNR=20
D28M Stokes Point 7.58 58 P **Pn 05 09 38.9 +0.8**
baz=255,SNR=15
Q19K Cape Douglas, 7.59 166 P **Pn 05 09 37.3 -1.1**
baz=349,SNR=8.0
G29M Pine Creek 7.63 77 P **Pn 05 09 38.6 -0.2**
baz=274,SNR=58
Q16K King Salmon 7.67 178 P **Pn 05 09 39.3 -0.2**
baz=358,SNR=21
E29M Blow River 7.71 66 P **Pn 05 09 39.9 0.0**
baz=264,SNR=52
EYAK Cordova Ski Ar 7.71 133 P **Pn 05 09 40.3 +0.2**
baz=323,SNR=11
P23K Montague Islan 7.72 141 P **Pn 05 09 40.4 +0.3**
baz=329
M27K Edge Creek, AK 7.72 114 P **Pn 05 09 40.1 -0.2**
baz=308,SNR=36
BMRM Bremner River 7.74 128 P **Pn 05 09 40.9 +0.5**
baz=319,SNR=17
Q18K Katmai Hardscr 7.76 172 P **Pn 05 09 40.2 -0.6**
baz=353,SNR=13
I29M Ojillvie Camp, 7.79 88 P **Pn 05 09 40.7 -0.4**
baz=286
DAWY Dawson 7.80 99 P **Pn 05 09 40.8 -0.4**
baz=295,SNR=124
Q20K Shuyak Island 8.04 162 P **Pn 05 09 45.0 +0.5**
baz=346,SNR=16
BVCY Beaver Creek 8.07 111 P **Pn 05 09 44.4 -0.6**
baz=306,SNR=76
Q17K Contact Creek 8.11 175 P **Pn 05 09 44.7 -0.8**
baz=356,SNR=5.4
J29N Klondike Camp 8.12 95 P **Pn 05 09 45.7 +0.1**
baz=292,SNR=81
EPYK Eagle Plains 8.21 80 P **Pn 05 09 46.4 -0.4**
baz=279,SNR=29
G30M tAoh Zraii Nji 8.33 76 P **Pn 05 09 48.3 -0.2**
baz=275,SNR=36
F30M Barrier River 8.46 71 P **Pn 05 09 51.0 +0.7**
baz=271,SNR=22
I30M Mount Dempster 8.60 88 P **Pn 05 09 51.8 -0.5**
baz=287,SNR=85
YUK3 Moose Creek 8.61 114 P **Pn 05 09 52.2 -0.3**
baz=309,SNR=26
K29M Barlow Dome 8.64 98 P **Pn 05 09 52.4 -0.5**
baz=295,SNR=22
L29M L29M 8.74 103 P **Pn 05 09 54.1 0.0**
baz=300,SNR=32
KDAK Kodiak Island 8.83 164 Pn 05 09 55.7 +0.4
KDAK Kodiak Island 8.83 164 Pn **Pn 05 09 55.2 -0.1**
comp=E,2.5nm,0.3s,baz=219,slow=4.7,SNR=37
KDAK Lg Lg 05 12 31.7
baz=37,slow=22
KDAK LR LR 05 14 00.5
comp=E,466nm,18.7s,baz=210,slow=41
comp=E,21nm,0.7s
KDAK Kodiak Island 8.83 164 *i* P **Pn 05 09 57.4 +2.1**
KDAK Kodiak Island 8.83 164 P **Pn 05 09 56.6 +1.3**
baz=348
J30M Hart River 8.83 92 P **Pn 05 09 55.2 -0.2**
baz=291,SNR=62
M29M Somme Creek 8.96 107 P **Pn 05 09 57.0 -0.3**
baz=304,SNR=44
G31M Satah River 9.10 76 P **Pn 05 09 57.7 -1.3**
baz=277
YUK8 Steele Glacier 9.18 115 P **Pn 05 10 01.3 +0.9**
baz=311,SNR=49
MESA MESA 9.20 125 P **Pn 05 10 00.4 -0.1**
baz=318
F31M Tsiigehtchic 9.26 72 P **Pn 05 10 01.1 0.0**
baz=274,SNR=19
H31M Peel River 9.27 83 P **Pn 05 10 01.4 0.0**
baz=284
OHAK Old Harbor 9.31 167 P **Pn 05 10 02.8 +0.9**
baz=350
INK Inuvik 9.32 67 Pn **Pn 05 10 02.0 0.0**
comp=E,2.0nm,0.3s,baz=275,slow=15,SNR=39
INK Sn **Sn 05 11 45.1 -1.7**
comp=E,1.7nm,0.3s,baz=197,slow=17,SNR=3.7
comp=E,8.0nm,0.4s
O28M Mount Upton 9.37 118 P **Pn 05 10 04.6 +1.6**
baz=314,SNR=43
M30M Minto, Yukon 9.54 104 P **Pn 05 10 04.6 -0.5**
baz=302
YUK4 Talbot Arm 9.55 113 P **Pn 05 10 04.6 -0.8**
baz=309,SNR=18
YUK6 Outpost Mounta 9.92 114 P **Pn 05 10 09.8 -0.6**
baz=311
N30M Aishikik Lake 10.07 110 P **Pn 05 10 12.1 -0.3**
baz=308,SNR=26
HYT Haines Junctio 10.31 113 Pn 05 10 15.3 -0.4
HYT Haines Junctio 10.31 113 P **Pn 05 10 15.6 -0.2**
baz=311,SNR=16
N31M Braeburn, Yuko 10.55 107 P **Pn 05 10 18.6 -0.3**
baz=306
M31M Drury Creek, Y 10.69 102 P **Pn 05 10 21.4 +0.6**
baz=302,SNR=18
O30N Mendenhall 10.88 111 P **Pn 05 10 23.3 -0.1**
baz=310,SNR=17
P30M Million Dollar 10.98 115 P **Pn 05 10 25.5 +0.7**
baz=313
P29M Windy Craggy 11.05 118 P **Pn 05 10 25.7 0.0**
baz=315
FARO Faro, Yukon 11.09 101 P **Pn 05 10 27.6 +1.3**
baz=302,SNR=11
WHY Whitehorse 11.41 109 Pn 05 10 30.8 0.0
WHY Whitehorse 11.41 109 P **Pn 05 10 30.5 -0.2**
baz=309,SNR=7.0
MMPY Sheldon Lake, 11.72 96 Pn 05 10 35.2 +0.3
MMPY Sheldon Lake, 11.72 96 P **Pn 05 10 35.5 +0.5**
baz=300,SNR=10
N32M Quiet Lake 11.80 105 P **Pn 05 10 36.3 +0.3**
baz=306,SNR=8.0
FALS False Pass 11.90 198 P **Pn 05 10 36.8 -0.4**
baz=12
SKAG Skagway 12.04 114 P **Pn 05 10 39.5 +0.3**
baz=314,SNR=10
P33M Teslin, Yukon 12.48 108 P **Pn 05 10 45.0 -0.4**
baz=310
P32M Atlin 12.55 111 P **Pn 05 10 46.5 +0.2**
baz=312
A36M Sachs Harbour 12.56 49 Pn 05 10 44.4 -1.8
A36M Sachs Harbour 12.56 49 P **Pn 05 10 43.8 -2.4**
baz=259,SNR=174
C36M Paulatuk 12.75 61 Pn 05 10 46.5 -2.3
C36M Paulatuk 12.75 61 P **Pn 05 10 47.4 -1.4**
baz=272,SNR=22
UNV Unalaska Valle 13.33 205 P **Pn 05 10 56.4 -0.4**
baz=16
TGTN Hyland Airport 13.49 97 P **Pn 05 10 59.9 +0.8**
baz=303,SNR=18
Q32M Nakina River 13.53 111 P **Pn 05 10 60.0 +0.3**
baz=313
R33M Jennings River 13.73 108 P **Pn 05 11 02.4 0.0**
baz=311
SIT Sitka 13.82 122 P **Pn 05 11 04.0 +0.5**
baz=321
WTLY Watson Lake, Y 14.11 103 P **Pn 05 11 07.6 +0.1**
baz=308
BILL Bilibino 14.16 294 Pn 05 11 07.4 -0.4
BILL Bilibino 14.16 294 *ce* P **Pn 05 11 07.4 -0.7**
BILL pmax pmax
comp=Z,30nm,1.7s
WRGLY Wrigley 14.58 86 P **Pn 05 11 13.6 -0.3**
baz=297,SNR=6.5
S34M Telegraph Cree 14.69 113 P **Pn 05 11 15.2 -0.1**
baz=316
T33K Petersburg 14.84 118 P **Pn 05 11 15.6 -1.8**
baz=320
U33K Whale Pass 15.32 120 P **Pn 05 11 22.8 -1.0**
baz=322
WRAK Wrangell Islan 15.36 118 P **Pn 05 11 24.0 -0.3**
baz=320
LIRD Liard River Hi 15.62 102 P **Pn 05 11 27.0 -0.7**
baz=309
T35M Bob Quinn 15.70 114 IAmb IAmb 05 11 37.8
comp=Z,74nm,1.4s
T35M Bob Quinn 15.70 114 P **Pn 05 11 28.6 -0.2**
baz=318,SNR=7.1
KOTAN Kotaneelee Air 15.99 97 P **Pn 05 11 32.6 0.0**
baz=307,SNR=21
TOAD Toad River Com 16.32 102 P **Pn 05 11 36.3 -0.6**
baz=310,SNR=11
YKA Yellowknife Ar 18.49 82 P **P 05 12 03.1 -0.6**
comp=Z,0.6nm,0.3s,baz=297,slow=9.7,SNR=79
YKA LR LR 05 20 21.8
comp=Z,194nm,19.4s,baz=276,slow=41
comp=Z,5.5nm,0.8s
YKA Yellowknife Ar 18.49 82 *i* P **P 05 12 02.7 -1.0**
YKA pmax pmax
comp=Z,10.0nm,0.9s
SHEM Shemya Is, Ala 19.69 240 P **Pn 05 12 18.3 +0.1**
comp=Z,2.0nm,0.3s,baz=251,slow=0.8,SNR=3.6
SHEM LR LR 05 20 02.2
comp=Z,478nm,18.1s,baz=98,slow=37
comp=Z,64nm,0.9s
RES Resolute Bay 21.27 40 P **P 05 12 34.4 +0.6**
comp=Z,3.8nm,0.6s,baz=263,slow=9.3,SNR=24
RES S **S 05 16 21.9 -8.0**
comp=Z,16nm,0.9s,baz=138,slow=13,SNR=7.5
RES LR LR 05 22 36.5
comp=Z,364nm,20.7s,baz=218,slow=42
comp=Z,3.8nm,0.6s
SEY Seymchan 21.39 285 P **P 05 12 36.5 +1.3**
comp=Z,14nm,0.6s,baz=81,slow=7.7,SNR=21
SEY LR LR 05 20 49.2
comp=Z,221nm,19.4s,baz=66,slow=37
comp=Z,14nm,0.6s
SEY Seymchan 21.39 285 *ce* P **P 05 12 37.2 +1.9**
SEY pmax pmax
comp=Z,80nm,1.5s
EUNU Eureka 22.48 25 P **P 05 12 47.1 +0.3**
MA2 Magadan 23.96 279 P 05 13 02.5 +0.6
MA2 Magadan 23.96 279 P **P 05 13 02.3 +0.4**
comp=Z,41nm,1.1s,baz=52,slow=10,SNR=32
MA2 LR LR 05 22 47.4
comp=Z,154nm,19.9s,baz=62,slow=38
comp=Z,41nm,1.1s
MA2 Magadan 23.96 279 *ce* P **P 05 13 02.7 +0.7**
MA2 pmax pmax
comp=Z,100nm,1.3s
MA2 Magadan 23.96 279 P **P 05 13 02.5 +0.6**
comp=Z,1µmcomp=Z,89nm,1.6s
BLKN Baker Lake 24.73 66 P 05 13 09.5 +0.6
BLKN IAmb IAmb 05 13 11.2
comp=Z,24nm,0.7s
TIXI Tiksi 25.44 315 P 05 13 15.0 -0.2
TIXI Tiksi 25.44 315 LR LR 05 25 04.2
comp=Z,202nm,19.1s,baz=50,slow=41
TIXI Tiksi 25.44 315 *ce* P **P 05 13 15.1 -0.2**
TIXI pmax pmax
comp=Z,14nm,1.3s
PEA0B Petropavlovsk- 25.63 261 *ce* P **P 05 13 19.9 +2.7**
PETK Petropavlovsk- 25.63 261 P **P 05 13 17.6 +0.5**
comp=Z,5.0nm,0.7s,baz=53,slow=10.0,SNR=7.1
PETK LR LR 05 22 59.8
comp=Z,209nm,19.7s,baz=35,slow=36
comp=Z,5.0nm,0.7s
D05A Enumclaw 26.59 119 IAmb IAmb 05 13 32.1
comp=Z,31nm,1.3s
ILON Igloolik, Nuna 26.91 49 P **P 05 13 29.3 +0.7**
ILON IAmb IAmb 05 13 30.2

comp=Z,17nm,0.7s
FFC Flin Flon 28.48 87 P P 05 13 41.2 -1.6
FFC Flin Flon 28.48 87 P **P 05 13 41.2 -1.6**
FFC pmax pmax
comp=Z,7.0nm,0.9s
PINE Pine Mountain 29.90 121 P 05 13 57.8 +2.1
PINE IAmb IAmb 05 14 16.6
comp=Z,16nm,1.3s
J05D Fort Rock, OR 30.25 122 P **P 05 13 59.0 +0.2**
YAK Yakutsk 30.47 297 P **P 05 14 01.3 +1.0**
comp=Z,12nm,0.3s,baz=60,slow=2.5,SNR=6.3
comp=Z,12nm,0.3s
YBH Yreka Blue Hor 31.13 125 LR LR 05 25 29.4
comp=Z,70nm,19.0s,baz=338,slow=34
DGMT Dagmar 32.36 97 IAmb IAmb 05 14 19.8
comp=Z,24nm,1.3s
YNE Yellowstone No 32.90 107 IAmb IAmb 05 14 24.6
comp=Z,18nm,1.5s
LAO LASA Array 32.99 101 IAmb IAmb 05 14 25.2
comp=Z,16nm,1.1s
TYV Tymovskoe 33.40 273 *e*P **P 05 14 26.0 -0.1**
TYV pmax pmax
comp=Z,9.0nm,0.9s
TYV pmax pmax
comp=Z,200nm,4.5s
ULM Lac du Bonnet 34.31 87 P **P 05 14 35.0 +1.0**
comp=Z,9.5nm,0.6s,baz=320,slow=8.9,SNR=14
ULM PcP **PcP 05 17 10.2 +0.4**
comp=Z,2.8nm,0.5s,baz=300,slow=4.7,SNR=3.7
ULM LR LR 05 29 59.3
comp=Z,114nm,19.5s,baz=324,slow=39
comp=Z,9.5nm,0.6s
ULM Lac du Bonnet 34.31 87 *i* P **P 05 14 34.1 +0.1**
FRB Frobisher Bay 34.54 52 LR LR 05 30 48.3
comp=Z,247nm,18.7s,baz=303,slow=40
PDAR Pinedale Array 34.97 108 P **P 05 14 40.3 +0.2**
PDAR Pinedale Array 34.97 108 P **P 05 14 41.5 +1.5**
comp=Z,1.3nm,0.7s,baz=338,slow=8.4,SNR=14
PDAR PcP **PcP 05 17 12.7 +0.4**
comp=Z,0.7nm,0.6s,baz=24,slow=0.8,SNR=4.1
PDAR LR LR 05 29 58.6
comp=Z,251nm,20.3s,baz=330,slow=38
comp=Z,1.3nm,0.7s
E28A Huff 35.29 96 IAmb IAmb 05 14 44.5
comp=Z,13nm,0.9s
SUMG Summit 35.52 27 *i* P **P 05 14 45.0 +0.2**
NVAR Mina Array Bea 35.58 122 P **P 05 14 45.5 +0.1**
NVAR Mina Array Bea 35.58 122 P **P 05 14 47.0 +1.7**
comp=Z,4.4nm,0.7s,baz=322,slow=7.5,SNR=33
NVAR PcP **PcP 05 17 15.8 +1.7**
comp=Z,0.7nm,0.6s,baz=316,slow=4.3,SNR=2.8
NVAR LR LR 05 29 37.5
comp=Z,131nm,18.8s,baz=261,slow=37
comp=Z,4.4nm,0.7s
AGMN Agassiz Nation 35.85 89 IAmb IAmb 05 14 48.8
comp=Z,12nm,0.7s
GRNR Gornyy 35.98 278 ⇓*i* P **P 05 14 47.7 -0.7**
GRNR pmax pmax
comp=Z,4.0nm,0.8s
GRNR MLR MLR
comp=N,210nm,14.0s
GRNR MLR MLR
comp=Z,180nm,13.0s
YSS Yuzhno-Sakhali 36.45 268 *e*P **P 05 14 53.7 +1.3**
YSS *e*S **S 05 20 34.4 +0.4**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=Z,600nm,16.0s
YSS MLR MLR
comp=N,300nm,13.0s
YSS MLR MLR
comp=E,400nm,13.0s
R11B Troy Canyon, C 36.60 119 IAmb IAmb 05 14 56.6
comp=Z,18nm,1.4s
SFJD Kangerlussuaq 37.25 38 LR LR 05 32 30.1
comp=Z,167nm,20.4s,baz=326,slow=40
ZEA Zeya 37.29 288 *e*P **P 05 15 01.6 +2.1**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=Z,400nm,13.0s
NRIK Noril'sk 37.44 328 P **P 05 14 58.5 -2.1**
NRIK Noril'sk 37.44 328 P **P 05 15 00.8 +0.1**
comp=Z,7.7nm,0.8s,baz=66,slow=6.3,SNR=8.8
NRIK LR LR 05 32 47.7
comp=Z,217nm,20.4s,baz=54,slow=40
comp=Z,7.7nm,0.8s
NRIK Noril'sk 37.44 328 *i* P **P 05 15 00.2 -0.4**
NRIK pmax pmax
comp=Z,19nm,1.5s
ICESG Greenland Ices 38.11 31 *e*P **P 05 15 08.3 +1.6**
TBO Thunder Bay 38.17 83 P **P 05 15 04.7 -2.4**
ASAJ Asahikawa 38.83 266 LR LR 05 31 58.8
comp=Z,243nm,18.7s,baz=360,slow=37
E38A The Farm, Brul 38.95 87 IAmb IAmb 05 15 15.3
comp=Z,15nm,0.7s
BOD Bodaibo 39.00 302 *e*P **P 05 15 12.1 -1.8**
BOD pmax pmax
comp=Z,35nm,1.6s
KLR Kul'dur 39.05 280 P **P 05 15 14.9 +0.5**
comp=Z,4.5nm,0.5s,baz=53,slow=6.8,SNR=11
KLR LR LR 05 32 09.7
comp=Z,218nm,19.5s,baz=46,slow=38
comp=Z,4.5nm,0.5s
KLR Kul'dur 39.05 280 *ce*P **P 05 15 13.5 -0.9**
KLR pmax pmax
comp=Z,4.0nm,0.5s
SPMN Marine on St. 39.58 89 IAmb IAmb 05 15 21.1
comp=Z,30nm,1.2s
I37A Lemond, Waseca 40.33 91 IAmb IAmb 05 15 27.7
comp=Z,43nm,1.0s
COWI Conover 40.34 85 IAmb IAmb 05 15 27.1
comp=Z,46nm,1.5s
PFO Pinyon Flats O 40.57 123 LR LR 05 34 21.5
comp=Z,108nm,18.7s,baz=26,slow=39
G40A Rib Lake 40.59 87 IAmb IAmb 05 15 29.4
comp=Z,27nm,1.5s
WUAZ Wupatki 40.63 116 IAmb IAmb 05 15 30.1
comp=Z,11nm,0.7s
F42A Maple Grove Fa 41.02 85 IAmb IAmb 05 15 32.7
comp=Z,16nm,0.7s
JMIC Jan Mayen 41.30 15 LR LR 05 31 43.4
comp=Z,130nm,20.0s,baz=234,slow=35
I42A Draeger Farm, 42.25 87 IAmb IAmb 05 15 42.6
comp=Z,12nm,0.8s
JFWS Jewell Farm 42.52 89 IAmb IAmb 05 15 44.1
comp=Z,11nm,0.8s
L40A Anamosa 42.84 91 IAmb IAmb 05 15 46.5
comp=Z,13nm,0.7s
R32A Long Quarter, 42.93 101 IAmb IAmb 05 15 47.9
comp=Z,26nm,1.1s
ANMO Albuquerque 42.96 111 P **P 05 15 47.7 +0.7**
ANMO Albuquerque 42.96 111 IAmb IAmb 05 15 49.1
comp=Z,2.7nm,0.9s
ANMO Albuquerque 42.96 111 LR LR 05 34 35.0
comp=Z,107nm,18.6s,baz=155,slow=37
ANMO Albuquerque 42.96 111 P **P 05 15 47.7 +0.7**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
USRK Ussuriysk Ar. 43.05 275 P **P 05 15 48.4 +1.1**
comp=Z,2.3nm,0.9s,baz=42,slow=12,SNR=4.1
comp=Z,2.3nm,0.9s
KSU1 Kansas State U 43.18 98 IAmb IAmb 05 15 49.4
comp=Z,15nm,0.7s
VLDQ Val d'Or 43.33 74 P **P 05 15 47.9 -1.6**
VLDQ IAmb IAmb 05 15 49.4
comp=Z,20nm,1.0s
TUC Tucson 43.73 118 P **P 05 15 53.8 +0.7**
TUC Tucson 43.73 118 P **P 05 15 53.8 +0.7**
TUC pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 44.40 359 PcP **PcP 05 17 41.1 -0.3**
comp=Z,3.2nm,1.0s,baz=12,slow=2.7,SNR=5.0
P40A Paris 44.65 93 IAmb IAmb 05 16 01.7
comp=Z,18nm,0.9s
T35A Sooner Cattle 45.10 100 IAmb IAmb 05 16 04.4
comp=Z,10nm,0.7s
BORG Borgarnes 45.41 25 LR LR 05 35 05.9
comp=Z,164nm,21.7s,baz=345,slow=36
WMOK Wichita Mounta 46.10 103 P **P 05 16 12.3 +0.4**
WMOK pmax pmax
comp=Z,8.0nm,1.0s
CCM Cathedral Cave 46.23 94 P **P 05 16 12.5 -0.4**
CCM IAmb IAmb 05 16 13.4
comp=Z,7.4nm,0.8s
CCM Cathedral Cave 46.23 94 P **P 05 16 12.5 -0.4**
CCM pmax pmax
comp=Z,7.0nm,0.9s
U38A Gravette 46.37 98 IAmb IAmb 05 16 13.7
comp=Z,7.6nm,0.8s
MGMO Mountain Grove 46.60 95 IAmb IAmb 05 16 16.1
comp=Z,12nm,0.8s
MJAR Matsushiro Arr 47.03 264 P **P 05 16 20.9 +1.8**
comp=Z,2.0nm,0.4s,baz=8.1,slow=9.2,SNR=7.8
MJAR LR LR 05 37 12.5
comp=Z,114nm,19.2s,baz=30,slow=38
comp=Z,2.0nm,0.4s
T42A Van Buren 47.18 94 IAmb IAmb 05 16 20.6
comp=Z,10.0nm,0.8s
VHRN Van Horn 47.23 112 IAmb IAmb 05 16 24.5
comp=Z,16nm,1.4s
ALPN Alpine 48.10 111 IAmb IAmb 05 16 30.6
comp=Z,14nm,1.5s
L56A Greenwood 48.26 79 P **P 05 16 28.8 +0.2**
P51A Williamsport 48.32 85 IAmb IAmb 05 16 31.1
comp=Z,20nm,1.2s
MIAR Mount Ida 48.34 98 IAmb IAmb 05 16 29.9
comp=Z,9.4nm,0.9s
MIAR Mount Ida 48.34 98 P **P 05 16 29.9 +0.6**
MIAR pmax pmax
comp=Z,19nm,1.8s
MOY Mondy 48.39 305 *e*P **P 05 16 30.2 +0.6**
MOY pmax pmax
comp=Z,15nm,2.1s
OZNA Ozona 48.57 108 IAmb IAmb 05 16 31.9
comp=Z,7.5nm,0.9s
Q51A Peebles 48.59 86 IAmb IAmb 05 16 32.2
comp=Z,11nm,0.8s
T47A Sharon Grove 48.82 91 IAmb IAmb 05 16 33.8
comp=Z,13nm,0.8s
TXAR Lajitas Array 49.03 112 P **P 05 16 35.6 +0.9**
TXAR Lajitas Array 49.03 112 P **P 05 16 35.3 +0.6**
comp=Z,3.1nm,0.7s,baz=326,slow=6.1,SNR=44
TXAR PcP **PcP 05 17 60.0 +1.5**
comp=Z,0.5nm,0.5s,baz=357,slow=2.9,SNR=3.8
comp=Z,3.1nm,0.7s
TXAR Lajitas Array 49.03 112 P **P 05 16 35.6 +0.9**
WVT Waverly 49.27 92 P **P 05 16 36.7 +0.3**
WVT IAmb IAmb 05 16 37.6
comp=Z,8.0nm,0.7s
WVT Waverly 49.27 92 P **P 05 16 36.7 +0.3**
WVT pmax pmax
comp=Z,8.0nm,0.7s
JCT Junction City 49.47 107 IAmb IAmb 05 16 39.0
comp=Z,9.1nm,0.8s
ULN Ulaanbaatar 49.54 298 *ce*P **P 05 16 39.4 +0.8**
ULN pmax pmax
comp=Z,6.0nm,1.0s
XLT XiLinHaoTe 49.57 289 *e*P P 05 16 29.8 -8.9
XLT pmax pmax
comp=Z,14nm,0.8s
XLT LR LR
comp=N,67nm,16.3s
XLT LR LR
comp=E,930nm,15.9s
XLT LR LR
comp=Z,520nm,15.5s
S51A Beattyville 49.68 87 IAmb IAmb 05 16 44.7
comp=Z,18nm,1.1s
N58A Sunbury 49.70 79 P **P 05 16 39.9 +0.2**
T50A Nancy 49.71 89 IAmb IAmb 05 16 41.0
comp=Z,18nm,1.2s
U49A Red Boiling Sp 49.77 90 IAmb IAmb 05 16 41.2
comp=Z,16nm,0.8s
SONM Songino Array 49.80 299 P **P 05 16 38.5 -2.0**
SONM Songino Array 49.80 299 P **P 05 16 41.7 +1.2**
comp=Z,4.5nm,0.9s,baz=37,slow=6.8,SNR=14
comp=Z,4.5nm,0.9s
SONM Songino Array 49.80 299 P **P 05 16 38.5 -2.0**
SONM pmax pmax
comp=Z,5.0nm,1.0s
DRIO Del Rio 50.10 108 IAmb IAmb 05 16 43.6
comp=Z,10nm,0.8s
Q56A Snyder Ridge, 50.25 82 IAmb IAmb 05 16 44.9
comp=Z,14nm,0.9s
KSRS Korea Array 50.39 274 P **P 05 16 46.9 +2.0**
comp=Z,2.3nm,0.8s,baz=25,slow=6.9,SNR=5.3
comp=Z,2.3nm,0.8s
HPIG 50.45 115 IAmb IAmb 05 16 47.2
comp=Z,7.0nm,0.6s
HNDO Hondo 50.52 107 IAmb IAmb 05 16 47.4
comp=Z,15nm,1.2s
WUPA West Chester U 50.91 78 IAmb IAmb 05 16 49.7
comp=Z,13nm,0.8s
X48A Hartselle 51.05 92 IAmb IAmb 05 16 50.7
comp=Z,14nm,0.7s
ZALV Zalesovo Beam 51.27 318 **P 05 16 50.3 -1.0**
ZALV Zalesovo Beam 51.27 318 P **P 05 16 50.5 -0.8**
comp=Z,4.4nm,0.7s,baz=30,slow=7.4,SNR=19
ZALV LR LR 05 40 31.9
comp=Z,112nm,18.2s,baz=3.0,slow=38
comp=Z,4.4nm,0.7s
TKL Tuckaleechee C 51.32 88 LR LR 05 41 59.8
comp=Z,75nm,19.5s,baz=334,slow=40
LPIG La Paz 51.40 121 LR LR 05 40 43.1
comp=Z,156nm,19.3s,baz=6.0,slow=38
FPAL Fort Paine 51.55 91 IAmb IAmb 05 16 54.6
comp=Z,12nm,0.6s
V53A Saluda 51.70 88 IAmb IAmb 05 17 00.9
comp=Z,18nm,1.2s
W52A Murphy 51.75 89 IAmb IAmb 05 16 56.3
comp=Z,11nm,0.7s
Y49A Blount Mountai 51.82 92 IAmb IAmb 05 16 56.6
comp=Z,15nm,0.7s
LRAL Lakeview Retre 52.30 93 IAmb IAmb 05 16 59.8
comp=Z,6.4nm,0.7s
FINES FINESS Array B 52.52 358 P **P 05 17 01.3 +0.8**
comp=Z,1.0nm,0.7s,baz=358,slow=14,SNR=3.7
FINES LR LR 05 40 57.6
comp=Z,66nm,18.4s,baz=14,slow=38
comp=Z,1.0nm,0.7s
KLMR Klimovskoe 52.53 350 *e*P **P 05 16 56.1 -4.5**
KLMR pmax pmax
comp=Z,19nm,1.6s
NB2 NORSAR Subarra 52.66 7 P **P 05 17 01.5 -0.1**
comp=Z,9.9nm,1.7s,baz=351,slow=7.4
NOA NORSAR Array B 52.66 7 P **P 05 17 01.7 +0.1**
comp=Z,1.1nm,1.0s,baz=352,slow=7.4,SNR=3.6
comp=Z,1.1nm,1.0s
Y52A Lilburn 52.76 90 IAmb IAmb 05 17 04.1
comp=Z,19nm,0.8s
PAULI Pauline 52.84 87 IAmb IAmb 05 17 04.9
comp=Z,19nm,0.8s
JNU Nakatsue 52.96 269 LR LR 05 38 35.2
comp=Z,121nm,21.3s,baz=30,slow=35
HODGE Hodges 53.17 88 IAmb IAmb 05 17 07.0
comp=Z,11nm,0.6s
250A Grady 53.52 93 IAmb IAmb 05 17 08.9
comp=Z,15nm,0.7s
152A Waverly Hall 53.54 91 IAmb IAmb 05 17 09.1
comp=Z,13nm,0.7s
HFS Hagfors 53.67 6 P **P 05 17 09.2 +0.1**
comp=Z,2.1nm,0.7s,baz=48,slow=4.4,SNR=3.6
comp=Z,2.1nm,0.7s
KIRV Kirov 53.84 343 LR LR 05 42 51.0
comp=Z,126nm,19.5s,baz=7.4,slow=39
HHC Hu-ho-hao-te 53.90 290 *e*P **P 05 17 07.8 -3.3**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,65nm,5.0s
HHC LR LR
comp=N,330nm,13.8s
HHC LR LR
comp=E,500nm,15.3s
ARTI Arti 54.73 337 **P 05 17 16.4 -0.4**
ARTI IAmb IAmb 05 17 24.2
comp=Z,13nm,0.7s
ARTI Arti 54.73 337 *c i*P **P 05 17 16.9 +0.1**
ARTI 05 19 15.2
ARTI S **S 05 24 59.9 +3.0**
ARTI SS **SS 05 28 43.4 +4.6**
ARTI pmax pmax
comp=Z,6.0nm,0.7s
VSU Vasula 55.50 358 *ce*P **P 05 17 22.9 +0.6**
VSU pmax pmax
comp=Z,14nm,1.3s
BRVK Borovoye 55.63 327 *ce*P **P 05 17 23.3 -0.1**
BRVK pmax pmax
comp=Z,11nm,1.3s
BVAR Borovoye Array 55.64 327 P **P 05 17 23.4 -0.1**
comp=Z,4.3nm,0.6s,baz=31,slow=7.1,SNR=20
BVAR LR LR 05 44 26.9
comp=Z,170nm,20.4s,baz=24,slow=40
comp=Z,4.3nm,0.6s
HNS HongShan 55.69 285 ⇓P **P 05 17 26.5 +2.6**
HNS pmax pmax
comp=Z,12nm,1.1s
HNS LR LR
comp=N,330nm,12.9s
HNS LR LR
comp=E,190nm,13.2s
HNS LR LR
comp=Z,450nm,14.3s
KURK Kurchatov 55.83 321 **P 05 17 24.5 -0.3**
KURK IAmb IAmb 05 17 27.4
comp=Z,11nm,1.0s
KURK Kurchatov 55.83 321 *ce*P **P 05 17 24.5 -0.3**
KURK pmax pmax
comp=Z,17nm,1.3s
KURBB Kurchatov Arra 55.93 321 P **P 05 17 24.5 -1.0**
comp=Z,6.1nm,1.0s,baz=27,slow=7.0,SNR=19
KURBB LR LR 05 43 49.5
comp=Z,78nm,20.3s,baz=174,slow=39
comp=Z,6.1nm,1.0s
EKA Eskdalemuir Ar 57.09 17 P **P 05 17 33.9 +0.2**
comp=Z,11nm,0.6s,baz=332,slow=4.7,SNR=36
comp=Z,11nm,0.6s
MK31 Makanchi Array 58.43 316 *ce*P **P 05 17 43.0 -0.3**
MKAR Makanchi Array 58.43 316 **P 05 17 42.4 -0.9**
MKAR Makanchi Array 58.43 316 P **P 05 17 42.0 -1.3**
comp=Z,1.9nm,0.7s,baz=35,slow=5.2,SNR=18
MKAR LR LR 05 43 55.4
comp=Z,80nm,19.2s,baz=11,slow=37
comp=Z,1.9nm,0.7s
MKAR Makanchi Array 58.43 316 *ce*P **P 05 17 42.4 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 58.45 351 *i* P **P 05 17 45.1 +1.9**
OBN pmax pmax
comp=Z,6.0nm,0.9s
MAKZ Makanchi 58.50 316 **P 05 17 43.0 -0.8**
MAKZ IAmb IAmb 05 17 52.2
comp=Z,8.2nm,0.6s
MAKZ Makanchi 58.50 316 P **P 05 17 43.0 -0.8**
MAKZ pmax pmax
comp=Z,8.0nm,0.6s
NJ2 Nanjing 58.73 279 *e*P **P 05 17 45.3 -0.2**
NJ2 pmax pmax
comp=Z,12nm,0.5s
GTA Gaotai 59.48 299 *e*P **P 05 17 51.3 +0.5**
GTA pmax pmax
comp=Z,5.0nm,1.6s
GTA LR LR
comp=N,340nm,14.9s
GTA LR LR
comp=E,250nm,15.3s
GTA LR LR
comp=Z,340nm,14.5s
WMQ Urumqi 59.54 311 *e*P **P 05 17 52.8 +1.7**
WMQ LR LR
comp=Z,160nm,15.7s
AKTO Aktyubinsk 60.52 335 LR LR 05 47 20.2
comp=Z,76nm,18.9s,baz=314,slow=39
LZH Lanzhou 60.97 294 *e*P **P 05 18 02.9 +1.8**
LZH sP sP 05 18 10.1 +5.5
LZH pmax pmax
comp=Z,40nm,1.1s
LZH LR LR
comp=N,380nm,16.5s
LZH LR LR
comp=E,680nm,15.1s
LZH LR LR
comp=Z,340nm,16.8s
ABKAR Akbulak array 61.31 333 **P 05 18 02.8 -0.2**
ABKAR Akbulak array 61.31 333 IAmb IAmb 05 18 10.4
comp=Z,9.6nm,0.8s
CLL Collm 62.46 7 *i* P **P 05 18 11.2 +0.5**
CLL pmax pmax
comp=Z,16nm,1.6s
CLL Collm 62.46 7 *i* P **P 05 18 11.2 +0.5**
comp=Z,16nm,1.6s
CLL *e*(SS) 05 30 24.0
BRG Berggiesshubel 62.94 6 *e*P **P 05 18 15.0 +1.1**
BRG Amp 05 18 15.7
comp=Z,4.9nm,0.8s
MI28 Mi28,Pidlybu 63.02 357 P **P 05 18 13.3 -1.1**
KSP Ksiaz 63.06 5 P **P 05 18 15.6 +0.9**
KSP Ksiaz 63.06 5 P **P 05 18 15.6 +0.9**
comp=Z,4.9nm,1.1s
AK21 Malin Array Si 63.14 356 P **P 05 18 14.9 -0.3**
AK22 Malin Array Si 63.15 356 P **P 05 18 15.2 -0.1**
AK20 Malin Array Si 63.17 356 P **P 05 18 15.2 -0.2**
AK03 Malin Array Si 63.18 355 P **P 05 18 15.4 -0.1**
AK18 Malin Array Si 63.19 356 P **P 05 18 15.6 0.0**
AK19 Malin Array Si 63.19 356 P **P 05 18 15.6 0.0**
AKASG Malin Array Be 63.21 355 P **P 05 18 15.2 -0.5**
comp=Z,4.9nm,0.9s,baz=4.7,slow=6.5,SNR=15
AKASG LR LR 05 45 16.9
comp=Z,55nm,21.2s,baz=20,slow=36
comp=Z,4.9nm,0.9s
AKASG Malin Array Be 63.21 355 *ce*P **P 05 18 15.6 -0.1**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKBB Malin Array Si 63.21 355 IAmb IAmb 05 18 16.8
comp=Z,10.0nm,1.1s
AKBB Malin Array Si 63.21 355 *ce*P **P 05 18 16.4 +0.7**
AKBB Malin Array Si 63.21 355 P **P 05 18 15.8 +0.1**
KIEV Kiev 63.22 355 P **P 05 18 16.1 +0.4**
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 63.22 355 P **P 05 18 15.9 +0.2**
comp=Z,35nm,1.5s
DPC Dobruska-Polom 63.55 5 *e*P **P 05 18 19.6 +1.5**
DPC *ep*P **sP 05 18 24.0 +2.4**
DPC Dobruska-Polom 63.55 5 *e*P **P 05 18 19.6 +1.5**
DPC *e* 05 18 24.0
DPC Dobruska-Polom 63.55 5 P **P 05 18 19.3 +1.2**
KRLC Kraliky 63.84 4 P **P 05 18 21.5 +1.5**
KRLC pmax pmax
comp=Z,10.0nm,1.1s
GOMU GeErMu 64.10 301 P **P 05 18 21.6 -0.7**
GOMU S **S 05 26 58.0 -1.3**
GOMU pmax pmax
comp=Z,11nm,1.3s
GOMU LR LR
comp=N,470nm,13.6s
GOMU LR LR
comp=E,240nm,11.7s
GOMU LR LR
comp=Z,760nm,15.2s
MORC Moravsky Berou 64.16 4 *e*P **P 05 18 22.4 +0.3**
AAK Ala-Archa 64.38 320 **P 05 18 24.1 +0.4**
AAK IAmb IAmb 05 18 31.8
comp=Z,7.5nm,1.0s
AAK Ala-Archa 64.38 320 LR LR 05 48 09.1
comp=Z,99nm,18.5s,baz=18,slow=38
AAK Ala-Archa 64.38 320 *ce*P **P 05 18 22.5 -1.2**
AAK pmax pmax
comp=Z,13nm,1.7s
ZVC Zvikov 64.38 6 *e*P **P 05 18 25.1 +1.6**
VRAC Vranov 64.61 5 LR LR 05 49 05.9
comp=Z,44nm,18.6s,baz=350,slow=38
VRAC Vranov 64.61 5 *e*P **P 05 18 25.5 +0.6**
KHC Kasperske Hory 64.66 7 *e*P **P 05 18 27.2 +1.8**
KHC Kasperske Hory 64.66 7 *ce*P **P 05 18 26.5 +1.1**
KHC pmax pmax
comp=Z,14nm,1.3s
KRUC Moravsky 64.84 5 *e*P **P 05 18 27.4 +0.9**
KRUC Moravsky 64.84 5 P **P 05 18 27.6 +1.1**
KRUC pmax pmax
comp=Z,9.0nm,1.2s
KKAR Karatay Array 64.94 323 **P 05 18 26.6 -0.6**
KKAR Karatay Array 64.94 323 P **P 05 18 26.6 -0.6**
GEC2 GERESS Array S 64.95 7 IAmb IAmb 05 18 30.3
comp=Z,8.6nm,1.2s
GERES GERESS Array B 64.95 7 P **P 05 18 28.6 +1.2**
comp=Z,2.0nm,0.8s,baz=345,slow=4.7,SNR=14
comp=Z,2.0nm,0.8s
GUMO Guam 65.05 245 LR LR 05 43 02.2
comp=Z,45nm,21.8s,baz=64,slow=32
JAVC Velka Javorina 65.09 4 *e*P **P 05 18 29.9 +1.8**
ECH Echery 65.16 11 IAmb IAmb 05 18 30.6
comp=Z,11nm,1.1s
ECH Echery 65.16 11 P **P 05 18 30.5 +1.9**
ECH pmax pmax
comp=Z,79nm,1.4s
MODS Modra-Piesok 65.56 4 *e*P **P 05 18 31.1 -0.1**
MODS pmax pmax
comp=Z,5.0nm,0.6s

MODS Modra-Piesok 65.56 4 *eP* **P 05 18 31.1 -0.1**
LOR Lormes 65.81 14 P **P 05 18 29.4 -3.4**
CONA Conrad Observa 65.96 5 *epP* pP 05 18 35.5 -0.8
comp=Z,3.6nm,0.7s
MOA Molln 65.97 6 *i pP* pP 05 18 35.4 -1.0
comp=Z,2.3nm,0.9s
ARSB Arslanbob 66.00 321 IAmb IAmb 05 18 52.8
comp=Z,17nm,1.4s
RETA Reutte 66.15 9 *epP* pP 05 18 36.5 -1.1
comp=Z,2.4nm,0.8s
SRO Srobarova 66.15 3 *eP* **P 05 18 39.1 +4.2**
SRO pmax pmax
comp=Z,10.0nm,0.4s
SRO Srobarova 66.15 3 *eP* **P 05 18 39.1 +4.2**
RONA Rosalia, Austr 66.20 5 *i pP* **P 05 18 35.7 +0.4**
comp=Z,2.7nm,0.7s
MOTA Moosalm 66.31 9 *i pP* **P 05 18 37.6 +1.4**
comp=Z,2.8nm,0.7s
LESA Schwarzleotal 66.32 8 *epP* pP 05 18 37.7 -1.0
comp=Z,4.9nm,0.8s
WATA Walderalm 66.35 8 *epP* **P 05 18 37.1 +0.7**
comp=Z,3.1nm,1.1s
BUR08 Bucovina Ar. S 66.36 358 IAmb IAmb 05 18 41.3
comp=Z,8.2nm,1.3s
WTTA Wattenberg 66.42 8 *epP* **P 05 18 38.3 +1.3**
comp=Z,3.4nm,0.9s
SQTA Sankt Quirin 66.44 9 *i pP* **P 05 18 37.7 +0.8**
comp=Z,5.2nm,0.7s
FETA Feichten 66.61 9 P **P 05 18 35.7 -2.4**
comp=Z,3.4nm,0.9s
FETA *i* pP **pP 05 18 40.2 -0.4**
comp=Z,3.4nm,0.9s
KBA Koelnbreinsper 66.70 7 *epP* pP 05 18 40.7 -0.5
comp=Z,8.1nm,1.0s
DAVOX Davos/Dischmat 66.79 10 LR LR 05 46 20.3
comp=Z,47nm,21.9s,baz=332,slow=35
KSH Kashi 66.90 318 P **P 05 18 43.5 +3.4**
KSH pmax pmax
comp=Z,6.0nm,1.2s
KSH LR LR
comp=N,330nm,22.6s
KSH LR LR
comp=E,250nm,17.7s
KSH LR LR
comp=Z,400nm,13.5s
FUORN Ofenpass-Fuorn 66.98 9 P **P 05 18 40.3 -0.3**
FUORN IAmb IAmb 05 18 46.6
comp=Z,10.0nm,0.9s
ABTA Abfaltersbach 66.99 8 *i pP* **P 05 18 41.7 +1.2**
comp=Z,2.4nm,0.6s
TUE Stuetta 67.06 10 P **P 05 18 40.1 -1.0**
TUE IAmb IAmb 05 18 46.9
comp=Z,8.0nm,1.1s
MYKA Terra Mystica 67.16 7 *epP* **P 05 18 42.9 +1.4**
comp=Z,2.0nm,0.7s
SOKA Soboth 67.18 6 pP pP 05 18 43.3 -0.9
comp=Z,1.2nm,0.7s
OBKA Obir 67.33 6 *i pP* pP 05 18 44.2 -0.9
comp=Z,14nm,0.7s
PRED Cave del Predi 67.34 7 P **P 05 18 42.2 -0.5**
PRED IAmb IAmb 05 18 44.1
comp=Z,5.8nm,0.7s
BNI Bardonecchia 68.27 12 P **P 05 18 51.7 +3.1**
BNI pmax pmax
comp=Z,31nm,1.4s
BZS Buzias 68.39 1 P **P 05 18 49.1 -0.1**
BZS pmax pmax
comp=Z,6.0nm,1.2s
MLR Muntele Rosu 68.50 358 LR LR 05 48 43.2
comp=Z,54nm,21.4s,baz=38,slow=36
KIV Kislovodsk 69.00 345 *eP* **P 05 18 51.9 -1.2**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,59nm,17.0s
KBZ Khabaz 69.20 345 P **P 05 18 54.5 +0.3**
comp=Z,2.3nm,1.0s,baz=310,slow=3.5,SNR=5.6
KBZ LR LR 05 51 26.2
comp=Z,66nm,19.1s,baz=17,slow=38
comp=Z,2.3nm,1.0s
KBZ Khabaz 69.20 345 *ceP* **P 05 18 53.9 -0.3**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
SIMJ Simiganj 69.51 323 P **P 05 18 55.9 -0.6**
SIMJ IAmb IAmb 05 19 03.8
comp=Z,10.0nm,0.9s
PZH PanZhiHua 70.35 291 P **P 05 19 00.8 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
ESDC Sonseca Array 72.33 21 **P 05 19 14.5 +1.1**
ESDC Sonseca Array 72.33 21 P **P 05 19 14.1 +0.6**
comp=Z,5.8nm,0.8s,baz=348,slow=6.5,SNR=27
ESDC LR LR 05 53 01.4
comp=Z,64nm,18.8s,baz=351,slow=38
comp=Z,5.8nm,0.8s
GNI Garni 72.53 343 LR LR 05 55 31.6
comp=Z,47nm,19.5s,baz=18,slow=40
JTS Las Juntas de 73.51 102 LR LR 05 57 31.9
comp=Z,59nm,18.4s,baz=338,slow=41
BRTR Keskin Array B 73.96 351 **P 05 19 22.4 -0.8**
BRTR Keskin Array B 73.96 351 P **P 05 19 23.3 +0.1**
comp=Z,1.9nm,0.8s,baz=359,slow=3.4,SNR=9.1
comp=Z,1.9nm,0.8s
SJG San Juan 73.98 82 LR LR 05 53 48.9
comp=Z,71nm,19.8s,baz=330,slow=37
TAOE Nuku Hiva Isla 76.01 163 *eLR* LR 05 42 57.4
comp=Z,114nm,22.5s
KEST Kesra 77.74 11 P **P 05 19 46.2 +1.4**
comp=Z,5.1nm,0.8s,baz=322,slow=2.4,SNR=5.4
KEST LR LR 05 58 03.3
comp=Z,32nm,18.1s,baz=5.2,slow=39
comp=Z,5.1nm,0.8s
CMAR Chiang Mai Arr 78.71 290 **P 05 19 49.2 -1.0**
CMAR Chiang Mai Arr 78.71 290 P **P 05 19 49.9 -0.4**
comp=Z,1.1nm,0.6s,baz=8.4,slow=6.8,SNR=9.8
CMAR LR LR 05 57 50.7
comp=Z,171nm,18.1s,baz=40,slow=38
comp=Z,1.1nm,0.6s
CMAR Chiang Mai Arr 78.71 290 *ceP* **P 05 19 50.4 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
MDT Midelt 78.96 23 LR LR 05 57 19.6
comp=Z,42nm,19.4s,baz=358,slow=38
MMAI Mount Meron Ar 80.51 349 LR LR 06 01 30.2
comp=Z,39nm,19.3s,baz=22,slow=40
PCRV Puerto La Cruz 81.77 84 LR LR 06 00 15.2
comp=Z,54nm,18.3s,slow=38
HNR Honiara 81.78 223 LR LR 05 52 59.2
comp=Z,67nm,20.3s,baz=352,slow=33
RUSC La Rusia 82.25 93 **P 05 20 08.9 -0.9**
RUSC IAmb IAmb 05 20 10.7
comp=Z,13nm,1.1s
PPT Papeete 83.83 173 LR LR 05 52 40.8
comp=Z,94nm,19.2s,baz=331,slow=32
PPT2 Papeete2 83.85 173 *eLR* LR 05 46 41.0
comp=Z,80nm,22.2s
EIL Elat 83.87 349 LR LR 06 02 52.2
comp=Z,14nm,20.1s,baz=68,slow=40
OTAV Otavalo 85.25 100 P **P 05 20 23.7 -1.4**
OTAV IAmb IAmb 05 20 31.3
comp=Z,5.5nm,1.2s
OTAV Otavalo 85.25 100 P **P 05 20 23.7 -1.4**
OTAV pmax pmax
comp=Z,6.0nm,1.2s
PMG Port Moresby 85.63 235 LR LR 05 58 33.6
comp=Z,47nm,18.6s,baz=344,slow=36
MSVF Nonsavu 85.84 204 LR LR 05 50 53.0
comp=Z,118nm,21.9s,baz=36,slow=30
HYB Hyderabad 86.85 308 *eP* **P 05 20 31.7 -0.9**
RAR Rarotonga 87.28 182 LR LR 05 55 08.3
comp=Z,42nm,19.2s,baz=314,slow=32
TBI Tubuai 89.58 173 *eLR* LR 05 49 15.3
comp=Z,443nm,27.0s
MDP Montagnes des 91.15 75 LR LR 06 02 12.7
comp=Z,57nm,19.9s,baz=338,slow=36
ATAH Atahualpa 91.99 103 LR LR 06 05 59.1
comp=Z,53nm,18.1s,baz=349,slow=38
DZM Mont Dzumac 92.30 213 *eLR* LR 05 50 32.0
comp=Z,250nm,30.1s
BBTS Babate 94.13 38 LR LR 06 01 34.1
comp=Z,69nm,18.0s,baz=240,slow=34
PALK Pallekele 95.63 302 LR LR 06 08 14.8
comp=Z,81nm,19.7s,baz=40,slow=38
PLCA Paso Flores 125.20 112 PKP **PKPdf 05 26 47.4 -0.3**
comp=Z,2.0nm,0.9s,baz=312,slow=2.4,SNR=6.5

VNDA Vanda 145.75 195 PKPbc **PKPab 05 27 25.9 +0.5**
comp=Z,3.6nm,1.0s,baz=360,slow=2.0,SNR=10
QSPA South Pole Qui 156.14 180 PKPab **PKPab 05 28 09.3 +0.6**
comp=Z,2.0nm,0.7s,baz=56,slow=2.2,SNR=5.5

---

*JMA **16** 05:25:09.4±0.3, 40°.3N±0°.7×143°.4E±0°.8, h15km±4km, MV4.1/31, FAR E OFF SANRIKU*
*NIED **16** 05:25:09.4, 40°.34N×143°.37E, h15km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.31; Mθθ0.71; Mφφ-0.40; Mrθ0.94; Mrφ0.04; Mθφ1.26; Fault plane solution: M0 1.68000×10^15 NP1: φs120.00000°, δ20.00000°, λ-13.00000°. NP2: φs222.00000°, δ86.00000°, λ-110.00000°.*
*MOS **16** 05:25:09.5±1.3, 40°.28N×143°.58E, h27km, mb4.3/7 Error ellipse: s-maj=10.5km s-min=6.2km az=98.3*
*IDC **16** 05:25:10.4±1.0, 40°.84N×143°.39E, h0km, mb3.8/18, mbtmp3.7/20, ML3.1/3, MS3.4/4, Error ellipse: s-maj=24.4km s-min=19.1km az=167.0*
*NEIC **16** 05:25:12.4±1.7, 40°.27N±0°.06×143°.30E±0°.09, h27km±5km, mb4.3/7, Error ellipse: s-maj=10.1km s-min=8.5km az=127.0*
ISC 16 05:25:11.2±2.4, 40°.28N±0°.05×143°.55E±0°.05, h25km±17km, n90, σ1§79/92, mb4.1/26, MS3.5/4, 3C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.33**	**256**	P	**Pn**	**05 25 31.7**	**-2.5**
JTH				*e*S	**Sn**	**05 25 47.3**	**-3.8**
JKEN	**Kujiedanarisaw**	**1.41**	**268**	P	**Pn**	**05 25 32.5**	**-2.7**
MIYJ	**Miyakonagasawa**	**1.50**	**243**	*i* P	**Pn**	**05 25 34.6**	**-1.8**
JANG	**Nango**	**1.56**	**274**	*i* P	**Pn**	**05 25 34.7**	**-2.5**
ERM	**Erimo**	**1.76**	**351**		**Pn**	**05 25 41.8**	**+1.8**
ERM	**Erimo**	**1.76**	**351**	*ce*P	**Pn**	**05 25 39.0**	**-1.0**
ERM				pmax	pmax		
	comp=Z,193nm,1.0s						
JOM	**Ohasama**	**1.91**	**246**	P	**Pn**	**05 25 41.2**	**-0.9**
JOM				S	**Sn**	**05 26 04.8**	**-0.6**
JTM	**Tenmabayashi**	**1.96**	**286**		**Pn**	**05 25 40.7**	**-2.0**
JTM	**Tenmabayashi**	**1.96**	**286**	P	**Pn**	**05 25 41.2**	**-1.5**
JTM				*e*S	**Sn**	**05 26 03.7**	**-2.7**
JOT	**Ohata**	**2.19**	**301**	P	**Pn**	**05 25 45.2**	**-0.8**
JMK	**Ichinoseki**	**2.23**	**234**	P	**Pn**	**05 25 45.8**	**-0.7**
JCH	**Churui**	**2.34**	**357**	P	**Pn**	**05 25 46.9**	**-1.1**
JCH				S	**Sn**	**05 26 13.7**	**-2.2**
JYK	**Kaneyama**	**2.81**	**242**	P	**Pn**	**05 25 53.8**	**-0.6**
JAK	**Akkeshi**	**2.85**	**17**	P	**Pn**	**05 25 54.5**	**-0.5**
JAK				S	**Sn**	**05 26 26.6**	**-1.9**
JEW	**Eniwo**	**3.01**	**329**	S	**Sn**	**05 26 31.1**	**-1.3**
JAR	**Ashorobuto**	**3.02**	**3**	P	**Pn**	**05 25 56.1**	**-1.2**
JAR				S	**Sn**	**05 26 29.6**	**-3.1**
JMM	**Marumori**	**3.22**	**223**		**Pn**	**05 25 58.2**	**-1.9**
NMR	**Nemuro--Hokkai**	**3.50**	**27⇑**	*i* P	**Pn**	**05 26 02.7**	**-1.1**
NMR				*i* S	**Sn**	**05 26 40.2**	**-4.1**
JKA	**Kamikawa-asahi**	**3.90**	**350**		**Pn**	**05 26 10.1**	**+0.7**
ASAJ	**Asahikawa**	**3.90**	**350**	Pn	Pn	05 26 05.0	-4.4
	comp=Z,1.0nm,0.3s,baz=182,slow=18,SNR=1.5						
ASAJ				Sn	**Sn**	**05 26 53.9**	**-0.5**
	comp=Z,6.7nm,0.3s,baz=318,slow=28,SNR=6.2						
ASAJ	**Asahikawa**	**3.90**	**350**	P	**Pn**	**05 26 10.1**	**+0.7**
RUSJ	**Misakicho**	**4.03**	**18**	*e*P	**Pn**	**05 26 11.0**	**-0.2**
RUSJ				*e*S	**Sn**	**05 26 55.1**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**4.13**	**24**	*e*P	**Pn**	**05 26 12.8**	**+0.2**
YUK				*e*S	**Sn**	**05 26 55.9**	**-4.1**
YUK				pmax	pmax		
	comp=N,231nm,0.2s						
YUK				pmax	pmax		
	comp=E,259nm,0.2s						
YUK				pmax	pmax		
	comp=Z,386nm,0.2s						
YUK				smax	smax		
	comp=N,789nm,0.3s						
YUK				smax	smax		
	comp=E,259nm,0.3s						
SHO	**Shikotan**	**4.34**	**33**	*e*P	**Pn**	**05 26 14.2**	**-1.3**
SHO				*e*S	**Sn**	**05 26 59.9**	**-5.4**
SHO				pmax	pmax		
	comp=E,50nm,0.4s						
SHO				pmax	pmax		
	comp=Z,63nm,0.4s						
SHO				pmax	pmax		
	comp=N,17nm,0.3s						
SHO				smax	smax		
	comp=N,267nm,0.4s						
SHO				smax	smax		
	comp=E,212nm,0.4s						
JSD	**Sado**	**4.68**	**243**	Pn	**Pn**	**05 26 20.2**	**0.0**
MJAR	**Matsushiro Arr**	**5.61**	**230**	Pn	**Pn**	**05 26 34.2**	**+1.3**
	comp=E,0.3nm,0.3s,baz=36,slow=13,SNR=7.6						
MJB9	**Matsu-Tunnel**	**5.61**	**230**		**Pn**	**05 26 32.8**	**-0.2**
MAJO	**Matsushiro**	**5.61**	**230**		**Pn**	**05 26 32.8**	**-0.2**
MAJO	**Matsushiro**	**5.61**	**230**	*i* P	**Pn**	**05 26 33.3**	**+0.3**
KUR	**Kuril'sk**	**5.89**	**31**	*e*P	**Pn**	**05 26 36.4**	**-0.3**
KUR				*e*S	**Sn**	**05 27 38.3**	**-5.0**
KUR				pmax	pmax		
	comp=Z,89nm,0.6s						
KUR				smax	smax		
	comp=N,147nm,0.5s						
KUR				smax	smax		
	comp=E,238nm,0.5s						
YSS	**Yuzhno-Sakhali**	**6.70**	**355**	*e*P	**Pn**	**05 26 50.2**	**+2.4**
YSS				*e*S	**Sn**	**05 28 03.2**	**-0.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
JGF	**Kuroka**	**6.76**	**228**	Pn	**Pn**	**05 26 49.2**	**+0.4**
TEY	**Ternei**	**6.99**	**315**	*e*P	Pn	05 26 55.3	+3.5
USA0B	**Ussuriysk Arra**	**9.43**	**298**	*i* P	**Pn**	**05 27 26.2**	**+1.0**
USRK	**Ussuriysk Ar.**	**9.43**	**298**	Pn	**Pn**	**05 27 21.9**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=99,slow=12,SNR=6.5						
	comp=Z,2.9nm,1.0s						
USRK	**Ussuriysk Ar.**	**9.43**	**298**	*e*P	**Pn**	**05 27 27.9**	**+2.7**
USRK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**12.25**	**321**	*e*P	**Pn**	**05 28 04.8**	**+0.9**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KSRS	**Korea Array**	**12.50**	**262**	Pn	**Pn**	**05 28 09.9**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=73,slow=13,SNR=1.8						
	comp=Z,0.6nm,0.5s						
PETK	**Petropavlovsk-**	**16.05**	**32**	LR	LR	05 35 43.6	
	comp=Z,72nm,19.6s,baz=311,slow=40						
ZEA	**Zeya**	**17.40**	**326**	*e*P	**Pn**	**05 29 11.7**	**-0.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SEY	**Seymchan**	**23.30**	**10**	P	**P**	**05 30 14.8**	**-1.9**
	comp=Z,1.3nm,0.5s,baz=201,slow=7.1,SNR=8.6						
	comp=Z,1.3nm,0.5s						
SEY	**Seymchan**	**23.30**	**10**	*i* P	**P**	**05 30 13.0**	**-3.7**
SONM	**Songino Array**	**27.54**	**298**	P	**P**	**05 30 55.0**	**-0.9**
SONM	**Songino Array**	**27.54**	**298**	P	**P**	**05 30 55.4**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=105,slow=8.2,SNR=5.7						
	comp=Z,0.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.62**	**129**	T	T	06 01 15.2	
	baz=321,slow=75,SNR=83						
H11N1	**WAKE ISLAND Hy**	**28.63**	**129**	T	T	06 01 15.3	
	baz=321,slow=75,SNR=65						
H11N3	**WAKE ISLAND Hy**	**28.64**	**129**	T	T	06 01 18.1	
	baz=321,slow=75,SNR=67						
H11S1	**WAKE ISLAND Hy**	**29.46**	**131**	T	T	06 02 19.3	
	baz=323,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**29.46**	**131**	T	T	06 02 16.3	
	baz=323,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**29.48**	**131**	T	T	06 02 18.7	
	baz=323,slow=76,SNR=17						
C18K	**Utukok River**	**40.63**	**28**	P	**P**	**05 32 49.6**	**+0.9**
C18K				IAmb	IAmb	05 33 03.6	
	comp=Z,3.6nm,0.9s						
ZALV	**Zalesovo Beam**	**41.05**	**310**	P	**P**	**05 32 50.5**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=98,slow=8.1,SNR=4.0						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**41.05**	**310**	*e*P	**P**	**05 32 53.7**	**+1.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
M17K	**Holitna River**	**41.06**	**39**	P	**P**	**05 32 54.6**	**+2.4**
M17K				IAmb	IAmb	05 33 02.5	
	comp=Z,7.4nm,1.2s						
NRIK	**Noril'sk**	**41.07**	**333**	LR	LR	05 49 48.6	
	comp=Z,68nm,20.1s,baz=102,slow=36						
B21K	**Ikpikpuk River**	**43.15**	**27**	P	**P**	**05 33 10.0**	**+0.9**
B21K				IAmb	IAmb	05 33 14.2	
	comp=Z,7.1nm,1.4s						
KDAK	**Kodiak Island**	**43.59**	**44**	LR	LR	05 54 25.1	
	comp=Z,49nm,18.1s,baz=66,slow=40						
MK31	**Makanchi Array**	**43.89**	**300**	*i* P	**P**	**05 33 14.5**	**-1.0**
MKAR	**Makanchi Array**	**43.89**	**300**	P	**P**	**05 33 15.1**	**-0.4**
MKAR	**Makanchi Array**	**43.89**	**300**	P	**P**	**05 33 14.8**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=82,slow=9.1,SNR=7.3						
	comp=Z,1.2nm,0.8s						
E22K	**Anaktuvuk Pass**	**43.96**	**29**	P	**P**	**05 33 17.3**	**+1.5**
E22K				IAmb	IAmb	05 33 18.6	
	comp=Z,11nm,1.4s						
KURK	**Kurchatov**	**45.32**	**306**	*ce*P	**P**	**05 33 25.6**	**-1.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURBB	**Kurchatov Arra**	**45.39**	**306**	P	**P**	**05 33 25.6**	**-1.7**
	comp=Z,3.4nm,0.8s,baz=80,slow=9.1,SNR=4.1						
	comp=Z,3.4nm,0.8s						
ILAR	**Eielson Array**	**45.87**	**34**	P	**P**	**05 33 29.4**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=259,slow=5.8,SNR=10.0						
	comp=Z,0.9nm,0.8s						
ILAR	**Eielson Array**	**45.87**	**34**	*e*P	**P**	**05 33 32.0**	**+1.1**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BVAR	**Borovoye Array**	**49.68**	**311**	P	**P**	**05 33 58.1**	**-2.5**
	comp=Z,1.1nm,0.6s,baz=75,slow=7.8,SNR=5.6						
	comp=Z,1.1nm,0.6s						
BRVK	**Borovoye**	**49.73**	**311**	*i* P	**P**	**05 34 00.1**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,9.0nm,3.1s						
KKAR	**Karatay Array**	**52.99**	**299**	P	**P**	**05 34 24.8**	**-0.8**
KKAR	**Karatay Array**	**52.99**	**299**	P	**P**	**05 34 24.8**	**-0.8**
ARTI	**Arti**	**55.18**	**318**	*d i* P	**P**	**05 34 40.3**	**-1.0**
ARTI						05 35 37.9	
ARTI						05 36 40.8	
ARTI				S	**S**	**05 42 23.8**	**+1.1**
ARTI				SS	**SS**	**05 46 06.0**	**-0.3**
ARTI				pmax	pmax		
	comp=Z,9.0nm,1.8s						
ABKAR	**Akbulak array**	**57.16**	**309**	P	**P**	**05 34 54.7**	**-0.8**
ABKAR	**Akbulak array**	**57.16**	**309**	P	**P**	**05 34 55.6**	**+0.1**
ABKAR				IAmb	IAmb	05 35 04.8	
	comp=Z,3.9nm,0.6s						
YKA	**Yellowknife Ar**	**60.17**	**32**	P	**P**	**05 35 16.7**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=301,slow=6.9,SNR=3.5						
	comp=Z,0.2nm,0.7s						
ARCES	**ARCESS Array B**	**61.56**	**339**	P	**P**	**05 35 26.2**	**+0.6**
	comp=Z,2.8nm,1.0s,baz=17,slow=5.1,SNR=4.6						
	comp=Z,2.8nm,1.0s						
ASAR	**Alice Springs**	**64.24**	**190**	P	P	05 35 51.5	+7.5
	comp=Z,0.3nm,0.7s,baz=18,slow=5.7,SNR=4.5						
	comp=Z,0.3nm,0.7s						
FIA1	**FINESS Array S**	**66.72**	**332**	P	**P**	**05 36 00.1**	**+0.5**
FINES	**FINESS Array B**	**66.72**	**332**	P	**P**	**05 35 59.5**	**-0.1**
FINES	**FINESS Array B**	**66.72**	**332**	P	**P**	**05 35 59.8**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=43,slow=12,SNR=6.8						
	comp=Z,1.4nm,0.9s						
KIV	**Kislovodsk**	**70.04**	**311**	*e*P	**P**	**05 36 22.0**	**+1.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,35nm,18.0s						
KBZ	**Khabaz**	**70.06**	**311**	P	**P**	**05 36 22.1**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=52,slow=4.6,SNR=7.4						
	comp=Z,1.3nm,0.7s						
HFS	**Hagfors**	**71.81**	**336**	P	**P**	**05 36 32.0**	**+0.8**
	comp=Z,2.9nm,0.9s,baz=352,slow=4.5,SNR=4.5						
	comp=Z,2.9nm,0.9s						
HFS	**Hagfors**	**71.81**	**336**	P	**P**	**05 36 32.0**	**+0.8**
NB2	**NORSAR Subarra**	**71.83**	**338**	P	P	05 36 38.0	+6.7
	comp=Z,1.1nm,0.7s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**71.83**	**338**	P	**P**	**05 36 32.1**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=38,slow=6.1,SNR=8.7						
NOA				LR	LR	06 13 08.8	
	comp=Z,25nm,19.3s,baz=20,slow=40						
	comp=Z,0.2nm,0.6s						
AKASG	**Malin Array Be**	**72.75**	**323**	P	**P**	**05 36 36.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=48,slow=5.6,SNR=4.5						
	comp=Z,0.2nm,0.3s						
PDAR	**Pinedale Array**	**74.22**	**47**	P	**P**	**05 36 47.0**	**+1.0**
PDAR	**Pinedale Array**	**74.22**	**47**	P	**P**	**05 36 46.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=287,slow=6.2,SNR=2.1						
	comp=Z,0.3nm,0.7s						
GERES	**GERESS Array B**	**80.82**	**329**	P	**P**	**05 37 23.8**	**+1.2**
	comp=Z,0.2nm,0.2s,baz=18,slow=5.7,SNR=3.9						
	comp=Z,0.2nm,0.2s						
TXAR	**Lajitas Array**	**86.84**	**54**	P	**P**	**05 37 54.9**	**+1.2**
TXAR	**Lajitas Array**	**86.84**	**54**	P	**P**	**05 37 55.4**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=297,slow=4.5,SNR=2.8						
	comp=Z,0.3nm,0.7s						

---

*NOU **16** 05:41:31.8, 21°.60S×176°.11W, h204km, mb4.4/23, Fiji Islands Region*
*IDC **16** 05:41:45.3±9.9, 21°.67S×176°.86W, h306km±92km, mb3.5/5, mbtmp4.3/6, Error ellipse: s-maj=39.8km s-min=27.2km az=43.0*
ISC 16 05:41:31.3±0.7, 21°.7S±0°.1×176°.26W±0°.09, h183km, n31, σ1§36/31, mb3.8/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.47**	**68**	P	**Pn**	**05 43 02.6**	**-2.0**
MSVF	**Nonsavu**	**6.64**	**305**	P	**Pn**	**05 43 08.0**	**+1.2**
AFI	**Afiamalu**	**8.81**	**30**	P	**Pn**	**05 43 34.9**	**-0.5**
MARNC	**Mare, Loyalty**	**14.62**	**268**	P	**P**	**05 44 50.8**	**-0.3**
OUENC	**Ouen Island, N**	**15.69**	**264**	P	**P**	**05 45 03.9**	**+0.9**
DZM	**Mont Dzumac**	**16.07**	**265**	P	**Pn**	**05 45 09.0**	**+1.6**
	16nm,0.8s,baz=104,slow=16,SNR=5.4						
DZM	**Mont Dzumac**	**16.07**	**265**	P	**Pn**	**05 45 08.8**	**+1.4**
URZ	**Urewera**	**17.50**	**198**	P	**P**	**05 45 21.8**	**-0.9**
QRZ	**Quartz Range**	**21.34**	**204**	P	**P**	**05 46 05.1**	**+1.1**
JCZ	**Jackson Bay**	**25.55**	**206**	P	**P**	**05 46 43.7**	**+0.4**
TATA	**Tatamba Isabel**	**26.57**	**296**	P	**P**	**05 46 52.1**	**-0.5**
PYZ	**Puysegur Point**	**28.12**	**206**	P	**P**	**05 47 06.6**	**+0.5**
QLP	**Quilpie**	**36.29**	**254**	P	**P**	**05 48 17.4**	**0.0**
ARPS	**Mount Arapiles**	**39.23**	**238**	P	**P**	**05 48 40.9**	**-1.0**
LCRK	**Leigh Creek**	**41.60**	**248**	P	**P**	**05 49 00.8**	**-0.6**
BBOO	**Buckleboo**	**43.51**	**245**	P	**P**	**05 49 14.4**	**-2.4**
OOD	**Oodnadatta**	**43.86**	**252**	P	**P**	**05 49 20.1**	**+0.5**
AS01	**Alice Springs**	**45.80**	**258**	P	**P**	**05 49 34.7**	**-0.4**
ASAR	**Alice Springs**	**45.85**	**258**	P	**P**	**05 49 33.4**	**-2.1**
	9.3nm,0.8s,baz=91,slow=8.1,SNR=64						
	9.3nm,0.8s						
WRA	**Warramunga Arr**	**46.06**	**263**	P	**P**	**05 49 34.6**	**-2.6**
	1.3nm,0.6s,baz=95,slow=7.9,SNR=27						
	1.3nm,0.6s						
FORT	**Forrest**	**50.34**	**247**	P	**P**	**05 50 08.5**	**-1.2**
WRKA	**Warakurna**	**50.72**	**255**	P	**P**	**05 50 11.2**	**-1.6**
FITZ	**Fitzroy Crossi**	**54.49**	**263**	P	**P**	**05 50 39.8**	**-0.6**
NWAO	**Narrogin (SRO)**	**59.31**	**244**	P	**P**	**05 51 13.1**	**-1.0**
BLDU	**Ballidu**	**60.07**	**246**	P	**P**	**05 51 19.4**	**0.0**
GIRL	**Giralia**	**63.81**	**255**	P	**P**	**05 51 43.7**	**-0.7**
QSPA	**South Pole Qui**	**68.41**	**180**	P	**P**	**05 52 14.5**	**+1.4**
	2.6nm,0.8s,baz=310,slow=0.6,SNR=13						
	2.6nm,0.8s						
TXAR	**Lajitas Array**	**86.32**	**57**	P	**P**	**05 53 55.4**	**+2.3**
	0.9nm,0.9s,baz=206,slow=5.4,SNR=5.4						
	0.9nm,0.9s						
PLCA	**Paso Flores**	**87.29**	**133**	P	**P**	**05 53 59.5**	**+1.9**
	1.4nm,1.0s,baz=233,slow=9.2,SNR=2.2						
	1.4nm,1.0s						
AKASG	**Malin Array Be**	**144.81**	**332**	PKP	**PKPab**	**06 00 44.5**	**-1.2**
	1.6nm,0.5s,baz=45,slow=4.2,SNR=16					

LAR1	LAR	1.01 307	Pg	Pn	05 42 33.6 +0.6
IBND	Bandar-abas	1.19 71	Pg	Pb	05 42 36.4 -0.7
SHME	Shamm	1.27 142	P	Pn	05 42 37.3 +0.8
	SNR=42				
SHME			S	Sb	05 42 55.5 +1.1
SHME	Shamm	1.27 142	*e*P	Pn	05 42 36.9 +0.4
	SNR=27				
SHME			S	Sb	05 42 55.4 +1.0
BANOM	Banah	1.46 141	P	Pn	05 42 40.7 +1.6
BANOM			S	Sb	05 42 59.8 +0.1
BANOM	Banah	1.46 141	*e*P	Pn	05 42 40.0 +0.9
	SNR=419				
UMQ	Umm Al-Quwin	1.56 167	P	Pn	05 42 41.0 +0.4
UMQ			S	Sb	05 43 03.1 +0.2
MASF	Masafi	1.86 154	P	Pn	05 42 45.9 +1.2
	SNR=11				
MASF			S	Sb	05 43 11.4 +0.1
MSFE	Esma-Masafi	1.87 155	*e*P	Pn	05 42 46.6 +1.7
	SNR=19				
LMD1	Lamerd	1.90 279	Pn	Pb	05 42 49.0 -0.2
LMD1	Lamerd	1.90 279	*e*PnA		05 42 48.8
LMD1			IAML		05 43 25.3
	comp=Z,750nm,1.0s				
MDH	Madha	1.98 152	P	Pn	05 42 47.8 +1.4
	SNR=6.2				
MDH			S	Sb	05 43 16.2 +1.5
MDH	Madha	1.98 152	P	Pn	05 42 47.6 +1.3
JHRM	Jahrom	2.08 314	Pn	Pn	05 42 49.6 +1.7
NAZ	Nazwa, Dubai	2.09 170	*e*P	Pn	05 42 49.8 +2.0
	SNR=15				
UOSS	Minazif	2.26 158	Pn	Pn	05 42 51.1 +0.9
UOSS	Minazif	2.26 158	P	Pn	05 42 51.4 +1.2
UOSS			S	Sb	05 43 21.3 -1.6
UOSS	Minazif	2.26 158	*e*P	Pn	05 42 51.3 +1.0
	SNR=12				
KHNJ	Kahnooj	2.33 67	Pn	Pn	05 42 52.0 +0.7
HATD	Hatta, Dubai	2.35 161	P	Pn	05 42 53.1 +1.6
HATD	Hatta, Dubai	2.35 161	*e*P	Pn	05 42 52.8 +1.3
	SNR=14				
GHIR	Ghir-Karzin	2.37 302	*e*PnA		05 42 55.0
GHIR			IAML		05 43 43.9
	comp=Z,80nm,1.0s				
ASUD	Al Ashush, Dub	2.42 179	P	Pn	05 42 54.8 +2.4
ASHO	Ashiyiah	2.47 163	P	Pn	05 42 55.0 +1.9
	SNR=28				
ASHO			S	Sb	05 43 27.7 -1.1
ASHO	Ashiyiah	2.47 163	*e*P	Pn	05 42 54.6 +1.5
	SNR=28				
AJN	Ajban	2.50 186	P	Pn	05 42 54.8 +1.4
NGRK	Negar Kerman	2.88 26	Pn	Pn	05 43 00.5 +1.5
ALNE	Al Ain	3.02 172	P	Pn	05 43 02.5 +1.8
ALNE	Al Ain	3.02 172	P	Pn	05 43 02.2 +1.5
JRN	Qarnain Island	3.03 227	P	Pn	05 43 01.6 +0.8
SOHO	SOHO	3.12 158	P	Pn	05 43 02.3 +0.3
SOHO	SOHO	3.12 158	*i* P	Pn	05 43 02.1 0.0
	SNR=6.7				
KRBR	Kerman	3.19 24	Pn	Pn	05 43 05.5 +2.1
KRBR	Kerman	3.19 24	*e*PnA		05 43 05.7
KRBR			IAML		05 43 23.7
	comp=Z,100nm,1.0s				
CHMN	Cheshme madani	3.43 35	Pn	Pn	05 43 08.8 +2.1
KHGB	Koh Gabri	3.47 17	Pn	Pn	05 43 09.5 +2.4
KBAM	BAM	3.49 53	Pn	Pn	05 43 09.0 +1.8
MZWR	Madinat Zayed	3.52 201	P	Pn	05 43 07.7 +0.2
DSBU	Dashti - Bushe	3.79 291	Pn	Pn	05 43 13.7 +2.4
ARQ	Araqi	3.87 163	P	Pn	05 43 15.0 +2.6
	SNR=16				
HOQ	Hoqain	3.92 152	Pn	Pn	05 43 13.8 +0.8
HOQ	Hoqain	3.92 152	P	Pn	05 43 14.3 +1.2
ZRDN	Zarand Kerman	4.05 16	Pn	Pn	05 43 16.8 +1.8
UMZA	Um Al Zommool	4.33 181	P	Pn	05 43 19.9 +1.3
TRNA	Turayna	4.33 239	P	Pn	05 43 18.0 -0.6
TRNA			S	Sn	05 44 07.2 -0.8
MZR	Muzera	4.35 202	P	Pn	05 43 20.4 +1.4
IMEH	Mehriz	4.36 353	Pn	Pn	05 43 20.9 +1.6
BIDO	Bidbid	4.37 143	P	Pn	05 43 20.0 +0.8
BIDO			S	Sn	05 44 08.4 -0.5
IBAF	Bafgh	4.53 3	Pn	Pn	05 43 23.0 +1.6
SMRA	Abu-Samra	4.62 241	P	Pn	05 43 23.9 +1.3
SMRA			S	Sn	05 44 17.0 +1.7
BSY	Bisya	4.63 157	P	Pn	05 43 24.7 +1.8
	SNR=6.8				
BSY			S	Sn	05 44 16.8 +1.1
SMDO	Samad	4.71 147	P	Pn	05 43 26.3 +2.3
SMDO			S	Sn	05 44 19.3 +1.7
WSAR	Wadi Sarin	4.87 141	Pn	Pn	05 43 27.6 +1.6
	baz=316,slow=23,SNR=24				
WSAR			Sn	Sn	05 44 20.8 -0.5
	comp=Z,0.1nm,0.3s,baz=215,slow=24,SNR=9.4				
WSAR	Wadi Sarin	4.87 141	P	Pn	05 43 27.8 +1.7
WSAR			S	Sn	05 44 21.1 -0.3
ISAD	Sadrabad	5.03 344	Pn	Pn	05 43 31.0 +2.4
KLNJ	Kolanjah	5.09 322	Pn	Pn	05 43 30.8 +1.4
KLNJ	Kolanjah	5.09 322	IAML		05 45 19.3
	comp=Z,36nm,1.0s				
JMDO	Jabal Madar	5.33 151	P	Pn	05 43 33.3 +0.9
JMDO			S	Sn	05 44 32.3 -0.4
YZKH	Yazd	5.35 354	*e*PnA		05 43 34.3
YZKH			IAML		05 43 35.0
	comp=Z,55nm,1.0s				
IRAM	Ramesheh	5.37 333	Pn	Pn	05 43 34.5 +1.4
ZHSF	Zahedan	5.47 61	*e*Pn	Pn	05 43 36.5 +1.9
ZHSF			IAML		05 43 41.9
	comp=Z,16nm,1.0s				
NGCH	Negor - Chabah	5.53 107	P	Pn	05 43 36.7 +1.5
NGCH			S	Sn	05 44 38.4 +0.8
WBK	Wadi Bani Khal	5.55 142	Pn	Pn	05 43 36.3 +0.7
WBK	Wadi Bani Khal	5.55 142	P	Pn	05 43 36.7 +1.1
	SNR=11				
WBK			S	Sn	05 44 38.1 -0.3
BSRN	Basiran	5.93 34	Pn	Pn	05 43 42.0 +1.2
BSRN	Basiran	5.93 34	*e*Pn	Pn	05 43 41.5 +0.7
BSRN			IAML		05 45 47.1
	comp=Z,15nm,1.0s				
IGAR	Gharneh	6.03 333	Pn	Pn	05 43 43.1 +0.9
NASN	Na'in	6.11 340	IAML		05 43 45.6
	comp=Z,22nm,1.0s				
JLN	Jalan Bani Buh	6.17 142	P	Pn	05 43 44.2 +0.3
IKOO	Kooshah	6.25 30	Pn	Pn	05 43 47.2 +1.8
ANAR	Anarak	6.26 348	Pn	Pn	05 43 46.2 +0.9
SRVN	Saravan	6.35 85	Pn	Pn	05 43 48.8 +2.2
SRVN	Saravan	6.35 85	*e*PnA		05 43 48.8
SRVN			IAML		05 43 49.8
	comp=Z,45nm,1.0s				
MHTO	MHTO	6.53 157	P	Pn	05 43 49.2 +0.4
TABS	Tabas	6.76 13	*e*Pn	Pn	05 43 54.4 +2.2
TABS			IAML		05 46 21.2
	comp=Z,20nm,1.0s				
AFRZ	Afriz	7.12 26	Pn	Pn	05 43 59.2 +2.0
DQM	DQM	7.39 163	P	Pn	05 44 01.0 +0.2
KRSH	Karshahi	7.40 339	Pn	Pn	05 44 02.1 +1.0
QAMS	Qamsar	7.45 334	Pn	Pn	05 44 03.0 +1.3
ISFB	Sefidab	7.73 341	Pn	Pn	05 44 07.2 +1.8
SHRT	Shahrakht	7.87 32	*e*PnA		05 44 10.1
SHRT			IAML		05 45 17.1
	comp=Z,9.7nm,1.0s				
KHMZ	Khomeyn	8.09 327	*e*PnA		05 44 14.4
KHMZ			IAML		05 45 50.6
	comp=Z,15nm,1.0s				
DOK	Doka	8.47 187	P	Pn	05 44 15.3 -0.2
DAMV	Damavand	9.00 343	*e*PnA		05 44 28.1
WHFO	Wadi Hawf	9.20 189	P	Pn	05 44 26.0 +0.3
	SNR=23				
DMTO	DMTO	9.30 182	P	Pn	05 44 26.0 -0.9
ABTO	Aybut	9.83 191	P	Pn	05 44 33.6 -0.7
	SNR=5.8				
KBZ	Khabaz	19.42 332	P	P	05 46 38.9 +0.4
	comp=Z,1.6nm,0.6s,baz=125,slow=11,SNR=5.2				
BRTR	Keskin Array B	21.98 311	P	P	05 47 06.4 0.0
	comp=Z,1.7nm,0.7s,baz=134,slow=13,SNR=8.4				
	comp=Z,1.7nm,0.7s				
AAK	Ala-Archa	22.07 40	P	P	05 47 08.5 +1.2
	comp=Z,1.1nm,0.5s,baz=259,slow=13,SNR=3.6				
	comp=Z,1.1nm,0.5s				
BVAR	Borovoye Array	28.28 19	P	P	05 48 04.3 -1.0
	comp=Z,1.3nm,0.6s,baz=211,slow=7.8,SNR=7.4				
	comp=Z,1.3nm,0.6s				
MKAR	Makanchi Array	29.00 40	P	P	05 48 12.1 +0.2
	comp=Z,0.3nm,0.5s,baz=220,slow=7.4,SNR=6.2				
	comp=Z,0.3nm,0.5s				
KURBB	Kurchatov Arra	29.46 31	P	P	05 48 16.0 +0.2
	comp=Z,0.6nm,0.6s,baz=232,slow=8.7,SNR=8.3				
	comp=Z,0.6nm,0.6s				
AKASG	Malin Array Be	30.83 327	P	P	05 48 26.7 -1.2
	comp=Z,1.0nm,0.5s,baz=139,slow=8.5,SNR=8.2				
	comp=Z,1.0nm,0.5s				
KIRV	Kirov	31.78 354	LR	LR	06 03 46.6
	comp=Z,44nm,20.4s,baz=139,slow=41				
ZALV	Zalesovo Beam	34.56 31	P	P	05 49 00.7 +0.2
	comp=Z,2.0nm,0.4s,baz=238,slow=9.6,SNR=12				
	comp=Z,2.0nm,0.4s				
FINES	FINESS Array B	39.57 338	P	P	05 49 42.8 -0.1
	comp=Z,0.8nm,0.5s,baz=126,slow=9.7,SNR=7.2				
	comp=Z,0.8nm,0.5s				
HFS	Hagfors	43.48 331	P	P	05 50 14.3 -0.8
	comp=Z,1.1nm,0.4s,baz=144,slow=11,SNR=8.2				
	comp=Z,1.1nm,0.4s				
NB2	NORSAR Subarra	45.00 331	P	P	05 50 26.4 -0.8
	comp=Z,0.2nm,0.5s,baz=118,slow=8.6				
NOA	NORSAR Array B	45.00 331	P	P	05 50 26.4 -0.8
	comp=Z,0.7nm,0.6s,baz=118,slow=7.8,SNR=6.7				
	comp=Z,0.7nm,0.6s				
ARCES	ARCESS Array B	45.91 346	P	P	05 50 33.3 -1.0
	comp=Z,2.9nm,0.9s,baz=122,slow=6.0,SNR=6.4				
	comp=Z,2.9nm,0.9s				
TORD	Torodi Ar. Bea	51.83 266	P	P	05 51 20.6 +0.2
	comp=Z,1.1nm,0.4s,baz=60,slow=8.8,SNR=3.8				
	comp=Z,1.1nm,0.4s				
ILAR	Eielson Array	86.86 9	P	P	05 54 55.6 -0.5
	comp=Z,0.3nm,0.6s,baz=284,slow=3.0,SNR=4.1				
	comp=Z,0.3nm,0.6s				

*IDC **16** 05:54:49.9±3.2,54°.32N×87°.44E,h0km,mbtmp2.8/2, ML2.2/2,Error ellipse: s-maj=27.2km s-min=19.2km az=47.0*

ASRS 16 05:54:55.0±2.1,54°.27N×87°.11E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.39 258		I	I	06 05 10.0	
	baz=74,slow=330,SNR=3.7						
ZALV	Zalesovo Beam	1.39 257		Pg	Pg	05 55 17.1	-4.5
	0.4nm,0.3s,baz=76,slow=17,SNR=7.2						
ZALV				Lg	Lg	05 55 41.2	
	0.9nm,0.3s,baz=78,slow=25,SNR=6.7						
KURBB	Kurchatov Arra	6.39 239		Pn	Pn	05 56 28.4	-1.9
	baz=56,slow=14,SNR=6.3						
KURBB				Lg	Lg	05 58 17.6	
	baz=55,slow=31,SNR=3.1						
	0.6nm,0.5s						
MKAR	Makanchi Array	8.09 204		Pn	Pn	05 56 51.9	-1.8
	baz=19,slow=14,SNR=4.1						
MKAR				Lg	Lg	05 59 10.4	
	0.1nm,0.3s,baz=29,slow=36,SNR=2.2						
	0.3nm,0.7s						

*IDC **16** 05:59:51.2±3.1,36°.91N×20°.61E,h0km,mb3.5/5, mbtmp3.4/7,ML3.9/2,MS2.9/1,Error ellipse: s-maj=56.5km s-min=33.2km az=177.0*
*THE **16** 05:59:59.0,37°.58N×20°.63E,h7km,ML3.5/9,Error ellipse: s-maj=1.2km s-min=0.4km az=44.0*
*ATH **16** 05:59:59.9,37°.66N×20°.63E,h18km±3km,ML3.6/6, Manual Solution by S.Liakopoulos First location: 2019/04/16 06:01:01, This location: 2019/04/16 08:03:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*

ISC 16 05:59:58.7±1.3,37°.58N±0°.04×20°.61E±0°.04,h12km±7km, n45,σ1°.04/65,mb3.7/5,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.22	56	P	Pg	06 00 03.3	-0.1
LTHK				S	Sg	06 00 06.0	-0.7
KYPS	Kipseli, Zakin	0.29	36	P	Pg	06 00 05.2	+0.5
KYPS				S	Sg	06 00 08.6	-0.1
RTZL	Ratzakli, Kefa	0.51	15	P	Pg	06 00 08.5	-0.2
RTZL				S	Sg	06 00 15.6	+0.2
CLEM	Kyllini,Ilia,G	0.52	54	P	Pg	06 00 08.8	0.0
CLEM				S	Sg	06 00 15.6	-0.1
PSDA	Pessada-Kefalo	0.53	358	P	Pg	06 00 09.3	+0.3
PSDA				S	Sb	06 00 17.5	0.0
VLS	Valsamata	0.59	359	P	Pg	06 00 10.2	0.0
VLS				S	Sg	06 00 19.1	+1.0
	5μm,0.1s						
VLS	Valsamata	0.59	359	P	Pg	06 00 10.3	+0.1
VLS				S	Sg	06 00 17.9	-0.2
LCHA	Lechaina	0.63	56	P	Pb	06 00 11.9	+0.3
LCHA				S	Sg	06 00 19.3	+0.1
SMHA	Samh	0.67	3	P	Pg	06 00 10.7	-0.9
SMHA				S	Sg	06 00 20.2	-0.2
DMLN	Damoulianata-K	0.68	344	P	Pg	06 00 12.0	+0.1
DMLN				S	Sg	06 00 22.1	+1.3
	8μm,0.4s						
YRMI	Loutra Irminis	0.79	48	P	Pg	06 00 13.3	-0.6
YRMI				S	Sg	06 00 22.7	-1.5
VSK1	VASILIKIADES	0.82	358	P	Pg	06 00 14.2	-0.4
VSK1				S	Sb	06 00 27.1	+1.1
	6μm,0.4s						
RLS	Riolos of Patr	0.83	55	P	Pg	06 00 14.2	-0.5
RLS				S	Sb	06 00 26.1	0.0
	3μm,0.5s						
RLS	Riolos of Patr	0.83	55	P	Pg	06 00 14.2	-0.5
RLS				S	Sg	06 00 24.7	-0.9
ZARO	Zacharo	0.84	96	P	Pn	06 00 16.2	0.0
ZARO				S	Sb	06 00 27.4	+1.1
FSK	Fiskardo	0.88	358	P	Pg	06 00 15.2	-0.4
FSK				S	Sb	06 00 28.1	+0.7
	2μm,0.3s						
EVGI	Lefkada island	1.04	2	P	Pg	06 00 18.1	-0.5
EVGI				S	Sb	06 00 33.6	+1.5
	3μm,0.2s						
ITM	Ithomi	1.13	111	P	Pg	06 00 20.1	-0.3
ITM				S	Sb	06 00 35.8	+1.1
	2μm,0.7s						
ITM	Ithomi	1.13	111	P	Pb	06 00 20.4	+0.3
NYDR	Nydri-Lefkada	1.13	4	P	Pg	06 00 19.6	-0.8
NYDR				S	Sn	06 00 36.7	+1.0
	1μm,0.5s						
MTHA	Methoni	1.16	131	P	Pn	06 00 22.2	+1.5
UPR	University Cam	1.17	53	P	Pg	06 00 20.7	-0.4
UPR				S	Sn	06 00 37.6	+1.0
LKD2	Lefkada island	1.20	2	P	Pg	06 00 20.9	-0.9
LKD2				S	Sn	06 00 38.8	+1.2
	2μm,0.4s						
TSLK	Tsoukalades, L	1.24	2	P	Pb	06 00 21.4	-0.6
KLV	Kalavryta, Ach	1.31	69	P	Pn	06 00 22.6	-0.2
KLV	Kalavryta, Ach	1.31	69	P	Pn	06 00 22.8	0.0
EFP	Efpalio	1.33	50	P	Pn	06 00 22.8	-0.2
GUR	Goura	1.42	75	P	Pn	06 00 24.2	-0.2
ANX	Ano Chora	1.45	45	P	Pn	06 00 24.6	-0.1
KALE	Kalithea	1.46	56	P	Pn	06 00 24.5	-0.3
EVR	Evrytania	1.63	35	P	Pn	06 00 27.9	+0.6
EVR	Evrytania	1.63	35	P	Pn	06 00 28.7	+1.4
TETR	Tetrakomo, Epi	1.83	16	P	Pb	06 00 32.2	0.0
AXAR	Agios Charalam	2.00	53	P	Pn	06 00 32.8	+0.5
KEK	Kerkira	2.22	344	P	Pn	06 00 35.9	+0.6
THL	Klokotos Trika	2.27	29	P	Pn	06 00 36.8	+0.9
OHR	Ohrid	3.53	2	*i* Pn	Pb	06 00 58.6	-2.4
IDI	Anoyia	4.15	122	LR	LR	06 02 42.4	
	comp=Z,162nm,18.4s,baz=224,slow=45						
AKASG	Malin Array Be	14.48	22	Pn	Pn	06 03 26.8	+3.4
	0.6nm,0.3s,baz=209,slow=8.2,SNR=4.9						
	0.2nm,0.3s						
ESDC	Sonseca Array	19.30	284	P	P	06 04 20.6	-2.8
	0.1nm,0.3s,baz=82,slow=12,SNR=4.1						
	0.1nm,0.3s						
HFS	Hagfors	23.00	351	P	P	06 05 03.9	+0.9
	1.2nm,0.5s,baz=165,slow=12,SNR=6.0						
	1.2nm,0.5s						
FINES	FINESS Array B	24.13	6	P	P	06 05 13.3	-0.8
	0.5nm,0.5s,baz=176,slow=9.3,SNR=4.8						
	0.5nm,0.5s						
ARCES	ARCESS Array B	32.12	3	P	P	06 06 25.6	+0.1
	1.7nm,0.9s,baz=186,slow=9.9,SNR=1.5						
	1.7nm,0.9s						
MKAR	Makanchi Array	45.56	58	P	P	06 08 15.9	-2.3
	0.1nm,0.6s,baz=269,slow=7.4,SNR=4.1						
	0.1nm,0.6s						
ZALV	Zalesovo Beam	46.04	48	P	P	06 08 19.4	-2.5
	0.3nm,0.3s,baz=282,slow=6.6,SNR=1.8						
	0.3nm,0.3s						

*IDC **16** 06:05:18.4±3.7,54°.19N×87°.47E,h0km,mbtmp2.6/2, ML2.3/2,Error ellipse: s-maj=32.6km s-min=20.0km az=46.0*

ASRS 16 06:05:18.0±0.7,54°.11N×87°.18E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.40 264		I	I	06 16 00.0	
	baz=80,slow=336,SNR=1.8						
ZALV	Zalesovo Beam	1.40 264		Pg	Pb	06 05 46.6	+1.6
	1.7nm,0.3s,baz=81,slow=16,SNR=18						
ZALV				Lg	Lg	06 06 09.0	
	0.8nm,0.3s,baz=84,slow=29,SNR=5.2						
KURBB	Kurchatov Arra	6.34 240		Pn	Pn	06 06 55.6	+3.0
	0.1nm,0.3s,baz=54,slow=13,SNR=3.9						
	0.2nm,0.3s						
MKAR	Makanchi Array	7.96 205		Pn	Pn	06 07 19.2	+4.3
	baz=28,slow=13,SNR=1.9						
	0.1nm,0.4s						

*JMA **16** 06:06:25.3±0.2,24°.3N±0°.7×122°.0E±0°.4,h51km±2km, MV2.8/10,TAIWAN REGION*
*TAP **16** 06:06:25.9,24°.38N×122°.01E,h26km,ML3.5,B*

ISC 16 06:06:26.1±0.9,24°.38N±0°.02×122°.06E±0°.02,h18km±2km, n121,σ0°.74/172,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.17 77	*e*P	Pg	Pg	06 06 32.4	+2.0
EOS3	EOS3	0.26 112	P	Pn	Pn	06 06 33.4	-1.5
EOS3			*e*S	Sn	Sn	06 06 39.5	-0.8
EWUT	Wuta	0.26 284	P	Pg	Pg	06 06 32.1	+0.1
EWUT			*i* S	Sb	Sb	06 06 36.6	+0.4
ESAO	Su ao	0.27 315	*e*P	Pb	Pb	06 06 32.7	+0.2
ESAO			*i* S	Sb	Sb	06 06 36.9	+0.2
ENA	Nanau	0.29 279	*i* P	Pg	Pg	06 06 32.5	0.0
ENA			S	Sg	Sg	06 06 37.3	+0.4
EAHA	Aohua	0.29 260	*e*P	Pg	Pg	06 06 32.7	+0.2
EAHA			*e*S	Sb	Sb	06 06 37.8	+0.5
TWC	Suao	0.29 320	*i* P	Pb	Pb	06 06 32.8	-0.1
TWC			S	Sb	Sb	06 06 37.4	0.0
EHP	Heping Village	0.30 256	*e*P	Pg	Pg	06 06 32.8	+0.1
EOS4	EOS4	0.35 137	*i* P	Pb	Pb	06 06 34.2	+0.5
EOS4			*e*S	Sb	Sb	06 06 40.8	+1.9
NDS	Dongshan	0.40 309	*e*P	Pg	Pg	06 06 33.7	-0.7
ETL	Fush Village	0.45 241	*e*P	Pg	Pg	06 06 35.4	0.0
NACB	Ninganchiao	0.47 244	P	Pg	Pg	06 06 35.4	-0.3
NACB	Ninganchiao	0.47 244	S	Sb	Sb	06 06 43.8	+1.3
NACB	Ninganchiao	0.47 244	P	Pg	Pg	06 06 35.2	-0.4
ILA	Ilan	0.47 324	*e*S	Sb	Sb	06 06 43.3	+0.7
EGS		0.47 346	*e*P	Pb	Pb	06 06 36.3	+0.4
EGS			*e*S	Sb	Sb	06 06 43.0	+0.3
TWE	Neicheng	0.49 314	P	Pg	Pg	06 06 35.8	-0.2
LATG	Datong	0.51 288	*e*P	Pg	Pg	06 06 36.2	-0.1
LATG			*e*S	Sb	Sb	06 06 44.0	+0.5
ENTT	Nioudou	0.51 300	*e*P	Pg	Pg	06 06 36.5	0.0
TWD	Chiawan	0.52 234	P	Pb	Pb	06 06 36.1	-0.6
TWD			*e*S	Sb	Sb	06 06 44.7	+0.9
ETLH	Xiulin Townshi	0.55 252	P	Pb	Pb	06 06 37.0	-0.2
FUSB	Fushanzhiwuyua	0.57 311	P	Pb	Pb	06 06 37.4	-0.2
HWA	Hwalien	0.58 226	*e*P	Pb	Pb	06 06 37.9	+0.3
NNSB	Datong	0.61 274	P	Pb	Pb	06 06 37.9	-0.5
NNSB			*e*S	Sb	Sb	06 06 46.7	0.0
TIPB	Shuangxi	0.62 340	P	Pg	Pg	06 06 38.5	0.0
TIPB			*e*S	Sg	Sg	06 06 47.1	+0.2
NNS	Nan Shan	0.62 275	*e*P	Pb	Pb	06 06 38.2	-0.3
NNS			S	Sb	Sb	06 06 46.9	0.0
TWB1	Santiao Chiao	0.63 354	*i* P	Pg	Pg	06 06 38.8	+0.3
TWB1			S	Sg	Sg	06 06 47.6	+0.7
NWLT	Wulai	0.64 308	*e*P	Pb	Pb	06 06 38.5	-0.2
ETM	Tongmen	0.66 231	*e*P	Pb	Pb	06 06 38.3	-0.8
YHNB	Yeheng	0.68 295	P	Pb	Pb	06 06 39.2	-0.3
YHNB	Yeheng	0.68 295	S	Sb	Sb	06 06 48.9	+0.3
YHNB	Yeheng	0.68 295	*i* P	Pb	Pb	06 06 39.1	-0.4
YHNB			S	Sb	Sb	06 06 48.5	-0.1
LXIB	Xiulin Townshi	0.69 239	P	Pb	Pb	06 06 38.6	-1.0
LXIB			*e*S	Sb	Sb	06 06 49.5	+0.6
NSK	Sanguang	0.70 295	*i* P	Pb	Pb	06 06 39.4	-0.4
NSK			*i* S	Sb	Sb	06 06 49.0	-0.1
SXI1	Grass Mountain	0.73 347	P	Pb	Pb	06 06 40.1	-0.2
NWF	Wu-fen Shan	0.73 340	*e*P	Pn	Pb	06 06 41.0	-0.7
NWF			*e*S	Sg	Sg	06 06 50.9	+0.7
WFSB	Wu-fen Shan	0.73 340	*e*P	Pg	Pg	06 06 40.8	+0.3
WFSB			*e*S	Sn	Sn	06 06 51.1	-1.1
TWA	Mucha	0.73 324	*e*P	Pn	Pb	06 06 41.8	+0.1
SHUL	Shoufeng	0.74 217	*e*P	Pb	Pb	06 06 40.5	-0.1
FUSS	Fushou	0.75 260	*i* P	Pb	Pb	06 06 40.4	-0.5
FUSS			*i* S	Sb	Sb	06 06 51.0	+0.2
NHDH	Xindian Distri	0.75 320	*e*P	Pg	Pb	06 06 40.9	0.0
WHF	Hehuan Shan	0.76 252	*i* P	Pb	Pb	06 06 40.3	-0.7
WHF			S	Sb	Sb	06 06 51.5	+0.3
TATO	Taipei	0.78 319	P	Pg	Pg	06 06 41.8	+0.3
TATO	Taipei	0.78 319	S	Sn	Sn	06 06 52.8	-0.7
ESL	Shilin	0.80 225	P	Pb	Pb	06 06 40.6	-0.9
TNU	National Taiwa	0.81 341	*e*P	Pn	Pn	06 06 42.1	-0.5
TWT	Tachien	0.81 261	*e*P	Pb	Pb	06 06 41.6	-0.2
TWT			*i* S	Sb	Sb	06 06 53.1	+0.6
JYNG	Yonagunijimaku	0.81 85	*e*P	Pb	Pb	06 06 41.5	-0.2
JYNG			*e*S	Sg	Sg	06 06 52.7	-0.1
TAP	Taipei	0.82 323	*e*S	Sn	Sn	06 06 54.1	-0.4
TDCB	Techi	0.83 261	P	Pb	Pb	06 06 41.5	-0.6
TDCB			*e*S	Sb	Sb	06 06 53.1	+0.1
YOJ	Yonaguni jima	0.87 85	P	Pb	Pb	06 06 42.7	-0.1
YOJ	Yonaguni jima	0.87 85	S	Sn	Sn	06 06 55.0	-0.8
YOJ	Yonaguni jima	0.87 85	*e*P	Pb	Pb	06 06 42.5	-0.3
YOJ			*e*S	Sg	Sg	06 06 54.7	-0.1
YOJ	Yonaguni jima	0.87 85	*i* P	Pb	Pb	06 06 42.5	-0.3
YOJ			*e

WNT	Mingjian	1.35	248	eP	Pb	06 06 51.0	+0.1
WNT				eS	Sg	06 07 09.8	0.0
FULB	Fuli	1.37	211	eP	Pn	06 06 49.6	-0.8
WCHH	Zhanghua	1.40	258	eS	Sg	06 07 11.0	-0.4
ALS	Alishan	1.44	233	eP	Pn	06 06 51.5	0.0
CHN5	Tsauling	1.48	238	eP	Pn	06 06 52.5	+0.5
CHN5				eS	Sb	06 07 13.0	+1.3
IRIF	Iriomote-Funau	1.53	91	eP	Pn	06 06 51.8	-0.7
IRIF				eS	Sn	06 07 10.8	-1.1
WDLH	Douliu	1.55	244	eP	Pn	06 06 53.8	+1.0
WDLH				eS	Sb	06 07 15.1	+1.6
EDH	Donghe	1.56	206	eP	Pn	06 06 50.7	-2.3
WCKO	Fanlu	1.63	235	eP	Pn	06 06 55.0	+1.1
WCKO				eS	Sb	06 07 17.2	+1.4
WTK	Tuku	1.67	246	eS	Sb	06 07 18.1	+0.9
STYH	Taoyuan	1.68	224	eP	Pn	06 06 53.5	-1.1
CHN4	Tsaushan	1.69	233	eP	Pn	06 06 55.9	+1.1
CHN4				eS	Sb	06 07 19.2	+1.6
TPUB	Ta-pu	1.69	231	P	Pb	06 06 56.2	-0.5
TPUB	Ta-pu	1.69	231	S	Sb	06 07 19.6	+1.9
TPUB	Ta-pu	1.69	231	eP	Pn	06 06 55.1	+0.3
TPUB				eS	Sb	06 07 17.6	-0.2
LONT	Longtian	1.70	210	eP	Pn	06 06 53.9	-1.0
CHY	Chiayi	1.73	240	eP	Pb	06 06 57.0	-0.4
WTP	Ta-pu	1.74	230	eP	Pn	06 06 56.4	+1.0
JKRS	Kuro-shima	1.79	94	eP	Pn	06 06 55.8	-0.3
JKRS				eS	Sn	06 07 18.0	-0.3
TWK	Hsinying	1.81	233	eP	Pn	06 06 56.7	+0.2
WSF	Szhu	1.83	247	eS	Sb	06 07 21.3	-0.4
CHN1	Nanshi	1.84	230	eS	Sb	06 07 22.5	+0.6
SNST	Tainan City	1.84	231	eP	Pn	06 06 57.2	+0.4
SGST	Jiashian	1.87	226	eP	Pn	06 06 57.1	-0.1
WSL	Shuilin Townsh	1.88	243	eP	Pn	06 06 58.1	+0.8
WSL				eS	Sb	06 07 23.6	+0.5
ICHU	Yijhu	1.92	238	eP	Pn	06 06 58.7	+0.8
ICHU				eS	Sb	06 07 23.8	-0.4
ECL	Taimali	2.04	210	eP	Pn	06 07 00.3	+0.7
JISG	Ishigakijimahi	2.06	84	eP	Pn	06 06 59.1	-0.7
JISG				eS	Sn	06 07 23.7	-1.4
SSD	Sandimen	2.09	219	eP	Pn	06 07 01.5	+1.2
MASBT	Mashibuluo	2.19	217	eP	Pn	06 07 03.1	+1.4
EAST	Anshuo	2.28	209	eP	Pn	06 07 02.9	0.0
SCZT	Fangliau	2.40	214	eP	Pn	06 07 04.7	+0.2

*ATH **16** 06:19:48.3±0.3, 35°.88N×27°.29E, h8km, ML2.5/4, Manual Solution by S.Liakopoulos First location: 2019/04/16 06:21:13, This location: 2020/10/23 09:43:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*ISK **16** 06:19:48.2, 35°.89N×27°.28E, h9km, ML2.3/12*
*THE **16** 06:19:49.0, 35°.81N×27°.38E, h15km±2km, ML2.6/3, Error ellipse: s-maj=4.8km s-min=0.8km az=141.0*

ISC 16 06:19:48.4±1.1, 35°.88N±0°.04×27°.27E±0°.04, h13km±11km, n22, σ0°57/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.34	194	P	Pb	06 19 56.0	-0.4
KARP				S	Sg	06 20 00.6	+0.6
	2μm,0.3s						
KARP	Karpathos	0.34	194	Pg	Pb	06 19 55.9	-0.4
KARP				Sg	Sg	06 20 00.8	+0.8
KARP	Karpathos	0.34	194	P	Pb	06 19 56.0	-0.4
KARP				S	Sb	06 20 01.2	-0.5
ARG	Arkhangelos	0.78	64	P	Pg	06 20 02.9	-0.6
ARG				S	Sb	06 20 13.5	-0.7
	638nm,0.3s						
ARG	Arkhangelos	0.78	64	Pg	Pg	06 20 03.1	-0.4
ARG				Sg	Sb	06 20 14.6	+0.4
ARG	Arkhangelos	0.78	64	P	Pg	06 20 03.1	-0.4
ARG				S	Sb	06 20 13.7	-0.5
DAT	Datca	0.89	16	Pg	Pb	06 20 05.8	0.0
DAT				Sg	Sb	06 20 17.7	+0.1
ZKR	Zakros	1.14	229	P	Pb	06 20 10.1	0.0
ZKR				S	Sg	06 20 24.9	-0.5
	150nm,0.2s						
ZKR	Zakros	1.14	229	P	Pn	06 20 10.7	+0.5
ZKR				S	Sg	06 20 25.6	+0.2
BODT	Bodrum	1.18	2	Pn	Pn	06 20 11.4	+0.7
TURN	Turunc	1.20	41	Pn	Pb	06 20 10.5	-0.4
AMGA	Amorgos Island	1.46	311	P	Pn	06 20 15.0	+0.4
DALY	Dalyan (Mula)	1.46	50	Pn	Pb	06 20 15.2	-0.3
YER	Yerkesik	1.50	33	Pn	Pb	06 20 15.2	+0.1
FETY	Fethiye	1.65	62	Pn	Pb	06 20 18.2	-0.6
APE	Apeiranthos	1.84	311	P	Pn	06 20 19.8	+0.1
APE	Apeiranthos	1.84	311	P	Pn	06 20 19.9	+0.1
AKAS	Kas	1.93	79	Pn	Pn	06 20 21.9	+0.8
CAME	Cameli-Denizli	1.96	56	Pn	Pn	06 20 22.1	+0.6
IDI	Anoyia	2.02	254	P	Pn	06 20 22.9	+0.6
AYDB	Zeytinkoy-Aydi	2.13	13	Pn	Pn	06 20 24.7	+0.9
APMY	Acipayam-Deniz	2.28	45	Pn	Pn	06 20 27.1	+1.2

*IDC **16** 06:24:43.4±3.4, 54°.48N×87°.19E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=31.8km s-min=20.3km az=44.0*

ASRS 16 06:24:43.0±0.7, 54°.37N×86°.95E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.32	252	I	I	06 34 40.0	
	baz=70,slow=330,SNR=4.7						
ZALV	Zalesovo Beam	1.32	252	Pg	Pn	06 25 09.4	+0.7
	1.2nm,0.3s,baz=64,slow=15,SNR=10						
ZALV				Lg	Lg	06 25 30.9	
	1.2nm,0.3s,baz=70,slow=26,SNR=5.8						
KURBB	Kurchatov Arra	6.36	237	Pn	Pn	06 26 21.4	+3.4
	0.1nm,0.3s,baz=53,slow=13,SNR=7.9						
	0.3nm,0.3s						
MKAR	Makanchi Array	8.14	203	Pn	Pn	06 26 46.2	+3.8
	0.2nm,0.3s,baz=26,slow=14,SNR=6.9						
	0.2nm,0.3s						

*NEIC **16** 06:33:38.9±1.2, 61°.490N±0°.009×149°.89W±0°.04, h36km±9km, Error ellipse: s-maj=2.9km s-min=1.3km az=102.0*

AEIC 16 06:33:39.1±1.2, 61°.49N±0°.03×149°.89W±0°.04, h37km±7km, ML2.6, ML2.8/132(NEIC), Error ellipse: s-maj=3.7km s-min=2.4km az=160.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.29	337		Pn	06 33 46.1	-1.1
M22K					Sn	06 33 52.2	-2.3
M22K	Willow	0.29	337	IAML		06 33 53.3	
	comp=N,2μm,0.7s						
M22K				IAML		06 33 53.4	
	comp=E,2μm,0.6s						
PMR	Palmer	0.38	74	Pn	Pn	06 33 47.2	-0.6
PMR				IAML		06 33 54.7	
	comp=E,692nm,0.4s						
PMR				IAML		06 33 54.8	
	comp=N,631nm,0.4s						
PMR	Palmer	0.38	74		Sn	06 33 54.0	-0.5
FIS	Fire Island	0.38	205		Pn	06 33 47.9	+0.1
FIS	Fire Island	0.38	205	IAML		06 33 56.8	
	comp=N,877nm,0.6s						
FIS				IAML		06 33 57.2	
	comp=E,736nm,0.3s						
RC01	Rabbit Creek A	0.41	169		Sn	06 33 54.8	-0.2
RC01	Rabbit Creek A	0.41	169		Pn	06 33 47.5	-0.7
RC01				IAML		06 33 55.7	
	comp=E,692nm,0.3s						
RC01				IAML		06 33 55.9	
	comp=N,962nm,0.3s						
SUA	Susitna One	0.41	267	Pn	Pn	06 33 47.8	-0.6
SUA	Susitna One	0.41	267		Sn	06 33 55.1	-0.2
GHO	Glory Hole Cre	0.54	58		Pn	06 33 49.4	-1.1
GHO					Sn	06 33 58.3	0.0
GHO	Glory Hole Cre	0.54	58	IAML		06 33 59.4	
	comp=N,714nm,0.3s						
GHO				IAML		06 33 59.4	
	comp=E,705nm,0.4s						
KNK	Knik Glacier	0.69	96		Pn	06 33 51.8	-0.6
KNK					Sn	06 34 01.7	-0.1
SML	Sawmill	0.81	66		Pn	06 33 53.1	-0.9
SML	Sawmill	0.81	66	IAML		06 34 07.3	
	comp=N,235nm,0.8s						
SKT	Skwentna	0.92	303	Pn	Pn	06 33 54.5	-1.0
SKT				IAML		06 34 11.4	
	comp=E,232nm,0.4s						
STLK	Strandline Lak	0.93	271		Pn	06 33 55.0	-0.7
STLK					Sn	06 34 07.4	-0.5
STLK	Strandline Lak	0.93	271	IAML		06 34 08.7	
	comp=N,239nm,0.3s						
CUT	Chulitna	0.94	349		Pn	06 33 54.9	-0.8
CAPN	Captain Cook N	0.95	221		Pn	06 33 56.4	+0.6
CAPN	Captain Cook N	0.95	221	IAML		06 34 13.8	
	comp=N,348nm,0.7s						
PWL	Port Wells	0.98	129		Pn	06 33 55.7	-0.7
SLKM	Skilak Lake	1.00	189		Pn	06 33 55.2	-1.3
SLKM	Skilak Lake	1.00	189	IAML		06 34 12.2	
	comp=E,274nm,0.4s						
SLKM				IAML		06 34 14.7	
	comp=N,171nm,0.3s						
O22K	Cooper Landing	1.01	175		Pn	06 33 56.1	-0.6
M23K	Glacier View	1.08	73		Pn	06 33 57.3	-0.4
SPCR	Spurr Chakacha	1.16	256		Pn	06 33 58.1	-0.6
SCM	Sheep Creek Mo	1.27	73		Pn	06 34 00.2	-0.1
SCM				IAML		06 34 19.5	
	comp=N,225nm,0.7s						
SEW	Seward	1.41	171		Pn	06 34 01.6	-0.5
SEW				IAML		06 34 27.0	
	comp=E,92nm,0.5s						
GLI	Glacier Island	1.49	113		Pn	06 34 02.9	-0.3
GLI				IAML		06 34 26.7	
	comp=N,170nm,0.3s						
M20K	Styx River	1.59	286		Pn	06 34 04.9	+0.1
M20K				IAML		06 34 27.9	
	comp=E,107nm,1.0s						
M20K				IAML		06 34 28.2	
	comp=N,124nm,0.8s						
PPLA	Purkeypile	1.78	324		Pn	06 34 07.3	0.0
PPLA				IAML		06 34 31.8	
	comp=E,72nm,0.8s						
PPLA				IAML		06 34 44.9	
	comp=N,67nm,1.1s						
BRLK	Bradley Lake	1.80	196		Pn	06 34 07.8	+0.3
BRLK				IAML		06 34 32.5	
	comp=E,62nm,0.4s						
BRLK				IAML		06 34 34.7	
	comp=N,80nm,0.3s						
FID	Port Fidalgo	1.81	113		Pn	06 34 07.0	-0.7
FID				IAML		06 34 31.0	
	comp=N,109nm,0.4s						
FID				IAML		06 34 31.1	
	comp=E,129nm,0.4s						
KLU	Klutina	1.90	88	IAML		06 34 40.0	
	comp=E,80nm,0.4s						
KLU				IAML		06 34 40.6	
	comp=N,73nm,0.6s						
TRF	Thorofare Moun	1.98	355		Pn	06 34 10.3	+0.1
TRF				IAML		06 34 37.9	
	comp=E,80nm,0.6s						
RND	Reindeer	1.98	14	Pn	Pn	06 34 10.6	+0.5
HIN	Hinchinbrook I	1.98	122		Pn	06 34 09.6	-0.5
HIN				IAML		06 34 41.4	
	comp=E,103nm,1.0s						
HIN				IAML		06 34 49.7	
	comp=N,78nm,0.9s						
DIV	Divide	2.02	98		Pn	06 34 10.3	-0.3
DIV				IAML		06 34 37.5	
	comp=E,52nm,0.2s						
DIV				IAML		06 34 42.7	
	comp=N,96nm,0.5s						
CNPM	China Poot	2.08	199		Pn	06 34 11.3	-0.1
CNPM				IAML		06 34 40.4	
	comp=E,47nm,0.5s						
CNPM				IAML		06 34 41.9	
	comp=N,47nm,0.4s						
M19K	Big River Lodg	2.19	283		Pn	06 34 12.9	0.0
CAST	Castle Rocks	2.19	333	Pn	Pn	06 34 13.1	+0.2
ILSW	Iliamna Southw	2.20	228		Pn	06 34 14.1	+1.0
EYAK	Cordova Ski Ar	2.23	113		Pn	06 34 12.7	-0.6
EYAK				IAML		06 34 49.0	
	comp=E,50nm,0.5s						
EYAK				IAML		06 34 52.1	
	comp=N,42nm,0.4s						
N19K	Bonanza Creek	2.33	255		Pn	06 34 14.6	-0.3
L19K	White Mountain	2.46	289		Pn	06 34 17.0	+0.4
L19K				IAML		06 34 47.4	
	comp=E,33nm,0.8s						
P19K	Oil Pt	2.47	223		Pn	06 34 17.5	+0.7
P19K				IAML		06 35 06.4	
	comp=N,49nm,0.7s						
P19K				IAML		06 35 08.1	
	comp=E,54nm,0.6s						
N25K	Chitina, Valde	2.54	85		Pn	06 34 17.7	0.0
N25K				IAML		06 34 55.4	
	comp=E,28nm,0.5s						
N25K				IAML		06 34 55.8	
	comp=N,54nm,0.5s						
PAX	Paxson	2.55	52		Pn	06 34 19.6	+1.7
BMRM	Bremner River	2.61	99		Pn	06 34 18.8	+0.1
BMRM				IAML		06 35 00.1	
	comp=E,41nm,0.8s						
K20K	Telida	2.70	316		Pn	06 34 19.7	-0.2
K20K				IAML		06 34 52.8	
	comp=E,26nm,0.7s						
GLB	Gilahina Butte	2.92	88		Pn	06 34 24.2	+1.3
GLB				IAML		06 35 07.4	
	comp=N,45nm,0.8s						
GLB				IAML		06 35 12.6	
	comp=E,20nm,0.5s						
N18K	Kilae Creek	3.03	257		Pn	06 34 24.2	-0.2
WRH	Wood River Hil	3.10	15		Pn	06 34 25.6	+0.2
VRDI	Verde Repeater	3.11	92	IAML		06 35 15.0	
	comp=N,18nm,0.7s						
HDA	Harding Lake	3.22	23	IAML		06 35 12.5	
	comp=N,29nm,0.5s						
HDA				IAML		06 35 13.7	
	comp=E,22nm,0.5s						
RIDG	Independent Ri	3.25	44		Pn	06 34 30.4	+3.0
RIDG				IAML		06 35 21.4	
	comp=N,23nm,0.5s						
CCB	Clear Creek Bu	3.31	16		Pn	06 34 28.6	+0.4
J20K	Nowinta River	3.33	326		Pn	06 34 28.5	-0.1
M26K	Nabesna, AK	3.38	71	IAML		06 35 28.6	
	comp=N,15nm,0.5s						
M26K				IAML		06 35 29.0	
	comp=E,15nm,0.5s						
COLA	College	3.52	14		Pn	06 34 30.1	-1.0
COLA				IAML		06 35 29.4	
	comp=E,27nm,0.6s						
J19K	Poorman	3.64	316	IAML		06 35 33.6	
	comp=N,14nm,0.8s						
J19K				IAML		06 35 34.5	
	comp=E,17nm,0.8s						
SCRK	Sand Creek	3.69	45		Pn	06 34 40.0	+6.4
J18K	Innoko River	3.74	305	IAML		06 35 18.1	
	comp=N,20nm,0.7s						
J18K				IAML		06 35 33.2	
	comp=E,11nm,0.6s						
J25K	Salcha River,	3.75	31	IAML		06 35 25.4	
	comp=N,11nm,0.8s						
J25K				IAML		06 35 27.1	
	comp=E,12nm,0.7s						
K17K	Iditarod	4.14	291	IAML		06 35 54.4	
	comp=E,15nm,1.4s						
K17K				IAML		06 36 06.0	
	comp=N,13nm,1.2s						
J26L	Joseph Creek	4.18	41	IAML		06 35 34.0	
	comp=E,14nm,0.5s						
J26L				IAML		06 35 36.1	
	comp=N,15nm,0.8s						
PRP	Porcupine Dome	4.49	24	IAML		06 35 42.0	
	comp=E,6.3nm,0.8s						
PRP				IAML		06 35 44.6	
	comp=N,8.6nm,0.9s						
I26K	Coal Creek Min	4.88	35	IAML		06 36 13.0	
	comp=E,6.7nm,0.8s						
I26K				IAML		06 36 19.1	
	comp=N,6.2nm,0.9s						

*IDC **16** 06:42:00.6±2.4, 38°.97N×20°.34E, h0km, mb3.6/7, mbtmp3.6/11, ML3.7/2, MS3.4/3, Error ellipse: s-maj=42.1km s-min=18.2km az=45.0*
*BEO **16** 06:42:04.3±0.8, 39°.08N×20°.31E, h0km, ML3.2/8*
*THE **16** 06:42:04.8, 39°.07N×20°.53E, h14km±1km, ML3.2/6, Error ellipse: s-maj=1.6km s-min=0.6km az=254.0*

*ATH **16** 06:42:04.6, 39°.06N×20°.60E, h19km±3km, ML3.4/14, Manual Solution by S.Liakopoulos First location: 2019/04/16 06:42:59, This location: 2019/04/16 09:21:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

ISC 16 06:42:04.4±1.0, 39°.06N±0°.02×20°.55E±0°.03, h14km±7km, n107, σ1°23/123, mb3.5/7, 1C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRGA	Parga	0.25	333	P	Pb	06 42 10.9	+0.2
PRGA				S	Sb	06 42 15.0	+0.1
TSLK	Tsoukalades, L	0.25	160	P	Pg	06 42 10.5	+0.7
TSLK				S	Sb	06 42 15.3	+0.4
	7μm,0.3s						
TSLK	Tsoukalades, L	0.25	160	P	Pg	06 42 10.4	+0.6
LKD2	Lefkada island	0.29	162	P	Pg	06 42 10.7	+0.3
NYDR	Nydri-Lefkada	0.37	161	P	Pg	06 42 12.1	+0.2
NYDR				S	Sb	06 42 18.4	+0.1
	5μm,0.6s						
NYDR	Nydri-Lefkada	0.37	161	P	Pg	06 42 12.0	+0.2
EVGI	Lefkada island	0.45	169	P	Pg	06 42 13.7	+0.4
EVGI				S	Sb	06 42 21.1	+0.5
	5μm,0.3s						
EVGI	Lefkada island	0.45	169	P	Pg	06 42 13.6	+0.3
IGT	Igoumenitsa	0.50	341	P	Pg	06 42 13.8	-0.4
IGT				S	Sb	06 42 22.0	-0.1
	4μm,0.4s						
FSK	Fiskardo	0.60	179	P	Pg	06 42 15.8	-0.4
FSK	Fiskardo	0.60	179	P	Pg	06 42 16.0	-0.2
TETR	Tetrakomo, Epi	0.63	63	P	Pg	06 42 14.6	-2.1
JAN	Janina	0.64	22	P	Pg	06 42 15.9	-1.0
VSK1	VASILIKIADES	0.65	179	P	Pg	06 42 16.8	-0.3
SMHA	Samh	0.81	174	P	Pg	06 42 20.3	+0.2
DMLN	Damoulianata-K	0.83	189	P	Pg	06 42 20.3	-0.3
DMLN	Damoulianata-K	0.83	189	P	Pg	06 42 20.2	-0.3
MSVA	Metsovo	0.86	35	P	Pg	06 42 21.1	0.0
KEK	Kerkira	0.87	318	P	Pn	06 42 21.8	-0.4
KEK	Kerkira	0.87	318	P	Pn	06 42 22.1	-0.1
PVO	Paravola	0.89	120	P	Pb	06 42 20.3	-1.2
VLS	Valsamata	0.89	178	P	Pb	06 42 21.3	-0.2
VLS				S	Sn	06 42 35.3	+0.2
	2μm,0.4s						
VLS	Valsamata	0.89	178	P	Pb	06 42 21.1	-0.5
PSDA	Pessada-Kefalo	0.95	178	P	Pb	06 42 22.8	+0.2
PSDA	Pessada-Kefalo	0.95	178	P	Pb	06 42 22.0	-0.5
EVR	Evrytania	0.99	98	P	Pb	06 42 23.1	-0.3
EVR	Evrytania	0.99	98	P	Pb	06 42 23.0	-0.5
RTZL	Ratzakli, Kefa	1.00	170	P	Pb	06 42 22.9	-0.6
AXS	Araxos	1.08	143	P	Pb	06 42 23.7	-1.1
YRMI	Loutra Irminis	1.15	146	P	Pn	06 42 24.6	-1.3
ANX	Ano Chora	1.17	113	P	Pn	06 42 25.6	-0.8
ANX	Ano Chora	1.17	113	P	Pn	06 42 24.9	-1.5
PENT	Pentalofos	1.22	22	P	Pn	06 42 26.2	-0.9
PENT	Pentalofos	1.22	22	P	Pn	06 42 25.9	-1.2
MAKR	Makrakomi, Fth	1.24	92	P	Pn	06 42 26.5	-0.8
MAKR				S	Sg	06 42 44.7	+0.4
MAKR	Makrakomi, Fth	1.24	92	P	Pn	06 42 26.4	-0.8
RLS	Riolos of Patr	1.24	144	P	Pn	06 42 26.1	-1.1
RLS	Riolos of Patr	1.24	144	P	Pn	06 42 26.3	-0.9
EFP	Efpalio	1.24	120	P	Pn	06 42 26.3	-1.0
EFP				S	Sn	06 42 44.6	+0.9
EFP	Efpalio	1.24	120	P	Pn	06 42 26.2	-1.0
THL	Klokotos Trika	1.24	66	P	Pn	06 42 26.7	-0.6
THL				S	Sg	06 42 44.8	+0.3
	802nm,0.7s						
THL	Klokotos Trika	1.24	66	P	Pn	06 42 26.4	-0.9
UPR	University Cam	1.24	128	P	Pn	06 42 27.3	0.0
CLEM	Kyllini,Ilia,G	1.26	158	P	Pb	06 42 28.6	+0.7
KYPS	Kipseli, Zakin	1.26	170	P	Pn	06 42 27.6	0.0
SERG	Sergoula	1.35	118	P	Pn	06 42 28.7	-0.1
LTHK	Lithakia	1.37	170	P	Pn	06 42 29.1	0.0
NEST	Nestorio	1.41	16	P	Pn	06 42 29.4	-0.3
KALE	Kalithea	1.42	118	P	Pn	06 42 29.8	0.0
KALE	Kalithea	1.42	118	P	Pn	06 42 29.8	0.0
KLV	Kalavryta, Ach	1.62	128	P	Pn	06 42 32.5	0.0
KLV	Kalavryta, Ach	1.62	128	P	Pn	06 42 32.9	+0.4
AXAR	Agios Charalam	1.68	100	P	Pn	06 42 33.8	+0.5
AMT	Artemida-Makis	1.78	149	P	Pn	06 42 35.6	+0.8
GUR	Goura	1.80	128	P	Pn	06 42 35.5	+0.3
OHR	Ohrid	2.06	5	*i* Pn	Pb	06 42 42.5	+1.0
OHR				*i* Sg	Sg	06 43 09.9	-0.5
VAY	Valandovo	2.74	34	*i* Pn	Pn	06 42 50.1	+2.2
DRME	Dracevica, Mon	3.29	342	*e*Pn	Pn	06 42 56.3	+0.8
MMB	Musomishta	3.49	44	P	Pn	06 43 01.5	+3.3
PDG	Podgorica	3.50	344	*e*Pn	Pn	06 42 59.8	+1.4
HCY	Herceg Novi	3.72	336	*e*Pn	Pn	06 43 01.1	-0.3
BOSS	Bosilegrad	3.73	23	*e*Pn	Pn	06 43 03.3	+1.8
BARS	Barje	3.87	14	*e*Pn	Pn	06 43 05.0	+1.5
BARS				*e*Sn	Sn	06 43 50.7	+2.0
TREB	Trebinje	4.01	336	*e*Pn	Pn	06 43 04.4	-1.0
PLNA	Plana	4.05	32	P	Pn	06 43 08.5	+2.5
VTS	Vitosha	4.09	29	P	Pn	06 43 08.9	+2.2
VTS	Vitosha	4.09	29	*e*Pn	Pn	06 43 08.4	+1.7
VTS				*e*Sn	Sn	06 43 57.3	+2.8
RZN	Rozhen	4.14	49	P	Pn	06 43 10.6	+3.2
SELS	Selova	4.17	6	*e*Pn	Pn	06 43 09.1	+1.4
SELS				*e*Sn	Sn	06 43 57.1	+0.8
SJES	Sjenica	4.22	354	*e*Pn	Pn	06 43 07.9	-0.4
SJES	Sjenica	4.22	354	*e*Pn	Pn	06 43 10.2	+1.9
UPM	Unac-Piva	4.32	344	*e*Pn	Pn	06 43 10.5	+0.7
STON	Ston	4.37	331	*e*Pn	Pn	06 43 09.8	-0.5
ZAPS	Zavoj	4.49	20	*e*Pn	Pn	06 43 14.2	+2.2
ZAPS				*e*Sn	Sn	06 44 06.2	+2.1
GOCS	Kraljevo Serbi	4.50	3	*e*Pn	Pn	06 43 12.2	0.0
IVAS	Ivanjica	4.52	356	*e*Pn	Pn	06 43 12.7	+0.3
IVAS				*e*Sn	Sn	06 44 04.8	0.0
BOVS	Bovan	4.65	10	*e*Pn	Pn	06 43 14.9	+0.7
GRUS	Gruza	4.82	1	*e*Pn	Pn	06 43 17.5	+1.0
BLKB	Belogradchik	4.83	19	*e*Pn	Pn	06 43 19.2	+2.5
BLKB				*e*Sn	Sn	06 44 13.5	+1.1
BBLS	Lazi&#263i	4.88	350	*e*Pn	Pn	06 43 17.2	-0.1
ZAGS	Zajecar	4.91	14	*e*Pn	Pn	06 43 18.5	+0.8
ZAGS				*e*Sn	Sn	06 44 15.7	+1.3
MPEP	Malo Peshtene	4.92	28	P	Pn	06 43 20.2	+2.3
DIVS	Divibare	5.05	355	*e*Pn	Pn	06 43 20.1	+0.4
DIVS				*e*Sn	Sn	06 44 18.1	+0.2
IDI	Anoyia	5.12	136	Pn	Pn	06 43 20.2	-0.5
	5.6nm,0.8s,baz=335,slow=11,SNR=6.3						
IDI				Sn	Sn	06 44 19.1	-0.6
	1.8nm,0.3s,baz=106,slow=23,SNR=5.6						
TRUS	Trudelj	5.16	359	*e*Pn	Pn	06 43 22.7	+1.6
SZH	Strazhitsa	5.87	43	P	Pn	06 43 33.7	+2.8
A050A	Klekova

1.5nm,0.4s,baz=71,slow=2.9,SNR=3.5
1.5nm,0.4s

JNU	**Nakatsue**	**83.44 52**	LR	LR	07 36 54.6	
	comp=Z,34nm,18.2s,baz=204,slow=39					
MJAR	**Matsushiro Arr**	**85.36 46**	LR	LR	07 35 25.0	
	comp=Z,50nm,19.2s,baz=228,slow=38					

RSNC 16 06:46:33.2±0.0,5°N±1°×7°3W±°, h0km±2km, M2.3, mb4.3, ML2.1, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTGC	**Puerto Gaitan,**	**0.86**	**135**	P	Pg	06 46 48.3	-1.5
PTGC				S	Sg	06 47 02.0	+1.0
CHIC	**Chingaza**	**0.99**	**260**	P	Pg	06 46 49.5	-2.8
RUSC	**La Rusia**	**1.12**	**343**	P	Pg	06 46 52.6	-2.2
RUSC				S	Sg	06 47 09.6	+0.2
CVER	**Cruz Verde, Cu**	**1.35**	**258**	P	Pg	06 46 57.2	-1.9
CVER				S	Sn	06 47 18.2	-0.4
ROSC	**El Rosal**	**1.56**	**271**	P	Pn	06 47 01.5	-1.1
ROSC				S	Sn	06 47 24.3	+0.5
BARC	**Barichara**	**1.82**	**346**	P	Pn	06 47 04.4	-1.6
BARC				S	Sn	06 47 28.1	-1.9
TAMC	**Tame, Arauca**	**1.88**	**31**	P	Pn	06 47 05.8	-0.8
TAMC				S	Sg	06 47 33.2	-0.4
NORC	**Norcasia**	**2.24**	**290**	P	Pn	06 47 10.6	-1.0
NORC				S	Sn	06 47 39.9	-0.1
URMC	**La Uribe, Meta**	**2.25**	**226**	P	Pn	06 47 10.4	-1.4
URMC				S	Sn	06 47 40.3	0.0
GUVC	**San Jose del G**	**2.25**	**177**	P	Pn	06 47 10.2	-1.6
GUVC				S	Sn	06 47 39.7	-0.6
PRAC	**Prado**	**2.39**	**243**	P	Pn	06 47 12.1	-1.6
PRAC				S	Sb	06 47 47.1	-0.2
PTBC	**PUERTO BERRIO,**	**2.42**	**315**	P	Pn	06 47 12.5	-1.5
PTBC				S	Sn	06 47 45.1	+0.8
PAMC	**Pamplona, Colo**	**2.51**	**1**	P	Pn	06 47 14.3	-1.5
PAMC				S	Sn	06 47 48.4	+1.0
GUY2C	**Guyana, Caldas**	**2.64**	**279**	P	Pn	06 47 15.8	-1.7
GUY2C				S	Sn	06 47 49.9	-0.5
MACC	**Macarena, Meta**	**2.87**	**203**	P	Pn	06 47 17.5	-2.7
MACC				S	Sn	06 47 52.8	-2.6
ZARC	**Zaragoza, Cauc**	**3.39**	**322**	P	Pn	06 47 26.4	-1.0
ZARC				S	Sn	06 48 09.1	+0.7
CBOC	**Ciudad Bolivar**	**3.41**	**288**	P	Pn	06 47 26.7	-1.2
OCAC	**Ocana**	**3.45**	**351**	P	Pn	06 47 27.8	-0.6
OCAC				S	Sn	06 48 11.7	+1.5
GARC	**Garzon, Huila**	**3.78**	**227**	P	Pn	06 47 34.0	+1.0
GARC				S	Sb	06 48 24.5	-3.0
FLOC	**Florencia**	**4.32**	**222**	P	Pb	06 47 46.3	-3.8
FLOC				S	Sb	06 48 41.5	-1.4
POPC	**Popayan, Colom**	**4.52**	**240**	P	Pn	06 47 42.7	-0.5
POPC				S	Sb	06 48 48.3	-0.5
SDV	**Santo Domingo**	**4.56**	**27**	P	Pn	06 47 42.1	-1.6
SDV				S	Sn	06 48 35.6	-2.0
SJCC	**San Jacinto, C**	**5.60**	**335**	P	Pn	06 47 55.2	-2.7
SJCC				S	Sn	06 49 00.3	-2.7

DJA 16 06:49:45.4±0.4,0°N±3°×12°4E±°, h227km±6km, M4.1/13, mB5.8/1, mb4.5/3, MLv3.9/13, Mw(mB)5.4/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.27**	**31**	P	Pn	06 50 15.7	+0.6
LUWI	**Luwuk**	**1.74**	**218**	P	Pn	06 50 24.3	+0.7
LUWI				S	S	06 50 53.8	+0.4
APSI	**Ampana**	**2.52**	**240**	P	Pn	06 50 31.2	0.0
SANI	**Sanana**	**3.20**	**138**	P	Pn	06 50 39.9	+1.1
SANI				S	S	06 51 21.4	+0.7
SGSI	**Sangihe**	**3.73**	**27**	P	Pn	06 50 45.2	+0.2
MPSI	**Mapaga**	**3.94**	**270**	P	Pn	06 50 47.1	-0.4
NLAI	**Namlea**	**4.82**	**138**	P	Pn	06 50 57.4	-0.9
BBSI	**Bau Bau**	**5.93**	**192**	P	Pn	06 51 12.5	+0.3
	0.4nm103nm,0.8s						
SMKI	**Samarinda**	**6.68**	**263**	P	Pn	06 51 21.4	-0.4
	17µm200nm,0.4s						
BSSI	**Bau Bau, Buton**	**7.26**	**207**	P	Pn	06 51 30.8	+1.6

*IDC **16** 06:50:27.5±3.4, 53°.80N×88°.20E, h0km, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=30.9km s-min=20.6km az=47.0*

ASRS 16 06:50:25.0±1.2, 53°.71N×88°.07E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**278**	I	I	07 04 10.0	
	baz=91,slow=334,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.94**	**278**	Pn	Pg	06 51 03.5	+1.3
	1.0nm,0.3s,baz=89,slow=14,SNR=20						
ZALV				Lg	Lg	06 51 31.0	
	1.7nm,0.3s,baz=91,slow=25,SNR=12						
	4.4nm,0.5s						
KURBB	**Kurchatov Arra**	**6.63**	**246**	Pn	Pn	06 52 08.2	+4.5
	0.1nm,0.3s,baz=61,slow=14,SNR=3.5						
KURBB				Lg	Lg	06 53 59.2	
	baz=63,slow=33,SNR=4.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.85**	**210**	Pn	Pn	06 52 25.2	+4.8
	0.1nm,0.3s,baz=31,slow=20,SNR=2.0						
	0.1nm,0.4s						

*IDC **16** 06:50:44.0±1.6, 28°.27N×85°.06E, h0km, mb3.7/8, mbtmp3.7/10, ML3.9/2, Error ellipse: s-maj=58.5km s-min=19.1km az=64.0*
*DMN **16** 06:50:46.5±0.0, 28°.20N×84°.73E, h2km, Ml4.6/4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 16 06:50:46.2±1.5, 28°.20N±0°.07×84°.79E±0°.03, h17km±10km, n27, σ0s89/42, mb3.7/8, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKN	**Kakani**	**0.60**	**133**	Pg	**Pb**	**06 50 58.8**	**+0.4**
	baz=129,slow=0.0						
KKN				Sg	**Sb**	**06 51 06.8**	**+0.1**
	1µm,0.3s,baz=129,slow=0.0						
KKN	**Kakani**	**0.60**	**133**	Pg	**Pb**	**06 50 59.2**	**+0.8**
	baz=126,slow=0.0						
KKN				Sg	**Sg**	**06 51 06.5**	**+0.3**
	baz=126,slow=0.0						
DMN	**Daman**	**0.66**	**154**	Pg	**Pg**	**06 50 59.2**	**0.0**
	baz=150,slow=0.0						
DMN				Sg	**Sg**	**06 51 08.2**	**+0.2**
	998nm,0.3s,baz=150,slow=0.0						
DMN	**Daman**	**0.66**	**154**	Pg	**Pg**	**06 50 59.5**	**+0.3**
	baz=148,slow=0.0						
DMN				Sg	**Sg**	**06 51 07.5**	**-0.5**
	998nm,0.3s,baz=148,slow=0.0						
PKIN	**Phulchoki**	**0.83**	**139**	Pg	**Pb**	**06 51 02.8**	**+0.5**
	baz=136,slow=0.0						
PKIN				Sg	**Sb**	**06 51 13.8**	**+0.6**
	824nm,0.4s,baz=136,slow=0.0						
PKIN	**Phulchoki**	**0.83**	**139**	Pg	**Pn**	**06 51 03.7**	**+0.4**
	baz=134,slow=0.0						
PKIN				Sg	**Sb**	**06 51 13.8**	**+0.6**
	824nm,0.4s,baz=134,slow=0.0						
PKI	**Pulchoki**	**0.84**	**139**	Pg	**Pn**	**06 51 03.3**	**-0.3**
	baz=136,slow=0.0						
PKI				Sg	**Sb**	**06 51 14.9**	**+1.3**
	626nm,0.5s,baz=136,slow=0.0						
PKI	**Pulchoki**	**0.84**	**139**	Pg	**Pn**	**06 51 03.2**	**-0.3**
	baz=134,slow=0.0						
PKI				Sg	**Sb**	**06 51 14.2**	**+0.6**
	344nm,0.3s,baz=134,slow=0.0						
GUN	**Gumba**	**1.01**	**107**	Pg	**Pn**	**06 51 06.6**	**+0.7**
	baz=105,slow=0.0						
GUN				Sg	**Sn**	**06 51 20.1**	**+0.2**
	2µm,0.6s,baz=105,slow=0.0						
GUN	**Gumba**	**1.01**	**107**	Pg	**Pn**	**06 51 06.8**	**+0.9**
	baz=104,slow=0.0						
GUN				Sg	**Sn**	**06 51 20.5**	**+0.6**
	2µm,0.6s,baz=104,slow=0.0						
KOLN	**Koldanda**	**1.13**	**248**	Pg	**Pn**	**06 51 07.2**	**-0.3**
	baz=247,slow=0.0						
KOLN				Sg	**Sb**	**06 51 21.2**	**-0.8**
	4µm,0.2s,baz=247,slow=0.0						
KOLN	**Koldanda**	**1.13**	**248**	Pg	**Pn**	**06 51 07.6**	**+0.1**
	baz=248,slow=0.0						
KOLN				Sg	**Sb**	**06 51 21.7**	**-0.3**
	4µm,0.2s,baz=248,slow=0.0						

PYUN	**Piuthan**	**1.59**	**267**	Pn	**Pn**	**06 51 14.4**	**+0.6**
	baz=267,slow=0.0					
PYUN	**Piuthan**	**1.59**	**267**	Pg	**Pn**	**06 51 15.4**	**+1.6**
	baz=267,slow=0.0					
PYUN				Sg	**Sn**	**06 51 35.3**	**+1.3**
	5µm,0.4s,baz=267,slow=0.0					
PYUN	**Piuthan**	**1.59**	**267**	Pg	**Pn**	**06 51 15.3**	**+1.5**
	baz=268,slow=0.0					
PYUN				Sg	**Sn**	**06 51 34.7**	**+0.7**
	4µm,0.4s,baz=268,slow=0.0					
RAMN	**Ramite**	**2.04**	**127**	Pn	**Pn**	**06 51 20.9**	**+0.9**
	baz=125,slow=0.0					
RAMN				Sg	**Sg**	**06 51 50.1**	**-1.8**
	677nm,0.5s,baz=125,slow=0.0					
ODAN	**Odare**	**2.67**	**119**	Sg	**Sg**	**06 52 12.3**	**+0.2**
	290nm,0.4s,baz=118,slow=0.0					
CMAR	**Chiang Mai Arr**	**16.21**	**124**	**Pn**	**Pn**	**06 54 32.2**	**-1.0**
	0.1nm,0.3s,baz=322,slow=8.9,SNR=0.9					
	0.4nm,0.3s					
MKAR	**Makanchi Array**	**18.66**	**355**	P	**Pn**	**06 55 04.7**	**+1.1**
	0.5nm,0.3s,baz=174,slow=12,SNR=17					
	2.2nm,0.6s					
KURBB	**Kurchatov Arra**	**22.89**	**350**	**P**	**P**	**06 55 49.7**	**+0.8**
	0.9nm,0.5s,baz=173,slow=10.0,SNR=8.5					
	0.9nm,0.5s					
ZALV	**Zalesovo Beam**	**25.72**	**0**	**P**	**P**	**06 56 15.3**	**-0.1**
	1.2nm,0.5s,baz=183,slow=9.6,SNR=6.6					
	1.2nm,0.5s					
SONM	**Songino Array**	**25.81**	**35**	P	**P**	**06 56 14.3**	**-2.2**
	0.6nm,0.4s,baz=221,slow=8.9,SNR=3.2					
	0.6nm,0.4s					
NRIK	**Noril'sk**	**41.20**	**1**	**P**	**P**	**06 58 28.0**	**-1.5**
	1.3nm,0.3s,baz=124,slow=3.9,SNR=4.0					
	1.3nm,0.3s					
FINES	**FINESS Array B**	**50.76**	**328**	**P**	**P**	**06 59 45.4**	**+0.4**
	1.0nm,0.8s,baz=79,slow=9.9,SNR=4.7					
	1.0nm,0.8s					
WRA	**Warramunga Arr**	**67.71**	**129**	P	**P**	**07 01 43.0**	**+0.1**
	0.6nm,0.8s,baz=321,slow=6.4,SNR=4.9					
	0.6nm,0.8s					
ASAR	**Alice Springs**	**70.00**	**132**	**P**	**P**	**07 01 56.5**	**-0.7**
	0.1nm,0.3s,baz=317,slow=6.2,SNR=4.7					
	0.1nm,0.3s					
ILAR	**Eielson Array**	**79.04**	**20**	**P**	**P**	**07 02 49.5**	**+0.4**
	0.4nm,0.6s,baz=309,slow=5.0,SNR=5.6					
	0.4nm,0.6s					

*IDC **16** 07:04:38.9±3.7, 54°.15N×87°.83E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=34.5km s-min=22.2km az=42.0*

ASRS 16 07:04:42.0±0.6, 54°.09N×87°.17E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**265**	I	I	07 15 28.1	
	baz=80,slow=334,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.40**	**265**	Pn	Pb	07 05 11.1	+2.2
	1.1nm,0.3s,baz=84,slow=13,SNR=7.2						
ZALV				Lg	Lg	07 05 34.5	
	1.3nm,0.3s,baz=80,slow=23,SNR=3.4						
KURBB	**Kurchatov Arra**	**6.33**	**240**	Pn	Pn	07 06 20.5	+4.0
	0.1nm,0.3s,baz=53,slow=13,SNR=3.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.94**	**205**	Pn	Pn	07 06 38.2	-0.4
	0.1nm,0.3s,baz=14,slow=13,SNR=1.8						
	0.2nm,0.4s						

*NNC **16** 07:05:04.5±3.1, 36°.67N×71°.01E, h117km±79km, mb3.3, mpv4.0, Error ellipse: s-maj=25.5km s-min=24.8km az=170.0*

ISC 16 07:05:03.1±3.7, 36°.6N±0°.2×71°.0E±0°.2, h100km, n10, σ0s61/13, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.92**	**20**	P	**Pn**	**07 06 29.0**	**+0.3**
	SNR=96						
EKS2	**Erkin-Say**	**6.44**	**18**	P	**Pn**	**07 06 36.3**	**+0.8**
	SNR=7.1						
KK31	**Karatay Array**	**6.53**	**357**	⇓P	**Pn**	**07 06 37.1**	**+0.5**
	3.3nm,0.2s,baz=174,slow=12,SNR=152						
KK31				⇑S	**Sn**	**07 07 49.0**	**-0.6**
	2.9nm,0.3s,baz=184,slow=21,SNR=5.0						
AAK	**Ala-Archa**	**6.62**	**23**	P	**Pn**	**07 06 38.6**	**+0.6**
	SNR=16						
AAK	**Ala-Archa**	**6.62**	**23**	⇓P	**Pn**	**07 06 38.5**	**+0.5**
	7.3nm,0.4s						
AAK				⇓S	**Sn**	**07 07 52.7**	**+0.7**
	12nm,0.9s						
CHMS	**Chumysh**	**7.03**	**23**	P	**Pn**	**07 06 43.9**	**+0.5**
	SNR=7.7						
USP	**Ospenovka**	**7.20**	**21**	P	**Pn**	**07 06 45.6**	**0.0**
	SNR=11						
TKM2	**Tokmak 2**	**7.25**	**28**	P	**Pn**	**07 06 46.4**	**-0.2**
	SNR=7.8						
TKM2	**Tokmak 2**	**7.25**	**28**	⇑P	**Pn**	**07 06 46.0**	**-0.6**
	4.0nm,0.5s						
TKM2				⇑S	**Sn**	**07 08 06.7**	**-0.6**
	4.2nm,0.8s						
AB31	**Akbulak array**	**15.02**	**331**	⇑P	**Pn**	**07 08 29.7**	**-0.3**
	0.4nm,0.5s,baz=164,slow=12,SNR=15						

*IDC **16** 07:07:15.3±0.8, 24°.21N×124°.03E, h0km, mb3.7/11, mbtmp3.7/13, ML3.3/2, MS3.1/2, Error ellipse: s-maj=27.5km s-min=17.8km az=71.0*
*JMA **16** 07:07:17.7±0.1, 24°.2N±0°.5×124°.2E±0°.5, h15km±1km, MD4.2/14, MV4.0/14, NEAR ISHIGAKIJIMA ISLAND*
JMA Felt I J1 at NEAR ISHIGAKIJIMA ISLAND.

ISC 16 07:07:17.5±1.1, 24°.19N±0°.06×124°.22E±0°.03, h17km±6km, n53, σ1s05/46, mb3.5/11, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.19**	**338**	*i* P	**Pg**	**07 07 22.2**	**-0.1**
JIJ				S	**Sg**	**07 07 25.1**	**-0.3**
JIJ	**Ishigaki jima**	**0.19**	**338**	A	A	07 07 22.2	
	comp=N,42nm,0.3s,comp=E,23nm,0.5s						
JKRS	**Kuro-shima**	**0.20**	**285**	*i* P	**Pb**	**07 07 22.8**	**0.0**
JKRS				S	**Sb**	**07 07 26.0**	**-0.3**
JKRS	**Kuro-shima**	**0.20**	**285**	A	A	07 07 22.8	
	comp=N,119nm,0.7s,comp=E,129nm,1.3s						
HATJ	**Hateruma jima**	**0.40**	**251**	*i* P	**Pg**	**07 07 25.8**	**0.0**
HATJ				S	**Sb**	**07 07 31.9**	**-0.2**
HATJ	**Hateruma jima**	**0.40**	**251**	A	A	07 07 25.8	
	comp=N,20nm,0.9s,comp=E,20nm,0.9s						
JISG	**Ishigakijimahi**	**0.41**	**11**	*i* P	**Pg**	**07 07 25.6**	**-0.3**
JISG				S	**Sg**	**07 07 31.2**	**-0.3**
JISG	**Ishigakijimahi**	**0.41**	**11**	A	A	07 07 25.6	
	comp=N,55nm,0.4s,comp=E,71nm,0.6s						
IRIF	**Iriomote-Funau**	**0.47**	**288**	*i* P	**Pb**	**07 07 27.3**	**-0.1**
IRIF				S	**Sb**	**07 07 34.0**	**-0.1**
IRIF	**Iriomote-Funau**	**0.47**	**288**	A	A	07 07 27.3	
	comp=N,20nm,0.7s,comp=E,36nm,0.5s						
JTJ	**Tarama**	**0.63**	**44**	*i* P	**Pg**	**07 07 29.8**	**-0.1**
JTJ				S	**Sg**	**07 07 38.1**	**-0.2**
JTJ	**Tarama**	**0.63**	**44**	A	A	07 07 29.8	
	comp=N,19nm,0.7s,comp=E,29nm,1.7s						
JIRB	**Irabujima**	**1.08**	**53**	P	**Pb**	**07 07 37.1**	**-0.6**
JIRB				S	**Sb**	**07 07 51.4**	**-0.1**
JIRB	**Irabujima**	**1.08**	**53**	A	A	07 07 37.1	
	comp=N,6.0nm,1.1s,comp=E,7.0nm,2.2s						
YOJ	**Yonaguni jima**	**1.14**	**284**	P	**Pn**	**07 07 38.7**	**0.0**
YOJ	**Yonaguni jima**	**1.14**	**284**	S	**Sg**	**07 07 54.8**	**+0.3**
YOJ	**Yonaguni jima**	**1.14**	**284**	P	**Pb**	**07 07 38.6**	**-0.2**
YOJ				S	**Sn**	**07 07 53.4**	**-0.5**
YOJ	**Yonaguni jima**	**1.14**	**284**	A	A	07 07 38.6	
	comp=N,6.0nm,1.0s,comp=E,8.0nm,1.3s						
JMJ2	**Miyako jima3**	**1.15**	**61**	P	**Pn**	**07 07 38.7**	**-0.1**
JMJ2				S	**Sb**	**07 07 53.3**	**-0.3**
JMJ2	**Miyako jima3**	**1.15**	**61**	A	A	07 07 38.7	
	comp=N,13nm,1.1s,comp=E,10.0nm,1.4s						
JIKM	**Ikemajima**	**1.19**	**52**	*e*S	**Sb**	**07 07 54.3**	**-0.4**
JIKM	**Ikemajima**	**1.19**	**52**	A	A	07 07 54.3	
	comp=N,8.0nm,5.0s,comp=E,9.0nm,4.1s						
JYNG	**Yonagunijimaku**	**1.19**	**283**	*i* P	**Pn**	**07 07 39.5**	**0.0**
JYNG				S	**Sn**	**07 07 55.2**	**-0.1**
JYNG	**Yonagunijimaku**	**1.19**	**283**	A	A	07 07 39.5	
	comp=N,9.0nm,2.1s,comp=E,9.0nm,3.2s						
JOGS	**Gusukube**	**1.22**	**62**	P	**Pn**	**07 07 40.6**	**+0.7**
JOGS				*e*S	**Sb**	**07 07 56.1**	**+0.4**
JOGS	**Gusukube**	**1.22**	**62**	A	A	07 07 40.6	
	comp=N,11nm,1.1s,comp=E,16nm,2.8s						
NACB	**Ninganchiao**	**2.40**	**270**	P	**Pn**	**07 07 57.9**	**+1.8**
TATO	**Taipei**	**2.61**	**288**	P	**Pn**	**07 08 00.7**	**+1.7**
YHNB	**Yeheng**	**2.64**	**281**	P	**Pn**	**07 08 01.4**	**+2.0**
YULB	**Yu-li**	**2.79**	**254**	P	**Pn**	**07 08 01.4**	**-0.1**
SSLB	**Suanglung**	**3.02**	**263**	P	**Pn**	**07 08 06.0**	**+1.4**
TWGBT	**Beinan**	**3.19**	**245**	P	**Pn**	**07 08 06.8**	**-0.2**
TPUB	**Ta-pu**	**3.41**	**256**	P	**Pn**	**07 08 12.1**	**+2.1**
JOW	**Kunigami**	**4.51**	**53**	Pn	**Pn**	**07 08 27.6**	**+2.5**
	comp=E,1.4nm,0.3s,baz=230,slow=13,SNR=1.1						
	comp=E,7.0nm,0.5s						
KSRS	**Korea Array**	**13.60**	**13**	Pn	**Pn**	**07 10 31.1**	**+1.5**
	comp=E,0.5nm,0.3s,baz=196,slow=11,SNR=1.6						
	comp=E,0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**24.21**	**261**	P	**P**	**07 12 30.6**	**-2.9**
	comp=E,0.4nm,0.3s,baz=63,slow=7.8,SNR=7.0						
CMAR				LR	LR	07 21 24.5	
	comp=E,30nm,20.5s,baz=205,slow=35						
	comp=E,0.4nm,0.3s						
SONM	**Songino Array**	**27.52**	**333**	P	**P**	**07 13 02.0**	**-1.4**
	comp=E,0.5nm,0.6s,baz=157,slow=9.6,SNR=4.0						
	comp=E,0.5nm,0.6s						
KAPI	**Kappang**	**29.35**	**189**	LR	LR	07 26 29.0	
	comp=E,60nm,19.4s,baz=269,slow=39						
H11N1	**WAKE ISLAND Hy 39.72**	**88**		T	T	07 57 06.7	
	baz=283,slow=74,SNR=7.0						
H11N2	**WAKE ISLAND Hy 39.72**	**88**		T	T	07 57 02.9	
	baz=283,slow=74,SNR=8.1						
H11N3	**WAKE ISLAND Hy 39.73**	**88**		T	T	07 57 04.0	
	baz=283,slow=74,SNR=11						
H11S3	**WAKE ISLAND Hy 39.84**	**90**		T	T	07 57 17.0	
	baz=283,slow=74,SNR=8.5						
H11S1	**WAKE ISLAND Hy 39.85**	**90**		T	T	07 57 11.5	
	baz=283,slow=74,SNR=7.1						
H11S2	**WAKE ISLAND Hy 39.86**	**90**		T	T	07 57 14.7	
	baz=283,slow=74,SNR=6.4						
MKAR	**Makanchi Array**	**40.29**	**315**	P	**P**	**07 14 53.7**	**-0.1**
	comp=E,0.5nm,0.4s,baz=99,slow=9.9,SNR=10						
MKAR				PcP	**PcP**	**07 16 58.9**	**+1.6**
	comp=E,0.1nm,0.4s,baz=129,slow=3.3,SNR=4.3						
	comp=E,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**41.78**	**326**	P	**P**	**07 15 06.4**	**+0.5**
	comp=E,0.6nm,0.5s,baz=112,slow=11,SNR=3.6						
	comp=E,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**43.91**	**319**	P	**P**	**07 15 23.5**	**+0.2**
	comp=E,0.2nm,0.4s,baz=111,slow=10.0,SNR=4.3						
	comp=E,0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.96**	**166**	P	**P**	**07 15 32.4**	**+0.5**
	comp=E,2.2nm,0.9s,baz=347,slow=8.9,SNR=8.6						
	comp=E,2.2nm,0.9s						
ASAR	**Alice Springs**	**48.49**	**168**	P	**P**	**07 16 01.2**	**+1.7**
	comp=E,0.6nm,0.5s,baz=355,slow=7.6,SNR=12						
	comp=E,0.6nm,0.5s						
FINES	**FINESS Array B**	**72.83**	**330**	P	**P**	**07 18 45.1**	**0.0**
	comp=E,1.4nm,0.8s,baz=39,slow=7.6,SNR=2.6						
	comp=E,1.4nm,0.8s						
NOA	**NORSAR Array B**	**79.50**	**333**	P	**P**	**07 19 23.1**	**0.0**
	comp=E,0.4nm,0.7s,baz=58,slow=5.6,SNR=1.9						
	comp=E,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**81.87**	**24**	P	**P**	**07 19 34.7**	**-1.0**
	comp=E,0.3nm,0.8s,baz=308,slow=5.5,SNR=7.9						
	comp=E,0.3nm,0.8s						
GERES	**GERESS Array B**	**84.58**	**322**	P	**P**	**07 19 48.9**	**-1.2**
	comp=E,0.3nm,0.2s,baz=45,slow=5.8,SNR=3.5						
	comp=E,0.3nm,0.2s						

*IDC **16** 07:24:55.6±1.8, 2°.34N×126°.25E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=118.5km s-min=21.2km az=69.0*
*DJA **16** 07:25:04.8±1.1, 2°N±2°×12°6E±°, h22km±10km, M3.9/10, mB5.2/1, mb4.2/3, MLv3.8/10, Mw(mB)4.6/1*

ISC 16 07:25:05.7±1.1, 2°.16N±0°.07×126°.2E±0°.1, h83km, n9, σ0s79/10, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.65**	**337**	P	**Pn**	**07 25 32.7**	**-0.4**
SGSI				S	**Sn**	**07 25 54.1**	**+0.3**
TNTI	**Ternate**	**1.82**	**139**	P	**Pn**	**07 25 35.2**	**-0.1**
SANI	**Sanana**	**4.19**	**183**	P	**Pn**	**07 26 07.5**	**+0.3**
NLAI	**Namlea**	**5.44**	**170**	P	**Pn**	**07 26 23.9**	**-0.4**
	0.2nm32nm,1.0s						
MPSI	**Mapaga**	**6.54**	**254**	P	**Pn**	**07 26 39.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.14**	**182**	P	**P**	**07 29 31.9**	**-1.4**
	0.8nm,0.3s,baz=10,slow=9.4,SNR=11						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**23.38**	**160**	P	**P**	**07 30 06.9**	**-0.4**
	0.6nm,0.3s,baz=341,slow=9.9,SNR=17						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**26.75**	**164**	P	**P**	**07 30 39.1**	**+1.3**
	0.2nm,0.4s,baz=346,slow=11,SNR=8.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.53**	**326**	P	**P**	**07 34 53.8**	**+0.3**
	0.9nm,0.4s,baz=120,slow=7.7,SNR=19						
	0.9nm,0.4s						

*IDC **16** 07:30:36.2±0.4, 35°.29S×15°.60W, h0km, mb5.0/32, mbtmp5.0/32, MS5.1/50, Error ellipse: s-maj=12.9km s-min=11.4km az=164.0*
*NEIC **16** 07:30:38.4±1.2, 35°.30S±0°.09×15°.5W±0°.1, h10km±1km, mb5.6/169, Ms_20 5.4/661, Mwb5.5/27, Mww5.7/29, Error ellipse: s-maj=15.8km s-min=13.9km az=208.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.49; $M_{\theta\theta}$-1.13; $M_{\phi\phi}$0.64; $M_

HOPE Hope Point 23.91 211 IAMs_20 IAMs_20 07 42 28.6
comp=Z,10µm,20.0s
H10S2 ASCENSION HYDR 26.24 2 T T 08 03 29.1
baz=39,slow=74,SNR=3375
H10S3 ASCENSION HYDR 26.24 2 T T 08 03 24.4
baz=181,slow=74,SNR=2358
CAM01 Campos-RJ 26.43 294 *eP* **P 07 36 14.6 -0.5**
DUB01 Friburgo-RJ 26.82 292 *eP* **P 07 36 19.0 +0.3**
RIB01 Linhares ES 27.06 300 *eP* **P 07 36 21.1 +0.2**
H10N1 ASCENSION HYDR 27.35 2 T T 08 04 56.2
baz=180,slow=73,SNR=137
H10N3 ASCENSION HYDR 27.35 2 T T 08 04 54.8
baz=180,slow=73,SNR=2065
H10N2 ASCENSION HYDR 27.37 2 T T 08 05 06.3
baz=180,slow=73,SNR=226
VAS01 Vassouras-RJ 27.52 291 *eP* **P 07 36 24.6 -0.3**
SJMB Sao Joao De Ma 28.03 299 *eP* **P 07 36 29.0 -0.5**
GUA01 Guaratinga, BA 28.52 305 *eP* **P 07 36 34.1 +0.3**
PARB Paraibuna 28.64 286 *eP* **P 07 36 34.4 -0.6**
TER01 Tubaro-SC 29.14 274 *eP* **P 07 36 39.8 +0.4**
CMC01 Camacan, BA 29.21 307 *eP* **P 07 36 40.0 0.0**
PET01 Itanhaem-SP 29.47 283 *eP* **P 07 36 42.9 +0.6**
MAJ01 Sao Joao Batis 29.48 276 *eP* **P 07 36 43.6 +1.2**
VAO Valinhos 29.87 286 **P 07 36 45.8 -0.2**
VAO IAmb IAmb 07 37 41.1
comp=Z,39nm,0.6s
VAO IAMs_20 IAMs_20 07 45 36.4
comp=Z,9µm,21.0s
VAO Valinhos 29.87 286 *eP* **P 07 36 46.2 +0.3**
DIAM Diamantina, MG 30.08 297 *eP* **P 07 36 45.7 -2.2**
CNLB Canela 30.27 271 *eP* **P 07 36 50.1 +0.7**
SUR Sutherland 30.29 95 LR LR 07 45 59.3
comp=Z,6µm,20.4s,baz=250,slow=30
GDU01 Guandu, BA 30.46 309 *eP* **P 07 36 51.7 +0.6**
NBAN Anadia - AL 31.72 319 *eP* **P 07 37 01.6 -0.7**
PLTB Pedras Altas 31.73 265 **P 07 37 02.1 -0.1**
PLTB IAmb IAmb 07 37 04.8
comp=Z,141nm,1.2s
PLTB Pedras Altas 31.73 265 *eP* **P 07 37 03.4 +1.1**
FRTB Fartura 31.75 283 *eP* **P 07 37 03.4 +0.9**
PMNB Patos De Minas 31.98 293 *eP* **P 07 37 03.7 -0.9**
CPSB Cacapava Do Su 32.01 268 *eP* **P 07 37 05.8 +1.0**
ITAB Concordia 32.09 274 **P 07 37 05.9 +0.5**
ITAB Concordia 32.09 274 *eP* **P 07 37 07.2 +1.8**
BB19B Bebedouro 32.12 287 *eP* **P 07 37 05.8 0.0**
JANB Januaria 32.68 301 *eP* **P 07 37 09.9 -0.8**
NBCA Caruaru-PE 32.79 320 *eP* **P 07 37 11.6 -0.1**
LDASE Londrina, Braz 32.97 281 *eP* **P 07 37 14.1 +0.8**
PTGB Pitanga 33.11 279 *eP* **P 07 37 15.1 +0.5**
TSUM Tsumeb 33.40 70 **P 07 37 15.1 -2.0**
TSUM Tsumeb 33.40 70 LR LR 07 47 41.0
comp=Z,2µm,21.7s,baz=218,slow=31
KOOLE Kule 33.42 78 P **P 07 37 15.5 -1.8**
KOOLE IAmb IAmb 07 37 32.0
comp=Z,42nm,0.8s
IPMB Ipameri, GO 33.65 292 *eP* **P 07 37 18.4 -0.9**
TBOT Tacuaremb 33.66 264 *eP* **P 07 37 20.4 +1.4**
SOE Somerset East 34.06 98 P **P 07 37 20.8 -2.0**
SOE IAmb IAmb 07 37 22.6
comp=Z,114nm,1.3s
ITRB Iturama 34.30 288 *eP* **P 07 37 25.2 +0.4**
EFI East Falkland 34.31 228 P **P 07 37 25.2 +0.7**
EFI IAmb IAmb 07 37 26.4
comp=Z,161nm,1.3s
EFI East Falkland 34.31 228 IAMs_20 IAMs_20 07 48 25.6
comp=Z,5µm,20.0s
PHPEN Phepeng 34.42 84 P **P 07 37 24.6 -1.3**
PHPEN IAmb IAmb 07 37 34.2
comp=Z,48nm,0.2s
GRHM Grahamstown, E 34.57 99 P **P 07 37 25.4 -1.6**
GRHM IAmb IAmb 07 37 26.7
comp=Z,101nm,1.0s
RCBR Riachuelo 34.78 323 **P 07 37 28.8 -0.2**
RCBR Riachuelo 34.78 323 IAMs_20 IAMs_20 07 48 07.1
comp=Z,5µm,20.0s
RCBR Riachuelo 34.78 323 LR LR 07 48 47.9
comp=Z,2µm,18.9s,baz=142,slow=31
RCBR Riachuelo 34.78 323 *eP* **P 07 37 29.6 +0.6**
ITQB Itaqui 34.86 267 **P 07 37 30.6 +1.1**
ITQB Itaqui 34.86 267 *eP* **P 07 37 31.1 +1.5**
SDBA SAO DESIDERIO 34.94 303 *eP* **P 07 37 29.6 -0.8**
BDFB Brasilia 34.96 296 **P 07 37 30.2 -0.5**
BDFB Brasilia 34.96 296 P **P 07 37 29.7 -0.9**
comp=Z,65nm,1.1s,baz=128,slow=9.5,SNR=58
BDFB LR LR 07 49 16.0
comp=Z,8µm,20.3s,baz=130,slow=32
comp=Z,65nm,1.1s
GRTLG Ghanzi 35.06 77 P **P 07 37 29.2 -2.3**
KGCAE Kacgae 35.10 80 P **P 07 37 29.6 -2.3**
KGCAE IAmb IAmb 07 37 51.5
comp=Z,53nm,1.0s
BOSA Boshof 35.13 91 P **P 07 37 29.7 -2.3**
BOSA IAmb IAmb 07 37 31.0
comp=Z,54nm,0.9s
BOSA Boshof 35.13 91 P **P 07 37 29.9 -2.1**
comp=Z,39nm,0.8s,baz=251,slow=7.3,SNR=40
BOSA LR LR 07 48 51.8
comp=Z,5µm,20.6s,baz=250,slow=31
comp=Z,39nm,0.8s
VNA1 Neumayer--Stat 35.63 176 ⇑P **P 07 37 39.2 +3.6**
comp=Z,27nm,1.0s
MAKGR Makgori 35.86 86 P **P 07 37 37.2 -1.2**
VNA2 Neumayer--Watz 35.95 175 ⇑P **P 07 37 40.0 +1.5**
comp=Z,24nm,0.5s,baz=341,slow=3.2
QNGWA Qangwa 36.01 74 P **P 07 37 38.0 -1.6**
QNGWA IAmb IAmb 07 37 53.9
comp=Z,138nm,1.8s
VNA3 Neumayer Olymp 36.14 177 ⇑P **P 07 37 42.1 +2.0**
comp=Z,24nm,0.8s
SJPY San Joaquin 36.27 275 *eP* **P 07 37 42.2 +0.5**
RPRD Ribas do Rio P 36.51 284 *eP* **P 07 37 44.9 +1.1**
XAUDM Khaudum 36.69 73 P **P 07 37 44.2 -1.2**
CPUP Villa Florida 36.70 272 P **P 07 37 45.9 +0.5**
CPUP IAmb IAmb 07 37 47.0
comp=Z,91nm,1.1s
CPUP Villa Florida 36.70 272 P **P 07 37 45.7 +0.3**
comp=Z,57nm,0.9s,baz=117,slow=7.6,SNR=101
CPUP LR LR 07 49 53.5
comp=Z,3µm,20.5s,baz=122,slow=32
comp=Z,57nm,0.9s
C2SB Chapadao do Su 36.76 287 *eP* **P 07 37 46.5 +0.6**
LBTB Lobatse 36.85 85 P **P 07 37 45.4 -1.5**
LBTB Lobatse 36.85 85 LR LR 07 49 57.1
comp=Z,3µm,20.4s,baz=244,slow=32
GMARE Gumare 36.86 75 P **P 07 37 44.6 -2.3**
GMARE IAmb IAmb 07 38 02.2
comp=Z,79nm,1.3s
NBPB Pedra_Branca-C 36.95 318 *eP* **P 07 37 47.2 -0.3**
TRQA Tornquist 36.99 252 **P 07 37 48.5 +0.7**
TRQA IAmb IAmb 07 37 52.4
comp=Z,66nm,0.9s
TRQA Tornquist 36.99 252 *eP* **P 07 37 48.5 +0.7**
SNAA Sanae 37.05 173 **P 07 37 47.7 -0.1**
SNAA Sanae 37.05 173 ⇑P **P 07 37 47.6 -0.2**
comp=Z,196nm,0.8s
SNAA Sanae 37.05 173 P **P 07 37 47.5 -0.3**
comp=Z,3.4nm,0.9s,baz=286,slow=10.0,SNR=6.3
SNAA LR LR 07 49 51.6
comp=Z,2µm,18.3s,baz=342,slow=31
comp=Z,3.4nm,0.9s
ARAG Araguaiana, MT 37.77 292 *eP* **P 07 37 55.0 +0.5**
ESPZ Base Esperanza 37.81 209 P **P 07 37 55.0 +0.7**
ESPZ IAmb IAmb 07 37 56.0
comp=Z,95nm,0.9s
ESPZ IAMs_20 IAMs_20 07 49 50.3
comp=Z,5µm,20.0s
LPHEP Lephephe 37.81 83 P **P 07 37 53.7 -1.3**
TROLL Troll, Antarti 37.97 171 ⇑P **P 07 37 57.0 +1.3**
comp=Z,1µm,0.8s
AQDB Aquidauana 38.11 282 **P 07 37 58.0 +0.7**
AQDB Aquidauana 38.11 282 *eP* **P 07 37 58.2 +0.8**
KHWEE KHWEE 38.16 81 IAmb IAmb 07 38 17.8
comp=Z,90nm,1.1s
MURT Porto Murtinho 39.05 279 *eP* **P 07 38 05.5 +0.3**
SMTB Santa Maria do 39.31 304 *eP* **P 07 38 07.0 -0.4**
SNDB Serra Nova Dou 39.76 297 *eP* **P 07 38 11.7 +0.5**
MG01 Puerto William 40.50 224 P **P 07 38 17.8 +0.9**
MG01 IAmb IAmb 07 38 18.7
comp=Z,164nm,1.0s
MG01 IAMs_20 IAMs_20 07 51 06.2
comp=Z,4µm,18.0s
SALV Santo Antonio 40.63 288 *eP* **P 07 38 19.3 +0.8**
USHA Ushuaia 40.95 225 LR LR 07 53 23.8
comp=Z,2µm,19.9s,baz=86,slow=33
PMSA Palmer Station 41.20 209 LR LR 07 52 03.4
comp=Z,3µm,20.5s,baz=44,slow=31
PMSA Palmer Station 41.20 209 *eP* **P 07 38 24.4 +1.9**
MG02 Cerro Sombrero 41.25 228 IAMs_20 IAMs_20 07 53 08.2
comp=Z,5µm,19.0s
MATP Matopo 41.38 81 LR LR 07 52 40.9
comp=Z,1µm,21.7s,baz=240,slow=32
ELIB Princess Elisa 41.85 163 *dP* **P 07 38 28.2 +0.3**
comp=Z,38nm,1.1s
MG03 Isla Dawson 42.05 226 IAMs_20 IAMs_20 07 53 05.4
comp=Z,6µm,21.0s
PRPB Parauapebas 42.77 305 *eP* **P 07 38 36.2 +0.2**
DBIC Dimbokro 42.96 16 P **P 07 38 35.3 -2.1**
DBIC Dimbokro 42.96 16 P **P 07 38 36.1 -1.3**
comp=Z,48nm,1.0s,baz=184,slow=8.6,SNR=18
DBIC LR LR 07 52 01.6
comp=Z,2µm,20.8s,baz=178,slow=30
comp=Z,48nm,1.0s
PLCA Paso Flores 43.02 246 P **P 07 38 38.3 +0.4**
PLCA IAmb IAmb 07 38 43.5
comp=Z,163nm,1.5s
PLCA Paso Flores 43.02 246 P **P 07 38 38.2 +0.3**
comp=Z,24nm,0.9s,baz=108,slow=4.8,SNR=22
PLCA LR LR 07 55 09.9
comp=Z,3µm,19.5s,baz=99,slow=34
comp=Z,24nm,0.9s
PLCA Paso Flores 43.02 246 *eP* **P 07 38 38.9 +1.0**
COYC Coyhaique 43.37 238 P **P 07 38 40.8 +0.2**
COYC IAmb IAmb 07 38 43.6
comp=Z,173nm,1.3s
COYC Coyhaique 43.37 238 IAMs_20 IAMs_20 07 52 18.7
comp=Z,4µm,22.0s
BELA Belgrano 2 43.47 186 **P 07 38 41.5 +0.6**
BELA IAMs_20 IAMs_20 07 52 01.2
comp=Z,4µm,21.0s
AY03 Cochrane 43.54 236 P **P 07 38 43.0 +1.1**
AY03 IAmb IAmb 07 38 44.9
comp=Z,88nm,1.4s
LL02 Futaleuf 43.54 242 IAmb IAmb 07 38 46.8
comp=Z,167nm,1.1s
PTLB Pontes e Lacer 43.59 286 P **P 07 38 43.2 +0.6**
PTLB IAmb IAmb 07 38 45.2
comp=Z,76nm,1.0s
PTLB Pontes e Lacer 43.59 286 *eP* **P 07 38 43.4 +0.8**
CFA Coronel Fontan 43.64 259 LR LR 07 53 56.7
comp=Z,770nm,21.5s,baz=118,slow=32
CLDB Colider 43.81 294 *eP* **P 07 38 44.0 -0.3**
LSZ Lusaka 43.92 74 P **P 07 38 44.0 -1.4**
LSZ Lusaka 43.92 74 LR LR 07 54 17.5
comp=Z,2µm,18.8s,baz=242,slow=32
AY01 Puyuhuapi 43.92 240 P **P 07 38 44.4 -0.6**
AY01 IAMs_20 IAMs_20 07 54 47.4
comp=Z,5µm,19.0s
ZON Zonda 44.01 259 IAmb IAmb 07 38 52.0
comp=Z,112nm,1.8s
PDRB Porto dos Gac 44.04 292 *eP* **P 07 38 46.6 +0.3**
LL01 San Ignacio de 44.09 243 IAMs_20 IAMs_20 07 55 21.9
comp=Z,4µm,19.0s
LR05 Currie 44.21 246 IAmb IAmb 07 38 51.0
comp=Z,62nm,0.9s
LL03 Petrohue 44.32 245 IAmb IAmb 07 38 56.4
comp=Z,52nm,0.9s
LL03 IAMs_20 IAMs_20 07 53 41.0
comp=Z,4µm,22.0s
MT08 Bocatoma Ro 44.46 256 IAmb IAmb 07 38 55.0
comp=Z,137nm,1.1s
LMEL Las Melosas 44.48 255 IAmb IAmb 07 38 54.8
comp=Z,164nm,1.1s
TMAB Tom-Au,PA,Br 44.52 310 *eP* **P 07 38 50.1 +0.1**
MT13 San Alfonso 44.58 256 IAmb IAmb 07 39 00.5
comp=Z,85nm,1.0s
BO02 Sierra Bellavi 44.66 254 IAmb IAmb 07 39 07.6
comp=Z,56nm,0.8s
BO04 La Punta 44.76 255 IAmb IAmb 07 38 56.3
comp=Z,128nm,1.0s
LL07 Hotel Espejo d 44.78 242 IAMs_20 IAMs_20 07 53 39.1
comp=Z,4µm,20.0s
SIV San Ignacio 44.82 283 LR LR 07 55 50.2
comp=Z,5µm,19.1s,baz=132,slow=34
GO07 Milladeo Hill, 44.86 242 IAMs_20 IAMs_20 07 53 40.3
comp=Z,4µm,21.0s
LL05 Los Muermos 45.05 244 IAMs_20 IAMs_20 07 54 25.5
comp=Z,4µm,21.0s
PEL Peldehue 45.09 256 IAmb IAmb 07 39 00.4
comp=Z,136nm,1.2s
VA03 San Esteban 45.10 257 IAmb IAmb 07 39 07.8
comp=Z,49nm,0.8s
SYO Syowa Base 45.18 155⇑ *eP* **P 07 38 53.6 -1.1**
SYO Syowa Base 45.18 155⇑ *rsP* sP 07 38 56.4 -1.1
SYO Syowa Base 45.18 155‖ *ePcP* **PcP 07 40 33.0 -1.7**
MT02 Curacav 45.41 256 IAmb IAmb 07 39 12.1
comp=Z,80nm,1.1s
VA05 Santo Domingo 45.66 255 IAmb IAmb 07 39 08.2
comp=Z,77nm,0.8s
CO01 Juntas del Tor 45.70 261 IAmb IAmb 07 39 02.5
comp=Z,54nm,0.8s
VA06 Catapilco 45.77 257 IAmb IAmb 07 39 03.8
comp=Z,60nm,1.0s
BI05 Punta Hualpn 45.97 251 IAMs_20 IAMs_20 07 56 36.1
comp=Z,5µm,20.0s
CO02 Combarbal 45.99 259 IAmb IAmb 07 39 08.0
comp=Z,50nm,1.1s
NPGB Novo Progresso 46.02 298 *eP* **P 07 39 01.9 -0.1**
AC02 Maricunga 46.14 265 IAmb IAmb 07 39 05.2
comp=Z,49nm,0.9s
GO04 Tololo Observa 46.20 260 IAmb IAmb 07 39 20.1
comp=Z,50nm,0.9s
LCO Las Campanas 46.55 262 P **P 07 39 06.0 -0.4**
LCO IAmb IAmb 07 39 07.5
comp=Z,129nm,1.6s
CO05 La Serena 46.65 260 IAmb IAmb 07 39 07.5
comp=Z,74nm,0.8s
CO06 Fray Jorge 46.69 259 IAmb IAmb 07 39 07.4
comp=Z,77nm,1.1s
GO03 Copiapo 46.73 264 P **P 07 39 07.8 +0.2**
GO03 IAmb IAmb 07 39 22.1
comp=Z,50nm,1.0s
AC06 Mina Casimiro 46.92 264 IAmb IAmb 07 39 10.4
comp=Z,74nm,1.1s
AF01 San Pedro de A 47.05 270 IAmb IAmb 07 39 17.8
comp=Z,86nm,1.0s
ITTB Itaituba 48.15 300 *eP* **P 07 39 18.8 +0.2**
PB09 IPOC Station P 48.45 271 IAmb IAmb 07 39 23.9
comp=Z,120nm,1.3s
PB10 IPOC Station P 48.73 268 P **P 07 39 23.0 0.0**
MAL2 Monte Alegre, 48.75 304 P **P 07 39 23.9 +0.6**
BBTS Babate 49.70 359 P **P 07 39 30.3 0.0**
comp=Z,79nm,1.0s,baz=70,slow=2.2,SNR=5.5
BBTS LR LR 07 55 48.5
comp=Z,1µm,19.8s,baz=64,slow=30
comp=Z,79nm,1.0s
LPAZ La Paz 50.33 278 IAmb IAmb 07 39 39.8
comp=Z,58nm,1.4s
LPAZ La Paz 50.33 278 P **P 07 39 34.6 -1.3**
comp=Z,14nm,1.0s,baz=102,slow=7.0,SNR=30
LPAZ LR LR 08 00 37.4
comp=Z,3µm,19.0s,baz=111,slow=36
comp=Z,14nm,1.0s
LPAZ La Paz 50.33 278 *eP* **P 07 39 34.7 -1.3**
SAML Samuel 50.64 289 P **P 07 39 38.4 +0.7**
SAML IAmb IAmb 07 39 39.8
comp=Z,116nm,1.2s
SAML Samuel 50.64 289 *eP* **P 07 39 38.1 +0.4**
H04S3 CROZET ISLANDS 50.72 125 T T 08 34 40.5
baz=261,slow=76,SNR=11
H04S2 CROZET ISLANDS 50.72 125 T T 08 34 26.6
baz=261,slow=76,SNR=12
H04S1 CROZET ISLANDS 50.73 125 T T 08 34 45.3
baz=261,slow=76,SNR=12
PB18 Visviri 50.74 276 IAmb IAmb 07 39 52.2
comp=Z,121nm,1.2s
PB18 IAMs_20 IAMs_20 07 59 43.3
comp=Z,5µm,21.0s
PB12 IPOC Station P 50.90 274 IAmb IAmb 07 39 42.1
comp=Z,84nm,1.0s
TORD Torodi Ar. Bea 50.90 22 **P 07 39 37.8 -1.7**
TORD Torodi Ar. Bea 50.90 22 P **P 07 39 38.8 -0.8**
comp=Z,29nm,1.0s,baz=201,slow=4.5,SNR=19
TORD LR LR 07 56 35.8
comp=Z,5µm,21.2s,baz=191,slow=31
comp=Z,29nm,1.0s
MACA Manacapuru-AM 52.53 297 **P 07 39 52.3 +0.5**
MACA IAmb IAmb 07 39 53.6
comp=Z,91nm,0.9s
MACA Manacapuru-AM 52.53 297 *eP* **P 07 39 52.4 +0.6**
MDP Montagnes des 53.16 311 LR LR 08 01 11.3
comp=Z,4µm,18.4s,baz=140,slow=34
MAW Mawson 53.56 152 P **P 07 39 58.1 -0.6**
MAW Mawson 53.56 152 P **P 07 39 57.9 -0.8**
comp=Z,5.8nm,1.4s
MAW Mawson 53.56 152 P **P 07 39 58.1 -0.6**
comp=Z,9.0nm,0.7s,baz=248,slow=6.5,SNR=13
MAW LR LR 07 58 09.8
comp=Z,3µm,20.9s,baz=278,slow=31
comp=Z,9.0nm,0.7s
FOMA Nahampoana Res 54.32 97 IAMs_20 IAMs_20 07 57 56.0
comp=Z,3µm,22.0s
QSPA South Pole Qui 54.95 180 P **P 07 40 09.6 +0.5**
QSPA IAmb IAmb 07 40 25.4
comp=Z,60nm,1.1s
QSPA South Pole Qui 54.95 180 P **P 07 40 09.2 +0.2**
comp=Z,21nm,1.0s,baz=221,slow=4.6,SNR=24
QSPA LR LR 08 01 14.1
comp=Z,2µm,18.2s,baz=198,slow=33
comp=Z,21nm,1.0s
MBAR Mbarara 55.22 62 P **P 07 40 11.0 -0.6**
MBAR IAmb IAmb 07 40 28.4
comp=Z,78nm,1.1s
MBAR Mbarara 55.22 62 IAMs_20 IAMs_20 08 00 48.8
comp=Z,2µm,19.0s
TEFE Tefe 55.22 293 *eP* **P 07 40 12.0 +0.5**
VOI Vohitsoka 55.59 94 P **P 07 40 13.8 -0.5**
BOAV Boa Vista 56.29 302 IAmb IAmb 07 40 20.9
comp=Z,54nm,1.4s
BOAV Boa Vista 56.29 302 *eP* **P 07 40 18.7 -0.5**
ABPO Ambohimpanom 57.35 91 P **P 07 40 25.7 -1.2**
ABPO Ambohimpanom 57.35 91 IAMs_20 IAMs_20 08 00 31.4
comp=Z,3µm,22.0s
TBTG Tabatinga, AM 58.81 289 **P 07 40 36.5 -0.4**
TBTG Tabatinga, AM 58.81 289 *eP* **P 07 40 36.5 -0.4**
CZSB Cruzeiro do Su 58.85 284 **P 07 40 35.7 -1.5**
CZSB Cruzeiro do Su 58.85 284 *eP* **P 07 40 35.6 -1.7**
CZSB Cruzeiro do Su 58.85 284 P **P 07 40 35.4 -1.8**
comp=Z,2µmcomp=Z,161nm,1.2s
SGC2 Sao Gabriel da 59.19 295 P **P 07 40 39.1 -0.4**
comp=Z,53nm,1.1s
KIBK Kibwezi 59.50 69 **P 07 40 41.8 -0.1**
KIBK IAmb IAmb 07 40 59.9
comp=Z,54nm,1.4s
KIBK IAMs_20 IAMs_20 08 03 53.7
comp=Z,3µm,18.0s
KMBO Kilima Mbogo 59.68 67 P **P 07 40 41.2 -2.0**
KMBO Kilima Mbogo 59.68 67 IAMs_20 IAMs_20 08 03 23.9
comp=Z,3µm,20.0s
KMBO Kilima Mbogo 59.68 67 P **P 07 40 43.1 -0.1**
comp=Z,1.1nm,0.3s,baz=215,slow=8.0,SNR=7.9
KMBO LR LR 08 03 36.7
comp=Z,2µm,20.2s,baz=222,slow=33
comp=Z,1.1nm,0.3s
NNA Nana 59.74 277 **P 07 40 42.4 -1.1**
NNA IAmb IAmb 07 40 45.0
comp=Z,52nm,1.0s
NNA Nana 59.74 277 P **P 07 40 43.3 -0.2**
comp=Z,36nm,0.9s,baz=158,slow=6.2,SNR=8.0
NNA LR LR 08 06 39.6
comp=Z,2µm,18.3s,baz=142,slow=36
comp=Z,36nm,0.9s
TAM Tamanrasset 61.16 22 **P 07 40 52.8 -0.1**
TAM IAMs_20 IAMs_20 08 02 39.7
comp=Z,3µm,20.0s
LODK Lodwar 61.32 62 P **P 07 40 53.6 -0.7**
ATAH Atahualpa 63.75 280 P **P 07 41 11.5 +0.5**
comp=Z,46nm,1.0s,baz=108,slow=4.5,SNR=28
ATAH LR LR 08 08 39.8
comp=Z,3µm,21.2s,baz=156,slow=36
comp=Z,46nm,1.0s
PCRV Puerto La Cruz 64.72 305 P **P 07 41 16.6 -0.2**
comp=Z,35nm,0.9s,baz=173,slow=3.7,SNR=6.2
PCRV LR LR 08 07 14.8
comp=Z,7µm,21.1s,slow=34
comp=Z,35nm,0.9s
MACC Macarena, Meta 65.86 291 P **P 07 41 24.8 +0.6**
comp=Z,2µmcomp=Z,153nm,1.2s
FLOC Florencia 66.88 290 IAmb IAmb 07 41 31.2
comp=Z,58nm,0.9s
URMC La Uribe, Meta 66.97 292 P **P 07 41 31.2 -0.2**
comp=Z,2µmcomp=Z,124nm,1.3s
SBA Scott Base 67.10 181 **P 07 41 32.9 +1.7**
SBA IAmb IAmb 07 42 02.5
comp=Z,41nm,1.1s
GARC Garzon, Huila 67.14 290 P **P 07 41 32.7 0.0**
comp=Z,1µmcomp=Z,104nm,1.1s
VNDA Vanda 67.43 179 **P 07 41 33.7 +0.4**
VNDA Vanda 67.43 179 P **P 07 41 33.9 +0.6**
comp=Z,11nm,1.3s,baz=210,slow=6.4,SNR=8.3
VNDA LR LR 08 06 54.3
comp=Z,1µm,20.3s,baz=174,slow=32
comp=Z,11nm,1.3s
SLOR San Lorenzo - 67.66 286 IAmb IAmb 07 41 38.7
comp=Z,49nm,1.3s
SLOR IAMs_20 IAMs_20 08 10 03.8
comp=Z,3µm,19.0s
PRAC Prado 67.66 292 P **P 07 41 34.8 -0.9**
comp=Z,1µmcomp=Z,93nm,1.4s
ROSC El Rosal 67.96 293 **P 07 41 37.8 -0.2**
ROSC IAmb IAmb 07 41 41.5
comp=Z,44nm,1.1s
ROSC El Rosal 67.96 293 P **P 07 41 37.5 -0.5**
comp=Z,19nm,0.9s,baz=75,slow=3.7,SNR=10
ROSC LR LR 08 10 09.3
comp=Z,8µm,18.0s,baz=172,slow=35
comp=Z,19nm,0.9s
ROSC El Rosal 67.96 293 P **P 07 41 38.1 +0.1**
comp=Z,38nm,0.9s
SDV Santo Domingo 67.97 299 **P 07 41 37.8 0.0**
SDV Santo Domingo 67.97 299 P **P 07 41 37.5 -0.3**
comp=Z,92nm,1.1s,baz=140,slow=2.5,SNR=51
SDV LR LR 08 10 15.1
comp=Z,4µm,18.3s,baz=130,slow=35
comp=Z,92nm,1.1s
SDV Santo Domingo 67.97 299 *eP* **P 07 41 37.6 -0.2**
SDV Santo Domingo 67.97 299 P **P 07 41 38.1 +0.3**
comp=Z,1µmcomp=Z,108nm,1.2s
OTAV Otavalo 68.22 287 **P 07 41 39.9 +0.2**
OTAV IAmb IAmb 07 41 53.5
comp=Z,40nm,1.1s
OTAV Otavalo 68.22 287 *eP* **P 07 41 40.2 +0.4**
BARC Barichara 68.27 295 P **P 07 41 38.9 -0.9**
MDT Midelt 68.54 10 P **P 07 41 41.7 +0.8**
comp=Z,19nm,1.2s,baz=224,slow=5.4,SNR=7.9
MDT LR LR 08 07 51.7
comp=Z,1µm,21.2s,baz=204,slow=33
comp=Z,19nm,1.2s
YOTC Yotoco, Valle 68.94 291 P **P 07 41 41.7 -2.2**
comp=Z,569nmcomp=Z,51nm,1.2s
PTBC PUERTO BERRIO, 69.18 295 P **P 07 41 42.4 -2.8**
comp=Z,543nmcomp=Z,64nm,1.0s
UREC San Jos de Ur 70.78 295 P **P 07 41 53.3 -1.7**
comp=Z,655nmcomp=Z,43nm,1.3s
URIC Uribia, Colomb 70.87 300 P **P 07 41 53.2 -2.3**
comp=Z,841nmcomp=Z,73nm,1.1s
PDPR Patillas Dam, 71.39 309 IAmb IAmb 07 41 59.0
comp=Z,39nm,1.1s
IGPR InterUniversit 71.40 309 IAmb IAmb 07 42 01.1
comp=Z,44nm,1.1s
SJG San Juan 71.54 309 P **P 07 41 56.4 -2.9**
SJG IAmb IAmb 07 41 60.0
comp=Z,74nm,1.1s
SJG San Juan 71.54 309 P **P 07 41 59.3 -0.1**
comp=Z,30nm,0.9s,baz=53,slow=2.2,SNR=7.6
SJG LR LR 08 13 32.8
comp=Z,963nm,18.0s,baz=124,slow=36
comp=Z,30nm,0.9s
SJG San Juan 71.54 309 P **P 07 41 56.5 -2.9**
comp=Z,26nm,1.2s
GCPR Guaynabo City 71.64 309 **P 07 41 59.7 -0.3**
GCPR IAmb IAmb 07 42 00.6
comp=Z,49nm,1.1s
APAC Apartado, Choc 71.66 294 P **P 07 42 01.4 +1.1**
comp=Z,3µmcomp=Z,282nm,1.2s
OBIP Obispado Ponce 71.78 309 IAmb IAmb 07 42 00.3
comp=Z,60nm,1.1s
CELP Cerrillos 71.78 309 IAmb IAmb 07 42 01.3
comp=Z,48nm,0.9s
SFS San Fernando 71.94 8 IAMs_20 IAMs_20 08 06 32.8
comp=Z,2µm,19.0s
UUPR Utuado, UPR, P 72.00 309 IAmb IAmb 07 42 02.5
comp=Z,36nm,0.8s
SMRC Santa Marta, M 72.09 298 IAmb IAmb 07 42 04.0
comp=Z,76nm,0.9s
DR12 Loma Pena Alta 74.11 307 IAmb IAmb 07 42 15.5
comp=Z,50nm,1.1s
KEST Kesra 74.41 21 IAmb IAmb 07 42 22.0
comp=Z,81nm,1.5s
KEST Kesra 74.41 21 P **P 07 42 16.2 +0.1**
comp=Z,17nm,1.0s,baz=324,slow=2.9,SNR=11

KEST LR LR 08 11 56.3
comp=Z,4µm,20.3s,baz=207,slow=33
comp=Z,17nm,1.0s
ESDC Sonseca Array 75.38 9 P P 07 42 21.5 -0.2
ESDC IAmb IAmb 07 42 27.1
comp=Z,48nm,1.2s
ESDC Sonseca Array 75.38 9 P **P 07 42 21.4 -0.2**
comp=Z,9.3nm,1.0s,baz=187,slow=5.8,SNR=26
ESDC LR LR 08 13 04.2
comp=Z,802nm,19.0s,baz=180,slow=34
comp=Z,9.3nm,1.0s
SDDR Presa de Saban 75.49 306 IAmb IAmb 07 42 37.3
comp=Z,38nm,1.1s
SDDR Presa de Saban 75.49 306 P **P 07 42 22.4 -0.4**
comp=Z,39nm,1.3s
PAPH Port-au-Prince 75.84 305 IAMs_20 IAMs_20 08 16 31.5
comp=Z,1µm,18.0s
BRU2 Volcan 76.85 291 IAmb IAmb 07 42 47.3
comp=Z,96nm,1.5s
GRTK Grand Turk 77.20 308 IAMs_20 IAMs_20 08 13 54.6
comp=Z,2µm,22.0s
VAE Valguarnera 77.60 24 LR LR 08 13 52.1
comp=Z,1µm,20.1s,baz=188,slow=34
VSL Villasalto 77.93 20 IAMs_20 IAMs_20 08 12 55.8
comp=Z,2µm,21.0s
GTBY Guantanamo Bay 78.71 304 IAmb IAmb 07 42 42.2
comp=Z,112nm,1.2s
GTBY IAMs_20 IAMs_20 08 15 43.6
comp=Z,2µm,20.0s
GTBY Guantanamo Bay 78.71 304 P **P 07 42 40.9 +0.1**
comp=Z,89nm,1.5s
PRVC Isla de Provid 78.77 295 P **P 07 42 40.4 -0.8**
comp=Z,2µmcomp=Z,125nm,1.3s
NMDO Nuevo Mundo 79.06 305 IAmb IAmb 07 42 44.2
comp=Z,62nm,1.4s
NMDO IAMs_20 IAMs_20 08 17 44.9
comp=Z,2µm,20.0s
MTDJ Mount Denham 79.22 301 P **P 07 42 43.0 -0.7**
comp=Z,57nm,1.4s
SOCE Pocosol 79.32 291 IAmb IAmb 07 43 01.6
comp=Z,186nm,2.0s
JTS Las Juntas de 79.52 291 P 07 42 45.5 +0.1
JTS Las Juntas de 79.52 291 P **P 07 42 45.6 +0.2**
comp=Z,24nm,0.9s,baz=12,slow=2.7,SNR=10
JTS LR LR 08 16 29.5
comp=Z,2µm,21.4s,baz=134,slow=35
comp=Z,24nm,0.9s
CHIV Chivirico 79.63 303 IAmb IAmb 07 42 47.0
comp=Z,77nm,1.3s
CHIV IAMs_20 IAMs_20 08 14 59.0
comp=Z,2µm,22.0s
IDI Anoyia 79.75 33 P **P 07 42 46.9 +0.6**
comp=Z,18nm,0.8s,baz=197,slow=10,SNR=6.3
IDI LR LR 08 15 24.8
comp=Z,439nm,21.7s,baz=184,slow=34
comp=Z,18nm,0.8s
TIP Timpagrande 79.93 25 P **P 07 42 46.0 -1.1**
TIP Timpagrande 79.93 25 ⇑P **P 07 42 46.1 -0.9**
TIP Timpagrande 79.93 25 P **P 07 42 46.4 -0.7**
comp=Z,26nm,1.0s
ESPN Las Esperanzas 80.21 292 IAMs_20 IAMs_20 08 17 50.6
comp=Z,2µm,19.0s
EIL Elat 80.28 43 LR LR 08 16 08.4
comp=Z,2µm,19.3s,baz=230,slow=34
ACON Acoyapa 80.73 292 IAmb IAmb 07 42 52.7
comp=Z,90nm,1.4s
KARP Karpathos 80.99 34 IAmb IAmb 07 42 56.6
comp=Z,78nm,0.9s
GHAJ Ghor Haditha 81.87 42 IAMs_20 IAMs_20 08 18 13.6
comp=Z,1µm,19.0s
OSSC Osservatorio P 82.19 19 IAMs_20 IAMs_20 08 15 34.5
comp=Z,2µm,20.0s
RAYN Ar Rayn 82.28 54 IAMs_20 IAMs_20 08 24 11.3
comp=Z,1µm,20.0s
HERN Volcan Telica 82.39 291 IAMs_20 IAMs_20 08 17 17.4
comp=Z,2µm,20.0s
MSSA Maissana 82.47 18 IAMs_20 IAMs_20 08 16 40.1
comp=Z,1µm,20.0s
BNI Bardonecchia 82.50 16 IAMs_20 IAMs_20 08 15 25.8
comp=Z,2µm,21.0s
CRIN San Cristobal 82.62 291 IAMs_20 IAMs_20 08 17 06.6
comp=Z,2µm,20.0s
TIR Tirane 82.94 26 IAmb IAmb 07 43 09.5
comp=Z,44nm,0.8s
TIR Tirane 82.94 26 ⇓P **P 07 43 01.5 -1.4**
MMAI Mount Meron Ar 83.09 41 P **P 07 43 04.8 +0.8**
comp=Z,1.9nm,0.7s,baz=224,slow=7.0,SNR=5.2
MMAI LR LR 08 19 44.1
comp=Z,884nm,18.1s,baz=208,slow=36
comp=Z,1.9nm,0.7s
ASF Jabal al Asfar 83.27 43 LR LR 08 18 21.1
comp=Z,1µm,19.2s,baz=239,slow=34
SENIN Lac Senin/Sane 83.88 16 IAMs_20 IAMs_20 08 15 07.3
comp=Z,2µm,22.0s
MANT Manisa 84.05 33 IAmb IAmb 07 43 15.8
comp=Z,45nm,1.0s
TUE Stuetta 84.45 17 IAMs_20 IAMs_20 08 15 43.5
comp=Z,1µm,22.0s
CTI Castel Tesino 84.63 19 IAmb IAmb 07 43 32.8
comp=Z,102nm,2.0s
FUORN Ofenpass-Fuorn 84.81 18 IAMs_20 IAMs_20 08 17 15.1
comp=Z,2µm,22.0s
DAVOX Davos/Dischmat 84.87 17 P **P 07 43 13.2 +0.3**
comp=Z,13nm,1.0s,baz=107,slow=6.0,SNR=13
DAVOX LR LR 08 17 17.1
comp=Z,1µm,21.8s,baz=204,slow=33
comp=Z,13nm,1.0s
SABO M.te Sabotino 85.10 20 IAMs_20 IAMs_20 08 17 43.0
comp=Z,1µm,21.0s
FETA Feichten 85.30 18 *i* P **P 07 43 17.5 +2.5**
comp=Z,8.3nm,1.1s
DAVA Damuels 85.34 17 *i* P **P 07 43 18.9 +3.7**
comp=Z,39nm,1.5s
MTO3 Montecristo 85.43 291 IAMs_20 IAMs_20 08 22 16.8
comp=Z,1µm,20.0s
ABTA Abfaltersbach 85.51 19 *i* P **P 07 43 18.5 +2.5**
comp=Z,21nm,1.1s
ESQI Esquipulas 85.51 291 IAMs_20 IAMs_20 08 21 33.0
comp=Z,1µm,21.0s
PRED Cave del Predi 85.51 20 IAMs_20 IAMs_20 08 17 43.5
comp=Z,2µm,22.0s
BOVS Bovan 85.60 26 ⇑P **P 07 43 16.3 0.0**
SQTA Sankt Quirin 85.61 18 *i* P **P 07 43 20.2 +3.7**
comp=Z,9.9nm,1.0s
MOTA Moosalm 85.70 18 *i* PcP **PcP 07 43 21.2 +1.4**
comp=Z,10nm,1.0s
MYKA Terra Mystica 85.71 20 *i* P **P 07 43 19.4 +2.5**
comp=Z,16nm,1.3s
RETA Reutte 85.75 18 *i* PcP **PcP 07 43 21.1 +1.2**
comp=Z,7.1nm,0.9s
WTTA Wattenberg 85.76 18 *i* PcP **PcP 07 43 21.3 +1.2**
comp=Z,19nm,1.0s
WATA Walderalm 85.81 18 *i* PcP **PcP 07 43 21.7 +1.4**
comp=Z,12nm,1.1s
OBKA Obir 85.85 20 *i* PcP **PcP 07 43 22.9 +2.5**
comp=Z,9.8nm,1.2s
BFO Black Forest 85.97 16 IAMs_20 IAMs_20 08 17 09.6
comp=Z,1µm,18.0s
KBA Koelnbreinsper 86.04 19 *i* P **P 07 43 20.8 +2.1**
comp=Z,11nm,1.4s
SOR Soroa 86.07 301 IAMs_20 IAMs_20 08 18 46.6
comp=Z,1µm,22.0s
SOKA Soboth 86.14 21 *i* P **P 07 43 21.4 +2.3**
comp=Z,19nm,1.2s
LESA Schwarzleotal 86.18 19 *i* PcP **PcP 07 43 23.9 +2.0**
comp=Z,14nm,1.2s
BIOA Bad Ischl, Aus 86.68 19 *i* PcP **PcP 07 43 25.9 +2.0**
comp=Z,3.1nm,0.5s
WLF Walferdange 86.78 14 *d*P **P 07 43 22.4 +0.4**
ARSA Arzberg 86.80 21 P 07 43 22.9 +0.6
ARSA Arzberg 86.80 21 *i* pP pP 07 43 27.6 +3.2
comp=Z,11nm,1.2s
MORH Mrgy, Hungar 86.83 23 ⇑P **P 07 43 21.6 -0.7**
HERR Herculane 86.94 26 ⇑P **P 07 43 22.5 -0.5**
MOA Molln 87.00 20 *e*P **P 07 43 25.6 +2.5**
comp=Z,9.2nm,1.0s
ANTO Ankara 87.11 35 P **P 07 43 23.4 -0.6**
comp=Z,5.8nm,0.8s
BMRD Maredsous 87.12 13 *d*P **P 07 43 24.6 +0.9**
comp=Z,11nm,1.2s
BZS Buzias 87.29 25 ⇑P **P 07 43 24.5 -0.1**
MPLH Magyarpolny 87.33 22 P **P 07 43 24.8 0.0**
comp=Z,42nm,1.1s
BR105 Keskin Array S 87.38 36 P **P 07 43 25.2 -0.2**
comp=Z,6.1nm,1.0s
BR104 Keskin Array S 87.38 36 P **P 07 43 25.2 -0.2**
comp=Z,46nmcomp=Z,4.5nm,1.0s
BR106 Keskin Array S 87.39 36 P **P 07 43 25.2 -0.3**
comp=Z,48nmcomp=Z,4.4nm,0.8s
BRTR Keskin Array B 87.39 36 P 07 43 25.3 -0.2
BRTR Keskin Array B 87.39 36 P **P 07 43 26.5 +1.0**
comp=Z,3.0nm,0.9s,baz=179,slow=6.2,SNR=11
BRTR PP **PP 07 46 55.9 +5.5**
comp=Z,1.7nm,1.0s,baz=204,slow=5.4,SNR=3.7
comp=Z,3.0nm,0.9s
RONA Rosalia, Austr 87.44 21 *i* P **P 07 43 28.2 +2.8**
comp=Z,24nm,1.4s
GZR Gura Zlata 87.51 26 ⇓P **P 07 43 25.2 -0.6**
CONA Conrad Observa 87.52 21 *e*P **P 07 43 28.5 +2.8**
comp=Z,14nm,1.3s
UCC Uccle 87.53 13 *d*P **P 07 43 26.8 +1.2**
GERES GERESS Array B 87.75 19 P **P 07 43 26.2 -0.7**
comp=Z,0.3nm,0.2s,baz=204,slow=2.9,SNR=7.9
GERES PP **PP 07 46 54.7 +1.6**
comp=Z,3.2nm,0.9s,baz=192,slow=12,SNR=9.1
comp=Z,0.3nm,0.2s
BNN Bunyan 87.80 38 IAMs_20 IAMs_20 08 27 53.8
comp=Z,2µm,21.0s
CKRC Cesky Krumlov 87.89 19 AMS AMS 08 19 10.0
comp=Z,1µm,18.0s
GRF Grafenberg Arr 87.91 17 *e*P 07 43 32.0
comp=Z,34nm,1.2s,baz=199,slow=5.2
GRF *e*L 08 20 14.4
comp=Z,349nm,19.4s
KHC Kasperske Hory 87.98 19 *e*P **P 07 43 30.0 +2.1**
KHC *e*PP **PP 07 46 53.0 -1.9**
KHC *e*S **S 07 54 10.1 -1.0**
KHC AMS AMS 08 18 40.0
comp=Z,1µm,19.2s
ARR Arges 88.17 27 ⇑P **P 07 43 28.5 -0.4**
TEIG Tepich 88.21 296 P 07 43 29.4 -0.3
TEIG IAMs_20 IAMs_20 08 22 12.6
comp=Z,2µm,21.0s
MODS Modra-Piesok 88.33 21 *e*P **P 07 43 32.5 +2.9**
VOIR 88.38 27 ⇓P **P 07 43 29.9 -0.1**
ZVC Zvikov 88.43 19 AMS AMS 08 19 10.0
comp=Z,2µm,19.3s
DWPF Disney Wildern 88.49 306 IAMs_20 IAMs_20 08 20 41.8
comp=Z,1µm,21.0s
TREC Trest 88.65 20 AMS AMS 08 19 20.0
comp=Z,1µm,16.9s
CCIG Comitan 88.69 291 IAMs_20 IAMs_20 08 21 22.4
comp=Z,2µm,21.0s
NKC Novy Kostel 88.71 18 AMS AMS 08 19 10.0
comp=Z,1µm,21.5s
PSZ Piszkesteto 88.73 23 ⇑P **P 07 43 30.6 -0.9**
MARR Marisel-Cluj 88.73 26 ⇑P **P 07 43 31.0 -0.6**
MLR Muntele Rosu 88.77 28 P **P 07 43 31.4 -0.4**
comp=Z,2.1nm,0.5s,baz=180,slow=12,SNR=3.8
MLR LR LR 08 21 33.1
comp=Z,462nm,21.0s,baz=223,slow=34
comp=Z,2.1nm,0.5s
MLR Muntele Rosu 88.77 28 ⇑P **P 07 43 31.5 -0.3**
MOX Moxa 88.89 17 *e*L 08 21 57.8
comp=Z,813nm,18.0s
VYHS Vyhne 88.91 22 *e*P **P 07 43 36.0 +3.7**
DOPR Dopca 88.96 27 ⇑P **P 07 43 32.1 -0.5**
VRAC Vranov 88.97 20 LR LR 08 20 48.6
comp=Z,1µm,20.2s,baz=216,slow=34
GOPC GO Pecny, Ondr 89.02 19 AMS AMS 08 19 10.0
comp=Z,2µm,20.9s
PRU Pruhonice 89.02 19 *e*S **S 07 54 29.1 +8.3**
PRU AMS AMS 08 19 10.0
comp=Z,2µm,21.4s
PRA Prague 89.07 19 AMS AMS 08 19 10.0
comp=Z,2µm,20.7s
HSKC Hora Svate Kat 89.30 18 AMS AMS 08 19 40.0
comp=Z,1µm,20.1s
PLOR Plostina 89.34 28 ⇓P **P 07 43 34.0 -0.3**
PVCC Panska Ves 89.52 19 AMS AMS 08 20 10.0
comp=Z,1µm,19.5s
MORC Moravsky Berou 89.67 21 IAMs_20 IAMs_20 08 21 28.6
comp=Z,1µm,20.0s
MORC Moravsky Berou 89.67 21 ⇑P **P 07 43 34.9 -0.9**
BRG Berggiesshubel 89.68 18 *e*P **P 07 43 38.7 +2.9**
BRG Amp 07 43 42.9
comp=Z,3.6nm,0.8s
BRG PP **PP 07 47 10.2 +1.9**
BRG Amp 07 47 11.5
comp=Z,6.8nm,1.0s
BRG Berggiesshubel 89.68 18 S **S 07 54 34.0 +7.2**
BRG Berggiesshubel 89.68 18 SS SS 08 00 22.0 -2.3
LANS Liptovska Anna 89.68 22 *e*P P 07 43 42.5 +6.6
KRLC Kraliky 89.72 20 AMS AMS 08 20 00.0
comp=Z,1µm,20.7s
DPC Dobruska-Polom 89.83 20 AMS AMS 08 20 30.0
comp=Z,1µm,19.4s
TESR Tescani 89.89 28 ⇓P **P 07 43 36.5 -0.4**
UPC Upice 89.89 20 AMS AMS 08 19 50.0
comp=Z,2µm,20.5s
OKC Ostrava-Krasne 89.89 21 AMS AMS 08 18 20.0
comp=Z,1µm,21.4s
OSTC Ostas 89.99 20 AMS AMS 08 19 40.0
comp=Z,2µm,21.5s
656A Willston 90.05 307 IAMs_20 IAMs_20 08 20 07.0
comp=Z,1µm,20.0s
BURAR Bucovina Array 90.28 26 ⇑P **P 07 43 38.7 -0.2**
GBN Guysborough 90.42 330 IAMs_20 IAMs_20 08 16 57.8
comp=Z,1µm,21.0s
STHS Stebnicka Huta 90.48 23 *e*P P 07 43 45.0 +5.4
UOSS Minazif 90.55 60 IAMs_20 IAMs_20 08 21 37.3
comp=Z,1µm,21.0s
EKA Eskdalemuir Ar 90.91 7 P **P 07 43 40.1 -1.2**
comp=Z,4.7nm,0.7s,baz=191,slow=5.3,SNR=10
comp=Z,4.7nm,0.7s
WSAR Wadi Sarin 91.23 62 LR LR 08 23 50.4
comp=Z,6.2nm,18.3s,baz=228,slow=35
Y58A Scranton 91.25 312 IAMs_20 IAMs_20 08 28 50.6
comp=Z,1µm,20.0s
W59A Clinton 91.37 313 IAMs_20 IAMs_20 08 16 41.7
comp=Z,1µm,22.0s
SORM Soroca 91.88 28 P **P 07 43 45.8 -0.3**
comp=Z,718nmcomp=Z,14nm,1.4s
T59A Double "B" Far 92.08 315 IAMs_20 IAMs_20 08 20 29.6
comp=Z,1µm,21.0s
LMN Caledonia Moun 92.17 328 IAMs_20 IAMs_20 08 16 10.2
comp=Z,2µm,20.0s
V58A Windy Hill, Pi 92.19 313 IAMs_20 IAMs_20 08 17 47.6
comp=Z,1µm,20.0s
154A Montrose 92.54 309 IAMs_20 IAMs_20 08 23 07.9
comp=Z,1µm,20.0s
CBN Corbin Frederi 92.83 316 IAMs_20 IAMs_20 08 23 33.4
comp=Z,915nm,18.0s
R58B Mineral 92.95 316 IAMs_20 IAMs_20 08 21 08.6
comp=Z,1µm,22.0s
T57A Hurt 93.09 314 IAMs_20 IAMs_20 08 25 00.4
comp=Z,1µm,19.0s
KMSC Kings Mountain 93.09 312 IAMs_20 IAMs_20 08 16 56.5
comp=Z,1µm,20.0s
LUBAR Lubar, Ukraine 93.14 26 P **P 07 43 51.6 -0.3**
GOGA Godfrey 93.29 309 IAMs_20 IAMs_20 08 23 07.7
comp=Z,1µm,21.0s
U56A King 93.32 313 IAMs_20 IAMs_20 08 18 33.5
comp=Z,1µm,22.0s
LUPA Lehigh Univers 93.40 319 IAMs_20 IAMs_20 08 19 52.2
comp=Z,1µm,21.0s
GNI Garni 93.41 42 LR LR 08 24 07.1
comp=Z,535nm,19.9s,baz=218,slow=34
S57A Dark Hollow, R 93.44 315 IAMs_20 IAMs_20 08 24 23.4
comp=Z,1µm,21.0s
V55A Taylorsville 93.49 312 IAMs_20 IAMs_20 08 17 33.1
comp=Z,1µm,20.0s
MVL Millersville 93.51 318 IAMs_20 IAMs_20 08 22 35.1
comp=Z,1µm,20.0s
RNPP5 Staryi Chortor 93.57 25 P **P 07 43 53.6 -0.2**
RNPP8 Varash 93.65 25 P **P 07 43 53.9 -0.3**
RNPP9 Sopachiv 93.72 25 P **P 07 43 54.4 -0.1**
BLA Blacksburg 93.92 314 IAMs_20 IAMs_20 08 23 03.4
comp=Z,973nm,19.0s
MI28 Mi28,Pidlybu 93.94 26 P **P 07 43 55.4 -0.1**
Y52A Lilburn 93.96 309 IAMs_20 IAMs_20 08 23 28.5
comp=Z,1µm,21.0s
P57A Homestead Farm 94.07 317 IAMs_20 IAMs_20 08 21 09.2
comp=Z,1µm,21.0s
250A Grady 94.18 306 IAmb IAmb 07 43 58.2
comp=Z,46nm,1.2s
250A IAMs_20 IAMs_20 08 27 12.5
comp=Z,1µm,19.0s
AK13 Malin Array Si 94.18 27 P **P 07 43 56.4 -0.3**
AK07 Malin Array Si 94.18 27 P **P 07 43 56.4 -0.3**
N58A Sunbury 94.29 318 IAMs_20 IAMs_20 08 22 28.9
comp=Z,1µm,20.0s
KIEV Kiev 94.30 27 P 07 43 57.8 +0.6
KIEV Kiev 94.30 27 ⇑P **P 07 43 56.9 -0.2**
KIEV Kiev 94.30 27 P **P 07 43 57.0 -0.2**
U54A Nelsons Funny 94.30 312 IAMs_20 IAMs_20 08 19 29.5
comp=Z,1µm,21.0s
AKASG Malin Array Be 94.31 27 P **P 07 43 59.6 +2.4**
AKASG Malin Array Be 94.31 27 P **P 07 43 57.1 -0.1**
comp=Z,2.4nm,0.8s,baz=222,slow=4.5,SNR=11
AKASG LR LR 08 27 07.3
comp=Z,272nm,18.1s,baz=198,slow=36
comp=Z,2.4nm,0.8s
AKBB Malin Array Si 94.31 27 P **P 07 43 57.0 -0.3**
AK03 Malin Array Si 94.33 27 P **P 07 43 57.1 -0.2**
ACCN Adirondack Com 94.49 322 IAMs_20 IAMs_20 08 24 32.9
comp=Z,1µm,20.0s
X51A Calhoun 94.91 309 IAMs_20 IAMs_20 08 27 20.8
comp=Z,1µm,20.0s
KBZ Khabaz 94.97 38 P **P 07 43 59.7 -0.7**
comp=Z,2.3nm,1.1s,baz=260,slow=6.0,SNR=7.5
KBZ LR LR 08 27 49.2
comp=Z,538nm,18.2s,baz=212,slow=36
comp=Z,2.3nm,1.1s
CPCT Cooper Cave 95.27 310 IAMs_20 IAMs_20 08 23 22.2
comp=Z,1µm,22.0s
LRAL Lakeview Retre 95.32 307 IAmb IAmb 07 44 03.7
comp=Z,47nm,1.8s
LRAL IAMs_20 IAMs_20 08 20 33.8
comp=Z,1µm,22.0s
TZTN Tazewell 95.37 311 IAMs_20 IAMs_20 08 20 36.8
comp=Z,1µm,20.0s
Y49A Blount Mountai 95.46 308 IAMs_20 IAMs_20 08 20 44.3
comp=Z,1µm,19.0s
W50A Signal Mountai 95.61 309 IAMs_20 IAMs_20 08 23 57.1
comp=Z,1µm,21.0s
H01W2 Cape Leeuwin H 95.87 141 T T 09 31 22.8
baz=220,slow=75,SNR=59
H01W3 Cape Leeuwin H 95.88 141 T T 09 31 28.6
baz=220,slow=75,SNR=56
H01W1 Cape Leeuwin H 95.88 141 T T 09 31 23.9
baz=220,slow=75,SNR=74
O54A Avella 95.89 316 IAMs_20 IAMs_20 08 22 50.2
comp=Z,1µm,19.0s
UNM Universidad Na 95.89 289 IAMs_20 IAMs_20 08 24 43.2
comp=Z,1µm,22.0s
346A Big Creek Wild 95.94 304 IAMs_20 IAMs_20 08 24 36.3
comp=Z,1µm,22.0s
P53A Whipple 96.01 315 IAMs_20 IAMs_20 08 32 16.4
comp=Z,963nm,19.0s
SWET Sewanee 96.01 309 IAMs_20 IAMs_20 08 25 38.8
comp=Z,938nm,20.0s
ICQ Pointe Anglais 96.07 329 IAMs_20 IAMs_20 08 21 58.3
comp=Z,1µm,20.0s
S51A Beattyville 96.11 312 IAMs_20 IAMs_20 08 20 35.2
comp=Z,1µm,20.0s
Z47A Carrollton 96.13 306 IAMs_20 IAMs_20 08 28 41.1
comp=Z,1µm,18.0s
MMNY Mt. Morris Dam 96.24 319 IAMs_20 IAMs_20 08 22 07.5
comp=Z,1µm,22.0s
O53A New Philadelph 96.41 315 IAMs_20 IAMs_20 08 25 54.8
comp=Z,1µm,20.0s
146A Union 96.44 306 IAMs_20 IAMs_20 08 25 01.2
comp=Z,2µm,21.0s
T50A Nancy 96.47 311 IAMs_20 IAMs_20 08 28 04.9
comp=Z,998nm,20.0s
P52A Corning 96.53 315 IAMs_20 IAMs_20 08 26 28.2
comp=Z,1µm,20.0s
J55A Hilton 96.56 319 IAMs_20 IAMs_20 08 22 16.9
comp=Z,1µm,21.0s
N53A Lisbon 96.56 316 IAMs_20 IAMs_20 08 22 59.1
comp=Z,1µm,21.0s
U49A Red Boiling Sp 96.73 310 IAMs_20 IAMs_20 08 25 30.9
comp=Z,971nm,20.0s
ALLY Alegheny Colle 96.73 317 IAMs_20 IAMs_20 08 24 19.6
comp=Z,1µm,19.0s
MEDO Medina 96.83 319 IAMs_20 IAMs_20 08 21 21.1
comp=Z,958nm,20.0s
V48A Smith Brothers 96.90 309 IAMs_20 IAMs_20 08 29 05.4
comp=Z,1µm,20.0s
ERPA Erie 96.96 317 IAMs_20 IAMs_20 08 18 31.6
comp=Z,946nm,20.0s
PLAL Pickwick Lake 97.23 308 IAMs_20 IAMs_20 08 21 25.3
comp=Z,1µm,22.0s
R49A Shelbyville 97.48 312 IAMs_20 IAMs_20 08 20 48.6
comp=Z,971nm,19.0s
Y45A Yeager Farm, C 97.51 306 IAMs_20 IAMs_20 08 29 33.6
comp=Z,1µm,19.0s
N51A Ashland 97.51 315 IAMs_20 IAMs_20 08 26 48.3
comp=Z,975nm,19.0s
MOIG Morelia 97.65 289 IAMs_20 IAMs_20 08 27 53.0
comp=Z,1µm,21.0s
WVT Waverly 97.78 309 IAMs_20 IAMs_20 08 26 41.8
comp=Z,975nm,19.0s
OXF Oxford 97.81 307 IAMs_20 IAMs_20 08 28 18.6
comp=Z,1000nm,19.0s
T47A Sharon Grove 97.86 310 IAMs_20 IAMs_20 08 26 24.7
comp=Z,1µm,20.0s
143A Socs Landing, 98.05 304 IAMs_20 IAMs_20 08 26 47.0
comp=Z,2µm,22.0s
HFS Hagfors 98.11 14 LR LR 08 25 57.4
comp=Z,520nm,19.8s,baz=207,slow=34
WCI Wyandotte Cave 98.13 311 IAMs_20 IAMs_20 08 24 28.8
comp=Z,1µm,21.0s
M50A Fremont 98.21 315 IAMs_20 IAMs_20 08 26 40.8
comp=Z,938nm,20.0s
RKT Rikitea 98.31 234 *e*S **S 07 55 40.6 -4.0**
comp=Z,1µm,30.8s
RKT *e*SS **SS 08 02 30.0 +2.9**
comp=Z,940nm,30.8s
RKT *e*LQ LQ 08 11 59.1
comp=Z,8µm,32.0s
RKT *e*LR LR 08 16 11.7
comp=Z,3µm,29.8s
P48A Milroy 98.37 313 IAMs_20 IAMs_20 08 21 31.2
comp=Z,1µm,22.0s
NOA NORSAR Array B 98.47 13 LR LR 08 28 03.8
comp=Z,434nm,18.8s,baz=200,slow=35
MET Memphis--Engin 98.53 307 IAMs_20 IAMs_20 08 29 11.5
comp=Z,1µm,19.0s
UTMT University of 98.57 309 IAMs_20 IAMs_20 08 25 40.8
comp=Z,1µm,22.0s
USIN University of 98.81 310 IAMs_20 IAMs_20 08 31 25.9
comp=Z,1µm,19.0s
T45A Paducah 98.85 309 IAMs_20 IAMs_20 08 27 03.6
comp=Z,1µm,21.0s
NWAO Narrogin (SRO) 99.01 141 LR LR 08 19 14.5
comp=Z,1µm,21.9s,baz=238,slow=30
PEBM Pemiscott Bayo 99.08 308 IAMs_20 IAMs_20 08 26 38.8
comp=Z,1µm,22.0s
GNAR Gosnell 99.09 308 IAMs_20 IAMs_20 08 21 14.1
comp=Z,995nm,20.0s
AAM Ann Arbor 99.14 316 IAMs_20 IAMs_20 08 27 09.1
comp=Z,1µm,21.0s
PVMO Portageville 99.15 308 IAMs_20 IAMs_20 08 26 19.8
comp=Z,1µm,22.0s
PALK Pallekele 99.30 88 LR LR 08 21 22.1
comp=Z,753nm,21.7s,baz=234,slow=31
Z41A Richland Creek 99.32 304 IAMs_20 IAMs_20 08 27 48.5
comp=Z,2µm,22.0s
HKT Hockley 99.50 300 IAMs_20 IAMs_20 08 31 53.8
comp=Z,1µm,20.0s
OLIL Olney 99.55 311 IAMs_20 IAMs_20 08 25 34.2
comp=Z,1µm,21.0s
SIUC Southern Illin 99.63 309 IAMs_20 IAMs_20 08 27 28.4
comp=Z,1µm,22.0s
NATX Nacogdoches 99.72 302 IAMs_20 IAMs_20 08 28 58.2
comp=Z,1µm,22.0s
BORG Borgarnes 99.82 358 LR LR 08 23 44.2
comp=Z,300nm,18.2s,baz=169,slow=32
WHAR Wooly Hollow 100.17 306 IAMs_20 IAMs_20 08 30 05.9
comp=Z,1µm,21.0s
Q44A Meyer Farm, Va 100.22 311 IAMs_20 IAMs_20 08 26 05.0
comp=Z,985nm,21.0s
J47A Sunmer 100.40 316 IAMs_20 IAMs_20 08 27 49.3
comp=Z,1µm,19.0s
T42A Van Buren 100.42 308 IAMs_20 IAMs_20 08 30 11.3
comp=Z,939nm,21.0s
ZAIG Zacatecas 100.44 290 IAMs_20 IAMs_20 08 29 27.5
comp=Z,1µm,21.0s
L46A Eue Claire 100.48 314 IAMs_20 IAMs_20 08 34 27.7
comp=Z,986nm,18.0s
FVM French Village 100.56 309 IAMs_20 IAMs_20 08 26 27.9
comp=Z,1µm,21.0s
MIAR Mount Ida 100.60 305 IAMs_20 IAMs_20 08 27 52.2
comp=Z,1µm,22.0s
TAU Tasmania Unive 100.61 167 IAMs_20 IAMs_20 08 23 45.6
comp=Z,1µm,20.0s
Z38A Mt. Pleasant 100.81 303 IAMs_20 IAMs_20 08 25 53.0
comp=Z,1µm,22.0s
SLM Saint Louis 100.83 310 IAMs_20 IAMs_20 08 28 15.0
comp=Z,1µm,20.0s
P43A Skaggs, Pawnee 100.98 311 IAMs_20 IAMs_20 08 26 18.0

comp=Z,1µm,20.0s
CCM Cathedral Cave 101.12 309 IAMs_20 IAMs_20 08 27 07.9
comp=Z,1µm,22.0s
MGMO Mountain Grove 101.25 308 IAMs_20 IAMs_20 08 19 24.4
comp=Z,919nm,21.0s
GLMI Grayling 101.28 317 IAMs_20 IAMs_20 08 27 05.2
comp=Z,1µm,19.0s
HDIL Hopedale 101.39 312 IAMs_20 IAMs_20 08 23 17.8
comp=Z,1µm,20.0s
I45A Fountain 101.70 316 IAMs_20 IAMs_20 08 28 46.7
comp=Z,918nm,19.0s
HHAR Hobbs 101.84 306 IAMs_20 IAMs_20 08 29 38.1
comp=Z,1µm,22.0s
R40A Maddies Statio 101.91 309 IAMs_20 IAMs_20 08 28 13.8
comp=Z,932nm,20.0s
E46A Sault Ste Mari 102.08 319 IAMs_20 IAMs_20 08 25 48.6
comp=Z,1µm,22.0s
K43A Burlington 102.10 314 IAMs_20 IAMs_20 08 28 03.5
comp=Z,969nm,21.0s
FINES FINESS Array B 102.19 19 PP **PP 07 48 45.1 +0.1**
comp=Z,3.2nm,1.0s,baz=242,slow=4.1,SNR=4.6
U38A Gravette 102.23 306 IAMs_20 IAMs_20 08 30 37.2
comp=Z,1µm,20.0s
S39A Bolivar 102.25 308 IAMs_20 IAMs_20 08 31 34.9
comp=Z,899nm,20.0s
Z35A Perchaven, San 102.42 302 IAMs_20 IAMs_20 08 27 24.5
comp=Z,1µm,22.0s
FW06 Azle 102.43 302 IAMs_20 IAMs_20 08 28 53.8
comp=Z,809nm,19.0s
N41A Harden Midland 102.44 311 IAMs_20 IAMs_20 08 23 34.5
comp=Z,952nm,20.0s
H43A Windswept, Lux 102.84 316 IAMs_20 IAMs_20 08 29 51.9
comp=Z,872nm,20.0s
TUL3 Leonard 102.86 305 IAMs_20 IAMs_20 08 29 35.2
comp=Z,1µm,21.0s
I42A Draeger Farm, 103.15 315 IAMs_20 IAMs_20 08 23 13.2
comp=Z,1µm,20.0s
W35A Tecumseh 103.17 304 IAMs_20 IAMs_20 08 31 31.4
comp=Z,1µm,21.0s
HYB Hyderabad 103.18 78 *e*PKiKP **PKiKP 07 48 57.0 -0.7**
FNO Franklin 103.59 304 IAMs_20 IAMs_20 08 30 12.4
comp=Z,1µm,20.0s
OK052 Battle Ridge R 103.59 304 IAMs_20 IAMs_20 08 30 09.4
comp=Z,1µm,22.0s
T35A Sooner Cattle 103.91 305 IAMs_20 IAMs_20 08 29 43.8
comp=Z,1µm,20.0s
OK029 Liberty Lake 103.92 304 IAMs_20 IAMs_20 08 29 37.3
comp=Z,1µm,21.0s
N38A Joes South For 103.96 310 IAMs_20 IAMs_20 08 28 21.9
comp=Z,1µm,20.0s
I40A Norwalk 104.15 314 IAMs_20 IAMs_20 08 28 05.7
comp=Z,848nm,20.0s
WMOK Wichita Mounta 104.25 302 IAMs_20 IAMs_20 08 28 16.0
comp=Z,1µm,21.0s
COWI Conover 104.58 316 IAMs_20 IAMs_20 08 36 20.0
comp=Z,1µm,19.0s
G40A Rib Lake 104.70 315 IAMs_20 IAMs_20 08 26 18.3
comp=Z,771nm,18.0s
TXAR Lajitas Array 104.84 295 PP **PKiKP 07 49 03.7 +3.2**
comp=Z,1.5nm,1.0s,baz=120,slow=7.4,SNR=6.8
OK038 West end E0370 105.17 304 IAMs_20 IAMs_20 08 30 39.2
comp=Z,1µm,21.0s
KSU1 Kansas State U 105.17 307 IAMs_20 IAMs_20 08 30 19.2
comp=Z,844nm,20.0s
N35A Tabor 105.51 309 IAMs_20 IAMs_20 08 29 44.1
comp=Z,1µm,21.0s
R32A Long Quarter, 106.19 306 IAMs_20 IAMs_20 08 35 37.2
comp=Z,859nm,19.0s
SPMN Marine on St. 106.19 314 IAMs_20 IAMs_20 08 31 14.7
comp=Z,884nm,21.0s
L34A Svendsen Farm, 106.58 310 IAMs_20 IAMs_20 08 29 43.2
comp=Z,1µm,21.0s
TOZ Tahuroa Road 106.60 189 IAMs_20 IAMs_20 08 25 00.9
comp=Z,998nm,21.0s
EYMN Ely 106.96 317 IAMs_20 IAMs_20 08 35 17.9
comp=Z,1µm,19.0s
CBKS Cedar Bluff 107.08 306 IAMs_20 IAMs_20 08 33 10.7
comp=Z,1µm,21.0s
TBI Tubuai 107.10 224 *e*PKIKP **PKiKP 07 49 02.1 -2.7**
comp=Z,436nm,29.2s
TBI *e*S 07 56 56.4
comp=Z,1µm,28.5s
TBI *e*SS **SS 08 04 27.6 -0.4**
comp=Z,3µm,29.0s
TBI Tubuai 107.10 224 *e*LQ LQ 08 15 12.9
comp=Z,2µm,47.0s
TBI *e*LR LR 08 20 17.0
comp=Z,6µm,27.0s
TBI *e*LR LR 08 20 18.4
comp=Z,2µm,27.8s
SIMJ Simiganj 107.33 55 IAMs_20 IAMs_20 08 32 22.7
comp=Z,1µm,21.0s
BGNE Belgrade 107.41 309 IAMs_20 IAMs_20 08 37 21.2
comp=Z,816nm,20.0s
ECSD EROS Data Cent 107.67 311 IAMs_20 IAMs_20 08 25 27.1
comp=Z,867nm,22.0s
K30B Basset 108.99 309 IAMs_20 IAMs_20 08 31 30.2
comp=Z,989nm,20.0s
KSCO Kaye Shedlock' 109.11 305 IAMs_20 IAMs_20 08 35 52.6
comp=Z,1µm,20.0s
BTK Batken 109.25 54 IAMs_20 IAMs_20 08 34 57.5
comp=Z,1µm,19.0s
T25A Trinidad 109.40 302 IAMs_20 IAMs_20 08 31 43.5
comp=Z,954nm,22.0s
AGMN Agassiz Nation 109.62 316 IAMs_20 IAMs_20 08 32 16.2
comp=Z,1µm,22.0s
Y22D IRIS PASSCAL I 109.65 298 P **PKiKP 07 49 09.6 +0.2**
baz=120
OGNE Ogallala 109.69 307 IAMs_20 IAMs_20 08 36 12.6
comp=Z,906nm,21.0s
ANMO Albuquerque 109.75 299 IAMs_20 IAMs_20 08 32 44.7
comp=Z,930nm,22.0s
ANMO Albuquerque 109.75 299 IAMs_20 IAMs_20 08 32 44.7
comp=Z,934nm,22.0s
319A Douglas 110.05 295 IAMs_20 IAMs_20 08 36 55.8
comp=Z,943nm,18.0s
SDCO Great Sand Dun 110.45 302 IAMs_20 IAMs_20 08 34 47.1
comp=Z,1µm,22.0s
Q24A Divide 110.80 303 IAMs_20 IAMs_20 08 34 08.3
comp=Z,946nm,22.0s
BRIGG Briggsdale 111.02 305 IAMs_20 IAMs_20 08 33 40.1
comp=Z,996nm,20.0s
ARSB Arslanbob 111.31 54 IAMs_20 IAMs_20 08 36 08.8
comp=Z,851nm,20.0s
S22A 4UR Ranch, Cre 111.37 302 IAMs_20 IAMs_20 08 37 35.7
comp=Z,1µm,21.0s
RPSI Rantau Prapat 111.48 102 IAMs_20 IAMs_20 08 30 46.6
comp=Z,1µm,21.0s
ISCO Idaho Springs 111.52 304 IAMs_20 IAMs_20 08 33 31.3
comp=Z,1µm,22.0s
TUC Tucson 111.62 295 IAMs_20 IAMs_20 08 34 49.4
comp=Z,1µm,21.0s
PPT2 Papeete2 111.64 228 *e*PKIKP **PKiKP 07 49 10.3 -3.2**
comp=Z,78nm,26.8s
PPT2 *e*S 07 56 54.7
comp=Z,370nm,26.5s
PPT2 *e*SS **SS 08 05 29.9 +0.4**
comp=Z,879nm,25.5s
PPT2 Papeete2 111.64 228 *e*LQ LQ 08 17 02.9
comp=Z,631nm,31.8s
PPT2 *e*LR LR 08 22 25.9
comp=Z,3µm,31.2s
PPT2 *e*LR LR 08 22 26.5
comp=Z,2µm,33.2s
TAOE Nuku Hiva Isla 111.73 241 *e*S 07 56 58.6
comp=Z,189nm,28.8s
TAOE *e*SS **SS 08 05 23.1 -8.4**
comp=Z,192nm,29.3s
TAOE Nuku Hiva Isla 111.73 241 *e*LQ LQ 08 17 38.2
comp=Z,3µm,33.8s
TAOE *e*LR LR 08 22 26.6
comp=Z,870nm,25.9s
BKNI Bangkinang 111.73 106 IAMs_20 IAMs_20 08 30 55.9
comp=Z,714nm,19.0s
X18A Snowflake 112.06 297 IAMs_20 IAMs_20 08 37 44.1
comp=Z,782nm,20.0s
MVCO Mesa Verde 112.29 300 IAMs_20 IAMs_20 08 37 31.6
comp=Z,835nm,20.0s
PMBI Palembang 112.58 111 IAMs_20 IAMs_20 08 27 37.2
comp=Z,764nm,20.0s
FRU1 Bishkek 113.09 53 IAMs_20 IAMs_20 08 36 05.0
comp=Z,904nm,22.0s
K22A Casper 113.45 306 IAMs_20 IAMs_20 08 35 29.3
comp=Z,836nm,20.0s
ARMA Armidale 113.53 168 IAMs_20 IAMs_20 08 33 17.6
comp=Z,1µm,19.0s
WUAZ Wupatki 113.56 298 IAMs_20 IAMs_20 08 40 01.6
comp=Z,1µm,19.0s

HMU Henry Mountain 114.20 300 IAMs_20 IAMs_20 08 36 16.6
comp=Z,1µm,22.0s
DGMT Dagmar 114.58 313 IAMs_20 IAMs_20 08 32 52.7
comp=Z,675nm,19.0s
P18A Preston Nutter 114.61 302 IAMs_20 IAMs_20 08 37 33.3
comp=Z,909nm,20.0s
ASAR Alice Springs 114.62 149 PKP PKPdf 07 49 18.9 -0.2
comp=Z,1.5nm,0.8s,baz=203,slow=2.5,SNR=6.0
ASAR PKKPbc **PKKPbc 07 59 59.2 +2.8**
comp=Z,0.9nm,0.9s,baz=34,slow=2.8,SNR=6.9
MYKOM Kota Tinggi 114.84 106 IAMs_20 IAMs_20 08 33 16.2
comp=Z,810nm,19.0s
ILON Igloolik, Nuna 114.90 339 IAMs_20 IAMs_20 08 35 53.2
comp=Z,826nm,21.0s
VTX Valle De La Tr 114.94 292 IAMs_20 IAMs_20 08 38 32.5
comp=Z,743nm,18.0s
Q16A Castle Valley 114.94 301 IAMs_20 IAMs_20 08 39 31.1
comp=Z,946nm,19.0s
BVAR Borovoye Array 115.09 42 PKP **PKiKP 07 49 18.9 0.0**
comp=Z,1.4nm,0.8s,baz=318,slow=2.0,SNR=5.4
PKCU Pink Cliffs 115.10 299 IAMs_20 IAMs_20 08 38 23.4
comp=Z,710nm,18.0s
MTPU Mount Pierson 115.27 300 IAMs_20 IAMs_20 08 36 53.9
comp=Z,1µm,22.0s
PRZ Przheval'sk 115.44 55 IAMs_20 IAMs_20 08 38 37.5
comp=Z,825nm,20.0s
WUS Wushi 115.44 56 IAMs_20 IAMs_20 08 36 48.3
comp=Z,874nm,21.0s
PDAR Pinedale Array 115.51 306 PKP **PKPdf 07 49 18.8 -1.5**
comp=Z,0.1nm,0.4s,baz=86,slow=6.1,SNR=3.6
PDAR PP **PP 07 50 19.3 -3.4**
comp=Z,1.0nm,0.9s,baz=112,slow=7.2,SNR=3.7
JAGI Jajag, Banyuwa 115.68 122 IAMs_20 IAMs_20 08 29 21.6
comp=Z,784nm,21.0s
TCRU Three Creeks R 115.70 300 IAMs_20 IAMs_20 08 38 29.3
comp=Z,1µm,21.0s
MPU Maple Canyon 115.74 302 IAMs_20 IAMs_20 08 37 49.2
comp=Z,1µm,20.0s
TKX Tecate 116.10 293 IAMs_20 IAMs_20 08 32 30.1
comp=Z,865nm,22.0s
HWUT Hardware Ranch 116.37 304 IAMs_20 IAMs_20 08 40 13.7
comp=Z,1µm,20.0s
TJX Tijuana 116.41 292 IAMs_20 IAMs_20 08 22 08.3
comp=Z,807nm,21.0s
AHID Auburn Hatcher 116.54 305 IAMs_20 IAMs_20 08 38 36.1
comp=Z,831nm,20.0s
LOHW Long Hollow 116.56 306 IAMs_20 IAMs_20 08 33 18.6
comp=Z,1µm,22.0s
SNOW Snow King Moun 116.59 306 IAMs_20 IAMs_20 08 32 16.5
comp=Z,839nm,20.0s
PSUT Pine Spring 116.67 300 IAMs_20 IAMs_20 08 38 58.9
comp=Z,862nm,22.0s
MOOW Moose Ponds 116.71 306 IAMs_20 IAMs_20 08 37 34.5
comp=Z,991nm,20.0s
YMP Mirror Lake Pl 116.72 307 IAMs_20 IAMs_20 08 32 37.9
comp=Z,1µm,20.0s
TPAW Teton Pass 116.74 306 IAMs_20 IAMs_20 08 33 36.4
comp=Z,1µm,21.0s
YNE Yellowstone No 116.74 308 IAMs_20 IAMs_20 08 37 57.2
comp=Z,929nm,20.0s
FXWY Fox Creek 116.85 306 IAMs_20 IAMs_20 08 33 27.2
comp=Z,1µm,22.0s
YNM Yellowstone No 117.08 307 IAMs_20 IAMs_20 08 32 28.2
comp=Z,918nm,20.0s
BGU Big Grassy Mou 117.09 302 IAMs_20 IAMs_20 08 40 32.8
comp=Z,992nm,20.0s
YMR Madison River 117.22 307 IAMs_20 IAMs_20 08 32 35.1
comp=Z,693nm,20.0s
YHB Horse Butte 117.41 307 IAMs_20 IAMs_20 08 38 34.0
comp=Z,993nm,21.0s
YHL Hebgen Lake 117.44 307 IAMs_20 IAMs_20 08 38 24.8
comp=Z,918nm,20.0s
S11A Rael 117.65 298 IAMs_20 IAMs_20 08 35 43.0
comp=Z,1µm,22.0s
GWY Greenwater Val 117.71 296 IAMs_20 IAMs_20 08 41 24.7
comp=Z,713nm,19.0s
TPNV Topopah Spring 117.72 297 IAMs_20 IAMs_20 08 38 30.0
comp=Z,1µm,21.0s
EGMT Eagleton 117.78 311 IAMs_20 IAMs_20 08 36 34.5
comp=Z,1µm,22.0s
BOZ Bozeman (W) 118.02 308 IAMs_20 IAMs_20 08 38 38.2
comp=Z,824nm,19.0s
WRA Warramunga Arr 118.10 148 PKP **PKPdf 07 49 24.2 -1.7**
comp=Z,1.9nm,0.9s,baz=226,slow=1.8,SNR=5.7
WRA PKKPbc **PKKPab 07 59 47.1 -3.3**
comp=Z,1.6nm,0.8s,baz=31,slow=4.1,SNR=7.1
ELK Elko 118.55 301 IAMs_20 IAMs_20 08 37 57.1
comp=Z,912nm,21.0s
DLMT Dillon 118.56 307 IAMs_20 IAMs_20 08 38 57.5
comp=Z,1µm,22.0s
KURBB Kurchatov Arra 118.76 46 PKP **PKPdf 07 49 25.0 -1.0**
comp=Z,2.1nm,0.9s,baz=247,slow=2.5,SNR=7.9
KURBB PKKPbc **PKKPab 07 59 46.4 +4.3**
comp=Z,1.1nm,0.7s,baz=72,slow=3.6,SNR=4.5
KNRA Kununurra 119.08 140 P **PKPdf 07 49 23.8 -4.0**
HLID Hailey 119.08 305 IAMs_20 IAMs_20 08 40 44.4
comp=Z,665nm,20.0s
Q09A Carvers 119.17 299 IAMs_20 IAMs_20 08 39 54.1
comp=Z,1µm,21.0s
QIS Mount Isa 119.67 153 P **PKiKP 07 49 34.9 +6.0**
MKAR Makanchi Array 119.69 52 PKP **PKPdf 07 49 27.0 -1.0**
comp=Z,1.0nm,0.7s,baz=46,slow=3.5,SNR=5.7
NVAR Mina Array Bea 119.81 298 PKP **PKPdf 07 49 27.1 -1.6**
comp=Z,0.6nm,0.7s,baz=162,slow=2.8,SNR=4.7
NVAR PP **PP 07 50 50.6 -2.2**
comp=Z,1.9nm,1.0s,baz=122,slow=6.0,SNR=5.1
NVAR PKKPbc **PKKPab 07 59 44.0 +5.4**
comp=Z,0.5nm,0.6s,baz=270,slow=3.9,SNR=3.8
MSO Missoula 119.97 308 IAMs_20 IAMs_20 08 39 04.7
comp=Z,1µm,21.0s
RYN Ryan 120.05 298 IAMs_20 IAMs_20 08 43 25.5
comp=Z,880nm,20.0s
CMAR Chiang Mai Arr 120.25 88 PKP **PKPdf 07 49 29.1 -0.7**
comp=Z,5.3nm,1.0s,baz=239,slow=3.6,SNR=22
PLID Pearl Lake 120.70 306 IAMs_20 IAMs_20 08 41 04.1
comp=Z,861nm,21.0s
PNTR Pine Nut 121.00 298 IAMs_20 IAMs_20 08 40 58.7
comp=Z,910nm,20.0s
PAHR Pah Rah Range 121.08 299 IAMs_20 IAMs_20 08 42 00.8
comp=Z,818nm,19.0s
BMO Blue Mountains 121.48 305 IAMs_20 IAMs_20 08 37 06.0
comp=Z,1µm,22.0s
WVOR Wild Horse Val 121.55 302 IAMs_20 IAMs_20 08 45 30.8
comp=Z,785nm,18.0s
SBUM Sibu 121.72 112 IAMs_20 IAMs_20 08 30 51.2
comp=Z,868nm,22.0s
J08A Circle Bar Ran 121.76 303 IAMs_20 IAMs_20 08 41 41.4
comp=Z,827nm,21.0s
WMQ Urumqi 122.23 56 *e*PKP **PKiKP 07 49 34.4 +1.2**
WMQ LR LR
comp=Z,650nm,23.9s
NEW Newport 122.48 309 IAMs_20 IAMs_20 08 39 56.1
comp=Z,932nm,21.0s
BKB Balikpapan 122.69 119 IAMs_20 IAMs_20 08 35 00.5
comp=Z,893nm,20.0s
I07A Izee 122.71 304 IAMs_20 IAMs_20 08 43 57.4
comp=Z,970nm,20.0s
G08A Pilot Rock 122.73 305 IAMs_20 IAMs_20 08 37 43.1
comp=Z,898nm,22.0s
DZM Mont Dzumac 122.91 182 *e*SS SS 08 08 00.2 +5.5
comp=Z,174nm,26.9s
DZM Mont Dzumac 122.91 182 *e*LR LR 08 27 37.5
comp=Z,1µm,22.4s
HATC Hat Creek Radi 122.96 300 IAMs_20 IAMs_20 08 41 51.5
comp=Z,1µm,22.0s
ZALV Zalesovo Beam 123.48 44 PKP **PKiKP 07 49 34.5 -0.7**
comp=Z,2.0nm,0.7s,baz=219,slow=1.9,SNR=4.0
ZALV PP **PP 07 51 16.9 -0.2**
comp=Z,2.2nm,0.8s,baz=266,slow=4.5,SNR=4.6
HOOD Mount Hood Mea 124.55 305 IAMs_20 IAMs_20 08 39 16.1
comp=Z,1µm,22.0s
YKA Yellowknife Ar 124.67 326 PKP **PKPdf 07 49 35.4 -1.6**
comp=Z,1.8nm,0.9s,baz=102,slow=2.0,SNR=21
YKA PP **PP 07 51 28.4 +3.6**
comp=Z,0.6nm,1.0s,baz=97,slow=6.9,SNR=3.8
GOMU GeErMu 124.70 67 PKP **PKiKP 07 49 40.3 +1.6**
GOMU SKS **SKSdf 07 56 49.9 -0.7**
GOMU SS **SS 08 08 22.6 +1.5**
GOMU LR LR
comp=Z,920nm,22.7s
GOMU LR LR
comp=Z,860nm,23.3s
GOMU LR LR
comp=Z,2µm,23.0s
H04A Detroit Lake 124.72 304 IAMs_20 IAMs_20 08 38 55.7
comp=Z,925nm,21.0s
MPSI Mapaga 125.94 120 PKP **PKiKP 07 49 44.8 +3.4**
LLLB Lilloet 126.11 311 IAMs_20 IAMs_20 08 41 24.0

comp=Z,903nm,20.0s
PZH PanZhiHua 126.31 81 PKP **PKPdf 07 49 40.8 -0.7**
PZH PP **PP 07 51 40.8 +4.0**
PZH SS SS 08 08 45.1 +4.0
PZH AMB AMB
comp=Z,80nm,5.0s
PZH LR LR
comp=Z,410nm,21.0s
PZH LR LR
comp=Z,280nm,22.0s
PZH LR LR
comp=Z,480nm,22.5s
KKM Kota Kinabalu 127.06 112 IAMs_20 IAMs_20 08 37 09.0
comp=Z,708nm,20.0s
CLRS Cowichan Lake 127.11 308 IAMs_20 IAMs_20 08 42 54.7
comp=Z,920nm,21.0s
NRIK Noril'sk 127.16 26 **PKiKP 07 49 44.3 +2.2**
NRIK Noril'sk 127.16 26 PKP **PKPdf 07 49 40.3 -1.2**
comp=Z,1.4nm,0.4s,baz=68,slow=2.3,SNR=5.6
KOTAN Kotaneelee Air 128.87 322 P **PKiKP 07 49 46.4 +0.6**
baz=95
C36M Paulatuk 129.03 334 P **PKiKP 07 49 46.4 +0.6**
baz=87
A36M Sachs Harbour 129.22 338 IAMs_20 IAMs_20 08 39 01.7
comp=Z,869nm,22.0s
A36M Sachs Harbour 129.22 338 P **PKiKP 07 49 46.8 +0.6**
baz=84
TOAD Toad River Com 129.36 321 P **PKiKP 07 49 47.0 +0.1**
baz=95
QIZ Qiongzhong 129.45 94 PKP **PKPdf 07 49 46.4 -1.1**
QIZ PP **PP 07 52 00.0 +2.7**
QIZ SS SS 08 09 19.8 +0.1
QIZ LR LR
comp=Z,220nm,20.6s
QIZ LR LR
comp=Z,350nm,21.8s
QIZ LR LR
comp=Z,500nm,22.7s
GTA Gaotai 129.49 65 *e*PKP **PKiKP 07 49 50.1 +2.2**
GTA LR LR
comp=Z,220nm,22.5s
GTA LR LR
comp=Z,400nm,22.5s
GTA LR LR
comp=Z,650nm,22.9s
LIRD Liard River Hi 129.85 321 P **PKiKP 07 49 48.1 +0.3**
baz=94
TGTN Hyland Airport 130.99 324 P **PKiKP 07 49 50.6 +0.5**
baz=90
WTLY Watson Lake, Y 131.24 322 P **PKiKP 07 49 51.1 +0.6**
baz=91
LZH Lanzhou 131.55 70 *e*PKP **PKiKP 07 49 51.3 -0.9**
LZH LR LR
comp=Z,610nm,17.7s
LZH LR LR
comp=Z,230nm,17.2s
LZH LR LR
comp=Z,690nm,20.6s
T35M Bob Quinn 131.92 318 P **PKiKP 07 49 52.2 +0.1**
baz=92
R33M Jennings River 132.34 321 P **PKiKP 07 49 52.7 -0.2**
baz=89
V35K Ketchikan 132.61 316 P **PKiKP 07 49 53.4 0.0**
baz=93
F31M Tsiigehtchic 132.81 332 P **PKiKP 07 49 53.7 +0.2**
baz=79
Q32M Nakina River 133.01 321 P **PKiKP 07 49 54.6 +0.1**
baz=89
WRAK Wrangell Islan 133.06 317 P **PKiKP 07 49 54.9 +0.6**
baz=91
G31M Satah River 133.10 332 P **PKiKP 07 49 54.7 +0.6**
baz=79
P33M Teslin, Yukon 133.25 322 P **PKiKP 07 49 54.9 +0.2**
baz=87
N32M Quiet Lake 133.32 324 P **PKiKP 07 49 55.2 +0.5**
baz=86
H31M Peel River 133.33 330 P **PKiKP 07 49 55.5 +0.8**
baz=80
FARO Faro, Yukon 133.36 325 P **PKiKP 07 49 55.7 +0.8**
baz=85
CRAG Craig 133.47 316 P **PKiKP 07 49 55.2 +0.1**
baz=91
U33K Whale Pass 133.49 317 P **PKiKP 07 49 55.1 0.0**
baz=91
F30M Barrier River 133.54 333 P **PKiKP 07 49 55.3 +0.3**
baz=77
P32M Atlin 133.73 322 P **PKiKP 07 49 56.1 +0.5**
baz=87
G30M tAoh Zraii Nji 133.85 332 IAMs_20 IAMs_20 08 42 55.5
comp=Z,801nm,20.0s
G30M tAoh Zraii Nji 133.85 332 P **PKiKP 07 49 56.3 +0.6**
baz=77
M31M Drury Creek, Y 133.85 325 IAMs_20 IAMs_20 08 47 07.2
comp=Z,865nm,20.0s
M31M Drury Creek, Y 133.85 325 P **PKiKP 07 49 56.2 +0.4**
baz=84
E29M Blow River 134.12 334 P **PKiKP 07 49 57.0 +0.9**
baz=74
D28M Stokes Point 134.15 336 P **PKiKP 07 49 57.1 +1.0**
baz=73
EPYK Eagle Plains 134.17 331 P **PKiKP 07 49 56.7 +0.3**
baz=77
R32K Eaglecrest 134.21 320 P **PKiKP 07 49 56.0 -0.6**
baz=87
WHY Whitehorse 134.24 323 P **PKiKP 07 49 56.9 +0.1**
baz=85
I30M Mount Dempster 134.27 330 P **PKiKP 07 49 56.2 -0.5**
baz=79
S32K Killisnoo 134.27 319 P **PKiKP 07 49 56.9 +0.2**
baz=88
J30M Hart River 134.37 329 P **PKiKP 07 49 56.9 -0.1**
baz=80
G29M Pine Creek 134.55 332 P **PKiKP 07 49 57.4 +0.3**
baz=76
SKAG Skagway 134.56 322 P **PKiKP 07 49 57.7 +0.5**
baz=86
N31M Braeburn, Yuko 134.58 324 P **PKiKP 07 49 57.5 +0.2**
baz=83
E28M Babbage River 134.64 335 P **PKiKP 07 49 57.8 +0.6**
baz=72
SIT Sitka 134.69 318 P **PKiKP 07 49 57.2 -0.3**
baz=88
O30N Mendenhall 134.82 323 P **PKiKP 07 49 57.5 -0.4**
baz=84
R31K City Hall, Gus 134.85 320 P **PKiKP 07 49 57.0 -0.8**
baz=86
H29M Whitestone 134.86 331 **PKPdf 07 49 55.0 -1.3**
H29M Whitestone 134.86 331 P **PKiKP 07 49 57.0 -0.7**
baz=76
XAN Xi'an 134.88 75 ⇑PKP **PKiKP 07 49 57.8 -1.0**
XAN LR LR
comp=Z,550nm,22.7s
XAN LR LR
comp=Z,530nm,20.6s
XAN LR LR
comp=Z,860nm,20.6s
M30M Minto, Yukon 134.91 326 IAMs_20 IAMs_20 08 45 39.6
comp=Z,862nm,20.0s
M30M Minto, Yukon 134.91 326 P **PKiKP 07 49 57.9 -0.1**
baz=81
D27M Malcolm River 134.93 336 P **PKiKP 07 49 57.4 -0.5**
baz=70
K29M Barlow Dome 135.02 328 P **PKiKP 07 49 57.8 -0.4**
baz=79
S31K Pelican 135.14 319 P **PKiKP 07 49 57.6 -0.9**
baz=86
J29N Klondike Camp 135.19 329 P **PKiKP 07 49 58.4 -0.2**
baz=78
N30M Aishikik Lake 135.21 324 P **PKiKP 07 49 58.4 -0.2**
baz=82
P30M Million Dollar 135.32 323 P **PKiKP 07 49 58.4 -0.5**
baz=83
L29M L29M 135.42 327 P **PKiKP 07 49 59.7 +0.7**
baz=79
E27K Coleen River 135.50 334 P **PKiKP 07 49 59.6 +0.6**
baz=71
HYT Haines Junctio 135.50 324 P **PKiKP 07 49 59.4 +0.1**
baz=82
I28M Miner Creek 135.67 330 P **PKiKP 07 49 59.7 +0.2**
baz=75
C27K Jago River 135.69 337 P **PKiKP 07 50 00.4 +1.1**
baz=67
M29M Somme Creek 135.69 326 P **PKiKP 07 49 59.5 -0.1**
baz=80
P29M Windy Craggy 135.77 322 P **PKiKP 07 49 59.7 -0.1**
baz=83
DAWY Dawson 135.78 328 P **PKiKP 07 50 00.2 +0.5**
baz=77

SONM	Songino Array	135.83	55	PKhKP	PKPpre	07 49 50.8	
	comp=Z,0.4nm,0.3s,baz=146,slow=2.8,SNR=2.3						
SONM				PKP	PKiKP	07 49 59.8	-0.6
	comp=Z,5.1nm,1.0s,baz=225,slow=3.4,SNR=12						
SONM				PP	PP	07 52 42.6	+4.7
	comp=Z,1.0nm,0.9s,baz=258,slow=7.4,SNR=3.6						
YUK6	Outpost Mounta	135.90	324	P	PKiKP	07 50 00.1	-0.1
	baz=81						
C26K	Camden Bay	135.96	337	P	PKiKP	07 49 59.5	-0.3
	baz=66						
G27K	Doyon Strip	135.96	333	IAMs_20	IAMs_20	08 45 48.4	
	comp=Z,828nm,20.0s						
G27K	Doyon Strip	135.96	333	P	PKiKP	07 49 59.8	-0.2
	baz=72						
YUK4	Talbot Arm	135.97	324	P	PKiKP	07 49 59.9	-0.4
	baz=80						
H27K	Steamboat Moun	136.09	332	IAMs_20	IAMs_20	08 46 06.8	
	comp=Z,714nm,20.0s						
H27K	Steamboat Moun	136.09	332	P	PKiKP	07 49 60.0	-0.3
	baz=73						
O29M	Mount Kennedy	136.09	323	IAMs_20	IAMs_20	08 50 35.9	
	comp=Z,793nm,20.0s						
O29M	Mount Kennedy	136.09	323	P	PKiKP	07 50 00.0	-0.5
	baz=82						
ULN	Ulaanbaatar	136.27	55	IAMs_20	IAMs_20	08 49 54.6	
	comp=Z,666nm,21.0s						
I27K	Kandik River	136.31	331	P	PKiKP	07 50 00.2	-0.6
	baz=73						
YUK8	Steele Glacier	136.51	324	P	PKiKP	07 50 01.3	-0.3
	baz=80						
F26K	Sheenjek River	136.57	334	P	PKiKP	07 50 01.1	-0.1
	baz=68						
PNL	Peninsula	136.60	322	P	PKiKP	07 50 00.7	-0.7
	baz=82						
D25K	Kavik River	136.68	337	P	PKiKP	07 50 00.8	-0.6
	baz=64						
G26K	Porcupine Rive	136.71	333	IAMs_20	IAMs_20	08 46 24.1	
	comp=Z,815nm,20.0s						
G26K	Porcupine Rive	136.71	333	P	PKiKP	07 50 01.1	-0.3
	baz=70						
YUK3	Moose Creek	136.74	325	P	PKiKP	07 50 00.7	-1.2
	baz=78						
BVCY	Beaver Creek	136.79	326	P	PKiKP	07 50 01.5	-0.3
	baz=77						
O28M	Mount Upton	136.81	324	P	PKiKP	07 50 01.1	-1.1
	baz=80						
BMAR	Burnt Mountain	136.82	334		PKiKP	07 50 00.5	-1.2
E25K	Arctic Village	136.91	335	IAMs_20	IAMs_20	08 42 53.1	
	comp=Z,829nm,20.0s						
E25K	Arctic Village	136.91	335	P	PKiKP	07 50 02.4	+0.6
	baz=66						
K27K	Chicken	136.93	329	P	PKiKP	07 50 01.6	-0.4
	baz=74						
PINM	Pinnacle	136.96	323	P	PKiKP	07 50 02.6	+0.3
	baz=80						
I26K	Coal Creek Min	137.01	331	P	PKiKP	07 50 01.7	-0.4
	baz=72						
BCAR	Beaver Creek A	137.06	327		PKiKP	07 50 01.4	-0.9
L27K	Beaver Creek,	137.08	327		PKiKP	07 50 01.9	-0.4
L27K	Beaver Creek,	137.08	327	P	PKiKP	07 50 02.3	-0.1
	baz=76						
F25K	Christian Rive	137.14	334		PKPdf	07 49 58.6	-1.9
F25K	Christian Rive	137.14	334	P	PKiKP	07 50 02.4	0.0
	baz=67						
C24K	Franklin Bluff	137.22	338	P	PKiKP	07 50 01.1	-1.3
	baz=62						
M27K	Edge Creek, AK	137.27	326	P	PKPdf	07 50 00.5	-0.5
	baz=76						
BTO	Baotou	137.38	66	*e*PKP	PKPdf	07 49 54.4	-7.5
BTO				sPKP		07 50 06.8	
BTO				PP	PP	07 52 33.6	-14
J26L	Joseph Creek	137.42	330	P	PKPdf	07 50 01.5	+0.3
	baz=72						
D24K	Happy Valley	137.53	337	P	PKiKP	07 50 01.9	-1.2
	baz=62						
G25K	Bearman Lake	137.63	333	P	PKiKP	07 50 02.3	-1.0
	baz=67						
H25L	Birch Creek	137.71	333	P	PKiKP	07 50 03.0	-0.5
	baz=68						
C23K	Itkillik River	137.75	339		PKPdf	07 49 59.0	-2.5
C23K	Itkillik River	137.75	339	P	PKiKP	07 50 02.5	-0.9
	baz=59						
L26K	Log Cabin Wild	137.75	328	P	PKPdf	07 50 01.6	-0.1
	baz=74						
SCRK	Sand Creek	137.75	329	P	PKPdf	07 50 02.1	+0.2
	baz=72						
M26K	Nabesna, AK	137.76	327	P	PKPdf	07 50 01.9	0.0
	baz=75						
MESA	MESA	137.78	323	P	PKiKP	07 50 03.3	-0.7
	baz=78						
LYN	LuoYang	137.84	75	*e*PKP	PKiKP	07 50 08.4	+3.7
LYN				PP	PP	07 52 59.3	+8.6
LYN				SS	SS	08 11 03.6	+2.5
LYN				AMB	AMB		
	comp=Z,260nm,5.5s						
LYN				LR	LR		
	comp=Z,580nm,22.7s						
LYN				LR	LR		
	comp=Z,650nm,22.5s						
LYN				LR	LR		
	comp=Z,920nm,22.6s						
PRP	Porcupine Dome	137.87	332		PKiKP	07 50 03.0	-1.1
PRP				IAMs_20	IAMs_20	08 47 27.0	
	comp=Z,715nm,20.0s						
PRP	Porcupine Dome	137.87	332	P	PKPdf	07 50 02.3	+0.2
	baz=69						
E24K	Your Creek	137.92	336	P	PKPdf	07 50 01.7	-0.3
	baz=63						
F24K	Squaw Lake	137.96	335	P	PKPdf	07 50 02.4	+0.4
	baz=64						
TOLK	Toolik Lake Re	138.01	337	P	PKPdf	07 50 02.3	+0.2
	baz=62						
J25K	Salcha River,	138.12	330	P	PKiKP	07 50 03.2	-1.3
	baz=70						
G24K	Hadweenzic Riv	138.16	334	IAMs_20	IAMs_20	08 43 22.3	
	comp=Z,674nm,22.0s						
G24K	Hadweenzic Riv	138.16	334	P	PKiKP	07 50 03.8	-0.7
	baz=66						
RIDG	Independent Ri	138.19	329		PKPdf	07 50 03.1	+0.5
RIDG	Independent Ri	138.19	329	P	PKiKP	07 50 04.1	-0.6
	baz=72						
D23K	Nanushuk River	138.21	338	P	PKiKP	07 50 04.3	-0.2
	baz=60						
B22K	Teshekpuk Lake	138.28	340	P	PKiKP	07 50 04.9	+0.4
	baz=56						
E23K	Chandalar	138.30	336	P	PKiKP	07 50 04.0	-0.8
	baz=62						
A22K	Sinclair Lake	138.32	341	P	PKiKP	07 50 03.5	-1.0
	baz=53						
GLB	Gilahina Butte	138.38	325	IAMs_20	IAMs_20	08 51 49.0	
	comp=Z,786nm,21.0s						
BGLC	Bering Glacier	138.44	323	P	PKPdf	07 50 03.4	+0.4
	baz=77						
A21K	Barrow	138.54	342	P	PKiKP	07 50 03.9	-1.1
	baz=51						
K24K	Donnelly Dome	138.56	329	P	PKPdf	07 50 03.3	+0.1
	baz=71						
HHC	Hu-ho-hao-te	138.58	66	*e*PKP	PKPdf	07 50 00.1	-4.0
HHC				PP	PP	07 52 54.5	-0.8
HHC				LR	LR		
	comp=Z,370nm,19.1s						
HHC				LR	LR		
	comp=Z,290nm,17.6s						
HHC				LR	LR		
	comp=Z,530nm,18.3s						
H24K	Noodor Dome	138.65	333	P	PKiKP	07 50 04.2	-1.3
	baz=66						
ILAR	Eielson Array	138.68	331		PKPpre	07 49 55.9	
ILAR	Eielson Array	138.68	331	PKhKP	PKPpre	07 49 54.4	
	comp=Z,2.2nm,0.7s,baz=41,slow=2.1,SNR=12						
ILAR				PKP	PKPdf	07 50 02.9	-0.5
	comp=Z,2.9nm,0.8s,baz=27,slow=1.6,SNR=14						
ILAR				PP	PP	07 52 57.6	+2.8
	comp=Z,0.6nm,0.9s,baz=14,slow=4.0,SNR=4.1						
PAX	Paxson	138.70	328	P	PKiKP	07 50 05.2	-0.5
	baz=72						
N25K	Chitina, Valde	138.70	326	P	PKiKP	07 50 04.8	-1.0
	baz=74						
HARP	HAARP	138.73	327	P	PKiKP	07 50 05.5	-0.2
	baz=73						
POKR	Poker Plat Res	138.77	331	P	PKPdf	07 50 03.4	-0.1
	baz=68						
HDA	Harding Lake	138.84	330	P	PKPdf	07 50 04.0	+0.4
	baz=69						
D22K	Ayikyak River	138.87	338		PKPdf	07 50 01.1	-2.6
D22K	Ayikyak River	138.87	338	P	PKPdf	07 50 04.3	+0.7
	baz=58						
BMRM	Bremner River	138.87	325	P	PKPdf	07 50 03.4	-0.5
	baz=75						
COLD	Coldfoot	138.89	335	P	PKiKP	07 50 04.8	-1.1
	baz=62						
E22K	Anaktuvuk Pass	138.99	337		PKPdf	07 50 03.3	-0.6
E22K	Anaktuvuk Pass	138.99	337	P	PKPdf	07 50 04.5	+0.6
	baz=60						
COLA	College	139.02	331	P	PKiKP	07 50 05.1	-1.1
	baz=67						
B21K	Ikpikpuk River	139.03	339		PKPdf	07 50 03.1	-0.7
B21K	Ikpikpuk River	139.03	339	P	PKPdf	07 50 04.4	+0.5
	baz=55						
KAIM	Kayak Island	139.04	323	P	PKPdf	07 50 04.7	+0.5
	baz=76						
G23K	Bananza Creek	139.06	334	IAMs_20	IAMs_20	08 47 12.3	
	comp=Z,692nm,20.0s						
G23K	Bananza Creek	139.06	334	P	PKiKP	07 50 05.2	-1.2
	baz=63						
M24K	Tolsona, Glenn	139.27	327	P	PKiKP	07 50 05.8	-1.1
	baz=72						
H23K	Yukon River	139.28	333	IAMs_20	IAMs_20	08 48 21.0	
	comp=Z,583nm,20.0s						
H23K	Yukon River	139.28	333	P	PKiKP	07 50 05.5	-1.2
	baz=64						
KLU	Klutina	139.34	326	P	PKPdf	07 50 05.0	+0.2
	baz=73						
C21K	Knifeblade Rid	139.35	339	P	PKPdf	07 50 04.5	0.0
	baz=55						
F22K	John River	139.42	336	P	PKiKP	07 50 06.5	-0.5
	baz=60						
G22K	Bettles	139.49	335	P	PKiKP	07 50 06.4	-0.7
	baz=61						
I23K	Minto, Yukon-K	139.50	332	IAMs_20	IAMs_20	08 47 21.0	
	comp=Z,814nm,20.0s						
I23K	Minto, Yukon-K	139.50	332	P	PKiKP	07 50 06.4	-0.7
	baz=65						
E21K	Killik River	139.51	338	P	PKPdf	07 50 05.0	+0.1
	baz=57						
B20K	Meade River	139.51	341	P	PKiKP	07 50 06.2	-0.9
	baz=51						
EYAK	Cordova Ski Ar	139.53	324	P	PKPdf	07 50 05.3	+0.3
	baz=74						
NEA2	Nenana	139.62	331	IAMs_20	IAMs_20	08 44 59.1	
	comp=Z,844nm,21.0s						
NEA2	Nenana	139.62	331	P	PKiKP	07 50 06.1	-1.3
	baz=66						
SCM	Sheep Creek Mo	139.88	327	P	PKPdf	07 50 05.9	+0.2
	baz=71						
MCK	McKinley	139.90	330		PKPdf	07 50 06.3	+0.7
MCK	McKinley	139.90	330	P	PKiKP	07 50 06.7	-1.4
	baz=67						
H22K	Ishtalitna Cre	139.93	334	P	PKiKP	07 50 06.9	-1.1
	baz=62						
F21K	Alatna River	140.00	336	IAMs_20	IAMs_20	08 47 06.9	
	comp=Z,622nm,20.0s						
F21K	Alatna River	140.00	336	P	PKiKP	07 50 06.8	-1.4
	baz=58						
GLI	Glacier Island	140.07	325	P	PKiKP	07 50 07.4	-1.0
	baz=72						
M23K	Glacier View	140.07	327	P	PKiKP	07 50 07.9	-0.6
	baz=71						
D20K	Etivluk River	140.15	339	P	PKiKP	07 50 06.8	-1.6
	baz=53						
E20K	Nigu River	140.29	338	P	PKPdf	07 50 06.9	+0.6
	baz=52						
HNS	HongShan	140.31	72	∥PKP	PKiKP	07 50 10.5	+0.8
HNS				SS	SS	08 11 32.9	+2.8
HNS				LR	LR		
	comp=Z,310nm,17.7s						
HNS				LR	LR		
	comp=Z,250nm,18.0s						
HNS				LR	LR		
	comp=Z,490nm,22.6s						
SML	Sawmill	140.34	327	P	PKPdf	07 50 06.7	+0.2
	baz=70						
G21K	Allakaket	140.38	335	IAMs_20	IAMs_20	08 48 34.9	
	comp=Z,768nm,20.0s						
G21K	Allakaket	140.38	335	P	PKiKP	07 50 08.0	-1.0
	baz=59						
A19K	Wainwright	140.39	342	P	PKiKP	07 50 07.5	-1.3
	baz=46						
P23K	Montague Islan	140.47	324	P	PKiKP	07 50 08.6	-0.7
	baz=73						
I21K	Tanana	140.48	333	IAMs_20	IAMs_20	08 48 57.8	
	comp=Z,685nm,20.0s						
I21K	Tanana	140.48	333	P	PKPdf	07 50 07.5	+0.8
	baz=62						
KNK	Knik Glacier	140.53	326	P	PKiKP	07 50 08.7	-0.7
	baz=70						
H21K	Melozitna Rive	140.56	334	IAMs_20	IAMs_20	08 46 57.8	
	comp=Z,836nm,21.0s						
H21K	Melozitna Rive	140.56	334	P	PKiKP	07 50 09.2	-0.1
	baz=61						
TRF	Thorofare Moun	140.57	330	P	PKiKP	07 50 08.1	-1.6
	baz=66						
BPAW	Bear Paw Mtn.	140.58	331	P	PKPdf	07 50 07.2	+0.3
	baz=65						
PWL	Port Wells	140.65	325	P	PKPdf	07 50 07.5	+0.4
	baz=71						
D19K	Kuna River	140.72	339	IAMs_20	IAMs_20	08 47 49.5	
	comp=Z,812nm,22.0s						
D19K	Kuna River	140.72	339	P	PKiKP	07 50 08.8	-0.9
	baz=52						
PMR	Palmer	140.77	327	P	PKPdf	07 50 06.8	-0.4
	baz=70						
SSLB	Suanglung	140.79	95	IAMs_20	IAMs_20	08 44 26.7	
	comp=Z,591nm,20.0s						
F20K	Avaraart Lake	140.84	337	IAMs_20	IAMs_20	08 47 25.8	
	comp=Z,591nm,22.0s						
F20K	Avaraart Lake	140.84	337	P	PKPdf	07 50 07.6	+0.4
	baz=56						
YULB	Yu-li	140.89	96	IAMs_20	IAMs_20	08 46 01.3	
	comp=Z,581nm,20.0s						
CUT	Chulitna	140.97	328	P	PKPdf	07 50 08.3	+0.8
	baz=67						
E19K	Redstone River	141.08	338	P	PKPdf	07 50 08.3	+0.6
	baz=54						
B18K	Kokolik River	141.16	342	P	PKiKP	07 50 09.6	-0.9
	baz=46						
CHUM	Lake Minchumin	141.20	331	P	PKiKP	07 50 09.7	-1.0
	baz=53						
RC01	Rabbit Creek A	141.22	326	P	PKiKP	07 50 09.5	-1.3
	baz=70						
CAST	Castle Rocks	141.31	330	P	PKiKP	07 50 10.1	-0.9
	baz=64						
H20K	Anotleneega Mo	141.39	334	P	PKiKP	07 50 10.2	-0.8
	baz=59						
SEW	Seward	141.42	325	P	PKiKP	07 50 09.6	-1.6
	baz=71						
O22K	Cooper Landing	141.42	325	P	PKiKP	07 50 09.8	-1.4
	baz=70						
C18K	Utukok River	141.48	341	P	PKiKP	07 50 09.4	-1.8
	baz=48						
NACB	Ninganchiao	141.49	95	IAMs_20	IAMs_20	08 43 43.2	
	comp=Z,572nm,22.0s						
SUA	Susitna One	141.54	327	IAMs_20	IAMs_20	08 44 55.3	
	comp=Z,873nm,22.0s						
SUA	Susitna One	141.54	327	P	PKiKP	07 50 10.3	-1.3
	baz=68						
PPLA	Purkeypile	141.58	330	P	PKiKP	07 50 10.4	-1.4
	baz=65						
I20K	Naaghedeneel	141.60	333	P	PKPdf	07 50 08.0	-0.6
	baz=60						
F19K	Shaleruckik Mo	141.62	337	P	PKPdf	07 50 09.0	+0.4
	baz=54						
SKT	Skwentna	141.68	328	P	PKPdf	07 50 09.8	+0.9
	baz=66						
J20K	Nowinta River	141.78	332	IAMs_20	IAMs_20	08 49 00.2	
	comp=Z,750nm,19.0s						
J20K	Nowinta River	141.78	332	P	PKPdf	07 50 09.3	+0.3
	baz=61						
G19K	Purcell Mounta	141.80	336	IAMs_20	IAMs_20	08 47 59.3	
	comp=Z,685nm,20.0s						
H19K	Roundabout Mou	141.92	335	IAMs_20	IAMs_20	08 46 02.7	
	comp=Z,646nm,20.0s						
H19K	Roundabout Mou	141.92	335	P	PKPdf	07 50 10.0	+0.8
	baz=57						
CAPN	Captain Cook N	141.98	326	P	PKPdf	07 50 10.4	+1.0
	baz=68						
STLK	Strandline Lak	142.00	327	IAMs_20	IAMs_20	08 46 36.7	
	comp=Z,524nm,20.0s						
E18K	Tukpahlearik C	142.13	339	P	PKPdf	07 50 09.9	+0.3
	baz=50						
K20K	Telida	142.14	331	P	PKiKP	07 50 11.3	-1.3
	baz=62						
BRSE	Bradley Lake S	142.15	324	P	PKPdf	07 50 10.4	+0.6
	baz=70						
NJ2	Nanjing	142.22	82	*e*PKP	PKPdf	07 50 11.3	+0.5
XLT	XiLinHaoTe	142.26	62	*e*PKP	PKPdf	07 50 09.5	-1.1
XLT				LR	LR		
	comp=Z,490nm,16.4s						
XLT				LR	LR		
	comp=Z,610nm,23.7s						
F18K	Selawik	142.36	337	P	PKiKP	07 50 11.2	-1.7
	baz=52						
M20K	Styx River	142.41	328	P	PKPdf	07 50 11.1	+0.8
	baz=65						
J19K	Poorman	142.43	332	P	PKiKP	07 50 11.4	-1.9
	baz=59						
G18K	Tagagawik	142.46	336	IAMs_20	IAMs_20	08 55 50.9	
	comp=Z,578nm,21.0s						
G18K	Tagagawik	142.46	336	P	PKiKP	07 50 12.1	-1.1
	baz=54						
L20K	Farewell, AK	142.47	329	P	PKiKP	07 50 13.3	-0.1
	baz=63						
GCSA	Galena City Sc	142.50	334	P	PKiKP	07 50 12.9	-0.4
	baz=57						
HOM	Homer	142.61	325	P	PKPdf	07 50 10.3	-0.3
	baz=69						
D17K	Noatak River	142.65	340	P	PKPdf	07 50 10.8	+0.3
	baz=46						
E17K	Hotham Inlet	142.71	339	P	PKPdf	07 50 10.2	-0.4
	baz=48						
H18K	Honhosa River	142.80	335	IAMs_20	IAMs_20	08 46 19.9	
	comp=Z,748nm,20.0s						
H18K	Honhosa River	142.80	335	P	PKPdf	07 50 09.4	-1.4
	baz=55						
C16K	Lisburne Hills	142.84	342	IAMs_20	IAMs_20	08 51 50.2	
	comp=Z,670nm,21.0s						
C16K	Lisburne Hills	142.84	342	P	PKPdf	07 50 10.1	-0.6
	baz=43						
M19K	Big River Lodg	142.94	329	P	PKPdf	07 50 11.1	-0.1
	baz=63						
F17K	Baldwin Pennin	142.96	338	IAMs_20	IAMs_20	08 48 47.6	
	comp=Z,674nm,21.0s						
F17K	Baldwin Pennin	142.96	338	P	PKPdf	07 50 10.8	-0.2
	baz=50						
L19K	White Mountain	143.01	329	P	PKPdf	07 50 11.2	-0.1
	baz=62						
TTA	Tatalina	143.12	331	P	PKPdf	07 50 11.1	-0.4
	baz=60						
J18K	Innoko River	143.12	332	IAMs_20	IAMs_20	08 50 00.7	
	comp=Z,717nm,20.0s						
J18K	Innoko River	143.12	332	P	PKPdf	07 50 10.9	-0.5
	baz=59						
Q20K	Shuyak Island	143.34	323	P	PKPdf	07 50 11.5	-0.4
	baz=70						
P19K	Oil Pt	143.36	325	P	PKPdf	07 50 11.1	-0.9
	baz=67						
G17K	Kiwalik Mounta	143.36	336	P	PKPdf	07 50 11.5	-0.2
	baz=52						
H17K	Granite Mounta	143.46	335	IAMs_20	IAMs_20	08 51 08.3	
	comp=Z,642nm,20.0s						
H17K	Granite Mounta	143.46	335	P	PKPdf	07 50 11.0	-1.0
	baz=53						
N19K	Bonanza Creek	143.46	327	P	PKPdf	07 50 12.2	0.0
	baz=64						
O19K	Port Alsworth	143.65	326	IAMs_20	IAMs_20	08 50 25.2	
	comp=Z,783nm,20.0s						
O19K	Port Alsworth	143.65	326	P	PKPdf	07 50 12.5	+0.2
	baz=66						
KDAK	Kodiak Island	143.72	322	P	PKPdf	07 50 13.0	+0.4
	baz=70						
M18K	Stony River	143.74	329	P	PKPdf	07 50 13.8	+1.3
	baz=62						
L18K	Granite Mounta	143.75	330	P	PKiKP	07 50 14.0	-2.0
	baz=60						
SSE	Sheshan	143.82	84	PKP	PKiKP	07 50 16.3	-0.8
SSE				PP	PP	07 53 31.3	+4.0
SSE				SS	SS	08 12 14.8	+3.7
SSE				AMB	AMB		
	comp=Z,140nm,3.5s						
SSE				LR	LR		
	comp=Z,240nm,19.3s						
SSE				LR	LR		
	comp=Z,170nm,19.5s						
Q19K	Cape Douglas,	143.83	324	P	PKPdf	07 50 14.1	+1.3
	baz=68						
G16K	Koyuk River	143.98	337	IAMs_20	IAMs_20	09 02 03.9	
	comp=Z,515nm,20.0s						
G16K	Koyuk River	143.98	337	P	PKPdf	07 50 13.8	+0.9
	baz=50						
J17K	VABM Dome	144.06	333	P	PKPdf	07 50 14.3	+1.2
	baz=56,SNR=12						
K17K	Iditarod	144.13	332	P	PKiKP	07 50 14.9	-1.9
	baz=58						
N18K	Kilae Creek	144.14	328	P	PKPdf	07 50 14.2	+0.9
	baz=63						
O18K	Koktuh Hills	144.19	326	P	PKPdf	07 50 14.1	+0.6
	baz=65,SNR=8.0						
OHAK	Old Harbor	144.26	321	P	PKPdf	07 50 13.9	+0.3
	baz=70						
I17K	Unalakleet	144.36	334	IAMs_20	IAMs_20	09 00 52.2	
	comp=Z,612nm,19.0s						
I17K	Unalakleet	144.36	334	P	PKPdf	07 50 14.2	+0.7
	baz=53						
P18K	Big Mountain,	144.40	325	P	PKPdf	07 50 14.4	+0.6
	baz=65,SNR=19						
H16K	Elim	144.43	336	P	PKPdf	07 50 14.9	+1.2
	baz=50,SNR=5.9						
L17K	Donlin	144.44	331	P	PKPdf	07 50 14.4	+0.6
	baz=58						
M17K	Holitna River	144.46	329		PKPdf	07 50 13.0	-0.8
M17K	Holitna River	144.46	329	P	PKPdf	07 50 13.2	-0.6
	baz=60,SNR=18						
F15K	North Star Dit	144.48	339	IAMs_20	IAMs_20	08 53 33.0	
	comp=Z,689nm,22.0s						
F15K	North Star Dit	144.48	339	P	PKPdf	07 50 12.9	-0.9
	baz=46,SNR=13						
Q18K	Katmai Hardscr	144.59	324	P	PKPbc	07 50 12.8	-0.2
	baz=67,SNR=14						
HIA	Hailar	144.68	53	IAMs_20	IAMs_20	08 56 22.0	
	comp=Z,656nm,21.0s						
J16K	Anvik River	144.68	333	P	PKPdf	07 50 13.7	-0.4
	baz=54						
R18K	Karluk	144.73	322	P	PKPbc	07 50 13.4	+0.1
	baz=69						
N17K	Nushagak Hills	144.78	328	P	PKPdf	07 50 14.2	-0.2
	baz=62						
G15K	Niukluk	144.78	337	P	PKPdf	07 50 13.9	-0.3
	baz=48,SNR=17						
ACHA	Angle Creek He	144.92	323	IAMs_20	IAMs_20	08 47 32.2	
	comp=Z,664nm,21.0s						
SII	Sitkinak Islan	144.95	320	P	PKPdf	07 50 14.2	-0.6
	baz=70						
P17K	Kvichak River	145.04	325	P	PKPdf	07 50 15.1	+0.2
	baz=64						
O17K	Koliganek Bris	145.09	327	P	PKPdf	07 50 14.5	-0.4
	baz=63,SNR=16						
L16K	Owhat River	145.14	331	P	PKPdf	07 50 15.3	+0.4
	baz=57						
F14K	Arctic Creek	145.14	339	P	PKPdf	07 50 15.0	+0.1
	baz=44						
Q17K	Contact Creek	145.17	324	P	PKPdf	07 50 15.3	0.0
	baz=66						
M16K	Timber Creek	145.29	329	P	PKPab	07 50 15.6	+0.4
	baz=59						
Q16K	King Salmon	145.37	325	P	PKPab	07 50 15.2	-0.3
	baz=65,SNR=18						
N16K	Nishlik Lake	145.49	328	P	PKPab	07 50 17.3	+1.3
	baz=60						
ANM	Nome	145.49	337	IAMs_20	IAMs_20	08 55 40.8	
	comp=Z,560nm,20.0s						
ANM	Nome	145.49	337	P	PKPab	07 50 16.0	+0.1
	baz=46						
YAK	Yakutsk	145.53	28		PKiKP	07 50 17.7	-1.9
YAK	Yakutsk	145.53	28	IAMs_20	IAMs_20	08 58 32.2	
	comp=Z,667nm,21.0s						
TNA	Tin City	145.53	340	IAMs_20	IAMs_20	08 54

DL2				LR	LR		
	comp=Z,590nm,19.1s						
DL2				LR	LR		
	comp=Z,960nm,26.2s						
L15K	**Ungalak Mounta**	**145.95**	**331**	P	**PKiKP**	**07 50 18.7**	**-1.8**
	baz=55						
CHIR	**Chirikof Islan**	**145.95**	**320**	P	**PKPab**	**07 50 18.9**	**+1.1**
	baz=70						
J14K	**Nanvaranak Lak**	**146.08**	**334**	P	**PKiKP**	**07 50 19.3**	**-1.4**
	baz=51						
M15K	**Kasigluk River**	**146.18**	**330**	P	**PKiKP**	**07 50 19.6**	**-1.4**
	baz=57						
N15K	**Kwethluk River**	**146.21**	**329**	P	**PKiKP**	**07 50 19.7**	**-1.4**
	baz=58						
R16K	**Pilot Point**	**146.28**	**323**	P	**PKPab**	**07 50 19.2**	**+0.2**
	baz=65						
O15K	**Ungalikthiuk R**	**146.60**	**327**		**PKiKP**	**07 50 21.5**	**-0.4**
O15K	**Ungalikthiuk R**	**146.60**	**327**	P	**PKPab**	**07 50 20.6**	**+0.4**
	baz=60						
L14K	**Kuka Creek**	**146.62**	**332**	P	**PKiKP**	**07 50 20.7**	**-1.1**
	baz=54						
M14K	**Bethel**	**146.67**	**330**	P	**PKPab**	**07 50 20.7**	**+0.4**
	baz=55						
K13K	**Kusilvak Mount**	**147.00**	**333**	P	**PKPab**	**07 50 21.0**	**-0.6**
	baz=50						
N14K	**Kuskokwak Cree**	**147.02**	**329**	P	**PKiKP**	**07 50 22.4**	**-0.3**
	baz=57						
O14K	**Tigyukauivet M**	**147.19**	**328**	P	**PKPab**	**07 50 22.3**	**-0.2**
	baz=58						
BILL	**Bilibino**	**147.20**	**359**		**PKPdf**	**07 50 18.5**	**+0.2**
M13K	**Dall Lake**	**147.43**	**331**	P	**PKPab**	**07 50 23.0**	**-0.3**
	baz=54						
SNY	**Shenyang**	**147.67**	**66**	⇓PKPbc	**PKPbc**	**07 50 22.4**	**-0.2**
SNY				SS	SS	08 12 52.8	-1.7
SNY				AMB	AMB		
	comp=Z,380nm,5.9s						
SNY				LR	LR		
	comp=Z,160nm,17.1s						
SNY				LR	LR		
	comp=Z,260nm,13.1s						
SNY				LR	LR		
	comp=Z,300nm,20.8s						
S14K	**Fog Glacier**	**147.81**	**322**	P	**PKiKP**	**07 50 23.9**	**-0.8**
	baz=64						
GAMB	**Gambell**	**147.95**	**340**	IAMs_20	IAMs_20	09 07 23.6	
	comp=Z,504nm,19.0s						
CN2	**Changchun**	**149.04**	**62**	PKPbc	**PKPbc**	**07 50 25.5**	**-0.7**
CN2				LR	LR		
	comp=Z,2μm,22.0s						
CN2				LR	LR		
	comp=Z,2μm,22.0s						
CN2				LR	LR		
	comp=Z,500nm,18.0s						
HEH	**HeiHe**	**149.39**	**49**	PKPbc	**PKiKP**	**07 50 27.1**	**-0.8**
HEH				AMB	AMB		
	comp=Z,240nm,5.7s						
HEH				LR	LR		
	comp=Z,370nm,19.4s						
HEH				LR	LR		
	comp=Z,500nm,19.1s						
HEH				LR	LR		
	comp=Z,560nm,21.9s						
INCN	**Inchon**	**149.67**	**75**		**PKPab**	**07 50 31.4**	**-1.8**
INCN	**Inchon**	**149.67**	**75**	IAMs_20	IAMs_20	09 07 18.5	
	comp=Z,574nm,22.0s						
TJN	**Taejon**	**150.09**	**77**		**PKPab**	**07 50 33.5**	**-1.4**
BNX	**BinXian**	**150.26**	**58**	⇓PKPbc	**PKiKP**	**07 50 29.4**	**-0.5**
KSAR	**Wonju Array Be**	**150.65**	**75**		**PKPbc**	**07 50 28.9**	**-1.4**
KSRS	**Korea Array**	**150.68**	**75**	PKP	**PKPdf**	**07 50 22.1**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=141,slow=8.1,SNR=4.3						
KSRS				PKPbc	**PKiKP**	**07 50 30.9**	**-0.1**
	comp=Z,15nm,0.9s,baz=268,slow=2.2,SNR=13						
MDJ	**Mudanjiang**	**151.94**	**60**		**PKPdf**	**07 50 27.8**	**+1.3**
MDJ	**Mudanjiang**	**151.94**	**60**	PKPbc	**PKPdf**	**07 50 27.9**	**+1.3**
USRK	**Ussuriysk Ar.**	**153.70**	**60**	PKPbc	**PKiKP**	**07 50 37.2**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=225,slow=2.4,SNR=5.7						
MA2	**Magadan**	**154.13**	**16**		**PKiKP**	**07 50 39.7**	**+2.2**
MAJO	**Matsushiro**	**158.78**	**79**	IAMs_20	IAMs_20	09 17 52.1	
	comp=Z,664nm,20.0s						
MJAR	**Matsushiro Arr**	**158.78**	**79**	PKP	**PKPdf**	**07 50 36.4**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=270,slow=2.0,SNR=5.0						
MJAR				PKPab	**pPKPab**	**07 51 12.1**	**-1.9**
	comp=Z,5.2nm,0.9s,baz=248,slow=3.4,SNR=5.0						
YSS	**Yuzhno-Sakhali**	**160.05**	**48**	IAMs_20	IAMs_20	09 07 57.4	
	comp=Z,606nm,21.0s						

*IDC **16** 07:42:30.1±2.5, 3°.82S×141°.53E, h97km±19km, mb3.7/6, mbtmp4.1/7, Error ellipse: s-maj=43.3km s-min=15.2km az=91.0*
*NEIC **16** 07:42:31.7±0.9, 3°.88S±0°.10×141°.3E±0°.1, h94km±8km, mb4.4/27, Error ellipse: s-maj=18.8km s-min=13.7km az=84.0*
*DJA **16** 07:42:50.1±0.9, 3°S±11°×14°1E±1°0, h35km±12km, M3.1/4, MLv3.1/4*
ISC 16 07:42:31.9±0.7, 3°.88S±0°.07×141°.29E±0°.10, h100km, n46, σ0=91/47, mb4.4/17, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.47**	**337**	P	**Pn**	**07 42 57.5**	**-0.4**
	167nm,0.4s,baz=166,slow=9.7,SNR=64						
JAY				S	**Sn**	**07 43 16.7**	**-0.9**
	270nm,0.6s,baz=89,slow=22,SNR=12						
JAY	**Jayapura**	**1.47**	**337**	P	**Pn**	**07 42 57.5**	**-0.4**
GENI	**Genyem**	**1.70**	**319**	P	**Pn**	**07 43 01.0**	**+0.4**
WAMI	**Wamena**	**2.57**	**270**	P	Pn	07 43 24.5	+13
SMPI	**Sarmi**	**3.18**	**306**	P	**Pn**	**07 43 21.4**	**+1.2**
FAKI	**Fak Fak**	**9.07**	**276**	Pn	**Pn**	**07 44 39.8**	**-0.3**
MTN	**Manton Dam**	**13.42**	**228**		**Pn**	**07 45 36.9**	**-1.5**
KNRA	**Kununurra**	**17.01**	**226**		**Pn**	**07 46 22.6**	**-1.1**
KNRA				IAmb	IAmb	07 46 27.0	
	comp=Z,10nm,0.7s						
WB0	**Warramunga Arr**	**17.16**	**203**		**P**	**07 46 25.8**	**0.0**
WR8	**Warramunga Arr**	**17.30**	**202**	P	**P**	**07 46 26.7**	**-0.5**
WRAB	**Tennant Creek**	**17.33**	**202**		**P**	**07 46 27.6**	**0.0**
WRAB				IAmb	IAmb	07 46 30.3	
	comp=Z,13nm,0.6s						
WRA	**Warramunga Arr**	**17.35**	**202**	P	**P**	**07 46 26.8**	**-0.9**
WRA	**Warramunga Arr**	**17.35**	**202**	P	**P**	**07 46 27.5**	**-0.2**
	comp=Z,9.2nm,0.5s,baz=21,slow=12,SNR=38						
LUWI	**Luwuk**	**18.71**	**278**		**Pn**	**07 46 45.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**20.84**	**226**	P	**P**	**07 47 06.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**20.84**	**226**	P	**P**	**07 47 06.1**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=34,slow=8.8,SNR=11						
FITZ				S	**S**	**07 50 52.7**	**-0.2**
	comp=Z,2.6nm,0.5s,baz=155,slow=12,SNR=5.2						
	comp=Z,3.1nm,0.7s						
AS31	**Alice Springs**	**20.92**	**199**		**P**	**07 47 06.0**	**-0.7**
ASAR	**Alice Springs**	**20.93**	**199**	P	**P**	**07 47 06.8**	**0.0**
	comp=Z,6.9nm,0.7s,baz=31,slow=10.0,SNR=86						
	comp=Z,6.9nm,0.7s						
EIDS	**Eidsvold**	**23.35**	**157**		**P**	**07 47 32.1**	**+0.5**
EIDS				IAmb	IAmb	07 47 34.6	
	comp=Z,12nm,0.6s						
PSA00	**Pilbara Seismi**	**27.25**	**228**	P	**P**	**07 48 06.7**	**-0.3**
STKA	**Stephens Creek**	**27.85**	**179**	P	**P**	**07 48 10.0**	**-2.2**
	comp=Z,0.7nm,0.4s,baz=342,slow=16,SNR=3.1						
	comp=Z,0.7nm,0.4s						
MGBR	**Mount Gambier**	**33.70**	**181**	P	**P**	**07 49 05.3**	**+1.8**
TUWZ	**Tuamarina**	**47.47**	**147**	P	**P**	**07 50 57.5**	**+0.8**
MKAR	**Makanchi Array**	**72.28**	**322**	P	**P**	**07 53 47.0**	**+0.3**
MKAR	**Makanchi Array**	**72.28**	**322**	P	**P**	**07 53 46.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=106,slow=7.5,SNR=3.6						
	comp=Z,0.5nm,0.5s						
O14K	**Tigyukauivet M**	**77.40**	**26**	P	**P**	**07 54 16.2**	**+0.5**
O16K	**Kokwok River B**	**78.98**	**27**	P	**P**	**07 54 24.8**	**+0.3**
O16K				IAmb	IAmb	07 54 40.7	
	comp=Z,12nm,1.4s						
L16K	**Owhat River**	**79.39**	**25**	P	**P**	**07 54 26.8**	**+0.1**
L16K				IAmb	IAmb	07 54 27.9	
	comp=Z,5.2nm,1.1s						
ACHA	**Angle Creek He**	**79.65**	**29**	P	**P**	**07 54 27.4**	**-0.9**
ACHA				IAmb	IAmb	07 54 30.8	
	comp=Z,12nm,1.4s						
N17K	**Nushagak Hills**	**79.81**	**26**	P	**P**	**07 54 29.7**	**+0.7**
N17K				IAmb	IAmb	07 54 56.1	
	comp=Z,9.5nm,1.3s						
K17K	**Iditarod**	**80.36**	**24**	P	**P**	**07 54 32.3**	**+0.4**
K17K				IAmb	IAmb	07 54 48.6	
	comp=Z,6.3nm,1.0s						
J17K	**VABM Dome**	**80.38**	**23**	P	**P**	**07 54 32.4**	**+0.4**
J17K				IAmb	IAmb	07 54 47.0	
	comp=Z,7.7nm,1.2s						
KDAK	**Kodiak Island**	**80.82**	**30**	P	**P**	**07 54 34.4**	**0.0**
P19K	**Oil Pt**	**81.23**	**28**	P	**P**	**07 54 35.8**	**-0.9**
TTA	**Tatalina**	**81.39**	**24**	P	**P**	**07 54 37.6**	**+0.1**
BVAR	**Borovoye Array**	**81.74**	**325**	P	**P**	**07 54 39.5**	**0.0**
	comp=Z,2.5nm,0.8s,baz=99,slow=7.7,SNR=9.6						
	comp=Z,2.5nm,0.8s						
B21K	**Ikpikpuk River**	**84.85**	**18**	P	**P**	**07 54 55.3**	**+0.3**
B21K				IAmb	IAmb	07 55 21.5	
	comp=Z,6.7nm,1.4s						
B22K	**Teshekpuk Lake**	**85.53**	**18**	P	**P**	**07 54 58.1**	**-0.3**
B22K				IAmb	IAmb	07 55 11.9	
	comp=Z,5.8nm,1.2s						
ILAR	**Eielson Array**	**85.83**	**24**	P	**P**	**07 54 56.6**	**-3.5**
	comp=Z,0.9nm,0.7s,baz=262,slow=4.4,SNR=9.6						
	comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	**86.08**	**180**	P	**P**	**07 55 01.6**	**+0.2**
C23K	**Itkillik River**	**86.21**	**19**	P	**P**	**07 55 02.0**	**+0.2**
D24K	**Happy Valley**	**86.56**	**20**	P	**P**	**07 55 04.1**	**+0.6**
D24K				IAmb	IAmb	07 55 04.7	
	comp=Z,3.7nm,0.8s						
C24K	**Franklin Bluff**	**86.79**	**19**	P	**P**	**07 55 04.9**	**+0.2**
C24K				IAmb	IAmb	07 55 16.1	
	comp=Z,7.5nm,1.4s						
E25K	**Arctic Village**	**87.36**	**21**	P	**P**	**07 55 08.3**	**+0.8**
E25K				IAmb	IAmb	07 55 08.5	
	comp=Z,1.6nm,0.8s						
F26K	**Sheenjek River**	**87.75**	**22**	P	**P**	**07 55 10.2**	**+0.8**
F26K				IAmb	IAmb	07 55 10.8	
	comp=Z,2.3nm,0.8s						
DAWY	**Dawson**	**88.80**	**26**	P	**P**	**07 55 14.4**	**0.0**

*CATAC **16** 07:42:46.3±0.5, 12°N±4°×8°8W±°, h34km±5km, M3.5/25, MLv3.5/25, Error ellipse: s-maj=9.0km s-min=2.1km az=28.2, confirmed*
*SNET **16** 07:42:47.4±1.2, 12°.43N×87°.91W, h26km±10km, ML3.3*
*GCG **16** 07:42:47.9±0.7, 12°.54N×87°.88W, h98km±45km, MD4.2*
ISC 16 07:42:46.7±1.6, 12°.38N±0°.07×87°.75W±0°.04, h30km±13km, n60, σ0=99/68, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.62**	**17**	P	**Pb**	**07 42 59.4**	**0.0**
POTN	**Potosi Cosigui**	**0.66**	**21**	P	**Pb**	**07 42 59.9**	**0.0**
CRIN	**San Cristobal**	**0.75**	**65**	P	**Pb**	**07 43 01.8**	**+0.4**
CNCH	**Conchagua**	**0.90**	**355**	*e*P	**Pn**	**07 43 03.1**	**-0.4**
CNCH				*e*S	**Sb**	**07 43 15.9**	**+0.2**
CNCH	**Conchagua**	**0.90**	**355**	P	**Pn**	**07 43 03.1**	**-0.4**
QUEN	**Al S del Volca**	**0.90**	**76**	P	**Pn**	**07 43 03.2**	**-0.1**
HERN	**Volcan Telica**	**0.92**	**75**	P	**Pn**	**07 43 03.5**	**-0.3**
LCND	**La Caada**	**0.94**	**351**	*e*P	**Pn**	**07 43 03.7**	**-0.2**
LCND				IAML		07 43 18.6	
	comp=Z,2μm,0.4s						
LCND	**La Caada**	**0.94**	**351**	P	**Pn**	**07 43 03.5**	**-0.4**
POLN	**Al Sur del Vol**	**0.95**	**73**	P	**Pn**	**07 43 03.5**	**-0.5**
POLN				S	**Sb**	**07 43 16.7**	**-0.3**
ROCN	**Rota Cerro Neg**	**0.99**	**82**	P	**Pn**	**07 43 04.3**	**-0.3**
CNGA	**Al SSO del Vol**	**1.03**	**83**	P	**Pn**	**07 43 04.6**	**-0.5**
CNGA				S	**Sn**	**07 43 18.6**	**+0.1**
CNGN	**Cerro Negro**	**1.03**	**83**	P	**Pn**	**07 43 04.7**	**-0.5**
ILCN	**San Idelfonso**	**1.04**	**79**	P	**Pn**	**07 43 04.7**	**-0.5**
ILCN				S	**Sn**	**07 43 19.3**	**+0.5**
COPN	**Copaltepe**	**1.15**	**100**	P	**Pn**	**07 43 06.1**	**-0.6**
BLLM	**Bellamira**	**1.16**	**336**	*e*P	**Pn**	**07 43 06.4**	**-0.6**
CNRM	**Centro Naciona**	**1.17**	**339**	*e*S	**Sn**	**07 43 22.2**	**+0.3**
CNRM	**Centro Naciona**	**1.17**	**339**	P	**Pn**	**07 43 06.8**	**-0.3**
CNRM	**Centro Naciona**	**1.17**	**339**	S	**Sn**	**07 43 22.3**	**+0.3**
LCY	**Lacayo**	**1.17**	**333**	*e*P	**Pn**	**07 43 06.9**	**-0.3**
RANC	**El Ranchito**	**1.18**	**333**	P	**Pn**	**07 43 06.9**	**-0.4**
RANC	**El Ranchito**	**1.18**	**333**	S	**Sn**	**07 43 22.4**	**0.0**
MOMN	**Momotombo**	**1.18**	**88**	P	**Pn**	**07 43 06.7**	**-0.6**
MOMN				S	**Sn**	**07 43 22.0**	**-0.2**
PACA	**Pacayal**	**1.22**	**333**	P	**Pn**	**07 43 07.6**	**-0.3**
PACA	**Pacayal**	**1.22**	**333**	S	**Sn**	**07 43 24.2**	**+0.6**
CHOHN	**Orocuina**	**1.24**	**27**	P	**Pn**	**07 43 07.7**	**-0.5**
ALJI	**Alcalda de J**	**1.24**	**320**	P	**Pn**	**07 43 07.2**	**-0.8**
ALJI	**Alcalda de J**	**1.24**	**320**	S	**Sn**	**07 43 22.9**	**-0.8**
CAHU	**Cacacuatique**	**1.46**	**342**	*e*P	**Pn**	**07 43 10.9**	**-0.3**
TISN	**Laguna Tiscapa**	**1.46**	**99**	P	**Pn**	**07 43 09.7**	**-1.4**
UNAN	**Cigeo UNAN**	**1.47**	**100**	P	**Pn**	**07 43 11.0**	**-0.1**
UNAN				S	**Sn**	**07 43 29.1**	**-0.3**
PQSS	**Presa 15 de Se**	**1.47**	**328**	P	**Pn**	**07 43 11.3**	**+0.1**
PQSS	**Presa 15 de Se**	**1.47**	**328**	S	**Sn**	**07 43 29.8**	**+0.3**
R4DEC	**Barrio San Lui**	**1.48**	**99**	P	**Pn**	**07 43 11.0**	**-0.3**
R4DEC	**Barrio San Lui**	**1.48**	**99**	S	**Sn**	**07 43 29.5**	**-0.1**
MGAN	**Managua**	**1.48**	**99**	P	**Pn**	**07 43 11.0**	**-0.4**
MGAN	**Managua**	**1.48**	**99**	S	**Sn**	**07 43 29.5**	**-0.2**
TECO	**Alcaldia de Te**	**1.53**	**319**	P	**Pn**	**07 43 11.2**	**-0.9**
TECO	**Alcaldia de Te**	**1.53**	**319**	S	**Sn**	**07 43 29.5**	**-1.6**
UESV	**Universidad de**	**1.61**	**321**	P	**Pn**	**07 43 12.6**	**-0.6**
UESV	**Universidad de**	**1.61**	**321**	S	**Sn**	**07 43 32.8**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.63**	**324**	P	**Pn**	**07 43 13.2**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.63**	**324**	S	**Sn**	**07 43 34.0**	**+0.6**
NANN	**Nandasmo**	**1.65**	**105**	P	**Pn**	**07 43 14.2**	**+0.6**
NANN	**Nandasmo**	**1.65**	**105**	S	**Sn**	**07 43 34.5**	**+0.7**
COEG	**Centro de Oper**	**1.66**	**318**	*e*P	**Pn**	**07 43 13.0**	**-0.9**
COEG				*e*S	**Sn**	**07 43 32.8**	**-1.4**
COEG				IAML		07 43 36.8	
	comp=Z,236nm,0.3s						
COEG	**Centro de Oper**	**1.66**	**318**	P	**Pn**	**07 43 13.2**	**-0.7**
COEG	**Centro de Oper**	**1.66**	**318**	S	**Sn**	**07 43 33.4**	**-0.8**
LFRS	**El Faro**	**1.78**	**314**	*e*S	**Sn**	**07 43 35.9**	**-1.4**
MARCA	**Marcala la Paz**	**1.79**	**351**	*i* P	**Pn**	**07 43 15.8**	**0.0**
MARCA				*i* S	**Sn**	**07 43 38.4**	**+0.8**
YUSH	**Yuscaran**	**1.80**	**29**	P	**Pn**	**07 43 15.7**	**-0.1**
LOMA	**Loma Larga**	**1.88**	**312**	*e*P	**Pn**	**07 43 16.1**	**-0.8**
LOMA	**Loma Larga**	**1.88**	**312**	P	**Pn**	**07 43 16.2**	**-0.8**
LOMA	**Loma Larga**	**1.88**	**312**	S	**Sn**	**07 43 39.1**	**-0.5**
PMON	**Piamonte**	**2.02**	**311**	P	**Pn**	**07 43 18.3**	**-0.6**
JAYA	**Jayaque - finc**	**2.09**	**308**	*e*P	**Pn**	**07 43 19.8**	**-0.1**
JAYA	**Jayaque - finc**	**2.09**	**308**	*e*P	**Pn**	**07 43 19.1**	**-0.8**
JAYA	**Jayaque - finc**	**2.09**	**308**	P	**Pn**	**07 43 19.2**	**-0.7**
JAYA	**Jayaque - finc**	**2.09**	**308**	S	**Sn**	**07 43 43.9**	**-1.1**
STG0	**El Palmar, Qui**	**4.05**	**301**	*e*P	Pn	07 43 51.3	+4.5
STG0				*e*S	**Sn**	**07 44 39.6**	**+6.3**

*NEIC **16** 07:55:49.7±1.6, 37°.37N±0°.05×71°.90E±0°.09, h149km±4km, mb4.0/6, Error ellipse: s-maj=10.3km s-min=6.1km az=112.0*
*IDC **16** 07:55:50.0±7.7, 37°.43N×72°.14E, h143km±48km, mb3.3/7, mbtmp4.0/13, MS4.0/2, Error ellipse: s-maj=67.8km s-min=31.7km az=175.0*
*NNC **16** 07:55:53.8±3.0, 37°.69N×71°.93E, h173km±39km, mb3.4, mpv4.6, Error ellipse: s-maj=30.1km s-min=24.9km az=148.0*
ISC 16 07:55:48.4±0.6, 37°.33N±0°.05×72°.07E±0°.06, h150km, n68, σ0=00/79, mb3.7/8, 4C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**2.16**	**354**		**Pn**	**07 56 27.6**	**+1.9**
GAR	**Garm**	**2.17**	**321**		**Pn**	**07 56 25.8**	**+0.2**
GAR				Sn	**Sn**	**07 56 51.8**	**-2.5**
SIMJ	**Simiganj**	**2.76**	**300**		**Pn**	**07 56 32.6**	**-0.2**
BTK	**Batken**	**2.90**	**341**		**Pn**	**07 56 36.3**	**+1.7**
KBL	**Kabul**	**3.71**	**222**		**Pn**	**07 56 46.6**	**+1.5**
NIL	**Nilore**	**3.79**	**165**		**Pn**	**07 56 49.0**	**+3.0**
ARSB	**Arslanbob**	**4.06**	**10**		**Pn**	**07 56 50.5**	**+1.0**
AML	**Almayashu**	**4.96**	**14**	P	**Pn**	**07 57 03.0**	**+1.4**
	SNR=239						
UCH	**Uchtor**	**5.25**	**20**	P	**Pn**	**07 57 07.5**	**+2.1**
	SNR=11						
EKS2	**Erkin-Say**	**5.49**	**13**	P	**Pn**	**07 57 10.1**	**+1.8**
	SNR=39						
AAK	**Ala-Archa**	**5.62**	**19**		**Pn**	**07 57 12.0**	**+1.9**
AAK	**Ala-Archa**	**5.62**	**19**	P	**Pn**	**07 57 11.8**	**+1.7**
	57nm,0.3s,baz=182,slow=6.4,SNR=154						
AAK				S	**Sn**	**07 58 13.4**	**-0.6**
	44nm,0.3s,baz=357,slow=22,SNR=19						
AAK	**Ala-Archa**	**5.62**	**19**	P	**Pn**	**07 57 12.1**	**+1.9**
	SNR=81						
AAK	**Ala-Archa**	**5.62**	**19**	⇑P	**Pn**	**07 57 12.0**	**+1.9**
	33nm,0.3s						
AAK				⇓S	**Sn**	**07 58 14.2**	**+0.1**
	156nm,1.0s						
THN	**Thein Dam**	**5.73**	**147**	*e*P	**Pn**	**07 57 12.9**	**+1.5**
THN				*e*S	**Sn**	**07 58 15.1**	**-1.2**
THN				IAML		07 58 21.5	
	comp=E,118nm,0.2s						
THN				IAML		07 58 22.0	
	comp=N,185nm,0.4s						
KBK	**Karagaybulak**	**5.77**	**22**	P	**Pn**	**07 57 15.5**	**+3.4**
	SNR=14						
FRU1	**Bishkek**	**5.82**	**19**	Pn	**Pn**	**07 57 13.9**	**+1.2**
KK31	**Karatay Array**	**5.89**	**349**		**Pn**	**07 57 14.7**	**+1.0**
KK31	**Karatay Array**	**5.89**	**349**	⇓P	**Pn**	**07 57 14.5**	**+0.9**
	comp=N,59nm,0.3s,baz=178,slow=17,SNR=883						
KKAR	**Karatay Array**	**5.89**	**349**		**Pn**	**07 57 14.5**	**+0.9**
KKAR	**Karatay Array**	**5.89**	**349**		**Pn**	**07 57 14.4**	**+0.8**
BOOM	**Boomskoye usch**	**5.96**	**29**		**Pn**	**07 57 16.3**	**+1.7**
CHMS	**Chumysh**	**6.03**	**19**	P	**Pn**	**07 57 17.1**	**+1.6**
	SNR=30						
CHMS	**Chumysh**	**6.03**	**19**	⇓P	**Pn**	**07 57 17.0**	**+1.6**
	comp=N,61nm,0.8s						
CHMS				⇓S	**Sn**	**07 58 23.4**	**-0.2**
	comp=N,52nm,0.6s						
DHRM	**DHARAMSHALA**	**6.14**	**144**	*e*P	**Pn**	**07 57 18.2**	**+1.0**
DHRM				*e*S	**Sn**	**07 58 24.3**	**-2.4**
DHRM				IAML		07 58 27.1	
	comp=N,209nm,0.3s						
DHRM				IAML		07 58 29.3	
	comp=E,170nm,0.5s						
KDJ	**Kajisay**	**6.21**	**38**	Pn	**Pn**	**07 57 20.1**	**+2.2**
TKM2	**Tokmak 2**	**6.21**	**25**	P	**Pn**	**07 57 19.9**	**+1.9**
	SNR=21						
TKM2	**Tokmak 2**	**6.21**	**25**	⇓P	**Pn**	**07 57 19.6**	**+1.7**
	comp=E,14nm,0.7s						
TKM2				⇑S	**Sn**	**07 58 26.5**	**-1.6**
	comp=E,31nm,1.1s						
USP	**Ospenovka**	**6.22**	**17**	P	**Pn**	**07 57 19.3**	**+1.3**
	SNR=18						
TARG	**Taragay, Kyrgy**	**6.25**	**43**		**Pn**	**07 57 20.4**	**+1.8**
WUS	**Wushi**	**6.76**	**53**		**Pn**	**07 57 26.6**	**+1.3**
HNLY	**HANLEY**	**7.25**	**127**	*e*P	**Pn**	**07 57 32.7**	**+0.4**
HNLY				*e*S	**Sn**	**07 58 50.9**	**-2.8**
HNLY				IAML		07 58 54.1	
	comp=E,16nm,0.8s						
HNLY				IAML		07 58 55.7	
	comp=N,14nm,0.7s						
SMLA	**Simla**	**7.48**	**144**	*e*P	**Pn**	**07 57 35.1**	**+0.3**
SMLA				*e*S	**Sn**	**07 58 53.8**	**-4.7**
SMLA				IAML		07 58 59.6	
	comp=E,139nm,0.3s						
SMLA				IAML		07 59 02.0	
	comp=N,86nm,0.2s						
KLP	**Kalpa**	**7.71**	**137**	*e*P	**Pn**	**07 57 38.8**	**+0.6**
KLP				*e*S	**Sn**	**07 59 00.0**	**-4.4**
KLP				IAML		07 59 07.3	
	comp=E,97nm,0.2s						
KLP				IAML		07 59 10.4	
	comp=N,70nm,0.4s						
JOSI	**Joshimath**	**9.18**	**135**	*e*P	**Pn**	**07 57 58.7**	**+1.0**
JOSI				*e*S	**Sn**	**07 59 34.6**	**-5.0**
JOSI				IAML		07 59 38.4	
	comp=N,39nm,0.1s						
JOSI				IAML		07 59 38.5	
	comp=E,62nm,0.1s						
OTUK	**Ortayu**	**10.92**	**1**	⇑P	**Pn**	**07 58 19.6**	**-0.8**
	comp=E,3.3nm,0.5s						
MK31	**Makanchi Array**	**12.12**	**35**	P	**Pn**	**07 58 38.5**	**+2.3**
	comp=E,0.8nm,0.9s,baz=221,slow=13,SNR=4.7						
MKAR	**Makanchi Array**	**12.12**	**35**	Pn	**Pn**	**07 58 35.0**	**-1.2**
MKAR	**Makanchi Array**	**12.12**	**35**	P	**Pn**	**07 58 34.7**	**-1.5**
	comp=E,0.4nm,0.5s,baz=214,slow=15,SNR=4.9						
KURBB	**Kurchatov Arra**	**14.08**	**17**	P	**Pn**	**07 58 59.6**	**-1.4**
	comp=E,1.1nm,0.8s,baz=208,slow=12,SNR=6.2						
KURBB	**Kurchatov Arra**	**14.08**	**17**	⇓P	**P**	**07 59 05.0**	**+0.9**
	comp=E,3.5nm,0.6s						
KURK	**Kurchatov**	**14.18**	**17**	Pn	**Pn**	**07 59 02.4**	**0.0**
AB31	**Akbulak array**	**14.81**	**327**		**Pn**	**07 59 09.7**	**-0.5**
AB31	**Akbulak array**	**14.81**	**327**	⇑P	**P**	**07 59 10.9**	**-1.5**
	comp=E,3.5nm,0.3s,baz=165,slow=11,SNR=4.5						
AB31				S	**Sn**	**08 01 51.8**	**-2.9**
	comp=E,2.9nm,0.4s,baz=150,slow=23,SNR=7.0						
ABKAR	**Akbulak array**	**14.81**	**327**		**Pn**	**07 59 09.7**	**-0.5**
ABKAR	**Akbulak array**	**14.81**	**327**	Pn	**Pn**	**07 59 09.2**	**-1.0**
NRDN	**NARMADA NAGAR**	**15.21**	**162**	*e*P	**P**	**07 59 18.9**	**+2.0**
BVA0	**Borovoye Array**	**15.74**	**356**	P	**Pn**	**07 59 19.6**	**-2.1**
	comp=E,0.2nm,0.5s,baz=159,slow=12,SNR=

*NEIC **16** 08:15:34.5±1.8, 66°.29N±0°.02×157°.29W±0°.05, h5km±4km, Error ellipse: s-maj=3.3km s-min=2.4km az=61.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=3.62; $M_{\theta\theta}$=3.86; $M_{\phi\phi}$=-0.25; $M_{r\theta}$=0.36; $M_{\theta\phi}$=-2.86; $M_{\phi r}$=3.21; Fault plane solution: M_0=5.72000×10^{14} NP1: ϕ_s=146.74000°, δ=64.29000°, λ=-54.02000°. NP2: ϕ_s=267.60000°, δ=43.19000°, λ=-140.66000°. Principal axes: T 5.7150, Plg12.0000°, Azm212.0000°; N 0.0051, Plg32.0000°, Azm309.0000°; P -5.7201, Plg55.0000°, Azm104.0000°;*

*AEIC **16** 08:15:35.2±1.7, 66°.28N±0°.02×157°.35W±0°.05, h6km±1km, ML3.7, mb4.0/6(NEIC), ML3.9/160(NEIC), Mwr3.8/62(NEIC) Error ellipse: s-maj=3.2km s-min=2.4km az=59.0*

*NEIC **16** 08:15:35.2, 66°.28N×157°.35W, h6km*

*IDC **16** 08:15:37.5±0.8, 66°.64N×156°.96W, h0km, mb3.7/10, mbtmp3.7/13, ML3.6/4, MS4.0/1, Error ellipse: s-maj=20.4km s-min=13.1km az=42.0*

ISC 16 08:15:34.8±1.3, 66°.30N±0°.03×157°.26W±0°.03, h3km±9km, n128, σ1°37/116, mb3.9/13, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.17**	**156**	Pg	**Pg**	**08 15 38.5**	**+0.5**
G19K				IAML		08 15 41.7	
	comp=E,39μm,0.5s						
F19K	**Shaleruckin Mo**	**0.58**	**339**	Pg	**Pg**	**08 15 45.5**	**-0.3**
G18K	**Tagagawik**	**0.70**	**235**	Pg	**Pg**	**08 15 48.3**	**+0.1**
H19K	**Roundabout Mou**	**0.84**	**156**		**Pg**	**08 15 50.6**	**-0.3**
H19K					**Sg**	**08 16 01.8**	**+0.1**
H19K				IAML		08 16 06.3	
	comp=E,3μm,0.2s						
F18K	**Selawik**	**1.01**	**289**		**Pg**	**08 15 54.0**	**-0.1**
F18K					**Sb**	**08 16 07.5**	**-1.1**
E19K	**Redstone River**	**1.17**	**0**	Pg	**Pg**	**08 15 56.3**	**-0.8**
E19K				IAML		08 16 17.5	
	comp=E,2μm,0.8s						
E19K				IAML		08 16 20.0	
	comp=N,2μm,0.5s						
H18K	**Honhosa River**	**1.24**	**202**		**Pg**	**08 15 57.7**	**-0.8**
H18K					**Sg**	**08 16 13.2**	**-1.2**
H18K				IAML		08 16 17.9	
	comp=N,3μm,1.1s						
H20K	**Anotleneega Mo**	**1.27**	**129**		**Pn**	**08 15 58.5**	**-1.0**
H20K					**Sg**	**08 16 15.7**	**+0.3**
G21K	**Allakaket**	**1.52**	**80**	Pn	**Pn**	**08 16 01.4**	**-1.5**
GCSA	**Galena City Sc**	**1.57**	**174**		**Pn**	**08 16 03.4**	**0.0**
GCSA					**Sn**	**08 16 23.5**	**-0.8**
G17K	**Kiwalik Mounta**	**1.61**	**242**		**Pn**	**08 16 03.0**	**-1.1**
G17K					**Sn**	**08 16 24.3**	**-1.0**
F17K	**Baldwin Pennin**	**1.62**	**277**	Pn	**Pn**	**08 16 03.0**	**-1.1**
F17K				IAML		08 16 31.0	
	comp=N,1μm,0.9s						
E18K	**Tukpahlearik C**	**1.74**	**312**	Pn	**Pn**	**08 16 06.1**	**+0.2**
H17K	**Granite Mounta**	**1.75**	**220**		**Pn**	**08 16 05.1**	**-1.0**
H17K				IAML		08 16 36.7	
	comp=N,806nm,0.9s						
F21K	**Alatna River**	**1.76**	**56**	Pn	**Pn**	**08 16 05.6**	**-0.6**
F21K				IAML		08 16 33.0	
	comp=N,1μm,0.8s						
I20K	**Naaghedeneel**	**1.90**	**141**	Pn	**Pn**	**08 16 07.8**	**-0.2**
H21K	**Melozitna River**	**1.93**	**107**		**Pn**	**08 16 07.7**	**-0.9**
H21K				IAML		08 16 38.7	
	comp=N,1μm,0.5s						
E17K	**Hotham Inlet**	**1.98**	**296**		**Pn**	**08 16 08.8**	**-0.4**
D19K	**Kuna River**	**2.23**	**352**		**Pn**	**08 16 12.9**	**+0.2**
D19K				IAML		08 16 46.7	
	comp=E,595nm,0.8s						
D19K				IAML		08 16 55.0	
	comp=N,695nm,0.8s						
G16K	**Koyuk River**	**2.29**	**249**		**Pn**	**08 16 12.0**	**-1.4**
G16K				IAML		08 16 50.4	
	comp=N,613nm,0.8s						
J19K	**Poorman**	**2.41**	**163**		**Pn**	**08 16 14.8**	**-0.3**
J19K				IAML		08 16 55.3	
	comp=E,390nm,0.9s						
D20K	**Etivluk River**	**2.44**	**6**	Pn	**Pn**	**08 16 14.4**	**-1.2**
D20K				IAML		08 16 53.3	
	comp=N,367nm,0.9s						
D20K				IAML		08 16 54.0	
	comp=E,454nm,0.6s						
I21K	**Tanana**	**2.45**	**115**		**Pn**	**08 16 15.3**	**-0.3**
I21K				IAML		08 16 54.1	
	comp=N,854nm,0.7s						
I21K				IAML		08 16 59.4	
	comp=E,843nm,0.8s						
J20K	**Nowinta River**	**2.50**	**147**	Pn	**Pn**	**08 16 15.1**	**-1.2**
J20K				IAML		08 16 59.5	
	comp=E,436nm,1.1s						
E21K	**Killik River**	**2.50**	**29**	Pn	**Pn**	**08 16 15.5**	**-0.9**
E21K				IAML		08 16 59.2	
	comp=E,587nm,0.7s						
E21K				IAML		08 17 03.6	
	comp=N,505nm,0.7s						
H16K	**Elim**	**2.66**	**234**		**Pn**	**08 16 15.6**	**-3.0**
C18K	**Utukok River**	**2.81**	**329**	Pn	**Pn**	**08 16 19.1**	**-1.6**
E22K	**Anaktuvuk Pass**	**2.81**	**46**		**Pn**	**08 16 20.3**	**-0.3**
E22K				IAML		08 17 05.5	
	comp=N,302nm,0.9s						
E22K				IAML		08 17 10.5	
	comp=E,399nm,1.0s						
RDOG	**Red Dog Mine**	**2.82**	**311**		**Pn**	**08 16 18.2**	**-2.6**
I17K	**Unalakleet**	**2.82**	**213**	Pn	**Pn**	**08 16 20.1**	**-0.6**
I17K				IAML		08 17 09.0	
	comp=E,403nm,0.8s						
I17K				IAML		08 17 14.1	
	comp=N,417nm,1.0s						
G23K	**Bananza Creek**	**2.93**	**79**	Pn	**Pn**	**08 16 21.7**	**-0.6**
G23K				IAML		08 17 17.1	
	comp=E,378nm,0.7s						
J17K	**VABM Dome**	**3.02**	**196**		**Pn**	**08 16 22.2**	**-1.2**
F15K	**North Star Dit**	**3.08**	**262**		**Pn**	**08 16 22.7**	**-1.6**
F15K				IAML		08 17 16.7	
	comp=N,260nm,1.1s						
F15K				IAML		08 17 20.7	
	comp=E,237nm,0.9s						
D22K	**Ayikyak River**	**3.13**	**32**		**Pn**	**08 16 25.5**	**+0.5**
H23K	**Yukon River**	**3.18**	**95**		**Pn**	**08 16 25.9**	**+0.2**
K20K	**Telida**	**3.25**	**154**		**Pn**	**08 16 26.7**	**0.0**
J16K	**Anvik River**	**3.35**	**207**		**Pn**	**08 16 28.4**	**+0.5**
J16K				IAML		08 17 29.9	
	comp=E,318nm,0.8s						
J16K				IAML		08 17 31.5	
	comp=N,227nm,0.9s						
TTA	**Tatalina**	**3.42**	**170**	Pn	**Pn**	**08 16 28.0**	**-1.1**
BPAW	**Bear Paw Mtn.**	**3.44**	**127**		**Pn**	**08 16 28.9**	**-0.3**
BPAW				IAML		08 17 26.6	
	comp=E,194nm,1.4s						
BPAW				IAML		08 17 31.7	
	comp=N,271nm,1.1s						
I23K	**Minto, Yukon-K**	**3.46**	**106**		**Pn**	**08 16 29.6**	**+0.2**
E23K	**Chandalar**	**3.46**	**56**		**Pn**	**08 16 29.5**	**-0.2**
E23K				IAML		08 17 29.0	
	comp=N,371nm,0.8s						
B21K	**Ikpikpuk River**	**3.48**	**15**		**Pn**	**08 16 30.6**	**+0.7**
B21K				IAML		08 17 29.3	
	comp=N,316nm,1.2s						
K17K	**Iditarod**	**3.62**	**188**		**Pn**	**08 16 30.8**	**-1.0**
K17K				IAML		08 17 42.2	
	comp=E,181nm,1.1s						
K17K				IAML		08 17 42.2	
	comp=N,185nm,0.9s						
CAST	**Castle Rocks**	**3.64**	**140**		**Pn**	**08 16 32.0**	**0.0**
CAST				IAML		08 17 40.6	
	comp=N,135nm,0.9s						
D23K	**Nanushuk River**	**3.67**	**40**		**Pn**	**08 16 32.6**	**+0.1**
C16K	**Lisburne Hills**	**3.71**	**306**		**Pn**	**08 16 31.8**	**-1.1**
B20K	**Meade River**	**3.73**	**1**		**Pn**	**08 16 32.7**	**-0.5**
B20K				IAML		08 17 49.3	
	comp=N,202nm,1.1s						
B20K				IAML		08 18 10.1	
	comp=E,250nm,1.1s						
TOLK	**Toolik Lake Re**	**3.78**	**48**		**Pn**	**08 16 34.4**	**+0.5**
ANM	**Nome**	**3.81**	**247**	Pn	**Pn**	**08 16 33.2**	**-1.1**
NEA2	**Nenana**	**3.82**	**113**		**Pn**	**08 16 34.3**	**-0.2**
NEA2				IAML		08 17 39.0	
	comp=E,160nm,1.1s						
NEA2				IAML		08 17 43.3	
	comp=N,201nm,0.9s						
KTH	**Kantishna Hill**	**3.85**	**133**		**Pn**	**08 16 34.7**	**-0.3**
KTH				IAML		08 17 40.7	
	comp=E,147nm,1.2s						
KTH				IAML		08 17 43.4	
	comp=N,208nm,1.5s						
PPLA	**Purkeypile**	**4.05**	**145**	IAML		08 17 45.8	
	comp=E,109nm,0.9s						
PPLA				IAML		08 17 51.3	
	comp=N,166nm,1.1s						
L18K	**Granite Mounta**	**4.10**	**176**		**Pn**	**08 16 38.2**	**-0.1**
L18K				IAML		08 17 54.1	
	comp=N,114nm,1.1s						
L18K				IAML		08 17 55.1	
	comp=E,106nm,1.3s						
TRF	**Thorofare Moun**	**4.12**	**131**	IAML		08 17 48.7	
	comp=E,215nm,1.0s						
TRF				IAML		08 17 57.6	
	comp=N,199nm,1.3s						
POKR	**Poker Plat Res**	**4.23**	**102**		**Pn**	**08 16 39.8**	**-0.2**
POKR				IAML		08 17 51.4	
	comp=N,195nm,1.3s						
WRH	**Wood River Hil**	**4.25**	**111**	IAML		08 17 50.8	
	comp=E,142nm,0.8s						
WRH				IAML		08 17 56.7	
	comp=N,102nm,1.2s						
L19K	**White Mountain**	**4.26**	**165**		**Pn**	**08 16 38.9**	**-1.7**
L19K				IAML		08 17 60.0	
	comp=N,87nm,1.2s						
L19K				IAML		08 18 07.2	
	comp=E,86nm,1.1s						
CCB	**Clear Creek Bu**	**4.27**	**108**	IAML		08 17 52.9	
	comp=E,148nm,0.9s						
CCB				IAML		08 17 55.4	
	comp=N,101nm,1.0s						
B22K	**Teshekpuk Lake**	**4.30**	**18**	IAML		08 17 57.9	
	comp=E,185nm,1.4s						
B22K				IAML		08 18 08.7	
	comp=N,153nm,0.8s						
C23K	**Itkillik River**	**4.34**	**32**	IAML		08 18 18.1	
	comp=E,149nm,1.2s						
MCK	**McKinley**	**4.37**	**122**	IAML		08 18 10.4	
	comp=E,76nm,1.1s						
K15K	**Wolf Creek Mou**	**4.43**	**207**	IAML		08 18 09.4	
	comp=N,93nm,1.4s						
TNA	**Tin City**	**4.43**	**265**	Pn	**Pn**	**08 16 42.2**	**-0.6**
TNA				IAML		08 18 05.4	
	comp=E,103nm,1.3s						
TNA				IAML		08 18 05.5	
	comp=N,156nm,1.2s						
J14K	**Nanvaranak Lak**	**4.48**	**220**		**Pn**	**08 16 42.3**	**-1.2**
J14K				IAML		08 18 13.1	
	comp=E,149nm,1.2s						
J14K				IAML		08 18 18.1	
	comp=N,148nm,1.1s						
ILAR	**Eielson Array**	**4.58**	**105**	Pn	**Pn**	**08 16 44.0**	**-0.8**
	comp=N,7.1nm,0.3s,baz=295,slow=14,SNR=238						
ILAR				Sn	**Sn**	**08 17 38.9**	**+0.4**
	comp=N,4.3nm,0.3s,baz=293,slow=24,SNR=5.8						
ILAR				Lg	Lg	08 17 57.1	
	comp=N,4.6nm,0.3s,baz=283,slow=23,SNR=4.3						
M19K	**Big River Lodg**	**4.59**	**163**	IAML		08 18 19.2	
	comp=E,97nm,1.1s						
HDA	**Harding Lake**	**4.71**	**109**	IAML		08 18 11.5	
	comp=E,102nm,0.9s						
F25K	**Christian Rive**	**4.75**	**69**		**Pn**	**08 16 46.0**	**-1.2**
F25K				IAML		08 18 08.0	
	comp=N,141nm,0.8s						
F25K				IAML		08 18 10.2	
	comp=E,133nm,0.9s						
M20K	**Styx River**	**4.79**	**156**	IAML		08 18 12.9	
	comp=E,91nm,1.3s						
PRP	**Porcupine Dome**	**4.87**	**94**		**Pn**	**08 16 47.2**	**-1.8**
PRP				IAML		08 18 22.8	
	comp=N,128nm,0.7s						
E25K	**Arctic Village**	**4.90**	**63**	IAML		08 18 17.8	
	comp=E,122nm,1.0s						
M17K	**Holitna River**	**4.92**	**181**	IAML		08 18 33.5	
	comp=N,117nm,0.9s						
M17K				IAML		08 18 34.5	
	comp=E,108nm,1.1s						
CUT	**Chulitna**	**4.95**	**139**	IAML		08 18 20.1	
	comp=E,124nm,1.2s						
CUT				IAML		08 18 37.1	
	comp=N,120nm,1.1s						
SKT	**Skwentna**	**5.00**	**147**	IAML		08 18 31.0	
	comp=E,72nm,1.2s						
D25K	**Kavik River**	**5.12**	**49**	IAML		08 18 27.9	
	comp=E,93nm,1.2s						
J25K	**Salcha River,**	**5.24**	**103**	IAML		08 18 20.2	
	comp=E,92nm,0.5s						
F26K	**Sheenjek River**	**5.33**	**69**	IAML		08 18 36.5	
	comp=E,84nm,1.2s						
M16K	**Timber Creek**	**5.35**	**189**	IAML		08 18 32.6	
	comp=N,45nm,1.2s						
G26K	**Porcupine Rive**	**5.40**	**77**		**Pn**	**08 16 55.3**	**-0.9**
K13K	**Kusilvak Mount**	**5.45**	**220**	Pn	**Pn**	**08 16 53.6**	**-3.2**
K24K	**Donnelly Dome**	**5.46**	**112**		**Pn**	**08 16 55.4**	**-1.7**
L14K	**Kuka Creek**	**5.52**	**208**	Pn	**Pn**	**08 16 55.1**	**-2.7**
M22K	**Willow**	**5.53**	**142**		**Pn**	**08 16 55.2**	**-2.7**
N17K	**Nushagak Hills**	**5.79**	**180**		**Pn**	**08 17 01.2**	**-0.4**
SCRK	**Sand Creek**	**6.06**	**106**		**Pn**	**08 17 03.8**	**-1.5**
C27K	**Jago River**	**6.09**	**51**		**Pn**	**08 17 06.5**	**+0.9**
CAPN	**Captain Cook N**	**6.18**	**151**		**Pn**	**08 17 05.5**	**-1.3**
DOT	**Dot Lake**	**6.20**	**109**		**Pn**	**08 17 06.1**	**-1.0**
ILSW	**Iliamna Southw**	**6.61**	**162**		**Pn**	**08 17 10.4**	**-2.4**
N14K	**Kuskokwak Cree**	**6.70**	**199**	Pn	**Pn**	**08 17 12.3**	**-1.7**
MENT	**Mentasta**	**6.72**	**114**		**Pn**	**08 17 12.9**	**-1.4**
O16K	**Kokwok River B**	**6.74**	**184**		**Pn**	**08 17 13.1**	**-1.5**
BCAR	**Beaver Creek A**	**7.38**	**109**		**Pn**	**08 17 23.2**	**-0.1**
G30M	**tAoh Zraii Nji**	**8.38**	**76**		**Pn**	**08 17 36.7**	**-0.3**
KDAK	**Kodiak Island**	**8.82**	**163**	Pn	**Pn**	**08 17 45.6**	**+2.6**
	comp=N,0.7nm,0.3s,baz=230,slow=6.5,SNR=15						
	comp=N,3.1nm,0.4s						
M29M	**Somme Creek**	**9.00**	**107**		**Pn**	**08 17 44.8**	**-0.8**
G31M	**Satah River**	**9.15**	**76**	Pn	**Pn**	**08 17 46.4**	**-1.1**
F31M	**Tsiigehtchic**	**9.30**	**72**		**Pn**	**08 17 50.0**	**+0.5**
H31M	**Peel River**	**9.31**	**82**	Pn	**Pn**	**08 17 49.8**	**-0.1**
INK	**Inuvik**	**9.37**	**67**	Pn	**Pn**	**08 17 49.9**	**-0.5**
	comp=N,0.2nm,0.3s,baz=260,slow=22,SNR=24						
	comp=N,2.1nm,0.7s						
M30M	**Minto, Yukon**	**9.58**	**103**		**Pn**	**08 17 52.3**	**-1.1**
N30M	**Aishikik Lake**	**10.10**	**109**	Pn	**Pn**	**08 17 59.8**	**-0.8**
A36M	**Sachs Harbour**	**12.60**	**49**		**Pn**	**08 18 32.6**	**-2.0**
C36M	**Paulatuk**	**12.79**	**61**		**Pn**	**08 18 36.3**	**-0.9**
Q32M	**Nakina River**	**13.56**	**111**	Pn	**Pn**	**08 18 47.5**	**-0.5**
R33M	**Jennings River**	**13.76**	**108**	Pn	**Pn**	**08 18 50.1**	**-0.5**
WRGLY	**Wrigley**	**14.62**	**86**	Pn	**Pn**	**08 19 03.2**	**+1.0**
YKAW3	**Yellowknife Wh**	**18.50**	**82**	P	**P**	**08 19 49.5**	**-2.1**
YKAW3				IAmb	IAmb	08 19 57.8	
	comp=Z,7.4nm,1.1s						
YKA	**Yellowknife Ar**	**18.54**	**82**	P	**P**	**08 19 52.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=299,slow=10,SNR=16						
	comp=Z,1.4nm,0.8s						
YKAW1	**Yellowknife Wh**	**18.59**	**82**		**P**	**08 19 52.2**	**-0.5**
YKAW1				IAmb	IAmb	08 19 58.0	
	comp=Z,5.1nm,1.1s						
RES	**Resolute Bay**	**21.31**	**40**	P	**P**	**08 20 21.9**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=272,slow=16,SNR=7.2						
RES				S	**S**	**08 24 12.8**	**-6.4**
	comp=Z,0.6nm,0.5s,baz=192,slow=18,SNR=10						
	comp=Z,0.8nm,1.0s						
SEY	**Seymchan**	**21.36**	**285**	P	**P**	**08 20 26.1**	**+3.3**
	comp=Z,2.4nm,0.6s,baz=81,slow=9.8,SNR=9.7						
	comp=Z,2.4nm,0.6s						
EUNU	**Eureka**	**22.52**	**25**	P	**P**	**08 20 36.0**	**+0.8**
EUNU				IAmb	IAmb	08 20 47.4	
	comp=Z,7.2nm,1.4s						
BLKN	**Baker Lake**	**24.77**	**66**	P	**P**	**08 20 57.9**	**+0.7**
BLKN				IAmb	IAmb	08 21 01.4	
	comp=Z,4.3nm,0.8s						
ILON	**Igloolik, Nuna**	**26.96**	**49**	P	**P**	**08 21 17.5**	**+0.5**
ILON				IAmb	IAmb	08 21 21.1	
	comp=Z,4.3nm,0.7s						
NVAR	**Mina Array Bea**	**35.60**	**122**	P	**P**	**08 22 35.5**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=300,slow=6.2,SNR=3.5						
	comp=Z,0.6nm,0.8s						
TXAR	**Lajitas Array**	**49.06**	**112**	P	**P**	**08 24 22.6**	**-0.4**
SONM	**Songino Array**	**49.78**	**299**	P	**P**	**08 24 30.0**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=29,slow=3.3,SNR=3.4						
	comp=Z,0.4nm,0.5s						
JNU	**Nakatsue**	**52.91**	**269**	LR	LR	08 50 07.9	
	comp=Z,143nm,21.2s,baz=271,slow=39						
BVAR	**Borovoye Array**	**55.64**	**327**	P	**P**	**08 25 13.2**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=40,slow=7.8,SNR=4.4						
	comp=Z,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**55.92**	**321**	P	**P**	**08 25 15.6**	**+2.1**
	comp=Z,0.7nm,0.8s,baz=28,slow=7.3,SNR=2.1						
	comp=Z,0.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**57.12**	**17**	P	**P**	**08 25 22.8**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=8.8,slow=9.7,SNR=3.5						
	comp=Z,2.5nm,0.9s						
MKAR	**Makanchi Array**	**58.41**	**316**	P	**P**	**08 25 29.4**	**-1.8**
MKAR	**Makanchi Array**	**58.41**	**316**	P	**P**	**08 25 33.0**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=350,slow=6.2,SNR=4.2						
	comp=Z,0.2nm,0.5s						
AKTO	**Aktyubinsk**	**60.52**	**335**	P	**P**	**08 25 48.0**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=331,slow=5.4,SNR=3.5						
	comp=Z,0.4nm,0.3s						
ABKAR	**Akbulak array**	**61.31**	**333**	P	**P**	**08 25 51.4**	**+0.3**
KKAR	**Karatay Array**	**64.93**	**323**	P	**P**	**08 26 13.8**	**-1.4**
ESDC	**Sonseca Array**	**72.37**	**21**	P	**P**	**08 27 02.0**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=351,slow=6.9,SNR=7.8						
	comp=Z,1.2nm,0.8s						

DJA 16 08:16:10.1±1.0, 5°.N±9°.×12°.6E±°, h110km±6km, M4.1/8, mB4.8/2, mb4.1/5, MLv4.0/8, Mw(mB)4.0/2, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.52**	**215**	P	Pn	08 16 36.9	-0.3
SGSI				S	Sn	08 16 58.2	+0.5
KMSI	**Cibinong**	**4.96**	**209**	P	Pn	08 17 21.8	-0.7
SANI	**Sanana**	**6.96**	**183**	P	Pn	08 17 49.0	-0.5
SWI	**Sorong**	**7.54**	**140**	P	Pn	08 17 57.9	+0.6
	0.1nm8.4nm,0.4s						
NLAI	**Namlea**	**8.15**	**175**	P	Pn	08 18 06.0	+0.3

GCG 16 08:16:14.9±0.6, 13°.80N×90°.16W, h91km±21km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG8	**Yepocapa, Chim**	**0.60**	**319**	*eP*	Pn	08 16 35.2	+4.5
JAYA	**Jayaque - finc**	**0.71**	**102**	*i S*	Sn	08 16 44.5	+0.2
STG0	**El Palmar, Qui**	**1.30**	**298**	*eP*	Pn	08 16 42.9	+4.4

*IDC **16** 08:21:59.7±1.8, 4°.78N×126°.28E, h0km, mb3.7/5, mbtmp3.7/5, MS3.9/1, Error ellipse: s-maj=177.8km s-min=19.7km az=65.0*

*DJA **16** 08:22:04.3±0.9, 5°.N±4°.×12°.6E±°, h12km±7km, M4.3/10, mB5.2/2, mb4.3/6, MLv4.3/10, Mw(mB)4.6/2*

ISC 16 08:22:04.7±1.3, 4°.9N±0°.1×126°.4E±0°.1, h35km, n14, σ0°60/11, mb3.7/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.51**	**217**	P	**Pn**	**08 22 29.4**	**+0.1**
SGSI				S	**Sn**	**08 22 48.1**	**+0.3**
SANI	**Sanana**	**6.92**	**184**	P	**Pn**	**08 23 43.8**	**+0.1**
	0.1nm1μm12nm,0.8s						
LUWI	**Luwuk**	**6.95**	**212**	P	**Pn**	**08 23 44.3**	**+0.2**
NLAI	**Namlea**	**8.11**	**175**	P	**Pn**	**08 24 00.2**	**+0.1**
	0.1nm26nm,0.7s						
FAKI	**Fak Fak**	**9.69**	**143**	P	**Pn**	**08 24 22.8**	**+1.0**
TGY	**Tagaytay City**	**10.63**	**330**	LR	LR	08 28 47.9	
	comp=Z,567nm,19.5s,baz=18,slow=38						
WRA	**Warramunga Arr**	**25.88**	**163**	P	**P**	**08 27 32.6**	**-0.8**
	0.7nm,0.5s,baz=342,slow=10,SNR=15						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**29.31**	**166**	P	**P**	**08 28 03.3**	**-0.9**
	0.3nm,0.6s,baz=342,slow=7.1,SNR=9.6						
	0.3nm,0.6s						
STKA	**Stephens Creek**	**39.32**	**159**	P	**P**	**08 29 30.6**	**0.0**
	1.3nm,0.7s,baz=341,slow=11,SNR=5.2						
	1.3nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**42.03**	**66**	T	T	09 14 26.8	
	baz=258,slow=75,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**42.04**	**66**	T	T	09 14 28.2	
	baz=258						
H11N3	**WAKE ISLAND Hy**	**42.05**	**66**	T	T	09 14 28.8	
	baz=258,slow=75,SNR=4.5						
MKAR	**Makanchi Array**	**56.44**	**325**	P	**P**	**08 31 43.5**	**+0.5**
	0.3nm,0.4s,baz=120,slow=7.0,SNR=8.3						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**60.61**	**327**	P	**P**	**08 32 11.9**	**-0.1**
	0.4nm,0.5s,baz=127,slow=6.7,SNR=4.4						
	0.4nm,0.5s						

*IDC **16** 08:40:47.1±1.1, 10°.39N×68°.12W, h0km, mb3.7/3, mbtmp4.1/7, ML3.9/3, Error ellipse: s-maj=26.5km s-min=16.4km az=137.0*

*NEIC **16** 08:40:48.0±1.4, 10°.25N±0°.04×67°.94W±0°.06, h10km±2km, mb_Lg3.5/4, Error ellipse: s-maj=11.0km s-min=4.4km az=58.0*

*FUNV **16** 08:40:49.3, 10°.22N×68°.09W, h3km, MW3.9*

*RSNC **16** 08:40:51.9±0.4, 10°.N±4°.×6°.8W±°, h77km±28km, M3.9, mB5.0, mb4.6, ML3.4, Mw(mB)4.4*

ISC 16 08:40:49.9±1.2, 10°.27N±0°.04×68°.05W±0°.04, h30km±10km, n65, σ1°76/86, mb3.8/3, 2C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BENV	**Beln**	**0.54**	**124**	*eP*	**Pb**	**08 41 00.4**	**-0.7**
BENV				*eS*	**Sb**	**08 41 07.8**	**-0.8**
TACV	**Tcata**	**1.01**	**97**	*eP*	**Pb**	**08 41 08.9**	**-0.1**
TACV				*eS*	**Sb**	**08 41 23.9**	**+1.8**
TEPV	**Terepaima**	**1.17**	**255**	*eP*	**Pn**	**08 41 09.2**	**-1.0**
TEPV				*eS*	**Sn**	**08 41 24.8**	**-0.3**
FUNV	**FUNVISIS**	**1.24**	**81**	*eP*	**Pb**	**08 41 12.3**	**-0.5**
FUNV				*eS*	**Sb**	**08 41 30.5**	**+2.1**
BAUV	**El Baul**	**1.31**	**180**		**Pn**	**08 41 12.8**	**+0.6**
BAUV				Sn	**Sn**	**08 41 28.9**	**+0.1**
BAUV	**El Baul**	**1.31**	**180**	⇑*iP*	**Pn**	**08 41 12.8**	**+0.6**
BAUV				*eS*	**Sb**	**08 41 30.6**	**0.0**
SDV	**Santo Domingo**	**2.89**	**242**		**Pn**	**08 41 35.6**	**+1.4**
SDV				IAmb_Lg		08 42 22.3	
	comp=Z,265nm,0.9s						
SDV	**Santo Domingo**	**2.89**	**242**	Pn	**Pn**	**08 41 35.4**	**+1.2**
	comp=Z,11nm,0.3s,baz=58,slow=10,SNR=30						

PTGC				S		Sn	08 43 54.5 -1.1
	comp=Z,1μmcomp=Z,57nm,0.5s						
ZARC	Zaragoza, Caus	7.27	248	P		Pn	08 42 34.9 +0.7
	comp=Z,599nmcomp=Z,30nm,0.6s						
ZARC				S		Sn	08 43 54.3 -1.5
	comp=Z,599nmcomp=Z,30nm,0.6s						
PTBC	PUERTO BERRIO,	7.34	240	P		Pn	08 42 34.9 -0.3
PTBC				S		Sn	08 43 54.8 -2.7
CRPR	Cabo Rojo, PR	7.75	7	Pn		Pn	08 42 40.7 0.0
UREC	San Jos de Ur	7.80	252	P		Pn	08 42 44.2 +2.7
OBIP	Obispado Ponce	7.86	10			Pn	08 42 41.1 -1.0
IGPR	InterUniversit	7.88	14	Pn		Pn	08 42 41.5 -1.0
CELP	Cerrillos	7.89	10			Pn	08 42 42.4 -0.3
CHIC	Chingaza	7.94	226	P		Pn	08 42 44.9 +1.1
	comp=Z,37nm,0.5s						
PDPR	Patillas Dam,	7.95	14	Pn		Pn	08 42 43.0 -0.6
SJG	San Juan	8.01	13			Pn	08 42 43.9 -0.4
SJG	San Juan	8.01	13	Pn		Pn	08 42 43.7 -0.6
	comp=Z,5.2nm,0.3s,baz=189,slow=18,SNR=8.8						
SJG				Sn		Sn	08 44 06.0 -8.0
	comp=Z,14nm,0.3s,baz=359,slow=19,SNR=11						
	comp=Z,15nm,0.4s						
UUPR	Utuado, UPR, P	8.04	9			Pn	08 42 43.6 -1.1
UUPR				IAmb_Lg			08 45 16.5
	comp=Z,23nm,1.2s						
FDF	Fort de France	8.07	56	Pn		Pn	08 42 44.1 -1.0
AOPR	Arecibo Observ	8.13	9	Pn		Pn	08 42 47.7 +1.8
MPOM	Morne Pois Mar	8.16	59	Pn		Pn	08 42 45.1 -1.2
AGPR	Aguadilla, PR	8.20	6	Pn		Pn	08 42 46.9 -0.1
NORC	Norcasia	8.21	236	P		Pn	08 42 48.5 +1.3
	comp=Z,15nm,0.5s						
ROSC	El Rosal	8.23	230			Pn	08 42 50.6 +2.9
ROSC	El Rosal	8.23	230	Pn		Pn	08 42 50.6 +2.9
	comp=Z,11nm,0.3s,baz=50,slow=8.0,SNR=22						
	comp=Z,80nm,0.5s						
ROSC	El Rosal	8.23	230	P		Pn	08 42 50.7 +3.0
BANI	BANI	8.38	345	Pn		Pn	08 42 50.7 +1.2
GDHS	Morne Mazeau,	8.55	45	Pn		Pn	08 42 50.4 -1.3
DR12	Loma Pena Alta	8.57	352			Pn	08 42 52.7 +0.7
GUY2C	Guyana, Caldas	8.81	236	P		Pn	08 42 57.5 +1.8
	comp=Z,25nm,0.5s						
CBOC	Ciudad Bolivar	9.02	242	P		Pn	08 43 00.1 +1.8
	comp=Z,19nm,0.8s						
SDDR	Presa de Saban	9.21	340	Pn		Pn	08 43 02.9 +2.0
ANIL	Santa Ana	9.28	232	P		Pn	08 43 03.2 +1.2
PRAC	Prado	9.40	227	P		Pn	08 43 04.5 +1.0
BOAV	Boa Vista	10.82	136	Pn		Pn	08 43 21.5 -1.4
GARC	Garzon, Huila	10.91	223	P		Pn	08 43 25.2 +0.8
FLOC	Florencia	11.47	222			Pn	08 43 30.8 -1.0
PDAR	Pinedale Array	48.51	319	P		P	08 49 31.2 +0.9
	comp=Z,1.1nm,0.8s,baz=119,slow=7.5,SNR=9.7						
	comp=Z,1.1nm,0.8s						
PLCA	Paso Flores	50.80	182	P		P	08 49 49.1 +1.6
	comp=Z,1.1nm,0.9s,baz=15,slow=12,SNR=3.8						
	comp=Z,1.1nm,0.9s						
YKA	Yellowknife Ar	61.90	338	P		P	08 51 06.9 +0.6
	comp=Z,0.5nm,0.7s,baz=126,slow=6.4,SNR=9.9						
	comp=Z,0.5nm,0.7s						
CMAR	Chiang Mai Arr	148.70	24	PKPbc		PKiKP	09 00 36.5 -0.2
	comp=Z,1.6nm,0.7s,baz=316,slow=3.6,SNR=7.2						

*IDC **16** 08:51:39.8±1.3,26°.24N×129°.39E, h0km, mb3.5/4, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=27.8km s-min=17.4km az=65.0*
*JMA **16** 08:51:41.4±0.1,26°.2N±0°.6×129°.6E±0°.4, h44km, MV3.3/19, NEAR OKINAWAJIMA ISLAND*
ISC 16 08:51:38.7±1.6, 26°.22N±0°.05×129°.56E±0°.04, h2km±10km, n21, σ1§62/34, mb3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.27	309	P		Pg	08 52 03.4 +0.3
JYRO				S		Sg	08 52 19.5 -0.1
JOW	Kunigami	1.30	298	Pn		Pg	08 52 03.9 +0.2
	95nm,0.3s,baz=119,slow=24,SNR=129						
JOW				Sn		Sg	08 52 19.5 -1.0
	99nm,0.3s,baz=286,slow=29,SNR=17						
JOW	Kunigami	1.30	298	*i* P		Pg	08 52 03.9 +0.2
JOW				*e*S		Sg	08 52 19.7 -0.8
JNTH	Nagotoyohara	1.41	282	P		Pn	08 52 05.1 -0.3
JNTH				*e*S		Sg	08 52 22.5 -1.5
JOKE	Okinoerabujima	1.44	322	P		Pn	08 52 05.9 +0.1
JOKE				*e*S		Sg	08 52 23.7 -1.2
JMZ	Minamidaito 2	1.55	105	P		Pn	08 52 07.0 -0.3
JMZ				*e*S		Sn	08 52 25.0 -3.0
JKDJ	Kitadaitoujima	1.59	99	P		Pn	08 52 07.8 0.0
JKDJ				*e*S		Sn	08 52 26.3 -2.5
JJT3	Tamagusuku3	1.60	268	P		Pn	08 52 08.4 +0.4
JJT3				S		Sn	08 52 28.2 -1.0
JIH	Iheya	1.64	300	P		Pn	08 52 08.8 +0.3
JIH				*e*S		Sn	08 52 28.4 -1.8
JTK	Tokunoshima	1.65	341	P		Pn	08 52 09.2 +0.5
JTK				S		Sn	08 52 28.3 -2.1
JAMN	Amaminishikomi	2.04	350	P		Pn	08 52 14.7 +0.6
JAMN				S		Sn	08 52 37.3 -2.9
JAGN	Aguni-jima	2.11	280	P		Pn	08 52 15.5 +0.5
JAGN				S		Sn	08 52 39.6 -2.2
JZK	Kikaishima	2.12	10	*e*P		Pn	08 52 16.3 +1.2
JZK				S		Sn	08 52 41.7 -0.3
JAM	Amami Oshima	2.18	1	*e*P		Pn	08 52 16.6 +0.6
JAM				S		Sn	08 52 41.5 -2.1
JKE	Kume jima 2	2.49	273	P		Pn	08 52 19.8 -0.4
JKE				S		Sn	08 52 48.4 -2.9
JTAJ	Takarajima	2.94	354	*e*S		Sn	08 52 58.8 -3.4
JNU	Nakatsue	6.97	9	Pn		Pn	08 53 23.3 +1.4
	0.5nm,0.3s,baz=190,slow=8.1,SNR=6.8						
	2.1nm,0.4s						
KURBB	Kurchatov Arra	45.68	316	P		P	09 00 01.1 +0.2
	0.3nm,0.5s,baz=105,slow=8.7,SNR=2.3						
	0.3nm,0.5s						
WRA	Warramunga Arr	46.12	174	P		P	09 00 05.5 +0.9
	0.6nm,0.8s,baz=353,slow=8.4,SNR=4.6						
	0.6nm,0.8s						
ASAR	Alice Springs	49.77	175	P		P	09 00 34.8 +1.9
	0.2nm,0.6s,baz=3.8,slow=14,SNR=6.4						
	0.2nm,0.6s						
FINES	FINESS Array B	73.45	331	P		P	09 03 13.5 +1.2
	0.7nm,0.7s,baz=30,slow=12,SNR=1.5						
	0.7nm,0.7s						

KRSC 16 08:57:10.9±1.3, 48°.12N×157°.66E, h55km±60km, Ml3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	3.70	4	*e*S		Sn	08 58 52.1 +4.3
RUS	Russkaya	4.35	7	*e*P		Pn	08 58 18.3 +3.9
RUS				*e*S		Sn	08 59 07.6 +3.8
GRL	Gorelyy	4.45	3	*e*P		Pn	08 58 19.2 +3.4
AVH	Avacha	5.20	7	*e*P		Pn	08 58 30.6 +4.6
SDLR	Sedlovina	5.22	8	*e*P		Pn	08 58 29.8 +3.4

*IDC **16** 08:58:28.9±0.9,2°.32N×126°.75E, h0km, mb3.7/10, mbtmp3.7/10, Error ellipse: s-maj=56.8km s-min=15.2km az=70.0*
*DJA **16** 08:58:33.8±0.3,2°N±3°×12°7E±°, h10km, M3.9/11, mb4.0/4, MLv3.9/11*
ISC 16 08:58:35.9±0.8, 2°.35N±0°.10×126°.8E±0°.1, h53km, n15, σ0§83/15, mb3.7/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.67	161	P		Pn	08 59 01.9 -0.8
SGSI	Sangihe	1.84	316	P		Pn	08 59 05.1 -0.1
SWI	Sorong	5.47	126	P		Pn	08 59 55.5 +0.5
	0.1nm8.8nm,0.9s						
NLAI	Namlea	5.56	177	P		Pn	08 59 57.8 +1.6
	0.1nm30nm,0.7s						
FAKI	Fak Fak	7.55	134	P		Pn	09 00 23.9 +0.5
FITZ	Fitzroy Crossi	20.35	183	P		P	09 03 08.5 +0.4
	1.2nm,0.6s,baz=6.9,slow=12,SNR=1.8						
	1.2nm,0.6s						
WRA	Warramunga Arr	23.36	162	P		P	09 03 38.5 -1.4
	1.3nm,0.6s,baz=337,slow=11,SNR=18						
	1.3nm,0.6s						
ASAR	Alice Springs	26.77	165	P		P	09 04 10.4 -0.5
	0.3nm,0.5s,baz=346,slow=7.8,SNR=7.1						
	0.3nm,0.5s						
CMAR	Chiang Mai Arr	31.65	302	P		P	09 04 53.6 -0.8
	0.4nm,0.3s,baz=121,slow=6.8,SNR=4.2						
	0.4nm,0.3s						

STKA	Stephens Creek	36.82	159	P		P	09 05 38.6 -0.4
	1.0nm,0.6s,baz=315,slow=9.0,SNR=5.3						
	1.0nm,0.6s						
KLR	Kul'dur	46.89	4	P		P	09 07 01.8 +0.9
	0.9nm,0.6s,baz=173,slow=6.8,SNR=3.6						
	0.9nm,0.6s						
SONM	Songino Array	48.62	342	P		P	09 07 14.5 0.0
	0.4nm,0.6s,baz=145,slow=5.3,SNR=1.8						
	0.4nm,0.6s						
MKAR	Makanchi Array	58.73	326	P		P	09 08 28.4 0.0
	0.2nm,0.3s,baz=115,slow=7.8,SNR=5.0						
	0.2nm,0.3s						
ZALV	Zalesovo Beam	61.85	333	P		P	09 08 49.6 +0.1
	0.4nm,0.3s,baz=130,slow=4.3,SNR=1.9						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	62.94	328	P		P	09 08 57.2 +0.4
	0.6nm,0.5s,baz=128,slow=6.1,SNR=7.9						
	0.6nm,0.5s						

*IDC **16** 09:00:11.4±3.2,53°.70N×87°.92E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=30.1km s-min=19.5km az=48.0*
ASRS 16 09:00:09.0±1.1, 53°.66N×88°.02E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.92	280	I	I	09 13 29.6	
	baz=95,slow=340,SNR=2.3						
ZALV	Zalesovo Beam	1.92	280	Pn	Pb	09 00 44.7	-0.2
	0.7nm,0.3s,baz=99,slow=15,SNR=14						
ZALV				Lg	Lg	09 01 10.3	
	1.8nm,0.3s,baz=95,slow=22,SNR=11						
KURBB	Kurchatov Arra	6.58	246	Pn	Pn	09 01 49.0	+2.0
	baz=63,slow=14,SNR=4.5						
KURBB				Lg	Lg	09 03 37.4	
	baz=64,slow=31,SNR=4.2						
	0.5nm,0.4s						
MKAR	Makanchi Array	7.79	210	Pn	Pn	09 02 07.5	+3.9
	0.1nm,0.3s,baz=31,slow=14,SNR=2.0						
	0.1nm,0.3s						

IDC 16 09:04:14.9±3.6, 54°.27N×87°.48E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=32.0km s-min=20.1km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.60	260	I	I	09 14 50.0	
	baz=77,slow=330,SNR=1.5						
ZALV	Zalesovo Beam	1.60	260	Pg	Pn	09 04 42.8	-1.6
	2.3nm,0.3s,baz=81,slow=17,SNR=22						
ZALV				Lg	Lg	09 05 06.0	
	1.6nm,0.3s,baz=79,slow=32,SNR=7.7						
KURBB	Kurchatov Arra	6.58	240	Pn	Pn	09 05 53.3	+0.6
	0.1nm,0.3s,baz=54,slow=14,SNR=5.3						
	0.4nm,0.3s						
MKAR	Makanchi Array	8.18	206	Pn	Pn	09 06 16.2	+1.4
	0.1nm,0.3s,baz=27,slow=16,SNR=1.7						
	0.1nm,0.3s						

*UPP **16** 09:08:50.9±0.0, 61°.23N×17°.05E, h0km, ML1.9, Unknown*
*IDC **16** 09:08:50.8±0.9, 61°.15N×17°.10E, h0km, mbtmp3.0/2, ML1.6/3, Error ellipse: s-maj=16.1km s-min=6.0km az=159.0*
*HEL **16** 09:08:51.9±0.1, 61°.24N×17°.07E, h0km, ML1.5, Explosion*
ISC 16 09:08:50.1±0.8, 61°.20N±0°.02×17°.10E±0°.03, h0km, n23, σ0§68/35, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGGU	Iggoen	0.35	162	P		Pb	09 08 58.2 -0.8
IGGU				S		Sb	09 09 03.3 -1.8
ARNU	Arnoeviken	0.51	15	P		Pg	09 09 00.3 +0.6
ARNU				S		Sg	09 09 06.9 +0.5
ARNU	Arnoeviken	0.51	15	*e*P		Pg	09 09 00.4 +0.6
ARNU				*e*S		Sg	09 09 06.7 +0.3
HUDU	Hudiksvall	0.54	1	P		Pg	09 09 00.7 +0.4
HUDU				S		Sg	09 09 07.8 +0.5
ROTU	Roteberg	0.66	290	P		Pg	09 09 02.8 +0.1
ROTU				S		Sg	09 09 11.5 +0.4
FALU	Falun	0.94	222	P		Pg	09 09 08.7 +0.5
FALU				S		Sb	09 09 21.5 -0.8
FORU	Forsmark	0.97	147	P		Pb	09 09 09.7 0.0
FORU				S		Sb	09 09 23.6 +0.4
OSTU	Oestervaala	0.98	179	P		Pb	09 09 09.6 -0.2
HASU	Hassela	0.98	347	P		Pg	09 09 08.8 0.0
HASU				S		Sg	09 09 21.3 -0.3
GRAU	Graesoe	1.12	140	P		Pb	09 09 12.2 -0.1
FLYU	Flymyra	1.15	160	P		Pb	09 09 12.6 -0.1
FIBU	Brunna	1.31	174	P		Pn	09 09 15.7 +0.1
BACU	Backbrunna	1.35	180	P		Pb	09 09 16.5 +0.2
HEMU	Hemsoen	1.54	16	P		Pn	09 09 19.1 +0.3
HEMU	Hemsoen	1.54	16	*e*P		Pn	09 09 19.1 +0.3
HEMU				*e*S		Sn	09 09 38.4 -1.1
NRTU	Norrtaelje	1.71	153	P		Pg	09 09 22.7 0.0
NRTU	Norrtaelje	1.71	153	*e*P		Pg	09 09 22.8 0.0
NRTU				*e*S		Sg	09 09 44.9 +0.1
NRTU				MSG			09 09 47.8
	comp=Z,2.1nm,0.1s						
HFS	Hagfors	1.99	239	Pn		Pb	09 09 26.6 -0.5
	comp=Z,0.4nm,0.3s,baz=55,slow=16,SNR=10						
HFS				Lg		Lg	09 09 52.2
	comp=Z,1.5nm,0.3s,baz=55,slow=30,SNR=21						
RAF	Rauma	2.27	92	*e*PB		Pb	09 09 31.6 -0.3
RAF				*e*SB		Sb	09 10 01.1 +0.7
RAF				MSG			09 10 04.1
	comp=Z,2.4nm,0.1s						
KPF	Kankaanpaa	2.46	73	*e*P		Pb	09 09 34.0 -1.2
KPF				*e*SB		Sb	09 10 06.2 +0.2
KPF				MSG			09 10 10.3
	comp=Z,1.4nm,0.1s						
NOA	NORSAR Array B	2.86	269	Pn		Pn	09 09 38.0 +1.0
	baz=86,slow=15,SNR=5.0						
NOA				Lg	Lg	09 10 19.7	
	baz=100,slow=11,SNR=5.4						
FINES	FINESS Array B	4.33	83	Pn		Pn	09 09 58.7 +1.6
	comp=Z,0.1nm,0.3s,baz=268,slow=14,SNR=6.1						
FINES				Lg	Lg	09 11 05.1	
	comp=Z,0.5nm,0.3s,baz=274,slow=26,SNR=9.9						
	comp=Z,0.7nm,0.5s						
ARCES	ARCESS Array B	9.06	19	Pn		Pn	09 11 01.0 -0.9
	baz=202,slow=14,SNR=1.1						
	comp=Z,1.0nm,0.8s						

IDC 16 09:13:54.4±6.5, 19°.63S×176°.39W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=296.7km s-min=102.1km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.19	256	P	P	09 22 21.2	-0.2
	1.5nm,0.8s,baz=98,slow=7.6,SNR=13						
	1.5nm,0.8s						
WRA	Warramunga Arr	46.22	261	P	P	09 22 21.6	-0.1
	0.5nm,0.3s,baz=97,slow=7.3,SNR=21						
	0.5nm,0.3s						
AKASG	Malin Array Be	142.96	333	PKP	PKPdf	09 33 29.4	-0.5
	0.5nm,0.5s,baz=40,slow=4.2,SNR=7.5						

EST 16 09:14:51.6±0.1, 59°.42N×26°.51E, h0km, ML0.8(HEL), Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARBE	Arbavere	0.27	274	*e*P	Pg	09 14 56.2	-0.5
ARBE				*e*S	Sg	09 14 59.1	-1.1
EE03	Tooma soojaam,	0.56	192	*e*P	Pg	09 15 01.5	-0.8
EE03				*e*S	Sg	09 15 09.4	-0.1
EE02	Kiisa, Saku	0.96	257	*e*S	Sg	09 15 21.4	-0.9
EE08	Sarghaua, Vand	1.01	221	*e*S	Sg	09 15 22.4	-1.5
PVF	Pernaja	1.17	344	*e*SN	Sn	09 15 32.7	+0.8
VJF	Virojoki	1.24	25	*e*P	Pg	09 15 13.7	-1.7
VJF				*e*SB	Sg	09 15 30.1	-1.4
VJF				MSG		09 15 34.9	
	comp=Z,1.1nm,0.1s						
FIA0	FINESS Array S	2.04	354	*e*SG	Sb	09 15 54.7	-0.7
FIA0				MSG		09 15 56.0	
	comp=Z,0.3nm,0.1s						
FIA1	FINESS Array S	2.04	354	*e*SG	Sb	09 15 54.4	-1.0
FIA1				MSG		09 15 56.0	
	comp=Z,0.2nm,0.1s						

HEL 16 09:15:15.6±0.1, 64°.07N×24°.57E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUF	Merijarvi	0.31	13	PG	Pg	09 15 21.0	-0.5
OUF				SG	Sg	09 15 25.3	-0.3
OBF0	Syolatti, Pyha	0.46	342	PG	Pg	09 15 23.8	-0.5
OBF0				SG	Sg	09 15 30.1	-0.1
OBF0				MSG		09 15 30.7	
	comp=Z,5.5nm,0.2s						
OBF4	Vikkela, Lumij	0.79	17	PG	Pg	09 15 29.7	-0.9
OBF4				MSG		09 15 40.0	
	comp=Z,1.4nm,0.2s						
OBF4				SB	Sg	09 15 40.7	-0.1
OUL	Oulu	1.17	29	PG	Pg	09 15 36.9	-1.1
VAF	Ylistaro	1.33	220	PN	Pg	09 15 40.3	-0.8
VAF				MSG		09 15 55.8	
	comp=Z,1.4nm,0.2s						
VAF				SB	Sg	09 15 58.1	-0.3
BURU	Burvik	1.48	292	PN	Pn	09 15 43.1	-0.4
BURU				SN	Sb	09 16 03.4	+0.1
SUF	Sumiainen	1.53	152	PG	Pn	09 15 43.1	-1.0
SUF				MSG		09 16 01.5	
	comp=Z,0.8nm,0.2s						
NIF	Nilsia	1.59	114	PG	Pn	09 15 44.3	-0.7
	baz=297						
NIF				SN	Sn	09 16 05.0	-1.2
UMAU	Umeaa	1.73	266	PG	Pn	09 15 46.7	-0.1
UMAU				SN	Sn	09 16 09.2	-0.3
KALU	Kalix	1.87	345	PG	Pb	09 15 49.8	-0.8
KEF	Keuruu	1.91	176	MSG		09 16 12.6	
	comp=Z,1.6nm,0.2s						
KEF				SG	Sn	09 16 13.9	-0.2
TOF	Tornio	2.02	357	PG	Pn	09 15 52.0	+1.1
TOF				MSG		09 16 15.7	
	comp=Z,0.6nm,0.2s						
TOF				SG	Sb	09 16 17.9	-1.0
KAF	Kangasniemi	2.12	157	MSG		09 16 18.3	
	comp=Z,1.8nm,0.2s						
RANF	Ranua	2.17	25	PG	Pn	09 15 53.4	+0.5
	baz=203						
RANF				SG	Sn	09 16 21.7	+1.2
KU2	Taivalkoski	2.27	42	PB	Pn	09 15 54.8	+0.5
	baz=225						
KU2				SG	Sb	09 16 25.7	-0.4
RMF	Romuvaara	2.36	84	PG	Pn	09 15 56.8	+1.3
RMF				MSG		09 16 25.3	
	comp=Z,0.9nm,0.2s						
RMF				SG	Sb	09 16 27.6	-0.8
MSF	Maaselka	2.65	44	SG	Sb	09 16 35.6	-1.4
ERTU	Ertsjaerv	2.69	339	SG	Sb	09 16 38.5	+0.5
FIA0	FINESS Array S	2.72	165	SN	Sn	09 16 30.2	-3.9
FIA0				MSG		09 16 35.9	
	comp=Z,0.7nm,0.2s						
KU6	Riekki	2.99	47	PN	Pn	09 16 02.5	-1.7
KU6				MSG		09 16 43.4	
	comp=Z,0.7nm,0.2s						
RAJF	Raja-Jooseppi	4.68	17	SG	Sb	09 17 40.0	+4.8

HEL 16 09:15:46.6±0.1, 60°.34N×24°.97E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEL1	Helsinki	0.17	195	PG	Pg	09 15 49.5	-0.2
HEL1				SG	Sg	09 15 51.8	0.0
NUR	Nurmijarvi	0.23	318	PG	Pg	09 15 50.6	-0.5
NUR				SG	Sg	09 15 53.8	-0.3
MEF	Metsahovi	0.31	248	PG	Pg	09 15 52.1	-0.4
MEF				SG	Sg	09 15 56.5	0.0
PVF	Pernaja	0.49	64	PG	Pg	09 15 55.2	-0.7
PVF				SG	Sg	09 16 01.7	-0.6
PVF				MSG		09 16 02.4	
	comp=Z,3.4nm,0.2s						
FIA0	FINESS Array S	1.24	26	PN	Pn	09 16 11.3	+0.2
FIA0				MSG		09 16 23.9	
	comp=Z,1.7nm,0.2s						
VJF	Virojoki	1.30	80	PG	Pg	09 16 10.0	-1.5
VJF				MSG		09 16 25.8	
	comp=Z,1.6nm,0.2s						
VJF				SB	Sg	09 16 27.4	-0.9
RAF	Rauma	1.72	295	PG	Pn	09 16 17.8	0.0
RAF				MSG		09 16 37.9	
	comp=Z,1.1nm,0.2s						
RAF				SN	Sn	09 16 40.8	+0.4
MTSE	Matsula	1.73	200	SN	Sg	09 16 42.7	+0.6
KEF	Keuruu	1.84	359	PB	Pn	09 16 16.5	-2.9
KEF				MSG		09 16 41.3	
	comp=Z,0.8nm,0.2s						
KAF	Kangasniemi	1.90	19	PG	Pn	09 16 20.2	+0.1
KAF				MSG		09 16 43.1	
	comp=Z,0.5nm,0.2s						
KPF	Kankaanpaa	2.06	318	PG	Pb	09 16 23.7	-1.1
	baz=133						

*IDC **16** 09:18:55.5±0.7,26°.25N×129°.54E, h0km, mb3.9/21, mbtmp3.9/25, ML3.5/3, Error ellipse: s-maj=20.5km s-min=13.8km az=72.0*
*NEIC **16** 09:18:57.4±1.8,26°.13N±0°.07×129°.45E±0°.05, h10km±1km, mb4.6/89, Error ellipse: s-maj=12.7km s-min=5.6km az=204.0*
*JMA **16** 09:18:57.2±0.1,26°.2N±0°.6×129°.6E±0°.4, h44km, MV3.8/20, NEAR OKINAWAJIMA ISLAND*
ISC 16 09:18:56.4±3.9, 26°.19N±0°.04×129°.55E±0°.03, h10km±25km, n152, σ1§65/167, mb4.5/64, 3D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.28	311	*i* P		Pn	09 19 19.2 -1.2
JYRO				*e*S		Sb	09 19 35.4 -1.8
JOW	Kunigami	1.31	300			Pn	09 19 19.7 -1.0
JOW						Sg	09 19 35.8 -2.5
JOW	Kunigami	1.31	300	Pn		Pn	09 19 19.7 -1.0
	315nm,0.3s,baz=120,slow=19,SNR=150						
JOW				Sn		Sn	09 19 35.2 -3.0
	225nm,0.3s,baz=246,slow=28,SNR=20						
JOW				LR	LR	09 20 00.9	
	comp=Z,1μm,21.4s,baz=136,slow=51						
JOW	Kunigami	1.31	300	*i* P		Pn	09 19 19.7 -1.0
JOW				*e*S		Sn	09 19 36.2 -2.0
JNTH	Nagotoyohara	1.41	284	P		Pn	09 19 21.0 -1.1
JNTH				*e*S		Sn	09 19 37.4 -3.3
JOKE	Okinoerabujima	1.46	323	*i* P		Pn	09 19 21.8 -1.0
JMZ	Minamidaito 2	1.56	103	Pn		Pn	09 19 23.1 -1.0
JMZ	Minamidaito 2	1.56	103	*i* P		Pn	09 19 22.9 -1.3
JMZ				S		Sn	09 19 40.5 -3.9
JJT3	Tamagusuku3	1.58	269	P

SSLB	Suanglung	8.15	255	P		Pn	09 20 52.3	-2.6
TPUB	Ta-pu	8.60	252	Pn		Pn	09 20 59.5	-1.5
TPUB	Ta-pu	8.60	252	P		Pn	09 20 59.5	-1.5
KSRS	Korea Array	11.31	353	Pn		Pn	09 21 37.7	-0.4
	0.2nm,0.3s,baz=173,slow=13,SNR=5.1							
	1.3nm,0.8s							
MJAR	Matsushiro Arr	12.69	34	Pn		Pn	09 21 56.7	-0.3
	0.4nm,0.4s,baz=255,slow=12,SNR=1.4							
JMM	Marumori	15.04	37	Pn		Pn	09 22 30.6	+1.7
JMM				IAmb		IAmb	09 23 10.1	
	comp=Z,30nm,1.4s							
BJT	Baijiatuan	17.74	324			P	09 23 05.3	+1.0
USA0B	Ussuriysk Arra	18.08	6			P	09 23 10.3	+2.3
USRK	Ussuriysk Ar.	18.08	6			P	09 23 09.8	+1.8
USRK	Ussuriysk Ar.	18.08	6	P		P	09 23 08.7	+0.7
	comp=Z,0.1nm,0.3s,baz=174,slow=8.7,SNR=5.3							
	comp=Z,2.4nm,0.6s							
TOLI2	Tolitoli	26.32	200	P		P	09 24 30.3	-2.3
TOLI2				IAmb		IAmb	09 24 34.3	
	comp=Z,9.9nm,0.9s							
SONM	Songino Array	28.24	326	P		P	09 24 51.7	+2.0
	comp=Z,0.7nm,0.7s,baz=145,slow=9.3,SNR=4.4							
	comp=Z,0.7nm,0.7s							
FAKI	Fak Fak	29.05	174	P		P	09 24 56.8	-0.2
FAKI				IAmb		IAmb	09 25 25.4	
	comp=Z,15nm,1.3s							
CMAR	Chiang Mai Arr	29.28	261	P		P	09 25 01.1	+2.0
	comp=Z,0.4nm,0.6s,baz=79,slow=8.6,SNR=2.1							
	comp=Z,0.4nm,0.6s							
MTN	Manton Dam	38.83	178	P		P	09 26 21.7	0.0
KNRA	Kununurra	41.62	181	P		P	09 26 45.4	+0.6
KNRA				IAmb		IAmb	09 26 46.3	
	comp=Z,7.7nm,0.7s							
MKAR	Makanchi Array	42.44	312	P		P	09 26 50.3	-1.1
MKAR	Makanchi Array	42.44	312	P		P	09 26 51.1	-0.3
	comp=Z,0.5nm,0.6s,baz=100,slow=10,SNR=6.3							
	comp=Z,0.5nm,0.6s							
ZALV	Zalesovo Beam	43.00	322	P		P	09 26 55.6	-0.2
ZALV	Zalesovo Beam	43.00	322	P		P	09 26 56.2	+0.5
	comp=Z,0.4nm,0.4s,baz=91,slow=9.5,SNR=3.8							
	comp=Z,0.4nm,0.4s							
FITZ	Fitzroy Crossi	44.19	185	P		P	09 27 04.1	-1.5
KURBB	Kurchatov Arra	45.70	316	P		P	09 27 16.7	-0.7
	comp=Z,0.5nm,0.4s,baz=103,slow=8.6,SNR=5.0							
	comp=Z,0.5nm,0.4s							
WB0	Warramunga Arr	45.92	174	P		P	09 27 20.1	+0.6
WB0				IAmb		IAmb	09 27 31.9	
	comp=Z,5.9nm,0.9s							
WRAB	Tennant Creek	46.09	174	P		P	09 27 20.3	-0.4
WRAB				IAmb		IAmb	09 27 33.1	
	comp=Z,6.9nm,1.0s							
WRA	Warramunga Arr	46.09	174	P		P	09 27 19.4	-1.4
WRA	Warramunga Arr	46.09	174	P		P	09 27 21.4	+0.6
	comp=Z,1.6nm,0.5s,baz=353,slow=8.5,SNR=17							
	comp=Z,1.6nm,0.5s							
WR8	Warramunga Arr	46.12	174	P		P	09 27 21.9	+0.9
MBWA	Marble Bar	48.02	192	P		P	09 27 35.6	-0.3
PSA00	Pilbara Seismi	48.40	192	P		P	09 27 37.6	-1.2
PSA00				IAmb		IAmb	09 27 50.7	
	comp=Z,4.8nm,0.8s							
NRIK	Noril'sk	49.65	342	P		P	09 27 47.2	-0.7
NRIK				IAmb		IAmb	09 27 59.1	
	comp=Z,4.0nm,0.8s							
NRIK	Noril'sk	49.65	342	P		P	09 27 48.6	+0.7
	comp=Z,1.9nm,0.3s,baz=150,slow=22,SNR=14							
	comp=Z,1.9nm,0.3s							
AS31	Alice Springs	49.74	175	P		P	09 27 49.3	+0.3
ASAR	Alice Springs	49.74	175	P		P	09 27 50.2	+1.1
	comp=Z,1.3nm,0.7s,baz=4.2,slow=14,SNR=28							
	comp=Z,1.3nm,0.7s							
KK31	Karatay Array	50.40	305	P		P	09 27 52.9	-1.1
BVAR	Borovoye Array	51.09	318	P		P	09 27 59.2	+0.2
	comp=Z,1.5nm,0.6s,baz=73,slow=11,SNR=5.0							
	comp=Z,1.5nm,0.6s							
BRVK	Borovoye	51.16	318	P		P	09 27 59.1	-0.4
FORT	Forrest	56.66	182	P		P	09 28 41.2	+1.4
AB31	Akbulak array	57.53	313	P		P	09 28 45.5	-0.5
ABKAR	Akbulak array	57.53	313	P		P	09 28 46.6	+0.6
F17K	Baldwin Pennin	57.98	26	P		P	09 28 49.2	+0.4
F17K				IAmb		IAmb	09 29 29.4	
	comp=Z,7.5nm,1.1s							
ARTI	Arti	58.25	322	P		P	09 28 51.3	+0.4
	comp=Z,1.1nm,0.5s,baz=172,slow=6.7,SNR=3.4							
	comp=Z,1.1nm,0.5s							
C18K	Utukok River	58.33	24	P		P	09 28 52.2	+0.8
E18K	Tukpahlearik C	58.37	25	P		P	09 28 51.8	+0.3
E18K				IAmb		IAmb	09 29 08.4	
	comp=Z,8.4nm,1.4s							
J17K	VABM Dome	58.59	30	P		P	09 28 53.1	0.0
CHGN	Chignik	58.74	38	P		P	09 28 53.8	-0.5
STKA	Stephens Creek	58.88	168	P		P	09 28 57.0	+1.6
	comp=Z,0.7nm,0.4s,baz=85,slow=22,SNR=4.0							
	comp=Z,0.7nm,0.4s							
BBOO	Buckleboo	59.00	174	P		P	09 28 56.6	+0.3
D19K	Kuna River	59.43	24	P		P	09 29 00.6	+1.6
D19K				IAmb		IAmb	09 29 36.9	
	comp=Z,8.2nm,1.4s							
B20K	Meade River	59.93	22	P		P	09 29 04.2	+1.9
B20K				IAmb		IAmb	09 29 04.6	
	comp=Z,2.9nm,0.8s							
D20K	Etivluk River	60.00	24			P	09 29 04.5	+1.6
D20K				IAmb		IAmb	09 29 04.8	
	comp=Z,3.5nm,0.8s							
J19K	Poorman	60.16	29	P		P	09 29 05.5	+1.6
J19K				IAmb		IAmb	09 29 09.5	
	comp=Z,7.3nm,1.4s							
M19K	Big River Lodg	60.72	32	P		P	09 29 09.8	+1.9
B21K	Ikpikpuk River	60.78	23	P		P	09 29 09.9	+1.8
B21K				IAmb		IAmb	09 29 10.7	
	comp=Z,3.9nm,0.8s							
J20K	Nowinta River	60.81	29	P		P	09 29 10.1	+1.7
F21K	Alatna River	61.11	26	P		P	09 29 11.5	+1.1
F21K				IAmb		IAmb	09 29 40.5	
	comp=Z,6.7nm,1.5s							
B22K	Teshekpuk Lake	61.23	22	P		P	09 29 12.7	+1.5
B22K				IAmb		IAmb	09 29 24.8	
	comp=Z,6.6nm,1.3s							
M20K	Styx River	61.32	32	P		P	09 29 12.6	+0.6
M20K				IAmb		IAmb	09 29 53.3	
	comp=Z,7.3nm,1.4s							
H21K	Melozitna Rive	61.37	27	P		P	09 29 14.0	+1.7
D22K	Ayikyak River	61.44	24	P		P	09 29 14.0	+1.3
D22K				IAmb		IAmb	09 29 26.6	
	comp=Z,5.3nm,1.1s							
PPLA	Purkeypile	61.71	31	P		P	09 29 15.2	+0.4
I21K	Tanana	61.72	28	P		P	09 29 14.9	+0.3
I21K				IAmb		IAmb	09 29 42.0	
	comp=Z,5.6nm,1.2s							
CAST	Castle Rocks	61.74	30	P		P	09 29 16.1	+1.4
CAST				IAmb		IAmb	09 29 17.1	
	comp=Z,3.5nm,0.9s							
E22K	Anaktuvuk Pass	61.75	25			P	09 29 16.1	+1.3
E22K				IAmb		IAmb	09 29 17.1	
	comp=Z,3.1nm,0.8s							
SKT	Skwentna	62.07	32	P		P	09 29 17.3	+0.3
SKT				IAmb		IAmb	09 29 23.3	
	comp=Z,7.5nm,1.3s							
D23K	Nanushuk River	62.16	24			P	09 29 19.4	+1.9
D23K				IAmb		IAmb	09 29 41.0	
	comp=Z,8.3nm,1.4s							
SUA	Susitna One	62.48	32	P		P	09 29 20.4	+0.5
TOLK	Toolik Lake Re	62.57	24	P		P	09 29 22.2	+1.9
TOLK				IAmb		IAmb	09 29 35.0	
	comp=Z,3.8nm,1.2s							
H23K	Yukon River	62.71	27	P		P	09 29 23.6	+2.3
H23K				IAmb		IAmb	09 29 24.2	
	comp=Z,3.1nm,0.8s							
D24K	Happy Valley	62.83	23	P		P	09 29 24.0	+2.1
C24K	Franklin Bluff	62.85	23	P		P	09 29 23.9	+1.8
NEA2	Nenana	62.99	29	P		P	09 29 24.8	+1.6
NEA2				IAmb		IAmb	09 29 25.7	
	comp=Z,7.5nm,1.3s							
E24K	Your Creek	63.00	25	P		P	09 29 25.2	+2.0
MCK	McKinley	63.12	30	P		P	09 29 25.1	+1.1
RND	Reindeer	63.19	30			P	09 29 25.3	+0.8
F24K	Squaw Lake	63.26	25			P	09 29 26.9	+2.0
F24K				IAmb		IAmb	09 29 27.5	
	comp=Z,3.7nm,0.8s							
H24K	Noodor Dome	63.40	27	P		P	09 29 28.0	+2.1
H24K				IAmb		IAmb	09 29 47.5	
	comp=Z,5.3nm,1.4s							
G24K	Hadweenzic Riv	63.49	26	P		P	09 29 28.7	+2.4
CCB	Clear Creek Bu	63.53	28	P		P	09 29 27.0	+0.3
D25K	Kavik River	63.69	23	P		P	09 29 29.4	+1.6
ILAR	Eielson Array	63.91	28	P		P	09 29 29.1	-0.1

comp=Z,0.6nm,0.7s,baz=266,slow=5.3,SNR=7.1
comp=Z,0.6nm,0.7s

F25K	Christian Rive	64.11	25	P		P	09 29 33.2	+2.6
PRP	Porcupine Dome	64.40	27	P		P	09 29 34.2	+1.6
PRP				IAmb		IAmb	09 29 46.9	
	comp=Z,4.2nm,1.3s							
BMAR	Burnt Mountain	64.54	25	P		P	09 29 35.5	+2.2
M24K	Tolsona, Glenn	64.56	31	P		P	09 29 34.6	+1.0
C27K	Jago River	64.59	23	P		P	09 29 35.6	+2.0
F26K	Sheenjek River	64.67	25			P	09 29 36.6	+2.5
F26K				IAmb		IAmb	09 29 37.3	
	comp=Z,3.4nm,0.9s							
RIDG	Independent Ri	64.93	29	P		P	09 29 37.2	+1.3
SCRK	Sand Creek	65.27	29	P		P	09 29 38.9	+0.7
DOT	Dot Lake	65.29	29	P		P	09 29 39.1	+0.9
DOT				IAmb		IAmb	09 29 39.4	
	comp=Z,3.2nm,0.8s							
J26L	Joseph Creek	65.37	28			P	09 29 38.9	+0.1
J26L				IAmb		IAmb	09 29 39.7	
	comp=Z,2.9nm,0.8s							
I26K	Coal Creek Min	65.41	27	P		P	09 29 40.0	+1.0
I26K				IAmb		IAmb	09 29 41.4	
	comp=Z,5.2nm,1.3s							
E27K	Coleen River	65.55	24	P		P	09 29 41.8	+2.0
E27K				IAmb		IAmb	09 30 14.7	
	comp=Z,6.4nm,1.4s							
D27M	Malcolm River	65.61	23	P		P	09 29 42.3	+2.1
D27M				IAmb		IAmb	09 30 02.3	
	comp=Z,6.1nm,1.5s							
HMT	Hamilton	65.77	33	P		P	09 29 43.3	+1.9
H27K	Steamboat Moun	65.92	26	P		P	09 29 42.4	+0.1
H27K				IAmb		IAmb	09 30 18.6	
	comp=Z,4.6nm,1.4s							
M26K	Nabesna, AK	65.98	31	P		P	09 29 44.2	+1.5
M26K				IAmb		IAmb	09 29 44.9	
	comp=Z,3.0nm,0.8s							
VRDI	Verde Repeater	65.99	32	P		P	09 29 43.6	+0.6
BCAR	Beaver Creek A	66.40	30	P		P	09 29 46.5	+1.1
G29M	Pine Creek	67.15	25	P		P	09 29 52.1	+2.0
G29M				IAmb		IAmb	09 30 34.6	
	comp=Z,8.2nm,1.4s							
H29M	Whitestone	67.17	26	P		P	09 29 51.6	+1.3
H29M				IAmb		IAmb	09 30 00.5	
	comp=Z,5.8nm,1.2s							
EPYK	Eagle Plains	67.78	26	P		P	09 29 55.6	+1.4
G30M	tAoh Zraii Nji	67.82	25	P		P	09 29 55.6	+1.2
G30M				IAmb		IAmb	09 30 38.4	
	comp=Z,6.4nm,1.3s							
F30M	Barrier River	67.82	24	P		P	09 29 56.4	+2.0
M29M	Somme Creek	68.03	30	P		P	09 29 58.3	+2.4
M29M				IAmb		IAmb	09 30 40.7	
	comp=Z,7.1nm,1.5s							
I30M	Mount Dempster	68.21	27	P		P	09 29 58.6	+1.7
G31M	Satah River	68.58	25	P		P	09 29 59.6	+0.6
H31M	Peel River	68.87	26	P		P	09 30 02.1	+1.2
M31M	Drury Creek, Y	69.93	30	P		P	09 30 09.2	+1.6
KBZ	Khabaz	70.09	310	P		P	09 30 09.3	+0.5
	comp=Z,2.3nm,0.8s,baz=134,slow=3.8,SNR=4.2							
	comp=Z,2.3nm,0.8s							
FARO	Faro, Yukon	70.38	30	P		P	09 30 12.3	+2.0
FARO				IAmb		IAmb	09 30 12.6	
	comp=Z,3.4nm,0.8s							
FINES	FINESS Array B	73.48	331	P		P	09 30 29.3	+0.5
	comp=Z,2.6nm,0.7s,baz=58,slow=5.6,SNR=10							
	comp=Z,2.6nm,0.7s							
AKASG	Malin Array Be	76.33	320	P		P	09 30 45.4	-0.1
	comp=Z,0.6nm,0.5s,baz=63,slow=6.3,SNR=5.3							
	comp=Z,0.6nm,0.5s							
BRTR	Keskin Array B	77.99	308	P		P	09 30 56.1	+0.8
	comp=Z,0.8nm,0.7s,baz=91,slow=5.3,SNR=5.9							
	comp=Z,0.8nm,0.7s							
YKA	Yellowknife Ar	78.06	25	P		P	09 30 55.6	+0.5
	comp=Z,0.3nm,0.7s,baz=298,slow=5.0,SNR=5.3							
	comp=Z,0.3nm,0.7s							
HFS	Hagfors	79.40	333	P		P	09 31 01.9	-0.6
	comp=Z,1.2nm,0.7s,baz=34,slow=11,SNR=2.6							
	comp=Z,1.2nm,0.7s							
NB2	NORSAR Subarra	79.87	334	P		P	09 31 04.8	-0.3
	comp=Z,0.8nm,0.6s,baz=52,slow=5.6							
NOA	NORSAR Array B	79.87	334	P		P	09 31 05.1	0.0
	comp=Z,0.9nm,0.7s,baz=50,slow=5.4,SNR=9.6							
	comp=Z,0.9nm,0.7s							
ILON	Igloolik, Nuna	82.03	11	P		P	09 31 16.3	0.0
ILON				IAmb		IAmb	09 31 37.1	
	comp=Z,3.7nm,0.9s							
J05D	Fort Rock, OR	85.19	44	P		P	09 31 35.6	+2.3
J05D				IAmb		IAmb	09 31 48.6	
	comp=Z,5.4nm,1.0s							
GERES	GERESS Array B	85.94	323	P		P	09 31 37.7	+0.8
	comp=Z,0.4nm,0.3s,baz=24,slow=3.6,SNR=4.1							
	comp=Z,0.4nm,0.3s							
MEM	Membach	88.74	328	dP		P	09 31 46.5	-3.7
BMRD	Maredsous	89.53	328	dP		P	09 31 52.1	-1.9
NVAR	Mina Array Bea	89.68	47	P		P	09 31 55.8	+0.6
	comp=Z,0.3nm,0.6s,baz=292,slow=5.9,SNR=3.7							
	comp=Z,0.3nm,0.6s							
DOU	Dourbes	89.75	328	dP		P	09 31 52.6	-2.4
PV13	Radium Mtn., P	95.82	42	P		P	09 32 25.9	+2.3

JMA 16 09:19:07.7±0.1, 26°N±1°×129°6E±0°7, h50km, MV3.8/13, NEAR MINAMI-DAITOJIMA IS, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.31	309	eP	Pn	09 19 29.8	+0.2
JOW	Kunigami	1.34	299	eP	Pn	09 19 30.7	+0.7
JNTH	Nagotoyohara	1.44	283	eP	Pn	09 19 31.7	+0.3
JOKE	Okinoerabujima	1.48	322	P	Pn	09 19 32.6	+0.7
JMZ	Minamidaito 2	1.52	104	eP	Pn	09 19 33.0	+0.5
JJT3	Tamagusuku3	1.62	269	P	Pn	09 19 34.8	+0.9
JIH	Iheya	1.67	300	eP	Pn	09 19 35.0	+0.4
JTK	Tokunoshima	1.68	340	eP	Pn	09 19 35.6	+0.9
JAGN	Aguni-jima	2.14	281	P	Pn	09 19 42.1	+1.2
JKE	Kume jima 2	2.52	274	P	Pn	09 19 46.4	+0.3

IDC 16 09:20:26.1±7.4, 18°79S×176°17W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=321.4km s-min=38.3km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.56	260	P	P	09 28 55.7	-0.3
	0.8nm,0.4s,baz=97,slow=7.4,SNR=18						
	0.8nm,0.4s						
ASAR	Alice Springs	46.60	255	P	P	09 28 56.4	+0.1
	1.0nm,0.5s,baz=91,slow=7.6,SNR=14						
	1.0nm,0.5s						
ILAR	Eielson Array	86.28	12	P	P	09 33 09.3	0.0
	0.2nm,0.5s,baz=206,slow=5.3,SNR=4.9						
	0.2nm,0.5s						

*IDC **16** 09:22:29.2±0.4, 30°77S×178°93W, h0km, mb4.5/16, mbtmp4.5/21, ML4.0/4, MS5.3/51, Error ellipse: s-maj=17.4km s-min=14.6km az=99.0*

*BJI **16** 09:22:31.3, 31°31S×179°21W, h7km, mB5.7/21, mb5.2/25, Ms5.6/37, Ms7 5.4/36*

*NEIC **16** 09:22:32.3±2.0, 31°17S±0°05×179°1W±0°1, h10km±1km, mb5.3/148, Ms_20 5.6/622, Mwb5.7/25, Mww5.7/31, Error ellipse: s-maj=17.7km s-min=7.2km az=110.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.29; $M_{\theta\theta}$-1.22; $M_{\phi\phi}$-0.07; $M_{r\theta}$1.42; $M_{\theta\phi}$3.23; $M_{\phi r}$0.62; Fault plane solution: $M_0$3.79000×10^{17} NP1: ϕ_s350.77000°, δ61.48000°, λ161.08000°. NP2: ϕ_s90.06000°, δ73.45000°, λ29.88000°. Principal axes: T 3.5192, Plg33.0000°, Azm313.0000°; N 0.5010, Plg56.0000°, Azm116.0000°; P -4.0201, Plg8.0000°, Azm218.0000°;*

*MOS **16** 09:22:32.0±2.1, 31°11S×179°23W, h10km, mb5.5/24, MS5.4/6 Error ellipse: s-maj=11.6km s-min=9.7km az=91.7*

*NEIC **16** 09:22:33.4, 31°10S×179°00W, h12km, Moment Tensor Solution. Duration: 38.7 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.19; $M_{\theta\theta}$-0.46; $M_{\phi\phi}$1.65; $M_{r\theta}$-0.97; $M_{\theta\phi}$3.78; $M_{\phi r}$0.05; Fault plane solution: $M_0$4.09000×10^{17} NP1: ϕ_s173.30000°, δ72.84000°, λ-170.37000°. NP2: ϕ_s80.43000°, δ80.80000°, λ-17.39000°. Principal axes: T 4.5767, Plg5.0000°, Azm128.0000°; N -0.9703, Plg70.0000°, Azm233.0000°; P -3.6064, Plg19.0000°, Azm36.0000°;*

*NEIC **16** 09:22:33.7, 31°24S×179°19W, h10km*

*NEIC **16** 09:22:33.4, 31°20S×179°15W, h12km*

*GCMT **16** 09:22:34.3±0.1, 30°83S±0°01×178°94W±0°01, h13km, MW5.8/151, Moment Tensor Solution. s134,c257; s151,c322; Duration: 18.8 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.37±.04; $M_{\theta\theta}$-1.38±.05; $M_{\phi\phi}$1.74±.05; $M_{r\theta}$0.99±.13; $M_{\theta\phi}$4.91±.05; $M_{\phi r}$0.02±.11; Best double couple: $M_0$5.25000×10^{17} NP1:ϕ_s351.00000°, δ79.00000°, λ-178.00000°. NP2:ϕ_s261.00000°, δ88.00000°, λ-11.00000°. Principal axes: T 5.3960, Plg6.0000°, Azm307.0000°; N -0.2990, Plg79.0000°, Azm69.0000°; P -5.1040, Plg10.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 09:22:33.7±0.3, 31°07S±0°04×178°89W±0°04, h10km, n709, σ2.9 30/358, mb5.3/130, MS5.6/300, 15C-13D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.98	25	S	Sn	09 23 22.6	-10
GLKZ	Green Lake	1.98	25	P	Pn	09 22 58.9	-8.4
RIZ	Raoul Island	2.00	25	S	Sn	09 23 23.9	-8.7
RIZ	Raoul Island	2.00	25	P	Pn	09 22 59.3	-8.2
MXZ	Matakaoa Point	6.88	199		Pn	09 24 09.2	-5.4
MXZ	Matakaoa Point	6.88	199	P	Pn	09 24 12.5	-2.1
GRZ	Great Barrier	6.99	221	P	Pn	09 24 16.3	+0.1
WMGZ	Waiomatatini S	7.09	198	P	Pn	09 24 16.9	-0.7
WMGZ				S	Sn	09 25 42.0	+3.8
WIZ	White Island	7.21	206	P	Pn	09 24 19.6	+0.4
HAZ	Te Kaha	7.22	201	P	Pn	09 24 17.5	-1.7
KUZ	Kuaotunu	7.22	217	P	Pn	09 24 19.9	+0.7
PKGZ	Pakihiroa	7.23	199	P	Pn	09 24 17.9	-1.5
PKGZ				S	Sn	09 25 45.1	+3.5
PUZ	Puketiti	7.37	198	P	Pn	09 24 19.4	-2.0
PUZ				S	Sn	09 25 47.6	+2.5
RUGZ	Raukumara Rang	7.44	201	P	Pn	09 24 22.2	-0.2
WCZ	Waipu Caves	7.45	227	P	Pn	09 24 22.3	-0.1
OUZ	Omahuta	7.54	235	P	Pn	09 24 22.9	-0.7
TWGZ	Tauwhareparae	7.55	199	P	Pn	09 24 21.1	-2.7
TWGZ				S	Sn	09 25 52.7	+3.3
WIAZ	Waiheke Island	7.57	219	P	Pn	09 24 27.3	+3.3
WHRZ	Whale Island	7.58	206	P	Pn	09 24 27.7	+3.5
WHRZ				S	Sn	09 25 57.4	+7.1
ABAZ	Army Bay	7.59	222	P	Pn	09 24 27.2	+2.7
MBAZ	Motutapu North	7.68	221	P	Pn	09 24 29.2	+3.6
TGRZ	Tauranga	7.76	210	P	Pn	09 24 31.0	+4.3
CNGZ	Carnagh Statio	7.78	197	P	Pn	09 24 25.3	-1.6
CNGZ				S	Sn	09 25 58.1	+3.2
MKAZ	Moumakai	7.78	218	P	Pn	09 24 27.7	+0.7
ETAZ	East Tamaki Re	7.79	219	P	Pn	09 24 29.7	+2.6
MWZ	Matawai	7.83	201	P	Pn	09 24 24.9	-2.7
MWZ				S	Sn	09 25 59.6	+3.3
TKGZ	Te Karaka	7.83	199	P	Pn	09 24 26.8	-0.8
TKGZ				S	Sn	09 25 57.7	+1.4
RVAZ	Riverhead Bore	7.86	222	P	Pn	09 24 31.4	+3.4
URZ	Urewera	7.89	204	Pn	Pn	09 24 28.7	+0.2
	9.1nm,0.3s,baz=57,slow=4.8,SNR=40						
	23nm,0.3s						
URZ	Urewera	7.89	204	P	Pn	09 24 26.6	-1.9
URZ				S	Sn	09 26 00.6	+2.8
WTAZ	Waiatarua	7.98	221	P	Pn	09 24 33.4	+3.8
RAGZ	Rawiri	8.01	201	P	Pn	09 24 31.2	+1.0
RAGZ				S	Sn	09 26 05.2	+4.4
KARZ	Kaharoa	8.01	209	P	Pn	09 24 34.2	+4.1
AWAZ	Awhitu Peninsu	8.03	220	P	Pn	09 24 32.0	+1.6
OMRZ	Omania	8.03	208	P	Pn	09 24 34.7	+4.2
TARZ	Mount Tarawera	8.09	207	P	Pn	09 24 33.7	+2.3
RIGZ	Rimuhau	8.10	199	P	Pn	09 24 29.5	-1.9
RIGZ				S	Sn	09 26 06.0	+3.0
TOZ	Tahuroa Road	8.10	213		Pn	09 24 26.2	-5.2
TOZ	Tahuroa Road	8.10	213	P	Pn	09 24 31.8	+0.5
HLRZ	Highlands Stat	8.17	207	P	Pn	09 24 34.2	+1.9
RRRZ	Republican Roa	8.18	206	P	Pn	09 24 36.6	+4.1
MUGZ	Murupara	8.21	205	P	Pn	09 24 32.2	-0.6
MUGZ				S	Sn	09 26 10.7	+5.0
RTZ	Ruatahuna	8.26	203	P	Pn	09 24 33.5	-0.1
RTZ				S	Sn	09 26 09.5	+2.5
PRGZ	Paritu Road	8.27	198	P	Pn	09 24 26.9	-4.9
PRGZ				S	Sn	09 26 05.4	-1.8
SNGZ	Shannon Statio	8.29	201	P	Pn	09 24 35.6	+1.6
SNGZ				S	Sn	09 26 09.0	+1.2
HRRZ	Handcock Road	8.31	207	P	Pn	09 24 34.9	+0.6
PRRZ	Plateau Road	8.37	206	P	Pn	09 24 32.1	-2.9
KNZ	Kokohu	8.42	199	P	Pn	09 24 34.4	-1.3
KNZ				S	Sn	09 26 07.8	-3.0
ALRZ	Allen Road	8.44	206	P	Pn	09 24 33.4	-2.7
WPRZ	Whakapapatarin	8.47	207	P	Pn	09 24 40.1	+3.6
MHGZ	Mahia Peninsul	8.48	197	P	Pn	09 24 34.6	-2.0
MHGZ				S	Sn	09 26 11.2	-1.2
RAHZ	Arahi	8.50	202	P	Pn	09 24 36.6	-0.2
RAHZ				S	Sn

FUTU Fugatoga 16.70 3 Pn 09 26 28.1 +0.3
AFI Afiamalu 18.29 23 P **P 09 26 53.1 +5.3**
AFI pmax pmax
comp=Z,44nm,1.3s
RAR Rarotonga 19.75 65 P **P 09 27 01.6 -2.1**
comp=Z,1.6nm,0.3s,baz=134,slow=2.4,SNR=6.0
RAR LR LR 09 32 52.4
comp=Z,6μm,20.8s,baz=240,slow=32
comp=Z,12nm,0.8s
ARMA Armidale 25.31 264 P P 09 27 56.0 -4.7
ARMA IAmb IAmb 09 28 09.7
comp=Z,130nm,1.8s
ARMA Armidale 25.31 264 P **P 09 28 04.9 +4.2**
CNB Canberra Magne 26.84 252 P **P 09 28 18.6 +4.2**
EIDS Eidsvold 27.01 275 P P 09 28 10.6 -5.4
EIDS IAMs_20 IAMs_20 09 36 58.5
comp=Z,17μm,18.0s
EIDS Eidsvold 27.01 275 P **P 09 28 19.8 +3.8**
CAN Canberra 27.14 252 P P 09 28 11.8 -5.3
CAN Canberra 27.14 252 P **P 09 28 14.1 -3.0**
CAN pmax pmax
comp=Z,58nm,1.4s
TBI Tubuai 27.22 81 *e*P **P 09 28 18.9 +1.0**
comp=Z,1μm,23.5s
TBI *e*S **S 09 32 57.4 +0.4**
comp=Z,160μm,26.0s
TBI *e*LR LR 09 35 06.9
comp=Z,34μm,25.5s
TBI *e*LR LR 09 35 09.4
comp=Z,8μm,24.5s
HNR Honiara 29.17 313 LR LR 09 38 25.2
comp=Z,7μm,20.1s,baz=156,slow=33
PPT2 Papeete2 29.79 70 *e*PKIKP **P 09 28 45.3 +4.4**
comp=Z,307nm,23.0s
PPT2 *e*S **S 09 33 42.2 +4.7**
comp=Z,23μm,24.8s
PPT2 *e*LR LR 09 36 23.7
comp=Z,3μm,20.8s
PPT2 *e*LR LR 09 36 23.8
comp=Z,3μm,25.8s
PPT Papeete 29.80 70 LR LR 09 38 54.5
comp=Z,3μm,18.0s,baz=247,slow=33
TOO Toolangi 30.00 248 P P 09 28 38.2 -4.4
TOO Toolangi 30.00 248 P **P 09 28 43.1 +0.6**
comp=Z,8.5nm,1.0s
TOO Toolangi 30.00 248 P P 09 28 38.2 -4.3
TOO pmax pmax
comp=Z,34nm,1.6s
CMSA Cobar Meteorol 30.18 260 P **P 09 28 44.5 +0.2**
comp=Z,24nm,1.4s
QLP Quilpie 32.51 268 P **P 09 29 08.2 +3.4**
STKA Stephens Creek 33.58 258 P P 09 29 10.2 -3.8
STKA Stephens Creek 33.58 258 P **P 09 29 12.7 -1.4**
STKA Stephens Creek 33.58 258 P **P 09 29 12.5 -1.6**
comp=Z,11nm,0.9s,baz=100,slow=9.9,SNR=17
STKA LR LR 09 42 58.9
comp=Z,7μm,18.2s,baz=90,slow=37
comp=Z,11nm,0.9s
STKA Stephens Creek 33.58 258‖ *e*P **P 09 29 13.4 -0.7**
MGBR Mount Gambier 33.90 248 P P 09 29 13.4 -3.4
MTSU Mount Surprise 35.67 282 P **P 09 29 31.6 -0.7**
comp=Z,20nm,1.5s
BBOO Buckleboo 38.05 255 P P 09 29 49.9 -2.5
BBOO IAmb IAmb 09 30 10.2
comp=Z,72nm,1.2s
BBOO Buckleboo 38.05 255 P **P 09 29 50.1 -2.3**
PMG Port Moresby 38.21 297 P P 09 29 51.2 -2.7
PMG IAmb IAmb 09 30 14.5
comp=Z,78nm,1.5s
PMG Port Moresby 38.21 297 LR LR 09 44 00.8
comp=Z,5μm,18.7s,baz=128,slow=34
PMG Port Moresby 38.21 297 P P 09 29 51.2 -2.7
PMG pmax pmax
comp=Z,78nm,1.5s
QIS Mount Isa 38.60 276 P **P 09 29 59.3 +2.1**
COEN Coen 38.72 287 P P 09 29 54.9 -3.3
COEN IAmb IAmb 09 30 22.4
comp=Z,95nm,1.9s
COEN Coen 38.72 287 P **P 09 30 01.0 +2.8**
RKT Rikitea 39.69 90 *e*P **P 09 30 05.3 -0.9**
comp=Z,644nm,25.5s
RKT *e*S **S 09 36 11.6 +1.8**
comp=Z,2μm,25.8s
RKT *e*SS **SS 09 39 08.0 +2.8**
comp=Z,32μm,23.5s
RKT *e*LR LR 09 40 55.5
comp=Z,38μm,26.0s
TAOE Nuku Hiva Isla 42.28 67 *e*PKIKP **P 09 30 28.8 +1.1**
comp=Z,160nm,24.9s
TAOE *e*S **S 09 36 52.6 +3.9**
comp=Z,550nm,25.5s
TAOE *e*SS **SS 09 40 02.0 +4.9**
comp=Z,16μm,26.9s
TAOE *e*LR LR 09 42 10.8
comp=Z,4μm,21.7s
AS31 Alice Springs 42.31 268 P 09 30 24.1 -3.8
AS31 Alice Springs 42.31 268 P P 09 30 24.8 -3.1
ASAR Alice Springs 42.31 268 P P 09 30 24.9 -3.0
ASAR Alice Springs 42.31 268 P P 09 30 25.0 -2.9
comp=Z,6.2nm,0.8s,baz=108,slow=7.9,SNR=20
comp=Z,6.2nm,0.8s
MANU Manus Island 43.00 306 P P 09 30 30.6 -2.9
WR0 Warramunga Arr 43.18 273 P P 09 30 31.2 -3.7
WR0 IAmb IAmb 09 30 45.8
comp=Z,90nm,1.3s
WR8 Warramunga Arr 43.22 273 P P 09 30 32.1 -3.2
WR8 IAmb IAmb 09 30 46.1
comp=Z,116nm,1.4s
WB2 Warramunga Arr 43.35 273 P P 09 30 33.6 -2.8
WRAB Tennant Creek 43.35 273 P 09 30 33.3 -3.1
WRAB IAmb IAmb 09 30 47.1
comp=Z,128nm,1.4s
WRAB Tennant Creek 43.35 273 *d i*P P 09 30 33.9 -2.5
WRAB pmax pmax
comp=Z,109nm,1.4s
WRA Warramunga Arr 43.36 273 P 09 30 32.9 -3.5
WRA Warramunga Arr 43.36 273 P P 09 30 33.2 -3.2
comp=Z,8.3nm,0.7s,baz=113,slow=7.4,SNR=25
WRA S **S 09 37 08.2 +3.8**
comp=Z,1.2nm,1.1s,baz=111,slow=16,SNR=5.2
WRA LR LR 09 47 59.8
comp=Z,9μm,18.5s,baz=110,slow=35
comp=Z,8.3nm,0.7s
WB0 Warramunga Arr 43.39 274 P P 09 30 32.9 -3.7
PATS Pohnpei 43.55 326 IAMs_20 IAMs_20 09 44 40.4
comp=Z,8μm,20.0s
FORT Forrest 45.13 256 P 09 30 47.6 -2.9
FORT Forrest 45.13 256 P P 09 30 47.3 -3.2
WRKA Warakurna 46.64 264 P P 09 30 58.3 -4.2
SBA Scott Base 47.32 184 **P 09 31 05.1 -1.9**
SBA Scott Base 47.32 184 P **P 09 31 05.1 -1.9**
SBA pmax pmax
comp=Z,116nm,1.3s
VNDA Vanda 47.36 186 **P 09 31 05.3 -2.0**
VNDA IAmb IAmb 09 31 28.0
comp=Z,30nm,1.4s
VNDA Vanda 47.36 186 P **P 09 31 07.3 0.0**
comp=Z,1.9nm,0.7s,baz=358,slow=6.1,SNR=8.2
comp=Z,1.9nm,0.7s
JAY Jayapura 47.53 299 LR LR 09 49 13.4
comp=Z,2μm,21.4s,baz=136,slow=34
JAY Jayapura 47.53 299 P P 09 31 05.3 -4.2
comp=Z,886nmcomp=Z,36nm,1.0s
GENI Genyem 47.88 298 P **P 09 31 10.9 -1.3**
KDU Kakadu 48.28 281 P **P 09 31 19.6 +4.4**
MTN Manton Dam 49.33 280 P 09 31 20.0 -3.4
MTN Manton Dam 49.33 280 P P 09 31 19.8 -3.6
comp=Z,27nm,1.0s
KNRA Kununurra 49.99 275 P 09 31 25.7 -2.7
KNRA IAmb IAmb 09 31 40.9
comp=Z,60nm,1.2s
KNRA IAMs_20 IAMs_20 09 51 09.2
comp=Z,6μm,20.0s
KNRA Kununurra 49.99 275 P P 09 31 23.9 -4.5
KMBL Kambalda 50.09 253 P **P 09 31 31.2 +2.2**
FITZ Fitzroy Crossi 51.59 271 P P 09 31 37.7 -2.7
FITZ Fitzroy Crossi 51.59 271 LR LR 09 52 31.1
comp=Z,8μm,18.7s,baz=118,slow=35
BAKI Biak 51.88 296 P **P 09 31 41.9 -0.8**
comp=Z,2μmcomp=Z,64nm,1.3s
KMPI Kaimana, Papua 52.25 292 P P 09 31 42.2 -3.2
NWAO Narrogin (SRO) 53.44 250 IAMs_20 IAMs_20 09 53 56.5
comp=Z,6μm,18.0s
FAKI Fak Fak 53.85 291 P P 09 31 54.5 -2.8
FAKI Fak Fak 53.85 291 P P 09 31 53.7 -3.5
comp=Z,903nmcomp=Z,33nm,1.8s

CASY Casey 54.19 208 IAMs_20 IAMs_20 09 52 41.5
comp=Z,5μm,19.0s
PSA00 Pilbara Seismi 55.13 264 P P 09 32 03.3 -3.1
PSA00 IAmb IAmb 09 32 19.5
comp=Z,42nm,1.6s
HMH Humu'ula Sheep 55.17 27 P **P 09 32 04.7 -2.3**
MBWA Marble Bar 55.39 265 P 09 32 05.4 -3.0
MBWA Marble Bar 55.39 265 P P 09 32 04.9 -3.5
GUMO Guam 56.42 316 IAMs_20 IAMs_20 09 52 02.2
comp=Z,5μm,22.0s
GUMO Guam 56.42 316 LR LR 09 52 34.7
comp=Z,4μm,21.5s,baz=101,slow=32
SOEI Soe 56.69 279 P **P 09 32 15.8 -2.1**
comp=Z,2μmcomp=Z,55nm,1.2s
MMRI Maumere 58.98 279 IAMs_20 IAMs_20 09 59 32.8
comp=Z,4μm,18.0s
MMRI Maumere 58.98 279 P P 09 32 29.0 -4.8
comp=Z,72nm,1.2s
QSPA South Pole Qui 59.05 180 P **P 09 32 32.6 -1.1**
QSPA South Pole Qui 59.05 180 IAMs_20 IAMs_20 09 55 47.3
comp=Z,4μm,19.0s
QSPA South Pole Qui 59.05 180 P **P 09 32 33.0 -0.7**
comp=Z,28nm,1.1s,baz=8.5,slow=0.8,SNR=38
QSPA LR LR 09 55 39.4
comp=Z,3μm,19.4s,baz=44,slow=34
comp=Z,28nm,1.1s
EDFI Ende, Flores 59.39 279 P P 09 32 33.6 -3.2
comp=Z,695nmcomp=Z,20nm,1.0s
SANI Sanana 59.42 288 P P 09 32 32.5 -4.4
comp=Z,1μmcomp=Z,39nm,1.6s
PLAI Plampang 62.68 276 P P 09 32 53.1 -5.9
comp=Z,1μmcomp=Z,62nm,1.4s
KAPI Kappang 62.97 281 IAMs_20 IAMs_20 10 01 44.8
comp=Z,5μm,18.0s
KAPI Kappang 62.97 281 LR LR 09 59 46.8
comp=Z,3μm,19.7s,baz=114,slow=36
KAPI Kappang 62.97 281‖ *e*P **P 09 32 58.7 -2.3**
KAPI pmax pmax
comp=Z,41nm,1.6s
BNSI Bone 63.00 282 P P 09 32 58.6 -2.5
comp=Z,29nm,1.2s
SPSI Sidrap Palu 63.52 282 P P 09 32 59.2 -5.4
comp=Z,14nm,1.2s
DAV Davao City (W) 65.21 296 LR LR 10 01 30.3
comp=Z,1μm,19.8s,baz=144,slow=36
SRBI Singaraja 65.24 276 P **P 09 33 14.7 -1.2**
comp=Z,63nm,1.9s
TOLI2 Tolitoli 65.49 287 P P 09 33 14.7 -2.7
MPSI Mapaga 65.78 286 P P 09 33 14.4 -4.9
comp=Z,1μmcomp=Z,13nm,1.4s
JAGI Jajag, Banyuwa 65.96 275 IAMs_20 IAMs_20 10 01 33.1
comp=Z,4μm,19.0s
JAGI Jajag, Banyuwa 65.96 275 P P 09 33 16.1 -4.4
comp=Z,62nm,1.6s
GMJI Gumukmas 66.66 274 P P 09 33 22.1 -2.9
comp=Z,44nm,1.0s
KMMI Kalianget 66.83 276 P P 09 33 23.6 -2.5
comp=Z,2μmcomp=Z,73nm,2.1s
PCJI Pacitan 68.64 273 P P 09 33 33.9 -3.6
JCJ Chichijima 68.74 323 LR LR 09 58 19.6
comp=Z,2μm,21.6s,baz=130,slow=31
BELA Belgrano 2 69.23 172 **P 09 33 38.3 -1.9**
MAW Mawson 71.42 201 P P 09 33 51.1 -2.6
MAW Mawson 71.42 201 P P 09 33 51.1 -2.6
comp=Z,2.5nm,0.8s,baz=152,slow=4.8,SNR=4.3
MAW LR LR 10 02 44.0
comp=Z,3μm,21.7s,baz=112,slow=34
comp=Z,2.5nm,0.8s
PMSA Palmer Station 71.97 156 IAMs_20 IAMs_20 10 02 07.4
comp=Z,3μm,19.0s
PMSA Palmer Station 71.97 156 LR LR 10 02 55.4
comp=Z,2μm,18.0s,baz=242,slow=34
XMIS Christmas Isla 72.26 268 IAMs_20 IAMs_20 10 09 13.4
comp=Z,4μm,20.0s
TGY Tagaytay City 73.15 298 LR LR 10 07 18.5
comp=Z,576nm,18.0s,baz=156,slow=37
SBUM Sibu 73.32 283 P P 09 34 02.7 -3.3
SBUM IAmb IAmb 09 34 20.2
comp=Z,34nm,1.4s
SBUM IAMs_20 IAMs_20 10 06 30.4
comp=Z,3μm,21.0s
JHJ Hachijo jima 2 74.84 325 LR LR 10 04 37.7
comp=Z,877nm,18.6s,baz=114,slow=34
ELIB Princess Elisa 76.10 187 *d*P P 09 34 18.4 -2.9
comp=Z,22nm,1.0s
SYO Syowa Base 76.29 193‖ *e*P **P 09 34 20.0 -2.2**
SYO Syowa Base 76.29 193‖ *es*P **P 09 34 25.2 +3.0**
JOW Kunigami 76.54 313 IAMs_20 IAMs_20 10 06 56.0
comp=Z,3μm,19.0s
JOW Kunigami 76.54 313 LR LR 10 06 48.5
comp=Z,2μm,18.6s,baz=122,slow=35
JSG Sagara 76.87 325 IAMs_20 IAMs_20 10 06 33.1
comp=Z,3μm,19.0s
TROLL Troll, Antarti 77.20 180 ⇑P **P 09 34 27.3 -0.3**
comp=Z,1μm,0.8s
SNAA Sanae 77.51 179 **P 09 34 28.0 -1.2**
SNAA Sanae 77.51 179 ⇑P **P 09 34 28.8 -0.4**
comp=Z,496nm,1.3s
SNAA Sanae 77.51 179 P **P 09 34 28.1 -1.0**
comp=Z,6.9nm,0.8s,baz=178,slow=5.7,SNR=12
SNAA LR LR 10 08 10.6
comp=Z,1μm,18.0s,baz=196,slow=35
comp=Z,6.9nm,0.8s
VNA3 Neumayer Olymp 77.69 176 ⇑P **P 09 34 28.3 -1.9**
comp=Z,23nm,0.6s
INU Inuyama 77.99 324 P **P 09 34 32.4 +0.3**
INU IAmb IAmb 09 34 36.4
comp=Z,25nm,1.2s
JGF Kuroka 78.02 325 P 09 34 29.6 -2.8
JGF IAmb IAmb 09 34 44.3
comp=Z,72nm,1.8s
NVL N'lazarevskaya 78.17 184 *e*P **P 09 34 36.1 +3.4**
NVL *i* 09 37 33.5
NVL *i* PPP PPP 09 39 22.2
NVL *e*S **S 09 44 31.8 +4.9**
NVL pmax pmax
comp=Z,39nm,1.2s
JMM Marumori 78.23 328 IAMs_20 IAMs_20 10 05 23.6
comp=Z,3μm,20.0s
VNA1 Neumayer--Stat 78.35 177 ⇑P **P 09 34 31.7 -2.1**
comp=Z,38nm,1.1s
JMN Monobe 78.35 321 IAMs_20 IAMs_20 10 03 27.1
comp=Z,3μm,21.0s
MJAR Matsushiro Arr 78.36 326 P P 09 34 29.0 -5.2
comp=Z,2.1nm,0.9s,baz=164,slow=5.4,SNR=4.8
MJAR LR LR 10 03 06.7
comp=Z,1μm,21.7s,baz=140,slow=31
comp=Z,2.1nm,0.9s
MAJO Matsushiro 78.36 326 P **P 09 34 32.8 -1.4**
MAJO IAmb IAmb 09 34 45.3
comp=Z,65nm,1.9s
MAJO Matsushiro 78.36 326 P **P 09 34 32.8 -1.4**
MAJO pmax pmax
comp=Z,65nm,2.0s
COYC Coyhaique 78.98 137 **P 09 34 36.2 -1.5**
COYC IAmb IAmb 09 35 05.2
comp=Z,58nm,1.3s
COYC Coyhaique 78.98 137 IAMs_20 IAMs_20 10 03 53.0
comp=Z,2μm,20.0s
JNU Nakatsue 79.55 319 **P 09 34 39.4 -1.5**
JNU IAmb IAmb 09 34 45.2
comp=Z,34nm,1.3s
JNU Nakatsue 79.55 319 LR LR 10 05 03.8
comp=Z,2μm,21.7s,baz=134,slow=32
LL07 Hotel Espejo d 79.63 134 IAMs_20 IAMs_20 10 07 07.7
comp=Z,3μm,18.0s
LL02 Futaleuf 80.43 135 **P 09 34 43.7 -2.0**
LL02 IAmb IAmb 09 34 51.5
comp=Z,32nm,1.3s
LL02 IAMs_20 IAMs_20 10 07 18.8
comp=Z,2μm,18.0s
JTM Tenmabayashi 80.52 330 IAMs_20 IAMs_20 10 09 01.5
comp=Z,2μm,20.0s
H03S2 Juan Fernandez 80.74 124 T T 11 03 37.2
baz=237,slow=74,SNR=1398
H03S1 Juan Fernandez 80.75 124 T T 11 03 43.8
baz=237,slow=74,SNR=1780
H03S3 Juan Fernandez 80.75 124 T T 11 03 42.7
baz=237,slow=74,SNR=2222
H03N3 Juan Fernandez 80.94 124 T T 11 03 55.7
baz=241,slow=72,SNR=689
H03N2 Juan Fernandez 80.94 123 T T 11 03 59.1
baz=241,slow=72,SNR=718
H03N1 Juan Fernandez 80.95 124 T T 11 03 53.8
baz=241,slow=72,SNR=1206
BKNI Bangkinang 81.66 275 IAMs_20 IAMs_20 10 10 38.0
comp=Z,3μm,20.0s

QZH Quanzhou 81.71 306 S **S 09 45 07.0 +1.5**
QZH LR LR
comp=N,620nm,23.4s
QZH LR LR
comp=E,1μm,19.6s
QZH LR LR
comp=Z,2μm,24.7s
LR03 Panguipulli 82.10 132 IAmb IAmb 09 35 05.2
comp=Z,39nm,1.4s
PLCA Paso Flores 82.61 133 P **P 09 34 55.5 -1.9**
PLCA Paso Flores 82.61 133 P **P 09 34 56.3 -1.0**
comp=Z,4.6nm,0.9s,baz=235,slow=6.3,SNR=8.6
PLCA LR LR 10 02 43.4
comp=Z,2μm,21.7s,baz=238,slow=29
comp=Z,4.6nm,0.9s
JKA Kamikawa-asahi 82.68 333 IAMs_20 IAMs_20 10 10 21.9
comp=Z,3μm,20.0s
ASAJ Asahikawa 82.68 333 LR LR 10 07 48.6
comp=Z,2μm,19.8s,baz=180,slow=33
ATKA Atka Island 83.01 3 IAMs_20 IAMs_20 10 03 36.4
comp=Z,4μm,22.0s
SHEM Shemya Is, Ala 83.66 356 LR LR 10 07 21.5
comp=Z,2μm,20.1s,baz=169,slow=32
SSE Sheshan 83.97 312 P **P 09 35 03.4 -0.7**
SSE S **S 09 45 28.1 -0.1**
SSE pmax pmax
comp=Z,6.0nm,0.7s
SSE pmax pmax
comp=Z,100nm,6.3s
SSE LR LR
comp=Z,280nm,20.8s
SSE LR LR
comp=Z,330nm,20.8s
NIKH Nikolski High 84.14 6 IAMs_20 IAMs_20 10 03 50.5
comp=Z,3μm,21.0s
KSRS Korea Array 84.36 320 P P 09 35 01.4 -4.6
comp=Z,1.7nm,0.8s,baz=140,slow=5.5,SNR=8.1
KSRS LR LR 10 07 54.7
comp=Z,841nm,21.9s,baz=140,slow=32
comp=Z,1.7nm,0.8s
KSAR Wonju Array Be 84.37 320 P 09 35 03.0 -3.1
KSAR Wonju Array Be 84.37 320 P P 09 35 03.0 -3.0
BI02 San Fabin de 84.47 130 P 09 35 03.7 -3.3
BI02 IAmb IAmb 09 35 12.1
comp=Z,17nm,1.0s
QIZ Qiongzhong 84.59 296 P **P 09 35 06.6 -1.0**
QIZ PP **PP 09 38 23.9 +0.4**
QIZ S **S 09 45 34.3 -0.6**
QIZ SS **SS 09 51 09.3 +2.8**
QIZ LR LR
comp=Z,560nm,22.0s
QIZ LR LR
comp=Z,1μm,25.8s
QIZ LR LR
comp=Z,2μm,33.3s
RPSI Rantau Prapat 84.69 276 P 09 35 04.6 -3.7
RPSI IAmb IAmb 09 35 25.0
comp=Z,19nm,1.2s
PSI Prapat 84.74 276 LR LR 10 13 12.2
comp=Z,3μm,20.3s,baz=130,slow=36
PSI Prapat 84.74 276 P P 09 35 04.6 -4.1
PSI pmax pmax
comp=Z,19nm,1.2s
PSI MLR MLR
comp=Z,3μm,19.0s
YSS Yuzhno-Sakhali 85.01 335 IAMs_20 IAMs_20 10 12 08.9
comp=Z,2μm,19.0s
YSS Yuzhno-Sakhali 85.01 335 *e*P **P 09 35 07.0 -2.0**
YSS *e* 09 45 26.0
YSS *e*S **SKSac 09 45 33.0 -0.3**
YSS *e*PPS PPS 09 46 38.7
YSS *e*SS **SS 09 51 07.0 -4.9**
YSS pmax pmax
comp=Z,100nm,2.7s
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=E,700nm,16.0s
UNV Unalaska Valle 85.24 7 IAMs_20 IAMs_20 10 04 55.7
comp=Z,3μm,21.0s
LPIG La Paz 85.54 59 LR LR 10 04 36.2
comp=Z,2μm,20.6s,baz=229,slow=30
SLBS Sierra La Lagu 85.56 59 **P 09 35 12.8 +0.3**
SLBS IAmb IAmb 09 35 17.7
comp=Z,25nm,1.2s
PET Petropavlovsk 86.00 347 IAMs_20 IAMs_20 10 07 11.0
comp=Z,3μm,21.0s
PET Petropavlovsk 86.00 347 *e*P P 09 35 18.9 +5.2
PET *e* 09 38 41.7
PET *e* 09 45 39.4
PET *e*S **S 09 45 53.5 +6.2**
PET pmax pmax
comp=Z,200nm,7.3s
PET pmax pmax
comp=Z,300nm,15.4s
PET MLR MLR
comp=Z,800nm,15.0s
NJ2 Nanjing 86.10 311 *e*P **P 09 35 12.5 -2.3**
NJ2 S **SKSac 09 45 41.8 +0.9**
NJ2 SS **SS 09 51 29.8 +1.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.9s
NJ2 pmax pmax
comp=Z,230nm,4.3s
NJ2 LR LR
comp=Z,940nm,17.1s
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,1μm,22.7s
PETK Petropavlovsk- 86.27 346 P P 09 35 11.5 -3.6
comp=Z,5.1nm,1.1s,baz=148,slow=8.7,SNR=3.6
PETK LR LR 10 07 23.0
comp=Z,2μm,22.0s,baz=162,slow=31
comp=Z,5.1nm,1.1s
SAO San Andreas Ge 86.29 43 IAmb IAmb 09 35 20.4
comp=Z,31nm,1.4s
SAO IAMs_20 IAMs_20 10 04 41.1
comp=Z,3μm,21.0s
PMPB Monarch Peak 86.29 43 P **P 09 35 16.8 +1.0**
PASC Pasadena Art C 86.50 46 IAmb IAmb 09 35 21.3
comp=Z,21nm,1.1s
ESJX Sierra Juarez 86.52 49 IAmb IAmb 09 35 22.5
comp=Z,25nm,1.3s
FALS False Pass 86.60 9 IAMs_20 IAMs_20 10 04 55.9
comp=Z,3μm,22.0s
ELS Elsinore Mount 86.63 47 IAmb IAmb 09 35 22.5
comp=Z,42nm,1.4s
YUH Yuha Desert 86.94 49 IAmb IAmb 09 35 24.1
comp=Z,28nm,1.4s
CNBA Chernabura Isl 87.14 11 IAMs_20 IAMs_20 10 06 08.1
comp=Z,3μm,21.0s
PFO Pinyon Flats O 87.22 48 **P 09 35 19.9 -0.6**
PFO Pinyon Flats O 87.22 48 LR LR 10 05 32.5
comp=Z,2μm,21.0s,baz=238,slow=30
PFO Pinyon Flats O 87.22 48‖ *e*P **P 09 35 23.3 +2.8**
PFO pmax pmax
comp=Z,38nm,1.5s
USRK Ussuriysk Ar. 87.29 327 P P 09 35 16.8 -3.6
comp=Z,2.1nm,0.8s,baz=106,slow=6.2,SNR=7.4
USRK LR LR 10 14 36.2
comp=Z,888nm,18.1s,baz=145,slow=36
comp=Z,2.1nm,0.8s
USA0B Ussuriysk Arra 87.29 327 *ce*P **P 09 35 22.9 +2.5**
ISA Isabella, Lake 87.31 45 **P 09 35 19.0 -1.8**
ISA Isabella, Lake 87.31 45 P **P 09 35 19.0 -1.8**
ISA pmax pmax
comp=Z,42nm,1.2s
LHMI Lhok Sumawe 87.68 277 IAMs_20 IAMs_20 10 16 54.8
comp=Z,3μm,20.0s
JCC Jacoby Creek, 87.68 38 IAMs_20 IAMs_20 10 09 16.9
comp=Z,2μm,18.0s
CMB Columbia Colle 87.77 42 **P 09 35 22.1 -0.8**
CMB IAmb IAmb 09 35 27.1
comp=Z,34nm,1.6s
CMB Columbia Colle 87.77 42 P **P 09 35 22.1 -0.8**
CMB pmax pmax
comp=Z,34nm,1.6s
ORV Oroville 88.18 41 P **P 09 35 24.7 0.0**
ORV IAmb IAmb 09 35 30.7
comp=Z,16nm,1.2s
ORV Oroville 88.18 41 P **P 09 35 24.7 0.0**
ORV pmax pmax
comp=Z,16nm,1.3s
TYV Tymovskoe 88.36 337 *e*P **P 09 35 27.8 +2.5**
TYV pmax pmax
comp=Z,15nm,1.2s

TYV				pmax	pmax			
	comp=Z,500nm,5.2s							
113A	**Mohawk Valley,**	**88.42**	**50**	P	**P**	**09 35 25.1**	**-0.9**	
BLYC	**Blythe**	**88.55**	**49**		**P**	**09 35 25.2**	**-1.5**	
WAKR	**Walker**	**88.64**	**43**	P	**P**	**09 35 26.9**	**-0.3**	
WAKR				IAmb	IAmb	09 35 32.7		
	comp=Z,34nm,1.3s							
MDJ	**Mudanjiang**	**88.74**	**326**	P	**P**	**09 35 30.8**	**+3.5**	
MDJ				S	**S**	**09 46 09.3**	**-4.9**	
MDJ				pmax	pmax			
	comp=Z,13nm,1.4s							
MDJ				pmax	pmax			
	comp=Z,400nm,4.8s							
MDJ				LR	LR			
	comp=Z,1μm,24.4s							
MDJ				LR	LR			
	comp=Z,1μm,24.4s							
MDJ				LR	LR			
	comp=Z,3μm,24.1s							
DSP	**Deep Springs**	**88.75**	**44**	IAmb	IAmb	09 35 33.0		
	comp=Z,19nm,1.2s							
GWY	**Greenwater Val**	**88.76**	**46**	IAmb	IAmb	09 35 32.5		
	comp=Z,28nm,1.4s							
GRAC	**Grapevine Rang**	**88.86**	**45**	IAmb	IAmb	09 35 33.8		
	comp=Z,35nm,1.2s							
DL2	**Dalian**	**88.92**	**318**	*e*P	P	09 35 22.3	-5.9	
DL2	**Dalian**	**88.92**	**318**	S	S	09 46 07.0	-9.1	
DL2				pmax	pmax			
	comp=Z,35nm,1.2s							
DL2				pmax	pmax			
	comp=Z,390nm,5.3s							
DL2				LR	LR			
	comp=N,1μm,23.7s							
DL2				LR	LR			
	comp=E,2μm,25.3s							
DL2				LR	LR			
	comp=Z,2μm,28.9s							
PNTR	**Pine Nut**	**88.94**	**42**		**P**	**09 35 28.1**	**-0.5**	
PNTR				IAmb	IAmb	09 35 33.7		
	comp=Z,25nm,1.0s							
LHV	**Little Huntoon**	**89.01**	**43**	P	**P**	**09 35 27.2**	**-1.4**	
LHV				IAmb	IAmb	09 35 34.2		
	comp=Z,22nm,1.1s							
YBH	**Yreka Blue Hor**	**89.03**	**38**	IAmb	IAmb	09 35 33.6		
	comp=Z,32nm,1.6s							
YBH	**Yreka Blue Hor**	**89.03**	**38**	LR	LR	10 06 54.3		
	comp=Z,1μm,21.3s,baz=226,slow=30							
BEKR	**Beckworth**	**89.03**	**41**	IAmb	IAmb	09 35 33.2		
	comp=Z,20nm,1.4s							
NVAR	**Mina Array Bea**	**89.25**	**43**		**P**	**09 35 27.9**	**-2.2**	
NVAR	**Mina Array Bea**	**89.25**	**43**	P	P	09 35 27.4	-2.8	
	comp=Z,3.2nm,0.8s,baz=221,slow=7.4,SNR=17							
NVAR				LR	LR	10 08 51.6		
	comp=Z,2μm,19.3s,baz=222,slow=31							
	comp=Z,3.2nm,0.8s							
RYN	**Ryan**	**89.25**	**43**	IAmb	IAmb	09 35 35.2		
	comp=Z,31nm,1.5s							
NV11	**Mina Array Sit**	**89.34**	**43**	IAmb	IAmb	09 35 35.5		
	comp=Z,21nm,1.2s							
PAHR	**Pah Rah Range**	**89.48**	**42**	IAmb	IAmb	09 35 35.9		
	comp=Z,23nm,1.3s							
TRQA	**Tornquist**	**89.51**	**135**	IAMs_20	IAMs_20	10 14 02.9		
	comp=Z,3μm,18.0s							
TPNV	**Topopah Spring**	**89.51**	**45**	IAmb	IAmb	09 35 36.2		
	comp=Z,18nm,1.1s							
V12A	**Nelson**	**89.59**	**47**	IAmb	IAmb	09 35 36.8		
	comp=Z,21nm,1.3s							
Y14A	**Wickenburg**	**89.65**	**49**	IAmb	IAmb	09 35 37.8		
	comp=Z,22nm,1.0s							
SII	**Sitkinak Islan**	**89.77**	**13**	IAMs_20	IAMs_20	10 08 17.6		
	comp=Z,3μm,20.0s							
W13A	**Hualapai Mount**	**89.81**	**48**	IAmb	IAmb	09 35 38.1		
	comp=Z,27nm,1.3s							
TIA	**Tai'an**	**89.86**	**313**	P	**P**	**09 35 37.3**	**+4.5**	
TIA				pmax	pmax			
	comp=Z,21nm,1.3s							
TIA				LR	LR			
	comp=Z,2μm,24.7s							
TIA				LR	LR			
	comp=Z,2μm,25.0s							
TIA				LR	LR			
	comp=Z,3μm,25.0s							
TUC	**Tucson**	**90.13**	**52**	P	**P**	**09 35 33.0**	**-1.1**	
TUC	**Tucson**	**90.13**	**52**	IAMs_20	IAMs_20	10 12 04.1		
	comp=Z,2μm,19.0s							
TUC	**Tucson**	**90.13**	**52**	P	**P**	**09 35 33.1**	**-1.1**	
TUC				pmax	pmax			
	comp=Z,51nm,1.4s							
Q09A	**Carvers**	**90.18**	**43**	P	**P**	**09 35 33.3**	**-1.1**	
CN2	**Changchun**	**90.21**	**323**	P	P	09 35 30.5	-3.7	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CN2				LR	LR			
	comp=Z,1μm,18.0s							
CN2				LR	LR			
	comp=Z,1μm,18.0s							
CN2				LR	LR			
	comp=Z,1μm,19.0s							
S11A	**Rachel**	**90.26**	**45**	IAmb	IAmb	09 36 09.3		
	comp=Z,27nm,1.3s							
GRNR	**Gornyy**	**90.53**	**333**	⇓*i*P	P	09 35 31.5	-4.0	
GRNR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
PRN	**Pahroc Range**	**90.54**	**46**		**P**	**09 35 35.1**	**-0.9**	
PRN				IAmb	IAmb	09 35 42.0		
	comp=Z,26nm,1.1s							
319A	**Douglas**	**90.59**	**53**	IAmb	IAmb	09 35 42.6		
	comp=Z,26nm,1.1s							
BNX	**BinXian**	**90.62**	**326**	⇓P	**P**	**09 35 33.8**	**-2.2**	
BNX				S	**S**	**09 46 32.1**	**+0.5**	
BNX				sS	**sS**	**09 46 39.3**	**+3.0**	
BNX				pmax	pmax			
	comp=Z,13nm,1.5s							
BNX				pmax	pmax			
	comp=Z,230nm,5.4s							
BNX				LR	LR			
	comp=Z,580nm,18.4s							
BNX				LR	LR			
	comp=Z,1μm,20.6s							
BNX				LR	LR			
	comp=Z,2μm,20.6s							
J05D	**Fort Rock, OR**	**90.89**	**38**		**P**	**09 35 37.8**	**+0.2**	
X16A	**Lo Mia Camp, P**	**90.97**	**50**	IAmb	IAmb	09 35 44.5		
	comp=Z,22nm,1.1s							
KLR	**Kul'dur**	**91.22**	**330**	LR	LR	10 13 21.5		
	comp=Z,1μm,19.4s,baz=150,slow=34							
KLR	**Kul'dur**	**91.22**	**330**	⇑*e*P	P	09 35 35.7	-3.1	
KLR				pmax	pmax			
	comp=Z,16nm,1.5s							
KDAK	**Kodiak Island**	**91.23**	**14**	LR	LR	10 09 15.2		
	comp=Z,2μm,21.8s,baz=62,slow=31							
H04A	**Detroit Lake**	**91.37**	**37**		**P**	**09 35 37.6**	**-2.0**	
LCMT	**Little Creek M**	**91.41**	**47**	IAmb	IAmb	09 35 45.7		
	comp=Z,12nm,1.1s							
U15A	**North Rim**	**91.65**	**48**		**P**	**09 35 39.5**	**-1.9**	
U15A				IAmb	IAmb	09 35 47.4		
	comp=Z,19nm,1.1s							
KNB	**Kanab**	**91.68**	**47**		**P**	**09 35 40.1**	**-1.3**	
KNB				IAmb	IAmb	09 35 55.5		
	comp=Z,16nm,1.1s							
KNB	**Kanab**	**91.68**	**47**	P	**P**	**09 35 40.1**	**-1.3**	
KNB				pmax	pmax			
	comp=Z,16nm,1.1s							
WUAZ	**Wupatki**	**91.68**	**49**	IAMs_20	IAMs_20	10 07 30.2		
	comp=Z,2μm,21.0s							
M11K	**Mekoryuk**	**91.71**	**6**	IAMs_20	IAMs_20	10 10 44.8		
	comp=Z,3μm,20.0s							
WVOR	**Wild Horse Val**	**91.72**	**40**		**P**	**09 35 40.0**	**-1.4**	
WVOR				IAmb	IAmb	09 35 52.1		
	comp=Z,20nm,1.3s							
WVOR	**Wild Horse Val**	**91.72**	**40**	P	**P**	**09 35 40.0**	**-1.4**	
WVOR				pmax	pmax			
	comp=Z,20nm,1.3s							
LYN	**LuoYang**	**91.83**	**310**	*e*P	**P**	**09 35 43.6**	**+1.7**	
LYN				pP	pP	09 35 46.9	+2.2	
LYN				SKS	**SKSac**	**09 46 12.0**	**-2.9**	
LYN				S	**S**	**09 46 42.6**	**-0.5**	
LYN				pmax	pmax			
	comp=Z,18nm,0.6s							
LYN				pmax	pmax			
	comp=Z,360nm,4.6s							
LYN				LR	LR			
	comp=Z,1μm,19.4s							
LYN				LR	LR			
	comp=Z,2μm,25.1s							
LYN				LR	LR			
	comp=Z,3μm,24.0s							
X18A	**Snowflake**	**92.02**	**50**	IAmb	IAmb	09 35 48.5		
	comp=Z,17nm,1.3s							
M13K	**Dall Lake**	**92.04**	**8**	IAMs_20	IAMs_20	10 11 26.5		
	comp=Z,2μm,20.0s							
SYI	**Shuyak Island**	**92.04**	**14**	IAMs_20	IAMs_20	10 09 06.6		
	comp=Z,2μm,20.0s							
HNS	**HongShan**	**92.12**	**313**	⇑P	P	09 35 48.3	+5.1	
HNS				S	**S**	**09 46 51.6**	**+6.0**	
HNS				pmax	pmax			
	comp=Z,15nm,1.0s							
HNS				LR	LR			
	comp=Z,610nm,23.1s							
HNS				LR	LR			
	comp=Z,1μm,21.6s							
HNS				LR	LR			
	comp=Z,3μm,24.5s							
P18K	**Big Mountain,**	**92.23**	**12**	IAMs_20	IAMs_20	10 09 17.7		
	comp=Z,2μm,22.0s							
I07A	**Izee**	**92.36**	**38**	IAmb	IAmb	09 35 49.4		
	comp=Z,18nm,1.2s							
J08A	**Circle Bar Ran**	**92.42**	**39**	IAmb	IAmb	09 35 48.9		
	comp=Z,24nm,1.3s							
NLWA	**Neilton Lookou**	**92.44**	**34**	P	**P**	**09 35 44.1**	**-0.4**	
NLWA				IAMs_20	IAMs_20	10 08 03.5		
	comp=Z,2μm,22.0s							
G06A	**Carlson Farm,**	**92.54**	**37**	IAmb	IAmb	09 35 49.9		
	comp=Z,27nm,1.4s							
ELK	**Elko**	**92.55**	**43**	LR	LR	10 09 04.4		
	comp=Z,2μm,22.0s,baz=224,slow=30							
P19K	**Oil Pt**	**92.84**	**13**	IAMs_20	IAMs_20	10 10 09.8		
	comp=Z,3μm,20.0s							
CMAR	**Chiang Mai Arr**	**92.90**	**290**	P	P	09 35 41.9	-5.4	
	comp=Z,0.2nm,0.3s,baz=104,slow=5.5,SNR=1.6							
CMAR				LR	LR	10 18 09.6		
	comp=Z,608nm,21.1s,baz=130,slow=36							
	comp=Z,0.2nm,0.3s							
CHTO	**Chiang Mai**	**93.08**	**290**	P	**P**	**09 35 50.5**	**+2.4**	
CNPM	**China Poot**	**93.12**	**14**	IAMs_20	IAMs_20	10 10 24.1		
	comp=Z,3μm,21.0s							
HOM	**Homer**	**93.16**	**13**	IAMs_20	IAMs_20	10 12 28.1		
	comp=Z,2μm,20.0s							
VHRN	**Van Horn**	**93.26**	**56**		**P**	**09 35 47.5**	**-1.3**	
K13K	**Kusilvak Mount**	**93.38**	**7**	IAMs_20	IAMs_20	10 12 09.0		
	comp=Z,2μm,20.0s							
TX31	**Lajitas Ar. Si**	**93.39**	**58**	IAmb	IAmb	09 35 54.9		
	comp=Z,13nm,1.3s							
TXAR	**Lajitas Array**	**93.39**	**58**		**P**	**09 35 47.5**	**-1.9**	
TXAR	**Lajitas Array**	**93.39**	**58**	P	P	09 35 45.7	-3.8	
	comp=Z,1.1nm,1.1s,baz=222,slow=6.7,SNR=7.0							
TXAR				LR	LR	10 12 14.5		
	comp=Z,719nm,18.1s,baz=232,slow=32							
	comp=Z,1.1nm,1.1s							
TXAR	**Lajitas Array**	**93.39**	**58**	P	**P**	**09 35 47.5**	**-1.9**	
BRLK	**Bradley Lake**	**93.41**	**14**	IAMs_20	IAMs_20	10 10 32.4		
	comp=Z,3μm,21.0s							
G08A	**Pilot Rock**	**93.45**	**38**	P	**P**	**09 35 47.0**	**-2.3**	
G08A				IAmb	IAmb	09 35 54.2		
	comp=Z,19nm,1.3s							
DUG	**Dugway, Tooele**	**93.65**	**45**	P	**P**	**09 35 53.1**	**+2.7**	
MA2	**Magadan**	**93.73**	**345**	IAMs_20	IAMs_20	10 11 42.4		
	comp=Z,2μm,22.0s							
MA2	**Magadan**	**93.73**	**345**	LR	LR	10 12 15.6		
	comp=Z,2μm,21.8s,baz=156,slow=32							
M17K	**Holitna River**	**93.78**	**10**	IAMs_20	IAMs_20	10 11 31.3		
	comp=Z,2μm,20.0s							
Y22D	**IRIS PASSCAL I**	**93.78**	**52**	IAMs_20	IAMs_20	10 15 45.1		
	comp=Z,2μm,18.0s							
NNA	**Nana**	**93.98**	**106**	LR	LR	10 08 24.7		
	comp=Z,2μm,21.6s,baz=239,slow=29							
ALPN	**Alpine**	**93.99**	**57**		**P**	**09 35 50.3**	**-1.9**	
SEW	**Seward**	**94.02**	**14**	IAMs_20	IAMs_20	10 10 14.0		
	comp=Z,2μm,22.0s							
BMO	**Blue Mountains**	**94.04**	**39**		**P**	**09 35 50.8**	**-1.2**	
BMO	**Blue Mountains**	**94.04**	**39**	P	**P**	**09 35 50.8**	**-1.2**	
BMO				pmax	pmax			
	comp=Z,8.0nm,1.4s							
TMUT	**Trail Mountain**	**94.08**	**46**	IAmb	IAmb	09 36 04.5		
	comp=Z,17nm,1.4s							
SLKM	**Skilak Lake**	**94.22**	**14**	IAMs_20	IAMs_20	10 11 08.5		
	comp=Z,2μm,21.0s							
J14K	**Nanvaranak Lak**	**94.30**	**7**	IAMs_20	IAMs_20	10 12 26.1		
	comp=Z,3μm,20.0s							
O22K	**Cooper Landing**	**94.30**	**14**	IAMs_20	IAMs_20	10 10 58.5		
	comp=Z,2μm,21.0s							
MVCO	**Mesa Verde**	**94.55**	**49**	IAMs_20	IAMs_20	10 09 33.1		
	comp=Z,2μm,20.0s							
ANMO	**Albuquerque**	**94.59**	**52**	P	**P**	**09 35 53.1**	**-1.8**	
ANMO				IAMs_20	IAMs_20	10 14 41.4		
	comp=Z,2μm,20.0s							
ANMO	**Albuquerque**	**94.59**	**52**	P	**P**	**09 35 53.3**	**-1.7**	
ANMO				IAmb	IAmb	09 36 00.2		
	comp=Z,7.9nm,1.4s							
ANMO	**Albuquerque**	**94.59**	**52**		**P**	**09 35 53.8**	**-1.1**	
ANMO				IAmb	IAmb	09 36 00.2		
	comp=Z,7.9nm,1.4s							
ANMO	**Albuquerque**	**94.59**	**52**	IAMs_20	IAMs_20	10 14 50.4		
	comp=Z,2μm,18.0s							
ANMO	**Albuquerque**	**94.59**	**52**	LR	LR	10 15 10.4		
	comp=Z,1μm,18.1s,baz=42,slow=34							
ANMO	**Albuquerque**	**94.59**	**52**	⇑*e*P	**P**	**09 35 52.8**	**-2.2**	
HVU	**Hansel Valley**	**94.65**	**43**	IAmb	IAmb	09 35 59.9		
	comp=Z,16nm,1.1s							
GAMB	**Gambell**	**94.69**	**3**	IAMs_20	IAMs_20	10 09 59.2		
	comp=Z,3μm,22.0s							
M19K	**Big River Lodg**	**94.74**	**11**	IAMs_20	IAMs_20	10 16 49.9		
	comp=Z,2μm,20.0s							
F10A	**Beach Ranch, E**	**94.82**	**38**	P	**P**	**09 35 54.0**	**-1.5**	
PLID	**Pearl Lake**	**94.90**	**39**		**P**	**09 35 53.8**	**-2.4**	
PLID				IAmb	IAmb	09 36 00.6		
	comp=Z,12nm,1.2s							
HIN	**Hinchinbrook I**	**94.93**	**15**	IAMs_20	IAMs_20	10 11 09.2		
	comp=Z,3μm,22.0s							
PZH	**PanZhiHua**	**94.93**	**298**	P	**P**	**09 35 55.5**	**-1.1**	
PZH				PP	**PP**	**09 39 42.1**	**-3.9**	
PZH				SKS	**SKSac**	**09 46 31.1**	**-1.5**	
PZH				S	**S**	**09 47 12.1**	**+0.9**	
PZH				SS	**SS**	**09 53 30.9**	**-5.8**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,210nm,6.2s							
PZH				LR	LR			
	comp=Z,390nm,18.6s							
PZH				LR	LR			
	comp=Z,800nm,19.1s							
PZH				LR	LR			
	comp=Z,510nm,17.2s							
M20K	**Styx River**	**94.94**	**12**	IAMs_20	IAMs_20	10 11 16.2		
	comp=Z,2μm,21.0s							
PWL	**Port Wells**	**94.94**	**14**	IAMs_20	IAMs_20	10 11 14.4		
	comp=Z,2μm,20.0s							
GLI	**Glacier Island**	**95.23**	**15**	IAMs_20	IAMs_20	10 11 20.0		
	comp=Z,3μm,20.0s							
ATAH	**Atahualpa**	**95.27**	**102**	LR	LR	10 11 45.8		
	comp=Z,608nm,19.8s,baz=236,slow=31							
SKT	**Skwentna**	**95.32**	**13**	IAMs_20	IAMs_20	10 11 39.3		
	comp=Z,3μm,22.0s							
KNK	**Knik Glacier**	**95.41**	**14**	IAMs_20	IAMs_20	10 11 41.9		
	comp=Z,2μm,21.0s							
J17K	**VABM Dome**	**95.45**	**9**	IAMs_20	IAMs_20	10 15 30.9		
	comp=Z,2μm,20.0s							
SNH	**Sunshine Point**	**95.62**	**17**	IAMs_20	IAMs_20	10 13 25.7		
	comp=Z,3μm,19.0s							
DIV	**Divide**	**95.75**	**15**	IAMs_20	IAMs_20	10 11 45.8		
	comp=Z,3μm,21.0s							
CD2	**Chengdu**	**95.79**	**303**	P	**P**	**09 36 00.3**	**0.0**	
CD2				S	**S**	**09 47 15.9**	**-2.4**	
CD2				SS	**SS**	**09 53 49.5**	**+0.8**	
CD2				pmax	pmax			
	comp=Z,280nm,6.5s							
CD2				LR	LR			
	comp=Z,890nm,22.7s							
CD2				LR	LR			
	comp=Z,1μm,21.1s							
SML	**Sawmill**	**95.80**	**14**	IAMs_20	IAMs_20	10 11 43.0		
	comp=Z,2μm,22.0s							
J18K	**Innoko River**	**95.85**	**10**	IAMs_20	IAMs_20	10 10 47.0		
	comp=Z,2μm,22.0s							
MESA	**MESA**	**95.85**	**18**	IAMs_20	IAMs_20	10 14 01.7		
	comp=Z,2μm,19.0s							
BMRM	**Bremner River**	**95.88**	**16**	IAMs_20	IAMs_20	10 11 57.3		
	comp=Z,2μm,20.0s							
ANM	**Nome**	**95.90**	**6**	IAMs_20	IAMs_20	10 15 44.5		
	comp=Z,2μm,20.0s							
SCM	**Sheep Creek Mo**	**96.03**	**14**	IAMs_20	IAMs_20	10 11 27.2		
	comp=Z,2μm,22.0s							
KLU	**Klutina**	**96.04**	**15**	IAMs_20	IAMs_20	10 12 06.4		
	comp=Z,3μm,21.0s							
PPLA	**Purkeypile**	**96.05**	**12**	IAMs_20	IAMs_20	10 17 43.5		
	comp=Z,2μm,19.0s							
YAH	**Yahtse**	**96.06**	**18**	IAMs_20	IAMs_20	10 13 49.2		
	comp=Z,2μm,20.0s							
U35K	**Hyder**	**96.12**	**25**	IAMs_20	IAMs_20	10 12 11.3		
	comp=Z,2μm,20.0s							
HHC	**Hu-ho-hao-te**	**96.14**	**314**	*e*P	**P**	**09 36 00.8**	**-1.0**	
HHC				S	**S**	**09 47 18.6**	**-2.4**	
HHC				sS	pS	09 47 27.0	+2.3	
HHC				SS	**SS**	**09 53 47.0**	**-6.5**	
HHC				pmax	pmax			
	comp=Z,19nm,0.5s							
HHC				pmax	pmax			
	comp=Z,100nm,5.2s							
HHC				LR	LR			
	comp=Z,530nm,18.3s							
HHC				LR	LR			
	comp=Z,1μm,19.1s							
HHC				LR	LR			
	comp=Z,1μm,17.6s							
PCA	**Pinnacle**	**96.23**	**18**	IAMs_20	IAMs_20	10 14 14.8		
	comp=Z,2μm,18.0s							
AHID	**Auburn Hatcher**	**96.23**	**43**	P	**P**	**09 36 00.4**	**-1.9**	
AHID				IAmb	IAmb	09 36 06.5		
	comp=Z,18nm,1.4s							
BCPM	**Bancas Point**	**96.28**	**19**	P	**P**	**09 36 01.1**	**-0.6**	
NEW	**Newport**	**96.36**	**36**	LR	LR	10 11 53.4		
	comp=Z,2μm,21.9s,baz=222,slow=31							
VRDI	**Verde Repeater**	**96.38**	**16**	IAMs_20	IAMs_20	10 12 33.6		
	comp=Z,2μm,19.0s							
N25K	**Chitina, Valde**	**96.44**	**16**	IAMs_20	IAMs_20	10 11 57.1		
	comp=Z,2μm,21.0s							
SEY	**Seymchan**	**96.45**	**347**	LR	LR	10 15 25.1		
	comp=Z,1μm,20.8s,baz=148,slow=33							
ZEA	**Zeya**	**96.45**	**331**	*e*P	P	09 36 14.1	+11	
ZEA				*e*		09 48 45.0		
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.6s							
J19K	**Poorman**	**96.51**	**10**	IAMs_20	IAMs_20	10 16 17.6		
	comp=Z,2μm,20.0s							
CAST	**Castle Rocks**	**96.55**	**12**	IAMs_20	IAMs_20	10 14 26.7		
	comp=Z,2μm,20.0s							
MSTX	**Muleshoe**	**96.58**	**54**	IAMs_20	IAMs_20	10 17 03.0		
	comp=Z,2μm,18.0s							
TNA	**Tin City**	**96.69**	**5**	IAMs_20	IAMs_20	10 12 07.1		
	comp=Z,3μm,21.0s							
TPAW	**Teton Pass**	**96.75**	**43**	IAmb	IAmb	09 36 17.3		
	comp=Z,14nm,1.7s							
FXWY	**Fox Creek**	**96.80**	**43**	IAmb	IAmb	09 36 09.8		
	comp=Z,11nm,1.6s							
HIA	**Hailar**	**96.81**	**325**	IAMs_20	IAMs_20	10 20 14.9		
	comp=Z,2μm,19.0s							
O28M	**Mount Upton**	**96.82**	**18**	IAMs_20	IAMs_20	10 14 43.4		
	comp=Z,2μm,20.0s							
T35M	**Bob Quinn**	**96.85**	**24**	IAMs_20	IAMs_20	10 11 27.6		
	comp=Z,2μm,21.0s							
SNOW	**Snow Kirng Moun**	**96.85**	**43**	IAmb	IAmb	09 36 10.1		
	comp=Z,11nm,1.2s							
KTH	**Kantishna Hill**	**96.88**	**12**	IAMs_20	IAMs_20	10 14 30.5		
	comp=Z,3μm,21.0s							
BTO	**Baotou**	**96.96**	**313**	*e*P	**P**	**09 36 04.0**	**-1.5**	
BTO				S	**S**	**09 47 26.4**	**-1.6**	
BTO				pmax	pmax			
	comp=Z,21nm,0.6s							
BTO				pmax	pmax			
	comp=Z,290nm,7.2s							
BTO				LR	LR			
	comp=Z,2μm,21.0s							
BTO				LR	LR			
	comp=Z,3μm,22.4s							
BTO				LR	LR			
	comp=Z,5μm,20.9s							
G16K	**Koyuk River**	**97.00**	**7**	IAMs_20	IAMs_20	10 14 21.3		
	comp=Z,3μm,20.0s							
MOOW	**Moose Ponds**	**97.03**	**43**	IAMs_20	IAMs_20	10 11 26.5		
	comp=Z,2μm,21.0s							
LOHW	**Long Hollow**	**97.03**	**43**	IAmb	IAmb	09 36 10.7		
	comp=Z,13nm,1.6s							
F15K	**North Star Dit**	**97.09**	**6**	IAMs_20	IAMs_20	10 16 29.9		
	comp=Z,2μm,20.0s							
BW06	**Boulder Array**	**97.15**	**44**	IAMs_20	IAMs_20	10 11 32.7		
	comp=Z,2μm,21.0s							
PDAR	**Pinedale Array**	**97.15**	**44**	P	P	09 36 01.9	-4.6	
	comp=Z,0.3nm,0.6s,baz=211,slow=1.7,SNR=5.8							
PDAR				LR	LR	10 12 37.8		
	comp=Z,1μm,20.5s,baz=228,slow=31							
	comp=Z,0.3nm,0.6s							
T25A	**Trinidad**	**97.19**	**51**	IAMs_20	IAMs_20	10 16 58.3		
	comp=Z,2μm,18.0s							
S34M	**Telegraph Cree**	**97.26**	**23**	IAMs_20	IAMs_20	10 10 21.3		
	comp=Z,2μm,21.0s							
YHL	**Hebgen Lake**	**97.44**	**42**	IAmb	IAmb	09 36 13.3		
	comp=Z,15nm,1.5s							
I20K	**Naaghedeneel**	**97.44**	**10**	IAMs_20	IAMs_20	10 11 57.1		
	comp=Z,2μm,22.0s							
PAX	**Paxson**	**97.44**	**15**	IAMs_20	IAMs_20	10 12 21.6		
	comp=Z,2μm,21.0s							
M26K	**Nabesna, AK**	**97.51**	**16**	IAMs_20	IAMs_20	10 12 31.4		
	comp=Z,2μm,22.0s							
Q24A	**Divide**	**97.72**	**49**	IAMs_20	IAMs_20	10 11 19.0		
	comp=Z,2μm,21.0s							
M27K	**Edge Creek, AK**	**97.74**	**16**	IAMs_20	IAMs_20	10 13 26.5		
	comp=Z,2μm,21.0s							
O30N	**Mendenhall**	**97.95**	**20**	IAMs_20	IAMs_20	10 10 58.4		
	comp=Z,2μm,22.0s							
L26K	**Log Cabin Wild**	**97.97**	**16**	IAMs_20	IAMs_20	10 13 07.5		
	comp=Z,3μm,21.0s							
DLBC	**Dease Lake**	**98.04**	**24**	LR	LR	10 14 14.3		
	comp=Z,1μm,20.5s,baz=234,slow=32							
K24K	**Donnelly Dome**	**98.11**	**14**	IAMs_20	IAMs_20	10 13 15.3		
	comp=Z,2μm,21.0s							
F17K	**Baldwin Pennin**	**98.13**	**7**	IAMs_20	IAMs_20	10 15 06.3		
	comp=Z,2μm,20.0s							
YNE	**Yellowstone No**	**98.20**	**42**	IAmb	IAmb	09 36 16.5		
	comp=Z,6

E22K Anaktuvuk Pass 100.95 10 IAMs_20 IAMs_20 10 14 43.8
comp=Z,2μm,22.0s
J30M Hart River 100.97 17 IAMs_20 IAMs_20 10 16 59.1
comp=Z,2μm,20.0s
F24K Squaw Lake 101.02 12 IAMs_20 IAMs_20 10 15 20.9
comp=Z,2μm,21.0s
H27K Steamboat Moun 101.13 15 IAMs_20 IAMs_20 10 14 58.9
comp=Z,2μm,21.0s
I29M Ogilvie Camp, 101.13 16 IAMs_20 IAMs_20 10 15 14.1
comp=Z,2μm,21.0s
OK029 Liberty Lake 101.25 55 IAMs_20 IAMs_20 10 19 45.8
comp=Z,2μm,20.0s
NATX Nacogdoches 101.28 60 IAMs_20 IAMs_20 10 21 31.5
comp=Z,2μm,18.0s
I30M Mount Dempster 101.48 17 IAMs_20 IAMs_20 10 14 30.6
comp=Z,2μm,22.0s
G27K Doyon Strip 101.59 14 IAMs_20 IAMs_20 10 17 14.3
comp=Z,2μm,20.0s
R32A Long Quarter, 101.70 52 IAMs_20 IAMs_20 10 20 44.9
comp=Z,2μm,18.0s
OK052 Battle Ridge R 101.81 55 IAMs_20 IAMs_20 10 19 55.8
comp=Z,2μm,18.0s
H29M Whitestone 101.82 16 IAMs_20 IAMs_20 10 15 06.4
comp=Z,2μm,21.0s
F26K Sheenjek River 101.86 13 IAMs_20 IAMs_20 10 15 20.1
comp=Z,2μm,21.0s
D23K Nanushuk River 101.88 10 IAMs_20 IAMs_20 10 14 39.5
comp=Z,2μm,22.0s
441A DeRidder 101.88 61 IAMs_20 IAMs_20 10 23 13.8
comp=Z,2μm,18.0s
OK048 Pawnee Station 101.92 55 IAMs_20 IAMs_20 10 20 23.7
comp=Z,2μm,18.0s
B20K Meade River 102.01 7 IAMs_20 IAMs_20 10 17 44.0
comp=Z,2μm,20.0s
D24K Happy Valley 102.33 11 IAMs_20 IAMs_20 10 14 52.6
comp=Z,2μm,21.0s
T35A Sooner Cattle 102.47 54 IAMs_20 IAMs_20 10 19 56.2
comp=Z,2μm,19.0s
G29M Pine Creek 102.47 15 IAMs_20 IAMs_20 10 18 18.5
comp=Z,2μm,20.0s
ITAB Concordia 102.92 133 IAMs_20 IAMs_20 10 21 06.4
comp=Z,1μm,19.0s
G30M tAoh Zraii Nji 102.94 16 IAMs_20 IAMs_20 10 15 40.0
comp=Z,2μm,21.0s
K30B Basset 103.24 48 IAMs_20 IAMs_20 10 15 06.5
comp=Z,2μm,20.0s
MIAR Mount Ida 103.42 58 IAMs_20 IAMs_20 10 20 35.4
comp=Z,1μm,18.0s
F30M Barrier River 103.55 16 IAMs_20 IAMs_20 10 15 59.1
comp=Z,2μm,21.0s
E29M Blow River 103.71 14 IAMs_20 IAMs_20 10 16 39.2
comp=Z,2μm,21.0s
U38A Gravette 103.74 56 IAMs_20 IAMs_20 10 22 09.8
comp=Z,2μm,18.0s
D27M Malcolm River 103.80 13 IAMs_20 IAMs_20 10 15 24.3
comp=Z,2μm,22.0s
143A Socs Landing, 104.15 60 IAMs_20 IAMs_20 10 22 12.8
comp=Z,1μm,18.0s
VBMS Vicksburg 104.59 61 IAMs_20 IAMs_20 10 23 34.4
comp=Z,2μm,19.0s
N35A Tabor 104.96 51 IAMs_20 IAMs_20 10 19 35.1
comp=Z,2μm,19.0s
S39A Bolivar 105.07 55 IAMs_20 IAMs_20 10 22 22.4
comp=Z,2μm,18.0s
ECSD EROS Data Cent 105.67 48 IAMs_20 IAMs_20 10 16 31.8
comp=Z,2μm,21.0s
R40A Maddies Statio 106.09 55 IAMs_20 IAMs_20 10 22 07.0
comp=Z,2μm,19.0s
YKA Yellowknife Ar 106.38 26 PP **PP 09 41 11.8 +0.1**
comp=Z,0.9nm,1.1s,baz=233,slow=6.7,SNR=6.2
N38A Joes South For 106.55 52 IAMs_20 IAMs_20 10 22 17.2
comp=Z,2μm,19.0s
CCM Cathedral Cave 106.70 55 IAMs_20 IAMs_20 10 24 25.4
comp=Z,2μm,18.0s
SAML Samuel 106.77 112 IAMs_20 IAMs_20 10 32 51.0
comp=Z,2μm,21.0s
Z47A Carrollton 106.87 61 IAMs_20 IAMs_20 10 24 20.9
comp=Z,2μm,19.0s
AGMN Agassiz Nation 108.22 44 IAMs_20 IAMs_20 10 25 13.0
comp=Z,2μm,18.0s
WVT Waverly 108.32 58 IAMs_20 IAMs_20 10 22 28.2
comp=Z,1μm,19.0s
P43A Skaggs, Pawnee 108.60 55 IAMs_20 IAMs_20 10 24 11.6
comp=Z,2μm,18.0s
Q44A Meyer Farm, Va 108.65 55 IAMs_20 IAMs_20 10 23 38.8
comp=Z,2μm,19.0s
MTDJ Mount Denham 108.68 80 IAMs_20 IAMs_20 10 19 16.5
comp=Z,2μm,19.0s
TIXI Tiksi 108.70 345 IAMs_20 IAMs_20 10 18 58.4
comp=Z,2μm,22.0s
HMDM Hanimaadhoo 108.81 267 IAMs_20 IAMs_20 10 23 42.1
comp=Z,2μm,19.0s
FOMA Nahampoana Res 109.06 224 IAMs_20 IAMs_20 10 19 11.5
comp=Z,2μm,20.0s
VAO Valinhos 109.20 133 IAMs_20 IAMs_20 10 19 30.6
comp=Z,2μm,21.0s
T47A Sharon Grove 109.21 58 IAMs_20 IAMs_20 10 24 12.8
comp=Z,2μm,18.0s
A36M Sachs Harbour 109.25 15 IAMs_20 IAMs_20 10 22 44.8
comp=Z,1μm,20.0s
JFWS Jewell Farm 109.48 51 IAMs_20 IAMs_20 10 23 30.7
comp=Z,2μm,20.0s
L42A Oliver, Polo 109.49 52 IAMs_20 IAMs_20 10 25 02.1
comp=Z,2μm,18.0s
U49A Red Boiling Sp 109.98 59 IAMs_20 IAMs_20 10 25 07.3
comp=Z,2μm,18.0s
GOGA Godfrey 110.44 63 IAMs_20 IAMs_20 10 26 13.6
comp=Z,2μm,18.0s
G40A Rib Lake 110.47 49 IAMs_20 IAMs_20 10 19 40.8
comp=Z,2μm,20.0s
EYMN Ely 110.73 46 IAMs_20 IAMs_20 10 20 11.4
comp=Z,2μm,20.0s
L44A Lake County Fo 110.76 53 IAMs_20 IAMs_20 10 29 21.6
comp=Z,2μm,18.0s
I42A Draeger Farm, 110.77 51 IAMs_20 IAMs_20 10 24 20.6
comp=Z,2μm,19.0s
T50A Nancy 110.88 59 IAMs_20 IAMs_20 10 25 26.0
comp=Z,2μm,18.0s
P48A Milroy 111.42 56 IAMs_20 IAMs_20 10 26 14.2
comp=Z,2μm,18.0s
TZTN Tazewell 111.64 60 IAMs_20 IAMs_20 10 30 23.2
comp=Z,1μm,18.0s
R50A Paris 111.75 58 IAMs_20 IAMs_20 10 26 44.0
comp=Z,2μm,19.0s
O48B Farmland 111.92 55 IAMs_20 IAMs_20 10 26 24.5
comp=Z,2μm,18.0s
F42A Maple Grove Fa 112.00 49 IAMs_20 IAMs_20 10 20 58.2
comp=Z,2μm,19.0s
S51A Beattyville 112.04 59 IAMs_20 IAMs_20 10 27 02.6
comp=Z,2μm,18.0s
Q51A Peebles 112.75 57 IAMs_20 IAMs_20 10 27 23.3
comp=Z,2μm,18.0s
WMQ Urumqi 113.03 308 *e*PKP **PKiKP 09 41 10.5 -0.6**
WMQ LR LR
comp=Z,1μm,18.3s
WMQ LR LR
comp=Z,970nm,24.3s
J47A Sunmer 113.27 53 IAMs_20 IAMs_20 10 26 45.0
comp=Z,1μm,20.0s
Q52A Bidwell 113.50 58 IAMs_20 IAMs_20 10 26 38.4
comp=Z,2μm,18.0s
S54A Dingess, Beckl 113.77 59 IAMs_20 IAMs_20 10 34 10.6
comp=Z,2μm,18.0s
W57A Gilead 113.77 62 IAMs_20 IAMs_20 10 29 45.7
comp=Z,1μm,18.0s
N51A Ashland 114.13 56 IAMs_20 IAMs_20 10 30 52.0
comp=Z,2μm,18.0s
BLA Blacksburg 114.21 60 IAMs_20 IAMs_20 10 31 55.3
comp=Z,2μm,18.0s
P53A Whipple 114.33 57 IAMs_20 IAMs_20 10 26 47.2
comp=Z,2μm,20.0s
E46A Sault Ste Mari 114.71 49 IAMs_20 IAMs_20 10 22 21.9
comp=Z,2μm,19.0s
R55A Marlinton 114.82 59 IAMs_20 IAMs_20 10 28 51.4
comp=Z,2μm,18.0s
I49A Point Hope 114.87 52 IAMs_20 IAMs_20 10 33 12.4
comp=Z,2μm,18.0s
M52A Chesterland 115.07 55 IAMs_20 IAMs_20 10 27 25.8
comp=Z,2μm,19.0s
N53A Lisbon 115.19 56 IAMs_20 IAMs_20 10 28 47.9
comp=Z,2μm,18.0s
Q56A Snyder Ridge, 115.77 58 IAMs_20 IAMs_20 10 29 11.5
comp=Z,2μm,18.0s
ZSN Zaisan 116.13 311 *e*PKIKP **PKPdf 09 41 16.6 -0.2**
ZSN Zaisan 116.13 311 *e*PKP **PKPdf 09 41 16.6 -0.2**
T59A Double "B" Far 116.27 61 IAMs_20 IAMs_20 10 33 03.8
comp=Z,2μm,18.0s
P57A Homestead Farm 116.78 58 IAMs_20 IAMs_20 10 28 51.2
comp=Z,1μm,20.0s
MKAR Makanchi Array 117.61 310 PKP **PKPdf 09 41 15.4 -4.3**
comp=Z,0.9nm,0.8s,baz=164,slow=0.9,SNR=5.8
L56A Greenwood 117.95 56 IAMs_20 IAMs_20 10 28 48.0
comp=Z,2μm,20.0s
SHLS Shalkode 118.47 305 *e*PKIKP **PKPdf 09 41 20.3 -1.3**
SHLS Shalkode 118.47 305 *e*PKP **PKPdf 09 41 20.4 -1.2**
UZB Uzynbulak 118.78 305 *e*PKIKP **PKPdf 09 41 21.4 -0.8**
UZB Uzynbulak 118.78 305 *e*PKP **PKPdf 09 41 21.5 -0.8**
KPKS Kokpek 119.10 306 *e*PKIKP **PKPdf 09 41 22.2 -0.6**
KPKS Kokpek 119.10 306 *e*PKP **PKPdf 09 41 22.2 -0.6**
SATY Saty 119.18 305 *e*PKIKP **PKPdf 09 41 22.4 -0.6**
SATY Saty 119.18 305 *e*PKP **PKPdf 09 41 22.5 -0.6**
ZHN Zhinishke 119.19 305 *e*PKIKP **PKPdf 09 41 22.3 -0.7**
ZHN Zhinishke 119.19 305 *e*PKP **PKPdf 09 41 22.4 -0.7**
P61A Hammonton 119.20 59 IAMs_20 IAMs_20 10 29 41.3
comp=Z,2μm,18.0s
KSH Kashi 119.91 301 PKP **PKPdf 09 41 23.3 -1.2**
KSH LR LR
comp=Z,880nm,21.4s
KSH LR LR
comp=Z,660nm,20.0s
KSH LR LR
comp=Z,1μm,20.4s
MDOK Medeo 120.17 305 *e*PKIKP **PKPdf 09 41 24.2 -0.7**
MDOK Medeo 120.17 305 *e*PKP **PKPdf 09 41 24.3 -0.7**
TNSS Tian-Shan 120.20 305 *e*PKIKP **PKPdf 09 41 24.4 -0.9**
TNSS Tian-Shan 120.20 305 *e*PKP **PKPdf 09 41 24.4 -0.9**
CHKK Chushkaly 120.39 306 *e*PKIKP **PKPdf 09 41 24.7 -0.4**
CHKK Chushkaly 120.39 306 *e*PKP **PKPdf 09 41 24.8 -0.4**
KUU Kurty 120.86 305 *e*PKIKP **PKPdf 09 41 25.6 -0.4**
KUU Kurty 120.86 305 *e*PKP **PKPdf 09 41 25.6 -0.4**
KURK Kurchatov 120.95 314 *c i*PKIKP **PKPdf 09 41 26.7 +0.8**
KURBB Kurchatov Arra 120.99 314 PKP **PKPdf 09 41 21.6 -4.4**
comp=Z,1.1nm,0.6s,baz=116,slow=1.8,SNR=5.3
KURBB PP **PP 09 42 55.6 -0.2**
comp=Z,0.8nm,1.0s,baz=106,slow=7.0,SNR=4.3
AAK Ala-Archa 121.84 304 ‖ *e*PKIKP **PKPdf 09 41 26.1 -2.1**
SGDS Sogindy 121.95 305 *e*PKIKP **PKPdf 09 41 27.7 -0.5**
SGDS *e* 09 43 00.5
SGDS Sogindy 121.95 305 *e*PKP **PKPdf 09 41 27.7 -0.5**
SGDS *e*PP **PP 09 43 00.5 -2.2**
GAR Garm 124.00 299 IAMs_20 IAMs_20 10 33 10.3
comp=Z,2μm,22.0s
DZA Taraz 124.17 303 *e*PKIKP **PKPdf 09 41 31.9 -0.5**
DZA Taraz 124.17 303 *e*PKP **PKPdf 09 41 32.0 -0.5**
BRZS Berezniki 124.56 312 *e*PKIKP **PKPdf 09 41 32.7 -0.2**
BRZS Berezniki 124.56 312 *e*PKP **PKPdf 09 41 32.7 -0.2**
TULEG Thule 124.62 16 IAMs_20 IAMs_20 10 32 25.0
comp=Z,1μm,21.0s
IUG Iuzhnay 124.94 302 *e*PKIKP **PKPdf 09 41 33.4 -0.6**
IUG Iuzhnay 124.94 302 *e*PKP **PKPdf 09 41 33.5 -0.6**
BRLS Borolday 125.27 303 *e*PKIKP **PKPdf 09 41 34.1 -0.4**
BRLS *e* 09 43 23.4
BRLS Borolday 125.27 303 *e*PKP **PKPdf 09 41 34.1 -0.4**
BRLS *e*PP **PP 09 43 23.4 -1.6**
BVAR Borovoye Array 126.34 315 PKP **PKPdf 09 41 31.4 -4.8**
comp=Z,2.4nm,0.7s,baz=90,slow=1.5,SNR=7.9
BRVK Borovoye 126.41 315 ↑ *i*PKIKP **PKPdf 09 41 36.6 +0.3**
RCBR Riachuelo 129.05 130 IAMs_20 IAMs_20 10 30 35.3
comp=Z,2μm,22.0s
KIBK Kibwezi 131.64 233 IAMs_20 IAMs_20 10 34 00.4
comp=Z,1μm,19.0s
KBS Kingsbay 131.81 357 IAMs_20 IAMs_20 10 34 19.7
comp=Z,1μm,21.0s
KMBO Kilima Mbogo 133.06 234 IAMs_20 IAMs_20 10 33 03.4
comp=Z,1μm,20.0s
ARTI Arti 133.21 320 IAMs_20 IAMs_20 10 39 44.1
comp=Z,1μm,22.0s
ARTI Arti 133.21 320 *i* PKIKP **PKPdf 09 41 50.3 +1.1**
ARTI 09 44 19.0
ARTI SS SS 10 02 03.3 +3.4
ATD Arta Tunnel 136.84 253 IAMs_20 IAMs_20 10 40 32.6
comp=Z,1μm,19.0s
KIRV Kirov 137.42 325 ‖ *i*PKIKP **PKPdf 09 41 58.3 +1.4**
LODK Lodwar 137.60 236 IAMs_20 IAMs_20 10 54 38.9
comp=Z,1μm,18.0s
KEV Kevo 138.59 347 IAMs_20 IAMs_20 10 42 52.0
comp=Z,1μm,21.0s
ARCES ARCESS Array B 139.07 347 PKP **PKPdf 09 41 55.0 -4.7**
comp=Z,1.6nm,0.6s,baz=59,slow=2.0,SNR=7.0
KLMR Klimovskoe 140.98 331 *e*PKIKP **PKPdf 09 42 02.1 -1.3**
KLMR pmax pmax
comp=Z,13nm,1.4s
MAK Makhachkala 141.54 301 *i* P **Pdif 09 39 24.9 +1.3**
MAK *i* 09 42 02.9
MAK *e* 09 45 02.6
MAK *e*PPP PPP 09 48 12.1
MAK pmax pmax
comp=Z,39nm,0.4s
VRH Novokhopyorsk 143.99 316 *e*PKHKP PKPpre 09 42 03.6
VRH pmax pmax
comp=Z,7.0nm,0.9s
NCK Nalchik 144.36 302 ↑ *e*PKIKP PKPbc 09 42 10.6 +2.2
MOS Moscow 144.44 325 *e*PKIKP **PKPab 09 42 08.5 +0.6**
MOS *e* 09 45 30.5
MOS pmax pmax
comp=Z,50nm,0.9s
GOF Gofitskoye 144.55 305 *c e*PKIKP PKPbc 09 42 11.4 +2.5
KBZ Khabaz 144.83 303 PKP **PKPab 09 42 06.4 -3.3**
comp=Z,8.9nm,0.9s,baz=155,slow=3.4,SNR=9.7
KBZ Khabaz 144.83 303 ‖ *e*PKIKP **PKPab 09 42 07.8 -1.9**
KIV Kislovodsk 144.96 303 *i* PKIKP **PKPab 09 42 08.2 -2.2**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV Kislovodsk 144.96 303 PKP **PKPab 09 42 07.3 -3.1**
SHA1 Shidzhatmaz 145.01 303 ↑ *e*PKIKP **PKPbc 09 42 10.5 -0.2**
LPSR Galich'ya Gora 145.12 319 *e*PKIKP **PKPbc 09 42 10.5 +0.1**
LPSR pmax pmax
comp=Z,94nm,1.6s
OBN Obninsk 145.27 324 IAMs_20 IAMs_20 10 46 53.1
comp=Z,928nm,19.0s
OBN Obninsk 145.27 324 *e*PKIKP **PKPbc 09 42 09.2 -1.6**
OBN pmax pmax
comp=Z,75nm,1.4s
OBN MLR MLR
comp=Z,800nm,19.0s
OBN Obninsk 145.27 324 PKP **PKPbc 09 42 08.0 -2.8**
VORR Voronezh 145.31 318 *e*PKP2 **PKPbc 09 42 08.7 -2.4**
VORR pmax pmax
comp=Z,20nm,0.9s
FIA1 FINESS Array S 145.50 339 PKPdf **PKPdf 09 42 10.9 -0.4**
FINES FINESS Array B 145.50 339 **PKPdf 09 42 10.0 -1.3**
FINES FINESS Array B 145.50 339 PKPbc **PKPdf 09 42 06.9 -4.4**
comp=Z,5.1nm,0.8s,baz=53,slow=4.8,SNR=18
FINES FINESS Array B 145.50 339 PKIKP **PKPdf 09 42 10.0 -1.3**
VSR Storozhevoye 145.50 317 *e*PKP2 **PKPdf 09 42 09.2 -2.4**
VSR pmax pmax
comp=Z,30nm,1.2s
VORD Divnogorie 145.51 316 *e*PKP2 **PKPdf 09 42 09.4 -2.2**
VORD pmax pmax
comp=Z,20nm,1.2s
GURO Guroymak-BITLI 145.80 294 PKPdf **PKPdf 09 42 10.6 -2.1**
VSLR Vesyoloye 146.93 303 *c i*PKP2 **PKPbc 09 42 17.8 +1.5**
KOPT Kop Dagi 146.95 297 PKPbc **PKPdf 09 42 14.5 -0.4**
SOC Sochi 147.14 303 *e*PKIKP **PKPdf 09 42 12.9 -1.8**
SOC *e* 09 45 39.7
SOC *e*SS SS 10 04 39.6 -4.3
SOC *e*SSS SSS 10 10 14.5
VSU Vasula 147.51 335 ‖ *e*PKP2 **PKPdf 09 42 14.9 +0.1**
NC303 NORSAR Array S 149.08 350 PKPdf **PKPdf 09 42 15.3 -2.0**
NC204 NORSAR Array S 149.12 351 PKPdf **PKPdf 09 42 15.9 -1.5**
NC405 NORSAR Array S 149.14 350 PKPdf **PKPdf 09 42 16.9 -0.5**
NB201 NORSAR Array S 149.26 350 PKPdf **PKPdf 09 42 17.8 +0.1**
NB2 NORSAR Subarra 149.28 350 PKP **PKPdf 09 42 17.7 0.0**
comp=Z,61nm,1.7s,baz=13,slow=2.7
NB2 NORSAR Subarra 149.28 350 PKP **PKPdf 09 42 17.7 0.0**
baz=13,slow=2.7
NOA NORSAR Array B 149.28 350 PKPbc **PKPdf 09 42 17.7 0.0**
comp=Z,5.2nm,0.9s,baz=16,slow=4.2,SNR=7.7
NC602 NORSAR Array S 149.53 350 PKPdf **PKPdf 09 42 17.1 -0.9**
ASF Jabal al Asfar 149.59 282 PKPbc **PKPdf 09 42 20.6 +1.4**
comp=Z,2.9nm,0.4s,baz=83,slow=1.1,SNR=6.5
GAZ Gaziantep 149.62 291 IAMs_20 IAMs_20 10 53 18.1
comp=Z,1μm,20.0s
HFS Hagfors 149.73 348 PKPbc **PKPdf 09 42 19.2 +0.9**
comp=Z,6.2nm,0.8s,baz=171,slow=2.9,SNR=7.2
BNN Bunyan 150.62 295 **PKiKP 09 42 29.2 +2.4**
PABE Paberze 150.71 333 IAMs_20 IAMs_20 10 50 09.6
comp=Z,1μm,22.0s
SIM Simferopol' 150.75 308 *e*PKIKP **PKiKP 09 42 29.7 +3.0**
SIM pmax pmax
comp=Z,51nm,1.4s
SIM pmax pmax
EIL Elat 150.83 276 PKPbc **PKPdf 09 42 23.9 +2.8**
comp=Z,11nm,0.8s,baz=91,slow=0.9,SNR=12
KONO Kongsberg 150.85 351 IAMs_20 IAMs_20 11 03 00.4
comp=Z,1μm,22.0s
MMAI Mount Meron Ar 150.94 283 PKPbc **PKPdf 09 42 23.0 +1.7**
comp=Z,3.1nm,0.4s,baz=35,slow=3.1,SNR=6.6
AKASG Malin Array Be 151.35 321 PKP **PKPdf 09 42 17.0 -4.2**
comp=Z,0.7nm,0.6s,baz=54,slow=1.9,SNR=8.0
AKASG PKPbc **pPKPdf 09 42 24.6 +0.5**
comp=Z,3.4nm,0.7s,baz=49,slow=2.4,SNR=21
AKBB Malin Array Si 151.35 321 PKPdf **PKPdf 09 42 19.6 -1.6**
AKBB Malin Array Si 151.35 321 PKIKP **PKPdf 09 42 19.6 -1.6**
AKBB Malin Array Si 151.35 321 PKP **PKPdf 09 42 18.6 -2.6**
KIEV Kiev 151.36 321 PKPdf **PKPdf 09 42 20.1 -1.1**
KIEV Kiev 151.36 321 IAMs_20 IAMs_20 10 53 20.3
comp=Z,1μm,21.0s
KIEV Kiev 151.36 321 PKIKP **PKPdf 09 42 20.1 -1.1**
KIEV Kiev 151.36 321 PKP **PKPdf 09 42 18.6 -2.6**
AK12 Malin Array Si 151.42 321 PKP **PKPdf 09 42 18.8 -2.5**
AK18 Malin Array Si 151.42 321 PKP **PKPdf 09 42 18.8 -2.5**
BRTR Keskin Array B 152.23 297 **PKPdf 09 42 27.7 +4.6**
BRTR Keskin Array B 152.23 297 PKPbc **PKPdf 09 42 27.2 +4.2**
comp=Z,5.1nm,0.9s,baz=165,slow=1.9,SNR=16
CSS Mathiatis 152.76 287 IAMs_20 IAMs_20 11 02 03.1
comp=Z,1μm,22.0s
ISP Isparta 154.89 294 IAMs_20 IAMs_20 10 55 32.7
comp=Z,1μm,21.0s
BUR08 Bucovina Ar. S 155.23 319 **PKPab 09 42 49.8 -2.2**
EKA Eskdalemuir Ar 155.55 6 PKPab PKPab 09 42 46.2 -6.7
comp=Z,0.4nm,0.4s,baz=242,slow=4.6,SNR=4.2
MLR Muntele Rosu 155.89 314 IAMs_20 IAMs_20 11 02 12.2
comp=Z,1μm,20.0s
OJC Ojcow 156.30 329 *e*PKP **PKPab 09 42 57.8 +1.5**
NIE Niedzica 156.65 327 *e*PKP **PKPab 09 42 59.7 +1.7**
KSP Ksiaz 157.24 335 *e*PKP **PKPab 09 43 02.0 +1.7**
OKC Ostrava-Krasne 157.30 331 AMS AMS 10 49 00.0
comp=Z,1μm,24.1s
OSTC Ostas 157.50 334 AMS AMS 10 53 40.0
comp=Z,2μm,25.5s
MORC Moravsky Berou 157.60 331 IAMs_20 IAMs_20 11 07 59.8
comp=Z,1μm,21.0s
MORC Moravsky Berou 157.60 331 *e*PKP **PKPab 09 43 01.5 -0.5**
UPC Upice 157.62 334 AMS AMS 10 53 50.0
comp=Z,2μm,19.6s
ALN Alexandroupoli 157.63 303 IAMs_20 IAMs_20 11 06 03.2
comp=Z,981nm,22.0s
DPC Dobruska-Polom 157.63 334 *e*PKP **PKPab 09 43 08.4 +6.3**
DPC AMS AMS 10 53 00.0
comp=Z,1μm,19.5s
KRLC Kraliky 157.67 333 *e*PKP **PKPab 09 43 08.0 +5.7**
KARP Karpathos 157.80 289 IAMs_20 IAMs_20 11 03 37.3
comp=Z,1μm,22.0s
RDO Rodhopi 157.91 304 IAMs_20 IAMs_20 10 59 29.7
comp=Z,1μm,21.0s
CLL Collm 157.94 340 *e*PKP2 **PKPab 09 43 02.0 -1.3**
CLL MLR MLR
comp=Z,1μm,20.9s
BRG Berggiesshubel 158.03 338 *e*PKP **PKPab 09 43 06.0 +2.3**
BRG Amp 09 43 07.5
comp=Z,6.7nm,1.2s
JAVC Velka Javorina 158.24 329 *e*PKP **PKPab 09 43 07.1 +2.3**
VRAC Vranov 158.35 332 *e*PKP **PKPab 09 43 04.3 -0.9**
HSKC Hora Svate Kat 158.42 338 AMS AMS 11 00 50.0
comp=Z,2μm,24.3s
GOPC GO Pecny, Ondr 158.55 335 AMS AMS 10 57 10.0
comp=Z,1μm,21.4s
PRU Pruhonice 158.58 336 AMS AMS 11 04 20.0
comp=Z,2μm,19.3s
KRUC Moravsky 158.62 332 *e*PKP **PKPab 09 43 06.3 -0.1**
MODS Modra-Piesok 158.78 329 *e*PKP **PKPab 09 43 11.0 +3.9**
NKC Novy Kostel 159.05 339 AMS AMS 10 55 50.0
comp=Z,2μm,19.8s
ZVC Zvikov 159.16 335 AMS AMS 10 51 20.0
comp=Z,2μm,27.1s
CKRC Cesky Krumlov 159.63 334 AMS AMS 10 57 30.0
comp=Z,2μm,23.7s
KHC Kasperske Hory 159.64 336 *e*PKP **PKPab 09 43 11.5 +0.6**
KHC *ex* x 09 43 17.8
KHC AMS AMS 10 54 50.0
comp=Z,1μm,20.5s
GERES GERESS Array B 159.84 335 PKPab **PKPab 09 43 09.3 -2.4**
comp=Z,0.3nm,0.3s,baz=5.7,slow=4.0,SNR=5.0
TORD Torodi Ar. Bea 162.16 182 PKPab **PKPab 09 43 19.8 -2.7**
comp=Z,5.1nm,0.7s,baz=137,slow=1.9,SNR=4.5
ESDC Sonseca Array 170.47 24 **PKPab 09 44 01.2 +2.4**
ESDC Sonseca Array 170.47 24 PKP **PKPdf 09 42 38.4 -3.6**
comp=Z,3.3nm,1.1s,baz=350,slow=2.4,SNR=8.4
ESDC PKPab **PKPab 09 43 54.9 -3.9**
comp=Z,0.8nm,0.9s,baz=343,slow=4.6,SNR=4.7
MDT Midelt 174.84 69 PKP **PKPdf 09 42 39.8 -4.3**
comp=Z,0.9nm,0.3s,baz=216,slow=5.8,SNR=1.3

---

*IDC **16** 09:26:23.5±1.0, 31.00°S×178.50°W, h0km, mb4.0/7,*
mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=37.4km
s-min=24.2km az=150.0

ISC 16 09:26:25.6±0.7, 30.87S±0.07°×178.7°W±0.1°, h10km, n31,
σ1§60/43, mb4.0/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.74**	**23**	P	**Pn**	**09 26 54.3**	**-1.6**
GLKZ				S	**Sn**	**09 27 19.9**	**+1.8**
RIZ	**Raoul Island**	**1.76**	**23**	P	**Pn**	**09 26 54.6**	**-1.5**
RIZ				S	**Sb**	**09 27 21.6**	**+1.6**
WMGZ	**Waiomatatini S**	**7.33**	**198**	P	**Pn**	**09 28 12.5**	**-0.1**
WMGZ				S	**Sn**	**09 29 39.3**	**+3.5**
HAZ	**Te Kaha**	**7.46**	**202**	P	**Pn**	**09 28 15.5**	**+1.1**
HAZ				S	**Sn**	**09 29 40.0**	**+1.0**
PKGZ	**Pakihiroa**	**7.46**	**200**	P	**Pn**	**09 28 15.0**	**+0.4**
PKGZ				S	**Sn**	**09 29 38.1**	**-1.2**
PUZ	**Puketiti**	**7.61**	**198**	P	**Pn**	**09 28 17.0**	**+0.5**
PUZ				S	**Sn**	**09 29 43.0**	**+0.2**
RUGZ	**Raukumara Rang**	**7.68**	**202**	P	**Pn**	**09 28 16.9**	**-0.7**
RUGZ				S	**Sn**	**09 29 43.7**	**-1.0**
WCZ	**Waipu Caves**	**7.70**	**227**	P	**Pn**	**09 28 17.9**	**+0.1**
OUZ	**Omahuta**	**7.78**	**234**	P	**Pn**	**09 28 18.2**	**-0.6**
TWGZ	**Tauwhareparae**	**7.78**	**200**	P	**Pn**	**09 28 20.6**	**+1.7**
TWGZ				S	**Sn**	**09 29 48.7**	**+1.6**
CNGZ	**Carnagh Statio**	**8.01**	**198**	P	**Pn**	**09 28 21.2**	**-0.7**
CNGZ				S	**Sn**	**09 29 54.3**	**+1.8**
MWZ	**Matawai**	**8.06**	**202**	P	**Pn**	**09 28 22.8**	**0.0**
MWZ				S	**Sn**	**09 29 53.1**	**-1.0**
URZ	**Urewera**	**8.13**	**204**	Pn	**Pn**	**09 28 23.0**	**-0.7**
	3.3nm,0.3s,baz=341,slow=4.4,SNR=6.6						
	18nm,0.6s						
URZ	**Urewera**	**8.13**	**204**	P	**Pn**	**09 28 23.8**	**+0.1**
URZ				S	**Sn**	**09 29 56.2**	**+0.5**
RIGZ	**Rimuhau**	**8.34**	**199**	P	Pn	09 28 23.7	-2.8
RIGZ				S	**Sn**	**09 29 58.1**	**-2.7**
MUGZ	**Murupara**	**8.45**	**205**	P	Pn	09 28 25.6	-2.4
MUGZ				S	**Sn**	**09 30 01.8**	**-1.7**
RTZ	**Ruatahuna**	**8.50**	**203**	P	**Pn**	**09 28 29.4**	**+0.6**
RTZ				S	**Sn**	**09 30 03.1**	**-1.7**
PRGZ	**Paritu Road**	**8.51**	**198**	P	**Pn**	**09 28 28.1**	**-0.7**
PRGZ				S	**Sn**	**09 30 01.8**	**-3.1**
MHGZ	**Mahia Peninsul**	**8.71**	**198**	S	**Sn**	**09 30 15.0**	**+5.0**
FWVZ	**Far West T-bar**	**9.59**	**208**	P	**Pn**	**09 28 44.0**	**0.0**
WAZ	**Wanganui**	**10.25**	**208**	S	**Sn**	**09 30 49.9**	**+2.3**
BFZ	**Birch Farm**	**10.61**	**201**	P	**Pn**	**09 28 57.0**	**-0.7**
BFZ				S	Sn	09 30 50.6	-5.9
MRZ	**Mangatainoka R**	**10.81**	**204**	P	**Pn**	**09 29 00.3**	**-0.1**
MRZ				S	Sn	09 30 54.9	-6.5
STKA	**Stephens Creek**	**33.78**	**258**	P	**P**	**09 33 07.3**	**-0.4**
	1.6nm,0.6s,baz=112,slow=16,SNR=1.9						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**42.48**	**268**	P	**P**	**09 34 22.9**	**+1.7**
	2.1nm,0.8s,baz=104,slow=8.2,SNR=4.7						
	2.1nm,0.8s						
WRA	**Warramunga Arr**	**43.51**	**273**	P	**P**	**09 34 30.6**	**+1.0**
	1.7nm,0.6s,baz=114,slow=7.4,SNR=4.7						
	1.7nm,0.6s						
QSPA	**South Pole Qui**	**59.24**	**180**	P	P	09 36 25.1	-1.8
	2.3nm,0.7s,baz=312,slow=13,SNR=1.3						
	2.3nm,0.7s						
NVAR	**Mina Array Bea**	**89.00**	**43**	P	**P**	**09 39 19.3**	**-1.5**
	0.3nm,0.7s,baz=226,slow=9.1,SNR=4.8						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**93.16**	**58**	P	**P**	**09 39 40.8**	**+0.6**
	0.7nm,1.1s,baz=208,slow=4.3,SNR=3.6						
	0.7nm,1.1s						
PDAR	**Pinedale Array**	**96.90**	**44**	P	**P**	**09 39 56.8**	**-0.5**

0.4nm,0.8s,baz=232,slow=5.6,SNR=5.6
0.4nm,0.8s
FINES FINESS Array B 145.37 339 PKPbc **PKPbc 09 46 01.3 -1.6**
3.1nm,0.7s,baz=66,slow=4.6,SNR=4.9

---

*IDC **16** 09:29:32.1±3.3,53°.64N×88°.09E,h0km,mbtmp2.6/2, ML1.9/2, Error ellipse: s-maj=29.5km s-min=19.5km az=52.0*
ASRS 16 09:29:32.0±0.9,**53°.59N**×**88°.03E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**282**	I	I	09 42 50.0	
baz=97,slow=342,SNR=4.6							
ZALV	**Zalesovo Beam**	**1.94**	**282**	Pn	Pb	09 30 07.7	-0.5
0.6nm,0.3s,baz=96,slow=15,SNR=6.6							
ZALV				Lg	Lg	09 30 34.0	
2.1nm,0.3s,baz=96,slow=26,SNR=16							
KURBB	**Kurchatov Arra**	**6.56**	**247**	Pn	Pn	09 31 11.2	+1.5
baz=60,slow=13,SNR=2.9							
KURBB				Lg	Lg	09 33 01.4	
baz=60,slow=31,SNR=4.2							
0.3nm,0.3s							
MKAR	**Makanchi Array**	**7.73**	**211**	Pn	Pn	09 31 27.4	+1.6
baz=27,slow=13,SNR=1.6							
0.1nm,0.3s							

---

*ISN **16** 09:33:24.4±0.4,33°.76N×45°.92E,h8km±2km,ML2.5*
*TEH **16** 09:33:24.5,33°.76N×45°.93E,h10km*
ISC 16 09:33:24.8±1.3,**33°.76N**±0°.03×**45°.95E**±0°.05,**h14**km±12km, **n7**,σ0s**87**/12,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.35**	**355**	Pg	**Pg**	**09 33 31.7**	**-0.4**
IBDR	**Badra**	**0.65**	**181**	*e*Pg	**Pg**	**09 33 37.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**09 33 46.5**	**-0.3**
IDHR	**Dehrash**	**1.01**	**21**	Pg	**Pb**	**09 33 44.5**	**+0.3**
IDHR				Sg	**Sn**	**09 33 59.1**	**+0.3**
BHD	**Baghdad**	**1.40**	**250**	*e*Pn	**Pg**	**09 33 51.5**	**-0.2**
BHD				*e*Sn	**Sg**	**09 34 11.5**	**+1.7**
IKFM	**Kafar-mosalman**	**1.60**	**98**	Pg	**Pg**	**09 33 55.4**	**-0.3**
RAFI	**Al-Rafai**	**2.04**	**176**	*e*Pn	**Pb**	**09 34 01.0**	**-0.6**
RAFI				*e*Sn	**Sb**	**09 34 27.5**	**+0.8**
IKRK	**Kirkuk**	**2.10**	**321**	*e*Pn	**Pb**	**09 34 01.5**	**-1.3**
IKRK				*e*Sn	**Sb**	**09 34 29.0**	**+0.2**

---

*AZER **16** 09:34:00.8,38°.82N×48°.63E,h34km,ml2.9*
*TEH **16** 09:34:03.8,38°.59N×48°.44E,h10km*
ISC 16 09:34:02.7±1.0,**38°.82N**±0°.03×**48°.63E**±0°.04,**h30**km±8km, **n26**,σ0s**97**/47,**Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKRN	**Lenkeran, Azer**	**0.16**	**132**	P	**Pb**	**09 34 08.3**	**-0.2**
LKRN				S	**Sn**	**09 34 13.7**	**+0.7**
LRK	**Lerik**	**0.28**	**232**	P	**Pb**	**09 34 10.1**	**-0.1**
LRK				S	**Sn**	**09 34 16.8**	**+0.4**
ASTR	**Astara**	**0.29**	**154**	P	**Pb**	**09 34 09.4**	**-0.7**
ASTR				S	**Sb**	**09 34 15.3**	**+0.3**
YRD	**Yardimli**	**0.32**	**288**	P	**Pb**	**09 34 10.3**	**-0.3**
YRD				S	**Sn**	**09 34 17.1**	**-0.1**
GLBA	**Clilabad**	**0.46**	**337**	P	**Pb**	**09 34 11.9**	**-0.6**
GLBA				S	**Sn**	**09 34 20.6**	**+0.2**
GAS1	**Astara - Iran**	**0.46**	**159**	Pg	**Pb**	**09 34 11.2**	**-1.4**
GRMI	**Germi**	**0.57**	**269**	Pg	**Pb**	**09 34 13.2**	**-1.3**
SAAT	**Saatly**	**1.05**	**351**	P	**Pn**	**09 34 21.7**	**+0.3**
SAAT				S	**Sb**	**09 34 37.3**	**+1.5**
QRD	**Qoradiz**	**1.20**	**303**	P	**Pn**	**09 34 22.2**	**-1.3**
QRD				S	**Sn**	**09 34 38.5**	**-0.3**
BLQ	**Beylaqan**	**1.22**	**318**	P	**Pn**	**09 34 22.9**	**-0.9**
BLQ				S	**Sb**	**09 34 40.3**	**-0.4**
IHRS	**Heris**	**1.34**	**249**	Pg	**Pn**	**09 34 25.2**	**-0.4**
KDMR	**Kurdemir**	**1.59**	**348**	Sn	**Sn**	**09 34 49.0**	**+0.7**
ZRD	**Zardab**	**1.63**	**334**	Pn	**Pn**	**09 34 30.0**	**+0.6**
ZRD				Sn	**Sn**	**09 34 50.8**	**+1.5**
AGDM	**Agdam**	**1.74**	**318**	Pn	**Pn**	**09 34 30.4**	**-0.6**
AGDM				Sn	**Sn**	**09 34 52.8**	**+0.6**
BRDA	**Brd**	**1.83**	**323**	Pn	**Pn**	**09 34 32.8**	**+0.7**
BRDA				Sn	**Sb**	**09 34 58.2**	**+0.3**
IML	**Ismayilli**	**2.00**	**350**	Pn	**Pn**	**09 34 33.2**	**-1.3**
IML				Sn	**Sn**	**09 34 58.9**	**+0.3**
ORD	**Ordubad**	**2.06**	**274**	Pn	**Pn**	**09 34 35.1**	**-0.3**
ORD				Sn	**Sn**	**09 35 01.3**	**+1.3**
QBL	**Gabala**	**2.21**	**344**	Pn	**Pn**	**09 34 37.0**	**-0.4**
QBL				Sn	**Sn**	**09 35 03.5**	**-0.2**
SIZA	**Siyzn**	**2.26**	**5**	Pn	**Pn**	**09 34 39.1**	**+0.9**
SIZA				Sn	**Sn**	**09 35 06.2**	**+1.1**
IMRD	**Marand**	**2.29**	**268**	Pn	**Pb**	**09 34 43.5**	**+0.1**
XNQ	**Khinaliq**	**2.38**	**351**	Pn	**Pn**	**09 34 41.0**	**+1.1**
XNQ				Sn	**Sn**	**09 35 07.3**	**-0.8**
SBZ	**Shahbuz**	**2.46**	**285**	Pn	**Pn**	**09 34 40.9**	**0.0**
SBZ				Sn	**Sn**	**09 35 12.1**	**+2.1**
NAX	**Nakhchivan**	**2.47**	**279**	Pn	**Pn**	**09 34 42.2**	**+1.3**
NAX				Sn	**Sn**	**09 35 12.5**	**+2.4**
GANJ	**Ganja**	**2.55**	**316**	Pn	**Pn**	**09 34 41.0**	**-1.0**
GANJ				Sn	**Sn**	**09 35 10.4**	**-1.6**
GDB	**GEDABAY**	**2.92**	**312**	Pn	**Pn**	**09 34 47.2**	**-0.1**
GDB				Sn	**Sn**	**09 35 20.8**	**-0.6**
ZKTA	**Zakatala**	**3.21**	**332**	Pn	**Pn**	**09 34 49.6**	**-1.5**
ZKTA				Sn	**Sn**	**09 35 27.9**	**-0.3**

---

*IDC **16** 09:36:55.0±1.3,30°.80S×178°.96W,h0km,mb3.6/4, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=35.7km s-min=31.8km az=116.0*
ISC 16 09:36:56.7±0.8,**30°.75S**±0°.08×**178°.8W**±0°.1,**h10**km,**n21**, σ1s**67**/21,**mb3.6/4,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.67**	**28**	P	**Pn**	**09 37 25.3**	**-0.6**
GLKZ				S	**Sb**	**09 37 50.0**	**+1.4**
RIZ	**Raoul Island**	**1.68**	**27**	P	**Pn**	**09 37 24.9**	**-1.2**
RIZ				S	**Sg**	**09 37 52.1**	**+1.4**
HAZ	**Te Kaha**	**7.54**	**201**	P	**Pn**	**09 38 46.8**	**+0.1**
HAZ				S	**Sn**	**09 40 15.9**	**+3.8**
PUZ	**Puketiti**	**7.70**	**198**	P	**Pn**	**09 38 50.9**	**+2.1**
WCZ	**Waipu Caves**	**7.72**	**226**	P	**Pn**	**09 38 51.4**	**+2.3**
OUZ	**Omahuta**	**7.78**	**233**	P	**Pn**	**09 38 50.0**	**0.0**
MWZ	**Matawai**	**8.15**	**201**	P	**Pn**	**09 38 54.6**	**-0.4**
URZ	**Urewera**	**8.21**	**203**	Pn	**Pn**	**09 38 54.0**	**-1.9**
2.7nm,0.3s,baz=356,slow=12,SNR=9.6							
6.2nm,0.5s							
URZ	**Urewera**	**8.21**	**203**	P	**Pn**	**09 38 55.5**	**-0.3**
RTZ	**Ruatahuna**	**8.58**	**203**	P	**Pn**	**09 39 00.4**	**-0.6**
TSZ	**Takapari Road**	**10.22**	**203**	P	**Pn**	**09 39 23.2**	**-0.2**
BFZ	**Birch Farm**	**10.69**	**201**	P	**Pn**	**09 39 28.4**	**-1.5**
MRZ	**Mangatainoka R**	**10.89**	**203**	P	**Pn**	**09 39 29.9**	**-2.7**
ASAR	**Alice Springs**	**42.39**	**268**	P	**P**	**09 44 50.1**	**-1.5**
0.3nm,0.9s,baz=109,slow=7.3,SNR=4.3							
0.3nm,0.9s							
WRA	**Warramunga Arr**	**43.41**	**273**	P	**P**	**09 44 59.1**	**-0.8**
0.2nm,0.5s,baz=112,slow=7.9,SNR=6.0							
0.2nm,0.5s							
QSPA	**South Pole Qui**	**59.36**	**180**	P	**P**	**09 46 58.3**	**-0.6**
2.0nm,0.9s,baz=261,slow=2.1,SNR=5.9							
2.0nm,0.9s							
H03S2	**Juan Fernandez**	**80.86**	**124**	T	T	11 18 07.1	
baz=237,slow=74,SNR=31							
H03S1	**Juan Fernandez**	**80.87**	**124**	T	T	11 18 08.3	
baz=237,slow=74,SNR=36							
H03S3	**Juan Fernandez**	**80.87**	**124**	T	T	11 18 07.2	
baz=237,slow=74,SNR=41							
NVAR	**Mina Array Bea**	**88.97**	**43**	P	**P**	**09 49 52.8**	**+1.0**
0.9nm,0.8s,baz=229,slow=12,SNR=5.4							
0.9nm,0.8s							
FINES	**FINESS Array B**	**145.22**	**339**	PKPbc	**PKPbc**	**09 56 32.0**	**-1.5**
1.2nm,0.7s,baz=58,slow=5.0,SNR=5.0							

---

*IDC **16** 09:39:36.2±0.4,30°.81S×178°.94W,h0km,mb4.6/23, mbtmp4.6/27, ML4.0/4, MS5.2/47, Error ellipse: s-maj=15.8km s-min=13.8km az=83.0*
*NEIC **16** 09:39:37.7±1.7,31°.04S±0°.09×178°.8W±0°.1,h10km±1km, mb5.4/142, Ms_20 5.6/116, Mww5.7/34, Error ellipse: s-maj=16.6km s-min=14.3km az=104.0*
*NEIC **16** 09:39:37.8,31°.03S×179°.00W,h12km,Moment Tensor Solution. Duration: 3s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.86; $M_{\theta\theta}$-0.55; $M_{\phi\phi}$1.41; $M_{r\theta}$0.37; $M_{\theta\phi}$3.82; $M_{\phi r}$-2.43; Fault plane solution: M_o4.70000×10^{17} NP1: ϕ_s261.14000°,δ56.89000°,λ-8.46000°. NP2:ϕ_s355.78000°, δ82.92000°,λ-146.61000°. Principal axes: T 4.9121, Plg17.0000°, Azm124.0000°; N -0.4324, Plg56.0000°, Azm6.0000°; P -4.4797, Plg28.0000°, Azm224.0000°;*
*NEIC **16** 09:39:37.8,31°.03S×178°.82W,h12km*
*MOS **16** 09:39:38.5±2.6,31°.10S×178°.87W,h10km,mb5.6/22, Error ellipse: s-maj=11.0km s-min=9.6km az=93.3*
*BJI **16** 09:39:39.2,30°.83S×178°.74W,h16km,mB5.8/15, mb5.3/31,Ms5.6/26,Ms7 5.3/26*
*GCMT **16** 09:39:40.7±0.1,30°.83S±0°.01×178°.89W±0°.01,h15km, MW5.7/149,Moment Tensor Solution. s94,c149; s149,c310; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.96±.06; $M_{\theta\theta}$-1.01±.05; $M_{\phi\phi}$1.97±.05; $M_{r\theta}$1.02±.19; $M_{\theta\phi}$4.24±.05; $M_{\phi r}$-1.40±.19; Best double couple: M_o4.88100×10^{17} NP1:ϕ_s258.00000°,δ69.00000°, λ-13.00000°. NP2:ϕ_s353.00000°,δ78.00000°, λ-159.00000°. Principal axes: T 5.0280, Plg6.0000°, Azm124.0000°; N -0.2920, Plg66.0000°, Azm22.0000°; P -4.7340, Plg24.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **16** 09:39:42.5,31°.37S×178°.95W,h0km,mb5.2/72, Kermadec Islands Region*
ISC 16 09:39:38.3±0.2,**30°.99S**±0°.04×**178°.58W**±0°.04,**h10**km, **n669**,σ2s**38**/509,**mb5.4**/138,**MS5.6**/176,**18C-14D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.81**	**18**	P	**Pn**	**09 40 05.1**	**-4.5**
GLKZ				S	**Sn**	**09 40 29.7**	**-2.8**
RIZ	**Raoul Island**	**1.82**	**18**	P	**Pn**	**09 40 06.2**	**-3.6**
MXZ	**Matakaoa Point**	**7.05**	**201**		**Pn**	**09 41 17.4**	**-4.1**
MXZ	**Matakaoa Point**	**7.05**	**201**	P	**Pn**	**09 41 20.8**	**-0.7**
MXZ	**Matakaoa Point**	**7.05**	**201**	P	**Pn**	**09 41 18.9**	**-2.6**
MXZ				S	**Sn**	**09 42 42.6**	**+0.9**
GRZ	**Great Barrier**	**7.23**	**222**	P	**Pn**	**09 41 22.7**	**-1.4**
WMGZ	**Waiomatatini S**	**7.25**	**199**	P	**Pn**	**09 41 22.2**	**-2.1**
HAZ	**Te Kaha**	**7.39**	**203**	P	**Pn**	**09 41 24.1**	**-2.2**
HAZ				S	**Sn**	**09 42 52.5**	**+2.4**
PKGZ	**Pakihiroa**	**7.40**	**201**	P	**Pn**	**09 41 23.5**	**-2.8**
PKGZ				S	**Sn**	**09 42 53.7**	**+3.3**
KUZ	**Kuaotunu**	**7.45**	**218**	P	**Pn**	**09 41 25.3**	**-1.7**
KUZ	**Kuaotunu**	**7.45**	**218**	P	**Pn**	**09 41 26.6**	**-0.4**
PUZ	**Puketiti**	**7.53**	**199**	P	**Pn**	**09 41 26.2**	**-2.0**
PUZ				S	**Sn**	**09 42 55.1**	**+1.4**
RUGZ	**Raukumara Rang**	**7.62**	**203**	P	**Pn**	**09 41 28.2**	**-1.3**
RUGZ				S	**Sn**	**09 42 54.6**	**-1.3**
WCZ	**Waipu Caves**	**7.70**	**228**	P	**Pn**	**09 41 29.7**	**-0.8**
TWGZ	**Tauwhareparae**	**7.71**	**201**	P	**Pn**	**09 41 28.5**	**-2.3**
TWGZ				S	**Sn**	**09 42 59.8**	**+1.7**
WIAZ	**Waiheke Island**	**7.80**	**220**	P	**Pn**	**09 41 32.9**	**+1.0**
OUZ	**Omahuta**	**7.80**	**235**	P	**Pn**	**09 41 30.0**	**-1.9**
OUZ	**Omahuta**	**7.80**	**235**	P	**Pn**	**09 41 29.6**	**-2.3**
ABAZ	**Army Bay**	**7.84**	**223**	P	**Pn**	**09 41 33.5**	**+1.1**
MBAZ	**Motutapu North**	**7.92**	**222**	P	**Pn**	**09 41 32.9**	**-0.6**
CNGZ	**Carnagh Statio**	**7.93**	**199**	P	**Pn**	**09 41 31.6**	**-2.0**
CNGZ				S	**Sn**	**09 43 04.3**	**+0.8**
TKGZ	**Te Karaka**	**7.99**	**201**	P	**Pn**	**09 41 36.3**	**+1.8**
TKGZ				S	**Sn**	**09 43 03.9**	**-1.1**
MWZ	**Matawai**	**8.00**	**203**	P	**Pn**	**09 41 33.1**	**-1.5**
MWZ				S	**Sn**	**09 43 06.4**	**+1.2**
MKAZ	**Moumakai**	**8.01**	**219**	P	**Pn**	**09 41 36.6**	**+1.9**
URZ	**Urewera**	**8.08**	**205**	Pn	**Pn**	**09 41 33.9**	**-1.7**
8.0nm,0.3s,baz=354,slow=3.8,SNR=20							
URZ				Sn	**Sn**	**09 43 10.7**	**+3.7**
21nm,0.3s,baz=342,slow=22,SNR=4.4							
65nm,0.6s							
URZ	**Urewera**	**8.08**	**205**	P	**Pn**	**09 41 35.1**	**-0.5**
URZ	**Urewera**	**8.08**	**205**	P	**Pn**	**09 41 33.6**	**-2.0**
URZ				S	**Sn**	**09 43 03.7**	**-3.3**
RVAZ	**Riverhead Bore**	**8.10**	**223**	P	**Pn**	**09 41 36.0**	**0.0**
RAGZ	**Rawiri**	**8.18**	**203**	P	**Pn**	**09 41 34.2**	**-2.9**
RAGZ				S	**Sn**	**09 43 08.8**	**-1.0**
WTAZ	**Waiatarua**	**8.22**	**222**	P	**Pn**	**09 41 39.1**	**+1.5**
RIGZ	**Rimuhau**	**8.27**	**200**	P	**Pn**	**09 41 37.3**	**-1.0**
TOZ	**Tahuroa Road**	**8.32**	**214**		**Pn**	**09 41 36.2**	**-2.8**
MUGZ	**Murupara**	**8.39**	**206**	P	**Pn**	**09 41 39.9**	**-0.1**
PRGZ	**Paritu Road**	**8.43**	**199**	P	**Pn**	**09 41 39.5**	**-1.0**
RTZ	**Ruatahuna**	**8.44**	**204**	P	**Pn**	**09 41 39.9**	**-0.9**
PRRZ	**Plateau Road**	**8.56**	**208**	P	**Pn**	**09 41 44.8**	**+2.6**
KNZ	**Kokohu**	**8.58**	**200**	P	**Pn**	**09 41 41.4**	**-1.2**
ALRZ	**Allen Road**	**8.63**	**208**	P	**Pn**	**09 41 46.2**	**+2.9**
MHGZ	**Mahia Peninsul**	**8.64**	**199**	P	**Pn**	**09 41 42.3**	**-1.1**
RAHZ	**Arahi**	**8.67**	**203**	P	**Pn**	**09 41 43.5**	**-0.4**
MTHZ	**Maungataniwha**	**8.70**	**204**	P	**Pn**	**09 41 44.5**	**+0.3**
WHHZ	**Waihua**	**8.77**	**202**	P	**Pn**	**09 41 45.5**	**+0.4**
KUTZ	**Kaahu Road**	**8.79**	**210**	P	**Pn**	**09 41 46.0**	**+0.6**
NMHZ	**Naumai**	**8.93**	**204**	P	**Pn**	**09 41 46.8**	**-0.6**
ARHZ	**Aropaoanui**	**9.02**	**202**	P	**Pn**	**09 41 48.1**	**-0.4**
BKZ	**Black Stump Fm**	**9.10**	**205**	P	**Pn**	**09 41 48.4**	**-1.4**
BKZ	**Black Stump Fm**	**9.10**	**205**	P	**Pn**	**09 41 48.5**	**-1.4**
HIZ	**Hauiti**	**9.25**	**214**	P	**Pn**	**09 41 50.0**	**-1.7**
MCHZ	**McNeill Hill**	**9.28**	**203**	P	**Pn**	**09 41 50.3**	**-1.8**
KWHZ	**Kaweka Forest**	**9.36**	**205**	P	**Pn**	**09 41 52.6**	**-0.7**
TMVZ	**Te Maari**	**9.36**	**208**	P	**Pn**	**09 41 53.1**	**-0.3**
OTVZ	**Oturere**	**9.42**	**208**	P	**Pn**	**09 41 53.8**	**-0.4**
SNVZ	**South Ngauruho**	**9.45**	**208**	P	**Pn**	**09 41 54.6**	**-0.1**
NGZ	**Ngauruhoe**	**9.46**	**209**	P	**Pn**	**09 41 55.0**	**+0.2**
KAHZ	**Kahuranaki**	**9.54**	**202**	P	**Pn**	**09 41 52.8**	**-2.9**
FWVZ	**Far West T-bar**	**9.54**	**209**	P	**Pn**	**09 41 55.9**	**-0.1**
WNVZ	**Wahianoa**	**9.59**	**208**	P	**Pn**	**09 41 56.6**	**0.0**
MOVZ	**Moawhango**	**9.59**	**207**	P	**Pn**	**09 41 56.5**	**0.0**
PXZ	**Pawanui**	**9.76**	**201**	P	**Pn**	**09 41 56.4**	**-2.3**
BFZ	**Birch Farm**	**10.54**	**202**	P	**Pn**	**09 42 07.9**	**-1.6**
LKBA	**Tubou, Lakemba**	**12.70**	**359**	P	Pn	09 42 48.3	+9.2
CTZ	**Chatham Island**	**12.82**	**174**	P	**Pn**	**09 42 38.3**	**-2.2**
MSVF	**Nonsavu**	**13.55**	**346**	LR	LR	09 46 50.0	
comp=Z,18μm,19.1s,baz=173,slow=33							
MSVF	**Nonsavu**	**13.55**	**346**	*e*P	**P**	**09 42 56.4**	**-3.5**
TAVE	**Taveuni**	**14.27**	**355**	P	**P**	**09 43 11.5**	**+3.7**
YSA	**Yasawairara**	**14.65**	**345**	P	**P**	**09 43 15.4**	**+3.3**
RPZ	**Rata Peaks**	**15.13**	**210**	Pn	**Pn**	**09 43 12.4**	**+0.4**
1.8nm,0.3s,baz=70,slow=2.0,SNR=6.0							
RPZ				LR	LR	09 48 52.3	
comp=Z,23μm,18.8s,baz=48,slow=37							
12nm,0.6s							
OUENC	**Ouen Island, N**	**15.56**	**300**	P	**P**	**09 43 22.1**	**-0.1**
YATNC	**Mamie plateau,**	**15.74**	**301**	P	**P**	**09 43 23.6**	**-0.6**
ONTNC	**Ouen Toro**	**15.92**	**299**	P	**P**	**09 43 27.0**	**+0.9**
DZM	**Mont Dzumac**	**16.07**	**300**		**Pn**	**09 43 21.1**	**-3.4**
DZM	**Mont Dzumac**	**16.07**	**300**	*e*Pn	**Pn**	**09 43 19.3**	**-5.2**
5μm,28.4s							
DZM				*e*LR	LR	09 47 03.1	
58μm,25.6s							
DZM	**Mont Dzumac**	**16.07**	**300**	Pn	**Pn**	**09 43 20.1**	**-4.3**
0.4nm,0.3s,baz=95,slow=15,SNR=5.4							
DZM				LR	LR	09 48 18.9	
comp=Z,34μm,18.2s,baz=152,slow=33							
37nm,1.1s							
DZM	**Mont Dzumac**	**16.07**	**300**	P	**P**	**09 43 28.4**	**+0.5**
ODZ	**Otahua Downs**	**16.38**	**208**	P	**Pn**	**09 43 26.8**	**-1.5**
JCZ	**Jackson Bay**	**16.44**	**214**	P	**Pn**	**09 43 28.1**	**-1.0**
AFI	**Afiamalu**	**18.11**	**22**	P	**Pn**	**09 43 47.6**	**-2.6**
AFI				pmax	pmax		
comp=Z,68nm,0.9s							
KOUNC	**Koumac, New Ca**	**18.58**	**300**	P	**Pn**	**09 44 00.2**	**+4.4**
RAR	**Rarotonga**	**19.47**	**64**	P	**P**	**09 44 05.9**	**+0.6**
RAR				IAmb	IAmb	09 44 16.6	
comp=Z,391nm,1.8s							
RAR	**Rarotonga**	**19.47**	**64**	P	**Pn**	**09 44 07.1**	**+0.6**
comp=Z,0.5nm,0.3s,baz=217,slow=4.3,SNR=4.4							
RAR				LR	LR	09 49 59.0	
comp=Z,5μm,20.4s,baz=240,slow=32							
comp=Z,20nm,0.8s							
RAR	**Rarotonga**	**19.47**	**64**	P	Pn	09 44 14.9	+8.4
VLAKA	**Lakatoro**	**19.57**	**316**	P	**Pn**	**09 44 12.8**	**+5.0**
ARMA	**Armidale**	**25.59**	**264**	P	**P**	**09 45 09.9**	**+2.0**
SYDH	**Sydney Hard Ro**	**26.01**	**256**	P	**P**	**09 45 13.3**	**+1.8**
TBI	**Tubuai**	**26.94**	**81**	*e*P	**P**	**09 45 20.6**	**+0.6**
comp=Z,2μm,22.0s							
TBI				*e*S	**S**	**09 49 57.6**	**+0.5**
comp=Z,135μm,26.0s							
TBI				*e*LR	LR	09 52 07.7	
comp=Z,9μm,27.0s							
TBI				*e*LR	LR	09 52 11.1	
comp=Z,39μm,28.0s							
CNB	**Canberra Magne**	**27.12**	**252**	P	**P**	**09 45 24.9**	**+3.3**
comp=Z,19nm,1.6s							
CNB	**Canberra Magne**	**27.12**	**252**	P	**P**	**09 45 24.4**	**+2.8**
EIDS	**Eidsvold**	**27.27**	**274**	P	**P**	**09 45 19.7**	**-3.3**
EIDS				IAMs_20	IAMs_20	09 53 57.7	
comp=Z,13μm,18.0s							
EIDS	**Eidsvold**	**27.27**	**274**	P	**P**	**09 45 26.6**	**+3.6**
comp=Z,29nm,1.7s							
EIDS	**Eidsvold**	**27.27**	**274**	P	**P**	**09 45 26.3**	**+3.3**
MILA	**Mila**	**27.34**	**248**	P	**P**	**09 45 29.0**	**+5.5**
comp=Z,16nm,1.0s							
CAN	**Canberra**	**27.42**	**252**	P	**P**	**09 45 21.9**	**-2.4**
CAN	**Canberra**	**27.42**	**252**	P	**P**	**09 45 29.2**	**+5.0**
comp=Z,27nm,1.1s							
CAN	**Canberra**	**27.42**	**252**	P	**P**	**09 45 26.0**	**+1.7**
CAN	**Canberra**	**27.42**	**252**	P	**P**	**09 45 21.9**	**-2.4**
CAN				pmax	pmax		
comp=Z,28nm,1.1s							
RK1H	**Rockhampton Ha**	**28.47**	**278**	P	**P**	**09 45 35.6**	**+1.9**
GLAD	**Gladstone**	**28.67**	**240**	P	**P**	**09 45 36.1**	**+0.8**
HNR	**Honiara**	**29.32**	**312**	LR	LR	09 55 12.6	
comp=Z,5μm,20.9s,baz=156,slow=32							
CORO	**Coronation Par**	**29.39**	**240**	P	**P**	**09 45 43.9**	**+2.2**
PPT2	**Papeete2**	**29.50**	**70**	*e*S	**S**	**09 50 42.5**	**+4.8**
comp=Z,19μm,24.8s							
PPT2				*e*LR	LR	09 53 23.1	
comp=Z,3μm,24.2s							
PPT2				*e*LR	LR	09 53 23.7	
comp=Z,4μm,23.0s							
PPT	**Papeete**	**29.52**	**70**	LR	LR	09 54 31.2	
comp=Z,2μm,20.7s,baz=247,slow=30							
MOO	**Moorlands**	**29.54**	**238**	P	P	09 45 50.4	+7.4
TOO	**Toolangi**	**30.28**	**248**		**P**	**09 45 46.5**	**-3.2**
TOO	**Toolangi**	**30.28**	**248**	P	**P**	**09 45 48.6**	**-1.1**
comp=Z,18nm,2.3s							
TOO	**Toolangi**	**30.28**	**248**	P	**P**	**09 45 46.5**	**-3.2**
TOO				pmax	pmax		
comp=Z,15nm,1.0s							
CMSA	**Cobar Meteorol**	**30.47**	**260**	P	**P**	**09 45 50.2**	**-1.1**
comp=Z,30nm,2.4s							
CMSA	**Cobar Meteorol**	**30.47**	**260**	P	**P**	**09 45 53.4**	**+2.1**
GEXS	**Deakin Univers**	**31.25**	**246**	P	**P**	**09 46 00.8**	**+2.7**
QLP	**Quilpie**	**32.79**	**268**	P	**P**	**09 46 10.3**	**-1.5**
comp=Z,77nm,1.2s							
QLP	**Quilpie**	**32.79**	**268**	P	**P**	**09 46 14.8**	**+3.0**
TV1H	**Townsville Har**	**33.32**	**282**	P	**P**	**09 46 20.2**	**+3.7**
STKA	**Stephens Creek**	**33.87**	**258**		**P**	**09 46 18.8**	**-2.4**
STKA	**Stephens Creek**	**33.87**	**258**	P	**P**	**09 46 19.6**	**-1.6**
comp=Z,10.0nm,0.8s,baz=89,slow=9.6,SNR=22							
STKA				LR	LR	10 00 15.9	
comp=Z,5μm,18.4s,baz=90,slow=37							
comp=Z,10.0nm,0.8s							
MGBR	**Mount Gambier**	**34.18**	**247**	P	**P**	**09 46 20.8**	**-3.1**
INKA	**Innaminka**	**35.46**	**265**	P	**P**	**09 46 37.5**	**+2.5**
HTT	**Hallett**	**35.86**	**255**	P	**P**	**09 46 40.3**	**+1.8**
MTSU	**Mount Surprise**	**35.92**	**282**	P	**P**	**09 46 41.4**	**+2.3**
LCRK	**Leigh Creek**	**36.98**	**259**	P	**P**	**09 46 51.0**	**+3.1**
WHYH	**Whyalla**	**37.04**	**255**	P	**P**	**09 46 49.7**	**+1.3**
RABL	**Rabaul**	**38.33**	**308**	P	**P**	**09 46 56.2**	**-3.3**
BBOO	**Buckleboo**	**38.33**	**255**	P	**P**	**09 46 57.2**	**-2.3**
BBOO				IAmb	IAmb	09 47 04.9	
comp=Z,66nm,0.9s							
BBOO	**Buckleboo**	**38.33**	**255**	P	**P**	**09 47 02.0**	**+2.6**
PMG	**Port Moresby**	**38.42**	**297**	LR	LR	10 01 08.7	
comp=Z,4μm,19.3s,baz=127,slow=34							
QIS	**Mount Isa**	**38.87**	**275**	P	**P**	**09 47 07.1**	**+3.1**
COEN	**Coen**	**38.96**	**287**	P	**P**	**09 47 01.7**	**-3.1**
COEN	**Coen**	**38.96**	**287**	P	**

CASY	Casey	54.39 208	P	P	09 49 02.8	-2.3
MEEK	Meekatharra	54.57 258	P	P	09 49 09.8	+2.8
HMH	Humu'ula Sheep	54.98 27	P	P	09 49 09.3	-0.9
PSA00	Pilbara Seismi	55.41 264	P	P	09 49 10.4	-2.7
PSA00			IAmb	IAmb	09 49 17.4	
	comp=Z,57nm,1.3s					
PSA00	Pilbara Seismi	55.41 264	P	P	09 49 16.2	+3.1
MBWA	Marble Bar	55.67 264		P	09 49 12.7	-2.3
MBWA	Marble Bar	55.67 264	P	P	09 49 17.9	+2.9
KIP	Kipapa	55.73 23⇓	eP	P	09 49 23.0	+7.8
KIP			pmax	pmax		
	comp=Z,45nm,2.5s					
MORW	Morawa	55.89 254	P	P	09 49 14.0	-2.5
MORW			IAmb	IAmb	09 49 23.3	
	comp=Z,68nm,1.4s					
MORW	Morawa	55.89 254	P	P	09 49 19.2	+2.7
SWI	Sorong	56.10 292	P	P	09 49 18.0	-0.1
	comp=Z,34µmcomp=Z,2µmcomp=Z,56nm,1.2s					
GUMO	Guam	56.55 316	LR	LR	10 09 41.9	
	comp=Z,3µm,21.6s,baz=113,slow=32					
SOEI	Soe	56.95 279	P	P	09 49 29.0	+4.7
SOEI	Soe	56.95 279	P	P	09 49 27.1	+2.8
	comp=Z,40µmcomp=Z,3µmcomp=Z,77nm,1.1s					
SOEI	Soe	56.95 279		P	09 49 29.5	+5.2
NLAI	Namlea	58.07 287	P	P	09 49 33.7	+1.6
	comp=Z,28µmcomp=Z,54nm,1.5s					
QSPA	South Pole Qui	59.12 180	P	P	09 49 37.2	-1.7
QSPA	South Pole Qui	59.12 180	P	P	09 49 40.2	+1.3
	comp=Z,21nm,0.9s,baz=60,slow=1.7,SNR=32					
QSPA			PKKP	PKKPdf	10 10 47.9	-2.7
	comp=Z,1.6nm,1.0s,baz=70,slow=0.6,SNR=3.4					
QSPA			LR	LR	10 12 46.3	
	comp=Z,2µm,19.4s,baz=44,slow=34					
	comp=Z,21nm,0.9s					
MMRI	Maumere	59.24 279	P	P	09 49 43.9	+3.6
MMRI	Maumere	59.24 279	P	P	09 49 41.7	+1.5
	comp=Z,98nm,1.2s					
MMRI	Maumere	59.24 279		P	09 49 43.9	+3.6
EDFI	Ende, Flores	59.65 278	P	P	09 49 41.1	-2.1
	comp=Z,32nm,1.2s					
SANI	Sanana	59.66 288	P	P	09 49 47.9	+4.8
SANI	Sanana	59.66 288	P	P	09 49 43.0	-0.1
	comp=Z,892nmcomp=Z,49nm,1.3s					
WSI	Waingapu	60.37 277	P	P	09 49 48.2	+0.2
WBSI	Waikabubak, Su	61.16 276	P	P	09 49 52.5	-0.9
	comp=Z,61nm,1.1s					
PLAI	Plampang	62.94 276	P	P	09 50 09.2	+3.8
PLAI	Plampang	62.94 276	P	P	09 50 03.5	-1.9
	comp=Z,61nm,1.0s					
KAPI	Kappang	63.23 281	P	P	09 50 04.4	-2.8
	comp=Z,3.4nm,0.5s,baz=78,slow=2.6,SNR=8.4					
KAPI			LR	LR	10 18 37.8	
	comp=Z,2µm,18.1s,baz=118,slow=37					
	comp=Z,3.4nm,0.5s					
KAPI	Kappang	63.23 281	P	P	09 50 11.4	+4.1
	comp=Z,12nm,1.7s					
KAPI	Kappang	63.23 281	d iP	P	09 50 08.0	+0.7
KAPI			pmax	pmax		
	comp=Z,37nm,1.4s					
KAPI	Kappang	63.23 281		P	09 50 06.6	-0.6
BNSI	Bone	63.25 282	P	P	09 50 08.7	+1.3
	comp=Z,50nm,1.4s					
SPSI	Sidrap Palu	63.77 282	P	P	09 50 11.0	+0.1
	comp=Z,23nm,1.3s					
PCI	Palu	65.38 285	P	P	09 50 20.6	-0.8
DAV	Davao City (W)	65.42 295	LR	LR	10 17 56.5	
	comp=Z,705nm,20.8s,baz=144,slow=35					
SRBI	Singaraja	65.51 275	P	P	09 50 22.4	+0.2
	comp=Z,65nm,1.5s					
MPSI	Mapaga	66.02 286	P	P	09 50 25.3	-0.2
	comp=Z,1µmcomp=Z,23nm,1.1s					
JAGI	Jajag, Banyuwa	66.22 274	P	P	09 50 30.4	+3.6
	comp=Z,42nm,1.5s					
GMJI	Gumukmas	66.92 274	P	P	09 50 30.3	-1.0
	comp=Z,47nm,1.1s					
KMMI	Kalianget	67.09 276	P	P	09 50 31.2	-1.2
JCJ	Chichijima	68.85 323	LR	LR	10 15 25.8	
	comp=Z,979nm,21.8s,baz=124,slow=31					
BELA	Belgrano 2	69.27 172		P	09 50 45.0	-0.1
MAW	Mawson	71.58 201	P	P	09 50 57.9	-1.5
MAW	Mawson	71.58 201	P	P	09 50 58.5	-0.8
	comp=Z,3.4nm,0.8s,baz=111,slow=6.9,SNR=5.3					
MAW			LR	LR	10 19 50.9	
	comp=Z,2µm,21.7s,baz=112,slow=34					
	comp=Z,3.4nm,0.8s					
PMSA	Palmer Station	71.93 156	LR	LR	10 19 44.0	
	comp=Z,2µm,18.0s,baz=242,slow=33					
BBJI	Bungbulang	72.30 272	P	P	09 51 09.3	+4.7
TGY	Tagaytay City	73.36 298	LR	LR	10 21 56.6	
	comp=Z,332nm,20.8s,baz=169,slow=35					
SBUM	Sibu	73.57 283	P	P	09 51 16.1	+4.1
	comp=Z,9.0nm,0.8s					
KSM	Kuching	74.64 281	P	P	09 51 21.9	+3.6
JHJ	Hachijo jima 2	74.93 325	LR	LR	10 24 35.3	
	comp=Z,565nm,18.2s,baz=104,slow=36					
ELIB	Princess Elisa	76.21 187	dP	P	09 51 25.1	-1.5
	comp=Z,22nm,1.2s					
SYO	Syowa Base	76.43 193⇓	eP	P	09 51 25.3	-2.3
SYO	Syowa Base	76.43 193⇓	epP	pP	09 51 28.8	-1.8
SYO	Syowa Base	76.43 193⇓	esP	sP	09 51 31.6	-0.1
JOW	Kunigami	76.69 313	LR	LR	10 19 40.1	
	comp=Z,1µm,21.7s,baz=117,slow=32					
TROLL	Troll, Antarti	77.28 180	⇑P	P	09 51 32.5	-0.2
	comp=Z,2µm,0.8s					
SNAA	Sanae	77.58 179		P	09 51 34.0	-0.3
SNAA	Sanae	77.58 179	⇑P	P	09 51 33.9	-0.3
	comp=Z,265nm,0.9s					
SNAA	Sanae	77.58 179	P	P	09 51 33.5	-0.7
	comp=Z,5.3nm,0.8s,baz=214,slow=9.3,SNR=8.8					
SNAA			LR	LR	10 25 18.6	
	comp=Z,1µm,18.0s,baz=196,slow=35					
	comp=Z,5.3nm,0.8s					
SNAA	Sanae	77.58 179	P	P	09 51 34.0	-0.3
SNAA			pmax	pmax		
	comp=Z,156nm,1.7s					
AY03	Cochrane	77.65 138	P	P	09 51 34.2	-0.7
AY03			IAmb	IAmb	09 51 46.2	
	comp=Z,28nm,1.1s					
VNA3	Neumayer Olymp	77.75 176	⇑P	P	09 51 36.9	+1.8
	comp=Z,45nm,0.7s					
INU	Inuyama	78.08 324		P	09 51 36.9	-0.4
INU			IAmb	IAmb	09 51 42.3	
	comp=Z,27nm,1.0s					
INU	Inuyama	78.08 324	P	P	09 51 44.1	+6.8
JGF	Kuroka	78.11 325		P	09 51 37.2	-0.4
JMM	Marumori	78.31 328	P	P	09 51 37.6	-0.8
VNA1	Neumayer--Stat	78.41 177	⇑P	P	09 51 40.6	+1.9
	comp=Z,35nm,1.2s					
MJA0	Matsu Arr-Jizo	78.43 326	eP	P	09 51 41.8	+2.6
MJA0			pmax	pmax		
	comp=Z,12nm,1.0s					
MJAR	Matsushiro Arr	78.44 326	P	P	09 51 36.5	-2.8
	comp=Z,5.9nm,1.1s,baz=162,slow=5.4,SNR=7.8					
MJAR			LR	LR	10 21 46.4	
	comp=Z,969nm,20.4s,baz=140,slow=32					
	comp=Z,5.9nm,1.1s					
MAJO	Matsushiro	78.44 326		P	09 51 38.1	-1.2
MAJO	Matsushiro	78.44 326	⇑iP	P	09 51 40.3	+1.0
MAJO			pmax	pmax		
	comp=Z,25nm,1.1s					
MJB9	Matsu-Tunnel	78.45 326		P	09 51 37.5	-1.8
COYC	Coyhaique	78.85 137	P	P	09 51 40.9	-0.7
JNU	Nakatsue	79.67 319		P	09 51 44.1	-2.0
JNU			IAmb	IAmb	09 51 51.1	
	comp=Z,56nm,1.1s					
JNU	Nakatsue	79.67 319	P	P	09 51 43.2	-2.9
	comp=Z,14nm,1.1s,baz=107,slow=4.8,SNR=13					
JNU			LR	LR	10 22 00.2	
	comp=Z,2µm,21.8s,baz=133,slow=32					
	comp=Z,14nm,1.1s					
MYKOM	Kota Tinggi	80.28 278	P	P	09 51 48.1	-1.7
LL02	Futaleuf	80.29 135		P	09 51 49.2	-0.4
LL01	San Ignacio de	80.39 134	IAMs_20	IAMs_20	10 25 00.8	
	comp=Z,3µm,19.0s					
H03S2	Juan Fernandez	80.55 124	T	T	11 20 48.6	
	baz=237,slow=74,SNR=934					
H03S1	Juan Fernandez	80.56 124	T	T	11 20 49.8	
	baz=237,slow=74,SNR=896					
H03S3	Juan Fernandez	80.57 124	T	T	11 20 48.7	
	baz=237,slow=74,SNR=985					
H03N3	Juan Fernandez	80.75 123	T	T	11 20 58.8	
	baz=241,slow=72,SNR=82					
H03N2	Juan Fernandez	80.75 123	T	T	11 20 52.5	
	baz=241,slow=72,SNR=86					
H03N1	Juan Fernandez	80.77 123	T	T	11 20 59.6	
	baz=241,slow=72,SNR=172					
LL03	Petrohue	81.08 133	IAMs_20	IAMs_20	10 18 42.1	
	comp=Z,3µm,19.0s					
LR05	Currie	81.83 132	IAMs_20	IAMs_20	10 19 05.1	
	comp=Z,2µm,21.0s					
DLV	Lat	81.88 289	P	P	09 52 03.2	+4.6
QZH	Quanzhou	81.89 305	eP	P	09 51 57.3	-0.8
QZH			eS	S	10 02 05.5	-6.4
QZH			LR	LR		
	comp=Z,340nm,19.6s					
QZH			LR	LR		
	comp=Z,1µm,21.0s					
QZH			LR	LR		
	comp=Z,1µm,21.3s					
LR03	Panguipulli	81.95 132	IAMs_20	IAMs_20	10 19 29.2	
	comp=Z,3µm,21.0s					
PLCA	Paso Flores	82.47 133		P	09 52 00.6	-0.6
PLCA	Paso Flores	82.47 133	P	P	09 52 03.2	+2.0
	comp=Z,5.9nm,0.9s,baz=221,slow=5.6,SNR=9.6					
PLCA			LR	LR	10 19 49.6	
	comp=Z,2µm,21.3s,baz=240,slow=29					
	comp=Z,5.9nm,0.9s					
PLCA	Paso Flores	82.47 133	eP	P	09 52 04.1	+2.9
PLCA			pmax	pmax		
	comp=Z,6.0nm,0.9s					
EFI	East Falkland	82.57 147	IAMs_20	IAMs_20	10 18 60.0	
	comp=Z,3µm,19.0s					
ASAJ	Asahikawa	82.73 333	P	P	09 52 00.4	-1.7
	comp=Z,7.3nm,1.0s,baz=261,slow=14,SNR=4.2					
	comp=Z,7.3nm,1.0s					
ATKA	Atka Island	82.92 3	IAMs_20	IAMs_20	10 21 04.6	
	comp=Z,3µm,21.0s					
SHEM	Shemya Is, Ala	83.61 356	LR	LR	10 22 36.3	
	comp=Z,2µm,21.8s,baz=162,slow=31					
BI02	San Fabin de	84.31 130		P	09 52 09.8	-1.0
KSRS	Korea Array	84.47 320	P	P	09 52 09.2	-2.0
	comp=Z,3.7nm,0.9s,baz=141,slow=5.6,SNR=11					
KSRS			LR	LR	10 29 04.2	
	comp=Z,531nm,18.3s,baz=125,slow=35					
	comp=Z,3.7nm,0.9s					
KSAR	Wonju Array Be	84.49 320		P	09 52 09.2	-2.1
KSAR	Wonju Array Be	84.49 320	P	P	09 52 09.2	-2.1
KS19	Wonju Array Si	84.54 320		P	09 52 10.4	-1.1
KS19			IAmb	IAmb	09 52 19.3	
	comp=Z,19nm,0.9s					
QIZ	Qiongzhong	84.80 296	P	P	09 52 14.8	+1.5
QIZ			S	S	10 02 39.5	-2.2
QIZ			SS	SS	10 08 16.9	+2.6
QIZ			LR	LR		
	comp=Z,360nm,13.5s					
QIZ			LR	LR		
	comp=Z,640nm,23.2s					
QIZ			LR	LR		
	comp=Z,2µm,31.1s					
RPSI	Rantau Prapat	84.95 276	P	P	09 52 12.5	-1.7
PSI	Prapat	85.00 276	P	P	09 52 12.5	-2.1
	comp=Z,1.9nm,0.5s,baz=170,slow=14,SNR=4.1					
	comp=Z,1.9nm,0.5s					
YSS	Yuzhno-Sakhali	85.06 335	P	P	09 52 20.9	+7.0
YSS	Yuzhno-Sakhali	85.06 335	eP	P	09 52 19.3	+5.4
YSS			eS	S	10 02 46.9	+3.9
YSS			pmax	pmax		
	comp=Z,40nm,1.1s					
LPIG	La Paz	85.27 58	LR	LR	10 21 42.0	
	comp=Z,1µm,20.4s,baz=230,slow=30					
SLBS	Sierra La Lagu	85.28 59	IAMs_20	IAMs_20	10 20 36.2	
	comp=Z,2µm,19.0s					
SLBS	Sierra La Lagu	85.28 59		P	09 52 15.8	+0.1
SLBS			IAmb	IAmb	09 52 25.7	
	comp=Z,42nm,1.2s					
GSI	Gunungsitoli	85.39 274	P	P	09 52 19.9	+3.5
BO02	Sierra Bellavi	85.70 128	P	P	09 52 18.0	+0.2
BO02			IAmb	IAmb	09 52 28.3	
	comp=Z,24nm,1.1s					
VTX	Valle De La Tr	85.97 50	IAmb	IAmb	09 52 28.7	
	comp=Z,42nm,1.4s					
PET	Petropavlovsk	85.98 346	IAMs_20	IAMs_20	10 24 18.5	
	comp=Z,2µm,20.0s					
MCCM	Marconi Confer	86.19 41	IAMs_20	IAMs_20	10 20 52.7	
	comp=Z,2µm,19.0s					
TKX	Tecate	86.20 48	IAMs_20	IAMs_20	10 21 45.2	
	comp=Z,2µm,20.0s					
NJ2	Nanjing	86.25 311	eP	P	09 52 20.3	+0.1
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,290nm,4.5s					
NJ2			LR	LR		
	comp=Z,760nm,17.5s					
NJ2			LR	LR		
	comp=Z,700nm,18.0s					
NJ2			LR	LR		
	comp=Z,1µm,20.4s					
PEA0B	Petropavlovsk-	86.26 346⇓	eP	P	09 52 24.0	+4.3
PETK	Petropavlovsk-	86.26 346	P	P	09 52 19.4	-0.3
	comp=Z,4.0nm,0.7s,baz=148,slow=6.1,SNR=12					
PETK			LR	LR	10 24 40.3	
	comp=Z,2µm,21.7s,baz=167,slow=31					
	comp=Z,4.0nm,0.7s					
ESJX	Sierra Juarez	86.26 49	IAmb	IAmb	09 52 30.5	
	comp=Z,33nm,1.4s					
ELS	Elsinore Mount	86.38 47	IAmb	IAmb	09 52 30.5	
	comp=Z,49nm,1.5s					
YUH	Yuha Desert	86.69 49	IAmb	IAmb	09 52 32.2	
	comp=Z,29nm,1.3s					
CPBX	Cerro Prieto	86.94 49	IAMs_20	IAMs_20	10 26 12.0	
	comp=Z,2µm,19.0s					
PFO	Pinyon Flats O	86.97 48		P	09 52 24.1	+0.3
PFO			IAmb	IAmb	09 52 32.8	
	comp=Z,51nm,1.6s					
PFO	Pinyon Flats O	86.97 48	LR	LR	10 22 38.7	
	comp=Z,2µm,21.2s,baz=238,slow=30					
PFO	Pinyon Flats O	86.97 48	P	P	09 52 24.2	+0.3
PFO			pmax	pmax		
	comp=Z,51nm,1.6s					
CCAC	Calif City Air	87.00 46	IAMs_20	IAMs_20	10 22 28.4	
	comp=Z,3µm,19.0s					
ISA	Isabella, Lake	87.06 45		P	09 52 24.9	+0.7
ISA	Isabella, Lake	87.06 45	P	P	09 52 24.9	+0.7
ISA			pmax	pmax		
	comp=Z,58nm,1.4s					
USRK	Ussuriysk Ar.	87.38 327	P	P	09 52 23.6	-1.8
	comp=Z,2.3nm,0.7s,baz=94,slow=5.9,SNR=6.0					
USRK			LR	LR	10 31 52.8	
	comp=Z,761nm,18.0s,baz=148,slow=36					
	comp=Z,2.3nm,0.7s					
SRIT	Nakonsritamara	87.44 282	IAMs_20	IAMs_20	10 20 20.2	
	comp=Z,3µm,19.0s					
CMB	Columbia Colle	87.53 42		P	09 52 25.9	-0.5
CMB			IAmb	IAmb	09 52 35.1	
	comp=Z,21nm,1.1s					
CMB	Columbia Colle	87.53 42	P	P	09 52 25.9	-0.5
CMB			pmax	pmax		
	comp=Z,21nm,1.2s					
CMB	Columbia Colle	87.53 42	IAMs_20	IAMs_20	10 22 45.4	
	comp=Z,3µm,19.0s					
GLA	Glamis	87.66 49	P	P	09 52 27.0	-0.1
GLA	Glamis	87.66 49	P	P	09 52 27.0	-0.1
GLA			pmax	pmax		
	comp=Z,77nm,1.4s					
O02D	Mt. Diablo Mer	87.67 39		P	09 52 27.2	+0.1
O02D	Mt. Diablo Mer	87.67 39	IAMs_20	IAMs_20	10 20 01.7	
	comp=Z,3µm,20.0s					
HSIG		87.76 54	P	P	09 52 27.7	0.0
HSIG			IAmb	IAmb	09 52 37.1	
	comp=Z,38nm,1.4s					
GSC	Goldstone, Bar	87.85 46	P	P	09 52 27.8	-0.3
GSC	Goldstone, Bar	87.85 46	P	P	09 52 27.8	-0.3
GSC			pmax	pmax		
	comp=Z,75nm,1.6s					
TYV	Tymovskoe	88.39 337	eP	P	09 52 35.6	+5.5
TYV			pmax	pmax		
	comp=Z,36nm,1.3s					
TYV			pmax	pmax		
	comp=Z,400nm,3.6s					
DSP	Deep Springs	88.50 44	IAmb	IAmb	09 52 40.2	
	comp=Z,22nm,1.3s					
GWY	Greenwater Val	88.51 46	IAmb	IAmb	09 52 39.6	
	comp=Z,57nm,1.7s					
GWY			IAMs_20	IAMs_20	10 28 02.3	
	comp=Z,2µm,19.0s					
PNTR	Pine Nut	88.70 42		P	09 52 32.1	-0.1
PNTR			IAmb	IAmb	09 52 41.0	
	comp=Z,28nm,1.1s					
LHV	Little Huntoon	88.77 43	IAmb	IAmb	09 52 41.5	
	comp=Z,36nm,1.2s					
BEKR	Beckworth	88.79 41	P	P	09 52 31.2	-1.3
BEKR			IAmb	IAmb	09 52 40.5	
	comp=Z,50nm,1.9s					
YBH	Yreka Blue Hor	88.80 38	LR	LR	10 24 00.8	
	comp=Z,716nm,21.1s,baz=227,slow=30					
MDJ	Mudanjiang	88.83 326	P	P	09 52 30.1	-2.2
MDJ			pmax	pmax		
	comp=Z,13nm,2.0s					
MDJ			LR	LR		
	comp=Z,830nm,16.5s					
MDJ			LR	LR		
	comp=Z,820nm,17.9s					
MDJ			LR	LR		
	comp=Z,2µm,17.9s					
MDJ	Mudanjiang	88.83 326	P	P	09 52 38.9	+6.6
HATC	Hat Creek Radi	88.83 40	IAMs_20	IAMs_20	10 22 41.7	
	comp=Z,3µm,19.0s					
WCT	Wildcat Mounta	88.93 45	IAmb	IAmb	09 52 42.5	
	comp=Z,35nm,1.6s					
K02D	Willamette Mer	88.98 37	IAMs_20	IAMs_20	10 20 40.2	
	comp=Z,2µm,19.0s					
NVAR	Mina Array Bea	89.01 43		P	09 52 33.4	-0.2
NVAR	Mina Array Bea	89.01 43	P	P	09 52 33.7	+0.1
	comp=Z,5.7nm,0.8s,baz=222,slow=7.3,SNR=29					
NVAR			LR	LR	10 24 29.2	
	comp=Z,2µm,20.5s,baz=210,slow=30					
	comp=Z,5.7nm,0.8s					
RYN	Ryan	89.01 43	IAmb	IAmb	09 52 41.7	
	comp=Z,24nm,1.4s					
NAYO	Nakonayok	89.01 287	P	P	09 52 39.0	+5.1
DL2	Dalian	89.05 318	eP	P	09 52 33.5	+0.1
DL2			S	S	10 03 18.8	-3.1
DL2			pmax	pmax		
	comp=Z,27nm,1.0s					
DL2			LR	LR		
	comp=Z,910nm,18.7s					
DL2			LR	LR		
	comp=Z,1µm,19.6s					
DL2			LR	LR		
	comp=Z,2µm,29.4s					
MZP	Montezuma Peak	89.07 44	P	P	09 52 33.1	-0.9
NV11	Mina Array Sit	89.09 43	P	P	09 52 33.8	-0.2
NV11			IAmb	IAmb	09 52 42.8	
	comp=Z,22nm,1.2s					
PAHR	Pah Rah Range	89.24 42	P	P	09 52 33.8	-0.8
PAHR			IAmb	IAmb	09 52 43.2	
	comp=Z,24nm,1.3s					
TPNV	Topopah Spring	89.26 45		P	09 52 35.2	+0.4
TPNV			IAmb	IAmb	09 52 43.5	
	comp=Z,62nm,1.8s					
TPNV	Topopah Spring	89.26 45	P	P	09 52 35.2	+0.4
TPNV			pmax	pmax		
	comp=Z,62nm,1.8s					
CFA	Coronel Fontan	89.28 127	LR	LR	10 25 13.9	
	comp=Z,638nm,19.1s,baz=222,slow=30					
V12A	Nelson	89.34 47		P	09 52 35.8	+0.7
V12A			IAmb	IAmb	09 52 44.8	
	comp=Z,26nm,1.4s					
L04D	Klamath Falls	89.36 38		P	09 52 34.5	-0.5
Y14A	Wickenburg	89.39 49		P	09 52 35.3	0.0
Y14A			IAmb	IAmb	09 52 45.2	
	comp=Z,26nm,1.1s					
DBO	Dodson Butte	89.50 37	IAMs_20	IAMs_20	10 21 29.9	
	comp=Z,2µm,19.0s					
NONG	Nongkai	89.54 291	P	P	09 52 39.8	+3.5
W13A	Hualapai Mount	89.55 48		P	09 52 36.7	+0.5
W13A			IAmb	IAmb	09 52 46.1	
	comp=Z,40nm,1.5s					
SHPR	Sheep Range	89.64 46		P	09 52 36.5	-0.1
I03D	Drain, OR	89.85 37	IAMs_20	IAMs_20	10 22 18.3	
	comp=Z,2µm,20.0s					
TUC	Tucson	89.86 52	P	P	09 52 38.2	+0.6
TUC			IAmb	IAmb	09 52 48.1	
	comp=Z,44nm,1.1s					
TUC	Tucson	89.86 52	P	P	09 52 38.2	+0.6
TUC			pmax	pmax		
	comp=Z,44nm,1.2s					
Q09A	Carvers	89.93 43	P	P	09 52 38.8	+0.9
Q09A			IAmb	IAmb	09 52 46.8	
	comp=Z,36nm,1.2s					
TIA	Tai'an	90.01 313	P	P	09 52 37.5	-0.6
TIA			pmax	pmax		
	comp=Z,29nm,1.1s					
TIA			LR	LR		
	comp=Z,1µm,22.6s					
TIA			LR	LR		
	comp=Z,1µm,22.6s					
TIA			LR	LR		
	comp=Z,2µm,25.0s					
S11A	Rachel	90.02 45	P	P	09 52 38.1	-0.2
S11A			IAmb	IAmb	09 53 10.2	
	comp=Z,30nm,1.3s					
J04A	Umpqua Nationa	90.17 38		P	09 52 39.6	+0.6
GO03	Copiapo	90.22 123	IAMs_20	IAMs_20	10 23 10.4	
	comp=Z,3µm,21.0s					
PRN	Pahroc Range	90.29 45	IAmb	IAmb	09 52 49.3	
	comp=Z,34nm,1.3s					
CN2	Changchun	90.31 323	P	P	09 52 41.3	+2.0
CN2			pmax	pmax		
	comp=Z,40nm,0.9s					
CN2			LR	LR		
	comp=Z,700nm,19.0s					
CN2			LR	LR		
	comp=Z,1µm,19.0s					
CN2			LR	LR		
	comp=Z,1µm,21.0s					
319A	Douglas	90.33 53	IAmb	IAmb	09 52 50.0	
	comp=Z,35nm,1.2s					
BUCK	Buck Mountain	90.39 36	IAMs_20	IAMs_20	10 24 02.5	
	comp=Z,2µm,21.0s					
R11B	Troy Canyon, C	90.57 44		P	09 52 41.0	+0.1
TLIG	Tlapa	90.66 70	P	P	09 52 40.8	-0.9
TLIG			IAmb	IAmb	09 52 52.6	
	comp=Z,30nm,1.4s					
J05D	Fort Rock, OR	90.66 38		P	09 52 40.2	-0.9
J05D			IAmb	IAmb	09 52 50.1	
	comp=Z,34nm,1.2s					
SLVN	Son La	90.70 294	IAMs_20	IAMs_20	10 23 34.5	
	comp=Z,1µm,20.0s					
BNX	BinXian	90.71 325	⇓P	P	09 52 39.8	-1.3
BNX			pP	sP	09 52 44.8	-0.4
BNX			PP	PP	09 56 16.1	-0.8
BNX			S	S	10 03 38.0	+1.0
BNX			sS	sS	10 03 43.1	+1.0
BNX			pmax	pmax		
	comp=Z,21nm,0.9s					
BNX			pmax	pmax		
	comp=Z,310nm,5.7s					
BNX			LR	LR		
	comp=Z,520nm,19.0s					
BNX			LR	LR		
	comp=Z,1µm,19.5s					
BNX			LR	LR		
	comp=Z,2µm,20.6s					
X16A	Lo Mia Camp, P	90.71 50	IAmb	IAmb	09 52 51.9	
	comp=Z,26nm,1.1s					
SRDT	SRDT	90.84 286	P	P	09 52 48.2	+5.8
KDAK	Kodiak Island	91.09 14	LR	LR	10 26 22.2	
	comp=Z,2µm,21.7s,baz=64,slow=31					
UNM	Universidad Na	91.11 68	IAMs_20	IAMs_20	10 24 54.9	
	comp=Z,2µm,18.0s					
H04A	Detroit Lake	91.14 36	IAMs_20	IAMs_20	10 21 47.4	
	comp=Z,2µm,19.0s					
DUN6	Lazy B Ranch	91.16 52	P	P	09 52 43.4	-0.3
LCMT	Little Creek M	91.16 47	P	P	09 52 43.4	-0.2
KLR	Kul'dur	91.29 330	P	P	09 52 42.8	-0.9
	comp=Z,1.7nm,0.8s,baz=60,slow=1.4,SNR=5.0					
	comp=Z,1.7nm,0.8s					
KLR	Kul'dur	91.29 330	eP	P	09 52 42.6	-1.1
KLR			pmax	pmax		
	comp=Z,21nm,1.5s					
P16K	Nushagak River	91.30 10	IAMs_20	IAMs_20	10 24 51.3	
	comp=Z,2µm,22.0s					
U15A	North Rim	91.39 48	IAmb	IAmb	09 52 53.2	
	comp=Z,16nm,1.0s					
KNB	Kanab	91.42 47	IAmb	IAmb	09 52 53.9	
	comp=Z,43nm,1.6s					
WVOR	Wild Horse Val	91.49 40	IAmb	IAmb	09 52 53.8

LYN pmax pmax
comp=Z,23nm,0.8s
LYN LR LR
comp=Z,1μm,19.6s
LYN LR LR
comp=Z,1μm,19.6s
LYN LR LR
comp=Z,2μm,27.7s
J08A Circle Bar Ran 92.19 39 IAmb IAmb 09 52 56.9
comp=Z,39nm,1.5s
J08A IAMs_20 IAMs_20 10 24 14.4
comp=Z,2μm,19.0s
HNS HongShan 92.26 313 ⇓P P 09 52 53.1 +4.6
HNS pmax pmax
comp=Z,16nm,1.1s
HNS LR LR
comp=Z,710nm,21.5s
HNS LR LR
comp=Z,1μm,22.7s
HNS LR LR
comp=Z,2μm,23.7s
ELK Elko 92.31 43 IAmb IAmb 09 52 56.7
comp=Z,36nm,1.9s
ELK Elko 92.31 43 LR LR 10 26 10.4
comp=Z,2μm,21.6s,baz=222,slow=30
ELK Elko 92.31 43 IAMs_20 IAMs_20 10 25 59.0
comp=Z,3μm,19.0s
GNW Green Mountain 92.84 34 IAmb IAmb 09 53 12.2
comp=Z,32nm,1.8s
GNW IAMs_20 IAMs_20 10 25 30.3
comp=Z,2μm,21.0s
VHRN Van Horn 92.99 56 IAmb IAmb 09 53 07.9
comp=Z,36nm,1.9s
O19K Port Alsworth 93.02 12 P **P** **09 52 49.9 -1.4**
O19K IAmb IAmb 09 53 04.5
comp=Z,46nm,1.8s
ILSW Iliamna Southw 93.03 12 P **P** **09 52 49.1 -2.5**
ILSW IAmb IAmb 09 52 57.0
comp=Z,11nm,0.9s
TX31 Lajitas Ar. Si 93.12 58 IAmb IAmb 09 53 02.4
comp=Z,19nm,1.4s
TXAR Lajitas Array 93.12 58 **P** **09 52 51.3 -1.5**
TXAR Lajitas Array 93.12 58 P **P** **09 52 53.5 +0.6**
comp=Z,1.6nm,1.0s,baz=216,slow=6.2,SNR=6.9
comp=Z,1.6nm,1.0s
CMAR Chiang Mai Arr 93.13 290 P **P** **09 52 50.3 -2.6**
comp=Z,0.4nm,0.5s,baz=137,slow=3.8,SNR=8.4
CMAR PP **PP** **09 56 36.9 +0.4**
comp=Z,3.6nm,1.0s,baz=131,slow=5.9,SNR=10
CMAR PKKPbc **PKKPbc** **10 10 04.2 +3.1**
comp=Z,0.7nm,0.6s,baz=290,slow=4.3,SNR=4.1
comp=Z,0.4nm,0.5s
G08A Pilot Rock 93.22 38 IAmb IAmb 09 53 00.7
comp=Z,24nm,1.3s
CHTO Chiang Mai 93.31 290 P P 09 52 58.7 +4.9
DUG Dugway, Tooele 93.40 44 P **P** **09 52 54.8 +0.9**
DUG pmax pmax
comp=Z,6.0nm,1.4s
DUG Dugway, Tooele 93.40 44 IAMs_20 IAMs_20 10 25 52.0
comp=Z,2μm,20.0s
HAWA Hanford 93.67 36 IAMs_20 IAMs_20 10 23 19.2
comp=Z,2μm,21.0s
MA2 Magadan 93.73 345 LR LR 10 29 22.3
comp=Z,1μm,21.7s,baz=158,slow=32
NNA Nana 93.74 106 LR LR 10 25 41.3
comp=Z,2μm,21.2s,baz=233,slow=29
BMO Blue Mountains 93.81 39 **P** **09 52 55.0 -0.6**
BMO Blue Mountains 93.81 39 P **P** **09 52 55.0 -0.6**
BMO pmax pmax
comp=Z,7.0nm,1.2s
BMO Blue Mountains 93.81 39 IAMs_20 IAMs_20 10 24 26.3
comp=Z,2μm,20.0s
TMUT Trail Mountain 93.83 46 P **P** **09 52 55.1 -1.0**
TMUT IAmb IAmb 09 53 04.8
comp=Z,23nm,1.5s
TMUT IAMs_20 IAMs_20 10 31 18.0
comp=Z,2μm,18.0s
HEH HeiHe 93.95 329 *e*P **P** **09 52 59.4 +3.5**
HEH pP **sP** **09 53 02.8 +2.7**
HEH S **S** **10 04 06.9 +1.1**
HEH pmax pmax
comp=Z,12nm,1.0s
HEH pmax pmax
comp=Z,320nm,5.5s
HEH LR LR
comp=Z,660nm,17.6s
HEH LR LR
comp=Z,470nm,17.8s
HEH LR LR
comp=Z,1μm,17.8s
K15K Wolf Creek Mou 93.97 8 IAMs_20 IAMs_20 10 26 03.9
comp=Z,2μm,22.0s
XAN Xi'an 94.07 307 ⇑P **P** **09 52 56.8 -0.2**
XAN S **S** **10 04 07.1 -0.7**
XAN pmax pmax
comp=Z,6.0nm,1.2s
XAN LR LR
comp=Z,870nm,19.2s
XAN LR LR
comp=Z,520nm,19.6s
XAN LR LR
comp=Z,1μm,19.2s
SRU San Rafael Swe 94.14 46 IAmb IAmb 09 53 05.1
comp=Z,43nm,2.0s
J14K Nanvaranak Lak 94.19 7 IAMs_20 IAMs_20 10 29 32.7
comp=Z,2μm,20.0s
ANMO Albuquerque 94.33 52 **P** **09 52 56.7 -1.7**
ANMO IAmb IAmb 09 53 13.8
comp=Z,28nm,1.9s
ANMO Albuquerque 94.33 52 P **P** **09 52 56.6 -1.8**
ANMO IAmb IAmb 09 53 13.8
comp=Z,26nm,1.9s
ANMO Albuquerque 94.33 52 **P** **09 52 57.7 -0.7**
ANMO IAmb IAmb 09 53 13.8
comp=Z,24nm,1.8s
ANMO Albuquerque 94.33 52 LR LR 10 28 10.3
comp=Z,771nm,19.4s,baz=44,slow=31
ANMO Albuquerque 94.33 52⇑*e*P P 09 53 03.9 +5.5
ANMO pmax pmax
comp=Z,7.0nm,1.9s
HVU Hansel Valley 94.40 43 **P** **09 52 57.8 -0.7**
HVU IAmb IAmb 09 53 07.2
comp=Z,22nm,1.2s
HVU Hansel Valley 94.40 43 P **P** **09 52 57.8 -0.7**
HVU pmax pmax
comp=Z,22nm,1.2s
D08A Wollman Farm, 94.43 36 P **P** **09 52 58.1 -0.1**
HLID Hailey 94.57 41 **P** **09 52 58.3 -1.0**
HLID IAmb IAmb 09 53 07.4
comp=Z,24nm,1.8s
F10A Beach Ranch, E 94.59 38 P **P** **09 52 58.6 -0.5**
PLID Pearl Lake 94.67 39 **P** **09 52 59.5 -0.2**
PLID Pearl Lake 94.67 39 IAMs_20 IAMs_20 10 26 24.0
comp=Z,2μm,20.0s
K17K Iditarod 94.79 9 IAMs_20 IAMs_20 10 27 15.1
comp=Z,2μm,22.0s
L19K White Mountain 94.80 11 IAMs_20 IAMs_20 10 26 08.7
comp=Z,2μm,20.0s
BSUT Blindstream Ca 94.85 45 **P** **09 53 00.3 -0.6**
V35K Ketchikan 94.90 25 IAMs_20 IAMs_20 10 25 20.1
comp=Z,2μm,19.0s
U33K Whale Pass 94.99 24 IAMs_20 IAMs_20 10 23 45.2
comp=Z,2μm,19.0s
HWUT Hardware Ranch 95.01 44 IAMs_20 IAMs_20 10 27 38.7
comp=Z,3μm,19.0s
ATAH Atahualpa 95.02 101 LR LR 10 25 54.5
comp=Z,567nm,22.0s,baz=237,slow=29
PZH PanZhiHua 95.14 298 P **P** **09 53 02.1 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,4.3s
PZH LR LR
comp=Z,840nm,20.6s
PZH LR LR
comp=Z,600nm,21.0s
PZH LR LR
comp=Z,1μm,20.6s
DRIO Del Rio 95.40 59 **P** **09 53 01.1 -2.1**
S22A 4UR Ranch, Cre 95.69 49 IAMs_20 IAMs_20 10 27 05.3
comp=Z,2μm,20.0s
KLU Klutina 95.89 15 IAMs_20 IAMs_20 10 29 01.4
comp=Z,2μm,21.0s
CD2 Chengdu 95.98 302 P **P** **09 53 05.1 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
AHID Auburn Hatcher 95.99 43 IAMs_20 IAMs_20 10 27 22.4
comp=Z,2μm,20.0s
BCPM Bancas Point 96.12 19 IAMs_20 IAMs_20 10 26 36.1
comp=Z,2μm,21.0s
NEW Newport 96.14 36 IAMs_20 IAMs_20 10 26 05.5
comp=Z,2μm,19.0s
NEW Newport 96.14 36 LR LR 10 28 37.5
comp=Z,2μm,21.9s,baz=227,slow=31
HHC Hu-ho-hao-te 96.28 314 *e*P **P** **09 53 06.5 -0.5**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,120nm,5.0s
P29M Windy Craggy 96.38 20 IAMs_20 IAMs_20 10 26 58.2
comp=Z,3μm,22.0s
SEY Seymchan 96.44 347 LR LR 10 32 32.0
comp=Z,1μm,20.6s,baz=155,slow=33
SEY Seymchan 96.44 347 *e*P **P** **09 53 10.2 +3.2**
SEY pmax pmax
comp=Z,7.0nm,1.7s
TPAW Teton Pass 96.51 43 IAMs_20 IAMs_20 10 28 34.1
comp=Z,2μm,20.0s
FXWY Fox Creek 96.56 42 P **P** **09 53 07.9 -0.5**
FXWY IAmb IAmb 09 53 18.0
comp=Z,25nm,1.9s
FXWY Fox Creek 96.56 42 IAMs_20 IAMs_20 10 28 25.4
comp=Z,2μm,19.0s
JCT Junction City 96.56 58 IAMs_20 IAMs_20 10 27 32.8
comp=Z,2μm,18.0s
TNA Tin City 96.59 4 IAMs_20 IAMs_20 10 29 36.0
comp=Z,2μm,20.0s
SNOW Snow King Moun 96.61 43 IAmb IAmb 09 53 16.7
comp=Z,32nm,1.8s
SNOW Snow King Moun 96.61 43 IAMs_20 IAMs_20 10 27 51.8
comp=Z,2μm,20.0s
O28M Mount Upton 96.66 18 IAMs_20 IAMs_20 10 31 39.9
comp=Z,2μm,18.0s
O29M Mount Kennedy 96.70 19 IAMs_20 IAMs_20 10 26 03.6
comp=Z,3μm,22.0s
LOHW Long Hollow 96.79 43 IAMs_20 IAMs_20 10 28 34.5
comp=Z,2μm,20.0s
MSO Missoula 96.88 39 IAMs_20 IAMs_20 10 26 14.6
comp=Z,2μm,19.0s
PDAR Pinedale Array 96.90 44 P **P** **09 53 09.4 -0.6**
comp=Z,1.0nm,0.8s,baz=180,slow=3.0,SNR=5.6
PDAR PP **PP** **09 57 10.9 +5.2**
comp=Z,0.2nm,0.5s,baz=232,slow=3.6,SNR=4.8
PDAR LR LR 10 29 12.3
comp=Z,1μm,21.5s,baz=230,slow=31
comp=Z,1.0nm,0.8s
F15K North Star Dit 96.98 6 IAMs_20 IAMs_20 10 27 38.6
comp=Z,2μm,21.0s
BTO Baotou 97.10 313 *e*P Pdif 09 53 11.8 +1.0
BTO sP sP 09 53 19.0 +4.1
BTO PP **PP** **09 57 07.0 -0.2**
BTO S **S** **10 04 36.4 +2.5**
BTO pmax pmax
comp=Z,13nm,0.7s
BTO pmax pmax
comp=Z,410nm,6.1s
BTO LR LR
comp=Z,1μm,17.5s
BTO LR LR
comp=Z,1μm,15.3s
BTO LR LR
comp=Z,990nm,14.8s
YFT Old Faithful 97.16 42 IAMs_20 IAMs_20 10 25 27.9
comp=Z,2μm,20.0s
YHL Hebgen Lake 97.20 41 **P** **09 53 10.3 -1.0**
I20K Naaghedeneel 97.31 10 IAMs_20 IAMs_20 10 29 26.6
comp=Z,2μm,21.0s
M27K Edge Creek, AK 97.59 16 IAMs_20 IAMs_20 10 30 54.3
comp=Z,2μm,21.0s
ISCO Idaho Springs 97.63 48 IAMs_20 IAMs_20 10 29 00.4
comp=Z,2μm,18.0s
G18K Tagagawik 97.79 8 IAMs_20 IAMs_20 10 26 18.4
comp=Z,2μm,22.0s
HERN Volcan Telica 97.86 80 IAMs_20 IAMs_20 10 30 05.5
comp=Z,1μm,20.0s
F17K Baldwin Pennin 98.02 7 IAMs_20 IAMs_20 10 32 01.6
comp=Z,2μm,20.0s
N30M Aishikik Lake 98.07 19 IAMs_20 IAMs_20 10 27 48.8
comp=Z,2μm,21.0s
WRH Wood River Hil 98.11 13 IAmb IAmb 09 53 28.3
comp=Z,25nm,2.0s
JTS Las Juntas de 98.30 83 LR LR 10 30 48.4
comp=Z,961nm,18.5s,baz=291,slow=31
LPAZ La Paz 98.36 115 LR LR 10 27 09.0
comp=Z,750nm,21.5s,baz=210,slow=29
RLMT Red Lodge 98.45 42 IAMs_20 IAMs_20 10 29 38.5
comp=Z,2μm,20.0s
N31M Braeburn, Yuko 98.46 19 IAMs_20 IAMs_20 10 27 12.1
comp=Z,3μm,22.0s
ILAR Eielson Array 98.61 13 P **P** **09 53 15.1 -1.7**
comp=Z,0.2nm,0.7s,baz=227,slow=6.4,SNR=6.3
ILAR LR LR 10 31 02.6
comp=Z,1μm,21.9s,baz=210,slow=31
comp=Z,0.2nm,0.7s
OTAV Otavalo 98.81 95 IAMs_20 IAMs_20 10 27 18.9
comp=Z,1μm,21.0s
E18K Tukpahlearik C 99.04 7 IAMs_20 IAMs_20 10 32 43.4
comp=Z,2μm,20.0s
J26L Joseph Creek 99.06 15 IAMs_20 IAMs_20 10 31 15.0
comp=Z,2μm,20.0s
WHTX Lake Whitney, 99.06 58 IAMs_20 IAMs_20 10 29 02.0
comp=Z,2μm,19.0s
H23K Yukon River 99.07 12 IAMs_20 IAMs_20 10 30 23.8
comp=Z,2μm,21.0s
HKT Hockley 99.23 61 IAMs_20 IAMs_20 10 29 21.6
comp=Z,2μm,18.0s
BILL Bilibino 99.38 354 IAMs_20 IAMs_20 10 31 42.3
comp=Z,2μm,20.0s
G23K Bananza Creek 99.80 11 IAMs_20 IAMs_20 10 26 37.9
comp=Z,2μm,19.0s
EGMT Eagleton 99.87 39 IAMs_20 IAMs_20 10 29 37.7
comp=Z,2μm,20.0s
K29M Barlow Dome 99.92 17 IAMs_20 IAMs_20 10 33 38.0
comp=Z,2μm,18.0s
D19K Kuna River 100.34 8 IAMs_20 IAMs_20 10 32 04.5
comp=Z,2μm,22.0s
CBKS Cedar Bluff 100.95 51 IAMs_20 IAMs_20 10 27 20.6
comp=Z,2μm,19.0s
E23K Chandalar 101.09 11 IAMs_20 IAMs_20 10 33 19.5
comp=Z,1μm,20.0s
TOLK Toolik Lake Re 101.63 10 IAMs_20 IAMs_20 10 31 30.2
comp=Z,2μm,22.0s
H31M Peel River 102.31 17 IAMs_20 IAMs_20 10 29 57.5
comp=Z,2μm,22.0s
H31M Peel River 102.31 17 IAMs_20 IAMs_20 10 35 30.2
comp=Z,2μm,18.0s
C23K Itkillik River 102.56 10 IAMs_20 IAMs_20 10 32 00.7
comp=Z,2μm,21.0s
C24K Franklin Bluff 102.74 10 IAMs_20 IAMs_20 10 28 02.2
comp=Z,1μm,20.0s
D25K Kavik River 102.75 11 IAMs_20 IAMs_20 10 32 53.1
comp=Z,2μm,21.0s
SONM Songino Array 103.24 318 PP **PP** **09 57 52.0 -1.7**
comp=Z,0.9nm,0.9s,baz=117,slow=5.2,SNR=4.5
BGNE Belgrade 103.31 50 IAMs_20 IAMs_20 10 31 52.0
comp=Z,2μm,19.0s
E28A Huff 104.27 44 IAMs_20 IAMs_20 10 33 28.0
comp=Z,1μm,18.0s
SUSD Miller 104.28 47 IAMs_20 IAMs_20 10 29 14.5
comp=Z,2μm,21.0s
L34A Svendsen Farm, 104.74 50 IAMs_20 IAMs_20 10 32 44.9
comp=Z,2μm,20.0s
MDND Maddock 105.55 43 IAMs_20 IAMs_20 10 34 09.6
comp=Z,2μm,19.0s
YKA Yellowknife Ar 106.19 26 PP **PKiKP** **09 58 06.7 +4.6**
comp=Z,0.1nm,0.5s,baz=212,slow=13,SNR=5.8
YKA PKKPbc **PKKPbc** **10 09 25.7 +0.4**
comp=Z,0.4nm,0.8s,baz=48,slow=3.6,SNR=7.4
F33A 5 Mile Ranch, 106.60 46 IAMs_20 IAMs_20 10 34 07.9
comp=Z,2μm,19.0s
PLAL Pickwick Lake 107.37 59 IAMs_20 IAMs_20 10 34 32.4
comp=Z,2μm,18.0s
I37A Lemond, Waseca 107.62 49 IAMs_20 IAMs_20 10 34 55.0
comp=Z,2μm,20.0s
L40A Anamosa 108.21 52 IAMs_20 IAMs_20 10 30 20.9
comp=Z,1μm,18.0s
SPMN Marine on St. 108.53 48 IAMs_20 IAMs_20 10 30 55.0
comp=Z,1μm,20.0s
V48A Smith Brothers 108.62 59 IAMs_20 IAMs_20 10 31 59.5
comp=Z,1μm,18.0s
I40A Norwalk 109.38 50 IAMs_20 IAMs_20 10 35 28.8
comp=Z,2μm,19.0s
W50A Signal Mountai 109.51 60 IAMs_20 IAMs_20 10 34 57.2
comp=Z,2μm,18.0s
SDV Santo Domingo 109.88 91 IAMs_20 IAMs_20 10 35 13.7
comp=Z,1μm,21.0s
E38A The Farm, Brul 109.90 47 IAMs_20 IAMs_20 10 35 25.2
comp=Z,2μm,20.0s
Y52A Lilburn 109.90 62 IAMs_20 IAMs_20 10 36 38.5
comp=Z,1μm,18.0s
CHIV Chivirico 110.13 78 IAMs_20 IAMs_20 10 32 49.8
comp=Z,585nm,21.0s
W52A Murphy 110.50 61 IAMs_20 IAMs_20 10 36 36.4
comp=Z,2μm,18.0s
COWI Conover 111.23 48 IAMs_20 IAMs_20 10 38 07.6
comp=Z,2μm,20.0s
H43A Windswept, Lux 111.49 50 IAMs_20 IAMs_20 10 36 08.6
comp=Z,2μm,20.0s
V53A Saluda 111.57 61 IAMs_20 IAMs_20 10 36 20.6
comp=Z,2μm,18.0s
MACA Manacapuru-AM 111.91 108 IAMs_20 IAMs_20 10 35 48.9
comp=Z,2μm,20.0s
I45A Fountain 112.34 51 IAMs_20 IAMs_20 10 38 11.4
comp=Z,2μm,19.0s
KMSC Kings Mountain 112.48 62 IAMs_20 IAMs_20 10 31 41.7
comp=Z,2μm,18.0s
SOE Somerset East 112.65 202 IAMs_20 IAMs_20 10 39 35.7
comp=Z,1μm,18.0s
V55A Taylorsville 112.84 61 IAMs_20 IAMs_20 10 37 57.2
comp=Z,2μm,18.0s
WMQ Urumqi 113.20 308 *e*PKP **PKiKP** **09 58 15.8 -0.2**
WMQ LR LR
comp=Z,760nm,19.7s
WMQ LR LR
comp=Z,670nm,19.9s
WMQ LR LR
comp=Z,630nm,20.9s
Y58A Scranton 113.27 63 IAMs_20 IAMs_20 10 38 56.8
comp=Z,1μm,18.0s
U56A King 113.65 61 IAMs_20 IAMs_20 10 38 21.7
comp=Z,1μm,19.0s
SDDR Presa de Saban 114.03 82 IAMs_20 IAMs_20 10 40 23.0
comp=Z,645nm,20.0s
V58A Windy Hill, Pi 114.40 62 IAMs_20 IAMs_20 10 39 43.6
comp=Z,1μm,18.0s
S57A Dark Hollow, R 115.23 60 IAMs_20 IAMs_20 10 37 44.4
comp=Z,1μm,18.0s
ZSN Zaisan 116.28 311 *e*PKIKP **PKiKP** **09 58 24.5 +2.8**
ZSN Zaisan 116.28 311 *e*PKP **PKiKP** **09 58 24.6 +2.8**
CBN Corbin Frederi 116.55 60 IAMs_20 IAMs_20 10 37 01.4
comp=Z,1μm,18.0s
MEDO Medina 117.36 54 IAMs_20 IAMs_20 10 31 45.1
comp=Z,2μm,18.0s
MK31 Makanchi Array 117.77 310⇑*i*PKIKP **PKiKP** **09 58 28.4 +3.7**
MKAR Makanchi Array 117.77 310 PKP **PKPdf** **09 58 23.1 -1.5**
comp=Z,1.8nm,1.0s,baz=75,slow=5.1,SNR=6.5
MKAR PKKPbc **PKKPab** **10 08 49.4 +2.1**
comp=Z,0.5nm,0.7s,baz=285,slow=4.8,SNR=3.9
ZALV Zalesovo Beam 118.14 318 PKP **PKPdf** **09 58 24.1 -1.0**
comp=Z,0.8nm,0.5s,baz=357,slow=3.3,SNR=4.8
ZALV Zalesovo Beam 118.14 318 *e*PKIKP **PKiKP** **09 58 28.6 +3.5**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
SHLS Shalkode 118.65 305 *e*PKIKP **PKiKP** **09 58 28.3 +1.7**
SHLS Shalkode 118.65 305 *e*PKP **PKiKP** **09 58 28.4 +1.7**
UZB Uzynbulak 118.95 305 *e*PKIKP **PKiKP** **09 58 29.4 +2.2**
UZB Uzynbulak 118.95 305 *e*PKP **PKiKP** **09 58 29.5 +2.2**
KPKS Kokpek 119.28 305 *e*PKIKP **PKiKP** **09 58 30.1 +2.3**
KPKS *e* 09 59 49.1
KPKS Kokpek 119.28 305 *e*PKP **PKiKP** **09 58 30.1 +2.3**
KPKS *e*PP **PP** **09 59 49.2 +0.1**
SATY Saty 119.36 305 *e*PKIKP **PKiKP** **09 58 30.3 +2.3**
SATY Saty 119.36 305 *e*PKP **PKiKP** **09 58 30.4 +2.3**
TDK Taldyqorghan 119.89 307 *e*PKIKP **PKiKP** **09 58 31.4 +2.6**
TDK Taldyqorghan 119.89 307 *e*PKP **PKiKP** **09 58 31.5 +2.6**
NRIK Noril'sk 119.97 336 PKP **PKPdf** **09 58 26.2 -1.9**
comp=Z,1.7nm,0.5s,baz=162,slow=3.1,SNR=5.8
NRIK Noril'sk 119.97 336⇓*i*PKIKP **PKiKP** **09 58 32.4 +4.2**
MDOK Medeo 120.35 305 *e*PKIKP **PKiKP** **09 58 32.2 +2.2**
MDOK Medeo 120.35 305 *e*PKP **PKiKP** **09 58 32.2 +2.2**
TNSS Tian-Shan 120.38 305 *e*PKIKP **PKiKP** **09 58 32.3 +1.9**
TNSS Tian-Shan 120.38 305 *e*PKP **PKiKP** **09 58 32.4 +1.9**
KUU Kurty 121.03 305 *e*PKIKP **PKiKP** **09 58 33.6 +2.5**
KUU Kurty 121.03 305 *e*PKP **PKiKP** **09 58 33.7 +2.5**
KURK Kurchatov 121.09 314 PKIKP **PKPdf** **09 58 29.9 -0.9**
KURBB Kurchatov Arra 121.13 314 PKP **PKPdf** **09 58 29.9 -1.1**
comp=Z,4.1nm,0.8s,baz=109,slow=2.0,SNR=9.4
KURBB PP **PP** **09 59 59.5 -1.9**
comp=Z,1.3nm,0.9s,baz=104,slow=6.8,SNR=6.4
KURBB PKKPbc **PKKPbc** **10 08 36.2 +2.3**
comp=Z,0.5nm,0.8s,baz=282,slow=4.9,SNR=4.2
AAK Ala-Archa 122.03 304 IAMs_20 IAMs_20 10 40 47.3
comp=Z,2μm,22.0s
AAK Ala-Archa 122.03 304⇑*i*PKIKP **PKiKP** **09 58 36.4 +3.1**
SGDS Sogindy 122.13 305 *e*PKIKP **PKiKP** **09 58 35.5 +2.2**
SGDS Sogindy 122.13 305 *e*PKP **PKiKP** **09 58 35.6 +2.2**
DZA Taraz 124.35 303 *e*PKIKP **PKiKP** **09 58 39.7 +2.0**
DZA Taraz 124.35 303 *e*PKP **PKiKP** **09 58 39.8 +2.0**
BRZS Berezniki 124.71 312 *e*PKIKP **PKiKP** **09 58 40.6 +2.5**
BRZS Berezniki 124.71 312 *e*PKP **PKiKP** **09 58 40.7 +2.5**
KKAR Karatay Array 124.98 303 **PKPdf** **09 58 37.5 -1.1**
KKAR Karatay Array 124.98 303 PKIKP **PKPdf** **09 58 37.5 -1.1**
IUG Iuzhnay 125.13 302 *e*PKIKP **PKiKP** **09 58 41.2 +1.8**
IUG Iuzhnay 125.13 302 *e*PKP **PKiKP** **09 58 41.2 +1.8**
BRLS Borolday 125.45 303 *e*PKIKP **PKiKP** **09 58 41.9 +2.0**
BRLS Borolday 125.45 303 *e*PKP **PKiKP** **09 58 42.0 +2.0**
BVAR Borovoye Array 126.48 315 PKP **PKPdf** **09 58 39.5 -1.6**
comp=Z,2.2nm,0.9s,baz=333,slow=1.7,SNR=4.6
BRVK Borovoye 126.54 316 IAMs_20 IAMs_20 10 39 37.1
comp=Z,1μm,20.0s
BRVK Borovoye 126.54 316⇑*e*PKIKP **PKiKP** **09 58 42.4 +0.7**
SHEL Horse Pasture 132.82 171 *i* PKIKP **PKiKP** **09 58 55.0 -0.5**
ABKAR Akbulak array 132.91 310 PKPdf **PKPdf** **09 58 51.4 -2.0**
ARTI Arti 133.33 320 PKPdf **PKPdf** **09 58 53.4 -0.6**
ARTI Arti 133.33 320 *i* PKIKP **PKiKP** **09 58 57.6 +2.4**
ARTI 10 01 22.5
AKTO Aktyubinsk 134.13 312 PKP **PKPdf** **09 58 55.9 +0.2**
comp=Z,2.6nm,0.8s,baz=288,slow=7.8,SNR=6.0
KIRV Kirov 137.51 325⇓*e*PKIKP **PKiKP** **09 59 05.0 +1.4**
ARCES ARCESS Array B 139.05 347 PKP **PKPdf** **09 59 03.5 -0.8**
comp=Z,2.9nm,0.9s,baz=38,slow=2.2,SNR=5.5
KLMR Klimovskoe 141.04 331 *e*PKIKP **PKiKP** **09 59 09.7 -1.1**
KLMR pmax pmax
comp=Z,24nm,1.6s
MAK Makhachkala 141.74 301 *i* P **Pdif** **09 56 21.4 -7.7**
MAK *i* 09 59 10.1
MAK *e* 10 02 12.3
MAK *e* 10 06 19.3
MAK *e*SS SS 10 20 43.6 -3.1
MAK pmax pmax
comp=Z,89nm,1.1s
GNI Garni 143.90 297 PKP PKPbc 09 59 12.1 +0.2
comp=Z,7.3nm,0.6s,baz=96,slow=3.0,SNR=4.3
VRH Novokhopyorsk 144.12 316 *e*PKIKP **PKPdf** **09 59 13.3 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.9s
MOS Moscow 144.53 325 *e*PKIKP **PKPdf** **09 59 16.0 +1.6**
MOS pmax pmax
comp=Z,70nm,0.9s
NCK Nalchik 144.54 303⇓*e*PKIKP **PKiKP** **09 59 16.9 -1.7**
GOF Gofitskoye 144.73 305*ce*PKIKP **PKPdf** **09 59 15.9 +0.7**
KBZ Khabaz 145.02 303 PKP PKPbc 09 59 13.0 -2.0
comp=Z,20nm,1.0s,baz=158,slow=2.6,SNR=10.0
KBZ Khabaz 145.02 303⇑*e*PKIKP PKPbc 09 59 13.9 -1.1
KIV Kislovodsk 145.14 304 PKPbc **PKPbc** **09 59 13.9 -1.7**
KIV Kislovodsk 145.14 304 *i* PKIKP **PKiKP** **09 59 18.9 -1.0**
KIV pmax pmax
comp=Z,29nm,1.1s
SHA1 Shidzhatmaz 145.19 303*d i* PKIKP **PKPdf** **09 59 16.3 0.0**
LPSR Galich'ya Gora 145.24 319 *e*PKP2 **PKPbc** **09 59 13.9 -1.5**
LPSR pmax pmax
comp=Z,70nm,1.0s
PUL Pulkovo 145.32 335⇑*e*PKIKP **PKiKP** **09 59 19.1 -0.5**
OBN Obninsk 145.36 324 PKPbc **PKPbc** **09 59 12.9 -2.8**
comp=Z,14nm,0.3s,baz=308,slow=7.6,SNR=6.1
OBN Obninsk 145.36 324 *i* PKIKP **PKiKP** **09 59 18.8 -1.0**
OBN pmax pmax
comp=Z,126nm,1.2s
VORR Voronezh 145.44 318 *e*PKP2 **PKPbc** **09 59 14.4 -1.7**
VORR pmax pmax
comp=Z,50nm,0.9s
FIA1 FINESS Array S 145.52 339 **PKPdf** **09 59 14.1 -1.9**
FINES FINESS Array B 145.52 339 PKPdf **PKPdf** **09 59 14.0 -2.0**
FINES FINESS Array B 145.52 339 PKPbc **PKPdf** **09 59 13.3 -2.7**
comp=Z,5.3nm,0.5s,baz=35,slow=3.7,SNR=21
FINES FINESS Array B 145.52 339 PKHKP PKPpre 09 59 14.0
VSR Storozhevoye 145.63 317 *e*PKP2 **PKPdf** **09 59 14.4 -2.1**
VSR pmax pmax
comp=Z,60nm,1.0s
VORD Divnogorie 145.65 317 *e*PKHKP PKPpre 09 59 14.2

VORD pmax pmax
comp=Z,50nm,0.9s
MARD Mardin 147.00 292 PKPdf **PKPdf 09 59 17.6 -1.8**
VSLR Vesyoloye 147.12 303 ⇑*i*PKP2 **PKiKP 09 59 25.2 +1.3**
SOC Sochi 147.32 303 *e*PKP2 **PKPab 09 59 23.7 -0.2**
SOC *e* 10 02 55.8
SOC *e*PPP PPP 10 06 03.5
SOC *e*SS SS 10 21 51.6 +1.0
SOC *e*SSS SSS 10 27 26.5
VSU Vasula 147.55 335⇑ *e*PKIKP **PKPdf 09 59 19.5 0.0**
NC405 NORSAR Array S 149.11 350 PKPbc **PKPbc 09 59 24.2 -2.0**
NB201 NORSAR Array S 149.23 351 PKPbc **PKiKP 09 59 27.4 -0.3**
NB2 NORSAR Subarra149.25 351 PKP **PKPbc 09 59 25.6 -1.0**
comp=Z,179nm,2.5s,baz=17,slow=2.6
NB2 NORSAR Subarra149.25 351 PKP **PKPbc 09 59 25.6 -1.0**
baz=17,slow=2.6
NOA NORSAR Array B 149.25 351 PKPbc **PKPbc 09 59 24.9 -1.6**
comp=Z,8.1nm,0.8s,baz=15,slow=4.3,SNR=16
NOA NORSAR Array B 149.25 351 PKHKP PKPpre 09 59 25.0
NBO00 NORSAR Array S 149.32 351 **PKPbc 09 59 26.7 0.0**
NAO01 NORSAR Array S 149.49 351 PKPbc **PKPbc 09 59 27.3 +0.2**
NC602 NORSAR Array S 149.50 350 **PKPbc 09 59 26.3 -0.8**
HFS Hagfors 149.72 348 PKPbc **PKPbc 09 59 25.6 -2.1**
comp=Z,13nm,0.8s,baz=158,slow=1.6,SNR=8.0
MNK Minsk 149.83 329 *i*PKP2 **PKPab 09 59 31.3 -2.3**
MNK *i* 10 03 04.2
MNK *i*PPP PPP 10 06 24.1
MNK *i* 10 06 32.1
MNK *i*SS SS 10 22 21.3 +4.0
MNK *i*SSS SSS 10 28 00.8
MNK pmax pmax
comp=Z,43nm,1.0s
MNK pmax pmax
comp=N,30nm,1.0s
MNK pmax pmax
comp=E,29nm,1.1s
MNK MLR MLR
comp=N,892nm,19.0s
MNK MLR MLR
comp=Z,1μm,19.0s
MNK MLR MLR
comp=E,766nm,18.0s
ASF Jabal al Asfar 149.84 282 PKPbc **PKPbc 09 59 27.5 -1.5**
comp=E,9.0nm,0.8s,baz=259,slow=1.1,SNR=9.2
PABE Paberze 150.76 333 PKPbc **PKiKP 09 59 30.9 0.0**
KONO Kongsberg 150.81 351 PKPbc **PKPbc 09 59 28.3 -2.0**
KONO Kongsberg 150.81 351 PKIKP **PKPbc 09 59 28.3 -2.0**
BNN Bunyan 150.83 295 **PKPbc 09 59 29.4 -1.8**
SIM Simferopol' 150.92 308 *e*PKIKP **PKPab 09 59 35.6 -2.8**
SIM *e* 09 59 43.3
SIM pmax pmax
comp=Z,21nm,1.0s
SIM pmax pmax
comp=Z,39nm,0.8s
EIL Elat 151.09 276 PKPbc **PKPbc 09 59 30.7 -1.2**
comp=Z,5.5nm,0.8s,baz=331,slow=1.8,SNR=5.6
MMAI Mount Meron Ar 151.18 283 PKPbc **PKPbc 09 59 30.8 -1.3**
comp=Z,16nm,0.7s,baz=86,slow=3.4,SNR=13
AKASG Malin Array Be 151.46 322 PKPbc **PKPbc 09 59 30.4 -1.7**
comp=Z,3.0nm,0.7s,baz=55,slow=2.7,SNR=13
AKBB Malin Array Si 151.46 322 **PKPbc 09 59 31.6 -0.5**
AKBB Malin Array Si 151.46 322 PKIKP **PKPbc 09 59 31.6 -0.5**
KIEV Kiev 151.47 322 **PKPbc 09 59 31.6 -0.5**
KIEV Kiev 151.47 322 PKIKP **PKPbc 09 59 31.6 -0.5**
ILGA Ilgaz 152.16 300 **PKPbc 09 59 32.9 -1.4**
SUW Suwalki 152.17 332 *e*PKP **PKPab 09 59 38.6 -4.6**
BR131 Keskin Array S 152.43 297 **PKPbc 09 59 32.3 -2.6**
BR131 Keskin Array S 152.43 297 PKIKP **PKPbc 09 59 32.3 -2.6**
BRTR Keskin Array B 152.43 297 PKPbc **PKPbc 09 59 31.9 -3.0**
BRTR Keskin Array B 152.43 297 PKPbc **PKPbc 09 59 32.5 -2.5**
comp=Z,11nm,0.9s,baz=133,slow=5.4,SNR=9.4
TIRR Tirgusor 154.91 310 IAMs_20 IAMs_20 10 55 27.3
comp=Z,2μm,20.0s
DBIC Dimbokro 155.10 165 PKP **PKPdf 09 59 31.4 -1.0**
comp=Z,5.6nm,0.9s,baz=148,slow=3.9,SNR=3.2
DBIC PKPab **pPKPab 09 59 58.0 -1.6**
comp=Z,11nm,1.1s,baz=181,slow=7.8,SNR=5.0
KSP Ksiaz 157.28 335 *e*PKP **PKPab 10 00 09.6 +4.4**
OSTC Ostas 157.55 335 *e*PKPAB PKPab 10 00 14.2 +7.8
MORC Moravsky Berou 157.66 332 *e*PKP **PKPab 10 00 10.7 +3.8**
DPC Dobruska-Polom 157.68 334 *e*PKPAB **PKPab 10 00 13.9 +6.9**
CLL Collm 157.96 340 *e*PKP2 **PKPab 10 00 08.0 0.0**
CLL MLR MLR
comp=Z,1μm,20.5s
CLL Collm 157.96 340 *e*PKPab **PKPab 10 00 08.0 0.0**
CLL *e*(pPKPab) 10 00 13.0
comp=Z,67nm,1.8s
CLL AMS AMS 11 12 00.0
comp=N,1μm,21.5s
CLL AMS AMS 11 12 00.0
comp=E,400nm,21.0s
CLL AMS AMS 11 12 00.0
comp=Z,1μm,20.5s
BRG Berggiesshubel 158.06 338 *i*PKP **PKPab 10 00 13.4 +4.9**
BRG Amp 10 00 16.4
comp=Z,11nm,1.0s
VYHS Vyhne 158.07 328 *e*PKP2 **PKPab 10 00 13.9 +5.2**
VYHS Vyhne 158.07 328 *e*PKP **PKPab 10 00 13.9 +5.2**
JAVC Velka Javorina 158.31 330 *e*PKP **PKPab 10 00 14.9 +5.1**
VRAC Vranov 158.41 332 *e*PKP **PKPab 10 00 14.2 +4.1**
KRUC Moravsky 158.68 332 *e*PKP **PKPab 10 00 14.8 +3.5**
MODS Modra-Piesok 158.85 330 *e*PKP **PKPab 10 00 17.8 +5.7**
KHC Kasperske Hory 159.68 337 *e*PKPAB **PKPab 10 00 20.5 +4.9**
KHC Kasperske Hory 159.68 337 *e*PKP2 **PKPab 10 00 20.5 +4.9**
CKRC Cesky Krumlov 159.68 335 *e*PKPAB **PKPab 10 00 22.5 +0.8**
RONA Rosalia, Austr 159.79 330 *i*pPKP **PKPab 10 00 21.6 +5.4**
comp=Z,16nm,1.1s
CONA Conrad Observa 159.80 331 *i*pPKP **PKPab 10 00 19.3 +3.0**
comp=Z,30nm,2.0s
GERES GERESS Array B 159.88 336 PKPab **PKPab 10 00 15.3 -1.3**
comp=Z,2.1nm,0.9s,baz=31,slow=3.1,SNR=6.7
MEM Membach 160.10 351 *d*PKP **PKPab 10 00 16.2 -1.2**
ARSA Arzberg 160.47 330 *e*pPKP **PKPab 10 00 19.4 +0.3**
ARSA Arzberg 160.47 330 *e*PKP **PKPab 10 00 19.4 +0.3**
MOA Molln 160.50 333 *e*pPKP **PKPab 10 00 24.4 +5.2**
comp=Z,8.1nm,0.6s
BIOA Bad Ischl, Aus 160.87 334 *e*pPKP **PKPab 10 00 26.1 +5.2**
comp=Z,22nm,1.4s
WLF Walferdange 161.01 351 *d*PKP **PKPab 10 00 20.9 -0.4**
SOKA Soboth 161.13 330 *i*pPKP **PKPab 10 00 26.4 +4.3**
comp=Z,19nm,1.8s
LESA Schwarzleotal 161.45 335 *i*pPKP **PKPab 10 00 28.3 +4.9**
comp=Z,24nm,1.7s
OBKA Obir 161.47 330 *e*pPKP **PKPab 10 00 29.5 +5.9**
comp=Z,6.4nm,1.0s
KBA Koelnbreinsper 161.49 334 *e*pPKP **PKPab 10 00 30.0 +6.2**
comp=Z,6.6nm,0.9s
MYKA Terra Mystica 161.74 332 *i*pPKP **PKPab 10 00 29.3 +4.5**
comp=Z,17nm,1.6s
WATA Walderalm 161.90 337 *i*pPKP **PKPab 10 00 31.1 +5.6**
comp=Z,19nm,1.6s
WTTA Wattenberg 161.95 337 *i*pPKP **PKPab 10 00 31.2 +5.4**
comp=Z,9.3nm,1.3s
RETA Reutte 162.03 339 *i*pPKP **PKPab 10 00 31.4 +5.4**
comp=Z,26nm,1.6s
MOTA Moosalm 162.05 338 *i*pPKP **PKPab 10 00 32.0 +5.9**
comp=Z,19nm,1.4s
ABTA Abfaltersbach 162.08 335 *i*pPKP **PKPab 10 00 30.3 +4.0**
comp=Z,7.5nm,0.9s
SQTA Sankt Quirin 162.12 338 *i*pPKP **PKPab 10 00 31.7 +5.2**
comp=Z,16nm,1.6s
TORD Torodi Ar. Bea 162.24 181 PKPdf **PKPdf 09 59 38.0 -2.8**
TORD PKPab **PKPab 10 00 25.1 -2.4**
TORD Torodi Ar. Bea 162.24 181 PKP **PKPdf 09 59 40.1 -0.7**
comp=Z,1.8nm,0.4s,baz=346,slow=2.4,SNR=3.9
TORD PKPab **PKPab 10 00 26.4 -1.2**
comp=Z,5.9nm,0.7s,baz=207,slow=3.0,SNR=4.5
FETA Feichten 162.45 338 *i*pPKP **PKPab 10 00 32.9 +4.9**
comp=Z,12nm,1.3s
DAVA Damuels 162.47 341 *e*pPKP **PKPab 10 00 33.3 +5.2**
comp=Z,12nm,1.0s
FUORN Ofenpass-Fuorn 162.96 339 PKPab **PKPab 10 00 28.6 -1.7**
ESDC Sonseca Array 170.28 25 PKP **PKPdf 09 59 47.5 +0.9**
comp=Z,0.7nm,0.5s,baz=356,slow=2.3,SNR=9.2
ESDC PKPab **PKPab 10 01 02.4 -0.2**
comp=Z,1.5nm,0.8s,baz=324,slow=3.8,SNR=4.8

*NEIC **16** 09:40:43.8±1.0, 17°.5S±0°.2×178°.8W±0°.1, h543^{km}±8^{km}, mb4.2/94, Error ellipse: s-maj=31.0km s-min=10.3km az=149.0*
*IDC **16** 09:40:47.7±2.0, 17°.88S×178°.62W, h608^{km}±18^{km}, mb3.4/7, mbtmp4.2/8, Error ellipse: s-maj=59.7km s-min=27.4km az=165.0*

ISC 16 09:40:46.2±0.8, 18°.0S±0°.2×178°.5W±0°.1, h600^{km}, n124, σ1^{s}09/111, mb4.2/51, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.27**	**274**	P	**P**	**09 42 08.6**	**+1.5**
MSVF				S	S	09 42 59.2	-14
MSVF	**Nonsavu**	**3.27**	**274**	P	**P**	**09 42 08.5**	**+1.4**
	40nm,0.5s,baz=180,slow=6.2,SNR=42						
MSVF				S	S	09 42 58.4	-15
	112nm,0.8s,baz=132,slow=13,SNR=13						
AFI	**Afiamalu**	**7.64**	**59**	P	**P**	**09 42 38.3**	**-4.1**
NIUE	**Niue**	**8.23**	**99**	P	**P**	**09 42 46.1**	**-1.6**
COEN	**Coen**	**36.99**	**271**	P	**P**	**09 47 05.4**	**-1.4**
COEN				IAmb	IAmb	09 47 12.2	
	comp=Z,41nm,1.1s						
WR8	**Warramunga Arr**	**44.36**	**260**	P	**P**	**09 48 03.6**	**-1.4**
WB0	**Warramunga Arr**	**44.48**	**260**	P	**P**	**09 48 04.5**	**-1.4**
WRA	**Warramunga Arr**	**44.51**	**260**	P	**P**	**09 48 04.8**	**-1.4**
ATKA	**Atka Island**	**69.97**	**3**	P	**P**	**09 50 57.9**	**-0.4**
PEA0B	**Petropavlovsk-**	**73.71**	**345**	P	**P**	**09 51 20.9**	**+1.1**
PETK	**Petropavlovsk-**	**73.71**	**345**	P	**P**	**09 51 20.4**	**+0.5**
PETK	**Petropavlovsk-**	**73.71**	**345**	P	**P**	**09 51 20.9**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=163,slow=5.5,SNR=6.2						
	comp=Z,1.8nm,0.6s						
SPIA	**Saint Paul Isl**	**75.17**	**5**	P	**P**	**09 51 27.9**	**0.0**
USA0B	**Ussuriysk Arra**	**76.60**	**326**	P	**P**	**09 51 35.5**	**-0.6**
OHAK	**Old Harbor**	**77.81**	**14**	P	**P**	**09 51 43.1**	**+0.8**
OHAK				IAmb	IAmb	09 52 22.2	
	comp=Z,25nm,1.4s						
KDAK	**Kodiak Island**	**78.48**	**14**	P	**P**	**09 51 46.4**	**+0.4**
P16K	**Nushagak River**	**78.55**	**11**	P	**P**	**09 51 46.2**	**-0.1**
P16K				IAmb	IAmb	09 51 50.9	
	comp=Z,14nm,1.0s						
YBH	**Yreka Blue Hor**	**78.64**	**39**	P	**P**	**09 51 48.9**	**+1.6**
WAKR	**Walker**	**78.84**	**43**	P	**P**	**09 51 49.6**	**+1.1**
WAKR				IAmb	IAmb	09 52 33.2	
	comp=Z,13nm,1.1s						
HATC	**Hat Creek Radi**	**78.86**	**40**	P	**P**	**09 51 49.6**	**+1.1**
BEKR	**Beckworth**	**79.01**	**42**	P	**P**	**09 51 50.5**	**+1.1**
PNTR	**Pine Nut**	**79.06**	**43**	P	**P**	**09 51 50.8**	**+1.1**
PNTR				IAmb	IAmb	09 52 34.8	
	comp=Z,9.2nm,0.8s						
O16K	**Kokwok River B**	**79.06**	**10**	P	**P**	**09 51 48.9**	**-0.1**
O16K				IAmb	IAmb	09 51 59.8	
	comp=Z,15nm,1.4s						
L04D	**Klamath Falls**	**79.17**	**39**	P	**P**	**09 51 51.2**	**+1.1**
DSP	**Deep Springs**	**79.19**	**45**	P	**P**	**09 51 51.8**	**+1.6**
N15K	**Kwethluk River**	**79.28**	**9**	P	**P**	**09 51 51.1**	**+1.0**
N15K				IAmb	IAmb	09 51 57.2	
	comp=Z,13nm,1.1s						
P18K	**Big Mountain,**	**79.40**	**12**	P	**P**	**09 51 51.4**	**+0.6**
P18K				IAmb	IAmb	09 51 51.5	
	comp=Z,6.5nm,0.8s						
I03D	**Drain, OR**	**79.44**	**37**	P	**P**	**09 51 52.6**	**+1.3**
I03D				IAmb	IAmb	09 51 59.9	
	comp=Z,10.0nm,1.1s						
PAHR	**Pah Rah Range**	**79.54**	**42**	P	**P**	**09 51 53.2**	**+1.1**
PAHR				IAmb	IAmb	09 52 35.9	
	comp=Z,12nm,1.5s						
NVAR	**Mina Array Bea**	**79.54**	**44**	P	**P**	**09 51 53.4**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=222,slow=8.8,SNR=16						
	comp=Z,1.7nm,0.7s						
WCT	**Wildcat Mounta**	**79.80**	**46**	P	**P**	**09 51 55.1**	**+1.6**
O18K	**Koktuh Hills**	**79.83**	**12**	P	**P**	**09 51 53.6**	**+0.6**
O18K				IAmb	IAmb	09 51 54.0	
	comp=Z,13nm,1.0s						
P19K	**Oil Pt**	**80.05**	**13**	P	**P**	**09 51 54.5**	**+0.4**
P19K				IAmb	IAmb	09 52 24.6	
	comp=Z,21nm,1.4s						
N17K	**Nushagak Hills**	**80.10**	**11**	P	**P**	**09 51 55.0**	**+0.6**
M16K	**Timber Creek**	**80.27**	**10**	P	**P**	**09 51 55.4**	**+0.1**
M16K				IAmb	IAmb	09 52 33.5	
	comp=Z,13nm,1.4s						
O19K	**Port Alsworth**	**80.32**	**12**	P	**P**	**09 51 55.6**	**+0.1**
O19K				IAmb	IAmb	09 51 56.4	
	comp=Z,7.2nm,0.7s						
ILSW	**Iliamna Southw**	**80.37**	**13**	P	**P**	**09 51 55.8**	**-0.1**
ILSW				IAmb	IAmb	09 51 56.5	
	comp=Z,6.2nm,0.7s						
J05D	**Fort Rock, OR**	**80.44**	**39**		**P**	**09 51 58.3**	**+1.5**
J05D				IAmb	IAmb	09 51 58.9	
	comp=Z,7.4nm,0.8s						
N18K	**Kilae Creek**	**80.47**	**11**	P	**P**	**09 51 56.0**	**-0.3**
N18K				IAmb	IAmb	09 51 58.4	
	comp=Z,13nm,1.4s						
BRLK	**Bradley Lake**	**80.66**	**14**	P	**P**	**09 51 57.8**	**+0.5**
BRLK				IAmb	IAmb	09 52 31.1	
	comp=Z,12nm,1.2s						
SHPR	**Sheep Range**	**80.66**	**47**	P	**P**	**09 51 59.4**	**+1.3**
H04A	**Detroit Lake**	**80.71**	**37**	P	**P**	**09 51 59.2**	**+1.2**
H04A				IAmb	IAmb	09 52 39.1	
	comp=Z,18nm,1.5s						
L16K	**Owhat River**	**80.85**	**9**	P	**P**	**09 51 59.8**	**+1.6**
L16K				IAmb	IAmb	09 52 02.5	
	comp=Z,11nm,1.2s						
N19K	**Bonanza Creek**	**80.86**	**12**	P	**P**	**09 51 58.4**	**0.0**
M17K	**Holitna River**	**80.88**	**10**	P	**P**	**09 51 59.5**	**+1.1**
M17K				IAmb	IAmb	09 52 01.0	
	comp=Z,9.3nm,0.9s						
PINE	**Pine Mountain**	**80.90**	**38**	P	**P**	**09 52 00.9**	**+1.7**
PINE				IAmb	IAmb	09 52 01.4	
	comp=Z,6.7nm,0.9s						
PRN	**Pahroc Range**	**81.20**	**46**	P	**P**	**09 52 02.2**	**+1.4**
PRN				IAmb	IAmb	09 52 46.9	
	comp=Z,8.5nm,0.9s						
NLWA	**Neilton Lookou**	**81.42**	**34**	P	**P**	**09 52 02.9**	**+1.3**
NLWA				IAmb	IAmb	09 52 42.6	
	comp=Z,9.7nm,1.2s						
SLKM	**Skilak Lake**	**81.47**	**14**	P	**P**	**09 52 01.8**	**+0.3**
SLKM				IAmb	IAmb	09 52 02.4	
	comp=Z,7.4nm,0.7s						
WVOR	**Wild Horse Val**	**81.52**	**40**		**P**	**09 52 03.5**	**+1.2**
L18K	**Granite Mounta**	**81.77**	**10**	P	**P**	**09 52 04.0**	**+1.1**
L18K				IAmb	IAmb	09 52 29.3	
	comp=Z,10nm,1.4s						
M19K	**Big River Lodg**	**81.88**	**11**	P	**P**	**09 52 04.0**	**+0.4**
I07A	**Izee**	**81.92**	**39**	P	**P**	**09 52 05.6**	**+1.3**
K17K	**Iditarod**	**81.98**	**9**	P	**P**	**09 52 05.3**	**+1.3**
K17K				IAmb	IAmb	09 52 19.6	
	comp=Z,11nm,1.4s						
J08A	**Circle Bar Ran**	**82.13**	**40**		**P**	**09 52 06.9**	**+1.5**
J08A				IAmb	IAmb	09 52 50.1	
	comp=Z,8.8nm,1.2s						
LCMT	**Little Creek M**	**82.25**	**47**	P	**P**	**09 52 07.5**	**+1.4**
LCMT				IAmb	IAmb	09 52 51.6	
	comp=Z,7.6nm,1.1s						
X16A	**Lo Mia Camp, P**	**82.31**	**50**	P	**P**	**09 52 08.8**	**+2.3**
J17K	**VABM Dome**	**82.51**	**9**	P	**P**	**09 52 07.9**	**+1.3**
J17K				IAmb	IAmb	09 52 27.1	
	comp=Z,17nm,1.4s						
TTA	**Tatalina**	**82.55**	**10**	P	**P**	**09 52 07.9**	**+1.0**
U15A	**North Rim**	**82.64**	**48**		**P**	**09 52 10.1**	**+1.7**
KNK	**Knik Glacier**	**82.68**	**14**	P	**P**	**09 52 08.1**	**+0.5**
ELK	**Elko**	**82.78**	**43**	P	**P**	**09 52 10.1**	**+1.2**
GHO	**Glory Hole Cre**	**82.89**	**14**	P	**P**	**09 52 09.2**	**+0.5**
J18K	**Innoko River**	**82.94**	**10**	P	**P**	**09 52 09.9**	**+1.1**
K20K	**Telida**	**83.28**	**11**		**P**	**09 52 11.3**	**+0.8**
K20K				IAmb	IAmb	09 52 11.8	
	comp=Z,4.8nm,0.8s						
SCM	**Sheep Creek Mo**	**83.31**	**14**	P	**P**	**09 52 11.3**	**+0.6**
CAST	**Castle Rocks**	**83.71**	**12**	IAmb	IAmb	09 52 12.8	
	comp=Z,5.5nm,0.7s						
MFID	**Camas Ranch**	**83.79**	**41**	IAmb	IAmb	09 52 56.9	
	comp=Z,4.1nm,0.8s						
TRF	**Thorofare Moun**	**84.09**	**12**	IAmb	IAmb	09 52 15.7	
	comp=Z,7.2nm,0.7s						
F10A	**Beach Ranch, E**	**84.31**	**38**	IAmb	IAmb	09 52 17.4	
	comp=Z,4.9nm,0.9s						
RND	**Reindeer**	**84.35**	**13**	IAmb	IAmb	09 52 17.1	
	comp=Z,6.1nm,0.8s						
H19K	**Roundabout Mou**	**84.91**	**9**	P	**P**	**09 52 19.5**	**+1.1**
H19K				IAmb	IAmb	09 52 35.2	
	comp=Z,7.3nm,1.4s						
VHRN	**Van Horn**	**85.64**	**56**	IAmb	IAmb	09 53 08.6	
	comp=Z,12nm,1.3s						
CCB	**Clear Creek Bu**	**85.66**	**13**	IAmb	IAmb	09 52 22.3	
	comp=Z,3.5nm,0.4s						
ILAR	**Eielson Array**	**85.97**	**13**	P	**P**	**09 52 23.0**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=221,slow=4.8,SNR=48						
	comp=Z,1.1nm,0.4s						
TXAR	**Lajitas Array**	**86.12**	**58**		**P**	**09 52 27.1**	**+1.9**
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**09 52 26.7**	**+1.5**
	comp=Z,2.7nm,0.8s,baz=220,slow=6.2,SNR=36						
	comp=Z,2.7nm,0.8s						
J25K	**Salcha River,**	**86.17**	**14**	P	**P**	**09 52 24.8**	**+0.2**
J25K				IAmb	IAmb	09 52 25.3	
	comp=Z,2.8nm,0.5s						
ANMO	**Albuquerque**	**86.22**	**52**	P	**P**	**09 52 26.3**	**+0.7**
ANMO				IAmb	IAmb	09 53 07.6	
	comp=Z,6.9nm,1.1s						
ANMO	**Albuquerque**	**86.22**	**52**	IAmb	IAmb	09 53 07.5	
	comp=Z,12nm,1.4s						
J26L	**Joseph Creek**	**86.49**	**14**	IAmb	IAmb	09 52 27.3	
	comp=Z,3.1nm,0.7s						
E19K	**Redstone River**	**86.61**	**8**	P	**P**	**09 52 26.8**	**+0.3**
E19K				IAmb	IAmb	09 52 27.6	
	comp=Z,2.3nm,0.6s						
M30M	**Minto, Yukon**	**86.72**	**18**	IAmb	IAmb	09 52 28.6	
	comp=Z,8.5nm,1.2s						
SNOW	**Snow King Moun**	**87.02**	**42**	IAmb	IAmb	09 52 31.3	
	comp=Z,5.3nm,1.1s						
BW06	**Boulder Array**	**87.47**	**43**	P	**P**	**09 52 32.1**	**+0.7**
PD31	**Pinedale Array**	**87.47**	**43**		**P**	**09 52 31.7**	**+0.3**
PDAR	**Pinedale Array**	**87.47**	**43**	P	**P**	**09 52 31.7**	**+0.3**
PDAR	**Pinedale Array**	**87.47**	**43**	P	**P**	**09 52 31.9**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=218,slow=3.5,SNR=17						
	comp=Z,1.3nm,0.6s						
COLD	**Coldfoot**	**87.49**	**11**		**P**	**09 52 31.4**	**+0.8**
D20K	**Etivluk River**	**87.88**	**8**	P	**P**	**09 52 32.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**88.80**	**290**	P	**P**	**09 52 38.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=56,slow=2.6,SNR=4.8						
	comp=Z,0.4nm,0.6s						
G30M	**tAoh Zrail Nji**	**90.29**	**15**	IAmb	IAmb	09 52 45.1	
	comp=Z,4.6nm,1.1s						
YKA	**Yellowknife Ar**	**94.43**	**25**	P	**P**	**09 53 01.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=204,slow=9.1,SNR=6.1						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**126.35**	**350**	PKP	**PKPdf**	**09 58 40.4**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=48,slow=1.8,SNR=10						
FINES	**FINESS Array B**	**133.21**	**344**	PKP	**PKPdf**	**09 58 54.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=95,slow=4.8,SNR=3.4						
AKASG	**Malin Array Be**	**140.56**	**332**	PKhKP	PKPpre	09 59 01.9	
	comp=Z,0.9nm,0.4s,baz=43,slow=3.6,SNR=8.3						
AKBB	**Malin Array Si**	**140.56**	**332**	PKP	**PKiKP**	**09 59 13.4**	**+2.5**
AK01	**Malin Array Si**	**140.57**	**332**	PKP	**PKiKP**	**09 59 13.4**	**+2.4**
KIEV	**Kiev**	**140.57**	**332**	PKP	**PKiKP**	**09 59 12.6**	**+1.6**
MI28	**Mi28,Pidlybu**	**141.07**	**334**	PKP	**PKiKP**	**09 59 13.6**	**+1.6**
BUR08	**Bucovina Ar. S**	**144.60**	**332**		**PKPab**	**09 59 17.5**	**+0.8**
OJC	**Ojcow**	**144.63**	**340**	PKPbc	**PKPab**	**09 59 16.2**	**-0.3**
BR131	**Keskin Array S**	**144.74**	**315**	PKPbc	**PKPab**	**09 59 17.1**	**-0.5**
BRTR	**Keskin Array B**	**144.74**	**315**	PKPbc	**PKPab**	**09 59 17.1**	**-0.5**
BRTR	**Keskin Array B**	**144.74**	**315**	PKP	**PKPab**	**09 59 16.9**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=132,slow=2.8,SNR=6.4						
CLL	**Collm**	**145.50**	**347**		**PKPab**	**09 59 18.7**	**-1.2**
MORC	**Moravsky Berou**	**145.73**	**341**	PKPdf	**PKPbc**	**09 59 19.3**	**+0.3**
MLR	**Muntele Rosu**	**145.82**	**329**	PKPdf	**PKPbc**	**09 59 19.1**	**-0.5**
MMAI	**Mount Meron Ar**	**146.08**	**303**	PKPbc	**PKPbc**	**09 59 20.1**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=63,slow=3.8,SNR=5.2						
GEC2	**GERESS Array S**	**147.64**	**345**	PKPbc	**PKiKP**	**09 59 25.0**	**-0.8**
GERES	**GERESS Array B**	**147.64**	**345**	PKPbc	**PKiKP**	**09 59 24.7**	**-1.0**
GERES	**GERESS Array B**	**147.64**	**345**	PKPbc	**PKPbc**	**09 59 24.1**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=29,slow=3.0,SNR=13						
LESA	**Schwarzleotal**	**149.21**	**345**	*e*pPKP	**PKiKP**	**09 59 28.8**	**-0.2**
	comp=Z,2.0nm,0.6s						
KBA	**Koelnbreinsper**	**149.37**	**344**	*e*pPKP	**PKiKP**	**09 59 28.9**	**-0.6**
	comp=Z,2.1nm,0.6s						
WATA	**Walderalm**	**149.56**	**346**	*i*pPKP	**PKiKP**	**09 59 29.3**	**-0.5**
	comp=Z,3.7nm,0.6s						
WTTA	**Wattenberg**	**149.61**	**346**	*i*pPKP	**PKiKP**	**09 59 29.6**	**-0.4**
	comp=Z,6.8nm,0.5s						
MOTA	**Moosalm**	**149.65**	**347**	*i*pPKP	**PKiKP**	**09 59 29.8**	**-0.2**
	comp=Z,2.7nm,0.8s						
MYKA	**Terra Mystica**	**149.70**	**343**	*i*pPKP	**PKPbc**	**09 59 29.1**	**-0.3**
	comp=Z,2.8nm,0.5s						
SQTA	**Sankt Quirin**	**149.75**	**347**	*i*pPKP	**PKiKP**	**09 59 30.0**	**-0.1**
	comp=Z,4.4nm,0.6s						
ABTA	**Abfaltersbach**	**149.88**	**345**	*i*pPKP	**PKiKP**	**09 59 29.8**	**-0.6**
	comp=Z,4.6nm,0.6s						
DAVA	**Damuels**	**149.95**	**349**	*e*pPKP	**PKiKP**	**09 59 31.1**	**+0.5**
	comp=Z,0.3nm,0.2s						
FETA	**Feichten**	**150.04**	**347**	*i*pPKP	**PKiKP**	**09 59 30.6**	**-0.2**
	comp=Z,3.5nm,0.7s						
DAVOX	**Davos/Dischmat**	**150.44**	**348**	PKPbc	**PKiKP**	**09 59 31.7**	**0.0**
	comp=Z,5.9nm,0.6s,baz=314,slow=4.1,SNR=8.5						
FUORN	**Ofenpass-Fuorn**	**150.52**	**348**		**PKiKP**	**09 59 31.9**	**-0.1**

NNC 16 09:41:46.8±2.5, 36°.97N×71°.04E, h36^{km}±111^{km}, mb3.6, mpv3.4, 3C-1D, Error ellipse: s-maj=36.4km s-min=17.0km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.13**	**356**	⇓P	Pn	09 43 15.0	+0.2
	1.8nm,0.4s,baz=178,slow=12,SNR=19						
KK31				⇑S	Sn	09 44 24.5	+0.7
	1.4nm,0.3s,baz=186,slow=20,SNR=10						
AAK	**Ala-Archa**	**6.25**	**24**	⇑P	Pn	09 43 16.3	-0.2
	0.8nm,0.3s						
AAK				⇑S	Sn	09 44 27.5	+0.7
	5.2nm,0.8s						
AB31	**Akbulak array**	**14.69**	**330**	P	Pn	09 45 11.8	+0.1
	0.2nm,0.4s,baz=151,slow=10,SNR=6.4						

*IDC **16** 09:47:31.4±1.1, 36°.39N×141°.20E, h0^{km}, mb3.6/4, mbtmp3.6/7, ML3.7/2, Error

H11N3 WAKE ISLAND Hy 28.09 119 T T 10 23 28.4
baz=312,slow=75,SNR=23
H11S1 WAKE ISLAND Hy 28.76 122 T T 10 24 13.9
baz=314,slow=75,SNR=84
H11S3 WAKE ISLAND Hy 28.76 122 T T 10 24 12.1
baz=314,slow=75,SNR=52
H11S2 WAKE ISLAND Hy 28.77 122 T T 10 24 18.0
baz=314,slow=75,SNR=41
KURBB Kurchatov Arra 46.16 308 P **P** **09 55 57.1 -0.7**
comp=E,0.5nm,0.4s,baz=82,slow=7.6,SNR=3.5
comp=E,0.5nm,0.4s
ILAR Eielson Array 50.09 32 P **P** **09 56 28.8 +0.8**
comp=E,0.5nm,0.7s,baz=268,slow=5.9,SNR=8.7
comp=E,0.5nm,0.7s
WRA Warramunga Arr 56.48 188 P **P** **09 57 14.3 -1.0**
comp=E,0.4nm,0.4s,baz=4.9,slow=7.4,SNR=4.7
comp=E,0.4nm,0.4s
ASAR Alice Springs 60.20 188 P **P** **09 57 40.4 -0.9**
comp=E,0.3nm,0.7s,baz=15,slow=6.8,SNR=4.1
comp=E,0.3nm,0.7s

---

*AFAD **16** 09:49:09.7, 36.°40N×28.°71E, h7km±3km, ML2.4*
*ISK **16** 09:49:10.6, 36.°49N×28.°72E, h8km, ML2.8/21*
*ATH **16** 09:49:11.6, 36.°26N×28.°76E, h13km±6km, ML2.5/4, Manual Solution by N.Liadopoulou First location: 2019/04/16 09:51:06, This location: 2019/04/16 10:15:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 16 km; Longitude uncertainty: 4 km*
ISC 16 09:49:10.3±1.1, 36°42N±0°03×28°73E±0°02, h6km±9km, n42, σ0°73/60, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.36**	**53**	Pg	**Pg**	**09 49 17.6**	**+0.3**
FETY				Sg	**Sg**	**09 49 22.5**	**+0.4**
FETY	**Fethiye**	**0.36**	**53**	P	**Pg**	**09 49 17.4**	**+0.1**
IZZE	**Mula-Seydike**	**0.40**	**87**	P	**Pg**	**09 49 17.5**	**-0.7**
IZZE				S	**Sg**	**09 49 25.0**	**+1.6**
IZZE				*i* AML	AML	09 49 27.0	
	comp=N,643nm,0.3s						
IZZE				*i* AML	AML	09 49 27.0	
	comp=E,710nm,0.5s						
DALY	**Dalyan (Mula)**	**0.40**	**352**	Pg	**Pg**	**09 49 17.5**	**-0.7**
DALY				Sg	**Sg**	**09 49 23.1**	**-0.4**
SABU	**Mula-Dalaman**	**0.45**	**25**	P	**Pg**	**09 49 18.6**	**-0.4**
SABU				S	**Sg**	**09 49 25.7**	**+0.8**
SABU				*i* AML	AML	09 49 27.0	
	comp=N,415nm,0.5s						
SABU				*i* AML	AML	09 49 28.0	
	comp=E,275nm,0.2s						
ARG	**Arkhangelos**	**0.53**	**248**	Pg	**Pb**	**09 49 21.5**	**-0.5**
ARG				Sg	**Sb**	**09 49 30.3**	**+0.4**
ARG	**Arkhangelos**	**0.53**	**248**	P	**Pb**	**09 49 21.3**	**-0.7**
ARG				S	**Sb**	**09 49 29.5**	**-0.4**
TURN	**Turunc**	**0.53**	**313**	Pg	**Pg**	**09 49 19.9**	**-0.6**
TURN				Sg	**Sg**	**09 49 27.5**	**+0.1**
TURN	**Turunc**	**0.53**	**313**	P	**Pg**	**09 49 19.8**	**-0.7**
TURN				*i* AML	AML	09 49 28.0	
	comp=N,230nm,0.2s						
TURN				S	**Sg**	**09 49 28.5**	**+1.1**
CAME	**Cameli-Denizli**	**0.70**	**41**	Pg	**Pg**	**09 49 23.1**	**-0.7**
CAME				Sg	**Sg**	**09 49 33.1**	**+0.2**
AKAS	**Kas**	**0.73**	**104**	Pg	**Pb**	**09 49 25.2**	**-0.4**
KSL	**Kastellorizon**	**0.74**	**111**	P	**Pb**	**09 49 25.2**	**-0.4**
KSL				S	**Sg**	**09 49 34.2**	**0.0**
YER	**Yerkesik**	**0.80**	**334**	Pg	**Pg**	**09 49 25.6**	**-0.1**
KNIK	**Mula-Seydike**	**0.80**	**58**	P	**Pg**	**09 49 25.5**	**-0.3**
KNIK				S	**Sb**	**09 49 37.8**	**-0.2**
KNIK				*i* AML	AML	09 49 39.0	
	comp=N,154nm,0.7s						
DNZT	**Denizli-Tavas-**	**0.89**	**15**	P	**Pg**	**09 49 26.8**	**-0.7**
DNZT				S	**Sn**	**09 49 42.4**	**-0.6**
MULA	**Mugla, Merkez-**	**0.90**	**339**	P	**Pg**	**09 49 27.4**	**-0.2**
MULA				*i* AML	AML	09 49 47.0	
	comp=E,103nm,0.4s						
DAT	**Datca**	**0.98**	**289**	Pg	**Pg**	**09 49 29.4**	**+0.3**
ELL	**Elmali**	**1.01**	**70**	Pg	**Pg**	**09 49 30.3**	**+0.6**
ELL	**Elmali**	**1.01**	**70**	P	**Pn**	**09 49 32.2**	**+1.1**
GOLH	**Golhisar**	**1.06**	**39**	P	**Pg**	**09 49 30.0**	**-0.6**
GOLH				S	**Sn**	**09 49 46.5**	**-0.5**
GOLH				*i* AML	AML	09 49 48.0	
	comp=E,97nm,0.7s						
GOLH				*i* AML	AML	09 49 55.0	
	comp=N,122nm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.06**	**8**	P	**Pg**	**09 49 30.5**	**-0.1**
TAVA				S	**Sn**	**09 49 47.7**	**+0.7**
TAVA				*i* AML	AML	09 49 50.0	
	comp=E,108nm,0.6s						
TAVA				*i* AML	AML	09 49 51.0	
	comp=N,84nm,0.6s						
YAZI	**Mula-Dat§a-**	**1.06**	**285**	P	**Pg**	**09 49 30.4**	**-0.3**
YAZI				S	**Sn**	**09 49 46.8**	**-0.1**
APMY	**Acipayam-Deniz**	**1.15**	**23**	Pn	**Pg**	**09 49 31.5**	**-0.9**
MLSB	**Milas**	**1.16**	**319**	Pn	**Pb**	**09 49 32.1**	**-0.8**
BDRM	**Kayabasi**	**1.22**	**302**	P	**Pb**	**09 49 33.2**	**-0.6**
BDRM				S	**Sn**	**09 49 53.3**	**+2.5**
BDRM				*i* AML	AML	09 49 54.0	
	comp=E,111nm,0.4s						
BODT	**Bodrum**	**1.31**	**300**	Pn	**Pn**	**09 49 35.1**	**-0.1**
ESEN	**Aydn-Nazilli**	**1.41**	**348**	P	**Pn**	**09 49 37.0**	**+0.3**
ESEN				S	**Sg**	**09 49 57.6**	**+1.8**
ESEN				*i* AML	AML	09 49 58.0	
	comp=N,67nm,0.2s						
AYDN	**Tasoluk**	**1.42**	**332**	P	**Pn**	**09 49 36.3**	**-0.5**
AYDN				S	**Sg**	**09 49 57.4**	**+1.6**
AYDN				*i* AML	AML	09 49 58.0	
	comp=N,61nm,0.5s						
AYDN				*i* AML	AML	09 49 59.0	
	comp=E,107nm,0.5s						
KORT	**Korkueli**	**1.43**	**65**	Pn	**Pb**	**09 49 37.9**	**+0.4**
KARP	**Karpathos**	**1.54**	**236**	Pn	**Pg**	**09 49 39.7**	**-0.1**
KARP	**Karpathos**	**1.54**	**236**	P	**Pb**	**09 49 39.0**	**-0.3**
NAZL	**Nazilli-Aydin**	**1.58**	**347**	Pn	**Pn**	**09 49 38.6**	**-0.4**
ANTB	**Antalya**	**1.62**	**72**	Pn	**Pn**	**09 49 39.6**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.67**	**337**	Pn	**Pn**	**09 49 39.6**	**-0.7**
GCAM	**G?zelcaml?**	**1.75**	**317**	Pn	**Pn**	**09 49 41.2**	**-0.1**
BASM	**Basmaki-Afyon**	**1.83**	**35**	Pn	**Pn**	**09 49 42.4**	**-0.1**
ODEM	**Odemis-Izmir**	**1.93**	**345**	Pn	**Pn**	**09 49 43.4**	**-0.4**
KULA	**Kula-Manisa**	**2.09**	**359**	Pn	**Pn**	**09 49 45.8**	**-0.3**
ZKR	**Zakros**	**2.42**	**238**	P	**Pn**	**09 49 50.5**	**0.0**
AKMS	**Akamas**	**3.25**	**114**	P	**Pn**	**09 50 00.8**	**-1.1**
IDI	**Anoyia**	**3.31**	**251**	P	**Pn**	**09 50 03.1**	**+0.2**
TROD	**Troodos**	**3.67**	**112**	P	**Pn**	**09 50 07.2**	**-0.8**

NNC 16 09:49:48.6±0.6, 50°85N×73°68E, h0km, mb3.5, mpv3.2, 7C-3D, Error ellipse: s-maj=5.7km s-min=4.6km az=173.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.75**	**199**	⇑Pg	Pb	09 50 39.3	+0.6
	2.7nm,0.3s						
OTUK				⇑Lg	Lg	09 51 14.8	
	25nm,0.7s						
BVA0	**Borovoye Array**	**2.98**	**318**	⇓Lg	Lg	09 51 23.0	
	1.4nm,0.8s,baz=124,slow=30,SNR=9.6						
BRVK	**Borovoye**	**3.05**	**318**	⇓Lg	Lg	09 51 25.3	
	29nm,0.6s						
KURBB	**Kurchatov Arra**	**3.09**	**92**	⇑Pg	Pb	09 50 45.4	+1.0
	9.3nm,0.6s						
KURBB				⇑Lg	Lg	09 51 26.5	
	127nm,0.7s						
KURK	**Kurchatov**	**3.14**	**91**	⇑Pg	Pb	09 50 45.9	+0.7
	7.6nm,0.8s						
KURK				⇑Lg	Lg	09 51 26.8	
	49nm,0.7s						
MAKZ	**Makanchi**	**6.81**	**123**	⇓Lg	Lg	09 53 23.4	
	9.2nm,0.7s						
MK31	**Makanchi Array**	**6.98**	**122**	⇑Lg	Lg	09 53 31.4	
	7.8nm,0.6s,baz=313,slow=26,SNR=4.8						

---

*BGR **16** 09:51:56.4±0.4, 48.°31N×15.°98E, h10km, ML3.0/8, Error ellipse: s-maj=5.6km s-min=3.3km az=120.0*
*IPEC **16** 09:51:56.5±0.1, 48.°31N×15.°97E, h14km, ML3.0/7, Error ellipse: s-maj=0.4km s-min=0.3km az=298.0*
*PRU **16** 09:51:56.5, 48.°35N×15.°91E, h1km, Tulm*
*VIE **16** 09:51:56.3±0.2, 48.°29N×15.°95E, h10km±2km, mb2.5/16, ml3.1/21, Error ellipse: s-maj=0.9km s-min=0.8km az=47.0 9 km WSW of Tulln*
ISC 16 09:51:55.9±1.0, 48°31N±0°02×15°98E±0°02, h9km±9km, n53, σ1°13/95, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.39**	**192**	*i* Pg	**Pg**	**09 52 03.9**	**+0.4**
	173nm,0.2s,SNR=505						
CONA				*i* Sg	**Sg**	**09 52 09.4**	**+0.8**
	104nm,0.2s						
RONA	**Rosalia, Austr**	**0.64**	**160**	*e*Pg	**Pg**	**09 52 08.3**	**0.0**
	77nm,0.1s,SNR=122						
RONA				*e*Sg	**Sg**	**09 52 16.9**	**+0.2**
	2.9nm,0.0s						
KRUC	**Moravsky**	**0.81**	**20**	*e*Pg	**Pg**	**09 52 11.4**	**0.0**
	baz=20						
KRUC				*e*Sg	**Sg**	**09 52 21.9**	**0.0**
	211nm,0.2s,baz=20						
KRUC	**Moravsky**	**0.81**	**20**	*e*Pg	**Pg**	**09 52 11.4**	**0.0**
MODS	**Modra-Piesok**	**0.87**	**85**	*e*PG	**Pg**	**09 52 13.4**	**+0.8**
MODS				*e*SG	**Sg**	**09 52 25.2**	**+1.3**
TREC	**Trest**	**1.04**	**342**	*e*PG	**Pg**	**09 52 15.8**	**-0.1**
TREC				*e*SG	**Sg**	**09 52 29.2**	**-0.2**
	comp=Z,443nm,0.1s						
TREC	**Trest**	**1.04**	**342**	*e*Pg	**Pg**	**09 52 15.8**	**-0.1**
VRAC	**Vranov**	**1.08**	**22**	*e*Pg	**Pb**	**09 52 16.2**	**-0.6**
	baz=21						
VRAC				*e*Sg	**Sg**	**09 52 30.6**	**-0.1**
	222nm,0.2s,baz=21						
VRAC	**Vranov**	**1.08**	**22**	*e*Pg	**Pb**	**09 52 16.3**	**-0.5**
VRAC				*e*Sg	**Sg**	**09 52 30.8**	**+0.1**
ARSA	**Arzberg**	**1.10**	**196**	*e*Pg	**Pg**	**09 52 16.6**	**-0.3**
	76nm,0.3s,SNR=79						
ARSA				*i* Sg	**Sg**	**09 52 31.1**	**-0.2**
	30nm,0.3s						
ARSA	**Arzberg**	**1.10**	**196**	*e*Pg	**Pg**	**09 52 16.7**	**-0.3**
ARSA				*e*Sg	**Sg**	**09 52 31.0**	**-0.3**
CKRC	**Cesky Krumlov**	**1.22**	**295**	*e*PG	**Pg**	**09 52 19.6**	**+0.3**
CKRC				*e*SG	**Sg**	**09 52 35.4**	**+0.2**
CKRC	**Cesky Krumlov**	**1.22**	**295**	*e*Pg	**Pb**	**09 52 19.5**	**+0.3**
MOA	**Molln**	**1.24**	**249**	*e*Pg	**Pg**	**09 52 19.6**	**0.0**
	11nm,0.1s,SNR=32						
MOA				*i* Sg	**Sn**	**09 52 36.2**	**0.0**
	110nm,0.3s						
MOA	**Molln**	**1.24**	**249**	*e*Pn	**Pg**	**09 52 19.9**	**+0.3**
MOA				*e*Pg	**Pb**	**09 52 20.6**	**+1.2**
MOA				*e*Sg	**Sn**	**09 52 36.1**	**0.0**
JAVC	**Velka Javorina**	**1.25**	**63**	*e*Pg	**Pn**	**09 52 19.6**	**0.0**
	baz=62						
GEC2	**GERESS Array S**	**1.60**	**290**	*e*Pn	**Pb**	**09 52 25.6**	**-0.1**
GEC2				*e*Pg	**Pg**	**09 52 26.3**	**-0.3**
GEC2				*e*Sg	**Sg**	**09 52 47.4**	**0.0**
ZVC	**Zvikov**	**1.64**	**315**	*e*PG	**Pn**	**09 52 25.6**	**+0.8**
ZVC				*e*SG	**Sb**	**09 52 47.2**	**+0.3**
BIOA	**Bad Ischl, Aus**	**1.69**	**249**	*e*Pg	**Pb**	**09 52 26.5**	**-0.6**
	5.1nm,0.1s,SNR=9.3						
BIOA				*i* Sn	**Sb**	**09 52 47.9**	**-0.6**
	135nm,0.4s						
SOKA	**Soboth**	**1.75**	**202**	*i* Pn	**Pb**	**09 52 27.4**	**-0.8**
	1.8nm,0.1s						
SOKA				*e*Sn	**Sb**	**09 52 49.4**	**-0.9**
	8.1nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.79**	**335**	*e*PG	**Pn**	**09 52 27.6**	**+0.6**
GOPC				*e*SG	**Sn**	**09 52 50.7**	**+0.9**
	comp=Z,153nm,0.2s						
KHC	**Kasperske Hory**	**1.79**	**298**	*e*PG	**Pn**	**09 52 28.0**	**+1.0**
KHC				*e*SG	**Sb**	**09 52 51.9**	**+0.5**
	comp=Z,84nm,0.3s						
MORC	**Moravsky Berou**	**1.80**	**34**	*e*Pn	**Pn**	**09 52 27.1**	**0.0**
	baz=34						
MORC				*e*Sn	**Sn**	**09 52 48.1**	**-1.9**
	108nm,0.5s,baz=34						
KRLC	**Kraliky**	**1.85**	**16**	*e*PG	**Pn**	**09 52 28.8**	**+1.0**
KRLC				*e*SG	**Sn**	**09 52 52.1**	**+0.8**
	comp=Z,85nm,0.2s						
KOGS	**Kog**	**1.87**	**174**	*i* Pn	**Pn**	**09 52 28.6**	**+0.5**
GROS	**Grobnik**	**1.88**	**190**	*i* Pn	**Pn**	**09 52 28.8**	**+0.6**
VYHS	**Vyhne**	**1.91**	**83**	*e*PG	**Pn**	**09 52 25.8**	**-2.9**
PRU	**Pruhonice**	**1.93**	**331**	*e*PG	**Pn**	**09 52 29.5**	**+0.6**
PRU				*e*SG	**Sn**	**09 52 54.3**	**+1.1**
	comp=Z,108nm,0.3s						
PRA	**Prague**	**2.04**	**331**	*e*SG	**Sb**	**09 52 57.7**	**-0.7**
	comp=Z,121nm,0.6s						
OBKA	**Obir**	**2.04**	**209**	*i* Pn	**Pn**	**09 52 31.5**	**+1.0**
	7.0nm,0.3s						
OBKA				*e*Sn	**Sb**	**09 52 57.4**	**-1.3**
	20nm,0.6s						
DPC	**Dobruska-Polom**	**2.06**	**6**	*e*PG	**Pb**	**09 52 33.2**	**-0.2**
DPC				*e*SG	**Sb**	**09 53 00.5**	**+1.4**
	comp=Z,81nm,0.4s						
KBA	**Koelnbreinsper**	**2.16**	**236**	*e*Pn	**Pn**	**09 52 32.4**	**+0.2**
	0.5nm,0.1s						
KBA				*e*Sn	**Sn**	**09 53 00.2**	**+1.0**
	14nm,0.2s						
UPC	**Upice**	**2.20**	**1**	*e*PG	**Pb**	**09 52 36.2**	**+0.3**
UPC				*e*SG	**Sb**	**09 53 04.4**	**+1.1**
WET	**Wettzell**	**2.22**	**293**	*e*Sg	**Sg**	**09 53 05.5**	**-1.6**
OSTC	**Ostas**	**2.26**	**4**	*e*SG	**Sb**	**09 53 07.1**	**+2.2**
MYKA	**Terra Mystica**	**2.31**	**224**	*i* Pn	**Pn**	**09 52 35.7**	**+1.6**
	0.2nm,0.1s						
MYKA				*e*Sn	**Sn**	**09 53 03.8**	**+1.2**
	18nm,0.4s						
LESA	**Schwarzleotal**	**2.39**	**250**	*e*Pn	**Pn**	**09 52 35.8**	**+0.5**
	2.0nm,0.1s						
LESA				*e*Sn	**Sn**	**09 53 05.3**	**+0.5**
	4.6nm,0.2s						
LANS	**Liptovska Anna**	**2.46**	**69**	*e*PG	**Pn**	**09 52 36.5**	**+0.3**
LANS				*e*SG	**Sn**	**09 53 06.4**	**0.0**
LANS				*e*LG	Lg	09 53 08.7	
CRNS	**Crni Vrh**	**2.52**	**208**	*e*Pn	**Pn**	**09 52 38.2**	**+1.3**
ABTA	**Abfaltersbach**	**2.82**	**238**	*e*Pg	**Pg**	**09 52 49.0**	**-0.8**
	0.8nm,0.1s						
ABTA				*e*Sn	**Sb**	**09 53 18.5**	**-2.6**
	11nm,0.3s						
HSKC	**Hora Svate Kat**	**2.84**	**325**	*e*SG	**Sb**	**09 53 24.2**	**+2.6**
	comp=Z,54nm,0.3s						
BRG	**Berggiesshubel**	**2.89**	**334**	Pn	**Pn**	**09 52 42.5**	**+0.5**
BRG				Pg	**Pg**	**09 52 50.0**	**-1.2**
BRG				r		09 53 14.0	
BRG				r		09 53 16.4	
BRG	**Berggiesshubel**	**2.89**	**334**	Sg	**Sg**	**09 53 26.7**	**-1.9**
BRG				Amp		09 53 32.4	
	comp=Z,70nm,0.3s						
KECS	**Kecovo**	**3.01**	**85**	*e*PG	**Pn**	**09 52 43.9**	**+0.2**
KECS				*e*SG	**Sn**	**09 53 19.0**	**-0.9**
NKC	**Novy Kostel**	**3.01**	**311**	*e*SG	**Sg**	**09 53 29.8**	**-2.7**
	comp=Z,55nm,0.3s						
WTTA	**Wattenberg**	**3.11**	**252**	*i* Pn	**Pn**	**09 52 47.2**	**+2.0**
	comp=Z,1.3nm,0.2s						
WTTA				*e*Sg	**Sg**	**09 53 34.7**	**-1.0**
	comp=Z,6.1nm,0.2s						
WATA	**Walderalm**	**3.12**	**253**	*i* Pg	**Pg**	**09 52 56.9**	**+1.2**
	comp=Z,1.7nm,0.2s						
WATA				*e*Sg	**Sg**	**09 53 34.2**	**-1.9**
	comp=Z,7.7nm,0.3s						
SQTA	**Sankt Quirin**	**3.40**	**253**	*e*Pg	**Pb**	**09 52 57.9**	**+1.7**
	comp=Z,1.7nm,0.2s						
SQTA				*e*Sg	**Sg**	**09 53 44.1**	**-0.8**
	comp=Z,9.9nm,0.3s						
MOTA	**Moosalm**	**3.42**	**255**	*i* Pg	**Pg**	**09 52 59.1**	**-2.3**
	comp=Z,0.5nm,0.1s						
MOTA				*e*Sg	**Sg**	**09 53 43.9**	**-1.8**
	comp=Z,10.0nm,0.3s						
CLL	**Collm**	**3.57**	**328**	*e*Pn	**Pn**	**09 52 52.0**	**+0.6**
CLL				*e*Pg	**Pg**	**09 53 03.0**	**-1.2**
CLL				*e*Sn	Sn	09 53 22.0	-12
CLL				*ex*	**Sn**	**09 53 34.0**	**+0.3**
CLL				*e*Sg	**Sg**	**09 53 48.0**	**-2.4**
	comp=Z,61nm,0.6s						
RETA	**Reutte**	**3.60**	**259**	*e*Sg	**Sg**	**09 53 52.4**	**+0.9**
	comp=Z,6.1nm,0.2s						
FETA	**Feichten**	**3.77**	**252**	*i* Pn	**Pn**	**09 52 56.7**	**+2.3**
	comp=Z,0.1nm,0.1s						
FETA				*i* Sg	**Sg**	**09 53 55.9**	**-1.1**
	comp=Z,1.4nm,0.2s						
DAVA	**Damuels**	**4.23**	**258**	*i* Pg	**Pg**	**09 53 15.2**	**-1.7**
	comp=Z,1.3nm,0.1s						
DAVA				*e*Sg	**Sg**	**09 54 10.8**	**-0.9**
	comp=Z,5.6nm,0.3s						

---

*BER **16** 09:59:58.9±2.5, 64.°49N×31.°08E, h0km, ML1.8(UPP), Suspected explosion*
*HEL **16** 09:59:59.2±0.1, 64.°68N×30.°70E, h0km, ML2.0, Suspected explosion*
*UPP **16** 10:00:00.8±2.5, 64.°47N×30.°38E, h0km, ML1.8*
*KOLA **16** 10:00:01.4, 64.°69N×30.°61E, h0km, ML2.1, Error ellipse: s-maj=16.8km s-min=10.4km az=160.0, Kostomuksha, Karelia*
*IDC **16** 10:00:01.3±2.7, 64.°66N×30.°63E, h0km, mbtmp3.1/3, ML2.5/2, Error ellipse: s-maj=41.2km s-min=8.9km az=103.0*
ISC 16 09:59:58.3±0.8, 64°67N±0°02×30°70E±0°03, h0km, n66, σ1°83/92, 1C, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.56**	**217**	PG	**Pg**	**10 00 09.9**	**+0.9**
	baz=37						
RMF				SG	**Sg**	**10 00 13.1**	**-3.2**
RMF				MSG		10 00 17.4	
	comp=Z,38nm,0.2s						
KU1	**Kurvinen**	**1.02**	**332**	PG	**Pg**	**10 00 17.5**	**-0.3**
	baz=150						
KU6	**Riekki**	**1.40**	**346**	PG	**Pn**	**10 00 24.3**	**-0.8**
	baz=167						
KU6				MSG		10 00 41.2	
	comp=Z,16nm,0.2s						
KU6				SN	**Sg**	**10 00 43.0**	**-0.3**
MSF	**Maaselka**	**1.43**	**332**	PG	**Pn**	**10 00 24.7**	**-0.7**
	baz=152						
MSF				SG	**Sg**	**10 00 43.5**	**-0.7**
KU2	**Taivalkoski**	**1.48**	**316**	PG	**Pn**	**10 00 25.7**	**-0.4**
OLKF	**Oulanka, Finla**	**1.75**	**342**	PG	**Pn**	**10 00 30.4**	**+0.6**
OLKF				MSG		10 00 51.0	
	comp=Z,11nm,0.2s						
OLKF				SN	**Sg**	**10 00 54.8**	**+0.5**
JOF	**Joensuu**	**1.78**	**171**	PG	**Pb**	**10 00 31.0**	**-0.7**
NIF	**Nilsia**	**1.81**	**226**	PG	**Pb**	**10 00 32.0**	**-0.2**
	baz=41						
OUL	**Oulu**	**2.09**	**284**	PG	**Pb**	**10 00 36.6**	**-0.5**
OUL				SG	**Sb**	**10 01 02.9**	**-0.6**
RANF	**Ranua**	**2.12**	**311**	PG	**Pb**	**10 00 36.8**	**-0.8**
	baz=124						
RANF				SG	**Sg**	**10 01 06.5**	**0.0**
KVDA	**Kovda**	**2.22**	**23**	P	**Pb**	**10 00 39.0**	**-0.3**
KVDA				S	**Sb**	**10 01 05.9**	**-1.4**
OBF4	**Vikkela, Lumij**	**2.41**	**276**	PB	**Pn**	**10 00 40.6**	**+1.8**
	baz=93						
OBF4				MSG		10 01 10.2	
	comp=Z,13nm,0.2s						
OBF4				SG	**Sb**	**10 01 13.7**	**+1.2**
OUF	**Merijarvi**	**2.60**	**266**	PB	**Pn**	**10 00 43.5**	**+2.1**
OUF				MSG		10 01 15.9	
	comp=Z,11nm,0.2s						
OUF				SG	**Sb**	**10 01 18.3**	**+0.2**
RNF	**Rovaniemi**	**2.75**	**317**	PB	**Pn**	**10 00 45.9**	**+2.3**
	baz=132						
RNF				SG	**Sb**	**10 01 24.3**	**+1.8**
OBF0	**Syolatti, Pyha**	**2.79**	**269**	PG	**Pb**	**10 00 48.3**	**-0.7**
OBF0				MSG		10 01 21.3	
	comp=Z,7.0nm,0.2s						
SUF	**Sumiainen**	**2.82**	**228**	PG	**Pb**	**10 00 48.2**	**-1.1**
	baz=41						
SUF				MSG		10 01 22.4	
	comp=Z,3.0nm,0.2s						
TOF	**Tornio**	**3.02**	**301**	PB	**Pb**	**10 00 50.7**	**-2.2**
TOF				MSG		10 01 27.8	
	comp=Z,2.8nm,0.2s						
TOF				SG	**Sb**	**10 01 31.8**	**+1.6**
APA0	**Apatity Array**	**3.09**	**17**	P	**Pn**	**10 00 51.0**	**+2.7**
APA0				S	**Sn**	**10 01 28.5**	**+2.6**
APA	**Apatity**	**3.11**	**19**	S	**Sn**	**10 01 27.5**	**+1.1**
VRF	**Varrio**	**3.12**	**352**	PN	**Pn**	**10 00 50.0**	**+1.3**
VRF				MSG		10 01 30.7	
	comp=Z,3.9nm,0.2s						
VRF				SG	**Sg**	**10 01 37.2**	**-1.4**
KAF	**Kangasniemi**	**3.24**	**220**	PG	**Pb**	**10 00 56.2**	**-0.4**
KALU	**Kalix**	**3.31**	**294**	P	**Pn**	**10 00 52.8**	**+1.5**
KALU				S	**Sn**	**10 01 33.4**	**+2.1**
KALU	**Kalix**	**3.31**	**294**	P	**Pn**	**10 00 52.8**	**+1.5**
KALU				S	**Sn**	**10 01 33.4**	**+2.1**
KALU	**Kalix**	**3.31**	**294**	PB	**Pb**	**10 00 55.7**	**-2.1**
KALU				SG	**Sb**	**10 01 40.5**	**+1.9**
RUF	**Ruokolahti**	**3.35**	**195**	PB	**Pn**	**10 00 54.7**	**+2.9**
LVZ	**Lovozero**	**3.61**	**24**	SB	**Sb**	**10 01 43.8**	**-3.6**
KEF	**Keuruu**	**3.63**	**229**	PB	**Pn**	**10 00 59.0**	**+3.4**
	baz=43						
KLF	**Kolari**	**3.77**	**316**	PN	**Pn**	**10 00 59.5**	**+1.9**
FIA0	**FINESS Array S**	**3.86**	**215**	PB	**Pb**	**10 01 03.4**	**-3.8**
	baz=30						
FINES	**FINESS Array B**	**3.86**	**215**	Pn	**Pn**	**10 01 01.4**	**+2.6**
	comp=Z,2.4nm,0.9s,baz=32,slow=13,SNR=0.7						
FINES				Sn	**Sn**	**10 01 46.5**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=27,slow=19,SNR=5.8						
FINES				Lg	Lg	10 02 01.1	
	comp=Z,0.8nm,0.3s,baz=28,slow=30,SNR=6.3						
VAF	**Ylistaro**	**3.91**	**249**	PB	**Pb**	**10 01 04.2**	**-3.8**
	baz=62						
SJUU	**Sjulsmark**	**3.94**	**286**	P	**Pn**	**10 01 01.0**	**+1.1**
SJUU				S	**Sn**	**10 01 47.6**	**+0.8**
SJUU	**Sjulsmark**	**3.94**	**286**	P	**Pn**	**10 01 01.0**	**+1.1**
SJUU				S	**Sn**	**10 01 47.6**	**+0.8**
RAJF	**Raja-Jooseppi**	**3.94**	**347**	PN	**Pn**	**10 01 00.5**	**+0.6**
ERTU	**Ertsjaerv**	**4.00**	**302**	P	**Pn**	**10 01 02.9**	**+2.1**
ERTU	**Ertsjaerv**	**4.00**	**302**	P	**Pn**	**10 01 02.9**	**+2.1**
ERTU	**Ertsjaerv**	**4.00**	**302**	PN	**Pn**	**10 01 02.7**	**+1.9**
BURU	**Burvik**	**4.01**	**273**	P	**Pn**	**10 01 01.4**	**+0.5**
BURU				S	**Sn**	**10 01 47.6**	**-1.0**
BURU	**Burvik**	**4.01**	**273**	P	**Pn**	**10 01 01.4**	**+0.

baz=247
PVF MSG 10 01 23.1
comp=Z,1.7nm,0.2s
FIA0 FINESS Array S 1.46 35 PN Pg 10 01 25.7 -0.1
FIA0 MSG 10 01 41.7
comp=Z,1.8nm,0.2s
FIA0 SN Sn 10 01 45.3 +0.1
FIA0 FINESS Array S 1.46 35 SN Sn 10 01 45.3 +0.1
RAF Rauma 1.47 302 PG Pn 10 01 24.3 -1.3
RAF MSG 10 01 42.0
comp=Z,1.6nm,0.2s
MTSE Matsula 1.58 190 SN Sn 10 01 48.2 -0.1
KEF Keuruu 1.92 8 MSG 10 01 54.9
comp=Z,4.3nm,0.2s
KEF SG Sn 10 01 57.1 +0.5
BURU Burvik 4.54 344 PN Pn 10 02 06.2 -1.6

---

*ASRS **16** 10:11:06.0±1.0,53.°74N×91.°02E,h0km,M3.2,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **16** 10:11:10.1±3.4,53.°63N×91.°01E,h0km,mbtmp3.0/3, ML2.6/3,Error ellipse: s-maj=27.5km s-min=23.9km az=61.0*
*NNC **16** 10:11:21.4±1.8,53.°42N×90.°02E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=14.7km s-min=10.7km az=90.0, Suspected Mining explosion.*

ISC 16 10:11:14.1±4.0,53.°7N±0.°1×90.°5E±0.°2,h0km,n10, σ1§60/13,7C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.36 277**		I	I	10 35 30.0	
	baz=88,slow=337,SNR=5.4						
ZAA0	**Zalesovo Array**	**3.36 277**	⇑	Pn	**Pb**	**10 12 12.5**	**-2.0**
	0.7nm,0.6s						
ZAA0			⇑	Lg	Lg	10 13 00.9	
	9.6nm,1.1s						
ZALV	**Zalesovo Beam**	**3.36 277**		Pn	**Pn**	**10 12 09.3**	**+1.4**
	0.9nm,0.3s,baz=91,slow=14,SNR=10						
ZALV				Lg	Lg	10 13 08.4	
	1.5nm,0.3s,baz=93,slow=28,SNR=12						
	1.3nm,0.3s						
KURK	**Kurchatov**	**7.86 253**	⇑	Pn	**Pn**	**10 13 10.8**	**+1.2**
	4.0nm,1.2s						
KURK			⇑	Sn	**Sn**	**10 14 38.2**	**-0.9**
	6.9nm,0.9s						
KURK			⇓	Lg	Lg	10 15 22.5	
	34nm,1.3s						
KURBB	**Kurchatov Arra**	**7.95 252**		Pn	**Pn**	**10 13 10.2**	**-0.6**
	0.1nm,0.3s,baz=65,slow=14,SNR=5.8						
KURBB				Sn	**Sn**	**10 14 42.3**	**+0.9**
	baz=67,slow=26,SNR=7.2						
KURBB				Lg	Lg	10 15 31.9	
	baz=59,slow=29,SNR=9.5						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**7.95 252**	⇑	Pn	**Pn**	**10 13 14.1**	**+3.3**
	4.0nm,1.2s						
KURBB			⇑	Sn	**Sn**	**10 14 42.2**	**+0.9**
	17nm,0.8s						
KURBB			⇓	Lg	Lg	10 15 23.2	
	42nm,1.0s						
MK31	**Makanchi Array**	**8.64 221**		Pn	**Pn**	**10 13 21.7**	**+1.4**
	0.3nm,0.5s,baz=29,slow=13,SNR=4.6						
MK31			⇑	Sn	**Sn**	**10 14 59.5**	**+1.2**
	2.5nm,0.9s,baz=42,slow=20,SNR=5.8						
MK31			⇓	Lg	Lg	10 15 44.7	
	12nm,1.1s,baz=43,slow=29,SNR=4.2						
MKAR	**Makanchi Array**	**8.64 221**		Pn	**Pn**	**10 13 19.9**	**-0.4**
	0.1nm,0.3s,baz=35,slow=14,SNR=4.8						
MKAR				Sn	**Sn**	**10 14 57.9**	**-0.5**
	0.1nm,0.3s,baz=34,slow=21,SNR=5.5						
MKAR				Lg	Lg	10 15 48.9	
	0.1nm,0.3s,baz=40,slow=27,SNR=6.1						
	0.4nm,0.6s						
MAKZ	**Makanchi**	**8.75 222**	⇓	Sn	**Sn**	**10 15 00.5**	**-0.5**
	2.5nm,0.6s						
MAKZ			⇓	Lg	Lg	10 15 50.4	
	11nm,1.2s						
SONM	**Songino Array**	**11.64 114**		Lg	Lg	10 17 03.5	
	0.3nm,0.3s,baz=297,slow=24,SNR=8.8						

---

*IDC **16** 10:21:43.2±2.0,17.°66S×178.°29W,h633km±18km,mb2.9/7, mbtmp3.8/8,Error ellipse: s-maj=81.4km s-min=13.6km az=153.0*

ISC 16 10:21:44.4±1.7,17.°6S±0.°6×178.°4W±0.°3,h650km,n9, σ1§05/12,mb3.3/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.42 267**		P	**P**	**10 23 07.8**	**-2.3**
	24nm,0.8s,baz=208,slow=22,SNR=11						
WRA	**Warramunga Arr**	**44.73 259**		P	**P**	**10 29 03.2**	**+0.4**
	0.5nm,0.5s,baz=97,slow=6.7,SNR=16						
WRA				PcP	**PcP**	**10 30 30.9**	**+0.4**
	0.1nm,0.3s,baz=91,slow=3.7,SNR=6.2						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**44.92 254**		P	**P**	**10 29 04.6**	**+0.4**
	2.4nm,0.9s,baz=94,slow=7.4,SNR=32						
ASAR				PcP	**PcP**	**10 30 31.2**	**+0.2**
	0.5nm,0.4s,baz=104,slow=3.9,SNR=12						
ASAR				S	**S**	**10 34 59.0**	**+1.7**
	0.3nm,0.7s,baz=87,slow=14,SNR=5.0						
	2.4nm,0.9s						
NVAR	**Mina Array Bea**	**79.16 44**		P	**P**	**10 32 44.7**	**+0.4**
	0.6nm,0.7s,baz=229,slow=9.8,SNR=6.6						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**85.56 13**		P	**P**	**10 33 15.8**	**+0.4**
	0.5nm,0.4s,baz=218,slow=5.0,SNR=18						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**85.79 58**		P	**P**	**10 33 17.6**	**+0.2**
	0.7nm,0.7s,baz=221,slow=6.2,SNR=12						
	0.7nm,0.7s						
PDAR	**Pinedale Array**	**87.09 43**		P	**P**	**10 33 23.3**	**-0.1**
	0.3nm,0.6s,baz=225,slow=5.9,SNR=3.8						
	0.3nm,0.6s						
YKA	**Yellowknife Ar**	**94.02 25**		P	**P**	**10 33 55.0**	**+0.4**
	0.2nm,0.8s,baz=236,slow=4.5,SNR=3.0						
	0.2nm,0.8s						
GERES	**GERESS Array B**	**147.31 345**		PKPbc	**PKiKP**	**10 40 17.6**	**-0.8**
	0.4nm,0.3s,baz=3.8,slow=4.0,SNR=4.0						

---

*NEIC **16** 10:29:05.5±1.2,19.°31N±0.°08×62.°08W±0.°09,h10km±2km, mb4.3/8,Error ellipse: s-maj=16.2km s-min=10.8km az=52.0*
*TRN **16** 10:29:12.1,18.°82N×62.°39W,h57km,MD4.1,North-east of Barbuda.*
*IDC **16** 10:29:18.6±2.2,18.°34N×62.°57W,h65km±21km,mb3.3/3, mbtmp3.7/4,Error ellipse: s-maj=30.4km s-min=8.0km az=29.0*

ISC 16 10:29:09.8±2.4,19.°1N±0.°1×62.°23W±0.°09,h42km±20km, n61,σ1§61/77,mb3.9/5,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRT	**St. Maarten**	**1.27 219**			**Pn**	**10 29 31.7**	**+0.5**
ANWB	**Willy Bob**	**1.44 163**			**Pn**	**10 29 34.7**	**+1.3**
ANWB	**Willy Bob**	**1.44 163**		*eP*	**Pn**	**10 29 34.6**	**+1.2**
ANWB				*eS*	**Sn**	**10 29 51.8**	**+0.7**
SEUS	**St. Eustatius**	**1.70 205**			**Pn**	**10 29 38.6**	**+1.5**
SABA	**Saba**	**1.71 214**			**Pn**	**10 29 38.3**	**+1.1**
SKI	**Saint Kitts**	**1.77 196**		*eP*	**Pn**	**10 29 39.3**	**+1.3**
SKI				*eS*	**Sn**	**10 29 58.2**	**-1.2**
SKOC	**St. Kitts, UWI**	**1.81 195**		*eP*	**Pn**	**10 29 39.5**	**+1.0**
SKOC				*eS*	**Sn**	**10 29 58.4**	**-1.8**
ANBD	**Bethesda, Anti**	**2.04 167**		*eP*	**Pn**	**10 29 42.8**	**+1.2**
ANBD				*eS*	**Sn**	**10 30 05.7**	**-0.2**
MBFL	**Flemmings, Mon**	**2.29 180**		*eP*	**Pn**	**10 29 46.3**	**+1.2**
MBFL				*eS*	**Sn**	**10 30 11.3**	**-0.7**
MBWH		**2.29 179**		*eP*	**Pn**	**10 29 46.7**	**+1.5**
MBWH				*eS*	**Sn**	**10 30 10.7**	**-1.5**
MLYT	**Lee's Yard**	**2.31 179**		*eP*	**Pn**	**10 29 47.2**	**+1.8**
MLYT				*eS*	**Sn**	**10 30 12.6**	**-0.1**
ABD	**La Joyeuse, An**	**2.66 164**		Pn	**Pn**	**10 29 50.5**	**+0.4**
GDHS	**Morne Mazeau,**	**2.79 171**			**Pn**	**10 29 53.6**	**+1.4**
GDSD	**La Dsirade Is**	**2.94 158**		Pn	**Pn**	**10 29 54.8**	**+0.7**
H05N1	**Guadeloupe/Mar**	**2.94 157**		P	**Pn**	**10 29 55.2**	**+1.1**
H05N1				S	**Sn**	**10 30 26.4**	**-1.8**
	SNR=432						
CBE	**Ff, Capester**	**3.02 169**			**Pn**	**10 29 56.9**	**+1.6**
MAGL	**Barre de l'ile**	**3.21 163**		Pn	**Pn**	**10 29 59.9**	**+2.1**
TBG	**Guadaloupe-3**	**3.23 170**		*eP*	**Pn**	**10 30 00.3**	**+2.3**
TBG				*eS*	**Sn**	**10 30 35.5**	**+0.3**
TDBA	**Terre de Bas,**	**3.23 170**			**Pn**	**10 30 00.4**	**+2.3**
DWS	**Wesley**	**3.57 166**		*eP*	**Pn**	**10 30 04.5**	**+1.7**
DWS				*eS*	**Sn**	**10 30 42.9**	**-0.8**
DSLB	**Salisbury**	**3.67 168**		*eP*	**Pn**	**10 30 06.2**	**+2.0**
DSLB				*eS*	**Sn**	**10 30 45.2**	**-1.0**
GCPR	**Guaynabo City**	**3.72 259**			**Pn**	**10 30 05.5**	**+0.7**
PDPR	**Patillas Dam,**	**3.74 255**			**Pn**	**10 30 06.7**	**+1.6**
DLPL	**La Plaine**	**3.81 166**		*eP*	**Pn**	**10 30 08.2**	**+2.1**
DLPL				*eS*	**Sn**	**10 30 49.0**	**-0.7**
IGPR	**InterUniversit**	**3.83 254**			**Pn**	**10 30 08.2**	**+1.9**
SJG	**San Juan**	**3.83 257**			**Pn**	**10 30 08.1**	**+1.7**
SJG	**San Juan**	**3.83 257**		P	**Pn**	**10 30 08.3**	**+2.0**
	30nm,0.3s,baz=96,slow=19,SNR=8.7						
SJG				S	**Sn**	**10 30 49.5**	**-0.6**
	129nm,0.5s,baz=286,slow=15,SNR=13						
SJG	**San Juan**	**3.83 257**		*eP*	**Pn**	**10 30 07.6**	**+1.3**
EMPR	**Esperanza - Ma**	**4.11 263**		Pn	**Pn**	**10 30 10.9**	**+0.8**
CELP	**Cerrillos**	**4.24 258**			**Pn**	**10 30 13.1**	**+1.2**
OBIP	**Obispado Ponce**	**4.27 257**			**Pn**	**10 30 12.7**	**+0.4**
SVN	**Savane Anatole**	**4.30 166**		Pn	**Pn**	**10 30 14.0**	**+1.1**
UUPR	**Utuado, UPR, P**	**4.33 260**			**Pn**	**10 30 14.0**	**+0.8**
AOPR	**Arecibo Observ**	**4.34 261**			**Pn**	**10 30 13.9**	**+0.6**
AOPR	**Arecibo Observ**	**4.34 261**		*eP*	**Pn**	**10 30 14.0**	**+0.6**
AOPR				*eS*	**Sn**	**10 31 01.2**	**-1.5**
FDF	**Fort de France**	**4.41 166**		Pn	**Pn**	**10 30 15.4**	**+1.1**
ILAM	**Ilet Lapin Mar**	**4.44 163**		Pn	**Pn**	**10 30 15.2**	**+0.5**
BIM	**Bigot**	**4.64 166**		Pn	**Pn**	**10 30 18.6**	**+1.1**
AGUR	**Aguadilla, PR**	**4.66 264**			**Pn**	**10 30 18.2**	**+0.5**
CRPR	**Cabo Rojo, PR**	**4.74 258**			**Pn**	**10 30 20.1**	**+1.3**
MPOM	**Morne Pois Mar**	**4.76 164**		Pn	**Pn**	**10 30 20.8**	**+1.6**
H05S1	**Guadeloupe/Mar**	**4.79 164**		P	**Pn**	**10 30 20.7**	**+1.3**
H05S1				S	**Sn**	**10 31 10.6**	**-3.1**
	SNR=134						
SLBI	**Saint Lucia, B**	**5.14 166**		*eP*	**Pn**	**10 30 25.8**	**+1.5**
SLBI				*eS*	**Sn**	**10 31 20.3**	**-2.1**
SLAC	**Saint Lucia, A**	**5.28 166**		*eP*	**Pn**	**10 30 28.4**	**+2.1**
SLAC				*eS*	**Sn**	**10 31 22.8**	**-3.1**
SVB	**Belmont**	**5.82 171**		*eP*	**Pn**	**10 30 35.9**	**+2.3**
SVB				*eS*	**Sn**	**10 31 35.5**	**-3.6**
SVT	**Saint Vincent**	**5.92 171**		*eP*	**Pn**	**10 30 36.8**	**+1.8**
SVT				*eS*	**Sn**	**10 31 38.1**	**-3.6**
DR12	**Loma Pena Alta**	**6.77 269**		Pn	**Pn**	**10 30 46.9**	**+0.1**
GRGR	**Grenville**	**6.90 175**		*eP*	**Pn**	**10 30 50.4**	**+1.9**
BANI	**BANI**	**7.73 266**		Pn	**Pn**	**10 30 59.7**	**-0.2**
SDDR	**Presa de Saban**	**8.57 271**			**Pn**	**10 31 12.9**	**+1.5**
BBSR	**BB Station**	**13.45 351**		Pn	Pn	10 32 12.7	-5.4
BOAV	**Boa Vista**	**16.63 174**		Pn	**P**	**10 32 60.0**	**-2.1**
RUSC	**La Rusia**	**16.81 220**		Pn	**P**	**10 33 03.3**	**-1.2**
FLOC	**Florencia**	**21.77 219**		P	**P**	**10 34 00.4**	**+2.2**
FLOC				IAmb	IAmb	10 34 32.8	
	comp=Z,6.5nm,1.2s						
TEIG	**Tepich**	**24.55 277**		P	**P**	**10 34 26.0**	**+0.2**
TXAR	**Lajitas Array**	**38.98 293**		P	P	10 36 37.6	+5.2
	comp=Z,0.5nm,0.9s,baz=98,slow=7.7,SNR=4.1						
	comp=Z,0.5nm,0.9s						
CPUP	**Villa Florida**	**45.36 174**		P	**P**	**10 37 25.1**	**+1.0**
CPUP				IAmb	IAmb	10 37 53.3	
	comp=Z,7.8nm,1.4s						
CPUP	**Villa Florida**	**45.36 174**		P	**P**	**10 37 24.6**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=348,slow=9.0,SNR=4.2						
	comp=Z,1.7nm,0.6s						
MPU	**Maple Canyon**	**47.12 307**		P	**P**	**10 37 36.2**	**-2.0**
MPU				IAmb	IAmb	10 38 14.4	
	comp=Z,3.3nm,1.4s						
YKA	**Yellowknife Ar**	**56.26 334**		P	P	10 38 56.5	+11
	comp=Z,0.5nm,0.9s,baz=116,slow=7.1,SNR=9.3						
	comp=Z,0.5nm,0.9s						
ASAR	**Alice Springs**	**164.28 250**		PKPab	**PKPab**	**10 50 06.5**	**+2.8**
	comp=Z,0.3nm,0.6s,baz=106,slow=4.2,SNR=6.4						

---

*NOU **16** 10:33:03.0,42.°64S×173.°15E,h2km,MLv3.7/15,South Island, New Zealand*
*WEL **16** 10:33:04.7±0.4,43.°S±2.°×17.°3E±.°,h5km,M3.1/8,ML3.4/8, MLv3.1/8,Error ellipse: s-maj=4.2km s-min=3.0km az=117.4,confirmed*

ISC 16 10:33:04.3±0.9,42.°58S±0.°02×173.°20E±0.°03,h14km±6km, n56,σ0§78/67,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WTMC	**Te Mara Farm W**	**0.11 251**		P	**Pg**	**10 33 07.5**	**-0.2**
WTMC				S	**Sg**	**10 33 09.9**	**0.0**
CECS	**Cheviot Emerge**	**0.24 166**		P	**Pb**	**10 33 10.5**	**+0.1**
CECS				S	**Sb**	**10 33 15.9**	**+1.4**
KHZ	**Kahutara**	**0.30 57**		P	**Pg**	**10 33 10.4**	**-0.2**
KHZ	**Kahutara**	**0.30 57**		P	**Pn**	**10 33 15.0**	**+0.7**
KHZ	**Kahutara**	**0.30 57**		P	**Pg**	**10 33 10.6**	**0.0**
KHZ				S	**Sg**	**10 33 15.2**	**+0.4**
KIKS	**Kaikoura**	**0.39 66**		P	**Pb**	**10 33 12.9**	**-0.1**
GVZ	**Greta Valley S**	**0.40 197**		P	**Pb**	**10 33 13.6**	**+0.4**
GVZ				S	**Sb**	**10 33 20.8**	**+1.5**
WAKC	**Waikari**	**0.53 224**		P	**Pb**	**10 33 15.3**	**0.0**
WAKC				S	**Sb**	**10 33 23.8**	**+1.1**
LTZ	**Lake Taylor**	**0.71 254**		P	**Pb**	**10 33 18.3**	**-0.2**
LTZ				S	**Sb**	**10 33 28.3**	**+0.1**
AMCZ	**Amberley**	**0.72 214**		P	**Pn**	**10 33 19.5**	**-0.5**
THZ	**Tophouse**	**0.85 345**		P	**Pb**	**10 33 20.1**	**-0.8**
THZ				S	**Sb**	**10 33 30.6**	**-1.5**
BSWZ	**Blackbirch Sta**	**1.00 30**		P	**Pb**	**10 33 23.6**	**+0.1**
CMWZ	**Cape Campbell**	**1.12 43**		P	**Pn**	**10 33 24.5**	**-1.1**
OXZ	**Oxford**	**1.13 229**		P	**Pn**	**10 33 25.4**	**-0.3**
OXZ				S	**Sn**	**10 33 40.5**	**-0.5**
OKCZ	**Okains Bay**	**1.14 185**		P	**Pb**	**10 33 26.0**	**+0.1**
OKCZ				S	**Sg**	**10 33 42.1**	**+0.8**
MQZ	**McQueen's Vall**	**1.19 199**		P	**Pn**	**10 33 25.1**	**-1.4**
MQZ				S	**Sb**	**10 33 41.8**	**-0.1**
MRNZ	**Matariki Terra**	**1.23 344**		P	**Pn**	**10 33 27.1**	**+0.1**
MRNZ				S	**Sn**	**10 33 43.7**	**+0.3**
TUWZ	**Tuamarina**	**1.28 26**		P	**Pb**	**10 33 28.8**	**+0.6**
INZ	**Inchbonnie**	**1.30 263**		P	**Pn**	**10 33 28.4**	**+0.3**
AKCZ	**Akaroa Harbour**	**1.31 189**		P	**Pn**	**10 33 27.9**	**-0.2**
DSZ	**Denniston Nort**	**1.33 308**		P	**Pb**	**10 33 29.0**	**-0.1**
NNZ	**Nelson**	**1.37 6**		P	**Pn**	**10 33 29.2**	**+0.2**
RACZ	**Rakaia**	**1.38 214**		P	**Pn**	**10 33 28.4**	**-0.7**
MHCZ	**Mount Hutt**	**1.52 231**		P	**Pn**	**10 33 30.5**	**-0.6**
TKNZ	**Takaka Hill**	**1.56 353**		P	**Pb**	**10 33 32.5**	**-0.4**
TCW	**Tory Channel**	**1.59 31**		P	**Pn**	**10 33 32.0**	**0.0**
WACZ	**Wakanui South**	**1.68 216**		P	**Pn**	**10 33 32.7**	**-0.6**
SNZO	**South Karori**	**1.70 42**		P	**Pn**	**10 33 33.4**	**0.0**
BHW	**Baring Head**	**1.71 47**		P	**Pn**	**10 33 33.3**	**-0.4**
WEL	**Wellington**	**1.75 43**		P	**Pn**	**10 33 34.1**	**-0.1**
QRZ	**Quartz Range**	**1.83 344**		P	**Pn**	**10 33 36.3**	**+1.0**
QRZ	**Quartz Range**	**1.83 344**		S	**Sb**	**10 34 00.5**	**+0.3**
QRZ	**Quartz Range**	**1.83 344**		P	**Pn**	**10 33 36.5**	**+1.2**
WVZ	**Waitaha Valley**	**1.88 254**		P	**Pn**	**10 33 36.4**	**+0.5**
RPZ	**Rata Peaks**	**1.93 233**		P	**Pn**	**10 33 36.3**	**-0.5**
RPZ	**Rata Peaks**	**1.93 233**		S	**Sn**	**10 34 00.1**	**-0.8**
RPZ	**Rata Peaks**	**1.93 233**		P	**Pn**	**10 33 36.4**	**-0.4**
CAW	**Cannon Point**	**2.03 44**		P	**Pn**	**10 33 37.6**	**-0.5**
KIW	**Kapiti Island**	**2.15 37**		P	**Pn**	**10 33 39.6**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.23 250**		P	**Pn**	**10 33 42.0**	**+1.2**
TMZ	**Timaru**	**2.41 221**		P	**Pn**	**10 33 42.6**	**-0.7**
HOWZ	**Holdsworth Sta**	**2.42 47**		P	**Pn**	**10 33 42.5**	**-0.9**
MRZ	**Mangatainoka R**	**2.62 44**		P	**Pn**	**10 33 45.2**	**-1.0**
FOZ	**Fox Glacier**	**2.65 248**		P	**Pn**	**10 33 47.6**	**+0.9**
LBZ	**Lake Benmore**	**2.84 230**		P	**Pn**	**10 33 49.0**	**-0.2**
BFZ	**Birch Farm**	**2.97 51**		P	**Pn**	**10 33 51.7**	**+0.7**
ODZ	**Otahua Downs**	**3.08 216**		P	**Pn**	**10 33 51.3**	**-1.1**
ODZ	**Otahua Downs**	**3.08 216**		P	**Pn**	**10 33 51.5**	**-1.0**
DVHZ	**Dannevirke**	**3.19 45**		P	**Pn**	**10 33 52.0**	**-2.0**
TSZ	**Takapari Road**	**3.27 40**		P	**Pn**	**10 33 53.9**	**-1.2**
JCZ	**Jackson Bay**	**3.55 244**		P	**Pn**	**10 33 59.0**	**0.0**
JCZ	**Jackson Bay**	**3.55 244**		S	**Sn**	**10 34 40.5**	**-0.3**
BKZ	**Black Stump Fm**	**4.23 37**		P	**Pn**	**10 34 09.6**	**+1.2**
HIZ	**Hauiti**	**4.26 18**		P	**Pn**	**10 34 09.9**	**+1.2**
SYZ	**Scrubby Hill**	**4.90 215**		P	**Pn**	**10 34 16.9**	**-0.6**
URZ	**Urewera**	**5.25 36**		P	**Pn**	**10 34 23.7**	**+1.4**

---

*BUT **16** 10:34:27.2±1.2,45.°86N±0.°01×111.°35W±0.°02,h-3km, Error ellipse: s-maj=2.4km s-min=1.6km az=119.0*

NEIC 16 10:34:27.2±1.2,45.°86N±0.°01×111.°36W±0.°02,h3km±6km, ML2.5/44,ML2.7/19(BUT),Error ellipse: s-maj=2.0km s-min=1.7km az=109.0,Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NQMA	**Gallatin River**	**0.05 19**			Pg	10 34 28.6	+0.2
SXM	**Sixmile**	**0.31 19**			Pg	10 34 33.5	+0.3
SXM					Sg	10 34 38.0	+0.7
BOZ	**Bozeman (W)**	**0.33 216**			Pg	10 34 34.0	+0.6
BOZ					Sg	10 34 38.5	+0.8
BOZ				IAML		10 34 39.1	
	492nm,0.2s						
BZMT	**Bozeman Pass**	**0.44 118**			Pg	10 34 36.5	+0.8
MSMT	**Mission Creek**	**0.74 108**			Pg	10 34 41.8	+0.5
LRM	**Limekiln Ridge**	**0.77 268**			Pg	10 34 42.0	+0.1
BGMT	**Barton Gulch**	**0.79 218**			Pg	10 34 42.7	+0.4
BUT	**Butte**	**0.86 281**			Pg	10 34 43.9	+0.3
HBMT	**Mount Humbug**	**0.88 266**			Pg	10 34 44.0	0.0
HRY	**Holter Researc**	**0.92 339**			Pg	10 34 44.8	0.0
CRMT	**Chrome Mountai**	**0.94 115**			Pg	10 34 45.0	-0.3
YMV	**Mammoth Vault**	**1.00 152**			Pn	10 34 49.8	+1.5
DLMT	**Dillon**	**1.00 241**			Pg	10 34 46.4	0.0
DLMT				IAML		10 35 03.8	
	103nm,0.4s						
DLMT				IAML		10 35 03.8	
	88nm,0.4s						
YHL	**Hebgen Lake**	**1.01 173**			Pg	10 34 46.6	0.0
YHL				IAML		10 35 01.5	
	comp=N,117nm,0.5s						
YHL				IAML		10 35 04.9	
	comp=E,142nm,0.5s						
QLMT	**Earthquake Lak**	**1.03 183**			Pg	10 34 46.8	-0.2
YHB	**Horse Butte**	**1.11 174**			Pg	10 34 48.7	+0.2
YHB				IAML		10 35 03.8	
	comp=E,77nm,0.5s						
YHB				IAML		10 35 04.3	
	comp=N,87nm,0.5s						
BEMT	**Mount Belmont**	**1.12 323**			Pg	10 34 48.5	-0.1
YMC	**Maple Creek**	**1.13 167**			Pg	10 34 48.6	-0.2
YHH	**Holmes Hill**	**1.13 161**			Pg	10 34 48.6	-0.2
YHH	**Holmes Hill**	**1.13 161**			Pg	10 34 48.7	-0.1
TPMT	**Tepee Creek**	**1.15 191**			Pg	10 34 49.5	+0.3
GCMT	**Greycliff**	**1.18 93**			Pg	10 34 49.9	0.0
YMR	**Madison River**	**1.22 167**			Pg	10 34 50.7	+0.1
YMR				IAML		10 35 12.2	
	comp=N,132nm,0.6s						
YMR				IAML		10 35 12.5	
	comp=E,91nm,0.3s						
YNM	**Yellowstone No**	**1.22 158**		Pg	Pn	10 34 51.6	+0.2
YNM				IAML		10 35 09.1	
	comp=N,86nm,0.1s						
YNM				IAML		10 35 14.3	
	comp=E,82nm,0.1s						
YNR	**Norris Junctio**	**1.24 157**		Pg	Pg	10 34 50.8	-0.2
YNR				IAML		10 35 11.8	
	comp=E,53nm,0.2s						
YPM	**Purple Mountai**	**1.25 164**			Pn	10 34 52.4	+0.6
YPWB	**West Boundary**	**1.27 172**			Pb	10 34 51.7	-0.1
YNE	**Yellowstone No**	**1.27 131**			Pg	10 34 51.4	-0.2
YNE				IAML		10 35 11.8	
	comp=E,123nm,0.5s						
LYMT	**Lyon Mountain**	**1.29 330**		Pg	Pb	10 34 52.0	-0.2
YUF	**Upper Falls**	**1.29 152**			Pn	10 34 53.8	+1.4
YPSB	**Soda Butte**	**1.29 139**			Pn	10 34 52.5	+0.1
CMI	**Centennial Mou**	**1.35 188**			Pg	10 34 52.7	-0.3
YMP	**Mirror Lake Pl**	**1.40 142**			Pn	10 34 53.5	-0.4
YMP				IAML		10 35 16.1	
	comp=N,119nm,0.3s						
YMP				IAML		10 35 16.5	
	comp=E,110nm,0.3s						
YFT	**Old Faithful**	**1.45 165**			Pn	10 34 54.0	-0.5
MOMT	**Monida**	**1.46 211**			Pg	10 34 55.3	0.0
MCMT	**McKenzie Canyo**	**1.47 226**			Pn	10 34 54.9	0.0
BPMT	**Black Pine Rid**	**1.56 292**			Pb	10 34 56.8	-0.1
RLMT	**Red Lodge**	**1.64 116**			Pn	10 34 57.1	0.0
RLMT				IAML		10 35 24.8	
	comp=E,88nm,0.3s						
OVMT	**Ovando**	**1.66 317**			Pb	10 34 58.5	+0.1
MCID	**Moose Creek**	**1.67 176**			Pb	10 34 58.9	+0.1
CHMT	**Chamberlain Mo**	**1.69 309**			Pg	10 34 59.4	-0.1
MSO	**Missoula**	**2.04 299**		Pn	Pn	10 35 02.1	-0.3
MSO				IAML		10 35 36.4	
	comp=E,28nm,0.6s						
MSO				IAML		10 35 38.9	
	comp=E,27nm,0.9s						
VCMT	**Victor**	**2.05 288**			Pg	10 35 05.9	-0.6
MOOW	**Moose Ponds**	**2.15 168**			Pn	10 35 05.0	+0.9
FXWY	**Fox Creek**	**2.23 174**			Pn	10 35 06.2	+1.0
LOHW	**Long Hollow**	**2.31 166**		Pn	Pb	10 35 08.6	-0.9
TPAW	**Teton Pass**	**2.39 173**		Pn	Pn	10 35 07.2	-0.2
EGMT	**Eagleton**	**2.43 26**			Pn	10 35

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.69**	**24**	P	**Pn**	**10 39 08.2**	**-1.5**
GLKZ				S	**Sn**	**10 39 31.8**	**+0.5**
RIZ	**Raoul Island**	**1.70**	**24**	P	**Pn**	**10 39 08.8**	**-1.1**
RIZ				S	**Sn**	**10 39 33.9**	**+2.2**
WMGZ	**Waiomatatini S**	**7.39**	**198**	P	**Pn**	**10 40 29.0**	**+1.0**
HAZ	**Te Kaha**	**7.51**	**202**	P	**Pn**	**10 40 29.5**	**-0.3**
PKGZ	**Pakihiroa**	**7.53**	**200**	P	**Pn**	**10 40 28.0**	**-2.0**
PUZ	**Puketiti**	**7.67**	**198**	P	**Pn**	**10 40 32.2**	**+0.2**
RUGZ	**Raukumara Rang**	**7.74**	**202**	P	**Pn**	**10 40 33.3**	**+0.3**
WCZ	**Waipu Caves**	**7.74**	**227**	P	**Pn**	**10 40 34.0**	**+1.1**
OUZ	**Omahuta**	**7.82**	**234**	P	**Pn**	**10 40 35.2**	**+1.2**
TWGZ	**Tauwhareparae**	**7.84**	**199**	P	**Pn**	**10 40 36.8**	**+2.4**
TWGZ				S	**Sn**	**10 42 03.9**	**+0.7**
CNGZ	**Carnagh Statio**	**8.07**	**198**	P	**Pn**	**10 40 36.7**	**-0.7**
MWZ	**Matawai**	**8.12**	**201**	P	**Pn**	**10 40 37.5**	**-0.7**
URZ	**Urewera**	**8.19**	**204**	Pn	**Pn**	**10 40 39.4**	**+0.3**
	2.3nm,0.3s,baz=320,slow=3.6,SNR=13						
URZ				Sn	**Sn**	**10 42 10.9**	**-0.8**
	0.3nm,0.3s,baz=206,slow=22,SNR=1.3						
	4.4nm,0.4s						
URZ	**Urewera**	**8.19**	**204**	P	**Pn**	**10 40 38.0**	**-1.1**
BKZ	**Black Stump Fm**	**9.22**	**204**	P	**Pn**	**10 40 53.7**	**+0.5**
OTVZ	**Oturere**	**9.53**	**207**	P	**Pn**	**10 40 57.4**	**-0.2**
TSZ	**Takapari Road**	**10.20**	**204**	P	**Pn**	**10 41 04.6**	**-2.1**
STKA	**Stephens Creek**	**33.79**	**258**	P	**P**	**10 45 22.5**	**+0.1**
	3.1nm,1.2s,baz=90,slow=5.1,SNR=3.6						
	3.1nm,1.2s						
ASAR	**Alice Springs**	**42.48**	**268**	P	**P**	**10 46 34.4**	**-1.4**
	0.4nm,0.6s,baz=108,slow=7.4,SNR=7.6						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**43.51**	**273**	P	**P**	**10 46 42.8**	**-1.3**
	0.5nm,0.5s,baz=112,slow=7.9,SNR=9.3						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**59.30**	**180**	P	**P**	**10 48 44.3**	**+2.3**
	0.6nm,0.6s,baz=24,slow=20,SNR=6.4						
	0.6nm,0.6s						
NVAR	**Mina Array Bea**	**88.95**	**43**	P	P	10 51 41.1	+5.8
	0.4nm,0.8s,baz=249,slow=5.0,SNR=2.4						
	0.4nm,0.8s						
FINES	**FINESS Array B**	**145.31**	**339**	PKPbc	**PKiKP**	**10 58 21.2**	**-0.2**
	1.5nm,0.8s,baz=64,slow=4.4,SNR=5.9						

HEL 16 10:38:54.2±0.2, 60°37N×24°90E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUR	**Nurmijarvi**	**0.19**	**319**	PG	Pg	10 38 57.6	-0.2
	baz=135						
NUR				SG	Sg	10 39 00.1	-0.1
HEL1	**Helsinki**	**0.19**	**182**	PG	Pg	10 38 57.7	-0.2
	baz=357						
HEL1				SG	Sg	10 39 00.2	-0.1
MEF	**Metsahovi**	**0.29**	**239**	PG	Pg	10 38 59.4	-0.4
	baz=49						
MEF				SG	Sg	10 39 03.5	-0.1
PVF	**Pernaja**	**0.51**	**69**	PG	Pg	10 39 03.4	-0.6
	baz=253						
PVF				MSG		10 39 10.6	
	comp=Z,3.7nm,0.2s						
FIA0	**FINESS Array S**	**1.22**	**28**	PN	Pn	10 39 19.3	+0.8
	baz=210						
FIA0				MSG		10 39 31.3	
	comp=Z,2.8nm,0.2s						
FIA0				SG	Sg	10 39 32.2	-1.3
VJF	**Virojoki**	**1.33**	**81**	PG	Pg	10 39 15.7	-3.9
VJF				MSG		10 39 34.4	
	comp=Z,7.5nm,0.2s						
VJF				SN	Sn	10 39 39.0	+0.7
RAF	**Rauma**	**1.68**	**294**	PG	Pn	10 39 24.5	-0.2
	baz=122						
RAF				MSG		10 39 44.2	
	comp=Z,3.5nm,0.2s						
RAF				SN	Sb	10 39 47.2	-0.3
MTSE	**Matsula**	**1.75**	**199**	SN	Sg	10 39 50.1	-0.2
KEF	**Keuruu**	**1.81**	**360**	MSG		10 39 48.1	
	comp=Z,2.9nm,0.2s						
KEF				SN	Sg	10 39 51.7	-0.4
KAF	**Kangasniemi**	**1.88**	**21**	MSG		10 39 50.2	
	comp=Z,1.7nm,0.2s						
KAF				SG	Sb	10 39 53.6	+0.2
SUF	**Sumiainen**	**2.44**	**14**	MSG		10 40 06.2	
	comp=Z,0.6nm,0.2s						
SUF				SG	Sb	10 40 10.0	+0.7

*SOME **16** 10:41:59.8, 43°.63N×69°.58E*
*NNC **16** 10:41:59.9±1.5, 43°.50N×69°.57E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=20.8km s-min=8.5km az=33.0, Suspected Mining explosion.*
*KRNET **16** 10:42:02.5±0.1, 43°.53N×69°.82E, mb3.1*
ISC 16 10:42:05.0±2.8, 43°.4N±0°.1×69°.8E±0°.1, h0km, n10, σ0985/18, 15C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.60**	**118**	P	**Pg**	**10 42 15.2**	**-1.3**
	5.7nm,0.5s,baz=318,slow=17,SNR=232						
KK31				⇑S	**Sb**	**10 42 26.4**	**-1.0**
	44nm,0.5s,baz=304,slow=28,SNR=17						
KKAR	**Karatay Array**	**0.60**	**118**	⇑*i*P	**Pg**	**10 42 15.3**	**-1.2**
KKAR				⇑*i*S	**Sg**	**10 42 24.8**	**+0.5**
TRKS	**Terek-Say**	**2.11**	**151**	⇑*e*P	**Pb**	**10 42 43.9**	**-0.3**
TRKS				⇑*i*S	**Sg**	**10 43 13.8**	**+1.0**
MNAS	**Manas**	**2.19**	**113**	⇑*i*P	**Pn**	**10 42 42.8**	**0.0**
MNAS				⇑*i*S	**Sb**	**10 43 12.3**	**-0.9**
ARK	**Arkit**	**2.26**	**134**	⇓*e*P	**Pn**	**10 42 44.5**	**+0.8**
ARK				⇓*e*S	**Sb**	**10 43 14.9**	**-0.4**
EKS2	**Erkin-Say**	**3.01**	**103**	⇑*i*P	**Pn**	**10 42 54.0**	**-0.1**
EKS2				⇑*i*S	**Sn**	**10 43 31.4**	**+0.4**
AML	**Almayashu**	**3.14**	**112**	⇓*i*P	**Pn**	**10 42 56.3**	**+0.2**
AML				⇓*i*S	**Sn**	**10 43 35.5**	**+1.1**
AAK	**Ala-Archa**	**3.53**	**101**	⇑Pg	**Pb**	**10 43 08.4**	**-0.1**
	5.5nm,0.6s						
AAK				⇑Lg	Lg	10 43 57.2	
	8.3nm,0.6s						
ARLS	**Aral**	**3.68**	**113**	⇑*e*P	**Pn**	**10 43 03.9**	**+0.6**
ARLS				⇑*e*S	**Sn**	**10 43 48.5**	**+1.1**
TKM2	**Tokmak 2**	**4.28**	**94**	⇑Pg	**Pb**	**10 43 22.0**	**+0.8**
	3.4nm,0.7s						
TKM2				⇑Lg	Lg	10 44 20.1	
	6.3nm,0.7s						

*IDC **16** 10:42:33.8±0.6, 34°.18N×136°.78E, h356km±7km, mb3.7/20, mbtmp4.4/27, Error ellipse: s-maj=14.7km s-min=8.2km az=78.0*
*NEIC **16** 10:42:34.4±1.1, 34°.22N±0°.03×136°.77E±0°.09, h357km±5km, mb4.1/66, Error ellipse: s-maj=10.8km s-min=3.8km az=92.0*
*JMA **16** 10:42:34.2±0.1, 34°.3N±0°.7×136°.7E±0°.6, h359km±1km, MV3.6/38, SE OFF KII PENINSULA*
ISC 16 10:42:33.9±0.5, 34°22N±0°.05×136°74E±0°.05, h357km±5km, n172, σ0994/190, mb4.1/48, 2C-1D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.17**	**352**	P	**Pn**	**10 43 19.3**	**+0.9**
JIE				*e*S	**S**	**10 43 54.4**	**+0.2**
JKN2	**Miekihoku**	**0.39**	**273**	P	**Pn**	**10 43 19.3**	**+0.6**
JKN2				S	**S**	**10 43 53.7**	**-0.9**
TTO1	**TONANKAI O.B.S**	**0.60**	**176**	P	**Pn**	**10 43 20.0**	**+1.1**
JWY	**Kouya**	**0.95**	**270**	P	**Pn**	**10 43 20.8**	**+0.6**
JWY				*e*S	**S**	**10 43 57.3**	**-0.2**
JTNC	**Tanabenakahech**	**1.02**	**247**	P	**Pn**	**10 43 21.0**	**+0.5**
JTNC				*e*S	**S**	**10 43 57.9**	**-0.1**
INU	**Inuyama**	**1.15**	**11**		**Pn**	**10 43 21.6**	**+0.6**
INU				Sn	**S**	**10 43 58.7**	**-0.1**
INU	**Inuyama**	**1.15**	**11**	P	**Pn**	**10 43 21.5**	**+0.6**
INU	**Inuyama**	**1.15**	**11**	S	**S**	**10 43 58.7**	**-0.1**
JSG	**Sagara**	**1.28**	**69**		**Pn**	**10 43 22.9**	**+1.4**
JSG	**Sagara**	**1.28**	**69**	S	**S**	**10 43 59.9**	**0.0**
JSG	**Sagara**	**1.28**	**69**	P	**Pn**	**10 43 22.5**	**+1.0**
JYTA	**Yamagatataniai**	**1.37**	**360**	P	**Pn**	**10 43 22.7**	**+0.8**
JYTA				*e*S	**S**	**10 44 00.5**	**-0.1**
JGF	**Kuroka**	**1.47**	**20**		**Pn**	**10 43 23.1**	**+0.5**
JGF				Sn	**S**	**10 44 01.7**	**0.0**
JGF	**Kuroka**	**1.47**	**20**	P	**Pn**	**10 43 22.9**	**+0.4**
JGF	**Kuroka**	**1.47**	**20**	S	**S**	**10 44 01.7**	**0.0**
JWT	**Wachi**	**1.53**	**314**	P	**Pn**	**10 43 23.4**	**+0.6**
JWT				*e*S	**S**	**10 44 01.7**	**-0.5**
JAI	**Aioi**	**1.95**	**258**	P	**Pn**	**10 43 25.8**	**+0.3**
JAI				*e*S	**S**	**10 44 06.1**	**-0.8**
JYN	**Shimob**	**1.96**	**49**	*e*P	**Pn**	**10 43 26.1**	**+0.5**
JKG	**Kaga**	**2.08**	**351**	P	**Pn**	**10 43 26.8**	**+0.5**
JKG				*e*S	**S**	**10 44 08.4**	**0.0**
JOD2	**Odawara 2**	**2.20**	**61**	*e*P	**Pn**	**10 43 28.1**	**+0.9**
JOD2				*e*S	**S**	**10 44 10.9**	**+0.7**
JMN	**Monobe**	**2.42**	**259**		**Pn**	**10 43 29.5**	**+0.5**
JMN	**Monobe**	**2.42**	**259**	P	**Pn**	**10 43 29.5**	**+0.5**
JMN	**Monobe**	**2.42**	**259**	S	**S**	**10 44 13.2**	**-0.2**
JMN	**Monobe**	**2.42**	**259**	P	**Pn**	**10 43 29.5**	**+0.5**
JRY	**Ryogami san**	**2.52**	**44**	*e*P	**Pn**	**10 43 30.6**	**+0.9**
JRY				*e*S	**S**	**10 44 14.3**	**-0.3**
MJAR	**Matsushiro Arr**	**2.61**	**27**	P	**Pn**	**10 43 30.8**	**+0.4**
	55nm,0.7s,baz=199,slow=9.0,SNR=105						
MJAR				S	**S**	**10 44 15.8**	**-0.1**
	17nm,0.6s,baz=194,slow=16,SNR=13						
MAJO	**Matsushiro**	**2.61**	**27**		**Pn**	**10 43 30.7**	**+0.4**
MAJO	**Matsushiro**	**2.61**	**27**	P	**Pn**	**10 43 30.9**	**+0.5**
MAJO	**Matsushiro**	**2.61**	**27**	S	**S**	**10 44 15.8**	**-0.1**
MAT	**Matsushiro**	**2.61**	**27**	P	**Pn**	**10 43 30.8**	**+0.4**
MAT				*e*S	**S**	**10 44 15.5**	**-0.4**
MJB9	**Matsu-Tunnel**	**2.61**	**27**		**Pn**	**10 43 31.8**	**+1.4**
JHJ	**Hachijo jima 2**	**2.77**	**112**	P	**Pn**	**10 43 32.6**	**+0.9**
	298nm,0.6s,baz=84,slow=23,SNR=31						
JHJ2	**Mitsune**	**2.79**	**112**		**Pn**	**10 43 31.5**	**-0.5**
JHJ2	**Mitsune**	**2.79**	**112**	*e*P	**Pn**	**10 43 32.6**	**+0.6**
JAOM	**Aogashimamukai**	**3.08**	**124**	P	**Pn**	**10 43 35.8**	**+1.3**
JHS	**Saijyo**	**3.09**	**286**	P	**Pn**	**10 43 35.1**	**+0.6**
JHS				*e*S	**S**	**10 44 22.5**	**-0.9**
JAG	**Ashikaga**	**3.13**	**44**	P	**Pn**	**10 43 34.1**	**-0.7**
JSZ	**Suzu**	**3.26**	**9**	P	**Pn**	**10 43 36.6**	**+0.6**
JOI	**OKI**	**3.52**	**307**	P	**Pn**	**10 43 38.6**	**0.0**
JTO	**Tosashimizu**	**3.56**	**249**	P	**Pn**	**10 43 39.2**	**+0.3**
JSD	**Sado**	**4.00**	**17**		**Pn**	**10 43 43.4**	**+0.2**
JSD	**Sado**	**4.00**	**17**	P	**Pn**	**10 43 43.4**	**+0.2**
JSD	**Sado**	**4.00**	**17**	S	**S**	**10 44 39.0**	**-0.3**
JMM	**Marumori**	**4.90**	**41**		**Pn**	**10 43 51.9**	**-0.7**
JMM	**Marumori**	**4.90**	**41**	P	**Pn**	**10 43 51.9**	**-0.7**
JNU	**Nakatsue**	**5.01**	**259**	Pn	**Pn**	**10 43 54.5**	**+0.6**
JNU	**Nakatsue**	**5.01**	**259**	P	**Pn**	**10 43 54.4**	**+0.5**
	9.6nm,0.7s,baz=54,slow=3.2,SNR=9.0						
JTM	**Tenmabayashi**	**7.40**	**26**	Pn	**Pn**	**10 44 20.9**	**-0.1**
KSRS	**Korea Array**	**7.85**	**297**	P	**P**	**10 44 27.5**	**+0.1**
	11nm,0.6s,baz=112,slow=12,SNR=48						
KSAR	**Wonju Array Be**	**7.88**	**297**	Pn	**Pn**	**10 44 27.1**	**+0.6**
KS19	**Wonju Array Si**	**7.91**	**297**		**P**	**10 44 27.6**	**-0.5**
TJN	**Taejon**	**7.96**	**288**	Pn	**P**	**10 44 28.4**	**-0.2**
JCJ	**Chichijima**	**8.51**	**145**	Pn	**Pn**	**10 44 32.3**	**-1.9**
JCJ	**Chichijima**	**8.51**	**145**	P	Pn	10 44 28.6	-5.6
	59nm,0.7s,baz=243,slow=23,SNR=8.2						
JCJ				S	S	10 46 00.8	-12
	94nm,0.4s,baz=298,slow=22,SNR=11						
INCN	**Inchon**	**8.82**	**295**	Pn	**Pn**	**10 44 36.6**	**-1.2**
INCN	**Inchon**	**8.82**	**295**	P	**P**	**10 44 39.4**	**-0.5**
ERM	**Erimo**	**9.28**	**31**	Pn	**Pn**	**10 44 42.2**	**-0.8**
USA0B	**Ussuriysk Arra**	**10.62**	**341**		**P**	**10 44 59.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**10.62**	**341**	P	**P**	**10 44 60.0**	**+0.3**
	16nm,0.5s,baz=152,slow=11,SNR=60						
ASAJ	**Asahikawa**	**10.88**	**23**	P	**Pn**	**10 45 01.6**	**-0.4**
	9.8nm,0.3s,baz=232,slow=10,SNR=31						
ASAJ				S	**S**	**10 46 55.8**	**-8.0**
	11nm,0.7s,baz=71,slow=33,SNR=5.7						
JKA	**Kamikawa-asahi**	**10.88**	**23**		**Pn**	**10 45 01.9**	**-0.2**
YSS	**Yuzhno-Sakhali**	**13.51**	**18**	P	**P**	**10 45 32.3**	**+0.7**
BNX	**BinXian**	**13.54**	**331**	⇓P	**P**	**10 45 32.0**	**+0.1**
BNX				pmax	pmax		
	comp=Z,11nm,0.9s						
KLR	**Kul'dur**	**15.45**	**348**	P	**P**	**10 45 52.4**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=165,slow=11,SNR=13						
NACB	**Ninganchiao**	**16.56**	**237**	P	**P**	**10 46 05.5**	**+0.4**
NACB				IAmb	IAmb	10 46 46.4	
	comp=Z,17nm,0.9s						
YULB	**Yu-li**	**17.28**	**235**	P	**P**	**10 46 12.8**	**0.0**
BJT	**Baijiatuau**	**17.38**	**295**		**P**	**10 46 13.3**	**-0.4**
BJT	**Baijiatuau**	**17.38**	**295**	P	**P**	**10 46 13.3**	**-0.4**
TPUB	**Ta-pu**	**17.80**	**237**	P	**P**	**10 46 17.6**	**-0.8**
TWG	**Pinlang**	**17.82**	**234**	P	**P**	**10 46 17.1**	**-1.4**
TWG				IAmb	IAmb	10 46 26.4	
	comp=Z,19nm,1.0s						
HNS	**HongShan**	**18.14**	**286**	⇑P	**P**	**10 46 21.3**	**-0.5**
HNS				pmax	pmax		
	comp=Z,44nm,0.7s						
XLT	**XiLinHaoTe**	**18.69**	**307**	*e*P	**P**	**10 46 30.0**	**+2.4**
XLT				pmax	pmax		
	comp=Z,17nm,0.7s						
WHN	**Wuhan**	**19.25**	**265**	P	**P**	**10 46 32.9**	**-0.8**
HIA	**Hailar**	**19.60**	**325**	P	**P**	**10 46 35.9**	**-1.2**
HIA				IAmb	IAmb	10 46 40.0	
	comp=Z,9.7nm,0.8s						
HIA	**Hailar**	**19.60**	**325**	P	**P**	**10 46 38.4**	**+1.3**
XAN	**Xi'an**	**23.00**	**277**	⇑P	**P**	**10 47 08.4**	**-0.3**
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
XAN				LR	LR		
	comp=E,660nm,19.9s						
XAN				LR	LR		
	comp=Z,340nm,17.2s						
ENH	**Enshi**	**23.35**	**268**	P	**P**	**10 47 11.4**	**-0.5**
ENH	**Enshi**	**23.35**	**268**	P	**P**	**10 47 11.8**	**-0.1**
ULN	**Ulaanbaatar**	**26.03**	**311**		**P**	**10 47 37.1**	**+1.4**
ULN				IAmb	IAmb	10 47 38.4	
	comp=Z,6.9nm,0.6s						
SONM	**Songino Array**	**26.43**	**310**		**P**	**10 47 40.4**	**+1.1**
SONM				IAmb	IAmb	10 47 42.4	
	comp=Z,5.1nm,0.8s						
SONM	**Songino Array**	**26.43**	**310**	P	**P**	**10 47 40.6**	**+1.3**
	comp=Z,5.3nm,0.7s,baz=114,slow=8.6,SNR=29						
	comp=Z,5.3nm,0.7s						
NONG	**Nongkai**	**33.98**	**250**	P	**P**	**10 48 45.6**	**+0.3**
GOMU	**GeErMu**	**34.12**	**286**	P	**P**	**10 48 44.3**	**-2.5**
GOMU				pmax	pmax		
	comp=Z,17nm,0.9s						
CHTO	**Chiang Mai**	**36.90**	**255**		**P**	**10 49 09.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**37.09**	**255**	P	**P**	**10 49 11.5**	**0.0**
CMAR	**Chiang Mai Arr**	**37.09**	**255**	P	**P**	**10 49 10.4**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=45,slow=8.0,SNR=12						
	comp=Z,1.6nm,0.8s						
FAKI	**Fak Fak**	**37.18**	**187**		**P**	**10 49 11.7**	**-0.5**
FAKI				IAmb	IAmb	10 49 12.7	
	comp=Z,14nm,0.9s						
FAKI	**Fak Fak**	**37.18**	**187**	P	**P**	**10 49 12.3**	**+0.1**
MANU	**Manus Island**	**37.43**	**162**	P	**P**	**10 49 15.1**	**+0.8**
TIXI	**Tiksi**	**37.73**	**356**	P	**P**	**10 49 16.4**	**+0.4**
ZAA0	**Zalesovo Array**	**41.09**	**315**	P	**P**	**10 49 44.2**	**+0.4**
ZALV	**Zalesovo Beam**	**41.09**	**315**	P	**P**	**10 49 44.1**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=93,slow=8.0,SNR=9.0						
ZALV				PcP	**PcP**	**10 51 35.6**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=130,slow=2.7,SNR=7.2						
	comp=Z,1.5nm,0.4s						
MKAR	**Makanchi Array**	**42.46**	**304**		**P**	**10 49 55.9**	**+0.9**
MKAR	**Makanchi Array**	**42.46**	**304**	P	**P**	**10 49 55.6**	**+0.7**
	comp=Z,4.7nm,0.6s,baz=90,slow=9.9,SNR=45						
	comp=Z,4.7nm,0.6s						
MAKZ	**Makanchi**	**42.67**	**304**	P	**P**	**10 49 56.6**	**-0.1**
MAKZ				IAmb	IAmb	10 49 57.8	
	comp=Z,5.3nm,0.7s						
NRIK	**Noril'sk**	**44.31**	**337**		**P**	**10 50 09.8**	**+0.7**
NRIK				IAmb	IAmb	10 50 10.2	
	comp=Z,3.7nm,0.5s						
NRIK	**Noril'sk**	**44.31**	**337**	P	**P**	**10 50 08.8**	**-0.3**
	comp=Z,3.0nm,0.4s,baz=110,slow=13,SNR=4.0						
	comp=Z,3.0nm,0.4s						
KURK	**Kurchatov**	**44.74**	**310**		**P**	**10 50 13.3**	**+0.5**
KURK				IAmb	IAmb	10 50 13.8	
	comp=Z,17nm,1.2s						
KURBB	**Kurchatov Arra**	**44.80**	**310**	P	**P**	**10 50 13.3**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=87,slow=8.0,SNR=26						
	comp=Z,2.8nm,0.6s						
TARG	**Taragay, Kyrgy**	**46.27**	**297**	P	**P**	**10 50 26.4**	**+1.0**
KDJ	**Kajisay**	**46.65**	**298**	P	**P**	**10 50 28.9**	**+0.9**
KDJ				IAmb	IAmb	10 51 12.6	
	comp=Z,8.3nm,1.3s						
C16K	**Lisburne Hills**	**46.89**	**26**	P	**P**	**10 50 28.8**	**-0.3**
C16K				IAmb	IAmb	10 50 53.5	
	comp=Z,8.9nm,1.4s						
MTN	**Manton Dam**	**47.10**	**187**		**P**	**10 50 30.6**	**-0.8**
MTN				IAmb	IAmb	10 50 31.8	
	comp=Z,29nm,1.2s						
MTN	**Manton Dam**	**47.10**	**187**	P	**P**	**10 50 30.9**	**-0.5**
COEN	**Coen**	**48.30**	**172**	P	**P**	**10 50 40.2**	**-0.3**
COEN				IAmb	IAmb	10 50 41.3	
	comp=Z,11nm,1.1s						
D19K	**Kuna River**	**49.55**	**26**	P	**P**	**10 50 51.2**	**+1.9**
BVAR	**Borovoye Array**	**49.69**	**313**	P	**P**	**10 50 50.5**	**-0.1**
	comp=Z,4.1nm,0.5s,baz=105,slow=7.4,SNR=15						
BVAR				PcP	**PcP**	**10 52 06.2**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=98,slow=4.5,SNR=3.8						
	comp=Z,4.1nm,0.5s						
BRVK	**Borovoye**	**49.75**	**314**	P	**P**	**10 50 51.8**	**+0.7**
B20K	**Meade River**	**50.13**	**24**	P	**P**	**10 50 55.0**	**+1.5**
D20K	**Etivluk River**	**50.13**	**26**	P	**P**	**10 50 54.4**	**+0.8**
KNRA	**Kununurra**	**50.20**	**190**	P	**P**	**10 50 54.0**	**-0.7**
KNRA				IAmb	IAmb	10 51 07.0	
	comp=Z,12nm,1.4s						
B21K	**Ikpikpuk River**	**50.95**	**25**	P	**P**	**10 50 59.0**	**-0.6**
KK31	**Karatay Array**	**51.26**	**301**		**P**	**10 51 02.8**	**+0.5**
KK31				IAmb	IAmb	10 51 03.4	
	comp=Z,6.2nm,0.7s						
KKAR	**Karatay Array**	**51.26**	**301**		**P**	**10 51 02.8**	**+0.4**
B22K	**Teshekpuk Lake**	**51.44**	**24**	P	**P**	**10 51 04.6**	**+1.4**
E22K	**Anaktuvuk Pass**	**51.85**	**27**	P	**P**	**10 51 06.2**	**-0.1**
C24K	**Franklin Bluff**	**53.02**	**25**	P	**P**	**10 51 15.9**	**+1.2**
C24K				IAmb	IAmb	10 52 00.9	
	comp=Z,6.7nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.09**	**193**	P	**P**	**10 51 16.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**53.09**	**193**	P	**P**	**10 51 15.8**	**0.0**
	comp=Z,5.8nm,0.6s,baz=15,slow=8.3,SNR=20						
	comp=Z,5.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.09**	**193**	P	**P**	**10 51 15.9**	**+0.1**
WB0	**Warramunga Arr**	**53.73**	**183**		**P**	**10 51 19.7**	**-0.8**
WB0				IAmb	IAmb	10 51 22.4	
	comp=Z,9.8nm,1.0s						
D25K	**Kavik River**	**53.84**	**25**	P	**P**	**10 51 22.7**	**+2.0**
ILAR	**Eielson Array**	**53.88**	**31**	P	**P**	**10 51 21.3**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=271,slow=5.9,SNR=2.1						
WRAB	**Tennant Creek**	**53.90**	**183**		**P**	**10 51 21.0**	**-0.7**
WRAB				IAmb	IAmb	10 51 23.3	
	comp=Z,8.5nm,0.5s						
WRA	**Warramunga Arr**	**53.91**	**183**	P	**P**	**10 51 21.1**	**-0.6**
	comp=Z,5.6nm,0.4s,baz=360,slow=7.6,SNR=121						
	comp=Z,5.6nm,0.4s						
WR8	**Warramunga Arr**	**53.91**	**183**	P	**P**	**10 51 21.4**	**-0.3**
C27K	**Jago River**	**54.76**	**25**	P	**P**	**10 51 27.4**	**+0.2**
C27K				IAmb	IAmb	10 51 59.4	
	comp=Z,7.0nm,1.5s						
KBL	**Kabul**	**54.86**	**291**	P	**P**	**10 51 28.6**	**-0.1**
KBL				IAmb	IAmb	10 51 28.8	
	comp=Z,2.6nm,0.6s						
ARTI	**Arti**	**56.06**	**319**	P	**P**	**10 51 36.9**	**+0.3**
I28M	**Miner Creek**	**56.72**	**30**	P	**P**	**10 51 42.0**	**+0.8**
AB31	**Akbulak array**	**56.84**	**310**	P	**P**	**10 51 42.5**	**+0.3**
AB31				IAmb	IAmb	10 51 43.6	
	comp=Z,7.6nm,0.6s						
ABKAR	**Akbulak array**	**56.84**	**310**		**P**	**10 51 42.5**	**+0.3**
MBWA	**Marble Bar**	**57.40**	**199**	P	**P**	**10 51 45.9**	**-0.4**
AS01	**Alice Springs**	**57.62**	**183**	P	**P**	**10 51 47.8**	**0.0**
AS31	**Alice Springs**	**57.63**	**183**		**P**	**10 51 47.6**	**-0.3**
AS31				IAmb	IAmb	10 51 50.4	
	comp=Z,3.1nm,0.4s						
ASAR	**Alice Springs**	**57.63**	**183**	P	**P**	**10 51 47.5**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=356,slow=5.1,SNR=76						
	comp=Z,2.5nm,0.6s						
G30M	**tAoh Zraii Nji**	**57.89**	**28**	P	**P**	**10 51 50.0**	**+0.8**
G30M				IAmb	IAmb	10 51 59.5	
	comp=Z,7.0nm,1.5s						
A36M	**Sachs Harbour**	**60.26**	**21**	P	**P**	**10 52 06.2**	**+1.1**
A36M				IAmb	IAmb	10 52 07.6	
	comp=Z,2.5nm,0.7s						
EUNU	**Eureka**	**63.50**	**8**	P	**P**	**10 52 27.4**	**+0.9**
EUNU				IAmb	IAmb	10 52 51.7	
	comp=Z,6.7nm,1.4s						
FORT	**Forrest**	**65.17**	**188**	P	**P**	**10 52 37.8**	**+0.2**
ARCES	**ARCESS Array B**	**65.26**	**339**	P	**P**	**10 52 38.3**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=60,slow=8.5,SNR=17						
	comp=Z,2.2nm,0.6s						
STKA	**Stephens

mb_Lg2.8/65, ML3.0/28, Md2.8/48(SLM), Error ellipse: s-maj=2.6km s-min=1.3km az=71.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIST	**Miston**	**0.07**	**206**		Pg	11 24 02.9	+1.1
LNXT	**Lenox**	**0.13**	**189**		Pg	11 24 01.9	-0.8
LNXT				IAML		11 24 05.0	
	comp=N,6μm,0.3s						
GLAT	**Glass**	**0.15**	**75**	Pg	Pg	11 24 02.5	-0.4
GLAT				IAML		11 24 05.7	
	comp=N,6μm,0.3s						
FLPT	**Flippin**	**0.21**	**34**		Pg	11 24 03.9	-0.2
POBM	**Portage Bay**	**0.24**	**318**		Pg	11 24 04.3	-0.1
POBM					Sg	11 24 08.4	+0.6
RELT	**Roellen**	**0.24**	**146**		Pg	11 24 03.7	-0.8
FPST	**Four Points**	**0.25**	**178**		Pg	11 24 04.0	-0.8
FPST					Sg	11 24 07.9	-0.3
PENMO	**Penman**	**0.25**	**329**		Pg	11 24 04.6	-0.2
CWPT	**Cottonwood Poi**	**0.26**	**210**		Pg	11 24 04.1	-0.7
CWPT					Sg	11 24 08.2	-0.2
PVMO	**Portageville**	**0.26**	**314**		Sg	11 24 04.8	-3.8
PVMO	**Portageville**	**0.26**	**314**	Pg	Pg	11 24 04.7	-0.2
PVMO				IAML		11 24 09.4	
	comp=N,1μm,0.4s						
PVMO				IAML		11 24 09.5	
	comp=E,931nm,0.4s						
WADM	**Wardell**	**0.30**	**297**		Pg	11 24 05.4	-0.2
WADM					Sg	11 24 10.2	+0.6
PGVM	**Portageville**	**0.31**	**317**		Pg	11 24 05.6	-0.2
WALK	**Watson Lake**	**0.31**	**349**		Pg	11 24 05.7	-0.2
BRGM	**Braggadocio**	**0.32**	**265**		Pg	11 24 05.5	-0.4
HALT	**Halls**	**0.34**	**162**		Pg	11 24 05.4	-0.9
HALT				IAML		11 24 13.7	
	comp=E,1μm,0.5s						
MARMO	**Marston**	**0.34**	**331**		Pg	11 24 06.2	-0.2
PEBM	**Pemiscott Bayo**	**0.34**	**250**		Pg	11 24 05.9	-0.5
HICK	**Hickman**	**0.36**	**32**		Pg	11 24 06.4	-0.4
HICK				IAML		11 24 12.4	
	comp=E,2μm,0.3s						
HICK				IAML		11 24 13.1	
	comp=N,2μm,0.2s						
CHNM	**Channel**	**0.42**	**243**		Pg	11 24 07.3	-0.5
HENM	**Henderson Moun**	**0.48**	**359**		Pg	11 24 08.5	-0.6
PARMO	**Parma**	**0.49**	**332**		Pg	11 24 08.8	-0.3
PARMO				IAML		11 24 16.4	
	comp=E,2μm,0.2s						
PARMO				IAML		11 24 16.6	
	comp=N,2μm,0.2s						
UTMT	**University of**	**0.50**	**77**		Pg	11 24 08.8	-0.5
UTMT				IAML		11 24 18.4	
	comp=N,804nm,0.5s						
UTMT				IAML		11 24 20.8	
	comp=E,851nm,0.7s						
GNAR	**Gosnell**	**0.52**	**239**		Pg	11 24 09.2	-0.4
LPAR	**Lepanto**	**0.92**	**227**		Pg	11 24 16.5	-0.8
PBMO	**Poplar Bluff**	**0.95**	**305**		Pg	11 24 16.6	-1.2
PBMO				IAML		11 24 30.6	
	comp=E,727nm,0.3s						
T45A	**Paducah**	**1.03**	**40**		Pg	11 24 17.9	-1.4
CGM3	**Cape Girardeau**	**1.07**	**352**		Pb	11 24 19.0	-1.2
EBZ	**Ebenezer Churc**	**1.09**	**175**		Pn	11 24 21.4	+0.6
HBAR	**Harrisburg**	**1.18**	**235**		Pb	11 24 20.9	-1.0
HBAR				IAmb_Lg		11 24 37.9	
	comp=Z,83nm,0.8s						
HBAR				IAML		11 24 39.1	
	comp=E,339nm,0.5s						
HBAR				IAML		11 24 45.1	
	comp=N,514nm,0.4s						
WVT	**Waverly**	**1.33**	**94**		Pn	11 24 22.5	-1.5
WVT				IAML		11 24 39.9	
	comp=N,148nm,0.3s						
WVT				IAML		11 24 39.9	
	comp=N,153nm,0.3s						
LCAR	**Lake Charles**	**1.38**	**264**		Pn	11 24 23.4	-1.3
SIUC	**Southern Illin**	**1.49**	**8**		Pn	11 24 25.7	-0.6
T42A	**Van Buren**	**1.53**	**302**		Pn	11 24 26.2	-0.7
PLAL	**Pickwick Lake**	**1.69**	**137**		Pn	11 24 27.9	-1.1
PWLA	**Pickwick Lake**	**1.69**	**137**		Pn	11 24 27.8	-1.2
OXF	**Oxford**	**1.72**	**178**		Pn	11 24 28.7	-0.7
FVM	**French Village**	**1.91**	**337**		Pn	11 24 32.4	+0.3
T47A	**Sharon Grove**	**2.04**	**68**		Pn	11 24 33.7	-0.2
V48A	**Smith Brothers**	**2.20**	**102**		Pn	11 24 36.0	0.0
V48A				IAmb_Lg		11 25 08.0	
	comp=Z,34nm,0.8s						
USIN	**University of**	**2.25**	**39**	IAmb_Lg		11 25 13.4	
	comp=Z,53nm,1.2s						
CCM	**Cathedral Cave**	**2.31**	**323**	Pn	Pn	11 24 38.1	+0.6
Y45A	**Yeager Farm, C**	**2.36**	**182**	Pn	Pn	11 24 37.2	-1.0
Y45A					Sb	11 25 12.3	+1.1
Y45A				IAmb_Lg		11 25 15.3	
	comp=Z,38nm,0.7s						
MGMO	**Mountain Grove**	**2.43**	**293**	Pn	Pn	11 24 40.7	+1.4
MGMO				IAmb_Lg		11 25 18.6	
	comp=Z,52nm,0.7s						
WHAR	**Wooly Hollow**	**2.48**	**249**	Pn	Pn	11 24 39.2	-0.7
WHAR				IAmb_Lg		11 25 21.8	
	comp=Z,43nm,1.0s						
CLTN	**Cedars of Leba**	**2.54**	**92**	Pn	Pn	11 24 41.4	+0.7
X48A	**Hartselle**	**2.66**	**131**		Pn	11 24 40.5	-1.8
X48A				IAmb_Lg		11 25 29.2	
	comp=Z,25nm,1.0s						
OLIL	**Olney**	**2.72**	**23**		Sb	11 25 23.5	+1.8
U40A	**Yellville**	**2.74**	**274**		Pn	11 24 45.4	+1.9
UALR	**University of**	**2.76**	**239**	IAmb_Lg		11 25 31.3	
	comp=Z,25nm,1.1s						
U49A	**Red Boiling Sp**	**2.99**	**84**		Pn	11 24 44.2	-2.7
R40A	**Maddies Statio**	**3.04**	**313**		Pn	11 24 47.9	+0.4
SWET	**Sewanee**	**3.05**	**108**		Pn	11 24 45.2	-2.5
WCI	**Wyandotte Cave**	**3.22**	**51**	Pn	Pn	11 24 50.5	+0.4
WCI				IAmb_Lg		11 25 44.6	
	comp=Z,20nm,1.1s						
X40A	**Basin Creek Fa**	**3.26**	**239**		Pn	11 24 50.0	-0.6
X40A				IAmb_Lg		11 25 43.8	
	comp=Z,28nm,1.1s						
P43A	**Skaggs, Pawnee**	**3.40**	**359**	Pn	Pn	11 24 50.5	-2.0
Y49A	**Blount Mountai**	**3.45**	**132**	Pn	Pn	11 24 52.0	-1.2
HHAR	**Hobbs**	**3.62**	**272**	Pn	Pn	11 24 56.4	+0.9
BLO	**Bloomington**	**3.75**	**38**	IAmb_Lg		11 26 05.7	
	comp=Z,21nm,0.9s						
MIAR	**Mount Ida**	**3.76**	**245**	Pn	Pn	11 24 57.3	-0.1
MIAR				IAmb_Lg		11 26 04.5	
	comp=Z,22nm,1.0s						
LRAL	**Lakeview Retre**	**3.78**	**147**	Pn	Pn	11 24 56.3	-1.5
LRAL				IAmb_Lg		11 26 04.0	
	comp=Z,19nm,1.0s						
T50A	**Nancy**	**3.81**	**77**	Pn	Pn	11 24 57.9	-0.2
T50A				IAmb_Lg		11 26 04.1	
	comp=Z,27nm,1.0s						
P40A	**Paris**	**3.88**	**329**	IAmb_Lg		11 26 04.3	
	comp=Z,26nm,0.8s						
U38A	**Gravette**	**3.98**	**274**	IAmb_Lg		11 26 06.8	
	comp=Z,17nm,0.9s						
Z41A	**Richland Creek**	**4.04**	**224**	IAmb_Lg		11 26 06.6	
	comp=Z,16nm,0.8s						
X51A	**Calhoun**	**4.12**	**112**	IAmb_Lg		11 26 10.3	
	comp=Z,26nm,0.7s						
P48A	**Milroy**	**4.54**	**44**	Pn	Pn	11 25 07.0	-1.2
SFIN	**Lafayette**	**4.54**	**24**	Pn	Pn	11 25 06.9	-1.3
R50A	**Paris**	**4.58**	**62**	IAmb_Lg		11 26 24.2	
	comp=Z,17nm,1.1s						
N41A	**Harden Midland**	**4.60**	**347**	Pn	Pn	11 25 08.5	-0.5
W52A	**Murphy**	**4.65**	**103**	IAmb_Lg		11 26 33.7	
	comp=Z,18nm,0.8s						
TKL	**Tuckaleechee C**	**4.65**	**95**	IAmb_Lg		11 26 27.8	
	comp=Z,26nm,1.1s						
P38A	**Dawn**	**4.67**	**318**		Pn	11 25 09.6	-0.4
P38A				IAmb_Lg		11 26 28.3	
	comp=Z,13nm,0.9s						
S51A	**Beattyville**	**4.91**	**72**	Pn	Pn	11 25 12.6	-0.8
Y52A	**Lilburn**	**5.02**	**116**	IAmb_Lg		11 26 42.5	
	comp=Z,15nm,0.8s						
TUL3	**Leonard**	**5.13**	**268**	IAmb_Lg		11 26 49.2	
	comp=Z,19nm,0.8s						
O48B	**Farmland**	**5.26**	**39**	IAmb_Lg		11 26 47.9	
	comp=Z,14nm,0.8s						
N47A	**Urbana**	**5.50**	**31**	IAmb_Lg		11 27 02.3	
	comp=Z,13nm,1.0s						
L42A	**Oliver, Polo**	**5.77**	**359**	IAmb_Lg		11 27 04.9	
	comp=Z,14nm,0.7s						
QUOK	**Quay**	**5.86**	**272**	IAmb_Lg		11 27 15.8	
	comp=Z,18nm,0.8s						
L40A	**Anamosa**	**5.98**	**347**	IAmb_Lg		11 27 09.6	
	comp=Z,14nm,0.8s						
P51A	**Williamsport**	**6.02**	**55**	IAmb_Lg		11 27 24.4	
	comp=Z,16nm,0.8s						
W35A	**Tecumseh**	**6.12**	**262**	Pn	Pn	11 25 28.7	-1.3
U54A	**Nelsons Funny**	**6.18**	**85**	IAmb_Lg		11 27 14.1	
	comp=Z,16nm,0.8s						
ACSO	**Alum Creek Sta**	**6.48**	**50**	IAmb_Lg		11 27 26.8	
	comp=Z,15nm,0.8s						

*JSN **16** 11:46:30.2±1.2, 18°.66N×72°.97W, h0km±274km, MD4.7*
*SDD **16** 11:46:36.2±2.1, 18°.64N×73°.52W, h21km±234km, MD3.8, ML3.8, MW3.7*
*SSNC **16** 11:46:37.1±1.3, 18°.63N×73°.53W, h1km±6km, ML3.6, MW3.2*
*OSPL **16** 11:46:37.3±3.1, 18°.62N×73°.50W, h5km, ML3.5*

ISC 16 11:46:35.9±3.3, 18°.63N±0°.05×73°.51W±0°.03, h15km±24km, n42, σ1§43/59, 20C-10D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**1.15**	**95**	*e*P	**Pn**	**11 46 56.9**	**-0.6**
PAPH				*e*S	**Sb**	**11 47 11.9**	**-0.2**
PAPH				IAML		11 47 15.6	
	comp=E,5μm,0.2s						
PAPH				IAML		11 47 15.8	
	comp=N,5μm,0.2s						
PAPH	**Port-au-Prince**	**1.15**	**95**	⇓*i*P	**Pn**	**11 46 56.9**	**-0.6**
PAPH				*e*S	**Sb**	**11 47 12.7**	**+0.5**
PAPH				IAML		11 47 15.7	
	comp=Z,2μm,0.1s						
MASC	**Masc**	**1.68**	**336**	*e*P	**Pn**	**11 47 05.3**	**+0.6**
MASC				*e*S	**Sn**	**11 47 25.4**	**-0.6**
MASC				IAML		11 47 27.7	
	comp=E,261nm,0.5s						
MASC				IAML		11 47 28.0	
	comp=N,178nm,0.4s						
MASC	**Masc**	**1.68**	**336**	⇑*e*Pg	**Pn**	**11 47 05.4**	**+0.6**
MASC				⇑*e*Sg	**Sn**	**11 47 26.7**	**+0.6**
MASC				IAML		11 47 27.8	
	comp=N,178nm,0.5s						
MASC	**Masc**	**1.68**	**336**	⇑*i*P	**Pn**	**11 47 05.4**	**+0.6**
MASC				IAML		11 47 27.5	
	comp=Z,148nm,0.4s						
LOBH	**Bahia de las A**	**1.93**	**113**	⇓*i*P	**Pn**	**11 47 09.2**	**+1.1**
LOBH				IAML		11 47 37.5	
	comp=Z,682nm,0.6s						
LODA1	**ITESIL, Dajabo**	**1.93**	**62**	⇑*e*Pg	**Pn**	**11 47 08.6**	**+0.4**
LODA1				⇑*e*Sg	**Sn**	**11 47 33.8**	**+1.6**
LODA1				IAML		11 47 33.8	
	comp=N,5μm,0.4s						
LODA1				IAML		11 47 33.9	
	comp=N,5μm,0.4s						
LODA1	**ITESIL, Dajabo**	**1.93**	**62**	*i*P	**Pn**	**11 47 08.5**	**+0.4**
LODA1				*e*S	**Sn**	**11 47 32.6**	**+0.4**
LODA1				IAML		11 47 34.5	
	comp=Z,1μm,2.1s						
LODU1	**El Espartillar**	**1.95**	**98**	⇑*i*P	**Pn**	**11 47 04.8**	**-3.6**
NEDR	**Neiba UASD**	**1.99**	**94**	⇑*e*Pg	**Pn**	**11 47 11.0**	**+2.1**
NEDR				IAML		11 47 39.6	
	comp=N,885nm,0.8s						
NEDR				IAML		11 47 39.6	
	comp=N,885nm,0.8s						
QMBU	**Quimbuelo**	**1.99**	**322**	*e*P	**Pn**	**11 47 08.7**	**-0.3**
QMBU				IAML		11 47 37.7	
	comp=E,192nm,0.3s						
QMBU				IAML		11 47 47.5	
	comp=N,200nm,0.3s						
QMBU	**Quimbuelo**	**1.99**	**322**	⇓*e*Pg	**Pn**	**11 47 08.7**	**-0.3**
QMBU				⇓*e*Sg	**Sb**	**11 47 35.8**	**-0.6**
QMBU				IAML		11 47 47.6	
	comp=N,209nm,0.4s						
GTBY	**Guantanamo Bay**	**1.99**	**311**	*e*P	**Pn**	**11 47 09.5**	**+0.4**
GTBY				*e*S	**Sn**	**11 47 32.8**	**-0.9**
GTBY				IAML		11 47 46.1	
	comp=N,249nm,0.4s						
GTBY				IAML		11 47 46.4	
	comp=N,212nm,0.5s						
GTBY	**Guantanamo Bay**	**1.99**	**311**	⇑*e*Pg	**Pn**	**11 47 09.4**	**+0.4**
GTBY				⇓*e*Sg	**Sb**	**11 47 35.7**	**-0.7**
GTBY				IAML		11 47 46.4	
	comp=N,214nm,0.4s						
GTBY				IAML		11 47 46.5	
	comp=N,214nm,0.4s						
GTBY	**Guantanamo Bay**	**1.99**	**311**	⇑*i*P	**Pn**	**11 47 09.4**	**+0.4**
GTBY	**Guantanamo Bay**	**1.99**	**311**	⇓*i*P	**Pn**	**11 47 09.5**	**+0.4**
GTBY				*e*S	**Sn**	**11 47 34.4**	**+0.8**
GTBY				IAML		11 47 50.2	
	comp=Z,128nm,0.6s						
REDR	**Restauracion**	**2.07**	**75**	⇑*e*Pg	**Pn**	**11 47 08.2**	**-1.9**
REDR				⇑*e*Sg	**Sn**	**11 47 31.3**	**-4.3**
REDR				IAML		11 47 32.4	
	comp=N,2μm,0.1s						
REDR				IAML		11 47 32.5	
	comp=N,2μm,0.1s						
SDDR	**Presa de Saban**	**2.13**	**80**	*e*P	**Pn**	**11 47 12.7**	**+1.8**
SDDR				*e*S	**Sn**	**11 47 38.1**	**+0.9**
SDDR				IAML		11 47 42.1	
	comp=N,440nm,0.6s						
SDDR				IAML		11 47 45.0	
	comp=N,570nm,0.4s						
SDDR	**Presa de Saban**	**2.13**	**80**	⇑*e*Pg	**Pb**	**11 47 13.5**	**-0.7**
SDDR				⇓*e*Sg	**Sb**	**11 47 39.6**	**-0.9**
SDDR				IAML		11 47 41.4	
	comp=N,547nm,0.5s						
SDDR				IAML		11 47 41.4	
	comp=N,547nm,0.5s						
SDDR	**Presa de Saban**	**2.13**	**80**	⇑*i*P	**Pn**	**11 47 12.8**	**+1.8**
SDDR				IAML		11 47 43.3	
	comp=Z,304nm,0.5s						
MCDR	**Montecristi**	**2.15**	**54**	⇓*e*Pg	**Pn**	**11 47 12.8**	**+1.6**
MCDR				⇑*e*Sg	**Sb**	**11 47 42.1**	**+1.0**
MCDR				IAML		11 47 42.5	
	comp=N,408nm,0.4s						
MCDR				IAML		11 47 42.7	
	comp=N,408nm,0.4s						
PODR	**Polo**	**2.16**	**102**	⇑*e*Pg	**Pb**	**11 47 14.5**	**-0.4**
PODR				IAML		11 47 48.2	
	comp=N,683nm,0.6s						
PODR				IAML		11 47 48.3	
	comp=N,683nm,0.6s						
PODR	**Polo**	**2.16**	**102**	⇑*i*P	**Pn**	**11 47 13.8**	**+2.2**
LOVI	**El Cajuil, Ovi**	**2.19**	**112**	⇓*i*P	**Pn**	**11 47 13.5**	**+1.7**
LOVI				IAML		11 47 50.0	
	comp=Z,488nm,0.7s						
NMDO	**Nuevo Mundo**	**2.37**	**324**	*e*P	**Pn**	**11 47 15.9**	**+1.6**
NMDO	**Nuevo Mundo**	**2.37**	**324**	⇑*e*Pg	**Pn**	**11 47 16.9**	**+2.6**
NMDO				⇓*e*Sg	**Sb**	**11 47 46.9**	**-0.5**
NMDO				IAML		11 47 48.6	
	comp=N,72nm,0.2s						
MOAC	**Moa**	**2.44**	**326**	*e*P	**Pn**	**11 47 16.9**	**+1.7**
MADR	**Mao Valverde**	**2.46**	**67**	⇑*e*Pg	**Pb**	**11 47 19.1**	**-0.7**
MADR				IAML		11 48 02.2	
	comp=N,504nm,0.5s						
RCC	**Rio Carpintero**	**2.47**	**304**	*e*P	**Pn**	**11 47 15.6**	**-0.1**
RCC				*e*S	**Sn**	**11 47 44.3**	**-1.3**
RCC				IAML		11 47 53.5	
	comp=E,134nm,0.3s						
RCC				IAML		11 47 53.7	
	comp=N,110nm,0.2s						
MARVS	**Santiago de Cu**	**2.64**	**301**	*e*P	**Pn**	**11 47 18.4**	**+0.4**
MARVS				*e*S	**Sn**	**11 47 49.3**	**-0.4**
MARVS				IAML		11 48 03.4	
	comp=E,99nm,0.4s						
MARVS				IAML		11 48 04.3	
	comp=N,114nm,0.3s						
LUDR	**Luperon**	**2.72**	**62**	⇑*e*Pg	**Pn**	**11 47 21.7**	**+2.6**
LUDR				IAML		11 48 03.9	
	comp=N,1μm,0.3s						
LUDR				IAML		11 48 04.0	
	comp=N,1μm,0.3s						
PINC	**Pinares de May**	**2.84**	**311**	*e*P	**Pn**	**11 47 19.9**	**-0.8**
CHIV	**Chivirico**	**3.06**	**296**	*e*P	**Pn**	**11 47 24.2**	**+0.5**
CHIV				IAML		11 48 09.9	
	comp=E,38nm,0.2s						
CHIV				IAML		11 48 11.3	
	comp=N,42nm,0.4s						
STH	**Stony Hill**	**3.19**	**261**	*e*P	**Pn**	**11 47 27.1**	**+1.6**
STH				IAML		11 48 12.8	
	comp=N,8μm,0.2s						
STH				IAML		11 48 17.7	
	comp=E,10μm,0.2s						
STH	**Stony Hill**	**3.19**	**261**	⇑*i*P	**Pn**	**11 47 27.3**	**+1.8**
HLGC	**Holguin**	**3.29**	**313**	*e*P	**Pn**	**11 47 29.3**	**+2.4**
HLGC				IAML		11 48 31.1	
	comp=N,42nm,0.5s						
HLGC				IAML		11 48 38.8	
	comp=E,52nm,0.6s						
LMGC	**Las Mercedes**	**3.60**	**294**	*e*P	**Pn**	**11 47 30.0**	**-1.2**
GRTK	**Grand Turk**	**3.63**	**37**	*i*P	**Pn**	**11 47 33.0**	**+1.4**
GRTK				IAML		11 48 18.0	
	comp=Z,34nm,1.3s						
MTDJ	**Mount Denham**	**3.85**	**265**	*e*P	**Pn**	**11 47 35.5**	**+0.9**
MTDJ	**Mount Denham**	**3.85**	**265**	*i*P	**Pn**	**11 47 36.4**	**+1.8**
MTDJ	**Mount Denham**	**3.85**	**265**	*i*P	**Pn**	**11 47 35.9**	**+1.3**
MTDJ				IAML		11 48 44.1	
	comp=Z,49nm,0.7s						
PILO	**Pilon**	**3.90**	**290**	*e*P	**Pn**	**11 47 35.7**	**+0.4**

DJA 16 12:07:30.8±1.6, 6°.5S±8°.3×10°.4E±°, h11km±13km, M3.9/9, mb4.1/4, MLv3.8/9, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.14**	**10**	P	Pb	12 07 52.1	-0.6
MDSI	**Maura Dua**	**1.68**	**11**	P	Pn	12 07 59.9	-0.3
CGJI	**Cibinong**	**1.88**	**104**	P	Pn	12 08 02.6	-0.3
CGJI				S	Sn	12 08 26.9	+0.3
MNAI	**Manna**	**1.99**	**333**	P	Pn	12 08 02.6	-1.9
CNJI	**Cibinong**	**3.44**	**110**	P	Pn	12 08 23.0	-1.4
CMJI	**Cimerak**	**4.83**	**110**	P	Pn	12 08 43.5	-0.1
SISI	**Saibi**	**6.75**	**315**	P	Pn	12 09 10.6	+0.6
	0.1nm17nm,1.5s						
UGM	**Wanagama**	**6.84**	**105**	P	Pn	12 09 11.6	+0.4
	86nm,1.7s						
PCJI	**Pacitan**	**7.54**	**106**	P	Pn	12 09 21.2	+0.5

DJA 16 12:10:26.6±0.3, 5°.N±3°.×9°.6E±°, h10km, M4.0/10, mB5.0/1, mb4.3/1, MLv3.9/10, Mw(mB)4.2/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.39**	**168**	P	Pg	12 10 33.9	-0.4
MLSI				S	Sb	12 10 40.8	-0.9
LHMI	**Lhok Sumawe**	**0.85**	**47**	P	Pg	12 10 42.5	-0.5
BSI	**Banda Aceh**	**1.32**	**310**	P	Pn	12 10 50.6	-0.6
MNSI	**Mandailing Nat**	**5.03**	**140**	P	Pn	12 11 40.9	-1.2
PBSI	**Pulau Batu**	**5.07**	**157**	P	Pn	12 11 42.5	-0.2
	0.2nm48nm,1.4s						
PPI	**Padang Panjang**	**6.51**	**141**	P	Pn	12 12 02.1	-0.4

IDC 16 12:13:27.0±2.1, 31°.05S×179°.67W, h0km, mb3.7/3, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=48.2km s-min=31.0km az=72.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.67**	**199**	Pn	Pn	12 15 21.1	+1.3
	0.6nm,0.3s,baz=318,slow=3.3,SNR=3.4						
URZ				Sn	Sn	12 16 51.0	+3.6
	baz=36,slow=12						
	11nm,0.9s						
ASAR	**Alice Springs**	**41.65**	**268**	P	P	12 21 17.1	-0.2
	0.3nm,0.7s,baz=110,slow=7.1,SNR=7.8						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**42.70**	**274**	P	P	12 21 25.3	-0.6
	0.7nm,0.7s,baz=114,slow=7.3,SNR=6.7						
	0.7nm,0.7s						
QSPA	**South Pole Qui**	**59.06**	**180**	P	P	12 23 27.9	-0.8
	3.0nm,1.1s,baz=279,slow=1.5,SNR=5.0						
	3.0nm,1.1s						
FINES	**FINESS Array B**	**145.24**	**339**	PKPbc	PKPdf	12 33 05.8	-0.1
	1.5nm,0.8s,baz=46,slow=5.5,SNR=4.2						

*DJA **16** 12:18:33.2±0.4, 8°.S±4°.×12°.0E±°, h492km±7km, M4.2/23, mB5.1/3, mb4.2/12, MLv4.2/23, Mw(mB)4.4/3*
*IDC **16** 12:18:34.6±1.0, 7°.33S×120°.13E, h484km±9km, mb3.2/8, mbtmp4.1/11, Error ellipse: s-maj=69.5km s-min=10.0km az=61.0*
*NEIC **16** 12:18:35.0±2.2, 7°.4S±0°.1×120°.1E±0°.1, h480km±9km, mb4.0/13, Error ellipse: s-maj=21.3km s-min=13.0km az=54.0*

ISC 16 12:18:34.1±0.6, 7°.48S±0°.06×120°.12E±0°.07, h474km±6km, n74, σ1§08/83, mb3.7/10, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.37**	**16**	P	**P**	**12 19 35.0**	**+0.9**
EDFI	**Ende, Flores**	**2.01**	**129**	P	**P**	**12 19 36.3**	**-0.7**
EDFI				S	**S**	**12 20 24.6**	**-3.4**
WSI	**Waingapu**	**2.19**	**175**	P	**P**	**12 19 38.3**	**+0.4**
WBSI	**Waikabubak, Su**	**2.27**	**198**	P	**P**	**12 19 38.6**	**+0.2**
WBSI				S	**S**	**12 20 28.8**	**-1.7**
MMRI	**Maumere**	**2.40**	**119**	P	**P**	**12 19 39.4**	**+0.3**
MMRI				S	**S**	**12 20 32.0**	**+0.2**
MMRI	**Maumere**	**2.40**	**119**	P	**P**	**12 19 39.6**	**+0.5**
MMRI	**Maumere**	**2.40**	**119**	P	**P**	**12 19 38.7**	**-0.4**
MMRI				S	**S**	**12 20 30.3**	**-1.5**
KAPI	**Kappang**	**2.47**	**352**		**P**	**12 19 41.1**	**+1.5**
KAPI				S	**S**	**12 20 34.6**	**+1.9**
KAPI	**Kappang**	**2.47**	**352**	P	**P**	**12 19 41.1**	**+1.5**
	86nm,0.4s,baz=186,slow=3.0,SNR=72						
KAPI				S	**S**	**12 20 33.1**	**+0.5**
	3.2nm,0.4s,baz=110,slow=23,SNR=8.4						
KAPI	**Kappang**	**2.47**	**352**	P	**P**	**12 19 41.0**	**+1.4**
PLAI	**Plampang**	**2.68**	**240**	P	**P**	**12 19 41.4**	**+0.5**
PLAI	**Plampang**	**2.68**	**240**	S	**S**	**12 20 35.0**	**0.0**
PLAI	**Plampang**	**2.68**	**240**	P	**P**	**12 19 42.0**	**+1.1**
PLAI				S	**S**	**12 20 34.1**	**-0.9**
BNSI	**Bone**	**3.05**	**360**	P	**P**	**12 19 44.9**	**+1.4**
SPSI	**Sidrap Palu**	**3.50**	**354**	P	**P**	**12 19 47.9**	**+1.0**
SOEI	**Soe**	**4.69**	**119**		**P**	**12 19 57.4**	**+0.4**
SOEI				S	**S**	**12 21 03.4**	**-1.1**
SOEI	**Soe**	**4.69**	**119**	P	**P**	**12 19 57.6**	**+0.6**
SOEI	**Soe**	**4.69**	**119**	P	**P**	**12 19 56.5**	**-0.5**
SRBI	**Singaraja**	**4.90**	**263**	P	**P**	**12 19 59.9**	**+1.1**
DNP	**Denpasar**	**5.00**	**256**	P	**P**	**12 20 01.0**	**+1.2**
JAGI	**Jajag, Banyuwa**

WR8			IAmb	IAmb	12 22 24.4	
	comp=Z,8.7nm,0.7s					
AS31	**Alice Springs**	**20.84 142**		**P**	**12 22 42.5**	**+0.6**
ASAR	**Alice Springs**	**20.84 142**	P	**P**	**12 22 42.8**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=320,slow=8.7,SNR=51					
	comp=Z,1.8nm,0.3s					
BBOO	**Buckleboo**	**29.23 152**	P	**P**	**12 23 57.2**	**+0.8**
BBOO			IAmb	IAmb	12 23 57.9	
	comp=Z,7.3nm,0.9s					
STKA	**Stephens Creek**	**31.46 143**		**P**	**12 24 17.1**	**+1.4**
STKA	**Stephens Creek**	**31.46 143**	P	**P**	**12 24 16.8**	**+1.1**
	comp=Z,4.9nm,0.3s,baz=322,slow=8.4,SNR=29					
	comp=Z,4.9nm,0.3s					
TOO	**Toolangi**	**37.78 146**	P	**P**	**12 25 09.8**	**+1.0**
TOO			IAmb	IAmb	12 25 11.5	
	comp=Z,5.7nm,1.4s					
SONM	**Songino Array**	**56.39 349**	P	**P**	**12 27 28.1**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=169,slow=7.5,SNR=4.8					
	comp=Z,0.8nm,0.6s					
BKZ	**Black Stump Fm**	**59.46 131**	P	**P**	**12 27 51.1**	**+0.5**
MKAR	**Makanchi Array**	**63.62 332**	P	**P**	**12 28 16.9**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=141,slow=7.6,SNR=11					
	comp=Z,1.0nm,0.6s					
ZALV	**Zalesovo Beam**	**68.03 338**	P	**P**	**12 28 43.3**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=149,slow=4.6,SNR=7.1					
	comp=Z,1.0nm,0.3s					
KURBB	**Kurchatov Arra**	**68.11 333**	P	**P**	**12 28 44.5**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=101,slow=9.7,SNR=5.9					
	comp=Z,0.5nm,0.6s					
PETK	**Petropavlovsk-**	**68.24 23**	P	**P**	**12 28 47.6**	**+1.2**
VNDA	**Vanda**	**73.31 171**	P	**P**	**12 29 16.0**	**-0.1**
BVAR	**Borovoye Array**	**73.49 331**	P	**P**	**12 29 16.4**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=102,slow=5.0,SNR=3.2					
	comp=Z,0.5nm,0.4s					
BRVK	**Borovoye**	**73.56 331**	P	**P**	**12 29 17.0**	**-0.9**
BRVK			IAmb	IAmb	12 29 17.1	
	comp=Z,1.5nm,0.6s					
AB31	**Abkulak array**	**76.97 324**	P	**P**	**12 29 35.9**	**-1.1**
ABKAR	**Abkulak array**	**76.97 324**	P	**P**	**12 29 35.9**	**-1.1**
QSPA	**South Pole Qui**	**82.51 180**	P	**P**	**12 30 06.5**	**+0.4**
QSPA			IAmb	IAmb	12 30 23.2	
	comp=Z,3.6nm,1.1s					
QSPA	**South Pole Qui**	**82.51 180**	P	**P**	**12 30 06.1**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=270,slow=3.0,SNR=1.4					
	comp=Z,0.6nm,0.5s					

*NEIC **16** 12:21:04.2±0.6, 19°.31N±0°.03×155°.08W±0°.02, h47km±2km, Error ellipse: s-maj=4.9km s-min=1.7km az=159.0*

HVO 16 12:21:05.5±0.9, 19°.30N±0°.03×155°.05W±0°.02, h42km±3km, ML2.4/25, ML2.6/40(NEIC), Error ellipse: s-maj=5.0km s-min=2.7km az=154.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.10 330**			Pn	12 21 11.8	-0.6
JCUZ					Sn	12 21 16.5	-0.8
NPOC	**North of Pu'u**	**0.11 329**			Pn	12 21 11.8	-0.7
NPOC					Sn	12 21 16.5	-0.9
STCH	**Steam Cracks**	**0.12 321**			Pn	12 21 11.8	-0.7
STCH					Sn	12 21 16.4	-1.1
KNHH	**Kane Nui o Ham**	**0.14 306**			Pn	12 21 12.0	-0.7
JOKA	**Jonika Flow**	**0.14 17**			Pn	12 21 11.9	-0.7
PUH	**Pauahi**	**0.18 296**			Pn	12 21 12.2	-0.8
PUH					Sn	12 21 17.0	-1.1
PUH				IAML		12 21 17.9	
	comp=N,534nm,0.6s						
KKO	**Keanakako'i**	**0.23 296**			Pn	12 21 12.5	-0.9
BYL	**Byron's Ledge**	**0.23 300**			Pn	12 21 12.5	-0.9
BYL					Sn	12 21 17.8	-1.1
RIM	**Rim**	**0.24 295**			Pn	12 21 12.6	-0.9
RIM					Sn	12 21 17.8	-1.1
HATHI	**Halema'uma'u T**	**0.24 302**			Pn	12 21 12.6	-0.9
HATHI					Sn	12 21 18.0	-1.0
HATHI				IAML		12 21 19.9	
	comp=E,614nm,0.3s						
HLP	**Hilina Pali**	**0.25 270**			Pn	12 21 12.9	-0.6
HLP					Sn	12 21 18.4	-0.6
HLP				IAML		12 21 18.5	
	comp=E,640nm,0.7s						
SDHHI	**Sand Hill**	**0.25 292**			Pn	12 21 12.6	-1.0
SDHHI					Sn	12 21 18.0	-1.2
UWB	**Uwekahuna Bluf**	**0.25 301**			Pn	12 21 12.7	-0.9
UWB					Sn	12 21 18.0	-1.2
OBL	**Observatory Le**	**0.25 299**			Pn	12 21 12.7	-1.0
OBL					Sn	12 21 18.5	-0.8
WRMHI	**West Rim**	**0.26 295**			Pn	12 21 12.6	-1.1
WRMHI					Sn	12 21 18.1	-1.3
UWE	**Uwekahuna**	**0.26 298**			Pn	12 21 12.7	-1.0
UWE					Sn	12 21 18.2	-1.2
UWE				IAML		12 21 18.6	
	comp=N,582nm,0.4s						
UWE				IAML		12 21 19.3	
	comp=E,583nm,0.4s						
RSD	**Rainshed**	**0.27 307**			Sn	12 21 18.6	-1.1
RSD	**Rainshed**	**0.27 307**			Pn	12 21 12.9	-0.9
HTC	**Hot Caves**	**0.34 260**			Pn	12 21 13.7	-0.7
MLH	**Mauna Loa**	**0.38 302**			Pn	12 21 14.1	-1.0
MLH					Sn	12 21 20.2	-1.5
MLH				IAML		12 21 20.7	
	comp=E,356nm,0.2s						
MLH				IAML		12 21 22.1	
	comp=N,425nm,0.1s						
HMH	**Humu'ula Sheep**	**0.51 307**			Pn	12 21 15.7	-1.1
HMH					Sn	12 21 23.4	-1.3
HMH				IAML		12 21 23.8	
	comp=N,345nm,0.3s						
HMH				IAML		12 21 26.9	
	comp=E,245nm,0.2s						
HPO	**Honuapo**	**0.52 247**			Pn	12 21 15.9	-0.7
HPO					Sn	12 21 23.0	-1.4
KHU	**Kahuku**	**0.54 265**			Pn	12 21 15.7	-1.4
KHU					Sn	12 21 23.4	-1.8
KHU				IAML		12 21 26.8	
	comp=E,295nm,3.1s						
MWH	**Mokuaweoweo**	**0.55 290**			Pn	12 21 16.0	-1.5
MWH				IAML		12 21 22.5	
	comp=N,246nm,2.9s						
MWH				IAML	Sn	12 21 24.2	-1.7
	comp=E,294nm,1.9s						
MWH					Sn	12 21 24.2	-1.7
MLOA	**Mauna Loa Obse**	**0.55 296**			Pn	12 21 16.2	-1.3
MLOA					Sn	12 21 24.1	-1.8
ALEP	**Alea Permanent**	**0.61 294**			Pn	12 21 16.5	-1.7
ALEP					Sn	12 21 24.8	-2.4
POHA	**Pohakuloa**	**0.65 315**			Pn	12 21 16.9	-1.7
POHA					Sn	12 21 25.7	-2.1
POHA				IAML		12 21 26.1	
	comp=E,251nm,0.2s						
HUH	**Hualalai**	**0.84 298**			Pn	12 21 19.4	-1.8
HUH				IAML		12 21 37.9	
	comp=E,276nm,0.4s						
CPH	**Captain Cook**	**0.84 283**			Pn	12 21 19.1	-1.9

*NOU **16** 12:34:26.3, 33°.24S×178°.29W, h334km, mb3.9/6, South of Kermadec Islands*

*IDC **16** 12:34:56.6±12.0, 34°.81S×179°.79E, h156km±132km, mb3.7/2, mbtmp4.1/3, ML3.5/1, Error ellipse: s-maj=192.5km s-min=56.6km az=4.0*

*WEL **16** 12:35:03.4±0.9, 35°S±7°×17°.9E±°, h163km±18km, M3.7/13, ML4.0/13, MLv3.7/13, Error ellipse: s-maj=10.9km s-min=9.1km az=80.0, confirmed*

ISC 16 12:35:00.6±1.7, 34°.89S±0°.09×179°.1E±0°.1, h150km, n47, σ1§34/68, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.74 193**		P	**Pn**	**12 35 47.3**	**+2.6**
MXZ	**Matakaoa Point**	**2.74 193**		P	**Pn**	**12 35 46.7**	**+2.0**
MXZ				S	**Sn**	**12 36 18.2**	**-0.6**
WMGZ	**Waiomatatini S**	**2.98 190**		P	**Pn**	**12 35 49.9**	**+2.4**
WMGZ				S	**Sn**	**12 36 25.3**	**+1.3**
HAZ	**Te Kaha**	**3.05 200**		P	**Pn**	**12 35 49.9**	**+1.4**
HAZ				S	**Sn**	**12 36 25.7**	**0.0**
PKGZ	**Pakihiroa**	**3.08 195**		P	**Pn**	**12 35 51.2**	**+2.2**
PKGZ				S	**Sn**	**12 36 27.6**	**+1.1**
PUZ	**Puketiti**	**3.25 192**		P	**Pn**	**12 35 52.5**	**+1.5**
PUZ				S	**Sn**	**12 36 30.3**	**0.0**
GRZ	**Great Barrier**	**3.26 244**		P	**Pn**	**12 35 52.3**	**+1.1**
RUGZ	**Raukumara Rang**	**3.28 200**		P	**Pn**	**12 35 52.9**	**+1.3**
RUGZ				S	**Sn**	**12 36 29.7**	**-1.4**
KUZ	**Kuaotunu**	**3.31 235**		P	**Pn**	**12 35 52.2**	**+0.4**
TWGZ	**Tauwhareparae**	**3.40 195**		P	**Pn**	**12 35 54.8**	**+1.7**
TWGZ				S	**Sn**	**12 36 35.7**	**+1.8**
CNGZ	**Carnagh Statio**	**3.66 191**		P	**Pn**	**12 35 57.6**	**+1.3**
MWZ	**Matawai**	**3.66 200**		P	**Pn**	**12 35 57.6**	**+1.2**
MWZ				S	**Sn**	**12 36 39.7**	**-0.2**
TKGZ	**Te Karaka**	**3.68 195**		P	**Pn**	**12 35 57.7**	**+1.0**
TKGZ				S	**Sn**	**12 36 40.5**	**+0.2**
URZ	**Urewera**	**3.73 205**		P	**Pn**	**12 35 57.7**	**+0.6**
	3.4nm,0.3s,baz=346,slow=3.7,SNR=35						
URZ				S	**Sn**	**12 36 38.8**	**-2.4**
	11nm,0.3s,baz=305,slow=19,SNR=10						
	6.3nm,0.3s						
URZ	**Urewera**	**3.73 205**		P	**Pn**	**12 35 58.8**	**+1.6**
URZ	**Urewera**	**3.73 205**		P	**Pn**	**12 35 57.9**	**+0.8**
URZ				S	**Sn**	**12 36 40.3**	**-0.9**
WIAZ	**Waiheke Island**	**3.74 238**		P	**Pn**	**12 35 58.9**	**+1.5**
RAGZ	**Rawiri**	**3.85 200**		P	**Pn**	**12 36 00.1**	**+1.3**
RAGZ				S	**Sn**	**12 36 45.1**	**+0.9**
MKAZ	**Moumakai**	**3.88 234**		P	**Pn**	**12 36 00.6**	**+1.4**
MBAZ	**Motutapu North**	**3.89 240**		P	**Pn**	**12 36 00.9**	**+1.5**
RIGZ	**Rimuhau**	**3.96 195**		P	**Pn**	**12 36 00.7**	**+0.5**
RIGZ				S	**Sn**	**12 36 46.5**	**-0.2**
WCZ	**Waipu Caves**	**4.02 254**		P	**Pn**	**12 36 01.5**	**+0.5**
MUGZ	**Murupara**	**4.04 207**		P	**Pn**	**12 36 02.1**	**+0.7**
MUGZ				S	**Sn**	**12 36 49.4**	**+0.8**
PRGZ	**Paritu Road**	**4.14 193**		P	**Pn**	**12 36 02.8**	**+0.1**
PRGZ				S	**Sn**	**12 36 48.2**	**-2.8**
PRRZ	**Plateau Road**	**4.21 210**		P	**Pn**	**12 36 03.7**	**+0.2**
PRRZ				S	**Sn**	**12 36 53.5**	**+1.0**
KNZ	**Kokohu**	**4.28 195**		P	**Pn**	**12 36 04.0**	**-0.4**
RAHZ	**Arahi**	**4.33 201**		P	**Pn**	**12 36 05.3**	**+0.2**
RAHZ				S	**Sn**	**12 36 55.1**	**-0.3**
MTHZ	**Maungataniwha**	**4.35 204**		P	**Pn**	**12 36 05.2**	**-0.2**
MTHZ				S	**Sn**	**12 36 54.7**	**-1.2**
MHGZ	**Mahia Peninsul**	**4.36 192**		P	**Pn**	**12 36 05.9**	**+0.4**
OUZ	**Omahuta**	**4.53 264**		P	**Pn**	**12 36 08.4**	**+0.7**
OUZ	**Omahuta**	**4.53 264**		P	**Pn**	**12 36 08.1**	**+0.4**
NMHZ	**Naumai**	**4.58 203**		P	**Pn**	**12 36 09.0**	**+0.5**
NMHZ				S	**Sn**	**12 37 01.7**	**+0.2**
BKZ	**Black Stump Fm**	**4.75 205**		P	**Pn**	**12 36 10.8**	**+0.1**
BKZ	**Black Stump Fm**	**4.75 205**		P	**Pn**	**12 36 10.7**	**+0.1**
BKZ				S	**Sn**	**12 37 03.7**	**-1.7**
HIZ	**Hauiti**	**4.97 222**		P	**Pn**	**12 36 16.9**	**+3.4**
HIZ	**Hauiti**	**4.97 222**		P	**Pn**	**12 36 16.5**	**+3.0**
NTVZ	**North Tongarir**	**5.02 212**		P	**Pn**	**12 36 15.0**	**+0.8**
TMVZ	**Te Maari**	**5.02 212**		P	**Pn**	**12 36 14.4**	**+0.1**
OTVZ	**Oturere**	**5.07 212**		P	**Pn**	**12 36 15.1**	**0.0**
SNVZ	**South Ngauruho**	**5.10 212**		P	**Pn**	**12 36 15.9**	**+0.5**
FWVZ	**Far West T-bar**	**5.20 212**		P	**Pn**	**12 36 17.2**	**+0.5**
WNVZ	**Wahianoa**	**5.24 211**		P	**Pn**	**12 36 16.7**	**-0.5**
WAZ	**Wanganui**	**5.86 213**		P	**Pn**	**12 36 22.5**	**-2.9**
WAZ				S	**Sn**	**12 37 32.3**	**+0.7**
BFZ	**Birch Farm**	**6.21 200**		P	**Pn**	**12 36 27.9**	**-2.1**
ASAR	**Alice Springs**	**40.67 273**		P	**P**	**12 42 26.2**	**-0.2**
	1.5nm,0.5s,baz=114,slow=7.8,SNR=34						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**42.08 279**		P	**P**	**12 42 37.7**	**-0.2**
	2.2nm,0.6s,baz=120,slow=7.6,SNR=21						
	2.2nm,0.6s						
FINES	**FINESS Array B**	**148.36 335**		PKPbc	**PKPdf**	**12 54 23.5**	**-1.2**
	0.3nm,0.5s,baz=65,slow=4.7,SNR=1.3						

IDC 16 12:58:02.8±1.9, 23°.64N×94°.93E, h0km, mb3.3/3, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=129.7km s-min=24.1km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.38 143**		Pn	Pn	12 59 40.0	+1.8
	0.1nm,0.3s,baz=318,slow=13,SNR=4.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**25.24 339**		P	P	13 03 30.9	+0.5
	0.8nm,0.7s,baz=145,slow=9.4,SNR=8.6						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**29.80 339**		P	P	13 04 10.9	-0.4
	0.2nm,0.4s,baz=156,slow=7.1,SNR=1.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**60.36 138**		P	P	13 08 13.1	-0.9
	0.2nm,0.7s,baz=321,slow=7.7,SNR=1.9						
	0.2nm,0.7s						

*BUT **16** 12:59:16.6±2.7, 46°.36N±0°.02×111°.39W±0°.04, h9km±8km, Error ellipse: s-maj=4.4km s-min=1.9km az=51.0*

NEIC 16 12:59:14.4±2.0, 46°.37N±0°.02×111°.41W±0°.04, h5km±1km, ML2.5/38, ML2.5/18(BUT), Error ellipse: s-maj=6.0km s-min=3.0km az=58.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SXM	**Sixmile**	**0.26 148**			Pb	12 59 21.6	-0.1
SXM					Sb	12 59 25.5	-1.1
HRY	**Holter Researc**	**0.45 320**			Pb	12 59 25.4	+0.5
HRY	**Holter Researc**	**0.45 320**			Sb	12 59 32.0	0.0
BOZ	**Bozeman (W)**	**0.79 191**		Pg	Pg	12 59 28.9	-0.6
BZMT	**Bozeman Pass**	**0.84 149**			Pb	12 59 32.0	+0.5
LRM	**Limekiln Ridge**	**0.91 233**			Pn	12 59 33.8	-0.3
MSMT	**Mission Creek**	**1.04 135**			Pn	12 59 36.0	+0.2
BGMT	**Barton Gulch**	**1.22 202**			Pn	12 59 39.4	+1.0
CRMT	**Chrome Mountai**	**1.27 135**			Pn	12 59 39.7	+0.6
DLMT	**Dillon**	**1.31 220**		Pn	Pb	12 59 39.9	+0.3
DLMT				IAML		13 00 00.5	
	50nm,0.5s						
YHL	**Hebgen Lake**	**1.53 174**			Pn	12 59 43.0	+0.4
YHL				IAML		13 00 07.2	
	comp=E,63nm,0.3s						
YHL				IAML		13 00 12.2	
	comp=N,46nm,0.7s						
YHB	**Horse Butte**	**1.62 175**			Pb	12 59 44.5	-0.5
YHB				IAML		13 00 12.7	
	comp=N,44nm,0.5s						
YHB				IAML		13 00 12.9	
	comp=E,30nm,0.9s						
YHH	**Holmes Hill**	**1.63 166**			Pb	12 59 44.6	-0.5
YNE	**Yellowstone No**	**1.68 144**			Pn	12 59 45.1	+0.4
YNE				IAML		13 00 09.6	
	comp=N,58nm,0.3s						
YNE				IAML		13 00 11.6	
	comp=E,46nm,0.4s						
YMR	**Madison River**	**1.73 169**			Pn	12 59 45.5	+0.2
YMR				IAML		13 00 13.3	
	comp=N,43nm,0.7s						
YMR				IAML		13 00 16.5	
	comp=E,41nm,0.6s						
YNR	**Norris Junctio**	**1.73 163**			Pn	12 59 45.9	+0.5
MSO	**Missoula**	**1.81 286**		Pn	Pn	12 59 47.0	+0.7
MSO				IAML		13 00 15.9	
	comp=E,40nm,0.4s						
MSO				IAML		13 00 16.5	
	comp=E,52nm,0.5s						
RLMT	**Red Lodge**	**1.95 129**		Pn	Pn	12 59 48.8	+0.5
RLMT				IAML		13 00 18.2	
	comp=E,64nm,0.3s						
RLMT				IAML		13 00 19.1	
	comp=E,47nm,0.5s						
YFT	**Old Faithful**	**1.96 168**		Pn	Pn	12 59 48.6	+0.1
EGMT	**Eagleton**	**2.00 34**		Pn	Pb	12 59 50.5	-0.9
PLID	**Pearl Lake**	**3.46 250**		Pn	Pn	13 00 09.0	-0.2
PLID				IAML		13 02 24.8	
	comp=E,6.3nm,4.3s						
HLID	**Hailey**	**3.53 218**		Pn	Pn	13 00 10.0	0.0
HLID				IAML		13 01 09.8	
	comp=E,6.7nm,0.5s						
LAO	**LASA Array**	**3.59 83**		Pn	Pn	13 00 10.7	-0.1
AHID	**Auburn Hatcher**	**3.61 176**		Pn	Pn	13 00 12.2	+1.0
AHID				IAML		13 01 27.3	
	comp=E,8.8nm,4.8s						
AHID				IAML		13 01 49.5	
	comp=E,7.8nm,4.1s						
PDAR	**Pinedale Array**	**3.84 159**		Pn	Pn	13 00 14.6	+0.2
F10A	**Beach Ranch, E**	**4.06 267**		Pn	Pn	13 00 18.0	+0.7
MFID	**Camas Ranch**	**4.31 228**		Pn	Pn	13 00 22.0	+1.3
NEW	**Newport**	**4.33 298**		Pn	Pn	13 00 21.3	+0.5
NEW				IAML		13 01 30.1	
	comp=E,6.8nm,4.5s						
BMO	**Blue Mountains**	**4.41 252**		Pn	Pn	13 00 23.8	+1.7
BMO				IAML		13 01 27.4	
	comp=E,6.9nm,4.8s						
BMO				IAML		13 02 09.0	
	comp=E,5.5nm,4.5s						

*IDC **16** 12:59:43.9±1.2, 35°.77N×0°.99W, h0km, mb3.5/3, mbtmp3.5/6, ML3.2/3, MS3.1/2, Error ellipse: s-maj=28.8km s-min=21.3km az=115.0*

*CRAAG **16** 12:59:45.3, 35°.76N×0°.91W, Ml4.0, Algerie 06km NW Les-Andalouses*

*MDD **16** 12:59:45.5±0.6, 35°.82N×0°.98W, h1km±4km, mb_Lg3.2/35, Error ellipse: s-maj=5.4km s-min=2.3km az=146.0*

*CNRM **16** 12:59:46.9, 36°.07N×1°.32W, h98km*

*IGIL **16** 12:59:47.9, 35°.85N×1°.13W, h4km*

*SFS **16** 13:00:19.9, 37°.01N×3°.69W, h10km, ML1.9/4, ML2.4/6, MLv2.6/6*

ISC 16 12:59:45.2±1.2, 35°.83N±0°.03×1°.00W±0°.03, h13km±9km, n98, σ1§61/145, mb3.6/3, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.38 105**		P	**Pg**	**12 59 52.0**	**-0.8**
OLHC	**Oulhaca**	**0.67 211**		P	**Pb**	**12 59 59.8**	**+1.0**
OSBL	**Sidi Abdelli**	**0.76 189**		P	**Pb**	**13 00 00.5**	**+0.3**
OFRG	**Douar Fergoug**	**0.90 110**		P	**Pg**	**13 00 01.7**	**-0.9**
OBBL	**Beni Bahdel**	**1.20 200**		P	**Pn**	**13 00 06.9**	**-0.7**
ESMB	**Sidi M'hamed B**	**1.31 101**		P	**Pn**	**13 00 07.5**	**-1.7**
OKGL	**Djebel Kef Gue**	**1.35 81**		P	**Pg**	**13 00 12.0**	**+0.9**
EKMS	**Oued Kramis**	**1.41 70**		P	**Pn**	**13 00 09.6**	**-1.0**
OJGS	**Djebel Guires**	**1.46 102**		P	**Pg**	**13 00 16.6**	**+3.3**
ENIJ	**Nijar**	**1.50 320**		Pn	**Pn**	**13 00 11.6**	**-0.2**
ENIJ				Sn	**Sn**	**13 00 30.2**	**-1.0**
ENIJ	**Nijar**	**1.50 320**		‖Pg	**Pn**	**13 00 11.6**	**-0.2**
ENIJ				Sg	**Sn**	**13 00 30.2**	**-1.0**
ENIJ				*i* Vmb_Lg		13 00 35.1	
TAF	**Taforalt**	**1.54 229**		P	**Pn**	**13 00 12.5**	**+0.1**
TAF	**Taforalt**	**1.54 229**		S	**Sg**	**13 00 34.3**	**-0.5**
WMELI	**Melilla**	**1.67 253**		Pn	**Pn**	**13 00 13.6**	**-0.5**
WMELI				Sn	**Sn**	**13 00 33.4**	**-2.1**
EMLI	**Melilla**	**1.68 252**		Pn	**Pn**	**13 00 14.0**	**-0.2**
EMLI				Sn	**Sn**	**13 00 34.3**	**-1.3**
EMEL	**Melilla**	**1.68 252**		Pn	**Pn**	**13 00 14.6**	**+0.4**
EMEL				Sn	**Sn**	**13 00 35.6**	**-0.1**
GOG	**Mont Gurugu**	**1.74 250**		P	**Pn**	**13 00 14.5**	**-0.7**
GOG	**Mont Gurugu**	**1.74 250**		S	**Sn**	**13 00 35.7**	**-1.6**
CART	**Cartagena**	**1.75 360**		Pn	**Pn**	**13 00 14.2**	**-1.0**
CART				Sn	**Sn**	**13 00 33.5**	**-3.9**
CART	**Cartagena**	**1.75 360**		P	**Pn**	**13 00 13.9**	**-1.4**
CART	**Cartagena**	**1.75 360**		S	**Sn**	**13 00 34.1**	**-3.3**
EXMAZ	**Mazarron**	**1.78 352**		Pn	**Pn**	**13 00 15.1**	**-0.5**
EXMAZ				Sn	**Sn**	**13 00 35.0**	**-3.1**
EBER	**Berja**	**1.86 305**		Pn	**Pn**	**13 00 16.9**	**0.0**
EBER	**Berja**	**1.86 305**		Pn	**Pn**	**13 00 17.0**	**0.0**
EBER				Sn	**Sn**	**13 00 41.3**	**+0.9**
ELOR	**Lorca, Murcia**	**1.90 342**		Pn	**Pn**	**13 00 17.8**	**+0.4**
ELOR				Sn	**Sn**	**13 00 39.2**	**-2.0**
ELOR				*i* Vmb_Lg		13 00 43.8	
JBK	**JBK**	**1.97 221**		P	**Pn**	**13 00 18.6**	**+0.1**
JBK	**JBK**	**1.97 221**		S	**Sg**	**13 00 48.0**	**-0.6**
EMUR	**La Murta**	**2.02 355**		Pn	**Pn**	**13 00 18.8**	**-0.1**
EMUR				Sn	**Sn**	**13 00 40.9**	**-3.2**
EMUR	**La Murta**	**2.02 355**		Pn	**Pn**	**13 00 18.7**	**-0.2**
EMUR				Sn	**Sn**	**13 00 41.3**	**-2.7**
EMUR				*i* Vmb_Lg		13 00 45.7	
EXAHM	**Alhama Murcia,**	**2.04 350**		Pn	**Pn**	**13 00 19.5**	**+0.3**
EXAHM				Sn	**Sn**	**13 00 42.6**	**-1.9**
EXPDH	**Pilar de la Ho**	**2.04 5**		Pn	**Pn**	**13 00 18.4**	**-0.8**
EXPDH				Sn	**Sn**	**13 00 41.0**	**-3.6**
EZAR	**Zarzadilla de**	**2.12 345**		Pn	**Pn**	**13 00 20.8**	**+0.5**
EZAR				Sn	**Sn**	**13 00 46.2**	**-0.3**
EZAR				*i* Vmb_Lg		13 00 50.1	
EADEB	**Ain Deheb**	**2.31 114**		P	**Pn**	**13 00 23.9**	**+0.9**
ELGU	**Los Guajares,**	**2.36 297**		Pn	**Pn**	**13 00 23.2**	**-0.5**
ELGU				Sn	**Sn**	**13 00 52.0**	**-0.5**
ELGU	**Los Guajares,**	**2.36 297**		P	**Pn**	**13 00 23.0**	**-0.7**
ELGU	**Los Guajares,**	**2.36 297**		Pn	**Pn**	**13 00 23.2**	**-0.5**
ELGU				Sn	**Sn**	**13 00 51.7**	**-0.8**
ELGU				*i* Vmb_Lg		13 00 55.6	
EQUE	**Quentar**	**2.40 306**		Pn	**Pn**	**13 00 25.6**	**+1.4**
EQUE				Sn	**Sn**	**13 00 54.2**	**+0.7**
EQUE				*i* Vmb_Lg		13 00 59.5	
EQTA	**Presa de Quent**	**2.40 306**		Pn	**Pn**	**13 00 25.8**	**+1.5**
EQTA				Sn	**Sn**	**13 00 52.3**	**-1.3**
EQTA	**Presa de Quent**	**2.40 306**		P	**Pn**	**13 00 25.5**	**+1.2**
PALE	**Palemas**	**2.48 257**		P	**Pn**	**13 00 23.2**	**-2.0**
PALE	**Palemas**	**2.48 257**		S	**Sn**	**13 00 51.7**	**-3.7**
ANER	**Nerja**	**2.48 293**		Pn	**Pn**	**13 00 24.2**	**-1.1**
ANER				Sn	**Sn**	**13 00 52.7**	**-2.7**
ANER				*i* Vmb_Lg		13 00 58.5	
EQES	**Quesada**	**2.58 320**		Pn	**Pb**	**13 00 29.0**	**-2.4**
EQES				Sn	**Sn**	**13 00 59.6**	**+1.7**
EQES				*i* Vmb_Lg		13 01 05.0	
EDDR	**Deurdeur**	**2.61 85**		P	**Pn**	**13 00 26.6**	**-0.5**
AKLM	**AKL**	**2.69 242**		P	**Pn**	**13 00 29.4**	**+1.1**
AKLM	**AKL**	**2.69 242**		S	**Sn**	**13 01 00.0**	**-0.7**
EGOR	**Sierra Gorda,**	**2.81 298**		Pn	**Pn**	**13 00 31.0**	**+1.0**
EGOR	**Sierra Gorda,**	**2.81 298**		Pn	**

ETOS	**Mallorca**	**4.96**	**36**	Pn	**Pn**	**13 00 59.5**	**+0.2**
ETOS				Sn	**Sn**	**13 01 54.7**	**-1.7**
ETOS	**Mallorca**	**4.96**	**36**	Pn	**Pn**	**13 00 59.5**	**+0.2**
ETOS				Sn	**Sn**	**13 01 54.9**	**-1.6**
ETOS				*i* Vmb_Lg		13 01 56.3	
ETOR	**Torete**	**5.05**	**351**	Pn	**Pn**	**13 01 02.0**	**+1.3**
ETOR				Sn	**Sn**	**13 01 58.4**	**-0.5**
ETOR				*i* Vmb_Lg		13 02 16.3	
ERTA	**Horta de San J**	**5.22**	**11**	Pn	**Pn**	**13 01 04.6**	**+1.6**
ERTA				Sn	**Sn**	**13 02 01.3**	**-1.8**
ERTA				*i* Vmb_Lg		13 02 06.8	
ZHG	**ZHG**	**5.22**	**245**	P	**Pn**	**13 01 03.8**	**+0.7**
ZHG	**ZHG**	**5.22**	**245**	S	**Sn**	**13 02 01.0**	**-2.2**
PBAR	**Barrancos**	**5.37**	**298**	P	**Pn**	**13 01 05.3**	**+0.3**
GUD	**Guadarrama**	**5.41**	**334**	Pn	**Pn**	**13 01 07.5**	**+1.9**
GUD				Sn	**Sn**	**13 02 05.6**	**-2.2**
GUD				*i* Vmb_Lg		13 02 38.4	
EGRO	**El Granado**	**5.48**	**290**	P	**Pn**	**13 01 08.1**	**+1.6**
EGRO	**El Granado**	**5.48**	**290**	Pn	**Pn**	**13 01 06.5**	**-0.1**
EGRO				Sn	**Sn**	**13 02 06.9**	**-2.5**
EGRO				*i* Vmb_Lg		13 02 10.8	
EBAD	**Badajoz**	**5.61**	**303**	Pn	**Pn**	**13 01 08.7**	**+0.4**
EBAD				Sn	**Sn**	**13 02 10.4**	**-2.2**
EBAD				*i* Vmb_Lg		13 02 15.0	
PVAQ	**Vaqueiros**	**5.63**	**288**	P	**Pn**	**13 01 09.4**	**+0.9**
EPOB	**Poblet**	**5.75**	**16**	Pn	**Pn**	**13 01 11.2**	**+0.9**
EPOB				Sn	**Sn**	**13 02 12.5**	**-3.6**
EPOB				*i* Vmb_Lg		13 02 14.1	
MESJ	**Messejana**	**6.13**	**291**	*e*P	**Pn**	**13 01 15.4**	**0.0**
EARI	**Arriondas**	**8.14**	**338**	Pn	**Pn**	**13 01 45.2**	**+2.2**
EARI				Sn	**Sn**	**13 03 10.5**	**-4.4**
KEST	**Kesra**	**8.41**	**88**	Pn	**Pn**	**13 01 47.7**	**+1.0**
	0.3nm,0.3s,baz=272,slow=7.1,SNR=4.5						
	3.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**22.72**	**173**	P	**P**	**13 04 46.4**	**-0.4**
	40nm,0.3s,baz=355,slow=11,SNR=5.1						
FINES	**FINESS Array B**	**30.82**	**25**	P	**P**	**13 06 01.0**	**+0.5**
	0.8nm,0.6s,baz=235,slow=6.6,SNR=4.0						
	0.8nm,0.6s						
FRB	**Frobisher Bay**	**48.70**	**327**	LR	LR	13 27 20.7	
	comp=Z,56nm,18.1s,baz=256,slow=34						
KURBB	**Kurchatov Arra**	**57.09**	**48**	P	**P**	**13 09 32.1**	**+1.1**
	0.2nm,0.3s,baz=291,slow=7.8,SNR=2.1						
	0.2nm,0.3s						
YKA	**Yellowknife Ar**	**68.59**	**333**	P	**P**	**13 10 48.7**	**+1.4**
	0.2nm,0.7s,baz=59,slow=6.5,SNR=3.7						
	0.2nm,0.7s						

*IDC **16** 13:26:56.1±0.7, 32°.26S×179°.46W, h0km, mb4.4/9, mbtmp4.4/10, ML4.1/1, MS4.1/43, Error ellipse: s-maj=22.7km s-min=21.6km az=38.0*
*NEIC **16** 13:26:58.7±0.6, 32°.3S±0°.1×179°.6W±0°.2, h10km±1km, mb4.9/13, Error ellipse: s-maj=23.9km s-min=16.6km az=75.0*
*WEL **16** 13:26:58.9±0.8, 33°.5±6°×17°.9W±1°.3, h12km, M4.7/19, mB5.2/13, ML4.9/19, MLv4.9/19, Mw(mB)4.5/13, Error ellipse: s-maj=18.4km s-min=5.9km az=108.7, confirmed*
*GCMT **16** 13:27:00.7±0.3, 32°.3S±0°.02×179°.61W±0°.03, h14km±1km, MW4.9/89, Moment Tensor Solution. s33,c42; s89,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.09±.16; Mθθ2.51±.12; Mφφ-0.42±.11; Mrθ1.00±.26; Mrφ1.97±.08; Mθφ0.55±.28; Best double couple: M0=3.01900×10^16 NP1:φ=66.00000°, δ=34.00000°, λ=-86.00000°. NP2: φ=241.00000°, δ=56.00000°, λ=-93.00000°. Principal axes: T 3.7220, Plg=11.0000°, Azm=333.0000°; N -1.4110, Plg=2.0000°, Azm=243.0000°; P -2.3150, Plg=79.0000°, Azm=141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 13:26:58.8±0.6, 32°.43S±0°.06×179°.43W±0°.09, h10km, n121, σ2$18/84, mb4.5/14, MS4.2/41, 3C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.41**	**23**	P	**Pn**	**13 27 51.2**	**-0.8**
MXZ	**Matakaoa Point**	**5.45**	**199**	Pn	**Pn**	**13 28 20.0**	**0.0**
MXZ	**Matakaoa Point**	**5.45**	**199**	P	**Pn**	**13 28 20.1**	**+0.1**
GRZ	**Great Barrier**	**5.70**	**227**	P	**Pn**	**13 28 25.9**	**+2.5**
HAZ	**Te Kaha**	**5.79**	**203**	P	**Pn**	**13 28 25.8**	**+1.2**
WIZ	**White Island**	**5.79**	**208**	P	**Pn**	**13 28 26.3**	**+1.6**
WIZ				S	**Sn**	**13 29 33.0**	**+1.8**
KUZ	**Kuaotunu**	**5.88**	**222**	P	**Pn**	**13 28 29.8**	**+3.9**
PUZ	**Puketiti**	**5.94**	**198**	P	Pn	13 28 25.4	-1.4
PUZ				S	**Sn**	**13 29 37.8**	**+2.9**
RUGZ	**Raukumara Rang**	**6.01**	**202**	P	**Pn**	**13 28 28.2**	**+0.4**
TWGZ	**Tauwhareparae**	**6.11**	**200**	P	**Pn**	**13 28 29.4**	**+0.2**
TWGZ				S	**Sn**	**13 29 40.3**	**+1.0**
WCZ	**Waipu Caves**	**6.24**	**234**	P	**Pn**	**13 28 31.6**	**+0.8**
WIAZ	**Waiheke Island**	**6.25**	**224**	P	Pn	13 28 37.4	+6.4
CNGZ	**Carnagh Statio**	**6.34**	**197**	P	Pn	13 28 30.7	-1.6
CNGZ				S	**Sn**	**13 29 47.5**	**+2.7**
MWZ	**Matawai**	**6.39**	**202**	P	**Pn**	**13 28 33.0**	**-0.1**
TKGZ	**Te Karaka**	**6.40**	**200**	P	**Pn**	**13 28 35.1**	**+2.1**
TKGZ				S	**Sn**	**13 29 45.7**	**-0.4**
OUZ	**Omahuta**	**6.44**	**242**	P	**Pn**	**13 28 33.0**	**-0.6**
MKAZ	**Moumakai**	**6.45**	**222**	P	**Pn**	**13 28 38.3**	**+4.6**
URZ	**Urewera**	**6.47**	**205**	Pn	**Pn**	**13 28 35.5**	**+1.5**
	3.8nm,0.3s,baz=336,slow=2.3,SNR=23						
	18nm,0.4s						
URZ	**Urewera**	**6.47**	**205**	P	**Pn**	**13 28 34.0**	**0.0**
URZ				S	**Sn**	**13 29 47.7**	**-0.1**
RVAZ	**Riverhead Bore**	**6.57**	**227**	P	Pn	13 28 45.1	+10
RIGZ	**Rimuhau**	**6.67**	**199**	P	**Pn**	**13 28 37.5**	**+0.6**
RIGZ				S	**Sn**	**13 29 54.5**	**+1.6**
WTAZ	**Waiatarua**	**6.68**	**226**	P	Pn	13 28 43.9	+7.0
TOZ	**Tahuroa Road**	**6.73**	**217**	P	**Pn**	**13 28 37.1**	**-0.4**
TOZ	**Tahuroa Road**	**6.73**	**217**	P	**Pn**	**13 28 41.7**	**+4.1**
MUGZ	**Murupara**	**6.79**	**206**	P	**Pn**	**13 28 38.2**	**-0.2**
MUGZ				S	**Sn**	**13 29 59.1**	**+3.4**
RTZ	**Ruatahuna**	**6.83**	**204**	P	**Pn**	**13 28 39.2**	**+0.1**
RTZ	**Ruatahuna**	**6.83**	**204**	P	**Pn**	**13 28 41.3**	**+2.2**
PRGZ	**Paritu Road**	**6.84**	**198**	P	**Pn**	**13 28 38.9**	**-0.2**
SNGZ	**Shannon Statio**	**6.86**	**202**	P	**Pn**	**13 28 41.2**	**+1.7**
MHGZ	**Mahia Peninsul**	**7.05**	**197**	P	**Pn**	**13 28 41.5**	**-0.6**
TLZ	**Tolley Road**	**7.18**	**214**	P	**Pn**	**13 28 48.0**	**+4.2**
BKZ	**Black Stump Fm**	**7.50**	**205**		**Pn**	**13 28 48.5**	**+0.3**
BKZ	**Black Stump Fm**	**7.50**	**205**	P	**Pn**	**13 28 48.5**	**+0.3**
BKZ				S	**Sn**	**13 30 15.5**	**+2.3**
HIZ	**Hauiti**	**7.65**	**216**	P	**Pn**	**13 28 54.0**	**+3.7**
OTVZ	**Oturere**	**7.81**	**209**	P	**Pn**	**13 28 53.6**	**+1.0**
PXZ	**Pawanui**	**8.16**	**201**	P	Pn	13 28 54.7	-2.5
VRZ	**Vera Road**	**8.18**	**214**	P	**Pn**	**13 29 01.5**	**+3.9**
TSZ	**Takapari Road**	**8.47**	**205**	P	**Pn**	**13 29 01.3**	**-0.3**
TSZ				S	**Sn**	**13 30 41.1**	**+3.8**
BFZ	**Birch Farm**	**8.94**	**202**	P	**Pn**	**13 29 06.7**	**-1.2**
BFZ				S	**Sn**	**13 30 45.0**	**-3.7**
MRZ	**Mangatainoka R**	**9.14**	**205**	P	**Pn**	**13 29 10.4**	**-0.4**
MRZ				S	**Sn**	**13 30 49.3**	**-4.4**
THZ	**Tophouse**	**11.14**	**211**	P	**Pn**	**13 29 39.7**	**+1.6**
THZ				S	**Sn**	**13 31 38.5**	**-4.4**
MSVF	**Nonsavu**	**14.81**	**351**	Pn	**Pn**	**13 30 31.3**	**+2.9**
	0.6nm,0.3s,baz=112,slow=12,SNR=6.2						
MSVF				LR	LR	13 35 00.7	
	comp=Z,2μm,19.1s,baz=173,slow=33						
DZM	**Mont Dzumac**	**16.24**	**306**	LR	LR	13 35 48.8	
	comp=Z,3μm,18.4s,baz=161,slow=33						
RAR	**Rarotonga**	**20.76**	**62**	LR	LR	13 39 26.7	
	comp=Z,150nm,19.2s,baz=252,slow=36						
EIDS	**Eidsvold**	**26.71**	**278**	P	**P**	**13 32 36.1**	**-2.2**
EIDS				IAmb	IAmb	13 32 50.8	
	comp=Z,58nm,1.8s						
TOO	**Toolangi**	**29.08**	**250**	P	**P**	**13 32 57.8**	**-1.8**
TOO				IAmb	IAmb	13 33 18.0	
	comp=Z,22nm,1.9s						
HNR	**Honiara**	**29.80**	**316**	LR	LR	13 44 03.6	
	comp=Z,315nm,18.3s,baz=170,slow=35						
PPT	**Papeete**	**30.70**	**68**	LR	LR	13 45 43.7	
	comp=Z,66nm,18.1s,baz=256,slow=37						
STKA	**Stephens Creek**	**32.88**	**260**	P	**P**	**13 33 32.7**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=92,slow=16,SNR=4.5						
	comp=Z,2.1nm,0.7s						
BBOO	**Buckleboo**	**37.29**	**257**	P	**P**	**13 34 09.4**	**-1.6**
PMG	**Port Moresby**	**38.45**	**299**	LR	LR	13 47 38.3	
	comp=Z,458nm,18.9s,baz=144,slow=32						
AS31	**Alice Springs**	**41.83**	**270**		**P**	**13 34 46.9**	**-2.1**
ASAR	**Alice Springs**	**41.83**	**270**		**P**	**13 34 47.1**	**-2.0**
ASAR	**Alice Springs**	**41.83**	**270**	P	**P**	**13 34 48.0**	**-1.1**
	comp=Z,8.2nm,0.8s,baz=106,slow=7.4,SNR=63						
ASAR				LR	LR	13 50 12.7	
	comp=Z,143nm,19.8s,baz=102,slow=33						
	comp=Z,8.2nm,0.8s						
WR8	**Warramunga Arr**	**42.87**	**275**	P	**P**	**13 34 55.5**	**-1.9**
WR8				IAmb	IAmb	13 35 04.4	
	comp=Z,19nm,0.9s						
WRAB	**Tennant Creek**	**43.00**	**275**		**P**	**13 34 56.4**	**-2.2**
WRA	**Warramunga Arr**	**43.01**	**275**		**P**	**13 34 56.6**	**-2.1**
WRA	**Warramunga Arr**	**43.01**	**275**	P	**P**	**13 34 57.2**	**-1.4**
	comp=Z,8.3nm,0.9s,baz=114,slow=7.9,SNR=15						
	comp=Z,8.3nm,0.9s						
WB0	**Warramunga Arr**	**43.04**	**275**		**P**	**13 34 57.0**	**-1.9**
SBA	**Scott Base**	**45.93**	**184**	P	**P**	**13 35 22.5**	**+1.3**
VNDA	**Vanda**	**45.96**	**186**	LR	LR	13 50 29.6	
	comp=Z,257nm,20.8s,baz=31,slow=31						
JAY	**Jayapura**	**47.80**	**300**	LR	LR	13 53 41.5	
	comp=Z,261nm,21.7s,baz=126,slow=34						
KNRA	**Kununurra**	**49.69**	**277**		**P**	**13 35 49.0**	**-2.1**
FITZ	**Fitzroy Crossi**	**51.18**	**272**		**P**	**13 36 00.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**51.18**	**272**	LR	LR	13 56 55.3	
	comp=Z,239nm,19.1s,baz=106,slow=35						
GUMO	**Guam**	**57.10**	**317**	LR	LR	13 57 17.3	
	comp=Z,106nm,21.7s,baz=135,slow=32						
QSPA	**South Pole Qui**	**57.69**	**180**	P	**P**	**13 36 50.1**	**+0.8**
QSPA	**South Pole Qui**	**57.69**	**180**	P	**P**	**13 36 50.4**	**+1.1**
	comp=Z,4.8nm,0.7s,baz=30,slow=1.0,SNR=36						
QSPA				LR	LR	13 57 43.7	
	comp=Z,275nm,20.5s,baz=44,slow=32						
	comp=Z,4.8nm,0.7s						
KAPI	**Kappang**	**62.80**	**282**	LR	LR	14 03 22.1	
	comp=Z,140nm,19.8s,baz=112,slow=35						
DAV	**Davao City (W)**	**65.40**	**297**	LR	LR	14 03 10.9	
	comp=Z,110nm,22.0s,baz=122,slow=33						
BELA	**Belgrano 2**	**67.94**	**172**	P	**P**	**13 37 56.4**	**-0.9**
BELA				IAmb	IAmb	13 38 12.9	
	comp=Z,15nm,1.3s						
JCJ	**Chichijima**	**69.57**	**324**	LR	LR	14 04 23.2	
	comp=Z,82nm,21.7s,baz=88,slow=32						
MAW	**Mawson**	**69.98**	**201**	LR	LR	14 08 01.7	
	comp=Z,152nm,18.9s,baz=115,slow=35						
PMSA	**Palmer Station**	**70.92**	**156**	LR	LR	14 04 06.0	
	comp=Z,213nm,18.4s,baz=257,slow=31						
XMIS	**Christmas Isla**	**71.77**	**269**	P	P	13 38 18.5	-3.3
LEM	**Lembang**	**71.99**	**273**	LR	LR	14 10 02.5	
	comp=Z,142nm,19.1s,baz=224,slow=36						
JHJ	**Hachijo jima 2**	**75.69**	**326**	LR	LR	14 09 53.8	
	comp=Z,96nm,18.9s,baz=87,slow=34						
TROLL	**Troll, Antarti**	**75.84**	**181**	⇑P	**P**	**13 38 44.0**	**-0.9**
	comp=Z,309nm,0.9s						
SNAA	**Sanae**	**76.16**	**179**	⇑P	**P**	**13 38 45.0**	**-1.6**
	comp=Z,89nm,0.8s						
SNAA	**Sanae**	**76.16**	**179**	P	**P**	**13 38 45.4**	**-1.2**
	comp=Z,3.4nm,0.7s,baz=185,slow=15,SNR=7.7						
SNAA				LR	LR	14 08 31.3	
	comp=Z,253nm,21.3s,baz=222,slow=33						
	comp=Z,3.4nm,0.7s						
VNA3	**Neumayer Olymp**	**76.36**	**177**	⇑P	**P**	**13 38 47.7**	**0.0**
	comp=Z,18nm,0.7s						
MJAR	**Matsushiro Arr**	**79.23**	**326**	LR	LR	14 08 45.2	
	comp=Z,92nm,20.6s,baz=151,slow=32						
JNU	**Nakatsue**	**80.28**	**320**	LR	LR	14 14 12.1	
	comp=Z,77nm,18.0s,baz=145,slow=35						
H03S2	**Juan Fernandez**	**80.36**	**124**	T	T	15 07 49.2	
	baz=236,slow=74,SNR=17						
H03S1	**Juan Fernandez**	**80.37**	**124**	T	T	15 07 50.5	
	baz=236,slow=74,SNR=16						
H03S3	**Juan Fernandez**	**80.37**	**124**	T	T	15 07 49.3	
	baz=236,slow=74,SNR=17						
H03N3	**Juan Fernandez**	**80.56**	**124**	T	T	15 08 03.8	
	baz=148,slow=74,SNR=61						
H03N2	**Juan Fernandez**	**80.56**	**124**	T	T	15 09 38.2	
	SNR=33						
H03N1	**Juan Fernandez**	**80.58**	**124**	T	T	15 07 56.4	
	baz=240,slow=74,SNR=114						
PLCA	**Paso Flores**	**82.01**	**133**	P	**P**	**13 39 20.1**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=235,slow=3.7,SNR=5.8						
PLCA				LR	LR	14 09 51.0	
	comp=Z,82nm,20.0s,baz=222,slow=31						
	comp=Z,3.4nm,0.8s						
ASAJ	**Asahikawa**	**83.69**	**334**	LR	LR	14 09 27.0	
	comp=Z,282nm,22.0s,baz=169,slow=30						
PSI	**Prapat**	**84.45**	**277**	LR	LR	14 17 47.4	
	comp=Z,125nm,20.0s,baz=122,slow=36						
SHEM	**Shemya Is, Ala**	**84.99**	**356**	LR	LR	14 10 40.0	
	comp=Z,209nm,21.1s,baz=184,slow=31						
KSRS	**Korea Array**	**85.12**	**321**	P	**P**	**13 39 34.4**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=135,slow=6.6,SNR=5.3						
KSRS				LR	LR	14 15 52.2	
	comp=Z,55nm,19.2s,baz=120,slow=35						
	comp=Z,0.8nm,0.8s						
LPIG	**La Paz**	**86.63**	**59**	LR	LR	14 14 59.9	
	comp=Z,76nm,18.8s,baz=198,slow=33						
PETK	**Petropavlovsk-**	**87.48**	**346**	LR	LR	14 15 46.8	
	comp=Z,108nm,18.7s,baz=170,slow=34						
USRK	**Ussuriysk Ar.**	**88.19**	**327**	LR	LR	14 14 50.4	
	comp=Z,99nm,19.5s,baz=126,slow=33						
PFO	**Pinyon Flats O**	**88.47**	**48**	LR	LR	14 13 49.6	
	comp=Z,103nm,18.2s,baz=226,slow=32						
YBH	**Yreka Blue Hor**	**90.37**	**39**	LR	LR	14 11 50.8	
	comp=Z,72nm,21.7s,baz=304,slow=30						
NVAR	**Mina Array Bea**	**90.55**	**43**	P	**P**	**13 40 01.1**	**-0.2**
	comp=Z,2.2nm,1.1s,baz=217,slow=7.3,SNR=6.5						
	comp=Z,2.2nm,1.1s						
KLR	**Kul'dur**	**92.18**	**330**	LR	LR	14 17 51.2	
	comp=Z,173nm,20.0s,baz=154,slow=33						
KDAK	**Kodiak Island**	**92.66**	**14**	LR	LR	14 13 21.1	
	comp=Z,123nm,21.9s,baz=44,slow=30						
CMAR	**Chiang Mai Arr**	**92.93**	**290**	LR	LR	14 20 21.8	
	comp=Z,32nm,21.9s,baz=115,slow=34						
TXAR	**Lajitas Array**	**94.50**	**58**	P	**P**	**13 40 19.4**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=212,slow=4.4,SNR=6.1						
	comp=Z,0.9nm,1.0s						
MA2	**Magadan**	**94.93**	**345**	LR	LR	14 18 08.7	
	comp=Z,129nm,20.9s,baz=140,slow=32						
ATAH	**Atahualpa**	**95.44**	**102**	LR	LR	14 17 13.8	
	comp=Z,33nm,18.3s,baz=216,slow=32						
ANMO	**Albuquerque**	**95.79**	**52**	LR	LR	14 20 28.5	
	comp=Z,86nm,18.1s,baz=84,slow=34						
SEY	**Seymchan**	**97.68**	**347**	LR	LR	14 20 33.9	
	comp=Z,208nm,20.1s,baz=150,slow=33						
NEW	**Newport**	**97.72**	**37**	LR	LR	14 20 39.8	
	comp=Z,80nm,18.4s,baz=258,slow=33						
LPAZ	**La Paz**	**98.41**	**115**	LR	LR	14 16 56.0	
	comp=Z,43nm,20.3s,baz=240,slow=30						
PDAR	**Pinedale Array**	**98.44**	**44**	LR	LR	14 20 42.6	
	comp=Z,63nm,18.5s,baz=270,slow=33						
CPUP	**Villa Florida**	**99.66**	**130**	LR	LR	14 17 39.7	
	comp=Z,119nm,21.9s,baz=222,slow=30						
KURBB	**Kurchatov Arra**	**121.59**	**313**	PKP	**PKPdf**	**13 45 48.7**	**-3.5**
	comp=Z,0.4nm,0.7s,baz=115,slow=1.3,SNR=4.1						
FIA1	**FINESS Array S**	**146.59**	**338**	PKPdf	**PKPdf**	**13 46 36.7**	**-1.5**
FINES	**FINESS Array B**	**146.60**	**338**	PKPbc	**PKPdf**	**13 46 37.0**	**-1.2**
	comp=Z,3.9nm,0.7s,baz=90,slow=3.8,SNR=16						
NB2	**NORSAR Subarra**	**150.54**	**349**	PKP	**PKPdf**	**13 46 47.4**	**+2.7**
	comp=Z,2.8nm,1.0s,baz=14,slow=4.3						
NOA	**NORSAR Array B**	**150.54**	**349**	PKPbc	**PKPdf**	**13 46 47.7**	**+3.0**
	comp=Z,0.9nm,0.7s,baz=15,slow=4.2,SNR=7.2						
HFS	**Hagfors**	**150.96**	**346**	PKPbc	**PKPdf**	**13 46 48.1**	**+2.8**
	comp=Z,1.6nm,0.7s,baz=251,slow=4.4,SNR=4.4						
DBIC	**Dimbokro**	**153.88**	**168**	PKPbc	**PKPdf**	**13 46 57.3**	**+6.2**
	comp=Z,4.1nm,0.7s,baz=213,slow=3.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**160.78**	**183**		**PKPab**	**13 47 40.1**	**-1.5**
TORD	**Torodi Ar. Bea**	**160.78**	**183**	PKPab	**PKPab**	**13 47 40.0**	**-1.6**
	comp=Z,130nm,0.3s,baz=167,slow=2.3,SNR=1.6						

IDC 16 13:47:19.3±5.7, 14°.71S×174°.05W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=279.5km s-min=31.4km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.39**	**256**	P	P	13 56 10.4	-0.9
	0.2nm,0.7s,baz=93,slow=7.8,SNR=1.7						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**49.73**	**251**	P	P	13 56 13.8	0.0
	0.6nm,0.7s,baz=85,slow=7.8,SNR=15						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**81.90**	**11**	P	P	13 59 39.7	-0.6
	1.0nm,1.1s,baz=222,slow=6.0,SNR=4.2						
	1.0nm,1.1s						
YKA	**Yellowknife Ar**	**89.72**	**24**	P	P	14 00 18.7	-0.4
	0.2nm,0.7s,baz=237,slow=5.1,SNR=4.6						
	0.2nm,0.7s						
BRTR	**Keskin Array B**	**145.23**	**321**	PKPbc	PKPdf	14 07 00.2	+0.6
	0.7nm,0.6s,baz=64,slow=3.2,SNR=3.6						

*DNK **16** 13:57:54.1±3.6, 74°.54N×9°.01E, h15km, ML2.4*
*IDC **16** 13:57:55.5±1.2, 74°.53N×9°.15E, h0km, mb3.6/7, mbtmp3.6/11, ML2.7/3, MS3.3/9, Error ellipse: s-maj=26.2km s-min=11.9km az=79.0*
*BER **16** 13:57:57.6±3.8, 74°.60N×8°.81E, h23km±26km, mb(Pn)4.3, ML3.7(NAO), Confirmed Earthquake*
*NAO **16** 13:57:58.3±9.6, 74°.69N×10°.25E, h18km±82km, ML3.7*
*KOLA **16** 13:58:00.4, 74°.30N×9°.85E, h0km, ML2.3, Norwegian sea, Knipovich ridge, south*

ISC 16 13:57:54.3±0.6, 74°.60N±0°.04×9°.23E±0°.06, h10km, n77, σ2$55/101, mb3.5/7, MS3.2/7, 1D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.62**	**87**	Pn	**Pn**	**13 58 36.5**	**0.0**
BJO1				Sn	**Sn**	**13 59 05.8**	**-2.5**
BJO1	**Bjornoya**	**2.62**	**87**	*e*P	**Pn**	**13 58 36.5**	**0.0**
BJO1				*e*S	**Sn**	**13 59 05.9**	**-2.3**
BJO1				IAML		13 59 09.8	
	comp=Z,50nm,0.4s						
BJO1	**Bjornoya**	**2.62**	**87**	*e*P	**Pn**	**13 58 36.5**	**0.0**
BJO1				*e*S	**Sn**	**13 59 05.9**	**-2.3**
BJO1				IAML		13 59 09.8	
	comp=Z,50nm,0.4s						
HSPB	**Hornsund (broa**	**2.87**	**30**	Pn	**Pn**	**13 58 39.9**	**-0.1**
HSPB				Sn	**Sn**	**13 59 11.8**	**-2.8**
HSPB	**Hornsund (broa**	**2.87**	**30**	*e*P	**Pn**	**13 58 40.8**	**+0.8**
HSPB				*e*S	**Sn**	**13 59 11.0**	**-3.6**
HSPB				IAML		13 59 13.1	
	comp=Z,17nm,0.5s						
HSPB	**Hornsund (broa**	**2.87**	**30**	*e*P	**Pn**	**13 58 40.8**	**+0.8**
HSPB				*e*S	**Sn**	**13 59 11.0**	**-3.6**
HSPB				IAML		13 59 13.1	
	comp=Z,17nm,0.5s						
BRBA	**Barentsburg A**	**3.68**	**16**	Pn	**Pn**	**13 58 52.0**	**+0.9**
BRBA				Sn	**Sn**	**13 59 33.4**	**-0.9**
BRBA	**Barentsburg A**	**3.68**	**16**	*e*P	**Pn**	**13 58 51.9**	**+0.9**
BRBA				*e*S	**Sn**	**13 59 33.1**	**-1.3**
BRBA				IAML		13 59 39.9	
	comp=Z,22nm,0.2s						
BRBA	**Barentsburg A**	**3.68**	**16**	*e*P	**Pn**	**13 58 51.9**	**+0.9**
BRBA				*e*S	**Sn**	**13 59 33.1**	**-1.3**
BRBA				IAML		13 59 39.9	
	comp=Z,22nm,0.2s						
BRBB	**Barentsburg B**	**3.71**	**16**	Pn	**Pn**	**13 58 52.4**	**+0.9**
BRBB				Sn	**Sn**	**13 59 33.7**	**-1.4**
BRBB	**Barentsburg B**	**3.71**	**16**	P	**Pn**	**13 58 51.7**	**+0.2**
BRBB				S	**Sn**	**13 59 32.8**	**-2.4**
BRBB	**Barentsburg B**	**3.71**	**16**	*e*P	**Pn**	**13 58 52.2**	**+0.7**
BRBB				*e*S	**Sn**	**13 59 33.9**	**-1.2**
BRBB	**Barentsburg B**	**3.71**	**16**	*e*P	**Pn**	**13 58 52.2**	**+0.7**
BRBB				*e*S	**Sn**	**13 59 33.9**	**-1.2**
SPA0	**Spitsbergen Ar**	**3.97**	**22**	Pn	**Pn**	**13 58 57.0**	**+1.9**
	baz=193,slow=16						
SPA0				Sn	**Sn**	**13 59 39.8**	**-1.9**
	baz=193,slow=16						
SPA0	**Spitsbergen Ar**	**3.97**	**22**	⇓*i*P	**Pn**	**13 58 56.7**	**+1.6**
SPA0				*i* S	**Sn**	**13 59 39.4**	**-2.3**
SPA0	**Spitsbergen Ar**	**3.97**	**22**	Pn	**Pn**	**13 58 57.0**	**+1.9**
	baz=193,slow=16						
SPA0				Sn	**Sn**	**13 59 39.8**	**-1.9**
	baz=193,slow=16						
SPA0	**Spitsbergen Ar**	**3.97**	**22**	*e*P	**Pn**	**13 58 56.9**	**+1.6**
SPITS	**Spitsbergen Ar**	**3.97**	**22**	Pn	**Pn**	**13 58 56.8**	**+1.6**
	comp=Z,55nm,0.3s,baz=201,slow=15,SNR=1446						
SPITS	**Spitsbergen Ar**	**3.97**	**22**	P	**Pn**	**13 58 56.5**	**+1.4**
SPITS				S	**Sn**	**13 59 39.8**	**-1.9**
HOPEN	**Hopen**	**4.39**	**

comp=Z,52nm,19.0s,baz=106,slow=33
AKTO Aktyubinsk 31.41 113 LR LR 14 16 43.3
comp=Z,78nm,18.5s,baz=90,slow=36
BVAR Borovoye Array 32.24 97 P **P** **14 04 25.5 +3.2**
comp=Z,0.7nm,0.5s,baz=323,slow=9.4,SNR=2.9
comp=Z,0.7nm,0.5s
KBZ Khabaz 34.41 135 LR LR 14 19 37.9
comp=Z,33nm,20.1s,baz=308,slow=38
ZALV Zalesovo Beam 35.26 83 P **P** **14 04 52.0 +3.6**
comp=Z,0.4nm,0.6s,baz=310,slow=5.6,SNR=4.1
comp=Z,0.4nm,0.6s
KURBB Kurchatov Arra 36.58 91 P **P** **14 05 02.5 +2.7**
comp=Z,0.3nm,0.6s,baz=338,slow=7.4,SNR=3.4
comp=Z,0.3nm,0.6s
GNI Garni 38.22 134 LR LR 14 22 23.9
comp=Z,32nm,18.6s,baz=24,slow=38
ILAR Eielson Array 40.01 344 P **P** **14 05 31.8 +3.2**
comp=Z,0.8nm,0.8s,baz=1.7,slow=5.9,SNR=9.4
comp=Z,0.8nm,0.8s
MKAR Makanchi Array 41.09 90 P **P** **14 05 41.5 +3.8**
comp=Z,0.3nm,0.6s,baz=6.7,slow=7.3,SNR=5.5
comp=Z,0.3nm,0.6s
ULM Lac du Bonnet 46.04 301 LR LR 14 24 10.0
comp=Z,97nm,18.3s,baz=220,slow=34
ASAR Alice Springs 121.60 62 PKP **PKiKP** **14 16 49.0 +1.4**
comp=Z,0.5nm,1.0s,baz=355,slow=1.6,SNR=5.3

---

*DJA **16** 14:01:44.5±1.2,6°S±2°×13°1E±°, h16km±9km, M4.4/12, mB5.3/3, mb4.3/2, MLv4.4/12, Mw(mB)4.8/3*
ISC 16 14:01:45.0±0.9, 5°52S±0°04×131°32E±0°05, h54km, n22, σ2S04/29, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.72**	**305**	P	**Pn**	**14 02 15.1**	**+2.5**
BNDI	**Bandanaira**	**1.72**	**305**	S	**Sn**	**14 02 36.6**	**+3.1**
BNDI	**Bandanaira**	**1.72**	**305**	P	**Pn**	**14 02 14.8**	**+2.2**
BNDI				S	**Sn**	**14 02 35.4**	**+1.9**
SAUI	**Saumlaki**	**2.45**	**181**	S	**Sn**	**14 02 51.8**	**+0.4**
SAUI	**Saumlaki**	**2.45**	**181**	P	**Pn**	**14 02 24.9**	**+2.3**
SAUI				S	**Sn**	**14 02 55.6**	**+4.2**
FAKI	**Fak Fak**	**2.74**	**20**	P	**Pn**	**14 02 28.6**	**+2.1**
FAKI	**Fak Fak**	**2.74**	**20**	P	**Pn**	**14 02 28.4**	**+1.9**
FAKI				S	**Sn**	**14 03 00.2**	**+1.8**
KMPI	**Kaimana, Papua**	**3.00**	**52**	P	**Pn**	**14 02 31.6**	**+1.5**
KMPI				S	**Sn**	**14 03 07.0**	**+2.1**
MSAI	**Masohi**	**3.22**	**312**	P	**Pn**	**14 02 33.5**	**+0.4**
MSAI				S	**Sn**	**14 03 08.8**	**-1.4**
AAI	**Ambon**	**3.61**	**300**	P	**Pn**	**14 02 39.1**	**+0.7**
AAI				S	**Sn**	**14 03 19.3**	**-0.5**
SWI	**Sorong**	**4.62**	**359**	P	**Pn**	**14 02 53.4**	**+1.1**
SWI				S	**Sn**	**14 03 42.5**	**-2.2**
NLAI	**Namlea**	**4.78**	**298**	P	**Pn**	**14 02 58.2**	**+3.7**
SANI	**Sanana**	**6.34**	**303**	P	**Pn**	**14 03 16.7**	**+0.8**
DRS	**Darwin Rock St**	**6.89**	**183**	P	**Pn**	**14 03 23.1**	**-0.3**
KDU	**Kakadu**	**7.22**	**171**	P	**Pn**	**14 03 27.4**	**-0.5**
MTN	**Manton Dam**	**7.29**	**181**	P	**Pn**	**14 03 28.7**	**-0.2**
COEN	**Coen**	**14.37**	**127**	P	**Pn**	**14 05 04.3**	**-1.4**
QIS	**Mount Isa**	**16.98**	**152**	P	**Pn**	**14 05 37.4**	**-1.6**
AS01	**Alice Springs**	**18.22**	**172**	P	**P**	**14 05 51.2**	**-2.7**
WRKA	**Warakurna**	**19.63**	**188**	P	**P**	**14 06 07.8**	**-1.5**
OOD	**Oodnadatta**	**22.54**	**170**	P	**P**	**14 06 39.1**	**-1.5**
FORT	**Forrest**	**25.32**	**187**	P	**P**	**14 07 04.7**	**-2.0**

WEL 16 14:30:47.0±1.0, 33°S±11°×18°0W±2°2, h316km±23km, M3.9/3, mB4.7/1, ML4.3/7, MLv3.9/3, Mw(mB)3.9/1, Error ellipse: s-maj=31.0km s-min=7.9km az=112.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.84**	**26**	P	Pn	14 31 52.0	-0.5
MXZ	**Matakaoa Point**	**5.04**	**197**	P	Pn	14 32 05.9	+0.3
WMGZ	**Waiomatatini S**	**5.27**	**195**	P	Pn	14 32 08.8	+0.7
WMGZ				S	S	14 33 13.2	-0.2
HAZ	**Te Kaha**	**5.37**	**200**	P	Pn	14 32 09.7	+0.4
HAZ				S	S	14 33 16.5	+1.0
PKGZ	**Pakihiroa**	**5.39**	**198**	P	Pn	14 32 10.6	+1.1
PUZ	**Puketiti**	**5.54**	**196**	P	Pn	14 32 12.9	+1.6
PUZ				S	S	14 33 19.1	-0.2
RUGZ	**Raukumara Rang**	**5.59**	**200**	P	Pn	14 32 11.5	-0.5
RUGZ				S	S	14 33 20.3	-0.3
TWGZ	**Tauwhareparae**	**5.71**	**197**	P	Pn	14 32 14.4	+1.1
TWGZ				S	S	14 33 25.4	+2.5
WIAZ	**Waiheke Island**	**5.77**	**224**	P	Pn	14 32 14.3	+0.3
CNGZ	**Carnagh Station**	**5.95**	**195**	P	Pn	14 32 17.1	+1.0
MKAZ	**Moumakai**	**5.97**	**222**	P	Pn	14 32 17.7	+1.4
MWZ	**Matawai**	**5.98**	**200**	P	Pn	14 32 16.2	-0.2
MWZ				S	S	14 33 28.9	+0.3
URZ	**Urewera**	**6.04**	**203**	P	Pn	14 32 15.9	-1.2
URZ				S	S	14 33 31.0	+1.1
RIGZ	**Rimuhau**	**6.26**	**197**	P	Pn	14 32 18.3	-1.5
RIGZ				S	S	14 33 34.9	+0.1
MUGZ	**Murupara**	**6.35**	**205**	P	Pn	14 32 19.2	-1.7
MUGZ				S	S	14 33 35.8	-0.8
RTZ	**Ruatahuna**	**6.41**	**203**	P	Pn	14 32 20.8	-0.8
RAHZ	**Arahi**	**6.65**	**201**	P	Pn	14 32 23.7	-0.7
RAHZ				S	S	14 33 41.3	-1.9
NMHZ	**Naumai**	**6.90**	**202**	P	Pn	14 32 26.8	-0.6
BKZ	**Black Stump Fm**	**7.07**	**204**	P	Pn	14 32 26.8	-2.6
BKZ				S	S	14 33 49.3	-3.0
HIZ	**Hauiti**	**7.19**	**215**	P	Pn	14 32 31.5	+0.6
MCHZ	**McNeill Hill**	**7.25**	**202**	P	Pn	14 32 30.3	-1.3
MCHZ				S	S	14 33 54.2	-2.1
KWHZ	**Kaweka Forest**	**7.32**	**203**	P	Pn	14 32 30.3	-2.2
KWHZ				S	S	14 33 54.2	-3.8
OTVZ	**Oturere**	**7.37**	**208**	P	Pn	14 32 30.6	-2.5
SNVZ	**South Ngauruho**	**7.40**	**208**	P	Pn	14 32 31.5	-2.1
FWVZ	**Far West T-bar**	**7.49**	**208**	P	Pn	14 32 32.3	-2.4
KAHZ	**Kahuranaki**	**7.52**	**200**	P	Pn	14 32 33.4	-1.5
WNVZ	**Wahianoa**	**7.54**	**208**	P	Pn	14 32 31.6	-3.6
KRHZ	**Kereru**	**7.54**	**203**	P	Pn	14 32 32.1	-2.9
PNHZ	**Pukenui**	**7.84**	**203**	P	Pn	14 32 35.6	-3.1
TSZ	**Takapari Road**	**8.05**	**204**	P	Pn	14 32 37.7	-3.5
DVHZ	**Dannevirke**	**8.20**	**202**	P	Pn	14 32 39.5	-3.5
MRZ	**Mangatainoka R**	**8.71**	**204**	P	Pn	14 32 44.5	-4.8

---

*IDC **16** 14:47:49.2±0.8, 17°43S×167°69E, h0km, mb4.4/13, mbtmp4.5/15, ML4.2/2, MS3.9/21, Error ellipse: s-maj=23.2km s-min=17.5km az=80.0*
*NOU **16** 14:47:50.8, 17°48S×167°54E, h0km, mb4.9/37, Vanuatu Islands*
*NEIC **16** 14:47:53.7±1.9, 17°56S±0°04×167°23E±0°09, h10km±1km, mb4.9/25, Error ellipse: s-maj=15.6km s-min=4.8km az=76.0*
*GCMT **16** 14:47:54.7±0.3, 17°38S±0°03×167°47E±0°02, h17km±1km, MW4.9/84, Moment Tensor Solution. s26,c30; s84,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.33±.15; $M_{\theta\theta}$-0.19±.09; $M_{\phi\phi}$-2.14±.10; $M_{r\theta}$0.24±.26; $M_{\theta\phi}$0.10±.06; $M_{\phi r}$-1.62±.23; Best double couple: $M_0$2.77200×10^{16} NP1:ϕ_s360.00000°, δ27.00000°, λ95.00000°. NP2: ϕ_s174.00000°, δ63.00000°, λ87.00000°. Principal axes: T 2.8680, Plg72.0000°, Azm78.0000°; N -0.1890, Plg2.0000°, Azm175.0000°; P -2.6770, Plg18.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 14:47:52.1±0.3, 17°51S±0°04×167°51E±0°04, h10km, n121, σ1S55/111, mb4.8/30, MS3.9/19, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.68**	**108**	P	**Pg**	**14 48 02.5**	**-2.8**
DVP	**Devils Point**	**0.68**	**108**	S	**Sg**	**14 48 12.9**	**-1.3**
VLAKA	**Lakatoro**	**1.40**	**357**	P	**Pn**	**14 48 15.4**	**-2.3**
VLAKA	**Lakatoro**	**1.40**	**357**	S	**Sn**	**14 48 34.2**	**-2.1**
MARNC	**Mare, Loyalty**	**3.98**	**173**	P	**Pn**	**14 48 52.5**	**-0.6**
KOUNC	**Koumac, New Ca**	**4.29**	**225**	P	**Pn**	**14 48 57.9**	**+0.4**
KOUNC	**Koumac, New Ca**	**4.29**	**225**	S	**Sn**	**14 49 48.4**	**+0.8**
YATNC	**Mamie plateau,**	**4.56**	**187**	P	**Pn**	**14 49 00.6**	**-0.6**
DZM	**Mont Dzumac**	**4.64**	**192**		**Pn**	**14 49 01.5**	**-1.0**
DZM	**Mont Dzumac**	**4.64**	**192**	*e*Pn	**Pn**	**14 49 01.4**	**-1.0**
144nm,1.1s
DZM | | | | *e*Sn | **Sn** | **14 49 51.3** | **-5.2**
343nm,1.1s
DZM Mont Dzumac 4.64 192 Pn **Pn** **14 49 01.7 -0.7**
2.7nm,0.3s,baz=61,slow=8.8,SNR=74
DZM | | | | Sn | **Sn** | **14 49 53.7** | **-2.8**
28nm,0.3s,baz=107,slow=21,SNR=13
16nm,0.4s
DZM Mont Dzumac 4.64 192 P **Pn** **14 49 01.6 -0.8**
ONTNC Ouen Toro 4.87 192 P **Pn** **14 49 04.6 -0.8**
ONTNC Ouen Toro 4.87 192 P **Pn** **14 49 06.1 +0.7**
OUENC Ouen Island, N 4.92 187 P **Pn** **14 49 07.1 +1.0**
PINNC Pines Island, 5.07 181 Pn **Pn** **14 49 09.0 +0.8**
PINNC Pines Island, 5.07 181 P **Pn** **14 49 09.8 +1.6**
MSVF Nonsavu 10.05 93 **Pn** **14 50 21.5 +4.8**
MSVF Nonsavu 10.05 93 Pn **Pn** **14 50 16.7 0.0**
0.9nm,0.3s,baz=247,slow=10,SNR=10
MSVF | | | | LR | LR | 14 53 22.1
comp=Z,3μm,19.1s,baz=244,slow=34
MSVF Nonsavu 10.05 93 P **Pn** **14 50 16.4 -0.3**
HNR Honiara 10.89 317 **Pn** **14 50 26.7 -1.4**
HNR Honiara 10.89 317 Pn **Pn** **14 50 27.5 -0.6**
5.9nm,0.3s,baz=339,slow=2.4,SNR=8.8
HNR | | | | LR | LR | 14 54 17.6
comp=Z,809nm,18.2s,baz=139,slow=36
64nm,0.6s
HNR Honiara 10.89 317 P **Pn** **14 50 28.1 0.0**
SAVO Savo Central 11.19 317 P **Pn** **14 50 32.7 +0.5**
SAVO Savo Central 11.19 317 S **Sn** **14 52 38.4 +1.0**
TATA Tatamba Isabel 11.77 319 P **Pn** **14 50 39.9 -0.3**
EIDS Eidsvold 17.16 240 **Pn** **14 51 51.6 -0.5**
PMG Port Moresby 21.35 290 P **P** **14 52 40.0 +0.4**
7.4nm,0.8s,baz=160,slow=5.0,SNR=3.9
PMG | | | | LR | LR | 14 58 55.6
comp=Z,290nm,21.0s,baz=95,slow=31
7.4nm,0.8s
MTSU Mount Surprise 22.09 265 P **P** **14 52 48.8 +1.2**
URZ Urewera 22.32 160 P **P** **14 52 49.0 -0.9**
22nm,1.0s,baz=130,slow=8.8,SNR=5.0
22nm,1.0s
BKZ Black Stump Fm 22.95 162 P **P** **14 52 56.7 0.0**
BKZ | | | | IAmb | IAmb | 14 53 08.3
comp=Z,63nm,1.4s
BKZ Black Stump Fm 22.95 162 P **P** **14 52 57.4 +0.8**
BKZ Black Stump Fm 22.95 162 S **S** **14 57 09.3 +2.4**
QLP Quilpie 23.35 243 P **P** **14 53 02.4 +1.6**
COEN Coen 23.68 275 **P** **14 53 00.8 -3.3**
COEN | | | | IAmb | IAmb | 14 53 00.9
comp=Z,34nm,1.3s
CNB Canberra Magne 23.98 219 P **P** **14 53 07.4 +0.5**
MRZ Mangatainoka R 24.10 165 P **P** **14 53 07.9 0.0**
MRZ | | | | IAmb | IAmb | 14 53 35.8
comp=Z,69nm,1.6s
CAN Canberra 24.20 219 **P** **14 53 07.8 -1.1**
CAN | | | | IAmb | IAmb | 14 53 24.0
comp=Z,36nm,1.1s
CMSA Cobar Meteorol 24.20 231 P **P** **14 53 09.9 +0.9**
BSWZ Blackbirch Sta 24.73 169 P **P** **14 53 15.3 +1.7**
PATS Pohnpei 25.84 339 P **P** **14 53 25.4 +1.5**
STKA Stephens Creek 27.45 234 **P** **14 53 38.9 +0.5**
STKA Stephens Creek 27.45 234 P **P** **14 53 39.1 +0.8**
comp=Z,6.5nm,0.7s,baz=61,slow=7.9,SNR=8.8
STKA | | | | LR | LR | 15 05 08.5
comp=Z,234nm,18.0s,baz=32,slow=38
comp=Z,6.5nm,0.7s
STKA Stephens Creek 27.45 234 P **P** **14 53 39.5 +1.1**
CORO Coronation Par 29.57 212 P **P** **14 53 57.2 +0.1**
WHYH Whyalla 31.03 234 P **P** **14 54 10.6 +0.5**
RAR Rarotonga 31.06 102 LR LR 15 03 42.5
comp=Z,70nm,20.8s,baz=284,slow=31
WR8 Warramunga Arr 31.33 260 P **P** **14 54 12.4 -0.5**
WR8 | | | | IAmb | IAmb | 14 54 22.5
comp=Z,13nm,1.2s
WB0 Warramunga Arr 31.43 261 **P** **14 54 13.1 -0.7**
WRA Warramunga Arr 31.48 260 P **P** **14 54 13.2 -1.1**
WRA Warramunga Arr 31.48 260 P **P** **14 54 12.8 -1.5**
comp=Z,2.4nm,0.8s,baz=92,slow=9.1,SNR=13
WRA | | | | LR | LR | 15 06 09.3
comp=Z,258nm,21.3s,baz=8.5,slow=35
comp=Z,2.4nm,0.8s
AS01 Alice Springs 31.95 253 P **P** **14 54 18.0 -0.4**
AS31 Alice Springs 31.99 253 **P** **14 54 17.5 -1.3**
ASAR Alice Springs 32.00 253 P **P** **14 54 17.5 -1.3**
ASAR Alice Springs 32.00 253 P **P** **14 54 18.4 -0.5**
comp=Z,7.8nm,0.8s,baz=79,slow=8.9,SNR=108
ASAR | | | | PcP | **PcP** | **14 57 08.2 -0.6**
comp=Z,1.7nm,1.1s,baz=73,slow=3.0,SNR=4.3
ASAR | | | | LR | LR | 15 06 42.3
comp=Z,413nm,19.9s,baz=88,slow=35
comp=Z,7.8nm,0.8s
BBOO Buckleboo 32.13 236 **P** **14 54 19.8 -0.1**
BBOO | | | | IAmb | IAmb | 14 54 34.1
comp=Z,15nm,1.1s
MTN Manton Dam 35.37 272 P **P** **14 54 45.9 -2.3**
MTN | | | | IAmb | IAmb | 14 55 04.8
comp=Z,49nm,2.0s
KNRA Kununurra 37.13 267 **P** **14 55 02.5 -0.8**
KNRA | | | | IAmb | IAmb | 14 55 11.9
comp=Z,27nm,1.3s
WRKA Warakurna 37.20 252 P **P** **14 55 04.0 +0.2**
GUMO Guam 38.14 323 LR LR 15 10 23.0
comp=Z,160nm,19.5s,baz=137,slow=36
FORT Forrest 38.14 242 P **P** **14 55 10.3 -1.4**
FITZ Fitzroy Crossi 39.80 263 P **P** **14 55 23.8 -2.0**
FITZ Fitzroy Crossi 39.80 263 LR LR 15 11 26.4
comp=Z,282nm,19.3s,baz=100,slow=35
FITZ Fitzroy Crossi 39.80 263 P **P** **14 55 26.2 +0.5**
TBI Tubuai 40.63 106 *e*S **S** **15 01 42.6 +0.1**
comp=Z,516nm,25.8s
TBI | | | | *e*SS | **SnSn** | **15 04 49.1 +0.5**
comp=Z,2μm,26.0s
TBI | | | | *e*LR | LR | 15 06 51.6
comp=Z,1μm,31.2s
PPT2 Papeete2 40.85 97 *e*P P 14 55 28.3 -6.2
PPT2 | | | | *e*S | **S** | **15 01 48.3 +2.2**
comp=Z,43nm,30.0s
comp=Z,135nm,23.5s
PPT2 | | | | *e*SS | **SnSn** | **15 04 54.0 -0.2**
comp=Z,105nm,24.5s
PPT2 | | | | *e*LR | LR | 15 06 52.3
comp=Z,384nm,26.2s
PPT2 | | | | *e*LR | LR | 15 06 57.1
comp=Z,278nm,34.0s
PPT Papeete 40.85 97 LR LR 15 08 46.8
comp=Z,92nm,19.9s,baz=258,slow=31
SOEI Soe 42.65 275 P **P** **14 55 49.6 +0.3**
SANI Sanana 43.56 286 P **P** **14 55 59.4 +2.8**
comp=Z,20nm,1.1s
MBWA Marble Bar 45.10 257 P **P** **14 56 07.8 -1.1**
NWAO Narrogin (SRO) 47.57 241 LR LR 15 15 38.3
comp=Z,203nm,19.8s,baz=112,slow=35
DAV Davao City (W) 48.09 297 P **P** **14 56 31.8 -0.5**
KAPI Kappang 48.31 279 LR LR 15 16 53.3
comp=Z,88nm,19.8s,baz=122,slow=36
SPSI Sidrap Palu 48.64 280 P **P** **14 56 39.1 +2.5**
PCI Palu 49.67 284 P **P** **14 56 47.9 +3.4**
TAOE Nuku Hiva Isla 51.55 87 *e*P P 14 56 52.8 -6.1
comp=Z,21nm,22.9s
TAOE | | | | *e*S | **S** | **15 04 19.9 0.0**
comp=Z,175nm,25.3s
TAOE | | | | *e*SS | **SS** | **15 07 59.5 +3.3**
comp=Z,67nm,25.4s
TAOE | | | | *e*LR | LR | 15 11 58.0
comp=Z,388nm,25.2s
RKT Rikitea 53.95 106 *e*S **S** **15 04 52.6 +0.3**
RKT | | | | *e*SS | **SKiKP** | **15 08 31.1 +0.9**
comp=Z,530nm,29.5s
RKT | | | | *e*LR | LR | 15 13 00.4
comp=Z,658nm,43.5s
comp=Z,1μm,31.8s
TGY Tagaytay City 55.66 301 LR LR 15 21 48.1
comp=Z,55nm,18.4s,baz=154,slow=37
VNDA Vanda 60.10 181 LR LR 15 20 38.6
comp=Z,40nm,18.6s,baz=342,slow=33
XMIS Christmas Isla 60.22 268 P **P** **14 58 01.0 +0.1**
MJAR Matsushiro Arr 60.47 333 P **P** **14 58 00.5 -1.7**
comp=Z,5.6nm,1.1s,baz=162,slow=6.1,SNR=6.9
comp=Z,5.6nm,1.1s
NJ2 Nanjing 67.83 316 *e*P **P** **14 58 52.5 +1.9**
NJ2 | | | | pmax | pmax |
comp=Z,4.0nm,0.6s
YSS Yuzhno-Sakhali 67.93 342 P **P** **14 58 51.1 +0.2**
YSS | | | | IAmb | IAmb | 14 59 00.8
comp=Z,13nm,0.9s
KULM Kulim 69.75 283 P **P** **14 59 01.9 -1.1**
RPSI Rantau Prapat 70.48 279 **P** **14 59 07.8 +0.3**
RPSI | | | | IAmb | IAmb | 14 59 32.5
comp=Z,7.1nm,1.0s
QSPA South Pole Qui 72.53 180 P **P** **14 59 19.3 +0.1**
comp=Z,8.6nm,1.1s,baz=12,slow=3.7,SNR=12
comp=Z,8.6nm,1.1s
KMI Kunming 75.97 302 P **P** **14 59 41.8 +1.8**
KMI | | | | pmax | pmax |
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 76.30 295 **P** **14 59 41.0 -0.6**
CMAR Chiang Mai Arr 76.30 295 P **P** **14 59 42.7 +1.0**
comp=Z,1.7nm,0.8s,baz=131,slow=4.3,SNR=16
comp=Z,1.7nm,0.8s
PZH PanZhiHua 77.39 303 P **P** **14 59 49.6 +1.7**
PZH | | | | pmax | pmax |
comp=Z,10.0nm,0.5s
PZH | | | | pmax | pmax |
comp=Z,70nm,5.0s
HHC Hu-ho-hao-te 77.85 320 *e*P **P** **14 59 52.6 +2.5**
HHC | | | | S | **S** | **15 09 42.3 -0.8**
MAW Mawson 79.41 202 LR LR 15 31 32.5
comp=Z,56nm,19.4s,baz=105,slow=33
LZH Lanzhou 80.36 313 *e*P **P** **15 00 02.8 -1.2**
LZH | | | | sP | sP | 15 00 10.0 +4.0
LZH | | | | pmax | pmax |
comp=Z,22nm,1.1s
SEY Seymchan 81.06 353 P **P** **15 00 06.1 -0.8**
comp=Z,5.0nm,0.9s,baz=137,slow=5.6,SNR=11
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 84.51 324 **P** **15 00 25.8 +0.4**
ULN | | | | IAmb | IAmb | 15 00 30.5
comp=Z,7.2nm,1.1s
GTA Gaotai 84.75 314 *e*P **P** **15 00 27.8 +1.0**
GTA | | | | pmax | pmax |
comp=Z,4.0nm,1.1s
SONM Songino Array 84.86 324 P **P** **15 00 26.3 -0.9**
comp=Z,0.4nm,0.4s,baz=150,slow=4.5,SNR=5.2
comp=Z,0.4nm,0.4s
J18K Innoko River 85.38 15 P **P** **15 00 30.1 +0.9**
J18K | | | | IAmb | IAmb | 15 00 52.0
comp=Z,16nm,1.7s
YBH Yreka Blue Hor 87.22 45 LR LR 15 34 03.1
comp=Z,103nm,18.1s,baz=316,slow=32
HG4B Hotspring 87.39 33 P **P** **15 00 42.1 +2.7**
ELIB Princess Elisa 87.53 191 *e*P P 15 00 46.3 +6.2
HATC Hat Creek Radi 87.67 46 P **P** **15 00 43.4 +2.3**
PFO Pinyon Flats O 88.43 54 LR LR 15 36 06.6
comp=Z,88nm,18.1s,baz=246,slow=33
NVAR Mina Array Bea 88.91 49 P P 15 00 43.4 -3.9
comp=Z,1.1nm,0.8s,baz=234,slow=8.1,SNR=5.2
NVAR | | | | LR | LR | 15 35 06.6
comp=Z,66nm,18.7s,baz=240,slow=32
comp=Z,1.1nm,0.8s
PALK Pallekele 89.13 278 LR LR 15 43 18.6
comp=Z,62nm,19.1s,baz=110,slow=37
LPIG La Paz 90.17 65 LR LR 15 35 09.5
comp=Z,124nm,18.1s,baz=209,slow=32
SNAA Sanae 90.80 183 P **P** **15 00 54.0 -1.3**
comp=Z,7.7nm,1.2s,baz=135,slow=10.0,SNR=4.1
comp=Z,7.7nm,1.2s
PDAR Pinedale Array 96.66 47 LR LR 15 44 26.8
comp=Z,32nm,18.0s,baz=293,slow=35
MKAR Makanchi Array 99.36 316 P **Pdif** **15 01 32.7 -2.0**
comp=Z,0.3nm,0.7s,baz=94,slow=4.3,SNR=3.6
comp=Z,0.3nm,0.7s
ARCES ARCESS Array B 122.99 345 PKP **PKPdf** **15 06 45.8 -2.3**
comp=Z,3.8nm,1.0s,baz=351,slow=6.1,SNR=3.6
BRTR Keskin Array B 134.46 309 PKP **PKPdf** **15 07 09.0 -2.0**
comp=Z,0.6nm,0.8s,baz=90,slow=4.3,SNR=3.1
CONA Conrad Observa 141.82 329 *e*PKP **PKPdf** **15 07 23.2 -1.0**
comp=Z,5.0nm,1.3s
MOA Molln 142.65 330 *e*PKP **PKPdf** **15 07 22.2 -3.4**
comp=Z,2.8nm,0.9s
KBA Koelnbreinsper 143.64 330 *e*PKP PKPab 15 07 24.3 +0.2
comp=Z,4.3nm,1.3s
LESA Schwarzleotal 143.71 331 *e*PKP PKPab 15 07 24.2 0.0
comp=Z,5.9nm,1.1s
ABTA Abfaltersbach 144.28 330 *e*PKP **PKPab** **15 07 25.0 -1.5**
comp=Z,3.1nm,0.7s
WTTA Wattenberg 144.30 332 *e*PKP **PKPab** **15 07 27.8 +1.1**
comp=Z,14nm,1.8s
MOTA Moosalm 144.48 332 *e*PKP **PKPab** **15 07 27.2 -0.1**
comp=Z,4.7nm,1.0s
RETA Reutte 144.53 333 *e*PKP **PKPab** **15 07 28.3 +1.0**
comp=Z,1.8nm,0.5s
FETA Feichten 144.90 332 *e*PKP **PKPab** **15 07 28.2 -0.6**
comp=Z,8.0nm,0.9s
DAVA Damuels 145.06 333 *e*PKP **PKPbc** **15 07 28.6 -0.8**
comp=Z,7.4nm,0.8s

GCG 16 14:56:38.7±0.7, 14°52N×90°70W, h3km±4km, MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.18**	**223**	*i* P	Pg	14 56 43.4	+1.2
ESSG				*i* S	Sg	14 56 46.5	+1.8
GCG4	**OSOP**	**0.18**	**67**	*e*P	Pg	14 56 43.1	+0.9
FG8	**Yepocapa, Chim**	**0.29**	**152**	*i* P	Pg	14 56 44.9	+0.6
FG8				*i* S	Sg	14 56 49.2	+1.0
STG0	**El Palmar, Qui**	**0.62**	**262**	*e*P	Pn	14 56 56.1	+1.5
STG0				*e*S	Sn	14 57 08.6	+3.3
STG8	**El Palmar, Qui**	**0.63**	**264**	*e*P	Pn	14 56 56.5	+1.8

---

*IDC **16** 15:02:01.7±2.6, 6°01S×147°82E, h61km±20km, mb3.8/8, mbtmp4.1/11, MS3.2/1, Error ellipse: s-maj=32.2km s-min=14.4km az=85.0*
*NEIC **16** 15:02:06.2±0.7, 6°14S±0°07×147°56E±0°09, h78km±9km, mb4.5/19, Error ellipse: s-maj=13.4km s-min=9.7km az=101.0*
ISC 16 15:02:06.0±0.5, 6°19S±0°06×147°48E±0°07, h77km, n70, σ1S41/71, mb4.7/18, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.21**	**186**	**Pn**	**15 02 54.9**	**+0.6**
PMG	**Port Moresby**	**3.21**	**186**	P **Pn**	**15 02 54.7**	**+0.5**
48nm,0.3s,baz=347,slow=5.1,SNR=77
PMG | | | | S | **Sn** | **15 03 31.7** | **+0.2**
251nm,0.4s,baz=219,slow=19,SNR=14
PMG Port Moresby 3.21 186 P **Pn** **15 02 54.7 +0.5**
MANU Manus Island 4.12 358 Pn **Pn** **15 03 06.1 -0.5**
RABL Rabaul 5.07 67 **Pn** **15 03 18.2 -1.4**
JAY Jayapura 7.67 298 P **Pn** **15 03 55.6 +0.4**
7.2nm,0.7s,baz=186,slow=9.2,SNR=5.2
COEN Coen 8.80 208 **Pn** **15 04 11.1 +0.4**
COEN Coen 8.80 208 P **Pn** **15 04 11.0 +0.4**
MTSU Mount Surprise 12.27 194 P **Pn** **15 04 58.4 +0.5**
TATA Tatamba Isabel 12.42 101 P **Pn** **15 05 02.6 +2.7**
HNR Honiara 12.77 105 LR LR 15 08 50.4
comp=Z,113nm,20.1s,baz=200,slow=33
KDU Kakadu 16.14 245 P **Pn** **15 05 48.2 -0.2**
QIS Mount Isa 16.20 207 P **Pn** **15 05 50.0 +0.9**
PATS Pohnpei 16.86 40 Pn **Pn** **15 05 55.1 -2.2**
MTN Manton Dam 17.42 246 **Pn** **15 06 04.4 +0.3**
MTN Manton Dam 17.42 246 P **P** **15 06 04.9 +0.6**
DRS Darwin Rock St 17.49 248 P **P** **15 06 05.9 +0.8**
WB0 Warramunga Arr 18.55 222 P **P** **15 06 17.0 +0.2**
WB0 | | | | IAmb | IAmb | 15 06 20.3
comp=Z,16nm,0.8s
WR8 Warramunga Arr 18.61 221 P **P** **15 06 17.6 +0.2**
WR8 | | | | IAmb | IAmb | 15 06 20.2
comp=Z,11nm,0.7s
WRAB Tennant Creek 18.69 222 **P** **15 06 18.5 +0.2**
WRA Warramunga Arr 18.70 222 P **P** **15 06 18.8 +0.2**
comp=Z,5.2nm,0.5s,baz=50,slow=11,SNR=67
WRA | | | | S | **S** | **15 09 41.1 -6.2**
comp=Z,9.2nm,0.9s,baz=43,slow=19,SNR=9.6
EIDS Eidsvold 19.38 170 **Pn** **15 06 27.7 0.0**
EIDS | | | | IAmb | IAmb | 15 06 30.7
comp=Z,19nm,1.1s
QLP Quilpie 20.52 188 P **P** **15 06 39.3 +1.2**
KNRA Kununurra 20.63 241 **P** **15 06 39.0 -0.4**
KNRA | | | | IAmb | IAmb | 15 07 03.6
comp=Z,9.7nm,0.8s
AS01 Alice Springs 21.71 215 P **P** **15 06 51.8 +0.8**
AS31 Alice Springs 21.73 216 **P** **15 06 51.7 +0.4**
ASAR Alice Springs 21.74 216 P **P** **15 06 51.8 +0.5**
ASAR Alice Springs 21.74 216 P **P** **15 06 51.9 +0.6**
comp=Z,8.7nm,0.6s,baz=51,slow=8.9,SNR=178
ASAR | | | | S | **S** | **15 10 44.8 -3.0**
comp=Z,8.3nm,1.0s,baz=31,slow=21,SNR=13
ASAR | | | | ScP | **ScP** | **15 14 19.1 -1.0**
comp=Z,0.7nm,0.8s,baz=43,slow=1.7,SNR=4.8
comp=Z,8.7nm,0.6s
INKA Innaminka 22.37 196 P **P** **15 06 58.4 +0.5**
OOD Oodnadatta 24.23 206 P **P** **15 07 16.2 +0.5**
FITZ Fitzroy Crossi 24.37 239 **P** **15 07 17.8 +0.6**
FITZ | | | | IAmb | IAmb | 15 07 18.8

comp=Z,8.9nm,0.8s
FITZ Fitzroy Crossi 24.37 239 P **P 15 07 18.1 +0.9**
comp=Z,34nm,0.6s,baz=65,slow=8.1,SNR=122
FITZ Fitzroy Crossi 24.37 239 P **P 15 07 17.8 +0.6**
ARMA Armidale 24.42 171 **P 15 07 18.0 +0.5**
ARMA IAmb IAmb 15 07 19.8
comp=Z,15nm,0.8s
ARMA Armidale 24.42 171 P **P 15 07 17.8 +0.2**
MMRI Maumere 25.14 263 P **P 15 07 24.5 +0.3**
MMRI IAmb IAmb 15 07 27.1
comp=Z,24nm,0.7s
CMSA Cobar Meteorol 25.27 184 P **P 15 07 26.3 +1.1**
LCRK Leigh Creek 25.66 199 P **P 15 07 28.9 +0.2**
STKA Stephens Creek 26.14 191 **P 15 07 33.0 -0.1**
STKA IAmb IAmb 15 07 35.5
comp=Z,27nm,0.9s
STKA Stephens Creek 26.14 191 P **P 15 07 32.9 -0.1**
comp=Z,4.9nm,0.8s,baz=19,slow=12,SNR=9.1
comp=Z,4.9nm,0.8s
STKA Stephens Creek 26.14 191 P **P 15 07 34.1 +1.0**
WRKA Warakurna 26.25 222 P **P 15 07 34.3 +0.1**
HTT Hallett 28.25 195 P **P 15 07 53.1 +1.1**
BBOO Buckleboo 28.54 200 P **P 15 07 54.3 -0.3**
FORT Forrest 30.51 214 P **P 15 08 12.2 +0.2**
FORT Forrest 30.51 214 P **P 15 08 11.9 -0.1**
MBWA Marble Bar 30.71 238 P **P 15 08 14.3 +0.4**
MBWA IAmb IAmb 15 08 43.9
comp=Z,21nm,1.3s
MBWA Marble Bar 30.71 238 P **P 15 08 14.7 +0.8**
MEEK Meekatharra 34.20 230 P **P 15 08 44.9 +0.5**
KMBL Kambalda 34.66 221 P **P 15 08 48.3 -0.1**
GIRL Giralia 35.98 240 P **P 15 09 01.0 +1.2**
MORW Morawa 37.40 229 P **P 15 09 11.9 +0.1**
KLBR Kellerberrin 37.56 224 P **P 15 09 13.9 +0.8**
KUZ Kuaotunu 39.89 144 P **P 15 09 34.5 +2.1**
THZ Tophouse 42.03 151 P **P 15 09 50.8 +0.8**
THZ IAmb IAmb 15 10 05.6
comp=Z,18nm,1.2s
LTZ Lake Taylor 42.53 153 P **P 15 09 53.7 -0.3**
LTZ IAmb IAmb 15 10 15.7
comp=Z,23nm,1.3s
BFZ Birch Farm 42.92 147 P **P 15 09 56.4 -0.8**
NJ2 Nanjing 46.80 326 *eP* **P 15 10 30.5 +2.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
PZH PanZhiHua 54.95 308 P **P 15 11 32.4 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
HHC Hu-ho-hao-te 57.24 328 *eP* **P 15 11 48.5 +2.8**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,85nm,4.2s
HEH HeiHe 58.84 345 *eP* P 15 11 49.8 -6.7
GTA Gaotai 63.19 320 *eP* **P 15 12 26.4 0.0**
GTA sP sP 15 12 55.9 +0.9
GTA pmax pmax
comp=Z,10.0nm,0.5s
SONM Songino Array 64.80 331 P **P 15 12 34.5 -2.3**
comp=Z,0.5nm,0.6s,baz=133,slow=6.3,SNR=4.5
comp=Z,0.5nm,0.6s
VNDA Vanda 71.70 177 P **P 15 13 18.8 -0.4**
VNDA Vanda 71.70 177 P **P 15 13 18.6 -0.7**
comp=Z,1.4nm,0.8s,baz=333,slow=7.2,SNR=4.7
comp=Z,1.4nm,0.8s
MKAR Makanchi Array 77.94 320 P **P 15 13 52.9 -2.9**
comp=Z,0.2nm,0.4s,baz=123,slow=4.5,SNR=3.6
comp=Z,0.2nm,0.4s
ZALV Zalesovo Beam 79.42 328 P **P 15 14 00.2 -3.6**
comp=Z,0.6nm,0.4s,baz=98,slow=5.3,SNR=3.0
comp=Z,0.6nm,0.4s
QSPA South Pole Qui 83.78 180 P **P 15 14 25.7 -1.1**
comp=Z,7.4nm,0.8s,baz=185,slow=1.8,SNR=19
comp=Z,7.4nm,0.8s
ILAR Eielson Array 85.47 23 P P 15 14 30.4 -4.6
comp=Z,0.4nm,0.6s,baz=254,slow=4.8,SNR=13
comp=Z,0.4nm,0.6s
BMAR Burnt Mountain 87.40 21 P **P 15 14 43.4 -1.1**

---

*IDC **16** 15:18:36.8±1.3,4°.78S×130°.45E,h0km,mb4.0/5, mbtmp3.9/8,ML3.7/3,Error ellipse: s-maj=78.7km s-min=18.8km az=70.0*
*DJA **16** 15:18:41.0±0.8,5°.5±9°×13°.0E±°,h13km±5km,M3.9/10, mb4.1/3,MLv3.8/10*
*NEIC **16** 15:18:44.4±0.8,4°.86S±0°.09×130°.76E±0°.07,h62km±11km, mb4.2/11,Error ellipse: s-maj=13.3km s-min=10.0km az=199.0*
ISC 16 15:18:38.4±0.7,4°.80S±0°.07×130°.47E±0°.07,h10km,n35, σ1§54/31,mb4.2/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.63**	**296**	P	**Pg**		**15 18 52.0**	**+1.4**
MSAI	**Masohi**	**2.11**	**313**	P	**Pn**		**15 19 11.7**	**-2.1**
MSAI				S	**Sn**		**15 19 40.7**	**+0.6**
AAI	**Ambon**	**2.53**	**296**	P	**Pn**		**15 19 19.9**	**+0.4**
FAKI	**Fak Fak**	**2.57**	**44**		**Pn**		**15 19 21.8**	**+1.6**
FAKI	**Fak Fak**	**2.57**	**44**	P	**Pn**		**15 19 21.7**	**+1.6**
SAUI	**Saumlaki**	**3.27**	**166**	Pn	**Pn**		**15 19 32.2**	**+2.4**
NLAI	**Namlea**	**3.70**	**295**	P	**Pn**		**15 19 38.1**	**+2.3**
SWI	**Sorong**	**3.98**	**11**	P	**Pn**		**15 19 39.8**	**+0.2**
SANI	**Sanana**	**5.24**	**301**	P	**Pn**		**15 19 58.8**	**+1.9**
0.1nm11nm,0.8s								
MTN	**Manton Dam**	**8.02**	**175**			**Pn**	**15 20 37.1**	**+1.9**
SMPI	**Sarmi**	**8.68**	**72**	P	**Pn**		**15 20 47.6**	**+3.4**
KNRA	**Kununurra**	**10.94**	**189**	Pn	**Pn**		**15 21 15.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**14.04**	**199**	Pn	**Pn**		**15 21 57.0**	**-0.6**
0.3nm,0.3s,baz=37,slow=12,SNR=11								
FITZ					Sn	Sn	15 24 27.4	-6.2
0.3nm,0.3s,baz=109,slow=16,SNR=3.8								
0.9nm,0.4s								
WB0	**Warramunga Arr**	**15.36**	**166**	Pn		Pn	15 22 11.3	-4.2
WB0					IAmb	IAmb	15 22 15.0	
comp=Z,7.4nm,1.4s								
WRA	**Warramunga Arr**	**15.52**	**166**	Pn		Pn	15 22 13.3	-4.2
WRA	**Warramunga Arr**	**15.52**	**166**	Pn		**Pn**	**15 22 15.3**	**-2.2**
comp=Z,0.2nm,0.3s,baz=331,slow=13,SNR=14								
WRA					Sn	Sn	15 25 00.2	-9.4
comp=Z,0.5nm,0.3s,baz=354,slow=24,SNR=2.8								
comp=Z,0.7nm,0.6s								
WR8	**Warramunga Arr**	**15.57**	**166**	Pn		Pn	15 22 14.3	-3.9
PMG	**Port Moresby**	**17.18**	**106**	Pn		**Pn**	**15 22 35.8**	**-3.0**
PMG					IAmb	IAmb	15 23 09.0	
comp=Z,21nm,1.0s								
AS31	**Alice Springs**	**19.05**	**170**	P		**P**	**15 22 59.2**	**-1.8**
ASAR	**Alice Springs**	**19.05**	**170**	P		**P**	**15 22 59.3**	**-1.7**
ASAR	**Alice Springs**	**19.05**	**170**	P		**P**	**15 23 01.6**	**+0.5**
comp=Z,0.4nm,0.3s,baz=354,slow=11,SNR=51								
ASAR					S	Sn	15 26 25.3	-10
comp=Z,0.5nm,0.9s,baz=352,slow=24,SNR=4.8								
comp=Z,2.9nm,0.8s								
PSA00	**Pilbara Seismi**	**19.61**	**211**			**P**	**15 23 08.1**	**+1.0**
PSA00					IAmb	IAmb	15 23 29.2	
comp=Z,12nm,1.1s								
BBOO	**Buckleboo**	**28.36**	**170**	P		P	15 24 30.4	-2.4
BBOO					IAmb	IAmb	15 24 49.2	
comp=Z,15nm,1.4s								
STKA	**Stephens Creek**	**28.89**	**160**	P		**P**	**15 24 37.5**	**0.0**
STKA	**Stephens Creek**	**28.89**	**160**	P		**P**	**15 24 37.9**	**+0.3**
comp=Z,0.9nm,0.4s,baz=328,slow=11,SNR=4.3								
comp=Z,0.9nm,0.4s								
TOO	**Toolangi**	**35.39**	**159**	P		**P**	**15 25 33.3**	**-1.2**
TOO					IAmb	IAmb	15 26 11.8	
comp=Z,4.9nm,1.2s								
CMAR	**Chiang Mai Arr**	**38.73**	**307**	P		**P**	**15 26 02.6**	**-0.5**
comp=Z,0.3nm,0.6s,baz=140,slow=8.4,SNR=4.5								
comp=Z,0.3nm,0.6s								
DZM	**Mont Dzumac**	**38.82**	**120**	P		P	15 26 00.7	-3.3
MKAR	**Makanchi Array**	**66.66**	**326**	P		**P**	**15 29 29.4**	**0.0**
MKAR	**Makanchi Array**	**66.66**	**326**	P		**P**	**15 29 29.8**	**+0.3**
comp=Z,1.0nm,0.4s,baz=115,slow=7.7,SNR=20								
comp=Z,1.0nm,0.4s								
MAKZ	**Makanchi**	**66.84**	**326**	P		**P**	**15 29 30.7**	**+0.1**
MAKZ					IAmb	IAmb	15 29 31.5	
comp=Z,2.7nm,1.1s								
ZALV	**Zalesovo Beam**	**69.83**	**333**	P		**P**	**15 29 48.4**	**-0.7**
comp=Z,1.5nm,0.7s,baz=125,slow=7.8,SNR=5.7								
comp=Z,1.5nm,0.7s								
KURBB	**Kurchatov Arra**	**70.90**	**328**	P		**P**	**15 29 55.4**	**-0.3**
comp=Z,1.4nm,0.7s,baz=127,slow=5.4,SNR=20								
comp=Z,1.4nm,0.7s								
KURK	**Kurchatov**	**70.90**	**328**	P		**P**	**15 29 55.8**	**+0.1**
KURK					IAmb	IAmb	15 30 03.7	
comp=Z,6.0nm,1.5s								
ABKAR	**Akbulak array**	**81.09**	**321**	P		**P**	**15 30 53.5**	**-0.4**

---

*BJI **16** 15:22:49.9,53°.86N×160°.91E,h68km,mB4.8/10,mb4.4/27, Ms4.2/5,Ms7 3.9/6*
*KRSC **16** 15:22:50.8±0.9,53°.69N×160°.94E,h55km±16km,Mc4.6, Ml5.3,Felt [III-IV] at HMS Semyachik; [III] at kordon Kronoki; [II] at kordon Cape Nalichevo, Petropavlovsk.*
*MOS **16** 15:22:53.2±0.9,53°.77N×160°.67E,h69km,mb5.0/41,Error ellipse: s-maj=7.1km s-min=3.3km az=80.7*
*NEIC **16** 15:22:55.1±1.4,53°.9N±0°.1×160°.4E±0°.2,h72km±8km, mb4.8/333,Error ellipse: s-maj=18.3km s-min=12.0km az=147.0*
*IDC **16** 15:22:56.9±1.3,53°.94N×160°.35E,h85km±11km,mb4.1/29, mbtmp4.5/34,MS3.5/20,Error ellipse: s-maj=12.7km s-min=9.5km az=141.0*
ISC 16 15:22:52.8±0.5,53°.76N±0°.03×160°.76E±0°.03,h54km±4km, h54km:pP-P,n722,σ1§43/608,mb4.8/234,MS3.7/21, 12C-22D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.79**	**214**	PN		**Pn**	**15 23 07.7**	**-0.2**
SPN				S		**Sn**	**15 23 18.6**	**-0.3**
SPN	**Mys Shipunski**	**0.79**	**214**	*eP*		**Pn**	**15 23 07.8**	**-0.2**
SPN				*eS*		**Sn**	**15 23 18.7**	**-0.3**
KII	**Karymskiy**	**0.83**	**290**	PN		**Pn**	**15 23 08.9**	**+0.5**
KII	**Karymskiy**	**0.83**	**290**	*eP*		**Pn**	**15 23 09.0**	**+0.5**
MKZ	**Mys Kozlova**	**0.98**	**35**	PN		**Pn**	**15 23 10.6**	**+0.2**
MKZ				S		**Sn**	**15 23 23.2**	**-0.1**
MKZ	**Mys Kozlova**	**0.98**	**35**	*eP*		**Pn**	**15 23 10.6**	**+0.2**
MKZ				*eS*		**Sn**	**15 23 23.2**	**-0.1**
NLC	**Nalytchevo**	**1.03**	**236**	PN		**Pn**	**15 23 11.2**	**+0.2**
NLC				S		**Sn**	**15 23 25.1**	**+0.7**
NLC	**Nalytchevo**	**1.03**	**236**	*eP*		**Pn**	**15 23 11.3**	**+0.2**
NLC				*eS*		**Sn**	**15 23 25.2**	**+0.7**
SDLR	**Sedlovina**	**1.22**	**248**	PN		**Pn**	**15 23 14.5**	**+0.9**
SDLR	**Sedlovina**	**1.22**	**248**	*eP*		**Pn**	**15 23 14.6**	**+0.9**
UGLR	**Uglovaya**	**1.28**	**245**	PN		**Pn**	**15 23 15.3**	**+0.8**
UGLR	**Uglovaya**	**1.28**	**245**	*eP*		**Pn**	**15 23 15.4**	**+0.8**
KRER	**Koryakskii**	**1.28**	**250**	PN		**Pn**	**15 23 15.9**	**+1.3**
KRER	**Koryakskii**	**1.28**	**250**	*eP*		**Pn**	**15 23 16.0**	**+1.3**
AVH	**Avacha**	**1.30**	**249**	PN		**Pn**	**15 23 16.0**	**+1.2**
AVH	**Avacha**	**1.30**	**249**	*eP*		**Pn**	**15 23 16.1**	**+1.2**
KRX	**Arik**	**1.32**	**253**	PN		**Pn**	**15 23 16.0**	**+0.9**
KRX	**Arik**	**1.32**	**253**	*eP*		**Pn**	**15 23 16.1**	**+0.9**
KOK	**Koryaka**	**1.35**	**251**	PN		**Pn**	**15 23 16.4**	**+1.0**
KOK	**Koryaka**	**1.35**	**251**	*eP*		**Pn**	**15 23 16.5**	**+1.0**
DALK	**Dalny**	**1.41**	**240**	PN		**Pn**	**15 23 16.8**	**+0.8**
DALK				S		**Sn**	**15 23 34.4**	**+1.0**
DALK	**Dalny**	**1.41**	**240**	*eP*		**Pn**	**15 23 16.8**	**+0.8**
DALK				*eS*		**Sn**	**15 23 34.5**	**+1.0**
PET	**Petropavlovsk**	**1.46**	**241**			**Pn**	**15 23 17.4**	**+0.7**
PET	**Petropavlovsk**	**1.46**	**241**	‖	PN	**Pn**	**15 23 17.7**	**+0.9**
PET				*i*	S	**Sn**	**15 23 35.7**	**+0.9**
PET					pmax	pmax		
comp=Z,3μm,0.6s								
PET					smax	smax		
comp=E,16μm,0.6s								
PET					smax	smax		
comp=N,20μm,0.5s								
PET	**Petropavlovsk**	**1.46**	**241**	*eP*		**Pn**	**15 23 17.6**	**+0.8**
PET				*eS*		**Sn**	**15 23 36.0**	**+1.2**
PET	**Petropavlovsk**	**1.46**	**241**	P		**Pn**	**15 23 17.5**	**+0.7**
PET				S		**Sn**	**15 23 35.5**	**+0.7**
INSR	**Institute**	**1.47**	**243**	PN		**Pn**	**15 23 17.8**	**+1.0**
INSR				S		**Sn**	**15 23 36.1**	**+1.2**
INSR	**Institute**	**1.47**	**243**	*eP*		**Pn**	**15 23 17.8**	**+1.0**
INSR				*eS*		**Sn**	**15 23 36.2**	**+1.2**
TUMD	**Tumrok D**	**1.47**	**352**	PN		**Pn**	**15 23 17.2**	**+0.3**
TUMD				S		**Sn**	**15 23 35.5**	**+0.5**
TUMD	**Tumrok D**	**1.47**	**352**	*eP*		**Pn**	**15 23 17.3**	**+0.3**
TUMD				*eS*		**Sn**	**15 23 35.5**	**+0.5**
GNL	**Ganaly**	**1.68**	**269**	PN		**Pn**	**15 23 21.1**	**+1.3**
GNL	**Ganaly**	**1.68**	**269**	*eP*		**Pn**	**15 23 21.2**	**+1.3**
KRMR	**Karymshinskiy**	**1.83**	**241**	PN		**Pn**	**15 23 23.1**	**+1.2**
KRMR				S		**Sn**	**15 23 45.7**	**+1.8**
KRMR	**Karymshinskiy**	**1.83**	**241**	*eP*		**Pn**	**15 23 23.1**	**+1.2**
KRMR				*eS*		**Sn**	**15 23 45.7**	**+1.8**
RUS	**Russkaya**	**1.90**	**227**	PN		**Pn**	**15 23 22.8**	**+0.1**
RUS				S		**Sn**	**15 23 46.6**	**+1.2**
RUS	**Russkaya**	**1.90**	**227**	*eP*		**Pn**	**15 23 22.9**	**+0.1**
RUS				*eS*		**Sn**	**15 23 46.6**	**+1.2**
PEA0B	**Petropavlovsk-**	**1.94**	**252**			**Pn**	**15 23 24.7**	**+1.4**
PEA0B	**Petropavlovsk-**	**1.94**	**252**	*d i*	PN	**Pn**	**15 23 24.8**	**+1.4**
PETK	**Petropavlovsk-**	**1.94**	**252**			**Pn**	**15 23 24.1**	**+0.7**
PETK	**Petropavlovsk-**	**1.94**	**252**	P		**Pn**	**15 23 24.4**	**+1.0**
comp=N,831nm,0.3s,baz=86,slow=20,SNR=360								
PETK					S	**Sn**	**15 23 48.7**	**+2.1**
comp=N,879nm,0.5s,baz=105,slow=22,SNR=7.4								
PETK					LR	LR	15 24 23.8	
comp=N,676nm,20.5s,baz=55,slow=49								
PETK	**Petropavlovsk-**	**1.94**	**252**	PN		**Pn**	**15 23 24.1**	**+0.7**
GRL	**Gorelyy**	**2.02**	**234**	PN		**Pn**	**15 23 25.9**	**+1.4**
GRL				S		**Sn**	**15 23 52.8**	**+4.1**
GRL	**Gorelyy**	**2.02**	**234**	*eP*		**Pn**	**15 23 26.0**	**+1.4**
GRL				*eS*		**Sn**	**15 23 52.8**	**+4.1**
KMNR	**Kamenistaya**	**2.03**	**352**	PN		**Pn**	**15 23 26.6**	**+2.0**
KMNR	**Kamenistaya**	**2.03**	**352**	*eP*		**Pn**	**15 23 26.6**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**2.19**	**359**	PN		**Pn**	**15 23 28.9**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**2.19**	**359**	*eP*		**Pn**	**15 23 29.0**	**+2.1**
KIRR	**Kirishev**	**2.21**	**354**	PN		**Pn**	**15 23 29.2**	**+2.0**
KIRR	**Kirishev**	**2.21**	**354**	*eP*		**Pn**	**15 23 29.2**	**+2.0**
BZWR	**Bezymyannyi-We**	**2.22**	**356**	PN		**Pn**	**15 23 29.4**	**+2.2**
BZWR	**Bezymyannyi-We**	**2.22**	**356**	*eP*		**Pn**	**15 23 29.5**	**+2.2**
KPT	**Kopyto**	**2.24**	**352**	PN		**Pn**	**15 23 28.9**	**+1.5**
KPT	**Kopyto**	**2.24**	**352**	*eP*		**Pn**	**15 23 29.0**	**+1.5**
ZLN	**Zelenaya**	**2.27**	**1**	PN		**Pn**	**15 23 30.3**	**+2.4**
ZLN	**Zelenaya**	**2.27**	**1**	*eP*		**Pn**	**15 23 30.4**	**+2.4**
APC	**Apacha**	**2.32**	**250**	PN		**Pn**	**15 23 30.3**	**+1.9**
APC				S		**Sn**	**15 23 59.0**	**+3.3**
APC	**Apacha**	**2.32**	**250**	*eP*		**Pn**	**15 23 30.3**	**+1.9**
APC				*eS*		**Sn**	**15 23 59.0**	**+3.3**
LGNR	**Loginova**	**2.33**	**359**	PN		**Pn**	**15 23 31.7**	**+2.8**
LGNR				S		**Sn**	**15 24 01.3**	**+4.8**
LGNR	**Loginova**	**2.33**	**359**	*eP*		**Pn**	**15 23 31.8**	**+2.8**
LGNR				*eS*		**Sn**	**15 24 01.3**	**+4.8**
KOZ	**Kozyrevsk**	**2.36**	**348**	PN		**Pn**	**15 23 31.0**	**+1.9**
KOZ	**Kozyrevsk**	**2.36**	**348**	*eP*		**Pn**	**15 23 31.0**	**+1.9**
CIRR	**Tsirk**	**2.36**	**360**	PN		**Pn**	**15 23 31.8**	**+2.5**
CIRR	**Tsirk**	**2.36**	**360**	*eP*		**Pn**	**15 23 31.8**	**+2.5**
KRSR	**Krestovskiy**	**2.47**	**357**	PN		**Pn**	**15 23 32.4**	**+1.8**
KRSR	**Krestovskiy**	**2.47**	**357**	*eP*		**Pn**	**15 23 32.5**	**+1.8**
ESO	**Esso**	**2.48**	**332**	PN		**Pn**	**15 23 32.0**	**+1.3**
ESO	**Esso**	**2.48**	**332**	*eP*		**Pn**	**15 23 32.1**	**+1.3**
KDTR	**Khodutka, Kamc**	**2.54**	**221**	PN		**Pn**	**15 23 32.4**	**+0.9**
KDTR				S		**Sn**	**15 24 02.6**	**+1.4**
KDTR	**Khodutka, Kamc**	**2.54**	**221**	*eP*		**Pn**	**15 23 32.4**	**+0.9**
KDTR				*eS*		**Sn**	**15 24 02.7**	**+1.4**
KLY	**Klyuchi**	**2.56**	**359**	PN		**Pn**	**15 23 34.0**	**+2.2**
KLY				S		**Sn**	**15 24 04.4**	**+2.7**
KLY	**Klyuchi**	**2.56**	**359**	*eP*		**Pn**	**15 23 34.0**	**+2.2**
KLY				*eS*		**Sn**	**15 24 04.5**	**+2.7**
KBTR	**Krutoberegovo**	**2.73**	**25**	PN		**Pn**	**15 23 35.4**	**+1.3**
KBTR	**Krutoberegovo**	**2.73**	**25**	*eP*		**Pn**	**15 23 35.4**	**+1.3**
KBG	**Krutoberegovo**	**2.74**	**23**	PN		**Pn**	**15 23 35.6**	**+1.4**
KBG	**Krutoberegovo**	**2.74**	**23**	*eP*		**Pn**	**15 23 35.7**	**+1.4**
SMKR	**Semkarok**	**2.86**	**8**	PN		**Pn**	**15 23 38.2**	**+2.2**
SMKR	**Semkarok**	**2.86**	**8**	*eP*		**Pn**	**15 23 38.2**	**+2.2**
SRKR	**Sorokina**	**2.91**	**4**	PN		**Pn**	**15 23 40.3**	**+3.6**
SRKR	**Sorokina**	**2.91**	**4**	*eP*		**Pn**	**15 23 40.3**	**+3.6**
PAU	**Pauzhetka**	**3.33**	**228**	PN		**Pn**	**15 23 44.6**	**+2.4**
PAU	**Pauzhetka**	**3.33**	**228**	*eP*		**Pn**	**15 23 44.7**	**+2.4**
BKI	**Bering**	**3.37**	**62**	PN		**Pn**	**15 23 43.3**	**+0.5**
BKI				S		**Sn**	**15 24 18.9**	**-2.5**
BKI	**Bering**	**3.37**	**62**	*eP*		**Pn**	**15 23 43.4**	**+0.5**
BKI				*eS*		**Sn**	**15 24 19.0**	**-2.5**
SKR	**Severo-Kuril's**	**4.20**	**225**	*ePN*		**Pn**	**15 23 58.7**	**+4.5**
SKR				*eS*		**Sn**	**15 24 45.9**	**+4.0**
SKR					pmax	pmax		
comp=Z,249nm,0.7s								
SKR					smax	smax		
comp=N,2μm,0.5s								
SKR					smax	smax		
comp=E,3μm,0.6s								
SKR	**Severo-Kuril's**	**4.20**	**225**	*eP*		**Pn**	**15 23 56.4**	**+2.2**
PALN	**Palana**	**5.36**	**356**	PN		**Pn**	**15 24 12.6**	**+2.5**
PALN	**Palana**	**5.36**	**356**	*eP*		**Pn**	**15 24 12.7**	**+2.5**
OSSR	**Ossora**	**5.65**	**12**	PN		**Pn**	**15 24 15.6**	**+1.5**
OSSR	**Ossora**	**5.65**	**12**	*eP*		**Pn**	**15 24 15.7**	**+1.5**
TILK	**Tilichiki**	**7.32**	**21**	PN		**Pn**	**15 24 40.4**	**+3.6**
TILK	**Tilichiki**	**7.32**	**21**	*eP*		**Pn**	**15 24 40.5**	**+3.6**
MA2	**Magadan**	**8.01**	**321**			**Pn**	**15 24 47.1**	**+0.6**
MA2	**Magadan**	**8.01**	**321**	P		**Pn**	**15 24 47.2**	**+0.8**
comp=E,13nm,0.6s,baz=135,slow=9.8,SNR=9.7								
MA2	**Magadan**	**8.01**	**321**	*eP*		**Pn**	**15 24 47.7**	**+1.3**
MA2	**Magadan**	**8.01**	**321**	P		**Pn**	**15 24 45.0**	**-1.4**
comp=E,0.1nmcomp=E,34nm,0.9s								
SHEM	**Shemya Is, Ala**	**8.07**	**92**	S		**Sn**	**15 26 12.4**	**-4.5**
comp=E,57nm,0.3s,baz=268,slow=21,SNR=8.5								
KMSK	**Kamenskaya**	**9.19**	**16**	PN		**Pn**	**15 25 05.2**	**+2.7**
KMSK	**Kamenskaya**	**9.19**	**16**	*eP*		**Pn**	**15 25 05.2**	**+2.7**
SEY	**Seymchan**	**10.19**	**338**	P		**Pn**	**15 25 17.3**	**+1.2**
comp=E,1.7nm,0.8s,baz=136,slow=12,SNR=9.2								
SEY	**Seymchan**	**10.19**	**338**	*ePN*		**Pn**	**15 25 19.2**	**+3.0**
SEY					pmax	pmax		
comp=Z,7.0nm,1.0s								
BILL	**Bilibino**	**14.57**	**8**			**Pn**	**15 26 16.6**	**+1.1**
BILL	**Bilibino**	**14.57**	**8**	‖	*eP*	P	**15 26 18.3**	**-2.4**
GRNR	**Gornyy**	**15.18**	**269**	‖	*iP*	**P**	**15 26 29.7**	**+2.1**
GRNR					pmax	pmax		
comp=Z,4.0nm,1.0s								
ASAJ	**Asahikawa**	**15.30**	**238**	P		**Pn**	**15 26 27.6**	**+2.3**
comp=Z,5.2nm,0.5s,baz=77,slow=12,SNR=10.0								
ASAJ					LR	LR	15 32 12.4	
comp=Z,103nm,21.3s,baz=14,slow=37								
ERM	**Erimo**	**16.60**	**232**	‖	*eP*	**Pn**	**15 26 40.6**	**-1.1**
GAMB	**Gambell**	**17.30**	**44**	P		**P**	**15 26 51.5**	**+0.6**
baz=248								
NIKH	**Nikolski High**	**18.09**	**80**	P		**Pn**	**15 27 01.9**	**+1.9**
baz=285								
YAK	**Yakutsk**	**18.32**	**309**	P		**P**	**15 27 00.9**	**-1.3**
comp=Z,35nm,0.4s,baz=267,slow=2.6,SNR=15								
YAK					LR	LR	15 34 51.9	
comp=Z,124nm,19.4s,baz=96,slow=40								
YAK	**Yakutsk**	**18.32**	**309**	*eP*		**P**	**15 27 01.2**	**-0.9**
YAK				*eS*		**Sn**	**15 30 21.5**	**-4.6**
YAK					pmax	pmax		
comp=Z,35nm,1.4s								
YAK					pmax	pmax		
comp=N,6.0nm,1.5s								
YAK					pmax	pmax		
comp=E,15nm,1.3s								
YAK					smax	smax		
comp=N,104nm,6.7s								
YAK					smax	smax		
comp=E,89nm,5.3s								
KLR	**Kul'dur**	**18.55**	**268**	P		**P**	**15 27 06.1**	**+1.2**
comp=E,1.8nm,0.6s,baz=62,slow=5.8,SNR=7.5								
KLR					LR	LR	15 33 52.2	
comp=E,72nm,18.6s,baz=67,slow=36								
KLR	**Kul'dur**	**18.55**	**268**	*eP*		**Pn**	**15 27 06.9**	**+1.3**
KLR					pmax	pmax		
comp=Z,8.0nm,1.6s								
M11K	**Mekoryuk**	**18.99**	**56**	P		**Pn**	**15 27 11.0**	**+0.3**
baz=265								
UNV	**Unalaska Valle**	**19.24**	**76**	P		**P**	**15 27 14.2**	**+1.8**
baz=284								
TNA	**Tin City**	**19.48**	**40**			**Pn**	**15 27 16.8**	**+0.2**
TNA	**Tin City**	**19.48**	**40**	P		**P**	**15 27 15.3**	**+0.4**
baz=248,SNR=7.2								
ZEA	**Zeya**	**19.72**	**284**	*eP*		**P**	**15 27 17.7**	**+0.1**
K13K	**Kusilvak Mount**	**19.92**	**52**	P		**P**	**15 27 20.4**	**+0.7**
baz=262								
F14K	**Arctic Creek**	**20.07**	**41**	P		**P**	**15 27 21.8**	**+0.5**
baz=251								
ANM	**Nome**	**20.18**	**44**	P		**P**	**15 27 22.9**	**+0.5**
baz=254								
M13K	**Dall Lake**	**20.40**	**57**	P		**P**	**15 27 26.2**	**+1.3**
baz=268								
J14K	**Nanvaranak Lak**	**20.56**	**50**	P		**P**	**15 27 27.7**	**+1.1**
baz=261								
HEH	**HeiHe**	**20.71**	**274**	*eP*		**P**	**15 27 27.5**	**-0.9**
HEH					pmax	pmax		
comp=Z,9.0nm,0.9s								
L14K	**Kuka Creek**	**20.79**	**54**	P		**P**	**15 27 30.1**	**+1.0**
baz=266								
F15K	**North Star Dit**	**20.81**	**41**	P		**P**	**15 27 30.8**	**+1.5**
F15K	**North Star Dit**	**20.81**	**41**	P		**P**	**15 27 29.4**	**+0

CHNA	**Chernabura Isl** baz=284	22.96	71	P	P	15 27 53.8 +1.6
F18K	**Selawik** baz=256,SNR=16	23.01	41	P	P	15 27 53.8 +1.2
O16K	**Kokwok River B** baz=274	23.05	59	P	P	15 27 53.8 +0.7
C18K	**Utukok River** comp=Z,43nm,1.1s	23.08	35	IAmb	IAmb	15 27 55.2
C18K	**Utukok River** baz=250,SNR=36	23.08	35	P	P	15 27 53.6 +0.2
P16K	**Nushagak River** baz=276	23.14	60	P	P	15 27 55.2 +1.2
B18K	**Kokolik River** baz=247,SNR=30	23.15	33	P	P	15 27 54.4 +0.4
H18K	**Honhosa River** baz=261,SNR=8.9	23.22	45	P	P	15 27 55.3 +0.5
G18K	**Tagagawik** comp=Z,32nm,1.0s	23.24	43	IAmb	IAmb	15 27 58.0
G18K	**Tagagawik** baz=259,SNR=27	23.24	43	P	P	15 27 55.7 +0.6
MAJO	**Matsushiro**	23.27	231		P	15 27 56.0 +0.5
MAJO	comp=Z,24nm,0.8s			IAmb	IAmb	15 28 08.5
MAJO	**Matsushiro**	23.27	231	*de*P	P	15 27 56.0 +0.5
MAJO	comp=Z,13nm,1.0s			pmax	pmax	
MJAR	**Matsushiro Arr** comp=Z,3.9nm,0.6s,baz=21,slow=10,SNR=11	23.27	231	P	P	15 27 56.5 +1.0
MJAR	comp=Z,78nm,18.7s,baz=36,slow=40 comp=Z,3.9nm,0.6s			LR	LR	15 38 33.5
M17K	**Holitna River**	23.32	54		P	15 27 57.0 +1.3
M17K	**Holitna River** baz=270,SNR=12	23.32	54	P	P	15 27 57.2 +1.5
N17K	**Nushagak Hills** baz=273	23.45	56	P	P	15 27 58.1 +1.0
O17K	**Koliganek Bris** baz=274,SNR=6.2	23.54	58	P	P	15 27 59.4 +1.6
L18K	**Granite Mounta** baz=269	23.68	52	P	P	15 27 60.0 +0.9
A19K	**Wainwright** baz=246,SNR=51	23.72	32	P	P	15 28 00.3 +0.9
J18K	**Innoko River** comp=Z,26nm,1.1s	23.73	49	IAmb	IAmb	15 28 01.8
J18K	**Innoko River** baz=266,SNR=18	23.73	49	P	P	15 28 00.4 +0.8
GCSA	**Galena City Sc** baz=263,SNR=6.7	23.79	46	P	P	15 28 00.9 +0.8
F19K	**Shaleruckik Mo** comp=Z,23nm,0.8s	23.79	40	IAmb	IAmb	15 28 02.7
F19K	**Shaleruckik Mo** baz=258,SNR=24	23.79	40	P	P	15 28 00.2 +0.1
Q16K	**King Salmon** baz=277	23.87	61	P	P	15 28 02.0 +1.2
G19K	**Purcell Mounta** comp=Z,22nm,0.8s	23.92	42	IAmb	IAmb	15 28 03.2
G19K	**Purcell Mounta** baz=260,SNR=20	23.92	42	P	P	15 28 02.0 +0.7
P17K	**Kvichak River** baz=276	23.92	60	P	P	15 28 02.3 +1.0
TTA	**Tatalina**	24.02	50		P	15 28 03.0 +0.7
TTA	comp=Z,30nm,1.0s			IAmb	IAmb	15 28 05.4
TTA	**Tatalina**	24.02	50	P	P	15 28 03.0 +0.7
TTA	comp=Z,30nm,1.0s			pmax	pmax	
TTA	**Tatalina** baz=268,SNR=26	24.02	50	P	P	15 28 02.8 +0.4
H19K	**Roundabout Mou** comp=Z,36nm,0.8s	24.08	44	IAmb	IAmb	15 28 05.5
H19K	**Roundabout Mou** baz=262,SNR=37	24.08	44	P	P	15 28 03.6 +0.9
N18K	**Kilae Creek** comp=Z,71nm,1.6s	24.09	56	IAmb	IAmb	15 28 05.6
N18K	**Kilae Creek** baz=273,SNR=6.7	24.09	56	P	P	15 28 04.3 +1.4
M18K	**Stony River** baz=272,SNR=5.7	24.09	54	P	P	15 28 04.3 +1.5
D19K	**Kuna River** comp=Z,26nm,0.9s	24.10	36	IAmb	IAmb	15 28 05.5
D19K	**Kuna River** baz=254,SNR=30	24.10	36	P	P	15 28 03.3 +0.4
E19K	**Redstone River** comp=Z,27nm,0.8s	24.14	39	IAmb	IAmb	15 28 05.9
E19K	**Redstone River** baz=257,SNR=40	24.14	39	P	P	15 28 03.8 +0.5
J19K	**Poorman** baz=266,SNR=11	24.25	48	P	P	15 28 05.0 +0.6
Q17K	**Contact Creek** baz=279,SNR=5.3	24.32	62	P	P	15 28 06.5 +1.4
O18K	**Koktuh Hills** comp=Z,48nm,1.7s	24.48	58	IAmb	IAmb	15 28 10.7
O18K	**Koktuh Hills** baz=276	24.48	58	P	P	15 28 07.8 +1.3
P18K	**Big Mountain,** baz=277,SNR=5.3	24.52	59	P	P	15 28 08.4 +1.6
L19K	**White Mountain** baz=271	24.54	52	P	P	15 28 07.9 +0.9
ACHA	**Angle Creek He**	24.62	62	P	P	15 28 08.5 +0.6
F20K	**Avaraart Lake** baz=259,SNR=25	24.63	40	P	P	15 28 08.5 +0.8
D20K	**Etivluk River** baz=255,SNR=87	24.69	36	P	P	15 28 08.4 +0.1
H20K	**Anotleneega Mo** baz=264,SNR=17	24.72	44	P	P	15 28 08.9 +0.3
E20K	**Nigu River** baz=256,SNR=48	24.72	37	P	P	15 28 08.9 +0.2
Q18K	**Katmai Hardscr** baz=278,SNR=11	24.72	61	P	P	15 28 09.3 +0.5
M19K	**Big River Lodg** baz=272	24.76	53	P	P	15 28 10.1 +1.0
N19K	**Bonanza Creek** baz=274,SNR=6.3	24.77	55	P	P	15 28 10.5 +1.4
I20K	**Naaghedeneel** comp=Z,44nm,0.8s	24.82	46	IAmb	IAmb	15 28 12.3
I20K	**Naaghedeneel** baz=266,SNR=11	24.82	46	P	P	15 28 10.5 +1.1
B20K	**Meade River** baz=252	24.89	33	P	P	15 28 10.5 +0.4
O19K	**Port Alsworth** baz=276	24.90	57	P	P	15 28 11.4 +1.2
J20K	**Nowinta River** comp=Z,30nm,0.7s	24.91	47	IAmb	IAmb	15 28 13.2
J20K	**Nowinta River** baz=267,SNR=37	24.91	47	P	P	15 28 11.4 +1.1
K20K	**Telida** comp=Z,26nm,0.8s	24.91	49	IAmb	IAmb	15 28 13.3
K20K	**Telida** baz=269	24.91	49	P	P	15 28 11.4 +1.0
L20K	**Farewell, AK** baz=271,SNR=7.3	24.99	51	P	P	15 28 11.9 +0.7
R18K	**Karluk** baz=281	25.19	63	P	P	15 28 13.8 +1.0
M20K	**Styx River** baz=273	25.36	53	P	P	15 28 15.0 +0.5
Q19K	**Cape Douglas,** baz=279	25.39	60	P	P	15 28 16.2 +1.4
G21K	**Allakaket** baz=263,SNR=22	25.41	42	P	P	15 28 15.1 +0.3
C21K	**Knifeblade Rid** baz=256,SNR=29	25.44	36	P	P	15 28 15.5 +0.4
P19K	**Oil Pt** baz=278	25.50	58	P	P	15 28 17.0 +1.3
A21K	**Barrow** baz=250	25.51	30	P	P	15 28 16.2 +0.6
F21K	**Alatna River** comp=Z,19nm,0.7s	25.52	40	IAmb	IAmb	15 28 19.1
F21K	**Alatna River** baz=261,SNR=30	25.52	40	P	P	15 28 16.4 +0.6
SII	**Sitkinak Islan** baz=283	25.54	65	P	P	15 28 18.0 +1.9
E21K	**Killik River** baz=258	25.56	37	P	P	15 28 16.4 +0.1
H21K	**Melozitna Rive** baz=265,SNR=17	25.59	44	P	P	15 28 17.4 +0.9
B21K	**Ikpikpuk River** baz=255,SNR=70	25.62	35	P	P	15 28 17.3 +0.7
CHUM	**Lake Minchumin** baz=270,SNR=12	25.71	48	P	P	15 28 18.7 +1.2
PPLA	**Purkeypile** baz=272	25.77	50	P	P	15 28 19.6 +1.3
CAST	**Castle Rocks** baz=271,SNR=14	25.81	49	P	P	15 28 19.7 +1.2
SPCR	**Spurr Chakacha** baz=275	25.84	54	P	P	15 28 19.9 +1.0
OHAK	**Old Harbor** baz=283	25.88	64	P	P	15 28 20.0 +0.9
I21K	**Tanana** baz=267,SNR=10	25.90	45	P	P	15 28 19.9 +0.6
A22K	**Sinclair Lake** baz=252,SNR=56	25.91	32	P	P	15 28 19.6 +0.3
F22K	**John River** baz=262	26.06	40	P	P	15 28 21.3 +0.5
Q20K	**Shuyak Island** baz=280	26.08	60	P	P	15 28 22.1 +1.1
SKT	**Skwentna** baz=274	26.11	53	P	P	15 28 21.8 +0.6
D22K	**Ayikyak River** comp=Z,17nm,0.7s	26.12	37	IAmb	IAmb	15 28 23.0
D22K	**Ayikyak River** baz=259,SNR=23	26.12	37	P	P	15 28 21.4 +0.2
KDAK	**Kodiak Island** baz=282	26.13	62	P	P	15 28 22.4 +1.0
H22K	**Ishtalitna Cre** baz=266,SNR=12	26.20	44	P	P	15 28 22.5 +0.5
B22K	**Teshekpuk Lake** comp=Z,29nm,0.8s	26.21	33	IAmb	IAmb	15 28 26.2
B22K	**Teshekpuk Lake** baz=255,SNR=31	26.21	33	P	P	15 28 22.3 +0.4
G22K	**Bettles** baz=264,SNR=57	26.25	41	P	P	15 28 22.6 +0.3
E22K	**Anaktuvuk Pass**	26.30	39	P	P	15 28 23.6 +0.7
E22K	comp=Z,37nm,1.1s			IAmb	IAmb	15 28 24.7
E22K	**Anaktuvuk Pass** baz=261,SNR=31	26.30	39	P	P	15 28 22.7 -0.1
BPAW	**Bear Paw Mtn.** baz=270,SNR=11	26.30	48	P	P	15 28 23.7 +0.8
SUA	**Susitna One** baz=276	26.52	54	P	P	15 28 25.5 +0.4
TRF	**Thorofare Moun** comp=Z,19nm,0.9s	26.61	49	IAmb	IAmb	15 28 27.8
TRF	**Thorofare Moun** baz=272,SNR=12	26.61	49	P	P	15 28 26.0 +0.1
CUT	**Chulitna** comp=Z,30nm,0.8s	26.68	51	IAmb	IAmb	15 28 27.5
CUT	**Chulitna** baz=274	26.68	51	P	P	15 28 26.8 +0.5
BRSE	**Bradley Lake S** baz=279	26.74	57	P	P	15 28 27.8 +0.9
COLD	**Coldfoot** baz=265,SNR=17	26.79	41	P	P	15 28 27.4 +0.2
G23K	**Bananza Creek** baz=266,SNR=12	26.81	42	P	P	15 28 27.7 +0.2
D23K	**Nanushuk River** baz=261,SNR=14	26.84	37	P	P	15 28 28.5 +0.7
H23K	**Yukon River** baz=268,SNR=14	26.95	44	P	P	15 28 29.7 +0.9
BWN	**Browne** comp=Z,29nm,1.0s	26.96	48	IAmb	IAmb	15 28 31.8
I23K	**Minto, Yukon-K** baz=270,SNR=9.1	27.01	45	P	P	15 28 29.9 +0.7
C23K	**Itkillik River** comp=Z,20nm,0.8s	27.03	35	IAmb	IAmb	15 28 31.1
C23K	**Itkillik River** baz=259,SNR=22	27.03	35	P	P	15 28 29.7 +0.4
RC01	**Rabbit Creek A** baz=277	27.05	54	P	P	15 28 30.6 +1.0
E23K	**Chandalar** comp=Z,27nm,0.9s	27.10	39	IAmb	IAmb	15 28 32.0
E23K	**Chandalar** baz=264,SNR=35	27.10	39	P	P	15 28 30.8 +0.6
NEA2	**Nenana** baz=271,SNR=15	27.13	47	P	P	15 28 30.6 +0.3
O22K	**Cooper Landing** baz=278	27.13	56	P	P	15 28 31.0 +0.6
TOLK	**Toolik Lake Re**	27.19	38	P	P	15 28 31.5 +0.6
TOLK	**Toolik Lake Re** baz=263,SNR=13	27.19	38	P	P	15 28 30.8 -0.1
MCK	**McKinley** baz=273,SNR=10	27.21	48	P	P	15 28 31.6 +0.5
RND	**Reindeer** comp=Z,21nm,0.8s	27.26	49	IAmb	IAmb	15 28 32.8
RND	**Reindeer**	27.26	49	P	P	15 28 32.0 +0.4
PMR	**Palmer** baz=277	27.28	53	P	P	15 28 32.7 +1.0
SEW	**Seward** baz=279	27.32	56	P	P	15 28 32.9 +0.9
E24K	**Your Creek** comp=Z,29nm,1.1s	27.52	39	IAmb	IAmb	15 28 35.9
E24K	**Your Creek** baz=265,SNR=30	27.52	39	P	P	15 28 34.3 +0.4
D24K	**Happy Valley** baz=262	27.53	37	P	P	15 28 34.2 +0.3
WRH	**Wood River Hil** comp=Z,26nm,0.8s	27.56	47	IAmb	IAmb	15 28 36.1
KNK	**Knik Glacier** comp=Z,28nm,0.8s	27.62	53	IAmb	IAmb	15 28 36.3
KNK	**Knik Glacier** baz=278,SNR=12	27.62	53	P	P	15 28 35.5 +0.7
H24K	**Noodor Dome** baz=270,SNR=9.6	27.64	44	P	P	15 28 35.4 +0.4
SML	**Sawmill** comp=Z,32nm,0.8s	27.64	53	IAmb	IAmb	15 28 37.0
SML	**Sawmill** baz=277,SNR=16	27.64	53	P	P	15 28 35.5 +0.5
COLA	**College**	27.65	46	P	P	15 28 36.1 +1.1
COLA	comp=Z,53nm,1.4s			IAmb	IAmb	15 28 36.7
COLA	**College**	27.65	46	*d iP*	P	15 28 35.9 +1.0
COLA	comp=Z,24nm,1.2s			pmax	pmax	
COLA	**College** baz=272	27.65	46	P	P	15 28 35.8 +0.8
C24K	**Franklin Bluff** baz=261	27.66	35	P	P	15 28 35.6 +0.6
F24K	**Squaw Lake** baz=266,SNR=20	27.70	40	P	P	15 28 35.3 -0.3
PWL	**Port Wells** comp=Z,27nm,1.1s	27.76	55	IAmb	IAmb	15 28 37.4
PWL	**Port Wells** baz=279,SNR=8.2	27.76	55	P	P	15 28 36.5 +0.5
G24K	**Hadweenzic Riv** baz=268,SNR=46	27.82	42	P	P	15 28 37.4 +0.9
POKR	**Poker Plat Res** baz=272,SNR=7.7	27.82	45	P	P	15 28 37.3 +0.7
KSRS	**Korea Array** comp=Z,0.8nm,0.8s,baz=40,slow=10,SNR=5.0	27.84	248	P	P	15 28 37.1 +0.3
KSRS	comp=Z,50nm,20.6s,baz=50,slow=36 comp=Z,0.8nm,0.8s			LR	LR	15 39 26.6
M23K	**Glacier View** baz=278	27.92	53	P	P	15 28 37.3 -0.2
HDA	**Harding Lake** comp=Z,18nm,0.5s	28.05	47	IAmb	IAmb	15 28 40.1
HDA	**Harding Lake** baz=273,SNR=18	28.05	47	P	P	15 28 38.4 -0.2
IL31	comp=Z,16nm,0.7s	28.07	46	IAmb	IAmb	15 28 40.0
ILAR	**Eielson Array**	28.07	46	P	P	15 28 39.2 +0.5
ILAR	**Eielson Array** comp=Z,12nm,0.7s,baz=265,slow=8.3,SNR=164	28.07	46	P	P	15 28 38.8 +0.1
	comp=Z,12nm,0.7s					
SCM	**Sheep Creek Mo** comp=Z,32nm,0.8s	28.11	52	IAmb	IAmb	15 28 40.8
SCM	**Sheep Creek Mo** baz=278,SNR=7.9	28.11	52	P	P	15 28 39.6 +0.4
GLI	**Glacier Island** baz=280	28.35	54	P	P	15 28 41.3 0.0
P23K	**Montague Islan** baz=281	28.36	56	P	P	15 28 42.1 +0.8
G25K	**Bearman Lake** baz=270,SNR=8.9	28.37	42	P	P	15 28 41.9 +0.5
D25K	**Kavik River** comp=Z,31nm,0.8s	28.42	37	IAmb	IAmb	15 28 43.3
D25K	**Kavik River** baz=265,SNR=47	28.42	37	P	P	15 28 42.4 +0.5
H25L	**Birch Creek** baz=271	28.48	43	P	P	15 28 43.4 +1.0
F25K	**Christian Rive** baz=268,SNR=14	28.57	40	P	P	15 28 44.2 +0.9
K24K	**Donnelly Dome** comp=Z,17nm,0.7s	28.61	48	IAmb	IAmb	15 28 44.5
K24K	**Donnelly Dome** baz=275,SNR=8.7	28.61	48	P	P	15 28 43.5 0.0
M24K	**Tolsona, Glenn** comp=Z,20nm,0.7s	28.61	52	IAmb	IAmb	15 28 45.9
M24K	**Tolsona, Glenn** baz=278,SNR=5.5	28.61	52	P	P	15 28 44.4 +0.7
PRP	**Porcupine Dome** comp=Z,25nm,0.7s	28.61	45	IAmb	IAmb	15 28 45.7
PRP	**Porcupine Dome** baz=272,SNR=29	28.61	45	P	P	15 28 44.2 +0.4
E25K	**Arctic Village** comp=Z,23nm,1.2s	28.62	39	IAmb	IAmb	15 28 45.9
E25K	**Arctic Village** baz=268,SNR=16	28.62	39	P	P	15 28 44.6 +0.9
J25K	**Salcha River,** baz=274,SNR=17	28.72	46	P	P	15 28 44.5 -0.2
KLU	**Klutina** baz=279	28.82	53	P	P	15 28 46.2 +0.7
PAX	**Paxson** baz=277	28.83	50	P	P	15 28 46.0 +0.4
BMAR	**Burnt Mountain**	28.97	41	P	P	15 28 48.1 +1.3
C26K	**Camden Bay** baz=265,SNR=18	28.99	35	P	P	15 28 47.5 +0.6
RIDG	**Independent Ri** baz=276,SNR=7.9	29.02	48	P	P	15 28 47.4 +0.1
HARP	**HAARP** baz=278	29.04	51	P	P	15 28 48.4 +1.0
EYAK	**Cordova Ski Ar** baz=281	29.06	55	P	P	15 28 48.4 +0.8
F26K	**Sheenjek River** baz=270,SNR=18	29.14	40	P	P	15 28 49.5 +1.2
G26K	**Porcupine Rive** comp=Z,21nm,0.8s	29.29	42	IAmb	IAmb	15 28 51.9
G26K	**Porcupine Rive** baz=271,SNR=29	29.29	42	P	P	15 28 50.8 +1.3
SCRK	**Sand Creek** comp=Z,14nm,0.8s	29.38	48	IAmb	IAmb	15 28 51.3
SCRK	**Sand Creek** baz=276,SNR=18	29.38	48	P	P	15 28 50.7 +0.1
C27K	**Jago River** comp=Z,22nm,0.9s	29.38	36	IAmb	IAmb	15 28 52.4
C27K	**Jago River** baz=267,SNR=23	29.38	36	P	P	15 28 51.2 +0.8
N25K	**Chitina, Valde** baz=280,SNR=6.3	29.43	53	P	P	15 28 51.2 +0.3
J26L	**Joseph Creek** baz=276	29.51	47	P	P	15 28 52.0 +0.4
BMRM	**Bremner River** comp=Z,19nm,1.0s	29.54	54	IAmb	IAmb	15 28 54.2
BMRM	**Bremner River** baz=281,SNR=5.3	29.54	54	P	P	15 28 53.3 +1.4
JNU	**Nakatsue** comp=Z,81nm,19.0s,baz=45,slow=36	29.58	238	LR	LR	15 40 52.8
I26K	**Coal Creek Min** baz=275	29.62	45	P	P	15 28 52.9 +0.5
L26K	**Log Cabin Wild** baz=279	29.78	49	P	P	15 28 55.3 +1.4
KAIM	**Kayak Island** baz=283	29.84	56	P	P	15 28 55.6 +1.1
M26K	**Nabesna, AK** comp=Z,11nm,0.8s	30.04	51	IAmb	IAmb	15 28 59.6
M26K	**Nabesna, AK** baz=280,SNR=11	30.04	51	P	P	15 28 57.8 +1.6
E27K	**Coleen River** baz=271,SNR=10	30.11	39	P	P	15 28 58.1 +1.3
G27K	**Doyon Strip** comp=Z,8.5nm,0.7s	30.13	42	IAmb	IAmb	15 28 59.8
G27K	**Doyon Strip** baz=274,SNR=16	30.13	42	P	P	15 28 58.6 +1.6
K27K	**Chicken** baz=278	30.21	47	P	P	15 28 58.5 +0.8
H27K	**Steamboat Moun** baz=275,SNR=19	30.22	43	P	P	15 28 59.6 +1.8
I27K	**Kandik River** baz=276	30.23	44	P	P	15 28 58.6 +0.6
D27M	**Malcolm River** comp=Z,14nm,0.7s	30.34	37	IAmb	IAmb	15 29 00.9
D27M	**Malcolm River** baz=270	30.34	37	P	P	15 28 59.7 +0.8
BGLC	**Bering Glacier** baz=284	30.35	55	P	P	15 28 59.9 +0.9
L27K	**Beaver Creek,** baz=280,SNR=32	30.46	49	P	P	15 29 01.6 +1.6
BCAR	**Beaver Creek A**	30.48	49	P	P	15 29 01.6 +1.4
M27K	**Edge Creek, AK** comp=Z,18nm,0.8s	30.56	51	IAmb	IAmb	15 29 03.8
M27K	**Edge Creek, AK** baz=281,SNR=11	30.56	51	P	P	15 29 03.0 +2.0
E28M	**Babbage River** baz=272,SNR=15	30.86	38	P	P	15 29 04.5 +1.1
I28M	**Miner Creek** baz=277,SNR=15	30.94	44	P	P	15 29 05.7 +1.4
MESA	**MESA** baz=284	30.99	55	P	P	15 29 06.8 +2.0
BVCY	**Beaver Creek** baz=282,SNR=12	31.01	50	P	P	15 29 06.1 +1.3
D28M	**Stokes Point** baz=272,SNR=6.3	31.13	37	P	P	15 29 07.1 +1.4
YUK3	**Moose Creek** baz=283,SNR=6.4	31.33	51	P	P	15 29 09.1 +1.2
DAWY	**Dawson** baz=280,SNR=7.1	31.37	47	P	P	15 29 09.0 +1.0
E29M	**Blow River** comp=Z,12nm,0.8s	31.48	39	IAmb	IAmb	15 29 11.2
E29M	**Blow River** baz=274,SNR=20	31.48	39	P	P	15 29 10.0 +1.1
H29M	**Whitestone** baz=277,SNR=20	31.49	43	P	P	15 29 10.4 +1.4
G29M	**Pine Creek** baz=276,SNR=37	31.55	41	P	P	15 29 11.1 +1.5
I29M	**Ogilvie Camp,** comp=Z,18nm,1.1s	31.63	44	IAmb	IAmb	15 29 12.2
I29M	**Ogilvie Camp,** baz=279	31.63	44	P	P	15 29 11.4 +1.2
O28M	**Mount Upton** comp=Z,16nm,0.8s	31.69	53	IAmb	IAmb	15 29 13.4
O28M	**Mount Upton** baz=285,SNR=6.0	31.69	53	P	P	15 29 12.5 +1.4
YUK8	**Steele Glacier** baz=284	31.76	52	P	P	15 29 12.3 +0.6
J29N	**Klondike Camp** comp=Z,17nm,1.6s	31.81	46	IAmb	IAmb	15 29 14.6
J29N	**Klondike Camp** baz=280	31.81	46	P	P	15 29 11.6 -0.3
PINM	**Pinnacle** baz=286	31.83	55	P	P	15 29 12.9 +0.8
M29M	**Somme Creek** baz=283,SNR=20	32.10	50	P	P	15 29 15.8 +1.3
L29M	**L29M** baz=282,SNR=31	32.11	49	P	P	15 29 16.2 +1.7
EPYK	**Eagle Plains** comp=Z,17nm,0.7s	32.13	42	IAmb	IAmb	15 29 16.9
EPYK	**Eagle Plains** baz=278,SNR=12	32.13	42	P	P	15 29 15.8 +1.2
K29M	**Barlow Dome** comp=Z,22nm,2.0s	32.23	47	IAmb	IAmb	15 29 17.3
K29M	**Barlow Dome** baz=282	32.23	47	P	P	15 29 16.5 +0.9
G30M	**tAoh Zraii Nji** baz=278,SNR=20	32.25	41	P	P	15 29 16.8 +1.1
YUK4	**Talbot Arm** baz=285	32.27	52	P	P	15 29 17.3 +1.2
F30M	**Barrier River** baz=277,SNR=18	32.34	40	P	P	15 29 17.4 +1.0
PNL	**Peninsula** baz=287	32.36	55	P	P	15 29 18.0 +1.3
I30M	**Mount Dempster** comp=Z,13nm,0.7s	32.45	44	IAmb	IAmb	15 29 19.4
I30M	**Mount Dempster** baz=280,SNR=23	32.45	44	P	P	15 29 18.5 +0.9
YUK6	**Outpost Mounta** baz=286	32.51	53	P	P	15 29 19.0 +0.8
O29M	**Mount Kennedy** baz=286	32.58	54	P	P	15 29 19.7 +1.0
J30M	**Hart River** baz=282	32.59	46	P	P	15 29 19.6 +0.8
M30M	**Minto, Yukon** baz=284	32.82	49	P	P	15 29 22.1 +1.4
HYT	**Haines Junctio** comp=Z,15nm,1.1s	32.95	53	IAmb	IAmb	15 29 24.7
HYT	**Haines Junctio** baz=286	32.95	53	P	P	15 29 23.4 +1.5
N30M	**Aishikik Lake** baz=286	32.97	51	P	P	15 29 23.3 +1.3
G31M	**Satah River** comp=Z,13nm,0.7s	33.02	41	IAmb	IAmb	15 29 24.7
G31M	**Satah River** baz=280,SNR=14	33.02	41	P	P	15 29 23.2 +0.9
F31M	**Tsiigehtchic** baz=279,SNR=27	33.14	40	P	P	15 29 24.5 +1.1
P29M	**Windy Craggy** baz=288	33.18	55	P	P	15 29 25.5 +1.6
H31M	**Peel River** comp=Z,13nm,1.1s	33.18	43	IAmb	IAmb	15 29 25.8
H31M	**Peel River** baz=281,SNR=9.8	33.18	43	P	P	15 29 24.6 +0.8
P30M	**Million Dollar** baz=288	33.41	54	P	P	15 29 27.4 +1.6
N31M	**Braeburn, Yuko** baz=286	33.57	51	P	P	15 29 29.3 +2.1
O30N	**Mendenhall**	33.63	52	P	P	15 29 29.1 +1.4

baz=287
ULN Ulaanbaatar 33.74 282⇑ eP P 15 29 28.8 -0.3
ULN pmax pmax
comp=Z,7.0nm,2.6s
M31M Drury Creek, Y 34.00 49 IAmb IAmb 15 29 34.0
comp=Z,11nm,0.7s
M31M Drury Creek, Y 34.00 49 P **P 15 29 32.6 +1.6**
baz=286,SNR=7.4
SONM Songino Array 34.14 283 P **P 15 29 32.1 -0.4**
comp=Z,0.9nm,0.6s,baz=59,slow=8.4,SNR=5.0
SONM PcP **PcP 15 32 07.7 -0.7**
comp=Z,0.7nm,0.5s,baz=39,slow=2.2,SNR=4.6
SONM LR LR 15 45 03.1
comp=Z,91nm,19.0s,baz=61,slow=39
comp=Z,0.9nm,0.6s
WHY Whitehorse 34.23 52 P **P 15 29 34.9 +1.8**
baz=288,SNR=5.4
H11N2 WAKE ISLAND Hy 34.29 170 T T 16 06 23.2
baz=354,slow=76,SNR=980
H11N3 WAKE ISLAND Hy 34.30 170 T T 16 06 25.8
baz=354,slow=76,SNR=1232
H11N1 WAKE ISLAND Hy 34.31 170 T T 16 06 21.9
baz=354,slow=76,SNR=1534
FARO Faro, Yukon 34.46 49 P **P 15 29 36.8 +1.8**
baz=287,SNR=5.5
HHC Hu-ho-hao-te 35.05 269 eP **P 15 29 40.3 -0.1**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,61nm,5.0s
SIT Sitka 35.26 58 P **P 15 29 44.1 +2.3**
baz=293
MMPY Sheldon Lake, 35.27 48 IAmb IAmb 15 29 45.2
comp=Z,13nm,1.2s
MMPY Sheldon Lake, 35.27 48 P **P 15 29 43.9 +1.9**
baz=288,SNR=7.3
P33M Teslin, Yukon 35.34 52 P **P 15 29 44.2 +1.6**
baz=290
A36M Sachs Harbour 35.35 31 IAmb IAmb 15 29 44.6
comp=Z,13nm,0.8s
A36M Sachs Harbour 35.35 31 P **P 15 29 43.8 +1.4**
baz=280,SNR=12
H11S1 WAKE ISLAND Hy 35.48 170 T T 16 07 23.3
baz=352,slow=76,SNR=64
H11S3 WAKE ISLAND Hy 35.49 170 T T 16 07 24.2
baz=352,slow=76,SNR=162
H11S2 WAKE ISLAND Hy 35.50 170 T T 16 07 34.2
baz=352,slow=76,SNR=42
NRIK Noril'sk 35.60 324 LR LR 15 45 31.7
comp=Z,170nm,18.9s,baz=85,slow=38
Q32M Nakina River 36.05 54 P **P 15 29 50.2 +1.4**
baz=292
C36M Paulatuk 36.27 35 P **P 15 29 51.1 +0.8**
baz=284,SNR=11
R33M Jennings River 36.51 53 P **P 15 29 54.8 +2.2**
baz=292
NJ2 Nanjing 36.85 251 eP **P 15 29 55.3 -0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
TGTN Hyland Airport 36.96 49 P **P 15 29 58.5 +2.1**
baz=291,SNR=8.7
S34M Telegraph Cree 37.01 55 P **P 15 29 59.1 +2.4**
baz=294
LIRD Liard River Hi 38.78 51 P **P 15 30 14.0 +2.3**
baz=295
KOTAN Kotaneelee Air 39.42 50 P **P 15 30 19.2 +2.2**
baz=296
TOAD Toad River Com 39.43 52 P **P 15 30 19.7 +2.6**
baz=296,SNR=15
GUMO Guam 42.00 203 LR LR 15 45 04.3
comp=Z,34nm,21.7s,baz=120,slow=32
ALE Alert 42.21 8 P **P 15 30 39.6 -0.1**
YKAW3 Yellowknife Wh 42.37 43 IAmb IAmb 15 30 43.4
comp=Z,15nm,0.7s
YKA Yellowknife Ar 42.40 43 P **P 15 30 42.2 +0.7**
YKA Yellowknife Ar 42.40 43 P **P 15 30 42.6 +1.2**
comp=Z,7.7nm,0.6s,baz=301,slow=8.1,SNR=115
comp=Z,7.7nm,0.6s
YKAW1 Yellowknife Wh 42.46 43 IAmb IAmb 15 30 44.2
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 42.76 302 P **P 15 30 42.5 -2.0**
comp=Z,0.8nm,0.3s,baz=61,slow=8.5,SNR=6.1
comp=Z,0.8nm,0.3s
GTA Gaotai 42.93 276 eP **P 15 30 45.3 -0.9**
GTA pmax pmax
comp=Z,5.0nm,0.9s
LLLB Lillooet 45.34 61 IAmb IAmb 15 31 08.2
comp=Z,8.2nm,0.8s
SPITS Spitsbergen Ar 46.55 350 P **P 15 31 13.9 -0.5**
comp=Z,9.3nm,0.6s,baz=45,slow=9.5,SNR=32
comp=Z,9.3nm,0.6s
WMQ Urumqi 47.13 289 eP **P 15 31 20.3 +0.9**
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ LR LR
comp=Z,100nm,21.5s
KURK Kurchatov 47.72 302 P **P 15 31 21.0 -2.8**
KURK IAmb IAmb 15 31 22.8
comp=Z,5.7nm,0.4s
KURK Kurchatov 47.72 302 d iP **P 15 31 20.7 -3.1**
KURK pmax pmax
comp=Z,9.0nm,1.5s
KURK Kurchatov 47.72 302 P **P 15 31 21.0 -2.8**
KURBB Kurchatov Arra 47.83 302 P **P 15 31 21.8 -2.8**
comp=Z,2.5nm,0.4s,baz=60,slow=7.7,SNR=31
comp=Z,2.5nm,0.4s
LTY Liberty 47.99 64 IAmb IAmb 15 31 52.4
comp=Z,32nm,1.9s
B08A Colville Reser 48.02 62 IAmb IAmb 15 31 28.0
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 48.23 295 d iP **P 15 31 24.7 -3.1**
MKAR Makanchi Array 48.23 295 P **P 15 31 25.0 -2.8**
MKAR Makanchi Array 48.23 295 P **P 15 31 25.1 -2.8**
comp=Z,1.2nm,0.5s,baz=55,slow=6.9,SNR=15
comp=Z,1.2nm,0.5s
BLKN Baker Lake 48.32 35 P **P 15 31 28.7 +0.5**
MAKZ Makanchi 48.39 296 P **P 15 31 26.1 -2.9**
MAKZ pP **pP 15 31 40.7 -2.6**
ILON Igloolik, Nuna 49.04 25 P **P 15 31 33.9 +0.2**
ILON IAmb IAmb 15 31 35.1
comp=Z,18nm,1.2s
G08A Pilot Rock 50.16 65 IAmb IAmb 15 31 44.9
comp=Z,12nm,1.4s
BVAR Borovoye Array 50.29 308 P **P 15 31 40.9 -2.5**
comp=Z,2.4nm,0.4s,baz=59,slow=7.5,SNR=12
BVAR LR LR 15 53 56.2
comp=Z,69nm,18.4s,baz=70,slow=37
comp=Z,2.4nm,0.4s
BRVK Borovoye 50.32 308 ceP **P 15 31 41.4 -2.2**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
YBH Yreka Blue Hor 50.42 71 IAmb IAmb 15 31 48.1
comp=Z,9.4nm,1.0s
PZH PanZhiHua 50.87 262 P **P 15 31 47.8 -0.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
BMO Blue Mountains 51.33 64 IAmb IAmb 15 31 53.5
comp=Z,5.4nm,0.6s
MSO Missoula 51.80 61 IAmb IAmb 15 31 57.9
comp=Z,9.2nm,1.1s
PLID Pearl Lake 51.87 63 IAmb IAmb 15 31 58.0
comp=Z,10nm,0.7s
WVOR Wild Horse Val 52.22 68 P **P 15 32 00.1 +2.0**
WVOR pmax pmax
comp=Z,7.0nm,0.9s
FFC Flin Flon 52.27 47 P **P 15 31 58.8 +0.6**
FFC IAmb IAmb 15 32 00.3
comp=Z,16nm,1.2s
FFC Flin Flon 52.27 47 P **P 15 31 58.8 +0.6**
FFC pmax pmax
comp=Z,15nm,1.3s
FFC Flin Flon 52.27 47 P **P 15 31 59.2 +1.0**
ARCES ARCESS Array B 52.78 342 P **P 15 31 59.5 -2.3**
comp=Z,5.9nm,0.9s,baz=35,slow=8.8,SNR=11
comp=Z,5.9nm,0.9s
BEKR Beckworth 53.00 71 IAmb IAmb 15 32 06.8
comp=Z,9.6nm,1.1s
SUMG Summit 53.25 7 P **P 15 32 06.0 +0.3**
SUMG Summit 53.25 7 P **P 15 32 06.0 +0.3**
SUMG pmax pmax
comp=Z,30nm,1.0s
ARTI Arti 53.28 317 c iP **P 15 32 03.5 -2.1**
ARTI 15 33 09.6
ARTI 15 34 02.4
ARTI S **S 15 39 29.3 -3.4**
ARTI SS **SS 15 43 07.8 -4.4**
ARTI pmax pmax
comp=Z,3.0nm,0.7s
ARTI Arti 53.28 317 P **P 15 32 03.5 -2.1**
ARTI pP **pP 15 32 18.6 -1.4**
DLMT Dillon 53.48 61 IAmb IAmb 15 32 10.5
comp=Z,14nm,1.4s
PAHR Pah Rah Range 53.65 71 IAmb IAmb 15 32 11.8
comp=Z,10nm,1.0s
BOZ Bozeman (W) 53.82 60 IAmb IAmb 15 32 12.4
comp=Z,6.7nm,0.8s
WAKR Walker 54.45 72 IAmb IAmb 15 32 18.1
comp=Z,12nm,0.8s
YHL Hebgen Lake 54.56 61 IAmb IAmb 15 32 18.2
comp=Z,7.7nm,0.9s
YHB Horse Butte 54.62 61 IAmb IAmb 15 32 18.6
comp=Z,11nm,0.8s
YMR Madison River 54.80 61 IAmb IAmb 15 32 20.0
comp=Z,12nm,0.9s
RYN Ryan 54.88 71 IAmb IAmb 15 32 20.9
comp=Z,9.3nm,0.8s
YNE Yellowstone No 55.06 60 IAmb IAmb 15 32 21.7
comp=Z,11nm,0.8s
AAK Ala-Archa 55.14 296⇑ eP **P 15 32 17.5 -2.1**
AAK pmax pmax
comp=Z,2.0nm,1.2s
NVAR Mina Array Bea 55.14 71 P **P 15 32 21.9 +2.2**
NVAR Mina Array Bea 55.14 71 P **P 15 32 22.1 +2.4**
comp=Z,10nm,0.8s,baz=301,slow=7.3,SNR=44
comp=Z,10nm,0.8s
YMP Mirror Lake Pl 55.16 60 IAmb IAmb 15 32 23.0
comp=Z,12nm,0.9s
H17A Grant Village 55.19 61 IAmb IAmb 15 32 24.2
comp=Z,14nm,1.0s
NV11 Mina Array Sit 55.23 71 IAmb IAmb 15 32 23.5
comp=Z,8.2nm,0.9s
ELK Elko 55.23 67 IAmb IAmb 15 32 23.5
comp=Z,8.5nm,0.7s
ELK Elko 55.23 67 P **P 15 32 21.3 +1.0**
FXWY Fox Creek 55.48 62 IAmb IAmb 15 32 25.1
comp=Z,6.5nm,0.8s
DGMT Dagmar 55.54 54 IAmb IAmb 15 32 24.4
comp=Z,13nm,1.0s
TPAW Teton Pass 55.62 62 IAmb IAmb 15 32 26.0
comp=Z,6.3nm,0.9s
LOHW Long Hollow 55.71 62 IAmb IAmb 15 32 26.6
comp=Z,6.1nm,0.8s
HVU Hansel Valley 55.84 64 IAmb IAmb 15 32 27.8
comp=Z,8.5nm,0.9s
AHID Auburn Hatcher 56.04 63 IAmb IAmb 15 32 29.1
comp=Z,9.0nm,0.8s
DSP Deep Springs 56.08 72 IAmb IAmb 15 32 29.9
comp=Z,8.9nm,1.1s
BGU Big Grassy Mou 56.30 65 IAmb IAmb 15 32 30.9
comp=Z,5.4nm,0.7s
KSH Kashi 56.52 293 P **P 15 32 32.5 +3.1**
KSH pmax pmax
comp=Z,3.0nm,1.4s
KLMR Klimovskoe 56.58 330 eP **P 15 32 25.1 -4.2**
KLMR pmax pmax
comp=Z,10.0nm,0.6s
FRB Frobisher Bay 56.74 24 LR LR 15 58 53.2
comp=Z,54nm,18.0s,baz=329,slow=38
PDAR Pinedale Array 56.85 62 P **P 15 32 33.3 +1.4**
PDAR Pinedale Array 56.85 62 P **P 15 32 33.6 +1.8**
comp=Z,7.9nm,0.7s,baz=318,slow=2.9,SNR=79
comp=Z,7.9nm,0.7s
DUG Dugway, Tooele 56.93 66 P **P 15 32 33.7 +1.3**
JOF Joensuu 57.13 335 eP **P 15 32 32.9 -0.4**
WCT Wildcat Mounta 57.24 71 IAmb IAmb 15 32 37.4
comp=Z,4.8nm,0.7s
SFJD Kangerlussuaq 57.27 14 LR LR 16 00 00.8
comp=Z,57nm,18.3s,baz=332,slow=39
SFJD Kangerlussuaq 57.27 14 P **P 15 32 33.7 -0.5**
ABKAR Abkulak array 57.67 310 P **P 15 32 34.7 -2.5**
ABKAR Abkulak array 57.67 310 IAmb IAmb 15 32 36.3
comp=Z,3.8nm,1.1s
BSUT Blindstream Ca 57.80 64 IAmb IAmb 15 32 42.2
comp=Z,7.6nm,0.9s
ULM Lac du Bonnet 58.08 47 P **P 15 32 41.2 +1.1**
comp=Z,8.6nm,0.4s,baz=312,slow=6.8,SNR=13
ULM LR LR 15 57 50.3
comp=Z,31nm,18.1s,baz=228,slow=36
comp=Z,8.6nm,0.4s
CMAR Chiang Mai Arr 58.71 258 P **P 15 32 44.5 -0.3**
comp=Z,1.2nm,0.6s,baz=29,slow=7.2,SNR=15
CMAR LR LR 16 00 12.6
comp=Z,41nm,19.5s,baz=90,slow=38
comp=Z,1.2nm,0.6s
CMAR Chiang Mai Arr 58.71 258 i P **P 15 32 45.9 +1.0**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
P18A Preston Nutter 58.72 65 IAmb IAmb 15 32 48.4
comp=Z,9.8nm,1.0s
Q16A Castle Valley 58.73 66 IAmb IAmb 15 32 48.2
comp=Z,10nm,1.0s
LCMT Little Creek M 58.97 69 IAmb IAmb 15 32 50.0
comp=Z,12nm,1.1s
V12A Nelson 59.00 71 IAmb IAmb 15 32 49.6
comp=Z,5.5nm,0.7s
VAF Ylistaro 59.02 339 eP **P 15 32 46.6 +0.2**
PKCU Pink Cliffs 59.17 68 IAmb IAmb 15 32 51.9
comp=Z,11nm,1.0s
KNB Kanab 59.20 68 IAmb IAmb 15 32 51.8
comp=Z,13nm,1.2s
KEF Keuruu 59.31 338 eP **P 15 32 47.6 -0.8**
AGMN Agassiz Nation 59.52 49 IAmb IAmb 15 32 52.0
comp=Z,7.7nm,0.8s
FIA1 FINESS Array S 59.67 337 P **P 15 32 49.5 -1.4**
FINES FINESS Array B 59.67 337 P **P 15 32 49.5 -1.4**
FINES FINESS Array B 59.67 337 P **P 15 32 49.9 -1.1**
comp=Z,8.5nm,0.5s,baz=35,slow=7.7,SNR=49
comp=Z,8.5nm,0.5s
FINES FINESS Array B 59.67 337 i P **P 15 32 50.5 -0.4**
FINES pmax pmax
comp=Z,9.0nm,0.5s
U15A North Rim 59.92 69 IAmb IAmb 15 32 56.7
comp=Z,6.5nm,1.1s
W13A Hualapai Mount 60.00 71 IAmb IAmb 15 32 56.7
comp=Z,10nm,1.3s
PV07 Paradox Valley 60.44 65 IAmb IAmb 15 32 59.5
comp=Z,11nm,1.0s
RAF Rauma 61.02 339 eP **P 15 32 59.9 -0.2**
ISCO Idaho Springs 61.05 61 IAmb IAmb 15 33 04.4
comp=Z,11nm,0.9s
ISCO Idaho Springs 61.05 61 P **P 15 33 03.5 +2.4**
ISCO pmax pmax
comp=Z,13nm,1.1s
MEF Metsahovi 61.14 337 eP **P 15 33 01.1 +0.2**
MVCO Mesa Verde 61.42 65 IAmb IAmb 15 33 06.3
comp=Z,6.3nm,0.8s
X16A Lo Mia Camp, P 61.86 70 IAmb IAmb 15 33 09.8
comp=Z,6.6nm,1.0s
S22A 4UR Ranch, Cre 61.92 64 IAmb IAmb 15 33 10.4
comp=Z,15nm,1.2s
VSU Vasula 62.12 335⇑ i P **P 15 33 06.9 -0.7**
VSU pmax pmax
comp=Z,12nm,0.6s
VSU Vasula 62.12 335 eP **P 15 33 07.6 0.0**
ECSD EROS Data Cent 62.60 53 IAmb IAmb 15 33 12.8
comp=Z,12nm,0.9s
MTSE Matsula 62.62 336 eP **P 15 33 10.8 -0.1**
NC405 NORSAR Array S 62.86 344 IAmb IAmb 15 33 14.1
comp=Z,7.7nm,0.8s
NB2 NORSAR Subarra 63.02 344 P **P 15 33 12.7 -0.9**
comp=Z,4.5nm,0.4s,baz=21,slow=6.9
NB2 NORSAR Subarra 63.02 344 P P 15 33 09.0 -4.6
NB2 pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 63.02 344 P **P 15 33 12.9 -0.7**
comp=Z,4.8nm,0.6s,baz=23,slow=6.0,SNR=39
comp=Z,4.8nm,0.6s
NORES NORESS Array B 63.25 344 P **P 15 33 14.6 -0.5**
HFS Hagfors 63.44 342 P **P 15 33 15.0 -1.4**
comp=Z,4.6nm,0.4s,baz=47,slow=5.0,SNR=50
comp=Z,4.6nm,0.4s
HFS Hagfors 63.44 342 P **P 15 33 15.0 -1.4**
T25A Trinidad 63.66 63 IAmb IAmb 15 33 21.1
comp=Z,25nm,1.6s
SLIT Slitere, Latvi 63.95 337 eP **P 15 33 20.0 +0.3**
COWI Conover 64.16 47 IAmb IAmb 15 33 22.1
comp=Z,8.0nm,0.7s
ANMO Albuquerque 64.21 66 P **P 15 33 23.4 +1.4**
ANMO Albuquerque 64.21 66‖ eP **P 15 33 23.8 +1.8**
ANMO pmax pmax
comp=Z,3.0nm,0.8s
ANMO Albuquerque 64.21 66 P **P 15 33 23.9 +1.8**
RTBA Rita Blanca 65.06 62 IAmb IAmb 15 33 29.5
comp=Z,14nm,0.8s
MNK Minsk 65.30 332 i P **P 15 33 28.5 -0.1**
MNK i *PP **sP 15 33 48.5 -0.7**
MNK i 15 35 52.5
MNK i PPP PPP 15 37 27.0
MNK i S **S 15 42 06.3 -1.5**
MNK i SS **SS 15 46 21.9 +1.6**
MNK pmax pmax
comp=Z,19nm,0.9s
MNK pmax pmax
comp=E,15nm,1.0s
MNK pmax pmax
comp=N,11nm,1.0s
MNK MLR MLR
comp=E,175nm,21.0s
MNK MLR MLR
comp=N,278nm,20.0s
MNK MLR MLR
comp=Z,73nm,17.0s
319A Douglas 65.34 70 IAmb IAmb 15 33 32.4
comp=Z,17nm,1.1s
PABE Paberze 65.45 335 eP **P 15 33 29.2 -0.3**
MSTX Muleshoe 66.92 64 IAmb IAmb 15 33 41.6
comp=Z,16nm,0.9s
VLDQ Val d'Or 67.19 38 P **P 15 33 39.0 -1.8**
VLDQ IAmb IAmb 15 34 03.5
comp=Z,24nm,1.4s
DKNS Dickens 68.14 63 IAmb IAmb 15 33 49.1
comp=Z,12nm,0.9s
VHRN Van Horn 68.17 68 IAmb IAmb 15 33 50.1
comp=Z,8.9nm,0.8s
AK03 Malin Array Si 68.23 329 P **P 15 33 45.7 -1.6**
AK21 Malin Array Si 68.24 329 P **P 15 33 45.9 -1.4**
AK22 Malin Array Si 68.24 329 P **P 15 33 45.9 -1.4**
AK04 Malin Array Si 68.25 329 P **P 15 33 45.7 -1.7**
AKASG Malin Array Be 68.25 329 P **P 15 33 46.0 -1.4**
comp=Z,4.9nm,0.5s,baz=31,slow=6.4,SNR=21
AKASG LR LR 16 06 48.2
comp=Z,70nm,19.8s,baz=54,slow=39
comp=Z,4.9nm,0.5s
AKASG Malin Array Be 68.25 329 P **P 15 33 46.0 -1.4**
AKBB Malin Array Si 68.25 329 IAmb IAmb 15 33 48.0
comp=Z,14nm,1.1s
AKBB Malin Array Si 68.25 329 ceP **P 15 33 45.9 -1.5**
AKBB pmax pmax
comp=Z,13nm,1.2s
AKBB Malin Array Si 68.25 329 P **P 15 33 45.5 -1.9**
KIEV Kiev 68.26 329 P **P 15 33 45.4 -2.1**
KIEV IAmb IAmb 15 33 48.0
comp=Z,12nm,1.1s
KIEV Kiev 68.26 329 P **P 15 33 45.4 -2.1**
KIEV pmax pmax
comp=Z,12nm,1.2s
KIEV Kiev 68.26 329 P **P 15 33 45.5 -1.9**
comp=Z,48nm,0.9s
KIEV Kiev 68.26 329 P **P 15 33 45.8 -1.7**
AK01 Malin Array Si 68.26 329 P **P 15 33 45.7 -1.8**
WMOK Wichita Mounta 68.43 61 P **P 15 33 50.1 +1.3**
WMOK pmax pmax
comp=Z,27nm,0.8s
MI28 MI28,Pidlybu 68.51 330 P **P 15 33 47.5 -1.5**
RNPP8 Varash 68.68 332 P **P 15 33 48.5 -1.5**
RNPP5 Staryi Chortor 68.76 331 P **P 15 33 49.1 -1.5**
APMT Aspermont 68.83 62 IAmb IAmb 15 33 53.0
comp=Z,12nm,0.7s
R40A Maddies Statio 68.89 54 IAmb IAmb 15 33 52.7
comp=Z,17nm,0.9s
KIV Kislovodsk 69.22 317 eP **P 15 33 51.1 -2.6**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,19nm,17.0s
U38A Gravette 69.32 56 IAmb IAmb 15 33 55.4
comp=Z,15nm,1.1s
KBZ Khabaz 69.33 317 P **P 15 33 52.6 -1.6**
comp=Z,3.3nm,0.8s,baz=136,slow=1.6,SNR=6.2
KBZ LR LR 16 08 37.3
comp=Z,54nm,18.9s,baz=40,slow=40
comp=Z,3.3nm,0.8s
KBZ Khabaz 69.33 317 de P **P 15 33 53.1 -1.1**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
LUBAR Lubar, Ukraine 69.38 330 P **P 15 33 52.9 -1.6**
CCM Cathedral Cave 69.57 53 P **P 15 33 55.6 -0.2**
CCM IAmb IAmb 15 33 57.1
comp=Z,15nm,1.1s
CCM Cathedral Cave 69.57 53 P **P 15 33 55.6 -0.2**
CCM pmax pmax
comp=Z,15nm,1.1s
CCM Cathedral Cave 69.57 53 P **P 15 33 55.7 -0.1**
TXAR Lajitas Array 70.01 68 P **P 15 34 00.2 +1.4**
TXAR Lajitas Array 70.01 68 P **P 15 34 00.5 +1.7**
comp=Z,12nm,0.5s,baz=300,slow=4.6,SNR=152
TXAR Lajitas Array 70.01 68 P **P 15 34 00.2 +1.4**
SAND Sanderson 70.37 66 IAmb IAmb 15 34 03.3
comp=Z,12nm,1.3s
T42A Van Buren 70.46 54 IAmb IAmb 15 34 01.8
comp=Z,8.1nm,0.9s
EKA Eskdalemuir Ar 70.47 350 P **P 15 34 00.4 -0.6**
comp=Z,6.3nm,0.7s,baz=22,slow=5.3,SNR=18
comp=Z,6.3nm,0.7s
ESK Eskdalemuir 70.49 350 P **P 15 34 01.1 -0.1**
BRDY Brady 71.01 63 IAmb IAmb 15 34 07.9
comp=Z,13nm,1.4s
JCT Junction City 71.21 64 IAmb IAmb 15 34 07.9
comp=Z,20nm,1.2s
MIAR Mount Ida 71.22 57 IAmb IAmb 15 34 07.7
comp=Z,16nm,1.1s
MIAR Mount Ida 71.22 57 P **P 15 34 05.8 -0.2**
MIAR pmax pmax
comp=Z,18nm,1.0s
GNI Garni 71.51 313 LR LR 16 08 23.3
comp=Z,30nm,19.3s,baz=70,slow=38
DRIO Del Rio 71.60 65 IAmb IAmb 15 34 10.1
comp=Z,10nm,0.9s
STHS Stebnicka Huta 71.68 333 eP **P 15 34 11.8 +3.3**
STHS pmax pmax
comp=Z,8.0nm,0.8s
STHS Stebnicka Huta 71.68 333 eP **P 15 34 11.8 +3.3**
KOLS Kolonicke sedl 71.84 333 eP **P 15 34 09.8 +0.3**
KOLS pmax pmax
comp=Z,5.0nm,0.6s
KOLS Kolonicke sedl 71.84 333 eP **P 15 34 09.8 +0.3**
CLL Collm 71.87 339 IAmb IAmb 15 34 10.3
comp=Z,15nm,1.1s
CLL Collm 71.87 339 i P **P 15 34 09.4 -0.2**
CLL pmax pmax
comp=Z,17nm,1.2s
CLL Collm 71.87 339 i P **P 15 34 09.4 -0.2**
comp=Z,17nm,1.2s
CLL i x x 15 34 15.1
DPC Dobruska-Polom 72.04 337 eP **P 15 34 11.0 +0.3**
DPC Dobruska-Polom 72.04 337 eP **P 15 34 11.0 +0.3**
BRG Berggiesshubel 72.08 339 eP **P 15 34 10.3 -0.6**
BRG Amp 15 34 11.6
comp=Z,3.3nm,0.6s
O52A Adamsville 72.13 46 IAmb IAmb 15 34 12.3
comp=Z,15nm,0.8s
KRLC Kraliky 72.19 337 eP **P 15 34 11.9 +0.3**
KRLC Kraliky 72.19 337 eP **P 15 34 11.9 +0.3**
BURAR Bucovina Array 72.20 330 P **P 15 34 10.7 -1.0**
BURAR Bucovina Array 72.20 330 P **P 15 34 10.7 -1.0**
MORC Moravsky Berou 72.28 336 eP **P 15 34 12.2 +0.1**
MORC Moravsky Berou 72.28 336 P **P 15 34 12.6 +0.5**
MORC pmax pmax
comp=Z,8.0nm,1.1s
T47A Sharon Grove 72.37 51 IAmb IAmb 15 34 14.6
comp=Z,15nm,0.9s
LANS Liptovska Anna 72.38 334 eP **P 15 34 14.4 +1.6**
LANS pmax pmax
comp=Z,6.0nm,0.6s
LANS Liptovska Anna 72.38 334 eP **P 15 34 14.4 +1.6**
WVT Waverly 72.73 52 P **P 15 34 16.1 +1.1**
WVT pmax pmax
comp=Z,6.0nm,0.9s
PRU Pruhonice 72.78 338 eP **P 15 34 15.5 +0.5**
PRU Pruhonice 72.78 338 eP **P 15 34 15.5 +0.5**
MOX Moxa 72.79 340 P **P 15 34 13.7 -1.4**
MOX pmax pmax
comp=Z,12nm,1.0s
VRAC Vranov 72.95 336 LR LR 16 13 17.8
comp=Z,46nm,18.6s,baz=26,slow=42
VRAC Vranov 72.95 336 eP **P 15 34 16.3 +0.2**
JAVC Velka Javorina 73.11 336 eP **P 15 34 18.0 +1.0**

VYHS Vyhne 73.15 335 *e*P **P 15 34 17.3 0.0**
VYHS pmax pmax
comp=Z,4.0nm,0.5s
VYHS Vyhne 73.15 335 *e*P **P 15 34 17.3 0.0**
KRUC Moravsky 73.22 336 *e*P **P 15 34 17.9 +0.2**
KRUC Moravsky 73.22 336 P **P 15 34 18.5 +0.8**
KRUC pmax pmax
comp=Z,7.0nm,1.4s
ZVC Zvikov 73.38 338 *e*P **P 15 34 19.3 +0.7**
MODS Modra-Piesok 73.65 336 *e*P **P 15 34 21.4 +1.2**
MODS pmax pmax
comp=Z,9.0nm,0.8s
MODS Modra-Piesok 73.65 336 *e*P **P 15 34 21.4 +1.2**
DRGR 73.67 331 P **P 15 34 19.3 -1.1**
DRGR pmax pmax
comp=Z,6.0nm,0.9s
KHC Kasperske Hory 73.81 338 *e*P **P 15 34 21.5 +0.4**
KHC Kasperske Hory 73.81 338⇑*i*P **P 15 34 21.9 +0.8**
KHC pmax pmax
comp=Z,21nm,1.0s
MEM Membach 73.86 344 *d*P **P 15 34 21.5 +0.1**
comp=Z,16nm,1.0s
MEM Membach 73.86 344 P **P 15 34 21.9 +0.5**
MEM pmax pmax
comp=Z,26nm,0.8s
BTNL Ternell 73.86 343 *d*P **P 15 34 21.6 +0.2**
comp=Z,14nm,0.9s
BTNL *d*PcP **pP 15 34 34.5 -1.9**
MLR Muntele Rosu 73.89 329 IAmb IAmb 15 34 23.5
comp=Z,8.6nm,0.7s
MLR Muntele Rosu 73.89 329 LR LR 16 10 02.9
comp=Z,70nm,18.8s,baz=52,slow=38
CKRC Cesky Krumlov 73.94 338 *e*P **P 15 34 21.7 -0.2**
CKRC Cesky Krumlov 73.94 338 *e*P **P 15 34 21.7 -0.2**
WET Wettzell 73.94 339 P **P 15 34 22.9 +1.0**
UCC Uccle 73.95 345 *d*P **P 15 34 25.5 +3.6**
BSTI Sart Tilman 73.96 344 *d*P **P 15 34 22.2 +0.2**
GERES GERESS Array B 74.05 338 P **P 15 34 20.9 -1.7**
GERES GERESS Array B 74.05 338 P **P 15 34 22.9 +0.3**
comp=Z,3.0nm,0.5s,baz=32,slow=5.9,SNR=19
comp=Z,3.0nm,0.5s
GERES GERESS Array B 74.05 338 P **P 15 34 20.9 -1.7**
BHOU Houvegnez 74.11 343 *d*P **P 15 34 23.3 +0.5**
comp=Z,9.0nm,0.9s
BCLA Clavier 74.16 344 *d*P **P 15 34 23.1 -0.1**
VOIR 74.21 329 P **P 15 34 23.8 +0.2**
VOIR pmax pmax
comp=Z,8.0nm,0.8s
BGES Gesves 74.23 344 *d*P **P 15 34 23.5 -0.1**
BMRD Maredsous 74.36 344 *d*P **P 15 34 24.1 -0.2**
comp=Z,8.6nm,0.8s
CONA Conrad Observa 74.41 336 *i*P **P 15 34 25.3 +0.5**
comp=Z,2.9nm,0.6s
RONA Rosalia, Austr 74.52 336 *e*P **P 15 34 26.2 +0.9**
comp=Z,2.2nm,0.7s
DOU Dourbes 74.59 344 *d*P **P 15 34 25.3 -0.4**
BZS Buzias 75.05 332 P **P 15 34 27.9 -0.5**
BZS pmax pmax
comp=Z,6.0nm,0.8s
FPAL Fort Paine 75.07 52 IAmb IAmb 15 34 29.9
comp=Z,6.5nm,0.7s
ARSA Arzberg 75.13 336 *e*P **P 15 34 29.7 +0.9**
comp=Z,3.1nm,0.5s
BIOA Bad Ischl, Aus 75.15 338 *e*P **P 15 34 29.9 +0.9**
comp=Z,1.7nm,0.4s
LESA Schwarzleotal 75.62 338 *e*P **P 15 34 32.4 +0.7**
comp=Z,1.3nm,0.3s
SOKA Soboth 75.78 336 *i*P **P 15 34 33.2 +0.6**
comp=Z,1.9nm,0.2s
KBA Koelnbreinsper 75.79 338 P **P 15 34 34.0 +1.2**
KBA pmax pmax
comp=Z,28nm,0.8s
KBA Koelnbreinsper 75.79 338 *e*P **P 15 34 33.8 +1.0**
comp=Z,8.7nm,0.5s,SNR=20
RETA Reutte 75.97 340 *i*P **P 15 34 34.1 +0.4**
comp=Z,0.5nm,0.1s
ECH Echery 75.97 342 IAmb IAmb 15 34 34.0
comp=Z,8.1nm,1.0s
ECH Echery 75.97 342 P **P 15 34 33.9 +0.3**
ECH pmax pmax
comp=Z,11nm,1.3s
WTTA Wattenberg 75.99 339 *i*P **P 15 34 35.0 +1.0**
comp=Z,2.6nm,0.5s
MOTA Moosalm 76.03 339 *i*P **P 15 34 34.7 +0.5**
comp=Z,4.4nm,0.6s
OBKA Obir 76.05 337 *i*P **P 15 34 34.8 +0.6**
comp=Z,2.7nm,0.5s
SQTA Sankt Quirin 76.13 339 *i*P **P 15 34 35.4 +0.7**
comp=Z,8.8nm,0.6s
PRED Cave del Predi 76.34 337 IAmb IAmb 15 34 36.5
comp=Z,11nm,0.7s
BR131 Keskin Array S 76.36 321⇑*e*P **P 15 34 35.1 -1.0**
BRTR Keskin Array B 76.36 321 P **P 15 34 35.1 -1.0**
comp=Z,1.3nm,0.8s,baz=27,slow=3.0,SNR=6.3
comp=Z,1.3nm,0.8s
FETA Feichten 76.42 339 *e*P **P 15 34 36.9 +0.6**
comp=Z,3.8nm,0.5s,SNR=14
WRA Warramunga Arr 76.85 205 P **P 15 34 38.8 0.0**
comp=Z,1.7nm,0.9s,baz=26,slow=6.2,SNR=6.4
comp=Z,1.7nm,0.9s
WRA Warramunga Arr 76.85 205 *i*P **P 15 34 39.5 +0.7**
WRA pmax pmax
comp=Z,2.0nm,0.9s
FUORN Ofenpass-Fuorn 76.89 340 IAmb IAmb 15 34 40.8
comp=Z,8.8nm,0.8s
CTI Castel Tesino 77.15 338 P **P 15 34 40.0 -0.4**
CTI IAmb IAmb 15 34 40.8
comp=Z,9.5nm,0.5s
CTI Castel Tesino 77.15 338 P **P 15 34 40.0 -0.4**
CTI pmax pmax
comp=Z,10.0nm,0.5s
RDO Rodhopi 77.93 327 IAmb IAmb 15 34 45.6
comp=Z,8.1nm,0.7s
BNI Bardonecchia 79.11 342 IAmb IAmb 15 34 52.8
comp=Z,6.9nm,0.8s
BNI Bardonecchia 79.11 342 P **P 15 34 51.9 +0.6**
BNI pmax pmax
comp=Z,10.0nm,1.6s
MSSA Maissana 79.25 339 IAmb IAmb 15 34 53.7
comp=Z,11nm,0.8s
SSB Saint Sauveur 79.27 343 IAmb IAmb 15 34 53.5
comp=Z,22nm,1.4s
SSB Saint Sauveur 79.27 343 P **P 15 34 53.4 +1.3**
SSB pmax pmax
comp=Z,13nm,1.3s
ORIF Oris-en-Rattie 79.38 342 P **P 15 34 54.2 +1.4**
ORIF pmax pmax
comp=Z,10.0nm,1.6s
FDMO Fiordimonte 79.67 337 IAmb IAmb 15 34 55.7
comp=Z,28nm,1.4s
ISO Isola 79.87 341 P **P 15 34 56.1 +0.7**
ISO pmax pmax
comp=Z,13nm,1.1s
CAMP Campotosto 80.07 336 IAmb IAmb 15 34 58.5
comp=Z,24nm,1.4s
ASAR Alice Springs 80.53 205 P **P 15 35 00.2 +1.3**
comp=Z,1.6nm,0.7s,baz=17,slow=5.4,SNR=28
comp=Z,1.6nm,0.7s
MMAI Mount Meron Ar 81.51 316 P **P 15 35 03.1 -1.2**
comp=Z,1.2nm,0.4s,baz=54,slow=8.4,SNR=4.2
comp=Z,1.2nm,0.4s
TIP Timpagrande 82.37 333 IAmb IAmb 15 35 10.5
comp=Z,15nm,0.9s
RAYN Ar Rayn 85.02 304 P **P 15 35 21.1 -1.5**
RAYN IAmb IAmb 15 35 22.3
comp=Z,4.2nm,0.5s
RAYN Ar Rayn 85.02 304 P **P 15 35 21.1 -1.5**
RAYN pmax pmax
comp=Z,4.0nm,0.5s
ESDC Sonseca Array 86.01 348 P **P 15 35 27.3 +0.1**
comp=Z,2.4nm,0.7s,baz=5.4,slow=4.8,SNR=14
comp=Z,2.4nm,0.7s
STKA Stephens Creek 86.89 196 P **P 15 35 32.5 +1.3**
comp=Z,2.1nm,0.9s,baz=12,slow=5.6,SNR=2.9
comp=Z,2.1nm,0.9s
KEST Kesra 87.50 337 P **P 15 35 34.3 -0.3**
comp=Z,4.4nm,0.5s,baz=354,slow=2.8,SNR=14
comp=Z,4.4nm,0.5s
RPZ Rata Peaks 97.50 172 LR LR 16 13 14.3
comp=Z,1μm,20.5s,baz=40,slow=31
VNDA Vanda 131.01 180 PKP **PKPdf 15 41 57.0 +0.5**
comp=Z,0.7nm,0.7s,baz=354,slow=4.9,SNR=2.3
VNDA Vanda 131.01 180 PKIKP **PKPdf 15 41 57.0 +0.5**
QSPA South Pole Qui 143.50 180 PKP PKPab 15 42 17.4 +1.1
comp=Z,5.2nm,0.7s,baz=227,slow=0.3,SNR=23
PLCA Paso Flores 143.62 90 PKP PKPab 15 42 18.9 +1.3
comp=Z,1.8nm,0.6s,baz=308,slow=5.5,SNR=4.8

ELIB Princess Elisa 154.27 209 *d*PKPdf **PKPdf 15 42 36.2 -0.9**
ELIB *d*pPKPdf **sPKPdf 15 43 00.4 +1.9**

*PRE **16** 15:33:22.0±1.1, 28°.20S×23°.06E, h0km, ML2.0, Suspected explosion*
*BUL **16** 15:33:23.1±2.9, 28°.24S×22°.88E, h10km, MD3.5*
*BGSI **16** 15:34:34.3±1.8, 21°.31S×25°.40E, h5km±11km, ML2.5*
ISC 16 15:33:24.5±1.1, 28°.19S±0°.06×23°.06E±0°.05, h10km, n13, σ0°60/15, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
UPI	**Upington**	**1.60**	**263**	*e*P		**Pn**	**15 33 53.0**	**+0.1**
UPI				*e*S		**Sn**	**15 34 14.3**	**+0.6**
UPI				IAML			15 34 20.3	
	comp=Z,20nm,0.4s							
ALKP	**Alkanpan, Nort**	**1.89**	**202**	*e*P		**Pn**	**15 33 56.6**	**-0.3**
ALKP				*e*S		**Sn**	**15 34 20.9**	**+0.1**
ALKP				IAML			15 34 26.1	
	comp=Z,19nm,0.3s							
KEIM	**Keimoes**	**1.91**	**254**	*e*P		**Pn**	**15 33 56.2**	**-1.0**
KEIM				*e*S		**Sn**	**15 34 21.0**	**-0.4**
KEIM				IAML			15 34 29.8	
	comp=Z,13nm,0.5s							
BOSA	**Boshof**	**1.98**	**103**	*e*P		**Pn**	**15 33 58.0**	**-0.2**
BOSA				*e*S		**Sn**	**15 34 22.9**	**-0.2**
BOSA				IAML			15 34 28.6	
	comp=Z,24nm,0.4s							
BOSA	**Boshof**	**1.98**	**103**	*i*P		**Pn**	**15 33 59.4**	**+1.2**
BOSA				*i*S		**Sn**	**15 34 23.5**	**+0.4**
LBTB	**Lobatse**	**3.89**	**36**	*i*P		**Pn**	**15 34 25.3**	**+0.8**
LBTB				*i*S		**Sn**	**15 35 10.4**	**+0.1**
LPHEP	**Lephephe**	**5.43**	**28**	*i*P		**Pg**	**15 35 08.2**	**-0.3**
LPHEP				*i*S		Sn	15 35 32.5	-16
LPHEP				IAML			15 35 41.0	
	comp=E,27nm,0.7s							
KHWEE	**KHWEE**	**6.58**	**20**	*i*P		Pn	15 34 46.4	-15
KHWEE				*i*S			15 34 53.4	
KHWEE				IAML			15 35 09.6	
	comp=E,544nm,0.5s							
MREMI	**Moremi**	**6.86**	**36**	*i*P		Pn	15 35 12.0	+6.8
MREMI				IAML			15 35 50.1	
	comp=N,69nm,0.4s							
SOOWA	**Sowa**	**8.12**	**21**	*i*P		Pn	15 34 52.8	-30
SOOWA				*i*S			15 35 07.3	
SOOWA				IAML			15 35 09.8	
	comp=N,134nm,0.3s							
MUSN	**Musina, Limpop**	**8.51**	**48**	*i*P		**Pn**	**15 35 27.6**	**-0.2**
MOPA	**Mopani**	**8.83**	**60**	*i*P		**Pn**	**15 35 31.8**	**-0.4**
MOPA				*i*S		Sn	15 37 03.4	-8.6
BLWY	**Bulawayo**	**9.48**	**34**	*i*P		Pn	15 35 33.4	-7.8

IDC 16 15:43:07.8±3.8, 7°.24S×147°.36E, h192km±45km, mb2.7/2, mbtmp3.2/4, MS3.1/1, Error ellipse: s-maj=110.6km s-min=28.8km az=131.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.17**	**185**	P		Pn	15 43 46.2	-1.3
	6.4nm,0.3s,baz=343,slow=11,SNR=16							
PMG				S		Sn	15 44 19.3	+0.8
	17nm,0.3s,baz=140,slow=22,SNR=24							
WRA	**Warramunga Arr**	**17.86**	**224**	P		P	15 47 02.0	-0.8
	0.3nm,0.5s,baz=49,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**20.83**	**217**	P		P	15 47 34.4	-0.3
	0.3nm,0.8s,baz=54,slow=9.2,SNR=12							
ASAR				LR		LR	15 56 13.4	
	comp=Z,56nm,21.9s,baz=88,slow=38							
	0.3nm,0.8s							
ILAR	**Eielson Array**	**86.47**	**23**	P		P	15 55 28.4	-0.2
	0.3nm,0.5s,baz=254,slow=5.2,SNR=5.9							
	0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**145.72**	**283**	PKPbc		PKPab	16 02 25.6	-0.3
	123nm,0.3s,baz=82,slow=3.1,SNR=1.3							

*NEIC **16** 15:44:24.5±1.7, 0°.06S±0°.07×122°.47E±0°.07, h259km±1km, mb4.6/102, Error ellipse: s-maj=11.9km s-min=9.1km az=49.0*
*IDC **16** 15:44:24.8±1.1, 0°.05S×122°.47E, h270km±10km, mb4.3/21, mbtmp4.9/26, Error ellipse: s-maj=13.7km s-min=7.3km az=71.0*
*DJA **16** 15:44:25.1±0.2, 0°.5±2°.×12°.2E±°, h253km±2km, M4.6/35, mb4.9/35, mB5.1/21, MLv5.1/24, Mw(mB)4.5/21*
ISC 16 15:44:23.5±0.3, 0°.09S±0°.04×122°.49E±0°.05, h250km, n296, σ1°37/277, mb4.6/92, 4C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.99**	**163**			**Pn**	**15 45 00.1**	**+1.6**
LUWI	**Luwuk**	**0.99**	**163**	P		**Pn**	**15 45 00.1**	**+1.6**
LUWI	**Luwuk**	**0.99**	**163**	P		**Pn**	**15 44 59.8**	**+1.3**
LUWI				S		**S**	**15 45 27.0**	**+0.9**
APSI	**Ampana**	**1.17**	**226**	P		**Pn**	**15 45 01.0**	**+1.4**
KMSI	**Cibinong**	**1.63**	**66**	P		**Pn**	**15 45 05.4**	**+2.5**
KMSI				S		**S**	**15 45 37.8**	**+4.0**
TOLI2	**Tolitoli**	**2.08**	**305**			**Pn**	**15 45 07.5**	**+0.7**
TOLI2	**Tolitoli**	**2.08**	**305**	P		**Pn**	**15 45 07.4**	**+0.7**
MPSI	**Mapaga**	**2.62**	**279**	P		**Pn**	**15 45 12.3**	**+0.3**
PCI	**Palu**	**2.77**	**253**	P		**Pn**	**15 45 15.4**	**+1.8**
PCI				S		**S**	**15 45 54.0**	**+0.8**
SANI	**Sanana**	**4.01**	**119**	P		**Pn**	**15 45 27.7**	**+0.3**
SANI	**Sanana**	**4.01**	**119**	P		**Pn**	**15 45 27.6**	**+0.2**
SANI				S		**S**	**15 46 14.9**	**-3.3**
SPSI	**Sidrap Palu**	**4.71**	**215**	P		**Pn**	**15 45 36.4**	**+0.5**
BNSI	**Bone**	**4.90**	**209**	P		**Pn**	**15 45 39.8**	**+1.7**
TNTI	**Ternate**	**4.95**	**80**			**Pn**	**15 45 39.2**	**+0.4**
TNTI	**Ternate**	**4.95**	**80**	P		**Pn**	**15 45 39.8**	**+1.0**
TNTI	**Ternate**	**4.95**	**80**	P		**Pn**	**15 45 39.9**	**+1.1**
SMKI	**Samarinda**	**5.29**	**266**	P		**Pn**	**15 45 45.2**	**+2.3**
BBSI	**Bau Bau**	**5.37**	**179**	P		**Pn**	**15 45 46.4**	**+2.5**
	0.8nm3μm272nm,0.9s							
NLAI	**Namlea**	**5.57**	**124**	P		**Pn**	**15 45 49.5**	**+3.1**
	6μm578nm,0.8s							
KAPI	**Kappang**	**5.61**	**209**			**Pn**	**15 45 47.6**	**+0.8**
KAPI	**Kappang**	**5.61**	**209**	P		**Pn**	**15 45 48.4**	**+1.6**
	270nm,0.9s,baz=22,slow=8.2,SNR=147							
KAPI	**Kappang**	**5.61**	**209**	P		**Pn**	**15 45 48.0**	**+1.2**
BKB	**Balikpapan**	**5.71**	**258**			**Pn**	**15 45 48.9**	**+0.8**
BKB	**Balikpapan**	**5.71**	**258**	P		**Pn**	**15 45 50.6**	**+2.5**
BKB	**Balikpapan**	**5.71**	**258**	P		**Pn**	**15 45 50.0**	**+1.9**
	1.1nm3μm367nm,1.1s							
BKSI	**Bulukumba**	**5.71**	**204**	P		**Pn**	**15 45 49.5**	**+1.4**
	0.6nm201nm,1.1s							
BSSI	**Bau Bau, Buton**	**6.34**	**198**	P		**Pn**	**15 45 56.8**	**+0.9**
	0.7nm2μm187nm,1.3s							
MYLDM	**Lahad Datu**	**6.57**	**323**			**Pn**	**15 46 00.0**	**+1.1**
MYLDM	**Lahad Datu**	**6.57**	**323**	P		**Pn**	**15 46 01.9**	**+3.0**
AAI	**Ambon**	**6.73**	**122**	P		**Pn**	**15 46 03.9**	**+3.0**
	0.8nm2μm304nm,0.7s							
MSAI	**Masohi**	**7.21**	**117**	P		**Pn**	**15 46 10.4**	**+3.5**
DAV	**Davao City (W)**	**7.75**	**23**	P		**Pn**	**15 46 15.9**	**+2.2**
	184nm,0.4s,baz=112,slow=4.5,SNR=6.5							
BNDI	**Bandanaira**	**8.62**	**121**	P		**Pn**	**15 46 25.6**	**+0.8**
BNDI	**Bandanaira**	**8.62**	**121**	P		**Pn**	**15 46 26.6**	**+1.8**
EDFI	**Ende, Flores**	**8.64**	**185**	P		**Pn**	**15 46 26.9**	**+1.8**
	44nm,1.1s							
KKM	**Kota Kinabalu**	**8.73**	**314**			**Pn**	**15 46 27.7**	**+1.4**
KKM	**Kota Kinabalu**	**8.73**	**314**	P		**Pn**	**15 46 28.2**	**+1.9**
SWI	**Sorong**	**8.81**	**95**	P		**Pn**	**15 46 29.6**	**+2.5**
	80nm,0.7s							
SOEI	**Soe**	**9.77**	**170**	Pn		**Pn**	**15 46 40.6**	**+1.3**
SOEI	**Soe**	**9.77**	**170**	P		**Pn**	**15 46 40.9**	**+1.5**
SOEI	**Soe**	**9.77**	**170**	P		**Pn**	**15 46 42.4**	**+3.0**
	2μm163nm,0.9s							
PLAI	**Plampang**	**9.87**	**208**	P		**Pn**	**15 46 43.1**	**+2.6**
PLAI	**Plampang**	**9.87**	**208**	P		**Pn**	**15 46 41.9**	**+1.4**
	1μm107nm,0.8s							
WBSI	**Waikabubak, Su**	**9.98**	**198**	P		**P**	**15 46 47.2**	**-0.6**
	69nm,0.8s							
FAKI	**Fak Fak**	**10.16**	**106**			**Pn**	**15 46 44.4**	**+0.2**
FAKI	**Fak Fak**	**10.16**	**106**	P		**Pn**	**15 46 44.9**	**+0.7**
FAKI	**Fak Fak**	**10.16**	**106**	S		**S**	**15 48 37.9**	**-0.5**
FAKI	**Fak Fak**	**10.16**	**106**	P		**Pn**	**15 46 44.9**	**+0.7**
	1000nm85nm,1.1s							
SBUM	**Sibu**	**10.57**	**284**			**Pn**	**15 46 50.2**	**+0.8**
SBUM	**Sibu**	**10.57**	**284**	P		**Pn**	**15 46 52.2**	**+2.9**
SRBI	**Singaraja**	**10.76**	**222**	P		**Pn**	**15 46 52.3**	**+0.6**
KMMI	**Kalianget**	**10.96**	**231**	P		**Pn**	**15 46 55.5**	**+1.3**
	37nm,0.7s							

STKI Sintang 11.01 271 P **Pn 15 46 56.2 +1.3**
KMPI Kaimana, Papua 11.76 108 P **Pn 15 47 05.7 +1.5**
3μm332nm,0.9s
JAGI Jajag, Banyuwa 11.76 225 P **Pn 15 47 06.9 +2.6**
JAGI Jajag, Banyuwa 11.76 225 P **Pn 15 47 06.2 +1.9**
37nm,0.8s
SAUI Saumlaki 11.78 132 Pn **Pn 15 47 05.1 +0.7**
SAUI Saumlaki 11.78 132 P **Pn 15 47 05.5 +1.0**
SAUI Saumlaki 11.78 132 P **Pn 15 47 05.4 +1.0**
GMJI Gumukmas 12.14 228 P **P 15 47 15.0 +3.3**
42nm,1.1s
BAKI Biak 13.66 95 P **P 15 47 30.2 +1.5**
1μm119nm,0.9s
PCJI Pacitan 13.85 234 P **Pn 15 47 30.5 +0.5**
SRPI Serui, Papua 13.87 97 P **P 15 47 32.5 +1.5**
2μm111nm,1.0s
TGY Tagaytay City 14.18 354 P **Pn 15 47 34.4 +0.4**
148nm,0.3s,baz=193,slow=3.8,SNR=8.3
DRS Darwin Rock St 14.84 146 P **P 15 47 42.6 +1.0**
MTN Manton Dam 15.30 146 P **P 15 47 47.8 +1.1**
MTN Manton Dam 15.30 146 P **P 15 47 47.2 +0.4**
comp=Z,668nm,0.9s
MTN Manton Dam 15.30 146 P **P 15 47 47.9 +1.1**
KDU Kakadu 15.96 142 P **P 15 47 54.2 +0.1**
KDU Kakadu 15.96 142 P **P 15 47 55.1 +1.0**
BBJI Bungbulang 16.51 243 P **Pn 15 48 02.1 +0.2**
KNRA Kununurra 16.68 158 P **P 15 48 02.8 +0.9**
KNRA Kununurra 16.68 158 P **P 15 48 02.4 +0.5**
comp=Z,335nm,0.8s
SZP Santa 17.64 354 P **Pn 15 48 14.7 -0.3**
GENI Genyem 17.85 98 P **P 15 48 15.3 +0.6**
FITZ Fitzroy Crossi 18.16 170 P **P 15 48 18.1 +0.1**
FITZ Fitzroy Crossi 18.16 170 P **P 15 48 17.5 -0.6**
FITZ Fitzroy Crossi 18.16 170 P **P 15 48 17.9 -0.1**
comp=Z,44nm,0.7s,baz=1,2,slow=8.5,SNR=121
FITZ Fitzroy Crossi 18.16 170 P **P 15 48 18.1 +0.1**
JAY Jayapura 18.37 98 P **P 15 48 20.7 +0.3**
comp=Z,18nm,0.7s,baz=176,slow=9.9,SNR=11
JAY Jayapura 18.37 98 P **P 15 48 21.3 +0.9**
comp=Z,23nm,0.8s
MBWA Marble Bar 21.12 187 P **P 15 48 47.9 -1.5**
MBWA IAmb IAmb 15 48 48.8
comp=Z,20nm,0.7s
MBWA Marble Bar 21.12 187 P **P 15 48 48.5 -0.8**
PSA00 Pilbara Seismi 21.51 187 P **P 15 48 52.2 -0.9**
PSA00 IAmb IAmb 15 48 53.7
comp=Z,29nm,0.9s
PSA00 Pilbara Seismi 21.51 187 P **P 15 48 52.6 -0.5**
UBPT Khong Chiam 22.71 313 P **P 15 49 04.4 +0.2**
WB0 Warramunga Arr 22.77 150 P **P 15 49 04.3 -0.5**
WRAB Tennant Creek 22.89 150 P **P 15 49 05.3 -0.5**
WRA Warramunga Arr 22.89 150 P **P 15 49 04.6 -1.2**
WRA Warramunga Arr 22.89 150 P **P 15 49 05.4 -0.5**
comp=Z,106nm,0.9s,baz=327,slow=10,SNR=216
WRA ScP **ScP 15 55 59.7 -2.7**
comp=Z,2.5nm,0.8s,baz=324,slow=2.6,SNR=6.9
comp=Z,106nm,0.9s
WR8 Warramunga Arr 22.99 150 P **P 15 49 06.2 -0.5**
YULB Yu-li 23.37 357 P **P 15 49 09.8 -0.3**
SSLB Suanglung 23.78 357 P **P 15 49 13.5 -0.4**
YHNB Yeheng 24.63 358 P **P 15 49 22.6 +1.0**
COEN Coen 24.69 125 P **P 15 49 21.9 -0.2**
COEN IAmb IAmb 15 49 25.9
comp=Z,16nm,0.7s
COEN Coen 24.69 125 P **P 15 49 22.7 +0.5**
QZH Quanzhou 25.17 352⇑*i*P **P 15 49 27.3 +1.0**
QZH pmax pmax
comp=Z,81nm,1.2s
WRKA Warakurna 25.43 168 P **P 15 49 28.8 0.0**
ASAR Alice Springs 25.93 155 P **P 15 49 33.2 -0.1**
comp=Z,18nm,0.6s,baz=344,slow=14,SNR=454
ASAR PcP **PcP 15 52 53.9 -1.2**
comp=Z,1.6nm,0.3s,baz=347,slow=1.9,SNR=6.4
ASAR S **S 15 53 44.1 -0.6**
comp=Z,5.3nm,0.9s,baz=347,slow=23,SNR=7.7
ASAR ScP **ScP 15 56 08.6 -2.3**
comp=Z,1.4nm,0.6s,baz=336,slow=2.9,SNR=11
comp=Z,18nm,0.6s
AS01 Alice Springs 25.95 155 P **P 15 49 33.7 +0.3**
GUMO Guam 26.00 58 P **P 15 49 34.1 +0.2**
comp=Z,86nm,0.6s,baz=192,slow=4.3,SNR=4.3
comp=Z,86nm,0.6s
NONG Nongkai 26.21 314 P **P 15 49 37.5 +1.7**
QIS Mount Isa 26.35 142 P **P 15 49 37.3 +0.3**
MEEK Meekatharra 26.66 188 P **P 15 49 39.3 -0.4**
MTSU Mount Surprise 27.97 131 P **P 15 49 52.4 +0.9**
CNSH ChangSha 29.56 343 P **P 15 50 07.4 +2.0**
CNSH pmax pmax
comp=Z,17nm,0.9s
CMAR Chiang Mai Arr 29.57 310 P **P 15 50 05.5 -0.1**
CMAR Chiang Mai Arr 29.57 310 P **P 15 50 06.3 +0.7**
comp=Z,4.0nm,0.8s,baz=137,slow=7.3,SNR=31
CMAR PcP **PcP 15 53 04.0 0.0**
comp=Z,1.1nm,0.9s,baz=186,slow=2.4,SNR=4.2
CMAR ScP **ScP 15 56 19.4 -2.8**
comp=Z,3.0nm,0.9s,baz=169,slow=2.9,SNR=18
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 29.78 310 P **P 15 50 08.0 +0.5**
CHTO IAmb IAmb 15 50 11.0
comp=Z,14nm,0.9s
CHTO Chiang Mai 29.78 310 P **P 15 50 09.3 +1.8**
RABL Rabaul 29.93 98 P **P 15 50 09.0 +0.1**
OOD Oodnadatta 30.32 156 P **P 15 50 12.3 +0.2**
FORT Forrest 30.98 171 P **P 15 50 17.4 -0.3**
FORT Forrest 30.98 171 P **P 15 50 17.8 0.0**
KMBL Kambalda 31.11 181 P **P 15 50 18.8 -0.2**
WHN Wuhan 31.43 346⇑P **P 15 50 24.1 +2.4**
WHN pmax pmax
comp=Z,140nm,1.0s
KMI Kunming 31.51 324 P **P 15 50 25.4 +2.6**
KMI pmax pmax
comp=Z,13nm,0.9s
NJ2 Nanjing 32.15 354⇓*i*P **P 15 50 30.5 +2.6**
NJ2 pmax pmax
comp=Z,20nm,0.5s
INKA Innaminka 32.60 149 P **P 15 50 32.9 +0.9**
ENH Enshi 32.63 339 P **P 15 50 33.5 +1.3**
PZH PanZhiHua 33.14 325 P **P 15 50 38.6 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.9s
QLP Quilpie 33.65 143 P **P 15 50 41.9 +0.8**
LCRK Leigh Creek 33.70 155 P **P 15 50 41.9 +0.5**
TNCH TengChong 34.07 319 P **P 15 50 46.4 +1.5**
TNCH pmax pmax
comp=Z,18nm,1.1s
BBOO Buckleboo 34.97 160 IAmb IAmb 15 50 53.2
comp=Z,20nm,0.8s
BBOO Buckleboo 34.97 160 P **P 15 50 52.4 +0.1**
JMN Monobe 35.30 17 P **P 15 50 55.3 +0.2**
LYN LuoYang 35.71 346⇑P **P 15 50 59.8 +1.3**
LYN pmax pmax
comp=Z,120nm,0.9s
WHYH Whyalla 35.72 158 P **P 15 50 59.2 +0.6**
RK1H Rockhampton Ha 35.73 132 P **P 15 50 59.2 +0.4**
XAN Xi'an 36.26 341⇓P **P 15 51 03.5 +0.3**
XAN pmax pmax
comp=Z,47nm,1.1s
STKA Stephens Creek 36.42 152 P **P 15 51 05.2 +0.7**
comp=Z,68nm,0.7s,baz=324,slow=9.0,SNR=137
comp=Z,68nm,0.7s
STKA Stephens Creek 36.42 152 P **P 15 51 05.3 +0.7**
HTT Hallett 36.59 157 P **P 15 51 07.1 +1.0**
KSAR Wonju Array Be 37.67 7 P **P 15 51 14.4 -0.6**
KSRS Korea Array 37.69 7 P **P 15 51 15.1 0.0**
comp=Z,6.1nm,0.7s,baz=185,slow=10,SNR=25
KSRS PcP **PcP 15 53 25.9 -0.9**
comp=Z,0.3nm,0.4s,baz=197,slow=2.6,SNR=4.3
KSRS ScP **S 15 56 47.5 +1.3**
comp=Z,0.9nm,0.8s,baz=182,slow=3.3,SNR=5.5
comp=Z,6.1nm,0.7s
INU Inuyama 37.77 20 P **P 15 51 15.2 -0.6**
INU IAmb IAmb 15 51 16.6
comp=Z,22nm,0.9s
INU Inuyama 37.77 20 P **P 15 51 16.4 +0.6**
HNS HongShan 37.99 350⇑P **P 15 51 18.3 +0.7**
HNS pmax pmax
comp=Z,22nm,1.1s
JGF Kuroka 38.12 20 IAmb IAmb 15 51 18.6
comp=Z,15nm,0.8s
JGF Kuroka 38.12 20 P **P 15 51 19.2 +0.4**
CMSA Cobar Meteorol 38.23 147 P **P 15 51 21.0 +1.3**
HNR Honiara 38.42 105 P **P 15 51 21.1 -0.6**
comp=Z,46nm,0.7s,baz=257,slow=3.5,SNR=5.6

	comp=Z,46nm,0.7s						
TIY	Taiyuan	38.74	347	P	P	15 51 25.6	+1.6
TIY				S	S	15 57 01.8	-0.4
TIY				pmax	pmax		
	comp=Z,35nm,0.5s						
SHL	Shillong	39.03	313	IAmb	IAmb	15 51 27.9	
	comp=Z,32nm,1.3s						
MAJO	Matsushiro	39.26	20	P	P	15 51 26.4	-1.9
MAJO				IAmb	IAmb	15 51 27.7	
	comp=Z,34nm,0.9s						
MAJO	Matsushiro	39.26	20	P	P	15 51 28.6	+0.4
MJAR	Matsushiro Arr	39.26	20	P	P	15 51 26.6	-1.6
	comp=Z,35nm,0.9s,baz=190,slow=8.7,SNR=77						
MJAR				ScP	ScP	15 56 52.2	-4.1
	comp=Z,1.9nm,0.9s,baz=234,slow=6.0,SNR=4.1						
	comp=Z,34nm,0.9s						
MJB9	Matsu-Tunnel	39.26	20	IAmb	IAmb	15 51 28.7	
	comp=Z,34nm,0.9s						
LZH	Lanzhou	39.95	336	eP	P	15 51 35.8	+1.7
LZH				sP	sP	15 52 59.8	+6.6
LZH				PcP	PcP	15 53 34.3	+0.1
LZH				pmax	pmax		
	comp=Z,40nm,1.0s						
BJT	Baijiatuan	40.33	352	IAmb	IAmb	15 51 38.9	
	comp=Z,16nm,0.9s						
BJT	Baijiatuan	40.33	352	P	P	15 51 37.8	+0.9
BJI	Beijing	40.35	353	P	P	15 51 36.8	-0.3
BJI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
JSD	Sado	40.63	19	P	P	15 51 37.4	-2.0
JSD	Sado	40.63	19	P	P	15 51 39.8	+0.4
ARPS	Mount Arapiles	40.67	156	P	P	15 51 40.5	+0.8
ARMA	Armidale	40.95	140	P	P	15 51 43.6	+1.3
ARMA				IAmb	IAmb	15 51 45.2	
	comp=Z,24nm,0.8s						
ARMA	Armidale	40.95	140	P	P	15 51 43.8	+1.5
JMM	Marumori	41.37	22	P	P	15 51 46.0	+0.6
HHC	Hu-ho-hao-te	41.94	348	eP	P	15 51 51.6	+1.5
HHC				pmax	pmax		
	comp=Z,21nm,0.6s						
HHC				pmax	pmax		
	comp=Z,64nm,4.7s						
LSA	Lhasa	42.06	318	P	P	15 51 51.4	-0.3
CAN	Canberra	42.89	148	P	P	15 51 58.8	+1.0
CAN				IAmb	IAmb	15 52 00.2	
	comp=Z,42nm,0.7s						
CAN	Canberra	42.89	148	P	P	15 51 59.5	+1.7
GEXS	Deakin Univers	42.91	155	P	P	15 51 59.6	+1.8
TOO	Toolangi	42.92	153	P	P	15 51 58.3	+0.3
JTM	Tenmabayashi	44.05	20	P	P	15 52 07.4	+0.6
XLT	XiLinHaoTe	44.17	353	eP	P	15 52 08.6	+0.8
XLT				pmax	pmax		
	comp=Z,25nm,0.9s						
XLT				pmax	pmax		
	comp=Z,120nm,4.6s						
GOMU	GeErMu	44.32	327	P	P	15 52 09.4	-0.1
GOMU				sP	sP	15 53 33.3	+3.3
GOMU				pmax	pmax		
	comp=Z,24nm,1.0s						
GTA	Gaotai	44.45	335	P	P	15 52 12.3	+2.1
GTA				sP	sP	15 53 33.4	+3.2
GTA				pmax	pmax		
	comp=Z,30nm,1.0s						
USA0B	Ussuriysk Arra	44.90	10	IAmb	IAmb	15 52 13.8	
	comp=Z,26nm,0.8s						
USRK	Ussuriysk Ar.	44.90	10		P	15 52 12.8	-0.7
USRK	Ussuriysk Ar.	44.90	10	P	P	15 52 13.0	-0.5
	comp=Z,20nm,0.7s,baz=196,slow=7.6,SNR=38						
	comp=Z,20nm,0.7s						
MDJ	Mudanjiang	44.96	7	IAmb	IAmb	15 52 14.4	
	comp=Z,30nm,0.8s						
MDJ	Mudanjiang	44.96	7	P	P	15 52 13.3	-0.6
MDJ				pmax	pmax		
	comp=Z,47nm,1.0s						
MDJ	Mudanjiang	44.96	7	P	P	15 52 14.8	+0.9
BNX	BinXian	45.84	5	∥P	P	15 52 19.9	-0.9
BNX				pmax	pmax		
	comp=Z,8.0nm,1.0s						
JKA	Kamikawa-asahi	47.52	20	P	P	15 52 33.9	0.0
JKA				IAmb	IAmb	15 52 34.7	
	comp=Z,46nm,0.8s						
HIA	Hailar	49.22	358	P	P	15 52 47.7	+1.0
ULN	Ulaanbaatar	49.61	346	P	P	15 52 50.0	+0.1
ULN				IAmb	IAmb	15 52 51.4	
	comp=Z,24nm,0.9s						
SONM	Songino Array	49.74	346	P	P	15 52 50.2	-0.6
SONM				IAmb	IAmb	15 52 52.6	
	comp=Z,18nm,0.9s						
SONM	Songino Array	49.74	346	P	P	15 52 50.2	-0.6
	comp=Z,19nm,0.9s,baz=164,slow=8.5,SNR=42						
	comp=Z,19nm,0.9s						
YSS	Yuzhno-Sakhali	50.09	18	P	P	15 52 52.5	-0.8
YSS				IAmb	IAmb	15 52 53.5	
	comp=Z,19nm,0.8s						
YSS	Yuzhno-Sakhali	50.09	18	P	P	15 52 54.1	+0.8
HEH	HeiHe	50.33	4	eP	P	15 52 53.8	-1.2
HEH				pmax	pmax		
	comp=Z,29nm,0.9s						
WMQ	Urumqi	53.60	329	eP	P	15 53 20.4	+1.1
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
WUS	Wushi	56.74	322	IAmb	IAmb	15 53 44.6	
	comp=Z,11nm,0.8s						
NIL	Nilore	57.05	311		P	15 53 43.4	-0.6
NIL				IAmb	IAmb	15 53 44.6	
	comp=Z,31nm,1.4s						
KSH	Kashi	57.90	319	P	P	15 53 50.8	+0.9
KSH				pmax	pmax		
	comp=Z,15nm,1.1s						
MKAR	Makanchi Array	58.42	329	P	P	15 53 52.4	-0.8
MKAR	Makanchi Array	58.42	329	P	P	15 53 53.1	-0.1
	comp=Z,5.2nm,0.4s,baz=126,slow=8.8,SNR=126						
MKAR				pP	pP	15 54 52.8	+4.0
	comp=Z,2.2nm,0.8s,baz=123,slow=8.8,SNR=5.1						
	comp=Z,5.2nm,0.4s						
MAKZ	Makanchi	58.59	328	P	P	15 53 54.1	-0.2
MAKZ				IAmb	IAmb	15 53 55.4	
	comp=Z,24nm,1.4s						
MSZ	Milford Sound	59.89	144	P	P	15 54 04.5	+1.3
JCZ	Jackson Bay	60.06	143	P	P	15 54 05.8	+1.2
JCZ	Jackson Bay	60.06	143	P	P	15 54 05.9	+1.2
KBK	Karagaybulak	60.20	321	P	P	15 54 07.5	+1.9
	SNR=5.7						
MLZ	Mavora Lakes	60.40	145	P	P	15 54 07.3	+0.6
FOZ	Fox Glacier	60.40	142	P	P	15 54 07.0	+0.3
AAK	Ala-Archa	60.47	321	P	P	15 54 07.8	+0.3
AAK	Ala-Archa	60.47	321	P	P	15 54 08.6	+1.2
	SNR=6.0						
PETK	Petropavlovsk-	60.57	24	P	P	15 54 07.5	-0.2
PETK	Petropavlovsk-	60.57	24	P	P	15 54 07.0	-0.7
	comp=Z,22nm,1.1s,baz=200,slow=3.6,SNR=9.3						
	comp=Z,22nm,1.1s						
WHZ	Wether Hill Ro	60.60	145	P	P	15 54 08.2	+0.1
KBL	Kabul	60.60	310	P	P	15 54 07.2	-1.4
DRK	Karamyk	60.70	317	IAmb	IAmb	15 54 10.1	
	comp=Z,12nm,1.1s						
AML	Almayashu	60.72	320	P	P	15 54 09.7	+0.3
	SNR=6.5						
WVZ	Waitaha Valley	60.73	141	P	P	15 54 09.9	+0.9
DSZ	Denniston Nort	60.74	139	P	P	15 54 11.1	+1.9
QRZ	Quartz Range	60.77	138	P	P	15 54 09.6	+0.3
USP	Ospenovka	60.80	322	P	P	15 54 10.3	+0.8
	SNR=5.6						
EKS2	Erkin-Say	60.94	321	P	P	15 54 11.8	+1.3
	SNR=6.9						
LBZ	Lake Benmore	61.08	143	P	P	15 54 11.7	+0.4
APZ	The Paps	61.16	146	P	P	15 54 12.5	+0.6
KUZ	Kuaotunu	61.21	133	P	P	15 54 13.9	+1.6
RPZ	Rata Peaks	61.26	142	P	P	15 54 13.2	+0.7
RPZ	Rata Peaks	61.26	142	P	P	15 54 13.6	+1.0
TOZ	Tahuroa Road	61.45	134	P	P	15 54 15.8	+1.9
THZ	Tophouse	61.47	139	P	P	15 54 14.6	+0.6
GAR	Garm	61.51	316	IAmb	IAmb	15 54 15.3	
	comp=Z,18nm,0.9s						
VRZ	Vera Road	61.52	136	P	P	15 54 16.0	+1.7
NNZ	Nelson	61.52	138	P	P	15 54 14.5	+0.2
LTZ	Lake Taylor	61.55	140	P	P	15 54 15.8	+1.2
TUZ	Tuapeka	61.60	144	P	P	15 54 15.3	+0.6
SYZ	Scrubby Hill	61.65	145	P	P	15 54 15.1	+0.1
OXZ	Oxford	61.68	141	P	P	15 54 15.8	+0.4
NNVZ	North Ngauruho	62.12	135	P	P	15 54 20.3	+1.8
NGZ	Ngauruhoe	62.13	135	P	P	15 54 20.0	+1.4
GVZ	Greta Valley S	62.13	140	P	P	15 54 19.4	+1.1
ZAA0	Zalesovo Array	62.18	336	IAmb	IAmb	15 54 18.3	
	comp=Z,12nm,1.1s						
ZALV	Zalesovo Beam	62.18	336	P	P	15 54 16.2	-2.3
ZALV	Zalesovo Beam	62.18	336	P	P	15 54 16.7	-1.7
	comp=Z,2.1nm,0.4s,baz=123,slow=5.5,SNR=23						
	comp=Z,2.1nm,0.4s						
WNVZ	Wahianoa	62.19	135	P	P	15 54 19.7	+0.7
KHZ	Kahutara	62.19	139	P	P	15 54 19.2	+0.5
YAK	Yakutsk	62.20	4	P	P	15 54 17.1	-1.3
MQZ	McQueen's Vall	62.25	141	P	P	15 54 20.4	+1.3
SIMJ	Simiganj	62.29	315	P	P	15 54 18.3	-1.4
SIMJ				IAmb	IAmb	15 54 20.2	
	comp=Z,12nm,1.1s						
OGWZ	Otaki Gorge	62.54	137	P	P	15 54 21.2	+0.1
CAW	Cannon Point	62.60	137	P	P	15 54 21.2	-0.3
MRZ	Mangatainoka R	62.75	137	P	P	15 54 22.4	-0.1
BKZ	Black Stump Fm	62.75	135	P	P	15 54 22.9	+0.3
TSZ	Takapari Road	62.76	136	P	P	15 54 23.1	+0.6
KURBB	Kurchatov Arra	62.78	330	P	P	15 54 19.9	-2.6
	comp=Z,3.9nm,0.4s,baz=130,slow=5.9,SNR=49						
KURBB				pP	pP	15 55 22.0	+3.0
	comp=Z,2.0nm,0.7s,baz=128,slow=6.3,SNR=5.0						
	comp=Z,3.9nm,0.4s						
KURK	Kurchatov	62.80	330	P	P	15 54 21.9	-0.6
KWHZ	Kaweka Forest	62.81	135	P	P	15 54 23.8	+0.8
HOWZ	Holdsworth Sta	62.81	137	P	P	15 54 22.9	-0.1
PNHZ	Pukenui	62.86	136	P	P	15 54 23.5	+0.2
RTZ	Ruatahuna	62.88	134	P	P	15 54 23.8	+0.4
DVHZ	Dannevirke	63.00	136	P	P	15 54 24.4	+0.3
HAZ	Te Kaha	63.12	133	P	P	15 54 25.5	+0.6
MWZ	Matawai	63.16	134	P	P	15 54 25.8	+0.5
BFZ	Birch Farm	63.22	137	P	P	15 54 25.7	+0.1
PXZ	Pawanui	63.37	136	P	P	15 54 26.7	+0.2
MA2	Magadan	63.46	16	P	P	15 54 26.6	-0.2
MA2	Magadan	63.46	16	P	P	15 54 27.5	+0.8
PUZ	Puketiti	63.59	133	P	P	15 54 28.6	+0.5
BVAR	Borovoye Array	68.29	329	P	P	15 54 56.0	-1.6
	comp=Z,3.3nm,0.8s,baz=127,slow=9.5,SNR=18						
	comp=Z,3.3nm,0.8s						
TIXI	Tiksi	71.74	2	P	P	15 55 16.2	-1.9
TIXI				IAmb	IAmb	15 55 17.7	
	comp=Z,20nm,1.1s						
ABKAR	Akbulak array	72.48	322	P	P	15 55 21.2	-1.8
ABKAR	Akbulak array	72.48	322	IAmb	IAmb	15 55 23.6	
	comp=Z,3.2nm,1.1s						
NRIK	Noril'sk	73.17	348	P	P	15 55 25.5	-1.1
	comp=Z,4.5nm,0.8s,baz=130,slow=5.8,SNR=11						
	comp=Z,4.5nm,0.8s						
ARTI	Arti	76.02	329	P	P	15 55 40.7	-2.5
RAYN	Ar Rayn	78.10	294	P	P	15 55 53.3	-2.2
VNDA	Vanda	80.23	172	P	P	15 56 05.6	-0.3
VNDA	Vanda	80.23	172	P	P	15 56 05.2	-0.7
	comp=Z,2.7nm,0.7s,baz=313,slow=6.9,SNR=17						
	comp=Z,2.7nm,0.7s						
GURO	Guroymak-BITLI	82.58	309	IAmb	IAmb	15 56 20.5	
	comp=Z,9.5nm,1.0s						
L14K	Kuka Creek	82.83	28	IAmb	IAmb	15 56 21.5	
	comp=Z,21nm,1.1s						
F15K	North Star Dit	83.08	23	IAmb	IAmb	15 56 22.7	
	comp=Z,21nm,1.1s						
G16K	Koyuk River	83.92	24	IAmb	IAmb	15 56 27.4	
	comp=Z,14nm,1.1s						
G19K	Purcell Mounta	86.20	24	IAmb	IAmb	15 56 37.3	
	comp=Z,6.7nm,1.0s						
H19K	Roundabout Mou	86.37	24	IAmb	IAmb	15 56 38.3	
	comp=Z,9.6nm,0.9s						
N19K	Bonanza Creek	86.67	29	IAmb	IAmb	15 56 39.6	
	comp=Z,8.2nm,1.0s						
B20K	Meade River	86.78	20	IAmb	IAmb	15 56 41.0	
	comp=Z,8.9nm,1.1s						
J20K	Nowinta River	87.18	26	IAmb	IAmb	15 56 42.1	
	comp=Z,8.2nm,1.1s						
B22K	Teshekpuk Lake	88.09	20	IAmb	IAmb	15 56 47.5	
	comp=Z,12nm,1.4s						
BPAW	Bear Paw Mtn.	88.55	26	IAmb	IAmb	15 56 47.8	
	comp=Z,5.9nm,1.0s						
C23K	Itkillik River	89.01	20	IAmb	IAmb	15 56 50.4	
	comp=Z,9.2nm,1.2s						
G23K	Bananza Creek	89.08	23	IAmb	IAmb	15 56 51.2	
	comp=Z,6.0nm,1.1s						
BRTR	Keskin Array B	89.17	310	P	P	15 56 49.3	-2.0
BRTR	Keskin Array B	89.17	310	P	P	15 56 50.7	-0.6
	comp=Z,1.9nm,1.0s,baz=145,slow=3.0,SNR=8.2						
	comp=Z,1.9nm,1.0s						
I23K	Minto, Yukon-K	89.30	25	IAmb	IAmb	15 56 51.6	
	comp=Z,14nm,1.1s						
MCK	McKinley	89.44	26	IAmb	IAmb	15 56 51.5	
	comp=Z,5.9nm,1.0s						
RND	Reindeer	89.47	27	IAmb	IAmb	15 56 50.8	
	comp=Z,9.3nm,1.2s						
QSPA	South Pole Qui	89.85	180	P	P	15 56 53.4	-0.4
	comp=Z,1.9nm,0.7s,baz=323,slow=0.5,SNR=13						
	comp=Z,1.9nm,0.7s						
ILAR	Eielson Array	90.35	25	P	P	15 56 53.4	-2.7
	comp=Z,1.1nm,1.1s,baz=272,slow=4.8,SNR=4.6						
	comp=Z,1.1nm,1.1s						
PAX	Paxson	91.01	27	IAmb	IAmb	15 56 59.6	
	comp=Z,15nm,1.5s						
H27K	Steamboat Moun	92.50	24	IAmb	IAmb	15 57 07.2	
	comp=Z,5.8nm,1.1s						
L27K	Beaver Creek,	92.66	27	IAmb	IAmb	15 57 08.0	
	comp=Z,5.2nm,1.1s						
BCAR	Beaver Creek A	92.68	27	P	P	15 57 06.7	-0.3
I28M	Miner Creek	93.24	25	IAmb	IAmb	15 57 10.3	
	comp=Z,7.2nm,0.9s						
SPITS	Spitsbergen Ar	93.37	349	P	P	15 57 07.0	-2.8
	comp=Z,9.8nm,0.9s,baz=111,slow=11,SNR=5.2						
	comp=Z,9.8nm,0.9s						
DAWY	Dawson	93.64	26	IAmb	IAmb	15 57 11.9	
	comp=Z,6.6nm,1.1s						
J29N	Klondike Camp	94.09	25	IAmb	IAmb	15 57 14.5	
	comp=Z,9.4nm,1.1s						
M29M	Somme Creek	94.27	27	IAmb	IAmb	15 57 15.5	
	comp=Z,6.0nm,0.9s						
L29M	L29M	94.33	27	IAmb	IAmb	15 57 15.9	
	comp=Z,9.6nm,1.0s						
TORD	Torodi Ar. Bea	119.93	285	PKP	PKPdf	16 02 43.0	-2.3
	comp=Z,146nm,0.3s,baz=98,slow=1.9,SNR=1.8						
ULM	Lac du Bonnet	120.30	27	PKP	PKPdf	16 02 43.1	-1.9
	comp=Z,6.2nm,0.8s,baz=350,slow=5.6,SNR=3.5						
TXAR	Lajitas Array	127.27	52	PKP	PKPdf	16 02 57.1	-2.1
	comp=Z,0.7nm,0.8s,baz=207,slow=0.3,SNR=3.9						

TAP 16 15:48:58.9,23°.04N×121°.09E,h7km±1km,ML1.3,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECS	Chishang	0.13	67	P	Pg	15 49 02.1	+0.4
ECS				eS	Sg	15 49 04.5	+0.8
LONT	Longtian	0.14	164	P	Pg	15 49 02.3	+0.4
LONT				eS	Sg	15 49 04.7	+0.8
EHD	Haiduan	0.15	46	eP	Pg	15 49 02.0	-0.1
ELDTW	Lidau	0.16	336	P	Pg	15 49 02.6	+0.4
ELDTW				S	Sg	15 49 04.9	+0.4
EDH	Donghe	0.21	110	eP	Pg	15 49 03.6	+0.5
EDH				eS	Sg	15 49 07.7	+1.7
TWGBT	Beinan	0.23	182	P	Sg	15 49 07.0	+0.6
TWGBT	Beinan	0.23	182	P	Pg	15 49 03.7	+0.3
TWGBT				S	Sg	15 49 07.0	+0.6
FULB	Fuli	0.24	51	P	Pg	15 49 04.5	+0.7
FULB				eS	Sg	15 49 08.9	+1.9
CHKT	Chengkung	0.26	78	eS	Sb	15 49 09.9	-0.7
STYH	Taoyuan	0.31	294	eP	Pg	15 49 04.6	-0.5
STYH				eS	Sg	15 49 09.5	+0.3
YULB	Yu-li	0.40	29	P	Sg	15 49 11.3	-0.6
YULB	Yu-li	0.40	29	P	Pg	15 49 06.5	-0.1
YULB				eS	Sg	15 49 11.7	-0.2
TPUB	Ta-pu	0.49	301	P	Pb	15 49 11.1	+1.2
TPUB	Ta-pu	0.49	301	eP	Pb	15 49 09.6	-0.3
TPUB	Ta-pu	0.49	301	P	Pb	15 49 09.7	-0.2
EHY	Hungye	0.51	25	eP	Pg	15 49 08.4	-0.3
SSLB	Suanglung	0.75	351	P	Pb	15 49 15.0	+0.7

*IDC **16** 16:01:13.2±0.4,32°.30S×179°.50W,h0km,mb4.9/18, mbtmp4.8/21,ML5.2/2,MS4.7/52,Error ellipse: s-maj=17.2km s-min=14.4km az=91.0*
*MOS **16** 16:01:14.2±1.2,32°.42S×179°.55W,h10km,mb5.6/20, MS5.0/6,Error ellipse: s-maj=11.8km s-min=9.2km az=99.2*
*NEIC **16** 16:01:16.3±1.2,32°.37S±0°.06×179°.6W±0°.1,h9km±3km, mb5.5/130,Mww5.3/35,Error ellipse: s-maj=15.6km s-min=7.1km az=64.0*
*WEL **16** 16:01:16.3±0.8,33°.S±5°.×17°.9W±1°.2,h12km,M5.2/24, mB5.6/24,ML5.3/25,MLv5.3/24,Mw(mB)5.1/24,Error ellipse: s-maj=15.6km s-min=5.9km az=104.3,confirmed*
*NEIC **16** 16:01:17.3,32°.38S×179°.59W,h12km*
*NEIC **16** 16:01:17.3,32°.48S×179°.00W,h12km,Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^{16}Nm; M_{rr}-9.20; $M_{\theta\theta}$5.85; $M_{\phi\phi}$3.35; $M_{r\theta}$-1.59; $M_{\theta\phi}$4.50; $M_{\phi r}$1.90; Fault plane solution: $M_0$9.55000×10^{16} NP1: ϕ_s218.96000°,δ46.35000°,λ-109.86000°. NP2: ϕ_s66.58000°,δ47.11000°,λ-70.40000°. Principal axes: T 9.2726, Plg0.0000°, Azm143.0000°; N 0.5534, Plg14.0000°, Azm233.0000°; P -9.8260, Plg76.0000°, Azm51.0000°;*
*GCMT **16** 16:01:18.3±0.1,32°.34S±0°.01×179°.61W±0°.01,h12km, MW5.3/137,Moment Tensor Solution. s93,c158; s137,c261; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.22±.02; $M_{\theta\theta}$0.93±.01; $M_{\phi\phi}$0.29±.01; $M_{r\theta}$0.08±.04; $M_{\theta\phi}$0.61±.01; $M_{\phi r}$0.40±.04; Best double couple: $M_0$1.32600×10^{17} NP1:ϕ_s72.00000°,δ40.00000°, λ-69.00000°. NP2:ϕ_s225.00000°,δ53.00000°, λ-107.00000°. Principal axes: T 1.3320, Plg6.0000°, Azm327.0000°; N -0.0060, Plg13.0000°, Azm236.0000°; P -1.3210, Plg75.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **16** 16:01:20.3,32°.72S×179°.14W,h56km,mb5.3/74,South of Kermadec Islands*

ISC 16 16:01:15.9±0.3,32°.47S±0°.04×179°.48W±0°.04,h10km, n518,σ1§82/454,mb5.5/132,MS4.8/70,21C-27D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.47	23	P	Pn	16 02 08.9	-1.0
MXZ	Matakaoa Point	5.39	199		Pn	16 02 38.6	+2.3
MXZ	Matakaoa Point	5.39	199	P	Pn	16 02 38.5	+2.1
WMGZ	Waiomatatini S	5.61	197	P	Pn	16 02 38.8	-0.5
WMGZ				S	Sn	16 03 45.0	+1.3
GRZ	Great Barrier	5.63	227	P	Pn	16 02 42.9	+3.3
HAZ	Te Kaha	5.73	202	P	Pn	16 02 42.3	+1.3
WIZ	White Island	5.74	208	P	Pn	16 02 43.6	+2.5
PKGZ	Pakihiroa	5.74	200	P	Pn	16 02 40.6	-0.5
PKGZ				S	Sn	16 03 49.3	+2.2
KUZ	Kuaotunu	5.82	222	P	Pn	16 02 43.9	+1.7
KUZ	Kuaotunu	5.82	222	P	Pn	16 02 47.0	+4.9
PUZ	Puketiti	5.88	198	P	Pn	16 02 42.3	-0.8
PUZ				S	Sn	16 03 49.1	-1.5
RUGZ	Raukumara Rang	5.95	202	P	Pn	16 02 45.4	+1.2
TWGZ	Tauwhareparae	6.06	199	P	Pn	16 02 45.8	+0.3
TWGZ				S	Sn	16 03 55.1	+0.1
WCZ	Waipu Caves	6.17	234	P	Pn	16 02 48.6	+1.5
WIAZ	Waiheke Island	6.19	224	P	Pn	16 02 52.5	+5.2
CNGZ	Carnagh Statio	6.29	197	P	Pn	16 02 48.4	-0.2
CNGZ				S	Sn	16 04 03.2	+2.6
MBAZ	Motutapu North	6.31	226	P	Pn	16 02 55.8	+6.8
MWZ	Matawai	6.34	202	P	Pn	16 02 48.9	-0.5
TKGZ	Te Karaka	6.34	199	P	Pn	16 02 48.9	-0.4
OUZ	Omahuta	6.38	243	P	Pn	16 02 50.3	+0.4
MKAZ	Moumakai	6.39	222	P	Pn	16 02 55.2	+5.2
URZ	Urewera	6.41	205	Pn	Pn	16 02 50.5	+0.2
	6.1nm,0.3s,baz=342,slow=4.2,SNR=50						
URZ				LR	LR	16 05 18.0	
	comp=Z,11μm,19.9s,baz=103,slow=37 16nm,0.4s						
URZ	Urewera	6.41	205	P	Pn	16 02 51.0	+0.7
URZ	Urewera	6.41	205	P	Pn	16 02 52.3	+2.0
URZ				S	Sn	16 04 03.7	+0.2
RIGZ	Rimuhau	6.61	199	P	Pn	16 02 52.5	-0.7
RIGZ				S	Sn	16 04 06.9	-1.7
WTAZ	Waiatarua	6.62	226	P	Pn	16 03 00.4	+7.2
AWAZ	Awhitu Peninsu	6.66	225	P	Pn	16 03 01.0	+7.2
TOZ	Tahuroa Road	6.67	217		Pn	16 02 57.4	+3.5
TOZ	Tahuroa Road	6.67	217	P	Pn	16 03 00.4	+6.6
MUGZ	Murupara	6.73	206	P	Pn	16 02 55.2	+0.5
RTZ	Ruatahuna	6.77	204	Pn	Pn	16 02 52.6	-2.8
RTZ	Ruatahuna	6.77	204	P	Pn	16 02 56.0	+0.6
PRGZ	Paritu Road	6.78	198	P	Pn	16 02 56.1	+0.6
SNGZ	Shannon Statio	6.81	201	P	Pn	16 02 57.6	+1.8
MHGZ	Mahia Peninsul	7.00	197	P	Pn	16 02 57.9	-0.4
TLZ	Tolley Road	7.12	213	P	Pn	16 03 05.3	+5.2
BKZ	Black Stump Fm	7.44	205		Pn	16 03 04.3	-0.2
BKZ	Black Stump Fm	7.44	205	P	Pn	16 03 04.7	+0.2
BKZ	Black Stump Fm	7.44	205	P	Pn	16 03 03.7	-0.8
HIZ	Hauiti	7.59	216		Pn	16 03 09.8	+3.3
HIZ	Hauiti	7.59	216	P	Pn	16 03 08.3	+1.7
NGZ	Ngauruhoe	7.79	209	P	Pn	16 03 10.1	+0.7
MRZ	Mangatainoka R	9.09	205		Pn	16 03 23.9	-3.2
QRZ	Quartz Range	10.52	215		Pn	16 03 45.2	-1.4
MRNZ	Matariki Terra	10.86	213		Pn	16 03 44.9	-6.4
THZ	Tophouse	11.08	211		Pn	16 03 49.6	-4.8
KHZ	Kahutara	11.37	207	P	Pn	16 03 56.9	-1.3
CTZ	Chatham Island	11.47	170	P	Pn	16 04 02.4	+2.8
CTZ				S	Sn	16 06 02.4	-5.3
LTZ	Lake Taylor	12.19	210		Pn	16 04 05.4	-4.1
INZ	Inchbonnie	12.50	212		Pn	16 04 10.9	-2.9
LKBA	Tubou, Lakemba	14.19	3	P	P	16 04 40.6	-3.9
JCZ	Jackson Bay	14.78	215	P	Pn	16 04 45.3	+0.3
MSVF	Nonsavu	14.85	351		Pn

CAN Canberra 26.26 255 P **P 16 06 52.0 +0.6**
CAN pmax pmax
comp=Z,136nm,1.3s
EIDS Eidsvold 26.67 278 P **P 16 06 54.3 -0.7**
EIDS Eidsvold 26.67 278 P **P 16 06 56.9 +1.9**
comp=Z,53nm,2.2s
EIDS Eidsvold 26.67 278 P **P 16 06 57.5 +2.5**
TBI Tubuai 27.96 79 *e*S **S 16 11 51.1 +0.3**
comp=Z,418nm,23.5s
TBI *e*LR LR 16 14 11.1
comp=Z,7μm,26.0s
TBI *e*LR LR 16 14 14.7
comp=Z,2μm,28.2s
MOO Moorlands 28.11 240 P **P 16 07 09.4 +1.5**
TOO Toolangi 29.03 250 P **P 16 07 15.3 -0.8**
TOO Toolangi 29.03 250 P **P 16 07 18.5 +2.3**
comp=Z,27nm,1.9s
TOO Toolangi 29.03 250 P **P 16 07 15.3 -0.8**
TOO pmax pmax
comp=Z,64nm,1.6s
CMSA Cobar Meteorol 29.48 262 P **P 16 07 21.3 +1.1**
comp=Z,105nm,1.7s
CMSA Cobar Meteorol 29.48 262 P **P 16 07 21.2 +1.1**
HNR Honiara 29.80 316 LR LR 16 18 21.0
comp=Z,1μm,18.1s,baz=172,slow=35
HNR Honiara 29.80 316 P **P 16 07 26.2 +3.2**
HNR Honiara 29.80 316 P **P 16 07 23.7 +0.7**
HNR pmax pmax
comp=Z,125nm,1.0s
GEXS Deakin Univers 29.97 249 P **P 16 07 26.2 +1.8**
PPT2 Papeete2 30.75 68 *e*S **S 16 12 38.6 +3.8**
comp=Z,1μm,24.8s
PPT2 *e*LR LR 16 15 30.6
comp=Z,765nm,26.0s
PPT Papeete 30.76 68 LR LR 16 16 18.8
comp=Z,308nm,20.7s,baz=245,slow=30
ARPS Mount Arapiles 31.97 251 P **P 16 07 44.3 +2.2**
comp=Z,155nm,1.1s
ARPS Mount Arapiles 31.97 251 P **P 16 07 44.2 +2.1**
QLP Quilpie 32.01 271 P **P 16 07 44.4 +1.9**
comp=Z,144nm,2.1s
QLP Quilpie 32.01 271 P **P 16 07 45.3 +2.8**
STKA Stephens Creek 32.83 260 P **P 16 07 49.1 -0.6**
STKA Stephens Creek 32.83 260 P **P 16 07 50.7 +1.0**
comp=Z,463nm,1.8s
STKA Stephens Creek 32.83 260 P **P 16 07 50.1 +0.4**
comp=Z,24nm,0.8s,baz=95,slow=9.8,SNR=22
STKA LR LR 16 20 33.9
comp=Z,2μm,18.2s,baz=92,slow=35
comp=Z,24nm,0.8s
STKA Stephens Creek 32.83 260 P **P 16 07 51.0 +1.3**
STKA Stephens Creek 32.83 260*d iP* **P 16 07 50.3 +0.6**
INKA Innaminka 34.59 267 P **P 16 08 06.1 +1.1**
HTT Hallett 34.76 257 P **P 16 08 07.2 +0.7**
MTSU Mount Surprise 35.52 285 P **P 16 08 15.3 +2.1**
WHYH Whyalla 35.94 257 P **P 16 08 16.9 +0.3**
LCRK Leigh Creek 35.98 262 P **P 16 08 17.3 +0.4**
BBOO Buckleboo 37.23 257 P **P 16 08 27.7 +0.1**
comp=Z,122nm,1.4s
BBOO Buckleboo 37.23 257 P **P 16 08 26.9 -0.7**
QIS Mount Isa 38.27 278 P **P 16 08 36.1 -0.5**
comp=Z,36nm,2.0s
QIS Mount Isa 38.27 278 P **P 16 08 36.5 -0.1**
PMG Port Moresby 38.43 299 LR LR 16 22 15.2
comp=Z,2μm,19.3s,baz=133,slow=33
PMG Port Moresby 38.43 299*c iP* **P 16 08 39.1 +1.2**
PMG pmax pmax
comp=Z,75nm,1.9s
RABL Rabaul 38.68 311 P **P 16 08 39.8 -0.2**
RABL IAmb IAmb 16 08 48.5
comp=Z,135nm,0.8s
COEN Coen 38.70 290 P **P 16 08 40.5 +0.4**
comp=Z,41nm,1.5s
COEN Coen 38.70 290 P **P 16 08 42.2 +2.0**
OOD Oodnadatta 38.84 265 P **P 16 08 41.6 +0.4**
RKT Rikitea 40.22 88 *e*S **S 16 15 04.3 +4.4**
comp=Z,876nm,26.5s
RKT *e*SS **SS 16 17 59.9 +2.0**
comp=Z,10μm,45.2s
RKT *e*LR LR 16 19 54.6
comp=Z,10μm,26.5s
AS01 Alice Springs 41.75 270 P **P 16 09 04.9 -0.6**
AS31 Alice Springs 41.79 270 P **P 16 09 05.0 -0.9**
AS31 Alice Springs 41.79 270 P **P 16 09 04.9 -0.9**
comp=Z,39nm,1.2s
ASAR Alice Springs 41.79 270 P **P 16 09 04.9 -0.8**
ASAR Alice Springs 41.79 270 P **P 16 09 05.0 -0.8**
comp=Z,69nm,0.8s,baz=108,slow=5.4,SNR=156
ASAR LR LR 16 26 04.8
comp=Z,690nm,18.4s,baz=126,slow=36
comp=Z,69nm,0.8s
WR8 Warramunga Arr 42.83 275 P **P 16 09 12.7 -1.6**
WB1 Warramunga Ar. 42.95 275 P **P 16 09 14.4 -0.9**
WRAB Tennant Creek 42.96 275 **P 16 09 14.1 -1.3**
WRAB Tennant Creek 42.96 275*d iP* **P 16 09 14.2 -1.1**
WRAB pmax pmax
comp=Z,322nm,1.5s
WRA Warramunga Arr 42.97 275 P **P 16 09 14.7 -0.7**
WRA Warramunga Arr 42.97 275 P **P 16 09 14.3 -1.1**
comp=Z,50nm,0.7s,baz=115,slow=7.9,SNR=81
WRA LR LR 16 25 48.4
comp=Z,1μm,19.8s,baz=119,slow=34
comp=Z,50nm,0.7s
WRA Warramunga Arr 42.97 275 P **P 16 09 14.7 -0.7**
WRA pmax pmax
comp=Z,29nm,1.4s
WB0 Warramunga Arr 43.00 275 P **P 16 09 14.9 -0.8**
TAOE Nuku Hiva Isla 43.29 66 *e*S **S 16 15 48.7 +2.9**
comp=Z,145nm,26.7s
TAOE *e*SS **SS 16 19 02.7 +3.5**
comp=Z,106nm,22.3s
TAOE *e*LR LR 16 21 10.7
comp=Z,398nm,27.0s
FORT Forrest 44.33 258 P **P 16 09 25.8 -0.5**
FORT Forrest 44.33 258 P **P 16 09 25.2 -1.0**
comp=Z,189nm,1.3s
FORT Forrest 44.33 258 P **P 16 09 26.3 +0.1**
SBA Scott Base 45.88 184 P **P 16 09 40.1 +2.2**
SBA IAmb IAmb 16 09 55.3
comp=Z,68nm,1.3s
SBA Scott Base 45.88 184 P **P 16 09 40.1 +2.2**
SBA pmax pmax
comp=Z,69nm,1.3s
VNDA Vanda 45.91 186 P **P 16 09 39.2 +1.0**
VNDA Vanda 45.91 186 P **P 16 09 38.6 +0.4**
comp=Z,2.7nm,0.8s,baz=3.4,slow=6.4,SNR=15
VNDA LR LR 16 24 46.7
comp=Z,1μm,20.9s,baz=40,slow=31
comp=Z,2.7nm,0.8s
VNDA Vanda 45.91 186 P **P 16 09 39.2 +1.0**
VNDA pmax pmax
comp=Z,30nm,1.5s
WRKA Warakurna 46.01 265 P **P 16 09 38.3 -1.4**
comp=Z,196nm,1.5s
WRKA Warakurna 46.01 265 P **P 16 09 38.6 -1.1**
JAY Jayapura 47.78 300 LR LR 16 27 59.1
comp=Z,1μm,21.4s,baz=111,slow=34
JAY Jayapura 47.78 300 P **P 16 09 53.2 -0.4**
comp=Z,2μmcomp=Z,116nm,1.8s
KDU Kakadu 48.08 283 P **P 16 09 53.9 -2.0**
comp=Z,115nm,1.5s
KDU Kakadu 48.08 283 P **P 16 09 54.8 -1.1**
GENI Genyem 48.12 300 P **P 16 09 56.3 +0.1**
GENI Genyem 48.12 300 P **P 16 09 55.5 -0.7**
MTN Manton Dam 49.11 282 P **P 16 10 02.6 -1.2**
MTN Manton Dam 49.11 282 P **P 16 10 02.4 -1.4**
comp=Z,183nm,1.6s
MTN Manton Dam 49.11 282 P **P 16 10 02.6 -1.2**
KMBL Kambalda 49.23 255 P **P 16 10 05.2 +0.6**
comp=Z,47nm,1.7s
KMBL Kambalda 49.23 255 P **P 16 10 06.0 +1.4**
DRS Darwin Rock St 49.52 282 P **P 16 10 06.2 -0.7**
SMPI Sarmi 49.60 299 P **P 16 10 07.5 -0.1**
comp=Z,3μmcomp=Z,101nm,1.9s
KNRA Kununurra 49.65 277 P **P 16 10 07.1 -0.8**
KNRA Kununurra 49.65 277 P **P 16 10 07.1 -0.8**
comp=Z,153nm,1.6s
FITZ Fitzroy Crossi 51.14 272 P **P 16 10 18.4 -0.8**
FITZ IAmb IAmb 16 10 26.1
comp=Z,52nm,1.4s
FITZ Fitzroy Crossi 51.14 272 P **P 16 10 18.1 -1.1**
comp=Z,27nm,1.5s
FITZ Fitzroy Crossi 51.14 272 LR LR 16 31 23.4
comp=Z,2μm,18.9s,baz=102,slow=35
FITZ Fitzroy Crossi 51.14 272 P **P 16 10 18.4 -0.8**
SRPI Serui, Papua 51.53 297 P **P 16 10 20.8 -1.3**
comp=Z,2μmcomp=Z,116nm,1.3s
BAKI Biak 52.07 297 P **P 16 10 26.6 +0.4**
MEEK Meekatharra 53.52 259 P **P 16 10 35.5 -1.4**
comp=Z,60nm,1.6s
MEEK Meekatharra 53.52 259 P **P 16 10 37.8 +0.9**
FAKI Fak Fak 53.92 293 P **P 16 10 38.1 -1.8**
FAKI Fak Fak 53.92 293 P **P 16 10 38.3 -1.6**
FAKI Fak Fak 53.92 293 P **P 16 10 37.5 -2.4**
comp=Z,2μmcomp=Z,172nm,1.6s
PSAA3 Pilbara Seismi 54.49 265 P **P 16 10 43.7 -0.4**
comp=Z,29nm,2.5s
PSA00 Pilbara Seismi 54.50 265 P **P 16 10 44.6 +0.5**
MBWA Marble Bar 54.78 266 P **P 16 10 45.2 -0.9**
comp=Z,34nm,1.4s
MBWA Marble Bar 54.78 266 P **P 16 10 45.1 -1.0**
BNDI Bandanaira 54.79 289 P **P 16 10 45.3 -0.9**
BNDI Bandanaira 54.79 289 P **P 16 10 45.8 -0.4**
SWI Sorong 55.98 294 P **P 16 10 53.1 -1.6**
comp=Z,3μmcomp=Z,199nm,1.6s
MSAI Masohi 56.27 290 P **P 16 10 58.4 +1.5**
comp=Z,2μmcomp=Z,114nm,1.0s
SOEI Soe 56.44 280 P **P 16 10 57.8 -0.5**
SOEI Soe 56.44 280 P **P 16 10 58.7 +0.5**
SOEI Soe 56.44 280 P **P 16 10 59.2 +1.0**
AAI Ambon 56.66 289 P **P 16 11 00.2 +0.6**
comp=Z,2μmcomp=Z,74nm,1.0s
GUMO Guam 57.10 318 LR LR 16 33 01.3
comp=Z,482nm,20.3s,baz=115,slow=34
QSPA South Pole Qui 57.64 180 P **P 16 11 07.5 +1.5**
comp=Z,50nm,1.1s,baz=52,slow=0.8,SNR=57
QSPA LR LR 16 31 50.2
comp=Z,1μm,20.8s,baz=44,slow=32
comp=Z,50nm,1.1s
NLAI Namlea 57.80 289 P **P 16 11 06.4 -1.3**
comp=Z,2μmcomp=Z,115nm,2.0s
MMRI Maumere 58.73 280 P **P 16 11 12.8 -1.4**
MMRI Maumere 58.73 280 P **P 16 11 13.5 -0.7**
MMRI Maumere 58.73 280 P **P 16 11 12.8 -1.4**
comp=Z,3μmcomp=Z,158nm,2.4s
SANI Sanana 59.40 289 P **P 16 11 17.6 -1.2**
TNTI Ternate 60.02 293 P **P 16 11 21.2 -1.9**
TNTI Ternate 60.02 293 P **P 16 11 22.8 -0.3**
TNTI Ternate 60.02 293 P **P 16 11 22.8 -0.3**
comp=Z,1μmcomp=Z,64nm,1.7s
PLAI Plampang 62.35 277 P **P 16 11 40.7 +1.7**
KAPI Kappang 62.77 282 LR LR 16 37 39.3
comp=Z,743nm,20.2s,baz=110,slow=35
KAPI Kappang 62.77 282 P **P 16 11 42.8 +1.1**
DAV Davao City (W) 65.38 297 LR LR 16 39 58.6
comp=Z,399nm,20.7s,baz=118,slow=36
TOLI2 Tolitoli 65.44 288 P **P 16 11 59.4 0.0**
TOLI2 IAmb IAmb 16 12 05.2
comp=Z,30nm,1.0s
TOLI2 Tolitoli 65.44 288 P **P 16 12 00.0 +0.7**
JAGI Jajag, Banyuwa 65.58 276 P **P 16 12 01.6 +1.3**
BELA Belgrano 2 67.90 172 P **P 16 12 13.9 -0.2**
BELA IAmb IAmb 16 12 34.4
comp=Z,47nm,1.3s
JCJ Chichijima 69.58 324 LR LR 16 38 30.0
comp=Z,449nm,21.2s,baz=141,slow=32
MAW Mawson 69.93 201 P **P 16 12 26.6 -0.1**
MAW Mawson 69.93 201 P **P 16 12 27.7 +1.0**
comp=Z,4.4nm,1.4s
MAW Mawson 69.93 201 P **P 16 12 27.1 +0.3**
comp=Z,9.9nm,1.2s,baz=116,slow=11,SNR=5.4
MAW LR LR 16 42 18.3
comp=Z,552nm,19.0s,baz=120,slow=35
comp=Z,9.9nm,1.2s
PMSA Palmer Station 70.90 156 LR LR 16 40 44.2
comp=Z,718nm,18.3s,baz=260,slow=33
LEM Lembang 71.95 273 LR LR 16 44 02.3
comp=Z,539nm,20.3s,baz=163,slow=36
TGY Tagaytay City 73.39 299 LR LR 16 44 39.8
comp=Z,126nm,20.1s,baz=141,slow=36
ELIB Princess Elisa 74.64 187 *dP* **P 16 12 53.9 -1.2**
comp=Z,13nm,0.8s
SYO Syowa Base 74.81 194‖*eP* **P 16 12 55.5 -0.4**
SYO Syowa Base 74.81 194‖*epP* **P 16 12 57.0 +1.1**
SYO Syowa Base 74.81 194‖*es*P sP 16 13 00.6 +1.5
SYO Syowa Base 74.81 194‖*e*PcP **PcP 16 13 09.5 -0.4**
JHJ Hachijo jima 2 75.71 326 LR LR 16 44 01.5
comp=Z,461nm,18.3s,baz=92,slow=34
TROLL Troll, Antarti 75.80 181 ⇑P **P 16 13 01.6 -0.2**
comp=Z,2μm,0.8s
SNAA Sanae 76.12 179 P **P 16 13 02.7 -0.8**
SNAA Sanae 76.12 179 ⇑P **P 16 13 03.3 -0.2**
comp=Z,663nm,0.9s
SNAA Sanae 76.12 179 P **P 16 13 03.3 -0.2**
comp=Z,37nm,1.0s,baz=218,slow=4.7,SNR=18
SNAA LR LR 16 42 48.8
comp=Z,1μm,21.6s,baz=256,slow=33
comp=Z,37nm,1.0s
VNA3 Neumayer Olymp 76.32 177 ⇑P **P 16 13 05.1 +0.5**
comp=Z,104nm,0.8s
NVL N'lazarevskaya 76.73 184 *i* P **P 16 13 04.6 -2.3**
NVL pmax pmax
comp=Z,63nm,1.9s
VNA1 Neumayer--Stat 76.98 177 ⇑P **P 16 13 08.4 +0.2**
comp=Z,120nm,1.0s
JOW Kunigami 77.14 314 LR LR 16 41 56.8
comp=Z,542nm,21.9s,baz=178,slow=32
COYC Coyhaique 78.30 137 P **P 16 13 16.9 +0.8**
INU Inuyama 78.85 325 P **P 16 13 17.6 -1.4**
INU Inuyama 78.85 325 P **P 16 13 19.8 +0.8**
JGF Kuroka 78.89 325 P **P 16 13 20.2 +0.9**
MJAR Matsushiro Arr 79.25 327 P **P 16 13 18.9 -2.3**
comp=Z,5.8nm,1.1s,baz=158,slow=5.8,SNR=9.5
MJAR LR LR 16 43 14.1
comp=Z,279nm,21.5s,baz=149,slow=32
comp=Z,5.8nm,1.1s
MAJO Matsushiro 79.25 327 P **P 16 13 19.7 -1.6**
MAJO Matsushiro 79.25 327 P **P 16 13 22.3 +1.1**
MAJO Matsushiro 79.25 327⇑*iP* **P 16 13 19.6 -1.6**
MAJO pmax pmax
comp=Z,25nm,1.3s
LL02 Futaleuf 79.80 135 P **P 16 13 25.3 +0.9**
JNU Nakatsue 80.29 320 P **P 16 13 25.8 -1.1**
JNU IAmb IAmb 16 13 33.9
comp=Z,43nm,1.2s
JNU Nakatsue 80.29 320 LR LR 16 48 11.4
comp=Z,299nm,18.2s,baz=146,slow=35
JNU Nakatsue 80.29 320 P **P 16 13 26.4 -0.6**
H03S2 Juan Fernandez 80.37 124 T T 17 42 07.4
baz=236,slow=74,SNR=49
H03S1 Juan Fernandez 80.38 124 T T 17 42 08.6
baz=236,slow=74,SNR=52
H03S3 Juan Fernandez 80.39 124 T T 17 42 07.5
baz=236,slow=74,SNR=58
H03N3 Juan Fernandez 80.57 124 T T 17 42 15.2
baz=239,slow=72,SNR=138
H03N2 Juan Fernandez 80.58 124 T T 17 42 17.3
baz=239,slow=72,SNR=84
H03N1 Juan Fernandez 80.59 124 T T 17 42 21.0
baz=239,slow=72,SNR=304
LR05 Currie 81.41 132 IAmb IAmb 16 13 44.6
comp=Z,90nm,1.6s
JTM Tenmabayashi 81.50 331 P **P 16 13 34.2 +1.0**
PLCA Paso Flores 82.01 133 P **P 16 13 37.1 +0.8**
PLCA IAmb IAmb 16 13 45.1
comp=Z,32nm,1.1s
PLCA Paso Flores 82.01 133 P **P 16 13 36.2 -0.1**
comp=Z,11nm,1.0s,baz=235,slow=4.9,SNR=6.0
comp=Z,11nm,1.0s
PLCA Paso Flores 82.01 133 P **P 16 13 37.1 +0.8**
PLCA pmax pmax
comp=Z,32nm,1.1s
QZH Quanzhou 82.13 306 *eP* **P 16 13 36.9 0.0**
QZH *e*S **S 16 23 49.3 -2.6**
QZH LR LR
comp=Z,350nm,19.9s
QZH LR LR
comp=Z,220nm,19.2s
QZH LR LR
comp=Z,590nm,29.5s
JKA Kamikawa-asahi 83.71 334 IAmb IAmb 16 13 47.9
comp=Z,62nm,1.4s
ASAJ Asahikawa 83.71 334 LR LR 16 43 55.4
comp=Z,1μm,21.8s,baz=161,slow=31
ASAJ Asahikawa 83.71 334 P **P 16 13 42.7 -1.9**
BI02 San Fabin de 83.95 130 IAmb IAmb 16 13 54.9
comp=Z,29nm,0.9s
PSI Prapat 84.41 277 LR LR 16 52 14.9
comp=Z,457nm,20.0s,baz=134,slow=36
TJN Taejon 84.64 320 P **P 16 13 50.1 +0.6**
QIZ Qiongzhong 84.76 296 P P 16 13 55.4 +4.8
QIZ S **S 16 24 20.8 +2.0**
QIZ SS **SS 16 29 51.5 +0.3**
QIZ pmax pmax
comp=Z,210nm,9.2s
QIZ LR LR
comp=Z,130nm,17.8s
QIZ LR LR
comp=Z,250nm,16.9s
QIZ LR LR
comp=Z,340nm,19.8s
SHEM Shemya Is, Ala 85.03 356 LR LR 16 46 25.8
comp=Z,885nm,18.8s,baz=164,slow=32
KSRS Korea Array 85.12 321 P **P 16 13 51.5 -0.5**
comp=Z,3.8nm,0.8s,baz=140,slow=5.5,SNR=14
KSRS PP **PP 16 17 10.5 +0.8**
comp=Z,4.0nm,1.1s,baz=147,slow=8.3,SNR=6.5
KSRS LR LR 16 50 29.0
comp=Z,254nm,18.9s,baz=135,slow=35
comp=Z,3.8nm,0.8s
KSAR Wonju Array Be 85.14 321 P **P 16 13 51.3 -0.7**
KSAR Wonju Array Be 85.14 321 P **P 16 13 51.3 -0.7**
BO02 Sierra Bellavi 85.38 129 IAmb IAmb 16 14 02.5
comp=Z,50nm,1.3s
MT01 Popeta 85.62 128 IAmb IAmb 16 14 02.8
comp=Z,41nm,0.9s
YSS Yuzhno-Sakhali 86.07 335 P **P 16 13 56.4 -0.1**
YSS IAmb IAmb 16 14 04.0
comp=Z,55nm,1.1s
YSS Yuzhno-Sakhali 86.07 335 P **P 16 13 57.0 +0.6**
YSS Yuzhno-Sakhali 86.07 335 *eP* **P 16 13 56.1 -0.3**
YSS *e* 16 24 19.1
YSS *e*S **SKSac 16 24 22.7 +0.6**
YSS *e*PPS PPS 16 25 34.1
YSS pmax pmax
comp=Z,300nm,2.9s
YSS pmax pmax
comp=Z,40nm,1.2s
LMEL Las Melosas 86.33 128 IAmb IAmb 16 16 37.6
comp=Z,22nm,0.9s
NJ2 Nanjing 86.65 312 *eP* **P 16 14 01.5 +1.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
LPIG La Paz 86.69 59 LR LR 16 46 19.5
comp=Z,172nm,18.2s,baz=206,slow=31
SLBS Sierra La Lagu 86.70 59 P **P 16 14 00.7 +0.4**
SLBS IAmb IAmb 16 14 08.9
comp=Z,66nm,1.6s
TEY Ternei 86.85 330 *eP* P 16 14 14.1 +14
PET Petropavlovsk 87.25 347 *eP* **P 16 13 58.5 -3.5**
PET *e*S **S 16 24 39.9 -1.7**
PET *e*PS **PnS 16 25 49.0 +6.7**
PET pmax pmax
comp=Z,200nm,5.5s
PET MLR MLR
comp=Z,500nm,20.0s
PEA0B Petropavlovsk- **87.51 346**⇑*eP* **P 16 14 01.3 -2.1**
PETK Petropavlovsk- **87.51 346** P **P 16 14 02.9 -0.4**
PETK Petropavlovsk- **87.51 346** P **P 16 14 02.6 -0.8**
comp=Z,5.6nm,1.0s,baz=150,slow=9.6,SNR=2.4
PETK LR LR 16 49 45.1
comp=Z,471nm,18.9s,baz=176,slow=33
comp=Z,5.6nm,1.0s
PETK Petropavlovsk- **87.51 346** P **P 16 14 02.9 -0.4**
VTX Valle De La Tr 87.51 50 IAmb IAmb 16 14 12.4
comp=Z,55nm,1.2s
PSTR Posyet 87.57 326‖*eP* **P 16 14 02.9 -0.9**
CO03 El Pedregal 87.80 125 IAmb IAmb 16 14 13.0
comp=Z,41nm,1.4s
USA0B Ussuriysk Arra 88.20 327*ceP* **P 16 14 06.6 -0.3**
USRK Ussuriysk Ar. 88.20 327 **P 16 14 06.0 -0.8**
USRK Ussuriysk Ar. 88.20 327 P **P 16 14 05.5 -1.4**
comp=Z,15nm,1.2s,baz=134,slow=5.5,SNR=12
USRK LR LR 16 49 37.4
comp=Z,423nm,19.4s,baz=135,slow=33
comp=Z,15nm,1.2s
USRK Ussuriysk Ar. 88.20 327 P **P 16 14 06.0 -0.8**
YUH Yuha Desert 88.24 49 IAmb IAmb 16 14 15.9
comp=Z,49nm,1.2s
PFO Pinyon Flats O 88.53 48 P **P 16 14 09.3 +0.4**
PFO Pinyon Flats O 88.53 48 LR LR 16 48 35.0
comp=Z,296nm,18.3s,baz=234,slow=32
PFO Pinyon Flats O 88.53 48*deP* **P 16 14 09.3 +0.4**
PFO pmax pmax
comp=Z,93nm,1.4s
ZON Zonda 88.74 127 IAmb IAmb 16 14 18.0
comp=Z,27nm,1.2s
CMB Columbia Colle 89.14 43 IAmb IAmb 16 14 19.1
comp=Z,44nm,1.4s
AC05 El Transito 89.29 124 IAmb IAmb 16 14 21.4
comp=Z,38nm,1.2s
O02D Mt. Diablo Mer 89.30 40 P **P 16 14 12.5 +0.3**
NONG Nongkai 89.37 292 P **P 16 14 13.6 +0.6**
GSC Goldstone, Bar 89.43 47 IAmb IAmb 16 14 21.3
comp=Z,68nm,1.4s
TYV Tymovskoe 89.45 337 *eP* **P 16 14 12.8 +0.2**
TYV *e*S **S 16 25 03.6 +1.0**
TYV pmax pmax
comp=Z,47nm,1.4s
TYV pmax pmax
comp=Z,300nm,4.3s
TYV smax smax
comp=N,500nm,7.6s
TYV smax smax
comp=E,500nm,7.6s
DL2 Dalian 89.63 318 *eP* **P 16 14 13.8 +0.1**
DL2 S **S 16 25 05.9 +1.1**
DL2 pmax pmax
comp=E,53nm,1.4s
DL2 pmax pmax
comp=E,350nm,5.8s
DL2 LR LR
comp=E,350nm,22.2s
DL2 LR LR
comp=E,580nm,25.6s
MDJ Mudanjiang 89.63 326 P **P 16 14 13.5 -0.1**
MDJ pmax pmax
comp=E,10.0nm,1.0s
MDJ Mudanjiang 89.63 326 P **P 16 14 14.0 +0.4**
113A Mohawk Valley, 89.71 50 IAmb IAmb 16 14 23.0
comp=Z,54nm,1.4s
BLYC Blythe 89.85 49 IAmb IAmb 16 14 23.6
comp=Z,52nm,1.2s
WAKR Walker 90.01 43 IAmb IAmb 16 14 23.8
comp=Z,46nm,1.4s
GWY Greenwater Val 90.09 46 IAmb IAmb 16 14 23.4
comp=Z,29nm,1.4s
PNTR Pine Nut 90.31 42 IAmb IAmb 16 14 25.0
comp=Z,40nm,1.2s
LHV Little Huntoon 90.38 44 IAmb IAmb 16 14 25.3
comp=Z,42nm,1.3s
BEKR Beckworth 90.42 41 IAmb IAmb 16 14 25.1
comp=Z,34nm,1.5s
YBH Yreka Blue Hor 90.44 39 P **P 16 14 17.5 -0.1**
YBH IAmb IAmb 16 14 25.4
comp=Z,34nm,1.4s
YBH Yreka Blue Hor 90.44 39 LR LR 16 46 43.6
comp=Z,174nm,21.7s,baz=240,slow=30
YBH Yreka Blue Hor 90.44 39 P **P 16 14 17.5 -0.1**
YBH pmax pmax
comp=Z,34nm,1.4s
HATC Hat Creek Radi 90.47 40 IAmb IAmb 16 14 25.5
comp=Z,57nm,1.3s
TIA Tai'an 90.47 314 P **P 16 14 17.1 -0.6**
TIA S **S 16 25 17.4 +4.6**
TIA pmax pmax
comp=Z,16nm,1.5s
TIA pmax pmax
comp=Z,250nm,7.9s
TIA LR LR
comp=Z,200nm,21.6s
TIA LR LR
comp=Z,260nm,23.0s
TIA LR LR
comp=Z,430nm,23.5s
NVAR Mina Array Bea 90.61 43 P **P 16 14 18.5 -0.1**
NVAR Mina Array Bea 90.61 43 P **P 16 14 18.2 -0.4**
comp=Z,7.8nm,1.1s,baz=222,slow=7.0,SNR=17
NVAR LR LR 16 49 54.7
comp=Z,420nm,18.5s,baz=216,slow=32
comp=Z,7.8nm,1.1s
RYN Ryan 90.62 43 IAmb IAmb 16 14 33.5
comp=Z,26nm,1.4s
TPNV Topopah Spring 90.85 46 IAmb IAmb 16 14 27.9
comp=Z,29nm,1.4s
Y14A Wickenburg 90.94 50 IAmb IAmb 16 14 28.6
comp=Z,42nm,1.4s
L04D Klamath Falls 90.99 39 P **P 16 14 20.4 +0.2**

CN2 Changchun 91.04 324 P **P** **16 14 19.0 -1.2**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,800nm,25.0s
CN2 LR LR
comp=Z,600nm,25.0s
CN2 LR LR
comp=Z,400nm,27.0s
W13A Hualapai Mount 91.11 48 IAmb IAmb 16 14 29.6
comp=Z,47nm,1.7s
DBO Dodson Butte 91.14 38 IAmb IAmb 16 14 28.8
comp=Z,40nm,1.3s
BBOR Butler Butte 91.27 38 IAmb IAmb 16 14 29.0
comp=Z,38nm,1.4s
AC02 Maricunga 91.30 123 IAmb IAmb 16 14 35.8
comp=Z,20nm,1.1s
TUC Tucson 91.38 52 P **P** **16 14 22.9 +0.8**
TUC IAmb IAmb 16 14 31.2
comp=Z,47nm,1.2s
TUC Tucson 91.38 52 P **P** **16 14 23.0 +0.8**
TUC pmax pmax
comp=Z,47nm,1.3s
BNX BinXian 91.50 326 ⇓P **P** **16 14 21.5 -0.7**
BNX pmax pmax
comp=Z,19nm,1.4s
BNX pmax pmax
comp=Z,100nm,6.5s
GRNR Gornyy 91.57 334⇑ *i*P P 16 14 17.4 -5.1
GRNR pmax pmax
comp=Z,2.0nm,1.3s
319A Douglas 91.83 54 IAmb IAmb 16 14 33.1
comp=Z,27nm,1.1s
PRN Pahroc Range 91.87 46 IAmb IAmb 16 14 33.0
comp=Z,33nm,1.3s
GO02 Mina Guanaco 91.98 121 IAmb IAmb 16 14 33.9
comp=Z,17nm,0.9s
KLR Kul'dur 92.20 330 P **P** **16 14 23.9 -1.4**
comp=Z,2.8nm,0.9s,baz=345,slow=1.1,SNR=4.8
KLR LR LR 16 52 08.8
comp=Z,904nm,20.1s,baz=166,slow=33
comp=Z,2.8nm,0.9s
KLR Kul'dur 92.20 330 *ce*P **P** **16 14 24.9 -0.5**
KLR pmax pmax
comp=Z,22nm,1.6s
X16A Lo Mia Camp, P 92.25 50 IAmb IAmb 16 14 35.2
comp=Z,31nm,1.4s
J05D Fort Rock, OR 92.30 38 IAmb IAmb 16 14 34.0
comp=Z,49nm,1.4s
LYN LuoYang 92.34 310 *e*P **P** **16 14 26.8 +0.3**
LYN pP pwP 16 14 33.9 +1.7
LYN SKS **SKSac** **16 25 01.0 +1.1**
LYN S **ScS** **16 25 34.8 +2.7**
LYN SS **SS** **16 31 41.1 -0.2**
LYN pmax pmax
comp=Z,19nm,0.7s
LYN pmax pmax
comp=Z,200nm,10.1s
LYN LR LR
comp=Z,320nm,16.8s
LYN LR LR
comp=Z,610nm,22.6s
HNS HongShan 92.72 313 ⇑P **P** **16 14 29.9 +1.8**
HNS PP **PP** **16 18 09.4 -1.1**
HNS S **S** **16 25 32.8 -0.2**
HNS pmax pmax
comp=Z,12nm,1.2s
HNS LR LR
comp=Z,150nm,19.6s
HNS LR LR
comp=Z,350nm,18.4s
HNS LR LR
comp=Z,360nm,22.0s
KDAK Kodiak Island 92.72 14 LR LR 16 48 34.9
comp=Z,525nm,21.6s,baz=66,slow=31
LCMT Little Creek M 92.73 47 IAmb IAmb 16 14 36.6
comp=Z,16nm,1.3s
CMAR Chiang Mai Arr 92.90 290 P **P** **16 14 28.2 -1.2**
CMAR Chiang Mai Arr 92.90 290 P **P** **16 14 27.3 -2.1**
comp=Z,0.2nm,0.4s,baz=83,slow=2.9,SNR=4.2
CMAR PP **PP** **16 18 11.2 -1.1**
comp=Z,1.4nm,1.1s,baz=140,slow=7.3,SNR=6.3
CMAR PKKPbc **PKKPbc** **16 31 42.6 +3.5**
comp=Z,0.6nm,0.9s,baz=290,slow=3.0,SNR=6.0
CMAR LR LR 16 54 39.0
comp=Z,151nm,21.8s,baz=135,slow=34
comp=Z,0.2nm,0.4s
CMAR Chiang Mai Arr 92.90 290 P **P** **16 14 28.2 -1.2**
U15A North Rim 92.96 48 IAmb IAmb 16 14 38.1
comp=Z,28nm,1.4s
WUAZ Wupatki 92.97 49 IAmb IAmb 16 14 37.3
comp=Z,60nm,1.9s
KNB Kanab 92.99 47 IAmb IAmb 16 14 45.4
comp=Z,34nm,1.5s
WVOR Wild Horse Val 93.11 40 IAmb IAmb 16 14 37.6
comp=Z,20nm,1.3s
WVOR Wild Horse Val 93.11 40 P **P** **16 14 28.8 -1.2**
WVOR pmax pmax
comp=Z,15nm,1.7s
PKCU Pink Cliffs 93.58 47 IAmb IAmb 16 14 41.4
comp=Z,22nm,1.1s
I07A Izee 93.76 39 IAmb IAmb 16 14 40.5
comp=Z,20nm,1.2s
J08A Circle Bar Ran 93.82 40 IAmb IAmb 16 14 40.7
comp=Z,26nm,1.2s
ELK Elko 93.92 43 P **P** **16 14 32.4 -1.5**
G06A Carlson Farm, 93.96 37 IAmb IAmb 16 14 41.1
comp=Z,43nm,1.4s
NNA Nana 94.05 107 LR LR 16 47 02.7
comp=Z,469nm,21.5s,baz=234,slow=29
TX31 Lajitas Ar. Si 94.56 58 IAmb IAmb 16 14 45.0
comp=Z,14nm,1.2s
TXAR Lajitas Array 94.56 58 P **P** **16 14 36.8 -0.2**
TXAR Lajitas Array 94.56 58 P **P** **16 14 36.0 -0.9**
comp=Z,4.8nm,1.1s,baz=206,slow=5.4,SNR=18
TXAR PP **PP** **16 18 27.4 +2.2**
comp=Z,0.5nm,0.9s,baz=197,slow=3.9,SNR=3.9
TXAR LR LR 16 52 01.3
comp=Z,90nm,18.1s,baz=255,slow=32
comp=Z,4.8nm,1.1s
TXAR Lajitas Array 94.56 58 P **P** **16 14 36.8 -0.2**
HEH HeiHe 94.82 329 *e*P **P** **16 14 37.6 +0.2**
HEH pmax pmax
comp=Z,5.0nm,0.8s
HEH LR LR
comp=Z,390nm,19.1s
HEH LR LR
comp=Z,350nm,20.1s
HEH LR LR
comp=Z,760nm,20.9s
G08A Pilot Rock 94.87 38 IAmb IAmb 16 14 45.3
comp=Z,22nm,1.3s
MA2 Magadan 94.96 345 LR LR 16 52 16.0
comp=Z,588nm,21.4s,baz=160,slow=32
PZH PanZhiHua 95.15 298 P **P** **16 14 40.6 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,50nm,4.5s
ALPN Alpine 95.17 57 IAmb IAmb 16 14 47.3
comp=Z,14nm,1.1s
MFID Camas Ranch 95.31 41 IAmb IAmb 16 14 47.3
comp=Z,17nm,1.3s
ATAH Atahualpa 95.47 102 LR LR 16 48 48.3
comp=Z,174nm,22.0s,baz=239,slow=30
BBB Bella Bella 95.52 29 LR LR 16 49 24.8
comp=Z,282nm,21.4s,baz=258,slow=30
SRU San Rafael Swe 95.71 47 IAmb IAmb 16 14 49.4
comp=Z,20nm,1.5s
ANMO Albuquerque 95.85 52 LR LR 16 54 45.7
comp=Z,280nm,18.1s,baz=62,slow=34
ANMO Albuquerque 95.85 52⇑ *e*P **P** **16 14 43.1 +0.3**
ANMO pmax pmax
comp=Z,9.0nm,2.8s
HHC Hu-ho-hao-te 96.77 315 *e*P **P** **16 14 46.6 -0.2**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,72nm,5.1s
HHC LR LR
comp=Z,230nm,19.9s
HHC LR LR
comp=Z,260nm,21.4s
HHC LR LR
comp=Z,560nm,19.1s

ZEA Zeya 97.44 331 *e*P **P** **16 14 48.9 -0.4**
ZEA *e* 16 26 10.4
ZEA *e* 16 27 35.2
BTO Baotou 97.56 314 *e*P Pdif 16 14 51.5 +1.1
BTO PP **PP** **16 18 51.8 +3.5**
BTO S **S** **16 26 15.9 +0.6**
BTO pmax pmax
comp=Z,12nm,0.5s
BTO pmax pmax
comp=Z,440nm,6.6s
BTO LR LR
comp=Z,350nm,14.5s
BTO LR LR
comp=Z,250nm,5.6s
BTO LR LR
comp=Z,500nm,16.3s
SEY Seymchan 97.71 347 LR LR 16 54 41.0
comp=Z,886nm,20.3s,baz=162,slow=33
NEW Newport 97.79 37 LR LR 16 55 16.8
comp=Z,223nm,18.4s,baz=228,slow=33
PDAR Pinedale Array 98.50 44 P **P** **16 14 53.6 -1.1**
comp=Z,0.3nm,0.7s,baz=208,slow=5.0,SNR=4.4
PDAR PP **PP** **16 18 54.3 -1.3**
comp=Z,1.1nm,1.0s,baz=284,slow=6.0,SNR=3.7
PDAR LR LR 16 55 07.9
comp=Z,176nm,18.3s,baz=255,slow=33
comp=Z,0.3nm,0.7s
YHL Hebgen Lake 98.81 42 IAmb IAmb 16 15 19.9
comp=Z,19nm,1.6s
BOZ Bozeman (W) 99.02 41 IAmb IAmb 16 16 40.1
comp=Z,9.8nm,0.7s
JTS Las Juntas de 99.23 84 LR LR 16 51 25.0
comp=Z,65nm,20.4s,baz=306,slow=30
DLBC Dease Lake 99.52 24 LR LR 16 56 21.7
comp=Z,598nm,18.0s,baz=190,slow=33
CPUP Villa Florida 99.67 130 LR LR 16 53 34.7
comp=Z,365nm,20.0s,baz=197,slow=32
ILAR Eielson Array 100.23 14 P **Pdif** **16 15 00.2 -1.3**
comp=Z,0.5nm,0.8s,baz=212,slow=5.1,SNR=4.0
BILL Bilibino 100.77 355⇑ *e*P **Pdif** **16 15 04.4 +0.5**
YKA Yellowknife Ar 107.86 26 Pdiff **Pdif** **16 15 36.5 +1.0**
comp=Z,0.2nm,0.6s,baz=265,slow=3.4,SNR=3.8
YKA PP **PP** **16 20 01.6 -3.2**
comp=Z,0.1nm,0.4s,baz=236,slow=7.5,SNR=4.0
YKA PKKPbc **PKKPbc** **16 30 57.1 -0.4**
comp=Z,0.5nm,0.8s,baz=52,slow=3.0,SNR=5.8
HYB Hyderabad 109.05 279 *e*PKIKP **PKiKP** **16 19 44.9 -1.5**
WMQ Urumqi 113.51 308 *e*PKP **PKiKP** **16 19 54.3 +0.2**
WMQ LR LR
comp=Z,260nm,22.3s
ZSN Zaisan 116.68 311 *e*PKIKP **PKPdf** **16 19 59.5 -0.5**
ZSN Zaisan 116.68 311 *e*PKP **PKPdf** **16 19 59.6 -0.5**
MK31 Makanchi Array 118.12 310⇑ *i*PKIKP **PKPdf** **16 20 02.0 -0.8**
MKAR Makanchi Array 118.12 310 PKP **PKPdf** **16 19 59.5 -3.3**
comp=Z,0.8nm,0.8s,baz=72,slow=4.0,SNR=8.7
MKAR PP **PP** **16 21 15.2 -3.3**
comp=Z,0.5nm,0.7s,baz=107,slow=4.2,SNR=3.6
MKAR PKKPbc **PKKPab** **16 30 26.0 +2.9**
comp=Z,1.5nm,1.1s,baz=313,slow=2.7,SNR=5.2
ZALV Zalesovo Beam 118.73 318 PKP **PKPdf** **16 20 00.9 -2.8**
comp=Z,0.8nm,0.6s,baz=192,slow=2.9,SNR=4.0
SHLS Shalkode 118.87 305 *e*PKIKP **PKPdf** **16 20 03.3 -1.2**
SHLS *e* 16 21 20.3
SHLS Shalkode 118.87 305 *e*PKP **PKPdf** **16 20 03.3 -1.2**
SHLS *e*PP **PP** **16 21 20.3 -3.6**
UZB Uzynbulak 119.17 305 *e*PKIKP **PKPdf** **16 20 04.3 -0.8**
UZB *e* 16 21 24.3
UZB Uzynbulak 119.17 305 *e*PKP **PKPdf** **16 20 04.4 -0.7**
UZB *e*PP **PP** **16 21 24.3 -1.7**
SATY Saty 119.57 305 *e*PKIKP **PKPdf** **16 20 05.2 -0.6**
SATY Saty 119.57 305 *e*PKP **PKPdf** **16 20 05.3 -0.6**
MDOK Medeo 120.55 304 *e*PKIKP **PKPdf** **16 20 07.1 -0.7**
MDOK Medeo 120.55 304 *e*PKP **PKPdf** **16 20 07.2 -0.7**
TNSS Tian-Shan 120.59 304 *e*PKIKP **PKPdf** **16 20 07.1 -1.1**
TNSS Tian-Shan 120.59 304 *e*PKP **PKPdf** **16 20 07.2 -1.1**
AAA Alma-Ata 120.66 304 *e*PKIKP **PKPdf** **16 20 07.3 -0.6**
AAA Alma-Ata 120.66 304 *e*PKP **PKPdf** **16 20 07.3 -0.6**
CHKK Chushkaly 120.80 305 *e*PKIKP **PKPdf** **16 20 07.5 -0.5**
CHKK Chushkaly 120.80 305 *e*PKP **PKPdf** **16 20 07.5 -0.5**
NRIK Noril'sk 121.00 336 PKP **PKPdf** **16 20 05.5 -2.1**
comp=Z,1.3nm,0.6s,baz=114,slow=5.2,SNR=7.2
NRIK Noril'sk 121.00 336⇓ *i*PKIKP **PKPdf** **16 20 07.1 -0.5**
KURK Kurchatov 121.55 313⇑ *i*PKIKP **PKPdf** **16 20 07.8 -1.4**
KURBB Kurchatov Arra 121.59 313 PKP **PKPdf** **16 20 06.7 -2.6**
comp=Z,2.1nm,0.2s,baz=105,slow=2.0,SNR=7.5
KURBB PP **PP** **16 21 40.7 -1.4**
comp=Z,0.5nm,0.3s,baz=102,slow=6.1,SNR=5.2
AAK Ala-Archa 122.20 303⇓ *e*PKIKP **PKPdf** **16 20 08.7 -2.3**
SGDS Sogindy 122.33 304 *e*PKIKP **PKPdf** **16 20 10.6 -0.5**
SGDS Sogindy 122.33 304 *e*PKP **PKPdf** **16 20 10.6 -0.5**
DZA Taraz 124.51 303 *e*PKIKP **PKPdf** **16 20 14.6 -0.6**
DZA Taraz 124.51 303 *e*PKP **PKPdf** **16 20 14.6 -0.6**
BRZS Berezniki 125.12 311 *e*PKIKP **PKPdf** **16 20 15.9 -0.2**
BRZS Berezniki 125.12 311 *e*PKP **PKPdf** **16 20 16.0 -0.2**
IUG Iuzhnay 125.26 301 *e*PKIKP **PKPdf** **16 20 16.0 -0.7**
IUG *e* 16 22 05.4
IUG Iuzhnay 125.26 301 *e*PKP **PKPdf** **16 20 16.1 -0.7**
IUG *e*PP **PP** **16 22 05.5 -1.8**
BRLS Boroldaу 125.61 302 *e*PKIKP **PKPdf** **16 20 16.8 -0.5**
BRLS Boroldaу 125.61 302 *e*PKP **PKPdf** **16 20 16.9 -0.5**
BVAR Borovoye Array 126.98 315 PKP **PKPdf** **16 20 17.3 -2.3**
comp=Z,2.8nm,0.8s,baz=27,slow=1.7,SNR=9.1
BVAR PP **PP** **16 22 19.8 +1.5**
comp=Z,2.5nm,1.0s,baz=103,slow=6.4,SNR=4.8
BRVK Borovoye 127.05 315⇑ *e*PKIKP **PKPdf** **16 20 17.3 -2.4**
ARTI Arti 133.96 319 *i* PKIKP **PKiKP** **16 20 33.5 -0.5**
ARTI 16 22 59.0
ARTI SS SS 16 40 46.1 -5.1
APA Apatity 139.98 341⇓ *i*PKHKP PKPpre 16 20 18.1
APA pmax pmax
comp=Z,4.0nm,1.1s
MAK Makhachkala 141.83 300 *i* P **Pdif** **16 17 53.7 -13**
MAK *i* 16 20 44.8
MAK *e*PPP PPP 16 26 57.6
MAK *e* 16 27 56.2
MAK pmax pmax
comp=Z,39nm,0.7s
KLMR Klimovskoe 141.96 330 *e*PKIKP **PKPdf** **16 20 44.2 -3.0**
KLMR *e* 16 23 50.6
KLMR pmax pmax
comp=Z,22nm,1.5s
KLMR MLR MLR
comp=Z,568nm,19.0s
VRH Novokhopyorsk 144.63 314 *e*PKIKP **PKPab** **16 20 48.0 -2.9**
VRH pmax pmax
comp=Z,72nm,1.8s
NCK Nalchik 144.67 301⇓ *e*PKIKP **PKPdf** **16 20 52.6 0.0**
GOF Gofitskoye 144.94 304 *ce*PKIKP **PKPab** **16 20 50.4 -1.8**
KBZ Khabaz 145.16 301 PKPbc **PKPbc** **16 20 50.1 -2.9**
comp=Z,7.9nm,1.1s,baz=135,slow=3.0,SNR=8.0
KBZ Khabaz 145.16 301 *ce*PKP2 **PKPbc** **16 20 50.9 -2.1**
MOS Moscow 145.28 323 *e*PKP2 **PKPbc** **16 20 49.3 -3.7**
MOS pmax pmax
comp=Z,230nm,1.6s
KIV Kislovodsk 145.29 302 *i* PKP2 **PKPbc** **16 20 51.4 -2.2**
KIV pmax pmax
comp=Z,9.0nm,1.0s
SHA1 Shidzhatmaz 145.33 301 *d* PKP2 **PKPbc** **16 20 51.1 -2.8**
LPSR Galich'ya Gora 145.84 318 *e*PKHKP PKPpre 16 20 49.3
LPSR pmax pmax
comp=Z,50nm,1.3s
VORR Voronezh 145.99 316 *e*PKIKP **PKPdf** **16 20 51.2 -3.4**
VORR pmax pmax
comp=Z,40nm,1.2s
OBN Obninsk 146.10 323 *c i*PKIKP **PKPdf** **16 20 53.0 -1.6**
OBN pmax pmax
comp=Z,105nm,1.4s
OBN MLR MLR
comp=Z,411nm,21.0s
VSR Storozhevoye 146.16 315 *e*PKIKP **PKPdf** **16 20 51.5 -3.4**
VSR pmax pmax
comp=Z,20nm,1.2s
VORD Divnogorie 146.17 315 *e*PKIKP **PKPdf** **16 20 52.0 -2.9**
VORD pmax pmax
comp=Z,10.0nm,1.0s
FINES FINESS Array B 146.62 338 PKPbc **PKPdf** **16 20 54.5 -0.9**
comp=Z,23nm,0.8s,baz=66,slow=4.8,SNR=49
VSLR Vesyoloye 147.26 301⇓ *e*PKP2 **PKPdf** **16 20 57.3 +0.3**
SOC Sochi 147.47 301 *e*PKIKP **PKPdf** **16 20 57.1 -0.3**
SOC *e* 16 24 27.2
SOC *e*PPP PPP 16 27 41.0
SOC *e*SSS SSS 16 48 59.9
VSU Vasula 148.56 334⇓ *ie*PKIKP **PKPdf** **16 20 59.8 +1.2**
NB2 NORSAR Subarra150.58 349 PKP **PKPbc** **16 21 05.1 -2.2**
comp=Z,52nm,1.4s,baz=17,slow=4.1
NB2 NORSAR Subarra150.58 349 PKPab **PKPbc** **16 21 05.1 -2.2**
baz=17,slow=4.1
NOA NORSAR Array B 150.58 349 PKPbc **PKPbc** **16 21 05.2 -2.2**
comp=Z,6.0nm,0.9s,baz=15,slow=4.2,SNR=23
MNK Minsk 150.68 327 *i* PKIKP **PKPbc** **16 21 06.2 -1.4**
MNK *i* 16 24 42.5
MNK *i* PPP PPP 16 28 07.0
MNK *i* 16 28 07.6
MNK *i* SS SS 16 44 05.0 +0.6
MNK *i* SSS SSS 16 49 47.8
MNK pmax pmax
comp=E,10.0nm,0.7s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.8s
MMAI Mount Meron Ar 150.74 281 PKPbc **PKPbc** **16 21 07.7 -1.0**
comp=Z,7.0nm,0.8s,baz=92,slow=5.0,SNR=8.2
HFS Hagfors 150.99 346 PKPbc **PKPbc** **16 21 06.3 -1.9**
comp=Z,8.5nm,0.8s,baz=126,slow=3.8,SNR=17
SIM Simferopol' 151.19 305 *e*PKP2 **PKPab** **16 21 23.7 +6.6**
SIM pmax pmax
comp=Z,35nm,1.3s
AKASG Malin Array Be 152.11 319 PKPbc **PKPbc** **16 21 09.8 -1.3**
comp=Z,4.3nm,0.8s,baz=67,slow=2.2,SNR=18
AKASG Malin Array Be 152.11 319 *c* PKIKP **PKPbc** **16 21 10.5 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 152.11 319 *d* PKIKP **PKPdf** **16 21 07.8 +3.4**
AKBB Malin Array Si 152.11 319 PKP **PKPdf** **16 21 02.7 -1.8**
AK09 Malin Array Si 152.12 319 PKP **PKPdf** **16 21 02.7 -1.8**
AK01 Malin Array Si 152.12 319 PKP **PKPdf** **16 21 02.7 -1.8**
AK08 Malin Array Si 152.13 319 PKP **PKPdf** **16 21 02.7 -1.8**
AK04 Malin Array Si 152.13 319 PKP **PKPdf** **16 21 02.7 -1.8**
BR104 Keskin Array S 152.39 295 PKP **PKPdf** **16 21 03.5 -1.9**
BRTR Keskin Array B 152.39 295 PKPbc **PKPbc** **16 21 09.6 -2.8**
comp=Z,2.9nm,0.9s,baz=176,slow=3.7,SNR=13
BRTR PP **PP** **16 24 57.0 +1.7**
comp=Z,0.5nm,0.4s,baz=148,slow=5.1,SNR=4.7
BR106 Keskin Array S 152.41 295 PKP **PKPdf** **16 21 03.5 -2.0**
BR105 Keskin Array S 152.41 295 PKP **PKPdf** **16 21 03.5 -2.0**
MI28 Mi28,Pidlybu 152.84 321 PKP **PKPdf** **16 21 03.8 -1.7**
SUW Suwalki 153.09 330 *e*PKP **PKiKP** **16 21 17.7 +4.4**
LUBAR Lubar, Ukraine 153.32 319 PKP **PKPdf** **16 21 05.0 -1.3**
DBIC Dimbokro 153.84 168 PKP **PKPdf** **16 21 07.3 -0.8**
comp=Z,6.6nm,1.0s,baz=161,slow=5.1,SNR=4.0
DBIC PKPbc **sPKPdf** **16 21 14.3 +2.8**
comp=Z,18nm,1.1s,baz=155,slow=5.3,SNR=4.9
KOLS Kolonicke sedl 156.84 322 *e*PKP2 **PKPab** **16 21 42.8 +1.9**
KOLS Kolonicke sedl 156.84 322 *e*PKP **PKPab** **16 21 42.8 +1.9**
OJC Ojcow 157.23 327 *e*PKP **PKPab** **16 21 41.6 -0.9**
NIE Niedzica 157.53 325 *e*PKP **PKPab** **16 21 42.9 -1.0**
OKC Ostrava-Krasne 158.25 328 AMS AMS 17 33 20.0
comp=Z,400nm,22.0s
KSP Ksiaz 158.27 332 *e*PKP **PKPab** **16 21 45.1 -1.9**
MORC Moravsky Berou 158.56 329 *e*PKP **PKPab** **16 21 46.9 -1.4**
DPC Dobruska-Polom 158.65 331 *e*PKPAB **PKPab** **16 21 49.3 +0.6**
DPC AMS AMS 17 34 00.0
comp=Z,300nm,18.0s
DPC Dobruska-Polom 158.65 331 *e*PKP2 **PKPab** **16 21 49.3 +0.6**
DPC MLR MLR
comp=Z,300nm,18.0s
VYHS Vyhne 158.87 325 *e*PKP2 **PKPab** **16 21 49.0 -0.7**
VYHS Vyhne 158.87 325 *e*PKP **PKPab** **16 21 49.0 -0.7**
CLL Collm 159.07 338 *i* PKP2 **PKPab** **16 21 49.0 -1.4**
CLL pmax pmax
comp=Z,31nm,1.4s
CLL MLR MLR
comp=Z,300nm,20.9s
BRG Berggiesshubel 159.12 336 *e*PKP **PKPab** **16 21 49.4 -1.2**
BRG Amp 16 21 51.9
comp=Z,20nm,1.2s
BRG Berggiesshubel 159.12 336 P **PKPab** **16 21 55.9 +5.2**
BRG Amp 16 21 57.8
comp=Z,30nm,1.4s
JAVC Velka Javorina 159.17 327 *e*PKP **PKPab** **16 21 50.4 -0.6**
PVCC Panska Ves 159.18 334 AMS AMS 17 31 30.0
comp=Z,400nm,17.3s
VRAC Vranov 159.33 329 *e*PKP **PKPab** **16 21 50.4 -1.2**
SRO Srobarova 159.59 324 *e*PKP2 **PKPab** **16 21 53.2 +0.4**
SRO Srobarova 159.59 324 *e*PKP **PKPab** **16 21 53.2 +0.4**
KRUC Moravsky 159.60 329 *e*PKP **PKPab** **16 21 50.7 -2.1**
PRA Prague 159.60 334 AMS AMS 17 34 00.0
comp=Z,500nm,20.8s
PRU Pruhonice 159.63 333 AMS AMS 17 31 50.0
comp=Z,500nm,17.9s
MODS Modra-Piesok 159.70 326 *e*PKIKP **PKPdf** **16 21 17.7 +3.1**
MODS *e* 16 21 51.9
MODS *e* 16 25 32.5
MODS Modra-Piesok 159.70 326 *e*PKP **PKPdf** **16 21 17.7 +3.1**
MODS *e* 16 21 51.9
MODS *e*PP **PP** **16 25 32.5 -2.2**
TREC Trest 159.81 331 AMS AMS 17 31 50.0
comp=Z,400nm,20.0s
ZVC Zvikov 160.21 333 *e*PKPAB **PKPab** **16 22 00.1 +4.7**
ZVC AMS AMS 17 34 40.0
comp=Z,500nm,18.8s
RONA Rosalia, Austr 160.64 326 *e*PKP **PKPab** **16 21 56.5 -1.0**
comp=Z,7.3nm,1.4s
CKRC Cesky Krumlov 160.66 332 AMS AMS 17 32 00.0
comp=Z,500nm,17.4s
CONA Conrad Observa 160.68 327 *e*PKP **PKPab** **16 21 56.7 -0.9**
comp=Z,14nm,1.5s
KHC Kasperske Hory 160.69 333 *e*PKPAB **PKPab** **16 21 56.9 -0.7**
KHC AMS AMS 17 32 20.0
comp=Z,400nm,17.6s
KHC Kasperske Hory 160.69 333 *e*PKP2 **PKPab** **16 21 56.9 -0.7**
KHC MLR MLR
comp=Z,400nm,17.6s
TORD Torodi Ar. Bea 160.73 183 PKP **PKPdf** **16 21 15.2 -1.6**
comp=Z,232nm,0.4s,baz=204,slow=3.2,SNR=2.1
TORD PKPab **PKPab** **16 21 56.7 -1.7**
comp=Z,109nm,0.3s,baz=172,slow=1.8,SNR=1.3
GERES GERESS Array B 160.88 333 PKP **PKPdf** **16 21 14.5 -1.5**
comp=Z,0.3nm,0.5s,baz=276,slow=2.5,SNR=3.5
GERES PKPab **PKPab** **16 21 56.8 -1.7**
comp=Z,4.0nm,1.1s,baz=35,slow=4.9,SNR=8.7
ARSA Arzberg 161.33 327 *e*PKP **PKPab** **16 21 59.9 -0.6**
comp=Z,1.7nm,0.5s
MEM Membach 161.43 349 *d*PKPdf **PKPdf** **16 21 18.1 +1.7**
MEM *d*PKP **PKPab** **16 22 01.0 +0.4**
BTNL Ternell 161.43 349 *d*PKPdf **PKPdf** **16 21 18.4 +1.9**
MOA Molln 161.44 330 *e*PKP **PKPab** **16 21 59.9 -1.0**
comp=Z,8.4nm,1.5s
BCLA Clavier 161.72 350 *d*PKP **PKPab** **16 22 01.9 0.0**
BIOA Bad Ischl, Aus 161.83 331 *e*PKP **PKPab** **16 22 01.9 -0.7**
comp=Z,8.4nm,1.2s
BMRD Maredsous 161.91 351 *d*PKPdf **PKPdf** **16 21 18.5 +1.6**
BMRD *d*PKP **PKPab** **16 22 02.7 -0.1**
SOKA Soboth 161.98 326 *e*PKP **PKPab** **16 22 02.6 -0.8**
comp=Z,6.6nm,1.4s
DOU Dourbes 162.13 351 *d*PKPdf **PKPdf** **16 21 19.0 +1.8**
DOU *d*PKP **pPKPab** **16 22 05.6 -0.7**
WLF Walferdange 162.32 348 *d*PKP **PKPab** **16 22 03.9 -0.7**
KBA Koelnbreinsper 162.43 330 *e*PKP **PKPab** **16 22 03.4 -2.1**
comp=Z,9.7nm,1.6s
LESA Schwarzleotal 162.43 332 *e*PKP **PKPab** **16 22 03.5 -1.8**
comp=Z,11nm,1.4s
WATA Walderalm 162.93 334 *e*PKP **PKPab** **16 22 05.0 -2.6**
comp=Z,5.0nm,0.9s
WTTA Wattenberg 162.97 333 *e*PKP **PKPab** **16 22 05.4 -2.4**
comp=Z,7.3nm,1.5s
ABTA Abfaltersbach 163.04 331 *e*PKP **PKPab** **16 22 06.0 -2.0**
comp=Z,5.2nm,1.0s
MOTA Moosalm 163.10 335 *e*PKP **PKPab** **16 22 06.1 -2.2**
comp=Z,12nm,1.5s
RETA Reutte 163.10 335 *e*PKP **PKPab** **16 22 06.1 -2.1**
comp=Z,12nm,1.2s
SQTA Sankt Quirin 163.16 334 *e*PKP **PKPab** **16 22 06.5 -2.1**
comp=Z,5.6nm,1.0s
FETA Feichten 163.51 335 *e*PKP **PKPab** **16 22 08.9 -1.2**
comp=Z,7.4nm,1.4s
DAVA Damuels 163.57 337 *e*PKP **PKPab** **16 22 08.8 -1.6**
comp=Z,12nm,1.2s
ESDC Sonseca Array 171.95 26 PKP **PKPdf** **16 21 22.8 -2.1**
comp=Z,1.7nm,1.1s,baz=342,slow=5.7,SNR=6.3
ESDC PKPab **PKPab** **16 22 45.3 -2.2**
comp=Z,1.9nm,1.1s,baz=332,slow=3.2,SNR=4.0
ESDC PP **PP** **16 26 41.6 +3.5**
comp=Z,2.4nm,1.3s,baz=294,slow=4.5,SNR=4.0

NEIC ***16*** *16:05:19.5±1.1,33°.71S±0°.08×179°.5E±0°.2,h138km±10km, mb4.5/11, Error ellipse: s-maj=21.0km s-min=9.0km*

az=67.0
*IDC **16** 16:05:19.5±6.5, 33°.71S×179°.57E, h137km±46km, mb3.6/4, mbtmp4.0/5, Error ellipse: s-maj=58.4km s-min=25.7km az=55.0*
*WEL **16** 16:05:26.1±0.9, 34°.5S±5°×18°.0E±1°.0, h12km, M4.2/7, MLv4.2/7, Error ellipse: s-maj=12.8km s-min=5.9km az=92.5, confirmed*
ISC 16 16:05:20.3±0.8, 33°.84S±0°.07×179°.5E±0°.1, h150km, n47, σ2°.10/62, mb4.3/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.84**	**194**	Pn	**Pn**	**16 06 19.4**	**+1.0**
MXZ	**Matakaoa Point**	**3.84**	**194**	P	**Pn**	**16 06 20.1**	**+1.7**
MXZ				S	**Sn**	**16 07 04.0**	**+0.3**
MXZ				T	T	16 08 12.7	
WMGZ	**Waiomatatini S**	**4.07**	**192**	P	**Pn**	**16 06 22.7**	**+1.2**
WMGZ				S	**Sn**	**16 07 11.1**	**+2.1**
GRZ	**Great Barrier**	**4.10**	**233**	P	Pn	16 06 27.5	+5.7
HAZ	**Te Kaha**	**4.15**	**199**	P	**Pn**	**16 06 25.3**	**+2.8**
HAZ				S	**Sn**	**16 07 14.6**	**+3.7**
HAZ				T	T	16 08 28.2	
PKGZ	**Pakihiroa**	**4.18**	**196**	P	**Pn**	**16 06 22.7**	**-0.2**
PKGZ				S	**Sn**	**16 07 13.6**	**+1.9**
KUZ	**Kuaotunu**	**4.24**	**226**	P	Pn	16 06 29.1	+5.5
PUZ	**Puketiti**	**4.35**	**193**	P	**Pn**	**16 06 25.7**	**+0.7**
PUZ				S	**Sn**	**16 07 15.4**	**0.0**
RUGZ	**Raukumara Rang**	**4.38**	**199**	P	**Pn**	**16 06 26.9**	**+1.4**
RUGZ				S	**Sn**	**16 07 15.7**	**-0.7**
TWGZ	**Tauwhareparae**	**4.50**	**195**	P	**Pn**	**16 06 27.6**	**+0.5**
TWGZ				S	**Sn**	**16 07 20.3**	**+1.0**
WCZ	**Waipu Caves**	**4.73**	**242**	P	Pn	16 06 36.0	+6.0
CNGZ	**Carnagh Statio**	**4.75**	**192**	P	**Pn**	**16 06 29.8**	**-0.6**
MWZ	**Matawai**	**4.76**	**199**	P	**Pn**	**16 06 31.5**	**+0.9**
MWZ				S	**Sn**	**16 07 23.6**	**-1.9**
TKGZ	**Te Karaka**	**4.79**	**196**	P	**Pn**	**16 06 33.1**	**+2.3**
TKGZ				S	**Sn**	**16 07 26.3**	**+0.6**
MKAZ	**Moumakai**	**4.81**	**226**	P	Pn	16 06 36.8	+5.6
URZ	**Urewera**	**4.82**	**203**	P	**Pn**	**16 06 32.6**	**+1.4**
URZ				S	**Sn**	**16 07 28.4**	**+1.8**
URZ	**Urewera**	**4.82**	**203**	P	**Pn**	**16 06 32.9**	**+1.6**
URZ				S	**Sn**	**16 07 25.9**	**-0.8**
URZ				T	T	16 08 58.8	
RIGZ	**Rimuhau**	**5.06**	**196**	P	**Pn**	**16 06 35.4**	**+0.9**
RIGZ				S	**Sn**	**16 07 27.4**	**-5.0**
OUZ	**Omahuta**	**5.07**	**253**	P	Pn	16 06 40.2	+5.7
RTZ	**Ruatahuna**	**5.19**	**202**	Pn	**Pn**	**16 06 35.4**	**-0.8**
RTZ	**Ruatahuna**	**5.19**	**202**	P	**Pn**	**16 06 37.4**	**+1.2**
RTZ				S	**Sn**	**16 07 36.2**	**+0.7**
KNZ	**Kokohu**	**5.38**	**195**	P	**Pn**	**16 06 40.3**	**+1.7**
MHGZ	**Mahia Peninsul**	**5.46**	**193**	P	**Pn**	**16 06 39.9**	**+0.2**
MHGZ				S	**Sn**	**16 07 38.0**	**-3.8**
BKZ	**Black Stump Fm**	**5.84**	**204**	Pn	**Pn**	**16 06 46.1**	**+1.2**
BKZ	**Black Stump Fm**	**5.84**	**204**	P	**Pn**	**16 06 44.7**	**-0.2**
BKZ				S	**Sn**	**16 07 49.2**	**-1.9**
HIZ	**Hauiti**	**5.99**	**217**	P	**Pn**	**16 06 50.3**	**+3.5**
PWZ	**Pawanui**	**6.53**	**198**	P	**Pn**	**16 06 54.6**	**+0.6**
PWZ				S	**Sn**	**16 08 03.6**	**-3.8**
PXZ	**Pawanui**	**6.53**	**198**	P	**Pn**	**16 06 53.0**	**-1.0**
PXZ				S	**Sn**	**16 08 02.0**	**-5.5**
TSZ	**Takapari Road**	**6.83**	**203**	P	**Pn**	**16 06 57.1**	**-0.9**
TSZ				S	**Sn**	**16 08 09.1**	**-5.5**
WAZ	**Wanganui**	**6.93**	**210**	P	**Pn**	**16 07 00.2**	**+0.9**
WAZ				S	**Sn**	**16 08 15.9**	**-1.1**
BFZ	**Birch Farm**	**7.31**	**200**	P	**Pn**	**16 07 02.7**	**-1.6**
BFZ				S	**Sn**	**16 08 20.2**	**-5.9**
PINNC	**Pines Island,**	**15.41**	**313**	Pn	**Pn**	**16 08 48.0**	**-1.7**
RAR	**Rarotonga**	**22.22**	**61**	P	**P**	**16 10 03.2**	**-1.5**
COEN	**Coen**	**38.38**	**292**	P	**P**	**16 12 26.4**	**-0.7**
COEN				IAmb	IAmb	16 13 09.3	
PMG	**Port Moresby**	**38.38**	**302**	P	**P**	**16 12 26.4**	**-0.7**
AS31	**Alice Springs**	**40.95**	**272**	P	**P**	**16 12 47.3**	**-1.1**
ASAR	**Alice Springs**	**40.95**	**272**	P	**P**	**16 12 49.5**	**+1.1**
WRAB	**Tennant Creek**	**42.26**	**277**	P	**P**	**16 12 58.4**	**-0.6**
WRAB				IAmb	IAmb	16 13 02.8	
WRA	**Warramunga Arr**	**42.26**	**277**	P	**P**	**16 13 00.1**	**+1.0**
WB0	**Warramunga Arr**	**42.30**	**278**	P	**P**	**16 13 00.4**	**+1.1**
WB0				IAmb	IAmb	16 13 03.3	
QSPA	**South Pole Qui**	**56.28**	**180**	P	**P**	**16 14 47.4**	**+2.4**
QSPA	**South Pole Qui**	**56.28**	**180**	P	**P**	**16 14 47.0**	**+2.1**
BELA	**Belgrano 2**	**66.67**	**173**	P	**P**	**16 15 55.3**	**+1.0**
BELA				IAmb	IAmb	16 16 19.4	
MAW	**Mawson**	**68.35**	**202**	P	**P**	**16 16 05.8**	**+0.9**
MAW	**Mawson**	**68.35**	**202**	P	**P**	**16 16 05.6**	**+0.7**
MYLDM	**Lahad Datu**	**69.38**	**291**	P	**P**	**16 16 11.8**	**-0.3**
FINES	**FINESS Array B**	**147.54**	**336**	PKPbc	**PKPbc**	**16 24 44.8**	**-1.1**

comp=Z,0.5nm,0.5s,baz=70,slow=6.3,SNR=4.0

IDC 16 16:24:55.9±3.2, 32°.29S×179°.79W, h0km, mb3.9/2, mbtmp3.8/3, ML3.0/1, Error ellipse: s-maj=68.8km s-min=48.9km az=103.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.47**	**202**	Pn	Pn	16 26 31.9	-0.5
URZ				Sn	Sn	16 27 39.5	-7.4
ASAR	**Alice Springs**	**41.52**	**270**	P	P	16 32 45.0	-0.2
WRA	**Warramunga Arr**	**42.69**	**275**	P	P	16 32 54.8	+0.1
FINES	**FINESS Array B**	**146.35**	**338**	PKPbc	PKPdf	16 44 37.1	+0.4

0.3nm,0.3s,baz=47,slow=18,SNR=1.9
comp=Z,2.4nm,1.0s,baz=114,slow=7.9,SNR=14
1.1nm,0.8s
comp=Z,2.6nm,0.8s,baz=147,slow=4.9,SNR=2.5
comp=Z,2.6nm,0.8s
comp=Z,0.7nm,0.7s,baz=49,slow=6.8,SNR=1.5

*IDC **16** 16:39:48.9±2.0, 32°.14S×179°.53W, h0km, mb4.2/3, mbtmp4.2/4, ML3.5/1, Error ellipse: s-maj=49.7km s-min=31.6km az=58.0*
*NEIC **16** 16:39:51.6±0.5, 32°.4S±0°.2×179°.5W±0°.1, h10km±2km, mb4.3/8, Error ellipse: s-maj=29.2km s-min=18.1km az=20.0*
ISC 16 16:39:50.7±1.5, 32°.3S±0°.2×179°.6W±0°.2, h10km, n17, σ0°.75/17, mb4.2/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.54**	**203**	Pn	**Pn**	**16 41 26.5**	**-0.5**
OXZ	**Oxford**	**12.84**	**208**	Pn	**Pn**	**16 42 53.0**	**-0.3**
MQZ	**McQueen's Vall**	**12.93**	**206**	Pn	**Pn**	**16 42 54.4**	**0.0**
EIDS	**Eidsvold**	**26.53**	**278**	P	**P**	**16 45 27.7**	**-1.0**
EIDS				IAmb	IAmb	16 46 03.2	
AS31	**Alice Springs**	**41.68**	**270**	P	**P**	**16 47 40.6**	**+0.8**
ASAR	**Alice Springs**	**41.68**	**270**	P	**P**	**16 47 40.4**	**+0.6**
ASAR	**Alice Springs**	**41.68**	**270**	P	**P**	**16 47 39.5**	**-0.2**
WR8	**Warramunga Arr**	**42.70**	**275**	P	**P**	**16 47 48.9**	**+0.8**
WR8				IAmb	IAmb	16 47 49.9	
WRA	**Warramunga Arr**	**42.84**	**275**	P	**P**	**16 47 50.1**	**+0.8**
WRA	**Warramunga Arr**	**42.84**	**275**	P	**P**	**16 47 50.0**	**+0.8**
WB0	**Warramunga Arr**	**42.87**	**275**	P	**P**	**16 47 50.4**	**+0.8**
WB0				IAmb	IAmb	16 47 50.7	
FORT	**Forrest**	**44.27**	**257**	P	**P**	**16 48 01.4**	**+0.8**
MTN	**Manton Dam**	**48.96**	**282**	P	**P**	**16 48 37.1**	**-0.5**
QSPA	**South Pole Qui**	**57.83**	**180**	P	**P**	**16 49 43.0**	**+0.7**
QSPA				IAmb	IAmb	16 49 43.8	
QSPA	**South Pole Qui**	**57.83**	**180**	P	**P**	**16 49 43.4**	**+1.1**

comp=Z,2.4nm,1.0s,baz=335,slow=1.5,SNR=8.6
comp=Z,2.4nm,1.0s
SMAI **San Martin Ant** **68.20** **158** P **P** **16 50 50.4** **-0.6**
FINES **FINESS Array B** **146.40** **338** PKPbc **PKPdf** **16 59 29.4** **-0.5**
comp=Z,0.4nm,0.4s,baz=45,slow=3.0,SNR=5.6

*ISN **16** 16:42:14.7±0.3, 34°.20N×45°.57E, h9km±1km, ML2.8*
*TEH **16** 16:42:15.0, 34°.17N×45°.56E, h10km±24km*
ISC 16 16:42:15.4±1.1, 34°.17N±0°.04×45°.57E±0°.03, h12km±10km, n14, σ1°.02/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.28**	**101**	Pg	**Pg**	**16 42 21.3**	**0.0**
GLG1				Sg	**Sg**	**16 42 25.9**	**+0.7**
KGS1	**Ghasr-e-Shirin**	**0.34**	**2**	Pg	**Pg**	**16 42 22.0**	**-0.2**
IGHG	**Ghaleghazi**	**0.84**	**79**	Pg	**Pb**	**16 42 32.1**	**-0.1**
IDHR	**Dehrash**	**0.86**	**51**	Pg	**Pg**	**16 42 31.5**	**-0.5**
IBDR	**Badra**	**1.09**	**164**	*e*Pg	**Pn**	**16 42 36.5**	**-0.1**
IBDR				*e*Sg	**Sn**	**16 42 52.2**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.22**	**85**	Pg	**Pg**	**16 42 38.9**	**0.0**
BHD	**Baghdad**	**1.34**	**228**	*e*Pg	**Pg**	**16 42 40.5**	**-0.6**
BHD				*e*Sg	**Sg**	**16 42 59.5**	**+1.0**
ILIN	**Lien**	**1.37**	**56**	Pg	**Pg**	**16 42 41.3**	**-0.5**
IKRK	**Kirkuk**	**1.59**	**321**	*e*Pn	**Pb**	**16 42 44.5**	**-0.4**
IKRK				*e*Sn	**Sg**	**16 43 06.5**	**-0.2**
IKRK				AML	AML	16 43 10.7	
IKRK	comp=E,104nm,0.6s			AML	AML	16 43 11.2	
SNQR	**Sonqor, Kerman**	**1.83**	**67**	Pn	**Pg**	**16 42 49.6**	**-1.0**
IKFM	**Kafar-mosalman**	**2.00**	**108**	Pn	**Pb**	**16 42 50.9**	**-0.8**
IDOB	**Doab**	**2.20**	**99**	Pn	**Pb**	**16 42 53.7**	**-1.6**
RAFI	**Al-Rafai**	**2.48**	**169**	*e*Pn	**Pn**	**16 42 57.6**	**+1.9**
RAFI				*e*Sn	**Sb**	**16 43 29.0**	**-1.4**
RAFI				AML	AML	16 43 29.7	
RAFI	comp=N,85nm,0.4s			AML	AML	16 43 31.1	
HSAM	**Samen**	**2.51**	**88**	Pn	**Pn**	**16 42 58.0**	**+1.7**

*IDC **16** 16:42:49.3±0.6, 32°.15S×179°.44W, h0km, mb4.4/12, mbtmp4.3/13, ML4.1/1, MS3.8/11, Error ellipse: s-maj=20.4km s-min=18.8km az=64.0*
*WEL **16** 16:42:50.6±0.8, 32°.5S±8°×17°.9W±1°.8, h12km, M4.6/13, mB5.0/7, ML4.8/13, MLv4.8/13, Mw(mB)4.3/7, Error ellipse: s-maj=25.1km s-min=6.3km az=108.6, confirmed*
*NEIC **16** 16:42:51.3±1.0, 32°.2S±0°.1×179°.5W±0°.2, h10km±1km, mb4.9/23, Error ellipse: s-maj=22.1km s-min=19.1km az=259.0*
ISC 16 16:42:51.5±0.5, 32°.36S±0°.05×179°.37W±0°.09, h10km, n119, σ1°.74/103, mb4.8/29, MS3.8/9, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.33**	**22**	P	**Pn**	**16 43 40.9**	**-2.7**
MXZ	**Matakaoa Point**	**5.53**	**200**	Pn	**Pn**	**16 44 13.9**	**0.0**
MXZ	**Matakaoa Point**	**5.53**	**200**	P	Pn	16 44 12.1	-1.7
MXZ				S	**Sn**	**16 45 15.6**	**-2.0**
WMGZ	**Waiomatatini S**	**5.75**	**198**	P	**Pn**	**16 44 16.0**	**-0.8**
WMGZ				S	**Sn**	**16 45 21.8**	**-0.9**
HAZ	**Te Kaha**	**5.87**	**203**	P	**Pn**	**16 44 18.5**	**0.0**
PKGZ	**Pakihiroa**	**5.88**	**200**	P	**Pn**	**16 44 18.5**	**-0.2**
KUZ	**Kuaotunu**	**5.97**	**221**	P	**Pn**	**16 44 24.0**	**+4.2**
PUZ	**Puketiti**	**6.02**	**198**	P	**Pn**	**16 44 20.0**	**-0.7**
RUGZ	**Raukumara Rang**	**6.10**	**203**	P	**Pn**	**16 44 21.0**	**-0.8**
TWGZ	**Tauwhareparae**	**6.20**	**200**	P	Pn	16 44 21.2	-1.8
TWGZ				S	**Sn**	**16 45 32.2**	**-1.8**
WCZ	**Waipu Caves**	**6.32**	**234**	P	**Pn**	**16 44 25.2**	**+0.5**
WIAZ	**Waiheke Island**	**6.34**	**224**	P	Pn	16 44 30.1	+5.2
CNGZ	**Carnagh Statio**	**6.42**	**197**	P	Pn	16 44 24.4	-1.8
CNGZ				S	**Sn**	**16 45 37.8**	**-1.7**
MWZ	**Matawai**	**6.48**	**202**	P	Pn	16 44 24.7	-2.2
TKGZ	**Te Karaka**	**6.48**	**200**	P	**Pn**	**16 44 26.0**	**-0.9**
TKGZ				S	**Sn**	**16 45 40.6**	**-0.3**
OUZ	**Omahuta**	**6.52**	**242**	P	**Pn**	**16 44 26.7**	**-0.7**
MKAZ	**Moumakai**	**6.54**	**222**	P	**Pn**	**16 44 31.5**	**+3.9**
URZ	**Urewera**	**6.55**	**205**	Pn	**Pn**	**16 44 27.2**	**-0.7**
URZ	4.0nm,0.3s,baz=9.7,slow=4.0,SNR=10			Sn	**Sn**	**16 45 39.5**	**-3.2**
URZ	**Urewera**	**6.55**	**205**	P	**Pn**	**16 44 27.0**	**-0.8**
RIGZ	**Rimuhau**	**6.75**	**199**	P	**Pn**	**16 44 30.9**	**+0.2**
MUGZ	**Murupara**	**6.87**	**206**	P	**Pn**	**16 44 32.0**	**-0.3**
MUGZ				S	**Sn**	**16 45 50.2**	**-0.3**
RTZ	**Ruatahuna**	**6.92**	**204**	P	**Pn**	**16 44 32.2**	**-0.8**
RTZ	**Ruatahuna**	**6.92**	**204**	P	**Pn**	**16 44 32.9**	**-0.1**
SNGZ	**Shannon Statio**	**6.95**	**202**	P	**Pn**	**16 44 33.5**	**+0.1**
RAHZ	**Arahi**	**7.15**	**203**	P	**Pn**	**16 44 36.5**	**+0.3**
BKZ	**Black Stump Fm**	**7.58**	**205**	P	**Pn**	**16 44 41.0**	**-1.1**
KWHZ	**Kaweka Forest**	**7.83**	**205**	P	**Pn**	**16 44 46.4**	**+0.9**
NTVZ	**North Tongarir**	**7.84**	**210**	P	**Pn**	**16 44 46.2**	**+0.5**
TMVZ	**Te Maari**	**7.84**	**209**	P	**Pn**	**16 44 45.9**	**+0.2**
NNVZ	**North Ngauruho**	**7.89**	**210**	P	**Pn**	**16 44 48.5**	**+2.0**
OTVZ	**Oturere**	**7.90**	**209**	P	**Pn**	**16 44 46.3**	**-0.2**
SNVZ	**South Ngauruho**	**7.93**	**209**	P	**Pn**	**16 44 46.7**	**-0.2**
VRZ	**Vera Road**	**8.27**	**214**	P	**Pn**	**16 44 53.5**	**+2.1**
TSZ	**Takapari Road**	**8.56**	**205**	P	Pn	16 44 54.1	-1.3
BFZ	**Birch Farm**	**9.03**	**202**	P	Pn	16 44 59.1	-2.7
MRZ	**Mangatainoka R**	**9.23**	**205**	P	Pn	16 45 00.5	-4.1
THZ	**Tophouse**	**11.23**	**211**	P	Pn	16 45 30.4	-1.7
RPZ	**Rata Peaks**	**13.61**	**211**	Pn	**Pn**	**16 46 04.2**	**-0.3**
MSVF	**Nonsavu**	**14.75**	**350**	Pn	Pn	16 46 16.5	-3.7
MSVF	**Nonsavu**	**14.75**	**350**	Pn	**Pn**	**16 46 24.4**	**+4.1**
MSVF	0.6nm,0.3s,baz=148,slow=10,SNR=6.1			LR	LR	16 50 41.6	
DZM	**Mont Dzumac**	**16.24**	**306**	LR	LR	16 51 32.5	
DCZ	**Deep Cove**	**16.74**	**215**	P	**Pn**	**16 46 49.0**	**+3.0**
AFI	**Afiamalu**	**19.63**	**22**	P	**P**	**16 47 17.4**	**-3.0**
RAR	**Rarotonga**	**20.68**	**62**	LR	LR	16 57 29.5	
CNB	**Canberra Magne**	**26.09**	**255**	P	**P**	**16 48 27.0**	**+1.5**
MILA	**Mila**	**26.23**	**251**	P	**P**	**16 48 29.1**	**+2.4**
CAN	**Canberra**	**26.39**	**255**	P	**P**	**16 48 26.5**	**-1.6**
CAN				IAmb	IAmb	16 48 36.5	
CMSA	**Cobar Meteorol**	**29.59**	**262**	P	**P**	**16 48 57.0**	**+0.3**
HNR	**Honiara**	**29.78**	**315**	LR	LR	16 59 55.2	
ARPS	**Mount Arapiles**	**32.10**	**251**	P	**P**	**16 49 20.5**	**+1.7**
STKA	**Stephens Creek**	**32.95**	**260**		**P**	**16 49 25.2**	**-1.1**
STKA	**Stephens Creek**	**32.95**	**260**	P	**P**	**16 49 25.8**	**-0.4**
STKA	**Stephens Creek**	**32.95**	**260**	P	**P**	**16 49 25.3**	**-1.1**
STKA				LR	LR	17 00 40.3	
BBOO	**Buckleboo**	**37.35**	**257**		**P**	**16 50 02.5**	**-1.8**
BBOO				IAmb	IAmb	16 50 10.1	
BBOO	**Buckleboo**	**37.35**	**257**	P	**P**	**16 50 04.5**	**+0.2**
PMG	**Port Moresby**	**38.46**	**299**	LR	LR	17 04 10.7	
RABL	**Rabaul**	**38.68**	**310**		**P**	**16 50 13.0**	**-2.5**
AS31	**Alice Springs**	**41.88**	**270**		**P**	**16 50 41.0**	**-1.1**
AS31				IAmb	IAmb	16 50 47.9	
AS31	**Alice Springs**	**41.88**	**270**	P	**P**	**16 50 41.7**	**-0.5**
ASAR	**Alice Springs**	**41.88**	**270**		**P**	**16 50 40.8**	**-1.4**
ASAR	**Alice Springs**	**41.88**	**270**	P	**P**	**16 50 41.5**	**-0.6**
ASAR				LR	LR	17 06 07.3	
WR8	**Warramunga Arr**	**42.91**	**275**	P	**P**	**16 50 48.7**	**-1.9**
WR8				IAmb	IAmb	16 50 56.3	
WRAB	**Tennant Creek**	**43.05**	**275**		**P**	**16 50 49.7**	**-2.0**
WRAB				IAmb	IAmb	16 50 57.2	
WRA	**Warramunga Arr**	**43.05**	**275**		**P**	**16 50 49.7**	**-2.0**
WRA	**Warramunga Arr**	**43.05**	**275**	P	**P**	**16 50 50.8**	**-0.9**
WB0	**Warramunga Arr**	**43.09**	**275**		**P**	**16 50 50.3**	**-1.6**
WB0				IAmb	IAmb	16 50 57.6	
FORT	**Forrest**	**44.45**	**257**		**P**	**16 51 01.4**	**-1.4**
SBA	**Scott Base**	**46.01**	**184**	P	**P**	**16 51 14.9**	**+0.4**
VNDA	**Vanda**	**46.04**	**186**	P	**P**	**16 51 16.0**	**+1.2**
VNDA				IAmb	IAmb	16 51 18.5	
VNDA	**Vanda**	**46.04**	**186**	P	**P**	**16 51 16.8**	**+2.0**
WRKA	**Warakurna**	**46.11**	**265**	P	**P**	**16 51 14.7**	**-1.4**
JAY	**Jayapura**	**47.81**	**300**	LR	LR	17 09 31.1	
KDU	**Kakadu**	**48.15**	**283**	P	**P**	**16 51 31.6**	**-0.5**
MTN	**Manton Dam**	**49.18**	**281**		**P**	**16 51 37.9**	**-2.1**
MTN	**Manton Dam**	**49.18**	**281**	P	**P**	**16 51 38.6**	**-1.3**
KNRA	**Kununurra**	**49.73**	**277**		**P**	**16 51 42.6**	**-1.5**
KNRA	**Kununurra**	**49.73**	**277**	P	**P**	**16 51 44.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**51.23**	**272**		**P**	**16 51 54.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**51.23**	**272**	P	**P**	**16 51 54.8**	**-0.7**
FAKI	**Fak Fak**	**53.96**	**293**		**P**	**16 52 13.8**	**-2.0**
QSPA	**South Pole Qui**	**57.76**	**180**	P	**P**	**16 52 43.1**	**+0.6**
QSPA	**South Pole Qui**	**57.76**	**180**	P	**P**	**16 52 43.4**	**+1.0**
BELA	**Belgrano 2**	**68.01**	**172**	P	**P**	**16 53 48.6**	**-1.7**
BELA				IAmb	IAmb	16 53 56.8	
SYO	**Syowa Base**	**74.95**	**194**	*e*sP	**P**	**16 54 36.4**	**+4.1**
TROLL	**Troll, Antarti**	**75.91**	**181**	P	**P**	**16 54 37.6**	**-0.4**
SNAA	**Sanae**	**76.23**	**179**		**P**	**16 54 38.9**	**-0.9**
SNAA				IAmb	IAmb	16 54 46.1	
SNAA	**Sanae**	**76.23**	**179**	P	**P**	**16 54 38.6**	**-1.2**
SNAA	**Sanae**	**76.23**	**179**	P	**P**	**16 54 40.1**	**+0.4**
VNA3	**Neumayer Olymp**	**76.43**	**177**	P	**P**	**16 54 40.7**	**-0.1**
H03S2	**Juan Fernandez**	**80.35**	**124**	T	T	18 23 36.0	
H03S1	**Juan Fernandez**	**80.36**	**124**	T	T	18 23 31.6	
H03S3	**Juan Fernandez**	**80.37**	**124**	T	T	18 23 35.7	
H03N3	**Juan Fernandez**	**80.56**	**124**	T	T	18 23 40.9	
H03N2	**Juan Fernandez**	**80.56**	**124**	T	T	18 23 51.8	
H03N1	**Juan Fernandez**	**80.58**	**124**	T	T	18 23 52.3	
PLCA	**Paso Flores**	**82.02**	**133**	P	**P**	**16 55 12.6**	**+0.6**
PLCA	**Paso Flores**	**82.02**	**133**	P	**P**	**16 55 13.4**	**+1.4**
ASAJ	**Asahikawa**	**83.65**	**333**	LR	LR	17 25 18.2	
BI02	**San Fabin de**	**83.95**	**130**		**P**	**16 55 22.3**	**+0.2**
BI02				IAmb	IAmb	16 55 30.7	
SHEM	**Shemya Is, Ala**	**84.92**	**356**	LR	LR	17 26 32.3	
KSRS	**Korea Array**	**85.09**	**321**	P	**P**	**16 55 27.6**	**+0.2**
KSRS				LR	LR	17 29 27.9	
USRK	**Ussuriysk Ar.**	**88.16**	**327**	P	**P**	**16 55 39.9**	**-2.3**
NVAR	**Mina Array Bea**	**90.46**	**43**	P	**P**	**16 55 53.5**	**-0.1**
TXAR	**Lajitas Array**	**94.42**	**58**	P	**P**	**16 56 11.9**	**+0.1**
MKAR	**Makanchi Array**	**118.12**	**310**	PKP	**PKPdf**	**17 01 36.5**	**-1.9**
KURBB	**Kurchatov Arra**	**121.58**	**313**	PKP	**PKPdf**	**17 01 41.8**	**-3.1**
BVAR	**Borovoye Array**	**126.97**	**315**	**PKP**	**PKPdf**	**17 01 52.8**	**-2.4**
ARCES	**ARCESS Array B**	**140.23**	**347**	**PKP**	**PKPdf**	**17 02 19.9**	**+0.3**
KBZ	**Khabaz**	**145.18**	**301**	PKPbc	**PKPbc**	**17 02 28.0**	**-0.7**
FIA1	**FINESS Array S**	**146.55**	**338**	PKPdf	**PKPdf**	**17 02 29.8**	**-1.0**
FINES	**FINESS Array B**	**146.55**	**338**	PKPdf	**PKPdf**	**17 02 29.7**	**-1.1**
FINES	**FINESS Array B**	**146.55**	**338**	PKPbc	**PKPdf**	**17 02 30.2**	**-0.6**
NB2	**NORSAR Subarra**	**150.48**	**350**	PKP	**PKPdf**	**17 02 41.5**	**+4.2**
NOA	**NORSAR Array B**	**150.48**	**350**	PKPbc	**PKPdf**	**17 02 40.7**	**+3.3**
HFS	**Hagfors**	**150.90**	**347**	PKPbc	**PKPdf**	**17 02 41.9**	**+3.9**
AKASG	**Malin Array Be**	**152.09**	**319**	PKPbc	**PKPdf**	**17 02 43.2**	**+3.2**
BRTR	**Keskin Array B**	**152.43**	**295**	PKPbc	**PKPdf**	**17 02 45.1**	**+4.0**
GERES	**GERESS Array B**	**160.82**	**333**	PKPab	**PKPab**	**17 03 33.8**	**0.0**
TORD	**Torodi Ar. Bea**	**160.85**	**183**		**PKPab**	**17 03 33.9**	**-0.7**

comp=Z,0.2nm,0.3s,baz=57,slow=4.9,SNR=5.6

*IDC **16** 16:44:53.2±1.0, 1°.73S×122°.80E, h0km, mb4.0/8, mbtmp4.0/10, ML3.5/2, Error ellipse: s-maj=38.7km s-min=16.0km az=59.0*
*NEIC **16** 16:44:54.9±0.8, 1°.78S±0°.05×122°.63E±0°.07, h10km±1km, mb4.4/12, Error ellipse: s-maj=12.9km s-min=7.6km az=292.0*
*DJA **16** 16:44:56.1±0.2, 2°.5S±2°×12°.3E±°, h10km, M4.4/20, mB4.9/4, mb4.6/7, MLv4.3/20, Mw(mB)4.2/4*
ISC 16 16:44:55.6±0.5, 1°.89S±0°.04×122°.65E±0°.05, h10km, n61, σ1°.11/61, mb4.2/13, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.85**	**8**		**Pg**	**16 45 11.6**	**-0.4**
LUWI	**Luwuk**	**0.85**	**8**	P	**Pg**	**16 45 11.8**	**-0.1**
LUWI	**Luwuk**	**0.85**	**8**	S	**Sg**	**16 45 23.3**	**+0.3**
LUWI	**Luwuk**	**0.85**	**8**	P	**Pg**	**16 45 11.6**	**-0.4**
APSI	**Ampana**	**1.40**	**314**	P	**Pn**	**16 45 19.9**	**-1.2**
MRSI	**Marisa**	**2.46**	**343**	P	**Pn**	**16 45 35.9**	**+0.2**
KMSI	**Cibinong**	**2.78**	**29**	P	**Pn**	**16 45 40.9**	**+0.7**
PCI	**Palu**	**2.98**	**289**	P	**Pn**	**16 45 43.1**	**+0.2**
SANI	**Sanana**	**3.34**	**93**	P	**Pn**	**16 45 48.1**	**+0.3**
SANI	**Sanana**	**3.34**	**93**	P	**Pn**	**16 45 47.2**	**-0.6**
TOLI2	**Tolitoli**	**3.52**	**328**		**Pn**	**16 45 48.1**	**-2.2**
TOLI2	**Tolitoli**	**3.52**	**328**	P	**Pn**	**16 45 51.7**	**+1.4**
TOLI2	**Tolitoli**	**3.52**	**328**	S	**Sn**	**16 46 34.5**	**+2.5**
MPSI	**Mapaga**	**3.53**	**309**	P	**Pn**	**16 45 49.8**	**-0.7**
SPSI	**Sidrap Palu**	**3.54**	**234**	P	**Pn**	**16 45 50.6**	**-0.1**
BNSI	**Bone**	**3.56**	**225**	P	**Pn**	**16 45 50.8**	**-0.2**
BBSI	**Bau Bau**	**3.58**	**181**	P	**Pn**	**16 45 51.7**	**+0.5**
BKSI	**Bulukumba**	**4.25**	**216**	P	**Pn**	**16 46 00.9**	**+0.6**
KAPI	**Kappang**	**4.25**	**223**		**Pn**	**16 46 00.5**	**+0.1**
KAPI	**Kappang**	**4.25**	**223**	Pn	**Pn**	**16 46 01.5**	**+1.1**
KAPI	7.2nm,0.3s,baz=355,slow=4.4,S

MYLDM **Lahad Datu** 8.15 329 P Pn 16 46 55.8 +1.7
SWI **Sorong** 8.66 83 P Pn 16 47 02.9 +1.8
18nm,0.5s
FAKI **Fak Fak** 9.64 96 Pn Pn 16 47 13.4 -1.2
FAKI **Fak Fak** 9.64 96 P Pn 16 47 15.0 +0.5
SRPI **Serui, Papua** 13.58 90 P Pn 16 48 08.8 +0.4
MTN **Manton Dam** 13.75 143 Pn Pn 16 48 11.7 +1.0
MTN **Manton Dam** 13.75 143 P Pn 16 48 12.0 +1.3
FITZ **Fitzroy Crossi** 16.37 170 Pn 16 48 48.7 +3.0
FITZ **Fitzroy Crossi** 16.37 170 Pn Pn 16 48 47.8 +2.1
0.1nm,0.3s,baz=20,slow=17,SNR=2.6
1.8nm,0.8s
WB0 **Warramunga Arr** 21.16 148 P P 16 49 40.7 -0.4
WB0 IAmb IAmb 16 49 45.2
comp=Z,12nm,0.9s
WRAB **Tennant Creek** 21.27 148 P P 16 49 42.3 0.0
WRAB IAmb IAmb 16 49 46.3
comp=Z,10nm,0.9s
WRA **Warramunga Arr** 21.27 148 P P 16 49 42.0 -0.3
comp=Z,7.8nm,0.8s,baz=333,slow=9.7,SNR=29
comp=Z,7.8nm,0.8s
WR8 **Warramunga Arr** 21.37 148 P P 16 49 43.0 -0.4
WR8 IAmb IAmb 16 49 46.8
comp=Z,12nm,0.8s
COEN **Coen** 23.57 122 P P 16 50 05.4 -1.2
COEN IAmb IAmb 16 50 06.4
comp=Z,20nm,1.2s
WRKA **Warakurna** 23.65 167 P P 16 50 07.7 +0.4
RPSI **Rantau Prapat** 24.16 281 P P 16 50 12.7 +0.5
PSI **Prapat** 24.18 281 P P 16 50 12.7 +0.1
comp=Z,3.1nm,0.4s,baz=106,slow=10,SNR=6.7
comp=Z,3.1nm,0.4s
AS31 **Alice Springs** 24.24 154 P P 16 50 12.9 0.0
ASAR **Alice Springs** 24.24 154 P P 16 50 13.0 +0.1
comp=Z,3.2nm,0.7s,baz=331,slow=8.3,SNR=61
comp=Z,3.2nm,0.7s
AS01 **Alice Springs** 24.26 154 P P 16 50 13.6 +0.5
QIS **Mount Isa** 24.86 139 P P 16 50 19.2 +0.6
CMAR **Chiang Mai Arr** 30.87 312 P P 16 51 11.8 -0.7
comp=Z,1.0nm,0.7s,baz=136,slow=6.9,SNR=12
comp=Z,1.0nm,0.7s
BBOO **Buckleboo** 33.24 159 P P 16 51 32.5 -0.5
STKA **Stephens Creek** 34.77 151 P P 16 51 45.8 -0.6
STKA **Stephens Creek** 34.77 151 P P 16 51 45.8 -0.6
comp=Z,3.7nm,0.8s,baz=316,slow=10,SNR=3.8
comp=Z,3.7nm,0.8s
TOO **Toolangi** 41.26 152 P P 16 52 41.6 +0.5
CAN **Canberra** 41.30 147 P P 16 52 41.6 +0.1
CAN IAmb IAmb 16 53 20.4
comp=Z,16nm,1.4s
MKAR **Makanchi Array** 60.04 329 P P 16 55 01.7 -1.0
comp=Z,0.6nm,0.6s,baz=119,slow=8.3,SNR=6.6
comp=Z,0.6nm,0.6s
RTZ **Ruatahuna** 61.52 134 P P 16 55 11.4 -1.6
ZALV **Zalesovo Beam** 63.88 336 P P 16 55 26.8 -1.6
comp=Z,0.4nm,0.4s,baz=140,slow=7.0,SNR=2.4
comp=Z,0.4nm,0.4s
KURBB **Kurchatov Arra** 64.42 331 P P 16 55 30.4 -1.5
comp=Z,0.8nm,0.2s,baz=120,slow=5.5,SNR=1.1
comp=Z,0.8nm,0.2s
ABKAR **Akbulak array** 74.01 323 P P 16 56 27.0 -4.4
VNDA **Vanda** 78.44 172 P P 16 56 55.8 -0.3

*NEIC **16** 16:48:17.8±1.8, 32°.2S±0°.1×179°.6W±0°.1, h4km±5km, mb4.7/18, Error ellipse: s-maj=19.9km s-min=11.6km az=162.0*
*IDC **16** 16:48:17.2±1.5, 32°.23S×179°.67W, h0km, mb4.4/6, mbtmp4.3/7, ML3.6/1, Error ellipse: s-maj=39.8km s-min=25.1km az=36.0*
ISC 16 16:48:17.9±0.6, 32°.22S±0°.10×179°.7W±0°.1, h10km, n31, σ1§24/30, mb4.5/13, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	5.58	197	Pn	Pn	16 49 40.4	-0.5
URZ	**Urewera**	6.57	203	Pn	Pn	16 49 53.2	-1.3
1.3nm,0.3s,baz=350,slow=3.5,SNR=9.2							
5.7nm,0.4s							
RTZ	**Ruatahuna**	6.93	202	Pn	Pn	16 49 57.5	-2.1
BKZ	**Black Stump Fm**	7.59	203	Pn	Pn	16 50 06.4	-2.2
NIUE	**Niue**	15.76	36	Pn	Pn	16 51 58.5	-1.4
RAR	**Rarotonga**	20.86	63	Pn	Pn	16 53 01.9	-0.6
RAR				IAmb	IAmb	16 53 24.4	
comp=Z,78nm,1.4s							
HNR	**Honiara**	29.49	316	P	P	16 54 21.7	-0.6
HNR				IAmb	IAmb	16 54 54.5	
comp=Z,45nm,0.9s							
STKA	**Stephens Creek**	32.70	260	P	P	16 54 52.1	+1.6
comp=Z,2.4nm,0.9s,baz=99,slow=10,SNR=3.9							
comp=Z,2.4nm,0.9s							
BBOO	**Buckleboo**	37.12	257	P	P	16 55 26.9	-1.7
BBOO				IAmb	IAmb	16 55 52.4	
comp=Z,22nm,1.4s							
COEN	**Coen**	38.45	289	P	P	16 55 38.7	-1.4
COEN				IAmb	IAmb	16 56 15.3	
comp=Z,24nm,1.4s							
XMAS	**Kiritimati**	40.07	36	P	P	16 55 53.4	-0.2
AS31	**Alice Springs**	41.61	270	P	P	16 56 07.3	+1.0
ASAR	**Alice Springs**	41.61	270	P	P	16 56 06.7	+0.4
ASAR	**Alice Springs**	41.61	270	P	P	16 56 07.8	+1.5
comp=Z,7.5nm,0.8s,baz=107,slow=7.5,SNR=75							
comp=Z,7.5nm,0.8s							
WR8	**Warramunga Arr**	42.63	275	P	P	16 56 15.7	+1.1
WR8				IAmb	IAmb	16 56 16.8	
comp=Z,8.7nm,1.0s							
WRAB	**Tennant Creek**	42.76	275	P	P	16 56 16.6	+0.9
WRA	**Warramunga Arr**	42.77	275	P	P	16 56 16.7	+1.0
WRA	**Warramunga Arr**	42.77	275	P	P	16 56 17.0	+1.2
comp=Z,5.4nm,0.6s,baz=114,slow=8.0,SNR=31							
comp=Z,5.4nm,0.6s							
WB0	**Warramunga Arr**	42.80	275	P	P	16 56 17.1	+1.0
WB0				IAmb	IAmb	16 56 18.1	
comp=Z,6.9nm,0.7s							
TAOE	**Nuku Hiva Isla**	43.36	66	P	P	16 56 21.2	+0.6
FORT	**Forrest**	44.21	257	P	P	16 56 27.8	+0.5
FORT				IAmb	IAmb	16 57 08.5	
comp=Z,18nm,0.9s							
SBA	**Scott Base**	46.12	184	P	P	16 56 42.8	+1.0
MTN	**Manton Dam**	48.88	282	P	P	16 57 04.5	+0.4
MTN				IAmb	IAmb	16 57 05.9	
comp=Z,4.5nm,0.7s							
FITZ	**Fitzroy Crossi**	50.95	272	P	P	16 57 20.8	+1.0
FITZ	**Fitzroy Crossi**	50.95	272	P	P	16 57 20.4	+0.6
comp=Z,2.6nm,0.8s,baz=174,slow=7.7,SNR=3.5							
comp=Z,2.6nm,0.8s							
QSPA	**South Pole Qui**	57.89	180	P	P	16 58 09.7	-0.1
QSPA				IAmb	IAmb	16 58 10.2	
comp=Z,3.5nm,0.8s							
QSPA	**South Pole Qui**	57.89	180	P	P	16 58 10.0	+0.2
comp=Z,2.9nm,0.6s,baz=29,slow=0.5,SNR=18							
comp=Z,2.9nm,0.6s							
PLCA	**Paso Flores**	82.31	134	P	P	17 00 39.8	-0.1
PLCA				IAmb	IAmb	17 01 05.7	
comp=Z,12nm,1.5s							
PLCA	**Paso Flores**	82.31	134	P	P	17 00 42.7	+2.7
comp=Z,2.6nm,0.9s,baz=258,slow=3.7,SNR=2.8							
comp=Z,2.6nm,0.9s							
CO06	**Fray Jorge**	87.53	125	P	P	17 01 05.3	-1.0
FINES	**FINESS Array B**	146.32	338	PKPbc	PKPdf	17 07 56.9	0.0
comp=Z,1.6nm,0.7s,baz=65,slow=4.7,SNR=7.7							

*IDC **16** 16:58:39.3±2.0, 20°.46S×178°.43W, h608km±21km, mb2.7/4, mbtmp3.7/6, Error ellipse: s-maj=35.6km s-min=23.1km az=135.0*
ISC 16 16:58:38.5±1.1, 20°.5S±0°.2×178°.4W±0°.2, h600km, n8, σ1§45/9, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	4.37	309	P	P	17 00 07.6	+0.8
13nm,0.5s,baz=255,slow=22,SNR=16							
URZ	**Urewera**	18.12	192	P	P	17 02 15.3	+0.3
6.6nm,0.9s,baz=355,slow=2.9,SNR=6.4							
ASAR	**Alice Springs**	44.18	257	P	P	17 05 56.0	+0.2
0.4nm,0.9s,baz=92,slow=7.6,SNR=8.6							
ASAR				PcP	PcP	17 07 28.0	+0.8
0.2nm,0.5s,baz=104,slow=3.7,SNR=4.5							
0.4nm,0.9s							
WRA	**Warramunga Arr**	44.26	262	P	P	17 05 56.0	-0.4
0.2nm,0.3s,baz=97,slow=7.4,SNR=11							
0.2nm,0.3s							
ILAR	**Eielson Array**	88.40	13	P	P	17 10 26.8	-0.4
0.3nm,0.4s,baz=211,slow=5.0,SNR=5.9							
0.3nm,0.4s							
PDAR	**Pinedale Array**	89.20	43	P	P	17 10 33.0	+1.2
0.3nm,0.6s,baz=242,slow=1.6,SNR=3.7							
0.3nm,0.6s							
BVAR	**Borovoye Array**	118.87	320	PKP	PKiKP	17 16 18.9	-0.6
0.5nm,0.4s,baz=68,slow=1.2,SNR=3.8							
AKASG	**Malin Array Be**	142.85	331	PKP	PKPdf	17 17 01.4	-3.0
0.7nm,0.4s,baz=51,slow=4.0,SNR=8.0							

*IDC **16** 16:59:14.7±0.4, 58°.59S×23°.54W, h0km, mb5.0/11, mbtmp5.1/12, ML5.7/1, MS4.3/23, Error ellipse: s-maj=20.3km s-min=15.1km az=64.0*
*MOS **16** 16:59:15.6±0.9, 58°.68S×23°.57W, h14km, mb5.4/9, Error ellipse: s-maj=21.6km s-min=11.4km az=102.2*
*NEIC **16** 16:59:16.5, 58°.74S×23°.60W, h16km*
*NEIC **16** 16:59:16.5, 58°.04S×22°.00W, h16km, Moment Tensor Solution. Duration: 1§1.0 Moment tensor: Scale 10^{16} Nm; M_{rr}=7.31; $M_{\theta\theta}$=0.88; $M_{\phi\phi}$=6.43; $M_{r\theta}$=0.04; $M_{\phi\theta}$=1.46; $M_{\phi r}$=-1.51; Fault plane solution: M_0=7.21000×10^{16} NP1: ϕ_s=196.69000°, δ=39.24000°, λ=-85.58000°. NP2: ϕ_s=11.00000°, δ=50.90000°, λ=-93.60000°. Principal axes: T 6.9408, Plg=6.0000°, Azm=104.0000°; N 0.5383, Plg=3.0000°, Azm=13.0000°; P -7.4791, Plg=84.0000°, Azm=258.0000°;*
*NEIC **16** 16:59:16.5±1.4, 58°.74S±0°.10×23°.6W±0°.2, h10km±1km, mb5.5/53, Mww5.2/15 Error ellipse: s-maj=17.4km s-min=13.8km az=217.0*
*GCMT **16** 16:59:19.5±0.1, 58°.81S±0°.01×23°.07W±0°.02, h12km, MW5.1/121, Moment Tensor Solution. s=59, c=84; s=121, c=187; Duration: 0 Moment tensor: Scale 10^{16} Nm; M_{rr}=4.85±.15; $M_{\theta\theta}$=0.56±.17; $M_{\phi\phi}$=5.41±.12; $M_{r\theta}$=0.04±.43; $M_{\theta\phi}$=4.16±.11; $M_{\phi r}$=1.78±.34; Best double couple: M_0=6.52800×10^{16} NP1: ϕ_s=46.00000°, δ=41.00000°, λ=-63.00000°. NP2: ϕ_s=191.00000°, δ=55.00000°, λ=-112.00000°. Principal axes: T 7.7420, Plg=7.0000°, Azm=297.0000°; N -2.4230, Plg=18.0000°, Azm=204.0000°; P -5.3150, Plg=71.0000°, Azm=48.0000°; nsta=1 refers to body waves, cutoff=40s. nsta=2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 16:59:16.1±0.2, 58°.66S±0°.07×23°.47W±0°.06, h10km, n474, σ1§06/438, mb5.3/40, MS4.3/29, 8C-15D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	8.43	296		Pn	17 01 19.8	+1.7
HOPE	**Hope Point**	8.43	296	P	Pn	17 01 19.8	+1.7
VNA1	**Neumayer--Stat**	13.61	158	⇓P	Pn	17 02 28.6	-0.2
comp=Z,276nm,0.4s							
VNA3	**Neumayer Olymp**	13.85	161	⇓P	Pn	17 02 31.4	-0.8
comp=Z,519nm,0.7s							
SNAA	**Sanae**	15.53	155		Pn	17 02 53.5	-1.2
SNAA				IAmb	IAmb	17 02 58.1	
comp=Z,347nm,1.2s							
SNAA	**Sanae**	15.53	155	⇓P	Pn	17 02 53.6	-1.2
comp=Z,2μm,0.3s							
SNAA	**Sanae**	15.53	155	Pn	Pn	17 02 53.7	-1.1
comp=Z,30nm,0.3s,baz=327,slow=16,SNR=310							
SNAA				LR	LR	17 08 46.1	
comp=Z,236nm,19.0s,baz=317,slow=37							
comp=Z,118nm,0.4s							
SNAA	**Sanae**	15.53	155	*i*P	Pn	17 02 53.2	-1.6
SNAA				pmax	pmax		
comp=Z,291nm,1.0s							
ESPZ	**Base Esperanza**	16.78	239	Pn	Pn	17 03 09.7	-1.1
TROLL	**Troll, Antarti**	17.00	152	⇓P	Pn	17 03 12.7	-0.9
comp=Z,2μm,0.2s							
NVL	**N'lazarevskaya**	18.96	144	*e*P	Pn	17 03 38.7	+1.0
NVL				pmax	pmax		
comp=Z,13nm,1.2s							
BELA	**Belgrano 2**	19.66	187		P	17 03 44.6	0.0
PMSA	**Palmer Station**	19.88	235	LR	LR	17 10 46.2	
comp=Z,2μm,19.8s,baz=72,slow=35							
EFI	**East Falkland**	20.77	275	P	P	17 03 57.0	+0.2
EFI	**East Falkland**	20.77	275	*c i*P	P	17 03 57.1	+0.2
EFI				pmax	pmax		
comp=Z,339nm,1.3s							
ELIB	**Princess Elisa**	22.84	144	*d*P	P	17 04 19.9	+0.9
comp=Z,21nm,1.1s							
MG02	**Cerro Sombrero**	26.00	263	P	P	17 04 47.3	-1.5
GO10	**Punta Arenas**	26.75	261		P	17 04 55.1	-0.5
GO10				IAmb	IAmb	17 04 59.0	
comp=Z,128nm,0.9s							
SYO	**Syowa Base**	28.29	137	*e*pP	P	17 05 08.2	-0.9
SYO	**Syowa Base**	28.29	137	⇓*e*pP	pP	17 05 14.0	+3.5
MG05	**Puerto Natales**	28.30	263		P	17 05 07.8	-1.6
MG05				IAmb	IAmb	17 05 08.9	
comp=Z,88nm,0.6s							
AY03	**Cochrane**	31.00	270	P	P	17 05 33.3	-0.1
QSPA	**South Pole Qui**	31.58	180	P	P	17 05 39.9	+1.5
comp=Z,14nm,0.8s,baz=216,slow=1.4,SNR=99							
QSPA				LR	LR	17 17 54.1	
comp=Z,558nm,18.8s,baz=196,slow=35							
comp=Z,14nm,0.8s							
COYC	**Coyhaique**	31.84	273		P	17 05 40.3	-0.4
COYC				IAmb	IAmb	17 05 41.7	
comp=Z,64nm,1.0s							
AY01	**Puyuhuapi**	32.91	274	P	P	17 05 49.4	-0.8
AY01				IAmb	IAmb	17 05 50.5	
comp=Z,82nm,0.8s							
LL02	**Futaleuf**	33.35	276		P	17 05 53.0	-1.0
LL02				IAmb	IAmb	17 06 06.8	
comp=Z,49nm,1.0s							
PLCA	**Paso Flores**	34.45	280	P	P	17 06 03.0	-0.7
comp=Z,17nm,0.9s,baz=148,slow=6.5,SNR=6.0							
comp=Z,17nm,0.9s							
LR04	**Corral**	36.56	279	P	P	17 06 20.6	-1.0
MAW	**Mawson**	36.84	140		P	17 06 24.9	+1.1
MAW	**Mawson**	36.84	140	P	P	17 06 24.5	+0.7
comp=Z,23nm,1.1s,baz=231,slow=9.8,SNR=13							
comp=Z,23nm,1.1s							
MAW	**Mawson**	36.84	140	P	P	17 06 24.9	+1.1
MAW				pmax	pmax		
comp=Z,11nm,1.4s							
BI05	**Punta Hualpn**	38.80	282		P	17 06 40.1	-0.6
VAO	**Valinhos**	39.39	325	P	P	17 06 47.2	+1.4
SUR	**Sutherland**	39.56	68		P	17 06 48.4	+1.1
SUR				IAmb	IAmb	17 06 50.0	
comp=Z,68nm,0.9s							
SUR	**Sutherland**	39.56	68	LR	LR	17 20 10.7	
comp=Z,336nm,18.5s,baz=214,slow=32							
SOE	**Somerset East**	41.63	73	IAmb	IAmb	17 07 06.1	
comp=Z,62nm,0.9s							
SBA	**Scott Base**	43.59	183	P	P	17 07 21.6	+2.1
SBA	**Scott Base**	43.59	183	P	P	17 07 21.6	+2.1
SBA				pmax	pmax		
comp=Z,34nm,1.2s							
VNDA	**Vanda**	44.03	182	P	P	17 07 24.3	+1.2
VNDA	**Vanda**	44.03	182	P	P	17 07 25.2	+2.1
comp=Z,11nm,0.9s,baz=191,slow=6.5,SNR=38							
VNDA				LR	LR	17 25 20.5	
comp=Z,403nm,19.6s,baz=181,slow=36							
comp=Z,11nm,0.9s							
H04S2	**CROZET ISLANDS**	44.71	109	T	T	17 55 59.9	
baz=225,slow=76,SNR=27							
H04S3	**CROZET ISLANDS**	44.72	109	T	T	17 56 01.2	
baz=225,slow=76,SNR=25							
H04S1	**CROZET ISLANDS**	44.73	109	T	T	17 56 01.1	
baz=225,slow=76,SNR=30							
BOSA	**Boshof**	44.82	70	P	P	17 07 30.4	+0.2
BOSA				IAmb	IAmb	17 07 31.6	
comp=Z,54nm,0.8s							
BOSA	**Boshof**	44.82	70	P	P	17 07 30.4	+0.2
comp=Z,39nm,0.8s,baz=214,slow=7.5,SNR=40							
BOSA				PcP	PcP	17 09 12.4	+0.5
comp=Z,7.6nm,1.0s,baz=272,slow=6.0,SNR=3.2							
BOSA				LR	LR	17 21 59.6	
comp=Z,296nm,18.1s,baz=210,slow=30							
comp=Z,39nm,0.8s							
BDFB	**Brasilia**	46.65	327	LR	LR	17 27 56.2	
comp=Z,295nm,18.4s,baz=155,slow=37							
LKGWB	**Lokgwabe**	46.70	62	*i* P	P	17 07 46.3	+1.3
MAKGR	**Makgori**	46.94	67	IAmb	IAmb	17 07 48.2	
comp=Z,60nm,1.2s							
MAKGR	**Makgori**	46.94	67	*i* P	P	17 07 46.5	-0.4
KOOLE	**Kule**	47.20	60	IAmb	IAmb	17 07 49.7	
comp=Z,31nm,0.8s							
KOOLE	**Kule**	47.20	60	*i* P	P	17 07 49.0	+0.1
SKOMA	**Sekoma**	47.62	65	*i* P	P	17 07 52.7	+0.5
LBTB	**Lobatse**	48.00	67	IAmb	IAmb	17 07 56.6	
comp=Z,50nm,1.1s							
LBTB	**Lobatse**	48.00	67	LR	LR	17 25 35.4	
comp=Z,273nm,18.0s,baz=210,slow=33							
KGCAE	**Kacgae**	48.24	62	*i* P	P	17 07 57.3	+0.3
KDWAN	**Kaudwane**	48.94	65	*i* P	P	17 08 02.1	-0.3
GRTLG	**Ghanzi**	49.07	60	IAmb	IAmb	17 08 04.8	
comp=Z,116nm,1.9s							
GRTLG	**Ghanzi**	49.07	60	*i* P	P	17 08 03.6	+0.1
TSUM	**Tsumeb**	49.37	55	P	P	17 08 06.3	+0.6
TSUM				IAmb	IAmb	17 08 07.8	
comp=Z,77nm,1.7s							
TSUM	**Tsumeb**	49.37	55	LR	LR	17 25 24.6	
comp=Z,267nm,18.4s,baz=218,slow=32							
LPHEP	**Lephephe**	49.52	66	IAmb	IAmb	17 08 08.5	
comp=Z,101nm,1.4s							
LPHEP	**Lephephe**	49.52	66	*i* P	P	17 08 07.1	+0.3
H10S2	**ASCENSION HYDR**	50.05	11	T	T	18 02 20.5	
baz=186,slow=74,SNR=34							
H10S3	**ASCENSION HYDR**	50.06	11	T	T	18 02 21.2	
baz=34,slow=74,SNR=30							
KHWEE	**KHWEE**	50.53	65	IAmb	IAmb	17 08 16.0	
comp=Z,45nm,1.1s							
QNGWA	**Qangwa**	50.65	59	IAmb	IAmb	17 08 17.5	
comp=Z,120nm,1.8s							
QNGWA	**Qangwa**	50.65	59	*i* P	P	17 08 15.4	0.0
SIV	**San Ignacio**	50.83	311	P	P	17 08 16.2	-0.5
comp=Z,3.3nm,0.5s,baz=202,slow=6.6,SNR=2.1							
SIV				LR	LR	17 29 07.0	
comp=Z,288nm,20.9s,baz=160,slow=35							
comp=Z,3.3nm,0.5s							
MREMI	**Moremi**	50.96	67	IAmb	IAmb	17 08 19.2	
comp=Z,151nm,1.4s							
H10N1	**ASCENSION HYDR**	51.17	11	T	T	18 03 44.6	
baz=188,slow=71,SNR=21							
H10N3	**ASCENSION HYDR**	51.17	11	T	T	18 03 44.7	
baz=188,slow=71,SNR=44							
H10N2	**ASCENSION HYDR**	51.19	11	T	T	18 03 45.8	
baz=188,slow=71,SNR=27							
XAUDM	**Khaudum**	51.60	59	IAmb	IAmb	17 08 25.7	
comp=Z,39nm,1.1s							
PHDHD	**Phudululu**	51.61	63	*i* P	P	17 08 23.1	+0.4
MATP	**Matopo**	53.29	67	LR	LR	17 28 40.3	
comp=Z,123nm,19.9s,baz=240,slow=33							
LPAZ	**La Paz**	53.51	303	P	P	17 08 37.0	-0.3
comp=Z,4.8nm,0.5s,baz=131,slow=8.6,SNR=2.7							
comp=Z,4.8nm,0.5s							
LPAZ	**La Paz**	53.51	303	P	P	17 08 37.0	-0.3
KSANE	**Kasane**	53.98	62	IAmb	IAmb	17 08 41.0	
comp=Z,24nm,0.8s							
LSZ	**Lusaka**	57.58	64	P	P	17 09 05.8	-0.2
LSZ	**Lusaka**	57.58	64	LR	LR	17 30 06.4	
comp=Z,385nm,20.7s,baz=200,slow=32							
LSZ	**Lusaka**	57.58	64	P	P	17 09 05.8	-0.2
LSZ				pmax	pmax		
comp=Z,20nm,0.8s							
NNA	**Nana**	61.25	296	LR	LR	17 34 01.4	
comp=Z,234nm,21.2s,baz=140,slow=34							
NNA	**Nana**	61.25	296	*i* P	P	17 09 28.5	-2.8
MAL2	**Monte Alegre,**	61.39	324	P	P	17 09 32.4	+0.2
ATAH	**Atahualpa**	66.22	297	LR	LR	17 38 42.1	
comp=Z,142nm,21.1s,baz=169,slow=36							
DBIC	**Dimbokro**	66.82	20	P	P	17 10 07.6	-0.2
DBIC	**Dimbokro**	66.82	20	P	P	17 10 08.3	+0.6
comp=Z,48nm,0.8s,baz=176,slow=6.7,SNR=42							
comp=Z,48nm,0.8s							
BOAV	**Boa Vista**	67.58	319	P	P	17 10 12.3	-0.3
BOAV				IAmb	IAmb	17 10 27.3	
comp=Z,48nm,1.0s							
MBAR	**Mbarara**	71.67	59	P	P	17 10 39.3	+1.2
MBAR				IAmb	IAmb	17 10 42.3	
comp=Z,39nm,1.6s							
MBAR	**Mbarara**	71.67	59	*d i*P	P	17 10 40.6	+2.5
MBAR				pmax	pmax		
comp=Z,29nm,1.5s							
OTAV	**Otavalo**	72.76	301	P	P	17 10 44.7	-0.3
OTAV	**Otavalo**	72.76	301	P	P	17 10 44.7	-0.3
OTAV				pmax	pmax		
comp=Z,21nm,1.2s							
KIBK	**Kibwezi**	73.53	66	P	P	17 10 51.0	+1.9
KIBK				IAmb	IAmb	17 10 54.1	
comp=Z,44nm,1.4s							
TORD	**Torodi Ar. Bea**	74.45	25	P	P	17 10 54.2	0.0
comp=Z,116nm,0.3s,baz=198,slow=5.0,SNR=1.5							
ROSC	**El Rosal**	75.09	307	LR	LR	17 45 59.2	
comp=Z,209nm,19.5s,baz=101,slow=37							
RUSC	**La Rusia**	75.53	309	IAmb	IAmb	17 12 05.2	
comp=Z,39nm,1.0s							
PCRV	**Puerto La Cruz**	76.25	318	LR	LR	17 44 50.3	
comp=Z,166nm,21.5s,slow=36							
SDV	**Santo Domingo**	77.27	312	P	P	17 11 10.6	0.0
SDV				IAmb	IAmb	17 11 25.5	
comp=Z,35nm,1.1s							
SDV	**Santo Domingo**	77.27	312	LR	LR	17 44 25.8	
comp=Z,567nm,21.6s,baz=142,slow=35							
LTZ	**Lake Taylor**	78.07	192	P	P	17 11 15.0	+0.3
LTZ				IAmb	IAmb	17 11 28.0	
comp=Z,27nm,1.1s							
MSEY	**Mahe Island**	80.28	83	P	P	17 11 28.0	+0.9
MSEY	**Mahe Island**	80.28	83	P	P	17 11 28.0	+0.9
MSEY				pmax	pmax		
comp=Z,11nm,1.1s							
RKT	**Rikitea**	81.00	240	*e*LR	LR	17 36 47.0	
comp=Z,2μm,26.8s							
URZ	**Urewera**	81.92	196	LR	LR	17 46 52.2	
comp=Z,127nm,18.1s,baz=257,slow=35							
NWAO	**Narrogin (SRO)**	83.05	148	LR	LR	17 45 52.4	
comp=Z,115nm,18.2s,baz=88,slow=34							
SJG	**San Juan**	84.15	320	LR	LR	17 49 18.5	
comp=Z,163nm,21.8s,baz=94,slow=36							
TAM	**Tamanrasset**	84.64	27	P	P	17 11 51.3	+1.7
TAM	**Tamanrasset**	84.64	27	P	P	17 11 51.3	+1.7
TAM				pmax	pmax		
comp=Z,50nm,0.8s							
TBI	**Tubuai**	86.92	228	*e*LR	LR	17 39 32.9	
comp=Z,848nm,25.5s							
FORT	**Forrest**	87.78	156	P	P	17 12 05.3	+0.2
ATD	**Arta Tunnel**	87.91	64	LR	LR	17 48 43.7	
comp=Z,11nm,18.8s,baz=80,slow=34							
STKA	**Stephens Creek**	88.94	167	P	P	17 12 10.7	+0.1
STKA	**Stephens Creek**	88.94	167	P	P	17 12 11.0	+0.4
comp=Z,7.0nm,0.6s,baz=163,slow=5.5,SNR=16							
comp=Z,7.0nm,0.6s							
STKA	**Stephens Creek**	88.94	167	P	P	17 12 11.0	+0.4
PPT2	**Papeete2**	92.16	230	*e*LR	LR	17 41 50.4	
com

comp=Z,5.7nm,1.4s,baz=202,slow=1.9
NOA NORSAR Array B 122.39 19 PKP **PKiKP 17 18 10.1 0.0**
comp=Z,3.5nm,1.0s,baz=192,slow=1.6,SNR=7.5
OBN Obninsk 123.22 37 *i* PKIKP **PKPdf 17 18 10.0 -1.6**
OBN pmax pmax
comp=Z,9.0nm,0.9s
VSU Vasula 123.33 29⇓*e*PKIKP **PKPdf 17 18 10.6 -1.1**
PDAR Pinedale Array 123.40 298 PKP **PKPdf 17 18 12.2 -0.5**
comp=Z,1.2nm,0.7s,baz=144,slow=5.3,SNR=4.1
ULM Lac du Bonnet 123.52 313 PKP **PKPdf 17 18 10.9 -1.4**
comp=Z,3.9nm,0.7s,baz=179,slow=2.9,SNR=5.1
ULM PKKP **PKKPdf 17 28 39.4 +0.1**
comp=Z,2.0nm,0.6s,baz=109,slow=4.3,SNR=3.1
NVAR Mina Array Bea 124.22 289 PKP **PKiKP 17 18 14.8 +0.1**
comp=Z,1.7nm,0.7s,baz=159,slow=3.0,SNR=7.8
FINES FINESS Array B 125.79 27 PKP **PKPdf 17 18 16.3 0.0**
comp=Z,3.1nm,0.6s,baz=159,slow=2.1,SNR=18
IUG Iuzhnay 126.42 67 *e*PKIKP **PKPdf 17 18 17.4 -0.9**
IUG *e* 17 20 13.8
IUG Iuzhnay 126.42 67 *e*PKP **PKPdf 17 18 17.5 -0.9**
IUG *e*PP **PP 17 20 13.9 -0.8**
BRLS Borolday 127.00 66 *e*PKIKP **PKPdf 17 18 18.2 -1.1**
BRLS Borolday 127.00 66 *e*PKP **PKPdf 17 18 18.2 -1.1**
KSH Kashi 127.35 74 PKP **PKiKP 17 18 20.9 +0.1**
LSA Lhasa 127.57 94 PKP **PKiKP 17 18 21.9 -0.1**
DZA Taraz 127.61 68 *e*PKIKP **PKPdf 17 18 19.7 -0.8**
DZA Taraz 127.61 68 *e*PKP **PKPdf 17 18 19.8 -0.8**
QIZ Qiongzhong 127.99 119 PKP **PKPdf 17 18 21.5 -0.4**
QIZ PP **PP 17 20 25.0 +0.4**
QIZ SS SS 17 37 40.6 +2.9
QIZ LR LR
comp=Z,170nm,17.1s
QIZ LR LR
comp=Z,130nm,16.1s
QIZ LR LR
comp=Z,250nm,14.1s
KLMR Klimovskoe 128.85 34 *e*PKIKP **PKPdf 17 18 20.0 -2.2**
KLMR pmax pmax
comp=Z,39nm,1.2s
AAK Ala-Archa 128.97 70*d i*PKIKP **PKPdf 17 18 23.2 -0.1**
SGDS Sogindy 129.64 69 *e*PKIKP **PKPdf 17 18 23.7 -0.6**
SGDS Sogindy 129.64 69 *e*PKP **PKPdf 17 18 23.8 -0.6**
KIRV Kirov 130.22 41⇓*e*PKIKP **PKPdf 17 18 24.1 -0.7**
PZH PanZhiHua 130.43 106 PKP **PKiKP 17 18 27.0 -0.3**
TNSS Tian-Shan 130.47 71 *e*PKIKP **PKPdf 17 18 25.1 -1.3**
TNSS Tian-Shan 130.47 71 *e*PKP **PKPdf 17 18 25.2 -1.3**
AAA Alma-Ata 130.58 71 *e*PKIKP **PKPdf 17 18 25.4 -0.7**
AAA Alma-Ata 130.58 71 *e*PKP **PKPdf 17 18 25.5 -0.7**
MDOK Medeo 130.61 71 *e*PKIKP **PKPdf 17 18 25.4 -0.9**
MDOK Medeo 130.61 71 *e*PKP **PKPdf 17 18 25.5 -0.9**
KIP Kipapa 130.63 241⇑*e*PKIKP **PKPdf 17 18 26.5 -0.3**
KUU Kurty 130.80 70 *e*PKIKP **PKPdf 17 18 25.6 -0.9**
KUU Kurty 130.80 70 *e*PKP **PKPdf 17 18 25.7 -0.9**
CHKK Chushkaly 131.09 71 *e*PKIKP **PKPdf 17 18 26.2 -0.9**
CHKK Chushkaly 131.09 71 *e*PKP **PKPdf 17 18 26.2 -0.9**
SATY Saty 131.21 72 *e*PKIKP **PKPdf 17 18 26.4 -1.0**
SATY Saty 131.21 72 *e*PKP **PKPdf 17 18 26.5 -1.0**
ZHN Zhinishke 131.31 72 *e*PKIKP **PKPdf 17 18 26.5 -1.1**
ZHN Zhinishke 131.31 72 *e*PKP **PKPdf 17 18 26.6 -1.1**
UZB Uzynbulak 131.58 73 *e*PKIKP **PKPdf 17 18 27.3 -0.9**
UZB Uzynbulak 131.58 73 *e*PKP **PKPdf 17 18 27.3 -0.9**
ARXS Arharly 131.77 71 *e*PKIKP **PKPdf 17 18 27.8 -0.6**
SHLS Shalkode 131.81 73 *e*PKIKP **PKPdf 17 18 27.9 -0.7**
SHLS Shalkode 131.81 73 *e*PKP **PKPdf 17 18 28.0 -0.7**
ARTI Arti 131.87 48 *i* PKIKP **PKiKP 17 18 29.2 +0.1**
ARTI 17 20 52.6
TDK Taldyqorghan 132.62 71 *e*PKIKP **PKPdf 17 18 29.2 -0.7**
TDK Taldyqorghan 132.62 71 *e*PKP **PKPdf 17 18 29.3 -0.7**
ARCES ARCESS Array B 132.65 21 PKP **PKPdf 17 18 29.0 -0.2**
comp=Z,2.4nm,0.6s,baz=90,slow=0.5,SNR=8.8
ARCES PP **PP 17 20 52.0 -2.7**
comp=Z,3.9nm,1.0s,baz=202,slow=5.2,SNR=6.4
GYA Guiyang 132.83 111 PKP **PKiKP 17 18 32.4 +0.2**
BRZS Berezniki 133.41 62 *e*PKIKP **PKPdf 17 18 30.6 -0.6**
BRZS Berezniki 133.41 62 *e*PKP **PKPdf 17 18 30.6 -0.6**
BRVK Borovoye 134.46 58⇑*e*PKIKP **PKPdf 17 18 32.3 -0.8**
BVAR Borovoye Array 134.48 58 PKhKP PKPpre 17 18 21.2
comp=Z,0.8nm,0.7s,baz=203,slow=3.1,SNR=5.4
BVAR PP **PKPdf 17 18 33.2 +0.1**
comp=Z,9.2nm,0.8s,baz=273,slow=1.2,SNR=27
GOMU GeErMu 134.56 92 PKP **PKPdf 17 18 34.8 +0.5**
MK31 Makanchi Array 135.81 72*de*PKIKP **PKPdf 17 18 34.7 -1.1**
MKAR Makanchi Array 135.81 72 PKhKP PKPpre 17 18 22.5
comp=Z,0.5nm,0.7s,baz=234,slow=5.2,SNR=6.0
MKAR PKP **PKPdf 17 18 34.8 -1.0**
comp=Z,6.4nm,1.0s,baz=238,slow=3.0,SNR=18
WMQ Urumqi 136.46 78 *e*PKP **PKiKP 17 18 38.5 -0.4**
KURBB Kurchatov Arra 136.59 65 PKhKP PKPpre 17 18 26.7
comp=Z,1.2nm,0.8s,baz=228,slow=3.6,SNR=10
KURBB PKP **PKPdf 17 18 36.9 -0.2**
comp=Z,4.9nm,0.8s,baz=232,slow=2.4,SNR=21
KURBB PP **PP 17 21 20.8 +0.8**
comp=Z,0.5nm,0.6s,baz=234,slow=6.6,SNR=4.2
KURK Kurchatov 136.69 65*de*PKIKP **PKPdf 17 18 36.8 -0.5**
ZSN Zaisan 137.54 73 *e*PKIKP **PKPdf 17 18 38.4 -0.6**
ZSN Zaisan 137.54 73 *e*PKP **PKPdf 17 18 38.4 -0.6**
LZH Lanzhou 139.16 100 *e*PKP PKPpre 17 18 33.3
YKA Yellowknife Ar 139.46 314 PKhKP PKPpre 17 18 34.5
comp=Z,0.9nm,0.8s,baz=112,slow=2.5,SNR=8.7
YKA PKP **PKPdf 17 18 42.4 +0.4**
comp=Z,5.2nm,0.8s,baz=130,slow=2.3,SNR=32
YKA PP **PP 17 21 36.4 -1.2**
comp=Z,1.5nm,0.9s,baz=127,slow=6.7,SNR=8.5
GTA Gaotai 139.58 93 *e*PKP **PKPdf 17 18 38.4 -4.8**
XAN Xi'an 140.14 107⇑PKP **PKPdf 17 18 41.4 -2.9**
RES Resolute Bay 141.05 336 PKhKP PKPpre 17 18 38.1
comp=Z,3.1nm,0.7s,baz=168,slow=3.8,SNR=15
ZALV Zalesovo Beam 141.69 65 PKhKP PKPpre 17 18 40.1
comp=Z,4.5nm,0.7s,baz=252,slow=3.1,SNR=20
ZALV PP **PP 17 21 50.2 -1.2**
comp=Z,10nm,0.8s,baz=316,slow=4.1,SNR=6.0
KOTAN Kotaneelee Air 141.82 307 P **PKiKP 17 18 48.4 -0.9**
baz=124
LYN LuoYang 142.31 110 PKP **PKPdf 17 18 45.5 -2.6**
LYN LR LR
comp=Z,260nm,18.9s
LYN LR LR
comp=Z,220nm,15.5s
LYN LR LR
comp=Z,270nm,21.8s
V35K Ketchikan 142.43 297 P **PKPdf 17 18 48.4 +0.8**
baz=126
T35M Bob Quinn 142.75 300 P **PKPdf 17 18 49.5 +1.4**
baz=124
WRGLY Wrigley 143.24 312 P **PKPdf 17 18 49.6 +0.9**
baz=121
NJ2 Nanjing 143.28 120 *e*PKP **PKPdf 17 18 50.1 +0.3**
DLBC Dease Lake 143.46 302 PKP **PKPdf 17 18 48.5 -0.9**
comp=Z,7.1nm,1.0s,baz=269,slow=5.9,SNR=6.5
U33K Whale Pass 143.58 297 P **PKPdf 17 18 50.3 +0.7**
baz=124
S34M Telegraph Cree 143.67 301 P **PKPdf 17 18 50.8 +1.1**
baz=123
WTLY Watson Lake, Y 143.82 305 P **PKPdf 17 18 51.1 +1.1**
baz=122
TGTN Hyland Airport 144.32 307 P **PKPdf 17 18 51.7 +0.9**
baz=120
R33M Jennings River 144.38 303 P **PKPdf 17 18 52.5 +1.4**
baz=121
Q32M Nakina River 144.73 302 P **PKPdf 17 18 51.6 -0.2**
baz=121
S32K Killisnoo 144.99 299 P **PKPdf 17 18 53.1 +1.2**
baz=122
SIT Sitka 145.12 298 P **PKPdf 17 18 53.5 +1.3**
baz=122
R32K Eaglecrest 145.39 300 P **PKPab 17 18 54.0 +1.2**
baz=121
P33M Teslin, Yukon 145.60 303 P **PKPab 17 18 54.6 +0.9**
baz=119
HNS HongShan 145.67 110⇓PKPbc **PKPab 17 18 54.8 +0.3**
HNS LR LR
comp=Z,150nm,15.8s
HNS LR LR
comp=Z,140nm,13.8s
HNS LR LR
comp=Z,180nm,21.0s
P32M Atlin 145.69 302 P **PKPab 17 18 54.8 +0.8**
baz=120
BTO Baotou 145.75 101 *e*PKPbc **PKPab 17 18 55.3 +0.4**
BTO PKPab **PKiKP 17 18 58.8 +0.7**
BTO PP PP 17 22 24.6 +8.6
BTO LR LR
comp=Z,280nm,11.3s
BTO LR LR
comp=Z,190nm,12.4s

BTO LR LR
comp=Z,150nm,14.5s
TIA Tai'an 145.90 114 PKPbc **PKPab 17 18 55.5 0.0**
TIA LR LR
comp=Z,230nm,22.1s
TIA LR LR
comp=Z,160nm,13.2s
TIA LR LR
comp=Z,290nm,22.1s
S31K Pelican 146.01 298 P **PKPab 17 18 55.8 +0.6**
baz=121
MMPY Sheldon Lake, 146.08 308 P **PKPab 17 18 55.5 0.0**
baz=117
N32M Quiet Lake 146.17 305 P **PKPab 17 18 55.7 -0.1**
baz=118
C36M Paulatuk 146.22 321 P **PKPab 17 18 56.0 +0.3**
baz=113
SKAG Skagway 146.34 301 P **PKPab 17 18 56.3 -0.1**
baz=119
WHY Whitehorse 146.72 303 P **PKPbc 17 18 57.2 +0.4**
baz=118
HHC Hu-ho-hao-te 146.72 102 *e*PKPbc **PKPdf 17 18 55.5 -0.2**
HHC PP **PP 17 22 21.9 +0.1**
HHC LR LR
comp=Z,110nm,14.5s
HHC LR LR
comp=Z,100nm,15.3s
HHC LR LR
comp=Z,120nm,16.0s
FARO Faro, Yukon 146.77 307 P **PKPbc 17 18 57.2 +0.4**
baz=116
M31M Drury Creek, Y 147.20 306 P **PKPbc 17 18 58.3 +0.3**
baz=116
O30N Mendenhall 147.29 303 P **PKPbc 17 18 58.7 +0.4**
baz=117
P30M Million Dollar 147.38 302 P **PKPbc 17 18 58.6 0.0**
baz=118
N31M Braeburn, Yuko 147.48 304 P **PKPbc 17 18 58.3 -0.5**
baz=116
A36M Sachs Harbour 147.50 325 P **PKPbc 17 18 58.7 +0.2**
baz=108
P29M Windy Craggy 147.51 300 P **PKPbc 17 18 58.0 -0.9**
baz=118
HYT Haines Junctio 147.94 303 P **PKPbc 17 18 59.2 -1.0**
baz=116
N30M Aishikik Lake 148.03 304 P **PKPbc 17 19 00.4 0.0**
baz=116
O29M Mount Kennedy 148.19 301 P **PKPbc 17 19 00.6 -0.2**
baz=116
PNL Peninsula 148.27 300 P **PKPbc 17 19 00.2 -0.8**
baz=117
MOY Mondy 148.35 78 *e*PKIKP **PKPdf 17 18 57.6 -0.4**
MOY pmax pmax
comp=Z,77nm,2.0s
YUK6 Outpost Mounta 148.37 302 P **PKPbc 17 19 01.2 -0.2**
baz=116
M30M Miro, Yukon 148.37 306 P **PKPbc 17 19 01.0 -0.1**
baz=114
BJI Beijing 148.44 108 PKPbc **PKPbc 17 19 02.3 +0.4**
H31M Peel River 148.60 312 P **PKPbc 17 19 02.0 +0.4**
baz=111,SNR=19
YUK4 Talbot Arm 148.66 303 P **PKiKP 17 19 03.0 -0.6**
baz=115
ZAK Zakamensk 148.78 82 *e*PKIKP **PKPbc 17 19 01.0 -1.6**
ZAK pmax pmax
comp=Z,44nm,1.5s
SONM Songino Array 148.84 88 PKP **PKPdf 17 18 58.2 -0.8**
comp=Z,48nm,1.0s,baz=146,slow=3.2,SNR=4.1
SONM PKPbc **PKPbc 17 19 02.7 -0.3**
comp=Z,38nm,0.8s,baz=219,slow=3.4,SNR=49
PINM Pinnacle 148.85 300 P **PKPbc 17 19 02.7 +0.2**
baz=116
F31M Tsiigehtchic 148.92 315 P **PKPbc 17 19 02.3 0.0**
baz=108,SNR=13
J30M Hart River 148.95 310 P **PKPbc 17 19 02.6 0.0**
baz=111
G31M Satah River 148.95 314 P **PKPbc 17 19 02.2 -0.2**
baz=109,SNR=16
M29M Somme Creek 149.03 305 P **PKiKP 17 19 03.8 -0.4**
baz=113
INK Inuvik 149.10 317 PKPbc **PKPbc 17 19 02.7 0.0**
comp=Z,21nm,0.7s,baz=104,slow=3.5,SNR=76
INK Inuvik 149.10 317 P **PKPbc 17 19 02.8 +0.1**
baz=107
O28M Mount Upton 149.11 301 P **PKiKP 17 19 04.3 -0.3**
baz=115
YUK8 Steele Glacier 149.13 302 P **PKiKP 17 19 04.3 -0.3**
baz=114
L29M L29M 149.15 306 P **PKiKP 17 19 04.0 -0.3**
baz=112
K29M Barlow Dome 149.16 308 P **PKPbc 17 19 03.3 +0.1**
baz=112
I30M Mount Dempster 149.19 311 P **PKPbc 17 19 03.6 +0.3**
baz=110,SNR=42
ULN Ulaanbaatar 149.20 89⇑*e*PKIKP **PKPdf 17 18 59.3 -0.3**
YUK3 Moose Creek 149.63 303 P **PKPbc 17 19 04.8 +0.3**
baz=113
MESA MESA 149.65 300 P **PKPbc 17 19 04.4 -0.2**
baz=115
G30M tAoh Zraii Nji 149.69 314 P **PKPbc 17 19 04.2 -0.2**
baz=108,SNR=30
EPYK Eagle Plains 149.70 313 P **PKPbc 17 19 04.5 +0.2**
baz=108,SNR=18
F30M Barrier River 149.72 315 P **PKPbc 17 19 04.7 +0.3**
baz=107
NRIK Noril'sk 149.73 41 PKPbc **PKPbc 17 19 04.7 +0.5**
comp=Z,19nm,0.9s,baz=70,slow=0.3,SNR=59
NRIK Noril'sk 149.73 41*d i*PKP2 **PKPbc 17 19 04.3 0.0**
I29M Ogilvie Camp, 150.00 310 P **PKPbc 17 19 04.9 -0.2**
baz=109,SNR=7.9
DAWY Dawson 150.02 308 P **PKPbc 17 19 05.6 +0.4**
baz=110,SNR=42
BVCY Beaver Creek 150.05 304 P **PKiKP 17 19 05.9 -0.2**
baz=112
DL2 Dalian 150.19 116 *e*PKPbc **PKPdf 17 18 59.6 -1.6**
DL2 *e*PP **PP 17 22 41.4 -0.3**
DL2 SS SS 17 41 58.8 -0.4
DL2 AMB AMB
comp=Z,380nm,7.0s
DL2 LR LR
comp=Z,280nm,18.9s
DL2 LR LR
comp=Z,200nm,16.3s
DL2 LR LR
comp=Z,280nm,23.0s
BGLC Bering Glacier 150.24 299 P **PKPbc 17 19 05.9 +0.2**
baz=114
H29M Whitestone 150.29 312 P **PKPbc 17 19 06.0 +0.3**
baz=107,SNR=19
IRK Irkutsk 150.35 79 *e*PKIKP **PKPdf 17 18 59.7 -1.4**
IRK pmax pmax
comp=Z,98nm,2.0s
G29M Pine Creek 150.35 314 P **PKPbc 17 19 06.0 +0.1**
baz=106,SNR=41
M27K Edge Creek, AK 150.47 304 P **PKPbc 17 19 06.6 +0.1**
baz=111
I28M Miner Creek 150.68 310 P **PKPbc 17 19 06.9 +0.1**
baz=107,SNR=16
KAIM Kayak Island 150.68 298 P **PKiKP 17 19 07.5 0.0**
baz=114
E29M Blow River 150.69 316 P **PKPbc 17 19 06.6 0.0**
baz=104
L27K Beaver Creek, 150.70 305 P **PKiKP 17 19 07.3 -0.2**
baz=110,SNR=18
M26K Nabesna, AK 150.97 303 P **PKPbc 17 19 07.8 +0.3**
baz=111,SNR=9.6
K27K Chicken 151.12 307 P **PKiKP 17 19 08.8 +0.6**
baz=108,SNR=39
BMRM Bremner River 151.17 300 P **PKiKP 17 19 09.4 +0.8**
baz=112,SNR=7.9
D28M Stokes Point 151.19 318 P **PKiKP 17 19 08.2 0.0**
baz=102
XLT XiLinHaoTe 151.24 103 *e*PKPbc **PKiKP 17 19 09.3 0.0**
E28M Babbage River 151.32 317 P **PKPbc 17 19 07.8 -0.3**
baz=102
L26K Log Cabin Wild 151.34 304 P **PKiKP 17 19 08.8 0.0**
baz=109,SNR=20
I27K Kandik River 151.39 310 P **PKiKP 17 19 09.2 +0.3**
baz=106,SNR=26
N25K Chitina, Valde 151.40 301 P **PKiKP 17 19 09.3 +0.2**
baz=111,SNR=7.8
H27K Steamboat Moun 151.53 311 P **PKiKP 17 19 09.6 +0.4**
baz=105,SNR=29
EYAK Cordova Ski Ar 151.53 299 P **PKiKP 17 19 10.0 +0.8**
baz=112,SNR=5.5
G27K Doyon Strip 151.72 313 P **PKiKP 17 19 09.5 0.0**
baz=104
KSRS Korea Array 151.81 126 PKPbc **PKPbc 17 19 09.8 -0.3**

comp=Z,5.8nm,0.8s,baz=191,slow=2.2,SNR=29
KSRS PKPab **pPKPab 17 19 20.1 -0.5**
comp=Z,6.3nm,0.8s,baz=222,slow=4.1,SNR=14
J26L Joseph Creek 151.88 307 P **PKiKP 17 19 10.2 +0.2**
baz=107,SNR=24
SCRK Sand Creek 151.91 306 P **PKiKP 17 19 10.6 +0.5**
baz=107,SNR=21
HARP HAARP 151.92 303 P **PKiKP 17 19 10.3 +0.2**
baz=109
I26K Coal Creek Min 151.93 309 P **PKiKP 17 19 10.1 +0.1**
baz=105
D27M Malcolm River 151.95 318 P **PKiKP 17 19 10.4 +0.4**
baz=100
KLU Klutina 151.96 301 P **PKiKP 17 19 10.4 +0.2**
baz=110,SNR=8.4
E27K Coleen River 151.99 315 P **PKiKP 17 19 10.2 +0.1**
baz=101
P23K Montague Islan 152.09 297 P **PKiKP 17 19 10.6 +0.2**
baz=112
RIDG Independent Ri 152.20 305 P **PKiKP 17 19 11.4 +0.8**
baz=107,SNR=28
PAX Paxson 152.24 304 P **PKiKP 17 19 11.0 +0.2**
baz=108,SNR=8.1
GLI Glacier Island 152.27 299 P **PKiKP 17 19 10.9 +0.1**
baz=111
M24K Tolsona, Glenn 152.28 302 P **PKiKP 17 19 11.5 +0.6**
baz=109,SNR=6.5
G26K Porcupine Rive 152.57 312 P **PKiKP 17 19 11.7 +0.5**
baz=102
K24K Donnelly Dome 152.62 305 P **PKiKP 17 19 11.5 +0.1**
baz=106
J25K Salcha River, 152.66 307 P **PKPbc 17 19 11.4 0.0**
baz=105,SNR=8.0
SCM Sheep Creek Mo 152.70 301 P **PKiKP 17 19 11.7 0.0**
baz=109
PWL Port Wells 152.83 298 P **PKiKP 17 19 12.3 +0.3**
baz=110
F26K Sheenjek River 152.85 314 P **PKiKP 17 19 12.7 +0.9**
baz=100
M23K Glacier View 152.87 301 P **PKiKP 17 19 12.3 +0.3**
baz=109
PRP Porcupine Dome 152.95 309 P **PKiKP 17 19 12.6 +0.4**
baz=103
C27K Jago River 152.97 318 P **PKiKP 17 19 12.7 +0.8**
baz=97
KNK Knik Glacier 153.08 300 P **PKiKP 17 19 13.1 +0.6**
baz=109
SEW Seward 153.09 296 P **PKiKP 17 19 13.1 +0.7**
baz=111
SML Sawmill 153.15 300 P **PKiKP 17 19 13.0 +0.3**
baz=109
H25L Birch Creek 153.23 311 P **PKiKP 17 19 13.0 +0.4**
baz=102
HDA Harding Lake 153.27 306 P **PKiKP 17 19 13.0 +0.3**
baz=104
ILAR Eielson Array 153.34 307 PKP **PKPdf 17 19 05.2 0.0**
comp=Z,1.0nm,0.9s,baz=319,slow=0.2,SNR=6.6
ILAR PKPbc **PKPbc 17 19 12.1 -0.6**
comp=Z,10.0nm,0.9s,baz=140,slow=1.8,SNR=46
O22K Cooper Landing 153.35 297 P **PKiKP 17 19 13.2 +0.3**
baz=110
C26K Camden Bay 153.41 319 P **PKiKP 17 19 13.8 +1.0**
baz=95
G25K Bearman Lake 153.43 312 P **PKiKP 17 19 13.8 +0.9**
baz=100
PMR Palmer 153.44 300 P **PKiKP 17 19 13.1 0.0**
baz=108
E25K Arctic Village 153.44 315 P **PKiKP 17 19 13.5 +0.5**
baz=98
RC01 Rabbit Creek A 153.56 298 P **PKiKP 17 19 14.0 +0.6**
baz=109
BRSE Bradley Lake S 153.56 295 P **PKiKP 17 19 14.2 +0.7**
baz=111
POKR Poker Plat Res 153.64 308 P **PKiKP 17 19 14.2 +0.8**
baz=103
KDAK Kodiak Island 153.71 290 PKPbc **PKiKP 17 19 13.9 +0.1**
comp=Z,14nm,0.9s,baz=8.8,slow=2.4,SNR=12
KDAK PKPab **PKPab 17 19 26.9 +0.2**
comp=Z,13nm,0.9s,baz=16,slow=4.7,SNR=5.5
KDAK Kodiak Island 153.71 290 P **PKiKP 17 19 14.2 +0.4**
baz=114
COLA College 153.76 307⇑*i*PKIKP **PKPbc 17 19 12.8 -0.8**
OHAK Old Harbor 153.82 289 P **PKiKP 17 19 14.9 +0.9**
baz=115
D25K Kavik River 153.87 317 P **PKiKP 17 19 13.9 0.0**
baz=95
Q20K Shuyak Island 153.94 292 P **PKiKP 17 19 14.5 +0.3**
baz=112
M22K Willow 153.94 300 P **PKiKP 17 19 14.3 +0.2**
baz=108
MCK McKinley 153.95 304 P **PKiKP 17 19 14.7 +0.5**
baz=104
G24K Hadweenzic Riv 153.96 311 P **PKiKP 17 19 14.8 +0.7**
baz=100
H24K Noodor Dome 153.97 309 P **PKiKP 17 19 15.1 +0.9**
baz=101
SII Sitkinak Islan 153.99 287 P **PKiKP 17 19 14.4 0.0**
baz=116
CAPN Captain Cook N 154.11 297 P **PKiKP 17 19 15.1 +0.6**
baz=109
SUA Susitna One 154.14 299 P **PKiKP 17 19 15.0 +0.3**
baz=108
CUT Chulitna 154.19 301 P **PKiKP 17 19 15.2 +0.6**
baz=106
NEA2 Nenana 154.21 306 P **PKPbc 17 19 14.5 -0.1**
baz=103
F24K Squaw Lake 154.24 313 P **PKiKP 17 19 15.3 +0.6**
baz=98
CHIR Chirikof Islan 154.39 285 P **PKPbc 17 19 15.1 -0.1**
baz=117
I23K Minto, Yukon-K 154.44 307 P **PKiKP 17 19 15.4 +0.3**
baz=101
TRF Thorofare Moun 154.47 303 P **PKPbc 17 19 15.4 0.0**
baz=104
E24K Your Creek 154.53 314 P **PKiKP 17 19 15.4 +0.1**
baz=96
R18K Karluk 154.54 289 P **PKiKP 17 19 15.8 +0.3**
baz=114
H23K Yukon River 154.64 309 P **PKiKP 17 19 15.7 +0.1**
baz=100
SKT Skwentna 154.64 300 P **PKPbc 17 19 15.6 0.0**
baz=106
Q19K Cape Douglas, 154.66 292 P **PKiKP 17 19 16.4 +0.6**
baz=111
C24K Franklin Bluff 154.71 318 P **PKiKP 17 19 16.3 +0.8**
baz=92
P19K Oil Pt 154.72 294 P **PKPbc 17 19 15.8 0.0**
baz=110
SPCR Spurr Chakacha 154.73 298 P **PKiKP 17 19 16.1 +0.2**
baz=108
D24K Happy Valley 154.73 317 P **PKiKP 17 19 16.2 +0.6**
baz=93
MJAR Matsushiro Arr 154.82 143 PKPab **PKPab 17 19 31.9 0.0**
comp=Z,6.8nm,0.8s,baz=182,slow=4.6,SNR=10
MJAR Matsushiro Arr 154.82 143 PKP2 **PKPab 17 19 32.0 0.0**
BPAW Bear Paw Mtn. 154.92 305 P **PKiKP 17 19 16.4 +0.2**
baz=102
E23K Chandalar 154.95 314 P **PKiKP 17 19 17.0 +0.8**
baz=95
G23K Bananza Creek 154.96 311 P **PKiKP 17 19 17.1 +0.9**
baz=98
TOLK Toolik Lake Re 154.97 316 P **PKiKP 17 19 16.7 +0.5**
baz=94
CIT Chita 155.04 87 *e*PKIKP PKPdf 17 19 17.4 +9.4
CIT *e* 17 19 32.8
CIT *e* 17 23 16.2
CIT pmax pmax
comp=Z,40nm,1.5s
COLD Coldfoot 155.09 312 P PKPdf 17 19 17.5 +10
baz=96
PPLA Purkeypile 155.18 302 P PKPdf 17 19 17.6 +10
baz=104
Q18K Katmai Hardscr 155.22 291 P PKPdf 17 19 18.2 +10
baz=111
CAST Castle Rocks 155.25 303 P PKPdf 17 19 19.1 +11
baz=103
M20K Styx River 155.35 299 P **PKPab 17 19 34.1 +0.4**
baz=106
C23K Itkillik River 155.38 318 P **PKPab 17 19 34.6 +1.1**
baz=90
D23K Nanushuk River 155.39 316 P **PKPab 17 19 34.8 +1.2**
baz=92
H22K Ishtalitna Cre 155.40 309 P **PKPab 17 19 34.8 +1.0**
baz=98
O19K Port Alsworth 155.41 295 P **PKPab 17 19 34.2 +0.3**
baz=108
CHUM Lake Minchumin 155.45 304 P **PKPab 17 19 34.7 +0.8**
baz=102

Q17K	Contact Creek	155.51 290	P	PKPab	17 19 35.0	+0.4
	baz=112					
I21K	Tanana	155.54 307	P	PKPab	17 19 35.5	+1.2
	baz=99					
P18K	Big Mountain,	155.59 293	P	PKPab	17 19 35.5	+0.8
	baz=110					
N19K	Bonanza Creek	155.68 296	P	PKPab	17 19 35.3	+0.2
	baz=107					
O18K	Koktuh Hills	155.73 294	P	PKPab	17 19 35.2	-0.1
	baz=109					
E22K	Anaktuvuk Pass	155.78 314	P	PKPab	17 19 35.9	+0.5
	baz=93					
CN2	Changchun	155.80 114	PKP	PKPdf	17 19 05.5	-3.7
L20K	Farewell, AK	155.84 300	P	PKPab	17 19 35.8	+0.1
	baz=104					
F22K	John River	155.88 313	P	PKPab	17 19 36.0	+0.2
	baz=94					
M19K	Big River Lodg	155.93 299	P	PKPab	17 19 37.3	+1.2
	baz=105					
H21K	Melozitna Rive	155.95 308	P	PKPab	17 19 37.3	+1.2
	baz=98					
CHNA	Chernabura Isl	155.97 280	P	PKPab	17 19 36.1	-0.3
	baz=118					
CHGN	Chignik	156.01 284	P	PKPab	17 19 37.7	+1.1
	baz=115					
Q16K	King Salmon	156.04 290	P	PKPab	17 19 37.5	+0.9
	baz=110					
R16K	Pilot Point	156.09 287	P	PKPab	17 19 37.9	+1.1
	baz=112					
P17K	Kvichak River	156.11 292	P	PKPab	17 19 37.3	+0.4
	baz=110					
K20K	Telida	156.11 302	P	PKPab	17 19 37.4	+0.5
	baz=102					
D22K	Ayikyak River	156.11 316	P	PKPab	17 19 37.8	+1.1
	baz=90					
L19K	White Mountain	156.21 299	P	PKPab	17 19 38.2	+0.9
	baz=104					
J20K	Nowinta River	156.30 304	P	PKPab	17 19 38.4	+0.8
	baz=100					
N18K	Kilae Creek	156.30 295	P	PKPab	17 19 38.4	+0.7
	baz=107					
B22K	Teshekpuk Lake	156.32 320	P	PKPab	17 19 38.7	+1.2
	baz=86					
F21K	Alatna River	156.37 312	P	PKPab	17 19 38.8	+0.9
	baz=94					
M18K	Stony River	156.49 297	P	PKPab	17 19 38.9	+0.4
	baz=105					
I20K	Naaghedeneel	156.53 306	P	PKPab	17 19 39.6	+1.0
	baz=98					
S14K	Fog Glacier	156.58 283	P	PKPab	17 19 39.8	+0.6
	baz=114					
E21K	Killik River	156.59 315	P	PKPab	17 19 40.6	+1.8
	baz=90					
O17K	Koliganek Bris	156.61 293	P	PKPab	17 19 40.2	+1.1
	baz=108					
SDPT	Sand Point	156.66 281	P	PKPab	17 19 41.0	+1.7
	baz=116					
A22K	Sinclair Lake	156.78 322	P	PKPab	17 19 41.5	+2.0
	baz=83					
B21K	Ikpikpuk River	156.78 318	P	PKPab	17 19 41.0	+1.5
	baz=87					
H20K	Anotleneega Mo	156.79 307	P	PKPab	17 19 40.7	+1.0
	baz=96					
P16K	Nushagak River	156.81 291	P	PKPab	17 19 41.0	+1.1
	baz=109					
C21K	Knifeblade Rid	156.86 317	P	PKPab	17 19 41.7	+1.8
	baz=88					
N17K	Nushagak Hills	156.87 294	P	PKPab	17 19 41.7	+1.5
	baz=106					
TTA	Tatalina	156.89 301	P	PKPab	17 19 41.8	+1.5
	baz=101					
J19K	Poorman	156.91 304	P	PKPab	17 19 42.0	+1.7
	baz=99					
O16K	Kokwok River B	157.04 292	P	PKPab	17 19 42.1	+1.2
	baz=108					
L18K	Granite Mounta	157.05 299	P	PKPab	17 19 42.2	+1.3
	baz=103					
M17K	Holitna River	157.22 297	P	PKPab	17 19 42.4	+0.8
	baz=104					
F20K	Avaraart Lake	157.23 311	P	PKPab	17 19 42.7	+1.2
	baz=92					
A21K	Barrow	157.26 323	P	PKPab	17 19 43.1	+1.6
	baz=81					
J18K	Innoko River	157.30 302	P	PKPab	17 19 43.7	+1.7
	baz=100					
E20K	Nigu River	157.41 315	P	PKPab	17 19 43.4	+1.0
	baz=89					
H19K	Roundabout Mou	157.44 307	P	PKPab	17 19 44.2	+1.8
	baz=95					
D20K	Etivluk River	157.55 316	P	PKPab	17 19 43.0	+0.1
	baz=87					
GCSA	Galena City Sc	157.55 305	P	PKPab	17 19 44.1	+1.2
	baz=96					
N16K	Nishlik Lake	157.61 294	P	PKPab	17 19 44.6	+1.2
	baz=105					
B20K	Meade River	157.62 319	P	PKPab	17 19 44.8	+1.7
	baz=83					
G19K	Purcell Mounta	157.74 309	P	PKPab	17 19 44.8	+1.0
	baz=93					
O15K	Ungalikthiuk R	157.76 290	P	PKPab	17 19 44.4	+0.3
	baz=108					
L17K	Donlin	157.78 298	P	PKPab	17 19 44.7	+0.7
	baz=102					
E19K	Redstone River	157.82 312	P	PKPab	17 19 45.4	+1.3
	baz=90					
M16K	Timber Creek	157.84 295	P	PKPab	17 19 45.7	+1.4
	baz=104					
K17K	Iditarod	157.89 300	P	PKPab	17 19 46.3	+1.7
	baz=100					
F19K	Shaleruckik Mo	158.04 311	P	PKPab	17 19 46.6	+1.6
	baz=91					
D19K	Kuna River	158.11 315	P	PKPab	17 19 46.4	+1.1
	baz=86					
N15K	Kwethluk River	158.17 293	P	PKPab	17 19 47.3	+1.4
	baz=106					
H18K	Honhosa River	158.21 306	P	PKPab	17 19 47.8	+1.9
	baz=94					
L16K	Owhat River	158.23 297	P	PKPab	17 19 48.5	+2.5
	baz=102					
J17K	VABM Dome	158.34 301	P	PKPab	17 19 47.8	+1.4
	baz=98					
G18K	Tagagawik	158.37 308	P	PKPab	17 19 47.8	+1.2
	baz=92					
O14K	Tigyukauivet M	158.49 290	P	PKPab	17 19 49.1	+1.9
	baz=107					
M15K	Kasigluk River	158.59 294	P	PKPab	17 19 49.2	+1.7
	baz=104					
F18K	Selawik	158.78 310	P	PKPab	17 19 50.0	+1.7
	baz=90					
H17K	Granite Mounta	158.86 306	P	PKPab	17 19 49.6	+0.9
	baz=94					
N14K	Kuskokwak Cree	158.88 291	P	PKPab	17 19 49.1	+0.3
	baz=105					
A19K	Wainwright	158.91 320	P	PKPab	17 19 49.9	+1.2
	baz=79					
J16K	Anvik River	159.01 301	P	PKPab	17 19 50.6	+1.2
	baz=97					
UNV	Unalaska Valle	159.10 273	P	PKPab	17 19 51.3	+1.3
	baz=118					
USRK	Ussuriysk Ar.	159.11 123	PKPab	PKPab	17 19 50.1	-0.1
	comp=Z,2.8nm,0.8s,baz=197,slow=2.0,SNR=4.5					
USRK	Ussuriysk Ar.	159.11 123	PKIKP	PKPab	17 19 50.2	-0.1
I17K	Unalakleet	159.12 303	P	PKPab	17 19 51.8	+2.1
	baz=96					
E18K	Tukpahlearik C	159.12 313	P	PKPab	17 19 51.6	+1.9
	baz=86					
L15K	Ungalak Mounta	159.17 296	P	PKPab	17 19 51.0	+0.9
	baz=101					
G17K	Kiwalik Mounta	159.19 307	P	PKPab	17 19 51.9	+1.8
	baz=91					
M14K	Bethel	159.21 294	P	PKPab	17 19 51.7	+1.4
	baz=103					
C18K	Utukok River	159.22 316	P	PKPab	17 19 52.1	+1.9
	baz=83					
K15K	Wolf Creek Mou	159.29 298	P	PKPab	17 19 52.9	+2.3
	baz=99					
B18K	Kokolik River	159.32 318	P	PKPab	17 19 53.2	+2.7
	baz=80					
F17K	Baldwin Pennin	159.43 310	P	PKPab	17 19 53.7	+2.6
	baz=88					
E17K	Hotham Inlet	159.62 312	P	PKPab	17 19 54.0	+2.1
	baz=86					
L14K	Kuka Creek	159.67 295	P	PKPab	17 19 54.4	+2.1
	baz=101					
M13K	Dall Lake	159.80 292	P	PKPab	17 19 54.6	+1.8
	baz=103					
H16K	Elim	159.84 305	P	PKPab	17 19 55.3	+2.4
	baz=92					
G16K	Koyuk River	159.90 307	P	PKPab	17 19 55.5	+2.3
	baz=90					
NIKH	Nikolski High	159.90 269	P	PKPab	17 19 54.8	+1.3
	baz=120					
RDOG	Red Dog Mine	159.93 315	P	PKPab	17 19 55.9	+2.6
	baz=82					
D17K	Noatak River	160.04 314	P	PKPab	17 19 56.3	+2.6
	baz=83					
J14K	Nanvaranak Lak	160.28 299	P	PKPab	17 19 57.4	+2.5
	baz=96					
G15K	Niukluk	160.61 306	P	PKPab	17 19 58.2	+1.9
	baz=90					
K13K	Kusilvak Mount	160.69 296	P	PKPab	17 19 58.2	+1.4
	baz=98					
C16K	Lisburne Hills	160.79 316	P	PKPab	17 19 59.0	+2.0
	baz=79					
F15K	North Star Dit	160.84 308	P	PKPab	17 19 59.5	+2.2
	baz=87					
M11K	Mekoryuk	161.18 291	P	PKPab	17 20 00.4	+1.5
	baz=102					
ANM	Nome	161.19 304	P	PKPab	17 20 00.6	+1.8
	baz=90					
HEH	HeiHe	161.23 104	PKP	PKPab	17 19 58.4	-1.0
F14K	Arctic Creek	161.56 307	P	PKPab	17 20 01.1	+0.7
	baz=86					
P08K	Saint George I	161.83 278	P	PKPab	17 20 03.1	+1.3
	baz=111					
TNA	Tin City	162.21 308	P	PKPab	17 20 05.2	+2.0
	baz=84					
SPIA	Saint Paul Isl	162.39 279	P	PKPab	17 20 05.8	+1.6
	baz=109					
KLR	Kul'dur	162.72 112	*e*PKP2	PKPab	17 20 04.3	-1.7
KLR			pmax	pmax		
	comp=Z,14nm,2.1s					
ZEA	Zeya	163.06 94	*e*PKP2	PKPab	17 20 06.9	-0.5
ZEA			pmax	pmax		
	comp=Z,10.0nm,1.2s					
GAMB	Gambell	163.99 302	P	PKPab	17 20 09.2	-1.9
	baz=86					

MOS ***16*** *17:00:59.7±0.9, 28°.22S×63°.12W, h603km, mb5.3/42, Error ellipse: s-maj=10.5km s-min=6.7km az=83.3*
VAO ***16*** *17:00:59.7±0.3, 28°.26S×63°.15W, h596km±3km, mb5.2*
NEIC ***16*** *17:01:00.0±1.9, 28°.23S±0°.07×63°.13W±0°.09, h590km±4km, mb5.0/438, Mww5.0/9, Error ellipse: s-maj=12.3km s-min=10.5km az=65.0*
NEIC ***16*** *17:01:00.2, 28°.22S×63°.15W, h593km*
IDC ***16*** *17:01:00.6±0.5, 28°.19S×63°.05W, h596km±5km, mb4.4/17, mbtmp5.4/22, Error ellipse: s-maj=13.1km s-min=8.4km az=70.0*
NEIC ***16*** *17:01:00.2, 28°.32S×63°.00W, h590km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 1016Nm; Mrr0.33; Mθθ0.67; Mφφ-1.00; Mrθ1.02; Mθφ1.75; Mφr3.92; Fault plane solution: M0 4.50000×1016 NP1: φs106.46000°, δ25.76000°, λ4.80000°. NP2: φs12.13000°, δ87.92000°, λ115.68000°. Principal axes: T 4.5828, Plg41.0000°, Azm306.0000°; N -0.1713, Plg26.0000°, Azm191.0000°; P -4.4115, Plg38.0000°, Azm79.0000°;*
SJA ***16*** *17:01:03.3±1.0, 28°.35S×63°.26W, h535km±19km, ML5.2, MW4.8*

ISC 16 17:00:59.7±0.3, 28°.24S±0°.04×63°.15W±0°.05, h595km±2km, h595km; pP-P, n719, e1°103/641, mb5.0/253, 9C-16D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**2.35**	**264**	*e*P	**P**	**17 02 14.8**	**-0.3**
CYA				IAML		17 02 15.8	
	comp=Z,2μm,0.4s						
CYA				*e*S	S	17 03 06.2	-10
AHML	**Horco Molle**	**2.42**	**306**	*e*P	**P**	**17 02 15.7**	**+0.1**
AHML				IAML		17 02 16.7	
	comp=Z,2μm,0.3s						
FSA	**Cafayete**	**3.30**	**309**	*e*P	**P**	**17 02 20.9**	**+0.4**
TCA	**Tanti**	**3.33**	**202**	*e*P	**P**	**17 02 20.3**	**-0.1**
TCA				IAML		17 02 21.0	
	comp=Z,456nm,0.5s						
ACLC	**CERRO LA CRUZ**	**3.54**	**250**	*e*P	**P**	**17 02 22.0**	**+0.1**
ACLC				*e*S	**S**	**17 03 20.8**	**-8.2**
ACLC				IAML		17 03 29.5	
	comp=Z,987nm,0.4s						
APLL	**PUNTA DE LOS L**	**3.65**	**233**	*e*P	**P**	**17 02 22.2**	**-0.2**
APLL				*e*S	**S**	**17 03 21.7**	**-8.2**
ACHE	**Chepes**	**4.22**	**226**	*e*P	**P**	**17 02 26.4**	**0.0**
ACHE				*e*S	**S**	**17 03 29.8**	**-7.5**
AZAP	**Zapla**	**4.36**	**336**	*e*P	**P**	**17 02 28.2**	**+0.4**
AZAP				IAML		17 03 42.8	
	comp=Z,222nm,0.8s						
AC02	**Maricunga**	**5.49**	**283**		**P**	**17 02 38.8**	**+1.9**
AC02				S	**S**	**17 03 57.6**	**+1.4**
CPUP	**Villa Florida**	**5.51**	**71**		**P**	**17 02 37.4**	**+0.9**
CPUP				S	**S**	**17 03 55.5**	**0.0**
CPUP	**Villa Florida**	**5.51**	**71**	P	**P**	**17 02 37.5**	**+1.0**
	comp=Z,334nm,0.4s,baz=250,slow=9.0,SNR=1189						
CPUP				S	**S**	**17 03 55.9**	**+0.4**
	comp=Z,46nm,0.6s,baz=343,slow=20,SNR=1.1						
CPUP				ScP	**ScP**	**17 10 59.7**	**+0.1**
	comp=Z,6.7nm,0.8s,baz=296,slow=1.7,SNR=2.9						
CPUP	**Villa Florida**	**5.51**	**71**	P	**P**	**17 02 37.4**	**+0.9**
CPUP				S	**S**	**17 03 55.5**	**0.0**
CPUP	**Villa Florida**	**5.51**	**71**	*e*P	**P**	**17 02 37.2**	**+0.7**
CFA	**Coronel Fontan**	**5.55**	**232**	P	**P**	**17 02 37.6**	**+0.9**
	comp=Z,695nm,0.3s,baz=64,slow=22,SNR=2643						
CFA				S	**S**	**17 03 55.6**	**-0.4**
	comp=Z,378nm,0.7s,baz=247,slow=18,SNR=26						
ZON	**Zonda**	**5.82**	**234**		**P**	**17 02 40.0**	**+1.0**
ZON				S	**S**	**17 04 00.0**	**-0.3**
ZON	**Zonda**	**5.82**	**234**	P	**P**	**17 02 40.2**	**+1.2**
ZON				S	**S**	**17 04 00.0**	**-0.3**
ITQB	**Itaqui**	**5.89**	**106**		**P**	**17 02 40.7**	**+1.1**
ITQB				S	**S**	**17 04 01.4**	**+0.2**
ITQB	**Itaqui**	**5.89**	**106**	*e*P	**P**	**17 02 40.9**	**+1.3**
AC05	**El Transito**	**6.30**	**263**		**P**	**17 02 44.9**	**+1.5**
AC05				S	**S**	**17 04 08.9**	**+0.9**
GO03	**Copiapo**	**6.30**	**274**	P	**P**	**17 02 44.3**	**+0.9**
GO03				S	**S**	**17 04 07.6**	**-0.5**
CO01	**Juntas del Tor**	**6.32**	**252**	P	**P**	**17 02 45.8**	**+2.2**
CO01				S	**S**	**17 04 10.6**	**+1.9**
AC06	**Mina Casimiro**	**6.45**	**276**		**P**	**17 02 45.2**	**+0.6**
AC06				S	**S**	**17 04 08.6**	**-1.7**
GO02	**Mina Guanaco**	**6.53**	**297**		**P**	**17 02 47.1**	**+1.4**
GO02				S	**S**	**17 04 12.5**	**+0.3**
LCO	**Las Campanas**	**6.69**	**262**		**P**	**17 02 47.6**	**+0.7**
LCO				S	**S**	**17 04 14.3**	**-0.3**
LCO	**Las Campanas**	**6.69**	**262**	P	**P**	**17 02 47.3**	**+0.4**
LCO				S	**S**	**17 04 14.3**	**-0.3**
AF01	**San Pedro de A**	**6.95**	**318**	P	**P**	**17 02 50.2**	**+0.7**
AF01				S	**S**	**17 04 17.8**	**-1.4**
AC01	**Pan de Azucar**	**6.96**	**286**		**P**	**17 02 49.9**	**+0.7**
AC01				S	**S**	**17 04 17.8**	**-0.9**
GO04	**Tololo Observa**	**6.96**	**252**	P	**P**	**17 02 50.2**	**+0.8**
GO04				S	**S**	**17 04 18.4**	**-0.7**
AC04	**Llanos de Chal**	**7.00**	**268**		**P**	**17 02 50.1**	**+0.7**
AC04				S	**S**	**17 04 19.0**	**-0.3**
CO03	**El Pedregal**	**7.06**	**247**		**P**	**17 02 50.9**	**+0.7**
SJPY	**San Joaquin**	**7.08**	**64**	*e*P	**P**	**17 02 51.5**	**+1.1**
TBOT	**Tacuaremb**	**7.13**	**120**	*e*P	**P**	**17 02 51.6**	**+1.0**
CO05	**La Serena**	**7.28**	**255**	P	**P**	**17 02 52.2**	**+0.2**
PB14	**IPOC Station P**	**7.43**	**297**		**P**	**17 02 54.5**	**+0.5**
CO02	**Combarbal**	**7.44**	**245**		**P**	**17 02 54.2**	**+0.6**
CO06	**Fray Jorge**	**7.79**	**250**	P	**P**	**17 02 56.6**	**-0.2**
VA03	**San Esteban**	**7.82**	**233**	P	**P**	**17 02 58.3**	**+1.2**
MT08	**Bocatoma Ro**	**7.86**	**227**	P	**P**	**17 02 59.2**	**+1.6**
PEL	**Peldehue**	**8.12**	**231**		**P**	**17 03 00.6**	**+0.6**
PEL	**Peldehue**	**8.12**	**231**	P	**P**	**17 03 00.6**	**+0.6**
PB10	**IPOC Station P**	**8.16**	**304**		**P**	**17 03 01.2**	**+0.7**
MT16	**CCHEN**	**8.18**	**229**		**P**	**17 03 01.5**	**+1.0**
MT03	**Universidad Ad**	**8.21**	**229**	P	**P**	**17 03 01.9**	**+1.0**
MT13	**San Alfonso**	**8.22**	**226**		**P**	**17 03 02.0**	**+1.0**
LMEL	**Las Melosas**	**8.24**	**226**	P	**P**	**17 03 02.3**	**+1.1**
VA06	**Catapilco**	**8.25**	**237**		**P**	**17 03 00.8**	**-0.4**
MURT	**Porto Murtinho**	**8.26**	**39**	*e*P	**P**	**17 03 01.9**	**+0.5**
MT05	**Renca**	**8.30**	**230**	P	**P**	**17 03 02.4**	**+0.7**
PB09	**IPOC Station P**	**8.47**	**318**	P	**P**	**17 03 04.6**	**+1.0**
MT02	**Curacav**	**8.50**	**232**	P	**P**	**17 03 03.3**	**-0.2**
BO04	**La Punta**	**8.59**	**226**	P	**P**	**17 03 05.0**	**+0.6**
MT09	**Talagante**	**8.70**	**229**	P	**P**	**17 03 05.7**	**+0.1**
VA01	**Torpederas**	**8.74**	**235**	P	**P**	**17 03 05.4**	**-0.4**
CPSB	**Cacapava Do Su**	**8.74**	**107**	*e*P	**P**	**17 03 06.2**	**+0.2**
MT01	**Popeta**	**8.93**	**229**	P	**P**	**17 03 07.5**	**-0.2**
PLTB	**Pedras Altas**	**8.99**	**115**		**P**	**17 03 08.2**	**-0.1**
PLTB	**Pedras Altas**	**8.99**	**115**	*e*P	**P**	**17 03 08.5**	**+0.2**
VA05	**Santo Domingo**	**9.05**	**231**	P	**P**	**17 03 08.4**	**-0.5**
BO01	**Tunca**	**9.15**	**226**		**P**	**17 03 09.8**	**-0.1**
PB01	**IPOC Station P**	**9.20**	**320**		**P**	**17 03 10.9**	**+0.2**
BO02	**Sierra Bellavi**	**9.22**	**223**		**P**	**17 03 11.0**	**+0.4**
BDQN	**Bodoquena, MS**	**9.70**	**38**	*e*P	**P**	**17 03 15.7**	**+0.2**
PB08	**IPOC Station P**	**9.75**	**324**	P	**P**	**17 03 17.2**	**+0.8**
PATCX	**Punta Patache**	**9.76**	**318**	P	**P**	**17 03 16.5**	**+0.3**
ITAB	**Concordia**	**9.81**	**87**		**P**	**17 03 16.3**	**-0.2**
ITAB	**Concordia**	**9.81**	**87**	*e*P	**P**	**17 03 16.0**	**-0.5**
TRQA	**Tornquist**	**9.84**	**175**	P	**P**	**17 03 15.8**	**-0.7**
TRQA	**Tornquist**	**9.84**	**175**	P	**P**	**17 03 15.9**	**-0.7**
TA01	**Diego Aracena**	**9.97**	**318**	P	**P**	**17 03 18.9**	**+0.6**
HMBC	**Humberstone**	**10.03**	**321**	P	**P**	**17 03 19.1**	**+0.2**
GO01	**Chusmiza**	**10.17**	**326**	P	**P**	**17 03 21.5**	**+0.8**
TA02	**Huaiquique**	**10.17**	**320**	P	**P**	**17 03 20.0**	**-0.2**
ML02	**Panimavida**	**10.27**	**221**	P	**P**	**17 03 20.8**	**-0.1**
AQDB	**Aquidauana**	**10.28**	**43**		**P**	**17 03 21.7**	**+0.3**
AQDB	**Aquidauana**	**10.28**	**43**	*e*P	**P**	**17 03 21.7**	**+0.3**
PB11	**IPOC Station P**	**10.32**	**323**		**P**	**17 03 22.1**	**+0.2**
PTGB	**Pitanga**	**10.53**	**73**	*e*P	**P**	**17 03 23.9**	**+0.1**
CNLB	**Canela**	**10.84**	**99**	*e*P	**P**	**17 03 26.6**	**-0.2**
BI02	**San Fabin de**	**10.84**	**217**		**P**	**17 03 26.8**	**0.0**
PB16	**IPOC Station P**	**11.46**	**328**	P	**P**	**17 03 34.6**	**+0.9**
RPRD	**Ribas do Rio P**	**11.56**	**50**	*e*P	**P**	**17 03 34.5**	**+0.4**
PB12	**IPOC Station P**	**11.63**	**324**	P	**P**	**17 03 34.9**	**-0.1**
LDASE	**Londrina, Braz**	**11.86**	**69**	*e*P	**P**	**17 03 36.5**	**-0.7**
BI05	**Punta Hualpn**	**11.99**	**222**		**P**	**17 03 37.4**	**-0.7**
PB18	**Visviri**	**12.10**	**330**	P	**P**	**17 03 41.9**	**+1.7**
SIV	**San Ignacio**	**12.34**	**9**	P	**P**	**17 03 42.1**	**0.0**
	comp=Z,38nm,0.8s,baz=190,slow=8.4,SNR=133						
SIV				S	**S**	**17 05 56.6**	**+1.0**
	comp=Z,18nm,0.8s,baz=72,slow=20,SNR=7.2						
SIV				ScP	**ScP**	**17 11 08.5**	**+1.0**
	comp=Z,8.7nm,0.7s,baz=217,slow=3.2,SNR=4.8						
TER01	**Tubaro-SC**	**12.35**	**95**	*e*P	**P**	**17 03 41.8**	**-0.2**
MAJ01	**Sao Joao Batis**	**12.54**	**89**	*e*P	**P**	**17 03 43.0**	**-0.9**
LPAZ	**La Paz**	**12.76**	**338**		**P**	**17 03 46.4**	**-0.6**
LPAZ	**La Paz**	**12.76**	**338**	P	**P**	**17 03 46.6**	**-0.3**
	comp=Z,208nm,0.4s,baz=128,slow=3.8,SNR=192						
LPAZ				S	**S**	**17 06 01.6**	**-2.7**
	comp=Z,37nm,0.7s,baz=339,slow=14,SNR=3.8						
LPAZ				ScP	**ScP**	**17 11 09.4**	**+0.6**
	comp=Z,11nm,0.9s,baz=91,slow=3.7,SNR=3.9						
LPAZ	**La Paz**	**12.76**	**338**	P	**P**	**17 03 46.4**	**-0.6**
LPAZ	**La Paz**	**12.76**	**338**	*e*P	**P**	**17 03 46.7**	**-0.3**
FRTB	**Fartura**	**13.17**	**71**	*e*P	**P**	**17 03 50.1**	**-0.3**
PTLB	**Pontes e Lacer**	**13.26**	**17**		**P**	**17 03 50.4**	**-1.0**
PTLB	**Pontes e Lacer**	**13.26**	**17**	*e*P	**P**	**17 03 50.6**	**-0.8**
C2SB	**Chapadao do Su**	**13.35**	**47**	*e*P	**P**	**17 03 52.1**	**-0.1**
LR03	**Panguipulli**	**13.68**	**211**	P	**P**	**17 03 53.8**	**-1.5**
PLCA	**Paso Flores**	**13.87**	**204**		**P**	**17 03 56.1**	**-1.1**
PLCA	**Paso Flores**	**13.87**	**204**	P	**P**	**17 03 56.4**	**-0.9**
	comp=Z,24nm,0.5s,baz=21,slow=10,SNR=111						
PLCA				ScP	**ScP**	**17 11 10.3**	**+0.7**
	comp=Z,29nm,0.7s,baz=50,slow=1.8,SNR=22						
PLCA	**Paso Flores**	**13.87**	**204**	P	**P**	**17 03 56.2**	**-1.1**
PLCA	**Paso Flores**	**13.87**	**204**	*e*P	**P**	**17 03 56.3**	**-0.9**
LR05	**Currie**	**14.01**	**209**		**P**	**17 03 57.6**	**-1.0**
SALV	**Santo Antonio**	**14.08**	**31**	*e*P	**P**	**17 03 58.7**	**-0.9**
ITRB	**Iturama**	**14.44**	**57**	*e*P	**P**	**17 04 02.6**	**-0.5**
VA04	**Juan Fernndez**	**14.49**	**244**	P	**P**	**17 04 03.3**	**+0.1**
PET01	**Itanhaem-SP**	**14.77**	**78**	*e*P	**P**	**17 04 05.3**	**-0.7**
LL03	**Petrohue**	**14.94**	**208**	P	**P**	**17 04 06.3**	**-0.9**
BB19B	**Bebedouro**	**15.08**	**65**	*e*P	**P**	**17 04 08.0**	**-1.0**
VILB	**Vilhena**	**15.46**	**11**		**P**	**17 04 11.4**	**-1.1**
VILB	**Vilhena**	**15.46**	**11**	*e*P	**P**	**17 04 12.3**	**-0.2**
VAO	**Valinhos**	**15.49**	**74**		**P**	**17 04 12.8**	**-0.1**
VAO	**Valinhos**	**15.49**	**74**	*e*P	**P**	**17 04 13.1**	**+0.2**
LL01	**San Ignacio de**	**15.99**	**206**	P	**P**	**17 04 16.4**	**-0.6**
ARAG	**Araguaiana, MT**	**16.30**	**42**	*e*P	**P**	**17 04 20.5**	**+0.3**
LL06	**Loncomilla**	**16.34**	**209**	P	**P**	**17 04 19.1**	**-1.2**
LL02	**Futaleuf**	**16.49**	**203**		**P**	**17 04 20.9**	**-0.7**
PARB	**Paraibuna**	**16.52**	**77**	*e*P	**P**	**17 04 22.7**	**+0.4**
SLP01	**Ubatuba-SP**	**16.92**	**77**	*e*P	**P**	**17 04 26.8**	**+0.8**
IPMB	**Ipameri, GO**	**17.10**	**57**	*e*P	**P**	**17 04 26.9**	**-0.6**
PDRB	**Porto dos Gac**	**17.60**	**21**	*e*P	**P**	**17 04 32.6**	**+0.5**
PMNB	**Patos De Minas**	**18.11**	**61**	*e*P	**P**	**17 04 37.1**	**+0.3**
CLDB	**Colider**	**18.60**	**23**	*e*P	**P**	**17 04 41.8**	**+0.5**
COYC	**Coyhaique**	**18.69**	**200**		**P**	**17 04 42.2**	**+0.6**
VAS01	**Vassouras-RJ**	**18.77**	**76**	*e*P	**P**	**17 04 43.1**	**+0.4**
BDFB	**Brasilia**	**18.80**	**51**		**P**	**17 04 43.0**	**-0.1**
BDFB	**Brasilia**	**18.80**	**51**	P	**P**	**17 04 43.2**	**+0.1**
	comp=Z,113nm,0.5s,baz=220,slow=6.5,SNR=166						
BDFB				ScP	**ScP**	**17 11 19.5**	**-0.5**
	comp=Z,11nm,0.7s,baz=275,slow=3.2,SNR=4.0						
BDFB	**Brasilia**	**18.80**	**51**	P	**P**	**17 04 43.0**	**-0.1**
SAML	**Samuel**	**19.19**	**360**		**P**	**17 04 46.6**	**0.0**
SAML	**Samuel**	**19.19**	**360**	P	**P**	**17 04 46.6**	**0.0**
SAML	**Samuel**	**19.19**	**360**	*e*P	**P**	**17 04 47.0**	**+0.5**
SNDB	**Serra Nova Dou**	**19.62**	**37**	*e*P	**P**	**17 04 50.0**	**-0.5**
DUB01	**Friburgo-RJ**	**19.77**	**77**	*e*P	**P**	**17 04 52.3**	**+0.5**
DIAM	**Diamantina, MG**	**20.42**	**65**	*e*P	**P**	**17 04 58.4**	**+0.6**
CAM01	**Campos-RJ**	**20.48**	**77**	*e*P	**P**	**17 04 58.4**	**+0.3**
NNA	**Nana**	**20.63**	**319**		**P**	**17 04 59.4**	**-0.2**
NNA	**Nana**	**20.63**	**319**	P	**P**	**17 05 00.2**	**+0.6**
	comp=Z,55nm

comp=Z,39nm,0.4s,baz=174,slow=8.5,SNR=11
comp=Z,39nm,0.4s
MPGF **Montagnes des** 34.67 19 P **P** 17 07 01.1 -0.2
RUSC **La Rusia** 35.26 343 P **P** 17 07 05.9 -0.9
ESPZ **Base Esperanza** 35.39 175 P **P** 17 07 06.8 +0.2
PMSA **Palmer Station** 36.55 181 *e*P **P** 17 07 14.2 -1.9
BAUV **El Baul** 37.27 352 P **P** 17 07 21.7 -1.0
SDV **Santo Domingo** 37.61 348 P **P** 17 07 24.4 -1.3
SDV **Santo Domingo** 37.61 348 *e*P **P** 17 07 24.2 -1.5
SMAI **San Martin Ant** 39.99 182 P **P** 17 07 44.8 +1.1
BCIP **Isla Barro Col** 40.54 334 P **P** 17 07 50.3 +1.4
BCIP **Isla Barro Col** 40.54 334 P **P** 17 07 50.3 +1.4
BCIP pmax pmax
comp=Z,322nm,1.6s
SMRC **Santa Marta, M** 40.61 343 P **P** 17 07 47.1 -2.4
SMRC IAmb IAmb 17 08 23.8
comp=Z,31nm,0.9s
BIM **Bigot** 42.55 3 P **P** 17 08 04.2 -0.6
FDF **Fort de France** 42.76 3 P **P** 17 08 06.0 -0.4
FDF **Fort de France** 42.76 3 P **P** 17 08 06.0 -0.4
FDF pmax pmax
comp=Z,83nm,0.4s
FDF **Fort de France** 42.76 3 P **P** 17 08 06.1 -0.3
JTS **Las Juntas de** 43.73 328 P **P** 17 08 14.9 +1.0
JTS IAmb IAmb 17 08 16.6
comp=Z,64nm,0.8s
JTS **Las Juntas de** 43.73 328 P **P** 17 08 14.9 +1.0
JTS pmax pmax
comp=Z,64nm,0.8s
JTS **Las Juntas de** 43.73 328 P **P** 17 08 15.7 +1.7
JTS ScP **ScP** 17 12 43.2 +0.3
ESPN **Las Esperanzas** 45.11 330 IAmb IAmb 17 08 25.9
comp=Z,123nm,1.4s
ACON **Acoyapa** 45.30 329 P **P** 17 08 25.8 -0.1
ACON IAmb IAmb 17 08 27.5
comp=Z,68nm,0.9s
PDPR **Patillas Dam,** 46.07 356 P **P** 17 08 30.3 -1.4
PDPR IAmb IAmb 17 08 30.8
comp=Z,24nm,0.6s
OBIP **Obispado Ponce** 46.13 355 P **P** 17 08 30.0 -2.1
OBIP IAmb IAmb 17 08 31.6
comp=Z,25nm,0.7s
CELP **Cerrillos** 46.16 355 P **P** 17 08 30.8 -1.6
CELP IAmb IAmb 17 08 32.7
comp=Z,45nm,0.8s
AOPR **Arecibo Observ** 46.44 355 P **P** 17 08 32.8 -1.8
AOPR IAmb IAmb 17 08 38.5
comp=Z,35nm,0.7s
BANI **BANI** 46.88 351 IAmb IAmb 17 08 38.7
comp=Z,50nm,0.8s
DR12 **Loma Pena Alta** 47.14 352 P **P** 17 08 38.2 -1.5
DR12 IAmb IAmb 17 08 38.9
comp=Z,42nm,1.1s
TGUH **Tegucigalpa,Un** 48.10 328 IAmb IAmb 17 08 47.9
comp=Z,60nm,0.9s
MTDJ **Mount Denham** 48.25 342 P **P** 17 08 48.0 -0.1
MTO3 **Montecristo** 49.41 326 P **P** 17 08 56.6 -0.2
MTO3 IAmb IAmb 17 08 57.9
comp=Z,63nm,0.7s
ESQI **Esquipulas** 49.54 326 P **P** 17 08 57.1 -0.5
NMDO **Nuevo Mundo** 49.84 345 IAmb IAmb 17 09 01.3
comp=Z,40nm,0.8s
BELA **Belgrano 2** 51.39 173 P **P** 17 09 10.9 +0.7
BELA PcP **PcP** 17 10 14.7 +0.5
PETF **Flores** 51.81 327 IAmb IAmb 17 09 15.0
comp=Z,61nm,1.0s
VNA3 **Neumayer Olymp** 52.03 161 ⇓P **P** 17 09 15.6 +0.8
comp=Z,55nm,0.7s
VNA1 **Neumayer--Stat** 52.20 160 ⇓P **P** 17 09 17.3 +1.4
comp=Z,44nm,0.4s
TEIG **Tepich** 53.96 330 P **P** 17 09 28.7 -0.5
TEIG IAmb IAmb 17 09 30.4
comp=Z,119nm,0.8s
TEIG PcP **PcP** 17 10 27.0 +2.2
TEIG **Tepich** 53.96 330 P **P** 17 09 29.1 -0.1
TEIG ScP **ScP** 17 13 26.7 +0.3
SHEL **Horse Pasture** 54.13 90 P **P** 17 09 31.5 +0.9
SNAA **Sanae** 54.21 160 P **P** 17 09 30.6 +0.3
SNAA IAmb IAmb 17 09 31.9
comp=Z,64nm,1.1s
SNAA PcP **PcP** 17 10 25.0 -0.1
SNAA **Sanae** 54.21 160 ⇓P **P** 17 09 30.9 +0.6
comp=Z,590nm,0.6s
SNAA ⇓PcP **PcP** 17 10 24.9 -0.3
comp=Z,244nm,0.6s
SNAA **Sanae** 54.21 160 P **P** 17 09 30.9 +0.6
comp=Z,28nm,0.6s,baz=283,slow=7.1,SNR=25
SNAA pP **pP** 17 11 23.0 +1.3
comp=Z,21nm,0.9s,baz=302,slow=7.5,SNR=8.3
comp=Z,28nm,0.6s
SNAA **Sanae** 54.21 160 *d* P **P** 17 09 30.8 +0.6
SNAA pmax pmax
comp=Z,64nm,1.1s
SOR **Soroa** 54.23 337 IAmb IAmb 17 09 32.5
comp=Z,78nm,0.9s
SOR PcP **PcP** 17 10 26.8 +1.0
TROLL **Troll, Antarti** 55.92 160 ⇓P **P** 17 09 43.2 +0.9
comp=Z,2μm,0.4s
TROLL ⇓PcP **PcP** 17 10 31.3 -0.6
comp=Z,693nm,0.4s
TLIG **Tlapa** 56.99 319 P **P** 17 09 51.6 +1.2
TLIG IAmb IAmb 17 09 52.8
comp=Z,50nm,0.7s
SACV **Santiago Islan** 57.53 47 P **P** 17 09 53.2 -0.8
SACV IAmb IAmb 17 09 54.9
comp=Z,54nm,0.8s
DWPF **Disney Wildern** 58.71 341 P **P** 17 10 02.0 +0.4
MOIG **Morelia** 60.19 318 IAmb IAmb 17 10 13.9
comp=Z,90nm,0.6s
QSPA **South Pole Qui** 61.98 180 P **P** 17 10 24.0 +1.2
comp=Z,43nm,0.5s,baz=357,slow=15,SNR=86
comp=Z,43nm,0.5s
QSPA **South Pole Qui** 61.98 180 P **P** 17 10 23.9 +1.2
ELIB **Princess Elisa** 62.35 159 *d*P **P** 17 10 25.8 +0.7
comp=Z,82nm,0.6s
352A **Blakely** 62.91 339 IAmb IAmb 17 10 29.9
comp=Z,81nm,0.9s
NHSC **New Hope** 63.12 344 P **P** 17 10 31.7 +1.4
ZAIG **Zacatecas** 63.39 319 IAmb IAmb 17 10 35.0
comp=Z,22nm,0.6s
154A **Montrose** 63.42 341 IAmb IAmb 17 10 33.3
comp=Z,70nm,0.7s
250A **Grady** 63.80 338 P **P** 17 10 34.7 0.0
250A IAmb IAmb 17 10 35.4
comp=Z,54nm,0.6s
152A **Waverly Hall** 63.95 340 IAmb IAmb 17 10 36.3
comp=Z,35nm,1.0s
GOGA **Godfrey** 64.27 341 P **P** 17 10 37.7 0.0
GOGA **Godfrey** 64.27 341 P **P** 17 10 37.7 0.0
GOGA pmax pmax
comp=Z,18nm,0.7s
X58A **Rowland** 64.31 345 P **P** 17 10 38.2 +0.4
X58A IAmb IAmb 17 10 39.5
comp=Z,80nm,0.9s
JSC **Jenkinsville** 64.50 343 IAmb IAmb 17 10 40.8
comp=Z,60nm,0.8s
BIRD **Birdtown, Kers** 64.66 344 P **P** 17 10 40.8 +0.7
HBVL **Hebbronville** 64.70 325 IAmb IAmb 17 10 42.7
comp=Z,102nm,1.3s
HODGE **Hodges** 64.72 343 P **P** 17 10 40.6 +0.2
Y52A **Lilburn** 64.87 341 IAmb IAmb 17 10 41.9
comp=Z,37nm,0.5s
LRAL **Lakeview Retre** 65.01 338 IAmb IAmb 17 10 43.2
comp=Z,41nm,0.9s
W57A **Gilead** 65.03 345 IAmb IAmb 17 10 43.9
comp=Z,71nm,0.7s
PAULI **Pauline** 65.16 343 IAmb IAmb 17 10 44.9
comp=Z,55nm,0.9s
KMSC **Kings Mountain** 65.34 344 P **P** 17 10 44.9 +0.6
KMSC IAmb IAmb 17 10 46.0
comp=Z,58nm,0.8s
BG3 **Lake Jocassee** 65.61 342 IAmb IAmb 17 10 47.5
comp=Z,39nm,0.8s
HKT **Hockley** 65.75 329 P **P** 17 10 47.6 +0.7
HKT **Hockley** 65.75 329 *c* *i*P **P** 17 10 48.1 +1.2
HKT pmax pmax
comp=Z,31nm,1.0s
FPAL **Fort Paine** 65.96 340 IAmb IAmb 17 10 49.0
comp=Z,34nm,0.9s
W52A **Murphy** 65.98 341 IAmb IAmb 17 10 49.5
comp=Z,40nm,0.6s
DBIC **Dimbokro** 66.03 68 P **P** 17 10 49.0 0.0
comp=Z,102nm,0.3s,baz=223,slow=5.2,SNR=125
comp=Z,102nm,0.3s
DBIC **Dimbokro** 66.03 68 P **P** 17 10 49.0 0.0
DBIC PcP **PcP** 17 11 13.3 -0.5

V53A **Saluda** 66.22 343 P **P** 17 10 50.2 +0.3
V53A IAmb IAmb 17 10 51.1
comp=Z,46nm,0.8s
TKL **Tuckaleechee C** 66.47 342 IAmb IAmb 17 10 51.7
comp=Z,22nm,0.6s
Y45A **Yeager Farm, C** 66.64 336 P **P** 17 10 52.6 +0.2
BLA **Blacksburg** 67.10 345 IAmb IAmb 17 10 57.1
comp=Z,22nm,0.7s
OXF **Oxford** 67.18 337 P **P** 17 10 55.1 -0.5
OXF IAmb IAmb 17 10 56.8
comp=Z,82nm,1.1s
OXF **Oxford** 67.18 337 P **P** 17 10 55.1 -0.5
OXF pmax pmax
comp=Z,82nm,1.1s
Z41A **Richland Creek** 67.33 333 IAmb IAmb 17 10 59.4
comp=Z,53nm,0.8s
V48A **Smith Brothers** 67.44 339 P **P** 17 10 57.2 -0.1
V48A IAmb IAmb 17 10 57.9
comp=Z,44nm,0.7s
DRIO **Del Rio** 67.61 325 IAmb IAmb 17 10 59.8
comp=Z,54nm,0.7s
S54A **Dingess, Beckl** 67.87 345 IAmb IAmb 17 11 01.3
comp=Z,67nm,0.8s
R55A **Marlinton** 68.06 346 IAmb IAmb 17 11 03.5
comp=Z,48nm,0.7s
JCT **Junction City** 68.07 326 IAmb IAmb 17 11 02.8
comp=Z,53nm,0.6s
WVT **Waverly** 68.12 339 P **P** 17 11 00.7 -0.7
WVT IAmb IAmb 17 11 01.7
comp=Z,44nm,0.6s
WVT **pP** 17 12 59.3 -1.9
WVT **Waverly** 68.12 339 P **P** 17 11 00.8 -0.5
WVT pP **pP** 17 13 00.5 -0.7
WVT sP **sP** 17 14 02.7 -0.1
WHTX **Lake Whitney,** 68.22 329 IAmb IAmb 17 11 03.0
comp=Z,40nm,0.6s
Z38A **Mt. Pleasant** 68.22 332 IAmb IAmb 17 11 04.1
comp=Z,52nm,1.0s
S51A **Beattyville** 68.28 343 IAmb IAmb 17 11 02.9
comp=Z,21nm,0.5s
SYO **Syowa Base** 68.35 158 ⇓*i*P **P** 17 11 03.2 +0.9
BRDY **Brady** 68.35 327 IAmb IAmb 17 11 04.3
comp=Z,54nm,0.8s
HPIG 68.38 320 IAmb IAmb 17 11 05.2
comp=Z,35nm,0.7s
UALR **University of** 68.48 334 P **P** 17 11 03.5 -0.1
UALR IAmb IAmb 17 11 04.7
comp=Z,51nm,0.7s
FW13 **Cleburne** 68.51 329 IAmb IAmb 17 11 05.2
comp=Z,67nm,0.8s
SLBS **Sierra La Lagu** 68.55 314 P **P** 17 11 04.4 +0.1
SLBS IAmb IAmb 17 11 06.8
comp=Z,50nm,1.4s
SLBS **Sierra La Lagu** 68.55 314 P **P** 17 11 05.7 +1.3
T47A **Sharon Grove** 68.68 340 IAmb IAmb 17 11 05.0
comp=Z,62nm,1.1s
MIAR **Mount Ida** 68.76 333 P **P** 17 11 05.5 +0.2
SAND **Sanderson** 68.81 324 IAmb IAmb 17 11 07.7
comp=Z,81nm,1.0s
WHAR **Wooly Hollow** 68.92 335 P **P** 17 11 06.5 +0.3
WHAR IAmb IAmb 17 11 07.5
comp=Z,31nm,1.0s
R50A **Paris** 69.08 342 IAmb IAmb 17 11 07.9
comp=Z,21nm,0.7s
FW06 **Azle** 69.09 329 IAmb IAmb 17 11 08.9
comp=Z,62nm,0.7s
TXAR **Lajitas Array** 69.13 323 P **P** 17 11 08.2 +0.4
TXAR **Lajitas Array** 69.13 323 P **P** 17 11 08.4 +0.6
comp=Z,12nm,0.5s,baz=151,slow=7.6,SNR=177
comp=Z,12nm,0.5s
TXAR **Lajitas Array** 69.13 323 P **P** 17 11 08.2 +0.4
SSFO **Shawnee State** 69.18 343 IAmb IAmb 17 11 08.6
comp=Z,18nm,0.6s
LCAR **Lake Charles** 69.20 336 IAmb IAmb 17 11 08.9
comp=Z,43nm,1.0s
Q52A **Bidwell** 69.20 344 IAmb IAmb 17 11 08.9
comp=Z,37nm,0.7s
ACRG **Accra** 69.30 71 P **P** 17 11 08.6 -0.4
MCWV **Mont Chateau** 69.32 346 IAmb IAmb 17 11 10.5
comp=Z,33nm,0.9s
P53A **Whipple** 69.49 345 IAmb IAmb 17 11 11.1
comp=Z,31nm,0.8s
WCI **Wyandotte Cave** 69.58 341 P **P** 17 11 09.3 -0.7
WCI IAmb IAmb 17 11 10.4
comp=Z,54nm,1.1s
WCI **Wyandotte Cave** 69.58 341 P **P** 17 11 09.4 -0.7
WCI pmax pmax
comp=Z,54nm,1.2s
WCI **Wyandotte Cave** 69.58 341 P **P** 17 11 09.5 -0.6
ABTX **Abilene, Hawle** 69.76 328 IAmb IAmb 17 11 12.6
comp=Z,39nm,1.0s
SSPA **Standing Stone** 69.88 348 P **P** 17 11 12.8 +1.0
P51A **Williamsport** 69.89 344 P **P** 17 11 11.5 -0.3
P51A IAmb IAmb 17 11 12.6
comp=Z,16nm,0.5s
SGCY **Sterling City** 69.89 326 IAmb IAmb 17 11 13.7
comp=Z,78nm,1.1s
O54A **Avella** 69.94 346 IAmb IAmb 17 11 13.1
comp=Z,16nm,0.5s
ALPN **Alpine** 69.94 323 IAmb IAmb 17 11 14.0
comp=Z,26nm,0.6s
T42A **Van Buren** 70.03 336 P **P** 17 11 12.3 -0.5
SBA **Scott Base** 70.14 190 P **P** 17 11 14.8 +1.9
WTFS **Witchita Falls** 70.17 329 IAmb IAmb 17 11 15.1
comp=Z,62nm,0.9s
O53A **New Philadelph** 70.18 345 IAmb IAmb 17 11 15.0
comp=Z,54nm,1.4s
O52A **Adamsville** 70.19 345 P **P** 17 11 14.0 +0.3
O52A IAmb IAmb 17 11 14.8
comp=Z,29nm,0.8s
P48A **Milroy** 70.48 342 IAmb IAmb 17 11 15.3
comp=Z,20nm,0.5s
SN05 **Snyder 5** 70.56 327 P **P** 17 11 16.1 0.0
MGMO **Mountain Grove** 70.57 336 IAmb IAmb 17 11 17.1
comp=Z,61nm,1.3s
ACSO **Alum Creek Sta** 70.58 344 IAmb IAmb 17 11 16.5
comp=Z,32nm,0.6s
OLIL **Olney** 70.59 340 IAmb IAmb 17 11 16.2
comp=Z,35nm,0.8s
W35A **Tecumseh** 70.64 331 IAmb IAmb 17 11 17.1
comp=Z,48nm,0.6s
FVM **French Village** 70.66 337 P **P** 17 11 16.3 -0.2
FVM **French Village** 70.66 337 P **P** 17 11 16.3 -0.2
FVM pmax pmax
comp=Z,59nm,0.5s
U38A **Gravette** 70.74 334 IAmb IAmb 17 11 18.1
comp=Z,29nm,0.9s
SN07 **Snyder 07** 70.74 327 IAmb IAmb 17 11 18.1
comp=Z,41nm,0.6s
RLO **Rose Lookout** 70.75 333 IAmb IAmb 17 11 18.1
comp=Z,42nm,0.6s
SUR **Sutherland** 70.76 117 P **P** 17 11 17.8 +0.1
SUR **Sutherland** 70.76 117 P **P** 17 11 18.9 +1.2
SUR **Sutherland** 70.76 117 P **P** 17 11 18.8 +1.1
SUR pP **pP** 17 13 20.4 +2.2
TUL3 **Leonard** 70.84 332 P **P** 17 11 17.8 +0.3
PECS **Pecos** 70.84 324 IAmb IAmb 17 13 28.3
comp=Z,32nm,0.5s
VHRN **Van Horn** 70.98 323 IAmb IAmb 17 11 20.0
comp=Z,25nm,0.8s
CCM **Cathedral Cave** 71.01 337 P **P** 17 11 18.2 -0.3
CCM IAmb IAmb 17 11 19.2
comp=Z,43nm,0.6s
CCM **Cathedral Cave** 71.01 337 P **P** 17 11 18.2 -0.3
CCM pmax pmax
comp=Z,43nm,0.6s
CCM **Cathedral Cave** 71.01 337 P **P** 17 11 18.2 -0.3
N51A **Ashland** 71.08 345 IAmb IAmb 17 11 19.9
comp=Z,32nm,0.7s
VNDA **Vanda** 71.11 189 P **P** 17 11 18.9 +0.3
VNDA **Vanda** 71.11 189 P **P** 17 11 20.5 +2.0
comp=Z,12nm,0.9s,baz=132,slow=5.6,SNR=14
comp=Z,12nm,0.9s
VNDA **Vanda** 71.11 189 P **P** 17 11 18.9 +0.3
VNDA pmax pmax
comp=Z,9.0nm,0.7s
VNDA **Vanda** 71.11 189 P **P** 17 11 20.6 +2.0
VNDA pP **pP** 17 13 21.2 +1.8
WMOK **Wichita Mounta** 71.12 330 P **P** 17 11 19.5 +0.2
P46A **Rosedale** 71.14 341 IAmb IAmb 17 11 19.4
comp=Z,34nm,0.8s
L56A **Greenwood** 71.28 349 P **P** 17 11 20.6 +0.5
L56A IAmb IAmb 17 11 21.5
comp=Z,31nm,0.7s
OK029 **Liberty Lake** 71.44 331 IAmb IAmb 17 11 22.5
comp=Z,54nm,0.8s

QUOK **Quay** 71.44 332 P **P** 17 11 21.3 +0.2
M52A **Chesterland** 71.45 346 P **P** 17 11 21.2 +0.2
M52A IAmb IAmb 17 11 22.3
comp=Z,30nm,0.6s
N49A **Columbus Grove** 71.53 343 IAmb IAmb 17 11 22.2
comp=Z,49nm,0.7s
N49A pP 17 13 21.5 -1.2
R40A **Maddies Statio** 71.58 336 IAmb IAmb 17 11 22.4
comp=Z,43nm,0.5s
HTMS **Hat Mesa** 71.60 325 P **P** 17 11 22.4 +0.2
M50A **Fremont** 71.70 344 IAmb IAmb 17 11 23.4
comp=Z,43nm,0.9s
P43A **Skaggs, Pawnee** 71.87 339 P **P** 17 11 23.0 -0.4
N47A **Urbana** 71.88 342 IAmb IAmb 17 11 23.9
comp=Z,63nm,0.8s
MMNY **Mt. Morris Dam** 71.92 349 P **P** 17 11 24.0 +0.4
MMNY IAmb IAmb 17 11 25.3
comp=Z,29nm,0.7s
T35A **Sooner Cattle** 72.00 332 IAmb IAmb 17 11 25.9
comp=Z,80nm,1.1s
MSTX **Muleshoe** 72.36 326 IAmb IAmb 17 11 28.6
comp=Z,74nm,0.9s
ELIS **Ellis County** 72.52 330 P **P** 17 11 27.5 +0.1
EPT **El Paso** 72.56 322 IAmb IAmb 17 11 29.3
comp=Z,25nm,0.6s
OK038 **West end E0370** 72.57 331 IAmb IAmb 17 11 29.3
comp=Z,85nm,1.0s
SRIG **Santa Rosalia** 72.60 315 IAmb IAmb 17 11 30.0
comp=Z,32nm,0.7s
P40A **Paris** 72.61 337 P **P** 17 11 27.4 -0.3
P40A IAmb IAmb 17 11 28.5
comp=Z,48nm,0.5s
HDIL **Hopedale** 72.63 339 P **P** 17 11 27.1 -0.7
KAN08 **Anthony NE Sta** 72.87 332 IAmb IAmb 17 11 31.2
comp=Z,59nm,0.7s
HSIG 73.03 317 IAmb IAmb 17 11 32.4
comp=Z,44nm,1.0s
L46A **Eue Claire** 73.10 342 IAmb IAmb 17 11 30.7
comp=Z,75nm,1.1s
TSUM **Tsumeb** 73.25 103 P **P** 17 11 31.5 -0.6
TSUM IAmb IAmb 17 11 33.6
comp=Z,42nm,0.8s
TSUM **pP** 17 13 31.9 -2.1
TSUM **Tsumeb** 73.25 103 *i* P **P** 17 11 32.9 +0.7
N41A **Harden Midland** 73.26 338 IAmb IAmb 17 11 31.9
comp=Z,78nm,1.2s
WBO **Williamsburg** 73.72 351 IAmb IAmb 17 11 35.9
comp=Z,38nm,0.7s
319A **Douglas** 73.80 320 IAmb IAmb 17 11 37.3
comp=Z,57nm,0.8s
J47A **Sunmer** 73.87 344 P **P** 17 11 34.2 -0.6
J47A IAmb IAmb 17 11 35.7
comp=Z,40nm,1.0s
KOOLE **Kule** 73.91 108 pP pP 17 13 38.0 0.0
KOOLE **Kule** 73.91 108 *i* P **P** 17 11 36.1 +0.2
KSU1 **Kansas State U** 73.92 333 IAmb IAmb 17 11 36.1
comp=Z,52nm,0.8s
I49A **Point Hope** 74.06 345 IAmb IAmb 17 11 36.8
comp=Z,49nm,0.8s
L42A **Oliver, Polo** 74.06 340 P **P** 17 11 35.2 -0.8
L42A IAmb IAmb 17 11 36.6
comp=Z,36nm,0.9s
K43A **Burlington** 74.31 341 IAmb IAmb 17 11 38.2
comp=Z,77nm,0.9s
LKGWB **Lokgwabe** 74.31 109 P **P** 17 11 40.1 +2.1
LKGWB **pP** 17 13 42.5 +2.2
LKGWB **Lokgwabe** 74.31 109 *i* P **P** 17 11 37.3 -0.8
SOE **Somerset East** 74.34 119 IAmb IAmb 17 11 39.5
comp=Z,70nm,0.9s
RTBA **Rita Blanca** 74.34 328 P **P** 17 11 38.1 +0.2
RTBA IAmb IAmb 17 11 40.5
comp=Z,32nm,0.5s
DUN6 **Lazy B Ranch** 74.57 321 IAmb IAmb 17 11 41.8
comp=Z,122nm,1.4s
LENM **Lemitar** 74.66 323 P **P** 17 11 40.4 +0.7
TRQ **Mont Tremblant** 74.83 352 IAmb IAmb 17 11 41.8
comp=Z,30nm,0.9s
TOA0 **Torodi Ar. Sit** 74.99 66 P **P** 17 11 41.8 +0.1
TORD **Torodi Ar. Bea** 74.99 66 P **P** 17 11 41.8 +0.1
comp=Z,123nm,0.4s,baz=280,slow=5.5,SNR=1.7
comp=Z,123nm,0.4s
ANMO **Albuquerque** 74.99 324 P **P** 17 11 42.5 +1.0
ANMO IAmb IAmb 17 11 43.5
comp=Z,19nm,0.6s
ANMO pP **pP** 17 13 43.8 -1.1
ANMO **Albuquerque** 74.99 324 *c* *i*P **P** 17 11 42.9 +1.3
ANMO pmax pmax
comp=Z,9.0nm,0.6s
PHPEN **Phepeng** 75.11 111 IAmb IAmb 17 11 43.6
comp=Z,40nm,0.9s
PHPEN **Phepeng** 75.11 111 *i* P **P** 17 11 42.5 0.0
TUC **Tucson** 75.34 320 P **P** 17 11 44.0 +0.5
TUC **Tucson** 75.34 320 P **P** 17 11 44.0 +0.5
TUC pmax pmax
comp=Z,21nm,1.2s
GRTLG **Ghanzi** 75.45 107 P **P** 17 11 44.2 -0.3
GRTLG IAmb IAmb 17 11 45.6
comp=Z,66nm,1.1s
GRTLG **pP** 17 13 46.0 -1.3
GRTLG **Ghanzi** 75.45 107 *i* P **P** 17 11 44.0 -0.4
KGCAE **Kacgae** 75.66 108 IAmb IAmb 17 11 47.4
comp=Z,58nm,1.2s
KGCAE **Kacgae** 75.66 108 *i* P **P** 17 11 45.2 -0.3
T25A **Trinidad** 75.70 327 IAmb IAmb 17 11 48.0
comp=Z,44nm,0.8s
BOSA **Boshof** 75.77 115 IAmb IAmb 17 11 46.9
comp=Z,76nm,0.9s
BOSA **Boshof** 75.77 115 P **P** 17 11 46.2 +0.1
comp=Z,60nm,0.5s,baz=262,slow=3.6,SNR=239
comp=Z,60nm,0.5s
BOSA **Boshof** 75.77 115 P **P** 17 11 45.9 -0.2
H43A **Windswept, Lux** 75.78 342 IAmb IAmb 17 11 46.5
comp=Z,34nm,0.6s
QNGWA **Qangwa** 76.19 105 P **P** 17 11 48.0 -0.5
QNGWA IAmb IAmb 17 11 49.8
comp=Z,32nm,0.9s
QNGWA **pP** 17 13 51.5 -0.2
QNGWA **Qangwa** 76.19 105 *i* P **P** 17 11 48.6 +0.1
MAW **Mawson** 76.35 161 P **P** 17 11 48.4 +0.1
MAW **pP** 17 13 50.5 -1.0
MAW **Mawson** 76.35 161 P **P** 17 11 48.9 +0.6
comp=Z,9.2nm,0.9s
MAW **Mawson** 76.35 161 P **P** 17 11 49.1 +0.8
comp=Z,22nm,0.6s,baz=214,slow=6.1,SNR=47
MAW pP **pP** 17 13 51.6 +0.1
comp=Z,8.7nm,0.9s,baz=227,slow=6.4,SNR=6.3
comp=Z,22nm,0.6s
MAW **Mawson** 76.35 161 P **P** 17 11 48.4 +0.1
MAW XP **pP** 17 13 50.5 -1.0
MAW pmax pmax
comp=Z,7.0nm,0.9s
KSCO **Kaye Shedlock'** 76.38 329 IAmb IAmb 17 11 51.6
comp=Z,111nm,1.5s
SKOMA **Sekoma** 76.40 111 *i* P **P** 17 11 49.6 0.0
MAKGR **Makgori** 76.56 112 IAmb IAmb 17 11 51.0
comp=Z,28nm,0.7s
MAKGR **Makgori** 76.56 112 *i* P **P** 17 11 50.3 -0.2
SDCO **Great Sand Dun** 76.71 327 IAmb IAmb 17 11 53.6
comp=Z,61nm,1.6s
XAUDM **Khaudum** 76.75 104 IAmb IAmb 17 11 53.6
comp=Z,60nm,1.6s
X16A **Lo Mia Camp, P** 77.27 321 IAmb IAmb 17 11 56.8
comp=Z,60nm,1.2s
KDWAN **Kaudwane** 77.48 110 *i* P **P** 17 11 55.0 -0.5
LBTB **Lobatse** 77.56 112 *i* P **P** 17 11 56.1 +0.3
VTX **Valle De La Tr** 77.65 316 IAmb IAmb 17 11 58.4
comp=Z,54nm,1.3s
OGNE **Ogallala** 77.71 331 P **P** 17 11 56.2 +0.1
OGNE IAmb IAmb 17 11 58.2
comp=Z,30nm,0.7s
MVCO **Mesa Verde** 77.79 324 IAmb IAmb 17 11 59.2
comp=Z,27nm,0.7s
Y14A **Wickenburg** 77.80 319 P **P** 17 11 56.9 +0.1
Y14A IAmb IAmb 17 11 59.0
comp=Z,23nm,0.6s
ECSD **EROS Data Cent** 77.92 336 P **P** 17 11 57.0 -0.1
ECSD IAmb IAmb 17 11 58.2
comp=Z,35nm,0.8s
ECSD **pP** 17 14 01.7 +0.4
K30B **Basset** 78.15 333 IAmb IAmb 17 12 01.2
comp=Z,32nm,0.7s
ESJX **Sierra Juarez** 78.18 316 P **P** 17 11 59.7 +0.7
LPHEP **Lephephe** 78.48 110 IAmb IAmb 17 12 02.1
comp=Z,65nm,1.1s
LPHEP **Lephephe** 78.48 110 *i* P **P** 17 12 01.0 +0.1
PV15 **Paradox Valley** 78.64 325 IAmb IAmb 17 12 04.2

comp=Z,59nm,1.1s
PHDHD **Phuduhudu** 78.75 107 *i* P **P** 17 12 02.5 +0.1
KHWEE **KHWEE** 78.75 109 pP 17 14 05.3 -1.2
KHWEE **KHWEE** 78.75 109 *i* P **P** 17 12 02.3 -0.1
PV07 **Paradox Valley** 78.80 325 IAmb IAmb 17 12 04.8
comp=Z,29nm,0.8s
E38A **The Farm, Brul** 78.81 340 IAmb IAmb 17 12 02.9
comp=Z,28nm,0.6s
U15A **North Rim** 79.21 322 IAmb IAmb 17 12 07.3
comp=Z,32nm,0.7s
SUSD **Miller** 79.39 335 P **P** 17 12 04.7 -0.2
SUSD IAmb IAmb 17 12 05.9
comp=Z,44nm,0.7s
HMU **Henry Mountain** 79.50 324 IAmb IAmb 17 12 08.6
comp=Z,33nm,0.8s
PFO **Pinyon Flats O** 79.60 317 P **P** 17 12 07.1 +0.7
PFO **Pinyon Flats O** 79.60 317 *c i* P **P** 17 12 07.7 +1.3
PFO pmax pmax
comp=Z,33nm,0.9s
KNB **Kanab** 79.93 322 IAmb IAmb 17 12 10.9
comp=Z,81nm,0.8s
SOOWA **Sowa** 80.01 108 *i* P **P** 17 12 09.3 +0.4
MREMI **Moremi** 80.14 110 IAmb IAmb 17 12 10.9
comp=Z,50nm,0.7s
MREMI pP 17 14 14.0 -0.4
MREMI **Moremi** 80.14 110 *i* P **P** 17 12 09.6 0.0
LCMT **Little Creek M** 80.16 321 P **P** 17 12 09.7 +0.4
SRU **San Rafael Swe** 80.27 324 IAmb IAmb 17 12 11.8
comp=Z,39nm,0.7s
KSANE **Kasane** 80.34 105 IAmb IAmb 17 12 12.2
comp=Z,39nm,0.7s
KSANE **Kasane** 80.34 105 *i* P **P** 17 12 11.2 +0.5
P18A **Preston Nutter** 80.51 325 IAmb IAmb 17 12 13.7
comp=Z,35nm,0.8s
MVU **Marysvale** 80.69 323 P **P** 17 12 13.0 +0.9
MVU IAmb IAmb 17 12 14.8
comp=Z,37nm,0.9s
TMUT **Trail Mountain** 80.76 324 IAmb IAmb 17 12 14.7
comp=Z,21nm,0.7s
TCRU **Three Creeks R** 80.90 323 IAmb IAmb 17 12 15.8
comp=Z,22nm,0.7s
GSC **Goldstone, Bar** 80.98 318 P **P** 17 12 13.8 +0.3
GSC **Goldstone, Bar** 80.98 318 P **P** 17 12 13.8 +0.3
GSC pmax pmax
comp=Z,33nm,1.5s
PASC **Pasadena Art C** 81.03 317 IAmb IAmb 17 12 16.3
comp=Z,43nm,1.3s
CCAC **Calif City Air** 81.59 317 IAmb IAmb 17 12 18.7
comp=Z,49nm,1.1s
AGMN **Agassiz Nation** 81.65 339 P **P** 17 12 16.5 +0.1
AGMN **pP** 17 14 21.7 -0.5
E28A **Huff** 81.85 335 IAmb IAmb 17 12 19.3
comp=Z,52nm,0.7s
BLWY **Bulawayo** 82.20 109 *i* P **P** 17 12 20.6 +0.3
EPLO **Experimental L** 82.20 341 IAmb IAmb 17 12 20.3
comp=Z,19nm,0.6s
TCUT **Toone Canyon** 82.22 325 IAmb IAmb 17 12 22.1
comp=Z,28nm,0.7s
DUG **Dugway, Tooele** 82.25 324 P **P** 17 12 20.8 +0.9
MUSN **Musina, Limpop** 82.26 111 *i* P **P** 17 12 21.1 +0.8
BCW **Bitter Crk WRg** 82.29 316 IAmb IAmb 17 12 22.5
comp=Z,85nm,1.6s
MDND **Maddock** 82.53 336 pP 17 14 28.3 +1.2
PDAR **Pinedale Array** 82.56 327 P **P** 17 12 21.5 0.0
PDAR pP **pP** 17 14 28.0 +0.3
PDAR **Pinedale Array** 82.56 327 P **P** 17 12 22.1 +0.6
comp=Z,8.6nm,0.4s,baz=125,slow=8.4,SNR=140
PDAR pP **pP** 17 14 29.6 +1.9
comp=Z,0.7nm,0.6s,baz=126,slow=4.9,SNR=2.9
PDAR PKKPbc **PKKPbc** 17 30 42.1 -1.2
comp=Z,0.2nm,0.3s,baz=70,slow=1.7,SNR=4.9
comp=Z,8.6nm,0.4s
HWUT **Hardware Ranch** 82.66 326 IAmb IAmb 17 12 23.8
comp=Z,26nm,0.5s
SCHQ **Schefferville** 82.79 358 P **P** 17 12 21.8 -0.3
comp=Z,3.9nm,0.8s,baz=164,slow=4.1,SNR=5.4
comp=Z,3.9nm,0.8s
MOPA **Mopani** 82.96 113 *i* P **P** 17 12 25.0 +1.2
AHID **Auburn Hatcher** 83.30 327 IAmb IAmb 17 12 27.0
comp=Z,54nm,1.4s
ULM **Lac du Bonnet** 83.36 340 P **P** 17 12 25.3 +0.3
comp=Z,18nm,0.8s,baz=146,slow=5.2,SNR=25
comp=Z,18nm,0.8s
TAM **Tamanrasset** 83.40 60 P **P** 17 12 26.5 +0.4
TAM IAmb IAmb 17 12 27.5
comp=Z,50nm,0.8s
TAM **Tamanrasset** 83.40 60 P **P** 17 12 26.5 +0.4
TAM pmax pmax
comp=Z,50nm,0.8s
PVAQ **Vaqueiros** 83.46 41 P **P** 17 12 25.6 -0.1
MESJ **Messejana** 83.46 41 *eP* **P** 17 12 26.4 +0.6
MESJ IAmb IAmb 17 12 27.4
comp=Z,26nm,0.7s
MESJ **Messejana** 83.46 41 P **P** 17 12 25.9 +0.1
MESJ IAmb IAmb 17 12 27.6
comp=Z,28nm,0.8s
MESJ **Messejana** 83.46 41 *eP* **P** 17 12 26.5 +0.6
ELK **Elko** 83.93 323 IAmb IAmb 17 12 30.3
comp=Z,31nm,0.6s
ELK pP 17 14 38.3 +2.9
ELK **Elko** 83.93 323 P **P** 17 12 29.2 +0.8
ELK XP **pP** 17 14 38.3 +2.9
NVAR **Mina Array Bea** 84.00 320 P **P** 17 12 29.2 +0.5
NVAR **Mina Array Bea** 84.00 320 P **P** 17 12 29.8 +1.0
comp=Z,8.1nm,0.7s,baz=140,slow=4.6,SNR=28
comp=Z,8.1nm,0.7s
LSZ **Lusaka** 84.06 104 P **P** 17 12 30.5 +1.0
LSZ **Lusaka** 84.06 104 P **P** 17 12 31.4 +1.8
LSZ **Lusaka** 84.06 104 P **P** 17 12 30.5 +1.0
LSZ pmax pmax
comp=Z,77nm,0.9s
LSZ **Lusaka** 84.06 104 *i* P **P** 17 12 30.8 +1.3
LAO **LASA Array** 84.13 332 IAmb IAmb 17 12 29.9
comp=Z,14nm,0.6s
BBGB **Big Mountain B** 84.37 317 IAmb IAmb 17 12 35.2
comp=Z,39nm,0.7s
YNE **Yellowstone No** 84.48 329 P **P** 17 12 31.2 +0.2
YNE **pP** 17 14 37.9 0.0
YMR **Madison River** 84.67 328 IAmb IAmb 17 12 34.3
comp=Z,29nm,0.9s
WAKR **Walker** 84.70 319 IAmb IAmb 17 12 34.9
comp=Z,26nm,0.8s
DGMT **Dagmar** 84.75 334 IAmb IAmb 17 12 34.0
comp=Z,68nm,1.4s
PAHR **Pah Rah Range** 85.48 320 IAmb IAmb 17 12 38.2
comp=Z,25nm,0.9s
HLID **Hailey** 85.52 325 IAmb IAmb 17 12 38.5
comp=Z,39nm,0.8s
MPK **Martis Peak** 85.58 319 IAmb IAmb 17 12 39.1
comp=Z,62nm,1.2s
DLMT **Dillon** 85.95 328 IAmb IAmb 17 12 40.1
comp=Z,37nm,1.0s
PAB **San Pablo** 86.85 41 P **P** 17 12 42.3 +0.1
PAB **San Pablo** 86.85 41 P **P** 17 12 42.3 +0.1
PAB pmax pmax
comp=Z,32nm,1.8s
GDXM **Geysers** 86.88 318 IAmb IAmb 17 12 45.2
comp=Z,21nm,1.1s
ESDC **Sonseca Array** 87.16 42 P **P** 17 12 43.3 -0.3
ESDC **Sonseca Array** 87.16 42 P **P** 17 12 44.1 +0.5
comp=Z,5.6nm,0.6s,baz=244,slow=4.2,SNR=35
comp=Z,5.6nm,0.6s
ESBB **Sonseca Array** 87.16 42 P **P** 17 12 43.5 -0.2
HATC **Hat Creek Radi** 87.41 320 IAmb IAmb 17 12 46.7
comp=Z,37nm,0.9s
PLID **Pearl Lake** 87.41 326 P **P** 17 12 45.3 +0.4
PLID IAmb IAmb 17 12 46.8
comp=Z,27nm,1.1s
PLID **pP** 17 14 53.1 -0.1
J08A **Circle Bar Ran** 87.47 323 IAmb IAmb 17 12 48.0
comp=Z,50nm,1.3s
BMO **Blue Mountains** 87.90 325 pP 17 14 58.3 +2.8
YBH **Yreka Blue Hor** 88.72 320 IAmb IAmb 17 12 51.6
comp=Z,12nm,0.6s
KHMM **Horse Mountain** 88.75 319 IAmb IAmb 17 12 53.6
comp=Z,22nm,0.8s
L04D **Klamath Falls** 88.81 320 IAmb IAmb 17 12 52.6
comp=Z,17nm,0.6s
J05D **Fort Rock, OR** 88.91 322 IAmb IAmb 17 12 53.3
comp=Z,9.7nm,0.5s
PINE **Pine Mountain** 89.09 322 IAmb IAmb 17 12 55.0
comp=Z,15nm,0.7s
FFC **Flin Flon** 89.12 339 P **P** 17 12 52.2 -0.1
FFC IAmb IAmb 17 15 03.7
comp=Z,27nm,2.0s
FFC **Flin Flon** 89.12 339 P **P** 17 12 52.2 -0.1
FFC pmax pmax
comp=Z,27nm,2.0s
J04A **Umpqua Nationa** 89.36 321 IAmb IAmb 17 12 56.6
comp=Z,20nm,0.7s
BBOR **Butler Butte** 89.45 321 IAmb IAmb 17 12 55.3
comp=Z,11nm,0.7s
I05D **Terrebonne, OR** 89.67 322 IAmb IAmb 17 12 57.2
comp=Z,15nm,0.7s
K02D **Willamette Mer** 89.88 320 IAmb IAmb 17 12 58.1
comp=Z,17nm,0.8s
DBO **Dodson Butte** 89.92 321 IAmb IAmb 17 12 58.5
comp=Z,23nm,0.7s
H04A **Detroit Lake** 90.35 322 IAmb IAmb 17 12 59.3
comp=Z,15nm,0.8s
C09A **Chrisman Ranch** 90.43 326 IAmb IAmb 17 12 59.8
comp=Z,15nm,0.6s
HOOD **Mount Hood Mea** 90.48 323 IAmb IAmb 17 13 01.4
comp=Z,9.9nm,0.7s
SJPF **Ste Jean** 90.94 40 *eP* **P** 17 13 01.2 +0.2
SJPF pmax pmax
comp=Z,20nm,1.0s
ETSF **Etsaut** 91.19 41 *eP* **P** 17 13 02.2 -0.1
ETSF pmax pmax
comp=Z,5.0nm,0.5s
LTY **Liberty** 91.26 325 IAmb IAmb 17 14 18.6
comp=Z,25nm,2.0s
EPF **Esparros** 91.79 41 *eP* **P** 17 13 04.8 -0.2
EPF pmax pmax
comp=Z,4.0nm,0.8s
CEST **Esterri de Car** 92.06 42 P **P** 17 13 05.6 -0.7
CEST IAmb IAmb 17 13 07.9
comp=Z,11nm,1.1s
QUIF **Quistinic** 92.94 36 *eP* **P** 17 13 08.9 -1.2
QUIF pmax pmax
comp=Z,39nm,1.5s
MTLF **Montoliеu** 93.07 42 *eP* **P** 17 13 10.5 -0.3
MTLF pmax pmax
comp=Z,7.0nm,0.9s
ROSF **Rostrenen** 93.16 35 *eP* **P** 17 13 10.0 -1.1
ROSF pmax pmax
comp=Z,30nm,1.2s
LFF **La Frestale** 93.19 40 *eP* **P** 17 13 10.8 -0.5
LFF pmax pmax
comp=Z,13nm,0.6s
SGMF **Saint Gilles** 93.47 36 *eP* **P** 17 13 11.1 -1.4
SGMF pmax pmax
comp=Z,75nm,1.8s
MFF **Saint Martin d** 93.71 38 *eP* **P** 17 13 13.0 -0.6
RJF **Les Rejaudoux** 93.84 40 *eP* **P** 17 13 13.5 -0.8
RJF pmax pmax
comp=Z,12nm,1.1s
CAF **Calviac** 93.93 40 *eP* **P** 17 13 14.2 -0.5
CAF pmax pmax
comp=Z,5.0nm,0.7s
GRR **Gorron** 94.44 36 *eP* **P** 17 13 15.6 -1.3
GRR pmax pmax
comp=Z,17nm,1.0s
TCF **Toulx Ste Croi** 94.82 39 *eP* **P** 17 13 17.9 -0.8
TCF pmax pmax
comp=Z,5.0nm,0.6s
FLN **La Foliniere** 94.87 36 *eP* **P** 17 13 18.3 -0.5
FLN pmax pmax
comp=Z,52nm,1.7s
LDF **La Druitiere** 94.95 36 *eP* **P** 17 13 18.8 -0.4
LDF pmax pmax
comp=Z,6.0nm,0.8s
BGF **Bois d'Agland** 95.33 39 *eP* **P** 17 13 20.4 -0.6
BGF pmax pmax
comp=Z,9.0nm,0.8s
VIVF **Saint-Julien-l** 95.39 41 *eP* **P** 17 13 21.1 -0.2
VIVF pmax pmax
comp=Z,69nm,2.6s
SSB **Saint Sauveur** 95.56 41 P **P** 17 13 22.1 0.0
SSB IAmb IAmb 17 13 23.9
comp=Z,8.2nm,0.7s
SSB **Saint Sauveur** 95.56 41 P **P** 17 13 22.1 0.0
SSB pmax pmax
comp=Z,8.0nm,0.7s
LMR **La Mourre** 95.63 43 *eP* **P** 17 13 22.1 -0.3
LMR pmax pmax
comp=Z,19nm,1.4s
AVF **Avril sur Loir** 95.75 39 *eP* **P** 17 13 22.1 -0.8
AVF pmax pmax
comp=Z,6.0nm,0.6s
CLF **Chambon-Foret** 95.88 38 P **P** 17 13 22.5 -0.9
SMF **Signal de Mont** 95.94 40 *eP* **P** 17 13 23.3 -0.5
SMF pmax pmax
comp=Z,17nm,0.7s
SSF **Saint Saulge** 96.00 39 *eP* **P** 17 13 22.0 -2.0
SSF pmax pmax
comp=Z,11nm,0.7s
ORIF **Oris-en-Rattie** 96.14 42 *eP* **P** 17 13 24.9 +0.1
ORIF pmax pmax
comp=Z,6.0nm,0.7s
LOR **Lormes** 96.31 39 *eP* **P** 17 13 24.5 -0.9
LOR pmax pmax
comp=Z,10.0nm,0.8s
LPL **La Plagne** 96.97 42 *eP* **P** 17 13 28.8 +0.2
LPL pmax pmax
comp=Z,3.0nm,0.7s
LPG **La Plagne** 96.97 42 *eP* **P** 17 13 29.0 +0.3
LPG pmax pmax
comp=Z,6.0nm,0.9s
CABF **La Chapelle** 97.20 41 *eP* **P** 17 13 29.9 +0.4
CABF pmax pmax
comp=Z,19nm,1.2s
EKA **Eskdalemuir Ar** 97.71 30 P Pdif 17 13 30.9 -0.4
comp=Z,0.6nm,0.4s,baz=226,slow=3.6,SNR=7.1
comp=Z,0.6nm,0.4s
HINF **Hinteralfeld** 98.30 40 *eP* Pdif 17 13 33.4 -0.9
HINF pmax pmax
comp=Z,38nm,2.3s
ECH **Echery** 98.69 40 P **P** 17 13 37.4 +1.4
ECH pmax pmax
comp=Z,39nm,1.2s
CDF **Champ du Feu** 98.86 39 *eP* Pdif 17 13 36.2 -0.6
CDF pmax pmax
comp=Z,7.0nm,0.9s
YKA **Yellowknife Ar** 99.30 338 P **Pdif** 17 13 38.7 +0.4
comp=Z,1.0nm,0.7s,baz=131,slow=4.5,SNR=29
YKA pP **pP** 17 15 48.9 +0.8
comp=Z,1.3nm,0.8s,baz=128,slow=4.4,SNR=10
YKA PP **PP** 17 17 49.0 -2.8
comp=Z,0.5nm,0.9s,baz=140,slow=7.7,SNR=4.2
comp=Z,1.0nm,0.7s
GERES **GERESS Array B** 102.75 41 PKiKP **PKiKP** 17 18 10.2 -0.7
comp=Z,0.5nm,0.5s,baz=231,slow=4.3,SNR=4.1
MODS **Modra-Piesok** 104.65 43 *i* P **Pdif** 17 14 06.1 +3.6
MODS **Modra-Piesok** 104.65 43 *e*PDIFF **Pdif** 17 14 06.0 +3.6
RES **Resolute Bay** 104.74 352 PKKPbc PKKPbc 17 29 43.5 -2.1
comp=Z,0.4nm,0.5s,baz=298,slow=4.8,SNR=5.6
STHS **Stebnicka Huta** 107.47 43 *e*PP **PP** 17 18 53.4 +1.5
INK **Inuvik** 109.08 338 PKKPbc PKKPbc 17 29 31.1 -1.0
comp=Z,1.9nm,0.6s,baz=314,slow=4.6,SNR=13
BRTR **Keskin Array B** 112.33 56 PKiKP **PKiKP** 17 18 29.1 0.0
comp=Z,1.0nm,0.8s,baz=160,slow=4.6,SNR=4.7
BRTR SKiKP **SKiKP** 17 21 08.6 -0.2
comp=Z,0.5nm,0.7s,baz=56,slow=2.2,SNR=3.6
ILAR **Eielson Array** 112.59 333 PKKPbc PKKPbc 17 29 18.8 -1.9
comp=Z,0.6nm,0.6s,baz=312,slow=4.2,SNR=7.3
AKASG **Malin Array Be** 112.74 44 PKiKP **PKiKP** 17 18 28.5 -0.8
comp=Z,1.3nm,0.4s,baz=272,slow=2.5,SNR=6.7
AKBB **Malin Array Si** 112.74 44⇑ *i*PKIKP **PKiKP** 17 18 28.7 -0.6
FINES **FINESS Array B** 114.02 32 SKiKP **SKiKP** 17 21 11.6 +0.4
comp=Z,1.9nm,0.9s,baz=62,slow=4.8,SNR=4.8
FINES PKKPbc PKKPbc 17 29 21.2 +5.3
comp=Z,1.4nm,0.9s,baz=64,slow=4.4,SNR=4.5
SPITS **Spitsbergen Ar** 115.31 13 PKP **PKPdf** 17 18 33.1 -0.4
comp=Z,15nm,1.0s,baz=160,slow=5.3,SNR=5.5
ARCES **ARCESS Array B** 115.68 23 PKKPbc PKKPbc 17 29 09.5 -0.9
comp=Z,1.7nm,0.5s,baz=83,slow=3.7,SNR=18
MARD **Mardin** 116.96 60 **PKPdf** 17 18 36.5 -1.6
OBN **Obninsk** 118.09 40 *i* PKIKP **PKiKP** 17 18 39.8 +0.3
OBN pmax pmax
comp=Z,9.0nm,0.9s
SHA1 **Shidzhatmaz** 119.90 54 ‖ *i*PKIKP **PKPdf** 17 18 43.3 -0.3
KIV **Kislovodsk** 119.96 53 **PKPdf** 17 18 42.5 -1.1
KIV **Kislovodsk** 119.96 53 *e*PKIKP **PKPdf** 17 18 43.4 -0.2
KIV pmax pmax
comp=Z,10.0nm,1.0s
KBZ **Khabaz** 120.07 54 PKP **PKiKP** 17 18 44.1 +0.4
comp=Z,3.5nm,0.8s,baz=208,slow=5.7,SNR=7.5
KLMR **Klimovskoe** 120.34 34 *e*PKIKP **PKPdf** 17 18 43.4 -0.2
KLMR pmax pmax
comp=Z,41nm,1.5s
NCK **Nalchik** 120.52 54⇑ *i*PKIKP **PKiKP** 17 18 45.3 +0.6
ABTO **Aybut** 120.98 86 P **PKiKP** 17 18 46.5 +0.2
WHFO **Wadi Hawf** 121.62 85 P **PKPdf** 17 18 47.1 -0.3
TRNA **Turayna** 121.79 77 P **PKPdf** 17 18 47.5 0.0
SHMA **Al-Shehemyia** 121.93 76 P **PKPdf** 17 18 47.3 -0.4
DOK **Doka** 122.19 85 P **PKPdf** 17 18 48.1 -0.3
SNR=14
DMTO **DMTO** 122.57 86 P **PKPdf** 17 18 49.0 -0.2
SNR=9.8
MZR **Muzera** 123.18 80 P **PKiKP** 17 18 50.8 +0.3
ASUD **Al Ashush, Dub** 125.30 79 P **PKiKP** 17 18 54.8 +0.1
KIRV **Kirov** 125.33 36 *c i*PKIKP **PKiKP** 17 18 53.7 +0.1
ALNE **Al Ain** 125.49 79 P **PKiKP** 17 18 54.9 -0.2
FAQ **Al Faqa, Dubai** 125.57 79 P **PKiKP** 17 18 55.0 -0.2
ASAR **Alice Springs** 125.84 199 **PKPdf** 17 18 54.6 -0.9
ASAR **Alice Springs** 125.84 199 PKP **PKPdf** 17 18 55.2 -0.3
comp=Z,10nm,0.6s,baz=141,slow=1.7,SNR=39
ASAR pPKP **pPKPdf** 17 21 13.5 +0.6
comp=Z,0.8nm,0.3s,baz=149,slow=3.8,SNR=4.5
ASAR PKKPbc **PKKPbc** 17 28 32.9 -0.6
comp=Z,0.5nm,0.5s,baz=346,slow=3.8,SNR=11
ASAR PKKP **PKKPdf** 17 29 12.2 -0.5
comp=Z,0.2nm,0.5s,baz=344,slow=1.5,SNR=6.8
ASAR **Alice Springs** 125.84 199 PKiKP **PKPdf** 17 18 54.6 -0.9
ARQ **Araqi** 125.93 81 P **PKPdf** 17 18 55.2 -0.3
SNR=14
ASHO **Ashiyiah** 125.95 79 P **PKPdf** 17 18 55.1 -0.5
UOSS **Minazif** 126.16 79 P **PKPdf** 17 18 55.4 -0.5
SOHO **SOHO** 126.19 80 P **PKPdf** 17 18 55.4 -0.5
MHTO **MHTO** 126.42 84 P **PKPdf** 17 18 56.2 -0.2
HOQ **Hoqain** 126.70 81 P **PKPdf** 17 18 57.0 0.0
SMDO **Samad** 127.17 81 P **PKPdf** 17 18 57.9 -0.1
WSAR **Wadi Sarin** 127.74 81 P **PKPdf** 17 18 58.4 -0.5
JLN **Jalan Bani Buh** 128.07 83 P **PKPdf** 17 18 59.7 +0.1
WRA **Warramunga Arr** 129.20 201 **PKPdf** 17 19 01.3 -0.6
WRA **Warramunga Arr** 129.20 201 PKP **PKPdf** 17 19 02.0 0.0
comp=Z,6.5nm,0.4s,baz=171,slow=1.7,SNR=98
WRA SKPbc SKPab 17 21 27.1 -1.2
comp=Z,8.9nm,0.4s,baz=156,slow=3.2,SNR=52
WRA **Warramunga Arr** 129.20 201 PKiKP **PKPdf** 17 19 01.3 -0.6
WRAB **Tennant Creek** 129.21 201 ‖ *e*PKiKP **PKPdf** 17 19 01.6 -0.4
ARTI **Arti** 130.38 38 **PKPdf** 17 19 03.1 +0.2
ARTI **Arti** 130.38 38 *i* PKIKP **PKiKP** 17 19 04.2 +0.3
ARTI 17 21 28.6
ARTI SS SS 17 38 08.4 -0.1
PMG **Port Moresby** 132.47 222 SKPbc **SKPbc** 17 21 40.6 +0.2
comp=Z,35nm,0.9s,baz=116,slow=3.3,SNR=7.3
FITZ **Fitzroy Crossi** 133.16 191 PKP **PKPdf** 17 19 09.4 0.0
comp=Z,4.9nm,0.3s,baz=230,slow=2.5,SNR=34
FITZ SKPbc **SKPbc** 17 21 42.2 -0.3
comp=Z,13nm,0.7s,baz=191,slow=7.0,SNR=29
NRIK **Noril'sk** 135.49 14 PKPpre 17 19 00.0
NRIK **Noril'sk** 135.49 14 *c i*PKIKP **PKPdf** 17 19 11.8 -0.4
TIXI **Tiksi** 136.04 355 **PKPdf** 17 19 12.6 -0.6
TIXI **Tiksi** 136.04 355 ‖ *i*PKIKP **PKPdf** 17 19 13.8 +0.7
BRVK **Borovoye** 137.85 41 **PKiKP** 17 19 18.6 -0.6
BRVK **Borovoye** 137.85 41 *de*PKIKP **PKiKP** 17 19 18.2 -1.0
BVAR **Borovoye Array** 137.92 41 PKhKP PKPpre 17 19 07.9
comp=Z,1.5nm,0.5s,baz=328,slow=2.1,SNR=5.7
BVAR PKP **PKPdf** 17 19 17.6 +0.5
comp=Z,8.7nm,0.6s,baz=299,slow=2.8,SNR=12
BVAR SKPbc **SKPbc** 17 21 57.1 +1.2
comp=Z,10nm,0.7s,baz=290,slow=3.5,SNR=20
BVAR SKKPbc **SKKPbc** 17 30 44.4 -0.2
comp=Z,1.4nm,0.5s,baz=109,slow=6.3,SNR=8.1
SEY **Seymchan** 138.34 336 PKhKP PKPpre 17 19 08.9
comp=Z,0.8nm,0.4s,baz=58,slow=18,SNR=6.0
SEY PKP **PKPdf** 17 19 18.5 +0.9
comp=Z,1.7nm,0.7s,baz=68,slow=9.4,SNR=4.6
SEY SKPbc **SKPbc** 17 21 57.4 +0.7
comp=Z,8.4nm,0.6s,baz=89,slow=4.1,SNR=18
SEY **Seymchan** 138.34 336 ‖ *e*PKIKP **PKPdf** 17 19 16.7 -0.9
BRLS **Borolday** 139.56 56 *e*PKIKP **PKPdf** 17 19 20.7 +0.2
BRLS **Borolday** 139.56 56 *e*PKP **PKPdf** 17 19 20.7 +0.2
IUG **Iuzhnay** 139.79 57 *e*PKIKP **PKPdf** 17 19 21.2 +0.2
IUG *e* 17 22 26.5
IUG **Iuzhnay** 139.79 57 *e*PKP **PKPdf** 17 19 21.3 +0.2
IUG *e*PP **PP** 17 22 26.6 +0.8
BRZS **Berezniki** 140.17 45 *e*PKIKP **PKPdf** 17 19 22.2 +0.9
BRZS **Berezniki** 140.17 45 *e*PKP **PKPdf** 17 19 22.3 +0.9
DZA **Taraz** 140.67 56 *e*PKIKP **PKPdf** 17 19 23.0 +0.5
DZA **Taraz** 140.67 56 *e*PKP **PKPdf** 17 19 23.0 +0.5
PETK **Petropavlovsk-** 141.07 321 PKhKP PKPpre 17 19 17.5
comp=Z,2.1nm,0.6s,baz=80,slow=11,SNR=5.6
PETK SKPbc **SKPbc** 17 22 03.0 -1.4
comp=Z,4.2nm,0.7s,baz=104,slow=2.8,SNR=12
JAY **Jayapura** 141.78 221 SKPbc **SKPbc** 17 22 07.6 +0.1
comp=Z,27nm,0.9s,baz=207,slow=8.4,SNR=4.2
NIL **Nilore** 142.43 71 **PKPdf** 17 19 23.0 -2.9
NIL **Nilore** 142.43 71 PKIKP **PKPdf** 17 19 23.0 -2.9
EKS2 **Erkin-Say** 142.49 56 P **PKPdf** 17 19 23.8 -2.1
SNR=12
AML **Almayashu** 142.50 57 P **PKPdf** 17 19 24.2 -2.0
SNR=9.5
USP **Ospenovka** 142.91 55 P **PKPdf** 17 19 24.6 -1.9
SNR=20
EDFI **Ende, Flores** 142.93 188 PKP **PKPdf** 17 19 25.4 -2.1
EDFI PKP **PKPdf** 17 19 25.4 -2.1
MMRI **Maumere** 142.97 189 PKP **PKPdf** 17 19 24.5 -2.9
AAK **Ala-Archa** 143.01 56 PKPbc 17 19 25.2 +0.1
AAK **Ala-Archa** 143.01 56 P PKPbc 17 19 25.9 +0.8
AAK **Ala-Archa** 143.01 56 P PKPbc 17 19 25.6 +0.5
SNR=60
AAK **Ala-Archa** 143.01 56 *d i*PKIKP PKPbc 17 19 25.4 +0.3
UCH **Uchtor** 143.09 56 P **PKPdf** 17 19 26.7 -0.7
SNR=5.8
PLAI **Plampang** 143.14 182 PKP PKPbc 17 19 26.0 -0.1
CHMS **Chumysh** 143.14 55 P PKPbc 17 19 25.9 +0.5
SNR=36
HYB **Hyderabad** 143.23 99 *e*PKPdf PKPbc 17 19 26.6 +0.3
CMJI **Cimerak** 143.28 166 PKP PKPbc 17 19 26.6 +0.1
CMJI PKP **PKPdf** 17 19 27.1 -0.9
KBK **Karagaybulak** 143.34 56 P **PKPdf** 17 19 27.0 -0.4
SNR=50
PCJI **Pacitan** 143.37 171 PKP PKPbc 17 19 27.3 +0.6
JAGI **Jajag, Banyuwa** 143.41 176 PKP PKPbc 17 19 27.1 +0.2
CNJI **Cibinong** 143.43 164 PKP PKPbc 17 19 27.1 +0.1
CNJI PKP PKPab 17 19 27.3 +0.6
KURBB **Kurchatov Arra** 143.49 42 PKP **PKPdf** 17 19 26.8 -0.4
comp=Z,107nm,0.7s,baz=297,slow=3.8,SNR=471
KURBB SKPbc **SKPbc** 17 22 10.1 -0.2
comp=Z,4.6nm,0.8s,baz=292,slow=3.1,SNR=4.5
KURBB SKKPbc **SKKPab** 17 30 20.1 -1.6
comp=Z,1.2nm,1.0s,baz=111,slow=3.9,SNR=7.4
KURK **Kurchatov** 143.51 41 PKPbc 17 19 26.4 +0.3
KURK **Kurchatov** 143.51 41 P **PKPdf** 17 19 27.1 -0.1
KURK **Kurchatov** 143.51 41 *d i*PKIKP PKPbc 17 19 26.6 +0.5
UGM **Wanagama** 143.54 169 PKP **PKPdf** 17 19 28.6 +0.1
GMJI **Gumukmas** 143.55 174 PKP **PKPdf** 17 19 27.9 -0.5
CGJI **Cibinong** 143.71 161 PKP PKPbc 17 19 27.9 +0.1
CGJI PKP **PKPdf** 17 19 28.3 -0.4
TKM2 **Tokmak 2** 143.77 55 P **PKPdf** 17 19 28.2 0.0
SNR=30
SRBI **Singaraja** 143.85 177 PKP PKPab 17 19 28.5 +0.2
LEM **Lembang** 144.01 164 PKP **PKPdf** 17 19 29.8 +0.3
NGJI **Ngawi** 144.22 171 PKP **PKPab** 17 19 30.7 +1.0
ULHL **Ulahol** 144.35 56 P **PKPab** 17 19 30.5 +0.6
SNR=5.1
SMRI **Semarang** 144.37 169 PKP **PKPab** 17 19 31.1 +0.8
KSH **Kashi** 144.52 61 PKP PKPbc 17 19 29.8 0.0
KSH pPKP pPKPdf 17 21 49.3 +2.0
CHKK **Chushkaly** 144.58 53 *e*PKIKP PKPbc 17 19 29.7 0.0
CHKK **Chushkaly** 144.58 53 *e*PKP PKPbc 17 19 29.8 +0.1
SEM **Semipalatinsk** 144.58 41 *e*PKIKP PKPbc 17 19 29.9 +0.1
SEM **Semipalatinsk** 144.58 41 *e*PKP PKPbc 17 19 29.9 +0.1
AAA **Alma-Ata** 144.66 54 *e*PKIKP PKPbc 17 19 29.9 -0.1
AAA **Alma-Ata** 144.66 54 *e*PKP PKPbc 17 19 29.9 -0.1
LWLI **Liwa** 144.71 158 PKP **PKPab** 17 19 31.8 0.0
TNSS **Tian-Shan** 144.72 55 *e*PKIKP **PKPdf** 17 19 30.0 -0.1
TNSS **Tian-Shan** 144.72 55 *e*PKP **PKPdf** 17 19 30.0 -0.1
MDOK **Medeo** 144.76 54 *e*PKIKP **PKPdf** 17 19 30.1 +0.2
MDOK **Medeo** 144.76 54 *e*PKP PKPbc 17 19 30.2 -0.3
GRJI **Gresik** 144.80 172 PKP **PKPab** 17 19 32.4 +0.5
GRJI PKP **PKPab** 17 19 32.4 +0.5
KMMI **Kalianget** 144.81 175 PKP **PKPab** 17 19 31.7 -0.3
YAK **Yakutsk** 145.15 349 **PKPdf** 17 19 29.8 +0.1
YAK **Yakutsk** 145.15 349 *e*PKIKP **PKPdf** 17 19 29.3 -0.4
YAK *e* 17 21 46.1
YAK *e* 17 22 56.6
YAK pmax pmax
comp=Z,8.0nm,1.5s
YAK pmax pmax
comp=N,4.0nm,1.9s
YAK pmax pmax

comp=E,2.0nm,1.5s
YAK pmax pmax
comp=Z,103nm,8.0s
YAK pmax pmax
comp=N,98nm,6.4s
YAK pmax pmax
comp=E,103nm,8.1s
MDSI Maura Dua 145.25 157 PKP **PKPdf 17 19 31.1 -0.3**
ZALV Zalesovo Beam 145.26 33 **PKPbc 17 19 30.8 -0.5**
ZALV Zalesovo Beam 145.26 33 PKPbc **PKPbc 17 19 30.9 -0.4**
comp=E,43nm,0.6s,baz=312,slow=3.5,SNR=71
ZALV SKPbc **SKiKP 17 22 14.9 +0.2**
comp=E,11nm,0.6s,baz=315,slow=2.9,SNR=7.5
ZALV SKKPbc **SKKPab 17 30 11.6 -2.1**
comp=E,1.2nm,0.5s,baz=122,slow=3.5,SNR=6.5
ZALV Zalesovo Beam 145.26 33 PKIKP **PKPbc 17 19 30.8 -0.5**
TDK Taldyqorghan 145.28 51 *e*PKIKP **PKPdf 17 19 31.1 +0.6**
TDK Taldyqorghan 145.28 51 *e*PKP **PKPdf 17 19 31.2 +0.6**
KSI Kapahiang 145.45 154 PKP **PKPbc 17 19 33.6 +0.4**
BSSI Bau Bau, Buton 145.64 186 PKP **PKPbc 17 19 33.8 +0.2**
BSSI PKP **PKiKP 17 19 37.6 +1.2**
ZHN Zhinishke 145.75 54 *e*PKIKP **PKPdf 17 19 31.8 +0.3**
ZHN Zhinishke 145.75 54 *e*PKP **PKPdf 17 19 31.8 +0.3**
SATY Saty 145.76 54 *e*PKIKP **PKPdf 17 19 31.7 +0.2**
SATY *e* 17 23 02.0
SATY Saty 145.76 54 *e*PKP **PKPdf 17 19 31.8 +0.2**
SATY *e*PP **PP 17 23 02.0 +1.0**
UZB Uzynbulak 146.18 54 *e*PKIKP **PKPdf 17 19 32.6 +0.4**
UZB Uzynbulak 146.18 54 *e*PKP **PKPdf 17 19 32.7 +0.4**
AAI Ambon 146.43 201 PKP **PKPbc 17 19 35.2 -0.6**
BKSI Bulukumba 146.48 186 PKP **PKPbc 17 19 35.7 -0.3**
SHLS Shalkode 146.49 54 *e*PKIKP **PKPdf 17 19 33.7 +1.0**
SHLS Shalkode 146.49 54 *e*PKP **PKPdf 17 19 33.7 +1.0**
KAPI Kappang 146.82 185 **PKPbc 17 19 37.2 +0.3**
KAPI Kappang 146.82 185 PKPbc **PKPbc 17 19 37.7 +0.8**
comp=E,21nm,0.6s,baz=211,slow=2.6,SNR=14
KAPI Kappang 146.82 185 PKP2 **PKPbc 17 19 37.2 +0.3**
MAKZ Makanchi 147.06 46 **PKPdf 17 19 32.4 -1.0**
MAKZ PKPbc **PKPbc 17 19 36.5 -0.2**
MAKZ Makanchi 147.06 46 PKIKP **PKPdf 17 19 32.4 -1.0**
MK31 Makanchi Array 147.27 46*c i*PKIKP **PKPdf 17 19 34.5 +0.7**
MKAR Makanchi Array 147.27 46 **PKPdf 17 19 32.8 -1.0**
MKAR PKPbc **PKPbc 17 19 37.4 +0.3**
MKAR Makanchi Array 147.27 46 PKP **PKPdf 17 19 34.0 +0.2**
comp=E,36nm,0.6s,baz=272,slow=2.0,SNR=52
MKAR PKPbc **PKPbc 17 19 37.5 +0.3**
comp=E,36nm,0.6s,baz=282,slow=2.9,SNR=113
MKAR pPKPbc **pPKPab 17 21 54.2 +1.2**
comp=E,4.5nm,0.8s,baz=297,slow=4.0,SNR=4.4
MKAR SKKPbc 17 30 04.7
comp=E,1.3nm,0.6s,baz=98,slow=6.9,SNR=14
MKAR Makanchi Array 147.27 46 PKIKP **PKPdf 17 19 32.8 -1.0**
MKAR 17 19 37.4
BNSI Bone 147.40 186 PKP **PKPbc 17 19 38.4 0.0**
GSI Gunungsitoli 147.48 142 PKP **PKiKP 17 19 39.5 -0.7**
SPSI Sidrap Palu 147.86 185 PKP **PKPbc 17 19 39.7 +0.1**
TPI Tanjungpandan 147.94 162 PKP **PKPbc 17 19 39.7 -0.1**
TPI PKP **PKiKP 17 19 40.1 -1.0**
MNSI Mandailing Nat 148.09 146 PKP **PKPbc 17 19 39.9 -0.3**
BKNI Bangkinang 148.38 149 PKP **PKPbc 17 19 40.0 -0.9**
SANI Sanana 148.63 198 PKP **PKPbc 17 19 40.8 -0.7**
MLSI Meulaboh, Aceh 149.23 137 PKP **PKPbc 17 19 42.8 -0.1**
RPSI Rantau Prapat 149.37 143 **PKPdf 17 19 35.7 -2.4**
RPSI PKPbc **PKPbc 17 19 42.9 -0.4**
RPSI PKPab **PKPab 17 19 50.6 +0.1**
PSI Prapat 149.46 143 PKP2 **PKPab 17 19 50.6 -0.4**
LHMI Lhok Sumawe 150.32 137 PKP **PKPbc 17 19 45.7 +0.2**
MYKOM Kota Tinggi 150.91 152 **PKPdf 17 19 37.7 -2.8**
MYKOM PKPbc **PKPbc 17 19 45.8 -1.1**
MYKOM PKPab **PKPab 17 19 56.7 -0.2**
WMQ Urumqi 151.94 49 *e*PKPbc **PKPdf 17 19 41.6 +0.4**
YSS Yuzhno-Sakhali 152.45 320 *e*PKP2 **PKPab 17 20 02.4 -0.2**
YSS pmax pmax
comp=Z,20nm,1.0s
KULM Kulim 152.47 143 **PKPdf 17 19 40.3 -2.5**
KULM PKPbc **PKPbc 17 19 50.0 -0.3**
KULM PKPab **PKPab 17 20 02.8 -0.7**
SRIT Nakonsritamara 154.57 137 PKPdf **PKPdf 17 19 43.6 -2.1**
MJAR Matsushiro Arr 160.19 300 PKPab **PKPab 17 20 36.9 +0.3**
comp=Z,3.1nm,0.5s,baz=62,slow=4.8,SNR=7.6
MAJO Matsushiro 160.19 300 **PKPab 17 20 35.7 -0.9**
MAJO Matsushiro 160.19 300 PKP2 **PKPab 17 20 35.7 -0.9**
CMAR Chiang Mai Arr 160.91 117 **PKPdf 17 19 50.9 -2.4**
CMAR **PKPab 17 20 38.3 -1.8**
CMAR Chiang Mai Arr 160.91 117 PKP **PKPdf 17 19 53.2 0.0**
comp=Z,1.1nm,0.9s,baz=227,slow=3.1,SNR=4.0
CMAR PKPab **PKPab 17 20 39.9 -0.3**
comp=Z,4.9nm,0.8s,baz=243,slow=4.6,SNR=15
CMAR PP **PP 17 24 25.4 +0.2**
comp=Z,1.7nm,1.0s,baz=246,slow=6.0,SNR=5.5
CMAR Chiang Mai Arr 160.91 117 PKIKP **PKPdf 17 19 50.9 -2.4**
CMAR 17 20 38.3
DLV Lat 162.00 153 PKPdf **PKPdf 17 19 52.4 -2.3**
DLV **PKPab 17 20 44.2 -0.7**
GTA Gaotai 162.02 47 *e*PKP **PKPdf 17 19 54.8 +0.8**
GTA PKPab **PKPab 17 20 45.1 +0.5**
PZH PanZhiHua 166.46 94 PKP **PKPdf 17 19 56.4 -1.9**
LZH Lanzhou 166.50 51 *e*PKP **PKPdf 17 19 58.5 +0.4**
LZH PKP **PKPab 17 21 05.8 +1.3**
HHC Hu-ho-hao-te 166.69 18 *e*P **PKPdf 17 19 56.8 -1.2**
KSRS Korea Array 166.93 317 PKPab **PKPab 17 21 07.2 +1.0**
comp=Z,2.7nm,0.7s,baz=52,slow=4.4,SNR=11
NJ2 Nanjing 175.83 336 *e*P **PKPdf 17 20 03.4 +0.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s

*NOU **16** 17:03:47.3, 44.°37S×171.°60E, h5km, MLv3.5/9, South Island, New Zealand*
*WEL **16** 17:03:48.7±0.4, 44.°S±.3°×17.°1E±.°, h12km, M3.5/9, ML3.6/9, MLv3.5/9, Error ellipse: s-maj=5.2km s-min=2.6km az=132.5, confirmed*
ISC 16 17:03:48.4±1.3, 44.°36S±0.°03×171.°51E±0.°03, h11km±11km, n26, σ0s79/36, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMZ	**Timaru**	**0.36**	**266**	P	**Pb**	**17 03 57.2**	**+0.3**
TMZ				S	**Sb**	**17 04 01.9**	**-0.8**
ARCZ	**Arundel**	**0.48**	**329**	P	**Pb**	**17 03 59.1**	**+0.3**
ARCZ				S	**Sb**	**17 04 05.6**	**-0.2**
WACZ	**Wakanui South**	**0.48**	**30**	P	**Pn**	**17 04 00.2**	**-0.9**
WACZ				S	**Sb**	**17 04 06.8**	**+1.0**
RPZ	**Rata Peaks**	**0.72**	**333**	P	**Pg**	**17 04 02.3**	**0.0**
RPZ	**Rata Peaks**	**0.72**	**333**	S	**Sb**	**17 04 12.6**	**-0.3**
RPZ	**Rata Peaks**	**0.72**	**333**	P	**Pb**	**17 04 02.8**	**-0.2**
RACZ	**Rakaia**	**0.78**	**36**	P	**Pb**	**17 04 04.4**	**+0.5**
RACZ				S	**Sb**	**17 04 14.8**	**+0.4**
MHCZ	**Mount Hutt**	**0.83**	**3**	P	**Pb**	**17 04 04.6**	**-0.2**
MHCZ				S	**Sn**	**17 04 17.1**	**-1.2**
OAMS	**Oamaru North O**	**0.84**	**207**	P	**Pn**	**17 04 05.8**	**-0.4**
OAMS				S	**Sb**	**17 04 17.1**	**+0.9**
ODZ	**Otahua Downs**	**0.92**	**222**	P	**Pg**	**17 04 05.7**	**-0.5**
ODZ	**Otahua Downs**	**0.92**	**222**	P	**Pg**	**17 04 05.9**	**-0.3**
ODZ				S	**Sb**	**17 04 19.2**	**+0.5**
LBZ	**Lake Benmore**	**0.95**	**268**	P	**Pg**	**17 04 06.3**	**-0.4**
LBZ				S	**Sg**	**17 04 19.1**	**0.0**
MQZ	**McQueen's Vall**	**1.05**	**52**	P	**Pb**	**17 04 08.0**	**-0.5**
MQZ				S	**Sn**	**17 04 23.3**	**-0.4**
OXZ	**Oxford**	**1.10**	**20**	P	**Pb**	**17 04 08.4**	**-1.0**
OXZ				S	**Sn**	**17 04 24.6**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.12**	**65**	P	**Pb**	**17 04 09.3**	**-0.4**
MNZS	**Menzies Bay Ba**	**1.28**	**56**	P	**Pn**	**17 04 11.6**	**-0.5**
OKCZ	**Okains Bay**	**1.28**	**61**	P	**Pg**	**17 04 14.7**	**+1.7**
GCSZ	**Gaunt Creek Bo**	**1.35**	**320**	P	**Pn**	**17 04 13.0**	**-0.2**
WVZ	**Waitaha Valley**	**1.40**	**336**	P	**Pn**	**17 04 13.7**	**-0.1**
AMCZ	**Amberley**	**1.44**	**35**	P	**Pb**	**17 04 15.4**	**+0.2**
FOZ	**Fox Glacier**	**1.48**	**303**	P	**Pg**	**17 04 17.0**	**+0.3**
JCZ	**Jackson Bay**	**1.98**	**277**	P	**Pn**	**17 04 22.8**	**+0.8**
JCZ	**Jackson Bay**	**1.98**	**277**	P	**Sn**	**17 04 49.4**	**+2.5**
KHZ	**Kahutara**	**2.44**	**38**	P	**Pn**	**17 04 28.0**	**-0.1**
SYZ	**Scrubby Hill**	**2.75**	**217**	P	**Pn**	**17 04 31.3**	**-1.1**
QRZ	**Quartz Range**	**3.61**	**12**	P	**Pn**	**17 04 43.5**	**-0.7**

IDC 16 17:10:49.4±2.3, 9.°32N×127.°19E, h0km, mb3.6/4, mbtmp3.7/5, ML4.5/1, Error ellipse: s-maj=45.1km s-min=28.4km az=55.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.75**	**216**	Pn	Pn	17 11 35.9	+1.1
	76nm,0.3s,baz=277,slow=13,SNR=4.5						
DAV				Sn	Sn	17 12 08.3	-0.3
	47nm,0.3s,baz=23,slow=22,SNR=9.2						
	91nm,0.3s						
FITZ	**Fitzroy Crossi**	**27.28**	**183**	P	P	17 16 35.7	-0.1
	1.1nm,0.5s,baz=349,slow=10,SNR=7.9						
	1.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**28.85**	**291**	P	P	17 16 49.9	0.0
	0.7nm,0.9s,baz=103,slow=8.5,SNR=5.7						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**29.91**	**166**	P	P	17 16 58.8	-0.5
	0.5nm,0.8s,baz=344,slow=8.9,SNR=2.2						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**33.43**	**169**	P	P	17 17 30.3	+0.1
	0.2nm,0.3s,baz=353,slow=6.7,SNR=12						
	0.2nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**39.33**	**72**	T	T	18 01 25.3	
	baz=262,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**39.34**	**72**	T	T	18 01 30.6	
	baz=262,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**39.35**	**72**	T	T	18 01 29.2	
	baz=262,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**39.70**	**70**	T	T	18 01 59.9	
	baz=265,slow=75,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**39.71**	**70**	T	T	18 02 11.2	
	baz=265,slow=75,SNR=3.3						
H11N3	**WAKE ISLAND Hy**	**39.72**	**70**	T	T	18 02 09.3	
	baz=265,slow=75,SNR=4.8						

IDC 16 17:17:38.0±999.0, 45.°63N×38.°12E, h0km, Error ellipse: s-maj=2272.0km s-min=212.1km az=175.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**11.12**	**357**	I	I	18 22 30.0	
	baz=177,slow=335,SNR=1.8						
I37NO	**I37NO**	**25.51**	**344**	I	I	19 54 30.0	
	baz=148,slow=334,SNR=1.4						
I18DK	**QAANAAQ INFRASN**	**19.49**	**344**	I	I	22 45 10.0	
	baz=60,slow=338,SNR=0.8						

JMA 16 17:29:04.7±0.0, 33.°9N±0.°2×130.°6E±0.°1, h10km, MV0.5/26, NW OFF KYUSHU, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFA	**Akaike**	**0.24**	**144**	P	Pg	17 29 09.5	0.0
JFA				S	Sg	17 29 12.8	+0.1
JII	**Iki**	**0.75**	**262**	*e*P	Pg	17 29 19.1	-0.1
JTA	**Tamana**	**0.94**	**185**	*e*S	Sg	17 29 34.6	-0.4

*IDC **16** 17:29:35.2±1.8, 32.°19S×179.°43W, h0km, mb4.2/5, mbtmp4.2/6, ML3.8/1, MS3.7/2, Error ellipse: s-maj=46.0km s-min=28.0km az=51.0*
ISC 16 17:29:37.2±1.8, 32.°3S±0.°2×179.°5W±0.°3, h10km, n12, σ0s65/7, mb4.3/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.59**	**204**	Pn	**Pn**	**17 31 14.1**	**0.0**
	1.7nm,0.3s,baz=347,slow=3.6,SNR=13						
	18nm,1.1s						
DZM	**Mont Dzumac**	**16.07**	**306**	LR	LR	17 38 08.4	
	comp=Z,143nm,18.1s,baz=202,slow=32						
ASAR	**Alice Springs**	**41.75**	**270**	P	**P**	**17 37 27.0**	**+0.2**
	3.3nm,0.9s,baz=111,slow=7.6,SNR=24						
	3.3nm,0.9s						
WRA	**Warramunga Arr**	**42.91**	**275**	P	**P**	**17 37 36.5**	**+0.3**
	1.4nm,0.8s,baz=114,slow=8.0,SNR=13						
	1.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**51.09**	**272**	P	**P**	**17 38 39.8**	**-0.3**
	1.9nm,0.5s,baz=104,slow=4.1,SNR=9.1						
	1.9nm,0.5s						
QSPA	**South Pole Qui**	**57.86**	**180**	P	**P**	**17 39 29.7**	**+0.8**
	2.9nm,1.0s,baz=32,slow=1.7,SNR=5.2						
	2.9nm,1.0s						
SNAA	**Sanae**	**76.33**	**179**	P	**P**	**17 41 25.1**	**-0.9**
	2.1nm,0.7s,baz=160,slow=15,SNR=2.6						
	2.1nm,0.7s						
H03N3	**Juan Fernandez**	**80.73**	**124**	T	T	19 10 36.9	
	baz=239,slow=72,SNR=5.2						
H03N2	**Juan Fernandez**	**80.73**	**124**	T	T	19 10 34.4	
	baz=239,slow=72,SNR=2.9						
H03N1	**Juan Fernandez**	**80.74**	**124**	T	T	19 10 37.5	
	baz=239,slow=72,SNR=9.9						
NNA	**Nana**	**94.15**	**107**	LR	LR	18 14 11.4	
	comp=Z,54nm,21.4s,baz=30,slow=28						
FINES	**FINESS Array B**	**146.41**	**338**	PKPbc	**PKPdf**	**17 49 16.6**	**+0.3**
	1.8nm,0.7s,baz=57,slow=4.3,SNR=8.6						

*JMA **16** 17:31:00.3±0.1, 38.°3N±0.°3×141.°6E±0.°5, h53km, MV3.8/40, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
*IDC **16** 17:31:01.8±1.7, 38.°33N×141.°74E, h79km±9km, mb3.5/5, mbtmp3.8/9, MS4.1/1, Error ellipse: s-maj=39.5km s-min=17.5km az=80.0*
ISC 16 17:30:59.4±1.0, 38.°29N±0.°04×141.°74E±0.°07, h50km±6km, n38, σ1s21/48, mb3.8/5, 23D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.22**	**276**	⇓*i*P	**Pn**	**17 31 08.7**	**+0.9**
JIKH				⇓S	**Sn**	**17 31 14.6**	**+0.9**
JIO	**Ouri**	**0.35**	**298**	⇓*i*P	**Pn**	**17 31 09.6**	**+0.6**
JIO				⇓*i*S	**Sn**	**17 31 15.9**	**+0.2**
JKMT	**Kesennumamotoy**	**0.56**	**338**	⇓*i*P	**Pn**	**17 31 11.9**	**+0.5**
JKMT				⇓S	**Sn**	**17 31 19.9**	**0.0**
JMK	**Ichinoseki**	**0.78**	**329**	⇓*i*P	**Pn**	**17 31 14.6**	**+0.5**
JMK				⇓S	**Sn**	**17 31 24.6**	**-0.2**
OFUJ	**Ofunato**	**0.79**	**356**	⇓*i*P	**Pn**	**17 31 14.8**	**+0.5**
OFUJ				⇓S	**Sn**	**17 31 25.0**	**-0.2**
JOU	**Okura**	**0.85**	**276**	⇓*i*P	**Pn**	**17 31 15.2**	**+0.1**
JOU				⇓S	**Sn**	**17 31 26.2**	**-0.4**
JMM	**Marumori**	**0.86**	**241**	P	**Pn**	**17 31 15.1**	**-0.1**
JMM	**Marumori**	**0.86**	**241**	⇓*i*P	**Pn**	**17 31 15.2**	**0.0**
JMM				⇓S	**Sn**	**17 31 26.0**	**-0.7**
JFK	**Kawauchi**	**1.15**	**217**	*i*P	**Pn**	**17 31 19.6**	**+0.5**
JFK				S	**Sn**	**17 31 34.0**	**+0.2**
JOM	**Ohasama**	**1.23**	**344**	⇓*i*P	**Pn**	**17 31 20.7**	**+0.5**
JYK	**Kaneyama**	**1.25**	**301**	⇓*i*P	**Pn**	**17 31 20.6**	**+0.1**
JYK				⇓S	**Sn**	**17 31 35.6**	**-0.6**
JYS	**Shirataka**	**1.32**	**268**	⇓*i*P	**Pn**	**17 31 21.7**	**+0.3**
JYS				⇓S	**Sn**	**17 31 37.7**	**-0.2**
JOTO	**OTAMA OYAMA**	**1.33**	**237**	*i*P	**Pn**	**17 31 22.1**	**+0.5**
JOTO				S	**Sn**	**17 31 38.3**	**+0.2**
JRG	**Rokugo**	**1.40**	**322**	⇓*i*P	**Pn**	**17 31 23.2**	**+0.7**
JRG				⇓S	**Sn**	**17 31 39.2**	**-0.7**
JYA	**Atsumi**	**1.62**	**281**	⇓*i*P	**Pn**	**17 31 25.8**	**+0.3**
JYA				⇓S	**Sn**	**17 31 45.5**	**+0.3**
JTM	**Tenmabayashi**	**2.55**	**348**	P	**Pn**	**17 31 39.4**	**+1.2**
JSD	**Sado**	**2.75**	**266**	P	**Pn**	**17 31 42.8**	**+1.8**
MJAR	**Matsushiro Arr**	**3.31**	**239**	P	**Pn**	**17 31 50.3**	**+1.7**
	2.4nm,0.3s,baz=38,slow=12,SNR=20						
MJAR				S	Sn	17 32 36.6	+10
	3.1nm,0.4s,baz=30,slow=17,SNR=4.7						
MAJO	**Matsushiro**	**3.31**	**239**	P	**Pn**	**17 31 51.1**	**+2.4**
ERM	**Erimo**	**3.88**	**16**	P	**Pn**	**17 31 57.8**	**+1.4**
JEM	**Erimo**	**3.88**	**16**	P	**Pn**	**17 31 59.0**	**+2.6**
JGF	**Kuroka**	**4.42**	**234**	P	**Pn**	**17 32 07.1**	**+3.2**
INU	**Inuyama**	**4.79**	**234**	P	**Pn**	**17 32 12.5**	**+3.5**
JHJ	**Hachijo jima 2**	**5.40**	**198**	P	**Pn**	**17 32 20.0**	**+2.6**
	105nm,0.7s,baz=94,slow=15,SNR=2.3						
JHJ				S	**Sn**	**17 33 16.2**	**-1.9**
	138nm,0.8s,baz=254,slow=18,SNR=2.7						
ASAJ	**Asahikawa**	**5.86**	**6**	P	**Pn**	**17 32 23.9**	**+0.3**
	11nm,1.1s,baz=226,slow=12,SNR=7.4						
USRK	**Ussuriysk Ar.**	**9.42**	**312**	P	**Pn**	**17 33 13.4**	**+1.1**
	2.6nm,0.7s,baz=130,slow=14,SNR=7.0						
H11N2	**WAKE ISLAND Hy**	**28.59**	**123**	T	T	18 07 06.3	
	baz=316,slow=76,SNR=38						
H11N1	**WAKE ISLAND Hy**	**28.60**	**123**	T	T	18 07 07.5	
	baz=316,slow=76,SNR=54						
H11N3	**WAKE ISLAND Hy**	**28.61**	**123**	T	T	18 07 08.1	
	baz=316,slow=76,SNR=79						
H11S1	**WAKE ISLAND Hy**	**29.35**	**125**	T	T	18 08 02.3	
	baz=318,slow=76,SNR=89						
H11S3	**WAKE ISLAND Hy**	**29.35**	**125**	T	T	18 08 06.0	
	baz=318,slow=76,SNR=90						
H11S2	**WAKE ISLAND Hy**	**29.36**	**125**	T	T	18 08 07.1	
	baz=318,slow=76,SNR=95						
ZALV	**Zalesovo Beam**	**41.27**	**311**	P	**P**	**17 38 39.1**	**-0.4**
	0.6nm,0.3s,baz=95,slow=8.0,SNR=4.7						
ZALV				pP	**sP**	**17 38 57.9**	**-0.7**
	0.9nm,0.5s,baz=90,slow=7.4,SNR=2.9						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**43.68**	**301**	P	**P**	**17 38 58.2**	**-1.0**
	1.3nm,0.8s,baz=82,slow=9.7,SNR=11						
MKAR				pP	**sP**	**17 39 18.2**	**-0.2**
	0.6nm,0.7s,baz=90,slow=8.6,SNR=4.7						
	1.3nm,0.8s						
BRDH	**Bariadhala**	**45.35**	**265**	LR	LR	18 00 38.1	
	comp=Z,189nm,18.9s,baz=189,slow=39						
KURBB	**Kurchatov Arra**	**45.44**	**307**	P	**P**	**17 39 12.7**	**-0.5**
	1.9nm,0.2s,baz=83,slow=8.1,SNR=15						
KURBB				pP	**sP**	**17 39 31.6**	**-0.8**
	2.2nm,0.6s,baz=80,slow=8.2,SNR=5.7						
	1.9nm,0.2s						
WRA	**Warramunga Arr**	**58.34**	**188**	P	**P**	**17 40 49.0**	**-0.4**
	0.4nm,0.6s,baz=5.0,slow=6.9,SNR=5.7						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**62.06**	**188**	P	**P**	**17 41 14.6**	**-0.3**
	0.3nm,0.7s,baz=15,slow=6.8,SNR=3.0						
	0.3nm,0.7s						

*MEX **16** 17:38:19.3±0.5, 14.°75N×92.°41W, h90km±6km, MD4.0*
*GCG **16** 17:38:20.0±0.4, 14.°86N×92.°41W, h59km±10km, MD3.6*
ISC 16 17:38:16.2±1.9, 14.°76N±0.°09×92.°29W±0.°09, h101km±12km, n11, σ1s50/20, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.15**	**10**	*e*P	**Pn**	**17 38 30.7**	**+0.3**
THIG				*i* S	**Sn**	**17 38 39.9**	**-1.0**
PATR	**El Naranjo**	**0.36**	**9**	*e*P	**Pn**	**17 38 32.0**	**+0.6**
PATR				*i* S	**Sn**	**17 38 42.0**	**-0.9**
PAVE	**Pavencul**	**0.45**	**15**	*e*P	**Pn**	**17 38 33.1**	**+1.2**
PAVE				*i* S	**Sn**	**17 38 44.0**	**+0.3**
RTAL	**Retalhuleu**	**0.62**	**112**	*e*P	**Pn**	**17 38 35.1**	**+2.1**
RTAL				*e*S	**Sn**	**17 38 46.3**	**+0.7**
STG8	**El Palmar, Qui**	**0.96**	**108**	*e*P	**Pn**	**17 38 36.2**	**-0.3**
STG8				*e*S	**Sn**	**17 38 49.2**	**-2.5**
PCIG		**1.30**	**317**	*e*P	**Pn**	**17 38 40.5**	**+0.5**
PCIG				*e*S	**Sn**	**17 38 56.9**	**-1.2**
CCIG	**Comitan**	**1.52**	**6**	*e*S	**Sn**	**17 39 01.2**	**-2.0**
TGIG		**2.16**	**338**	*e*P	**Pn**	**17 38 51.5**	**+0.5**
TGIG				*e*S	**Sn**	**17 39 15.6**	**-1.9**
UXUV	**UXUV**	**3.11**	**325**	*e*P	**Pn**	**17 39 06.0**	**+2.6**
UXUV				*e*S	**Sn**	**17 39 39.4**	**-0.4**
CMIG	**Matias Romero**	**3.41**	**313**	*e*P	**Pn**	**17 39 09.2**	**+1.8**
CMIG				*i* S	**Sn**	**17 39 45.9**	**-1.1**
HUIG	**Huatulco**	**3.82**	**286**	*e*P	**Pn**	**17 39 12.6**	**-0.4**
HUIG				*e*S	Sn	17 39 49.2	-7.7

*IDC **16** 17:40:54.4±1.9, 24.°00N×93.°37E, h0km, mb3.5/4, mbtmp3.4/5, ML3.0/1, MS3.3/1, Error ellipse: s-maj=88.9km s-min=22.2km az=67.0*
ISC 16 17:41:03.4±0.9, 24.°3N±0.°2×94.°1E±0.°1, h50km, n11, σ2s05/13, mb3.6/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.32**	**141**	Pn	**Pn**	**17 42 47.6**	**-0.1**
	0.1nm,0.3s,baz=333,slow=14,SNR=1.9						
	0.2nm,0.4s						
GUN	**Gumba**	**8.26**	**298**	Sn	**Sn**	**17 44 29.2**	**-3.8**
	25nm,0.3s,baz=266,slow=0.0						
PKI	**Pulchoki**	**8.51**	**295**	Pn	**Pn**	**17 43 06.6**	**+2.2**
	baz=265,slow=0.0						
PKIN	**Phulchoki**	**8.53**	**295**	Pn	**Pn**	**17 43 06.5**	**+2.0**
	baz=265,slow=0.0						
PKIN				Sn	**Sn**	**17 44 39.7**	**+0.2**
	19nm,0.3s,baz=265,slow=0.0						
KKN	**Kakani**	**8.70**	**296**	Sn	**Sn**	**17 44 41.4**	**-2.3**
	baz=266,slow=0.0						
DMN	**Daman**	**8.78**	**294**	Pn	**Pn**	**17 43 10.2**	**+2.2**
	baz=265,slow=0.0						
DMN				Sn	**Sn**	**17 44 46.2**	**+0.5**
	9.1nm,0.3s,baz=265,slow=0.0						
MKAR	**Makanchi Array**	**24.40**	**340**	P	**P**	**17 46 15.1**	**-2.0**
	0.3nm,0.4s,baz=160,slow=9.8,SNR=7.3						
	0.3nm,0.4s						
SONM	**Songino Array**	**25.46**	**19**	P	**P**	**17 46 28.4**	**+1.6**
	0.5nm,0.5s,baz=194,slow=11,SNR=1.5						
	0.5nm,0.5s						
DAV	**Davao City (W)**	**34.64**	**114**	LR	LR	18 03 42.3	
	comp=Z,48nm,19.6s,baz=197,slow=39						
WRA	**Warramunga Arr**	**58.86**	**135**	P	**P**	**17 50 56.9**	**-0.4**
	0.4nm,0.5s,baz=316,slow=8.0,SNR=12						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**61.31**	**138**	P	**P**	**17 51 14.1**	**0.0**
	0.3nm,0.3s,baz=318,slow=6.6,SNR=17						
ASAR				PcP	**PcP**	**17 51 55.0**	**-1.2**
	0.1nm,0.3s,baz=316,slow=3.5,SNR=4.5						
	0.3nm,0.3s						

*ISK **16** 17:47:57.4, 38.°46N×39.°25E, h8km, ML3.7/8*
*AFAD **16** 17:47:57.9, 38.°44N×39.°21E, h7km±2km, MW3.8*
*IDC **16** 17:47:58.8±1.6, 38.°32N×39.°06E, h0km, mb3.3/4, mbtmp3.3/6, ML3.3/2, MS3.5/1, Error ellipse: s-maj=35.5km s-min=14.8km az=179.0*
ISC 16 17:47:58.9±0.7, 38.°44N±0.°03×39.°21E±0.°02, h10km, n29, σ1s38/41, mb3.3/4, Turkey

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

DARE	Darende-Malaty	1.36 276	Pn	Pn	17 48 22.3	-1.8
AKCA	Adyaman/G¶l	1.36 242	P	Pb	17 48 23.8	-0.8
SVAN	Silvan-Diyarba	1.59 100	Pn	Pn	17 48 26.2	-1.0
GAZ	Gaziantep	2.03 232	Pn	Pn	17 48 33.5	+0.3
KMRS	Kahramanmaras	2.05 244	Pn	Pn	17 48 33.7	+0.2
SARI	SarD1z-Kayseri	2.19 270	Pn	Pn	17 48 35.7	+0.1
BRTR	Keskin Array B	4.52 288	Pn	Pn	17 49 08.7	+1.1
	0.7nm,0.3s,baz=114,slow=14,SNR=24					
BRTR			Lg	Lg	17 50 23.3	
	0.2nm,0.3s,baz=112,slow=23,SNR=5.1					
	2.9nm,0.6s					
MMAI	Mount Meron Ar	6.23 211	Pn	Pn	17 49 32.0	+0.9
	1.5nm,0.3s,baz=45,slow=13,SNR=5.5					
	0.5nm,0.3s					
GERES	GERESS Array B	21.09 308	P	P	17 52 44.8	+1.3
	0.3nm,0.6s,baz=123,slow=14,SNR=3.7					
	0.3nm,0.6s					
BVAR	Borovoye Array	25.94 46	P	P	17 53 35.6	+4.3
	0.5nm,0.8s,baz=232,slow=7.1,SNR=2.8					
	0.5nm,0.8s					
KURBB	Kurchatov Arra	30.20 53	P	P	17 54 11.7	+2.3
	0.3nm,0.3s,baz=267,slow=8.9,SNR=7.3					
	0.3nm,0.3s					
MKAR	Makanchi Array	32.44 61	P	P	17 54 31.3	+2.2
	0.4nm,0.8s,baz=289,slow=7.6,SNR=4.3					
MKAR			LR	LR	18 10 36.0	
	comp=Z,75nm,20.5s,baz=271,slow=42					
	0.4nm,0.8s					

RSNC 16 17:52:40.1±0.0, 7°N±1°×7°3W±°, h146km±2km, M3.1, mB4.9, mb4.0, ML2.9, MLv3.6, Mw(mB)4.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.23	193	P	Pn	17 52 59.9	-0.4
BARC				S	Sn	17 53 14.8	-0.8
BRJC	Barrancabermej	0.63	284	P	Pn	17 53 01.7	0.0
BRJC				S	Sn	17 53 18.2	+0.1
PAMC	Pamplona, Colo	0.67	40	P	Pn	17 53 02.8	+0.2
PAMC				S	Sn	17 53 19.6	0.0
RUSC	La Rusia	0.92	177	P	Pn	17 53 03.9	-0.5
RUSC				S	Sn	17 53 22.2	-0.7
PTBC	PUERTO BERRIO,	1.35	258	P	Pn	17 53 06.6	-1.2
PTBC				S	Sn	17 53 27.0	-1.9
TAMC	Tame, Arauca	1.38	106	P	Pn	17 53 08.3	+0.1
TAMC				S	Sn	17 53 29.7	+0.1
OCAC	Ocana	1.42	352	P	Pn	17 53 08.3	-0.4
OCAC				S	Sn	17 53 29.8	-0.9
ZARC	Zaragoza, Cauc	1.84	291	P	Pn	17 53 12.9	-0.2
ZARC				S	Sn	17 53 38.5	0.0
NORC	Norcasia	2.13	234	P	Pn	17 53 15.8	-0.8
NORC				S	Sn	17 53 43.7	-1.0
CHIC	Chingaza	2.26	195	P	Pn	17 53 17.9	-0.6
CHIC				S	Sn	17 53 47.3	-0.7
ROSC	El Rosal	2.30	211	P	Pn	17 53 19.8	+0.9
ROSC				S	Sn	17 53 49.0	+0.2
CVER	Cruz Verde, Cu	2.47	202	P	Pn	17 53 21.5	+0.3
CVER				S	Sn	17 53 53.3	+0.6
UREC	San Jos de Ur	2.56	291	P	Pn	17 53 20.2	-1.6
UREC				S	Sn	17 53 51.4	-2.5
GUY2C	Guyana, Caldas	2.73	235	P	Pn	17 53 24.7	+0.3
GUY2C				S	Sn	17 53 57.1	-1.3
PTGC	Puerto Gaitan,	2.79	159	P	Pn	17 53 23.2	-1.5
PTGC				S	Sn	17 53 56.1	-2.9
CBOC	Ciudad Bolivar	3.02	252	P	Pn	17 53 28.1	+0.4
CBOC				S	Sn	17 54 04.2	-0.3
DBBC	Dabeiba	3.06	274	P	Pn	17 53 28.0	-0.2
DBBC				S	Sn	17 54 05.2	-0.2
ARGC	Ariguani, Magd	3.21	340	P	Pn	17 53 31.4	+1.3
ARGC				S	Sn	17 54 09.1	+0.3
SDV	Santo Domingo	3.21	50	P	Pn	17 53 29.5	-0.8
SDV				S	Sn	17 54 06.6	-2.4
ANIL	Santa Ana	3.24	224	P	Pn	17 53 31.2	+0.6
ANIL				S	Sn	17 54 10.0	+0.3
PRAC	Prado	3.55	210	P	Pn	17 53 33.8	-0.6
PRAC				S	Sn	17 54 15.6	-0.9
ORTC	Ortega, Tolima	3.58	216	P	Pn	17 53 34.3	-0.5
ORTC				S	Sn	17 54 16.5	-0.7
APAC	Apartado, Choc	3.59	288	P	Pn	17 53 34.3	-0.6
APAC				S	Sn	17 54 16.9	-0.4
SJCC	San Jacinto, C	3.67	327	P	Pn	17 53 34.9	-1.1
SJCC				S	Sn	17 54 15.8	-3.6
URMC	La Uribe, Meta	3.76	199	P	Pn	17 53 37.0	-0.3
URMC				S	Sn	17 54 21.9	+0.3
LCBC	Los crdobas,	3.79	302	P	Pn	17 53 40.4	+2.8
LCBC				S	Sn	17 54 22.9	+0.7
CRJC	Cerrejon, Guaj	4.18	3	P	Pn	17 53 40.6	-2.1
CRJC				S	Sn	17 54 27.5	-3.9
YOTC	Yotoco, Valle	4.26	229	P	Pn	17 53 42.9	-1.0
YOTC				S	Sn	17 54 31.7	-1.7
GUVC	San Jose del G	4.28	173	P	Pn	17 53 42.5	-1.5
GUVC				S	Sn	17 54 31.3	-2.3
SMRC	Santa Marta, M	4.45	346	P	Pn	17 53 45.1	-1.1
SMRC				S	Sn	17 54 34.5	-3.2
BETC	Betania	4.71	209	P	Pn	17 53 48.3	-1.4
BETC				S	Sn	17 54 41.9	-2.1
URIC	Uribia, Colomb	4.98	13	P	Pn	17 53 50.9	-2.3
URIC				S	Sn	17 54 50.1	-0.1
GARC	Garzon, Huila	5.17	207	P	Pn	17 53 54.5	-1.5
GARC				S	Sn	17 54 51.7	-3.5
POPC	Popayan, Colom	5.53	220	P	Pn	17 54 00.5	-0.2
POPC				S	Sn	17 55 02.5	-1.2
FLOC	Florencia	5.78	206	P	Pn	17 54 03.0	-0.9
	11nm,0.5s						
FLOC				S	Sn	17 55 09.5	+0.1
	11nm,0.5s						
BBAC	Balboa, Cauca	6.29	221	P	Pn	17 54 11.4	+0.5
BBAC				S	Sn	17 55 17.6	-4.3

IDC 16 17:57:23.8±2.0, 32°21S×179°36W, h0km, mb4.2/3, mbtmp4.1/4, MLB3.5/1, MS3.5/1, Error ellipse: s-maj=50.1km s-min=32.8km az=59.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.69	205	Pn	Pn	17 59 01.4	-2.0
	1.0nm,0.3s,baz=350,slow=3.6,SNR=8.6						
	3.4nm,0.4s						
DZM	Mont Dzumac	16.16	305	LR	LR	18 06 23.7	
	comp=Z,152nm,18.2s,baz=134,slow=33						
ASAR	Alice Springs	41.89	270	P	P	18 05 16.3	+0.2
	3.1nm,0.8s,baz=106,slow=7.7,SNR=29						
	3.1nm,0.8s						
WRA	Warramunga Arr	43.05	275	P	P	18 05 25.5	0.0
	2.2nm,0.7s,baz=115,slow=7.8,SNR=9.1						
	2.2nm,0.7s						
QSPA	South Pole Qui	57.91	180	P	P	18 07 18.0	+0.5
	3.7nm,1.0s,baz=52,slow=1.9,SNR=6.9						
	3.7nm,1.0s						
FINES	FINESS Array B	146.41	338	PKPbc	PKPdf	18 17 04.4	-0.2
	1.0nm,0.9s,baz=52,slow=2.3,SNR=5.2						

IDC 16 17:58:25.7±2.2, 32°23S×179°41W, h0km, mb4.0/3, mbtmp4.0/4, ML3.1/1, Error ellipse: s-maj=53.1km s-min=36.1km az=60.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.66	204	Pn	Pn	18 00 03.8	-0.9
	0.4nm,0.3s,baz=103,slow=16,SNR=1.3						
	3.3nm,0.4s						
ASAR	Alice Springs	41.84	270	P	P	18 06 17.8	+0.1
	2.1nm,0.7s,baz=108,slow=7.6,SNR=19						
	2.1nm,0.7s						
WRA	Warramunga Arr	43.00	275	P	P	18 06 26.8	-0.3
	2.0nm,0.6s,baz=115,slow=7.9,SNR=9.2						
	2.0nm,0.6s						
QSPA	South Pole Qui	57.89	180	P	P	18 08 19.5	+0.3
	0.6nm,0.5s,baz=331,slow=3.9,SNR=1.3						
	0.6nm,0.5s						
FINES	FINESS Array B	146.41	338	PKPbc	PKPdf	18 18 06.7	+0.1
	0.8nm,0.7s,baz=57,slow=5.1,SNR=3.5						

*NEIC **16** 18:05:03.6±1.9, 6°13S±0°06×149°05E±0°07, h56km±5km, mb4.9/145, Error ellipse: s-maj=10.1km s-min=7.5km az=123.0*

*BJI **16** 18:05:03.1, 6°22S×149°15E, h69km, mB5.0/13, mb4.8/45, Ms4.4/7, Ms7 4.1/8*

*IDC **16** 18:05:05.5±2.1, 6°06S×148°80E, h75km±17km, mb4.4/16, mbtmp4.7/19, MS3.8/32, Error ellipse: s-maj=25.2km s-min=10.4km az=89.0*

*DJA **16** 18:05:09.2±1.8, 6°S±8°×14°9E±1°0, h86km±14km, M4.9/18, mb4.9/18, mB5.4/6, Mw(mB)4.9/6*

ISC 16 18:05:03.9±0.5, 6°18S±0°04×149°04E±0°04, h59km±4km, n521, σ1°09/483, mb4.9/113, MS3.9/32, 2C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	Keravat	3.50	58	I	I	18 24 20.0	
	70nm,0.4s,baz=245,slow=310,SNR=0.6						
RABL	Rabaul	3.68	58		Pn	18 05 57.9	-0.4
RABL				Sn	Sn	18 06 39.3	-1.3
PMG	Port Moresby	3.71	210		Pn	18 06 00.6	+1.8
PMG				Sn	Sn	18 06 41.9	+0.6
PMG	Port Moresby	3.71	210	P	Pn	18 06 00.7	+1.9
	292nm,0.4s,baz=26,slow=9.9,SNR=189						
PMG				S	Sn	18 06 43.7	+2.4
	922nm,0.7s,baz=130,slow=9.4,SNR=5.1						
PMG	Port Moresby	3.71	210	S	Sn	18 06 43.7	+2.4
PMG	Port Moresby	3.71	210	P	Pn	18 06 00.7	+1.9
PMG	Port Moresby	3.71	210	S	Sn	18 06 43.9	+2.6
MANU	Manus Island	4.43	338		Pn	18 06 08.3	-0.4
JAY	Jayapura	9.07	293	P	Pn	18 07 11.4	-0.9
	7.7nm,0.9s,baz=150,slow=6.1,SNR=16						
JAY				LR	LR	18 10 53.5	
	comp=Z,169nm,18.9s,baz=90,slow=40						
COEN	Coen	9.65	216		Pn	18 07 20.5	+0.4
COEN				Sn	Sn	18 09 03.1	-4.0
COEN	Coen	9.65	216	P	Pn	18 07 21.2	+1.0
	comp=Z,22nm,1.1s						
COEN	Coen	9.65	216	P	Pn	18 07 20.5	+0.4
TATA	Tatamba Isabel	10.90	102	P	Pn	18 07 41.9	+4.7
HNR	Honiara	11.28	107	Pn	Pn	18 07 40.4	-2.0
HNR	Honiara	11.28	107	LR	LR	18 11 30.3	
	comp=Z,237nm,20.8s,baz=208,slow=33						
MTSU	Mount Surprise	12.75	201	P	Pn	18 08 04.3	+1.9
	comp=Z,14nm,0.9s						
MTSU	Mount Surprise	12.75	201	P	Pn	18 08 03.8	+1.3
PATS	Pohnpei	15.89	36	P	P	18 08 46.5	-0.1
QIS	Mount Isa	16.98	212	P	Pn	18 08 57.9	+0.4
	comp=Z,28nm,0.8s						
QIS	Mount Isa	16.98	212	P	Pn	18 08 58.1	+0.6
FAKI	Fak Fak	17.05	280		Pn	18 08 58.1	-0.3
FAKI	Fak Fak	17.05	280	P	P	18 08 59.5	+0.1
FAKI	Fak Fak	17.05	280	P	P	18 08 58.7	-0.7
KDU	Kakadu	17.57	247	P	Pn	18 09 04.0	-0.8
	comp=Z,30nm,0.6s						
KDU	Kakadu	17.57	247	P	Pn	18 09 04.4	-0.5
SAUI	Saumlaki	17.70	263	P	Pn	18 09 06.0	-0.4
SAUI				IAmb	IAmb	18 09 10.0	
	comp=Z,125nm,0.8s						
SWI	Sorong	18.51	286	P	Pn	18 09 16.8	+0.5
	comp=Z,14nm,0.6s						
MTN	Manton Dam	18.86	248		P	18 09 18.5	-0.8
MTN	Manton Dam	18.86	248	P	Pn	18 09 19.8	-0.6
	comp=Z,31nm,0.6s						
DRS	Darwin Rock St	18.95	250	P	P	18 09 20.4	+0.1
BNDI	Bandanaira	19.12	274	P	Pn	18 09 23.0	-0.7
EIDS	Eidsvold	19.19	174		P	18 09 21.7	-1.2
EIDS	Eidsvold	19.19	174	P	Pn	18 09 24.5	+0.3
	comp=Z,22nm,2.0s						
EIDS	Eidsvold	19.19	174	P	P	18 09 24.2	+1.4
WB0	Warramunga Arr	19.63	225		P	18 09 27.5	-0.2
WR8	Warramunga Arr	19.68	225	P	P	18 09 28.4	+0.1
WRAB	Tennant Creek	19.77	225		P	18 09 29.7	+0.4
WRA	Warramunga Arr	19.78	225		P	18 09 28.6	-0.8
WRA	Warramunga Arr	19.78	225	P	P	18 09 29.8	+0.4
	comp=Z,171nm,0.6s,baz=51,slow=11,SNR=173						
WRA				S	S	18 13 04.8	-4.6
	comp=Z,8.5nm,0.8s,baz=48,slow=22,SNR=12						
WRA				PcP	PcP	18 13 45.5	-0.3
	comp=Z,4.9nm,0.6s,baz=38,slow=2.2,SNR=6.3						
WRA				ScP	ScP	18 17 16.3	-0.8
	comp=Z,1.4nm,0.8s,baz=43,slow=2.6,SNR=4.9						
WRA				LR	LR	18 18 09.9	
	comp=Z,345nm,19.3s,baz=44,slow=40						
GUMO	Guam	20.07	348	P	P	18 09 32.7	+0.2
GUMO	Guam	20.07	348	P	P	18 09 32.9	+0.4
	comp=Z,80nm,0.8s,baz=174,slow=11,SNR=6.3						
GUMO				LR	LR	18 17 17.2	
	comp=Z,123nm,18.2s,baz=154,slow=37						
GUMO	Guam	20.07	348	P	Pn	18 09 35.4	+0.6
VLAKA	Lakatoro	20.54	120	P	P	18 09 39.1	+1.5
QLP	Quilpie	20.80	192	P	P	18 09 41.8	+1.3
	comp=Z,65nm,0.9s						
QLP	Quilpie	20.80	192	P	P	18 09 42.1	+1.7
KNRA	Kununurra	22.02	243		P	18 09 52.6	-0.9
KNRA				IAmb	IAmb	18 09 56.7	
	comp=Z,46nm,0.7s						
KNRA	Kununurra	22.02	243	P	P	18 09 53.2	-0.3
	comp=Z,69nm,0.8s						
AS01	Alice Springs	22.65	218	P	P	18 10 00.7	+0.4
AS31	Alice Springs	22.68	218		P	18 10 00.9	+0.3
AS31				IAmb	IAmb	18 10 03.3	
	comp=Z,16nm,0.6s						
AS31				PcP	PcP	18 13 50.7	-0.7
AS31				S	S	18 14 05.8	+1.0
AS31	Alice Springs	22.68	218	P	P	18 10 01.2	+0.6
	comp=Z,24nm,0.7s						
ASAR	Alice Springs	22.68	218	P	P	18 09 59.2	-1.4
ASAR					PcP	18 13 50.0	-1.4
ASAR					S	18 14 04.6	-0.2
ASAR	Alice Springs	22.68	218	P	P	18 10 01.1	+0.4
	comp=Z,38nm,0.7s,baz=51,slow=9.5,SNR=496						
ASAR				PcP	PcP	18 13 52.1	+0.8
	comp=Z,5.8nm,0.8s,baz=53,slow=2.7,SNR=9.4						
ASAR				S	S	18 14 04.3	-0.5
	comp=Z,12nm,1.0s,baz=30,slow=23,SNR=15						
ASAR				ScP	ScP	18 17 22.5	-1.7
	comp=Z,1.3nm,0.9s,baz=33,slow=3.0,SNR=4.3						
ASAR				LR	LR	18 19 29.5	
	comp=Z,360nm,18.7s,baz=58,slow=38						
	comp=Z,38nm,0.7s						
INKA	Innaminka	22.85	199	P	P	18 10 03.2	+0.9
DZM	Mont Dzumac	23.07	135	P	P	18 10 03.8	-0.9
DZM				IAmb	IAmb	18 10 18.1	
	comp=Z,48nm,1.0s						
DZM	Mont Dzumac	23.07	135	P	P	18 10 04.9	+0.2
SANI	Sanana	23.35	279	P	P	18 10 09.3	+1.9
	comp=Z,15nm,0.7s						
ARMA	Armidale	24.24	175		P	18 10 14.8	-0.6
ARMA				IAmb	IAmb	18 10 17.6	
	comp=Z,30nm,1.0s						
ARMA	Armidale	24.24	175	P	P	18 10 16.4	+1.0
	comp=Z,39nm,1.1s						
ARMA	Armidale	24.24	175	P	P	18 10 16.6	+1.2
SOEI	Soe	24.79	260		P	18 10 19.8	-0.8
SOEI	Soe	24.79	260	P	P	18 10 21.2	+0.6
SOEI	Soe	24.79	260	P	P	18 10 21.5	+0.9
	comp=Z,923nmcomp=Z,77nm,0.7s						
OOD	Oodnadatta	24.96	209	P	P	18 10 22.6	+0.7
CMSA	Cobar Meteorol	25.43	187	P	P	18 10 26.8	+0.7
	comp=Z,35nm,1.3s						
CMSA	Cobar Meteorol	25.43	187	P	P	18 10 26.8	+0.7
FITZ	Fitzroy Crossi	25.73	241	P	P	18 10 28.9	-0.1
FITZ	Fitzroy Crossi	25.73	241	P	P	18 10 29.6	+0.7
	comp=Z,24nm,1.2s						
FITZ	Fitzroy Crossi	25.73	241	LR	LR	18 21 53.9	
	comp=Z,284nm,18.6s,baz=74,slow=39						
FITZ	Fitzroy Crossi	25.73	241	P	P	18 10 29.5	+0.6
LCRK	Leigh Creek	26.20	202	P	P	18 10 33.9	+0.8
STKA	Stephens Creek	26.50	194	P	P	18 10 35.3	-0.6
STKA	Stephens Creek	26.50	194	P	P	18 10 36.1	+0.2
	comp=Z,135nm,1.2s						
STKA	Stephens Creek	26.50	194	P	P	18 10 35.7	-0.1
	comp=Z,15nm,0.8s,baz=8.5,slow=9.6,SNR=16						
STKA				LR	LR	18 22 02.3	
	comp=Z,292nm,18.0s,baz=21,slow=38						
	comp=Z,15nm,0.8s						
STKA	Stephens Creek	26.50	194	P	P	18 10 36.9	+1.1
MMRI	Maumere	26.69	263	P	P	18 10 36.0	-1.8
MMRI	Maumere	26.69	263	P	P	18 10 38.4	+0.7
MMRI	Maumere	26.69	263	P	P	18 10 36.4	-1.3
	comp=Z,978nmcomp=Z,99nm,0.8s						
LUWI	Luwuk	26.70	280	P	P	18 10 39.7	+1.8
EDFI	Ende, Flores	27.24	263	P	P	18 10 41.0	-1.8
	comp=Z,582nmcomp=Z,75nm,0.8s						
WRKA	Warakurna	27.32	224	P	P	18 10 43.7	+0.4
	comp=Z,58nm,0.8s						
WRKA	Warakurna	27.32	224	P	P	18 10 43.9	+0.5
WSI	Waingapu	28.68	261	P	P	18 10 55.7	+0.2
HTT	Hallett	28.70	198	P	P	18 10 56.1	+0.5
CNB	Canberra Magne	29.00	179	P	P	18 10 58.7	+0.5
	comp=Z,17nm,1.1s						
CAN	Canberra	29.00	180	P	P	18 10 57.2	-1.0
TOLI2	Tolitoli	29.13	283	P	P	18 11 00.3	+0.8
BBOO	Buckleboo	29.13	203	P	P	18 10 59.4	+0.1
BBOO				IAmb	IAmb	18 11 19.7	
	comp=Z,28nm,1.3s						
BBOO	Buckleboo	29.13	203	P	P	18 10 58.9	-0.4
	comp=Z,14nm,1.1s						
BBOO	Buckleboo	29.13	203	P	P	18 11 00.0	+0.7
MSVF	Nonsavu	30.56	115	P	P	18 11 12.0	-0.3
PLAI	Plampang	31.10	263	P	P	18 11 17.6	+0.6
ARPS	Mount Arapiles	31.16	191	P	P	18 11 18.1	+1.0
	comp=Z,33nm,1.1s						
ARPS	Mount Arapiles	31.16	191	P	P	18 11 18.0	+0.9
FORT	Forrest	31.42	216	P	P	18 11 20.0	+0.5
FORT	Forrest	31.42	216	P	P	18 11 20.2	+0.6
	comp=Z,90nm,0.8s						
FORT	Forrest	31.42	216	P	P	18 11 20.5	+1.0
TOO	Toolangi	31.42	185	P	P	18 11 19.6	+0.1
TOO	Toolangi	31.42	185	P	P	18 11 20.4	+0.9
	comp=Z,13nm,1.0s						
MBWA	Marble Bar	32.05	239	P	P	18 11 24.9	-0.4
MBWA	Marble Bar	32.05	239	P	P	18 11 25.6	+0.3
	comp=Z,45nm,0.7s						
MBWA	Marble Bar	32.05	239	P	P	18 11 25.7	+0.5
MBWA	Marble Bar	32.05	239	P	P	18 11 25.6	+0.3
PSA00	Pilbara Seismi	32.12	239	P	P	18 11 25.2	-0.6
PSA00				IAmb	IAmb	18 11 27.2	
	comp=Z,29nm,0.8s						
PSA00	Pilbara Seismi	32.12	239	P	P	18 11 25.4	-0.5
PSA00				IAmb	IAmb	18 11 27.2	
	comp=Z,12nm,0.8s						
PSA00	Pilbara Seismi	32.12	239	P	P	18 11 26.2	+0.4
	comp=Z,42nm,1.1s						
PSA00	Pilbara Seismi	32.12	239	P	P	18 11 26.0	+0.2
JCJ	Chichijima	33.73	349	LR	LR	18 24 54.1	
	comp=Z,63nm,19.0s,baz=114,slow=35						
TGY	Tagaytay City	34.41	306	LR	LR	18 25 35.7	
	comp=Z,38nm,21.1s,baz=75,slow=36						
JAGI	Jajag, Banyuwa	34.67	264	P	P	18 11 45.2	-3.0
JAGI				IAmb	IAmb	18 11 50.5	
	comp=Z,21nm,0.8s						
MEEK	Meekatharra	35.41	231	P	P	18 11 55.0	+0.6
	comp=Z,67nm,0.9s						
MEEK	Meekatharra	35.41	231	P	P	18 11 55.4	+1.0
KMBL	Kambalda	35.70	222	P	P	18 11 56.8	0.0
	comp=Z,44nm,0.8s						
KMBL	Kambalda	35.70	222	P	P	18 11 57.4	+0.6
MOO	Moorlands	36.15	182	P	P	18 12 02.4	+1.9
TAU	Tasmania Unive	36.62	182	P	P	18 12 04.2	-0.2
TAU	Tasmania Unive	36.62	182	P	P	18 12 05.2	+0.8
GIRL	Giralia	37.34	240	P	P	18 12 11.0	+0.2
GIRL	Giralia	37.34	240	P	P	18 12 11.3	+0.5
UGM	Wanagama	38.26	265	P	P	18 12 17.9	-0.8
JOW	Kunigami	38.49	329	P	P	18 12 18.9	-1.5
JOW	Kunigami	38.49	329	LR	LR	18 25 02.9	
	comp=Z,173nm,21.2s,baz=118,slow=31						
MORW	Morawa	38.59	230	P	P	18 12 21.9	+0.5
MORW	Morawa	38.59	230	P	P	18 12 21.8	+0.5
KLBR	Kellerberrin	38.67	225	P	P	18 12 21.7	-0.2
	comp=Z,124nm,0.7s						
KLBR	Kellerberrin	38.67	225	P	P	18 12 21.9	-0.1
BLDU	Ballidu	38.88	227	P	P	18 12 24.0	+0.2
HIZ	Hauiti	39.78	148	P	P	18 12 30.5	-0.6
NWAO	Narrogin (SRO)	39.79	224	P	P	18 12 31.3	0.0
NWAO	Narrogin (SRO)	39.79	224	LR	LR	18 30 31.5	
	comp=Z,244nm,21.5s,baz=334,slow=38						
NWAO	Narrogin (SRO)	39.79	224	P	P	18 12 31.8	+0.5
NWAO	Narrogin (SRO)	39.79	224	P	P	18 12 31.5	+0.3
MUN	Mundaring	39.98	226	P	P	18 12 33.4	+0.5
YULB	Yu-li	39.98	318	P	P	18 12 33.0	0.0
YULB	Yu-li	39.98	318	P	P	18 12 35.5	+2.6
JHJ	Hachijo jima 2	40.06	348	LR	LR	18 26 57.8	
	comp=Z,157nm,20.4s,baz=88,slow=33						
NACB	Ninganchiao	40.33	319	P	P	18 12 35.9	+0.1
NACB	Ninganchiao	40.33	319	P	P	18 12 37.6	+1.8
TPUB	Ta-pu	40.36	318	P	P	18 12 35.9	-0.3
TPUB				IAmb	IAmb	18 13 01.1	
	comp=Z,20nm,1.0s						
TPUB	Ta-pu	40.36	318	P	P	18 12 37.7	+1.6
QRZ	Quartz Range	40.39	152	P	P	18 12 37.5	+1.3
SSLB	Suanglung	40.48	318	P	P	18 12 36.3	-0.8
SSLB				IAmb	IAmb	18 13 26.8	
	comp=Z,70nm,1.9s						
SSLB	Suanglung	40.48	318	P	P	18 12 39.0	+1.9
YHNB	Yeheng	40.82	320	P	P	18 12 39.9	0.0
YHNB				IAmb	IAmb	18 13 04.7	
	comp=Z,48nm,1.3s						
YHNB	Yeheng	40.82	320	P	P	18 12 41.4	+1.5
URZ	Urewera	40.84	145	LR	LR	18 27 06.2	
	comp=Z,141nm,18.7s,baz=38,slow=32						
MRNZ	Matariki Terra	40.95	153	P	P	18 12 40.0	-0.8
TATO	Taipei	40.96	320	P	P	18 12 39.8	-1.2
RTZ	Ruatahuna	41.01	146	P	P	18 12 40.3	-1.1
BBJI	Bungbulang	41.11	266	P	P	18 12 41.3	-1.2
BKZ	Black Stump Fm	41.14	147	P	P	18 12 41.5	-0.9
BKZ				IAmb	IAmb	18 12 41.5	
	comp=Z,60nm,1.5s						
BKZ	Black Stump Fm	41.14	147	P	P	18 12 44.4	+2.0
THZ	Tophouse	41.31	153	P	P	18 12 41.8	-2.0
INZ	Inchbonnie	41.44	155	P	P	18 12 43.5	-1.3
INZ				IAmb	IAmb	18 14 06.7	
	comp=Z,53nm,1.6s						
FOZ	Fox Glacier	41.46	157	P	P	18 12 43.5	-1.4

USRK	**Ussuriysk Ar.**	**52.45**	**345**	P	**P**	**18 14 11.1**	**+0.5**
	comp=Z,8.0nm,0.6s,baz=174,slow=7.6,SNR=16						
USRK				LR	LR	18 34 02.6	
	comp=Z,98nm,21.5s,baz=120,slow=33						
	comp=Z,8.0nm,0.6s						
MDJ	**Mudanjiang**	**53.50**	**343**	P	**P**	**18 14 20.9**	**+2.6**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HNS	**HongShan**	**53.90**	**326**	⇑P	**P**	**18 14 22.6**	**+1.3**
HNS				pmax	pmax		
	comp=Z,18nm,0.7s						
HNS				LR	LR		
	comp=Z,150nm,16.5s						
HNS				LR	LR		
	comp=Z,140nm,16.9s						
HNS				LR	LR		
	comp=Z,180nm,21.0s						
CN2	**Changchun**	**54.12**	**339**	P	**P**	**18 14 22.6**	**-0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**55.13**	**297**	P	**P**	**18 14 30.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**55.13**	**297**	P	**P**	**18 14 27.7**	**-2.9**
	comp=Z,0.9nm,0.7s,baz=116,slow=6.1,SNR=4.6						
PZH	**PanZhiHua**	**56.17**	**308**	P	**P**	**18 14 40.3**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,4.7s						
XLT	**XiLinHaoTe**	**58.05**	**332**	*e*P	**P**	**18 14 53.6**	**+2.6**
XLT				pmax	pmax		
	comp=Z,13nm,0.9s						
XLT				pmax	pmax		
	comp=Z,73nm,4.8s						
HHC	**Hu-ho-hao-te**	**58.07**	**327**	*e*P	**P**	**18 14 53.9**	**+2.7**
HHC				sP	sP	18 15 17.8	+4.0
HHC				pmax	pmax		
	comp=Z,16nm,0.5s						
HHC				pmax	pmax		
	comp=Z,69nm,4.0s						
HHC				LR	LR		
	comp=Z,170nm,16.0s						
HHC				LR	LR		
	comp=Z,170nm,17.6s						
BTO	**Baotou**	**58.75**	**326**	*e*P	P	18 15 01.4	+5.5
BTO				PP	**PP**	**18 17 11.4**	**+4.9**
BTO				pmax	pmax		
	comp=Z,14nm,0.9s						
BTO				pmax	pmax		
	comp=Z,170nm,4.9s						
BTO				LR	LR		
	comp=Z,250nm,13.0s						
HEH	**HeiHe**	**59.24**	**344**	*e*P	**P**	**18 14 58.6**	**-0.4**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PETK	**Petropavlovsk-**	**59.51**	**6**	P	**P**	**18 15 00.4**	**-0.4**
PETK	**Petropavlovsk-**	**59.51**	**6**	P	**P**	**18 15 00.3**	**-0.5**
	comp=Z,11nm,0.5s,baz=162,slow=6.2,SNR=42						
	comp=Z,11nm,0.5s						
POHA	**Pohakuloa**	**60.30**	**63**	P	**P**	**18 15 04.0**	**-3.2**
DRV	**Dumont d'Urvil**	**60.71**	**184**	P	**P**	**18 15 09.7**	**+0.9**
DRV				pP	**pP**	**18 15 23.2**	**-0.3**
DRV				sP	**pwP**	**18 15 29.3**	**+0.5**
HIA	**Hailar**	**60.84**	**338**	P	**P**	**18 15 11.3**	**+1.3**
GTA	**Gaotai**	**64.19**	**319**	*e*P	**P**	**18 15 35.5**	**+2.8**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ULN	**Ulaanbaatar**	**65.25**	**330**	P	**P**	**18 15 38.9**	**-0.6**
MA2	**Magadan**	**65.56**	**1**	P	**P**	**18 15 42.7**	**+1.7**
SONM	**Songino Array**	**65.56**	**330**	P	**P**	**18 15 40.7**	**-0.8**
SONM	**Songino Array**	**65.56**	**330**	P	**P**	**18 15 40.3**	**-1.2**
	comp=Z,2.8nm,0.5s,baz=145,slow=4.8,SNR=9.7						
	comp=Z,2.8nm,0.5s						
CASY	**Casey**	**65.64**	**196**	P	**P**	**18 15 41.7**	**+0.2**
CASY				pP	**pP**	**18 15 55.7**	**-1.0**
PALK	**Pallekele**	**69.47**	**280**	LR	LR	18 48 35.6	
	comp=Z,53nm,19.9s,baz=86,slow=38						
YAK	**Yakutsk**	**69.64**	**350**	P	**P**	**18 16 07.6**	**+0.9**
YAK				pP	**pP**	**18 16 20.9**	**-2.0**
CCD	**Concordia, Ant**	**70.44**	**187**	P	**P**	**18 16 12.6**	**+0.7**
UNV	**Unalaska Valle**	**70.46**	**26**	P	**P**	**18 16 12.2**	**+0.3**
	baz=228						
SPIA	**Saint Paul Isl**	**71.29**	**22**	P	**P**	**18 16 17.8**	**+1.0**
	baz=223						
VNDA	**Vanda**	**71.63**	**177**	P	**P**	**18 16 19.1**	**+0.4**
VNDA				IAmb	IAmb	18 16 20.7	
	comp=Z,26nm,1.6s						
VNDA	**Vanda**	**71.63**	**177**	P	**P**	**18 16 19.8**	**+1.2**
	comp=Z,4.0nm,0.6s,baz=332,slow=7.0,SNR=38						
	comp=Z,4.0nm,0.6s						
VNDA	**Vanda**	**71.63**	**177**	P	**P**	**18 16 19.6**	**+0.9**
VNDA				pP	**pP**	**18 16 33.4**	**-0.6**
VNDA				PcP	**PcP**	**18 16 37.8**	**+0.3**
FALS	**False Pass**	**72.49**	**27**	P	**P**	**18 16 24.6**	**+0.6**
	baz=230						
SDPT	**Sand Point**	**74.12**	**27**	P	**P**	**18 16 34.1**	**+0.4**
	baz=233						
WMQ	**Urumqi**	**74.25**	**319**	*e*P	**P**	**18 16 36.0**	**+1.1**
BILL	**Bilibino**	**75.04**	**7**	P	**P**	**18 16 38.6**	**-0.1**
BILL				IAmb	IAmb	18 16 42.5	
	comp=Z,9.0nm,0.9s						
S14K	**Fog Glacier**	**75.10**	**27**	P	**P**	**18 16 39.4**	**-0.1**
	baz=234						
GAMB	**Gambell**	**75.74**	**17**	P	**P**	**18 16 43.5**	**+0.7**
	baz=220						
M13K	**Dall Lake**	**76.12**	**22**	P	**P**	**18 16 45.4**	**+0.3**
	baz=229						
O14K	**Tigyukauivet M**	**76.19**	**24**	P	**P**	**18 16 45.6**	**+0.1**
	baz=231						
N14K	**Kuskokwak Cree**	**76.44**	**23**	P	**P**	**18 16 47.6**	**+0.7**
	baz=231						
CHIR	**Chirikof Islan**	**76.65**	**28**	P	**P**	**18 16 49.0**	**+0.9**
	baz=237						
M14K	**Bethel**	**76.86**	**22**	P	**P**	**18 16 50.0**	**+0.7**
	baz=230						
L14K	**Kuka Creek**	**76.97**	**22**	IAmb	IAmb	18 16 53.4	
	comp=Z,17nm,0.8s						
L14K	**Kuka Creek**	**76.97**	**22**	P	**P**	**18 16 51.3**	**+1.4**
	baz=230						
N15K	**Kwethluk River**	**77.22**	**23**	P	**P**	**18 16 52.0**	**+0.7**
	baz=232						
M15K	**Kasigluk River**	**77.31**	**23**	P	**P**	**18 16 52.1**	**+0.3**
	baz=232						
P16K	**Nushagak River**	**77.40**	**25**	P	**P**	**18 16 53.2**	**+0.9**
	baz=234						
J14K	**Nanvaranak Lak**	**77.59**	**20**	P	**P**	**18 16 54.6**	**+1.3**
	baz=228						
L15K	**Ungalak Mounta**	**77.63**	**22**	P	**P**	**18 16 54.3**	**+0.7**
	baz=231						
O16K	**Kokwok River B**	**77.68**	**25**	P	**P**	**18 16 54.6**	**+0.7**
	baz=234						
SII	**Sitkinak Islan**	**77.72**	**28**	P	**P**	**18 16 55.0**	**+0.7**
	baz=238						
Q17K	**Contact Creek**	**77.87**	**26**	P	**P**	**18 16 56.0**	**+0.9**
	baz=236						
K15K	**Wolf Creek Mou**	**78.01**	**21**	P	**P**	**18 16 56.8**	**+1.1**
	baz=230						
R18K	**Karluk**	**78.13**	**27**	P	**P**	**18 16 57.5**	**+1.1**
	baz=238						
P17K	**Kvichak River**	**78.15**	**25**	P	**P**	**18 16 56.5**	**0.0**
	baz=236						
TNA	**Tin City**	**78.16**	**17**	P	**P**	**18 16 57.1**	**+0.7**
	baz=224						
M16K	**Timber Creek**	**78.18**	**23**	P	**P**	**18 16 57.2**	**+0.5**
	baz=233						
O17K	**Koliganek Bris**	**78.20**	**25**	P	**P**	**18 16 57.1**	**+0.4**
	baz=235						
L16K	**Owhat River**	**78.40**	**22**	P	**P**	**18 16 59.2**	**+1.3**
	baz=232						
Q18K	**Katmai Hardscr**	**78.46**	**26**	P	**P**	**18 16 58.7**	**+0.3**
	baz=237						
OHAK	**Old Harbor**	**78.49**	**28**	P	**P**	**18 16 58.9**	**+0.5**
	baz=239						
F14K	**Arctic Creek**	**78.56**	**17**	P	**P**	**18 16 58.8**	**+0.1**
	baz=225						
N17K	**Nushagak Hills**	**78.60**	**24**	P	**P**	**18 16 59.8**	**+0.9**
	baz=235						
P18K	**Big Mountain,**	**78.77**	**26**	P	**P**	**18 17 00.2**	**+0.1**
	baz=237						
MKAR	**Makanchi Array**	**78.93**	**320**		**P**	**18 17 00.2**	**-0.9**
MKAR	**Makanchi Array**	**78.93**	**320**	P	**P**	**18 16 58.5**	**-2.7**
	comp=Z,1.4nm,0.4s,baz=98,slow=7.5,SNR=32						
MKAR				PKKPbc	**PKKPbc**	**18 35 54.2**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=270,slow=2.4,SNR=3.8						
MKAR				LR	LR	18 51 32.7	
	comp=Z,61nm,20.9s,baz=40,slow=35						
	comp=Z,1.4nm,0.4s						
G15K	**Niukluk**	**78.93**	**18**	P	**P**	**18 17 01.1**	**+0.4**
	baz=228						
J16K	**Anvik River**	**78.97**	**21**	P	**P**	**18 17 01.1**	**+0.2**
	baz=231						
KDAK	**Kodiak Island**	**79.10**	**28**	LR	LR	18 44 18.1	
	comp=Z,67nm,21.3s,baz=144,slow=30						
KDAK	**Kodiak Island**	**79.10**	**28**	P	**P**	**18 17 01.9**	**+0.2**
	baz=240						
L17K	**Donlin**	**79.10**	**22**	P	**P**	**18 17 02.6**	**+0.9**
	baz=234						
MAKZ	**Makanchi**	**79.14**	**320**		**P**	**18 17 01.4**	**-0.9**
N18K	**Kilae Creek**	**79.21**	**24**	P	**P**	**18 17 02.7**	**+0.3**
	baz=236						
Q19K	**Cape Douglas,**	**79.22**	**26**	P	**P**	**18 17 02.7**	**+0.2**
	baz=238						
F15K	**North Star Dit**	**79.23**	**18**	P	**P**	**18 17 03.0**	**+0.6**
	baz=227						
H16K	**Elim**	**79.28**	**19**	P	**P**	**18 17 02.8**	**+0.3**
	baz=230						
K17K	**Iditarod**	**79.45**	**22**	IAmb	IAmb	18 17 13.9	
	comp=Z,9.5nm,1.0s						
K17K	**Iditarod**	**79.45**	**22**	P	**P**	**18 17 03.5**	**-0.1**
	baz=234						
J17K	**VABM Dome**	**79.58**	**21**	IAmb	IAmb	18 17 07.5	
	comp=Z,9.4nm,1.0s						
J17K	**VABM Dome**	**79.58**	**21**	P	**P**	**18 17 04.3**	**+0.1**
	baz=233						
Q20K	**Shuyak Island**	**79.61**	**27**	P	**P**	**18 17 04.9**	**+0.4**
	baz=240						
M18K	**Stony River**	**79.69**	**24**	P	**P**	**18 17 05.9**	**+1.0**
	baz=236						
G16K	**Koyuk River**	**79.73**	**19**	P	**P**	**18 17 06.1**	**+1.1**
	baz=229						
L18K	**Granite Mounta**	**79.77**	**23**	P	**P**	**18 17 05.8**	**+0.5**
	baz=235						
P19K	**Oil Pt**	**79.77**	**26**	P	**P**	**18 17 04.0**	**-1.4**
P19K	**Oil Pt**	**79.77**	**26**	P	**P**	**18 17 05.7**	**+0.2**
	baz=239						
N19K	**Bonanza Creek**	**79.86**	**25**	P	**P**	**18 17 06.5**	**+0.5**
	baz=237						
H17K	**Granite Mounta**	**80.24**	**20**	P	**P**	**18 17 08.7**	**+0.9**
	baz=232						
ZAA0	**Zalesovo Array**	**80.25**	**327**	P	**P**	**18 17 05.2**	**-2.9**
ZALV	**Zalesovo Beam**	**80.25**	**327**		**P**	**18 17 05.4**	**-2.7**
ZALV	**Zalesovo Beam**	**80.25**	**327**	P	**P**	**18 17 05.0**	**-3.1**
	comp=Z,6.0nm,0.6s,baz=113,slow=6.0,SNR=26						
ZALV				LR	LR	18 51 30.3	
	comp=Z,74nm,21.9s,baz=104,slow=35						
	comp=Z,6.0nm,0.6s						
G17K	**Kiwalik Mounta**	**80.35**	**19**	P	**P**	**18 17 08.8**	**+0.4**
	baz=231						
TTA	**Tatalina**	**80.43**	**22**	P	**P**	**18 17 08.9**	**-0.1**
	baz=236						
L19K	**White Mountain**	**80.46**	**23**	P	**P**	**18 17 09.6**	**+0.5**
	baz=237						
J18K	**Innoko River**	**80.47**	**22**	P	**P**	**18 17 09.5**	**+0.4**
	baz=235						
M19K	**Big River Lodg**	**80.49**	**24**	P	**P**	**18 17 09.1**	**-0.2**
	baz=237						
F17K	**Baldwin Pennin**	**80.76**	**18**	P	**P**	**18 17 10.8**	**+0.3**
	baz=230						
C16K	**Lisburne Hills**	**80.81**	**16**	P	**P**	**18 17 11.3**	**+0.6**
	baz=226						
BRSE	**Bradley Lake S**	**80.91**	**26**	P	**P**	**18 17 11.7**	**+0.2**
	baz=241						
M20K	**Styx River**	**80.98**	**24**	P	**P**	**18 17 11.8**	**-0.2**
M20K				IAmb	IAmb	18 17 14.8	
	comp=Z,19nm,1.8s						
M20K	**Styx River**	**80.98**	**24**	P	**P**	**18 17 12.9**	**+0.9**
	baz=238						
E17K	**Hotham Inlet**	**81.00**	**17**	P	**P**	**18 17 12.1**	**+0.2**
	baz=230,SNR=6.3						
L20K	**Farewell, AK**	**81.00**	**23**	P	**P**	**18 17 12.7**	**+0.7**
	baz=238						
D17K	**Noatak River**	**81.04**	**17**	P	**P**	**18 17 12.6**	**+0.6**
	baz=228						
GCSA	**Galena City Sc**	**81.16**	**21**	P	**P**	**18 17 13.6**	**+0.9**
	baz=235						
J19K	**Poorman**	**81.18**	**22**	P	**P**	**18 17 13.2**	**+0.4**
	baz=236						
G18K	**Tagagawik**	**81.24**	**19**	P	**P**	**18 17 13.8**	**+0.7**
	baz=233						
RDOG	**Red Dog Mine**	**81.33**	**16**	P	**P**	**18 17 14.0**	**+0.5**
	baz=228						
F18K	**Selawik**	**81.36**	**18**	P	**P**	**18 17 14.7**	**+1.0**
	baz=232						
K20K	**Telida**	**81.40**	**22**		**P**	**18 17 14.4**	**+0.3**
K20K	**Telida**	**81.40**	**22**	P	**P**	**18 17 14.1**	**+0.1**
	baz=237						
SEW	**Seward**	**81.66**	**26**	P	**P**	**18 17 15.3**	**-0.1**
	baz=242						
SKT	**Skwentna**	**81.68**	**24**	P	**P**	**18 17 15.9**	**+0.3**
	baz=240						
O22K	**Cooper Landing**	**81.71**	**26**	P	**P**	**18 17 15.1**	**-0.6**
	baz=242						
SUA	**Susitna One**	**81.75**	**25**	P	**P**	**18 17 16.0**	**-0.1**
	baz=241						
H19K	**Roundabout Mou**	**81.76**	**20**	P	**P**	**18 17 16.3**	**+0.4**
	baz=235						
J20K	**Nowinta River**	**81.82**	**22**	P	**P**	**18 17 16.4**	**+0.1**
	baz=237						
PPLA	**Purkeypile**	**81.89**	**23**	P	**P**	**18 17 16.2**	**-0.6**
	baz=239						
G19K	**Purcell Mounta**	**81.91**	**19**	P	**P**	**18 17 16.7**	**0.0**
	baz=234						
RC01	**Rabbit Creek A**	**82.00**	**25**	P	**P**	**18 17 17.9**	**+0.7**
	baz=242						
I20K	**Naaghedeneel**	**82.04**	**21**	P	**P**	**18 17 17.7**	**+0.4**
	baz=237						
F19K	**Shaleruckik Mo**	**82.09**	**19**	P	**P**	**18 17 17.9**	**+0.3**
	baz=233						
CAST	**Castle Rocks**	**82.20**	**23**	IAmb	IAmb	18 17 20.0	
	comp=Z,11nm,1.1s						
CAST	**Castle Rocks**	**82.20**	**23**	P	**P**	**18 17 18.0**	**-0.2**
	baz=239,SNR=9.0						
C18K	**Utukok River**	**82.20**	**16**	P	**P**	**18 17 18.1**	**-0.1**
	baz=230						
H20K	**Anotleneega Mo**	**82.28**	**20**	P	**P**	**18 17 18.4**	**-0.3**
	baz=236						
CHUM	**Lake Minchumin**	**82.35**	**22**	P	**P**	**18 17 19.3**	**+0.3**
	baz=239,SNR=11						
PMR	**Palmer**	**82.49**	**25**	P	**P**	**18 17 19.3**	**-0.4**
	baz=242						
B18K	**Kokolik River**	**82.50**	**16**	P	**P**	**18 17 20.4**	**+0.7**
	baz=229						
PWL	**Port Wells**	**82.50**	**26**	P	**P**	**18 17 17.9**	**-1.9**
PWL				IAmb	IAmb	18 17 21.4	
	comp=Z,9.7nm,0.6s						
PWL	**Port Wells**	**82.50**	**26**	P	**P**	**18 17 19.6**	**-0.3**
	baz=243						
P23K	**Montague Islan**	**82.52**	**27**	P	**P**	**18 17 19.7**	**-0.3**
	baz=244						
KURK	**Kurchatov**	**82.57**	**323**	P	**P**	**18 17 20.4**	**0.0**
KURBB	**Kurchatov Arra**	**82.59**	**323**	P	**P**	**18 17 18.4**	**-2.2**
	comp=Z,0.9nm,0.5s,baz=99,slow=5.6,SNR=25						
KURBB				LR	LR	18 53 04.5	
	comp=Z,51nm,21.7s,baz=173,slow=35						
	comp=Z,0.9nm,0.5s						
E19K	**Redstone River**	**82.63**	**18**	IAmb	IAmb	18 17 22.9	
	comp=Z,5.5nm,0.7s						
E19K	**Redstone River**	**82.63**	**18**	P	**P**	**18 17 20.8**	**+0.4**
	baz=234						
KNK	**Knik Glacier**	**82.70**	**25**	P	**P**	**18 17 21.1**	**+0.2**
	baz=243						
MAW	**Mawson**	**82.87**	**203**	P	**P**	**18 17 21.1**	**-0.6**
MAW	**Mawson**	**82.87**	**203**	P	**P**	**18 17 20.0**	**-1.7**
	comp=Z,4.7nm,0.7s,baz=102,slow=8.1,SNR=14						
MAW				LR	LR	18 51 48.6	
	comp=Z,62nm,21.1s,baz=72,slow=34						
	comp=Z,4.7nm,0.7s						
F20K	**Avaraart Lake**	**82.87**	**19**	P	**P**	**18 17 21.8**	**+0.2**
	baz=235						
TRF	**Thorofare Moun**	**82.91**	**23**	IAmb	IAmb	18 17 23.5	
	comp=Z,23nm,1.6s						
TRF	**Thorofare Moun**	**82.91**	**23**	P	**P**	**18 17 21.5**	**-0.6**
	baz=241						
SML	**Sawmill**	**82.93**	**25**	P	**P**	**18 17 21.7**	**-0.4**
SML				IAmb	IAmb	18 17 23.6	
	comp=Z,10nm,0.7s						
SML	**Sawmill**	**82.93**	**25**	P	**P**	**18 17 21.4**	**-0.8**
	baz=243						
BPAW	**Bear Paw Mtn.**	**82.96**	**23**	P	**P**	**18 17 21.5**	**-0.7**
	baz=240						
D19K	**Kuna River**	**82.99**	**17**	P	**P**	**18 17 21.8**	**-0.5**
D19K	**Kuna River**	**82.99**	**17**	P	**P**	**18 17 22.3**	**0.0**
	baz=233						
GLI	**Glacier Island**	**83.05**	**26**	P	**P**	**18 17 23.1**	**+0.4**
	baz=244						
H21K	**Melozitna Rive**	**83.10**	**21**	P	**P**	**18 17 22.6**	**-0.3**
	baz=238						
I21K	**Tanana**	**83.14**	**21**	IAmb	IAmb	18 17 31.6	
	comp=Z,14nm,1.5s						
I21K	**Tanana**	**83.14**	**21**	P	**P**	**18 17 23.2**	**+0.1**
	baz=239						
M23K	**Glacier View**	**83.18**	**25**	P	**P**	**18 17 23.2**	**-0.2**
	baz=243						
A19K	**Wainwright**	**83.24**	**15**	P	**P**	**18 17 24.2**	**+0.7**
	baz=230						
G21K	**Allakaket**	**83.31**	**20**	P	**P**	**18 17 24.5**	**+0.5**
	baz=238						
SCM	**Sheep Creek Mo**	**83.37**	**25**	P	**P**	**18 17 24.3**	**-0.1**
	baz=244						
E20K	**Nigu River**	**83.42**	**18**	P	**P**	**18 17 24.7**	**+0.2**
	baz=235						
RND	**Reindeer**	**83.46**	**24**		**P**	**18 17 22.8**	**-2.1**
RND				IAmb	IAmb	18 17 25.7	
	comp=Z,13nm,0.6s						
EYAK	**Cordova Ski Ar**	**83.50**	**27**	P	**P**	**18 17 24.7**	**-0.3**
	baz=245						
D20K	**Etivluk River**	**83.56**	**17**	IAmb	IAmb	18 17 41.1	
	comp=Z,21nm,1.9s						
D20K	**Etivluk River**	**83.56**	**17**	P	**P**	**18 17 25.0**	**-0.2**
	baz=234						
MCK	**McKinley**	**83.58**	**23**	P	**P**	**18 17 23.9**	**-1.6**
MCK				IAmb	IAmb	18 17 26.7	
	comp=Z,23nm,1.1s						
MCK	**McKinley**	**83.58**	**23**	P	**P**	**18 17 24.9**	**-0.5**
	baz=242,SNR=11						
F21K	**Alatna River**	**83.70**	**19**	P	**P**	**18 17 25.6**	**-0.4**
	baz=238						
H22K	**Ishtalitna Cre**	**83.72**	**21**	P	**P**	**18 17 25.6**	**-0.6**
	baz=240						
QSPA	**South Pole Qui**	**83.79**	**180**	P	**P**	**18 17 27.0**	**+0.3**
	comp=Z,14nm,0.7s,baz=326,slow=1.0,SNR=96						
QSPA				LR	LR	18 54 03.7	
	comp=Z,101nm,18.2s,baz=298,slow=35						
	comp=Z,14nm,0.7s						
KLU	**Klutina**	**83.83**	**26**	IAmb	IAmb	18 17 30.9	
	comp=Z,22nm,1.5s						
KLU	**Klutina**	**83.83**	**26**	P	**P**	**18 17 26.5**	**-0.3**
	baz=245						
NEA2	**Nenana**	**83.93**	**22**	P	**P**	**18 17 25.6**	**-1.6**
NEA2				IAmb	IAmb	18 17 28.0	
	comp=Z,5.8nm,0.7s						
NEA2	**Nenana**	**83.93**	**22**	P	**P**	**18 17 26.3**	**-0.9**
	baz=242						
M24K	**Tolsona, Glenn**	**83.98**	**25**	P	**P**	**18 17 27.0**	**-0.5**
	baz=245						
I23K	**Minto, Yukon-K**	**84.09**	**22**	P	**P**	**18 17 27.9**	**0.0**
	baz=242						
B20K	**Meade River**	**84.17**	**16**	P	**P**	**18 17 28.6**	**+0.4**
	baz=234						
BMRM	**Bremner River**	**84.19**	**27**	P	**P**	**18 17 28.6**	**0.0**
	baz=246						
G22K	**Bettles**	**84.20**	**20**	P	**P**	**18 17 28.7**	**+0.2**
	baz=239						
E21K	**Killik River**	**84.21**	**18**	P	**P**	**18 17 28.4**	**-0.2**
	baz=237						
WRH	**Wood River Hil**	**84.25**	**23**	IAmb	IAmb	18 17 29.9	
	comp=Z,9.5nm,1.1s						
F22K	**John River**	**84.28**	**19**	P	**P**	**18 17 29.1**	**+0.1**
	baz=239						
H23K	**Yukon River**	**84.34**	**21**	IAmb	IAmb	18 17 32.0	
	comp=Z,15nm,1.6s						
H23K	**Yukon River**	**84.34**	**21**	P	**P**	**18 17 29.1**	**-0.1**
	baz=241						
C21K	**Knifeblade Rid**	**84.36**	**17**	P	**P**	**18 17 29.8**	**+0.6**
	baz=236						
CCB	**Clear Creek Bu**	**84.44**	**23**	P	**P**	**18 17 28.1**	**-1.6**
CCB				IAmb	IAmb	18 17 30.2	
	comp=Z,6.2nm,0.7s						
N25K	**Chitina, Valde**	**84.45**	**26**	P	**P**	**18 17 30.2**	**+0.3**
	baz=246						
COLA	**College**	**84.53**	**22**	P	**P**	**18 17 29.1**	**-1.0**
COLA				IAmb	IAmb	18 17 30.6	
	comp=Z,12nm,0.8s						
COLA	**College**	**84.53**	**22**	P	**P**	**18 17 29.9**	**-0.2**
	baz=243						
HARP	**HAARP**	**84.53**	**25**	P	**P**	**18 17 30.2**	**-0.1**
	baz=246						
G23K	**Bananza Creek**	**84.61**	**20**	IAmb	IAmb	18 17 33.5	
	comp=Z,13nm,1.4s						
G23K	**Bananza Creek**	**84.61**	**20**	P	**P**	**18 17 31.4**	**+0.8**
	baz=241						
PAX	**Paxson**	**84.64**	**25**	P	**P**	**18 17 31.2**	**+0.3**
	baz=245						
HDA	**Harding Lake**	**84.67**	**23**	IAmb	IAmb	18 17 33.3	
	comp=Z,24nm,1.8s						
HDA	**Harding Lake**	**84.67**	**23**	P	**P**	**18 17 31.3**	**+0.4**
	baz=244						
B21K	**Ikpikpuk River**	**84.67**	**17**	P	**P**	**18 17 31.4**	**+0.6**
	baz=236						
E22K	**Anaktuvuk Pass**	**84.72**	**19**		**P**	**18 17 29.4**	**-1.8**
E22K	**Anaktuvuk Pass**	**84.72**	**19**	P	**P**	**18 17 31.9**	**+0.7**
	baz=239,SNR=5.1						
POKR	**Poker Plat Res**	**84.80**	**22**	P	**P**	**18 17 31.7**	**+0.2**
	baz=243						
COLD	**Coldfoot**	**84.80**	**20**	P	**P**	**18 17 32.4**	**+0.9**
	baz=241						
D22K	**Ayikyak River**	**84.84**	**18**	IAmb	IAmb	18 17 34.4	
	comp=Z,5.9nm,0.6s						
D22K	**Ayikyak River**	**84.84**	**18**	P	**P**	**18 17 32.9**	**+1.2**
	baz=238						
IL31		**84.85**	**23**	IAmb	IAmb	18 17 32.4	
	comp=Z,7.4nm,0.7s						
ILAR	**Eielson Array**	**84.85**	**23**		**P**	**18 17 29.4**	**-2.4**
ILAR	**Eielson Array**	**84.85**	**23**	P	**P**	**18 17 30.1**	**-1.8**
	comp=Z,5.7nm,0.6s,baz=251,slow=4.3,SNR=56						
ILAR				LR	LR	18 57 36.2	
	comp=Z,34nm,18.3s,baz=226,slow=37						
	comp=Z,5.7nm,0.6s						
K24K	**Donnelly Dome**	**84.87**	**24**	P	**P**	**18 17 32.9**	**+0.9**
	baz=245						
H24K	**Noodor Dome**	**84.96**	**22**	P	**P**	**18 17 33.2**	**+0.8**
	baz=243						
RIDG	**Independent Ri**	**85.22**	**24**	IAmb	IAmb	18 18 43.7	
	comp=Z,32nm,1.8s						
RIDG	**Independent Ri**	**85.22**	**24**	P	**P**	**18 17 34.5**	**+0.8**
	baz=246						
A22K	**Sinclair Lake**	**85.34**	**16**	P	**P**	**18 17 34.7**	**+0.6**
	baz=236,SNR=7.8						
J25K	**Salcha River,**	**85.37**	**23**	P	**P**	**18 17 34.3**	**-0.2**
	baz=245,SNR=18						
E23K	**Chandalar**	**85.40**	**19**	IAmb	IAmb	18 17 37.7	
	comp=Z,10.0nm,1.5s						
E23K	**Chandalar**	**85.40**	**19**	P	**P**	**18 17 34.9**	**+0.2**
	baz=241						
B22K	**Teshekpuk Lake**	**85.41**	**17**	IAmb	IAmb	18 18

C23K	Itkillik River	85.97	18	IAmb	IAmb	18 17 39.7
	comp=Z,5.5nm,0.8s					
C23K	Itkillik River	85.97	18	P	P	18 17 38.2 +1.0
	baz=240					
G25K	Bearman Lake	86.01	21	P	P	18 17 38.3 +0.8
	baz=244					
J26L	Joseph Creek	86.04	24	P	P	18 17 38.5 +0.7
	baz=247,SNR=6.1					
O28M	Mount Upton	86.12	28	P	P	18 17 38.7 +0.1
	baz=250					
D24K	Happy Valley	86.18	18	P	P	18 17 39.3 +0.9
	baz=242					
L27K	Beaver Creek,	86.20	25	IAmb	IAmb	18 18 33.6
	comp=Z,16nm,1.8s					
L27K	Beaver Creek,	86.20	25	P	P	18 17 39.3 +0.7
	baz=249					
BCAR	Beaver Creek A	86.22	25		P	18 17 38.1 -0.6
YUK3	Moose Creek	86.34	27	P	P	18 17 40.0 +0.4
	baz=250					
BVCY	Beaver Creek	86.39	26	P	P	18 17 40.1 +0.6
	baz=250					
K27K	Chicken	86.46	24	IAmb	IAmb	18 17 42.5
	comp=Z,4.8nm,0.8s					
K27K	Chicken	86.46	24	P	P	18 17 40.3 +0.5
	baz=248					
C24K	Franklin Bluff	86.49	18	IAmb	IAmb	18 17 42.4
	comp=Z,8.7nm,0.8s					
C24K	Franklin Bluff	86.49	18	P	P	18 17 41.1 +1.2
	baz=242					
YUK8	Steele Glacier	86.49	27	P	P	18 17 40.4 0.0
	baz=250					
I26K	Coal Creek Min	86.51	23	P	P	18 17 40.7 +0.7
	baz=247					
F25K	Christian Rive	86.53	20	P	P	18 17 41.1 +0.9
	baz=245					
O29M	Mount Kennedy	86.72	28	P	P	18 17 41.8 +0.5
	baz=252					
E25K	Arctic Village	86.78	20	P	P	18 17 42.0 +0.6
	baz=245					
P29M	Windy Craggy	86.92	29	P	P	18 17 43.0 +0.8
	baz=252					
G26K	Porcupine Rive	86.92	21	IAmb	IAmb	18 17 44.6
	comp=Z,6.9nm,0.7s					
G26K	Porcupine Rive	86.92	21	P	P	18 17 42.8 +0.9
	baz=247					
YUK4	Talbot Arm	87.02	27	P	P	18 17 43.9 +1.0
	baz=252					
YUK6	Outpost Mounta	87.02	28	P	P	18 17 43.0 +0.1
	baz=252					
D25K	Kavik River	87.04	19		P	18 17 41.7 -0.9
D25K	Kavik River	87.04	19	P	P	18 17 43.2 +0.6
	baz=244					
F26K	Sheenjek River	87.09	21	P	P	18 17 43.7 +0.8
	baz=246					
I27K	Kandik River	87.22	23	P	P	18 17 43.9 +0.3
	baz=249,SNR=7.8					
HYT	Haines Junctio	87.39	28	IAmb	IAmb	18 17 47.5
	comp=Z,13nm,1.1s					
HYT	Haines Junctio	87.39	28	P	P	18 17 45.2 +0.7
	baz=253					
P30M	Million Dollar	87.44	29	P	P	18 17 45.1 +0.4
	baz=253					
M29M	Somme Creek	87.45	26		P	18 17 44.8 0.0
M29M				IAmb	IAmb	18 17 47.1
	comp=Z,5.5nm,0.8s					
M29M	Somme Creek	87.45	26	P	P	18 17 45.8 +1.0
	baz=252					
H27K	Steamboat Moun	87.48	22	IAmb	IAmb	18 17 47.2
	comp=Z,6.5nm,0.7s					
H27K	Steamboat Moun	87.48	22	P	P	18 17 45.5 +0.6
	baz=249,SNR=10					
DAWY	Dawson	87.58	25	IAmb	IAmb	18 17 47.6
	comp=Z,5.3nm,0.8s					
DAWY	Dawson	87.58	25	P	P	18 17 45.6 +0.3
	baz=251					
G27K	Doyon Strip	87.65	22	P	P	18 17 46.7 +1.2
	baz=249					
C26K	Camden Bay	87.76	18	P	P	18 17 48.0 +2.0
	baz=245,SNR=12					
N30M	Aishikik Lake	87.77	27	P	P	18 17 47.1 +0.8
	baz=253					
L29M	L29M	87.81	26	P	P	18 17 48.1 +1.7
	baz=252,SNR=9.6					
I28M	Miner Creek	87.82	23	IAmb	IAmb	18 17 48.8
	comp=Z,4.3nm,0.7s					
I28M	Miner Creek	87.82	23	P	P	18 17 47.4 +0.9
	baz=250					
C27K	Jago River	88.02	19	P	P	18 17 47.1 -0.1
C27K				IAmb	IAmb	18 17 49.8
	comp=Z,6.7nm,0.7s					
C27K	Jago River	88.02	19	P	P	18 17 48.0 +0.8
	baz=246,SNR=8.5					
O30N	Mendenhall	88.03	28	P	P	18 17 48.6 +1.1
	baz=254					
BVAR	Borovoye Array	88.11	324	P	P	18 17 44.8 -3.2
	comp=Z,1.6nm,0.5s,baz=113,slow=6.8,SNR=14					
	comp=Z,1.6nm,0.5s					
E27K	Coleen River	88.17	20	IAmb	IAmb	18 17 50.6
	comp=Z,3.7nm,0.8s					
E27K	Coleen River	88.17	20	P	P	18 17 48.8 +0.7
	baz=249					
M30M	Minto, Yukon	88.23	26	P	P	18 17 48.5 +0.1
	baz=253					
K29M	Barlow Dome	88.29	25	IAmb	IAmb	18 17 51.3
	comp=Z,7.3nm,0.7s					
K29M	Barlow Dome	88.29	25	P	P	18 17 49.5 +0.7
	baz=252,SNR=9.9					
N31M	Braeburn, Yuko	88.38	28	P	P	18 17 50.2 +1.1
	baz=254					
I29M	Ogilvie Camp,	88.44	24	P	P	18 17 49.5 +0.2
	baz=252					
WHY	Whitehorse	88.58	29	P	P	18 17 50.4 +0.2
	baz=255					
D27M	Malcolm River	88.77	20	IAmb	IAmb	18 18 55.1
	comp=Z,15nm,1.8s					
D27M	Malcolm River	88.77	20	P	P	18 17 51.0 +0.1
	baz=249					
P32M	Atlin	88.87	30	P	P	18 17 51.5 0.0
	baz=256					
J30M	Hart River	89.00	25	P	P	18 17 52.6 +0.5
	baz=254					
V35K	Ketchikan	89.00	34	P	P	18 17 52.7 +0.5
	baz=258					
G29M	Pine Creek	89.03	22	P	P	18 17 52.3 +0.2
	baz=252					
E28M	Babbage River	89.04	20	IAmb	IAmb	18 18 25.4
	comp=Z,12nm,1.8s					
E28M	Babbage River	89.04	20	P	P	18 17 52.6 +0.5
	baz=250					
I30M	Mount Dempster	89.17	24	IAmb	IAmb	18 18 16.9
	comp=Z,10nm,1.8s					
I30M	Mount Dempster	89.17	24	P	P	18 17 53.7 +0.8
	baz=253					
EPYK	Eagle Plains	89.37	23	P	P	18 17 54.4 +0.7
	baz=253					
Q32M	Nakina River	89.45	31	P	P	18 17 55.6 +1.1
	baz=257					
P33M	Teslin, Yukon	89.46	29	P	P	18 17 55.7 +1.4
	baz=257					
E29M	Blow River	89.54	21	P	P	18 17 55.7 +1.3
	baz=252					
D28M	Stokes Point	89.55	20	P	P	18 17 54.8 +0.4
	baz=251					
N32M	Quiet Lake	89.55	28	P	P	18 17 55.3 +0.6
	baz=256					
FARO	Faro, Yukon	89.68	27	P	P	18 17 56.1 +0.8
	baz=256					
G30M	tAoh Zraii Nji	89.73	22	P	P	18 17 55.6 +0.2
	baz=254					
F30M	Barrier River	90.07	22	P	P	18 17 57.6 +0.7
	baz=254					
T35M	Bob Quinn	90.09	33	P	P	18 17 57.9 +0.7
	baz=259					
H31M	Peel River	90.14	24	P	P	18 17 57.5 +0.2
	baz=255					
BBB	Bella Bella	90.46	38	LR	LR	18 56 31.9
	comp=Z,63nm,18.3s,baz=286,slow=34					
G31M	Satah River	90.46	23		P	18 17 57.9 -0.8
G31M				IAmb	IAmb	18 17 59.9
	comp=Z,6.7nm,0.8s					
G31M	Satah River	90.46	23	P	P	18 17 59.3 +0.6
	baz=255,SNR=7.8					
MMPY	Sheldon Lake,	90.72	27	P	P	18 18 00.6 +0.5
	baz=258					
F31M	Tsiigehtchic	90.78	22	P	P	18 18 00.3 +0.1
	baz=256					
TGTN	Hyland Airport	91.90	28	P	P	18 18 05.1 -0.5
	baz=261					
YBH	Yreka Blue Hor	92.76	49	LR	LR	18 52 04.3
	comp=Z,62nm,21.4s,baz=332,slow=30					
A36M	Sachs Harbour	94.50	18	P	P	18 18 17.3 +0.1
	baz=264					
ELIB	Princess Elisa	94.55	195	dP	P	18 18 16.8 -1.0
	comp=Z,3.5nm,0.9s					
C36M	Paulatuk	94.63	21	P	P	18 18 17.6 -0.3
	baz=265					
AKTO	Aktyubinsk	95.37	320	LR	LR	19 01 40.2
	comp=Z,60nm,21.0s,baz=92,slow=36					
ARTI	Arti	95.46	326	LR	LR	19 02 21.7
	comp=Z,44nm,20.7s,baz=36,slow=36					
BELA	Belgrano 2	96.05	179	P	P	18 18 23.4 -1.0
BELA				IAmb	IAmb	18 18 24.6
	comp=Z,4.9nm,0.7s					
NEW	Newport	97.12	42	LR	LR	19 01 32.6
	comp=Z,46nm,18.2s,baz=318,slow=35					
PFO	Pinyon Flats O	97.12	57	LR	LR	18 54 23.6
	comp=Z,65nm,20.9s,baz=212,slow=30					
YKA	Yellowknife Ar	98.38	28	P	Pdif	18 18 35.5 +0.4
	comp=Z,0.1nm,0.3s,baz=275,slow=4.9,SNR=5.0					
	comp=Z,0.1nm,0.3s					
TROLL	Troll, Antarti	98.98	190	⇑P	P	18 18 37.6 -0.3
	comp=Z,151nm,0.8s					
PLCA	Paso Flores	120.85	146	PKP	PKPdf	18 23 49.9 0.0
	comp=Z,2.1nm,0.6s,baz=198,slow=2.8,SNR=7.6					
GERES	GERESS Array B	123.19	326	PKP	PKPdf	18 23 53.0 -1.2
	comp=Z,0.5nm,0.6s,baz=343,slow=2.8,SNR=4.5					
CFA	Coronel Fontan	128.26	139	PKP	PKPdf	18 24 04.2 -0.2
	comp=Z,3.4nm,0.7s,baz=222,slow=1.5,SNR=8.9					
LPAZ	La Paz	136.98	122	PKP	PKPdf	18 24 22.2 +0.4
	comp=Z,1.9nm,0.6s,baz=33,slow=3.8,SNR=6.4					
CPUP	Villa Florida	138.79	143	PKP	PKPdf	18 24 24.8 +0.6
	comp=Z,1.6nm,0.6s,baz=273,slow=2.4,SNR=3.8					
ITAB	Concordia	140.97	149	PKPdf	PKPdf	18 24 28.5 +0.3
SAML	Samuel	144.54	115		PKPab	18 24 32.7 -0.6
PTLB	Pontes e Lacer	144.77	128		PKPab	18 24 33.7 -0.3
VAO	Valinhos	147.05	152		PKPdf	18 24 39.2 +0.2
TORD	Torodi Ar. Bea	147.10	285		PKPdf	18 24 38.8 -0.3
MACA	Manacapuru-AM	148.90	107		PKPdf	18 24 44.0 +1.8
BOAV	Boa Vista	150.28	96		PKPdf	18 24 43.3 -1.1
BDFB	Brasilia	152.52	142	PKPbc	PKPbc	18 24 54.9 +0.1
	comp=Z,24nm,0.5s,baz=243,slow=1.5,SNR=25					
DBIC	Dimbokro	154.06	273	PKPbc	PKiKP	18 24 58.8 +0.6
	comp=Z,1.2nm,0.4s,baz=150,slow=4.3,SNR=3.7					

NEIC ***16*** *18:36:35,66°.34N×157°.54W,h9km,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-1.10; Mθθ1.22; Mφφ-0.12; Mrθ-0.05; Mφθ-0.55; Mφr-0.61; Fault plane solution: M₀1.43000×10¹⁴ NP1:φ₀315.00000°, δ55.00000°, λ-55.00000°. NP2:φ₀84.00000°, δ48.00000°, λ-129.00000°. Principal axes: T 1.4282, Plg4.0000°, Azm21.0000°; N -0.0001, Plg28.0000°, Azm113.0000°; P -1.4281, Plg62.0000°, Azm284.0000°;*

AEIC ***16*** *18:36:36.0±3.1,66°.34N±0°.04×157°.5W±0°.1,h13km±6km*

Error ellipse: s-maj=6.0km s-min=5.1km az=104.0

NEIC 16 18:36:35.0±2.2,66°.26N±0°.03×157°.27W±0°.07,h10km±2km, ML3.5/160,**ML3.6**(AEIC),**Mwr3.4**/19(SLM),**Error ellipse: s-maj=6.4km s-min=3.0km az=316.0,Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
G19K	Purcell Mounta	0.14	147		Pg	18 36 38.2	0.0
G19K				IAML		18 36 42.4	
	comp=E,18μm,0.2s						
G19K				IAML		18 36 42.4	
	comp=N,11μm,0.4s						
F19K	Shaleruckik Mo	0.61	341		Pg	18 36 45.1	-1.8
G18K	Tagagawik	0.67	238		Pg	18 36 48.0	0.0
H19K	Roundabout Mou	0.81	155		Pg	18 36 50.3	-0.3
H19K				Sn	Sb	18 37 02.3	+0.2
H19K				IAML		18 37 14.0	
	comp=E,1μm,0.5s						
F20K	Avaraart Lake	1.01	37		Pg	18 36 52.1	-2.3
H18K	Honhosa River	1.20	203		Pb	18 36 57.4	-0.4
H18K				IAML		18 37 24.7	
	comp=E,607nm,0.7s						
E19K	Redstone River	1.21	1		Pb	18 36 56.0	-2.0
E19K				IAML		18 37 24.6	
	comp=E,785nm,0.7s						
E19K				IAML		18 37 28.0	
	comp=N,714nm,0.6s						
G21K	Allakaket	1.54	79		Pn	18 37 01.2	-1.3
F17K	Baldwin Pennin	1.61	278		Pn	18 37 03.9	+0.4
F17K				IAML		18 37 36.1	
	comp=E,369nm,0.7s						
F17K				IAML		18 37 38.2	
	comp=N,392nm,1.1s						
H17K	Granite Mounta	1.72	221		Pn	18 37 04.7	-0.3
H17K				IAML		18 37 38.5	
	comp=E,353nm,0.8s						
E18K	Tukpahlearik C	1.76	313		Pb	18 37 07.7	+0.3
F21K	Alatna River	1.79	56		Pn	18 37 05.8	-0.2
F21K				IAML		18 37 42.7	
	comp=N,573nm,0.7s						
I20K	Naaghedeneel	1.87	140		Pb	18 37 09.2	-0.1
H21K	Melozitna Rive	1.93	106		Pn	18 37 08.1	+0.2
H21K				IAML		18 37 45.9	
	comp=N,411nm,0.6s						
G16K	Koyuk River	2.27	250		Pn	18 37 12.4	-0.1
G16K				IAML		18 37 57.9	
	comp=N,237nm,0.7s						
D19K	Kuna River	2.27	352		Pn	18 37 13.7	+1.1
D19K				IAML		18 38 00.5	
	comp=E,188nm,0.8s						
D19K				IAML		18 38 02.1	
	comp=N,206nm,0.9s						
J19K	Poorman	2.38	162		Pn	18 37 15.7	+1.6
J19K				IAML		18 37 59.3	
	comp=N,164nm,0.6s						
I21K	Tanana	2.44	114		Pn	18 37 15.2	+0.3
I21K				IAML		18 37 60.0	
	comp=E,286nm,0.7s						
J20K	Nowinta River	2.47	146		Pb	18 37 17.8	-1.7
J20K				IAML		18 38 06.7	
	comp=E,221nm,1.0s						
J20K				IAML		18 38 09.6	
	comp=N,192nm,0.6s						
D20K	Etivluk River	2.48	6		Pn	18 37 16.8	+1.3
D20K				IAML		18 38 03.0	
	comp=E,152nm,0.9s						
E21K	Killik River	2.54	29		Pn	18 37 16.5	+0.2
E21K				IAML		18 38 06.3	
	comp=E,238nm,0.7s						
E21K				IAML		18 38 12.6	
	comp=N,179nm,0.6s						
I17K	Unalakleet	2.79	213		Pn	18 37 20.8	+1.2
I17K				IAML		18 38 16.2	
	comp=E,149nm,0.8s						
I17K				IAML		18 38 21.1	
	comp=N,170nm,1.1s						
J18K	Innoko River	2.81	175		Pn	18 37 21.5	+1.4
C18K	Utukok River	2.84	330		Pn	18 37 21.0	+0.6
E22K	Anaktuvuk Pass	2.84	46		Pn	18 37 21.5	+1.1
E22K				IAML		18 38 17.4	
	comp=N,154nm,0.7s						
E22K				IAML		18 38 17.6	
	comp=E,137nm,1.1s						
RDOG	Red Dog Mine	2.84	312		Pn	18 37 20.2	-0.3
G23K	Bananza Creek	2.94	78		Pn	18 37 22.6	+0.8
G23K				IAML		18 38 18.5	
	comp=E,171nm,0.5s						
COLD	Coldfoot	2.97	68		Pn	18 37 21.8	-0.4
COLD				IAML		18 38 25.1	
	comp=E,107nm,0.6s						
J17K	VABM Dome	2.98	196		Pn	18 37 23.0	+0.8
F15K	North Star Dit	3.07	263		Pn	18 37 24.4	+0.9
F15K				IAML		18 38 29.9	
	comp=E,88nm,0.7s						
D22K	Ayikyak River	3.17	32		Pn	18 37 25.1	+0.2
H23K	Yukon River	3.19	94		Pn	18 37 24.9	-0.2
K20K	Telida	3.22	153		Pn	18 37 27.5	+1.9
J16K	Anvik River	3.31	207		Pn	18 37 28.4	+1.6
J16K				IAML		18 38 32.9	
	comp=E,133nm,1.6s						
J16K				IAML		18 38 39.2	
	comp=N,73nm,0.8s						
TTA	Tatalina	3.39	170		Pn	18 37 29.7	+1.8
BPAW	Bear Paw Mtn.	3.42	126		Pn	18 37 29.1	+0.7
BPAW				IAML		18 38 34.5	
	comp=E,73nm,1.0s						
BPAW				IAML		18 38 38.8	
	comp=N,111nm,1.1s						
I23K	Minto, Yukon-K	3.46	105		Pn	18 37 28.8	0.0
E23K	Chandalar	3.49	55		Pn	18 37 28.7	-0.7
E23K				IAML		18 38 35.7	
	comp=N,126nm,0.7s						
B21K	Ikpikpuk River	3.52	15		Pn	18 37 29.6	-0.1
B21K				IAML		18 38 39.6	
	comp=E,124nm,0.8s						
K17K	Iditarod	3.58	188		Pn	18 37 30.8	+0.2
K17K				IAML		18 38 49.3	
	comp=E,78nm,1.1s						
K17K				IAML		18 38 50.1	
	comp=N,63nm,1.1s						
CAST	Castle Rocks	3.61	140		Pn	18 37 32.0	+1.0
CAST				IAML		18 38 47.7	
	comp=N,57nm,1.0s						
D23K	Nanushuk River	3.71	40		Pn	18 37 33.2	+0.9
C16K	Lisburne Hills	3.73	307		Pn	18 37 34.2	+1.6
B20K	Meade River	3.77	1		Pn	18 37 32.5	-0.6
B20K				IAML		18 38 51.5	
	comp=E,78nm,1.1s						
B20K				IAML		18 38 53.5	
	comp=N,67nm,1.0s						
ANM	Nome	3.79	247	Pn	Pn	18 37 34.4	+1.0
TOLK	Toolik Lake Re	3.81	48		Pn	18 37 33.5	-0.3
TOLK				IAML		18 38 58.9	
	comp=N,95nm,0.8s						
NEA2	Nenana	3.81	112		Pn	18 37 34.5	+0.8
NEA2				IAML		18 38 50.5	
	comp=N,62nm,1.0s						
NEA2				IAML		18 38 52.3	
	comp=E,52nm,1.1s						
KTH	Kantishna Hill	3.83	132		Pn	18 37 35.0	+0.9
KTH				IAML		18 38 54.0	
	comp=E,61nm,0.9s						
KTH				IAML		18 38 55.0	
	comp=N,90nm,0.9s						
H24K	Noodor Dome	3.85	92		Pn	18 37 34.0	-0.4
H24K				IAML		18 38 46.8	
	comp=N,94nm,0.7s						
H24K				IAML		18 38 57.1	
	comp=E,83nm,1.0s						
E24K	Your Creek	3.88	58		Pn	18 37 34.0	-0.7
E24K				IAML		18 38 49.7	
	comp=N,83nm,0.7s						
E24K				IAML		18 38 52.3	
	comp=E,75nm,0.6s						
BWN	Browne	3.90	119		Pn	18 37 36.2	+1.3
BWN				IAML		18 39 06.2	
	comp=E,91nm,1.0s						
F24K	Squaw Lake	3.91	67		Pn	18 37 34.5	-0.6
G24K	Hadweenzic Riv	3.95	79		Pn	18 37 34.9	-0.8
PPLA	Purkeypile	4.02	145		Pn	18 37 37.5	+0.7
PPLA				IAML		18 38 57.7	
	comp=E,66nm,1.9s						
PPLA				IAML		18 39 04.8	
	comp=N,61nm,1.1s						
L18K	Granite Mounta	4.06	176		Pn	18 37 38.4	+1.2
L18K				IAML		18 39 01.3	
	comp=N,49nm,1.0s						
L18K				IAML		18 39 02.4	
	comp=E,44nm,1.3s						
TRF	Thorofare Moun	4.10	130		Pn	18 37 39.6	+1.8
TRF				IAML		18 38 54.4	
	comp=E,80nm,1.1s						
TRF				IAML		18 38 55.8	
	comp=N,72nm,1.0s						
COLA	College	4.15	105		Pn	18 37 38.5	+0.1
L19K	White Mountain	4.23	164		Pn	18 37 40.8	+1.3
POKR	Poker Plat Res	4.23	101		Pn	18 37 39.3	-0.2
POKR				IAML		18 38 58.7	
	comp=N,66nm,1.4s						
POKR				IAML		18 38 58.8	
	comp=E,65nm,0.6s						
WRH	Wood River Hil	4.24	111		Pn	18 37 38.8	-0.8
WRH				IAML		18 38 57.9	
	comp=E,46nm,0.8s						
WRH				IAML		18 39 04.0	
	comp=N,39nm,1.2s						
CCB	Clear Creek Bu	4.27	108		Pn	18 37 39.9	-0.1
CCB				IAML		18 39 00.1	
	comp=E,47nm,0.9s						
CCB				IAML		18 39 02.6	
	comp=N,40nm,0.7s						
D24K	Happy Valley	4.34	44		Pn	18 37 39.8	-1.1
B22K	Teshekpuk Lake	4.34	17		Pn	18 37 40.1	-0.9
B22K				IAML		18 39 05.0	
	comp=E,50nm,1.5s						
B22K				IAML		18 39 15.3	
	comp=N,56nm,1.7s						
MCK	McKinley	4.35	122		Pn	18 37 41.3	+0.1
C23K	Itkillik River	4.38	32		Pn	18 37 41.3	-0.1
C23K				IAML		18 39 11.8	
	comp=E,64nm,0.7s						
K15K	Wolf Creek Mou	4.39	207		Pn	18 37 43.3	+1.7
K15K				IAML		18 39 14.7	
	comp=N,32nm,1.6s						
K15K				IAML		18 39 27.8	
	comp=E,33nm,1.1s						
J14K	Nanvaranak Lak	4.45	221		Pn	18 37 42.3	-0.1
J14K				IAML		18 39 13.2	
	comp=E,38nm,0.8s						
J14K				IAML		18 39 24.7	
	comp=N,54nm,1.1s						
M19K	Big River Lodg	4.55	163		Pn	18 37 44.9	+1.0
M19K				IAML		18 39 09.9	
	comp=E,38nm,1.4s						
IL31		4.57	104		Pn	18 37 43.9	-0.2
ILAR	Eielson Array	4.57	104		Pn	18 37 43.8	-0.3
RND	Reindeer	4.59	125		Pn	18 37 44.4	-0.1
L16K	Owhat River	4.67	193		Pn	18 37 46.4	+0.9
HDA	Harding Lake	4.71	108		Pn	18 37 45.4	-0.6
HDA				IAML		18 39 12.1	
	comp=N,48nm,0.6s						
HDA				IAML		18 39 18.8	
	comp=E,39nm,0.7s						
C24K	Franklin Bluff	4.74	39		Pn	18 37 47.4	+1.0
M20K	Styx River	4.75	156		Pn	18 37 49.1	+2.4
M20K				IAML		18 39 20.7	
	comp=E,30nm,1.6s						
F25K	Christian Rive	4.77	68		Pn	18 37 46.6	-0.3
F25K				IAML		18 39 19.7	
	comp=N,50nm,0.8s						
FYU	Fort Yukon	4.85	81		Pn	18 37 47.0	-0.9
PRP	Porcupine Dome	4.88	93		Pn	18 37 47.7	-0.8
PRP				IAML		18 39 15.4	
	comp=N,41nm,0.8s						
PRP				IAML		18 39 16.6	
	comp=E,39nm,0.6s						
E25K	Arctic Village	4.92	62		Pn	18 37 47.1	-1.9
E25K				IAML		18 39 25.0	
	comp=E,40nm,1.0s						
SKT	Skwentna	4.98	147		Pn	18 37 51.7	+2.0
SKT				IAML		18 39 29.5	
	comp=E,30nm,0.9s						
BMAR	Burnt Mountain	5.15	71		Pn	18 37 51.6	-0.5
J25K	Salcha River,	5.23	103		Pn	18 37 53.3	0.0
J25K				IAML		18 39 27.1	
	comp=E,28nm,0.8s						
J25K				IAML		18 39 33.0	
	comp=N,29nm,0.7s						
F26K	Sheenjek River	5.35	68		Pn	18 37 54.2	-0.6
F26K				IAML		18 39 43.7	
	comp=E,29nm,1.1s						
G26K	Porcupine Rive	5.42	76		Pn	18 37 55.6	-0.2
L14K	Kuka Creek	5.49	208		Pn	18 37 58.1	+1.5
N19K	Bonanza Creek	5.61	166		Pn	18 37 59.2	+0.7
N17K	Nushagak Hills	5.75	180		Pn	18 38 02.3	+1.9
I26K	Coal Creek Min	5.89	93		Pn	18 38 01.8	-0.4
J26L	Joseph Creek	5.99	101		Pn	18 38 03.0	-0.8
G27K	Doyon Strip	6.26	78		Pn	18 38 06.1	-1.3
H27K	Steamboat Moun	6.36	83		Pn	18 38 08.0	-0.8
E27K	Coleen River	6.38	65		Pn	18 38 08.1	-1.0
K27K	Chicken	6.78	102		Pn	18 38 13.9	-0.6

NEIC ***16*** *18:54:16.2±2.3,22°.5S±0°.1×179°.7W±0°.1,h546km±7km, mb4.5/47,Error ellipse: s-maj=19.1km s-min=16.4km az=90.0*

IDC ***16*** *18:54:17.1±1.9,22°.36S×179°.71W,h549km±19km,mb3.4/9, mbtmp4.4/11,Error ellipse: s-maj=22.5km s-min=13.7km az=85.0*

ISC 16 18:54:16.5±0.5,**22°.54S**±0°.06×**179°.75W**±0°.10,**h550**km, **n124**,σ1$**54**/121,**mb4.4**/32,**1C**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.21**	**336**		**P**	**18 55 49.1**	**+0.7**
MSVF	**Nonsavu**	**5.21**	**336**	P	**P**	**18 55 48.2**	**-0.2**
	33nm,0.3s,baz=214,slow=13,SNR=74						
RIZ	**Raoul Island**	**6.87**	**167**	P	**P**	**18 56 03.9**	**+0.7**
RIZ				S	**S**	**18 57 31.1**	**+0.5**
GLKZ	**Green Lake**	**6.89**	**167**	P	**P**	**18 56 03.7**	**+0.3**
GLKZ				S	**S**	**18 57 30.8**	**-0.1**
PINNC	**Pines Island,**	**11.83**	**267**	P	**P**	**18 56 52.0**	**-1.4**
OUZ	**Omahuta**	**13.91**	**203**	P	**P**	**18 57 18.6**	**+4.1**
HAZ	**Te Kaha**	**15.31**	**187**	P	**P**	**18 57 29.7**	**+0.7**
HAZ				S	**S**	**19 00 01.8**	**-5.3**
URZ	**Urewera**	**15.90**	**189**	P	**P**	**18 57 34.8**	**-0.1**
	12nm,0.5s,baz=337,slow=2.1,SNR=16						
URZ				S	**S**	**19 00 13.8**	**-3.2**
	4.8nm,0.6s,baz=192,slow=20,SNR=5.6						
URZ	**Urewera**	**15.90**	**189**	P	**P**	**18 57 33.9**	**-0.9**
URZ				S	**S**	**19 00 13.4**	**-3.5**
MWZ	**Matawai**	**15.91**	**188**	P	**P**	**18 57 34.4**	**-0.8**
TLZ	**Tolley Road**	**16.25**	**193**	P	**P**	**18 57 40.2**	**+1.9**
MTHZ	**Maungataniwha**	**16.52**	**189**	P	**P**	**18 57 38.0**	**-2.7**
MTHZ				S	**S**	**19 00 25.0**	**-2.4**
NMHZ	**Naumai**	**16.76**	**189**	P	**P**	**18 57 45.5**	**+2.5**
BKZ	**Black Stump Fm**	**16.88**	**190**	P	**P**	**18 57 42.9**	**-1.2**
BKZ	**Black Stump Fm**	**16.88**	**190**	P	**P**	**18 57 43.6**	**-0.5**
TMVZ	**Te Maari**	**16.97**	**192**	P	**P**	**18 57 43.0**	**-1.9**
ETVZ	**East Tongariro**	**16.99**	**192**	P	**P**	**18 57 43.8**	**-1.3**
WTVZ	**West Tongariro**	**16.99**	**192**	P	**P**	**18 57 48.5**	**+3.3**
NGZ	**Ngauruhoe**	**17.05**	**192**	P	**P**	**18 57 47.2**	**+1.5**
SNVZ	**South Ngauruho**	**17.05**	**192**	P	**P**	**18 57 47.1**	**+1.3**
FWVZ	**Far West T-bar**	**17.14**	**192**	P	**P**	**18 57 48.2**	**+1.6**
KWHZ	**Kaweka Forest**	**17.14**	**190**	P	**P**	**18 57 47.7**	**+1.2**
KWHZ				S	**S**	**19 00 31.2**	**-6.4**
WHVZ	**Whangaehu Hut**	**17.16**	**192**	P	**P**	**18 57 49.3**	**+2.5**
VRZ	**Vera Road**	**17.18**	**195**	P	**P**	**18 57 50.0**	**+3.2**
WNVZ	**Wahianoa**	**17.20**	**192**	P	**P**	**18 57 47.7**	**+0.6**
BFZ	**Birch Farm**	**18.40**	**190**	P	**P**	**18 57 57.3**	**-0.6**
BFZ	**Birch Farm**	**18.40**	**190**	P	**P**	**18 57 57.3**	**-0.6**
MRZ	**Mangatainoka R**	**18.49**	**191**	P	**P**	**18 57 58.9**	**+0.2**
QRZ	**Quartz Range**	**19.36**	**198**	P	**P**	**18 58 08.2**	**+1.6**
NNZ	**Nelson**	**19.50**	**196**	P	**P**	**18 58 08.6**	**+0.8**
THZ	**Tophouse**	**20.13**	**196**	P	**P**	**18 58 14.4**	**+0.7**
DSZ	**Denniston Nort**	**20.42**	**198**	P	**P**	**18 58 17.5**	**+1.2**
KHZ	**Kahutara**	**20.60**	**194**	P	**P**	**18 58 18.5**	**+0.7**
GVZ	**Greta Valley S**	**21.24**	**195**	P	**P**	**18 58 23.1**	**-0.5**
LTZ	**Lake Taylor**	**21.25**	**196**	P	**P**	**18 58 23.1**	**-0.7**
LTZ				IAmb	IAmb	18 58 26.0	
	comp=Z,13nm,0.8s						
LTZ	**Lake Taylor**	**21.25**	**196**	P	**P**	**18 58 24.0**	**+0.3**
FOZ	**Fox Glacier**	**22.65**	**200**	P	**P**	**18 58 36.9**	**+0.7**
FOZ				IAmb	IAmb	18 58 38.8	
	comp=Z,18nm,1.1s						
FOZ	**Fox Glacier**	**22.65**	**200**	P	**P**	**18 58 36.1**	**-0.1**
JCZ	**Jackson Bay**	**23.47**	**201**	P	**P**	**18 58 43.9**	**+0.3**
WHZ	**Wether Hill Ro**	**25.36**	**200**	P	**P**	**18 59 02.2**	**+2.0**
BBOO	**Buckleboo**	**40.20**	**245**	P	**P**	**19 01 06.3**	**+0.5**
BBOO				IAmb	IAmb	19 01 07.5	
	comp=Z,12nm,1.3s						
AS31	**Alice Springs**	**42.50**	**259**	P	**P**	**19 01 23.4**	**-0.8**
ASAR	**Alice Springs**	**42.50**	**259**	P	**P**	**19 01 22.9**	**-1.3**
ASAR	**Alice Springs**	**42.50**	**259**	P	**P**	**19 01 25.0**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=99,slow=7.9,SNR=32						
ASAR				S	**S**	**19 07 05.2**	**-1.8**
	comp=Q,0.6nm,0.9s,baz=94,slow=14,SNR=4.3						
	comp=Z,2.2nm,0.7s						
WR8	**Warramunga Arr**	**42.59**	**265**	P	**P**	**19 01 24.7**	**-0.2**
WB0	**Warramunga Arr**	**42.73**	**265**	P	**P**	**19 01 26.0**	**0.0**
WRA	**Warramunga Arr**	**42.75**	**265**	P	**P**	**19 01 26.3**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=96,slow=8.0,SNR=28						
	comp=Z,1.6nm,0.5s						
FORT	**Forrest**	**47.01**	**248**	P	**P**	**19 01 59.2**	**+0.6**
FORT				IAmb	IAmb	19 02 15.4	
	comp=Z,20nm,1.1s						
MTN	**Manton Dam**	**47.60**	**273**	P	**P**	**19 02 03.2**	**0.0**
MTN				IAmb	IAmb	19 02 32.8	
	comp=Z,15nm,1.4s						
KNRA	**Kununurra**	**48.94**	**269**	P	**P**	**19 02 13.6**	**+0.4**
KNRA				IAmb	IAmb	19 02 36.0	
	comp=Z,20nm,1.5s						
FITZ	**Fitzroy Crossi**	**51.18**	**264**	P	**P**	**19 02 30.5**	**+0.9**
SOEI	**Soe**	**54.97**	**274**	P	**P**	**19 02 59.4**	**+2.7**
SOEI				IAmb	IAmb	19 03 08.6	
	comp=Z,15nm,0.9s						
SBA	**Scott Base**	**55.74**	**183**	P	**P**	**19 03 03.4**	**+2.5**
VNDA	**Vanda**	**55.75**	**185**	P	**P**	**19 03 02.4**	**+1.4**
VNDA	**Vanda**	**55.75**	**185**	P	**P**	**19 03 03.6**	**+2.7**
	comp=Z,1.5nm,0.5s,baz=3.8,slow=8.2,SNR=20						
	comp=Z,1.5nm,0.5s						
MBWA	**Marble Bar**	**55.84**	**259**	P	**P**	**19 03 02.7**	**+0.1**
MORW	**Morawa**	**57.56**	**249**	P	**P**	**19 03 14.4**	**+0.1**
MORW				IAmb	IAmb	19 03 16.8	
	comp=Z,48nm,1.4s						
GIRL	**Giralia**	**60.46**	**256**	P	**P**	**19 03 35.3**	**+1.6**
TOLI2	**Tolitoli**	**62.47**	**284**		pP	19 05 33.2	-2.2
JHJ2	**Mitsune**	**67.46**	**324**	P	**P**	**19 04 18.7**	**+0.8**
QSPA	**South Pole Qui**	**67.53**	**180**	P	**P**	**19 04 19.6**	**+1.6**
QSPA	**South Pole Qui**	**67.53**	**180**	P	**P**	**19 04 19.5**	**+1.4**
	comp=Z,4.3nm,0.6s,baz=279,slow=0.7,SNR=32						
	comp=Z,4.3nm,0.6s						
UGM	**Wanagama**	**68.32**	**270**	P	**P**	**19 04 23.3**	**-0.4**
MJAR	**Matsushiro Arr**	**70.92**	**325**	P	**P**	**19 04 38.1**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=145,slow=6.4,SNR=6.5						
	comp=Z,2.0nm,0.7s						
NACB	**Ninganchiao**	**73.50**	**306**	P	**P**	**19 04 53.2**	**-0.6**
TPUB	**Ta-pu**	**73.74**	**304**	P	**P**	**19 04 54.1**	**-1.1**
SSLB	**Suanglung**	**73.77**	**305**	P	**P**	**19 04 53.9**	**-1.5**
SSLB				IAmb	IAmb	19 05 08.4	
	comp=Z,25nm,1.4s						
YHNB	**Yeheng**	**73.94**	**306**	P	**P**	**19 04 57.4**	**+0.9**
NIKH	**Nikolski High**	**75.79**	**7**	P	**P**	**19 05 05.6**	**-0.3**
SMAI	**San Martin Ant**	**77.29**	**159**	P	**P**	**19 05 14.9**	**+0.9**
PEA0B	**Petropavlovsk-**	**77.84**	**346**	P	**P**	**19 05 15.7**	**-1.4**
PETK	**Petropavlovsk-**	**77.84**	**346**	P	**P**	**19 05 15.9**	**-1.3**
PETK	**Petropavlovsk-**	**77.84**	**346**	P	**P**	**19 05 16.9**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=125,slow=13,SNR=4.0						
	comp=Z,3.1nm,0.6s						
MAW	**Mawson**	**79.10**	**200**	P	**P**	**19 05 24.9**	**+1.1**
SDPT	**Sand Point**	**79.31**	**11**	P	**P**	**19 05 24.1**	**-0.8**
KULM	**Kulim**	**82.46**	**279**	P	**P**	**19 05 42.5**	**+0.4**
OHAK	**Old Harbor**	**82.51**	**14**	P	**P**	**19 05 40.9**	**-0.5**
OHAK				IAmb	IAmb	19 06 08.8	
	comp=Z,24nm,1.4s						
HATC	**Hat Creek Radi**	**83.07**	**41**	P	**P**	**19 05 43.8**	**-1.0**
HATC				IAmb	IAmb	19 05 55.2	
	comp=Z,18nm,1.2s						
P16K	**Nushagak River**	**83.24**	**11**	P	**P**	**19 05 44.8**	**-0.2**
O16K	**Kokwok River B**	**83.75**	**11**	P	**P**	**19 05 46.8**	**-0.8**
O16K				IAmb	IAmb	19 05 49.6	
	comp=Z,18nm,1.3s						
N15K	**Kwethluk River**	**83.96**	**10**	P	**P**	**19 05 48.9**	**+0.3**
N15K				IAmb	IAmb	19 05 50.2	
	comp=Z,14nm,0.7s						
P18K	**Big Mountain,**	**84.09**	**12**	P	**P**	**19 05 48.1**	**-1.2**
P18K				IAmb	IAmb	19 06 29.7	
	comp=Z,12nm,1.4s						
O18K	**Koktuh Hills**	**84.52**	**12**	P	**P**	**19 05 50.6**	**-0.8**
O18K				IAmb	IAmb	19 05 51.5	
	comp=Z,6.0nm,0.7s						
N19K	**Bonanza Creek**	**85.55**	**12**	P	**P**	**19 05 55.4**	**-1.1**
N19K				IAmb	IAmb	19 06 35.8	
	comp=Z,12nm,1.5s						
TROLL	**Troll, Antarti**	**85.69**	**181**	⇑P	**P**	**19 05 57.2**	**0.0**
	comp=Z,83nm,0.3s						
K15K	**Wolf Creek Mou**	**85.79**	**8**	P	**P**	**19 05 58.2**	**+0.8**
RC01	**Rabbit Creek A**	**86.80**	**14**	P	**P**	**19 05 59.0**	**-3.2**
RC01				IAmb	IAmb	19 06 02.8	
	comp=Z,9.4nm,0.8s						
SUA	**Susitna One**	**86.91**	**13**		**P**	**19 06 01.2**	**-1.7**
SUA				IAmb	IAmb	19 06 03.1	
	comp=Z,7.1nm,0.5s						
DIV	**Divide**	**87.78**	**16**	P	**P**	**19 06 05.8**	**-1.1**
DIV				IAmb	IAmb	19 06 07.2	
	comp=Z,9.1nm,0.9s						
SEY	**Seymchan**	**88.00**	**348**	P	**P**	**19 06 08.2**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=159,slow=23,SNR=4.3						
	comp=Z,2.6nm,0.7s						
CAST	**Castle Rocks**	**88.40**	**12**		**P**	**19 06 08.0**	**-1.7**
CAST				IAmb	IAmb	19 06 09.1	
	comp=Z,5.1nm,0.8s						
TRF	**Thorofare Moun**	**88.78**	**13**		**P**	**19 06 10.6**	**-1.1**
TRF				IAmb	IAmb	19 06 11.6	
	comp=Z,8.4nm,0.9s						
RND	**Reindeer**	**89.04**	**13**		**P**	**19 06 12.0**	**-0.8**
RND				IAmb	IAmb	19 06 13.5	
	comp=Z,6.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.27**	**290**	P	**P**	**19 06 15.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**89.27**	**290**	P	**P**	**19 06 17.1**	**+2.3**
	comp=Z,1.7nm,0.8s,baz=132,slow=3.4,SNR=17						
	comp=Z,1.7nm,0.8s						
CHTO	**Chiang Mai**	**89.42**	**291**	P	**P**	**19 06 16.9**	**+1.5**
CHTO				IAmb	IAmb	19 06 18.3	
	comp=Z,4.6nm,0.8s						
ILAR	**Eielson Array**	**90.66**	**13**	P	**P**	**19 06 19.4**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=225,slow=4.6,SNR=6.1						
	comp=Q,0.4nm,0.5s						
RLMT	**Red Lodge**	**92.89**	**42**		pP	19 08 33.2	+1.6
MKAR	**Makanchi Array**	**111.40**	**313**	PKiKP	**PKiKP**	**19 11 47.1**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=172,slow=1.4,SNR=4.3						
KURBB	**Kurchatov Arra**	**114.42**	**317**	PKP	PKPdf	19 11 52.5	-1.4
	comp=Z,0.3nm,0.5s,baz=107,slow=1.8,SNR=7.3						
BVAR	**Bororoye Array**	**119.57**	**319**	PKP	**PKPdf**	**19 12 03.3**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=120,slow=0.6,SNR=7.3						
ARCES	**ARCESS Array B**	**130.61**	**349**	PKP	**PKiKP**	**19 12 24.7**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=39,slow=0.8,SNR=6.4						
FINES	**FINESS Array B**	**137.23**	**342**	PKhKP	PKPpre	19 12 28.7	
	comp=Z,0.4nm,0.4s,baz=54,slow=3.3,SNR=3.5						
FINES				PKP	**PKPdf**	**19 12 36.5**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=90,slow=3.8,SNR=4.2						
NC303	**NORSAR Array S**	**140.58**	**352**	PKPpre	PKPpre	19 12 36.0	
NOA	**NORSAR Array B**	**140.78**	**352**	PKhKP	PKPpre	19 12 37.2	
	comp=Z,0.3nm,0.5s,baz=2.7,slow=2.2,SNR=3.5						
HFS	**Hagfors**	**141.26**	**349**	PKhKP	PKPpre	19 12 38.8	
	comp=Z,2.0nm,0.3s,baz=64,slow=3.4,SNR=27						
AKASG	**Malin Array Be**	**143.95**	**328**		PKPbc	19 12 47.5	-1.2
AKASG	**Malin Array Be**	**143.95**	**328**	PKP	PKPbc	19 12 48.0	-0.7
	comp=Z,1.8nm,0.3s,baz=44,slow=4.1,SNR=20						
AKBB	**Malin Array Si**	**143.95**	**328**		PKPbc	19 12 46.8	-1.8
KIEV	**Kiev**	**143.96**	**328**		PKPbc	19 12 46.8	-1.9
SUW	**Suwalki**	**144.12**	**337**		PKPbc	19 12 47.0	-2.1
BRTR	**Keskin Array B**	**146.93**	**309**	PKPbc	**PKPbc**	**19 12 57.1**	**-0.8**
BRTR	**Keskin Array B**	**146.93**	**309**	PKPbc	**PKPbc**	**19 12 58.0**	**0.0**
	comp=Z,1.3nm,0.7s,baz=146,slow=5.5,SNR=9.8						
EKA	**Eskdalemuir Ar**	**147.15**	**4**	PKPbc	**PKPbc**	**19 12 57.4**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=359,slow=3.5,SNR=12						
MMAI	**Mount Meron Ar**	**147.33**	**296**	PKPbc	**PKiKP**	**19 13 00.2**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=89,slow=5.9,SNR=10						
BURAR	**Bucovina Array**	**147.97**	**327**	PKPbc	**PKPbc**	**19 13 00.5**	**+0.2**
UPC	**Upice**	**149.48**	**340**	*e*PKP	**PKiKP**	**19 13 04.3**	**-0.2**
DPC	**Dobruska-Polom**	**149.52**	**340**	*e*PKP	**PKiKP**	**19 13 04.6**	**-0.1**
KRLC	**Kraliky**	**149.60**	**339**	*e*PKP	**PKiKP**	**19 13 04.1**	**-0.8**
CLL	**Collm**	**149.62**	**344**		**PKPbc**	**19 13 03.4**	**-0.6**
PVCC	**Panska Ves**	**149.90**	**342**	*e*PKP	**PKiKP**	**19 13 05.4**	**0.0**
KHC	**Kasperske Hory**	**151.44**	**342**	*e*PKP	**PKiKP**	**19 13 08.6**	**-0.1**
KHC				*ex*	x	19 13 16.8	
CKRC	**Cesky Krumlov**	**151.50**	**340**	*e*PKP	**PKiKP**	**19 13 08.4**	**-0.4**
GERES	**GERESS Array B**	**151.66**	**341**	PKPbc	**PKiKP**	**19 13 09.1**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=0.0,slow=2.0,SNR=5.0						

IDC 16 19:13:27.6±13.0, 23°.57N×46°.58W, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=337.5km s-min=43.7km az=179.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**44.24**	**131**	T	T	20 09 26.2	
	baz=316,slow=75,SNR=23						
H10N3	**ASCENSION HYDR**	**44.24**	**131**	T	T	20 09 26.5	
	baz=316,slow=75,SNR=26						
H10N1	**ASCENSION HYDR**	**44.26**	**131**	T	T	20 09 27.6	
	baz=316,slow=75,SNR=31						
H10S3	**ASCENSION HYDR**	**44.92**	**132**	T	T	20 10 19.0	
	baz=316,slow=74,SNR=30						
H10S2	**ASCENSION HYDR**	**44.94**	**132**	T	T	20 10 20.2	
	baz=264,slow=74,SNR=28						
GERES	**GERESS Array B**	**53.20**	**46**	P	P	19 22 47.9	+0.2
	0.8nm,0.7s,baz=263,slow=9.3,SNR=4.9						
	0.8nm,0.7s						
NOA	**NORSAR Array B**	**54.17**	**31**	P	P	19 22 54.3	-0.3
	0.8nm,0.8s,baz=255,slow=7.6,SNR=3.6						
	0.8nm,0.8s						
HFS	**Hagfors**	**55.12**	**32**	P	P	19 23 01.1	-0.3
	2.0nm,0.8s,baz=243,slow=6.5,SNR=3.9						
	2.0nm,0.8s						
YKA	**Yellowknife Ar**	**59.24**	**330**	P	P	19 23 30.7	+0.2
	0.1nm,0.3s,baz=94,slow=8.3,SNR=1.7						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**73.21**	**334**	P	P	19 25 00.0	-0.1
	0.4nm,0.8s,baz=74,slow=4.2,SNR=5.3						
	0.4nm,0.8s						

*TEH **16** 19:33:15.2, 34°.22N×45°.54E, h10km±50km*
*ISN **16** 19:33:16.0±0.3, 34°.22N×45°.53E, h19km±2km, ML2.8*
ISC 16 19:33:15.8±1.2, 34°.22N±0°.03×45°.54E±0°.04, h4km±12km, n11, σ0°.77/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.29**	**8**	Pg	**Pg**	**19 33 21.3**	**-0.1**
KGS1				Sg	**Sg**	**19 33 26.3**	**+1.0**
GLG1	**Gilan-e-Gharb**	**0.33**	**109**	Pg	**Pg**	**19 33 22.0**	**-0.2**
GLG1				Sg	**Sg**	**19 33 27.6**	**+1.2**
IDHR	**Dehrash**	**0.85**	**55**	Pg	**Pg**	**19 33 31.1**	**-1.1**
IGHG	**Ghaleghazi**	**0.86**	**82**	Sg	**Sb**	**19 33 44.6**	**-0.8**
IBDR	**Badra**	**1.15**	**163**	*e*Pg	**Pg**	**19 33 37.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**19 33 52.5**	**-0.3**
IBDR				AML	AML	19 33 59.8	
	comp=N,148nm,0.3s						
IBDR				AML	AML	19 34 00.8	
	comp=E,206nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.25**	**87**	Pg	**Pn**	**19 33 40.3**	**+0.2**
BHD	**Baghdad**	**1.35**	**226**	*e*Pn	**Pn**	**19 33 41.5**	**+0.1**
BHD				*e*Sn	**Sb**	**19 34 00.3**	**+1.1**
IKRK	**Kirkuk**	**1.54**	**320**	*e*Pn	**Pb**	**19 33 44.5**	**-0.3**
IKRK				*e*Sn	**Sg**	**19 34 05.0**	**-0.2**
IKFM	**Kafar-mosalman**	**2.04**	**109**	Pn	**Pn**	**19 33 51.8**	**+0.9**
IDOB	**Doab**	**2.23**	**100**	Pn	**Pn**	**19 33 54.1**	**+0.4**
RAFI	**Al-Rafai**	**2.54**	**169**	*e*Pn	**Pn**	**19 33 58.0**	**+0.3**
RAFI				*e*Sn	**Sn**	**19 34 29.0**	**+0.1**
RAFI				AML	AML	19 34 38.9	
	comp=E,90nm,0.6s						
RAFI				AML	AML	19 34 40.2	
	comp=N,94nm,0.4s						

IDC 16 19:45:19.2±4.2, 59°.74S×150°.00E, h0km, mb3.6/2, mbtmp3.6/3, ML3.3/1, MS3.5/9, Error ellipse: s-maj=406.9km s-min=32.1km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**18.29**	**172**	P	Pn	19 49 33.8	-0.2
VNDA				LR	LR	19 56 17.1	
	comp=Z,196nm,18.2s,baz=339,slow=36						
	1.2nm,0.7s						
RPZ	**Rata Peaks**	**20.53**	**48**	LR	LR	19 55 56.9	
	comp=Z,93nm,21.9s,baz=166,slow=31						
URZ	**Urewera**	**27.55**	**51**	LR	LR	20 01 02.4	
	comp=Z,67nm,20.1s,baz=288,slow=34						
QSPA	**South Pole Qui**	**30.35**	**180**	LR	LR	20 03 21.2	
	comp=Z,110nm,21.0s,baz=8.5,slow=36						
H01W1	**Cape Leeuwin H**	**34.06**	**301**	T	T	20 27 47.0	
	baz=147,slow=74,SNR=5.2						
H01W2	**Cape Leeuwin H**	**34.06**	**301**	T	T	20 27 52.4	
	baz=147,slow=74,SNR=5.4						
H01W3	**Cape Leeuwin H**	**34.07**	**301**	T	T	20 27 48.2	
	baz=147,slow=74,SNR=4.6						
MAW	**Mawson**	**36.27**	**220**	LR	LR	20 07 16.4	
	comp=Z,37nm,18.5s,baz=102,slow=36						
ASAR	**Alice Springs**	**37.79**	**335**	P	P	19 52 36.9	-0.1
	0.8nm,0.8s,baz=165,slow=8.7,SNR=7.2						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**41.32**	**337**	P	P	19 53 06.3	-0.1
	0.6nm,0.7s,baz=166,slow=7.6,SNR=4.8						
	0.6nm,0.7s						
SNAA	**Sanae**	**47.51**	**191**	LR	LR	20 15 03.4	
	comp=Z,82nm,18.4s,baz=170,slow=38						
HNR	**Honiara**	**50.76**	**13**	LR	LR	20 11 08.4	
	comp=Z,42nm,18.8s,baz=224,slow=30						
RAR	**Rarotonga**	**52.23**	**65**	LR	LR	20 13 33.0	
	comp=Z,29nm,18.4s,baz=222,slow=32						
H08S2	**Diego Garcia H**	**77.14**	**277**	T	T	21 21 53.1	
	baz=148,slow=76,SNR=5.8						
H08S1	**Diego Garcia H**	**77.15**	**277**	T	T	21 21 53.6	
	baz=148,slow=76,SNR=5.9						
H08S3	**Diego Garcia H**	**77.16**	**277**	T	T	21 21 53.0	
	baz=148,slow=76,SNR=5.2						
BOSA	**Boshof**	**80.96**	**227**	LR	LR	20 30 15.1	
	comp=Z,26nm,18.1s,baz=184,slow=33						

TXNET 16 19:48:03.0, 31°.5N±0°.6×103°.3W±0°.6, h5km±1km, ML1.9/11, Error ellipse: s-maj=1.0km s-min=0.9km az=84.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB06	**Permian Basin**	**0.11**	**13**	P	Pg	19 48 05.8	+0.4
TPB06				S	Sg	19 48 07.9	+0.9
PCOS	**Crockett Middl**	**0.26**	**241**	P	Pg	19 48 09.0	+1.0
PCOS				S	Sb	19 48 13.5	-1.4
TPB04	**Verhalen**	**0.35**	**183**	P	Pg	19 48 10.5	+0.8
TPB04				S	Sb	19 48 16.0	-1.5
TPB07	**Mentone**	**0.36**	**277**	P	Pg	19 48 10.8	+0.8
TPB07				S	Sg	19 48 16.3	+1.6
TPB16	**Coyonosa**	**0.41**	**181**	P	Pb	19 48 11.8	-0.9
TPB16				S	Sb	19 48 18.0	-1.3
MNHN	**Monahans**	**0.46**	**115**	P	Pg	19 48 12.4	+0.6
MNHN				S	Sb	19 48 19.4	-1.3
TPB10	**Southeast of T**	**0.50**	**240**	P	Pg	19 48 12.4	-0.2
TPB10				S	Sb	19 48 20.8	-1.1
TPB03	**Saragosa**	**0.51**	**207**	P	Pg	19 48 13.0	+0.3
TPB03				S	Sb	19 48 21.2	-0.8
PECS	**Pecos**	**0.56**	**253**	P	Pg	19 48 14.2	+0.6
PECS				S	Sg	19 48 21.7	+0.8
TPB05	**Hovey Rd**	**0.62**	**186**	P	Pg	19 48 15.5	+0.6
TPB05				S	Sb	19 48 24.3	-1.0
TPB12	**Southwest of T**	**0.69**	**242**	P	Pg	19 48 16.2	0.0
TPB12				S	Sb	19 48 26.4	-1.0
TPB08	**Permian Basin**	**0.70**	**156**	P	Pb	19 48 17.4	-0.4
TPB08				S	Sb	19 48 27.5	-0.4
TPB01	**Permian Basin**	**0.75**	**218**	S	Sb	19 48 28.9	-0.1
TPB11	**China Draw**	**0.78**	**301**	P	Pg	19 48 18.3	+0.3
ODSA	**Odessa**	**0.83**	**45**	P	Pb	19 48 20.0	0.0
ODSA				S	Sg	19 48 30.6	+0.8
HTMS	**Hat Mesa**	**0.99**	**341**	S	Sn	19 48 37.8	-0.3
TMB02	**Rankin**	**1.09**	**108**	P	Pb	19 48 24.1	-0.2
TMB02				S	Sb	19 48 39.0	+0.2
ALPN	**Alpine**	**1.21**	**196**	S	Sn	19 48 44.6	+1.2
TMB04	**Seminole**	**1.26**	**30**	S	Sn	19 48 45.3	+0.5
CPRX	**Cap Rock**	**1.58**	**341**	P	Pb	19 48 32.6	-0.1
TMB05	**Klondike**	**1.60**	**47**	S	Sg	19 48 55.0	+0.5
VHRN	**Van Horn**	**1.67**	**244**	P	Pb	19 48 34.4	+0.1
VHRN				S	Sg	19 48 56.7	+0.2
MNTX	**Cornudas Mount**	**1.83**	**276**	P	Pn	19 48 35.3	+0.3
MNTX				S	Sg	19 49 01.2	-0.5
SGCY	**Sterling City**	**1.85**	**78**	S	Sg	19 49 02.6	+0.3
SAND	**Sanderson**	**1.85**	**148**	P	Pg	19 48 38.0	-0.4
SAND				S	Sg	19 49 01.9	-0.5
OZNA	**Ozona**	**1.92**	**108**	P	Pn	19 48 37.1	+0.8
OZNA				S	Sg	19 49 04.1	-0.5
POST	**Post**	**2.12**	**44**	S	Sb	19 49 09.8	+1.1
TX31	**Lajitas Ar. Si**	**2.22**	**190**	P	Pn	19 48 42.1	+1.5
TX31				S	Sb	19 49 12.1	+0.5

IDC 16 19:50:20.1±999.0, 54°.20N×4°.82E, h0km, Error ellipse: s-maj=490.9km s-min=202.5km az=102.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.70**	**130**	I	I	20 36 01.3	
	baz=318,slow=330,SNR=1.5						
I43RU	**DUBNA INFRASON**	**18.45**	**69**	I	I	21 44 10.0	
	baz=278,sl

KHU IAML 19 59 26.8
comp=N,987nm,0.4s
KHU IAML 19 59 29.2
comp=E,833nm,0.4s
HPO Honuapo 0.46 237 Pg 19 59 14.3 -0.9
ALEP Alea Permanent 0.51 293 Pg 19 59 16.3 0.0
POHA Pohakuloa 0.55 319 Pg 19 59 16.4 -0.7
POHA IAML 19 59 25.1
comp=E,954nm,0.6s
HUH Hualalai 0.74 298 Pg 19 59 19.8 -0.8
HPAH Hawaii Prepara 0.86 323 Pg 19 59 20.9 -2.0
HPAH IAML 19 59 34.4
comp=N,268nm,0.1s
HPAH IAML 19 59 34.9
comp=E,460nm,0.5s
MHA Mahukona 1.11 320 Pg Pg 19 59 24.2 -3.4

UCR 16 19:59:32.4±0.7, 9.75N×83.32W, h1km±2km, MW3.6, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURIB	**Turrialba**	**0.39**	**293**	*eP*	Pg	19 59 41.0	+1.1
TURIB				*eS*	Sb	19 59 47.0	-1.8
CEUA	**Cerro Uatsi, L**	**0.40**	**109**	*eP*	Pb	19 59 42.5	+0.2
VINA	**Juan Vinas**	**0.44**	**288**	*eP*	Pg	19 59 42.0	+1.1
SAJE	**San Jernim**	**0.45**	**205**	*eP*	Pg	19 59 41.7	+0.7
SAJE				*eS*	Sg	19 59 48.1	+1.3
CVTV	**Tajo**	**0.49**	**300**	*eP*	Pb	19 59 43.4	-0.6
CVTQ	**Turrialba Volc**	**0.51**	**299**	*eP*	Pb	19 59 43.6	-0.7
VTR0	**Volcan Turrial**	**0.51**	**301**	*eP*	Pb	19 59 43.6	-0.8
CVTR	**Volcan Turrial**	**0.51**	**301**	*eP*	Pb	19 59 43.5	-0.9
BRIBI	**Bribri**	**0.51**	**105**	*eP*	Pb	19 59 44.3	+0.1
PCAYA	**Pacayas**	**0.51**	**288**	*eP*	Pb	19 59 43.4	-0.9
RAFA	**San Farael, Vo**	**0.53**	**293**	*eP*	Pb	19 59 43.7	-1.0
REPA	**Paraso**	**0.55**	**278**	*eP*	Pg	19 59 43.8	+0.9
CVTG	**V. Turrialba,**	**0.59**	**311**	*eP*	Pb	19 59 45.0	-0.6
PIEC	**Cerro El Cedra**	**0.64**	**258**	*eP*	Pg	19 59 45.3	+0.5
PILE	**Guapiles**	**0.65**	**315**	*eP*	Pb	19 59 47.1	+0.4
LCR2	**La Lucha 2**	**0.68**	**269**	*eP*	Pg	19 59 46.0	+0.5
ABE2	**San Pablo**	**0.73**	**266**	*eP*	Pg	19 59 47.0	+0.6
SJS3	**Mercedes San J**	**0.75**	**284**	*eP*	Pb	19 59 47.6	-0.7
PISJ	**San Jernim**	**0.80**	**261**	*eP*	Pg	19 59 48.0	+0.2
VBV1	**V. Barva**	**0.85**	**295**	*eP*	Pg	19 59 49.4	+0.7
PICV	**PH. Pirrs**	**0.87**	**262**	*eP*	Pg	19 59 49.2	+0.1
ALCO	**Alturas Coton,**	**0.93**	**149**	*eP*	Pg	19 59 50.2	-0.1
TCS1	**Tacares**	**1.01**	**287**	*eP*	Pg	19 59 52.1	+0.4
EDAD	**Golfito**	**1.10**	**172**	*eP*	Pg	19 59 53.6	0.0
SRA1	**San Ramn**	**1.19**	**286**	*eP*	Pg	19 59 54.9	-0.4
SOCE	**Pocosol**	**1.43**	**296**	*eP*	Pn	19 59 59.2	-0.3
ARE1	**Arenal 1**	**1.55**	**297**	*eP*	Pn	20 00 01.1	-0.1
VARE2	**V. Arenal**	**1.55**	**297**	*eP*	Pn	20 00 01.2	0.0
JTS	**Las Juntas de**	**1.70**	**288**	*eP*	Pn	20 00 03.3	+0.1

*CATAC **16** 20:13:09.3±0.4, 12°N±3°×8°8W±°, h34km±3km, M4.2/28, MLv4.2/28, Error ellipse: s-maj=6.3km s-min=2.0km az=27.1, confirmed*
*SNET **16** 20:13:10.5±1.3, 12°36N×87°79W, h18km±8km, ML3.7*
ISC 16 20:13:04.9±1.5, 12.12N±0.06×87.70W±0.04, h25km±13km, n67, σ0.91/85, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.86**	**48**	P	**Pn**	**20 13 22.8**	**+1.3**
CRIN	**San Cristobal**	**0.86**	**48**	S	**Sn**	**20 13 33.0**	**-0.3**
CSGN	**Cosiguina Volc**	**0.86**	**9**	P	**Pn**	**20 13 22.7**	**+1.2**
CSGN				S	**Sn**	**20 13 33.1**	**-0.3**
POTN	**Potosi Cosigui**	**0.90**	**12**	P	**Pn**	**20 13 23.1**	**+1.1**
POTN				S	**Sn**	**20 13 33.6**	**-0.5**
QUEN	**Al S del Volca**	**0.95**	**60**	P	**Pn**	**20 13 23.6**	**+0.8**
QUEN				S	**Sb**	**20 13 34.6**	**-0.5**
HERN	**Volcan Telica**	**0.98**	**60**	S	**Sb**	**20 13 34.9**	**-1.0**
POLN	**Al Sur del Vol**	**1.02**	**59**	P	**Pb**	**20 13 24.1**	**+0.3**
POLN				S	**Sb**	**20 13 35.5**	**-1.4**
ROCN	**Rota Cerro Neg**	**1.02**	**67**	P	**Pn**	**20 13 23.8**	**+0.2**
ROCN				S	**Sb**	**20 13 35.4**	**-1.5**
CNGA	**Al SSO del Vol**	**1.05**	**69**	P	**Pb**	**20 13 25.5**	**+1.1**
CNGA				S	**Sb**	**20 13 36.7**	**-1.0**
CNGN	**Cerro Negro**	**1.05**	**69**	P	**Pb**	**20 13 25.5**	**+1.0**
CNGN	**Cerro Negro**	**1.05**	**69**	S	**Sb**	**20 13 37.5**	**-0.4**
ILCN	**San Idelfonso**	**1.08**	**65**	P	**Pn**	**20 13 24.0**	**-0.5**
ILCN				S	**Sb**	**20 13 36.9**	**-1.7**
COPN	**Copaltepe**	**1.09**	**87**	P	**Pb**	**20 13 25.8**	**+0.7**
LEVN	**Ruinas Leon Vi**	**1.10**	**75**	P	**Pb**	**20 13 26.5**	**+1.2**
LEVN				S	**Sb**	**20 13 38.3**	**-0.9**
CNCH	**Conchagua**	**1.16**	**354**	*i* P	**Pb**	**20 13 27.1**	**+0.7**
CNCH				*eS*	**Sn**	**20 13 40.5**	**-0.2**
CNCH	**Conchagua**	**1.16**	**354**	P	**Pb**	**20 13 27.1**	**+0.7**
CNCH	**Conchagua**	**1.16**	**354**	S	**Sn**	**20 13 41.1**	**+0.4**
BC84	**Volcan Momotom**	**1.17**	**76**	P	**Pb**	**20 13 27.0**	**+0.5**
BC84	**Volcan Momotom**	**1.17**	**76**	S	**Sn**	**20 13 39.7**	**-1.1**
MOMN	**Momotombo**	**1.17**	**76**	P	**Pb**	**20 13 26.8**	**+0.3**
MOMN				S	**Sn**	**20 13 39.8**	**-1.1**
LCND	**La Caada**	**1.20**	**351**	*eP*	**Pb**	**20 13 27.4**	**+0.5**
LCND				*eP*	**Pn**	**20 13 27.6**	**+1.5**
LCND				*eS*	**Sn**	**20 13 41.6**	**+0.1**
LCND	**La Caada**	**1.20**	**351**	P	**Pb**	**20 13 27.8**	**+0.8**
AMTN	**Mateare**	**1.25**	**85**	P	**Pb**	**20 13 27.8**	**0.0**
AMTN	**Mateare**	**1.25**	**85**	S	**Sn**	**20 13 42.7**	**0.0**
SAPS	**Ciudad Sandino**	**1.27**	**88**	P	**Pb**	**20 13 28.9**	**+0.7**
SAPS	**Ciudad Sandino**	**1.27**	**88**	S	**Sn**	**20 13 43.4**	**+0.1**
APYN	**Apoyeque**	**1.33**	**85**	P	**Pb**	**20 13 30.2**	**+1.0**
APYN				S	**Sn**	**20 13 43.7**	**-1.1**
CRUN	**El Crucero**	**1.38**	**95**	P	**Pb**	**20 13 31.3**	**+1.2**
USIM	**UNAN**	**1.40**	**90**	P	**Pb**	**20 13 30.7**	**+0.4**
USIM	**UNAN**	**1.40**	**90**	S	**Sn**	**20 13 46.3**	**-0.1**
UNAN	**Cigeo UNAN**	**1.40**	**90**	P	**Pb**	**20 13 30.6**	**+0.2**
UNAN				S	**Sn**	**20 13 46.3**	**-0.2**
BLLM	**Bellamira**	**1.42**	**338**	*eP*	**Pb**	**20 13 31.3**	**+0.6**
LCY	**Lacayo**	**1.42**	**336**	*eP*	**Pb**	**20 13 31.2**	**+0.4**
R4DEC	**Barrio San Lui**	**1.42**	**89**	P	**Pn**	**20 13 30.6**	**+1.5**
R4DEC	**Barrio San Lui**	**1.42**	**89**	S	**Sn**	**20 13 46.8**	**-0.3**
MGAN	**Managua**	**1.42**	**89**	P	**Pb**	**20 13 30.6**	**-0.2**
MGAN	**Managua**	**1.42**	**89**	S	**Sn**	**20 13 46.8**	**-0.3**
MGAN	**Managua**	**1.42**	**89**	P	**Pn**	**20 13 30.5**	**+1.3**
MGAN	**Managua**	**1.42**	**89**	S	**Sn**	**20 13 46.7**	**-0.3**
RANC	**El Ranchito**	**1.43**	**336**	*eP*	**Pb**	**20 13 31.4**	**+0.5**
RANC				*eS*	**Sb**	**20 13 48.6**	**-0.2**
RANC	**El Ranchito**	**1.43**	**336**	P	**Pb**	**20 13 31.7**	**+0.8**
RANC	**El Ranchito**	**1.43**	**336**	S	**Sb**	**20 13 49.1**	**+0.3**
PACA	**Pacayal**	**1.47**	**336**	*eP*	**Pb**	**20 13 32.5**	**+0.8**
PACA	**Pacayal**	**1.47**	**336**	P	**Pb**	**20 13 32.8**	**+1.1**
PACA	**Pacayal**	**1.47**	**336**	S	**Sb**	**20 13 50.3**	**+0.2**
MAS3	**Al N del Volca**	**1.50**	**93**	P	**Pb**	**20 13 32.0**	**-0.1**
MAS3				S	**Sn**	**20 13 48.7**	**-0.3**
NANN	**Nandasmo**	**1.56**	**96**	P	**Pb**	**20 13 33.9**	**+0.9**
NANN	**Nandasmo**	**1.56**	**96**	S	**Sn**	**20 13 51.4**	**+1.0**
TECA	**Tecapa**	**1.57**	**330**	*eP*	**Pb**	**20 13 33.9**	**+0.4**
TECO	**Alcaldia de Te**	**1.76**	**323**	*eP*	**Pb**	**20 13 36.3**	**-0.3**
TECO	**Alcaldia de Te**	**1.76**	**323**	P	**Pb**	**20 13 36.3**	**-0.3**
TECO	**Alcaldia de Te**	**1.76**	**323**	S	**Sb**	**20 13 58.6**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.86**	**328**	*eP*	**Pb**	**20 13 38.3**	**0.0**
SCLA				*eS*	**Sb**	**20 14 00.4**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.86**	**328**	P	**Pb**	**20 13 38.3**	**0.0**
COEG	**Centro de Oper**	**1.88**	**323**	*eP*	**Pb**	**20 13 38.4**	**-0.3**
COEG				*eS*	**Sb**	**20 13 59.5**	**-2.3**
COEG				IAML		20 14 06.4	
	comp=Z,686nm,0.2s						
COEG	**Centro de Oper**	**1.88**	**323**	P	**Pb**	**20 13 38.6**	**-0.1**
COEG	**Centro de Oper**	**1.88**	**323**	S	**Sb**	**20 14 00.7**	**-1.1**
MATN	**Matagalpa**	**1.91**	**65**	P	**Pn**	**20 13 35.7**	**-0.3**
MATN	**Matagalpa**	**1.91**	**65**	S	**Sn**	**20 13 56.5**	**-2.8**
LFRS	**El Faro**	**2.00**	**319**	*eP*	**Pb**	**20 13 40.1**	**-0.6**
LFRS				IAML		20 14 11.3	
	comp=Z,1μm,0.5s						
RCVN	**Varilla!2**	**2.07**	**45**	P	**Pn**	**20 13 39.4**	**+1.2**
RCVN	**Varilla!2**	**2.07**	**45**	S	**Sn**	**20 14 01.5**	**-1.8**
RCPN	**Sur Rio San Ju**	**2.23**	**315**	*eP*	**Pb**	**20 13 39.7**	**+1.1**
PMON	**Piamonte**	**2.23**	**315**	*eP*	**Pb**	**20 13 45.0**	**+0.4**
PMON	**Piamonte**	**2.23**	**315**	S	**Sb**	**20 14 10.4**	**-1.5**
PMON	**Piamonte**	**2.23**	**315**	P	**Pb**	**20 13 44.3**	**-0.4**
JAYA	**Jayaque - finc**	**2.29**	**312**	*eP*	**Pb**	**20 13 44.6**	**-1.0**

*NEIC **16** 20:13:51.6±1.1, 37°23N±0°01×98°02W±0°01, h5km±2km, mb_Lg2.4/11, ML2.4/11, ML2.6/42, Error ellipse: s-maj=2.1km s-min=1.1km az=164.0*
NEIC 16 20:13:51.8±1.3, 37.25N±0°01×98.03W±0°02, h4km±2km,

Error ellipse: s-maj=2.0km s-min=1.7km az=141.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	**Anthony NE Sta**	**0.05**	**114**		Pg	20 13 53.2	+0.2
KAN08				Sg	Sg	20 13 54.2	+0.4
KAN12	**Harper NE Stat**	**0.06**	**27**	Pg	Pg	20 13 53.3	+0.2
KAN12				Sg	Sg	20 13 54.4	+0.4
KAN10	**Anthony SW Sta**	**0.14**	**203**		Pg	20 13 54.8	+0.3
KAN10					Sg	20 13 57.0	+0.7
KAN06	**Argonia West S**	**0.14**	**90**	Pg	Pg	20 13 54.8	+0.3
KAN05	**Bluff City Nor**	**0.19**	**138**		Pg	20 13 55.1	-0.3
KAN05					Sg	20 13 58.5	+0.6
KAN05				IAML		20 13 58.9	
	comp=N,2μm,0.3s						
KAN05				IAML		20 14 00.5	
	comp=E,2μm,0.2s						
KAN01	**Argonia South**	**0.23**	**113**		Pg	20 13 56.3	-0.1
KAN01				Sg	Sg	20 14 00.0	+0.6
KAN01				IAML		20 14 00.2	
	comp=N,1μm,0.4s						
KAN01				IAML		20 14 01.8	
	comp=E,909nm,0.3s						
KAN17	**Caldwell West**	**0.29**	**134**	Pg	Pg	20 13 57.6	+0.1
KAN17				Sg	Sg	20 14 01.8	+0.5
KAN17				IAML		20 14 03.4	
	comp=N,1μm,0.3s						
KAN17				IAML		20 14 03.9	
	comp=E,1μm,0.3s						
KAN14	**Manchester OK**	**0.29**	**170**		Pg	20 13 57.8	+0.2
KAN14				Sg	Sg	20 14 02.0	+0.6
KAN09	**Caldwell North**	**0.35**	**109**		Pg	20 13 58.6	+0.1
KAN09				Sg	Sg	20 14 03.4	+0.4
KAN09				IAML		20 14 05.5	
	comp=E,1μm,0.3s						
KAN09				IAML		20 14 06.9	
	comp=N,960nm,0.2s						
GC02	**Grant County #**	**0.42**	**161**		Pg	20 14 00.0	+0.2
GC02				Sg	Sg	20 14 06.1	+0.8
OK032	**Salt Plains WL**	**0.47**	**198**		Pg	20 14 00.8	+0.1
OK032				Sg	Sg	20 14 07.2	+0.4
OK032				IAML		20 14 08.1	
	comp=N,461nm,0.4s						
KAN13	**South Haven SW**	**0.50**	**118**	Pg	Pg	20 14 01.2	-0.2
KAN13				Sg	Sg	20 14 08.2	+0.3
KAN13				IAML		20 14 15.2	
	comp=E,630nm,0.3s						
CROK	**Carrier**	**0.74**	**177**		Pg	20 14 05.5	-0.6
CROK				IAML		20 14 21.6	
	comp=N,223nm,0.3s						
NOKA	**Waynoka**	**0.95**	**230**		Pg	20 14 08.8	-1.2
NOKA				IAML		20 14 33.4	
	comp=N,135nm,0.2s						
NOKA				IAML		20 14 38.5	
	comp=E,164nm,0.3s						
OK038	**West end E0370**	**0.96**	**217**	Pg	Pg	20 14 10.3	+0.2
OK038				Sg	Sg	20 14 23.0	+0.4
OK038				IAML		20 14 37.7	
	comp=E,264nm,0.5s						
OK048	**Pawnee Station**	**1.20**	**133**		Pg	20 14 13.9	-1.0
OK048				Sg	Sg	20 14 29.6	-0.8
OK048				IAML		20 14 35.4	
	comp=E,169nm,0.5s						
OK048				IAML		20 14 36.7	
	comp=E,127nm,0.2s						
OK051	**E0350 and S346**	**1.21**	**127**	Pg	Pg	20 14 14.5	-0.5
OK051				Sg	Sg	20 14 28.4	-2.3
OK051				IAmb_Lg		20 14 29.8	
	comp=Z,38nm,0.9s						
T35A	**Sooner Cattle**	**1.26**	**105**		Pg	20 14 15.0	-0.9
T35A					Sg	20 14 31.6	-0.7
T35A				IAML		20 14 36.2	
	comp=Z,114nm,0.3s						
T35A				IAML		20 14 39.0	
	comp=Z,105nm,0.3s						
R32A	**Long Quarter,**	**1.29**	**335**		Pg	20 14 15.9	-0.6
R32A					Sg	20 14 33.1	-0.3
R32A				IAML		20 14 37.2	
	comp=Z,103nm,0.6s						
R32A				IAML		20 14 37.4	
	comp=Z,137nm,0.6s						
QUOK	**Quay**	**1.51**	**135**		Pn	20 14 19.6	-0.2
OK029	**Liberty Lake**	**1.52**	**162**		Pn	20 14 18.9	-0.9
OK052	**Battle Ridge R**	**1.59**	**141**		Pn	20 14 19.4	-1.4
ELIS	**Ellis County**	**1.62**	**224**		Pn	20 14 21.2	-0.1
ADOK	**Arcadia Dam**	**1.68**	**161**		Pb	20 14 23.0	-0.3
CSTR	**Hydro, Custer**	**1.69**	**199**		Pn	20 14 21.8	-0.3
DEOK	**Depew**	**1.87**	**138**		Pn	20 14 23.8	-0.8
CBKS	**Cedar Bluff**	**2.06**	**320**		Pn	20 14 26.1	-1.3
KSU1	**Kansas State U**	**2.16**	**31**		Pn	20 14 26.0	-2.7
TUL3	**Leonard**	**2.24**	**126**		Pn	20 14 27.1	-2.6
TUL3				IAmb_Lg		20 15 07.9	
	comp=Z,14nm,0.8s						
W35A	**Tecumseh**	**2.29**	**156**		Pn	20 14 29.2	-1.2
WMOK	**Wichita Mounta**	**2.58**	**194**	Pn	Pn	20 14 34.9	+0.5
RLO	**Rose Lookout**	**2.65**	**113**	Pn	Pn	20 14 33.6	-1.7
X34A	**Smith Ranch, M**	**2.65**	**176**	Pn	Pn	20 14 33.6	-1.8
SMWD	**Samnorwood**	**2.79**	**221**		Pn	20 14 36.2	-1.2
U38A	**Gravette**	**3.03**	**104**	Pn	Pn	20 14 38.8	-1.8
HHAR	**Hobbs**	**3.42**	**105**		Pn	20 14 44.0	-2.1
AMTX	**Amarillo**	**3.78**	**233**	IAmb_Lg		20 16 02.3	
	comp=Z,7.5nm,1.0s						
RTBA	**Rita Blanca**	**3.86**	**259**		Pn	20 14 51.5	-0.6
P38A	**Dawn**	**4.25**	**55**	IAmb_Lg		20 16 11.3	
	comp=Z,5.7nm,0.8s						
MIAR	**Mount Ida**	**4.51**	**125**	Pn	Pn	20 14 58.9	-2.0
MIAR				IAmb_Lg		20 16 17.0	
	comp=Z,4.8nm,0.9s						
R40A	**Maddies Statio**	**4.68**	**75**	Pn	Pn	20 14 59.7	-3.6
WHAR	**Wooly Hollow**	**5.03**	**111**	Pn	Pn	20 15 03.5	-4.6
X40A	**Basin Creek Fa**	**5.04**	**122**	Pn	Pn	20 15 03.5	-4.7
T25A	**Trinidad**	**5.10**	**271**	Pn	Pn	20 15 03.0	-6.2
T42A	**Van Buren**	**5.55**	**90**	Pn	Pn	20 15 12.1	-3.0
SDCO	**Great Sand Dun**	**5.96**	**277**	IAmb_Lg		20 17 08.2	
	comp=Z,8.5nm,1.2s						

*IDC **16** 20:18:18.4±0.5, 8°24S×116°78E, h0km, mb4.2/19, mbtmp4.2/21, ML3.9/2, MS3.5/17, Error ellipse: s-maj=20.6km s-min=11.7km az=72.0*
*DJA **16** 20:18:21.7±0.1, 8°S±3°×11°7E±°, h10km, M4.7/25, mb4.7/24, mB5.1/7, MLv4.8/25, Mw(mB)4.5/7*
*NEIC **16** 20:18:24.0±2.5, 8°37S±0°07×116°90E±0°02, h41km±7km, mb4.7/48, Error ellipse: s-maj=10.8km s-min=2.2km az=165.0*
ISC 16 20:18:23.3±0.3, 8°34S±0°04×116°84E±0°04, h35km, n159, σ1.56/159, mb4.5/34, MS3.5/14, 1C, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.05**	**118**	P	**Pn**	**20 18 41.8**	**+0.3**
PLAI	**Plampang**	**1.05**	**118**	P	**Pn**	**20 18 42.2**	**+0.7**
PLAI				S	**Sn**	**20 18 56.6**	**+1.7**
SRBI	**Singaraja**	**1.63**	**279**	P	**Pn**	**20 18 49.2**	**-0.3**
SRBI				S	**Sn**	**20 19 10.3**	**+1.1**
DNP	**Denpasar**	**1.64**	**258**	P	**Pn**	**20 18 50.0**	**+0.3**
JAGI	**Jajag, Banyuwa**	**2.66**	**267**		**Pn**	**20 19 02.1**	**-1.6**
JAGI				Sn	**Sn**	**20 19 32.6**	**-2.2**
JAGI	**Jajag, Banyuwa**	**2.66**	**267**	P	**Pn**	**20 19 02.5**	**-1.2**
JAGI	**Jajag, Banyuwa**	**2.66**	**267**	P	**Pn**	**20 19 01.9**	**-1.8**
WBSI	**Waikabubak, Su**	**2.83**	**117**	P	**Pn**	**20 19 07.1**	**+1.0**
KMMI	**Kalianget**	**3.12**	**294**	P	**Pn**	**20 19 10.3**	**+0.3**
GMJI	**Gumukmas**	**3.36**	**271**	P	**Pn**	**20 19 12.8**	**-0.5**
WSI	**Waingapu**	**3.66**	**111**	P	**Pn**	**20 19 18.5**	**+1.0**
BSSI	**Bau Bau, Buton**	**4.23**	**59**	P	**Pn**	**20 19 25.4**	**+0.1**
KAPI	**Kappang**	**4.39**	**41**		**Pn**	**20 19 26.9**	**-0.6**
KAPI				Sn	**Sn**	**20 20 14.1**	**-3.4**
KAPI	**Kappang**	**4.39**	**41**	Pn	**Pn**	**20 19 27.3**	**-0.2**
	4.9nm,0.3s,baz=201,slow=6.7,SNR=14						
KAPI				Sn	**Sn**	**20 20 16.7**	**-0.8**
	11nm,0.3s,baz=217,slow=20,SNR=6.4						
	14nm,0.4s						
KAPI	**Kappang**	**4.39**	**41**	P	**Pn**	**20 19 27.4**	**-0.2**
BKSI	**Bulukumba**	**4.43**	**48**	P	**Pn**	**20 19 28.0**	**0.0**
GRJI	**Gresik**	**4.55**	**288**	P	**Pn**	**20 19 28.5**	**-1.1**
EDFI	**Ende, Flores**	**4.82**	**95**	P	**Pn**	**20 19 34.9**	**+1.5**
BWJI	**Bawean**	**4.83**	**301**	P	**Pn**	**20 19 32.3**	**-1.2**
BNSI	**Bone**	**5.09**	**40**	P	**Pn**	**20 19 38.5**	**+1.4**
	2μm125nm,0.8s						
SPSI	**Sidrap Palu**	**5.23**	**34**	P	**Pn**	**20 19 41.3**	**+2.2**
	0.6nm3μm59nm,0.8s						
MMRI	**Maumere**	**5.35**	**94**		**Pn**	**20 19 40.2**	**-0.5**
MMRI	**Maumere**	**5.35**	**94**	P	**Pn**	**20 19 41.5**	**+0.8**
MMRI	**Maumere**	**5.35**	**94**	P	**Pn**	**20 19 41.5**	**+0.8**
PCJI	**Pacitan**	**5.61**	**271**	P	**Pn**	**20 19 43.4**	**-0.8**
	0.6nm1μm106nm,0.8s						
UGM	**Wanagama**	**6.27**	**273**		**Pn**	**20 19 52.7**	**-0.6**
UGM				Sn	**Sn**	**20 21 04.2**	**+0.4**
UGM	**Wanagama**	**6.27**	**273**	P	**Pn**	**20 19 53.1**	**-0.2**
UGM	**Wanagama**	**6.27**	**273**	P	**Pn**	**20 19 56.6**	**+3.3**
	0.7nm102nm,0.9s						
BBSI	**Bau Bau**	**6.36**	**64**	P	**Pn**	**20 19 58.0**	**+3.4**
	0.3nm44nm,0.9s						
SMRI	**Semarang**	**6.47**	**281**	Pn	**Pn**	**20 19 57.5**	**+1.5**
SOEI	**Soe**	**7.47**	**101**		**Pn**	**20 20 09.1**	**-0.8**
SOEI	**Soe**	**7.47**	**101**	P	**Pn**	**20 20 10.7**	**+0.7**
SOEI	**Soe**	**7.47**	**101**	P	**Pn**	**20 20 11.8**	**+1.8**
BBJI	**Bungbulang**	**9.14**	**275**	P	**Pn**	**20 20 32.9**	**0.0**
LEM	**Lembang**	**9.26**	**279**	Pn	Pn	20 20 39.3	+4.7
	1.4nm,0.3s,baz=283,slow=18,SNR=4.1						
LEM				LR	LR	20 24 32.1	
	comp=Z,469nm,21.3s,baz=82,slow=41						
FITZ	**Fitzroy Crossi**	**12.94**	**139**		**Pn**	**20 21 23.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**12.94**	**139**	Pn	**Pn**	**20 21 24.3**	**-0.4**
	0.6nm,0.3s,baz=320,slow=8.3,SNR=24						
FITZ				Sn	**Sn**	**20 23 48.0**	**+0.5**
	1.4nm,0.3s,baz=165,slow=18,SNR=6.6						
FITZ				LR	LR	20 26 23.3	
	comp=Z,160nm,19.7s,baz=320,slow=37						
	6.1nm,0.5s						
MBWA	**Marble Bar**	**13.05**	**168**	Pn	**Pn**	**20 21 23.6**	**-2.7**
MBWA	**Marble Bar**	**13.05**	**168**	P	**Pn**	**20 21 26.8**	**+0.6**
PMBI	**Palembang**	**13.15**	**293**	Pn	**Pn**	**20 21 31.4**	**+3.7**
PSA00	**Pilbara Seismi**	**13.47**	**168**		**Pn**	**20 21 30.5**	**-1.5**
PSA00	**Pilbara Seismi**	**13.47**	**168**		**Pn**	**20 21 30.0**	**-2.0**
PSA00	**Pilbara Seismi**	**13.47**	**168**	P	**Pn**	**20 21 32.5**	**+0.5**
BNDI	**Bandanaira**	**13.53**	**75**	P	**P**	**20 21 41.6**	**+0.2**
KNRA	**Kununurra**	**13.75**	**123**		**Pn**	**20 21 33.9**	**-1.9**
DRS	**Darwin Rock St**	**14.41**	**108**	P	**Pn**	**20 21 45.5**	**+0.6**
GIRL	**Giralia**	**14.44**	**190**	Pn	**Pn**	**20 21 42.6**	**-2.6**
GIRL	**Giralia**	**14.44**	**190**	P	**Pn**	**20 21 44.8**	**-0.4**
MTN	**Manton Dam**	**14.74**	**109**		**Pn**	**20 21 46.1**	**-3.3**
MTN	**Manton Dam**	**14.74**	**109**	P	**Pn**	**20 21 48.6**	**-0.8**
SWI	**Sorong**	**16.17**	**63**	P	**P**	**20 22 10.1**	**-0.8**
	36nm,1.0s						
FAKI	**Fak Fak**	**16.25**	**72**		**Pn**	**20 22 08.3**	**-0.8**
FAKI	**Fak Fak**	**16.25**	**72**	P	**Pn**	**20 22 09.6**	**+0.6**
FAKI	**Fak Fak**	**16.25**	**72**	P	**P**	**20 22 11.0**	**-0.8**
	30nm,0.6s						
KMPI	**Kaimana, Papua**	**17.40**	**76**	P	**P**	**20 22 25.5**	**+1.0**
	47nm,0.9s						
DAV	**Davao City (W)**	**17.62**	**30**	LR	LR	20 29 58.6	
	comp=Z,74nm,20.0s,baz=182,slow=40						
PPI	**Padang Panjang**	**18.16**	**295**	P	**P**	**20 22 33.8**	**+1.0**
	19nm,1.2s						
MEEK	**Meekatharra**	**18.27**	**175**	P	**Pn**	**20 22 34.8**	**+0.6**
WRKA	**Warakurna**	**19.88**	**148**	P	**Pn**	**20 22 53.8**	**+0.3**
WB0	**Warramunga Arr**	**20.45**	**126**		**P**	**20 22 57.3**	**-0.6**
WB0				IAmb	IAmb	20 22 59.7	
	comp=Z,28nm,0.6s						
WRA	**Warramunga Arr**	**20.49**	**126**		**P**	**20 22 58.0**	**-0.5**
WRA	**Warramunga Arr**	**20.49**	**126**	P	**P**	**20 22 59.1**	**+0.7**
	comp=Z,25nm,0.7s,baz=302,slow=12,SNR=200						
WRA				S	**S**	**20 26 47.4**	**+1.3**
	comp=Z,3.2nm,0.9s,baz=296,slow=24,SNR=5.0						
WRA				LR	LR	20 31 31.1	
	comp=Z,184nm,19.6s,baz=278,slow=38						
	comp=Z,25nm,0.7s						
WRAB	**Tennant Creek**	**20.50**	**126**		**P**	**20 22 57.2**	**-1.2**
WRAB				IAmb	IAmb	20 23 00.3	
	comp=Z,26nm,0.8s						
WB1	**Warramunga Ar.**	**20.51**	**126**	P	**P**	**20 22 59.7**	**+1.1**
WR8	**Warramunga

comp=Z,1.8nm,0.9s
DZM Mont Dzumac 49.56 112 P **P 20 27 08.7 -2.6**
DZM Mont Dzumac 49.56 112 LR LR 20 50 30.5
comp=Z,51nm,18.3s,baz=210,slow=39
ONTNC Ouen Toro 49.60 112 P **P 20 27 07.7 -3.8**
JSD Sado 50.29 22 P **P 20 27 14.2 -2.2**
JSD IAmb IAmb 20 27 24.3
comp=Z,8.6nm,0.8s
JTM Tenmabayashi 53.74 23 P **P 20 27 41.4 -0.6**
USRK Ussuriysk Ar. 54.06 13 P **P 20 27 43.8 -0.5**
USRK Ussuriysk Ar. 54.06 13 P **P 20 27 43.3 -1.0**
comp=Z,1.2nm,0.5s,baz=225,slow=8.3,SNR=4.8
comp=Z,1.2nm,0.5s
ULN Ulaanbaatar 56.63 352 **P 20 28 02.7 -0.2**
ULN IAmb IAmb 20 28 11.4
comp=Z,7.2nm,1.4s
SONM Songino Array 56.69 352 **P 20 28 02.2 -1.1**
SONM IAmb IAmb 20 28 11.7
comp=Z,6.1nm,1.2s
SONM Songino Array 56.69 352 P **P 20 28 03.3 -0.1**
comp=Z,1.8nm,0.7s,baz=174,slow=8.9,SNR=7.8
SONM LR LR 20 53 42.7
comp=Z,36nm,18.3s,baz=46,slow=38
comp=Z,1.8nm,0.7s
JKA Kamikawa-asahi 57.19 22 P **P 20 28 06.8 0.0**
MLZ Mavora Lakes 57.41 139 P **P 20 28 05.6 -2.9**
MLZ IAmb IAmb 20 28 40.0
comp=Z,15nm,1.3s
QRZ Quartz Range 58.86 133 P **P 20 28 16.2 -2.5**
HEH HeiHe 59.07 8 *e*P **P 20 28 20.5 +0.7**
HEH pmax pmax
comp=Z,15nm,1.1s
THZ Tophouse 59.41 134 P **P 20 28 20.2 -2.3**
MSWZ Moikau Station 61.00 133 P P 20 28 28.8 -4.6
BKZ Black Stump Fm 61.36 130 P **P 20 28 34.3 -1.7**
URZ Urewera 61.63 129 LR LR 20 56 50.7
comp=Z,51nm,18.4s,baz=322,slow=38
MK31 Makanchi Array 62.92 334 P **P 20 28 45.2 -0.8**
MK31 IAmb IAmb 20 28 53.9
comp=Z,4.1nm,1.0s
MKAR Makanchi Array 62.92 334 **P 20 28 44.8 -1.3**
MKAR Makanchi Array 62.92 334 P **P 20 28 45.4 -0.7**
comp=Z,1.3nm,0.9s,baz=147,slow=6.8,SNR=9.7
MKAR LR LR 21 00 23.5
comp=Z,31nm,18.9s,baz=108,slow=40
comp=Z,1.3nm,0.9s
MAKZ Makanchi 63.06 334 **P 20 28 46.1 -0.9**
MAKZ IAmb IAmb 20 28 54.7
comp=Z,5.7nm,1.2s
KURBB Kurchatov Arra 67.45 335 P **P 20 29 13.7 -1.7**
comp=Z,0.5nm,0.8s,baz=150,slow=6.4,SNR=4.3
comp=Z,0.5nm,0.8s
KURK Kurchatov 67.48 335 P **P 20 29 13.5 -2.0**
ZALV Zalesovo Beam 67.69 340 P **P 20 29 15.0 -1.7**
ZALV Zalesovo Beam 67.69 340 P **P 20 29 15.3 -1.5**
comp=Z,1.0nm,0.5s,baz=150,slow=3.1,SNR=5.7
ZALV LR LR 21 02 37.6
comp=Z,17nm,18.8s,baz=82,slow=39
comp=Z,1.0nm,0.5s
MAW Mawson 69.13 199 P **P 20 29 26.0 +0.4**
comp=Z,4.6nm,0.9s,baz=97,slow=8.4,SNR=5.6
comp=Z,4.6nm,0.9s
BVAR Borovoye Array 72.72 333 P **P 20 29 46.5 -1.2**
comp=Z,0.5nm,0.6s,baz=146,slow=11,SNR=4.3
comp=Z,0.5nm,0.6s
VNDA Vanda 72.97 171 P **P 20 29 49.6 +0.8**
VNDA Vanda 72.97 171 P **P 20 29 50.1 +1.3**
comp=Z,0.8nm,0.4s,baz=311,slow=7.5,SNR=12
comp=Z,0.8nm,0.4s
AB31 Akbulak array 75.80 326 P **P 20 30 02.9 -2.8**
ABKAR Akbulak array 75.80 326 P **P 20 30 03.5 -2.2**
ABKAR Akbulak array 75.80 326 P **P 20 30 02.9 -2.8**
ABKAR IAmb IAmb 20 30 10.4
comp=Z,1.9nm,0.8s
AKTO Aktyubinsk 77.48 326 P **P 20 30 16.3 +1.2**
comp=Z,0.9nm,0.6s,baz=111,slow=3.2,SNR=3.9
comp=Z,0.9nm,0.6s
QSPA South Pole Qui 81.65 180 P **P 20 30 37.2 -0.6**
QSPA IAmb IAmb 20 30 49.1
comp=Z,7.4nm,1.1s
QSPA South Pole Qui 81.65 180 P **P 20 30 38.2 +0.4**
comp=Z,2.1nm,0.8s,baz=139,slow=1.5,SNR=6.8
comp=Z,2.1nm,0.8s
KIRV Kirov 85.63 331 LR LR 21 13 56.1
comp=Z,23nm,19.6s,baz=125,slow=39
BOSA Boshof 87.44 242 P **P 20 31 08.1 +0.2**
comp=Z,4.0nm,0.9s,baz=146,slow=4.3,SNR=3.4
comp=Z,4.0nm,0.9s
LBTB Lobatse 87.64 245 P **P 20 31 06.3 -2.6**
LBTB IAmb IAmb 20 31 32.9
comp=Z,8.9nm,1.2s
LBTB Lobatse 87.64 245 LR LR 21 04 26.0
comp=Z,57nm,18.4s,baz=52,slow=32
TROLL Troll, Antarti 89.40 196 ⇑P **P 20 31 18.3 +2.1**
comp=Z,78nm,0.4s
SNAA Sanae 91.05 196 P **P 20 31 25.2 +1.4**
comp=Z,4.8nm,1.1s,baz=177,slow=6.0,SNR=5.2
comp=Z,4.8nm,1.1s
MODS Modra-Piesok 102.53 318 *e*PDIFF **Pdif 20 32 23.0 +6.8**
O49A Covington 143.09 27 PKPpre 20 37 49.8
CPUP Villa Florida 145.07 189 **PKPbc 20 37 55.3 -1.9**
CPUP Villa Florida 145.07 189 PKPbc **PKPdf 20 37 58.6 +0.8**
comp=Z,10nm,0.7s,baz=158,slow=2.1,SNR=15
BDFB Brasilia 151.84 212 PKPbc **PKPbc 20 38 15.4 -0.2**
comp=Z,1.6nm,0.4s,baz=232,slow=4.0,SNR=3.4
LPAZ La Paz 155.04 169 PKP **PKPdf 20 38 16.8 +2.4**
comp=Z,1.0nm,0.3s,baz=139,slow=3.0,SNR=3.8
LPAZ PKPab **PKPab 20 38 40.6 +2.1**
comp=Z,2.3nm,0.8s,baz=182,slow=4.6,SNR=5.1

DJA 16 20:35:59.7±0.2, 2°S±2°×12°3E±°, h10km, M3.8/19, mB5.0/2, mb4.0/5, MLv3.6/19, Mw(mB)4.3/2, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.83**	**13**	P	Pg	20 36 14.6	-1.2
LUWI				S	Sn	20 36 28.8	-1.1
APSI	**Ampana**	**1.32**	**315**	P	Pn	20 36 22.6	-1.7
MRSI	**Marisa**	**2.41**	**345**	P	Pn	20 36 39.9	+0.7
KMSI	**Cibinong**	**2.79**	**30**	P	Pn	20 36 45.0	+0.5
PCI	**Palu**	**2.90**	**289**	P	Pn	20 36 45.0	-1.0
SANI	**Sanana**	**3.41**	**93**	P	Pn	20 36 50.7	-2.3
MPSI	**Mapaga**	**3.46**	**309**	P	Pn	20 36 53.0	-0.6
SPSI	**Sidrap Palu**	**3.50**	**233**	P	Pn	20 36 54.4	+0.2
BNSI	**Bone**	**3.53**	**224**	P	Pn	20 36 55.2	+0.6
BBSI	**Bau Bau**	**3.60**	**180**	P	Pn	20 36 55.6	-0.1
BKSI	**Bulukumba**	**4.22**	**215**	P	Pn	20 37 04.0	-0.2
BSSI	**Bau Bau, Buton**	**4.74**	**206**	P	Pn	20 37 12.3	+1.0
MSAI	**Masohi**	**6.51**	**103**	P	Pn	20 37 36.8	+1.1

IDC 16 20:44:41.0±15.0, 4°27N×36°38E, h0km, mb3.9/6, mbtmp3.9/6, MS3.5/10, Error ellipse: s-maj=357.0km s-min=43.6km az=1.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**9.65**	**41**	LR	LR	20 50 30.0	
	comp=Z,6.7nm,20.8s,baz=186,slow=36						
LSZ	**Lusaka**	**21.04**	**203**	LR	LR	20 58 29.7	
	comp=Z,32nm,21.1s,baz=59,slow=39						
DBIC	**Dimbokro**	**41.11**	**275**	LR	LR	21 09 33.4	
	comp=Z,52nm,18.9s,baz=80,slow=36						
MDT	**Midelt**	**47.64**	**312**	LR	LR	21 15 19.0	
	comp=Z,44nm,19.0s,baz=130,slow=39						
ESDC	**Sonseca Array**	**50.68**	**320**	P	P	20 53 42.3	-0.1
	0.4nm,0.8s,baz=127,slow=5.6,SNR=3.9						
	0.4nm,0.8s						
AAK	**Ala-Archa**	**51.03**	**36**	LR	LR	21 19 56.4	
	comp=Z,33nm,18.1s,baz=238,slow=42						
BVAR	**Borovoye Array**	**56.07**	**24**	P	P	20 54 21.4	-0.3
	1.4nm,0.8s,baz=211,slow=4.9,SNR=5.1						
	1.4nm,0.8s						
BRDH	**Bariadhala**	**56.41**	**66**	LR	LR	21 18 51.3	
	comp=Z,123nm,18.1s,baz=110,slow=36						
MKAR	**Makanchi Array**	**57.97**	**36**	P	P	20 54 35.5	+0.1
	2.8nm,1.0s,baz=232,slow=5.5,SNR=12						
MKAR				LR	LR	21 20 58.1	
	comp=Z,32nm,18.5s,baz=267,slow=38						
	2.8nm,1.0s						
KURBB	**Kurchatov Arra**	**58.14**	**30**	P	P	20 54 36.5	+0.1
	0.7nm,0.3s,baz=236,slow=7.0,SNR=4.4						
KURBB				LR	LR	21 21 13.3	
	comp=Z,55nm,18.5s,baz=178,slow=38						
	0.7nm,0.3s						
NOA	**NORSAR Array B**	**59.75**	**346**	P	P	20 54 47.5	+0.1
	1.2nm,0.9s,baz=153,slow=6.9,SNR=3.9						
	1.2nm,0.9s						
ZALV	**Zalesovo Beam**	**63.21**	**30**	P	P	20 55 10.8	-0.2
	1.2nm,0.7s,baz=234,slow=7.1,SNR=5.9						
ZALV				LR	LR	21 26 18.5	
	comp=Z,33nm,18.4s,baz=30,slow=40						
	1.2nm,0.7s						
SNAA	**Sanae**	**79.96**	**192**	LR	LR	21 27 54.3	
	comp=Z,34nm,21.1s,baz=78,slow=32						
WRA	**Warramunga Arr**	**98.91**	**109**	LR	LR	21 42 41.7	
	comp=Z,51nm,18.1s,baz=39,slow=35						

SJA 16 20:48:32.5±0.8, 22°61S×70°41W, h24km±3km, ML3.3, MW3.6
GUC 16 20:48:35.5±0.9, 22°62S×70°37W, h15km±10km, ML3.6
ISC 16 20:48:33.2±1.3, 22°59S±0°02×70°48W±0°04, h19km±3km, n31, σ1°69/45, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.85**	**98**	⇓*e*P	**Pg**	**20 48 48.9**	**-1.0**
PB06				*e*S	**Sb**	**20 48 58.5**	**-2.0**
PB06	**IPOC Station P**	**0.85**	**98**	*e*P	**Pb**	**20 48 48.2**	**-1.3**
PB06				*e*S	**Sg**	**20 48 59.3**	**-1.9**
PB06				IAML		20 49 03.4	
	comp=Z,1μm,0.3s						
PB03	**IPOC Station P**	**0.86**	**51**	*e*P	**Pg**	**20 48 49.9**	**-0.3**
PB03				*e*S	**Sb**	**20 49 00.5**	**-0.5**
PB03				IAML		20 49 01.1	
	comp=N,2μm,0.3s						
PB03	**IPOC Station P**	**0.86**	**51**	*e*P	Pb	20 48 44.1	-5.7
PB03				*e*S	**Sg**	**20 49 00.8**	**-0.9**
PB03				IAML		20 49 02.7	
	comp=Z,2μm,0.3s						
PB10	**IPOC Station P**	**0.92**	**184**	*i* P	**Pb**	**20 48 50.8**	**+0.2**
PB10				*i* S	**Sb**	**20 49 02.8**	**+0.4**
PB10	**IPOC Station P**	**0.92**	**184**	*e*P	**Pb**	**20 48 51.1**	**+0.5**
PB10				*e*S	**Sg**	**20 49 03.5**	**+0.1**
PB10				IAML		20 49 05.3	
	comp=Z,520nm,0.2s						
PB09	**IPOC Station P**	**1.40**	**56**	*e*P	**Pb**	**20 48 58.3**	**-0.5**
PB09				*e*S	**Sb**	**20 49 15.5**	**-0.8**
PB09	**IPOC Station P**	**1.40**	**56**	*e*P	**Pb**	**20 48 58.3**	**-0.5**
PB09				*e*S	**Sg**	**20 49 17.3**	**-1.3**
PB09				IAML		20 49 19.1	
	comp=Z,670nm,0.3s						
PATCX	**Punta Patache**	**1.79**	**10**	*e*P	**Pn**	**20 49 03.8**	**+0.5**
PATCX				*e*S	**Sn**	**20 49 25.7**	**+0.2**
PATCX				IAML		20 49 37.8	
	comp=E,337nm,0.2s						
PATCX	**Punta Patache**	**1.79**	**10**	*e*P	**Pn**	**20 49 03.7**	**+0.5**
PATCX				*e*S	**Sg**	**20 49 31.3**	**+0.2**
PATCX				IAML		20 49 36.1	
	comp=Z,198nm,0.6s						
PB01	**IPOC Station P**	**1.80**	**31**	*e*P	**Pn**	**20 49 04.6**	**+1.3**
PB01				*e*S	**Sb**	**20 49 27.3**	**-0.5**
PB01				IAML		20 49 31.2	
	comp=E,719nm,0.2s						
PB01	**IPOC Station P**	**1.80**	**31**	*e*P	**Pn**	**20 49 04.0**	**+0.7**
PB01				*e*S	**Sb**	**20 49 28.3**	**+0.5**
PB01				IAML		20 49 31.1	
	comp=Z,326nm,0.2s						
PB14	**IPOC Station P**	**2.02**	**178**	*e*P	**Pn**	**20 49 06.5**	**-0.2**
PB14				*e*S	**Sg**	**20 49 37.4**	**-1.3**
PB14				IAML		20 49 40.0	
	comp=Z,199nm,0.5s						
TA01	**Diego Aracena**	**2.04**	**8**	*e*S	**Sb**	**20 49 34.0**	**-0.6**
TA01				IAML		20 49 40.4	
	comp=N,327nm,0.4s						
TA01	**Diego Aracena**	**2.04**	**8**	*e*P	**Pn**	**20 49 08.6**	**+2.1**
TA01				*e*S	**Sn**	**20 49 32.3**	**+0.9**
TA01				IAML		20 49 40.1	
	comp=Z,160nm,0.4s						
AF01	**San Pedro de A**	**2.15**	**100**	IAML		20 49 50.6	
	comp=E,2μm,0.4s						
AF01	**San Pedro de A**	**2.15**	**100**	*e*P	**Pn**	**20 49 08.3**	**-0.1**
AF01				*e*S	**Sg**	**20 49 48.5**	**+5.8**
TA02	**Huaiquique**	**2.33**	**8**	*e*P	**Pn**	**20 49 10.5**	**-0.1**
TA02				*e*S	**Sn**	**20 49 40.5**	**+1.7**
TA02				IAML		20 49 46.0	
	comp=Z,144nm,0.6s						
HMBC	**Humberstone**	**2.37**	**14**	IAML		20 49 51.2	
	comp=N,331nm,0.3s						
HMBC	**Humberstone**	**2.37**	**14**	*e*P	**Pn**	**20 49 12.7**	**+1.5**
HMBC				*e*S	**Sn**	**20 49 41.7**	**+1.9**
HMBC				IAML		20 49 54.1	
	comp=Z,319nm,0.4s						
GO02	**Mina Guanaco**	**2.69**	**162**	IAML		20 49 57.3	
	comp=N,303nm,0.2s						
GO02	**Mina Guanaco**	**2.69**	**162**	*e*P	**Pn**	**20 49 16.2**	**+0.5**
GO02				*e*S	**Sb**	**20 49 51.0**	**-2.6**
PB08	**IPOC Station P**	**2.73**	**27**	IAML		20 49 59.6	
	comp=N,216nm,0.4s						
PB08	**IPOC Station P**	**2.73**	**27**	*e*P	**Pn**	**20 49 18.2**	**+1.7**
PB08				*e*S	**Sn**	**20 49 51.5**	**+2.3**
PB08				IAML		20 50 06.7	
	comp=Z,114nm,0.3s						
PB11	**IPOC Station P**	**2.92**	**15**	IAML		20 50 05.9	
	comp=E,333nm,0.4s						
PB11	**IPOC Station P**	**2.92**	**15**	*e*P	**Pn**	**20 49 20.0**	**+1.1**
PB11				*e*S	**Sb**	**20 49 57.6**	**-2.6**
PB11				IAML		20 50 06.6	
	comp=Z,153nm,0.3s						
GO01	**Chusmiza**	**3.15**	**23**	*e*P	Pn	20 49 11.5	-11
AC01	**Pan de Azucar**	**3.54**	**182**	IAML		20 50 31.6	
	comp=N,76nm,0.3s						
AC01	**Pan de Azucar**	**3.54**	**182**	*e*P	**Pn**	**20 49 26.2**	**-1.0**
AC01				*e*S	**Sb**	**20 50 15.0**	**-2.9**
AC01				IAML		20 50 24.4	
	comp=Z,40nm,0.7s						
PB16	**IPOC Station P**	**4.33**	**12**	*e*S	**Sg**	**20 50 50.0**	**-2.6**
PB16				IAML		20 50 51.5	
	comp=Z,39nm,0.6s						
AC02	**Maricunga**	**4.40**	**164**	*e*P	**Pn**	**20 49 41.5**	**+2.0**
AC02				*e*S	**Sb**	**20 50 45.9**	**+2.7**
AC02				IAML		20 51 02.3	
	comp=Z,34nm,1.6s						

RSNC 16 20:59:06.4±0.0, 10°N±2°×7°9W±°, h41km, M3.3, mB4.8, mb4.0, ML3.0, MLv3.8, Mw(mB)4.0, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**1.63**	**133**	P	Pn	20 59 32.1	-0.5
CAPC				S	Sn	20 59 50.8	-1.6
LCBC	**Los crdobas,**	**2.34**	**112**	P	Pn	20 59 43.1	+0.7
LCBC				S	Sn	21 00 06.0	-3.9
AZU	**Azuero**	**2.58**	**221**	P	Pn	20 59 45.8	+0.1
AZU				S	Sn	21 00 14.4	-1.4
APAC	**Apartado, Choc**	**2.69**	**133**	P	Pn	20 59 48.0	+0.9
APAC				S	Sn	21 00 17.8	-0.6
SJCC	**San Jacinto, C**	**3.33**	**87**	P	Pn	20 59 56.3	+0.2
SJCC				S	Sn	21 00 32.0	-2.6
DBBC	**Dabeiba**	**3.58**	**139**	P	Pn	20 59 59.8	+0.3
UREC	**San Jos de Ur**	**3.59**	**123**	P	Pn	20 59 59.1	-0.5
UREC				S	Sn	21 00 34.5	-6.3
RNCC	**Cayo Roncador,**	**4.09**	**339**	P	Pn	21 00 06.5	+0.1
RNCC				S	Sn	21 00 50.6	-2.4
ZARC	**Zaragoza, Cauc**	**4.29**	**121**	P	Pn	21 00 08.0	-1.3
ZARC				S	Sn	21 00 53.0	-5.2
CBOC	**Ciudad Bolivar**	**4.61**	**147**	P	Pn	21 00 13.8	0.0
CBOC				S	Sn	21 01 05.5	-0.8
PTBC	**PUERTO BERRIO,**	**5.17**	**128**	P	Pn	21 00 19.4	-1.9
PTBC				S	Sn	21 01 14.7	-5.0
CRJC	**Cerrejon, Guaj**	**5.73**	**77**	P	Pn	21 00 29.9	+0.9
	810nm14nm,0.7s						
CRJC				S	Sn	21 01 27.3	-6.3
	810nm14nm,0.7s						
PAMC	**Pamplona, Colo**	**6.27**	**112**	P	Pn	21 00 36.1	-0.8
	3μm6.5nm,1.0s						
PAMC				S	Sn	21 01 43.9	-3.7
	3μm6.5nm,1.0s						
RUSC	**La Rusia**	**6.64**	**125**	P	Pn	21 00 42.2	+0.2
RUSC				S	Sn	21 01 52.4	-4.3

NEIC 16 21:25:17.0±0.5, 36°478N±0°009×97°75W±0°01, h8km±4km, Error ellipse: s-maj=1.4km s-min=1.2km az=66.0
NEIC 16 21:25:16.7±0.5, 36°478N±0°008×97°75W±0°01, h5km±1km, mb_Lg2.8/73, ML3.1/62, ML3.0/35, Error ellipse: s-maj=2.8km s-min=1.6km az=87.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.19**	**278**		Pg	21 25 21.2	+0.7
CROK				Sg	Sg	21 25 24.3	+1.3
CROK				IAML		21 25 28.2	
	comp=E,6μm,0.3s						
GC02	**Grant County #**	**0.38**	**346**		Pg	21 25 24.5	+0.4
GC02				Sg	Sg	21 25 29.9	+0.8
OK032	**Salt Plains WL**	**0.49**	**311**		Pg	21 25 26.5	+0.3
OK032				Sg	Sg	21 25 33.7	+1.0
KAN14	**Manchester OK**	**0.51**	**340**		Pg	21 25 26.9	+0.5
KAN14				IAML		21 25 36.4	
	comp=E,1μm,0.2s						
BLOK	**Blackwell**	**0.51**	**56**		Pg	21 25 27.0	+0.5
BLOK					Sg	21 25 34.2	+1.0
KAN17	**Caldwell West**	**0.56**	**358**		Pg	21 25 28.0	+0.5
KAN17				IAML		21 25 37.8	
	comp=E,1μm,0.3s						
KAN17				IAML		21 25 40.2	
	comp=N,1μm,0.2s						
KAN13	**South Haven SW**	**0.58**	**22**		Pg	21 25 28.2	+0.4
KAN13					Sg	21 25 35.8	+0.6
KAN13				IAML		21 25 43.2	
	comp=N,2μm,0.3s						
KAN05	**Bluff City Nor**	**0.64**	**351**		Pg	21 25 29.3	+0.4
KAN05					Sg	21 25 38.1	+0.9
KAN05				IAML		21 25 43.8	
	comp=N,943nm,0.2s						
KAN05				IAML		21 25 45.4	
	comp=E,834nm,0.2s						
OK048	**Pawnee Station**	**0.65**	**95**		Pg	21 25 29.4	+0.2
OK048					Sg	21 25 38.2	+0.6
KAN09	**Caldwell North**	**0.67**	**9**		Pg	21 25 29.6	+0.1
KAN01	**Argonia South**	**0.67**	**359**		Pg	21 25 29.9	+0.3
KAN01					Sg	21 25 38.8	+0.4
KAN01				IAML		21 25 45.7	
	comp=E,672nm,0.2s						
KAN10	**Anthony SW Sta**	**0.70**	**337**		Pg	21 25 30.5	+0.4
KAN10					Sb	21 25 40.6	-0.8
OK029	**Liberty Lake**	**0.72**	**161**		Pg	21 25 30.5	+0.1
OK029					Sg	21 25 40.6	+0.8
OK051	**E0350 and S346**	**0.73**	**88**		Pg	21 25 30.9	+0.2
OK051					Sg	21 25 40.9	+0.6
OK051				IAML		21 25 45.4	
	comp=E,993nm,0.2s						
OK051				IAML		21 25 47.8	
	comp=E,871nm,0.2s						
KAN08	**Anthony NE Sta**	**0.77**	**347**		Pg	21 25 31.7	+0.3
KAN08					Sg	21 25 41.6	+0.2
OK038	**West end E0370**	**0.80**	**270**		Pg	21 25 32.2	+0.2
BCOK	**Bluff Creek, N**	**0.83**	**172**		Pg	21 25 32.8	+0.3
ADOK	**Arcadia Dam**	**0.88**	**160**		Pg	21 25 33.4	-0.1
QUOK	**Quay**	**0.89**	**110**		Pg	21 25 33.7	-0.1
QUOK					Sg	21 25 45.7	+0.3
QUOK				IAML		21 25 47.0	
	comp=N,867nm,0.2s						
QUOK				IAML		21 25 53.2	
	comp=E,604nm,0.2s						
OK052	**Battle Ridge R**	**0.90**	**122**		Pg	21 25 34.1	+0.1
OK052				IAML		21 25 48.6	
	comp=E,653nm,0.5s						
OK052				IAML		21 25 57.6	
	comp=E,462nm,0.3s						
NOKA	**Waynoka**	**0.97**	**280**		Pg	21 25 35.0	-0.2
T35A	**Sooner Cattle**	**1.08**	**66**	Pg	Pg	21 25 37.4	-0.1
OKCSW	**OKLAHOMA CITY**	**1.10**	**167**		Pg	21 25 37.4	-0.3
OKCSW				IAML		21 25 57.1	
	comp=N,542nm,0.2s						
OKCSW				IAML		21 25 57.4	
	comp=E,638nm,0.6s						
CSTR	**Hydro, Custer**	**1.13**	**223**		Pg	21 25 38.2	-0.1
DEOK	**Depew**	**1.19**	**122**		Pg	21 25 39.0	-0.5
DEOK				IAML		21 25 57.4	
	comp=E,561nm,0.3s						
FNO	**Franklin**	**1.25**	**167**		Pg	21 25 40.0	-0.7
FNO				IAML		21 26 02.8	
	comp=E,346nm,0.2s						
ELIS	**Ellis County**	**1.41**	**254**		Pn	21 25 42.9	-0.2
W35A	**Tecumseh**	**1.50**	**152**		Pn	21 25 44.1	-0.1
W35A				IAmb_Lg		21 26 04.1	
	comp=Z,74nm,0.9s						
TUL3	**Leonard**	**1.68**	**109**		Pn	21 25 47.0	+0.3
X34A	**Smith Ranch, M**	**1.87**	**182**		Pn	21 25 49.6	+0.3
X34A				IAmb_Lg		21 26 17.6	
	comp=Z,40nm,0.8s						
WMOK	**Wichita Mounta**	**1.93**	**206**	Pn	Pn	21 25 49.7	-0.5
CBKS	**Cedar Bluff**	**2.82**	**326**		Pn	21 26 03.6	+1.2
HHAR	**Hobbs**	**3.08**	**93**	Pn	Pn	21 26 05.8	-0.1
AMTX	**Amarillo**	**3.58**	**245**	Pn	Pn	21 26 14.1	+1.2
AMTX				IAmb_Lg		21 27 18.2	
	comp=Z,32nm,0.7s						
MIAR	**Mount Ida**	**3.91**	**118**	IAmb_Lg		21 27 29.3	
	comp=Z,34nm,0.8s						
TREL	**Terrell**	**3.98**	**159**	IAmb_Lg		21 27 30.6	
	comp=Z,27nm,0.9s						
ABTX	**Abilene, Hawle**	**4.15**	**203**	IAmb_Lg		21 27 30.4	
	comp=Z,27nm,0.8s						
SN07	**Snyder 07**	**4.26**	**218**	IAmb_Lg		21 27 34.3	
	comp=Z,29nm,0.9s						
SN05	**Snyder 5**	**4.42**	**217**	IAmb_Lg		21 27 40.2	
	comp=Z,28nm,0.8s						
MGMO	**Mountain Grove**	**4.45**	**80**	Pn	Pn	21 26 25.3	+0.5
MGMO				IAmb_Lg		21 27 39.8	
	comp=Z,16nm,0.9s						
X40A	**Basin Creek Fa**	**4.47**	**115**	IAmb_Lg		21 27 50.5	
	comp=Z,23nm,0.7s						
P38A	**Dawn**	**4.58**	**45**	IAmb_Lg		21 27 40.6	
	comp=Z,21nm,0.7s						
WHAR	**Wooly Hollow**	**4.59**	**103**	IAmb_Lg		21 27 51.3	
	comp=Z,26nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.62**	**305**	IAmb_Lg		21 27 53.9	
	comp=Z,22nm,0.8s						
UALR	**University of**	**4.72**	**110**	IAmb_Lg		21 27 53.1	
	comp=Z,25nm,0.8s						
R40A	**Maddies Statio**	**4.72**	**66**		Pn	21 26 28.8	+0.3
R40A				IAmb_Lg		21 27 54.0	
	comp=Z,18nm,0.9s						
BGNE	**Belgrade**	**4.93**	**356**	Pn	Pn	21 26 31.2	-0.2
Z41A	**Richland Creek**	**5.18**	**127**	IAmb_Lg		21 28 09.0	
	comp=Z,17nm,0.8s						
BRDY	**Brady**	**5.28**	**192**	IAmb_Lg		21 28 10.2	
	comp=Z,13nm,0.8s						
LCAR	**Lake Charles**	**5.34**	**92**	IAmb_Lg		21 28 08.1	
	comp=Z,14nm,0.9s						
SGCY	**Sterling City**	**5.34**	**213**	IAmb_Lg		21 28 19.1	
	comp=Z,18nm,0.9s						
CCM	**Cathedral Cave**	**5.42**	**71**	Pn	Pn	21 26 38.6	+0.5
CCM				IAmb_Lg		21 28 15.5	
	comp=Z,17nm,0.8s						
P40A	**Paris**	**5.43**	**54**	IAmb_Lg		21 28 09.0	
	comp=Z,22nm,0.8s						
PBMO	**Poplar Bluff**	**5.89**	**85**	IAmb_Lg		21 28 33.0	
	comp=Z,14nm,0.7s						
OZNA	**Ozona**	**6.22**	**208**	IAmb_Lg		21 28 51.5	
	comp=Z,10nm,0.9s						
SDCO	**Great Sand Dun**	**6.33**	**284**	IAmb_Lg		21 28 44.3	
	comp=Z,15nm,1.1s						
K30B	**Basset**	**6

*NEIC **16** 21:31:02.6±2.4,51.°1N±0.°1×179.°30W±0.°09,h35km±2km, mb4.2/78,ML4.4/6,ML4.1(AEIC),Error ellipse: s-maj=19.3km s-min=9.0km az=165.0*
*MOS **16** 21:31:02.4±0.9,51.°24N×179.23W,h48km,mb4.7/23, Error ellipse: s-maj=10.1km s-min=6.2km az=96.8*
ISC 16 21:31:02.1±0.5,**51.00N**±0.08×**179.23W**±0.04,**h35**km, **n545**,σ1§**30**/534,**mb4.4**/82,**MS3.5**/20,**18C-35D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.81**	**21**		**Pn**	**21 31 16.3**	**-0.7**
GANO	**Gareloi North**	**0.86**	**18**		**Pn**	**21 31 16.6**	**-1.1**
TASE	**Tanaga Southea**	**1.12**	**41**		**Pn**	**21 31 21.1**	**-0.2**
TAPA	**Tanaga Point A**	**1.20**	**47**		**Pn**	**21 31 22.6**	**+0.1**
TAPA					**Sn**	**21 31 38.2**	**+0.6**
KIWB	**Kanaga Island**	**1.56**	**56**		**Pn**	**21 31 27.6**	**+0.4**
KIWB				Sn	**Sn**	**21 31 48.7**	**+2.5**
ADK	**Adak**	**1.82**	**60**		**Pn**	**21 31 31.8**	**+0.9**
ADK	**Adak**	**1.82**	**60**	IAML		21 31 58.6
	4μm,0.6s					
ADK				IAML		21 32 00.7
	3μm,0.5s					
ADK	**Adak**	**1.82**	**60**	P	**Pn**	**21 31 31.8**	**+0.9**
GSCK	**Great Sitkin C**	**2.17**	**61**		**Pn**	**21 31 36.9**	**+1.2**
GSMY	**Great Sitkin M**	**2.24**	**61**		**Pn**	**21 31 38.9**	**+2.3**
GSMY					**Sn**	**21 32 06.1**	**+3.1**
GSTR	**Great Sitkin T**	**2.26**	**60**		**Pn**	**21 31 38.9**	**+1.9**
ATKA	**Atka Island**	**3.36**	**67**		**Pn**	**21 31 53.7**	**+1.7**
ATKA				Sn	**Sn**	**21 32 31.6**	**+1.0**
ATKA				IAML		21 32 42.9
	comp=N,784nm,0.6s					
SHEM	**Shemya Is, Ala**	**4.48**	**295**	Pn	**Pn**	**21 32 06.5**	**-0.9**
	comp=N,44nm,0.3s,baz=123,slow=3.3,SNR=14					
SHEM				Sn	**Sn**	**21 33 02.2**	**+4.0**
	comp=N,9.6nm,0.3s,baz=304,slow=20,SNR=9.8					
SHEM				LR	LR	21 33 53.3
	comp=N,472nm,19.5s,baz=166,slow=40					
	comp=N,35nm,0.4s					
SMY	**Shemya**	**4.48**	**295**		**Pn**	**21 32 09.0**	**+1.6**
SMY				IAML		21 33 11.3
	comp=E,551nm,0.9s					
SMY	**Shemya**	**4.48**	**295**	P	**Pn**	**21 32 09.0**	**+1.6**
SMY						21 32 58.4
NIKH	**Nikolski High**	**6.71**	**69**	Pn	**Pn**	**21 32 39.1**	**+1.2**
NIKH	**Nikolski High**	**6.71**	**69**	P	**Pn**	**21 32 40.5**	**+2.6**
	baz=256					
SPIA	**Saint Paul Isl**	**8.13**	**37**		**Pn**	**21 32 59.2**	**+1.8**
SPIA	**Saint Paul Isl**	**8.13**	**37**	P	**Pn**	**21 33 01.0**	**+3.6**
	baz=224					
UNV	**Unalaska Valle**	**8.28**	**65**	Pn	**Pn**	**21 33 01.8**	**+2.2**
UNV	**Unalaska Valle**	**8.28**	**65**	P	**Pn**	**21 33 02.9**	**+3.4**
	baz=255					
M11K	**Mekoryuk**	**11.91**	**33**	Pn	**Pn**	**21 33 50.5**	**+1.4**
M11K	**Mekoryuk**	**11.91**	**33**	P	**Pn**	**21 33 51.9**	**+2.8**
	baz=224					
SDPT	**Sand Point**	**12.05**	**62**	P	**Pn**	**21 33 53.6**	**+2.5**
	baz=256					
CNBA	**Chernabura Isl**	**12.45**	**65**	Pn	**Pn**	**21 33 55.1**	**-1.4**
CHNA	**Chernabura Isl**	**12.45**	**64**	P	**Pn**	**21 33 57.0**	**+0.5**
	baz=260					
S14K	**Fog Glacier**	**12.80**	**58**	P	**Pn**	**21 34 04.0**	**+2.6**
	baz=254					
M13K	**Dall Lake**	**12.96**	**37**	P	**Pn**	**21 34 06.7**	**+3.1**
	baz=230					
O14K	**Tigyukauivet M**	**13.15**	**44**	P	**Pn**	**21 34 08.9**	**+2.8**
	baz=239					
N14K	**Kuskokwak Cree**	**13.33**	**41**	Pn	**Pn**	**21 34 08.9**	**+0.3**
N14K	**Kuskokwak Cree**	**13.33**	**41**	P	**Pn**	**21 34 11.6**	**+3.1**
	baz=236					
GAMB	**Gambell**	**13.42**	**15**	P	**Pn**	**21 34 11.7**	**+2.0**
	baz=201					
K13K	**Kusilvak Mount**	**13.55**	**31**	Pn	**Pn**	**21 34 11.3**	**-0.3**
K13K	**Kusilvak Mount**	**13.55**	**31**	P	**Pn**	**21 34 13.8**	**+2.2**
	baz=223					
M14K	**Bethel**	**13.71**	**38**	Pn	**Pn**	**21 34 12.1**	**-1.6**
M14K	**Bethel**	**13.71**	**38**	P	**Pn**	**21 34 16.1**	**+2.4**
	baz=232					
O15K	**Ungalikthiuk R**	**13.76**	**46**	Pn	**Pn**	**21 34 16.2**	**+1.8**
O15K	**Ungalikthiuk R**	**13.76**	**46**	P	**Pn**	**21 34 16.9**	**+2.5**
	baz=242					
L14K	**Kuka Creek**	**13.81**	**35**	P	**Pn**	**21 34 16.4**	**+1.3**
	baz=229					
N15K	**Kwethluk River**	**14.14**	**42**		**Pn**	**21 34 21.1**	**+1.5**
N15K	**Kwethluk River**	**14.14**	**42**	P	**Pn**	**21 34 22.0**	**+2.4**
	baz=238,SNR=6.2					
M15K	**Kasigluk River**	**14.18**	**40**	P	**Pn**	**21 34 22.7**	**+2.6**
	baz=235					
PETK	**Petropavlovsk-**	**14.34**	**287**	Pn	**Pn**	**21 34 21.5**	**-0.8**
	comp=E,5.6nm,1.0s,baz=82,slow=12,SNR=4.4					
PETK				LR	LR	21 39 28.8
	comp=E,129nm,21.8s,baz=89,slow=36					
L15K	**Ungalak Mounta**	**14.47**	**36**	P	**Pn**	**21 34 26.4**	**+2.3**
	baz=230,SNR=5.2					
J14K	**Nanvaranak Lak**	**14.50**	**30**	P	**Pn**	**21 34 27.3**	**+2.8**
	baz=223					
P16K	**Nushagak River**	**14.54**	**48**	P	**Pn**	**21 34 27.5**	**+2.5**
	baz=246					
O16K	**Kokwok River B**	**14.74**	**46**	Pn	**Pn**	**21 34 29.7**	**+2.0**
O16K	**Kokwok River B**	**14.74**	**46**	P	**Pn**	**21 34 30.9**	**+3.2**
	baz=243					
CHIR	**Chirikof Islan**	**14.85**	**62**	Pn	**Pn**	**21 34 30.5**	**+1.3**
CHIR	**Chirikof Islan**	**14.85**	**62**	P	**Pn**	**21 34 32.1**	**+2.9**
	baz=261					
K15K	**Wolf Creek Mou**	**14.86**	**34**		**Pn**	**21 34 30.0**	**+0.7**
K15K	**Wolf Creek Mou**	**14.86**	**34**	P	**Pn**	**21 34 32.4**	**+3.1**
	baz=228					
N16K	**Nishlik Lake**	**14.86**	**42**	P	**Pn**	**21 34 31.7**	**+2.4**
	baz=239					
M16K	**Timber Creek**	**15.07**	**40**		**Pn**	**21 34 34.7**	**+2.6**
M16K				IAmb	IAmb	21 34 50.6
	comp=Z,9.9nm,0.7s					
M16K	**Timber Creek**	**15.07**	**40**	P	**Pn**	**21 34 34.4**	**+2.3**
	baz=237					
L16K	**Owhat River**	**15.25**	**38**		**P**	**21 34 37.2**	**-1.8**
L16K	**Owhat River**	**15.25**	**38**	P	**Pn**	**21 34 37.0**	**+2.5**
	baz=234					
O17K	**Koliganek Bris**	**15.27**	**46**	P	**Pn**	**21 34 37.4**	**+2.6**
	baz=244					
Q17K	**Contact Creek**	**15.29**	**53**	P	**Pn**	**21 34 37.4**	**+2.3**
	baz=252					
P17K	**Kvichak River**	**15.34**	**49**	P	**Pn**	**21 34 38.1**	**+2.4**
	baz=248					
ANM	**Nome**	**15.42**	**23**	P	**P**	**21 34 39.3**	**-1.5**
	baz=215					
ACHA	**Angle Creek He**	**15.55**	**53**		**Pn**	**21 34 38.8**	**+0.2**
N17K	**Nushagak Hills**	**15.57**	**44**		**Pn**	**21 34 40.7**	**+2.0**
N17K				IAmb	IAmb	21 34 47.4
	comp=Z,14nm,0.8s					
N17K	**Nushagak Hills**	**15.57**	**44**	P	**Pn**	**21 34 40.7**	**+2.0**
	baz=242,SNR=5.8					
TNA	**Tin City**	**15.72**	**18**	P	**P**	**21 34 42.8**	**-1.3**
	baz=207					
SII	**Sitkinak Islan**	**15.76**	**60**	Pn	**Pn**	**21 34 42.1**	**+0.9**
SII	**Sitkinak Islan**	**15.76**	**60**	P	**Pn**	**21 34 43.1**	**+1.9**
	baz=260					
R18K	**Karluk**	**15.83**	**56**	P	**Pn**	**21 34 43.0**	**+1.0**
	baz=256					
J16K	**Anvik River**	**15.84**	**32**	P	**P**	**21 34 44.9**	**-0.7**
	baz=228					
Q18K	**Katmai Hardscr**	**15.85**	**52**	P	**Pn**	**21 34 44.5**	**+2.2**
	baz=252					
M17K	**Holitna River**	**15.89**	**41**		**P**	**21 34 45.3**	**-0.9**
M17K				IAmb	IAmb	21 34 47.9
	comp=Z,16nm,1.1s					
M17K	**Holitna River**	**15.89**	**41**	P	**P**	**21 34 45.2**	**-0.9**
	baz=239					
L17K	**Donlin**	**15.95**	**38**	P	**Pn**	**21 34 45.2**	**+1.7**
	baz=235					
F14K	**Arctic Creek**	**15.96**	**20**	P	**Pn**	**21 34 45.1**	**+1.4**
	baz=211					
P18K	**Big Mountain,**	**15.99**	**49**		**Pn**	**21 34 45.0**	**+0.8**
P18K	**Big Mountain,**	**15.99**	**49**	P	**Pn**	**21 34 45.7**	**+1.6**
	baz=249					
G15K	**Niukluk**	**16.10**	**24**	P	**Pn**	**21 34 47.3**	**+1.9**
	baz=217					
O18K	**Koktuh Hills**	**16.18**	**48**		**Pn**	**21 34 47.8**	**+1.4**
O18K				IAmb	IAmb	21 35 03.0
	comp=Z,9.4nm,0.7s					
O18K	**Koktuh Hills**	**16.18**	**48**	P	**P**	**21 34 48.7**	**-0.7**
	baz=247					
N18K	**Kilae Creek**	**16.21**	**44**		**Pn**	**21 34 48.2**	**+1.3**
N18K				IAmb	IAmb	21 34 51.9
	comp=Z,12nm,0.8s					
N18K	**Kilae Creek**	**16.21**	**44**	P	**Pn**	**21 34 48.7**	**+1.8**
	baz=244,SNR=6.4					
I17K	**Unalakleet**	**16.22**	**30**	P	**Pn**	**21 34 48.4**	**+1.4**
	baz=226					
K17K	**Iditarod**	**16.29**	**36**		**Pn**	**21 34 49.5**	**+1.7**
K17K	**Iditarod**	**16.29**	**36**	P	**P**	**21 34 49.9**	**-0.6**
	baz=234					
H16K	**Elim**	**16.30**	**27**	P	**Pn**	**21 34 49.1**	**+1.1**
	baz=221					
OHAK	**Old Harbor**	**16.37**	**58**		**Pn**	**21 34 47.1**	**-1.8**
OHAK				IAmb	IAmb	21 34 50.4
	comp=Z,10nm,0.6s					
OHAK	**Old Harbor**	**16.37**	**58**	P	**Pn**	**21 34 49.9**	**+1.0**
	baz=258					
J17K	**VABM Dome**	**16.43**	**33**		**P**	**21 34 51.7**	**-0.4**
J17K	**VABM Dome**	**16.43**	**33**	P	**Pn**	**21 34 50.8**	**+1.1**
	baz=230					
F15K	**North Star Dit**	**16.54**	**21**	P	**Pn**	**21 34 52.2**	**+1.2**
	baz=214					
Q19K	**Cape Douglas,**	**16.61**	**52**	P	**Pn**	**21 34 52.5**	**+0.5**
	baz=252					
M18K	**Stony River**	**16.61**	**42**	P	**Pn**	**21 34 52.9**	**+0.9**
	baz=241					
L18K	**Granite Mounta**	**16.63**	**39**		**Pn**	**21 34 53.4**	**+1.2**
L18K	**Granite Mounta**	**16.63**	**39**	P	**Pn**	**21 34 53.3**	**+1.2**
	baz=238					
G16K	**Koyuk River**	**16.85**	**25**	P	**Pn**	**21 34 56.1**	**+1.2**
	baz=219					
KDAK	**Kodiak Island**	**16.86**	**56**	Pn	**Pn**	**21 34 52.3**	**-2.8**
	comp=Z,1.6nm,0.3s,baz=89,slow=3.6,SNR=24					
	comp=Z,3.8nm,0.4s					
KDAK	**Kodiak Island**	**16.86**	**56**	P	**Pn**	**21 34 56.1**	**+1.1**
	baz=258					
N19K	**Bonanza Creek**	**16.89**	**45**		**Pn**	**21 34 56.4**	**+0.8**
N19K				IAmb	IAmb	21 35 09.7
	comp=Z,15nm,0.8s					
N19K	**Bonanza Creek**	**16.89**	**45**	P	**Pn**	**21 34 56.6**	**+1.1**
	baz=245,SNR=7.9					
P19K	**Oil Pt**	**17.04**	**49**	P	**P**	**21 34 58.7**	**-0.2**
	baz=251					
Q20K	**Shuyak Island**	**17.15**	**53**	P	**Pn**	**21 34 59.6**	**+1.0**
	baz=255					
TTA	**Tatalina**	**17.28**	**37**	P	**Pn**	**21 35 01.2**	**+0.9**
TTA	**Tatalina**	**17.28**	**37**	P	**Pn**	**21 35 01.2**	**+0.9**
TTA				pmax	pmax	
	comp=Z,15nm,1.5s					
TTA	**Tatalina**	**17.28**	**37**	P	**P**	**21 35 01.5**	**0.0**
	baz=237					
J18K	**Innoko River**	**17.32**	**35**		**Pn**	**21 35 01.6**	**+0.9**
J18K	**Innoko River**	**17.32**	**35**	P	**P**	**21 35 02.4**	**+0.5**
	baz=234					
L19K	**White Mountain**	**17.35**	**40**		**P**	**21 35 02.5**	**+0.2**
L19K				IAmb	IAmb	21 35 06.0
	comp=Z,14nm,0.9s					
L19K	**White Mountain**	**17.35**	**40**	P	**P**	**21 35 02.5**	**+0.2**
	baz=241,SNR=11					
G17K	**Kiwalik Mounta**	**17.40**	**26**	P	**P**	**21 35 02.8**	**0.0**
	baz=222					
M19K	**Big River Lodg**	**17.41**	**42**		**P**	**21 35 03.4**	**+0.4**
M19K				IAmb	IAmb	21 35 07.4
	comp=Z,10.0nm,0.7s					
M19K	**Big River Lodg**	**17.41**	**42**	P	**Pn**	**21 35 02.9**	**+1.0**
	baz=242					
H18K	**Honhosa River**	**17.83**	**29**	P	**Pn**	**21 35 07.7**	**+0.6**
	baz=227					
L20K	**Farewell, AK**	**17.89**	**40**	P	**P**	**21 35 08.8**	**+0.5**
	baz=242,SNR=5.5					
M20K	**Styx River**	**17.93**	**43**		**Pn**	**21 35 08.3**	**-0.2**
M20K	**Styx River**	**17.93**	**43**	P	**P**	**21 35 09.2**	**+0.4**
	baz=244					
F17K	**Baldwin Pennin**	**17.95**	**24**	P	**P**	**21 35 09.3**	**+0.4**
	baz=219					
J19K	**Poorman**	**18.02**	**35**		**Pn**	**21 35 09.1**	**-0.4**
J19K	**Poorman**	**18.02**	**35**	P	**P**	**21 35 10.7**	**+1.0**
	baz=235					
GCSA	**Galena City Sc**	**18.04**	**32**	P	**P**	**21 35 10.9**	**+1.1**
	baz=231					
SPCR	**Spurr Chakacha**	**18.06**	**45**	P	**P**	**21 35 10.8**	**+0.6**
	baz=248,SNR=7.4					
K20K	**Telida**	**18.25**	**38**	P	**Pn**	**21 35 13.4**	**+1.1**
	baz=239					
G18K	**Tagagawik**	**18.26**	**27**	P	**P**	**21 35 12.2**	**-0.1**
G18K	**Tagagawik**	**18.26**	**27**	P	**Pn**	**21 35 13.0**	**+0.7**
	baz=225					
BRSE	**Bradley Lake S**	**18.27**	**50**	P	**Pn**	**21 35 13.1**	**+0.6**
	baz=254					
E17K	**Hotham Inlet**	**18.32**	**22**	P	**P**	**21 35 13.0**	**+0.1**
	baz=217					
STLK	**Strandline Lak**	**18.34**	**45**	P	**P**	**21 35 13.5**	**+0.2**
F18K	**Selawik**	**18.49**	**25**	P	**Pn**	**21 35 16.0**	**+0.9**
	baz=222					
BILL	**Bilibino**	**18.51**	**343**		**P**	**21 35 13.6**	**-1.4**
BILL				IAmb	IAmb	21 35 28.3
	comp=Z,18nm,1.4s					
BILL	**Bilibino**	**18.51**	**343**	*eP*	**P**	**21 35 15.3**	**+0.3**
BILL				pmax	pmax	
	comp=Z,11nm,1.3s					
D17K	**Noatak River**	**18.55**	**19**	P	**P**	**21 35 16.0**	**+0.6**
	baz=214,SNR=7.2					
C16K	**Lisburne Hills**	**18.60**	**16**	P	**P**	**21 35 16.3**	**+0.4**
	baz=208					
J20K	**Nowinta River**	**18.66**	**35**		**P**	**21 35 16.6**	**0.0**
J20K	**Nowinta River**	**18.66**	**35**	P	**P**	**21 35 17.0**	**+0.4**
	baz=237,SNR=6.6					
SKT	**Skwentna**	**18.66**	**43**	P	**P**	**21 35 17.3**	**+0.5**
	baz=246,SNR=26					
H19K	**Roundabout Mou**	**18.68**	**30**	P	**Pn**	**21 35 17.7**	**+0.3**
	baz=230					
SLKM	**Skilak Lake**	**18.74**	**48**	P	**P**	**21 35 16.9**	**-0.7**
SLKM				IAmb	IAmb	21 35 23.4
	comp=Z,12nm,0.4s					
PPLA	**Purkeypile**	**18.78**	**40**	P	**Pn**	**21 35 19.3**	**+0.5**
	baz=243,SNR=6.2					
SUA	**Susitna One**	**18.81**	**45**	P	**P**	**21 35 18.8**	**+0.3**
	baz=249					
E18K	**Tukpahlearik C**	**18.88**	**22**	P	**P**	**21 35 19.9**	**+0.8**
	baz=219					
I20K	**Naaghedeneel**	**18.89**	**34**	P	**Pn**	**21 35 20.3**	**+0.3**
	baz=235					
G19K	**Purcell Mounta**	**18.89**	**28**	P	**P**	**21 35 19.7**	**+0.5**
	baz=227					
O22K	**Cooper Landing**	**18.97**	**49**	P	**P**	**21 35 20.7**	**+0.6**
	baz=253					
MA2	**Magadan**	**18.97**	**308**	LR	LR	21 42 16.3
	comp=Z,64nm,18.3s,baz=105,slow=36					
SEW	**Seward**	**18.99**	**50**	P	**P**	**21 35 20.8**	**+0.5**
	baz=254					
CAST	**Castle Rocks**	**19.06**	**39**		**P**	**21 35 21.2**	**+0.1**
CAST				IAmb	IAmb	21 35 22.7
	comp=Z,11nm,0.8s					
CAST	**Castle Rocks**	**19.06**	**39**	P	**Pn**	**21 35 22.1**	**0.0**
	baz=242,SNR=14					
RC01	**Rabbit Creek A**	**19.15**	**47**	P	**P**	**21 35 22.6**	**+0.6**
	baz=251					
H20K	**Anotleneega Mo**	**19.17**	**32**	P	**P**	**21 35 22.9**	**+0.6**
	baz=232,SNR=12					
F19K	**Shaleruckik Mo**	**19.18**	**26**	P	**P**	**21 35 22.1**	**-0.2**
F19K	**Shaleruckik Mo**	**19.18**	**26**	P	**P**	**21 35 22.9**	**+0.6**
	baz=225					
CHUM	**Lake Minchumin**	**19.19**	**38**	P	**P**	**21 35 22.9**	**+0.4**
	baz=240,SNR=6.2					
M22K	**Willow**	**19.20**	**45**	P	**P**	**21 35 23.2**	**+0.7**
	baz=249					
SEY	**Seymchan**	**19.35**	**319**	P	**P**	**21 35 22.6**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=134,slow=13,SNR=4.4					
SEY				LR	LR	21 43 00.1
	comp=Z,92nm,20.0s,baz=108,slow=38					
	comp=Z,1.4nm,0.5s					
SEY	**Seymchan**	**19.35**	**319**	*eP*	**P**	**21 35 25.1**	**+0.9**
KTH	**Kantishna Hill**	**19.59**	**39**		**P**	**21 35 26.9**	**0.0**
PMR	**Palmer**	**19.59**	**46**	P	**P**	**21 35 27.6**	**+0.9**
	baz=251					
PWL	**Port Wells**	**19.73**	**48**	P	**P**	**21 35 28.5**	**0.0**
PWL				IAmb	IAmb	21 35 33.1
	comp=Z,8.9nm,0.6s					
PWL	**Port Wells**	**19.73**	**48**	P	**P**	**21 35 29.2**	**+0.8**
	baz=254					
C18K	**Utukok River**	**19.73**	**20**	P	**P**	**21 35 28.4**	**-0.1**
	baz=215					
GHO	**Glory Hole Cre**	**19.74**	**45**	P	**P**	**21 35 27.5**	**-1.1**
GHO				IAmb	IAmb	21 35 32.9
	comp=Z,8.4nm,0.7s					
E19K	**Redstone River**	**19.77**	**25**	P	**P**	**21 35 29.0**	**+0.2**
	baz=224					
TRF	**Thorofare Moun**	**19.80**	**40**	P	**P**	**21 35 29.9**	**+0.7**
	baz=244					
BPAW	**Bear Paw Mtn.**	**19.81**	**38**		**P**	**21 35 29.4**	**+0.1**
BPAW				IAmb	IAmb	21 35 34.3
	comp=Z,17nm,0.7s					
BPAW	**Bear Paw Mtn.**	**19.81**	**38**	P	**P**	**21 35 29.7**	**+0.4**
	baz=242,SNR=22					
KNK	**Knik Glacier**	**19.84**	**46**	P	**P**	**21 35 30.2**	**+0.6**
	baz=252,SNR=5.3					
F20K	**Avaraart Lake**	**19.91**	**27**	P	**P**	**21 35 30.1**	**-0.1**
	baz=228					
H21K	**Melozitna Rive**	**19.96**	**33**		**P**	**21 35 30.8**	**0.0**
H21K	**Melozitna Rive**	**19.96**	**33**	P	**P**	**21 35 30.9**	**0.0**
	baz=235,SNR=6.6					
I21K	**Tanana**	**19.99**	**34**	P	**P**	**21 35 31.3**	**+0.2**
	baz=238,SNR=20					
SML	**Sawmill**	**20.02**	**45**	P	**P**	**21 35 32.1**	**+0.6**
	baz=251					
B18K	**Kokolik River**	**20.20**	**18**	P	**P**	**21 35 33.6**	**+0.2**
	baz=213					
G21K	**Allakaket**	**20.24**	**30**	P	**P**	**21 35 34.0**	**+0.1**
	baz=232					
M23K	**Glacier View**	**20.28**	**46**	P	**P**	**21 35 35.7**	**+1.3**
	baz=252,SNR=6.9					
D19K	**Kuna River**	**20.31**	**22**	P	**P**	**21 35 34.8**	**+0.1**
D19K				IAmb	IAmb	21 35 35.7
	comp=Z,5.8nm,0.7s					
D19K	**Kuna River**	**20.31**	**22**	P	**P**	**21 35 34.8**	**+0.1**
	baz=221					
GLI	**Glacier Island**	**20.32**	**49**	P	**P**	**21 35 35.4**	**+0.6**
	baz=255					
RND	**Reindeer**	**20.36**	**41**	P	**P**	**21 35 34.6**	**-0.8**
MCK	**McKinley**	**20.46**	**40**	P	**P**	**21 35 37.3**	**+0.9**
	baz=246					
SCM	**Sheep Creek Mo**	**20.48**	**46**	P	**P**	**21 35 34.7**	**-1.9**
SCM				IAmb	IAmb	21 35 50.5
	comp=Z,19nm,1.2s					
SCM	**Sheep Creek Mo**	**20.48**	**46**	P	**P**	**21 35 34.7**	**-1.9**
SCM				pmax	pmax	
	comp=Z,19nm,1.2s					
SCM	**Sheep Creek Mo**	**20.48**	**46**	P	**P**	**21 35 35.0**	**-1.6**
	baz=252					
H22K	**Ishtalitna Cre**	**20.58**	**33**	P	**P**	**21 35 38.2**	**+0.5**
	baz=237					
E20K	**Nigu River**	**20.62**	**24**	P	**P**	**21 35 38.3**	**+0.2**
	baz=225					
F21K	**Alatna River**	**20.69**	**29**	P	**P**	**21 35 38.8**	**+0.1**
F21K				IAmb	IAmb	21 35 40.6
	comp=Z,5.2nm,0.7s					
F21K	**Alatna River**	**20.69**	**29**	P	**P**	**21 35 39.1**	**+0.4**
	baz=231					
NEA2	**Nenana**	**20.78**	**38**	P	**P**	**21 35 38.6**	**-1.2**
NEA2				IAmb	IAmb	21 35 44.3
	comp=Z,12nm,0.9s					
NEA2	**Nenana**	**20.78**	**38**	P	**P**	**21 35 39.5**	**-0.3**
	baz=243,SNR=13					
D20K	**Etivluk River**	**20.84**	**23**	P	**P**	**21 35 40.8**	**+0.4**
	baz=223					
EYAK	**Cordova Ski Ar**	**20.89**	**50**	P	**P**	**21 35 41.1**	**+0.2**
	baz=258					
I23K	**Minto, Yukon-K**	**20.93**	**36**	P	**P**	**21 35 40.5**	**-0.8**
I23K				IAmb	IAmb	21 35 45.0
	comp=Z,9.3nm,0.7s					
I23K	**Minto, Yukon-K**	**20.93**	**36**	P	**P**	**21 35 41.2**	**-0.1**
	baz=242,SNR=6.0					
KLU	**Klutina**	**21.03**	**47**	P	**P**	**21 35 43.3**	**+0.8**
	baz=255,SNR=5.6					
A19K	**Wainwright**	**21.05**	**17**	P	**P**	**21 35 43.6**	**+1.0**
	baz=213					
M24K	**Tolsona, Glenn**	**21.08**	**46**	P	**P**	**21 35 43.2**	**+0.1**
	baz=253					
G22K	**Bettles**	**21.12**	**31**	P	**P**	**21 35 44.0**	**+0.6**
	baz=235					
H23K	**Yukon River**	**21.19**	**34**	P	**P**	**21 35 43.1**	**-1.1**
H23K	**Yukon River**	**21.19**	**34**	P	**P**	**21 35 44.6**	**+0.4**
	baz=240					
F22K	**John River**	**21.26**	**29**	P	**P**	**21 35 45.0**	**+0.1**
	baz=232					
E21K	**Killik River**	**21.34**	**26**	P	**P**	**21 35 45.6**	**-0.2**
	baz=228					
COLA	**College**	**21.37**	**38**	*eP*	**P**	**21 35 47.3**	**+1.2**
COLA				pmax	pmax	
	comp=Z,9.0nm,1.0s					
COLA	**College**	**21.37**	**38**	P	**P**	**21 35 46.8**	**+0.7**
	baz=244					
KAIM	**Kayak Island**	**21.43**	**52**	P	**P**	**21 35 46.7**	**0.0**
	baz=261					
G23K	**Bananza Creek**	**21.49**	**32**	P	**P**	**21 35 47.6**	**+0.2**
	baz=237					
BMRM	**Bremner River**	**21.52**	**49**	P	**P**	**21 35 47.6**	**-0.3**
	baz=258					
HDA	**Harding Lake**	**21.54**	**39**	P	**P**	**21 35 46.7**	**-1.2**
HDA	**Harding Lake**	**21.54**	**39**	P	**P**	**21 35 48.5**	**+0.6**
	baz=247,SNR=13					
HARP	**HAARP**	**21.62**	**45**	P	**P**	**21 35 49.1**	**+0.3**
	baz=254					
C21K	**Knifeblade Rid**	**21.62**	**24**	P	**P**	**21 35 48.4**	**-0.3**
	baz=225					
POKR	**Poker Plat Res**	**21.64**	**37**	P	**P**	**21 35 49.1**	**+0.1**
	baz=244					
PAX	**Paxson**	**21.65**	**43**		**P**	**21 35 48.1**	**-1.1**
PAX				IAmb	IAmb	21 35 51.6
	comp=Z,8.7nm,0.6s					
PAX	**Paxson**	**21.65**	**43**	P	**P**	**21 35 48.1**	**-1.1**
PAX				pmax	pmax	
	comp=Z,9.0nm,0.6s					
PAX	**Paxson**	**21.65**	**43**	P	**P**	**21 35 49.9**	**+0.8**
	baz=252,SNR=11					
N25K	**Chitina, Valde**	**21.67**	**47**	P	**P**	**21 35 48.8**	**-0.6**
	baz=256,SNR=7.3					
B20K	**Meade River**	**21.69**	**20**	P	**P**	**21 35 48.8**	**-0.6**
	baz=220					
IL31		**21.71**	**38**		**P**	**21 35 48.4**	**-1.2**
IL31				IAmb	IAmb	21 36 05.3
	comp=Z,7.5nm,1.0s					
ILAR	**Eielson Array**	**21.71**	**38**	P	**P**	**21 35 48.5**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=235,slow=7.8,SNR=38					
	comp=Z,1.5nm,0.5s					
COLD	**Coldfoot**	**21.71**	**31**	P	**P**	**21 35 49.7**	**0.0**
	baz=236					
E22K	**Anaktuvuk Pass**	**21.76**	**28**	P	**P**	**21 35 50.0**	**

A22K Sinclair Lake 22.93 20 P **P 21 36 01.3 -1.2**
baz=222
J26L Joseph Creek 22.94 40 P **P 21 36 01.1 -1.8**
baz=251,SNR=18
M27K Edge Creek, AK 23.09 46 **P 21 36 03.3 -1.2**
M27K IAmb IAmb 21 36 06.2
comp=Z,8.2nm,1.0s
M27K Edge Creek, AK 23.09 46 P **P 21 36 03.8 -0.8**
baz=258
C23K Itkillik River 23.17 25 **P 21 36 03.7 -1.4**
C23K IAmb IAmb 21 36 04.8
comp=Z,9.5nm,0.8s
C23K Itkillik River 23.17 25 P **P 21 36 04.0 -1.0**
baz=230
L27K Beaver Creek, 23.27 44 P **P 21 36 05.8 -0.4**
baz=256,SNR=9.4
BCAR Beaver Creek A 23.29 44 **P 21 36 05.1 -1.3**
I26K Coal Creek Min 23.38 39 P **P 21 36 04.0 -3.1**
I26K Coal Creek Min 23.38 39 P **P 21 36 05.6 -1.6**
baz=250
F25K Christian Rive 23.41 32 P **P 21 36 07.0 -0.6**
baz=242
K27K Chicken 23.41 42 P **P 21 36 06.4 -1.1**
baz=254
PINM Pinnacle 23.52 52 P **P 21 36 08.3 -0.5**
baz=265
BVCY Beaver Creek 23.57 46 P **P 21 36 08.5 -0.6**
baz=259,SNR=19
C24K Franklin Bluff 23.62 26 P **P 21 36 08.3 -1.2**
C24K IAmb IAmb 21 36 10.8
comp=Z,8.3nm,0.8s
C24K Franklin Bluff 23.62 26 P **P 21 36 08.5 -1.0**
baz=233
O28M Mount Upton 23.62 50 P **P 21 36 09.0 -1.0**
O28M IAmb IAmb 21 36 10.6
comp=Z,5.7nm,0.6s
O28M Mount Upton 23.62 50 P **P 21 36 08.6 -1.4**
baz=263
YUK3 Moose Creek 23.64 48 P **P 21 36 08.7 -1.3**
baz=261,SNR=28
E25K Arctic Village 23.69 31 P **P 21 36 09.5 -0.7**
baz=241,SNR=13
G26K Porcupine Rive 23.77 35 P **P 21 36 09.8 -1.1**
baz=245
YUK8 Steele Glacier 23.89 49 P **P 21 36 11.1 -1.3**
baz=262,SNR=5.8
F26K Sheenjek River 23.97 33 P **P 21 36 11.7 -1.1**
baz=245
D25K Kavik River 24.06 28 P **P 21 36 12.6 -1.1**
baz=237
I27K Kandik River 24.08 38 P **P 21 36 12.7 -1.2**
baz=251
H27K Steamboat Moun 24.33 37 P **P 21 36 14.3 -1.8**
baz=250
O29M Mount Kennedy 24.38 52 P **P 21 36 15.1 -1.7**
baz=266
YUK4 Talbot Arm 24.44 49 P **P 21 36 16.0 -1.4**
baz=263
G27K Doyon Strip 24.49 36 P **P 21 36 16.0 -1.6**
baz=248
YUK6 Outpost Mounta 24.53 50 P **P 21 36 16.6 -1.7**
baz=265
DAWY Dawson 24.57 43 **P 21 36 16.8 -1.5**
DAWY IAmb IAmb 21 36 17.9
comp=Z,6.1nm,0.7s
DAWY Dawson 24.57 43 P **P 21 36 17.5 -0.8**
baz=257,SNR=6.2
M29M Somme Creek 24.67 47 P **P 21 36 18.3 -1.1**
baz=261,SNR=12
I28M Miner Creek 24.70 39 P **P 21 36 18.2 -1.4**
baz=253,SNR=18
C26K Camden Bay 24.82 28 P **P 21 36 20.1 -0.4**
baz=238
L29M L29M 24.93 45 P **P 21 36 20.1 -1.5**
baz=260,SNR=11
HYT Haines Junctio 24.94 51 P **P 21 36 20.0 -1.9**
HYT IAmb IAmb 21 36 21.6
comp=Z,12nm,1.3s
HYT Haines Junctio 24.94 51 P **P 21 36 21.1 -0.7**
baz=266
C27K Jago River 25.02 29 P **P 21 36 21.5 -0.8**
baz=240
E27K Coleen River 25.05 33 P **P 21 36 21.8 -0.9**
baz=246
YSS Yuzhno-Sakhali 25.09 276 *e*P **P 21 36 25.0 +1.9**
YSS pmax pmax
comp=Z,30nm,1.1s
N30M Aishikik Lake 25.19 49 P **P 21 36 23.1 -1.0**
baz=265
K29M Barlow Dome 25.33 44 P **P 21 36 24.2 -1.1**
baz=259,SNR=13
I29M Ogilvie Camp, 25.33 40 P **P 21 36 23.7 -1.5**
baz=255,SNR=12
M30M Minto, Yukon 25.45 47 P **P 21 36 25.6 -0.8**
baz=263
H29M Whitestone 25.54 38 P **P 21 36 25.7 -1.4**
baz=253
O30N Mendenhall 25.63 51 P **P 21 36 26.8 -1.2**
baz=267
D27M Malcolm River 25.70 31 P **P 21 36 28.0 -0.7**
baz=244
G29M Pine Creek 25.87 37 P **P 21 36 28.9 -1.3**
baz=252
E28M Babbage River 25.92 32 P **P 21 36 29.4 -1.0**
baz=247
J30M Hart River 25.98 42 P **P 21 36 29.4 -1.8**
baz=259,SNR=5.0
SKAG Skagway 25.98 54 P **P 21 36 30.0 -1.2**
baz=270
I30M Mount Dempster 26.09 41 P **P 21 36 30.8 -1.4**
baz=258,SNR=16
SIT Sitka 26.12 59 P **P 21 36 31.1 -1.2**
baz=275
WHY Whitehorse 26.22 51 P **P 21 36 32.8 -0.7**
baz=268
EPYK Eagle Plains 26.22 38 P **P 21 36 32.0 -1.3**
baz=255,SNR=5.4
E29M Blow River 26.40 33 P **P 21 36 33.6 -1.3**
baz=250
ASAJ Asahikawa 26.43 270 LR LR 21 46 44.6
comp=Z,30nm,20.8s,baz=287,slow=36
R32K Eaglecrest 26.45 57 P **P 21 36 33.5 -1.9**
baz=274
D28M Stokes Point 26.46 31 P **P 21 36 34.3 -1.1**
baz=247
S32K Killisnoo 26.48 58 P **P 21 36 35.0 -0.6**
baz=275
M31M Drury Creek, Y 26.53 48 P **P 21 36 35.6 -0.5**
baz=266
G30M tAoh Zraii Nji 26.57 37 P **P 21 36 34.9 -1.6**
baz=254
P32M Atlin 26.80 54 P **P 21 36 37.1 -1.5**
baz=272
F30M Barrier River 26.91 36 P **P 21 36 38.4 -1.1**
baz=254
FARO Faro, Yukon 27.02 48 P **P 21 36 39.3 -1.2**
baz=267
H31M Peel River 27.04 40 P **P 21 36 39.3 -1.4**
baz=259
P33M Teslin, Yukon 27.24 52 P **P 21 36 41.2 -1.4**
baz=271
G31M Satah River 27.30 37 P **P 21 36 41.9 -1.0**
baz=257
U33K Whale Pass 27.44 61 P **P 21 36 42.9 -1.4**
baz=279
Q32M Nakina River 27.58 55 P **P 21 36 44.0 -1.7**
baz=274
F31M Tsiigehtchic 27.62 36 P **P 21 36 44.7 -1.1**
baz=256
INK Inuvik 27.92 35 P **P 21 36 47.0 -1.4**
baz=255
MMPY Sheldon Lake, 28.01 47 **P 21 36 49.7 +0.3**
MMPY IAmb IAmb 21 36 50.9
comp=Z,4.1nm,0.5s
MMPY Sheldon Lake, 28.01 47 P **P 21 36 48.0 -1.4**
baz=268
R33M Jennings River 28.21 54 P **P 21 36 49.7 -1.7**
baz=274
S34M Telegraph Cree 28.27 57 P **P 21 36 50.7 -1.1**
baz=277
V35K Ketchikan 28.42 62 P **P 21 36 52.2 -0.8**
baz=281
TGTN Hyland Airport 29.42 49 P **P 21 37 01.2 -0.8**
baz=272
YAK Yakutsk 29.46 312 LR LR 21 48 18.1
comp=Z,49nm,21.9s,baz=92,slow=35
KLR Kul'dur 31.02 286 LR LR 21 50 49.3
comp=Z,57nm,19.2s,baz=83,slow=38
KLR Kul'dur 31.02 286*c i*P **P 21 37 15.8 -0.4**
KLR pmax pmax
comp=Z,11nm,0.9s
C36M Paulatuk 31.49 34 P **P 21 37 19.1 -0.9**
baz=263
A36M Sachs Harbour 31.54 29 P **P 21 37 19.7 -0.8**
baz=258
WRGLY Wrigley 31.57 46 P **P 21 37 20.5 -0.3**
baz=274
KOTAN Kotaneelee Air 31.61 52 P **P 21 37 20.9 -0.3**
baz=278
ZEA Zeya 32.15 296 *e*P **P 21 37 24.7 -1.3**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
USRK Ussuriysk Ar. 33.08 278 P **P 21 37 34.4 +0.2**
comp=Z,1.2nm,0.5s,baz=59,slow=9.7,SNR=6.4
comp=Z,1.2nm,0.5s
H11N2 WAKE ISLAND Hy 33.08 204 T T 22 12 51.9
baz=17,slow=76,SNR=98
H11N3 WAKE ISLAND Hy 33.09 204 T T 22 12 50.7
baz=17,slow=76,SNR=139
H11N1 WAKE ISLAND Hy 33.09 204 T T 22 12 58.0
baz=17,slow=76,SNR=93
HEH HeiHe 33.24 290 *e*P **P 21 37 35.0 -0.6**
HEH pmax pmax
comp=Z,7.0nm,1.0s
MJAR Matsushiro Arr 33.46 261 LR LR 21 49 32.9
comp=Z,33nm,20.0s,baz=47,slow=33
H11S1 WAKE ISLAND Hy 34.30 204 T T 22 14 30.0
baz=16,slow=77,SNR=118
H11S2 WAKE ISLAND Hy 34.31 204 T T 22 15 02.0
baz=16,slow=77,SNR=58
H11S3 WAKE ISLAND Hy 34.31 204 T T 22 14 34.1
baz=16,slow=77,SNR=66
BNX BinXian 35.18 283 ⇓P **P 21 37 48.8 -3.6**
BNX pmax pmax
comp=Z,14nm,0.7s
YKA Yellowknife Ar 35.69 46 P **P 21 37 54.8 -1.8**
comp=Z,3.4nm,0.6s,baz=285,slow=8.2,SNR=50
YKA PcP **PcP 21 40 24.1 +0.1**
comp=Z,0.5nm,0.8s,baz=277,slow=2.7,SNR=5.3
YKA ScP **ScP 21 44 08.6 +1.5**
comp=Z,0.3nm,0.7s,baz=284,slow=3.4,SNR=4.7
YKA LR LR 21 54 18.3
comp=Z,118nm,18.1s,baz=271,slow=39
comp=Z,3.4nm,0.6s
B08A Colville Reser 37.92 70 P **P 21 38 16.2 +0.4**
B08A IAmb IAmb 21 38 17.9
comp=Z,4.7nm,0.8s
YBH Yreka Blue Hor 39.20 81 LR LR 21 50 56.2
comp=Z,55nm,21.5s,baz=344,slow=30
NEW Newport 39.27 69 P **P 21 38 27.7 +0.6**
NEW IAmb IAmb 21 38 28.8
comp=Z,5.1nm,0.9s
NEW Newport 39.27 69 P **P 21 38 27.7 +0.6**
NEW pmax pmax
comp=Z,5.0nm,1.0s
KSRS Korea Array 39.37 271 P **P 21 38 29.2 +1.2**
comp=Z,2.3nm,0.8s,baz=58,slow=7.9,SNR=11
KSRS LR LR 21 53 52.2
comp=Z,14nm,21.2s,baz=65,slow=35
comp=Z,2.3nm,0.8s
I07A Izee 39.92 76 P **P 21 38 34.2 +1.5**
I07A IAmb IAmb 21 38 42.5
comp=Z,9.9nm,1.5s
RES Resolute Bay 40.20 24 LR LR 21 58 24.9
comp=Z,34nm,18.3s,baz=12,slow=41
HLID Hailey 43.30 74 **P 21 39 01.2 +0.7**
HLID IAmb IAmb 21 39 03.5
comp=Z,4.5nm,0.8s
BOZ Bozeman (W) 43.86 70 P **P 21 39 05.2 +0.3**
BOZ Bozeman (W) 43.86 70 P **P 21 39 05.2 +0.3**
BOZ pmax pmax
comp=Z,7.0nm,0.7s
NVAR Mina Array Bea 43.87 82 P **P 21 39 06.5 +1.3**
comp=Z,1.2nm,0.7s,baz=299,slow=7.6,SNR=5.9
comp=Z,1.2nm,0.7s
ELK Elko 44.40 77 LR LR 21 54 42.2
comp=Z,38nm,18.9s,baz=314,slow=32
YHL Hebgen Lake 44.53 70 **P 21 39 10.6 +0.1**
HVU Hansel Valley 45.31 75 P **P 21 39 17.6 +1.1**
HVU Hansel Valley 45.31 75 P **P 21 39 17.6 +1.1**
HVU pmax pmax
comp=Z,5.0nm,0.6s
RLMT Red Lodge 45.52 69 P **P 21 39 18.6 +0.4**
ULN Ulaanbaatar 46.18 296 **P 21 39 22.9 -0.4**
ULN IAmb IAmb 21 39 24.2
comp=Z,3.4nm,0.8s
ULN Ulaanbaatar 46.18 296*ce*P **P 21 39 23.4 +0.1**
ULN pmax pmax
comp=Z,7.0nm,1.5s
DUG Dugway, Tooele 46.22 76 P **P 21 39 24.5 +0.8**
SONM Songino Array 46.57 297 P **P 21 39 26.5 +0.1**
SONM IAmb IAmb 21 39 27.0
comp=Z,2.0nm,0.6s
SONM Songino Array 46.57 297 P **P 21 39 26.6 +0.3**
comp=Z,2.1nm,0.6s,baz=65,slow=7.3,SNR=14
SONM LR LR 22 00 01.8
comp=Z,84nm,19.0s,baz=68,slow=38
comp=Z,2.1nm,0.6s
PD31 Pinedale Array 46.68 72 **P 21 39 28.1 +0.7**
PDAR Pinedale Array 46.68 72 **P 21 39 27.9 +0.5**
PDAR Pinedale Array 46.68 72 P **P 21 39 28.3 +0.9**
comp=Z,7.2nm,0.7s,baz=300,slow=3.9,SNR=72
comp=Z,7.2nm,0.7s
ZAK Zakamensk 46.92 301 *e*P **P 21 39 28.3 -0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
HHC Hu-ho-hao-te 47.53 286 *e*P **P 21 39 33.8 -0.1**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,70nm,3.5s
O20A White River Ci 49.05 74 **P 21 39 46.1 +0.4**
SPA0 Spitsbergen Ar 50.73 356 *e*P **P 21 39 56.9 -0.8**
SPITS Spitsbergen Ar 50.73 356 P **P 21 39 56.4 -1.3**
comp=Z,10nm,0.4s,baz=34,slow=6.5,SNR=43
comp=Z,10nm,0.4s
ANMO Albuquerque 53.44 78 LR LR 22 00 07.9
comp=Z,29nm,21.1s,baz=130,slow=33
ZALV Zalesovo Beam 54.09 313 PcP **PcP 21 41 27.0 -0.3**
comp=Z,2.4nm,0.7s,baz=43,slow=3.6,SNR=11
ZALV LR LR 22 03 45.9
comp=Z,39nm,19.3s,baz=53,slow=36
GTA Gaotai 55.45 292 *e*P **P 21 40 33.3 +0.1**
GTA pmax pmax
comp=Z,12nm,0.8s
ARA0 ARCESS Array S 58.41 350 *e*P **P 21 40 53.0 -0.6**
ARCES ARCESS Array B 58.41 350 P **P 21 40 51.9 -1.7**
comp=Z,0.9nm,0.4s,baz=27,slow=8.9,SNR=10
comp=Z,0.9nm,0.4s
LVZ Lovozero 58.74 346⇓*e*P **P 21 40 54.7 -1.1**
LVZ pmax pmax
comp=Z,78nm,2.4s
JETT Jettan, Norway 58.90 352 *e*P **P 21 40 55.6 -1.3**
TRO Tromso 58.94 353 *e*P **P 21 40 55.5 -1.7**
TXAR Lajitas Array 58.98 81 P **P 21 40 58.2 0.0**
comp=Z,2.4nm,0.7s,baz=303,slow=4.5,SNR=21
comp=Z,2.4nm,0.7s
KURK Kurchatov 59.08 314 P **P 21 40 57.8 -0.6**
KURK Kurchatov 59.08 314⇓*e*P **P 21 40 57.7 -0.7**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KTK1 Kautokeino 59.16 351 *e*P **P 21 40 57.1 -1.5**
KURBB Kurchatov Arra 59.19 314 P **P 21 40 58.2 -1.0**
comp=Z,1.6nm,0.3s,baz=44,slow=6.5,SNR=14
comp=Z,1.6nm,0.3s
WMQ Urumqi 59.32 303 *e*P **P 21 41 02.8 +2.5**
WMQ LR LR
comp=Z,110nm,18.9s
MK31 Makanchi Array 60.05 308 P **P 21 41 04.0 -1.3**
MK31 Makanchi Array 60.05 308*d i*P **P 21 41 04.1 -1.1**
MKAR Makanchi Array 60.05 308 P **P 21 41 04.1 -1.1**
comp=Z,3.1nm,0.5s,baz=51,slow=6.1,SNR=62
MKAR PcP **PcP 21 41 51.0 +0.1**
comp=Z,0.5nm,0.5s,baz=41,slow=4.6,SNR=1.6
comp=Z,3.1nm,0.5s
MKAR Makanchi Array 60.05 308 *i* P **P 21 41 04.0 -1.2**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MAKZ Makanchi 60.20 309 ⇑P **P 21 41 05.1 -1.1**
BVAR Borovoye Array 61.00 320 P **P 21 41 10.1 -1.4**
comp=Z,2.2nm,0.4s,baz=28,slow=6.7,SNR=12
BVAR PcP **PcP 21 41 54.4 -0.2**
comp=Z,1.4nm,0.5s,baz=64,slow=3.2,SNR=5.9
BVAR LR LR 22 08 42.9
comp=Z,53nm,21.9s,baz=41,slow=37
comp=Z,2.2nm,0.4s
BRVK Borovoye 61.02 320 P **P 21 41 12.3 +0.6**
BRVK Borovoye 61.02 320*d i*P **P 21 41 12.3 +0.6**
FAUS Fauske 61.43 354 *e*P **P 21 41 14.6 +0.4**
LEIR Leirfjorden 62.83 354 *e*P **P 21 41 22.4 -1.2**
ARTI Arti 62.87 328*c i*P **P 21 41 25.0 +1.0**
ARTI 21 42 00.8
ARTI 21 43 41.7
ARTI S **S 21 49 56.0 +5.2**
ARTI pmax pmax
comp=Z,5.0nm,1.4s
PZH PanZhiHua 63.14 280 P **P 21 41 27.5 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,4.9s
WVT Waverly 63.73 64 P **P 21 41 30.2 +0.1**
KIRV Kirov 63.79 334 LR LR 22 11 26.2
comp=Z,43nm,20.0s,baz=6.9,slow=38
VAF Ylistaro 64.99 349 *e*P **P 21 41 37.0 -0.8**
KEF Keuruu 65.56 348 *e*P **P 21 41 40.0 -1.6**
FIA1 FINESS Array S 66.09 347 P **P 21 41 42.7 -2.2**
FINES FINESS Array B 66.09 347 P **P 21 41 43.2 -1.7**
FINES FINESS Array B 66.09 347 P **P 21 41 42.6 -2.3**
comp=Z,1.6nm,0.4s,baz=11,slow=7.6,SNR=23
comp=Z,1.6nm,0.4s
FINES FINESS Array B 66.09 347 *i* P **P 21 41 43.5 -1.4**
FINES pmax pmax
comp=Z,2.0nm,0.4s
BOOM Boomskoye usch 66.30 309 P **P 21 41 46.7 -0.1**
BOOM Boomskoye usch 66.30 309 P **P 21 41 46.7 -0.1**
BOOM pmax pmax
comp=Z,108nm,1.5s
AAK Ala-Archa 66.89 310 P **P 21 41 50.7 0.0**
AAK Ala-Archa 66.89 310 LR LR 22 09 58.8
comp=Z,58nm,21.1s,baz=159,slow=35
AAK Ala-Archa 66.89 310*ce*P **P 21 41 51.0 +0.4**
AAK pmax pmax
comp=Z,9.0nm,1.7s
RAF Rauma 67.06 349 *e*P **P 21 41 49.7 -1.4**
DOMB Dombas 67.11 356 *e*P **P 21 41 50.9 -0.6**
MEF Metsahovi 67.50 347 *e*P **P 21 41 52.1 -1.8**
AKTO Aktyubinsk 67.83 324 LR LR 22 14 20.3
comp=Z,52nm,18.8s,baz=126,slow=38
NB2 NORSAR Subarra 67.99 355 P **P 21 41 55.6 -1.5**
comp=Z,1.0nm,0.5s,baz=5.4,slow=6.5
NB2 NORSAR Subarra 67.99 355 P **P 21 41 53.9 -3.2**
NB2 NORSAR Subarra 67.99 355 P **P 21 41 55.6 -1.5**
baz=5.4,slow=6.5
NOA NORSAR Array B 67.99 355 P **P 21 41 56.3 -0.8**
comp=Z,1.9nm,0.6s,baz=12,slow=6.7,SNR=17
comp=Z,1.9nm,0.6s
ARBE Arbavere 68.03 346 *e*P **P 21 41 56.5 -0.8**
ABKAR Akbulak array 68.07 323 P **P 21 41 56.4 -1.4**
ABKAR Akbulak array 68.07 323 P **P 21 41 56.6 -1.1**
ABKAR IAmb IAmb 21 41 57.8
comp=Z,2.1nm,1.2s
NORES NORESS Array B 68.28 354 P **P 21 41 57.6 -1.2**
KSH Kashi 68.50 307 P **P 21 42 04.8 +4.0**
KSH pP sP 21 42 15.9 +1.6
KSH pmax pmax
comp=Z,7.0nm,1.0s
HFS Hagfors 68.73 353 P **P 21 41 59.5 -2.2**
comp=Z,2.8nm,0.5s,baz=11,slow=3.0,SNR=32
comp=Z,2.8nm,0.5s
MTSE Matsula 69.03 347 *e*P **P 21 42 03.1 -0.5**
KONO Kongsberg 69.47 355 *e*P **P 21 42 06.2 0.0**
SLIT Slitere, Latvi 70.29 348 *e*P **P 21 42 10.2 -1.2**
CMAR Chiang Mai Arr 70.78 276 P **P 21 42 14.2 -0.7**
comp=Z,0.9nm,0.7s,baz=26,slow=7.0,SNR=8.5
comp=Z,0.9nm,0.7s
CMAR Chiang Mai Arr 70.78 276 *i* P **P 21 42 15.1 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
PABE Paberze 72.12 346 *e*P **P 21 42 21.5 -0.9**
MNK Minsk 72.45 344 *i* P **P 21 42 23.7 -0.7**
MNK *i* 21 45 05.0
MNK *i* PPP PPP 21 46 49.1
MNK *i* S **S 21 51 48.8 +3.4**
MNK *i* SS **SS 21 56 28.3 +5.3**
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK MLR MLR
comp=Z,44nm,16.0s
MNK MLR MLR
comp=E,298nm,22.0s
EKA Eskdalemuir Ar 73.98 2 P **P 21 42 31.5 -2.0**
comp=E,0.6nm,0.5s,baz=4.4,slow=5.1,SNR=5.8
comp=E,0.6nm,0.5s
AK04 Malin Array Si 75.81 342 P **P 21 42 42.6 -1.5**
AK04 pP **pP 21 42 54.0 -0.3**
AKASG Malin Array Be 75.82 342 P **P 21 42 43.0 -1.2**
comp=E,5.9nm,0.5s,baz=22,slow=5.8,SNR=22
comp=E,5.9nm,0.5s
AKASG Malin Array Be 75.82 342 P **P 21 42 43.0 -1.2**
AKBB Malin Array Si 75.82 342⇓*e*P **P 21 42 43.0 -1.1**
AKBB pmax pmax
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 75.82 342 P **P 21 42 42.0 -2.1**
AK20 Malin Array Si 75.82 342 P **P 21 42 42.6 -1.6**
KIEV Kiev 75.83 342 ⇓P **P 21 42 42.7 -1.5**
KIEV Kiev 75.83 342 ⇓P **P 21 42 42.7 -1.5**
KIEV Kiev 75.83 342 P **P 21 42 42.6 -1.5**
comp=Z,58nm,0.9s
AK18 Malin Array Si 75.83 342 P **P 21 42 42.6 -1.6**
AK01 Malin Array Si 75.83 342 P **P 21 42 42.8 -1.4**
KBL Kabul 75.85 308 P **P 21 42 44.7 -0.2**
KBL pmax pmax
comp=Z,8.0nm,0.8s
MI28 Mi28,Pidlybu 75.90 343 P **P 21 42 43.7 -0.9**
AK05 Malin Array Si 75.90 342 P **P 21 42 43.4 -1.2**
LUBAR Lubar, Ukraine 76.85 342 P **P 21 42 47.7 -2.3**
CLL Collm 77.54 352 *e*P **P 21 42 53.0 -0.8**
KSP Ksiaz 77.67 350 P **P 21 42 53.4 -1.2**
KSP Ksiaz 77.67 350 P **P 21 42 53.4 -1.2**
comp=Z,4.0nm,2.0s
HORU Horodok 77.78 343 P **P 21 42 53.8 -1.4**
HORU Horodok 77.78 343 P **P 21 42 53.8 -1.4**
DPC Dobruska-Polom 78.16 350 *e*P **P 21 42 57.1 -0.3**
DPC Dobruska-Polom 78.16 350 *e*P **P 21 42 57.1 -0.3**
NDNU Novodnistrovsk 78.19 342 P **P 21 42 56.3 -1.2**
KMPD K-Podol'skiy 78.40 343 P **P 21 42 57.6 -1.0**
SORM Soroca 78.44 342 ⇑P **P 21 42 57.6 -1.3**
SORM Soroca 78.44 342 ⇑P **P 21 42 57.6 -1.3**
SORM Soroca 78.44 342 P **P 21 42 57.4 -1.5**
comp=Z,19nm,0.9s
STNU Starunia 78.60 344 P **P 21 42 58.8 -1.0**
KIV Kislovodsk 78.66 331 *e*P **P 21 42 57.9 -2.4**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,24nm,19.0s
PRU Pruhonice 78.70 351 *e*P **P 21 42 59.6 -0.7**
PRU Pruhonice 78.70 351 *e*P **P 21 42 59.6 -0.7**
KOLS Kolonicke sedl 78.75 346 *e*P **P 21 43 00.3 -0.3**
KOLS pmax pmax
comp=Z,9.0nm,0.7s
KOLS Kolonicke sedl 78.75 346 *e*P **P 21 43 00.3 -0.3**
KBZ Khabaz 78.80 330 LR LR 22 21 18.7
comp=Z,31nm,21.7s,baz=25,slow=38
SHA1 Shidzhatmaz 78.87 330⇑*e*P **P 21 43 00.3 -1.4**
KSV Kosov 78.89 344 P **P 21 43 00.1 -1.3**
KSV Kosov 78.89 344 P **P 21 43 00.1 -1.3**
HOLU Holmets 79.13 346 P **P 21 43 02.1 -0.6**
MUKU Mukachevo 79.15 345 P **P 21 43 02.1 -0.7**
BRIU Brid 79.21 345 P **P 21 43 02.3 -0.8**
ZVC Zvikov 79.28 351 *e*P **P 21 43 02.9 -0.6**
BURAR Bucovina Array 79.54 343 ⇓P **P 21 43 04.5 -0.6**
BURAR Bucovina Array 79.54 343 ⇓P **P 21 43 04.5 -0.6**
KHC Kasperske Hory 79.64 351 *e*P **P 21 43 05.2 -0.3**
KHC Kasperske Hory 79.64 351 *e*P **P 21 43 05.2 -0.3**
VYHS Vyhne 79.68 348 *e*P **P 21 43 05.0 -0.7**
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 79.68 348 *e*P **P 21 43 05.0 -0.7**
GERES GERESS Array B 79.92 351 P **P 21 43 06.0 -1.1**
GERES GERESS Array B 79.92 351 P **P 21 43 06.2 -0.8**
comp=Z,1.3nm,0.6s,baz=25,slow=5.0,SNR=11
comp=Z,1.3nm,0.6s
MODS Modra-Piesok 79.99 349 *e*P P 21 43 02.4 -5.0

PSZ	Piszkesteto	80.10 347	⇓P		P	21 43 07.8	-0.3
PSZ	Piszkesteto	80.10 347	⇓P		P	21 43 07.8	-0.3
ARCR	ARCALIA	80.20 344	⇓P		P	21 43 09.0	+0.4
TESR	Tescani	80.33 342	⇓P		P	21 43 09.0	-0.3
JOSR	Joseni	80.36 343	⇑P		P	21 43 09.8	+0.3
CONA	Conrad Observa	80.60 350	*i* P		P	21 43 09.8	-0.9
	comp=Z,1.2nm,0.5s						
RONA	Rosalia, Austr	80.77 349	*e*P		P	21 43 10.2	-1.5
	comp=Z,0.3nm,0.2s						
MARR	Marisel-Cluj	80.81 345	⇓P		P	21 43 10.7	-1.2
OZUR		80.89 343	⇓P		P	21 43 12.8	+0.5
PLOR	Plostina	80.97 342	⇓P		P	21 43 12.6	-0.1
PLOR	Plostina	80.97 342	⇓P		P	21 43 12.6	-0.1
SPBR	Spulber	81.04 342	⇓P		P	21 43 13.3	+0.2
COVR	Voineasa-Covas	81.06 342	⇓P		P	21 43 13.7	+0.5
DOPR	Dopca	81.09 343	⇓P		P	21 43 12.9	-0.4
BISRR	Bisoca	81.24 342	⇓P		P	21 43 14.7	+0.5
CFR	Carcaliu	81.31 341	⇓P		P	21 43 14.1	-0.4
CFR	Carcaliu	81.31 341	P		P	21 43 14.1	-0.4
NEHR	Nehoiu	81.44 342	⇑P		P	21 43 14.3	-0.9
MLR	Muntele Rosu	81.45 342	⇓P		P	21 43 15.3	-0.1
MLR	Muntele Rosu	81.45 342	⇓P		P	21 43 15.3	-0.1
WRA	Warramunga Arr	81.56 224	P		P	21 43 16.2	+0.2
	comp=Z,0.7nm,0.7s,baz=25,slow=5.5,SNR=3.8						
	comp=Z,0.7nm,0.7s						
WATA	Walderalm	81.60 353	*i* P		P	21 43 15.5	-0.7
	comp=Z,2.0nm,0.6s						
MOTA	Moosalm	81.63 353	*i* P		P	21 43 15.5	-0.9
	comp=Z,0.3nm,0.3s						
WTTA	Wattenberg	81.67 353	*i* P		P	21 43 16.1	-0.5
	comp=Z,2.6nm,0.6s						
VOIR		81.67 343	⇑P		P	21 43 16.8	+0.3
VOIR		81.67 343	⇑P		P	21 43 16.8	+0.3
KBA	Koelnbreinsper	81.70 351	P		P	21 43 16.1	-0.7
KBA	Koelnbreinsper	81.70 351	*i* P		P	21 43 16.7	-0.1
	comp=Z,6.1nm,0.5s						
SQTA	Sankt Quirin	81.74 353	*i* P		P	21 43 16.4	-0.5
	comp=Z,0.4nm,0.3s						
DAVA	Damuels	81.78 354	*i* PcP		P	21 43 17.7	+0.6
	comp=Z,0.4nm,0.2s						
ARR	Arges	81.81 343	⇓P		P	21 43 17.8	+0.6
HARR	Harsova	81.82 341	⇓P		P	21 43 16.8	-0.3
HARR	Harsova	81.82 341	⇓P		P	21 43 16.8	-0.3
SURR	Surduc	81.87 345	⇓P		P	21 43 17.2	-0.2
SOKA	Soboth	81.92 350	*i* P		P	21 43 17.0	-0.9
	comp=Z,3.2nm,0.9s,SNR=7.6						
MORH	Mrgy, Hungar	81.94 348	⇓P		P	21 43 16.8	-0.9
PERS	Pernice	81.96 350	*e*P		P	21 43 17.4	-0.5
FETA	Feichten	81.98 353	*e*P		P	21 43 17.7	-0.5
	comp=Z,0.9nm,0.4s,SNR=5.4						
BZS	Buzias	82.08 345	⇑P		P	21 43 18.1	-0.5
BZS	Buzias	82.08 345	⇑P		P	21 43 18.1	-0.5
ABTA	Abfaltersbach	82.10 352	*e*P		P	21 43 17.6	-1.1
	comp=Z,1.3nm,0.6s						
GZR	Gura Zlata	82.11 345	⇓P		P	21 43 18.4	-0.4
GZR	Gura Zlata	82.11 345	⇓P		P	21 43 18.4	-0.4
OBKA	Obir	82.14 350	*e*P		P	21 43 18.1	-0.9
	comp=Z,2.3nm,0.5s						
ROBS	Robic	82.51 351	*e*P		P	21 43 19.1	-1.6
HERR	Herculane	82.67 345	⇑P		P	21 43 20.9	-0.7
MDVR	Moldovita	82.88 345	⇑P		P	21 43 22.1	-0.7
GBRS	Gornja Briga	83.08 350	*i* P		P	21 43 22.9	-1.0
BOVS	Bovan	84.00 345	⇑P		P	21 43 27.9	-0.6
ASAR	Alice Springs	85.03 222	P		P	21 43 35.0	+1.2
	comp=Z,0.7nm,0.6s,baz=22,slow=5.5,SNR=6.7						
	comp=Z,0.7nm,0.6s						
BR106	Keskin Array S	85.17 335	P		P	21 43 33.2	-1.5
	comp=Z,2.8nm,0.9s						
BR131	Keskin Array S	85.17 335	⇓*e*P		P	21 43 34.0	-0.7
BRTR	Keskin Array B	85.17 335	P		P	21 43 33.6	-1.1
BRTR	Keskin Array B	85.17 335	P		P	21 43 34.0	-0.7
	comp=Z,2.2nm,0.8s,baz=50,slow=2.9,SNR=15						
	comp=Z,2.2nm,0.8s						
BR105	Keskin Array S	85.19 335	P		P	21 43 33.7	-1.1
	comp=Z,4.4nm,0.8s						
BR104	Keskin Array S	85.19 335	P		P	21 43 33.6	-1.2
ESDC	Sonseca Array	89.60 4	P		P	21 43 54.6	-1.3
	comp=Z,0.9nm,0.7s,baz=356,slow=4.9,SNR=6.7						
	comp=Z,0.9nm,0.7s						
H03N2	Juan Fernandez	121.30 106	T		T	00 03 00.4	
	baz=317,slow=77,SNR=25						
H03N1	Juan Fernandez	121.32 106	T		T	00 03 01.5	
	baz=317,slow=77,SNR=35						
H03N3	Juan Fernandez	121.32 106	T		T	00 02 59.6	
	baz=317,slow=77,SNR=36						
MAW	Mawson	146.02 217	PKPbc		PKPdf	21 50 36.6	+0.9
	comp=Z,1.6nm,0.7s,baz=90,slow=6.1,SNR=2.1						
BOSA	Boshof	151.03 311	PKPbc		PKPbc	21 50 50.5	-0.6
	comp=Z,2.0nm,0.5s,baz=360,slow=0.6,SNR=6.6						

GCG 16 21:34:35.9±0.5, 14°.16N×91°.43W, h74km±22km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG5	El Palmar, Qui	0.26	18	*e*P	Pn	21 34 49.6	+2.3
STG5				*i* S	Sn	21 35 00.4	+4.6
STG0	El Palmar, Qui	0.28	18	*e*P	Pn	21 34 50.7	+3.1
STG8	El Palmar, Qui	0.30	15	*e*P	Pn	21 34 50.9	+3.0
FG16	Alotenango, Sa	0.90	83	*e*P	Pn	21 34 51.1	-2.5

IDC 16 21:39:56.5±5.3, 19°.02S×175°.89W, h0km, mb3.8/4, mbtmp3.8/4, MS3.9/1, Error ellipse: s-maj=195.0km s-min=55.9km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.22 243		P	P	21 47 34.6	-0.5
	2.7nm,0.9s,baz=84,slow=9.2,SNR=3.1						
	2.7nm,0.9s						
WRA	Warramunga Arr	46.79 260		P	P	21 48 28.1	-0.1
	0.5nm,0.6s,baz=96,slow=7.8,SNR=8.2						
	0.5nm,0.6s						
ASAR	Alice Springs	46.80 255		P	P	21 48 28.4	+0.1
	0.8nm,0.7s,baz=93,slow=7.5,SNR=7.0						
	0.8nm,0.7s						
FITZ	Fitzroy Crossi	55.21 261		LR	LR	22 12 43.3	
	comp=Z,100nm,18.1s,baz=46,slow=36						
CMAR	Chiang Mai Arr	91.50 289		P	P	21 53 05.9	+0.3
	0.1nm,0.2s,baz=126,slow=3.4,SNR=4.1						
	0.1nm,0.2s						
BRTR	Keskin Array B	147.25 315		PKPbc	PKPdf	21 59 41.2	+1.1
	0.2nm,0.4s,baz=58,slow=5.1,SNR=3.5						

UCR 16 21:42:05.0±0.8, 10°.97N×85°.14W, h198km±14km, MW3.5, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMAR	Armenia, Volca	0.16	170	*e*P	Pn	21 42 31.9	+0.7
HORNC	Hornillas	0.26	188	*e*P	Pn	21 42 32.2	+0.8
VERA	Finca Concepci	0.29	114	*e*P	Pn	21 42 32.1	+0.8
COLC	Colonia	0.31	191	*e*P	Pn	21 42 32.2	+0.7
TENO	El Achiote	0.31	149	*e*P	Pn	21 42 32.5	+1.0
CUI	Cuipilapa	0.31	184	*e*P	Pn	21 42 32.1	+0.6
QUEB	Quebradon, Cot	0.42	145	*e*P	Pn	21 42 32.3	+0.6
LCHIL	Los Chiles	0.42	81	*e*P	Pn	21 42 32.4	+0.7
INVE	Universidad In	0.50	171	*e*P	Pn	21 42 32.5	+0.5
TILA	Tilaran	0.53	161	*e*P	Pn	21 42 32.6	+0.5
ALIBA	Liberia Airpor	0.55	227	*e*P	Pn	21 42 32.5	+0.3
TABAC	Tabacon	0.60	142	*e*P	Pn	21 42 33.5	+1.0
CEDE	Laguna Cedeo	0.65	138	*e*P	Pn	21 42 33.6	+1.0
ARE1	Arenal 1	0.66	141	*e*P	Pn	21 42 33.7	+1.0
VARE2	V. Arenal	0.66	141	*e*P	Pn	21 42 33.7	+1.0
DELF	Filadelfia	0.66	218	*e*P	Pn	21 42 33.2	+0.5
FORC	Fortuna	0.68	137	*e*P	Pn	21 42 33.7	+1.0
JTS	Las Juntas de	0.70	165	*e*P	Pn	21 42 33.1	+0.2
MTEVE	Monteverde	0.72	154	*e*P	Pn	21 42 33.8	+0.7
SOCE	Pocosol	0.78	139	*e*P	Pn	21 42 33.9	+0.6
NICO	Nicoya	0.88	200	*e*P	Pn	21 42 33.9	0.0
NYURE	Nandayure	0.97	186	*e*P	Pn	21 42 34.5	0.0
CMARA	Lajas Hojancha	0.99	196	*e*P	Pn	21 42 34.6	0.0
ACON	Acoyapa	0.99	358	*e*P	Pn	21 42 35.5	+1.0
VPL2	V. Platanar	1.00	131	*e*P	Pn	21 42 35.5	+0.6
VPL1	V. Platanar	1.04	133	*e*P	Pn	21 42 35.5	+0.3
JCR1	Jicaral	1.11	179	*e*P	Pn	21 42 36.5	+1.0
VPS8	V Poas	1.18	132	*e*P	Pn	21 42 36.9	+0.6
TRB2	Turrubares	1.25	147	*e*P	Pn	21 42 36.7	+0.2
CBL1	Cabuya	1.38	178	*e*P	Pn	21 42 37.5	0.0
SANTA	Santa Ana	1.40	138	*e*P	Pn	21 42 38.0	+0.2
ACOS	Acosta	1.51	140	*e*P	Pn	21 42 39.3	+0.4
CVTG	V. Turrialba,	1.57	121	*e*P	Pn	21 42 39.7	+0.4
ABE2	San Pablo	1.65	140	*e*P	Pn	21 42 40.6	+0.4
LCR2	La Lucha 2	1.66	137	*e*P	Pn	21 42 40.5	+0.3
CVTQ	Turrialba Volc	1.66	125	*e*P	Pn	21 42 40.8	+0.4
PIEC	Cerro El Cedra	1.77	139	*e*P	Pn	21 42 42.1	+0.6
SAJE	San Jernim	2.28	135	*e*P	Pn	21 42 46.8	+0.2
ALCO	Alturas Coton,	3.03	131	*e*P	Pn	21 42 55.5	+0.3

*NEIC **16** 21:48:36.5±0.9, 43°.71N±0°.05×105°.38W±0°.08, h0km±1km, ML3.3/41, Error ellipse: s-maj=10.9km s-min=6.7km az=122.0*
*IDC **16** 21:48:37.1±2.2, 43°.66N×105°.49W, h0km, mbtmp3.1/3, ML3.2/3, Error ellipse: s-maj=48.1km s-min=9.7km az=150.0*
ISC 16 21:48:37.3±1.1, 43°.74N±0°.06×105°.41W±0°.07, h0km, n27, σ0°.96/27, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	Casper	1.36	217		Pg	21 49 02.7	-0.6
K22A				IAML		21 49 26.1	
	462nm,0.3s						
K22A				IAML		21 49 28.2	
	374nm,0.3s						
LAO	LASA Array	3.01	349		Pn	21 49 26.5	+0.2
RLMT	Red Lodge	3.09	298		Pn	21 49 29.1	+1.5
RLMT				IAML		21 50 19.9	
	81nm,0.6s						
RLMT				IAML		21 50 23.6	
	83nm,0.4s						
PD31	Pinedale Array	3.18	254		Pn	21 49 29.4	+0.6
PDAR	Pinedale Array	3.18	254	Pn	Pn	21 49 30.5	+1.7
	1.8nm,0.3s,baz=72,slow=15,SNR=30						
PDAR				Lg	Lg	21 50 14.3	
	18nm,0.3s,baz=71,slow=33,SNR=19						
	3.8nm,0.4s						
YNE	Yellowstone No	3.54	293		Pn	21 49 34.5	+0.8
YNE				IAML		21 50 39.2	
	comp=N,79nm,0.6s						
YMP	Mirror Lake Pl	3.56	288		Pn	21 49 35.1	+1.0
OGNE	Ogallala	3.75	137		Pn	21 49 37.0	+0.6
H17A	Grant Village	3.78	282		Pn	21 49 38.0	+0.9
H17A				IAML		21 50 40.5	
	comp=E,28nm,0.5s						
H17A				IAML		21 50 41.6	
	comp=N,34nm,0.4s						
MOOW	Moose Ponds	3.87	272	Pn	Pn	21 49 39.5	+1.2
ISCO	Idaho Springs	3.94	182		Pn	21 49 39.4	+0.1
ISCO				IAML		21 50 48.0	
	comp=N,26nm,1.1s						
TPAW	Teton Pass	4.03	268		Pn	21 49 39.4	-1.1
TPAW				IAML		21 51 19.6	
	comp=N,28nm,1.2s						
FXWY	Fox Creek	4.08	271		Pn	21 49 42.4	+1.3
O20A	White River Ci	4.17	211		Pn	21 49 43.2	+0.7
O20A				IAML		21 50 54.4	
	comp=N,54nm,1.0s						
O20A				IAML		21 51 04.8	
	comp=N,47nm,1.1s						
YHB	Horse Butte	4.28	286		Pn	21 49 43.6	-0.3
YHL	Hebgen Lake	4.29	287		Pn	21 49 44.8	+0.6
YHL				IAML		21 51 08.1	
	comp=E,33nm,0.9s						
YHL				IAML		21 51 16.7	
	comp=N,31nm,1.4s						
E28A	Huff	4.38	48		Pn	21 49 45.7	+0.6
BOZ	Bozeman (W)	4.81	295		Pn	21 49 51.4	+0.2
BOZ				IAML		21 51 09.8	
	comp=N,15nm,0.7s						
BOZ				IAML		21 51 09.9	
	comp=N,21nm,1.3s						
HWUT	Hardware Ranch	5.01	247	Pn	Pn	21 49 54.1	+0.1
HWUT				IAML		21 51 19.4	
	comp=N,24nm,0.6s						
HWUT				IAML		21 51 19.7	
	comp=N,26nm,0.7s						
KSCO	Kaye Shedlock'	5.16	155		Pn	21 49 55.5	-0.4
EGMT	Eagleton	5.25	326	Pn	Pn	21 49 56.4	-0.8
SRU	San Rafael Swe	6.01	221		Pn	21 50 07.6	0.0
S22A	4UR Ranch, Cre	6.08	191		Pn	21 50 10.9	+2.2
ECSD	EROS Data Cent	6.37	87	Pn	Pn	21 50 12.8	+0.4
CBKS	Cedar Bluff	6.51	137		Pn	21 50 15.0	+0.6
ULM	Lac du Bonnet	9.21	42	Pn	Pn	21 50 50.0	-1.3
	comp=N,0.8nm,0.3s,baz=228,slow=14,SNR=3.6						
ULM				Lg	Lg	21 53 24.8	
	comp=N,0.3nm,0.3s,baz=132,slow=17,SNR=3.3						
	comp=N,1.3nm,0.3s						
YKA	Yellowknife Ar	19.55	347	P	Pn	21 53 07.7	+0.2
	comp=N,0.1nm,0.3s,baz=162,slow=12,SNR=4.6						
	comp=N,0.2nm,0.7s						

SNET 16 21:49:15.9±0.7, 12°.50N×90°.53W, h85km±53km, ML3.5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	1.55	42	*e*P	Pn	21 49 42.8	+0.5
SNJE	San Jose	1.63	33	*e*P	Pn	21 49 43.4	+0.1
SNJE				*e*P		21 49 43.6	
PMON	Piamonte	1.69	44	*e*P	Pn	21 49 44.5	+0.5
LFRS	El Faro	1.81	52	*e*P	Pn	21 49 45.9	+0.3
COEG	Centro de Oper	1.95	55	*e*P	Pn	21 49 47.6	+0.3
COEG				IAML		21 49 48.8	
	comp=Z,277nm,0.2s						
MTO3	Montecristo	2.20	31	*e*P	Pn	21 49 51.9	+1.0
PACA	Pacayal	2.35	66	*e*P	Pn	21 49 53.8	+1.0
PACA				*e*S	Sn	21 50 22.6	+1.6
LCY	Lacayo	2.36	67	*e*P	Pn	21 49 53.2	+0.4
RANC	El Ranchito	2.37	67	*e*P	Pn	21 49 53.5	+0.5
RANC				IAML		21 49 55.8	
	comp=Z,227nm,0.4s						
RANC				*e*S	Sn	21 50 23.1	+1.7
BLLM	Bellamira	2.42	67	*e*P	Pn	21 49 54.1	+0.5
CNCH	Conchagua	2.73	73	*e*P	Pn	21 49 58.5	+0.6

*ISN **16** 21:53:25.1±0.4, 33°.66N×45°.80E, h12km±2km, ML2.9*
*TEH **16** 21:53:25.9, 33°.66N×45°.80E, h10km*
ISC 16 21:53:25.8±1.1, 33°.66N±0°.03×45°.83E±0°.05, h19km, n8, σ0°.84/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.46	9	Pg	Pg	21 53 35.3	0.0
IBDR	Badra	0.56	171	*e*Pg	Pb	21 53 36.0	-0.9
IBDR				*e*Sg	Sb	21 53 44.2	-0.2
KGS1	Ghasr-e-Shirin	0.87	347	Pg	Pb	21 53 42.6	+0.3
IDHR	Dehrash	1.14	24	Pg	Pg	21 53 48.0	0.0
KCHF	Cheshme Sefid,	1.18	58	Pg	Pg	21 53 49.0	+0.2
BHD	Baghdad	1.27	253	*e*Pn	Pg	21 53 50.3	-0.1
BHD				*e*Sn	Sg	21 54 08.5	+1.5
BHD				AML	AML	21 54 19.1	
	comp=E,252nm,0.5s						
RAFI	Al-Rafai	1.95	173	*e*Pn	Pb	21 54 00.0	-0.7
RAFI				*e*Sn	Sb	21 54 25.5	+1.0
RAFI				AML	AML	21 54 34.0	
	comp=N,132nm,0.2s						
RAFI				AML	AML	21 54 34.1	
	comp=E,104nm,0.3s						
IKRK	Kirkuk	2.13	325	*e*Pn	Pb	21 54 02.5	-1.3
IKRK				*e*Sn	Sb	21 54 29.3	-0.5

*IDC **16** 21:59:23.0±0.7, 5°.14S×134°.11E, h0km, mb4.0/9, mbtmp4.1/13, ML4.3/4, MS3.3/4, Error ellipse: s-maj=32.3km s-min=16.1km az=78.0*
*NEIC **16** 21:59:25.2±2.3, 5°.06S±0°.06×134°.11E±0°.04, h10km±1km, mb4.5/15, Error ellipse: s-maj=9.9km s-min=6.3km az=20.0*
*DJA **16** 21:59:29.3±0.2, 5°S±2°×13°4E±°, h70km±10km, M4.6/13, mb4.7/13, mB5.2/5, MLv4.6/13, Mw(mB)4.5/5*
ISC 16 21:59:27.1±0.4, 5°.08S±0°.04×134°.13E±0°.05, h28km, n83, σ1°.89/93, mb4.4/22, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	1.47	343	P	Pn	21 59 52.1	+0.4
KMPI				S	Sn	22 00 09.0	-1.0
FAKI	Fak Fak	2.85	319	Pn	Pn	22 00 11.1	+0.4
FAKI				Sn	Sn	22 00 41.1	-3.0
FAKI	Fak Fak	2.85	319	P	Pn	22 00 10.9	+0.2
FAKI	Fak Fak	2.85	319	P	Pn	22 00 10.5	-0.2
FAKI				S	Sn	22 00 41.8	-2.3
SRPI	Serui, Papua	3.82	34	P	Pn	22 00 24.4	+0.3
SRPI				S	Sn	22 01 05.4	-2.7
SAUI	Saumlaki	4.03	224	Pn	Pn	22 00 28.1	+1.2
SAUI				Sn	Sn	22 01 15.0	+1.7
SAUI	Saumlaki	4.03	224	P	Pn	22 00 28.5	+1.5
SAUI				S	Sn	22 01 17.5	+4.2
BNDI	Bandanaira	4.25	277	P	Pn	22 00 31.6	+1.7
BAKI	Biak	4.34	27	P	Pn	22 00 33.2	+2.0
SWI	Sorong	5.07	326	P	Pn	22 00 41.4	+0.1
SWI				S	Sn	22 01 34.8	-4.2
MSAI	Masohi	5.46	288	P	Pn	22 00 47.5	+0.8
	1.0nm161nm,0.7s						
MSAI				S	Sn	22 01 47.9	-0.8
	1.0nm161nm,0.7s						
SMPI	Sarmi	5.51	56	P	Pn	22 00 48.2	+0.9
	0.4nm77nm,0.5s						
AAI	Ambon	6.08	283	P	Pn	22 00 55.9	+0.8
	0.5nm2μm79nm,0.6s						
AAI				S	Sn	22 02 05.8	+2.0
	0.5nm2μm79nm,0.6s						
GENI	Genyem	6.51	68	P	Pn	22 01 03.2	+2.1
JAY	Jayapura	7.04	69	Pn	Pn	22 01 09.2	+0.8
	4.8nm,0.3s,baz=210,slow=15,SNR=14						
JAY				Sn	Sn	22 02 29.2	+1.6
	2.6nm,0.3s,baz=334,slow=18,SNR=1.8						
	38nm,0.9s						
JAY	Jayapura	7.04	69	P	Pn	22 01 09.8	+1.4
	0.2nm44nm,1.1s						
NLAI	Namlea	7.24	284	P	Pn	22 01 14.1	+2.9
	0.3nm1μm73nm,0.7s						
KDU	Kakadu	7.74	192	P	Pn	22 01 19.2	+1.3
DRS	Darwin Rock St	7.97	203	P	Pn	22 01 23.7	+2.5
MTN	Manton Dam	8.26	201		Pn	22 01 26.5	+1.3
MTN	Manton Dam	8.26	201	P	Pn	22 01 26.7	+1.5
SANI	Sanana	8.66	290	P	Pn	22 01 29.1	-1.6
SANI	Sanana	8.66	290	P	Pn	22 01 28.4	-2.3
	35nm,0.9s						
SOEI	Soe	10.82	244		Pn	22 02 00.8	+0.3
SOEI	Soe	10.82	244	P	Pn	22 02 01.7	+1.3
SOEI	Soe	10.82	244	P	Pn	22 02 02.0	+1.6
	46nm,0.9s						
KNRA	Kununurra	11.78	206		Pn	22 02 12.9	-0.4
LUWI	Luwuk	12.03	289	Pn	Pn	22 02 15.5	-1.3
LUWI	Luwuk	12.03	289	P	Pn	22 02 16.9	+0.1
	1μm28nm,0.9s						
COEN	Coen	12.54	135	Pn	Pn	22 02 22.5	-1.3
COEN	Coen	12.54	135	P	Pn	22 02 23.0	-0.8
PMG	Port Moresby	13.62	109	LR	LR	22 09 24.6	
	comp=Z,170nm,20.7s,baz=278,slow=44						
BKSI	Bulukumba	13.95	268	P	Pn	22 02 44.5	+1.4
	18nm,0.9s						
KAPI	Kappang	14.32	270	LR	LR	22 08 08.7	
	comp=Z,105nm,19.5s,baz=108,slow=37						
SPSI	Sidrap Palu	14.36	274	P	Pn	22 02 49.3	+0.7
	25nm,1.0s						
TOLI2	Tolitoli	14.68	294	Pn	Pn	22 02 53.5	+0.5
WRA	Warramunga Arr	14.78	179	Pn	Pn	22 02 52.0	-2.3
	0.5nm,0.3s,baz=353,slow=13,SNR=20						
WRA				Sn	Sn	22 05 25.6	-12
	0.8nm,0.3s,baz=360,slow=23,SNR=5.7						
	1.3nm,0.4s						
FITZ	Fitzroy Crossi	15.37	212		Pn	22 02 59.9	-2.4
FITZ	Fitzroy Crossi	15.37	212	Pn	Pn	22 03 00.1	-2.2
	1.5nm,0.3s,baz=31,slow=10,SNR=35						
FITZ				Sn	Sn	22 05 40.7	-11
	4.1nm,0.3s,baz=198,slow=15,SNR=13						
	3.3nm,0.4s						
QIS	Mount Isa	16.28	161	P	Pn	22 03 12.4	-1.6
PLAI	Plampang	16.65	256	P	Pn	22 03 19.3	+0.6
AS01	Alice Springs	18.48	181	P	Pn	22 03 41.6	+0.3
AS31	Alice Springs	18.48	181		Pn	22 03 41.4	0.0
ASAR	Alice Springs	18.48	181	P	P	22 03 40.9	-0.2
	3.0nm,0.3s,baz=3.9,slow=9.9,SNR=130						
ASAR				S	Sn	22 06 56.9	-10
	2.9nm,0.6s,baz=356,slow=27,SNR=5.4						
ASAR				LR	LR	22 11 30.1	
	comp=Z,142nm,18.3s,baz=248,slow=40						
	20nm,0.7s						
MYLDM	Lahad Datu	18.64	303		P	22 03 38.2	-4.6
MYLDM	Lahad Datu	18.64	303	P	Pn	22 03 42.7	-0.6
WRKA	Warakurna	20.62	195	P	Pn	22 04 06.0	-0.8
MBWA	Marble Bar	21.23	220	P	P	22 04 10.4	-0.6
MBWA				IAmb	IAmb	22 04 13.3	
	comp=Z,15nm,1.1s						
OOD	Oodnadatta	22.64	176	P	P	22 04 27.2	+1.2
LCRK	Leigh Creek	25.53	172	P	P	22 04 54.0	+0.6
FORT	Forrest	26.20	192	P	P	22 04 59.0	-0.5
FORT	Forrest	26.20	192	P	P	22 05 00.0	+0.5
STKA	Stephens Creek	27.56	166	P	P	22 05 11.7	-0.1
STKA				IAmb	IAmb	22 05 13.0	
	comp=Z,48nm,1.4s						
STKA	Stephens Creek	27.56	166	P	P	22 05 11.7	-0.1
	comp=Z,2.1nm,0.8s,baz=348,slow=14,SNR=3.1						
	comp=Z,2.1nm,0.8s						
BBOO	Buckleboo	27.65	176	P	P	22 05 12.3	-0.2
BBOO				IAmb	IAmb	22 05 13.9	
	comp=Z,12nm,0.9s						
KLBR	Kellerberrin	30.52	208	P	P	22 05 38.9	+0.8
NWAO	Narrogin (SRO)	31.88	208	P	P	22 05 50.1	+0.1
JNU	Nakatsue	38.12	356	LR	LR	22 24 30.5	
	comp=Z,25nm,18.0s,baz=142,slow=40						
NJ2	Nanjing	39.69	339	*e*P	P	22 06 57.9	+1.0
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CMAR	Chiang Mai Arr	41.83	305	P	P	22 07 15.8	+0.9
	comp=Z,0.7nm,0.9s,baz=

comp=Z,4.4nm,1.1s
J20K Nowinta River 86.69 25 P P 22 12 08.8 +0.8
J20K IAmb IAmb 22 12 10.3
comp=Z,2.0nm,0.8s
RAYN Ar Rayn 90.74 293 P 22 12 27.8 -0.4
RAYN IAmb IAmb 22 12 29.4
comp=Z,1.9nm,0.8s
BMAR Burnt Mountain 91.31 22 P P 22 12 30.1 +0.3
CPUP Villa Florida 146.86 161 PKPbc PKPab 22 19 08.2 -0.7
comp=Z,2.6nm,0.7s,baz=168,slow=2.5,SNR=4.0
LPAZ La Paz 149.41 134 PKPbc PKPbc 22 19 13.5 -1.9
comp=Z,3.6nm,0.3s,baz=254,slow=5.1,SNR=8.3

*IDC **16** 22:03:20.1±2.4,4.°75S×135.°69E, h0km, mb4.3/5, mbtmp4.2/7, ML4.1/1, Error ellipse: s-maj=164.7km s-min=22.0km az=77.0*
ISC 16 22:03:21.6±2.4,4.°8S±0.°2×135.°8E±0.°9, h10km, n7, σ0s54/7, mb4.3/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.15**	**185**	P	**Pn**	**22 06 55.6**	**-0.3**
	1.6nm,0.4s,baz=355,slow=13,SNR=1.7						
ASAR	**Alice Springs**	**18.88**	**185**	P	**P**	**22 07 43.0**	**+0.7**
	0.6nm,0.3s,baz=3.5,slow=10.0,SNR=5.1						
	2.9nm,0.6s						
STKA	**Stephens Creek**	**27.53**	**169**	P	**P**	**22 09 08.2**	**-0.3**
	1.1nm,0.4s,baz=337,slow=13,SNR=3.5						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**69.64**	**324**	P	**P**	**22 14 31.2**	**-0.2**
	1.4nm,0.5s,baz=112,slow=7.8,SNR=6.0						
	1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**72.25**	**331**	P	**P**	**22 14 47.5**	**+0.6**
	2.1nm,0.6s,baz=113,slow=6.4,SNR=7.1						
	2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**73.73**	**326**	P	**P**	**22 14 55.5**	**-0.3**
	1.8nm,0.7s,baz=125,slow=4.9,SNR=5.8						
	1.8nm,0.7s						
BVAR	**Borovoye Array**	**79.32**	**326**	P	**P**	**22 15 27.6**	**+0.1**
	2.5nm,0.8s,baz=101,slow=7.7,SNR=7.5						
	2.5nm,0.8s						

*IDC **16** 22:05:24.7±0.8, 37.°46N×78.°34E, h0km, mb3.6/14, mbtmp3.7/20, ML3.5/6, MS3.0/2, Error ellipse: s-maj=22.9km s-min=13.8km az=46.0*
*NNC **16** 22:05:28.5±2.3, 37.°64N×78.°21E, h0km±9km, mb4.5, mpv4.2, Error ellipse: s-maj=16.2km s-min=12.0km az=142.0*
ISC 16 22:05:25.8±0.8, 37.°36N±0.°08×78.°37E±0.°07, h10km, n49, σ1s64/56, mb3.5/15, 21C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**5.15**	**342**	P	Pn	22 06 49.4	+6.2
	SNR=7.6						
SATY	**Saty**	**5.70**	**0**	Pg	**Pb**	**22 07 07.2**	**+1.8**
	35nm,0.4s						
SATY				Lg	Lg	22 08 21.2	
	52nm,0.4s						
UCH	**Uchtor**	**5.70**	**330**	P	**Pn**	**22 06 51.8**	**+0.9**
	SNR=7.3						
TNSS	**Tian-Shan**	**5.78**	**350**	Pg	**Pb**	**22 07 07.8**	**+0.8**
	35nm,0.4s						
TNSS				Lg	Lg	22 08 21.6	
	36nm,0.7s						
ZHN	**Zhinishke**	**5.81**	**1**	Pg	**Pb**	**22 07 08.6**	**+1.4**
	30nm,0.3s						
ZHN				Lg	Lg	22 08 23.1	
	89nm,0.3s						
SHLS	**Shalkode**	**5.86**	**8**	Pg	**Pb**	**22 07 12.0**	**+3.9**
	43nm,0.7s						
SHLS				Lg	Lg	22 08 28.3	
	128nm,0.5s						
MDOK	**Medeo**	**5.89**	**351**	Pn	**Pn**	**22 06 53.6**	**+0.3**
	16nm,1.3s						
MDOK				Pg	**Pb**	**22 07 11.0**	**+2.3**
MDOK				⇑Pg	Pg	22 07 11.1	-7.5
	32nm,0.7s						
MDOK				Lg	Lg	22 08 26.0	
MDOK				⇑Lg	Lg	22 08 28.2	
	79nm,0.7s						
KBK	**Karagaybulak**	**5.91**	**335**	P	**Pb**	**22 07 11.1**	**+2.0**
	SNR=6.1						
TKM2	**Tokmak 2**	**5.95**	**340**	⇑Pn	**Pn**	**22 06 57.0**	**+2.8**
	8.2nm,0.7s						
TKM2				⇑Pg	**Pb**	**22 07 12.5**	**+2.8**
	9.2nm,0.3s						
TKM2				⇓Lg	Lg	22 08 29.0	
	6.3nm,0.5s						
KNDC	**Almaty**	**5.95**	**350**	⇑Pg	**Pb**	**22 07 11.4**	**+1.8**
	55nm,0.7s						
KNDC				⇑Lg	Lg	22 08 30.2	
	300nm,1.0s						
MTBS	**Maitube**	**5.95**	**346**	Pg	**Pb**	**22 07 08.6**	**-1.1**
	10nm,0.7s						
MTBS				Lg	Lg	22 08 22.4	
	22nm,0.5s						
KST	**Kastek**	**5.97**	**343**	Pg	**Pb**	**22 07 10.5**	**+0.5**
	13nm,0.6s						
KST				Lg	Lg	22 08 26.9	
	46nm,0.9s						
AML	**Almayashu**	**5.97**	**324**	P	**Pn**	**22 06 54.7**	**0.0**
	SNR=17						
PDGK	**Podgornoye**	**6.03**	**8**	⇓Pn	**Pn**	**22 06 55.5**	**+0.3**
	11nm,0.4s						
PDGK				⇑Pg	**Pb**	**22 07 13.9**	**+2.9**
	12nm,0.4s						
PDGK				⇑Lg	Lg	22 08 33.0	
	59nm,0.6s						
AAK	**Ala-Archa**	**6.05**	**332**	Pn	**Pn**	**22 06 56.5**	**+1.0**
	2.2nm,0.3s,baz=154,slow=7.8,SNR=37						
AAK				Pg	**Pb**	**22 07 13.0**	**+1.5**
	7.2nm,0.3s,baz=138,slow=10.0,SNR=13						
AAK				Sn	**Sn**	**22 08 08.0**	**+3.0**
	4.6nm,0.3s,baz=176,slow=12,SNR=4.5						
AAK				Lg	Lg	22 08 30.1	
	4.6nm,0.3s,baz=192,slow=21,SNR=4.0						
	5.0nm,0.3s						
AAK	**Ala-Archa**	**6.05**	**332**	P	**Pn**	**22 06 56.8**	**+1.3**
	SNR=7.8						
AAK	**Ala-Archa**	**6.05**	**332**	⇑Pn	**Pn**	**22 06 55.0**	**-0.5**
	5.0nm,0.6s						
AAK				⇑Pg	**Pb**	**22 07 14.9**	**+3.4**
	18nm,0.6s						
AAK				⇓Lg	Lg	22 08 33.4	
	79nm,0.7s						
CHMS	**Chumysh**	**6.28**	**335**	⇑Pn	**Pn**	**22 06 58.4**	**-0.2**
	4.0nm,0.5s						
CHMS				⇑Pg	**Pb**	**22 07 18.3**	**+3.1**
	29nm,1.1s						
CHMS				⇑Lg	Lg	22 08 40.1	
	62nm,1.2s						
EKS2	**Erkin-Say**	**6.36**	**328**	P	**Pn**	**22 07 01.0**	**+1.3**
	SNR=12						
MRKS	**Merke**	**6.67**	**325**	Pg	**Pb**	**22 07 23.0**	**+1.0**
	15nm,0.2s						
MRKS				Lg	Lg	22 08 47.8	
	26nm,0.6s						
ARXS	**Arharly**	**6.86**	**357**	Pg	**Pb**	**22 07 27.1**	**+1.9**
	16nm,0.6s						
ARXS				Lg	Lg	22 08 55.0	
	26nm,0.2s						
KK31	**Karatay Array**	**8.31**	**316**	⇑Pn	**Pn**	**22 07 24.9**	**-1.5**
	0.7nm,0.3s,baz=123,slow=12,SNR=9.8						
KK31				⇑Pg	Pb	22 07 54.7	+5.0
	2.6nm,0.5s,baz=133,slow=14,SNR=6.5						
KK31				⇑Lg	Lg	22 09 44.0	
	20nm,0.9s,baz=120,slow=18,SNR=8.3						
MAKZ	**Makanchi**	**9.82**	**15**	⇑Pn	**Pn**	**22 07 47.1**	**+0.1**
	10nm,0.5s						
MK31	**Makanchi Array**	**9.87**	**16**	⇓Pn	**Pn**	**22 07 47.5**	**-0.3**
	4.2nm,0.4s						
MK31				⇑Sn	**Sn**	**22 09 37.2**	**-1.4**
	6.0nm,0.5s						
MKAR	**Makanchi Array**	**9.87**	**16**	Pn	**Pn**	**22 07 47.5**	**-0.3**
	3.2nm,0.3s,baz=202,slow=13,SNR=172						
MKAR				Sn	**Sn**	**22 09 36.5**	**-2.1**
	1.9nm,0.3s,baz=204,slow=21,SNR=5.2						
	5.4nm,0.3s						
OTUK	**Ortayu**	**11.74**	**340**	⇑Lg	Lg	22 11 32.9	
	30nm,1.6s						
KURBB	**Kurchatov Arra**	**13.26**	**0**	Pn	**Pn**	**22 08 32.5**	**-1.6**
	0.1nm,0.3s,baz=187,slow=11,SNR=6.7						
KURBB				Lg	Lg	22 12 22.3	
	baz=14,slow=21,SNR=4.7						
	0.3nm,0.4s						
BVA0	**Borovoye Array**	**16.63**	**343**	⇓P	**P**	**22 09 22.0**	**+0.6**
	3.2nm,0.8s						
BVAR	**Borovoye Array**	**16.63**	**343**	Pn	**Pn**	**22 09 16.7**	**-2.2**
	0.1nm,0.3s,baz=152,slow=12,SNR=17						
	3.1nm,0.7s						
ZALV	**Zalesovo Beam**	**17.18**	**13**	P	**Pn**	**22 09 23.5**	**-2.3**
	0.2nm,0.3s,baz=187,slow=10,SNR=7.5						
ZALV				LR	LR	22 17 00.6	
	comp=Z,18nm,19.1s,baz=23,slow=41						
	2.3nm,0.7s						
AB31	**Akbulak array**	**17.87**	**318**	⇑P	**Pn**	**22 09 32.7**	**-1.7**
	0.5nm,0.5s						
AKTO	**Aktyubinsk**	**19.56**	**318**	P	**P**	**22 09 52.3**	**-1.4**
	0.4nm,0.3s,baz=111,slow=9.1,SNR=9.1						
	1.0nm,0.6s						
AKTO	**Aktyubinsk**	**19.56**	**318**	⇑P	**P**	**22 09 52.3**	**-1.4**
	2.8nm,0.8s						
SONM	**Songino Array**	**23.02**	**54**	P	**P**	**22 10 31.3**	**+0.2**
	1.0nm,0.8s,baz=237,slow=11,SNR=5.4						
	1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**26.07**	**131**	P	**P**	**22 11 01.9**	**+2.3**
	0.7nm,0.6s,baz=305,slow=11,SNR=12						
	0.7nm,0.6s						
BRTR	**Keskin Array B**	**34.79**	**288**	P	**P**	**22 12 15.8**	**-1.0**
	0.3nm,0.5s,baz=92,slow=9.0,SNR=6.2						
	0.3nm,0.5s						
AKASG	**Malin Array Be**	**37.08**	**307**	P	**P**	**22 12 36.7**	**+0.6**
	0.3nm,0.3s,baz=74,slow=7.1,SNR=5.0						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**40.17**	**324**	P	**P**	**22 13 01.0**	**-0.9**
	1.0nm,0.5s,baz=124,slow=9.3,SNR=8.1						
FINES				LR	LR	22 30 55.0	
	comp=Z,56nm,19.9s,baz=72,slow=38						
	1.0nm,0.5s						
ARCES	**ARCESS Array B**	**42.71**	**336**	P	**P**	**22 13 21.8**	**-0.8**
	3.3nm,1.0s,baz=104,slow=8.1,SNR=7.2						
	3.3nm,1.0s						
HFS	**Hagfors**	**46.08**	**321**	P	**P**	**22 13 50.4**	**+0.8**
	1.2nm,0.5s,baz=96,slow=11,SNR=8.1						
	1.2nm,0.5s						
GERES	**GERESS Array B**	**47.25**	**306**	P	**P**	**22 13 58.4**	**-0.7**
	0.1nm,0.3s,baz=93,slow=5.3,SNR=5.9						
	0.1nm,0.3s						
NB2	**NORSAR Subarra**	**47.28**	**322**	P	**P**	**22 13 58.3**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**47.28**	**322**	P	**P**	**22 13 58.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=90,slow=7.7,SNR=9.8						
	comp=Z,0.4nm,0.6s						
SPITS	**Spitsbergen Ar**	**48.06**	**346**	P	**P**	**22 14 04.7**	**-0.2**
	comp=Z,6.9nm,0.9s,baz=63,slow=13,SNR=6.9						
EKA	**Eskdalemuir Ar**	**55.74**	**317**	P	**P**	**22 15 03.2**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=77,slow=7.1,SNR=4.3						
	comp=Z,1.2nm,0.7s						
ILAR	**Eielson Array**	**72.21**	**19**	P	**P**	**22 16 50.5**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=312,slow=4.0,SNR=9.1						
	comp=Z,0.3nm,0.8s						
WRA	**Warramunga Arr**	**77.61**	**127**	P	**P**	**22 17 22.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=320,slow=6.1,SNR=2.3						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**79.94**	**6**	P	**P**	**22 17 34.4**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=346,slow=5.4,SNR=14						
	comp=Z,0.2nm,0.7s						
ASAR	**Alice Springs**	**80.08**	**130**	P	**P**	**22 17 36.1**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=320,slow=5.9,SNR=4.4						
	comp=Z,0.3nm,0.5s						

*IDC **16** 22:06:09.7±1.6, 23.°31S×66.°68W, h172km±20km, mb3.5/1, mbtmp3.8/6, Error ellipse: s-maj=33.1km s-min=13.5km az=101.0*
*SJA **16** 22:06:11.2±0.7, 23.°23S×66.°79W, h212km±5km, ML3.9, MW3.7*
*NEIC **16** 22:06:11.5±2.1, 23.°17S±0.°07×66.°8W±0.°1, h210km±10km, mb4.2/7, Error ellipse: s-maj=15.4km s-min=9.6km az=97.0*
*GUC **16** 22:06:14.0±0.6, 23.°19S×67.°29W, h246km±8km, ML4.2*
ISC 16 22:06:11.1±0.7, 23.°25S±0.°04×66.°85W±0.°04, h209km±7km, n71, σ1s37/104, 9C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**1.07**	**154**	*eP*	**Pn**	**22 06 38.8**	**-4.0**
SALTA				*eP*	**Pn**	**22 06 44.1**	**+1.3**
AF01	**San Pedro de A**	**1.26**	**283**		**Pn**	**22 06 44.5**	**+0.4**
AF01				Sn	**S**	**22 07 10.6**	**+1.3**
AF01	**San Pedro de A**	**1.26**	**283**	*eS*	S	22 07 19.0	+10
YJA	**Yavi**	**1.63**	**49**	*eP*	**Pn**	**22 06 48.1**	**+0.8**
YJA				*eS*	**S**	**22 07 15.2**	**+0.2**
SLA	**San Lorenzo**	**1.91**	**140**	*eP*	**Pn**	**22 06 51.3**	**+1.8**
SLA				*eS*	**S**	**22 07 22.0**	**+2.8**
PB06	**IPOC Station P**	**2.57**	**282**	⇑*eP*	**Pn**	**22 06 58.0**	**+1.6**
PB06				*eS*	**S**	**22 07 30.6**	**-0.8**
PB06				IAML		22 07 35.0	
	comp=N,644nm,0.1s						
PB06	**IPOC Station P**	**2.57**	**282**	*eP*	**Pn**	**22 06 58.1**	**+1.6**
PB06				*eS*	**S**	**22 07 32.6**	**+1.1**
PB06				IAML		22 07 36.1	
	comp=Z,246nm,0.3s						
PB09	**IPOC Station P**	**2.65**	**303**		**Pn**	**22 06 58.9**	**+1.5**
PB09				Sn	**S**	**22 07 33.8**	**+0.7**
PB09	**IPOC Station P**	**2.65**	**303**	⇑*eP*	**Pn**	**22 06 59.2**	**+1.8**
PB09				*eS*	**S**	**22 07 33.2**	**+0.1**
PB09				IAML		22 07 38.7	
	comp=E,221nm,0.1s						
PB09	**IPOC Station P**	**2.65**	**303**	*eP*	**Pn**	**22 06 59.2**	**+1.8**
PB09				*eS*	**S**	**22 07 33.7**	**+0.7**
PB09				IAML		22 07 38.9	
	comp=Z,182nm,0.2s						
PB03	**IPOC Station P**	**2.94**	**294**	⇑*eP*	**Pn**	**22 07 01.8**	**+1.1**
PB03				*eS*	**S**	**22 07 38.6**	**-0.4**
PB03				IAML		22 07 40.3	
	comp=E,797nm,0.2s						
PB03	**IPOC Station P**	**2.94**	**294**	*eP*	**Pn**	**22 07 01.8**	**+1.1**
PB03				*eS*	**S**	**22 07 39.2**	**+0.2**
PB03				IAML		22 07 43.5	
	comp=Z,533nm,0.2s						
FSA	**Cafayete**	**2.95**	**165**	*eP*	**Pn**	**22 07 02.2**	**+1.4**
GO02	**Mina Guanaco**	**3.15**	**232**		**Pn**	**22 07 04.7**	**+1.6**
GO02				Sn	**S**	**22 07 45.0**	**+1.5**
GO02	**Mina Guanaco**	**3.15**	**232**	⇑*eP*	**Pn**	**22 07 04.7**	**+1.6**
GO02				*eS*	**S**	**22 07 44.9**	**+1.3**
GO02				IAML		22 07 47.3	
	comp=N,485nm,0.3s						
GO02	**Mina Guanaco**	**3.15**	**232**	*eP*	**Pn**	**22 07 04.1**	**+0.9**
GO02				*eS*	**S**	**22 07 44.6**	**+1.1**
PB01	**IPOC Station P**	**3.29**	**311**		**Pn**	**22 07 05.7**	**+1.0**
PB01				Sn	**S**	**22 07 45.6**	**-0.7**
PB01	**IPOC Station P**	**3.29**	**311**	⇓*eP*	**Pn**	**22 07 05.7**	**+1.0**
PB01				*eS*	**S**	**22 07 45.4**	**-0.9**
PB01	**IPOC Station P**	**3.29**	**311**	*eP*	**Pn**	**22 07 05.8**	**+1.0**
PB01				*eS*	**S**	**22 07 47.0**	**+0.7**
PB01				IAML		22 07 47.9	
	comp=Z,253nm,0.2s						
PB10	**IPOC Station P**	**3.42**	**265**		**Pn**	**22 07 07.3**	**+1.2**
PB10	**IPOC Station P**	**3.42**	**265**	⇑*eP*	**Pn**	**22 07 07.2**	**+1.1**
PB10				*eS*	**S**	**22 07 46.2**	**-2.6**
PB10	**IPOC Station P**	**3.42**	**265**	*eP*	**Pn**	**22 07 07.5**	**+1.4**
PB10				*eS*	**S**	**22 07 49.6**	**+0.8**
PB10				IAML		22 07 51.7	
	comp=Z,52nm,0.4s						
PB14	**IPOC Station P**	**3.53**	**247**		**Pn**	**22 07 08.9**	**+1.1**
PB14	**IPOC Station P**	**3.53**	**247**	⇑*eP*	**Pn**	**22 07 08.9**	**+1.1**
PB14				*eS*	**S**	**22 07 51.1**	**-0.7**
PB14	**IPOC Station P**	**3.53**	**247**	*eP*	**Pn**	**22 07 08.9**	**+1.1**
PB14				*eS*	**S**	**22 07 52.2**	**+0.4**
PB14				IAML		22 07 53.6	
	comp=Z,122nm,0.2s						
PB08	**IPOC Station P**	**3.77**	**325**		**Pn**	**22 07 12.5**	**+1.8**
PB08	**IPOC Station P**	**3.77**	**325**	*eP*	**Pn**	**22 07 12.6**	**+1.8**
PB08				*eS*	**S**	**22 07 58.2**	**+1.1**
PB08	**IPOC Station P**	**3.77**	**325**	*eP*	**Pn**	**22 07 12.6**	**+1.8**
PB08				*eS*	**S**	**22 07 59.0**	**+1.8**
PB08				IAML		22 08 03.9	
	comp=Z,67nm,0.3s						
PX03	**IPOC Station P**	**3.84**	**317**	*eS*	**S**	**22 07 56.9**	**-1.3**
PATCX	**Punta Patache**	**3.91**	**308**		**Pn**	**22 07 12.8**	**+0.6**
PATCX	**Punta Patache**	**3.91**	**308**	⇑*eP*	**Pn**	**22 07 12.8**	**+0.6**
PATCX				*eS*	**S**	**22 07 58.2**	**-1.5**
PATCX	**Punta Patache**	**3.91**	**308**	*eP*	**Pn**	**22 07 12.6**	**+0.4**
PATCX				*eS*	**S**	**22 08 00.1**	**+0.3**
PATCX				IAML		22 08 01.8	
	comp=Z,139nm,0.2s						
TA01	**Diego Aracena**	**4.09**	**310**		**Pn**	**22 07 14.9**	**+0.6**
TA01	**Diego Aracena**	**4.09**	**310**	*eS*	**S**	**22 08 01.0**	**-2.6**
TA01	**Diego Aracena**	**4.09**	**310**	*eP*	**Pn**	**22 07 15.7**	**+1.4**
TA01				*eS*	**S**	**22 08 03.6**	**-0.1**
TA01				IAML		22 08 07.0	
	comp=Z,85nm,0.5s						
HMBC	**Humberstone**	**4.09**	**316**		**Pn**	**22 07 14.6**	**+0.1**
HMBC	**Humberstone**	**4.09**	**316**	⇑*eP*	**Pn**	**22 07 14.5**	**-0.1**
HMBC				*eS*	**S**	**22 08 02.0**	**-2.0**
HMBC	**Humberstone**	**4.09**	**316**	*eP*	**Pn**	**22 07 14.4**	**-0.1**
HMBC				*eS*	**S**	**22 08 03.2**	**-0.8**
HMBC				IAML		22 08 06.3	
	comp=Z,207nm,0.3s						
AC02	**Maricunga**	**4.12**	**210**		**Pn**	**22 07 16.1**	**+0.9**
AC02	**Maricunga**	**4.12**	**210**	*eP*	**Pn**	**22 07 16.7**	**+1.5**
AC02				*eS*	S	22 08 21.4	+16
AC02				IAML		22 08 33.6	
	comp=Z,206nm,0.8s						
GO01	**Chusmiza**	**4.18**	**328**		**Pn**	**22 07 16.5**	**+0.5**
GO01	**Chusmiza**	**4.18**	**328**	⇑*eP*	**Pn**	**22 07 17.5**	**+1.5**
GO01				*eS*	**S**	**22 08 06.0**	**-0.6**
GO01	**Chusmiza**	**4.18**	**328**	*eP*	**Pn**	**22 07 17.0**	**+1.0**
GO01				*eS*	**S**	**22 08 08.9**	**+2.3**
TA02	**Huaiquique**	**4.26**	**314**	Pn	**Pn**	**22 07 16.0**	**-0.4**
PB11	**IPOC Station P**	**4.35**	**323**		**Pn**	**22 07 18.4**	**+0.7**
AC01	**Pan de Azucar**	**4.47**	**229**		**Pn**	**22 07 18.9**	**-0.1**
AC01	**Pan de Azucar**	**4.47**	**229**	*eP*	**Pn**	**22 07 18.9**	**-0.1**
AC01				*eS*	**S**	**22 08 12.1**	**-0.1**
AC01				IAML		22 08 12.6	
	comp=Z,42nm,0.2s						
AC06	**Mina Casimiro**	**5.17**	**217**		**Pn**	**22 07 27.4**	**-0.5**
GO03	**Copiapo**	**5.30**	**215**		**Pn**	**22 07 29.4**	**-0.1**
GO03	**Copiapo**	**5.30**	**215**	*eP*	**Pn**	**22 07 29.1**	**-0.4**
GO03				*eS*	**S**	**22 08 29.7**	**-1.6**
PB16	**IPOC Station P**	**5.49**	**333**		**Pn**	**22 07 32.8**	**+0.3**
PB12	**IPOC Station P**	**5.65**	**324**	Pn	**Pn**	**22 07 33.2**	**-0.9**
AC04	**Llanos de Chal**	**6.23**	**217**		**Pn**	**22 07 40.5**	**-0.9**
AC05	**El Transito**	**6.36**	**208**		**Pn**	**22 07 42.5**	**-0.6**
LCO	**Las Campanas**	**6.70**	**210**		**Pn**	**22 07 46.5**	**-1.2**
LPAZ	**La Paz**	**7.03**	**350**	P	**Pn**	**22 07 53.2**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=160,slow=8.0,SNR=4.6						
LPAZ				S	**S**	**22 09 11.9**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=292,slow=12,SNR=1.2						
CFA	**Coronel Fontan**	**8.41**	**188**	P	**Pn**	**22 08 09.2**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=16,slow=11,SNR=14						
CFA				S	**S**	**22 09 39.1**	**-5.3**
	comp=Z,1.1nm,0.3s,baz=101,slow=22,SNR=7.1						
CO02	**Combarbal**	**8.74**	**204**	Pn	**Pn**	**22 08 12.9**	**-1.1**
SIV	**San Ignacio**	**9.04**	**38**	P	**Pn**	**22 08 15.7**	**-2.3**
	comp=Z,4.9nm,0.5s,baz=213,slow=10,SNR=27						
SAML	**Samuel**	**14.65**	**14**	P	**Pn**	**22 09 27.3**	**-1.4**
TRQA	**Tornquist**	**15.33**	**165**	P	**P**	**22 09 37.7**	**+0.7**
LR05	**Currie**	**17.48**	**193**	P	**Pn**	**22 10 01.9**	**-0.5**
LR05				IAmb	IAmb	22 10 10.8	
	comp=Z,6.9nm,0.8s						
PLCA	**Paso Flores**	**17.71**	**189**	P	**P**	**22 10 03.6**	**+0.5**
PLCA				IAmb	IAmb	22 10 05.9	
	comp=Z,1.1nm,1.4s						
PLCA	**Paso Flores**	**17.71**	**189**	P	**Pn**	**22 10 04.5**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=356,slow=7.6,SNR=3.3						
VAO	**Valinhos**	**18.29**	**93**	P	**P**	**22 10 09.1**	**-0.5**
VAO				IAmb	IAmb	22 10 26.9	
	comp=Z,16nm,1.1s						
BDFB	**Brasilia**	**19.29**	**70**	P	**P**	**22 10 19.9**	**-0.7**
BDFB				IAmb	IAmb	22 10 21.3	
	comp=Z,6.6nm,1.0s						
BDFB	**Brasilia**	**19.29**	**70**	P	**P**	**22 10 20.6**	**+0.1**
	comp=Z,5.0nm,0.7s,baz=250,slow=14,SNR=8.1						
MAL2	**Monte Alegre,**	**24.42**	**32**	P	**P**	**22 11 09.7**	**-1.0**
QSPA	**South Pole Qui**	**66.95**	**180**	P	**P**	**22 16 42.6**	**+1.7**
QSPA				IAmb	IAmb	22 16 49.4	
	comp=Z,8.8nm,1.5s						
QSPA	**South Pole Qui**	**66.95**	**180**	P	**P**	**22 16 43.2**	**+2.3**
	comp=Z,0.8nm,0.6s,baz=328,slow=2.2,SNR=8.5						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**145.86**	**39**	PKPbc	**PKPab**	**22 25 27.1**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=276,slow=3.5,SNR=4.0						

*IDC **16** 22:17:08.5±0.8, 36.°06N×69.°12E, h0km, mb3.9/17, mbtmp4.0/23, ML3.8/6, MS3.1/6, Error ellipse: s-maj=16.5km s-min=13.6km az=169.0*
*NNC **16** 22:17:11.2±2.5, 36.°39N×68.°87E, h0km, mb4.5, mpv4.4, Error ellipse: s-maj=24.3km s-min=20.4km az=140.0*
*BJI **16** 22:17:11.3, 36.°43N×69.°18E, h12km, mB4.3/1, mb4.3/20, ML4.0/1, Ms3.6/4, Ms7.3/2*
*MOS **16** 22:17:11.9±1.1, 36.°27N×69.°09E, h28km, mb4.2/14, Error ellipse: s-maj=7.8km s-min=3.9km az=70.0*
*NEIC **16** 22:17:14.6±1.4, 36.°20N±0.°03×68.°99E±0.°06, h35km±8km, mb4.4/27, Error ellipse: s-maj=6.9km s-min=5.0km az=94.0*
ISC 16 22:17:14.8±0.4, 36.°15N±0.°04×69.°09E±0.°04, h35km, n188, σ1s88/204, mb4.2/41, MS2.9/5, 14C-11D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.60**	**181**		**Pn**	**22 17 41.7**	**+0.8**
KBL				Sn	**Sn**	**22 18 00.5**	**0.0**
KBL	**Kabul**	**1.60**	**181**	PN	**Pn**	**22 17 41.7**	**+0.8**
KBL				S	**Sn**	**22 18 00.5**	**0.0**
SIMJ	**Simiganj**	**2.51**	**359**		**Pn**	**22 17 51.7**	**-1.5**
GAR	**Garm**	**3.01**	**19**		**Pn**	**22 17 59.6**	**-0.5**
DRK	**Karamyk**	**3.96**	**32**		**Pn**	**22 18 12.6**	**-0.7**
DRK	**Karamyk**	**3.96**	**32**	PN	**Pn**

KBK	Karagaybulak	7.92	33	P		Pn	22 19 08.8	+1.2
	SNR=22							
CHMS	Chumysh	8.12	31	P		Pn	22 19 09.9	-0.3
	SNR=26							
CHMS	Chumysh	8.12	31	⇓P		Pn	22 19 09.6	-0.6
CHMS				⇑S		Sn	22 20 39.7	-1.0
	comp=Z,77nm,0.9s							
CHMS	Chumysh	8.12	31	P		Pn	22 19 04.7	-5.5
CHMS				S		Sn	22 20 39.7	-1.0
ULHL	Ulahol	8.24	40	P		Pn	22 19 12.3	+0.3
	SNR=16							
USP	Ospenovka	8.24	29	P		Pn	22 19 11.1	-0.8
	SNR=20							
BOOM	Boomskoye usch	8.26	38	Pn		Pn	22 19 12.4	+0.1
BOOM	Boomskoye usch	8.26	38	P		Pn	22 19 12.4	+0.1
SMLA	Simla	8.39	124	*e*P		Pn	22 19 14.7	+0.7
SMLA				*e*S		Sn	22 20 50.3	+2.9
SMLA				IAML			22 20 59.1	
	comp=E,101nm,0.5s							
SMLA				IAML			22 21 00.8	
	comp=N,106nm,0.5s							
TKM2	Tokmak 2	8.43	35	P		Pn	22 19 14.3	-0.2
	SNR=8.4							
TKM2	Tokmak 2	8.43	35	⇓P		Pn	22 19 14.1	-0.5
	comp=N,33nm,0.9s							
TKM2	Tokmak 2	8.43	35	P		Pn	22 19 14.9	+0.3
SGDS	Sogindy	8.45	29	*e*P		Pn	22 19 13.5	-1.2
SGDS	Sogindy	8.45	29	*e*P		Pn	22 19 13.5	-1.2
TARG	Taragay, Kyrgy	8.78	48			Pn	22 19 19.2	-0.4
TARG	Taragay, Kyrgy	8.78	48	P		Pn	22 19 19.2	-0.4
KLP	Kalpa	8.90	119	*e*P		Pn	22 19 21.1	-0.1
KLP				*e*S		Sn	22 21 02.7	+2.2
KLP				IAML			22 21 12.7	
	comp=E,102nm,1.0s							
KLP				IAML			22 21 13.9	
	comp=N,84nm,0.8s							
TNSS	Tian-Shan	9.17	39	*e*P		Pn	22 19 23.4	-1.5
TNSS	Tian-Shan	9.17	39	*e*P		Pn	22 19 23.5	-1.5
AAA	Alma-Ata	9.28	38	*e*P		Pn	22 19 24.6	-1.5
AAA	Alma-Ata	9.28	38	*e*P		Pn	22 19 24.7	-1.5
MDOK	Medeo	9.31	39	⇓P		Pn	22 19 26.5	-0.2
	comp=N,25nm,0.8s							
MDOK	Medeo	9.31	39	*e*P		Pn	22 19 25.2	-1.4
MDOK	Medeo	9.31	39	*e*P		Pn	22 19 25.2	-1.4
WUS	Wushi	9.39	54			Pn	22 19 27.5	-0.2
PRZ	Przheval'sk	9.59	46	Pn		Pn	22 19 29.6	-0.9
PRZ	Przheval'sk	9.59	46	P		Pn	22 19 29.6	-0.9
CHKK	Chushkaly	9.79	36	*e*P		Pn	22 19 31.7	-1.4
CHKK	Chushkaly	9.79	36	*e*P		Pn	22 19 31.8	-1.4
SATY	Saty	9.96	43	*e*P		Pn	22 19 33.8	-1.7
SATY				*e*S		Sn	22 21 23.7	-2.4
SATY	Saty	9.96	43	*e*P		Pn	22 19 33.8	-1.7
SATY				*e*S		Sn	22 21 23.8	-2.4
UZB	Uzynbulak	10.36	45	*e*P		Pn	22 19 39.0	-2.0
UZB	Uzynbulak	10.36	45	*e*P		Pn	22 19 39.1	-2.0
JOSI	Joshimath	10.38	120	*e*P		Pn	22 19 41.4	0.0
JOSI				*e*S		Sn	22 21 39.1	+2.5
JOSI				IAML			22 21 45.2	
	comp=N,91nm,0.7s							
JOSI				IAML			22 21 46.4	
	comp=E,66nm,0.7s							
SHLS	Shalkode	10.62	46	*e*P		Pn	22 19 45.8	+1.3
SHLS	Shalkode	10.62	46	*e*P		Pn	22 19 45.9	+1.3
PDGK	Podgornoye	10.74	45	⇓P		Pn	22 19 44.5	-1.7
	comp=E,6.1nm,0.7s							
PDGK	Podgornoye	10.74	45	P		Pn	22 19 44.5	-1.7
TDK	Taldyqorghan	11.32	36	*e*P		Pn	22 19 52.5	-1.5
TDK	Taldyqorghan	11.32	36	*e*P		Pn	22 19 52.6	-1.5
PTH	Pithoragarh	11.44	122	*e*P		Pn	22 19 56.0	+0.2
PTH				*e*S		Sn	22 22 04.3	+1.9
OTUK	Ortayu	12.32	10	⇓P		Pn	22 20 04.7	-3.0
	comp=E,3.8nm,0.8s							
OTUK	Ortayu	12.32	10	P		Pn	22 20 04.7	-3.0
MAKZ	Makanchi	14.36	38			Pn	22 20 32.8	-2.7
MAKZ	Makanchi	14.36	38	⇑P		Pn	22 20 32.3	-3.1
	comp=E,7.9nm,0.9s							
MAKZ	Makanchi	14.36	38	P		Pn	22 20 32.8	-2.7
MK31	Makanchi Array	14.51	39	⇓P		Pn	22 20 34.6	-2.9
	comp=E,8.2nm,0.9s							
MK31	Makanchi Array	14.51	39	*de*P		Pn	22 20 35.8	-1.7
MKAR	Makanchi Array	14.51	39	Pn		Pn	22 20 34.8	-2.8
MKAR	Makanchi Array	14.51	39	Pn		Pn	22 20 34.6	-2.9
	comp=E,0.3nm,0.3s,baz=226,slow=13,SNR=16							
	comp=E,3.9nm,0.8s							
MKAR	Makanchi Array	14.51	39	*e*P		Pn	22 20 35.3	-2.2
AB31	Akbulak array	14.71	336	⇑P		Pn	22 20 34.6	-5.6
	comp=E,1.0nm,0.3s							
AB31	Akbulak array	14.71	336	P		Pn	22 20 34.6	-5.6
ABKAR	Akbulak array	14.71	336			Pn	22 20 34.5	-5.6
ABKAR	Akbulak array	14.71	336			Pn	22 20 34.6	-5.6
NRDN	NARMADA NAGAR	15.11	150	*e*P		Pn	22 20 45.9	+0.2
NRDN				*e*S		Sn	22 23 32.0	+0.1
NRDN				IAML			22 23 32.4	
	comp=N,4.0nm,0.3s							
KURBB	Kurchatov Arra	15.99	22	Pn		Pn	22 20 52.1	-4.9
	comp=N,0.1nm,0.3s,baz=212,slow=12,SNR=13							
	comp=N,1.4nm,0.6s							
KURK	Kurchatov	16.10	22			Pn	22 20 55.9	-2.5
KURK	Kurchatov	16.10	22	*d i*P		Pn	22 20 56.1	-2.2
KURK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
WMQ	Urumqi	16.17	56	*e*P		Pn	22 20 59.3	0.0
WMQ				pmax	pmax			
	comp=Z,29nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,57nm,3.9s							
ZSN	Zaisan	16.27	41	*e*P		Pn	22 20 59.0	-1.6
ZSN	Zaisan	16.27	41	*e*P		Pn	22 20 59.0	-1.6
AKTO	Aktyubinsk	16.37	334	Pn		Pn	22 20 58.2	-3.6
	comp=Z,0.5nm,0.3s,baz=140,slow=15,SNR=8.3							
AKTO				LR		LR	22 27 42.9	
	comp=Z,35nm,19.7s,baz=216,slow=38							
	comp=Z,6.7nm,1.1s							
AKTO	Aktyubinsk	16.37	334	⇑P		Pn	22 20 58.3	-3.4
	comp=Z,3.4nm,0.8s							
BVA0	Borovoye Array	16.90	3	P		Pn	22 21 04.8	-3.6
	comp=Z,5.0nm,1.0s,baz=174,slow=11,SNR=28							
BVA0	Borovoye Array	16.90	3	P		Pn	22 21 04.8	-3.6
BVAR	Borovoye Array	16.90	3	Pn		Pn	22 21 04.8	-3.6
	comp=Z,0.1nm,0.3s,baz=180,slow=13,SNR=14							
BVAR				LR		LR	22 27 31.6	
	comp=Z,34nm,18.4s,baz=206,slow=37							
	comp=Z,2.6nm,0.6s							
BRVK	Borovoye	16.93	2			Pn	22 21 05.6	-3.2
BRVK	Borovoye	16.93	2	*ce*P		Pn	22 21 07.7	-1.1
BRVK				pmax	pmax			
	comp=Z,8.0nm,0.8s							
MAK	Makhachkala	17.95	299	*c i*P		P	22 21 22.0	+0.1
MAK				*e*S		Sn	22 24 43.0	+2.3
MAK				pmax	pmax			
	comp=Z,9.0nm,0.3s							
MAK				MLR	MLR			
	comp=Z,92nm,16.0s							
GNI	Garni	19.54	289	P		P	22 21 38.4	-1.1
	comp=Z,0.5nm,0.3s,baz=138,slow=3.7,SNR=5.7							
	comp=Z,4.2nm,0.7s							
LSA	Lhasa	19.59	103	P		Pn	22 21 43.1	+1.2
LSA				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ZAA0	Zalesovo Array	20.90	27			P	22 21 52.4	-1.6
ZAA0				IAmb	IAmb		22 22 01.0	
	comp=Z,11nm,0.6s							
ZALV	Zalesovo Beam	20.90	27			P	22 21 51.6	-2.3
ZALV	Zalesovo Beam	20.90	27	P		P	22 21 52.7	-1.2
	comp=Z,6.7nm,0.6s,baz=214,slow=9.3,SNR=29							
	comp=Z,6.7nm,0.6s							
ZALV	Zalesovo Beam	20.90	27	*e*P		P	22 21 52.7	-1.2
ZALV				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KBZ	Khabaz	21.40	299	P		P	22 21 59.6	+0.2
	comp=Z,0.8nm,0.5s,baz=109,slow=13,SNR=4.1							
	comp=Z,0.8nm,0.5s							
ARTI	Arti	21.50	344			P	22 21 58.3	-2.1
ARTI				IAmb	IAmb		22 22 05.0	
	comp=Z,11nm,1.0s							
ARTI	Arti	21.50	344	P		P	22 21 59.1	-1.3
	comp=Z,6.5nm,0.7s,baz=148,slow=6.0,SNR=10							
	comp=Z,6.5nm,0.7s							
ARTI	Arti	21.50	344	*d i*P		P	22 22 02.3	+1.9
ARTI							22 22 25.2	
ARTI				S		Sn	22 26 03.2	-2.7
ARTI				SS		SnSn	22 26 30.9	+10
ARTI				pmax	pmax			
	comp=Z,8.0nm,0.8s							
KIV	Kislovodsk	21.60	299	P		P	22 21 59.2	-2.4
KIV	Kislovodsk	21.60	299	*e*P		P	22 22 03.2	+1.5
KIV				*e*S		S	22 26 03.6	+4.5
KIV				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,23nm,14.0s							
SHL	Shillong	22.18	112			P	22 22 07.8	-0.3
SHL	Shillong	22.18	112	P		P	22 22 07.8	-0.3
SHL				pmax	pmax			
	comp=Z,20nm,0.7s							
RAYN	Ar Rayn	23.95	245	P		P	22 22 23.7	-2.2
RAYN	Ar Rayn	23.95	245	P		P	22 22 23.7	-2.2
RAYN				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GTA	Gaotai	24.44	73	*e*P		P	22 22 29.8	-0.6
GTA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ANN	Anapa	25.46	300	*e*P		P	22 22 39.8	+0.5
ANN				*e**PP		pP	22 22 49.4	-0.1
ANN				*e*			22 23 18.6	
ANN				*e*S		S	22 27 06.8	+2.8
ANN				pmax	pmax			
	comp=Z,31nm,0.9s							
KIRV	Kirov	25.91	336	*ce*P		P	22 22 46.8	+3.5
MOY	Mondy	27.45	46	*e*P		P	22 23 02.6	+5.2
MOY				pmax	pmax			
	comp=Z,9.0nm,1.5s							
LZH	Lanzhou	27.99	80	*e*P		P	22 23 12.6	+10
LZH				sP	sP		22 23 26.5	+9.0
LZH				pmax	pmax			
	comp=Z,19nm,1.3s							
SONM	Songino Array	29.80	55	P		P	22 23 18.6	+0.2
	comp=Z,1.5nm,0.9s,baz=269,slow=9.2,SNR=8.2							
SONM				LR	LR		22 36 44.3	
	comp=Z,58nm,19.7s,baz=240,slow=39							
	comp=Z,1.5nm,0.9s							
ELL	Elmali	31.37	283	P		P	22 23 31.6	-0.8
ELL	Elmali	31.37	283	P		P	22 23 31.6	-0.8
CMAR	Chiang Mai Arr	31.67	116	P		P	22 23 34.5	-0.5
	comp=Z,0.5nm,0.3s,baz=290,slow=8.8,SNR=6.2							
CMAR				LR	LR		22 39 20.6	
	comp=Z,19nm,20.7s,baz=195,slow=42							
	comp=Z,0.5nm,0.3s							
CMAR	Chiang Mai Arr	31.67	116	*e*P		P	22 23 36.0	+1.0
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKASG	Malin Array Be	31.97	310	P		P	22 23 36.9	-0.5
	comp=Z,0.3nm,0.4s,baz=80,slow=8.4,SNR=5.1							
AKASG				LR	LR		22 40 45.6	
	comp=Z,20nm,18.3s,baz=57,slow=44							
	comp=Z,0.3nm,0.4s							
HHC	Hu-ho-hao-te	33.33	69	*e*P		P	22 23 51.3	+1.8
HHC				pmax	pmax			
	comp=Z,7.0nm,0.7s							
BURAR	Bucovina Array	34.18	303	P		P	22 23 55.5	-1.4
BURAR	Bucovina Array	34.18	303	P		P	22 23 56.1	-0.7
NRIK	Noril'sk	34.76	11			P	22 24 01.0	-0.4
NRIK				IAmb	IAmb		22 24 05.3	
	comp=Z,3.7nm,0.6s							
NRIK	Noril'sk	34.76	11	P		P	22 24 00.5	-1.0
	comp=Z,3.0nm,0.5s,baz=200,slow=4.8,SNR=4.9							
	comp=Z,3.0nm,0.5s							
NRIK	Noril'sk	34.76	11⇑	*e*P		P	22 24 02.3	+0.9
NRIK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KOLS	Kolonicke sedl	36.22	306	*e*P		P	22 24 14.6	+0.3
KOLS				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KOLS	Kolonicke sedl	36.22	306	*e*P		P	22 24 14.5	+0.3
FIA1	FINESS Array S	36.92	327	P		P	22 24 19.1	-0.9
FINES	FINESS Array B	36.92	327	P		P	22 24 18.6	-1.4
FINES	FINESS Array B	36.92	327	P		P	22 24 19.1	-0.9
	comp=Z,0.9nm,0.6s,baz=120,slow=11,SNR=7.7							
	comp=Z,0.9nm,0.6s							
FINES	FINESS Array B	36.92	327	*e*P		P	22 24 20.0	0.0
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
VYHS	Vyhne	38.48	305	*e*P		P	22 24 31.0	-2.4
VYHS				pmax	pmax			
	comp=Z,1.0nm,0.8s							
VYHS	Vyhne	38.48	305	*e*P		P	22 24 31.0	-2.4
UBPT	Khong Chiam	38.49	113	P		P	22 24 33.0	-0.8
UBPT				IAmb	IAmb		22 24 34.2	
	comp=Z,9.9nm,1.1s							
MODS	Modra-Piesok	39.52	305	*e*P		P	22 24 45.9	+3.8
MODS				pmax	pmax			
	comp=Z,8.0nm,1.3s							
MODS	Modra-Piesok	39.52	305	*e*P		P	22 24 45.9	+3.8
ARCES	ARCESS Array B	40.89	338	P		P	22 24 53.4	+0.2
	comp=Z,3.3nm,0.9s,baz=108,slow=8.0,SNR=5.7							
	comp=Z,3.3nm,0.9s							
ARCES	ARCESS Array B	40.89	338	*e*P		P	22 24 55.3	+2.2
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NJ2	Nanjing	41.05	81	*e*P		P	22 24 54.4	-0.5
NJ2				pmax	pmax			
	comp=Z,14nm,0.7s							
HFS	Hagfors	42.40	322	P		P	22 25 04.9	-0.7
	comp=Z,1.5nm,0.6s,baz=99,slow=9.3,SNR=9.7							
	comp=Z,1.5nm,0.6s							
ZEA	Zeya	43.44	47⇑	*e*P		P	22 25 14.4	+0.3
NC602	NORSAR Array S	43.54	323	P		P	22 25 13.4	-1.4
NC602				IAmb	IAmb		22 25 34.9	
	comp=Z,12nm,1.4s							
NORES	NORESS Array B	43.54	323	P		P	22 25 14.0	-0.8
GSI	Gunungsitoli	43.58	136	P		P	22 25 16.1	+0.5
GSI				IAmb	IAmb		22 25 38.2	
	comp=Z,9.2nm,1.0s							
HEH	HeiHe	43.69	52	*e*P		P	22 25 17.3	+1.2
HEH				pmax	pmax			
	comp=Z,4.0nm,0.8s							
NB2	NORSAR Subarra	43.74	323	P		P	22 25 15.6	-0.9
	comp=Z,0.8nm,0.5s,baz=98,slow=7.9							
NOA	NORSAR Array B	43.74	323	P		P	22 25 15.6	-0.9
	comp=Z,0.5nm,0.6s,baz=99,slow=8.0,SNR=7.9							
	comp=Z,0.5nm,0.6s							
NOA	NORSAR Array B	43.74	323	*e*P		P	22 25 19.8	+3.4
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TIXI	Tiksi	46.68	22			P	22 25 38.7	-0.8
TIXI	Tiksi	46.68	22⇑	*e*P		P	22 25 38.9	-0.6
TIXI				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KEST	Kesra	47.68	288	P		P	22 25 48.7	+0.7
	comp=Z,5.9nm,1.0s,baz=343,slow=7.2,SNR=4.8							
	comp=Z,5.9nm,1.0s							
ESDC	Sonseca Array	56.25	297	P		P	22 26 51.1	-0.7
	comp=Z,1.1nm,0.8s,baz=62,slow=7.4,SNR=7.0							
	comp=Z,1.1nm,0.8s							
BILL	Bilibino	59.60	26⇑	*i*P		P	22 27 18.0	+3.4
BILL				pmax	pmax			
	comp=Z,6.0nm,1.9s							
TORD	Torodi Ar. Bea	64.16	268			P	22 27 44.2	-1.9
TORD	Torodi Ar. Bea	64.16	268	P		P	22 27 44.5	-1.6
	comp=Z,105nm,0.3s,baz=50,slow=6.2,SNR=1.8							
B20K	Meade River	68.96	15			P	22 28 15.7	-0.2
B20K				IAmb	IAmb		22 28 20.0	
	comp=Z,3.3nm,1.0s							
C18K	Utukok River	69.08	18	P		P	22 28 16.1	-0.7
C18K				IAmb	IAmb		22 28 20.3	
	comp=Z,4.4nm,1.0s							
TOLK	Toolik Lake Re	71.64	14			P	22 28 32.1	-0.3
F21K	Alatna River	72.01	16			P	22 28 34.2	-0.4
LBTB	Lobatse	73.39	221	P		P	22 28 42.4	-1.0
LBTB	Lobatse	73.39	221	P		P	22 28 42.4	-1.0
LBTB				pmax	pmax			
	comp=Z,12nm,1.4s							
H21K	Melozitna Rive	73.46	17	P		P	22 28 42.4	-0.8
H21K				IAmb	IAmb		22 28 46.7	
	comp=Z,3.2nm,1.0s							
BMAR	Burnt Mountain	73.64	13	P		P	22 28 44.3	+0.1
J18K	Innoko River	74.26	20	P		P	22 28 47.0	-0.9
J18K				IAmb	IAmb		22 28 52.3	
	comp=Z,3.3nm,0.9s							
CAST	Castle Rocks	75.50	18	P		P	22 28 54.8	-0.3
CAST				IAmb	IAmb		22 28 59.2	
	comp=Z,4.5nm,0.9s							
ILAR	Eielson Array	75.53	15	P		P	22 28 54.0	-1.2
	comp=Z,0.8nm,0.8s,baz=327,slow=3.6,SNR=6.6							
	comp=Z,0.8nm,0.8s							
ILAR	Eielson Array	75.53	15	*e*P		P	22 28 54.3	-0.9
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
KNRA	Kununurra	76.35	121	P		P	22 29 01.3	+0.7
KNRA				IAmb	IAmb		22 29 20.1	
	comp=Z,7.8nm,1.1s							
BCAR	Beaver Creek A	78.08	14	P		P	22 29 09.4	-0.3
YKA	Yellowknife Ar	81.65	2	P		P	22 29 28.4	-0.6
	comp=Z,0.6nm,0.9s,baz=352,slow=5.5,SNR=8.9							
	comp=Z,0.6nm,0.9s							
YKA	Yellowknife Ar	81.65	2	*e*P		P	22 29 31.4	+2.4
YKA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
WRA	Warramunga Arr	83.13	121	P		P	22 29 35.3	-2.0
	comp=Z,0.8nm,0.8s,baz=318,slow=5.2,SNR=2.6							
	comp=Z,0.8nm,0.8s							
ASAR	Alice Springs	85.33	124	P		P	22 29 46.8	-1.6
	comp=Z,0.3nm,0.3s,baz=312,slow=5.0,SNR=4.6							
	comp=Z,0.3nm,0.3s							
HNR	Honiara	96.18	97	LR	LR	LR	23 15 26.2	
	comp=Z,42nm,18.5s,baz=347,slow=36							

IDC 16 22:18:49.5±2.1, 6.73S×129.15E, h0km, mb3.6/1, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=115.6km s-min=32.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.07	159	Pn	Pn	22 22 09.2	-1.1
	0.5nm,0.3s,baz=338,slow=13,SNR=12						
WRA				Sn	Sn	22 24 34.9	-12
	0.4nm,0.3s,baz=332,slow=22,SNR=5.7						
	0.6nm,0.3s						
ASAR	Alice Springs	17.45	165	P	P	22 22 55.4	-0.5
	0.2nm,0.3s,baz=347,slow=10.0,SNR=5.6						
	0.5nm,0.6s						
MKAR	Makanchi Array	67.54	327	P	P	22 29 47.7	0.0
	0.4nm,0.6s,baz=121,slow=8.2,SNR=4.8						
	0.4nm,0.6s						

IDC 16 22:21:08.6±2.6, 22.42S×179.39W, h588km±21km, mb3.4/4, mbtmp4.4/6, Error ellipse: s-maj=44.4km s-min=27.8km az=127.0

ISC 16 22:21:08.5±2.1, 22.5S±0.2×179.4W±0.3, h579km, n10, σ1§21/8, mb4.0/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.27	333	P	P	22 22 42.9	+0.4
	41nm,0.4s,baz=83,slow=24,SNR=60						
URZ	Urewera	16.02	190	P	P	22 24 27.2	+0.4
	4.9nm,0.4s,baz=359,slow=4.4,SNR=7.4						
STKA	Stephens Creek	35.76	246	P	P	22 27 20.2	+0.3
	1.9nm,0.5s,baz=86,slow=11,SNR=4.4						
	1.9nm,0.5s						
ASAR	Alice Springs	42.80	259	P	P	22 28 16.4	-0.2
	6.4nm,0.8s,baz=92,slow=8.0,SNR=40						
	6.4nm,0.8s						
WRA	Warramunga Arr	43.05	264	P	P	22 28 17.4	-1.1
	3.2nm,0.5s,baz=96,slow=7.7,SNR=25						
	3.2nm,0.5s						
CMAR	Chiang Mai Arr	89.53	290	P	P	22 33 06.5	+1.3
	0.5nm,0.3s,baz=128,slow=3.5,SNR=7.0						
	0.5nm,0.3s						
HFS	Hagfors	141.24	350	PKhKP	PKPpre	22 39 25.8	
	0.3nm,0.4s,baz=77,slow=6.4,SNR=4.0						
AKASG	Malin Array Be	144.04	329	PKP	PKPbc	22 39 35.0	-3.1
	0.7nm,0.4s,baz=37,slow=3.7,SNR=5.7						
BRTR	Keskin Array B	147.11	309	PKPbc	PKPbc	22 39 45.8	-1.8
	0.7nm,0.7s,baz=122,slow=4.1,SNR=5.2						
MMAI	Mount Meron Ar	147.56	297	PKPbc	PKPbc	22 39 47.8	-1.0
	1.8nm,0.8s,baz=90,slow=5.8,SNR=4.2						

IDC 16 22:33:53.0±1.6, 23.93N×124.54E, h0km, mb3.6/4, mbtmp3.7/5, ML3.0/1, Error ellipse: s-maj=52.9km s-min=29.0km az=63.0
JMA 16 22:33:55.6±0.2, 23.9N±0.8×124.9E±0.5, h55km, MV3.4/14, NEAR ISHIGAKIJIMA ISLAND

ISC 16 22:33:58.2±1.9, 24.0N±0.1×124.88E±0.07, h45km±19km, n17, σ1§09/22, mb3.6/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	Tarama	0.70	346	P	Pn	22 34 11.3	-0.5
JTJ				S	Sn	22 34 22.3	+0.8
JIJ	Ishigaki jima	0.79	301	*i* P	Pn	22 34 12.1	-0.9
JISG	Ishigakijimahi	0.81	320	*i* P	Pn	22 34 12.5	-0.8
JISG				S	Sn	22 34 25.6	+1.3
JKRS	Kuro-shima	0.84	289	P	Pn	22 34 13.0	-0.7
JMJ2	Miyako jima3	0.88	28	P	Pn	22 34 12.9	-1.2
JMJ2				*e*S	Sn	22 34 26.5	+0.7
JIRB	Irabujima	0.90	17	P	Pn	22 34 13.4	-1.1
JIRB				S	Sn	22 34 26.9	+0.4
JOGS	Gusukube	0.93	31	P	Pn	22 34 13.8	-1.1
HATJ	Hateruma jima	0.99	276	*e*P	Pn	22 34 14.5	-1.2
JIKM	Ikemajima	1.01	19	P	Pn	22 34 15.2	-0.8
JIKM				*e*S	Sn	22 34 30.3	+1.2
IRIF	Iriomote-Funau	1.12	290	P	Pn	22 34 16.6	-0.8
YOJ	Yonaguni jima	1.78	287	*e*P	Pn	22 34 25.9	-0.6
JYNG	Yonagunijimaku	1.83	286	P	Pn	22 34 26.6	-0.7
MJAR	Matsushiro Arr	17.00	39	P	P	22 37 55.2	+1.0
	baz=229,slow=9.1,SNR=6.4						
	1.2nm,0.6s						
MKAR	Makanchi Array	40.87	315	P	P	22 41 36.0	+0.1
	0.4nm,0.4s,baz=101,slow=7.7,SNR=12						
	0.4nm,0.4s						
ZALV	Zalesovo Beam	42.30	326	P	P	22 41 46.8	-0.5
	0.6nm,0.5s,baz=108,slow=9.3,SNR=2.

CNGZ	Carnagh Statio	1.69	153	P	Pn	22 37 05.1	+0.7
RIGZ	Rimuhau	1.77	166	P	Pn	22 37 05.7	+0.5
RIGZ				S	Sn	22 37 34.9	+0.6
SNGZ	Shannon Statio	1.80	177	P	Pn	22 37 06.1	+0.6
SNGZ				S	Sn	22 37 34.2	-0.6
MBAZ	Motutapu North	1.87	276	P	Pn	22 37 05.6	-0.6
MTHZ	Maungataniwha	1.89	189	P	Pn	22 37 06.3	-0.1
MTHZ				S	Sn	22 37 35.2	-1.1
TLZ	Tolley Road	1.89	224	P	Pn	22 37 07.2	+0.8
RAHZ	Arahi	1.93	183	P	Pn	22 37 07.4	+0.7
RAHZ				S	Sn	22 37 37.5	+0.4
MRHZ	Matea Rd	1.95	199	P	Pn	22 37 07.3	+0.3
PRGZ	Paritu Road	2.01	165	P	Pn	22 37 08.0	+0.5
KNZ	Kokohu	2.07	170	P	Pn	22 37 08.2	+0.1
WHHZ	Waihua	2.09	180	P	Pn	22 37 09.1	+0.8
NMHZ	Naumai	2.13	189	P	Pn	22 37 09.9	+1.0
RATZ	Rangitukua	2.20	211	P	Pn	22 37 10.6	+1.1
MHGZ	Mahia Peninsul	2.23	166	P	Pn	22 37 10.4	+0.6
BKZ	Black Stump Fm	2.25	194	P	Pn	22 37 09.9	-0.2
ARHZ	Aropaoanui	2.28	184	P	Pn	22 37 11.0	+0.7
NTVZ	North Tongarir	2.44	209	P	Pn	22 37 13.4	+1.2
TMVZ	Te Maari	2.44	209	P	Pn	22 37 13.0	+0.9
KRVZ	Karewarewa	2.45	210	P	Pn	22 37 12.9	+0.7
ETVZ	East Tongariro	2.46	208	P	Pn	22 37 13.0	+0.7
WTVZ	West Tongariro	2.48	211	P	Pn	22 37 13.2	+0.6
NNVZ	North Ngauruho	2.49	210	P	Pn	22 37 13.5	+0.8
MCHZ	McNeill Hill	2.49	189	P	Pn	22 37 13.2	+0.6
OTVZ	Oturere	2.50	209	P	Pn	22 37 13.4	+0.6
TWVZ	Taurewa	2.51	213	P	Pn	22 37 13.8	+0.9
KWHZ	Kaweka Forest	2.52	194	P	Pn	22 37 13.1	+0.1
SNVZ	South Ngauruho	2.52	209	P	Pn	22 37 13.8	+0.6
NGZ	Ngauruhoe	2.53	210	P	Pn	22 37 13.9	+0.7
TUVZ	Tukino	2.59	208	P	Pn	22 37 14.1	+0.3
FWVZ	Far West T-bar	2.62	209	P	Pn	22 37 14.7	+0.4
MAVZ	Matarangi	2.63	209	P	Pn	22 37 15.0	+0.6
WHVZ	Whangaehu Hut	2.63	209	P	Pn	22 37 14.7	+0.4
TRVZ	Turoa	2.66	209	P	Pn	22 37 15.1	+0.4
WNVZ	Wahianoa	2.66	208	P	Pn	22 37 14.8	+0.1
CKHZ	Cape Kidnapper	2.67	182	P	Pn	22 37 14.9	+0.3
MOVZ	Moawhango	2.68	205	P	Pn	22 37 14.4	-0.3
PKVZ	Pokaka	2.73	212	P	Pn	22 37 15.9	+0.6
KRHZ	Kereru	2.74	194	P	Pn	22 37 15.3	-0.1
KAHZ	Kahuranaki	2.82	185	P	Pn	22 37 16.5	+0.2
PNHZ	Pukenui	3.03	195	P	Pn	22 37 18.2	-0.5
PXZ	Pawanui	3.06	185	P	Pn	22 37 17.8	-1.1
WPHZ	Waipukurau	3.14	191	P	Pn	22 37 19.4	-0.5
TSZ	Takapari Road	3.22	197	P	Pn	22 37 20.3	-0.6
PRHZ	Porangahau	3.31	188	P	Pn	22 37 21.4	-0.5
DVHZ	Dannevirke	3.41	194	P	Pn	22 37 22.1	-1.1
ANWZ	Angora Road	3.52	189	P	Pn	22 37 24.1	-0.3
POWZ	Post Office Ro	3.59	198	P	Pn	22 37 24.4	-0.8
PRWZ	Pori Road	3.70	195	P	Pn	22 37 25.8	-0.7
BFZ	Birch Farm	3.77	191	P	Pn	22 37 26.4	-1.0
MRZ	Mangatainoka R	3.89	199	P	Pn	22 37 27.5	-1.4
TIWZ	Tintock	3.93	195	P	Pn	22 37 28.4	-1.0
HOWZ	Holdsworth Sta	4.13	198	P	Pn	22 37 30.1	-1.8
OGWZ	Otaki Gorge	4.15	202	P	Pn	22 37 30.6	-1.5
KIW	Kapiti Island	4.27	204	P	Pn	22 37 31.9	-1.7
CAW	Cannon Point	4.44	201	P	Pn	22 37 33.9	-1.9
TCW	Tory Channel	4.80	208	P	Pn	22 37 38.2	-2.0
TUWZ	Tuamarina	5.12	209	P	Pn	22 37 42.8	-1.4
QRZ	Quartz Range	5.30	222	P	Pn	22 37 45.5	-1.0
BSWZ	Blackbirch Sta	5.39	208	P	Pn	22 37 46.0	-1.7
KHZ	Kahutara	6.12	206	P	Pn	22 37 54.7	-2.4
DSZ	Denniston Nort	6.34	220	P	Pn	22 37 56.0	-3.9
GVZ	Greta Valley S	6.78	207	P	Pn	22 38 03.1	-2.5
LTZ	Lake Taylor	6.92	212	P	Pn	22 38 05.1	-2.4
OKCZ	Okains Bay	7.44	204	P	Pn	22 38 12.3	-1.8
ASAR	Alice Springs	39.34	277	P	P	22 43 37.2	-0.2
	0.6nm,0.5s,baz=117,slow=7.9,SNR=9.5						
	0.6nm,0.5s						
WRA	Warramunga Arr	40.96	282	P	P	22 43 50.2	-0.4
	0.5nm,0.4s,baz=123,slow=7.0,SNR=14						
	0.5nm,0.4s						
QSPA	South Pole Qui	53.14	180	P	P	22 45 26.5	+2.3
	1.3nm,0.7s,baz=100,slow=6.9,SNR=6.4						
	1.3nm,0.7s						
FINES	FINESS Array B	149.57	333	PKPbc	PKPdf	22 55 48.3	+1.4
	1.0nm,0.8s,baz=64,slow=4.4,SNR=6.1						

*IDC **16** 22:37:26.2±1.1, 52°.69N×31°.93W, h0km, mb3.9/16, mbtmp4.0/17, ML4.5/1, MS3.4/33, Error ellipse: s-maj=24.7km s-min=19.0km az=21.0*
*NEIC **16** 22:37:27.5±1.2, 52°.6N±0°.1×32°.1W±0°.2, h10km±1km, mb4.3/20, Error ellipse: s-maj=25.4km s-min=17.2km az=185.0*
ISC 16 22:37:28.1±0.7, **52°.7N**±0°.1×**31°.93W**±0°.08, **h13**km, **n80**, σ0°**78**/60, **mb4.2**/31, **MS3.3**/31, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	13.28	20	LR	LR	22 43 54.4	
	comp=Z,54nm,18.4s,baz=202,slow=29						
DSB	Dublin	15.39	78	Pn	P	22 41 07.3	-2.1
DSB				IAmb	IAmb	22 41 40.8	
	comp=Z,26nm,1.4s						
ESK	Eskdalemuir	17.05	70		P	22 41 27.0	-0.6
SFJD	Kangerlussuaq	17.05	335	LR	LR	22 46 43.6	
	comp=Z,181nm,19.6s,baz=128,slow=33						
EKB	Eskdalemuir	17.05	70		P	22 41 27.9	+0.2
EKA	Eskdalemuir Ar	17.07	70	P	Pn	22 41 26.9	+0.7
	baz=270,slow=9.8						
	comp=Z,8.1nm,0.7s						
SUMG	Summit	20.18	354	P	P	22 42 02.4	0.0
KUQ	Kuujjuuaa	21.23	299	P	P	22 42 14.5	+1.2
KUQ				IAmb	IAmb	22 42 25.2	
	comp=Z,8.4nm,0.8s						
FRB	Frobisher Bay	21.90	315	LR	LR	22 48 48.5	
	comp=Z,84nm,19.0s,baz=154,slow=31						
ESDC	Sonseca Array	23.15	113	P	P	22 42 33.6	-0.4
	comp=Z,0.6nm,0.8s,baz=316,slow=9.1,SNR=5.4						
ESDC				LR	LR	22 49 30.4	
	comp=Z,68nm,19.4s,baz=306,slow=31						
	comp=Z,0.6nm,0.8s						
NC204	NORSAR Array S	24.40	52	P	P	22 42 46.2	+0.3
NC204				IAmb	IAmb	22 42 48.3	
	comp=Z,14nm,1.5s						
NB2	NORSAR Subarra	24.61	53	P	P	22 42 47.6	-0.2
	comp=Z,0.3nm,0.4s,baz=270,slow=9.3						
NOA	NORSAR Array B	24.61	53	P	P	22 42 47.4	-0.4
	comp=Z,0.6nm,0.7s,baz=274,slow=11,SNR=4.2						
NOA				LR	LR	22 51 20.3	
	comp=Z,72nm,18.6s,baz=270,slow=34						
	comp=Z,0.6nm,0.7s						
HFS	Hagfors	25.86	55	LR	LR	22 51 50.2	
	comp=Z,77nm,19.3s,baz=272,slow=33						
DAVOX	Davos/Dischmat	27.36	85	LR	LR	22 53 45.6	
	comp=Z,48nm,18.4s,baz=296,slow=36						
CLL	Collm	27.37	75	P	P	22 43 12.2	-0.5
CLL				IAmb	IAmb	22 43 13.3	
	comp=Z,3.7nm,0.7s						
CLL	Collm	27.37	75	P	P	22 43 12.8	+0.1
	comp=Z,7.3nm,0.7s						
ILON	Igloolik, Nuna	28.27	325	P	P	22 43 20.1	-0.4
ILON				IAmb	IAmb	22 44 01.8	
	comp=Z,5.1nm,1.3s						
GERES	GERESS Array B	28.75	79	P	P	22 43 25.3	+0.2
GERES	GERESS Array B	28.75	79	P	P	22 43 24.9	-0.2
	comp=Z,1.3nm,0.7s,baz=304,slow=7.9,SNR=9.2						
	comp=Z,1.3nm,0.7s						
VRAC	Vranov	30.27	77	LR	LR	22 55 13.5	
	comp=Z,37nm,19.4s,baz=316,slow=35						
ARCES	ARCESS Array B	30.93	35	P	P	22 43 44.3	+0.1
	comp=Z,3.0nm,1.0s,baz=252,slow=7.5,SNR=4.7						
ARCES				LR	LR	22 53 10.8	
	comp=Z,60nm,19.5s,baz=293,slow=31						
	comp=Z,3.0nm,1.0s						
FINES	FINESS Array B	31.72	51	P	P	22 43 51.0	-0.1
FINES	FINESS Array B	31.72	51	P	P	22 43 51.2	0.0
	comp=Z,2.1nm,0.8s,baz=287,slow=7.8,SNR=11						
FINES				LR	LR	22 55 32.8	
	comp=Z,85nm,18.3s,baz=238,slow=34						
	comp=Z,2.1nm,0.8s						
FIA1	FINESS Array S	31.72	51	P	P	22 43 51.3	+0.1
OJC	Ojcow	31.77	73	P	P	22 43 52.4	+0.7
	comp=Z,5.7nm,1.6s						
OJC				pP	sP	22 43 56.4	+0.5
	comp=Z,5.7nm,1.6s						
MPLH	Magyarpolny	31.80	80	P	P	22 43 52.5	+0.5
	comp=Z,12nm,1.1s						
MPLH				pP	pwP	22 43 58.1	-1.2
	comp=Z,12nm,1.1s						
NIE	Niedzica	32.41	74	P	P	22 43 57.3	-0.1
EUNU	Eureka	32.58	345	P	P	22 43 58.7	0.0
EUNU				IAmb	IAmb	22 44 25.1	
	comp=Z,4.3nm,1.4s						
RES	Resolute Bay	33.05	334	LR	LR	22 56 48.7	
	comp=Z,50nm,19.2s,baz=30,slow=35						
BLKN	Baker Lake	33.91	315	P	P	22 44 08.4	-1.8
MI28	Mi28,Pidlybu	35.99	68	P	P	22 44 29.5	+1.2
BUR08	Bucovina Ar. S	36.12	74	P	P	22 44 30.2	+0.6
BURAR	Bucovina Array	36.14	75	P	P	22 44 30.2	+0.4
LUBAR	Lubar, Ukraine	36.50	70	P	P	22 44 32.3	-0.4
AK22	Malin Array Si	36.85	68	P	P	22 44 34.6	-1.1
AK18	Malin Array Si	36.87	68	P	P	22 44 35.4	-0.5
AK17	Malin Array Si	36.88	68	P	P	22 44 35.4	-0.6
KIEV	Kiev	36.96	68	P	P	22 44 36.0	-0.6
	comp=Z,17nm,0.9s						
AKASG	Malin Array Be	36.97	68	P	P	22 44 34.6	-2.0
	comp=Z,0.7nm,0.5s,baz=298,slow=8.7,SNR=5.8						
AKASG				LR	LR	23 00 46.0	
	comp=Z,41nm,18.5s,baz=290,slow=38						
	comp=Z,0.7nm,0.5s						
AKBB	Malin Array Si	36.97	68	P	P	22 44 35.6	-1.1
MLR	Muntele Rosu	37.67	77	LR	LR	22 59 42.6	
	comp=Z,38nm,18.2s,baz=298,slow=36						
Y58A	Scranton	38.64	260	P	P	22 44 50.7	-0.3
TKL	Tuckaleechee C	39.94	266	LR	LR	23 00 56.2	
	comp=Z,83nm,18.3s,baz=108,slow=35						
ALN	Alexandroupoli	40.35	83	P	P	22 45 05.2	0.0
ALN				IAmb	IAmb	22 45 06.6	
	comp=Z,8.0nm,1.0s						
YKA	Yellowknife Ar	42.39	317	P	P	22 45 21.0	-0.7
	comp=Z,0.6nm,0.9s,baz=64,slow=8.6,SNR=4.7						
	comp=Z,0.6nm,0.9s						
SJG	San Juan	43.61	231	LR	LR	23 01 20.4	
	comp=Z,25nm,20.4s,baz=186,slow=33						
KIRV	Kirov	43.64	49	LR	LR	23 02 43.7	
	comp=Z,26nm,21.9s,baz=293,slow=35						
BR106	Keskin Array S	45.62	79	P	P	22 45 49.4	+1.3
	comp=Z,3.2nm,0.9s						
BR105	Keskin Array S	45.63	79	P	P	22 45 49.0	+0.8
	comp=Z,4.2nm,0.8s						
BR131	Keskin Array S	45.64	79		P	22 45 48.6	+0.4
BRTR	Keskin Array B	45.64	79		P	22 45 49.3	+1.1
BRTR	Keskin Array B	45.64	79	P	P	22 45 48.7	+0.4
	comp=Z,2.6nm,0.7s,baz=305,slow=6.4,SNR=19						
	comp=Z,2.6nm,0.7s						
BR104	Keskin Array S	45.66	79	P	P	22 45 49.3	+1.0
	comp=Z,3.5nm,0.8s						
INK	Inuvik	46.30	330	LR	LR	23 04 10.9	
	comp=Z,92nm,18.8s,baz=284,slow=35						
G31M	Satah River	47.34	328	P	P	22 46 00.6	-0.3
TORD	Torodi Ar. Bea	47.68	133	P	P	22 46 03.6	-0.6
TORD				IAmb	IAmb	22 46 13.4	
	comp=Z,3.7nm,1.1s						
TORD	Torodi Ar. Bea	47.68	133	P	P	22 46 03.3	-0.9
	comp=Z,82nm,0.4s,baz=339,slow=9.3,SNR=1.3						
KVAR	Kislovodsk Arr	48.30	69	LR	LR	23 07 02.3	
	comp=Z,30nm,18.8s,baz=76,slow=37						
KBZ	Khabaz	48.56	69	LR	LR	23 07 33.7	
	comp=Z,40nm,18.1s,baz=323,slow=37						
E27K	Coleen River	48.77	332	P	P	22 46 12.9	+0.8
E27K				IAmb	IAmb	22 46 13.9	
	comp=Z,2.7nm,1.0s						
ARTI	Arti	48.91	48	P	P	22 46 13.3	+0.1
ARTI	Arti	48.91	48	P	P	22 46 13.2	-0.1
	comp=Z,2.8nm,0.6s,baz=294,slow=2.4,SNR=5.3						
ARTI				LR	LR	23 06 25.5	
	comp=Z,42nm,18.6s,baz=30,slow=36						
	comp=Z,2.8nm,0.6s						
H29M	Whitestone	49.07	329	P	P	22 46 15.1	+0.7
H29M				IAmb	IAmb	22 46 26.5	
	comp=Z,3.9nm,1.1s						
PCRV	Puerto La Cruz	49.93	224	LR	LR	23 04 19.7	
	comp=Z,46nm,21.0s,slow=32						
MDP	Montagnes des	50.40	207	LR	LR	23 02 24.9	
	comp=Z,31nm,19.1s,baz=154,slow=30						
PDAR	Pinedale Array	50.75	292	P	P	22 46 27.4	-0.3
	comp=Z,0.6nm,0.6s,baz=48,slow=7.2,SNR=5.7						
	comp=Z,0.6nm,0.6s						
DBIC	Dimbokro	50.94	144	P	P	22 46 30.6	+1.5
	comp=Z,2.3nm,0.8s,baz=325,slow=6.9,SNR=3.6						
DBIC				LR	LR	23 06 08.7	
	comp=Z,43nm,18.0s,baz=345,slow=34						
	comp=Z,2.3nm,0.8s						
GNI	Garni	51.90	71	LR	LR	23 09 34.0	
	comp=Z,28nm,19.6s,baz=332,slow=37						
AKTO	Aktyubinsk	52.40	54	P	P	22 46 39.3	-0.4
	comp=Z,2.0nm,0.7s,baz=347,slow=9.1,SNR=5.7						
AKTO				LR	LR	23 07 39.2	
	comp=Z,49nm,20.1s,baz=276,slow=35						
	comp=Z,2.0nm,0.7s						
SDV	Santo Domingo	53.74	230	LR	LR	23 05 55.5	
	comp=Z,19nm,22.0s,baz=272,slow=32						
BVAR	Borovoye Array	56.38	45	P	P	22 47 08.8	+0.2
	comp=Z,2.4nm,0.7s,baz=335,slow=6.6,SNR=6.8						
BVAR				LR	LR	23 10 15.3	
	comp=Z,57nm,19.2s,baz=286,slow=35						
	comp=Z,2.4nm,0.7s						
ROSC	El Rosal	59.02	232	LR	LR	23 09 45.5	
	comp=Z,25nm,21.9s,baz=91,slow=33						
KDAK	Kodiak Island	59.77	328	LR	LR	23 10 49.8	
	comp=Z,46nm,18.2s,baz=271,slow=34						
ZALV	Zalesovo Beam	61.46	37	P	P	22 47 44.2	+0.4
	comp=Z,1.0nm,0.7s,baz=322,slow=9.4,SNR=4.8						
	comp=Z,1.0nm,0.7s						
KURBB	Kurchatov Arra	61.59	43	P	P	22 47 45.7	+1.0
	comp=Z,0.9nm,0.6s,baz=324,slow=7.3,SNR=3.4						
KURBB				LR	LR	23 14 30.9	
	comp=Z,29nm,18.2s,baz=172,slow=36						
	comp=Z,0.9nm,0.6s						
AAK	Ala-Archa	65.91	51	LR	LR	23 16 08.7	
	comp=Z,44nm,19.4s,baz=322,slow=35						
MKAR	Makanchi Array	66.13	43	P	P	22 48 15.1	+0.3
	comp=Z,1.4nm,0.8s,baz=328,slow=6.4,SNR=7.0						
MKAR				LR	LR	23 15 55.4	
	comp=Z,33nm,20.4s,baz=306,slow=35						
	comp=Z,1.4nm,0.8s						
SIV	San Ignacio	72.88	209	LR	LR	23 16 42.6	
	comp=Z,33nm,19.2s,baz=293,slow=32						
WRA	Warramunga Arr	145.64	23	PKPbc	PKPdf	22 57 06.0	-0.1
	comp=Z,0.8nm,0.7s,baz=345,slow=3.4,SNR=5.9						

*ISU **16** 22:40:09, 40°.56N×72°.28E, h27km*
*KRNET **16** 22:40:09.2±0.1, 40°.61N×72°.27E, h27km, mb3.8*
*NNC **16** 22:40:11.7±1.6, 40°.73N×72°.32E, h11km±8km, mb4.0, mpv3.6, Error ellipse: s-maj=13.0km s-min=4.6km az=179.0*
*SOME **16** 22:40:11.7, 40°.82N×72°.32E, h10km*
ISC 16 22:40:10.9±0.9, **40°.59N**±0°.02×**72°.27E**±0°.02, **h20**km±2km, **n71**, σ1°**86**/114, **31C-37D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANR	Andizhan	0.18	22	P	Pb	22 40 16.1	-0.6
ANR				S	Sb	22 40 20.7	0.0
OHH	Osh	0.40	99	⇑iP	Pb	22 40 17.5	-1.7
OHH				⇑iS	Sb	22 40 23.4	-1.4
FRG	Fergana	0.43	241	P	Pb	22 40 19.2	-0.5
FRG				S	Sb	22 40 26.0	+0.3
CHMI	Chimion	0.65	241	P	Pb	22 40 22.8	-0.9
CHMI				S	Sb	22 40 32.3	-0.1
KSNS	Kasansay	0.81	315	P	Pn	22 40 26.1	-1.1
KSNS				S	Sn	22 40 38.0	-0.6
ARSB	Arslanbob	0.91	36	⇑iP	Pb	22 40 26.3	-1.9
ARSB				⇑iS	Sb	22 40 38.5	-1.5
MINT	Mingtut	0.99	264	P	Pb	22 40 28.6	-0.9
MINT				S	Sn	22 40 43.6	+0.4
SFK	Sufi-Kurgan	1.10	121	⇑iP	Pn	22 40 29.8	-1.6
SFK				⇑iS	Sn	22 40 44.6	-1.5
DRK	Karamyk	1.16	198	⇓iP	Pn	22 40 31.2	-1.1
DRK				⇓iS	Sn	22 40 46.9	-0.8
SALK	Salom-Alik	1.22	75	⇓iP	Pb	22 40 31.6	-1.7
SALK				⇓iS	Sn	22 40 47.6	-1.2
BTK	Batken	1.23	245	⇑iP	Pn	22 40 32.0	-1.0
BTK				⇑iS	Sn	22 40 48.4	-0.7
ARK	Arkit	1.23	349	⇓eP	Pn	22 40 31.6	-1.5
ARK				⇓eS	Sn	22 40 47.6	-1.6
TRKS	Terek-Say	1.27	318	⇓iP	Pn	22 40 31.3	-2.4
TRKS				⇓iS	Sn	22 40 47.1	-3.2
AML	Almayashu	1.88	34	P	Pb	22 40 42.3	-2.5
	SNR=159						
AML	Almayashu	1.88	34	⇓iP	Pn	22 40 42.0	-0.3
AML				⇓iS	Sb	22 41 06.0	-2.0
MNAS	Manas	1.91	5	⇓iP	Pn	22 40 42.5	+0.1
MNAS				⇓iS	Sb	22 41 06.5	-2.1
CHMG	Chimgan	1.96	300	P	Pb	22 40 45.2	-0.9
CHMG				S	Sb	22 41 12.4	+2.3
ARLS	Aral	2.00	50	⇑iP	Pn	22 40 43.7	-0.1
ARLS				⇑iS	Sb	22 41 08.6	-2.8
GAR	Garm	2.19	224	⇓iP	Pn	22 40 46.6	+0.4
GAR				⇓iS	Sn	22 41 13.8	+1.1
TGS	TashGRES	2.24	293	P	Pb	22 40 50.7	-0.1
TGS				S	Sb	22 41 22.8	+4.7
MRKS	Merke	2.27	18	Pg	Pb	22 40 50.5	-0.8
	72nm,0.4s						
MRKS				Lg	Lg	22 41 20.1	
	127nm,0.3s						
MRKS	Merke	2.27	18	eP	Pb	22 40 49.8	-1.6
	71nm,0.5s						
MRKS				eS	Sb	22 41 17.3	-1.7
	146nm,0.3s						
IUG	Iuzhnay	2.30	314	Pg	Pb	22 40 51.6	-0.1
	132nm,0.3s						
IUG				Lg	Lg	22 41 20.8	
	459nm,0.5s						
UCH	Uchtor	2.35	45	P	Pb	22 40 52.4	-0.5
	SNR=5.9						
UCH	Uchtor	2.35	45	⇓iP	Pn	22 40 48.8	0.0
UCH				⇓iS	Sn	22 41 17.5	+0.2
EKS2	Erkin-Say	2.36	28	P	Pb	22 40 49.4	-3.4
	SNR=14						
EKS2	Erkin-Say	2.36	28	⇓iP	Pn	22 40 48.6	-0.1
EKS2				⇓iS	Sn	22 41 17.3	+0.2
TAS	Tashkent	2.37	289	P	Pb	22 40 51.0	-2.0
TAS				S	Sb	22 41 23.4	+1.6
DZA	Taraz	2.41	343	Pg	Pb	22 40 53.6	0.0
	126nm,0.6s						
DZA				Lg	Lg	22 41 23.9	
	487nm,0.5s						
DZA	Taraz	2.41	343	eP	Pb	22 40 53.6	0.0
	126nm,0.6s						
DZA				eS	Sb	22 41 23.9	+1.0
	487nm,0.5s						
NZBK	Nazarbek	2.47	286	P	Pb	22 40 52.9	-1.8
NZBK				S	Sb	22 41 27.0	+2.3
AAK	Ala-Archa	2.64	38	P	Pb	22 40 56.0	-1.7
	SNR=17						
AAK	Ala-Archa	2.64	38	⇑Pn	Pn	22 40 52.8	+0.3
	3.4nm,0.5s						
AAK				⇑Pg	Pb	22 40 57.7	+0.1
	17nm,0.3s						
AAK				⇓Lg	Lg	22 41 31.6	
	156nm,0.5s						
AAK	Ala-Archa	2.64	38	⇑iP	Pn	22 40 52.6	+0.1
AAK				⇑iS	Sn	22 41 23.9	-0.2
FRU1	Bishkek	2.84	38	⇑iP	Pn	22 40 55.3	+0.1
FRU1				⇑iS	Sn	22 41 28.9	+0.1
KK31	Karatay Array	2.84	333	⇓Pn	Pn	22 40 54.8	-0.3
	2.0nm,0.3s,baz=137,slow=14						
KK31				⇓Pg	Pb	22 41 01.7	+0.8
	11nm,0.5s,baz=147,slow=14						
KK31				⇓Lg	Lg	22 41 35.6	
	92nm,0.5s,baz=154,slow=30						
KKAR	Karatay Array	2.84	333	⇓iP	Pn	22 40 54.8	-0.3
KKAR				⇓iS	Sn	22 41 28.4	-0.3
KBK	Karagaybulak	2.88	43	P	Pb	22 41 02.0	+0.3
	SNR=20						
KBK	Karagaybulak	2.88	43	eP	Pn	22 40 55.9	0.0
KBK				⇓iS	Sn	22 41 29.9	-0.1
NRN	Naryn	2.95	72	eP	Pn	22 40 56.4	-0.5
NRN				⇓eS	Sn	22 41 31.8	0.0
CHMS	Chumysh	3.04	37	P	Pb	22 41 05.3	+1.0
	SNR=8.2						
CHMS	Chumysh	3.04	37	⇑Pn	Pn	22 40 57.0	-0.9
	4.8nm,0.6s						
CHMS				⇑Pg	Pb	22 41 04.4	0.0
	16nm,0.5s						
CHMS				⇑Lg	Lg	22 41 43.8	
	45nm,0.6s						
CHMS	Chumysh	3.04	37	⇓iP	Pn	22 40 58.0	+0.1
CHMS				⇓iS	Sn	22 41 33.4	-0.3
BRLS	Borolday	3.05	324	Pg	Pb	22 41 03.4	-1.0
	13nm,0.4s						
BRLS				Lg	Lg	22 41 40.2	
	68nm,0.6s						
BRLS	Borolday	3.05	324	eP	Pb	22 41 03.4	-1.0
	13nm,0.4s						
BRLS				eS	Sb	22 41 40.2	-1.0
	68nm,0.6s						
USP	Ospenovka	3.15	31	P	Pb	22 41 06.2	-0.1
	SNR=11						
USP	Ospenovka	3.15	31	⇑iP	Pn	22 40 59.4	-0.1
USP				⇑iS	Sn	22 41 35.9	-0.6
BOOM	Boomskoye usch	3.35	54	⇓iP	Pn	22 41 02.4	+0.2
BOOM				⇓iS	Sn	22 41 41.2	-0.3
SGDS	Sogindy	3.36	31	Pg	Pb	22 41 10.0	+0.1
	16nm,0.4s						
SGDS				Lg	Lg	22 41 52.9	
	58nm,0.8s						
BXML	Bakhmal	3.37	256	P	Pb	22 41 07.7	-2.4
BX

KURS *e*S **Sb** **22 42 38.1 -6.9**
27nm,0.6s
ARXS **Arharly** **5.48 47** Pg Pb 22 41 49.6 +3.6
6.6nm,0.4s
ARXS Lg Lg 22 43 00.5
25nm,0.4s
PDGK **Podgornoye** **6.04 61** ⇑Lg Lg 22 43 17.4
19nm,1.0s

OMAN ***16*** *22:43:45.8±1.6, 31°.19N×57°.32E, h10km, mb4.4/13, ml3.6/2, Error ellipse: s-maj=32.1km s-min=13.6km az=104.0*
TEH ***16*** *22:43:46.7, 30°.78N×57°.35E, h7km±21km*
MOS ***16*** *22:43:47.5±1.0, 30°.37N×57°.39E, h22km, mb4.4/13, Error ellipse: s-maj=10.6km s-min=7.5km az=74.8*
THR ***16*** *22:43:48.4±0.0, 30°.79N×57°.36E, h10km±6km, mb4.2*
IDC ***16*** *22:43:48.6±1.5, 30°.80N×57°.25E, h0km, mb3.8/9, mbtmp3.8/12, ML3.8/3, MS3.0/1, Error ellipse: s-maj=29.2km s-min=21.6km az=164.0*
NEIC ***16*** *22:43:50.1±0.6, 30°.85N±0°.09×57°.2E±0°.1, h10km±2km, mb4.0/12, Error ellipse: s-maj=16.4km s-min=13.3km az=130.0*

ISC 16 22:43:49.7±0.4,**30°.66N**±0°.03×**57°.30E**±0°.04,**h15**km,**n148,** σ2⁹08/147,**mb4.2**/22,**4C-8D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.16**	**190**	Pg	**Pg**	**22 43 53.9**	**0.0**
ZRDN	**Zarand Kerman**	**0.73**	**295**	Pg	**Pg**	**22 44 02.0**	**-2.0**
KHGB	**Koh Gabri**	**0.77**	**248**	Pg	**Pg**	**22 44 04.0**	**-0.7**
KRBR	**Kerman**	**0.82**	**215**	Pg	**Pb**	**22 44 06.7**	**+0.8**
KRBR	**Kerman**	**0.82**	**215**	*e*Pg	**Pb**	**22 44 06.4**	**+0.5**
CHMN	**Cheshme madani**	**0.82**	**165**	Pg	**Pg**	**22 44 05.5**	**-0.3**
NGRK	**Negar Kerman**	**1.13**	**206**	Pg	**Pn**	**22 44 11.9**	**+0.6**
KBAM	**BAM**	**1.82**	**146**	Pn	**Pb**	**22 44 22.1**	**-0.6**
BSRN	**Basiran**	**2.03**	**50**	Pn	**Pn**	**22 44 22.8**	**-0.7**
BSRN	**Basiran**	**2.03**	**50**	*e*Pn	**Pn**	**22 44 22.8**	**-0.7**
BSRN				*e*Sg	**Sb**	**22 44 48.9**	**-2.7**
IKOO	**Kooshah**	**2.28**	**39**	Pn	**Pn**	**22 44 26.5**	**-0.6**
TPRV	**Parvadeh(Tabas**	**2.42**	**348**	Pn	**Pn**	**22 44 28.1**	**-0.7**
IMEH	**Mehriz**	**2.42**	**288**	Pn	**Pn**	**22 44 30.0**	**+1.0**
ITEG	**Tejag**	**2.55**	**29**	Pn	**Pn**	**22 44 29.7**	**-0.9**
KHNJ	**Kahnooj**	**2.73**	**172**	Pn	**Pn**	**22 44 36.3**	**+3.4**
TKDS	**Koohdasht(Taba**	**2.95**	**357**	Pn	**Pn**	**22 44 35.4**	**-0.7**
TABS	**Tabas**	**2.98**	**357**	*e*Pn	**Pn**	**22 44 35.6**	**-1.0**
IDAH	**Dahanechah**	**3.01**	**46**	Pn	**Pn**	**22 44 37.0**	**-0.1**
AFRZ	**Afriz**	**3.12**	**27**	Pn	**Pn**	**22 44 37.4**	**-1.0**
ZHSF	**Zahedan**	**3.19**	**108**	Pn	**Pn**	**22 44 40.7**	**+1.3**
ZHSF	**Zahedan**	**3.19**	**108**	*e*Pn	**Pn**	**22 44 40.6**	**+1.2**
ISAD	**Sadrabad**	**3.34**	**293**	Pn	**Pn**	**22 44 43.0**	**+1.3**
TNSJ	**Nastanj**	**3.35**	**350**	Pn	**Pn**	**22 44 40.8**	**-0.8**
BNDS	**Bandar-Abbas**	**3.40**	**197**	*e*Pn	**Pn**	**22 44 46.2**	**+3.9**
SHRT	**Shahrakht**	**3.91**	**40**	Pn	**Pn**	**22 44 48.1**	**-1.2**
SHRT	**Shahrakht**	**3.91**	**40**	*e*PnA		22 44 49.4	
LAR1	**LAR**	**3.93**	**221**	Pn	**Pn**	**22 44 51.9**	**+2.3**
ANAR	**Anarak**	**3.95**	**311**	Pn	**Pn**	**22 44 49.7**	**-0.1**
TAPT	**Tabas- Tapeh t**	**4.21**	**358**	Pn	**Pn**	**22 44 52.7**	**-0.8**
IRAM	**Ramesheh**	**4.37**	**286**	Pn	**Pn**	**22 44 57.0**	**+1.3**
NASN	**Na'in**	**4.38**	**300**	*e*Pn	**Pn**	**22 44 57.1**	**+1.1**
GHIR	**Ghir-Karzin**	**4.45**	**239**	*e*PnA		22 45 00.3	
SHME	**Shamm**	**4.71**	**193**	P	Pn	22 45 05.7	+5.5
SHME				S	**Sb**	**22 46 03.5**	**-4.9**
SHME	**Shamm**	**4.71**	**193**	Pn	**Pn**	**22 45 04.6**	**+4.4**
IZEF	**Zefreh**	**4.79**	**299**	Pn	**Pn**	**22 45 02.6**	**+1.1**
BANOM	**Banah**	**4.80**	**191**	P	**Pn**	**22 45 05.7**	**+4.1**
BANOM				S	**Sb**	**22 46 08.5**	**-2.7**
BANOM	**Banah**	**4.80**	**191**	Pn	**Pn**	**22 45 04.3**	**+2.8**
BANOM				Sn	**Sn**	**22 46 03.7**	**+6.7**
TBHD	**Torbat heydari**	**5.01**	**18**	Pn	**Pn**	**22 45 03.6**	**-1.0**
TBJM	**Torbat-e-JAM**	**5.25**	**28**	Pn	**Pn**	**22 45 07.0**	**-0.9**
MASF	**Masafi**	**5.37**	**191**	P	**Pn**	**22 45 13.9**	**+4.6**
MASF				S	**Sb**	**22 46 23.6**	**-3.8**
MSFE	**Esma-Masafi**	**5.38**	**191**	Pn	**Pn**	**22 45 10.7**	**+1.2**
MDH	**Madha**	**5.41**	**190**	P	Pn	22 45 16.1	+6.2
MDH				S	**Sb**	**22 46 24.1**	**-4.7**
SHRO	**Shahrood**	**5.42**	**349**	*e*PnA		22 45 10.8	
SHRO				IAML		22 45 35.3	
	comp=Z,38nm,0.9s						
KRSH	**Karshahi**	**5.48**	**308**	Pn	**Pn**	**22 45 10.9**	**0.0**
HRA	**Herat**	**5.59**	**47**	Pn	**Pn**	**22 45 13.0**	**+0.5**
ISFB	**Sefidab**	**5.64**	**312**	Pn	**Pn**	**22 45 13.5**	**+0.4**
SBZV	**Sabzevar**	**5.72**	**2**	Pn	**Pn**	**22 45 14.0**	**-0.2**
SBZV	**Sabzevar**	**5.72**	**2**	*e*Pn	**Pn**	**22 45 13.5**	**-0.8**
SBZV				IAML		22 45 39.3	
	comp=Z,32nm,0.7s						
UOSS	**Minazif**	**5.78**	**190**		**Pn**	**22 45 17.9**	**+3.0**
UOSS	**Minazif**	**5.78**	**190**	P	Pn	22 45 20.8	+5.9
UOSS				S	Sn	22 46 31.8	+11
UOSS	**Minazif**	**5.78**	**190**	Pn	**Pn**	**22 45 16.8**	**+1.9**
JRKH	**Jarkhoshk**	**5.82**	**25**	Pn	**Pn**	**22 45 15.3**	**-0.3**
NAZ	**Nazwa, Dubai**	**5.83**	**195**	P	Pn	22 45 21.8	+6.2
HATD	**Hatta, Dubai**	**5.90**	**190**	P	Pn	22 45 22.4	+5.7
IAKL	**Akhelmad**	**6.05**	**11**	Pn	**Pn**	**22 45 18.2**	**-0.7**
ASHO	**Ashiyiah**	**6.05**	**191**	P	**Pn**	**22 45 23.4**	**+4.6**
ASHO	**Ashiyiah**	**6.05**	**191**	Pn	**Pn**	**22 45 20.5**	**+1.7**
ASUD	**Al Ashush, Dub**	**6.26**	**197**	P	Pn	22 45 26.4	+4.9
ASUD	**Al Ashush, Dub**	**6.26**	**197**	Pn	**Pn**	**22 45 25.7**	**+4.1**
IVRN	**Varamin**	**6.38**	**314**	Pn	**Pn**	**22 45 24.2**	**+1.0**
ISFR	**Sfrayin**	**6.40**	**5**	Pn	**Pn**	**22 45 23.6**	**-0.1**
SOHO	**SOHO**	**6.54**	**186**	P	**Pn**	**22 45 28.4**	**+3.0**
IDMV	**Damavand**	**6.60**	**319**	Pn	**Pn**	**22 45 26.9**	**+0.4**
DAMV	**Damavand**	**6.67**	**319**	*e*Pn	**Pn**	**22 45 27.5**	**+0.1**
DAMV				IAML		22 45 28.7	
	comp=Z,18nm,0.7s						
ALNE	**Al Ain**	**6.72**	**192**	P	Pn	22 45 33.7	+5.8
IPRN	**Peran**	**6.94**	**325**	Pn	**Pn**	**22 45 31.6**	**+0.6**
HOQ	**Hoqain**	**7.05**	**180**	P	**Pn**	**22 45 36.2**	**+3.8**
MRVT	**Maraveh tapeh**	**7.05**	**352**	Pn	**Pn**	**22 45 32.4**	**-0.1**
MRVT	**Maraveh tapeh**	**7.05**	**352**	*e*Pn	**Pn**	**22 45 32.3**	**-0.1**
MRVT				IAML		22 45 56.2	
	comp=Z,7.2nm,0.6s						
ARQ	**Araqi**	**7.33**	**186**	P	**Pn**	**22 45 40.3**	**+4.1**
	SNR=7.8						
CHTH	**Charan**	**7.36**	**317**	*e*Pn	**Pn**	**22 45 37.0**	**+0.2**
CHTH				IAML		22 45 41.9	
	comp=Z,12nm,0.9s						
WSAR	**Wadi Sarin**	**7.49**	**171**	Pn	**Pn**	**22 45 41.8**	**+3.4**
	baz=6.9,slow=24,SNR=31						
WSAR	**Wadi Sarin**	**7.49**	**171**	P	**Pn**	**22 45 40.9**	**+2.5**
	SNR=9.1						
MZPU	**Pul - Mazandar**	**7.49**	**322**	Pn	**Pn**	**22 45 39.3**	**+0.7**
BSY	**Bisya**	**7.88**	**181**	P	Pn	22 45 49.2	+5.4
TRNA	**Turayna**	**8.00**	**224**	P	**Pn**	**22 45 46.7**	**+1.3**
	SNR=8.0						
WBK	**Wadi Bani Khal**	**8.15**	**169**	Pn	**Pn**	**22 45 50.7**	**+3.1**
WBK	**Wadi Bani Khal**	**8.15**	**169**	P	**Pn**	**22 45 50.8**	**+3.2**
SMRA	**Abu-Samra**	**8.22**	**226**	P	**Pn**	**22 45 49.3**	**+0.8**
	SNR=12						
JLN	**Jalan Bani Buh**	**8.68**	**167**	P	**Pn**	**22 45 58.5**	**+3.7**
DOK	**Doka**	**12.33**	**194**	P	**Pn**	**22 46 45.8**	**+1.0**
	SNR=6.8						
RAYN	**Ar Rayn**	**12.68**	**239**	Pn	**Pn**	**22 46 48.0**	**-1.6**
RAYN	**Ar Rayn**	**12.68**	**239**	P	**Pn**	**22 46 48.0**	**-1.6**
GAR	**Garm**	**13.54**	**49**	Pn	**Pn**	**22 47 00.3**	**-0.9**
ABTO	**Aybut**	**13.74**	**196**	P	**Pn**	**22 47 05.0**	**+0.9**
BTK	**Batken**	**14.46**	**46**		**Pn**	**22 47 13.2**	**-0.7**
BTK	**Batken**	**14.46**	**46**	P	**Pn**	**22 47 13.2**	**-0.7**
DRK	**Karamyk**	**14.76**	**49**	Pn	**Pn**	**22 47 18.0**	**-0.2**
DRK	**Karamyk**	**14.76**	**49**	P	**Pn**	**22 47 18.0**	**-0.2**
ARSB	**Arslanbob**	**16.53**	**46**	Pn	**P**	**22 47 41.5**	**-2.2**
ARSB	**Arslanbob**	**16.53**	**46**	P	**P**	**22 47 41.5**	**-2.2**
ARSB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NCK	**Nalchik**	**16.82**	**323**	⇓*i*P	**P**	**22 47 48.1**	**+1.4**
NCK				pmax	pmax		
	comp=Z,16nm,0.9s						
ASF	**Jabal al Asfar**	**17.48**	**280**	LR	LR	22 56 18.3	
	comp=Z,42nm,18.0s,baz=269,slow=43						
KIV	**Kislovodsk**	**17.61**	**323**		**Pn**	**22 47 52.0**	**-2.6**
KIV				IAmb	IAmb	22 48 02.2	
	comp=Z,14nm,1.1s						
KIV	**Kislovodsk**	**17.61**	**323**	*e*P	**P**	**22 47 55.4**	**-0.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AAK	**Ala-Archa**	**18.21**	**44**	P	**P**	**22 48 01.8**	**-0.5**
AAK	**Ala-Archa**	**18.21**	**44**	P	**P**	**22 48 02.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=226,slow=11,SNR=3.9						
	comp=Z,1.5nm,0.7s						
ABKAR	**Akbulak array**	**18.68**	**5**	P	**Pn**	**22 48 06.1**	**-1.5**
MMAI	**Mount Meron Ar**	**18.75**	**283**	P	**Pn**	**22 48 09.2**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=81,slow=19,SNR=2.4						
	comp=Z,1.3nm,0.8s						
LABN	**Labinsk**	**19.11**	**322**	*e*P	**P**	**22 48 10.3**	**-1.6**
LABN				*e*S	**S**	**22 51 48.8**	**+0.6**
LABN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
AKTO	**Aktyubinsk**	**19.76**	**1**	P	**Pn**	**22 48 19.1**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=176,slow=9.5,SNR=8.0						
	comp=Z,4.1nm,0.6s						
ERBR	**Yeremizino-Bor**	**19.95**	**324**	*e*P	**P**	**22 48 19.2**	**-2.0**
ERBR				*e*S	**Sn**	**22 52 06.1**	**-0.8**
ERBR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ANN	**Anapa**	**21.05**	**318**	*e*P	**P**	**22 48 32.3**	**-0.7**
ANN				*e*S	Sn	22 52 30.2	-3.0
ANN				pmax	pmax		
	comp=Z,32nm,0.9s						
BR131	**Keskin Array S**	**21.30**	**302**	P	**P**	**22 48 35.0**	**-0.9**
BR131				IAmb	IAmb	22 48 37.4	
	comp=Z,3.9nm,1.1s						
BR131	**Keskin Array S**	**21.30**	**302**	⇓*i*P	**P**	**22 48 35.3**	**-0.7**
BRTR	**Keskin Array B**	**21.30**	**302**	P	**P**	**22 48 34.7**	**-1.2**
BRTR	**Keskin Array B**	**21.30**	**302**	P	**P**	**22 48 35.0**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=118,slow=9.9,SNR=9.8						
	comp=Z,1.4nm,0.8s						
BRTR	**Keskin Array B**	**21.30**	**302**	*e*P	**P**	**22 48 37.1**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ELL	**Elmali**	**23.54**	**292**	P	**P**	**22 48 59.0**	**-0.5**
ELL	**Elmali**	**23.54**	**292**	P	**P**	**22 48 59.0**	**-0.5**
ELL				pmax	pmax		
	comp=Z,51nm,1.5s						
BRVK	**Borovoye**	**24.30**	**19**	⇓*e*P	**P**	**22 49 06.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.5s						
BVAR	**Borovoye Array**	**24.30**	**19**	P	**P**	**22 49 05.7**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=193,slow=5.9,SNR=7.3						
	comp=Z,2.3nm,0.7s						
MAKZ	**Makanchi**	**24.96**	**43**	P	**P**	**22 49 12.5**	**0.0**
MAKZ				IAmb	IAmb	22 49 13.9	
	comp=Z,4.5nm,0.9s						
MAKZ	**Makanchi**	**24.96**	**43**	P	**P**	**22 49 12.5**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MK31	**Makanchi Array**	**25.14**	**43**	⇑*e*P	**P**	**22 49 14.3**	**+0.2**
MKAR	**Makanchi Array**	**25.14**	**43**	P	**P**	**22 49 13.9**	**-0.2**
MKAR	**Makanchi Array**	**25.14**	**43**	P	**P**	**22 49 14.4**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=231,slow=9.1,SNR=4.7						
	comp=Z,1.3nm,0.9s						
MKAR	**Makanchi Array**	**25.14**	**43**	*c*e*P	**P**	**22 49 14.3**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**25.47**	**32**	P	**P**	**22 49 17.6**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=232,slow=9.0,SNR=12						
	comp=Z,2.5nm,0.8s						
KURK	**Kurchatov**	**25.58**	**32**	P	**P**	**22 49 17.6**	**-0.4**
KURK				IAmb	IAmb	22 49 19.3	
	comp=Z,2.7nm,0.8s						
KURK	**Kurchatov**	**25.58**	**32**	⇑*i*P	**P**	**22 49 18.3**	**+0.3**
ARTI	**Arti**	**25.73**	**1**	P	**P**	**22 49 21.2**	**+1.9**
	comp=Z,1.2nm,0.4s,baz=138,slow=9.0,SNR=3.0						
	comp=Z,1.2nm,0.4s						
ARTI	**Arti**	**25.73**	**1**	*c i*P	**P**	**22 49 21.2**	**+1.9**
ARTI						22 49 58.0	
ARTI				S	**S**	**22 53 54.1**	**+6.6**
ARTI				SS	**SnSn**	**22 54 51.6**	**+9.0**
ARTI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIRV	**Kirov**	**28.44**	**351**	⇓*e*P	**P**	**22 49 46.5**	**+2.9**
OBN	**Obninsk**	**28.56**	**335**	*i* P	**P**	**22 49 46.0**	**+1.3**
OBN				pmax	pmax		
	comp=Z,18nm,1.6s						
ZAA0	**Zalesovo Array**	**30.57**	**32**	P	**P**	**22 50 01.9**	**-0.6**
ZALV	**Zalesovo Beam**	**30.57**	**32**	P	**P**	**22 50 01.7**	**-0.9**
ZALV	**Zalesovo Beam**	**30.57**	**32**	P	**P**	**22 50 02.6**	**0.0**
	comp=Z,3.1nm,0.5s,baz=241,slow=9.6,SNR=12						
	comp=Z,3.1nm,0.5s						
KOLS	**Kolonicke sedl**	**32.14**	**315**	*e*P	**P**	**22 50 18.8**	**+2.3**
KOLS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KOLS	**Kolonicke sedl**	**32.14**	**315**	*e*P	**P**	**22 50 18.8**	**+2.3**
KLMR	**Klimovskoe**	**32.42**	**344**	*e*P	**P**	**22 50 16.5**	**-2.3**
KLMR				pmax	pmax		
	comp=Z,16nm,1.8s						
MODS	**Modra-Piesok**	**35.10**	**312**	*e*P	**P**	**22 50 44.0**	**+1.7**
MODS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MODS	**Modra-Piesok**	**35.10**	**312**	*e*P	**P**	**22 50 44.0**	**+1.7**
MODS				*e*PP	**PP**	**22 52 02.1**	**+0.2**
FIA1	**FINESS Array S**	**36.96**	**336**	P	**P**	**22 50 56.9**	**-1.0**
FINES	**FINESS Array B**	**36.96**	**336**	P	**P**	**22 50 57.0**	**-1.0**
FINES	**FINESS Array B**	**36.96**	**336**	P	**P**	**22 50 57.7**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=131,slow=8.8,SNR=6.7						
	comp=Z,1.3nm,0.6s						
FINES	**FINESS Array B**	**36.96**	**336**	*e*P	**P**	**22 51 00.9**	**+2.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**37.52**	**312**	P	**P**	**22 51 01.7**	**-1.4**
GERES	**GERESS Array B**	**37.52**	**312**	P	**P**	**22 51 03.0**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=116,slow=8.0,SNR=5.1						
	comp=Z,0.6nm,0.7s						
CLL	**Collm**	**38.55**	**315**	*i* P	**P**	**22 51 11.7**	**+0.2**
CLL	**Collm**	**38.55**	**315**	*i* P	**P**	**22 51 11.7**	**+0.2**
NRIK	**Noril'sk**	**42.39**	**15**	⇓*e*P	**P**	**22 51 44.2**	**+1.1**
TORD	**Torodi Ar. Bea**	**53.93**	**264**	P	**P**	**22 53 12.8**	**-0.2**
TORD				IAmb	IAmb	22 53 16.3	
	comp=Z,3.1nm,1.4s						
KLR	**Kul'dur**	**57.68**	**48**	⇓*e*P	**P**	**22 53 40.1**	**+0.6**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.7s						
BILL	**Bilibino**	**68.61**	**22**	⇓*e*P	**P**	**22 54 52.1**	**+0.4**
BILL				pmax	pmax		
	comp=Z,10.0nm,2.7s						
PET	**Petropavlovsk**	**72.43**	**38**	⇓*e*P	**P**	**22 55 15.0**	**-0.2**
PET				pmax	pmax		
	comp=Z,62nm,1.4s						
YKA	**Yellowknife Ar**	**86.94**	**356**	P	**P**	**22 56 33.6**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=3.8,slow=4.9,SNR=5.0						
	comp=Z,0.5nm,1.0s						
YKA	**Yellowknife Ar**	**86.94**	**356**	*e*P	**P**	**22 56 34.1**	**+0.3**

IDC 16 22:57:44.3±2.6,**1°.12N**×**128°.09E**,**h0**km,**mb3.5**/4, **mbtmp3.5**/4,**Error ellipse: s-maj=255.1km s-min=23.2km az=68.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.82**	**164**	P	P	23 02 37.9	-0.4
	0.3nm,0.7s,baz=343,slow=9.7,SNR=1.7						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**25.28**	**167**	P	P	23 03 13.0	+0.4
	0.4nm,0.7s,baz=355,slow=10,SNR=1.6						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**60.46**	**326**	P	P	23 07 56.2	+0.3
	0.6nm,0.5s,baz=125,slow=8.0,SNR=9.2						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**64.65**	**328**	P	P	23 08 23.5	-0.3
	0.8nm,0.5s,baz=129,slow=5.9,SNR=17						
	0.8nm,0.5s						

NEIC ***16*** *23:04:45.9±2.1, 5°.71S±0°.07×148°.38E±0°.07, h131km±4km, mb4.7/150, Error ellipse: s-maj=9.9km s-min=9.7km az=215.0*
IDC ***16*** *23:04:47.4±1.2, 5°.76S×148°.29E, h154km±11km, mb4.0/18, mbtmp4.6/22, MS3.5/3, Error ellipse: s-maj=15.3km s-min=7.4km az=104.0*
DJA ***16*** *23:04:50.3±0.7, 6°.S±5°.×14°.8E±°, h157km±6km, M5.3/18, mb5.0/18, mB5.4/7, MLv5.8/1, Mw(mB)4.8/7*

ISC 16 23:04:46.9±0.3,**5°.77S**±0°.04×**148°.41E**±0°.05,**h150**km,**n545,** σ1⁹01/482,**mb4.6**/115,**2C-3D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.82**	**199**	Pn	**Pn**	**23 05 44.2**	**-0.6**
PMG	**Port Moresby**	**3.82**	**199**	P	**Pn**	**23 05 44.9**	**+0.1**
	603nm,0.3s,baz=26,slow=11,SNR=95						
PMG				S	**Sn**	**23 06 28.6**	**-1.2**
	1μm,0.4s,baz=341,slow=10,SNR=13						
PMG	**Port Moresby**	**3.82**	**199**	P	**Pn**	**23 05 47.7**	**+2.9**
PMG	**Port Moresby**	**3.82**	**199**	P	**Pn**	**23 05 47.9**	**+3.1**
PMG	**Port Moresby**	**3.82**	**199**	S	**Sn**	**23 06 29.9**	**+0.1**
MANU	**Manus Island**	**3.85**	**344**		**Pn**	**23 05 44.9**	**-0.3**
RABL	**Rabaul**	**4.06**	**67**	Pn	**Pn**	**23 05 45.6**	**-2.4**
JAY	**Jayapura**	**8.34**	**293**	P	**Pn**	**23 06 44.3**	**-0.6**
	34nm,0.5s,baz=100,slow=4.5,SNR=33						
MMPI	**Merauke**	**8.40**	**251**	P	**Pn**	**23 06 46.5**	**+0.8**
GENI	**Genyem**	**8.80**	**291**	P	**Pn**	**23 06 52.0**	**+0.9**
	78nm,1.0s						
COEN	**Coen**	**9.63**	**212**	Pn	**Pn**	**23 07 02.6**	**+0.6**
COEN	**Coen**	**9.63**	**212**	P	**Pn**	**23 07 02.5**	**+0.4**
	comp=Z,36nm,0.7s						
TATA	**Tatamba Isabel**	**11.60**	**104**	P	**P**	**23 07 34.1**	**-1.3**
SAVO	**Savo Central**	**11.79**	**107**	P	**P**	**23 07 36.5**	**-1.1**
HNR	**Honiara**	**12.00**	**108**	P	**P**	**23 07 36.8**	**-3.1**
	comp=Z,256nm,0.5s,baz=259,slow=3.6,SNR=15						
HNR	**Honiara**	**12.00**	**108**	P	**P**	**23 07 39.6**	**-0.2**
ALEG	**Aligegeo Malai**	**12.54**	**104**	P	**P**	**23 07 45.7**	**-0.2**
MTSU	**Mount Surprise**	**12.92**	**198**	P	**Pn**	**23 07 46.7**	**+1.5**
	comp=Z,55nm,0.8s						
MTSU	**Mount Surprise**	**12.92**	**198**	P	**P**	**23 07 47.3**	**-2.8**
TV1H	**Townsville Har**	**13.50**	**187**	P	**P**	**23 07 54.7**	**-1.8**
KMPI	**Kaimana, Papua**	**14.80**	**277**	P	**P**	**23 08 11.0**	**0.0**
	comp=Z,27nm,0.7s						
FAKI	**Fak Fak**	**16.36**	**279**		**Pn**	**23 08 26.4**	**-1.8**
FAKI	**Fak Fak**	**16.36**	**279**	P	**P**	**23 08 29.1**	**+0.8**
FAKI	**Fak Fak**	**16.36**	**279**	P	**P**	**23 08 28.0**	**-0.3**
QIS	**Mount Isa**	**17.00**	**209**	P	**Pn**	**23 08 36.4**	**+0.5**
	comp=Z,50nm,1.2s						
QIS	**Mount Isa**	**17.00**	**209**	P	**Pn**	**23 08 37.3**	**+1.4**
KDU	**Kakadu**	**17.16**	**245**	P	**Pn**	**23 08 37.3**	**-0.5**
	comp=Z,225nm,0.5s						
KDU	**Kakadu**	**17.16**	**245**	P	**Pn**	**23 08 37.8**	**0.0**
RK1H	**Rockhampton Ha**	**17.63**	**174**	P	**Pn**	**23 08 44.8**	**+1.5**
SWI	**Sorong**	**17.80**	**285**	P	Pn	23 08 53.8	+8.4
GD1S	**Gladstone Soft**	**18.16**	**172**	P	**Pn**	**23 08 50.6**	**+1.0**
MTN	**Manton Dam**	**18.43**	**246**	P	**Pn**	**23 08 51.1**	**-1.8**
MTN	**Manton Dam**	**18.43**	**246**	P	**Pn**	**23 08 51.3**	**-1.7**
	comp=Z,380nm,0.9s						
MTN	**Manton Dam**	**18.43**	**246**	P	**Pn**	**23 08 52.2**	**-0.7**
BNDI	**Bandanaira**	**18.47**	**273**	P	**Pn**	**23 08 52.9**	**-0.5**
BNDI	**Bandanaira**	**18.47**	**273**	P	**Pn**	**23 08 52.5**	**-0.9**
	comp=Z,185nm,0.5s						
DRS	**Darwin Rock St**	**18.50**	**248**	P	**Pn**	**23 08 52.9**	**-0.9**
WB0	**Warramunga Arr**	**19.48**	**223**	P	**P**	**23 09 02.8**	**+0.5**
WR8	**Warramunga Arr**	**19.54**	**223**	P	**Pn**	**23 09 03.9**	**-1.9**
WRAB	**Tennant Creek**	**19.62**	**223**	P	**P**	**23 09 04.5**	**+0.6**
WRA	**Warramunga Arr**	**19.64**	**223**	P	**P**	**23 09 03.8**	**-0.2**
WRA	**Warramunga Arr**	**19.64**	**223**	P	**Pn**	**23 09 05.0**	**-2.1**
	comp=Z,105nm,0.7s,baz=50,slow=10,SNR=270						
WRA				S	**S**	**23 12 36.1**	**-1.5**
	comp=Z,18nm,0.9s,baz=43,slow=21,SNR=27						
EIDS	**Eidsvold**	**19.66**	**173**	P	**P**	**23 09 05.3**	**+1.2**
EIDS	**Eidsvold**	**19.66**	**173**	P	**Pn**	**23 09 05.8**	**-1.3**
	comp=Z,208nm,0.9s						
EIDS	**Eidsvold**	**19.66**	**173**	P	**Pn**	**23 09 06.3**	**-0.8**
QLP	**Quilpie**	**21.07**	**190**	P	**P**	**23 09 20.3**	**+0.9**
	comp=Z,124nm,0.8s						
QLP	**Quilpie**	**21.07**	**190**	P	**P**	**23 09 21.7**	**+2.3**
KNRA	**Kununurra**	**21.65**	**241**	P	**P**	**23 09 24.9**	**-0.6**
KNRA	**Kununurra**	**21.65**	**241**	P	**P**	**23 09 25.0**	**-0.6**
	comp=Z,170nm,0.8s						
AS01	**Alice Springs**	**22.59**	**217**	P	**P**	**23 09 36.8**	**+1.8**
AS31	**Alice Springs**	**22.62**	**217**	P	**P**	**23 09 36.4**	**+1.1**
AS31				IAmb	IAmb	23 09 38.1	
	comp=Z,10nm,0.4s						

RUGZ	Raukumara Rang	41.65	144	P	P	23 12 20.5	-0.2
DUWZ	D'Urville Isla	41.69	151	P	P	23 12 22.9	+2.1
RTZ	Ruatahuna	41.70	146	P	P	23 12 21.1	+0.1
RTZ	Ruatahuna	41.70	146	P	P	23 12 21.5	+0.5
NNZ	Nelson	41.75	151	P	P	23 12 22.2	+1.0
MTHZ	Maungataniwha	41.79	146	P	P	23 12 22.4	+0.7
MWZ	Matawai	41.81	145	P	P	23 12 23.1	+1.2
PKGZ	Pakihiroa	41.82	144	P	P	23 12 23.0	+1.1
BKZ	Black Stump Fm	41.82	147	P	P	23 12 22.0	0.0
BKZ				IAmb	IAmb	23 12 24.0	
	comp=Z,18nm,1.0s						
BKZ	Black Stump Fm	41.82	147	P	P	23 12 21.9	0.0
RAGZ	Rawiri	41.86	145	P	P	23 12 23.2	+0.8
NMHZ	Naumai	41.94	146	P	P	23 12 24.7	+1.7
THZ	Tophouse	41.95	152	P	P	23 12 23.6	+0.5
THZ				IAmb	IAmb	23 12 25.4	
	comp=Z,24nm,1.0s						
THZ	Tophouse	41.95	152	P	P	23 12 23.8	+0.7
KWHZ	Kaweka Forest	41.96	147	P	P	23 12 24.4	+1.3
TWGZ	Tauwhareparae	41.97	144	P	P	23 12 24.4	+1.2
RAHZ	Arahi	41.97	146	P	P	23 12 24.2	+1.0
WMGZ	Waiomatatini S	41.98	144	P	P	23 12 23.5	+0.3
PUZ	Puketiti	42.06	144	P	P	23 12 24.6	+0.7
KRHZ	Kereru	42.09	147	P	P	23 12 24.9	+0.7
JNU	Nakatsue	42.11	338	P	P	23 12 24.9	+0.6
JCZ	Jackson Bay	42.14	158	P	P	23 12 27.5	+3.0
JCZ	Jackson Bay	42.14	158	P	P	23 12 26.5	+2.0
TSZ	Takapari Road	42.17	148	P	P	23 12 25.9	+1.1
TCW	Tory Channel	42.18	151	P	P	23 12 25.6	+0.9
TUWZ	Tuamarina	42.18	151	P	P	23 12 26.2	+1.4
TUWZ	Tuamarina	42.18	151	P	P	23 12 26.2	+1.4
PNHZ	Pukenui	42.20	148	P	P	23 12 25.7	+0.7
RIGZ	Rimuhau	42.20	145	P	P	23 12 25.7	+0.6
CNGZ	Carnagh Statio	42.31	145	P	P	23 12 26.9	+1.1
OGWZ	Otaki Gorge	42.33	150	P	P	23 12 26.7	+0.8
MRZ	Mangatainoka R	42.42	149	P	P	23 12 27.1	+0.4
MRZ	Mangatainoka R	42.42	149	P	P	23 12 27.1	+0.4
DVHZ	Dannevirke	42.46	148	P	P	23 12 27.1	0.0
KAHZ	Kahuranaki	42.47	147	P	P	23 12 27.8	+0.5
LTZ	Lake Taylor	42.48	154	P	P	23 12 27.6	+0.4
LTZ	Lake Taylor	42.48	154	P	P	23 12 27.8	+0.6
HOWZ	Holdsworth Sta	42.56	149	P	P	23 12 28.3	+0.4
MHGZ	Mahia Peninsul	42.59	146	P	P	23 12 28.6	+0.4
PXZ	Pawanui	42.63	147	P	P	23 12 28.5	0.0
TIWZ	Tintock	42.66	149	P	P	23 12 29.2	+0.5
PRHZ	Porangahau	42.68	148	P	P	23 12 29.2	+0.3
ANWZ	Angora Road	42.74	148	P	P	23 12 29.9	+0.6
KHZ	Kahutara	42.76	152	P	P	23 12 29.3	-0.1
DCZ	Deep Cove	42.77	161	P	P	23 12 30.5	+1.1
DCZ				IAmb	IAmb	23 12 31.9	
	comp=Z,17nm,0.9s						
BFZ	Birch Farm	42.78	148	P	P	23 12 29.9	+0.3
GVZ	Greta Valley S	42.97	153	P	P	23 12 31.7	+0.6
MLZ	Mavora Lakes	43.01	160	IAmb	IAmb	23 12 33.6	
	comp=Z,25nm,1.1s						
MLZ	Mavora Lakes	43.01	160	P	P	23 12 32.4	+0.9
MJAR	Matsushiro Arr	43.16	348	P	P	23 12 33.2	+0.4
	comp=Z,2.7nm,0.7s,baz=164,slow=7.9,SNR=9.9						
	comp=Z,2.7nm,0.7s						
TMZ	Timaru	43.26	156	P	P	23 12 33.5	+0.1
NJ2	Nanjing	46.98	325	⇓P	P	23 13 03.9	+0.9
NJ2				pmax	pmax		
	comp=Z,19nm,0.7s						
KSRS	Korea Array	47.06	338	P	P	23 13 04.7	+1.2
	comp=Z,9.7nm,0.8s,baz=154,slow=8.9,SNR=45						
	comp=Z,9.7nm,0.8s						
KSAR	Wonju Array Be	47.06	338	P	P	23 13 03.9	+0.4
KS19	Wonju Array Si	47.12	338	P	P	23 13 04.0	0.0
KS19				IAmb	IAmb	23 13 05.3	
	comp=Z,12nm,0.8s						
INCN	Inchon	47.58	336	P	P	23 13 07.4	-0.2
TIA	Tai'an	51.03	327	P	P	23 13 31.8	-1.9
TIA				pmax	pmax		
	comp=Z,18nm,0.8s						
TIA				LR	LR		
	comp=Z,130nm,20.6s						
USRK	Ussuriysk Ar.	51.90	345	P	P	23 13 41.2	+1.3
	comp=Z,6.1nm,0.6s,baz=176,slow=7.2,SNR=12						
	comp=Z,6.1nm,0.6s						
HNS	HongShan	53.22	327	⇑P	P	23 13 50.1	+0.3
HNS				pmax	pmax		
	comp=Z,20nm,1.0s						
CMAR	Chiang Mai Arr	54.38	297	P	P	23 13 57.5	-1.2
CMAR	Chiang Mai Arr	54.38	297	P	P	23 13 58.5	-0.1
	comp=Z,1.0nm,0.6s,baz=124,slow=5.8,SNR=10						
	comp=Z,1.0nm,0.6s						
XAN	Xi'an	54.41	320	⇑P	P	23 13 58.5	-0.2
XAN				pP	pP	23 14 30.3	-2.5
XAN				pmax	pmax		
	comp=Z,12nm,1.4s						
BNX	BinXian	54.60	342	⇓P	P	23 13 59.9	+0.1
BNX				pmax	pmax		
	comp=Z,16nm,0.8s						
PZH	PanZhiHua	55.42	308	P	P	23 14 08.5	+2.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,90nm,4.7s						
CD2	Chengdu	56.13	313	P	P	23 14 10.9	-0.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	Hu-ho-hao-te	57.39	327	eP	P	23 14 22.4	+2.6
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,78nm,5.4s						
HEH	HeiHe	58.69	344	eP	P	23 14 28.6	+0.1
HEH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LZH	Lanzhou	58.96	318	eP	P	23 14 40.3	+9.4
LZH				pP	pwP	23 15 09.8	+1.8
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
PETK	Petropavlovsk-	59.18	7	P	P	23 14 32.4	+0.6
	comp=Z,10nm,0.8s,baz=163,slow=5.6,SNR=7.0						
	comp=Z,10nm,0.8s						
GTA	Gaotai	63.47	320	eP	P	23 15 02.1	+0.9
GTA				pP	pP	23 15 33.8	-2.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ULN	Ulaanbaatar	64.59	330	P	P	23 15 08.0	-0.4
SONM	Songino Array	64.90	330	P	P	23 15 10.4	+0.1
	comp=Z,1.9nm,0.7s,baz=149,slow=3.6,SNR=7.3						
	comp=Z,1.9nm,0.7s						
NIKH	Nikolski High	68.75	26	P	P	23 15 35.0	+0.7
	baz=226						
VNDA	Vanda	72.06	177	P	P	23 15 55.0	+0.9
	comp=Z,2.0nm,0.8s,baz=345,slow=9.1,SNR=10						
	comp=Z,2.0nm,0.8s						
FALS	False Pass	72.41	27	P	P	23 15 56.6	+0.1
	baz=231						
SDPT	Sand Point	74.05	28	P	P	23 16 06.4	+0.3
	baz=234						
CHNA	Chernabura Isl	74.16	28	P	P	23 16 07.0	+0.2
	baz=235						
BILL	Bilibino	74.71	7	P	P	23 16 10.7	+1.0
M11K	Mekoryuk	74.91	21	P	P	23 16 11.1	+0.2
	baz=227						
S14K	Fog Glacier	75.03	27	P	P	23 16 12.5	+0.7
	baz=234						
GAMB	Gambell	75.54	17	P	P	23 16 15.5	+1.1
	baz=221						
CHGN	Chignik	75.55	27	P	P	23 16 15.0	+0.3
	baz=235						
M13K	Dall Lake	75.99	22	P	P	23 16 18.3	+1.2
	baz=230						
O14K	Tigyukauivet M	76.07	24	P	P	23 16 17.9	+0.3
	baz=232						
N14K	Kuskokwak Cree	76.32	23	P	P	23 16 19.9	+0.9
	baz=232						
K13K	Kusilvak Mount	76.51	21	P	P	23 16 21.0	+0.9
	baz=228						
CHIR	Chirikof Islan	76.60	29	P	P	23 16 21.1	+0.4
	baz=238						
O15K	Ungalikthiuk R	76.62	25	P	P	23 16 21.3	+0.6
	baz=233						
M14K	Bethel	76.73	23	P	P	23 16 22.3	+1.0
	baz=231						
L14K	Kuka Creek	76.83	22	P	P	23 16 23.1	+1.3
	baz=230						
N15K	Kwethluk River	77.10	24	P	P	23 16 24.2	+0.7
	baz=233						
M15K	Kasigluk River	77.19	23	P	P	23 16 24.4	+0.5
	baz=232						
P16K	Nushagak River	77.30	25	P	P	23 16 25.0	+0.5
	baz=235						
J14K	Nanvaranak Lak	77.43	21	P	P	23 16 25.9	+0.7
	baz=229						
O16K	Kokwok River B	77.58	25	P	P	23 16 26.3	+0.3
	baz=235						
Q17K	Contact Creek	77.79	27	P	P	23 16 27.5	+0.1
	baz=237						
N16K	Nishlik Lake	77.82	24	P	P	23 16 28.3	+0.9
	baz=234						
K15K	Wolf Creek Mou	77.86	22	IAmb	IAmb	23 16 30.0	
	comp=Z,16nm,0.8s						
K15K	Wolf Creek Mou	77.86	22	P	P	23 16 28.2	+0.7
	baz=231						
TNA	Tin City	77.96	17	P	P	23 16 29.3	+1.2
	baz=225						
ANM	Nome	78.04	19	P	P	23 16 29.4	+0.8
	baz=227						
P17K	Kvichak River	78.06	26	P	P	23 16 29.6	+0.9
	baz=237						
M16K	Timber Creek	78.06	23	IAmb	IAmb	23 16 31.0	
	comp=Z,15nm,0.9s						
M16K	Timber Creek	78.06	23	P	P	23 16 29.8	+1.1
	baz=234						
R18K	Karluk	78.06	28	P	P	23 16 30.2	+1.5
	baz=239						
O17K	Koliganek Bris	78.10	25	P	P	23 16 29.8	+0.8
	baz=236						
MKAR	Makanchi Array	78.22	320	P	P	23 16 28.9	-1.1
MKAR	Makanchi Array	78.22	320	P	P	23 16 29.2	-0.8
	comp=Z,2.4nm,0.6s,baz=98,slow=8.2,SNR=27						
	comp=Z,2.4nm,0.6s						
L16K	Owhat River	78.27	23	P	P	23 16 30.3	+0.4
	baz=233						
F14K	Arctic Creek	78.37	18	P	P	23 16 30.8	+0.5
	baz=226						
Q18K	Katmai Hardscr	78.38	26	P	P	23 16 30.8	+0.1
	baz=238						
MAKZ	Makanchi	78.42	320	P	P	23 16 29.9	-1.2
OHAK	Old Harbor	78.43	28	P	P	23 16 31.0	+0.2
	baz=240						
N17K	Nushagak Hills	78.49	24	P	P	23 16 31.3	+0.2
	baz=236						
P18K	Big Mountain,	78.68	26	P	P	23 16 32.0	-0.2
	baz=238						
G15K	Niukluk	78.75	19	P	P	23 16 32.8	+0.4
	baz=228						
J16K	Anvik River	78.81	21	P	P	23 16 33.3	+0.5
	baz=232						
M17K	Holitna River	78.88	23	P	P	23 16 33.9	+0.7
	baz=235						
O18K	Koktuh Hills	78.94	25	P	P	23 16 34.3	+0.7
	baz=238						
L17K	Donlin	78.97	23	P	P	23 16 34.6	+0.9
	baz=234						
KDAK	Kodiak Island	79.04	28	P	P	23 16 35.2	+1.1
	baz=240						
F15K	North Star Dit	79.04	18	P	P	23 16 34.6	+0.6
	baz=228						
H16K	Elim	79.11	19	P	P	23 16 34.8	+0.5
	baz=230						
N18K	Kilae Creek	79.11	24	P	P	23 16 35.0	+0.5
	baz=237						
Q19K	Cape Douglas,	79.14	27	P	P	23 16 35.5	+0.8
	baz=239						
I17K	Unalakleet	79.16	20	P	P	23 16 35.4	+0.8
	baz=232						
K17K	Iditarod	79.31	22	IAmb	IAmb	23 16 38.3	
	comp=Z,9.1nm,0.8s						
K17K	Iditarod	79.31	22	P	P	23 16 36.6	+1.1
	baz=234						
J17K	VABM Dome	79.43	21	P	P	23 16 37.1	+1.0
	baz=233						
O19K	Port Alsworth	79.50	25	P	P	23 16 37.6	+1.0
	baz=238						
Q20K	Shuyak Island	79.54	27	P	P	23 16 37.1	+0.3
	baz=240						
G16K	Koyuk River	79.55	19	P	P	23 16 37.7	+0.9
	baz=230						
ZALV	Zalesovo Beam	79.57	327	P	P	23 16 34.9	-2.2
ZALV	Zalesovo Beam	79.57	327	P	P	23 16 35.4	-1.7
	comp=Z,1.8nm,0.4s,baz=107,slow=6.1,SNR=14						
	comp=Z,1.8nm,0.4s						
M18K	Stony River	79.58	24	P	P	23 16 37.5	+0.6
	baz=237						
L18K	Granite Mounta	79.64	23	P	P	23 16 37.6	+0.2
	baz=236						
P19K	Oil Pt	79.69	26	P	P	23 16 38.0	+0.3
	baz=239						
N19K	Bonanza Creek	79.76	25	P	P	23 16 38.9	+0.7
	baz=238						
H17K	Granite Mounta	80.07	20	P	P	23 16 40.0	+0.4
H17K	Granite Mounta	80.07	20	P	P	23 16 40.0	+0.4
	baz=232						
G17K	Kiwalik Mounta	80.17	19	P	P	23 16 40.5	+0.4
	baz=232,SNR=5.3						
TTA	Tatalina	80.30	23	P	P	23 16 41.3	+0.4
	baz=236						
J18K	Innoko River	80.33	22	P	P	23 16 42.0	+0.9
	baz=236						
L19K	White Mountain	80.34	23	IAmb	IAmb	23 16 43.1	
	comp=Z,9.5nm,0.9s						
L19K	White Mountain	80.34	23	P	P	23 16 42.1	+1.0
	baz=238						
M19K	Big River Lodg	80.38	24	P	P	23 16 42.2	+0.9
	baz=238						
HOM	Homer	80.39	26	P	P	23 16 42.0	+0.6
	baz=241						
F17K	Baldwin Pennin	80.57	18	IAmb	IAmb	23 16 44.7	
	comp=Z,8.8nm,0.8s						
F17K	Baldwin Pennin	80.57	18	P	P	23 16 43.1	+0.9
	baz=231,SNR=5.3						
C16K	Lisburne Hills	80.59	16	P	P	23 16 43.1	+0.9
	baz=227						
H18K	Honhosa River	80.73	20	P	P	23 16 43.4	+0.3
	baz=234						
E17K	Hotham Inlet	80.81	18	P	P	23 16 43.8	+0.3
	baz=230,SNR=10						
BRSE	Bradley Lake S	80.83	27	P	P	23 16 44.1	+0.3
	baz=242						
D17K	Noatak River	80.84	17	P	P	23 16 44.1	+0.5
	baz=229						
M20K	Styx River	80.87	24	P	P	23 16 44.1	+0.1
M20K	Styx River	80.87	24	P	P	23 16 44.2	+0.2
	baz=239						
L20K	Farewell, AK	80.88	23	P	P	23 16 44.6	+0.6
	baz=238						
NIL	Nilore	80.94	305		P	23 16 43.7	-1.3
J19K	Poorman	81.04	22	P	P	23 16 46.1	+1.3
J19K	Poorman	81.04	22	P	P	23 16 45.5	+0.8
	baz=237						
G18K	Tagagawik	81.07	19	IAmb	IAmb	23 16 46.8	
	comp=Z,8.7nm,0.8s						
G18K	Tagagawik	81.07	19	P	P	23 16 45.8	+0.9
	baz=234						
RDOG	Red Dog Mine	81.12	17	IAmb	IAmb	23 16 47.2	
	comp=Z,11nm,0.8s						
RDOG	Red Dog Mine	81.12	17	P	P	23 16 46.1	+1.0
	baz=229						
CAPN	Captain Cook N	81.14	26	P	P	23 16 45.8	+0.4
	baz=241						
F18K	Selawik	81.17	19	P	P	23 16 46.1	+0.7
	baz=232						
K20K	Telida	81.27	23	P	P	23 16 46.6	+0.5
	baz=238						
E18K	Tukpahlearik C	81.39	18	P	P	23 16 47.3	+0.8
	baz=231						
SEW	Seward	81.58	27	P	P	23 16 48.2	+0.6
	baz=243						
SKT	Skwentna	81.58	24	P	P	23 16 48.2	+0.6
	baz=241						
H19K	Roundabout Mou	81.60	20	IAmb	IAmb	23 16 49.5	
	comp=Z,8.2nm,0.8s						
H19K	Roundabout Mou	81.60	20	P	P	23 16 48.8	+1.1
	baz=236,SNR=7.8						
SUA	Susitna One	81.65	25	P	P	23 16 48.1	-0.1
	baz=241						
J20K	Nowinta River	81.68	22	P	P	23 16 48.8	+0.7
	baz=238						
G19K	Purcell Mounta	81.74	20	IAmb	IAmb	23 17 04.6	
	comp=Z,9.8nm,0.5s						
G19K	Purcell Mounta	81.74	20	P	P	23 16 49.2	+0.8
	baz=235						
PPLA	Purkeypile	81.77	23	P	P	23 16 49.4	+0.6
	baz=240						
KURK	Kurchatov	81.87	323	P	P	23 16 47.8	-1.6
I20K	Naaghedeneel	81.89	21	P	P	23 16 49.2	0.0
	baz=238						
KURBB	Kurchatov Arra	81.89	323	P	P	23 16 48.1	-1.4
	comp=Z,1.3nm,0.8s,baz=112,slow=4.1,SNR=11						
	comp=Z,1.3nm,0.8s						
RC01	Rabbit Creek A	81.91	26	IAmb	IAmb	23 16 50.1	
	comp=Z,8.6nm,0.9s						
RC01	Rabbit Creek A	81.91	26	P	P	23 16 49.4	0.0
	baz=242						
F19K	Shaleruckik Mo	81.91	19	P	P	23 16 49.6	+0.3
	baz=234,SNR=8.4						
C18K	Utukok River	81.99	17	P	P	23 16 49.9	+0.1
	baz=231						
M22K	Willow	82.06	25	P	P	23 16 50.5	+0.4
	baz=242						
CAST	Castle Rocks	82.07	23	IAmb	IAmb	23 16 51.0	
	comp=Z,7.9nm,0.8s						
CAST	Castle Rocks	82.07	23	P	P	23 16 50.1	-0.1
	baz=240,SNR=12						
H20K	Anotlenee ga Mo	82.12	21	P	P	23 16 50.5	+0.1
	baz=237,SNR=5.4						
CHUM	Lake Minchumin	82.22	23	P	P	23 16 50.9	0.0
	baz=240,SNR=12						
B18K	Kokolik River	82.28	16	P	P	23 16 51.5	+0.3
	baz=230						
CUT	Chulitna	82.30	24	P	P	23 16 51.8	+0.4
	baz=242						
PWL	Port Wells	82.41	26	P	P	23 16 51.7	-0.3
PWL				IAmb	IAmb	23 16 53.4	
	comp=Z,19nm,0.8s						
PWL	Port Wells	82.41	26	P	P	23 16 52.3	+0.3
	baz=244,SNR=10						
E19K	Redstone River	82.45	18	IAmb	IAmb	23 16 54.0	
	comp=Z,11nm,0.7s						
E19K	Redstone River	82.45	18	P	P	23 16 52.5	+0.4
	baz=235						
P23K	Montague Islan	82.45	27	P	P	23 16 52.5	+0.3
	baz=245						
KTH	Kantishna Hill	82.59	23	P	P	23 16 52.0	-1.0
KTH				IAmb	IAmb	23 16 53.2	
	comp=Z,8.6nm,0.8s						
KNK	Knik Glacier	82.61	26	P	P	23 16 53.7	+0.6
	baz=244						
F20K	Avaraart Lake	82.70	19	IAmb	IAmb	23 16 55.3	
	comp=Z,5.9nm,0.7s						
F20K	Avaraart Lake	82.70	19	P	P	23 16 54.1	+0.7
	baz=236,SNR=9.7						
D19K	Kuna River	82.79	17	IAmb	IAmb	23 16 55.4	
	comp=Z,6.9nm,0.7s						
D19K	Kuna River	82.79	17	P	P	23 16 53.9	0.0
	baz=234						
TRF	Thorofare Moun	82.79	23	P	P	23 16 53.7	-0.5
	baz=242,SNR=5.5						
BPAW	Bear Paw Mtn.	82.83	23	P	P	23 16 53.6	-0.6
	baz=241						
SML	Sawmill	82.84	25	P	P	23 16 54.1	-0.2
	baz=244,SNR=8.3						
H21K	Melozitna Rive	82.94	21	P	P	23 16 55.0	+0.4
H21K	Melozitna Rive	82.94	21	P	P	23 16 54.4	-0.3
	baz=239						
GLI	Glacier Island	82.97	26	IAmb	IAmb	23 16 56.2	
	comp=Z,10nm,0.7s						
GLI	Glacier Island	82.97	26	P	P	23 16 54.4	-0.5
	baz=245						
I21K	Tanana	83.00	22	IAmb	IAmb	23 16 57.3	
	comp=Z,8.2nm,0.9s						
I21K	Tanana	83.00	22	P	P	23 16 54.8	-0.1
	baz=240						
MAW	Mawson	83.00	203	P	P	23 16 55.1	+0.2
	comp=Z,1.2nm,0.5s,baz=75,slow=12,SNR=2.5						
	comp=Z,1.2nm,0.5s						
A19K	Wainwright	83.02	15	P	P	23 16 55.3	+0.4
	baz=231,SNR=7.9						
M23K	Glacier View	83.09	25	P	P	23 16 56.0	+0.5
	baz=244						
G21K	Allakaket	83.15	20	P	P	23 16 56.0	+0.3
	baz=238						
E20K	Nigu River	83.23	18	P	P	23 16 56.2	+0.1
	baz=236						
SCM	Sheep Creek Mo	83.28	25	IAmb	IAmb	23 16 57.8	
	comp=Z,10nm,0.9s						
SCM	Sheep Creek Mo	83.28	25	P	P	23 16 56.2	-0.4
	baz=244						
RND	Reindeer	83.34	24	P	P	23 16 55.7	-1.2
D20K	Etivluk River	83.37	18	P	P	23 16 56.6	-0.2
	baz=235						
MCK	McKinley	83.46	23	P	P	23 16 57.2	-0.1
	baz=243,SNR=13						
F21K	Alatna River	83.53	19	P	P	23 16 57.9	+0.2
	baz=238						
H22K	Ishtalitna Cre	83.57	21	P	P	23 16 58.0	0.0
	baz=240						
KLU	Klutina	83.74	26	IAmb	IAmb	23 17 00.8	
	comp=Z,13nm,1.0s						
KLU	Klutina	83.74	26	P	P	23 16 59.2	+0.3
	baz=246,SNR=5.8						
KAIM	Kayak Island	83.79	28	P	P	23 16 58.9	-0.2
	baz=247						
NEA2	Nenana	83.80	23	IAmb	IAmb	23 16 59.4	
	comp=Z,6.8nm,0.8s						
NEA2	Nenana	83.80	23	P	P	23 16 58.9	-0.2
	baz=243,SNR=7.7						
M24K	Tolsona, Glenn	83.89	25	P	P	23 16 59.6	0.0
	baz=246						
I23K	Minto, Yukon-K	83.95	22	P	P	23 17 00.1	+0.3
	baz=242						
B20K	Meade River	83.96	16	P	P	23 16 59.8	+0.1
	baz=234						
E21K	Killik River	84.02	18	IAmb	IAmb	23 17 01.8	
	comp=Z,7.4nm,0.7s						
E21K	Killik River	84.02	18	P	P	23 17 00.2	+0.1
	baz=238						
G22K	Bettles	84.04	20	P	P	23 17 00.3	+0.1
	baz=240						
F22K	John River	84.11	19	P	P	23 17 00.8	+0.2
	baz=239						
BMRM	Bremner River	84.11	27	P	P	23 17 00.8	0.0
	baz=247						
WRH	Wood River Hil	84.12	23	P	P	23 16 59.5	-1.2
WRH				IAmb	IAmb	23 17 00.9	
	comp=Z,9.5nm,0.9s						
C21K	Knifeblade Rid	84.16	18	P	P	23 17 01.1	+0.2
	baz=237,SNR=5.2						
QSPA	South Pole Qui	84.19	180	P	P	23 17 01.9	+0.7
	comp=Z,2.2nm,0.8s,baz=163,slow=1.0,SNR=9.8						
	comp=Z,2.2nm,0.8s						
H23K	Yukon River	84.20	21	IAmb	IAmb	23 17 02.5	
	comp=Z,7.1nm,0.7s						
H23K	Yukon River	84.20	21	P	P	23 17 01.5	+0.3
	baz=242						
CCB	Clear Creek Bu	84.31	23	IAmb	IAmb	23 17 01.6	
	comp=Z,9.6nm,0.7s						
N25K	Chitina, Valde	84.37	26	P	P	23 17 02.0	-0.1
	baz=247						
COLA	College	84.40	23	P	P	23 17 02.0	-0.1
	baz=244						
HARP	HAARP	84.44	25	P	P	23 17 02.4	0.0
	baz=246						
G23K	Bananza Creek	84.45	21	IAmb	IAmb	23 17 03.9	
	comp=Z,11nm,0.7s						
G23K	Bananza Creek	84.45	21	P	P	23 17 02.6	+0.2
	baz=242,SNR=19						
B21K	Ikpikpuk River	84.47	17	IAmb	IAmb	23 17 03.9	
	comp=Z,6.1nm,0.7s						
B21K	Ikpikpuk River	84.47	17	P	P	23 17 02.7	+0.4
	baz=237						
PAX	Paxson	84.54	25	P	P	23 17 03.1	+0.2
	baz=246						
HDA	Harding Lake	84.54	23	P	P	23 17 02.7	-0.1
	baz=245						
E22K	Anaktuvuk Pass	84.55	19	IAmb	IAmb	23 17 04.5	
	comp=Z,7.1nm,0.7s						
E22K	Anaktuvuk Pass	84.55	19	P	P	23 17 03.2	+0.4
	baz=240						

K24K	Donnelly Dome	84.75	24	IAmb	IAmb	23 17 05.7	
	comp=Z,8.6nm,0.8s						
K24K	Donnelly Dome	84.75	24	P	P	23 17 04.0	0.0
	baz=246						
H24K	Noodor Dome	84.82	22	P	P	23 17 04.3	+0.1
	baz=244,SNR=7.5						
MESA	MESA	85.04	28	P	P	23 17 05.7	+0.1
	baz=249						
RIDG	Independent Ri	85.11	24	IAmb	IAmb	23 17 07.2	
	comp=Z,16nm,1.2s						
RIDG	Independent Ri	85.11	24	P	P	23 17 05.5	-0.2
	baz=247,SNR=5.3						
A22K	Sinclair Lake	85.13	16	P	P	23 17 06.1	+0.5
	baz=236						
KKAR	Karatay Array	85.14	314	P	P	23 17 04.3	-2.0
B22K	Teshekpuk Lake	85.20	17	P	P	23 17 06.1	+0.2
	baz=238						
E23K	Chandalar	85.23	19	IAmb	IAmb	23 17 08.0	
	comp=Z,6.3nm,0.7s						
E23K	Chandalar	85.23	19	P	P	23 17 06.4	0.0
	baz=242						
J25K	Salcha River,	85.25	23	P	P	23 17 06.0	-0.5
	baz=246,SNR=32						
MENT	Mentasta	85.26	25	IAmb	IAmb	23 17 07.8	
	comp=Z,5.9nm,0.7s						
D23K	Nanushuk River	85.33	18	P	P	23 17 06.6	-0.1
	baz=241,SNR=11						
G24K	Hadweenzic Riv	85.35	21	IAmb	IAmb	23 17 08.2	
	comp=Z,7.3nm,0.8s						
G24K	Hadweenzic Riv	85.35	21	P	P	23 17 06.8	0.0
	baz=244,SNR=6.6						
M26K	Nabesna, AK	85.37	26	P	P	23 17 07.0	-0.1
	baz=248						
DOT	Dot Lake	85.39	24	IAmb	IAmb	23 17 08.7	
	comp=Z,14nm,0.8s						
L26K	Log Cabin Wild	85.45	25	IAmb	IAmb	23 17 09.1	
	comp=Z,6.5nm,0.7s						
L26K	Log Cabin Wild	85.45	25	P	P	23 17 07.3	-0.1
	baz=248,SNR=9.6						
NRIK	Noril'sk	85.49	342	P	P	23 17 06.3	-1.2
	comp=Z,2.7nm,0.8s,baz=133,slow=5.2,SNR=8.0						
	comp=Z,2.7nm,0.8s						
TOLK	Toolik Lake Re	85.52	19	IAmb	IAmb	23 17 09.4	
	comp=Z,6.1nm,0.8s						
TOLK	Toolik Lake Re	85.52	19	P	P	23 17 07.7	0.0
	baz=242,SNR=5.7						
SCRK	Sand Creek	85.55	24	P	P	23 17 08.5	+0.4
	baz=247,SNR=6.0						
PRP	Porcupine Dome	85.56	22	P	P	23 17 08.2	+0.1
	baz=246						
F24K	Squaw Lake	85.57	20	IAmb	IAmb	23 17 09.9	
	comp=Z,13nm,0.7s						
F24K	Squaw Lake	85.57	20	P	P	23 17 08.5	+0.5
	baz=243,SNR=14						
E24K	Your Creek	85.61	20	P	P	23 17 08.5	+0.3
	baz=243						
C23K	Itkillik River	85.77	18	IAmb	IAmb	23 17 10.8	
	comp=Z,8.1nm,0.8s						
C23K	Itkillik River	85.77	18	P	P	23 17 09.8	+1.0
	baz=241,SNR=6.9						
PINM	Pinnacle	85.81	28	P	P	23 17 10.1	+0.8
	baz=251						
M27K	Edge Creek, AK	85.84	26	P	P	23 17 09.7	+0.2
	baz=249,SNR=12						
G25K	Bearman Lake	85.87	21	P	P	23 17 10.0	+0.7
	baz=245						
J26L	Joseph Creek	85.92	24	IAmb	IAmb	23 17 11.0	
	comp=Z,6.2nm,0.7s						
J26L	Joseph Creek	85.92	24	P	P	23 17 10.1	+0.3
	baz=248,SNR=9.5						
D24K	Happy Valley	86.00	19	IAmb	IAmb	23 17 12.0	
	comp=Z,8.1nm,0.7s						
D24K	Happy Valley	86.00	19	P	P	23 17 10.7	+0.7
	baz=242						
O28M	Mount Upton	86.06	28	P	P	23 17 10.8	0.0
	baz=251						
PNL	Peninsula	86.08	29	P	P	23 17 10.7	+0.1
	baz=252						
FYU	Fort Yukon	86.10	22	P	P	23 17 10.3	-0.1
FYU				IAmb	IAmb	23 17 12.0	
	comp=Z,15nm,1.0s						
L27K	Beaver Creek,	86.11	25	IAmb	IAmb	23 17 12.3	
	comp=Z,8.5nm,0.9s						
L27K	Beaver Creek,	86.11	25	P	P	23 17 11.3	+0.6
	baz=249,SNR=9.8						
BCAR	Beaver Creek A	86.13	25	P	P	23 17 10.4	-0.4
YUK3	Moose Creek	86.27	27	P	P	23 17 11.5	-0.2
	baz=251,SNR=7.1						
BVCY	Beaver Creek	86.30	26	P	P	23 17 11.4	-0.3
	baz=250,SNR=6.5						
C24K	Franklin Bluff	86.30	18	IAmb	IAmb	23 17 13.3	
	comp=Z,8.8nm,0.8s						
C24K	Franklin Bluff	86.30	18	P	P	23 17 11.7	+0.3
	baz=243						
K27K	Chicken	86.35	24	IAmb	IAmb	23 17 13.9	
	comp=Z,11nm,0.7s						
K27K	Chicken	86.35	24	P	P	23 17 12.1	+0.3
	baz=249						
F25K	Christian Rive	86.38	21	P	P	23 17 12.3	+0.4
	baz=246						
I26K	Coal Creek Min	86.39	23	IAmb	IAmb	23 17 12.7	
	comp=Z,5.0nm,0.8s						
I26K	Coal Creek Min	86.39	23	P	P	23 17 12.7	+0.7
	baz=248						
YUK8	Steele Glacier	86.42	27	P	P	23 17 12.6	+0.1
	baz=251						
E25K	Arctic Village	86.62	20	P	P	23 17 13.4	+0.3
	baz=246						
O29M	Mount Kennedy	86.67	28	IAmb	IAmb	23 17 16.0	
	comp=Z,9.6nm,0.9s						
O29M	Mount Kennedy	86.67	28	P	P	23 17 13.6	0.0
	baz=252						
BMAR	Burnt Mountain	86.68	21	P	P	23 17 13.7	+0.2
G26K	Porcupine Rive	86.78	21	IAmb	IAmb	23 17 15.8	
	comp=Z,12nm,0.8s						
G26K	Porcupine Rive	86.78	21	P	P	23 17 14.2	+0.5
	baz=247						
D25K	Kavik River	86.86	19	IAmb	IAmb	23 17 15.6	
	comp=Z,5.5nm,0.8s						
D25K	Kavik River	86.86	19	P	P	23 17 15.1	+0.9
	baz=245,SNR=6.7						
P29M	Windy Craggy	86.87	29	P	P	23 17 15.0	+0.5
	baz=253						
F26K	Sheenjek River	86.94	21	P	P	23 17 15.6	+0.9
	baz=247,SNR=5.2						
YUK4	Talbot Arm	86.95	27	P	P	23 17 15.6	+0.6
	baz=252,SNR=9.3						
YUK6	Outpost Mounta	86.96	28	P	P	23 17 15.6	+0.4
	baz=253						
I27K	Kandik River	87.10	23	P	P	23 17 15.9	+0.5
	baz=249,SNR=10						
HYT	Haines Junctio	87.33	28	P	P	23 17 17.1	+0.3
	baz=253,SNR=11						
H27K	Steamboat Moun	87.35	22	P	P	23 17 17.3	+0.7
	baz=249,SNR=11						
M29M	Somme Creek	87.37	26	IAmb	IAmb	23 17 18.6	
	comp=Z,9.8nm,0.8s						
M29M	Somme Creek	87.37	26	P	P	23 17 17.3	+0.4
	baz=252,SNR=10						
P30M	Million Dollar	87.39	29	P	P	23 17 17.6	+0.6
	baz=254						
SIT	Sitka	87.40	32	P	P	23 17 17.3	+0.3
	baz=255						
BVAR	Borovoye Array	87.41	324	P	P	23 17 15.4	-1.8
	comp=Z,1.3nm,0.7s,baz=183,slow=3.0,SNR=5.5						
	comp=Z,1.3nm,0.7s						
DAWY	Dawson	87.48	25	P	P	23 17 17.0	-0.3
DAWY	Dawson	87.48	25	P	P	23 17 17.5	+0.2
	baz=252,SNR=11						
G27K	Doyon Strip	87.51	22	P	P	23 17 17.9	+0.6
	baz=249						
C26K	Camden Bay	87.58	19	P	P	23 17 18.5	+0.9
	baz=246						
I28M	Miner Creek	87.70	23	IAmb	IAmb	23 17 19.8	
	comp=Z,6.1nm,0.9s						
I28M	Miner Creek	87.70	23	P	P	23 17 18.6	+0.2
	baz=251,SNR=9.2						
N30M	Aishikik Lake	87.70	28	IAmb	IAmb	23 17 20.1	
	comp=Z,6.1nm,0.9s						
N30M	Aishikik Lake	87.70	28	P	P	23 17 18.6	+0.2
	baz=254						
L29M	L29M	87.72	26	P	P	23 17 18.3	-0.1
	baz=253,SNR=11						
C27K	Jago River	87.84	19	IAmb	IAmb	23 17 20.8	
	comp=Z,7.5nm,0.8s						
C27K	Jago River	87.84	19	P	P	23 17 18.9	+0.1
	baz=247						
S32K	Killisnoo	87.89	32	P	P	23 17 19.7	+0.4
	baz=256						
O30N	Mendenhall	87.98	28	IAmb	IAmb	23 17 21.4	
	comp=Z,9.7nm,0.8s						
O30N	Mendenhall	87.98	28	P	P	23 17 19.8	0.0
	baz=255,SNR=6.6						
SKAG	Skagway	88.01	30	P	P	23 17 20.1	+0.4
	baz=255						
E27K	Coleen River	88.02	21	IAmb	IAmb	23 17 21.6	
	comp=Z,6.8nm,0.9s						
E27K	Coleen River	88.02	21	P	P	23 17 20.8	+1.1
	baz=249,SNR=8.1						
J29N	Klondike Camp	88.08	25	IAmb	IAmb	23 17 22.8	
	comp=Z,11nm,1.1s						
J29N	Klondike Camp	88.08	25	P	P	23 17 21.1	+0.9
	baz=252,SNR=6.2						
R32K	Eaglecrest	88.12	31	P	P	23 17 21.0	+0.6
	baz=256						
M30M	Minto, Yukon	88.15	27	P	P	23 17 21.2	+0.7
	baz=254						
K29M	Barlow Dome	88.19	25	IAmb	IAmb	23 17 22.5	
	comp=Z,10nm,0.8s						
K29M	Barlow Dome	88.19	25	P	P	23 17 21.6	+0.8
	baz=253,SNR=15						
N31M	Braeburn, Yuko	88.32	28	P	P	23 17 22.4	+1.1
	baz=255						
I29M	Ogilvie Camp,	88.32	24	IAmb	IAmb	23 17 22.3	
	comp=Z,4.9nm,0.8s						
I29M	Ogilvie Camp,	88.32	24	P	P	23 17 21.6	+0.4
	baz=252,SNR=5.9						
U33K	Whale Pass	88.36	33	P	P	23 17 22.5	+1.0
	baz=257						
WHY	Whitehorse	88.53	29	P	P	23 17 23.4	+1.0
	baz=256						
H29M	Whitestone	88.56	23	P	P	23 17 23.2	+0.9
	baz=252						
D27M	Malcolm River	88.61	20	P	P	23 17 23.9	+1.3
	baz=250						
P32M	Atlin	88.84	30	P	P	23 17 24.7	+0.9
	baz=257						
WRAK	Wrangell Islan	88.85	33	P	P	23 17 24.7	+0.9
	baz=258						
E28M	Babbage River	88.88	20	P	P	23 17 24.8	+1.0
	baz=251						
G29M	Pine Creek	88.90	22	IAmb	IAmb	23 17 24.8	
	comp=Z,3.7nm,0.7s						
G29M	Pine Creek	88.90	22	P	P	23 17 24.9	+1.0
	baz=253						
J30M	Hart River	88.90	25	P	P	23 17 24.3	+0.2
J30M				IAmb	IAmb	23 17 25.7	
	comp=Z,5.6nm,0.7s						
J30M	Hart River	88.90	25	P	P	23 17 24.5	+0.3
	baz=254,SNR=8.2						
V35K	Ketchikan	89.03	34	P	P	23 17 24.7	0.0
	baz=258						
I30M	Mount Dempster	89.06	24	P	P	23 17 25.3	+0.5
	baz=254						
M31M	Drury Creek, Y	89.13	27	P	P	23 17 25.4	+0.3
	baz=256						
EPYK	Eagle Plains	89.24	23	IAmb	IAmb	23 17 26.6	
	comp=Z,7.6nm,0.7s						
EPYK	Eagle Plains	89.24	23	P	P	23 17 25.9	+0.4
	baz=254						
D28M	Stokes Point	89.38	20	P	P	23 17 26.4	+0.3
	baz=252						
E29M	Blow River	89.39	21	P	P	23 17 26.5	+0.4
	baz=253						
P33M	Teslin, Yukon	89.42	29	P	P	23 17 26.6	+0.1
	baz=257						
Q32M	Nakina River	89.42	31	P	P	23 17 27.1	+0.3
	baz=258						
N32M	Quiet Lake	89.50	28	P	P	23 17 27.3	+0.5
	baz=257						
G30M	tAoh Zraii Nji	89.60	22	IAmb	IAmb	23 17 28.5	
	comp=Z,6.4nm,1.1s						
G30M	tAoh Zraii Nji	89.60	22	P	P	23 17 27.8	+0.6
	baz=254						
FARO	Faro, Yukon	89.62	27	P	P	23 17 27.5	+0.2
	baz=257						
F30M	Barrier River	89.93	22	IAmb	IAmb	23 17 30.1	
	comp=Z,4.5nm,0.8s						
F30M	Barrier River	89.93	22	P	P	23 17 29.0	+0.3
	baz=255						
H31M	Peel River	90.03	24	P	P	23 17 29.5	+0.2
	baz=256						
T35M	Bob Quinn	90.09	33	P	P	23 17 30.5	+0.8
	baz=260						
R33M	Jennings River	90.17	30	P	P	23 17 30.2	+0.1
	baz=259						
G31M	Satah River	90.33	23	P	P	23 17 31.1	+0.6
	baz=256						
DLBC	Dease Lake	90.47	31	P	P	23 17 31.8	+0.3
	baz=260						
MMPY	Sheldon Lake,	90.65	27	P	P	23 17 32.6	+0.4
	baz=259						
F31M	Tsiigehtchic	90.65	22	P	P	23 17 32.2	+0.2
	baz=257						
INK	Inuvik	90.93	21	P	P	23 17 33.8	+0.6
	baz=257						
WTLY	Watson Lake, Y	91.37	30	P	P	23 17 35.8	+0.2
WTLY				IAmb	IAmb	23 17 37.6	
	comp=Z,5.3nm,0.8s						
WTLY	Watson Lake, Y	91.37	30	P	P	23 17 36.2	+0.6
	baz=261						
TGTN	Hyland Airport	91.84	28	P	P	23 17 38.0	+0.3
	baz=261						
TOAD	Toad River Com	93.01	31	P	P	23 17 43.1	0.0
	baz=264						
KOTAN	Kotaneelee Air	93.73	30	P	P	23 17 46.8	+0.4
	baz=265						
WRGLY	Wrigley	94.27	27	P	P	23 17 49.3	+0.6
	baz=266						
A36M	Sachs Harbour	94.31	18	P	P	23 17 49.2	+0.4
	baz=265						
C36M	Paulatuk	94.48	21	P	P	23 17 49.9	+0.3
	baz=266						
ELIB	Princess Elisa	94.78	195	*d*P	P	23 17 50.7	-0.5
S11A	Rachel	98.11	53	P	Pdif	23 18 06.8	-0.3
YKA	Yellowknife Ar	98.32	28	P	Pdif	23 18 07.5	+0.3
	comp=Z,1.2nm,1.0s,baz=278,slow=4.8,SNR=12						
	comp=Z,1.2nm,1.0s						
STHS	Stebnicka Huta	117.92	324	*e*PDIFF	Pdif	23 19 34.6	-0.1
P43A	Skaggs, Pawnee	118.12	48	PKPdif	PKiKP	23 23 17.2	+0.7
CLL	Collm	121.50	329	*e*PKPdif	PKiKP	23 23 24.0	+1.3
PLCA	Paso Flores	121.53	146	PKPdif	PKiKP	23 23 23.1	-0.2
PLCA	Paso Flores	121.53	146	PKP	PKiKP	23 23 23.2	-0.1
	comp=Z,1.2nm,0.5s,baz=277,slow=1.7,SNR=3.7						
GERES	GERESS Array B	122.51	326	PKP	PKPdf	23 23 23.2	-1.5
	comp=Z,0.4nm,0.6s,baz=90,slow=1.3,SNR=4.4						
MTDJ	Mount Denham	133.52	70	PKPdif	PKiKP	23 23 47.2	-0.6
LPAZ	La Paz	137.72	122	PKP	PKPdf	23 23 55.0	-0.1
	comp=Z,1.3nm,0.6s,baz=208,slow=1.6,SNR=4.3						
BAUV	El Baul	143.72	83		PKPab	23 24 01.7	-0.6
AQDB	Aquidauana	144.76	138		PKPdf	23 24 05.8	-1.1
SAML	Samuel	145.28	115	PKPdif	PKPab	23 24 07.3	-0.9
PTLB	Pontes e Lacer	145.52	128	PKPbc	PKPab	23 24 08.5	-0.5
TORD	Torodi Ar. Bea	146.39	285	PKPbc	PKPbc	23 24 09.5	-1.8
TORD	Torodi Ar. Bea	146.39	285	PKPbc	PKPbc	23 24 09.8	-1.5
	comp=Z,70nm,0.4s,baz=60,slow=3.1,SNR=1.2						
BOAV	Boa Vista	150.95	95	PKPbc	PKPbc	23 24 22.1	-1.0
BDFB	Brasilia	153.22	143	PKPbc	PKPbc	23 24 27.2	-1.0
	comp=Z,1.9nm,0.4s,baz=219,slow=3.9,SNR=6.4						

DJA ***16*** *23:12:43.4±0.2, 1°N±2°×12°0E±°, h10km, M4.6/14, mB5.0/2, mb4.5/4, MLv4.7/14, Mw(mB)4.3/2*

NEIC ***16*** *23:12:44.0±1.7, 0°88N±0°06×120°14E±0°04, h27km±5km, mb4.6/33, Error ellipse: s-maj=8.7km s-min=6.4km az=169.0*

IDC ***16*** *23:12:48.0±3.3, 0°81N×120°13E, h69km±31km, mb3.9/17, mbtmp4.2/19, ML3.9/2, MS3.5/26, Error ellipse: s-maj=25.0km s-min=10.8km az=70.0*

ISC 16 23:12:43.9±0.4, 0°84N±0°04×120°14E±0°04, h28km, n99, σ1°33/82, mb4.5/37, MS3.5/24, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.55	206	P	Pn	23 12 55.3	-0.5
MPSI				S	Sn	23 13 06.5	+2.4
TOLI2	Tolitoli	0.70	67		Pb	23 12 57.4	-0.2
TOLI2				Sg	Sb	23 13 06.6	-0.3
PCI	Palu	1.75	190	P	Pb	23 13 15.6	+0.2
MRSI	Marisa	1.84	101	P	Pb	23 13 15.5	-1.4
MRSI				S	Sb	23 13 42.3	+2.8
APSI	Ampana	2.30	139	P	Pb	23 13 22.8	-1.9
SMKI	Samarinda	3.19	247	P	Pn	23 13 33.8	+1.6
LUWI	Luwuk	3.23	125	Pn	Pn	23 13 35.2	+2.5
LUWI	Luwuk	3.23	125	P	Pn	23 13 36.2	+3.5
BKB	Balikpapan	3.85	237		Pn	23 13 41.2	0.0
BKB	Balikpapan	3.85	237	P	Pn	23 13 41.4	+0.1
BKB				S	Sn	23 14 25.4	-0.2
MYLDM	Lahad Datu	4.62	339		Pn	23 13 51.9	+0.1
SPSI	Sidrap Palu	4.78	184	P	Pn	23 13 57.3	+3.2
BNSI	Bone	5.20	180	P	Pb	23 14 08.1	-6.0
KAPI	Kappang	5.82	184	Pn	Pn	23 14 11.3	+2.9
KAPI	Kappang	5.82	184	P	Pn	23 14 11.4	+3.0
	0.6nm,0.3s,baz=356,slow=11,SNR=4.3						
KAPI				LR	LR	23 16 56.3	
	comp=Z,2μm,20.2s,baz=3.5,slow=43						
	4.7nm,0.5s						
SGSI	Sangihe	6.09	62	P	Pn	23 14 14.1	+2.0
KKM	Kota Kinabalu	6.49	323	Pn	Pn	23 14 17.1	-0.5
SBUM	Sibu	8.07	282	Pn	Pn	23 14 40.0	+0.7
DAV	Davao City (W)	8.24	41	LR	LR	23 17 50.6	
	comp=Z,449nm,20.1s,baz=288,slow=37						
FAKI	Fak Fak	12.67	107	Pn	Pn	23 15 41.4	-1.0
MTN	Manton Dam	17.43	142		Pn	23 16 45.5	+0.4
KNRA	Kununurra	18.49	153		Pn	23 16 58.5	+0.3
FITZ	Fitzroy Crossi	19.58	164	P	Pn	23 17 10.8	-0.5
FITZ	Fitzroy Crossi	19.58	164	P	Pn	23 17 10.9	-0.4
	1.0nm,0.3s,baz=353,slow=7.6,SNR=6.8						
FITZ				LR	LR	23 24 55.1	
	comp=Z,256nm,19.0s,baz=13,slow=37						
	18nm,0.8s						
QIZ	Qiongzhong	20.71	331	P	Pn	23 17 23.9	-0.7
QIZ				S	Sn	23 21 16.8	-0.9
QIZ				LR	LR		
	comp=N,110nm,9.7s						
QIZ				LR	LR		
	comp=E,200nm,13.6s						
QIZ				LR	LR		
	comp=Z,200nm,22.1s						
JAY	Jayapura	20.83	99	P	Pn	23 17 25.1	-1.0
	comp=Z,22nm,0.7s,baz=55,slow=3.8,SNR=5.9						
	comp=Z,22nm,0.7s						
MBWA	Marble Bar	21.86	181	P	P	23 17 33.7	-0.8
PSA00	Pilbara Seismi	22.27	181	P	P	23 17 38.6	-0.3
GSI	Gunungsitoli	22.56	271	P	P	23 17 41.7	-0.5
GSI				IAmb	IAmb	23 17 51.3	
	comp=Z,13nm,0.7s						
WB0	Warramunga Arr	24.79	146	P	P	23 18 02.7	-1.0
WB0				IAmb	IAmb	23 18 03.9	
	comp=Z,36nm,1.1s						
WRAB	Tennant Creek	24.90	147	P	P	23 18 03.9	-0.8
WRAB				IAmb	IAmb	23 18 04.7	
	comp=Z,17nm,0.7s						
WRA	Warramunga Arr	24.91	147	P	P	23 18 03.3	-1.4
WRA	Warramunga Arr	24.91	147	P	P	23 18 04.1	-0.6
	comp=Z,21nm,0.8s,baz=334,slow=9.5,SNR=65						
	comp=Z,21nm,0.8s						
WR8	Warramunga Arr	25.00	146	P	P	23 18 04.9	-0.7
WR8				IAmb	IAmb	23 18 06.5	
	comp=Z,30nm,0.9s						
JOW	Kunigami	27.01	16	LR	LR	23 28 00.9	
	comp=Z,137nm,22.0s,baz=255,slow=34						
COEN	Coen	27.14	124	P	P	23 18 24.3	-0.8
COEN				IAmb	IAmb	23 18 27.9	
	comp=Z,13nm,1.0s						
CMAR	Chiang Mai Arr	27.20	311	P	P	23 18 25.9	+0.5
	comp=Z,0.6nm,0.5s,baz=131,slow=7.4,SNR=5.2						
CMAR				LR	LR	23 30 47.6	
	comp=Z,156nm,19.4s,baz=145,slow=40						
	comp=Z,0.6nm,0.5s						
CHTO	Chiang Mai	27.41	312	P	P	23 18 26.0	-1.4
GUMO	Guam	27.57	62	LR	LR	23 28 44.4	
	comp=Z,56nm,20.4s,baz=110,slow=35						
AS31	Alice Springs	27.79	152	P	P	23 18 29.5	-1.2
ASAR	Alice Springs	27.79	152	P	P	23 18 29.6	-1.1
ASAR	Alice Springs	27.79	152	P	P	23 18 30.4	-0.3
	comp=Z,5.8nm,0.6s,baz=337,slow=10,SNR=28						
ASAR				LR	LR	23 30 23.9	
	comp=Z,159nm,21.0s,baz=34,slow=38						
	comp=Z,5.8nm,0.6s						
KMI	Kunming	29.42	327	P	P	23 18 46.9	+1.4
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MORW	Morawa	29.99	187	P	P	23 18 49.9	-0.3
PZH	PanZhiHua	31.06	327	P	P	23 19 02.5	+2.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,70nm,4.5s						
NJ2	Nanjing	31.07	358	*e*P	P	23 19 02.1	+2.4
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
FORT	Forrest	32.33	167	P	P	23 19 10.6	-0.2
JCJ	Chichijima	33.62	37	LR	LR	23 30 21.4	
	comp=Z,97nm,21.2s,baz=121,slow=31						
NWAO	Narrogin (SRO)	33.69	184	P	P	23 19 22.6	-0.1
NWAO	Narrogin (SRO)	33.69	184	LR	LR	23 32 51.5	
	comp=Z,118nm,20.9s,baz=123,slow=36						
BRDH	Bariadhaia	35.20	310	LR	LR	23 36 05.2	
	comp=Z,134nm,19.1s,baz=136,slow=40						
BBOO	Buckleboo	36.69	157	P	P	23 19 47.6	-0.9
BBOO				IAmb	IAmb	23 19 48.8	
	comp=Z,12nm,0.8s						
KSRS	Korea Array	37.14	10	P	P	23 19 54.0	+1.7
	comp=Z,0.8nm,0.5s,baz=181,slow=7.9,SNR=6.7						
KSRS				LR	LR	23 35 36.0	
	comp=Z,78nm,19.4s,baz=165,slow=37						
	comp=Z,0.8nm,0.5s						
STKA	Stephens Creek	38.36	150	P	P	23 20 01.6	-1.1
STKA	Stephens Creek	38.36	150	P	P	23 20 01.9	-0.8
	comp=Z,12nm,0.7s,baz=316,slow=9.0,SNR=21						
STKA				LR	LR	23 36 23.0	
	comp=Z,69nm,18.8s,baz=227,slow=37						
	comp=Z,12nm,0.7s						
MJAR	Matsushiro Arr	39.28	23	P	P	23 20 09.0	-1.3
	comp=Z,3.2nm,0.8s,baz=197,slow=7.9,SNR=8.1						
	comp=Z,3.2nm,0.8s						
HHC	Hu-ho-hao-te	40.58	350	*e*P	P	23 20 23.9	+2.7
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,66nm,3.9s						
GTA	Gaotai	42.65	337	*e*P	P	23 20 39.8	+1.6
GTA				pP	pwP	23 20 47.8	+1.3
GTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARMA	Armidale	43.18	139	P	P	23 20 43.8	+1.2
MDJ	Mudanjiang	44.40	10	P	P	23 20 53.8	+1.8
MDJ				pmax	pmax		
	comp=Z,16nm,1.0s						
USRK	Ussuriysk Ar.	44.45	12	P	P	23 20 52.8	+0.4
	comp=Z,1.2nm,0.7s,baz=197,slow=5.1,SNR=4.8						
USRK				LR	LR	23 40 14.3	
	comp=Z,30nm,19.6s,baz=191,slow=37						
	comp=Z,1.2nm,0.7s						
CAN	Canberra	44.95	146	P	P	23 20 57.0	+0.4
ASAJ	Asahikawa	47.50	22	LR	LR

comp=Z,1.1nm,0.6s
KURBB **Kurchatov Arra** **60.83 331** P **P** **23 22 53.6 0.0**
comp=Z,1.5nm,0.8s,baz=144,slow=6.2,SNR=14
comp=Z,1.5nm,0.8s
KURK **Kurchatov** **60.85 331** P **P** **23 22 52.9 -0.8**
MA2 **Magadan** **63.23 17** LR LR 23 51 19.4
comp=Z,18nm,19.2s,baz=242,slow=36
BVAR **Borovoye Array** **66.31 330** P **P** **23 23 28.8 -0.9**
comp=Z,1.2nm,0.7s,baz=146,slow=8.8,SNR=4.1
comp=Z,1.2nm,0.7s
ABKAR **Abkulak array** **70.33 323** P **P** **23 23 54.8 -0.2**
ABKAR IAmb IAmb 23 24 03.8
comp=Z,2.5nm,0.8s
TIXI **Tiksi** **70.93 3** LR LR 23 57 07.0
comp=Z,34nm,20.1s,baz=200,slow=38
NRIK **Noril'sk** **71.79 348** P **P** **23 24 02.9 -0.6**
NRIK IAmb IAmb 23 24 10.4
comp=Z,3.0nm,0.7s
NRIK **Noril'sk** **71.79 348** P **P** **23 24 01.9 -1.5**
comp=Z,2.4nm,0.7s,baz=129,slow=4.8,SNR=7.5
NRIK LR LR 23 57 55.3
comp=Z,23nm,19.6s,baz=162,slow=38
comp=Z,2.4nm,0.7s
MAW **Mawson** **78.82 199** LR LR 23 59 25.7
comp=Z,44nm,19.0s,baz=78,slow=36
VNDA **Vanda** **81.47 172** P **P** **23 24 57.1 -1.0**
VNDA IAmb IAmb 23 24 58.6
comp=Z,3.1nm,0.8s
VNDA **Vanda** **81.47 172** P **P** **23 24 57.0 -1.0**
comp=Z,2.0nm,0.8s,baz=314,slow=6.3,SNR=11
VNDA LR LR 00 01 38.7
comp=Z,38nm,18.3s,baz=322,slow=36
comp=Z,2.0nm,0.8s
BRTR **Keskin Array B** **86.77 310** P **P** **23 25 25.1 -0.9**
comp=Z,0.4nm,0.8s,baz=156,slow=6.4,SNR=3.8
comp=Z,0.4nm,0.8s
B21K **Ikpikpuk River** **87.56 20** P **P** **23 25 29.6 +0.6**
B21K IAmb IAmb 23 25 39.7
comp=Z,3.8nm,0.9s
KDAK **Kodiak Island** **87.84 32** LR LR 00 02 47.3
comp=Z,28nm,19.5s,baz=52,slow=34
B22K **Teshekpuk Lake** **88.02 20** P **P** **23 25 31.5 +0.4**
B22K IAmb IAmb 23 25 42.3
comp=Z,3.0nm,0.8s
QSPA **South Pole Qui** **90.76 180** P **P** **23 25 43.1 -1.1**
comp=Z,0.9nm,0.6s,baz=202,slow=0.6,SNR=7.1
QSPA LR LR 00 05 46.8
comp=Z,34nm,20.2s,baz=341,slow=35
comp=Z,0.9nm,0.6s
ARCES **ARCESS Array B** **90.85 339** LR LR 00 13 29.1
comp=Z,17nm,18.1s,baz=144,slow=40
MLR **Muntele Rosu** **92.36 315** LR LR 00 13 46.8
comp=Z,18nm,21.2s,baz=39,slow=40
HFS **Hagfors** **97.42 331** LR LR 00 13 06.0
comp=Z,17nm,20.9s,baz=73,slow=37
GMARE **Gumare** **97.80 251** P Pdif 23 26 17.3 -0.3
VRAC **Vranov** **98.18 320** LR LR 00 15 13.6
comp=Z,18nm,20.4s,baz=36,slow=38
NOA **NORSAR Array B** **98.35 332** LR LR 00 14 35.9
comp=Z,18nm,19.6s,baz=55,slow=38
CFA **Coronel Fontan** **148.39 166** PKPbc **PKPbc** **23 32 27.8 -0.7**
comp=Z,2.5nm,0.6s,baz=245,slow=3.6,SNR=5.9
LPAZ **La Paz** **162.62 152** PKP **PKPdf** **23 32 44.4 -0.7**
comp=Z,1.7nm,0.9s,baz=339,slow=3.4,SNR=5.2

*ISN **16** 23:18:23.1±0.8, 34°.21N×45°.55E, h6km±4km, ML2.7*
*TEH **16** 23:18:23.7, 34°.21N×45°.55E, h10km±62km*
ISC 16 23:18:24.3±1.1, 34°.22N±0°.03×45°.57E±0°.04, h15km±10km, n10, σ1°25/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.29**	**2**	Pg	**Pg**	**23 18 30.0**	**-0.5**
KGS1				Sg	**Sb**	**23 18 34.9**	**-1.0**
GLG1	**Gilan-e-Gharb**	**0.30**	**110**	Pg	**Pg**	**23 18 30.3**	**-0.3**
GLG1				Sg	**Sb**	**23 18 35.3**	**-0.9**
IDHR	**Dehrash**	**0.83**	**54**	Pg	**Pg**	**23 18 39.3**	**-1.1**
IBDR	**Badra**	**1.14**	**165**	*e*Pg	**Pg**	**23 18 45.0**	**-1.4**
IBDR				*e*Sg	**Sn**	**23 19 01.5**	**+0.3**
IBDR				AML	AML	23 19 07.6	
	comp=E,125nm,0.5s						
IBDR				AML	AML	23 19 09.5	
	comp=N,108nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.22**	**87**	Pg	**Pn**	**23 18 48.3**	**+1.3**
BHD	**Baghdad**	**1.37**	**227**	*e*Pn	**Pg**	**23 18 50.0**	**-0.7**
BHD				*e*Sn	**Sg**	**23 19 10.0**	**+1.4**
BHD				AML	AML	23 19 17.5	
	comp=E,363nm,0.4s						
IKRK	**Kirkuk**	**1.56**	**320**	*e*Pn	**Pg**	**23 18 53.0**	**-1.3**
IKRK				*e*Sn	**Sg**	**23 19 15.3**	**+0.8**
IKFM	**Kafar-mosalman**	**2.01**	**109**	Pn	**Pb**	**23 19 00.4**	**-0.2**
IDOB	**Doab**	**2.21**	**100**	Pn	**Pn**	**23 19 02.1**	**+1.5**
RAFI	**Al-Rafai**	**2.53**	**170**	*e*Pn	**Pn**	**23 19 06.0**	**+1.1**
RAFI				*e*Sn	**Sb**	**23 19 38.5**	**-1.8**
RAFI				AML	AML	23 19 56.4	
	comp=N,45nm,0.4s						
RAFI				AML	AML	23 20 01.5	
	comp=E,44nm,0.7s						

*GCG **16** 23:23:38.1±4.1, 15°.08N×94°.87W, h39km±999km, MD4.4*
*MEX **16** 23:23:40.6±1.2, 15°.27N×94°.85W, h23km±18km, MD4.2*
ISC 16 23:23:38.7±2.4, 15°.18N±0°.07×94°.87W±0°.03, h34km±4km, n32, σ2°17/39, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.33**	**296**	*e*P	**Pn**	**23 24 01.7**	**+0.9**
HUIG				*e*S	**Sn**	**23 24 15.4**	**-2.0**
HUIG	**Huatulco**	**1.33**	**296**	*i* P	**Pn**	**23 24 01.8**	**+0.9**
HUIG				*i* S	**Sn**	**23 24 16.5**	**-0.9**
PCIG		**1.68**	**72**	*e*P	Pn	23 24 04.7	-1.0
PCIG				*e*S	Sn	23 24 22.2	-3.8
CMIG	**Matias Romero**	**1.90**	**360**	*e*P	Pn	23 24 08.3	-0.5
CMIG				*e*S	Sn	23 24 28.8	-2.8
UXUV	**UXUV**	**2.24**	**18**	*e*P	**Pn**	**23 24 13.7**	**+0.3**
UXUV				*e*S	**Sn**	**23 24 38.0**	**-1.9**
TGIG		**2.32**	**46**	*e*P	Pn	23 24 14.2	-0.3
TGIG				*e*S	**Sn**	**23 24 39.9**	**-1.9**
TGIG		**2.32**	**46**	*i* P	**Pn**	**23 24 14.6**	**+0.1**
TGIG				*i* S	**Sn**	**23 24 42.1**	**+0.2**
PEIG	**Puerto Escondi**	**2.34**	**291**	*e*P	**Pn**	**23 24 16.2**	**+1.4**
PEIG				*e*S	Sn	23 24 34.5	-7.9
THIG		**2.53**	**96**	*e*S	**Sn**	**23 24 44.6**	**-2.4**
PATR	**El Naranjo**	**2.55**	**91**	*e*P	Pn	23 24 17.4	-0.4
PATR				*e*S	**Sn**	**23 24 45.3**	**-2.5**
PAVE	**Pavencul**	**2.60**	**89**	*e*P	**Pn**	**23 24 18.9**	**+0.3**
PAVE				*e*S	**Sn**	**23 24 46.4**	**-2.7**
NEUV	**Arroyo Zacate**	**2.68**	**341**	*e*P	Pn	23 24 19.2	-0.1
NEUV				*e*S	**Sn**	**23 24 48.5**	**-2.1**
CCIG	**Comitan**	**2.85**	**67**	*e*P	**Pn**	**23 24 23.6**	**+1.6**
CCIG				*e*S	**Sn**	**23 24 58.6**	**+3.4**
CCIG	**Comitan**	**2.85**	**67**	*i* P	**Pn**	**23 24 23.9**	**+1.9**
CCIG				*i* S	**Sn**	**23 24 59.6**	**+4.4**
YOIG	**Yosondua**	**3.07**	**303**	*e*P	**Pn**	**23 24 27.4**	**+2.4**
YOIG				*e*S	Sn	23 24 57.8	-2.9
PMUV	**Sontecomapan**	**3.36**	**356**	*e*P	**Pb**	**23 24 36.7**	**-0.9**
PMUV				*i* S	Sn	23 25 03.5	-4.1
PNIG	**Pinotepa**	**3.36**	**292**	*e*P	**Pn**	**23 24 31.0**	**+2.2**
PNIG				*e*S	**Sn**	**23 25 05.1**	**-2.5**
TXIG	**Tlaxiaco**	**3.46**	**307**	*e*P	**Pn**	**23 24 33.7**	**+3.1**
TXIG				*e*S	Sn	23 25 07.1	-3.4
STG8	**El Palmar, Qui**	**3.48**	**102**	*i* P	Pn	23 24 26.8	-3.8
STG8				*i* S	Sn	23 25 02.7	-8.1
STG0	**El Palmar, Qui**	**3.49**	**102**	*i* P	Pn	23 24 27.3	-3.5
STG0				*i* S	Sn	23 25 03.0	-8.1
TOIG	**Toxpalan**	**3.58**	**324**	*e*P	Pn	23 24 36.0	+4.0
TOIG				*e*S	**Sn**	**23 25 14.3**	**+1.1**
HLIG	**Huajuapan de L**	**3.86**	**314**	*e*P	**Pn**	**23 24 39.4**	**+3.5**
HLIG				*e*S	**Sn**	**23 25 18.6**	**-1.5**
FTIG	**Fresnillo de T**	**4.14**	**311**	*e*P	Pn	23 24 43.6	+3.9
FTIG				*e*S	Sn	23 25 22.2	-4.8
MGIG	**Malinaltepec**	**4.15**	**300**	*e*P	**Pn**	**23 24 43.7**	**+3.8**
MGIG				*e*S	**Sn**	**23 25 26.6**	**-0.8**
CRIG	**Cruz Grande**	**4.38**	**291**	*e*P	**Pn**	**23 24 44.4**	**+1.5**
CRIG				*e*S	Sn	23 25 27.9	-4.8
POHV	**Veracruz**	**4.50**	**330**	*e*P	**Pn**	**23 24 45.5**	**+0.5**
POHV				*i* S	Sn	23 25 28.5	-8.0
JAUV	**Jalcomulco**	**4.56**	**336**	*e*P	**Pn**	**23 24 45.5**	**+0.2**
JAUV				*e*S	Sn	23 25 32.1	-5.1
DAIG	**Los Arroyos**	**4.95**	**292**	*e*P	**Pn**	**23 24 51.0**	**+0.4**
DAIG				*e*S	Sn	23 25 37.9	-8.8
PPM	**Popocatepetl**	**5.28**	**318**	*e*P	**Pn**	**23 24 57.9**	**+2.3**
PPM				*e*S	Sn	23 25 48.4	-7.2
YAIG	**Yautepec**	**5.43**	**313**	*e*P	**Pn**	**23 24 59.4**	**+1.9**
YAIG				*e*S	Sn	23 25 56.3	-2.7
PLIG	**Platanillo**	**5.47**	**306**	*e*P	**Pn**	**23 24 59.7**	**+1.8**
PLIG				*e*S	**Sn**	**23 25 58.5**	**-1.1**
ARIG	**Puente Sto Nin**	**6.09**	**301**	*e*P	**Pn**	**23 25 09.0**	**+2.6**
ARIG				*e*S	**Sn**	**23 26 12.4**	**-2.5**

TXNET 16 23:33:59.2, 31°.5N±0°.6×103°.3W±0°.6, h5km±1km, ML1.7/9, Error ellipse: s-maj=1.0km s-min=0.8km az=137.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB06	**Permian Basin**	**0.12**	**14**	P	Pg	23 34 02.1	+0.4
TPB06				S	Sg	23 34 04.1	+0.8
PCOS	**Crockett Middl**	**0.26**	**241**	S	Sg	23 34 09.3	+1.7
PCOS	**Crockett Middl**	**0.26**	**241**	S	Sg	23 34 09.3	+1.7
TPB04	**Verhalen**	**0.35**	**183**	P	Pg	23 34 06.7	+0.7
TPB04				S	Sg	23 34 12.0	+1.5
TPB07	**Mentone**	**0.36**	**277**	P	Pg	23 34 06.9	+0.7
TPB16	**Coyonosa**	**0.41**	**180**	P	Pg	23 34 07.8	+0.6
TPB16				S	Sb	23 34 14.1	-1.4
MNHN	**Monahans**	**0.46**	**115**	P	Pg	23 34 08.7	+0.6
MNHN				S	Sb	23 34 16.1	-0.9
TPB10	**Southeast of T**	**0.50**	**240**	S	Sb	23 34 17.1	-1.1
TPB03	**Saragosa**	**0.50**	**207**	P	Pb	23 34 10.1	-0.5
TPB03				S	Sb	23 34 17.5	-0.7
PECS	**Pecos**	**0.55**	**253**	P	Pg	23 34 10.1	+0.2
PECS				S	Sg	23 34 17.7	+0.7
TPB05	**Hovey Rd**	**0.62**	**186**	P	Pg	23 34 11.5	+0.5
TPB05				S	Sb	23 34 20.6	-0.9
TPB12	**Southwest of T**	**0.69**	**242**	S	Sg	23 34 22.3	+1.0
TPB08	**Permian Basin**	**0.70**	**155**	S	Sb	23 34 23.5	-0.5
TPB01	**Permian Basin**	**0.74**	**218**	P	Pg	23 34 14.0	+0.5
TPB01				S	Sb	23 34 24.7	-0.5
ODSA	**Odessa**	**0.83**	**45**	P	Pg	23 34 15.5	+0.3
ODSA				S	Sb	23 34 27.2	-0.6
TMB02	**Rankin**	**1.09**	**108**	P	Pg	23 34 20.3	+0.2
TMB02				S	Sb	23 34 35.5	+0.3
ALPN	**Alpine**	**1.20**	**196**	P	Pg	23 34 21.1	-1.2
ALPN				S	Sb	23 34 38.3	-0.2
TMB05	**Klondike**	**1.61**	**47**	S	Sg	23 34 51.5	+0.7
VHRN	**Van Horn**	**1.66**	**244**	P	Pg	23 34 30.9	-0.2
VHRN				S	Sg	23 34 52.2	-0.5
VHRN	**Van Horn**	**1.66**	**244**	P	Pg	23 34 31.1	0.0
VHRN				S	Sg	23 34 52.3	-0.4
MNTX	**Cornudas Mount**	**1.83**	**276**	P	Pb	23 34 32.7	-0.4
MNTX				S	Sg	23 34 57.2	-0.7
MNTX	**Cornudas Mount**	**1.83**	**276**	P	Pb	23 34 33.6	+0.5
MNTX				S	Sg	23 34 57.7	-0.2
SAND	**Sanderson**	**1.85**	**148**	P	Pb	23 34 33.7	+0.2
SAND				S	Sg	23 34 58.1	-0.5
SGCY	**Sterling City**	**1.85**	**78**	P	Pb	23 34 33.5	-0.1
SGCY				S	Sg	23 34 58.4	-0.2
OZNA	**Ozona**	**1.92**	**108**	P	Pb	23 34 34.3	-0.4
OZNA				S	Sg	23 35 00.5	-0.3
POST	**Post**	**2.13**	**44**	S	Sb	23 35 06.0	+0.9
TX31	**Lajitas Ar. Si**	**2.22**	**189**	P	Pn	23 34 38.1	+1.3
TX31				S	Sb	23 35 08.0	+0.2

*IDC **16** 23:35:08.6±2.0, 23°.20S×66°.56W, h214km±24km, mb3.2/1, mbtmp3.6/5, Error ellipse: s-maj=30.2km s-min=19.8km az=104.0*
*SJA **16** 23:35:09.2±0.6, 23°.15S×66°.53W, h250km±3km, ML3.9, MW3.8*
*GUC **16** 23:35:10.7±0.7, 23°.15S×66°.56W, h236km±6km, ML3.9*
ISC 16 23:35:09.5±0.9, 23°.14S±0°.04×66°.56W±0°.05, h241km±7km, n32, σ1°19/53, 3C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**1.10**	**169**	*e*P	**Pn**	**23 35 45.5**	**+0.8**
SALTA				*e*S	**S**	**23 36 12.0**	**-0.4**
SALTA		**1.10**	**169**	*e*P	**Pn**	**23 35 45.5**	**+0.8**
YJA	**Yavi**	**1.36**	**46**	*e*P	**Pn**	**23 35 46.6**	**+0.2**
YJA	**Yavi**	**1.36**	**46**	*e*P	**Pn**	**23 35 47.4**	**+1.0**
YJA				*e*S	**S**	**23 36 13.5**	**-1.8**
AF01	**San Pedro de A**	**1.50**	**277**	*e*P	**Pn**	**23 35 48.5**	**+1.2**
AF01				*e*S	**S**	**23 36 16.8**	**0.0**
SLA	**San Lorenzo**	**1.85**	**149**	*e*P	**Pn**	**23 35 50.9**	**+0.9**
SLA	**San Lorenzo**	**1.85**	**149**	*e*P	**Pn**	**23 35 50.9**	**+0.9**
SLA				*e*S	**S**	**23 36 21.6**	**-0.2**
PB06	**IPOC Station P**	**2.81**	**278**	*e*P	**Pn**	**23 36 00.6**	**+1.1**
PB06				*e*S	**S**	**23 36 38.1**	**-0.8**
PB06				IAML		23 36 40.2	
	comp=N,273nm,0.1s						
PB06	**IPOC Station P**	**2.81**	**278**	*e*P	**Pn**	**23 36 00.6**	**+1.1**
PB06				*e*S	**S**	**23 36 38.6**	**-0.2**
PB06				IAML		23 36 42.6	
	comp=Z,131nm,0.3s						
PB09	**IPOC Station P**	**2.81**	**298⇑**	*i* P	**Pn**	**23 36 01.2**	**+1.6**
PB09				*e*S	**S**	**23 36 39.5**	**+0.5**
PB09				IAML		23 36 41.5	
	comp=N,116nm,0.5s						
PB09	**IPOC Station P**	**2.81**	**298**	*e*P	**Pn**	**23 36 00.6**	**+1.0**
PB09				*e*S	**S**	**23 36 39.4**	**+0.4**
PB09				IAML		23 36 45.2	
	comp=Z,139nm,0.2s						
FSA	**Cafayete**	**3.01**	**170**	*e*P	**Pn**	**23 36 02.6**	**+1.0**
FSA				*e*S	**S**	**23 36 41.6**	**-1.3**
PB03	**IPOC Station P**	**3.14**	**290⇑**	*i* P	**Pn**	**23 36 04.0**	**+0.8**
PB03	**IPOC Station P**	**3.14**	**290**	*e*P	**Pn**	**23 36 04.1**	**+1.0**
PB03				*e*S	**S**	**23 36 44.2**	**-1.2**
PB03				IAML		23 36 47.4	
	comp=Z,377nm,0.1s						
PB01	**IPOC Station P**	**3.42**	**307**	*e*P	**Pn**	**23 36 07.2**	**+1.0**
PB01	**IPOC Station P**	**3.42**	**307**	*e*P	**Pn**	**23 36 07.3**	**+1.0**
PB01				*e*S	**S**	**23 36 50.3**	**-0.7**
PB01				IAML		23 36 51.8	
	comp=Z,395nm,0.2s						
GO02	**Mina Guanaco**	**3.42**	**233⇑**	*i* P	**Pn**	**23 36 07.5**	**+1.1**
GO02	**Mina Guanaco**	**3.42**	**233**	*e*P	**Pn**	**23 36 07.5**	**+1.1**
GO02				*e*S	**S**	**23 36 52.3**	**+0.9**
PB10	**IPOC Station P**	**3.69**	**263**	*e*P	**Pn**	**23 36 10.2**	**+1.0**
PB10				*e*S	**S**	**23 36 55.3**	**-1.1**
PB10				IAML		23 36 58.6	
	comp=Z,85nm,0.2s						
PB14	**IPOC Station P**	**3.82**	**246**	*e*P	**Pn**	**23 36 11.9**	**+0.9**
PB14				*e*S	**S**	**23 36 58.6**	**-1.1**
PB14				IAML		23 37 00.6	
	comp=Z,91nm,0.4s						
PB08	**IPOC Station P**	**3.83**	**321**	*e*P	**Pn**	**23 36 13.3**	**+1.9**
PB08				*e*S	**S**	**23 37 01.1**	**+0.9**
PB08				IAML		23 37 02.4	
	comp=Z,52nm,0.7s						
PATCX	**Punta Patache**	**4.05**	**304**	*e*P	**Pn**	**23 36 14.6**	**+0.9**
PATCX				*e*S	**S**	**23 37 02.9**	**-1.5**
PATCX				IAML		23 37 06.8	
	comp=Z,88nm,0.9s						
HMBC	**Humberstone**	**4.20**	**312**	*e*P	**Pn**	**23 36 16.2**	**+0.7**
HMBC				*e*S	**S**	**23 37 05.4**	**-2.3**
HMBC				IAML		23 37 05.8	
	comp=Z,208nm,0.4s						
AC02	**Maricunga**	**4.36**	**212**	*e*P	**Pn**	**23 36 18.1**	**+0.5**
AC02				*e*S	**S**	**23 37 09.2**	**-2.4**
PB11	**IPOC Station P**	**4.42**	**319**	*e*P	**Pn**	**23 36 18.4**	**+0.2**
PB11				*e*S	**S**	**23 37 10.6**	**-2.1**
PB11				IAML		23 37 12.5	
	comp=Z,76nm,0.1s						
AC01	**Pan de Azucar**	**4.74**	**230**	*e*P	**Pn**	**23 36 21.7**	**-0.1**
AC01				*e*S	**S**	**23 37 16.7**	**-2.6**
LPAZ	**La Paz**	**6.97**	**347**	P	**Pn**	**23 36 51.7**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=178,slow=3.6,SNR=3.6						
LPAZ				S	**S**	**23 38 09.6**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=278,slow=21,SNR=2.4						
CFA	**Coronel Fontan**	**8.57**	**190**	P	**Pn**	**23 37 09.3**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=255,slow=11,SNR=1.7						
SIV	**San Ignacio**	**8.79**	**37**	P	**Pn**	**23 37 11.6**	**-1.3**
	comp=Z,2.2nm,0.7s,baz=221,slow=8.8,SNR=8.0						
BDFB	**Brasilia**	**19.01**	**70**	P	**P**	**23 39 14.8**	**+1.0**
	comp=Z,4.6nm,0.8s,baz=243,slow=7.9,SNR=4.0						
VNDA	**Vanda**	**75.62**	**190**	P	**P**	**23 46 27.8**	**+0.3**
	comp=Z,0.7nm,1.0s,baz=158,slow=5.4,SNR=3.4						
	comp=Z,0.7nm,1.0s						
MKAR	**Makanchi Array**	**145.60**	**39**	PKPbc	**PKiKP**	**23 54 22.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=291,slow=4.0,SNR=3.6						

*ISN **16** 23:35:59.8±2.1, 34°.26N×45°.59E, h25km, ML2.5*
*TEH **16** 23:35:59.4, 34°.23N×45°.60E, h24km±22km*
ISC 16 23:35:58.6±1.6, 34°.21N±0°.08×45°.54E±0°.07, h10km, n5, σ0°42/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.30**	**7**	Pg	**Pb**	**23 36 06.0**	**-0.1**
KGS1				Sg	**Sb**	**23 36 11.0**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.32**	**107**	Pg	**Pb**	**23 36 06.2**	**-0.3**
IDHR	**Dehrash**	**0.85**	**55**	Pg	**Pb**	**23 36 15.3**	**-0.4**
IDHR				Sg	**Sg**	**23 36 26.6**	**+0.3**
IKRK	**Kirkuk**	**1.55**	**321**	*e*Pg	**Pn**	**23 36 26.0**	**-0.3**
	baz=138						
IKRK				*e*Sg	**Sg**	**23 36 49.0**	**+0.6**
IKRK				AML	AML	23 36 54.2	
	comp=N,105nm,0.4s						
IKRK				AML	AML	23 36 56.3	
	comp=E,64nm,0.4s						
IKFM	**Kafar-mosalman**	**2.04**	**109**	Pn	**Pn**	**23 36 33.3**	**+0.3**

KRSC 17 00:20:26.3±0.9, 55°.42N×165°.92E, h26km±9km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.22**	**173**	*e*P	Pb	00 20 32.6	+0.3
BKI				*e*S	Sb	00 20 37.7	+1.4
KBTR	**Krutoberegovo**	**1.92**	**296**	*e*P	Pn	00 20 58.2	+0.9
MKZ	**Mys Kozlova**	**2.57**	**252**	*e*P	Pb	00 21 08.9	-2.7
MKZ				*e*S	Sb	00 21 40.7	-1.9
TUMD	**Tumrok D**	**3.17**	**268**	*e*P	Pn	00 21 18.1	+3.7
KII	**Karymskiy**	**4.00**	**252**	*e*P	Pn	00 21 31.0	+5.1
SPN	**Mys Shipunski**	**4.17**	**238**	*e*S	Sn	00 22 20.6	+4.6
NLC	**Nalytchevo**	**4.46**	**242**	*e*S	Sn	00 22 27.6	+4.3
SDLR	**Sedlovina**	**4.64**	**245**	*e*P	Pn	00 21 39.1	+4.3
UGLR	**Uglovaya**	**4.71**	**245**	*e*P	Pn	00 21 40.3	+4.5
AVH	**Avacha**	**4.73**	**246**	*e*P	Pn	00 21 40.8	+4.9
KRX	**Arik**	**4.73**	**247**	*e*P	Pn	00 21 40.2	+4.3
KOK	**Koryaka**	**4.77**	**246**	*e*P	Pn	00 21 40.9	+4.4
GNL	**Ganaly**	**4.96**	**253**	*e*P	Pn	00 21 43.6	+4.5
KRMR	**Karymshinskiy**	**5.27**	**244**	*e*P	Pn	00 21 48.6	+5.4

*IDC **17** 00:30:11.7±1.3, 26°.39N×129°.87E, h0km, mb3.6/9, mbtmp3.6/10, ML2.5/1, MS2.9/2, Error ellipse: s-maj=38.6km s-min=29.4km az=69.0*
*JMA **17** 00:30:15.3±0.1, 26°.3N±0°.8×129°.6E±0°.5, h44km, MV3.3/19, NEAR OKINAWAJIMA ISLAND*
ISC 17 00:30:13.4±0.7, 26°.29N±0°.04×129°.57E±0°.03, h15km, n27, σ1°28/37, mb3.7/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.24**	**306**	*e*P	**Pg**	**00 30 36.8**	**-0.4**
JYRO				*e*S	**Sb**	**00 30 51.8**	**-0.5**
JOW	**Kunigami**	**1.28**	**295**	LR	LR	00 31 16.9	
	comp=Z,341nm,18.3s,baz=327,slow=44						
JOW	**Kunigami**	**1.28**	**295**	*e*P	**Pg**	**00 30 37.6**	**-0.4**
JOW				*e*S	**Sn**	**00 30 52.7**	**-0.9**
JOKE	**Okinoerabujima**	**1.39**	**320**	*e*P	**Pg**	**00 30 39.4**	**-0.7**
JOKE				*e*S	**Sn**	**00 30 55.8**	**-0.6**
JNTH	**Nagotoyohara**	**1.40**	**280**	*e*P	**Pg**	**00 30 38.8**	**-1.6**
JNTH				*e*S	**Sn**	**00 30 54.8**	**-1.9**
JMZ	**Minamidaito 2**	**1.56**	**107**	P	**Pb**	**00 30 41.0**	**-1.0**
JMZ				*e*S	**Sn**	**00 30 59.0**	**-1.6**
JTK	**Tokunoshima**	**1.59**	**340**	*e*P	**Pb**	**00 30 42.5**	**0.0**
JTK				*e*S	**Sn**	**00 31 00.7**	**-0.6**
JKDJ	**Kitadaitoujima**	**1.59**	**102**	*e*P	**Pb**	**00 30 41.6**	**-0.8**
JKDJ				*e*S	**Sn**	**00 31 00.8**	**-0.5**
JJT3	**Tamagusuku3**	**1.61**	**265**	*e*P	**Pb**	**00 30 42.2**	**-0.6**
JJT3				*e*S	**Sb**	**00 31 01.4**	**-1.5**
JIH	**Iheya**	**1.61**	**298**	P	**Pb**	**00 30 42.5**	**-0.3**
JIH				*e*S	**Sn**	**00 31 01.0**	**-0.8**
JAMN	**Amaminishikomi**	**1.98**	**350**	*e*P	**Pb**	**00 30 47.7**	**-1.3**
JAMN				*e*S	**Sn**	**00 31 10.9**	**+0.2**
JZK	**Kikaishima**	**2.05**	**10**	*e*P	**Pb**	**00 30 49.6**	**-0.7**
JZK				*e*S	**Sb**	**00 31 14.5**	**-1.0**
JAGN	**Aguni-jima**	**2.11**	**279**	P	**Pb**	**00 30 49.0**	**-2.2**
JAGN				*e*S	**Sn**	**00 31 13.1**	**-0.9**
JAM	**Amami Oshima**	**2.11**	**1**	*e*S	**Sn**	**00 31 13.7**	**-0.5**
JTAJ	**Takarajima**	**2.87**	**354**	*e*S	**Sn**	**00 31 31.9**	**-1.0**
JYAK	**Yakushimahirau**	**4.02**	**12**	*e*S	**Sn**	**00 32 00.4**	**-0.9**
KSRS	**Korea Array**	**11.22**	**353**	LR	LR	00 37 55.3	
	comp=Z,14nm,18.0s,baz=195,slow=42						
MJAR	**Matsushiro Arr**	**12.60**	**34**	Pn	**Pn**	**00 33 08.8**	**-3.3**
	baz=219,slow=13,SNR=1.8						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**42.39**	**312**	P	**P**	**00 38 08.5**	**+1.3**
	0.2nm,0.7s,baz=98,slow=11,SNR=2.5						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**42.93**	**322**	P	**P**	**00 38 11.7**	**+0.4**
	0.3nm,0.4s,baz=108,slow=14,SNR=2.1						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**45.64**	**316**	P	**P**	**00 38 34.0**	**+0.9**
	0.3nm,0.5s,baz=102,slow=8.6,SNR=4.7						
	0.3nm,0.5s					

baz=265,slow=75,SNR=52
H11N3 WAKE ISLAND Hy 40.57 73 T T 01 25 23.3
baz=265,slow=75,SNR=60
MKAR Makanchi Array 50.57 322 P **P** **00 43 18.1 +1.2**
7.7nm,0.8s,baz=120,slow=8.1,SNR=67
7.7nm,0.8s
ZALV Zalesovo Beam 53.15 331 P **P** **00 43 36.1 +0.2**
0.4nm,0.5s,baz=128,slow=7.5,SNR=3.8
0.4nm,0.5s
AAK Ala-Archa 53.91 315 LR LR 01 08 44.3
comp=Z,64nm,19.3s,baz=119,slow=38
KURBB Kurchatov Arra 54.60 325 P **P** **00 43 47.6 +1.0**
12nm,0.8s,baz=125,slow=7.1,SNR=93
12nm,0.8s
BVAR Borovoye Array 60.20 325 P **P** **00 44 26.5 +0.6**
4.3nm,0.8s,baz=110,slow=7.0,SNR=23
4.3nm,0.8s
NRIK Noril'sk 62.59 346 P **P** **00 44 42.4 +0.6**
1.6nm,0.6s,baz=118,slow=8.1,SNR=5.6
NRIK LR LR 01 12 30.6
comp=Z,28nm,20.1s,baz=146,slow=37
1.6nm,0.6s
KBZ Khabaz 76.81 312 P **P** **00 46 09.9 +0.1**
2.6nm,0.9s,baz=180,slow=4.0,SNR=4.9
2.6nm,0.9s
ILAR Eielson Array 78.59 26 P **P** **00 46 19.9 +0.7**
0.3nm,0.8s,baz=261,slow=6.7,SNR=1.8
0.3nm,0.8s
ARCES ARCESS Array B 82.73 340 P **P** **00 46 42.1 +0.7**
2.2nm,0.7s,baz=75,slow=5.3,SNR=8.2
2.2nm,0.7s
BRTR Keskin Array B 84.16 309 P **P** **00 46 48.6 -0.9**
0.9nm,0.8s,baz=99,slow=4.6,SNR=5.4
0.9nm,0.8s
FINES FINESS Array B 84.42 332 P **P** **00 46 50.5 +0.4**
2.6nm,0.6s,baz=68,slow=5.9,SNR=18
2.6nm,0.6s
AKASG Malin Array Be 85.11 321 P **P** **00 46 54.0 +0.1**
0.6nm,0.3s,baz=68,slow=4.3,SNR=11
0.6nm,0.3s
HFS Hagfors 90.57 332 P **P** **00 47 19.8 0.0**
1.3nm,0.8s,baz=90,slow=2.9,SNR=1.7
1.3nm,0.8s
NOA NORSAR Array B 91.28 334 P **P** **00 47 22.7 -0.5**
0.4nm,0.7s,baz=64,slow=4.4,SNR=3.3
NOA LR LR 01 29 60.0
comp=Z,14nm,19.2s,baz=330,slow=37
0.4nm,0.7s
YKA Yellowknife Ar 92.87 24 P **P** **00 47 31.2 +0.9**
0.2nm,0.9s,baz=286,slow=7.8,SNR=2.3
0.2nm,0.9s

---

*IDC **17** 00:42:54.2±1.9, 1.°17S×128.°00E, h0km, mb3.5/2, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=119.8km s-min=27.5km az=73.0*
*DJA **17** 00:43:13.7±0.6, 3.°3S±5.°5×12.°7E±.°, h12km±6km, M3.5/6, mb3.6/2, MLv3.4/6*
ISC 17 00:43:13.0±1.4, 2.°92S±0.°09×127.°26E±0.°06, h10km, n9, σ1§36/10, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.36**	**207**	P	**Pb**	**00 43 22.2**	**+0.8**
NLAI				S	**Sb**	**00 43 28.4**	**+1.3**
AAI	**Ambon**	**1.20**	**129**	P	**Pn**	**00 43 35.4**	**-0.5**
AAI				S	**Sb**	**00 43 53.1**	**+1.6**
SANI	**Sanana**	**1.54**	**304**	P	**Pn**	**00 43 40.8**	**+0.3**
MSAI	**Masohi**	**1.72**	**104**	P	**Pn**	**00 43 44.0**	**+1.0**
FAKI	**Fak Fak**	**4.98**	**90**	P	**Pn**	**00 44 28.2**	**+0.3**
0.1nm3.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**15.17**	**186**	Pn	**P**	**00 46 52.3**	**-0.2**
0.1nm,0.3s,baz=5.6,slow=11,SNR=1.7							
1.7nm,0.8s							
WRA	**Warramunga Arr**	**18.28**	**158**	P	**Pn**	**00 47 24.5**	**-2.4**
0.1nm,0.3s,baz=342,slow=11,SNR=5.4							
0.2nm,0.3s							
ASAR	**Alice Springs**	**21.60**	**163**	P	**P**	**00 48 02.4**	**-0.8**
0.7nm,0.6s,baz=345,slow=11,SNR=7.3							
0.7nm,0.6s							
ZALV	**Zalesovo Beam**	**66.74**	**334**	P	P	00 53 39.2	-25
0.4nm,0.3s,baz=120,slow=6.1,SNR=2.3							
0.4nm,0.3s							

---

*IDC **17** 00:49:21.2±0.9, 26.°33N×95.°01E, h0km, mb3.7/15, mbtmp3.7/15, MS3.4/3, Error ellipse: s-maj=35.8km s-min=16.9km az=56.0*
ISC 17 00:49:27.6±0.7, 26.°5N±0.°1×94.°97E±0.°08, h35km, n25, σ1§66/28, mb3.6/15, MS3.1/3, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**8.21**	**282**	Pn	**Pn**	**00 51 27.1**	**+2.6**
baz=282,slow=0.0							
GUN				Sn	**Sn**	**00 52 55.7**	**-0.5**
93nm,0.7s,baz=282,slow=0.0							
PKI	**Pulchoki**	**8.59**	**279**	Pn	**Pn**	**00 51 32.8**	**+3.1**
baz=280,slow=0.0							
PKI				Sn	**Sn**	**00 53 04.5**	**-1.0**
30nm,0.5s,baz=280,slow=0.0							
PKIN	**Phulchoki**	**8.60**	**279**	Pn	**Pn**	**00 51 32.2**	**+2.4**
baz=280,slow=0.0							
PKIN				Sn	**Sn**	**00 53 04.2**	**-1.5**
45nm,0.6s,baz=280,slow=0.0							
KKN	**Kakani**	**8.72**	**281**	Pn	**Pn**	**00 51 33.7**	**+2.3**
baz=281,slow=0.0							
KKN				Sn	**Sn**	**00 53 07.8**	**-0.8**
19nm,0.2s,baz=281,slow=0.0							
CMAR	**Chiang Mai Arr**	**8.82**	**155**	Pn	**Pn**	**00 51 34.1**	**+1.4**
0.1nm,0.3s,baz=338,slow=12,SNR=9.1							
CMAR				Lg	Lg	00 53 59.2	
1.5nm,0.3s,baz=333,slow=30,SNR=12							
KOLN	**Koldanda**	**10.20**	**280**	Pn	**Pn**	**00 51 53.7**	**+2.0**
baz=280,slow=0.0							
KOLN				Sn	**Sn**	**00 53 42.4**	**-2.6**
14nm,0.4s,baz=280,slow=0.0							
PYUN	**Piuthan**	**10.77**	**281**	Pn	**Pn**	**00 52 00.2**	**+0.7**
baz=282,slow=0.0							
PYUN				Sn	**Sn**	**00 53 55.8**	**-3.1**
31nm,0.5s,baz=282,slow=0.0							
MKAR	**Makanchi Array**	**22.59**	**337**	P	**P**	**00 54 24.7**	**-0.3**
1.6nm,0.7s,baz=148,slow=11,SNR=15							
1.6nm,0.7s							
SONM	**Songino Array**	**23.10**	**20**	P	**P**	**00 54 30.7**	**+0.3**
1.5nm,0.8s,baz=204,slow=9.5,SNR=7.9							
1.5nm,0.8s							
KURBB	**Kurchatov Arra**	**27.16**	**337**	P	**P**	**00 55 08.5**	**+1.0**
0.5nm,0.6s,baz=146,slow=9.4,SNR=6.6							
0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**28.42**	**347**	P	**P**	**00 55 19.6**	**+1.0**
0.6nm,0.4s,baz=156,slow=7.9,SNR=2.7							
0.6nm,0.4s							
BVAR	**Borovoye Array**	**32.21**	**332**	P	**P**	**00 55 53.1**	**+0.9**
0.7nm,0.5s,baz=136,slow=10,SNR=6.2							
0.7nm,0.5s							
KLR	**Kul'dur**	**36.32**	**42**	LR	LR	01 13 04.4	
comp=Z,29nm,20.6s,baz=38,slow=39							
NRIK	**Noril'sk**	**43.07**	**356**	P	**P**	**00 57 24.4**	**+0.7**
2.4nm,0.3s,baz=179,slow=1.2,SNR=12							
2.4nm,0.3s							
MA2	**Magadan**	**50.32**	**33**	LR	LR	01 20 33.4	
comp=Z,19nm,18.6s,baz=323,slow=37							
OBN	**Obninsk**	**50.71**	**321**	LR	LR	01 22 38.4	
comp=Z,173nm,20.3s,baz=188,slow=39							
BRTR	**Keskin Array B**	**52.10**	**301**	P	**P**	**00 58 34.1**	**-0.4**
0.3nm,0.5s,baz=100,slow=5.6,SNR=2.6							
0.3nm,0.5s							
AKASG	**Malin Array Be**	**54.77**	**315**	P	**P**	**00 58 53.1**	**-0.6**
0.3nm,0.3s,baz=87,slow=7.2,SNR=2.4							
0.3nm,0.3s							
FINES	**FINESS Array B**	**57.01**	**328**	P	**P**	**00 59 09.8**	**+0.3**
1.6nm,0.6s,baz=95,slow=7.2,SNR=8.9							
1.6nm,0.6s							
WRA	**Warramunga Arr**	**59.93**	**136**	P	**P**	**00 59 28.4**	**-2.0**
0.7nm,0.6s,baz=320,slow=7.0,SNR=12							
0.7nm,0.6s							
ASAR	**Alice Springs**	**62.50**	**139**	P	**P**	**00 59 45.9**	**-1.9**
0.5nm,0.5s,baz=321,slow=6.6,SNR=4.5							
0.5nm,0.5s							
HFS	**Hagfors**	**63.10**	**326**	P	**P**	**00 59 50.8**	**-0.5**
0.6nm,0.5s,baz=88,slow=7.4,SNR=6.6							
0.6nm,0.5s							
NOA	**NORSAR Array B**	**64.19**	**327**	P	**P**	**00 59 58.5**	**-0.1**
0.3nm,0.5s,baz=90,slow=4.3,SNR=3.4							
0.3nm,0.5s							
GERES	**GERESS Array B**	**64.96**	**314**	P	**P**	**01 00 04.3**	**+0.4**
0.2nm,0.5s,baz=76,slow=6.8,SNR=1.8							
0.2nm,0.5s							
ILAR	**Eielson Array**	**77.29**	**23**	P	**P**	**01 01 16.7**	**-1.4**
0.4nm,0.7s,baz=321,slow=5.7,SNR=5.7							
0.4nm,0.7s							

---

*IDC **17** 01:04:50.6±1.1, 34.°59N×26.°63E, h0km, mb3.5/7, mbtmp3.5/12, ML2.9/5, MS2.9/1, Error ellipse: s-maj=24.2km s-min=14.4km az=4.0*
*ISK **17** 01:04:54.3, 34.°65N×26.°57E, h14km, ML2.9/22*
*ATH **17** 01:04:56.3, 34.°67N×26.°50E, h10km±7km, ML2.9/3, Manual Solution by A.Fokaefs First location: 2019/04/17 01:06:18, This location: 2019/04/17 07:32:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 14 km; Longitude uncertainty: 7 km*
*THE **17** 01:04:58.8, 34.°80N×26.°49E, h5km±3km, ML2.6/2, Error ellipse: s-maj=4.2km s-min=1.2km az=316.0*
ISC 17 01:04:51.9±1.4, 34.°44N±0.°06×26.°60E±0.°03, h17km±9km, n57, σ1§72/72, mb3.5/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.74**	**335**	P	**Pg**	**01 05 06.2**	**-0.3**
ZKR				S	**Sg**	**01 05 12.6**	**-3.7**
1μm,0.6s							
ZKR	**Zakros**	**0.74**	**335**	Pg	**Pg**	**01 05 05.4**	**-1.1**
ZKR	**Zakros**	**0.74**	**335**	P	**Pg**	**01 05 06.2**	**-0.3**
KARP	**Karpathos**	**1.20**	**22**	P	**Pg**	**01 05 16.8**	**+1.7**
KARP				S	**Sg**	**01 05 30.3**	**-0.4**
498nm,0.6s							
KARP	**Karpathos**	**1.20**	**22**	Pg	**Pg**	**01 05 16.7**	**+1.7**
KARP	**Karpathos**	**1.20**	**22**	P	**Pg**	**01 05 16.3**	**+1.2**
KARP				S	**Sn**	**01 05 29.6**	**-0.2**
TMBK	**Timbaki Herakl**	**1.64**	**293**	P	**Pg**	**01 05 23.7**	**+0.3**
TMBK	**Timbaki Herakl**	**1.64**	**293**	P	**Pg**	**01 05 23.5**	**+0.1**
TMBK				S	**Sb**	**01 05 42.7**	**+0.7**
IDI	**Anoyia**	**1.64**	**301**	Pn	**Pb**	**01 05 21.8**	**0.0**
IDI				Sn	**Sn**	**01 05 41.7**	**+0.9**
IDI	**Anoyia**	**1.64**	**301**	Pn	**Pb**	**01 05 21.7**	**-0.1**
10nm,0.3s,baz=130,slow=7.9,SNR=40							
IDI				Sn	**Sg**	**01 05 44.3**	**-0.6**
13nm,0.3s,baz=24,slow=19,SNR=9.4							
IDI	**Anoyia**	**1.64**	**301**	P	**Pb**	**01 05 22.4**	**+0.7**
IDI				S	**Sn**	**01 05 42.0**	**+1.1**
PRNS	**Prines Rethymn**	**1.96**	**299**	P	**Pb**	**01 05 28.4**	**+1.3**
GVD	**Gavdhos**	**2.11**	**282**	Pn	**Pb**	**01 05 29.4**	**-0.3**
GVD	**Gavdhos**	**2.11**	**282**	P	**Pb**	**01 05 29.4**	**-0.3**
ARG	**Arkhangelos**	**2.17**	**35**	P	**Pb**	**01 05 30.4**	**-0.3**
ARG				S	**Sn**	**01 05 55.1**	**+1.4**
ARG	**Arkhangelos**	**2.17**	**35**	Pn	**Pb**	**01 05 29.7**	**-1.0**
ARG				Sn	**Sn**	**01 05 54.1**	**+0.4**
ARG	**Arkhangelos**	**2.17**	**35**	P	**Pb**	**01 05 30.2**	**-0.5**
ARG				S	**Sb**	**01 05 56.3**	**-0.9**
THR5	**Thira Island,**	**2.22**	**333**	P	**Pb**	**01 05 30.3**	**-1.3**
SAP3	**Santorini-Thir**	**2.24**	**333**	P	**Pb**	**01 05 30.3**	**-1.6**
CHAN	**Chania**	**2.36**	**298**	P	**Pb**	**01 05 34.4**	**+0.4**
CHAN	**Chania**	**2.36**	**298**	P	**Pb**	**01 05 32.8**	**-1.1**
IMMV	**Iera Moni Meta**	**2.38**	**296**	P	**Pb**	**01 05 33.7**	**-0.6**
IMMV	**Iera Moni Meta**	**2.38**	**296**	Pn	**Pn**	**01 05 32.6**	**+2.4**
IMMV	**Iera Moni Meta**	**2.38**	**296**	P	**Pb**	**01 05 33.2**	**-1.1**
DAT	**Datca**	**2.42**	**19**	Pn	**Pn**	**01 05 31.7**	**+0.9**
KNDR	**Palaiochora Ch**	**2.52**	**289**	Pn	**Pb**	**01 05 35.5**	**-1.3**
BODT	**Bodrum**	**2.68**	**12**	Pn	**Pn**	**01 05 35.7**	**+1.4**
TURN	**Turunc**	**2.69**	**29**	Pn	**Pn**	**01 05 35.9**	**+1.5**
APE	**Apeiranthos**	**2.76**	**342**	Pn	**Pn**	**01 05 36.5**	**+1.0**
APE	**Apeiranthos**	**2.76**	**342**	P	**Pn**	**01 05 37.4**	**+1.9**
DALY	**Dalyan (Mula)**	**2.90**	**35**	Pn	**Pn**	**01 05 39.3**	**+2.0**
KSL	**Kastellorizon**	**2.98**	**54**	P	**Pn**	**01 05 40.3**	**+1.9**
KSL				S	**Sn**	**01 06 13.0**	**-0.7**
FETY	**Fethiye**	**2.98**	**42**	Pn	**Pn**	**01 05 40.8**	**+2.3**
MLSB	**Milas**	**3.00**	**18**	Pn	**Pn**	**01 05 40.3**	**+1.5**
YER	**Yerkesik**	**3.02**	**26**	Pn	**Pn**	**01 05 40.7**	**+1.7**
AKAS	**Kas**	**3.04**	**53**	Pn	**Pn**	**01 05 41.4**	**+2.1**
ANKY	**Antikythira Is**	**3.06**	**299**	P	**Pn**	**01 05 41.8**	**+2.3**
CAME	**Cameli-Denizli**	**3.33**	**41**	Pn	**Pn**	**01 05 45.0**	**+1.7**
ELL	**Elmali**	**3.54**	**49**	Pn	**Pn**	**01 05 48.9**	**+2.6**
AYDB	**Zeytinkoy-Aydi**	**3.65**	**16**	Pn	**Pn**	**01 05 49.5**	**+1.7**
APMY	**Acipayam-Deniz**	**3.73**	**35**	Pn	**Pn**	**01 05 51.4**	**+2.5**
NAZL	**Nazilli-Aydin**	**3.77**	**21**	Pn	**Pn**	**01 05 51.2**	**+1.9**
ODEM	**Odemis-Izmir**	**4.01**	**17**	Pn	**Pn**	**01 05 54.2**	**+1.6**
MMAI	**Mount Meron Ar**	**7.47**	**99**	Pn	**Pn**	**01 06 40.1**	**-0.1**
1.0nm,0.3s,baz=289,slow=10,SNR=6.6							
MMAI				Sn	**Sn**	**01 08 02.6**	**-2.0**
1.7nm,0.3s,baz=297,slow=25,SNR=2.7							
1.6nm,0.6s							
BRTR	**Keskin Array B**	**7.71**	**45**	Pn	**Pn**	**01 06 45.9**	**+2.3**
0.1nm,0.3s,baz=225,slow=16,SNR=2.0							
BRTR				Sn	**Sn**	**01 08 09.4**	**-1.1**
0.1nm,0.3s,baz=222,slow=27,SNR=2.3							
0.2nm,0.3s							
EIL	**Elat**	**8.53**	**122**	Pn	**Pn**	**01 06 55.6**	**+0.9**
0.4nm,0.3s,baz=297,slow=2.3,SNR=5.8							
EIL				Sn	**Sn**	**01 08 26.1**	**-4.5**
0.7nm,0.3s,baz=336,slow=20,SNR=2.5							
2.0nm,0.5s							
ASF	**Jabal al Asfar**	**8.91**	**102**	Pn	**Pn**	**01 07 01.4**	**+1.5**
0.2nm,0.3s,baz=304,slow=9.8,SNR=1.4							
ASF				Sn	**Sn**	**01 08 36.1**	**-3.9**
0.2nm,0.3s,baz=311,slow=19,SNR=1.6							
0.5nm,0.4s							
VAE	**Valguarnera**	**10.33**	**291**	Pn	**Pn**	**01 07 22.2**	**+2.8**
0.5nm,0.3s,baz=112,slow=11,SNR=2.2							
VAE				Sn	**Sn**	**01 09 10.5**	**-4.4**
0.4nm,0.3s,baz=83,slow=19,SNR=3.1							
4.0nm,0.7s							
KVAR	**Kislovodsk Arr**	**15.66**	**48**	LR	LR	01 15 37.1	
comp=Z,48nm,19.3s,baz=87,slow=42							
ESDC	**Sonseca Array**	**24.88**	**291**	P	**P**	**01 10 14.0**	**+0.3**
0.3nm,0.6s,baz=83,slow=10,SNR=5.3							
0.3nm,0.6s							
FINES	**FINESS Array B**	**27.02**	**359**	P	**P**	**01 10 31.4**	**-1.5**
0.8nm,0.8s,baz=172,slow=9.9,SNR=4.3							
0.8nm,0.8s							
HFS	**Hagfors**	**27.05**	**346**	P	**P**	**01 10 32.0**	**-1.2**
2.2nm,0.9s,baz=173,slow=14,SNR=2.4							
2.2nm,0.9s							
TORD	**Torodi Ar. Bea**	**30.97**	**233**	P	**P**	**01 11 10.0**	**+1.6**
100nm,0.3s,baz=40,slow=9.5,SNR=1.4							
ARCES	**ARCESS Array B**	**35.15**	**359**	P	**P**	**01 11 42.9**	**-1.5**
0.9nm,0.6s,baz=180,slow=7.9,SNR=6.1							
0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**40.66**	**50**	P	**P**	**01 12 31.9**	**+0.9**
0.1nm,0.3s,baz=278,slow=9.0,SNR=2.7							
0.1nm,0.3s							
MKAR	**Makanchi Array**	**43.19**	**56**	P	**P**	**01 12 53.2**	**+1.4**
0.1nm,0.3s,baz=267,slow=8.7,SNR=4.0							
0.1nm,0.3s							
ZALV	**Zalesovo Beam**	**44.65**	**46**	P	**P**	**01 13 04.9**	**+1.5**
0.4nm,0.4s,baz=276,slow=9.2,SNR=1.9							
0.4nm,0.4s							

---

*MEX **17** 01:17:03.1±0.6, 14.°27N×92.°34W, h38km±86km, MD3.7*
*GCG **17** 01:17:03.5±0.3, 14.°69N×92.°02W, h74km±7km, MD3.2*
ISC 17 01:16:59.1±2.9, 14.°3N±0.°4×92.°2W±0.°3, h78km±59km, n7, σ1§18/12, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.57**	**9**	*eP*	**Pn**	**01 17 14.6**	**+1.2**
STG5	**El Palmar, Qui**	**0.80**	**82**	*eP*	**Pn**	**01 17 16.4**	**+0.6**
STG8	**El Palmar, Qui**	**0.80**	**79**	*i P*	**Pn**	**01 17 16.8**	**+0.8**
STG8				*eS*	**Sn**	**01 17 27.4**	**-1.1**
STG0	**El Palmar, Qui**	**0.81**	**80**	*eP*	**Pn**	**01 17 16.8**	**+0.9**
STG0				*eS*	**Sn**	**01 17 27.2**	**-1.3**
PATR	**El Naranjo**	**0.82**	**355**	*eP*	**Pn**	**01 17 17.2**	**+1.0**
PATR				*eS*	**Sn**	**01 17 27.7**	**-1.2**
PAVE	**Pavencul**	**0.90**	**359**	*eP*	**Pn**	**01 17 18.2**	**+1.2**
PAVE				*eS*	**Sn**	**01 17 29.8**	**-0.6**
PCIG		**1.73**	**324**	*eP*	**Pn**	**01 17 27.6**	**+0.1**
PCIG				*eS*	**Sn**	**01 17 48.0**	**-0.9**

---

*NEIC **17** 01:43:03.8±1.6, 18.°4N±0.°2×68.°76W±0.°08, h137km±8km, ML2.5/18, Md3.6/3(RSPR), Error ellipse: s-maj=36.3km s-min=9.7km az=188.0*
*SDD **17** 01:43:03.8±1.9, 18.°62N×68.°77W, h160km±12km, MD3.0, ML2.5, MW2.7*
*OSPL **17** 01:43:04.0±2.8, 17.°35N×68.°86W, h25km±21km, ML2.5*
*RSPR **17** 01:43:04.8, 18.°56N×68.°78W, h136km±1km, MD3.5/3*
ISC 17 01:43:03.5±1.9, 18.°4N±0.°1×68.°74W±0.°05, h144km±12km, n41, σ0§92/56, 16C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.16**	**9**	↓*eP*	**Pn**	**01 43 23.0**	**+0.1**
HIDR	**Higuey Centro**	**0.16**	**9**	*eS*	**Sn**	**01 43 37.0**	**-0.8**
PCDR	**Punta Cana, DR**	**0.35**	**76**		**Pn**	**01 43 23.1**	**-0.3**
PCDR					**Sn**	**01 43 37.8**	**-0.7**
PCDR				IAML		01 43 53.0	
comp=N,144nm,1.9s							
PCDR				IAML		01 44 00.4	
comp=E,85nm,1.6s							
PCDR	**Punta Cana, DR**	**0.35**	**76**	↑*ePg*	**Pn**	**01 43 23.6**	**+0.2**
PCDR				↑*eSg*	**Sn**	**01 43 39.5**	**+1.0**
PCDR				IAML		01 43 44.3	
comp=N,130nm,1.4s							
PCDR	**Punta Cana, DR**	**0.35**	**76**	↓*eP*	**Pn**	**01 43 23.6**	**+0.2**
PCDR	**Punta Cana, DR**	**0.35**	**76**	*eS*	**Sn**	**01 43 38.3**	**-0.2**
PCDR	**Punta Cana, DR**	**0.35**	**76**	*i P*	**Pn**	**01 43 23.6**	**+0.2**
PCDR				*eS*	**Sn**	**01 43 39.5**	**+1.0**
PCDR				IAML		01 43 42.7	
comp=Z,114nm,1.7s							
MIDR	**Miches**	**0.62**	**332**	↑*ePg*	**Pn**	**01 43 25.1**	**+0.3**
MIDR				↑*eSg*	**Sn**	**01 43 41.2**	**+0.2**
MIDR				IAML		01 43 42.2	
comp=N,34nm,0.5s							
MIDR				IAML		01 43 42.3	
comp=N,34nm,0.5s							
DR12	**Loma Pena Alta**	**0.70**	**301**	*ePg*	**Pn**	**01 43 24.6**	**-0.8**
HATOM	**Hato Mayor del**	**0.70**	**301**	↑*ePg*	**Pn**	**01 43 24.8**	**-0.5**
HATOM				↓*eSg*	**Sn**	**01 43 40.9**	**-1.1**
HATOM				IAML		01 43 45.6	
comp=N,27nm,0.2s							
SMDR	**Samana, DR**	**0.95**	**334**	↑*ePg*	**Pn**	**01 43 27.3**	**+0.1**
SMDR				IAML		01 43 50.9	
comp=N,93nm,0.8s							
SMDR	**Samana, DR**	**0.95**	**334**	↑*eP*	**Pn**	**01 43 27.5**	**+0.3**
SDD	**Santo Domingo**	**1.11**	**272**	Pn	**Pn**	**01 43 29.5**	**+0.9**
SDD				IAML		01 43 44.8	
comp=N,83nm,2.2s							
SDD				IAML		01 43 52.7	
comp=E,68nm,1.4s							
BANI	**BANI**	**1.53**	**269**	↑*ePg*	**Pn**	**01 43 33.1**	**+0.1**
BANI				↑*eSg*	**Sn**	**01 43 55.9**	**+0.3**
BANI				IAML		01 43 58.0	
comp=N,63nm,0.1s							
AGPR	**Aguadilla, PR**	**1.55**	**88**	Pn	**Pn**	**01 43 33.2**	**+0.2**
AGPR				Sn	**Sn**	**01 43 56.2**	**+0.5**
AGPR	**Aguadilla, PR**	**1.55**	**88**	↓*eP*	**Pn**	**01 43 34.0**	**+1.0**
AGPR	**Aguadilla, PR**	**1.55**	**88**	*eS*	**Sn**	**01 43 57.0**	**+1.3**
AGPR	**Aguadilla, PR**	**1.55**	**88**	*i P*	**Pn**	**01 43 34.5**	**+1.4**
AGPR				*eS*	**Sn**	**01 43 57.4**	**+1.6**
AGPR				IAML		01 44 02.8	
comp=Z,77nm,1.8s							
CRPR	**Cabo Rojo, PR**	**1.61**	**105**	Pn	**Pn**	**01 43 33.1**	**-0.6**
CRPR				Sn	**Sn**	**01 43 55.2**	**-1.6**
CRPR	**Cabo Rojo, PR**	**1.61**	**105**	↑*eP*	**Pn**	**01 43 35.1**	**+1.4**
CRPR				IAML		01 44 25.4	
comp=N,32nm,3.6s							
CRPR	**Cabo Rojo, PR**	**1.61**	**105**	↑*eP*	**Pn**	**01 43 33.4**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.61**	**105**	*eS*	**Sn**	**01 43 57.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.61**	**105**	*i P*	**Pn**	**01 43 33.4**	**-0.3**
CRPR				IAML		01 44 01.3	
comp=Z,32nm,1.6s							
MLPR	**Magueyes Islan**	**1.68**	**106**	↑*eP*	**Pn**	**01 43 34.3**	**-0.2**
MLPR	**Magueyes Islan**	**1.68**	**106**	*eS*	**Sn**	**01 43 58.8**	**+0.6**
AOPR	**Arecibo Observ**	**1.89**	**92**	Pn	**Pn**	**01 43 36.7**	**-0.2**
AOPR				Sn	**Sn**	**01 44 01.4**	**-1.2**
AOPR	**Arecibo Observ**	**1.89**	**92**	↑*ePg*	**Pn**	**01 43 36.8**	**-0.2**
AOPR				↑*eSg*	**Sn**	**01 44 02.4**	**-0.3**
AOPR				IAML		01 44 06.0	
comp=N,54nm,1.1s							
AOPR	**Arecibo Observ**	**1.89**	**92**	↑*eP*	**Pn**	**01 43 36.8**	**-0.2**
AOPR	**Arecibo Observ**	**1.89**	**92**	*eS*	**Sn**	**01 44 02.3**	**-0.3**
OBIP	**Obispado Ponce**	**2.07**	**100**	Pn	**Pn**	**01 43 39.4**	**+0.4**
OBIP				Sn	**Sn**	**01 44 05.7**	**-0.5**
OBIP				IAML		01 44 15.1	
comp=E,23nm,3.0s							
OBIP				IAML		01 45 04.5	
comp=N,22nm,2.7s							
OBIP	**Obispado Ponce**	**2.07**	**100**	↓*eP*	**Pn**	**01 43 40.0**	**+1.0**
OBIP	**Obispado Ponce**	**2.07**	**100**	*eS*	**Sn**	**01 44 06.5**	**+0.3**
CELP	**Cerrillos**	**2.09**	**99**	Pn	**Pn**	**01 43 38.9**	**-0.4**
CELP				Sn	**Sn**	**01 44 04.7**	**-2.0**
CELP	**Cerrillos**	**2.09**	**99**	↓*ePg*	**Pn**	**01 43 39.2**	**0.0**
CELP				↓*eSg*	**Sn**	**01 44 07.3**	**+0.6**
CELP				IAML		01 44 13.2	
comp=N,19nm,2.2s							
CELP	**Cerrillos**	**2.09**	**99**	↑*eP*	**Pn**	**01 43 39.3**	**0.0**
CELP	**Cerrillos**	**2.09**	**99**	*eS*	**Sn**	**01 44 07.2**	**+0.6**
ECPR	**Experimental S**	**2.26**	**92**	↓*eP*	**Pn**	**01 43 41.6**	**+0.3**
ECPR	**Experimental S**	**2.26**	**92**	*eS*	**Sn**	**01 44 08.8**	**-1.7**
GCPR	**Guaynabo City**	**2.53**	**92**	Pn	**Pn**	**01 43 45.7**	**+1.1**
GCPR				Sn	**Sn**	**01 44 13.3**	**-3.0**
GCPR				IAML		01 44 41.0	
comp=E,16nm,2.6s							
GCPR				IAML		01 45 26.9	
comp=N,17nm,2.5s	

CUKAN	kangal_SIVAS	0.80	315	P	Pg	01 46 07.2	-2.6
CUKAN				i AML	AML	01 46 27.0	
	comp=Z,487nm,0.2s						
CUKAN				i AML	AML	01 46 27.0	
	comp=N,757nm,0.3s						
CUKAN				i AML	AML	01 46 30.0	
	comp=E,671nm,0.6s						
ELBS	KAHRAMANMARAS	0.93	243	P	Pg	01 46 09.6	-2.7
ELBS				S	Sg	01 46 23.4	-1.0
ELBS				i AML	AML	01 46 26.0	
	comp=N,3μm,0.6s						
ELBS				i AML	AML	01 46 29.0	
	comp=Z,2μm,0.4s						
ELBS				i AML	AML	01 46 31.0	
	comp=E,2μm,0.6s						
AZEY	Adyaman-Merk	0.94	177	P	Pg	01 46 10.9	-1.5
AZEY				i AML	AML	01 46 29.0	
	comp=Z,925nm,0.7s						
AZEY				i AML	AML	01 46 29.0	
	comp=N,728nm,1.0s						
AZEY				i AML	AML	01 46 29.0	
	comp=E,1μm,0.6s						
CUZAR	Zara_SIVAS	1.19	344	P	Pn	01 46 16.1	-1.0
CUZAR				S	Sn	01 46 34.7	+1.3
CUZAR				i AML	AML	01 46 40.0	
	comp=Z,449nm,0.7s						
CUZAR				i AML	AML	01 46 40.0	
	comp=E,854nm,0.9s						
CUZAR				i AML	AML	01 46 43.0	
	comp=N,622nm,0.6s						
CUAYA	Sivas-Altinyay	1.24	295	P	Pn	01 46 15.2	-2.7
CUAYA				S	Sn	01 46 34.6	-0.1
CUAYA				i AML	AML	01 46 38.0	
	comp=N,1μm,0.5s						
CUAYA				i AML	AML	01 46 41.0	
	comp=E,638nm,0.6s						
CUAYA				i AML	AML	01 46 43.0	
	comp=Z,385nm,0.9s						
URFA	Urfa	1.40	159	Pn	Pg	01 46 19.9	-1.3
URFA				Sn	Sg	01 46 39.1	-0.2
SARI	SarD1z-Kayseri	1.43	257	Pn	Pn	01 46 19.5	-1.0
SARI				Sn	Sg	01 46 39.5	-0.9
ERZN	Erzincan	1.46	54	Pn	Pb	01 46 20.2	-1.4
ERZN				Sn	Sg	01 46 41.1	-0.1
SVSK	Karacayir	1.49	322	Pn	Pn	01 46 20.5	-0.7
SVSK				Sn	Sg	01 46 41.3	-1.0
KHMN	Narli-Kahraman	1.58	211	Pn	Pb	01 46 22.4	-1.3
KMRS	Kahramanmaras	1.60	220	Pn	Pb	01 46 22.9	-1.2
KMRS				Sn	Sg	01 46 44.4	-1.5
GAZ	Gaziantep	1.75	206	Pn	Pn	01 46 24.4	-0.5
RSDY	Resadiye-TOKAT	1.78	338	Pn	Pn	01 46 24.9	-0.3
BNN	Bunyan	1.83	274	Pn	Pn	01 46 25.9	-0.2
TOKT	Tokat	2.02	322	Pn	Pn	01 46 28.5	-0.1
KOZT	Kozan	2.25	237	Pn	Pn	01 46 31.8	+0.1
YOZ	Yozgat	2.40	293	Pn	Pn	01 46 33.4	-0.5
CEYT	Ceyhan	2.60	229	Pn	Pn	01 46 36.5	+0.1
KOZK	Kozakli-Nevseh	2.63	281	Pn	Pn	01 46 36.9	-0.1
CMRD	Camardi-Nigde	2.74	248	Pn	Pn	01 46 38.4	-0.1
BRTR	Keskin Array B	3.67	287	Pn	Pn	01 46 50.8	-0.5
	0.7nm,0.3s,baz=106,slow=16,SNR=47						
BRTR				Pg	Pb	01 47 00.5	+1.2
	2.1nm,0.3s,baz=105,slow=14,SNR=15						
BRTR				Lg	Lg	01 47 48.7	
	1.1nm,0.3s,baz=119,slow=17,SNR=6.1						
	7.7nm,0.8s						
GNI	Garni	5.26	73	Pn	Pb	01 47 21.8	-4.7
	0.3nm,0.3s,baz=277,slow=19,SNR=1.9						
GNI				Lg	Lg	01 48 48.0	
	baz=270,slow=13						
	5.6nm,1.0s						
KBZ	Khabaz	6.11	34	Pn	Pn	01 47 31.1	+6.5
	0.1nm,0.3s,baz=220,slow=7.9,SNR=4.9						
KBZ				Lg	Lg	01 49 13.1	
	baz=246,slow=20,SNR=1.1						
	1.2nm,0.6s						
MMAI	Mount Meron Ar	6.15	202	Pn	Pn	01 47 25.8	+0.5
	0.7nm,0.3s,baz=24,slow=14,SNR=5.3						
MMAI				Lg	Lg	01 49 08.9	
	1.2nm,0.3s,baz=17,slow=30,SNR=1.3						
	0.2nm,0.3s						
ASF	Jabal al Asfar	6.64	190	Pn	Pn	01 47 32.2	+0.1
	0.3nm,0.3s,baz=17,slow=16,SNR=2.4						
ASF				Lg	Lg	01 49 21.4	
	1.0nm,0.3s,baz=18,slow=20,SNR=5.8						
	1.3nm,0.5s						
EIL	Elat	9.44	197	Pn	Pn	01 48 10.4	-0.1
	0.1nm,0.3s,baz=10,slow=19,SNR=1.9						
	2.8nm,0.8s						
MLR	Muntele Rosu	11.31	310	LR	LR	01 53 41.9	
	comp=Z,34nm,18.4s,baz=72,slow=42						
GERES	GERESS Array B	20.27	308	P	Pn	01 50 30.6	-1.5
	0.7nm,0.8s,baz=103,slow=12,SNR=6.9						
	0.7nm,0.8s						
KEST	Kesra	23.12	272	P	P	01 51 01.2	+0.6
	1.6nm,0.7s,baz=75,slow=16,SNR=2.0						
	1.6nm,0.7s						
FINES	FINESS Array B	23.93	346	P	P	01 51 10.4	+2.2
	0.6nm,0.7s,baz=152,slow=12,SNR=4.3						
	0.6nm,0.7s						
HFS	Hagfors	26.39	332	P	P	01 51 32.7	+2.1
	1.0nm,0.6s,baz=134,slow=9.9,SNR=2.4						
	1.0nm,0.6s						
NOA	NORSAR Array B	27.91	332	LR	LR	02 05 38.5	
	comp=Z,9.7nm,18.8s,baz=235,slow=42						
KURBB	Kurchatov Arra	30.66	54	P	P	01 52 11.4	+2.5
	0.2nm,0.6s,baz=269,slow=9.3,SNR=2.5						
	0.2nm,0.6s						
ESDC	Sonseca Array	32.46	285	P	P	01 52 27.1	+2.2
	0.4nm,0.8s,baz=71,slow=9.3,SNR=2.2						
	0.4nm,0.8s						
MKAR	Makanchi Array	32.99	61	P	P	01 52 34.1	+4.7
	0.1nm,0.5s,baz=289,slow=7.2,SNR=1.9						
	0.1nm,0.5s						
ZALV	Zalesovo Beam	34.90	49	LR	LR	02 08 39.3	
	comp=Z,23nm,21.2s,baz=310,slow=39						
YKA	Yellowknife Ar	76.75	347	P	P	01 57 46.2	+0.7
	0.3nm,0.8s,baz=29,slow=5.6,SNR=5.6						
	0.3nm,0.8s						

SOME ***17*** *01:55:06.8,39.°65N×75.°55E,h10km*
KRNET ***17*** *01:55:10.6±0.1,39.°52N×75.°51E,mb3.6*
NNC ***17*** *01:55:15.3±5.5,40.°16N×75.°67E,h2km±49km,mb3.9,*
mpv3.5,Error ellipse: s-maj=38.5km s-min=28.0km
az=171.0

ISC 17 01:55:10.0±3.1,39.°46N±0.°09×75.°58E±0.°05,h2km±23km,
n37,σ1°57/60,30C-9D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.69	290	⇑iP	Pn	01 55 40.3	-0.5
SFK				⇑iS	Sn	01 56 02.0	-1.1
SALK	Salom-Alik	1.96	317	⇑iP	Pn	01 55 43.9	-0.4
SALK				⇑iS	Sn	01 56 08.6	-0.9
OHH	Osh	2.39	297	⇓eP	Pn	01 55 50.7	+0.4
OHH				⇓eS	Sn	01 56 19.5	-0.7
ARLS	Aral	2.58	339	⇑iP	Pn	01 55 52.9	0.0
ARLS				⇑iS	Sn	01 56 23.7	-1.2
ARSB	Arslanbob	2.72	314	⇑eP	Pn	01 55 55.0	+0.2
ARSB				⇑iS	Sn	01 56 27.7	-0.6
ULHL	Ulahol	2.82	10	P	Pn	01 55 57.7	+1.4
	SNR=19						
ULHL	Ulahol	2.82	10	⇓eP	Pn	01 55 57.0	+0.7
ULHL				⇓iS	Sn	01 56 30.4	-0.7
UCH	Uchtor	2.88	344	P	Pn	01 55 57.4	+0.2
	SNR=19						
UCH	Uchtor	2.88	344	⇑eP	Pn	01 55 57.3	0.0
UCH				⇑iS	Sn	01 56 31.3	-1.4
DRK	Karamyk	2.92	272	⇑eP	Pn	01 55 58.4	+0.6
DRK				⇑eS	Sn	01 56 32.9	-0.7
KDJ	Kajisay	2.93	24	⇑eP	Pn	01 55 58.4	+0.7
KDJ				⇑eS	Sn	01 56 33.6	0.0
AML	Almayashu	3.02	332	P	Pn	01 55 59.5	+0.2
	SNR=26						
AML	Almayashu	3.02	332	⇑iP	Pn	01 55 59.4	+0.2
AML				⇑iS	Sn	01 56 35.2	-1.0
BOOM	Boomskoye usch	3.04	5	⇓eP	Pn	01 55 59.5	+0.3
BOOM				⇓eS	Sn	01 56 35.5	-0.7
KBK	Karagaybulak	3.23	352	P	Pn	01 56 02.6	+0.8
	SNR=9.8						
AAK	Ala-Archa	3.27	346	P	Pn	01 56 03.1	+0.6
	SNR=27						
AAK	Ala-Archa	3.27	346	⇓Pg	Pn	01 56 02.9	+0.4
	24nm,0.5s						
AAK				⇑Lg	Lg	01 56 41.3	
	43nm,0.8s						
TKM2	Tokmak 2	3.45	0	P	Pn	01 56 05.8	+0.8
	SNR=8.8						
TKM2	Tokmak 2	3.45	0	⇑Pg	Pn	01 56 05.2	+0.2
	9.3nm,0.4s						
TKM2				⇓Lg	Lg	01 56 45.3	
	32nm,0.7s						
EKS2	Erkin-Say	3.47	338	P	Pn	01 56 06.3	+1.1
	SNR=9.5						
CHMS	Chumysh	3.59	350	P	Pn	01 56 07.3	+0.7
	SNR=13						
CHMS	Chumysh	3.59	350	⇑Pg	Pn	01 56 07.1	+0.4
	14nm,0.5s						
CHMS				⇓Lg	Lg	01 56 49.0	
	14nm,0.5s						
KST	Kastek	3.59	5	eP	Pn	01 56 07.3	+0.6
	19nm,0.6s						
KST				eS	Sn	01 56 51.7	+1.9
	46nm,0.8s						
ANVS	Anan'yevo	3.67	25	⇑eP	Pn	01 56 08.9	+0.9
ANVS				⇑eS	Sn	01 56 51.5	-0.4
BTK	Batken	3.72	281	⇑eP	Pn	01 56 08.9	+0.4
BTK				⇑eS	Sn	01 56 51.5	-1.3
TNSS	Tian-Shan	3.72	16	eP	Pn	01 56 13.1	+4.4
	27nm,0.5s						
TNSS				eS	Sb	01 57 01.3	-0.9
	15nm,0.5s						
MTBS	Maitube	3.72	10	eP	Pn	01 56 12.9	+4.4
	7.5nm,0.5s						
MTBS				eS	Sb	01 57 01.2	-0.8
	32nm,0.6s						
MRKS	Merke	3.73	332	eP	Pn	01 56 09.2	+0.6
	29nm,0.6s						
MRKS				eS	Sn	01 56 55.0	+1.8
	19nm,0.8s						
MNAS	Manas	3.81	323	⇑eP	Pn	01 56 10.0	+0.2
MNAS				⇑eS	Sn	01 56 53.6	-1.7
MDOK	Medeo	3.86	16	Pg	Pn	01 56 11.2	+0.7
	10nm,0.5s						
MDOK				Lg	Lg	01 56 58.5	
	23nm,1.2s						
USP	Ospenovka	3.88	348	P	Pn	01 56 11.2	+0.5
	SNR=12						
TRKS	Terek-Say	3.96	303	⇑eP	Pn	01 56 11.5	-0.4
TRKS				⇑eS	Sn	01 56 56.2	-2.9
KURS	Kuram	4.47	25	eP	Pb	01 56 26.4	-2.8
	5.8nm,0.5s						
KURS				eS	Sb	01 57 24.4	+0.9
	20nm,0.6s						
CHKK	Chushkaly	4.51	13	eP	Pb	01 56 26.4	-3.5
	5.8nm,0.5s						
CHKK				eS	Sb	01 57 24.4	-0.4
	20nm,0.6s						
PDGK	Podgornoye	4.86	36	⇑Pg	Pb	01 56 36.4	+0.6
	7.1nm,0.7s						
PDGK				Lg	Lg	01 57 34.7	
	20nm,0.9s						
KK31	Karatay Array	5.27	315	⇑Pn	Pn	01 56 29.4	-0.3
	0.8nm,0.3s,baz=127,slow=12,SNR=30						
KK31				Pg	Pb	01 56 44.0	+1.2
	4.5nm,0.7s,baz=137,slow=15,SNR=6.3						
KK31				⇑Lg	Lg	01 57 50.2	
	8.1nm,0.8s,baz=118,slow=28						
BRLS	Borolday	5.60	311	eP	Pb	01 56 48.3	-0.2
	2.7nm,1.2s						
BRLS				eS	Sb	01 58 02.1	+6.0
	4.1nm,0.9s						

ASIES ***17*** *02:00:03.9,22.°95N×120.°87E,h5km,ML3.7,Mw3.6,*
Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm;
M_{rr}=1.90; $M_{\theta\theta}$0.60; $M_{\phi\phi}$1.30; $M_{r\theta}$0.40; $M_{\theta\phi}$-1.43; $M_{\phi r}$1.72;
Fault plane solution: $M_0$2.82509×10^{21} NP1:
ϕ_s296.08000°,δ37.89000°,λ-137.09000°. NP2:
ϕ_s169.82000°,δ65.28000°,λ-60.31000°. Principal axes:
T Plg15.2110°, Azm238.5400°; N Plg26.7320°,
Azm336.4100°; P Plg58.6180°, Azm122.0680°;
TAP ***17*** *02:00:03.9,22.°95N×120.°87E,h5km,ML3.7,C*
JMA ***17*** *02:00:04.2±0.2,22.°8N±0.°7×121.°3E±0.°7,h1km,MV3.4/11,*
TAIWAN REGION

ISC 17 02:00:04.7±0.8,22.°96N±0.°01×120.°91E±0.°01,h10km±6km,
n150,σ0°75/241,23C-9D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	0.20	131	⇓iP	Pg	02 00 09.4	+0.4
TWG				i S	Sg	02 00 12.8	+0.8
TWGBT	Beinan	0.21	131	P	Pg	02 00 09.6	+0.4
TWGBT	Beinan	0.21	131	P	Pg	02 00 09.5	+0.4
TWGBT	Beinan	0.21	131	S	Sg	02 00 12.8	+0.6
TWGBT	Beinan	0.21	131	⇓iP	Pg	02 00 09.5	+0.3
TWGBT				i S	Sg	02 00 12.8	+0.6
LONT	Longtian	0.21	104	⇑iP	Pg	02 00 09.7	+0.5
LONT				S	Sg	02 00 13.4	+1.2
STYH	Taoyuan	0.24	331	⇓iP	Pg	02 00 08.3	-1.5
STYH				S	Sg	02 00 11.8	-1.4
ELDTW	Lidau	0.25	24	⇑iP	Pg	02 00 09.9	-0.1
ELDTW				eS	Sg	02 00 13.4	-0.1
TTN	Taitung	0.30	132	eP	Pg	02 00 12.0	+1.2
TTN				i S	Sb	02 00 17.6	+0.5
ECS	Chishang	0.32	64	⇑iP	Pg	02 00 11.9	+0.7
ECS				eS	Sb	02 00 16.9	-0.9
SGST	Jiashian	0.32	293	⇓iP	Pg	02 00 10.0	-1.2
SGST				S	Sg	02 00 14.5	-1.0
SSD	Sandimen	0.33	230	⇑iP	Pg	02 00 10.0	-1.3
SSD				i S	Sg	02 00 13.7	-2.0
EHD	Haiduan	0.34	55	P	Pg	02 00 11.7	+0.2
EHD				eS	Sb	02 00 17.3	-1.0
TSMG	Majia	0.35	224	⇑iP	Pg	02 00 10.6	-1.1
TSMG				i S	Sg	02 00 14.4	-1.9
ECL	Taimali	0.36	173	⇑iP	Pg	02 00 11.6	-0.4
ECL				S	Sg	02 00 17.1	+0.4
EDH	Donghe	0.37	87	⇑P	Pb	02 00 13.0	-0.3
EDH				eS	Sb	02 00 19.1	0.0
SCST	Cishan	0.39	260	⇑P	Pg	02 00 12.1	-0.3
SCST				eS	Sg	02 00 17.4	-0.1
WTP	Ta-pu	0.39	317	⇓iP	Pg	02 00 12.7	+0.2
WTP				eS	Sb	02 00 19.5	-0.5
CHN1	Nanshi	0.41	303	⇓iP	Pg	02 00 13.3	+0.3
CHN1				eS	Sg	02 00 19.4	+0.9
MASBT	Mashibuluo	0.43	216	⇑iP	Pg	02 00 11.9	-1.2
TPUB	Ta-pu	0.43	323	P	Pg	02 00 13.6	+0.4
TPUB	Ta-pu	0.43	323	P	Pg	02 00 13.4	+0.3
TPUB	Ta-pu	0.43	323	S	Sg	02 00 19.4	+0.6
TPUB	Ta-pu	0.43	323	⇓iP	Pg	02 00 13.5	+0.3
TPUB				eS	Sg	02 00 19.1	+0.3
CHKT	Chengkung	0.45	71	⇑iP	Pb	02 00 14.9	+0.2
CHKT				eS	Sb	02 00 22.2	+0.8
SGLT	Jiouru	0.45	239	i P	Pg	02 00 13.6	+0.1
SGLT				S	Sg	02 00 19.2	-0.2
SNST	Tainan City	0.46	305	P	Pg	02 00 14.3	+0.6
SNST				eS	Sb	02 00 21.3	-0.5
TWM1	Shoushan	0.47	253	⇑P	Pg	02 00 14.2	+0.3
CHN4	Tsaushan	0.49	324	⇓iP	Pg	02 00 14.8	+0.5
TWK	Hsinying	0.49	309	⇓P	Pg	02 00 15.0	+0.6
TWK				eS	Sg	02 00 22.2	+1.2
CHKH	Chenggong	0.51	63	⇑eP	Pb	02 00 15.4	-0.3
CHKH				eS	Sb	02 00 23.6	+0.4
CHN3	Shinhua	0.51	284	eP	Pb	02 00 16.9	+1.1
CHN3				eS	Sb	02 00 24.3	+1.0
SHHT	Tainan City	0.52	277	eP	Pb	02 00 16.8	+0.9
SHHT				eS	Sb	02 00 25.5	+2.0
TWF1	Yuli	0.53	42	⇑iP	Pg	02 00 15.2	+0.1
TWF1				eS	Sg	02 00 22.3	+0.1
EYUL	Yuli	0.54	44	P	Pg	02 00 15.7	+0.4
WCKO	Fanlu	0.55	330	eP	Pb	02 00 16.7	+0.1
WCKO				eS	Sb	02 00 24.5	-0.1
ALS	Alishan	0.56	350	⇑iP	Pg	02 00 15.7	0.0
ALS				eS	Sb	02 00 24.2	-0.8
SNJT	Kaohsiung City	0.56	249	eP	Pn	02 00 18.4	-0.4
YULB	Yu-li	0.56	40	P	Pg	02 00 15.4	-0.3
YULB	Yu-li	0.56	40	⇑iP	Pg	02 00 15.5	-0.2
YULB				eS	Sg	02 00 23.4	+0.2
SSPT	Xinbi	0.56	214	eP	Pg	02 00 16.5	+0.7
SSPT				eS	Sg	02 00 24.4	+1.2
EAST	Anshuo	0.57	185	⇑iP	Pg	02 00 15.4	-0.5
EAST				eS	Sg	02 00 23.3	-0.1
LDUT	Ludao	0.59	118	⇑iP	Pg	02 00 16.9	+0.7
LDUT				eS	Sb	02 00 26.2	+0.6
TAW	Tawu	0.60	181	P	Pg	02 00 15.8	-0.5
TAW				eS	Sg	02 00 23.7	-0.5
TAWH	Dawu Township	0.61	182	P	Pg	02 00 16.2	-0.5
TAWH				eS	Sg	02 00 23.8	-1.0
ECBN	Changbin	0.62	54	eP	Pb	02 00 17.6	0.0
SCZT	Fangliau	0.64	204	⇑iP	Pg	02 00 16.1	-1.0
SCZT				S	Sg	02 00 25.3	-0.2
EHY	Hungye	0.67	35	⇑iP	Pg	02 00 17.4	-0.3
EHY				eS	Sb	02 00 27.2	-0.6
EHYH	Wanrong	0.67	37	P	Pg	02 00 17.6	-0.1
EHYH				eS	Sg	02 00 25.8	-0.8
WSSB	Gushan	0.67	242	eP	Pb	02 00 19.7	+1.1
WSSB				eS	Sn	02 00 31.2	+0.3
SCLT	Jiali	0.69	288	i P	Pn	02 00 20.5	-0.1
SCLT				eS	Sn	02 00 31.5	+0.2
CHN2	Minshiung	0.70	325	eP	Pb	02 00 19.9	+0.9
CHN2				eS	Sb	02 00 29.5	+0.9
CHY	Chiayi	0.70	321	eP	Pb	02 00 19.3	+0.3
CHY				eS	Sb	02 00 29.6	+1.0
ICHU	Yijhu	0.70	305	i P	Pb	02 00 20.0	+0.9
ICHU				eS	Sn	02 00 30.6	-1.0
HGSD	Ruisui	0.71	42	⇑P	Pb	02 00 19.1	-0.2
HGSD				eS	Sb	02 00 30.0	+0.9
WHYT	Xinyi Township	0.74	356	eP	Pg	02 00 19.0	0.0
SLIU	Shizi	0.74	188	eP	Pg	02 00 18.4	-0.8
CHN8	Yiju	0.75	301	eP	Pb	02 00 20.4	+0.5
CHN8				eS	Sn	02 00 32.3	-0.4
WLCH	Liuqiu	0.78	219	eP	Pn	02 00 22.2	+0.5
TSCK	Chigu Township	0.78	284	eP	Pg	02 00 20.4	+0.6
TSCK				eS	Sn	02 00 33.1	-0.3
TWP	Hsiaoliuchiu	0.79	220	eP	Pn	02 00 22.7	+0.8
TWP				eS	Sn	02 00 35.2	+1.5
WGK	Gukeng	0.79	337	eP	Pn	02 00 21.6	-0.3
WGK				eS	Sn	02 00 32.8	-1.1
WDLH	Douliu	0.80	335	i P	Pn	02 00 22.0	-0.1
WDLH				eS	Sn	02 00 33.5	-0.6
VWDT	VWDT	0.82	15	P	Pg	02 00 19.9	-0.7
SSLB	Suanglung	0.83	3	P	Pg	02 00 20.2	-0.6
SSLB	Suanglung	0.83	3	P	Pg	02 00 20.1	-0.7
SSLB	Suanglung	0.83	3	⇑iP	Pg	02 00 20.0	-0.8
SSLB				eS	Sb	02 00 32.6	+0.2
WSL	Shuilin Townsh	0.84	312	eP	Pg	02 00 21.6	+0.6
WSL				eS	Sn	02 00 34.7	-0.3
EGFH	Guangfu	0.86	34	eP	Pg	02 00 21.0	-0.2
EGFH				eS	Sg	02 00 32.5	0.0
WTK	Tuku	0.87	327	eP	Pb	02 00 22.2	+0.3
WTK				eS	Sn	02 00 35.1	-0.6
WARBT	Fenglin Townsh	0.88	30	⇑P	Pg	02 00 20.9	-0.8
WARBT				eS	Sg	02 00 33.0	-0.1
WJS	Zhushan	0.88	349	i P	Pb	02 00 22.6	+0.5
WJS				eS	Sn	02 00 36.6	+0.6
SMLT	Sun Moon Lake	0.92	360	P	Pg	02 00 21.4	-1.1
SMLT				eS	Sn	02 00 36.2	-1.0
WSF	Szhu	0.93	317	eP	Pb	02 00 23.1	+0.3
WSF				eS	Sn	02 00 37.1	0.0
WNT	Mingjian	0.94	348	eP	Pb	02 00 23.4	+0.3
WNT				eS	Sn	02 00 38.0	+0.5
TYC	Yuchr	0.94	357	eP	Pg	02 00 23.1	+0.2
TYC				eS	Sn	02 00 37.2	-0.3
HEN	Hengchun	0.96	189	eP	Pg	02 00 23.9	+0.7
HEN				eS	Sb	02 00 37.4	+1.3
ESL	Shilin	0.98	29	eP	Pg	02 00 22.9	-0.8
ESL				eS	Sn	02 00 37.5	-1.0
TWK1	Hengchun	1.01	185	eP	Pb	02 00 24.5	+0.1
TWK1				eS	Sb	02 00 38.3	+0.6
TWKBT	Hengchun	1.01	185	eP	Pb	02 00 24.0	-0.4
OWD	Renai	1.02	14	eP	Pg	02 00 23.2	-1.3
SHUL	Shoufeng	1.02	36	eP	Pn	02 00 24.9	-0.2
WUSB	Renai	1.05	11	eP	Pb	02 00 23.5	-1.5
WUSB				eS	Sn	02 00 40.7	+0.4
LAY	Lan-yu	1.09	147	eP	Pb	02 00 24.9	-0.8
WCS	Beigang Elemen	1.09	0	eP	Pb	02 00 25.9	+0.1
WCS				eS	Sn	02 00 41.8	+0.5
LYUB	Lan-yu	1.14	146	eP	Pb	02 00 22.5	-4.0
ETM	Tongmen	1.14	28	eP	Pb	02 00 26.0	-0.6
LXIB	Xiulin Townshi	1.16	24	P	Pb	02 00 26.2	-0.7
LXIB				i S	Sn	02 00 43.2	+0.1
WCHH	Zhanghua	1.16	344	eP	Pg	02 00 27.4	+0.3
WCHH				eS	Sn	02 00 44.6	+1.6
WDGT	Dungji	1.19	285	i P	Pn	02 00 26.6	-0.7
WDGT				eS	Sb	02 00 42.7	0.0
TCU	Taichung	1.20	350	eP	Pn	02 00 27.2	-0.5
TCU				eS	Sn	02 00 45.3	+1.3
WHF	Hehuan Shan	1.23	16	eP	Pb	02 00 28.0	-0.3
WHF				eS	Sn	02 00 45.7	+0.5
TWD	Chiawan	1.28	29	eP	Pn	02 00 28.8	0.0
TWD				S	Sg	02 00 46.8	+0.6
TDCB	Techi	1.31	10	eP	Pn	02 00 28.7	-0.5
TWT	Tachien	1.31	11	eP	Pb	02 00 29.5	-0.1
TWT				eS	Sg	02 00 47.5	+0.4
WHP	Taichung City	1.31	2	eP	Pg	02 00 30.5	+0.5
WHP				eS	Sg	02 00 48.5	+1.3
FUSS	Fushou	1.32	14	eP	Pn	02 00 29.0	-0.5
PHUB	P'eng-hu	1.35	295	eP	Pn	02 00 28.3	-1.3
PHUB				eS	Sb	02 00 46.0	-1.3
ETLH	Xiulin Townshi	1.35	23	eP	Pn	02 00 29.6	-0.1
NACB	Ninganchiao	1.37	27	P	Pn	02 00 29.6	-0.3
NACB	Ninganchiao	1.37	27	P	Pb	02 00 30.3	-0.1
NACB	Ninganchiao	1.37	27	S	Sg	02 00 50.0	+1.2
NACB	Ninganchiao	1.37	27	P	Pn	02 00 29.3	-0.5
NACB				eS	Sg	02 00 48.8	0.0
VCHM	Qimei	1.38	281	eP	Pn	02 00 29.0	-1.1
PNG	Penghu	1.38	296	eP	Pn	02 00 29.3	-0.7
PNG				eS	Sn	02 00 47.4	-1.0
TWQ1	Liyutan	1.39	355	eP	Pg	02 00 31.8	+0.4
TWQ1	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATB	Ma-tsu	3.30	345	eP	Pn	02 00 56.6	+0.2
AXDP	Jialang	3.31	306	eP	Pn	02 00 56.6	0.0
JISG	Ishigakijimahi	3.52	62	eP	Pn	02 00 59.3	-0.1
MHZQ	Yeshan	3.56	332	eP	Pn	02 01 00.3	+0.2

IDC 17 02:00:28.3±2.6, 17°.46S×178°.80W, h526km±13km, mb3.0/4, mbtmp3.8/5, Error ellipse: s-maj=101.3km s-min=21.4km az=150.0

ISC 17 02:00:29.3±1.9, 17°.3S±0°.7×179°.0W±0°.4, h539km, n16, σ0§82/17, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.88	261	P	P	02 01 42.0	-0.7
	4.1nm,0.5s,baz=37,slow=20,SNR=5.1						
MSVF				S	S	02 02 41.7	-0.9
	5.6nm,0.8s,baz=10,slow=17,SNR=1.5						
WRA	Warramunga Arr	44.22	259	P	P	02 07 51.2	+0.1
	0.6nm,0.5s,baz=95,slow=8.1,SNR=17						
	0.6nm,0.5s						
ASAR	Alice Springs	44.44	254	P	P	02 07 53.5	+0.7
	6.7nm,0.6s,baz=92,slow=7.7,SNR=71						
	6.7nm,0.6s						
ILAR	Eielson Array	85.43	13	P	P	02 12 09.2	-0.3
	0.3nm,0.5s,baz=211,slow=4.5,SNR=9.2						
	0.3nm,0.5s						
TXAR	Lajitas Array	86.13	58	P	P	02 12 13.0	-0.8
	0.4nm,0.7s,baz=235,slow=4.1,SNR=6.0						
	0.4nm,0.7s						
BRTR	Keskin Array B	143.99	315	PKP	PKPdf	02 19 05.2	+1.2
	0.6nm,0.8s,baz=76,slow=1.0,SNR=2.9						
GERES	GERESS Array B	146.90	345	PKPbc	PKPbc	02 19 12.4	+1.0
	0.9nm,0.5s,baz=35,slow=3.6,SNR=10						
CONA	Conrad Observa	147.13	342	ePKP	PKPbc	02 19 13.4	+1.4
	0.5nm,0.4s						
RONA	Rosalia, Austr	147.20	341	i PKP	PKiKP	02 19 13.9	-0.1
	1.5nm,0.5s						
LESA	Schwarzleotal	148.48	345	ePKP	PKPbc	02 19 16.2	+0.7
	0.4nm,0.2s						
SOKA	Soboth	148.50	341	ePKP	PKPbc	02 19 15.8	+0.3
	0.1nm,0.2s						
KBA	Koelnbreinsper	148.62	344	i PKP	PKPbc	02 19 16.0	0.0
	0.6nm,0.3s						
WATA	Walderalm	148.82	346	i PKP	PKPbc	02 19 17.0	+0.6
	1.6nm,0.4s						
RETA	Reutte	148.86	347	i PKP	PKPbc	02 19 17.1	+0.7
	0.4nm,0.3s						
WTTA	Wattenberg	148.88	346	i PKP	PKPbc	02 19 17.3	+0.6
	1.4nm,0.3s						
SQTA	Sankt Quirin	149.02	346	i PKP	PKPbc	02 19 17.7	+0.8
	0.3nm,0.2s						

NNC 17 02:03:57.1±6.8, 36°.65N×70°.67E, h76km±142km, mb3.4, mpv3.6, 7C, Error ellipse: s-maj=49.9km s-min=47.6km az=171.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.45	359	⇑P	Pn	02 05 30.2	+0.9
	2.4nm,0.4s,baz=175,slow=12,SNR=77						
KK31				⇑S	Sn	02 06 43.0	+1.7
	1.2nm,0.3s,baz=184,slow=19,SNR=4.1						
AAK	Ala-Archa	6.67	25	P	Pn	02 05 31.3	-1.1
	2.2nm,0.5s						
AAK				⇑S	Sn	02 06 46.9	-0.1
	1.3nm,0.6s						
AB31	Akbulak array	14.82	332	⇑P	Pn	02 07 22.0	-0.4
	0.4nm,0.4s,baz=145,slow=12,SNR=20						
AB31				⇑S	Sn	02 10 05.9	+0.5
	0.5nm,0.5s						
AKTO	Aktyubinsk	16.52	330	⇑P	P	02 07 45.6	+0.4
	1.3nm,0.8s						
AKTO				⇑S	Sn	02 10 44.8	-1.6
	0.2nm,0.6s						

IDC 17 02:08:13.2±1.8, 40°.22N×141°.73E, h0km, mb3.7/9, mbtmp3.7/11, ML2.7/2, MS3.4/2, Error ellipse: s-maj=41.5km s-min=27.0km az=163.0

JMA 17 02:08:19.3±0.1, 39°.8N±0°.2×141°.9E±0°.4, h58km, MV3.4/39, NORTHERN IWATE PREF

JMA Felt I J1 at NORTHERN IWATE PREF .

ISC 17 02:08:18.8±0.8, 39°.76N±0°.04×141°.86E±0°.07, h60km±6km, n32, σ0§59/35, mb3.9/9, 16D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.17	1	P	Pn	02 08 28.5	+0.4
JTH				S	Sn	02 08 35.0	+0.1
MIYJ	Miyakonagasawa	0.19	190	i P	Pn	02 08 28.6	+0.3
MIYJ				S	Sn	02 08 34.9	-0.1
JKEN	Kujiedanarisaw	0.46	345	⇓iP	Pn	02 08 30.6	+0.3
JKEN				⇓S	Sn	02 08 38.8	+0.1
JKZ	Kuzumaki	0.46	299	⇓iP	Pn	02 08 30.9	+0.4
JKZ				⇓S	Sn	02 08 38.9	-0.1
JOM	Ohasama	0.53	237	⇓iP	Pn	02 08 31.2	+0.1
JOM				⇓S	Sn	02 08 39.6	-0.4
JANG	Nango	0.66	337	⇓iP	Pn	02 08 32.8	+0.1
JANG				⇓S	Sn	02 08 42.7	0.0
OFUJ	Ofunato	0.70	192	i P	Pn	02 08 33.2	+0.2
OFUJ				S	Sn	02 08 43.2	-0.3
JMK	Ichinoseki	0.95	212	i P	Pn	02 08 36.4	+0.2
JMK				S	Sn	02 08 49.1	+0.1
JRG	Rokugo	1.02	249	⇓iP	Pn	02 08 37.2	+0.1
JRG				⇓S	Sn	02 08 50.5	-0.1
JAH	Hinai	1.03	295	⇓iP	Pn	02 08 37.6	+0.3
JAH				⇓S	Sn	02 08 51.7	+0.7
JTM	Tenmabayashi	1.19	330	⇓P	Pn	02 08 39.6	+0.3
JTM				⇓eS	Sn	02 08 54.9	+0.3
JIO	Ouri	1.37	197	i P	Pn	02 08 41.9	+0.1
JYK	Kaneyama	1.44	235	⇓P	Pn	02 08 42.9	+0.2
JYK				⇓eS	Sn	02 09 00.8	+0.2
MJAR	Matsushiro Arr	4.32	223	Pn	Pn	02 09 23.6	+1.7
	0.1nm,0.3s,baz=35,slow=14,SNR=4.4						
	0.9nm,0.3s						
USRK	Ussuriysk Ar.	8.58	304	Pn	Pn	02 10 12.7	-7.6
	0.3nm,0.3s,baz=116,slow=13,SNR=2.2						
	0.6nm,0.3s						
H11N2	WAKE ISLAND Hy	29.35	126	T	T	02 44 55.3	
	baz=318,slow=75,SNR=66						
H11N1	WAKE ISLAND Hy	29.36	126	T	T	02 44 53.5	
	baz=318,slow=75,SNR=105						
H11N3	WAKE ISLAND Hy	29.36	126	T	T	02 44 53.0	
	baz=318,slow=75,SNR=103						
H11S1	WAKE ISLAND Hy	30.14	127	T	T	02 45 53.6	
	baz=319,slow=76,SNR=20						
H11S3	WAKE ISLAND Hy	30.14	127	T	T	02 45 55.6	
	baz=319,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	30.16	127	T	T	02 46 01.0	
	baz=319,slow=76,SNR=16						
ZALV	Zalesovo Beam	40.38	310	P	P	02 15 50.0	-0.6
	1.4nm,0.5s,baz=86,slow=8.1,SNR=6.5						
	1.4nm,0.5s						
MKAR	Makanchi Array	43.02	300	P	P	02 16 11.9	-0.4
	0.7nm,0.6s,baz=84,slow=9.4,SNR=8.0						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	44.64	306	P	P	02 16 25.0	-0.2
	1.1nm,0.5s,baz=82,slow=8.6,SNR=8.6						
	1.1nm,0.5s						
ILAR	Eielson Array	47.02	34	P	P	02 16 44.6	+0.8
	0.2nm,0.8s,baz=277,slow=8.0,SNR=1.7						
	0.2nm,0.8s						
KAPI	Kappang	49.00	210	LR	LR	02 36 38.4	
	comp=Z,53nm,20.8s,baz=128,slow=35						
ARCES	ARCESS Array B	61.57	339	P	P	02 18 27.7	-1.7
	2.2nm,0.9s,baz=47,slow=7.3,SNR=4.3						
	2.2nm,0.9s						
FINES	FINESS Array B	66.57	332	P	P	02 19 01.3	-0.9
	0.9nm,0.7s,baz=39,slow=7.2,SNR=3.3						
	0.9nm,0.7s						
HFS	Hagfors	71.75	336	P	P	02 19 33.5	-0.8
	0.7nm,0.4s,baz=39,slow=9.3,SNR=4.9						
	0.7nm,0.4s						
NOA	NORSAR Array B	71.81	337	P	P	02 19 34.9	+0.2
	0.4nm,0.7s,baz=30,slow=3.4,SNR=3.4						
	0.4nm,0.7s						
BORG	Borgarnes	74.99	353	LR	LR	02 52 20.5	
	comp=Z,15nm,20.6s,baz=187,slow=36						
PDAR	Pinedale Array	75.51	46	P	P	02 19 57.7	+0.7
	0.2nm,0.6s,baz=322,slow=7.4,SNR=2.0						
	0.2nm,0.6s						

TAP 17 02:11:37.2, 22°.95N×120°.87E, h6km, ML2.7, 1C, C,

Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	0.23	124	i P	Pg	02 11 42.7	+1.0
TWG				S	Sg	02 11 46.0	+1.3
STYH	Taoyuan	0.23	339	eP	Pg	02 11 41.3	-0.5
STYH				eS	Sg	02 11 44.6	-0.4
STYT	Tauyuan	0.23	334	eP	Pg	02 11 41.4	-0.4
STYT				eS	Sg	02 11 44.7	-0.2
TWGBT	Beinan	0.24	124	P	Pg	02 11 42.5	+0.7
TWGBT	Beinan	0.24	124	S	Sg	02 11 45.3	+0.4
TWGBT	Beinan	0.24	124	i P	Pg	02 11 42.6	+0.8
TWGBT				i S	Sg	02 11 46.0	+1.0
LONT	Longtian	0.24	100	i P	Pg	02 11 42.8	+0.8
LONT				i S	Sg	02 11 46.4	+1.2
ELDTW	Lidau	0.28	30	i P	Pg	02 11 42.9	+0.3
ELDTW				S	Sg	02 11 46.8	+0.5
SGST	Jiashian	0.29	297	eP	Pg	02 11 43.1	+0.2
SGST				eS	Sg	02 11 47.8	+1.0
SSD	Sandimen	0.30	227	⇑iP	Pg	02 11 43.2	+0.3
SSD				S	Sg	02 11 46.7	-0.3
TSMG	Majia	0.32	220	P	Pg	02 11 43.8	+0.4
TSMG				S	Sg	02 11 47.6	0.0
TTN	Taitung	0.32	122	eP	Pb	02 11 44.7	-0.6
TTN				S	Sb	02 11 50.8	-0.1
SCST	Cishan	0.35	260	P	Pb	02 11 45.3	-0.6
SCST				eS	Sg	02 11 50.1	+1.5
ECS	Chishang	0.35	66	i P	Pb	02 11 45.0	-0.9
ECS				S	Sb	02 11 50.4	-1.4
ECL	Taimali	0.36	167	eP	Pg	02 11 44.7	+0.6
ECL				S	Sg	02 11 49.4	+0.5
WTP	Ta-pu	0.38	322	i P	Pb	02 11 45.8	-0.6
WTP				eS	Sg	02 11 50.9	+1.4
CHN1	Nanshi	0.39	307	eP	Pb	02 11 46.3	-0.3
CHN1				eS	Sb	02 11 52.2	-0.6
MASBT	Mashibuluo	0.40	213	eP	Pg	02 11 45.1	+0.2
MASBT				eS	Sg	02 11 50.5	+0.3
EDH	Donghe	0.40	87	eP	Pb	02 11 46.3	-0.4
EDH				eS	Sb	02 11 52.5	-0.7
TPUB	Ta-pu	0.41	328	P	Pb	02 11 46.4	-0.5
TPUB	Ta-pu	0.41	328	S	Sb	02 11 52.6	-0.9
TPUB	Ta-pu	0.41	328	eP	Pb	02 11 46.4	-0.5
TWM1	Shoushan	0.43	253	eP	Pb	02 11 47.5	+0.3
SNST	Tainan City	0.43	308	eP	Pb	02 11 47.6	+0.3
FULB	Fuli	0.46	58	P	Pb	02 11 47.2	-0.6
FULB				eS	Sb	02 11 54.1	-0.8
TWK	Hsinying	0.47	312	P	Pb	02 11 47.8	-0.2
TWK				eS	Sb	02 11 55.9	+0.7
CHN4	Tsaushan	0.47	328	eP	Pb	02 11 47.9	-0.1
CHN4				eS	Sb	02 11 55.4	+0.2
CHKT	Chengkung	0.48	72	eP	Pb	02 11 47.6	-0.4
CHKT				eS	Sb	02 11 55.6	+0.2
SHHT	Tainan City	0.48	279	eP	Pn	02 11 50.4	-0.3
CHKH	Chenggong	0.54	64	eP	Pb	02 11 48.6	-0.5
CHKH				eS	Sb	02 11 56.6	-0.6
WCKO	Fanlu	0.54	334	eP	Pb	02 11 49.7	+0.6
WCKO				S	Sb	02 11 58.1	+0.9
ALS	Alishan	0.56	354	P	Pg	02 11 48.8	+0.7
ALS				eS	Sb	02 11 57.0	-1.0
TWF1	Yuli	0.56	45	P	Pg	02 11 48.3	+0.3
TWF1				eS	Sg	02 11 55.4	+0.1
EAST	Anshuo	0.56	182	eP	Pg	02 11 48.6	+0.6
EAST				eS	Sg	02 11 56.0	+0.6
EYUL	Yuli	0.57	46	eP	Pg	02 11 48.6	+0.3
TAW	Tawu	0.59	177	eP	Pb	02 11 49.7	-0.2
YULB	Yu-li	0.59	42	P	Pg	02 11 48.3	-0.3
YULB	Yu-li	0.59	42	P	Pg	02 11 48.5	-0.1
YULB				eS	Sg	02 11 56.1	-0.2
TAWH	Dawu Township	0.61	178	eP	Pg	02 11 49.3	+0.5
TAWH				eS	Sg	02 11 57.1	+0.4
LDUT	Ludao	0.62	116	P	Pb	02 11 49.9	-0.5
LDUT				S	Sb	02 11 59.6	+0.3
SCZT	Fangliau	0.62	202	P	Pg	02 11 49.4	+0.3
SCZT				eS	Sg	02 11 57.5	+0.4
WSSB	Gushan	0.64	241	eP	Pn	02 11 54.0	+1.2
ICHU	Yijhu	0.68	307	eP	Pb	02 11 52.0	+0.5
EHY	Hungye	0.69	37	eP	Pg	02 11 50.6	0.0
EHY				eS	Sg	02 11 58.9	-0.7
EHYH	Wanrong	0.70	39	eP	Pg	02 11 50.6	0.0
EHYH				eS	Sb	02 12 00.8	-0.8
SLIU	Shizi	0.73	185	eP	Pg	02 11 51.7	+0.4
SLIU				eS	Sg	02 12 01.1	+0.3
HGSD	Ruisui	0.74	43	eP	Pb	02 11 52.3	-0.3
HGSD				eS	Sb	02 12 03.4	+0.4
WHYT	Xinyi Township	0.74	359	eP	Pg	02 11 51.7	+0.2
WHYT				S	Sb	02 12 03.2	+0.2
TSCK	Chigu Township	0.75	285	eP	Pb	02 11 53.3	+0.7
TSCK				eS	Sn	02 12 06.4	+0.5
WDLH	Douliu	0.80	338	eP	Pb	02 11 53.9	+0.5
WDLH				eS	Sn	02 12 06.9	-0.2
WSL	Shuilin Townsh	0.82	314	eP	Pn	02 11 55.0	-0.3
SSLB	Suanglung	0.84	5	P	Pb	02 11 54.7	+0.5
SSLB	Suanglung	0.84	5	eP	Pg	02 11 52.8	-0.4
VWDT	VWDT	0.84	17	eP	Pg	02 11 53.4	+0.1
WTK	Tuku	0.86	329	eP	Pn	02 11 55.6	-0.2
WTK				eS	Sn	02 12 09.4	+0.7
EGFH	Guangfu	0.88	36	eP	Pg	02 11 54.3	+0.2
EGFH				eS	Sb	02 12 06.3	-0.6
WARBT	Fenglin Townsh	0.90	32	eP	Pg	02 11 53.9	-0.6
WARBT				eS	Sg	02 12 06.3	+0.1
SMLT	Sun Moon Lake	0.93	2	eP	Pb	02 11 55.7	-0.1
SMLT				eS	Sn	02 12 10.7	+0.1
TYC	Yuchr	0.95	359	eP	Pn	02 11 57.0	-0.1
TYC				S	Sn	02 12 11.4	+0.4
ESL	Shilin	1.00	31	eP	Pg	02 11 56.4	-0.1
TWKBT	Hengchun	1.01	183	eP	Pn	02 11 58.6	+0.8
OWD	Renai	1.04	16	P	Pg	02 11 57.2	0.0
OWD				eS	Sn	02 12 13.5	+0.1
SHUL	Shoufeng	1.05	37	eP	Pb	02 11 57.7	0.0
SHUL				eS	Sn	02 12 14.4	+0.9
WUSB	Renai	1.06	12	eP	Pg	02 11 57.0	-0.6
WCS	Beigang Elemen	1.10	2	eP	Pn	02 11 59.3	+0.1
WCS				eS	Sn	02 12 15.8	+1.1
WDGT	Dungji	1.15	286	eP	Pn	02 12 00.1	+0.3
WDGT				eS	Sn	02 12 16.6	+0.6
ETM	Tongmen	1.16	29	eP	Pg	02 11 59.1	-0.4
LXIB	Xiulin Townshi	1.18	25	eP	Pg	02 11 59.0	-0.8
LXIB				eS	Sb	02 12 16.1	+0.5
WHF	Hehuan Shan	1.24	17	eP	Pg	02 12 00.8	-0.3
WHF				eS	Sn	02 12 20.1	+1.2
PHUB	P'eng-hu	1.32	295	eP	Pg	02 12 02.7	+0.2
PHUB				eS	Sn	02 12 20.4	+0.3
TDCB	Techi	1.32	12	eP	Pb	02 12 02.5	0.0
WHP	Taichung City	1.32	3	eP	Pg	02 12 03.4	+0.8
WHP				eS	Sn	02 12 22.4	+2.1
FUSS	Fushou	1.34	15	eP	Pn	02 12 02.6	0.0
FUSS				eS	Sn	02 12 23.1	+2.2
VCHM	Qimei	1.35	281	eP	Pn	02 12 02.1	-0.5
ETLH	Xiulin Townshi	1.37	24	eP	Pn	02 12 02.9	-0.1
NACB	Ninganchiao	1.39	29	P	Pb	02 12 03.4	-0.2
NACB	Ninganchiao	1.39	29	eP	Pn	02 12 03.3	+0.2
NACB				eS	Sg	02 12 22.0	+0.1
NNSB	Datong	1.54	18	eP	Pb	02 12 06.5	+0.1
LATG	Datong	1.69	21	eP	Pb	02 12 09.1	+0.3
LATG				eS	Sg	02 12 33.4	+1.9
NFF	Wufeng Townshi	1.69	8	eP	Pg	02 12 09.7	+0.1
NFF				eS	Sg	02 12 32.5	+1.0
LIOB	Emei	1.69	5	eP	Pg	02 12 09.4	-0.2
YHNB	Yeheng	1.77	15	P	Pb	02 12 10.5	+0.3
YHNB	Yeheng	1.77	15	eP	Pb	02 12 10.6	+0.5
YHNB				eS	Sg	02 12 35.3	+1.1
NSK	Sanguang	1.78	15	eP	Pg	02 12 10.8	-0.5
NSK				eS	Sg	02 12 35.5	+1.2
ENTT	Nioudou	1.80	21	eP	Pg	02 12 11.6	-0.1
NWLT	Wulai	1.91	18	eP	Pg	02 12 13.8	0.0
FUSB	Fushanzhiwuyua	1.92	20	eP	Pb	02 12 13.1	+0.5
FUSB				eS	Sg	02 12 40.2	+1.4
TIPB	Shuangxi	2.19	23	eP	Pb	02 12 16.9	-0.4
SXI1	Grass Mountain	2.33	23	eP	Pb	02 12 20.4	+0.8

MEX 17 02:18:19.1±0.5, 14°.02N×92°.52W, h11km±443km, MD4.1

GCG 17 02:18:21.8±1.2, 14°.13N×92°.44W, h18km±9km, MD4.1

ISC 17 02:18:15.9±2.7, 13°.97N±0°.08×92°.53W±0°.05, h16km±14km, n18, σ2§06/30, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.97	15	eP	Pb	02 18 33.8	-0.5
THIG				eS	Sg	02 18 45.5	-2.0
SMCA	Catarina	0.99	27	eP	Pb	02 18 36.3	+1.7
SMCA				i S	Sg	02 18 48.6	+0.5
PATR	El Naranjo	1.18	14	eP	Pb	02 18 38.0	0.0
PATR				eS	Sb	02 18 48.8	-4.4
STG5	El Palmar, Qui	1.23	69	eP	Pb	02 18 40.0	+1.2
STG0	El Palmar, Qui	1.24	68	eP	Pb	02 18 40.4	+1.3
STG8	El Palmar, Qui	1.24	67	i P	Pb	02 18 40.5	+1.4
STG8				i S	Sb	02 18 55.8	+0.9
PAVE	Pavencul	1.27	16	eP	Pb	02 18 38.9	-0.6
PAVE				eS	Sb	02 18 54.8	-0.9
PCIG		1.85	339	eP	Pn	02 18 46.4	-0.5
PCIG				eS	Sn	02 19 08.6	-1.4
FG8	Yepocapa, Chim	1.93	81	eP	Pn	02 18 47.8	-0.4
FG8				eS	Sn	02 19 08.4	-3.9
FG16	Alotenango, Sa	1.98	81	eP	Pn	02 18 49.2	+0.2
CCIG	Comitan	2.33	9	eP	Pn	02 18 57.5	+3.7
CCIG				eS	Sn	02 19 24.3	+2.1
CCIG	Comitan	2.33	9	eP	Pn	02 18 57.7	+3.9
TGIG		2.85	349	eP	Pn	02 19 01.6	+0.8
TGIG				eS	Sn	02 19 33.1	-1.7
UXUV	UXUV	3.67	335	eP	Pn	02 19 13.7	+1.6
UXUV				eS	Sn	02 19 58.6	+3.5
CMIG	Matias Romero	3.84	324	eP	Pn	02 19 14.7	+0.3
CMIG				eS	Sn	02 19 57.6	-1.7
NEUV	Arroyo Zacate	4.87	320	eP	Pn	02 19 29.9	+1.3
NEUV				eS	Sn	02 20 23.6	-1.1
TOIG	Toxpalan	5.99	314	eS	Sn	02 20 53.0	+0.7
TXIG	Tlaxiaco	6.01	304	eS	Sn	02 20 52.4	-0.7

IDC 17 02:18:56.6±0.7, 19°.10N×121°.34E, h0km, mb3.8/15, mbtmp3.8/16, ML4.6/2, MS3.3/14, Error ellipse: s-maj=28.1km s-min=14.3km az=73.0

NEIC 17 02:19:01.0±1.9, 19°.11N±0°.07×121°.4E±0°.1, h23km±5km, mb4.6/45, Error ellipse: s-maj=19.9km s-min=10.4km az=93.0

BJI 17 02:19:04.5, 19°.38N×121°.08E, h33km, mB4.4/4, mb4.4/19, Ms3.9/12, Ms7 3.7/13

ISC 17 02:19:03.0±0.5, 19°.05N±0°.06×121°.41E±0°.07, h46km, n249, σ1§10/237, mb4.5/40, MS3.4/13, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	3.77	355	Pn	Pn	02 19 55.3	-3.3
TPUB	Ta-pu	4.29	350	Pn	Pn	02 20 03.1	-2.7
YULB	Yu-li	4.32	359	Pn	Pn	02 20 04.7	-1.5
SSLB	Suanglung	4.74	355	Pn	Pn	02 20 10.2	-1.8
TGY	Tagaytay City	4.94	185	Pn	Pn	02 20 13.8	-1.0
	163nm,0.3s,baz=222,slow=16,SNR=3.5						
TGY				Sn	Sn	02 21 11.7	+1.0
	82nm,0.3s,baz=14,slow=4.2,SNR=1.5						
TGY				LR	LR	02 22 38.5	
	comp=Z,432nm,19.7s,baz=296,slow=44						
NACB	Ninganchiao	5.10	2	Pn	Pn	02 20 14.8	-2.1
YHNB	Yeheng	5.59	360	Pn	Pn	02 20 22.6	-1.2
KNMB	Chin-men Tao	6.08	333	Pn	Pn	02 20 29.9	-0.4
QIZ	Qiongzhong	10.94	272	P	Pn	02 21 37.5	+0.4
QIZ				S	Sn	02 23 36.8	-1.4
QIZ				pmax	pmax		
	comp=Z,25nm,2.0s						
QIZ				LR	LR		
	comp=N,160nm,13.0s						
QIZ				LR	LR		
	comp=E,380nm,14.3s						
QIZ				LR	LR		
	comp=Z,410nm,15.8s						
NJ2	Nanjing	13.15	350	eP	Pn	02 22 06.4	-0.7
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NJ2				LR	LR		
	comp=N,230nm,15.2s						
NJ2				LR	LR		
	comp=E,200nm,14.2s						
NJ2				LR	LR		
	comp=Z,230nm,18.0s						
JNU	Nakatsue	16.38	29	LR	LR	02 29 03.2	
	comp=Z,109nm,21.4s,baz=202,slow=37						
LYN	LuoYang	17.37	335	P	P	02 23 06.3	+3.4
LYN				pmax	pmax		
	comp=Z,15nm,0.6s						
LYN				LR	LR		
	comp=N,170nm,13.7s						
LYN				LR	LR		
	comp=E,240nm,15.1s						
LYN				LR	LR		
	comp=Z,190nm,10.0s						
TIA	Tai'an	17.51	348	P	P	02 23 05.5	+1.0
TIA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HNS	HongShan	19.20	344	⇑P	Pn	02 23 27.1	+2.8
HNS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
HNS				LR	LR		
	comp=Z,210nm,14.3s						
HNS				LR	LR		
	comp=Z,160nm,13.9s						
KSRS	Korea Array	19.20	16	P	P	02 23 21.3	-1.8
	comp=Z,0.2nm,0.3s,baz=194,slow=11,SNR=5.0						
KSRS				LR	LR	02 31 50.5	
	comp=Z,47nm,18.4s,baz=205,slow=40						
	comp=Z,1.1nm,0.4s						
PZH	PanZhiHua	19.58	296	P	Pn	02 23 28.5	-0.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,6.3s						
CHTO	Chiang Mai	21.26	273	P	P	02 23 43.7	-1.8
CM31	Chiang Mai Arr	21.29	272	P	P	02 23 45.8	0.0
CMAR	Chiang Mai Arr	21.29	272	P	P	02 23 45.8	0.0
CMAR	Chiang Mai Arr	21.29	272	P	P	02 23 43.2	-2.6
	comp=Z,0.6nm,0.3s,baz=87,slow=11,SNR=9.0						
CMAR				LR	LR	02 32 16.1	
	comp=Z,92nm,18.1s,baz=100,slow=38						
	comp=Z,0.6nm,0.3s						
JHJ	Hachijo jima 2	21.60	46	LR	LR	02 30 29.5	
	comp=Z,49nm,21.1s,baz=240,slow=32						

baz=277,slow=74,SNR=6.7
H11S2 WAKE ISLAND Hy 42.80 83 T T 03 12 54.1
baz=277,slow=74,SNR=4.4
H11N1 WAKE ISLAND Hy 42.81 81 T T 03 12 55.2
baz=277,slow=75,SNR=45
H11N2 WAKE ISLAND Hy 42.81 81 T T 03 12 55.4
baz=277,slow=75,SNR=27
H11N3 WAKE ISLAND Hy 42.82 81 T T 03 12 58.7
baz=277,slow=75,SNR=31
KSH Kashi 44.03 308 P P 02 27 14.8 +8.4
KSH pmax pmax
comp=Z,8.0nm,0.4s
ASAR Alice Springs 44.17 163 P **P 02 27 09.2 +1.7**
comp=Z,0.5nm,0.4s,baz=346,slow=9.1,SNR=7.7
comp=Z,0.5nm,0.4s
ZALV Zalesovo Beam 44.72 330 P **P 02 27 09.9 -1.6**
ZALV Zalesovo Beam 44.72 330 P **P 02 27 10.9 -0.6**
comp=Z,0.8nm,0.5s,baz=127,slow=8.4,SNR=4.4
ZALV LR LR 02 46 48.3
comp=Z,28nm,20.6s,baz=59,slow=37
comp=Z,0.8nm,0.5s
MA2 Magadan 45.66 20 LR LR 02 46 52.7
comp=Z,19nm,18.5s,baz=143,slow=37
KURBB Kurchatov Arra 46.24 323 P **P 02 27 22.5 -1.1**
comp=Z,1.1nm,0.6s,baz=120,slow=7.8,SNR=9.6
comp=Z,1.1nm,0.6s
GAR Garm 48.23 306 P **P 02 27 38.9 -0.6**
KK31 Karatay Array 48.87 311 P **P 02 27 43.5 -0.6**
KKAR Karatay Array 48.87 311 P **P 02 27 43.5 -0.6**
BVAR Borovoye Array 51.84 323 P **P 02 28 07.7 +1.3**
comp=Z,0.8nm,0.7s,baz=112,slow=12,SNR=1.9
comp=Z,0.8nm,0.7s
TIXI Tiksi 52.79 3 P **P 02 28 12.2 -1.0**
NRIK Noril'sk 54.40 346 P **P 02 28 24.6 -0.4**
NRIK Noril'sk 54.40 346 P **P 02 28 24.3 -0.7**
comp=Z,2.9nm,0.7s,baz=123,slow=5.8,SNR=6.2
comp=Z,2.9nm,0.7s
BILL Bilibino 56.44 19 P **P 02 28 38.9 -0.8**
AB31 Abkulak array 57.24 317 P **P 02 28 45.1 -0.6**
ABKAR Abkulak array 57.24 317 P **P 02 28 44.8 -0.9**
ARTI Arti 59.46 325 P **P 02 28 59.9 -1.1**
ARTI Arti 59.46 325 LR LR 02 58 06.1
comp=Z,31nm,18.8s,baz=36,slow=40
UNV Unalaska Valle 64.29 39 P **P 02 29 34.0 +0.5**
baz=268
TNA Tin City 64.83 26 P **P 02 29 37.6 +0.8**
baz=261
F14K Arctic Creek 65.47 26 P **P 02 29 42.0 +0.9**
baz=262
ANM Nome 65.76 27 P **P 02 29 43.7 +0.8**
baz=264
F15K North Star Dit 66.19 26 P **P 02 29 46.4 +0.7**
baz=264
C16K Lisburne Hills 66.26 23 P **P 02 29 47.2 +1.1**
baz=262
G15K Niukluk 66.37 27 P **P 02 29 48.0 +1.2**
baz=265
J14K Nanvaranak Lak 66.39 29 P **P 02 29 47.7 +0.8**
baz=266
L14K Kuka Creek 66.72 31 P **P 02 29 50.3 +1.3**
baz=268
D17K Noatak River 67.03 24 P **P 02 29 52.4 +1.5**
baz=264
N14K Kuskokwak Cree 67.16 32 P **P 02 29 52.4 +0.6**
baz=269
L15K Ungalak Mounta 67.30 30 P **P 02 29 52.5 -0.3**
baz=268
K15K Wolf Creek Mou 67.31 30 P **P 02 29 52.9 +0.1**
baz=268
O14K Tigyukauivet M 67.36 33 P **P 02 29 53.2 0.0**
baz=270
E17K Hotham Inlet 67.46 24 P **P 02 29 54.4 +0.7**
baz=266
F17K Baldwin Pennin 67.64 25 P **P 02 29 55.9 +1.1**
baz=267
B18K Kokolik River 67.67 22 P **P 02 29 55.9 +1.0**
baz=265,SNR=6.7
M15K Kasigluk River 67.67 31 P **P 02 29 55.9 +0.8**
baz=270
I17K Unalakleet 67.75 28 P **P 02 29 55.4 -0.2**
baz=268
J16K Anvik River 67.77 29 P **P 02 29 56.9 +1.2**
baz=268
C18K Utukok River 67.82 23 P **P 02 29 56.5 +0.4**
baz=266
G17K Kiwalik Mounta 67.83 26 P **P 02 29 56.0 -0.1**
baz=268
GNI Garni 67.95 306 LR LR 03 04 21.4
comp=Z,23nm,18.9s,baz=125,slow=40
E18K Tukpahlearik C 67.96 24 P **P 02 29 57.0 +0.2**
baz=267
N15K Kwethluk River 67.96 32 P **P 02 29 56.9 -0.1**
baz=270
A19K Wainwright 68.00 21 P **P 02 29 57.7 +0.7**
baz=265
H17K Granite Mounta 68.12 27 P **P 02 29 58.9 +1.0**
baz=268
F18K Selawik 68.29 25 P **P 02 30 00.1 +1.2**
baz=268
J17K VABM Dome 68.46 28 P **P 02 30 00.1 0.0**
baz=270
M16K Timber Creek 68.51 31 P **P 02 30 01.1 +0.6**
baz=271
G18K Tagagawik 68.67 26 P **P 02 30 02.3 +1.0**
baz=269
H18K Honhosa River 68.78 27 P **P 02 30 02.8 +0.8**
baz=270
K17K Iditarod 68.81 29 P **P 02 30 02.5 +0.3**
baz=271
D19K Kuna River 68.94 23 P **P 02 30 03.5 +0.5**
D19K IAmb IAmb 02 30 05.7
comp=Z,5.0nm,0.9s
D19K Kuna River 68.94 23 P **P 02 30 03.0 0.0**
baz=269,SNR=5.5
E19K Redstone River 69.26 24 P **P 02 30 05.3 +0.3**
baz=270
G19K Purcell Mounta 69.31 25 P **P 02 30 06.0 +0.6**
baz=270
B20K Meade River 69.32 21 P **P 02 30 06.7 +1.4**
B20K Meade River 69.32 21 P **P 02 30 05.9 +0.7**
baz=269
N17K Nushagak Hills 69.39 31 P **P 02 30 06.9 +1.0**
baz=273
D20K Etivluk River 69.50 23 P **P 02 30 06.2 -0.2**
baz=270
L18K Granite Mounta 69.57 30 P **P 02 30 08.5 +1.6**
L18K IAmb IAmb 02 30 18.4
comp=Z,8.3nm,1.5s
H19K Roundabout Mou 69.58 26 P **P 02 30 07.9 +0.9**
baz=271
E20K Nigu River 69.66 23 P **P 02 30 07.8 +0.3**
baz=271
F20K Avaraart Lake 69.85 24 P **P 02 30 09.5 +0.9**
baz=271
TTA Tatalina 69.86 29 P **P 02 30 09.8 +1.0**
TTA IAmb IAmb 02 30 20.3
comp=Z,6.6nm,1.4s
TTA Tatalina 69.86 29 P **P 02 30 10.0 +1.2**
baz=273
J19K Poorman 69.98 28 P **P 02 30 10.6 +1.1**
baz=273
M18K Stony River 70.01 30 P **P 02 30 11.2 +1.5**
baz=273
A22K Sinclair Lake 70.06 20 P **P 02 30 11.1 +1.3**
baz=271
C21K Knifeblade Rid 70.16 22 P **P 02 30 11.7 +1.2**
baz=272
B21K Ikpikpuk River 70.21 22 P **P 02 30 11.8 +1.1**
baz=272,SNR=8.7
H20K Anotleneega Mo 70.24 26 P **P 02 30 12.5 +1.4**
baz=273
O18K Koktuh Hills 70.42 32 P **P 02 30 13.5 +1.3**
baz=274
I20K Naaghedeneel 70.44 27 P **P 02 30 13.4 +1.2**
baz=273
P18K Big Mountain, 70.44 33 P **P 02 30 13.4 +1.0**
baz=275
B22K Teshekpuk Lake 70.59 21 P **P 02 30 14.3 +1.2**
baz=272,SNR=5.4
J20K Nowinta River 70.62 28 P **P 02 30 14.9 +1.6**
J20K IAmb IAmb 02 30 57.5
comp=Z,6.6nm,1.4s
J20K Nowinta River 70.62 28 P **P 02 30 14.4 +1.0**
baz=274
N19K Bonanza Creek 70.71 31 P **P 02 30 15.5 +1.4**
baz=275
G21K Allakaket 70.75 25 P **P 02 30 15.3 +1.2**
baz=274

O19K Port Alsworth 70.84 32 P **P 02 30 15.7 +1.0**
baz=275
D22K Ayikyak River 70.92 22 P **P 02 30 14.9 -0.2**
D22K IAmb IAmb 02 30 17.9
comp=Z,5.4nm,1.1s
D22K Ayikyak River 70.92 22 P **P 02 30 16.3 +1.1**
baz=274
H21K Melozitna Rive 71.09 26 P **P 02 30 17.5 +1.3**
baz=275,SNR=5.3
F22K John River 71.20 24 P **P 02 30 18.1 +1.2**
baz=274
E22K Anaktuvuk Pass 71.29 23 P **P 02 30 17.5 0.0**
E22K IAmb IAmb 02 30 20.0
comp=Z,5.4nm,1.1s
E22K Anaktuvuk Pass 71.29 23 P **P 02 30 18.8 +1.3**
baz=275,SNR=6.8
P19K Oil Pt 71.44 32 P **P 02 30 19.5 +1.0**
baz=276
CHUM Lake Minchumin 71.45 28 P **P 02 30 19.6 +1.3**
baz=276
I21K Tanana 71.47 26 P **P 02 30 19.7 +1.2**
baz=276
G22K Bettles 71.51 25 P **P 02 30 20.2 +1.6**
baz=275
C23K Itkillik River 71.59 21 P **P 02 30 20.4 +1.3**
baz=275
CAST Castle Rocks 71.60 28 P **P 02 30 19.5 +0.2**
CAST IAmb IAmb 02 30 21.9
comp=Z,5.8nm,0.9s
CAST Castle Rocks 71.60 28 P **P 02 30 20.7 +1.3**
baz=276,SNR=5.6
PPLA Purkeypile 71.60 29 P **P 02 30 19.1 -0.5**
PPLA Purkeypile 71.60 29 P **P 02 30 20.2 +0.7**
baz=276
D23K Nanushuk River 71.64 22 P **P 02 30 19.9 +0.5**
D23K IAmb IAmb 02 30 22.3
comp=Z,5.0nm,0.9s
D23K Nanushuk River 71.64 22 P **P 02 30 21.0 +1.5**
baz=275,SNR=6.0
H22K Ishtalitna Cre 71.66 26 P **P 02 30 20.9 +1.3**
baz=276,SNR=5.5
KDAK Kodiak Island 71.98 34 P **P 02 30 23.2 +1.5**
baz=277
COLD Coldfoot 71.99 24 P **P 02 30 22.5 +0.9**
baz=276
SKT Skwentna 72.01 30 P **P 02 30 22.5 +0.7**
SKT Skwentna 72.01 30 P **P 02 30 22.4 +0.5**
baz=277
BPAW Bear Paw Mtn. 72.01 27 P **P 02 30 23.6 +1.8**
BPAW Bear Paw Mtn. 72.01 27 P **P 02 30 22.6 +0.8**
baz=277
TOLK Toolik Lake Re 72.07 23 P **P 02 30 22.9 +0.8**
baz=276
G23K Bananza Creek 72.12 25 P **P 02 30 23.0 +0.6**
baz=277
E23K Chandalar 72.12 23 P **P 02 30 23.8 +1.3**
baz=277
C24K Franklin Bluff 72.26 21 P **P 02 30 24.0 +0.9**
baz=277
D24K Happy Valley 72.28 22 P **P 02 30 25.0 +1.7**
baz=277
H23K Yukon River 72.41 26 P **P 02 30 25.4 +1.2**
baz=278
SUA Susitna One 72.44 30 P **P 02 30 24.7 +0.1**
SUA IAmb IAmb 02 30 28.8
comp=Z,5.9nm,1.1s
SUA Susitna One 72.44 30 P **P 02 30 25.1 +0.6**
baz=278
E24K Your Creek 72.54 23 P **P 02 30 25.8 +0.9**
baz=278,SNR=5.7
I23K Minto, Yukon-K 72.58 26 P **P 02 30 26.3 +1.2**
baz=278
NEA2 Nenana 72.78 27 P **P 02 30 27.1 +0.7**
baz=278
F24K Squaw Lake 72.84 24 P **P 02 30 27.7 +1.0**
baz=278,SNR=5.7
MCK McKinley 72.96 28 P **P 02 30 27.0 -0.5**
baz=279
RND Reindeer 73.04 28 P **P 02 30 28.1 0.0**
RND IAmb IAmb 02 30 29.4
comp=Z,4.5nm,0.8s
H24K Noodor Dome 73.09 25 P **P 02 30 29.1 +0.9**
baz=279
G24K Hadweenzic Riv 73.12 25 P **P 02 30 28.9 +0.6**
baz=279
SML Sawmill 73.53 30 P **P 02 30 31.9 +1.0**
SML Sawmill 73.53 30 P **P 02 30 31.8 +1.0**
baz=280
KNK Knik Glacier 73.54 30 P **P 02 30 32.2 +1.3**
baz=280
G25K Bearman Lake 73.65 24 P **P 02 30 32.3 +0.9**
baz=280
ILAR Eielson Array 73.67 27 P **P 02 30 30.8 -0.8**
comp=Z,0.5nm,0.8s,baz=283,slow=5.7,SNR=5.5
comp=Z,0.5nm,0.8s
PWL Port Wells 73.69 31 P **P 02 30 31.9 +0.1**
baz=280
HDA Harding Lake 73.71 27 P **P 02 30 32.6 +0.7**
baz=280
M23K Glacier View 73.82 30 P **P 02 30 33.4 +0.9**
baz=280
H25L Birch Creek 73.85 25 P **P 02 30 33.8 +1.2**
baz=281
SCM Sheep Creek Mo 74.00 30 P **P 02 30 34.4 +0.8**
baz=281
PRP Porcupine Dome 74.11 26 P **P 02 30 35.0 +0.7**
baz=281
GLI Glacier Island 74.28 31 P **P 02 30 36.4 +1.1**
baz=281
K24K Donnelly Dome 74.33 27 P **P 02 30 36.4 +0.9**
baz=281
M24K Tolsona, Glenn 74.48 29 P **P 02 30 37.6 +1.2**
baz=282
PAX Paxson 74.63 28 P **P 02 30 38.4 +1.1**
baz=282
KLU Klutina 74.72 30 P **P 02 30 38.9 +1.0**
baz=282
RIDG Independent Ri 74.75 27 P **P 02 30 39.0 +1.0**
baz=282
SCRK Sand Creek 75.07 27 P **P 02 30 40.4 +0.5**
baz=283
I26K Coal Creek Min 75.12 26 P **P 02 30 40.5 +0.4**
I26K Coal Creek Min 75.12 26 P **P 02 30 41.0 +1.0**
baz=283
J26L Joseph Creek 75.13 26 P **P 02 30 41.0 +0.8**
baz=283
G27K Doyon Strip 75.36 24 P **P 02 30 42.8 +1.3**
baz=284
BMRM Bremner River 75.45 30 P **P 02 30 43.6 +1.5**
baz=283
H27K Steamboat Moun 75.56 25 P **P 02 30 44.0 +1.4**
baz=284
I27K Kandik River 75.67 25 P **P 02 30 44.6 +1.3**
baz=285
M26K Nabesna, AK 75.87 29 P **P 02 30 45.8 +1.4**
baz=284
K27K Chicken 75.87 27 P **P 02 30 45.0 +0.7**
K27K IAmb IAmb 02 30 47.8
comp=Z,9.2nm,1.4s
K27K Chicken 75.87 27 P **P 02 30 45.5 +1.2**
baz=285
FINES FINESS Array B 75.98 330 P **P 02 30 44.0 -1.0**
comp=Z,1.5nm,0.9s,baz=80,slow=6.6,SNR=3.9
comp=Z,1.5nm,0.9s
L27K Beaver Creek, 76.22 28 P **P 02 30 47.6 +1.1**
baz=285
BCAR Beaver Creek A 76.24 28 P **P 02 30 47.6 +1.0**
M27K Edge Creek, AK 76.38 28 P **P 02 30 48.1 +0.7**
I28M Miner Creek 76.39 25 P **P 02 30 48.5 +1.1**
I28M Miner Creek 76.39 25 P **P 02 30 47.0 -0.4**
baz=286
G29M Pine Creek 76.72 23 P **P 02 30 49.8 +0.7**
baz=287
H29M Whitestone 76.79 24 P **P 02 30 50.5 +1.0**
H29M IAmb IAmb 02 30 52.2
comp=Z,6.7nm,1.1s
H29M Whitestone 76.79 24 P **P 02 30 51.0 +1.5**
baz=287
AKASG Malin Array Be 76.86 319 P **P 02 30 50.1 0.0**
comp=Z,0.2nm,0.3s,baz=64,slow=5.9,SNR=1.6
comp=Z,0.2nm,0.3s
DAWY Dawson 77.00 26 P **P 02 30 51.2 +0.4**
DAWY IAmb IAmb 02 30 53.5
comp=Z,6.6nm,1.4s
DAWY Dawson 77.00 26 P **P 02 30 52.0 +1.1**
baz=287
F30M Barrier River 77.33 23 P **P 02 30 53.2 +0.7**
baz=289

G30M tAoh Zraii Nji 77.37 23 P **P 02 30 53.0 +0.2**
baz=289
J29N Klondike Camp 77.38 26 P **P 02 30 53.2 +0.3**
baz=288
EPYK Eagle Plains 77.38 24 P **P 02 30 53.2 +0.3**
baz=289
YUK8 Steele Glacier 77.64 29 P **P 02 30 55.5 +0.8**
baz=287
PINM Pinnacle 77.76 30 P **P 02 30 56.1 +1.0**
baz=287
L29M L29M 77.83 27 P **P 02 30 57.3 +1.9**
L29M IAmb IAmb 02 30 58.5
comp=Z,6.3nm,1.0s
L29M L29M 77.83 27 P **P 02 30 56.1 +0.7**
baz=288
K29M Barlow Dome 77.86 26 P **P 02 30 56.3 +0.7**
baz=289
I30M Mount Dempster 77.88 25 P **P 02 30 56.7 +0.9**
I30M IAmb IAmb 02 31 06.3
comp=Z,11nm,1.5s
I30M Mount Dempster 77.88 25 P **P 02 30 56.3 +0.5**
baz=289
M29M Somme Creek 77.89 28 P **P 02 30 56.5 +0.7**
M29M IAmb IAmb 02 30 59.0
comp=Z,4.6nm,0.9s
M29M Somme Creek 77.89 28 P **P 02 30 56.0 +0.1**
baz=288
INK Inuvik 77.89 22 P **P 02 30 56.8 +1.2**
baz=291
G31M Satah River 78.11 23 P **P 02 30 56.8 -0.1**
baz=291
J30M Hart River 78.11 26 P **P 02 30 57.7 +0.6**
baz=289
F31M Tsiigehtchic 78.12 22 P **P 02 30 56.0 -0.9**
F31M IAmb IAmb 02 30 58.1
comp=Z,5.8nm,0.9s
F31M Tsiigehtchic 78.12 22 P **P 02 30 57.5 +0.6**
baz=291
YUK6 Outpost Mounta 78.39 29 P **P 02 30 59.5 +0.7**
baz=288
H31M Peel River 78.48 24 P **P 02 30 60.0 +1.0**
baz=291
M30M Minto, Yukon 78.58 28 P **P 02 31 00.9 +1.3**
M30M IAmb IAmb 02 31 02.6
comp=Z,7.6nm,1.2s
M30M Minto, Yukon 78.58 28 P **P 02 30 59.8 +0.2**
baz=289
N30M Aishikik Lake 78.81 29 P **P 02 31 01.8 +0.9**
baz=289
HYT Haines Junctio 78.83 29 P **P 02 31 02.0 +0.9**
HYT IAmb IAmb 02 31 04.7
comp=Z,6.9nm,1.1s
HYT Haines Junctio 78.83 29 P **P 02 31 02.0 +0.9**
baz=289
A36M Sachs Harbour 78.95 17 P **P 02 31 00.7 -0.7**
A36M Sachs Harbour 78.95 17 P **P 02 31 01.3 0.0**
baz=298
P29M Windy Craggy 79.11 31 P **P 02 31 02.7 +0.1**
baz=289
N31M Braeburn, Yuko 79.40 28 P **P 02 31 04.3 +0.2**
baz=290
M31M Drury Creek, Y 79.76 28 P **P 02 31 06.5 +0.4**
baz=292
EUNU Eureka 79.98 5 P **P 02 31 07.2 +0.2**
EUNU IAmb IAmb 02 31 44.5
comp=Z,6.7nm,1.4s
WHY Whitehorse 80.10 29 P **P 02 31 08.6 +0.6**
baz=291
FARO Faro, Yukon 80.20 27 P **P 02 31 08.8 +0.4**
baz=292
BURAR Bucovina Array 80.22 317 P **P 02 31 09.9 +1.0**
C36M Paulatuk 80.56 19 P **P 02 31 09.9 -0.2**
C36M IAmb IAmb 02 31 11.3
comp=Z,5.4nm,0.9s
C36M Paulatuk 80.56 19 P **P 02 31 10.4 +0.3**
baz=300
N32M Quiet Lake 80.73 28 P **P 02 31 12.2 +0.9**
baz=293
P33M Teslin, Yukon 81.22 29 P **P 02 31 15.0 +1.0**
baz=293
S32K Killisnoo 81.42 32 P **P 02 31 15.5 +0.6**
baz=292
HFS Hagfors 82.14 331 P **P 02 31 18.6 -0.1**
comp=Z,1.3nm,0.8s,baz=66,slow=7.0,SNR=2.8
comp=Z,1.3nm,0.8s
R33M Jennings River 82.40 29 P **P 02 31 20.6 +0.3**
baz=295
TGTN Hyland Airport 82.68 27 P **P 02 31 22.1 +0.5**
baz=297
NOA NORSAR Array B 82.85 333 P **P 02 31 22.3 -0.2**
comp=Z,0.5nm,0.8s,baz=66,slow=4.8,SNR=2.8
NOA LR LR 03 11 18.7
comp=Z,29nm,18.0s,baz=290,slow=38
comp=Z,0.5nm,0.8s
NAO01 NORSAR Array S 83.08 332 P **P 02 31 22.9 -0.8**
TOAD Toad River Com 85.28 29 P **P 02 31 35.8 +0.9**
baz=300
YKAW3 Yellowknife Wh 87.56 23 P **P 02 31 46.7 +0.8**
YKAW3 IAmb IAmb 02 31 47.9
comp=Z,4.9nm,0.9s
YKA Yellowknife Ar 87.60 23 P **P 02 31 47.3 +1.2**
comp=Z,2.5nm,0.9s,baz=312,slow=4.7,SNR=40
comp=Z,2.5nm,0.9s
YKAW1 Yellowknife Wh 87.65 23 P **P 02 31 46.9 +0.6**
YKAW1 IAmb IAmb 02 31 48.6
comp=Z,3.7nm,1.0s
TXAR Lajitas Array 115.16 43 PKP **PKPdf 02 37 41.2 +1.2**
comp=Z,0.2nm,0.7s,baz=317,slow=0.8,SNR=4.3
SDV Santo Domingo 149.81 24 PKPbc **PKiKP 02 38 50.1 -0.1**
BAUV El Baul 150.66 19 PKPbc **PKPbc 02 38 51.4 +0.4**
OTAV Otavalo 152.66 48 PKPbc **PKPbc 02 38 55.5 -0.7**

STR ***17*** *03:46:46.4±1.3, 43°N±7°×1°3E±°, h10km, MLv3.8/25, Error ellipse: s-maj=0.0km s-min=0.0km az=97.2, preliminary*
ROM ***17*** *03:46:49.3±0.0, 42°.910N±0°.002×12°.627E±0°.003, h8km, ML3.2/184, Error ellipse: s-maj=0.2km s-min=0.1km az=91.0*
IDC ***17*** *03:46:50.9±1.9, 42°.97N×12°.89E, h0km, mb3.3/2, mbtmp3.5/5, ML2.9/3, MS2.5/3, Error ellipse: s-maj=38.0km s-min=18.9km az=90.0*
BEO ***17*** *03:46:50.1±0.7, 42°.95N×12°.48E, h0km, ML3.4/3*
PRU ***17*** *03:46:52.9, 42°.93N×12°.80E, h10km*
LDG ***17*** *03:46:52.9±0.1, 42°.91N×12°.63E, h9km, Ml2.9/18, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
ISC 17 03:46:49.8±0.8, 42°.92N±0°.01×12°.65E±0°.02, h9km±5km, n206, σ1§66/286, 15C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOPC	**Foligno Prot C**	**0.07**	**38**	⇑P	**Pg**	**03 46 51.9**	**+0.1**
FOPC				S	**Sg**	**03 46 53.8**	**+0.4**
GNU	**Giano nell'Umb**	**0.13**	**206**	P	**Pg**	**03 46 52.6**	**-0.1**
GNU				S	**Sg**	**03 46 55.2**	**+0.4**
MOMA	**Monte Martano**	**0.13**	**206**	⇑P	**Pg**	**03 46 52.5**	**-0.2**
MOMA				S	**Sg**	**03 46 55.0**	**+0.2**
MOMA				AML	AML		
	comp=E,79900μm,0.3s						
MOMA				AML	AML		
	comp=N,90600μm,0.3s						
MOMA				AML	AML		
	comp=E,86150μm,0.3s						
MOMA				AML	AML		
	comp=N,93250μm,0.3s						
MOMA				AML	AML		
	comp=N,90600μm,0.3s						
ASSB	**Assisi San Ben**	**0.13**	**4**	⇑P	**Pg**	**03 46 52.8**	**+0.1**
ASSB				S	**Sg**	**03 46 55.2**	**+0.4**
ASSB				AML	AML		
	comp=N,13550μm,0.5s						
ASSB				AML	AML		
	comp=N,13550μm,1.5s						
ASSB				AML	AML		
	comp=E,17100μm,1.0s						
CESI	**CESI - Serrava**	**0.21**	**65**	⇑P	**Pg**	**03 46 54.5**	**+0.4**
CESI				S	**Sg**	**03 46 58.3**	**+1.2**
CESI				AML	AML		
	comp=E,18850μm,0.4s						
CESI				AML	AML		
	comp=N,17000μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.27**	**359**	⇑P	**Pg**	**03 46 55.5**	**+0.3**
ATCC				S	**Sg**	**03 47 00.2**	**+1.4**
ATCC				AML	AML		
	comp=E,20150μm,0.3s						
ATCC				AML	AML		

comp=N,13300µm,0.4s
MTCL Monte Cavallo 0.27 73 P Pg 03 46 55.9 +0.7
MTCL S **Sg 03 47 00.7 +1.8**
GAVE Gavelli 0.29 141 P Pg 03 46 55.8 +0.2
GAVE S **Sg 03 47 00.9 +1.4**
GAVE AML AML
comp=E,11190µm,0.3s
GAVE AML AML
comp=N,3000µm,0.5s
GAVE AML AML
comp=E,11390µm,0.6s
GAVE AML AML
comp=N,10260µm,0.5s
FEMA Monte Fema 0.30 81 P Pg 03 46 56.3 +0.5
FEMA S **Sg 03 47 01.3 +1.5**
FEMA AML AML
comp=N,15800µm,0.5s
FEMA AML AML
comp=E,16100µm,0.5s
FEMA AML AML
comp=N,15800µm,0.4s
CESX Cesi 0.31 189 ⇑P Pg 03 46 55.8 -0.1
CESX S **Sg 03 47 00.9 +0.8**
CESX AML AML
comp=E,14900µm,0.6s
CESX AML AML
comp=N,15700µm,0.5s
MML1 Montelago di S 0.31 50 P Pg 03 46 56.2 +0.3
MML1 S **Sg 03 47 01.8 +1.7**
SEF1 Sefro 0.32 44 P Pb 03 46 56.5 -1.2
SEF1 S **Sb 03 47 02.4 -0.6**
FIU1 Fiuminata 0.34 37 P Pb 03 46 56.9 -1.2
FIU1 S **Sb 03 47 02.7 -1.0**
FDMO Fiordimonte 0.34 69 P Pg 03 46 56.9 +0.3
FDMO S **Sg 03 47 02.7 +1.5**
FDMO AML AML
comp=E,5420µm,0.4s
FDMO AML AML
comp=N,3755µm,0.9s
FDMO AML AML
comp=N,3755µm,1.1s
FDMO AML AML
comp=E,5420µm,1.6s
ARRO Arrone 0.35 165 P Pg 03 46 56.8 +0.1
ARRO S **Sb 03 47 03.0 -0.7**
ARRO AML AML
comp=N,6345µm,1.1s
ARRO AML AML
comp=E,6070µm,0.6s
ARRO AML AML
comp=N,6345µm,0.9s
ARRO AML AML
comp=E,6070µm,1.4s
ATTE AVT- Monte Tez 0.35 323 ⇑P Pg 03 46 56.7 -0.1
ATTE S **Sg 03 47 02.6 +1.1**
ATTE AML AML
comp=N,3275µm,1.3s
ATTE AML AML
comp=N,3275µm,0.7s
ATTE AML AML
comp=E,4065µm,1.0s
NRCA Norcia 0.35 103 ⇑P Pg 03 46 56.9 +0.1
NRCA S **Sg 03 47 02.9 +1.4**
NRCA AML AML
comp=E,3935µm,1.3s
NRCA AML AML
comp=N,3895µm,0.4s
NRCA AML AML
comp=E,4100µm,1.3s
NRCA AML AML
comp=N,4085µm,0.4s
NRCA AML AML
comp=E,3935µm,1.3s
NRCA AML AML
comp=N,3890µm,0.5s
MURB Monte Urbino 0.36 346 ⇑P Pg 03 46 57.1 +0.2
MURB S **Sg 03 47 03.2 +1.6**
MURB AML AML
comp=N,35600µm,0.4s
MURB AML AML
comp=E,59900µm,0.4s
MURB AML AML
comp=E,57950µm,0.3s
MURB AML AML
comp=E,57950µm,0.4s
MURB AML AML
comp=E,59900µm,0.4s
MURB AML AML
comp=N,39850µm,0.3s
PIO1 Pioraco 0.36 43 P Pb 03 46 57.3 -1.0
PIO1 S **Sb 03 47 03.8 -0.3**
FOSV Fossato di Vic 0.39 13 P Pg 03 46 57.6 +0.2
FOSV S **Sb 03 47 04.2 -0.8**
FOSV AML AML
comp=E,6205µm,0.8s
FOSV AML AML
comp=N,4135µm,0.4s
MGAB Montegabbione 0.39 270 ⇑P Pg 03 46 57.4 -0.1
MGAB S **Sg 03 47 04.1 +1.4**
MGAB AML AML
comp=E,6250µm,0.6s
MGAB AML AML
comp=N,8030µm,1.5s
MGAB AML AML
comp=N,7905µm,0.7s
MGAB AML AML
comp=E,7005µm,0.2s
MGAB AML AML
comp=N,8030µm,0.5s
MGAB AML AML
comp=N,7905µm,1.3s
MC2 Monte Cornacci 0.40 90 P Pb 03 46 57.9 -1.2
MC2 S **Sb 03 47 05.1 -0.3**
SNTG Esanatoglia 0.40 32 P Pb 03 46 57.8 -1.3
SNTG S **Sb 03 47 04.9 -0.5**
SNTG AML AML
comp=E,3425µm,0.6s
SNTG AML AML
comp=E,3495µm,0.6s
SNTG AML AML
comp=E,3425µm,0.6s
SNTG AML AML
comp=E,3425µm,1.4s
SNTG AML AML
comp=N,5165µm,0.5s
SNTG AML AML
comp=E,3495µm,1.4s
SNTG AML AML
comp=N,5095µm,0.5s
LNSS Leonessa 0.43 137 P Pb 03 46 58.1 -1.4
LNSS S **Sb 03 47 05.7 -0.4**
LNSS AML AML
comp=N,5550µm,0.4s
LNSS AML AML
comp=N,5995µm,0.3s
LNSS AML AML
comp=E,6120µm,0.4s
LNSS AML AML
comp=N,5545µm,0.4s
LNSS AML AML
comp=E,6135µm,0.3s
LNSS AML AML
comp=N,5995µm,1.7s
LNSS AML AML
comp=N,5545µm,1.6s
MTL1 Matelica 0.43 38 P Pb 03 46 58.6 -1.0
MTL1 S **Sb 03 47 06.1 -0.1**
ATLO AVT- Montelove 0.43 336 P Pg 03 46 58.2 -0.1
ATLO S **Sg 03 47 05.1 +1.0**
CSP1 Cessapalombo 0.45 67 P Pb 03 46 58.8 -1.1
CSP1 S **Sb 03 47 06.3 -0.4**
CSP1 AML AML
comp=N,5885µm,0.8s
CSP1 AML AML
comp=E,5300µm,1.0s
GAG1 Gagliole 0.45 44 P Pb 03 46 59.5 -0.3
GAG1 S **Sb 03 47 07.2 +0.6**
ATVA AVT- Monte Val 0.45 324 P Pg 03 46 58.4 -0.1
ATVA S **Sg 03 47 04.8 +0.3**
ATFO Monte Foce - G 0.45 353 ⇑P Pg 03 46 58.9 +0.2
ATFO S **Sb 03 47 06.3 -0.6**
ATFO AML AML
comp=E,4065µm,1.5s
ATFO AML AML
comp=E,4065µm,0.5s
ATFO AML AML
comp=N,6510µm,0.4s
MDAR Monte D'Aria 0.46 53 P Pb 03 46 59.1 -0.9
MDAR S **Sb 03 47 06.6 -0.4**
PF6 Pievefavera 0.46 60 P Pb 03 46 59.0 -1.1
PF6 S **Sb 03 47 06.6 -0.5**
ATVO AVT- Monte Val 0.50 339 ⇑P Pg 03 46 59.3 -0.1
ATVO S **Sg 03 47 07.8 +1.8**
ATVO AML AML
comp=E,3055µm,0.4s
ATVO AML AML
comp=N,3400µm,0.9s
SSM1 San Severino M 0.50 51 P Pb 03 46 59.8 -0.9
SSM1 S **Sb 03 47 08.1 0.0**
MMO1 Montemonaco 0.50 92 P Pb 03 46 59.5 -1.2
MMO1 S **Sb 03 47 07.8 -0.4**
ATMI Monte Miggiano 0.50 327 P Pg 03 46 59.5 0.0
ATMI S **Sg 03 47 07.2 +1.1**
ATMI AML AML
comp=N,14900µm,0.9s
ATMI AML AML
comp=E,11430µm,0.3s
ATSC Scheggia e Pas 0.51 3 P Pg 03 46 59.7 0.0
ATSC S **Sb 03 47 08.2 -0.3**
GUMA Gualdo di Mace 0.53 74 ⇑P Pb 03 47 00.5 -0.7
GUMA S **Sb 03 47 09.3 +0.4**
GUMA AML AML
comp=E,9285µm,0.7s
GUMA AML AML
comp=E,8650µm,1.3s
GUMA AML AML
comp=N,7945µm,0.4s
GUMA AML AML
comp=N,7945µm,1.6s
GUMA AML AML
comp=N,8735µm,0.4s
GUMA AML AML
comp=E,8650µm,0.7s
SSFR Montelago di S 0.53 11 P Pg 03 47 00.1 0.0
SSFR S **Sb 03 47 08.8 -0.3**
SSFR AML AML
comp=E,5350µm,0.3s
SSFR AML AML
comp=N,5905µm,1.5s
SSFR AML AML
comp=E,5500µm,0.8s
SSFR AML AML
comp=N,5905µm,1.5s
SSFR AML AML
comp=N,4330µm,0.2s
SSFR AML AML
comp=E,5500µm,1.2s
SSFR AML AML
comp=N,5905µm,0.5s
EL6 Elcito 0.53 39 ⇑P Pb 03 47 00.2 -1.1
EL6 S **Sb 03 47 09.1 0.0**
EL6 AML AML
comp=E,6150µm,0.4s
EL6 AML AML
comp=N,8750µm,0.5s
EL6 AML AML
comp=E,6145µm,0.4s
EL6 AML AML
comp=N,8750µm,1.5s
EL6 AML AML
comp=E,6145µm,1.6s
SACS San Casciano d 0.55 263 P Pg 03 47 00.2 -0.2
ATPI Pietralunga - 0.56 342 ⇑P Pg 03 47 00.6 -0.1
ATPI S **Sg 03 47 09.6 +1.5**
ATPI AML AML
comp=E,2385µm,0.6s
ATPI AML AML
comp=N,2565µm,0.4s
ATPI AML AML
comp=E,2380µm,0.6s
ATBU Serra di Buran 0.56 353 P Pg 03 47 00.9 +0.1
MTRA Matera 0.57 106 P Pb 03 47 00.8 -1.2
MTRA S **Sb 03 47 10.0 -0.3**
MTRA AML AML
comp=N,2125µm,0.5s
MTRA AML AML
comp=E,2560µm,0.5s
MTRA AML AML
comp=N,2105µm,0.5s
MTRA AML AML
comp=N,2120µm,0.5s
MTRA AML AML
comp=E,2545µm,0.5s
ATPC Poggio Castell 0.58 346 P Pg 03 47 01.0 0.0
SAP2 Sant'Angelo in 0.58 72 P Pn 03 47 01.8 -2.4
SAP2 AML AML
comp=E,2740µm,0.5s
SAP2 AML AML
comp=N,19150µm,0.7s
SAP2 AML AML
comp=E,2740µm,1.5s
SMA1 SAN MARTINO 0.58 119 ⇓P Pb 03 47 01.1 -1.1
SMA1 AML AML
comp=N,3930µm,0.4s
SMA1 AML AML
comp=E,4370µm,0.5s
RM33 Pellescritta (0.58 134 ⇓P Pb 03 47 00.9 -1.3
RM33 AML AML
comp=E,3110µm,0.4s
RM33 AML AML
comp=N,3090µm,0.8s
RM33 AML AML
comp=E,3005µm,0.4s
RM33 AML AML
comp=N,3090µm,0.8s
RM33 AML AML
comp=E,3110µm,0.3s
RM33 AML AML
comp=N,3095µm,0.7s
RM33 AML AML
comp=N,3090µm,1.2s
MMUR Monte Murano 0.58 26 P Pb 03 47 01.2 -1.0
MF5 Montefalcone A 0.60 83 P Pn 03 47 02.0 -2.5
MF5 AML AML
comp=N,2985µm,0.5s
MF5 AML AML
comp=E,3595µm,0.5s
MF5 AML AML
comp=N,2985µm,1.5s
FRON Frontone 0.60 5 P Pg 03 47 01.3 -0.2
CING Cingoli 0.61 41 P Pb 03 47 01.5 -1.1
ARVD Arcevia 0.62 20 P Pb 03 47 01.6 -1.2
ARVD AML AML
comp=E,1445µm,0.5s
ARVD AML AML
comp=N,1260µm,0.6s
ARVD AML AML
comp=N,1260µm,1.4s
CDCA Citt' di Caste 0.62 331 P Pg 03 47 02.6 +0.9
ATMC Monte Cedrone 0.62 328 P Pg 03 47 01.6 -0.3
PIEI Pieia 0.62 353 P Pg 03 47 01.7 -0.1
PIEI AML AML
comp=N,2140µm,1.4s
PIEI AML AML
comp=E,3395µm,0.3s
TRE1 Treia 0.63 51 P Pn 03 47 02.9 -2.0
MNTP Montappone 0.64 70 P Pn 03 47 02.8 -2.3
CAFI Castiglion Fio 0.65 310 P Pg 03 47 02.1 -0.2
CAFI AML AML
comp=E,3020µm,0.6s
CAFI AML AML
comp=N,2985µm,0.6s
CAFI AML AML
comp=N,3090µm,0.6s
CAFI AML AML
comp=E,3150µm,0.6s
BADI Badiali 0.66 334 P Pg 03 47 02.3 -0.3
BADI AML AML
comp=E,3100µm,0.6s
BADI AML AML
comp=E,3100µm,1.4s
BADI AML AML
comp=N,3500µm,0.5s
APEC Apecchio 0.66 346 P Pg 03 47 02.6 0.0
CAMP Campotosto 0.68 124 P Pb 03 47 02.5 -1.3
CAMP AML AML
comp=E,1325µm,0.6s
CAMP AML AML
comp=N,1280µm,0.6s
LATE Laterza 0.69 244 P Pg 03 47 03.0 -0.1
LATE AML AML
comp=N,5590µm,0.4s
LATE AML AML
comp=E,3160µm,0.4s
MNTT Montottone 0.71 78 P Pn 03 47 04.2 -1.9
MNTT AML AML
comp=N,6325µm,0.7s
MNTT AML AML
comp=E,5110µm,0.6s
MNTT AML AML
comp=N,6330µm,0.7s
MNTT AML AML
comp=E,5110µm,1.4s
SF11 Podere del Sol 0.71 266 P Pg 03 47 03.5 0.0
SF03 Valle Cupa 0.71 261 P Pg 03 47 03.5 0.0
MPAG Monte Paganucc 0.72 7 P Pg 03 47 03.3 -0.3
MPAG AML AML
comp=E,1760µm,0.5s
MPAG AML AML
comp=E,1705µm,0.5s
MPAG AML AML
comp=N,1645µm,0.8s
MPAG AML AML
comp=N,1420µm,0.8s
SF04 Casetta 0.73 264 P Pg 03 47 03.0 -0.9
SF04 AML AML
comp=N,2055µm,0.8s
SF04 AML AML
comp=E,2610µm,1.2s
FIAM Fiamignano 0.73 152 P Pb 03 47 03.4 -1.4
FIAM AML AML
comp=E,2590µm,0.7s
FIAM AML AML
comp=N,2800µm,0.5s
FIAM AML AML
comp=E,2595µm,0.7s
FIAM AML AML
comp=N,2800µm,0.5s
FIAM AML AML
comp=N,1425µm,0.5s
FIAM AML AML
comp=E,2595µm,1.3s
FIAM AML AML
comp=E,1340µm,0.7s
SSP9 Sansepolcro 0.76 330 P Pg 03 47 04.4 0.0
SSP9 AML AML
comp=E,2010µm,0.7s
SSP9 AML AML
comp=N,2000µm,1.5s
SSP9 AML AML
comp=N,2000µm,0.5s
COR1 Corinaldo 0.76 20 P Pb 03 47 04.9 -0.3
SF13 Bagnolo 0.76 263 P Pg 03 47 04.2 -0.2
OFFI Offida 0.76 88 P Pn 03 47 05.1 -1.6
OFFI AML AML
comp=E,1295µm,0.7s
OFFI AML AML
comp=N,4820µm,0.6s
OFFI AML AML
comp=E,1295µm,1.3s
TERO Teramo 0.76 112 P Pb 03 47 04.1 -1.2
TERO AML AML
comp=N,943µm,0.6s
TERO AML AML
comp=E,1440µm,0.7s
TERO AML AML
comp=N,1385µm,0.6s
TERO AML AML
comp=N,1385µm,1.4s
TERO AML AML
comp=N,943µm,1.4s
TERO AML AML
comp=E,735µm,0.8s
SF14 Selvena 0.78 258 P Pg 03 47 03.5 -1.2
PE3 Peglio 0.79 352 P Pg 03 47 04.9 0.0
PE3 AML AML
comp=E,5145µm,0.6s
PE3 AML AML
comp=N,6355µm,1.3s
PE3 AML AML
comp=E,5150µm,0.6s
PE3 AML AML
comp=N,6350µm,1.3s
PE3 AML AML
comp=N,6350µm,0.7s
PARC Parchiule 0.79 338 P Pg 03 47 05.0 0.0
PARC AML AML
comp=E,3565µm,0.5s
PARC AML AML
comp=E,3565µm,1.5s
PARC AML AML
comp=N,2060µm,0.8s
AQU L'Aquila 0.79 135 P Pb 03 47 04.7 -1.0
BARO Barbarano Roma 0.80 214 P Pg 03 47 04.7 -0.5
BARO AML AML
comp=E,3065µm,0.7s
BARO AML AML
comp=E,13190µm,1.3s
BARO AML AML
comp=N,11195µm,1.3s
BARO AML AML
comp=E,3065µm,0.7s
BARO AML AML
comp=N,2810µm,1.4s
BARO AML AML
comp=E,13175µm,1.3s
BARO AML AML
comp=N,11155µm,1.3s
BARO AML AML
comp=E,3065µm,1.3s
BARO AML AML
comp=E,13175µm,0.7s
BARO AML AML
comp=N,2810µm,0.6s
BARO AML AML
comp=N,11155µm,0.7s
SF01 Poggio Pratacc 0.80 263 P Pg 03 47 05.0 -0.3
SF01 AML AML
comp=E,1198µm,0.9s
SF01 AML AML
comp=N,1655µm,0.8s
SF01 AML AML
comp=E,1199µm,0.9s
SF01 AML AML
comp=N,1660µm,0.8s
GIGS Gran Sasso 0.82 124 P Pb 03 47 04.9 -1.4
GIGS AML AML
comp=E,451µm,0.6s
GIGS AML AML
comp=N,365µm,0.6s
PP3 Marolino 0.84 56 P Pn 03 47 07.1 -0.7
CIMA Civitanova Mar 0.84 62 P Pn 03 47 07.4 -0.4
FCOR Fonte Corniale 0.86 8 P Pb 03 47 06.4 -0.5
CRE Caprese Michel 0.87 324 P Pg 03 47 06.0 -0.5
CRE AML AML
comp=N,1955µm,0.4s
CRE AML AML
comp=E,1185µm,0.4s
PGF Pioggiola 2.71 263 *e*Pn Pn 03 47 33.4 -0.2
PGF *e*Sn **Sn 03 48 05.4 -1.2**
comp=E,10nm,0.6s
RIY Rijeka 2.75 28 *e*Pn Pb 03 47 35.5 -3.5
RIY *e*Sn **Sb 03 48 10.1 -2.7**
SKDS Skadanscina 2.81 20 *e*Pn Pn 03 47 35.2 +0.3
SKDS Skadanscina 2.81 20 *e*Pn Pn 03 47 36.0 +1.1
SKDS *e*Sn **Sn 03 48 09.9 +1.1**
CEY Cerknica 3.10 24 *e*Pn Pn 03 47 40.1 +1.3
CEY Cerknica 3.10 24 *e*Pn Pn 03 47 40.7 +1.9
CEY *e*Sn **Sb 03 48 18.1 -4.8**
BOJS Bojanci 3.19 35 *e*Pn Pn 03 47 37.7 -2.4
BOJS Bojanci 3.19 35 *e*Pn Pn 03 47 41.7 +1.6
BOJS *e*Sn **Sb 03 48 21.1 -4.5**
A050A Klekovaca 3.22 60 *e*Pn Pb 03 47 43.4 -3.8
CRES Cresnjevec Ost 3.54 34 *e*Pn Pn 03 47 45.7 +0.8
STON Ston 3.71 89 *e*Pn Pn 03 47 47.1 -0.1
STON Ston 3.71 89 *e*Pn Pn 03 47 48.8 +1.6
A051A Mrakovica 3.72 54 *e*Pn Pn 03 47 48.7 +1.2
BLY Banja Luka 3.76 59 *e*Pn Pb 03 47 51.6 -4.7
MYKA Terra Mystica 3.78 10 *e*Pn Pn 03 47 49.0 +0.7
comp=E,1.6nm,0.3s
ABTA Abfaltersbach 3.83 359 *e*Pn Pn 03 47 49.8 +0.8
comp=E,6.6nm,0.5s,SNR=12
OBKA Obir 3.84 20 *e*Pn Pn 03 47 50.0 +0.9
OBKA Obir 3.84 20 *e*Pn Pn 03 47 50.8 +1.7
comp=E,1.3nm,0.3s
PIAF les Granges de 3.85 290 P Pn 03 47 49.9 +0.6
SAOF Saorge 3.86 288 P Pn 03 47 49.1 -0.2
SAOF S **Sn 03 48 41.0 +6.3**

SLATY Slatina 3.87 59 *e*Pn **Pn 03 47 51.1 +1.7**
SBF Sospel 3.91 286 *e*Pn **Pn 03 47 49.9 -0.2**
SBF *e*Sn **Sn 03 48 33.6 -2.6**
comp=E,12nm,0.5s
TURF col de Turini 3.97 287 P **Pn 03 47 51.2 +0.2**
TURF S **Sn 03 48 38.3 +0.7**
STV Saint Anna di V 4.09 291 P **Pn 03 47 54.1 +1.6**
SPIF crte de Spivo 4.10 288 P **Pn 03 47 53.2 +0.6**
SOKA Soboth 4.13 23 *e*Pn **Pn 03 47 53.8 +0.8**
comp=E,1.3nm,0.3s
KBA Koelnbreinsper 4.19 7 *e*Pn **Pn 03 47 55.9 +1.8**
comp=E,4.0nm,0.3s,SNR=8.2
TREB Trebinje 4.20 91 *e*Pn **Pn 03 47 54.3 +0.3**
CALF Calern 4.26 283 P **Pn 03 47 54.9 +0.1**
ISO Isola 4.26 289 P **Pn 03 47 56.7 +1.9**
PZZ Stroppo 4.31 294 P **Pn 03 47 56.2 +0.6**
FETA Feichten 4.32 342 *e*Pn **Pn 03 47 59.2 +3.4**
comp=E,7.8nm,0.5s,SNR=24
DAVOX Davos/Dischmat 4.34 334 Pn **Pn 03 47 58.3 +2.3**
comp=E,2.8nm,0.3s,baz=156,slow=19,SNR=29
DAVOX Sn **Sn 03 48 48.6 +1.9**
comp=E,1.8nm,0.3s,baz=143,slow=20,SNR=3.7
DAVOX LR LR 03 50 12.5
comp=E,26nm,20.1s,baz=359,slow=46
comp=E,7.6nm,0.4s
HCY Herceg Novi 4.34 94 *e*Pn **Pn 03 47 57.4 +1.6**
TRAV Traversella 4.38 308 P **Pn 03 47 56.5 +0.1**
TRAV Traversella 4.38 308 S **Sn 03 48 46.0 -1.5**
WTTA Wattenberg 4.41 351 *e*Pn **Pn 03 47 59.1 +2.2**
comp=E,3.9nm,0.3s,SNR=7.9
SQTA Sankt Quirin 4.42 347 *e*Pn **Pn 03 47 59.6 +2.5**
comp=E,8.6nm,0.3s,SNR=5.8
SQTA *e*Sn **Sn 03 48 49.7 +1.0**
comp=E,10nm,0.4s
WATA Walderalm 4.48 351 *e*Pn **Pn 03 48 01.5 +3.6**
comp=E,9.8nm,0.4s,SNR=9.6
LESA Schwarzleotal 4.51 0 *i* Pn **Pn 03 48 01.7 +3.4**
comp=E,2.2nm,0.2s,SNR=13
LESA *e*Sn **Sn 03 48 54.2 +3.3**
comp=E,4.3nm,0.3s
SURF Saint Ours 4.51 292 P **Pn 03 47 59.3 +0.9**
SURF S **Sn 03 48 52.1 +1.1**
LMR La Mourre 4.51 277 *e*Pn **Pn 03 47 57.4 -0.8**
LMR *e*Sn **Sn 03 48 49.0 -1.8**
comp=E,0.2nm,0.1s
SATI Passo dei Sala 4.52 312 P **Pn 03 48 01.3 +2.5**
CIRO Champorcher 4.53 308 P **Pn 03 47 59.1 +0.4**
JAUF Jausiers 4.54 291 P **Pn 03 48 01.0 +2.3**
JAUF S **Sn 03 48 54.2 +2.6**
MOTA Moosalm 4.56 347 *e*Pn **Pn 03 48 01.6 +2.6**
comp=E,5.7nm,0.6s
UPM Unac-Piva 4.59 84 *e*Pn **Pn 03 48 01.9 +2.3**
MBDF Montbardon 4.62 295 *e*Pn **Pn 03 48 00.8 +0.9**
MBDF *e*Sn **Sn 03 48 53.3 -0.4**
comp=E,7.1nm,0.6s
TRIGF Trigance 4.63 282 P **Pn 03 48 01.0 +1.1**
TRIGF S **Sn 03 48 54.5 +0.8**
CREF Crivoux 4.66 293 P **Pn 03 48 02.1 +1.6**
CREF S **Sn 03 48 59.2 +4.5**
RRL Rocca Remolon 4.68 297 P **Pn 03 48 03.9 +3.1**
OGAG Argentiere 4.69 291 P Pn 03 48 06.2 +5.5
RETA Reutte 4.76 344 *e*Pn **Pn 03 48 04.7 +2.9**
comp=E,3.5nm,0.3s
DAVA Damuels 4.79 337 *e*Pn **Pn 03 48 05.8 +3.6**
comp=E,6.6nm,0.3s
ARSA Arzberg 4.79 24 *e*Pn **Pn 03 48 02.3 +0.2**
comp=E,1.1nm,0.3s
ARSA *e*Sn **Sn 03 48 56.5 -1.2**
comp=E,3.7nm,0.4s
ARSA Arzberg 4.79 24 *e*Pn **Pn 03 48 04.4 +2.3**
ARSA *e*Sn **Sn 03 48 57.0 -0.7**
BIOA Bad Ischl, Aus 4.83 8 *e*Pn **Pn 03 48 06.0 +3.4**
comp=E,1.7nm,0.3s
BIOA *e*Sn **Sn 03 49 01.5 +2.9**
comp=E,8.7nm,0.4s
DRME Dracevica, Mon 4.88 96 *e*Pn **Pn 03 48 05.7 +2.3**
PDG Podgorica 4.90 93 *e*Pn **Pn 03 48 05.2 +1.7**
REMY Saint-Rhmy-en 4.90 308 P **Pn 03 48 05.2 +1.4**
DIX Grande Dixence 4.90 312 P **Pn 03 48 06.4 +2.5**
RUDO Rudo 4.96 80 *e*Pn **Pn 03 48 03.4 -1.0**
LPG La Plagne 4.96 303 *e*Pn **Pn 03 48 06.4 +1.7**
LPG *e*Sn **Sn 03 49 00.6 -1.7**
comp=E,3.9nm,0.5s
LPL La Plagne 4.98 303 *e*Pn **Pn 03 48 06.8 +1.9**
LPL *e*Sn **Sn 03 49 01.2 -1.5**
comp=E,3.2nm,0.4s
BBLS Lazi&#263i 5.02 77 *e*Pn **Pn 03 48 06.0 +0.8**
BBLS Lazi&#263i 5.02 77 *e*Pn **Pn 03 48 07.9 +2.7**
BBLS *e*Sn **Sn 03 49 06.7 +3.4**
ARTF Artigues 5.04 280 P **Pn 03 48 06.4 +0.9**
MOA Molln 5.06 12 *e*Pn **Pn 03 48 06.8 +1.0**
MOA *e*Sn **Sn 03 49 04.9 +0.5**
RSL Roselend 5.13 305 P **Pn 03 49 06.6 +2.7**
BSTF la Bastide-des 5.19 283 P **Pn 03 48 08.9 +1.3**
ORIF Oris-en-Rattie 5.28 295 *e*Pn **Pn 03 48 11.3 +2.4**
ORIF *e*Sn **Sn 03 49 07.0 -2.9**
comp=E,9.5nm,0.7s
ORIF Oris-en-Rattie 5.28 295 P **Pn 03 48 11.5 +2.6**
RUSF Rustrel 5.32 284 P **Pn 03 48 09.6 +0.3**
SJES Sjenica 5.38 84 *e*Pn **Pn 03 48 11.9 +1.7**
SJES Sjenica 5.38 84 *e*Pn **Pn 03 48 13.2 +3.0**
SJES *e*Sn **Sn 03 49 14.8 +2.5**
RONA Rosalia, Austr 5.43 27 *e*Pn **Pn 03 48 12.0 +1.1**
comp=E,1.5nm,0.3s
RONA *e*Sn **Sn 03 49 14.0 +0.4**
comp=E,1.9nm,0.4s
CONA Conrad Observa 5.50 23 *e*Pn **Pn 03 48 12.9 +1.1**
comp=E,0.6nm,0.4s
CONA *e*Sn **Sn 03 49 15.3 +0.1**
comp=E,5.5nm,0.6s
IVAS Ivanjica 5.52 81 *e*Pn **Pn 03 48 14.0 +1.8**
TIR Tirane 5.59 104 *e*Pn **Pn 03 48 15.0 +1.9**
BALST Balsthal 5.64 323 P **Pn 03 48 15.3 +1.5**
BALST Balsthal 5.64 323 S **Sn 03 49 16.7 -2.0**
TRUS Trudelj 5.79 74 *e*Pn **Pn 03 48 16.9 +1.1**
BOURR Bourrignon 5.89 321 P **Pn 03 48 17.9 +0.7**
BOURR Bourrignon 5.89 321 S **Sn 03 49 23.4 -1.5**
BRANT Les Verrieres 5.95 315 P **Pn 03 48 19.9 +1.8**
BRANT Les Verrieres 5.95 315 S **Sn 03 49 23.1 -3.2**
OG35 Corcelles 5.95 304 P **Pn 03 48 19.8 +1.7**
OG35 S **Sn 03 49 27.2 +0.9**
CABF La Chapelle 5.95 311 *e*Pn **Pn 03 48 19.7 +1.6**
GERES GERESS Array B 5.97 7 Pn **Pn 03 48 19.6 +1.2**
comp=E,0.1nm,0.3s,baz=187,slow=15,SNR=12
GERES Sn **Sn 03 49 29.1 +2.1**
comp=E,0.1nm,0.3s,baz=182,slow=22,SNR=8.0
comp=E,1.0nm,0.4s
CKRC Cesky Krumlov 6.02 11 *e*PN **Pn 03 48 20.0 +1.1**
CKRC *e*SN **Sn 03 49 27.8 -0.1**
KIZ Kirchzarten 6.04 328 P **Pn 03 48 19.6 +0.4**
KIZ Kirchzarten 6.04 328 S **Sn 03 49 26.1 -2.3**
VIVF Saint-Julien-l 6.08 291 *e*Pn **Pn 03 48 21.7 +1.9**
VIVF *e*Sn **Sn 03 49 27.2 -2.3**
comp=E,0.4nm,0.2s
SELS Selova 6.21 84 *e*Pn **Pn 03 48 23.2 +1.5**
KHC Kasperske Hory 6.25 6 *e*PN **Pn 03 48 23.5 +1.4**
KHC *e*SN **Sn 03 49 32.2 -1.5**
OHR Ohrid 6.33 104 *e*Pn **Pn 03 48 26.3 +3.0**
HINF Hinteralfeld 6.38 322 *e*Pn **Pn 03 48 24.4 +0.5**
HINF *e*Sn **Sn 03 49 34.3 -2.5**
comp=E,5.3nm,0.4s
RONF Ronchamp 6.39 321 P **Pn 03 48 25.3 +1.2**
RONF S **Sn 03 49 34.5 -2.6**
LASF Ste Croix 6.50 283 *e*Pn **Pn 03 48 25.9 +0.4**
ECH Echery 6.55 326 P **Pn 03 48 26.8 +0.6**
ECH S **Sn 03 49 39.0 -2.1**
ZVC Zvikov 6.61 9 *e*SN **Sn 03 49 40.6 -1.9**
CDF Champ du Feu 6.66 327 *e*Pn **Pn 03 48 28.4 +0.6**
CDF *e*Sn **Sn 03 49 41.8 -2.0**
comp=E,2.8nm,0.3s
TREC Trest 6.68 16 *e*SN **Sn 03 49 42.7 -1.5**
BARS Barje 6.74 88 *e*Pn **Pn 03 48 30.6 +1.8**
HAU Haudompre 6.75 321 *e*Pn **Pn 03 48 29.4 +0.5**
HAU *e*Sn **Sn 03 49 42.3 -3.5**
comp=E,8.1nm,0.4s
HOHE HOHENGOEFT 6.78 330 P **Pn 03 48 29.9 +0.5**
CIEL Dossenheim-sur 6.97 330 P **Pn 03 48 33.4 +1.4**
LEMB Lembach 7.00 333 P **Pn 03 48 34.6 +2.2**
ETNF Estrennes 7.07 321 P **Pn 03 48 34.4 +1.0**
ETNF Estrennes 7.07 321 S **Sn 03 49 53.2 -0.7**
SMF Signal de Mont 7.29 304 *e*Pn **Pn 03 48 37.2 +0.8**
SMF *e*Sn **Sn 03 49 56.4 -2.8**
comp=E,1.3nm,0.3s

ZAPS Zavoj 7.32 84 *e*Pn **Pn 03 48 38.7 +1.9**
ZAPS *e*Sn **Sn 03 50 00.0 0.0**
PAGF Fort de Pagny 7.43 322 *e*Pn **Pn 03 48 39.7 +1.4**
PAGF *e*Sn **Sn 03 49 59.0 -3.7**
comp=E,9.1nm,0.5s
LOR Lormes 7.59 308 *e*Pn **Pn 03 48 41.6 +1.1**
LOR *e*Sn **Sn 03 50 04.1 -2.5**
comp=E,1.1nm,0.3s
KEST Kesra 7.62 201 Pn **Pn 03 48 45.8 +4.8**
comp=E,0.3nm,0.3s,baz=27,slow=9.0,SNR=6.7
comp=E,2.6nm,0.7s
BGF Bois d'Agland 7.87 301 *e*Pn **Pn 03 48 44.6 +0.3**
CAF Calviac 7.90 288 *e*Pn **Pn 03 48 45.5 +0.7**
NOA NORSAR Array B 18.17 358 LR LR 03 59 17.8
comp=E,14nm,18.5s,baz=275,slow=41
FINES FINESS Array B 20.22 19 P Pn 03 51 26.3 -0.4
comp=E,0.8nm,0.7s,baz=198,slow=16,SNR=4.0
comp=E,0.8nm,0.7s
MMAI Mount Meron Ar 20.43 111 LR LR 04 00 41.7
comp=E,22nm,20.4s,baz=111,slow=41
MKAR Makanchi Array 48.05 60 P **P 03 55 30.3 +1.0**
comp=E,0.5nm,0.6s,baz=288,slow=6.4,SNR=5.6
comp=E,0.5nm,0.6s

IDC ***17*** *03:47:04.4±3.9, 52.°97N×166.°95W, h0km, mb3.3/3, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=70.9km s-min=40.3km az=103.0*
NEIC ***17*** *03:47:07.4±1.1, 53.°15N±0.°10×168.°1W±0.°1, h53km±12km, mb3.8/17, ML3.4/10, Error ellipse: s-maj=15.2km s-min=8.7km az=204.0*
ISC 17 03:47:06.6±1.0, 53.°1N±0.°1×167.°89W±0.°08, h50km, n37, σ1§38/28, mb3.7/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.59**	**259**		**Pn**	**03 47 17.3**	**-1.7**
NIKH				Sn	**Sn**	**03 47 26.8**	**-1.1**
NIKH				IAML		03 47 27.8	
	comp=N,1μm,0.6s						
NIKH				IAML		03 47 27.9	
	comp=E,2μm,0.7s						
UNV	**Unalaska Valle**	**1.12**	**47**		**Pn**	**03 47 26.0**	**+0.1**
LVA	**Lava Point**	**1.54**	**45**		**Pn**	**03 47 33.5**	**+1.8**
LVA				IAML		03 48 01.6	
	comp=E,751nm,0.5s						
LVA				IAML		03 48 06.2	
	comp=N,982nm,0.5s						
AKUT	**Akutan**	**1.64**	**49**		**Pn**	**03 47 34.5**	**+1.5**
AKUT				IAML		03 48 03.3	
	comp=N,248nm,0.4s						
AKUT				IAML		03 48 09.1	
	comp=E,267nm,0.9s						
SPIA	**Saint Paul Isl**	**4.32**	**343**	Pn	**Pn**	**03 48 08.7**	**-0.9**
O14K	**Tigyukauivet M**	**7.20**	**28**	Pn	**Pn**	**03 48 50.8**	**+1.7**
O15K	**Ungalikthiuk R**	**7.58**	**33**	Pn	**Pn**	**03 48 56.4**	**+2.0**
KDAK	**Kodiak Island**	**9.88**	**56**	Pn	**Pn**	**03 49 24.4**	**-1.4**
	comp=E,0.2nm,0.3s,baz=165,slow=20,SNR=6.1						
KDAK				Sn	**Sn**	**03 51 11.5**	**-3.6**
	comp=E,0.1nm,0.3s,baz=259,slow=19,SNR=1.4						
	comp=E,3.9nm,0.9s						
ILAR	**Eielson Array**	**15.85**	**34**	Pn	**Pn**	**03 50 45.8**	**-0.3**
	comp=E,0.1nm,0.3s,baz=234,slow=12,SNR=4.7						
	comp=E,0.2nm,0.6s						
I30M	**Mount Dempster**	**19.95**	**40**	P	**Pn**	**03 51 34.8**	**-1.4**
G29M	**Pine Creek**	**20.08**	**35**	P	**P**	**03 51 36.1**	**+0.6**
EPYK	**Eagle Plains**	**20.29**	**37**	P	Pn	03 51 38.5	-1.6
N32M	**Quiet Lake**	**20.33**	**53**	P	Pn	03 51 39.5	-1.2
FARO	**Faro, Yukon**	**20.38**	**50**	P	Pn	03 51 40.3	-1.0
FARO				IAmb	IAmb	03 51 42.7	
	comp=Z,3.7nm,1.1s						
D27M	**Malcolm River**	**20.46**	**28**	P	Pn	03 51 40.8	-1.4
G30M	**tAoh Zraii Nji**	**20.74**	**36**	P	**P**	**03 51 43.3**	**+0.7**
G30M				IAmb	IAmb	03 52 00.9	
	comp=Z,4.9nm,1.2s						
E29M	**Blow River**	**20.87**	**31**	P	Pn	03 51 45.1	-1.9
E29M				IAmb	IAmb	03 51 50.0	
	comp=Z,3.8nm,1.2s						
H31M	**Peel River**	**20.95**	**40**	P	**P**	**03 51 44.7**	**-0.2**
H31M				IAmb	IAmb	03 51 46.3	
	comp=Z,6.1nm,0.9s						
F30M	**Barrier River**	**21.17**	**34**	P	**P**	**03 51 47.7**	**+0.4**
F30M				IAmb	IAmb	03 52 03.0	
	comp=Z,4.0nm,1.1s						
MMPY	**Sheldon Lake,**	**21.40**	**49**	P	**P**	**03 51 51.0**	**+1.1**
MMPY				IAmb	IAmb	03 51 55.2	
	comp=Z,3.6nm,1.0s						
G31M	**Satah River**	**21.41**	**37**	P	**P**	**03 51 48.9**	**-0.9**
G31M				IAmb	IAmb	03 51 53.0	
	comp=Z,8.7nm,1.4s						
F31M	**Tsiigehtchic**	**21.81**	**36**	P	**P**	**03 51 54.6**	**+0.6**
F31M				IAmb	IAmb	03 52 05.0	
	comp=Z,6.6nm,1.4s						
INK	**Inuvik**	**22.25**	**34**	P	**P**	**03 51 58.4**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=243,slow=8.9,SNR=12						
	comp=Z,1.5nm,0.5s						
A04D	**Lummi Island**	**28.46**	**80**	P	**P**	**03 52 57.3**	**+0.8**
YKAW3	**Yellowknife Wh**	**29.08**	**50**	P	**P**	**03 53 03.0**	**+1.1**
YKAW3				IAmb	IAmb	03 53 24.6	
	comp=Z,0.9nm,1.3s						
YKA	**Yellowknife Ar**	**29.09**	**50**	P	**P**	**03 53 01.6**	**-0.3**
YKA	**Yellowknife Ar**	**29.09**	**50**	P	**P**	**03 53 04.3**	**+2.3**
	comp=Z,0.1nm,0.7s,baz=278,slow=11,SNR=7.3						
	comp=Z,0.1nm,0.7s						
YKAW1	**Yellowknife Wh**	**29.15**	**50**	P	**P**	**03 53 03.9**	**+1.4**
YKAW1				IAmb	IAmb	03 53 44.5	
	comp=Z,1.9nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**38.58**	**220**	T	T	04 35 32.8	
	baz=24,slow=76,SNR=62						
H11N3	**WAKE ISLAND Hy**	**38.59**	**220**	T	T	04 35 36.4	
	baz=24,slow=76,SNR=57						
H11N1	**WAKE ISLAND Hy**	**38.60**	**220**	T	T	04 35 35.1	
	baz=24,slow=76,SNR=42						
H11S1	**WAKE ISLAND Hy**	**39.77**	**220**	T	T	04 37 04.8	
	baz=24,slow=76,SNR=47						
H11S2	**WAKE ISLAND Hy**	**39.78**	**220**	T	T	04 37 03.7	
	baz=24,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**39.78**	**220**	T	T	04 37 08.3	
	baz=24,slow=76,SNR=23						
TXAR	**Lajitas Array**	**51.85**	**91**	P	**P**	**03 56 09.7**	**0.0**
	comp=Z,0.3nm,0.6s,baz=319,slow=7.6,SNR=5.9						
	comp=Z,0.3nm,0.6s						
ABKAR	**Abkulak array**	**70.29**	**329**	P	**P**	**03 58 14.4**	**+0.1**
ABKAR	**Abkulak array**	**70.29**	**329**	P	**P**	**03 58 14.4**	**+0.1**
ABKAR				IAmb	IAmb	03 58 34.2	
	comp=Z,2.5nm,1.5s						

ISK ***17*** *03:53:54.5, 38.°74N×38.°15E, h2km, ML2.6/14*
AFAD ***17*** *03:53:54.9, 38.°73N×38.°15E, h7km±2km, ML2.5*
ISC 17 03:53:55.3±1.0, 38.°76N±0.°02×38.°17E±0.°03, h7km±10km, n22, σ0§77/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.21**	**306**	P	**Pg**	**03 53 59.5**	**0.0**
HEKM				S	**Sg**	**03 54 03.4**	**+1.0**
ARPR	**Arapgir-MALATY**	**0.36**	**21**	Pg	**Pb**	**03 54 03.2**	**-1.0**
ARPR				Sg	**Sb**	**03 54 09.3**	**-0.8**
MAYA	**Malatya/Merkez**	**0.47**	**155**	P	**Pg**	**03 54 04.0**	**-0.6**
MAYA				*i* AML	AML	03 54 11.0	
	comp=N,547nm,0.2s						
MAYA				S	**Sg**	**03 54 11.2**	**+0.5**
MAYA				*i* AML	AML	03 54 16.0	
	comp=E,246nm,0.3s						
AKCD	**Akcadag**	**0.50**	**203**	P	**Pg**	**03 54 03.6**	**-1.4**
AKCD				S	**Sg**	**03 54 12.2**	**+0.6**
AKCD				*i* AML	AML	03 54 14.0	
	comp=E,924nm,0.2s						
AKCD				*i* AML	AML	03 54 16.0	
	comp=N,799nm,0.2s						
KEMA	**Kemaliye**	**0.57**	**26**	P	**Pg**	**03 54 06.2**	**-0.2**
KEMA				S	**Sb**	**03 54 15.5**	**-0.6**
KEMA				*i* AML	AML	03 54 17.0	
	comp=E,346nm,0.4s						
KEMA				*i* AML	AML	03 54 18.0	
	comp=N,221nm,0.3s						
DARE	**Darende-Malaty**	**0.57**	**251**	Pg	**Pg**	**03 54 05.6**	**-0.8**
DARE				Sg	**Sg**	**03 54 14.5**	**+0.7**
ELZG	**Elazig**	**0.69**	**112**	P	**Pg**	**03 54 08.2**	**-0.4**
ELZG				S	**Sb**	**03 54 18.8**	**-0.7**
ELZG				*i* AML	AML	03 54 19.0	
	comp=N,653nm,0.3s						
ELZG				*i* AML	AML	03 54 19.0	
	comp=E,597nm,0.3s						

CUGUR Gurin_SVAS 0.70 267 P **Pg 03 54 07.8 -1.2**
CUGUR S **Sg 03 54 18.9 +0.8**
CUGUR *i* AML AML 03 54 22.0
comp=N,506nm,0.5s
CUGUR *i* AML AML 03 54 22.0
comp=E,379nm,0.3s
CUKAN kangal_SIVAS 0.78 316 P **Pg 03 54 09.5 -0.9**
CUKAN S **Sg 03 54 21.2 +0.5**
CUKAN *i* AML AML 03 54 25.0
comp=E,71nm,0.2s
CUKAN *i* AML AML 03 54 28.0
comp=N,96nm,0.3s
CUAYA Sivas-Altinyay 1.22 295 P **Pg 03 54 17.5 -1.3**
CUAYA S **Sn 03 54 36.6 +0.7**
CUAYA *i* AML AML 03 54 40.0
comp=N,104nm,0.7s
CUAYA *i* AML AML 03 54 43.0
comp=E,62nm,0.5s
URFA Urfa 1.41 159 Pn **Pb 03 54 21.8 -0.3**
URFA Sn **Sg 03 54 41.9 +1.2**
SARI SarD1z-Kayseri 1.42 256 Pn **Pn 03 54 21.8 0.0**
SARI Sn **Sg 03 54 41.9 +0.9**
ERZN Erzincan 1.46 55 Pn **Pg 03 54 23.1 -0.3**
SVSK Karacayir 1.47 322 Pn **Pb 03 54 22.9 -0.2**
KMRS Kahramanmaras 1.60 219 Pn **Pn 03 54 24.6 +0.4**
KMRS Sn **Sb 03 54 46.2 +0.4**
GAZ Gaziantep 1.76 206 Pn **Pn 03 54 26.7 +0.4**
RSDY Resadiye-TOKAT 1.76 339 Pn **Pb 03 54 27.5 -0.5**
BNN Bunyan 1.82 274 Pn **Pn 03 54 27.7 +0.5**
TOKT Tokat 2.00 322 Pn **Pn 03 54 30.3 +0.6**
KOZT Kozan 2.25 236 Pn **Pn 03 54 33.6 +0.6**
YOZ Yozgat 2.38 293 Pn **Pn 03 54 35.7 +0.7**
CMRD Camardi-Nigde 2.73 247 Pn **Pn 03 54 40.7 +0.9**

HEL 17 04:18:16.2±0.3, 69.°23N×30.°51E, h0km, ML1.2, Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.10**	**227**	PN	Pb	04 18 38.4	+0.3
RAJF				SN	Sn	04 18 54.7	-0.1
KEV	**Kevo**	**1.34**	**295**	PG	Pg	04 18 39.9	-2.0
	baz=113						
KEV				MSG		04 18 56.6	
	comp=Z,1.1nm,0.2s						
KEV				SB	Sg	04 18 57.5	-1.7
VRF	**Varrio**	**1.53**	**193**	MSG		04 19 02.1	
	comp=Z,1.5nm,0.2s						
VRF				SN	Sn	04 19 07.6	+2.4
ARA0	**ARCESS Array S**	**1.80**	**282**	PG	Pn	04 18 49.0	+0.5
ARA0				SN	Sn	04 19 11.5	-0.5
KTK1	**Kautokeino**	**2.62**	**269**	SG	Sb	04 19 36.7	+0.2
HEF	**Hetta**	**2.62**	**255**	MSG		04 19 33.4	
	comp=Z,0.8nm,0.2s						
HEF				SG	Sb	04 19 37.3	+0.6
RNF	**Rovaniemi**	**3.13**	**215**	PG	Pb	04 19 10.6	-2.1
KLF	**Kolari**	**3.16**	**234**	SG	Sb	04 19 54.2	+2.1
KU6	**Riekki**	**3.23**	**185**	SG	Sb	04 19 54.0	-0.1
MSF	**Maaselka**	**3.38**	**190**	PG	Pb	04 19 17.1	+0.2

KOLA 17 04:18:44.4, 67.°65N×33.°74E, h0km, ML1.5, Error ellipse: s-maj=2.9km s-min=1.8km az=140.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.15**	**238**	P	Pg	04 18 46.9	-0.5
APA0	**Apatity Array**	**0.29**	**261**	P	Pg	04 18 49.3	-0.7
APA0				S	Sg	04 18 53.5	-0.3
LVZ	**Lovozero**	**0.42**	**54**	P	Pg	04 18 52.4	-0.2
LVZ				S	Sg	04 18 57.9	-0.2
KVDA	**Kovda**	**1.02**	**200**	P	Pg	04 19 02.7	-1.3
KVDA				S	Sg	04 19 16.1	-1.1
TERR	**Teriberka**	**1.64**	**17**	P	Pn	04 19 13.5	-0.9
TERR				S	Sn	04 19 34.5	-1.7
VADS	**Vadso**	**2.94**	**329**	P	Pn	04 19 32.8	+0.4
VADS				S	Sn	04 20 07.2	-1.2
ARCES	**ARCESS Array B**	**3.56**	**306**	P	Pn	04 19 40.3	-0.6
ARCES				S	Sn	04 20 22.0	-1.7

SJA ***17*** *04:57:34.5±0.7, 20.°60S×68.°86W, h113km±4km, ML3.7, MW3.7*
GUC ***17*** *04:57:36.8±0.7, 20.°65S×68.°90W, h102km±3km, ML3.6*
ISC 17 04:57:36.1±1.5, 20.°62S±0.°03×68.°88W±0.°07, h104km±10km, n29, σ0§81/50, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.54**	**331**	*e*P	**Pn**	**04 57 53.5**	**+0.3**
PB08				*i* S	**Sn**	**04 58 06.2**	**+0.3**
PB08				IAML		04 58 07.1	
	comp=E,3μm,0.6s						
PB08	**IPOC Station P**	**0.54**	**331**	*e*P	**Pn**	**04 57 53.3**	**+0.1**
PB08				*e*S	**Sn**	**04 58 06.4**	**+0.6**
PB08				IAML		04 58 07.7	
	comp=Z,998nm,0.2s						
PB01	**IPOC Station P**	**0.71**	**233**	*e*P	**Pn**	**04 57 53.6**	**-0.6**
PB01				*i* S	**Sn**	**04 58 07.1**	**-0.6**
PB01				IAML		04 58 07.9	
	comp=E,3μm,0.2s						
PB01	**IPOC Station P**	**0.71**	**233**	*e*P	**Pn**	**04 57 53.0**	**-1.2**
PB01				*e*S	**Sn**	**04 58 07.3**	**-0.4**
PB01				IAML		04 58 08.4	
	comp=Z,2μm,0.1s						
GO01	**Chusmiza**	**0.99**	**342**	*e*P	**Pn**	**04 57 57.9**	**+0.5**
GO01				*i* S	**Sn**	**04 58 14.1**	**+0.9**
GO01	**Chusmiza**	**0.99**	**342**	*e*P	**Pn**	**04 57 57.7**	**+0.4**
HMBC	**Humberstone**	**1.01**	**290**	*e*P	**Pn**	**04 57 56.6**	**-0.5**
HMBC				*i* S	**Sn**	**04 58 12.4**	**-0.5**
HMBC				IAML		04 58 14.6	
	comp=N,2μm,0.1s						
HMBC	**Humberstone**	**1.01**	**290**	*e*P	**Pn**	**04 57 56.5**	**-0.5**
HMBC				*e*S	**Sn**	**04 58 12.7**	**-0.2**
HMBC				IAML		04 58 16.8	
	comp=Z,1μm,0.3s						
PB11	**IPOC Station P**	**1.12**	**319**	*e*P	**Pn**	**04 57 58.5**	**0.0**
PB11				*i* S	**Sn**	**04 58 15.6**	**+0.3**
PB11	**IPOC Station P**	**1.12**	**319**	*e*P	**Pn**	**04 57 58.3**	**-0.1**
PB11				IAML		04 58 20.9	
	comp=Z,906nm,0.2s						
PATCX	**Punta Patache**	**1.21**	**260**	*e*P	**Pn**	**04 57 59.0**	**-0.3**
PATCX				*i* S	**Sn**	**04 58 16.8**	**0.0**
PATCX				IAML		04 58 21.9	
	comp=N,2μm,0.5s						
PATCX	**Punta Patache**	**1.21**	**260**	*e*P	**Pn**	**04 57 59.0**	**-0.3**
PATCX				*e*S	**Sn**	**04 58 17.7**	**+0.8**
PATCX				IAML		04 58 19.1	
	comp=Z,996nm,0.3s						
PB09	**IPOC Station P**	**1.22**	**196**	*e*P	**Pn**	**04 57 59.5**	**-0.1**
PB09				*i* S	**Sn**	**04 58 17.0**	**-0.2**
PB09				IAML		04 58 20.9	
	comp=N,935nm,0.6s						
PB09	**IPOC Station P**	**1.22**	**196**	*e*P	**Pn**	**04 57 59.4**	**-0.1**
PB09				*e*S	**Sn**	**04 58 18.2**	**+1.0**
PB09				IAML		04 58 20.2	
	comp=Z,1μm,0.7s						
TA01	**Diego Aracena**	**1.22**	**272**	*e*P	**Pn**	**04 57 58.7**	**-0.6**
TA01				*i* S	**Sn**	**04 58 16.1**	**-0.8**
TA01				IAML		04 58 17.2	
	comp=E,2μm,0.3s						
TA01	**Diego Aracena**	**1.22**	**272**	*e*P	**Pn**	**04 57 58.9**	**-0.5**
TA01				*e*S	**Sn**	**04 58 17.8**	**+0.9**
TA01				IAML		04 58 18.5	
	comp=Z,491nm,0.4s						
TA02	**Huaiquique**	**1.23**

PB06			*i*S	Sn	04 58 37.7	-0.5
PB06			IAML		04 58 46.1	
comp=E,351nm,0.3s						
PB06	**IPOC Station P**	**2.17 197**	*e*P	Pn	**04 58 11.8**	**+0.5**
PB06			*e*S	Sn	**04 58 40.8**	**+2.6**
PB06			IAML		04 58 50.0	
comp=Z,247nm,0.4s						
PB16	**IPOC Station P**	**2.35 345**	*e*P	Pn	**04 58 13.4**	**-0.5**
PB16			*e*S	Sn	**04 58 41.0**	**-1.9**
PB16			IAML		04 58 59.7	
comp=Z,137nm,0.4s						
AF01	**San Pedro de A**	**2.41 165**	*e*S	Sn	**04 58 43.2**	**-0.6**
AF01			IAML		04 59 27.5	
comp=Z,160nm,0.5s						
PB12	**IPOC Station P**	**2.42 325**	*e*P	Pn	**04 58 14.1**	**-0.4**
PB12			*e*S	Sn	**04 58 44.8**	**+1.0**
PB12			IAML		04 58 55.9	
comp=Z,399nm,0.2s						
AP01	**Chacalluta**	**2.63 328**	*e*S	Sn	04 58 59.2	+11
AP01			IAML		04 59 00.7	
comp=Z,1μm,0.3s						
PB10	**IPOC Station P**	**3.27 208**	*e*P	Pn	**04 58 27.3**	**+1.6**
PB10			*e*S	Sn	04 59 14.4	+11
PB10			IAML		04 59 20.1	
comp=Z,81nm,0.4s						
PB14	**IPOC Station P**	**4.23 199**	*e*P	Pn	**04 58 38.7**	**-0.1**
PB14			*e*S	Sn	04 59 37.9	+11
PB14			IAML		04 59 39.1	
comp=Z,96nm,0.4s						
GO02	**Mina Guanaco**	**4.57 188**	*e*P	Pn	**04 58 42.8**	**-0.6**
GO02			*e*S	Sn	**04 59 34.8**	**-0.8**

MOS ***17*** *05:03:40.2±1.1,31°.65S×179°.63E,h327km,mb4.7/15, Error ellipse: s-maj=13.7km s-min=9.8km az=76.8*
IDC ***17*** *05:03:42.7±0.6,31°.70S×179°.64E,h345km±6km,mb4.2/21, mbtmp4.9/24, Error ellipse: s-maj=12.0km s-min=8.9km az=99.0*
NEIC ***17*** *05:03:43.1±2.1,31°.79S±0°.09×179°.7E±0°.1,h341km±5km, mb5.0/180, Error ellipse: s-maj=16.5km s-min=12.1km az=108.0*
NOU ***17*** *05:03:44.3,31°.89S×179°.86W,h377km,mb4.9/70, Kermadec Islands Region*
WEL ***17*** *05:03:45.0±0.6,32°.S±5°.×17°.9W±1°.1,h303km±9km, mB5.4/34,ML5.8/34,MLv5.5/38,Mw(mB)4.9/34, Error ellipse: s-maj=14.9km s-min=3.7km az=109.9,confirmed*
GCMT ***17*** *05:03:46.1±0.3,31°.58S±0°.03×179°.82E±0°.03,h352km±1km, MW5.3/99, Moment Tension Solution. s99,c136; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.67±.02; $M_{\theta\theta}$0.07±.04; $M_{\phi\phi}$0.60±.04; $M_{r\theta}$-0.46±.04; $M_{\theta\phi}$0.15±.03; $M_{\phi r}$-0.62±.04; Best double couple: $M_0$1.00900×10^{17} NP1:ϕ_s183.00000°,δ22.00000°, λ-116.00000°. NP2:ϕ_s31.00000°,δ70.00000°, λ-80.00000°. Principal axes: T 0.9720, Plg24.0000°, Azm113.0000°; N 0.0750, Plg10.0000°, Azm207.0000°; P -1.0470, Plg64.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 17 05:03:41.9±0.4,**31°.76S**±0°.04×**179°.86E**±0°.05,**h339**km±4km, **h342**km:**pP-P,n618,**σ1**s45/**573,**mb4.9**/158,**17C-29D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.14**	**38**	P	**Pn**	**05 04 40.7**	**-1.1**
GLKZ				S	**S**	**05 05 27.3**	**-2.6**
RIZ	**Raoul Island**	**3.15**	**38**	P	**Pn**	**05 04 41.9**	**0.0**
GRZ	**Great Barrier**	**5.78**	**218**	P	Pn	05 05 15.0	+5.3
MXZ	**Matakaoa Point**	**5.93**	**192**		**Pn**	**05 05 14.3**	**+2.9**
MXZ	**Matakaoa Point**	**5.93**	**192**	P	**Pn**	**05 05 11.7**	**+0.3**
MXZ				S	**S**	**05 06 23.6**	**-0.3**
KUZ	**Kuaotunu**	**6.04**	**213**	P	Pn	05 05 17.9	+5.2
WSRZ	**White Island S**	**6.16**	**200**	P	Pn	05 05 20.2	+6.1
WSRZ				S	**S**	**05 06 31.6**	**+2.8**
WIZ	**White Island**	**6.16**	**200**	P	Pn	05 05 18.3	+4.3
WIZ				S	**S**	**05 06 32.2**	**+3.4**
WMGZ	**Waiomatatini S**	**6.16**	**191**	P	**Pn**	**05 05 14.8**	**+0.7**
WMGZ				S	**S**	**05 06 28.6**	**-0.2**
WCZ	**Waipu Caves**	**6.20**	**226**	P	Pn	05 05 19.7	+5.2
HAZ	**Te Kaha**	**6.22**	**195**	P	**Pn**	**05 05 14.1**	**-0.7**
HAZ				S	**S**	**05 06 26.7**	**-3.3**
PKGZ	**Pakihiroa**	**6.27**	**193**	P	**Pn**	**05 05 15.3**	**-0.1**
PKGZ				S	**S**	**05 06 32.7**	**+1.7**
OUZ	**Omahuta**	**6.27**	**235**	P	Pn	05 05 20.5	+5.1
WIAZ	**Waiheke Island**	**6.37**	**217**	P	Pn	05 05 22.0	+5.5
ABAZ	**Army Bay**	**6.38**	**219**	P	Pn	05 05 21.5	+4.9
PUZ	**Puketiti**	**6.43**	**191**	P	**Pn**	**05 05 16.6**	**-0.7**
PUZ				S	**S**	**05 06 32.8**	**-1.8**
RUGZ	**Raukumara Rang**	**6.45**	**196**	P	**Pn**	**05 05 17.4**	**-0.2**
RUGZ				S	**S**	**05 06 32.4**	**-2.7**
WHRZ	**Whale Island**	**6.53**	**201**	P	Pn	05 05 23.8	+5.4
WHRZ				S	**S**	**05 06 37.0**	**+0.4**
TWGZ	**Tauwhareparae**	**6.58**	**193**	P	**Pn**	**05 05 18.9**	**-0.2**
TWGZ				S	**S**	**05 06 38.8**	**+0.8**
ETAZ	**East Tamaki Re**	**6.59**	**217**	P	Pn	05 05 24.9	+5.8
MKAZ	**Moumakai**	**6.59**	**215**	P	Pn	05 05 24.3	+5.1
WTAZ	**Waiatarua**	**6.76**	**219**	P	Pn	05 05 27.8	+6.7
AWAZ	**Awhitu Peninsu**	**6.83**	**218**	P	Pn	05 05 27.2	+5.3
CNGZ	**Carnagh Statio**	**6.84**	**191**	P	**Pn**	**05 05 22.6**	**+0.6**
CNGZ				S	**S**	**05 06 42.5**	**-0.9**
TKGZ	**Te Karaka**	**6.87**	**193**	P	**Pn**	**05 05 21.9**	**-0.4**
TKGZ				S	**S**	**05 06 42.4**	**-1.5**
URZ	**Urewera**	**6.87**	**198**	P	**Pn**	**05 05 21.6**	**-0.7**
136nm,0.2s,baz=348,slow=3.7,SNR=55							
URZ				S	**S**	**05 06 42.6**	**-1.2**
341nm,0.3s,baz=335,slow=24,SNR=19							
URZ	**Urewera**	**6.87**	**198**	P	**Pn**	**05 05 24.3**	**+2.0**
URZ	**Urewera**	**6.87**	**198**	P	**Pn**	**05 05 21.5**	**-0.7**
URZ				S	**S**	**05 06 40.2**	**-3.6**
KARZ	**Kaharoa**	**6.92**	**204**	P	Pn	05 05 27.8	+4.9
OMRZ	**Omania**	**6.95**	**203**	P	Pn	05 05 28.5	+5.1
TOZ	**Tahuroa Road**	**6.95**	**210**	Pn	**Pn**	**05 05 25.3**	**+2.0**
NGRZ	**Ngongotaha**	**7.01**	**204**	P	Pn	05 05 29.6	+5.5
RAGZ	**Rawiri**	**7.01**	**196**	P	**Pn**	**05 05 25.2**	**+1.0**
RAGZ				S	**S**	**05 06 48.1**	**+0.9**
TARZ	**Mount Tarawera**	**7.02**	**202**	P	Pn	05 05 28.4	+4.2
TARZ				S	**S**	**05 06 51.3**	**+3.9**
HLRZ	**Highlands Stat**	**7.09**	**203**	P	Pn	05 05 29.7	+4.7
RRRZ	**Republican Roa**	**7.11**	**202**	P	Pn	05 05 29.8	+4.5
RIGZ	**Rimuhau**	**7.14**	**193**	P	**Pn**	**05 05 24.3**	**-1.3**
RIGZ				S	**S**	**05 06 46.6**	**-3.3**
MUGZ	**Murupara**	**7.16**	**200**	P	**Pn**	**05 05 27.9**	**+2.0**
MUGZ				S	**S**	**05 06 48.4**	**-2.0**
HSRZ	**Hossack Road**	**7.18**	**203**	P	Pn	05 05 31.3	+5.3
HSRZ				S	**S**	**05 06 53.6**	**+2.9**
HRRZ	**Handcock Road**	**7.24**	**203**	P	Pn	05 05 30.6	+3.9
RTZ	**Ruatahuna**	**7.24**	**198**	Pn	**Pn**	**05 05 27.5**	**+0.7**
RTZ	**Ruatahuna**	**7.24**	**198**	P	**Pn**	**05 05 28.4**	**+1.7**
RTZ				S	**S**	**05 06 49.5**	**-2.5**
GRRZ	**Galatos Road**	**7.26**	**204**	P	Pn	05 05 31.7	+4.7
PRRZ	**Plateau Road**	**7.30**	**202**	P	Pn	05 05 31.2	+3.7
SNGZ	**Shannon Statio**	**7.30**	**196**	P	**Pn**	**05 05 26.8**	**-0.7**
SNGZ				S	**S**	**05 06 54.0**	**+0.6**
PRGZ	**Paritu Road**	**7.33**	**192**	P	**Pn**	**05 05 26.9**	**-0.9**
PRGZ				S	**S**	**05 06 49.8**	**-4.1**
ALRZ	**Allen Road**	**7.37**	**202**	P	**Pn**	**05 05 30.2**	**+1.9**
WPRZ	**Whakapapatarin**	**7.39**	**203**	P	Pn	05 05 32.7	+4.1
KNZ	**Kokohu**	**7.46**	**193**	P	**Pn**	**05 05 28.8**	**-0.6**
KUTZ	**Kaahu Road**	**7.48**	**205**	P	Pn	05 05 34.0	+4.4
RAHZ	**Arahi**	**7.49**	**197**	P	**Pn**	**05 05 29.8**	**+0.1**
MTHZ	**Maungataniwha**	**7.49**	**198**	P	**Pn**	**05 05 29.6**	**-0.1**
MHGZ	**Mahia Peninsul**	**7.55**	**192**	P	**Pn**	**05 05 30.6**	**+0.2**
MRHZ	**Matea Rd**	**7.60**	**201**	P	**Pn**	**05 05 33.6**	**+2.6**
WHHZ	**Waihua**	**7.61**	**196**	P	**Pn**	**05 05 31.5**	**+0.4**
WHHZ				S	**S**	**05 06 58.0**	**-1.9**
WATZ	**Wairara**	**7.71**	**205**	P	Pn	05 05 36.2	+3.8
NMHZ	**Naumai**	**7.73**	**198**	P	**Pn**	**05 05 31.8**	**-0.8**
HATZ	**Hinemaiaia**	**7.75**	**202**	P	**Pn**	**05 05 35.6**	**+2.8**
HATZ				S	**S**	**05 07 00.9**	**-2.2**
RATZ	**Rangitukua**	**7.84**	**204**	P	**Pn**	**05 05 36.5**	**+2.6**
ARHZ	**Aropaoanui**	**7.84**	**197**	P	**Pn**	**05 05 33.7**	**-0.2**
ARHZ				S	**S**	**05 07 03.9**	**-1.2**
BKZ	**Black Stump Fm**	**7.88**	**199**	Pn	**Pn**	**05 05 34.1**	**-0.3**
BKZ	**Black Stump Fm**	**7.88**	**199**	P	**Pn**	**05 05 36.3**	**+1.9**
BKZ	**Black Stump Fm**	**7.88**	**199**	P	**Pn**	**05 05 33.3**	**-1.1**
HIZ	**Hauiti**	**7.88**	**210**		**Pn**	**05 05 32.9**	**-1.5**
HIZ	**Hauiti**	**7.88**	**210**	P	Pn	05 05 40.1	+5.7
HIZ	**Hauiti**	**7.88**	**210**	P	Pn	05 05 40.4	+6.0
RITZ	**Rihia Road**	**7.91**	**203**	P	**Pn**	**05 05 37.3**	**+2.6**
KATZ	**Kakaramea**	**7.96**	**204**	P	**Pn**	**05 05 37.8**	**+2.3**
NTVZ	**North Tongarir**	**8.08**	**204**	P	**P**	**05 05 38.2**	**-2.2**
TMVZ	**Te Maari**	**8.08**	**204**	P	**P**	**05 05 37.7**	**-2.8**
KRVZ	**Karewarewa**	**8.09**	**204**	P	**P**	**05 05 39.3**	**-1.1**
MCHZ	**McNeill Hill**	**8.09**	**198**	P	**Pn**	**05 05 36.9**	**0.0**
ETVZ	**East Tongariro**	**8.10**	**204**	P	**Pn**	**05 05 36.8**	**-0.3**
WTVZ	**West Tongariro**	**8.12**	**204**	P	**Pn**	**05 05 37.6**	**+0.3**
NNVZ	**North Ngauruho**	**8.13**	**204**	P	**P**	**05 05 39.0**	**-1.9**
TWVZ	**Taurewa**	**8.14**	**205**	P	**Pn**	**05 05 37.7**	**+0.2**
OTVZ	**Oturere**	**8.14**	**204**	P	**Pn**	**05 05 36.8**	**-0.8**
KWHZ	**Kaweka Forest**	**8.14**	**199**	P	**Pn**	**05 05 36.6**	**-0.9**
SNVZ	**South Ngauruho**	**8.17**	**204**	P	**Pn**	**05 05 37.4**	**-0.5**
NGZ	**Ngauruhoe**	**8.17**	**204**	P	**Pn**	**05 05 38.2**	**+0.2**
CKHZ	**Cape Kidnapper**	**8.20**	**195**	P	**P**	**05 05 39.2**	**-2.3**
COVZ	**Chateau Observ**	**8.21**	**204**	P	**P**	**05 05 40.7**	**-1.1**
TUVZ	**Tukino**	**8.24**	**203**	P	**Pn**	**05 05 38.1**	**-0.6**
FWVZ	**Far West T-bar**	**8.26**	**204**	P	**Pn**	**05 05 38.7**	**-0.4**
MAVZ	**Matarangi**	**8.27**	**204**	P	**P**	**05 05 41.6**	**-1.1**
WHVZ	**Whangaehu Hut**	**8.27**	**204**	P	**Pn**	**05 05 39.1**	**-0.2**
TRVZ	**Turoa**	**8.30**	**204**	P	**Pn**	**05 05 38.8**	**-0.8**
WNVZ	**Wahianoa**	**8.31**	**204**	P	**Pn**	**05 05 38.4**	**-1.2**
MOVZ	**Moawhango**	**8.33**	**203**	P	**Pn**	**05 05 38.8**	**-1.0**
KRHZ	**Kereru**	**8.36**	**199**	P	**Pn**	**05 05 37.9**	**-2.2**
PKVZ	**Pokaka**	**8.36**	**205**	P	**P**	**05 05 40.8**	**-2.6**
KAHZ	**Kahuranaki**	**8.38**	**196**	P	**Pn**	**05 05 38.4**	**-1.9**
MTVZ	**Mangateitei**	**8.40**	**204**	P	**P**	**05 05 41.4**	**-2.6**
VRZ	**Vera Road**	**8.44**	**208**	P	**P**	**05 05 44.4**	**+0.1**
PXZ	**Pawanui**	**8.60**	**196**	P	**Pn**	**05 05 41.2**	**-1.7**
PNHZ	**Pukenui**	**8.66**	**199**	P	**Pn**	**05 05 40.9**	**-2.8**
WPHZ	**Waipukurau**	**8.74**	**198**	P	**P**	**05 05 45.8**	**-1.8**
NEZ	**North Egmont**	**8.84**	**210**	P	**P**	**05 05 51.0**	**+2.1**
TSZ	**Takapari Road**	**8.86**	**200**	P	**Pn**	**05 05 45.2**	**-1.0**
LREZ	**Lake Rotokare**	**8.87**	**209**	P	**P**	**05 05 50.0**	**+0.8**
PREZ	**Palmer Road**	**8.88**	**210**	P	**P**	**05 05 50.9**	**+1.7**
PRHZ	**Porangahau**	**8.88**	**196**	P	**Pn**	**05 05 43.9**	**-2.4**
KHEZ	**Kahui Hut**	**8.90**	**211**	P	**P**	**05 05 52.0**	**+2.5**
KHEZ	**Kahui Hut**	**8.90**	**211**	P	**P**	**05 05 51.4**	**+1.9**
WAZ	**Wanganui**	**8.90**	**205**	P	**P**	**05 05 48.5**	**-1.0**
NBEZ	**Newall Road No**	**8.94**	**211**	P	**P**	**05 05 51.8**	**+1.9**
DVHZ	**Dannevirke**	**9.03**	**198**	P	**Pn**	**05 05 46.3**	**-1.8**
NMEZ	**Namu Road**	**9.06**	**211**	P	**P**	**05 05 53.6**	**+2.5**
ANWZ	**Angora Road**	**9.10**	**197**	P	**P**	**05 05 49.5**	**-2.1**
OHWZ	**Ohakea**	**9.20**	**202**	P	**P**	**05 05 51.6**	**-1.1**
POWZ	**Post Office Ro**	**9.23**	**200**	P	**Pn**	**05 05 50.5**	**+0.1**
PRWZ	**Pori Road**	**9.32**	**199**	P	**Pn**	**05 05 51.1**	**-0.5**
BFZ	**Birch Farm**	**9.37**	**197**		**Pn**	**05 05 51.1**	**-1.0**
BFZ	**Birch Farm**	**9.37**	**197**	P	**P**	**05 05 53.3**	**-1.3**
BFZ	**Birch Farm**	**9.37**	**197**	P	**Pn**	**05 05 50.0**	**-2.1**
MRZ	**Mangatainoka R**	**9.53**	**200**	P	**Pn**	**05 05 51.1**	**-3.0**
TIWZ	**Tintock**	**9.55**	**199**	P	**Pn**	**05 05 52.9**	**-1.4**
CPWZ	**Castlepoint**	**9.60**	**197**	P	**P**	**05 05 55.8**	**-1.3**
HOWZ	**Holdsworth Sta**	**9.77**	**200**	P	**Pn**	**05 05 54.2**	**-2.8**
OGWZ	**Otaki Gorge**	**9.80**	**201**	P	**Pn**	**05 05 54.8**	**-2.4**
TMWZ	**Te Maipa**	**9.86**	**198**	P	**Pn**	**05 05 55.4**	**-2.6**
KIW	**Kapiti Island**	**9.92**	**202**	P	**Pn**	**05 05 56.8**	**-1.9**
CAW	**Cannon Point**	**10.09**	**201**	P	**Pn**	**05 05 58.5**	**-2.4**
MSWZ	**Moikau Station**	**10.32**	**200**	P	**Pn**	**05 06 03.3**	**-0.3**
WEL	**Wellington**	**10.35**	**202**	P	**Pn**	**05 06 03.1**	**-0.8**
WEL	**Wellington**	**10.35**	**202**	P	**Pn**	**05 06 03.1**	**-0.8**
SNZO	**South Karori**	**10.39**	**202**	P	**Pn**	**05 06 04.1**	**-0.3**
SNZO	**South Karori**	**10.39**	**202**	P	**P**	**05 06 04.3**	**-1.6**
BHW	**Baring Head**	**10.43**	**201**	P	**Pn**	**05 06 04.1**	**-0.8**
BHW	**Baring Head**	**10.43**	**201**	P	**Pn**	**05 06 03.4**	**-1.5**
TCW	**Tory Channel**	**10.45**	**204**	P	**Pn**	**05 06 02.8**	**-2.2**
PLWZ	**Palliser**	**10.46**	**199**	P	**Pn**	**05 06 04.9**	**-0.4**
TUWZ	**Tuamarina**	**10.76**	**205**		**Pn**	**05 06 06.8**	**-2.0**
TUWZ	**Tuamarina**	**10.76**	**205**	P	**Pn**	**05 06 06.7**	**-2.0**
NNZ	**Nelson**	**10.78**	**207**		**Pn**	**05 06 07.5**	**-1.6**
TKNZ	**Takaka Hill**	**10.79**	**209**		**Pn**	**05 06 07.4**	**-1.8**
QRZ	**Quartz Range**	**10.80**	**211**		**Pn**	**05 06 08.0**	**-1.3**
QRZ	**Quartz Range**	**10.80**	**211**	P	**P**	**05 06 09.8**	**-0.8**
CMWZ	**Cape Campbell**	**10.95**	**203**	P	**P**	**05 06 11.6**	**-0.6**
BSWZ	**Blackbirch Sta**	**11.03**	**204**	P	**Pn**	**05 06 10.3**	**-1.8**
BSWZ	**Blackbirch Sta**	**11.03**	**204**	P	**Pn**	**05 06 11.2**	**-0.9**
MRNZ	**Matariki Terra**	**11.18**	**209**	P	**Pn**	**05 06 12.6**	**-1.2**
KHZ	**Kahutara**	**11.77**	**204**	P	**Pn**	**05 06 19.8**	**-1.0**
DSZ	**Denniston Nort**	**11.87**	**211**	P	**P**	**05 06 21.1**	**-1.4**
AMCZ	**Amberley**	**12.75**	**205**	P	**P**	**05 06 31.3**	**-0.8**
INZ	**Inchbonnie**	**12.83**	**209**		**P**	**05 06 30.7**	**-2.2**
OXZ	**Oxford**	**13.10**	**206**		**P**	**05 06 34.8**	**-1.2**
MQZ	**McQueen's Vall**	**13.21**	**203**	P	**P**	**05 06 36.4**	**-0.7**
LKBA	**Tubou, Lakemba**	**13.52**	**5**	P	**Pn**	**05 06 42.6**	**+0.7**
RPZ	**Rata Peaks**	**13.81**	**208**		**P**	**05 06 43.1**	**-0.7**
RPZ	**Rata Peaks**	**13.81**	**208**	P	**P**	**05 06 42.7**	**-1.1**
26nm,0.3s,baz=303,slow=2.1,SNR=28							
RPZ				S	**S**	**05 09 07.3**	**-7.3**
27nm,0.3s,baz=327,slow=23,SNR=16							
RPZ	**Rata Peaks**	**13.81**	**208**	P	**Pn**	**05 06 43.5**	**-1.5**
MSVF	**Nonsavu**	**14.06**	**353**		**Pn**	**05 06 47.2**	**-1.2**
MSVF	**Nonsavu**	**14.06**	**353**	P	**Pn**	**05 06 47.6**	**-0.8**
54nm,0.8s,baz=222,slow=20,SNR=12							
MSVF				S	**S**	**05 09 21.7**	**+1.3**
24nm,1.1s,baz=105,slow=19,SNR=4.0							
MSVF	**Nonsavu**	**14.06**	**353**	P	**Pn**	**05 06 48.4**	**0.0**
FOZ	**Fox Glacier**	**14.18**	**211**	P	**P**	**05 06 46.6**	**-1.3**
LBZ	**Lake Benmore**	**14.71**	**208**	P	**P**	**05 06 53.2**	**-0.5**
OUENC	**Ouen Island, N**	**14.86**	**306**	P	**Pn**	**05 06 58.5**	**+1.0**
YATNC	**Mamie plateau,**	**15.06**	**307**	P	**Pn**	**05 07 01.5**	**+1.6**
JCZ	**Jackson Bay**	**15.06**	**212**	P	**Pn**	**05 06 57.6**	**-2.2**
ODZ	**Otahua Downs**	**15.09**	**206**	P	**P**	**05 06 57.5**	**-0.3**
ODZ				IAmb	IAmb	05 07 01.2	
comp=Z,36nm,0.7s							
ODZ	**Otahua Downs**	**15.09**	**206**	P	**Pn**	**05 06 58.3**	**-1.6**
ONTNC	**Ouen Toro**	**15.20**	**305**		**Pn**	**05 07 00.6**	**-0.9**
ONTNC	**Ouen Toro**	**15.20**	**305**	P	**Pn**	**05 07 02.3**	**+0.8**
DZM	**Mont Dzumac**	**15.36**	**306**		**Pn**	**05 07 04.0**	**+0.5**
DZM				IAmb	IAmb	05 07 09.2	
comp=Z,99nm,0.9s							
DZM	**Mont Dzumac**	**15.36**	**306**	*e*Pn	**Pn**	**05 07 03.9**	**+0.5**
comp=Z,339nm,1.4s							
DZM				*e*S	**S**	**05 09 42.1**	**-4.3**
comp=Z,1μm,26.3s							
DZM	**Mont Dzumac**	**15.36**	**306**	P	**Pn**	**05 07 03.6**	**+0.2**
comp=Z,70nm,0.8s,baz=118,slow=15,SNR=6.8							
DZM				S	**S**	**05 09 48.6**	**+2.2**
comp=Z,5.9nm,0.6s,baz=89,slow=10,SNR=1.4							
DZM	**Mont Dzumac**	**15.36**	**306**	P	**Pn**	**05 07 04.7**	**+1.2**
DGTI	**Dogotuki**	**15.39**	**360**	P	**Pn**	**05 07 02.5**	**-1.3**
WHZ	**Wether Hill Ro**	**16.86**	**210**		**P**	**05 07 16.7**	**-0.3**
FUTU	**Fugatoga**	**17.47**	**7**		**P**	**05 07 23.5**	**-0.3**
FUTU	**Fugatoga**	**17.47**	**7**	P	**P**	**05 07 24.8**	**+0.9**
LHI	**Lord Howe Isla**	**17.71**	**265**	P	**Pn**	**05 07 30.0**	**-0.4**
comp=Z,158nm,1.0s							
KOUNC	**Koumac, New Ca**	**17.87**	**305**	P	**Pn**	**05 07 32.1**	**-0.2**
VLAKA	**Lakatoro**	**19.26**	**321**	P	**P**	**05 07 47.1**	**+4.1**
AFI	**Afiamalu**	**19.35**	**25**	P	**P**	**05 07 43.4**	**-0.6**
AFI	**Afiamalu**	**19.35**	**25**	P	**P**	**05 07 45.2**	**+1.2**
AFI	**Afiamalu**	**19.35**	**25**	P	**P**	**05 07 43.4**	**-0.6**
AFI				pmax	pmax		
comp=Z,118nm,0.9s							
RIV	**Riverview**	**24.19**	**257**	P	**P**	**05 08 32.4**	**+3.7**
comp=Z,74nm,1.2s							
RIV	**Riverview**	**24.19**	**257**	P	**P**	**05 08 30.4**	**+1.7**
ARMA	**Armidale**	**24.19**	**266**		**P**	**05 08 29.5**	**+0.6**
ARMA	**Armidale**	**24.19**	**266**	P	**P**	**05 08 32.7**	**+3.8**
comp=Z,51nm,2.7s							
ARMA	**Armidale**	**24.19**	**266**	P	**P**	**05 08 32.0**	**+3.1**
MGCD	**Mangrove Creek**	**24.27**	**259**	P	**P**	**05 08 31.9**	**+2.5**
comp=Z,85nm,0.8s							
MGCD	**Mangrove Creek**	**24.27**	**259**	P	**P**	**05 08 33.1**	**+3.7**
WOLH	**Wollongong Har**	**24.40**	**256**	P	**P**	**05 08 32.1**	**+1.5**
SYDH	**Sydney Hard Ro**	**24.54**	**257**	P	**P**	**05 08 33.8**	**+2.0**
CNB	**Canberra Magne**	**25.62**	**254**	P	**P**	**05 08 44.4**	**+2.9**
comp=Z,49nm,1.7s							
CNB	**Canberra Magne**	**25.62**	**254**	P	**P**	**05 08 44.5**	**+2.9**
MILA	**Mila**	**25.82**	**250**	P	**P**	**05 08 47.0**	**+3.7**
comp=Z,26nm,1.4s							
CAN	**Canberra**	**25.92**	**254**		**P**	**05 08 44.5**	**+0.3**
CAN				IAmb	IAmb	05 08 48.4	
comp=Z,51nm,1.1s							
CAN	**Canberra**	**25.92**	**254**	P	**P**	**05 08 46.4**	**+2.3**
comp=Z,47nm,1.0s							
CAN	**Canberra**	**25.92**	**254**	P	**P**	**05 08 46.5**	**+2.3**
CAN	**Canberra**	**25.92**	**254**	P	**P**	**05 08 44.5**	**+0.3**
CAN				pmax	pmax		
comp=Z,51nm,1.1s							
EIDS	**Eidsvold**	**26.02**	**277**		**P**	**05 08 45.2**	**0.0**
EIDS				IAmb	IAmb	05 08 48.1	
comp=Z,56nm,0.9s							
EIDS	**Eidsvold**	**26.02**	**277**	P	**P**	**05 08 47.0**	**+1.8**
comp=Z,64nm,1.1s							
EIDS	**Eidsvold**	**26.02**	**277**	P	**P**	**05 08 47.2**	**+2.0**
RK1H	**Rockhampton Ha**	**27.27**	**280**	P	**P**	**05 08 58.4**	**+2.1**
TAU	**Tasmania Unive**	**28.00**	**237**	P	**P**	**05 09 02.1**	**-0.4**
TAU	**Tasmania Unive**	**28.00**	**237**	P	**P**	**05 09 02.1**	**-0.4**
TAU				pmax	pmax		
comp=Z,33nm,0.9s							
TBI	**Tubuai**	**28.39**	**81**	*e*P	P	05 09 11.6	+5.5
comp=Z,444nm,37.5s							
TBI				*e*S	**S**	**05 13 26.7**	**-1.0**
comp=Z,857nm,31.2s							
TBI				*es*S	**ScP**	**05 15 18.2**	**+1.0**
comp=Z,1μm,44.5s							
TOO	**Toolangi**	**28.75**	**249**		**P**	**05 09 07.9**	**-1.4**
TOO	**Toolangi**	**28.75**	**249**	P	**P**	**05 09 11.4**	**+2.1**
comp=Z,14nm,0.8s							
TOO	**Toolangi**	**28.75**	**249**	P	**P**	**05 09 07.9**	**-1.4**
TOO				pmax	pmax		
comp=Z,14nm,1.0s							
CMSA	**Cobar Meteorol**	**29.02**	**261**	P	**P**	**05 09 13.8**	**+2.1**
comp=Z,120nm,0.9s							
CMSA	**Cobar Meteorol**	**29.02**	**261**	P	**P**	**05 09 14.4**	**+2.7**
PPT2	**Papeete2**	**31.02**	**70**	*e*P	P	05 09 34.8	+5.4
comp=Z,69nm,29.5s							
PPT2				*e*S	S	05 14 02.0	-7.1
comp=Z,110nm,31.8s							
PPT2				*es*S	sS	05 16 05.7	+1.2
comp=Z,81nm,23.8s							
QLP	**Quilpie**	**31.44**	**270**	P	**P**	**05 09 34.1**	**+1.2**
comp=Z,167nm,1.4s							
QLP	**Quilpie**	**31.44**	**270**	P	**P**	**05 09 34.3**	**+1.4**
ARPS	**Mount Arapiles**	**31.68**	**250**	P	**P**	**05 09 36.7**	**+1.9**
comp=Z,49nm,0.8s							
ARPS	**Mount Arapiles**	**31.68**	**250**	P	**P**	**05 09 37.2**	**+2.4**
TV1H	**Townsville Har**	**32.20**	**285**	P	**P**	**05 09 41.4**	**+1.9**
STKA	**Stephens Creek**	**32.41**	**259**		**P**	**05 09 41.0**	**-0.2**
STKA	**Stephens Creek**	**32.41**	**259**	P	**P**	**05 09 43.2**	**+2.0**
comp=Z,451nm,0.8s							
STKA	**Stephens Creek**	**32.41**	**259**	P	**P**	**05 09 43.2**	**+2.0**
comp=Z,35nm,0.3s,baz=104,slow=9.4,SNR=159							
STKA	**Stephens Creek**	**32.41**	**259**	P	**P**	**05 09 43.2**	**+2.0**
STKA	**Stephens Creek**	**32.41**	**259**	*d*P	**P**	**05 09 43.1**	**+2.0**
INKA	**Innaminka**	**34.07**	**266**	P	**P**	**05 09 57.5**	**+2.0**
HTT	**Hallett**	**34.38**	**256**	P	**P**	**05 09 59.6**	**+1.4**
comp=Z,22nm,

KIP **Kipapa** 56.97 25 P **P** 05 12 53.4 +0.4
KIP **Kipapa** 56.97 25⇑ *e*P **P** 05 12 53.5 +0.4
KIP pmax pmax
comp=Z,49nm,1.6s
GIRL **Giralia** 58.31 261 P **P** 05 13 03.3 +0.8
comp=Z,87nm,1.1s
QSPA **South Pole Qui** 58.35 180 **P** 05 13 03.5 +1.3
QSPA IAmb IAmb 05 13 05.3
comp=Z,51nm,0.9s
QSPA **South Pole Qui** 58.35 180 P **P** 05 13 03.7 +1.5
comp=Z,49nm,0.8s,baz=22,slow=2.7,SNR=181
QSPA S **S** 05 20 37.9 +0.6
comp=Z,3.0nm,1.1s,baz=299,slow=8.7,SNR=6.1
comp=Z,49nm,0.8s
QSPA **South Pole Qui** 58.35 180 P **P** 05 13 04.0 +1.8
SANI **Sanana** 58.63 289 P **P** 05 13 04.1 -0.6
SANI **Sanana** 58.63 289 P **P** 05 13 03.9 -0.8
comp=Z,606nmcomp=Z,31nm,1.3s
TNTI **Ternate** 59.23 293 P **P** 05 13 07.2 -1.7
LUWI **Luwuk** 61.82 288 P **P** 05 13 25.8 -0.3
LUWI **Luwuk** 61.82 288 P **P** 05 13 26.1 -0.1
LUWI **Luwuk** 61.82 288 P **P** 05 13 25.5 -0.7
KAPI **Kappang** 62.07 282 P **P** 05 13 27.2 -0.6
KAPI **Kappang** 62.07 282 P **P** 05 13 27.2 -0.6
KAPI pmax pmax
comp=Z,12nm,1.1s
SPSI **Sidrap Palu** 62.63 283 P **P** 05 13 30.2 -1.3
comp=Z,13nm,1.1s
TOLI2 **Tolitoli** 64.69 288 **P** 05 13 43.3 -1.5
TOLI2 **Tolitoli** 64.69 288 P **P** 05 13 43.7 -1.1
MPSI **Mapaga** 64.96 287 P **P** 05 13 45.0 -1.5
comp=Z,950nmcomp=Z,20nm,1.6s
JAGI **Jajag, Banyuwa** 64.96 276 P **P** 05 13 45.6 -1.0
comp=Z,40nm,1.7s
GMJI **Gumukmas** 65.66 275 P **P** 05 13 50.5 -0.5
comp=Z,41nm,1.2s
KMMI **Kalianget** 65.85 277 P **P** 05 13 52.7 +0.5
comp=Z,41nm,1.3s
BELA **Belgrano 2** 68.68 173 P **P** 05 14 09.6 +0.7
BELA IAmb IAmb 05 14 10.3
comp=Z,16nm,0.7s
MAW **Mawson** 70.39 201 P **P** 05 14 19.6 +0.3
comp=Z,1.7nm,1.3s
MAW **Mawson** 70.39 201 P **P** 05 14 19.1 -0.2
comp=Z,5.1nm,0.8s,baz=125,slow=6.9,SNR=6.6
comp=Z,5.1nm,0.8s
SBUM **Sibu** 72.45 284 IAmb IAmb 05 14 33.5
comp=Z,30nm,1.3s
SBUM **Sibu** 72.45 284 P **P** 05 14 32.6 +0.1
CGJI **Cibinong** 73.09 273 P **P** 05 14 34.7 -1.5
comp=Z,31nm,1.5s
KSM **Kuching** 73.50 282 P **P** 05 14 38.6 +0.1
ELIB **Princess Elisa** 75.28 187 *d*P **P** 05 14 47.4 -0.5
comp=Z,9.9nm,1.0s
ELIB *d*PcP **PcP** 05 15 00.0 +0.5
ELIB *d*pP **pP** 05 16 02.3 -1.4
SYO **Syowa Base** 75.37 194⇓ *e*P **P** 05 14 47.6 -0.7
MDSI **Maura Dua** 75.48 274 P **P** 05 14 47.8 -2.1
comp=Z,30nm,1.3s
TROLL **Troll, Antarti** 76.50 181 ⇑P **P** 05 14 55.8 +1.0
comp=Z,989nm,0.8s
VNA3 **Neumayer Olymp** 77.06 177 ⇑P **P** 05 14 58.3 +0.5
comp=Z,52nm,0.4s
NVL **N'lazarevskaya** 77.41 184 *e*P P 05 14 54.8 -4.8
NVL pmax pmax
comp=Z,22nm,1.1s
VNA2 **Neumayer--Watz** 77.47 178 ⇑P **P** 05 15 01.4 +1.3
comp=Z,53nm,0.6s,baz=173,slow=5.5
VNA1 **Neumayer--Stat** 77.72 177 ⇑P **P** 05 15 02.8 +1.5
comp=Z,51nm,0.8s
JGF **Kuroka** 77.98 326 **P** 05 15 03.7 +0.4
MJAR **Matsushiro Arr** 78.34 327 P **P** 05 15 03.6 -1.6
comp=Z,5.3nm,0.9s,baz=159,slow=4.5,SNR=11
comp=Z,5.3nm,0.9s
MAJO **Matsushiro** 78.34 327 P **P** 05 15 04.7 -0.5
MAJO **Matsushiro** 78.34 327 *d i*P **P** 05 15 03.9 -1.3
MAJO pmax pmax
comp=Z,20nm,1.4s
JNU **Nakatsue** 79.38 320 IAmb IAmb 05 15 11.0
comp=Z,30nm,1.1s
JNU **Nakatsue** 79.38 320 P **P** 05 15 10.4 -0.5
PLCA **Paso Flores** 82.91 134 **P** 05 15 31.3 +1.8
PLCA IAmb IAmb 05 15 32.1
comp=Z,17nm,1.2s
PLCA **Paso Flores** 82.91 134 P **P** 05 15 30.9 +1.5
comp=Z,4.7nm,0.8s,baz=241,slow=4.1,SNR=12
comp=Z,4.7nm,0.8s
PLCA **Paso Flores** 82.91 134 P **P** 05 15 31.3 +1.8
PLCA pmax pmax
comp=Z,17nm,1.2s
KIWB **Kanaga Island** 83.30 2 P **P** 05 15 31.4 +0.7
ADK **Adak** 83.34 2 P **P** 05 15 31.0 +0.1
ADK **Adak** 83.34 2 P **P** 05 15 31.0 +0.1
ADK pmax pmax
comp=Z,105nm,1.1s
TJN **Taejon** 83.73 320 P **P** 05 15 34.1 +0.8
GSI **Gunungsitoli** 84.12 275 **P** 05 15 35.0 -0.8
GSI IAmb IAmb 05 15 45.9
comp=Z,27nm,1.3s
GSI **Gunungsitoli** 84.12 275 P **P** 05 15 36.4 +0.5
KSRS **Korea Array** 84.22 321 P **P** 05 15 35.0 -0.7
comp=Z,3.9nm,0.8s,baz=138,slow=5.5,SNR=16
comp=Z,3.9nm,0.8s
KSAR **Wonju Array Be** 84.23 321 P **P** 05 15 35.2 -0.6
KSAR **Wonju Array Be** 84.23 321 P **P** 05 15 35.2 -0.6
BI02 **San Fabin de** 84.84 130 **P** 05 15 40.7 +1.5
NJ2 **Nanjing** 85.76 312 *e*P **P** 05 15 45.3 +1.8
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
UNV **Unalaska Valle** 86.07 8 P **P** 05 15 45.2 +0.8
PEA0B **Petropavlovsk-** 86.69 347⇑ *e*P **P** 05 15 48.3 +0.8
PETK **Petropavlovsk-** 86.69 347 P **P** 05 15 47.6 +0.1
PETK **Petropavlovsk-** 86.69 347 P **P** 05 15 47.4 0.0
comp=Z,15nm,1.0s,baz=103,slow=6.4,SNR=8.7
comp=Z,15nm,1.0s
PETK **Petropavlovsk-** 86.69 347 **P** 05 15 47.6 +0.1
USA0B **Ussuriysk Arra** 87.30 328 *c i*P **P** 05 15 50.8 +0.2
USRK **Ussuriysk Ar.** 87.30 328 **P** 05 15 49.7 -0.9
comp=Z,2.0nm,0.7s,baz=100,slow=4.8,SNR=7.8
comp=Z,2.0nm,0.7s
PASC **Pasadena Art C** 87.75 47 IAmb IAmb 05 15 56.9
comp=Z,30nm,1.3s
ELS **Elsinore Mount** 87.89 48 IAmb IAmb 05 15 56.0
comp=Z,19nm,1.1s
CHNA **Chernabura Isl** 88.04 12 P **P** 05 15 54.8 +1.1
PFO **Pinyon Flats O** 88.48 48 **P** 05 15 57.4 +0.9
PFO IAmb IAmb 05 16 00.5
comp=Z,14nm,1.1s
PFO **Pinyon Flats O** 88.48 48 P **P** 05 15 57.9 +1.3
comp=Z,5.7nm,0.7s,baz=255,slow=2.4,SNR=7.9
comp=Z,5.7nm,0.7s
PFO **Pinyon Flats O** 88.48 48 P **P** 05 15 57.4 +0.9
PFO pmax pmax
comp=Z,14nm,1.1s
CCAC **Calif City Air** 88.50 46 IAmb IAmb 05 15 59.6
comp=Z,37nm,1.4s
KMPM **Mount Pierce** 88.55 39 IAmb IAmb 05 15 59.9
comp=Z,40nm,1.2s
ISA **Isabella, Lake** 88.56 46 **P** 05 15 58.6 +1.8
ISA IAmb IAmb 05 15 59.8
comp=Z,48nm,1.4s
ISA **Isabella, Lake** 88.56 46 P **P** 05 15 58.6 +1.8
ISA pmax pmax
comp=Z,48nm,1.5s
NONG **Nongkai** 88.58 292 P **P** 05 15 57.9 +0.7
TYV **Tymovskoe** 88.58 337 *e*P **P** 05 15 57.4 +1.0
TYV pmax pmax
comp=Z,300nm,3.0s
TYV pmax pmax
comp=Z,14nm,1.3s
MDJ **Mudanjiang** 88.73 327 P **P** 05 15 58.0 +0.7
MDJ pmax pmax
comp=Z,13nm,1.5s
CMB **Columbia Colle** 89.00 43 IAmb IAmb 05 16 01.2
comp=Z,31nm,1.3s
GLA **Glamis** 89.17 50 IAmb IAmb 05 16 04.1
comp=Z,30nm,0.9s
GSC **Goldstone, Bar** 89.35 47 IAmb IAmb 05 16 03.5
comp=Z,32nm,1.4s
TIA **Tai'an** 89.57 314 P **P** 05 16 02.0 +0.6
TIA pmax pmax
comp=Z,11nm,0.8s
113A **Mohawk Valley,** 89.69 51 IAmb IAmb 05 16 06.3
comp=Z,28nm,1.3s
BLYC **Blythe** 89.81 49 IAmb IAmb 05 16 06.8
comp=Z,15nm,1.2s

WAKR **Walker** 89.87 43 IAmb IAmb 05 16 05.8
comp=Z,29nm,1.3s
DSP **Deep Springs** 89.98 45 IAmb IAmb 05 16 06.8
comp=Z,14nm,1.2s
GWY **Greenwater Val** 90.00 46 IAmb IAmb 05 16 06.2
comp=Z,15nm,1.3s
L02F **Cave Junction** 90.05 38 IAmb IAmb 05 16 06.7
comp=Z,39nm,1.2s
GRAC **Grapevine Rang** 90.10 45 IAmb IAmb 05 16 06.9
comp=Z,49nm,1.4s
CN2 **Changchun** 90.14 324 P **P** 05 16 03.5 -0.3
CN2 pmax pmax
comp=Z,20nm,1.0s
AC05 **El Transito** 90.15 124 **P** 05 16 06.4 +1.8
AC05 IAmb IAmb 05 16 07.3
comp=Z,13nm,0.8s
PNTR **Pine Nut** 90.17 43 IAmb IAmb 05 16 06.9
comp=Z,48nm,1.4s
YBH **Yreka Blue Hor** 90.23 39 IAmb IAmb 05 16 07.3
comp=Z,28nm,1.2s
YBH **Yreka Blue Hor** 90.23 39 P **P** 05 16 05.7 +1.2
comp=Z,13nm,1.1s,baz=165,slow=3.2,SNR=14
YBH pP **pwP** 05 17 26.8 +0.4
comp=Z,1.9nm,1.0s,baz=202,slow=5.4,SNR=1.7
comp=Z,13nm,1.1s
LHV **Little Huntoon** 90.25 44 IAmb IAmb 05 16 07.3
comp=Z,38nm,1.4s
BEKR **Beckworth** 90.25 42 IAmb IAmb 05 16 07.0
comp=Z,16nm,1.3s
NVAR **Mina Array Bea** 90.48 44 P **P** 05 16 06.9 +1.0
comp=Z,6.0nm,0.8s,baz=221,slow=8.0,SNR=30
NVAR pP **pwP** 05 17 27.6 +0.1
comp=Z,1.5nm,0.8s,baz=253,slow=3.8,SNR=3.8
comp=Z,6.0nm,0.8s
RYN **Ryan** 90.48 44 IAmb IAmb 05 16 08.2
comp=Z,26nm,1.5s
NV11 **Mina Array Sit** 90.57 44 IAmb IAmb 05 16 08.6
comp=Z,25nm,1.4s
PAHR **Pah Rah Range** 90.70 42 IAmb IAmb 05 16 09.1
comp=Z,20nm,1.2s
V12A **Nelson** 90.84 48 **P** 05 16 09.9 +2.4
Y14A **Wickenburg** 90.91 50 IAmb IAmb 05 16 10.9
comp=Z,17nm,1.4s
BBOR **Butler Butte** 91.06 38 IAmb IAmb 05 16 21.9
comp=Z,14nm,1.1s
KLR **Kul'dur** 91.30 331 *de*P **P** 05 16 09.0 -0.1
KLR pmax pmax
comp=Z,6.0nm,1.5s
TUC **Tucson** 91.39 52 P **P** 05 16 11.2 +1.1
TUC **Tucson** 91.39 52 P **P** 05 16 11.2 +1.1
TUC pmax pmax
comp=Z,6.0nm,1.0s
LYN **LuoYang** 91.46 310 *e*P **P** 05 16 11.0 +0.8
LYN pmax pmax
comp=Z,20nm,0.6s
OHAK **Old Harbor** 91.50 14 IAmb IAmb 05 16 11.6
comp=Z,22nm,0.9s
PRN **Pahroc Range** 91.78 46 IAmb IAmb 05 16 15.7
comp=Z,15nm,1.1s
HNS **HongShan** 91.82 314 ⇓P **P** 05 16 12.3 +0.5
HNS pmax pmax
comp=Z,11nm,1.0s
J05D **Fort Rock, OR** 92.10 39 IAmb IAmb 05 16 16.4
comp=Z,35nm,1.2s
CMAR **Chiang Mai Arr** 92.13 290 P **P** 05 16 13.4 -0.3
comp=Z,0.4nm,0.3s,baz=98,slow=1.9,SNR=4.3
CMAR pP **pwP** 05 17 33.3 -3.4
comp=Z,0.5nm,0.5s,baz=102,slow=8.3,SNR=1.6
CMAR PKKPbc **PKKPbc** 05 33 27.4 +0.3
comp=Z,0.4nm,0.3s,baz=323,slow=3.1,SNR=4.1
comp=Z,0.4nm,0.3s
CMAR **Chiang Mai Arr** 92.13 290 *i* P **P** 05 16 15.0 +1.3
CMAR pmax pmax
comp=Z,1.0nm,0.3s
KDAK **Kodiak Island** 92.16 14 P **P** 05 16 13.1 +0.3
comp=Z,6.8nm,0.9s,baz=198,slow=3.2,SNR=2.2
comp=Z,6.8nm,0.9s
H04A **Detroit Lake** 92.56 37 IAmb IAmb 05 16 17.0
comp=Z,25nm,1.4s
KNB **Kanab** 92.93 48 IAmb IAmb 05 16 20.2
comp=Z,17nm,1.4s
WVOR **Wild Horse Val** 92.94 41 IAmb IAmb 05 16 19.4
comp=Z,18nm,1.2s
WVOR **Wild Horse Val** 92.94 41 P **P** 05 16 17.9 +0.9
I07A **Izee** 93.56 39 IAmb IAmb 05 16 22.3
comp=Z,17nm,1.1s
J08A **Circle Bar Ran** 93.64 40 IAmb IAmb 05 16 22.5
comp=Z,17nm,1.1s
ELK **Elko** 93.78 44 IAmb IAmb 05 16 23.3
comp=Z,14nm,1.5s
ELK **Elko** 93.78 44 P **P** 05 16 22.0 +0.9
comp=Z,2.2nm,0.7s,baz=213,slow=4.6,SNR=8.3
comp=Z,2.2nm,0.7s
MTPU **Mount Pierson** 93.95 47 IAmb IAmb 05 16 25.6
comp=Z,11nm,1.4s
M16K **Timber Creek** 94.06 10 IAmb IAmb 05 16 23.4
comp=Z,19nm,1.1s
PZH **PanZhiHua** 94.32 298 P **P** 05 16 25.8 +2.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.9s
D05A **Enumclaw** 94.39 36 IAmb IAmb 05 16 25.9
comp=Z,23nm,1.2s
N19K **Bonanza Creek** 94.60 12 IAmb IAmb 05 16 24.9
comp=Z,21nm,1.4s
L16K **Owhat River** 94.64 10 IAmb IAmb 05 16 26.1
comp=Z,12nm,1.1s
M17K **Holitna River** 94.65 11 IAmb IAmb 05 16 26.1
comp=Z,13nm,0.9s
G08A **Pilot Rock** 94.65 38 IAmb IAmb 05 16 27.0
comp=Z,13nm,1.2s
TXAR **Lajitas Array** 94.66 58 P **P** 05 16 26.1 +0.9
comp=Z,0.7nm,1.0s,baz=215,slow=7.2,SNR=5.1
TXAR pP **pwP** 05 17 47.2 +0.5
comp=Z,0.9nm,1.0s,baz=236,slow=4.6,SNR=4.4
comp=Z,0.7nm,1.0s
K15K **Wolf Creek Mou** 94.92 9 IAmb IAmb 05 16 30.0
comp=Z,17nm,1.1s
E07A **Sunnyside** 95.03 37 IAmb IAmb 05 16 30.6
comp=Z,7.4nm,0.8s
Q16A **Castle Valley** 95.12 47 IAmb IAmb 05 16 50.5
comp=Z,6.0nm,0.8s
MFID **Camas Ranch** 95.14 41 IAmb IAmb 05 16 29.8
comp=Z,9.3nm,1.1s
XLT **XiLinHaoTe** 95.16 319 *e*P **P** 05 16 29.0 +1.9
XLT sP sP 05 18 23.1 +2.3
XLT pmax pmax
comp=Z,7.0nm,0.8s
BBB **Bella Bella** 95.17 29 P **P** 05 16 27.9 +1.2
comp=Z,14nm,0.8s,baz=218,slow=12,SNR=1.1
comp=Z,14nm,0.8s
STLK **Strandline Lak** 95.73 13 IAmb IAmb 05 16 29.0
comp=Z,8.4nm,1.2s
RC01 **Rabbit Creek A** 95.78 14 IAmb IAmb 05 16 31.6
comp=Z,19nm,1.1s
D08A **Wollman Farm,** 95.84 37 IAmb IAmb 05 16 32.1
comp=Z,10.0nm,1.0s
ANMO **Albuquerque** 95.86 52 P **P** 05 16 32.0 +1.4
comp=Z,0.7nm,0.8s,baz=126,slow=2.7,SNR=3.0
ANMO pP **pwP** 05 17 51.6 -0.6
comp=Z,0.9nm,0.8s,baz=321,slow=6.5,SNR=2.9
comp=Z,0.7nm,0.8s
ANMO **Albuquerque** 95.86 52⇓ *e*P **P** 05 16 32.5 +1.9
ANMO pmax pmax
comp=Z,7.0nm,3.8s
HHC **Hu-ho-hao-te** 95.87 315 *e*P P 05 16 35.0 +4.6
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,94nm,4.3s
HVU **Hansel Valley** 95.88 44 IAmb IAmb 05 16 32.8
comp=Z,20nm,1.4s
SUA **Susitna One** 95.92 14 IAmb IAmb 05 16 32.6
comp=Z,8.0nm,0.7s
F10A **Beach Ranch, E** 96.02 39 IAmb IAmb 05 16 32.2
comp=Z,6.3nm,1.1s
HLID **Hailey** 96.03 42 IAmb IAmb 05 16 33.6
comp=Z,10nm,1.4s
PLID **Pearl Lake** 96.11 40 IAmb IAmb 05 16 33.3
comp=Z,7.5nm,1.2s
KNK **Knik Glacier** 96.35 15 IAmb IAmb 05 16 34.8
comp=Z,8.7nm,0.8s
BTO **Baotou** 96.67 314 *e*P **P** 05 16 37.1 +3.1
BTO S **S** 05 27 25.0 0.0
BTO pmax pmax
comp=Z,20nm,0.6s
BTO pmax pmax

comp=Z,140nm,5.6s
DIV **Divide** 96.70 16 IAmb IAmb 05 16 36.3
comp=Z,14nm,1.2s
J18K **Innoko River** 96.72 10 IAmb IAmb 05 16 34.7
comp=Z,5.6nm,0.9s
BMRM **Bremner River** 96.84 17 IAmb IAmb 05 16 37.4
comp=Z,16nm,1.2s
SCM **Sheep Creek Mo** 96.97 15 IAmb IAmb 05 16 37.7
comp=Z,10nm,0.7s
N25K **Chitina, Valde** 97.40 16 IAmb IAmb 05 16 38.8
comp=Z,7.9nm,1.0s
GLB **Gilahina Butte** 97.45 17 IAmb IAmb 05 16 40.3
comp=Z,4.1nm,0.8s
CAST **Castle Rocks** 97.45 12 IAmb IAmb 05 16 36.4
comp=Z,7.6nm,1.0s
KTH **Kantishna Hill** 97.78 13 IAmb IAmb 05 16 38.7
comp=Z,6.2nm,0.9s
J20K **Nowinta River** 97.79 11 IAmb IAmb 05 16 44.0
comp=Z,5.5nm,1.0s
TRF **Thorofare Moun** 97.81 13 IAmb IAmb 05 16 42.3
comp=Z,7.0nm,0.7s
RND **Reindeer** 98.06 14 IAmb IAmb 05 16 43.5
comp=Z,12nm,1.0s
RND **Reindeer** 98.06 14 P Pdif 05 16 39.7 +0.1
LZH **Lanzhou** 98.08 307 *e*P Pdif 05 16 42.5 +2.0
LZH pmax pmax
comp=Z,15nm,1.0s
I20K **Naaghedeneel** 98.31 11 IAmb IAmb 05 16 42.0
comp=Z,14nm,1.2s
PDAR **Pinedale Array** 98.39 45 P Pdif 05 16 42.4 +0.6
comp=Z,0.5nm,0.7s,baz=190,slow=5.0,SNR=5.5
PDAR PKKPbc **PKKPbc** 05 33 10.3 -1.6
comp=Z,0.2nm,0.5s,baz=50,slow=2.9,SNR=3.6
comp=Z,0.5nm,0.7s
PAX **Paxson** 98.39 15 IAmb IAmb 05 16 43.6
comp=Z,5.3nm,1.2s
M26K **Nabesna, AK** 98.47 17 IAmb IAmb 05 16 51.4
comp=Z,11nm,1.4s
LPAZ **La Paz** 99.24 116 P **Pdif** 05 16 46.6 -0.2
comp=Z,1.0nm,0.9s,baz=225,slow=8.6,SNR=2.5
comp=Z,1.0nm,0.9s
COLA **College** 99.57 13⇑ *i*P **Pdif** 05 16 45.8 -0.4
COLA pmax pmax
comp=Z,8.0nm,0.9s
ILAR **Eielson Array** 99.67 14 P **Pdif** 05 16 46.2 -0.4
comp=Z,2.5nm,0.9s,baz=225,slow=5.0,SNR=14
ILAR PP **PP** 05 20 52.2 -4.1
comp=Z,2.9nm,1.0s,baz=207,slow=6.6,SNR=8.7
ILAR PKiKP **PKiKP** 05 21 12.4 -1.0
comp=Z,1.1nm,0.6s,baz=243,slow=2.2,SNR=7.6
comp=Z,2.5nm,0.9s
BILL **Bilibino** 100.02 355⇑ *e*P **Pdif** 05 16 49.6 +1.5
BILL pmax pmax
comp=Z,16nm,2.5s
YAK **Yakutsk** 101.82 338 *i* P **Pdif** 05 16 55.6 -0.6
YAK pmax pmax
comp=Z,14nm,0.6s
YKA **Yellowknife Ar** 107.47 26 Pdiff **Pdif** 05 17 22.2 +0.8
comp=Z,0.8nm,1.1s,baz=236,slow=4.4,SNR=8.4
YKA PKiKP **PKiKP** 05 21 27.0 -0.7
comp=Z,0.8nm,0.7s,baz=244,slow=1.8,SNR=19
YKA PP **PP** 05 21 50.4 -3.6
comp=Z,0.6nm,0.9s,baz=243,slow=8.2,SNR=6.0
YKA PKKPbc **PKKPbc** 05 32 42.4 -3.1
comp=Z,0.3nm,0.8s,baz=46,slow=3.8,SNR=5.2
YKA PKKP **PKKPab** 05 32 57.7 +1.1
comp=Z,0.3nm,0.8s,baz=337,slow=3.6,SNR=4.3
WMQ **Urumqi** 112.63 308 *e*PKP **PKiKP** 05 21 38.9 +0.8
BOSA **Boshof** 115.28 205 PKP **PKiKP** 05 21 43.8 -0.1
comp=Z,4.3nm,1.1s,baz=112,slow=5.4,SNR=1.4
BOSA PKKPbc **PKKPab** 05 32 25.5 -3.3
comp=Z,3.3nm,0.6s,baz=353,slow=3.0,SNR=7.1
MK31 **Makanchi Array** 117.24 310 *c i*PKIKP **PKPdf** 05 21 45.9 -1.0
MKAR **Makanchi Array** 117.24 310 **PKPdf** 05 21 46.0 -0.8
MKAR **Makanchi Array** 117.24 310 PKP **PKPdf** 05 21 45.8 -1.1
comp=Z,2.7nm,0.7s,baz=185,slow=0.9,SNR=20
MKAR PKKPbc **PKKPbc** 05 32 13.1 +0.6
comp=Z,1.0nm,0.8s,baz=278,slow=4.1,SNR=7.6
MKAR **Makanchi Array** 117.24 310 PKIKP **PKPdf** 05 21 46.0 -0.8
MAKZ **Makanchi** 117.45 310 **PKPdf** 05 21 46.2 -1.1
MAKZ **Makanchi** 117.45 310 PKIKP **PKPdf** 05 21 46.2 -1.1
ZALV **Zalesovo Beam** 117.83 318 **PKPdf** 05 21 46.8 -0.9
ZALV **Zalesovo Beam** 117.83 318 PKP **PKPdf** 05 21 46.4 -1.3
comp=Z,2.6nm,0.7s,baz=130,slow=0.8,SNR=10
ZALV **Zalesovo Beam** 117.83 318 PKIKP **PKPdf** 05 21 46.8 -0.9
NRIK **Noril'sk** 120.12 336 PKP **PKPdf** 05 21 50.9 -0.8
comp=Z,6.2nm,0.8s,baz=94,slow=3.9,SNR=10
NRIK **Noril'sk** 120.12 336 *c i*PKIKP **PKPdf** 05 21 51.2 -0.5
KURK **Kurchatov** 120.66 314 **PKPdf** 05 21 52.4 -0.8
KURK **Kurchatov** 120.66 314 *d i*PKIKP **PKPdf** 05 21 51.0 -2.2
KURBB **Kurchatov Arra** 120.69 313 PKP **PKPdf** 05 21 52.2 -1.0
comp=Z,8.4nm,0.8s,baz=110,slow=2.0,SNR=52
KURBB PKKPbc **PKKPab** 05 32 00.7 +1.6
comp=Z,0.6nm,0.7s,baz=294,slow=4.6,SNR=5.9
AAK **Ala-Archa** 121.34 304 ⇓ *i*PKIKP **PKPdf** 05 21 53.3 -1.8
ILON **Igloolik, Nuna** 122.24 24 **PKPdf** 05 21 54.6 -1.1
KBL **Kabul** 123.06 293 **PKPdf** 05 21 58.9 +0.2
KBL **Kabul** 123.06 293 PKIKP **PKPdf** 05 21 58.9 +0.2
GRTLG **Ghanzi** 123.36 204 **PKPdf** 05 21 59.7 0.0
KKAR **Karatay Array** 124.29 303 **PKPdf** 05 21 59.6 -0.9
KKAR **Karatay Array** 124.29 303 PKIKP **PKPdf** 05 21 59.6 -0.9
I63A **Otisfield** 124.65 56 **PKiKP** 05 22 02.2 +0.8
QNGWA **Qangwa** 125.06 205 **PKPdf** 05 22 03.3 +0.4
LMQ **La Malbaie** 125.51 52 **PKPdf** 05 22 02.6 0.0
E62A **Clayton Lake** 125.89 53 **PKPdf** 05 22 03.7 +0.3
LSZ **Lusaka** 125.91 214 PKIKP **PKiKP** 05 22 05.5 +0.4
BVAR **Borovoye Array** 126.08 315 PKP **PKPdf** 05 22 03.3 -0.3
comp=Z,13nm,0.8s,baz=98,slow=2.1,SNR=51
BRVK **Borovoye** 126.15 315 **PKPdf** 05 22 03.2 -0.5
BRVK **Borovoye** 126.15 315 *d i*PKIKP **PKPdf** 05 22 02.6 -1.1
KULLO **Kullorsuaq** 128.94 17 *i* P **PKPdf** 05 22 07.8 -0.6
NEEM **North Greenlan** 128.94 13 *i* P **PKPdf** 05 22 07.7 -1.1
NOR **Nord** 129.66 3 *i* P **PKPdf** 05 22 09.4 -0.3
UPNV **Upernavik** 129.93 19 *i* P **PKPdf** 05 22 10.7 +0.3
ABKAR **Akbulak array** 132.38 310 **PKPdf** 05 22 15.2 -0.5
ILULI **Ilulissat** 132.91 22 *i* P **PKPdf** 05 22 16.1 +0.1
SPITS **Spitsbergen Ar** 132.92 355 PKP **PKPdf** 05 22 15.7 -0.3
comp=Z,9.5nm,0.6s,baz=102,slow=3.8,SNR=12
ARTI **Arti** 133.06 320 **PKPdf** 05 22 16.3 -0.4
ARTI **Arti** 133.06 320 *i* PKIKP **PKPdf** 05 22 17.1 +0.4
ARTI 05 24 44.9
ARTI SS SS 05 42 22.6 +20
AKTO **Aktyubinsk** 133.64 311 PKP **PKPdf** 05 22 18.4 +0.3
comp=Z,6.1nm,0.7s,baz=2.7,slow=0.3,SNR=17
SUMG **Summit** 134.49 15 **PKPdf** 05 22 20.8 +1.3
SUMG **Summit** 134.49 15 PKIKP **PKPdf** 05 22 20.8 +1.3
SUMG **Summit** 134.49 15 *i* P **PKPdf** 05 22 19.0 -0.5
NUUK **Nuuk** 134.64 29 *i* P **PKiKP** 05 22 21.0 +0.1
ICESG **Greenland Ices** 136.45 19 *i* P **PKPdf** 05 22 23.8 +0.6
KIRV **Kirov** 137.36 324 *ce*PKIKP **PKPdf** 05 22 24.8 +0.2
ISOG **Isortoq, Green** 138.80 23 *i* P **PKPdf** 05 22 28.4 +1.3
RAYN **Ar Rayn** 138.99 270 PKIKP **PKPdf** 05 22 29.1 +0.3
ARA0 **ARCESS Array S** 139.50 346 *e*P **PKiKP** 05 22 30.5 -0.2
ARCES **ARCESS Array B** 139.50 346 PKhKP PKPpre 05 22 20.1
comp=Z,4.8nm,1.0s,baz=36,slow=2.2,SNR=18
ARCES PKP **PKPdf** 05 22 27.7 -0.6
comp=Z,8.9nm,0.8s,baz=82,slow=3.6,SNR=9.8
KLMR **Klimovskoe** 141.06 330 *e*PKIKP **PKPdf** 05 22 27.6 -3.7
KLMR pmax pmax
comp=Z,31nm,1.2s
GNI **Garni** 143.04 296 PKP **PKPdf** 05 22 35.3 -0.5
comp=Z,3.7nm,0.4s,baz=186,slow=6.4,SNR=6.5
FAUS **Fauske** 143.19 350 *e*P PKPab 05 22 32.0 +0.5
VRH **Novokhopyorsk** 143.74 315 *e*PKIKP PKPbc 05 22 34.7 -0.3
VRH pmax pmax
comp=Z,8.0nm,0.8s
NCK **Nalchik** 143.82 302 ⇓ *i*PKIKP PKPbc 05 22 35.4 -0.2
GOF **Gofitskoye** 144.07 304 *ce*PKIKP PKPab 05 22 35.8 0.0
VAGH **Vaagaholmen** 144.09 351 *e*P **PKPab** 05 22 35.0 -0.2
KBZ **Khabaz** 144.31 302 PKP **PKPab** 05 22 35.8 -0.9
comp=Z,12nm,1.1s,baz=33,slow=0.5,SNR=15
KBZ **Khabaz** 144.31 302 *d i*PKIKP **PKPab** 05 22 35.3 -1.4
KONS **Konsvik** 144.32 351 *e*P **PKPab** 05 22 36.0 0.0
MOS **Moscow** 144.38 324 *e*PKHKP PKPpre 05 22 34.0
MOS pmax pmax
comp=Z,50nm,0.8s
KIV **Kislovodsk** 144.44 302 *e*PKIKP **PKPab** 05 22 36.2 -1.2
KIV pmax pmax
comp=Z,10.0nm,1.1s
MOR8 **Moi Rana** 144.45 350 *e*P **PKPab** 05 22 35.0 -1.6
SHA1 **Shidzhatmaz** 144.48 302 *d i*PKIKP **PKPab** 05 22 36.5 -1.3
STOK **Stokkvaagen** 144.50 351 *e*P **PKPab** 05 22 36.6 -0.2
LEIR **Leirfjorden** 144.69 351 *e*P PKPbc 05 22 36.9 -0.4
LPSR **Galich'ya Gora** 144.93 318 *e*PKIKP PKPbc 05 22 35.9 -2.6
LPSR pmax pmax

comp=Z,40nm,1.0s
VORR Voronezh 145.09 316 *e*PKIKP **PKPdf 05 22 37.0 -1.7**
VORR pmax pmax
comp=Z,40nm,0.9s
OBN Obninsk 145.19 323 *d i*PKIKP **PKPdf 05 22 38.2 -0.5**
OBN *e* 05 24 03.4
OBN *e*PPP PPP 05 29 20.3
OBN pmax pmax
comp=Z,81nm,1.8s
VSR Storozhevoye 145.26 316 *e*PKHKP PKPpre 05 22 36.4
VSR pmax pmax
comp=Z,40nm,1.0s
VORD Divnogorie 145.27 315 *e*PKIKP **PKPdf 05 22 36.9 -2.1**
VORD pmax pmax
comp=Z,50nm,0.8s
PUL Pulkovo 145.42 333 *c i*PKP2 **PKPdf 05 22 39.6 +0.6**
FIA1 FINESS Array S 145.75 338 PKPdf 05 22 39.6 +0.1
FINES FINESS Array B 145.75 338 PKPdf 05 22 39.8 +0.3
FINES FINESS Array B 145.75 338 PKPbc **PKPdf 05 22 39.3 -0.2**
comp=Z,24nm,0.5s,baz=49,slow=3.7,SNR=149
FINES FINESS Array B 145.75 338 PKIKP **PKPdf 05 22 39.8 +0.3**
LABN Labinsk 145.76 304 *e*PKHKP PKPpre 05 22 37.3
LABN pmax pmax
comp=Z,16nm,0.6s
ERBR Yeremizino-Bor 145.77 306 *e*PKIKP **PKPdf 05 22 39.3 -0.8**
ERBR *e* 05 29 14.9
ERBR pmax pmax
comp=Z,36nm,1.0s
NSS Namsos 146.35 351 *e*P **PKPdf 05 22 41.6 +1.2**
VSLR Vesyoloye 146.41 302 *c i*PKP2 **PKPbc 05 22 42.7 -0.5**
SOC Sochi 146.62 302 *e*PKIKP **PKPdf 05 22 40.7 -0.9**
SOC *e* 05 26 08.0
SOC *e*PPP PPP 05 29 28.2
SOC *e*SS SS 05 44 40.1 -1.2
SOC *e*SSS SSS 05 50 15.6
VSU Vasula 147.67 334 *de*PKIKP **PKPdf 05 22 42.9 +0.1**
ANN Anapa 148.05 305 *i*PKIKP **PKPdf 05 22 45.2 +1.3**
ANN pmax pmax
comp=Z,39nm,1.0s
ASF Jabal al Asfar 148.68 281 PKPbc **PKPbc 05 22 49.1 -0.5**
comp=Z,12nm,0.8s,baz=135,slow=3.5,SNR=14
MOL Molde 148.78 353 *e*P **PKPbc 05 22 49.1 +0.3**
DOMB Dombas 149.12 352 *e*P **PKPbc 05 22 49.5 -0.2**
AKN Aaknes 149.22 353 *e*P **PKPbc 05 22 50.2 +0.3**
NB2 NORSAR Subarra 149.78 349 PKP **PKPbc 05 22 50.6 -0.7**
comp=Z,65nm,0.9s,baz=17,slow=2.6
NB2 NORSAR Subarra 149.78 349 PKP **PKPbc 05 22 50.6 -0.7**
baz=17,slow=2.6
NOA NORSAR Array B 149.78 349 PKPbc **PKPbc 05 22 50.3 -1.1**
comp=Z,20nm,0.7s,baz=16,slow=4.2,SNR=59
MNK Minsk 149.78 327 *i*PKP2 **PKPbc 05 22 51.8 +0.3**
MNK *i* 05 26 27.6
MNK *i* 05 29 20.1
MNK *i*PPP PPP 05 29 51.9
MNK *i*SS SS 05 45 15.5 +0.3
MNK *i*SSS SSS 05 51 00.3
MNK pmax pmax
comp=Z,76nm,1.0s
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=N,28nm,1.0s
EIL Elat 149.84 275 PKPbc **PKPbc 05 22 51.9 -0.5**
comp=N,21nm,0.8s,baz=33,slow=2.6,SNR=14
FOO Floro 149.96 355 *e*P **PKPbc 05 22 51.8 +0.2**
NC602 NORSAR Array S 150.01 349 *e*P **PKPbc 05 22 51.3 -0.6**
MMAI Mount Meron Ar 150.05 282 PKPbc **PKPbc 05 22 52.9 0.0**
comp=N,16nm,0.6s,baz=116,slow=1.9,SNR=18
HFS Hagfors 150.16 346 PKPbc **PKPbc 05 22 51.4 -0.8**
comp=N,30nm,0.8s,baz=43,slow=2.1,SNR=6.1
HFS PKPab **PKPab 05 22 58.4 -1.3**
comp=N,5.8nm,0.5s,baz=46,slow=4.2,SNR=10
HYA Hoyanger 150.29 354 *e*P **PKPbc 05 22 52.8 +0.4**
SIM Simferopol' 150.32 306 *e*PKIKP **PKPbc 05 22 52.4 -0.7**
SIM pmax pmax
comp=Z,51nm,1.4s
SIM pmax pmax
comp=Z,15nm,0.9s
SUE Sulen 150.52 355 *e*P **PKPbc 05 22 53.4 +0.4**
SKAR Skarslia 150.54 352 *e*P **PKPbc 05 22 53.5 +0.3**
OSL Oslo 150.90 349 *e*P **PKPbc 05 22 54.2 +0.3**
ASK Askoy 151.05 355 *e*P **PKPbc 05 22 54.5 +0.3**
BER Bergen 151.14 354 *e*P **PKPbc 05 22 55.0 +0.5**
AKASG Malin Array Be 151.21 320 PKPdf 05 22 47.3 -1.4
AKASG Malin Array Be 151.21 320 PKP **PKPdf 05 22 46.7 -2.0**
comp=Z,2.2nm,0.8s,baz=64,slow=2.2,SNR=7.4
AKASG PKPbc **PKPbc 05 22 54.0 -1.0**
comp=Z,12nm,0.7s,baz=60,slow=2.2,SNR=42
AKASG Malin Array Be 151.21 320 PKIKP **PKPdf 05 22 47.3 -1.4**
KIEV Kiev 151.22 320 PKPbc 05 22 54.5 -0.5
KIEV Kiev 151.22 320 PKIKP **PKPbc 05 22 54.5 -0.5**
KONO Kongsberg 151.35 350 PKPbc 05 22 55.1 +0.1
KONO Kongsberg 151.35 350 PKIKP **PKPbc 05 22 55.1 +0.1**
KONO Kongsberg 151.35 350 *e*P **PKPbc 05 22 55.0 0.0**
ODD1 Odda 151.48 353 *e*P **PKPbc 05 22 55.6 +0.2**
BRTR Keskin Array B 151.58 296 PKP **PKPdf 05 22 48.5 -1.4**
comp=Z,1.8nm,1.0s,baz=34,slow=3.6,SNR=7.3
BRTR PKPbc **PKPbc 05 22 55.5 -0.9**
comp=Z,9.1nm,0.8s,baz=134,slow=3.8,SNR=28
BRTR Keskin Array B 151.58 296 PKIKP **PKPdf 05 22 48.2 -1.6**
BLS5 Blasjo 151.98 353 *e*P **PKPbc 05 22 56.8 +0.3**
SUW Suwalki 152.19 330 *e*PKP **PKPbc 05 22 56.8 -0.2**
ANTO Ankara 152.22 296 PKIKP **PKPbc 05 22 57.6 -0.1**
HOMB Homborsund 152.84 350 *e*P **PKPbc 05 22 58.6 +0.3**
DBIC Dimbokro 154.65 169 PKP **PKPdf 05 22 54.9 +0.1**
comp=Z,8.0nm,0.7s,baz=253,slow=2.0,SNR=7.0
DBIC PKPbc **PKPbc 05 23 03.8 +0.2**
comp=Z,6.0nm,0.8s,baz=155,slow=1.9,SNR=8.6
DBIC PKPab **PKPab 05 23 19.2 -0.5**
comp=Z,3.8nm,0.4s,baz=178,slow=4.2,SNR=7.4
BURAR Bucovina Array 155.03 317 PKPdf 05 22 54.7 +0.3
BURAR 05 23 04.2
BURAR PKPab **PKPab 05 23 20.6 -0.2**
BURAR Bucovina Array 155.03 317 PKIKP **PKPdf 05 22 54.1 -0.3**
MLR Muntele Rosu 155.57 312 PKP **PKPdf 05 22 52.3 -3.0**
comp=Z,2.4nm,0.9s,baz=308,slow=13,SNR=4.0
MLR PKPab **PKPab 05 23 22.9 -0.3**
comp=Z,1.9nm,0.7s,baz=248,slow=9.6,SNR=3.5
EKA Eskdalemuir Ar 156.34 4 PKPab **PKPab 05 23 25.0 -0.9**
comp=Z,7.3nm,0.9s,baz=347,slow=3.4,SNR=6.9
NIE Niedzica 156.63 325 *e*PKP **PKPdf 05 22 56.3 -0.1**
KSP Ksiaz 157.38 332 *e*PKP **PKPdf 05 22 56.7 -0.5**
MORC Moravsky Berou 157.66 329 *e*PKP **PKPdf 05 22 56.9 -0.8**
CLL Collm 158.19 337 ⇑ *i*PKP2 **PKPab 05 23 33.4 -0.7**
CLL pmax pmax
comp=Z,19nm,1.2s
CLL Collm 158.19 337 ⇑ *i*PKPab **PKPab 05 23 33.4 -0.7**
comp=Z,19nm,1.2s
BRG Berggiesshubel 158.24 335 *e*P **PKPdf 05 22 57.8 -0.5**
BRG Amp 05 23 00.5
comp=Z,3.8nm,1.0s
BRG Berggiesshubel 158.24 335 *e*PKP **PKPab 05 23 33.8 -0.6**
BRG Amp 05 23 36.7
comp=Z,5.0nm,1.1s
JAVC Velka Javorina 158.27 327 *e*PKP **PKPdf 05 22 58.9 +0.4**
VRAC Vranov 158.43 329 PKP **PKPdf 05 22 57.5 -1.1**
comp=Z,1.4nm,0.3s,baz=348,slow=3.9,SNR=1.6
VRAC PKPab **PKPab 05 23 34.4 -0.8**
comp=Z,2.1nm,0.5s,baz=77,slow=5.8,SNR=3.4
VRAC Vranov 158.43 329 *e*PKP **PKPdf 05 22 57.9 -0.7**
KRUC Moravsky 158.70 329 *e*PKP **PKPdf 05 22 58.0 -0.9**
GERES GERESS Array B 159.99 332 PKP **PKPdf 05 22 59.1 -1.4**
comp=Z,1.1nm,0.7s,baz=70,slow=1.1,SNR=9.7
GERES PKPab **PKPab 05 23 39.6 -2.5**
comp=Z,1.1nm,0.7s,baz=49,slow=4.1,SNR=5.2
BTNL Ternell 160.62 348 *d*PKPdf **PKPdf 05 23 00.9 -0.2**
BTNL *d*PKP **PKPab 05 23 44.4 -0.3**
MEM Membach 160.62 348 *d*PKP **PKPab 05 23 43.9 -0.8**
UCC Uccle 160.69 351 *d*PKP **PKPab 05 23 44.6 -0.4**
BHOU Houvegnez 160.87 348 *d*PKPdf **PKPdf 05 23 01.3 0.0**
BHOU *d*PKP **PKPab 05 23 45.7 -0.1**
BGES Gesves 160.99 350 *d*PKP **PKPab 05 23 45.5 -0.8**
BMRD Maredsous 161.12 350 *d*PKP **PKPab 05 23 46.2 -0.7**
DOU Dourbes 161.34 350 *d*PKPdf **PKPdf 05 23 02.0 +0.2**
DOU *d*PKP **PKPab 05 23 47.3 -0.6**
TORD Torodi Ar. Bea 161.40 186 PKPab **PKPab 05 23 49.7 +0.8**
comp=Z,273nm,0.5s,baz=174,slow=2.2,SNR=2.1
WLF Walferdange 161.50 347 *d*PKP **PKPab 05 23 48.6 0.0**
BFO Black Forest 162.25 341 PKP2 **PKPab 05 23 51.9 0.0**
DAVOX Davos/Dischmat 163.14 336 PKPab **PKPab 05 23 55.6 -0.6**
comp=Z,2.6nm,0.6s,baz=341,slow=3.9,SNR=3.9
TAM Tamanrasset 169.75 211 PKPdf 05 23 09.6 -0.1
TAM Tamanrasset 169.75 211 PKIKP **PKPdf 05 23 09.6 -0.1**
KEST Kesra 171.17 299 PKP **PKPdf 05 23 10.3 +0.3**
comp=Z,2.4nm,0.8s,baz=138,slow=0.6,SNR=3.8
PAB San Pablo 171.51 23 PKPdf 05 23 11.0 +1.0
PAB San Pablo 171.51 23 PKIKP **PKPdf 05 23 11.0 +1.0**
ESDC Sonseca Array 171.51 20 PKPdf 05 23 10.7 +0.7
ESDC Sonseca Array 171.51 20 PKP **PKPdf 05 23 10.4 +0.4**
comp=Z,4.0nm,1.0s,baz=353,slow=4.2,SNR=16
ESDC PKPab **PKPab 05 24 33.2 +0.1**
comp=Z,12nm,1.2s,baz=331,slow=4.1,SNR=20
ESDC PP **PP 05 28 23.8 -0.2**
comp=Z,0.9nm,0.9s,baz=327,slow=5.6,SNR=5.2

*IDC **17** 05:39:07.9±0.8, 1°.77S×122°.74E, h0km, mb3.9/8, mbtmp4.0/10, ML4.0/2, MS3.4/12, Error ellipse: s-maj=42.9km s-min=15.8km az=65.0*
*NEIC **17** 05:39:09.6±1.2, 1°.77S±0°.07×122°.62E±0°.04, h10km±2km, mb4.5/11, Error ellipse: s-maj=12.0km s-min=6.8km az=356.0*
*DJA **17** 05:39:10.0±0.2, 2°.S±2°.×12°.3E±°, h10km, M4.5/19, mB4.9/2, mb4.7/4, MLv4.5/19, Mw(mB)4.2/2*
ISC 17 05:39:13.0±0.6, 1°.84S±0°.04×122°.67E±0°.06, h35km, n51, σ1§23/44, mb4.3/15, MS3.5/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.80**	**8**	Pn	**Pn**	**05 39 25.4**	**-2.3**
LUWI	**Luwuk**	**0.80**	**8**	P	**Pn**	**05 39 25.5**	**-2.3**
APSI	**Ampana**	**1.38**	**312**	P	**Pn**	**05 39 33.4**	**-2.3**
KDI	**Kendari**	**2.10**	**181**	P	**Pn**	**05 39 44.4**	**-1.3**
KMSI	**Cibinong**	**2.74**	**29**	P	**Pn**	**05 39 54.9**	**+0.5**
PCI	**Palu**	**2.98**	**288**	P	**Pn**	**05 39 58.2**	**+0.4**
SANI	**Sanana**	**3.33**	**94**	P	**Pn**	**05 40 01.8**	**-0.7**
TOLI2	**Tolitoli**	**3.49**	**327**		**Pn**	**05 40 04.5**	**-0.3**
MPSI	**Mapaga**	**3.52**	**308**	P	**Pn**	**05 40 03.8**	**-1.3**
SPSI	**Sidrap Palu**	**3.58**	**234**	P	**Pn**	**05 40 05.1**	**-0.9**
BNSI	**Bone**	**3.60**	**225**	P	**Pn**	**05 40 05.3**	**-1.1**
BBSI	**Bau Bau**	**3.62**	**182**	P	**Pn**	**05 40 06.4**	**-0.2**
BKSI	**Bulukumba**	**4.29**	**216**	P	**Pn**	**05 40 15.0**	**-0.8**
KAPI	**Kappang**	**4.29**	**223**		**Pn**	**05 40 15.3**	**-0.5**
KAPI	**Kappang**	**4.29**	**223**	Pn	**Pn**	**05 40 15.7**	**-0.1**
	19nm,0.3s,baz=342,slow=2.5,SNR=88						
KAPI				Sn	**Sn**	**05 41 02.9**	**-1.7**
	10.0nm,0.3s,baz=57,slow=9.2,SNR=4.3						
KAPI				LR	LR	05 42 20.7	
	comp=Z,302nm,19.7s,baz=36,slow=44						
	65nm,0.4s						
NLAI	**Namlea**	**4.64**	**107**	P	**Pn**	**05 40 20.5**	**-0.1**
BSSI	**Bau Bau, Buton**	**4.79**	**207**	P	**Pn**	**05 40 21.9**	**-0.8**
TNTI	**Ternate**	**5.37**	**61**		**Pn**	**05 40 31.3**	**+0.6**
TNTI	**Ternate**	**5.37**	**61**	P	**Pn**	**05 40 31.0**	**+0.3**
	0.2nm1μm37nm,0.5s						
MMRI	**Maumere**	**6.76**	**184**	Pn	**Pn**	**05 40 50.1**	**+0.3**
DAV	**Davao City (W)**	**9.32**	**18**	LR	LR	05 45 33.0	
	comp=Z,90nm,18.3s,baz=332,slow=42						
FAKI	**Fak Fak**	**9.63**	**97**	Pn	**Pn**	**05 41 29.5**	**+0.3**
LEM	**Lembang**	**15.80**	**251**	LR	LR	05 50 00.5	
	comp=Z,120nm,20.8s,baz=186,slow=41						
FITZ	**Fitzroy Crossi**	**16.42**	**170**	Pn	**Pn**	**05 42 57.7**	**-3.1**
FITZ	**Fitzroy Crossi**	**16.42**	**170**	Pn	**Pn**	**05 43 00.5**	**-0.3**
	0.2nm,0.3s,baz=359,slow=7.8,SNR=7.7						
	1.5nm,0.6s						
JAY	**Jayapura**	**18.04**	**92**	LR	LR	05 51 22.0	
	comp=Z,80nm,20.6s,baz=350,slow=41						
WB0	**Warramunga Arr**	**21.19**	**148**	P	**P**	**05 43 55.6**	**0.0**
WB0				IAmb	IAmb	05 43 59.1	
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**21.30**	**148**	P	**P**	**05 43 56.4**	**-0.4**
WRAB				IAmb	IAmb	05 44 00.3	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**21.30**	**148**	P	**P**	**05 43 56.8**	**-0.1**
WRA	**Warramunga Arr**	**21.30**	**148**	P	**P**	**05 43 56.7**	**-0.2**
	comp=Z,11nm,0.8s,baz=333,slow=9.8,SNR=36						
	comp=Z,11nm,0.8s						
WR8	**Warramunga Arr**	**21.40**	**148**	P	**P**	**05 43 57.5**	**-0.3**
WR8				IAmb	IAmb	05 44 01.2	
	comp=Z,16nm,0.7s						
PSI	**Prapat**	**24.18**	**281**	LR	LR	05 54 48.9	
	comp=Z,148nm,19.3s,baz=88,slow=39						
AS31	**Alice Springs**	**24.27**	**154**	P	**P**	**05 44 27.2**	**+0.1**
AS31				IAmb	IAmb	05 44 28.7	
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**24.27**	**154**	P	**P**	**05 44 27.4**	**+0.2**
	comp=Z,4.8nm,0.7s,baz=327,slow=7.7,SNR=51						
ASAR				PcP	**PcP**	**05 48 07.8**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=328,slow=2.2,SNR=2.8						
	comp=Z,4.8nm,0.7s						
FORT	**Forrest**	**29.23**	**170**	P	**P**	**05 45 10.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**30.85**	**312**	P	**P**	**05 45 27.3**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=139,slow=7.2,SNR=5.8						
CMAR				LR	LR	05 57 44.0	
	comp=Z,30nm,21.8s,baz=170,slow=36						
	comp=Z,0.4nm,0.3s						
BBOO	**Buckleboo**	**33.28**	**159**	P	**P**	**05 45 47.1**	**-0.1**
BBOO				IAmb	IAmb	05 46 05.2	
	comp=Z,18nm,1.3s						
STKA	**Stephens Creek**	**34.80**	**151**	P	**P**	**05 46 00.5**	**0.0**
STKA	**Stephens Creek**	**34.80**	**151**	P	**P**	**05 46 00.5**	**0.0**
	comp=Z,6.7nm,1.0s,baz=313,slow=8.1,SNR=5.5						
STKA				LR	LR	06 02 53.3	
	comp=Z,78nm,18.2s,baz=211,slow=41						
	comp=Z,6.7nm,1.0s						
HNR	**Honiara**	**37.83**	**103**	LR	LR	06 03 01.4	
	comp=Z,40nm,18.3s,baz=289,slow=38						
MJAR	**Matsushiro Arr**	**40.84**	**19**	LR	LR	06 03 28.6	
	comp=Z,21nm,20.2s,baz=177,slow=36						
PALK	**Pallekele**	**42.84**	**283**	LR	LR	06 06 07.3	
	comp=Z,53nm,18.1s,baz=104,slow=38						
XLT	**XiLinHaoTe**	**45.92**	**353**	*e*P	**P**	**05 47 36.6**	**+4.2**
XLT				pP	pP	05 47 42.6	+0.1
XLT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**51.48**	**346**	P	**P**	**05 48 15.3**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=161,slow=9.2,SNR=4.5						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.00**	**329**	P	**P**	**05 49 15.6**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=127,slow=7.8,SNR=5.3						
	comp=Z,0.8nm,0.9s						
KURBB	**Kurchatov Arra**	**64.39**	**331**	P	**P**	**05 49 44.1**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=134,slow=6.6,SNR=2.1						
	comp=Z,0.5nm,0.8s						
NRIK	**Noril'sk**	**74.91**	**348**	P	**P**	**05 50 50.6**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=166,slow=8.3,SNR=3.5						
	comp=Z,1.4nm,0.5s						
H19K	**Roundabout Mou**	**87.88**	**24**	P	**P**	**05 51 58.5**	**-0.1**
H19K				IAmb	IAmb	05 52 00.2	
	comp=Z,4.4nm,0.9s						
I28M	**Miner Creek**	**94.75**	**25**	P	**P**	**05 52 30.0**	**-0.7**
BOSA	**Boshof**	**95.63**	**241**	LR	LR	06 32 33.0	
	comp=Z,37nm,18.4s,baz=189,slow=34						
SUR	**Sutherland**	**99.02**	**237**	LR	LR	06 33 12.7	
	comp=Z,27nm,18.2s,baz=124,slow=33						

*GCG **17** 05:47:24.4±3.0, 17°.94N×94°.51W, h50km, MD4.6*
*MEX **17** 05:47:28.4±0.9, 17°.25N×94°.25W, h163km±5km, MD4.3*
ISC 17 05:47:25.2±1.4, 17°.21N±0°.04×94°.25W±0°.03, h173km±9km, n37, σ2§10/72, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UXUV	**UXUV**	**0.14**	**44**	*i* P	**Pn**	**05 47 48.9**	**+0.7**
UXUV				*e*S	**Sn**	**05 48 04.3**	**-1.6**
CMIG	**Matias Romero**	**0.62**	**259**	*e*P	**Pn**	**05 47 50.6**	**+0.9**
CMIG				*e*S	**Sn**	**05 48 08.0**	**-0.6**
TUIG	**Tuzandepetl**	**0.83**	**349**	*e*P	**Pn**	**05 47 51.6**	**+0.6**
TUIG				*e*S	**Sn**	**05 48 10.5**	**-0.5**
TGIG		**1.16**	**112**	*i* P	**Pn**	**05 47 54.5**	**+1.0**
TGIG				*e*S	**Sn**	**05 48 14.2**	**-1.3**
TGIG		**1.16**	**112**	*i* P	**Pn**	**05 47 54.6**	**+1.0**
TGIG				*i* S	**Sn**	**05 48 14.5**	**-0.9**
TGBT	**Tuxtla Gutierr**	**1.19**	**111**	*e*P	**Pn**	**05 47 54.5**	**+0.8**
TGBT				*e*S	**Sn**	**05 48 14.8**	**-0.9**
NEUV	**Arroyo Zacate**	**1.56**	**289**	*i* P	**Pn**	**05 47 57.8**	**+0.6**
NEUV				*e*S	**Sn**	**05 48 20.5**	**-1.3**
PMUV	**Sontecomapan**	**1.56**	**328**	*e*P	**Pn**	**05 47 57.7**	**+0.4**
PMUV				*e*S	**Sn**	**05 48 20.1**	**-2.1**
PCIG		**1.80**	**146**	*i* P	**Pn**	**05 48 01.5**	**+1.9**
PCIG				*e*S	**Sn**	**05 48 26.9**	**+0.7**
CCIG	**Comitan**	**2.23**	**114**	*e*P	**Pn**	**05 48 06.0**	**+1.5**
CCIG				*e*S	**Sn**	**05 48 34.6**	**-0.3**
CCIG	**Comitan**	**2.23**	**114**	*e*P	**Pn**	**05 48 06.1**	**+1.5**
HUIG	**Huatulco**	**2.29**	**231**	*i* P	**Pn**	**05 48 04.7**	**-0.4**
HUIG				*e*S	**Sn**	**05 48 36.4**	**+0.4**
HUIG	**Huatulco**	**2.29**	**231**	*i* P	**Pn**	**05 48 04.7**	**-0.4**
HUIG				*i* S	**Sn**	**05 48 36.1**	**+0.2**
OXLC	**Oaxaca**	**2.35**	**267**	*e*P	**Pn**	**05 48 08.9**	**+2.9**
OXLC				*e*S	**Sn**	**05 48 40.5**	**+2.9**
OXBJ	**Oaxaca**	**2.37**	**267**	*e*P	**Pn**	**05 48 07.8**	**+1.6**
OXBJ				*e*S	**Sn**	**05 48 38.8**	**+0.9**
VHO	**Vista Hermosa**	**2.38**	**267**	*e*P	**Pn**	**05 48 08.7**	**+2.4**
VHO				*e*S	**Sn**	**05 48 39.5**	**+1.4**
PANG	**Puerto Angel**	**2.63**	**235**	*e*P	**Pn**	**05 48 08.5**	**-0.6**
PANG				*e*S	**Sn**	**05 48 42.5**	**-0.6**
TOIG	**Toxpalan**	**2.82**	**289**	*e*P	**Pn**	**05 48 13.2**	**+1.7**
TOIG				*e*S	**Sn**	**05 48 45.7**	**-1.7**
PAVE	**Pavencul**	**2.83**	**135**	*e*P	**Pn**	**05 48 13.6**	**+1.9**
PAVE				*e*S	**Sn**	**05 48 45.1**	**-2.7**
PATR	**El Naranjo**	**2.84**	**137**	*e*P	**Pn**	**05 48 14.0**	**+2.0**
PATR				*e*S	**Sn**	**05 48 43.5**	**-4.6**
THIG		**2.98**	**140**	*e*P	**Pn**	**05 48 16.7**	**+3.3**
THIG				*e*S	**Sn**	**05 48 53.5**	**+2.8**
PEIG	**Puerto Escondi**	**3.03**	**247**	*e*P	**Pn**	**05 48 13.5**	**-0.5**
PEIG				*e*S	**Sn**	**05 48 50.0**	**-1.8**
YOIG	**Yosondua**	**3.17**	**264**	*e*P	**Pn**	**05 48 17.2**	**+1.3**
YOIG				*e*S	**Sn**	**05 48 52.4**	**-3.0**
TPIG	**Tehuac#an**	**3.20**	**293**	*e*P	**Pn**	**05 48 17.9**	**+1.8**
TPIG				*e*S	**Sn**	**05 48 54.6**	**-1.2**
LVIG	**Laguna Verde**	**3.23**	**321**	*e*S	**Sn**	**05 48 54.8**	**-1.6**
JAUV	**Jalcomulco**	**3.24**	**312**	*e*P	**Pn**	**05 48 16.8**	**+0.3**
JAUV				*e*S	**Sn**	**05 48 54.1**	**-2.4**
TXIG	**Tlaxiaco**	**3.36**	**271**	*e*P	**Pn**	**05 48 20.0**	**+1.7**
TXIG				*e*S	**Sn**	**05 48 58.8**	**-0.8**
POHV	**Veracruz**	**3.42**	**303**	*e*P	**Pn**	**05 48 21.6**	**+2.3**
POHV				*e*S	**Sn**	**05 49 01.4**	**0.0**
HLIG	**Huajuapan de L**	**3.45**	**281**	*e*P	**Pn**	**05 48 21.1**	**+1.8**
HLIG				*e*S	**Sn**	**05 49 00.5**	**-0.9**
RTAL	**Retalhuleu**	**3.63**	**137**	*e*S	**Sn**	**05 49 58.7**	**-6.6**
FTIG	**Fresnillo de T**	**3.77**	**281**	*e*P	**Pn**	**05 48 25.3**	**+2.0**
FTIG				*e*S	**Sn**	**05 49 09.7**	**+1.1**
PNIG	**Pinotepa**	**3.80**	**258**	*e*P	**Pn**	**05 48 23.9**	**+0.2**
PNIG				*e*P	**Pn**	**05 48 23.9**	**+0.2**
PNIG				*e*S	**Sn**	**05 49 04.9**	**-4.3**
PNIG				*e*S		05 49 05.2	
TLIG	**Tlapa**	**4.14**	**275**	*e*P	**Pn**	**05 48 29.9**	**+1.9**
TLIG				*e*S	**Sn**	**05 49 14.4**	**-2.6**
MGIG	**Malinaltepec**	**4.19**	**271**	*e*P	**Pn**	**05 48 29.8**	**+1.0**
MGIG				*e*S	**Sn**	**05 49 17.8**	**-0.5**
CXUV	**Coxquihui**	**4.32**	**313**	*e*P	**Pn**	**05 48 32.2**	**+1.9**
CXUV				*e*S	**Sn**	**05 49 19.1**	**-2.1**
PPM	**Popocatepetl**	**4.55**	**295**	*e*P	**Pn**	**05 48 38.1**	**+4.4**
PPM				*e*S	**Sn**	**05 49 21.4**	**-5.8**
CRIG	**Cruz Grande**	**4.70**	**265**	*e*P	**Pn**	**05 48 35.3**	**+0.2**
CRIG				*e*S	**Sn**	**05 49 28.5**	**-1.3**

*IDC **17** 05:54:22.7±14.0, 18°.38N×145°.70E, h138km±131km, mb3.3/10, mbtmp3.7/10, Error ellipse: s-maj=29.5km s-min=17.4km az=74.0*
*NEIC **17** 05:54:27.9±1.9, 18°.44N±0°.05×145°.4E±0°.3, h182km±11km, mb4.0/12, Error ellipse: s-maj=36.6km s-min=7.7km az=87.0*
ISC 17 05:54:23.7±0.8, 18°.4N±0°.1×145°.6E±0°.2, h150km, n25, σ1§11/26, mb3.8/16, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**34.14**	**206**	P	**P**	**06 00 54.6**	**0.0**
WB0	**Warramunga Arr**	**39.47**	**197**	P	**P**	**06 01 39.1**	**-0.5**
WB0				IAmb	IAmb	06 01 41.2	
	comp=Z,5.6nm,1.1s						
WR8	**Warramunga Arr**	**39.62**	**196**	P	**P**	**06 01 40.8**	**-0.1**
WR8				IAmb	IAmb	06 01 41.1	
	comp=Z,5.8nm,1.2s						
WRA	**Warramunga Arr**	**39.65**	**197**	P	**P**	**06 01 40.7**	**-0.4**
WRA	**Warramunga Arr**	**39.65**	**197**	P	**P**	**06 01 41.1**	**0.0**
	comp=Z,0.9nm,0.3s,baz=18,slow=8.4,SNR=17						
WRA				PcP	**PcP**	**06 03 43.6**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=20,slow=3.3,SNR=1.7						
	comp=Z,0.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**41.21**	**209**	P	**P**	**06 01 54.6**	**+0.6**
AS31	**Alice Springs**	**43.31**	**196**	P	**P**	**06 02 12.0**	**+1.1**
ASAR	**Alice Springs**	**43.31**	**196**	P	**P**	**06 02 11.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=17,slow=11,SNR=9.9						
	comp=Z,0.5nm,0.7s						
SONM	**Songino Array**	**43.32**	**322**	P	**P**	**06 02 10.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=104,slow=6.1,SNR=2.1						
	comp=Z,0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**44.15**	**278**	P	**P**	**06 02 19.6**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=73,slow=5.9,SNR=5.9						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**58.60**	**314**	P	**P**	**06 04 05.4**	**+0.5**
MKAR	**Makanchi Array**	**58.60**	**314**	P	**P**	**06 04 06.2**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=84,slow=5.9,SNR=2.4						
	comp=Z,0.1nm,0.3s						
H17K	**Granite Mounta**	**58.78**	**24**	P	**P**	**06 04 06.4**	**+0.6**
H17K				IAmb	IAmb	06 04 33.1	
	comp=Z,4.6nm,1.2s						
F17K	**Baldwin Pennin**	**58.95**	**22**	P	**P**	**06 04 08.2**	**+1.2**
H18K	**Honhosa River**	**59.46**	**24**	P	**P**	**06 04 11.0**	**+0.5**
CAST	**Castle Rocks**	**61.43**	**27**	P	**P**	**06 04 25.4**	**+1.5**
CAST				IAmb	IAmb	06 04 38.4	
	comp=Z,3.6nm,1.4s		

PCRV	**Puerto La Cruz**	**1.14 177**	*e*P	Pg	07 22 12.9	-0.9
PCRV			*e*S	Sb	07 22 29.5	+0.1
TACV	**Tcata**	**2.58 243**	*e*P	Pn	07 22 33.0	-1.3
BENV	**Beln**	**3.16 245**	*e*P	Pn	07 22 41.8	-0.6
BENV			*e*S	Sn	07 23 18.2	-2.3
BAUV	**El Baul**	**4.06 235**	*e*P	Pn	07 22 53.5	-1.2
BAUV			*e*S	Sn	07 23 38.5	-4.1
CACV	**CAICARA DEL OR**	**4.16 206**	*e*P	Pn	07 22 52.9	-3.1
CACV			*e*S	Sn	07 23 37.5	-7.5

IDC 17 07:27:11.9±2.1, 5°62S×154°77E, h0km, mb3.9/3, mbtmp4.1/4, ML4.8/1, Error ellipse: s-maj=43.9km s-min=36.6km az=54.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.88**	**146**	P	P	07 31 44.8	-0.3
	2.5nm,0.3s,baz=272,slow=8.5,SNR=24						
	9.5nm,0.5s						
WRA	**Warramunga Arr**	**24.44**	**233**	P	P	07 32 33.6	+0.9
	4.2nm,0.6s,baz=57,slow=9.9,SNR=37						
	4.2nm,0.6s						
ASAR	**Alice Springs**	**26.94**	**226**	P	P	07 32 54.6	-0.6
	0.6nm,0.5s,baz=58,slow=9.0,SNR=14						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**82.23**	**319**	P	P	07 39 35.1	-0.1
	0.5nm,0.7s,baz=123,slow=5.3,SNR=3.6						
	0.5nm,0.7s						

*SDD **17** 07:29:14.8±1.5, 17°22N×69°49W, h108km±94km, MD2.8, ML2.4, MW2.3*
*OSPL **17** 07:29:15.7±0.8, 17°31N×69°47W, h105km±58km, ML2.7*
ISC 17 07:29:13.6±1.9, 17°2N±0°1×69°45W±0°06, h100km, n8, σ1§03/13, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**1.56**	**3**	*e*Pg	**Pn**	**07 29 41.6**	**+0.9**
HATOM				*e*Sg	**Sn**	**07 30 00.2**	**-0.9**
HATOM				IAML		07 30 02.4	
	comp=N,21nm,3.2s						
PCDR	**Punta Cana, DR**	**1.64**	**38**	*e*Pg	**Pn**	**07 29 41.6**	**0.0**
PCDR				*e*Sg	**Sn**	**07 30 03.4**	**+0.6**
PCDR				IAML		07 30 04.1	
	comp=N,102nm,1.4s						
PCDR	**Punta Cana, DR**	**1.64**	**38**	*i* P	**Pn**	**07 29 42.0**	**+0.5**
PCDR				*e*S	**Sn**	**07 30 01.6**	**-1.3**
PCDR				IAML		07 30 01.8	
	comp=Z,81nm,1.2s						
MIDR	**Miches**	**1.79**	**12**	*e*Pg	**Pn**	**07 29 44.7**	**+1.2**
MIDR				*e*Sg	**Sn**	**07 30 05.2**	**-1.1**
MIDR				IAML		07 30 06.0	
	comp=N,25nm,0.9s						
MIDR				IAML		07 30 42.0	
	comp=N,30nm,1.7s						
LOVI	**El Cajuil, Ovi**	**1.92**	**288**	*i* P	**Pn**	**07 29 46.3**	**+1.3**
LOVI				*e*S	**Sn**	**07 30 07.6**	**-1.4**
LOVI				IAML		07 30 09.7	
	comp=Z,37nm,2.0s						
LOBH	**Bahia de las A**	**2.18**	**287**	*i* P	**Pn**	**07 29 48.6**	**+0.2**
LOBH				IAML		07 30 25.2	
	comp=Z,33nm,1.8s						
CRPR	**Cabo Rojo, PR**	**2.37**	**70**	*i* P	**Pn**	**07 29 51.5**	**+0.6**
CRPR				IAML		07 30 12.9	
	comp=Z,42nm,2.8s						
MLPR	**Magueyes Islan**	**2.42**	**72**	*e*Pg	**Pn**	**07 29 51.8**	**+0.2**
MLPR				IAML		07 30 32.7	
	comp=N,10nm,2.4s						

*SOME **17** 07:48:11.8, 42°07N×80°45E, h10km*
*KRNET **17** 07:48:12.4±0.1, 42°29N×80°51E, mb3.4*
*NNC **17** 07:48:14.2±1.3, 42°26N×80°44E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=8.0km s-min=6.4km az=137.0*
ISC 17 07:48:16.5±1.6, 42°33N±0°06×80°34E±0°06, h10km, n39, σ1§94/58, 28C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.05**	**322**	P	**Pb**	**07 48 32.8**	**-4.0**
	27nm,0.2s						
SHLS				S	**Sg**	**07 48 47.8**	**-2.5**
	357nm,0.3s						
SHLS	**Shalkode**	**1.05**	**322**	⇑*e*P	**Pb**	**07 48 32.9**	**-4.0**
	27nm,0.2s						
SHLS				*e*S	**Sg**	**07 48 47.8**	**-2.5**
	357nm,0.3s						
PDGK	**Podgornoye**	**1.18**	**328**	⇓P	**Pn**	**07 48 37.3**	**-1.9**
	23nm,0.5s						
PDGK				⇑S	**Sg**	**07 48 55.5**	**+1.1**
	70nm,0.7s						
UZB	**Uzynbulak**	**1.27**	**310**	P	**Pn**	**07 48 39.2**	**-1.2**
	12nm,0.3s						
UZB				S	**Sg**	**07 48 58.6**	**+1.2**
	31nm,0.3s						
UZB	**Uzynbulak**	**1.27**	**310**	*e*P	**Pn**	**07 48 39.2**	**-1.2**
	12nm,0.3s						
UZB				*e*S	**Sg**	**07 48 58.6**	**+1.2**
	31nm,0.3s						
PRZ	**Przheval'sk**	**1.44**	**277**	⇑*e*P	**Pn**	**07 48 42.1**	**-0.8**
PRZ				⇑*i*S	**Sg**	**07 49 03.9**	**+0.9**
SATY	**Saty**	**1.60**	**298**	P	**Pg**	**07 48 46.4**	**-0.8**
	40nm,0.4s						
SATY				S	**Sg**	**07 49 11.6**	**+3.6**
	107nm,0.2s						
ZHN	**Zhinishke**	**1.63**	**301**	P	**Pb**	**07 48 46.4**	**-0.3**
	39nm,0.3s						
ZHN				S	**Sg**	**07 49 10.9**	**+1.9**
	110nm,0.3s						
ZHN	**Zhinishke**	**1.63**	**301**	*e*P	**Pb**	**07 48 46.5**	**-0.3**
	39nm,0.3s						
ZHN				*e*S	**Sg**	**07 49 10.9**	**+1.9**
	110nm,0.3s						
KURS	**Kuram**	**1.97**	**307**	Pg	**Pb**	**07 48 52.3**	**-0.2**
	51nm,0.5s						
KURS				Lg	Lg	07 49 21.0	
	39nm,0.5s						
TARG	**Taragay, Kyrgy**	**1.98**	**253**	⇓*e*P	**Pb**	**07 48 50.8**	**-2.1**
TARG				⇓*i*S	**Sg**	**07 49 19.2**	**-1.0**
ANVS	**Anan'yevo**	**2.02**	**284**	⇑*e*P	**Pb**	**07 48 52.1**	**-1.4**
ANVS				⇑*e*S	**Sb**	**07 49 20.5**	**+1.7**
KDJ	**Kajisay**	**2.35**	**266**	⇑*e*P	**Pn**	**07 48 56.0**	**+0.6**
KDJ				⇑*i*S	**Sb**	**07 49 27.7**	**-0.6**
MDOK	**Medeo**	**2.56**	**290**	⇑Pg	**Pb**	**07 49 01.4**	**-1.3**
	25nm,0.5s						
MDOK				Pg	**Pg**	**07 49 02.4**	**-3.2**
	36nm,0.5s						
MDOK				Lg	Lg	07 49 38.5	
	31nm,0.5s						
MDOK				⇑Lg	Lg	07 49 38.8	
	36nm,0.6s						
TNSS	**Tian-Shan**	**2.60**	**287**	Pg	**Pb**	**07 49 03.2**	**-0.2**
	13nm,0.4s						
TNSS				Lg	Lg	07 49 39.4	
	26nm,0.5s						
TNSS	**Tian-Shan**	**2.60**	**287**	*e*P	**Pb**	**07 49 03.2**	**-0.2**
	13nm,0.4s						
TNSS				*e*S	**Sg**	**07 49 39.5**	**-0.6**
	26nm,0.5s						
ARXS	**Arharly**	**2.63**	**317**	Pg	**Pb**	**07 49 03.4**	**-0.3**
	12nm,0.5s						
ARXS				Lg	Lg	07 49 40.0	
	82nm,0.5s						
KNDC	**Almaty**	**2.64**	**291**	⇑Pg	**Pb**	**07 49 02.8**	**-1.0**
	77nm,0.8s						
KNDC				⇑Lg	Lg	07 49 42.2	
	45nm,0.5s						
KASK	**Kaskelen**	**2.86**	**289**	⇑Pg	**Pg**	**07 49 10.8**	**-0.6**
	82nm,0.3s						
KASK				⇑Lg	Lg	07 49 51.9	
	74nm,0.5s						
CHKK	**Chushkaly**	**2.89**	**303**	Pg	**Pb**	**07 49 08.3**	**+0.1**
	3.6nm,0.2s						
CHKK				Lg	Lg	07 49 48.4	
	44nm,0.3s						
CHKK	**Chushkaly**	**2.89**	**303**	*e*P	**Pb**	**07 49 08.2**	**+0.1**
	3.6nm,0.2s						
CHKK				*e*S	**Sg**	**07 49 48.4**	**-0.9**
	44nm,0.3s						
MTBS	**Maitube**	**2.99**	**287**	Pg	**Pb**	**07 49 09.9**	**0.0**
	8.1nm,0.4s						
MTBS				Lg	Lg	07 49 50.9	
	52nm,0.5s						
MTBS	**Maitube**	**2.99**	**287**	*e*P	**Pb**	**07 49 09.9**	**0.0**
	8.1nm,0.4s						
MTBS				*e*S	**Sg**	**07 49 50.9**	**-1.6**
	52nm,0.5s						
KTBS	**Karatobe**	**3.02**	**298**	Pg	**Pb**	**07 49 10.3**	**0.0**
	4.9nm,0.4s						
KTBS				Lg	Lg	07 49 51.7	
	158nm,0.5s						
BOOM	**Boomskoye usch**	**3.26**	**274**	⇑*e*P	**Pn**	**07 49 09.1**	**+1.2**
BOOM				⇑*e*S	**Sn**	**07 49 50.3**	**+3.5**
KST	**Kastek**	**3.30**	**284**	Pg	**Pb**	**07 49 15.7**	**+0.5**
	15nm,0.4s						
KST				Lg	Lg	07 50 01.6	
	59nm,0.6s						
KST	**Kastek**	**3.30**	**284**	*e*P	**Pb**	**07 49 15.7**	**+0.5**
	15nm,0.4s						
KST				*e*S	**Sg**	**07 50 01.6**	**-1.0**
	59nm,0.6s						
TKM2	**Tokmak 2**	**3.55**	**281**	⇑Pg	**Pb**	**07 49 18.3**	**-1.2**
	5.5nm,0.6s						
TKM2				⇑Lg	Lg	07 50 10.2	
	20nm,0.5s						
TKM2	**Tokmak 2**	**3.55**	**281**	⇓*e*P	**Pn**	**07 49 13.0**	**+1.2**
TKM2				⇓*i*S	**Sn**	**07 49 57.0**	**+3.0**
CHMS	**Chumysh**	**4.17**	**281**	⇓Pg	**Pb**	**07 49 31.5**	**+1.4**
	3.2nm,0.6s						
CHMS				⇑Lg	Lg	07 50 25.7	
	7.6nm,0.5s						
AAK	**Ala-Archa**	**4.33**	**276**	Pg	**Pg**	**07 49 36.1**	**-3.4**
	4.8nm,0.7s						
AAK				⇑Lg	Lg	07 50 31.5	
	22nm,0.8s						
SGDS	**Sogindy**	**4.34**	**287**	Pg	**Pb**	**07 49 34.1**	**+1.2**
	4.5nm,0.5s						
SGDS				Lg	Lg	07 50 32.5	
	15nm,0.5s						
MAKZ	**Makanchi**	**4.63**	**14**	⇑Pn	**Pn**	**07 49 27.3**	**+0.9**
	4.1nm,0.6s						
MAKZ				⇑Sn	**Sn**	**07 50 22.3**	**+2.1**
	2.3nm,0.5s						
MAKZ				⇑Lg	Lg	07 50 42.4	
	5.6nm,0.5s						
MK31	**Makanchi Array**	**4.67**	**17**	⇓Pn	**Pn**	**07 49 27.5**	**+0.4**
	0.7nm,0.2s,baz=186,slow=12,SNR=84						
MK31				⇓Sn	**Sn**	**07 50 26.3**	**+4.8**
	6.7nm,0.7s,baz=188,slow=20,SNR=6.4						
MK31				⇑Lg	Lg	07 50 43.3	
	5.7nm,0.5s,baz=186,slow=28,SNR=4.0						
MRKS	**Merke**	**5.27**	**277**	Pg	**Pb**	**07 49 50.7**	**+1.9**
	2.3nm,0.4s						
MRKS				Lg	Lg	07 51 01.0	
	11nm,0.6s						
MRKS	**Merke**	**5.27**	**277**	*e*P	**Pb**	**07 49 50.7**	**+1.9**
	2.3nm,0.4s						
MRKS				*e*S	**Sg**	**07 51 01.0**	**-4.7**
	11nm,0.6s						
KK31	**Karatay Array**	**7.28**	**279**	⇑Pg	Pg	07 50 30.4	-5.4
	0.3nm,0.4s,baz=343,slow=42,SNR=6.0						
KK31				⇑Lg	Lg	07 52 04.6	
	2.1nm,0.6s,baz=82,slow=28,SNR=4.9						
KURBB	**Kurchatov Arra**	**8.39**	**352**	⇑Lg	Lg	07 52 41.0	
	11nm,0.7s						
KURK	**Kurchatov**	**8.47**	**353**	⇑Lg	Lg	07 52 45.5	
	12nm,1.4s						

LVSN 17 08:08:22.9±0.5, 59°14N×26°06E, h0km±14km, ML1.4, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.77**	**152**	*e*P	Pg	08 08 36.5	-1.1
VSU				*e*S	Sg	08 08 47.0	-0.5
VSU				AML	AML	08 08 51.5	
	comp=N,18nm,0.2s						
VSU				AML	AML	08 08 51.9	
	comp=Z,14nm,0.2s						
VSU				AML	AML	08 08 52.5	
	comp=E,30nm,0.2s						
MTSE	**Matsula**	**1.24**	**251**	*e*S	Sg	08 09 01.5	-1.2

HEL 17 08:08:39.8±0.0, 60°29N×25°51E, h0km, ML0.9, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**0.31**	**35**	*e*P	Pg	08 08 45.2	-0.5
PVF				*e*S	Sg	08 08 49.3	-0.5
HEL1	**Helsinki**	**0.33**	**250**	*e*P	Pg	08 08 45.6	-0.5
HEL1				*e*S	Sg	08 08 50.2	-0.2
NUR	**Nurmijarvi**	**0.48**	**297**	*e*P	Pg	08 08 48.4	-0.6
NUR				*e*S	Sg	08 08 53.2	-1.9
MEF	**Metsahovi**	**0.56**	**263**	*e*P	Pg	08 08 49.7	-0.8
MEF				*e*S	Sg	08 08 56.8	-0.9
VJF	**Virojoki**	**1.05**	**75**	*e*P	Pg	08 08 58.6	-1.2
VJF				*e*S	Sg	08 09 13.0	-0.3
FIA1	**FINESS Array S**	**1.19**	**13**	*e*P	Pg	08 09 01.1	-1.5
FIA1				*e*S	Sg	08 09 16.3	-1.7
KEF	**Keuruu**	**1.91**	**351**	*e*P	Pn	08 09 12.1	-1.4
KEF				*e*SN	Sn	08 09 38.0	-0.2
KEF				MSG		08 09 40.0	
	comp=Z,0.3nm,0.1s						
RAF	**Rauma**	**1.98**	**293**	*e*PB	Pn	08 09 14.7	+0.1
RAF				*e*SG	Sb	08 09 41.0	-0.9
RAF				MSG		08 09 44.6	
	comp=Z,0.3nm,0.1s						
RUF	**Ruokolahti**	**2.03**	**55**	*e*P	Pn	08 09 14.5	-0.8
RUF				*e*SB	Sn	08 09 41.6	+0.4
KPF	**Kankaanpaa**	**2.28**	**314**	*e*SB	Sn	08 09 48.4	+1.1
KPF				MSG		08 09 50.6	
	comp=Z,1.3nm,0.3s						

*IDC **17** 08:21:52.8±0.5, 9°43S×150°99E, h0km, mb4.5/20, mbtmp4.6/24, ML4.1/3, MS4.3/53, Error ellipse: s-maj=17.5km s-min=12.6km az=74.0*
*MOS **17** 08:21:53.9±0.9, 9°37S×150°89E, h13km, mb5.1/30, Error ellipse: s-maj=9.6km s-min=7.2km az=117.1*
*NEIC **17** 08:21:55.2±1.9, 9°44S±0°09×150°99E±0°10, h10km±1km, mb5.0/115, Error ellipse: s-maj=17.0km s-min=13.6km az=58.0*
*BJI **17** 08:21:55.7, 9°21S×151°46E, h31km, mB5.3/18, mb4.9/66, Ms4.7/30, Ms7 4.5/32*
*GCMT **17** 08:21:57.2±0.2, 9°50S±0°01×151°09E±0°01, h12km, MW5.1/116, Moment Tensor Solution. s50,c64; s116,c194; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.31±.11; $M_{\theta\theta}$5.40±.08; $M_{\phi\phi}$-2.08±.10; $M_{r\theta}$-0.27±.23; $M_{\theta\phi}$0.11±.08; $M_{\phi r}$-3.28±.34; Best double couple: $M_0$5.72400×10^{16} NP1:ϕ_s302.00000°, δ55.00000°, λ-39.00000°. NP2:ϕ_s56.00000°, δ59.00000°, λ-138.00000°. Principal axes: T 5.4150, Plg2.0000°, Azm178.0000°; N 0.6290, Plg40.0000°, Azm86.0000°; P -6.0340, Plg50.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **17** 08:22:01.2±0.8, 10°S±4°×15°1E±°, h42km±6km, M5.3/65, mb5.1/65, mB5.8/31, MLv5.4/1, Mw(mB)5.3/31, MwMwp4.8/1, Mwp5.1/1*
ISC 17 08:21:55.7±0.3, 9°51S±0°04×150°92E±0°05, h13km, n546, σ1§26/489, mb5.0/122, MS4.3/65, 17C-2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**271**		**Pn**	**08 22 53.6**	**+0.8**
PMG	**Port Moresby**	**3.71**	**271**	Pn	**Pn**	**08 22 53.8**	**+1.0**
	81nm,0.3s,baz=80,slow=12,SNR=69						
PMG				Sn	**Sn**	**08 23 40.6**	**+4.3**
	16nm,0.3s,baz=256,slow=6.7,SNR=4.1						
PMG				LR	LR	08 24 45.2	
	comp=Z,7μm,19.5s,baz=109,slow=46						
PMG	**Port Moresby**	**3.71**	**271**	P	**Pn**	**08 22 53.8**	**+1.0**
PMG	**Port Moresby**	**3.71**	**271**	*ce*P	**Pn**	**08 22 53.7**	**+1.0**
PMG				pmax	pmax		
	comp=Z,215nm,1.3s						
MANU	**Manus Island**	**8.22**	**334**		**Pn**	**08 23 57.5**	**+2.7**
COEN	**Coen**	**8.77**	**239**		**Pn**	**08 24 02.4**	**0.0**
COEN	**Coen**	**8.77**	**239**	P	**Pn**	**08 24 02.1**	**-0.3**
COEN	**Coen**	**8.77**	**239**	S	**Sn**	**08 25 36.6**	**-4.6**
HNR	**Honiara**	**8.91**	**90**	Pn	**Pn**	**08 24 06.2**	**+2.0**
	comp=Z,11nm,0.3s,baz=48,slow=2.6,SNR=4.3						
HNR				LR	LR	08 27 00.3	
	comp=Z,2μm,19.1s,baz=270,slow=35						
MTSU	**Mount Surprise**	**10.70**	**216**	P	**Pn**	**08 24 28.9**	**+0.1**
MTSU	**Mount Surprise**	**10.70**	**216**	S	**Sn**	**08 26 25.2**	**-3.3**
JAY	**Jayapura**	**12.30**	**304**	Pn	**Pn**	**08 24 50.0**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=131,slow=20,SNR=5.8						
JAY				LR	LR	08 30 29.5	
	comp=Z,1μm,18.4s,baz=130,slow=42						
	comp=Z,6.9nm,0.4s						
GENI	**Genyem**	**12.71**	**302**	P	**Pn**	**08 24 58.5**	**+2.2**
	comp=Z,64nm,1.8s						
RK1H	**Rockhampton Ha**	**13.80**	**182**	P	**Pn**	**08 25 11.6**	**+0.4**
GD1S	**Gladstone Soft**	**14.25**	**179**	P	**Pn**	**08 25 18.1**	**+0.8**
SMPI	**Sarmi**	**14.25**	**301**	P	**P**	**08 25 22.0**	**-2.7**
	comp=Z,121nm,1.3s						
QIS	**Mount Isa**	**15.48**	**224**	P	**Pn**	**08 25 34.7**	**+0.8**
EIDS	**Eidsvold**	**15.77**	**179**		**Pn**	**08 25 37.9**	**+0.2**
EIDS	**Eidsvold**	**15.77**	**179**	P	**Pn**	**08 25 37.9**	**+0.2**
BAKI	**Biak**	**16.89**	**298**	P	**P**	**08 25 55.0**	**+0.9**
	comp=Z,106nm,1.1s						
KMPI	**Kaimana, Papua**	**18.05**	**288**	P	**P**	**08 26 08.6**	**+1.7**
	comp=Z,3μmcomp=Z,261nm,1.0s						
QLP	**Quilpie**	**18.12**	**200**	P	**P**	**08 26 08.1**	**+0.6**
KDU	**Kakadu**	**18.37**	**258**	P	**Pn**	**08 26 11.9**	**+1.5**
WB0	**Warramunga Arr**	**18.94**	**236**	P	**Pn**	**08 26 17.5**	**+0.2**
WR8	**Warramunga Arr**	**18.95**	**235**	P	**Pn**	**08 26 17.6**	**+0.2**
WRAB	**Tennant Creek**	**19.06**	**235**		**Pn**	**08 26 19.7**	**+0.9**
WRAB	**Tennant Creek**	**19.06**	**235**	*i* P	**Pn**	**08 26 19.1**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,21nm,0.9s						
WRA	**Warramunga Arr**	**19.07**	**235**	P	**P**	**08 26 18.4**	**+0.3**
WRA	**Warramunga Arr**	**19.07**	**235**	P	**Pn**	**08 26 18.9**	**0.0**
	comp=Z,0.7nm,0.3s,baz=59,slow=10,SNR=21						
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**19.07**	**235**	*ce*P	**Pn**	**08 26 18.7**	**-0.2**
WRA				pmax	pmax		
	comp=Z,16nm,0.8s						
DZM	**Mont Dzumac**	**19.45**	**132**	P	**Pn**	**08 26 23.4**	**0.0**
DZM				IAmb	IAmb	08 26 28.2	
	comp=Z,90nm,1.3s						
DZM	**Mont Dzumac**	**19.45**	**132**	*e*P	**P**	**08 26 21.8**	**-0.5**
	comp=Z,152nm,1.2s						
DZM				*e*S	Sn	08 29 49.9	-12
	comp=Z,4μm,27.9s						
DZM				*e*LR	LR	08 30 48.8	
	comp=Z,3μm,23.6s						
DZM	**Mont Dzumac**	**19.45**	**132**	P	**Pn**	**08 26 22.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=326,slow=12,SNR=5.3						
DZM				LR	LR	08 32 30.3	
	comp=Z,2μm,20.8s,baz=317,slow=33						
	comp=Z,49nm,1.2s						
DZM	**Mont Dzumac**	**19.45**	**132**	P	**Pn**	**08 26 27.7**	**+4.2**
FAKI	**Fak Fak**	**19.67**	**288**		**Pn**	**08 26 26.1**	**0.0**
FAKI	**Fak Fak**	**19.67**	**288**	P	**Pn**	**08 26 26.9**	**+0.8**
FAKI	**Fak Fak**	**19.67**	**288**	P	**Pn**	**08 26 25.6**	**-0.5**
	comp=Z,1μmcomp=Z,2μmcomp=Z,90nm,1.6s						
MTN	**Manton Dam**	**19.69**	**258**		**Pn**	**08 26 25.9**	**-0.4**
MTN				IAmb	IAmb	08 26 26.8	
	comp=Z,94nm,1.0s						
MTN	**Manton Dam**	**19.69**	**258**	P	**Pn**	**08 26 26.3**	**0.0**
YATNC	**Mamie plateau,**	**19.77**	**131**	P	**Pn**	**08 26 30.9**	**+3.7**
DRS	**Darwin Rock St**	**19.86**	**260**	P	**Pn**	**08 26 28.3**	**-0.1**
INKA	**Innaminka**	**20.51**	**207**	P	Pn	08 26 34.9	-1.0
ARMA	**Armidale**	**20.81**	**178**	P	**P**	**08 26 37.6**	**+0.5**
ARMA	**Armidale**	**20.81**	**178**	P	Pn	08 26 39.9	+0.4
SWI	**Sorong**	**21.36**	**293**	P	**P**	**08 26 42.8**	**-0.2**
	comp=Z,2μmcomp=Z,131nm,1.0s						
BNDI	**Bandanaira**	**21.43**	**282**	P	**P**	**08 26 44.7**	**+0.9**
BNDI	**Bandanaira**	**21.43**	**282**	P	**P**	**08 26 44.3**	**+0.5**
AS01	**Alice Springs**	**21.47**	**227**	P	**P**	**08 26 44.6**	**+0.4**
AS31	**Alice Springs**	**21.50**	**227**		**P**	**08 26 45.4**	**+0.9**
ASAR	**Alice Springs**	**21.50**	**227**	P	**P**	**08 26 45.5**	**+0.9**
	comp=Z,16nm,0.7s,baz=59,slow=8.6,SNR=100						
ASAR				LR	LR	08 34 14.8	
	comp=Z,1μm,18.4s,baz=58,slow=34						
	comp=Z,16nm,0.7s						
CMSA	**Cobar Meteorol**	**22.45**	**192**	P	**P**	**08 26 55.9**	**+1.4**
KNRA	**Kununurra**	**22.46**	**252**		**P**	**08 26 54.8**	**-0.1**
KNRA				IAmb	IAmb	08 27 10.2	
	comp=Z,60nm,0.9s						
MSAI	**Masohi**	**22.68**	**284**	P	**P**	**08 26 56.4**	**-0.8**
	comp=Z,4μmcomp=Z,147nm,1.1s						
OOD	**Oodnadatta**	**23.17**	**216**	P	**P**	**08 27 02.5**	**+0.4**
AAI	**Ambon**	**23.29**	**283**	P	**P**	**08 27 03.1**	**-0.4**
	comp=Z,2μmcomp=Z,77nm,0.8s						
GUMO	**Guam**	**23.73**	**345**	LR	LR	08 34 32.2	
	comp=Z,843nm,20.6s,baz=139,slow=32						
STKA	**Stephens Creek**	**23.87**	**200**		**P**	**08 27 08.5**	**-0.5**
STKA	**Stephens Creek**	**23.87**	**200**	P	**P**	**08 27 08.3**	**-0.8**
	comp=Z,20nm,0.9s,baz=9.8,slow=12,SNR=18						
STKA				LR	LR	08 36 54.1	
	comp=Z,1μm,18.4s,baz=14,slow=38						
	comp=Z,20nm,0.9s						
STKA	**Stephens Creek**	**23.87**	**200**	P	**P**	**08 27 08.7**	**-0.4**
STKA	**Stephens Creek**	**23.87**	**200**	*i* P	**P**	**08 27 09.2**	**+0.1**
LCRK	**Leigh Creek**	**23.96**	**208**	P	**P**	**08 27 10.7**	**+0.8**
RIV	**Riverview**	**24.20**	**180**	P	**P**	**08 27 13.6**	**+1.5**
RIV				pmax	pmax		
	comp=Z,101nm,2.1s						
NLAI	**Namlea**	**24.46**	**283**	P	**P**	**08 27 17.2**	**+2.5**
	comp=Z,2μmcomp=Z,117nm,1.1s						
TNTI	**Ternate**	**25.58**	**292**	P	**P**	**08 27 27.0**	**+2.2**
	comp=Z,45nm,1.4s						
CNB	**Canberra Magne**	**25.72**	**183**	P	**P**	**08 27 27.8**	**+1.8**
CAN	**Canberra**	**25.75**	**184**		**P**	**08 27 27.4**	**+1.2**
CAN				IAmb	IAmb	08 27 32.5	
	comp=Z,52nm,1.3s						
CAN	**Canberra**	**25.75**	**184**	P	**P**	**08 27 28.0**	**+1.8**
CAN	**Canberra**	**25.75**	**184**	P	**P**	**08 27 27.4**	**+1.2**
CAN				pmax	pmax		
	comp=Z,52nm,1.3s						
SANI	**Sanana**	**25.87**	**285**	P	**P**	**08 27 28.2**	**+0.7**
SANI	**Sanana**	**25.87**	**285**	P	**P**	**08 27 27.1**	**-0.4**
	comp=Z,2μmcomp=Z,96nm,1.9s						
FITZ	**Fitzroy Crossi**	**25.96**	**248**	LR	LR	08 37 53.2	
	comp=Z,807nm,20.5s,baz=78,slow=37						
FITZ	**Fitzroy Crossi**	**25.96**	**248**	P	**P**	**08 27 28.4**	**+0.2**
HTT	**Hallett**	**26.24**	**203**	P	**P**	**08 27 31.4**	**+0.7**
SOEI	**Soe**	**26.27**	**267**	P	**P**	**08 27 32.4**	**+1.1**
SOEI	**Soe**	**26.27**	**267**	P	**P**	**08 27 32.8**	**+1.5**
MSVF	**Nonsavu**	**27.58**	**110**	P

URZ	**Urewera**	**37.05 145**	LR	LR	08 42 53.0	
	comp=Z,999nm,18.4s,baz=42,slow=34					
JCJ	**Chichijima**	**37.37 347**	LR	LR	08 43 29.6	
	comp=Z,293nm,20.0s,baz=98,slow=35					
JCZ	**Jackson Bay**	**37.77 159**	P	**P**	**08 29 14.6**	**+3.0**
MORW	**Morawa**	**38.02 234**	P	**P**	**08 29 12.8**	**-1.0**
MORW	**Morawa**	**38.02 234**	P	**P**	**08 29 14.5**	**+0.6**
RPZ	**Rata Peaks**	**38.31 156**	P	**P**	**08 29 15.3**	**-0.9**
	comp=Z,2.0nm,0.3s,baz=315,slow=5.7,SNR=2.1					
RPZ			LR	LR	08 43 12.2	
	comp=Z,1μm,20.9s,baz=318,slow=33					
	comp=Z,2.0nm,0.3s					
NWAO	**Narrogin (SRO)**	**38.81 228**	LR	LR	08 44 22.6	
	comp=Z,650nm,20.1s,baz=80,slow=35					
PCJI	**Pacitan**	**39.27 269**	P	**P**	**08 29 27.5**	**+2.9**
	comp=Z,97nm,1.9s					
SBUM	**Sibu**	**40.34 285**	P	**P**	**08 29 34.2**	**+0.7**
SBUM	**Sibu**	**40.34 285**	P	**P**	**08 29 35.7**	**+2.2**
STKI	**Sintang**	**40.39 281**	P	**P**	**08 29 35.4**	**+1.5**
	comp=Z,19nm,0.8s					
JOW	**Kunigami**	**42.29 329**	LR	LR	08 45 37.3	
	comp=Z,646nm,19.5s,baz=92,slow=34					
LEM	**Lembang**	**42.92 270**	LR	LR	08 50 04.3	
	comp=Z,250nm,18.6s,baz=98,slow=39					
LEM	**Lembang**	**42.92 270**	P	**P**	**08 29 55.6**	**+0.7**
	comp=Z,41nm,1.4s					
TPI	**Tanjungpandan**	**43.50 276**	P	**P**	**08 30 00.7**	**+1.4**
	comp=Z,20nm,1.7s					
JHJ	**Hachijo jima 2**	**43.70 346**	LR	LR	08 45 37.9	
	comp=Z,276nm,21.8s,baz=310,slow=33					
NACB	**Ninganchiao**	**44.06 320**	P	**P**	**08 30 06.2**	**+2.6**
YHNB	**Yeheng**	**44.55 320**	P	**P**	**08 30 08.7**	**+1.0**
CGJI	**Cibinong**	**44.85 270**	P	**P**	**08 30 08.9**	**-1.2**
	comp=Z,2μmcomp=Z,60nm,1.0s					
JNU	**Nakatsue**	**46.50 337**	LR	LR	08 48 41.4	
	comp=Z,207nm,18.2s,baz=168,slow=35					
MDSI	**Maura Dua**	**46.63 273**	P	**P**	**08 30 22.8**	**-1.4**
DLV	**Lat**	**47.25 296**	P	**P**	**08 30 29.8**	**+0.5**
MJAR	**Matsushiro Arr**	**47.34 346**	P	**P**	**08 30 27.7**	**-1.7**
	comp=Z,3.8nm,0.8s,baz=161,slow=9.1,SNR=7.8					
MJAR			LR	LR	08 50 40.4	
	comp=Z,206nm,18.3s,baz=142,slow=36					
	comp=Z,3.8nm,0.8s					
MAJO	**Matsushiro**	**47.35 346**	P	**P**	**08 30 28.2**	**-1.2**
MAJO	**Matsushiro**	**47.35 346**	*i* P	**P**	**08 30 29.3**	**-0.1**
MAJO			pmax	pmax		
	comp=Z,8.0nm,1.0s					
MJB9	**Matsu-Tunnel**	**47.35 346**	P	**P**	**08 30 28.5**	**-1.0**
RAR	**Rarotonga**	**48.77 110**	LR	LR	08 47 42.6	
	comp=Z,111nm,21.0s,baz=271,slow=32					
SSE	**Sheshan**	**49.43 326**	P	**P**	**08 30 45.3**	**-0.3**
SSE			S	**S**	**08 37 52.3**	**-0.2**
SSE			pmax	pmax		
	comp=Z,8.0nm,0.7s					
SSE			pmax	pmax		
	comp=Z,78nm,3.7s					
SSE			LR	LR		
	comp=Z,140nm,18.6s					
SSE			LR	LR		
	comp=Z,91nm,17.5s					
QIZ	**Qiongzhong**	**49.44 305**	P	**P**	**08 30 48.0**	**+2.1**
QIZ			S	**S**	**08 37 53.8**	**+0.7**
QIZ			pmax	pmax		
	comp=Z,22nm,2.0s					
QIZ			LR	LR		
	comp=Z,160nm,20.4s					
QIZ			LR	LR		
	comp=Z,150nm,22.5s					
QIZ			LR	LR		
	comp=Z,190nm,18.8s					
UBPT	**Khong Chiam**	**51.33 298**	P	**P**	**08 31 03.1**	**+2.9**
KSRS	**Korea Array**	**51.45 337**	P	**P**	**08 30 59.8**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=151,slow=8.8,SNR=12					
KSRS			LR	LR	08 49 47.8	
	comp=Z,147nm,19.4s,baz=145,slow=33					
	comp=Z,2.1nm,0.8s					
NJ2	**Nanjing**	**51.45 325**	*e*P	**P**	**08 31 04.3**	**+3.4**
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.5s					
NJ2			LR	LR		
	comp=Z,240nm,22.7s					
NJ2			LR	LR		
	comp=Z,180nm,19.9s					
NJ2			LR	LR		
	comp=Z,840nm,23.5s					
KSAR	**Wonju Array Be**	**51.45 337**		**P**	**08 31 00.1**	**-0.7**
KSAR	**Wonju Array Be**	**51.45 337**	P	**P**	**08 31 00.1**	**-0.7**
MNSI	**Mandailing Nat**	**52.13 278**	P	**P**	**08 31 05.6**	**-0.7**
	comp=Z,36nm,1.0s					
KULM	**Kulim**	**52.20 284**	P	**P**	**08 31 06.9**	**+0.1**
CNSH	**ChangSha**	**52.47 317**	P	**P**	**08 31 09.5**	**+1.0**
CNSH			pmax	pmax		
	comp=Z,11nm,0.8s					
CNSH			LR	LR		
	comp=Z,150nm,20.3s					
CNSH			LR	LR		
	comp=Z,200nm,19.7s					
CNSH			LR	LR		
	comp=Z,250nm,19.7s					
WHN	**Wuhan**	**53.10 320**	P	**P**	**08 31 12.3**	**-0.8**
WHN			pmax	pmax		
	comp=Z,78nm,1.1s					
PSI	**Prapat**	**53.22 281**	P	**P**	**08 31 16.6**	**+2.1**
PSI	**Prapat**	**53.22 281**	P	**P**	**08 31 13.5**	**-1.0**
PSI			pmax	pmax		
	comp=Z,18nm,1.9s					
ASAJ	**Asahikawa**	**53.91 353**	LR	LR	08 53 37.1	
	comp=Z,204nm,20.5s,baz=194,slow=35					
SRIT	**Nakonsritamara**	**54.17 288**	P	**P**	**08 31 21.5**	**+0.2**
GSI	**Gunungsitoli**	**54.19 279**	P	**P**	**08 31 21.0**	**-0.5**
	comp=Z,2μmcomp=Z,27nm,1.2s					
NONG	**Nongkai**	**54.54 300**	P	**P**	**08 31 24.1**	**+0.2**
NAYO	**Nakonayok**	**54.59 295**	P	**P**	**08 31 27.2**	**+2.9**
SLVN	**Son La**	**55.41 304**	P	**P**	**08 31 31.2**	**+0.9**
TIA	**Tai'an**	**55.50 327**	P	**P**	**08 31 29.6**	**-1.0**
TIA			S	**S**	**08 39 14.4**	**-1.2**
TIA			pmax	pmax		
	comp=Z,10.0nm,0.6s					
TIA			pmax	pmax		
	comp=Z,110nm,3.5s					
TIA			LR	LR		
	comp=Z,220nm,17.9s					
TIA			LR	LR		
	comp=Z,320nm,18.5s					
TIA			LR	LR		
	comp=Z,630nm,19.9s					
GYA	**Guiyang**	**55.90 311**	⇑P	P	08 31 39.8	+6.0
GYA			pmax	pmax		
	comp=Z,20nm,0.8s					
USRK	**Ussuriysk Ar.**	**56.15 344**	P	**P**	**08 31 32.8**	**-2.2**
	comp=Z,2.2nm,0.8s,baz=153,slow=11,SNR=4.1					
USRK			LR	LR	08 54 47.1	
	comp=Z,157nm,18.7s,baz=167,slow=35					
	comp=Z,2.2nm,0.8s					
SRDT	**SRDT**	**56.58 294**	P	**P**	**08 31 39.7**	**+1.1**
YSS	**Yuzhno-Sakhali**	**56.68 353**	*i* P	**P**	**08 31 38.9**	**+0.1**
YSS			pmax	pmax		
	comp=Z,9.0nm,1.2s					
LYN	**LuoYang**	**56.98 322**	P	**P**	**08 31 39.3**	**-1.9**
LYN			S	**S**	**08 39 27.8**	**-7.5**
LYN			pmax	pmax		
	comp=Z,21nm,1.1s					
LYN			LR	LR		
	comp=Z,480nm,20.3s					
LYN			LR	LR		
	comp=Z,410nm,19.2s					
LYN			LR	LR		
	comp=Z,790nm,21.0s					
BSI	**Banda Aceh**	**57.40 283**	P	**P**	**08 31 46.5**	**+2.0**
	comp=Z,23nm,0.9s					
HNS	**HongShan**	**57.69 326**	⇑P	**P**	**08 31 44.9**	**-1.2**
HNS			pmax	pmax		
	comp=Z,14nm,0.7s					
HNS			LR	LR		
	comp=Z,310nm,21.0s					
HNS			LR	LR		
	comp=Z,320nm,17.5s					
HNS			LR	LR		
	comp=Z,500nm,21.0s					
KMI	**Kunming**	**58.20 307**	P	**P**	**08 31 52.3**	**+2.1**
KMI			pmax	pmax		
	comp=Z,19nm,1.2s					
KMI			LR	LR		
	comp=Z,200nm,23.1s					
PPT2	**Papeete2**	**58.21 105**	*e*S	**S**	**08 39 49.8**	**-2.5**
	comp=Z,61nm,25.5s					
PPT2			*e*LQ	LQ	08 46 25.2	
	comp=Z,763nm,31.2s					
PPT	**Papeete**	**58.21 105**	LR	LR	08 51 31.3	
	comp=Z,74nm,21.6s,baz=264,slow=31					
CMAR	**Chiang Mai Arr**	**58.33 299**	P	**P**	**08 31 50.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**58.33 299**	P	**P**	**08 31 50.9**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=128,slow=5.3,SNR=22					
	comp=Z,3.4nm,0.7s					
CMAR	**Chiang Mai Arr**	**58.33 299**	*ce*P	**P**	**08 31 51.2**	**+0.3**
CMAR			pmax	pmax		
	comp=Z,4.0nm,0.7s					
TBI	**Tubuai**	**58.45 112**	*e*S	S	08 39 44.9	-10
	comp=Z,338nm,32.5s					
TBI			*e*LQ	LQ	08 46 28.5	
	comp=Z,4μm,32.0s					
TBI			*e*LR	LR	08 48 57.1	
	comp=Z,940nm,26.5s					
CHTO	**Chiang Mai**	**58.47 299**	P	**P**	**08 31 51.7**	**-0.2**
CHTO			IAmb	IAmb	08 31 58.2	
	comp=Z,12nm,1.0s					
CHTO	**Chiang Mai**	**58.47 299**	P	**P**	**08 31 51.9**	**-0.1**
CHTO	**Chiang Mai**	**58.47 299**	P	**P**	**08 31 51.7**	**-0.2**
CHTO			pmax	pmax		
	comp=Z,12nm,1.0s					
XAN	**Xi'an**	**58.85 320**	⇓P	**P**	**08 31 53.4**	**-1.0**
XAN			pP	sP	08 32 04.4	+4.2
XAN			pmax	pmax		
	comp=Z,34nm,1.3s					
XAN			LR	LR		
	comp=Z,320nm,21.3s					
XAN			LR	LR		
	comp=Z,340nm,21.3s					
XAN			LR	LR		
	comp=Z,410nm,19.2s					
BNX	**BinXian**	**58.92 341**	⇑P	**P**	**08 31 53.6**	**-0.9**
BNX			pmax	pmax		
	comp=Z,7.0nm,1.5s					
PZH	**PanZhiHua**	**59.67 308**	P	**P**	**08 32 03.5**	**+3.2**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,100nm,6.3s					
CD2	**Chengdu**	**60.49 314**	P	**P**	**08 32 05.4**	**-0.4**
CD2			pP	sP	08 32 18.0	+6.4
CD2			pmax	pmax		
	comp=Z,30nm,0.5s					
TYV	**Tymovskoe**	**60.55 354**	*e*P	**P**	**08 32 09.9**	**+4.2**
TYV			pmax	pmax		
	comp=Z,300nm,3.6s					
TYV			pmax	pmax		
	comp=Z,12nm,1.4s					
KLR	**Kul'dur**	**60.87 346**	LR	LR	08 57 28.2	
	comp=Z,116nm,19.4s,baz=181,slow=35					
KLR	**Kul'dur**	**60.87 346**	*ce*P	**P**	**08 32 06.7**	**-1.2**
KLR			pmax	pmax		
	comp=Z,11nm,2.5s					
XLT	**XiLinHaoTe**	**61.85 332**	*e*P	**P**	**08 32 14.3**	**-0.5**
XLT			sP	sP	08 32 29.1	+8.6
XLT			pmax	pmax		
	comp=Z,9.0nm,1.0s					
XLT			pmax	pmax		
	comp=Z,100nm,4.0s					
XLT			LR	LR		
	comp=Z,350nm,20.4s					
XLT			LR	LR		
	comp=Z,480nm,22.1s					
HHC	**Hu-ho-hao-te**	**61.86 327**	*e*P	**P**	**08 32 18.8**	**+3.9**
HHC			pmax	pmax		
	comp=Z,17nm,0.5s					
HHC			pmax	pmax		
	comp=Z,54nm,4.2s					
HHC			LR	LR		
	comp=Z,250nm,17.7s					
HHC			LR	LR		
	comp=Z,200nm,20.2s					
HHC			LR	LR		
	comp=Z,370nm,19.1s					
BTO	**Baotou**	**62.53 326**	*e*P	**P**	**08 32 20.3**	**+0.9**
BTO			PP	**PP**	**08 34 38.4**	**+1.2**
BTO			S	**S**	**08 40 48.0**	**+1.1**
BTO			SS	**SS**	**08 44 47.1**	**-4.3**
BTO			pmax	pmax		
	comp=Z,22nm,0.7s					
BTO			LR	LR		
	comp=Z,490nm,14.5s					
BTO			LR	LR		
	comp=Z,590nm,17.0s					
BTO			LR	LR		
	comp=Z,920nm,18.9s					
PET	**Petropavlovsk**	**62.64 5**	*i* P	**P**	**08 32 19.6**	**-0.1**
PET			pmax	pmax		
	comp=Z,16nm,1.0s					
PETK	**Petropavlovsk-**	**62.64 5**	P	**P**	**08 32 19.7**	**-0.1**
	comp=Z,8.4nm,1.0s,baz=206,slow=14,SNR=2.9					
PETK			LR	LR	08 55 30.5	
	comp=Z,156nm,21.4s,baz=187,slow=32					
	comp=Z,8.4nm,1.0s					
HEH	**HeiHe**	**62.95 343**	*e*P	**P**	**08 32 20.4**	**-1.5**
HEH			pmax	pmax		
	comp=Z,5.0nm,0.8s					
LZH	**Lanzhou**	**63.39 318**	*e*P	**P**	**08 32 26.0**	**+0.7**
LZH			pP	sP	08 32 36.9	+5.7
LZH			S	**S**	**08 40 55.6**	**-2.4**
LZH			pmax	pmax		
	comp=Z,71nm,1.1s					
LZH			pmax	pmax		
	comp=Z,190nm,4.3s					
LZH			LR	LR		
	comp=Z,160nm,15.6s					
LZH			LR	LR		
	comp=Z,220nm,15.8s					
LZH			LR	LR		
	comp=Z,290nm,15.6s					
SHEM	**Shemya Is, Ala**	**65.10 15**	LR	LR	08 56 31.2	
	comp=Z,420nm,21.5s,baz=192,slow=32					
ZEA	**Zeya**	**66.13 345**	*e*P	**P**	**08 32 42.1**	**-0.5**
ZEA			*e*S	**S**	**08 41 30.9**	**+0.2**
ZEA			pmax	pmax		
	comp=Z,10.0nm,0.9s					
ZEA			smax	smax		
	comp=E,100nm,8.0s					
SHL	**Shillong**	**67.17 303**	P	**P**	**08 32 49.4**	**-0.7**
SHL			pmax	pmax		
	comp=Z,55nm,0.9s					
GTA	**Gaotai**	**67.91 319**	*e*P	**P**	**08 32 55.1**	**+0.7**
GTA			pmax	pmax		
	comp=Z,10.0nm,1.3s					
GTA			LR	LR		
	comp=Z,72nm,15.3s					
GTA			LR	LR		
	comp=Z,84nm,14.5s					
GTA			LR	LR		
	comp=Z,120nm,17.4s					
TAOE	**Nuku Hiva Isla**	**67.94 96**	*e*LR	LR	08 53 20.0	
	comp=Z,286nm,23.4s					
VNDA	**Vanda**	**68.22 177**		**P**	**08 32 54.8**	**-0.8**
VNDA	**Vanda**	**68.22 177**	P	**P**	**08 32 55.0**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=330,slow=6.7,SNR=6.2					
VNDA			LR	LR	09 00 51.3	
	comp=Z,256nm,18.2s,baz=355,slow=34					
	comp=Z,2.4nm,0.7s					
MA2	**Magadan**	**68.86 360**	LR	LR	09 05 50.9	
	comp=Z,153nm,18.0s,baz=161,slow=38					
ULN	**Ulaanbaatar**	**69.06 330**	P	**P**	**08 32 59.7**	**-1.7**
ULN	**Ulaanbaatar**	**69.06 330**	*ce*P	**P**	**08 32 59.9**	**-1.5**
ULN			pmax	pmax		
	comp=Z,10.0nm,1.7s					
SONM	**Songino Array**	**69.36 330**	P	**P**	**08 33 02.8**	**-0.5**
SONM	**Songino Array**	**69.36 330**	P	**P**	**08 33 03.1**	**-0.1**
	comp=Z,7.3nm,1.1s,baz=146,slow=6.7,SNR=21					
SONM			LR	LR	09 01 47.5	
	comp=Z,294nm,21.8s,baz=91,slow=34					
	comp=Z,7.3nm,1.1s					
GOMU	**GeErMu**	**69.61 314**	P	**P**	**08 33 06.8**	**+1.4**
GOMU			pP	sP	08 33 16.5	+5.3
GOMU			PcP	**PcP**	**08 33 30.1**	**+1.7**
GOMU			S	**S**	**08 42 15.5**	**+1.6**
GOMU			pmax	pmax		
	comp=Z,18nm,1.4s					
NIKH	**Nikolski High**	**71.05 24**	P	**P**	**08 33 13.0**	**-0.4**
	baz=222					
RKT	**Rikitea**	**71.78 111**	*e*LQ	LQ	08 51 57.2	
	comp=Z,2μm,35.5s					
RKT			*e*LR	LR	08 55 07.9	
	comp=Z,530nm,25.5s					
SEY	**Seymchan**	**72.24 1**	LR	LR	09 04 28.3	
	comp=Z,138nm,19.2s,baz=194,slow=35					
SEY	**Seymchan**	**72.24 1**	*i* P	**P**	**08 33 20.6**	**+0.3**
SEY			pmax	pmax		
	comp=Z,2.0nm,1.0s					
ZAK	**Zakamensk**	**72.58 330**	*e*P	**P**	**08 33 21.7**	**-1.1**
ZAK			pmax	pmax		
	comp=Z,16nm,1.1s					
YAK	**Yakutsk**	**73.22 350**	LR	LR	09 03 59.3	
	comp=Z,56nm,21.6s,baz=184,slow=34					
YAK	**Yakutsk**	**73.22 350**	*e*P	**P**	**08 33 26.0**	**-0.1**
YAK			*e*'PP	**sP**	**08 33 35.9**	**+3.9**
YAK			*e*		08 33 43.3	
YAK			*e*		08 36 11.3	
YAK			*e*S	**S**	**08 42 52.2**	**-1.6**
YAK			*e*		08 43 33.8	
YAK			*e*SS	**SS**	**08 47 34.8**	**-0.9**
YAK			pmax	pmax		
	comp=Z,13nm,1.1s					
YAK			pmax	pmax		
	comp=N,5.0nm,1.1s					
YAK			pmax	pmax		
	comp=E,2.0nm,1.0s					
YAK			pmax	pmax		
	comp=Z,186nm,6.3s					
YAK			pmax	pmax		
	comp=N,85nm,5.2s					
YAK			pmax	pmax		
	comp=E,116nm,5.8s					
YAK			smax	smax		
	comp=E,92nm,4.0s					
YAK			smax	smax		
	comp=N,32nm,4.0s					
HYB	**Hyderabad**	**76.32 291**	*e*P	**P**	**08 33 44.4**	**-0.7**
S14K	**Fog Glacier**	**77.25 26**	P	**P**	**08 33 49.6**	**0.0**
	baz=230					
WMQ	**Urumqi**	**77.97 319**	*e*P	**P**	**08 33 55.4**	**+1.5**
WMQ			pmax	pmax		
	comp=N,39nm,0.7s					
BILL	**Bilibino**	**78.13 6**	P	**P**	**08 33 54.2**	**0.0**
BILL			IAmb	IAmb	08 33 59.5	
	comp=Z,9.9nm,1.0s					
BILL	**Bilibino**	**78.13 6**	*ce*P	**P**	**08 33 53.7**	**-0.5**
BILL			pmax	pmax		
	comp=Z,14nm,1.3s					
GAMB	**Gambell**	**78.40 16**	P	**P**	**08 33 56.4**	**+0.8**
	baz=218					
M13K	**Dall Lake**	**78.52 21**	P	**P**	**08 33 56.3**	**-0.1**
	baz=226					
N14K	**Kuskokwak Cree**	**78.79 22**	P	**P**	**08 33 58.1**	**+0.2**
	baz=228					
O15K	**Ungalikthiuk R**	**79.00 23**	P	**P**	**08 33 59.5**	**+0.3**
	baz=230					
K13K	**Kusilvak Mount**	**79.14 20**	P	**P**	**08 34 00.2**	**+0.4**
	baz=225					
M14K	**Bethel**	**79.25 21**	P	**P**	**08 34 00.6**	**+0.1**
	baz=227					
L14K	**Kuka Creek**	**79.39 21**	P	**P**	**08 34 01.1**	**-0.1**
	baz=226					
N15K	**Kwethluk River**	**79.55 23**	P	**P**	**08 34 02.0**	**-0.1**
	baz=229					
P16K	**Nushagak River**	**79.64 24**	P	**P**	**08 34 02.7**	**+0.1**
	baz=231					
M15K	**Kasigluk River**	**79.67 22**	P	**P**	**08 34 02.9**	**+0.1**
	baz=228					
O16K	**Kokwok River B**	**79.95 24**	P	**P**	**08 34 04.2**	**-0.1**
	baz=231					
Q16K	**King Salmon**	**79.97 25**	P	**P**	**08 34 04.4**	**0.0**
	baz=232					
Q17K	**Contact Creek**	**80.04 25**	P	**P**	**08 34 04.5**	**-0.4**
	baz=233					
L15K	**Ungalak Mounta**	**80.04 21**	P	**P**	**08 34 04.9**	**+0.2**
	baz=228					
J14K	**Nanvaranak Lak**	**80.08 19**	P	**P**	**08 34 05.3**	**+0.4**
	baz=226					
R18K	**Karluk**	**80.25 26**	P	**P**	**08 34 06.8**	**+0.9**
	baz=235					
N16K	**Nishlik Lake**	**80.25 23**	P	**P**	**08 34 06.5**	**+0.5**
	baz=230					
P17K	**Kvichak River**	**80.37 25**	P	**P**	**08 34 06.8**	**+0.3**
	baz=233					
K15K	**Wolf Creek Mou**	**80.44 20**	P	**P**	**08 34 07.7**	**+0.7**
	baz=228					
O17K	**Koliganek Bris**	**80.46 24**	P	**P**	**08 34 07.1**	**0.0**
	baz=232					
QSPA	**South Pole Qui**	**80.48 180**		**P**	**08 34 07.0**	**-0.3**
QSPA	**South Pole Qui**	**80.48 180**	P	**P**	**08 34 06.4**	**-0.9**
	comp=Z,12nm,1.1s,baz=343,slow=3.8,SNR=28					
QSPA			LR	LR	09 09 12.2	
	comp=Z,139nm,18.1s,baz=2.5,slow=35					
	comp=Z,12nm,1.1s					
MAW	**Mawson**	**80.53 203**	P	**P**	**08 34 06.9**	**-0.4**
	comp=Z,7.6nm,1.1s,baz=91,slow=5.5,SNR=11					
MAW			LR	LR	09 06 49.5	
	comp=Z,440nm,21.8s,baz=94,slow=33					
	comp=Z,7.6nm,1.1s					
M16K	**Timber Creek**	**80.53 22**	IAmb	IAmb	08 34 14.4	
	comp=Z,21nm,1.1s					
M16K	**Timber Creek**	**80.53 22**	P	**P**	**08 34 07.8**	**+0.3**
	baz=230					
OHAK	**Old Harbor**	**80.57 27**	P	**P**	**08 34 08.1**	**+0.4**
	baz=236					
Q18K	**Katmai Hardscr**	**80.64 25**	P	**P**	**08 34 08.3**	**+0.1**
	baz=234					
L16K	**Owhat River**	**80.78 22**	P	**P**	**08 34 09.1**	**+0.3**
	baz=230					
ANM	**Nome**	**80.80 18**	P	**P**	**08 34 09.2**	**+0.3**
	baz=224					
TNA	**Tin City**	**80.81 16**	P	**P**	**08 34 09.2**	**+0.4**
	baz=221					
N17K	**Nushagak Hills**	**80.89 23**	P	**P**	**08 34 08.9**	**-0.5**
	baz=232					
P18K	**Big Mountain,**	**80.99 25**	P	**P**	**08 34 10.2**	**+0.2**
	baz=234					
F14K	**Arctic Creek**	**81.19 17**	P	**P**	**08 34 10.8**	**-0.1**
	baz=223					
KDAK	**Kodiak Island**	**81.20 27**	LR	LR	09 03 53.0	
	comp=Z,242nm,21.9s,baz=83,slow=31					
KDAK	**Kodiak Island**	**81.20 27**	P	**P**	**08 34 10.9**	**-0.1**
	baz=236					
O18K	**Koktuh Hills**	**81.27 24**	P	**P**	**08 34 10.8**	**-0.6**
	baz=234					
M17K	**Holitna River**	**81.34 22**	P	**P**	**08 34 11.2**	**-0.5**
	baz=231					
Q19K	**Cape Douglas,**	**81.38 26**	P	**P**	**08 34 10.9**	**-1.2**
	baz=235					
J16K	**Anvik River**	**81.43 20**	P	**P**	**08 34 11.2**	**-1.0**
	baz=228					
L17K	**Donlin**	**81.49 22**	P	**P**	**08 34 12.4**	**-0.1**
	baz=230					
N18K	**Kilae Creek**	**81.49 23**	P	**P**	**08 34 12.0**	**-0.6**
	baz=233					
G15K	**Niukluk**	**81.51 18**	P	**P**	**08 34 11.9**	**-0.6**
	baz=225					
I17K	**Unalakleet**	**81.80 20**	P	**P**	**08 34 14.4**	**+0.3**
	baz=228					
H16K	**Elim**	**81.81 19**	P	**P**	**08 34 13.9**	**-0.3**
	baz=227					
O19K	**Port Alsworth**	**81.83 24**	P	**P**	**08 34 14.6**	**+0.3**
	baz=234					
F15K	**North Star Dit**	**81.84 17**	P	**P**	**08 34 14.7**	**+0.4**
	baz=224					
K17K	**Iditarod**	**81.86 21**	P	**P**	**08 34 15.0**	**+0.6**
	baz=230					
P19K	**Oil Pt**	**81.97 25**	P	**P**	**08 34 15.5**	**+0.4**
	baz=235					
M18K	**Stony River**	**82.01 23**	P	**P**	**08 34 15.5**	**+0.3**
	baz=233					
J17K	**VABM Dome**	**82.02 20**	IAmb	IAmb	08 34 20.3	
	comp=Z,11nm,1.0s					
J17K	**VABM Dome**	**82.02 20**	P	**P**	**08 34 15.4**	**+0.1**
	baz=230					
L18K	**Granite Mounta**	**82.13 22**		pP	08 34 18.6	-1.6
L18K	**Granite Mounta**	**82.13 22**	P	**P**	**08 34 16.4**	**+0.5**
	baz=232					
N19K	**Bonanza Creek**	**82.13 24**	P	**P**	**08 34 16.0**	**0.0**
	baz=234					
G16K	**Koyuk River**	**82.30 18**	P	**P**	**08 34 17.6**	**+0.9**
	baz=226					
TIXI	**Tiksi**	**82.31 353**	P	**P**	**08 34 15.4**	**-1.2**
TIXI			IAmb	IAmb	08 34 23.4	
	comp=Z,10nm,1.1s					
TIXI	**Tiksi**	**82.31 353**	LR	LR	09 09 47.0	
	comp=Z,89nm,21.2s,baz=196,slow=35					
TIXI	**Tiksi**	**82.31 353**	*ce*P	**P**	**08 34 15.2**	**-1.4**
TIXI			pmax	pmax		
	comp=Z,7.0nm,1.3s					
HOM	**Homer**	**82.64 26**	P	**P**	**08 34 19.1**	**+0.5**
	baz=237					
MK31	**Makanchi Array**	**82.66 320**	*ce*P	**P**	**08 34 18.6**	**-0.5**

MKAR	Makanchi Array	82.66	320		P	P	08 34 18.1	-0.9
MKAR	Makanchi Array	82.66	320	P	P	P	08 34 18.0	-1.1
	comp=Z,6.9nm,1.1s,baz=106,slow=6.0,SNR=19							
MKAR				LR	LR		09 11 30.6	
	comp=Z,105nm,20.1s,baz=101,slow=36							
	comp=Z,6.9nm,1.1s							
MKAR	Makanchi Array	82.66	320	*ce*P	P	P	08 34 18.3	-0.8
MKAR				pmax	pmax			
	comp=Z,7.0nm,1.1s							
H17K	Granite Mounta	82.75	19	IAmb	IAmb		08 34 24.4	
	comp=Z,15nm,1.4s							
H17K	Granite Mounta	82.75	19	P	P	P	08 34 18.9	-0.2
	baz=229							
L19K	White Mountain	82.79	23	P	P	P	08 34 19.5	+0.2
	baz=234							
M19K	Big River Lodg	82.80	23	P	P	P	08 34 19.1	-0.4
	baz=234							
TTA	Tatalina	82.81	22	P	P		08 34 24.8	+5.3
TTA	Tatalina	82.81	22	P	P	P	08 34 19.1	-0.4
	baz=233							
MAKZ	Makanchi	82.87	320	P	P	P	08 34 18.3	-1.8
MAKZ	Makanchi	82.87	320	P	P	P	08 34 18.3	-1.8
MAKZ				pmax	pmax			
	comp=Z,25nm,1.3s							
J18K	Innoko River	82.89	21	IAmb	IAmb		08 34 24.6	
	comp=Z,8.5nm,1.1s							
J18K	Innoko River	82.89	21	P	P	P	08 34 19.8	0.0
	baz=232							
G17K	Kiwalik Mounta	82.90	18	P	P	P	08 34 19.6	-0.2
	baz=228,SNR=6.7							
BRSE	Bradley Lake S	83.07	26	P	P	P	08 34 20.7	-0.2
	baz=238							
M20K	Styx River	83.28	23	P	P	P	08 34 21.7	-0.2
	baz=235							
L20K	Farewell, AK	83.33	23	P	P	P	08 34 22.0	-0.2
	baz=235							
F17K	Baldwin Pennin	83.35	17	P	P	P	08 34 22.3	+0.2
	baz=227							
H18K	Honhosa River	83.39	19	P	P	P	08 34 21.4	-1.0
	baz=230							
J19K	Poorman	83.60	21	IAmb	IAmb		08 34 28.8	
	comp=Z,13nm,1.2s							
J19K	Poorman	83.60	21	P	P	P	08 34 23.4	-0.1
	baz=233							
E17K	Hotham Inlet	83.62	17	P	P	P	08 34 23.4	-0.1
	baz=227,SNR=26							
GCSA	Galena City Sc	83.63	20	P	P	P	08 34 22.8	-0.8
	baz=232,SNR=6.6							
D17K	Noatak River	83.70	16	P	P	P	08 34 23.6	-0.3
	baz=226,SNR=7.7							
K20K	Telida	83.78	22	P	P	P	08 34 23.9	-0.5
	baz=234							
G18K	Tagagawik	83.78	19	IAmb	IAmb		08 34 29.1	
	comp=Z,11nm,1.0s							
G18K	Tagagawik	83.78	19	P	P	P	08 34 23.9	-0.5
	baz=230,SNR=8.1							
SEW	Seward	83.82	26	P	P	P	08 34 24.0	-0.7
	baz=239							
O22K	Cooper Landing	83.90	25	P	P	P	08 34 24.4	-0.6
	baz=238							
F18K	Selawik	83.93	18	P	P	P	08 34 24.6	-0.4
	baz=229,SNR=5.6							
TARG	Taragay, Kyrgy	83.94	314	P	P	P	08 34 26.1	-0.2
SUA	Susitna One	84.00	24	P	P	P	08 34 24.8	-0.9
	baz=238							
RDOG	Red Dog Mine	84.00	16	P	P	P	08 34 25.3	-0.1
	baz=226,SNR=5.7							
ZAA0	Zalesovo Array	84.04	327	IAmb	IAmb		08 34 30.6	
	comp=Z,10nm,1.1s							
ZALV	Zalesovo Beam	84.04	327			P	08 34 23.8	-2.2
ZALV	Zalesovo Beam	84.04	327	P		P	08 34 24.1	-1.8
	comp=Z,5.7nm,1.0s,baz=110,slow=5.6,SNR=9.7							
ZALV				LR	LR		09 11 53.7	
	comp=Z,196nm,19.6s,baz=106,slow=36							
	comp=Z,5.7nm,1.0s							
E18K	Tukpahlearik C	84.20	17	IAmb	IAmb		08 34 31.6	
	comp=Z,13nm,1.1s							
E18K	Tukpahlearik C	84.20	17	P	P	P	08 34 26.6	+0.1
	baz=228,SNR=6.2							
RC01	Rabbit Creek A	84.21	25	P	P	P	08 34 26.7	0.0
	baz=238							
PPLA	Purkeypile	84.22	23	P	P	P	08 34 26.5	-0.3
	baz=236							
J20K	Nowinta River	84.23	21	IAmb	IAmb		08 34 32.0	
	comp=Z,10nm,1.1s							
J20K	Nowinta River	84.23	21	P	P	P	08 34 26.3	-0.3
	baz=234							
H19K	Roundabout Mou	84.26	19	P	P	P	08 34 26.5	-0.2
	baz=232							
G19K	Purcell Mounta	84.43	19	P	P	P	08 34 27.7	0.0
	baz=231							
I20K	Naaghedeneel	84.48	21	P	P	P	08 34 27.9	0.0
	baz=234							
CAST	Castle Rocks	84.55	22			P	08 34 28.3	-0.1
CAST	Castle Rocks	84.55	22	P		P	08 34 28.2	-0.1
	baz=236							
KSH	Kashi	84.60	311	P		P	08 34 30.1	+0.8
KSH				pmax	pmax			
	comp=Z,15nm,1.1s							
KSH				LR	LR			
	comp=Z,2μm,16.8s							
KSH				LR	LR			
	comp=Z,460nm,15.5s							
P23K	Montague Islan	84.65	26	P	P	P	08 34 29.6	+0.7
	baz=241							
F19K	Shaleruckik Mo	84.66	18	P	P	P	08 34 28.8	0.0
	baz=231,SNR=6.9							
PWL	Port Wells	84.68	25	P	P	P	08 34 28.6	-0.5
	baz=240							
CUT	Chulitna	84.69	24	P	P	P	08 34 28.4	-0.6
	baz=238							
CHUM	Lake Minchumin	84.72	22	P	P	P	08 34 28.7	-0.5
	baz=236							
PMR	Palmer	84.72	25	P	P		08 34 34.5	+5.3
PMR	Palmer	84.72	25	P	P	P	08 34 29.1	-0.1
	baz=239							
H20K	Anotleneega Mo	84.75	20	P	P	P	08 34 29.1	-0.2
	baz=233,SNR=7.6							
C18K	Utukok River	84.87	16	IAmb	IAmb		08 34 34.7	
	comp=Z,14nm,1.1s							
C18K	Utukok River	84.87	16	P	P	P	08 34 29.7	-0.2
	baz=227							
KNK	Knik Glacier	84.91	25	P	P	P	08 34 29.4	-0.8
	baz=240							
NIL	Nilore	85.11	305			P	08 34 31.3	-0.6
NIL	Nilore	85.11	305	P		P	08 34 31.3	-0.6
NIL				pmax	pmax			
	comp=Z,30nm,1.1s							
SML	Sawmill	85.16	25	P	P	P	08 34 31.2	-0.3
	baz=240							
B18K	Kokolik River	85.20	15	P	P	P	08 34 31.5	0.0
	baz=227,SNR=5.9							
E19K	Redstone River	85.22	18	P	P	P	08 34 31.8	+0.2
	baz=231,SNR=36							
GLI	Glacier Island	85.22	26	P	P	P	08 34 31.5	-0.2
	baz=241							
TRF	Thorofare Moun	85.24	23	P	P	P	08 34 31.6	-0.4
	baz=238							
BPAW	Bear Paw Mtn.	85.33	22	P	P	P	08 34 32.9	+0.6
	baz=237							
F20K	Avaraart Lake	85.42	18	IAmb	IAmb		08 34 37.4	
	comp=Z,8.5nm,1.0s							
F20K	Avaraart Lake	85.42	18	P	P	P	08 34 32.7	+0.1
	baz=232							
BOOM	Boomskoye usch	85.49	314	P	P	P	08 34 33.3	-0.5
H21K	Melozitna Rive	85.55	20	P	P	P	08 34 33.6	+0.3
	baz=235							
I21K	Tanana	85.57	21	P	P	P	08 34 33.0	-0.3
	baz=236,SNR=6.1							
SCM	Sheep Creek Mo	85.59	25	P	P	P	08 34 32.6	-1.0
	baz=241							
D19K	Kuna River	85.62	17	P	P	P	08 34 32.7	-0.9
	baz=230							
EYAK	Cordova Ski Ar	85.64	26	P	P	P	08 34 33.1	-0.7
	baz=242							
RND	Reindeer	85.77	23	IAmb	IAmb		08 35 05.2	
	comp=Z,17nm,1.6s							
G21K	Allakaket	85.81	19	P	P	P	08 34 34.1	-0.5
	baz=235							
MCK	McKinley	85.91	23	P	P	P	08 34 34.4	-0.7
	baz=239,SNR=6.6							
KAIM	Kayak Island	85.94	27	P	P	P	08 34 34.0	-1.3
	baz=243							
A19K	Wainwright	85.96	15	P	P	P	08 34 34.7	-0.5
	baz=227							
KLU	Klutina	86.01	25	P	P	P	08 34 34.9	-0.9
	baz=242							
E20K	Nigu River	86.03	17	P	P	P	08 34 35.5	-0.2
	baz=232,SNR=21							
H22K	Ishtalitna Cre	86.17	20	P	P	P	08 34 36.1	-0.3
	baz=237							
D20K	Etivluk River	86.18	17	IAmb	IAmb		08 34 42.5	
	comp=Z,8.2nm,0.9s							
D20K	Etivluk River	86.18	17	P	P	P	08 34 35.8	-0.6
	baz=232,SNR=5.5							
M24K	Tolsona, Glenn	86.20	25	P	P	P	08 34 36.4	-0.2
	baz=242							
F21K	Alatna River	86.23	19	P	P	P	08 34 36.1	-0.6
	baz=235							
NEA2	Nenana	86.30	22	P	P	P	08 34 36.3	-0.8
	baz=239							
BMRM	Bremner River	86.33	26	P	P	P	08 34 36.7	-0.6
	baz=243							
KURK	Kurchatov	86.33	323	*i*P	P	P	08 34 38.1	+0.6
KURK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
KURBB	Kurchatov Arra	86.36	323	P	P	P	08 34 36.0	-1.6
	comp=Z,0.7nm,0.5s,baz=114,slow=3.9,SNR=8.8							
KURBB				LR	LR		09 13 05.9	
	comp=Z,91nm,21.8s,baz=176,slow=36							
	comp=Z,0.7nm,0.5s							
ARLS	Aral	86.47	313	P	P	P	08 34 38.2	-0.4
ARLS				pmax	pmax			
	comp=Z,11nm,1.1s							
I23K	Minto, Yukon-K	86.48	21	P	P	P	08 34 37.6	-0.3
	baz=238							
AAK	Ala-Archa	86.56	314			P	08 34 38.3	-0.7
AAK	Ala-Archa	86.56	314	LR		LR	09 15 51.5	
	comp=Z,48nm,18.0s,baz=110,slow=37							
AAK	Ala-Archa	86.56	314	*ce*P		P	08 34 38.7	-0.3
AAK				pmax	pmax			
	comp=Z,12nm,1.3s							
N25K	Chitina, Valde	86.62	26	P	P	P	08 34 38.5	-0.3
	baz=243							
G22K	Bettles	86.70	19	P	P	P	08 34 38.8	-0.1
	baz=236							
HARP	HAARP	86.75	25	P	P	P	08 34 38.9	-0.4
	baz=242							
H23K	Yukon River	86.77	21	P	P	P	08 34 39.2	-0.2
	baz=238							
E21K	Killik River	86.79	18	IAmb	IAmb		08 34 44.5	
	comp=Z,12nm,1.1s							
E21K	Killik River	86.79	18	P	P	P	08 34 40.0	+0.6
	baz=234							
F22K	John River	86.81	19	P	P	P	08 34 39.0	-0.5
	baz=236							
B20K	Meade River	86.85	16	P	P	P	08 34 39.3	-0.3
	baz=231							
PAX	Paxson	86.89	24	P	P	P	08 34 39.7	-0.4
	baz=242							
COLA	College	86.89	22	P	P	P	08 34 38.4	-1.5
COLA	College	86.89	22	P	P	P	08 34 41.7	+1.8
COLA	College	86.89	22	P	P	P	08 34 38.4	-1.5
COLA				pmax	pmax			
	comp=Z,13nm,0.9s							
COLA	College	86.89	22	P	P	P	08 34 39.5	-0.4
	baz=240							
C21K	Knifeblade Rid	86.98	17	P	P	P	08 34 40.2	-0.1
	baz=233							
HDA	Harding Lake	87.00	23	P	P	P	08 34 40.3	-0.2
	baz=241							
G23K	Bananza Creek	87.08	20	IAmb	IAmb		08 34 45.9	
	comp=Z,8.6nm,1.1s							
G23K	Bananza Creek	87.08	20	P	P	P	08 34 41.0	+0.1
	baz=238							
K24K	Donnelly Dome	87.16	23	P	P	P	08 34 40.9	-0.4
	baz=242							
POKR	Poker Plat Res	87.17	22	P	P	P	08 34 41.3	0.0
	baz=240							
MESA	MESA	87.17	27	P	P	P	08 34 40.3	-1.4
	baz=245							
IL31		87.20	22	IAmb	IAmb		08 34 44.8	
	comp=Z,9.7nm,0.9s							
ILAR	Eielson Array	87.20	22	P	P	P	08 34 38.9	-2.6
	comp=Z,3.2nm,1.0s,baz=257,slow=4.8,SNR=12							
ILAR				LR	LR		09 06 36.0	
	comp=Z,187nm,22.0s,baz=239,slow=31							
	comp=Z,3.2nm,1.0s							
E22K	Anaktuvuk Pass	87.28	18	P	P	P	08 34 41.8	0.0
	baz=236,SNR=6.1							
COLD	Coldfoot	87.30	19	P	P	P	08 34 41.8	-0.1
	baz=238							
B21K	Ikpikpuk River	87.31	17	IAmb	IAmb		08 34 46.3	
	comp=Z,8.9nm,1.2s							
B21K	Ikpikpuk River	87.31	17	P	P	P	08 34 41.8	0.0
	baz=233,SNR=6.2							
H24K	Noodor Dome	87.37	21	P	P	P	08 34 41.8	-0.5
	baz=240							
D22K	Ayikyak River	87.43	18	P	P	P	08 34 42.7	+0.2
	baz=235,SNR=7.1							
RIDG	Independent Ri	87.50	24	IAmb	IAmb		08 34 47.8	
	comp=Z,12nm,1.0s							
RIDG	Independent Ri	87.50	24	P	P	P	08 34 42.8	-0.2
	baz=243,SNR=7.1							
MENT	Mentasta	87.59	25	P	P	P	08 34 48.0	+4.6
M26K	Nabesna, AK	87.66	25	P	P	P	08 34 43.6	-0.2
	baz=244							
J25K	Salcha River,	87.70	23	P	P	P	08 34 43.5	-0.4
	baz=242,SNR=18							
L26K	Log Cabin Wild	87.78	25	P	P	P	08 34 44.5	+0.2
	baz=244							
A21K	Barrow	87.81	15	P	P	P	08 34 44.2	0.0
	baz=231							
PINM	Pinnacle	87.92	28	P	P	P	08 34 45.1	0.0
	baz=247							
E23K	Chandalar	87.93	19	IAmb	IAmb		08 34 50.3	
	comp=Z,8.5nm,1.1s							
E23K	Chandalar	87.93	19	P	P	P	08 34 45.5	+0.5
	baz=238,SNR=7.1							
G24K	Hadweenzic Riv	87.94	20	IAmb	IAmb		08 34 51.1	
	comp=Z,9.1nm,1.2s							
G24K	Hadweenzic Riv	87.94	20	P	P	P	08 34 45.5	+0.5
	baz=240							
SCRK	Sand Creek	87.95	24	P	P	P	08 34 44.8	-0.4
	baz=244							
A22K	Sinclair Lake	88.04	15	P	P	P	08 34 45.3	0.0
	baz=233							
B22K	Teshekpuk Lake	88.06	16	P	P	P	08 34 46.2	+0.8
	baz=234							
PRP	Porcupine Dome	88.06	22	P	P	P	08 34 45.9	+0.1
	baz=242							
D23K	Nanushuk River	88.08	18	P	P	P	08 34 46.3	+0.7
	baz=237,SNR=10.0							
M27K	Edge Creek, AK	88.11	25	P	P	P	08 34 46.0	0.0
	baz=245,SNR=9.4							
PNL	Peninsula	88.15	28	P	P	P	08 34 46.0	-0.2
	baz=248							
ARK	Arkit	88.15	313	P	P	P	08 34 45.7	-1.0
ARK				pmax	pmax			
	comp=Z,13nm,1.1s							
O28M	Mount Upton	88.21	27	P	P	P	08 34 46.5	-0.3
	baz=247							
F24K	Squaw Lake	88.21	20	IAmb	IAmb		08 34 51.8	
	comp=Z,7.0nm,1.0s							
F24K	Squaw Lake	88.21	20	P	P	P	08 34 46.8	+0.5
	baz=240,SNR=6.5							
TOLK	Toolik Lake Re	88.25	18	IAmb	IAmb		08 34 51.1	
	comp=Z,19.9nm,1.2s							
TOLK	Toolik Lake Re	88.25	18	P	P	P	08 34 47.1	+0.6
	baz=238							
E24K	Your Creek	88.30	19	P	P	P	08 34 46.8	0.0
	baz=239							
H25L	Birch Creek	88.31	21	P	P	P	08 34 47.2	+0.5
	baz=242							
J26L	Joseph Creek	88.34	23	IAmb	IAmb		08 34 51.6	
	comp=Z,5.9nm,1.0s							
J26L	Joseph Creek	88.34	23	P	P	P	08 34 47.4	+0.3
	baz=244							
L27K	Beaver Creek,	88.42	25	P	P	P	08 34 47.7	+0.4
	baz=245,SNR=8.3							
BCAR	Beaver Creek A	88.44	25			P	08 34 47.4	-0.1
G25K	Bearman Lake	88.45	21	P		P	08 34 47.8	+0.5
	baz=242							
YUK3	Moose Creek	88.48	26	P	P	P	08 34 47.5	-0.4
	baz=247							
BVCY	Beaver Creek	88.57	26	P	P	P	08 34 47.7	-0.3
	baz=246							
BTK	Batken	88.57	311	P	P	P	08 34 47.2	-1.5
BTK				pmax	pmax			
	comp=Z,11nm,1.4s							
C23K	Itkillik River	88.58	17	P	P	P	08 34 48.0	+0.1
	baz=237,SNR=8.0							
YUK8	Steele Glacier	88.60	27	P	P	P	08 34 48.0	-0.5
	baz=247							
SYO	Syowa Base	88.63	200⇑	*e*P	P	P	08 34 48.4	+0.1
SYO	Syowa Base	88.63	200⇑	*ep*P	pP		08 34 52.4	-0.3
KBL	Kabul	88.72	305	P	P	P	08 34 47.0	-2.6
KBL				pmax	pmax			
	comp=Z,6.0nm,0.8s							
K27K	Chicken	88.73	24	P	P	P	08 34 48.5	-0.2
	baz=245							
D24K	Happy Valley	88.75	18	P	P	P	08 34 48.6	-0.1
	baz=239							
O29M	Mount Kennedy	88.77	28	P	P	P	08 34 48.7	-0.5
	baz=248							
I26K	Coal Creek Min	88.86	23	P	P	P	08 34 49.0	-0.3
	baz=244							
P29M	Windy Craggy	88.92	29	P	P	P	08 34 49.0	-0.8
	baz=249							
F25K	Christian Rive	89.00	20	P	P	P	08 34 50.0	-0.1
	baz=242							
S31K	Pelican	89.08	31	P	P	P	08 34 50.6	+0.2
	baz=250							
C24K	Franklin Bluff	89.08	18	P	P	P	08 34 50.6	+0.4
	baz=239							
YUK6	Outpost Mounta	89.10	27	P	P	P	08 34 50.7	-0.2
	baz=249							
YUK4	Talbot Arm	89.12	27	P	P	P	08 34 51.7	+0.8
	baz=248							
SIT	Sitka	89.24	32	P	P	P	08 34 51.4	+0.2
	baz=251							
E25K	Arctic Village	89.28	20	P	P	P	08 34 51.5	+0.2
	baz=242,SNR=5.5							
BMAR	Burnt Mountain	89.29	20	P	P	P	08 34 49.8	-1.5
G26K	Porcupine Rive	89.35	21	P	P	P	08 34 52.1	+0.5
	baz=244,SNR=6.2							
HYT	Haines Junctio	89.45	28	P	P	P	08 34 52.8	+0.4
	baz=249,SNR=8.1							
P30M	Million Dollar	89.46	28	P	P	P	08 34 52.0	-0.3
	baz=250							
R31K	City Hall, Gus	89.47	30	P	P	P	08 34 52.4	+0.1
	baz=251							
KKAR	Karatay Array	89.51	314			P	08 34 51.2	-1.7
KKAR	Karatay Array	89.51	314	P		P	08 34 51.2	-1.7
F26K	Sheenjek River	89.56	20	P		P	08 34 53.1	+0.5
	baz=243							
I27K	Kandik River	89.56	23	P		P	08 34 52.3	-0.4
	baz=246,SNR=6.7							
D25K	Kavik River	89.59	18	IAmb	IAmb		08 34 57.6	
	comp=Z,10nm,1.1s							
D25K	Kavik River	89.59	18	P	P	P	08 34 52.8	0.0
	baz=241,SNR=7.3							
M29M	Somme Creek	89.61	26	IAmb	IAmb		08 34 58.7	
	comp=Z,8.1nm,0.9s							
M29M	Somme Creek	89.61	26	P	P	P	08 34 52.7	-0.3
	baz=248,SNR=6.1							
SIMJ	Simiganj	89.62	309	P	P	P	08 34 52.6	-1.2
SIMJ				IAmb	IAmb		08 35 01.7	
	comp=Z,11nm,1.1s							
S32K	Killisnoo	89.76	31	P	P	P	08 34 54.1	+0.4
	baz=252							
DZET	Dzherino	89.80	309	P	P	P	08 34 53.1	-1.4
DZET				pmax	pmax			
	comp=Z,9.0nm,0.8s							
NRIK	Noril'sk	89.80	342	P	P	P	08 34 51.5	-2.1
	comp=Z,16nm,1.1s,baz=113,slow=4.3,SNR=10							
NRIK				LR	LR		09 15 12.6	
	comp=Z,58nm,19.4s,baz=124,slow=36							
	comp=Z,16nm,1.1s							
NRIK	Noril'sk	89.80	342	*ce*P	P	P	08 34 51.9	-1.8
NRIK				pmax	pmax			
	comp=Z,19nm,1.1s							
DAWY	Dawson	89.83	24	IAmb	IAmb		08 34 59.7	
	comp=Z,11nm,1.2s							
DAWY	Dawson	89.83	24	P	P	P	08 34 54.5	+0.6
	baz=248,SNR=5.2							
H27K	Steamboat Moun	89.86	22	P	P	P	08 34 54.4	+0.4
	baz=246,SNR=6.5							
N30M	Aishikik Lake	89.86	27	P	P	P	08 34 54.7	+0.5
	baz=250							
L29M	L29M	89.99	25	P	P	P	08 34 55.3	+0.5
	baz=249,SNR=7.4							
SKAG	Skagway	90.02	29	P	P	P	08 34 55.0	+0.2
	baz=251							
R32K	Eaglecrest	90.04	31	P	P	P	08 34 55.0	0.0
	baz=252							
G27K	Doyon Strip	90.05	21	P	P	P	08 34 55.4	+0.5
	baz=246							
O30N	Mendenhall	90.08	28	P	P	P	08 34 54.9	-0.3
	baz=251							
U33K	Whale Pass	90.12	33	P	P	P	08 34 54.8	-0.6
	baz=253							
I28M	Miner Creek	90.14	23	P	P	P	08 34 55.6	+0.2
	baz=247							
C26K	Camden Bay	90.32	18	P	P	P	08 34 55.9	-0.2
	baz=243							
M30M	Minto, Yukon	90.38	26	P	P	P	08 34 55.9	-0.6
	baz=250							
J29N	Klondike Camp	90.45	24	P	P	P	08 34 57.0	+0.2
	baz=249							
N31M	Braeburn, Yuko	90.46	27	P	P	P	08 34 56.8	-0.2
	baz=251							
K29M	Barlow Dome	90.51	25	P	P	P	08 34 57.2	0.0
	baz=249,SNR=8.7							
C27K	Jago River	90.56	19	IAmb	IAmb		08 35 02.2	
	comp=Z,9.8nm,1.0s							
C27K	Jago River	90.56	19	P	P	P	08 34 57.3	+0.1
	baz=244,SNR=8.1							
WHY	Whitehorse	90.61	28	P	P	P	08 34 57.4	-0.4
	baz=252							
WRAK	Wrangell Islan	90.62	33	P	P	P	08 34 57.1	-0.6
	baz=254							
E27K	Coleen River	90.64	20	IAmb	IAmb		08 35 02.7	
	comp=Z,6.3nm,1.0s							
E27K	Coleen River	90.64	20	P	P	P	08 34 58.0	+0.3
	baz=246,SNR=6.9							
V35K	Ketchikan	90.71	34	P	P	P	08 34 58.0	-0.2
	baz=254							
I29M	Ogilvie Camp,	90.74	23	P	P	P	08 34 58.5	+0.4
	baz=249							
P32M	Atlin	90.84	29	P	P	P	08 34 58.7	-0.1
	baz=253							
H29M	Whitestone	91.03	23	P	P	P	08 34 59.9	+0.4
	baz=249							
J30M	Hart River	91.25	24	P	P	P	08 35 00.9	+0.2
	baz=250							
D27M	Malcolm River	91.28	19	P	P	P	08 35 00.9	+0.3
	baz=246							
M31M	Drury Creek, Y	91.32	27	P	P	P	08 35 00.6	-0.3
	baz=252							
G29M	Pine Creek	91.41	22	P	P	P	08 35 01.4	+0.1
	baz=249							
P33M	Teslin, Yukon	91.45	29	P	P	P	08 35 01.8	+0.1
	baz=253							
I30M	Mount Dempster	91.45	24	P	P	P	08 35 01.8	+0.2
	baz=250							
E28M	Babbage River	91.51	20	P	P	P	08 35 02.2	+0.5
	baz=248							
N32M	Quiet Lake	91.60	28	P	P	P	08 35 02.4	+0.2
	baz=253							
S34M	Telegraph Cree	91.66	31	P	P	P	08 35 03.0	+0.4
	baz=255							
EPYK	Eagle Plains	91.71	23	P	P	P	08 35 02.8	+0.1
	baz=250							
U35K	Hyder	91.74	34	P	P	P	08 35 02.9	0.0
	baz=256							
FARO	Faro, Yukon	91.79	27	P	P	P	08 35 03.6	+0.5
	baz=253							
ELIB	Princess Elisa	91.81	194	*d*P	P	P	08 35 02.8	-0.5
BVAR	Borovoye Array	91.88	323	P	P	P	08 35 01.4	-2.3
	comp=Z,1.2nm,0.6s,baz=106,slow=5.3,SNR=4.0							
BVAR				LR	LR		09 18 32.1	
	comp=Z,97nm,18.0s,baz=84,slow=37							
	comp=Z,1.2nm,0.6s							
T35

BELA	Belgrano 2	92.70	179	P		P	08 35 05.3	-1.8
G31M	Satah River	92.81	22	P		P	08 35 07.3	-0.4
	baz=252							
F31M	Tsiigehtchic	93.16	22	P		P	08 35 09.6	+0.4
	baz=253							
WTLY	Watson Lake, Y	93.37	30	P		P	08 35 10.4	0.0
	baz=257							
INK	Inuvik	93.50	21	LR		LR	09 13 35.2	
	comp=Z,199nm,20.4s,baz=227,slow=33							
INK	Inuvik	93.50	21	P		P	08 35 10.0	-0.8
INK	Inuvik	93.50	21	P		P	08 35 10.6	-0.2
	baz=253							
YBH	Yreka Blue Hor	93.57	48	LR		LR	09 09 36.7	
	comp=Z,290nm,21.8s,baz=269,slow=31							
TGTN	Hyland Airport	93.94	28	P		P	08 35 12.7	-0.4
	baz=257							
TOAD	Toad River Com	94.90	31	P		P	08 35 17.2	-0.3
	baz=260							
KOTAN	Kotaneelee Air	95.70	30	P		P	08 35 21.0	-0.1
	baz=261							
NVAR	Mina Array Bea	96.44	52	P		P	08 35 24.7	-0.6
	comp=Z,1.0nm,1.0s,baz=259,slow=7.3,SNR=3.6							
NVAR				LR		LR	09 14 16.3	
	comp=Z,70nm,18.7s,baz=189,slow=33							
	comp=Z,1.0nm,1.0s							
WRGLY	Wrigley	96.45	27	P		P	08 35 24.7	+0.3
	baz=262							
A36M	Sachs Harbour	97.07	18	P		Pdif	08 35 27.2	+0.1
	baz=261							
C36M	Paulatuk	97.07	21	P		P	08 35 26.7	-0.3
	baz=262							
PFO	Pinyon Flats O	97.36	57	LR		LR	09 11 47.4	
	comp=Z,108nm,20.6s,baz=264,slow=31							
ABKAR	Akbulak array	97.76	319			P	08 35 28.2	-2.5
ABKAR	Akbulak array	97.76	319	IAmb		IAmb	08 35 34.4	
	comp=Z,2.0nm,0.8s							
NEW	Newport	98.32	42	LR		LR	09 13 25.4	
	comp=Z,304nm,20.6s,baz=266,slow=32							
AKTO	Aktyubinsk	99.10	320	LR		LR	09 21 06.3	
	comp=Z,76nm,20.8s,baz=132,slow=36							
ARTI	Arti	99.25	326	LR		LR	09 20 06.5	
	comp=Z,134nm,21.9s,baz=62,slow=35							
ARTI	Arti	99.25	326	*i* P		Pdif	08 35 38.5	+1.3
ARTI				pmax		pmax		
	comp=Z,3.0nm,1.0s							
YKA	Yellowknife Ar	100.44	28	P		Pdif	08 35 42.4	0.0
	comp=Z,0.5nm,1.0s,baz=278,slow=4.8,SNR=5.6							
OBN	Obninsk	111.60	326	*i* PKIKP		PKiKP	08 40 24.8	-5.0
OBN				*e*			08 41 11.7	
OBN				*e*PPP		PPP	08 43 31.2	
OBN				pmax		pmax		
	comp=Z,7.0nm,0.8s							
OBN				MLR		MLR		
	comp=Z,167nm,20.0s							
VYHS	Vyhne	124.22	323	*e*P		Pdif	08 37 24.3	-4.2
MODS	Modra-Piesok	125.19	324	*e*PKIKP		PKiKP	08 41 02.1	+5.5
MODS	Modra-Piesok	125.19	324	*e*PKP		PKiKP	08 41 02.1	+5.5
CLL	Collm	125.97	329	*e*PKIKP		PKPdf	08 40 55.0	-2.6
KHC	Kasperske Hory	126.89	326	*e i* PKIKP		PKPdf	08 40 59.4	-0.1
KHC				pmax		pmax		
	comp=Z,18nm,2.5s							
GERES	GERESS Array B	126.98	326	PKP		PKPdf	08 40 58.8	-0.9
	comp=Z,0.9nm,0.7s,baz=64,slow=4.8,SNR=4.5							
WLF	Walferdange	130.42	331	PKIKP		PKPdf	08 41 04.5	-1.6
LPAZ	La Paz	133.63	123	PKP		PKPdf	08 41 13.7	-0.2
	comp=Z,0.8nm,0.7s,baz=251,slow=4.4,SNR=4.2							
TAM	Tamanrasset	144.34	296	PKIKP		PKPbc	08 41 31.8	+0.7
BDFB	Brasilia	148.75	143	PKPbc		PKPbc	08 41 42.6	-1.5
	comp=Z,7.5nm,0.8s,baz=231,slow=6.5,SNR=6.3							

TXNET 17 08:27:34.1, 31°.1N±0°.7×103°.5W±0°.6, h3km±1km, ML2.0/7, Error ellipse: s-maj=1.1km s-min=0.8km az=164.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	Saragosa	0.04	211	P	Pg	08 27 35.3	+0.3
TPB03				S	Sg	08 27 36.4	+0.6
TPB04	Verhalen	0.20	70	P	Pg	08 27 38.3	+0.3
TPB04				S	Sg	08 27 41.8	+1.1
TPB16	Coyonosa	0.21	87	P	Pg	08 27 39.0	+0.9
TPB16				S	Sg	08 27 42.4	+1.6
TPB05	Hovey Rd	0.24	144	P	Pg	08 27 39.9	+1.1
TPB05				S	Sg	08 27 43.7	+1.8
TPB10	Southeast of T	0.28	307	P	Pb	08 27 41.1	-0.8
TPB10				S	Sb	08 27 45.9	-1.0
PCOS	Crockett Middl	0.29	357	S	Sg	08 27 45.4	+1.8
TPB01	Permian Basin	0.30	235	P	Pg	08 27 40.9	+1.0
TPB01				S	Sb	08 27 45.7	-1.8
PECS	Pecos	0.41	308	P	Pb	08 27 43.5	-0.5
PECS				S	Sb	08 27 49.5	-1.2
TPB12	Southwest of T	0.41	284	S	Sb	08 27 49.4	-1.4
TPB07	Mentone	0.49	342	P	Pg	08 27 44.2	+0.8
TPB08	Permian Basin	0.55	114	P	Pg	08 27 44.2	-0.4
TPB06	Permian Basin	0.58	24	S	Sg	08 27 53.9	+1.2
MNHN	Monahans	0.66	70	P	Pg	08 27 46.4	-0.4
MNHN				S	Sg	08 27 55.4	0.0
ALPN	Alpine	0.75	190	P	Pg	08 27 48.6	+0.2
ALPN				S	Sg	08 27 59.0	+0.8
TPB11	China Draw	0.94	331	S	Sb	08 28 05.8	-0.2
CLNB	Carlsbad	1.19	344	P	Pn	08 27 57.6	-0.1
TMB02	Rankin	1.25	86	S	Sg	08 28 13.4	-0.8
ODSA	Odessa	1.28	39	P	Pg	08 27 57.8	-0.9
ODSA				S	Sg	08 28 15.1	-0.3
VHRN	Van Horn	1.32	256	P	Pg	08 27 59.4	0.0
VHRN				S	Sn	08 28 17.5	-0.3
HTMS	Hat Mesa	1.36	355	P	Pn	08 28 00.0	0.0
TMB04	Seminole	1.73	29	P	Pn	08 28 05.3	+0.2
TMB04				S	Sb	08 28 28.7	0.0
TX31	Lajitas Ar. Si	1.78	185	P	Pb	08 28 07.3	-0.1
TX31				S	Sg	08 28 31.7	+0.3

HEL 17 08:31:15.5±0.4, 61°.10N×29°.93E, h0km, ML1.5, Suspected explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	Ruokolahti	0.57	305	PG	Pg	08 31 26.1	-0.4
RUF				SG	Sg	08 31 32.8	-1.2
RUF				MSG		08 31 33.9	
	comp=Z,4.5nm,0.2s						
VJF	Virojoki	1.29	245	PG	Pg	08 31 38.8	-1.4
VJF				MSG		08 31 54.4	
	comp=Z,5.4nm,0.2s						
VJF				SN	Sn	08 32 00.3	+1.7
FIA0	FINESS Array S	1.89	282	PG	Pn	08 31 49.4	+0.4
FIA0				MSG		08 32 11.7	
	comp=Z,2.0nm,0.2s						
FIA0				SG	Sg	08 32 15.6	-0.6
JOF	Joensuu	1.94	19	PG	Pn	08 31 50.4	+0.7
JOF				SG	Sb	08 32 16.4	-0.1
KAF	Kangasniemi	2.01	302	PG	Pb	08 31 52.1	-0.8
KAF				MSG		08 32 15.1	
	comp=Z,2.4nm,0.2s						
PVF	Pernaja	2.07	256	PG	Pn	08 31 52.5	+1.1
PVF				MSG		08 32 16.9	
	comp=Z,4.2nm,0.2s						
PVF				SG	Sg	08 32 21.3	-0.5
SUF	Sumiainen	2.42	314	PG	Pb	08 31 59.2	-0.6
SUF				MSG		08 32 27.0	
	comp=Z,1.1nm,0.2s						
SUF				SG	Sb	08 32 31.6	+1.5
NIF	Nilsia	2.51	338	SG	Sb	08 32 32.1	-0.6
KEF	Keuruu	2.64	296	PG	Pb	08 32 01.6	-2.1
KEF				MSG		08 32 33.5	
	comp=Z,1.5nm,0.2s						
KEF				SG	Sb	08 32 36.4	-0.1
NUR	Nurmijarvi	2.65	259	PG	Pb	08 32 03.2	-0.6
NUR				MSG		08 32 33.8	
	comp=Z,1.1nm,0.2s						

STR 17 08:38:23.3±0.5, 45°N±3°×°±°, h5km, MLv0.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=67.1, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.07	170	Pg	Pg	08 38 25.2	+0.1
SURF				Sg	Sg	08 38 26.7	+0.3
CREF	Crivoux	0.12	269	Pg	Pg	08 38 25.7	-0.2
CREF				Sg	Sg	08 38 27.7	+0.1
JAUF	Jausiers	0.13	195	Pg	Pg	08 38 26.1	+0.1
JAUF				Sg	Sg	08 38 28.0	+0.3
PZZ	Stroppo	0.23	101	Pg	Pg	08 38 27.9	-0.1
PZZ	Stroppo	0.23	101	Sg	Sg	08 38 31.1	+0.1
RRL	Rocca Remolon	0.37	360	Sg	Sg	08 38 35.9	+0.4
RRL	Rocca Remolon	0.37	360	Pg	Pg	08 38 30.4	-0.2

FIA0 17 08:57:16.6, 61°.25N×26°.14E, h0km, ML0.9, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA0	FINESS Array S	0.20	351	PG	Pg	08 57 20.1	-0.2
	comp=Z,412nm,0.1s						
FIA0				RG	Rg	08 57 23.9	
	comp=Z,12nm,0.6s						

HEL 17 08:58:07.2±0.2, 61°.86N×22°.52E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPF	Kankaanpaa	0.21	263	PG	Pg	08 58 10.6	-0.7
KPF	baz=79						
KPF				SG	Sg	08 58 13.7	-0.4
RAF	Rauma	0.91	204	PG	Pg	08 58 24.0	-0.6
RAF				MSG		08 58 35.5	
	comp=Z,2.0nm,0.2s						
RAF				SB	Sg	08 58 36.2	-0.3
KEF	Keuruu	1.15	73	PG	Pg	08 58 27.4	-1.8
KEF	baz=257						
KEF				MSG		08 58 42.2	
	comp=Z,1.7nm,0.2s						
KEF				SB	Sg	08 58 43.0	-1.2
VAF	Ylistaro	1.19	3	PG	Pg	08 58 28.7	-1.2
VAF	baz=184						
VAF				MSG		08 58 43.5	
	comp=Z,1.2nm,0.2s						
VAF				SB	Sg	08 58 44.2	-1.2
FIA0	FINESS Array S	1.75	102	PG	Pn	08 58 38.0	-0.7
FIA0	baz=287						
FIA0				MSG		08 58 59.3	
	comp=Z,1.2nm,0.2s						
FIA0				SN	Sn	08 59 01.3	-0.4
KAF	Kangasniemi	1.81	80	MSG		08 59 01.1	
KAF	comp=Z,1.2nm,0.2s						
KAF				SG	Sn	08 59 02.9	-0.2
MEF	Metsahovi	1.88	150	MSG		08 59 03.2	
MEF	comp=Z,2.4nm,0.2s						
MEF				SG	Sb	08 59 06.4	0.0
SUF	Sumiainen	1.90	61	PG	Pb	08 58 41.9	-0.9
SUF				MSG		08 59 03.7	
	comp=Z,1.3nm,0.2s						
SUF				SG	Sn	08 59 04.9	-0.6
PVF	Pernaja	2.09	128	MSG		08 59 09.1	
PVF	comp=Z,1.1nm,0.2s						
PVF				SG	Sb	08 59 12.2	-0.1
UMAU	Umeaa	2.20	338	SG	Sb	08 59 15.0	-0.5
OUF	Merijarvi	2.71	21	MSG		08 59 27.0	
	comp=Z,0.7nm,0.2s						
OUF				SB	Sb	08 59 28.8	-1.4
BURU	Burvik	2.78	350	SB	Sb	08 59 30.9	-1.4
RANF	Ranua	4.58	22	PG	Pb	08 59 26.8	-1.4

*RSNC **17** 09:13:27.1±0.9, 2°.5±6°×8°.1W±°, h0km, M4.3, mB5.2, mb4.6, ML3.7, Mw(mB)4.5*
*NEIC **17** 09:13:29.3±1.5, 2°.21S±0°.06×81°.01W±0°.04, h10km±1km, mb4.4/20, Error ellipse: s-maj=11.6km s-min=5.4km az=150.0*
*IDC **17** 09:13:29.9±1.0, 1°.30S×80°.00W, h0km, mb3.8/6, mbtmp3.8/9, ML3.6/3, MS3.6/7, Error ellipse: s-maj=89.4km s-min=18.2km az=67.0*
*IGQ **17** 09:13:31.6±0.4, 2°.5±2°×8°.1W±°, h4km±1km, MLv4.4/36*
*VAO **17** 09:13:41.1±1.1, 1°.92S×80°.24W, h42km±7km, mb4.5*
ISC 17 09:13:30.1±1.1, 2°.02S±0°.03×81°.02W±0°.05, h10km±7km, n163, σ1°99/162, mb4.4/13, MS3.5/4, 42C-8D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	Salinas	0.17	171	⇑P	Pg	09 13 36.8	+3.1
SALI				S	Sg	09 13 40.4	+4.2
ALIBE	La Libertad	0.28	142	⇑P	Pn	09 13 38.9	-1.3
ALIBE				S	Sb	09 13 46.4	+4.5
AGUAY	Guayaquil	1.07	92	P	Pg	09 13 49.6	-1.0
PU01	PU01	1.10	135	⇓P	Pn	09 13 50.9	-0.7
PU01				S	Sn	09 14 07.1	+0.3
AMNT	Manta-Manabi	1.11	15	S	Sg	09 14 03.5	-2.5
AMNT				P	Pg	09 13 49.2	-2.2
GYE3	Ecuador-Guayaq	1.13	97	P	Pg	09 13 50.8	-0.9
PU02	PU02	1.25	130	⇑P	Pg	09 13 54.9	+0.8
ARNL	Arenillas	1.79	148	⇑P	Pb	09 14 01.3	-1.6
AQUE	Quevedo	1.81	58	⇓P	Pn	09 14 00.9	-0.4
AQUE				S	Sn	09 14 24.7	+0.4
COHC	Cochancay	1.82	104		Pn	09 14 00.5	-0.9
COHC	Cochancay	1.82	104	⇑P	Pn	09 14 00.6	-0.9
COHC	Cochancay	1.82	104	P	Pn	09 14 00.5	-0.9
COHC				S	Sn	09 14 24.7	+0.2
MONB	Balzapamba Mon	1.84	82	⇑P	Pn	09 14 00.5	-1.3
JSCH	Cashca Tororas	2.06	82	⇓P	Pn	09 14 04.8	-0.3
CHSH	Refugio Sur-Vo	2.21	76	⇓P	Pn	09 14 07.3	-0.1
TAMH	Tambohuasha Ch	2.29	78	⇓P	Pn	09 14 08.1	-0.2
PORT	Chimborazo Vol	2.31	76	⇑P	Pn	09 14 09.2	+0.4
IGUA	Igualata	2.44	78	⇑P	Pn	09 14 11.2	+0.8
BMAS	Trigal station	2.59	79	⇑P	Pn	09 14 12.6	+0.2
BBIL	Ulba Tungurahu	2.59	77	⇑P	Pn	09 14 14.0	+1.5
ARRY	Arrayan	2.61	79	⇑P	Pn	09 14 13.7	+1.0
JUI6	Juive	2.62	77	⇑P	Pn	09 14 14.4	+1.7
ILLI	Illinizas Sur	2.63	60	P	Pn	09 14 13.0	-0.1
POND	Pondoa	2.63	77	⇑P	Pn	09 14 14.4	+1.5
BPAT	Tungurahua Vol	2.63	79	⇑P	Pn	09 14 14.2	+1.1
BULB	Ulba Tungurahu	2.67	77	⇑P	Pn	09 14 15.2	+1.6
PAST	Pastocalle	2.72	61	P	Pn	09 14 15.0	+0.7
SRAM	San Ramn-Vol	2.76	63	⇑P	Pn	09 14 15.2	+0.5
PIS1	Pisayambo	2.80	70	⇑P	Pn	09 14 17.2	+1.8
BV15	Puerto Quito-O	2.81	40	P	Pn	09 14 14.4	-0.8
BRRN	Barrancas-Volc	2.82	64	⇑P	Pn	09 14 17.0	+1.3
SLOR	San Lorenzo -	2.83	63		Pn	09 14 17.1	+1.3
SLOR	San Lorenzo -	2.83	63	⇑P	Pn	09 14 17.1	+1.3
CAMI	Rancho Maria	2.85	62	⇓P	Pn	09 14 18.1	+2.1
BMOR	Cotopaxi Volca	2.86	63	⇑P	Pn	09 14 17.7	+1.4
BNAS	Cotopaxi Volca	2.87	62	⇑P	Pn	09 14 19.3	+2.9
SUCR	Mariscal Sucre	2.87	61	P	Pn	09 14 17.9	+1.5
VCES	Cotopaxi	2.89	65	P	Pn	09 14 18.2	+1.5
BREF	Cotopaxi Volca	2.91	62	P	Pn	09 14 18.8	+1.8
BVC2	Cotopaxi Volca	2.94	63	⇑P	Pn	09 14 19.0	+1.7
BTAM	Cotopaxi Volca	2.94	63	⇑P	Pn	09 14 19.1	+1.7
VC1	Cotopaxi 1	2.95	62	⇑P	Pn	09 14 20.0	+2.5
TAMB	Tambo	2.96	64	⇑P	Pn	09 14 19.4	+1.8
PITA	Cotopaxi Volc	2.96	61	⇓P	Pn	09 14 19.2	+1.6
HPAL	Hacienda Las P	2.97	53	⇑P	Pn	09 14 17.9	+0.3
GGPT	Toaza - Volcan	2.99	53	⇑P	Pn	09 14 17.7	-0.2
TOMA	Boca Toma-Volc	2.99	60	P	Pn	09 14 19.7	+1.7
JUA2	San Juan 2	3.01	53	P	Pn	09 14 18.9	+0.6
TERV	Terraza Guagua	3.03	53	⇑P	Pn	09 14 18.5	-0.1
GGPC	Guagua Pichinc	3.04	53	⇑P	Pn	09 14 18.7	0.0
PUYO	Puyo, Santa Ro	3.04	80	⇑P	Pn	09 14 21.3	+3.0
PINO	Pino	3.04	52	⇑P	Pn	09 14 18.7	-0.1
YANA	Yana	3.09	52	⇑P	Pn	09 14 19.5	+0.1
PAC1	Pacto, Paraso	3.18	44	⇑P	Pn	09 14 19.2	-1.2
PAC1	Pacto, Paraso	3.18	44	P	Pn	09 14 19.3	-1.0
PAC1				S	Sb	09 15 06.5	+0.8
ANTS	Antisana-Sarah	3.22	62	⇑P	Pn	09 14 23.0	+1.6
PULU	Pululahua	3.23	51	P	Pn	09 14 22.0	+0.8
ANTI	Antisana	3.25	61	⇑P	Pn	09 14 23.9	+2.1
ARDO	Archidona, Ten	3.37	72	⇑P	Pn	09 14 25.1	+2.1
OTAV	Otavalo	3.41	49		Pn	09 14 23.8	+0.1
OTAV	Otavalo	3.41	49	⇑P	Pn	09 14 23.4	-0.3
OTAV	Otavalo	3.41	49	*e*P	Pn	09 14 22.5	-1.2
OTAV	Otavalo	3.41	49	P	Pn	09 14 24.4	+0.6
OTAV				S	Sb	09 15 11.9	-0.7
CUSE	Cuicocha Este	3.49	49	P	Pn	09 14 25.9	+1.0
CUSE	Cuicocha Este	3.49	49	P	Pn	09 14 25.5	+0.6
CUSW	Cuicocha Oeste	3.52	49	P	Pn	09 14 28.6	+3.4
CUIC	Cuicocha-Domo	3.52	49	⇓P	Pn	09 14 26.1	+0.9
COTA	Cotacachi	3.56	49	P	Pn	09 14 26.9	+1.0
IMBA	Imbabura, San	3.63	51	P	Pn	09 14 29.6	+2.9
CAYR	Refugio Cayamb	3.63	56	⇑P	Pn	09 14 29.9	+2.9
ANGU	Angureal	3.64	56	⇑P	Pn	09 14 29.3	+2.2
CAYA	Cayambe	3.67	56	⇑P	Pn	09 14 29.9	+2.4
URCU	Urcuqui	3.69	49	P	Pn	09 14 29.9	+2.4
YAHU	Yahuarcocha	3.79	51	P	Pn	09 14 31.4	+2.5
REVS	Reventador Sur	3.89	61	P	Pn	09 14 32.4	+2.2
LNGL	El Angel-Carch	4.08	48	P	Pn	09 14 35.4	+2.4
CHMA	Chilma	4.12	46	P	Pn	09 14 34.1	+0.8
CHL1	Volc¡n Chiles	4.15	48	⇑P	Pn	09 14 34.3	+0.2
ECEN	Cerro Negro	4.16	47	P	Pn	09 14 33.7	-0.4
CHL2	Volc¡n Chiles	4.18	48	⇑P	Pn	09 14 35.1	+0.7
TULM	Tulcn-Chalpat	4.22	50	P	Pn	09 14 37.8	+2.8
TULM	Tulcn-Chalpat	4.22	50	P	Pn	09 14 38.5	+3.5
TULM				S	Sb	09 15 40.9	+4.8
CASC	Dorado de Casc	4.26	60	P	Pn	09 14 38.7	+3.6
CMBC	Cumbal	4.34	47	P	Pn	09 14 39.6	+3.0
CMBC	Cumbal	4.34	47	P	Pn	09 14 39.4	+2.8
TUMC	Tumaco	4.45	31	Pn	Pn	09 14 38.6	+0.9
CRUC	La Cruz	5.41	49	P	Pn	09 14 54.4	+3.2
BBAC	Balboa, Cauca	5.51	43	P	Pn	09 14 52.2	-0.2
BBAC	Balboa, Cauca	5.51	43	P	Pn	09 14 52.2	-0.2
BBAC				S	Sn	09 16 02.0	+6.0
ATAH	Atahualpa	5.71	153	Pn	Pn	09 14 59.7	+4.3
	0.7nm,0.3s,baz=353,slow=7.9,SNR=6.4						
ATAH				Sn	Sn	09 16 01.6	+0.3
	0.6nm,0.3s,baz=356,slow=19,SNR=1.7						
ATAH				LR	LR	09 17 00.8	
	comp=Z,184nm,21.9s,baz=318,slow=35						
	11nm,0.7s						
GR1C	Gorgona, Isla	5.75	30	P	Pn	09 15 00.5	+5.0
POPC	Popayan, Colom	6.28	44	P	Pn	09 15 01.3	-1.7
FLOC	Florencia	6.45	56		Pn	09 15 04.9	-0.3
FLOC	Florencia	6.45	56	P	Pn	09 15 07.4	+2.2
	727nm78nm,1.2s						
FLOC	Florencia	6.45	56	P	Pn	09 15 07.8	+2.6
PTLC	Puerto Leguiza	6.59	71	P	Pn	09 15 05.7	-1.4
GARC	Garzon, Huila	6.93	53	P	Pn	09 15 15.8	+3.8
	52nm,1.2s						
MALC	Bahia Malaga	7.03	32	P	Pn	09 15 13.5	+0.3
BETC	Betania	7.27	50	P	Pn	09 15 21.2	+4.7
YOTC	Yotoco, Valle	7.58	38	P	Pn	09 15 23.7	+2.9
	304nm21nm,1.2s						
MACC	Macarena, Meta	8.28	60	P	Pn	09 15 32.6	+2.3
	452nm54nm,0.9s						
PRAC	Prado	8.37	47	P	Pn	09 15 33.0	+1.4
	24nm,1.4s						
URMC	La Uribe, Meta	8.45	52	P	Pn	09 15 36.4	+3.6
	674nm33nm,1.0s						
ANIL	Santa Ana	8.56	41	P	Pn	09 15 37.1	+2.6
GUY2C	Guyana, Caldas	9.15	38	P	Pn	09 15 43.5	+0.8
PAYG	Puerto Ayora	9.36	278	Pn	Pn	09 15 45.0	-0.2
ROSC	El Rosal	9.55	44	Pn	Pn	09 15 48.5	+0.3
NORC	Norcasia	9.72	39	P	Pn	09 15 53.0	+2.9
CHIC	Chingaza	9.83	48	P	Pn	09 15 57.1	+5.1
CZSB	Cruzeiro do Su	10.04	125		Pn	09 15 51.6	-2.8
CZSB	Cruzeiro do Su	10.04	125	*e*P	Pn	09 15 55.0	+0.5
NNA	Nana	10.73	158	Pn	Pn	09 16 00.4	-3.6
NNA	Nana	10.73	158	Pn	Pn	09 16 09.6	+5.7
	0.8nm,0.3s,baz=338,slow=11,SNR=1.4						
NNA				Sn	Sn	09 18 02.4	-1.9
	1.9nm,0.3s,baz=216,slow=22,SNR=5.5						
	4.6nm,0.3s						
TBTG	Tabatinga, AM	11.30	101		Pn	09 16 08.5	-3.2
TBTG	Tabatinga, AM	11.30	101	*e*P	Pn	09 16 10.6	-1.1
JTS	Las Juntas de	12.84	342	LR	LR	09 20 25.4	
	comp=Z,248nm,18.6s,baz=172,slow=33						
SDV	Santo Domingo	14.98	44	Pn	Pn	09 17 03.0	+0.7
SDV				IAmb	IAmb	09 17 27.1	
	comp=Z,7.5nm,0.8s						
SDV	Santo Domingo	14.98	44	*e*P	Pn	09 17 02.4	+0.1
TEFE	Tefe	16.43	96	*e*P	Pn	09 17 17.1	-3.9
LPAZ	La Paz	19.03	139	P	P	09 17 48.7	-4.3
LPAZ	La Paz	19.03	139	P	Pn	09 17 53.6	-0.1
	comp=Z,0.1nm,0.3s,baz=316,slow=13,SNR=5.5						
LPAZ				LR	LR	09 26 52.7	
	comp=Z,416nm,19.8s,baz=318,slow=42						
	comp=Z,0.7nm,0.7s						
LPAZ	La Paz	19.03	139	*e*P	Pn	09 17 54.9	+1.2
SAML	Samuel	19.03	112		P	09 17 50.1	-2.3
SAML				IAmb	IAmb	09 17 58.6	
	comp=Z,21nm,1.1s						
SAML	Samuel	19.03	112	*e*P	P	09 17 50.0	-2.5
PCRV	Puerto La Cruz	20.32	53	LR	LR	09 26 49.8	
	comp=Z,245nm,19.6s,slow=42						
MACA	Manacapuru-AM	20.34	94		P	09 18 05.4	-1.4
MACA	Manacapuru-AM	20.34	94	*e*P	P	09 18 05.8	+1.0
BOAV	Boa Vista	20.95	78	P	P	09 18 11.3	-2.2
BOAV	Boa Vista	20.95	78	*e*P	P	09 18 12.5	-0.9
GO01	Chusmiza	21.01	147	P	P	09 18 13.3	-1.1
GO01				IAmb	IAmb	09 18 29.5	
	comp=Z,15nm,1.1s						
SIV	San Ignacio	24.06	126	LR	LR	09 28 57.5	
	comp=Z,125nm,20.7s,baz=290,slow=39						
SJG	San Juan	24.79	36	LR	LR	09 30 46.2	
	comp=Z,76nm,18.1s,baz=246,slow=44						
ITTB	Itaituba	25.35	96	*e*P	P	09 18 58.0	+0.5
PTLB	Pontes e Lacer	25.37	123	*e*P	P	09 18 58.9	+1.2
PDRB	Porto dos Gac	25.90	113	*e*P	P	09 19 02.5	-0

RIZ	Raoul Island	1.59 262	P	Pn	09 23 47.0	+4.0
PKGZ	Pakihiroa	10.05 207	S	Sn	09 27 32.0	+1.2
HAZ	Te Kaha	10.08 209	P	Pn	09 25 39.2	-0.4
HAZ			S	Sn	09 27 35.4	+4.0
PUZ	Puketiti	10.16 206	P	Pn	09 25 39.4	-1.4
PUZ			S	Sn	09 27 33.4	-0.1
RUGZ	Raukumara Rang	10.30 208	P	Pn	09 25 42.0	-0.7
RUGZ			S	Sn	09 27 38.2	+1.2
TWGZ	Tauwhareparae	10.36 207	S	Sn	09 27 40.2	+1.8
CNGZ	Carnagh Statio	10.54 205	P	Pn	09 25 45.3	-0.6
CNGZ			S	Sn	09 27 44.4	+1.7
WCZ	Waipu Caves	10.59 227	P	Pn	09 25 55.7	+9.1
TKGZ	Te Karaka	10.64 207	S	Sn	09 27 45.8	+0.7
OUZ	Omahuta	10.67 232	P	Pn	09 25 57.3	+10
MWZ	Matawai	10.68 208	P	Pn	09 25 47.2	-0.6
MWZ			S	Sn	09 27 45.8	-0.3
URZ	Urewera	10.79 210	Pn	Pn	09 25 47.6	-1.7
	1.2nm,0.3s,baz=346,slow=4.5,SNR=6.5					
URZ			Sn	Sn	09 27 48.7	-0.1
	2.0nm,0.3s,baz=22,slow=20,SNR=6.6					
URZ	Urewera	10.79 210	P	Pn	09 25 48.3	-1.1
URZ			S	Sn	09 27 46.7	-2.1
RIGZ	Rimuhau	10.90 206	P	Pn	09 25 50.0	-1.0
RIGZ			S	Sn	09 27 52.7	+1.0
PRGZ	Paritu Road	11.05 205	P	Pn	09 25 48.0	-4.9
MUGZ	Murupara	11.12 210	P	Pn	09 25 52.7	-1.2
MUGZ			S	Sn	09 27 53.5	-3.5
SNGZ	Shannon Statio	11.13 207	P	Pn	09 25 54.9	+0.8
SNGZ			S	Sn	09 27 58.4	+1.1
MHGZ	Mahia Peninsul	11.24 204	P	Pn	09 25 54.2	-1.3
MHGZ			S	Sn	09 27 58.2	-1.7
BKZ	Black Stump Fm	11.81 209	P	Pn	09 26 01.3	-2.1
BKZ			S	Sn	09 28 12.4	-1.6
HIZ	Hauiti	12.06 216	Pn	Pn	09 26 03.6	-3.2
KAHZ	Kahuranaki	12.19 206	P	Pn	09 26 05.0	-3.5
KAHZ			S	Sn	09 28 20.5	-2.7
MSVF	Nonsavu	12.44 333	LR	LR	09 30 31.8	
	comp=Z,449nm,18.0s,baz=157,slow=36					
WAZ	Wanganui	12.96 212	P	Pn	09 26 18.5	-0.6
MRZ	Mangatainoka R	13.45 208	Pn	Pn	09 26 21.7	-4.0
MSWZ	Moikau Station	14.21 207	Pn	Pn	09 26 36.4	+0.2
TUWZ	Tuamarina	14.78 211	Pn	Pn	09 26 42.7	-1.1
RAR	Rarotonga	16.72 66	Pn	Pn	09 27 05.2	-3.8
	0.7nm,0.3s,baz=215,slow=12,SNR=1.4					
RAR			Sn	Sn	09 29 55.0	-19
	0.3nm,0.3s,baz=134,slow=23,SNR=1.9					
RAR			LR	LR	09 32 38.7	
	comp=Z,240nm,18.9s,baz=270,slow=33					
OXZ	Oxford	17.14 211	Pn	Pn	09 27 11.4	-2.7
OXZ			IAmb	IAmb	09 27 35.8	
	comp=Z,19nm,0.6s					
DZM	Mont Dzumac	17.17 290	Pn	P	09 27 13.8	-2.4
DZM	Mont Dzumac	17.17 290	Pn	P	09 27 14.9	-1.3
	comp=Z,0.6nm,0.3s,baz=123,slow=13,SNR=6.1					
DZM			LR	LR	09 32 59.2	
	comp=Z,219nm,18.5s,baz=142,slow=35					
	comp=Z,7.4nm,1.0s					
RPZ	Rata Peaks	17.89 212	P	P	09 27 25.9	+2.0
	comp=Z,1.1nm,0.3s,baz=0.0,slow=0.0,SNR=4.6					
	comp=Z,6.4nm,0.6s					
PPT	Papeete	26.86 71	LR	LR	09 37 21.1	
	comp=Z,136nm,19.4s,baz=223,slow=31					
ARMA	Armidale	27.99 259	P	P	09 29 03.8	-1.3
ARMA			IAmb	IAmb	09 29 28.8	
	comp=Z,16nm,1.4s					
EIDS	Eidsvold	29.34 269	P	P	09 29 16.2	-0.9
EIDS			IAmb	IAmb	09 29 43.6	
	comp=Z,11nm,1.1s					
HNR	Honiara	29.72 306	LR	LR	09 39 20.9	
	comp=Z,96nm,19.1s,baz=164,slow=33					
CAN	Canberra	30.07 249	P	P	09 29 21.4	-2.0
CAN			IAmb	IAmb	09 29 30.0	
	comp=Z,13nm,1.1s					
STKA	Stephens Creek	36.39 255	P	P	09 30 18.3	-0.2
STKA	Stephens Creek	36.39 255	P	P	09 30 21.1	+2.6
	comp=Z,4.5nm,0.7s,baz=94,slow=8.8,SNR=10					
STKA			LR	LR	09 43 50.6	
	comp=Z,231nm,18.6s,baz=61,slow=34					
	comp=Z,4.5nm,0.7s					
COEN	Coen	40.51 283	P	P	09 30 55.9	+2.6
COEN			IAmb	IAmb	09 30 56.9	
	comp=Z,6.6nm,0.8s					
BBOO	Buckleboo	40.92 252	P	P	09 30 55.6	-1.0
BBOO			IAmb	IAmb	09 31 19.0	
	comp=Z,12nm,1.0s					
AS31	Alice Springs	44.83 265		P	09 31 29.1	+0.8
ASAR	Alice Springs	44.83 265	P	P	09 31 29.0	+0.6
ASAR	Alice Springs	44.83 265	P	P	09 31 29.8	+1.4
	comp=Z,5.3nm,0.8s,baz=97,slow=6.9,SNR=44					
ASAR			PcP	PP	09 33 13.8	+0.4
	comp=Z,0.9nm,0.8s,baz=109,slow=4.2,SNR=4.1					
ASAR			LR	LR	09 50 06.1	
	comp=Z,201nm,18.4s,baz=96,slow=36					
	comp=Z,5.3nm,0.8s					
WR0	Warramunga Arr	45.52 270	P	P	09 31 35.8	+2.0
WR8	Warramunga Arr	45.55 270	P	P	09 31 35.0	+0.9
WR8			IAmb	IAmb	09 31 51.6	
	comp=Z,4.2nm,1.0s					
WB2	Warramunga Arr	45.69 270	P	P	09 31 37.0	+1.8
WB2			IAmb	IAmb	09 31 51.9	
	comp=Z,20nm,1.5s					
WRA	Warramunga Arr	45.70 270		P	09 31 36.7	+1.4
WRA	Warramunga Arr	45.70 270	P	P	09 31 36.8	+1.6
	comp=Z,2.5nm,0.5s,baz=108,slow=7.5,SNR=21					
	comp=Z,2.5nm,0.5s					
WB0	Warramunga Arr	45.72 270		P	09 31 37.5	+2.1
WB0			IAmb	IAmb	09 31 40.1	
	comp=Z,4.7nm,0.6s					
FORT	Forrest	47.98 253	P	P	09 31 53.3	+0.3
JAY	Jayapura	48.76 295	LR	LR	09 51 23.6	
	comp=Z,80nm,18.7s,baz=181,slow=35					
SBA	Scott Base	49.53 185	P	P	09 32 11.6	+7.4
VNDA	Vanda	49.62 186	P	P	09 32 11.4	+6.5
VNDA	Vanda	49.62 186	P	P	09 32 12.1	+7.2
	comp=Z,0.7nm,0.7s,baz=8.9,slow=7.0,SNR=4.3					
	comp=Z,0.7nm,0.7s					
MTN	Manton Dam	51.41 277	P	P	09 32 21.0	+1.8
MTN			IAmb	IAmb	09 32 40.7	
	comp=Z,3.3nm,0.8s					
KNRA	Kununurra	52.25 272	P	P	09 32 27.8	+2.3
KNRA			IAmb	IAmb	09 32 42.6	
	comp=Z,7.3nm,1.1s					
FITZ	Fitzroy Crossi	54.01 268	P	P	09 32 39.7	+1.3
GUMO	Guam	56.70 313	LR	LR	09 55 13.0	
	comp=Z,27nm,20.6s,baz=146,slow=34					
MBWA	Marble Bar	58.01 262	P	P	09 33 08.8	+1.8
MBWA			IAmb	IAmb	09 33 11.1	
	comp=Z,9.9nm,0.9s					
QSPA	South Pole Qui	61.08 180	P	P	09 33 34.5	+6.8
QSPA			IAmb	IAmb	09 34 03.6	
	comp=Z,4.4nm,0.9s					
QSPA	South Pole Qui	61.08 180	P	P	09 33 33.7	+6.1
	comp=Z,3.5nm,1.0s,baz=57,slow=4.2,SNR=4.7					
	comp=Z,3.5nm,1.0s					
GIRL	Giralia	62.20 258	P	P	09 33 37.2	+1.5
KAPI	Kappang	64.99 278	LR	LR	10 02 10.9	
	comp=Z,21nm,18.0s,baz=186,slow=36					
MJAR	Matsushiro Arr	78.07 324	P	P	09 35 14.7	+2.2
	comp=Z,1.9nm,0.7s,baz=156,slow=5.7,SNR=6.7					
	comp=Z,1.9nm,0.7s					
MYKOM	Kota Tinggi	82.14 276		P	09 35 39.0	+3.9
PLCA	Paso Flores	82.24 132	P	P	09 35 41.4	+6.1
	comp=Z,1.7nm,1.0s,baz=243,slow=4.5,SNR=3.7					
	comp=Z,1.7nm,1.0s					
KSRS	Korea Array	84.38 319	P	P	09 35 50.3	+4.3
	comp=Z,1.5nm,0.8s,baz=133,slow=5.2,SNR=6.1					
	comp=Z,1.5nm,0.8s					
PETK	Petropavlovsk-	84.91 345	P	P	09 35 51.0	+2.7
	comp=Z,3.9nm,0.8s,baz=139,slow=9.6,SNR=3.8					
	comp=Z,3.9nm,0.8s					
GRAC	Grapevine Rang	85.74 43	P	P	09 36 12.0	+19
GRAC			IAmb	IAmb	09 36 26.8	
	comp=Z,5.3nm,1.1s					
NVAR	Mina Array Bea	86.13 42	P	P	09 35 59.5	+4.4
	comp=Z,2.5nm,0.8s,baz=224,slow=8.5,SNR=20					
	comp=Z,2.5nm,0.8s					
RPSI	Rantau Prapat	86.88 275		P	09 36 02.1	+3.1
TUC	Tucson	86.99 50	P	P	09 36 18.7	+19
TUC			IAmb	IAmb	09 36 19.8	
	comp=Z,6.9nm,1.1s					
GSI	Gunungsitoli	87.38 273		P	09 36 06.0	+4.5
TXAR	Lajitas Array	90.28 56	P	P	09 36 19.8	+4.9
	comp=Z,0.9nm,0.9s,baz=211,slow=7.1,SNR=7.6					
	comp=Z,0.9nm,0.9s					
PDAR	Pinedale Array	94.03 43	P	P	09 36 36.6	+4.5
	comp=Z,0.9nm,1.0s,baz=199,slow=3.1,SNR=5.0					
	comp=Z,0.9nm,1.0s					
CMAR	Chiang Mai Arr	94.50 288	P	P	09 36 39.3	+4.8
	comp=Z,0.9nm,0.5s,baz=145,slow=3.8,SNR=9.4					
	comp=Z,0.9nm,0.5s					
ILAR	Eielson Array	96.24 12	P	P	09 36 44.6	+3.3
	comp=Z,0.9nm,0.7s,baz=222,slow=5.5,SNR=13					
	comp=Z,0.9nm,0.7s					
MKAR	Makanchi Array	118.13 310	PKP	PKiKP	09 42 03.0	+2.5
	comp=Z,0.7nm,0.8s,baz=84,slow=1.8,SNR=6.5					
KURBB	Kurchatov Arra	121.31 314	PKP	PKiKP	09 42 09.1	+2.5
	comp=Z,1.0nm,1.0s,baz=114,slow=1.9,SNR=6.0					
BVAR	Borovoye Array	126.55 316	PKP	PKiKP	09 42 19.6	+2.7
	comp=Z,0.9nm,0.6s,baz=117,slow=0.6,SNR=4.7					
ARCES	ARCESS Array B	137.58 349	PKP	PKiKP	09 42 39.7	+1.0
	comp=Z,3.0nm,1.0s,baz=350,slow=4.8,SNR=3.8					
FINES	FINESS Array B	144.39 342	PKP	PKiKP	09 42 50.1	-2.7
	comp=Z,3.4nm,0.6s,baz=33,slow=4.5,SNR=14					
KBZ	Khabaz	145.66 306	PKPbc	PKiKP	09 42 55.9	-0.1
	comp=Z,2.0nm,0.8s,baz=111,slow=8.6,SNR=3.7					
NB2	NORSAR Subarra	147.61 353	PKP	PKiKP	09 43 01.0	+1.5
	comp=Z,2.6nm,0.7s,baz=8.9,slow=2.9					
NOA	NORSAR Array B	147.61 353	PKPbc	PKiKP	09 42 59.8	+0.3
	comp=Z,4.4nm,0.8s,baz=13,slow=4.4,SNR=19					
HFS	Hagfors	148.19 351	PKPbc	PKPab	09 43 02.0	+0.1
	comp=Z,7.1nm,0.8s,baz=48,slow=2.2,SNR=16					
AKASG	Malin Array Be	151.14 326	PKPbc	PKPab	09 43 09.2	-5.1
	comp=Z,2.8nm,0.6s,baz=46,slow=2.9,SNR=8.8					
EKA	Eskdalemuir Ar	153.23 9	PKPbc	PKiKP	09 43 14.3	+3.0
	comp=Z,1.2nm,0.7s,baz=338,slow=1.5,SNR=4.3					
BRTR	Keskin Array B	153.33 301	PKPbc	PKiKP	09 43 15.7	+3.5
	comp=Z,1.0nm,0.9s,baz=95,slow=6.3,SNR=3.1					

UCR 17 09:38:13.1±0.8, 8.05N×83.40W, h8km±3km, MW4.2
UPA 17 09:38:14.6±1.0, 8.12N×83.36W, h14km±3km, MW4.2
ISC 17 09:38:13.8±1.9, 8.08N±0.08×83.31W±0.05, h18km±5km, n33, σ0s60/48, 19D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	Carate, Puerto	0.32	356	eP	Pg	09 38 20.9	+0.1
PIRO				eS	Sg	09 38 25.9	+0.4
PIRO	Carate, Puerto	0.32	356	eP	Pg	09 38 20.9	+0.1
PIRO				eS	Sb	09 38 26.3	+0.3
JIME	Puerto Jimenez	0.46	358	eP	Pg	09 38 23.2	+0.1
JIME				eS	Sb	09 38 30.6	+0.8
EDAD	Golfito	0.59	14	eP	Pb	09 38 25.2	-0.4
EDAD				eS	Sg	09 38 33.8	+0.4
LPPC	Paso Canoas	0.65	46	eP	Pg	09 38 26.8	+0.1
NELY	Ciudad Neily	0.67	32	eP	Pg	09 38 27.2	+0.1
NELY				eS	Sn	09 38 37.5	-1.0
FIMO	Fila Mora	0.91	357	eP	Pb	09 38 30.3	-0.8
FIMO				eS	Sb	09 38 42.9	0.0
DVD	David	0.92	67	eP	Pn	09 38 32.0	+0.1
DVD				eS	Sn	09 38 45.5	+0.8
BRU2	Volcan	0.94	41	eP	Pg	09 38 31.9	-0.2
BRU2				eS	Sn	09 38 45.5	+0.1
BRU2	Volcan	0.94	41	eP	Pg	09 38 32.0	-0.2
BRU2				eS	Sn	09 38 46.0	+0.6
EDP2	Potrero Grande	0.94	8	eP	Pb	09 38 31.2	-0.4
ALCO	Alturas Coton,	0.98	29	eP	Pb	09 38 32.2	-0.3
ALCO				eS	Sn	09 38 46.3	-0.2
BC3P	Paso Ancho	1.01	43	eP	Pn	09 38 33.0	-0.3
BC3P				eS	Sn	09 38 47.4	+0.2
PTAR3	Potrerillos Ar	1.01	53	eP	Pg	09 38 33.5	0.0
PTAR3				eS	Sn	09 38 47.3	+0.2
BURE	Buenos Aires	1.09	359	eP	Pb	09 38 33.6	-0.5
LNBQ3	Los Naranjos,	1.11	51	eP	Pn	09 38 34.6	-0.1
LNBQ3				eS	Sg	09 38 50.2	+0.1
SAJE	San Jernim	1.27	351	eP	Pn	09 38 35.9	-1.1
CHGR2	Aguacate	1.44	53	eP	Pb	09 38 39.6	-0.5
CHGR2				eS	Sg	09 38 58.8	-1.4
BUS1	Rivas	1.53	344	eP	Pn	09 38 40.0	-0.6
CEUA	Cerro Uatsi, L	1.57	13	eP	Pb	09 38 42.2	-0.3
QUEP	Quepos	1.59	328	eP	Pn	09 38 40.5	-0.6
BRIBI	Bribri	1.61	18	eP	Pb	09 38 42.9	0.0
LAES	El Progreso Va	1.69	9	eP	Pn	09 38 43.1	+0.6
LCR2	La Lucha 2	1.79	337	eP	Pn	09 38 43.4	-0.7
REPA	Paraso	1.82	342	eP	Pn	09 38 44.7	+0.2
RAFA	San Farael, Vo	1.93	345	eP	Pn	09 38 46.4	+0.3
CVTG	Turrialba Volc	1.96	347	eP	Pn	09 38 47.0	+0.3
TAAN	Batan	1.99	359	eP	Pn	09 38 48.1	+1.5
GMAL	Guarumal, Vera	2.08	99	eP	Pn	09 38 48.3	+0.4
CVTG	V. Turrialba,	2.10	347	eP	Pn	09 38 49.0	+0.7
VBV1	V. Barva	2.17	339	eP	Pn	09 38 49.6	+0.3
JTS	Las Juntas de	2.73	324	eP	Pn	09 38 57.3	+0.5
JTS				eS	Sn	09 39 28.9	-0.5
ACON	Acoyapa	4.28	335	eP	Pn	09 39 19.5	+1.4

IDC 17 09:39:38.0±7.0, 6.82S×149.12E, h107km±48km, mb3.5/1, mbtmp3.8/3, Error ellipse: s-maj=116.9km s-min=53.8km az=136.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.22	217	P	Pn	09 40 27.6	+0.7
	18nm,0.3s,baz=14,slow=12,SNR=12						
PMG				S	Sn	09 41 05.1	+0.5
	56nm,0.6s,baz=175,slow=16,SNR=6.5						
WRA	Warramunga Arr	19.39	226	P	P	09 43 54.4	-1.3
	1.2nm,0.4s,baz=53,slow=9.9,SNR=24						
ASAR	Alice Springs	22.23	219	P	P	09 44 27.2	+1.1
	1.4nm,0.4s,baz=49,slow=9.5,SNR=32						
	1.4nm,0.4s						
LPAZ	La Paz	136.57	122	PKP	PKPdf	09 58 48.4	-1.0
	0.5nm,0.3s,baz=224,slow=4.7,SNR=7.5						

HEL 17 09:46:53.8±0.1, 64.30N×28.04E, h0km, ML1.3, Explosion
IDC 17 09:46:54.6±2.0, 64.19N×28.65E, h0km, mbtmp2.7/2, ML1.7/2, Error ellipse: s-maj=45.1km s-min=9.3km az=95.0
ISC 17 09:46:52.6±0.8, 64.25N±0.02×28.09E±0.03, h0km, n31, σ1s23/47, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	Romuvaara	0.81	92	PB	Pb	09 47 09.5	+0.1
	baz=280						
RMF				MSG		09 47 19.5	
	comp=Z,2.2nm,0.2s						
RMF				SB	Sb	09 47 20.3	-0.5
NIF	Nilsia	0.88	188	PG	Pb	09 47 10.5	-0.1
NIF				SG	Sb	09 47 22.4	-0.4
OUL	Oulu	1.26	313	PN	Pg	09 47 16.8	+0.1
	baz=129						
OBF4	Vikkela, Lumij	1.41	295	PN	Pn	09 47 19.3	-0.1
OBF4				MSG		09 47 35.0	
	comp=Z,1.3nm,0.2s						
KU1	Kurvinen	1.46	25	PN	Pb	09 47 20.7	+0.1
KU1				SN	Sn	09 47 40.1	+0.2
KU2	Taivalkoski	1.46	2	PN	Pn	09 47 20.1	-0.1
KU2				SN	Sb	09 47 40.0	+0.2
OUF	Merijarvi	1.47	276	PG	Pn	09 47 19.9	-0.4
	baz=88						
OUF				MSG		09 47 37.1	
	comp=Z,3.5nm,0.2s						
OUF				SG	Sg	09 47 38.6	-1.0
OBF0	Syolatti, Pyha	1.69	280	PG	Pb	09 47 24.2	-0.3
OBF0				MSG		09 47 43.6	
	comp=Z,4.2nm,0.2s						
OBF0				SG	Sb	09 47 46.0	-0.3
MSF	Maaselka	1.71	13	SN	Sn	09 47 46.0	-0.2
SUF	Sumiainen	1.77	210	PG	Pg	09 47 26.1	-0.3
	baz=24						
SUF				MSG		09 47 47.5	
	comp=Z,1.8nm,0.2s						
SUF				SG	Sg	09 47 49.7	+0.4
RANF	Ranua	1.85	343	PG	Pb	09 47 27.1	-0.1
RANF				SN	Sn	09 47 50.2	+0.6
KU6	Riekki	1.94	22	PG	Pb	09 47 28.3	-0.4
KU6				MSG		09 47 50.6	
	comp=Z,2.0nm,0.2s						
KU6				SG	Sn	09 47 52.4	+0.7
JOF	Joensuu	1.97	131	PG	Pg	09 47 30.0	-0.2
JOF				SG	Sg	09 47 55.5	-0.2
OLKF	Oulanka, Finla	2.15	14	PG	Pb	09 47 32.0	-0.3
OLKF				MSG		09 47 56.5	
	comp=Z,1.3nm,0.2s						
OLKF				SG	Sb	09 47 58.7	-0.7
KAF	Kangasniemi	2.30	201	PG	Pb	09 47 35.2	+0.4
KAF				MSG		09 48 02.7	
	comp=Z,1.3nm,0.2s						
KAF				SG	Sg	09 48 05.4	-0.8
TOF	Tornio	2.43	321	MSG		09 48 04.0	
	comp=Z,0.5nm,0.2s						
TOF				SG	Sb	09 48 06.7	-0.7
RNF	Rovaniemi	2.52	341	SG	Sb	09 48 09.4	-0.7
KEF	Keuruu	2.55	216	PG	Pb	09 47 39.0	-0.2
KEF				MSG		09 48 09.7	
	comp=Z,1.1nm,0.2s						
KEF				SB	Sb	09 48 11.4	+0.4
KALU	Kalix	2.57	311	SG	Sb	09 48 11.5	-0.2
VAF	Ylistaro	2.71	246	PG	Pb	09 47 41.4	-0.4
VAF				MSG		09 48 13.3	
	comp=Z,0.9nm,0.2s						
VAF				SG	Sb	09 48 16.4	+1.0
BURU	Burvik	2.93	280	SG	Sb	09 48 22.4	+0.5
FIA0	FINESS Array S	2.97	199	PB	Pb	09 47 44.0	-2.2
FIA0				SB	Sb	09 48 21.8	-1.2
FIA0				MSG		09 48 22.2	
	comp=Z,0.6nm,0.2s						
FINES	FINESS Array B	2.97	199	Pn	Pb	09 47 44.4	-1.8
	comp=Z,0.2nm,0.3s,baz=20,slow=14,SNR=6.9						
FINES				Sn	Sb	09 48 22.8	-0.2
	comp=Z,0.4nm,0.3s,baz=23,slow=25,SNR=8.6						
	comp=Z,1.2nm,0.5s						
ERTU	Ertsjaerv	3.38	316	SG	Sb	09 48 35.5	+0.7
KLF	Kolari	3.44	332	SG	Sb	09 48 39.1	+2.4
PAJU	Pajala	3.46	326	SB	Sn	09 48 32.6	+3.2
VRF	Varrio	3.56	9	SB	Sb	09 48 38.2	-2.0
MEF	Metsahovi	4.40	205	SB	Sb	09 49 05.9	+1.6
LANU	Lannavaara	4.54	330	PB	Pb	09 48 08.7	-4.3
ARCES	ARCESS Array B	5.40	350	Pn	Pn	09 48 16.8	+2.5
	baz=171,slow=12,SNR=9.1						
ARCES				Sn	Sn	09 49 18.3	+1.3
	comp=Z,0.1nm,0.3s,baz=168,slow=22,SNR=1.6						
ARCES				Lg	Lg	09 49 45.8	
	comp=Z,0.2nm,0.3s,baz=162,slow=22,SNR=7.9						
	comp=Z,1.7nm,0.9s						
I37NO	I37NO	6.13	326	I	I	10 27 30.0	
	baz=138,slow=321,SNR=2.6						

UCR 17 09:55:46.5±1.4, 4.04N×82.83W, h10km, MW4.2
IDC 17 09:55:46.2±0.5, 3.92N×82.74W, h0km, mb4.3/16, mbtmp4.4/22, ML4.0/6, MS4.3/46, Error ellipse: s-maj=19.7km s-min=11.4km az=59.0
NEIC 17 09:55:48.5, 3.96N×83.00W, h14km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16 Nm; Mrr=0.49; Mθθ0.60; Mφφ-0.11; Mrθ1.11; Mθφ5.16; Mφr-1.93; Fault plane solution: M0 5.65000×10^16 NP1: φs269.79000°, δ70.57000°, λ-12.45000°. NP2: φs3.99000°, δ78.27000°, λ-160.14000°. Principal axes: T 5.4690, Plg5.0000°, Azm136.0000°; N 0.3525, Plg67.0000°, Azm33.0000°; P -5.8215, Plg22.0000°, Azm228.0000°;
NEIC 17 09:55:48.5, 3.96N×82.63W, h14km
NEIC 17 09:55:48.4±1.2, 3.97N±0.06×82.61W±0.07, h10km±1km, mb4.8/254, Mww5.1/18, Error ellipse: s-maj=12.5km s-min=10.1km az=240.0
CATAC 17 09:55:50.7±0.7, 4.7N±4.4×8.2W±.7, h1km, M5.2/12, mb5.3/12, mB5.5/7, MLv5.2/8, Mw(mB)5.0/7, MwMwp4.9/9, Mwp5.2/2, Error ellipse: s-maj=16.7km s-min=8.8km az=75.5, confirmed
UPA 17 09:55:50.6±1.5, 4.32N×82.74W, h6km±14km, MW4.9
GCMT 17 09:55:51.4±0.1, 3.94N±0.01×82.66W±0.01, h12km, MW5.1/135, Moment Tensor Solution. s91, c124; s135, c233; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.07±.09; Mθθ0.36±.08; Mφφ-0.28±.10; Mrθ0.04±.23; Mθφ5.59±.06; Mφr1.30±.22; Best double couple: M0 5.74800×10^16 NP1: φs92.00000°, δ77.00000°, λ0.00000°. NP2: φs182.00000°, δ90.00000°, λ-167.00000°. Principal axes: T 5.7820, Plg9.0000°, Azm316.0000°; N -0.0670, Plg77.0000°, Azm182.0000°; P -5.7150, Plg9.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 17 09:55:48.1±0.3, 4.00N±0.04×82.70W±0.04, h14km, n375, σ1s91/253, mb4.8/135, MS4.3/43, 2C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	El Cacao, Vera	3.79	29	eP	Pn	09 56 45.5	-0.6
CACAO				eS	Sn	09 57 24.4	-6.2
MARI3	Mariato, Verag	4.01	25	eP	Pn	09 56 47.9	-1.2
MARI3				eS	Sn	09 57 33.8	-2.1
GMAL	Guarumal, Vera	4.01	21	P	Pn	09 56 48.1	-1.1
GMAL				S	Sn	09 57 33.0	-3.1
GMAL	Guarumal, Vera	4.01	21	eP	Pn	09 56 48.0	-1.2
GMAL	Guarumal, Vera	4.01	21	eP	Pn	09 56 48.4	-0.8
GMAL				eS	Sn	09 57 33.0	-3.1
ACHO3	Achotines, Los	4.22	36	eP	Pn	09 56 51.2	-0.8
ACHO3				eS	Sn	09 57 38.9	-2.3
LOMA3	Las Lomas, Chi	4.42	4	eP	Pn	09 56 53.3	-1.4
LOMA3				eS	Sn	09 57 40.9	-5.0
DVD	David	4.42	3	eP	Pn	09 56 52.5	-2.2
DVD				eS	Sn	09 57 41.1	-4.9
PCRI3	Pocri, Los San	4.45	35	eP	Pn	09 56 54.7	-0.5
AZU	Azuero	4.47	32	eP	Pn	09 56 54.5	-1.0
AZU	Azuero	4.47	32	eP	Pn	09 56 55.4	-0.1
AZU				eS	Sn	09 57 43.9	-3.5
TUMC	Tumaco	4.52	118	Pn	Pn	09 56 54.8	-1.3
CHIT3	Chitre	4.54	30	eP	Pn	09 56 56.3	-0.1
CHIT3				eS	Sn	09 57 45.5	-3.5
CDITO	Canoas	4.55	358	P	Pn	09 56 54.2	-2.4
NELY	Ciudad Neily	4.63	357	eP	Pn	09 56 55.3	-2.4
EDAD	Golfito	4.65	354	eP	Pn	09 56 54.7	-3.2
CAL

VBV1 eS Sn 09 58 31.0 -0.3
SLOR San Lorenzo - 6.30 138 Pn 09 57 20.1 -0.9
CNTA3 Canitas, Panam 6.42 36 eP **Pn 09 57 22.3 0.0**
INDI Punta indio, G 6.46 335 S **Sn 09 58 36.5 +0.1**
INDI Punta indio, G 6.46 335 P **Pn 09 57 23.3 +0.5**
CMARA Lajas Hojancha 6.56 336 S **Sn 09 58 39.0 -0.1**
CMARA Lajas Hojancha 6.56 336 P **Pn 09 57 23.4 -0.9**
SOCE Pocosol 6.62 343 Pn 09 57 24.8 -0.3
SOCE Pocosol 6.62 343 P **Pn 09 57 25.1 0.0**
SOCE Pocosol 6.62 343 S **Sn 09 58 39.7 -0.8**
JTS Las Juntas de 6.64 340 Pn 09 57 24.9 -0.4
JTS Las Juntas de 6.64 340 Pn **Pn 09 57 24.6 -0.7**
28nm,0.3s,baz=84,slow=12,SNR=206
JTS Sn **Sn 09 58 39.5 -1.4**
15nm,0.3s,baz=266,slow=23,SNR=5.8
72nm,0.3s
JTS Las Juntas de 6.64 340 P **Pn 09 57 23.7 -1.6**
6µm4µm92nm,0.4s
JTS Las Juntas de 6.64 340 eP **Pn 09 57 23.5 -1.8**
JTS Las Juntas de 6.64 340 eP **Pn 09 57 24.7 -0.7**
JTS eS **Sn 09 58 34.9 -6.0**
COVE Coope Vega, Sa 6.89 346 P **Pn 09 57 28.3 -0.5**
COVE Coope Vega, Sa 6.89 346 S **Sn 09 58 44.8 -2.2**
QUEB Quebradon, Cot 6.93 342 eP **Pn 09 57 28.9 -0.5**
COHC Cochancay 7.29 152 Pn 09 57 31.2 -2.9
COHC Cochancay 7.29 152 P **Pn 09 57 31.8 -2.4**
2µm83nm,0.7s
FLOC Florencia 7.43 109 Pn 09 57 35.4 -0.9
BLUN Bluefields 8.03 352 P **Pn 09 57 43.2 -1.1**
36nm,0.6s
BLUN Bluefields 8.03 352 P **Pn 09 57 43.6 -0.8**
UREC San Jos de Ur 8.04 62 eP **Pn 09 57 46.0 +1.4**
UREC eS **Sn 09 59 13.0 -2.4**
ACON Acoyapa 8.29 343 Pn 09 57 48.5 +0.5
ACON Acoyapa 8.29 343 P **Pn 09 57 47.0 -1.0**
60nm,0.6s
ACON Acoyapa 8.29 343 S **Sn 09 59 19.6 -1.8**
ACON Acoyapa 8.29 343 P **Pn 09 57 48.3 +0.4**
ESPN Las Esperanzas 8.30 349 Pn 09 57 48.2 +0.2
ESPN Las Esperanzas 8.30 349 P **Pn 09 57 48.0 -0.1**
71nm,0.6s
ROSC El Rosal 8.39 84 Pn 09 57 47.9 -1.8
ROSC El Rosal 8.39 84 Pn **Pn 09 57 51.7 +1.9**
13nm,0.3s,baz=12,slow=4.1,SNR=9.1
ROSC Sn **Sn 09 59 27.6 +3.0**
baz=285,slow=22
ROSC LR LR 10 01 00.8
comp=Z,2µm,21.9s,baz=294,slow=37
24nm,0.3s
PAYG Puerto Ayora 8.89 239 Pn 09 57 57.0 +0.8
COPN Copaltepe 9.00 335 P **Pn 09 57 58.1 +0.4**
CNGN Cerro Negro 9.33 335 P **Pn 09 57 58.7 -3.6**
626nm,0.8s
MATN Matagalpa 9.43 340 P **Pn 09 58 04.6 +0.8**
CSGN Cosiguina Volc 10.13 332 P **Pn 09 58 15.4 +2.1**
CSGN S **Sn 10 00 07.7 +0.9**
LCND La Caada 10.58 331 P **Pn 09 58 20.9 +1.6**
PACA Pacayal 10.93 330 P **Pn 09 58 25.5 +1.2**
TGUH Tegucigalpa,Un 10.97 336 Pn 09 58 25.8 +1.0
SMRC Santa Marta, M 11.01 49 Pn 09 58 24.8 -0.4
TECO Alcaldia de Te 11.22 328 P **Pn 09 58 30.8 +2.6**
SCLA Alcaldia de Sa 11.33 329 P **Pn 09 58 31.9 +2.2**
PMON Piamonte 11.65 326 P **Pn 09 58 36.9 +2.7**
JAYA Jayaque - finc 11.68 326 P **Pn 09 58 37.4 +2.8**
ATAH Atahualpa 11.86 159 Pn **Pn 09 58 36.2 -1.2**
0.9nm,0.3s,baz=343,slow=5.1,SNR=5.3
ATAH Sn **Sn 10 00 49.4 -0.5**
0.3nm,0.3s,baz=350,slow=24,SNR=1.2
ATAH LR LR 10 02 57.3
comp=Z,8µm,19.2s,baz=335,slow=36
1.6nm,0.4s
MTO3 Montecristo 12.25 328 Pn 09 58 43.3 +0.9
ESQI Esquipulas 12.37 328 Pn 09 58 44.5 +0.5
SDV Santo Domingo 12.93 67 Pn 09 58 51.2 -0.6
SDV Santo Domingo 12.93 67 Pn **Pn 09 58 52.3 +0.6**
1.3nm,0.3s,baz=246,slow=13,SNR=17
SDV Sn **Sn 10 01 19.5 +3.8**
0.4nm,0.3s,baz=35,slow=22,SNR=1.4
SDV LR LR 10 03 36.2
comp=Z,3µm,21.9s,baz=246,slow=36
20nm,0.8s
SDV Santo Domingo 12.93 67 eP **Pn 09 58 53.5 +1.8**
HUEH Huehuetenango 14.20 323 Pn **Pn 09 59 10.8 +1.6**
MTDJ Mount Denham 15.02 19 Pn **Pn 09 59 20.5 +0.4**
TBTG Tabatinga, AM 15.15 122 Pn 09 59 20.5 -1.3
TBTG Tabatinga, AM 15.15 122 eP **Pn 09 59 20.7 -1.1**
CZSB Cruzeiro do Su 15.33 139 Pn 09 59 21.3 -3.0
CZSB Cruzeiro do Su 15.33 139 P **Pn 09 59 22.1 -2.2**
83nm,1.2s
CZSB Cruzeiro do Su 15.33 139 eP **Pn 09 59 20.8 -3.4**
BAUV El Baul 15.37 71 Pn 09 59 22.0 -2.7
NNA Nana 16.91 160 Pn 09 59 43.8 -0.9
NNA IAmb IAmb 09 59 50.7
comp=Z,70nm,1.1s
NNA Nana 16.91 160 Pn **Pn 09 59 43.0 -1.6**
comp=Z,2.2nm,0.3s,baz=347,slow=11,SNR=8.1
comp=Z,4.3nm,0.3s
NNA Nana 16.91 160 P **Pn 09 59 43.7 -0.9**
comp=Z,58nm,1.2s
TEIG Tepich 17.02 342 P **Pn 09 59 45.8 0.0**
comp=Z,4µmcomp=Z,74nm,2.0s
CHIV Chivirico 17.02 21 P **P 09 59 47.2 -0.5**
CHIV IAmb IAmb 09 59 51.9
comp=Z,28nm,1.1s
SDDR Presa de Saban 18.60 36 P 10 00 03.3 -1.9
SDDR IAmb IAmb 10 00 11.8
comp=Z,47nm,0.8s
PCRV Puerto La Cruz 18.94 70 P **Pn 10 00 10.1 +0.6**
comp=Z,0.5nm,0.3s,baz=217,slow=5.8,SNR=3.7
PCRV LR LR 10 08 56.5
comp=Z,1µm,19.7s,slow=42
comp=Z,22nm,1.1s
TEFE Tefe 19.53 112 eP **Pn 10 00 16.3 -0.4**
DR12 Loma Pena Alta 19.64 40 P **Pn 10 00 16.4 -1.5**
TLIG Tlapa 20.58 312 P 10 00 27.9 +1.0
CRPR Cabo Rojo, PR 20.66 46 P P 10 00 27.5 -0.1
CRPR IAmb IAmb 10 00 45.0
comp=Z,55nm,1.1s
PRSN Puerto Rico Se 20.77 46 IAmb IAmb 10 00 35.6
comp=Z,57nm,1.1s
OBIP Obispado Ponce 21.05 47 P P 10 00 31.6 -0.3
CELP Cerrillos 21.09 47 P P 10 00 32.0 -0.3
SJG San Juan 21.43 48 P P 10 00 37.2 +1.3
comp=Z,17nm,0.7s,baz=214,slow=4.3,SNR=6.2
SJG LR LR 10 09 04.4
comp=Z,194nm,21.8s,baz=242,slow=37
comp=Z,17nm,0.7s
BOAV Boa Vista 22.20 93 P **P 10 00 43.6 -0.6**
BOAV Boa Vista 22.20 93 eP **P 10 00 45.8 +1.6**
MACA Manacapuru-AM 23.12 108 eP **P 10 00 53.5 -0.6**
SAML Samuel 23.32 124 P **P 10 00 55.4 -0.6**
SAML Samuel 23.32 124 eP **P 10 00 55.4 -0.6**
LPAZ La Paz 24.77 145 P **P 10 01 09.2 -1.2**
LPAZ La Paz 24.77 145 P **P 10 01 11.0 +0.7**
comp=Z,65nm,1.2s,baz=326,slow=8.4,SNR=36
comp=Z,65nm,1.2s
LPAZ La Paz 24.77 145 P **P 10 01 11.2 +0.8**
LPAZ La Paz 24.77 145 eP **P 10 01 10.8 +0.4**
PB12 IPOC Station P 25.56 152 P **P 10 01 16.4 -0.5**
PB16 IPOC Station P 25.72 150 P **P 10 01 17.9 -0.9**
ZAIG Zacatecas 26.80 316 P **P 10 01 29.3 +1.0**
PB11 IPOC Station P 26.87 152 IAmb IAmb 10 01 58.8
comp=Z,40nm,1.2s
LRAL Lakeview Retre 29.17 353 P **P 10 01 49.6 +0.6**
SIV San Ignacio 29.19 133 P **P 10 01 49.8 +0.3**
comp=Z,1.4nm,0.7s,baz=276,slow=14,SNR=6.1
SIV LR LR 10 13 52.9
comp=Z,2µm,18.6s,baz=315,slow=37
comp=Z,1.4nm,0.7s
GOGA Godfrey 29.27 359 P **P 10 01 50.4 +0.5**
MDP Montagnes des 29.98 87 LR LR 10 14 14.9
comp=Z,963nm,18.7s,baz=274,slow=37
PDRB Porto dos Gac 30.13 121 eP **P 10 01 59.0 +1.2**
PTLB Pontes e Lacer 30.29 130 P **P 10 01 59.2 0.0**
PTLB Pontes e Lacer 30.29 130 eP **P 10 01 59.4 +0.2**
TKL Tuckaleechee C 31.52 358 LR LR 10 14 32.0
comp=Z,407nm,19.2s,baz=180,slow=36
V58A Windy Hill, Pi 31.81 6 P **P 10 02 12.6 +0.2**
V58A IAmb IAmb 10 02 16.3
comp=Z,10nm,1.0s
V48A Smith Brothers 31.82 354 IAmb IAmb 10 02 28.5
comp=Z,31nm,1.7s
MIAR Mount Ida 32.03 343 P 10 02 15.0 +0.7
MIAR IAmb IAmb 10 02 22.4
comp=Z,13nm,1.2s
TXAR Lajitas Array 32.10 324 P **P 10 02 16.2 +1.1**
TXAR Lajitas Array 32.10 324 P **P 10 02 16.3 +1.2**
comp=Z,1.3nm,0.9s,baz=141,slow=10,SNR=12
TXAR PcP **PcP 10 05 05.4 +1.0**
comp=Z,0.6nm,1.0s,baz=127,slow=4.0,SNR=3.7
comp=Z,1.3nm,0.9s
TX31 Lajitas Ar. Si 32.10 324 IAmb IAmb 10 02 45.6
comp=Z,18nm,1.8s
WHAR Wooly Hollow 32.38 345 IAmb IAmb 10 02 20.6
comp=Z,14nm,1.1s
LCAR Lake Charles 32.85 347 IAmb IAmb 10 02 32.7
comp=Z,13nm,1.0s
LPIG La Paz 33.28 309 LR LR 10 12 59.6
comp=Z,330nm,20.9s,baz=148,slow=31
S51A Beattyville 33.49 359 IAmb IAmb 10 02 34.6
comp=Z,9.8nm,0.7s
CGM3 Cape Girardeau 33.75 350 IAmb IAmb 10 02 44.9
comp=Z,22nm,1.6s
T42A Van Buren 33.77 348 IAmb IAmb 10 02 40.7
comp=Z,24nm,1.7s
VHRN Van Horn 33.94 324 IAmb IAmb 10 02 47.5
comp=Z,19nm,1.2s
TUL3 Leonard 33.98 341 P 10 02 32.5 +1.1
U38A Gravette 34.03 343 IAmb IAmb 10 02 40.0
comp=Z,11nm,1.0s
MGMO Mountain Grove 34.15 346 P P 10 02 32.9 +0.1
MGMO IAmb IAmb 10 02 41.3
comp=Z,13nm,1.1s
R50A Paris 34.16 358 IAmb IAmb 10 02 50.3
comp=Z,17nm,1.3s
R49A Shelbyville 34.21 357 IAmb IAmb 10 02 40.5
comp=Z,9.8nm,0.7s
HTMS Hat Mesa 34.45 328 P **P 10 02 35.2 -0.5**
SSFO Shawnee State 34.54 359 P **P 10 02 36.3 +0.2**
CCM Cathedral Cave 34.79 348 P **P 10 02 38.0 -0.2**
Q51A Peebles 34.87 359 IAmb IAmb 10 02 48.3
comp=Z,30nm,1.5s
MSTX Muleshoe 35.19 330 P **P 10 02 43.4 +1.4**
MSTX IAmb IAmb 10 02 53.4
comp=Z,13nm,1.0s
MURT Porto Murtinho 35.41 137 eP **P 10 02 45.6 +1.8**
P40A Paris 36.37 348 IAmb IAmb 10 03 03.5
comp=Z,14nm,1.2s
KSU1 Kansas State U 37.16 342 IAmb IAmb 10 03 08.6
comp=Z,18nm,0.9s
RTBA Rita Blanca 37.18 333 IAmb IAmb 10 03 03.6
comp=Z,22nm,1.5s
R32A Long Quarter, 37.25 339 IAmb IAmb 10 03 03.2
comp=Z,14nm,0.9s
H03N2 Juan Fernandez 37.41 175 T T 10 42 33.5
baz=354,slow=76,SNR=130
H03N1 Juan Fernandez 37.41 175 T T 10 42 30.5
baz=354,slow=76,SNR=236
H03N3 Juan Fernandez 37.42 175 T T 10 42 28.6
baz=354,slow=76,SNR=179
ANMO Albuquerque 37.86 327 P **P 10 03 06.1 +1.3**
ANMO IAmb IAmb 10 03 09.3
comp=Z,13nm,0.9s
ANMO Albuquerque 37.86 327 P **P 10 03 06.2 +1.3**
ANMO IAmb IAmb 10 03 09.3
comp=Z,14nm,1.0s
ANMO Albuquerque 37.86 327 LR LR 10 18 58.3
comp=Z,320nm,21.2s,baz=306,slow=37
CFA Coronel Fontan 37.99 160 P **P 10 03 06.1 +0.3**
comp=Z,1.8nm,0.7s,baz=330,slow=7.7,SNR=4.5
comp=Z,1.8nm,0.7s
T25A Trinidad 38.53 332 IAmb IAmb 10 03 18.1
comp=Z,22nm,1.1s
CPUP Villa Florida 38.89 142 P **P 10 03 12.2 -1.1**
comp=Z,1.6nm,0.7s,baz=332,slow=6.6,SNR=1.3
CPUP LR LR 10 22 26.2
comp=Z,695nm,18.3s,baz=326,slow=41
comp=Z,1.6nm,0.7s
MT08 Bocatoma Ro 39.12 163 IAmb IAmb 10 03 25.1
comp=Z,34nm,1.0s
MT09 Talagante 39.17 164 P **P 10 03 16.4 +0.7**
MT13 San Alfonso 39.33 164 P **P 10 03 16.9 -0.2**
LMEL Las Melosas 39.45 164 IAmb IAmb 10 03 30.7
comp=Z,31nm,1.1s
BO04 La Punta 39.47 164 P **P 10 03 18.7 +0.5**
BDFB Brasilia 39.49 120 LR LR 10 20 15.9
comp=Z,1µm,18.5s,baz=307,slow=37
SDCO Great Sand Dun 39.54 331 P **P 10 03 20.2 +1.2**
SDCO IAmb IAmb 10 03 23.6
comp=Z,16nm,1.0s
BO01 Tunca 39.72 165 IAmb IAmb 10 03 28.6
comp=Z,44nm,1.4s
BO02 Sierra Bellavi 40.18 165 P **P 10 03 23.9 -0.2**
BO02 IAmb IAmb 10 03 35.9
comp=Z,40nm,1.4s
H43A Windswept, Lux 40.55 354 IAmb IAmb 10 03 33.3
comp=Z,15nm,0.7s
MVCO Mesa Verde 40.65 328 IAmb IAmb 10 03 32.4
comp=Z,26nm,1.1s
ML02 Panimavida 40.94 166 P **P 10 03 30.3 +0.1**
SDBA SAO DESIDERIO 40.95 114 eP **P 10 03 32.0 +1.3**
WUAZ Wupatki 41.06 323 IAmb IAmb 10 03 35.9
comp=Z,15nm,1.0s
BRIGG Briggsdale 41.30 335 IAmb IAmb 10 03 41.3
comp=Z,24nm,1.0s
PV15 Paradox Valley 41.48 329 IAmb IAmb 10 03 52.4
comp=Z,21nm,1.1s
PV13 Radium Mtn., P 41.52 328 IAmb IAmb 10 03 44.9
comp=Z,20nm,0.9s
PV07 Paradox Valley 41.64 329 IAmb IAmb 10 03 40.5
comp=Z,18nm,1.1s
ITQB Itaqui 41.78 145 eP **P 10 03 40.3 +3.0**
BI02 San Fabin de 41.84 166 P 10 03 37.8 +0.1
PV23 Carpenter Ridg 41.84 329 IAmb IAmb 10 03 54.2
comp=Z,21nm,1.0s
SPMN Marine on St. 42.01 349 P **P 10 03 38.7 -0.2**
U15A North Rim 42.22 324 IAmb IAmb 10 03 48.0
comp=Z,28nm,1.6s
JANB Januaria 42.48 117 eP **P 10 03 44.6 +1.4**
PFO Pinyon Flats O 43.09 317 LR LR 10 20 42.8
comp=Z,514nm,19.1s,baz=108,slow=35
SRU San Rafael Swe 43.12 328 IAmb IAmb 10 03 52.1
comp=Z,20nm,1.0s
F33A 5 Mile Ranch, 43.33 346 IAmb IAmb 10 03 57.2
comp=Z,35nm,1.6s
CPSB Cacapava Do Su 44.19 143 eP **P 10 03 58.3 +1.5**
BSUT Blindstream Ca 44.29 329 IAmb IAmb 10 04 15.3
comp=Z,14nm,1.1s
TBO Thunder Bay 44.85 354 IAmb IAmb 10 04 09.7
comp=Z,20nm,1.1s
TPNV Topopah Spring 44.97 321 IAmb IAmb 10 04 14.8
comp=Z,15nm,1.6s
PLTB Pedras Altas 45.07 144 eP **P 10 04 06.2 +2.4**
S11A Rachel 45.10 322 IAmb IAmb 10 04 10.1
comp=Z,19nm,1.2s
PDAR Pinedale Array 45.39 332 P **P 10 04 07.7 +1.1**
PDAR Pinedale Array 45.39 332 P **P 10 04 07.4 +0.9**
comp=Z,2.1nm,0.9s,baz=134,slow=8.5,SNR=13
PDAR PcP **PcP 10 05 47.1 +1.3**
comp=Z,0.5nm,0.7s,baz=229,slow=2.7,SNR=4.3
PDAR LR LR 10 24 45.7
comp=Z,303nm,19.0s,baz=138,slow=38
comp=Z,2.1nm,0.9s
HWUT Hardware Ranch 45.49 329 P 10 04 08.5 +1.2
HWUT IAmb IAmb 10 04 15.1
comp=Z,16nm,0.9s
AGMN Agassiz Nation 45.56 348 P **P 10 04 07.8 +0.3**
GRAC Grapevine Rang 45.70 320 IAmb IAmb 10 04 13.1
comp=Z,12nm,1.2s
BGU Big Grassy Mou 45.76 328 P **P 10 04 10.2 +0.8**
BGU IAmb IAmb 10 04 25.2
comp=Z,11nm,1.0s
PLCA Paso Flores 45.88 167 P **P 10 04 10.1 -0.1**
PLCA Paso Flores 45.88 167 P **P 10 04 10.2 -0.1**
comp=Z,1.8nm,0.6s,baz=340,slow=10,SNR=3.3
comp=Z,1.8nm,0.6s
PLCA Paso Flores 45.88 167 eP **P 10 04 11.4 +1.2**
SNOW Snow King Moun 46.49 332 IAmb IAmb 10 04 34.1
comp=Z,17nm,1.4s
LOHW Long Hollow 46.53 332 IAmb IAmb 10 04 37.4
comp=Z,20nm,2.0s
TPAW Teton Pass 46.60 332 IAmb IAmb 10 04 32.8
comp=Z,18nm,1.4s
FXWY Fox Creek 46.75 332 IAmb IAmb 10 04 31.8
comp=Z,17nm,1.8s
ELK Elko 46.84 326 P 10 04 19.1 +1.1
ELK Elko 46.84 326 LR LR 10 23 22.5
comp=Z,389nm,21.5s,baz=78,slow=35
NV11 Mina Array Sit 47.07 322 IAmb IAmb 10 04 23.7
comp=Z,8.5nm,1.1s
NVAR Mina Array Bea 47.16 321 P 10 04 22.3 +1.8
NVAR Mina Array Bea 47.16 321 P **P 10 04 20.8 +0.3**
comp=Z,6.0nm,1.0s,baz=138,slow=7.3,SNR=20
NVAR LR LR 10 24 04.9
comp=Z,453nm,19.4s,baz=160,slow=36
comp=Z,6.0nm,1.0s
LHV Little Huntoon 47.18 321 IAmb IAmb 10 04 24.7
comp=Z,13nm,1.1s
ULM Lac du Bonnet 47.42 349 IAmb IAmb 10 04 34.5
comp=Z,8.1nm,0.9s
ULM Lac du Bonnet 47.42 349 P **P 10 04 21.9 -0.1**
comp=Z,2.4nm,0.5s,baz=164,slow=9.2,SNR=5.4
comp=Z,2.4nm,0.5s
RYN Ryan 47.42 321 IAmb IAmb 10 04 39.6
comp=Z,7.5nm,1.2s
YMR Madison River 47.51 333 IAmb IAmb 10 04 46.5
comp=Z,11nm,1.3s
RCBR Riachuelo 47.74 102 LR LR 10 24 17.5
comp=Z,162nm,20.6s,baz=282,slow=36
YHL Hebgen Lake 47.75 333 IAmb IAmb 10 04 29.9
comp=Z,8.7nm,1.0s
DGMT Dagmar 47.98 341 P 10 04 27.5 +1.0
HLID Hailey 48.36 329 IAmb IAmb 10 04 34.5
comp=Z,10nm,1.4s
MFID Camas Ranch 48.99 328 IAmb IAmb 10 04 40.0
comp=Z,13nm,1.3s
ORV Oroville 49.84 321 IAmb IAmb 10 04 44.7
comp=Z,9.5nm,1.1s
J08A Circle Bar Ran 50.38 326 IAmb IAmb 10 04 58.0
comp=Z,11nm,1.3s
F10A Beach Ranch, E 51.48 330 IAmb IAmb 10 04 58.2
comp=Z,14nm,1.3s
YBH Yreka Blue Hor 51.84 322 LR LR 10 27 02.4
comp=Z,445nm,19.6s,baz=148,slow=36
G08A Pilot Rock 51.91 328 IAmb IAmb 10 05 23.8
comp=Z,18nm,1.6s
LNOR Lincton Mounta 51.95 329 IAmb IAmb 10 05 08.3
comp=Z,9.7nm,1.1s
FFC Flin Flon 52.94 346 P 10 05 05.0 +1.1
NEW Newport 53.03 332 LR LR 10 28 13.6
comp=Z,337nm,21.0s,baz=132,slow=37
MXC Moxie City 53.46 328 IAmb IAmb 10 05 12.1
comp=Z,11nm,1.0s
LTY Liberty 54.10 329 IAmb IAmb 10 05 17.8
comp=Z,15nm,1.3s
RKT Rikitea 57.66 240 eS **S 10 13 32.7 -4.1**
comp=Z,758nm,34.8s
RKT eLR LR 10 22 23.5
comp=Z,3µm,32.5s
TAOE Nuku Hiva Isla 58.68 257 eS **S 10 13 47.0 -3.6**
comp=Z,53nm,31.4s
TAOE eLR LR 10 23 05.3
comp=Z,328nm,23.7s
USHA Ushuaia 59.81 171 LR LR 10 29 34.5
comp=Z,143nm,18.0s,baz=152,slow=34
FRB Frobisher Bay 60.51 7 LR LR 10 30 53.5
comp=Z,308nm,21.6s,baz=202,slow=35
BBB Bella Bella 60.94 330 LR LR 10 33 36.7
comp=Z,97nm,18.1s,baz=136,slow=37
YKAW1 Yellowknife Wh 62.92 344 IAmb IAmb 10 06 21.7
comp=Z,7.8nm,0.8s
YKA Yellowknife Ar 62.97 344 P **P 10 06 14.6 +0.6**
comp=Z,7.3nm,1.1s,baz=142,slow=6.5,SNR=41
YKA LR LR 10 34 07.9
comp=Z,117nm,21.5s,baz=37,slow=36
comp=Z,7.3nm,1.1s
YKAW3 Yellowknife Wh 63.02 344 IAmb IAmb 10 06 23.1
comp=Z,40nm,1.6s
ILON Igloolik, Nuna 65.28 0 P 10 06 30.0 +0.9
ILON IAmb IAmb 10 06 35.5
comp=Z,6.5nm,1.0s
DLBC Dease Lake 65.51 335 LR LR 10 37 16.2
comp=Z,283nm,20.6s,baz=112,slow=38
BBTS Babate 65.95 76 LR LR 10 32 44.0
comp=Z,134nm,21.3s,baz=141,slow=34
WRGLY Wrigley 66.17 341 IAmb IAmb 10 06 43.3
comp=Z,8.5nm,1.0s
SFJD Kangerlussuaq 66.68 13 LR LR 10 34 32.6
comp=Z,142nm,21.9s,baz=217,slow=35
PPT Papeete 69.33 250 LR LR 10 29 13.1
comp=Z,551nm,19.8s,baz=88,slow=29
PPT2 Papeete2 69.34 250 eS S 10 15 53.1 -10
comp=Z,58nm,24.5s
PPT2 eSS **SS 10 20 23.3 -6.7**
comp=Z,56nm,27.0s
PPT2 eLR LR 10 27 45.6
comp=Z,741nm,28.2s
PPT2 eLR LR 10 27 47.4
comp=Z,929nm,25.5s
O30N Mendenhall 69.37 335 IAmb IAmb 10 07 05.6
comp=Z,8.1nm,1.0s
UMMG Uummannaq 69.44 10 i P **P 10 06 56.5 +1.1**
UMMG IAmb IAmb 10 06 59.5
comp=Z,14nm,1.1s
TBI Tubuai 70.46 244 eS S 10 16 08.0 -7.6
comp=Z,429nm,25.2s
TBI Tubuai 70.46 244 eLR LR 10 28 03.6
comp=Z,785nm,28.0s
TBI eLR LR 10 28 19.2
comp=Z,4µm,27.8s
M30M Minto, Yukon 70.59 337 IAmb IAmb 10 07 12.4
comp=Z,12nm,1.4s
ICESG Greenland Ices 70.95 15 i P **P 10 07 05.5 +0.3**
ICESG IAmb IAmb 10 07 08.2
comp=Z,6.4nm,0.6s
RES Resolute Bay 70.98 357 LR LR 10 39 28.2
comp=Z,168nm,18.3s,baz=74,slow=37
M29M Somme Creek 71.20 336 IAmb IAmb 10 07 26.2
comp=Z,9.1nm,1.2s
L29M L29M 71.39 337 IAmb IAmb 10 07 10.8
comp=Z,9.3nm,1.2s
H31M Peel River 71.44 340 IAmb IAmb 10 07 24.4
comp=Z,18nm,1.4s
J30M Hart River 71.47 338 IAmb IAmb 10 07 17.9
comp=Z,11nm,1.2s
I30M Mount Dempster 71.83 339 IAmb IAmb 10 07 18.9
comp=Z,10nm,1.3s
J29N Klondike Camp 72.10 338 IAmb IAmb 10 07 21.2
comp=Z,21nm,1.7s
DAWY Dawson 72.36 337 IAmb IAmb 10 07 40.9
comp=Z,8.5nm,1.4s
INK Inuvik 72.63 342 LR LR 10 42 14.8
comp=Z,166nm,19.0s,baz=227,slow=38
BCAR Beaver Creek A 72.84 336 P 10 07 17.5 +1.3
L27K Beaver Creek, 72.86 336 IAmb IAmb 10 07 26.0
comp=Z,12nm,1.4s
A36M Sachs Harbour 72.87 347 P 10 07 16.8 +0.6
GLB Gilahina Butte 73.00 334 IAmb IAmb 10 07 35.4
comp=Z,14nm,1.3s
I28M Miner Creek 73.23 338 IAmb IAmb 10 07 33.9
comp=Z,20nm,1.7s
G29M Pine Creek 73.29 340 IAmb IAmb 10 07 27.7
comp=Z,8.1nm,0.8s
K27K Chicken 73.39 337 IAmb IAmb 10 07 47.3
comp=Z,20nm,1.8s
MENT Mentasta 73.58 335 IAmb IAmb 10 07 30.1
comp=Z,4.5nm,0.6s
SUMG Summit 73.66 13 P 10 07 21.2 -0.2
SUMG Summit 73.66 13 i P **P 10 07 21.0 -0.4**
SUMG IAmb IAmb 10 07 24.8
comp=Z,5.3nm,0.7s
KLU Klutina 73.96 334 IAmb IAmb 10 07 27.9
comp=Z,9.1nm,1.2s
DOT Dot Lake 74.02 336 IAmb IAmb 10 07 32.0
comp=Z,5.3nm,0.7s
E29M Blow River 74.02 342 IAmb IAmb 10 07 32.5
comp=Z,9.9nm,1.4s
J26L Joseph Creek 74.18 337 IAmb IAmb 10 07 33.3
comp=Z,6.2nm,0.8s
H27K Steamboat Moun 74.18 339 IAmb IAmb 10 07 34.2
comp=Z,18nm,1.6s
RIDG Independent Ri 74.37 336 IAmb IAmb 10 07 34.0
comp=Z,9.0nm,1.0s
BORG Borgarnes 74.48 23 LR LR 10 35 22.8
comp=Z,188nm,21.6s,baz=194,slow=32
G27K Doyon Strip 74.49 339 IAmb IAmb 10 07 33.6
comp=Z,10nm,1.4s
E28M Babbage River 74.65 341 IAmb IAmb 10 07 35.4
comp=Z,9.5nm,1.3s
KNK Knik Glacier 75.07 333 IAmb IAmb 10 07 37.8
comp=Z,16nm,1.1s
E27K Coleen River 75.12 341 IAmb IAmb 10 07 38.6
comp=Z,14nm,1.4s
NEEM North Greenlan 75.32 7 i P **P 10 07 30.4 -0.5**
NEEM IAmb IAmb 10 07 36.0
comp=Z,6.8nm,0.7s
D27M Malcolm River 75.42 342 IAmb IAmb 10 07 40.5
comp=Z,13nm,1.4s
HDA Harding Lake 75.49 336 IAmb IAmb 10 07 39.8

comp=Z,4.9nm,0.7s
ILAR Eielson Array 75.60 337 P 10 07 33.9 +1.7
ILAR Eielson Array 75.60 337 P **P 10 07 33.4 +1.1**
comp=Z,1.2nm,0.9s,baz=119,slow=3.6,SNR=9.1
ILAR LR LR 10 43 17.9
comp=Z,190nm,20.6s,baz=108,slow=38
comp=Z,1.2nm,0.9s
KDAK Kodiak Island 75.98 329 LR LR 10 41 12.8
comp=Z,125nm,21.3s,baz=301,slow=36
MCK McKinley 76.06 335 P 10 07 36.8 +1.8
H24K Noodor Dome 76.38 337 IAmb IAmb 10 07 46.7
comp=Z,11nm,1.2s
E25K Arctic Village 76.42 340 IAmb IAmb 10 07 46.6
comp=Z,20nm,1.8s
C27K Jago River 76.46 342 IAmb IAmb 10 08 04.8
comp=Z,14nm,1.4s
G24K Hadweenzic Riv 76.55 338 IAmb IAmb 10 08 05.0
comp=Z,14nm,1.4s
SKT Skwentna 76.64 333 IAmb IAmb 10 07 47.8
comp=Z,6.9nm,0.8s
I23K Minto, Yukon-K 76.72 337 IAmb IAmb 10 07 48.7
comp=Z,18nm,1.6s
D25K Kavik River 77.18 341 IAmb IAmb 10 07 50.5
comp=Z,12nm,1.4s
CAST Castle Rocks 77.30 334 IAmb IAmb 10 07 49.8
comp=Z,4.9nm,0.7s
DBIC Dimbokro 77.48 84 P **P 10 07 45.0 +1.0**
comp=Z,4.7nm,0.9s,baz=242,slow=10,SNR=3.6
DBIC LR LR 10 39 52.2
comp=Z,99nm,20.7s,baz=241,slow=34
comp=Z,4.7nm,0.9s
G23K Bananza Creek 77.50 338 IAmb IAmb 10 07 51.7
comp=Z,11nm,1.4s
I21K Tanana 77.78 336 IAmb IAmb 10 08 03.1
comp=Z,12nm,1.4s
E23K Chandalar 77.81 339 IAmb IAmb 10 07 54.4
comp=Z,13nm,1.3s
J20K Nowinta River 78.39 335 P 10 07 49.6 +1.6
D23K Nanushuk River 78.49 340 IAmb IAmb 10 07 58.9
comp=Z,17nm,1.6s
C23K Itkillik River 78.75 341 IAmb IAmb 10 07 59.3
comp=Z,20nm,1.8s
G21K Allakaket 78.76 337 IAmb IAmb 10 07 59.3
comp=Z,19nm,1.6s
ESDC Sonseca Array 78.79 51 P **P 10 07 51.5 +0.7**
comp=Z,1.5nm,0.6s,baz=269,slow=5.2,SNR=9.7
comp=Z,1.5nm,0.6s
F21K Alatna River 78.95 338 IAmb IAmb 10 08 00.4
comp=Z,12nm,1.2s
RAR Rarotonga 79.44 248 LR LR 10 33 52.8
comp=Z,269nm,21.9s,baz=96,slow=29
E21K Killik River 79.47 339 IAmb IAmb 10 08 11.0
comp=Z,14nm,1.5s
H19K Roundabout Mou 79.67 336 IAmb IAmb 10 08 04.8
comp=Z,14nm,1.6s
B22K Teshekpuk Lake 79.83 341 IAmb IAmb 10 08 13.7
comp=Z,8.9nm,1.1s
L16K Owhat River 80.23 332 IAmb IAmb 10 08 07.8
comp=Z,14nm,1.2s
J17K VABM Dome 80.35 334 IAmb IAmb 10 08 08.2
comp=Z,14nm,1.2s
JMIC Jan Mayen 81.11 19 LR LR 10 41 07.7
comp=Z,35nm,21.8s,baz=250,slow=34
TORD Torodi Ar. Bea 83.65 77 P 10 08 16.7 -0.4
TORD IAmb IAmb 10 08 24.9
comp=Z,9.1nm,1.6s
SPITS Spitsbergen Ar 87.97 12 LR LR 10 47 08.6
comp=Z,100nm,21.9s,baz=236,slow=35
NOA NORSAR Array B 88.43 29 LR LR 10 44 33.7
comp=Z,90nm,20.7s,baz=265,slow=33
DAVOX Davos/Dischmat 88.88 43 LR LR 10 43 54.2
comp=Z,99nm,19.6s,baz=250,slow=32
KEST Kesra 89.35 54 LR LR 10 45 45.5
comp=Z,70nm,19.4s,baz=302,slow=34
HFS Hagfors 89.75 30 LR LR 10 42 49.6
comp=Z,88nm,21.4s,baz=270,slow=31
GERES GERESS Array B 91.23 41 P **P 10 08 54.3 +1.1**
comp=Z,0.2nm,0.2s,baz=304,slow=1.8,SNR=4.0
comp=Z,0.2nm,0.2s
ARCES ARCESS Array B 92.57 20 LR LR 10 48 01.4
comp=Z,52nm,18.7s,baz=295,slow=34
VRAC Vranov 93.04 40 LR LR 10 44 51.9
comp=Z,146nm,21.0s,baz=278,slow=32
VAE Valguarnera 93.23 52 LR LR 10 47 05.3
comp=Z,95nm,20.3s,baz=290,slow=33
QSPA South Pole Qui 94.02 180 P **P 10 09 05.3 -0.3**
comp=Z,1.2nm,0.7s,baz=205,slow=1.7,SNR=8.8
comp=Z,1.2nm,0.7s
FINES FINESS Array B 95.37 27 LR LR 10 47 41.5
comp=Z,131nm,21.5s,baz=278,slow=33
VNDA Vanda 99.26 191 LR LR 10 46 06.3
comp=Z,104nm,19.4s,baz=118,slow=30
MSVF Nonsavu 100.01 253 LR LR 10 44 31.5
comp=Z,115nm,21.9s,baz=112,slow=29
SYO Syowa Base 104.87 162 *e*Pdiff **Pdif 10 09 51.2 -2.9**
SYO Syowa Base 104.87 162 *e*sPdiff **Pdif 10 09 58.6 +4.5**
DZM Mont Dzumac 110.81 248 *e*LR LR 10 47 01.6
comp=Z,256nm,27.2s
ZALV Zalesovo Beam 121.32 9 PKP **PKPdf 10 14 41.5 +0.6**
comp=Z,0.8nm,0.6s,baz=14,slow=0.6,SNR=1.8
KURBB Kurchatov Arra 123.25 14 PKP **PKPdf 10 14 44.3 -0.4**
comp=Z,1.2nm,0.8s,baz=322,slow=2.3,SNR=5.8
MKAR Makanchi Array 127.71 13 PKP **PKPdf 10 14 52.7 -0.7**
comp=Z,0.9nm,0.8s,baz=338,slow=2.6,SNR=5.1
SONM Songino Array 127.77 352 PKP **PKPdf 10 14 53.6 0.0**
comp=Z,0.7nm,0.4s,baz=7.8,slow=3.2,SNR=6.1
WMQ Urumqi 131.62 9 *e*PKP **PKiKP 10 15 02.6 +0.6**
WMQ LR LR
comp=Z,160nm,24.1s
HHC Hu-ho-hao-te 133.50 345 *e*PKP **PKPdf 10 15 00.3 -4.4**
BTO Baotou 134.11 346 *e*PKP **PKPdf 10 15 02.6 -3.2**
NJ2 Nanjing 138.71 332 *e*PKP **PKPdf 10 15 14.0 -0.4**
ASAR Alice Springs 139.64 238 PKhKP PKPpre 10 15 08.7
comp=Z,0.5nm,0.7s,baz=134,slow=2.7,SNR=4.7
WRA Warramunga Arr 140.59 243 PKhKP PKPpre 10 15 12.9
comp=Z,1.1nm,0.7s,baz=115,slow=2.4,SNR=5.4
CD2 Chengdu 144.75 350 PKP **PKPab 10 15 24.0 -0.1**
H01W1 Cape Leeuwin H 145.51 205 T T 12 58 39.8
baz=150
H01W2 Cape Leeuwin H 145.52 205 T T 12 58 49.5
baz=150
H01W3 Cape Leeuwin H 145.53 205 T T 12 58 40.3
baz=150
PZH PanZhiHua 149.38 352 PKPbc **PKPdf 10 15 32.8 -0.5**
PZH PKPab **pPKPab 10 15 45.0 -0.9**
CMAR Chiang Mai Arr 157.63 356 PKP **PKPdf 10 15 45.5 +0.4**
comp=Z,0.5nm,0.3s,baz=50,slow=2.1,SNR=2.0
CMAR PKPab **pPKPab 10 16 19.4 -1.2**
comp=Z,1.1nm,0.7s,baz=7.2,slow=3.7,SNR=5.9

IDC 17 09:56:09.6±280.0, 56°.91N×35°.86E, h0km, Error ellipse: s-maj=120.8km s-min=16.9km az=103.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**0.77**	**103**	I	I	10 00 20.0	
baz=285,slow=329,SNR=2.4							
I37NO	**I37NO**	**14.42**	**335**	I	I	11 17 40.0	
baz=140,slow=321,SNR=4.1							
I18DK	**QAANAAQ INFRAS**	**38.31**	**340**	I	I	13 54 10.0	
baz=59,slow=339,SNR=0.7							

*IDC **17** 10:19:26.8±0.9, 2°.53N×128°.00E, h0km, mb3.9/8, mbtmp3.9/8, MS3.3/2, Error ellipse: s-maj=45.1km s-min=15.6km az=76.0*
*NEIC **17** 10:19:45.2±1.3, 2°.74N±0°.08×129°.0E±0°.2, h171km±7km, mb4.0/14, Error ellipse: s-maj=25.0km s-min=11.7km az=86.0*
ISC 17 10:19:43.3±0.9, 2°.69N±0°.09×129°.1E±0°.1, h150km, n28, σ1°54/24, mb3.9/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.59**	**222**		**Pn**	**10 20 30.0**	**+4.5**
FAKI	**Fak Fak**	**6.40**	**151**	Pn	**Pn**	**10 21 16.7**	**+1.3**
LUWI	**Luwuk**	**7.34**	**240**	Pn	**Pn**	**10 21 25.6**	**-2.4**
MTN	**Manton Dam**	**15.57**	**173**		**Pn**	**10 23 15.5**	**+0.6**
MTN				IAmb	IAmb	10 23 34.8	
comp=Z,9.6nm,1.1s							
KNRA	**Kununurra**	**18.26**	**181**	P	**P**	**10 23 45.9**	**+0.4**
KNRA				IAmb	IAmb	10 23 47.7	
comp=Z,6.5nm,0.9s							
FITZ	**Fitzroy Crossi**	**20.94**	**189**	P	**P**	**10 24 14.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.94**	**189**	P	P	10 24 07.6	-6.8
comp=Z,0.6nm,0.5s,baz=10,slow=11,SNR=1.2							
comp=Z,0.6nm,0.5s							
WB0	**Warramunga Arr**	**22.91**	**167**	P	**P**	**10 24 35.0**	**+0.5**
WB0				IAmb	IAmb	10 24 36.1	
comp=Z,9.5nm,0.9s							
WRAB	**Tennant Creek**	**23.07**	**167**	P	**P**	**10 24 34.6**	**-1.2**
WRA	**Warramunga Arr**	**23.07**	**167**	P	**P**	**10 24 35.6**	**-0.3**
WRA	**Warramunga Arr**	**23.07**	**167**	P	**P**	**10 24 35.8**	**-0.1**
comp=Z,6.7nm,0.7s,baz=343,slow=10,SNR=55							
comp=Z,6.7nm,0.7s							
WB2	**Warramunga Arr**	**23.08**	**167**	P	**P**	**10 24 36.3**	**+0.4**
WB2				IAmb	IAmb	10 24 37.7	
comp=Z,4.7nm,0.6s							
WR8	**Warramunga Arr**	**23.12**	**167**	P	**P**	**10 24 36.9**	**+0.5**
WR8				IAmb	IAmb	10 24 38.2	
comp=Z,4.3nm,0.8s							
WR0	**Warramunga Arr**	**23.14**	**167**	P	**P**	**10 24 36.5**	**+0.1**
WR0				IAmb	IAmb	10 24 38.4	
comp=Z,2.9nm,0.8s							
AS31	**Alice Springs**	**26.61**	**170**	P	**P**	**10 25 07.6**	**-0.3**
ASAR	**Alice Springs**	**26.61**	**170**	P	**P**	**10 25 07.3**	**-0.6**
ASAR	**Alice Springs**	**26.61**	**170**	P	**P**	**10 25 07.9**	**-0.1**
comp=Z,0.9nm,0.7s,baz=0.8,slow=8.9,SNR=21							
comp=Z,0.9nm,0.7s							
JHJ	**Hachijo jima 2**	**31.88**	**17**	LR	LR	10 41 20.3	
comp=Z,10.0nm,18.7s,baz=299,slow=41							
CMAR	**Chiang Mai Arr**	**33.45**	**300**	P	P	10 25 59.5	-8.7
comp=Z,0.3nm,0.3s,baz=112,slow=8.8,SNR=1.8							
comp=Z,0.3nm,0.3s							
KSRS	**Korea Array**	**34.61**	**358**	P	**P**	**10 26 19.5**	**+1.5**
comp=Z,0.8nm,0.5s,baz=174,slow=9.9,SNR=5.2							
comp=Z,0.8nm,0.5s							
MJAR	**Matsushiro Arr**	**34.71**	**13**	P	**P**	**10 26 21.4**	**+2.4**
comp=Z,2.3nm,0.8s,baz=188,slow=9.1,SNR=5.4							
comp=Z,2.3nm,0.8s							
BBOO	**Buckleboo**	**35.92**	**170**	P	**P**	**10 26 29.1**	**-0.2**
STKA	**Stephens Creek**	**36.37**	**162**	P	**P**	**10 26 33.7**	**+0.6**
STKA	**Stephens Creek**	**36.37**	**162**	P	**P**	**10 26 33.9**	**+0.8**
comp=Z,2.3nm,0.3s,baz=346,slow=8.0,SNR=13							
comp=Z,2.3nm,0.3s							
MK31	**Makanchi Array**	**59.77**	**325**	P	**P**	**10 29 30.8**	**-1.7**
MK31				IAmb	IAmb	10 29 31.1	
comp=Z,0.7nm,0.6s							
MKAR	**Makanchi Array**	**59.77**	**325**	P	**P**	**10 29 30.5**	**-2.1**
comp=Z,0.9nm,0.4s,baz=115,slow=8.1,SNR=12							
comp=Z,0.9nm,0.4s							
KURK	**Kurchatov**	**63.89**	**327**	P	**P**	**10 29 58.3**	**-1.7**
KURK				IAmb	IAmb	10 29 58.7	
comp=Z,2.3nm,0.8s							
BVAR	**Borovoye Array**	**69.48**	**327**	LR	LR	11 03 04.6	
comp=Z,93nm,21.4s,baz=336,slow=38							

*NEIC **17** 10:23:56.8±2.4, 5°.24N±0°.04×73°.60W±0°.08, h158km±6km, mb4.2/9, Error ellipse: s-maj=12.5km s-min=3.3km az=109.0*
*RSNC **17** 10:23:56.5±0.0, 5°.1N±1°×7°.4W±°, h154km±2km, M3.9, mB4.9, mb4.4, ML3.6, Mw(mB)4.2*
*IDC **17** 10:23:56.1±0.7, 5°.27N×73°.63W, h152km±4km, mb3.2/5, mbtmp3.8/7, MS3.4/1, Error ellipse: s-maj=24.5km s-min=10.8km az=137.0*
ISC 17 10:23:56.4±0.6, 5°.29N±0°.03×73°.70W±0°.03, h159km±5km, n82, σ1°62/124, mb4.0/10, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	**Chingaza**	**0.66**	**183**	P	**Pn**	**10 24 19.6**	**-0.6**
CHIC				S	**Sn**	**10 24 36.0**	**-2.4**
BOG	**Bogota**	**0.76**	**209**	P	**Pn**	**10 24 21.0**	**+0.2**
BOG				S	**Sn**	**10 24 39.5**	**+0.1**
ROSC	**El Rosal**	**0.76**	**234**		**Pn**	**10 24 21.3**	**+0.5**
ROSC				Sn	**Sn**	**10 24 39.4**	**-0.1**
ROSC	**El Rosal**	**0.76**	**234**	P	**Pn**	**10 24 20.9**	**0.0**
1μm,0.4s,baz=101,slow=10,SNR=429							
ROSC				S	**Sn**	**10 24 38.9**	**-0.6**
1μm,0.4s,baz=108,slow=21,SNR=12							
ROSC	**El Rosal**	**0.76**	**234**	P	**Pn**	**10 24 21.3**	**+0.5**
ROSC				S	**Sn**	**10 24 38.8**	**-0.6**
CVER	**Cruz Verde, Cu**	**0.85**	**206**	P	**Pn**	**10 24 21.5**	**-0.1**
CVER				S	**Sn**	**10 24 39.5**	**-1.3**
RUSC	**La Rusia**	**0.86**	**46**		**Pn**	**10 24 21.7**	**+0.1**
RUSC	**La Rusia**	**0.86**	**46**	P	**Pn**	**10 24 21.8**	**+0.2**
RUSC				S	**Sn**	**10 24 40.3**	**-0.5**
NORC	**Norcasia**	**1.20**	**283**	P	**Pn**	**10 24 22.9**	**-1.0**
NORC				S	**Sn**	**10 24 42.4**	**-2.5**
PTBC	**PUERTO BERRIO,**	**1.45**	**329**	P	**Pn**	**10 24 25.1**	**-1.2**
PTBC				S	**Sn**	**10 24 46.9**	**-2.4**
GUY2C	**Guyana, Caldas**	**1.66**	**268**	P	**Pn**	**10 24 28.3**	**-0.6**
GUY2C				S	**Sn**	**10 24 52.5**	**-1.3**
BRJC	**Barrancabermej**	**1.67**	**358**	P	**Pn**	**10 24 28.7**	**+0.1**
BRJC				S	**Sn**	**10 24 53.1**	**-0.2**
NIZA	**Niza - Manizal**	**1.78**	**263**	P	**Pn**	**10 24 30.2**	**+0.2**
NIZA				S	**Sn**	**10 24 54.9**	**-0.8**
ANIL	**Santa Ana**	**1.87**	**245**	P	**Pn**	**10 24 30.4**	**-0.6**
ANIL				S	**Sn**	**10 24 54.9**	**-2.7**
PTGC	**Puerto Gaitan,**	**1.90**	**125**	P	**Pn**	**10 24 30.8**	**-0.2**
PTGC				S	**Sn**	**10 24 56.0**	**-1.7**
PRAC	**Prado**	**1.96**	**217**	P	**Pn**	**10 24 31.3**	**-0.5**
PRAC				S	**Sn**	**10 24 57.1**	**-2.0**
MEDEC	**Medelln, Ant**	**2.12**	**298**	P	**Pn**	**10 24 34.9**	**+1.2**
MEDEC				S	**Sn**	**10 25 01.8**	**-0.7**
URMC	**La Uribe, Meta**	**2.14**	**198**	P	**Pn**	**10 24 33.7**	**-0.2**
URMC				S	**Sn**	**10 25 01.9**	**-0.9**
TAMC	**Tame, Arauca**	**2.21**	**59**	P	**Pn**	**10 24 35.4**	**+0.7**
TAMC				S	**Sn**	**10 25 03.3**	**-0.9**
PAMC	**Pamplona, Colo**	**2.27**	**26**	P	**Pn**	**10 24 36.1**	**+0.4**
PAMC				S	**Sn**	**10 25 06.6**	**+0.6**
CBOC	**Ciudad Bolivar**	**2.37**	**284**	P	**Pn**	**10 24 36.3**	**-0.4**
CBOC				S	**Sn**	**10 25 06.0**	**-1.7**
ZARC	**Zaragoza, Cauc**	**2.47**	**332**	P	**Pn**	**10 24 36.1**	**-1.6**
ZARC				S	**Sn**	**10 25 07.5**	**-2.2**
YOTC	**Yotoco, Valle**	**2.94**	**244**	P	**Pn**	**10 24 42.3**	**-1.3**
YOTC				S	**Sn**	**10 25 18.7**	**-1.4**
OCAC	**Ocana**	**2.95**	**7**	P	**Pn**	**10 24 43.9**	**+0.1**
OCAC				S	**Sn**	**10 25 20.7**	**+0.2**
DBBC	**Dabeiba**	**3.03**	**305**	P	**Pn**	**10 24 44.5**	**-0.1**
DBBC				S	**Sn**	**10 25 21.1**	**-0.9**
UREC	**San Jos de Ur**	**3.05**	**323**	P	**Pn**	**10 24 42.7**	**-2.1**
UREC				S	**Sn**	**10 25 18.8**	**-3.6**
BETC	**Betania**	**3.12**	**214**	P	**Pn**	**10 24 44.4**	**-1.4**
BETC				S	**Sn**	**10 25 19.9**	**-4.2**
MACC	**Macarena, Meta**	**3.13**	**183**	P	**Pn**	**10 24 44.2**	**-1.7**
MACC				S	**Sn**	**10 25 20.3**	**-3.9**
GARC	**Garzon, Huila**	**3.56**	**210**	P	**Pn**	**10 24 50.5**	**-1.1**
GARC				S	**Sn**	**10 25 31.5**	**-3.0**
PIZC	**Pizarro, Choco**	**3.66**	**265**	P	**Pn**	**10 24 53.4**	**+0.8**
PIZC				S	**Sn**	**10 25 37.0**	**+0.8**
SOLC	**Bahia Solano**	**3.81**	**284**	P	**Pn**	**10 24 55.3**	**+0.8**
SOLC				S	**Sn**	**10 25 37.7**	**-1.9**
MALC	**Bahia Malaga**	**3.84**	**251**	P	**Pn**	**10 24 57.3**	**+2.4**
MALC				S	**Sn**	**10 25 38.8**	**-1.6**
APAC	**Apartado, Choc**	**3.86**	**312**	P	**Pn**	**10 24 54.6**	**-0.6**
APAC				S	**Sn**	**10 25 38.9**	**-2.0**
POPC	**Popayan, Colom**	**4.04**	**227**	P	**Pn**	**10 24 57.4**	**-0.3**
POPC				S	**Sn**	**10 25 44.2**	**-1.1**
FLOC	**Florencia**	**4.17**	**208**		**Pn**	**10 24 58.5**	**-0.7**
FLOC	**Florencia**	**4.17**	**208**	P	**Pn**	**10 24 58.7**	**-0.5**
FLOC				S	**Sn**	**10 25 44.4**	**-3.7**
LCBC	**Los crdobas,**	**4.42**	**323**	P	**Pn**	**10 25 01.0**	**-1.5**
LCBC				S	**Sn**	**10 25 52.6**	**-1.4**
ARGC	**Ariguani, Magd**	**4.57**	**353**	P	**Pn**	**10 25 03.6**	**-0.8**
ARGC				S	**Sn**	**10 25 56.7**	**-0.8**
SDV	**Santo Domingo**	**4.69**	**40**		**Pn**	**10 25 06.2**	**0.0**
SDV				Sn	**Sn**	**10 25 58.7**	**-1.9**
SDV	**Santo Domingo**	**4.69**	**40**	P	**Pn**	**10 25 06.2**	**0.0**
60nm,0.4s,baz=233,slow=11,SNR=138							
SDV				S	**Sn**	**10 25 59.3**	**-1.3**
153nm,0.5s,baz=237,slow=23,SNR=18							
SDV	**Santo Domingo**	**4.69**	**40**	P	**Pn**	**10 25 05.9**	**-0.3**
SDV				S	**Sn**	**10 25 58.4**	**-2.2**
BBAC	**Balboa, Cauca**	**4.80**	**228**	P	**Pn**	**10 25 07.3**	**-0.4**
BBAC				S	**Sn**	**10 26 03.6**	**+0.3**
SJCC	**San Jacinto, C**	**4.81**	**342**	P	**Pn**	**10 25 05.0**	**-2.6**
SJCC				S	**Sn**	**10 25 58.3**	**-4.8**
CAPC	**Capurgana**	**4.92**	**313**	P	**Pn**	**10 25 08.1**	**-0.9**
CAPC				S	**Sn**	**10 26 01.5**	**-4.1**
CRUC	**La Cruz**	**4.92**	**221**	P	**Pn**	**10 25 10.2**	**+0.8**
PTLC	**Puerto Leguiza**	**5.20**	**192**	P	Pn	10 25 19.9	+7.1
CRJC	**Cerrejon, Guaj**	**5.75**	**8**	P	**Pn**	**10 25 18.5**	**-1.5**
2μm47nm,0.7s							
CRJC				S	**Sn**	**10 26 21.8**	**-3.7**
2μm47nm,0.7s							
SMRC	**Santa Marta, M**	**5.86**	**355**		**Pn**	**10 25 19.8**	**-1.6**
SMRC	**Santa Marta, M**	**5.86**	**355**	P	**Pn**	**10 25 20.8**	**-0.6**
57nm,0.7s							
URIC	**Uribia, Colomb**	**6.59**	**15**	P	**Pn**	**10 25 29.7**	**-1.4**
BAUV	**El Baul**	**6.68**	**57**		**Pn**	**10 25 30.8**	**-1.6**
OTAV	**Otavalo**	**6.91**	**224**		**Pn**	**10 25 36.3**	**+0.5**
BCIP	**Isla Barro Col**	**7.20**	**303**	P	**Pn**	**10 25 38.2**	**-1.1**
PCRV	**Puerto La Cruz**	**10.21**	**61**	P	**Pn**	**10 26 19.3**	**+0.2**
4.3nm,0.3s,baz=216,slow=12,SNR=12							
PCRV				S	**Sn**	**10 28 09.0**	**-3.4**
4.7nm,0.4s,baz=183,slow=19,SNR=1.5							
MTDJ	**Mount Denham**	**13.39**	**344**	Pn	**P**	**10 27 02.6**	**-1.6**
MTDJ	**Mount Denham**	**13.39**	**344**	*e*P	**P**	**10 27 02.7**	**-1.6**
BOAV	**Boa Vista**	**13.46**	**102**	Pn	**Pn**	**10 27 00.0**	**-1.2**
SDDR	**Presa de Saban**	**13.81**	**10**	Pn	**Pn**	**10 27 06.4**	**+0.7**
CELP	**Cerrillos**	**14.49**	**28**	Pn	**Pn**	**10 27 13.1**	**-1.0**
GTBY	**Guantanamo Bay**	**14.61**	**355**	*e*P	**P**	**10 27 20.1**	**+2.3**
RCC	**Rio Carpintero**	**14.74**	**353**	*e*P	**P**	**10 27 20.7**	**+1.5**
MASC	**Masc**	**14.80**	**358**	*e*P	**P**	**10 27 20.7**	**+0.8**
QMBU	**Quimbuelo**	**14.86**	**356**	*e*P	**P**	**10 27 22.7**	**+2.2**
PILO	**Pilon**	**14.97**	**346**	*e*P	**P**	**10 27 23.3**	**+1.5**
PINC	**Pinares de May**	**15.24**	**353**	*e*P	**P**	**10 27 27.7**	**+3.0**
SAML	**Samuel**	**17.61**	**143**	P	**P**	**10 27 48.4**	**-2.5**
LPAZ	**La Paz**	**22.14**	**166**	P	**P**	**10 28 40.9**	**+0.9**
0.7nm,0.5s,baz=0.0,slow=6.1,SNR=2.0							
0.7nm,0.5s							
LCO	**Las Campanas**	**34.23**	**175**	P	**P**	**10 30 27.8**	**+0.5**
O54A	**Avella**	**35.25**	**351**	P	**P**	**10 30 37.0**	**+1.2**
O54A				IAmb	IAmb	10 30 37.1	
comp=Z,3.7nm,0.7s							
FVM	**French Village**	**35.93**	**337**	P	**P**	**10 30 43.2**	**+1.6**
FVM				IAmb	IAmb	10 30 43.6	
comp=Z,3.8nm,0.6s							
CCM	**Cathedral Cave**	**36.32**	**336**	P	**P**	**10 30 45.5**	**+0.7**
CCM				IAmb	IAmb	10 30 46.1	
comp=Z,3.1nm,0.6s							
T35A	**Sooner Cattle**	**37.77**	**330**	P	**P**	**10 30 57.5**	**+0.3**
KAN09	**Caldwell North**	**38.51**	**329**	P	**P**	**10 31 02.9**	**-0.4**
PLCA	**Paso Flores**	**45.89**	**177**	LR	LR	10 53 26.1	
comp=Z,42nm,18.0s,baz=56,slow=39							
NVAR	**Mina Array Bea**	**52.16**	**316**	P	**P**	**10 32 52.7**	**+1.7**
comp=Z,0.3nm,0.5s,baz=92,slow=5.4,SNR=2.5							
comp=Z,0.3nm,0.5s							
YKA	**Yellowknife Ar**	**64.50**	**340**	P	**P**	**10 34 16.4**	**+0.5**
comp=Z,0.6nm,0.6s,baz=136,slow=6.4,SNR=15							
comp=Z,0.6nm,0.6s							
ILAR	**Eielson Array**	**78.10**	**335**	P	**P**	**10 35 37.9**	**+0.4**
comp=Z,0.1nm,0.5s,baz=119,slow=3.5,SNR=1.5							
comp=Z,0.1nm,0.5s							
E19K	**Redstone River**	**82.66**	**337**		**P**	**10 36 01.6**	**-0.2**
E19K				IAmb	IAmb	10 36 07.0	
comp=Z,1.3nm,0.6s							
SPITS	**Spitsbergen Ar**	**84.87**	**12**	P	**P**	**10 36 14.0**	**+1.2**
comp=Z,14nm,1.0s,baz=263,slow=6.8,SNR=2.1							
ARCES	**ARCESS Array B**	**88.30**	**20**	P	**P**	**10 36 30.8**	**+1.3**
comp=Z,1.5nm,0.8s,baz=284,slow=3.6,SNR=4.5							
comp=Z,1.5nm,0.8s							
ASAR	**Alice Springs**	**147.74**	**233**	PKPbc	**PKPbc**	**10 43 22.2**	**-1.1**
comp=Z,0.4nm,0.3s,baz=126,slow=3.4,SNR=4.8							
WRA	**Warramunga Arr**	**149.08**	**239**	PKPbc	**PKPbc**	**10 43 25.8**	**-1.0**
comp=Z,0.3nm,0.3s,baz=108,slow=2.6,SNR=3.1							

IDC 17 10:34:31.4±10.0, 7°.84S×130°.75E, h156km±116km, mb3.3/2, mbtmp3.8/5, ML3.8/3, MS3.8/1, Error ellipse: s-maj=72.9km s-min=43.4km az=24.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.35**	**205**	P	Pn	10 37 09.5	+0.4
0.8nm,0.3s,baz=28,slow=13,SNR=40							
FITZ				S	Sn	10 39 16.1	+1.3
5.7nm,0.3s,baz=280,slow=19,SNR=12							
1.5nm,0.3s							
WRA	**Warramunga Arr**	**12.53**	**164**	P	Pn	10 37 23.7	-0.8
0.4nm,0.3s,baz=343,slow=13,SNR=26							
WRA				S	Sn	10 39 41.8	-1.5
1.8nm,0.5s,baz=343,slow=20,SNR=9.5							
1.4nm,0.6s							
ASAR	**Alice Springs**	**16.03**	**169**	P	P	10 38 10.2	+1.5
0.3nm,0.3s,baz=348,slow=12,SNR=24							
ASAR				S	S	10 41 06.4	-0.3
0.7nm,0.6s,baz=354,slow=27,SNR=7.9							
0.6nm,0.5s							
SONM	**Songino Array**	**59.47**	**341**	LR	LR	11 12 56.8	
comp=Z,81nm,21.0s,baz=51,slow=39							
MKAR	**Makanchi Array**	**69.33**	**327**	P	P	10 45 22.2	+0.2
0.8nm,0.5s,baz=127,slow=7.2,SNR=13							
0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**73.61**	**328**	P	P	10 45 47.2	-0.4
0.2nm,0.3s,baz=134,slow=4.8,SNR=5.0							
0.2nm,0.3s							

*OSPL **17** 10:37:58.4±2.0, 19°.31N×69°.19W, h31km±45km, ML2.6*
*SDD **17** 10:38:02.3±1.8, 19°.22N×69°.71W, h22km±13km, MD2.7, ML2.6, MW3.0*
ISC 17 10:38:01.6±1.1, 19°.18N±0°.04×69°.69W±0°.03, h14km±9km, n15, σ0°81/23, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADR	**Nagua**	**0.23**	**317**	*e*Pg	**Pg**	**10 38 06.5**	**-0.2**
NADR				*e*Sg	**Sb**	**10 38 11.4**	**-0.3**
NADR				IAML		10 38 12.2	
comp=N,5μm,0.2s							
DR08	**Loma La Naviza**	**0.39**	**235**	*e*Pg	**Pg**	**10 38 09.6**	**+0.2**
DR08				*e*Sg	**Sg**	**10 38 15.6**	**+1.0**
DR08				IAML		10 38 16.0	
comp=N,10μm,0.2s							
SMDR	**Samana, DR**	**0.48**	**77**	*e*Pg	**Pg**	**10 38 11.0**	**-0.2**
SMDR				*e*Sg	**Sb**	**10 38 19.8**	**+0.9**
SMDR				IAML		10 38 20.0	
comp=N,394

IUG	**Iuzhnay**	**0.39 247**	P	**Pg**	**10 47 11.7**	**-0.4**
	20nm,0.1s					
IUG			S	**Sg**	**10 47 17.7**	**+0.1**
	47nm,0.3s					
BRLS	**Borolday**	**0.88 326**	P	**Pb**	**10 47 20.8**	**-0.2**
	1.3nm,0.3s					
BRLS			S	**Sb**	**10 47 33.3**	**+0.8**
	3.2nm,0.4s					
BRLS	**Borolday**	**0.88 326**	*e*P	**Pb**	**10 47 20.8**	**-0.2**
	1.3nm,0.3s					
BRLS			*e*S	**Sb**	**10 47 33.3**	**+0.8**
	3.2nm,0.4s					
MRKS	**Merke**	**2.06 77**	Pg	**Pb**	**10 47 41.5**	**+0.5**
	5.4nm,0.3s					
MRKS			Lg	Lg	10 48 09.0	
	5.5nm,0.4s					
MRKS	**Merke**	**2.06 77**	*e*P	**Pb**	**10 47 41.5**	**+0.5**
	5.4nm,0.3s					
MRKS			*e*S	**Sg**	**10 48 09.0**	**-1.1**
	5.5nm,0.4s					

ROM 17 11:11:50.7±0.1, 37°.758N±0°.004×15°.144E±0°.007, h6km, ML2.0/14, 1C, Error ellipse: s-maj=0.6km s-min=0.4km az=229.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPIT	**Pozzo Pitarron**	**0.09**	**308**	P	Pg	11 11 53.1	+0.3
EPIT				S	Sg	11 11 54.7	+0.4
EMCN	**Etna Monte Con**	**0.09**	**291**	⇑P	Pg	11 11 53.1	+0.2
EMCN				S	Sg	11 11 54.7	+0.2
EMCN				AML	AML		
	comp=N,3970μm,1.0s						
EMCN				AML	AML		
	comp=N,3970μm,1.0s						
EMCN				AML	AML		
	comp=E,4360μm,0.8s						
EMCN				AML	AML		
	comp=E,3411μm,0.2s						
EMCN				AML	AML		
	comp=N,3404μm,0.3s						
ENIC	**Nicolosi**	**0.16**	**218**	P	Pg	11 11 54.3	+0.3
EMSG	**Monte Spagnolo**	**0.17**	**292**	P	Pg	11 11 54.8	+0.7
EMSG				AML	AML		
	comp=N,1130μm,1.6s						
EMSG				AML	AML		
	comp=N,1130μm,0.4s						
EMSG				AML	AML		
	comp=E,1230μm,0.6s						
EMSG				AML	AML		
	comp=E,1505μm,0.7s						
EMSG				AML	AML		
	comp=N,1057μm,0.4s						
ECHR	**Santa Chiara**	**0.20**	**249**	P	Pg	11 11 54.9	+0.3
EPZF	**Pizzo Felice**	**0.24**	**286**	P	Pg	11 11 55.9	+0.6
EPZF				S	Sg	11 12 00.2	+1.7
EPZF				AML	AML		
	comp=N,664μm,0.4s						
EPZF				AML	AML		
	comp=E,616μm,1.3s						
EPZF				AML	AML		
	comp=E,512μm,0.4s						
EPZF				AML	AML		
	comp=N,664μm,0.4s						
EPOZ	**Pozzillo**	**0.25**	**191**	P	Pg	11 11 53.6	-2.0
EPOZ				S	Sg	11 11 54.6	-4.2
EPOZ				AML	AML		
	comp=E,2275μm,0.3s						
EPOZ				AML	AML		
	comp=N,3040μm,0.3s						
EPOZ				AML	AML		
	comp=E,1914μm,0.3s						
EPOZ				AML	AML		
	comp=N,2744μm,0.4s						
NOV	**Novara**	**0.27**	**359**	P	Pg	11 11 56.6	+0.6
MUCR	**Ucria**	**0.36**	**323**	P	Pg	11 11 58.4	+0.7
MNO	**Monte Soro**	**0.40**	**296**	P	Pb	11 11 59.5	-0.7
MNO				AML	AML		
	comp=E,119μm,1.1s						
MNO				AML	AML		
	comp=N,150μm,1.2s						
MNO				AML	AML		
	comp=E,119μm,0.9s						
MNO				AML	AML		
	comp=N,150μm,0.8s						
MNO				AML	AML		
	comp=N,149μm,1.0s						
MNO				AML	AML		
	comp=E,114μm,0.8s						
MPNC	**Port Mandanici**	**0.42**	**23**	P	Pb	11 11 60.0	-0.6
GALF	**Gagliano Caste**	**0.46**	**264**	P	Pb	11 12 00.8	-0.5
GALF				AML	AML		
	comp=E,189μm,0.7s						
GALF				AML	AML		
	comp=N,220μm,0.6s						
GALF				AML	AML		
	comp=E,189μm,1.3s						
GALF				AML	AML		
	comp=E,95μm,0.6s						
GALF				AML	AML		
	comp=N,100μm,0.7s						
GALF				AML	AML		
	comp=N,220μm,0.6s						
GALF				AML	AML		
	comp=E,189μm,0.7s						

ROM 17 11:12:35.5±0.1, 37°.762N±0°.004×15°.132E±0°.006, h8km, ML2.1/12, 3C-2D, Error ellipse: s-maj=0.4km s-min=0.2km az=95.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPIT	**Pozzo Pitarron**	**0.08**	**310**	P	Pg	11 12 37.8	+0.2
EPIT				S	Sg	11 12 39.4	+0.2
EMCN	**Etna Monte Con**	**0.08**	**291**	⇓P	Pg	11 12 37.9	+0.1
EMCN				S	Sg	11 12 39.2	-0.1
EMCN				AML	AML		
	comp=E,5835μm,0.4s						
EMCN				AML	AML		
	comp=N,6175μm,0.7s						
EMCN				AML	AML		
	comp=N,6175μm,0.7s						
EMCN				AML	AML		
	comp=E,5835μm,0.4s						
EMCN				AML	AML		
	comp=N,6175μm,1.3s						
EMCN				AML	AML		
	comp=E,4837μm,0.3s						
EMCN				AML	AML		
	comp=N,6151μm,0.4s						
EMSG	**Monte Spagnolo**	**0.16**	**292**	⇓P	Pg	11 12 39.4	+0.6
EMSG				S	Sg	11 12 42.7	+1.6
EMSG				AML	AML		
	comp=E,1815μm,0.7s						
EMSG				AML	AML		
	comp=E,1405μm,0.8s						
EMSG				AML	AML		
	comp=N,1525μm,0.6s						
EMSG				AML	AML		
	comp=E,1405μm,1.2s						
EMSG				AML	AML		
	comp=E,1238μm,0.5s						
EMSG				AML	AML		
	comp=N,1191μm,0.3s						
ENIC	**Nicolosi**	**0.16**	**214**	P	Pg	11 12 39.1	+0.3
ECHR	**Santa Chiara**	**0.19**	**247**	P	Pg	11 12 39.8	+0.5
ECHR				S	Sg	11 12 42.9	+0.9
AIO	**Antillo**	**0.22**	**21**	P	Pg	11 12 40.3	+0.3
AIO				S	Sg	11 12 44.4	+1.4
AIO				AML	AML		
	comp=E,232μm,0.6s						
AIO				AML	AML		
	comp=N,104μm,0.7s						
AIO				AML	AML		
	comp=N,358μm,0.5s						
AIO				AML	AML		
	comp=E,283μm,0.3s						
EPZF	**Pizzo Felice**	**0.23**	**286**	P	Pg	11 12 40.5	+0.4
EPZF				S	Sg	11 12 44.9	+1.8
EPZF				AML	AML		
	comp=N,1068μm,0.9s						
EPZF				AML	AML		
	comp=N,906μm,0.4s						
EPZF				AML	AML		
	comp=E,692μm,1.2s						
EPZF				AML	AML		
	comp=E,639μm,0.4s						
EPZF				AML	AML		
	comp=N,905μm,0.4s						
EPOZ	**Pozzillo**	**0.25**	**189**	⇑P	Pg	11 12 38.4	-2.0
EPOZ				S	Sg	11 12 40.2	-3.6
EPOZ				AML	AML		
	comp=N,4345μm,0.4s						
EPOZ				AML	AML		
	comp=E,3180μm,0.7s						
EPOZ				AML	AML		
	comp=N,4345μm,1.6s						
EPOZ				AML	AML		
	comp=E,2650μm,0.2s						
EPOZ				AML	AML		
	comp=N,4345μm,0.4s						
NOV	**Novara**	**0.27**	**1**	P	Pb	11 12 41.7	-0.9
MUCR	**Ucria**	**0.35**	**324**	⇑P	Pg	11 12 42.9	+0.6
MUCR				AML	AML		
	comp=N,153μm,0.6s						
MUCR				AML	AML		
	comp=E,110μm,0.5s						
MUCR				AML	AML		
	comp=N,115μm,1.0s						
MUCR				AML	AML		
	comp=N,153μm,0.6s						
MUCR				AML	AML		
	comp=E,110μm,0.5s						
MNO	**Monte Soro**	**0.39**	**296**	⇑P	Pb	11 12 44.4	-0.3
MNO				AML	AML		
	comp=E,171μm,0.8s						
MNO				AML	AML		
	comp=N,176μm,0.6s						
MNO				AML	AML		
	comp=E,172μm,0.8s						
MNO				AML	AML		
	comp=N,177μm,0.6s						
MPNC	**Port Mandanici**	**0.42**	**24**	P	Pb	11 12 44.5	-0.8

ROM 17 11:13:15.6±0.1, 37°.755N±0°.007×15°.143E±0°.009, h10km, ML1.8/8, 1C-1D, Error ellipse: s-maj=0.9km s-min=0.5km az=228.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPIT	**Pozzo Pitarron**	**0.09**	**310**	P	Pg	11 13 18.0	-0.2
EPIT				S	Sg	11 13 20.7	+0.7
EMCN	**Etna Monte Con**	**0.09**	**293**	P	Pg	11 13 18.0	-0.2
EMCN				S	Sg	11 13 20.6	+0.4
ECTS	**Castiglione**	**0.13**	**352**	P	Pg	11 13 18.6	0.0
ENIC	**Nicolosi**	**0.16**	**218**	P	Pg	11 13 19.7	+0.6
ENIC				S	Sg	11 13 21.8	+0.3
EMSG	**Monte Spagnolo**	**0.17**	**293**	P	Pg	11 13 19.6	+0.3
EMSG				S	Sg	11 13 23.1	+1.2
EMSG				AML	AML		
	comp=N,1188μm,0.6s						
EMSG				AML	AML		
	comp=E,1107μm,0.5s						
ECHR	**Santa Chiara**	**0.19**	**250**	P	Pg	11 13 20.1	+0.4
EPZF	**Pizzo Felice**	**0.24**	**287**	P	Pg	11 13 20.9	+0.4
EPZF				S	Sg	11 13 25.6	+1.8
EPOZ	**Pozzillo**	**0.24**	**191**	⇑P	Pg	11 13 18.6	-2.0
EPOZ				S	Sg	11 13 20.7	-3.2
EPOZ				AML	AML		
	comp=E,2920μm,0.7s						
EPOZ				AML	AML		
	comp=N,3450μm,1.0s						
EPOZ				AML	AML		
	comp=E,2925μm,0.7s						
EPOZ				AML	AML		
	comp=E,2144μm,0.2s						
EPOZ				AML	AML		
	comp=N,3292μm,0.4s						
NOV	**Novara**	**0.27**	**359**	P	Pg	11 13 21.8	+0.6
MUCR	**Ucria**	**0.36**	**324**	⇓P	Pg	11 13 23.4	+0.7
MUCR				AML	AML		
	comp=E,77μm,0.5s						
MUCR				AML	AML		
	comp=N,109μm,0.6s						
MNO	**Monte Soro**	**0.40**	**297**	P	Pb	11 13 24.5	-0.4
MPNC	**Port Mandanici**	**0.42**	**23**	P	Pb	11 13 24.7	-0.5

ISK 17 11:14:09.6, 38°.77N×38°.08E, h9km, ML2.5/12
AFAD 17 11:14:09.3, 38°.73N×38°.17E, h11km±2km, ML2.3
ISC 17 11:14:09.8±0.9, 38°.74N±0°.03×38°.14E±0°.02, h15km±7km, n21, σ0s62/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.19**	**315**	P	**Pg**	**11 14 14.2**	**-0.3**
HEKM				*i* AML	AML	11 14 18.0	
	comp=E,4μm,0.3s						
HEKM				S	**Sg**	**11 14 18.1**	**+0.5**
ARPR	**Arapgir-MALATY**	**0.38**	**24**	Pg	**Pg**	**11 14 17.6**	**0.0**
DARE	**Darende-Malaty**	**0.54**	**252**	Pg	**Pg**	**11 14 19.7**	**-0.7**
DARE				Sg	**Sg**	**11 14 27.3**	**-0.3**
KEMA	**Kemaliye**	**0.60**	**28**	P	**Pg**	**11 14 21.4**	**-0.1**
KEMA				S	**Sg**	**11 14 29.6**	**+0.1**
KEMA				*i* AML	AML	11 14 34.0	
	comp=E,164nm,0.7s						
CUGUR	**Gurin_SVAS**	**0.68**	**269**	P	**Pg**	**11 14 22.8**	**-0.2**
CUGUR				S	**Sb**	**11 14 33.2**	**+0.6**
CUGUR				*i* AML	AML	11 14 38.0	
	comp=N,315nm,0.3s						
ELZG	**Elazig**	**0.71**	**110**	P	**Pg**	**11 14 22.7**	**-1.0**
ELZG				S	**Sg**	**11 14 32.8**	**-0.2**
ELZG				*i* AML	AML	11 14 33.0	
	comp=N,548nm,0.2s						
CUKAN	**kangal_SIVAS**	**0.78**	**318**	P	**Pg**	**11 14 24.1**	**-0.7**
CUKAN				S	**Sn**	**11 14 36.9**	**-1.0**
CUKAN				*i* AML	AML	11 14 39.0	
	comp=N,77nm,0.5s						
AKCA	**Adyaman/G¶l**	**1.01**	**201**	P	**Pb**	**11 14 29.3**	**+0.3**
AKCA				S	**Sn**	**11 14 43.5**	**0.0**
AKCA				*i* AML	AML	11 14 49.0	
	comp=N,97nm,0.4s						
TNCL	**Tunceli-Merkez**	**1.16**	**71**	P	**Pb**	**11 14 30.8**	**-0.9**
TNCL				S	**Sb**	**11 14 46.5**	**-0.1**
TNCL				*i* AML	AML	11 14 51.0	
	comp=N,151nm,0.9s						
SARI	**SarD1z-Kayseri**	**1.39**	**257**	Pn	**Pb**	**11 14 35.3**	**-0.2**
URFA	**Urfa**	**1.41**	**157**	Pn	**Pg**	**11 14 36.8**	**0.0**
URFA				Sn	**Sg**	**11 14 56.3**	**+1.2**
SVSK	**Karacayir**	**1.47**	**323**	Pn	**Pb**	**11 14 36.4**	**-0.4**
ERZN	**Erzincan**	**1.50**	**55**	Pn	**Pb**	**11 14 37.4**	**+0.1**
ERZN				Sn	**Sg**	**11 14 57.8**	**-0.2**
KMRS	**Kahramanmaras**	**1.57**	**219**	Pn	**Pb**	**11 14 38.2**	**-0.4**
KELT	**Kelkit**	**1.65**	**31**	P	**Pg**	**11 14 41.0**	**-0.6**
KELT				S	**Sb**	**11 15 01.6**	**+0.9**
KELT				*i* AML	AML	11 15 13.0	
	comp=E,14nm,0.6s						
GAZ	**Gaziantep**	**1.73**	**205**	Pn	**Pb**	**11 14 40.7**	**-0.6**
RSDY	**Resadiye-TOKAT**	**1.77**	**340**	Pn	**Pn**	**11 14 40.5**	**+0.6**
BNN	**Bunyan**	**1.79**	**274**	Pn	**Pn**	**11 14 40.8**	**+0.5**
KAMA	**Osmaniye**	**1.94**	**217**	P	**Pg**	**11 14 45.9**	**-1.1**
KAMA				S	**Sg**	**11 15 11.9**	**-0.2**
KAMA				*i* AML	AML	11 15 14.0	
	comp=N,17nm,0.8s						
KOZT	**Kozan**	**2.21**	**236**	Pn	**Pn**	**11 14 47.1**	**+1.1**
YOZ	**Yozgat**	**2.36**	**293**	Pn	**Pn**	**11 14 48.9**	**+0.7**

PGC 17 11:14:46.6±0.5, 49°.95N×129°.99W, h10km, MLSn2.8/7, Mw3.4/7, 188km west of Port Alice, Bc Vancouver Island, Canada Region
IDC 17 11:14:47.5±2.7, 50°.11N×129°.93W, h0km, mb3.7/1, mbtmp3.3/8, ML3.1/7, MS3.2/7, Error ellipse: s-maj=35.4km s-min=16.3km az=62.0
ISC 17 11:14:49.3±1.6, 50°.14N±0°.09×129°.62W±0°.09, h11km, n28, σ0s93/23, MS3.4/4, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.08**	**62**	P	**Pb**	**11 15 09.5**	**-0.5**
BPEB	**Brooks Peninsu**	**1.19**	**88**	P	**Pb**	**11 15 10.3**	**-1.6**
PACB	**Port Alice, BC**	**1.40**	**77**	Pn	**Pn**	**11 15 13.8**	**-0.9**
PACB				Sn	**Sg**	**11 15 34.5**	**+0.2**
MAYB	**Maynard**	**1.59**	**80**	Pn	**Pn**	**11 15 16.8**	**-0.8**
MAYB				Sn	**Sb**	**11 15 38.8**	**-0.3**
WOSB	**Woss**	**1.96**	**88**	Pn	**Pn**	**11 15 22.6**	**-0.1**
BBB	**Bella Bella**	**2.26**	**24**	Pn	**Pn**	**11 15 26.8**	**+0.2**
	8.1nm,0.3s,baz=215,slow=12,SNR=62						
BBB				Sn	**Sn**	**11 15 55.0**	**+0.6**
	4.5nm,0.3s,baz=121,slow=21,SNR=8.6						
	19nm,0.3s						
BBB	**Bella Bella**	**2.26**	**24**	Pn	**Pn**	**11 15 26.8**	**+0.2**
BBB				Sn	**Sn**	**11 15 54.8**	**+0.4**
NCSB	**Newcastle Ridg**	**2.30**	**82**	Pn	**Pn**	**11 15 27.9**	**+0.5**
MYRA	**Myra Falls**	**2.69**	**101**	Pn	**Pn**	**11 15 33.6**	**+1.0**
CBB	**Campbell River**	**2.75**	**91**	Pn	**Pn**	**11 15 33.3**	**+0.1**
BUTB	**Butedale**	**3.02**	**13**	Pn	**Pn**	**11 15 37.2**	**+0.1**
GRIB	**Gribbell Islan**	**3.22**	**5**	Pn	**Pn**	**11 15 38.9**	**-0.9**
DLBC	**Dease Lake**	**8.32**	**359**	Pn	**Pn**	**11 16 49.1**	**-0.7**
	0.1nm,0.3s,baz=175,slow=12,SNR=3.2						
	1.9nm,1.1s						
NEW	**Newport**	**8.40**	**98**	Pn	**Pn**	**11 16 52.3**	**+1.3**
	0.1nm,0.3s,baz=311,slow=20,SNR=1.5						
NEW				LR	LR	11 20 12.0	
	comp=Z,91nm,20.6s,baz=288,slow=38						
	1.4nm,0.7s						
ELK	**Elko**	**13.77**	**128**	LR	LR	11 23 33.6	
	comp=Z,42nm,20.6s,baz=269,slow=38						
YKA	**Yellowknife Ar**	**14.87**	**28**	Pn	**Pn**	**11 18 18.1**	**-1.1**
	baz=222,slow=11,SNR=1.7						
	0.1nm,0.8s						
KDAK	**Kodiak Island**	**15.47**	**308**	LR	LR	11 22 21.5	
	comp=Z,60nm,21.1s,baz=345,slow=30						
PDAR	**Pinedale Array**	**15.64**	**110**	Pn	**P**	**11 18 33.8**	**-0.3**
	baz=300,slow=9.7,SNR=7.6						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**17.26**	**335**	P	**Pn**	**11 18 49.9**	**-0.1**
	baz=145,slow=11,SNR=1.6						
	0.3nm,0.8s						
INK	**Inuvik**	**18.33**	**355**	P	**Pn**	**11 19 03.0**	**-0.2**
	0.1nm,0.3s,baz=166,slow=12,SNR=3.0						
	0.7nm,0.7s						
ULM	**Lac du Bonnet**	**21.50**	**77**	P	**P**	**11 19 40.5**	**+2.5**
	3.2nm,0.8s,baz=285,slow=11,SNR=4.3						
	3.2nm,0.8s						
NRIK	**Noril'sk**	**57.74**	**345**	LR	LR	11 50 04.3	
	comp=Z,23nm,21.6s,baz=176,slow=37						
H11N2	**WAKE ISLAND Hy**	**58.16**	**263**	T	T	12 27 17.6	
	baz=42,slow=76,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**58.16**	**263**	T	T	12 27 18.8	
	baz=42,slow=76,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**58.18**	**263**	T	T	12 27 23.2	
	baz=42,slow=76,SNR=4.7						
JNU	**Nakatsue**	**70.90**	**299**	LR	LR	11 56 56.0	
	comp=Z,15nm,19.3s,baz=264,slow=36						
KIRV	**Kirov**	**71.63**	**1**	LR	LR	12 03 19.6	
	comp=Z,32nm,18.7s,baz=79,slow=41						
JOW	**Kunigami**	**77.11**	**296**	LR	LR	11 57 51.6	
	comp=Z,38nm,22.0s,baz=176,slow=34						

IDC 17 11:17:16.4±2.1, 2°.37S×138°.10E, h0km, mb3.1/2, mbtmp3.1/4, ML3.1/2, Error ellipse: s-maj=51.1km s-min=30.5km az=122.0
DJA 17 11:17:22.0±1.3, 3°.5S±5°.5×13°.8E±°, h13km±10km, M3.8/7, mb4.4/2, MLv3.5/7
ISC 17 11:17:18.5±1.7, 2°.8S±0°.1×138°.3E±0°.1, h10km, n11, σ1s78/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.88**	**32**	P	Pn	11 17 43.0	+6.1
GENI	**Genyem**	**1.92**	**86**	P	**Pn**	**11 17 51.3**	**0.0**
GENI				S	**Sn**	**11 18 15.3**	**-0.3**
SRPI	**Serui, Papua**	**2.19**	**293**	P	Pg	11 18 02.4	+2.0
JAY	**Jayapura**	**2.46**	**85**	Pn	**Pn**	**11 17 59.8**	**+1.0**
	6.3nm,0.3s,baz=231,slow=11,SNR=24						
JAY				Sn	**Sn**	**11 18 28.4**	**-0.6**
	5.6nm,0.3s,baz=49,slow=15,SNR=3.3						
	12nm,0.3s						
JAY	**Jayapura**	**2.46**	**85**	P	**Pn**	**11 17 59.8**	**+1.0**
JAY				S	**Sn**	**11 18 28.3**	**-0.7**
BAKI	**Biak**	**2.64**	**306**	P	Pg	11 18 09.7	+0.6
FAKI	**Fak Fak**	**5.99**	**268**	P	Pb	11 18 53.7	-9.4
MMPI	**Merauke**	**6.07**	**160**	P	**Pn**	**11 18 46.9**	**-1.4**
	272nm,1.1s						
WRA	**Warramunga Arr**	**17.51**	**192**	P	**P**	**11 21 25.7**	**+1.6**
	baz=15,slow=13,SNR=1.8						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**21.22**	**191**	P	**P**	**11 22 07.9**	**+3.3**
	0.2nm,0.5s,baz=16,slow=10,SNR=5.1						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**86.06**	**24**	P	**P**	**11 29 57.2**	**-1.9**
	0.2nm,0.7s,baz=272,slow=4.1,SNR=4.1						
	0.2nm,0.7s						

TAP 17 11:25:09.3, 24°.83N×122°.13E, h106km, ML3.1, C
JMA 17 11:25:09.2±0.2, 24°.8N±0°.8×122°.1E±0°.3, h110km±1km, MV2.4/12, TAIWAN REGION
ISC 17 11:25:09.7±1.5, 24°.84N±0°.04×122°.13E±0°.03, h105km±8km, n80, σ0s63/147, 11C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.22**	**322**	⇑*i*P	**Pn**	**11 25 24.5**	**0.0**
TWB1				*i* S	**Sn**	**11 25 35.3**	**-0.3**
TIPB	**Shuangxi**	**0.31**	**296**	⇑*i*P	**Pn**	**11 25 24.9**	**0.0**
TIPB				S	**Sn**	**11 25 35.8**	**-0.6**
TWC	**Suao**	**0.34**	**229**	P	**Pn**	**11 25 25.0**	**-0.1**
TWC				S	**Sn**	**11 25 36.1**	**-0.4**
SXI1	**Grass Mountain**	**0.35**	**318**	⇑*i*P	**Pn**	**11 25 24.9**	**-0.3**
SXI1				S	**Sn**	**11 25 36.5**	**-0.3**
ILA	**Ilan**	**0.36**	**259**	*e*P	**Pn**	**11 25 25.2**	**+0.2**
ESAO	**Su ao**	**0.37**	**226**	P	**Pn**	**11 25 25.1**	**-0.1**
ESAO				S	**Sn**	**11 25 36.2**	**-0.6**
NWF	**Wu-fen Shan**	**0.40**	**306**	*e*P	**Pn**	**11 25 25.4**	**0.0**
WFSB	**Wu-fen Shan**	**0.40**	**306**	*e*P	**Pn**	**11 25 25.5**	**+0.2**
EOS2	**EOS2**	**0.42**	**168**	P	**Pn**	**11 25 26.1**	**+0.8**
EOS2				S	**Sn**	**11 25 38.3**	**+1.2**
NDS	**Dongshan**	**0.43**	**242**	*e*P	**Pn**	**11 25 24.8**	**-0.7**
NDS				*e*S	**Sn**	**11 25 37.1**	**-0.3**
TWE	**Neicheng**	**0.44**	**255**	*e*P	**Pn**	**11 25 25.6**	**0.0**
TWE				*e*S	**Sn**	**11 25 36.9**	**-0.5**
TNOU	**National Taiwa**	**0.45**	**314**	*e*P	**Pn**	**11 25 26.5**	**+0.8**
FUSB	**Fushanzhiwuyua**	**0.50**	**261**	⇑*i*P	**Pn**	**11 25 25.9**	**-0.1**
FUSB				*e*S	**Sn**	**11 25 38.2**	**-0.1**
EWUT	**Wuta**	**0.51**	**220**	*e*P	**Pn**	**11 25 26.4**	**+0.4**
EWUT				*e*S	**Sn**	**11 25 38.5**	**+0.3**
TWA	**Mucha**	**0.52**	**286**	P	**Pn**	**11 25 26.7**	**+0.6**
ENA	**Nanau**	**0.54**	**221**	P	**Pn**	**11 25 26.6**	**+0.3**
ENA				S	**Sn**	**11 25 39.1**	**+0.4**
ENTT	**Nioudou**	**0.55**	**249**	⇑P	**Pn**	**11 25 26.6**	**+0.3**
ENTT				*e*S	**Sn**	**11 25 39.9**	**+0.9**
NHDH	**Xindian Distri**	**0.57**	**283**	P	**Pn**	**11 25 26.3**	**-0.2**
NHDH				*e*S	**Sn**	**11 25 39.8**	**+0.8**
EOS3	**EOS3**	**0.57**	**163**	*e*P	**Pn**	**11 25 27.3**	**+0.9**
EOS3				*e*S	**Sn**	**11 25 40.4**	**+1.6**
NWLT	**Wulai**	**0.58**	**264**	P	**Pn**	**11 25 26.4**	**-0.2**
NWLT				S	**Sn**	**11 25 39.2**	**-0.1**
YM01	**YM01**	**0.60**	**301**	P	**Pn**	**11 25 26.5**	**-0.2**
YM01				*e*S	**Sn**	**11 25 39.9**	**+0.4**
EAHA	**Aohua**	**0.62**	**216**	P	**Pn**	**11 25 26.8**	**-0.1**
EAHA				S	**Sn**	**11 25 40.2**	**+0.4**
ZUZH	**Zhuzihu**	**0.62**	**301**	*e*P	**Pn**	**11 25 26.7**	**-0.2**
ZUZH				*e*S	**Sn**	**11 25 39.9**	**-0.1**
LATG	**Datong**	**0.63**	**242**	⇑P	**Pn**	**11 25 27.5**	**+0.4**
LATG				*e*S	**Sn**	**11 25 41.1**	**+0.9**
TWY	**Chenhua**	**0.65**	**312**	*e*P	**Pn**	**11 25 25.8**	**-1.3**
TWY				*e*S	**Sn**	**11 25 39.0**	**-1.2**
ANP	**Anpu**	**0.66**	**302**	*e*P	**Pn**	**11 25 26.8**	**-0.4**
TWS1	**Kuangyinshan**	**0.70**	**292**	*e*P	**Pn**	**11 25 26.9**	**-0.6**
TWS1				*e*S	**Sn**	**11 25 41.2**	**+0.2**
YHNB	**Yeheng**	**0.71**	**257**	⇑*i*P	**Pn**	**11 25 27.8**	**0.0**
YHNB				*e*S	**Sn**	**11 25 41.1**	**-0.1**
NSK	**Sanguang**	**0.72**	**257**	P	**Pn**	**11 25 27.7**	**-0.1**
NSK				S	**Sn**	**11 25 40.8**	**-0.7**
EOS4	**EOS4**	**0.73**	**167**	*e*P	**Pn**	**11 25 27.6**	**+0.2**
EOS4				*e*S	**Sn**	**11 25 40.8**	**+0.1**
PCYT	**Pengchaiyu**	**0.79**	**356**	*e*P	**Pn**	**11 25 28.6**	**+0.2**
PCYT				*e*S	**Sn**	**11 25 42.6**	**+0.1**
NNSB	**Datong**	**0.80**	**239**	P	**Pn**	**11 25 28.9**	**+0.3**
NNSB				S	**Sn**	**11 25 42.9**	**+0.1**
NNS	**Nan Shan**	**0.80**	**240**	P	**Pn**	**11 25 29.0**	**+0.4**
NNS				S	**Sn**	**11 25 42.

ETLH	**Xiulin Townshi**	**0.86 224**	*e*P	**Pn**	**11 25 29.0**	**-0.1**
ETLH			*e*S	**Sn**	**11 25 43.2**	**-0.7**
NCUH	**Zhongli**	**0.87 279**	*e*P	**Pn**	**11 25 29.4**	**+0.3**
NCUH			*e*S	**Sn**	**11 25 43.9**	**+0.1**
KSHI	**Guanxi Townshi**	**0.87 266**	*e*P	**Pn**	**11 25 29.6**	**+0.4**
KSHI			*e*S	**Sn**	**11 25 44.4**	**+0.5**
YOJ	**Yonaguni jima**	**0.88 115**	*e*P	**Pn**	**11 25 29.2**	**0.0**
YOJ			*e*S	**Sn**	**11 25 44.2**	**+0.2**
YOJ	**Yonaguni jima**	**0.88 115**	⇓P	**Pn**	**11 25 29.2**	**0.0**
YOJ			*e*S	**Sn**	**11 25 43.9**	**0.0**
TWD	**Chiawan**	**0.90 213**	*e*P	**Pn**	**11 25 29.0**	**-0.4**
TWD			*e*S	**Sn**	**11 25 43.3**	**-1.0**
NFF	**Wufeng Townshi**	**0.95 258**	*e*P	**Pn**	**11 25 29.9**	**-0.1**
NFF			*e*S	**Sn**	**11 25 44.7**	**-0.5**
FUSS	**Fushou**	**1.00 234**	*e*P	**Pn**	**11 25 31.3**	**+0.6**
FUSS			*e*S	**Sn**	**11 25 47.0**	**+0.4**
LIOB	**Emei**	**1.03 260**	*e*P	**Pn**	**11 25 30.9**	**+0.1**
LIOB			*e*S	**Sn**	**11 25 46.4**	**-0.4**
LXIB	**Xiulin Townshi**	**1.04 219**	⇑*i*P	**Pn**	**11 25 30.4**	**-0.7**
LXIB			S	**Sn**	**11 25 45.8**	**-1.5**
SBCB	**Hsinchu**	**1.04 268**	*e*S	**Sn**	**11 25 47.0**	**+0.1**
ETM	**Tongmen**	**1.05 214**	P	**Pn**	**11 25 30.2**	**-0.8**
ETM			*e*S	**Sn**	**11 25 45.5**	**-1.5**
TWT	**Tachien**	**1.05 237**	*e*P	**Pn**	**11 25 32.0**	**+0.9**
TWT			*e*S	**Sn**	**11 25 47.7**	**+0.3**
WHF	**Hehuan Shan**	**1.05 229**	P	**Pn**	**11 25 31.6**	**+0.2**
WHF			S	**Sn**	**11 25 46.9**	**-0.9**
NSTT	**Nanjuang**	**1.05 259**	P	**Pn**	**11 25 30.9**	**-0.1**
NSTT			*e*S	**Sn**	**11 25 46.5**	**-0.6**
TDCB	**Techi**	**1.06 237**	⇑P	**Pn**	**11 25 31.9**	**+0.6**
TDCB			*e*S	**Sn**	**11 25 47.6**	**0.0**
SHUL	**Shoufeng**	**1.17 207**	*e*P	**Pn**	**11 25 32.3**	**0.0**
SHUL			*e*S	**Sn**	**11 25 49.4**	**0.0**
ESL	**Shilin**	**1.20 212**	*e*P	**Pn**	**11 25 31.7**	**-1.0**
ESL			*e*S	**Sn**	**11 25 48.3**	**-1.8**
WHP	**Taichung City**	**1.22 243**	*e*P	**Pn**	**11 25 33.5**	**+0.6**
WHP			*e*S	**Sn**	**11 25 50.4**	**-0.2**
OWD	**Renai**	**1.24 225**	*e*P	**Pn**	**11 25 33.6**	**+0.4**
OWD			*e*S	**Sn**	**11 25 50.3**	**-0.8**
WUSB	**Renai**	**1.25 228**	*e*P	**Pn**	**11 25 33.8**	**+0.4**
WUSB			*e*S	**Sn**	**11 25 51.1**	**-0.2**
WARBT	**Fenglin Townsh**	**1.31 212**	*e*P	**Pn**	**11 25 32.5**	**-1.4**
WARBT			*e*S	**Sn**	**11 25 50.2**	**-2.1**
EGFH	**Guangfu**	**1.33 209**	*e*P	**Pn**	**11 25 34.6**	**+0.4**
EGFH			*e*S	**Sn**	**11 25 51.0**	**-1.7**
TWQ1	**Liyutan**	**1.33 249**	*e*P	**Pn**	**11 25 34.2**	**+0.1**
TWQ1			*e*S	**Sn**	**11 25 52.6**	**-0.2**
WCS	**Beigang Elemen**	**1.36 235**	*e*P	**Pn**	**11 25 35.0**	**+0.5**
WCS			*e*S	**Sn**	**11 25 53.4**	**+0.1**
VWDT	**VWDT**	**1.41 220**	⇑P	**Pn**	**11 25 35.4**	**+0.3**
VWDT			*e*S	**Sn**	**11 25 54.4**	**+0.1**
SMLT	**Sun Moon Lake**	**1.47 230**	*e*P	**Pn**	**11 25 35.7**	**-0.3**
SMLT			*e*S	**Sn**	**11 25 56.2**	**+0.2**
HGSD	**Ruisui**	**1.49 206**	*e*P	**Pn**	**11 25 35.9**	**-0.2**
HGSD			*e*S	**Sn**	**11 25 55.7**	**-0.3**
TYC	**Yuchr**	**1.49 236**	*e*P	**Pn**	**11 25 36.8**	**+0.8**
TYC			*e*S	**Sn**	**11 25 56.5**	**+0.4**
SSLB	**Suanglung**	**1.50 226**	*e*P	**Pn**	**11 25 36.8**	**+0.6**
SSLB			*e*S	**Sn**	**11 25 57.3**	**+1.0**
EHY	**Hungye**	**1.52 209**	*e*P	**Pn**	**11 25 35.1**	**-1.4**
IRIF	**Iriomote-Funau**	**1.54 109**	*e*P	**Pn**	**11 25 36.4**	**-0.2**
YULB	**Yu-li**	**1.63 208**	*e*P	**Pn**	**11 25 37.1**	**-0.7**
WHYT	**Xinyi Township**	**1.63 226**	*e*P	**Pn**	**11 25 38.7**	**+0.9**
WHYT			*e*S	**Sn**	**11 25 59.5**	**+0.3**
WNT	**Mingjian**	**1.63 234**	*e*S	**Sn**	**11 25 59.5**	**+0.3**
WJS	**Zhushan**	**1.63 232**	*e*P	**Pn**	**11 25 38.2**	**+0.4**
WJS			*e*S	**Sn**	**11 25 59.7**	**+0.5**
EYUL	**Yuli**	**1.66 207**	*e*P	**Pn**	**11 25 38.6**	**+0.4**
EYUL			*e*S	**Sn**	**11 25 60.0**	**+0.1**
TWF1	**Yuli**	**1.66 208**	*e*P	**Pn**	**11 25 37.5**	**-0.7**
ALS	**Alishan**	**1.79 223**	*e*P	**Pn**	**11 25 41.0**	**+0.8**
ALS			*e*S	**Sn**	**11 26 04.5**	**+1.2**
JKRS	**Kuro-shima**	**1.81 109**	*e*P	**Pn**	**11 25 40.2**	**+0.2**
JKRS			*e*S	**Sn**	**11 26 03.2**	**+0.1**
CHN5	**Tsauling**	**1.81 227**	*e*S	**Sn**	**11 26 03.6**	**+0.2**
JIJ	**Ishigaki jima**	**1.89 104**	*e*P	**Pn**	**11 25 40.9**	**-0.1**
JIJ			*e*S	**Sn**	**11 26 04.0**	**-0.9**
WCKO	**Fanlu**	**1.97 225**	*e*P	**Pn**	**11 25 42.7**	**+0.6**
WCKO			*e*S	**Sn**	**11 26 07.8**	**+0.9**
JISG	**Ishigakijimahi**	**2.00 97**	P	**Pn**	**11 25 42.5**	**+0.2**
JISG			*e*S	**Sn**	**11 26 07.2**	**-0.1**

HEL 17 11:39:14.9±0.6, 60°.95N×29°.37E, h0km, ML1.4, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.52**	**337**	PG	Pg	11 39 24.3	-0.6
	baz=156						
RUF				SG	Sg	11 39 30.5	-1.2
RUF				MSG		11 39 31.8	
	comp=Z,3.7nm,0.2s						
VJF	**Virojoki**	**0.98**	**246**	PG	Pg	11 39 32.7	-1.0
	baz=68						
VJF				MSG		11 39 45.0	
	comp=Z,5.8nm,0.2s						
VJF				SG	Sg	11 39 45.7	-0.6
FIA0	**FINESS Array S**	**1.67**	**289**	PG	Pn	11 39 44.8	-0.6
	baz=105						
FIA0				MSG		11 40 04.9	
	comp=Z,2.3nm,0.2s						
FIA0				SG	Sn	11 40 05.5	-2.0
PVF	**Pernaja**	**1.77**	**258**	PG	Pn	11 39 46.0	-0.7
PVF				MSG		11 40 07.8	
	comp=Z,2.2nm,0.2s						
PVF				SG	Sn	11 40 10.4	+0.5
KAF	**Kangasniemi**	**1.88**	**310**	PG	Pb	11 39 49.3	-0.8
	baz=129						
KAF				MSG		11 40 10.9	
	comp=Z,2.1nm,0.2s						
KAF				SG	Sn	11 40 13.1	+0.5
JOF	**Joensuu**	**2.18**	**24**	SG	Sb	11 40 22.2	-0.6
SUF	**Sumiainen**	**2.35**	**321**	PG	Pb	11 39 57.6	-0.4
SUF				MSG		11 40 24.4	
	comp=Z,0.7nm,0.2s						
SUF				SG	Sb	11 40 27.5	+0.1
KEF	**Keuruu**	**2.48**	**302**	MSG		11 40 28.2	
	comp=Z,2.0nm,0.2s						
KEF				SG	Sb	11 40 30.5	-0.8
MEF	**Metsahovi**	**2.56**	**256**	PG	Pb	11 40 00.2	-1.4
MEF				MSG		11 40 30.6	
	comp=Z,1.4nm,0.2s						
MTSE	**Matsula**	**3.59**	**234**	PB	Pn	11 40 14.9	+3.2

IDC 17 11:44:53.1±331.0, 57°.59N×30°.27E, h0km, Error ellipse: s-maj=140.1km s-min=87.7km az=86.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.88**	**100**	I	I	12 10 33.0	
	0.2nm,1.1s,baz=284,slow=307,SNR=8.3						
I37NO	**I37NO**	**12.63**	**341**	I	I	12 54 40.0	
	0.1nm,0.6s,baz=146,slow=328,SNR=1.8						
I18DK	**QAANAAQ INFRAS**	**36.61**	**339**	I	I	15 30 40.0	
	baz=60,slow=340,SNR=2.8						

IDC 17 12:02:13.5±305.0, 58°.10N×31°.36E, h0km, Error ellipse: s-maj=128.7km s-min=76.8km az=102.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.46**	**111**	I	I	12 23 20.0	
	0.1nm,0.8s,baz=297,slow=323,SNR=2.9						
I37NO	**I37NO**	**12.35**	**338**	I	I	13 11 20.0	
	baz=150,slow=326,SNR=2.1						
I18DK	**QAANAAQ INFRAS**	**36.34**	**339**	I	I	15 48 50.0	
	baz=62,slow=338,SNR=3.6						

*IDC **17** 12:07:58.8±4.8, 35°.70N×22°.27E, h0km, mb3.6/4, mbtmp3.5/5, ML1.1/1, Error ellipse: s-maj=111.6km s-min=29.4km az=24.0*
*ATH **17** 12:08:00.7±1.4, 34°.94N×22°.22E, h23km, ML2.8/7, Manual Solution by G.Panopoulou First location: 2019/04/17 12:09:29, This location: 2019/04/17 16:17:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 10 km; Longitude uncertainty: 8 km*

ISC 17 12:07:55.9±2.0, 34°.8N±0°.2×22°.1E±0°.1, h10km, n32, σ1§10/33, mb3.7/4, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**1.38**	**70**	P	**Pn**	**12 08 21.2**	**-0.1**
ANKY	**Antikythira Is**	**1.47**	**42**	P	**Pn**	**12 08 22.4**	**-0.1**
GVD	**Gavdhos**	**1.64**	**87**	P	**Pg**	**12 08 27.1**	**-0.2**
IMMV	**Iera Moni Meta**	**1.69**	**66**	P	**Pn**	**12 08 26.5**	**+1.0**
VLI	**Veliai**	**2.06**	**19**	P	**Pn**	**12 08 31.6**	**+1.1**
IDI	**Anoyia**	**2.35**	**77**	Pn	**Pn**	**12 08 36.5**	**+1.9**
	2.9nm,0.3s,baz=251,slow=16,SNR=15						
IDI				Sn	**Sn**	**12 09 04.4**	**+0.8**
	1.7nm,0.3s,baz=323,slow=11,SNR=2.0 8.7nm,0.4s						
IDI	**Anoyia**	**2.35**	**77**	P	**Pn**	**12 08 36.5**	**+1.9**
MHLO	**Agia Marina, M**	**2.68**	**44**	P	**Pn**	**12 08 40.0**	**+0.9**
MET5	**Makryloggos,Me**	**3.02**	**19**	P	**Pn**	**12 08 45.2**	**+1.4**
MET4	**Agioi Theodoro**	**3.03**	**20**	P	**Pn**	**12 08 45.2**	**+1.3**
GUR	**Goura**	**3.16**	**4**	P	**Pn**	**12 08 47.5**	**+1.6**
KLV	**Kalavryta, Ach**	**3.26**	**1**	P	**Pn**	**12 08 49.1**	**+1.9**
LTK	**Loutraki**	**3.32**	**12**	P	**Pn**	**12 08 49.2**	**+1.3**
VLY	**Voula,Athens**	**3.37**	**24**	P	**Pn**	**12 08 48.9**	**+0.4**
YRMI	**Loutra Irminis**	**3.38**	**350**	P	**Pn**	**12 08 49.3**	**+0.6**
AXS	**Araxos**	**3.46**	**351**	P	**Pn**	**12 08 51.3**	**+1.5**
ATHU	**Athens Univers**	**3.47**	**23**	P	**Pn**	**12 08 50.5**	**+0.6**
UPR	**University Cam**	**3.51**	**356**	P	**Pn**	**12 08 50.9**	**+0.3**
VIL2	**Platees**	**3.56**	**15**	P	**Pn**	**12 08 51.2**	**0.0**
PTL	**Penteli**	**3.57**	**23**	P	**Pn**	**12 08 51.7**	**+0.4**
DION	**Dionisos Attik**	**3.62**	**24**	P	**Pn**	**12 08 52.6**	**+0.7**
SERG	**Sergoula**	**3.63**	**360**	P	**Pn**	**12 08 52.7**	**+0.5**
EFP	**Efpalio**	**3.65**	**358**	P	**Pn**	**12 08 53.3**	**+0.9**
KARY	**Karystos**	**3.76**	**29**	P	**Pn**	**12 08 54.6**	**+0.7**
ANX	**Ano Chora**	**3.81**	**358**	P	**Pn**	**12 08 56.0**	**+1.2**
LKR	**Lokris**	**3.94**	**10**	P	**Pn**	**12 08 56.5**	**+0.2**
KYMI	**Kymi, Euboea I**	**4.17**	**22**	P	**Pn**	**12 09 00.2**	**+0.5**
MAKR	**Makrakomi, Fth**	**4.23**	**0**	P	**Pn**	**12 09 02.2**	**+1.8**
KURBB	**Kurchatov Arra**	**43.32**	**51**	P	**P**	**12 15 57.0**	**-0.8**
	0.4nm,0.4s,baz=275,slow=8.7,SNR=5.4 0.4nm,0.4s						
MKAR	**Makanchi Array**	**46.08**	**56**	P	**P**	**12 16 19.3**	**-0.7**
	0.4nm,0.3s,baz=268,slow=8.0,SNR=9.1 0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**47.08**	**46**	P	**P**	**12 16 26.2**	**-1.4**
	0.5nm,0.3s,baz=263,slow=7.8,SNR=3.8 0.5nm,0.3s						
YKA	**Yellowknife Ar**	**77.02**	**341**	P	**P**	**12 19 48.2**	**-0.4**
	0.2nm,0.8s,baz=31,slow=4.9,SNR=2.6 0.2nm,0.8s						

WEL 17 12:14:01.5±0.8, 32°S±8°×18°0E±1°8, h437km±14km, M3.8/12, mB4.2/7, ML4.5/3, MLv4.2/12, Mw(mB)3.3/7, Error ellipse: s-maj=25.2km s-min=7.1km az=109.4, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.33**	**194**	P	P	12 15 28.4	+0.1
MXZ				S	S	12 16 38.5	-0.9
WMGZ	**Waiomatatini S**	**5.56**	**192**	P	P	12 15 31.2	+0.6
WMGZ				S	S	12 16 44.6	+1.0
HAZ	**Te Kaha**	**5.64**	**197**	P	P	12 15 30.5	-0.9
HAZ				S	S	12 16 44.9	-0.1
PKGZ	**Pakihiroa**	**5.67**	**195**	P	P	12 15 31.9	+0.1
PKGZ				S	S	12 16 47.3	+1.6
WCZ	**Waipu Caves**	**5.82**	**231**	P	P	12 15 32.7	-0.6
PUZ	**Puketiti**	**5.83**	**193**	P	P	12 15 33.0	-0.5
PUZ				S	S	12 16 48.6	-0.2
RUGZ	**Raukumara Rang**	**5.86**	**198**	P	P	12 15 31.5	-2.4
RUGZ				S	S	12 16 48.0	-1.4
TWGZ	**Tauwhareparae**	**5.99**	**195**	P	P	12 15 36.3	+1.1
TWGZ				S	S	12 16 53.7	+1.9
CNGZ	**Carnagh Statio**	**6.24**	**192**	P	P	12 15 39.1	+1.4
CNGZ				S	S	12 17 00.6	+4.0
MWZ	**Matawai**	**6.25**	**198**	P	P	12 15 34.5	-3.3
MWZ				S	S	12 16 56.9	+0.2
TKGZ	**Te Karaka**	**6.27**	**195**	P	P	12 15 37.9	-0.1
TKGZ				S	S	12 16 57.6	+0.6
URZ	**Urewera**	**6.29**	**201**	P	P	12 15 36.8	-1.4
URZ				S	S	12 16 56.8	-0.6
RAGZ	**Rawiri**	**6.43**	**198**	P	P	12 15 40.6	+0.9
RIGZ	**Rimuhau**	**6.55**	**195**	P	P	12 15 41.6	+0.5
RIGZ				S	S	12 17 04.1	+1.7
MUGZ	**Murupara**	**6.60**	**202**	P	P	12 15 40.2	-1.4
MUGZ				S	S	12 17 02.4	-1.0
RTZ	**Ruatahuna**	**6.66**	**200**	P	P	12 15 42.6	+0.2
RTZ				S	S	12 17 04.6	-0.1
HRRZ	**Handcock Road**	**6.69**	**205**	P	P	12 15 44.9	+2.3
SNGZ	**Shannon Statio**	**6.72**	**197**	P	P	12 15 42.5	-0.4
SNGZ				S	S	12 17 06.3	+0.5
PRGZ	**Paritu Road**	**6.73**	**194**	P	P	12 15 42.7	-0.4
PRGZ				S	S	12 17 06.8	+0.7
ALRZ	**Allen Road**	**6.82**	**204**	P	P	12 15 45.0	+1.0
KNZ	**Kokohu**	**6.87**	**195**	P	P	12 15 44.5	0.0
RAHZ	**Arahi**	**6.91**	**199**	P	P	12 15 46.1	+1.1
RAHZ				S	S	12 17 11.2	+1.7
MTHZ	**Maungataniwha**	**6.92**	**200**	P	P	12 15 44.0	-1.1
MTHZ				S	S	12 17 08.9	-0.9
TLZ	**Tolley Road**	**6.92**	**210**	P	P	12 15 48.4	+3.3
MHGZ	**Mahia Peninsul**	**6.95**	**193**	P	P	12 15 45.8	+0.5
MHGZ				S	S	12 17 12.4	+2.1
NMHZ	**Naumai**	**7.16**	**200**	P	P	12 15 48.6	+0.9
NMHZ				S	S	12 17 16.7	+2.2
ARHZ	**Aropaoanui**	**7.26**	**198**	P	P	12 15 49.7	+1.0
ARHZ				S	S	12 17 16.1	-0.3
BKZ	**Black Stump Fm**	**7.32**	**201**	P	P	12 15 48.2	-1.1
BKZ				S	S	12 17 17.3	-0.3
HIZ	**Hauiti**	**7.38**	**213**	P	P	12 15 54.0	+4.0
TMVZ	**Te Maari**	**7.54**	**206**	P	P	12 15 52.6	+0.8
KWHZ	**Kaweka Forest**	**7.57**	**201**	P	P	12 15 52.4	+0.2
WTVZ	**West Tongariro**	**7.58**	**206**	P	P	12 15 53.7	+1.4
OTVZ	**Oturere**	**7.59**	**206**	P	P	12 15 52.8	+0.4
SNVZ	**South Ngauruho**	**7.62**	**206**	P	P	12 15 53.4	+0.6
TUVZ	**Tukino**	**7.69**	**206**	P	P	12 15 53.7	+0.2
WHVZ	**Whangaehu Hut**	**7.73**	**206**	P	P	12 15 54.6	+0.6
WNVZ	**Wahianoa**	**7.76**	**206**	P	P	12 15 54.6	+0.3
MOVZ	**Moawhango**	**7.78**	**205**	P	P	12 15 55.0	+0.6
KRHZ	**Kereru**	**7.79**	**201**	P	P	12 15 54.2	-0.6
KRHZ				S	S	12 17 27.1	+0.1
KAHZ	**Kahuranaki**	**7.79**	**198**	P	P	12 15 54.6	+0.1
PXZ	**Pawanui**	**8.02**	**197**	P	P	12 15 57.5	+0.7
PXZ				S	S	12 17 30.3	-1.2
PNHZ	**Pukenui**	**8.09**	**201**	P	P	12 15 57.4	-0.3
PNHZ				S	S	12 17 32.9	-0.1
TSZ	**Takapari Road**	**8.30**	**202**	P	P	12 15 58.4	-1.5
PRHZ	**Porangahau**	**8.30**	**198**	P	P	12 16 01.3	+1.4
PRHZ				S	S	12 17 39.9	+2.7
WAZ	**Wanganui**	**8.37**	**207**	S	S	12 17 41.9	+3.4
DVHZ	**Dannevirke**	**8.46**	**200**	P	P	12 16 01.9	+0.2
DVHZ				S	S	12 17 39.1	-1.3
BFZ	**Birch Farm**	**8.79**	**199**	P	P	12 16 05.4	+0.1
BFZ				S	S	12 17 49.1	+2.0
MRZ	**Mangatainoka R**	**8.96**	**202**	P	P	12 16 06.6	-0.5
MRZ				S	S	12 17 48.8	-1.8

*HEL **17** 12:51:41.7±0.4, 68°.35N×33°.35E, h0km, ML1.8, Explosion*
*KOLA **17** 12:51:43.8, 68°.05N×33°.42E, h0km, ML2.1, Error ellipse: s-maj=2.7km s-min=2.0km az=100.0, Olenegorsk City, Mines*
*IDC **17** 12:51:45.8±2.8, 68°.03N×32°.70E, h0km, mbtmp2.8/2, ML2.0/2, Error ellipse: s-maj=30.4km s-min=11.2km az=75.0*

ISC 17 12:51:42.7±0.8, 68°.06N±0°.03×33°.38E±0°.03, h0km, n29, σ1§48/46, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.48**	**198**	P	**Pg**	**12 51 51.9**	**+0.1**
APA0				S	**Sg**	**12 51 58.4**	**+0.5**
APA	**Apatity**	**0.49**	**179**	P	**Pg**	**12 51 52.0**	**0.0**
APA				S	**Sg**	**12 51 59.2**	**+0.8**
LVZ	**Lovozero**	**0.51**	**108**	P	**Pg**	**12 51 52.4**	**+0.1**
LVZ				S	**Sg**	**12 51 58.9**	**+0.1**
LVZ	**Lovozero**	**0.51**	**108**	PG	**Pb**	**12 51 53.6**	**-0.8**
LVZ				SG	**Sg**	**12 51 59.8**	**+1.0**
TERR	**Teriberka**	**1.31**	**28**	P	**Pg**	**12 52 06.4**	**-1.4**
TERR				S	**Sg**	**12 52 24.7**	**0.0**
KVDA	**Kovda**	**1.39**	**188**	P	**Pn**	**12 52 08.3**	**-0.8**
KVDA				S	**Sg**	**12 52 27.4**	**+0.3**
VRF	**Varrio**	**1.46**	**259**	PG	**Pn**	**12 52 09.0**	**-1.2**
	baz=68						
VRF				MSG		12 52 27.6	
	comp=Z,7.3nm,0.2s						
VRF				SG	**Sg**	**12 52 29.2**	**-0.3**
OLKF	**Oulanka, Finla**	**2.33**	**223**	PN	**Pn**	**12 52 23.3**	**+1.0**
OLKF				SN	**Sb**	**12 52 54.7**	**-0.2**
OLKF				MSG		12 52 56.9	
	comp=Z,4.5nm,0.2s						
KU6	**Riekki**	**2.46**	**215**	PN	**Pn**	**12 52 25.8**	**+1.8**
KU6				SN	**Sb**	**12 52 59.4**	**+0.9**
KU6				MSG		12 53 01.0	
	comp=Z,2.7nm,0.2s						
VADS	**Vadso**	**2.52**	**327**	P	**Pn**	**12 52 26.4**	**+1.5**
VADS				S	**Sn**	**12 52 57.4**	**+1.2**
MSF	**Maaselka**	**2.75**	**220**	PN	**Pn**	**12 52 30.4**	**+2.4**
KEV	**Kevo**	**2.87**	**309**	*e*P	**Pn**	**12 52 31.6**	**+2.1**
KU1	**Kurvinen**	**2.93**	**213**	PB	**Pb**	**12 52 35.9**	**+0.2**
KU2	**Taivalkoski**	**3.11**	**223**	PB	**Pb**	**12 52 38.9**	**+0.1**
RNF	**Rovaniemi**	**3.20**	**246**	PN	**Pn**	**12 52 35.0**	**+0.9**
RNF				SN	**Sn**	**12 53 13.8**	**+0.9**
ARA0	**ARCESS Array S**	**3.22**	**301**	PG	**Pn**	**12 52 34.5**	**0.0**
ARCES	**ARCESS Array B**	**3.22**	**301**	Pn	**Pn**	**12 52 34.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=118,slow=15,SNR=36						
ARCES				Lg	Lg	12 53 20.7	
	comp=Z,0.8nm,0.3s,baz=117,slow=34,SNR=4.9 comp=Z,0.7nm,0.3s						
ARCES	**ARCESS Array B**	**3.22**	**301**	P	**Pn**	**12 52 34.2**	**-0.2**
ARCES				S	**Sn**	**12 53 14.3**	**+0.8**
RANF	**Ranua**	**3.30**	**235**	PN	**Pn**	**12 52 36.5**	**+1.1**
RANF				SB	**Sb**	**12 53 23.8**	**+1.2**
HEF	**Hetta**	**3.64**	**280**	*e*P	**Pn**	**12 52 39.3**	**-0.9**
KLF	**Kolari**	**3.69**	**261**	PB	**Pn**	**12 52 43.6**	**+2.7**
	baz=70						
KLF				SG	**Sb**	**12 53 36.5**	**+2.6**
KTK1	**Kautokeino**	**3.85**	**289**	PB	**Pn**	**12 52 43.5**	**+0.5**
TOF	**Tornio**	**4.06**	**245**	PG	**Pb**	**12 52 56.5**	**+1.5**
TOF				SN	**Sn**	**12 53 32.0**	**-2.1**
RMF	**Romuvaara**	**4.10**	**202**	PN	**Pn**	**12 52 47.8**	**+1.3**
	baz=16						
KALU	**Kalix**	**4.51**	**245**	SG	**Sg**	**12 54 05.1**	**-2.4**
ERTU	**Ertsjaerv**	**4.59**	**256**	PN	**Pn**	**12 52 53.2**	**0.0**
ERTU				SN	**Sn**	**12 53 45.4**	**-1.8**
I37NO	**I37NO**	**5.51**	**287**	I	I	13 26 40.0	
	comp=Z,0.1nm,1.0s,baz=95,slow=327,SNR=13						
FAUS	**Fauske**	**6.91**	**273**	P	**Pn**	**12 53 24.6**	**-0.4**
FAUS				S	**Sn**	**12 54 39.5**	**-4.6**
FINES	**FINESS Array B**	**7.33**	**209**	Pn	**Pn**	**12 53 29.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=2.2						
FINES				Sn	**Sn**	**12 54 51.8**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=1.1,slow=21,SNR=1.9						
FINES				Lg	Lg	12 55 27.7	
	comp=Z,0.2nm,0.3s,baz=21,slow=27,SNR=4.1 comp=Z,1.4nm,0.9s						

*IDC **17** 13:01:33.3±1.3, 24°.89N×123°.07E, h0km, mb3.5/5, mbtmp3.5/6, ML3.4/1, MS3.1/5, Error ellipse: s-maj=68.9km s-min=20.6km az=66.0*
*JMA **17** 13:01:34.6±0.2, 25°.0N±0°.8×123°.5E±0°.3, h23km, MV2.7/11, NW OFF ISHIGAKIJIMA IS*

ISC 17 13:01:36.7±0.9, 24°.87N±0°.07×123°.44E±0°.06, h32km, n18, σ1§19/18, mb3.6/5, MS3.4/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.56**	**224**	P	**Pb**	**13 01 47.2**	**-0.9**
YOJ				*e*S	**Sb**	**13 01 55.7**	**-0.3**
IRIF	**Iriomote-Funau**	**0.59**	**153**	P	**Pb**	**13 01 47.8**	**-0.9**
IRIF				*e*S	**Sb**	**13 01 56.5**	**-0.5**
JYNG	**Yonagunijimaku**	**0.61**	**227**	P	**Pb**	**13 01 47.8**	**-1.2**
JYNG				S	**Sb**	**13 01 57.5**	**+0.1**
JIJ	**Ishigaki jima**	**0.81**	**128**	P	**Pn**	**13 01 50.6**	**-1.4**
JKRS	**Kuro-shima**	**0.81**	**140**	P	**Pn**	**13 01 51.3**	**-0.6**
JKRS				*e*S	**Sn**	**13 02 03.6**	**+0.7**
JISG	**Ishigakijimahi**	**0.84**	**109**	P	**Pn**	**13 01 50.7**	**-1.6**
HATJ	**Hateruma jima**	**0.87**	**157**	P	**Pn**	**13 01 52.6**	**-0.2**
JTJ	**Tarama**	**1.17**	**101**	*e*P	**Pn**	**13 01 56.1**	**-0.7**
KSRS	**Korea Array**	**13.12**	**16**	Pn	**Pn**	**13 04 41.9**	**+1.1**
	0.2nm,0.3s,baz=195,slow=13,SNR=4.5						
KSRS				LR	LR	13 10 56.4	
	comp=Z,26nm,18.1s,baz=205,slow=43 0.2nm,0.3s						
DAV	**Davao City (W)**	**17.82**	**173**	LR	LR	13 12 27.6	
	comp=Z,29nm,19.8s,baz=347,slow=37						
MKAR	**Makanchi Array**	**39.30**	**314**	P	**P**	**13 09 02.4**	**-0.3**
	1.0nm,0.9s,baz=114,slow=8.2,SNR=6.5 1.0nm,0.9s						

0.1nm,0.4s
I46RU ZALESOVO INFRA 5.46 41 I I 13 40 00.0
baz=226,slow=319,SNR=12
ZALV Zalesovo Beam 5.46 41 Pn **Pn 13 11 42.9 +1.4**
0.3nm,0.3s,baz=237,slow=13,SNR=4.1
0.8nm,0.4s

*IDC **17** 13:22:14.8±5.2, 61°.90N×30°.51E, h0km, mbtmp2.3/1, ML1.6/1, Error ellipse: s-maj=43.3km s-min=37.5km az=85.0*
*HEL **17** 13:22:16.2±0.3, 61°.90N×30°.47E, h0km, ML1.4, Suspected explosion*

ISC 17 13:22:13.8±1.7, 61°.97N±0°.06×30°.60E±0°.09, h0km, n11, σ1§06/14, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.96**	**236**	PG	**Pg**	**13 22 32.1**	**0.0**
RUF				MSG		13 22 43.2	
comp=Z,2.5nm,0.2s							
JOF	**Joensuu**	**1.01**	**19**	PG	**Pn**	**13 22 36.0**	**+0.9**
NIF	**Nilsia**	**1.92**	**319**	PG	**Pg**	**13 22 50.7**	**+0.2**
NIF				SG	**Sg**	**13 23 16.9**	**+1.6**
VJF	**Virojoki**	**2.06**	**227**	MSG		13 23 14.5	
comp=Z,2.0nm,0.2s							
VJF				SG	**Sb**	**13 23 17.6**	**-0.3**
SUF	**Sumiainen**	**2.21**	**292**	PG	**Pg**	**13 22 55.6**	**-0.4**
baz=115							
SUF				MSG		13 23 20.7	
comp=Z,1.9nm,0.2s							
SUF				SG	**Sg**	**13 23 25.0**	**+0.4**
FIA0	**FINESS Array S**	**2.22**	**258**	PG	**Pb**	**13 22 54.5**	**-0.2**
baz=74							
FIA0				MSG		13 23 19.7	
comp=Z,1.1nm,0.2s							
FIA0				SG	**Sb**	**13 23 22.4**	**-0.3**
FINES	**FINESS Array B**	**2.22**	**258**	Pn	**Pb**	**13 22 54.4**	**-0.3**
comp=Z,0.5nm,0.3s,baz=76,slow=16,SNR=10							
FINES				Sn	**Sb**	**13 23 22.2**	**-0.5**
comp=Z,0.7nm,0.3s,baz=75,slow=26,SNR=9.7							
FINES				Rg	Rg	13 23 34.2	
comp=Z,11nm,0.9s,baz=67,slow=29,SNR=11							
comp=Z,1.9nm,0.4s							
KEF	**Keuruu**	**2.71**	**277**	PG	**Pb**	**13 23 02.6**	**-0.4**
KEF				MSG		13 23 34.5	
comp=Z,1.0nm,0.2s							
KEF				SG	**Sb**	**13 23 37.6**	**+1.0**
RANF	**Ranua**	**4.39**	**339**	SG	**Sg**	**13 24 32.0**	**-2.7**
I43RU	**DUBNA INFRASON**	**6.26**	**144**	I	I	13 56 00.0	
baz=330,slow=329,SNR=4.2							
I37NO	**I37NO**	**8.68**	**330**	I	I	14 15 20.0	
baz=140,slow=321,SNR=1.4							

WEL 17 13:34:15.1±1.3, 32°S±8°×17°9W±2°2, h12km, M4.2/6, mB4.8/6, ML4.5/12, MLv4.4/6, Mw(mB)4.0/6, Error ellipse: s-maj=28.9km s-min=8.8km az=102.7, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.28**	**198**	P	Pn	13 35 49.3	+1.8
MXZ				S	Sn	13 37 03.1	+4.0
WMGZ	**Waiomatatini S**	**6.49**	**196**	P	Pn	13 35 51.9	+1.5
WMGZ				S	Sn	13 37 07.9	+3.4
HAZ	**Te Kaha**	**6.61**	**201**	P	Pn	13 35 53.5	+1.5
HAZ				S	Sn	13 37 10.6	+3.3
PKGZ	**Pakihiroa**	**6.62**	**199**	P	Pn	13 35 52.9	+0.6
PKGZ				S	Sn	13 37 11.1	+3.4
PUZ	**Puketiti**	**6.77**	**197**	P	Pn	13 35 54.2	-0.1
PUZ				S	Sn	13 37 11.7	+0.4
RUGZ	**Raukumara Rang**	**6.83**	**201**	P	Pn	13 35 56.1	+0.9
RUGZ				S	Sn	13 37 12.8	-0.1
WCZ	**Waipu Caves**	**6.86**	**229**	P	Pn	13 35 56.3	+0.8
MBAZ	**Motutapu North**	**7.07**	**222**	P	Pn	13 35 59.6	+1.3
MWZ	**Matawai**	**7.21**	**201**	P	Pn	13 35 58.5	-1.9
MWZ				S	Sn	13 37 22.3	0.0
URZ	**Urewera**	**7.28**	**203**	P	Pn	13 35 58.8	-2.4
URZ				S	Sn	13 37 23.3	-0.5
RAGZ	**Rawiri**	**7.40**	**201**	P	Pn	13 36 02.9	-0.1
RIGZ	**Rimuhau**	**7.50**	**198**	P	Pn	13 36 00.9	-3.4
RIGZ				S	Sn	13 37 28.0	-1.2
MUGZ	**Murupara**	**7.59**	**204**	P	Pn	13 36 05.2	-0.4
RAHZ	**Arahi**	**7.88**	**201**	P	Pn	13 36 08.7	-0.9
RAHZ				S	Sn	13 37 36.2	-2.6

*IDC **17** 13:36:34.1±4.1, 7°.09S×129°.69E, h120km±37km, mb3.7/10, mbtmp4.2/12, MS2.7/1, Error ellipse: s-maj=44.2km s-min=13.5km az=68.0*
*DJA **17** 13:36:38.6±0.3, 7°S±2°×13°0E±°, h209km±8km, M4.6/15, mB5.1/7, mb4.5/15, MLv4.8/14, Mw(mB)4.5/7*
*NEIC **17** 13:36:40.3±1.2, 7°.04S±0°.03×129°.54E±0°.07, h167km±7km, mb4.3/24, Error ellipse: s-maj=11.2km s-min=3.0km az=111.0*

ISC 17 13:36:38.3±0.4, 7°.19S±0°.05×129°.51E±0°.05, h150km, n107, σ2§12/106, mb4.1/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.94**	**114**		Pn	13 37 17.6	+4.9
SAUI				Sn	**Sn**	**13 37 42.8**	**+3.7**
SAUI	**Saumlaki**	**1.94**	**114**	P	Pn	13 37 17.2	+4.5
SAUI	**Saumlaki**	**1.94**	**114**	P	Pn	13 37 17.4	+4.7
BNDI	**Bandanaira**	**2.68**	**8**	P	**Pn**	**13 37 24.7**	**+3.0**
BNDI	**Bandanaira**	**2.68**	**8**	P	**Pn**	**13 37 24.0**	**+2.3**
AAI	**Ambon**	**3.72**	**339**	P	**Pn**	**13 37 36.7**	**+1.7**
MSAI	**Masohi**	**3.87**	**351**	P	**Pn**	**13 37 38.9**	**+2.1**
NLAI	**Namlea**	**4.61**	**328**	P	Pn	13 37 50.0	+3.5
FAKI	**Fak Fak**	**5.04**	**33**		**Pn**	**13 37 51.2**	**-1.1**
FAKI	**Fak Fak**	**5.04**	**33**	P	**Pn**	**13 37 51.2**	**-1.1**
DRS	**Darwin Rock St**	**5.38**	**165**	P	**Pn**	**13 37 59.9**	**+3.1**
DRS	**Darwin Rock St**	**5.38**	**165**	S	**Sn**	**13 39 00.0**	**+1.9**
KMPI	**Kaimana, Papua**	**5.45**	**50**	P	**Pn**	**13 37 56.9**	**-0.8**
4μm215nm,0.7s							
SOEI	**Soe**	**5.78**	**243**		**Pn**	**13 38 05.3**	**+3.1**
SOEI	**Soe**	**5.78**	**243**	P	**Pn**	**13 38 05.2**	**+3.0**
SOEI	**Soe**	**5.78**	**243**	S	**Sn**	**13 39 08.8**	**+1.0**
SOEI	**Soe**	**5.78**	**243**	P	**Pn**	**13 38 05.0**	**+2.8**
0.6nm53nm,0.6s							
MTN	**Manton Dam**	**5.84**	**164**		**Pn**	**13 38 05.6**	**+2.7**
MTN	**Manton Dam**	**5.84**	**164**	P	**Pn**	**13 38 05.5**	**+2.7**
MTN	**Manton Dam**	**5.84**	**164**	S	**Sn**	**13 39 10.6**	**+1.6**
KDU	**Kakadu**	**6.19**	**152**	P	**Pn**	**13 38 09.9**	**+2.4**
KDU	**Kakadu**	**6.19**	**152**	S	**Sn**	**13 39 18.0**	**+0.6**
SANI	**Sanana**	**6.20**	**325**	P	**Pn**	**13 38 10.2**	**+2.5**
SANI	**Sanana**	**6.20**	**325**	P	**Pn**	**13 38 09.6**	**+1.9**
0.2nm48nm,0.9s							
SWI	**Sorong**	**6.52**	**16**	P	**Pn**	**13 38 10.2**	**-1.8**
MMRI	**Maumere**	**7.35**	**258**	Pn	**Pn**	**13 38 26.4**	**+3.3**
MMRI	**Maumere**	**7.35**	**258**	P	**Pn**	**13 38 25.2**	**+2.1**
MMRI	**Maumere**	**7.35**	**258**	P	**Pn**	**13 38 24.2**	**+1.1**
0.2nm35nm,0.5s							
EDFI	**Ende, Flores**	**7.90**	**258**	P	**Pn**	**13 38 33.2**	**+2.7**
6.7nm,0.5s							
TNTI	**Ternate**	**8.20**	**345**		**Pn**	**13 38 34.8**	**+0.5**
TNTI	**Ternate**	**8.20**	**345**	P	**Pn**	**13 38 33.7**	**-0.7**
44nm,0.7s							
KNRA	**Kununurra**	**8.46**	**185**	Pn	**Pn**	**13 38 39.0**	**+1.1**
WSI	**Waingapu**	**9.44**	**254**	P	**Pn**	**13 38 50.2**	**-0.8**
KMSI	**Cibinong**	**9.49**	**324**	P	**Pn**	**13 38 51.1**	**-0.5**
99nm,0.9s							
WBSI	**Waikabubak, Su**	**10.31**	**256**	P	**Pn**	**13 39 03.0**	**+0.5**
34nm,0.9s							
FITZ	**Fitzroy Crossi**	**11.48**	**199**		**Pn**	**13 39 17.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**11.48**	**199**	P	**Pn**	**13 39 17.6**	**-0.3**
7.7nm,0.4s,baz=28,slow=10,SNR=101							
FITZ				S	**Sn**	**13 41 17.6**	**-7.1**
18nm,0.3s,baz=100,slow=18,SNR=5.6							
FITZ	**Fitzroy Crossi**	**11.48**	**199**	P	**Pn**	**13 39 19.5**	**+1.7**
PLAI	**Plampang**	**11.74**	**261**	P	**Pn**	**13 39 23.5**	**+2.3**
TOLI2	**Tolitoli**	**12.00**	**313**		**Pn**	**13 39 21.5**	**-3.1**
MPSI	**Mapaga**	**12.16**	**308**	P	**Pn**	**13 39 27.2**	**+0.4**
WB0	**Warramunga Arr**	**13.37**	**160**		**Pn**	**13 39 41.2**	**-1.1**
WRAB	**Tennant Creek**	**13.51**	**160**		**Pn**	**13 39 41.8**	**-2.2**
WRA	**Warramunga Arr**	**13.51**	**160**		**Pn**	**13 39 41.8**	**-2.3**
WRA	**Warramunga Arr**	**13.51**	**160**	P	**Pn**	**13 39 43.0**	**-1.2**
6.4nm,0.3s,baz=333,slow=13,SNR=97							
WRA				S	**Sn**	**13 42 06.0**	**-7.8**
11nm,0.6s,baz=331,slow=23,SNR=5.4							
WR8	**Warramunga Arr**	**13.58**	**160**	P	**Pn**	**13 39 44.1**	**-0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**14.70**	**344**	LR	LR	13 45 32.4	
comp=Z,30nm,18.3s,baz=152,slow=37							
COEN	**Coen**	**15.01**	**118**	Pn	**P**	**13 40 03.6**	**-1.1**
COEN				IAmb	IAmb	13 40 06.9	
comp=Z,11nm,0.8s							
COEN	**Coen**	**15.01**	**118**	P	**P**	**13 40 05.5**	**+0.7**
QIS	**Mount Isa**	**16.49**	**145**	P	**Pn**	**13 40 22.7**	**+1.5**
MBWA	**Marble Bar**	**16.80**	**213**		**Pn**	**13 40 26.5**	**+1.6**
MBWA				IAmb	IAmb	13 40 27.1	
comp=Z,7.9nm,0.8s							
MBWA	**Marble Bar**	**16.80**	**213**	P	**Pn**	**13 40 26.6**	**+1.7**
AS31	**Alice Springs**	**16.91**	**166**		**Pn**	**13 40 28.2**	**+2.0**
AS31				IAmb	IAmb	13 40 29.5	
comp=Z,14nm,1.0s							
ASAR	**Alice Springs**	**16.91**	**166**	P	**Pn**	**13 40 27.8**	**+1.6**
comp=Z,18nm,0.5s,baz=344,slow=10,SNR=306							
ASAR				S	**S**	**13 43 27.4**	**-7.1**
comp=Z,3.1nm,0.7s,baz=335,slow=19,SNR=6.5							
AS01	**Alice Springs**	**16.92**	**166**	P	**Pn**	**13 40 28.5**	**+2.1**
PSA00	**Pilbara Seismi**	**17.08**	**212**	P	**Pn**	**13 40 29.2**	**+1.1**
PSA00	**Pilbara Seismi**	**17.08**	**212**	P	**Pn**	**13 40 29.9**	**+1.7**
MTSU	**Mount Surprise**	**18.06**	**128**	P	**Pn**	**13 40 41.1**	**+1.1**
KSM	**Kuching**	**21.01**	**293**	P	**P**	**13 41 10.0**	**-0.2**
KSM				IAmb	IAmb	13 41 13.6	
comp=Z,14nm,1.3s							
GIRL	**Giralia**	**21.27**	**222**	P	**P**	**13 41 15.1**	**+2.2**
GIRL	**Giralia**	**21.27**	**222**	P	**P**	**13 41 14.7**	**+1.7**
OOD	**Oodnadatta**	**21.31**	**165**	P	**P**	**13 41 15.5**	**+2.2**
MEEK	**Meekatharra**	**21.94**	**207**	P	**P**	**13 41 22.1**	**+2.0**
INKA	**Innaminka**	**23.04**	**154**	P	**P**	**13 41 32.3**	**+1.8**
FORT	**Forrest**	**23.50**	**183**	P	**P**	**13 41 36.5**	**+1.8**
LCRK	**Leigh Creek**	**24.53**	**162**	P	**P**	**13 41 46.5**	**+2.5**
KMBL	**Kambalda**	**25.09**	**196**	P	**P**	**13 41 50.8**	**+1.7**
MORW	**Morawa**	**25.20**	**209**	P	**P**	**13 41 51.3**	**+1.2**
MORW	**Morawa**	**25.20**	**209**	P	**P**	**13 41 51.9**	**+1.8**
BBOO	**Buckleboo**	**26.21**	**167**	P	**P**	**13 42 01.3**	**+2.2**
BLDU	**Ballidu**	**26.21**	**206**	P	**P**	**13 42 01.1**	**+1.9**
KLBR	**Kellerberrin**	**26.64**	**203**	P	**P**	**13 42 04.2**	**+1.1**
STKA	**Stephens Creek**	**27.02**	**157**	P	**P**	**13 42 04.7**	**-1.7**
comp=Z,1.6nm,0.7s,baz=325,slow=12,SNR=3.0							
comp=Z,1.6nm,0.7s							
STKA	**Stephens Creek**	**27.02**	**157**	P	**P**	**13 42 08.3**	**+1.8**
NWAO	**Narrogin (SRO)**	**28.03**	**202**	P	**P**	**13 42 15.5**	**+0.1**
CMSA	**Cobar Meteorol**	**28.55**	**150**	P	**P**	**13 42 22.5**	**+2.5**
ARPS	**Mount Arapiles**	**31.52**	**161**	P	**P**	**13 42 48.2**	**+2.1**
CMAR	**Chiang Mai Arr**	**39.49**	**311**	P	**P**	**13 43 53.7**	**-0.7**
comp=Z,0.8nm,0.7s,baz=138,slow=6.9,SNR=11							
comp=Z,0.8nm,0.7s							
PZH	**PanZhiHua**	**42.99**	**322**	P	**P**	**13 44 23.9**	**+0.9**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,100nm,5.0s							
KSRS	**Korea Array**	**44.44**	**358**	P	**P**	**13 44 33.0**	**-1.2**
comp=Z,0.3nm,0.3s,baz=176,slow=9.0,SNR=2.1							
comp=Z,0.3nm,0.3s							
HHC	**Hu-ho-hao-te**	**50.58**	**342**	eP	**P**	**13 45 24.8**	**+3.0**
HHC				pmax	pmax		
comp=Z,10.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,71nm,5.6s							
WHZ	**Wether Hill Ro**	**50.81**	**146**	P	**P**	**13 45 24.0**	**+0.6**
WHZ				IAmb	IAmb	13 45 25.1	
comp=Z,11nm,1.2s							
MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**	**13 47 21.2**	**-0.9**
MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**	**13 47 21.4**	**-0.7**
comp=Z,2.4nm,0.5s,baz=128,slow=6.5,SNR=45							
comp=Z,2.4nm,0.5s							
MAKZ	**Makanchi**	**68.30**	**327**	P	**P**	**13 47 22.3**	**-0.9**
MAKZ				IAmb	IAmb	13 47 23.0	
comp=Z,2.2nm,0.6s							
ZAA0	**Zalesovo Array**	**71.54**	**334**	P	**P**	**13 47 41.1**	**-1.6**
ZAA0				IAmb	IAmb	13 47 41.7	
comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**71.54**	**334**	P	**P**	**13 47 41.0**	**-1.8**
comp=Z,1.5nm,0.5s,baz=132,slow=6.8,SNR=6.4							
comp=Z,1.5nm,0.5s							
VNDA	**Vanda**	**72.32**	**173**	P	**P**	**13 47 47.8**	**+0.7**
VNDA	**Vanda**	**72.32**	**173**	P	**P**	**13 47 46.4**	**-0.7**
comp=Z,0.6nm,0.5s,baz=312,slow=7.8,SNR=9.5							
comp=Z,0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**72.42**	**329**	P	**P**	**13 47 47.1**	**-0.9**
comp=Z,2.0nm,0.5s,baz=129,slow=4.9,SNR=16							
comp=Z,2.0nm,0.5s							
KURK	**Kurchatov**	**72.43**	**329**	P	**P**	**13 47 47.1**	**-1.0**
SBA	**Scott Base**	**73.21**	**172**	P	**P**	**13 47 53.6**	**+1.3**
XMAS	**Kiritimati**	**73.45**	**86**	P	**P**	**13 47 53.9**	**-1.0**
MAW	**Mawson**	**74.60**	**201**	P	**P**	**13 48 01.5**	**+1.0**
BVAR	**Borovoye Array**	**77.97**	**328**	P	**P**	**13 48 18.5**	**-1.3**
comp=Z,1.7nm,0.7s,baz=121,slow=6.6,SNR=8.1							
comp=Z,1.7nm,0.7s							
TIXI	**Tiksi**	**78.68**	**360**	P	**P**	**13 48 22.2**	**-1.1**
VOI	**Vohitsoka**	**80.63**	**249**	P	**P**	**13 48 34.6**	**-0.5**
AB31	**Akbulak array**	**82.36**	**322**	P	**P**	**13 48 41.9**	**-1.5**
AB31				IAmb	IAmb	13 48 42.6	
comp=Z,1.9nm,0.6s							
ABKAR	**Akbulak array**	**82.36**	**322**	P	**P**	**13 48 42.0**	**-1.4**
QSPA	**South Pole Qui**	**82.79**	**180**	P	**P**	**13 48 45.0**	**-0.5**
comp=Z,2.3nm,0.8s,baz=196,slow=0.5,SNR=14							
comp=Z,2.3nm,0.8s							
ARTI	**Arti**	**85.69**	**328**	P	**P**	**13 48 58.8**	**-1.3**
ARTI				IAmb	IAmb	13 48 59.2	
comp=Z,4.8nm,0.9s							
J14K	**Nanvaranak Lak**	**86.07**	**25**	P	**P**	**13 49 01.5**	**-0.2**
J14K				IAmb	IAmb	13 49 02.1	
comp=Z,8.7nm,1.1s							
M16K	**Timber Creek**	**87.45**	**28**	P	**P**	**13 49 08.3**	**-0.2**
J18K	**Innoko River**	**89.23**	**26**	P	**P**	**13 49 16.0**	**-0.9**
J18K				IAmb	IAmb	13 49 23.0	
comp=Z,5.8nm,1.4s							
ILAR	**Eielson Array**	**93.72**	**25**	P	**P**	**13 49 35.6**	**-2.1**
comp=Z,0.5nm,0.9s,baz=237,slow=4.5,SNR=5.4							
comp=Z,0.5nm,0.9s							
CPUP	**Villa Florida**	**146.02**	**169**	PKPbc	**PKPab**	**13 56 01.5**	**-0.5**
comp=Z,3.0nm,0.6s,baz=261,slow=4.9,SNR=4.6							
LPAZ	**La Paz**	**150.86**	**143**	PKPbc	**PKiKP**	**13 56 15.1**	**-0.4**
comp=Z,2.2nm,0.4s,baz=52,slow=2.3,SNR=3.6							

RSNC 17 13:37:48.5±0.0, 9°N±1°×7°3W±°, h137km±3km, M2.7, mb3.6, ML2.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.75**	**197**	P	Pn	13 38 10.2	0.0
OCAC				S	Sn	13 38 26.1	-0.5
ARGC	**Ariguani, Magd**	**1.44**	**308**	P	Pn	13 38 17.0	+0.5
ARGC				S	Sn	13 38 38.6	+0.8
PAMC	**Pamplona, Colo**	**1.66**	**166**	P	Pn	13 38 20.1	+0.7
PAMC				S	Sn	13 38 43.5	+0.6
CRJC	**Cerrejon, Guaj**	**2.06**	**6**	P	Pn	13 38 22.3	-1.4
CRJC				S	Sn	13 38 47.4	-3.3
BRJC	**Barrancabermej**	**2.08**	**198**	P	Pn	13 38 23.9	+0.1
BRJC				S	Sn	13 38 50.5	-0.4
SJCC	**San Jacinto, C**	**2.25**	**295**	P	Pn	13 38 24.9	-1.1
SJCC				S	Sn	13 38 52.4	-2.4
ZARC	**Zaragoza, Cauc**	**2.27**	**230**	P	Pn	13 38 25.6	-0.6
ZARC				S	Sn	13 38 53.7	-1.4
SDV	**Santo Domingo**	**2.44**	**92**	P	Pn	13 38 28.6	+0.2
SDV				S	Sn	13 38 58.0	-1.1
UREC	**San Jos de Ur**	**2.69**	**244**	P	Pn	13 38 30.0	-1.4
UREC				S	Sn	13 39 01.5	-3.0
PTBC	**PUERTO BERRIO,**	**2.75**	**209**	P	Pn	13 38 32.0	-0.3
PTBC				S	Sn	13 39 04.8	-1.2
URIC	**Uribia, Colomb**	**2.93**	**22**	P	Pn	13 38 32.7	-1.8
URIC				S	Sn	13 39 06.0	-4.1
RUSC	**La Rusia**	**3.05**	**180**	P	Pn	13 38 37.4	+0.9
RUSC				S	Sn	13 39 14.2	+0.7
APAC	**Apartado, Choc**	**3.60**	**253**	P	Pn	13 38 42.5	-0.7
APAC				S	Sn	13 39 24.2	-1.3
GUY2C	**Guyana, Caldas**	**4.34**	**211**	P	Pn	13 38 54.0	+0.6
GUY2C				S	Sn	13 39 43.5	-0.2
ORTC	**Ortega, Tolima**	**5.45**	**203**	P	Pn	13 39 06.3	-1.5
5.0nm,1.6s							
ORTC				S	Sn	13 40 09.1	-0.6
5.0nm,1.6s							
PRAC	**Prado**	**5.51**	**199**	P	Pn	13 39 09.7	+1.1
PRAC				S	Sn	13 40 10.2	-0.8
URMC	**La Uribe, Meta**	**5.82**	**193**	P	Pn	13 39 12.9	+0.1
4.8nm,0.8s							
URMC				S	Sn	13 40 15.1	-3.4
4.8nm,0.8s							
BCIP	**Isla Barro Col**	**6.66**	**272**	P	Pn	13 39 21.6	-2.3
BCIP				S	Sn	13 40 33.6	-5.0

DJA 17 13:46:31.7±0.4, 0°N±4°×9°8E±°, h34km±11km, M4.0/13, mB5.1/2, mb4.3/3, MLv3.8/13, Mw(mB)4.5/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.41**	**210**	P	Pn	13 46 41.8	+0.5
MNSI	**Mandailing Nat**	**1.21**	**66**	P	Pn	13 46 52.4	+0.2
SBSI	**Sibolga**	**1.31**	**18**	P	Pb	13 46 55.8	0.0
GSI	**Gunungsitoli**	**1.35**	**318**	P	Pb	13 46 55.3	-1.1
SISI	**Saibi**	**1.73**	**159**	P	Pn	13 46 59.2	-0.1
PPI	**Padang Panjang**	**2.06**	**111**	P	Pn	13 47 04.2	+0.3
BKNI	**Bangkinang**	**2.56**	**89**	P	Pn	13 47 11.0	+0.2
LHMI	**Lhok Sumawe**	**5.13**	**343**	P	Pn	13 47 45.9	-0.3
56nm,0.9s							
BSI	**Banda Aceh**	**6.06**	**328**	P	Pn	13 47 58.5	-0.5
MNAI	**Manna**	**6.44**	**136**	P	Pn	13 48 04.6	+0.4

SJA 17 13:58:52.7±0.7, 22°.02S×65°.99W, h289km±6km, ML4.3, MW3.9, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.47**	**109**	eP	Pn	13 59 30.8	+0.2
YJA				eS	S	13 59 57.2	-3.2
SALTA		**2.22**	**188**	eP	Pn	13 59 41.5	+0.6
SALTA				eP		13 59 41.7	
AF01	**San Pedro de A**	**2.23**	**245**	eP	Pn	13 59 55.2	+14
AZAP	**Zapla**	**2.35**	**159**	eP	Pn	13 59 42.1	+0.3
AZAP				eS	S	14 00 18.7	-2.1
ALOL	**LOMAS DE OLMED**	**2.57**	**134**	eP	Pn	13 59 43.8	+0.2
SLA	**San Lorenzo**	**2.73**	**171**	eP	Pn	13 59 41.5	-3.6
PB09	**IPOC Station P**	**3.03**	**274**	eP	Pn	13 59 48.7	+0.6
PB09				eS	S	14 00 32.0	-0.4
PB06	**IPOC Station P**	**3.38**	**258**	eP	Pn	13 59 52.0	+0.1
PB06				eS	S	14 00 36.7	-2.4
PB06				IAML		14 00 40.9	
comp=Z,129nm,0.1s							
PB01	**IPOC Station P**	**3.40**	**286**	eP	Pn	13 59 52.2	+0.3
PB01				eS	S	14 00 36.5	-2.7
PB01				IAML		14 00 37.9	
comp=Z,522nm,0.2s							
PB03	**IPOC Station P**	**3.49**	**269**	eP	Pn	13 59 52.9	-0.1
PB03				eS	S	14 00 37.8	-3.3
PB03				IAML		14 00 38.5	
comp=Z,344nm,0.1s							
PB08	**IPOC Station P**	**3.50**	**302**	eP	Pn	13 59 54.5	+1.2
PB08				eS	S	14 00 40.7	-0.9
GO01	**Chusmiza**	**3.80**	**307**	eP	Pn	13 59 57.5	+0.8
GO01				eS	S	14 00 50.7	+2.8
HMBC	**Humberstone**	**4.03**	**295**	eP	Pn	13 59 58.9	0.0
HMBC				eS	S	14 00 48.3	-3.5
HMBC				IAML		14 00 49.9	
comp=Z,498nm,0.5s							
PATCX	**Punta Patache**	**4.06**	**286**	eP	Pn	13 59 59.5	+0.4
PATCX				eS	S	14 00 49.0	-3.3
PATCX				IAML		14 00 50.1	
comp=Z,243nm,0.5s							
PB11	**IPOC Station P**	**4.10**	**303**	eP	Pn	14 00 00.0	+0.3
PB11				eS	S	14 00 50.5	-2.7
PB11				IAML		14 00 52.5	
comp=Z,171nm,0.3s							
TA01	**Diego Aracena**	**4.17**	**290**	eP	Pn	14 00 00.3	+0.1
TA01				eS	S	14 00 50.4	-3.9
TA01				IAML		14 00 52.0	
comp=Z,131nm,0.2s							
TA02	**Huaiquique**	**4.24**	**294**	eP	Pn	14 00 01.4	+0.3
TA02				eS	S	14 00 51.3	-4.5
TA02				IAML		14 00 54.0	
comp=Z,369nm,0.1s							
PB10	**IPOC Station P**	**4.47**	**250**	eP	Pn	14 00 03.8	+0.1
PB10				eS	S	14 00 56.0	-4.4
PB10				IAML		14 00 58.0	
comp=Z,93nm,0.4s							
GO02	**Mina Guanaco**	**4.55**	**226**	eP	Pn	14 00 05.2	+0.3
GO02				eS	S	14 00 59.2	-3.3
PB14	**IPOC Station P**	**4.81**	**237**	eP	Pn	14 00 07.9	-0.1
PB14				eS	S	14 01 03.6	-4.6
PB14				IAML		14 01 06.4	
comp=Z,300nm,0.2s							
PB16	**IPOC Station P**	**4.94**	**317**	eP	Pn	14 00 11.8	+2.1
PB16				IAML		14 01 16.8	
comp=Z,51nm,0.4s							
PB12	**IPOC Station P**	**5.30**	**309**	eP	Pn	14 00 13.4	-0.1
PB12				eS	S	14 01 14.1	-4.2
PB12				IAML		14 01 17.0	
comp=Z,120nm,0.2s							

**IDC 17 14:02:57.6±326.0, 57°.24N×30°.04E, h0km, Error ellipse: s-maj=139.5km s-min=79.8km az=82.0, Baltic States-Bel

5.0nm,0.3s,baz=25,slow=16,SNR=1.7
120nm,0.8s
JOW Kunigami 6.80 210 Pn **Pn 14 06 21.5 -1.5**
JOW Sn **Sn 14 07 37.3 -1.8**
0.4nm,0.3s,baz=37,slow=29,SNR=1.1
0.6nm,0.3s,baz=52,slow=22,SNR=1.4
7.9nm,0.8s
JCJ Chichijima 10.44 120 Pn **Pn 14 07 11.9 -1.0**
108nm,0.8s,baz=283,slow=18,SNR=2.0
USRK Ussuriysk Ar. 11.39 360 LR LR 14 12 12.5
comp=Z,34nm,18.2s,baz=167,slow=39
WRA Warramunga Arr 52.48 177 P **P 14 13 54.2 -0.1**
0.2nm,0.5s,baz=354,slow=8.0,SNR=1.2
0.2nm,0.5s
ASAR Alice Springs 56.17 178 P **P 14 14 22.4 +1.4**
0.3nm,0.7s,baz=12,slow=13,SNR=8.8
0.3nm,0.7s

---

*MOS **17** 15:00:57.5±1.0,5.°15S×78.°17W,h42km,mb5.1/20,Error ellipse: s-maj=15.1km s-min=6.0km az=105.3*
*VAO **17** 15:00:58.0±1.3,5.°17S×78.°04W,h18km±8km,mb5.9*
*NEIC **17** 15:01:00.9±1.5,5.°07S±0.°05×78.°13W±0.°08,h49km±6km, mb5.1/348,Mww5.1/9,Error ellipse: s-maj=11.4km s-min=7.8km az=79.0*
*IDC **17** 15:01:01.6±0.4,5.°08S×78.°22W,h62km±3km,mb4.0/17, mbtmp4.4/20,MS3.8/23,Error ellipse: s-maj=12.1km s-min=6.7km az=85.0*
*NEIC **17** 15:01:01,5.°27S×78.°23W,h50km,Moment Tensor Solution. Duration:1s7 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.18; $M_{\theta\theta}$=4.65; $M_{\phi\phi}$=-4.47; $M_{r\theta}$=0.02; $M_{\phi\theta}$=1.24; $M_{\phi r}$=-1.22; Fault plane solution: M_0=4.88000×10^{16} NP1: ϕ_s=306.50000°,δ78.71000°,λ-9.03000°. NP2:ϕ_s=38.28000°, δ81.15000°,λ-168.57000°. Principal axes: T 4.8225, Plg2.0000°, Azm172.0000°; N 0.1234, Plg76.0000°, Azm76.0000°; P -4.9458, Plg14.0000°, Azm263.0000°;*
*NEIC **17** 15:01:01,5.°07S×78.°13W,h50km*
*GCMT **17** 15:01:04.0±0.3,5.°03S±0.°02×78.°21W±0.°02,h47km±1km, MW5.1/100,Moment Tensor Solution. s46,c53; s100,c139; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.35±.18; $M_{\theta\theta}$=5.06±.13; $M_{\phi\phi}$=-5.41±.18; $M_{r\theta}$=0.12±.12; $M_{\phi\theta}$=1.74±.14; $M_{\phi r}$=1.58±.18; Best double couple: M_0=5.71200×10^{16} NP1:ϕ_s=305.00000°,δ79.00000°, λ-9.00000°. NP2:ϕ_s=37.00000°,δ81.00000°,λ-169.00000°. Principal axes: T 5.3450, Plg2.0000°, Azm171.0000°; N 0.7320, Plg76.0000°, Azm74.0000°; P -6.0800, Plg14.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 15:01:01.3±0.3,5.°11S±0.°03×78.°12W±0.°05,h63km±2km, h63km:pP-P,n489,σ1s29/395,mb5.0/190,**5C-3D,Northern Peru**

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.03**	**188**	P	**Pn**	**15 01 34.8**	**+1.1**
	13μm,0.7s,baz=5.9,slow=9.6,SNR=1395						
ATAH				S	**Sn**	**15 01 59.8**	**+1.6**
	16μm,0.7s,baz=358,slow=7.0,SNR=5.4						
COHC	**Cochancay**	**2.85**	**337**		**Pn**	**15 01 43.9**	**-0.6**
COHC	**Cochancay**	**2.85**	**337**	P	**Pn**	**15 01 44.1**	**-0.4**
COHC				S	**Sn**	**15 02 18.5**	**+0.8**
SLOR	**San Lorenzo -**	**4.36**	**355**	Pn	**Pn**	**15 02 07.0**	**+1.5**
OTAV	**Otavalo**	**5.32**	**356**		**Pn**	**15 02 19.9**	**+1.3**
OTAV	**Otavalo**	**5.32**	**356**	P	**Pn**	**15 02 19.7**	**+1.1**
	5μm15μm2μm,0.7s						
OTAV	**Otavalo**	**5.32**	**356**	P	**Pn**	**15 02 19.9**	**+1.3**
OTAV	**Otavalo**	**5.32**	**356**	*e*P	**Pn**	**15 02 18.3**	**-0.4**
PAC1	**Pacto, Paraso**	**5.38**	**353**	P	**Pn**	**15 02 20.3**	**+1.1**
	88μm5μm,0.7s						
CUSE	**Cuicocha Este**	**5.38**	**357**	P	**Pn**	**15 02 21.1**	**+1.6**
	22μm2μm,0.6s						
TULM	**Tulcn-Chalpat**	**5.79**	**3**	P	**Pn**	**15 02 27.1**	**+1.9**
	11μm815nm,0.9s						
CZSB	**Cruzeiro do Su**	**5.98**	**116**	Pn	**Pn**	**15 02 27.5**	**+0.2**
CZSB	**Cruzeiro do Su**	**5.98**	**116**	P	**Pn**	**15 02 27.7**	**+0.4**
	20μm2μm,0.6s						
CZSB	**Cruzeiro do Su**	**5.98**	**116**	*e*P	**Pn**	**15 02 24.9**	**-2.4**
CMBC	**Cumbal**	**6.01**	**3**	P	**Pn**	**15 02 32.4**	**+4.2**
PTLC	**Puerto Leguiza**	**6.21**	**32**	P	**Pn**	**15 02 26.6**	**-3.8**
GCUF	**Volcan Galeras**	**6.34**	**7**	P	**Pn**	**15 02 34.9**	**+2.3**
TUMC	**Tumaco**	**6.91**	**355**		**Pn**	**15 02 39.7**	**-0.3**
TUMC	**Tumaco**	**6.91**	**355**	P	**Pn**	**15 02 40.2**	**+0.2**
	21μm3μm,0.9s						
NNA	**Nana**	**6.95**	**170**		**Pn**	**15 02 39.7**	**-1.0**
NNA	**Nana**	**6.95**	**170**	P	**Pn**	**15 02 40.3**	**-0.3**
	447nm,0.5s,baz=344,slow=12,SNR=141						
NNA				S	**Sn**	**15 03 57.6**	**-0.8**
	679nm,0.4s,baz=218,slow=22,SNR=6.8						
NNA	**Nana**	**6.95**	**170**	P	**Pn**	**15 02 39.3**	**-1.4**
	8μm874nm,1.1s						
NNA	**Nana**	**6.95**	**170**	*c*P	**Pn**	**15 02 39.7**	**-1.0**
FLOC	**Florencia**	**7.09**	**20**		**Pn**	**15 02 41.5**	**-1.0**
FLOC	**Florencia**	**7.09**	**20**	P	**Pn**	**15 02 41.7**	**-0.8**
	13μm1μm,0.7s						
BBAC	**Balboa, Cauca**	**7.13**	**7**	P	**Pn**	**15 02 45.0**	**+1.7**
	11μm1μm,0.8s						
GARC	**Garzon, Huila**	**7.71**	**20**	P	**Pn**	**15 02 50.7**	**-0.5**
	20μm2μm,0.5s						
POPC	**Popayan, Colom**	**7.73**	**11**	P	**Pn**	**15 02 53.6**	**+2.1**
	2μm6μm487nm,0.8s						
GR1C	**Gorgona, Isla**	**8.05**	**360**	P	**Pn**	**15 02 54.1**	**-1.6**
BETC	**Betania**	**8.19**	**19**	P	**Pn**	**15 02 58.7**	**+1.1**
TBTG	**Tabatinga, AM**	**8.24**	**84**	Pn	**Pn**	**15 02 58.4**	**+0.2**
TBTG	**Tabatinga, AM**	**8.24**	**84**	P	**Pn**	**15 02 57.8**	**-0.4**
	53μm6μm,0.8s						
TBTG	**Tabatinga, AM**	**8.24**	**84**	*e*P	**Pn**	**15 02 55.9**	**-2.3**
MACC	**Macarena, Meta**	**8.37**	**31**	P	**Pn**	**15 02 59.4**	**-0.7**
	6μm666nm,0.7s						
MALC	**Bahia Malaga**	**9.09**	**5**	P	**Pn**	**15 03 10.0**	**+0.1**
URMC	**La Uribe, Meta**	**9.10**	**24**	P	**Pn**	**15 03 10.7**	**+0.6**
	7μm807nm,0.8s						
YOTC	**Yotoco, Valle**	**9.20**	**11**	P	**Pn**	**15 03 11.0**	**-0.5**
	2μm315nm,1.0s						
PRAC	**Prado**	**9.34**	**20**	P	**Pn**	**15 03 13.6**	**+0.3**
	4μm302nm,0.6s						
GUVC	**San Jose del G**	**9.38**	**36**	P	**Pn**	**15 03 13.6**	**-0.2**
ORTC	**Ortega, Tolima**	**9.40**	**18**	P	**Pn**	**15 03 14.6**	**+0.4**
	4μm522nm,0.7s						
ANIL	**Santa Ana**	**9.91**	**16**	P	**Pn**	**15 03 22.6**	**+1.2**
	4μm451nm,0.6s						
CVER	**Cruz Verde, Cu**	**10.38**	**23**	P	**Pn**	**15 03 31.2**	**+3.2**
ROSC	**El Rosal**	**10.59**	**21**	Pn	**Pn**	**15 03 31.4**	**+0.7**
ROSC	**El Rosal**	**10.59**	**21**	P	**Pn**	**15 03 32.8**	**+2.1**
	54nm,0.6s,baz=114,slow=9.5,SNR=14						
ROSC				S	**Sn**	**15 05 33.6**	**+5.7**
	76nm,0.7s,baz=26,slow=23,SNR=1.0						
ROSC				LR	LR	15 08 39.3	
	comp=Z,832nm,18.9s,baz=132,slow=43						
ROSC	**El Rosal**	**10.59**	**21**	P	**Pn**	**15 03 31.4**	**+0.7**
CHIC	**Chingaza**	**10.62**	**24**	P	**Pn**	**15 03 33.6**	**+2.5**
GUY2C	**Guyana, Caldas**	**10.62**	**15**	P	**Pn**	**15 03 30.6**	**-0.7**
	1μm123nm,1.1s						
PTGC	**Puerto Gaitan,**	**11.01**	**33**	P	**Pn**	**15 03 35.9**	**-0.2**
	3μm279nm,0.9s						
NORC	**Norcasia**	**11.09**	**17**	P	**Pn**	**15 03 36.6**	**-0.6**
	1μm92nm,1.2s						
CBOC	**Ciudad Bolivar**	**11.10**	**11**	P	Pn	15 03 42.7	+5.2
RUSC	**La Rusia**	**12.03**	**25**	Pn	**Pn**	**15 03 51.4**	**+0.9**
RUSC	**La Rusia**	**12.03**	**25**	P	**Pn**	**15 03 51.6**	**+1.1**
	3μm276nm,0.7s						
PTBC	**PUERTO BERRIO,**	**12.13**	**18**	P	**Pn**	**15 03 51.1**	**-0.4**
	540nm78nm,0.9s						
SGC2	**Sao Gabriel da**	**12.17**	**66**	P	**Pn**	**15 03 50.4**	**-1.6**
	7μm679nm,0.6s						
PTAC	**Punta Ardita,**	**12.18**	**1**	P	**Pn**	**15 03 49.8**	**-2.2**
DBBC	**Dabeiba**	**12.19**	**9**	P	**Pn**	**15 03 54.5**	**+2.1**
BARC	**Barichara**	**12.62**	**23**	P	**Pn**	**15 03 58.9**	**+0.5**
CACAO	**El Cacao, Vera**	**12.67**	**348**	P	**Pn**	**15 03 58.6**	**-0.1**
	3.3nm,0.9s						
BRJC	**Barrancabermej**	**12.77**	**20**	P	**Pn**	**15 03 58.1**	**-2.1**
PAYG	**Puerto Ayora**	**12.92**	**290**	Pn	**Pn**	**15 04 02.8**	**+0.6**
ZARC	**Zaragoza, Cauc**	**12.93**	**15**	P	**Pn**	**15 04 03.5**	**+1.1**
	1μm131nm,0.7s						
AZU	**Azuero**	**12.99**	**350**	P	**Pn**	**15 04 03.4**	**+0.3**
	4μm572nm,1.1s						
APAC	**Apartado, Choc**	**13.01**	**7**	P	**Pn**	**15 04 04.3**	**+0.9**
	2μm221nm,1.5s						
UREC	**San Jos de Ur**	**13.03**	**11**	P	**Pn**	**15 04 03.8**	**+0.1**
	936nm91nm,1.1s						
TAMC	**Tame, Arauca**	**13.09**	**29**	P	**Pn**	**15 04 05.0**	**+0.4**
	5μm651nm,1.1s						
PAMC	**Pamplona, Colo**	**13.49**	**24**	P	**Pn**	**15 04 09.8**	**-0.6**
TEFE	**Tefe**	**13.54**	**84**	*e*P	**Pn**	**15 04 06.8**	**-3.8**
OCAC	**Ocana**	**14.10**	**20**	P	**Pn**	**15 04 19.5**	**+1.4**
	3μm414nm,0.7s						
BCIP	**Isla Barro Col**	**14.28**	**353**	P	**Pn**	**15 04 19.8**	**-0.6**
	146nm,0.9s						
BRU2	**Volcan**	**14.54**	**342**		**Pn**	**15 04 24.5**	**+0.6**
LPAZ	**La Paz**	**14.82**	**139**	Pn	**Pn**	**15 04 25.7**	**-2.3**
LPAZ	**La Paz**	**14.82**	**139**	P	**Pn**	**15 04 26.9**	**-1.1**
	5.3nm,0.8s,baz=332,slow=13,SNR=18						
LPAZ				S	**Sn**	**15 07 15.0**	**+3.6**
	18nm,0.6s,baz=194,slow=15,SNR=1.7						
LPAZ				LR	LR	15 11 16.6	
	comp=Z,612nm,20.0s,baz=308,slow=41						
LPAZ	**La Paz**	**14.82**	**139**	P	**Pn**	**15 04 24.7**	**-3.3**
	90nm,0.9s						
LPAZ	**La Paz**	**14.82**	**139**	*e*P	**Pn**	**15 04 24.2**	**-3.8**
LPAZ	**La Paz**	**14.82**	**139**	*e*P	**Pn**	**15 04 25.9**	**-2.1**
PB18	**Visviri**	**15.02**	**146**	Pn	**Pn**	**15 04 28.2**	**-2.3**
PB18				IAmb	IAmb	15 04 35.8	
	comp=Z,295nm,1.9s						
SJCC	**San Jacinto, C**	**15.19**	**11**	P	**Pn**	**15 04 31.3**	**-1.0**
	comp=Z,4μmcomp=Z,451nm,1.0s						
SAML	**Samuel**	**15.31**	**105**		**Pn**	**15 04 28.3**	**-5.5**
SAML	**Samuel**	**15.31**	**105**	P	**Pn**	**15 04 28.3**	**-5.5**
SAML				pmax	pmax		
	comp=Z,43nm,0.6s						
ARGC	**Ariguani, Magd**	**15.36**	**15**	P	**P**	**15 04 38.5**	**+0.6**
PB12	**IPOC Station P**	**15.43**	**151**	Pn	**Pn**	**15 04 33.8**	**-1.7**
PB16	**IPOC Station P**	**15.61**	**148**		**Pn**	**15 04 36.7**	**-1.4**
SDV	**Santo Domingo**	**15.78**	**28**	Pn	**Pn**	**15 04 39.0**	**-0.9**
SDV				IAmb	IAmb	15 04 46.5	
	comp=Z,100nm,0.8s						
SDV	**Santo Domingo**	**15.78**	**28**	P	**Pn**	**15 04 40.6**	**+0.7**
	comp=Z,18nm,0.4s,baz=224,slow=12,SNR=15						
SDV				S	**S**	**15 07 39.0**	**-6.6**
	comp=Z,14nm,0.5s,baz=283,slow=9.6,SNR=1.2						
SDV				LR	LR	15 12 12.7	
	comp=Z,960nm,18.7s,baz=216,slow=42						
SDV	**Santo Domingo**	**15.78**	**28**	P	**P**	**15 04 41.1**	**-1.6**
	comp=Z,1μmcomp=Z,128nm,0.7s						
SDV	**Santo Domingo**	**15.78**	**28**	*e*P	**Pn**	**15 04 40.1**	**+0.1**
SOCE	**Pocosol**	**16.69**	**337**	P	**Pn**	**15 04 52.0**	**+0.7**
SOCE				IAmb	IAmb	15 04 56.7	
	comp=Z,147nm,0.9s						
JTS	**Las Juntas de**	**16.74**	**336**		**Pn**	**15 04 52.5**	**+0.7**
JTS	**Las Juntas de**	**16.74**	**336**	P	**Pn**	**15 04 52.6**	**+0.7**
	comp=Z,60nm,1.0s,baz=151,slow=4.8,SNR=16						
JTS	**Las Juntas de**	**16.74**	**336**	P	**Pn**	**15 04 52.5**	**+0.7**
JTS				pmax	pmax		
	comp=Z,94nm,1.2s						
PB11	**IPOC Station P**	**16.74**	**151**		**Pn**	**15 04 49.7**	**-2.2**
PB11				IAmb	IAmb	15 04 55.6	
	comp=Z,165nm,0.9s						
CRJC	**Cerrejon, Guaj**	**16.85**	**18**	P	**P**	**15 04 53.7**	**-0.8**
	comp=Z,2μmcomp=Z,178nm,0.9s						
GO01	**Chusmiza**	**16.89**	**150**	P	**Pn**	**15 04 53.0**	**-1.1**
TA02	**Huaiquique**	**16.96**	**153**	IAmb	IAmb	15 04 59.9	
	comp=Z,218nm,1.4s						
TA01	**Diego Aracena**	**17.20**	**154**	IAmb	IAmb	15 05 00.6	
	comp=Z,97nm,1.1s						
MACA	**Manacapuru-AM**	**17.50**	**84**	P	**P**	**15 05 01.0**	**-0.6**
MACA	**Manacapuru-AM**	**17.50**	**84**	*e*P	**Pn**	**15 04 57.2**	**-4.1**
URIC	**Uribia, Colomb**	**17.78**	**20**	P	**Pn**	**15 05 00.6**	**-4.0**
SAIC	**Isla e San And**	**17.89**	**349**	P	**P**	**15 05 02.8**	**-3.0**
ESPN	**Las Esperanzas**	**18.25**	**340**	P	**Pn**	**15 05 11.0**	**+0.6**
	comp=Z,1μmcomp=Z,93nm,1.1s						
ACON	**Acoyapa**	**18.35**	**338**	P	**P**	**15 05 10.5**	**-0.5**
ACON				IAmb	IAmb	15 05 15.2	
	comp=Z,295nm,2.0s						
ACON	**Acoyapa**	**18.35**	**338**	P	**P**	**15 05 10.9**	**-0.1**
	comp=Z,1μmcomp=Z,52nm,1.6s						
PRVC	**Isla de Provid**	**18.64**	**350**	P	**P**	**15 05 14.0**	**-0.1**
	comp=Z,2μmcomp=Z,104nm,1.4s						
RNCC	**Cayo Roncador,**	**18.66**	**354**	P	**Pn**	**15 05 15.4**	**+0.1**
	comp=Z,5μmcomp=Z,412nm,1.3s						
PB09	**IPOC Station P**	**18.69**	**153**	IAmb	IAmb	15 05 17.9	
	comp=Z,89nm,0.7s						
BOAV	**Boa Vista**	**19.10**	**67**	P	**P**	**15 05 18.3**	**-0.8**
BOAV	**Boa Vista**	**19.10**	**67**	P	**Pn**	**15 05 19.7**	**-0.9**
	comp=Z,2μmcomp=Z,82nm,1.1s						
BOAV	**Boa Vista**	**19.10**	**67**	*e*P	**Pn**	**15 05 20.5**	**-0.1**
VILB	**Vilhena**	**19.33**	**115**	*e*P	**Pn**	**15 05 22.9**	**-0.5**
CNGN	**Cerro Negro**	**19.46**	**334**	P	**P**	**15 05 23.4**	**+0.3**
	comp=Z,1μm,1.8s						
PB10	**IPOC Station P**	**19.70**	**159**	IAmb	IAmb	15 05 30.1	
	comp=Z,87nm,1.1s						
CRIN	**San Cristobal**	**19.79**	**333**	P	**P**	**15 05 24.1**	**-2.7**
SIV	**San Ignacio**	**19.93**	**124**	P	**Pn**	**15 05 30.2**	**-0.2**
	comp=Z,10nm,0.8s,baz=300,slow=10,SNR=38						
SIV				S	**Sn**	**15 09 13.8**	**-0.4**
	comp=Z,8.2nm,0.6s,baz=186,slow=11,SNR=1.4						
SIV				LR	LR	15 13 05.9	
	comp=Z,227nm,19.5s,baz=304,slow=36						
	comp=Z,10nm,0.8s						
PCRV	**Puerto La Cruz**	**20.27**	**42**	P	Pn	15 05 34.2	-0.3
	comp=Z,35nm,0.8s,baz=193,slow=8.6,SNR=11						
PCRV				S	Sn	15 09 17.9	-4.5
	comp=Z,16nm,0.8s,baz=310,slow=15,SNR=2.5						
PCRV				LR	LR	15 15 11.0	
	comp=Z,256nm,19.1s,slow=42						
	comp=Z,35nm,0.8s						
PB14	**IPOC Station P**	**20.78**	**160**	IAmb	IAmb	15 05 43.4	
	comp=Z,115nm,1.1s						
TGUH	**Tegucigalpa,Un**	**21.09**	**335**	P	**P**	**15 05 40.5**	**-0.5**
TGUH				IAmb	IAmb	15 05 59.9	
	comp=Z,63nm,0.9s						
PTLB	**Pontes e Lacer**	**21.30**	**120**	*e*P	**P**	**15 05 44.2**	**+1.2**
GO02	**Mina Guanaco**	**21.56**	**159**	IAmb	IAmb	15 05 50.4	
	comp=Z,88nm,0.8s						
PDRB	**Porto dos Gac**	**22.12**	**108**	*e*P	**P**	**15 05 52.1**	**+0.2**
AC01	**Pan de Azucar**	**22.13**	**162**	IAmb	IAmb	15 05 54.2	
	comp=Z,58nm,1.1s						
ITTB	**Itaituba**	**22.32**	**89**	*e*P	**P**	**15 05 53.9**	**-0.2**
ESQI	**Esquipulas**	**22.48**	**330**	P	**P**	**15 05 57.3**	**+1.5**
ESQI				IAmb	IAmb	15 06 09.6	
	comp=Z,122nm,1.3s						
NPGB	**Novo Progresso**	**22.72**	**96**	*e*P	**P**	**15 05 58.0**	**-0.3**
CLDB	**Colider**	**22.83**	**106**	*e*P	**P**	**15 05 59.5**	**+0.1**
MTDJ	**Mount Denham**	**23.19**	**1**	P	**P**	**15 05 58.8**	**-4.2**
AC02	**Maricunga**	**23.25**	**159**	IAmb	IAmb	15 06 30.2	
	comp=Z,49nm,1.1s						
AC06	**Mina Casimiro**	**23.33**	**162**	IAmb	IAmb	15 06 15.1	
	comp=Z,60nm,0.9s						
MAL2	**Monte Alegre,**	**24.09**	**84**	P	**P**	**15 06 11.3**	**0.0**
SALV	**Santo Antonio**	**24.49**	**118**	*e*P	**P**	**15 06 15.6**	**+0.6**
AC05	**El Transito**	**24.75**	**163**	IAmb	IAmb	15 06 19.7	
	comp=Z,77nm,1.2s						
LCO	**Las Campanas**	**24.80**	**164**	P	**P**	**15 06 18.0**	**+0.2**
LCO				IAmb	IAmb	15 06 41.6	
	comp=Z,30nm,0.8s						
LCO	**Las Campanas**	**24.80**	**164**	P	**P**	**15 06 18.0**	**+0.2**
LCO				pmax	pmax		
	comp=Z,30nm,0.8s						
SDDR	**Presa de Saban**	**24.86**	**16**	P	**P**	**15 06 20.0**	**+1.7**
	comp=Z,89nm,0.8s						
CHIV	**Chivirico**	**24.98**	**4**	IAmb	IAmb	15 06 25.8	
	comp=Z,116nm,1.3s						
GTBY	**Guantanamo Bay**	**25.05**	**7**	P	**P**	**15 06 21.9**	**+2.0**
GTBY	**Guantanamo Bay**	**25.05**	**7**	P	**P**	**15 06 21.6**	**+1.7**
	comp=Z,3μmcomp=Z,437nm,1.0s						
DR12	**Loma Pena Alta**	**25.26**	**20**	P	**P**	**15 06 22.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**25.41**	**25**	IAmb	IAmb	15 06 55.0	
	comp=Z,63nm,0.8s						
OBIP	**Obispado Ponce**	**25.66**	**26**	P	**P**	**15 06 25.7**	**+0.3**
NMDO	**Nuevo Mundo**	**25.69**	**7**	P	**P**	**15 06 26.2**	**+0.5**
NMDO				IAmb	IAmb	15 06 30.4	
	comp=Z,45nm,0.7s						
CELP	**Cerrillos**	**25.70**	**26**	P	**P**	**15 06 26.2**	**+0.4**
GO04	**Tololo Observa**	**25.87**	**165**	IAmb	IAmb	15 06 36.2	
	comp=Z,38nm,0.8s						
CO01	**Juntas del Tor**	**25.88**	**164**	P	**P**	**15 06 27.2**	**-0.4**
SJG	**San Juan**	**25.92**	**27**	P	**P**	**15 06 27.7**	**-0.1**
SJG	**San Juan**	**25.92**	**27**	LR	LR	15 18 19.3	
	comp=Z,285nm,20.5s,baz=182,slow=40						
SJG	**San Juan**	**25.92**	**27**	P	**P**	**15 06 29.0**	**+1.2**
SJG	**San Juan**	**25.92**	**27**	P	**P**	**15 06 27.7**	**-0.1**
SJG				pmax	pmax		
	comp=Z,208nm,0.9s						
GCPR	**Guaynabo City**	**26.12**	**27**	P	**P**	**15 06 30.2**	**+0.6**
GCPR				IAmb	IAmb	15 06 52.1	
	comp=Z,59nm,0.8s						
CO03	**El Pedregal**	**26.54**	**166**	P	**P**	**15 06 33.0**	**-0.4**
CO03				IAmb	IAmb	15 06 55.5	
	comp=Z,40nm,1.1s						
AQDB	**Aquidauana**	**26.61**	**127**	*e*P	**P**	**15 06 34.0**	**-0.1**
CO02	**Combarbal**	**26.81**	**166**	P	**P**	**15 06 35.9**	**0.0**
CO02				IAmb	IAmb	15 07 14.4	
	comp=Z,39nm,0.8s						
SNDB	**Serra Nova Dou**	**27.38**	**106**	*e*P	**P**	**15 06 42.8**	**+1.7**
MDP	**Montagnes des**	**27.39**	**69**	LR	LR	15 18 29.5	
	comp=Z,355nm,18.3s,baz=291,slow=38						
ZON	**Zonda**	**27.76**	**162**	P	**P**	**15 06 43.1**	**-1.2**
ZON	**Zonda**	**27.76**	**162**	P	**P**	**15 06 43.1**	**-1.2**
ZON				pmax	pmax		
	comp=Z,20nm,1.1s						
ARAG	**Araguaiana, MT**	**27.90**	**114**	*e*P	**P**	**15 06 49.2**	**+3.6**
VA06	**Catapilco**	**28.05**	**168**	IAmb	IAmb	15 06 48.3	
	comp=Z,40nm,0.7s						
PRPB	**Parauapebas**	**28.19**	**94**	*e*P	**P**	**15 06 48.3**	**-0.1**
RPRD	**Ribas do Rio P**	**28.23**	**125**	*e*P	**P**	**15 06 50.8**	**+2.2**
VA03	**San Esteban**	**28.41**	**167**	IAmb	IAmb	15 06 53.2	
	comp=Z,35nm,0.8s						
VA01	**Torpederas**	**28.43**	**169**	IAmb	IAmb	15 06 52.2	
	comp=Z,35nm,0.7s						
PEL	**Peldehue**	**28.75**	**167**	P	**P**	**15 06 52.8**	**-0.3**
PEL	**Peldehue**	**28.75**	**167**	P	**P**	**15 06 52.8**	**-0.3**
PEL				pmax	pmax		
	comp=Z,49nm,0.6s						
SJPY	**San Joaquin**	**28.95**	**135**	*e*P	**P**	**15 06 55.5**	**+0.6**
CPUP	**Villa Florida**	**28.99**	**139**	P	**P**	**15 06 55.5**	**+0.2**
	comp=Z,1.7nm,0.4s,baz=286,slow=9.1,SNR=4.9						
CPUP				LR	LR	15 21 09.5	
	comp=Z,268nm,19.3s,baz=324,slow=42						
	comp=Z,1.7nm,0.4s						
CPUP	**Villa Florida**	**28.99**	**139**	P	**P**	**15 06 55.0**	**-0.3**
CPUP				pmax	pmax		
	comp=Z,21nm,1.2s						
CPUP	**Villa Florida**	**28.99**	**139**	*e*P	**P**	**15 06 55.5**	**+0.2**
MT09	**Talagante**	**29.29**	**168**	IAmb	IAmb	15 06 59.2	
	comp=Z,28nm,0.8s						
MT13	**San Alfonso**	**29.41**	**167**	P	**P**	**15 06 59.6**	**+0.5**
BO04	**La Punta**	**29.57**	**167**	IAmb	IAmb	15 07 02.1	
	comp=Z,23nm,0.7s						
TMAB	**Tom-Au,PA,Br**	**30.08**	**86**	*e*P	**P**	**15 07 05.8**	**+0.7**
SMTB	**Santa Maria do**	**30.53**	**99**	*e*P	**P**	**15 07 10.3**	**+1.2**
ITRB	**Iturama**	**30.68**	**121**	*e*P	**P**	**15 07 11.4**	**+1.1**
BDFB	**Brasilia**	**31.36**	**112**	P	**P**	**15 07 17.3**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=270,slow=11,SNR=7.3						
BDFB				LR	LR	15 20 24.0	
	comp=Z,194nm,20.9s,baz=322,slow=37						
	comp=Z,1.7nm,0.4s						
PTGB	**Pitanga**	**31.73**	**131**	*e*P	**P**	**15 07 19.8**	**+0.2**
LDASE	**Londrina, Braz**	**31.76**	**128**	*e*P	**P**	**15 07 20.2**	**+0.4**
ITQB	**Itaqui**	**31.77**	**143**	P	**P**	**15 07 20.3**	**+0.5**
ITQB	**Itaqui**	**31.77**	**143**	*e*P	**P**	**15 07 20.7**	**+0.9**
IPMB	**Ipameri, GO**	**31.91**	**116**	*e*P	**P**	**15 07 21.5**	**+0.3**
BB19B	**Bebedouro**	**32.80**	**122**	*e*P	**P**	**15 07 29.1**	**+0.1**
DWPF	**Disney Wildern**	**33.18**	**355**	P	**P**	**15 07 32.7**	**+0.7**
SDBA	**SAO DESIDERIO**	**33.60**	**105**	*e*P	**P**	**15 07 36.9**	**+0.9**
TBOT	**Tacuaremb**	**33.64**	**144**	*e*P	**P**	**15 07 37.0**	**+0.9**
PMNB	**Patos De Minas**	**33.68**	**116**	*e*P	**P**	**15 07 38.2**	**+1.5**
CPSB	**Cacapava Do Su**	**34.26**	**140**	*e*P	**P**	**15 07 42.1**	**+0.6**
JANB	**Januaria**	**34.68**	**109**	*e*P	**P**	**15 07 45.9**	**+0.6**
VAO	**Valinhos**	**34.94**	**124**	*e*P	**P**	**15 07 47.2**	**-0.4**
PLTB	**Pedras Altas**	**35.09**	**142**	P	**P**	**15 07 48.9**	**+0.2**
PLTB				IAmb	IAmb	15 07 49.9	
	comp=Z,25nm,0.8s						
PLTB	**Pedras Altas**	**35.09**	**142**	*e*P	**P**	**15 07 48.8**	**+0.2**
PET01	**Itanhaem-SP**	**35.26**	**126**	*e*P	**P**	**15 07 50.1**	**-0.1**
CNLB	**Canela**	**35.28**	**136**	*e*P	**P**	**15 07 49.8**	**-0.7**
MAJ01	**Sao Joao Batis**	**35.49**	**132**	*e*P

MIAR pmax pmax
comp=Z,23nm,0.9s
TXAR Lajitas Array 42.13 326 P P 15 08 48.0 +0.3
comp=Z,0.8nm,0.8s,baz=152,slow=8.5,SNR=5.9
TXAR pP **pP 15 09 03.3 -0.4**
comp=Z,1.8nm,0.6s,baz=144,slow=11,SNR=7.9
comp=Z,0.8nm,0.8s
BLA Blacksburg 42.15 357 IAmb IAmb 15 09 08.0
comp=Z,80nm,1.8s
WHAR Wooly Hollow 42.33 343 IAmb IAmb 15 09 12.6
comp=Z,21nm,0.9s
S57A Dark Hollow, R 42.65 359 IAmb IAmb 15 08 53.2
comp=Z,53nm,1.3s
LCAR Lake Charles 42.74 344 P **P 15 08 51.3 -1.2**
LCAR IAmb IAmb 15 08 52.5
comp=Z,19nm,0.8s
S51A Beattyville 42.83 354 IAmb IAmb 15 08 53.4
comp=Z,56nm,1.5s
R58B Mineral 42.85 0 IAmb IAmb 15 08 55.2
comp=Z,48nm,1.1s
ALPN Alpine 42.91 327 P **P 15 08 54.2 0.0**
MNHN Monahans 43.20 329 IAmb IAmb 15 09 21.0
comp=Z,28nm,0.7s
R50A Paris 43.55 353 IAmb IAmb 15 08 59.0
comp=Z,41nm,1.6s
HHAR Hobbs 43.76 341 IAmb IAmb 15 09 30.9
comp=Z,24nm,0.8s
USIN University of 43.76 349 P **P 15 08 59.1 -1.6**
USIN IAmb IAmb 15 09 41.6
comp=Z,24nm,0.7s
W35A Tecumseh 43.76 338 IAmb IAmb 15 09 33.1
comp=Z,41nm,1.0s
SIUC Southern Illin 43.84 347 IAmb IAmb 15 09 59.5
comp=Z,22nm,0.9s
Q56A Snyder Ridge, 43.94 359 P **P 15 09 02.6 +0.5**
Q56A IAmb IAmb 15 09 04.0
comp=Z,27nm,0.9s
RLO Rose Lookout 44.01 340 P **P 15 09 01.7 -1.0**
RLO IAmb IAmb 15 09 03.8
comp=Z,25nm,0.7s
Q52A Bidwell 44.01 355 IAmb IAmb 15 09 22.3
comp=Z,37nm,1.2s
U38A Gravette 44.04 341 IAmb IAmb 15 09 34.0
comp=Z,20nm,0.8s
MGMO Mountain Grove 44.07 344 IAmb IAmb 15 09 47.2
comp=Z,22nm,0.9s
DKNS Dickens 44.19 332 P **P 15 09 03.5 -0.8**
DKNS IAmb IAmb 15 09 30.0
comp=Z,27nm,0.8s
P57A Homestead Farm 44.37 0 P **P 15 09 05.7 +0.2**
P57A IAmb IAmb 15 09 27.7
comp=Z,74nm,1.8s
P53A Whipple 44.47 356 IAmb IAmb 15 09 07.7
comp=Z,20nm,0.9s
OK052 Battle Ridge R 44.48 338 P **P 15 09 06.8 +0.3**
OK052 IAmb IAmb 15 09 29.3
comp=Z,35nm,0.7s
OK029 Liberty Lake 44.55 337 P **P 15 09 06.0 -1.1**
CLN7 Carlsbad 7 44.59 329 P **P 15 09 07.8 +0.2**
CCM Cathedral Cave 44.64 345 P **P 15 09 06.2 -1.5**
CCM IAmb IAmb 15 09 45.7
comp=Z,11nm,0.5s
CCM Cathedral Cave 44.64 345 P **P 15 09 06.2 -1.5**
CCM pmax pmax
comp=Z,11nm,0.5s
CCM Cathedral Cave 44.64 345 P **P 15 09 06.2 -1.5**
CCM pP **pP 15 09 22.7 -1.2**
CCM sP **sP 15 09 30.4 -0.7**
MVL Millersville 44.91 2 P **P 15 09 10.2 +0.4**
MVL IAmb IAmb 15 09 12.1
comp=Z,33nm,0.8s
SMWD Samnorwood 45.09 334 P **P 15 09 11.1 -0.3**
R40A Maddies Statio 45.13 344 IAmb IAmb 15 09 55.6
comp=Z,27nm,1.4s
T35A Sooner Cattle 45.20 339 P **P 15 09 11.9 -0.3**
T35A IAmb IAmb 15 09 46.8
comp=Z,33nm,1.0s
ACSO Alum Creek Sta 45.34 355 IAmb IAmb 15 09 13.4
comp=Z,19nm,0.7s
SSPA Standing Stone 45.52 0 P **P 15 09 15.0 +0.4**
SSPA IAmb IAmb 15 09 16.3
comp=Z,32nm,1.0s
SSPA Standing Stone 45.52 0 P **P 15 09 15.1 +0.5**
SSPA pP **pP 15 09 31.8 +1.0**
O48B Farmland 45.60 352 IAmb IAmb 15 09 14.7
comp=Z,32nm,1.1s
OK032 Salt Plains WL 45.73 337 P **P 15 09 16.6 +0.2**
N58A Sunbury 45.74 1 IAmb IAmb 15 09 17.9
comp=Z,19nm,0.9s
NOKA Waynoka 45.86 337 P **P 15 09 17.0 -0.4**
319A Douglas 46.90 323 IAmb IAmb 15 09 52.5
comp=Z,19nm,0.7s
L56A Greenwood 47.02 1 P **P 15 09 26.6 +0.1**
WVNY West Valley, N 47.29 360 IAmb IAmb 15 09 29.7
comp=Z,23nm,0.8s
RTBA Rita Blanca 47.31 333 P **P 15 09 26.7 -2.2**
RTBA IAmb IAmb 15 09 59.6
comp=Z,16nm,0.8s
LENM Lemitar 47.62 327 P **P 15 09 31.1 -0.4**
ANMO Albuquerque 47.95 328 IAmb IAmb 15 09 59.7
comp=Z,18nm,0.8s
ANMO Albuquerque 47.95 328 IAmb IAmb 15 09 59.7
comp=Z,18nm,0.8s
ANMO Albuquerque 47.95 328 LR LR 15 30 01.9
comp=Z,42nm,18.5s,baz=268,slow=36
ANMO Albuquerque 47.95 328 *i* P **P 15 09 33.8 -0.2**
ANMO pmax pmax
comp=Z,9.0nm,0.8s
ANMO Albuquerque 47.95 328 P **P 15 09 34.6 +0.6**
ANMO pP **pP 15 09 52.3 +2.0**
ANMO sP **sP 15 09 58.7 +1.2**
J55A Hilton 48.15 0 IAmb IAmb 15 09 43.7
comp=Z,20nm,0.8s
J57A Williamstown 48.33 2 P **P 15 09 36.9 +0.4**
J57A IAmb IAmb 15 10 02.1
comp=Z,16nm,1.0s
ACCN Adirondack Com 48.43 4 IAmb IAmb 15 09 39.6
comp=Z,23nm,0.9s
L40A Anamosa 48.44 347 IAmb IAmb 15 09 37.0
comp=Z,21nm,0.9s
J59A Piesco 48.45 4 P **P 15 09 37.7 +0.2**
J59A IAmb IAmb 15 09 46.4
comp=Z,20nm,0.9s
TUC Tucson 48.47 322 P **P 15 09 38.1 +0.2**
TUC Tucson 48.47 322 P **P 15 09 38.2 +0.2**
TUC pmax pmax
comp=Z,9.0nm,1.0s
TUC Tucson 48.47 322 P **P 15 09 38.1 +0.2**
TUC sP **sP 15 10 01.2 -0.3**
T25A Trinidad 48.66 332 IAmb IAmb 15 10 05.7
comp=Z,23nm,1.1s
NCB Newcomb 48.98 4 IAmb IAmb 15 10 25.3
comp=Z,16nm,0.9s
EFI East Falkland 49.32 164 *i* P **P 15 09 43.5 -0.5**
EFI pmax pmax
comp=Z,17nm,1.1s
DELO Deloro Mine 49.40 0 IAmb IAmb 15 09 45.2
comp=Z,15nm,0.8s
X18A Snowflake 49.55 325 P **P 15 09 46.9 +0.7**
SDCO Great Sand Dun 49.66 331 P **P 15 09 47.3 +0.1**
SDCO IAmb IAmb 15 10 13.8
comp=Z,17nm,1.1s
I42A Draeger Farm, 49.73 350 IAmb IAmb 15 10 31.0
comp=Z,16nm,0.8s
I40A Norwalk 50.06 348 IAmb IAmb 15 09 49.3
comp=Z,13nm,0.7s
BUKO Buck Lake 50.34 359 IAmb IAmb 15 10 17.8
comp=Z,18nm,0.9s
G62A West of Eustis 50.56 7 P **P 15 09 54.1 +0.6**
WUAZ Wupatki 51.07 325 P **P 15 09 57.7 0.0**
ISCO Idaho Springs 51.36 333 P **P 15 10 00.7 +0.7**
ISCO pmax pmax
comp=Z,8.0nm,1.1s
ECSD EROS Data Cent 51.40 343 IAmb IAmb 15 10 42.5
comp=Z,16nm,0.7s
F42A Maple Grove Fa 51.42 351 P **P 15 09 58.4 -1.6**
F42A IAmb IAmb 15 09 59.9
comp=Z,14nm,0.8s
SPMN Marine on St. 51.80 347 IAmb IAmb 15 10 02.3
comp=Z,12nm,0.8s
PV10 Paradox Valley 51.90 329 IAmb IAmb 15 10 29.0
comp=Z,26nm,1.0s
COWI Conover 51.91 350 IAmb IAmb 15 10 03.6
comp=Z,8.8nm,0.6s
U15A North Rim 52.24 325 P **P 15 10 07.5 +0.9**
W13A Hualapai Mount 52.25 323 P **P 15 10 07.2 +0.6**
W13A IAmb IAmb 15 10 32.1
comp=Z,11nm,0.8s
E38A The Farm, Brul 52.85 348 IAmb IAmb 15 10 10.5
comp=Z,23nm,0.8s
PFO Pinyon Flats O 52.89 320 LR LR 15 30 28.8
comp=Z,72nm,19.3s,baz=76,slow=34
PFO Pinyon Flats O 52.89 320 *i* P **P 15 10 11.2 -0.1**
PFO pmax pmax
comp=Z,10.0nm,1.1s
KNB Kanab 52.95 325 P **P 15 10 11.7 0.0**
KNB IAmb IAmb 15 11 41.4
comp=Z,13nm,1.0s
KNB Kanab 52.95 325 P **P 15 10 11.7 0.0**
KNB pmax pmax
comp=Z,13nm,1.0s
LCMT Little Creek M 53.19 325 P **P 15 10 13.5 +0.1**
V12A Nelson 53.26 323 P **P 15 10 13.9 0.0**
MTPU Mount Pierson 53.32 327 P **P 15 10 14.0 -0.7**
MVU Marysvale 53.67 327 P **P 15 10 17.6 +0.5**
EYMN Ely 54.12 349 IAmb IAmb 15 10 19.8
comp=Z,16nm,0.8s
GSC Goldstone, Bar 54.19 321 IAmb IAmb 15 10 56.9
comp=Z,24nm,1.1s
BSUT Blindstream Ca 54.41 330 IAmb IAmb 15 11 02.1
comp=Z,20nm,1.0s
TPNV Topopah Spring 54.91 323 IAmb IAmb 15 11 06.6
comp=Z,17nm,1.1s
WCT Wildcat Mounta 55.04 322 P **P 15 10 27.1 +0.2**
WCT IAmb IAmb 15 11 00.9
comp=Z,11nm,0.9s
TCUT Toone Canyon 55.17 330 P **P 15 10 27.9 +0.1**
TCUT IAmb IAmb 15 11 06.5
comp=Z,18nm,0.9s
DUG Dugway, Tooele 55.21 328 P **P 15 10 29.2 +1.1**
DUG pmax pmax
comp=Z,11nm,1.0s
R11B Troy Canyon, C 55.46 325 P **P 15 10 30.6 +0.7**
PDAR Pinedale Array 55.52 332 P **P 15 10 30.5 +0.1**
comp=Z,1.1nm,0.7s,baz=130,slow=8.5,SNR=11
PDAR pP **pP 15 10 46.5 -0.5**
comp=Z,1.5nm,0.6s,baz=145,slow=9.0,SNR=5.4
PDAR LR LR 15 35 07.5
comp=Z,37nm,18.3s,baz=125,slow=37
comp=Z,1.1nm,0.7s
HWUT Hardware Ranch 55.61 330 IAmb IAmb 15 11 19.1
comp=Z,16nm,0.8s
BGU Big Grassy Mou 55.85 328 P **P 15 10 33.2 +0.5**
HVU Hansel Valley 56.35 329 P **P 15 10 36.2 0.0**
HVU Hansel Valley 56.35 329 P **P 15 10 36.2 0.0**
HVU pmax pmax
comp=Z,13nm,1.2s
ELK Elko 56.91 327 LR LR 15 34 12.2
comp=Z,68nm,20.3s,baz=156,slow=35
ELK Elko 56.91 327 P **P 15 10 40.5 +0.2**
NVAR Mina Array Bea 57.11 323 P **P 15 10 41.8 0.0**
NVAR Mina Array Bea 57.11 323 P **P 15 10 41.9 +0.1**
comp=Z,2.6nm,0.8s,baz=134,slow=7.0,SNR=9.1
NVAR pP **pP 15 10 59.1 +0.7**
comp=Z,5.7nm,0.7s,baz=132,slow=6.9,SNR=14
NVAR LR LR 15 32 50.3
comp=Z,75nm,21.0s,baz=148,slow=34
comp=Z,2.6nm,0.8s
LHV Little Huntoon 57.12 323 IAmb IAmb 15 11 06.9
comp=Z,14nm,0.9s
ULM Lac du Bonnet 57.23 347 IAmb IAmb 15 10 42.2
comp=Z,15nm,0.8s
ULM Lac du Bonnet 57.23 347 P **P 15 10 41.1 -1.0**
comp=Z,12nm,0.7s,baz=155,slow=7.9,SNR=18
ULM pP **pP 15 10 58.5 -0.3**
comp=Z,9.9nm,0.6s,baz=164,slow=5.6,SNR=3.7
ULM LR LR 15 37 31.4
comp=Z,56nm,19.2s,baz=151,slow=38
comp=Z,12nm,0.7s
ULM Lac du Bonnet 57.23 347 *i* P **P 15 10 41.6 -0.5**
RKT Rikitea 57.59 246 *e*LR LR 15 27 42.2
comp=Z,1μm,29.5s
WAKR Walker 57.85 322 P **P 15 10 47.4 +0.5**
WAKR IAmb IAmb 15 11 09.2
comp=Z,9.8nm,0.9s
BOZ Bozeman (W) 58.66 333 IAmb IAmb 15 11 17.6
comp=Z,21nm,1.1s
BEKR Beckworth 59.26 323 P **P 15 10 56.8 +0.1**
BEKR IAmb IAmb 15 11 23.4
comp=Z,13nm,0.9s
EGMT Eagleton 59.75 336 IAmb IAmb 15 11 46.5
comp=Z,20nm,1.1s
ORV Oroville 59.76 322 P **P 15 11 00.4 +0.5**
ORV IAmb IAmb 15 11 18.3
comp=Z,18nm,0.8s
ORV Oroville 59.76 322 P **P 15 11 00.4 +0.5**
ORV pmax pmax
comp=Z,18nm,0.9s
WVOR Wild Horse Val 59.92 326 IAmb IAmb 15 11 42.8
comp=Z,18nm,1.2s
PMSA Palmer Station 60.40 173 *e*P **P 15 11 06.0 +2.1**
MSO Missoula 60.64 333 P **P 15 11 05.0 -0.9**
MSO IAmb IAmb 15 11 31.4
comp=Z,17nm,1.0s
TAOE Nuku Hiva Isla 61.62 263 *e*LR LR 15 29 26.7
comp=Z,153nm,23.9s
YBH Yreka Blue Hor 61.81 323 P **P 15 11 12.8 -1.1**
YBH IAmb IAmb 15 11 38.2
comp=Z,11nm,0.9s
YBH Yreka Blue Hor 61.81 323 P **P 15 11 12.9 -1.1**
YBH pmax pmax
comp=Z,11nm,0.9s
J05D Fort Rock, OR 61.93 326 IAmb IAmb 15 11 56.8
comp=Z,11nm,0.8s
FFC Flin Flon 62.84 345 P **P 15 11 20.3 -0.1**
FFC IAmb IAmb 15 11 59.2
comp=Z,12nm,1.1s
FFC Flin Flon 62.84 345 P **P 15 11 20.3 -0.1**
FFC pmax pmax
comp=Z,12nm,1.1s
NEW Newport 63.16 332 P **P 15 11 23.0 +0.2**
BBTS Babate 64.12 71 LR LR 15 38 03.6
comp=Z,82nm,20.3s,baz=155,slow=35
FRB Frobisher Bay 69.05 5 LR LR 15 45 33.0
comp=Z,47nm,18.0s,baz=138,slow=39
NRS Narsarsuaq 70.79 16 P **P 15 12 10.9 +0.1**
NRS pmax pmax
comp=Z,48nm,1.0s
PPT2 Papeete2 70.81 253 *e*S **S 15 21 22.3 -0.4**
comp=Z,54nm,25.0s
PPT2 Papeete2 70.81 253 *e*LR LR 15 33 43.4
comp=Z,147nm,29.5s
PPT2 *e*LR LR 15 33 46.1
comp=Z,250nm,27.2s
TBI Tubuai 70.87 247 *e*S **S 15 21 22.3 -0.7**
comp=Z,492nm,34.2s
TBI Tubuai 70.87 247 *e*LR LR 15 33 43.2
comp=Z,1μm,33.5s
YKAW1 Yellowknife Wh 72.89 343 IAmb IAmb 15 12 56.1
comp=Z,10nm,1.1s
YKA Yellowknife Ar 72.93 343 P **P 15 12 23.5 -0.1**
comp=Z,1.1nm,0.7s,baz=140,slow=5.8,SNR=21
YKA pP **pP 15 12 40.8 -0.1**
comp=Z,1.3nm,0.6s,baz=160,slow=11,SNR=6.8
comp=Z,1.1nm,0.7s
YKAW3 Yellowknife Wh 72.98 343 P **P 15 12 23.7 -0.2**
YKAW3 IAmb IAmb 15 12 43.7
comp=Z,11nm,1.0s
DBIC Dimbokro 74.06 82 P **P 15 12 32.4 +1.1**
comp=Z,3.9nm,0.7s,baz=260,slow=4.8,SNR=5.8
DBIC pP **pP 15 12 48.3 -0.4**
comp=Z,20nm,0.6s,baz=258,slow=5.3,SNR=14
comp=Z,3.9nm,0.7s
SFJD Kangerlussuaq 74.58 11 LR LR 15 45 09.8
comp=Z,48nm,21.8s,baz=218,slow=36
BELA Belgrano 2 76.16 171 P **P 15 12 42.2 -0.1**
VNA3 Neumayer Olymp 78.35 162 ⇑P **P 15 12 55.0 +0.5**
comp=Z,12nm,0.8s
ICESG Greenland Ices 78.61 13 *e*P **P 15 12 54.4 -2.0**
MDT Midelt 79.03 55 LR LR 15 45 51.4
comp=Z,29nm,20.3s,baz=348,slow=34
ESDC Sonseca Array 81.16 49 P **P 15 13 11.5 +1.0**
comp=Z,0.5nm,0.7s,baz=253,slow=5.3,SNR=2.1
ESDC pP **pP 15 13 28.7 +0.8**
comp=Z,6.1nm,1.0s,baz=263,slow=5.5,SNR=13
ESDC LR LR 15 49 04.2
comp=Z,31nm,18.2s,baz=306,slow=36
comp=Z,0.5nm,0.7s
TORD Torodi Ar. Bea 81.28 76 P **P 15 13 11.8 +0.3**
H31M Peel River 81.51 340 IAmb IAmb 15 14 10.2
comp=Z,18nm,1.3s
L29M L29M 81.51 337 IAmb IAmb 15 13 42.5
comp=Z,13nm,0.9s
J30M Hart River 81.56 338 P **P 15 13 13.1 +1.0**
SUMG Summit 81.56 11 P **P 15 13 12.4 +0.1**
SUMG IAmb IAmb 15 13 32.7
comp=Z,20nm,0.9s
SUMG Summit 81.56 11 P **P 15 13 12.4 +0.1**
SUMG pmax pmax
comp=Z,20nm,0.9s
SUMG Summit 81.56 11 *i* P **P 15 13 12.8 +0.5**
SUMG *e* 15 13 29.5
I30M Mount Dempster 81.91 339 IAmb IAmb 15 13 35.5
comp=Z,15nm,0.9s
G31M Satah River 82.10 341 P **P 15 13 15.0 +0.4**
G31M IAmb IAmb 15 13 33.7
comp=Z,17nm,0.9s
F31M Tsiigehtchic 82.21 341 IAmb IAmb 15 13 41.5
comp=Z,28nm,1.4s
TROLL Troll, Antarti 82.28 162 ⇑P **P 15 13 16.4 +0.5**
comp=Z,383nm,0.7s
EPYK Eagle Plains 82.63 340 P **P 15 13 18.5 +0.9**
EPYK IAmb IAmb 15 13 41.1
comp=Z,11nm,0.8s
M27K Edge Creek, AK 82.69 335 P **P 15 13 18.3 +0.2**
BCAR Beaver Creek A 82.96 336 P **P 15 13 20.1 +0.7**
F30M Barrier River 82.97 341 IAmb IAmb 15 13 38.8
comp=Z,15nm,0.8s
H29M Whitestone 83.13 339 P **P 15 13 21.2 +1.1**
H29M IAmb IAmb 15 13 46.9
comp=Z,15nm,0.9s
GLB Gilahina Butte 83.13 334 P **P 15 13 20.3 0.0**
I28M Miner Creek 83.32 338 IAmb IAmb 15 13 44.7
comp=Z,19nm,0.8s
G29M Pine Creek 83.35 340 IAmb IAmb 15 13 46.5
comp=Z,18nm,0.8s
K27K Chicken 83.50 337 IAmb IAmb 15 13 54.8
comp=Z,24nm,1.0s
NEEM North Greenlan 83.81 6 *i* P **P 15 13 24.9 +1.1**
E29M Blow River 84.05 341 IAmb IAmb 15 13 56.5
comp=Z,13nm,0.9s
DOT Dot Lake 84.14 336 IAmb IAmb 15 13 59.9
comp=Z,15nm,1.0s
SCRK Sand Creek 84.24 336 P **P 15 13 25.9 -0.1**
SCRK IAmb IAmb 15 14 00.5
comp=Z,12nm,0.9s
J26L Joseph Creek 84.29 337 IAmb IAmb 15 13 47.1
comp=Z,20nm,1.0s
PAX Paxson 84.45 335 IAmb IAmb 15 13 47.9
comp=Z,13nm,1.0s
I26K Coal Creek Min 84.47 338 P **P 15 13 28.4 +1.4**
RIDG Independent Ri 84.50 336 IAmb IAmb 15 13 48.5
comp=Z,20nm,1.0s
QSPA South Pole Qui 84.98 180 P **P 15 13 29.4 -0.3**
comp=Z,11nm,0.9s,baz=142,slow=1.3,SNR=53
QSPA pP **pP 15 13 46.8 -0.8**
comp=Z,24nm,1.0s,baz=125,slow=2.4,SNR=8.5
comp=Z,11nm,0.9s
J25K Salcha River, 85.05 336 IAmb IAmb 15 13 53.7
comp=Z,16nm,0.8s
E27K Coleen River 85.17 340 IAmb IAmb 15 14 29.8
comp=Z,10nm,1.1s
NVL N'lazarevskaya 85.20 161 *i* P **P 15 13 30.7 +0.1**
NVL *i* 15 13 48.5
NVL pmax pmax
comp=Z,18nm,0.7s
D27M Malcolm River 85.44 341 IAmb IAmb 15 13 55.5
comp=Z,10nm,0.8s
HDA Harding Lake 85.61 336 IAmb IAmb 15 13 53.3
comp=Z,12nm,1.0s
EKA Eskdalemuir Ar 85.69 34 P **P 15 13 34.1 +0.9**
comp=Z,1.7nm,0.9s,baz=252,slow=4.7,SNR=2.4
EKA pP **pP 15 13 51.1 +0.2**
comp=Z,0.9nm,0.6s,baz=256,slow=3.4,SNR=2.3
comp=Z,1.7nm,0.9s
IL31 85.71 336 P **P 15 13 32.7 -0.5**
IL31 IAmb IAmb 15 13 54.0
comp=Z,9.1nm,0.9s
ILAR Eielson Array 85.71 336 P **P 15 13 33.0 -0.2**
ILAR Eielson Array 85.71 336 P **P 15 13 32.9 -0.3**
comp=Z,1.4nm,0.8s,baz=114,slow=5.1,SNR=14
ILAR pP **pP 15 13 50.2 -0.7**
comp=Z,6.9nm,0.9s,baz=129,slow=3.1,SNR=17
comp=Z,1.4nm,0.8s
ILAR Eielson Array 85.71 336 P **P 15 13 33.0 -0.2**
RND Reindeer 86.04 335 IAmb IAmb 15 14 16.5
comp=Z,21nm,1.4s
RND Reindeer 86.04 335 P **P 15 13 35.2 +0.3**
POKR Poker Plat Res 86.06 337 IAmb IAmb 15 13 55.6
comp=Z,8.1nm,0.8s
COLA College 86.14 336 P **P 15 13 37.2 +2.0**
COLA pmax pmax
comp=Z,14nm,0.9s
C27K Jago River 86.48 341 IAmb IAmb 15 14 09.4
comp=Z,9.0nm,0.9s
H24K Noodor Dome 86.48 337 IAmb IAmb 15 13 58.0
comp=Z,12nm,0.8s
E25K Arctic Village 86.49 340 IAmb IAmb 15 14 19.9
comp=Z,8.6nm,1.0s
NEA2 Nenana 86.53 336 P **P 15 13 37.0 -0.2**
G24K Hadweenzic Riv 86.64 338 IAmb IAmb 15 13 59.3
comp=Z,10nm,0.9s
TRF Thorofare Moun 86.67 335 IAmb IAmb 15 14 39.9
comp=Z,7.5nm,0.8s
I23K Minto, Yukon-K 86.83 336 IAmb IAmb 15 13 59.3
comp=Z,10nm,0.8s
KTH Kantishna Hill 86.97 335 IAmb IAmb 15 14 00.8
comp=Z,14nm,0.8s
CAST Castle Rocks 87.43 334 P **P 15 13 41.1 -0.5**
E24K Your Creek 87.49 339 IAmb IAmb 15 14 26.5
comp=Z,11nm,1.2s
E23K Chandalar 87.89 339 IAmb IAmb 15 14 21.1
comp=Z,22nm,1.4s
TOLK Toolik Lake Re 88.06 340 IAmb IAmb 15 14 46.2
comp=Z,9.3nm,1.2s
K20K Telida 88.27 334 IAmb IAmb 15 14 06.0
comp=Z,12nm,1.1s
SSB Saint Sauveur 88.44 44 P **P 15 13 46.2 -0.7**
J20K Nowinta River 88.52 335 IAmb IAmb 15 14 07.0
comp=Z,15nm,1.2s
D23K Nanushuk River 88.55 340 P **P 15 13 48.4 +1.6**
ELIB Princess Elisa 88.73 162 *d*P **P 15 13 48.4 +0.5**
comp=Z,8.9nm,0.8s
ELIB *dx* x 15 14 08.2
ORIF Oris-en-Rattie 89.33 45 P **P 15 13 51.9 +0.8**
ORIF pmax pmax
comp=Z,12nm,1.0s
BNI Bardonecchia 89.91 45 P **P 15 13 53.1 -0.8**
ISO Isola 90.06 46 P **P 15 13 54.4 -0.2**
ISO pmax pmax
comp=Z,7.0nm,1.0s
ECH Echery 90.63 42 P **P 15 13 56.7 -0.3**
ECH pmax pmax
comp=Z,11nm,1.3s
VNDA Vanda 91.27 191 P **P 15 13 59.4 -0.1**
comp=Z,0.8nm,0.7s,baz=116,slow=6.0,SNR=3.6
comp=Z,0.8nm,0.7s
SLE Schleitheim 91.47 42 P **P 15 14 01.9 +0.9**
SLE pmax pmax
comp=Z,12nm,1.1s
WTTA Wattenberg 93.55 43 P **P 15 14 10.3 -0.5**
WTTA pmax pmax
comp=Z,7.0nm,1.4s
NOA NORSAR Array B 94.11 29 LR LR 15 53 37.8
comp=Z,22nm,21.8s,baz=40,slow=34
SYO Syowa Base 94.84 161⇑ *e*P **P 15 14 15.3 -0.7**
SYO Syowa Base 94.84 161⇑ *e*pP pP 15 14 29.0 -5.1
SYO Syowa Base 94.84 161⇓ *e*sP sP 15 14 35.4 -5.6
KHC Kasperske Hory 94.94 41 *i* P **P 15 14 16.8 -0.1**
KHC pmax pmax
comp=Z,3.0nm,1.0s
GERES GERESS Array B 95.01 42 P **P 15 14 18.1 +0.8**
comp=Z,0.1nm,0.2s,baz=275,slow=5.7,SNR=1.4
GERES pP **pP 15 14 33.5 -1.6**
comp=Z,0.4nm,0.6s,baz=230,slow=6.1,SNR=2.6
comp=Z,0.1nm,0.2s
MNK Minsk 103.42 35 *i* P **Pdif 15 14 52.0 -2.7**
MNK *i* 15 19 07.9
MNK *i* S **SKSac 15 25 26.3 -2.8**
MNK *i* PS **PS 15 28 19.0 -2.7**
MNK *i* SS **SS 15 33 54.2 +3.8**
MNK *i* SSS SSS 15 37 44.0
MNK pmax pmax
comp=Z,4.0nm,0.5s
MNK pmax pmax
comp=E,15nm,0.6s
MNK pmax pmax
comp=N,10.0nm,0.6s
MNK MLR MLR

comp=Z,15nm,13.0s
MNK MLR MLR
comp=E,130nm,22.0s
MNK MLR MLR
comp=N,163nm,22.0s
BILL Bilibino 104.11 340 *e*P **Pdif 15 14 56.8 -0.8**
BILL pmax pmax
comp=Z,1.0nm,1.1s
OBN Obninsk 108.14 33 *i* P **Pdif 15 15 15.2 -0.5**
OBN *e* 15 19 46.1
OBN pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 125.70 23 PKP **PKPdf 15 19 55.9 +0.1**
comp=Z,0.4nm,0.4s,baz=303,slow=1.5,SNR=2.0
BVAR pPKP **pPKPdf 15 20 13.9 -0.5**
comp=Z,1.9nm,0.8s,baz=276,slow=2.8,SNR=5.4
STKA Stephens Creek 127.26 223 PKP **PKPdf 15 19 59.0 -0.4**
comp=Z,1.7nm,0.6s,baz=169,slow=1.2,SNR=4.5
STKA pPKP **pPKPdf 15 20 18.1 +0.2**
comp=Z,4.6nm,0.5s,baz=110,slow=3.9,SNR=5.9
ZEA Zeya 127.28 341 *e*PKHKP PKPpre 15 19 43.6
KLR Kul'dur 129.27 335 *i* PKIKP **PKPdf 15 20 02.2 -0.5**
KLR pmax pmax
comp=Z,1.0nm,0.9s
ZAA0 Zalesovo Array 129.36 13 PKPdf **PKPdf 15 20 02.8 0.0**
ZALV Zalesovo Beam 129.36 13 PKPdf **PKiKP 15 20 03.5 0.0**
ZALV Zalesovo Beam 129.36 13 PKP **PKPdf 15 20 02.7 0.0**
comp=Z,1.5nm,0.7s,baz=346,slow=1.2,SNR=6.2
ZALV pPKP **pPKPdf 15 20 21.0 -0.3**
comp=Z,6.5nm,0.9s,baz=292,slow=0.8,SNR=9.7
ZALV Zalesovo Beam 129.36 13 PKIKP **PKiKP 15 20 03.5 0.0**
KURK Kurchatov 130.54 19 *i* PKIKP **PKPdf 15 20 05.1 0.0**
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURBB Kurchatov Arra 130.59 19 PKP **PKPdf 15 20 05.2 0.0**
comp=Z,0.5nm,0.5s,baz=323,slow=2.4,SNR=4.0
KURBB pPKP **pPKPdf 15 20 23.3 -0.5**
comp=Z,6.1nm,1.0s,baz=320,slow=2.5,SNR=15
MJAR Matsushiro Arr 134.32 318 pPKP pPKPdf 15 20 31.4 +0.2
comp=Z,1.3nm,0.5s,baz=70,slow=1.8,SNR=2.6
MAKZ Makanchi 135.04 19 PKPdf **PKiKP 15 20 14.8 -0.4**
MAKZ Makanchi 135.04 19 PKIKP **PKiKP 15 20 14.8 -0.4**
MKAR Makanchi Array 135.16 19 PKP **PKPdf 15 20 13.9 0.0**
comp=Z,0.3nm,0.5s,baz=342,slow=1.8,SNR=6.1
MKAR pPKP **pPKPdf 15 20 32.9 +0.3**
comp=Z,1.1nm,0.5s,baz=355,slow=2.4,SNR=8.8
MKAR Makanchi Array 135.16 19 *e*PKIKP **PKPdf 15 20 14.6 +0.7**
SONM Songino Array 137.25 356 PKP **PKPdf 15 20 17.3 -0.6**
comp=Z,0.6nm,0.6s,baz=27,slow=1.3,SNR=3.9
SONM pPKP **pPKPdf 15 20 36.5 0.0**
comp=Z,1.5nm,0.6s,baz=31,slow=1.7,SNR=6.1
ASAR Alice Springs 137.65 226 PKP **PKPdf 15 20 18.9 -0.4**
comp=Z,1.1nm,0.6s,baz=132,slow=2.0,SNR=11
WRA Warramunga Arr 139.53 231 PKP **PKPdf 15 20 22.9 +0.1**
comp=Z,1.2nm,0.5s,baz=114,slow=2.5,SNR=8.9
WRA pPKP **pPKPdf 15 20 40.1 -1.2**
comp=Z,3.3nm,0.7s,baz=111,slow=2.0,SNR=3.9
KSRS Korea Array 139.97 327 PKP **PKPdf 15 20 23.1 +0.1**
comp=Z,1.6nm,0.8s,baz=14,slow=0.7,SNR=7.6
KSRS pPKP **pPKPdf 15 20 40.4 -1.1**
comp=Z,2.6nm,0.8s,baz=73,slow=2.0,SNR=4.6
KSAR Wonju Array Be 140.00 327 PKPdf **PKPdf 15 20 22.4 -0.7**
KSAR Wonju Array Be 140.00 327 PKIKP **PKPdf 15 20 22.4 -0.7**
HHC Hu-ho-hao-te 143.37 348 *e*P **PKPdf 15 20 30.6 +1.4**
GTA Gaotai 145.80 3 *e*PKPbc **PKPbc 15 20 33.9 -0.1**
GTA sPKP 15 20 54.5
FITZ Fitzroy Crossi 147.12 225 PKPbc **PKPdf 15 20 37.3 +1.2**
GOMU GeErMu 148.38 11 PKPbc **PKPdf 15 20 37.5 -0.7**
GOMU pPKP PKPab 15 20 50.8 +5.9
GOMU sPKP 15 20 57.4
NJ2 Nanjing 148.83 331 *e*P **PKPdf 15 20 40.1 +1.6**
NJ2 sP **pPKPdf 15 20 58.8 +1.7**
NJ2 pmax pmax
comp=Z,12nm,0.5s
LZH Lanzhou 149.12 357 *e*PKPbc **PKPdf 15 20 38.8 -0.3**
LZH sPKP 15 20 50.9
HYB Hyderabad 154.10 60 *e*PKPdf **PKPdf 15 20 46.6 -0.4**
GYA Guiyang 158.28 348 PKP **PKPdf 15 20 49.1 -3.3**
PZH PanZhiHua 158.72 0 PKP **PKPdf 15 20 52.5 -0.4**
CMAR Chiang Mai Arr 166.42 12 pPKP pPKPdf 15 21 20.0 +0.8
comp=Z,1.6nm,0.7s,baz=288,slow=2.0,SNR=3.1

*GII **17** 15:06:25.2±0.0, 33°.529N±0°.002×35°.804E±0°.001, h0km, confirmed*
*GRAL **17** 15:06:26.6±0.5, 33°.48N×35°.71E, h14km±1km, MD2.7*
ISC 17 15:06:26.8±1.0, **33°.53N**±0°.03×**35°.76E**±0°.05, **h10**km, **n22**, σ0.972/24, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.07**	**117**	*e*P	**Pg**	**15 06 29.6**	**+0.4**
RCY				*e*S	**Sg**	**15 06 32.2**	**+1.3**
QRWL	**Qaraoun**	**0.07**	**287**	*e*P	**Pg**	**15 06 29.1**	**-0.1**
QRWL				*e*S	**Sg**	**15 06 31.1**	**+0.3**
SHBL	**Chebaa**	**0.18**	**185**	*e*P	**Pg**	**15 06 30.1**	**-0.7**
DQRL	**Deir Qamar**	**0.24**	**318**	*e*P	**Pg**	**15 06 31.9**	**0.0**
NATI	**Neve Ativ**	**0.27**	**185**	P	**Pg**	**15 06 31.7**	**-0.5**
NATI	**Neve Ativ**	**0.27**	**185**	S	**Sg**	**15 06 36.8**	**+1.1**
GEM	**Giv'at Ha'Em**	**0.33**	**195**	P	**Pg**	**15 06 32.7**	**-0.6**
GEM	**Giv'at Ha'Em**	**0.33**	**195**	S	**Sg**	**15 06 38.8**	**+1.1**
ZAHL	**Zahle**	**0.35**	**17**	*e*P	**Pg**	**15 06 34.0**	**+0.2**
BHL	**Bhannes**	**0.39**	**346**	*e*P	**Pg**	**15 06 34.7**	**+0.2**
MMC7	**Mount Meron ar**	**0.59**	**212**	P	**Pg**	**15 06 38.3**	**0.0**
MMA0B	**Mount Meron ar**	**0.59**	**211**	P	**Pg**	**15 06 38.5**	**+0.2**
MMA0B	**Mount Meron ar**	**0.59**	**211**	S	**Sb**	**15 06 48.0**	**+1.1**
HNTI	**Hanita**	**0.66**	**228**	P	**Pg**	**15 06 39.7**	**+0.1**
HNTI	**Hanita**	**0.66**	**228**	S	**Sb**	**15 06 50.8**	**+1.0**
BEIL	**Beino**	**1.07**	**19**	*e*P	**Pg**	**15 06 46.0**	**-1.4**
OFRI	**`Ofer**	**1.11**	**216**	P	**Pg**	**15 06 47.3**	**-1.0**
OFRI	**`Ofer**	**1.11**	**216**	S	**Sn**	**15 07 04.1**	**+0.1**
MMLI	**Mount Malkishu**	**1.12**	**195**	P	**Pb**	**15 06 47.6**	**-0.8**
MMLI	**Mount Malkishu**	**1.12**	**195**	S	**Sn**	**15 07 04.3**	**+0.2**
HMDT	**Nahal Hemdat**	**1.29**	**189**	P	**Pn**	**15 06 50.4**	**-0.4**
HMDT	**Nahal Hemdat**	**1.29**	**189**	S	**Sn**	**15 07 08.7**	**+0.6**

*IDC **17** 15:15:24.8±1.6, 37°.88N×20°.96E, h0km, mb3.5/8, mbtmp3.5/13, ML3.2/3, Error ellipse: s-maj=31.4km s-min=18.8km az=20.0*
*THE **17** 15:15:24.3, 37°.63N×20°.68E, h15km, ML3.8/6, Error ellipse: s-maj=0.8km s-min=0.3km az=35.0*
*ATH **17** 15:15:24.4, 37°.63N×20°.59E, h11km±2km, ML3.8/32, Manual Solution by A.Andreou First location: 2019/04/17 15:16:18, This location: 2020/08/10 12:23:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*NAO **17** 15:15:32.2, 37°.75N×20°.72E, h10km, mb3.7*
ISC 17 15:15:25.6±0.8, **37°.68N**±0°.03×**20°.73E**±0°.03, **h14**km±4km, **n77**, σ1.910/96, **mb3.6**/8, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.09**	**70**	P	**Pg**	**15 15 28.1**	**-0.5**
LTHK				S	**Sg**	**15 15 31.0**	**+0.3**
120μm,0.3s							
LTHK	**Lithakia**	**0.09**	**70**	P	**Pg**	**15 15 28.1**	**-0.5**
LTHK				S	**Sg**	**15 15 31.1**	**+0.3**
KYPS	**Kipseli, Zakin**	**0.16**	**28**	P	**Pb**	**15 15 30.0**	**-0.5**
KYPS				S	**Sg**	**15 15 33.3**	**+1.1**
ORTH	**Orthonies,Zaky**	**0.17**	**352**	P	**Pg**	**15 15 29.7**	**-0.1**
CLEM	**Kyllini,Ilia,G**	**0.39**	**56**	P	**Pb**	**15 15 34.2**	**-0.1**
CLEM				S	**Sb**	**15 15 41.2**	**+1.0**
RTZL	**Ratzakli, Kefa**	**0.40**	**5**	P	**Pg**	**15 15 33.3**	**-0.4**
RTZL				S	**Sg**	**15 15 40.2**	**+1.1**
6μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.45**	**346**	P	**Pg**	**15 15 34.0**	**-0.6**
PSDA				S	**Sb**	**15 15 41.6**	**-0.4**
9μm,0.5s							
PSDA	**Pessada-Kefalo**	**0.45**	**346**	P	**Pg**	**15 15 34.2**	**-0.4**
LCHA	**Lechaina**	**0.50**	**58**	P	**Pb**	**15 15 36.2**	**0.0**
LCHA				S	**Sb**	**15 15 44.7**	**+1.4**
VLS	**Valsamata**	**0.51**	**348**	P	**Pg**	**15 15 35.0**	**-0.7**
VLS				S	**Sg**	**15 15 43.1**	**+0.5**
9μm,0.4s							
VLS	**Valsamata**	**0.51**	**348**	P	**Pg**	**15 15 35.1**	**-0.6**
LXR1	**Lixouri, Cepha**	**0.57**	**337**	P	**Pg**	**15 15 36.0**	**-0.8**
SMHA	**Samh**	**0.58**	**354**	P	**Pg**	**15 15 35.9**	**-1.0**
DMLN	**Damoulianata-K**	**0.63**	**334**	P	**Pg**	**15 15 36.9**	**-1.0**
DMLN				S	**Sb**	**15 15 46.8**	**-0.3**
13μm,0.4s							
DMLN	**Damoulianata-K**	**0.63**	**334**	P	**Pg**	**15 15 37.2**	**-0.7**
YRMI	**Loutra Irminis**	**0.65**	**49**	P	**Pg**	**15 15 38.2**	**-0.1**
YRMI				S	**Sb**	**15 15 48.4**	**+0.6**
RLS	**Riolos of Patr**	**0.70**	**57**	P	**Pg**	**15 15 38.6**	**-0.6**
RLS				S	**Sb**	**15 15 49.7**	**+0.6**
8μm,0.7s							
RLS	**Riolos of Patr**	**0.70**	**57**	P	**Pb**	**15 15 39.4**	**-0.3**
RLS				S	**Sb**	**15 15 50.9**	**+1.7**
AXS	**Araxos**	**0.73**	**45**	P	**Pn**	**15 15 40.9**	**-0.6**
AXS				S	**Sb**	**15 15 51.3**	**+1.2**
VSK1	**VASILIKIADES**	**0.74**	**350**	P	**Pg**	**15 15 39.1**	**-1.0**
ZARO	**Zacharo**	**0.76**	**104**	P	**Pb**	**15 15 40.6**	**0.0**
FSK	**Fiskardo**	**0.79**	**351**	P	**Pg**	**15 15 40.0**	**-1.0**
FSK	**Fiskardo**	**0.79**	**351**	P	**Pg**	**15 15 40.1**	**-0.9**
AMT	**Artemida-Makis**	**0.79**	**100**	P	**Pg**	**15 15 41.1**	**-0.2**
AMT				S	**Sn**	**15 15 53.2**	**-1.0**
DRO	**Drossia**	**0.83**	**70**	P	**Pg**	**15 15 40.7**	**-1.0**
DRO	**Drossia**	**0.83**	**70**	P	**Pn**	**15 15 42.2**	**-0.7**
DRO				S	**Sn**	**15 15 55.6**	**+0.6**
AST1	**Astakos**	**0.91**	**18**	P	**Pg**	**15 15 42.4**	**-0.8**
EVGI	**Lefkada island**	**0.94**	**357**	P	**Pg**	**15 15 42.7**	**-1.2**
EVGI	**Lefkada island**	**0.94**	**357**	P	**Pg**	**15 15 43.0**	**-0.9**
UPR	**University Cam**	**1.03**	**54**	P	**Pn**	**15 15 46.3**	**+0.5**
NYDR	**Nydri-Lefkada**	**1.03**	**359**	P	**Pb**	**15 15 43.9**	**-1.5**
NYDR	**Nydri-Lefkada**	**1.03**	**359**	P	**Pb**	**15 15 44.4**	**-0.9**
ITM	**Ithomi**	**1.08**	**117**	P	**Pb**	**15 15 43.9**	**-2.2**
ITM	**Ithomi**	**1.08**	**117**	P	**Pn**	**15 15 48.4**	**+2.1**
ITM				S	**Sn**	**15 16 02.2**	**+1.1**
LKD2	**Lefkada island**	**1.11**	**357**	P	**Pb**	**15 15 46.6**	**-0.1**
PVO	**Paravola**	**1.13**	**34**	P	**Pg**	**15 15 47.6**	**+0.2**
PVO				S	**Sn**	**15 16 03.5**	**+1.1**
TSLK	**Tsoukalades, L**	**1.15**	**357**	P	**Pb**	**15 15 45.6**	**-1.7**
TSLK	**Tsoukalades, L**	**1.15**	**357**	P	**Pb**	**15 15 46.8**	**-0.5**
MTHA	**Methoni**	**1.16**	**137**	P	**Pg**	**15 15 48.6**	**+0.7**
MTHA				S	**Sn**	**15 16 04.7**	**+1.6**
GUR	**Goura**	**1.31**	**78**	P	**Pn**	**15 15 47.9**	**-1.7**
ANX	**Ano Chora**	**1.31**	**45**	P	**Pn**	**15 15 48.4**	**-1.3**
TETR	**Tetrakomo, Epi**	**1.72**	**14**	P	**Pn**	**15 15 56.0**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.73**	**39**	P	**Pb**	**15 15 56.6**	**-0.7**
LTK	**Loutraki**	**1.81**	**78**	P	**Pg**	**15 15 59.2**	**-1.2**
AXAR	**Agios Charalam**	**1.87**	**54**	P	**Pb**	**15 15 58.7**	**-1.0**
IGT	**Igoumenitsa**	**1.88**	**351**	P	**Pn**	**15 15 58.2**	**+0.8**
JAN	**Janina**	**1.98**	**3**	P	**Pb**	**15 16 00.5**	**-1.0**
VLI	**Veliai**	**2.01**	**118**	P	**Pb**	**15 16 01.9**	**0.0**
LKR	**Lokris**	**2.04**	**61**	P	**Pb**	**15 16 01.8**	**-0.7**
VIL2	**Platees**	**2.08**	**74**	P	**Pb**	**15 16 02.9**	**-0.3**
MET5	**Makryloggos,Me**	**2.09**	**91**	P	**Pb**	**15 16 03.6**	**+0.3**
MET4	**Agioi Theodoro**	**2.12**	**91**	P	**Pb**	**15 16 02.7**	**-1.2**
THL	**Klokotos Trika**	**2.14**	**28**	P	**Pb**	**15 16 03.7**	**-0.5**
VLY	**Voula,Athens**	**2.44**	**85**	P	**Pb**	**15 16 08.3**	**-0.9**
ATHU	**Athens Univers**	**2.44**	**82**	P	**Pb**	**15 16 08.3**	**-1.0**
PTL	**Penteli**	**2.51**	**81**	P	**Pb**	**15 16 09.2**	**-1.4**
NEO	**Neokhori**	**2.55**	**50**	P	**Pn**	**15 16 08.3**	**+1.7**
DION	**Dionisos Attik**	**2.57**	**80**	P	**Pb**	**15 16 09.1**	**-2.5**
ANKY	**Antikythira Is**	**2.75**	**130**	P	**Pb**	**15 16 12.0**	**-2.5**
LIT	**Litokhoron**	**2.78**	**29**	P	**Pn**	**15 16 11.6**	**+1.7**
KYMI	**Kymi, Euboea I**	**2.83**	**69**	P	**Pb**	**15 16 13.3**	**-2.6**
KARY	**Karystos**	**2.96**	**82**	P	**Pn**	**15 16 14.4**	**+2.2**
IDI	**Anoyia**	**4.12**	**124**	Pn	**Pn**	**15 16 28.1**	**-0.2**
6.2nm,0.9s,baz=229,slow=8.3,SNR=9.2							
IDI				Sn	**Sn**	**15 17 14.1**	**-2.2**
8.4nm,0.3s,baz=341,slow=13,SNR=13							
VAE	**Valguarnera**	**5.02**	**270**	Pn	Pn	15 16 44.4	+3.7
5.6nm,0.3s,baz=184,slow=18,SNR=1.8							
VAE				Sn	**Sn**	**15 17 40.4**	**+1.9**
4.2nm,0.3s,baz=51,slow=21,SNR=3.9							
BRTR	**Keskin Array B**	**10.30**	**75**	Pn	**Pn**	**15 17 53.6**	**+0.5**
baz=255,slow=15,SNR=1.7							
0.2nm,0.4s							
GERES	**GERESS Array B**	**12.27**	**338**	Pn	**Pn**	**15 18 19.5**	**-0.6**
baz=153,slow=15,SNR=2.6							
0.4nm,0.4s							
AKASG	**Malin Array Be**	**14.36**	**22**	Pn	**P**	**15 18 54.8**	**-0.7**
0.9nm,0.3s,baz=211,slow=8.9,SNR=5.3							
ESDC	**Sonseca Array**	**19.37**	**284**	P	**Pn**	**15 19 53.7**	**+1.6**
baz=91,slow=10,SNR=4.4							
0.5nm,0.7s							
HFS	**Hagfors**	**22.92**	**351**	P	**P**	**15 20 28.6**	**-0.3**
3.6nm,0.8s,baz=163,slow=11,SNR=7.0							
3.6nm,0.8s							
EKA	**Eskdalemuir Ar**	**23.93**	**325**	P	**P**	**15 20 40.1**	**+1.0**
2.4nm,0.9s,baz=127,slow=10,SNR=4.0							
2.4nm,0.9s							
FINES	**FINESS Array B**	**24.02**	**6**	P	**P**	**15 20 38.9**	**-1.0**
0.8nm,0.5s,baz=172,slow=12,SNR=8.0							
0.8nm,0.5s							
NB2	**NORSAR Subarra**	**24.14**	**349**	P	**P**	**15 20 41.6**	**+0.6**
comp=Z,1.1nm,0.8s,baz=161,slow=9.3							
NOA	**NORSAR Array B**	**24.14**	**349**	P	**P**	**15 20 41.3**	**+0.2**
comp=Z,0.2nm,0.5s,baz=157,slow=8.3,SNR=4.7							
comp=Z,0.2nm,0.5s							
ARCES	**ARCESS Array B**	**32.02**	**3**	P	**P**	**15 21 51.0**	**-0.3**
comp=Z,0.5nm,0.6s,baz=188,slow=8.3,SNR=5.5							
comp=Z,0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**42.40**	**53**	P	**P**	**15 23 17.7**	**-1.8**
comp=Z,0.2nm,0.4s,baz=283,slow=9.0,SNR=1.9							
comp=Z,0.2nm,0.4s							
MKAR	**Makanchi Array**	**45.43**	**58**	P	**P**	**15 23 44.1**	**+0.1**
comp=Z,0.3nm,0.4s,baz=281,slow=7.2,SNR=2.0							
comp=Z,0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**45.91**	**48**	P	**P**	**15 23 46.8**	**-0.8**
comp=Z,0.6nm,0.5s,baz=290,slow=9.7,SNR=1.8							
comp=Z,0.6nm,0.5s							

*IDC **17** 15:15:34.4±0.6, 9°.45S×151°.18E, h0km, mb4.3/17, mbtmp4.3/22, ML4.0/4, MS4.2/40, Error ellipse: s-maj=18.5km s-min=14.5km az=81.0*
*NEIC **17** 15:15:38.2±1.4, 9°.41S±0°.09×150°.9E±0°.1, h10km±1km, mb4.9/34, Error ellipse: s-maj=17.7km s-min=14.7km az=63.0*
*GCMT **17** 15:15:40.2±0.2, 9°.51S±0°.01×151°.10E±0°.02, h12km, MW5.1/114, Moment Tensor Solution. s48,c68; s114,c198; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.02±.09; $M_{\theta\theta}$4.89±.07; $M_{\phi\phi}$-0.87±.08; $M_{r\theta}$0.44±.23; $M_{\theta\phi}$0.64±.07; $M_{\phi r}$-2.38±.35; Best double couple: $M_0$5.15500×10^{16} NP1:ϕ_s58.00000°, δ51.00000°, λ-128.00000°. NP2:ϕ_s289.00000°, δ53.00000°, λ-53.00000°. Principal axes: T 4.9650, Plg1.0000°, Azm354.0000°; N 0.3810, Plg29.0000°, Azm85.0000°; P -5.3460, Plg61.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **17** 15:15:43.8±0.6, 10°S±4°.×15°.1E±°, h61km±7km, M5.0/25, mb4.9/25, mB5.5/9, Mw(mB)5.0/9*
ISC 17 15:15:37.5±0.3, **9°.52S**±0.05×**151°.11E**±0°.05, **h13**km, **n153**, σ1.982/137, **mb4.9**/52, **MS4.3**/45, **2C-1D, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.90**	**271**	P	**Pn**	**15 16 34.6**	**-2.6**
PMG	**Port Moresby**	**3.90**	**271**	Pn	**Pn**	**15 16 35.6**	**-1.6**
18nm,0.3s,baz=6.6,slow=19,SNR=23							
PMG				Sn	**Sn**	**15 17 26.7**	**+3.8**
20nm,0.3s,baz=246,slow=21,SNR=1.7							
PMG				LR	LR	15 18 28.9	
comp=Z,3μm,21.8s,baz=90,slow=44							
PMG	**Port Moresby**	**3.90**	**271**	P	**Pn**	**15 16 35.4**	**-1.8**
PMG	**Port Moresby**	**3.90**	**271**	P	**Pn**	**15 16 35.3**	**-1.9**
RABL	**Rabaul**	**5.39**	**11**	Pn	**Pn**	**15 16 55.6**	**-2.2**
MANU	**Manus Island**	**8.31**	**333**	Pn	**Pn**	**15 17 40.3**	**+2.5**
HNR	**Honiara**	**8.72**	**90**	Pn	**Pn**	**15 17 40.1**	**-3.4**
2.4nm,0.3s,baz=157,slow=8.4,SNR=2.0							
HNR				LR	LR	15 20 41.8	
comp=Z,1μm,19.6s,baz=265,slow=36							
16nm,0.5s							
COEN	**Coen**	**8.93**	**240**	Pn	**Pn**	**15 17 43.4**	**-3.0**
JAY	**Jayapura**	**12.46**	**303**	Pn	**Pn**	**15 18 33.0**	**-1.8**
1.0nm,0.3s,baz=153,slow=9.2,SNR=4.6							
JAY				LR	LR	15 24 06.8	
comp=Z,1μm,20.6s,baz=119,slow=41							
8.3nm,0.7s							
GENI	**Genyem**	**12.87**	**302**	P	**Pn**	**15 18 43.1**	**+2.8**
GENI	**Genyem**	**12.87**	**302**	P	**Pn**	**15 18 41.0**	**+0.7**
95nm,0.7s							
QIS	**Mount Isa**	**15.61**	**224**	P	**Pn**	**15 19 16.7**	**-0.7**
EIDS	**Eidsvold**	**15.77**	**180**	Pn	**Pn**	**15 19 21.1**	**+1.7**
EIDS	**Eidsvold**	**15.77**	**180**	P	**P**	**15 19 23.8**	**+0.5**
BAKI	**Biak**	**17.06**	**298**	P	**P**	**15 19 37.9**	**+0.1**
101nm,1.5s							
QLP	**Quilpie**	**18.18**	**200**	P	**Pn**	**15 19 49.5**	**-0.3**
KDU	**Kakadu**	**18.56**	**259**	P	**P**	**15 19 53.1**	**-1.2**
WB0	**Warramunga Arr**	**19.10**	**236**	P	**P**	**15 19 59.9**	**-0.4**
WR8	**Warramunga Arr**	**19.10**	**235**	P	**P**	**15 19 59.8**	**-0.5**
WRAB	**Tennant Creek**	**19.21**	**236**	P	**P**	**15 20 01.3**	**-0.2**
WRAB				IAmb	IAmb	15 20 02.4	
comp=Z,155nm,2.0s							
WRA	**Warramunga Arr**	**19.23**	**236**	P	**P**	**15 20 00.8**	**-0.9**
WRA	**Warramunga Arr**	**19.23**	**236**	P	**P**	**15 20 01.2**	**-0.5**
comp=Z,0.4nm,0.3s,baz=61,slow=11,SNR=35							
WRA				LR	LR	15 27 33.4	
comp=Z,265nm,18.2s,baz=346,slow=37							
comp=Z,14nm,0.8s							
DZM	**Mont Dzumac**	**19.30**	**132**	*e*P	**P**	**15 20 01.1**	**-1.5**
comp=Z,148nm,30.8s							
DZM				*e*S	**Sn**	**15 23 40.8**	**+0.8**
comp=Z,3μm,28.1s							
DZM				*e*LR	LR	15 24 45.3	
comp=Z,4μm,24.4s							
DZM	**Mont Dzumac**	**19.30**	**132**	P	**P**	**15 20 01.0**	**-1.5**
comp=Z,0.3nm,0.3s,baz=24,slow=4.5,SNR=3.6							
DZM				LR	LR	15 26 23.1	
comp=Z,2μm,20.8s,baz=319,slow=34							
comp=Z,7.0nm,0.9s							
FAKI	**Fak Fak**	**19.85**	**288**	P	**P**	**15 20 06.4**	**-2.2**
FAKI	**Fak Fak**	**19.85**	**288**	P	**P**	**15 20 09.2**	**+0.7**
FAKI	**Fak Fak**	**19.85**	**288**	P	**P**	**15 20 07.8**	**-0.7**
comp=Z,2μmcomp=Z,82nm,2.3s							
MTN	**Manton Dam**	**19.87**	**259**	P	**P**	**15 20 07.6**	**-1.1**
MTN				IAmb	IAmb	15 20 09.1	
comp=Z,53nm,1.0s							
MTN	**Manton Dam**	**19.87**	**259**	P	**P**	**15 20 07.1**	**-1.6**
DRS	**Darwin Rock St**	**20.05**	**260**	P	**P**	**15 20 10.8**	**+0.2**
comp=Z,58nm,1.1s							
INKA	**Innaminka**	**20.59**	**207**	P	**P**	**15 20 17.9**	**+1.5**
ARMA	**Armidale**	**20.80**	**179**	P	Pn	15 20 22.7	+1.5
ARMA	**Armidale**	**20.80**	**179**	P	Pn	15 20 23.8	+2.6
SWI	**Sorong**	**21.54**	**292**	P	**P**	**15 20 24.8**	**-2.0**
comp=Z,57nm,0.8s							
BNDI	**Bandanaira**	**21.62**	**282**	P	**P**	**15 20 29.2**	**+1.6**
BNDI	**Bandanaira**	**21.62**	**282**	P	**P**	**15 20 28.1**	**+0.5**
AS31	**Alice Springs**	**21.64**	**227**	P	**P**	**15 20 26.6**	**-1.2**
ASAR	**Alice Springs**	**21.64**	**227**	P	**P**	**15 20 27.4**	**-0.4**
comp=Z,11nm,0.7s,baz=54,slow=11,SNR=52							
ASAR				LR	LR	15 27 57.0	
comp=Z,1μm,18.7s,baz=57,slow=34							
comp=Z,11nm,0.7s							
CMSA	**Cobar Meteorol**	**22.48**	**192**	P	**P**	**15 20 38.6**	**+1.9**
KNRA	**Kununurra**	**22.64**	**252**	P	**P**	**15 20 35.3**	**-3.2**
KNRA				IAmb	IAmb	15 20 44.1	
comp=Z,46nm,0.9s							
OOD	**Oodnadatta**	**23.28**	**217**	P	**P**	**15 20 44.1**	**-0.9**
AAI	**Ambon**	**23.48**	**283**	P	**P**	**15 20 47.3**	**+0.1**
comp=Z,57nm,0.7s							
GUMO	**Guam**	**23.78**	**345**	LR	LR	15 28 15.9	
comp=Z,973nm,20.9s,baz=118,slow=32							
STKA	**Stephens Creek**	**23.94**	**200**	P	**P**	**15 20 52.5**	**+1.0**
STKA	**Stephens Creek**	**23.94**	**200**	P	**P**	**15 20 50.8**	**-0.7**
comp=Z,18nm,0.9s,baz=9.9,slow=9.6,SNR=8.4							
STKA				LR	LR	15 30 35.1	
comp=Z,1μm,19.1s,baz=16,slow=38							
comp=Z,18nm,0.9s							
STKA	**Stephens Creek**	**23.94**	**200**	P	**P**	**15 20 53.7**	**+2.2**
LCRK	**Leigh Creek**	**24.05**	**208**	P	**P**	**15 20 52.8**	**+0.3**
NLAI	**Namlea**	**24.65**	**283**	P	**P**	**15 20 57.1**	**-1.1**
comp=Z,1μmcomp=Z,59nm,1.3s							
TNTI	**Ternate**	**25.76**	**292**	P	**P**	**15 21 06.4**	**-1.9**
TNTI				IAmb	IAmb	15 21 16.8	
comp=Z,31nm,1.2s							
SANI	**Sanana**	**26.05**	**285**	P	**P**	**15 21 11.6**	**+0.7**
SANI	**Sanana**	**26.05**	**285**	P	**P**	**15 21 09.5**	**-1.4**
comp=Z,820nmcomp=Z,70nm,1.6s							
FITZ	**Fitzroy Crossi**	**26.14**	**248**	LR	LR	15 32 37.3	
comp=Z,411nm,19.1s,baz=78,slow=39							
HTT	**Hallett**	**26.31**	**203**	P	**P**	**15 21 15.4**	**+2.2**
SOEI	**Soe**	**26.46**	**267**	P	**P**	**15 21 14.1**	**-0.7**
SOEI	**Soe**	**26.46**	**267**	P	**P**	**15 21 15.2**	**+0.4**
SOEI	**Soe**	**26.46**	**267**	P	**P**	**15 21 14.6**	**-0.2**
comp=Z,60nm,1.2s							
MSVF	**Nonsavu**	**27.40**	**110**	LR	LR	15 30 54.4	
comp=Z,518nm,18.6s,baz=285,sl

LYN LR LR
comp=Z,710nm,20.3s
HNS HongShan 57.80 326 ⇑P P 15 25 33.5 +4.8
HNS S **S** **15 33 29.5 +1.8**
HNS pmax pmax
comp=Z,16nm,1.1s
HNS LR LR
comp=N,320nm,20.6s
HNS LR LR
comp=E,240nm,20.8s
HNS LR LR
comp=Z,500nm,20.6s
PPT Papeete 58.03 105 LR LR 15 45 24.2
comp=Z,64nm,21.0s,baz=269,slow=31
PPT2 Papeete2 58.03 105 *e*S **S** **15 33 35.6 +3.9**
PPT2 comp=Z,250nm,27.2s
PPT2 *e*LQ LQ 15 40 09.0
comp=Z,858nm,31.8s
PPT2 *e*LR LR 15 42 38.7
comp=Z,362nm,28.2s
PPT2 *e*LR LR 15 42 41.5
comp=Z,259nm,28.0s
TBI Tubuai 58.28 112 *e*S **S** **15 33 41.4 +6.8**
TBI comp=Z,1μm,33.5s
TBI *e*LQ LQ 15 40 20.0
comp=Z,4μm,33.8s
TBI *e*LR LR 15 42 46.9
comp=Z,1μm,26.5s
KMI Kunming 58.35 307 P **P** **15 25 35.8 +2.7**
KMI pmax pmax
comp=Z,14nm,1.3s
CMAR Chiang Mai Arr 58.49 298 P **P** **15 25 33.0 -0.9**
CMAR Chiang Mai Arr 58.49 298 P **P** **15 25 33.5 -0.4**
comp=Z,1.3nm,0.5s,baz=118,slow=5.5,SNR=11
CMAR LR LR 15 52 13.1
comp=Z,51nm,20.1s,baz=115,slow=38
comp=Z,1.3nm,0.5s
XAN Xi'an 58.98 319 ⇑P **P** **15 25 39.3 +2.2**
XAN S **S** **15 33 46.5 +3.1**
XAN pmax pmax
comp=Z,18nm,1.4s
XAN LR LR
comp=N,220nm,17.9s
XAN LR LR
comp=E,220nm,17.9s
XAN LR LR
comp=Z,500nm,22.7s
PZH PanZhiHua 59.82 308 P **P** **15 25 44.8 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.6s
CD2 Chengdu 60.63 313 P **P** **15 25 48.0 -0.5**
CD2 pP pP 15 25 51.8 -0.9
CD2 pmax pmax
comp=Z,20nm,0.4s
KLR Kul'dur 60.92 346 P **P** **15 25 49.0 -1.1**
comp=Z,1.5nm,0.9s,baz=167,slow=7.2,SNR=4.1
KLR LR LR 15 51 20.1
comp=Z,120nm,19.6s,baz=180,slow=35
comp=Z,1.5nm,0.9s
TNCH TengChong 61.67 305 *e*P **P** **15 25 56.1 +0.2**
TNCH pP pP 15 26 00.3 +0.2
TNCH pmax pmax
comp=Z,12nm,0.4s
TNCH pmax pmax
comp=Z,150nm,5.2s
XLT XiLinHaoTe 61.94 332 *e*P P 15 26 02.3 +5.1
XLT PcP **PcP** **15 26 44.3 +6.5**
XLT pmax pmax
comp=Z,12nm,1.0s
HHC Hu-ho-hao-te 61.97 327 *e*P **P** **15 25 58.5 +1.0**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,130nm,4.7s
HHC LR LR
comp=N,220nm,20.2s
HHC LR LR
comp=E,210nm,18.5s
HHC LR LR
comp=Z,320nm,21.0s
PETK Petropavlovsk- 62.63 4 P **P** **15 26 00.3 -1.2**
comp=Z,4.5nm,1.0s,baz=185,slow=7.2,SNR=3.7
comp=Z,4.5nm,1.0s
HEH HeiHe 63.01 343 *e*P **P** **15 26 03.1 -1.0**
HEH LR LR
comp=N,340nm,19.8s
HEH LR LR
comp=E,140nm,19.0s
HEH LR LR
comp=Z,490nm,18.4s
LZH Lanzhou 63.52 318 *e*P **P** **15 26 09.8 +1.8**
LZH sP sP 15 26 18.8 +5.5
LZH PcP PcP 15 26 34.0 -11
LZH S **S** **15 34 43.0 +1.6**
LZH pmax pmax
comp=Z,46nm,1.1s
LZH LR LR
comp=N,180nm,16.3s
LZH LR LR
comp=E,220nm,15.8s
LZH LR LR
comp=Z,380nm,17.2s
SHEM Shemya Is, Ala 65.05 15 LR LR 15 50 03.4
comp=Z,500nm,21.4s,baz=250,slow=32
SHL Shillong 67.33 303 P **P** **15 26 31.7 -1.2**
TAOE Nuku Hiva Isla 67.76 96 *e*LR LR 15 47 08.4
comp=Z,200nm,24.0s
GTA Gaotai 68.04 319 *e*P **P** **15 26 38.0 +1.0**
GTA S **S** **15 35 38.8 +2.4**
VNDA Vanda 68.21 177 P **P** **15 26 37.1 -0.3**
comp=Z,0.9nm,0.8s,baz=319,slow=9.7,SNR=5.5
VNDA LR LR 15 54 31.9
comp=Z,235nm,18.4s,baz=358,slow=34
comp=Z,0.9nm,0.8s
SONM Songino Array 69.46 330 P **P** **15 26 45.1 -0.6**
SONM IAmb IAmb 15 26 52.1
comp=Z,13nm,1.2s
SONM Songino Array 69.46 330 P **P** **15 26 45.1 -0.6**
comp=Z,1.1nm,0.6s,baz=145,slow=5.9,SNR=6.4
comp=Z,1.1nm,0.6s
GOMU GeErMu 69.75 314 P **P** **15 26 49.8 +1.8**
GOMU PcP **PcP** **15 27 13.4 +2.6**
GOMU pmax pmax
comp=Z,8.0nm,1.5s
RKT Rikitea 71.60 111 *e*S **S** **15 36 24.3 +5.7**
comp=Z,677nm,32.0s
RKT Rikitea 71.60 111 *e*LR LR 15 48 49.7
comp=Z,777nm,31.0s
YAK Yakutsk 73.26 350 P **P** **15 27 08.0 -0.2**
WMQ Urumqi 78.10 319 *e*P **P** **15 27 37.3 +0.9**
WMQ LR LR
comp=Z,140nm,24.3s
K15K Wolf Creek Mou 80.38 20 P **P** **15 27 49.5 +1.1**
QSPA South Pole Qui 80.47 180 P **P** **15 27 48.3 -0.8**
comp=Z,3.6nm,0.8s,baz=161,slow=1.2,SNR=15
QSPA LR LR 16 02 34.4
comp=Z,167nm,18.1s,baz=356,slow=35
comp=Z,3.6nm,0.8s
MAW Mawson 80.60 203 LR LR 16 00 19.7
comp=Z,538nm,21.9s,baz=100,slow=33
KDAK Kodiak Island 81.12 27 LR LR 15 59 31.2
comp=Z,195nm,19.1s,baz=91,slow=32
J17K VABM Dome 81.96 20 P **P** **15 27 57.8 +1.0**
J17K IAmb IAmb 15 29 46.8
comp=Z,18nm,1.4s
TTA Tatalina 82.75 22 P **P** **15 28 01.7 +0.7**
TTA IAmb IAmb 15 28 08.2
comp=Z,7.0nm,1.2s
MKAR Makanchi Array 82.79 320 P **P** **15 28 00.9 -0.6**
MKAR Makanchi Array 82.79 320 P **P** **15 28 01.1 -0.5**
comp=Z,2.3nm,0.9s,baz=102,slow=6.2,SNR=9.8
MKAR LR LR 16 05 24.2
comp=Z,116nm,19.7s,baz=86,slow=36
comp=Z,2.3nm,0.9s
WUS Wushi 82.90 314 P **P** **15 28 02.1 -0.3**
MAKZ Makanchi 82.99 320 P **P** **15 28 01.1 -1.5**
MAKZ IAmb IAmb 15 28 08.5
comp=Z,21nm,1.5s
F17K Baldwin Pennin 83.30 17 P **P** **15 28 04.1 +0.5**
F17K IAmb IAmb 15 28 06.6
comp=Z,6.1nm,0.9s
J19K Poorman 83.53 21 P **P** **15 28 05.7 +0.8**
J19K IAmb IAmb 15 28 12.3
comp=Z,20nm,1.8s
G18K Tagagawik 83.72 19 P **P** **15 28 05.5 -0.4**
G18K IAmb IAmb 15 31 15.5
comp=Z,6.3nm,0.9s
ZALV Zalesovo Beam 84.15 327 P **P** **15 28 06.8 -1.5**
comp=Z,1.1nm,0.5s,baz=118,slow=5.5,SNR=4.8
ZALV LR LR 16 05 37.4
comp=Z,174nm,19.6s,baz=85,slow=36
comp=Z,1.1nm,0.5s
H19K Roundabout Mou 84.20 19 P **P** **15 28 08.3 +0.1**
H19K IAmb IAmb 15 28 15.5
comp=Z,12nm,1.2s
KSH Kashi 84.74 311 P **P** **15 28 16.0 +4.2**
KSH pmax pmax
comp=Z,8.0nm,1.3s
D19K Kuna River 85.57 17 P **P** **15 28 15.4 +0.2**
D19K IAmb IAmb 15 28 22.5
comp=Z,20nm,1.7s
KURBB Kurchatov Arra 86.47 322 P **P** **15 28 18.6 -1.4**
comp=Z,1.2nm,0.2s,baz=114,slow=4.0,SNR=4.7
KURBB LR LR 16 06 38.7
comp=Z,118nm,22.0s,baz=156,slow=35
comp=Z,1.2nm,0.2s
AAK Ala-Archa 86.70 314 P **P** **15 28 21.1 -0.5**
AAK IAmb IAmb 15 28 28.2
comp=Z,21nm,1.8s
AAK Ala-Archa 86.70 314 LR LR 16 08 49.9
comp=Z,52nm,19.4s,baz=88,slow=37
ILAR Eielson Array 87.13 22 P **P** **15 28 21.6 -1.3**
comp=Z,1.0nm,0.7s,baz=252,slow=5.1,SNR=4.5
comp=Z,1.0nm,0.7s
B22K Teshekpuk Lake 88.01 16 P **P** **15 28 27.9 +0.9**
B22K IAmb IAmb 15 28 52.4
comp=Z,17nm,1.6s
NRIK Noril'sk 89.87 341 P **P** **15 28 36.0 +0.3**
NRIK IAmb IAmb 15 28 41.4
comp=Z,15nm,1.5s
NRIK Noril'sk 89.87 341 P **P** **15 28 34.6 -1.1**
comp=Z,1.9nm,0.7s,baz=128,slow=3.9,SNR=6.5
NRIK LR LR 16 08 36.5
comp=Z,67nm,20.7s,baz=126,slow=35
comp=Z,1.9nm,0.7s
BBB Bella Bella 91.84 37 LR LR 16 01 38.4
comp=Z,147nm,21.9s,baz=247,slow=30
ELIB Princess Elisa 91.85 194 *d*P **P** **15 28 45.1 -0.2**
comp=Z,3.7nm,1.1s
BVAR Borovoye Array 92.00 323 P **P** **15 28 44.5 -1.5**
comp=Z,1.3nm,0.8s,baz=116,slow=3.4,SNR=4.9
BVAR LR LR 16 12 06.7
comp=Z,76nm,18.1s,baz=93,slow=37
comp=Z,1.3nm,0.8s
INK Inuvik 93.43 21 LR LR 16 06 14.4
comp=Z,213nm,20.8s,baz=226,slow=33
NVAR Mina Array Bea 96.29 52 P **P** **15 29 05.0 -1.4**
comp=Z,0.8nm,0.8s,baz=250,slow=7.7,SNR=3.7
comp=Z,0.8nm,0.8s
AKTO Aktyubinsk 99.23 320 LR LR 16 16 25.6
comp=Z,84nm,18.9s,baz=272,slow=37
ARTI Arti 99.36 326 LR LR 16 13 50.4
comp=Z,151nm,21.8s,baz=86,slow=35
KOLS Kolonicke sedl 122.10 323 *e*PKP **PKiKP** **15 34 34.6 +2.3**
LANS Liptovska Anna 123.66 324 *e*PKP **PKiKP** **15 34 38.2 +2.8**
MODS Modra-Piesok 125.30 324 *e*PKP **PKiKP** **15 34 41.3 +2.7**
GERES GERESS Array B 127.09 326 PKP **PKPdf** **15 34 40.6 -1.2**
comp=Z,0.7nm,0.7s,baz=74,slow=1.8,SNR=4.0
LPAZ La Paz 133.47 123 PKP **PKPdf** **15 34 54.5 -1.0**
comp=Z,0.5nm,0.5s,baz=244,slow=12,SNR=3.7
MACA Manacapuru-AM 145.91 110 **PKPdf** **15 35 17.1 -0.2**
BOAV Boa Vista 147.78 101 PKPbc **PKPbc** **15 35 22.8 -0.5**
BDFB Brasilia 148.64 143 PKPbc **PKPbc** **15 35 25.1 -0.5**
comp=Z,5.9nm,0.8s,baz=204,slow=5.2,SNR=4.8
TORD Torodi Ar. Bea 149.81 280 PKPbc **PKPbc** **15 35 27.9 -0.5**

*IDC **17** 15:17:08.8±1.3,37.°92N×20.°86E,h0km,mb3.8/11,*
mbtmp3.7/18,ML3.3/5,MS3.1/9,Error ellipse:
s-maj=24.3km s-min=14.4km az=31.0
*ATH **17** 15:17:08.7,37.°63N×20.°67E,h13km,Mw3.9,Moment*
Tensor Solution. s9 Moment tensor: Mrr=0.41; Mθθ8.61;
Mφφ-8.20; Mrθ1.00; Mθφ2.63; Mφr-0.40; Fault plane
solution: NP1:φs36.00000°,δ83.00000°,λ179.00000°.
NP2:φs126.00000°,δ89.00000°,λ7.00000°.
*THE **17** 15:17:09.4,37.°66N×20.°68E,h10km,ML3.8/8 Error*
ellipse: s-maj=1.0km s-min=0.3km az=36.0
*NAO **17** 15:17:10.6,37.°75N×20.°72E,h10km,mb3.9*
ISC 17 15:17:09.7±0.8,37.°69N±0.°03×20.°71E±0.°03,h16km±4km,
n82,σ0.°95/108,mb3.8/11,MS3.0/5,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.11**	**77**	P	**Pg**	**15 17 12.5**	**-0.6**
LTHK				S	**Sg**	**15 17 14.8**	**-0.6**
	243μm,0.2s						
LTHK	**Lithakia**	**0.11**	**77**	P	**Pg**	**15 17 12.4**	**-0.6**
LTHK				S	**Sg**	**15 17 14.7**	**-0.6**
KYPS	**Kipseli, Zakin**	**0.16**	**35**	P	**Pg**	**15 17 14.2**	**+0.3**
KYPS				S	**Sg**	**15 17 17.5**	**+0.9**
ORTH	**Orthonies,Zaky**	**0.17**	**357**	P	**Pg**	**15 17 14.0**	**0.0**
ORTH				S	**Sg**	**15 17 17.1**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.39**	**8**	P	**Pg**	**15 17 17.5**	**-0.2**
RTZL				S	**Sb**	**15 17 23.8**	**-0.3**
	15μm,0.3s						
CLEM	**Kyllini,Ilia,G**	**0.40**	**59**	P	**Pg**	**15 17 17.7**	**0.0**
CLEM				S	**Sb**	**15 17 24.4**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.44**	**347**	P	**Pg**	**15 17 18.3**	**-0.2**
PSDA				S	**Sb**	**15 17 25.1**	**-0.3**
	15μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.44**	**347**	P	**Pg**	**15 17 18.3**	**-0.2**
VLS	**Valsamata**	**0.50**	**349**	P	**Pg**	**15 17 19.3**	**-0.3**
VLS				S	**Sb**	**15 17 27.1**	**-0.1**
	11μm,0.4s						
VLS	**Valsamata**	**0.50**	**349**	P	**Pg**	**15 17 19.4**	**-0.3**
VLS				S	**Sb**	**15 17 27.6**	**+0.3**
LCHA	**Lechaina**	**0.51**	**60**	P	**Pg**	**15 17 19.6**	**-0.2**
LCHA				S	**Sb**	**15 17 27.8**	**+0.4**
LXR1	**Lixouri, Cepha**	**0.56**	**338**	P	**Pg**	**15 17 20.2**	**-0.5**
SMHA	**Samh**	**0.57**	**355**	P	**Pg**	**15 17 19.5**	**-1.3**
SMHA				S	**Sb**	**15 17 29.4**	**+0.3**
DMLN	**Damoulianata-K**	**0.61**	**335**	P	**Pg**	**15 17 21.2**	**-0.5**
DMLN				S	**Sb**	**15 17 30.6**	**+0.2**
	17μm,0.5s						
DMLN	**Damoulianata-K**	**0.61**	**335**	P	**Pg**	**15 17 21.3**	**-0.5**
DMLN				S	**Sb**	**15 17 30.2**	**-0.2**
YRMI	**Loutra Irminis**	**0.66**	**50**	P	**Pg**	**15 17 21.8**	**-0.7**
YRMI				S	**Sg**	**15 17 31.5**	**+0.2**
RLS	**Riolos of Patr**	**0.71**	**58**	P	**Pg**	**15 17 23.3**	**-0.2**
RLS				S	**Sb**	**15 17 34.0**	**+0.9**
	7μm,0.7s						
RLS	**Riolos of Patr**	**0.71**	**58**	P	**Pg**	**15 17 23.1**	**-0.4**
VSK1	**VASILIKIADES**	**0.73**	**351**	P	**Pg**	**15 17 23.5**	**-0.5**
VSK1				S	**Sb**	**15 17 34.5**	**+0.6**
	10μm,0.5s						
AXS	**Araxos**	**0.74**	**46**	P	**Pg**	**15 17 23.5**	**-0.5**
AXS				S	**Sb**	**15 17 34.7**	**+0.7**
ZARO	**Zacharo**	**0.78**	**105**	P	**Pb**	**15 17 24.6**	**-0.2**
FSK	**Fiskardo**	**0.78**	**352**	P	**Pg**	**15 17 24.4**	**-0.5**
FSK				S	**Sb**	**15 17 36.4**	**+1.1**
	7μm,0.6s						
FSK	**Fiskardo**	**0.78**	**352**	P	**Pg**	**15 17 24.2**	**-0.7**
FSK				S	**Sb**	**15 17 35.9**	**+0.6**
AMT	**Artemida-Makis**	**0.81**	**101**	P	**Pg**	**15 17 24.2**	**-1.2**
AMT				S	**Sb**	**15 17 36.5**	**+0.3**
DRO	**Drossia**	**0.84**	**71**	P	**Pg**	**15 17 25.7**	**-0.3**
DRO	**Drossia**	**0.84**	**71**	P	**Pg**	**15 17 25.5**	**-0.5**
AST1	**Astakos**	**0.91**	**19**	P	**Pg**	**15 17 26.9**	**-0.4**
EVGI	**Lefkada island**	**0.94**	**358**	P	**Pg**	**15 17 27.2**	**-0.6**
EVGI	**Lefkada island**	**0.94**	**358**	P	**Pg**	**15 17 26.8**	**-1.0**
EVGI				S	**Sn**	**15 17 41.2**	**-0.1**
PATC	**Patra C**	**1.02**	**55**	P	**Pg**	**15 17 28.8**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.03**	**360**	P	**Pg**	**15 17 28.6**	**-0.9**
NYDR	**Nydri-Lefkada**	**1.03**	**360**	P	**Pg**	**15 17 28.3**	**-1.2**
UPR	**University Cam**	**1.04**	**55**	P	**Pg**	**15 17 29.4**	**-0.4**
UPR	**University Cam**	**1.04**	**55**	P	**Pn**	**15 17 30.2**	**+0.6**
ITM	**Ithomi**	**1.09**	**117**	P	**Pb**	**15 17 29.2**	**-1.1**
ITM				S	**Sb**	**15 17 44.5**	**+0.2**
LKD2	**Lefkada island**	**1.10**	**358**	P	**Pb**	**15 17 29.7**	**-0.7**
PVO	**Paravola**	**1.13**	**35**	P	**Pg**	**15 17 31.1**	**-0.4**
TSLK	**Tsoukalades, L**	**1.14**	**358**	P	**Pb**	**15 17 30.9**	**-0.1**
TSLK	**Tsoukalades, L**	**1.14**	**358**	P	**Pb**	**15 17 30.8**	**-0.1**
MTHA	**Methoni**	**1.18**	**137**	P	**Pb**	**15 17 30.6**	**-0.9**
MTHA				S	**Sb**	**15 17 46.3**	**-0.3**
KLV	**Kalavryta, Ach**	**1.20**	**72**	P	**Pn**	**15 17 31.9**	**+0.1**
KLV	**Kalavryta, Ach**	**1.20**	**72**	P	**Pn**	**15 17 31.9**	**+0.1**
EFP	**Efpalio**	**1.20**	**52**	P	**Pn**	**15 17 31.9**	**0.0**
EFP	**Efpalio**	**1.20**	**52**	P	**Pn**	**15 17 31.9**	**0.0**
ALIK	**Aliki, Aigiali**	**1.25**	**62**	P	**Pn**	**15 17 32.6**	**+0.1**
SERG	**Sergoula**	**1.29**	**55**	P	**Pn**	**15 17 33.1**	**0.0**
ANX	**Ano Chora**	**1.32**	**46**	P	**Pn**	**15 17 33.6**	**0.0**
ANX	**Ano Chora**	**1.32**	**46**	P	**Pn**	**15 17 34.1**	**+0.5**
GUR	**Goura**	**1.32**	**79**	P	**Pn**	**15 17 33.6**	**+0.1**
GUR	**Goura**	**1.32**	**79**	P	**Pn**	**15 17 33.6**	**+0.1**
VLX	**Vlachokerasia**	**1.37**	**103**	P	**Pn**	**15 17 33.7**	**-0.5**
IGT	**Igoumenitsa**	**1.87**	**351**	P	**Pn**	**15 17 41.7**	**+0.7**
DION	**Dionisos Attik**	**2.58**	**80**	P	**Pn**	**15 17 51.5**	**+0.6**
AOS	**Alonnisos**	**2.90**	**58**	P	**Pn**	**15 17 55.3**	**+0.1**
IDI	**Anoyia**	**4.13**	**124**	Pn	**Pn**	**15 18 14.4**	**+2.1**
	17nm,0.8s,baz=322,slow=10,SNR=3.3						
IDI				Sn	**Sn**	**15 19 03.0**	**+2.7**
	4.8nm,0.3s,baz=34,slow=22,SNR=2.4						
VAE	**Valguarnera**	**5.00**	**270**	Pn	**Pn**	**15 18 28.1**	**+3.9**
	7.8nm,0.4s,baz=56,slow=3.6,SNR=1.3						
VAE				Sn	**Sn**	**15 19 19.5**	**-2.2**
	3.5nm,0.3s,baz=177,slow=20,SNR=2.4						
MLR	**Muntele Rosu**	**8.73**	**25**	Pn	**Pn**	**15 19 15.0**	**-0.3**
	0.3nm,0.3s,baz=165,slow=16,SNR=3.3						
MLR				LR	LR	15 22 54.8	
	comp=Z,99nm,18.0s,baz=214,slow=41						
	1.3nm,0.5s						
SOKA	**Soboth**	**9.92**	**337**	*i* Pn	**Pn**	**15 19 30.9**	**-0.7**
	1.8nm,0.2s						
SOKA				*e*Sn	**Sn**	**15 21 24.5**	**+1.9**
	5.7nm,1.0s						
OBKA	**Obir**	**9.93**	**335**	*i* Pn	**Pn**	**15 19 33.9**	**+2.1**
	5.7nm,0.5s						
OBKA				*e*Sn	**Sn**	**15 21 21.8**	**-1.1**
	13nm,0.5s						
BRTR	**Keskin Array B**	**10.31**	**75**	Pn	**Pn**	**15 19 37.4**	**+0.3**
	0.1nm,0.3s,baz=264,slow=13,SNR=1.9						
	0.3nm,0.5s						
LESA	**Schwarzleotal**	**11.38**	**331**	*i* Pn	**Pn**	**15 19 52.1**	**+0.5**
	3.9nm,0.4s						
WATA	**Walderalm**	**11.76**	**328**	*e*Pn	**Pn**	**15 19 55.9**	**-0.9**
	2.5nm,0.4s						
FETA	**Feichten**	**11.88**	**325**	*e*Sn	**Sn**	**15 22 10.8**	**-0.1**
	1.1nm,0.4s						
VRAC	**Vranov**	**11.99**	**347**	LR	LR	15 25 56.3	
	comp=Z,54nm,18.0s,baz=187,slow=45						
DAVOX	**Davos/Dischmat**	**12.11**	**322**	Pn	**Pn**	**15 20 02.4**	**+0.7**
	0.1nm,0.3s,baz=349,slow=22,SNR=1.2						
DAVOX				Sn	**Sn**	**15 22 13.6**	**-2.9**
	0.4nm,0.3s,baz=287,slow=20,SNR=1.6						
DAVOX				LR	LR	15 25 11.6	
	comp=Z,93nm,18.2s,baz=92,slow=40						
	0.6nm,0.3s						
GERES	**GERESS Array B**	**12.26**	**338**	Pn	**Pn**	**15 20 02.2**	**-1.4**
	baz=152,slow=14,SNR=2.2						
GERES				Sn	**Sn**	**15 22 16.8**	**-3.2**
	0.1nm,0.3s,baz=150,slow=24,SNR=5.2						
	0.7nm,0.6s						
AKASG	**Malin Array Be**	**14.36**	**22**	Pn	**P**	**15 20 39.2**	**0.0**
	1.8nm,0.3s,baz=210,slow=8.6,SNR=9.3						
ESDC	**Sonseca Array**	**19.35**	**284**	P	**Pn**	**15 21 35.3**	**-0.3**
	baz=89,slow=11,SNR=4.7						
ESDC				LR	LR	15 28 19.6	
	comp=Z,46nm,19.9s,baz=132,slow=35						
	1.2nm,0.9s						
MDT	**Midelt**	**21.21**	**264**	LR	LR	15 31 33.3	
	comp=Z,38nm,18.1s,baz=86,slow=40						
HFS	**Hagfors**	**22.91**	**351**	P	**P**	**15 22 12.5**	**-0.1**
	1.9nm,0.5s,baz=165,slow=12,SNR=11						
HFS				LR	LR	15 33 35.6	
	comp=Z,48nm,18.1s,baz=182,slow=44						
	1.9nm,0.5s						
EKA	**Eskdalemuir Ar**	**23.91**	**325**	P	**P**	**15 22 23.3**	**+0.7**
	2.5nm,0.8s,baz=126,slow=8.6,SNR=4.2						
	2.5nm,0.8s						
FINES	**FINESS Array B**	**24.02**	**6**	P	**P**	**15 22 22.6**	**-1.0**
	1.2nm,0.4s,baz=174,slow=11,SNR=11						
FINES				LR	LR	15 32 32.6	
	comp=Z,64nm,19.8s,baz=185,slow=39						
	1.2nm,0.4s						
NB2	**NORSAR Subarra**	**24.13**	**349**	P	**P**	**15 22 24.0**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=161,slow=9.3						
NOA	**NORSAR Array B**	**24.13**	**349**	P	**P**	**15 22 24.2**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=164,slow=8.9,SNR=6.0						
NOA				LR	LR	15 32 55.8	
	comp=Z,23nm,20.8s,baz=175,slow=40						
	comp=Z,0.6nm,0.6s						
ARCES	**ARCESS Array B**	**32.02**	**3**	P	**P**	**15 23 34.4**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=184,slow=8.7,SNR=6.7						
	comp=Z,2.6nm,0.9s						
BVAR	**Borovoye Array**	**37.33**	**49**	P	**P**	**15 24 20.6**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=262,slow=6.9,SNR=4.7						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**42.41**	**53**	P	**P**	**15 25 02.5**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=279,slow=8.7,SNR=6.3						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**45.44**	**58**	P	**P**	**15 25 27.2**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=279,slow=7.8,SNR=7.2						
	comp=Z,0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**45.91**	**48**	P	**P**	**15 25 30.5**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=272,slow=7.9,SNR=5.2						
	comp=Z,1.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**69.81**	**82**	P	**P**	**15 28 21.4**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=302,slow=7.9,SNR=4.8						
	comp=Z,0.4nm,0.3s						
YKA	**Yellowknife Ar**	**73.90**	**340**	P	**P**	**15 28 44.4**	**+0.9**
	comp=Z,0.3nm,0.9s,baz=39,slow=5.9,SNR=4.5						
	comp=Z,0.3nm,0.9s						
ANMO	**Albuquerque**	**92.67**	**319**	LR	LR	16 12 04.7	
	comp=Z,65nm,19.6s,baz=88,slow=36						

*JMA **17** 15:22:43.2±0.3,22.°8N±0.°7×121.°8E±0.°9,h14km±4km,*
MV3.0/14,TAIWAN REGION
*TAP **17** 15:22:44.8,22.°80N×121.°70E,h15km,ML3.2,C*
ISC 17 15:22:39.9±1.0,22.°75N±0.°02×121.°92E±0.°02,h17km±8km,
n116,σ1.°06/163,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.42**	**260**	⇑*i* P	**Pb**	**15 22 50.7**	**+1.8**
LDUT				S	**Sg**	**15 22 55.0**	**+0.6**
EDH	**Donghe**	**0.61**	**292**	P	**Pb**	**15 22 53.0**	**+0.8**
EDH				S	**Sg**	**15 22 58.1**	**-2.1**
CHKT	**Chengkung**	**0.62**	**304**	*i* P	**Pb**	**15 22 53.1**	**+0.9**
CHKT				*i* S	**Sg**	**15 22 59.1**	**-1.4**
CHKH	**Chenggong**	**0.66**	**312**	*i* P	**Pb**	**15 22 54.0**	**+1.1**
CHKH				S	**Sg**	**15 23 00.5**	**-1.0**
ECBN	**Changbin**	**0.71**	**323**	P	**Pn**	**15 22 55.6**	**+0.4**
ECBN				*e*S	**Sg**	**15 23 02.2**	**-1.2**
TTN	**Taitung**	**0.72**	**271**	*i* P	**Pb**	**15 22 55.0**	**+1.2**
TTN				*i* S	**Sg**	**15 23 02.7**	**-0.8**
FULB	**Fuli**	**0.73**	**308**	P	**Pb**	**15 22 55.0**	**+0.8**
FULB				S	**Sg**	**15 23 02.5**	**-1.5**
ECS	**Chishang**	**0.73**	**298**	*i* P	**Pb**	**15 22 55.4**	**+1.1**
ECS				*i* S	**Sg**	**15 23 03.4**	**-0.7**
LONT	**Longtian**	**0.75**	**282**	P	**Pg**	**15 22 54.7**	**+0.2**
LONT				S	**Sg**	**15 23 04.0**	**-0.5**
EHD	**Haiduan**	**0.77**	**301**	P	**Pb**	**15 22 56.0**	**+1.1**
EHD				S	**Sg**	**15 23 03.0**	**-2.2**
TWGBT	**Beinan**	**0.78**	**275**	P	**Pb**	**15 22 55.9**	**+0.9**
TWGBT	**Beinan**	**0.78**	**275**	S	**Sg**	**15 23 04.8**	**-0.7**
TWGBT	**Beinan**	**0.78**	**275**	*e*P	**Pb**	**15 22 55.9**	**+0.9**
TWGBT				*e*S	**Sg**	**15 23 03.0**	**-2.5**
LAY	**Lan-yu**	**0.79**	**206**	*e*P	**Pn**	**15 22 58.2**	**+2.0**
LAY				*e*S	**Sn**	**15 23 08.6**	**+1.0**
TWG	**Pinlang**	**0.79**	**275**	P	**Pg**	**15 22 55.8**	**+0.5**
TWG				S	**Sg**	**15 23 03.0**	**-2.7**
LYUB	**Lan-yu**	**0.81**	**203**	*e*P	**Pn**	**15 22 58.4**	**+2.0**
LYUB				*i* S	**Sn**	**15 23 07.9**	**-0.1**
EYUL	**Yuli**	**0.81**	**317**	*i* P	**Pn**	**15 22 56.9**	**+0.3**
TWF1	**Yuli**	**0.83**	**316**	*i* P	**Pn**	**15 22 57.0**	**+0.2**
TWF1				S	**Sb**	**15 23 06.7**	**-0.1**
YULB	**Yu-li**	**0.86**	**318**	P	**Pn**	**15 22 57.8**	**+0.6**
YULB	**Yu-li**	**0.86**	**318**	*e*P	**Pn**	**15 22 57.7**	**+0.5**
YULB				S	**Sb**	**15 23 06.0**	**-1.6**
HGSD	**Ruisui**	**0.87**	**328**	*e*P	**Pn**	**15 22 58.0**	**+0.6**
HGSD				S	**Sb**	**15 23 07.6**	**-0.3**
ECL	**Taimali**	**0.91**	**261**	P	**Pn**	**15 22 58.3**	**+0.5**
ECL				*e*S	**Sb**	**15 23 07.6**	**-1.4**
EHYH	**Wanrong**	**0.91**	**325**	*e*P	**Pn**	**15 22 58.7**	**+0.8**
EHYH				*e*S	**Sg**	**15 23 10.4**	**+0.7**
EHY	**Hungye**	**0.94**	**324**	*e*P	**Pn**	**15 22 59.3**

TAW			eS	Sb	15 23 11.3	-1.0
TAWH	Dawu Township	1.04 247	eP	Pg	15 23 00.8	+0.8
TAWH			eS	Sb	15 23 10.5	-2.2
EAST	Anshuo	1.06 250	P	Pg	15 23 00.9	+0.5
EAST			eS	Sb	15 23 12.1	-1.2
WARBT	Fenglin Townsh	1.08 333	eP	Pg	15 23 01.8	+0.9
WARBT			S	Sb	15 23 13.7	-0.3
SHUL	Shoufeng	1.09 342	eP	Pg	15 23 02.6	+1.6
SHUL			eS	Sg	15 23 15.3	+0.1
STYH	Taoyuan	1.14 292	eP	Pn	15 23 00.3	-0.7
STYH			eS	Sb	15 23 12.2	-3.4
ESL	Shilin	1.15 337	P	Pg	15 23 03.1	+0.9
ESL			i S	Sb	15 23 15.7	-0.3
SLIU	Shizi	1.17 243	eP	Pg	15 23 02.8	+0.4
TSMG	Majia	1.18 268	eP	Pg	15 23 03.3	+0.6
TSMG			eS	Sb	15 23 14.1	-2.7
SSD	Sandimen	1.19 270	eP	Pb	15 23 02.7	+0.7
MASBT	Mashibuluo	1.20 264	eP	Pb	15 23 02.9	+0.7
MASBT			eS	Sb	15 23 14.3	-3.0
VWDT	VWDT	1.23 325	eP	Pg	15 23 04.2	+0.5
VWDT			i S	Sb	15 23 18.6	+0.3
HWA	Hwalien	1.26 347	eP	Pg	15 23 05.9	+1.7
SCZT	Fangliau	1.26 253	eP	Pb	15 23 04.1	+1.0
ETM	Tongmen	1.27 342	eP	Pg	15 23 05.2	+0.7
ETM			eS	Sb	15 23 19.2	-0.3
ALS	Alishan	1.28 307	eP	Pg	15 23 05.2	+0.6
SGST	Jiashian	1.28 285	eP	Pb	15 23 04.4	+0.9
SGST			eS	Sb	15 23 19.6	0.0
TWKBT	Hengchun	1.30 232	eS	Sn	15 23 20.3	0.0
TPUB	Ta-pu	1.31 295	P	Pg	15 23 05.4	+0.2
TPUB	Ta-pu	1.31 295	S	Sb	15 23 22.2	+1.6
TPUB	Ta-pu	1.31 295	eP	Pb	15 23 04.7	+0.7
HEN	Hengchun	1.32 336	eS	Sn	15 23 20.9	+0.2
SCST	Cishan	1.32 276	eP	Pg	15 23 06.4	+0.9
LXIB	Xiulin Townshi	1.35 340	eP	Pg	15 23 06.1	+0.1
LXIB			i S	Sn	15 23 20.9	-0.8
CHN1	Nanshi	1.36 289	eP	Pg	15 23 06.9	+0.9
TWD	Chiawan	1.36 347	eP	Pg	15 23 06.5	+0.4
TWD			eS	Sb	15 23 22.5	+0.5
WHYT	Xinyi Township	1.36 314	i P	Pg	15 23 06.8	+0.6
WHYT			eS	Sn	15 23 21.7	-0.1
CHN4	Tsaushan	1.36 296	eP	Pg	15 23 07.0	+0.8
SSLB	Suanglung	1.36 319	P	Pg	15 23 06.8	+0.6
SSLB	Suanglung	1.36 319	S	Sb	15 23 23.1	+0.9
SSLB	Suanglung	1.36 319	eP	Pg	15 23 06.6	+0.3
OWD	Renai	1.38 330	P	Pg	15 23 06.5	-0.1
OWD			S	Sn	15 23 21.6	-0.9
WCKO	Fanlu	1.39 300	i P	Pg	15 23 07.4	+0.6
SNST	Tainan City	1.40 290	eP	Pg	15 23 07.2	+0.4
EOS4	EOS4	1.41 15	eP	Pg	15 23 09.1	+2.0
TWK	Hsinying	1.42 292	eP	Pg	15 23 08.0	+0.7
CHN5	Tsauling	1.42 307	eP	Pg	15 23 08.6	+1.2
CHN5			S	Sb	15 23 25.1	+1.3
WUSB	Renai	1.44 329	P	Pg	15 23 07.7	0.0
WUSB			S	Sn	15 23 23.0	-0.9
NACB	Ninganchiao	1.45 348	P	Pg	15 23 07.6	-0.3
NACB	Ninganchiao	1.45 348	S	Sg	15 23 26.0	-0.8
NACB	Ninganchiao	1.45 348	eP	Pg	15 23 07.7	-0.2
NACB			S	Sn	15 23 24.0	+0.1
SMLT	Sun Moon Lake	1.47 320	eP	Pb	15 23 07.4	+0.6
CHN3	Shinhua	1.47 283	eP	Pb	15 23 07.6	+0.8
ETLH	Xiulin Townshi	1.51 345	P	Pg	15 23 08.7	-0.2
TYC	Yuchr	1.51 320	eP	Pg	15 23 09.8	+0.8
WHF	Hehuan Shan	1.52 337	eP	Pg	15 23 09.1	-0.1
WHF			eS	Sn	15 23 25.6	-0.5
WJS	Zhushan	1.53 314	P	Pg	15 23 10.3	+0.9
WGK	Gukeng	1.56 307	eP	Pg	15 23 10.3	+0.4
EOS3	EOS3	1.57 13	eP	Pg	15 23 11.6	+1.5
WDLH	Douliu	1.58 307	eP	Pg	15 23 10.4	+0.1
WCS	Beigang Elemen	1.60 325	eP	Pg	15 23 10.6	-0.1
WNT	Mingjian	1.60 315	eP	Pg	15 23 11.0	+0.3
FUSS	Fushou	1.62 337	eP	Pg	15 23 10.9	-0.2
ICHU	Yijhu	1.63 292	eP	Pg	15 23 11.6	+0.4
TWT	Tachien	1.65 336	eP	Pg	15 23 11.4	-0.2
TWT			eS	Sn	15 23 29.3	+0.2
TDCB	Techi	1.65 335	eP	Pg	15 23 11.5	-0.3
TDCB			S	Sn	15 23 29.4	+0.2
ENA	Nanau	1.68 354	eP	Pg	15 23 11.9	-0.3
WTK	Tuku	1.69 304	eP	Pb	15 23 11.8	+1.3
EWUT	Wuta	1.69 356	eP	Pg	15 23 12.6	+0.1
TSCK	Chigu Township	1.74 284	eP	Pb	15 23 12.5	+1.2
WSL	Shuilin Townsh	1.74 297	eP	Pg	15 23 13.0	-0.4
NNSB	Datong	1.75 344	eP	Pg	15 23 12.9	-0.5
WHP	Taichung City	1.77 330	eP	Pg	15 23 14.6	+0.7
WSF	Szhu	1.80 300	eP	Pb	15 23 13.4	+1.1
LATG	Datong	1.82 349	eP	Pg	15 23 14.1	-0.8
ESAO	Su ao	1.82 358	P	Pg	15 23 14.5	-0.4
TWC	Suao	1.85 358	P	Pg	15 23 15.4	-0.1
TWQ1	Liyutan	1.91 327	eP	Pg	15 23 16.3	-0.3
ENTT	Nioudou	1.91 350	eP	Pb	15 23 15.5	+1.2
JYNG	Yonagunijimaku	1.94 29	eP	Pg	15 23 17.4	+0.3
YOJ	Yonaguni jima	1.98 30	eP	Pg	15 23 18.5	+0.6
YHNB	Yeheng	1.98 345	P	Pb	15 23 16.5	+1.0
YHNB	Yeheng	1.98 345	eP	Pb	15 23 16.6	+1.1
NSK	Sanguang	1.99 345	eP	Pb	15 23 16.8	+1.1
NSK			i S	Sn	15 23 38.7	+1.4
NFF	Wufeng Townshi	2.02 339	eP	Pb	15 23 17.6	+1.4
FUSB	Fushanzhiwuyua	2.03 351	eP	Pb	15 23 17.6	+1.3
NWLT	Wulai	2.06 349	eP	Pb	15 23 18.1	+1.4
LIOB	Emei	2.06 336	eP	Pb	15 23 18.4	+1.5
KSHI	Guanxi Townshi	2.13 341	eP	Pb	15 23 19.4	+1.3
HATJ	Hateruma jima	2.17 53	P	Pg	15 23 21.7	+0.2
TIPB	Shuangxi	2.22 358	P	Pg	15 23 21.4	-1.0
IRIF	Iriomote-Funau	2.29 46	eP	Pg	15 23 23.4	-0.4
IRIF			eS	Sg	15 23 52.2	-1.4
PHUB	P'eng-hu	2.29 290	eP	Pb	15 23 19.8	-1.0
PNG	Penghu	2.33 291	eP	Pb	15 23 20.3	-1.1
JKRS	Kuro-shima	2.42 52	eS	Sg	15 23 55.0	-2.9
JIJ	Ishigaki jima	2.60 51	eS	Sb	15 23 58.1	+0.5
JISG	Ishigakijimahi	2.85 50	eP	Pb	15 23 30.6	+0.3
JISG			eS	Sb	15 24 04.0	-1.0
JTJ	Tarama	3.17 53	P	Pb	15 23 35.7	0.0
JIRB	Irabujima	3.63 55	eP	Pb	15 23 42.1	-1.4

*IDC **17** 15:35:58.7±1.2,9°.51S×151°.23E,h0km,mb3.8/7,*
mbtmp3.9/9,ML3.7/1,MS3.6/10,Error ellipse:
s-maj=30.3km s-min=23.3km az=106.0
ISC 17 15:36:02.2±1.0,9°.6S±0°.2×151°.3E±0°.1,h24km,n18,
σ1§44/10,mb3.9/7,MS3.5/7,D'Entrecasteaux Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.06	272	Pn	Pn	15 37 00.3	-2.5
	15nm,0.3s,baz=102,slow=5.8,SNR=29						
PMG				Sn	Sn	15 37 52.3	+2.7
	4.9nm,0.3s,baz=290,slow=14,SNR=3.9						
PMG				LR	LR	15 38 33.2	
	comp=Z,381nm,21.9s,baz=82,slow=38						
HNR	Honiara	8.56	90	LR	LR	15 40 54.0	
	comp=Z,199nm,20.5s,baz=254,slow=34						
DZM	Mont Dzumac	19.16	132	LR	LR	15 46 22.2	
	comp=Z,268nm,19.0s,baz=300,slow=32						
WRA	Warramunga Arr	19.34	236	P	P	15 40 25.9	-0.1
	0.3nm,0.3s,baz=60,slow=11,SNR=19						
	5.8nm,0.8s						
ASAR	Alice Springs	21.73	228	P	P	15 40 52.0	0.0
	5.8nm,0.8s,baz=59,slow=9.1,SNR=47						
	5.8nm,0.8s						
GUMO	Guam	23.85	344	LR	LR	15 48 50.2	
	comp=Z,87nm,21.2s,baz=188,slow=32						
STKA	Stephens Creek	23.96	201	P	P	15 41 14.4	-0.4
	2.4nm,0.7s,baz=2.6,slow=8.9,SNR=4.6						
	2.4nm,0.7s						
MSVF	Nonsavu	27.24	110	LR	LR	15 49 13.1	
	comp=Z,134nm,21.2s,baz=111,slow=29						
URZ	Urewera	36.83	145	LR	LR	15 56 34.1	
	comp=Z,109nm,19.1s,baz=28,slow=34						
JOW	Kunigami	42.50	329	LR	LR	15 59 01.8	
	comp=Z,129nm,19.2s,baz=209,slow=33						
MJAR	Matsushiro Arr	47.46	346	LR	LR	16 01 22.4	
	comp=Z,61nm,21.1s,baz=139,slow=32						
PPT	Papeete	57.87	105	LR	LR	16 06 12.5	
	comp=Z,38nm,20.4s,baz=320,slow=31						
CMAR	Chiang Mai Arr	58.65	298	P	P	15 45 58.3	+0.3
	0.3nm,0.5s,baz=117,slow=7.8,SNR=1.6						
	0.3nm,0.5s						
SHEM	Shemya Is, Ala	65.04	15	LR	LR	16 10 16.3	
	comp=Z,61nm,19.3s,baz=256,slow=32						
SONM	Songino Array	69.56	330	P	P	15 47 09.4	+0.1
	0.5nm,0.5s,baz=145,slow=6.5,SNR=4.6						
	0.5nm,0.5s						
QSPA	South Pole Qui	80.44	180	P	P	15 48 12.8	+0.9
	1.0nm,0.9s,baz=216,slow=1.4,SNR=7.1						
	1.0nm,0.9s						
MKAR	Makanchi Array	82.91	320	P	P	15 48 24.8	-0.3
	0.6nm,0.8s,baz=104,slow=5.1,SNR=4.8						
	0.6nm,0.8s						
ILAR	Eielson Array	87.10	22	P	P	15 48 46.1	+0.4
	0.7nm,1.0s,baz=241,slow=3.7,SNR=2.2						
	0.7nm,1.0s						

*RSNC **17** 15:49:08.8±0.0,5°.N±1°.×7°.8W±°,h25km±2km,M3.1,ML2.9,*
MLv3.8
*IDC **17** 15:49:19.7±4.1,5°.21N×77°.04W,h119km±42km,mb3.5/8,*
mbtmp3.9/10,MS3.3/6,Error ellipse: s-maj=43.1km
s-min=15.9km az=78.0
*VAO **17** 15:49:21.2±0.9,4°.32N×77°.11W,h96km±6km,mb4.1*
ISC 17 15:49:08.7±1.1,5°.11N±0°.03×77°.64W±0°.04,h25km±8km,
n61,σ2§09/82,mb3.9/8,MS3.4/3,Near west coast of
Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	Pizarro, Choco	0.31	116	P	Pb	15 49 15.8	-0.1
PIZC				S	Sb	15 49 20.8	-0.1
MALC	Bahia Malaga	1.13	164	P	Pn	15 49 29.2	+0.3
MALC				S	Sb	15 49 44.4	+0.6
SOLC	Bahia Solano	1.14	12	P	Pn	15 49 26.8	-2.2
SOLC				S	Sn	15 49 41.4	-2.4
YOTC	Yotoco, Valle	1.71	131	P	Pn	15 49 35.7	-1.2
YOTC				S	Sn	15 49 55.0	-3.0
CBOC	Ciudad Bolivar	1.79	65	P	Pn	15 49 36.2	-1.9
CBOC				S	Sn	15 49 56.3	-3.8
PTAC	Punta Ardita,	2.03	355	P	Pn	15 49 40.7	-0.6
PTAC				S	Sn	15 50 01.7	-4.2
GR1C	Gorgona, Isla	2.15	194	P	Pn	15 49 42.4	-0.6
GR1C				S	Sn	15 50 07.1	-1.8
NIZA	Niza - Manizal	2.16	91	P	Pn	15 49 43.3	-0.1
NIZA				S	Sn	15 50 07.6	-1.9
GUY2C	Guyana, Caldas	2.27	87	P	Pn	15 49 44.4	-0.6
GUY2C				S	Sn	15 50 11.0	-1.4
ANIL	Santa Ana	2.31	105	P	Pn	15 49 45.4	0.0
ANIL				S	Sn	15 50 12.8	-0.4
ORTC	Ortega, Tolima	2.67	116	P	Pn	15 49 50.9	+0.8
ORTC				S	Sn	15 50 22.6	+0.9
POPC	Popayan, Colom	2.73	159	P	Pn	15 49 51.5	+0.4
POPC				S	Sn	15 50 22.1	-1.2
NORC	Norcasia	2.80	81	P	Pn	15 49 53.0	+1.1
NORC				S	Sn	15 50 23.7	-1.2
APAC	Apartado, Choc	2.97	21	P	Pn	15 49 56.5	+2.3
APAC				S	Sn	15 50 31.5	+2.5
PRAC	Prado	3.08	117	P	Pn	15 49 56.7	+1.0
PRAC				S	Sn	15 50 32.8	+1.1
BBAC	Balboa, Cauca	3.09	173	P	Pn	15 49 59.0	+3.0
BBAC				S	Sn	15 50 34.4	+2.1
BETC	Betania	3.26	138	P	Pn	15 50 00.3	+2.1
ROSC	El Rosal	3.32	94	P	Pn	15 50 03.0	+3.7
	40nm,0.5s,baz=258,slow=18,SNR=9.6						
ROSC				S	Sn	15 50 36.7	-1.6
	44nm,0.6s,baz=202,slow=22,SNR=4.1						
ROSC	El Rosal	3.32	94	P	Pn	15 50 02.3	+2.9
UREC	San Jos de Ur	3.36	38	P	Pn	15 50 04.0	+4.4
UREC				S	Sn	15 50 39.6	+0.8
PTBC	PUERTO BERRIO,	3.48	66	P	Pn	15 50 02.3	+1.1
PTBC				S	Sn	15 50 41.9	+0.4
CVER	Cruz Verde, Cu	3.60	99	P	Pn	15 49 58.5	-4.8
GARC	Garzon, Huila	3.61	143	P	Pn	15 50 05.5	+2.3
ZARC	Zaragoza, Cauc	3.64	49	P	Pn	15 50 06.9	+3.4
AZU	Azuero	3.74	316	P	Pn	15 50 05.3	+0.6
AZU				S	Sn	15 50 46.3	-1.7
URMC	La Uribe, Meta	3.74	119	P	Pn	15 50 06.4	+1.5
URMC				S	Sn	15 50 48.6	+0.4
GCUF	Volcan Galeras	3.87	176	P	Pn	15 50 08.7	+1.7
GCUF				S	Sn	15 50 50.0	-1.9
CHIC	Chingaza	3.92	97	P	Pn	15 50 10.6	+2.9
FLOC	Florencia	4.02	150	P	Pn	15 50 10.9	+2.1
FLOC				S	Sn	15 50 56.0	+0.9
BCIP	Isla Barro Col	4.58	332	P	Pn	15 50 16.8	+0.4
BCIP				S	Sn	15 51 09.4	+0.5
RUSC	La Rusia	4.61	80	P	Pn	15 50 19.8	+2.7
RUSC				S	Sn	15 51 09.1	-1.0
OTAV	Otavalo	4.90	190	P	Pn	15 50 21.4	+0.2
OTAV				S	Sn	15 51 13.6	-3.8
OTAV	Otavalo	4.90	190	eP	Pn	15 50 23.9	+2.7
PAMC	Pamplona, Colo	5.39	65	P	Pn	15 50 28.3	+0.3
PAMC				S	Sn	15 51 30.1	+0.6
SDV	Santo Domingo	7.91	61	P	Pn	15 51 04.2	+2.0
	3.3nm,0.3s,baz=20,slow=9.7,SNR=1.8						
SDV				S	Sn	15 52 26.6	-4.4
	3.5nm,0.3s,baz=358,slow=17,SNR=1.0						
SDV				LR	LR	15 54 41.9	
	comp=Z,154nm,18.4s,baz=195,slow=44						
SDV	Santo Domingo	7.91	61	eP	Pn	15 51 13.1	+11
ATAH	Atahualpa	12.18	184	LR	LR	15 57 40.0	
	comp=Z,164nm,19.3s,baz=7.1,slow=41						
TEFE	Tefe	15.56	123	eP	Pn	15 52 45.1	-1.4
SJG	San Juan	17.12	40	LR	LR	15 59 33.3	
	comp=Z,31nm,21.4s,baz=126,slow=37						
BOAV	Boa Vista	17.29	98	eP	Pn	15 53 09.7	+1.1
SAML	Samuel	20.07	134	eP	P	15 53 37.3	-3.1
LPAZ	La Paz	23.25	156	P	P	15 54 15.2	+0.2
	1.8nm,0.7s,baz=342,slow=12,SNR=6.0						
LPAZ				LR	LR	16 04 20.7	
	comp=Z,118nm,19.4s,baz=20,slow=39						
	1.8nm,0.7s						
LPAZ	La Paz	23.25	156	eP	P	15 54 10.6	-4.3
ITTB	Itaituba	23.82	113	eP	P	15 54 17.6	-2.3
VILB	Vilhena	24.94	136	eP	P	15 54 29.4	-0.9
NPGB	Novo Progresso	25.30	118	eP	P	15 54 31.7	-1.8
SIV	San Ignacio	26.61	142	LR	LR	16 06 07.2	
	comp=Z,80nm,19.6s,baz=286,slow=38						
PDRB	Porto dos Gac	26.62	129	eP	P	15 54 42.5	-2.9
BDFB	Brasilia	35.85	126	LR	LR	16 12 01.5	
	comp=Z,121nm,20.6s,baz=312,slow=38						
NBAN	Anadia - AL	43.75	110	eP	P	15 57 10.4	-2.1
TRQA	Tornquist	45.34	163	eP	P	15 57 21.2	-3.6
PLCA	Paso Flores	46.08	173	P	P	15 57 31.7	+1.1
	1.6nm,0.8s,baz=286,slow=7.1,SNR=3.4						
	1.6nm,0.8s						
PLCA	Paso Flores	46.08	173	eP	P	15 57 29.7	-0.9
PDAR	Pinedale Array	46.97	328	P	P	15 57 40.5	+2.7
	0.6nm,0.6s,baz=128,slow=12,SNR=7.0						
	0.6nm,0.6s						
ULM	Lac du Bonnet	47.53	344	P	P	15 57 42.4	+0.5
	3.5nm,0.8s,baz=163,slow=5.6,SNR=3.4						
	3.5nm,0.8s						
NVAR	Mina Array Bea	49.60	318	P	P	15 58 01.6	+3.4
	0.8nm,0.8s,baz=122,slow=7.9,SNR=3.5						
	0.8nm,0.8s						
YKA	Yellowknife Ar	63.40	342	P	P	15 59 37.0	+1.2
	1.2nm,0.7s,baz=135,slow=6.6,SNR=29						
	1.2nm,0.7s						
INK	Inuvik	73.16	341	P	P	16 00 38.4	+1.6
	0.8nm,0.6s,baz=72,slow=4.8,SNR=4.1						
	0.8nm,0.6s						
ILAR	Eielson Array	76.63	336	P	P	16 00 57.9	+0.9
	0.5nm,0.7s,baz=104,slow=6.0,SNR=6.8						
	0.5nm,0.7s						
ASAR	Alice Springs	144.45	236	PKPbc	PKPbc	16 08 43.0	+0.8
	2.2nm,0.7s,baz=120,slow=3.8,SNR=38						
WRA	Warramunga Arr	145.57	242	PKPbc	PKPab	16 08 47.0	+0.8
	1.5nm,0.7s,baz=110,slow=3.2,SNR=10						

*SNET **17** 15:51:16.6±0.6,13°.92N×90°.79W,h76km±7km,ML3.4*
*GCG **17** 15:51:16.1±0.7,13°.90N×90°.84W,h83km±4km,MD3.7*
ISC 17 15:51:19.3±1.9,13°.75N±0°.09×90°.71W±0°.06,h62km±13km,
n12,σ2§28/20,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	San Jos, E	0.28	133	i P	Pn	15 51 27.2	-2.2
ESSJ				eS	Sn	15 51 37.3	+0.5
FG8	Yepocapa, Chim	0.53	16	i P	Pn	15 51 31.0	-0.8
FG8				i S	Sn	15 51 43.0	+2.0
FG16	Alotenango, Sa	0.55	20	i P	Pn	15 51 31.3	-1.0
FG16				i S	Sn	15 51 42.9	+1.2
ESSG	Sabana Grande	0.64	349	i P	Pn	15 51 30.1	-3.0
STG0	El Palmar, Qui	0.91	318	eP	Pn	15 51 36.9	+0.4
STG0				i S	Sn	15 51 52.9	+3.8
STG8	El Palmar, Qui	0.93	318	eP	Pn	15 51 37.5	+0.7
STG8				eS	Sn	15 51 53.7	+3.9
CEVE	Cerro Verde	1.06	86	eP	Pn	15 51 37.8	-0.6
CEVE				eS	Sn	15 51 55.0	+2.5
CEVE				IAML		15 51 56.9	
	comp=Z,574nm,0.2s						
JAYA	Jayaque - finc	1.23	94	eP	Pn	15 51 39.8	-0.7
JAYA				eS	Sn	15 51 57.3	+0.9
JAYA	Jayaque - finc	1.23	94	eP	Pn	15 51 40.0	-0.5
SOKI	Kika Raxquin	1.26	328	eP	Pn	15 51 37.9	-3.3
SOKI				eS	Sn	15 51 54.6	-2.9
MTO3	Montecristo	1.46	64	eP	Pn	15 51 42.2	-1.5
COEG	Centro de Oper	1.78	94	eS	Sn	15 52 11.0	+1.4

*JMA **17** 16:02:13.3±0.2,24°.N±1°.×122°.3E±0°.4,h74km±2km,*
MV3.0/14,TAIWAN REGION
*TAP **17** 16:02:13.1,24°.51N×122°.28E,h82km,ML3.7,C*
ISC 17 16:02:13.4±1.3,24°.48N±0°.03×122°.33E±0°.02,h77km±6km,
n145,σ0§88/224,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.10	235	P	Pn	16 02 25.0	+0.7
EOS3	EOS3	0.19	182	i P	Pn	16 02 25.4	+0.9
EOS3				i S	Sn	16 02 34.3	+1.6
EOS4	EOS4	0.36	181	i P	Pn	16 02 25.5	+0.2
EOS4				i S	Sn	16 02 34.5	+0.6
ESAO	Su ao	0.45	283	P	Pn	16 02 26.6	+0.3
ESAO				S	Sn	16 02 35.7	-0.3
TWC	Suao	0.45	287	i P	Pn	16 02 26.2	-0.2
TWC				i S	Sn	16 02 35.2	-0.8
EWUT	Wuta	0.50	266	P	Pn	16 02 26.7	-0.1
EWUT				S	Sn	16 02 36.4	-0.3
EGS		0.51	316	P	Pn	16 02 26.7	-0.2
EGS				S	Sn	16 02 36.2	-0.7
ENA	Nanau	0.54	265	i P	Pn	16 02 27.1	0.0
ENA				i S	Sn	16 02 37.6	+0.3
EAHA	Aohua	0.55	255	P	Pn	16 02 27.2	0.0
EAHA				i S	Sn	16 02 37.9	+0.3
JYNG	Yonagunijimaku	0.56	93	i P	Pn	16 02 27.6	+0.2
JYNG				S	Sn	16 02 38.0	+0.2
NDS	Dongshan	0.58	286	P	Pn	16 02 27.0	-0.5
NDS				S	Sn	16 02 37.5	-0.5
ILA	Ilan	0.60	299	i P	Pn	16 02 27.8	+0.1
ILA				eS	Sn	16 02 38.6	+0.3
TWB1	Santiao Chiao	0.61	330	P	Pn	16 02 27.7	-0.1
TWB1				S	Sn	16 02 37.5	-1.1
YOJ	Yonaguni jima	0.62	91	P	Pn	16 02 28.1	+0.2
YOJ	Yonaguni jima	0.62	91	P	Pn	16 02 28.2	+0.2
YOJ				S	Sn	16 02 38.7	-0.1
YOJ	Yonaguni jima	0.62	91	i P	Pn	16 02 28.2	+0.2
YOJ				i S	Sn	16 02 39.0	+0.3
TWE	Neicheng	0.65	292	i P	Pn	16 02 28.2	0.0
TWE				i S	Sn	16 02 39.4	+0.2
TIPB	Shuangxi	0.67	317	P	Pn	16 02 28.1	-0.4
TIPB				S	Sn	16 02 38.5	-1.2
ENTT	Nioudou	0.71	283	P	Pn	16 02 29.2	+0.3
ENTT				eS	Sn	16 02 41.4	+1.0
ETL	Fush Village	0.71	244	P	Pn	16 02 28.7	-0.3
ETL				S	Sn	16 02 40.0	-0.5
FUSB	Fushanzhiwuyua	0.73	293	i P	Pn	16 02 29.4	+0.3
FUSB				i S	Sn	16 02 40.9	0.0
LATG	Datong	0.73	275	i P	Pn	16 02 29.3	+0.1
LATG				S	Sn	16 02 41.6	+0.7
NACB	Ninganchiao	0.73	246	P	Pn	16 02 28.7	-0.4
NACB	Ninganchiao	0.73	246	S	Sn	16 02 40.5	-0.3
NACB	Ninganchiao	0.73	246	P	Pn	16 02 28.5	-0.6
NACB				S	Sn	16 02 40.4	-0.5
SXI1	Grass Mountain	0.74	326	P	Pn	16 02 29.1	-0.1
SXI1				S	Sn	16 02 41.2	+0.2
NWF	Wu-fen Shan	0.77	320	eP	Pn	16 02 29.7	0.0
NWF				S	Sn	16 02 41.0	-0.7
WFSB	Wu-fen Shan	0.77	320	eP	Pn	16 02 29.5	-0.1
WFSB				i S	Sn	16 02 41.1	-0.5
TWD	Chiawan	0.78	239	i P	Pn	16 02 29.4	-0.2
TWD				i S	Sn	16 02 41.2	-0.4
NWLT	Wulai	0.81	292	i P	Pn	16 02 30.6	+0.6
NWLT				S	Sn	16 02 42.2	-0.1
ETLH	Xiulin Townshi	0.81	251	P	Pn	16 02 30.2	0.0
ETLH				eS	Sn	16 02 42.2	-0.4
HWA	Hwalien	0.82	233	eP	Pn	16 02 30.2	0.0
TNOU	National Taiwa	0.84	323	eP	Pn	16 02 31.1	+0.8
TNOU				S	Sn	16 02 43.0	+0.2
TWA	Mucha	0.84	307	P	Pn	16 02 31.3	+0.9
TWA				i S	Sn	16 02 43.2	+0.2
NNSB	Datong	0.86	267	i P	Pn	16 02 30.6	-0.1
NNSB				i S	Sn	16 02 43.5	-0.1
NNS	Nan Shan	0.87	268	P	Pn	16 02 30.6	-0.2
NNS				S	Sn	16 02 43.7	-0.1
NHDH	Xindian Distri	0.87	304	P	Pn	16 02 30.8	+0.1
NHDH				eS	Sn	16 02 43.4	-0.2
YHNB	Yeheng	0.89	283	P	Pn	16 02 31.3	+0.4
YHNB	Yeheng	0.89	283	i P	Pn	16

YULB	**Yu-li**	**1.43 221**	P		**Pn**	**16 02 36.8**	**-0.9**
YULB	**Yu-li**	**1.43 221**	*e*P		**Pn**	**16 02 37.0**	**-0.8**
EYUL	**Yuli**	**1.45 219**	*e*P		**Pn**	**16 02 37.6**	**-0.3**
TYC	**Yuchr**	**1.46 247**	P		**Pn**	**16 02 39.0**	**+1.0**
TWF1	**Yuli**	**1.46 220**	*e*P		**Pn**	**16 02 37.4**	**-0.7**
CHKH	**Chenggong**	**1.54 214**	*e*P		**Pn**	**16 02 38.4**	**-0.6**
TCU	**Taichung**	**1.54 258**	*e*P		**Pn**	**16 02 40.2**	**+1.1**
JKRS	**Kuro-shima**	**1.55 99**	P		**Pn**	**16 02 39.9**	**+0.6**
JKRS			S		**Sn**	**16 02 59.3**	**+0.5**
WHYT	**Xinyi Township**	**1.55 240**	*i* P		**Pn**	**16 02 40.3**	**+1.0**
FULB	**Fuli**	**1.59 217**	*e*P		**Pn**	**16 02 39.5**	**-0.3**
FULB			S		**Sn**	**16 03 00.5**	**+0.9**
WJS	**Zhushan**	**1.60 246**	P		**Pn**	**16 02 41.3**	**+1.4**
WJS			*e*S		**Sn**	**16 03 01.5**	**+1.6**
WNT	**Mingjian**	**1.61 249**	*e*P		**Pn**	**16 02 40.8**	**+0.7**
CHKT	**Chengkung**	**1.63 213**	*i* P		**Pn**	**16 02 39.3**	**-0.9**
CHKT			S		**Sn**	**16 02 58.5**	**-2.1**
JIJ	**Ishigaki jima**	**1.66 94**	P		**Pn**	**16 02 40.8**	**+0.2**
JIJ			S		**Sn**	**16 03 00.7**	**-0.7**
WCHH	**Zhanghua**	**1.66 257**	*e*P		**Pn**	**16 02 40.6**	**0.0**
EHD	**Haiduan**	**1.67 218**	*e*P		**Pn**	**16 02 39.8**	**-1.1**
ALS	**Alishan**	**1.69 236**	*i* P		**Pn**	**16 02 42.2**	**+0.9**
ECS	**Chishang**	**1.71 217**	*e*P		**Pn**	**16 02 41.3**	**-0.1**
CHN5	**Tsauling**	**1.74 240**	*e*P		**Pn**	**16 02 42.9**	**+1.1**
CHN5			*i* S		**Sn**	**16 03 05.5**	**+2.1**
ELDTW	**Lidau**	**1.75 223**	*i* P		**Pn**	**16 02 41.6**	**-0.4**
ELDTW			*e*S		**Sn**	**16 03 02.6**	**-1.2**
EDH	**Donghe**	**1.77 212**	*e*P		**Pn**	**16 02 41.0**	**-1.1**
EDH			S		**Sn**	**16 03 02.2**	**-1.7**
WGK	**Gukeng**	**1.79 244**	P		**Pn**	**16 02 44.1**	**+1.7**
WGK			S		**Sn**	**16 03 06.9**	**+2.4**
JISG	**Ishigakijimahi**	**1.81 86**	*i* P		**Pn**	**16 02 42.8**	**+0.1**
JISG			S		**Sn**	**16 03 04.9**	**0.0**
WDLH	**Douliu**	**1.81 245**	*e*P		**Pn**	**16 02 44.0**	**+1.3**
WDLH			*i* S		**Sn**	**16 03 06.3**	**+1.4**
WCKO	**Fanlu**	**1.88 237**	*i* P		**Pn**	**16 02 45.2**	**+1.6**
WCKO			*i* S		**Sn**	**16 03 09.0**	**+2.3**
LONT	**Longtian**	**1.91 215**	*e*P		**Pn**	**16 02 43.1**	**-0.9**
LONT			*e*S		**Sn**	**16 03 06.9**	**-0.4**
STYH	**Taoyuan**	**1.93 228**	*e*P		**Pn**	**16 02 43.7**	**-0.4**
STYH			*e*S		**Sn**	**16 03 08.7**	**+1.1**
WTK	**Tuku**	**1.94 246**	*i* P		**Pn**	**16 02 45.2**	**+0.9**
WTK			*e*S		**Sn**	**16 03 08.2**	**+0.3**
CHN4	**Tsaushan**	**1.94 235**	*e*P		**Pn**	**16 02 46.2**	**+1.8**
CHN4			*i* S		**Sn**	**16 03 10.8**	**+2.8**
TPUB	**Ta-pu**	**1.94 233**	P		**Pn**	**16 02 44.9**	**+0.4**
TPUB	**Ta-pu**	**1.94 233**	*i* P		**Pn**	**16 02 45.6**	**+1.2**
TPUB			*e*S		**Sn**	**16 03 10.2**	**+2.0**
LDUT	**Ludao**	**1.96 204**	*e*P		**Pn**	**16 02 43.6**	**-1.1**
WTCT	**Ta-ch'eng**	**1.96 252**	*e*S		**Sn**	**16 03 09.2**	**+0.7**
WTP	**Ta-pu**	**1.99 232**	*e*P		**Pn**	**16 02 46.3**	**+1.2**
WTP			S		**Sn**	**16 03 11.5**	**+2.2**
CHY	**Chiayi**	**1.99 241**	*e*P		**Pn**	**16 02 46.6**	**+1.6**
TWGBT	**Beinan**	**2.01 215**	P		**Pn**	**16 02 44.4**	**-0.9**
TWGBT	**Beinan**	**2.01 215**	*e*P		**Pn**	**16 02 44.7**	**-0.6**
TWGBT			*e*S		**Sn**	**16 03 08.4**	**-1.2**
TWG	**Pinlang**	**2.01 215**	*i* P		**Pn**	**16 02 44.6**	**-0.7**
TWG			S		**Sn**	**16 03 08.1**	**-1.6**
TWK	**Hsinying**	**2.07 235**	*e*P		**Pn**	**16 02 47.0**	**+0.9**
CHN1	**Nanshi**	**2.09 232**	*e*P		**Pn**	**16 02 47.9**	**+1.5**
SNST	**Tainan City**	**2.09 234**	*e*P		**Pn**	**16 02 47.4**	**+1.0**
WSF	**Szhu**	**2.10 247**	*e*P		**Pn**	**16 02 47.1**	**+0.7**
SGST	**Jiashian**	**2.12 229**	*e*P		**Pn**	**16 02 47.1**	**+0.4**
WSL	**Shuilin Townsh**	**2.14 244**	*e*P		**Pn**	**16 02 47.8**	**+0.8**
ICHU	**Yijhu**	**2.18 240**	*e*P		**Pn**	**16 02 48.9**	**+1.3**
CHN8	**Yiju**	**2.24 240**	*e*P		**Pn**	**16 02 49.6**	**+1.2**
ECL	**Taimali**	**2.26 214**	*e*P		**Pn**	**16 02 47.8**	**-0.8**
SCST	**Cishan**	**2.31 227**	*e*P		**Pn**	**16 02 50.7**	**+1.4**
SSD	**Sandimen**	**2.32 222**	*e*P		**Pn**	**16 02 51.0**	**+1.5**
SHHT	**Tainan City**	**2.32 232**	*e*P		**Pn**	**16 02 51.6**	**+2.1**
MASBT	**Mashibuluo**	**2.42 220**	P		**Pn**	**16 02 51.9**	**+1.0**
TSCK	**Chigu Township**	**2.44 238**	*e*P		**Pn**	**16 02 51.6**	**+0.5**
TSCK			*i* S		**Sn**	**16 03 20.6**	**+0.6**
TAW	**Tawu**	**2.49 212**	*e*P		**Pn**	**16 02 51.1**	**-0.6**
EAST	**Anshuo**	**2.49 213**	*e*P		**Pn**	**16 02 51.1**	**-0.7**
LAY	**Lan-yu**	**2.53 197**	*e*P		**Pn**	**16 02 50.6**	**-1.7**
LYUB	**Lan-yu**	**2.56 196**	*e*P		**Pn**	**16 02 50.8**	**-1.9**
SCZT	**Fangliau**	**2.62 217**	*e*P		**Pn**	**16 02 54.0**	**+0.5**
SLIU	**Shizi**	**2.65 212**	*e*P		**Pn**	**16 02 53.8**	**-0.2**
PNG	**Penghu**	**2.69 251**	*e*P		**Pn**	**16 02 53.8**	**-0.7**
PHUB	**P'eng-hu**	**2.69 250**	*i* P		**Pn**	**16 02 54.0**	**-0.6**
MATB	**Ma-tsu**	**2.72 308**	*i* P		**Pn**	**16 02 54.7**	**-0.2**
MATB			*e*S		**Sn**	**16 03 25.3**	**-1.6**
WDGT	**Dungji**	**2.73 244**	*e*P		**Pn**	**16 02 55.3**	**+0.4**
PTMZ	**Houxiangcun**	**2.97 282**	*e*P		**Pn**	**16 02 57.9**	**-0.3**
XPSS	**Dashiqiu**	**3.11 322**	*e*P		**Pn**	**16 02 59.7**	**-0.5**

*IDC **17** 16:11:04.8±1.3,2°.86N×96°.02E, h0km, mb3.8/10, mbtmp3.8/11, ML3.1/1, MS3.6/2, Error ellipse: s-maj=53.7km s-min=17.4km az=48.0*
*NEIC **17** 16:11:11.5±1.8,2°.95N±0°.07×96°.20E±0°.07, h36km±7km, mb4.2/11, Error ellipse: s-maj=12.3km s-min=6.4km az=47.0*
*DJA **17** 16:11:11.6±0.5,3°N±3°×9°6E±°, h56km±15km, M4.0/13, mB5.3/1, mb4.2/2, MLv3.9/13, Mw(mB)4.7/1*
ISC 17 16:11:10.3±0.6,**2°.97N**±0°.06×**96°.21E**±0°.06,**h31**km,**n58,**
σ1§**12**/47,**mb4.1**/17,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.57**	**169**	P	**Pn**	**16 11 24.9**	**+2.5**
MLSI	**Meulaboh, Aceh**	**1.30**	**8**	P	**Pn**	**16 11 33.6**	**+1.2**
GSI	**Gunungsitoli**	**2.15**	**141**		**Pn**	**16 11 44.8**	**+0.7**
GSI	**Gunungsitoli**	**2.15**	**141**	P	**Pn**	**16 11 44.9**	**+0.9**
LHMI	**Lhok Sumawe**	**2.36**	**18**	Pn	**Pn**	**16 11 48.0**	**+1.1**
LHMI	**Lhok Sumawe**	**2.36**	**18**	P	**Pn**	**16 11 48.5**	**+1.6**
TSI	**Tuntungan**	**2.41**	**77**	P	**Pn**	**16 11 49.5**	**+1.9**
BSI	**Banda Aceh**	**2.67**	**340**	P	**Pn**	**16 11 52.3**	**+1.0**
PSI	**Prapat**	**2.71**	**94**	Pn	**Pn**	**16 11 53.5**	**+1.5**
	2.9nm,0.3s,baz=299,slow=14,SNR=11						
PSI				Sn	**Sn**	**16 12 25.1**	**+1.4**
	6.8nm,0.3s,baz=177,slow=20,SNR=5.4						
	4.7nm,0.3s						
RPSI	**Rantau Prapat**	**2.72**	**96**		**Pn**	**16 11 53.5**	**+1.5**
RPSI	**Rantau Prapat**	**2.72**	**96**	Pn	**Pn**	**16 11 52.3**	**+0.3**
PBSI	**Pulau Batu**	**3.65**	**145**	P	**Pn**	**16 12 05.2**	**+0.5**
MNSI	**Mandailing Nat**	**4.00**	**123**	P	**Pn**	**16 12 10.9**	**+1.4**
CMBY	**CAMPBELL BAY**	**4.61**	**330**	IAML		16 12 14.2	
	comp=E,431nm,0.9s						
CMBY				*e*P	**Pn**	**16 12 20.7**	**+2.7**
CMBY				IAML		16 13 07.4	
	comp=N,457nm,0.6s						
CMBY				*e*S	**Sn**	**16 13 11.3**	**+0.7**
KULM	**Kulim**	**4.99**	**62**	Pn	**Pn**	**16 12 23.3**	**+0.2**
SISI	**Saibi**	**5.15**	**146**	P	**Pn**	**16 12 25.2**	**-0.2**
SRIT	**Nakonsritamara**	**6.52**	**31**	Pn	**Pn**	**16 12 45.3**	**+1.0**
PBA	**Port Blair**	**9.29**	**338**	*e*P	**Pn**	**16 13 22.1**	**-0.1**
PBA				IAML		16 13 53.9	
	comp=E,153nm,0.0s						
PBA				IAML		16 13 58.8	
	comp=N,64nm,0.2s						
PBA				*e*S	Sn	16 14 57.7	-8.0
DGPR	**DIGLIPUR**	**10.65**	**342**	*e*P	**Pn**	**16 13 40.5**	**-0.3**
DGPR				IAML		16 14 27.5	
	comp=E,41nm,0.4s						
DGPR				IAML		16 14 46.0	
	comp=N,30nm,0.2s						
DGPR				*e*S	Sn	16 15 29.4	-10
MDRS	**Chennai**	**18.71**	**303**	*e*P	**Pn**	**16 15 28.3**	**+1.3**
MDRS				*e*S	Sn	16 18 37.2	-18
MYLDM	**Lahad Datu**	**22.34**	**84**	P	**P**	**16 16 07.2**	**+1.4**
MYLDM				IAmb	IAmb	16 16 44.9	
	comp=Z,14nm,1.1s						
H08S2	**Diego Garcia H**	**25.91**	**246**	T	T	16 43 04.7	
	baz=67,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**25.91**	**246**	T	T	16 43 19.5	
	baz=67,slow=76,SNR=9.7						
H08S1	**Diego Carcia H**	**25.93**	**246**	T	T	16 43 09.6	
	baz=67,slow=76,SNR=9.7						
KNRA	**Kununurra**	**37.15**	**121**	P	**P**	**16 18 16.4**	**-2.3**
KNRA				IAmb	IAmb	16 18 20.8	
	comp=Z,6.5nm,1.2s						
H01W3	**Cape Leeuwin H**	**41.25**	**157**	T	T	17 02 19.2	
	baz=333						
H01W2	**Cape Leeuwin H**	**41.26**	**157**	T	T	17 02 17.3	
	baz=333						
H01W1	**Cape Leeuwin H**	**41.27**	**157**	T	T	17 02 14.5	
	baz=333						
GAR	**Garm**	**42.92**	**330**	P	**P**	**16 19 06.9**	**+0.4**
GAR				IAmb	IAmb	16 19 23.2	
	comp=Z,4.4nm,1.1s						
WB0	**Warramunga Arr**	**43.78**	**123**	P	**P**	**16 19 12.8**	**-0.7**
WB0				IAmb	IAmb	16 19 47.7	
	comp=Z,4.2nm,1.1s						
WRA	**Warramunga Arr**	**43.81**	**123**	P	**P**	**16 19 13.2**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=302,slow=9.1,SNR=11						
	comp=Z,0.5nm,0.4s						
WRAB	**Tennant Creek**	**43.82**	**123**	P	**P**	**16 19 13.3**	**-0.5**
WRAB				IAmb	IAmb	16 19 26.4	
	comp=Z,4.2nm,1.1s						
WR8	**Warramunga Arr**	**43.95**	**123**	P	**P**	**16 19 14.0**	**-0.9**
WR8				IAmb	IAmb	16 19 34.2	
	comp=Z,3.6nm,0.9s						
ASAR	**Alice Springs**	**45.25**	**128**	P	**P**	**16 19 24.9**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=298,slow=7.8,SNR=9.7						
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	**45.30**	**347**	P	**P**	**16 19 24.9**	**-0.4**
MKAR	**Makanchi Array**	**45.30**	**347**	P	**P**	**16 19 25.1**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=158,slow=8.9,SNR=30						
	comp=Z,1.2nm,0.4s						
MAKZ	**Makanchi**	**45.38**	**346**	P	**P**	**16 19 25.4**	**-0.6**
MAKZ				IAmb	IAmb	16 19 26.3	
	comp=Z,1.6nm,0.5s						
SONM	**Songino Array**	**45.55**	**10**	P	**P**	**16 19 26.8**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=181,slow=9.6,SNR=2.7						
SONM				LR	LR	16 38 07.1	
	comp=Z,35nm,21.9s,baz=338,slow=36						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**49.78**	**345**	P	**P**	**16 19 59.4**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=159,slow=7.2,SNR=5.5						
	comp=Z,0.5nm,0.6s						
KURK	**Kurchatov**	**49.84**	**345**	P	**P**	**16 19 59.9**	**-0.5**
MDJ	**Mudanjiang**	**50.83**	**30**	P	**P**	**16 20 09.2**	**+1.2**
ZALV	**Zalesovo Beam**	**51.67**	**351**	P	**P**	**16 20 13.0**	**-1.2**
ZALV	**Zalesovo Beam**	**51.67**	**351**	P	**P**	**16 20 13.4**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=168,slow=7.1,SNR=4.7						
	comp=Z,0.9nm,0.4s						
BVAR	**Borovoye Array**	**54.26**	**341**	P	**P**	**16 20 32.6**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=133,slow=9.3,SNR=5.0						
	comp=Z,0.7nm,0.5s						
ABKAR	**Akbulak array**	**55.50**	**332**	P	**P**	**16 20 41.2**	**-1.1**
H04N2	**CROZET ISLANDS**	**62.69**	**213**	T	T	17 29 13.0	
	baz=52,slow=75,SNR=84						
H04N1	**CROZET ISLANDS**	**62.70**	**213**	T	T	17 29 13.7	
	baz=52,slow=75,SNR=104						
H04N3	**CROZET ISLANDS**	**62.71**	**213**	T	T	17 29 12.2	
	baz=52,slow=75,SNR=79						
H04S1	**CROZET ISLANDS**	**63.05**	**213**	T	T	17 29 34.2	
	baz=52,slow=75,SNR=7.0						
H04S3	**CROZET ISLANDS**	**63.06**	**213**	T	T	17 29 34.4	
	baz=52,slow=75,SNR=11						
H04S2	**CROZET ISLANDS**	**63.07**	**213**	T	T	17 29 33.1	
	baz=52,slow=75,SNR=8.5						
AKASG	**Malin Array Be**	**73.26**	**322**	P	**P**	**16 22 37.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=100,slow=5.1,SNR=4.2						
	comp=Z,0.2nm,0.4s						
BOSA	**Boshof**	**74.81**	**239**	P	**P**	**16 22 47.7**	**-0.6**
ARCES	**ARCESS Array B**	**80.55**	**340**	P	**P**	**16 23 18.9**	**-0.4**
	comp=Z,4.6nm,1.0s,baz=109,slow=7.7,SNR=1.7						
	comp=Z,4.6nm,1.0s						
HFS	**Hagfors**	**83.70**	**330**	P	**P**	**16 23 36.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=110,slow=7.8,SNR=5.5						
	comp=Z,0.6nm,0.6s						
ESDC	**Sonseca Array**	**95.94**	**310**	LR	LR	17 14 20.7	
	comp=Z,60nm,18.1s,baz=213,slow=40						
L61B	**Northampton**	**133.68**	**349**	PKPdf	**PKPdf**	**16 30 24.7**	**+0.3**
BI02	**San Fabin de**	**144.54**	**197**	PKPdf	**PKPab**	**16 30 42.9**	**+0.1**

IDC 17 16:15:45.0±396.0,**57°.47N**×**30°.40E, h0**km,**Error ellipse: s-maj=166.6km s-min=123.4km az=63.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.79**	**99**	I	I	16 40 01.2	
	0.2nm,1.2s,baz=283,slow=316,SNR=6.7						
I37NO	**I37NO**	**12.76**	**341**	I	I	17 10 03.2	
	0.1nm,0.5s,baz=148,slow=328,SNR=3.3						
I31KZ	**AKTYUBINSK INF**	**17.65**	**102**	I	I	18 02 20.0	
	baz=301,slow=335,SNR=1.1						
I18DK	**QAANAAQ INFRAS**	**96.74**	**339**	I	I	19 59 05.4	
	baz=61,slow=339,SNR=1.1						

*JMA **17** 16:36:45.8±0.2,24°.5N±0°.5×121°.7E±0°.8, h73km±2km, MV2.7/16, TAIWAN REGION*
*TAP **17** 16:36:46.6,24°.53N×121°.74E, h67km, ML3.4, B*
ISC 17 16:36:46.7±1.2,**24°.54N**±0°.02×**121°.74E**±0°.02,**h71**km±4km,
n140, σ0§**90**/239,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDS	**Dongshan**	**0.10**	**348**	*e*P	**Pn**	**16 36 56.2**	**-0.9**
NDS				*i* S	**Sn**	**16 37 04.2**	**-0.5**
EWUT	**Wuta**	**0.10**	**158**	*e*P	**Pn**	**16 36 57.0**	**-0.1**
EWUT				*e*S	**Sn**	**16 37 04.6**	**0.0**
ESAO	**Su ao**	**0.10**	**69**	P	**Pn**	**16 36 57.1**	**0.0**
ESAO				*e*S	**Sn**	**16 37 04.8**	**+0.2**
ENA	**Nanau**	**0.11**	**178**	*e*P	**Pn**	**16 36 57.0**	**-0.1**
ENA				*e*S	**Sn**	**16 37 04.6**	**-0.1**
TWC	**Suao**	**0.12**	**55**	*i* P	**Pn**	**16 36 57.3**	**+0.1**
TWC				*i* S	**Sn**	**16 37 05.0**	**+0.3**
ENTT	**Nioudou**	**0.19**	**303**	P	**Pn**	**16 36 57.5**	**+0.1**
ENTT				*e*S	**Sn**	**16 37 06.1**	**+0.8**
LATG	**Datong**	**0.19**	**269**	*i* P	**Pn**	**16 36 57.5**	**0.0**
LATG				S	**Sn**	**16 37 06.2**	**+0.7**
TWE	**Neicheng**	**0.19**	**341**	P	**Pn**	**16 36 57.5**	**+0.1**
TWE				*e*S	**Sn**	**16 37 05.8**	**+0.6**
EAHA	**Aohua**	**0.21**	**180**	*e*P	**Pn**	**16 36 57.4**	**-0.1**
EAHA				*e*S	**Sn**	**16 37 05.9**	**+0.6**
ILA	**Ilan**	**0.23**	**2**	*e*P	**Pn**	**16 36 58.0**	**+0.4**
ILA				*e*S	**Sn**	**16 37 07.2**	**+1.7**
FUSB	**Fushanzhiwuyua**	**0.26**	**328**	*i* P	**Pn**	**16 36 57.9**	**0.0**
FUSB				S	**Sn**	**16 37 05.9**	**0.0**
NWLT	**Wulai**	**0.32**	**318**	*e*P	**Pn**	**16 36 58.2**	**0.0**
NWLT				*e*S	**Sn**	**16 37 05.9**	**-0.6**
NNSB	**Datong**	**0.34**	**251**	*i* P	**Pn**	**16 36 58.5**	**0.0**
NNSB				*e*S	**Sn**	**16 37 06.4**	**-0.6**
NNS	**Nan Shan**	**0.35**	**254**	*i* P	**Pn**	**16 36 58.6**	**+0.1**
NNS				*e*S	**Sn**	**16 37 06.5**	**-0.6**
EGS		**0.35**	**30**	P	**Pn**	**16 36 59.2**	**+0.8**
EGS				*e*S	**Sn**	**16 37 08.4**	**+1.5**
YHNB	**Yeheng**	**0.35**	**292**	P	**Pn**	**16 36 58.4**	**-0.1**
YHNB	**Yeheng**	**0.35**	**292**	S	**Sn**	**16 37 06.6**	**-0.5**
YHNB	**Yeheng**	**0.35**	**292**	*e*P	**Pn**	**16 36 58.4**	**-0.1**
YHNB				S	**Sn**	**16 37 06.7**	**-0.4**
NSK	**Sanguang**	**0.37**	**292**	P	**Pn**	**16 36 58.3**	**-0.3**
NSK				*e*S	**Sn**	**16 37 07.0**	**-0.3**
NACB	**Ninganchiao**	**0.39**	**200**	P	**Pn**	**16 36 57.6**	**-1.0**
NACB	**Ninganchiao**	**0.39**	**200**	*i* P	**Pn**	**16 36 57.8**	**-0.9**
NACB				*e*S	**Sn**	**16 37 06.7**	**-0.7**
ETL	**Fush Village**	**0.39**	**195**	*e*P	**Pn**	**16 36 57.9**	**-0.9**
ETL				*e*S	**Sn**	**16 37 07.4**	**-0.1**
ETLH	**Xiulin Townshi**	**0.41**	**215**	*i* P	**Pn**	**16 36 58.4**	**-0.5**
ETLH				*e*S	**Sn**	**16 37 07.0**	**-0.8**
TIPB	**Shuangxi**	**0.44**	**11**	*e*P	**Pn**	**16 36 59.6**	**+0.4**
TIPB				S	**Sn**	**16 37 08.3**	**+0.1**
TWA	**Mucha**	**0.46**	**342**	*e*P	**Pn**	**16 37 00.3**	**+1.0**
TWA				*e*S	**Sn**	**16 37 09.1**	**+0.6**
NHDH	**Xindian Distri**	**0.46**	**335**	*e*P	**Pn**	**16 36 59.3**	**0.0**
NHDH				*e*S	**Sn**	**16 37 07.9**	**-0.6**
EOS2	**EOS2**	**0.47**	**105**	P	**Pn**	**16 37 00.2**	**+1.0**
TWD	**Chiawan**	**0.47**	**196**	*e*P	**Pn**	**16 36 58.5**	**-0.9**
TWD				*e*S	**Sn**	**16 37 07.5**	**-1.2**
TATO	**Taipei**	**0.49**	**332**	P	**Pn**	**16 36 58.8**	**-0.7**
TATO	**Taipei**	**0.49**	**332**	S	**Sn**	**16 37 08.3**	**-0.6**
TWB1	**Santiao Chiao**	**0.52**	**26**	P	**Pn**	**16 37 00.1**	**+0.3**
TWB1				S	**Sn**	**16 37 09.7**	**+0.3**
NHY	**Taipei**	**0.52**	**343**	*e*P	**Pn**	**16 36 60.0**	**+0.2**
NHY				*e*S	**Sn**	**16 37 09.3**	**-0.2**
NWF	**Wu-fen Shan**	**0.53**	**4**	*e*P	**Pn**	**16 37 00.3**	**+0.2**
NWF				*e*S	**Sn**	**16 37 10.4**	**+0.6**
WFSB	**Wu-fen Shan**	**0.53**	**4**	*e*P	**Pn**	**16 37 00.5**	**+0.6**
WFSB				*e*S	**Sn**	**16 37 10.2**	**+0.6**
FUSS	**Fushou**	**0.54**	**237**	*i* P	**Pn**	**16 37 00.5**	**+0.3**
FUSS				*e*S	**Sn**	**16 37 09.6**	**-0.6**
TAP	**Taipei**	**0.54**	**337**	*e*P	**Pn**	**16 36 60.0**	**0.0**
TAP				*e*S	**Sn**	**16 37 09.3**	**-0.5**
KSHI	**Guanxi Townshi**	**0.56**	**295**	*e*P	**Pn**	**16 37 00.4**	**+0.2**
KSHI				*e*S	**Sn**	**16 37 10.4**	**+0.2**
SXI1	**Grass Mountain**	**0.57**	**13**	P	**Pn**	**16 37 00.8**	**+0.4**
SXI1				*e*S	**Sn**	**16 37 10.9**	**+0.5**
HWA	**Hwalien**	**0.57**	**192**	*e*P	**Pn**	**16 36 59.8**	**-0.5**
NFF	**Wufeng Townshi**	**0.57**	**279**	*e*P	**Pn**	**16 37 00.7**	**+0.3**
NFF				*e*S	**Sn**	**16 37 10.2**	**-0.3**
WHF	**Hehuan Shan**	**0.58**	**228**	*e*P	**Pn**	**16 37 01.0**	**+0.1**
WHF				*e*S	**Sn**	**16 37 10.7**	**-0.6**
EOS3	**EOS3**	**0.58**	**115**	*e*P	**Pn**	**16 37 00.8**	**+0.5**
EOS3				*e*S	**Sn**	**16 37 11.3**	**+1.0**
TWT	**Tachien**	**0.59**	**241**	P	**Pn**	**16 37 01.4**	**+0.7**
TWT				*e*S	**Sn**	**16 37 11.0**	**+0.1**
LXIB	**Xiulin Townshi**	**0.59**	**210**	*e*P	**Pn**	**16 36 59.8**	**-1.0**
LXIB				*e*S	**Sn**	**16 37 10.4**	**-0.6**
TDCB	**Techi**	**0.60**	**242**	*e*P	**Pn**	**16 37 01.1**	**+0.4**
TDCB				*e*S	**Sn**	**16 37 10.9**	**-0.2**
TNOU	**National Taiwa**	**0.61**	**3**	*e*P	**Pn**	**16 37 01.7**	**+1.0**
TNOU				*e*S	**Sn**	**16 37 11.8**	**+0.8**
ETM	**Tongmen**	**0.61**	**201**	*e*P	**Pn**	**16 36 59.5**	**-1.3**
YM01	**YM01**	**0.62**	**346**	*e*P	**Pn**	**16 37 00.8**	**-0.1**
YM01				*e*S	**Sn**	**16 37 10.8**	**-0.6**
TWS1	**Kuangyinshan**	**0.63**	**333**	P	**Pn**	**16 37 00.0**	**-0.9**
TWS1				*e*S	**Sn**	**16 37 10.5**	**-0.9**
ZUZH	**Zhuzihu**	**0.65**	**344**	P	**Pn**	**16 37 00.9**	**-0.2**
ZUZH				*e*S	**Sn**	**16 37 11.0**	**-0.8**
NCUH	**Zhongli**	**0.66**	**310**	*e*P	**Pn**	**16 37 01.4**	**+0.2**
NCUH				*e*S	**Sn**	**16 37 11.6**	**-0.4**
LIOB	**Emei**	**0.67**	**279**	P	**Pn**	**16 37 01.6**	**+0.2**
LIOB				*e*S	**Sn**	**16 37 12.2**	**0.0**
EOS4	**EOS4**	**0.67**	**128**	*e*P	**Pn**	**16 37 01.1**	**+0.1**
EOS4				*e*S	**Sn**	**16 37 11.5**	**0.0**
ANP	**Anpu**	**0.67**	**343**	*e*P	**Pn**	**16 37 01.0**	**-0.5**
NTST	**Danshui**	**0.68**	**337**	*e*P	**Pn**	**16 37 01.6**	**+0.2**
NTST				*e*S	**Sn**	**16 37 12.8**	**+0.5**
NSTT	**Nanjuang**	**0.68**	**278**	*e*P	**Pn**	**16 37 01.7**	**+0.3**
NSTT				*e*S	**Sn**	**16 37 12.2**	**-0.1**
SBCB	**Hsinchu**	**0.73**	**290**	*e*S	**Sn**	**16 37 13.5**	**+0.2**
TWY	**Chenhua**	**0.74**	**350**	*e*P	**Pn**	**16 37 01.3**	**-0.9**
TWY				*e*S	**Sn**	**16 37 13.4**	**-0.2**
HSN	**Hsinchu**	**0.75**	**291**	*e*P	**Pn**	**16 37 01.8**	**-0.4**
HSN				*e*S	**Sn**	**16 37 13.2**	**-0.5**
SHUL	**Shoufeng**	**0.77**	**192**	*e*P	**Pn**	**16 37 02.1**	**-0.3**
SHUL				*e*S	**Sn**	**16 37 13.9**	**-0.2**
WHP	**Taichung City**	**0.77**	**250**	*i* P	**Pn**	**16 37 03.5**	**+0.9**
WHP				S	**Sn**	**16 37 14.9**	**+0.6**
ESL	**Shilin**	**0.77**	**201**	*e*P	**Pn**	**16 37 01.1**	**-1.4**
ESL				*e*S	**Sn**	**16 37 12.2**	**-2.0**
OWD	**Renai**	**0.78**	**221**	*e*P	**Pn**	**16 37 02.7**	**0.0**
OWD				*e*S	**Sn**	**16 37 14.4**	**-0.1**
WUSB	**Renai**	**0.79**	**226**	P	**Pn**	**16 37 03.1**	**+0.2**
WUSB				*e*S	**Sn**	**16 37 14.6**	**-0.1**
TEGC	**Jichi Village**	**0.85**	**192**

JTJ	Tarama	2.70	87	eP	Pn	16 37 28.3	+0.5
JTJ				eS	Sn	16 38 00.3	+0.9
XPSS	Dashiqiu	2.76	330	P	Pn	16 37 28.0	-0.7
KNM	Kinmen	3.01	268	eP	Pn	16 37 33.1	+1.0
KNMB	Chin-men Tao	3.05	269	eP	Pn	16 37 31.9	-0.7
JIRB	Irabujima	3.14	84	eP	Pn	16 37 35.0	+1.2
JIKM	Ikemajima	3.21	82	eP	Pn	16 37 36.0	+1.1
AXDP	Jialang	3.44	277	P	Pn	16 37 37.8	-0.2
ZPLA	Ao Xicun	3.69	261	eP	Pn	16 37 40.9	-0.4

SJA 17 16:46:20.1±0.7,21°.95S×68°.49W,h139km±9km,ML3.5, MW3.5
GUC 17 16:46:23.9±0.9,21°.95S×68°.65W,h122km±6km,ML3.6
ISC 17 16:46:21.4±1.5,22°.02S±0°.04×68°.52W±0°.05, h124km±13km,σ1§43/39,3C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.71	288	⇑iP	Pn	16 46 42.5	+1.2
PB09				IAML		16 46 59.4	
	comp=N,565nm,0.1s						
PB09	IPOC Station P	0.71	288	eP	Pn	16 46 42.4	+1.0
PB09				IAML		16 46 59.9	
	comp=Z,350nm,0.2s						
AF01	San Pedro de A	0.98	161	eP	Pn	16 46 42.2	-1.7
AF01				eS	Sn	16 46 50.2	-11
AF01				IAML		16 47 19.9	
	comp=Z,688nm,0.7s						
PB03	IPOC Station P	1.14	268	⇑iP	Pn	16 46 46.2	+0.9
PB03				i S	Sn	16 47 03.4	-0.1
PB03	IPOC Station P	1.14	268	eP	Pn	16 46 46.1	+0.7
PB03				IAML		16 47 06.6	
	comp=Z,531nm,0.1s						
PB06	IPOC Station P	1.19	235	⇑iP	Pn	16 46 47.4	+1.6
PB06				i S	Sn	16 47 05.5	+1.2
PB06				IAML		16 47 07.1	
	comp=E,1μm,0.2s						
PB06	IPOC Station P	1.19	235	eP	Pn	16 46 46.8	+1.0
PB06				IAML		16 47 08.8	
	comp=Z,769nm,0.2s						
PB01	IPOC Station P	1.32	317	i P	Pn	16 46 47.6	+0.3
PB01				i S	Sn	16 47 05.9	-0.9
PB01				IAML		16 47 08.0	
	comp=E,2μm,0.3s						
PB01	IPOC Station P	1.32	317	eP	Pn	16 46 47.7	+0.4
PB01				IAML		16 47 08.9	
	comp=Z,511nm,0.2s						
PATCX	Punta Patache	1.93	308	i P	Pn	16 46 54.8	+0.4
PATCX				i S	Sn	16 47 17.8	-1.7
PATCX				IAML		16 47 23.7	
	comp=N,627nm,0.4s						
PATCX	Punta Patache	1.93	308	eP	Pn	16 46 54.7	+0.4
PATCX				IAML		16 47 23.0	
	comp=Z,388nm,0.3s						
PB08	IPOC Station P	1.96	342	⇓iP	Pn	16 46 56.4	+1.5
PB08				i S	Sn	16 47 20.9	+0.3
PB08				IAML		16 47 23.1	
	comp=E,567nm,0.2s						
PB08	IPOC Station P	1.96	342	eP	Pn	16 46 56.4	+1.5
PB08				IAML		16 47 24.3	
	comp=Z,151nm,0.5s						
TA01	Diego Aracena	2.12	313	i P	Pn	16 46 56.7	+0.2
TA01				i S	Sn	16 47 21.7	-1.7
TA01				IAML		16 47 24.0	
	comp=E,796nm,0.2s						
TA01	Diego Aracena	2.12	313	eP	Pn	16 46 57.0	+0.5
TA01				IAML		16 47 26.3	
	comp=Z,260nm,0.6s						
HMBC	Humberstone	2.15	323	i P	Pn	16 46 56.9	-0.2
HMBC				i S	Sn	16 47 22.7	-1.7
HMBC				IAML		16 47 24.9	
	comp=N,822nm,0.5s						
HMBC	Humberstone	2.15	323	eP	Pn	16 46 56.9	-0.2
HMBC				IAML		16 47 27.8	
	comp=Z,438nm,0.4s						
TA02	Huaiquique	2.30	319	eP	Pn	16 47 03.3	+4.5
TA02				IAML		16 47 36.5	
	comp=Z,211nm,0.1s						
PB10	IPOC Station P	2.39	231	i P	Pn	16 47 00.7	+0.7
PB10				i S	Sn	16 47 27.2	-2.4
PB10	IPOC Station P	2.39	231	eP	Pn	16 47 01.4	+1.4
PB10				IAML		16 47 41.7	
	comp=Z,81nm,0.8s						
GO01	Chusmiza	2.42	345	eP	Pn	16 47 00.3	-0.5
PB11	IPOC Station P	2.49	335	⇓iP	Pn	16 47 01.2	-0.1
PB11				i S	Sn	16 47 30.5	-1.5
PB11	IPOC Station P	2.49	335	eP	Pn	16 47 01.3	-0.1
PB11				IAML		16 47 35.5	
	comp=Z,240nm,0.2s						
YJA	Yavi	2.79	94	eP	Pn	16 47 07.8	+2.2
YJA				eS	Sn	16 47 40.2	+0.8
SALTA		2.97	138	eP	Pn	16 46 56.9	-11
SALTA				eP		16 47 07.5	
SALTA				eP		16 47 12.6	
PB14	IPOC Station P	3.12	213	eP	Pn	16 47 11.1	+1.4
PB14				eS	Sn	16 47 36.0	-11
PB14				IAML		16 47 59.8	
	comp=Z,126nm,0.4s						
PB16	IPOC Station P	3.78	346	eP	Pn	16 47 12.9	-5.8
PB16				IAML		16 48 20.2	
	comp=Z,25nm,0.4s						
AZAP	Zapla	3.86	125	eP	Pn	16 47 17.9	-1.5
AZAP				IAML		16 48 11.3	
	comp=Z,29nm,4.1s						
AC01	Pan de Azucar	4.53	204	eP	Pn	16 47 28.1	+0.1
AC01				eS	Sn	16 48 18.4	-1.4
AC01				IAML		16 48 21.2	
	comp=Z,33nm,0.2s						
AC02	Maricunga	4.83	186	eP	Pn	16 47 34.3	+1.8
AC02				eS	Sn	16 48 17.4	-10
AC02				IAML		16 48 23.9	
	comp=Z,21nm,0.6s						

IDC 17 16:49:08.2±999.0,52°.98N×3°.96E,h0km,Error ellipse: s-maj=460.1km s-min=150.2km az=110.0,North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	7.42	120	I	I	17 32 50.0	
	0.1nm,0.6s,baz=308,slow=323,SNR=0.9						
I43RU	DUBNA INFRASON	19.40	66	I	I	18 46 21.5	
	baz=274,slow=324,SNR=4.9						
I31KZ	AKTYUBINSK INF	32.96	72	I	I	20 10 50.0	
	baz=295,slow=335,SNR=0.7						

IDC 17 16:55:02.8±4.9,10°.55S×151°.90E,h0km,mb2.9/1, mbtmp3.1/2,ML3.0/1,MS3.3/1,Error ellipse: s-maj=367.1km s-min=56.5km az=133.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.33	239	P	P	16 59 29.7	-0.2
	baz=61,slow=11,SNR=2.2						
	0.4nm,0.6s						
ASAR	Alice Springs	21.55	230	P	P	16 59 54.1	+0.1
	0.4nm,0.7s,baz=62,slow=9.5,SNR=11						
	0.4nm,0.7s						
KAPI	Kappang	32.31	277	LR	LR	17 16 07.7	
	comp=Z,50nm,18.2s,baz=53,slow=39						
TORD	Torodi Ar. Bea	150.73	278	PKPbc	PKPbc	17 14 57.9	-0.3
	40nm,0.3s,baz=92,slow=3.2,SNR=1.4						

UPA 17 16:55:25.4±1.5,8°.96N×82°.53W,h1km±8km,MD3.8,ML4.0
UCR 17 16:55:26.5±1.2,8°.97N×82°.61W,h2km±4km,MW3.7
ISC 17 16:55:26.3±1.1,8°.98N±0°.04×82°.57W±0°.03,h8km±10km, n16,σ0§65/22,1C-1D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.22	212	eP	Pg	16 55 30.7	-0.1
BRU2				eS	Sg	16 55 34.0	0.0
BRU2	Volcan	0.22	212	⇓iP	Pg	16 55 30.8	-0.1
BRU2				eS	Sg	16 55 34.1	+0.1
ALCO	Alturas Coton,	0.26	262	eP	Pg	16 55 31.6	0.0
ALCO				eS	Sg	16 55 35.4	+0.3
PTAR3	Potrerillos Ar	0.30	165	eP	Pg	16 55 32.2	-0.1
CHGR2	Aguacate	0.43	96	⇑iP	Pg	16 55 34.5	-0.2
CHGR2				AMP		16 55 34.6	
	comp=Z,16μm,0.1s						
CHGR2				eS	Sg	16 55 39.5	-0.8
LPPC	Paso Canoas	0.52	210	eS	Sb	16 55 44.7	-0.7
DVD	David	0.56	168	eP	Pg	16 55 36.6	-0.5
EDP2	Potrero Grande	0.60	273	eP	Pg	16 55 38.1	+0.3
EDP2				eS	Sb	16 55 46.8	-0.8
CEUA	Cerro Uatsi, L	0.73	330	eP	Pb	16 55 42.2	+0.9
FIMO	Fila Mora	0.77	270	eP	Pb	16 55 42.0	-0.1
PTPM	Petroterminale	0.83	201	eP	Pb	16 55 42.9	-0.1
PTPM				eS	Sb	16 55 55.2	+0.8
SAJE	San Jernim	0.99	291	eP	Pg	16 55 44.4	-1.0
BUS1	Rivas	1.29	296	eP	Pg	16 55 49.9	-1.2
PIEC	Cerro El Cedra	1.51	295	eP	Pn	16 55 53.7	-0.2
CVTQ	Turrialba Volc	1.55	311	eP	Pn	16 55 55.2	+0.7
LCR2	La Lucha 2	1.60	298	eP	Pn	16 55 56.0	+0.9

MEX 17 17:02:27.4±1.0,14°.72N×92°.41W,h86km±9km,MD4.2
GCG 17 17:02:27.6±0.9,14°.82N×92°.33W,h76km±6km,MD4.0
ISC 17 17:02:23.8±1.4,14°.54N±0°.08×92°.38W±0°.05,h92km±9km, n24,σ1§91/41,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.38	17	eP	Pn	17 02 38.4	+0.5
THIG				eS	Sn	17 02 47.9	-0.5
THIG		0.38	17	i P	Pn	17 02 38.3	+0.4
THIG				eS	Sn	17 02 47.8	-0.6
SMCA	Catarina	0.43	44	eP	Pn	17 02 39.1	+0.9
SMCA				eS	Sn	17 02 47.9	-1.1
PATR	El Naranjo	0.59	14	eP	Pn	17 02 39.6	-0.2
PATR				eS	Sn	17 02 49.7	-1.9
RTAL	Retalhuleu	0.67	92	eP	Pn	17 02 42.5	+2.3
RTAL				eS	Sn	17 02 54.9	+2.5
PAVE	Pavencul	0.68	17	eP	Pn	17 02 40.7	+0.2
PAVE				eS	Sn	17 02 52.0	-0.9
SOKI	Kika Raxquin	0.99	74	eP	Pn	17 02 47.1	+3.2
STG8	El Palmar, Qui	1.00	95	eP	Pn	17 02 43.3	-0.6
STG5	El Palmar, Qui	1.01	98	eP	Pn	17 02 43.4	-0.4
STG5				eS	Sn	17 02 56.5	-2.4
STG0	El Palmar, Qui	1.01	96	eP	Pn	17 02 43.5	-0.4
STG0				eS	Sn	17 02 56.0	-3.1
HUEH	Huehuetenango	1.15	48	eP	Pn	17 02 50.6	+5.1
HUEH				eS	Sn	17 03 04.0	+2.0
PCIG		1.41	325	eP	Pn	17 02 49.0	+0.5
PCIG				eS	Sn	17 03 05.3	-1.9
ESSG	Sabana Grande	1.51	96	i P	Pn	17 02 53.4	+3.6
CCIG	Comitan	1.74	8	eS	Sn	17 03 12.5	-2.6
FG8	Yepocapa, Chim	1.79	99	eP	Pn	17 02 52.1	-1.3
FG16	Alotenango, Sa	1.83	98	eP	Pn	17 02 53.0	-1.1
TGIG		2.33	342	eP	Pn	17 03 00.9	+0.3
TGIG				eS	Sn	17 03 26.9	-1.8
UXUV	UXUV	3.24	329	eP	Pn	17 03 14.0	+1.4
UXUV				eS	Sn	17 03 48.3	-1.9
CMIG	Matias Romero	3.50	317	eP	Pn	17 03 17.2	+1.1
CMIG				eS	Sn	17 03 55.9	-0.5
NEUV	Arroyo Zacate	4.55	314	eP	Pn	17 03 33.4	+3.0
NEUV				eS	Sn	17 04 21.1	-1.0
YOIG	Yosondua	5.48	295	eP	Pn	17 03 46.5	+3.2
YOIG				eS	Sn	17 04 41.7	-3.4
TOIG	Toxpalan	5.72	309	eP	Pn	17 03 47.8	+1.5
TOIG				eS	Sn	17 04 51.0	+0.3
PNIG	Pinotepa	5.84	289	eP	Pn	17 03 49.1	+1.2
PNIG				eS	Sn	17 04 51.7	-1.8
TXIG	Tlaxiaco	5.84	298	eP	Pn	17 03 49.9	+1.8
TXIG				eS	Sn	17 04 51.3	-2.6

THE 17 17:03:26.6,37°.69N×20°.27E,h0km±2km,ML2.9/4,Error ellipse: s-maj=3.2km s-min=0.7km az=241.0
ATH 17 17:03:27.3,37°.73N×20°.29E,h8km±2km,ML2.8/13, Manual Solution by A.Andreou First location: 2019/04/17 17:04:30, This location: 2020/08/10 12:44:24 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km
IDC 17 17:03:29.3±19.0,38°.30N×19°.93E,h0km,mb3.4/3, mbtmp3.5/3,Error ellipse: s-maj=375.5km s-min=62.9km az=41.0
ISC 17 17:03:27.0±2.2,37°.77N±0°.07×20°.35E±0°.08,h3km±14km, n37,σ0§81/46,mb3.5/3,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	Orthonies,Zaky	0.29	74	P	Pb	17 03 34.2	-0.7
KYPS	Kipseli, Zakin	0.38	83	P	Pb	17 03 35.8	-0.6
KYPS				S	Sb	17 03 41.5	-1.2
PSDA	Pessada-Kefalo	0.39	29	P	Pb	17 03 35.9	-0.7
PSDA				S	Sb	17 03 43.0	0.0
	2μm,0.2s						
PSDA	Pessada-Kefalo	0.39	29	P	Pb	17 03 36.3	-0.3
LTHK	Lithakia	0.39	99	P	Pg	17 03 35.2	+0.6
LTHK				S	Sb	17 03 41.8	-1.2
	2μm,0.2s						
VLS	Valsamata	0.45	25	P	Pb	17 03 37.0	-0.6
VLS				S	Sb	17 03 45.1	+0.4
	2μm,0.1s						
VLS	Valsamata	0.45	25	P	Pb	17 03 37.2	-0.4
VLS				S	Sb	17 03 43.7	-1.0
RTZL	Ratzakli, Kefa	0.45	48	P	Pb	17 03 37.0	-0.6
RTZL				S	Sb	17 03 45.2	+0.4
	1μm,0.2s						
DMLN	Damoulianata-K	0.47	3	P	Pb	17 03 37.4	-0.5
SMHA	Samh	0.54	26	P	Pb	17 03 39.0	-0.1
SMHA				S	Sb	17 03 46.6	-0.5
CLEM	Kyllini,Ilia,G	0.63	79	P	Pb	17 03 40.4	-0.3
CLEM				S	Sb	17 03 49.8	-0.2
VSK1	VASILIKIADES	0.66	15	P	Pb	17 03 40.7	-0.5
FSK	Fiskardo	0.71	14	P	Pb	17 03 41.4	-0.6
FSK	Fiskardo	0.71	14	P	Pb	17 03 41.5	-0.5
FSK				S	Sb	17 03 52.4	+0.3
YRMI	Loutra Irminis	0.86	67	P	Pb	17 03 44.8	+0.3
EVGI	Lefkada island	0.88	16	P	Pb	17 03 44.8	-0.2
RLS	Riolos of Patr	0.93	72	P	Pb	17 03 45.3	-0.5
RLS	Riolos of Patr	0.93	72	P	Pb	17 03 45.6	-0.2
NYDR	Nydri-Lefkada	0.98	16	P	Pb	17 03 46.4	-0.2
TSLK	Tsoukalades, L	1.08	13	P	Pn	17 03 48.6	-0.4
TSLK	Tsoukalades, L	1.08	13	P	Pn	17 03 49.8	+0.7
DRO	Drossia	1.09	80	P	Pg	17 03 48.2	+0.2
ITM	Ithomi	1.39	115	P	Pg	17 03 53.8	+0.2
EFP	Efpalio	1.39	62	P	Pb	17 03 53.6	-0.1
KLV	Kalavryta, Ach	1.45	79	P	Pb	17 03 54.3	-0.4
KLV	Kalavryta, Ach	1.45	79	P	Pb	17 03 54.3	-0.4
ANX	Ano Chora	1.49	56	P	Pb	17 03 55.0	-0.3
SERG	Sergoula	1.49	64	P	Pg	17 03 55.6	-0.1
GUR	Goura	1.59	83	P	Pb	17 03 56.4	-0.7
TETR	Tetrakomo, Epi	1.73	25	P	Pb	17 03 58.5	-1.0
AGG	Agios Georgios	2.00	51	P	Pb	17 04 02.9	-1.1
THL	Klokotos Trika	2.22	36	P	Pn	17 04 05.0	+0.4
TYRN	Tyrnavos	2.43	37	P	Pn	17 04 08.6	+1.0
TYRN	Tyrnavos	2.43	37	P	Pn	17 04 08.2	+0.6
FINES	FINESS Array B	23.97	7	P	P	17 08 40.7	-1.6
	0.5nm,0.4s,baz=180,slow=12,SNR=4.9						
	0.5nm,0.4s						
ARCES	ARCESS Array B	31.95	3	P	P	17 09 51.7	-2.0
	2.5nm,1.0s,baz=197,slow=12,SNR=5.4						
	2.5nm,1.0s						
MKAR	Makanchi Array	45.63	58	P	P	17 11 51.2	+2.6
	0.1nm,0.5s,baz=301,slow=7.4,SNR=1.3						
	0.1nm,0.5s						

FUNV 17 17:06:57.1,9°.11N×70°.48W,h5km,MW3.7
RSNC 17 17:06:58.2±0.0,9°N±5°×7°0W±°,h0km±3km,M3.0,mb3.9, ML2.7,MLv3.6
ISC 17 17:06:55.0±0.8,9°.21N±0°.04×70°.47W±0°.03,h10km,n21, σ1§73/39,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	0.36	206	P	Pg	17 07 01.3	-0.8
SDV				S	Sg	17 07 06.3	-0.6
SOCV	Socops	0.99	202	eP	Pg	17 07 13.2	-0.9
SOCV				eS	Sg	17 07 26.2	-0.9
TEPV	Terepaima	1.47	59	eP	Pg	17 07 22.6	-0.6
MAPV	Macapo	2.08	73	eP	Pb	17 07 32.4	-0.5
MAPV				eS	Sb	17 07 59.1	+0.2
CAPV	Capacho	2.26	234	eP	Pb	17 07 34.3	-1.7
CAPV				eS	Sb	17 08 02.9	-1.2
BAUV	El Baul	2.42	96	eP	Pn	17 07 35.6	+1.1
BAUV				eS	Sn	17 08 05.8	+1.5
JACV	Jacura	2.47	41	eP	Pb	17 07 38.5	-1.0
JACV				eS	Sb	17 08 09.4	-0.7
PAMC	Pamplona, Colo	2.88	230	P	Pn	17 07 43.6	+2.2
PAMC				S	Sn	17 08 18.0	+1.6
URIC	Uribia, Colomb	2.89	329	P	Pn	17 07 41.1	0.0
BENV	Beln	2.93	75	eP	Pb	17 07 44.6	-2.8
BENV				eS	Sn	17 08 19.0	+1.9
OCAC	Ocana	2.97	251	P	Pn	17 07 44.7	+2.3
OCAC				S	Sb	17 08 23.2	-1.5
CRJC	Cerrejon, Guaj	2.98	307	P	Pn	17 07 42.6	+0.2
CRJC				S	Sn	17 08 19.1	+0.8
TAMC	Tame, Arauca	3.05	205	P	Pg	17 07 51.8	-1.7
TAMC				S	Sb	17 08 25.1	-1.6
TACV	Tcata	3.52	75	eP	Pn	17 07 52.0	+2.2
TACV				eS	Sn	17 08 31.5	-0.1
RUSC	La Rusia	4.19	218	P	Pn	17 08 01.9	+2.5
RUSC				S	Sn	17 08 50.6	+1.9
CACV	CAICARA DEL OR	4.22	112	eP	Pb	17 08 08.1	-1.3
CACV				eS	Sb	17 09 00.6	+0.2
ZARC	Zaragoza, Cauc	4.66	249	P	Pn	17 08 07.3	+1.8
ZARC				S	Sn	17 09 00.3	+0.6
SJCC	San Jacinto, C	4.69	279	P	Pn	17 08 07.6	+1.6
SJCC				S	Sn	17 09 05.3	+4.8
PTBC	PUERTO BERRIO,	4.75	236	P	Pn	17 08 08.0	+1.2
NORC	Norcasia	5.67	231	P	Pn	17 08 21.9	+2.5
	4.2nm,0.5s						
NORC				S	Sn	17 09 26.1	+1.5
	4.2nm,0.5s						
GUY2C	Guyana, Caldas	6.26	231	P	Pn	17 08 30.2	+2.3
GUY2C				S	Sn	17 09 41.2	+1.4

NOU 17 17:09:56.1,36°.43S×177°.82E,h313km,mb3.5/7,Off E. Coast of N. Island, N.Z.
WEL 17 17:10:13.8±0.7,37°S±3°×17°7E±°,h186km±6km,M2.5/19, ML2.8/20,MLv2.5/19,Error ellipse: s-maj=5.1km s-min=4.3km az=104.0,confirmed
ISC 17 17:10:08.7±2.4,37°.04S±0°.07×177°.02E±0°.06, h225km±13km,n77,σ1§45/112,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.94	140	P	Pn	17 10 41.5	+0.8
HAZ				S	S	17 11 03.3	-2.4
RUGZ	Raukumara Rang	1.06	151	P	Pn	17 10 42.0	+0.5
RUGZ				S	S	17 11 03.8	-3.5
KUZ	Kuaotunu	1.08	285	P	Pn	17 10 42.0	+0.4
KUZ	Kuaotunu	1.08	285	P	Pn	17 10 42.0	+0.4
MXZ	Matakaoa Point	1.15	117	P	Pn	17 10 42.9	+0.9
MXZ				S	S	17 11 06.5	-1.5
PKGZ	Pakihiroa	1.18	135	P	Pn	17 10 44.0	+1.7
PKGZ				S	S	17 11 08.0	-0.5
URZ	Urewera	1.22	177	P	Pn	17 10 43.2	+0.7
URZ	Urewera	1.22	177	P	Pn	17 10 43.3	+0.8
URZ				S	S	17 11 06.8	-2.1
MWZ	Matawai	1.35	163	P	Pn	17 10 44.9	+1.4
MWZ				S	S	17 11 09.6	-1.2
WMGZ	Waiomatatini S	1.36	125	P	Pn	17 10 45.1	+1.6
WMGZ				S	S	17 11 10.1	-0.6
TWGZ	Tauwhareparae	1.37	146	P	Pn	17 10 45.8	+2.1
TWGZ				S	S	17 11 10.9	-0.1
PUZ	Puketiti	1.43	137	P	Pn	17 10 45.6	+1.5
PUZ				S	S	17 11 10.0	-1.7
MUGZ	Murupara	1.45	188	P	Pn	17 10 45.4	+1.2
MUGZ				S	S	17 11 10.0	-2.1
MKAZ	Moumakai	1.48	267	P	Pn	17 10 45.9	+1.3
WIAZ	Waiheke Island	1.53	279	P	Pn	17 10 46.2	+1.3
TKGZ	Te Karaka	1.54	155	P	Pn	17 10 46.5	+1.5
TKGZ				S	S	17 11 12.6	-0.8
RTZ	Ruatahuna	1.57	181	P	Pn	17 10 46.7	+1.4
RTZ				S	S	17 11 12.5	-1.5
ETAZ	East Tamaki Re	1.67	272	P	Pn	17 10 47.8	+1.7
MBAZ	Motutapu North	1.72	278	P	Pn	17 10 46.9	+0.4
CNGZ	Carnagh Statio	1.72	147	P	Pn	17 10 48.8	+2.3
CNGZ				S	S	17 11 15.1	-1.0
TLZ	Tolley Road	1.74	222	P	Pn	17 10 48.8	+2.1
SNGZ	Shannon Statio	1.76	172	P	Pn	17 10 48.8	+1.9
SNGZ				S	S	17 11 14.9	-1.8
RIGZ	Rimuhau	1.76	161	P	Pn	17 10 49.1	+2.2
RIGZ				S	S	17 11 17.7	+0.9
MTHZ	Maungataniwha	1.81	184	P	Pn	17 10 49.1	+1.7
MTHZ				S	S	17 11 16.7	-1.0
MRHZ	Matea Rd	1.85	195	P	Pn	17 10 49.0	+1.2
MRHZ				S	S	17 11 17.6	-0.7
RAHZ	Arahi	1.87	178	P	Pn	17 10 50.0	+2.0
RAHZ				S	S	17 11 17.5	-1.2
AWAZ	Awhitu Peninsu	1.90	269	P	Pn	17 10 49.8	+1.7
WTAZ	Waiatarua	1.96	272	P	Pn	17 10 49.5	+0.7
PRGZ	Paritu Road	2.00	160	P	Pn	17 10 49.6	+0.5
PRGZ				S	S	17 11 20.1	-0.7
KNZ	Kokohu	2.04	166	P	Pn	17 10 51.2	+1.7
KNZ				S	S	17 11 20.1	-1.3
NMHZ	Naumai	2.06	185	P	Pn	17 10 52.2	+2.5
NMHZ				S	S	17 11 21.4	-0.5
BKZ	Black Stump Fm	2.16	191	P	Pn	17 10 51.5	+0.8
BKZ	Black Stump Fm	2.16	191	P	Pn	17 10 51.6	+0.9
BKZ				S	S	17 11 21.5	-2.1
ARHZ	Aropaoanui	2.22	180	P	Pn	17 10 53.4	+2.2
ARHZ				S	S	17 11 23.7	-0.8
MHGZ	Mahia Peninsul	2.22	162	P	Pn	17 10 53.4	+2.1
MHGZ				S	S	17 11 24.7	+0.1
HIZ	Hauiti	2.26	229	P	Pn	17 10 54.5	+2.9
HIZ	Hauiti	2.26	229	P	Pn	17 10 54.3	+2.7
TMVZ	Te Maari	2.32	206	P	Pn	17 10 54.2	+1.8
ETVZ	East Tongariro	2.33	206	P	Pn	17 10 54.4	+1.9
WTVZ	West Tongariro	2.36	208	P	Pn	17 10 54.6	+1.8
OTVZ	Oturere	2.37	206	P	Pn	17 10 54.8	+1.8
OTVZ				S	S	17 11 27.2	-0.4
SNVZ	South Ngauruho	2.40	206	P	Pn	17 10 55.2	+1.9
SNVZ				S	S	17 11 28.0	-0.2
NGZ	Ngauruhoe	2.41	207	P	Pn	17 10 55.4	+2.1
MCHZ	McNeill Hill	2.41	186	P	Pn	17 10 55.1	+1.9
MCHZ				S	S	17 11 27.3	-0.9
WCZ	Waipu Caves	2.42	296	P	Pn	17 10 54.8	+1.4
KWHZ	Kaweka Forest	2.43	191	P	Pn	17 10 55.0	+1.6
KWHZ				S	S	17 11 27.9	-0.6
WHVZ	Whangaehu Hut	2.51	206	P	Pn	17 10 56.1	+1.6
WNVZ	Wahianoa	2.54	206	P	Pn	17 10 56.2	+1.4
WNVZ				S	S	17 11 30.0	-0.8
PKVZ	Pokaka	2.60	210	P	Pn	17 10 57.0	+1.6
MTVZ

s-min=24.6km az=60.0

ISC 17 17:14:00.2±1.5, 7°.7N±0°.2×94°.6E±0°.3, h24km, n12, σ1°.04/6, mb3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.51**	**21**	Pn	**Pn**	**17 16 43.1**	**-0.1**
	0.1nm,0.3s,baz=202,slow=14,SNR=2.0						
	0.2nm,0.3s						
H08S3	**Diego Garcia H**	**26.77**	**236**	T	T	17 46 18.2	
	baz=55,slow=75,SNR=8.1						
H08S2	**Diego Garcia H**	**26.77**	**236**	T	T	17 46 24.0	
	baz=55,slow=75,SNR=6.9						
H08S1	**Diego Garcia H**	**26.79**	**236**	T	T	17 46 15.5	
	baz=55,slow=75,SNR=5.8						
MKAR	**Makanchi Array**	**40.36**	**347**	P	**P**	**17 21 35.1**	**-1.0**
	0.3nm,0.7s,baz=152,slow=9.4,SNR=4.0						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**46.79**	**352**	P	**P**	**17 22 28.6**	**+0.9**
	0.3nm,0.3s,baz=186,slow=7.2,SNR=2.0						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**47.81**	**126**	P	**P**	**17 22 37.0**	**+0.8**
	0.4nm,0.8s,baz=301,slow=8.3,SNR=1.2						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**49.48**	**130**	P	**P**	**17 22 48.1**	**-0.9**
	0.3nm,0.9s,baz=301,slow=8.2,SNR=1.5						
	0.3nm,0.9s						
H04N2	**CROZET ISLANDS**	**65.79**	**211**	T	T	18 35 22.0	
	baz=47						
H04N1	**CROZET ISLANDS**	**65.80**	**211**	T	T	18 35 17.8	
	baz=47						
H04N3	**CROZET ISLANDS**	**65.81**	**211**	T	T	18 35 17.1	
	baz=47						
FINES	**FINESS Array B**	**73.07**	**332**	P	**P**	**17 25 28.4**	**+0.3**
	0.9nm,0.8s,baz=108,slow=4.5,SNR=3.4						
	0.9nm,0.8s						

TAP 17 17:20:37.8, 24°.38N×121°.75E, h22km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.05**	**188**	*i* P	Pb	17 20 41.6	-0.2
EAHA				S	Sb	17 20 44.5	+0.1
ENA	**Nanau**	**0.05**	**355**	*e*P	Pb	17 20 41.3	-0.5
ENA				S	Sb	17 20 44.8	+0.2
EWUT	**Wuta**	**0.08**	**23**	P	Pb	17 20 41.4	-0.6
EWUT				*i* S	Sb	17 20 44.7	-0.1
ESAO	**Su ao**	**0.22**	**24**	*e*P	Pb	17 20 42.9	-0.6
ESAO				S	Sb	17 20 47.4	+0.1
ETL	**Fush Village**	**0.24**	**208**	*i* P	Pb	17 20 43.7	-0.2
ETL				*i* S	Sb	17 20 47.9	-0.1
NACB	**Ninganchiao**	**0.24**	**215**	*e*P	Pb	17 20 43.7	-0.1
NACB				S	Sb	17 20 47.6	-0.3
TWC	**Suao**	**0.25**	**22**	*i* P	Pb	17 20 43.8	-0.2
TWC				*e*S	Sb	17 20 47.4	-0.7
LATG	**Datong**	**0.26**	**309**	P	Pb	17 20 43.7	-0.4
LATG				*e*S	Sb	17 20 48.4	0.0
ETLH	**Xiulin Townshi**	**0.29**	**235**	*e*P	Pb	17 20 44.0	-0.7
ETLH				*i* S	Sb	17 20 49.1	-0.2
ENTT	**Nioudou**	**0.31**	**328**	P	Pb	17 20 44.4	-0.5
ENTT				*e*S	Sb	17 20 49.3	-0.3
TWD	**Chiawan**	**0.32**	**205**	P	Pb	17 20 44.9	-0.2
TWD				S	Sb	17 20 50.0	0.0
NNSB	**Datong**	**0.34**	**279**	*i* P	Pb	17 20 45.0	-0.4
NNSB				S	Sb	17 20 50.1	-0.3
NNS	**Nan Shan**	**0.35**	**281**	P	Pb	17 20 45.0	-0.5
NNS				S	Sb	17 20 50.1	-0.6
TWE	**Neicheng**	**0.35**	**348**	*i* P	Pb	17 20 45.2	-0.3
TWE				*e*S	Sb	17 20 51.3	+0.6
FUSB	**Fushanzhiwuyua**	**0.41**	**339**	P	Pb	17 20 46.0	-0.5
FUSB				S	Sb	17 20 52.5	+0.1
HWA	**Hwalien**	**0.42**	**198**	*e*P	Pb	17 20 47.5	+0.9
YHNB	**Yeheng**	**0.45**	**311**	P	Pb	17 20 46.9	-0.2
YHNB				*i* S	Sb	17 20 53.4	-0.1
NWLT	**Wulai**	**0.46**	**331**	P	Pb	17 20 46.5	-0.8
NWLT				*i* S	Sb	17 20 53.6	-0.1
NSK	**Sanguang**	**0.46**	**310**	P	Pb	17 20 46.9	-0.6
NSK				S	Sb	17 20 53.9	0.0
LXIB	**Xiulin Townshi**	**0.47**	**221**	S	Sb	17 20 53.7	-0.3
FUSS	**Fushou**	**0.47**	**255**	*e*P	Pb	17 20 47.7	0.0
FUSS				*e*S	Sb	17 20 53.9	-0.5
WHF	**Hehuan Shan**	**0.49**	**243**	*i* P	Pb	17 20 47.5	-0.6
WHF				S	Sb	17 20 55.1	-0.1
TWT	**Tachien**	**0.53**	**257**	*i* P	Pb	17 20 48.5	-0.2
TWT				*i* S	Sb	17 20 56.2	+0.2
TDCB	**Techi**	**0.55**	**257**	*e*P	Pb	17 20 48.8	-0.2
TDCB				*i* S	Sb	17 20 56.1	-0.4
TIPB	**Shuangxi**	**0.60**	**7**	*i* P	Pb	17 20 49.4	-0.3
TIPB				S	Sb	17 20 57.5	-0.2
NFF	**Wufeng Townshi**	**0.63**	**294**	*i* P	Pb	17 20 49.8	-0.4
NFF				S	Sb	17 20 59.1	+0.5
OWD	**Renai**	**0.67**	**231**	S	Sb	17 20 59.9	0.0
LIOB	**Emei**	**0.72**	**292**	P	Pb	17 20 51.4	-0.3
LIOB				S	Sb	17 21 00.8	-0.3
WHP	**Taichung City**	**0.74**	**263**	P	Pb	17 20 51.7	-0.3
WHP				S	Sb	17 21 02.4	+0.7
YM01	**YM01**	**0.79**	**348**	*e*P	Pn	17 20 53.2	-0.4
YM01				S	Sb	17 21 03.3	+0.2

IDC 17 18:03:28.6±2.3, 32°.21S×179°.45W, h0km, mb3.9/3, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=54.0km s-min=36.1km az=61.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.67**	**204**	Pn	Pn	18 05 07.1	-0.7
	0.9nm,0.3s,baz=50,slow=1.5,SNR=5.9						
URZ				Sn	Sn	18 06 20.6	-3.8
	0.3nm,0.3s,baz=74,slow=17,SNR=1.4						
	5.3nm,0.8s						
ASAR	**Alice Springs**	**41.82**	**270**	P	P	18 11 20.4	+0.1
	1.6nm,0.7s,baz=108,slow=7.5,SNR=12						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**42.97**	**275**	P	P	18 11 29.6	-0.2
	1.6nm,0.7s,baz=114,slow=7.9,SNR=7.0						
	1.6nm,0.7s						
QSPA	**South Pole Qui**	**57.91**	**180**	P	P	18 13 22.4	+0.1
	0.9nm,0.8s,baz=45,slow=15,SNR=1.5						
	0.9nm,0.8s						
H03N3	**Juan Fernandez**	**80.70**	**124**	T	T	19 45 11.7	
	baz=240						
H03N2	**Juan Fernandez**	**80.70**	**124**	T	T	19 44 53.9	
	baz=240						
H03N1	**Juan Fernandez**	**80.72**	**124**	T	T	19 44 49.2	
	baz=240						
FINES	**FINESS Array B**	**146.38**	**338**	PKPbc	PKPdf	18 23 09.8	+0.3
	1.1nm,0.8s,baz=62,slow=5.5,SNR=2.3						

*IDC **17** 18:35:16.7±4.4, 36°.43N×71°.44E, h119km±37km, mb3.7/14, mbtmp4.1/20, Error ellipse: s-maj=30.1km s-min=15.7km az=27.0*

*MOS **17** 18:35:19.2±1.0, 36°.58N×71°.32E, h149km, mb4.2/11, Error ellipse: s-maj=7.8km s-min=3.5km az=83.1*

*BJI **17** 18:35:19.4, 36°.65N×71°.34E, h136km, mB4.8/4, mb4.6/11*

*NEIC **17** 18:35:20.9±1.2, 36°.59N±0°.06×71°.29E±0°.09, h147km±6km, mb4.2/22, Error ellipse: s-maj=10.8km s-min=8.5km az=105.0*

*NNC **17** 18:35:24.2±3.3, 36°.93N×71°.19E, h183km±41km, mb3.6, mpv4.7, Error ellipse: s-maj=28.6km s-min=22.7km az=40.0*

ISC 17 18:35:20.0±0.5, 36°.60N±0°.04×71°.38E±0°.05, h150km, n209, σ2°.01/237, mb4.2/34, 16C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.54**	**341**		**Pn**	**18 36 02.5**	**+0.9**
GAR					**Sn**	**18 36 31.9**	**-1.9**
SIMJ	**Simiganj**	**2.79**	**318**		**Pn**	**18 36 04.9**	**+0.1**
SIMJ					**Sn**	**18 36 37.7**	**-1.7**
KBL	**Kabul**	**2.81**	**224**		**Pn**	**18 36 04.7**	**-0.4**
KBL	**Kabul**	**2.81**	**224**	PN	**Pn**	**18 36 04.7**	**-0.4**
DRK	**Karamyk**	**2.89**	**6**		**Pn**	**18 36 08.0**	**+1.8**
DRK					**Sn**	**18 36 41.0**	**-1.0**
DRK	**Karamyk**	**2.89**	**6**	PN	**Pn**	**18 36 08.0**	**+1.8**
DZET	**Dzherino**	**2.99**	**318**	PN	**Pn**	**18 36 07.7**	**+0.4**
NIL	**Nilore**	**3.32**	**152**		**Pn**	**18 36 13.2**	**+1.7**
NIL	**Nilore**	**3.32**	**152**	PN	**Pn**	**18 36 13.2**	**+1.7**
BTK	**Batken**	**3.48**	**353**		**Pn**	**18 36 14.9**	**+1.4**
BTK					**Sn**	**18 36 51.1**	**-3.9**
BTK	**Batken**	**3.48**	**353**	PN	**Pn**	**18 36 14.9**	**+1.4**
SRNI	**Srinagar**	**3.78**	**130**	*e*S	**Sn**	**18 37 03.0**	**+1.3**
SRNI				IAML		18 37 04.1	
	comp=N,572nm,0.2s						
SRNI				IAML		18 37 06.2	
	comp=E,675nm,0.2s						
OHH	**Osh**	**4.07**	**15**	PN	**Pn**	**18 36 23.4**	**+2.3**
KSH	**Kashi**	**4.64**	**50**	P	**Pn**	**18 36 26.0**	**-2.7**
KSH				S	**Sn**	**18 37 15.3**	**-7.0**
JMU	**Jammu**	**4.84**	**142**	*e*P	**Pn**	**18 36 29.7**	**-1.6**
JMU				*e*S	**Sn**	**18 37 22.9**	**-3.9**
JMU				IAML		18 37 28.0	
	comp=N,641nm,0.5s						
JMU				IAML		18 37 29.2	
	comp=E,445nm,0.5s						
ARSB	**Arslanbob**	**4.88**	**14**		**Pn**	**18 36 32.0**	**+0.3**
ARSB	**Arslanbob**	**4.88**	**14**	PN	**Pn**	**18 36 32.1**	**+0.3**
TRKS	**Terek-Say**	**4.92**	**358**	PN	**Pn**	**18 36 32.4**	**0.0**
ARK	**Arkit**	**5.21**	**5**	PN	**Pn**	**18 36 36.3**	**+0.1**
ARK				pmax	pmax		
	comp=Z,30nm,0.4s						
IUG	**Iuzhnay**	**5.63**	**350**	*e*PN	**Pn**	**18 36 42.3**	**+0.5**
IUG				*e*S	**Sn**	**18 37 47.1**	**+1.3**
IUG	**Iuzhnay**	**5.63**	**350**	*e*P	**Pn**	**18 36 42.4**	**+0.5**
IUG				*e*S	**Sn**	**18 37 47.1**	**+1.3**
ARLS	**Aral**	**5.72**	**23**	PN	**Pn**	**18 36 43.4**	**+0.3**
ARLS				pmax	pmax		
	comp=Z,53nm,0.4s						
AML	**Almayashu**	**5.80**	**17**	P	**Pn**	**18 36 45.1**	**+0.7**
SNR=168							
DHRM	**DHARAMSHALA**	**5.95**	**135**	*e*P	**Pn**	**18 36 46.4**	**+0.2**
DHRM				*e*S	**Sn**	**18 37 51.0**	**-2.5**
DHRM				IAML		18 37 52.6	
	comp=Z,327nm,0.5s						
DHRM				IAML		18 37 55.0	
	comp=N,83nm,0.6s						
UCH	**Uchtor**	**6.12**	**22**	P	**Pn**	**18 36 50.1**	**+1.6**
SNR=8.1							
DZA	**Taraz**	**6.28**	**360**	*e*PN	**Pn**	**18 36 51.1**	**+0.8**
DZA	**Taraz**	**6.28**	**360**	*e*P	**Pn**	**18 36 51.2**	**+0.8**
EKS2	**Erkin-Say**	**6.33**	**16**	P	**Pn**	**18 36 52.0**	**+0.9**
SNR=36							
AAK	**Ala-Archa**	**6.49**	**21**	P	**Pn**	**18 36 53.6**	**+0.4**
	comp=N,42nm,0.4s,baz=186,slow=5.8,SNR=90						
AAK				S	**Sn**	**18 38 04.1**	**-2.1**
	comp=N,33nm,0.5s,baz=337,slow=22,SNR=14						
AAK	**Ala-Archa**	**6.49**	**21**	P	**Pn**	**18 36 54.3**	**+1.1**
SNR=61							
AAK	**Ala-Archa**	**6.49**	**21**	⇑P	**Pn**	**18 36 54.1**	**+1.0**
	comp=N,25nm,0.4s						
AAK				⇑S	**Sn**	**18 38 07.4**	**+1.1**
	comp=N,55nm,0.6s						
AAK	**Ala-Archa**	**6.49**	**21**	*de*PN	**Pn**	**18 36 54.2**	**+1.0**
AAK				pmax	pmax		
	comp=Z,22nm,0.4s						
KK31	**Karatay Array**	**6.53**	**354**		**Pn**	**18 36 53.8**	**+0.2**
KK31	**Karatay Array**	**6.53**	**354**	⇑P	**Pn**	**18 36 54.1**	**+0.5**
	comp=Z,66nm,0.3s,baz=180,slow=13,SNR=866						
KK31				⇓S	**Sn**	**18 38 04.6**	**-2.4**
	comp=Z,22nm,0.5s,baz=181,slow=22,SNR=13						
KK31	**Karatay Array**	**6.53**	**354**	*e*PN	**Pn**	**18 36 54.1**	**+0.5**
KKAR	**Karatay Array**	**6.53**	**354**		**Pn**	**18 36 54.2**	**+0.6**
KKAR	**Karatay Array**	**6.53**	**354**	PN	**Pn**	**18 36 54.2**	**+0.6**
BRLS	**Borolday**	**6.53**	**350**	*e*PN	**Pn**	**18 36 50.8**	**-2.8**
BRLS	**Borolday**	**6.53**	**350**	*e*P	**Pn**	**18 36 50.8**	**-2.8**
BRLS				*e*S	**Sn**	**18 38 02.8**	**-4.3**
KBK	**Karagaybulak**	**6.64**	**23**	P	**Pn**	**18 36 56.3**	**+1.1**
SNR=31							
BHK	**Bhakra**	**6.65**	**140**	*e*P	**Pn**	**18 36 56.8**	**+1.4**
BHK				*e*S	**Sn**	**18 38 08.1**	**-2.0**
BHK				IAML		18 38 11.6	
	comp=N,135nm,0.4s						
BHK				IAML		18 38 12.7	
	comp=E,168nm,0.4s						
FRU1	**Bishkek**	**6.68**	**21**		**Pn**	**18 36 57.4**	**+1.6**
FRU1	**Bishkek**	**6.68**	**21**	PN	**Pn**	**18 36 57.4**	**+1.6**
ULHL	**Ulahol**	**6.77**	**32**	P	**Pn**	**18 36 58.2**	**+1.1**
SNR=9.3							
BOOM	**Boomskoye usch**	**6.85**	**30**		**Pn**	**18 36 58.6**	**+0.5**
BOOM	**Boomskoye usch**	**6.85**	**30**	PN	**Pn**	**18 36 58.6**	**+0.5**
CHMS	**Chumysh**	**6.89**	**21**	P	**Pn**	**18 36 59.5**	**+1.0**
SNR=21							
CHMS	**Chumysh**	**6.89**	**21**	⇑P	**Pn**	**18 36 58.9**	**+0.4**
	comp=E,16nm,0.4s						
CHMS				⇓S	**Sn**	**18 38 16.3**	**+0.5**
	comp=E,38nm,0.8s						
CHMS	**Chumysh**	**6.89**	**21**	PN	**Pn**	**18 36 58.9**	**+0.4**
USP	**Ospenovka**	**7.07**	**19**	P	**Pn**	**18 37 02.3**	**+1.4**
SNR=12							
TKM2	**Tokmak 2**	**7.09**	**26**	P	**Pn**	**18 37 02.3**	**+0.9**
SNR=14							
TKM2	**Tokmak 2**	**7.09**	**26**	⇓P	**Pn**	**18 37 01.8**	**+0.4**
	comp=E,12nm,0.5s						
TKM2				⇑S	**Sn**	**18 38 19.9**	**-1.0**
	comp=E,12nm,1.1s						
TKM2	**Tokmak 2**	**7.09**	**26**	*i* PN	**Pn**	**18 37 01.7**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,12nm,0.5s						
KDJ	**Kajisay**	**7.11**	**37**		**Pn**	**18 37 02.5**	**+0.9**
KDJ	**Kajisay**	**7.11**	**37**	PN	**Pn**	**18 37 02.5**	**+0.9**
SMLA	**Simla**	**7.28**	**137**	*e*P	**Pn**	**18 37 03.6**	**0.0**
SMLA				*e*S	**Sn**	**18 38 19.1**	**-5.9**
SMLA				IAML		18 38 23.7	
	comp=N,162nm,0.4s						
SMLA				IAML		18 38 25.7	
	comp=E,241nm,0.6s						
SGDS	**Sogindy**	**7.28**	**19**	*e*PN	**Pn**	**18 37 04.1**	**+0.4**
SGDS				*e*S	**Sn**	**18 38 26.9**	**+1.8**
SGDS	**Sogindy**	**7.28**	**19**	*e*P	**Pn**	**18 37 04.2**	**+0.5**
SGDS				*e*S	**Sn**	**18 38 26.9**	**+1.8**
KLP	**Kalpa**	**7.62**	**130**	*e*P	**Pn**	**18 37 07.6**	**-0.9**
KLP				*e*S	**Sn**	**18 38 28.0**	**-5.8**
KLP				IAML		18 38 32.5	
	comp=E,82nm,0.7s						
KLP				IAML		18 38 35.3	
	comp=N,82nm,0.9s						
WUS	**Wushi**	**7.64**	**51**		**Pn**	**18 37 09.9**	**+1.3**
TNSS	**Tian-Shan**	**7.72**	**32**	*e*PN	**Pn**	**18 37 10.1**	**+0.2**
TNSS	**Tian-Shan**	**7.72**	**32**	*e*P	**Pn**	**18 37 10.2**	**+0.2**
AAA	**Alma-Ata**	**7.84**	**31**	*e*PN	**Pn**	**18 37 11.9**	**+0.7**
AAA	**Alma-Ata**	**7.84**	**31**	*e*P	**Pn**	**18 37 11.9**	**+0.7**
MDOK	**Medeo**	**7.86**	**32**	*e*PN	**Pn**	**18 37 12.4**	**+0.8**
MDOK	**Medeo**	**7.86**	**32**	*e*P	**Pn**	**18 37 12.4**	**+0.8**
PRZ	**Przheval'sk**	**7.99**	**41**	Pn	**Pn**	**18 37 15.2**	**+1.9**
PRZ	**Przheval'sk**	**7.99**	**41**	PN	**Pn**	**18 37 15.2**	**+1.9**
DDI	**Dehra Dun**	**8.38**	**136**	*e*S	**Sn**	**18 38 43.8**	**-8.0**
SATY	**Saty**	**8.41**	**38**	*e*PN	**Pn**	**18 37 19.3**	**+0.5**
SATY	**Saty**	**8.41**	**38**	*e*P	**Pn**	**18 37 19.3**	**+0.5**
CHKK	**Chushkaly**	**8.41**	**29**	*e*PN	**Pn**	**18 37 19.4**	**+0.7**
CHKK	**Chushkaly**	**8.41**	**29**	*e*P	**Pn**	**18 37 19.4**	**+0.7**
ZHN	**Zhinishke**	**8.50**	**37**	*e*PN	**Pn**	**18 37 20.6**	**+0.5**
ZHN	**Zhinishke**	**8.50**	**37**	*e*P	**Pn**	**18 37 20.6**	**+0.5**
UZB	**Uzynbulak**	**8.78**	**40**	*e*PN	**Pn**	**18 37 24.4**	**+0.6**
UZB	**Uzynbulak**	**8.78**	**40**	*e*P	**Pn**	**18 37 24.4**	**+0.6**
SHLS	**Shalkode**	**9.02**	**41**	*e*P	**Pn**	**18 37 30.7**	**+3.8**
SHLS	**Shalkode**	**9.02**	**41**	*e*P	**Pn**	**18 37 30.8**	**+3.8**
JOSI	**Joshimath**	**9.10**	**129**	*e*P	**Pn**	**18 37 27.2**	**-1.0**
JOSI				*e*S	**Sn**	**18 39 01.6**	**-7.7**
JOSI				IAML		18 39 08.3	
	comp=N,68nm,0.5s						
JOSI				IAML		18 39 09.9	
	comp=E,86nm,0.6s						
KUDL	**Kundal**	**9.47**	**151**	*e*P	**Pn**	**18 37 30.9**	**-2.1**
KUDL				*e*S	Sn	18 39 07.8	-10
KUDL				IAML		18 39 13.9	
	comp=N,32nm,0.7s						
KUDL				IAML		18 39 14.1	
	comp=E,62nm,0.3s						
TDK	**Taldyqorghan**	**9.93**	**30**	*e*P	**Pn**	**18 37 39.8**	**+0.9**
TDK	**Taldyqorghan**	**9.93**	**30**	*e*P	**Pn**	**18 37 39.9**	**+0.9**
PTH	**Pithoragarh**	**10.21**	**131**	*e*P	**Pn**	**18 37 40.1**	**-2.9**
PTH				*e*S	Sn	18 39 24.5	-12
PTH				IAML		18 39 32.3	
	comp=E,24nm,0.3s						
PTH				IAML		18 39 32.9	
	comp=N,35nm,0.4s						
LGTI	**Lohaghat**	**10.30**	**131**	*e*P	**Pn**	**18 37 41.7**	**-2.2**
LGTI				*e*S	Sn	18 39 27.0	-11
LGTI				IAML		18 39 31.9	
	comp=E,30nm,0.8s						
LGTI				IAML		18 39 33.3	
	comp=N,53nm,0.5s						
MAKZ	**Makanchi**	**12.89**	**34**	P	**Pn**	**18 38 17.4**	**-0.3**
MAKZ	**Makanchi**	**12.89**	**34**	P	**Pn**	**18 38 17.4**	**-0.3**
MK31	**Makanchi Array**	**13.03**	**35**	Pn	**Pn**	**18 38 19.4**	**0.0**
MK31	**Makanchi Array**	**13.03**	**35**	*i* P	**Pn**	**18 38 20.4**	**+1.0**
MKAR	**Makanchi Array**	**13.03**	**35**	P	**Pn**	**18 38 18.8**	**-0.5**
MKAR	**Makanchi Array**	**13.03**	**35**	P	**Pn**	**18 38 19.8**	**+0.4**
	comp=N,1.6nm,0.6s,baz=218,slow=14,SNR=22						
MKAR				S	**Sn**	**18 40 38.3**	**-5.1**
	comp=N,0.2nm,0.5s,baz=215,slow=24,SNR=1.5						
MKAR	**Makanchi Array**	**13.03**	**35**	*i* P	**Pn**	**18 38 20.2**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRZS	**Berezniki**	**13.40**	**4**	*e*P	**Pn**	**18 38 24.7**	**+0.6**
BRZS	**Berezniki**	**13.40**	**4**	*e*P	**Pn**	**18 38 24.8**	**+0.6**
WMQ	**Urumqi**	**14.38**	**55**	*e*P	**P**	**18 38 40.3**	**+1.0**
ZSN	**Zaisan**	**14.73**	**38**	*e*P	**P**	**18 38 41.9**	**-1.2**
ZSN	**Zaisan**	**14.73**	**38**	*e*P	**P**	**18 38 41.9**	**-1.2**
KURBB	**Kurchatov Arra**	**14.93**	**18**	P	**Pn**	**18 38 42.5**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=204,slow=11,SNR=12						
KURK	**Kurchatov**	**15.04**	**18**	*ce*P	**P**	**18 38 46.3**	**0.0**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
AB31	**Akbulak array**	**15.14**	**330**	Pn	**Pn**	**18 38 45.1**	**-0.8**
AB31				IAmb	IAmb	18 38 48.1	
	comp=Z,6.5nm,0.5s						
AB31	**Akbulak array**	**15.14**	**330**	⇑P	**Pn**	**18 38 45.9**	**-0.1**
	comp=Z,3.2nm,0.5s,baz=144,slow=12,SNR=85						
AB31				⇑S	**Sn**	**18 41 24.7**	**-9.4**
	comp=Z,8.5nm,0.8s,baz=148,slow=22,SNR=11						
AB31	**Akbulak array**	**15.14**	**330**	*e*P	**Pn**	**18 38 45.9**	**-0.1**
ABKAR	**Akbulak array**	**15.14**	**330**	Pn	**Pn**	**18 38 45.5**	**-0.4**
ABKAR	**Akbulak array**	**15.14**	**330**	IAmb	IAmb	18 38 48.1	
	comp=Z,6.6nm,0.5s						
BVAR	**Borovoye Array**	**16.43**	**358**	P	**P**	**18 39 02.1**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=153,slow=12,SNR=16						
BVAR				S	**S**	**18 41 57.9**	**-6.3**
	comp=Z,1.5nm,0.5s,baz=161,slow=22,SNR=3.7						
BRVK	**Borovoye**	**16.47**	**358**		**Pn**	**18 39 03.2**	**+1.0**
BRVK	**Borovoye**	**16.47**	**358**	*ce*P	**Pn**	**18 39 04.1**	**+1.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.85**	**329**	P	**Pn**	**18 39 07.7**	**+0.9**
	comp=Z,12nm,0.7s,baz=133,slow=8.7,SNR=26						
AKTO				S	**S**	**18 42 06.8**	**-7.1**
	comp=Z,3.1nm,0.5s,baz=345,slow=16,SNR=5.2						
AKTO	**Aktyubinsk**	**16.85**	**329**	⇑P	**Pn**	**18 39 07.2**	**+0.4**
	comp=Z,8.8nm,0.8s						
AKTO				⇑S	**S**	**18 42 07.4**	**-6.5**
	comp=Z,4.9nm,0.8s						
ZAA0	**Zalesovo Array**	**19.69**	**24**	P	**Pn**	**18 39 38.6**	**-1.7**
ZAA0				IAmb	IAmb	18 39 40.2	
	comp=Z,6.1nm,0.7s						
ZALV	**Zalesovo Beam**	**19.69**	**24**	P	**Pn**	**18 39 38.6**	**-1.7**
ZALV	**Zalesovo Beam**	**19.69**	**24**	P	**Pn**	**18 39 39.2**	**-1.1**
	comp=Z,5.3nm,0.5s,baz=223,slow=11,SNR=33						
ZALV				S	**S**	**18 43 10.9**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=222,slow=21,SNR=4.3						
ZALV	**Zalesovo Beam**	**19.69**	**24**	*i* P	**Pn**	**18 39 39.2**	**-1.1**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARTI	**Arti**	**21.65**	**340**	P	**P**	**18 39 59.7**	**+1.5**
ARTI				IAmb	IAmb	18 40 03.2	
	comp=Z,6.2nm,0.8s						
ARTI	**Arti**	**21.65**	**340**	P	**P**	**18 39 58.9**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=110,slow=4.9,SNR=6.1						
	comp=Z,3.8nm,0.7s						
ARTI	**Arti**	**21.65**	**340**	*d* *i* P	**P**	**18 39 59.8**	**+1.5**
ARTI						18 40 36.4	
ARTI				S	**S**	**18 43 52.2**	**+4.2**
ARTI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBZ	**Khabaz**	**22.83**	**297**	P	**P**	**18 40 09.7**	**-0.2**
	comp=Z,4.9nm,1.2s,baz=79,slow=22,SNR=3.5						
	comp=Z,4.9nm,1.2s						
KBZ	**Khabaz**	**22.83**	**297**	*i* P	**P**	**18 40 10.4**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KIV	**Kislovodsk**	**23.01**	**297**	*e*P	**P**	**18 40 12.1**	**+0.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
RAYN	**Ar Rayn**	**25.82**	**247**	P	**P**	**18 40 36.7**	**-0.7**
PZH	**PanZhiHua**	**27.66**	**103**	P	**P**	**18 40 56.3**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
OBN	**Obninsk**	**30.06**	**319**	*e*P	**P**	**18 41 15.9**	**+1.2**
OBN				*e**PP	**pP**	**18 41 48.8**	**+1.7**
OBN				*e*		18 42 17.7	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
**

comp=Z,4.3nm,1.4s
KTK1 Kautokeino 41.65 336 *e*P **P 18 42 54.1 +1.0**
TIP Timpagrande 42.64 291 P **P 18 43 01.2 -0.4**
JETT Jettan, Norway 42.79 336 *e*P **P 18 43 04.8 +2.6**
BRG Berggiesshubel 42.80 308 *i* P **P 18 43 04.8 +2.2**
BRG Amp 18 43 05.5
comp=Z,4.5nm,0.7s
GERES GERESS Array B 43.12 305 P **P 18 43 06.4 +1.0**
comp=Z,0.4nm,0.6s,baz=82,slow=7.7,SNR=2.6
comp=Z,0.4nm,0.6s
HFS Hagfors 43.18 322 P **P 18 43 06.8 +1.3**
comp=Z,7.0nm,0.5s,baz=98,slow=11,SNR=57
comp=Z,7.0nm,0.5s
TRO Tromso 43.30 336 *e*P **P 18 43 08.2 +1.9**
FAUS Fauske 43.85 332 *e*P **P 18 43 12.6 +1.8**
MOR8 Moi Rana 43.88 331 *e*P **P 18 43 11.9 +0.9**
STEI Steigen 44.02 333 *e*P **P 18 43 14.0 +1.9**
NC405 NORSAR Array S 44.25 323 P **P 18 43 15.1 +1.0**
NC405 IAmb IAmb 18 43 16.0
comp=Z,9.5nm,1.1s
NC602 NORSAR Array S 44.30 323 P **P 18 43 14.9 +0.5**
NC602 IAmb IAmb 18 43 19.5
comp=Z,8.1nm,1.2s
NC602 NORSAR Array S 44.30 323 *e*P **P 18 43 15.4 +1.0**
NORES NORESS Array B 44.30 323 P **P 18 43 15.3 +0.9**
LEIR Leirfjorden 44.39 330 *e*P **P 18 43 16.6 +1.6**
NC303 NORSAR Array S 44.43 323 P **P 18 43 16.3 +0.9**
NB201 NORSAR Array S 44.45 323 P **P 18 43 16.4 +0.7**
VAGH Vaagaholmen 44.46 331 *e*P **P 18 43 17.5 +1.9**
KONS Konsvik 44.47 331 *e*P **P 18 43 17.5 +1.8**
STOK Stokkvaagen 44.48 331 *e*P **P 18 43 17.1 +1.4**
NB2 NORSAR Subarra 44.48 323 P **P 18 43 16.9 +0.9**
comp=Z,2.4nm,0.5s,baz=93,slow=7.9
NB2 NORSAR Subarra 44.48 323 P **P 18 43 14.3 -1.7**
NB2 NORSAR Subarra 44.48 323 P **P 18 43 16.9 +0.9**
baz=93,slow=7.9
NOA NORSAR Array B 44.48 323 P **P 18 43 16.9 +0.9**
comp=Z,4.0nm,0.6s,baz=96,slow=7.7,SNR=33
comp=Z,4.0nm,0.6s
LOF Lofoten 44.69 333 *e*P **P 18 43 19.1 +1.7**
NBO00 NORSAR Array S 44.70 323 P **P 18 43 18.5 +0.9**
NC204 NORSAR Array S 44.72 323 P **P 18 43 18.8 +0.9**
KONO Kongsberg 45.20 321 P **P 18 43 22.6 +1.0**
KONO Kongsberg 45.20 321 P **P 18 43 22.6 +1.0**
KONO pmax pmax
comp=Z,12nm,1.1s
KONO Kongsberg 45.20 321 *e*P **P 18 43 23.0 +1.4**
SPITS Spitsbergen Ar 47.46 347 P **P 18 43 40.4 +1.4**
comp=Z,7.0nm,0.9s,baz=169,slow=9.3,SNR=1.4
comp=Z,7.0nm,0.9s
SENIN Lac Senin/Sane 47.79 303 P **P 18 43 43.5 +1.3**
KBS Kingsbay 48.58 347 *ce*P **P 18 43 48.5 +1.0**
KBS pmax pmax
comp=Z,28nm,1.3s
KBS Kingsbay 48.58 347 *e*P **P 18 43 49.4 +1.9**
EKA Eskdalemuir Ar 52.43 316 P **P 18 44 17.3 +0.6**
comp=Z,0.5nm,0.5s,baz=96,slow=8.5,SNR=4.7
comp=Z,0.5nm,0.5s
BILL Bilibino 58.38 26 *i* P **P 18 45 00.4 +1.4**
BILL pmax pmax
comp=Z,1.0nm,0.9s
L18K Granite Mounta 74.18 21 P **P 18 46 41.6 +1.9**
L18K IAmb IAmb 18 47 24.6
comp=Z,9.7nm,1.5s
F31M Tsiigehtchic 74.54 10 P **P 18 46 43.4 +1.7**
KTH Kantishna Hill 74.67 18 P **P 18 46 43.7 +1.1**
KTH IAmb IAmb 18 46 55.8
comp=Z,10nm,1.4s
G31M Satah River 74.95 10 **P 18 46 45.0 +1.0**
G31M IAmb IAmb 18 47 01.7
comp=Z,7.0nm,1.4s
H29M Whitestone 74.97 12 **P 18 46 45.8 +1.6**
H29M IAmb IAmb 18 47 14.4
comp=Z,5.9nm,1.5s
SCRK Sand Creek 75.92 15 P **P 18 46 51.1 +1.4**
BCAR Beaver Creek A 77.18 15 P **P 18 46 58.2 +1.3**
BLKN Baker Lake 78.92 354 P **P 18 47 07.8 +1.5**
YKA Yellowknife Ar 81.13 3 P **P 18 47 19.4 +1.3**
comp=Z,0.9nm,0.7s,baz=355,slow=6.5,SNR=7.5
comp=Z,0.9nm,0.7s
WRA Warramunga Arr 81.78 122 P **P 18 47 21.2 -1.0**
comp=Z,0.4nm,0.9s,baz=325,slow=4.9,SNR=5.4
comp=Z,0.4nm,0.9s
ASAR Alice Springs 84.06 125 P **P 18 47 33.4 -0.5**
comp=Z,0.4nm,0.6s,baz=308,slow=5.0,SNR=10
comp=Z,0.4nm,0.6s
QSPA South Pole Qui 126.40 180 PKP **PKiKP 18 54 04.3 -0.1**
comp=Z,1.7nm,1.0s,baz=288,slow=2.3,SNR=6.7

TXNET 17 18:55:03.1, 31°.6N±0°.7×104°.2W±0°.7, h5km±3km, ML2.1/6, Error ellipse: s-maj=1.2km s-min=0.9km az=41.8, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.36**	**28**	P	Pg	18 55 09.9	-0.1
TPB11				S	Sg	18 55 14.7	0.0
PECS	**Pecos**	**0.40**	**129**	P	Pg	18 55 10.9	+0.2
PECS				S	Sg	18 55 16.1	+0.1
PECS	**Pecos**	**0.40**	**129**	P	Pg	18 55 11.0	+0.2
TPB12	**Southwest of T**	**0.47**	**150**	P	Pg	18 55 11.9	-0.2
TPB07	**Mentone**	**0.48**	**95**	S	Sg	18 55 19.0	+0.4
TPB10	**Southeast of T**	**0.53**	**129**	P	Pg	18 55 13.4	+0.2
TPB10				S	Sg	18 55 20.6	+0.6
GDL2	**Guadalupe Moun**	**0.59**	**349**	P	Pg	18 55 14.7	+0.3
PCOS	**Crockett Middl**	**0.65**	**109**	S	Sg	18 55 24.7	+0.7
PCOS	**Crockett Middl**	**0.65**	**109**	S	Sg	18 55 24.5	+0.5
TPB03	**Saragosa**	**0.81**	**131**	S	Sg	18 55 29.3	+0.1
MNTX	**Cornudas Mount**	**0.98**	**275**	P	Pg	18 55 22.2	+0.2
MNTX				S	Sb	18 55 35.5	-0.4
MNTX	**Cornudas Mount**	**0.98**	**275**	P	Pn	18 55 24.0	+0.4
TPB05	**Hovey Rd**	**1.04**	**132**	P	Pg	18 55 22.7	-0.4
TPB05				S	Sg	18 55 36.4	-0.2
VHRN	**Van Horn**	**1.05**	**218**	P	Pg	18 55 23.1	-0.1
VHRN				S	Sb	18 55 37.7	-0.2
VHRN	**Van Horn**	**1.05**	**218**	P	Pg	18 55 23.3	0.0
MNHN	**Monahans**	**1.29**	**102**	P	Pg	18 55 26.6	-1.1
MNHN				S	Sg	18 55 43.6	-0.8
MNHN	**Monahans**	**1.29**	**102**	P	Pg	18 55 26.8	-0.9
ALPN	**Alpine**	**1.34**	**158**	P	Pn	18 55 27.2	-1.4
ALPN	**Alpine**	**1.34**	**158**	P	Pn	18 55 27.4	-1.2
CPRX	**Cap Rock**	**1.44**	**12**	P	Pn	18 55 30.1	+0.1
ODSA	**Odessa**	**1.52**	**70**	P	Pn	18 55 31.2	+0.3
ODSA				S	Sn	18 55 50.4	-0.7
TMB02	**Rankin**	**1.92**	**102**	S	Sn	18 56 01.9	+0.8
TX31	**Lajitas Ar. Si**	**2.33**	**168**	Pg	Pb	18 55 44.9	-0.7

DJA 17 19:02:34.4±0.9, 2°.5S±3°.3×12°.3E±°, h34km±15km, M3.7/13, mb3.8/4, MLv3.7/13, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.86**	**7**	P	Pn	19 02 48.9	-1.2
APSI	**Ampana**	**1.41**	**314**	P	Pn	19 02 56.8	-0.9
KMSI	**Cibinong**	**2.79**	**28**	P	Pn	19 03 17.4	+0.7
PCI	**Palu**	**2.99**	**289**	P	Pn	19 03 20.4	+0.9
SANI	**Sanana**	**3.33**	**93**	P	Pn	19 03 23.5	-0.6
SANI				S	Sn	19 04 02.9	+0.4
SPSI	**Sidrap Palu**	**3.54**	**235**	P	Pn	19 03 28.2	+1.2
SPSI				S	Sn	19 04 09.5	+1.8
MPSI	**Mapaga**	**3.54**	**309**	P	Pn	19 03 27.0	-0.1
BNSI	**Bone**	**3.56**	**226**	P	Pn	19 03 27.9	+0.6
BNSI				S	Sn	19 04 08.9	+0.7
BBSI	**Bau Bau**	**3.56**	**181**	P	Pn	19 03 25.6	-1.8
BKSI	**Bulukumba**	**4.24**	**217**	P	Pn	19 03 37.4	+0.8
BSSI	**Bau Bau, Buton**	**4.74**	**207**	P	Pn	19 03 44.1	+0.6
EDFI	**Ende, Flores**	**6.87**	**188**	P	Pn	19 04 12.4	-0.5
	0.0nm10nm,1.2s						

---

*IDC **17** 19:03:29.5±1.0, 9°.46S×151°.13E, h0km, mb4.0/9, mbtmp4.0/11, ML3.7/1, MS3.5/31, Error ellipse: s-maj=27.7km s-min=21.7km az=111.0*
*NEIC **17** 19:03:33.4±1.4, 9°.55S±0°.1×150°.9E±0°.1, h10km±2km, mb4.0/7, Error ellipse: s-maj=23.5km s-min=15.8km az=141.0*
ISC 17 19:03:31.6±0.7, 9°.53S±0°.09×151°.13E±0°.09, h13km, n49, σ1§04/25, mb4.0/10, MS3.6/27, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.92**	**271**		**Pn**	**19 04 30.3**	**-1.1**
PMG	**Port Moresby**	**3.92**	**271**	Pn	**Pn**	**19 04 30.9**	**-0.5**
	6.8nm,0.4s,baz=110,slow=6.0,SNR=13						
PMG				Sn	**Sn**	**19 05 20.0**	**+2.7**
	2.1nm,0.3s,baz=87,slow=3.3,SNR=4.9						
PMG				LR	LR	19 06 22.1	
	comp=Z,711nm,18.4s,baz=87,slow=44						
RABL	**Rabaul**	**5.40**	**11**	Pn	**Pn**	**19 04 52.7**	**+0.8**
HNR	**Honiara**	**8.70**	**90**	LR	LR	19 08 27.8	
	comp=Z,170nm,19.4s,baz=120,slow=34						
COEN	**Coen**	**8.95**	**240**	Pn	**Pn**	**19 05 38.4**	**-2.2**
JAY	**Jayapura**	**12.48**	**303**	LR	LR	19 11 58.7	
	comp=Z,711nm,22.0s,baz=226,slow=41						
EIDS	**Eidsvold**	**15.76**	**180**	Pn	**Pn**	**19 07 15.2**	**+1.9**
EIDS				IAmb	IAmb	19 07 33.1	
	comp=Z,20nm,1.2s						
WB0	**Warramunga Arr**	**19.11**	**236**		**Pn**	**19 07 55.3**	**+0.1**
WB0				IAmb	IAmb	19 07 56.8	
	comp=Z,8.1nm,1.0s						
WR8	**Warramunga Arr**	**19.11**	**235**	P	**P**	**19 07 55.0**	**+0.6**
WR8				IAmb	IAmb	19 07 56.9	
	comp=Z,9.2nm,1.0s						
WRA	**Warramunga Arr**	**19.24**	**236**	P	**P**	**19 07 56.6**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=62,slow=10,SNR=18						
	comp=Z,5.7nm,0.8s						
DZM	**Mont Dzumac**	**19.28**	**132**	LR	LR	19 14 05.1	
	comp=Z,294nm,19.8s,baz=308,slow=33						
FAKI	**Fak Fak**	**19.87**	**288**	P	**P**	**19 08 02.9**	**+0.2**
FAKI				IAmb	IAmb	19 08 19.8	
	comp=Z,17nm,1.1s						
MTN	**Manton Dam**	**19.89**	**259**		**P**	**19 08 02.9**	**0.0**
AS31	**Alice Springs**	**21.65**	**227**		**P**	**19 08 22.4**	**+0.4**
AS31				IAmb	IAmb	19 08 25.5	
	comp=Z,2.8nm,0.6s						
ASAR	**Alice Springs**	**21.65**	**227**	P	**P**	**19 08 22.6**	**+0.7**
ASAR	**Alice Springs**	**21.65**	**227**	P	**P**	**19 08 22.8**	**+0.8**
	comp=Z,7.6nm,0.7s,baz=61,slow=8.6,SNR=79						
ASAR				LR	LR	19 15 50.4	
	comp=Z,178nm,18.8s,baz=70,slow=34						
	comp=Z,7.6nm,0.7s						
GUMO	**Guam**	**23.79**	**345**	LR	LR	19 16 10.4	
	comp=Z,103nm,20.7s,baz=146,slow=32						
STKA	**Stephens Creek**	**23.93**	**200**	P	**P**	**19 08 45.3**	**-0.2**
	comp=Z,4.9nm,1.0s,baz=49,slow=11,SNR=3.4						
STKA				LR	LR	19 18 29.1	
	comp=Z,211nm,18.1s,baz=17,slow=38						
	comp=Z,4.9nm,1.0s						
FITZ	**Fitzroy Crossi**	**26.15**	**248**	P	**P**	**19 09 05.7**	**-0.1**
MSVF	**Nonsavu**	**27.38**	**110**	LR	LR	19 18 58.8	
	comp=Z,62nm,18.9s,baz=269,slow=34						
KAPI	**Kappang**	**31.43**	**276**	LR	LR	19 25 36.3	
	comp=Z,109nm,18.3s,baz=95,slow=42						
URZ	**Urewera**	**36.93**	**145**	LR	LR	19 24 27.0	
	comp=Z,119nm,18.1s,baz=37,slow=34						
NWAO	**Narrogin (SRO)**	**38.96**	**228**	LR	LR	19 27 07.1	
	comp=Z,161nm,18.1s,baz=324,slow=36						
JOW	**Kunigami**	**42.41**	**329**	LR	LR	19 27 14.6	
	comp=Z,79nm,19.2s,baz=152,slow=34						
JHJ	**Hachijo jima 2**	**43.76**	**346**	LR	LR	19 29 55.2	
	comp=Z,39nm,18.8s,baz=129,slow=36						
JNU	**Nakatsue**	**46.59**	**336**	LR	LR	19 29 48.8	
	comp=Z,57nm,18.7s,baz=148,slow=34						
MJAR	**Matsushiro Arr**	**47.41**	**346**	LR	LR	19 31 08.0	
	comp=Z,39nm,18.6s,baz=148,slow=35						
KSRS	**Korea Array**	**51.54**	**336**	LR	LR	19 32 21.5	
	comp=Z,34nm,21.5s,baz=150,slow=34						
ASAJ	**Asahikawa**	**53.95**	**352**	LR	LR	19 35 03.9	
	comp=Z,39nm,20.2s,baz=168,slow=35						
USRK	**Ussuriysk Ar.**	**56.22**	**344**	LR	LR	19 34 39.6	
	comp=Z,42nm,19.2s,baz=156,slow=33						
CMAR	**Chiang Mai Arr**	**58.51**	**298**	P	**P**	**19 13 26.7**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=132,slow=5.4,SNR=9.1						
	comp=Z,0.9nm,0.8s						
KLR	**Kul'dur**	**60.93**	**346**	LR	LR	19 37 54.9	
	comp=Z,22nm,19.8s,baz=128,slow=34						
PETK	**Petropavlovsk-**	**62.64**	**4**	LR	LR	19 35 17.8	
	comp=Z,51nm,21.6s,baz=161,slow=30						
SHEM	**Shemya Is, Ala**	**65.05**	**15**	LR	LR	19 38 29.4	
	comp=Z,53nm,20.1s,baz=287,slow=32						
VNDA	**Vanda**	**68.20**	**178**	LR	LR	19 40 08.7	
	comp=Z,40nm,20.3s,baz=315,slow=32						
MA2	**Magadan**	**68.87**	**360**	LR	LR	19 40 18.6	
	comp=Z,38nm,21.8s,baz=200,slow=32						
SONM	**Songino Array**	**69.47**	**330**	P	**P**	**19 14 40.1**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=144,slow=6.0,SNR=4.6						
SONM				LR	LR	19 45 12.3	
	comp=Z,33nm,19.8s,baz=248,slow=36						
	comp=Z,0.7nm,0.8s						
SEY	**Seymchan**	**72.25**	**1**	LR	LR	19 42 51.6	
	comp=Z,35nm,20.5s,baz=144,slow=33						
YAK	**Yakutsk**	**73.27**	**350**	LR	LR	19 45 01.7	
	comp=Z,15nm,21.9s,baz=263,slow=34						
QSPA	**South Pole Qui**	**80.47**	**180**	P	**P**	**19 15 43.0**	**-0.1**
	comp=Z,2.5nm,1.1s,baz=338,slow=4.6,SNR=3.5						
	comp=Z,2.5nm,1.1s						
KDAK	**Kodiak Island**	**81.11**	**27**	LR	LR	19 45 29.4	
	comp=Z,36nm,21.2s,baz=81,slow=31						
MKAR	**Makanchi Array**	**82.81**	**320**	P	**P**	**19 15 56.1**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=105,slow=6.5,SNR=6.3						
	comp=Z,1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**84.16**	**327**	P	**P**	**19 16 01.6**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=131,slow=6.8,SNR=4.0						
ZALV				LR	LR	19 53 32.0	
	comp=Z,21nm,19.4s,baz=66,slow=36						
	comp=Z,0.5nm,0.4s						
ILAR	**Eielson Array**	**87.13**	**22**	P	**P**	**19 16 16.8**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=250,slow=5.7,SNR=7.4						
ILAR				LR	LR	19 49 10.7	
	comp=Z,26nm,19.9s,baz=164,slow=32						
	comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**92.01**	**323**	P	**P**	**19 16 39.6**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=106,slow=4.8,SNR=2.6						
	comp=Z,0.5nm,0.7s						
YBH	**Yreka Blue Hor**	**93.42**	**48**	LR	LR	19 49 53.3	
	comp=Z,39nm,21.9s,baz=286,slow=30						
NEW	**Newport**	**98.19**	**42**	LR	LR	19 55 21.3	
	comp=Z,50nm,18.9s,baz=184,slow=32						
BDFB	**Brasilia**	**148.62**	**143**	PKPbc	**PKPbc**	**19 23 20.1**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=225,slow=25,SNR=2.1						
TORD	**Torodi Ar. Bea**	**149.82**	**280**	PKPbc	**PKiKP**	**19 23 23.1**	**-0.4**
	comp=Z,41nm,0.3s,baz=86,slow=3.0,SNR=1.5						

---

*DJA **17** 19:05:44.9±1.0, 2°.N±4°.×12°.6E±°, h28km±18km, M3.0/5, MLv3.0/5*
IDC 17 19:05:38.7±2.6, 2°.34N×127°.40E, h0km, mb3.1/3, mbtmp3.1/3, MS2.8/1, Error ellipse: s-maj=205.7km s-min=28.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.56**	**181**	P	Pn	19 06 08.0	+0.3
TGY	**Tagaytay City**	**13.32**	**332**	LR	LR	19 13 50.2	
	comp=Z,39nm,21.2s,baz=33,slow=37						
WRA	**Warramunga Arr**	**23.17**	**163**	P	P	19 10 46.3	-0.9
	0.3nm,0.5s,baz=341,slow=10.0,SNR=4.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**26.61**	**167**	P	P	19 11 18.7	-0.5
	0.3nm,0.8s,baz=346,slow=11,SNR=4.5						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**59.07**	**325**	P	P	19 15 41.9	+1.0
	0.2nm,0.6s,baz=127,slow=6.0,SNR=2.3						
	0.2nm,0.6s						

---

*IDC **17** 19:27:41.8±1.1, 37°.76N×20°.73E, h0km, mb3.7/9, mbtmp3.6/20, ML3.4/8, MS3.1/11, Error ellipse: s-maj=18.4km s-min=13.3km az=35.0*
*BEO **17** 19:27:43.5±0.7, 37°.59N×20°.43E, h12km±5km, ML3.7/12*
*THE **17** 19:27:43.6, 37°.63N×20°.68E, h11km, ML3.7/6, Error ellipse: s-maj=0.9km s-min=0.3km az=40.0*
*ATH **17** 19:27:44.0, 37°.65N×20°.65E, h9km±1km, ML3.8/42, Manual Solution by M.Charalampakis First location: 2019/04/17 19:28:00, This location: 2019/04/17 22:27:48 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
*NAO **17** 19:27:51.6, 37°.75N×20°.72E, h10km, mb3.8*
ISC 17 19:27:43.1±0.9, 37°.62N±0°.03×20°.65E±0°.03, h17km±5km, n171, σ1§50/216, mb3.6/9, MS3.1/6, 12C-5D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.18**	**59**	P	**Pg**	**19 27 47.0**	**-0.5**
LTHK				S	**Sg**	**19 27 49.5**	**-1.0**
	121μm,0.2s						
LTHK	**Lithakia**	**0.18**	**59**	P	**Pg**	**19 27 47.2**	**-0.3**
LTHK				S	**Sg**	**19 27 49.6**	**-0.8**
ORTH	**Orthonies,Zaky**	**0.23**	**10**	P	**Pb**	**19 27 48.7**	**-0.2**
ORTH				S	**Sg**	**19 27 51.8**	**-0.3**
KYPS	**Kipseli, Zakin**	**0.24**	**35**	P	**Pb**	**19 27 48.9**	**-0.1**
KYPS				S	**Sg**	**19 27 52.3**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.47**	**12**	P	**Pg**	**19 27 52.3**	**-0.2**
RTZL				S	**Sb**	**19 27 59.1**	**-0.4**
	13μm,0.6s						
CLEM	**Kyllini,Ilia,G**	**0.47**	**55**	P	**Pg**	**19 27 52.6**	**+0.1**
CLEM				S	**Sb**	**19 27 59.4**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.50**	**354**	P	**Pg**	**19 27 53.0**	**+0.1**
PSDA				S	**Sb**	**19 28 00.2**	**-0.2**
	12μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.50**	**354**	P	**Pg**	**19 27 53.1**	**+0.1**
PSDA				S	**Sb**	**19 28 00.4**	**+0.1**
VLS	**Valsamata**	**0.56**	**356**	P	**Pg**	**19 27 54.1**	**-0.1**
VLS				S	**Sb**	**19 28 02.2**	**0.0**
	11μm,0.5s						
VLS	**Valsamata**	**0.56**	**356**	P	**Pg**	**19 27 54.0**	**-0.2**
VLS				S	**Sb**	**19 28 02.3**	**+0.1**
LCHA	**Lechaina**	**0.58**	**57**	P	**Pb**	**19 27 54.9**	**0.0**
LCHA				S	**Sb**	**19 28 03.5**	**+0.6**
SMHA	**Samh**	**0.63**	**0**	P	**Pg**	**19 27 54.4**	**-1.1**
SMHA				S	**Sg**	**19 28 02.7**	**-1.2**
DMLN	**Damoulianata-K**	**0.65**	**341**	P	**Pg**	**19 27 56.0**	**0.0**
DMLN	**Damoulianata-K**	**0.65**	**341**	P	**Pg**	**19 27 55.9**	**0.0**
DMLN				S	**Sb**	**19 28 05.6**	**+0.7**
YRMI	**Loutra Irminis**	**0.74**	**49**	P	**Pg**	**19 27 56.9**	**-0.5**
YRMI				S	**Sb**	**19 28 07.1**	**-0.2**
RLS	**Riolos of Patr**	**0.78**	**56**	P	**Pg**	**19 27 57.8**	**-0.6**
RLS				S	**Sb**	**19 28 08.7**	**+0.1**
	6μm,0.6s						
RLS	**Riolos of Patr**	**0.78**	**56**	P	**Pg**	**19 27 57.8**	**-0.6**
RLS				S	**Sb**	**19 28 08.5**	**-0.1**
VSK1	**VASILIKIADES**	**0.79**	**355**	P	**Pg**	**19 27 58.2**	**-0.3**
ZARO	**Zacharo**	**0.81**	**99**	P	**Pb**	**19 27 59.2**	**+0.6**
ZARO				S	**Sn**	**19 28 11.7**	**+0.3**
AXS	**Araxos**	**0.82**	**45**	P	**Pg**	**19 27 58.3**	**-0.6**
AXS				S	**Sg**	**19 28 08.8**	**-0.9**
FSK	**Fiskardo**	**0.84**	**356**	P	**Pg**	**19 27 58.8**	**-0.6**
FSK				S	**Sb**	**19 28 11.4**	**+1.1**
	6μm,0.6s						
FSK	**Fiskardo**	**0.84**	**356**	P	**Pg**	**19 27 58.8**	**-0.6**
FSK				S	**Sb**	**19 28 11.2**	**+0.9**
AMT	**Artemida-Makis**	**0.85**	**96**	P	**Pg**	**19 27 59.2**	**-0.4**
AMT				S	**Sn**	**19 28 12.8**	**+0.3**
DRO	**Drossia**	**0.91**	**68**	P	**Pg**	**19 28 00.1**	**-0.6**
DRO	**Drossia**	**0.91**	**68**	P	**Pg**	**19 28 00.1**	**-0.6**
DRO				S	**Sn**	**19 28 13.6**	**-0.2**
EVGI	**Lefkada island**	**1.00**	**0**	P	**Pg**	**19 28 01.8**	**-0.6**
EVGI	**Lefkada island**	**1.00**	**0**	P	**Pg**	**19 28 01.7**	**-0.8**
EVGI				S	**Sn**	**19 28 16.4**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.09**	**2**	P	**Pb**	**19 28 03.2**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.09**	**2**	P	**Pb**	**19 28 03.1**	**-0.5**
NYDR				S	**Sg**	**19 28 18.2**	**-0.3**
PATC	**Patra C**	**1.09**	**53**	P	**Pg**	**19 28 04.0**	**-0.2**
ITM	**Ithomi**	**1.11**	**113**	P	**Pb**	**19 28 03.7**	**-0.1**
ITM	**Ithomi**	**1.11**	**113**	P	**Pb**	**19 28 03.8**	**-0.1**
UPR	**University Cam**	**1.12**	**53**	P	**Pn**	**19 28 04.7**	**+0.7**
MTHA	**Methoni**	**1.16**	**133**	P	**Pb**	**19 28 05.4**	**+0.7**
LKD2	**Lefkada island**	**1.17**	**0**	P	**Pb**	**19 28 04.8**	**-0.1**
TSLK	**Tsoukalades, L**	**1.20**	**0**	P	**Pb**	**19 28 05.4**	**0.0**
TSLK	**Tsoukalades, L**	**1.20**	**0**	P	**Pb**	**19 28 05.4**	**0.0**
PVO	**Paravola**	**1.21**	**35**	P	**Pb**	**19 28 05.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.27**	**70**	P	**Pn**	**19 28 06.0**	**-0.1**
KLV	**Kalavryta, Ach**	**1.27**	**70**	P	**Pn**	**19 28 05.9**	**-0.1**
EFP	**Efpalio**	**1.28**	**51**	P	**Pn**	**19 28 06.1**	**-0.1**
EFP	**Efpalio**	**1.28**	**51**	P	**Pn**	**19 28 06.3**	**0.0**
SERG	**Sergoula**	**1.37**	**54**	P	**Pn**	**19 28 07.7**	**+0.2**
GUR	**Goura**	**1.38**	**76**	P	**Pn**	**19 28 08.1**	**+0.4**
ANX	**Ano Chora**	**1.40**	**46**	P	**Pn**	**19 28 08.5**	**+0.5**
VLX	**Vlachokerasia**	**1.40**	**100**	P	**Pn**	**19 28 08.5**	**+0.5**
EVR	**Evrytania**	**1.59**	**35**	P	**Pb**	**19 28 12.7**	**+0.6**
DLFA	**Delphi**	**1.69**	**59**	P	**Pn**	**19 28 13.1**	**+1.1**
TETR	**Tetrakomo, Epi**	**1.79**	**16**	P	**Pb**	**19 28 15.3**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.82**	**40**	P	**Pb**	**19 28 16.2**	**+0.3**
LTK	**Loutraki**	**1.88**	**77**	P	**Pb**	**19 28 16.9**	**-0.1**
IGT	**Igoumenitsa**	**1.93**	**353**	*e*Pn	**Pn**	**19 28 16.5**	**+1.4**
IGT				*e*Sn	**Sn**	**19 28 39.3**	**+0.3**
IGT	**Igoumenitsa**	**1.93**	**353**	P	**Pn**	**19 28 16.5**	**+1.4**
AGG	**Agios Georgios**	**1.93**	**43**	P	**Pb**	**19 28 17.7**	**-0.1**
AXAR	**Agios Charalam**	**1.96**	**54**	P	**Pb**	**19 28 17.9**	**-0.4**
JAN	**Janina**	**2.04**	**4**	P	**Pb**	**19 28 20.4**	**+0.6**
VLI	**Veliai**	**2.04**	**115**	P	**Pb**	**19 28 19.6**	**-0.1**
LKR	**Lokris**	**2.12**	**60**	P	**Pb**	**19 28 20.5**	**-0.6**
MET5	**Makryloggos,Me**	**2.15**	**89**	P	**Pb**	**19 28 21.0**	**-0.6**
VIL2	**Platees**	**2.16**	**73**	P	**Pb**	**19 28 20.8**	**-0.9**
MET4	**Agioi Theodoro**	**2.19**	**89**	P	**Pb**	**19 28 21.0**	**-1.2**
KEK	**Kerkira**	**2.19**	**343**	P	**Pb**	**19 28 21.1**	**+2.3**
THL	**Klokotos Trika**	**2.22**	**29**	P	**Pb**	**19 28 21.9**	**-0.8**
TYRN	**Tyrnavos**	**2.43**	**30**	P	**Pn**	**19 28 24.4**	**+2.4**
VLY	**Voula,Athens**	**2.51**	**84**	P	**Pn**	**19 28 24.9**	**+1.8**

ZAPS	**Zavoj**	**5.85**	**14**	*e*Pn	**Pn**	**19 29 10.1**	**+1.1**
IVAS	**Ivanjica**	**5.96**	**357**	*e*Pn	**Pn**	**19 29 09.8**	**-0.8**
BOVS	**Bovan**	**6.06**	**7**	⇑P	**Pn**	**19 29 13.2**	**+1.3**
RUDO	**Rudo**	**6.07**	**351**	*e*Pn	**Pn**	**19 29 13.6**	**+1.5**
GRUS	**Gruza**	**6.26**	**0**	*e*Pn	**Pn**	**19 29 15.3**	**+0.6**
ZAGS	**Zajecar**	**6.30**	**11**	*e*Pn	**Pn**	**19 29 15.7**	**+0.5**
BBLS	**Lazi&#263i**	**6.31**	**352**	*e*Pn	**Pn**	**19 29 17.1**	**+1.7**
BBLS	**Lazi&#263i**	**6.31**	**352**	*e*Pn	**Pn**	**19 29 16.8**	**+1.4**
BBLS				*e*Sn	**Sn**	**19 30 24.7**	**-2.5**
HAPS	**Han Pijesak,BI**	**6.59**	**349**	*e*Pn	**Pn**	**19 29 18.2**	**-1.0**
HAPS	**Han Pijesak,BI**	**6.59**	**349**	*e*Pn	**Pn**	**19 29 18.5**	**-0.7**
TEKS	**Tekeris**	**6.97**	**353**	*e*Pn	**Pn**	**19 29 23.5**	**-1.0**
MDVR	**Moldovita**	**7.20**	**6**	⇑P	**Pn**	**19 29 28.3**	**+0.7**
A050A	**Klekovaca**	**7.53**	**337**	*e*Pn	**Pn**	**19 29 33.1**	**+1.0**
BLY	**Banja Luka**	**7.58**	**341**	*e*Pn	**Pn**	**19 29 34.7**	**+1.9**
HUMR	**Humele**	**7.64**	**24**	⇑P	**Pn**	**19 29 35.4**	**+1.9**
A051A	**Mrakovica**	**7.90**	**340**	*e*Pn	**Pn**	**19 29 36.4**	**-0.9**
GZR	**Gura Zlata**	**7.93**	**11**	⇓P	**Pn**	**19 29 38.9**	**+1.3**
VOIR		**8.48**	**22**	⇑P	**Pn**	**19 29 46.9**	**+1.7**
MORH	**Mrgy, Hungar**	**8.72**	**351**	⇑P	**Pn**	**19 29 48.1**	**-0.3**
MLR	**Muntele Rosu**	**8.81**	**25**	Pn	**Pn**	**19 29 51.5**	**+1.8**
	2.9nm,0.9s,baz=198,slow=9.6						
MLR				Sn	**Sn**	**19 31 25.8**	**-2.9**
	baz=267,slow=21						
MLR				LR	LR	19 33 21.6	
	comp=Z,59nm,20.7s,baz=201,slow=39						
MLR	**Muntele Rosu**	**8.81**	**25**	⇑P	**Pn**	**19 29 51.5**	**+1.8**
BOJS	**Bojanci**	**8.85**	**335**	*e*Pn	**Pn**	**19 29 49.8**	**-0.4**
CRES	**Cresnjevec Ost**	**9.07**	**336**	*e*Pn	**Pn**	**19 29 52.8**	**-0.4**
KEST	**Kesra**	**9.27**	**262**	Pn	**Pn**	**19 29 58.4**	**+2.3**
	0.3nm,0.3s,baz=63,slow=2.1,SNR=4.2						
KEST				Sn	**Sn**	**19 31 36.6**	**-3.4**
	0.1nm,0.3s,baz=216,slow=20,SNR=2.0						
	1.8nm,0.6s						
SKDS	**Skadanscina**	**9.35**	**330**	*e*Pn	**Pn**	**19 29 56.2**	**-0.8**
CEY	**Cerknica**	**9.35**	**332**	*e*Pn	**Pn**	**19 29 57.8**	**+0.8**
PLOR	**Plostina**	**9.37**	**27**	⇑P	**Pn**	**19 29 59.4**	**+2.1**
VRI	**Vrincioaia**	**9.41**	**27**	⇑P	**Pn**	**19 29 59.9**	**+2.1**
SOKA	**Soboth**	**9.96**	**337**	*e*Pn	**Pn**	**19 30 05.2**	**-0.3**
	2.4nm,0.6s						
SOKA				*e*Sn	**Sn**	**19 31 55.4**	**-1.6**
	3.7nm,0.8s						
OBKA	**Obir**	**9.97**	**335**	*e*Pn	**Pn**	**19 30 06.4**	**+0.8**
OBKA	**Obir**	**9.97**	**335**	*e*Pn	**Pn**	**19 30 07.4**	**+1.8**
	2.0nm,0.4s						
OBKA				*e*Sn	**Sn**	**19 31 54.2**	**-2.9**
	9.7nm,0.7s						
BRTR	**Keskin Array B**	**10.38**	**74**	Pn	**Pn**	**19 30 12.3**	**+1.1**
	0.1nm,0.3s,baz=256,slow=12,SNR=4.9						
	0.2nm,0.4s						
MYKA	**Terra Mystica**	**10.39**	**332**	Pn	**Pn**	**19 30 13.5**	**+2.1**
	2.4nm,0.4s						
ABTA	**Abfaltersbach**	**10.93**	**329**	*e*Pn	Pn	19 30 29.6	+11
	1.2nm,0.5s						
ABTA				*e*Sn	**Sn**	**19 32 17.8**	**-2.8**
	6.1nm,0.7s						
LESA	**Schwarzleotal**	**11.42**	**332**	*i* Pn	**Pn**	**19 30 27.9**	**+2.4**
	3.6nm,0.5s						
LESA				*e*Sn	**Sn**	**19 32 29.9**	**-2.7**
	3.4nm,0.7s						
WTTA	**Wattenberg**	**11.70**	**328**	*e*Pn	**Pn**	**19 30 32.7**	**+3.3**
	1.5nm,0.5s						
WATA	**Walderalm**	**11.78**	**328**	*e*Pn	**Pn**	**19 30 33.5**	**+3.0**
	1.9nm,0.4s						
MOTA	**Moosalm**	**11.99**	**327**	*e*Pn	Pn	19 30 45.7	+12
	2.0nm,0.5s						
MOTA				*e*Sn	**Sn**	**19 32 47.0**	**+0.3**
	2.3nm,0.6s						
VRAC	**Vranov**	**12.05**	**347**	Pn	**Pn**	**19 30 34.0**	**0.0**
	0.3nm,0.3s,baz=143,slow=8.2,SNR=1.7						
VRAC				Sn	**Sn**	**19 32 43.5**	**-4.4**
	0.4nm,0.3s,baz=194,slow=14,SNR=2.3						
VRAC				LR	LR	19 36 30.6	
	comp=Z,53nm,18.3s,baz=190,slow=44						
	0.9nm,0.3s						
DAVOX	**Davos/Dischmat**	**12.13**	**322**	Pn	**Pn**	**19 30 35.7**	**+0.3**
	0.1nm,0.3s,baz=326,slow=22,SNR=1.7						
DAVOX				Sn	**Sn**	**19 32 43.0**	**-7.2**
	0.1nm,0.3s,baz=130,slow=21,SNR=1.4						
DAVOX				LR	LR	19 36 09.4	
	comp=Z,49nm,18.4s,baz=130,slow=42						
	0.7nm,0.5s						
GERES	**GERESS Array B**	**12.30**	**338**	Pn	**Pn**	**19 30 37.0**	**-0.5**
	baz=156,slow=13,SNR=4.1						
GERES				Sn	**Sn**	**19 32 50.4**	**-3.9**
	baz=158,slow=24,SNR=2.6						
GERES				LR	LR	19 35 60.0	
	comp=Z,59nm,18.2s,baz=261,slow=41						
	0.3nm,0.4s						
MMAI	**Mount Meron Ar**	**12.90**	**106**	Pn	**Pn**	**19 30 45.9**	**+0.2**
	0.8nm,0.3s,baz=289,slow=13,SNR=1.6						
MMAI				Sn	Sn	19 32 57.0	-12
	0.3nm,0.3s,baz=276,slow=21,SNR=1.8						
	1.6nm,0.7s						
EIL	**Elat**	**14.30**	**119**	Pn	**Pn**	**19 31 05.0**	**+0.1**
	0.3nm,0.3s,baz=112,slow=16,SNR=1.9						
EIL				Sn	Sn	19 33 29.6	-13
	0.5nm,0.3s,baz=314,slow=15,SNR=4.3						
	2.4nm,0.6s						
AKASG	**Malin Array Be**	**14.44**	**22**	Pn	**Pn**	**19 31 09.9**	**+3.3**
	0.8nm,0.3s,baz=211,slow=8.4,SNR=4.6						
AKASG				LR	LR	19 36 55.5	
	comp=Z,79nm,18.2s,baz=204,slow=39						
NACGM	**Naroch**	**17.79**	**12**	*e*P	**P**	**19 31 52.9**	**+2.5**
	comp=Z,3.0nm,0.9s,baz=198						
ESDC	**Sonseca Array**	**19.32**	**284**	P	**P**	**19 32 09.2**	**+1.8**
	baz=94,slow=11,SNR=4.2						
	comp=Z,2.2nm,1.2s						
MDT	**Midelt**	**21.16**	**264**	LR	LR	19 40 36.1	
	comp=Z,25nm,18.8s,baz=3.5,slow=36						
HFS	**Hagfors**	**22.97**	**351**	P	**P**	**19 32 47.2**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=148,slow=12,SNR=11						
	comp=Z,3.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**23.94**	**325**	P	**P**	**19 32 57.2**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=124,slow=10.0,SNR=2.1						
	comp=Z,0.9nm,0.8s						
FINES	**FINESS Array B**	**24.09**	**6**	P	**P**	**19 32 57.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=179,slow=8.9,SNR=7.4						
FINES				LR	LR	19 43 29.2	
	comp=Z,69nm,18.1s,baz=171,slow=40						
	comp=Z,0.4nm,0.3s						
NB2	**NORSAR Subarra**	**24.18**	**349**	P	**P**	**19 32 58.9**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=161,slow=9.3						
NOA	**NORSAR Array B**	**24.18**	**349**	P	**P**	**19 32 58.8**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=154,slow=9.5,SNR=6.2						
NOA				LR	LR	19 44 14.0	
	comp=Z,17nm,18.6s,baz=75,slow=41						
	comp=Z,0.4nm,0.6s						
KIRV	**Kirov**	**28.07**	**32**	LR	LR	19 43 56.0	
	comp=Z,41nm,20.3s,baz=203,slow=35						
BVAR	**Borovoye Array**	**37.40**	**49**	P	**P**	**19 34 55.6**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=270,slow=5.9,SNR=3.8						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**42.48**	**53**	P	**P**	**19 35 37.1**	**-0.1**
	comp=Z,1.8nm,0.2s,baz=279,slow=8.5,SNR=4.1						
KURBB				LR	LR	19 56 31.1	
	comp=Z,32nm,19.1s,baz=184,slow=41						
	comp=Z,1.8nm,0.2s						
MKAR	**Makanchi Array**	**45.51**	**58**	P	**P**	**19 36 01.8**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=278,slow=7.2,SNR=7.1						
	comp=Z,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**45.99**	**48**	P	**P**	**19 36 05.6**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=275,slow=7.8,SNR=4.6						
	comp=Z,0.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**69.87**	**82**	P	**P**	**19 38 53.6**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=298,slow=7.8,SNR=4.3						
	comp=Z,0.3nm,0.6s						
SHEM	**Shemya Is, Ala**	**87.10**	**16**	LR	LR	20 23 38.6	
	comp=Z,57nm,19.0s,baz=300,slow=39						

*IDC **17** 19:47:56.8±1.1, 9°.55S×151°.35E, h0km, mb3.8/9, mbtmp3.8/11, ML3.3/1, MS3.4/12, Error ellipse: s-maj=31.1km s-min=20.8km az=109.0*

ISC 17 19:48:00.4±0.9, 9°.6S±0°.1×151°.4E±0°.1, h24km, n20, σ1§18/13, mb3.9/9, MS3.4/11, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.14**	**272**	Pn	**Pn**	**19 48 59.4**	**-2.7**
	4.7nm,0.3s,baz=113,slow=6.1,SNR=7.5						
PMG				Sn	**Sn**	**19 49 51.9**	**+2.2**
	2.1nm,0.3s,baz=36,slow=6.8,SNR=3.5						
PMG				LR	LR	19 50 50.1	
	comp=Z,256nm,21.7s,baz=339,slow=42						
WRA	**Warramunga Arr**	**19.39**	**236**	P	**P**	**19 52 25.3**	**+0.5**
	0.1nm,0.3s,baz=61,slow=10,SNR=6.3						
	2.6nm,0.9s						
ASAR	**Alice Springs**	**21.78**	**228**	P	**P**	**19 52 51.1**	**+0.5**
	3.9nm,0.9s,baz=61,slow=8.8,SNR=27						
ASAR				LR	LR	20 00 19.6	
	comp=Z,178nm,19.6s,baz=86,slow=34						
	3.9nm,0.9s						
GUMO	**Guam**	**23.89**	**344**	LR	LR	20 00 38.5	
	comp=Z,58nm,20.6s,baz=146,slow=32						
STKA	**Stephens Creek**	**23.97**	**201**	P	**P**	**19 53 13.6**	**+0.6**
	3.5nm,0.9s,baz=4.8,slow=12,SNR=3.7						
STKA				LR	LR	20 02 14.5	
	comp=Z,96nm,21.6s,baz=19,slow=36						
	3.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**26.34**	**248**	LR	LR	20 03 42.7	
	comp=Z,134nm,21.3s,baz=80,slow=36						
URZ	**Urewera**	**36.76**	**145**	LR	LR	20 08 02.6	
	comp=Z,96nm,20.4s,baz=23,slow=33						
JOW	**Kunigami**	**42.56**	**329**	LR	LR	20 11 16.7	
	comp=Z,51nm,21.9s,baz=126,slow=33						
MJAR	**Matsushiro Arr**	**47.51**	**346**	P	**P**	**19 56 33.8**	**+0.1**
	0.6nm,0.4s,baz=170,slow=8.8,SNR=4.0						
MJAR				LR	LR	20 15 38.3	
	comp=Z,14nm,19.4s,baz=178,slow=35						
	0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**58.73**	**298**	P	**P**	**19 57 57.1**	**+0.4**
	0.6nm,0.8s,baz=120,slow=5.1,SNR=5.9						
	0.6nm,0.8s						
KLR	**Kul'dur**	**61.03**	**345**	LR	LR	20 23 14.2	
	comp=Z,26nm,18.1s,baz=222,slow=35						
MA2	**Magadan**	**68.92**	**360**	LR	LR	20 25 30.2	
	comp=Z,20nm,19.5s,baz=116,slow=33						
SONM	**Songino Array**	**69.63**	**329**	P	**P**	**19 59 08.5**	**+0.7**
	1.0nm,1.0s,baz=132,slow=5.7,SNR=5.2						
	1.0nm,1.0s						
QSPA	**South Pole Qui**	**80.42**	**180**	P	**P**	**20 00 09.6**	**-0.3**
	1.0nm,0.8s,baz=307,slow=23,SNR=1.5						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**82.98**	**320**	P	**P**	**20 00 23.0**	**-0.6**
	0.3nm,0.6s,baz=274,slow=8.1,SNR=5.5						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**84.32**	**327**	P	**P**	**20 00 30.3**	**+0.1**
	0.3nm,0.3s,baz=83,slow=6.0,SNR=1.8						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**87.09**	**22**	P	**P**	**20 00 44.0**	**+0.2**
	0.8nm,1.0s,baz=275,slow=4.9,SNR=4.9						
	0.8nm,1.0s						
BVAR	**Borovoye Array**	**92.18**	**323**	LR	LR	20 43 55.7	
	comp=Z,25nm,18.9s,baz=218,slow=36						
YBH	**Yreka Blue Hor**	**93.28**	**48**	LR	LR	20 36 22.3	
	comp=Z,29nm,18.8s,baz=273,slow=31						
TORD	**Torodi Ar. Bea**	**150.05**	**280**	PKPbc	**PKiKP**	**20 07 50.8**	**-0.1**
	41nm,0.4s,baz=38,slow=3.1,SNR=1.5						

*NNC **17** 19:48:55.5±0.3, 42°.77N×71°.17E, h2km±6km, mb4.0, mpv3.7, Error ellipse: s-maj=5.5km s-min=2.1km az=172.0*
*KRNET **17** 19:48:55.6±0.1, 42°.74N×71°.20E, h18km, mb3.6*
*SOME **17** 19:48:56.1, 42°.72N×71°.23E, h5km*

ISC 17 19:48:55.1±1.2, 42°.71N±0°.02×71°.10E±0°.02, h3km±10km, n75, σ1§35/125, 52C-31D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK06	**Karatay Array**	**0.57**	**313**	⇑P	**Pb**	**19 49 07.4**	**-0.4**
KK06				⇑S	**Sb**	**19 49 15.1**	**-1.3**
KK07	**Karatay Array**	**0.58**	**311**	⇑P	**Pb**	**19 49 07.5**	**-0.5**
KK07				⇑S	**Sb**	**19 49 15.5**	**-1.2**
KK02	**Karatay Array**	**0.59**	**313**	⇓P	**Pb**	**19 49 07.6**	**-0.4**
KK02				⇓S	**Sb**	**19 49 15.6**	**-1.2**
KK31	**Karatay Array**	**0.59**	**313**	⇑P	**Pb**	**19 49 07.6**	**-0.4**
	6.1nm,0.2s,baz=257,slow=15,SNR=1459						
KK31				⇓S	**Sg**	**19 49 15.3**	**+1.4**
	66nm,0.3s,baz=126,slow=31,SNR=35						
KKAR	**Karatay Array**	**0.59**	**313**	⇑*i*P	**Pg**	**19 49 07.2**	**+0.9**
KKAR				⇑*i*S	**Sb**	**19 49 15.6**	**-1.2**
KK05	**Karatay Array**	**0.59**	**314**	⇓P	**Pb**	**19 49 07.6**	**-0.5**
KK05				⇑S	**Sg**	**19 49 15.5**	**+1.4**
KK01	**Karatay Array**	**0.59**	**313**	⇑P	**Pb**	**19 49 07.7**	**-0.5**
KK01				⇑S	**Sb**	**19 49 15.6**	**-1.3**
KK03	**Karatay Array**	**0.59**	**312**	⇑P	**Pb**	**19 49 07.7**	**-0.5**
KK03				⇑S	**Sb**	**19 49 15.7**	**-1.3**
KK04	**Karatay Array**	**0.59**	**313**	⇑P	**Pb**	**19 49 07.7**	**-0.4**
KK04				⇑S	**Sg**	**19 49 15.7**	**+1.5**
KK08	**Karatay Array**	**0.60**	**312**	⇑P	**Pb**	**19 49 07.8**	**-0.5**
KK08				⇑S	**Sb**	**19 49 15.9**	**-1.3**
KK09	**Karatay Array**	**0.61**	**313**	⇑P	**Pb**	**19 49 08.0**	**-0.4**
KK09				⇑S	**Sb**	**19 49 16.1**	**-1.2**
IUG	**Iuzhnay**	**0.97**	**235**	P	**Pn**	**19 49 15.8**	**0.0**
	267nm,0.3s						
IUG				S	**Sn**	**19 49 29.8**	**-0.3**
	1μm,0.3s						
IUG	**Iuzhnay**	**0.97**	**235**	*e*P	**Pn**	**19 49 15.8**	**0.0**
IUG				*e*S	**Sn**	**19 49 30.1**	**0.0**
BRLS	**Borolday**	**0.98**	**290**	P	**Pn**	**19 49 16.1**	**+0.2**
	33nm,0.2s						
BRLS				S	**Sn**	**19 49 30.4**	**0.0**
	147nm,0.2s						
BRLS	**Borolday**	**0.98**	**290**	*e*P	**Pn**	**19 49 16.1**	**+0.2**
BRLS				*e*S	**Sn**	**19 49 30.4**	**0.0**
BRLS	**Borolday**	**0.98**	**290**	*e*P	**Pn**	**19 49 16.1**	**+0.2**
	33nm,0.2s						
BRLS				*e*S	**Sn**	**19 49 30.4**	**0.0**
	147nm,0.2s						
MNAS	**Manas**	**1.06**	**102**	⇑*i*P	**Pg**	**19 49 14.5**	**-0.9**
MNAS				⇑*i*S	**Sg**	**19 49 28.2**	**-0.9**
ARK	**Arkit**	**1.11**	**145**	⇑*i*P	**Pg**	**19 49 16.3**	**-0.1**
ARK				⇑*i*S	**Sg**	**19 49 31.3**	**+0.5**
TRKS	**Terek-Say**	**1.18**	**179**	⇓*i*P	**Pn**	**19 49 19.4**	**+0.8**
TRKS				⇓*i*S	**Sn**	**19 49 36.5**	**+1.2**
MRKS	**Merke**	**1.57**	**88**	P	**Pn**	**19 49 24.0**	**+0.1**
	23nm,0.1s						
MRKS				S	**Sn**	**19 49 44.1**	**-0.7**
	154nm,0.1s						
MRKS	**Merke**	**1.57**	**88**	*e*P	**Pn**	**19 49 24.0**	**+0.1**
	23nm,0.1s						
MRKS				*e*S	**Sn**	**19 49 44.1**	**-0.7**
	154nm,0.1s						
ARSB	**Arslanbob**	**1.97**	**134**	⇑*i*P	**Pb**	**19 49 30.9**	**-0.8**
ARSB				⇑*i*S	**Sb**	**19 49 56.4**	**-0.3**
EKS2	**Erkin-Say**	**1.97**	**90**	P	**Pb**	**19 49 30.7**	**-1.1**
	SNR=30						
EKS2	**Erkin-Say**	**1.97**	**90**	⇓*i*P	**Pn**	**19 49 30.4**	**+0.8**
EKS2				⇓*i*S	**Sb**	**19 49 55.7**	**-1.1**
AML	**Almayashu**	**2.00**	**106**	P	**Pb**	**19 49 32.0**	**-0.4**
	SNR=49						
AML	**Almayashu**	**2.00**	**106**	⇑*i*P	**Pn**	**19 49 31.2**	**+1.0**
AML				⇑*i*S	**Sb**	**19 49 57.0**	**-1.0**
AAK	**Ala-Archa**	**2.50**	**90**	P	**Pb**	**19 49 40.7**	**-0.1**
	SNR=24						
AAK	**Ala-Archa**	**2.50**	**90**	Pg	**Pb**	**19 49 40.4**	**-0.4**
	19nm,0.3s						
AAK				Lg	Lg	19 50 12.1	
	54nm,0.6s						
AAK	**Ala-Archa**	**2.50**	**90**	⇑*i*P	**Pn**	**19 49 37.6**	**+0.7**
AAK				⇑*i*S	**Sn**	**19 50 08.5**	**+0.5**
OHH	**Osh**	**2.52**	**149**	⇑*i*P	**Pn**	**19 49 38.6**	**+1.6**
OHH				⇑*i*S	**Sb**	**19 50 10.1**	**-2.4**
ARLS	**Aral**	**2.54**	**108**	⇓*i*P	**Pn**	**19 49 38.5**	**+1.2**
ARLS				⇓*i*S	**Sn**	**19 50 09.8**	**+1.0**
USP	**Ospenovka**	**2.56**	**76**	P	**Pb**	**19 49 40.9**	**-0.7**
	SNR=33						
USP	**Ospenovka**	**2.56**	**76**	⇓*i*P	**Pn**	**19 49 37.9**	**+0.4**
USP				⇓*i*S	**Sn**	**19 50 09.1**	**-0.1**
UCH	**Uchtor**	**2.57**	**100**	P	Pg	19 50 16.9	+33
	SNR=7.2						
UCH	**Uchtor**	**2.57**	**100**	⇑*e*P	**Pn**	**19 49 38.6**	**+0.5**
UCH				⇑*i*S	**Sn**	**19 50 10.1**	**0.0**
FRU1	**Bishkek**	**2.60**	**87**	⇓*i*P	**Pn**	**19 49 38.8**	**+0.7**
FRU1				⇓*i*S	**Sn**	**19 50 10.4**	**+0.1**
BTK	**Batken**	**2.66**	**185**	⇓*i*P	**Pb**	**19 49 41.0**	**-2.3**
BTK				⇓*i*S	**Sb**	**19 50 14.2**	**-2.2**
SGDS	**Sogindy**	**2.69**	**73**	Pg	**Pb**	**19 49 43.5**	**-0.5**
	8.8nm,0.1s						
SGDS				Lg	Lg	19 50 17.2	
	60nm,0.2s						
CHMS	**Chumysh**	**2.70**	**83**	P	**Pn**	**19 49 40.2**	**+0.7**
	SNR=10.0						
CHMS	**Chumysh**	**2.70**	**83**	⇓Pg	**Pb**	**19 49 43.2**	**-0.9**
	5.2nm,0.3s						
CHMS				⇓Lg	Lg	19 50 17.1	
	21nm,0.3s						
CHMS	**Chumysh**	**2.70**	**83**	⇓*i*P	**Pn**	**19 49 40.2**	**+0.7**
CHMS				⇓*i*S	**Sn**	**19 50 12.8**	**+0.1**
SALK	**Salom-Alik**	**2.73**	**131**	⇑*i*P	**Pn**	**19 49 41.5**	**+1.5**
SALK				⇑*i*S	**Sn**	**19 50 14.8**	**+1.2**
KBK	**Karagaybulak**	**2.84**	**90**	P	**Pb**	**19 49 46.7**	**+0.2**
	SNR=7.4						
KBK	**Karagaybulak**	**2.84**	**90**	⇑*i*P	**Pn**	**19 49 42.4**	**+0.9**
KBK				⇑*i*S	**Sn**	**19 50 16.5**	**+0.2**
SFK	**Sufi-Kurgan**	**3.24**	**145**	⇑*e*P	**Pn**	**19 49 48.8**	**+1.7**
SFK				⇑*i*S	**Sn**	**19 50 27.4**	**+1.0**
DRK	**Karamyk**	**3.27**	**170**	⇓*i*P	**Pn**	**19 49 49.5**	**+2.0**
DRK				⇓*i*S	**Sn**	**19 50 28.9**	**+1.8**
TKM2	**Tokmak 2**	**3.31**	**85**	⇓Pg	**Pb**	**19 49 53.8**	**-0.8**
	7.1nm,0.5s						
TKM2				⇑Lg	Lg	19 50 36.6	
	21nm,0.5s						
TKM2	**Tokmak 2**	**3.31**	**85**	⇑*i*P	**Pn**	**19 49 48.9**	**+0.8**
TKM2				⇑*i*S	**Sn**	**19 50 27.9**	**-0.2**
BOOM	**Boomskoye usch**	**3.58**	**92**	⇓*i*P	**Pn**	**19 49 52.6**	**+0.9**
BOOM				⇓*i*S	**Sn**	**19 50 34.3**	**-0.3**
KST	**Kastek**	**3.59**	**83**	Pg	**Pb**	**19 49 59.4**	**+0.1**
	8.8nm,0.3s						
KST				Lg	Lg	19 50 44.6	
	32nm,0.3s						
KST	**Kastek**	**3.59**	**83**	*e*P	**Pb**	**19 49 59.4**	**+0.1**
	8.8nm,0.3s						
KST				*e*S	**Sb**	**19 50 44.6**	**+1.3**
	32nm,0.3s						
GAR	**Garm**	**3.75**	**189**	⇑*i*P	**Pn**	**19 49 56.4**	**+2.4**
GAR				⇑*i*S	**Sn**	**19 50 40.8**	**+2.0**
ULHL	**Ulahol**	**3.83**	**95**	P	**Pg**	**19 50 09.1**	**+0.6**
	SNR=5.6						
ULHL	**Ulahol**	**3.83**	**95**	⇓*i*P	**Pn**	**19 49 56.1**	**+0.9**
ULHL				⇓*i*S	**Sn**	**19 50 40.3**	**-0.5**
NRN	**Naryn**	**3.86**	**108**	⇑*e*P	**Pn**	**19 49 56.7**	**+1.0**
NRN				⇑*e*S	**Sn**	**19 50 41.0**	**-0.8**
MTBS	**Maitube**	**3.94**	**82**	Pg	**Pb**	**19 50 06.1**	**+0.9**
	5.7nm,0.4s						
MTBS				Lg	Lg	19 50 56.2	
	23nm,0.4s						
MTBS	**Maitube**	**3.94**	**82**	*e*P	**Pb**	**19 50 06.1**	**+0.9**
	5.7nm,0.4s						
MTBS				*e*S	**Sb**	**19 50 56.2**	**+3.0**
	23nm,0.4s						
KTBS	**Karatobe**	**4.20**	**74**	Pg	**Pb**	**19 50 10.8**	**+1.2**
	3.6nm,0.3s						
KTBS				Lg	Lg	19 51 04.4	
	70nm,0.4s						
TNSS	**Tian-Shan**	**4.31**	**84**	Pg	**Pb**	**19 50 14.1**	**+2.3**
	6.5nm,0.3s						
TNSS				Lg	Lg	19 51 09.5	
	19nm,0.5s						
TNSS	**Tian-Shan**	**4.31**	**84**	*e*P	**Pb**	**19 50 14.1**	**+2.3**
	6.5nm,0.3s						
TNSS				*e*S	**Sg**	**19 51 09.5**	**-4.0**
	19nm,0.5s						
KNDC	**Almaty**	**4.33**	**81**	⇑Pg	**Pg**	**19 50 16.6**	**-1.6**
	32nm,0.8s						
KNDC				⇓Lg	Lg	19 51 14.3	
	132nm,0.8s						
MDOK	**Medeo**	**4.39**	**82**	Pg	**Pb**	**19 50 14.0**	**+1.1**
	9.2nm,0.4s						
MDOK				Pg	**Pg**	**19 50 15.3**	**-3.9**
	13nm,0.8s						
MDOK				Lg	Lg	19 51 10.5	
	40nm,0.7s						
MDOK				Lg	Lg	19 51 10.8	
	24nm,0.7s						
CHKK	**Chushkaly**	**4.45**	**73**	Pg	**Pb**	**19 50 15.1**	**+1.3**
	4.3nm,0.3s						
CHKK				Lg	Lg	19 51 12.1	
	48nm,0.3s						
CHKK	**Chushkaly**	**4.45**	**73**	*e*P	**Pb**	**19 50 15.1**	**+1.3**
	4.3nm,0.3s						
CHKK				*e*S	**Sb**	**19 51 12.2**	**+4.2**
	48nm,0.3s						
KDJ	**Kajisay**	**4.54**	**95**	⇑*i*P	**Pn**	**19 50 06.2**	**+1.3**
KDJ				⇑*i*S	**Sn**	**19 50 57.7**	**-0.5**
ANVS	**Anan'yevo**	**4.84**	**87**	⇓*

PDAR			Lg	Lg	19 52 38.2	
	comp=E,6.9nm,0.3s,baz=70,slow=36,SNR=1.9					
OGNE	**Ogallala**	**3.54 138**		**Pn**	**19 51 54.1**	**+1.0**
YNE	**Yellowstone No**	**3.74 294**		**Pn**	**19 51 57.2**	**+1.3**
YNE			IAML		19 53 03.8	
	comp=E,63nm,0.7s					
YNE			IAML		19 53 08.6	
	comp=N,52nm,1.2s					
ISCO	**Idaho Springs**	**3.82 185**		**Pn**	**19 51 58.2**	**+1.1**
LOHW	**Long Hollow**	**3.94 272**		**Pn**	**19 52 00.4**	**+1.7**
H17A	**Grant Village**	**3.98 283**		**Pn**	**19 52 01.8**	**+2.6**
H17A			IAML		19 53 12.5	
	comp=N,36nm,0.9s					
SNOW	**Snow King Moun**	**4.06 270**	IAML		19 53 14.0	
	comp=N,51nm,1.1s					
SNOW			IAML		19 53 20.9	
	comp=N,59nm,1.0s					
O20A	**White River Ci**	**4.16 214**		**Pn**	**19 52 03.0**	**+1.3**
O20A			IAML		19 53 25.3	
	comp=N,58nm,2.1s					
O20A			IAML		19 54 06.2	
	comp=N,56nm,1.5s					
TPAW	**Teton Pass**	**4.20 270**	IAML		19 53 33.6	
	comp=N,42nm,0.9s					
TPAW			IAML		19 53 52.9	
	comp=N,33nm,2.4s					
YMR	**Madison River**	**4.30 286**	IAML		19 53 38.4	
	comp=E,54nm,1.1s					
YMR			IAML		19 53 45.7	
	comp=N,56nm,1.0s					
AHID	**Auburn Hatcher**	**4.41 261**	IAML		19 53 46.6	
	comp=N,29nm,1.1s					
RDMU	**Red Mountain**	**4.46 229**	IAML		19 53 29.5	
	comp=E,45nm,1.3s					
RDMU			IAML		19 53 39.5	
	comp=N,27nm,1.1s					
YHL	**Hebgen Lake**	**4.49 288**	IAML		19 53 29.6	
	comp=N,37nm,1.5s					
YHL			IAML		19 53 38.5	
	comp=E,31nm,1.0s					
BOZ	**Bozeman (W)**	**5.02 296**	IAML		19 53 45.2	
	comp=E,16nm,1.1s					
BOZ			IAML		19 54 02.3	
	comp=E,16nm,4.4s					
HWUT	**Hardware Ranch**	**5.12 249**	IAML		19 53 47.4	
	comp=E,25nm,1.4s					
HWUT			IAML		19 53 53.1	
	comp=E,34nm,1.2s					
BSUT	**Blindstream Ca**	**5.17 235**	IAML		19 53 59.5	
	comp=E,18nm,2.5s					
P18A	**Preston Nutter**	**5.50 225**	IAML		19 54 27.4	
	comp=E,26nm,0.9s					
P18A			IAML		19 54 49.5	
	comp=N,27nm,1.4s					
ELK	**Elko**	**8.00 252**	Pn	**Pn**	**19 52 56.7**	**+2.2**
	comp=N,0.1nm,0.3s,baz=12,slow=13,SNR=1.8					
ELK			Lg	Lg	19 55 06.3	
	comp=N,0.2nm,0.3s,baz=319,slow=23,SNR=1.9					
	comp=N,0.3nm,0.3s					
I10CA	**LAC DU BONNET**	**9.09 40**	I	I	20 46 20.0	
	baz=224,slow=330,SNR=2.3					
ULM	**Lac du Bonnet**	**9.19 40**	Pn	**Pn**	**19 53 09.8**	**-0.7**
	comp=N,0.3nm,0.3s,baz=222,slow=12,SNR=1.9					
ULM			Lg	Lg	19 55 42.0	
	comp=N,0.2nm,0.3s,baz=315,slow=18,SNR=2.4					
	comp=N,1.3nm,0.5s					
I56US	**NEWPORT INFRAS**	**9.54 303**	I	I	20 47 30.0	
	baz=117,slow=322,SNR=2.1					
NVAR	**Mina Array Bea**	**11.18 247**	Pn	**Pn**	**19 53 40.3**	**+2.2**
	comp=N,0.1nm,0.3s,baz=61,slow=13,SNR=1.9					
	comp=N,0.2nm,0.3s					
TXAR	**Lajitas Array**	**14.30 175**	Pg	P	19 55 22.1	+54
	comp=N,0.1nm,0.3s,baz=2.1,slow=17,SNR=1.7					
TXAR			Lg	Lg	19 58 23.9	
	comp=N,0.2nm,0.3s,baz=357,slow=28,SNR=1.3					
YKA	**Yellowknife Ar**	**19.71 347**	P	**P**	**19 55 27.9**	**+0.4**
	baz=158,slow=10,SNR=1.4					
	comp=N,0.2nm,0.7s					
ILAR	**Eielson Array**	**31.42 327**	P	**P**	**19 57 19.7**	**+0.5**
	comp=N,0.1nm,0.7s,baz=121,slow=11,SNR=1.5					
	comp=N,0.1nm,0.7s					

*IDC **17** 19:57:37.1±1.2,9.°50S×151.°12E,h0km,mb3.9/7, mbtmp3.9/9,ML3.5/1,MS3.2/6,Error ellipse: s-maj=32.8km s-min=23.2km az=108.0*
*NEIC **17** 19:57:46.8±2.1,9.°6S±0.°1×150.°7E±0.°1,h35km±2km, mb4.0/7,Error ellipse: s-maj=25.6km s-min=10.2km az=313.0*
ISC 17 19:57:39.4±1.0,9.°6S±0.°1×151.°1E±0.°1,h13km,n27, σ1§20/22,mb4.0/9,MS3.2/6,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.88 272**			**Pn**	**19 58 38.6**	**-0.2**
PMG	**Port Moresby**	**3.88 272**		Pn	**Pn**	**19 58 37.9**	**-0.9**
	5.6nm,0.4s,baz=204,slow=5.6,SNR=2.3						
MANU	**Manus Island**	**8.36 333**			**Pn**	**19 59 42.5**	**+2.1**
COEN	**Coen**	**8.88 240**		Pn	**Pn**	**19 59 46.7**	**-0.8**
WB0	**Warramunga Arr**	**19.04 236**		P	**Pn**	**20 02 02.3**	**+0.1**
WB0				IAmb	IAmb	20 02 24.2	
	comp=Z,5.9nm,0.9s						
WR8	**Warramunga Arr**	**19.05 235**		P	**Pn**	**20 02 02.2**	**-0.2**
WR8				IAmb	IAmb	20 02 21.9	
	comp=Z,8.0nm,1.1s						
WRA	**Warramunga Arr**	**19.17 236**		P	**Pn**	**20 02 03.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=60,slow=11,SNR=9.2						
WRA				PcP	**PcP**	**20 06 26.5**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=57,slow=2.0,SNR=1.6						
	comp=Z,2.3nm,0.7s						
MTN	**Manton Dam**	**19.84 259**			**P**	**20 02 10.7**	**+0.5**
AS31	**Alice Springs**	**21.58 227**			**P**	**20 02 31.4**	**+2.4**
AS31				IAmb	IAmb	20 02 32.3	
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**21.58 227**		P	**P**	**20 02 31.3**	**+2.2**
ASAR	**Alice Springs**	**21.58 227**		P	**P**	**20 02 29.6**	**+0.6**
	comp=Z,4.4nm,0.7s,baz=61,slow=8.6,SNR=50						
ASAR				LR	LR	20 10 22.5	
	comp=Z,124nm,18.5s,baz=87,slow=35						
	comp=Z,4.4nm,0.7s						
KNRA	**Kununurra**	**22.60 252**			**P**	**20 02 38.7**	**-1.3**
KNRA				IAmb	IAmb	20 02 44.8	
	comp=Z,10nm,1.0s						
GUMO	**Guam**	**23.84 345**		LR	LR	20 10 17.8	
	comp=Z,42nm,20.4s,baz=196,slow=32						
STKA	**Stephens Creek**	**23.87 200**		P	**P**	**20 02 54.3**	**+1.7**
STKA				IAmb	IAmb	20 03 05.5	
	comp=Z,33nm,1.1s						
STKA	**Stephens Creek**	**23.87 200**		P	**P**	**20 02 53.7**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=50,slow=2.9,SNR=3.9						
	comp=Z,2.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.09 248**		P	**P**	**20 03 12.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**26.09 248**		P	**P**	**20 03 12.9**	**-0.2**
	comp=Z,4.5nm,1.1s,baz=110,slow=9.6,SNR=5.8						
	comp=Z,4.5nm,1.1s						
SOEI	**Soe**	**26.44 267**		P	P	20 03 08.9	-7.6
URZ	**Urewera**	**36.90 145**		LR	LR	20 18 42.9	
	comp=Z,55nm,18.0s,baz=18,slow=34						
JOW	**Kunigami**	**42.44 329**		LR	LR	20 21 30.5	
	comp=Z,28nm,18.1s,baz=214,slow=34						
JNU	**Nakatsue**	**46.63 336**		LR	LR	20 22 15.4	
	comp=Z,26nm,21.8s,baz=176,slow=32						
CMAR	**Chiang Mai Arr**	**58.51 298**		P	**P**	**20 07 34.7**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=109,slow=6.7,SNR=9.0						
	comp=Z,0.8nm,0.7s						
PETK	**Petropavlovsk-**	**62.70 4**		LR	LR	20 30 56.4	
	comp=Z,10nm,21.3s,baz=189,slow=32						
SONM	**Songino Array**	**69.51 330**		P	**P**	**20 08 48.4**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=139,slow=6.1,SNR=8.1						
	comp=Z,1.6nm,0.9s						
QSPA	**South Pole Qui**	**80.41 180**		P	**P**	**20 09 50.5**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=359,slow=1.5,SNR=5.4						
	comp=Z,1.4nm,0.8s						
ILAR	**Eielson Array**	**87.20 22**		P	**P**	**20 10 23.7**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=243,slow=4.0,SNR=2.8						
	comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.80 280**		PKPbc	**PKPbc**	**20 17 30.1**	**-0.2**
	comp=Z,41nm,0.3s,baz=87,slow=2.4,SNR=1.4						

*NAO **17** 20:02:24.0,30.°16N×48.°37E,h33km,mb3.9*
*TEH **17** 20:02:49.0,33.°19N×46.°45E,h11km±15km*
*ISN **17** 20:02:49.2±0.3,33.°16N×46.°52E,h10km±1km,ML4.2*
*MOS **17** 20:02:49.0±1.0,33.°17N×46.°50E,h16km,mb4.7/57,Error ellipse: s-maj=5.8km s-min=3.5km az=121.2*

*NEIC **17** 20:02:50.5±1.4,33.°19N±0.°07×46.°51E±0.°09,h10km±1km, mb4.6/117,Error ellipse: s-maj=13.4km s-min=11.2km az=249.0*
*IDC **17** 20:02:52.0±2.6,33.°21N×46.°51E,h20km±16km,mb4.1/28, mbtmp4.2/37,ML3.2/9,MS3.2/13,Error ellipse: s-maj=12.0km s-min=10.5km az=170.0*
*OMAN **17** 20:02:58.0±0.1,32.°95N×47.°21E,h10km,mb4.4/36, ms3.0/3,Error ellipse: s-maj=1.6km s-min=1.1km az=226.0*
ISC 17 20:02:50.4±0.6,33.°11N±0.°03×46.°49E±0.°02,h14km±3km, n505,σ1§57/520,mb4.5/160,MS3.3/8,38C-19D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.47**	**271**	*e*Pg	**Pg**	**20 02 59.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**20 03 06.0**	**-0.1**
IBDR				AML	AML	20 03 13.8	
	comp=N,12μm,0.5s						
IBDR				AML	AML	20 03 16.1	
	comp=E,13μm,1.1s						
GLG1	**Gilan-e-Gharb**	**1.11**	**334**	Pg	**Pb**	**20 03 09.6**	**-2.0**
IKFM	**Kafar-mosalman**	**1.21**	**70**	Pg	**Pb**	**20 03 13.4**	**+0.3**
IGHG	**Ghaleghazi**	**1.22**	**3**	Pg	**Pn**	**20 03 11.8**	**-1.6**
KCHF	**Cheshme Sefid,**	**1.25**	**21**	Pg	**Pn**	**20 03 12.8**	**-0.9**
IDOB	**Doab**	**1.56**	**64**	Pg	**Pg**	**20 03 19.9**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**1.58**	**332**	Pg	**Pn**	**20 03 18.5**	**+0.4**
IDHR	**Dehrash**	**1.59**	**357**	Pg	**Pn**	**20 03 17.9**	**-0.5**
BHD	**Baghdad**	**1.78**	**276**	*e*Pn	**Pb**	**20 03 22.0**	**-0.8**
BHD				*e*Sn	**Sb**	**20 03 46.0**	**+1.1**
ILIN	**Lien**	**1.85**	**12**	Pg	**Pb**	**20 03 22.9**	**-1.3**
SNQR	**Sonqor, Kerman**	**1.99**	**28**	Pn	**Pn**	**20 03 24.9**	**+1.0**
HSAM	**Samen**	**2.08**	**57**	Pn	**Pb**	**20 03 26.9**	**-1.2**
BDRS	**Dareh Seyedi**	**2.17**	**66**	Pn	**Pb**	**20 03 28.5**	**-1.1**
AHWZ	**Ahwaz**	**2.54**	**134**	Pn	**Pb**	**20 03 34.3**	**-1.6**
HAGD	**Aghdareh**	**2.79**	**51**	Pn	**Pn**	**20 03 37.1**	**+2.2**
IKRK	**Kirkuk**	**2.90**	**323**	*e*Pn	**Pn**	**20 03 37.0**	**+0.8**
IKRK				*e*Sn	**Sn**	**20 04 12.0**	**+1.1**
IKRK				AML	AML	20 04 31.6	
	comp=E,1μm,0.5s						
IKRK				AML	AML	20 04 36.5	
	comp=N,1μm,0.6s						
HGHA	**Hamedan- Ghaye**	**3.08**	**39**	Pn	**Pn**	**20 03 40.9**	**+2.0**
JHBN	**Jahan bin**	**3.63**	**103**	Pn	**Pn**	**20 03 49.1**	**+2.6**
QABG	**Abgarm-Qazvin**	**3.64**	**44**	Pn	**Pn**	**20 03 48.7**	**+2.1**
IRAZ	**Razeghan**	**3.66**	**50**	Pn	**Pn**	**20 03 49.0**	**+2.2**
MAHB	**Mahabad**	**3.71**	**350**	Pn	**Pn**	**20 03 48.2**	**+0.7**
IPIR	**Pirpir**	**3.73**	**95**	Pn	**Pn**	**20 03 50.5**	**+2.6**
ZNGN	**Zangian**	**3.81**	**104**	Pn	**Pn**	**20 03 51.6**	**+2.6**
KBD	**Kabd**	**4.05**	**165**	P	Pb	20 03 57.3	-4.3
KBD				S	**Sb**	**20 04 45.6**	**-4.8**
IQOM	**Qom**	**4.18**	**64**	Pn	**Pn**	**20 03 55.7**	**+1.7**
IBRJ	**Brojen**	**4.20**	**105**	Pn	**Pn**	**20 03 56.9**	**+2.6**
IKLH	**Kolahrood**	**4.27**	**86**	Pn	**Pn**	**20 03 57.7**	**+2.4**
IMHD	**Mahdasht**	**4.31**	**52**	Pn	**Pn**	**20 03 57.2**	**+1.5**
IGZV	**Ghazvin**	**4.49**	**42**	Pn	**Pn**	**20 03 59.7**	**+1.4**
JIR1	**Jirandeh**	**4.51**	**36**	Pn	**Pn**	**20 04 00.0**	**+1.6**
IHSB	**Hasanabad**	**4.59**	**58**	Pn	**Pn**	**20 04 01.4**	**+1.8**
IGAR	**Gharneh**	**4.73**	**97**	Pn	**Pn**	**20 04 03.9**	**+2.4**
IVRN	**Varamin**	**4.74**	**65**	Pn	**Pn**	**20 04 03.2**	**+1.7**
KRSH	**Karshahi**	**4.79**	**78**	Pn	**Pn**	**20 04 04.5**	**+2.1**
KLNJ	**Kolanjah**	**4.81**	**114**	Pn	**Pn**	**20 04 05.5**	**+2.7**
IZEF	**Zefreh**	**4.91**	**91**	Pn	**Pn**	**20 04 06.4**	**+2.3**
ISFB	**Sefidab**	**4.95**	**74**	Pn	**Pn**	**20 04 05.8**	**+1.4**
KLST	**Kelardasht - M**	**5.07**	**47**	Pn	**Pn**	**20 04 08.1**	**+1.8**
IRAM	**Ramesheh**	**5.14**	**103**	Pn	**Pn**	**20 04 09.6**	**+2.3**
IDMV	**Damavand**	**5.21**	**60**	Pn	**Pn**	**20 04 09.5**	**+1.3**
ISHB	**Shabestar**	**5.21**	**352**	Pn	**Pn**	**20 04 08.2**	**0.0**
IHRS	**Heris**	**5.22**	**5**	Pn	**Pn**	**20 04 09.5**	**+1.2**
MZPU	**Pul - Mazandar**	**5.34**	**50**	Pn	**Pn**	**20 04 11.7**	**+1.8**
KAZ2	**Kazeron-Fars-I**	**5.63**	**127**	Pn	**Pn**	**20 04 16.3**	**+2.5**
IMRD	**Marand**	**5.63**	**354**	Pn	**Pn**	**20 04 14.9**	**+1.0**
IPRN	**Peran**	**5.74**	**55**	Pn	**Pn**	**20 04 17.4**	**+2.0**
ILAS	**Lasjerd**	**5.82**	**65**	Pn	**Pn**	**20 04 17.8**	**+1.3**
GEVA	**Gevas**	**5.90**	**333**		**Pn**	**20 04 18.1**	**+0.6**
IALA	**Alasht**	**6.00**	**59**	Pn	**Pn**	**20 04 21.2**	**+2.2**
ANAR	**Anarak**	**6.07**	**87**	Pn	**Pn**	**20 04 21.8**	**+1.9**
ISAD	**Sadrabad**	**6.19**	**99**	Pn	**Pn**	**20 04 24.7**	**+2.9**
DSBU	**Dashti - Bushe**	**6.26**	**138**	Pn	**Pn**	**20 04 25.1**	**+2.6**
MARD	**Mardin**	**6.28**	**314**		**Pn**	**20 04 21.9**	**-0.9**
GURO	**Guroymak-BITLI**	**6.53**	**328**		**Pn**	**20 04 24.0**	**-2.2**
IKIA	**Kiasar**	**6.69**	**60**	Pn	**Pn**	**20 04 30.3**	**+1.8**
IGLO	**Ghaloghah**	**6.92**	**59**	Pn	**Pn**	**20 04 33.8**	**+2.1**
IMEH	**Mehriz**	**7.09**	**102**	Pn	**Pn**	**20 04 35.9**	**+1.9**
GNI	**Garni**	**7.17**	**349**	Pn	**Pn**	**20 04 37.6**	**+2.6**
	comp=N,0.6nm,0.3s,baz=221,slow=12,SNR=5.6						
GNI				Lg	Lg	20 06 28.1	
	baz=233,slow=22						
GNI				LR	LR	20 07 45.7	
	comp=N,88nm,18.5s,baz=172,slow=42						
	comp=N,8.1nm,0.8s						
SAKB	**Bahrain**	**7.93**	**153**	P	**Pn**	**20 04 47.7**	**+2.4**
SAKB				S	**Sn**	**20 06 14.3**	**-0.5**
ASF	**Jabal al Asfar**	**8.14**	**266**	Pn	**Pn**	**20 04 48.3**	**0.0**
	comp=N,1.7nm,0.3s,baz=171,slow=3.2,SNR=7.2						
ASF				Sn	**Sn**	**20 06 16.6**	**-3.7**
	comp=N,1.0nm,0.3s,baz=115,slow=12,SNR=3.2						
ASF				Lg	Lg	20 07 01.8	
	comp=N,1.3nm,0.3s,baz=304,slow=22,SNR=3.4						
ASF				LR	LR	20 08 49.5	
	comp=N,139nm,18.4s,baz=113,slow=44						
	comp=N,2.1nm,0.3s						
SHMA	**Al-Shehemyia**	**8.21**	**151**	P	**Pn**	**20 04 51.8**	**+2.7**
SHMA				S	**Sn**	**20 06 21.1**	**-0.6**
TNSJ	**Nastanj**	**8.49**	**81**	Pn	**Pn**	**20 04 55.6**	**+2.5**
TKDS	**Koohdasht(Taba**	**8.91**	**84**	Pn	**Pn**	**20 05 00.9**	**+2.0**
GEM	**Giv'at Ha'Em**	**9.08**	**274**	P	Pn	20 05 52.3	+51
SMRA	**Abu-Samra**	**9.15**	**154**	P	**Pn**	**20 05 04.5**	**+2.4**
SMRA				S	**Sn**	**20 06 44.3**	**-0.7**
MMAI	**Mount Meron Ar**	**9.31**	**272**	Pn	**Pn**	**20 05 05.4**	**+1.2**
	comp=N,0.9nm,0.3s,baz=75,slow=17,SNR=2.6						
MMAI				Lg	Lg	20 07 42.4	
	comp=N,2.2nm,0.3s,baz=100,slow=25,SNR=3.8						
MMAI				LR	LR	20 09 44.4	
	comp=N,117nm,20.5s,baz=86,slow=44						
TRNA	**Turayna**	**9.31**	**152**	P	**Pn**	**20 05 07.1**	**+2.9**
	SNR=14						
TRNA				S	**Sn**	**20 06 49.8**	**+1.0**
RAYN	**Ar Rayn**	**9.59**	**185**		**Pn**	**20 05 09.6**	**+1.5**
RAYN	**Ar Rayn**	**9.59**	**185**	P	**Pn**	**20 05 09.6**	**+1.5**
RAYN	**Ar Rayn**	**9.59**	**185**	*i* Pn	**Pn**	**20 05 09.6**	**+1.5**
	SNR=16						
JRN	**Qarnain Island**	**9.85**	**144**	P	**Pn**	**20 05 14.0**	**+2.3**
JRN				S	**Sn**	**20 07 00.2**	**-1.9**
SLWR	**Sila**	**10.10**	**152**	P	**Pn**	**20 05 17.6**	**+2.6**
SLWR				S	**Sn**	**20 07 06.9**	**-1.2**
IBND	**Bandar-abas**	**10.35**	**120**	Pn	**Pn**	**20 05 21.4**	**+2.8**
EIL	**Elat**	**10.44**	**254**	Pn	**Pn**	**20 05 20.9**	**+1.2**
	comp=N,0.6nm,0.3s,baz=48,slow=12,SNR=5.8						
EIL				Lg	Lg	20 08 19.7	
	comp=N,0.8nm,0.3s,baz=37,slow=14,SNR=2.1						
EIL				LR	LR	20 10 32.3	
	comp=N,144nm,19.6s,baz=64,slow=44						
	comp=N,6.0nm,0.7s						
AFRZ	**Afriz**	**10.49**	**85**	Pn	**Pn**	**20 05 23.2**	**+2.7**
GHWR	**Ruwais**	**10.70**	**147**	P	**Pn**	**20 05 25.6**	**+2.3**
GHWR				S	**Sn**	**20 07 23.0**	**+0.1**
SHME	**Shamm**	**10.95**	**127**	P	**Pn**	**20 05 27.3**	**+0.5**
SHME	SNR=23						
				S	**Sn**	**20 07 26.6**	**-2.5**
	SNR=6.2						
SHME	**Shamm**	**10.95**	**127**	*i* Pn	**Pn**	**20 05 27.2**	**+0.4**
	SNR=23						
KBZ	**Khabaz**	**10.97**	**346**	Pn	**Pn**	**20 05 30.4**	**+3.5**
	comp=N,0.1nm,0.3s,baz=26,slow=6.3,SNR=2.8						
	comp=N,2.9nm,0.9s						
KBZ	**Khabaz**	**10.97**	**346**	*i* P	**Pn**	**20 05 26.6**	**-0.3**
BANOM	**Banah**	**11.14**	**127**	P	**Pn**	**20 05 30.0**	**+0.6**
BANOM				S	**Sn**	**20 07 29.4**	**-4.4**
BANOM	**Banah**	**11.14**	**127**	*i* Pn	**Pn**	**20 05 29.5**	**+0.1**
	SNR=37						
BANOM				Sn	**Sn**	**20 07 28.1**	**-5.7**
KVAR	**Kislovodsk Arr**	**11.23**	**346**	Pn	**Pn**	**20 05 33.4**	**+2.8**
	baz=198,slow=19						
	comp=N,3.6nm,0.8s						
KIV	**Kislovodsk**	**11.23**	**346**	*e*P	**Pn**	**20 05 30.0**	**-0.6**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,22nm,13.0s						
AJN	**Ajban**	**11.31**	**137**	P	**Pn**	**20 05 34.3**	**+2.7**
	SNR=19						
AJN				S	**Sn**	**20 07 35.8**	**-2.0**
	SNR=8.4						
AJN	**Ajban**	**11.31**	**137**	*i* Pn	**Pn**	**20 05 32.9**	**+1.3**
	SNR=18						
MZWR	**Madinat Zayed**	**11.35**	**143**	P	**Pn**	**20 05 35.1**	**+2.8**
MZWR				S	**Sn**	**20 07 37.4**	**-1.6**
NAZ	**Nazwa, Dubai**	**11.39**	**133**	P	**Pn**	**20 05 34.7**	**+2.0**
	SNR=22						
NAZ				S	**Sn**	**20 07 37.2**	**-2.6**
NAZ	**Nazwa, Dubai**	**11.39**	**133**	*i* Pn	**Pn**	**20 05 34.3**	**+1.5**
	SNR=22						
MASF	**Masafi**	**11.43**	**130**	P	**Pn**	**20 05 34.3**	**+1.0**
MASF				S	**Sn**	**20 07 37.3**	**-3.5**
MSFE	**Esma-Masafi**	**11.44**	**130**	*i* Pn	**Pn**	**20 05 33.9**	**+0.5**
	SNR=31						
ASUD	**Al Ashush, Dub**	**11.46**	**135**	P	**Pn**	**20 05 35.8**	**+2.1**
	SNR=34						
ASUD				S	**Sn**	**20 07 38.7**	**-2.8**
ASUD	**Al Ashush, Dub**	**11.46**	**135**	*i* Pn	**Pn**	**20 05 35.4**	**+1.8**
	SNR=34						
FAQ	**Al Faqa, Dubai**	**11.53**	**134**	P	**Pn**	**20 05 35.9**	**+1.3**
FAQ				S	**Sn**	**20 07 41.1**	**-2.1**
FAQ	**Al Faqa, Dubai**	**11.53**	**134**	Pn	**Pn**	**20 05 35.9**	**+1.3**
MDH	**Madha**	**11.57**	**130**	P	**Pn**	**20 05 35.8**	**+0.6**
	SNR=15						
MDH				S	**Sn**	**20 07 40.1**	**-4.1**
MDH	**Madha**	**11.57**	**130**	*i* Pn	**Pn**	**20 05 35.5**	**+0.3**
	SNR=33						
SOC	**Sochi**	**11.73**	**335**	*e*P	**Pn**	**20 05 33.0**	**-4.3**
SOC				*e*		20 07 43.8	
SOC				MLR	MLR		
	comp=Z,118nm,18.0s						
UOSS	**Minazif**	**11.76**	**131**		**Pn**	**20 05 38.1**	**+0.3**
UOSS	**Minazif**	**11.76**	**131**	P	**Pn**	**20 05 38.1**	**+0.3**
UOSS				S	**Sn**	**20 07 43.9**	**-5.0**
UOSS	**Minazif**	**11.76**	**131**	*i* Pn	**Pn**	**20 05 38.3**	**+0.5**
	SNR=16						
HATD	**Hatta, Dubai**	**11.80**	**132**	P	**Pn**	**20 05 39.5**	**+1.1**
	SNR=8.5						
HATD				S	**Sn**	**20 07 46.2**	**-3.7**
HATD	**Hatta, Dubai**	**11.80**	**132**	*i* Pn	**Pn**	**20 05 39.5**	**+1.1**
	SNR=17						
MZR	**Muzera**	**11.80**	**147**	P	**Pn**	**20 05 39.8**	**+1.4**
	SNR=13						
MZR				S	**Sn**	**20 07 47.8**	**-2.2**
ASHO	**Ashiyiah**	**11.86**	**133**	P	**Pn**	**20 05 40.4**	**+1.2**
	SNR=9.7						
ASHO				S	**Sn**	**20 07 47.3**	**-4.0**
ASHO	**Ashiyiah**	**11.86**	**133**	*i* Pn	**Pn**	**20 05 39.8**	**+0.7**
	SNR=26						
ALNE	**Al Ain**	**12.14**	**136**	P	**Pn**	**20 05 44.5**	**+1.5**
	SNR=23						
ALNE				S	**Sn**	**20 07 55.2**	**-3.1**
ALNE	**Al Ain**	**12.14**	**136**	*i* Pn	**Pn**	**20 05 44.2**	**+1.2**
	SNR=23						
BR104	**Keskin Array S**	**12.26**	**306**	Pn	**Pn**	**20 05 44.3**	**-0.5**
	comp=Z,2.8nm,1.1s						
BRTR	**Keskin Array B**	**12.27**	**306**	Pn	**Pn**	**20 05 47.7**	**+2.7**
	baz=143,slow=12,SNR=4.2						
BRTR				Lg	Lg	20 09 21.3	
	baz=128,slow=22,SNR=2.2						
BRTR				LR	LR	20 10 51.0	
	comp=Z,45nm,18.3s,baz=130,slow=39						
	comp=Z,0.6nm,0.7s						
BR105	**Keskin Array S**	**12.28**	**306**	P	**Pn**	**20 05 44.0**	**-1.1**
	comp=Z,42nmcomp=Z,4.7nm,1.0s						
BR106	**Keskin Array S**	**12.29**	**306**	P	**Pn**	**20 05 44.5**	**-0.7**
	comp=Z,2.7nm,0.9s						
DIKM	**Dikmen**	**12.34**	**317**	P	**Pn**	**20 05 44.6**	**-1.1**
	comp=Z,27nm,1.2s						
SOHO	**SOHO**	**12.55**	**133**	P	**Pn**	**20 05 49.5**	**+0.9**
SOHO				S	**Sn**	**20 08 03.3**	**-5.0**
SOHO	**SOHO**	**12.55**	**133**	*i* Pn	**Pn**	**20 05 48.8**	**+0.2**
	SNR=21						
UMZA	**Um Al Zommool**	**12.88**	**141**	P	**Pn**	**20 05 54.1**	**+1.0**
UMZA				S	**Sn**	**20 08 10.7**	**-5.5**
ARQ	**Araqi**	**13.14**	**135**	P	**Pn**	**20 05 57.6**	**+0.8**
	SNR=40						
ARQ				S	**Sn**	**20 08 17.3**	**-5.5**
BZK	**Bozkurt**	**13.27**	**315**	P	**Pn**	**20 05 57.6**	**-0.7**
	comp=Z,52nm,0.9s						
HOQ	**Hoqain**	**13.44**	**132**	P	**Pn**	**20 06 01.2**	**+0.4**
	SNR=16						
HOQ				P	**Pn**	**20 06 01.2**	**+0.4**
	SNR=16						
HOQ				S	**Sn**	**20 08 25.6**	**-4.4**
HOQ				S	**Sn**	**20 08 25.6**	**-4.4**
BSY	**

BELG Belogornoye 19.29 2 *i* P **P 20 07 14.9 +0.2**
BELG pmax pmax
comp=Z,7.0nm,0.9s
VORR Voronezh 19.30 346 *e*P **P 20 07 14.3 -0.5**
VORR pmax pmax
comp=Z,61nm,0.4s
BAL3X Bal3x, Balta 19.54 324 P **P 20 07 17.0 -0.5**
VRI Vrincioaia 19.81 316 ⇓P **P 20 07 21.2 +0.6**
VRI Vrincioaia 19.81 316 P **P 20 07 21.1 +0.6**
NEHR Nehoiu 19.83 314 ⇓P **Pn 20 07 22.1 -0.2**
PLOR5 Plostina Array 19.84 316 P **P 20 07 20.1 -0.7**
comp=Z,8.9nm,0.8s
PLOR Plostina 19.85 316 ⇓P **Pn 20 07 21.8 -0.7**
PLOR Plostina 19.85 316 P **Pn 20 07 21.8 -0.7**
MLR Muntele Rosu 20.07 314 P **P 20 07 23.9 +0.4**
comp=Z,3.1nm,0.8s,baz=25,slow=6.5,SNR=11
comp=Z,3.1nm,0.8s
MLR Muntele Rosu 20.07 314 ⇑P **P 20 07 23.9 +0.4**
COVR Voineasa-Covas 20.11 315 ⇓P Pn 20 07 24.8 -0.8
GAR Garm 20.11 66 **P 20 07 23.6 -0.4**
GAR IAmb IAmb 20 07 34.0
comp=Z,18nm,0.8s
TESR Tescani 20.21 317 ⇑P **P 20 07 24.7 -0.2**
TESR Tescani 20.21 317 P **P 20 07 24.2 -0.7**
comp=Z,19nm,0.8s
LPSR Galich'ya Gora 20.23 347 *e*P **P 20 07 22.8 -2.2**
LPSR pmax pmax
comp=Z,100nm,0.8s
ONER Baraj Valea Uz 20.26 317 ⇑P Pn 20 07 26.3 -1.0
SORM Soroca 20.29 323 ⇓P **P 20 07 24.6 -1.1**
SORM Soroca 20.29 323 P **P 20 07 24.6 -1.1**
SORM Soroca 20.29 323 P **P 20 07 24.3 -1.4**
comp=Z,21nm,0.8s
AGG Agios Georgios 20.38 294 **P 20 07 27.8 +1.0**
AGG IAmb IAmb 20 07 28.9
comp=Z,19nm,0.7s
AGG Agios Georgios 20.38 294 P Pn 20 07 27.8 -1.0
AGG pmax pmax
comp=Z,19nm,0.7s
ITM Ithomi 20.48 288 **P 20 07 28.1 +0.3**
MTUR Matau 20.48 312 ⇑P Pn 20 07 29.0 -1.1
MTUR Matau 20.48 312 P Pn 20 07 29.0 -1.1
OZUR 20.49 315 ⇓P **P 20 07 28.5 +0.6**
VOIR 20.59 313 ⇓P Pn 20 07 30.4 -0.9
VOIR 20.59 313 P Pn 20 07 30.4 -1.0
VOIR 20.59 313 P **P 20 07 29.0 -0.1**
comp=Z,34nm,0.8s
DOPR Dopca 20.66 315 ⇑P **P 20 07 30.8 +1.1**
BTK Batken 20.70 63 P **P 20 07 30.4 +0.2**
GRG Griva 20.72 299 P **P 20 07 31.6 +1.1**
GRG pmax pmax
comp=Z,20nm,0.9s
ARR Arges 20.82 312 ⇓P Pn 20 07 33.0 -0.9
PRAR RASCA 20.94 319 ⇑P **P 20 07 32.7 0.0**
NDNU Novodnistrovsk 21.09 323 P **P 20 07 32.3 -2.0**
TNR Turnu Rosu 21.18 313 ⇑P **P 20 07 36.7 +1.3**
TNR Turnu Rosu 21.18 313 P **P 20 07 36.6 +1.3**
KK31 Karatay Array 21.31 55 **P 20 07 36.2 -0.6**
KK31 IAmb IAmb 20 07 46.0
comp=Z,25nm,0.9s
KK31 Karatay Array 21.31 55 P **P 20 07 36.2 -0.6**
KK31 pmax pmax
comp=Z,25nm,1.0s
KKAR Karatay Array 21.31 55 **P 20 07 36.0 -0.8**
KKAR IAmb IAmb 20 07 46.0
comp=Z,26nm,0.9s
KKAR Karatay Array 21.31 55 **P 20 07 36.2 -0.6**
KKAR Karatay Array 21.31 55 P **P 20 07 36.2 -0.6**
DRK Karamyk 21.33 65 IAmb IAmb 20 07 47.0
comp=Z,11nm,0.6s
LOT Lotru 21.39 312 ⇑P **P 20 07 38.0 +0.3**
AK07 Malin Array Si 21.58 329 P **P 20 07 38.0 -1.6**
AK09 Malin Array Si 21.59 329 P **P 20 07 38.1 -1.6**
AK10 Malin Array Si 21.60 329 P **P 20 07 38.1 -1.6**
AK06 Malin Array Si 21.61 329 P **P 20 07 38.3 -1.6**
BURAR Bucovina Array 21.64 318 ⇓P **P 20 07 40.7 +0.3**
BURAR Bucovina Array 21.64 318 P **P 20 07 40.8 +0.4**
BUR08 Bucovina Ar. S 21.67 318 **P 20 07 40.3 -0.4**
AKASG Malin Array Be 21.68 329 P **P 20 07 37.4 -3.2**
AKASG Malin Array Be 21.68 329 P **P 20 07 39.0 -1.6**
comp=Z,3.8nm,0.7s,baz=140,slow=10,SNR=20
AKASG PcP **PcP 20 11 41.1 -0.3**
comp=Z,0.7nm,0.6s,baz=76,slow=1.8,SNR=4.1
comp=Z,3.8nm,0.7s
AKASG Malin Array Be 21.68 329 *i* P **P 20 07 39.7 -1.0**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 21.68 329 **P 20 07 38.1 -2.5**
AKBB Malin Array Si 21.68 329 *ce*P **P 20 07 39.6 -1.1**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 21.68 329 P **P 20 07 39.3 -1.4**
KIEV Kiev 21.69 329 **P 20 07 38.1 -2.5**
KIEV Kiev 21.69 329 ⇑P **P 20 07 39.5 -1.1**
KIEV Kiev 21.69 329 P **P 20 07 39.5 -1.1**
KIEV Kiev 21.69 329 P **P 20 07 39.3 -1.4**
comp=Z,58nm,0.9s
LUBAR Lubar, Ukraine 21.79 326 P **P 20 07 40.1 -1.7**
ARCR ARCALIA 21.85 316 ⇑P **P 20 07 43.5 +1.0**
HORU Horodok 21.96 323 P **P 20 07 42.7 -1.0**
HORU Horodok 21.96 323 P **P 20 07 42.7 -1.0**
IGT Igoumenitsa 21.99 294 P **P 20 07 48.1 +4.0**
IGT pmax pmax
comp=Z,23nm,0.7s
GZR Gura Zlata 21.99 311 ⇑P **P 20 07 45.3 +1.1**
GZR Gura Zlata 21.99 311 P **P 20 07 45.2 +1.1**
HERR Herculane 22.01 309 ⇑P **P 20 07 45.1 +0.9**
BOVS Bovan 22.02 306 ⇑P **P 20 07 44.9 +0.6**
MI29 MI29, Kamyanyy 22.09 327 P **P 20 07 44.7 -0.3**
comp=Z,90nm,0.9s
CJR Cluj-Napoca 22.10 315 ⇑P **P 20 07 46.2 +0.9**
CJR Cluj-Napoca 22.10 315 P **P 20 07 46.2 +0.9**
CBBR Cluj-Babes-Bol 22.16 315 ⇑P **P 20 07 46.6 +0.8**
MI30 MI30,Zelenitsa 22.17 328 P **P 20 07 43.9 -2.0**
comp=Z,51nm,0.8s
NIL Nilore 22.34 81 **P 20 07 48.1 +0.2**
NIL IAmb IAmb 20 07 55.2
comp=Z,18nm,0.7s
NIL Nilore 22.34 81 P **P 20 07 48.1 +0.2**
NIL pmax pmax
comp=Z,18nm,0.7s
MARR Marisel-Cluj 22.37 314 ⇑P **P 20 07 48.9 +0.7**
MDVR Moldovita 22.43 309 ⇑P **P 20 07 49.1 +0.3**
RAKU Rahkiv 22.46 318 P **P 20 07 49.4 +0.3**
SURR Surduc 22.56 311 ⇓P **P 20 07 50.0 -0.1**
STNU Starunia 22.66 320 P **P 20 07 50.5 -0.7**
DRGR 22.67 314 P **P 20 07 51.7 +0.3**
DRGR pmax pmax
comp=Z,17nm,0.8s
MESR Meseseni 22.70 315 ⇑P **P 20 07 52.4 +0.7**
BZS Buzias 22.83 310 ⇑P **P 20 07 52.9 -0.1**
BZS Buzias 22.83 310 P **P 20 07 52.8 -0.1**
SIRR Siria 23.08 312 ⇑P **P 20 07 55.2 -0.4**
OBN Obninsk 23.08 345 *e*P **P 20 07 54.0 -1.4**
OBN *e**PP **pP 20 07 58.1 -1.6**
OBN *e*PPP PPP 20 08 27.2
OBN *e* 20 11 42.4
OBN pmax pmax
comp=Z,26nm,1.3s
OBN Obninsk 23.08 345 P **P 20 07 54.5 -0.9**
comp=Z,18nm,0.6s
SJES Sjenica 23.09 304 *e*P **P 20 07 54.6 -1.2**
BRIU Brid 23.28 318 P **P 20 07 57.1 -0.4**
DRME Dracevica, Mon 23.36 301 *e*P **P 20 07 58.8 +0.3**
PDG Podgorica 23.37 301 *e*P **P 20 07 58.2 -0.3**
PDG Podgorica 23.37 301 ⇓P **P 20 07 59.5 +1.0**
MOS Moscow 23.46 347 *e*P **P 20 07 55.8 -3.4**
MOS *e*S **S 20 12 07.7 -4.5**
MOS pmax pmax
comp=Z,22nm,0.8s
MUKU Mukachevo 23.52 318 P **P 20 07 59.6 -0.4**
RUDO Rudo 23.62 304 *e*P **P 20 08 00.6 -0.4**
RNPP8 Varash 23.64 327 P **P 20 08 00.1 -1.0**
BBLS Lazi&#263i 23.67 305 *e*P **P 20 07 59.3 -2.2**
RNPP9 Sopachiv 23.67 327 P **P 20 08 00.1 -1.3**
HOLU Holmets 23.73 318 P **P 20 08 01.8 -0.2**
FRGS Fruska Gora 23.82 308 *e*P **P 20 08 02.7 -0.3**
HCY Herceg Novi 23.92 301 *e*P **P 20 08 02.6 -1.3**
AAK Ala-Archa 23.97 59 LR LR 20 18 54.8
comp=Z,63nm,18.2s,baz=262,slow=40
BRY Bratogost 24.00 302 *e*P **P 20 08 04.2 -0.6**
KOLS Kolonicke sedl 24.01 318 *e*P **P 20 08 06.1 +1.4**
KOLS pmax pmax
comp=Z,9.0nm,0.8s
KOLS Kolonicke sedl 24.01 318 *e*P **P 20 08 06.1 +1.4**
HAPS Han Pijesak,BI 24.05 305 *e*P **P 20 08 02.9 -2.3**
TREB Trebinje 24.09 302 *e*P **P 20 08 04.3 -1.2**
KSH Kashi 24.54 66 P **P 20 08 08.3 -1.5**
KSH pmax pmax
comp=Z,9.0nm,0.9s
STON Ston 24.59 302 *e*P **P 20 08 09.2 -0.9**
ARTI Arti 24.69 16 **P 20 08 10.5 -0.3**
ARTI Arti 24.69 16 *d i*P **P 20 08 10.6 -0.2**
ARTI 20 08 44.0
ARTI S **S 20 12 35.2 +3.2**
ARTI SS 20 13 22.4
ARTI pmax pmax
comp=Z,10.0nm,0.8s
TIP Timpagrande 24.70 293 IAmb IAmb 20 08 16.3
comp=Z,11nm,0.9s
TIP Timpagrande 24.70 293 ⇑P **P 20 08 11.6 +0.5**
TIP Timpagrande 24.70 293 P **P 20 08 11.3 +0.1**
comp=Z,12nm,1.1s
KECS Kecovo 24.80 316 *e*P **P 20 08 13.2 +1.2**
KECS pmax pmax
comp=Z,25nm,1.2s
KECS Kecovo 24.80 316 *e*P **P 20 08 13.2 +1.2**
PSZ Piszkesteto 24.89 314 ⇓P **P 20 08 11.6 -1.2**
PSZ Piszkesteto 24.89 314 P **P 20 08 11.6 -1.2**
PSZ Piszkesteto 24.89 314 *e*P **P 20 08 13.7 +0.8**
MATE Matera 24.90 296 ⇓P **P 20 08 13.6 +0.7**
MATE Matera 24.90 296 *e*P **P 20 08 11.1 -1.8**
MORH Mrgy, Hungar 24.97 310 ⇓P **P 20 08 13.7 +0.3**
MORH Mrgy, Hungar 24.97 310 P **P 20 08 13.4 0.0**
comp=Z,190nmcomp=Z,6.9nm,1.0s
BOOM Boomskoye usch 24.98 59 IAmb IAmb 20 08 17.3
comp=Z,9.7nm,0.7s
BOOM Boomskoye usch 24.98 59 P **P 20 08 13.2 -0.6**
MNK Minsk 25.10 334 *i* P **P 20 08 10.9 -3.6**
comp=E,7.0nm,0.8s
MNK *i* P **P 20 08 10.9 -3.6**
comp=N,7.0nm,0.8s
MNK *i* P **P 20 08 10.9 -3.6**
comp=Z,17nm,0.8s,baz=141
MNK *i* PP **PnPn 20 08 44.0 -4.2**
MNK *i* PPP PPP 20 08 52.0
MNK *i* S **S 20 12 35.8 -2.8**
MNK *i* SS **SnSn 20 13 25.7 -2.5**
MNK *i* SSS SSS 20 13 39.4
MNK *i* LQ LQ 20 16 32.4
MNK *i* LR LR 20 17 55.4
MNK *i* LRM MLR 20 19 49.1
comp=N,25nm,15.9s
MNK *i* LRM MLR 20 19 54.9
comp=Z,23nm,16.3s
MNK *i* LRM MLR 20 20 09.4
comp=E,29nm,18.9s
MNK Minsk 25.10 334 *i* P **P 20 08 10.9 -3.6**
MNK *i* PPP PPP 20 08 52.0
MNK *i* S **S 20 12 35.8 -2.8**
MNK *i* SSS SSS 20 13 39.4
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=Z,17nm,0.8s
MNK MLR MLR
comp=N,25nm,16.0s
MNK MLR MLR
comp=Z,23nm,16.0s
MNK MLR MLR
comp=E,29nm,19.0s
BUD Budapest 25.23 313 P **P 20 08 17.1 +1.3**
BUD pmax pmax
comp=Z,20nm,0.7s
CEL Celeste 25.31 290 P **P 20 08 17.0 +0.3**
comp=Z,20nm,0.8s
NIE Niedzica 25.37 318 P **P 20 08 16.8 -0.3**
NIE Niedzica 25.37 318 P **P 20 08 16.8 -0.3**
comp=Z,1.9nm,0.8s
BLY Banja Luka 25.45 306 *e*P **P 20 08 17.6 -0.2**
CUC Castrocucco 25.50 294 IAmb IAmb 20 08 35.5
comp=Z,7.5nm,0.7s
KIRV Kirov 25.56 4 P **P 20 08 18.4 -0.2**
comp=Z,20nm,0.6s,baz=190,slow=22,SNR=6.4
KIRV LR LR 20 20 40.7
comp=Z,72nm,18.6s,baz=189,slow=42
comp=Z,20nm,0.6s
KIRV Kirov 25.56 4 *ce*P **P 20 08 18.6 0.0**
LANS Liptovska Anna 25.72 317 *e*P **P 20 08 21.7 +1.5**
LANS pmax pmax
comp=Z,8.0nm,1.1s
LANS Liptovska Anna 25.72 317 *e*P **P 20 08 21.7 +1.5**
A051A Mrakovica 25.72 306 *e*P **P 20 08 20.3 0.0**
VYHS Vyhne 25.78 315 *e*P **P 20 08 22.2 +1.4**
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 25.78 315 *e*P **P 20 08 22.2 +1.4**
SRO Srobarova 25.81 313 *e*P **P 20 08 22.4 +1.4**
SRO pmax pmax
comp=Z,9.0nm,0.8s
SRO Srobarova 25.81 313 *e*P **P 20 08 22.4 +1.4**
KDJ Kajisay 25.81 61 IAmb IAmb 20 08 25.7
comp=Z,7.6nm,0.8s
KDJ Kajisay 25.81 61 P **P 20 08 20.9 -0.5**
NACGM Naroch 25.82 333 *e*P **P 20 08 21.0 -0.1**
comp=Z,10.0nm,0.9s,baz=140
A050A Klekovaca 25.82 305 *e*P **P 20 08 20.9 -0.4**
OJC Ojcow 26.06 319 P **P 20 08 24.3 +1.0**
BRVK Borovoye 26.24 33 **P 20 08 25.1 +0.3**
BRVK IAmb IAmb 20 08 34.4
comp=Z,9.1nm,0.8s
BRVK Borovoye 26.24 33 *ce*P **P 20 08 25.5 +0.6**
BRVK pmax pmax
comp=Z,15nm,1.3s
BVAR Borovoye Array 26.26 34 P **P 20 08 24.6 -0.6**
comp=Z,10nm,0.7s,baz=224,slow=8.3,SNR=36
BVAR PcP **PcP 20 11 51.8 +0.5**
comp=Z,2.0nm,0.8s,baz=173,slow=5.6,SNR=5.5
BVAR ScP **ScP 20 15 29.2 -1.4**
comp=Z,1.1nm,0.8s,baz=239,slow=4.7,SNR=4.1
BVAR LR LR 20 21 18.7
comp=Z,44nm,18.6s,baz=236,slow=42
comp=Z,10nm,0.7s
SMOL Smolenice 26.64 314 *e*P **P 20 08 29.7 +1.2**
JAVC Velka Javorina 26.64 315 *e*P **P 20 08 29.6 +1.0**
MODS Modra-Piesok 26.67 314 *e*P **P 20 08 32.3 +3.4**
MODS pmax pmax
comp=Z,16nm,1.1s
MODS Modra-Piesok 26.67 314 *e*P **P 20 08 32.3 +3.4**
PRZ Przheval'sk 26.77 60 IAmb IAmb 20 08 33.5
comp=Z,9.2nm,0.9s
MAUC Maruska 26.77 316 *e*P **P 20 08 31.0 +1.2**
CRES Cresnjevec Ost 26.93 307 *e*P **P 20 08 30.1 -1.2**
BOJS Bojanci 26.98 306 *e*P **P 20 08 29.2 -2.5**
RONA Rosalia, Austr 27.02 312 *e*P **P 20 08 33.2 +1.2**
comp=Z,11nm,1.1s
STEB Steborice 27.06 317 *e*P **P 20 08 32.5 +0.2**
MORC Moravsky Berou 27.12 316 *e*P **P 20 08 33.0 +0.1**
MORC Moravsky Berou 27.12 316 ⇑P **P 20 08 31.8 -1.2**
MORC Moravsky Berou 27.12 316 P **P 20 08 31.7 -1.2**
ARSA Arzberg 27.34 310 P **P 20 08 36.5 +1.6**
comp=Z,1.5nm,0.6s
PABE Paberze 27.36 332 *e*P **P 20 08 34.8 -0.1**
CONA Conrad Observa 27.37 312 *e*P **P 20 08 36.1 +0.9**
comp=Z,7.3nm,1.0s
VRAC Vranov 27.47 315 *e*P **P 20 08 36.3 +0.3**
VRAC Vranov 27.47 315 ⇓P **P 20 08 35.4 -0.7**
VRAC Vranov 27.47 315 P **P 20 08 35.3 -0.7**
KRUC Moravsky 27.49 314 *e*P **P 20 08 36.4 +0.2**
CEY Cerknica 27.60 307 *e*P **P 20 08 35.9 -1.4**
CAMP Campotosto 27.63 300 IAmb IAmb 20 09 03.5
comp=Z,11nm,1.0s
OBKA Obir 27.74 308 *e*P **P 20 08 40.0 +1.4**
OBKA Obir 27.74 308 *ep*P pP 20 08 42.0 -0.9
comp=Z,10nm,1.2s
DPC Dobruska-Polom 28.08 317 *e*P **P 20 08 41.7 +0.2**
DPC Dobruska-Polom 28.08 317 *e*P **P 20 08 41.7 +0.2**
DPC Dobruska-Polom 28.08 317 P **P 20 08 41.3 -0.2**
comp=Z,5.2nm,0.9s
KLMR Klimovskoe 28.13 353 *e*P **P 20 08 40.4 -1.4**
KLMR pmax pmax
comp=Z,14nm,1.1s
OSTC Ostas 28.23 317 *e*P **P 20 08 43.2 +0.3**
OSTC Ostas 28.23 317 *e*P **P 20 08 43.2 +0.3**
CESX Cesi 28.25 300 IAmb IAmb 20 08 47.4
comp=Z,5.5nm,0.7s
KSP Ksiaz 28.32 318 P **P 20 08 43.4 -0.2**
KSP Ksiaz 28.32 318 P **P 20 08 43.4 -0.2**
comp=Z,11nm,1.5s
UPC Upice 28.33 317 *e*P **P 20 08 43.8 +0.1**
UPC Upice 28.33 317 *e*P **P 20 08 43.8 +0.1**
CHVC Chvalec 28.34 317 *e*P **P 20 08 43.8 0.0**
CHVC Chvalec 28.34 317 *e*P **P 20 08 43.8 0.0**
MOA Molln 28.35 311 *e*P **P 20 08 44.6 +0.6**
comp=Z,3.2nm,0.6s
MYKA Terra Mystica 28.38 308 *e*P **P 20 08 46.3 +2.1**
comp=Z,1.4nm,0.5s
BIOA Bad Ischl, Aus 28.70 310 *i* P **P 20 08 47.5 +0.5**
comp=Z,2.5nm,0.5s
KBA Koelnbreinsper 28.70 309 P **P 20 08 47.1 -0.1**
KBA Koelnbreinsper 28.70 309 *i* P **P 20 08 48.1 +0.8**
comp=Z,3.5nm,0.7s
ZVC Zvikov 28.96 314 *e*P **P 20 08 49.5 +0.2**
GERES GERESS Array B 29.05 313 P **P 20 08 50.0 -0.2**
comp=Z,0.4nm,0.5s,baz=105,slow=9.8,SNR=4.7
GERES PcP **PcP 20 11 58.5 +0.3**
comp=Z,1.0nm,0.6s,baz=131,slow=3.7,SNR=6.8
comp=Z,0.4nm,0.5s
KHC Kasperske Hory 29.22 313 *e*P **P 20 08 51.0 -0.7**
KHC Kasperske Hory 29.22 313 *e*P **P 20 08 51.0 -0.7**
LESA Schwarzleotal 29.24 309 *i* P **P 20 08 52.1 +0.2**
comp=Z,2.3nm,0.5s
LESA *e*PcP **PcP 20 11 59.8 +1.1**
comp=Z,1.1nm,0.3s
KURBB Kurchatov Arra 29.28 44 P **P 20 08 51.9 -0.2**
comp=Z,2.4nm,0.6s,baz=250,slow=9.0,SNR=12
KURBB ScP **ScP 20 15 39.1 -0.8**
comp=Z,0.3nm,0.3s,baz=245,slow=4.0,SNR=0.9
comp=Z,2.4nm,0.6s
KURK Kurchatov 29.37 44 *i* P **P 20 08 54.1 +1.2**
KURK pmax pmax
comp=Z,3.0nm,0.9s
CTI Castel Tesino 29.55 306 IAmb IAmb 20 08 55.9
comp=Z,10.0nm,1.3s
ARBE Arbavere 29.66 339 *e*P **P 20 08 54.6 -0.7**
WTTA Wattenberg 29.87 309 *i* P **P 20 08 57.6 -0.1**
comp=Z,3.5nm,0.5s
WATA Walderalm 29.93 309 *i* P **P 20 08 57.5 -0.6**
comp=Z,3.5nm,0.6s
SQTA Sankt Quirin 30.14 308 *i* P **P 20 08 59.7 -0.2**
comp=Z,5.1nm,0.5s
SQTA *e*PcP **PcP 20 12 02.3 +1.2**
comp=Z,0.3nm,0.2s
MAKZ Makanchi 30.17 53 **P 20 09 01.0 +0.9**
MAKZ Makanchi 30.17 53 P **P 20 09 01.0 +0.9**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MOTA Moosalm 30.24 309 *i* P **P 20 09 00.2 -0.7**
comp=Z,4.1nm,0.6s
MOTA *e*PcP **PcP 20 12 02.8 +1.5**
comp=Z,2.4nm,0.6s
MK31 Makanchi Array 30.38 53 *ce*P **P 20 09 02.7 +0.8**
MKAR Makanchi Array 30.38 53 **P 20 09 02.5 +0.5**
MKAR Makanchi Array 30.38 53 P **P 20 09 02.7 +0.8**
comp=Z,11nm,0.7s,baz=250,slow=8.9,SNR=74
MKAR ScP **ScP 20 15 42.2 -1.4**
comp=Z,0.5nm,0.9s,baz=258,slow=1.3,SNR=2.5
MKAR LR LR 20 23 03.8
comp=Z,64nm,18.3s,baz=251,slow=40
comp=Z,11nm,0.7s
CLL Collm 30.39 317 *e*P **P 20 09 02.0 0.0**
CLL pmax pmax
comp=Z,6.0nm,1.2s
CLL Collm 30.39 317 *e*PP PP 20 10 14.0 +3.5
CLL Collm 30.39 317 *e*P **P 20 09 02.0 0.0**
comp=Z,6.0nm,1.2s
FETA Feichten 30.41 308 *i* P **P 20 09 02.0 -0.4**
comp=Z,2.9nm,0.7s
FETA *e*PcP **PcP 20 12 03.3 +1.5**
comp=Z,1.0nm,0.6s
MEF Metsahovi 30.76 338 *e*P **P 20 09 04.4 -0.7**
DAVA Damuels 31.03 308 *i* P **P 20 09 07.6 -0.2**
comp=Z,6.2nm,0.5s
FINES FINESS Array B 31.27 341 P **P 20 09 08.9 -0.6**
comp=Z,1.9nm,0.5s,baz=146,slow=10,SNR=20
FINES PcP **PcP 20 12 03.5 -0.1**
comp=Z,1.7nm,0.8s,baz=113,slow=4.4,SNR=4.5
comp=Z,1.9nm,0.5s
FINES FINESS Array B 31.27 341 *i* P **P 20 09 09.0 -0.6**
FINES pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 31.34 347 *e*P **P 20 09 09.5 -0.6**
SBF Sospel 32.13 301 *e*P **P 20 09 17.6 +0.1**
SBF pmax pmax
comp=Z,11nm,0.8s
KEF Keuruu 32.19 341 *e*P **P 20 09 17.0 -0.7**
RAF Rauma 32.21 338 *e*P **P 20 09 16.3 -1.5**
MBDF Montbardon 32.70 303 *e*P **P 20 09 22.5 -0.1**
MBDF pmax pmax
comp=Z,6.0nm,0.6s
LMR La Mourre 32.75 300 *e*P **P 20 09 23.9 +1.1**
LMR pmax pmax
comp=Z,12nm,1.6s
BNI Bardonecchia 32.81 303 P **P 20 09 23.6 +0.1**
BNI pmax pmax
comp=Z,85nm,1.0s
LPG La Plagne 32.82 304 *e*P **P 20 09 24.3 +0.6**
LPG pmax pmax
comp=Z,5.0nm,0.7s
LPL La Plagne 32.84 304 *e*P **P 20 09 23.6 -0.2**
LPL pmax pmax
comp=Z,6.0nm,0.8s
HINF Hinteralfeld 33.15 308 *e*P **P 20 09 25.6 -0.7**
HINF pmax pmax
comp=Z,28nm,2.2s
ORIF Oris-en-Rattie 33.36 303 *e*P **P 20 09 26.9 -1.3**
ORIF pmax pmax
comp=Z,2.0nm,0.6s
CABF La Chapelle 33.44 306 *e*P **P 20 09 28.7 -0.2**
CABF pmax pmax
comp=Z,9.0nm,0.7s
VAF Ylistaro 33.51 341 *e*P **P 20 09 28.5 -0.6**
HAU Haudompre 33.52 308 *e*P **P 20 09 29.4 -0.1**
HAU pmax pmax
comp=Z,5.0nm,0.7s
ZAA0 Zalesovo Array 34.14 41 IAmb IAmb 20 09 40.7
comp=Z,4.5nm,0.8s
ZALV Zalesovo Beam 34.14 41 **P 20 09 34.8 +0.1**
ZALV Zalesovo Beam 34.14 41 P **P 20 09 35.2 +0.4**
comp=Z,4.9nm,0.5s,baz=252,slow=9.6,SNR=23
ZALV PP **PP 20 10 51.9 -0.1**
comp=Z,1.6nm,0.8s,baz=261,slow=9.6,SNR=1.8
comp=Z,4.9nm,0.5s
VIVF Saint-Julien-I 34.20 302 *e*P **P 20 09 36.5 +1.0**
VIVF pmax pmax
comp=Z,7.0nm,1.1s
HFS Hagfors 34.54 331 P **P 20 09 37.8 -0.3**
comp=Z,4.9nm,0.6s,baz=126,slow=9.8,SNR=24
comp=Z,4.9nm,0.6s
SMF Signal de Mont 34.98 305 *e*P **P 20 09 41.6 -0.6**
SMF pmax pmax
comp=Z,14nm,0.7s
LOR Lormes 35.05 307 *e*P **P 20 09 42.0 -0.8**
LOR pmax pmax
comp=Z,10.0nm,1.2s
KMBO Kilima Mbogo 35.15 196 P **P 20 09 46.2 +2.1**
comp=Z,0.4nm,0.3s,baz=25,slow=7.7,SNR=4.0
comp=Z,0.4nm,0.3s
SSF Saint Saulge 35.26 306 *e*P **P 20 09 44.1 -0.5**
SSF pmax pmax
comp=Z,5.0nm,0.7s
AVF Avril sur Loir 35.33 306 *e*P **P 20 09 44.4 -0.8**
AVF pmax pmax
comp=Z,7.0nm,1.0s
APA Apatity 35.34 351 ⇓*i*P P 20 09 39.3 -5.7
APA pmax pmax
comp=Z,7.0nm,0.9s
APA MLR MLR
comp=Z,300nm,14.0s
BGF Bois d'Agland 35.65 305 *e*P **P 20 09 47.3 -0.6**
BGF pmax pmax
comp=Z,6.0nm,0.8s
NB2 NORSAR Subarra 36.06 331 P **P 20 09 50.1 -1.2**
comp=Z,1.5nm,0.8s,baz=124,slow=8.6
NOA NORSAR Array B 36.06 331 P **P 20 09 50.3 -1.0**
comp=Z,1.3nm,0.8s,baz=125,slow=8.6,SNR=6.2
NOA PP **PP 20 11 12.1 -1.1**
comp=Z,1.0nm,0.8s,baz=129,slow=11.1,SNR=4.7
NOA PcP **PcP 20 12 17.3 0.0**
comp=Z,0.6nm,0.7s,baz=106,slow=3.6,SNR=2.9
comp=Z,1.3nm,0.8s
LFF La Frestale 37.00 302 *e*P **P 20 09 59.0 -0.4**

LFF pmax pmax
comp=Z,61nm,2.0s
TAM Tamanrasset 37.41 265 P P 20 10 09.0 +5.6
TAM pmax pmax
comp=Z,2.0nm,1.0s
ETSF Etsaut 37.91 299 *e*P **P 20 10 08.6 +1.3**
ETSF pmax pmax
comp=Z,36nm,2.0s
ARCES ARCESS Array B 38.32 348 P **P 20 10 10.2 -0.2**
comp=Z,1.5nm,0.5s,baz=162,slow=8.9,SNR=11
comp=Z,1.5nm,0.5s
SJPF Ste Jean 38.40 299 *e*P **P 20 10 11.1 -0.2**
SJPF pmax pmax
comp=Z,12nm,1.2s
GOMU GeErMu 39.55 72 P **P 20 10 22.1 +0.6**
GOMU pmax pmax
comp=Z,9.0nm,0.7s
QUIF Quistinic 39.85 307 *e*P **P 20 10 22.3 -1.1**
QUIF pmax pmax
comp=Z,99nm,2.0s
ESDC Sonseca Array 40.70 294 P **P 20 10 31.3 +0.7**
comp=Z,1.0nm,0.5s,baz=76,slow=8.3,SNR=16
ESDC PcP **PcP 20 12 33.0 +0.9**
comp=Z,0.7nm,0.9s,baz=56,slow=3.2,SNR=5.0
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 40.83 318 P **P 20 10 31.3 -0.1**
comp=Z,5.2nm,0.7s,baz=100,slow=8.7,SNR=18
EKA PcP **PcP 20 12 32.0 -0.1**
comp=Z,1.1nm,0.7s,baz=109,slow=3.7,SNR=1.4
comp=Z,5.2nm,0.7s
NRIK Noril'sk 42.88 20 P **P 20 10 48.0 +0.1**
comp=Z,1.2nm,0.4s,baz=243,slow=8.9,SNR=4.1
comp=Z,1.2nm,0.4s
NRIK Noril'sk 42.88 20*ce*P **P 20 10 47.9 0.0**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
MOY Mondy 43.21 48 *e*P **P 20 10 52.7 +1.7**
TORD Torodi Ar. Bea 45.33 255 **P 20 11 09.4 +1.2**
TORD Torodi Ar. Bea 45.33 255 P **P 20 11 09.5 +1.2**
comp=Z,47nm,0.4s,baz=62,slow=6.8,SNR=1.2
TORD PcP **PcP 20 12 48.5 +0.6**
comp=Z,44nm,0.3s,baz=55,slow=4.2,SNR=1.4
SONM Songino Array 46.74 53 P **P 20 11 19.7 +0.4**
comp=Z,1.2nm,0.9s,baz=279,slow=11,SNR=7.6
SONM PcP **PcP 20 12 52.3 -0.2**
comp=Z,0.5nm,0.6s,baz=228,slow=3.8,SNR=4.4
comp=Z,1.2nm,0.9s
SPITS Spitsbergen Ar 47.03 352 P **P 20 11 21.4 +0.5**
comp=Z,4.0nm,0.5s,baz=122,slow=11,SNR=23
comp=Z,4.0nm,0.5s
ULN Ulaanbaatar 47.18 53*ce*P **P 20 11 23.8 +1.1**
ULN pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 48.80 93 P **P 20 11 34.7 -0.7**
CHTO IAmb IAmb 20 11 37.0
comp=Z,7.4nm,1.0s
CHTO Chiang Mai 48.80 93 P **P 20 11 34.7 -0.7**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CMAR Chiang Mai Arr 48.96 94 **P 20 11 35.7 -0.9**
CMAR Chiang Mai Arr 48.96 94 P **P 20 11 36.9 +0.3**
comp=Z,3.9nm,0.8s,baz=292,slow=8.5,SNR=30
CMAR PcP **PcP 20 13 01.8 +1.0**
comp=Z,1.6nm,0.9s,baz=290,slow=5.1,SNR=5.4
CMAR PP **PP 20 13 30.7 +0.6**
comp=Z,1.2nm,0.8s,baz=295,slow=10,SNR=4.5
comp=Z,3.9nm,0.8s
CMAR Chiang Mai Arr 48.96 94 *i* P **P 20 11 36.9 +0.3**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
XAN Xi'an 51.28 71 ⇓P **P 20 11 54.8 +0.7**
XAN pmax pmax
comp=Z,19nm,1.2s
LYN LuoYang 53.92 69 P **P 20 12 15.3 +1.7**
LYN pmax pmax
comp=Z,24nm,1.0s
XLT XiLinHaoTe 54.04 57 *e*P **P 20 12 16.0 +1.5**
XLT PcP **PcP 20 13 18.4 -1.0**
XLT pmax pmax
comp=Z,9.0nm,1.0s
XLT pmax pmax
comp=Z,95nm,4.8s
DBIC Dimbokro 54.30 253 P **P 20 12 17.5 +0.9**
comp=Z,2.8nm,0.7s,baz=353,slow=3.7,SNR=3.1
DBIC LR LR 20 38 28.3
comp=Z,44nm,19.2s,baz=14,slow=39
comp=Z,2.8nm,0.7s
TIXI Tiksi 56.57 22 LR LR 20 40 50.4
comp=Z,36nm,18.9s,baz=197,slow=40
TIXI Tiksi 56.57 22*ce*P **P 20 12 32.2 +0.1**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
SUMG Summit 57.27 339 P **P 20 12 37.7 +0.1**
SUMG IAmb IAmb 20 12 41.4
comp=Z,6.1nm,0.8s
SUMG Summit 57.27 339 P **P 20 12 37.7 +0.1**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 57.27 339 *i* P **P 20 12 37.0 -0.6**
PSI Prapat 57.49 110 P **P 20 12 39.0 -0.6**
PSI pmax pmax
comp=Z,7.0nm,1.0s
RPSI Rantau Prapat 57.55 110 **P 20 12 39.0 -0.9**
RPSI IAmb IAmb 20 12 41.2
comp=Z,7.1nm,1.0s
YAK Yakutsk 58.24 33 *e*P **P 20 12 44.0 0.0**
YAK *e**PP **pP 20 12 47.6 -1.1**
YAK *e* 20 13 34.3
YAK *e* 20 14 56.4
YAK *e*S **S 20 20 47.2 +1.9**
YAK *e**SS **sS 20 20 55.0 +1.9**
YAK *e* 20 22 33.0
YAK *e*SS **SS 20 24 40.5 +4.0**
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.3s
YAK pmax pmax
comp=Z,41nm,2.8s
YAK pmax pmax
comp=N,28nm,2.8s
YAK smax smax
comp=N,56nm,3.8s
YAK smax smax
comp=E,22nm,3.8s
HEH HeiHe 59.88 47 *e*P **P 20 12 55.4 -0.2**
HEH pmax pmax
comp=Z,6.0nm,1.0s
MYKOM Kota Tinggi 62.01 108 P **P 20 13 10.0 -0.6**
KLR Kul'dur 62.87 47*ce*P **P 20 13 15.2 -0.7**
KLR pmax pmax
comp=Z,2.0nm,1.0s
BOSA Boshof 64.61 201 P **P 20 13 28.3 +0.7**
comp=Z,4.2nm,1.0s,baz=33,slow=6.0,SNR=4.6
comp=Z,4.2nm,1.0s
KSRS Korea Array 64.61 61 P **P 20 13 27.2 -0.3**
comp=Z,2.8nm,0.7s,baz=277,slow=7.4,SNR=13
comp=Z,2.8nm,0.7s
USRK Ussuriysk Ar. 64.84 52 P **P 20 13 27.9 -1.0**
comp=Z,1.7nm,0.6s,baz=278,slow=6.1,SNR=5.9
comp=Z,1.7nm,0.6s
USRK Ussuriysk Ar. 64.84 52 P **P 20 13 28.0 -1.0**
SEY Seymchan 67.77 28*ce*P **P 20 13 48.2 +0.8**
SEY pmax pmax
comp=Z,8.0nm,1.3s
STKI Sintang 69.18 104 P **P 20 13 58.6 +1.7**
BILL Biiibino 69.70 20*ce*P **P 20 14 00.0 +0.7**
BILL pmax pmax
comp=Z,5.0nm,1.3s
YSS Yuzhno-Sakhali 70.53 46 *i* P **P 20 14 04.9 +0.1**
YSS pmax pmax
comp=Z,10.0nm,1.2s
ILON Igloolik, Nuna 71.10 343 **P 20 14 07.5 -0.3**
ILON IAmb IAmb 20 14 08.8
comp=Z,7.8nm,1.3s
MJAR Matsushiro Arr 72.42 58 P **P 20 14 17.1 +0.7**
comp=Z,1.7nm,0.8s,baz=292,slow=4.4,SNR=4.0
comp=Z,1.7nm,0.8s
B22K Teshekpuk Lake 75.85 7 IAmb IAmb 20 14 37.8
comp=Z,6.1nm,0.9s
MPSI Mapaga 75.94 99 P **P 20 14 37.2 -0.1**
C18K Utukok River 76.49 10 **P 20 14 39.5 0.0**
C18K IAmb IAmb 20 14 43.8
comp=Z,5.1nm,0.8s
C24K Franklin Bluff 76.87 5 IAmb IAmb 20 14 48.0
comp=Z,4.5nm,0.8s
C27K Jago River 77.30 4 IAmb IAmb 20 14 46.3
comp=Z,4.3nm,0.9s
D22K Ayikyak River 77.33 7 **P 20 14 44.6 +0.4**
D22K IAmb IAmb 20 14 51.1
comp=Z,4.6nm,0.8s
D24K Happy Valley 77.42 6 IAmb IAmb 20 14 49.3
comp=Z,5.5nm,1.1s
D25K Kavik River 77.44 5 IAmb IAmb 20 14 51.0
comp=Z,4.4nm,0.8s
E21K Killik River 77.61 8 IAmb IAmb 20 14 46.9
comp=Z,7.4nm,1.3s
D27M Malcolm River 77.81 3 IAmb IAmb 20 14 53.0
comp=Z,4.1nm,0.8s
E22K Anaktuvuk Pass 78.14 7 **P 20 14 48.8 0.0**
E22K IAmb IAmb 20 14 49.9
comp=Z,8.5nm,1.4s
E23K Chandalar 78.42 6 IAmb IAmb 20 14 56.9
comp=Z,4.0nm,0.7s
E28M Babbage River 78.50 2 IAmb IAmb 20 14 57.3
comp=Z,2.5nm,0.7s
F17K Baldwin Pennin 78.51 11 IAmb IAmb 20 14 56.5
comp=Z,3.9nm,0.7s
BLKN Baker Lake 78.51 344 P **P 20 14 50.1 -0.7**
BLKN IAmb IAmb 20 14 52.0
comp=Z,3.7nm,0.9s
F19K Shaleruckik Mo 78.67 10 IAmb IAmb 20 14 52.5
comp=Z,4.3nm,1.0s
E25K Arctic Village 78.68 5 IAmb IAmb 20 14 58.1
comp=Z,4.8nm,0.7s
F20K Avaraart Lake 78.73 9 IAmb IAmb 20 14 52.9
comp=Z,7.5nm,1.4s
E27K Coleen River 78.83 3 IAmb IAmb 20 14 54.1
comp=Z,8.4nm,1.2s
KAPI Kappang 78.84 103 P **P 20 14 54.2 +0.7**
comp=Z,1.4nm,0.4s,baz=174,slow=22,SNR=1.6
comp=Z,1.4nm,0.4s
F25K Christian Rive 79.19 5 IAmb IAmb 20 14 56.5
comp=Z,5.7nm,1.2s
G21K Allakaket 79.52 8 IAmb IAmb 20 14 57.8
comp=Z,6.3nm,1.0s
F31M Tsiigehtchic 79.76 0 IAmb IAmb 20 15 03.5
comp=Z,5.1nm,0.7s
G30M tAoh Zraii Nji 80.20 1 IAmb IAmb 20 15 05.9
comp=Z,5.4nm,0.8s
G29M Pine Creek 80.24 2 IAmb IAmb 20 15 01.8
comp=Z,5.8nm,1.1s
G31M Satah River 80.28 0 IAmb IAmb 20 15 06.2
comp=Z,5.8nm,0.8s
H21K Melozitna Rive 80.42 8 IAmb IAmb 20 15 03.4
comp=Z,6.0nm,0.9s
H23K Yukon River 80.61 7 IAmb IAmb 20 15 09.0
comp=Z,3.5nm,0.7s
I26K Coal Creek Min 81.62 4 IAmb IAmb 20 15 13.8
comp=Z,3.1nm,0.7s
I28M Miner Creek 81.64 3 IAmb IAmb 20 15 14.0
comp=Z,2.9nm,0.8s
J19K Poorman 81.65 10 IAmb IAmb 20 15 09.8
comp=Z,5.1nm,0.8s
ILAR Eielson Array 81.88 6 P **P 20 15 08.9 -0.1**
comp=Z,0.8nm,0.7s,baz=330,slow=3.6,SNR=8.9
comp=Z,0.8nm,0.7s
I30M Mount Dempster 81.97 1 IAmb IAmb 20 15 15.6
comp=Z,4.2nm,0.8s
J25K Salcha River, 82.16 5 IAmb IAmb 20 15 31.7
comp=Z,7.6nm,1.4s
CAST Castle Rocks 82.67 8 IAmb IAmb 20 15 14.2
comp=Z,4.9nm,0.8s
K27K Chicken 82.95 4 IAmb IAmb 20 15 21.6
comp=Z,4.2nm,0.8s
DOT Dot Lake 83.21 5 IAmb IAmb 20 15 22.1
comp=Z,4.1nm,0.8s
K29M Barlow Dome 83.33 2 IAmb IAmb 20 15 22.3
comp=Z,3.0nm,0.9s
YKAW3 Yellowknife Wh 83.46 351 P **P 20 15 17.2 0.0**
YKAW3 IAmb IAmb 20 15 23.3
comp=Z,3.7nm,1.1s
YKA Yellowknife Ar 83.52 351 P **P 20 15 16.6 -0.9**
comp=Z,1.7nm,0.9s,baz=17,slow=5.5,SNR=17
comp=Z,1.7nm,0.9s
YKA Yellowknife Ar 83.52 351 *i* P **P 20 15 17.7 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.9s
L27K Beaver Creek, 83.93 4 IAmb IAmb 20 15 26.4
comp=Z,3.0nm,0.9s
WRA Warramunga Arr 98.90 108 P **P 20 16 29.7 -0.9**
comp=Z,0.6nm,0.9s,baz=311,slow=4.4,SNR=4.8
comp=Z,0.6nm,0.9s
ASAR Alice Springs 100.50 111 P **Pdif 20 16 37.0 -0.7**
comp=Z,0.4nm,0.7s,baz=294,slow=5.1,SNR=3.2
ASAR PP **PP 20 20 46.0 +1.1**
comp=Z,0.6nm,1.1s,baz=309,slow=9.1,SNR=3.1
ASAR PKiKP **PKiKP 20 21 03.7 -0.7**
comp=Z,0.2nm,0.6s,baz=295,slow=1.1,SNR=4.2
ASAR Alice Springs 100.50 111 P **Pdif 20 16 37.0 -0.7**
QSPA South Pole Qui 122.94 180 PKP **PKiKP 20 21 46.0 +0.4**
comp=Z,2.5nm,0.9s,baz=272,slow=2.1,SNR=9.5

ROM 17 20:06:21.5±0.1, 42°.908N±0°.003×12°.636E±0°.007, h10km, ML1.3/16, 2C-1D, Error ellipse: s-maj=0.7km s-min=0.1km az=105.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOPC	**Foligno Prot C**	**0.08**	**39**	P	Pg	20 06 24.0	+0.2
GNU	**Giano nell'Umb**	**0.11**	**205**	P	Pg	20 06 24.7	+0.4
GNU				S	Sg	20 06 27.4	+1.0
MOMA	**Monte Martano**	**0.11**	**205**	⇑P	Pg	20 06 24.6	+0.3
MOMA				S	Sg	20 06 26.9	+0.5
MOMA				AML	AML		
MOMA	comp=E,386μm,1.2s			AML	AML		
MOMA	comp=E,386μm,1.2s			AML	AML		
MOMA	comp=N,363μm,0.2s			AML	AML		
MOMA	comp=E,326μm,1.3s			AML	AML		
MOMA	comp=N,364μm,0.2s			AML	AML		
MOMA	comp=E,386μm,0.8s			AML	AML		
ASSB	**Assisi San Ben**	**0.14**	**7**	⇑P	Pg	20 06 25.0	+0.3
ASSB				S	Sg	20 06 27.9	+1.0
ASSB				AML	AML		
ASSB	comp=E,130μm,0.2s			AML	AML		
ASSB	comp=N,95μm,0.3s			AML	AML		
CESI	**CESI - Serrava**	**0.22**	**64**	P	Pg	20 06 26.7	+0.7
CESI				S	Sg	20 06 30.7	+1.5
CESI				AML	AML		
CESI	comp=E,70μm,1.1s			AML	AML		
CESI	comp=E,70μm,1.1s			AML	AML		
CESI	comp=N,130μm,0.3s			AML	AML		
CESI	comp=E,70μm,0.9s			AML	AML		
ATCC	**AVT- Casa Cast**	**0.28**	**1**	⇓P	Pg	20 06 27.6	+0.5
ATCC				S	Sb	20 06 32.4	-1.1
ATCC				AML	AML		
ATCC	comp=N,60μm,0.7s			AML	AML		
ATCC	comp=E,71μm,0.7s			AML	AML		
GAVE	**Gavelli**	**0.29**	**138**	P	Pg	20 06 27.9	+0.6
CESX	**Cesi**	**0.30**	**188**	P	Pg	20 06 28.2	+0.7
CESX				S	Sb	20 06 33.1	-0.9
CESX				AML	AML		
CESX	comp=N,54μm,1.5s			AML	AML		
CESX	comp=E,62μm,0.2s			AML	AML		
CESX	comp=N,54μm,0.5s			AML	AML		
ARRO	**Arrone**	**0.34**	**164**	P	Pb	20 06 29.6	-0.1
MURB	**Monte Urbino**	**0.36**	**347**	P	Pg	20 06 29.2	+0.5
MURB				S	Sb	20 06 35.5	-0.5
MURB				AML	AML		
MURB	comp=E,229μm,0.3s			AML	AML		
MURB	comp=N,224μm,1.0s			AML	AML		
MURB	comp=E,229μm,1.7s			AML	AML		
MURB	comp=N,224μm,1.0s			AML	AML		

IDC 17 20:09:09.6±835.0, 54°.74N×4°.95E, h0km, Error ellipse: s-maj=370.3km s-min=150.7km az=130.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.02**	**134**	I	I	20 58 20.0	
	baz=320,slow=328,SNR=1.5						
I43RU	**DUBNA INFRASON**	**18.19**	**71**	I	I	21 54 35.2	
	baz=274,slow=322,SNR=7.1						
I48TN	**KESRA INFRASON**	**19.18**	**169**	I	I	22 04 50.0	
	baz=351,slow=324,SNR=0.7						

YARS 17 20:11:59.8, 55°.61N×128°.77E, h15km, ML2.0/15
SKHL 17 20:12:00.0±0.2, 55°.50N×128°.80E, h10km±4km, mb3.7/2, 1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMKR	**Bomnak**	**0.79**	**178**	⇑*i*Pg	Pg	20 12 15.2	0.0
BMKR				AMB	AMB	20 12 15.8	
BMKR	50nm,0.2s			*e*Sg	Sg	20 12 26.0	+0.5
BMKR				A	A	20 12 27.8	
BMKR	100nm,0.4s						
ZEA	**Zeya**	**1.98**	**208**	*e*P	Pb	20 12 35.8	-0.3
ZEA	**Zeya**	**1.98**	**208**	*e*Pg	Pb	20 12 35.8	-0.3
ZEA				AMB	AMB	20 12 37.0	
ZEA	10.0nm,0.2s						
ZEA				*e*Sg	Sb	20 13 01.7	+0.8
ZEA				A	A	20 13 02.2	
ZEA	30nm,0.5s						
ZEA	**Zeya**	**1.98**	**208**	pmax	pmax		
	comp=Z,10.0nm,0.2s						
TNDR	**Tynda**	**2.36**	**263**	*i* Pg	Pb	20 12 42.6	+0.1
	comp=Z,2.6nm,2.2s						
TNDR				*i* Sg	Sb	20 13 13.0	+1.3
	comp=Z,18nm,15.0s						
TNDR				*i* Sg	Sb	20 13 13.0	+1.3
	comp=Z,12nm,0.0s						
TNDR	**Tynda**	**2.36**	**263**	*e*Pg	Pb	20 12 42.6	+0.1
TNDR				*e*Sg	Sb	20 13 13.0	+1.3
OCTB	**Oktyabr'skiy**	**2.49**	**182**	*e*Pg	Pb	20 12 45.4	+0.6
OCTB				*e*Sg	Sg	20 13 19.1	-0.8
OCTB				A	A	20 13 19.6	
	comp=Z,10.0nm,0.3s						
CLNS	**Chul'man**	**2.56**	**303**	*i* Pg	Pb	20 12 45.8	-0.3
	comp=Z,2.0nm,0.8s						
CLNS				*i* Sg	Sb	20 13 18.4	+0.8
	comp=Z,9.7nm,0.4s						
CLNS				*i* Sg	Sb	20 13 18.4	+0.8
	comp=Z,8.0nm,0.4s						
CLNS	**Chul'man**	**2.56**	**303**	*e*Pg	Pb	20 12 45.8	-0.3
CLNS				*e*Sg	Sb	20 13 18.4	+0.8
CGD	**Chagda**	**3.41**	**16**	*i* Pg	Pb	20 12 59.4	-0.9
	comp=Z,1.1nm,0.6s						
CGD				*i* Sg	Sb	20 13 42.1	+0.3
	comp=Z,2.3nm,0.3s						
CGD				*i* Sg	Sb	20 13 42.1	+0.3
	comp=Z,3.8nm,4.1s						
EKMR	**Ekimchan**	**3.44**	**133**	*e*Pg	Pg	20 13 03.7	-2.2
EKMR				*e*Sg	Sg	20 13 48.6	-1.8
EKMR				A	A	20 13 51.1	
	comp=Z,10.0nm,0.6s						
ALDR	**Aldan**	**3.63**	**331**	*i* Pg	Pb	20 13 04.1	-0.1
	comp=Z,0.7nm,3.0s						
ALDR				*i* Sg	Sb	20 13 49.6	+1.5
	comp=Z,5.0nm,0.1s						
ALDR				*i* Sg	Sb	20 13 49.6	+1.5
	comp=Z,3.4nm,0.2s						
YKLR	**Yuktali**	**4.15**	**288**	*i* Pg	Pb	20 13 13.7	+0.6
	comp=Z,1.7nm,0.1s						
YKLR				*i* Sg	Sb	20 14 06.9	+3.6
	comp=Z,1.6nm,0.1s						
YKLR				*i* Sg	Sb	20 14 06.9	+3.6
	comp=Z,1.5nm,0.1s						
YKLR	**Yuktali**	**4.15**	**288**	*e*Pg	Pb	20 13 13.7	+0.6
YKLR				*e*Sg	Sb	20 14 06.9	+3.6

IPEC 17 20:13:04.9±0.2, 50°.41N×18°.84E, h1km, ML2.2/4, Error ellipse: s-maj=2.3km s-min=0.9km az=173.0
PRU 17 20:13:05.7, 50°.42N×18°.80E, h0km
IDC 17 20:13:10.3±2.7, 50°.60N×19°.20E, h0km, mbtmp3.3/4, ML2.3/4, Error ellipse: s-maj=46.6km s-min=12.0km az=130.0
ISC 17 20:13:04.0±0.8, 50°.43N±0°.04×18°.90E±0°.03, h0km, n29, σ1°.00/47, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.61**	**109**	*e*Pg	**Pb**	**20 13 17.3**	**-0.3**
OJC				*e*Sg	**Sb**	**20 13 26.6**	**-0.1**
OKC	**Ostrava-Krasne**	**0.76**	**220**	*e*PG	**Pg**	**20 13 19.1**	**+0.5**
OKC				*e*SG	**Sg**	**20 13 29.5**	**+1.0**
STEB	**Steborice**	**0.88**	**236**	*e*PG	**Pg**	**20 13 21.3**	**+0.5**
STEB				*e*SG	**Sg**	**20 13 32.3**	**+0.1**
MORC	**Moravsky Berou**	**1.09**	**234**	*e*Pg	**Pg**	**20 13 24.9**	**+0.1**
	baz=53						
MORC				*e*Sg	**Sg**	**20 13 37.9**	**-1.1**
	44nm,0.5s,baz=53						
MORC	**Moravsky Berou**	**1.09**	**234**	*e*PG	**Pg**	**20 13 25.0**	**+0.1**
MORC				*e*SG	**Sg**	**20 13 38.0**	**-1.1**
LANS	**Liptovska Anna**	**1.33**	**164**	*e*PG	**Pn**	**20 13 30.1**	**+0.2**
LANS				*e*SG	**Sb**	**20 13 47.8**	**+0.4**
LANS				*e*LG	**Lg**	20 13 50.7	
NIE	**Niedzica**	**1.35**	**138**	*e*Pg	**Pb**	**20 13 30.9**	**+0.7**
NIE				*e*Sg	**Sn**	**20 13 51.2**	**+2.3**
DPC	**Dobruska-Polom**	**1.65**	**268**	*e*PG	**Pn**	**20 13 34.5**	**+0.1**
DPC				*e*SG	**Sb**	**20 13 56.9**	**+0.1**
KSP	**Ksiaz**	**1.71**	**285**	*e*Pg	**Pg**	**20 13 37.6**	**+0.8**
KSP				*e*Sg	**Sg**	**20 14 00.5**	**+1.5**
OSTC	**Ostas**	**1.72**	**275**	*e*PG	**Pn**	**20 13 35.5**	**+0.2**
OSTC				*e*SG	**Sg**	**20 13 59.2**	**-0.1**
JAVC	**Velka Javorina**	**1.76**	**208**	*e*Pn	**Pn**	**20 13 35.9**	**+0.1**
	baz=26						
JAVC	**Velka Javorina**	**1.76**	**208**	*e*PN	**Pn**	**20 13 36.0**	**+0.1**
CHVC	**Chvalec**	**1.82**	**276**	*e*PG	**Pn**	**20 13 37.0**	**+0.3**
UPC	**Upice**	**1.85**	**274**	*e*PG	**Pb**	**20 13 38.5**	**-0.2**
VRAC	**Vranov**	**1.86**	**234**	*e*Pn	**Pn**	**20 13 37.3**	**+0.1**
	baz=52						
VRAC				*e*Sg	**Sb**	**20 14 02.1**	**-0.8**
	15nm,0.6s,baz=52						
VYHS	**Vyhne**	**1.93**	**181**	*e*PN	**Pn**	**20 13 38.2**	**0.0**
VYHS				*e*SN	**Sn**	**20 14 02.1**	**-1.1**
KRUC	**Moravsky**	**2.12**	**231**	*e*Pn	**Pn**	**20 13 41.0**	**+0.2**
	baz=49						
KRUC				*e*Sg	**Sb**	**20 14 09.9**	**-0.3**
	10nm,0.7s,baz=49						
KECS	**Kecovo**	**2.20**	**151**	*e*PN	**Pn**	**20 13 42.3**	**+0.5**
MODS	**Modra-Piesok**	**2.31**	**208**	*e*PG	**Pg**	**20 13 47.9**	**-0.4**
KOLS	**Kolonicke sedl**	**2.65**	**123**	*e*PN	**Pn**	**20 13 49.4**	**+1.4**
KOLS				*e*SN	**Sn**	**20 14 21.4**	**+0.6**
GOPC	**GO Pecny, Ondr**	**2.69**	**261**	*e*SG	**Sb**	**20 14 28.3**	**+1.6**
	comp=Z,11nm,0.9s						
PRU	**Pruhonice**	**2.83**	**263**	*e*SG	**Sb**	**20 14 32.2**	**+1.5**
BRG	**Berggiesshubel**	**3.19**	**280**	Pg	**Pg**	**20 14 05.2**	**+0.1**
BRG				Sg	**Sg**	**20 14 47.6**	**+1.2**
BRG				Amp		20 14 56.0	
	comp=Z,3.0nm,0.5s						
CKRC	**Cesky Krumlov**	**3.39**	**243**	*e*SG	**Sg**	**20 14 52.2**	**-0.7**
	comp=Z,5.6nm,0.8s						
KHC	**Kasperske Hory**	**3.69**	**251**	*e*PN	**Pn**	**20 14 01.6**	**-0.7**
KHC				*e*PG	**Pb**	**20 14 10.2**	**+0.2**
KHC				*e*SG	**Sg**	**20 15 00.4**	**-2.0**
GERES	**GERESS Array B**	**3.73**	**247**	Pn	**Pb**	**20 14 12.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=62,slow=16,SNR=10						
GERES				Sn	**Sb**	**20 14 59.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=66,slow=26,SNR=9.9						
	comp=Z,0.6nm,0.3s						
HFS	**Hagfors**	**10.17**	**345**	Pn	**Pn**	**20 15 28.8**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=143,slow=14,SNR=1.9						
	comp=Z,1.6nm,0.9s						
FINES	**FINESS Array B**	**11.74**	**17**	Pn	**Pn**	**20 15 51.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=197,slow=12,SNR=6.1						
	comp=Z,0.3nm,0.4s						
ARCES	**ARCESS Array B**	**19.43**	**7**	Pn	**P**	**20 17 31.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=191,slow=14,SNR=1.6						
	comp=Z,1.5nm,0.8s						

KRNET 17 20:13:40.9±0.1, 42°.72N×71°.18E, h14km, mb2.5
SOME 17 20:13:41.5, 42°.83N×71°.15E, h10km
NNC 17 20:13:42.2±0.7, 42°.76N×71°.08E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=8.1km s-min=3.6km az=28.0

ISC 17 20:13:41.5±1.1, 42°.73N±0°.03×71°.13E±0°.02, h6km±10km, n29, σ1§08/57, 30C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK06	**Karatay Array**	**0.57**	**310**	⇑P	**Pg**	**20 13 52.5**	**+0.1**
KK06				⇑S	**Sg**	**20 14 00.6**	**+0.7**
KK07	**Karatay Array**	**0.58**	**308**	⇓P	**Pg**	**20 13 52.8**	**+0.1**
KK07				⇓S	**Sg**	**20 14 00.7**	**+0.4**
KK02	**Karatay Array**	**0.59**	**310**	⇑P	**Pg**	**20 13 52.7**	**0.0**
KK02				⇑S	**Sb**	**20 14 01.5**	**-1.3**
KK31	**Karatay Array**	**0.59**	**310**	⇓P	**Pg**	**20 13 52.6**	**-0.2**
	1.4nm,0.2s,baz=128,slow=17,SNR=269						
KK31				⇑S	**Sg**	**20 14 00.1**	**-0.3**
	10nm,0.4s,baz=212,slow=43,SNR=32						
KKAR	**Karatay Array**	**0.59**	**310**	⇑*i*P	**Pg**	**20 13 52.5**	**-0.2**
KKAR				⇑*i*S	**Sg**	**20 14 01.2**	**+0.8**
KK05	**Karatay Array**	**0.59**	**311**	⇓P	**Pg**	**20 13 52.7**	**0.0**
KK05				⇓S	**Sg**	**20 14 01.2**	**+0.8**
KK01	**Karatay Array**	**0.59**	**310**	⇑P	**Pg**	**20 13 52.8**	**0.0**
KK01				⇑S	**Sb**	**20 14 01.5**	**-1.4**
KK03	**Karatay Array**	**0.59**	**309**	⇑P	**Pg**	**20 13 52.7**	**-0.1**
KK03				⇑S	**Sb**	**20 14 01.7**	**-1.2**
KK04	**Karatay Array**	**0.59**	**310**	⇑P	**Pg**	**20 13 52.8**	**-0.1**
KK04				⇑S	**Sg**	**20 14 01.3**	**+0.7**
KK08	**Karatay Array**	**0.60**	**309**	⇑P	**Pg**	**20 13 53.0**	**0.0**
KK08				⇓S	**Sg**	**20 14 01.1**	**+0.3**
KK09	**Karatay Array**	**0.60**	**311**	⇓P	**Pg**	**20 13 53.3**	**+0.2**
KK09				⇓S	**Sg**	**20 14 01.6**	**+0.6**
BRLS	**Borolday**	**0.99**	**288**	P	**Pn**	**20 14 01.4**	**-0.6**
	1.9nm,0.2s						
BRLS				S	**Sn**	**20 14 15.8**	**-0.7**
	19nm,0.4s						
BRLS	**Borolday**	**0.99**	**288**	*e*P	**Pn**	**20 14 01.7**	**-0.4**
	1.9nm,0.2s						
BRLS				*e*S	**Sn**	**20 14 16.0**	**-0.4**
	19nm,0.4s						
IUG	**luzhnay**	**1.00**	**235**	P	**Pg**	**20 14 01.1**	**+0.6**
	9.7nm,0.2s						
IUG				S	**Sb**	**20 14 15.5**	**+0.8**
	73nm,0.2s						
IUG	**luzhnay**	**1.00**	**235**	*e*P	**Pg**	**20 14 01.0**	**+0.4**
IUG				*e*S	**Sb**	**20 14 15.1**	**+0.4**
MNAS	**Manas**	**1.05**	**103**	⇑*i*P	**Pg**	**20 14 00.0**	**-1.5**
MNAS				⇑*i*S	**Sg**	**20 14 13.8**	**-1.3**
ARK	**Arkit**	**1.12**	**146**	⇑*e*P	**Pb**	**20 14 01.4**	**-1.9**
ARK				⇑*e*S	**Sg**	**20 14 16.4**	**-1.0**
TRKS	**Terek-Say**	**1.20**	**179**	⇑*i*P	**Pn**	**20 14 04.5**	**-0.5**
TRKS				⇑*i*S	**Sn**	**20 14 21.5**	**-0.2**
MRKS	**Merke**	**1.55**	**89**	P	**Pn**	**20 14 09.4**	**-0.3**
	2.2nm,0.1s						
MRKS				S	**Sn**	**20 14 29.2**	**-1.0**
	12nm,0.3s						
MRKS	**Merke**	**1.55**	**89**	*e*P	**Pn**	**20 14 09.4**	**-0.3**
	2.2nm,0.1s						
MRKS				*e*S	**Sn**	**20 14 29.2**	**-1.0**
	12nm,0.3s						
EKS2	**Erkin-Say**	**1.96**	**91**	⇓*e*P	**Pb**	**20 14 16.2**	**-1.4**
EKS2				⇓*i*S	**Sb**	**20 14 42.0**	**-0.3**
AAK	**Ala-Archa**	**2.49**	**91**	⇑Pn	**Pg**	**20 14 29.5**	**+0.4**
	1.7nm,0.3s						
AAK				⇑Sn	**Sb**	**20 14 56.9**	**-0.7**
	2.4nm,0.3s						
ARLS	**Aral**	**2.53**	**109**	⇑*e*P	**Pn**	**20 14 24.4**	**+1.2**
ARLS				⇑*e*S	**Sb**	**20 14 55.9**	**-2.9**
BTK	**Batken**	**2.68**	**185**	⇑*e*P	**Pn**	**20 14 26.7**	**+1.4**
BTK				⇑*e*S	**Sn**	**20 14 59.7**	**+1.6**
SALK	**Salom-Alik**	**2.73**	**132**	⇓*e*P	**Pn**	**20 14 26.7**	**+0.6**
SALK				⇓*e*S	**Sn**	**20 15 00.5**	**+1.0**
TKM2	**Tokmak 2**	**3.29**	**85**	⇑Pg	**Pg**	**20 14 45.7**	**+1.1**
	0.9nm,0.3s						
TKM2				⇑Lg	Lg	20 15 31.9	
	1.6nm,0.5s						
BOOM	**Boomskoye usch**	**3.56**	**92**	⇑*e*P	**Pn**	**20 14 38.2**	**+0.7**
BOOM				⇑*e*S	**Sn**	**20 15 20.4**	**+0.4**
KST	**Kastek**	**3.57**	**83**	*e*P	**Pb**	**20 14 45.5**	**+0.4**
	1.0nm,0.3s						
KST				*e*S	**Sb**	**20 15 31.1**	**+2.4**
	3.1nm,0.3s						
TNSS	**Tian-Shan**	**4.29**	**84**	*e*P	**Pb**	**20 14 58.5**	**+1.0**
	0.9nm,0.4s						
TNSS				*e*S	**Sb**	**20 15 53.3**	**+3.6**
	2.1nm,0.7s						

DJA 17 20:29:22.9±0.2, 2°.S±2°.×12°.3E±°, h10km, M3.9/14, mb4.1/5, MLv3.8/14, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.91**	**10**	P	Pg	20 29 37.6	-2.8
LUWI				S	Sb	20 29 53.0	+0.1
APSI	**Ampana**	**1.40**	**317**	P	Pn	20 29 45.9	-2.7
KMSI	**Cibinong**	**2.85**	**29**	P	Pn	20 30 07.9	-0.6
PCI	**Palu**	**2.96**	**290**	P	Pn	20 30 10.9	+0.9
SANI	**Sanana**	**3.38**	**92**	P	Pn	20 30 13.9	-1.8
SPSI	**Sidrap Palu**	**3.48**	**235**	P	Pn	20 30 18.6	+1.5
SPSI				S	Sn	20 31 00.0	+1.6
BNSI	**Bone**	**3.50**	**226**	P	Pn	20 30 18.7	+1.3
BBSI	**Bau Bau**	**3.52**	**181**	P	Pn	20 30 15.5	-2.3
MPSI	**Mapaga**	**3.53**	**310**	P	Pn	20 30 13.3	-4.6
TNTI	**Ternate**	**5.47**	**61**	P	Pn	20 30 43.5	-1.0

AFAD 17 20:37:10.4, 38°.80N×38°.15E, h9km±1km, MWJ3.5
ISK 17 20:37:10.1, 38°.76N×38°.14E, h5km, ML3.3/18
ISC 17 20:37:10.5±0.9, 38°.78N±0°.02×38°.16E±0°.02, h10km±8km, n52, σ0§73/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.18**	**303**	P	**Pg**	**20 37 14.9**	**+0.4**
HEKM				S	**Sg**	**20 37 17.1**	**-0.3**
ARPR	**Arapgir-MALATY**	**0.34**	**24**	Pg	**Pb**	**20 37 18.1**	**-0.8**
ARPR				Sg	**Sb**	**20 37 24.7**	**+0.3**
MAYA	**Malatya/Merkez**	**0.50**	**155**	P	**Pb**	**20 37 20.9**	**-0.5**
MAYA				S	**Sb**	**20 37 28.1**	**-0.8**
AKCD	**Akcadag**	**0.52**	**201**	P	**Pb**	**20 37 21.1**	**-0.6**
KEMA	**Kemaliye**	**0.56**	**28**	P	**Pg**	**20 37 21.2**	**-0.1**
KEMA				S	**Sg**	**20 37 28.6**	**-0.1**
DARE	**Darende-Malaty**	**0.57**	**249**	Pg	**Pb**	**20 37 21.8**	**-0.8**
DARE				Sg	**Sb**	**20 37 30.5**	**-0.2**
CUGUR	**Gurin_SVAS**	**0.69**	**266**	P	**Pg**	**20 37 24.0**	**0.0**
CUGUR				S	**Sg**	**20 37 33.1**	**+0.1**
ELZG	**Elazig**	**0.71**	**113**	P	**Pb**	**20 37 24.6**	**-0.5**
ELZG				S	**Sg**	**20 37 34.2**	**+0.6**
CUKAN	**kangal_SIVAS**	**0.76**	**315**	P	**Pg**	**20 37 24.6**	**-0.6**
CUKAN				S	**Sg**	**20 37 35.1**	**0.0**
AZEY	**Adyaman-Merk**	**0.97**	**176**	P	**Pb**	**20 37 29.7**	**+0.2**
AZEY				S	**Sn**	**20 37 43.8**	**-0.4**
NARI	**Adyaman-Kaht**	**1.01**	**152**	P	**Pn**	**20 37 31.0**	**+0.1**
NARI				S	**Sn**	**20 37 45.6**	**+0.4**
AKCA	**Adyaman/G¶l**	**1.05**	**201**	P	**Pb**	**20 37 30.9**	**0.0**
AKCA				S	**Sb**	**20 37 44.7**	**0.0**
TNCL	**Tunceli-Merkez**	**1.13**	**72**	P	**Pg**	**20 37 31.6**	**-0.7**
TNCL				S	**Sg**	**20 37 45.5**	**-1.5**
CUZAR	**Zara_SIVAS**	**1.15**	**345**	P	**Pn**	**20 37 32.9**	**+0.1**
CUZAR				S	**Sb**	**20 37 47.9**	**+0.3**
CUAYA	**Sivas-Altinyay**	**1.20**	**294**	P	**Pg**	**20 37 32.9**	**-0.7**
KOVA	**Elazig, Kovanc**	**1.30**	**93**	P	**Pn**	**20 37 34.7**	**-0.1**
ATAB	**Bozova**	**1.31**	**175**	P	**Pg**	**20 37 36.6**	**+0.9**
HANM	**anlurfa/Hi**	**1.33**	**154**	P	**Pg**	**20 37 36.6**	**+0.6**
HANM				S	**Sn**	**20 37 53.6**	**+0.7**
SARI	**SarD1z-Kayseri**	**1.41**	**255**	Pn	**Pg**	**20 37 37.7**	**+0.1**
SUSE	**Susehri**	**1.43**	**1**	P	**Pg**	**20 37 38.1**	**+0.2**
URFA	**Urfa**	**1.44**	**158**	Pn	**Pg**	**20 37 38.3**	**+0.2**
SVSK	**Karacayir**	**1.45**	**322**	Pn	**Pg**	**20 37 38.7**	**+0.4**
SVSK				Sn	**Sg**	**20 37 59.7**	**+2.6**
ERZN	**Erzincan**	**1.46**	**56**	Pn	**Pb**	**20 37 38.0**	**+0.1**
ERZN				Sn	**Sg**	**20 37 59.7**	**+2.2**
GZT	**Gaziantep**	**1.50**	**198**	P	**Pg**	**20 37 39.3**	**+0.1**
GZT				S	**Sg**	**20 37 59.3**	**+0.6**
EUZM	**Uzumlu**	**1.51**	**52**	P	**Pg**	**20 37 40.0**	**+0.4**
EUZM				S	**Sg**	**20 37 58.9**	**-0.3**
KAHM	**Kahramanmaras,**	**1.56**	**216**	P	**Pg**	**20 37 40.6**	**+0.1**
KAHM				S	**Sg**	**20 38 00.5**	**-0.2**
KHMN	**Narli-Kahraman**	**1.59**	**210**	Pn	**Pb**	**20 37 40.2**	**+0.1**
KELT	**Kelkit**	**1.61**	**32**	P	**Pb**	**20 37 40.8**	**+0.3**
KMRS	**Kahramanmaras**	**1.61**	**218**	Pn	**Pg**	**20 37 40.7**	**-0.8**
CUSAR	**Sarkisla-SIVAS**	**1.62**	**294**	P	**Pb**	**20 37 40.5**	**-0.1**
CUSAR				S	**Sn**	**20 38 00.1**	**-0.2**
ALUC	**Giresun/Alucra**	**1.63**	**17**	P	**Pg**	**20 37 42.1**	**+0.2**
ALUC				S	**Sn**	**20 37 59.6**	**-1.0**
SANL	**SANLIURFA_Merk**	**1.74**	**157**	P	**Pn**	**20 37 41.7**	**+0.9**
SANL				S	**Sn**	**20 38 02.7**	**-0.3**
RSDY	**Resadiye-TOKAT**	**1.74**	**339**	Pn	**Pb**	**20 37 42.8**	**+0.3**
DIYA	**Diyarbakir**	**1.77**	**118**	P	**Pg**	**20 37 44.3**	**-0.1**
DIYA				S	**Sn**	**20 38 04.7**	**+0.9**
GAZ	**Gaziantep**	**1.77**	**205**	Pn	**Pb**	**20 37 42.7**	**-0.4**
NZIP	**Nizip/Gaziante**	**1.77**	**192**	P	**Pb**	**20 37 43.3**	**+0.1**
BNN	**Bunyan**	**1.81**	**273**	Pn	**Pb**	**20 37 43.5**	**-0.3**
ANDN	**Andirin**	**1.86**	**231**	P	**Pb**	**20 37 44.4**	**-0.3**
ANDN				S	**Sn**	**20 38 06.5**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.93**	**169**	P	**Pb**	**20 37 45.2**	**-0.7**
SURC				S	**Sn**	**20 38 07.4**	**-0.4**
YEDI	**Yedisu-Bingol**	**1.97**	**70**	Pn	**Pb**	**20 37 46.3**	**-0.3**
KAMA	**Osmaniye**	**1.98**	**217**	P	**Pg**	**20 37 47.5**	**-1.0**
KAMA				S	**Sb**	**20 38 11.1**	**-0.4**
GUNE	**Kayseri**	**1.98**	**274**	P	**Pb**	**20 37 45.8**	**-0.9**
GUNE				S	**Sb**	**20 38 10.8**	**-0.7**
TOKT	**Tokat**	**1.98**	**322**	Pn	**Pb**	**20 37 46.1**	**-0.6**
BNGB	**Bingl**	**1.98**	**83**	Pn	**Pb**	**20 37 46.4**	**-0.3**
TOKA	**Tokat**	**2.01**	**320**	P	**Pn**	**20 37 45.0**	**+0.4**
TOKA				S	**Sb**	**20 38 12.6**	**+0.2**
HACI	**Hacifakili, Ak**	**2.10**	**297**	P	**Pb**	**20 37 47.7**	**-1.0**
HACI				S	**Sn**	**20 38 12.3**	**+0.3**
KUZU	**Kuzuini**	**2.18**	**203**	P	**Pb**	**20 37 48.6**	**-1.4**
KUZU				S	**Sb**	**20 38 17.3**	**+0.2**
ESPY	**Espiye-Giresun**	**2.18**	**11**	Pn	**Pb**	**20 37 49.2**	**-0.9**
ORDU	**Ordu-Boztepe**	**2.22**	**354**	P	**Pn**	**20 37 48.7**	**+1.3**
BAYT	**Aydintepe-Bayb**	**2.23**	**43**	Pn	**Pb**	**20 37 49.9**	**-1.0**
KARO	**Karliova-Bingo**	**2.31**	**76**	Pn	**Pb**	**20 37 51.0**	**-1.5**
KTUT	**Trabzon**	**2.53**	**29**	Pn	**Pb**	**20 37 54.1**	**-1.9**

DJA 17 20:37:31.6±0.4, 7°.S±3°.×10°.6E±°, h151km±5km, M3.9/11, mb4.2/2, MLv3.7/11
IDC 17 20:37:33.3±2.4, 5°.12S×106°.62E, h138km±48km, mb3.1/5, mbtmp3.5/5, Error ellipse: s-maj=199.6km s-min=21.4km az=48.0
ISC 17 20:37:32.1±0.9, 6°.4S±0°.1×105°.9E±0°.1, h165km±7km, n16, σ1§68/22, mb3.4/5, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.30**	**212**	P	**Pn**	**20 37 55.3**	**+0.8**
CGJI				S	**Sn**	**20 38 11.0**	**-0.7**
SKJI	**Sukabumi**	**0.95**	**133**	P	**Pn**	**20 37 57.9**	**-0.1**
SKJI				S	**Sn**	**20 38 17.6**	**-0.3**
BLSI	**Bandar Lampung**	**1.16**	**328**	P	**Pn**	**20 38 00.4**	**+0.7**
BLSI				S	**Sn**	**20 38 19.9**	**-1.0**
CNJI	**Cibinong**	**1.58**	**127**	P	**Pn**	**20 38 02.5**	**-1.2**
CNJI				S	**Sn**	**20 38 25.5**	**-2.5**
LEM	**Lembang**	**1.81**	**105**	P	**Pn**	**20 38 06.7**	**+0.3**
	30nm,0.5s,baz=337,slow=6.5,SNR=6.5						
LEM				S	**Sn**	**20 38 34.2**	**+1.6**
	28nm,0.7s,baz=71,slow=22,SNR=3.7						
LEM	**Lembang**	**1.81**	**105**	P	**Pn**	**20 38 06.6**	**+0.3**
LWLI	**Liwa**	**2.23**	**307**	P	**Pn**	**20 38 11.1**	**+0.1**
LWLI				S	**Sn**	**20 38 40.7**	**-0.3**
MDSI	**Maura Dua**	**2.50**	**318**	P	**Pn**	**20 38 15.0**	**+1.0**
MNAI	**Manna**	**3.50**	**304**	P	**Pn**	**20 38 27.8**	**+1.3**
MNAI				S	**Sn**	**20 39 07.7**	**-1.1**
UGM	**Wanagama**	**4.88**	**109**	P	**Pn**	**20 38 43.7**	**-0.6**
PCJI	**Pacitan**	**5.58**	**109**	P	**Pn**	**20 38 52.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**22.55**	**123**	P	**P**	**20 42 22.8**	**+4.2**
	1.3nm,0.9s,baz=320,slow=10,SNR=1.7						
	1.3nm,0.9s						
WRA	**Warramunga Arr**	**30.78**	**119**	P	**P**	**20 43 35.3**	**+2.9**
	0.6nm,0.9s,baz=290,slow=9.9,SNR=6.9						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**31.98**	**126**	P	P	20 43 47.9	+5.0
	0.1nm,0.3s,baz=298,slow=7.9,SNR=4.2						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**56.91**	**341**	P	**P**	**20 46 58.1**	**-1.8**
	0.3nm,0.4s,baz=164,slow=8.5,SNR=3.2						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**66.34**	**338**	P	**P**	**20 48 01.1**	**-1.8**
	0.3nm,0.5s,baz=134,slow=8.3,SNR=2.2						
	0.3nm,0.5s						

JMA 17 20:57:02.6±0.1, 31°.0N±0°.3×131°.7E±0°.7, h44km±1km, MV3.3/40, SE OFF OSUMI PEN
IDC 17 20:57:03.9±2.8, 30°.98N×131°.43E, h39km±22km, mb3.6/8, mbtmp3.7/12, ML2.8/4, Error ellipse: s-maj=43.5km s-min=19.3km az=110.0
ISC 17 20:57:03.7±1.5, 30°.97N±0°.05×131°.6E±0°.1, h46km±11km, n26, σ0§97/34, mb3.8/8, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSR	**Tashiro 2**	**0.62**	**289**	*i* P	**Pn**	**20 57 15.5**	**-0.8**
JTSR				*e*S	**Sn**	**20 57 25.9**	**+0.7**
JTN	**Tanegashima 3**	**0.62**	**240**	*i* P	**Pn**	**20 57 15.8**	**-0.4**
JTN				S	**Sn**	**20 57 26.2**	**+0.8**
JNAR	**Kushima--Naru**	**0.62**	**333**	*i* P	**Pn**	**20 57 15.8**	**-0.5**
JNAR				*e*S	**Sn**	**20 57 25.6**	**+0.2**
JNKG	**Nichinankitago**	**0.72**	**344**	P	**Pn**	**20 57 17.2**	**-0.3**
JNKG				*e*S	**Sn**	**20 57 27.1**	**-0.4**
JMTN	**Minamitane**	**0.83**	**227**	*i* P	**Pn**	**20 57 18.7**	**-0.4**
JMTN				S	**Sn**	**20 57 30.9**	**+0.6**
JTZ	**Takazaki**	**1.03**	**335**	*i* P	**Pn**	**20 57 21.6**	**-0.2**
JTZ				S	**Sn**	**20 57 34.8**	**-0.2**
JSU	**Suzuyama**	**1.12**	**299**	*i* P	**Pn**	**20 57 23.0**	**0.0**
JYAK	**Yakushimahirau**	**1.19**	**233**	P	**Pn**	**20 57 23.9**	**-0.1**
JYAK				S	**Sn**	**20 57 40.3**	**+1.3**
JTSN	**Tsuno**	**1.27**	**356**	P	**Pn**	**20 57 24.7**	**-0.4**
JTSN				S	**Sn**	**20 57 41.1**	**+0.1**
JKC	**Kuchinoerabu**	**1.31**	**248**	P	**Pn**	**20 57 25.4**	**-0.1**
JKC				S	**Sn**	**20 57 43.5**	**+1.5**
JZO	**Okuchi**	**1.45**	**324**	*i* P	**Pn**	**20 57 27.6**	**+0.1**
JNU	**Nakatsue**	**2.23**	**344**	Pn	**Pn**	**20 57 38.8**	**+0.6**
	1.4nm,0.3s,baz=194,slow=11,SNR=28						
JNU				Sn	**Sn**	**20 58 04.8**	**+0.2**
	8.3nm,0.3s,baz=344,slow=15,SNR=6.4						
	5.9nm,0.5s						
JOW	**Kunigami**	**5.05**	**216**	Pn	**Pn**	**20 58 16.1**	**-0.8**
	5.6nm,0.3s,baz=94,slow=23,SNR=30						
JOW				Sn	**Sn**	**20 59 11.6**	**-2.4**
	2.7nm,0.3s,baz=204,slow=26,SNR=6.5						
	11nm,0.3s						
KSRS	**Korea Array**	**7.15**	**336**	Pn	**Pn**	**20 58 42.9**	**-2.7**
	0.2nm,0.3s,baz=156,slow=13,SNR=1.5						
	0.4nm,0.4s						
MJAR	**Matsushiro Arr**	**7.82**	**43**	Pn	**Pn**	**20 58 55.9**	**+1.1**
	baz=220,slow=12,SNR=4.0						
	0.5nm,0.5s						
SONM	**Songino Array**	**25.58**	**318**	P	**P**	**21 02 28.1**	**-0.4**
	1.2nm,0.8s,baz=146,slow=8.1,SNR=6.4						
	1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.06**	**255**	P	**P**	**21 03 26.2**	**-0.1**
	1.1nm,0.7s,baz=55,slow=7.8,SNR=16						
	1.1nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**33.67**	**101**	T	T	21 39 11.6	
	baz=297,slow=75,SNR=9.1						
H11N1	**WAKE ISLAND Hy**	**33.67**	**101**	T	T	21 39 31.0	
	baz=297,slow=75,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**33.68**	**101**	T	T	21 39 27.3	
	baz=297,slow=75,SNR=4.3						
MKAR	**Makanchi Array**	**40.82**	**307**	P	**P**	**21 04 40.4**	**-0.3**
	0.3nm,0.6s,baz=88,slow=10,SNR=4.5						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**43.66**	**312**	P	**P**	**21 05 03.4**	**-0.3**
	1.0nm,0.6s,baz=97,slow=8.6,SNR=7.6						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**48.86**	**315**	P	**P**	**21 05 44.3**	**-0.2**
	1.4nm,0.6s,baz=101,slow=10,SNR=8.8						
	1.4nm,0.6s						
ARCES	**ARCESS Array B**	**66.70**	**338**	P	**P**	**21 07 51.6**	**+2.2**
	2.5nm,0.8s,baz=65,slow=6.7,SNR=1.7						
	2.5nm,0.8s						
FINES	**FINESS Array B**	**70.21**	**331**	P	**P**	**21 08 11.0**	**-0.5**
	1.1nm,0.8s,baz=50,slow=7.2,SNR=4.9						
	1.1nm,0.8s						
BRTR	**Keskin Array B**	**76.46**	**308**	P	**P**	**21 08 48.7**	**-0.2**
	0.6nm,0.8s,baz=73,slow=6.2,SNR=3.9						
	0.6nm,0.8s						

IDC 17 20:58:58.6±2.4, 9°.43S×151°.32E, h0km, mb3.2/2, mbtmp3.2/4, ML2.4/2, Error ellipse: s-maj=55.9km s-min=37.0km az=137.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.11**	**270**	Pn	Pn	21 00 03.1	+0.5
	2.8nm,0.3s,baz=86,slow=16,SNR=5.3						
PMG				Sn	Sn	21 00 52.8	+1.3
	1.2nm,0.3s,baz=226,slow=23,SNR=1.5						
	5.4nm,0.4s						
WRA	**Warramunga Arr**	**19.45**	**236**	P	P	21 03 26.8	-0.2
	baz=60,slow=11,SNR=5.1						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**21.85**	**228**	P	P	21 03 52.9	-0.1
	0.5nm,0.7s,baz=60,slow=9.2,SNR=8.6						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**82.86**	**320**	P	P	21 11 25.1	0.0
	0.2nm,0.8s,baz=102,slow=7.0,SNR=1.8						
	0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.00**	**280**	PKPbc	PKPbc	21 18 51.8	-0.4
	29nm,0.3s,baz=65,slow=4.6,SNR=1.1						

DJA 17 21:01:04.2±0.7, 2°.S±2°.×12°.3E±°, h18km±9km, M4.2/19, mB4.8/1, mb4.3/6, MLv4.1/19, Mw(mB)4.0/1
IDC 17 21:01:08.9±5.3, 1°.94S×122°.46E, h63km±55km, mb3.2/5, mbtmp3.6/6, ML4.1/1, Error ellipse: s-maj=36.4km s-min=20.6km az=51.0
ISC 17 21:01:06.4±0.7, 1°.90S±0°.05×122°.56E±0°.06, h35km, n22, σ1§18/27, mb3.5/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.88**	**14**	P	**Pn**	**21 01 20.5**	**-1.8**
APSI	**Ampana**	**1.34**	**317**	P	**Pn**	**21 01 27.2**	**-1.5**
KMSI	**Cibinong**	**2.84**	**30**	P	**Pn**	**21 01 49.6**	**+0.3**
KMSI				S	**Sn**	**21 02 24.9**	**+2.6**
PCI	**Palu**	**2.90**	**290**	P	**Pn**	**21 01 49.9**	**-0.2**
SANI	**Sanana**	**3.43**	**92**	P	**Pn**	**21 01 55.5**	**-1.8**
SPSI	**Sidrap Palu**	**3.46**	**234**	P	**Pn**	**21 01 57.9**	**+0.1**
SPSI				S	**Sn**	**21 02 39.0**	**+1.4**
MPSI	**Mapaga**	**3.47**	**310**	P	**Pn**	**21 01 56.8**	**-1.1**
BNSI	**Bone**	**3.49**	**225**	P	**Pn**	**21 01 58.2**	**0.0**
BNSI				S	**Sn**	**21 02 37.8**	**-0.5**
BBSI	**Bau Bau**	**3.56**	**180**	P	**Pn**	**21 01 58.6**	**-0.6**
KAPI	**Kappang**	**4.17**	**222**	P	**Pn**	**21 02 08.4**	**+0.8**
	11nm,0.3s,baz=45,slow=4.3,SNR=32						
KAPI				S	**Sn**	**21 02 56.0**	**+0.8**
	19nm,0.3s,baz=343,slow=22,SNR=7.5						
	26nm,0.3s						
BSSI	**Bau Bau, Buton**	**4.69**	**206**	P	**Pn**	**21 02 13.7**	**-1.1**
NLAI	**Namlea**	**4.72**	**106**	P	**Pn**	**21 02 14.6**	**-0.6**
TNTI	**Ternate**	**5.49**	**61**	P	**Pn**	**21 02 25.2**	**-0.5**
	0.1nm22nm,0.7s						
MMRI	**Maumere**	**6.70**	**183**	P	**Pn**	**21 02 42.1**	**-0.2**
	23nm,0.6s						
EDFI	**Ende, Flores**	**6.86**	**187**	P	**Pn**	**21 02 42.7**	**-1.9**
SWI	**Sorong**	**8.76**	**83**	P	**Pn**	**21 03 09.8**	**-0.8**
WRA	**Warramunga Arr**	**21.31**	**148**	P	**P**	**21 05 50.6**	**+0.3**
	1.1nm,0.8s,baz=334,slow=8.9,SNR=5.2						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**24.27**	**154**	P	**P**	**21 06 20.7**	**+0.2**
	0.8nm,0.6s,baz=325,slow=7.7,SNR=14						
	0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.82**	**312**	P	**P**	**21 07 18.6**	**-0.6**
	0.4nm,0.7s,baz=115,slow=6.8,SNR=5.7						
	0.4nm,0.7s						
MJAR	**Matsushiro Arr**	**40.93**	**19**	P	**P**	**21 08 46.2**	**+0.6**
	0.9nm,0.7s,baz=193,slow=9.5,SNR=2.6						
	0.9nm,0.7s						
XLT	**XiLinHaoTe**	**45.97**	**353**	*e*P	**P**	**21 09 28.0**	**+1.8**
XLT				pP	pP	21 09 32.5	-3.8
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MKAR	**Makanchi Array**	**60.00**	**329**	P	**P**	**21 11 08.4**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=114,slow=6.5,SNR=4.3						
MKAR				PcP	**PcP**	**21 11 54.5**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=134,slow=4.3,SNR=5.2						
	comp=Z,0.4nm,0.8s						

*IDC 17 21:07:53.4±0.7, 42°.91N×146°.25E, h0km, mb4.

JAR	**Ashorobuto**	1.85	286	A	A	21 08 25.6
	comp=N,6.0nm,2.0s,comp=E,5.0nm,3.2s					
JTKR	**Abashiri--Toko**	2.04	306	P	Pn	21 08 29.1 -0.4
JTKR				S	Sn	21 08 56.0 +1.7
JTKR	**Abashiri--Toko**	2.04	306	A	A	21 08 29.1
	comp=N,2.0nm,1.7s,comp=E,2.0nm,3.6s					
JCH	**Churui**	2.10	266	P	Pn	21 08 30.1 -0.3
ERM	**Erimo**	2.39	252		Pn	21 08 35.2 +0.9
ERM	**Erimo**	2.39	252	PN	Pn	21 08 35.2 +0.9
KUR	**Kuril'sk**	2.72	26	*e*PN	Pn	21 08 39.6 +0.8
KUR				*e*S	Sn	21 09 13.9 +3.0
KUR				pmax	pmax	
	comp=Z,392nm,0.9s					
KUR				smax	smax	
	comp=N,736nm,0.7s					
KUR				smax	smax	
	comp=E,718nm,0.8s					
KUR	**Kuril'sk**	2.72	26	*e*P	Pn	21 08 39.4 +0.6
KUR				*e*S	Sn	21 09 10.9 0.0
KUR				A	A	21 09 15.8
	comp=E,800nm,0.5s					
KUR				A	A	21 09 15.8
	comp=E,1μm,0.5s					
JKA	**Kamikawa-asahi**	2.94	298		Pn	21 08 42.2 +0.3
JKA	**Kamikawa-asahi**	2.94	298	*e*P	Pn	21 08 42.4 +0.6
ASAJ	**Asahikawa**	2.94	298	Pn	Pn	21 08 42.4 +0.5
	comp=E,14nm,0.3s,baz=143,slow=12,SNR=55					
ASAJ				LR	LR	21 09 14.7
	comp=E,215nm,20.7s,baz=136,slow=28					
ASAJ				Sn	Sn	21 09 21.7 +5.3
	comp=E,24nm,0.3s,baz=333,slow=20,SNR=5.2					
	comp=E,33nm,0.3s					
JTM	**Tenmabayashi**	4.33	244		Pn	21 09 00.4 -0.6
JTM				Sn	Sn	21 09 48.0 -2.8
YSS	**Yuzhno-Sakhali**	4.83	331		Pn	21 09 07.6 -0.1
YSS	**Yuzhno-Sakhali**	4.83	331	*i* PN	Pn	21 09 08.9 +1.1
YSS	**Yuzhno-Sakhali**	4.83	331	*e*P	Pn	21 09 09.7 +1.9
YSS				AMB	AMB	21 09 10.2
	comp=E,30nm,0.8s					
YSS				*e*S	Sn	21 10 05.0 +2.1
YSS				A	A	21 10 08.3
	comp=E,30nm,0.8s					
YSS				A	A	21 10 08.3
	comp=E,60nm,0.8s					
JMM	**Marumori**	6.43	222		Pn	21 09 27.1 -2.7
JSD	**Sado**	7.70	235		Pn	21 09 45.5 -1.8
TYV	**Tymovskoe**	8.43	344	*e*PN	Pn	21 09 59.7 +2.5
TYV				pmax	pmax	
	comp=Z,11nm,1.4s					
TYV				pmax	pmax	
	comp=Z,300nm,5.1s					
TYV	**Tymovskoe**	8.43	344	*e*P	Pn	21 09 59.7 +2.5
TYV				AMB	AMB	21 10 09.5
	comp=Z,10.0nm,0.6s					
TYV				*e*S	Sn	21 11 32.8 +1.3
TYV				A	A	21 11 35.9
	comp=Z,10.0nm,0.8s					
TYV				A	A	21 11 35.9
	comp=Z,10.0nm,0.8s					
MAJO	**Matsushiro**	8.77	227		Pn	21 10 00.3 -1.7
MAJO	**Matsushiro**	8.77	227	PN	Pn	21 10 00.3 -1.7
MJAR	**Matsushiro Arr**	8.77	227	Pn	Pn	21 10 02.6 +0.5
	comp=Z,0.1nm,0.3s,baz=27,slow=15,SNR=6.2					
MJAR				Sn	Sn	21 11 45.2 +5.0
	baz=302,slow=37					
	comp=Z,0.6nm,0.4s					
MJB9	**Matsu-Tunnel**	8.77	227		Pn	21 10 00.7 -1.3
JGF	**Kuroka**	9.93	227		Pn	21 10 17.9 0.0
SKR	**Severo-Kuril's**	10.41	37	*e*PN	Pn	21 10 18.6 -5.7
GRNR	**Gornyy**	10.41	323	‖ *i* PN	Pn	21 10 28.1 +3.7
GRNR				pmax	pmax	
	comp=Z,5.0nm,1.3s					
GRNR				MLR	MLR	
	comp=Z,410nm,16.0s					
GRNR	**Gornyy**	10.41	323	*e*P	Pn	21 10 28.1 +3.7
USRK	**Ussuriysk Ar.**	10.43	283	Pn	Pn	21 10 31.3 +6.7
	comp=Z,0.1nm,0.3s,baz=77,slow=27,SNR=1.3					
USRK				LR	LR	21 14 18.6
	comp=Z,150nm,19.3s,baz=149,slow=37					
JHJ	**Hachijo jima 2**	10.90	210	LR	LR	21 15 56.6
	comp=Z,70nm,18.0s,baz=156,slow=44					
KLR	**Kul'dur**	11.92	308	Pn	Pn	21 10 44.4 -0.7
	comp=Z,0.1nm,0.3s,baz=101,slow=14,SNR=5.3					
KLR				LR	LR	21 15 43.9
	comp=Z,348nm,18.6s,baz=124,slow=40					
	comp=Z,0.3nm,0.4s					
KLR	**Kul'dur**	11.92	308	*e*PN	Pn	21 10 48.6 +3.5
KLR				pmax	pmax	
	comp=Z,9.0nm,1.4s					
PETK	**Petropavlovsk-**	12.86	33	Pn	Pn	21 10 54.6 -3.2
	comp=Z,0.6nm,0.3s,baz=237,slow=5.0,SNR=5.1					
	comp=Z,1.6nm,0.5s					
HEH	**HeiHe**	14.90	306	*e*P	Pn	21 11 24.1 -1.6
HEH				LR	LR	
	comp=Z,170nm,12.7s					
HEH				LR	LR	
	comp=Z,450nm,14.6s					
HEH				LR	LR	
	comp=Z,650nm,14.9s					
KSRS	**Korea Array**	14.96	255	Pn	Pn	21 11 27.5 +1.0
	comp=Z,0.2nm,0.3s,baz=64,slow=14,SNR=2.1					
KSRS				LR	LR	21 16 32.8
	comp=Z,146nm,19.6s,baz=65,slow=34					
	comp=Z,0.5nm,0.5s					
JNU	**Nakatsue**	15.45	236	Pn	Pn	21 11 31.7 -1.4
JNU	**Nakatsue**	15.45	236	LR	LR	21 18 03.6
	comp=Z,138nm,18.9s,baz=44,slow=39					
ZEA	**Zeya**	16.65	318	*e*P	P	21 11 57.4 +6.9
ZEA				MLR	MLR	
	comp=N,200nm,11.0s					
ZEA				MLR	MLR	
	comp=Z,200nm,11.0s					
ZEA	**Zeya**	16.65	318	*e*P	Pn	21 11 45.8 -2.4
MA2	**Magadan**	17.04	8	Pn	Pn	21 11 51.6 -1.5
	comp=Z,28nm,1.0s,baz=151,slow=22,SNR=1.8					
MA2				LR	LR	21 18 48.1
	comp=Z,148nm,18.3s,baz=156,slow=39					
MA2	**Magadan**	17.04	8	*ce*P	P	21 11 56.2 +1.4
MA2				pmax	pmax	
	comp=Z,45nm,1.3s					
SEY	**Seymchan**	20.50	8	P	P	21 12 31.1 -1.5
	comp=Z,4.7nm,0.8s,baz=181,slow=11,SNR=8.7					
SEY				LR	LR	21 21 07.9
	comp=Z,152nm,18.5s,baz=166,slow=39					
	comp=Z,4.7nm,0.8s					
SEY	**Seymchan**	20.50	8	*ce*P	P	21 12 34.6 +2.0
SEY				pmax	pmax	
	comp=Z,15nm,1.7s					
SEY	**Seymchan**	20.50	8	*e*P	P	21 12 34.6 +2.0
YAK	**Yakutsk**	21.62	339	P	P	21 12 42.3 -2.4
YAK	**Yakutsk**	21.62	339	P	P	21 12 42.4 -2.3
	comp=Z,4.4nm,0.5s,baz=66,slow=2.0,SNR=1.7					
YAK				LR	LR	21 21 31.7
	comp=Z,106nm,18.2s,baz=164,slow=38					
	comp=Z,4.4nm,0.5s					
YAK	**Yakutsk**	21.62	339	*i* P	P	21 12 46.1 +1.4
YAK				pmax	pmax	
	comp=Z,5.0nm,0.8s					
YAK	**Yakutsk**	21.62	339	*e*P	P	21 12 46.1 +1.4
XLT	**XiLinHaoTe**	21.88	283	*e*P	P	21 12 48.6 +0.8
XLT				PP	PnPn	21 13 15.6 +6.2
XLT				pmax	pmax	
	comp=Z,8.0nm,0.9s					
NJ2	**Nanjing**	24.12	253	*e*P	P	21 13 09.9 -0.7
NJ2				pmax	pmax	
	comp=Z,8.0nm,0.5s					
NJ2				pmax	pmax	
	comp=Z,130nm,5.7s					
NJ2				LR	LR	
	comp=Z,310nm,20.6s					
NJ2				LR	LR	
	comp=Z,170nm,17.5s					
NJ2				LR	LR	
	comp=Z,130nm,15.6s					
HNS	**HongShan**	24.60	268	‖ P	P	21 13 16.1 +1.1
HNS				pmax	pmax	
	comp=Z,10.0nm,1.4s					
HNS				LR	LR	
	comp=Z,140nm,13.2s					
HNS				LR	LR	
	comp=Z,90nm,13.5s					
HNS				LR	LR	
	comp=Z,120nm,13.5s					
HHC	**Hu-ho-hao-te**	25.78	278	*e*P	P	21 13 26.3 +0.5
BTO	**Baotou**	26.98	278	*e*P	P	21 13 39.9 +3.3
BTO				SS		21 19 18.9
BTO				pmax	pmax	
	comp=Z,12nm,0.6s					
BTO				LR	LR	
	comp=Z,280nm,10.8s					
BTO				LR	LR	
	comp=Z,290nm,10.0s					
BTO				LR	LR	
	comp=Z,340nm,10.3s					
BILL	**Bilibino**	27.47	16	*i* P	P	21 13 42.7 +2.1
BILL				pmax	pmax	
	comp=Z,2.0nm,1.1s					
BILL	**Bilibino**	27.47	16	*e*P	P	21 13 42.7 +2.1
ULN	**Ulaanbaatar**	27.77	294	P	P	21 13 41.8 -1.9
ULN				IAmb	IAmb	21 13 55.7
	comp=Z,13nm,1.3s					
ULN	**Ulaanbaatar**	27.77	294	*ce*P	P	21 13 43.7 0.0
ULN				pmax	pmax	
	comp=Z,6.0nm,1.0s					
ULN	**Ulaanbaatar**	27.77	294	*e*P	P	21 13 43.7 0.0
SONM	**Songino Array**	28.21	294		P	21 13 46.1 -1.5
SONM				IAmb	IAmb	21 13 51.4
	comp=Z,9.6nm,1.2s					
SONM	**Songino Array**	28.21	294	P	P	21 13 47.9 +0.3
	comp=Z,4.4nm,0.8s,baz=90,slow=8.1,SNR=22					
SONM				LR	LR	21 25 49.3
	comp=Z,127nm,18.9s,baz=78,slow=38					
	comp=Z,4.4nm,0.8s					
H11N2	**WAKE ISLAND Hy**	28.86	136	T	T	21 44 48.0
	baz=328,slow=75,SNR=1285					
H11N1	**WAKE ISLAND Hy**	28.87	136	T	T	21 44 46.2
	baz=328,slow=75,SNR=1144					
H11N3	**WAKE ISLAND Hy**	28.88	136	T	T	21 44 50.0
	baz=328,slow=75,SNR=876					
H11S1	**WAKE ISLAND Hy**	29.79	138	T	T	21 45 56.1
	baz=329,slow=76,SNR=691					
H11S3	**WAKE ISLAND Hy**	29.80	138	T	T	21 45 53.8
	baz=329,slow=76,SNR=863					
H11S2	**WAKE ISLAND Hy**	29.81	138	T	T	21 45 54.0
	baz=329,slow=76,SNR=480					
TIXI	**Tiksi**	30.16	349	LR	LR	21 28 10.2
	comp=Z,71nm,18.1s,baz=190,slow=40					
K13K	**Kusilvak Mount**	34.49	39	P	P	21 14 42.9 +0.4
FALS	**False Pass**	34.54	52	P	P	21 14 44.7 +1.7
	baz=271					
F14K	**Arctic Creek**	34.63	33	P	P	21 14 45.1 +1.4
	baz=253					
ANM	**Nome**	34.77	35	P	P	21 14 46.5 +1.7
ANM				IAmb	IAmb	21 15 14.4
	comp=Z,8.8nm,1.2s					
ANM	**Nome**	34.77	35	P	P	21 14 46.5 +1.7
ANM				pmax	pmax	
	comp=Z,9.0nm,1.2s					
ANM	**Nome**	34.77	35	P	P	21 14 46.2 +1.4
	baz=255					
M13K	**Dall Lake**	34.89	42	P	P	21 14 47.5 +1.6
	baz=263					
J14K	**Nanvaranak Lak**	35.15	38	P	P	21 14 47.4 -0.7
J14K	**Nanvaranak Lak**	35.15	38	P	P	21 14 48.9 +0.8
	baz=260					
L14K	**Kuka Creek**	35.33	40	P	P	21 14 51.5 +1.8
	baz=262					
F15K	**North Star Dit**	35.37	33	P	P	21 14 51.9 +1.9
	baz=254					
G15K	**Niukluk**	35.43	34	P	P	21 14 51.5 +1.0
	baz=256					
M14K	**Bethel**	35.61	42	P	P	21 14 53.6 +1.5
	baz=264					
O14K	**Tigyukauivet M**	35.83	44	P	P	21 14 55.6 +1.6
	baz=267					
C16K	**Lisburne Hills**	35.90	28	P	P	21 14 55.9 +1.3
	baz=250					
L15K	**Ungalak Mounta**	35.94	40	P	P	21 14 56.6 +1.6
	baz=263					
K15K	**Wolf Creek Mou**	36.00	39	P	P	21 14 56.8 +1.3
	baz=262					
GYA	**Guiyang**	36.02	256	P	P	21 14 59.3 +3.1
GYA				pmax	pmax	
	comp=Z,7.0nm,0.6s					
H16K	**Elim**	36.10	35	P	P	21 14 57.4 +1.1
	baz=258					
G16K	**Koyuk River**	36.21	34	P	P	21 14 57.9 +0.7
	baz=257					
SDPT	**Sand Point**	36.22	51	P	P	21 14 58.8 +1.4
	baz=273					
M15K	**Kasigluk River**	36.22	42	P	P	21 14 58.3 +0.9
	baz=265					
N15K	**Kwethluk River**	36.48	43	P	P	21 15 01.3 +1.7
	baz=266					
D17K	**Noatak River**	36.53	30	P	P	21 15 01.8 +1.9
	baz=253					
E17K	**Hotham Inlet**	36.83	31	P	P	21 15 03.7 +1.2
	baz=256					
F17K	**Baldwin Pennin**	36.89	32		P	21 15 03.2 +0.3
F17K				IAmb	IAmb	21 15 05.4
	comp=Z,11nm,1.2s					
F17K	**Baldwin Pennin**	36.89	32	P	P	21 15 04.1 +1.1
	baz=257					
L16K	**Owhat River**	36.90	40	P	P	21 15 03.8 +0.7
	baz=265					
G17K	**Kiwalik Mounta**	36.93	34	P	P	21 15 04.5 +1.2
	baz=259,SNR=11					
H17K	**Granite Mounta**	37.13	35	P	P	21 15 05.8 +0.7
	baz=260					
N16K	**Nishlik Lake**	37.15	42	P	P	21 15 06.5 +1.2
	baz=267					
J17K	**VABM Dome**	37.27	37	P	P	21 15 07.5 +1.3
	baz=263					
E18K	**Tukpahlearik C**	37.37	31	P	P	21 15 08.4 +1.4
	baz=256					
B18K	**Kokolik River**	37.47	27	P	P	21 15 08.9 +1.0
	baz=253					
C18K	**Utukok River**	37.48	29		P	21 15 08.0 -0.1
C18K	**Utukok River**	37.48	29	P	P	21 15 08.4 +0.4
	baz=254,SNR=5.5					
L17K	**Donlin**	37.49	40	P	P	21 15 10.2 +2.1
	baz=265					
K17K	**Iditarod**	37.54	39	P	P	21 15 10.4 +1.8
	baz=265					
F18K	**Selawik**	37.55	32	P	P	21 15 10.1 +1.5
	baz=258					
H18K	**Honhosa River**	37.82	35	P	P	21 15 12.7 +1.8
	baz=262					
G18K	**Tagagawik**	37.82	33	P	P	21 15 12.2 +1.4
G18K	**Tagagawik**	37.82	33	P	P	21 15 12.6 +1.7
	baz=260,SNR=12					
N17K	**Nushagak Hills**	37.94	42	P	P	21 15 13.6 +1.6
	baz=268					
A19K	**Wainwright**	37.97	26	P	P	21 15 13.4 +1.3
	baz=252					
L18K	**Granite Mounta**	38.25	39	P	P	21 15 14.7 +0.1
	baz=267					
P17K	**Kvichak River**	38.30	44	P	P	21 15 16.1 +1.1
	baz=271					
J18K	**Innoko River**	38.33	37	P	P	21 15 17.2 +2.0
	baz=265					
F19K	**Shaleruckik Mo**	38.33	32	P	P	21 15 16.3 +1.1
	baz=260					
D19K	**Kuna River**	38.53	29	P	P	21 15 18.8 +1.9
	baz=258					
TTA	**Tatalina**	38.61	38	P	P	21 15 19.6 +1.9
	baz=266					
Q17K	**Contact Creek**	38.62	46	P	P	21 15 18.4 +0.6
	baz=272					
E19K	**Redstone River**	38.65	31	P	P	21 15 18.3 +0.4
	baz=260					
H19K	**Roundabout Mou**	38.66	34		P	21 15 19.4 +1.5
H19K	**Roundabout Mou**	38.66	34	P	P	21 15 18.7 +0.8
	baz=263,SNR=17					
J19K	**Poorman**	38.86	37	P	P	21 15 20.6 +1.0
	baz=266					
L19K	**White Mountain**	39.11	40	P	P	21 15 22.0 +0.2
	baz=268					
D20K	**Etivluk River**	39.12	29	P	P	21 15 22.6 +0.8
	baz=259					
F20K	**Avaraart Lake**	39.16	32		P	21 15 22.6 +0.4
F20K	**Avaraart Lake**	39.16	32	P	P	21 15 22.1 -0.1
	baz=262					
E20K	**Nigu River**	39.19	30	P	P	21 15 22.9 +0.5
	baz=260					
B20K	**Meade River**	39.21	27	P	P	21 15 22.9 +0.5
	baz=257					
N19K	**Bonanza Creek**	39.27	42	P	P	21 15 24.3 +1.1
	baz=270					
H20K	**Anotleneega Mo**	39.31	34	P	P	21 15 24.7 +1.3
	baz=264,SNR=5.3					
I20K	**Naaghedeneel**	39.42	35	P	P	21 15 25.4 +1.1
	baz=266					
K20K	**Telida**	39.51	38	P	P	21 15 26.6 +1.5
	baz=268					
J20K	**Nowinta River**	39.52	36	P	P	21 15 26.3 +1.2
	baz=267					
PZH	**PanZhiHua**	39.54	260	P	P	21 15 25.6 -0.3
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,70nm,5.1s					
GOMU	**GeErMu**	39.69	278	P	P	21 15 26.5 -0.8
GOMU				pP	pP	21 15 34.4 +0.8
GOMU				pmax	pmax	
	comp=Z,8.0nm,1.0s					
NRIK	**Noril'sk**	39.76	332	LR	LR	21 31 38.5
	comp=Z,61nm,20.9s,baz=90,slow=36					
C21K	**Knifeblade Rid**	39.85	29	P	P	21 15 28.9 +1.0
	baz=260					
M20K	**Styx River**	39.92	40	P	P	21 15 29.5 +0.9
	baz=270					
G21K	**Allakaket**	39.97	33	P	P	21 15 29.4 +0.5
G21K				IAmb	IAmb	21 15 31.9
	comp=Z,13nm,1.0s					
G21K	**Allakaket**	39.97	33	P	P	21 15 29.9 +1.0
	baz=264					
B21K	**Ikpikpuk River**	39.99	28	P	P	21 15 29.8 +0.8
	baz=260,SNR=10					
E21K	**Killik River**	40.03	30	P	P	21 15 30.6 +1.2
	baz=262					
F21K	**Alatna River**	40.05	32	P	P	21 15 30.8 +1.2
	baz=264,SNR=5.6					
A22K	**Sinclair Lake**	40.15	26	P	P	21 15 31.3 +1.1
	baz=258					
H21K	**Melozitna Rive**	40.18	34	P	P	21 15 31.9 +1.2
	baz=266,SNR=8.0					
CHUM	**Lake Minchumin**	40.31	37	P	P	21 15 33.0 +1.3
	baz=269					
CAST	**Castle Rocks**	40.41	38		P	21 15 33.6 +1.1
CAST	**Castle Rocks**	40.41	38	P	P	21 15 34.0 +1.5
	baz=270					
KDAK	**Kodiak Island**	40.41	46	P	P	21 15 33.3 +0.7
KDAK	**Kodiak Island**	40.41	46	P	P	21 15 33.3 +0.7
KDAK				pmax	pmax	
	comp=Z,52nm,1.5s					
I21K	**Tanana**	40.50	35	P	P	21 15 34.6 +1.3
	baz=268					
B22K	**Teshekpuk Lake**	40.53	27	P	P	21 15 34.3 +0.9
	baz=260					
D22K	**Ayikyak River**	40.56	29	P	P	21 15 34.4 +0.7
	baz=263					
F22K	**John River**	40.59	31	P	P	21 15 34.9 +0.9
	baz=265,SNR=9.8					
H22K	**Ishtalitna Cre**	40.78	34	P	P	21 15 37.0 +1.3
	baz=267					
E22K	**Anaktuvuk Pass**	40.79	30	P	P	21 15 36.8 +1.1
	baz=264,SNR=8.3					
BPAW	**Bear Paw Mtn.**	40.90	37	P	P	21 15 37.5 +0.8
	baz=270					
CAPN	**Captain Cook N**	40.91	42	P	P	21 15 37.9 +1.3
	baz=273					
KTH	**Kantishna Hill**	40.93	37	P	P	21 15 37.8 +0.9
KTH				IAmb	IAmb	21 15 43.6
	comp=Z,9.1nm,1.0s					
ZALV	**Zalesovo Beam**	41.03	308	P	P	21 15 36.2 -1.5
ZALV	**Zalesovo Beam**	41.03	308	P	P	21 15 37.5 -0.3
	comp=Z,0.8nm,0.6s,baz=86,slow=8.5,SNR=3.6					
ZALV				PcP	PcP	21 17 37.7 +0.4
	comp=Z,0.4nm,0.4s,baz=101,slow=6.2,SNR=3.9					
ZALV				LR	LR	21 33 46.9
	comp=Z,126nm,18.4s,baz=108,slow=38					
	comp=Z,0.8nm,0.6s					
SUA	**Susitna One**	41.06	41	P	P	21 15 38.4 +0.3
	baz=273					
TRF	**Thorofare Moun**	41.21	38	P	P	21 15 39.7 +0.3
	baz=271					
D23K	**Nanushuk River**	41.28	29	P	P	21 15 40.4 +0.7
	baz=264					
COLD	**Coldfoot**	41.33	32	P	P	21 15 41.3 +1.2
	baz=267					
M22K	**Willow**	41.35	40	P	P	21 15 41.6 +1.4
	baz=273					
G23K	**Bananza Creek**	41.37	33		P	21 15 41.2 +0.7
G23K				IAmb	IAmb	21 15 44.2
	comp=Z,8.5nm,1.1s					
G23K	**Bananza Creek**	41.37	33	P	P	21 15 42.0 +1.5
	baz=268,SNR=8.0					
C23K	**Itkillik River**	41.40	28	P	P	21 15 42.2 +1.5
	baz=264,SNR=6.9					
H23K	**Yukon River**	41.54	34	P	P	21 15 43.4 +1.6
	baz=269					
RC01	**Rabbit Creek A**	41.58	41	P	P	21 15 43.9 +1.7
	baz=274					
E23K	**Chandalar**	41.60	31	P	P	21 15 43.7 +1.3
	baz=266,SNR=8.9					
I23K	**Minto, Yukon-K**	41.60	35	P	P	21 15 43.7 +1.3
	baz=270					
TOLK	**Toolik Lake Re**	41.66	30	P	P	21 15 43.0 +0.2
TOLK	**Toolik Lake Re**	41.66	30	P	P	21 15 44.1 +1.3
	baz=266					
NEA2	**Nenana**	41.73	36	P	P	21 15 44.1 +0.7
NEA2				IAmb	IAmb	21 15 48.1
	comp=Z,5.5nm,0.7s					
NEA2	**Nenana**	41.73	36	P	P	21 15 44.1 +0.7
	baz=271					
MCK	**McKinley**	41.81	37	P	P	21 15 45.5 +1.4
	baz=272					
RND	**Reindeer**	41.86	38	P	P	21 15 45.4 +0.8
D24K	**Happy Valley**	41.97	29	P	P	21 15 46.9 +1.6
	baz=266					
E24K	**Your Creek**	42.03	31	P	P	21 15 46.8 +0.9
	baz=268,SNR=14					
C24K	**Franklin Bluff**	42.05	28	P	P	21 15 46.7 +0.8
	baz=266					
H24K	**Noodor Dome**	42.22	34	P	P	21 15 48.2 +0.7
	baz=271,SNR=8.9					
F24K	**Squaw Lake**	42.23	31	P	P	21 15 48.3 +0.7
	baz=269					
PWL	**Port Wells**	42.28	41	P	P	21 15 49.1 +1.2
	baz=276					
G24K	**Hadweenzic Riv**	42.38	33	P	P	21 15 49.8 +1.1
	baz=270,SNR=12					
POKR	**Poker Plat Res**	42.42	35	P	P	21 15 50.4 +1.3
	baz=272					
M23K	**Glacier View**	42.48	40	P	P	21 15 50.7 +1.1
	baz=275					
ILAR	**Eielson Array**	42.67	36	P	P	21 15 51.7 +0.6
ILAR	**Eielson Array**	42.67	36	P	P	21 15 50.6 -0.5
	comp=Z,2.2nm,0.8s,baz=248,slow=6.6,SNR=19					
ILAR				PcP	PcP	21 17 42.4 -0.2
	comp=Z,0.4nm,0.8s,baz=266,slow=3.5,SNR=1.9					
	comp=Z,2.2nm,0.8s					
D25K	**Kavik River**	42.85	29	P	P	21 15 53.6 +1.1
	baz=268					
G25K	**Bearman Lake**	42.93	33	P	P	21 15 54.5 +1.4
	baz=271					
H25L	**Birch Creek**	43.05	33	P	P	21 15 55.0 +0.9
	baz=272					
F25K	**Christian Rive**	43.10	31		P	21 15 54.5 -0.1
F25K	**Christian Rive**	43.10	31	P	P	21 15 55.6 +1.0
	baz=271					
E25K	**Arctic Village**	43.12	31	P	P	21 15 55.6 +0.9
	baz=270,SNR=7.3					
PRP	**Porcupine Dome**	43.21	34		P	21 15 55.8 +0.2
PRP	**Porcupine Dome**	43.21	34	P	P	21 15 56.5 +0.9
	baz=273					
K24K	**Donnelly Dome**	43.21	37	P	P	21 15 55.6 +0.1
	baz=275					
FYU	**Fort Yukon**	43.28	33		P	21 15 57.5 +1.5
J25K	**Salcha River,**	43.33	36	P	P	21 15 57.1 +0.7
	baz=274					
C26K	**Camden Bay**	43.38	28	P	P	21 15 57.2 +0.5
	baz=269					
BMAR	**Burnt Mountain**	43.51	32		P	21 15 58.9 +1.0
F26K	**Sheenjek River**	43.67	31	P	P	21 15 59.8 +0.7
	baz=272,SNR=9.5					
C27K	**Jago River**	43.79	28	P	P	21 16 01.2 +1.2
	baz=270,SNR=5.6					
G26K	**Porcupine Rive**	43.84	32	P	P	21 16 02.1 +1.7
	baz=273,SNR=14					
SCRK	**Sand Creek**	43.98	37	P	P	21 16 02.3 +0.5
SCRK	**Sand Creek**	43.98	37	P	P	21 16 02.0 +0.2
	baz=276					
DOT	**Dot Lake**	43.98	37		P	21 16 02.1 +0.4
BMRM	**Bremner River**	44.07	41	P	P	21 16 03.6 +1.1
	baz=279					
J26L	**Joseph Creek**	44.11	36	P	P	21 16 03.2 +0.4
	baz=276					
MK31	**Makanchi Array**	44.42	298	*ce*P	P	21 16 06

MKAR Makanchi Array 44.42 298 P P 21 16 05.5 +0.1
comp=Z,3.6nm,0.8s,baz=80,slow=8.9,SNR=26
MKAR LR LR 21 35 43.6
comp=Z,75nm,20.6s,baz=59,slow=38
comp=Z,3.6nm,0.8s
MKAR Makanchi Array 44.42 298 P P 21 16 04.4 -1.1
E27K Coleen River 44.60 30 P P 21 16 07.7 +1.1
baz=274
MAKZ Makanchi 44.62 298 P 21 16 06.3 -0.7
MAKZ IAmb IAmb 21 16 08.1
comp=Z,5.2nm,0.8s
MAKZ Makanchi 44.62 298 P P 21 16 06.3 -0.7
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
M26K Nabesna, AK 44.62 39 P P 21 16 07.3 +0.4
baz=278
G27K Doyon Strip 44.69 32 P P 21 16 07.5 +0.2
baz=275
D27M Malcolm River 44.77 29 P P 21 16 08.5 +0.5
baz=273
H27K Steamboat Moun 44.79 33 P P 21 16 08.4 +0.3
baz=276,SNR=9.1
K27K Chicken 44.81 36 P P 21 16 08.3 0.0
baz=278
I27K Kandik River 44.82 34 P P 21 16 09.8 +1.4
baz=276
L27K Beaver Creek, 45.06 38 P P 21 16 11.4 +1.1
baz=279
BCAR Beaver Creek A 45.08 38 P 21 16 11.5 +1.0
M27K Edge Creek, AK 45.14 39 P P 21 16 12.9 +1.8
baz=279
E28M Babbage River 45.33 30 P P 21 16 14.3 +1.9
baz=275
KURK Kurchatov 45.49 305 P P 21 16 12.1 -1.7
KURK IAmb IAmb 21 16 28.5
comp=Z,7.1nm,1.1s
KURK Kurchatov 45.49 305 *ce*P **P 21 16 14.4 +0.5**
KURK pmax pmax
comp=Z,12nm,1.7s
KURK Kurchatov 45.49 305 *e*P **P 21 16 14.4 +0.5**
I28M Miner Creek 45.53 34 P P 21 16 15.7 +1.6
baz=278
D28M Stokes Point 45.56 29 P P 21 16 15.4 +1.4
baz=275
KURBB Kurchatov Arra 45.58 304 P P 21 16 14.6 +0.1
comp=Z,2.9nm,0.6s,baz=75,slow=9.5,SNR=20
KURBB PcP **PcP 21 17 53.1 +0.4**
comp=Z,0.5nm,0.7s,baz=73,slow=4.2,SNR=1.7
KURBB LR LR 21 35 48.1
comp=Z,54nm,20.5s,baz=166,slow=37
comp=Z,2.9nm,0.6s
BVCY Beaver Creek 45.60 39 P P 21 16 16.1 +1.4
baz=280
YUK3 Moose Creek 45.90 39 P P 21 16 18.1 +0.9
baz=281
E29M Blow River 45.96 30 P P 21 16 19.2 +1.9
baz=277,SNR=14
H29M Whitestone 46.06 33 P P 21 16 19.5 +1.3
baz=279
G29M Pine Creek 46.10 32 P P 21 16 19.3 +0.8
baz=278,SNR=9.8
CMAR Chiang Mai Arr 46.59 254 P P 21 16 24.0 +1.1
comp=Z,0.2nm,0.4s,baz=44,slow=9.2,SNR=1.8
comp=Z,0.2nm,0.4s
CMAR Chiang Mai Arr 46.59 254 P P 21 16 24.0 +1.1
M29M Somme Creek 46.69 38 P P 21 16 23.4 +0.2
baz=282
EPYK Eagle Plains 46.70 33 P P 21 16 24.0 +0.8
baz=280,SNR=11
L29M L29M 46.70 37 P P 21 16 23.9 +0.6
baz=282
G30M tAoh Zraii Nji 46.79 32 P P 21 16 24.7 +0.8
baz=280,SNR=9.1
K29M Barlow Dome 46.83 36 P P 21 16 25.4 +1.1
baz=282
F30M Barrier River 46.85 31 P P 21 16 25.3 +0.9
baz=280,SNR=18
PNL Peninsula 46.86 42 P P 21 16 24.7 +0.2
baz=284
I30M Mount Dempster 47.04 34 P P 21 16 26.9 +0.9
baz=281,SNR=9.3
J30M Hart River 47.19 35 P P 21 16 27.8 +0.7
baz=282
M30M Minto, Yukon 47.42 38 P P 21 16 29.9 +1.0
baz=283
HYT Haines Junctio 47.50 40 P 21 16 30.4 +0.7
HYT Haines Junctio 47.50 40 P P 21 16 30.7 +1.0
baz=284
G31M Satah River 47.56 32 P P 21 16 31.1 +1.3
baz=281
INK Inuvik 47.57 30 P P 21 16 31.1 +1.2
INK Inuvik 47.57 30 P P 21 16 31.2 +1.4
baz=281,SNR=7.4
F31M Tsiigehtchic 47.66 31 P P 21 16 31.5 +0.9
baz=281,SNR=9.3
P29M Windy Craggy 47.69 42 P P 21 16 32.2 +1.1
baz=285
H31M Peel River 47.76 33 P P 21 16 32.8 +1.3
baz=282
P30M Million Dollar 47.94 41 P P 21 16 33.5 +0.5
baz=285
M31M Drury Creek, Y 48.59 38 P P 21 16 39.3 +1.3
baz=285
WUS Wushi 48.60 292 P 21 16 37.1 -1.3
WUS IAmb IAmb 21 16 39.7
comp=Z,4.5nm,0.9s
WHY Whitehorse 48.79 40 P P 21 16 40.8 +1.2
baz=286
A36M Sachs Harbour 49.52 24 P P 21 16 45.5 +0.6
A36M IAmb IAmb 21 16 46.7
comp=Z,5.7nm,1.2s
BVAR Borovoye Array 49.58 310 P P 21 16 46.1 +0.6
comp=Z,1.5nm,0.3s,baz=75,slow=8.0,SNR=20
BVAR LR LR 21 39 12.9
comp=Z,117nm,18.5s,baz=70,slow=38
comp=Z,1.5nm,0.3s
BRVK Borovoye 49.62 310 P P 21 16 44.6 -1.3
BRVK Borovoye 49.62 310 *ce*P **P 21 16 46.9 +1.0**
BRVK pmax pmax
comp=Z,4.0nm,1.7s
BRVK Borovoye 49.62 310 *e*P **P 21 16 46.9 +1.0**
MMPY Sheldon Lake, 49.88 37 P P 21 16 49.5 +1.7
baz=288
P33M Teslin, Yukon 49.90 40 P P 21 16 48.8 +0.8
baz=288
BOOM Boomskoye usch 50.25 295 P P 21 16 49.9 -1.2
BOOM IAmb IAmb 21 16 53.2
comp=Z,7.7nm,1.1s
BOOM Boomskoye usch 50.25 295 P P 21 16 49.9 -1.2
BOOM pmax pmax
comp=Z,8.0nm,1.1s
C36M Paulatuk 50.64 27 P P 21 16 54.0 +0.7
baz=288
FRU1 Bishkek 50.98 296 P P 21 16 54.6 -1.8
FRU1 IAmb IAmb 21 17 05.6
comp=Z,11nm,1.4s
FRU1 Bishkek 50.98 296 P P 21 16 54.6 -1.8
FRU1 pmax pmax
comp=Z,11nm,1.4s
AAK Ala-Archa 51.15 296 P P 21 16 56.3 -1.5
AAK IAmb IAmb 21 17 06.6
comp=Z,5.9nm,1.4s
AAK Ala-Archa 51.15 296 LR LR 21 41 07.3
comp=Z,41nm,19.7s,baz=90,slow=39
AAK Ala-Archa 51.15 296 *ce*P **P 21 16 56.9 -0.9**
AAK pmax pmax
comp=Z,6.0nm,2.5s
AAK Ala-Archa 51.15 296 *e*P **P 21 16 56.9 -0.9**
ARSB Arslanbob 52.75 295 P 21 17 09.1 -0.7
ARSB Arslanbob 52.75 295 P P 21 17 09.1 -0.7
ARSB pmax pmax
comp=Z,19nm,1.4s
KK31 Karatay Array 53.55 298 P P 21 17 14.3 -1.1
KK31 Karatay Array 53.55 298 P P 21 17 14.3 -1.1
KK31 pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 53.55 298 P P 21 17 13.7 -1.8
KKAR Karatay Array 53.55 298 P P 21 17 13.7 -1.8
EUNU Eureka 53.92 10 P 21 17 16.8 -0.8
EUNU IAmb IAmb 21 17 20.6
comp=Z,5.3nm,0.7s
ARTI Arti 54.68 317 P P 21 17 22.2 -1.2
ARTI IAmb IAmb 21 17 23.8
comp=Z,4.9nm,0.9s
ARTI Arti 54.68 317 LR LR 21 43 43.3
comp=Z,62nm,18.8s,baz=62,slow=39
ARTI Arti 54.68 317 *c i*P **P 21 17 22.8 -0.6**

ARTI 21 19 22.0
ARTI S **S 21 25 02.5 +0.6**
ARTI SS **SS 21 28 42.0 -2.3**
ARTI pmax pmax
comp=Z,9.0nm,1.8s
BTK Batken 54.80 295 P P 21 17 24.0 -0.7
BTK IAmb IAmb 21 17 33.2
comp=Z,3.6nm,1.0s
BTK Batken 54.80 295 P P 21 17 24.0 -0.7
BTK pmax pmax
comp=Z,4.0nm,1.0s
SPITS Spitsbergen Ar 55.59 349 P P 21 17 28.5 -1.2
comp=Z,1.7nm,0.6s,baz=65,slow=8.4,SNR=7.2
comp=Z,1.7nm,0.6s
NIL Nilore 56.40 287 P P 21 17 35.2 -1.0
NIL IAmb IAmb 21 17 40.6
comp=Z,9.4nm,1.4s
NIL Nilore 56.40 287 P P 21 17 35.2 -1.0
NIL pmax pmax
comp=Z,9.0nm,1.4s
YKA Yellowknife Ar 56.98 33 P P 21 17 39.6 -0.2
comp=Z,1.4nm,1.1s,baz=302,slow=7.0,SNR=10
comp=Z,1.4nm,1.1s
AB31 Akbulak array 57.12 309 P P 21 17 40.8 -0.2
AB31 IAmb IAmb 21 17 42.2
comp=Z,7.6nm,1.1s
ABKAR Akbulak array 57.12 309 P 21 17 40.5 -0.5
ABKAR IAmb IAmb 21 17 42.2
comp=Z,7.7nm,1.1s
ABKAR Akbulak array 57.12 309 P 21 17 40.2 -0.8
AKTO Aktyubinsk 57.63 311 LR LR 21 44 20.3
comp=Z,76nm,18.7s,baz=65,slow=38
KIRV Kirov 57.92 322 LR LR 21 45 12.5
comp=Z,96nm,19.9s,baz=51,slow=39
KIRV Kirov 57.92 322 *ce*P **P 21 17 46.4 -0.1**
KBL Kabul 58.86 290 P P 21 17 52.1 -1.7
KBL IAmb IAmb 21 18 02.1
comp=Z,4.3nm,1.1s
KBL Kabul 58.86 290 P P 21 17 52.1 -1.7
KBL pmax pmax
comp=Z,4.0nm,1.1s
ARCES ARCESS Array B 59.90 340 P P 21 17 59.2 -0.9
comp=Z,3.3nm,0.9s,baz=25,slow=4.0,SNR=6.4
ARCES LR LR 21 49 39.7
comp=Z,31nm,18.2s,baz=96,slow=42
comp=Z,3.3nm,0.9s
KLMR Klimovskoe 60.87 328 *e*P **P 21 18 03.5 -3.3**
KLMR pmax pmax
comp=Z,12nm,1.5s
KLMR MLR MLR
comp=Z,182nm,19.0s
BELG Belogornoye 62.12 317 LR LR 21 46 16.2
comp=Z,30nm,18.9s,baz=54,slow=37
JOF Joensuu 62.61 332 *e*P **P 21 18 18.6 +0.1**
BLKN Baker Lake 62.63 26 P 21 18 18.4 -0.2
ILON Igloolik, Nuna 62.71 17 P 21 18 18.2 -0.8
WB0 Warramunga Arr 63.20 192 P P 21 18 21.6 -1.2
WB0 IAmb IAmb 21 18 34.4
comp=Z,7.2nm,1.3s
WRA Warramunga Arr 63.38 192 P P 21 18 24.2 +0.1
comp=Z,0.5nm,0.5s,baz=10,slow=6.5,SNR=5.7
comp=Z,0.5nm,0.5s
HRA Herat 63.60 293 P P 21 18 24.7 -1.2
HRA IAmb IAmb 21 18 48.7
comp=Z,3.2nm,0.9s
SUMG Summit 64.88 2 P P 21 18 32.8 -1.1
SUMG Summit 64.88 2 P P 21 18 32.8 -1.1
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 64.88 2 *i*P **P 21 18 33.0 -0.9**
KEF Keuruu 65.28 334 *e*P **P 21 18 36.3 +0.2**
VAF Ylistaro 65.34 335 *e*P **P 21 18 36.1 -0.4**
FIA1 FINESS Array S 65.41 333 P 21 18 36.2 -0.7
FINES FINESS Array B 65.41 333 P 21 18 36.4 -0.5
FINES FINESS Array B 65.41 333 P P 21 18 36.9 0.0
comp=Z,7.9nm,0.7s,baz=46,slow=8.2,SNR=28
comp=Z,7.9nm,0.7s
OBN Obninsk 65.67 324 *e*P **P 21 18 38.8 +0.1**
OBN *e* 21 19 13.8
OBN *e*PPP PPP 21 22 35.8
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,92nm,15.0s
OBN Obninsk 65.67 324 *e*P **P 21 18 38.8 +0.1**
VRH Novokhopyorsk 65.77 318 *e*P **P 21 18 36.8 -2.6**
VRH pmax pmax
comp=Z,8.0nm,0.8s
PLID Pearl Lake 65.98 50 P P 21 18 41.2 0.0
LPSR Galich'ya Gora 66.23 320 *e*P **P 21 18 40.6 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
BEKR Beckworth 66.53 57 P 21 18 45.7 +0.9
BEKR IAmb IAmb 21 18 47.6
comp=Z,2.7nm,0.9s
MEF Metsahovi 66.87 333 *e*P **P 21 18 46.3 0.0**
ARBE Arbavere 66.89 331 *e*P **P 21 18 47.1 +0.7**
VSR Storozhevoye 67.00 319 *e*P **P 21 18 45.6 -1.7**
VSR pmax pmax
comp=Z,5.0nm,0.9s
ASAR Alice Springs 67.10 192 P P 21 18 49.6 +1.4
comp=Z,0.3nm,0.5s,baz=190,slow=6.1,SNR=4.7
comp=Z,0.3nm,0.5s
RAF Rauma 67.14 334 *e*P **P 21 18 48.1 +0.1**
VSU Vasula 67.32 330 *ce*P **P 21 18 49.5 +0.3**
VSU pmax pmax
comp=Z,14nm,1.3s
VSU Vasula 67.32 330 *e*P **P 21 18 48.8 -0.4**
BOZ Bozeman (W) 68.09 48 P 21 18 55.1 +0.6
BOZ IAmb IAmb 21 18 56.8
comp=Z,3.4nm,0.8s
BOZ Bozeman (W) 68.09 48 P P 21 18 55.1 +0.6
BOZ pmax pmax
comp=Z,3.0nm,0.8s
MTSE Matsula 68.18 332 *e*P **P 21 18 55.1 +0.5**
NVAR Mina Array Bea 68.67 57 P P 21 18 58.4 +0.1
NVAR Mina Array Bea 68.67 57 P P 21 18 58.7 +0.3
comp=Z,1.5nm,0.7s,baz=288,slow=7.7,SNR=8.8
comp=Z,1.5nm,0.7s
YHH Holmes Hill 69.03 48 P P 21 19 01.3 +0.7
ELK Elko 69.09 54 P P 21 19 01.9 +1.0
MNK Minsk 69.74 327 *i*P **P 21 19 05.6 +1.2**
MNK *i* 21 19 27.8
MNK *i* 21 21 40.0
MNK *i*PPP PPP 21 23 21.9
MNK *i*S **S 21 28 13.2 +1.5**
MNK *i* 21 29 04.7
MNK *i*SS **SS 21 32 36.7 -2.5**
MNK pmax pmax
comp=N,4.0nm,0.7s
MNK pmax pmax
comp=Z,16nm,0.8s
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK MLR MLR
comp=Z,91nm,18.0s
MNK MLR MLR
comp=E,47nm,18.0s
MNK MLR MLR
comp=N,32nm,13.0s
KIV Kislovodsk 69.88 312 P **P 21 19 05.3 -0.2**
KIV Kislovodsk 69.88 312 *e*P **P 21 19 05.4 -0.2**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,66nm,17.0s
KIV Kislovodsk 69.88 312 *e*P **P 21 19 05.4 -0.2**
KBZ Khabaz 69.91 311 P **P 21 19 05.4 -0.2**
comp=Z,2.8nm,0.9s,baz=350,slow=4.6,SNR=4.4
KBZ LR LR 21 55 00.2
comp=Z,58nm,18.5s,baz=28,slow=40
comp=Z,2.8nm,0.9s
KBZ Khabaz 69.91 311 *i*P **P 21 19 06.3 +0.7**
KBZ pmax pmax
comp=Z,15nm,2.3s
KBZ Khabaz 69.91 311 *e*P **P 21 19 06.3 +0.7**
NC303 NORSAR Array S 70.04 339 P P 21 19 05.7 -0.4
NC303 IAmb IAmb 21 19 07.3
comp=Z,6.8nm,0.8s
NC405 NORSAR Array S 70.04 338 P 21 19 06.0 -0.2
NB2 NORSAR Subarra 70.24 339 P P 21 19 07.1 -0.3
comp=Z,8.6nm,1.0s,baz=33,slow=6.2
NB2 NORSAR Subarra 70.24 339 P P 21 19 05.0 -2.4
NB2 pmax pmax
comp=Z,28nm,2.0s

NOA NORSAR Array B 70.24 339 P P 21 19 07.7 +0.3
comp=Z,5.2nm,0.8s,baz=34,slow=6.1,SNR=33
NOA LR LR 21 54 46.0
comp=Z,52nm,18.5s,baz=15,slow=40
comp=Z,5.2nm,0.8s
HFS Hagfors 70.30 337 P P 21 19 07.7 0.0
comp=Z,5.4nm,0.6s,baz=54,slow=7.5,SNR=32
comp=Z,5.4nm,0.6s
NORES NORESS Array B 70.41 338 P P 21 19 08.8 +0.4
PABE Paberze 70.53 329 P P 21 19 09.1 -0.1
PABE Paberze 70.53 329 *e*P **P 21 19 10.1 +0.9**
PD31 Pinedale Array 71.06 49 P P 21 19 13.1 +0.1
PDAR Pinedale Array 71.06 49 P P 21 19 12.7 -0.2
PDAR Pinedale Array 71.06 49 P P 21 19 13.2 +0.2
comp=Z,1.2nm,0.7s,baz=270,slow=2.9,SNR=11
comp=Z,1.2nm,0.7s
AKASG Malin Array Be 71.94 323 P P 21 19 17.8 0.0
comp=Z,0.4nm,0.3s,baz=44,slow=5.9,SNR=12
AKASG LR LR 21 53 42.2
comp=Z,86nm,18.1s,baz=29,slow=38
comp=Z,0.4nm,0.3s
AKASG Malin Array Be 71.94 323 *ce*P **P 21 19 17.7 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 71.94 323 P P 21 19 16.9 -0.9
AKBB IAmb IAmb 21 19 26.9
comp=Z,4.7nm,0.8s
AKBB Malin Array Si 71.94 323 *ce*P **P 21 19 17.6 -0.2**
KIEV Kiev 71.95 323 P P 21 19 16.9 -0.9
KIEV IAmb IAmb 21 19 26.9
comp=Z,4.2nm,0.8s
KIEV Kiev 71.95 323 P P 21 19 17.0 -0.9
KIEV pmax pmax
comp=Z,4.0nm,0.9s
BUR08 Bucovina Ar. S 75.97 323 P P 21 19 40.3 -1.4
BUR08 IAmb IAmb 21 19 52.9
comp=Z,2.6nm,0.7s
BURAR Bucovina Array 75.99 323 P P 21 19 40.7 -1.0
BURAR Bucovina Array 75.99 323 P P 21 19 41.9 +0.2
KOLS Kolonicke sedl 76.23 326 *e*P **P 21 19 43.8 +0.8**
KOLS Kolonicke sedl 76.23 326 *e*P **P 21 19 43.8 +0.8**
LANS Liptovska Anna 77.20 327 *e*P **P 21 19 49.1 +0.6**
LANS Liptovska Anna 77.20 327 *e*P **P 21 19 49.1 +0.6**
MLR Muntele Rosu 77.28 321 LR LR 21 56 31.4
comp=Z,76nm,18.6s,baz=56,slow=38
BRTR Keskin Array B 77.70 313 P P 21 19 52.0 +0.5
comp=Z,0.3nm,0.4s,baz=54,slow=5.9,SNR=2.8
comp=Z,0.3nm,0.4s
CLL Collm 77.84 332 *i*P **P 21 19 53.7 +1.8**
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 77.84 332 *i*P **P 21 19 53.7 +1.8**
comp=Z,3.0nm,0.8s
CLL AMS AMS 22 28 00.0
comp=Z,100nm,21.2s
CLL AMS AMS 22 32 00.0
comp=Z,100nm,20.5s
VRAC Vranov 78.19 329 LR LR 21 58 18.6
comp=Z,58nm,18.2s,baz=32,slow=39
MODS Modra-Piesok 78.69 328 *e*P **P 21 19 57.8 +1.1**
MODS Modra-Piesok 78.69 328 *e*P **P 21 19 57.8 +1.1**
EKA Eskdalemuir Ar 78.83 343 P P 21 19 57.5 +0.2
comp=Z,1.4nm,0.6s,baz=21,slow=5.6,SNR=6.4
comp=Z,1.4nm,0.6s
GERES GERESS Array B 79.65 330 P P 21 20 02.1 +0.1
comp=Z,0.2nm,0.4s,baz=78,slow=6.2,SNR=3.5
comp=Z,0.2nm,0.4s
TXAR Lajitas Array 83.76 56 P P 21 20 24.8 +0.7
comp=Z,0.3nm,0.6s,baz=328,slow=7.3,SNR=4.7
comp=Z,0.3nm,0.6s

OMAN 17 21:12:00.1±0.1,**26°.97N**±**54°.45E,h10**km,**ml2.4**/11,**Error ellipse: s-maj=3.1km s-min=0.8km az=357.0,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.77**	**121**	P	Pn	21 12 30.0	-0.8
	SNR=7.0						
SHME				S	Sb	21 12 54.4	-0.5
BANOM	**Banah**	**1.96**	**122**	P	Pn	21 12 32.9	-0.6
BANOM				S	Sn	21 12 58.5	+0.4
MASF	**Masafi**	**2.21**	**136**	P	Pn	21 12 37.0	+0.1
MDH	**Madha**	**2.35**	**135**	P	Pn	21 12 39.0	+0.2
ASUD	**Al Ashush, Dub**	**2.47**	**161**	P	Pn	21 12 41.4	+1.0
UOSS	**Minazif**	**2.56**	**142**	P	Pn	21 12 42.5	+0.8
HATD	**Hatta, Dubai**	**2.62**	**144**	P	Pn	21 12 43.2	+0.7
ASHO	**Ashiyiah**	**2.70**	**147**	P	Pn	21 12 44.2	+0.5
	SNR=5.3						
MZWR	**Madinat Zayed**	**3.24**	**189**	P	Pn	21 12 51.4	+0.4
GHWR	**Ruwais**	**3.32**	**206**	P	Pn	21 12 51.9	-0.1
SOHO	**SOHO**	**3.40**	**146**	P	Pn	21 12 52.7	-0.5
TRNA	**Turayna**	**3.67**	**233**	P	Pn	21 12 57.3	+0.4
ARQ	**Araqi**	**4.08**	**152**	P	Pn	21 13 03.1	+0.5
	SNR=7.6						
UMZA	**Um Al Zommool**	**4.29**	**171**	P	Pn	21 13 05.4	0.0
BSY	**Bisya**	**4.89**	**149**	P	Pn	21 13 14.4	+0.6
SMDO	**Samad**	**5.08**	**139**	P	Pn	21 13 16.6	+0.1
WSAR	**Wadi Sarin**	**5.31**	**134**	P	Pn	21 13 19.0	-0.5
WBK	**Wadi Bani Khal**	**5.98**	**136**	P	Pn	21 13 27.8	-0.9
	SNR=5.9						
MHTO	**MHTO**	**6.77**	**151**	P	Pn	21 13 39.1	-0.4
DOK	**Doka**	**8.32**	**182**	P	Pn	21 14 00.7	-0.2
WHFO	**Wadi Hawf**	**9.03**	**184**	P	Pn	21 14 10.2	-0.5
DMTO	**DMTO**	**9.23**	**177**	P	Pn	21 14 14.2	+0.9

DJA ***17*** *21:15:25.6*±*3.7,9°.S*±*9°.×15°.1E*±*1°.4,h28*km±*24*km*,M4.9/14, mb4.8/14,mB5.4/6,MLv5.0/1,Mw(mB)4.8/6*
NEIC ***17*** *21:15:29.9*±*1.2,9°.53S*±*0°.08×150°.93E*±*0°.07,h18*km±*5*km*, mb4.9/49,Error ellipse: s-maj=11.5km s-min=10.2km az=150.0*
GCMT ***17*** *21:15:29.9*±*0.3,9°.52S*±*0°.02×151°.08E*±*0°.04,h12*km*, MW4.8/78,Moment Tensor Solution. s11,c11; s78,c103; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; M*$_{rr}$*-1.80*±*.06; M*$_{\theta\theta}$*1.76*±*.05; M*$_{\phi\phi}$*0.03*±*.06; M*$_{r\theta}$*0.12*±*.21; M*$_{\phi\phi}$*0.19*±*.05; M*$_{\phi r}$*-0.99*±*.32; Best double couple: M*$_0$*2.01100×10*^{16} *NP1:*ϕ_s*62.00000°,*δ*49.00000°,*λ*-122.00000°. NP2: *ϕ_s*286.00000°,*δ*50.00000°,*λ*-58.00000°. Principal axes: T 1.7820, Plg0.0000°, Azm354.0000°; N 0.4550, Plg24.0000°, Azm84.0000°; P -2.2410, Plg66.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***17*** *21:15:33.7*±*2.5,9°.53S*×*150°.85E,h48*km±*23*km*,mb4.0/17, mbtmp4.2/20,ML3.0/2,MS3.9/41 Error ellipse: s-maj=19.9km s-min=15.5km az=87.0*
ISC 17 21:15:28.5±0.5,**9°.60S**±**0°.07**×**150°.92E**±**0°.07,h13**km,**n144,** σ**1§07**/113,**mb4.8**/49,**MS3.9**/39,**1C-1D,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.72**	**273**		**Pn**	**21 16 26.2**	**+0.5**
PMG	**Port Moresby**	**3.72**	**273**	P	**Pn**	**21 16 26.9**	**+1.2**
	13nm,0.3s,baz=80,slow=6.8,SNR=17						
PMG				S	**Sn**	**21 17 04.3**	**-5.0**
	202nm,0.7s,baz=178,slow=5.4,SNR=7.8						
	28nm,0.3s						
RABL	**Rabaul**	**5.51**	**13**	Pn	**Pn**	**21 16 48.2**	**-2.2**
MANU	**Manus Island**	**8.30**	**335**		**Pn**	**21 17 26.6**	**-2.0**
COEN	**Coen**	**8.73**	**240**	Pn	**Pn**	**21 17 35.2**	**+0.6**
HNR	**Honiara**	**8.90**	**90**	Pn	Pn	21 17 38.2	+1.3
HNR	**Honiara**	**8.90**	**90**	P	Pn	21 17 41.7	+4.8
	22nm,0.3s,baz=76,slow=14,SNR=4.6						
HNR				LR	LR	21 20 32.4	
	comp=Z,316nm,21.1s,baz=228,slow=33						
JAY	**Jayapura**	**12.35**	**304**	LR	LR	21 23 56.8	
	comp=Z,511nm,21.2s,baz=192,slow=41						
SMPI	**Sarmi**	**14.30**	**301**	P	**P**	**21 18 59.0**	**+0.9**
EIDS	**Eidsvold**	**15.69**	**179**	Pn	**P**	**21 19 11.3**	**-2.1**
WB0	**Warramunga Arr**	**18.90**	**236**	P	**P**	**21 19 49.5**	**+0.5**
WB0				IAmb	IAmb	21 19 52.4	
	comp=Z,85nm,2.0s						
WRA	**Warramunga Arr**	**19.03**	**235**		**P**	**21 19 50.5**	**0.0**
WRA	**Warramunga Arr**	**19.03**	**235**	P	**Pn**	**21 19 52.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=59,slow=11,SNR=14						
	comp=Z,3.5nm,0.8s						
DZM	**Mont Dzumac**	**19.39**	**132**	*e*P	**Pn**	**21 19 53.3**	**-2.3**
	comp=Z,75nm,24.6s						
DZM	**Mont Dzumac**	**19.39**	**132**	LR	LR	21 26 04.4	
	comp=Z,839nm,21.5s,baz=334,slow=32						

MTN Manton Dam 19.68 259 P **P 21 19 58.4 +0.9**
FAKI Fak Fak 19.70 288 **P 21 19 57.6 -0.3**
FAKI IAmb IAmb 21 20 03.9
comp=Z,112nm,1.7s
FAKI Fak Fak 19.70 288 P **P 21 19 58.5 +0.7**
comp=Z,922nmcomp=Z,38nm,1.5s
SWI Sorong 21.40 293 P **P 21 20 15.7 -0.5**
comp=Z,38nm,1.4s
AS31 Alice Springs 21.45 227 **P 21 20 16.6 -0.2**
ASAR Alice Springs 21.45 227 **P 21 20 17.0 +0.3**
ASAR Alice Springs 21.45 227 P **P 21 20 18.9 +2.1**
comp=Z,6.7nm,0.9s,baz=61,slow=8.3,SNR=49
ASAR LR LR 21 27 47.6
comp=Z,392nm,19.1s,baz=58,slow=34
comp=Z,6.7nm,0.9s
BNDI Bandanaira 21.45 282 P **P 21 20 16.6 -0.2**
KNRA Kununurra 22.44 252 **P 21 20 26.7 -0.7**
KNRA IAmb IAmb 21 20 34.7
comp=Z,36nm,1.2s
STKA Stephens Creek 23.80 200 P **P 21 20 41.3 +0.1**
STKA Stephens Creek 23.80 200 P **P 21 20 41.4 +0.3**
comp=Z,2.1nm,0.5s,baz=8.1,slow=8.7,SNR=6.8
STKA LR LR 21 30 25.9
comp=Z,490nm,18.3s,baz=16,slow=37
comp=Z,2.1nm,0.5s
GUMO Guam 23.81 345 LR LR 21 28 06.2
comp=Z,344nm,20.9s,baz=144,slow=32
NLAI Namlea 24.49 283 P **P 21 20 48.0 +0.3**
comp=Z,767nmcomp=Z,45nm,1.1s
FITZ Fitzroy Crossi 25.93 248 **P 21 21 00.2 -0.6**
FITZ Fitzroy Crossi 25.93 248 LR LR 21 32 40.1
comp=Z,152nm,18.1s,baz=84,slow=40
SOEI Soe 26.27 267 P **P 21 21 04.9 +0.8**
SOEI IAmb IAmb 21 21 24.7
comp=Z,50nm,1.2s
SOEI Soe 26.27 267 P **P 21 21 05.0 +0.9**
comp=Z,31nm,1.6s
MSVF Nonsavu 27.54 110 LR LR 21 31 04.6
comp=Z,158nm,18.1s,baz=264,slow=34
BBSI Bau Bau 28.39 276 P P 21 21 32.2 +9.2
LUWI Luwuk 29.26 285 P **P 21 21 30.3 -0.4**
DAV Davao City (W) 30.19 302 LR LR 21 34 50.7
comp=Z,83nm,18.7s,baz=149,slow=38
KAPI Kappang 31.24 276 P **P 21 21 48.1 -0.1**
KAPI IAmb IAmb 21 21 59.2
comp=Z,12nm,0.8s
TOLI2 Tolitoli 31.84 288 P **P 21 21 52.3 -1.2**
URZ Urewera 36.98 145 LR LR 21 36 43.0
comp=Z,381nm,18.0s,baz=35,slow=34
JCJ Chichijima 37.45 347 LR LR 21 36 08.2
comp=Z,299nm,19.3s,baz=146,slow=33
MORW Morawa 37.97 234 P **P 21 22 46.6 +0.3**
MORW IAmb IAmb 21 23 48.4
comp=Z,51nm,1.7s
RPZ Rata Peaks 38.24 156 LR LR 21 36 55.0
comp=Z,424nm,20.8s,baz=328,slow=33
SBUM Sibu 40.37 285 P **P 21 23 06.4 -0.1**
KSM Kuching 41.91 283 P **P 21 23 18.8 -0.5**
JHJ Hachijo jima 2 43.78 346 LR LR 21 38 59.5
comp=Z,105nm,21.0s,baz=230,slow=32
JNU Nakatsue 46.58 337 LR LR 21 40 32.3
comp=Z,78nm,21.2s,baz=170,slow=32
INU Inuyama 46.60 344 P **P 21 23 56.5 +0.2**
MJAR Matsushiro Arr 47.43 346 P **P 21 24 01.5 -1.3**
comp=Z,2.2nm,0.9s,baz=163,slow=7.9,SNR=5.9
MJAR LR LR 21 43 55.0
comp=Z,86nm,19.0s,baz=152,slow=36
comp=Z,2.2nm,0.9s
RAR Rarotonga 48.73 110 LR LR 21 41 52.1
comp=Z,29nm,20.1s,baz=257,slow=32
KSRS Korea Array 51.53 337 P **P 21 24 34.2 +0.1**
comp=Z,0.8nm,0.5s,baz=142,slow=8.1,SNR=4.2
comp=Z,0.8nm,0.5s
KSAR Wonju Array Be 51.53 337 P **P 21 24 34.2 0.0**
KULM Kulim 52.23 284 P **P 21 24 39.5 -0.3**
KULM IAmb IAmb 21 24 41.4
comp=Z,15nm,1.2s
GULI GuiLin 52.56 312 P **P 21 24 43.5 +1.4**
GULI pmax pmax
comp=Z,10.0nm,1.1s
RPSI Rantau Prapat 53.22 281 P **P 21 24 46.5 -0.6**
RPSI IAmb IAmb 21 24 48.4
comp=Z,22nm,1.8s
PSI Prapat 53.24 281 P **P 21 24 46.9 -0.6**
comp=Z,1.3nm,0.4s,baz=156,slow=7.2,SNR=4.9
PSI LR LR 21 51 53.9
comp=Z,182nm,18.1s,baz=136,slow=41
comp=Z,1.3nm,0.4s
ASAJ Asahikawa 53.99 353 LR LR 21 46 39.4
comp=Z,91nm,21.1s,baz=214,slow=35
SRIT Nakonsritamara 54.20 288 P **P 21 24 53.7 -0.6**
SRIT IAmb IAmb 21 24 56.3
comp=Z,21nm,1.3s
ENH Enshi 56.18 316 P **P 21 25 07.8 -0.7**
PPT2 Papeete2 58.19 105 *e*LR LR 21 42 24.0
PPT2 *e*LR LR 21 42 27.7
comp=Z,147nm,33.8s
PPT Papeete 58.19 105 LR LR 21 46 03.2
comp=Z,29nm,21.5s,baz=352,slow=31
CM31 Chiang Mai Arr 58.37 299 P **P 21 25 24.0 0.0**
CMAR Chiang Mai Arr 58.37 299 **P 21 25 24.0 -0.1**
CMAR Chiang Mai Arr 58.37 299 P **P 21 25 24.0 -0.1**
comp=Z,1.7nm,0.7s,baz=124,slow=5.6,SNR=17
comp=Z,1.7nm,0.7s
TBI Tubuai 58.42 111 *e*LR LR 21 42 30.6
comp=Z,580nm,28.5s
XAN Xi'an 58.92 320 ⇑P **P 21 25 27.6 -0.1**
XAN pP sP 21 25 32.3 -1.1
XAN pmax pmax
comp=Z,20nm,1.2s
PZH PanZhiHua 59.73 308 P **P 21 25 34.0 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.3s
CD2 Chengdu 60.55 314 P **P 21 25 39.4 +0.4**
CD2 sP sP 21 25 45.3 +0.5
CD2 S **S 21 33 57.8 +3.0**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,140nm,5.2s
CD2 LR LR
comp=N,380nm,15.0s
CD2 LR LR
comp=Z,150nm,16.0s
TNCH TengChong 61.57 305 *e*P **P 21 25 45.8 -0.3**
TNCH sP sP 21 25 58.9 +7.0
TNCH pmax pmax
comp=Z,110nm,4.0s
XLT XiLinHaoTe 61.92 332 *e*P **P 21 25 49.5 +1.4**
XLT pP sP 21 25 55.6 +1.6
XLT PcP **PcP 21 26 29.3 +0.5**
XLT pmax pmax
comp=Z,8.0nm,0.8s
XLT pmax pmax
comp=Z,110nm,2.9s
HHC Hu-ho-hao-te 61.93 327 *e*P **P 21 25 51.0 +2.8**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,78nm,4.2s
PETK Petropavlovsk- 62.73 5 P **P 21 25 53.3 +0.2**
comp=Z,7.3nm,1.2s,baz=213,slow=7.7,SNR=4.3
PETK LR LR 21 49 16.0
comp=Z,62nm,21.4s,baz=178,slow=32
comp=Z,7.3nm,1.2s
HEH HeiHe 63.03 343 *e*P **P 21 25 58.0 +2.8**
LZH Lanzhou 63.46 318 *e*P **P 21 25 59.8 +1.2**
LZH sP sP 21 26 08.3 +3.9
LZH pmax pmax
comp=Z,24nm,1.1s
SHEM Shemya Is, Ala 65.17 15 LR LR 21 49 42.8
comp=Z,170nm,21.1s,baz=162,slow=32
SHL Shillong 67.22 303 P **P 21 26 22.2 -1.0**
TAOE Nuku Hiva Isla 67.93 96 *e*LR LR 21 46 58.1
comp=Z,91nm,29.3s
GTA Gaotai 67.98 319 *e*P **P 21 26 29.3 +1.6**
GTA pmax pmax
comp=Z,8.0nm,1.2s
VNDA Vanda 68.14 177 P **P 21 26 28.6 +0.8**
VNDA IAmb IAmb 21 26 47.4
comp=Z,10nm,1.6s
VNDA Vanda 68.14 177 P **P 21 26 28.3 +0.4**
comp=Z,0.9nm,1.0s,baz=279,slow=12,SNR=2.4

VNDA LR LR 21 51 50.8
comp=Z,86nm,20.3s,baz=337,slow=32
comp=Z,0.9nm,1.0s
MA2 Magadan 68.94 360 LR LR 21 52 59.3
comp=Z,70nm,22.0s,baz=148,slow=33
ULN Ulaanbaatar 69.13 330 P **P 21 26 34.6 -0.1**
ULN IAmb IAmb 21 26 42.7
comp=Z,7.8nm,1.4s
SONM Songino Array 69.43 330 P **P 21 26 36.4 -0.2**
SONM Songino Array 69.43 330 P **P 21 26 37.7 +1.2**
comp=Z,3.3nm,0.9s,baz=149,slow=5.6,SNR=10
SONM LR LR 21 55 21.4
comp=Z,77nm,21.7s,baz=78,slow=34
comp=Z,3.3nm,0.9s
LSA Lhasa 69.49 307 P **P 21 26 37.1 -0.6**
LSA IAmb IAmb 21 26 40.2
comp=Z,4.9nm,0.8s
GOMU GeErMu 69.67 314 P **P 21 26 39.3 +0.7**
GOMU pP sP 21 26 43.3 -1.1
GOMU PcP **PcP 21 27 02.0 +0.6**
GOMU pmax pmax
comp=Z,7.0nm,1.0s
RKT Rikitea 71.74 111 *e*LR LR 21 48 40.6
comp=Z,342nm,31.2s
PALK Pallekele 71.92 281 LR LR 22 01 35.9
comp=Z,65nm,19.1s,baz=108,slow=38
SEY Seymchan 72.32 1 LR LR 21 57 52.2
comp=Z,47nm,19.4s,baz=200,slow=35
M14K Bethel 79.32 21 P **P 21 27 34.4 +0.8**
M14K IAmb IAmb 21 27 47.7
comp=Z,12nm,1.0s
QSPA South Pole Qui 80.39 180 P **P 21 27 40.1 +0.5**
QSPA IAmb IAmb 21 27 46.9
comp=Z,13nm,1.3s
QSPA South Pole Qui 80.39 180 P **P 21 27 40.3 +0.6**
comp=Z,3.8nm,1.0s,baz=236,slow=0.4,SNR=12
QSPA LR LR 21 59 49.8
comp=Z,81nm,21.3s,baz=2.5,slow=33
comp=Z,3.8nm,1.0s
MAW Mawson 80.45 203 LR LR 22 01 04.3
comp=Z,165nm,20.1s,baz=99,slow=34
KDAK Kodiak Island 81.27 27 LR LR 21 57 05.0
comp=Z,91nm,21.8s,baz=83,slow=31
MKAR Makanchi Array 82.73 320 **P 21 27 52.0 -0.2**
MKAR Makanchi Array 82.73 320 P **P 21 27 52.2 0.0**
comp=Z,1.7nm,0.6s,baz=100,slow=6.9,SNR=15
comp=Z,1.7nm,0.6s
WUS Wushi 82.82 314 **P 21 27 52.6 -0.4**
WUS IAmb IAmb 21 27 54.6
comp=Z,12nm,1.4s
MAKZ Makanchi 82.94 320 **P 21 27 53.0 -0.2**
MAKZ IAmb IAmb 21 27 55.3
comp=Z,7.6nm,1.1s
F17K Baldwin Pennin 83.43 17 P **P 21 27 56.2 +0.9**
PRZ Przheval'sk 83.82 315 **P 21 27 58.0 -0.1**
G18K Tagagawik 83.86 19 P **P 21 27 58.0 +0.4**
ZAA0 Zalesovo Array 84.11 327 P **P 21 27 58.4 -0.7**
ZALV Zalesovo Beam 84.11 327 **P 21 27 57.9 -1.2**
ZALV Zalesovo Beam 84.11 327 P **P 21 27 58.4 -0.7**
comp=Z,2.4nm,0.6s,baz=121,slow=5.1,SNR=11
ZALV LR LR 22 05 27.7
comp=Z,47nm,19.2s,baz=98,slow=36
comp=Z,2.4nm,0.6s
H19K Roundabout Mou 84.33 19 P **P 21 27 59.6 -0.3**
H19K IAmb IAmb 21 28 02.5
comp=Z,15nm,1.6s
KDJ Kajisay 84.57 314 **P 21 28 01.9 -0.1**
KSH Kashi 84.66 311 P **P 21 28 04.1 +1.7**
KSH pP sP 21 28 08.5 +0.2
KSH pmax pmax
comp=Z,4.0nm,0.9s
NIL Nilore 85.16 305 **P 21 28 04.3 -0.7**
NIL IAmb IAmb 21 28 06.7
comp=Z,13nm,1.2s
E19K Redstone River 85.29 18 P **P 21 28 05.4 +0.6**
E19K IAmb IAmb 21 28 06.8
comp=Z,6.5nm,0.6s
F20K Avaraart Lake 85.50 18 P **P 21 28 05.8 +0.1**
F20K IAmb IAmb 21 30 30.0
comp=Z,14nm,1.8s
BOOM Boomskoye usch 85.55 314 **P 21 28 06.9 0.0**
KURBB Kurchatov Arra 86.43 323 P **P 21 28 10.2 -0.6**
comp=Z,0.9nm,0.6s,baz=107,slow=4.4,SNR=7.5
comp=Z,0.9nm,0.6s
CHMS Chumysh 86.54 314 P **P 21 28 11.4 -0.1**
SNR=5.9
FRU1 Bishkek 86.57 314 P **P 21 28 11.3 -0.5**
FRU1 IAmb IAmb 21 28 13.0
comp=Z,13nm,1.3s
AAK Ala-Archa 86.62 314 **P 21 28 11.8 -0.3**
AAK IAmb IAmb 21 28 13.4
comp=Z,14nm,1.4s
AAK Ala-Archa 86.62 314 LR LR 22 07 09.4
comp=Z,23nm,20.6s,baz=107,slow=36
AAK Ala-Archa 86.62 314 P **P 21 28 12.6 +0.5**
SNR=6.4
USP Ospenovka 86.79 315 P **P 21 28 13.2 +0.4**
SNR=6.3
CCB Clear Creek Bu 86.87 22 P **P 21 28 11.4 -1.2**
CCB IAmb IAmb 21 28 13.8
comp=Z,20nm,1.8s
AML Almayashu 87.05 313 P **P 21 28 14.9 +0.3**
SNR=8.2
EKS2 Erkin-Say 87.13 314 P **P 21 28 15.8 +1.2**
SNR=5.8
ILAR Eielson Array 87.28 22 P **P 21 28 13.5 -1.1**
ILAR Eielson Array 87.28 22 P **P 21 28 13.9 -0.7**
comp=Z,1.3nm,0.7s,baz=253,slow=4.5,SNR=4.6
ILAR LR LR 21 59 57.4
comp=Z,78nm,21.7s,baz=230,slow=30
comp=Z,1.3nm,0.7s
ARSB Arslanbob 87.35 312 **P 21 28 15.4 -0.3**
J25K Salcha River, 87.78 23 **P 21 28 16.7 -0.4**
BMAR Burnt Mountain 89.36 20 P **P 21 28 25.2 +0.6**
KKAR Karatay Array 89.57 314 P **P 21 28 24.9 -1.1**
KKAR Karatay Array 89.57 314 P **P 21 28 25.1 -0.9**
KKAR IAmb IAmb 21 28 26.5
comp=Z,3.9nm,1.1s
NRIK Noril'sk 89.88 342 **P 21 28 26.1 -0.7**
NRIK IAmb IAmb 21 28 27.4
comp=Z,4.3nm,0.7s
NRIK Noril'sk 89.88 342 P **P 21 28 26.5 -0.4**
comp=Z,3.6nm,0.6s,baz=149,slow=3.7,SNR=5.9
NRIK LR LR 22 10 01.8
comp=Z,22nm,18.1s,baz=110,slow=36
comp=Z,3.6nm,0.6s
ELIB Princess Elisa 91.72 194 *d*P **P 21 28 37.2 +1.5**
comp=Z,3.0nm,1.3s
BVAR Borovoye Array 91.95 323 P **P 21 28 35.6 -1.2**
comp=Z,0.7nm,0.6s,baz=108,slow=7.7,SNR=3.8
comp=Z,0.7nm,0.6s
BBB Bella Bella 92.02 37 LR LR 22 01 04.5
comp=Z,48nm,21.2s,baz=238,slow=30
DLBC Dease Lake 92.43 31 LR LR 22 04 08.9
comp=Z,118nm,19.8s,baz=278,slow=32
YBH Yreka Blue Hor 93.62 48 LR LR 22 02 59.4
comp=Z,91nm,21.1s,baz=273,slow=30
NVAR Mina Array Bea 96.49 52 P **P 21 28 58.5 +0.2**
comp=Z,0.4nm,0.6s,baz=273,slow=6.1,SNR=2.3
NVAR LR LR 22 07 58.9
comp=Z,24nm,18.9s,baz=183,slow=33
comp=Z,0.4nm,0.6s
PFO Pinyon Flats O 97.41 57 LR LR 22 06 11.4
comp=Z,42nm,18.6s,baz=241,slow=31
NEW Newport 98.38 42 LR LR 22 06 58.1
comp=Z,104nm,20.1s,baz=197,slow=31
AKTO Aktyubinsk 99.17 320 LR LR 22 15 02.0
comp=Z,31nm,20.5s,baz=14,slow=36
ARTI Arti 99.32 326 LR LR 22 13 40.9
comp=Z,54nm,21.9s,baz=98,slow=35
LANS Liptovska Anna 123.61 324 *e*PKP **PKiKP 21 34 27.2 +0.9**
GERES GERESS Array B 127.05 326 **PKiKP 21 34 32.4 -0.8**
comp=Z,0.5nm,0.6s,baz=38,slow=1.7,SNR=3.5
LPAZ La Paz 133.58 123 PKP **PKiKP 21 34 47.0 -0.8**
comp=Z,0.5nm,0.4s,baz=316,slow=3.8,SNR=4.2
BDFB Brasilia 148.69 143 PKPbc **PKiKP 21 35 16.9 -1.3**
comp=Z,5.2nm,0.8s,baz=126,slow=6.7,SNR=5.7
TORD Torodi Ar. Bea 149.64 280 PKPbc **PKiKP 21 35 19.3 -0.8**
comp=Z,46nm,0.3s,baz=68,slow=2.8,SNR=1.4

*IDC **17** 21:16:44.3±2.0, 3°.24N×92°.86E, h0km, mb3.5/6, mbtmp3.6/9, ML4.1/3, MS3.6/1, Error ellipse: s-maj=49.5km s-min=24.5km az=39.0*
*DJA **17** 21:16:46.2±0.3, 3°N±3°×9°3E±°, h10km, M5.0/23, mb4.9/23, mB5.6/10, MLv4.9/12, Mw(mB)5.1/10*

*NEIC **17** 21:16:46.6±1.3, 3°.22N±0°.09×92°.85E±0°.10, h10km±2km, mb4.3/8, Error ellipse: s-maj=18.7km s-min=12.1km az=229.0*
ISC 17 21:16:46.0±0.7, **3°.28N**±0°.07×**92°.92E**±0°.07, **h10**km, **n59,**
σ1°**68**/50, **mb3.7**/9, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.23**	**47**	P	**Pn**	**21 17 37.6**	**+0.7**
BSI				S	**Sn**	**21 18 12.8**	**-2.7**
MLSI	**Meulaboh, Aceh**	**3.61**	**74**	P	**Pn**	**21 17 43.6**	**+1.6**
CMBY	**CAMPBELL BAY**	**3.84**	**15**	*e*P	Pn	21 17 41.4	-3.8
CMBY				*e*S	**Sn**	**21 18 25.8**	**-4.6**
CMBY				IAML		21 18 29.6	
	comp=E,1μm,0.2s						
CMBY				IAML		21 18 30.2	
	comp=N,969nm,0.2s						
LHMI	**Lhok Sumawe**	**4.46**	**64**	Pn	**Pn**	**21 17 56.1**	**+2.4**
LHMI	**Lhok Sumawe**	**4.46**	**64**	P	**Pn**	**21 17 56.1**	**+2.4**
GSI	**Gunungsitoli**	**5.04**	**113**	Pn	**Pn**	**21 18 03.2**	**+1.4**
GSI	**Gunungsitoli**	**5.04**	**113**	P	**Pn**	**21 18 02.7**	**+0.9**
	comp=N,1.1nmcomp=N,4μmcomp=N,186nm,0.5s						
GSI				S	**Sn**	**21 18 55.3**	**-4.9**
	comp=N,1.1nmcomp=N,4μmcomp=N,186nm,0.5s						
TSI	**Tuntungan**	**5.64**	**88**	P	**Pn**	**21 18 12.3**	**+2.4**
	comp=N,0.5nmcomp=N,91nm,0.8s						
PSI	**Prapat**	**6.01**	**94**	Pn	**Pn**	**21 18 17.2**	**+2.0**
	comp=N,6.1nm,0.3s,baz=294,slow=12,SNR=24						
PSI				Sn	**Sn**	**21 19 23.4**	**-0.8**
	comp=N,7.5nm,0.3s,baz=358,slow=22,SNR=12						
	comp=N,16nm,0.2s						
RPSI	**Rantau Prapat**	**6.02**	**95**	Pn	**Pn**	**21 18 17.5**	**+2.4**
PBSI	**Pulau Batu**	**6.29**	**122**	P	**Pn**	**21 18 19.9**	**+1.0**
MNSI	**Mandailing Nat**	**7.09**	**110**	P	**Pn**	**21 18 30.8**	**+0.9**
	comp=N,7μmcomp=N,155nm,0.4s						
SISI	**Saibi**	**7.67**	**126**	P	**Pn**	**21 18 37.7**	**-0.2**
	comp=N,0.3nmcomp=N,91nm,0.6s						
KULM	**Kulim**	**7.96**	**75**		**Pn**	**21 18 43.5**	**+1.6**
PBA	**Port Blair**	**8.33**	**359**	Pn	**Pn**	**21 18 47.8**	**+0.9**
PBA	**Port Blair**	**8.33**	**359**	*e*S	Sn	21 20 08.3	-13
PBA				IAML		21 20 15.8	
	comp=N,60nm,0.4s						
PBA				IAML		21 20 19.6	
	comp=E,85nm,0.4s						
PPI	**Padang Panjang**	**8.34**	**116**	P	**Pn**	**21 18 49.0**	**+1.9**
	comp=E,3μmcomp=E,76nm,0.6s						
SRIT	**Nakonsritamara**	**8.49**	**51**	Pn	**Pn**	**21 18 49.5**	**+0.4**
DGPR	**DIGLIPUR**	**9.84**	**0**	*e*S	Sn	21 20 44.2	-14
DGPR				IAML		21 20 58.3	
	comp=E,58nm,0.2s						
DGPR				IAML		21 20 58.8	
	comp=N,40nm,0.2s						
MYKOM	**Kota Tinggi**	**11.02**	**97**	Pn	**Pn**	**21 19 24.3**	**+0.5**
KSI	**Kapahiang**	**11.86**	**125**	P	**Pn**	**21 19 36.7**	**+1.3**
MNAI	**Manna**	**12.57**	**127**	Pn	**Pn**	**21 19 45.5**	**+0.5**
MNAI	**Manna**	**12.57**	**127**	P	Pn	21 19 39.8	-5.3
PALK	**Pallekele**	**12.80**	**289**	Pn	**Pn**	**21 19 47.9**	**-0.3**
PALK	**Pallekele**	**12.80**	**289**	Pn	**Pn**	**21 19 47.3**	**-1.0**
	comp=N,1.4nm,0.3s,baz=106,slow=13,SNR=20						
PALK				Sn	Sn	21 21 56.3	-15
	comp=N,3.2nm,0.3s,baz=194,slow=16,SNR=10						
	comp=N,2.7nm,0.3s						
MDSI	**Maura Dua**	**13.64**	**124**	P	**Pn**	**21 20 00.9**	**+1.3**
	comp=N,17nm,0.7s						
LWLI	**Liwa**	**13.84**	**126**	P	**Pn**	**21 20 03.8**	**+1.2**
	comp=N,3μmcomp=N,112nm,0.7s						
TPI	**Tanjungpandan**	**15.90**	**112**	P	**Pn**	**21 20 31.5**	**+1.5**
CGJI	**Cibinong**	**16.09**	**128**	P	**Pn**	**21 20 33.2**	**+0.6**
	comp=N,24nm,1.3s						
CM31	**Chiang Mai Arr**	**16.20**	**21**	P	**Pn**	**21 20 38.3**	**+4.4**
CMAR	**Chiang Mai Arr**	**16.20**	**21**	Pn	**Pn**	**21 20 32.6**	**-1.2**
	comp=N,0.1nm,0.3s,baz=202,slow=11,SNR=9.2						
	comp=N,0.3nm,0.7s						
TNG	**Tangerang**	**16.61**	**124**	P	**Pn**	**21 20 39.8**	**+0.7**
TNG				P	**P**	**21 20 40.0**	**-1.6**
SKJI	**Sukabumi**	**17.01**	**127**	P	**Pn**	**21 20 45.6**	**+1.3**
	comp=N,95nm,0.8s						
KSM	**Kuching**	**17.46**	**95**	Pn	**Pn**	**21 20 49.7**	**-0.2**
KSM				IAmb	IAmb	21 20 56.4	
	comp=Z,6.8nm,1.1s						
CNJI	**Cibinong**	**17.65**	**127**	P	**Pn**	**21 20 53.2**	**+1.0**
H08S2	**Diego Garcia H**	**23.09**	**242**	T	T	21 47 12.4	
	baz=61,slow=75,SNR=43						
H08S3	**Diego Garcia H**	**23.09**	**242**	T	T	21 47 06.8	
	baz=61,slow=75,SNR=41						
H08S1	**Diego Carcia H**	**23.11**	**242**	T	T	21 47 11.3	
	baz=61,slow=75,SNR=34						
MYLDM	**Lahad Datu**	**25.58**	**85**	P	**P**	**21 22 15.6**	**+0.1**
LSA	**Lhasa**	**26.33**	**357**	P	**P**	**21 22 22.9**	**+0.1**
LSA				IAmb	IAmb	21 22 38.3	
	comp=Z,5.4nm,0.5s						
DRK	**Karamyk**	**40.82**	**335**	P	**P**	**21 24 28.8**	**+0.5**
DRK				IAmb	IAmb	21 24 57.0	
	comp=Z,4.3nm,0.6s						
MKAR	**Makanchi Array**	**44.32**	**350**	P	**P**	**21 24 55.9**	**-0.3**
MKAR	**Makanchi Array**	**44.32**	**350**	P	**P**	**21 24 56.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=169,slow=8.2,SNR=9.9						
	comp=Z,0.7nm,0.6s						
KKAR	**Karatay Array**	**44.38**	**336**	P	**P**	**21 24 56.3**	**-0.5**
SONM	**Songino Array**	**45.88**	**13**	P	**P**	**21 25 08.9**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=200,slow=7.8,SNR=1.6						
	comp=Z,0.2nm,0.7s						
WRA	**Warramunga Arr**	**46.76**	**121**	P	**P**	**21 25 15.3**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=300,slow=7.6,SNR=1.3						
	comp=Z,0.3nm,0.7s						
WR8	**Warramunga Arr**	**46.90**	**121**	P	**P**	**21 25 16.8**	**-0.2**
WR8				IAmb	IAmb	21 25 43.6	
	comp=Z,8.9nm,1.4s						
KURBB	**Kurchatov Arra**	**48.72**	**348**	P	**P**	**21 25 30.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=158,slow=6.0,SNR=2.2						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**50.95**	**354**	P	**P**	**21 25 47.6**	**+0.1**
ZALV	**Zalesovo Beam**	**50.95**	**354**	P	**P**	**21 25 47.2**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=189,slow=8.2,SNR=3.6						
	comp=Z,0.7nm,0.5s						
BVAR	**Borovoye Array**	**52.97**	**343**	P	**P**	**21 26 02.8**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=132,slow=6.4,SNR=1.4						
	comp=Z,0.2nm,0.6s						
USRK	**Ussuriysk Ar.**	**53.35**	**34**	LR	LR	21 49 18.6	
	comp=Z,51nm,19.1s,baz=153,slow=37						
H04N2	**CROZET ISLANDS**	**61.19**	**211**	T	T	22 34 47.2	
	baz=50,slow=76,SNR=34						
H04N1	**CROZET ISLANDS**	**61.20**	**211**	T	T	22 34 43.2	
	baz=50,slow=76,SNR=39						
H04N3	**CROZET ISLANDS**	**61.21**	**211**	T	T	22 34 46.6	
	baz=50,slow=76,SNR=43						
H04S1	**CROZET ISLANDS**	**61.58**	**211**	T	T	22 35 13.4	
	baz=49						
H04S3	**CROZET ISLANDS**	**61.59**	**211**	T	T	22 35 14.5	
	baz=49						
H04S2	**CROZET ISLANDS**	**61.60**	**211**	T	T	22 35 12.8	
	baz=49						
FINES	**FINESS Array B**	**76.21**	**333**	P	**P**	**21 28 35.0**	**+0.7**

*NEIC **17** 21:50:03.1±2.1, 26°.08N±0°.08×129°.43E±0°.05, h10km±1km, mb4.2/7, Error ellipse: s-maj=15.5km s-min=3.1km az=205.0*
*NIED **17** 21:50:04.8, 26°.21N×129°.50E, h44km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.69; Mθθ0.44; Mφφ0.25; Mrθ-0.15; Mθφ0.58; Mφr-0.58; Fault plane solution: M0 1.03000×10^15 NP1: φs=254.00000°, δ35.00000°, λ-49.00000°. NP2: φs=27.00000°, δ65.00000°, λ-115.00000°.*
*JMA **17** 21:50:04.8±0.1, 26°.2N±0°.8×129°.5E±0°.6, h44km, MV3.6/25, NEAR OKINAWAJIMA ISLAND*
*IDC **17** 21:50:07.5±6.1, 26°.43N×129°.40E, h27km±42km, mb3.6/15, mbtmp3.8/17, ML3.8/2, MS2.9/3, Error ellipse: s-maj=21.6km s-min=17.4km az=60.0*
ISC 17 21:50:03.5±4.6, **26°.23N**±0°.04×**129°.49E**±0°.03, **h12**km±29km, **n55**, σ1°**67**/72, **mb3.9**/21, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.22**	**311**	*i* P	**Pn**	**21 50 26.4**	**-0.1**
JYRO				S	**Sb**	**21 50 41.8**	**-0.5**
JOW	**Kunigami**	**1.24**	**299**		**Pn**	**21 50 26.6**	**-0.2**
JOW				Sn	**Sb**	**21 50 41.3**	**-1.6**
JOW	**Kunigami**	**1.24**	**299**	Pn	**Pn**	**21 50 26.6**	**-0.2**
	185nm,0.3s,baz=122,slow=26,SNR=335						
JOW				Sn	**Sb**	**21 50 40.9**	**-2.1**
	149nm,0.3s,baz=299,slow=26,SNR=27						
JOW				LR	LR	21 51 06.7	
	comp=Z,783nm,19.2s,baz=173,slow=54						

JOW	**Kunigami**	**1.24 299**	*i* P		**Pn**	**21 50 26.6**	**-0.2**
JOW			*e*S		**Sb**	**21 50 41.2**	**-1.8**
JNTH	**Nagotoyohara**	**1.35 283**	*i* P		**Pn**	**21 50 27.8**	**-0.4**
JNTH			*e*S		**Sn**	**21 50 43.7**	**-2.3**
JOKE	**Okinoerabujima**	**1.39 324**	*i* P		**Pn**	**21 50 29.0**	**+0.1**
JOKE			*e*S		**Sn**	**21 50 46.1**	**-1.2**
JJT3	**Tamagusuku3**	**1.53 267**	P		**Pn**	**21 50 31.1**	**+0.3**
JIH	**Iheya**	**1.58 301**	*i* P		**Pn**	**21 50 31.6**	**+0.2**
JIH			S		**Sn**	**21 50 50.4**	**-1.4**
JMZ	**Minamidaito 2**	**1.61 104**	Pn		**Pn**	**21 50 31.0**	**-0.9**
JMZ			Sn		**Sn**	**21 50 49.9**	**-2.7**
JMZ	**Minamidaito 2**	**1.61 104**	P		**Pn**	**21 50 31.1**	**-0.7**
JMZ			S		**Sn**	**21 50 49.3**	**-3.3**
JTK	**Tokunoshima**	**1.62 343**	P		**Pn**	**21 50 32.3**	**+0.3**
JTK			*e*S		**Sn**	**21 50 50.4**	**-2.5**
JKDJ	**Kitadaitoujima**	**1.65 99**	P		**Pn**	**21 50 31.8**	**-0.6**
JKDJ			S		**Sn**	**21 50 51.2**	**-2.4**
JAMN	**Amaminishikomi**	**2.02 352**	P		**Pn**	**21 50 37.9**	**+0.4**
JAMN			S		**Sn**	**21 51 00.8**	**-2.0**
JAGN	**Aguni-jima**	**2.05 281**	*i* P		**Pn**	**21 50 38.2**	**+0.4**
JAGN			*e*S		**Sn**	**21 51 01.8**	**-1.6**
JZK	**Kikaishima**	**2.12 12**	P		**Pn**	**21 50 39.9**	**+1.1**
JZK			*e*S		**Sn**	**21 51 05.0**	**-0.2**
JAM	**Amami Oshima**	**2.17 3**	*e*P		**Pn**	**21 50 39.6**	**0.0**
JAM			*e*S		**Sn**	**21 51 04.1**	**-2.4**
JKE	**Kume jima 2**	**2.43 273**	*i* P		**Pn**	**21 50 42.5**	**-0.6**
JKE			*e*S		**Sn**	**21 51 09.7**	**-3.1**
JTAJ	**Takarajima**	**2.92 355**	S		**Sn**	**21 51 22.4**	**-2.6**
JNN	**Nakanoshima**	**3.61 5**	*e*P		**Pn**	**21 51 00.7**	**+1.2**
JNN			*e*S		**Sn**	**21 51 40.5**	**-1.5**
JYAK	**Yakushimahirau**	**4.09 12**	*e*P		**Pn**	**21 51 06.2**	**+0.2**
JYAK			*e*S		**Sn**	**21 51 51.0**	**-2.9**
JMTN	**Minamitane**	**4.33 16**	*e*S		**Sn**	**21 51 57.9**	**-1.9**
JTN	**Tanegashima 3**	**4.60 16**	*e*S		**Sn**	**21 52 03.5**	**-2.9**
JNU	**Nakatsue**	**6.97 10**			**Pn**	**21 51 47.3**	**+1.7**
JNU	**Nakatsue**	**6.97 10**	Pn		**Pn**	**21 51 46.5**	**+0.8**
	2.4nm,0.3s,baz=298,slow=3.6,SNR=13						
JNU			Sn		**Sn**	**21 52 59.0**	**-6.0**
	baz=215,slow=19						
JNU			LR		LR	21 55 02.4	
	comp=Z,78nm,19.3s,baz=260,slow=43						
	6.2nm,0.3s						
YULB	**Yu-li**	**7.96 251**	Pn		Pn	21 51 55.4	-3.8
SSLB	**Suanglung**	**8.12 254**			**Pn**	**21 51 58.6**	**-2.8**
KSRS	**Korea Array**	**11.27 354**	Pn		**Pn**	**21 52 43.4**	**-1.0**
	0.3nm,0.3s,baz=176,slow=14,SNR=2.0						
KSRS			LR		LR	21 57 39.7	
	comp=Z,81nm,18.1s,baz=185,slow=41						
	0.3nm,0.4s						
GUMO	**Guam**	**19.14 128**	LR		LR	22 00 01.6	
	comp=Z,36nm,21.9s,baz=89,slow=31						
KLR	**Kul'dur**	**23.03 4**	P		**P**	**21 55 06.8**	**-1.7**
	3.5nm,0.9s,baz=208,slow=4.0,SNR=7.4						
	3.5nm,0.9s						
GTA	**Gaotai**	**28.05 305**	*e*P		**P**	**21 55 55.4**	**+0.4**
GTA			pmax		pmax		
	comp=Z,2.0nm,0.9s						
GTA			LR		LR		
	comp=N,81nm,12.7s						
GTA			LR		LR		
	comp=E,95nm,12.4s						
GTA			LR		LR		
	comp=Z,120nm,14.5s						
SONM	**Songino Array**	**28.18 326**	P		**P**	**21 55 57.3**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=134,slow=10,SNR=2.6						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**42.38 312**	P		**P**	**21 57 57.0**	**-0.8**
MKAR	**Makanchi Array**	**42.38 312**	P		**P**	**21 57 57.7**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=102,slow=10.0,SNR=6.9						
	comp=Z,0.5nm,0.7s						
MAKZ	**Makanchi**	**42.59 312**	P		**P**	**21 57 59.6**	**+0.1**
ZALV	**Zalesovo Beam**	**42.93 322**	P		**P**	**21 58 02.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=104,slow=8.2,SNR=4.0						
	comp=Z,0.5nm,0.5s						
WB0	**Warramunga Arr**	**45.97 174**	P		**P**	**21 58 26.7**	**-0.1**
WB0			IAmb		IAmb	21 58 29.6	
	comp=Z,5.0nm,1.2s						
WRA	**Warramunga Arr**	**46.14 174**	P		**P**	**21 58 27.6**	**-0.5**
WRA	**Warramunga Arr**	**46.14 174**	P		**P**	**21 58 30.0**	**+1.9**
	comp=Z,1.2nm,0.9s,baz=348,slow=7.8,SNR=4.9						
	comp=Z,1.2nm,0.9s						
ASAR	**Alice Springs**	**49.79 175**	P		**P**	**21 59 00.3**	**+4.0**
	comp=Z,0.2nm,0.5s,baz=2.5,slow=14,SNR=5.5						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**51.03 318**	P		**P**	**21 59 05.8**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=93,slow=9.4,SNR=9.7						
	comp=Z,1.4nm,0.7s						
BRVK	**Borovoye**	**51.09 318**	P		**P**	**21 59 06.5**	**+0.6**
BRVK			IAmb		IAmb	21 59 09.0	
	comp=Z,1.8nm,0.8s						
KBL	**Kabul**	**52.13 295**	P		**P**	**21 59 13.6**	**-0.6**
KBL			IAmb		IAmb	21 59 17.0	
	comp=Z,3.3nm,1.0s						
ABKAR	**Akbulak array**	**57.47 313**	P		**P**	**21 59 52.1**	**-0.3**
ABKAR			IAmb		IAmb	21 59 54.8	
	comp=Z,1.5nm,0.9s						
F24K	**Squaw Lake**	**63.25 25**	P		**P**	**22 00 32.8**	**+1.1**
ILAR	**Eielson Array**	**63.90 28**	P		**P**	**22 00 36.8**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=276,slow=7.5,SNR=4.0						
	comp=Z,0.3nm,0.8s						
BMAR	**Burnt Mountain**	**64.53 25**	P		**P**	**22 00 41.9**	**+1.8**
J26L	**Joseph Creek**	**65.36 28**	P		**P**	**22 00 46.2**	**+0.5**
J26L			IAmb		IAmb	22 00 51.9	
	comp=Z,4.3nm,1.3s						
ARCES	**ARCESS Array B**	**70.42 339**	P		**P**	**22 01 17.8**	**+0.5**
	comp=Z,3.2nm,0.9s,baz=59,slow=4.9,SNR=1.8						
	comp=Z,3.2nm,0.9s						
FINES	**FINESS Array B**	**73.42 331**	P		**P**	**22 01 36.0**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=57,slow=7.0,SNR=8.6						
	comp=Z,2.4nm,0.8s						
BRTR	**Keskin Array B**	**77.92 308**	P		**P**	**22 02 02.3**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=76,slow=5.2,SNR=7.9						
	comp=Z,1.5nm,0.8s						
YKA	**Yellowknife Ar**	**78.05 25**	P		**P**	**22 02 03.0**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=316,slow=1.8,SNR=2.0						
	comp=Z,0.3nm,0.9s						
HFS	**Hagfors**	**79.34 333**	P		**P**	**22 02 08.7**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=91,slow=6.3,SNR=2.8						
	comp=Z,1.6nm,0.8s						
NB2	**NORSAR Subarra**	**79.81 334**	P		**P**	**22 02 12.4**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=50,slow=5.6						
NOA	**NORSAR Array B**	**79.81 334**	P		**P**	**22 02 10.9**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=55,slow=5.6,SNR=7.9						
	comp=Z,1.3nm,0.8s						
GERES	**GERESS Array B**	**85.88 323**	P		**P**	**22 02 44.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=57,slow=7.2,SNR=3.3						
	comp=Z,0.5nm,0.7s						

HEL 17 22:10:22.1±0.4, 67°.16N×20°.54E, h0km, ML1.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.89**	**132**	PG	Pg	22 10 37.9	-1.2
	baz=313						
PAJU	**Pajala**	**1.02**	**97**	PG	Pg	22 10 40.2	-1.4
PAJU				SG	Sg	22 10 53.7	-1.0
LANU	**Lannavaara**	**1.05**	**31**	PG	Pg	22 10 40.9	-1.3
KLF	**Kolari**	**1.34**	**85**	PG	Pg	22 10 45.4	-2.3
	baz=271						
KLF				MSG		22 11 02.3	
	comp=Z,1.1nm,0.2s						
KLF				SB	Sg	22 11 03.9	-1.1
HEF	**Hetta**	**1.73**	**42**	*e*P	Pn	22 10 52.2	-1.1
HEF	**Hetta**	**1.73**	**42**	PG	Pn	22 10 52.7	-0.6
HEF				MSG		22 11 13.7	
	comp=Z,0.7nm,0.2s						
HEF				SN	Sn	22 11 15.9	-0.1
KALU	**Kalix**	**1.73**	**138**	PG	Pn	22 10 53.2	-0.1
KALU				SN	Sg	22 11 17.5	0.0
KIF	**Kilpisjarvi**	**1.85**	**3**	*e*P	Pn	22 10 55.5	+0.4
KIF	**Kilpisjarvi**	**1.85**	**3**	PG	Pb	22 10 56.1	-0.7
KIF				MSG		22 11 18.3	
	comp=Z,1.6nm,0.2s						
KIF				SG	Sg	22 11 21.5	-0.1
TOF	**Tornio**	**1.86**	**124**	PG	Pn	22 10 55.5	+0.3
TOF				MSG		22 11 17.6	
	comp=Z,1.1nm,0.2s						
TOF				SG	Sb	22 11 20.3	-0.4
KTK1	**Kautokeino**	**2.12**	**27**	PG	Pn	22 10 59.8	+1.1
KTK1				SG	Sn	22 11 26.6	+1.0
RNF	**Rovaniemi**	**2.23**	**102**	PG	Pn	22 11 01.1	+0.8
RNF				SG	Sb	22 11 30.6	-0.7
RANF	**Ranua**	**2.75**	**112**	SG	Sb	22 11 46.1	-0.1

UPP 17 22:11:12.9±0.1, 67°.19N×20°.73E, h0km, ML1.5, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**223**	P	Pg	22 11 15.0	+0.3
DUNU				S	Sg	22 11 16.4	+0.6
MASU	**Masugnsbyn**	**0.56**	**61**	P	Pg	22 11 23.6	0.0
MASU				S	Sg	22 11 31.4	+0.5
RATU	**Laukkuluspa**	**0.77**	**326**	P	Pg	22 11 27.6	-0.1
KUA	**Kurravaara**	**0.78**	**349**	P	Pg	22 11 27.5	-0.4
PAJU	**Pajala**	**0.95**	**99**	P	Pg	22 11 30.6	-0.4
LANU	**Lannavaara**	**0.99**	**29**	P	Pg	22 11 31.4	-0.4
KOVU	**Salmi**	**1.06**	**348**	P	Pg	22 11 32.8	-0.4
KOVU				S	Sg	22 11 47.4	+0.4
KALU	**Kalix**	**1.70**	**141**	P	Pn	22 11 44.0	+0.3
SJUU	**Sjulsmark**	**1.73**	**168**	P	Pn	22 11 44.5	+0.4

UCR 17 22:40:51.5±0.8, 8°.83N×82°.99W, h29km±2km, MW3.7
UPA 17 22:40:52.7±0.9, 8°.78N×82°.91W, h19km±2km, MD3.5

ISC 17 22:40:51.3±1.0, 8°.82N±0°.03×82°.99W±0°.03, h31km±6km, n28, σ0°63/40, 4C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NELY	**Ciudad Neily**	**0.17**	**164⇑**	*e*P	**Pn**	**22 40 57.6**	**-0.3**
NELY				*e*S	**Sb**	**22 41 02.5**	**+1.1**
ALCO	**Alturas Coton,**	**0.21**	**50⇓**	*e*P	**Pb**	**22 40 57.4**	**-0.5**
ALCO				*e*S	**Sb**	**22 41 01.5**	**-0.9**
EDAD	**Golfito**	**0.24**	**226**	*e*P	**Pb**	**22 40 57.7**	**-0.4**
EDAD				*e*S	**Sb**	**22 41 02.3**	**-0.4**
EDP2	**Potrero Grande**	**0.27**	**318**	*e*P	**Pb**	**22 40 58.4**	**-0.1**
BRU2	**Volcan**	**0.30**	**94⇑**	*e*P	**Pb**	**22 40 58.9**	**-0.1**
BRU2				*e*S	**Sb**	**22 41 04.5**	**+0.3**
BRU2	**Volcan**	**0.30**	**94⇑**	*i* P	**Pb**	**22 40 58.9**	**-0.1**
BRU2				*i* S	**Sb**	**22 41 04.7**	**+0.5**
LPPC	**Paso Canoas**	**0.32**	**152**	*e*P	**Pb**	**22 40 58.8**	**-0.3**
BC3P	**Paso Ancho**	**0.38**	**90⇑**	*e*P	**Pb**	**22 40 59.7**	**-0.4**
BC3P				*e*S	**Sb**	**22 41 05.8**	**-0.3**
FIMO	**Fila Mora**	**0.40**	**296**	*e*P	**Pb**	**22 41 00.5**	**+0.2**
JIME	**Puerto Jimenez**	**0.43**	**230**	*e*P	**Pb**	**22 41 00.6**	**-0.1**
LESP3	**La Esperanza,**	**0.46**	**154**	*i* P	**Pb**	**22 41 00.9**	**-0.1**
LESP3				*e*P	**Pb**	**22 41 00.9**	**-0.1**
LESP3				*e*S	**Sb**	**22 41 07.0**	**-0.7**
PTAR3	**Potrerillos Ar**	**0.51**	**104⇓**	*e*P	**Pb**	**22 41 01.9**	**0.0**
PTAR3				*e*S	**Sb**	**22 41 07.9**	**-1.3**
PIRO	**Carate, Puerto**	**0.53**	**220**	*e*P	**Pb**	**22 41 02.0**	**-0.3**
PTPM	**Petroterminale**	**0.62**	**169**	*e*P	**Pn**	**22 41 04.0**	**0.0**
PTPM				*e*S	**Sn**	**22 41 13.6**	**+0.7**
DVD	**David**	**0.66**	**125**	*e*P	**Pb**	**22 41 04.1**	**-0.3**
DVD				*e*S	**Sb**	**22 41 13.7**	**+0.5**
SAJE	**San Jernim**	**0.73**	**316**	*e*P	**Pb**	**22 41 04.3**	**-1.4**
CEUA	**Cerro Uatsi, L**	**0.80**	**4**	*e*P	**Pn**	**22 41 07.3**	**+0.7**
CHGR2	**Aguacate**	**0.85**	**82**	*e*P	**Pb**	**22 41 07.1**	**-0.5**
CHGR2				*e*S	**Sb**	**22 41 17.9**	**-0.8**
LAES	**El Progreso Va**	**0.94**	**357**	*e*P	**Pb**	**22 41 08.9**	**-0.2**
BUS1	**Rivas**	**1.04**	**315**	*e*P	**Pn**	**22 41 09.7**	**-0.6**
PIEC	**Cerro El Cedra**	**1.24**	**310**	*e*P	**Pn**	**22 41 12.6**	**-0.3**
LCR2	**La Lucha 2**	**1.36**	**313**	*e*P	**Pn**	**22 41 14.1**	**-0.3**
CVTV	**Tajo**	**1.40**	**328**	*e*P	**Pn**	**22 41 15.9**	**+0.9**
CVTQ	**Turrialba Volc**	**1.41**	**327**	*e*P	**Pn**	**22 41 15.9**	**+0.8**
VTR0	**Volcan Turrial**	**1.41**	**328**	*e*P	**Pn**	**22 41 16.0**	**+0.6**
CVTR	**Volcan Turrial**	**1.41**	**328**	*e*P	**Pn**	**22 41 15.9**	**+0.6**
CVTG	**V. Turrialba,**	**1.53**	**330**	*e*P	**Pn**	**22 41 17.7**	**+1.1**
VBV1	**V. Barva**	**1.69**	**320**	*e*P	**Pn**	**22 41 19.6**	**+0.6**

IDC 17 22:42:09.7±3.0, 18°.01S×178°.13W, h610km±17km, mb3.1/5, mbtmp4.1/6, Error ellipse: s-maj=70.3km s-min=23.3km az=133.0

ISC 17 22:42:06.6±1.6, 18°.2S±0°.3×177°.7W±0°.2, h600km, n9, σ0°73/12, mb3.8/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.05**	**276**	P	**P**	**22 43 33.0**	**+0.4**
	58nm,0.6s,baz=129,slow=13,SNR=75						
MSVF				S	**S**	**22 44 43.2**	**+0.6**
	7.9nm,1.1s,baz=186,slow=22,SNR=1.0						
STKA	**Stephens Creek**	**39.08**	**242**	P	**P**	**22 48 44.3**	**+0.5**
	2.5nm,0.9s,baz=75,slow=11,SNR=2.3						
	2.5nm,0.9s						
WRA	**Warramunga Arr**	**45.23**	**260**	P	**P**	**22 49 31.1**	**-1.0**
	1.4nm,0.5s,baz=95,slow=7.0,SNR=40						
WRA				PcP	**PcP**	**22 50 59.7**	**+0.6**
	0.1nm,0.4s,baz=91,slow=3.5,SNR=1.1						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**45.36**	**254**	P	**P**	**22 49 32.5**	**-0.6**
	4.2nm,0.6s,baz=88,slow=8.6,SNR=37						
ASAR				PcP	**PcP**	**22 51 00.2**	**+0.6**
	0.4nm,0.4s,baz=111,slow=3.7,SNR=1.9						
	4.2nm,0.6s						
MJAR	**Matsushiro Arr**	**68.51**	**323**	P	**P**	**22 52 10.3**	**-0.1**
	1.1nm,0.5s,baz=145,slow=6.9,SNR=4.1						
	1.1nm,0.5s						
ILAR	**Eielson Array**	**86.00**	**13**	P	**P**	**22 53 44.8**	**+0.7**
	0.2nm,0.4s,baz=225,slow=4.2,SNR=6.0						
	0.2nm,0.4s						
BRTR	**Keskin Array B**	**145.44**	**315**	PKPbc	**PKPab**	**23 00 39.7**	**-1.0**
	0.8nm,0.6s,baz=128,slow=5.0,SNR=5.2						
MMAI	**Mount Meron Ar**	**146.84**	**303**	PKPbc	**PKiKP**	**23 00 44.3**	**-0.7**
	2.8nm,1.0s,baz=71,slow=5.8,SNR=5.3						
GERES	**GERESS Array B**	**148.03**	**346**	PKPbc	**PKiKP**	**23 00 46.6**	**-0.4**
	0.3nm,0.6s,baz=45,slow=4.3,SNR=4.1						

IDC 17 23:06:14.7±350.0, 53°.56N×3°.44E, h0km, Error ellipse: s-maj=184.9km s-min=132.0km az=78.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.99**	**122**	I	I	23 54 30.0	
	baz=309,slow=332,SNR=1.0						
I48TN	**KESRA INFRASON**	**18.23**	**165**	I	I	00 54 50.0	
	baz=350,slow=319,SNR=0.8						
I18DK	**QAANAAQ INFRAS**	**34.73**	**339**	I	I	02 38 20.0	
	baz=89,slow=339,SNR=1.1						

IDC 17 23:07:29.6±0.8, 9°.51S×151°.18E, h0km, mb4.3/15, mbtmp4.3/17, ML2.9/2, MS3.9/12, Error ellipse: s-maj=23.9km s-min=16.8km az=100.0
NEIC 17 23:07:31.6±1.2, 9°.62S±0°.08×151°.03E±0°.09, h10km±1km, mb4.9/53, Error ellipse: s-maj=16.7km s-min=12.9km az=120.0
GCMT 17 23:07:34.6±0.4, 9°.47S±0°.03×151°.04E±0°.05, h12km±1km, MW4.8/86, Moment Tensor Solution. s9,c9; s86,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.62±.16; $M_{\theta\theta}$1.29±.11; $M_{\phi\phi}$0.32±.08; $M_{r\theta}$0.49±.27; $M_{\phi\theta}$0.30±.07; $M_{\phi r}$-0.80±.37; Best double couple: $M_0$1.70500×10^{16} NP1:ϕ_s56.00000°, δ43.00000°, λ-122.00000°. NP2: ϕ_s277.00000°, δ55.00000°, λ-63.00000°. Principal axes: T 1.4050, Plg6.0000°, Azm349.0000°; N 0.5980, Plg21.0000°, Azm81.0000°; P -2.0050, Plg68.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
DJA 17 23:07:41.8±1.8, 10°.5±7°.7×5°.1E±1°.4, h97km±12km, M4.9/15, mb4.6/15, mB6.0/4, MLv4.8/1, Mw(mB)5.7/4

ISC 17 23:07:31.4±0.5, 9°.65S±0°.07×151°.13E±0°.07, h13km, n127, σ1°19/115, mb4.8/51, MS3.8/8, 2D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.93**	**273**		**Pn**	**23 08 30.2**	**-1.2**
PMG	**Port Moresby**	**3.93**	**273**	Pn	**Pn**	**23 08 32.4**	**+1.0**
	11nm,0.3s,baz=73,slow=9.5,SNR=10.0						
PMG				Sn	**Sn**	**23 09 20.0**	**+2.6**
	13nm,0.3s,baz=84,slow=19,SNR=3.6						
	32nm,0.3s						
RABL	**Rabaul**	**5.52**	**11**		**Pn**	**23 08 52.4**	**-1.0**
MANU	**Manus Island**	**8.44**	**333**		**Pn**	**23 09 33.6**	**+0.2**
HNR	**Honiara**	**8.70**	**89**	LR	LR	23 12 21.7	
	comp=Z,267nm,21.9s,baz=314,slow=34						
COEN	**Coen**	**8.89**	**240**	Pn	**Pn**	**23 09 38.5**	**-1.1**
JAY	**Jayapura**	**12.56**	**304**	LR	LR	23 16 11.1	
	comp=Z,576nm,20.7s,baz=49,slow=42						
SMPI	**Sarmi**	**14.51**	**301**	P	**Pn**	**23 10 56.4**	**-0.1**
	43nm,1.1s						

WB0	**Warramunga Arr**	**19.04 236**	P		**P**	**23 11 52.0**	**-1.4**
WRA	**Warramunga Arr**	**19.17 236**	P		**P**	**23 11 54.8**	**0.0**
WRA	**Warramunga Arr**	**19.17 236**	P		**P**	**23 11 56.0**	**+1.1**
	0.1nm,0.3s,baz=57,slow=11,SNR=8.8						
WRA			LR		LR	23 18 09.6	
	comp=Z,172nm,20.4s,baz=356,slow=33						
	3.2nm,0.9s						
DZM	**Mont Dzumac**	**19.20 132**	*e*P		**P**	**23 11 52.0**	**-3.2**
	45nm,24.1s						
DZM			*e*LR		LR	23 16 24.0	
	1μm,25.1s						
DZM	**Mont Dzumac**	**19.20 132**	LR		LR	23 18 39.5	
	comp=Z,409nm,18.7s,baz=350,slow=35						
MTN	**Manton Dam**	**19.87 259**			**P**	**23 12 00.5**	**-2.0**
FAKI	**Fak Fak**	**19.92 288**			**P**	**23 12 01.1**	**-2.0**
FAKI			IAmb		IAmb	23 12 07.7	
	comp=Z,119nm,1.8s						
FAKI	**Fak Fak**	**19.92 288**	P		**P**	**23 12 01.4**	**-1.6**
ARMA	**Armidale**	**20.66 179**	P		**P**	**23 12 11.5**	**+0.3**
AS31	**Alice Springs**	**21.56 228**			**P**	**23 12 20.1**	**-0.7**
ASAR	**Alice Springs**	**21.56 228**			**P**	**23 12 21.4**	**+0.5**
ASAR	**Alice Springs**	**21.56 228**	P		**P**	**23 12 22.9**	**+2.0**
	comp=Z,6.1nm,0.9s,baz=60,slow=9.4,SNR=34						
ASAR			LR		LR	23 19 51.2	
	comp=Z,272nm,21.3s,baz=59,slow=34						
	comp=Z,6.1nm,0.9s						
SWI	**Sorong**	**21.61 293**	P		**P**	**23 12 18.9**	**-2.5**
	comp=Z,33nm,1.3s						
BNDI	**Bandanaira**	**21.67 282**	P		**P**	**23 12 18.1**	**-3.8**
KNRA	**Kununurra**	**22.62 252**			**P**	**23 12 31.2**	**-1.0**
KNRA			IAmb		IAmb	23 12 42.1	
	comp=Z,32nm,1.0s						
STKA	**Stephens Creek**	**23.82 200**	P		**P**	**23 12 45.1**	**+0.9**
	comp=Z,3.9nm,0.7s,baz=7.5,slow=12,SNR=7.4						
STKA			LR		LR	23 22 30.1	
	comp=Z,384nm,18.4s,baz=16,slow=38						
	comp=Z,3.9nm,0.7s						
GUMO	**Guam**	**23.91 345**	LR		LR	23 20 10.2	
	comp=Z,250nm,20.9s,baz=124,slow=32						
FITZ	**Fitzroy Crossi**	**26.11 248**			**P**	**23 13 04.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**26.11 248**	LR		LR	23 22 38.6	
	comp=Z,131nm,18.9s,baz=78,slow=35						
SOEI	**Soe**	**26.48 267**	P		**P**	**23 13 07.9**	**-0.8**
MSVF	**Nonsavu**	**27.33 110**	LR		LR	23 22 28.0	
	comp=Z,139nm,21.5s,baz=301,slow=33						
MMRI	**Maumere**	**28.54 270**	P		**P**	**23 13 26.6**	**-0.5**
MMRI	**Maumere**	**28.54 270**	P		P	23 13 38.1	+11
LUWI	**Luwuk**	**29.48 285**	P		**P**	**23 13 34.5**	**-0.9**
KAPI	**Kappang**	**31.45 276**	P		**P**	**23 13 51.5**	**-1.4**
KAPI			IAmb		IAmb	23 14 03.6	
	comp=Z,11nm,0.9s						
TOLI2	**Tolitoli**	**32.06 288**	P		**P**	**23 13 56.1**	**-2.1**
TOLI2			IAmb		IAmb	23 14 24.1	
	comp=Z,10nm,1.0s						
MYLDM	**Lahad Datu**	**35.70 293**	P		**P**	**23 14 28.1**	**-1.7**
MYLDM			IAmb		IAmb	23 14 57.9	
	comp=Z,13nm,1.0s						
URZ	**Urewera**	**36.82 145**	LR		LR	23 28 46.6	
	comp=Z,351nm,18.1s,baz=44,slow=35						
JCJ	**Chichijima**	**37.55 347**	LR		LR	23 27 49.7	
	comp=Z,320nm,22.0s,baz=147,slow=33						
NWAO	**Narrogin (SRO)**	**38.88 228**	LR		LR	23 29 57.7	
	comp=Z,240nm,18.1s,baz=57,slow=35						
SBUM	**Sibu**	**40.58 285**	P		**P**	**23 15 10.3**	**-0.8**
KSM	**Kuching**	**42.13 283**	P		**P**	**23 15 22.7**	**-1.1**
INU	**Inuyama**	**46.70 344**	P		**P**	**23 15 59.5**	**-0.5**
JNU	**Nakatsue**	**46.71 336**	P		**P**	**23 16 00.0**	**-0.2**
MJAR	**Matsushiro Arr**	**47.53 346**	P		**P**	**23 16 05.5**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=168,slow=9.6,SNR=6.4						
	comp=Z,1.1nm,0.3s						
MAJO	**Matsushiro**	**47.53 346**	P		**P**	**23 16 05.5**	**-1.0**
MAJO			IAmb		IAmb	23 16 28.3	
	comp=Z,8.6nm,0.9s						
MJB9	**Matsu-Tunnel**	**47.54 346**	P		**P**	**23 16 06.2**	**-0.3**
MJB9			IAmb		IAmb	23 16 28.7	
	comp=Z,11nm,1.1s						
JSD	**Sado**	**48.95 347**	P		**P**	**23 16 17.3**	**-0.1**
KSRS	**Korea Array**	**51.66 336**	P		**P**	**23 16 37.5**	**-0.4**
	comp=Z,6.8nm,1.1s,baz=148,slow=9.4,SNR=11						
	comp=Z,6.8nm,1.1s						
KSAR	**Wonju Array Be**	**51.67 336**	P		**P**	**23 16 38.2**	**+0.2**
NJ2	**Nanjing**	**51.69 325**	*e*P		**P**	**23 16 38.6**	**

QSPA	**South Pole Qui**	**80.34 180**	P	**P**	**23 19 44.0**	**+1.8**
QSPA			IAmb	IAmb	23 19 52.4	
	comp=Z,32nm,1.9s					
QSPA	**South Pole Qui**	**80.34 180**	P	**P**	**23 19 44.3**	**+2.1**
	comp=Z,2.1nm,0.9s,baz=340,slow=0.6,SNR=15					
	comp=Z,2.1nm,0.9s					
K15K	**Wolf Creek Mou**	**80.50 20**	P	**P**	**23 19 43.8**	**+1.0**
K17K	**Iditarod**	**81.91 21**		**P**	**23 19 49.8**	**-0.5**
TIXI	**Tiksi**	**82.47 353**		**P**	**23 19 53.8**	**+0.7**
TIXI			IAmb	IAmb	23 19 58.1	
	comp=Z,11nm,1.4s					
MKAR	**Makanchi Array**	**82.91 320**	P	**P**	**23 19 56.1**	**+0.1**
	comp=Z,4.0nm,1.0s,baz=108,slow=6.5,SNR=22					
	comp=Z,4.0nm,1.0s					
WUS	**Wushi**	**83.01 314**		**P**	**23 19 56.7**	**-0.1**
WUS			IAmb	IAmb	23 19 58.3	
	comp=Z,15nm,1.2s					
MAKZ	**Makanchi**	**83.11 320**		**P**	**23 19 56.9**	**-0.1**
MAKZ			IAmb	IAmb	23 19 58.4	
	comp=Z,9.6nm,1.1s					
ZAA0	**Zalesovo Array**	**84.27 327**	P	**P**	**23 20 02.3**	**-0.5**
ZALV	**Zalesovo Beam**	**84.27 327**	P	**P**	**23 20 01.4**	**-1.3**
ZALV	**Zalesovo Beam**	**84.27 327**	P	**P**	**23 20 02.0**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=124,slow=5.5,SNR=6.7					
	comp=Z,1.0nm,0.4s					
CAST	**Castle Rocks**	**84.59 22**	P	**P**	**23 20 04.6**	**+0.4**
CAST			IAmb	IAmb	23 20 47.3	
	comp=Z,23nm,2.0s					
KDJ	**Kajisay**	**84.75 314**		**P**	**23 20 05.1**	**-0.6**
KSH	**Kashi**	**84.85 311**	P	**P**	**23 20 07.8**	**+1.6**
KSH			sP	sP	23 20 14.0	+2.3
KSH			pmax	pmax		
	comp=Z,6.0nm,1.1s					
E19K	**Redstone River**	**85.28 18**	P	**P**	**23 20 07.9**	**+0.4**
E19K			IAmb	IAmb	23 20 10.7	
	comp=Z,7.4nm,0.8s					
NIL	**Nilore**	**85.36 305**		**P**	**23 20 08.0**	**-0.8**
ULHL	**Ulahol**	**85.45 314**	P	**P**	**23 20 10.0**	**+0.7**
	SNR=5.6					
BOOM	**Boomskoye usch**	**85.74 314**	P	**P**	**23 20 10.4**	**-0.3**
MCK	**McKinley**	**85.95 23**		**P**	**23 20 10.8**	**-0.3**
MCK			IAmb	IAmb	23 20 20.8	
	comp=Z,20nm,1.6s					
TKM2	**Tokmak 2**	**86.11 315**	P	**P**	**23 20 12.8**	**+0.3**
	SNR=7.4					
D20K	**Etivluk River**	**86.25 17**	P	**P**	**23 20 13.3**	**+0.9**
D20K			IAmb	IAmb	23 20 22.5	
	comp=Z,7.3nm,1.2s					
KBK	**Karagaybulak**	**86.49 314**	P	**P**	**23 20 14.9**	**+0.6**
	SNR=7.0					
KURBB	**Kurchatov Arra**	**86.60 322**	P	**P**	**23 20 14.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=115,slow=4.2,SNR=5.3					
	comp=Z,0.5nm,0.3s					
CHMS	**Chumysh**	**86.72 314**	P	**P**	**23 20 15.7**	**+0.4**
	SNR=6.2					
FRU1	**Bishkek**	**86.76 314**	P	**P**	**23 20 15.0**	**-0.5**
FRU1			IAmb	IAmb	23 20 16.8	
	comp=Z,12nm,1.1s					
AAK	**Ala-Archa**	**86.81 314**		**P**	**23 20 15.2**	**-0.6**
AAK			IAmb	IAmb	23 20 17.1	
	comp=Z,10nm,1.1s					
AAK	**Ala-Archa**	**86.81 314**	P	**P**	**23 20 16.5**	**+0.6**
	SNR=8.3					
USP	**Ospenovka**	**86.98 315**	P	**P**	**23 20 16.7**	**+0.2**
	SNR=14					
AML	**Almayashu**	**87.24 313**	P	**P**	**23 20 18.7**	**+0.4**
	SNR=11					
ILAR	**Eielson Array**	**87.25 22**	P	**P**	**23 20 17.1**	**-0.2**
	comp=Z,2.3nm,1.0s,baz=252,slow=4.4,SNR=15					
	comp=Z,2.3nm,1.0s					
EKS2	**Erkin-Say**	**87.32 314**	P	**P**	**23 20 18.4**	**0.0**
	SNR=8.2					
ARSB	**Arslanbob**	**87.54 312**		**P**	**23 20 18.5**	**-0.9**
BCAR	**Beaver Creek A**	**88.48 25**	P	**P**	**23 20 24.2**	**+0.9**
GAR	**Garm**	**88.96 310**	P	**P**	**23 20 25.4**	**-0.8**
GAR			IAmb	IAmb	23 20 30.2	
	comp=Z,7.8nm,1.0s					
D25K	**Kavik River**	**89.66 18**		**P**	**23 20 28.9**	**+0.2**
KK31	**Karatay Array**	**89.76 314**	P	**P**	**23 20 28.9**	**-0.8**
KKAR	**Karatay Array**	**89.76 314**	P	**P**	**23 20 28.6**	**-1.1**
SIMJ	**Simiganj**	**89.88 309**	P	**P**	**23 20 29.9**	**-0.6**
NRIK	**Noril'sk**	**90.00 341**	P	**P**	**23 20 29.7**	**-0.6**
NRIK			IAmb	IAmb	23 20 31.3	
	comp=Z,11nm,1.3s					
NRIK	**Noril'sk**	**90.00 341**	P	**P**	**23 20 29.8**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=120,slow=3.6,SNR=7.4					
	comp=Z,3.2nm,0.8s					
ELIB	**Princess Elisa**	**91.72 194**	*d*P	**P**	**23 20 37.1**	**-1.4**
BVAR	**Borovoye Array**	**92.12 323**	P	**P**	**23 20 39.1**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=140,slow=7.0,SNR=2.9					
	comp=Z,1.1nm,0.7s					
NVAR	**Mina Array Bea**	**96.36 52**	P	**P**	**23 21 01.5**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=261,slow=5.5,SNR=1.4					
	comp=Z,0.6nm,0.7s					
NOA	**NORSAR Array B**	**120.84 339**	PKP	**PKPdf**	**23 26 22.8**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=50,slow=2.2,SNR=2.7					
KOLS	**Kolonicke sedl**	**122.22 323**	*e*PKP	**PKiKP**	**23 26 27.4**	**+1.1**
BOJS	**Bojanci**	**128.04 322**	*i* Pg	**Pdif**	**23 23 23.0**	**+1.9**
BOJS			IAML		23 23 33.5	
	comp=Z,1.7nm,0.1s					
VISS	**Visnje**	**128.15 322**	*i* Pg	**Pdif**	**23 23 25.0**	**+3.4**
VISS			IAML		23 23 38.0	
	comp=Z,0.8nm,0.1s					
BDFB	**Brasilia**	**148.52 143**	PKPbc	**PKPdf**	**23 27 18.1**	**+2.6**
	comp=Z,3.0nm,0.8s,baz=127,slow=5.1,SNR=4.2					

RSNC 17 23:10:46.1±0.0, 7°N±1°×7°3W±°, h153km±2km, M2.9, mb3.4, mB5.8, ML2.7, MLv3.4, Mw(mB)5.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**203**	P	Pn	23 11 06.6	-0.6
BARC				S	Sn	23 11 21.7	-1.5
PAMC	**Pamplona, Colo**	**0.65**	**36**	P	Pn	23 11 09.6	+0.4
PAMC				S	Sn	23 11 26.5	-0.4
BRJC	**Barrancabermej**	**0.67**	**284**	P	Pn	23 11 08.3	-0.4
BRJC				S	Sn	23 11 25.3	-0.7
RUSC	**La Rusia**	**0.91**	**180**	P	Pn	23 11 10.7	-0.3
RUSC				S	Sn	23 11 29.8	-0.3
PTBC	**PUERTO BERRIO,**	**1.38**	**259**	P	Pn	23 11 13.1	-1.6
PTBC				S	Sn	23 11 34.1	-2.5
OCAC	**Ocana**	**1.44**	**351**	P	Pn	23 11 15.0	-0.4
OCAC				S	Sn	23 11 36.8	-1.2
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	P	Pn	23 11 18.8	-1.3
ZARC				S	Sn	23 11 44.4	-1.8
NORC	**Norcasia**	**2.16**	**235**	P	Pn	23 11 22.6	-0.8
NORC				S	Sn	23 11 50.9	-1.1
CHIC	**Chingaza**	**2.26**	**196**	P	Pn	23 11 24.9	0.0
CHIC				S	Sn	23 11 54.1	-0.7
ROSC	**El Rosal**	**2.31**	**212**	P	Pn	23 11 26.3	+0.8
ROSC				S	Sn	23 11 56.3	+0.5
CVER	**Cruz Verde, Cu**	**2.48**	**203**	P	Pn	23 11 28.2	+0.6
CVER				S	Sn	23 12 00.1	+0.6
UREC	**San Jos de Ur**	**2.60**	**291**	P	Pn	23 11 27.2	-1.4
UREC				S	Sn	23 12 01.1	-0.3
GUY2C	**Guyana, Caldas**	**2.76**	**235**	P	Pn	23 11 30.7	-0.3
GUY2C				S	Sn	23 12 04.0	-1.6
PTGC	**Puerto Gaitan,**	**2.76**	**160**	P	Pn	23 11 29.8	-0.9
PTGC				S	Sn	23 12 03.1	-2.0
CBOC	**Ciudad Bolivar**	**3.05**	**252**	P	Pn	23 11 34.3	-0.1
CBOC				S	Sn	23 12 11.1	-0.7
DBBC	**Dabeiba**	**3.10**	**274**	P	Pn	23 11 34.1	-0.9
DBBC				S	Sn	23 12 09.6	-3.2
SDV	**Santo Domingo**	**3.19**	**50**	P	Pn	23 11 35.9	-0.3
SDV				S	Sn	23 12 12.4	-2.6
ARGC	**Ariguani, Magd**	**3.24**	**339**	P	Pn	23 11 38.3	+1.7
ARGC				S	Sn	23 12 16.9	+1.1
ANIL	**Santa Ana**	**3.26**	**225**	P	Pn	23 11 38.1	+0.9
ANIL				S	Sn	23 12 17.3	+0.6
PRAC	**Prado**	**3.56**	**210**	P	Pn	23 11 39.9	-0.9
PRAC				S	Sn	23 12 22.2	-1.0
ORTC	**Ortega, Tolima**	**3.59**	**217**	P	Pn	23 11 40.6	-0.6
ORTC				S	Sn	23 12 24.5	+0.4
APAC	**Apartado, Choc**	**3.63**	**288**	P	Pn	23 11 40.4	-1.2
APAC				S	Sn	23 12 23.2	-1.5
SJCC	**San Jacinto, C**	**3.70**	**326**	P	Pn	23 11 40.4	-2.2
SJCC				S	Sn	23 12 21.9	-4.6
URMC	**La Uribe, Meta**	**3.77**	**200**	P	Pn	23 11 43.7	+0.2
URMC				S	Sn	23 12 26.6	-1.5
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	P	Pn	23 11 47.3	-1.7
CRJC				S	Sn	23 12 34.3	-3.7
SMRC	**Santa Marta, M**	**4.47**	**346**	P	Pn	23 11 52.5	-0.1
SMRC				S	Sn	23 12 39.7	-4.7
MACC	**Macarena, Meta**	**4.70**	**189**	P	Pn	23 11 53.8	-1.8
URIC	**Uribia, Colomb**	**4.98**	**12**	P	Pn	23 11 57.3	-2.0
URIC				S	Sn	23 12 53.4	-3.1
MALC	**Bahia Malaga**	**5.06**	**237**	P	Pn	23 11 59.4	-1.0
MALC				S	Sn	23 12 58.9	+0.6
GARC	**Garzon, Huila**	**5.18**	**208**	P	Pn	23 12 00.8	-1.4
GARC				S	Sn	23 12 57.7	-3.9
FLOC	**Florencia**	**5.79**	**206**	P	Pn	23 12 09.6	-0.5
FLOC				S	Sn	23 13 12.1	-3.7

*SDD **17** 23:13:56.0±2.5, 18°.53N×71°.21W, h22km±25km, MD3.1, ML1.9, MW3.3*
*OSPL **17** 23:13:56.4±1.2, 18°.63N×71°.55W, h20km±15km, ML1.8*
ISC 17 23:13:54.9±1.1, 18°.51N±0°.03×71°.15W±0°.04, h9km±11km, n11, σ0°65/20, 10C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODU1	**El Espartillar**	**0.35**	**243**	*i* P	**Pg**	**23 14 02.0**	**+0.2**
LODU1				*e*S	**Sg**	**23 14 07.1**	**+0.7**
LODU1				IAML		23 14 08.9	
	comp=Z,203nm,0.3s						
PODR	**Polo**	**0.36**	**201**	⇓*e*Pg	**Pg**	**23 14 02.6**	**+0.4**
PODR				⇓*e*Sg	**Sb**	**23 14 09.1**	**-0.5**
PODR				IAML		23 14 14.4	
	comp=N,62nm,0.2s						
PODR	**Polo**	**0.36**	**201**	*i* P	**Pg**	**23 14 02.6**	**+0.4**
PODR				*e*S	**Sb**	**23 14 09.1**	**-0.5**
SDDR	**Presa de Saban**	**0.49**	**344**	⇑*e*Pg	**Pg**	**23 14 04.0**	**-0.4**
SDDR				⇑*e*Sg	**Sg**	**23 14 10.9**	**0.0**
SDDR				IAML		23 14 13.2	
	comp=N,67nm,0.2s						
SDDR	**Presa de Saban**	**0.49**	**344**	*i* P	**Pg**	**23 14 04.0**	**-0.4**
SDDR				*e*S	**Sg**	**23 14 11.0**	**+0.1**
SDDR				IAML		23 14 11.4	
	comp=Z,38nm,0.9s						
ABDR	**Alto Bandera**	**0.58**	**58**	⇑*e*Pg	**Pn**	**23 14 08.8**	**-0.8**
ABDR				⇑*e*Sg	**Sb**	**23 14 17.0**	**+1.1**
ABDR				IAML		23 14 18.2	
	comp=N,58nm,0.4s						
JIDR	**Jimani**	**0.67**	**269**	⇑*e*Pg	**Pg**	**23 14 07.4**	**-0.4**
JIDR				⇑*e*Sg	**Sg**	**23 14 16.5**	**0.0**
JIDR				IAML		23 14 17.1	
	comp=N,50nm,0.6s						
REDR	**Restauracion**	**0.69**	**340**	⇑*e*Pg	**Pn**	**23 14 11.3**	**+0.3**
REDR				*e*Sg	**Sn**	**23 14 23.2**	**+1.3**
REDR				IAML		23 14 24.1	
	comp=N,33nm,0.1s						
BANI	**BANI**	**0.76**	**99**	⇑*e*Pg	**Pb**	**23 14 10.2**	**-0.1**
BANI				IAML		23 14 37.5	
	comp=N,66nm,0.8s						
LOBH	**Bahia de las A**	**0.80**	**216**	*i* P	**Pb**	**23 14 10.5**	**-0.4**
HATOM	**Hato Mayor del**	**1.70**	**80**	⇑*e*Pg	**Pn**	**23 14 24.0**	**-0.8**
HATOM				⇑*e*Sg	**Sg**	**23 14 49.7**	**+0.3**
HATOM				IAML		23 15 00.5	
	comp=N,26nm,2.1s						

*IDC **17** 23:21:48.9±1.1, 9°.56S×151°.33E, h0km, mb4.0/9, mbtmp4.0/11, ML2.8/2, Error ellipse: s-maj=29.4km s-min=21.6km az=108.0*
*NEIC **17** 23:21:52.1±1.0, 9°.6S±0°.1×151°.1E±0°.1, h10km±1km, mb4.5/14, Error ellipse: s-maj=23.4km s-min=18.9km az=172.0*
ISC 17 23:21:51.3±0.8, 9°.5S±0°.1×151°.18E±0°.09, h13km, n33, σ1§69/32, mb4.1/12, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.96**	**271**		**Pn**	**23 22 51.1**	**-0.8**
PMG	**Port Moresby**	**3.96**	**271**	P	**Pn**	**23 22 54.2**	**+2.3**
PMG				Sn	**Sn**	**23 23 43.4**	**+5.1**
	5.6nm,0.3s,baz=102,slow=6.5,SNR=14						
	6.5nm,0.3s,baz=114,slow=20,SNR=4.1						
	34nm,0.9s						
PMG	**Port Moresby**	**3.96**	**271**	P	**Pb**	**23 22 59.1**	**-2.0**
COEN	**Coen**	**8.99**	**240**	Pn	**Pn**	**23 23 59.9**	**-1.0**
GENI	**Genyem**	**12.93**	**301**	P	Pn	23 24 43.4	-11
	49nm,0.6s						
QIS	**Mount Isa**	**15.65**	**224**	P	P	23 25 43.6	+7.8
QLP	**Quilpie**	**18.19**	**200**	P	**P**	**23 26 08.2**	**+4.3**
WB0	**Warramunga Arr**	**19.15**	**236**	P	**P**	**23 26 13.7**	**-0.8**
WRA	**Warramunga Arr**	**19.28**	**236**	P	**P**	**23 26 16.0**	**0.0**
	0.1nm,0.3s,baz=57,slow=10,SNR=7.2						
	2.7nm,0.9s						
FAKI	**Fak Fak**	**19.92**	**288**	P	**P**	**23 26 22.4**	**-0.6**
FAKI				IAmb	IAmb	23 26 31.4	
	comp=Z,20nm,1.1s						
MTN	**Manton Dam**	**19.94**	**259**	P	**P**	**23 26 22.4**	**-0.8**
MTN				IAmb	IAmb	23 26 24.0	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**21.68**	**227**		**P**	**23 26 41.6**	**-0.4**
ASAR	**Alice Springs**	**21.68**	**227**	P	**P**	**23 26 41.2**	**-0.9**
ASAR	**Alice Springs**	**21.68**	**227**	P	**P**	**23 26 42.2**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=61,slow=9.0,SNR=28						
	comp=Z,3.0nm,0.7s						
KNRA	**Kununurra**	**22.70**	**252**	P	**P**	**23 26 52.2**	**-0.7**
KNRA				IAmb	IAmb	23 27 01.3	
	comp=Z,9.2nm,0.8s						
OOD	**Oodnadatta**	**23.31**	**217**	P	**P**	**23 27 00.9**	**+1.8**
STKA	**Stephens Creek**	**23.95**	**200**	P	**P**	**23 27 04.3**	**-1.0**
	comp=Z,4.4nm,1.0s,baz=348,slow=11,SNR=4.7						
	comp=Z,4.4nm,1.0s						
FITZ	**Fitzroy Crossi**	**26.19**	**248**	P	**P**	**23 27 24.5**	**-1.4**
KSM	**Kuching**	**42.14**	**283**	P	**P**	**23 29 42.1**	**-1.8**
KULM	**Kulim**	**52.45**	**284**	P	**P**	**23 31 03.3**	**-1.0**
KULM				IAmb	IAmb	23 31 05.0	
	comp=Z,6.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.55**	**298**	P	**P**	**23 31 47.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**58.55**	**298**	P	**P**	**23 31 49.0**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=121,slow=5.6,SNR=7.2						
	comp=Z,0.7nm,0.4s						
SHL	**Shillong**	**67.39**	**303**	P	**P**	**23 32 45.9**	**-1.1**
SONM	**Songino Array**	**69.50**	**330**	P	**P**	**23 33 00.2**	**+0.5**
SONM				IAmb	IAmb	23 33 09.0	
	comp=Z,2.2nm,1.0s						
SONM	**Songino Array**	**69.50**	**330**	P	**P**	**23 33 00.0**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=140,slow=7.5,SNR=3.0						
	comp=Z,0.4nm,0.4s						
K15K	**Wolf Creek Mou**	**80.37**	**20**	P	**P**	**23 34 04.1**	**+2.1**
K15K				IAmb	IAmb	23 34 10.9	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**80.47**	**180**	P	**P**	**23 34 03.7**	**+0.9**
QSPA				IAmb	IAmb	23 34 31.0	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**80.47**	**180**	P	**P**	**23 34 03.2**	**+0.4**
	comp=Z,3.4nm,1.0s,baz=35,slow=0.8,SNR=6.5						
	comp=Z,3.4nm,1.0s						
MKAR	**Makanchi Array**	**82.84**	**320**	P	**P**	**23 34 15.9**	**+0.4**
	comp=Z,1.3nm,1.0s,baz=103,slow=5.5,SNR=6.6						
	comp=Z,1.3nm,1.0s						
ZALV	**Zalesovo Beam**	**84.19**	**327**	P	**P**	**23 34 21.9**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=114,slow=5.1,SNR=1.8						
	comp=Z,1.1nm,0.7s						
E19K	**Redstone River**	**85.15**	**18**	P	**P**	**23 34 29.1**	**+2.2**
KURBB	**Kurchatov Arra**	**86.52**	**322**	P	**P**	**23 34 34.5**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=106,slow=3.8,SNR=1.8						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**87.11**	**22**	P	**P**	**23 34 36.1**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=256,slow=5.9,SNR=7.9						
	comp=Z,0.7nm,0.8s						

*IDC **17** 23:26:34.6±0.5, 9°.46S×150°.98E, h0km, mb4.6/19, mbtmp4.6/24, ML4.3/4, MS4.4/44, Error ellipse: s-maj=17.1km s-min=13.1km az=74.0*
*MOS **17** 23:26:35.7±1.1, 9°.49S×150°.82E, h14km, mb5.1/38, Error ellipse: s-maj=9.3km s-min=6.9km az=134.3*
*BJI **17** 23:26:35.4, 10°.01S×150°.79E, h24km, mB5.3/23, mb4.9/65, Ms4.8/41, Ms7 4.6/44*
*NEIC **17** 23:26:36.8±1.8, 9°.56S±0°.07×150°.87E±0°.07, h8km±2km, mb5.0/90, Mww5.1/24, Error ellipse: s-maj=9.8km s-min=9.4km az=207.0*
*GCMT **17** 23:26:37.8±0.1, 9°.52S±0°.01×151°.06E±0°.01, h12km, MW5.2/129, Moment Tensor Solution. s56,c77; s129,c235; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=5.83±.10; Mθθ=6.32±.08; Mφφ=-0.48±.08; Mrθ=0.09±.25; Mrφ=0.90±.08; Mθφ=-2.39±.37; Best double couple: M0=6.59900×10^16 NP1:φs=282.00000°, δ=47.00000°, λ=-61.00000°. NP2:φs=63.00000°, δ=51.00000°, λ=-118.00000°. Principal axes: T 6.4510, Plg2.0000°, Azm172.0000°; N 0.2980, Plg21.0000°, Azm81.0000°; P -6.7470, Plg69.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **17** 23:26:38.5, 9°.59S×150°.86E, h12km*
*NEIC **17** 23:26:38.5, 9°.39S×150°.86E, h12km, Moment Tensor Solution. Duration: 2§1 Moment tensor: Scale 10^16Nm; Mrr=5.52; Mθθ=5.72; Mφφ=-0.20; Mrθ=1.93; Mrφ=0.12; Mθφ=0.84; Fault plane solution: M0=6.00000×10^16 NP1:φs=96.71000°, δ=35.97000°, λ=-77.22000°. NP2:φs=261.05000°, δ=55.05000°, λ=-99.12000°. Principal axes: T 6.0537, Plg10.0000°, Azm358.0000°; N -0.0987, Plg7.0000°, Azm266.0000°; P -5.9550, Plg78.0000°, Azm139.0000°;*
*DJA **17** 23:26:39.2±0.5, 10°S±3°×15°1E±°, h43km±5km, M5.1/43, mb5.0/43, mB5.6/18, MLv5.2/1, Mw(mB)5.2/18, MwMwp5.8/1, Mwp5.9/1*
ISC 17 23:26:37.0±0.3, 9°.61S±0°.04×150°.90E±0°.04, h13km, n571, σ1§36/556, mb5.0/113, MS4.5/60, 13C-2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.70**	**273**		**Pn**	**23 27 33.7**	**-0.2**
PMG	**Port Moresby**	**3.70**	**273**	Pn	**Pn**	**23 27 35.3**	**+1.3**
	35nm,0.4s,baz=91,slow=7.5,SNR=18						
PMG				Sn	**Sb**	**23 28 25.3**	**-1.7**
	12nm,0.3s,baz=103,slow=18,SNR=3.2						
PMG				LR	LR	23 29 19.4	
	comp=Z,7μm,18.8s,baz=42,slow=44						
PMG	**Port Moresby**	**3.70**	**273**	P	**Pn**	**23 27 35.1**	**+1.2**
PMG	**Port Moresby**	**3.70**	**273**	P	**Pn**	**23 27 35.2**	**+1.3**
PMG	**Port Moresby**	**3.70**	**273**	*i* P	**Pn**	**23 27 33.4**	**-0.5**
RABL	**Rabaul**	**5.52**	**13**	Pn	**Pn**	**23 27 59.2**	**+0.2**
MANU	**Manus Island**	**8.29**	**335**		**Pn**	**23 28 37.3**	**+0.2**
COEN	**Coen**	**8.71**	**240**	Pn	**Pn**	**23 28 42.6**	**-0.3**
SAVO	**Savo Central**	**8.81**	**88**	P	Pn	23 28 51.4	+7.2
TATA	**Tatamba Isabel**	**8.88**	**83**	P	Pn	23 28 52.4	+7.3
HNR	**Honiara**	**8.92**	**90**	Pn	**Pn**	**23 28 46.9**	**+1.1**
HNR	**Honiara**	**8.92**	**90**	Pn	**Pn**	**23 28 45.1**	**-0.7**
	3.1nm,0.3s,baz=252,slow=14,SNR=6.1						
HNR				LR	LR	23 31 17.4	
	comp=Z,620nm,20.4s,baz=269,slow=32						
	27nm,0.3s						
HNR	**Honiara**	**8.92**	**90**	P	Pn	23 28 52.6	+6.8
HNR	**Honiara**	**8.92**	**90**	P	**Pn**	**23 28 46.9**	**+1.1**
NGOA	**Tingoa Renbel**	**9.21**	**103**	P	Pn	23 28 56.4	+6.7
ALEG	**Aligegeo Malai**	**9.71**	**86**	P	Pn	23 29 03.9	+7.4
JAY	**Jayapura**	**12.34**	**304**	Pn	**Pn**	**23 29 31.6**	**-1.1**
	5.0nm,0.3s,baz=120,slow=19,SNR=6.0						
JAY				LR	LR	23 35 05.4	
	comp=Z,3μm,21.0s,baz=215,slow=41						
	3.5nm,0.5s						
GENI	**Genyem**	**12.74**	**302**	P	**Pn**	**23 29 41.1**	**+3.0**
GENI	**Genyem**	**12.74**	**302**	P	**Pn**	**23 29 34.5**	**-3.6**
	59nm,1.0s						
SMPI	**Sarmi**	**14.29**	**301**	P	**Pn**	**23 29 59.8**	**+0.6**
	1μm116nm,1.1s						
QIS	**Mount Isa**	**15.40**	**224**	P	**Pn**	**23 30 15.3**	**+1.1**
EIDS	**Eidsvold**	**15.68**	**179**		**Pn**	**23 30 17.8**	**-0.1**
EIDS	**Eidsvold**	**15.68**	**179**	P	**P**	**23 30 20.0**	**-1.9**
QLP	**Quilpie**	**18.03**	**200**	P	**P**	**23 30 49.1**	**+1.2**
KDU	**Kakadu**	**18.34**	**259**	P	**P**	**23 30 52.5**	**+1.1**
WB0	**Warramunga Arr**	**18.88**	**236**		**P**	**23 30 56.3**	**-1.0**
WB0				IAmb	IAmb	23 31 08.8	
	comp=Z,149nm,1.8s						
WRAB	**Tennant Creek**	**19.00**	**235**	*i* P	**P**	**23 30 58.3**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,87nm,2.0s						
WRA	**Warramunga Arr**	**19.01**	**235**	P	**P**	**23 30 55.9**	**-2.9**
WRA	**Warramunga Arr**	**19.01**	**235**	P	**Pn**	**23 31 00.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=60,slow=11,SNR=34						
WRA				PcP	**PcP**	**23 35 21.7**	**-2.4**
	comp=Z,0.7nm,0.7s,baz=51,slow=1.5,SNR=2.4						
WRA				LR	LR	23 38 22.7	
	comp=Z,838nm,18.1s,baz=60,slow=37						
	comp=Z,7.1nm,0.6s						
WRA	**Warramunga Arr**	**19.01**	**235**	*ce*P	**Pn**	**23 30 59.7**	**+0.2**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
DZM	**Mont Dzumac**	**19.40**	**132**		**P**	**23 31 03.4**	**+0.4**
DZM	**Mont Dzumac**	**19.40**	**132**	*e*P	**P**	**23 31 03.5**	**+0.4**
	comp=Z,116nm,1.3s						
DZM				*e*S	**Sn**	**23 34 35.4**	**-6.4**
	comp=Z,4μm,26.4s						
DZM				*e*LR	LR	23 35 36.7	
	comp=Z,6μm,24.6s						
DZM	**Mont Dzumac**	**19.40**	**132**	P	**Pn**	**23 31 04.3**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=301,slow=18,SNR=6.6						
DZM				LR	LR	23 37 22.5	
	comp=Z,4μm,21.0s,baz=346,slow=33						
	comp=Z,40nm,1.2s						
DZM	**Mont Dzumac**	**19.40**	**132**	P	**Pn**	**23 31 07.7**	**+3.5**
MTN	**Manton Dam**	**19.65**	**259**		**Pn**	**23 31 05.9**	**-1.4**
MTN	**Manton Dam**	**19.65**	**259**	P	**Pn**	**23 31 07.2**	**-0

LUWI	Luwuk	29.25	285	P	P	23 32 40.3 +1.2
FORT	Forrest	29.93	222	P	P	23 32 45.5 +0.5
FORT	Forrest	29.93	222	P	P	23 32 45.9 +0.9
DAV	Davao City (W)	30.18	302	LR	LR	23 45 03.7
	comp=Z,216nm,21.6s,baz=151,slow=37					
BNSI	Bone	30.99	277	P	P	23 32 52.7 -1.8
	comp=Z,31nm,0.9s					
KAPI	Kappang	31.22	276	P	P	23 32 56.5 -0.1
KAPI				IAmb	IAmb	23 33 07.6
	comp=Z,19nm,0.9s					
KAPI	Kappang	31.22	276	P	P	23 32 57.7 +1.1
KAPI	Kappang	31.22	276	P	P	23 32 56.5 -0.1
KAPI				pmax	pmax	
	comp=Z,19nm,1.0s					
SPSI	Sidrap Palu	31.40	278	P	P	23 32 59.7 +1.5
	comp=Z,15nm,1.3s					
TOLI2	Tolitoli	31.82	288	P	P	23 33 01.2 -0.7
TOLI2	Tolitoli	31.82	288	P	P	23 33 04.2 +2.3
PCI	Palu	32.09	284	P	P	23 33 11.4 +7.2
PSA00	Pilbara Seismi	32.12	245	P	P	23 33 03.3 -1.1
MPSI	Mapaga	32.40	286	P	P	23 33 02.4 -4.6
	comp=Z,987nmcomp=Z,12nm,0.7s					
KMBL	Kambalda	34.56	227	P	P	23 33 26.7 +1.1
MYLDM	Lahad Datu	35.47	293	P	P	23 33 33.7 +0.1
MYLDM				IAmb	IAmb	23 34 00.0
	comp=Z,41nm,1.3s					
MYLDM	Lahad Datu	35.47	293	P	P	23 33 35.9 +2.3
URZ	Urewera	36.99	145	LR	LR	23 47 50.4
	comp=Z,2μm,18.0s,baz=38,slow=34					
MRNZ	Matariki Terra	37.08	152	P	P	23 33 49.5 +2.4
TCW	Tory Channel	37.65	151	P	P	23 33 53.2 +1.4
TUWZ	Tuamarina	37.66	151	P	P	23 33 53.2 +1.3
MRZ	Mangatainoka R	37.88	149	P	P	23 33 55.4 +1.6
MRZ				IAmb	IAmb	23 34 01.6
	comp=Z,29nm,1.1s					
MORW	Morawa	37.95	234	P	P	23 33 54.8 +0.2
MORW				IAmb	IAmb	23 33 59.8
	comp=Z,31nm,1.1s					
MORW	Morawa	37.95	234	P	P	23 33 55.2 +0.5
LTZ	Lake Taylor	37.97	154	P	P	23 33 56.4 +1.8
LTZ				IAmb	IAmb	23 34 10.4
	comp=Z,38nm,1.5s					
BLDU	Ballidu	38.07	232	P	P	23 33 55.6 0.0
RPZ	Rata Peaks	38.24	156	LR	LR	23 47 52.2
	comp=Z,2μm,20.7s,baz=317,slow=33					
NWAO	Narrogin (SRO)	38.74	228	LR	LR	23 49 25.1
	comp=Z,2μm,18.6s,baz=72,slow=35					
SBUM	Sibu	40.35	285	P	P	23 34 14.1 -0.8
SBUM	Sibu	40.35	285	P	P	23 34 16.4 +1.5
STKI	Sintang	40.40	281	P	P	23 34 22.8 +7.5
KSM	Kuching	41.90	283	P	P	23 34 27.8 +0.2
KSM	Kuching	41.90	283	P	P	23 34 28.9 +1.3
JOW	Kunigami	42.36	329	LR	LR	23 50 19.9
	comp=Z,949nm,20.1s,baz=132,slow=34					
LEM	Lembang	42.91	270	LR	LR	23 54 21.4
	comp=Z,199nm,18.9s,baz=342,slow=39					
TPI	Tanjungpandan	43.50	276	P	P	23 34 38.4 -2.2
	comp=Z,15nm,1.2s					
YULB	Yu-li	43.75	319	P	P	23 34 42.9 +0.4
YULB	Yu-li	43.75	319	P	P	23 34 45.4 +2.9
JHJ	Hachijo jima 2	43.79	346	LR	LR	23 51 52.6
	comp=Z,340nm,20.7s,baz=130,slow=35					
NACB	Ninganchiao	44.12	320	P	P	23 34 48.4 +3.0
TPUB	Ta-pu	44.12	318	P	P	23 34 46.1 +0.6
TPUB				IAmb	IAmb	23 34 49.9
	comp=Z,25nm,0.7s					
TPUB	Ta-pu	44.12	318	P	P	23 34 47.0 +1.5
YHNB	Yeheng	44.61	320	P	P	23 34 49.5 0.0
YHNB	Yeheng	44.61	320	P	P	23 34 52.8 +3.3
JNU	Nakatsue	46.58	337	LR	LR	23 53 13.2
	comp=Z,315nm,19.3s,baz=162,slow=34					
DLV	Lat	47.28	296	P	P	23 35 09.6 -1.2
DLV				IAmb	IAmb	23 35 16.4
	comp=Z,28nm,1.1s					
DLV	Lat	47.28	296	P	P	23 35 11.8 +1.0
MJAR	Matsushiro Arr	47.43	346	P	P	23 35 09.6 -1.8
	comp=Z,1.7nm,0.4s,baz=167,slow=8.8,SNR=7.2 comp=Z,1.7nm,0.4s					
MAJO	Matsushiro	47.43	346	P	P	23 35 10.5 -0.9
MAJO	Matsushiro	47.43	346	P	P	23 35 10.5 -0.9
MAJO				pmax	pmax	
	comp=Z,47nm,1.8s					
MJB9	Matsu-Tunnel	47.43	346	P	P	23 35 10.2 -1.2
KSI	Kapahiang	48.31	274	P	P	23 35 27.9 +9.2
RAR	Rarotonga	48.75	110	LR	LR	23 52 21.6
	comp=Z,169nm,21.7s,baz=273,slow=32					
JSD	Sado	48.84	347	P	P	23 35 22.4 +0.1
JSD	Sado	48.84	347	P	P	23 35 25.6 +3.3
QIZ	Qiongzhong	49.48	305	P	P	23 35 27.1 -0.4
QIZ				S	S	23 42 36.3 +1.3
QIZ				LR	LR	
	comp=Z,180nm,16.1s					
QIZ				LR	LR	
	comp=Z,180nm,16.1s					
QIZ				LR	LR	
	comp=Z,290nm,19.6s					
SSE	Sheshan	49.49	326	P	P	23 35 28.3 +0.9
SSE				S	S	23 42 35.3 +0.5
SSE				pmax	pmax	
	comp=Z,8.0nm,0.8s					
SSE				pmax	pmax	
	comp=Z,83nm,5.4s					
SSE				LR	LR	
	comp=Z,120nm,21.5s					
SSE				LR	LR	
	comp=Z,220nm,20.6s					
UBPT	Khong Chiam	51.36	298	P	P	23 35 44.0 +2.2
NJ2	Nanjing	51.52	325	eP	P	23 35 44.6 +1.9
NJ2				S	S	23 43 05.3 +2.4
NJ2				pmax	pmax	
	comp=Z,17nm,1.5s					
NJ2				pmax	pmax	
	comp=Z,180nm,6.2s					
NJ2				LR	LR	
	comp=Z,280nm,15.6s					
NJ2				LR	LR	
	comp=Z,280nm,17.1s					
NJ2				LR	LR	
	comp=Z,930nm,23.6s					
KSRS	Korea Array	51.53	337	P	P	23 35 41.9 -0.8
	comp=Z,2.7nm,0.8s,baz=147,slow=8.9,SNR=8.1					
KSRS				LR	LR	23 57 53.8
	comp=Z,153nm,18.0s,baz=145,slow=36 comp=Z,2.7nm,0.8s					
KSAR	Wonju Array Be	51.53	337	P	P	23 35 41.9 -0.8
KSAR	Wonju Array Be	51.53	337	P	P	23 35 41.9 -0.8
MNSI	Mandailing Nat	52.12	279	P	P	23 35 45.2 -2.4
	comp=Z,2μmcomp=Z,30nm,0.8s					
KULM	Kulim	52.21	284		P	23 35 47.4 -0.8
KULM				IAmb	IAmb	23 35 53.3
	comp=Z,23nm,0.8s					
KULM	Kulim	52.21	284	P	P	23 35 48.5 +0.3
CNSH	ChangSha	52.53	317	P	P	23 35 51.5 +1.2
CNSH				S	S	23 43 19.8 +2.9
CNSH				pmax	pmax	
	comp=Z,11nm,1.1s					
CNSH				LR	LR	
	comp=Z,170nm,14.5s					
CNSH				LR	LR	
	comp=Z,220nm,22.6s					
CNSH				LR	LR	
	comp=Z,320nm,22.0s					
WHN	Wuhan	53.16	320	P	P	23 35 55.8 +0.9
WHN				S	S	23 43 27.9 +2.5
WHN				pmax	pmax	
	comp=Z,230nm,1.8s					
WHN				pmax	pmax	
	comp=Z,570nm,3.2s					
WHN				LR	LR	
	comp=Z,1μm,21.6s					
RPSI	Rantau Prapat	53.20	281	P	P	23 35 53.5 -2.0
RPSI				IAmb	IAmb	23 35 59.0
	comp=Z,41nm,1.8s					
PSI	Prapat	53.22	281	LR	LR	00 01 40.0
	comp=Z,190nm,18.3s,baz=126,slow=40					
PSI	Prapat	53.22	281	P	P	23 35 55.4 -0.5
PSI	Prapat	53.22	281	P	P	23 35 53.5 -2.4
PSI				pmax	pmax	
	comp=Z,41nm,1.8s					
ASAJ	Asahikawa	53.99	353	LR	LR	23 57 58.3
	comp=Z,419nm,21.0s,baz=188,slow=35					
SRIT	Nakonsritamara	54.19	288	P	P	23 36 02.8 0.0
SRIT				IAmb	IAmb	23 36 09.5
	comp=Z,26nm,1.1s					
SRIT	Nakonsritamara	54.19	288	P	P	23 36 03.2 +0.4
NONG	Nongkai	54.58	300	P	P	23 36 05.1 -0.4
NAYO	Nakonayok	54.61	295	P	P	23 36 06.1 +0.3
DL2	Dalian	55.42	332	eP	P	23 36 08.5 -2.8
DL2				eS	S	23 43 53.1 -2.7
DL2				pmax	pmax	
	comp=Z,20nm,0.9s					
DL2				pmax	pmax	
	comp=Z,490nm,7.2s					
DL2				LR	LR	
	comp=Z,1μm,20.4s					
DL2				LR	LR	
	comp=Z,920nm,22.7s					
DL2				LR	LR	
	comp=Z,1μm,21.5s					
SLVN	Son La	55.45	304	P	P	23 36 11.5 -0.4
SLVN				IAmb	IAmb	23 36 13.6
	comp=Z,26nm,1.9s					
ENH	Enshi	56.17	316	P	P	23 36 16.9 0.0
USRK	Ussuriysk Ar.	56.23	344	P	P	23 36 14.8 -2.2
	comp=Z,1.0nm,0.3s,baz=168,slow=9.8,SNR=4.9					
USRK				LR	LR	23 59 38.8
	comp=Z,217nm,18.7s,baz=155,slow=35 comp=Z,1.0nm,0.3s					
SRDT	SRDT	56.60	294	P	P	23 36 21.1 +1.0
LYN	LuoYang	57.04	322	P	P	23 36 27.0 +4.1
LYN				S	S	23 44 19.8 +2.4
LYN				pmax	pmax	
	comp=Z,35nm,0.8s					
LYN				LR	LR	
	comp=Z,600nm,17.9s					
LYN				LR	LR	
	comp=Z,500nm,21.0s					
LYN				LR	LR	
	comp=Z,980nm,19.9s					
HNS	HongShan	57.75	326	⇓P	P	23 36 30.5 +2.6
HNS				S	S	23 44 26.4 -0.3
HNS				pmax	pmax	
	comp=Z,17nm,0.8s					
HNS				LR	LR	
	comp=Z,430nm,20.0s					
HNS				LR	LR	
	comp=Z,400nm,19.4s					
HNS				LR	LR	
	comp=Z,680nm,20.6s					
CN2	Changchun	57.97	338	P	P	23 36 29.4 +0.1
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
CN2				LR	LR	
	comp=Z,400nm,18.0s					
CN2				LR	LR	
	comp=Z,400nm,18.0s					
CN2				LR	LR	
	comp=Z,500nm,19.0s					
PPT	Papeete	58.20	105	LR	LR	23 57 09.6
	comp=Z,120nm,21.9s,baz=244,slow=32					
PPT2	Papeete2	58.20	105	eS	S	23 44 34.1 +0.6
	comp=Z,126nm,32.2s					
PPT2				eSS	SS	23 48 26.8 +1.4
	comp=Z,95nm,35.5s					
PPT2				eLQ	LQ	23 51 09.3
	comp=Z,692nm,26.8s					
PPT2				eLR	LR	23 53 36.2
	comp=Z,356nm,32.0s					
PPT2				eLR	LR	23 53 36.9
	comp=Z,558nm,32.2s					
KMI	Kunming	58.24	307	P	P	23 36 31.1 -0.8
KMI				pmax	pmax	
	comp=Z,15nm,1.6s					
CM31	Chiang Mai Arr	58.35	299	P	P	23 36 31.0 -1.4
CMAR	Chiang Mai Arr	58.35	299	P	P	23 36 31.5 -1.0
CMAR	Chiang Mai Arr	58.35	299	P	P	23 36 32.3 -0.2
	comp=Z,2.1nm,0.6s,baz=117,slow=5.5,SNR=18					
CMAR				LR	LR	00 02 52.3
	comp=Z,86nm,19.7s,baz=115,slow=37 comp=Z,2.1nm,0.6s					
CMAR	Chiang Mai Arr	58.35	299	ceP	P	23 36 33.2 +0.7
CMAR				pmax	pmax	
	comp=Z,5.0nm,0.9s					
TBI	Tubuai	58.44	111	eS	S	23 44 37.5 +1.3
	comp=Z,486nm,31.0s					
TBI				eLQ	LQ	23 51 09.2
	comp=Z,4μm,33.5s					
TBI				eLR	LR	23 53 44.3
	comp=Z,941nm,24.8s					
TBI				eLR	LR	23 53 45.6
	comp=Z,2μm,26.2s					
CHTO	Chiang Mai	58.50	299	P	P	23 36 32.6 -0.9
CHTO	Chiang Mai	58.50	299	P	P	23 36 34.1 +0.6
CHTO	Chiang Mai	58.50	299	P	P	23 36 32.6 -0.9
CHTO				pmax	pmax	
	comp=Z,7.0nm,1.0s					
XAN	Xi'an	58.91	320	⇑P	P	23 36 35.6 -0.5
XAN				S	S	23 44 39.9 -2.1
XAN				pmax	pmax	
	comp=Z,29nm,1.3s					
XAN				LR	LR	
	comp=Z,380nm,18.6s					
XAN				LR	LR	
	comp=Z,420nm,17.9s					
XAN				LR	LR	
	comp=Z,670nm,20.6s					
PZH	PanZhiHua	59.71	308	P	P	23 36 42.3 +0.4
PZH				S	S	23 44 53.3 +0.4
PZH				pmax	pmax	
	comp=Z,10.0nm,1.4s					
PZH				pmax	pmax	
	comp=Z,120nm,7.0s					
CD2	Chengdu	60.54	314	P	P	23 36 47.4 0.0
CD2				S	S	23 45 05.0 +1.8
CD2				pmax	pmax	
	comp=Z,40nm,0.6s					
CD2				pmax	pmax	
	comp=Z,240nm,4.9s					
CD2				LR	LR	
	comp=Z,310nm,17.2s					
CD2				LR	LR	
	comp=Z,250nm,18.2s					
KLR	Kul'dur	60.95	346	eP	P	23 36 51.0 +1.2
KLR				pmax	pmax	
	comp=Z,6.0nm,1.6s					
XLT	XiLinHaoTe	61.92	332	eP	P	23 36 59.0 +2.4
XLT				pP	sP	23 37 04.6 +2.2
XLT				sP	pP	23 37 07.6 +6.8
XLT				PcP	PcP	23 37 38.9 +1.6
XLT				S	S	23 45 20.9 +0.5
XLT				sS	sS	23 45 39.3 +12
XLT				pmax	pmax	
	comp=Z,13nm,0.9s					
XLT				LR	LR	
	comp=Z,490nm,20.8s					
XLT				LR	LR	
	comp=Z,700nm,22.1s					
HHC	Hu-ho-hao-te	61.93	327	eP	P	23 36 58.4 +1.7
HHC				S	S	23 45 19.0 -1.6
HHC				pmax	pmax	
	comp=Z,8.0nm,0.5s					
HHC				pmax	pmax	
	comp=Z,110nm,4.1s					
HHC				LR	LR	
	comp=Z,240nm,18.5s					
HHC				LR	LR	
	comp=Z,330nm,21.9s					
HHC				LR	LR	
	comp=Z,520nm,20.2s					
BTO	Baotou	62.60	326	eP	P	23 37 05.3 +4.1
BTO				PP	PP	23 39 20.6 +1.5
BTO				S	S	23 45 29.3 +0.2
BTO				pmax	pmax	
	comp=Z,23nm,0.9s					
BTO				pmax	pmax	
	comp=Z,220nm,4.7s					
BTO				LR	LR	
	comp=Z,400nm,11.7s					
BTO				LR	LR	
	comp=Z,830nm,17.7s					
BTO				LR	LR	
	comp=Z,1μm,18.4s					
PET	Petropavlovsk	62.73	5	eP	P	23 36 56.4 -5.2
PET				eS	S	23 45 25.3 -4.7
PET				MLR	MLR	
	comp=Z,200nm,19.0s					
PETK	Petropavlovsk-	62.73	5	P	P	23 37 00.1 -1.6
	comp=Z,1.4nm,0.6s,baz=170,slow=6.9,SNR=4.1					
PETK				LR	LR	00 00 12.7
	comp=Z,307nm,22.0s,baz=187,slow=32 comp=Z,1.4nm,0.6s					
HEH	HeiHe	63.03	343	eP	P	23 37 07.0 +3.3
LZH	Lanzhou	63.45	318	eP	P	23 37 07.8 +0.8
LZH				S	S	23 45 42.8 +2.8
LZH				pmax	pmax	
	comp=Z,50nm,1.1s					
LZH				LR	LR	
	comp=Z,230nm,15.1s					
LZH				LR	LR	
	comp=Z,360nm,14.3s					
LZH				LR	LR	
	comp=Z,510nm,17.5s					
HIA	Hailar	64.69	338	i P	P	23 37 14.9 +0.2
HIA				pmax	pmax	
	comp=Z,9.0nm,1.0s					
SHEM	Shemya Is, Ala	65.19	15	LR	LR	00 01 02.0
	comp=Z,707nm,21.5s,baz=206,slow=32					
ZEA	Zeya	66.22	345	eP	P	23 37 27.5 +3.0
ZEA				e		23 46 42.1
ZEA				pmax	pmax	
	comp=N,10.0nm,0.8s					
ZEA				pmax	pmax	
	comp=Z,10.0nm,0.9s					
BRDH	Bariadhala	66.30	300	LR	LR	00 09 50.9
	comp=Z,68nm,18.7s,baz=134,slow=39					
SHL	Shillong	67.21	303	P	P	23 37 31.2 -0.4
SHL	Shillong	67.21	303	P	P	23 37 31.2 -0.4
SHL				pmax	pmax	
	comp=Z,24nm,0.9s					
TAOE	Nuku Hiva Isla	67.95	96	eLR	LR	23 58 07.9
	comp=Z,178nm,24.4s					
GTA	Gaotai	67.97	319	eP	P	23 37 37.3 +1.2
GTA				S	S	23 46 36.3 +1.2
GTA				pmax	pmax	
	comp=Z,11nm,1.2s					
GTA				LR	LR	
	comp=Z,140nm,14.9s					
GTA				LR	LR	
	comp=Z,140nm,16.7s					
GTA				LR	LR	
	comp=Z,200nm,17.4s					
VNDA	Vanda	68.14	177		P	23 37 36.2 -0.2
VNDA				IAmb	IAmb	23 37 39.1
	comp=Z,19nm,1.9s					
VNDA	Vanda	68.14	177	P	P	23 37 36.2 -0.2
	comp=Z,1.2nm,0.6s,baz=322,slow=7.1,SNR=8.2					
VNDA				LR	LR	00 05 30.2
	comp=Z,355nm,18.4s,baz=2.0,slow=34 comp=Z,1.2nm,0.6s					
ULN	Ulaanbaatar	69.12	330	P	P	23 37 43.1 0.0
ULN				IAmb	IAmb	23 38 02.2
	comp=Z,19nm,1.6s					
ULN	Ulaanbaatar	69.12	330	ceP	P	23 37 42.6 -0.6
ULN				pmax	pmax	
	comp=Z,21nm,2.5s					
SONM	Songino Array	69.43	330		P	23 37 45.0 0.0
SONM				IAmb	IAmb	23 37 50.3
	comp=Z,8.5nm,0.9s					
SONM	Songino Array	69.43	330	P	P	23 37 45.2 +0.1
	comp=Z,9.2nm,0.9s,baz=155,slow=3.7,SNR=21					
SONM				PKP2bc		00 05 51.8
	comp=Z,0.4nm,0.4s,baz=325,slow=2.3,SNR=5.5 comp=Z,9.2nm,0.9s					
GOMU	GeErMu	69.66	314	P	P	23 37 47.3 +0.3
GOMU				pP	pP	23 37 51.1 -0.2
GOMU				PcP	PcP	23 38 08.4 -1.5
GOMU				S	S	23 46 57.8 +2.0
GOMU				pmax	pmax	
	comp=Z,11nm,1.0s					
GOMU				pmax	pmax	
	comp=Z,310nm,5.0s					
RKT	Rikitea	71.76	111	eSS	SS	23 51 55.2 -0.8
	comp=Z,781nm,36.5s					
RKT				eLR	LR	23 59 55.0
	comp=Z,2μm,32.5s					
PALK	Pallekele	71.91	281	P	P	23 38 00.7 0.0
PALK				IAmb	IAmb	23 38 08.8
	comp=Z,14nm,1.1s					
PALK	Pallekele	71.91	281	LR	LR	00 12 46.9
	comp=Z,103nm,19.4s,baz=108,slow=38					
PALK	Pallekele	71.91	281	P	P	23 38 00.7 0.0
PALK				pmax	pmax	
	comp=Z,14nm,1.2s					
SEY	Seymchan	72.33	1	ceP	P	23 38 03.7 +1.6
SEY				pmax	pmax	
	comp=Z,12nm,2.5s					
ZAK	Zakamensk	72.65	330	eP	P	23 38 03.8 -0.7
ZAK				pmax	pmax	
	comp=Z,13nm,1.1s					
YAK	Yakutsk	73.31	350	P	P	23 38 09.1 +1.1
YAK	Yakutsk	73.31	350	eP	P	23 38 10.6 +2.6
YAK				e		23 38 19.7
YAK				e*PP	PcP	23 38 28.0 +3.7
YAK				e		23 40 59.0
YAK				eS	S	23 47 32.8 -3.3
YAK				e*SS	SKSac	23 48 05.4 -8.1
YAK				pmax	pmax	
	comp=Z,33nm,1.4s					
YAK				pmax	pmax	
	comp=N,7.0nm,1.4s					
YAK				pmax	pmax	
	comp=E,4.0nm,1.4s					
YAK				pmax	pmax	
	comp=Z,88nm,3.5s					
YAK				pmax	pmax	
	comp=N,59nm,3.2s					
YAK				pmax	pmax	
	comp=E,61nm,3.3s					
YAK				smax	smax	
	comp=N,127nm,5.1s					
YAK				smax	smax	
	comp=E,109nm,4.7s					
BOD	Bodaibo	73.62	340	eP	P	23 38 09.9 0.0
BOD				pmax	pmax	
	comp=Z,10.0nm,1.4s					
MOY	Mondy	74.58	330	eP	P	23 38 16.2 +0.3
MOY				pmax	pmax	
	comp=Z,33nm,2.7s					
FALS	False Pass	74.74	25	P	P	23 38 17.1 +0.6
	baz=227					
HYB	Hyderabad	76.34	291	eP	P	23 38 26.4 -0.1
S14K	Fog Glacier	77.34	26	P	P	23 38 31.4 0.0
	baz=230					
M11K	Mekoryuk	77.59	20	P	P	23 38 32.9 +0.4
	baz=223					
WMQ	Urumqi	78.03	319	eP	P	23 38 35.4 -0.2
WMQ				sP	PcP	23 38 45.3 +0.1
WMQ				pmax	pmax	
	comp=Z,25nm,0.7s					
WMQ				pmax	pmax	
	comp=Z,120nm,4.7s					
WMQ				LR	LR	
	comp=Z,130nm,24.2s					
BILL	Bilibino	78.22	6		P	23 38 36.0 0.0
BILL	Bilibino	78.22	6	ceP	P	23 38 36.0 0.0
BILL				pmax	pmax	
	comp=Z,8.0nm,1.1s					
GAMB	Gambell	78.49	16	P	P	23 38 38.2 +0.7
	baz=218					
O14K	Tigyukauivet M	78.59	23	P	P	23 38 38.3 +0.1
	baz=228					
M13K	Dall Lake	78.61	21	P	P	23 38 38.9 +0.7
	baz=226					
CHIR	Chirikof Islan	78.79	28	P	P	23 38 39.7 +0.4
	baz=234					
N14K	Kuskokwak Cree	78.88	22	P	P	23 38 39.9 +0.2
	baz=228					
O15K	Ungalikthiuk R	79.09	23	P	P	23 38 41.6 +0.6
	baz=230					
K13K	Kusilvak Mount	79.22	20	P	P	23 38 43.0 +1.4
K13K	Kusilvak Mount	79.22	20	P	P	23 38 42.3 +0.6
	baz=225					
M14K	Bethel	79.34	21	P	P	23 38 43.0 +0.8
	baz=227					
L14K	Kuka Creek	79.48	21	P	P	23 38 43.2 +0.1
L14K				IAmb	IAmb	23 38 47.4
	comp=Z,16nm,1.1s					
L14K	Kuka Creek	79.48	21	P	P	23 38 43.8 +0.7
	baz=227					
N15K	Kwethluk River	79.64	23	P	P	23 38 44.9 +1.0
	baz=229					
M15K	Kasigluk River	79.76	22	P	P	23 38 45.0 +0.5
	baz=228					
SII	Sitkinak Islan	79.88	27	P	P	23 38 45.9 +0.6
	baz=235					
O16K	Kokwok River B	80.04	24	P	P	23 38 47.2 +1.1
	baz=231					

Q17K	**Contact Creek**	**80.13**	**25**	P		**P**	**23 38 47.4**	**+0.7**
	baz=233							
L15K	**Ungalak Mounta**	**80.13**	**21**	P		**P**	**23 38 47.6**	**+1.0**
	baz=228							
J14K	**Nanvaranak Lak**	**80.17**	**19**	P		**P**	**23 38 47.6**	**+0.9**
	baz=226							
N16K	**Nishlik Lake**	**80.34**	**23**	P		**P**	**23 38 48.9**	**+1.2**
	baz=230							
QSPA	**South Pole Qui**	**80.39**	**180**			**P**	**23 38 48.3**	**+0.1**
QSPA				IAmb		IAmb	23 38 53.8	
	comp=Z,34nm,1.2s							
QSPA	**South Pole Qui**	**80.39**	**180**	P		**P**	**23 38 48.5**	**+0.3**
	comp=Z,23nm,1.1s,baz=44,slow=0.8,SNR=52							
QSPA				LR		LR	00 11 55.7	
	comp=Z,213nm,18.9s,baz=1.0,slow=34							
	comp=Z,23nm,1.1s							
MAW	**Mawson**	**80.44**	**203**	P		**P**	**23 38 49.1**	**+0.9**
	comp=Z,6.8nm,0.8s,baz=113,slow=7.7,SNR=4.2							
MAW				LR		LR	00 11 29.3	
	comp=Z,762nm,21.6s,baz=90,slow=33							
	comp=Z,6.8nm,0.8s							
P17K	**Kvichak River**	**80.46**	**25**	P		**P**	**23 38 49.3**	**+0.9**
	baz=233							
K15K	**Wolf Creek Mou**	**80.53**	**20**	P		**P**	**23 38 48.8**	**+0.1**
K15K				IAmb		IAmb	23 38 53.1	
	comp=Z,25nm,1.1s							
K15K	**Wolf Creek Mou**	**80.53**	**20**	P		**P**	**23 38 49.9**	**+1.1**
	baz=228							
O17K	**Koliganek Bris**	**80.55**	**24**	P		**P**	**23 38 50.0**	**+1.2**
	baz=232							
M16K	**Timber Creek**	**80.62**	**22**	P		**P**	**23 38 49.4**	**+0.2**
M16K				IAmb		IAmb	23 38 54.1	
	comp=Z,14nm,0.9s							
M16K	**Timber Creek**	**80.62**	**22**	P		**P**	**23 38 50.0**	**+0.7**
	baz=230							
OHAK	**Old Harbor**	**80.66**	**27**	P		**P**	**23 38 50.3**	**+0.8**
	baz=236							
Q18K	**Katmai Hardscr**	**80.73**	**25**	P		**P**	**23 38 50.5**	**+0.5**
	baz=234							
L16K	**Owhat River**	**80.88**	**22**	P		**P**	**23 38 51.0**	**+0.4**
	baz=230							
ANM	**Nome**	**80.89**	**18**	P		**P**	**23 38 50.4**	**-0.2**
ANM				IAmb		IAmb	23 38 56.7	
	comp=Z,18nm,1.3s							
ANM	**Nome**	**80.89**	**18**	P		**P**	**23 38 50.4**	**-0.2**
ANM				pmax		pmax		
	comp=Z,18nm,1.3s							
ANM	**Nome**	**80.89**	**18**	P		**P**	**23 38 51.4**	**+0.8**
	baz=224							
TNA	**Tin City**	**80.91**	**16**	P		**P**	**23 38 51.0**	**+0.4**
	baz=221							
N17K	**Nushagak Hills**	**80.98**	**23**	P		**P**	**23 38 51.2**	**0.0**
	baz=232							
P18K	**Big Mountain,**	**81.08**	**25**	P		**P**	**23 38 51.7**	**0.0**
	baz=234							
F14K	**Arctic Creek**	**81.28**	**17**	P		**P**	**23 38 53.5**	**+0.8**
	baz=223							
KDAK	**Kodiak Island**	**81.29**	**27**	LR		LR	00 08 46.2	
	comp=Z,334nm,21.8s,baz=85,slow=31							
KDAK	**Kodiak Island**	**81.29**	**27**	P		**P**	**23 38 53.0**	**+0.1**
	baz=236							
O18K	**Koktuh Hills**	**81.36**	**24**	P		**P**	**23 38 53.6**	**+0.4**
	baz=234							
M17K	**Holitna River**	**81.43**	**22**	P		**P**	**23 38 54.2**	**+0.7**
	baz=232							
Q19K	**Cape Douglas,**	**81.47**	**26**	P		**P**	**23 38 54.3**	**+0.5**
	baz=235							
J16K	**Anvik River**	**81.52**	**20**	P		**P**	**23 38 54.2**	**+0.3**
J16K				IAmb		IAmb	23 38 58.6	
	comp=Z,14nm,1.1s							
J16K	**Anvik River**	**81.52**	**20**	P		**P**	**23 38 54.8**	**+0.9**
	baz=228							
L17K	**Donlin**	**81.58**	**22**	P		**P**	**23 38 54.8**	**+0.5**
	baz=231							
N18K	**Kilae Creek**	**81.58**	**23**	P		**P**	**23 38 54.3**	**0.0**
	baz=233							
G15K	**Niukluk**	**81.60**	**18**	P		**P**	**23 38 54.8**	**+0.5**
	baz=225							
Q20K	**Shuyak Island**	**81.83**	**26**	P		**P**	**23 38 55.5**	**-0.2**
	baz=236							
I17K	**Unalakleet**	**81.89**	**20**	P		**P**	**23 38 56.3**	**+0.5**
	baz=228							
H16K	**Elim**	**81.91**	**19**	P		**P**	**23 38 56.5**	**+0.6**
	baz=227							
F15K	**North Star Dit**	**81.93**	**17**	P		**P**	**23 38 57.1**	**+1.0**
	baz=224							
K17K	**Iditarod**	**81.94**	**21**	P		**P**	**23 38 56.6**	**+0.4**
K17K				IAmb		IAmb	23 39 00.6	
	comp=Z,19nm,1.0s							
K17K	**Iditarod**	**81.94**	**21**	P		**P**	**23 38 57.0**	**+0.8**
	baz=230							
P19K	**Oil Pt**	**82.06**	**25**	P		**P**	**23 38 57.4**	**+0.5**
	baz=236							
M18K	**Stony River**	**82.10**	**23**	P		**P**	**23 38 58.0**	**+0.9**
	baz=233							
J17K	**VABM Dome**	**82.11**	**20**	P		**P**	**23 38 57.7**	**+0.6**
	baz=230							
N19K	**Bonanza Creek**	**82.22**	**24**	P		**P**	**23 38 58.3**	**+0.5**
	baz=234							
L18K	**Granite Mounta**	**82.22**	**22**	P		**P**	**23 38 58.6**	**+0.9**
	baz=232							
G16K	**Koyuk River**	**82.39**	**18**	P		**P**	**23 38 59.4**	**+0.9**
	baz=226,SNR=7.1							
TIXI	**Tiksi**	**82.40**	**353**			**P**	**23 38 58.4**	**0.0**
TIXI	**Tiksi**	**82.40**	**353**	*ce*P		**P**	**23 38 58.4**	**0.0**
TIXI				pmax		pmax		
	comp=Z,10.0nm,1.1s							
MK31	**Makanchi Array**	**82.72**	**320**	*ce*P		**P**	**23 39 00.3**	**-0.4**
MKAR	**Makanchi Array**	**82.72**	**320**			**P**	**23 38 59.9**	**-0.8**
MKAR	**Makanchi Array**	**82.72**	**320**	P		**P**	**23 39 00.3**	**-0.4**
	comp=Z,4.7nm,0.9s,baz=105,slow=6.1,SNR=21							
MKAR				LR		LR	00 16 13.1	
	comp=Z,161nm,19.7s,baz=82,slow=36							
	comp=Z,4.7nm,0.9s							
MKAR	**Makanchi Array**	**82.72**	**320**	*ce*P		**P**	**23 39 00.6**	**-0.1**
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.9s							
WUS	**Wushi**	**82.81**	**314**	P		**P**	**23 39 00.9**	**-0.5**
WUS				IAmb		IAmb	23 39 05.8	
	comp=Z,11nm,1.0s							
H17K	**Granite Mounta**	**82.84**	**19**	P		**P**	**23 39 01.8**	**+0.9**
	baz=229							
L19K	**White Mountain**	**82.88**	**23**	P		**P**	**23 39 00.9**	**-0.3**
	baz=234							
M19K	**Big River Lodg**	**82.89**	**23**	P		**P**	**23 39 01.1**	**-0.2**
	baz=234							
TTA	**Tatalina**	**82.90**	**22**			**P**	**23 39 01.4**	**+0.1**
TTA				IAmb		IAmb	23 39 02.1	
	comp=Z,24nm,1.7s							
TTA	**Tatalina**	**82.90**	**22**	P		**P**	**23 39 01.4**	**+0.1**
TTA				pmax		pmax		
	comp=Z,24nm,1.7s							
TTA	**Tatalina**	**82.90**	**22**	P		**P**	**23 39 01.0**	**-0.3**
	baz=233							
MAKZ	**Makanchi**	**82.93**	**320**			**P**	**23 39 00.9**	**-0.9**
MAKZ				IAmb		IAmb	23 39 05.8	
	comp=Z,8.7nm,0.9s							
MAKZ	**Makanchi**	**82.93**	**320**	P		**P**	**23 39 00.9**	**-0.9**
MAKZ				pmax		pmax		
	comp=Z,9.0nm,1.0s							
J18K	**Innoko River**	**82.98**	**21**	P		**P**	**23 39 01.6**	**0.0**
	baz=232							
G17K	**Kiwalik Mounta**	**82.99**	**18**	P		**P**	**23 39 01.8**	**+0.2**
	baz=228,SNR=7.9							
BRSE	**Bradley Lake S**	**83.16**	**26**	P		**P**	**23 39 02.5**	**-0.1**
	baz=238							
SHLS	**Shalkode**	**83.30**	**316**	*e*P		**P**	**23 39 01.8**	**-2.1**
SHLS				pmax		pmax		
	comp=Z,36nm,2.9s							
SPCR	**Spurr Chakacha**	**83.35**	**24**	P		**P**	**23 39 03.4**	**-0.3**
	baz=236							
M20K	**Styx River**	**83.37**	**23**	P		**P**	**23 39 03.8**	**0.0**
	baz=235							
L20K	**Farewell, AK**	**83.42**	**23**	P		**P**	**23 39 04.0**	**0.0**
	baz=235							
F17K	**Baldwin Pennin**	**83.44**	**17**	P		**P**	**23 39 04.2**	**+0.3**
	baz=227,SNR=6.5							
H18K	**Honhosa River**	**83.48**	**19**	P		**P**	**23 39 04.4**	**+0.2**
	baz=230							
UZB	**Uzynbulak**	**83.60**	**316**	*e*P		**P**	**23 39 03.1**	**-2.4**
UZB				pmax		pmax		
	comp=Z,20nm,2.3s							
C16K	**Lisburne Hills**	**83.61**	**15**	P		**P**	**23 39 04.9**	**+0.2**
	baz=223							
J19K	**Poorman**	**83.69**	**21**	P		**P**	**23 39 05.3**	**+0.1**
	baz=233							
E17K	**Hotham Inlet**	**83.71**	**17**	P		**P**	**23 39 05.5**	**+0.2**
	baz=227							
GCSA	**Galena City Sc**	**83.72**	**20**	P		**P**	**23 39 05.4**	**0.0**
	baz=232							
D17K	**Noatak River**	**83.79**	**16**	P		**P**	**23 39 06.0**	**+0.3**
	baz=226							
PRZ	**Przheval'sk**	**83.81**	**315**			**P**	**23 39 06.7**	**+0.1**
PRZ	**Przheval'sk**	**83.81**	**315**	P		**P**	**23 39 06.7**	**+0.1**
PRZ				pmax		pmax		
	comp=Z,16nm,0.8s							
K20K	**Telida**	**83.86**	**22**	P		**P**	**23 39 06.0**	**-0.2**
	baz=234							
G18K	**Tagagawik**	**83.87**	**19**	P		**P**	**23 39 06.3**	**+0.1**
	baz=230,SNR=8.8							
SEW	**Seward**	**83.91**	**26**	P		**P**	**23 39 06.4**	**0.0**
	baz=239							
TARG	**Taragay, Kyrgy**	**83.99**	**314**	P		**P**	**23 39 07.1**	**-0.7**
TARG	**Taragay, Kyrgy**	**83.99**	**314**	P		**P**	**23 39 07.1**	**-0.7**
TARG				pmax		pmax		
	comp=Z,7.0nm,0.9s							
F18K	**Selawik**	**84.03**	**18**	P		**P**	**23 39 07.2**	**+0.3**
	baz=229,SNR=6.6							
SKT	**Skwentna**	**84.05**	**24**	P		**P**	**23 39 07.5**	**+0.3**
	baz=237							
SUA	**Susitna One**	**84.08**	**24**	P		**P**	**23 39 07.5**	**0.0**
	baz=238							
RDOG	**Red Dog Mine**	**84.09**	**16**	P		**P**	**23 39 07.5**	**+0.3**
	baz=226							
ZAA0	**Zalesovo Array**	**84.11**	**327**			**P**	**23 39 05.9**	**-1.7**
ZALV	**Zalesovo Beam**	**84.11**	**327**	P		**P**	**23 39 05.8**	**-1.8**
ZALV	**Zalesovo Beam**	**84.11**	**327**	P		**P**	**23 39 06.5**	**-1.1**
	comp=Z,7.0nm,0.8s,baz=112,slow=5.0,SNR=15							
	comp=Z,7.0nm,0.8s							
ZALV	**Zalesovo Beam**	**84.11**	**327**	*i* P		**P**	**23 39 08.8**	**+1.2**
ZALV				pmax		pmax		
	comp=Z,7.0nm,0.8s							
E18K	**Tukpahlearik C**	**84.29**	**17**	P		**P**	**23 39 08.5**	**+0.3**
	baz=228							
PPLA	**Purkeypile**	**84.30**	**23**	P		**P**	**23 39 08.2**	**-0.4**
	baz=236							
J20K	**Nowinta River**	**84.32**	**21**	P		**P**	**23 39 08.6**	**+0.2**
	baz=234							
H19K	**Roundabout Mou**	**84.35**	**19**	P		**P**	**23 39 08.9**	**+0.4**
	baz=232							
G19K	**Purcell Mounta**	**84.52**	**19**	P		**P**	**23 39 09.6**	**+0.1**
	baz=231,SNR=12							
KDJ	**Kajisay**	**84.56**	**314**			**P**	**23 39 10.0**	**-0.5**
KDJ	**Kajisay**	**84.56**	**314**	P		**P**	**23 39 10.0**	**-0.5**
KDJ				pmax		pmax		
	comp=Z,20nm,0.8s							
I20K	**Naaghedeneel**	**84.57**	**21**	P		**P**	**23 39 10.1**	**+0.5**
	baz=234							
CAST	**Castle Rocks**	**84.64**	**22**			**P**	**23 39 08.8**	**-1.3**
CAST				IAmb		IAmb	23 39 26.0	
	comp=Z,11nm,1.4s							
CAST	**Castle Rocks**	**84.64**	**22**	P		**P**	**23 39 10.1**	**0.0**
	baz=236							
KSH	**Kashi**	**84.65**	**311**	P		**P**	**23 39 10.9**	**0.0**
KSH				pP		sP	23 39 16.8	0.0
KSH				pmax		pmax		
	comp=Z,6.0nm,1.2s							
P23K	**Montague Islan**	**84.74**	**26**	P		**P**	**23 39 10.7**	**+0.1**
	baz=241							
F19K	**Shaleruckik Mo**	**84.75**	**18**	P		**P**	**23 39 10.8**	**+0.2**
	baz=231,SNR=6.2							
ARXS	**Arharly**	**84.76**	**316**	*e*P		**P**	**23 39 09.9**	**-1.4**
PWL	**Port Wells**	**84.77**	**25**	P		**P**	**23 39 10.2**	**-0.6**
	baz=240							
CHUM	**Lake Minchumin**	**84.81**	**22**	P		**P**	**23 39 11.2**	**+0.3**
	baz=236							
PMR	**Palmer**	**84.81**	**25**	P		**P**	**23 39 10.9**	**-0.1**
	baz=239							
H20K	**Anotleneega Mo**	**84.84**	**20**	P		**P**	**23 39 11.6**	**+0.5**
	baz=233							
C18K	**Utukok River**	**84.96**	**16**	P		**P**	**23 39 12.2**	**+0.5**
	baz=227							
KNK	**Knik Glacier**	**85.00**	**25**	P		**P**	**23 39 12.5**	**+0.5**
	baz=240							
NIL	**Nilore**	**85.15**	**305**			**P**	**23 39 12.2**	**-1.2**
NIL	**Nilore**	**85.15**	**305**	P		**P**	**23 39 12.2**	**-1.2**
NIL				pmax		pmax		
	comp=Z,34nm,1.6s							
SML	**Sawmill**	**85.25**	**25**			**P**	**23 39 13.0**	**-0.3**
SML				IAmb		IAmb	23 39 19.9	
	comp=Z,24nm,1.3s							
SML	**Sawmill**	**85.25**	**25**	P		**P**	**23 39 13.8**	**+0.6**
	baz=240							
ULHL	**Ulahol**	**85.26**	**314**	P		**P**	**23 39 13.6**	**-0.4**
	SNR=11							
B18K	**Kokolik River**	**85.29**	**15**	P		**P**	**23 39 12.6**	**-0.7**
	baz=227							
GLI	**Glacier Island**	**85.30**	**26**	P		**P**	**23 39 12.9**	**-0.6**
	baz=241							
E19K	**Redstone River**	**85.31**	**18**	P		**P**	**23 39 13.3**	**0.0**
	baz=231							
TRF	**Thorofare Moun**	**85.33**	**23**	P		**P**	**23 39 12.7**	**-1.1**
	baz=238							
BPAW	**Bear Paw Mtn.**	**85.42**	**22**	P		**P**	**23 39 13.1**	**-0.9**
	baz=237							
M23K	**Glacier View**	**85.49**	**25**	P		**P**	**23 39 14.1**	**-0.3**
	baz=240							
F20K	**Avaraart Lake**	**85.51**	**18**	P		**P**	**23 39 14.6**	**+0.2**
	baz=233,SNR=9.9							
BOOM	**Boomskoye usch**	**85.54**	**314**			**P**	**23 39 15.2**	**-0.2**
BOOM	**Boomskoye usch**	**85.54**	**314**	P		**P**	**23 39 15.2**	**-0.2**
BOOM				pmax		pmax		
	comp=Z,16nm,0.7s							
H21K	**Melozitna Rive**	**85.64**	**20**	P		**P**	**23 39 15.0**	**-0.1**
	baz=235							
I21K	**Tanana**	**85.66**	**21**	P		**P**	**23 39 15.3**	**+0.2**
	baz=236							
SCM	**Sheep Creek Mo**	**85.67**	**25**	P		**P**	**23 39 15.1**	**-0.3**
	baz=241							
D19K	**Kuna River**	**85.71**	**17**	P		**P**	**23 39 15.2**	**-0.2**
	baz=230							
EYAK	**Cordova Ski Ar**	**85.73**	**26**	P		**P**	**23 39 15.5**	**-0.1**
	baz=242							
RND	**Reindeer**	**85.86**	**23**			**P**	**23 39 15.2**	**-1.1**
RND				IAmb		IAmb	23 39 19.1	
	comp=Z,11nm,1.1s							
RND	**Reindeer**	**85.86**	**23**	P		**P**	**23 39 15.2**	**-1.1**
RND				pmax		pmax		
	comp=Z,11nm,1.1s							
G21K	**Allakaket**	**85.90**	**19**	P		**P**	**23 39 16.4**	**0.0**
	baz=235							
TKM2	**Tokmak 2**	**85.91**	**315**	P		**P**	**23 39 16.8**	**-0.4**
	SNR=11							
MCK	**McKinley**	**85.99**	**23**			**P**	**23 39 16.2**	**-0.7**
MCK				IAmb		IAmb	23 39 22.1	
	comp=Z,20nm,1.0s							
MCK	**McKinley**	**85.99**	**23**	P		**P**	**23 39 16.2**	**-0.7**
MCK				pmax		pmax		
	comp=Z,20nm,1.0s							
MCK	**McKinley**	**85.99**	**23**	P		**P**	**23 39 16.2**	**-0.7**
	baz=239							
KAIM	**Kayak Island**	**86.03**	**27**	P		**P**	**23 39 17.0**	**-0.1**
	baz=243							
A19K	**Wainwright**	**86.05**	**15**	P		**P**	**23 39 17.1**	**+0.2**
	baz=227							
KLU	**Klutina**	**86.10**	**25**	P		**P**	**23 39 17.5**	**-0.1**
	baz=242							
E20K	**Nigu River**	**86.11**	**17**	P		**P**	**23 39 17.8**	**+0.3**
	baz=232							
H22K	**Ishtalitna Cre**	**86.26**	**20**	P		**P**	**23 39 17.6**	**-0.6**
	baz=237							
D20K	**Etivluk River**	**86.28**	**17**	P		**P**	**23 39 18.3**	**+0.1**
	baz=232							
M24K	**Tolsona, Glenn**	**86.28**	**25**	P		**P**	**23 39 17.8**	**-0.6**
	baz=242							
F21K	**Alatna River**	**86.32**	**19**	P		**P**	**23 39 18.3**	**-0.1**
	baz=235							
NEA2	**Nenana**	**86.39**	**22**	P		**P**	**23 39 18.7**	**-0.2**
	baz=239							
KURK	**Kurchatov**	**86.40**	**323**	P		**P**	**23 39 18.7**	**-0.4**
KURK	**Kurchatov**	**86.40**	**323**	*i* P		**P**	**23 39 19.4**	**+0.3**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
BMRM	**Bremner River**	**86.42**	**26**	P		**P**	**23 39 18.8**	**-0.3**
	baz=243							
KURBB	**Kurchatov Arra**	**86.42**	**323**	P		**P**	**23 39 18.2**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=114,slow=3.5,SNR=3.4							
	comp=Z,2.1nm,0.7s							
CHMS	**Chumysh**	**86.53**	**314**	P		**P**	**23 39 19.8**	**-0.3**
	SNR=9.0							
FRU1	**Bishkek**	**86.56**	**314**	P		**P**	**23 39 19.8**	**-0.5**
FRU1				IAmb		IAmb	23 39 27.3	
	comp=Z,22nm,1.3s							
FRU1	**Bishkek**	**86.56**	**314**	P		**P**	**23 39 19.8**	**-0.5**
FRU1				pmax		pmax		
	comp=Z,22nm,1.3s							
I23K	**Minto, Yukon-K**	**86.57**	**21**	P		**P**	**23 39 19.6**	**-0.1**
	baz=239							
AAK	**Ala-Archa**	**86.61**	**314**	P		**P**	**23 39 19.9**	**-0.8**
AAK				IAmb		IAmb	23 39 25.4	
	comp=Z,7.3nm,0.8s							
AAK	**Ala-Archa**	**86.61**	**314**	LR		LR	00 20 16.3	
	comp=Z,80nm,18.3s,baz=97,slow=37							
AAK	**Ala-Archa**	**86.61**	**314**	P		**P**	**23 39 20.4**	**-0.2**
	SNR=10.0							
AAK	**Ala-Archa**	**86.61**	**314**	*ce*P		**P**	**23 39 20.0**	**-0.6**
AAK				pmax		pmax		
	comp=Z,16nm,1.6s							
N25K	**Chitina, Valde**	**86.71**	**26**	P		**P**	**23 39 20.7**	**+0.1**
	baz=243							
USP	**Ospenovka**	**86.78**	**315**	P		**P**	**23 39 20.8**	**-0.5**
	SNR=12							
G22K	**Bettles**	**86.79**	**19**	P		**P**	**23 39 20.9**	**+0.3**
	baz=236							
HARP	**HAARP**	**86.84**	**25**	P		**P**	**23 39 20.7**	**-0.4**
	baz=242							
H23K	**Yukon River**	**86.86**	**21**	P		**P**	**23 39 21.5**	**+0.4**
	baz=238							
E21K	**Killik River**	**86.88**	**18**	P		**P**	**23 39 21.2**	**0.0**
	baz=234							
CCB	**Clear Creek Bu**	**86.89**	**22**			**P**	**23 39 20.1**	**-1.1**
F22K	**John River**	**86.90**	**19**	P		**P**	**23 39 21.6**	**+0.3**
	baz=236							
B20K	**Meade River**	**86.94**	**16**	P		**P**	**23 39 21.8**	**+0.4**
	baz=231							
PAX	**Paxson**	**86.98**	**24**	P		**P**	**23 39 21.9**	**0.0**
	baz=242							
COLA	**College**	**86.98**	**22**	P		**P**	**23 39 21.2**	**-0.5**
	baz=240							
AML	**Almayashu**	**87.04**	**313**	P		**P**	**23 39 22.7**	**-0.3**
	SNR=10							
C21K	**Knifeblade Rid**	**87.07**	**17**	P		**P**	**23 39 22.3**	**+0.2**
	baz=233							
HDA	**Harding Lake**	**87.09**	**23**	P		**P**	**23 39 21.9**	**-0.3**
	baz=241							
EKS2	**Erkin-Say**	**87.12**	**314**	P		**P**	**23 39 23.1**	**0.0**
	SNR=7.6							
G23K	**Bananza Creek**	**87.17**	**20**	P		**P**	**23 39 22.9**	**+0.3**
	baz=238							
K24K	**Donnelly Dome**	**87.25**	**23**	P		**P**	**23 39 23.3**	**+0.2**
	baz=242							
MESA	**MESA**	**87.26**	**27**	P		**P**	**23 39 23.4**	**0.0**
	baz=246							
POKR	**Poker Plat Res**	**87.26**	**22**	P		**P**	**23 39 22.4**	**-0.7**
	baz=240							
ILAR	**Eielson Array**	**87.29**	**22**			**P**	**23 39 22.4**	**-0.8**
ILAR	**Eielson Array**	**87.29**	**22**	P		**P**	**23 39 21.7**	**-1.5**
	comp=Z,4.0nm,0.8s,baz=247,slow=4.6,SNR=20							
ILAR				LR		LR	00 18 24.1	
	comp=Z,178nm,18.4s,baz=230,slow=36							
	comp=Z,4.0nm,0.8s							
ILAR	**Eielson Array**	**87.29**	**22**	P		**P**	**23 39 22.4**	**-0.8**
ARSB	**Arslanbob**	**87.34**	**312**			**P**	**23 39 23.2**	**-1.0**
ARSB	**Arslanbob**	**87.34**	**312**	P		**P**	**23 39 23.2**	**-1.0**
ARSB				pmax		pmax		
	comp=Z,22nm,1.2s							
E22K	**Anaktuvuk Pass**	**87.37**	**18**	P		**P**	**23 39 23.4**	**-0.2**
	baz=236							
COLD	**Coldfoot**	**87.39**	**19**	P		**P**	**23 39 23.9**	**+0.3**
COLD				IAmb		IAmb	23 39 29.4	
	comp=Z,28nm,1.9s							
COLD	**Coldfoot**	**87.39**	**19**	P		**P**	**23 39 23.0**	**-0.6**
	baz=238							
B21K	**Ikpikpuk River**	**87.40**	**17**	P		**P**	**23 39 23.4**	**-0.2**
	baz=234							
H24K	**Noodor Dome**	**87.46**	**21**	P		**P**	**23 39 23.7**	**-0.4**
	baz=240							
D22K	**Ayikyak River**	**87.52**	**18**	P		**P**	**23 39 24.1**	**-0.1**
	baz=235,SNR=7.6							
RIDG	**Independent Ri**	**87.59**	**24**			**P**	**23 39 25.0**	**+0.3**
RIDG	**Independent Ri**	**87.59**	**24**	P		**P**	**23 39 24.1**	**-0.7**
	baz=243							
M26K	**Nabesna, AK**	**87.74**	**25**	P		**P**	**23 39 24.6**	**-0.9**
	baz=244							
DRK	**Karamyk**	**87.75**	**310**	P		**P**	**23 39 25.7**	**-0.7**
J25K	**Salcha River,**	**87.79**	**23**	P		**P**	**23 39 24.9**	**-0.8**
	baz=242							
PINM	**Pinnacle**	**88.00**	**28**	P		**P**	**23 39 26.1**	**-0.7**
	baz=247							
E23K	**Chandalar**	**88.02**	**19**	P		**P**	**23 39 26.6**	**-0.2**
	baz=238							
G24K	**Hadweenzic Riv**	**88.03**	**20**	P		**P**	**23 39 26.6**	**-0.1**
	baz=240							
SCRK	**Sand Creek**	**88.03**	**24**	P		**P**	**23 39 28.0**	**+1.1**
SCRK				IAmb		IAmb	23 39 38.1	
	comp=Z,23nm,1.8s							
SCRK	**Sand Creek**	**88.03**	**24**	P		**P**	**23 39 26.5**	**-0.4**
	baz=244							
A22K	**Sinclair Lake**	**88.13**	**15**	P		**P**	**23 39 27.3**	**+0.3**
	baz=233							
PRP	**Porcupine Dome**	**88.15**	**22**	P		**P**	**23 39 27.9**	**+0.4**
	baz=242							
B22K	**Teshekpuk Lake**	**88.16**	**16**	P		**P**	**23 39 27.0**	**-0.2**
	baz=235							
D23K	**Nanushuk River**	**88.17**	**18**	P		**P**	**23 39 27.2**	**-0.2**
	baz=237,SNR=13							
M27K	**Edge Creek, AK**	**88.20**	**25**	P		**P**	**23 39 27.9**	**+0.1**
	baz=246							
F24K	**Squaw Lake**	**88.30**	**20**	P		**P**	**23 39 28.1**	**+0.1**
	baz=240							
TOLK	**Toolik Lake Re**	**88.34**	**18**	P		**P**	**23 39 27.7**	**-0.5**
	baz=238							
E24K	**Your Creek**	**88.39**	**19**	P		**P**	**23 39 28.2**	**-0.3**
	baz=239							
H25L	**Birch Creek**	**88.40**	**21**	P		**P**	**23 39 28.3**	**-0.2**
	baz=242							
J26L	**Joseph Creek**	**88.43**	**23**	P		**P**	**23 39 28.7**	**0.0**
	baz=244							
L27K	**Beaver Creek,**	**88.51**	**25**	P		**P**	**23 39 29.3**	**+0.2**
	baz=246							
BCAR	**Beaver Creek A**	**88.53**	**25**	P		**P**	**23 39 29.4**	**+0.2**
SYO	**Syowa Base**	**88.54**	**200**	*e*P		**P**	**23 39 29.5**	**+0.3

I27K	Kandik River	89.65	23	P	P	23 39 34.7	+0.2
	baz=246						
SIMJ	Simiganj	89.67	309	P	P	23 39 33.9	-1.4
SIMJ				IAmb	IAmb	23 39 42.4	
	comp=Z,7.6nm,1.0s						
D25K	Kavik River	89.68	18	P	P	23 39 34.0	-0.5
	baz=241						
IUG	Iuzhnay	89.68	313	*e*P	P	23 39 33.1	-2.1
M29M	Somme Creek	89.69	26	P	P	23 39 34.3	-0.5
	baz=248						
S32K	Killisnoo	89.84	31	P	P	23 39 35.1	-0.3
	baz=252						
NRIK	Noril'sk	89.88	342		P	23 39 34.0	-1.3
NRIK				IAmb	IAmb	23 39 38.1	
	comp=Z,10nm,0.9s						
NRIK	Noril'sk	89.88	342	P	P	23 39 33.8	-1.6
	comp=Z,7.6nm,0.9s,baz=118,slow=1.8,SNR=6.3						
	comp=Z,7.6nm,0.9s						
NRIK	Noril'sk	89.88	342	*i* P	P	23 39 36.3	+0.9
NRIK				pmax	pmax		
	comp=Z,14nm,1.0s						
DAWY	Dawson	89.91	24		P	23 39 35.9	+0.2
DAWY				IAmb	IAmb	23 39 40.3	
	comp=Z,13nm,1.2s						
DAWY	Dawson	89.91	24	P	P	23 39 35.5	-0.2
	baz=248						
H27K	Steamboat Moun	89.94	22	P	P	23 39 36.2	+0.4
	baz=246						
N30M	Aishikik Lake	89.95	27	P	P	23 39 36.3	+0.3
	baz=250						
L29M	L29M	90.08	25	P	P	23 39 36.5	0.0
	baz=249						
G27K	Doyon Strip	90.14	21	P	P	23 39 36.5	-0.2
	baz=246						
O30N	Mendenhall	90.17	28	P	P	23 39 36.6	-0.4
	baz=251						
U33K	Whale Pass	90.20	33	P	P	23 39 37.0	-0.1
	baz=253						
I28M	Miner Creek	90.23	23	P	P	23 39 36.9	-0.3
	baz=247						
C26K	Camden Bay	90.42	18	P	P	23 39 37.9	0.0
	baz=243,SNR=15						
M30M	Minto, Yukon	90.47	26	P	P	23 39 38.4	+0.1
	baz=250						
K29M	Barlow Dome	90.60	25	P	P	23 39 39.5	+0.5
	baz=249						
C27K	Jago River	90.66	19	P	P	23 39 39.3	+0.3
	baz=244,SNR=9.2						
E27K	Coleen River	90.73	20	P	P	23 39 39.0	-0.4
	baz=246						
V35K	Ketchikan	90.80	34	P	P	23 39 40.2	+0.3
	baz=254						
I29M	Ogilvie Camp,	90.83	23	P	P	23 39 39.8	-0.1
	baz=249						
P32M	Atlin	90.92	29	P	P	23 39 40.9	+0.4
	baz=253						
J30M	Hart River	91.34	24	P	P	23 39 42.5	0.0
	baz=250						
D27M	Malcolm River	91.37	19	P	P	23 39 43.1	+0.7
	baz=246						
M31M	Drury Creek, Y	91.40	27	P	P	23 39 42.5	-0.1
	baz=252						
Q32M	Nakina River	91.45	30	P	P	23 39 42.7	-0.4
	baz=254						
G29M	Pine Creek	91.50	22	P	P	23 39 43.1	+0.1
	baz=249						
P33M	Teslin, Yukon	91.54	29	P	P	23 39 43.7	+0.3
	baz=253						
E28M	Babbage River	91.60	20	P	P	23 39 43.7	+0.4
	baz=248						
ELIB	Princess Elisa	91.71	194	*d*P	P	23 39 44.4	+0.3
	comp=Z,7.2nm,1.0s						
S34M	Telegraph Cree	91.75	31	P	P	23 39 44.4	+0.2
	baz=255						
EPYK	Eagle Plains	91.80	23	P	P	23 39 44.4	0.0
	baz=250						
BVAR	Borovoye Array	91.94	323	P	P	23 39 43.4	-1.9
	comp=Z,4.2nm,0.8s,baz=106,slow=4.8,SNR=14						
	comp=Z,4.2nm,0.8s						
T35M	Bob Quinn	91.97	33	P	P	23 39 45.1	-0.3
	baz=256						
BRVK	Borovoye	92.01	323	*i* P	P	23 39 46.4	+0.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BBB	Bella Bella	92.03	37	LR	LR	00 17 56.7	
	comp=Z,62nm,18.1s,baz=236,slow=34						
D28M	Stokes Point	92.14	20	P	P	23 39 46.2	+0.4
	baz=248						
G30M	tAoh Zraii Nji	92.19	22	P	P	23 39 46.6	+0.4
	baz=251						
DLBC	Dease Lake	92.44	31	LR	LR	00 15 16.7	
	comp=Z,428nm,20.3s,baz=271,slow=32						
H31M	Peel River	92.53	23	P	P	23 39 48.4	+0.6
	baz=252						
F30M	Barrier River	92.56	22	P	P	23 39 48.4	+0.5
	baz=251						
BELA	Belgrano 2	92.61	179		P	23 39 47.6	-0.5
G31M	Satah River	92.90	22	P	P	23 39 49.5	+0.2
	baz=252						
MMPY	Sheldon Lake,	92.92	27	P	P	23 39 49.6	-0.1
	baz=255						
F31M	Tsiigehtchic	93.25	22	P	P	23 39 51.3	+0.3
	baz=253						
INK	Inuvik	93.59	21	LR	LR	00 16 27.5	
	comp=Z,332nm,21.7s,baz=228,slow=32						
INK	Inuvik	93.59	21	P	P	23 39 52.5	0.0
YBH	Yreka Blue Hor	93.64	48	LR	LR	00 14 17.9	
	comp=Z,344nm,21.9s,baz=270,slow=31						
HRA	Herat	94.25	304	P	P	23 39 54.8	-1.8
AFDM	Forest Hills D	94.51	51	P	P	23 39 56.9	-0.6
AFDM				IAmb	IAmb	23 40 05.7	
	comp=Z,12nm,1.5s						
TROLL	Troll, Antarti	95.93	189	⇑P	P	23 40 04.2	+0.6
	comp=Z,141nm,0.7s						
NVAR	Mina Array Bea	96.51	52	P	P	23 40 06.6	-0.3
NVAR	Mina Array Bea	96.51	52	P	P	23 40 06.2	-0.7
	comp=Z,5.5nm,1.2s,baz=256,slow=6.1,SNR=7.6						
NVAR				LR	LR	00 19 07.9	
	comp=Z,124nm,18.7s,baz=230,slow=33						
	comp=Z,5.5nm,1.2s						
PFO	Pinyon Flats O	97.42	57	LR	LR	00 16 26.7	
	comp=Z,147nm,20.9s,baz=232,slow=31						
ABKAR	Akbulak array	97.82	319		P	23 40 10.1	-2.2
ABKAR	Akbulak array	97.82	319		P	23 40 10.4	-1.9
ABKAR				IAmb	IAmb	23 40 14.2	
	comp=Z,2.9nm,0.8s						
NEW	Newport	98.40	42	LR	LR	00 17 55.5	
	comp=Z,502nm,20.6s,baz=218,slow=31						
ELK	Elko	99.10	50	LR	LR	00 16 39.6	
	comp=Z,260nm,21.9s,baz=346,slow=30						
KLMR	Klimovskoe	108.70	331	*e*P	Pdif	23 41 01.1	+0.7
KLMR				pmax	pmax		
	comp=Z,13nm,1.7s						
KLMR				MLR	MLR		
	comp=Z,342nm,20.0s						
OBN	Obninsk	111.66	326	*i* PKIKP	PKiKP	23 45 11.6	+0.3
OBN				*e*		23 45 52.6	
OBN				*e*PPP	PPP	23 48 13.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MNK	Minsk	116.62	327	*i* P	Pdif	23 41 34.6	-1.2
MNK				*i*		23 45 19.9	
MNK				*i*		23 46 27.3	
MNK				*i* PPP	PPP	23 48 55.0	
MNK				*i*		23 52 32.0	
MNK				*i* SS	SS	00 02 34.7	+1.3
MNK				*i* SSS	SSS	00 06 53.8	
MNK				pmax	pmax		
	comp=N,12nm,0.8s						
MNK				pmax	pmax		
	comp=E,7.0nm,0.7s						
MNK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MNK				MLR	MLR		
	comp=N,196nm,21.0s						
MNK				MLR	MLR		
	comp=Z,270nm,24.0s						
MNK				MLR	MLR		
	comp=E,138nm,23.0s						
AKASG	Malin Array Be	117.21	323	PKP	PKiKP	23 45 22.3	+0.2
	comp=E,1.5nm,0.7s,baz=65,slow=1.8,SNR=5.5						
NOA	NORSAR Array B	120.72	339	PKP	PKPdf	23 45 27.0	-1.6
	comp=E,0.8nm,0.9s,baz=50,slow=1.9,SNR=3.6						
KOLS	Kolonicke sedl	122.05	323	*e*PKIKP	PKiKP	23 45 35.3	+3.6
KOLS	Kolonicke sedl	122.05	323	*e*PKP	PKiKP	23 45 35.3	+3.6
LANS	Liptovska Anna	123.61	324	*e*PKIKP	PKiKP	23 45 39.4	+4.6
LANS	Liptovska Anna	123.61	324	*e*PKP	PKiKP	23 45 39.4	+4.6
VYHS	Vyhne	124.28	323	*e*PKIKP	PKiKP	23 45 39.9	+3.8
VYHS	Vyhne	124.28	323	*e*PKP	PKiKP	23 45 39.9	+3.8
LCO	Las Campanas	124.47	135		PKPdf	23 45 36.5	-0.7
LCO	Las Campanas	124.47	135	PKIKP	PKPdf	23 45 36.5	-0.7
AC05	El Transito	124.87	135		PKPdf	23 45 36.5	-1.2
MODS	Modra-Piesok	125.25	324	*e*PKIKP	PKiKP	23 45 42.5	+4.5
MODS	Modra-Piesok	125.25	324	*e*PKP	PKiKP	23 45 42.5	+4.5
CLL	Collm	126.04	329	*e*PKIKP	PKiKP	23 45 42.0	+2.5
CLL				MLR	MLR		
	comp=Z,300nm,20.8s						
RONA	Rosalia, Austr	126.16	323	*e*pPKiKP	PKiKP	23 45 43.8	+3.9
	comp=Z,4.5nm,1.3s						
CONA	Conrad Observa	126.30	324	*e*pPKiKP	PKiKP	23 45 43.6	+3.4
	comp=Z,2.7nm,1.0s						
GERES	GERESS Array B	127.05	326	PKP	PKPdf	23 45 40.9	-0.4
	comp=Z,1.7nm,0.7s,baz=46,slow=4.5,SNR=8.4						
SOKA	Soboth	127.41	323	*e*pPKiKP	PKiKP	23 45 45.7	+3.2
	comp=Z,2.9nm,1.0s						
OBKA	Obir	127.79	323	*e*pPKP	pPKPdf	23 45 45.3	-1.9
	comp=Z,6.0nm,1.1s						
LESA	Schwarzleotal	128.40	325	*e*PKP	PKPdf	23 45 43.4	-0.4
	comp=Z,4.4nm,0.9s						
ABTA	Abfaltersbach	128.86	324	*e*pPKP	pPKPdf	23 45 48.1	-1.1
	comp=Z,4.3nm,1.1s						
WATA	Walderalm	129.07	325	*e*pPKiKP	PKiKP	23 45 49.8	+3.9
	comp=Z,1.8nm,0.5s						
WTTA	Wattenberg	129.07	325	*e*pPKiKP	PKiKP	23 45 49.6	+3.6
	comp=Z,8.8nm,1.6s						
MOTA	Moosalm	129.33	325	*e*pPKiKP	PKiKP	23 45 50.0	+3.6
	comp=Z,4.7nm,1.0s						
SQTA	Sankt Quirin	129.34	325	*e*pPKiKP	PKiKP	23 45 49.9	+3.5
	comp=Z,3.4nm,0.9s						
FETA	Feichten	129.72	325	*e*pPKP	pPKPdf	23 45 50.0	-0.9
	comp=Z,3.8nm,1.1s						
EKA	Eskdalemuir Ar	130.00	341	PKP	PKiKP	23 45 48.2	+0.9
	comp=Z,1.1nm,0.7s,baz=39,slow=2.7,SNR=1.8						
ZCCA	Zocca	131.06	322		PKiKP	23 45 49.6	-0.3
LPAZ	La Paz	133.59	123	PKP	PKPdf	23 45 54.0	-1.2
	comp=Z,1.7nm,0.9s,baz=253,slow=3.0,SNR=6.1						
CPUP	Villa Florida	134.96	143	PKP	PKiKP	23 45 58.3	0.0
	comp=Z,2.9nm,0.9s,baz=214,slow=1.8,SNR=4.4						
SDV	Santo Domingo	139.02	87		PKPdf	23 46 04.3	-0.5
ESDC	Sonseca Array	142.60	327	PKP	PKPdf	23 46 08.2	-2.2
	comp=Z,0.8nm,0.9s,baz=19,slow=5.6,SNR=2.8						
ESDC				PP	PP	23 49 17.6	0.0
	comp=Z,1.3nm,1.0s,baz=33,slow=6.2,SNR=4.7						
TAM	Tamanrasset	144.37	296		PKPbc	23 46 12.5	0.0
TAM	Tamanrasset	144.37	296	PKIKP	PKPbc	23 46 12.5	0.0
SMRT	St. Maarten	146.01	72	PKPdf	PKPdf	23 46 15.7	-1.1
BOAV	Boa Vista	147.96	101		PKPbc	23 46 22.6	-0.8
BDFB	Brasilia	148.69	143		PKPdf	23 46 22.3	+0.8
BDFB	Brasilia	148.69	143	PKPbc	PKPbc	23 46 24.4	-0.9
	comp=Z,20nm,0.8s,baz=198,slow=2.5,SNR=14						
BDFB	Brasilia	148.69	143	PKIKP	PKPdf	23 46 22.3	+0.8
TORD	Torodi Ar. Bea	149.62	280		PKPbc	23 46 25.5	-2.0
TORD	Torodi Ar. Bea	149.62	280	PKPbc	PKPbc	23 46 26.9	-0.6
	comp=Z,52nm,0.5s,baz=62,slow=3.7,SNR=1.3						
MAL2	Monte Alegre,	152.48	114	PKPdf	PKPdf	23 46 25.4	-2.0
DBIC	Dimbokro	155.83	265	PKPab	PKPab	23 46 59.9	+1.1
	comp=Z,7.5nm,0.9s,baz=100,slow=5.9,SNR=5.3						

IDC ***17*** *23:28:22.3±2.6, 16°.76S×179°.28W, h559km±8km,* **mb3.7**/3, **mbtmp4.6**/4, **Error ellipse: s-maj=90.5km s-min=40.6km az=162.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.73	249	P	P	23 29 35.5	-1.1
	138nm,0.8s,baz=112,slow=10,SNR=92						
MSVF				S	S	23 30 38.2	+1.2
	8.2nm,0.8s,baz=53,slow=9.6,SNR=5.9						
STKA	Stephens Creek	38.47	240	P	P	23 34 56.8	-0.4
	4.6nm,0.4s,baz=92,slow=10,SNR=12						
	4.6nm,0.4s						
WRA	Warramunga Arr	44.03	258	P	P	23 35 40.9	-0.4
	1.7nm,0.3s,baz=94,slow=7.5,SNR=16						
	1.7nm,0.3s						
ASAR	Alice Springs	44.31	253	P	P	23 35 43.5	0.0
	16nm,0.7s,baz=88,slow=8.1,SNR=68						
ASAR				PcP	PcP	23 37 14.8	-0.7
	0.7nm,0.7s,baz=91,slow=4.1,SNR=2.4						
ASAR				ScP	ScP	23 40 16.8	+2.2
	0.7nm,0.8s,baz=100,slow=2.8,SNR=5.4						
ASAR				S	S	23 41 37.5	-0.1
	0.2nm,0.3s,baz=93,slow=14,SNR=2.1						
	16nm,0.7s						

DNK ***17*** *23:29:45.6±1.5, 79°.68N×3°.40E, h30km±12km, ML1.9*
BER ***17*** *23:29:46.9±3.1, 79°.70N×3°.03E, h26km±18km, mb(Pn)3.9, ML1.9(DNK), Confirmed Earthquake*
FCIAR ***17*** *23:29:47.0, 79°.50N×3°.41E, h10km, station ZFI2 has station magnitude of 3.20 station OMEGA has station magnitude of 3.50*
KOLA ***17*** *23:29:47.9, 79°.90N×6°.14E, h0km, ML2.1, Error ellipse: s-maj=51.1km s-min=20.8km az=40.0, Greenland sea*
ISC 17 23:29:40.2±0.8, 79°.53N±0°.06×3°.32E±0°.04, h16km, n23, σ2ŝ11/37, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.73	106	P	Pg	23 30 14.1	+0.8
KBS				S	Sb	23 30 33.2	+0.3
KBS	Kingsbay	1.73	106	*e*P	Pg	23 30 14.5	+1.2
KBS				*e*S	Sb	23 30 34.5	+1.5
KBS	Kingsbay	1.73	106	*i* P	Pg	23 30 13.4	0.0
KBS				*i* S	Sb	23 30 35.3	+2.4
BRBB	Barentsburg B	2.56	119	P	Pg	23 30 27.9	-1.3
BRBB				S	Sb	23 30 57.0	+0.2
BRBB	Barentsburg B	2.56	119	*e*P	Pg	23 30 29.3	+0.1
BRBB				*e*S	Sb	23 30 57.1	+0.2
BRBA	Barentsburg A	2.59	119	*e*P	Pg	23 30 29.7	0.0
SPA0	Spitsbergen Ar	2.87	112	⇑*i*P	Pb	23 30 31.1	+0.2
SPA0				*i* S	Sb	23 31 03.9	-1.9
SPA0	Spitsbergen Ar	2.87	112	*e*P	Pb	23 30 31.1	+0.2
SPA0				*e*S	Sb	23 31 03.9	-1.9
SPITS	Spitsbergen Ar	2.87	112	P	Pb	23 30 30.9	0.0
SPITS				S	Sb	23 31 03.9	-1.9
HSPB	Hornsund (broa	3.55	129	P	Pb	23 30 42.1	-0.3
HSPB				S	Sb	23 31 21.5	-3.8
HSPB	Hornsund (broa	3.55	129	*e*P	Pb	23 30 42.4	-0.1
HSPB				*e*S	Sb	23 31 20.9	-4.3
HSPB				IAML		23 31 25.8	
	comp=Z,11nm,0.4s						
NOR	Nord	3.87	312	*i* P	Pn	23 30 41.4	+2.5
NOR				*i* S	Sn	23 31 21.7	-2.3
NOR				IAML		23 31 37.5	
	comp=Z,4.4nm,1.1s						
NOR	Nord	3.87	312	*i* P	Pn	23 30 41.4	+2.5
NOR				*i* S	Sn	23 31 21.7	-2.3
NOR				IAML		23 31 37.5	
	comp=Z,4.4nm,1.1s						
HOPEN	Hopen	5.41	113	*e*P	Pn	23 31 05.2	+5.3
HOPEN				*e*S	Sn	23 32 03.3	+1.7
HOPEN	Hopen	5.41	113	*e*P	Pn	23 31 05.9	+6.0
HOPEN				*e*S	Sn	23 32 04.3	+2.6
HOPEN				IAML		23 32 06.3	
	comp=Z,7.6nm,0.2s						
DBG	Daneborg	7.41	237	*i* P	Pn	23 31 31.1	+3.8
DBG				*i* S	Sn	23 32 48.3	-2.5
DBG				IAML		23 33 01.8	
	comp=Z,3.7nm,0.8s						
DBG	Daneborg	7.41	237	*i* P	Pn	23 31 31.1	+3.8
DBG				*i* S	Sn	23 32 48.3	-2.5
DBG				IAML		23 33 01.8	
	comp=Z,3.7nm,0.8s						
ZFI2	Zemlya Franca-	7.53	59	*e*P	Pn	23 31 30.3	+1.3
ZFI2				*e*S	Sn	23 32 49.4	-4.6
	comp=Z,7.1nm,0.4s						
OMEGA	Omega	7.55	59	P	Pn	23 31 30.5	+1.2
OMEGA				*e*S	Sn	23 32 49.2	-5.1
	comp=Z,12nm,1.1s						
NEEM	North Greenlan	10.70	287	*i* P	Pn	23 32 13.0	+0.3
NEEM				*i* S	Sn	23 34 02.6	-9.4
NEEM				IAML		23 34 13.2	
	comp=Z,3.4nm,0.7s						
NEEM	North Greenlan	10.70	287	*i* P	Pn	23 32 13.0	+0.3
NEEM				*i* S	Sn	23 34 02.6	-9.4
NEEM				IAML		23 34 13.2	
	comp=Z,3.4nm,0.7s						
SUMG	Summit	11.89	257	*i* P	Pn	23 32 29.5	+0.4
SUMG	Summit	11.89	257	*i* P	Pn	23 32 29.5	+0.4

IDC ***17*** *23:40:44.6±0.8, 18°.74N×145°.88E, h0km, mb3.6/10, mbtmp3.6/10, Error ellipse: s-maj=33.5km s-min=18.7km az=94.0*
ISC 17 23:41:01.7±0.8, 18°.7N±0°.1×145°.8E±0°.2, h145km, n10, σ0ŝ90/11, mb3.5/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.95	197	P	P	23 48 22.2	+0.1
	1.0nm,0.5s,baz=12,slow=8.2,SNR=18						
	1.0nm,0.5s						
SONM	Songino Array	43.22	321	P	P	23 48 48.2	-0.4
	0.2nm,0.3s,baz=111,slow=7.9,SNR=1.5						
SONM				PcP	PcP	23 50 37.2	+1.9
	0.3nm,0.3s,baz=134,slow=4.2,SNR=2.8						
	0.2nm,0.3s						
ASAR	Alice Springs	43.62	196	P	P	23 48 51.7	-0.2
	0.4nm,0.5s,baz=19,slow=7.7,SNR=5.7						
	0.4nm,0.5s						
STKA	Stephens Creek	50.39	185	P	P	23 49 44.2	-0.1
	0.6nm,0.4s,baz=351,slow=14,SNR=2.9						
	0.6nm,0.4s						
MKAR	Makanchi Array	58.54	314	P	P	23 50 43.6	+0.5
	0.2nm,0.5s,baz=92,slow=8.7,SNR=4.6						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	61.40	318	P	P	23 51 01.6	-0.8
	0.3nm,0.3s,baz=95,slow=7.4,SNR=2.4						
	0.3nm,0.3s						
ILAR	Eielson Array	63.66	26	P	P	23 51 17.5	+0.3
	0.4nm,0.8s,baz=234,slow=4.7,SNR=4.5						
	0.4nm,0.8s						
BVAR	Borovoye Array	66.55	320	P	P	23 51 35.6	-0.5
	0.6nm,0.4s,baz=81,slow=8.9,SNR=3.2						
	0.6nm,0.4s						
YKA	Yellowknife Ar	78.01	28	P	P	23 52 44.5	+0.6
	0.3nm,0.7s,baz=292,slow=5.3,SNR=5.4						
	0.3nm,0.7s						
NVAR	Mina Array Bea	83.12	52	P	P	23 53 10.9	-1.0
	0.7nm,0.7s,baz=287,slow=7.7,SNR=4.2						
	0.7nm,0.7s						

BER ***17*** *23:43:04.7±3.4, 79°.68N×3°.15E, h10km, mb(Pn)3.7, ML3.1, ML2.2(DNK), Confirmed Earthquake*
DNK ***17*** *23:43:06.5±2.8, 79°.62N×3°.53E, h36km±31km, ML2.2*
KOLA ***17*** *23:43:06.9, 79°.60N×4°.62E, h0km, ML2.0, Error ellipse: s-maj=45.9km s-min=25.9km az=40.0, Greenland sea, Knipovich ridge, north*
ISC 17 23:43:00.1±1.9, 79°.8N±0°.1×3°.49E±0°.07, h3km±15km, n18, σ1ŝ47/27, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.78	114	P	Pb	23 43 33.5	+0.2
KBS				S	Sn	23 43 53.1	-1.6
KBS	Kingsbay	1.78	114	*e*P	Pg	23 43 33.6	-0.5
KBS				*e*S	Sn	23 43 53.5	-1.2
KBS	Kingsbay	1.78	114	*i* P	Pb	23 43 32.8	-0.5
BRBB	Barentsburg B	2.66	124	P	Pb	23 43 47.5	-0.7
BRBB				S	Sn	23 44 16.2	0.0
BRBB	Barentsburg B	2.66	124	*e*P	Pb	23 43 48.5	+0.3
BRBB				*e*S	Sn	23 44 16.3	0.0
BRBA	Barentsburg A	2.68	124	*e*P	Pb	23 43 48.9	+0.3
SPA0	Spitsbergen Ar	2.94	116	*e*P	Pb	23 43 50.3	-2.7
SPA0				*e*S	Sn	23 44 23.4	+0.2
SPA0				IAML		23 44 24.1	
	comp=Z,2.8nm,0.2s						
SPITS	Spitsbergen Ar	2.94	116	P	Pn	23 43 50.2	+2.6
SPITS				S	Sn	23 44 23.1	-0.1
HSPB	Hornsund (broa	3.68	133	P	Pn	23 44 00.4	+2.7
HSPB				S	Sn	23 44 39.5	-2.0
HSPB	Hornsund (broa	3.68	133	*e*S	Sn	23 44 39.0	-2.5
NOR	Nord	3.75	309	*i* P	Pn	23 44 00.8	+2.2
NOR				*i* S	Sn	23 44 41.9	-1.2
NOR	Nord	3.75	309	*i* P	Pn	23 44 00.8	+2.2
NOR				*i* S	Sn	23 44 41.9	-1.2
NOR				IAML		23 45 02.9	
	comp=Z,6.0nm,4.5s						
DBG	Daneborg	7.56	236	*i* P	Pn	23 44 51.3	+0.4
DBG				*i* S	Sn	23 46 05.9	-11
DBG				*i* S	Sb	23 46 08.6	-33
DBG				IAML		23 46 33.5	
	comp=Z,5.4nm,1.3s						
DBG	Daneborg	7.56	236	*i* P	Pn	23 44 51.3	+0.4
DBG				*i* S	Sn	23 46 05.9	-11
DBG				*i* S	Sb	23 46 08.6	-33
DBG				IAML		23 46 33.5	
	comp=Z,5.4nm,1.3s						
NEEM	North Greenlan	10.66	286	*i* P	Pn	23 45 33.3	-0.3
NEEM				*i* S	Sn	23 47 22.4	-11
NEEM				IAML		23 47 46.5	
	comp=Z,3.5nm,1.3s						
NEEM	North Greenlan	10.66	286	*i* P	Pn	23 45 33.3	-0.3
NEEM				*i* S	Sn	23 47 22.4	-11
NEEM				IAML		23 47 46.5	
	comp=Z,3.5nm,1.3s						
SUMG	Summit	11.97	256	*i* P	Pn	23 45 51.0	-0.6
SUMG				*i* S	Sn	23 47 48.9	-17
SUMG	Summit	11.97	256	*i* P	Pn	23 45 51.0	-0.6
SUMG				*i* S	Sn	23 47 48.9	-17
SUMG				IAML		23 48 07.0	
	comp=Z,14nm,3.6s						

IDC ***17*** *23:50:45.8±1.1, 9°.54S×151°.12E, h0km, mb4.1/12, mbtmp4.1/14, ML2.8/2, MS3.5/8, Error ellipse: s-maj=32.8km s-min=18.6km az=101.0*
NEIC ***17*** *23:50:48.8±0.9, 9°.5S±0°.1×150°.9E±0°.1, h10km±1km, mb4.7/33, Error ellipse: s-maj=19.8km s-min=18.2km az=149.0*
ISC 17 23:50:48.6±0.7, 9°.59S±0°.09×150°.96E±0°.09, h13km, n67, σ1ŝ07/63, mb4.6/34, MS3.4/5, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.75	272		Pn	23 51 45.5	-0.7
PMG	Port Moresby	3.75	272	Pn	Pn	23 51 47.1	+0.9
	7.4nm,0.3s,baz=82,slow=11,SNR=8.7						
PMG				Sn	Sb	23 52 42.5	+2.3
	13nm,0.3s,baz=122,slow=13,SNR=5.2						
PMG				LR	LR	23 53 32.6	
	comp=Z,425nm,20.6s,baz=44,slow=43						
	13nm,0.5s						
COEN	Coen	8.77	240	Pn	Pn	23 52 55.3	0.0
WB0	Warramunga Arr	18.93	236	P	P	23 55 09.9	+0.4
WRA	Warramunga Arr	19.07	235	P	P	23 55 10.5	-0.5
	0.1

comp=Z,1.0nm,0.3s
KSRS Korea Array 51.53 337 P P 23 59 54.4 +0.1
comp=Z,2.7nm,0.9s,baz=143,slow=8.3,SNR=9.3
KSRS LR LR 00 18 52.7
comp=Z,28nm,20.9s,baz=45,slow=33
comp=Z,2.7nm,0.9s
NJ2 Nanjing 51.53 325 eP P 23 59 55.6 +1.2
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KSAR Wonju Array Be 51.53 337 P P 23 59 54.5 +0.2
KULM Kulim 52.26 284 P P 23 59 60.0 -0.2
KULM IAmb IAmb 00 00 01.4
comp=Z,8.5nm,1.1s
CMAR Chiang Mai Arr 58.39 299 P P 00 00 44.1 -0.3
CMAR Chiang Mai Arr 58.39 299 P P 00 00 44.6 +0.3
comp=Z,0.6nm,0.3s,baz=131,slow=5.3,SNR=9.3
comp=Z,0.6nm,0.3s
XAN Xi'an 58.93 320 ⇑P P 00 00 47.4 -0.5
XAN pmax pmax
comp=Z,20nm,1.2s
PZH PanZhiHua 59.74 308 P P 00 00 56.3 +2.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,6.8s
HHC Hu-ho-hao-te 61.94 327 eP P 00 01 11.1 +2.7
HEH HeiHe 63.03 343 eP P 00 01 17.9 +2.6
LZH Lanzhou 63.47 318 eP P 00 01 19.3 +0.5
LZH pP sP 00 01 24.8 +0.3
LZH pmax pmax
comp=Z,19nm,1.1s
SHL Shillong 67.25 303 P P 00 01 42.6 -0.9
GTA Gaotai 67.99 319 eP P 00 01 49.0 +1.1
GTA pmax pmax
comp=Z,5.0nm,1.1s
SBA Scott Base 68.73 176 P P 00 01 53.2 +1.5
MA2 Magadan 68.93 360 LR LR 00 28 07.9
comp=Z,26nm,21.8s,baz=230,slow=32
SONM Songino Array 69.44 330 P P 00 01 56.5 -0.2
SONM IAmb IAmb 00 01 58.5
comp=Z,6.5nm,1.2s
SONM Songino Array 69.44 330 P P 00 01 56.9 +0.2
comp=Z,2.6nm,0.8s,baz=144,slow=5.8,SNR=14
comp=Z,2.6nm,0.8s
LSA Lhasa 69.51 307 P P 00 01 56.8 -1.2
QSPA South Pole Qui 80.41 180 P P 00 02 59.8 -0.1
QSPA South Pole Qui 80.41 180 P P 00 03 00.2 +0.3
comp=Z,1.4nm,0.8s,baz=3.7,slow=3.6,SNR=6.8
comp=Z,1.4nm,0.8s
K15K Wolf Creek Mou 80.50 20 P P 00 03 00.3 +0.1
K15K IAmb IAmb 00 03 18.9
comp=Z,14nm,1.4s
L18K Granite Mounta 82.18 22 P P 00 03 09.2 +0.2
L18K IAmb IAmb 00 03 14.6
comp=Z,9.8nm,1.2s
MKAR Makanchi Array 82.74 320 P P 00 03 12.1 -0.3
comp=Z,2.3nm,0.9s,baz=98,slow=6.2,SNR=15
comp=Z,2.3nm,0.9s
MAKZ Makanchi 82.95 320 P P 00 03 12.8 -0.7
MAKZ IAmb IAmb 00 03 14.2
comp=Z,6.3nm,1.1s
F17K Baldwin Pennin 83.41 17 P P 00 03 15.7 +0.4
F17K IAmb IAmb 00 03 16.9
comp=Z,5.0nm,1.0s
G18K Tagagawik 83.83 19 P P 00 03 17.3 -0.3
G18K IAmb IAmb 00 03 26.4
comp=Z,5.7nm,1.2s
PRZ Przheval'sk 83.84 315 P P 00 03 18.3 0.0
ZALV Zalesovo Beam 84.12 327 P P 00 03 17.9 -1.4
ZALV Zalesovo Beam 84.12 327 P P 00 03 18.1 -1.2
comp=Z,1.6nm,0.6s,baz=123,slow=5.1,SNR=7.5
comp=Z,1.6nm,0.6s
H19K Roundabout Mou 84.31 19 P P 00 03 20.1 +0.1
H19K IAmb IAmb 00 03 28.1
comp=Z,7.4nm,1.2s
G19K Purcell Mounta 84.49 19 P P 00 03 21.3 +0.4
G19K IAmb IAmb 00 03 30.5
comp=Z,8.4nm,1.4s
KDJ Kajisay 84.58 314 P P 00 03 21.2 -0.9
KSH Kashi 84.67 311 P P 00 03 23.4 +0.8
KSH sP sP 00 03 30.5 +2.0
KSH pmax pmax
comp=Z,4.0nm,1.2s
NIL Nilore 85.19 305 P P 00 03 24.5 -0.7
E19K Redstone River 85.27 18 P P 00 03 25.3 +0.5
E19K IAmb IAmb 00 03 32.6
comp=Z,8.8nm,1.1s
BOOM Boomskoye usch 85.57 314 P 00 03 26.5 -0.6
D19K Kuna River 85.67 17 P P 00 03 26.8 0.0
D19K IAmb IAmb 00 03 34.1
comp=Z,5.4nm,1.3s
KURBB Kurchatov Arra 86.44 323 P P 00 03 29.9 -1.0
comp=Z,0.6nm,0.6s,baz=112,slow=3.7,SNR=5.6
comp=Z,0.6nm,0.6s
AAK Ala-Archa 86.64 314 P 00 03 31.4 -0.9
AAK IAmb IAmb 00 03 32.9
comp=Z,3.9nm,0.8s
ILAR Eielson Array 87.25 22 P P 00 03 32.7 -1.9
comp=Z,1.2nm,0.9s,baz=260,slow=5.0,SNR=11
comp=Z,1.2nm,0.9s
J25K Salcha River, 87.75 23 P 00 03 36.8 -0.3
J25K IAmb IAmb 00 03 43.5
comp=Z,7.5nm,1.4s
L27K Beaver Creek, 88.47 25 P 00 03 41.1 +0.6
L27K IAmb IAmb 00 03 49.8
comp=Z,8.3nm,1.4s
BCAR Beaver Creek A 88.49 25 P P 00 03 41.1 +0.4
KKAR Karatay Array 89.58 314 P P 00 03 44.6 -1.6
BVAR Borovoye Array 91.96 323 P P 00 03 55.4 -1.6
comp=Z,0.9nm,0.7s,baz=76,slow=6.1,SNR=4.6
comp=Z,0.9nm,0.7s

IDC 17 23:58:58.0±2.7, 9°.57S×151°.34E, h0km, mb3.6/3, mbtmp3.6/4, ML3.2/1, MS3.7/1, Error ellipse: s-maj=119.2km s-min=31.2km az=127.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.39	236	P	P	00 03 24.1	-1.6
	0.1nm,0.3s,baz=61,slow=11,SNR=5.5						
	1.2nm,0.8s						
ASAR	Alice Springs	21.78	228	P	P	00 03 52.1	+0.5
	1.9nm,0.7s,baz=60,slow=8.9,SNR=17						
	1.9nm,0.7s						
STKA	Stephens Creek	23.97	201	LR	LR	00 12 42.8	
	comp=Z,152nm,18.8s,baz=20,slow=34						
MKAR	Makanchi Array	82.98	320	P	P	00 11 25.6	+0.5
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.2						
	0.4nm,0.8s						
ILAR	Eielson Array	87.09	22	P	P	00 11 44.4	-1.0
	0.3nm,0.7s,baz=246,slow=5.7,SNR=2.9						
	0.3nm,0.7s						
TORD	Torodi Ar. Bea	150.04	280	PKPbc	PKiKP	00 18 52.2	-0.4
	50nm,0.3s,baz=75,slow=2.3,SNR=1.7						

IDC 18 00:09:32.9±3.3, 10°.46S×151°.20E, h0km, mb3.3/2, mbtmp3.4/4, ML2.8/2, MS3.2/4, Error ellipse: s-maj=58.4km s-min=45.7km az=77.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.12	284	Pn	Pn	00 10 38.6	+1.6
	5.7nm,0.3s,baz=83,slow=12,SNR=7.0						
	15nm,0.5s						
WRA	Warramunga Arr	18.79	238	P	P	00 13 53.6	-0.4
	0.1nm,0.3s,baz=60,slow=11,SNR=5.6						
	0.4nm,0.7s						
ASAR	Alice Springs	21.09	229	P	P	00 14 18.4	-0.6
	1.0nm,0.8s,baz=49,slow=9.8,SNR=7.8						
	1.0nm,0.8s						
STKA	Stephens Creek	23.10	201	P	P	00 14 40.6	+0.2
	0.9nm,0.6s,baz=18,slow=16,SNR=3.1						
	0.9nm,0.6s						
GUMO	Guam	24.70	345	LR	LR	00 23 28.2	
	comp=Z,44nm,20.1s,baz=110,slow=34						
URZ	Urewera	36.13	144	LR	LR	00 29 51.3	
	comp=Z,89nm,19.0s,baz=24,slow=34						
JOW	Kunigami	43.23	329	LR	LR	00 34 42.2	
	comp=Z,22nm,19.6s,baz=48,slow=35						
RAR	Rarotonga	48.19	109	LR	LR	00 37 20.4	
	comp=Z,21nm,18.0s,baz=189,slow=35						
TORD	Torodi Ar. Bea	150.04	278	PKPbc	PKPbc	00 29 26.0	-0.6
	41nm,0.3s,baz=52,slow=3.1,SNR=1.3						

BER 18 00:15:37.0±3.2, 79°.61N×3°.19E, h10km, mb(Pn)3.6, ML1.9(DNK), Confirmed Earthquake
KOLA 18 00:15:38.7, 79°.55N×4°.75E, h0km, ML2.0, Error ellipse: s-maj=42.8km s-min=23.4km az=30.0, Greenland sea, Knipovich ridge, north
DNK 18 00:15:39.2±3.7, 79°.58N×3°.39E, h36km±31km, ML2.0
ISC 18 00:15:30.9±1.7, 79°.61N±0°.09×3°.01E±0°.05, h2km±14km, n18, σ2°.9 11/31, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.81	108	P	Pg	00 16 04.5	-0.9
KBS				S	Sn	00 16 23.3	-3.1
KBS	Kingsbay	1.81	108	iP	Pg	00 16 04.9	-0.6
KBS				iS	Sb	00 16 26.1	-1.5
KBS	Kingsbay	1.81	108	iP	Pg	00 16 04.9	-0.6
KBS				iS	Sb	00 16 26.1	-1.5
BRBB	Barentsburg B	2.65	119	P	Pb	00 16 18.5	-0.5
BRBB				S	Sn	00 16 47.1	-0.1
BRBB	Barentsburg B	2.65	119	eP	Pb	00 16 19.3	+0.3
BRBB				eS	Sn	00 16 47.3	+0.2
BRBA	Barentsburg A	2.67	120	eP	Pb	00 16 19.8	+0.4
BRBA				eS	Sn	00 16 48.3	+0.5
SPA0	Spitsbergen Ar	2.95	112	eP	Pb	00 16 21.4	-2.8
SPA0				eS	Sn	00 16 54.0	-0.7
SPA0				IAML		00 16 58.5	
	comp=Z,4.9nm,0.2s						
SPITS	Spitsbergen Ar	2.95	112	P	Pb	00 16 21.2	-3.0
SPITS				S	Sn	00 16 54.0	-0.7
HSPB	Hornsund (broa	3.65	129	P	Pn	00 16 31.6	+3.4
HSPB				S	Sn	00 17 10.9	-0.7
NOR	Nord	3.78	311	iP	Pb	00 16 37.2	-1.0
NOR				IAML		00 16 39.5	
	comp=Z,3.1nm,1.7s						
NOR				iS	Sn	00 17 13.5	-1.5
NOR	Nord	3.78	311	iP	Pb	00 16 37.2	-1.0
NOR				iS	Sn	00 17 13.5	-1.5
HOPEN	Hopen	5.49	113	eP	Pn	00 16 55.9	+2.5
DBG	Daneborg	7.40	236	iP	Pn	00 17 21.3	+1.6
DBG				iS	Sn	00 18 39.7	-4.4
DBG				IAML		00 18 48.7	
	comp=Z,8.2nm,1.4s						
DBG	Daneborg	7.40	236	iP	Pn	00 17 21.3	+1.6
DBG				iS	Sn	00 18 39.7	-4.4
DBG				IAML		00 18 48.7	
	comp=Z,8.2nm,1.4s						
NEEM	North Greenlan	10.62	286	iP	Pn	00 18 07.1	+3.1
NEEM				iS	Sn	00 19 53.4	-10
NEEM				IAML		00 19 56.2	
	comp=Z,1.6nm,0.2s						
NEEM	North Greenlan	10.62	286	iP	Pn	00 18 07.1	+3.1
NEEM				iS	Sn	00 19 53.4	-10
NEEM				IAML		00 19 56.2	
	comp=Z,1.6nm,0.2s						
SUMG	Summit	11.85	256	iP	Pn	00 18 21.1	+0.1
SUMG	Summit	11.85	256	iP	Pn	00 18 21.1	+0.1

NNC 18 00:44:55.5±3.5, 37°.78N×72°.04E, h0km, mb4.6, mpv4.5, Error ellipse: s-maj=27.6km s-min=24.7km az=168.0
NEIC 18 00:44:55.3±1.5, 37°.43N±0°.06×72°.06E±0°.09, h192km±3km, mb4.0/13, Error ellipse: s-maj=10.7km s-min=9.1km az=102.0
IDC 18 00:44:56.9±3.9, 37°.62N×72°.08E, h191km±27km, mb3.3/10, mbtmp4.0/16, MS2.8/1, Error ellipse: s-maj=37.6km s-min=17.5km az=169.0
ISC 18 00:44:54.7±0.5, 37°.36N±0°.04×72°.17E±0°.06, h200km, n81, σ2°.14/93, mb3.7/15, 5C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	2.13	352		Pn	00 45 34.8	-0.2
DRK				Sn	Sn	00 46 03.4	-3.0
GAR	Garm	2.19	319		Pn	00 45 34.5	-0.9
GAR				Sn	Sn	00 46 02.3	-4.8
SIMJ	Simiganj	2.81	298		Pn	00 45 41.1	-1.2
BTK	Batken	2.89	339		Pn	00 45 43.6	+0.5
KBL	Kabul	3.79	223		Pn	00 45 53.6	-0.5
NIL	Nilore	3.81	166		Pn	00 45 55.5	+1.2
SRNI	Srinagar	3.92	145	eS	Sn	00 46 43.6	+0.5
SRNI				IAML		00 46 44.8	
	comp=N,363nm,0.2s						
SRNI				IAML		00 46 46.0	
	comp=E,706nm,0.3s						
ARSB	Arslanbob	4.01	9		Pn	00 45 56.1	-0.6
AML	Almayashu	4.91	13	P	Pn	00 46 08.1	-0.1
	SNR=346						
JMU	Jammu	5.15	153	eP	Pn	00 46 09.8	-1.2
JMU				eS	Sn	00 47 07.2	-4.0
JMU				IAML		00 47 10.1	
	comp=E,388nm,0.6s						
JMU				IAML		00 47 10.5	
	comp=N,412nm,0.4s						
UCH	Uchtor	5.18	20	P	Pn	00 46 12.0	+0.2
	SNR=12						
EKS2	Erkin-Say	5.43	13	P	Pn	00 46 14.9	+0.2
	SNR=56						
AAK	Ala-Archa	5.56	18	P	Pn	00 46 16.9	+0.5
	comp=N,62nm,0.5s,baz=200,slow=9.2,SNR=220						
AAK				S	Sn	00 47 17.0	-4.0
	comp=N,66nm,0.5s,baz=321,slow=23,SNR=18						
AAK	Ala-Archa	5.56	18	P	Pn	00 46 16.9	+0.5
	SNR=48						
AAK	Ala-Archa	5.56	18	⇓P	Pn	00 46 16.5	+0.1
	comp=N,56nm,0.7s						
AAK				⇓S	Sn	00 47 18.4	-2.6
	comp=N,76nm,0.6s						
KBK	Karagaybulak	5.70	21	P	Pn	00 46 19.9	+1.7
	SNR=21						
FRU1	Bishkek	5.76	18		Pn	00 46 19.4	+0.6
ULHL	Ulahol	5.80	31	P	Pn	00 46 19.4	-0.1
	SNR=20						
KK31	Karatay Array	5.87	348		Pn	00 46 19.6	-0.6
KK31	Karatay Array	5.87	348	⇓P	Pn	00 46 19.5	-0.7
	comp=N,18nm,0.4s,baz=164,slow=12,SNR=124						
KK31				⇑S	Sn	00 47 22.0	-6.0
	comp=N,58nm,0.5s,baz=159,slow=18,SNR=22						
KKAR	Karatay Array	5.87	348		Pn	00 46 19.6	-0.6
BOOM	Boomskoye usch	5.88	28	Pn	Pn	00 46 20.7	+0.1
CHMS	Chumysh	5.97	19	P	Pn	00 46 21.7	+0.2
	SNR=27						
CHMS	Chumysh	5.97	19	⇓P	Pn	00 46 21.3	-0.2
	comp=N,18nm,0.5s						
CHMS				⇑S	Sn	00 47 26.6	-3.6
	comp=N,65nm,0.7s						
DHRM	DHARAMSHALA	6.13	145	eP	Pn	00 46 22.8	-1.1
DHRM				eS	Sn	00 47 29.1	-5.3
KDJ	Kajisay	6.13	37	Pn	Pn	00 46 23.7	-0.1
TKM2	Tokmak 2	6.14	24	P	Pn	00 46 24.1	+0.1
	SNR=59						
TKM2	Tokmak 2	6.14	24	⇑P	Pn	00 46 23.5	-0.4
	comp=N,35nm,0.7s						
TKM2				⇓S	Sn	00 47 29.1	-5.4
	comp=N,19nm,0.7s						
USP	Ospenovka	6.16	16	P	Pn	00 46 23.5	-0.5
	SNR=16						
TARG	Taragay, Kyrgy	6.16	43		Pn	00 46 23.9	-0.5
WUS	Wushi	6.68	53		Pn	00 46 31.1	+0.3
MDOK	Medeo	6.89	31	⇑P	Pn	00 46 33.4	-0.2
	comp=N,48nm,0.5s						
BHK	Bhakra	6.89	148	eS	Sn	00 47 49.6	-2.4
BHK				IAML		00 47 50.3	
	comp=E,123nm,0.6s						
BHK				IAML		00 47 54.0	
	comp=N,119nm,0.3s						
PRZ	Przheval'sk	7.00	41		Pn	00 46 35.7	+0.6
SMLA	Simla	7.47	145	eP	Pn	00 46 39.3	-1.7
SMLA				eS	Sn	00 47 58.5	-7.0
PDGK	Podgornoye	8.17	41	⇓P	Pn	00 46 49.5	-0.6
	comp=N,9.6nm,0.8s						
HRA	Herat	8.59	253		Pn	00 46 54.6	-1.1
JOSI	Joshimath	9.15	136	eS	Sn	00 48 36.3	-9.5
JOSI				IAML		00 48 45.7	
	comp=N,48nm,0.6s						
JOSI				IAML		00 48 45.9	
	comp=E,45nm,0.7s						
KUDL	Kundal	9.88	157	eP	Pn	00 47 09.3	-3.1
KUDL				eS	Sn	00 48 53.3	-10
KUDL				IAML		00 48 57.4	
	comp=N,16nm,0.6s						
KUDL				IAML		00 48 59.4	
	comp=E,19nm,0.5s						
MAKZ	Makanchi	11.91	35		Pn	00 47 37.8	-0.6
MKAR	Makanchi Array	12.05	35		Pn	00 47 39.9	-0.2
MKAR	Makanchi Array	12.05	35	P	Pn	00 47 40.5	+0.4
	comp=E,1.3nm,0.6s,baz=204,slow=9.7,SNR=14						
KURBB	Kurchatov Arra	14.02	17	P	Pn	00 48 03.1	-1.5
	comp=E,2.9nm,0.5s,baz=210,slow=11,SNR=5.5						
KURBB				LR	LR	00 53 48.8	
	comp=E,43nm,21.5s,baz=168,slow=39						
KURK	Kurchatov	14.12	17		P	00 48 07.0	-0.7
AB31	Akbulak array	14.82	327		Pn	00 48 13.7	-0.9
AB31	Akbulak array	14.82	327	P	P	00 48 17.8	+2.3
	comp=E,0.6nm,0.3s,baz=132,slow=12,SNR=39						
AB31				⇓S	Sn	00 51 00.5	+0.1
	comp=E,1.8nm,0.5s,baz=149,slow=23,SNR=6.9						
ABKAR	Akbulak array	14.82	327	Pn	Pn	00 48 13.7	-0.9
BVA0	Borovoye Array	15.71	356	P	Pn	00 48 30.9	+5.6
	comp=E,5.2nm,0.7s,baz=160,slow=12,SNR=29						
BVAR	Borovoye Array	15.71	356	P	P	00 48 24.0	-1.3
	comp=E,5.8nm,0.6s,baz=159,slow=12,SNR=36						
BVAR				S	S	00 51 15.5	-4.0
	comp=E,1.0nm,0.5s,baz=161,slow=21,SNR=4.4						
BRVK	Borovoye	15.75	356		P	00 48 25.1	-0.6
BRVK				IAmb	IAmb	00 48 27.5	
	comp=Z,5.5nm,0.8s						
BRVK	Borovoye	15.75	356	⇑P	Pn	00 48 29.9	+4.1
	comp=Z,6.1nm,0.9s						
AKTO	Aktyubinsk	16.54	327	P	P	00 48 34.0	-0.3
	comp=Z,1.9nm,0.4s,baz=109,slow=11,SNR=6.1						
AKTO				S	S	00 51 31.4	-5.5
	comp=Z,1.7nm,0.5s,baz=86,slow=24,SNR=3.8						
UOSS	Minazif	18.40	232	P	P	00 48 54.2	-0.7
ZAA0	Zalesovo Array	18.75	24		P	00 48 59.1	+0.8
ZALV	Zalesovo Beam	18.75	24		P	00 48 59.2	+0.8
ZALV	Zalesovo Beam	18.75	24	P	P	00 48 59.6	+1.2
	comp=Z,11nm,0.4s,baz=223,slow=9.9,SNR=62						
SONM	Songino Array	27.08	56	P	P	00 50 20.9	+2.1
	comp=Z,0.5nm,0.5s,baz=264,slow=8.8,SNR=4.2						
	comp=Z,0.5nm,0.5s						
BR131	Keskin Array S	30.07	287	P	P	00 50 46.2	+0.8
BR131				IAmb	IAmb	00 50 47.6	
	comp=Z,1.1nm,0.6s						
BRTR	Keskin Array B	30.07	287	P	P	00 50 46.4	+1.0
BRTR	Keskin Array B	30.07	287	P	P	00 50 47.2	+1.8
	comp=Z,0.6nm,0.5s,baz=106,slow=6.6,SNR=11						
	comp=Z,0.6nm,0.5s						
NRIK	Noril'sk	33.11	10	P	P	00 51 13.5	+2.1
	comp=Z,0.9nm,0.5s,baz=186,slow=2.7,SNR=3.6						
	comp=Z,0.9nm,0.5s						
AKASG	Malin Array Be	33.15	308	P	P	00 51 13.5	+1.6
	comp=Z,0.3nm,0.4s,baz=109,slow=9.0,SNR=4.4						
	comp=Z,0.3nm,0.4s						
BURAR	Bucovina Array	35.62	302	P	P	00 51 33.1	-0.1
BUR08	Bucovina Ar. S	35.62	302	P	P	00 51 32.9	-0.5
BUR08				IAmb	IAmb	00 51 55.7	
	comp=Z,3.2nm,1.2s						
FIA1	FINESS Array S	37.30	325	P	P	00 51 48.0	+0.8
FINES	FINESS Array B	37.30	325	P	P	00 51 47.9	+0.7
FINES	FINESS Array B	37.30	325	P	P	00 51 48.2	+1.1
	comp=Z,0.3nm,0.3s,baz=111,slow=7.7,SNR=8.3						
	comp=Z,0.3nm,0.3s						
ARCES	ARCESS Array B	40.71	337	P	P	00 52 16.6	+1.2
	comp=Z,3.6nm,1.0s,baz=114,slow=9.2,SNR=9.3						
	comp=Z,3.6nm,1.0s						
GSI	Gunungsitoli	42.84	141	P	P	00 52 35.6	+2.4
HFS	Hagfors	42.97	321	P	P	00 52 34.9	+1.1
	comp=Z,2.5nm,0.5s,baz=98,slow=11,SNR=22						
	comp=Z,2.5nm,0.5s						
NC602	NORSAR Array S	44.08	322	P	P	00 52 43.0	+0.4
NC602				IAmb	IAmb	00 53 03.0	
	comp=Z,8.9nm,1.3s						
NB2	NORSAR Subarra	44.26	322	P	P	00 52 44.8	+0.7
	comp=Z,0.5nm,0.5s,baz=93,slow=7.9						
NOA	NORSAR Array B	44.26	322	P	P	00 52 44.9	+0.8
	comp=Z,0.5nm,0.4s,baz=107,slow=7.2,SNR=8.0						
	comp=Z,0.5nm,0.4s						
KONO	Kongsberg	45.01	320	P	P	00 52 50.7	+0.7
KONO				IAmb	IAmb	00 52 54.2	
	comp=Z,11nm,1.4s						
ESDC	Sonseca Array	57.88	298	P	P	00 54 26.9	+1.1
	comp=Z,0.4nm,0.5s,baz=59,slow=6.8,SNR=7.9						
	comp=Z,0.4nm,0.5s						
TORD	Torodi Ar. Bea	66.67	269	P	P	00 55 23.8	-0.5
D19K	Kuna River	68.04	18	P	P	00 55 33.2	+1.1
D19K				IAmb	IAmb	00 55 44.3	
	comp=Z,5.5nm,1.5s						
E27K	Coleen River	71.77	13	P	P	00 55 56.1	+1.3
BMAR	Burnt Mountain	71.88	14	P	P	00 55 57.4	+2.0
E29M	Blow River	72.19	11	P	P	00 55 58.9	+1.6
E29M				IAmb	IAmb	00 56 10.0	
	comp=Z,5.7nm,1.5s						
YKA	Yellowknife Ar	80.34	3	P	P	00 56 44.5	+1.4
	comp=Z,0.3nm,0.6s,baz=253,slow=0.1,SNR=12						
	comp=Z,0.3nm,0.6s						

DJA 18 00:46:01.3±0.7, 9°.S±6°.×11°.0E±°, h10km, M3.9/12, mb4.1/2, MLv3.8/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	Yogyakarta	1.68	28	P	Pn	00 46 30.0	-0.7
YOGI				S	Sn	00 46 49.5	-2.8
UGM	Wanagama	1.71	36	P	Pn	00 46 30.1	-1.1
PCJI	Pacitan	1.99	56	P	Pn	00 46 34.2	-0.8
PCJI				S	Sn	00 46 57.1	-2.8
SMRI	Semarang	2.43	22	P	Pn	00 46 41.9	+0.8
NGJI	Ngawi	2.73	45	P	Pn	00 46 46.9	+1.7
CNJI	Cibinong	3.08	310	P	Pn	00 46 49.5	-0.6
GMJI	Gumukmas	4.02	75	P	Pn	00 47 01.7	-1.3
TWSI	Taliwang, Sumb	7.30	86	P	Pn	00 47 47.6	-0.5

TIF 18 01:12:07.5, 43°.48N×45°.48E, h139km±1km
NORS 18 01:12:07.8, 43°.39N×45°.42E, h130km±2km, MPVA4.3
MOS 18 01:12:07.9, 43°.44N×45°.39E, h128km±3km, MPVA4.3
IDC 18 01:12:09.1±1.4, 43°.57N×45°.21E, h137km±16km, mb3.0/3, mbtmp3.3/4, Error ellipse: s-maj=24.2km s-min=10.6km az=61.0
DRS 18 01:12:10.3, 43°.77N×45°.59E, h33km
ISC 18 01:12:06.9±0.7, 43°.56N±0°.03×45°.47E±0°.03, h135km±5km, n98, σ1°.65/178, mb3.1/3, 3C-7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	Groznyy	0.43	146	ePg	Pn	01 12 27.5	+1.4
GROC				eSg	Sn	01 12 41.9	+1.2
GROC	Groznyy	0.43	146	eP	Pn	01 12 27.5	+1.4
GROC				eS	Sn	01 12 41.9	+1.2
TRKR	Terskaya	0.56	288	ePg	Pn	01 12 29.1	+2.3
TRKR				eSg	Sn	01 12 42.5	+0.6
TRKR	Terskaya	0.56	288	eP	Pn	01 12 29.1	+2.3
TRKR				eS	Sn	01 12 42.5	+0.6
BTKR	Batakoyurt	0.70	255	iP	Pn	01 12 29.9	+2.1
BTKR				eS	Sn	01 12 43.7	0.0
VLKR	Vladikavkaz	0.77	229	ePg	Pn	01 12 29.5	+1.1
VLKR				eSg	Sn	01 12 43.4	-1.2
VLKR	Vladikavkaz	0.77	229	eP	Pn	01 12 29.5	+1.1
VLKR				eS	Sn	01 12 43.4	-1.2
PRTR	Priterechnaya	0.88	283	ePg	Pn	01 12 31.4	+2.2
PRTR				eSg	Sn	01 12 47.2	+1.1
PRTR	Priterechnaya	0.88	283	eP	Pn	01 12 31.4	+2.2
PRTR				eS	Sn	01 12 47.2	+1.1
ARNR	Ardon	0.94	247	iPg	Pn	01 12 31.6	+1.8
ARNR				eSg	Sn	01 12 46.6	-0.5
ARNR	Ardon	0.94	247	iP	Pn	01 12 31.6	+1.8
ARNR				eS	Sn	01 12 46.6	-0.5
DLMR	Dylym	0.98	119	iP	Pn	01 12 31.3	+1.2
DLMR				eS	Sn	01 12 48.2	+0.6
STDR	Stavd-Durt	1.04	260	iPg	Pn	01 12 32.6	+2.0
STDR				eSg	Sn	01 12 48.4	-0.2
STDR	Stavd-Durt	1.04	260	iP	Pn	01 12 32.6	+2.0
STDR				eS	Sn	01 12 48.4	-0.2
BTLR	Botlikh	1.05	148	ePg	Pn	01 12 31.5	+0.7
BTLR				eSg	Sn	01 12 49.2	+0.3
BTLR	Botlikh	1.05	148	eP	Pn	01 12 31.6	+

KORR eS Sn 01 12 51.0 +0.9
LACR Lac 1.12 230 ePg Pn 01 12 31.8 +0.2
LACR eSg Sn 01 12 47.7 -2.6
LACR Lac 1.12 230 eP Pn 01 12 31.8 +0.2
LACR eS Sn 01 12 47.7 -2.6
DBC Dubki 1.13 118 *i* Pg Pn 01 12 32.7 +1.1
DBC eSg Sn 01 12 50.5 +0.2
DBC Dubki 1.13 118 *i* P Pn 01 12 32.7 +1.1
DBC eS Sn 01 12 50.5 +0.2
LSNR Lesken 1.23 257 *i* Pg Pn 01 12 34.2 +1.7
LSNR eSg Sn 01 12 53.1 +1.2
LSNR Lesken 1.23 257 *i* P Pn 01 12 34.2 +1.7
LSNR eS Sn 01 12 53.1 +1.2
KRNR Karanay 1.28 124 ePg Pn 01 12 34.1 +1.0
KRNR eSg Sn 01 12 53.0 0.0
KRNR Karanay 1.28 124 eP Pn 01 12 34.1 +1.0
KRNR eS Sn 01 12 53.0 0.0
UNCR Uncukul 1.28 130 ePg Pn 01 12 33.9 +0.7
UNCR eSg Sn 01 12 52.0 -1.0
UNCR Uncukul 1.28 130 eP Pn 01 12 33.8 +0.7
UNCR eS Sn 01 12 52.0 -1.0
CHRG Chargali 1.29 198 P Pn 01 12 34.3 +1.1
CHRG S Sn 01 12 54.1 +0.8
HNZR Khunzah 1.35 137 eP Pn 01 12 35.6 +1.6
HNZR eS Sn 01 12 55.0 +0.5
XNZR Khunzakh 1.36 138 ePg Pn 01 12 35.6 +1.5
XNZR eSg Sn 01 12 55.0 +0.4
NCK Nalchik 1.36 268 ePg Pn 01 12 35.4 +1.5
NCK eSg Sn 01 12 54.6 +0.2
NCK Nalchik 1.36 268 eP Pn 01 12 35.4 +1.5
NCK eS Sn 01 12 54.6 +0.2
BUJR Buynaksk 1.40 121 ePg Pn 01 12 36.4 +2.1
BUJR eSg Sn 01 12 56.9 +1.6
BUJR Buynaksk 1.40 121 eP Pn 01 12 36.4 +2.1
BUJR eS Sn 01 12 56.8 +1.6
ARKR Arakani 1.47 130 ePg Pn 01 12 36.5 +1.4
ARKR eSg Sn 01 12 56.9 +0.4
ARKR Arakani 1.47 130 eP Pn 01 12 36.5 +1.4
ARKR eS Sn 01 12 56.9 +0.4
KBTC Kuba-Taba 1.52 281 ePg Pn 01 12 37.1 +1.6
KBTC eSg Sn 01 12 57.5 +0.1
KBTC Kuba-Taba 1.52 281⇓ eP Pn 01 12 37.2 +1.6
KBTC eS Sn 01 12 57.5 +0.1
DIGR Digorskoe uzhe 1.53 245 ePg Pn 01 12 36.4 +0.5
DIGR eSg Sn 01 12 56.7 -1.2
DIGR Digorskoe uzhe 1.53 245 eP Pn 01 12 36.4 +0.5
GNBR Gunib 1.60 136 ePg Pn 01 12 38.2 +1.7
GNBR eSg Sn 01 12 59.4 +0.2
GNBR Gunib 1.60 136 *i* P Pn 01 12 38.0 +1.4
GNBR pmax pmax
comp=Z,54nm,0.2s
MAK Makhachkala 1.60 111⇑ *i* P Pn 01 12 37.6 +1.2
MAK eS Sn 01 13 01.2 +2.2
MAK eS 01 13 05.8
MAK pmax pmax
comp=Z,66nm,0.3s
MAK smax smax
comp=N,482nm,0.3s
MAK smax smax
comp=N,438nm,0.3s
GARIG Gari 1.75 238 P Pn 01 12 39.8 +1.5
GARIG S Sn 01 13 03.7 +1.5
PYA1 Pyatigorsk 1.79 287 ePg Pn 01 12 40.0 +1.3
PYA1 eSg Sn 01 13 02.6 -0.4
PYA1 Pyatigorsk 1.79 287 eP Pn 01 12 40.0 +1.3
PYA1 eS Sn 01 13 02.6 -0.4
LGD Lagodekhi 1.81 161 P Pn 01 12 39.7 +0.8
LGD S Sn 01 13 03.4 0.0
LGD Lagodekhi 1.81 161 P Pn 01 12 39.7 +0.8
LGD S Sn 01 13 03.4 0.0
KMKR Kumukh 1.86 139 ePg Pn 01 12 41.1 +1.4
KMKR eSg Sn 01 13 04.4 -0.4
KMKR Kumukh 1.86 139 eP Pn 01 12 41.1 +1.4
KMKR eS Sn 01 13 04.4 -0.4
KBZ Khabaz 1.87 276 P Pn 01 12 40.5 +0.8
comp=N,12nm,0.4s,baz=108,slow=16,SNR=145
KBZ S Sn 01 13 01.2 -3.4
comp=N,12nm,0.3s,baz=186,slow=11,SNR=5.2
KBZ Khabaz 1.87 276 *i* Pg Pn 01 12 40.4 +0.8
KBZ eSg Sn 01 13 01.6 -3.0
KBZ Khabaz 1.87 276 *d i* P Pn 01 12 40.3 +0.7
TBLG Delisi 1.90 197 P Pn 01 12 41.1 +1.1
TBLG S Sn 01 13 05.7 +0.4
TBLG Delisi 1.90 197 P Pn 01 12 41.1 +1.1
TBLG S Sn 01 13 05.7 +0.4
SGKR Sergokala 1.94 124 ePg Pn 01 12 42.5 +2.0
SGKR eSg Sn 01 13 07.1 +0.9
SGKR Sergokala 1.94 124 eP Pn 01 12 42.5 +2.0
SGKR eS Sn 01 13 07.1 +0.9
BEYR Belyy Ugol+ 1.97 284 ePg Pn 01 12 42.0 +1.2
BEYR eSg Sn 01 13 06.7 -0.1
BEYR Belyy Ugol+ 1.97 284 eP Pn 01 12 42.0 +1.2
BEYR eS Sn 01 13 06.7 -0.1
NEUR Neytrino 2.04 263 eP Pn 01 12 34.5 -7.3
KIV0 Kislovodsk Arr 2.05 282 ePg Pn 01 12 43.0 +1.1
KIV0 eSg Sn 01 13 06.9 -1.7
KVAR Kislovodsk Arr 2.05 282 P Pn 01 12 43.5 +1.7
comp=N,17nm,0.5s,baz=90,slow=20,SNR=14
KVAR S Sn 01 13 08.0 -0.6
comp=N,33nm,0.3s,baz=109,slow=22,SNR=12
SHA1 Shidzhatmaz 2.05 276 *i* Pg Pn 01 12 43.0 +1.0
SHA1 *i* Sg Sn 01 13 05.9 -2.9
SHA1 Shidzhatmaz 2.05 276 *d i* P Pn 01 12 42.8 +0.8
KIV Kislovodsk 2.06 282 *i* Pg Pn 01 12 43.0 +1.1
KIV eSg Sn 01 13 07.1 -1.6
KIV Kislovodsk 2.06 282⇓ eP Pn 01 12 43.0 +1.1
KIV eS Sn 01 13 06.9 -1.8
DGRG David-gareji 2.10 182 P Pn 01 12 43.8 +1.3
DGRG S Sn 01 13 10.6 +0.9
DGRG David-gareji 2.10 182 P Pn 01 12 43.8 +1.3
DGRG S Sn 01 13 10.6 +0.9
URKR Urkarakh 2.11 130 ePg Pn 01 12 44.4 +1.8
URKR eSg Sn 01 13 09.0 -1.0
URKR Urkarakh 2.11 130 eP Pn 01 12 44.4 +1.8
URKR eS Sn 01 13 09.0 -1.0
ALER Alexandrovskoy 2.20 304 ePg Pn 01 12 45.7 +2.1
ALER eSg Sn 01 13 11.4 -0.3
ALER Alexandrovskoy 2.20 304⇓ eP Pn 01 12 45.7 +2.1
ALER eS Sn 01 13 11.4 -0.3
GOF Gofitskoye 2.30 312 ePn Pn 01 12 47.2 +2.4
GOF eSn Sn 01 13 16.3 +2.4
GOF Gofitskoye 2.30 312⇓ eP Pn 01 12 47.2 +2.4
GOF eS Sn 01 13 16.3 +2.4
DRN Derbent 2.60 125 ePn Pn 01 12 51.1 +2.6
DRN eSn Sn 01 13 22.1 +1.5
DRN Derbent 2.60 125 eP Pn 01 12 51.1 +2.6
DRN eS Sn 01 13 22.1 +1.5
AKT Akhty 2.67 140 ePn Pn 01 12 50.8 +1.3
AKT eSn Sn 01 13 19.8 -2.5
AKT Akhty 2.67 140 eP Pn 01 12 50.8 +1.3
AKT eS Sn 01 13 19.8 -2.5
SEKA Sheki 2.67 151 P Pn 01 12 50.0 +0.4
KSMR Kasumkent 2.77 134 eP Pn 01 12 52.8 +2.0
KSMR eS Sn 01 13 25.4 +0.8
GANJ Ganja 2.98 167 P Pn 01 12 53.7 +0.2
GRYR Gornoye 3.21 282 ePn Pn 01 12 58.7 +2.2
GNI Garni 3.45 189 P Pn 01 13 01.5 +1.8
comp=N,2.5nm,0.4s,baz=342,slow=16,SNR=7.7
GNI S Sn 01 13 43.7 +3.3
comp=N,8.2nm,0.7s,baz=265,slow=23,SNR=4.3
AKTO Aktyubinsk 10.98 47 ⇓P Pn 01 14 39.1 -1.0
comp=N,1.3nm,0.7s
AKTO ⇑S Sn 01 16 35.4 -5.7
comp=N,0.8nm,0.7s
AKTO Aktyubinsk 10.98 47 P Pn 01 14 39.5 -0.6
AKTO S Sn 01 16 35.4 -5.7
AB31 Akbulak array 11.50 55 P Pn 01 14 46.7 -0.2
comp=N,0.3nm,0.3s,baz=241,slow=12,SNR=25
AB31 ⇑S Sn 01 16 48.5 -5.0
comp=N,1.5nm,0.7s,baz=242,slow=21,SNR=5.3
AB31 Akbulak array 11.50 55 P Pn 01 14 46.7 -0.2
AB31 S Sn 01 16 48.5 -5.0
OBN Obninsk 12.93 337 eP P 01 15 10.2 -0.7
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,35nm,5.0s
BRVK Borovoye 18.96 51 *i* P Pn 01 16 21.1 +1.4
BRVK pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 21.30 334 P P 01 16 44.3 +1.7
comp=Z,0.4nm,0.5s,baz=133,slow=11,SNR=5.5
comp=Z,0.4nm,0.5s
FINES FINESS Array B 21.30 334 *i* P P 01 16 46.5 +3.9
HFS Hagfors 25.34 322 P P 01 17 22.2 +1.2
comp=Z,0.3nm,0.3s,baz=129,slow=12,SNR=5.5
comp=Z,0.3nm,0.3s
MKAR Makanchi Array 26.00 70 P P 01 17 29.4 +2.2
comp=Z,0.2nm,0.3s,baz=266,slow=9.7,SNR=6.4
comp=Z,0.2nm,0.3s
MKAR Makanchi Array 26.00 70 *i* P P 01 17 29.3 +2.1
TORD Torodi Ar. Bea 48.20 245 P P 01 20 33.8 -0.1
comp=Z,68nm,0.3s,baz=43,slow=7.2,SNR=2.1

---

*NEIC **18** 01:34:59.4±0.9, 66°.32N±0°.02×157°.16W±0°.06, h11km±4km, ML3.8/174, Error ellipse: s-maj=3.3km s-min=2.6km az=99.0*
*IDC **18** 01:34:59.1±1.3, 66°.18N×157°.72W, h0km, mb3.6/6, mbtmp3.6/9, ML3.4/3, Error ellipse: s-maj=33.2km s-min=13.9km az=23.0*
ISC 18 01:34:58.9±1.0, **66°.29N**±0°.02×**157°.29W**±0°.03, **h8**km±7km, **n119**, σ1**s12**/128, **mb3.4**/6, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.17**	**151**	Pg	**Pg**	**01 35 03.4**	**+1.0**
G19K				Sg	**Sg**	**01 35 05.6**	**+0.8**
F19K	**Shaleruckik Mo**	**0.57**	**341**	Pg	**Pg**	**01 35 10.3**	**+0.4**
F19K				Sg	**Sg**	**01 35 18.0**	**+0.5**
G18K	**Tagagawik**	**0.68**	**235**	Pg	**Pb**	**01 35 13.2**	**+0.1**
G18K				Sg	**Sb**	**01 35 22.8**	**+0.1**
H19K	**Roundabout Mou**	**0.84**	**155**	Pg	**Pg**	**01 35 15.0**	**0.0**
H19K				Sg	**Sg**	**01 35 26.1**	**+0.1**
H19K				IAML		01 35 31.4	
comp=E,3μm,0.5s							
F20K	**Avaraart Lake**	**0.98**	**39**	Pg	**Pg**	**01 35 17.3**	**-0.4**
F20K				Sg	**Sg**	**01 35 28.8**	**-1.7**
E19K	**Redstone River**	**1.17**	**1**		**Pg**	**01 35 21.2**	**-0.1**
E19K				Sg	**Sg**	**01 35 35.5**	**-1.0**
E19K				IAML		01 35 42.1	
comp=E,1μm,0.7s							
E19K				IAML		01 35 45.2	
comp=N,1μm,0.5s							
H18K	**Honhosa River**	**1.23**	**202**	Pn	**Pn**	**01 35 22.5**	**+0.1**
H18K				Sg	**Sn**	**01 35 38.9**	**-0.3**
H18K				IAML		01 35 42.1	
comp=E,2μm,0.5s							
G21K	**Allakaket**	**1.54**	**80**	Pn	**Pn**	**01 35 26.4**	**-0.3**
F17K	**Baldwin Pennin**	**1.60**	**277**	Pn	**Pn**	**01 35 27.8**	**+0.3**
F17K				IAML		01 35 53.6	
comp=E,737nm,0.7s							
F17K				IAML		01 35 55.6	
comp=N,962nm,1.0s							
E18K	**Tukpahlearik C**	**1.73**	**312**		**Pn**	**01 35 29.4**	**+0.1**
H17K	**Granite Mounta**	**1.74**	**220**	Pn	**Pb**	**01 35 30.0**	**-1.1**
H17K				IAML		01 35 56.0	
comp=E,612nm,0.6s							
H17K				IAML		01 35 59.5	
comp=N,606nm,0.8s							
F21K	**Alatna River**	**1.78**	**57**	Pn	**Pn**	**01 35 29.2**	**-0.7**
F21K				IAML		01 36 00.1	
comp=N,971nm,0.8s							
I20K	**Naaghedeneel**	**1.91**	**141**		**Pn**	**01 35 32.2**	**+0.5**
H21K	**Melozitna Rive**	**1.94**	**107**	Pn	**Pn**	**01 35 31.6**	**-0.6**
H21K				IAML		01 36 03.3	
comp=N,735nm,0.6s							
H21K				IAML		01 36 03.7	
comp=E,861nm,0.6s							
D19K	**Kuna River**	**2.23**	**352**	Pn	**Pn**	**01 35 36.3**	**+0.1**
D19K				IAML		01 36 19.6	
comp=N,406nm,0.8s							
G16K	**Koyuk River**	**2.27**	**249**		**Pn**	**01 35 36.5**	**-0.1**
G16K				IAML		01 36 15.0	
comp=N,557nm,0.8s							
J19K	**Poorman**	**2.42**	**162**		**Pn**	**01 35 39.1**	**+0.4**
D20K	**Etivluk River**	**2.45**	**6**		**Pn**	**01 35 38.5**	**-0.7**
I21K	**Tanana**	**2.46**	**115**		**Pn**	**01 35 39.3**	**-0.1**
I21K				IAML		01 36 18.7	
comp=N,478nm,0.8s							
I21K				IAML		01 36 24.0	
comp=E,525nm,0.8s							
J20K	**Nowinta River**	**2.50**	**147**		**Pn**	**01 35 40.1**	**+0.2**
J20K				IAML		01 36 26.3	
comp=E,371nm,0.6s							
J20K				IAML		01 36 26.9	
comp=N,368nm,0.6s							
E21K	**Killik River**	**2.51**	**29**		**Pn**	**01 35 39.4**	**-0.7**
E21K				IAML		01 36 23.8	
comp=E,369nm,0.8s							
E21K				IAML		01 36 30.1	
comp=N,371nm,0.8s							
C18K	**Utukok River**	**2.80**	**329**		**Pn**	**01 35 44.5**	**+0.5**
I17K	**Unalakleet**	**2.81**	**212**		**Pn**	**01 35 44.8**	**+0.7**
I17K				IAML		01 36 33.6	
comp=E,396nm,0.8s							
I17K				IAML		01 36 38.2	
comp=N,307nm,1.1s							
RDOG	**Red Dog Mine**	**2.81**	**311**		**Pn**	**01 35 44.6**	**+0.5**
E22K	**Anaktuvuk Pass**	**2.82**	**47**		**Pn**	**01 35 43.6**	**-0.7**
E22K				IAML		01 36 34.9	
comp=N,255nm,0.8s							
E22K				IAML		01 36 35.1	
comp=E,290nm,1.1s							
J18K	**Innoko River**	**2.85**	**175**		**Pn**	**01 35 45.0**	**+0.3**
G23K	**Bananza Creek**	**2.94**	**78**		**Pn**	**01 35 45.0**	**-1.0**
G23K				IAML		01 36 35.7	
comp=E,263nm,0.5s							
COLD	**Coldfoot**	**2.96**	**68**		**Pn**	**01 35 45.6**	**-0.7**
COLD				IAML		01 36 42.6	
comp=E,207nm,0.6s							
J17K	**VABM Dome**	**3.01**	**195**		**Pn**	**01 35 47.6**	**+0.8**
F15K	**North Star Dit**	**3.06**	**262**		**Pn**	**01 35 48.5**	**+0.9**
F15K				IAML		01 36 40.6	
comp=N,211nm,1.5s							
F15K				IAML		01 36 45.3	
comp=E,179nm,0.8s							
D22K	**Ayikyak River**	**3.14**	**32**		**Pn**	**01 35 47.8**	**-0.9**
H23K	**Yukon River**	**3.19**	**95**		**Pn**	**01 35 49.0**	**-0.5**
K20K	**Telida**	**3.25**	**153**		**Pn**	**01 35 50.7**	**+0.4**
J16K	**Anvik River**	**3.34**	**207**		**Pn**	**01 35 51.5**	**+0.2**
J16K				IAML		01 36 49.6	
comp=N,160nm,1.1s							
J16K				IAML		01 36 54.4	
comp=E,253nm,0.8s							
TTA	**Tatalina**	**3.42**	**170**		**Pn**	**01 35 52.6**	**0.0**
BPAW	**Bear Paw Mtn.**	**3.45**	**127**		**Pn**	**01 35 52.8**	**-0.2**
BPAW				IAML		01 36 51.2	
comp=E,148nm,1.4s							
BPAW				IAML		01 36 56.2	
comp=N,199nm,1.0s							
I23K	**Minto, Yukon-K**	**3.47**	**106**		**Pn**	**01 35 52.6**	**-0.6**
I23K				IAML		01 36 56.7	
comp=N,267nm,1.3s							
E23K	**Chandalar**	**3.48**	**56**		**Pn**	**01 35 53.0**	**-0.4**
E23K				IAML		01 36 53.6	
comp=N,274nm,0.9s							
B21K	**Ikpikpuk River**	**3.49**	**16**		**Pn**	**01 35 53.5**	**0.0**
B21K				IAML		01 36 53.9	
comp=N,233nm,1.2s							
B21K				IAML		01 36 57.1	
comp=E,261nm,0.9s							
K17K	**Iditarod**	**3.62**	**187**		**Pn**	**01 35 55.7**	**+0.5**
K17K				IAML		01 37 06.7	
comp=N,139nm,0.9s							
K17K				IAML		01 37 06.8	
comp=E,152nm,1.1s							
CAST	**Castle Rocks**	**3.64**	**140**		**Pn**	**01 35 56.9**	**+1.3**
D23K	**Nanushuk River**	**3.69**	**40**		**Pn**	**01 35 56.8**	**+0.6**
D23K				IAML		01 37 02.9	
comp=N,239nm,0.9s							
C16K	**Lisburne Hills**	**3.70**	**306**	Pn	**Pn**	**01 35 57.5**	**+1.1**
B20K	**Meade River**	**3.73**	**1**		**Pn**	**01 35 56.4**	**-0.4**
B20K				IAML		01 37 13.9	
comp=N,127nm,2.2s							
B20K				IAML		01 37 34.7	
comp=E,152nm,1.1s							
TOLK	**Toolik Lake Re**	**3.79**	**48**		**Pn**	**01 35 58.3**	**+0.6**
TOLK				IAML		01 36 59.8	
comp=N,205nm,0.8s							
ANM	**Nome**	**3.79**	**247**	Pn	**Pn**	**01 35 57.0**	**-0.7**
ANM				IAML		01 37 09.2	
comp=N,100nm,0.6s							
NEA2	**Nenana**	**3.83**	**113**		**Pn**	**01 35 58.3**	**+0.2**
NEA2				IAML		01 37 07.9	
comp=N,123nm,0.9s							
KTH	**Kantishna Hill**	**3.86**	**132**		**Pn**	**01 35 58.8**	**+0.1**
KTH				IAML		01 37 08.0	
comp=N,127nm,1.5s							
KTH				IAML		01 37 11.8	
comp=E,104nm,0.9s							
H24K	**Noodor Dome**	**3.87**	**92**		**Pn**	**01 35 58.2**	**-0.5**
H24K				IAML		01 37 04.1	
comp=N,185nm,0.7s							
H24K				IAML		01 37 11.4	
comp=E,164nm,1.2s							
E24K	**Your Creek**	**3.87**	**58**		**Pn**	**01 35 58.6**	**-0.1**
E24K				IAML		01 37 05.2	
comp=N,139nm,0.7s							
E24K				IAML		01 37 10.0	
comp=E,155nm,0.7s							
F24K	**Squaw Lake**	**3.91**	**67**		**Pn**	**01 35 58.7**	**-0.5**
BWN	**Browne**	**3.92**	**119**		**Pn**	**01 35 59.7**	**+0.3**
G24K	**Hadweenzic Riv**	**3.96**	**80**		**Pn**	**01 35 58.9**	**-1.0**
PPLA	**Purkeypile**	**4.06**	**145**		**Pn**	**01 36 02.4**	**+1.0**
PPLA				IAML		01 37 15.1	
comp=E,93nm,1.4s							
PPLA				IAML		01 37 15.9	
comp=N,122nm,1.0s							
L18K	**Granite Mounta**	**4.10**	**176**		**Pn**	**01 36 02.7**	**+0.9**
L18K				IAML		01 37 13.2	
comp=N,89nm,1.1s							
L18K				IAML		01 37 19.7	
comp=E,95nm,1.0s							
TRF	**Thorofare Moun**	**4.13**	**130**		**Pn**	**01 36 02.4**	**0.0**
TRF				IAML		01 37 11.7	
comp=E,153nm,1.1s							
TRF				IAML		01 37 22.0	
comp=N,118nm,1.3s							
COLA	**College**	**4.17**	**106**		**Pn**	**01 36 02.2**	**-0.5**
POKR	**Poker Plat Res**	**4.24**	**102**		**Pn**	**01 36 03.2**	**-0.6**
POKR				IAML		01 37 14.5	
comp=N,113nm,0.9s							
POKR				IAML		01 37 16.1	
comp=E,125nm,0.7s							
WRH	**Wood River Hil**	**4.26**	**111**		**Pn**	**01 36 03.6**	**-0.4**
WRH				IAML		01 37 15.3	
comp=E,91nm,0.7s							
WRH				IAML		01 37 21.4	
comp=N,70nm,1.2s							
L19K	**White Mountain**	**4.26**	**164**		**Pn**	**01 36 04.5**	**+0.4**
L19K				IAML		01 37 21.9	
comp=N,74nm,0.8s							
CCB	**Clear Creek Bu**	**4.29**	**108**		**Pn**	**01 36 03.4**	**-1.0**
CCB				IAML		01 37 17.5	
comp=E,97nm,0.9s							
CCB				IAML		01 37 20.0	
comp=N,80nm,0.9s							
B22K	**Teshekpuk Lake**	**4.31**	**18**		**Pn**	**01 36 04.3**	**-0.4**
B22K				IAML		01 37 22.6	
comp=E,112nm,1.4s							
B22K				IAML		01 37 32.8	
comp=N,118nm,1.7s							
D24K	**Happy Valley**	**4.32**	**44**		**Pn**	**01 36 03.7**	**-1.1**
C23K	**Itkillik River**	**4.35**	**32**		**Pn**	**01 36 04.9**	**-0.3**
C23K				IAML		01 37 29.3	
comp=E,116nm,0.7s							
C23K				IAML		01 37 35.0	
comp=N,147nm,0.9s							
MCK	**McKinley**	**4.38**	**122**		**Pn**	**01 36 05.5**	**-0.2**
TNA	**Tin City**	**4.42**	**265**	Pn	**Pn**	**01 36 06.1**	**0.0**
TNA				IAML		01 37 29.9	
comp=E,77nm,1.3s							
TNA				IAML		01 37 30.1	
comp=N,116nm,1.2s							
K15K	**Wolf Creek Mou**	**4.42**	**207**		**Pn**	**01 36 07.2**	**+1.0**
K15K				IAML		01 37 31.9	
comp=N,74nm,1.7s							
K15K				IAML		01 37 32.8	
comp=E,61nm,1.8s							
J14K	**Nanvaranak Lak**	**4.47**	**220**		**Pn**	**01 36 07.0**	**+0.2**
J14K				IAML		01 37 33.5	
comp=E,119nm,1.2s							
J14K				IAML		01 37 42.6	
comp=N,113nm,1.1s							
M19K	**Big River Lodg**	**4.59**	**163**		**Pn**	**01 36 08.7**	**+0.2**
M19K				IAML		01 37 34.6	
comp=E,67nm,1.4s							
M19K				IAML		01 37 35.3	
comp=N,52nm,0.8s							
IL31		**4.59**	**105**	Pn	**Pn**	**01 36 08.1**	**-0.4**
ILAR	**Eielson Array**	**4.59**	**105**		**Pn**	**01 36 07.9**	**-0.7**
ILAR	**Eielson Array**	**4.59**	**105**	Pn	**Pn**	**01 36 08.8**	**+0.2**
comp=N,7.5nm,0.3s,baz=293,slow=14,SNR=446							
ILAR				Sn	**Sn**	**01 37 00.6**	**-1.5**
comp=N,1.8nm,0.3s,baz=292,slow=29,SNR=4.1							
ILAR				Lg	Lg	01 37 22.5	
comp=N,2.8nm,0.3s,baz=311,slow=16,SNR=4.1							
comp=N,37nm,0.6s							
RND	**Reindeer**	**4.62**	**125**		**Pn**	**01 36 08.8**	**-0.2**
L16K	**Owhat River**	**4.70**	**193**		**Pn**	**01 36 10.3**	**+0.2**
C24K	**Franklin Bluff**	**4.72**	**39**		**Pn**	**01 36 10.4**	**+0.2**
HDA	**Harding Lake**	**4.73**	**109**		**Pn**	**01 36 09.4**	**-1.0**
HDA				IAML		01 37 29.5	
comp=N,79nm,0.6s							
HDA				IAML		01 37 36.2	
comp=E,68nm,0.9s							
F25K	**Christian Rive**	**4.76**	**69**		**Pn**	**01 36 09.9**	**-1.1**
F25K				IAML		01 37 32.6	
comp=N,103nm,0.8s							
M20K	**Styx River**	**4.79**	**156**		**Pn**	**01 36 12.3**	**+1.0**
M20K				IAML		01 37 37.5	
comp=E,59nm,1.2s							
FYU	**Fort Yukon**	**4.85**	**81**		**Pn**	**01 36 12.1**	**0.0**
PRP	**Porcupine Dome**	**4.89**	**94**		**Pn**	**01 36 12.3**	**-0.4**
PRP				IAML		01 37 34.0	
comp=E,92nm,0.7s							
PRP				IAML		01 37 41.9	
comp=N,79nm,0.8s							
M17K	**Holitna River**	**4.91**	**181**		**Pn**	**01 36 13.0**	**+0.1**
M17K				IAML		01 37 59.1	
comp=E,76nm,1.1s							
E25K	**Arctic Village**	**4.91**	**63**		**Pn**	**01 36 12.7**	**-0.3**
E25K				IAML		01 37 42.4	
comp=E,83nm,1.0s							
CUT	**Chulitna**	**4.95**	**139**		**Pn**	**01 36 14.5**	**+1.0**
SKT	**Skwentna**	**5.01**	**147**		**Pn**	**01 36 15.2**	**+0.9**
SKT				IAML		01 37 46.9	
comp=E,55nm,0.9s							
D25K	**Kavik River**	**5.13**	**49**	Pn	**Pn**	**01 36 15.9**	**-0.1**
D25K				IAML		01 37 47.0	
comp=E,66nm,1.0s							
BMAR	**Burnt Mountain**	**5.14**	**71**		**Pn**	**01 36 15.6**	**-0.6**
J25K	**Salcha River,**	**5.25**	**103**		**Pn**	**01 36 17.1**	**-0.6**
J25K				IAML		01 37 44.8	
comp=E,58nm,0.5s							
J25K				IAML		01 37 50.4	
comp=N,63nm,0.7s							
M16K	**Timber Creek**	**5.34**	**189**		**Pn**	**01 36 19.3**	**+0.4**
M16K				IAML		01 38 00.9	
comp=N,33nm,1.1s							
F26K	**Sheenjek River**	**5.34**	**69**		**Pn**	**01 36 18.3**	**-0.6**
F26K				IAML		01 37 51.5	
comp=E,58nm,0.8s							
STLK	**Strandline Lak**	**5.38**	**151**		**Pn**	**01 36 21.5**	**+2.0**
G26K	**Porcupine Rive**	**5.42**	**77**		**Pn**	**01 36 19.2**	**-0.7**
K13K	**Kusilvak Mount**	**5.43**	**220**		**Pn**	**01 36 24.0**	**+3.9**
K24K	**Donnelly Dome**	**5.48**	**112**		**Pn**	**01 36 20.6**	**-0.1**
L14K	**Kuka Creek**	**5.51**	**208**		**Pb**	**01 36 31.1**	**-4.2**
N19K	**Bonanza Creek**	**5.64**	**166**		**Pn**	**01 36 24.7**	**+1.6**
SUA	**Susitna One**	**5.64**	**146**		**Pn**	**01 36 25.5**	**+2.4**
N18K	**Kilae Creek**	**5.67**	**173**		**Pn**	**01 36 24.8**	**+1.4**
N17K	**Nushagak Hills**	**5.79**	**179**		**Pn**	**01 36 26.0**	**+1.0**
GHO	**Glory Hole Cre**	**5.84**	**137**		**Pn**	**01 36 28.8**	**+3.1**
RIDG	**Independent Ri**	**5.86**	**110**		**Pn**	**01 36 26.3**	**+0.2**
I26K	**Coal Creek Min**	**5.90**	**93**		**Pn**	**01 36 25.8**	**-0.7**
PMR	**Palmer**	**5.93**	**139**		**Pn**	**01 36 29.0**	**+2.1**
SML	**Sawmill**	**5.97**	**135**		**Pn**	**01 36 28.8**	**+1.2**
J26L	**Joseph Creek**	**6.01**	**101**		**Pn**	**01 36 28.2**	**+0.1**
SCRK	**Sand Creek**	**6.07**	**106**		**Pn**	**01 36 29.0**	**-0.1**
PAX	**Paxson**	**6.08**	**118**		**Pn**	**01 36 30.1**	**+1.1**
C27K	**Jago River**	**6.10**	**51**		**Pn**	**01 36 30.6**	**+1.3**
DOT	**Dot Lake**	**6.21**	**109**		**Pn**	**01 36 30.9**	**+0.1**
SCM	**Sheep Creek Mo**	**6.25**	**131**		**Pn**	**01 36 34.1**	**+2.7**
N15K	**Kwethluk River**	**6.28**	**193**		**Pg**	**01 36 57.0**	**-2.0**
N14K	**Kuskokwak Cree**	**6.70**	**199**		**Pg**	**01 37 04.6**	**-2.4**
INK	**Inuvik**	**9.38**	**67**	Pn	**Pn**	**01 37 14.8**	**+0.6**
comp=E,0.2nm,0.3s,baz=275,slow=17,SNR=11							
comp=E,1.8nm,0.8s					

comp=E,1.2nm,1.1s
RES Resolute Bay 21.33 40 P P 01 39 47.6 +1.8
comp=E,0.5nm,0.6s,baz=248,slow=17,SNR=3.9
RES S **S 01 43 38.4 -3.9**
comp=E,0.7nm,0.6s,baz=103,slow=3.2,SNR=4.4
comp=E,0.5nm,0.6s
SEY Seymchan 21.35 285 P P 01 39 46.3 +0.2
comp=E,0.5nm,0.3s,baz=72,slow=14,SNR=4.7
comp=E,0.5nm,0.3s
TIXI Tiksi 25.42 315 P P 01 40 27.3 +0.8
comp=E,2.6nm,0.3s,baz=12,slow=6.7,SNR=3.6
comp=E,2.6nm,0.3s
PDAR Pinedale Array 35.01 108 P P 01 41 52.8 +0.9
comp=E,0.5nm,0.9s,baz=315,slow=7.7,SNR=2.9
comp=E,0.5nm,0.9s
NVAR Mina Array Bea 35.61 122 P P 01 41 57.7 +0.7
comp=E,0.4nm,0.6s,baz=316,slow=6.2,SNR=3.8
comp=E,0.4nm,0.6s
ESDC Sonseca Array 72.38 21 P P 01 46 28.4 +3.3
comp=E,0.8nm,0.8s,baz=1.0,slow=8.2,SNR=4.8
comp=E,0.8nm,0.8s

---

*NEIC **18** 01:38:23.5±1.7, 51°.21N±0°.09×178°.4W±0°.1, h35km±2km, mb4.1/116, ML3.9(AEIC), Error ellipse: s-maj=16.6km s-min=9.0km az=151.0*
*AEIC **18** 01:38:25.6±2.3, 51°.4N±0°.1×178°.3W±0°.1, h34km±5km, Error ellipse: s-maj=17.2km s-min=4.9km az=149.0*
*IDC **18** 01:38:26.2±2.4, 51°.61N×178°.47W, h54km±20km, mb3.8/29, mbtmp4.0/33, ML4.1/3, MS3.2/17, Error ellipse: s-maj=18.8km s-min=10.3km az=165.0*
ISC 18 01:38:24.4±0.5, 51°.30N±0°.08×178°.35W±0°.03, h45km, n190, σ1$02/190, mb4.1/64, MS3.3/14, 1C-2D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.38**	**311**		**Pn**	**01 38 34.2**	**+0.3**
GAKI					**Sn**	**01 38 41.2**	**+0.5**
GALAA	**Gareloi Lava P**	**0.53**	**330**		**Pn**	**01 38 36.5**	**+0.8**
TAFL	**Tanaga Flats**	**0.54**	**32**		**Pn**	**01 38 36.4**	**+0.6**
TAFL					**Sn**	**01 38 44.2**	**+0.3**
TASE	**Tanaga Southea**	**0.57**	**20**		**Pn**	**01 38 36.6**	**+0.4**
GANO	**Gareloi North**	**0.59**	**332**		**Pn**	**01 38 36.9**	**+0.4**
KIWB	**Kanaga Island**	**0.93**	**53**	Pn	**Sn**	**01 38 41.3**	**+0.3**
KIWB				Sn	**Sn**	**01 38 54.2**	**+1.0**
KICM	**Kanaga Island**	**0.95**	**49**		**Pn**	**01 38 42.0**	**+0.7**
KICM					**Sn**	**01 38 54.4**	**+0.7**
KIRH	**Kanaga Island**	**0.99**	**52**		**Pn**	**01 38 42.4**	**+0.6**
GSCK	**Great Sitkin C**	**1.54**	**62**		**Pn**	**01 38 50.4**	**+1.1**
GSTR	**Great Sitkin T**	**1.63**	**60**		**Pn**	**01 38 51.0**	**+0.4**
GSTR	**Great Sitkin T**	**1.63**	**60**		**Sn**	**01 39 14.5**	**+4.0**
ATKA	**Atka Island**	**2.73**	**69**		**Pn**	**01 39 05.7**	**0.0**
ATKA	**Atka Island**	**2.73**	**69**		**Sn**	**01 39 39.8**	**+2.4**
SHEM	**Shemya Is, Ala**	**4.88**	**290**	P	**Pn**	**01 39 35.0**	**-0.1**
	3.8nm,0.3s,baz=97,slow=2.8,SNR=5.7						
SHEM				S	**Sn**	**01 40 32.9**	**+2.7**
	38nm,0.5s,baz=309,slow=22,SNR=1.5						
	41nm,0.7s						
SMY	**Shemya**	**4.88**	**290**		**Sn**	**01 40 33.8**	**+3.6**
SMY	**Shemya**	**4.88**	**290**		**Pn**	**01 39 34.8**	**-0.3**
NIKH	**Nikolski High**	**6.08**	**70**	Pn	**Pn**	**01 39 50.3**	**-1.3**
K15K	**Wolf Creek Mou**	**14.30**	**33**	Pn	**Pn**	**01 41 44.2**	**+0.3**
L16K	**Owhat River**	**14.68**	**37**	Pn	**Pn**	**01 41 50.6**	**+1.8**
PETK	**Petropavlovsk-**	**14.78**	**286**	P	**Pn**	**01 41 51.7**	**+1.4**
	1.8nm,0.8s,baz=92,slow=20,SNR=1.8						
PETK				LR	LR	01 47 06.5	
	comp=Z,91nm,21.9s,baz=93,slow=36						
N17K	**Nushagak Hills**	**14.97**	**44**	Pn	**Pn**	**01 41 53.7**	**+1.0**
N17K				IAmb	IAmb	01 42 04.5	
	comp=Z,8.1nm,0.8s						
J16K	**Anvik River**	**15.29**	**31**		**Pn**	**01 41 58.8**	**+1.9**
J16K				IAmb	IAmb	01 42 04.7	
	comp=Z,21nm,1.4s						
M17K	**Holitna River**	**15.31**	**41**	Pn	**Pn**	**01 41 57.0**	**-0.1**
M17K				IAmb	IAmb	01 42 06.7	
	comp=Z,11nm,0.8s						
O18K	**Koktuh Hills**	**15.56**	**48**		**Pn**	**01 42 03.3**	**+2.8**
N18K	**Kilae Creek**	**15.61**	**44**	Pn	**Pn**	**01 42 01.8**	**+0.8**
N18K				IAmb	IAmb	01 42 09.9	
	comp=Z,7.1nm,0.8s						
K17K	**Iditarod**	**15.72**	**36**	Pn	**Pn**	**01 42 04.3**	**+1.8**
K17K				IAmb	IAmb	01 42 25.1	
	comp=Z,11nm,1.1s						
J17K	**VABM Dome**	**15.88**	**33**		**Pn**	**01 42 06.6**	**+2.2**
J17K				IAmb	IAmb	01 42 20.9	
	comp=Z,17nm,1.2s						
L18K	**Granite Mounta**	**16.05**	**39**	Pn	**Pn**	**01 42 08.1**	**+1.5**
KDAK	**Kodiak Island**	**16.23**	**56**	P	**Pn**	**01 42 07.4**	**-1.5**
	comp=Z,1.6nm,0.3s,baz=15,slow=2.1,SNR=40						
	comp=Z,3.5nm,0.3s						
N19K	**Bonanza Creek**	**16.29**	**45**	Pn	**Pn**	**01 42 10.3**	**+0.6**
N19K				IAmb	IAmb	01 42 15.9	
	comp=Z,14nm,1.2s						
H17K	**Granite Mounta**	**16.68**	**28**		**P**	**01 42 16.5**	**+0.1**
TTA	**Tatalina**	**16.70**	**37**	Pn	**Pn**	**01 42 15.5**	**+0.6**
L19K	**White Mountain**	**16.76**	**40**		**P**	**01 42 18.3**	**+1.0**
L19K				IAmb	IAmb	01 42 25.4	
	comp=Z,15nm,0.8s						
M19K	**Big River Lodg**	**16.82**	**42**		**Pn**	**01 42 17.7**	**+1.4**
H18K	**Honhosa River**	**17.30**	**29**		**Pn**	**01 42 23.5**	**+1.2**
M20K	**Styx River**	**17.34**	**43**		**P**	**01 42 25.4**	**+1.6**
STLK	**Strandline Lak**	**17.74**	**45**		**Pn**	**01 42 28.0**	**+0.2**
SKT	**Skwentna**	**18.07**	**43**		**Pn**	**01 42 32.8**	**+1.1**
SKT				IAmb	IAmb	01 42 36.5	
	comp=Z,25nm,1.3s						
J20K	**Nowinta River**	**18.09**	**35**		**P**	**01 42 32.1**	**+0.2**
SLKM	**Skilak Lake**	**18.13**	**49**		**P**	**01 42 33.3**	**+0.9**
SLKM				IAmb	IAmb	01 43 05.1	
	comp=Z,16nm,1.2s						
PPLA	**Purkeypile**	**18.19**	**40**		**Pn**	**01 42 35.0**	**+1.7**
PPLA				IAmb	IAmb	01 43 00.9	
	comp=Z,17nm,1.2s						
BILL	**Bilibino**	**18.39**	**342**		**Pn**	**01 42 36.6**	**+1.0**
CAST	**Castle Rocks**	**18.48**	**39**		**Pn**	**01 42 37.6**	**+0.8**
F19K	**Shaleruckik Mo**	**18.66**	**26**	P	**P**	**01 42 38.8**	**+0.7**
CUT	**Chulitna**	**18.78**	**43**	P	**P**	**01 42 39.8**	**+0.4**
KTH	**Kantishna Hill**	**19.00**	**39**	P	**P**	**01 42 43.2**	**+1.2**
TRF	**Thorofare Moun**	**19.21**	**40**		**P**	**01 42 45.4**	**+1.0**
TRF				IAmb	IAmb	01 43 00.4	
	comp=Z,21nm,1.4s						
MA2	**Magadan**	**19.22**	**307**	LR	LR	01 49 29.7	
	comp=Z,67nm,19.8s,baz=92,slow=35						
BPAW	**Bear Paw Mtn.**	**19.24**	**38**	P	**P**	**01 42 45.6**	**+1.1**
BPAW				IAmb	IAmb	01 42 50.2	
	comp=Z,8.2nm,0.7s						
E19K	**Redstone River**	**19.26**	**25**		**P**	**01 42 45.5**	**+0.7**
C18K	**Utukok River**	**19.27**	**19**		**Pn**	**01 42 46.4**	**+0.2**
F20K	**Avaraart Lake**	**19.39**	**27**		**P**	**01 42 47.4**	**+1.3**
H21K	**Melozitna Rive**	**19.41**	**33**	P	**Pn**	**01 42 48.2**	**+0.3**
I21K	**Tanana**	**19.43**	**34**	P	**Pn**	**01 42 48.2**	**+0.2**
I21K				IAmb	IAmb	01 42 59.2	
	comp=Z,8.7nm,1.1s						
SEY	**Seymchan**	**19.49**	**318**	P	**P**	**01 42 45.5**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=143,slow=20,SNR=1.6						
SEY				LR	LR	01 50 19.1	
	comp=Z,70nm,18.4s,baz=161,slow=37						
	comp=Z,0.9nm,0.3s						
G21K	**Allakaket**	**19.70**	**30**		**Pn**	**01 42 51.4**	**+0.1**
G21K				IAmb	IAmb	01 42 51.9	
	comp=Z,12nm,0.7s						
RND	**Reindeer**	**19.78**	**41**	P	**P**	**01 42 50.5**	**0.0**
RND				IAmb	IAmb	01 42 55.9	
	comp=Z,4.7nm,0.6s						
SCM	**Sheep Creek Mo**	**19.87**	**46**	P	**P**	**01 42 50.5**	**-1.0**
MCK	**McKinley**	**19.88**	**40**		**P**	**01 42 52.5**	**+1.0**
F21K	**Alatna River**	**20.16**	**28**		**P**	**01 42 56.0**	**+1.4**
F21K				IAmb	IAmb	01 42 58.6	
	comp=Z,4.7nm,0.7s						
NEA2	**Nenana**	**20.20**	**38**	P	**P**	**01 42 55.7**	**+0.7**
NEA2				IAmb	IAmb	01 43 16.3	
	comp=Z,14nm,1.4s						
D20K	**Etivluk River**	**20.35**	**23**		**P**	**01 42 57.8**	**+1.2**
I23K	**Minto, Yukon-K**	**20.36**	**36**		**P**	**01 42 57.4**	**+0.8**
I23K				IAmb	IAmb	01 43 21.4	
	comp=Z,14nm,1.4s						
WRH	**Wood River Hil**	**20.53**	**39**		**P**	**01 42 58.5**	**0.0**
CCB	**Clear Creek Bu**	**20.72**	**38**		**P**	**01 43 01.7**	**+1.2**
RAGM	**Ragged Mountai**	**20.76**	**51**	P	**P**	**01 43 02.6**	**+1.5**
E21K	**Killik River**	**20.83**	**25**		**P**	**01 43 02.5**	**+0.7**
E21K				IAmb	IAmb	01 43 14.9	
	comp=Z,6.9nm,1.1s						
G23K	**Bananza Creek**	**20.94**	**32**		**P**	**01 43 04.7**	**+1.7**
G23K				IAmb	IAmb	01 43 18.4	
	comp=Z,11nm,1.5s						
HDA	**Harding Lake**	**20.95**	**39**	P	**P**	**01 43 04.2**	**+1.1**
HDA				IAmb	IAmb	01 43 21.5	
	comp=Z,10nm,1.2s						
PAX	**Paxson**	**21.05**	**44**		**P**	**01 43 05.5**	**+1.2**
PAX				IAmb	IAmb	01 43 11.6	
	comp=Z,6.2nm,0.7s						
ILAR	**Eielson Array**	**21.13**	**38**	P	**P**	**01 43 04.3**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=235,slow=8.9,SNR=18						
ILAR				PcP	**PcP**	**01 47 09.1**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=282,slow=3.1,SNR=9.3						
ILAR				ScP	**ScP**	**01 50 42.5**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=283,slow=3.9,SNR=5.0						
	comp=Z,0.8nm,0.5s						
COLD	**Coldfoot**	**21.18**	**31**		**P**	**01 43 06.7**	**+1.2**
K24K	**Donnelly Dome**	**21.20**	**41**	P	**P**	**01 43 06.3**	**+0.5**
B20K	**Meade River**	**21.22**	**20**		**P**	**01 43 06.1**	**+0.2**
B20K				IAmb	IAmb	01 43 18.3	
	comp=Z,19nm,1.4s						
E22K	**Anaktuvuk Pass**	**21.23**	**28**		**P**	**01 43 06.5**	**+0.4**
H24K	**Noodor Dome**	**21.23**	**35**		**P**	**01 43 06.2**	**+0.1**
H24K				IAmb	IAmb	01 43 26.7	
	comp=Z,5.3nm,0.9s						
GLB	**Gilahina Butte**	**21.39**	**48**		**P**	**01 43 08.9**	**+1.0**
GLB				IAmb	IAmb	01 43 15.7	
	comp=Z,5.9nm,0.7s						
D22K	**Ayikyak River**	**21.48**	**25**		**P**	**01 43 09.9**	**+1.1**
D22K				IAmb	IAmb	01 43 24.2	
	comp=Z,7.0nm,0.9s						
B21K	**Ikpikpuk River**	**21.51**	**23**		**P**	**01 43 09.6**	**+0.6**
B21K				IAmb	IAmb	01 43 20.9	
	comp=Z,8.9nm,0.9s						
RIDG	**Independent Ri**	**21.57**	**42**	P	**P**	**01 43 08.8**	**-0.9**
RIDG				IAmb	IAmb	01 43 33.4	
	comp=Z,6.3nm,0.8s						
J25K	**Salcha River,**	**21.66**	**39**		**P**	**01 43 10.6**	**-0.2**
J25K				IAmb	IAmb	01 43 50.8	
	comp=Z,11nm,1.5s						
G24K	**Hadweenzic Riv**	**21.80**	**33**		**P**	**01 43 12.9**	**+0.7**
G24K				IAmb	IAmb	01 43 15.8	
	comp=Z,6.0nm,1.0s						
E23K	**Chandalar**	**21.84**	**29**		**P**	**01 43 13.1**	**+0.4**
E23K				IAmb	IAmb	01 43 29.7	
	comp=Z,3.5nm,0.7s						
DOT	**Dot Lake**	**21.87**	**42**		**P**	**01 43 13.0**	**0.0**
DOT				IAmb	IAmb	01 43 39.5	
	comp=Z,4.8nm,0.7s						
PRP	**Porcupine Dome**	**21.96**	**37**		**P**	**01 43 13.5**	**-0.6**
L26K	**Log Cabin Wild**	**21.99**	**44**	P	**P**	**01 43 14.8**	**+0.5**
L26K				IAmb	IAmb	01 43 44.4	
	comp=Z,5.3nm,0.8s						
SCRK	**Sand Creek**	**22.00**	**42**		**P**	**01 43 13.5**	**-1.0**
F24K	**Squaw Lake**	**22.08**	**31**		**P**	**01 43 16.5**	**+1.3**
F24K				IAmb	IAmb	01 43 18.7	
	comp=Z,6.2nm,0.6s						
D23K	**Nanushuk River**	**22.09**	**26**		**P**	**01 43 15.3**	**+0.1**
E24K	**Your Creek**	**22.20**	**30**		**P**	**01 43 17.4**	**+0.9**
TOLK	**Toolik Lake Re**	**22.20**	**28**		**P**	**01 43 16.9**	**+0.3**
TOLK				IAmb	IAmb	01 43 23.9	
	comp=Z,5.1nm,0.9s						
J26L	**Joseph Creek**	**22.35**	**40**		**P**	**01 43 16.8**	**-1.4**
J26L				IAmb	IAmb	01 43 23.4	
	comp=Z,3.8nm,0.6s						
M27K	**Edge Creek, AK**	**22.48**	**46**	P	**P**	**01 43 20.3**	**+0.6**
M27K				IAmb	IAmb	01 43 21.6	
	comp=Z,6.0nm,0.9s						
C23K	**Itkillik River**	**22.66**	**25**		**P**	**01 43 21.3**	**-0.1**
C23K				IAmb	IAmb	01 43 23.1	
	comp=Z,8.5nm,0.8s						
L27K	**Beaver Creek,**	**22.67**	**45**	P	**P**	**01 43 20.8**	**-0.7**
F25K	**Christian Rive**	**22.86**	**32**		**P**	**01 43 23.9**	**+0.3**
E25K	**Arctic Village**	**23.15**	**31**		**P**	**01 43 26.5**	**+0.1**
G26K	**Porcupine Rive**	**23.21**	**35**		**P**	**01 43 27.0**	**+0.1**
G26K				IAmb	IAmb	01 43 54.1	
	comp=Z,6.7nm,0.8s						
F26K	**Sheenjek River**	**23.42**	**33**		**P**	**01 43 29.7**	**+0.7**
F26K				IAmb	IAmb	01 44 07.7	
	comp=Z,9.0nm,1.5s						
D25K	**Kavik River**	**23.54**	**28**		**P**	**01 43 30.0**	**-0.2**
D25K				IAmb	IAmb	01 43 32.8	
	comp=Z,3.5nm,0.7s						
DAWY	**Dawson**	**23.97**	**43**		**P**	**01 43 33.4**	**-0.8**
DAWY				IAmb	IAmb	01 43 41.3	
	comp=Z,10.0nm,1.3s						
M29M	**Somme Creek**	**24.06**	**47**	P	**P**	**01 43 34.8**	**-0.4**
M29M				IAmb	IAmb	01 43 39.7	
	comp=Z,12nm,1.4s						
I28M	**Miner Creek**	**24.12**	**39**		**P**	**01 43 34.8**	**-0.8**
I28M				IAmb	IAmb	01 43 39.5	
	comp=Z,12nm,1.4s						
L29M	**L29M**	**24.32**	**45**		**P**	**01 43 37.0**	**-0.4**
L29M				IAmb	IAmb	01 43 42.2	
	comp=Z,4.2nm,0.5s						
C27K	**Jago River**	**24.50**	**29**	P	**P**	**01 43 38.9**	**-0.1**
E27K	**Coleen River**	**24.50**	**33**		**P**	**01 43 40.1**	**+1.1**
K29M	**Barlow Dome**	**24.73**	**44**	P	**P**	**01 43 40.4**	**-0.9**
K29M				IAmb	IAmb	01 43 50.2	
	comp=Z,12nm,1.5s						
E28M	**Babbage River**	**25.37**	**32**	P	**P**	**01 43 48.2**	**+1.4**
E28M				IAmb	IAmb	01 44 01.4	
	comp=Z,7.2nm,1.4s						
I30M	**Mount Dempster**	**25.50**	**41**	P	**P**	**01 43 46.9**	**-1.3**
E29M	**Blow River**	**25.84**	**33**		**P**	**01 43 51.3**	**+0.1**
E29M				IAmb	IAmb	01 43 58.1	
	comp=Z,2.7nm,0.7s						
ASAJ	**Asahikawa**	**26.99**	**270**	P	**P**	**01 44 03.0**	**+1.3**
	comp=Z,14nm,1.0s,baz=103,slow=3.5,SNR=5.7						
ASAJ				LR	LR	01 53 20.8	
	comp=Z,21nm,21.5s,baz=147,slow=33						
	comp=Z,14nm,1.0s						
INK	**Inuvik**	**27.36**	**35**	P	**P**	**01 44 04.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=253,slow=8.3,SNR=11						
INK				PcP	**PcP**	**01 47 23.1**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=304,slow=2.7,SNR=11						
	comp=Z,0.5nm,0.3s						
YAK	**Yakutsk**	**29.68**	**311**	LR	LR	01 56 18.9	
	comp=Z,70nm,19.4s,baz=356,slow=36						
TIXI	**Tiksi**	**30.84**	**331**	PcP	**PcP**	**01 47 31.1**	**-0.3**
	comp=Z,1.1nm,0.2s,baz=91,slow=2.6,SNR=6.5						
TIXI				LR	LR	01 57 35.8	
	comp=Z,45nm,19.8s,baz=16,slow=38						
A36M	**Sachs Harbour**	**31.02**	**29**		**P**	**01 44 38.2**	**+1.1**
KLR	**Kul'dur**	**31.47**	**286**	P	**P**	**01 44 41.2**	**-0.2**
	comp=Z,3.6nm,0.4s,baz=80,slow=7.1,SNR=24						
KLR				LR	LR	01 57 24.9	
	comp=Z,50nm,19.4s,baz=56,slow=36						
	comp=Z,3.6nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**33.58**	**206**	T	T	02 20 46.8	
	baz=16,slow=76,SNR=758						
USA0B	**Ussuriysk Arra**	**33.59**	**278**	P	**P**	**01 44 59.5**	**-0.5**
USRK	**Ussuriysk Ar.**	**33.59**	**278**	P	**P**	**01 44 59.5**	**-0.4**
USRK	**Ussuriysk Ar.**	**33.59**	**278**	P	**P**	**01 45 00.1**	**+0.1**
	comp=Z,4.2nm,0.6s,baz=64,slow=8.4,SNR=6.9						
USRK				LR	LR	01 59 53.4	
	comp=Z,27nm,19.1s,baz=331,slow=38						
	comp=Z,4.2nm,0.6s						
H11N3	**WAKE ISLAND Hy**	**33.59**	**206**	T	T	02 20 47.5	
	baz=16,slow=76,SNR=744						
H11N1	**WAKE ISLAND Hy**	**33.60**	**206**	T	T	02 20 48.0	
	baz=16,slow=76,SNR=521						
MJAR	**Matsushiro Arr**	**34.05**	**261**	P	**P**	**01 45 05.1**	**+1.0**
	comp=Z,2.4nm,0.5s,baz=39,slow=16,SNR=1.7						
	comp=Z,2.4nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**34.80**	**205**	T	T	02 22 18.3	
	baz=16,slow=76,SNR=730						
H11S2	**WAKE ISLAND Hy**	**34.82**	**205**	T	T	02 22 19.5	
	baz=16,slow=76,SNR=583						
H11S3	**WAKE ISLAND Hy**	**34.82**	**205**	T	T	02 22 19.1	
	baz=16,slow=76,SNR=410						
YKAW3	**Yellowknife Wh**	**35.06**	**46**		**P**	**01 45 12.3**	**-0.2**
YKAW3				IAmb	IAmb	01 45 40.4	
	comp=Z,3.7nm,1.5s						
YKA	**Yellowknife Ar**	**35.08**	**46**	P	**P**	**01 45 11.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=285,slow=8.5,SNR=14						
YKA				PcP	**PcP**	**01 47 44.2**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=290,slow=2.6,SNR=9.5						
	comp=Z,0.5nm,0.7s						
YKAW1	**Yellowknife Wh**	**35.14**	**46**		**P**	**01 45 12.9**	**-0.3**
YKAW1				IAmb	IAmb	01 45 17.0	
	comp=Z,6.5nm,1.4s						
B08A	**Colville Reser**	**37.30**	**71**	P	**P**	**01 45 32.4**	**+0.6**
NEW	**Newport**	**38.65**	**70**	P	**P**	**01 45 43.8**	**+0.6**
RES	**Resolute Bay**	**39.70**	**24**	P	**P**	**01 45 51.5**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=281,slow=5.2,SNR=1.5						
RES				PcP	**PcP**	**01 47 57.2**	**0.0**
	comp=Z,1.5nm,0.8s,baz=271,slow=1.6,SNR=9.1						
RES				LR	LR	02 04 57.9	
	comp=Z,44nm,19.6s,baz=9.5,slow=40						
	comp=Z,0.4nm,0.5s						
KSRS	**Korea Array**	**39.92**	**271**	P	**P**	**01 45 55.5**	**+1.6**
	comp=Z,3.4nm,0.7s,baz=61,slow=7.9,SNR=11						
KSRS				LR	LR	02 00 02.1	
	comp=Z,6.4nm,21.5s,baz=335,slow=32						
	comp=Z,3.4nm,0.7s						
HLID	**Hailey**	**42.69**	**74**		**P**	**01 46 17.1**	**+0.4**
HLID				IAmb	IAmb	01 46 20.6	
	comp=Z,6.3nm,1.5s						
NVAR	**Mina Array Bea**	**43.28**	**83**	P	**P**	**01 46 23.4**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=298,slow=8.9,SNR=5.9						
	comp=Z,0.9nm,0.7s						
H17A	**Grant Village**	**44.53**	**71**		**P**	**01 46 32.5**	**+0.9**
H17A				IAmb	IAmb	01 46 34.8	
	comp=Z,4.6nm,0.9s						
ILON	**Igloolik, Nuna**	**45.36**	**30**	P	**P**	**01 46 37.4**	**-0.1**
ILON				IAmb	IAmb	01 47 06.1	
	comp=Z,2.4nm,1.3s						
TPNV	**Topopah Spring**	**45.48**	**83**		**P**	**01 46 38.2**	**-0.9**
TPNV				IAmb	IAmb	01 46 46.0	
	comp=Z,2.9nm,0.8s						
PRN	**Pahroc Range**	**45.94**	**82**		**P**	**01 46 41.8**	**-0.9**
PD31	**Pinedale Array**	**46.06**	**72**		**P**	**01 46 44.5**	**+0.8**
PDAR	**Pinedale Array**	**46.06**	**72**		**P**	**01 46 43.9**	**+0.1**
PDAR	**Pinedale Array**	**46.06**	**72**	P	**P**	**01 46 44.5**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=338,slow=2.6,SNR=24						
	comp=Z,3.5nm,0.7s						
SONM	**Songino Array**	**46.93**	**297**	P	**P**	**01 46 49.3**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=46,slow=11,SNR=4.0						
SONM				PcP	**PcP**	**01 48 22.3**	**0.0**
	comp=Z,0.6nm,0.4s,baz=99,slow=2.2,SNR=5.3						
SONM				LR	LR	02 07 47.5	
	comp=Z,35nm,19.1s,baz=254,slow=38						
	comp=Z,0.6nm,0.5s						
SPITS	**Spitsbergen Ar**	**50.47**	**356**	P	**P**	**01 47 16.0**	**-1.0**
	comp=Z,2.0nm,0.4s,baz=30,slow=6.8,SNR=13						
	comp=Z,2.0nm,0.4s						
ANMO	**Albuquerque**	**52.83**	**78**	LR	LR	02 08 03.1	
	comp=Z,24nm,18.9s,baz=244,slow=34						
ZALV	**Zalesovo Beam**	**54.29**	**314**	PcP	**PcP**	**01 48 49.0**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=48,slow=5.1,SNR=5.5						
P38A	**Dawn**	**57.44**	**66**		**P**	**01 48 08.0**	**-0.3**
ARCES	**ARCESS Array B**	**58.22**	**350**	P	**P**	**01 48 12.0**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=22,slow=7.0,SNR=16						
	comp=Z,1.3nm,0.6s						
P40A	**Paris**	**58.35**	**65**		**P**	**01 48 14.4**	**-0.2**
TX31	**Lajitas Ar. Si**	**58.38**	**81**	P	**P**	**01 48 14.9**	**-0.3**
TXAR	**Lajitas Array**	**58.39**	**81**	P	**P**	**01 48 15.3**	**+0.1**
TXAR	**Lajitas Array**	**58.39**	**81**	P	**P**	**01 48 15.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=317,slow=5.3,SNR=5.5						
	comp=Z,0.5nm,0.5s						
W35A	**Tecumseh**	**58.51**	**72**		**P**	**01 48 16.3**	**+0.5**
R40A	**Maddies Statio**	**59.06**	**66**		**P**	**01 48 18.7**	**-0.9**
KURBB	**Kurchatov Arra**	**59.38**	**314**	P	**P**	**01 48 20.2**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=42,slow=6.7,SNR=5.4						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**60.30**	**309**	P	**P**	**01 48 27.4**	**-0.7**
MKAR	**Makanchi Array**	**60.30**	**309**	P	**P**	**01 48 26.9**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=52,slow=7.1,SNR=8.6						
	comp=Z,0.5nm,0.4s						
FVM	**French Village**	**60.33**	**65**	P	**P**	**01 48 27.9**	**-0.5**
MAKZ	**Makanchi**	**60.45**	**309**	P	**P**	**01 48 30.0**	**+0.9**
MAKZ				IAmb	IAmb	01 49 01.3	
	comp=Z,2.2nm,1.1s						
SFIN	**Lafayette**	**60.54**	**61**	P	**P**	**01 48 30.4**	**+0.6**
MIAR	**Mount Ida**	**60.88**	**70**	P	**P**	**01 48 33.0**	**+0.9**
BVAR	**Borovoye Array**	**61.13**	**320**	P	**P**	**01 48 32.5**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=49,slow=6.5,SNR=12						
BVAR				PcP	**PcP**	**01 49 15.7**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=41,slow=4.0,SNR=4.9						
BVAR				LR	LR	02 17 24.4	
	comp=Z,38nm,18.0s,baz=345,slow=38						
	comp=Z,1.3nm,0.4s						
T47A	**Sharon Grove**	**62.91**	**64**		**P**	**01 48 46.5**	**+0.7**
OXF	**Oxford**	**63.35**	**67**		**P**	**01 48 49.2**	**+0.5**
KIRV	**Kirov**	**63.77**	**334**	LR	LR	02 18 59.2	
	comp=Z,40nm,20.3s,baz=34,slow=38						
FINES	**FINESS Array B**	**65.92**	**347**	P	**P**	**01 49 03.5**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=25,slow

UCH	**Uchtor**	**2.63**	**347**	⇑*iP*	**Pn**	**01 39 19.1**	**+0.9**
UCH				⇑*iS*	**Sn**	**01 39 51.1**	**+0.8**
ULHL	**Ulahol**	**2.68**	**15**	*P*	**Pn**	**01 39 20.0**	**+1.3**
SNR=7.9							
ULHL	**Ulahol**	**2.68**	**15**	⇓*iP*	**Pn**	**01 39 19.8**	**+1.1**
ULHL				⇓*iS*	**Sn**	**01 39 52.6**	**+1.3**
DRK	**Karamyk**	**2.70**	**267**	⇑*iP*	**Pn**	**01 39 21.4**	**+2.5**
DRK				⇑*iS*	**Sn**	**01 39 55.5**	**+3.7**
AML	**Almayashu**	**2.75**	**334**	*P*	**Pn**	**01 39 21.0**	**+1.3**
SNR=14							
AML	**Almayashu**	**2.75**	**334**	⇑*iP*	**Pn**	**01 39 20.6**	**+0.9**
AML				⇑*iS*	**Sn**	**01 39 53.8**	**+0.7**
KDJ	**Kajisay**	**2.86**	**30**	⇓*iP*	**Pn**	**01 39 22.6**	**+1.6**
KDJ				⇓*iS*	**Sn**	**01 39 57.3**	**+1.8**
BOOM	**Boomskoye usch**	**2.87**	**10**	⇑*iP*	**Pn**	**01 39 22.4**	**+1.2**
BOOM				⇑*iS*	**Sn**	**01 39 57.0**	**+1.2**
KBK	**Karagaybulak**	**3.01**	**355**	⇓*iP*	**Pn**	**01 39 24.0**	**+1.0**
KBK				⇓*iS*	**Sn**	**01 39 59.8**	**+0.7**
AAK	**Ala-Archa**	**3.04**	**349**	LR	LR	01 40 53.9	
comp=Z,71nm,21.8s,baz=189,slow=39							
AAK	**Ala-Archa**	**3.04**	**349**	*P*	**Pn**	**01 39 25.8**	**+2.3**
SNR=26							
AAK	**Ala-Archa**	**3.04**	**349**	⇓Pn	**Pn**	**01 39 24.6**	**+1.2**
39nm,0.7s							
AAK				⇑Sn	**Sn**	**01 40 04.0**	**+4.1**
168nm,0.8s							
AAK	**Ala-Archa**	**3.04**	**349**	⇓*iP*	**Pn**	**01 39 24.4**	**+1.0**
AAK				⇓*iS*	**Sn**	**01 40 00.5**	**+0.6**
FRU1	**Bishkek**	**3.19**	**351**	⇑*iP*	**Pn**	**01 39 26.8**	**+1.4**
FRU1				⇑*iS*	**Sn**	**01 40 04.7**	**+1.2**
EKS2	**Erkin-Say**	**3.21**	**340**	*P*	**Pn**	**01 39 29.2**	**+3.5**
SNR=7.8							
EKS2	**Erkin-Say**	**3.21**	**340**	⇑*iP*	**Pn**	**01 39 26.7**	**+0.9**
EKS2				⇑*iS*	**Sn**	**01 40 04.6**	**+0.5**
TKM2	**Tokmak 2**	**3.27**	**4**	*P*	**Pn**	**01 39 28.9**	**+2.2**
SNR=203							
TKM2	**Tokmak 2**	**3.27**	**4**	⇑Pn	**Pn**	**01 39 28.6**	**+1.9**
58nm,0.4s							
TKM2				⇑Sn	**Sn**	**01 40 09.5**	**+3.9**
79nm,0.6s							
TKM2				⇑Lg	Lg	01 40 18.2	
88nm,0.8s							
TKM2	**Tokmak 2**	**3.27**	**4**	⇑*iP*	**Pn**	**01 39 27.9**	**+1.2**
TKM2				⇑*iS*	**Sn**	**01 40 06.3**	**+0.6**
CHMS	**Chumysh**	**3.36**	**353**	*P*	**Pn**	**01 39 30.0**	**+2.2**
SNR=19							
CHMS	**Chumysh**	**3.36**	**353**	⇑Pn	**Pn**	**01 39 29.8**	**+2.0**
16nm,0.5s							
CHMS				⇑Sn	**Sn**	**01 40 10.9**	**+3.2**
71nm,0.8s							
CHMS				Lg	Lg	01 40 19.6	
CHMS	**Chumysh**	**3.36**	**353**	⇓*iP*	**Pn**	**01 39 28.8**	**+1.0**
CHMS				⇓*iS*	**Sn**	**01 40 08.0**	**+0.3**
KST	**Kastek**	**3.42**	**8**	Pg	**Pb**	**01 39 36.2**	**+0.3**
28nm,0.4s							
KST				Lg	Lg	01 40 22.2	
306nm,0.7s							
KST	**Kastek**	**3.42**	**8**	*eP*	**Pb**	**01 39 34.6**	**-1.3**
16nm,0.3s							
KST				*eS*	**Sb**	**01 40 19.2**	**+1.6**
153nm,0.2s							
MRKS	**Merke**	**3.45**	**334**	Pg	**Pb**	**01 39 36.9**	**+0.4**
23nm,0.6s							
MRKS				Lg	Lg	01 40 23.3	
50nm,0.7s							
MRKS	**Merke**	**3.45**	**334**	*eP*	**Pb**	**01 39 36.8**	**+0.3**
17nm,0.3s							
MRKS				*eS*	**Sb**	**01 40 22.9**	**+4.3**
50nm,0.3s							
BTK	**Batken**	**3.46**	**278**	⇑*iP*	**Pn**	**01 39 31.5**	**+2.3**
BTK				⇑*iS*	**Sn**	**01 40 12.8**	**+2.5**
MNAS	**Manas**	**3.52**	**324**	⇓*iP*	**Pn**	**01 39 31.2**	**+1.1**
MNAS				⇓*iS*	**Sn**	**01 40 12.4**	**+0.6**
MTBS	**Maitube**	**3.57**	**14**	Pg	**Pb**	**01 39 38.5**	**-0.1**
15nm,0.5s							
MTBS				Lg	Lg	01 40 25.9	
94nm,0.4s							
MTBS	**Maitube**	**3.57**	**14**	*eP*	**Pb**	**01 39 37.4**	**-1.1**
5.6nm,0.2s							
MTBS				*eS*	**Sb**	**01 40 23.9**	**+1.9**
94nm,0.4s							
TNSS	**Tian-Shan**	**3.60**	**20**	Pg	**Pb**	**01 39 38.6**	**-0.6**
24nm,0.6s							
TNSS				Lg	Lg	01 40 26.0	
TNSS	**Tian-Shan**	**3.60**	**20**	*eP*	**Pb**	**01 39 38.1**	**-1.1**
18nm,0.4s							
TNSS				*eS*	**Sb**	**01 40 25.1**	**+2.0**
57nm,0.5s							
ANVS	**Anan'yevo**	**3.60**	**29**	⇑*iP*	**Pn**	**01 39 32.8**	**+1.6**
ANVS				⇑*iS*	**Sn**	**01 40 15.2**	**+1.4**
USP	**Ospenovka**	**3.65**	**351**	*P*	**Pn**	**01 39 33.9**	**+2.1**
SNR=9.3							
USP	**Ospenovka**	**3.65**	**351**	⇓*iP*	**Pn**	**01 39 32.8**	**+1.0**
USP				⇓*iS*	**Sn**	**01 40 15.2**	**+0.3**
TRKS	**Terek-Say**	**3.67**	**302**	⇑*iP*	**Pn**	**01 39 33.0**	**+0.9**
TRKS				⇑*iS*	**Sn**	**01 40 15.4**	**-0.1**
PRZ	**Przheval'sk**	**3.67**	**39**	⇑*eP*	**Pn**	**01 39 34.5**	**+2.3**
PRZ				⇑*eS*	**Sn**	**01 40 17.9**	**+2.3**
MDOK	**Medeo**	**3.74**	**20**	Pn	**Pn**	**01 39 34.8**	**+1.6**
9.8nm,0.5s							
MDOK				Pg	**Pb**	**01 39 40.7**	**-0.8**
11nm,0.4s							
MDOK				Lg	Lg	01 40 29.7	
108nm,0.8s							
MDOK				Lg	Lg	01 40 32.1	
133nm,0.8s							
KNDC	**Almaty**	**3.77**	**19**	⇑Pg	**Pb**	**01 39 43.4**	**+1.4**
32nm,0.4s							
KNDC				⇑Lg	Lg	01 40 32.5	
569nm,0.9s							
SGDS	**Sogindy**	**3.82**	**353**	Pg	**Pb**	**01 39 43.0**	**+0.2**
7.0nm,0.5s							
SGDS				Lg	Lg	01 40 33.5	
56nm,0.8s							
GAR	**Garm**	**3.91**	**262**	⇑*iP*	**Pn**	**01 39 38.3**	**+2.9**
GAR				⇑*iS*	**Sn**	**01 40 24.6**	**+3.2**
SATY	**Saty**	**4.13**	**34**	Pg	**Pb**	**01 39 47.9**	**-0.1**
14nm,0.7s							
SATY				Lg	Lg	01 40 41.9	
54nm,0.6s							
SATY	**Saty**	**4.13**	**34**	*eP*	Pg	01 40 02.9	+8.4
3.3nm,0.2s							
SATY				*eS*	Sg	01 41 07.6	+20
27nm,0.3s							
KTBS	**Karatobe**	**4.18**	**14**	Pg	**Pb**	**01 39 49.9**	**+1.0**
9.1nm,0.3s							
KTBS				Lg	Lg	01 40 45.0	
138nm,0.5s							
CHKK	**Chushkaly**	**4.38**	**16**	Pg	**Pb**	**01 39 53.3**	**+1.0**
14nm,0.8s							
CHKK				Lg	Lg	01 40 50.9	
124nm,1.1s							
CHKK	**Chushkaly**	**4.38**	**16**	*eP*	**Pb**	**01 39 52.7**	**+0.4**
11nm,0.3s							
CHKK				*eS*	**Sb**	**01 40 50.3**	**+5.1**
123nm,0.4s							
KURS	**Kuram**	**4.39**	**29**	*eP*	**Pb**	**01 39 52.7**	**+0.2**
11nm,0.3s							
KURS				*eS*	**Sb**	**01 40 50.3**	**+4.7**
123nm,0.4s							
UZB	**Uzynbulak**	**4.48**	**38**	Pg	**Pb**	**01 39 53.8**	**-0.2**
9.4nm,0.5s							
UZB				Lg	Lg	01 40 52.3	
18nm,0.9s							
UZB	**Uzynbulak**	**4.48**	**38**	*eP*	**Pb**	**01 39 53.8**	**-0.2**
2.9nm,0.1s							
UZB				*eS*	**Sb**	**01 40 51.9**	**+3.9**
17nm,0.3s							
IUG	**Iuzhnay**	**4.69**	**304**	Pg	**Pb**	**01 39 59.5**	**+1.8**
24nm,0.3s							
IUG				Lg	Lg	01 41 01.4	
47nm,1.2s							
PDGK	**Podgornoye**	**4.84**	**39**	⇑Pn	**Pn**	**01 39 48.0**	**-0.1**
18nm,0.8s							
PDGK				⇓Lg	Lg	01 41 09.7	
38nm,0.7s							
ARXS	**Arharly**	**4.93**	**22**	Pg	**Pb**	**01 40 02.1**	**+0.4**
7.5nm,0.4s							
ARXS				Lg	Lg	01 41 06.6	
24nm,0.6s							
KK31	**Karatay Array**	**4.97**	**315**	⇓Pn	**Pn**	**01 39 49.5**	**-0.4**
0.6nm,0.4s,baz=132,slow=12,SNR=8.9							
KK31				⇑Pg	**Pb**	**01 40 04.7**	**+2.3**
8.0nm,0.7s,baz=142,slow=15,SNR=16							
KK31				⇑Lg	Lg	01 41 12.6	
10nm,0.7s,baz=132,slow=26,SNR=3.7							
BRLS	**Borolday**	**5.31**	**311**	Pg	**Pb**	**01 40 08.9**	**+0.9**
BRLS				Lg	Lg	01 41 18.5	
BRLS	**Borolday**	**5.31**	**311**	*eP*	**Pb**	**01 40 11.7**	**+3.6**
BRLS				*eS*	**Sg**	**01 41 22.6**	**-3.0**
9.2nm,0.4s							
MK31	**Makanchi Array**	**8.77**	**33**	Pn	**Pn**	**01 40 44.8**	**+2.8**
1.4nm,0.7s,baz=210,slow=15,SNR=8.0							
MK31				⇑Lg	Lg	01 43 14.2	
2.2nm,0.8s							
MKAR	**Makanchi Array**	**8.77**	**33**	Pn	**Pn**	**01 40 39.9**	**-2.1**
0.1nm,0.3s,baz=212,slow=15,SNR=12							
MKAR				Lg	Lg	01 43 13.5	
0.1nm,0.3s,baz=211,slow=25,SNR=3.7							
KURBB	**Kurchatov Arra**	**11.20**	**11**	LR	LR	01 45 47.0	
comp=Z,54nm,21.9s,baz=189,slow=37							
BVAR	**Borovoye Array**	**13.79**	**348**	Pn	**Pn**	**01 41 50.9**	**+0.3**
baz=156,slow=10.0,SNR=7.6							
0.3nm,0.5s							
MLR	**Muntele Rosu**	**36.33**	**296**	LR	LR	02 05 14.0	
comp=Z,24nm,18.2s,baz=83,slow=44							
ARCES	**ARCESS Array B**	**39.61**	**335**	*P*	**P**	**01 46 03.7**	**-2.7**
0.8nm,0.5s,baz=113,slow=9.2,SNR=6.8							
0.8nm,0.5s							
HFS	**Hagfors**	**42.77**	**320**	*P*	**P**	**01 46 29.5**	**-3.0**
0.6nm,0.5s,baz=108,slow=14,SNR=5.3							
0.6nm,0.5s							
ESDC	**Sonseca Array**	**58.98**	**298**	*P*	**P**	**01 48 31.7**	**-3.2**
0.4nm,0.6s,baz=51,slow=8.0,SNR=4.9							
0.4nm,0.6s							
YKA	**Yellowknife Ar**	**77.88**	**5**	*P*	P	01 50 29.1	-3.5
0.3nm,0.8s,baz=355,slow=6.0,SNR=5.0							
0.3nm,0.8s							

RSNC ***18*** *01:38:40.6±0.0, 7°N±1°×7°3W±°, h151km±2km, M3.2, mb3.6, mB4.6, ML3.0, Mw(mB)3.9*
IDC ***18*** *01:38:44.0±6.5, 6°73N×75°08W, h156km±111km, mb2.9/1, mbtmp3.5/2, Error ellipse: s-maj=416.6km s-min=37.3km az=85.0*

ISC 18 01:38:40.2±0.9,**6°85N**±0°03×**73°13W**±0°04,**h151**km±6km,
n38,σ1º**49**/68,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**192**	*P*	**Pn**	**01 39 01.1**	**0.0**
BARC				*S*	**Sn**	**01 39 16.3**	**-0.7**
BRJC	**Barrancabermej**	**0.62**	**282**	*P*	**Pn**	**01 39 02.7**	**+0.3**
BRJC				*S*	**Sn**	**01 39 19.9**	**+0.7**
PAMC	**Pamplona, Colo**	**0.65**	**41**	*P*	**Pn**	**01 39 03.9**	**+0.8**
PAMC				*S*	**Sn**	**01 39 20.9**	**+0.3**
RUSC	**La Rusia**	**0.95**	**177**	*P*	**Pn**	**01 39 05.0**	**-0.3**
RUSC				*S*	**Sn**	**01 39 22.9**	**-1.5**
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	*P*	**Pn**	**01 39 07.6**	**-0.8**
PTBC				*S*	**Sn**	**01 39 28.3**	**-1.6**
TAMC	**Tame, Arauca**	**1.39**	**107**	*P*	**Pn**	**01 39 09.5**	**+0.7**
TAMC				*S*	**Sn**	**01 39 31.1**	**+0.5**
OCAC	**Ocana**	**1.40**	**352**	*P*	**Pn**	**01 39 09.2**	**+0.2**
OCAC				*S*	**Sn**	**01 39 31.0**	**-0.1**
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*P*	**Pn**	**01 39 13.6**	**+0.1**
ZARC				*S*	**Sn**	**01 39 39.1**	**+0.1**
NORC	**Norcasia**	**2.15**	**234**	*P*	**Pn**	**01 39 16.9**	**-0.3**
NORC				*S*	**Sn**	**01 39 43.6**	**-2.1**
CHIC	**Chingaza**	**2.28**	**195**	*P*	**Pn**	**01 39 19.0**	**-0.2**
CHIC				*S*	**Sn**	**01 39 47.8**	**-1.4**
ROSC	**El Rosal**	**2.32**	**211**	*P*	**Pn**	**01 39 21.0**	**+1.4**
105nm,0.4s,baz=126,slow=23,SNR=90							
ROSC				*S*	**Sn**	**01 39 48.2**	**-1.7**
152nm,0.5s,baz=108,slow=16,SNR=8.3							
ROSC	**El Rosal**	**2.32**	**211**	*P*	**Pn**	**01 39 20.6**	**+1.0**
ROSC				*S*	**Sn**	**01 39 49.6**	**-0.3**
CVER	**Cruz Verde, Cu**	**2.49**	**202**	*P*	**Pn**	**01 39 22.6**	**+0.8**
CVER				*S*	**Sn**	**01 39 53.6**	**-0.2**
UREC	**San Jos de Ur**	**2.55**	**291**	*P*	**Pn**	**01 39 20.7**	**-1.3**
UREC				*S*	**Sn**	**01 39 52.4**	**-1.9**
GUY2C	**Guyana, Caldas**	**2.75**	**234**	*P*	**Pn**	**01 39 26.2**	**+1.3**
GUY2C				*S*	**Sn**	**01 39 58.1**	**-1.2**
PTGC	**Puerto Gaitan,**	**2.81**	**159**	*P*	**Pn**	**01 39 24.1**	**-1.2**
PTGC				*S*	**Sn**	**01 39 57.9**	**-2.2**
CBOC	**Ciudad Bolivar**	**3.03**	**251**	*P*	**Pn**	**01 39 29.2**	**+1.0**
CBOC				*S*	**Sn**	**01 40 03.8**	**-1.4**
DBBC	**Dabeiba**	**3.06**	**273**	*P*	**Pn**	**01 39 28.6**	**+0.1**
DBBC				*S*	**Sn**	**01 40 04.2**	**-1.7**
ARGC	**Ariguani, Magd**	**3.19**	**340**	*P*	**Pn**	**01 39 31.1**	**+1.0**
ARGC				*S*	**Sn**	**01 40 09.4**	**+0.6**
SDV	**Santo Domingo**	**3.20**	**50**	*P*	**Pn**	**01 39 30.5**	**+0.1**
SDV				*S*	**Sn**	**01 40 07.9**	**-1.3**
ANIL	**Santa Ana**	**3.25**	**224**	*P*	**Pn**	**01 39 32.3**	**+1.1**
ANIL				*S*	**Sn**	**01 40 12.0**	**+1.4**
PRAC	**Prado**	**3.57**	**209**	*P*	**Pn**	**01 39 34.4**	**-0.6**
PRAC				*S*	**Sn**	**01 40 16.3**	**-1.2**
APAC	**Apartado, Choc**	**3.58**	**287**	*P*	**Pn**	**01 39 34.9**	**-0.2**
APAC				*S*	**Sn**	**01 40 16.8**	**-0.8**
ORTC	**Ortega, Tolima**	**3.60**	**216**	*P*	**Pn**	**01 39 35.3**	**-0.1**
ORTC				*S*	**Sn**	**01 40 18.0**	**-0.2**
SJCC	**San Jacinto, C**	**3.65**	**326**	*P*	**Pn**	**01 39 34.7**	**-1.3**
SJCC				*S*	**Sn**	**01 40 16.8**	**-2.5**
URMC	**La Uribe, Meta**	**3.79**	**199**	*P*	**Pn**	**01 39 38.0**	**+0.2**
URMC				*S*	**Sn**	**01 40 21.6**	**-1.0**
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	*P*	**Pn**	**01 39 41.3**	**-1.4**
CRJC				*S*	**Sn**	**01 40 29.2**	**-2.1**
YOTC	**Yotoco, Valle**	**4.28**	**229**	*P*	**Pn**	**01 39 44.2**	**-0.1**
SMRC	**Santa Marta, M**	**4.42**	**346**	*P*	**Pn**	**01 39 46.5**	**+0.4**
SMRC				*S*	**Sn**	**01 40 34.7**	**-2.8**
MACC	**Macarena, Meta**	**4.72**	**189**	*P*	**Pn**	**01 39 48.3**	**-1.8**
MACC				*S*	**Sn**	**01 40 39.1**	**-5.5**
URIC	**Uribia, Colomb**	**4.96**	**13**	*P*	**Pn**	**01 39 51.7**	**-1.4**
URIC				*S*	**Sn**	**01 40 47.3**	**-2.7**
MALC	**Bahia Malaga**	**5.04**	**236**	*P*	**Pn**	**01 39 56.8**	**+2.5**
GARC	**Garzon, Huila**	**5.19**	**207**	*P*	**Pn**	**01 39 55.3**	**-1.2**
POPC	**Popayan, Colom**	**5.55**	**220**	*P*	**Pn**	**01 40 01.1**	**-0.1**
4.7nm,0.5s							
FLOC	**Florencia**	**5.80**	**206**	*P*	**Pn**	**01 40 04.1**	**-0.3**
5.3nm,0.7s							
YKA	**Yellowknife Ar**	**63.24**	**340**	*P*	**P**	**01 48 51.7**	**-0.6**
0.3nm,0.8s,baz=126,slow=8.2,SNR=5.7							
0.3nm,0.8s							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPdf**	**01 58 09.8**	**+2.5**
0.2nm,0.5s,baz=100,slow=4.1,SNR=2.4							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPdf**	**01 58 13.0**	**+3.7**
0.2nm,0.4s,baz=104,slow=3.2,SNR=4.8							

JSN ***18*** *01:45:59.1±0.7, 18°96N×76°61W, h17km±4km, MD3.4*
SSNC ***18*** *01:46:00.7±1.4, 18°94N×76°63W, h20km±15km, MD3.0, ML3.0, MW2.7*

ISC 18 01:45:56.6±1.4,**18°93N**±0°04×**76°62W**±0°05,**h17**km±10km,
n14,σ0º**93**/27,**2C**,**Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.87**	**192**	*eP*	**Pn**	**01 46 15.0**	**+0.9**
STH				*eS*	**Sn**	**01 46 26.0**	**-0.5**
STH				IAML		01 46 27.5	
comp=E,61μm,0.1s							
STH				IAML		01 46 27.6	
comp=N,74μm,0.1s							
STH	**Stony Hill**	**0.87**	**192**	⇑*iP*	**Pn**	**01 46 15.1**	**+1.0**
HOJ	**Hope**	**0.93**	**188**	⇑*iP*	**Pn**	**01 46 16.3**	**+1.3**
CHIV	**Chivirico**	**1.06**	**10**	*eP*	**Pn**	**01 46 18.8**	**+2.1**
CHIV				*eS*	**Sg**	**01 46 30.1**	**-0.8**
CHIV				IAML		01 46 32.6	
comp=N,87nm,0.2s							
CHIV				IAML		01 46 32.9	
comp=E,68nm,0.1s							
MTDJ	**Mount Denham**	**1.12**	**231**	*eP*	**Pn**	**01 46 18.1**	**+0.5**
MTDJ				*eS*	**Sn**	**01 46 32.6**	**-0.1**
MTDJ				IAML		01 46 34.7	
comp=E,453nm,0.3s							
MTDJ				IAML		01 46 36.9	
comp=E,471nm,0.2s							
PILO	**Pilon**	**1.22**	**323**	*i P*	**Pg**	**01 46 20.2**	**0.0**
PILO				*eS*	**Sb**	**01 46 33.4**	**-1.5**
PILO				IAML		01 46 34.5	
comp=N,149nm,0.4s							
PILO				IAML		01 46 35.3	
comp=E,148nm,0.4s							
MARVS	**Santiago de Cu**	**1.26**	**32**	*eP*	**Pg**	**01 46 21.1**	**+0.2**
MARVS				*eS*	**Sb**	**01 46 35.8**	**-0.1**
MARVS				IAML		01 46 38.2	
comp=E,158nm,0.1s							
MARVS				IAML		01 46 38.3	
comp=N,169nm,0.2s							
RCC	**Rio Carpintero**	**1.37**	**39**	*eP*	**Pg**	**01 46 23.2**	**+0.3**
RCC				*eS*	**Sb**	**01 46 37.9**	**-1.1**
RCC				*eSg*	**Sg**	**01 46 40.6**	**-0.3**
RCC				IAML		01 46 41.8	
comp=E,78nm,0.2s							
RCC				IAML		01 46 41.9	
comp=N,62nm,0.2s							
PINC	**Pinares de May**	**1.73**	**27**	*eP*	**Pb**	**01 46 28.4**	**+0.4**
PINC				*eS*	**Sn**	**01 46 47.5**	**-0.1**
PINC				IAML		01 46 51.0	
comp=E,160nm,0.0s							
PINC				IAML		01 46 51.2	
comp=N,232nm,0.2s							
GTBY	**Guantanamo Bay**	**1.73**	**55**	*eP*	**Pb**	**01 46 28.6**	**+0.6**
GTBY				*eS*	**Sn**	**01 46 46.9**	**-0.7**
GTBY				IAML		01 46 51.0	
comp=N,60nm,0.2s							
GTBY				IAML		01 46 52.2	
comp=N,77nm,0.2s							
HLGC	**Holguin**	**2.02**	**15**	*eP*	**Pb**	**01 46 33.6**	**+0.7**
HLGC				*eS*	**Sn**	**01 46 54.4**	**-0.4**
HLGC				IAML		01 46 59.1	
comp=E,99nm,0.4s							
HLGC				IAML		01 47 00.4	
comp=N,64nm,0.4s							
QMBU	**Quimbuelo**	**2.12**	**53**	*eP*	**Pb**	**01 46 33.6**	**-1.0**
QMBU				*eS*	**Sn**	**01 46 57.2**	**-0.1**
QMBU				IAML		01 46 59.5	
comp=E,136nm,0.1s							
QMBU				IAML		01 46 59.8	
comp=N,80nm,0.1s							
NMDO	**Nuevo Mundo**	**2.23**	**43**	*eP*	**Pb**	**01 46 35.1**	**-1.5**
NMDO				*eS*	**Sn**	**01 46 60.0**	**-0.1**
NMDO				IAML		01 47 03.2	
comp=E,45nm,0.2s							
NMDO				IAML		01 47 03.5	
comp=N,41nm,0.4s							
MOAC	**Moa**	**2.32**	**42**	*eP*	**Pb**	**01 46 38.1**	**0.0**
MOAC				*eS*	**Sn**	**01 47 00.7**	**-1.5**
MOAC				IAML		01 47 11.2	
comp=N,48nm,0.3s							
MOAC				IAML		01 47 11.2	
comp=E,59nm,0.3s							

CATAC ***18*** *01:48:15.8±0.5, 13°N±3°×8°9W±°, h39km±7km, M3.2/15, MLv3.2/15, Error ellipse: s-maj=7.4km s-min=2.6km az=23.0, confirmed*
SNET ***18*** *01:48:16.0±0.7, 12°79N×88°60W, h54km±22km, ML3.4*
GCG ***18*** *01:48:17.5±0.5, 12°99N×88°61W, h78km±10km, MD3.6*

ISC 18 01:48:16.6±1.5,**12°78N**±0°08×**88°55W**±0°04,**h56**km±17km,
n62,σ1º**10**/69,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.68**	**22**	*eP*	**Pn**	**01 48 30.0**	**-0.5**
LCY				IAML		01 48 47.2	
comp=Z,1μm,0.2s							
RANC	**El Ranchito**	**0.69**	**22**	*eP*	**Pn**	**01 48 30.3**	**-0.4**
RANC				IAML		01 48 45.2	
comp=Z,868nm,0.2s							
RANC	**El Ranchito**	**0.69**	**22**	*P*	**Pn**	**01 48 30.5**	**-0.2**
RANC	**El Ranchito**	**0.69**	**22**	*S*	**Sn**	**01 48 41.6**	**+0.6**
TECA	**Tecapa**	**0.71**	**4**	*eP*	**Pn**	**01 48 30.7**	**-0.2**
TECA				IAML		01 48 42.7	
comp=Z,2μm,0.1s							
PACA	**Pacayal**	**0.72**	**18**	*eP*	**Pn**	**01 48 30.8**	**-0.2**
PACA				*eS*	**Sn**	**01 48 42.0**	**+0.6**
PACA	**Pacayal**	**0.72**	**18**	*P*	**Pn**	**01 48 31.1**	**+0.1**
BLLM	**Bellamira**	**0.72**	**25**	*eP*	**Pn**	**01 48 30.7**	**-0.3**
CNRM	**Centro Naciona**	**0.78**	**28**	*S*	**Sn**	**01 48 43.9**	**+1.2**
CNRM	**Centro Naciona**	**0.78**	**28**	*P*	**Pn**	**01 48 31.7**	**0.0**
TECO	**Alcaldia de Te**	**0.78**	**343**	*eS*	**Sn**	**01 48 42.1**	**-0.6**
TECO	**Alcaldia de Te**	**0.78**	**343**	*P*	**Pn**	**01 48 31.1**	**-0.6**
TECO	**Alcaldia de Te**	**0.78**	**343**	*S*	**Sn**	**01 48 42.5**	**-0.3**
LCND	**La Caada**	**0.83**	**51**	*eP*	**Pn**	**01 48 32.2**	**-0.1**
PQSS	**Presa 15 de Se**	**0.83**	**359**	*S*	**Sn**	**01 48 44.8**	**+0.9**
PQSS	**Presa 15 de Se**	**0.83**	**359**	*P*	**Pn**	**01 48 32.3**	**-0.1**
CNCH	**Conchagua**	**0.85**	**55**	*eP*	**Pn**	**01 48 32.5**	**-0.2**
CNCH	**Conchagua**	**0.85**	**55**	*P*	**Pn**	**01 48 32.6**	**-0.1**
CNCH	**Conchagua**	**0.85**	**55**	*S*	**Sn**	**01 48 45.8**	**+1.3**
UESV	**Universidad de**	**0.88**	**345**	*P*	**Pn**	**01 48 32.6**	**-0.3**
UESV	**Universidad de**	**0.88**	**345**	*S*	**Sn**	**01 48 45.3**	**+0.3**
COEG	**Centro de Oper**	**0.89**	**339**	*eP*	**Pn**	**01 48 32.9**	**-0.2**
COEG				*eS*	**Sn**	**01 48 45.0**	**-0.3**
COEG	**Centro de Oper**	**0.89**	**339**	*P*	**Pn**	**01 48 33.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.93**	**349**	*eP*	**Pn**	**01 48 33.2**	**-0.3**
SCLA				*eS*	**Sn**	**01 48 47.1**	**+0.9**
SCLA	**Alcaldia de Sa**	**0.93**	**349**	*P*	**Pn**	**01 48 33.3**	**-0.3**
LFRS	**El Faro**	**0.97**	**329**	*eP*	**Pn**	**01 48 33.2**	**-1.0**
CSGN	**Cosiguina Volc**	**0.99**	**79**	*P*	**Pn**	**01 48 34.6**	**+0.3**
CSGN				*S*	**Sn

DPC	Dobruska-Polom	1.69	276	*e*PG	Pb	01 49 22.2	-0.8
DPC				*e*SG	Sg	01 49 45.0	-0.4
VYHS	Vyhne	1.72	183	*e*PN	Pn	01 49 22.3	+0.1
VYHS				*e*SN	Sn	01 49 45.3	+0.5
VRAC	Vranov	1.78	240	*e*PN	Pb	01 49 23.7	-0.7
VRAC				*e*SG	Sb	01 49 47.2	0.0
OSTC	Ostas	1.79	282	*e*PG	Pb	01 49 24.2	-0.4
KSP	Ksiaz	1.81	291	*e*Pg	Pg	01 49 27.0	+1.3
KSP				*e*Sg	Sg	01 49 50.9	+1.7
KRUC	Moravsky	2.02	236	*e*SG	Sg	01 49 55.4	-0.5
MODS	Modra-Piesok	2.14	211	*e*SN	Sb	01 49 57.9	+0.2
KOLS	Kolonicke sedl	2.51	119	*e*PN	Pn	01 49 31.9	-1.2
KOLS				*e*PG	Pg	01 49 38.4	-0.7
KOLS				*e*SN	Sn	01 50 03.9	-0.5
KOLS				*e*LG	Lg	01 50 15.9	
GOPC	GO Pecny, Ondr	2.70	265	*e*SG	Sg	01 50 17.1	-0.6
CONA	Conrad Observa	3.06	223	Pg	Pg	01 49 50.5	+0.9
	0.4nm,0.3s						
CONA				*e*Sn	Sn	01 50 19.9	+2.0
	0.8nm,0.3s						
KHC	Kasperske Hory	3.65	255	*e*SG	Sg	01 50 46.7	-1.6
MOA	Molln	3.88	234	*i* Pn	Pn	01 49 53.0	+1.1
	0.4nm,0.2s						
MOA				*e*Sg	Sg	01 50 55.3	-0.4
	2.6nm,0.7s						
BURAR	Bucovina Array	4.88	120	⇑P	Pg	01 50 24.9	+0.4
GZR	Gura Zlata	5.46	150	⇑P	Pg	01 50 38.6	+2.9
WTTA	Wattenberg	5.67	241	*e*Pg	Pg	01 50 36.8	-2.8
	1.0nm,0.3s						
HERR	Herculane	5.82	155	⇓P	Pg	01 50 41.2	-1.3
VOIR		6.30	137	⇑P	Pb	01 50 36.2	-5.3
COVR	Voineasa-Covas	6.53	129	⇑P	Pn	01 50 34.3	+6.0
MLR	Muntele Rosu	6.66	132	⇑P	Pn	01 50 37.0	+6.8

*IDC **18** 01:57:12.8±4.4, 28°.52S×177°.66W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=240.1km s-min=40.7km az=158.0*

ISC 18 01:57:19.7±4.6, 28°S±1°×177°.6W±0°.7, h54km, n8, σ0°.19/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.58	265	P	P	02 05 18.5	-0.2
	0.3nm,0.4s,baz=106,slow=7.6,SNR=5.3						
	0.3nm,0.4s						
WRA	Warramunga Arr	44.38	270	P	P	02 05 25.3	+0.2
	0.6nm,0.3s,baz=109,slow=8.0,SNR=6.6						
	0.6nm,0.3s						
FINES	FINESS Array B	143.32	341	PKhKP	PKPpre	02 16 46.1	
	2.0nm,1.1s,baz=54,slow=3.6,SNR=3.4						
NB2	NORSAR Subarra	146.78	352	PKP	PKPab	02 16 56.2	-0.2
	comp=Z,0.9nm,0.6s,baz=13,slow=4.4						
NOA	NORSAR Array B	146.78	352	PKPbc	PKPab	02 16 56.4	0.0
	comp=Z,0.5nm,0.5s,baz=14,slow=4.5,SNR=4.3						
HFS	Hagfors	147.30	350	PKPbc	PKPab	02 16 58.3	-0.1
	comp=Z,1.2nm,0.6s,baz=39,slow=7.6,SNR=6.5						
AKASG	Malin Array Be	149.84	325	PKPbc	PKPbc	02 17 03.5	+0.2
	comp=Z,2.3nm,0.8s,baz=49,slow=2.2,SNR=7.8						
BRTR	Keskin Array B	151.85	302	PKPbc	PKiKP	02 17 09.1	+0.1
	comp=Z,0.6nm,0.7s,baz=81,slow=1.9,SNR=3.7						

*IDC **18** 02:10:11.6±2.8, 35°.52N×31°.19E, h0km, mb4.0/2, mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=52.5km s-min=30.9km az=68.0*
*ISK **18** 02:10:17.1, 35°.59N×31°.67E, h9km, ML3.1/56*
*GII **18** 02:10:17.2±0.0, 35°.624N±0°.002×31°.662E±0°.001, h20km, Mws2.9, confirmed*
*NIC **18** 02:10:19.0, 35°.72N×31°.85E, h19km±1km, Ml2.8/9*
*AFAD **18** 02:10:20.4, 35°.71N×31°.75E, h16km±2km, ML3.0*

ISC 18 02:10:17.9±1.1, 35°.63N±0°.02×31°.66E±0°.02, h32km±10km, n141, σ1°80/171, 1C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.81	41	Pg	Pn	02 10 33.8	+0.7
GAZI				Sg	Sn	02 10 44.6	+0.6
GAZI	Gazipasa	0.81	41	P	Pn	02 10 33.5	+0.4
GAZI				S	Sb	02 10 41.8	-2.3
GAZI				*i* AML	AML	02 10 44.0	
	comp=N,684nm,0.6s						
AKMS	Akamas	0.82	138	P	Pn	02 10 34.5	+1.2
AKMS				S	Sn	02 10 46.7	+2.4
AKMS				AML	AML	02 10 52.8	
	2.3nm,0.2s						
AKMS				AML	AML	02 10 54.6	
	3.1nm,0.4s						
ALFC	Alefka	0.90	121	P	Pn	02 10 35.4	+1.1
ALFC				S	Sn	02 10 47.1	+0.9
ALFC				AML	AML	02 10 52.1	
	1.8nm,0.2s						
ALFC				AML	AML	02 10 53.8	
	1.8nm,0.2s						
ALAN	Alanya-ANTALYA	0.98	18	Pg	Pn	02 10 36.4	+1.0
AKDN	Akdeniz- Kıbrı	1.12	107	Pn	Pb	02 10 38.9	+0.3
AKDN				Sn	Sn	02 10 54.0	+2.4
LEF	Lefka	1.12	116	Pg	Pb	02 10 38.2	-0.6
LEF	Lefka	1.12	116	P	Pb	02 10 38.8	+0.1
NATA	Nata	1.13	138	⇑*i*P	Pb	02 10 39.2	+0.4
NATA				S	Sn	02 10 54.9	+3.1
NATA				AML	AML	02 11 00.8	
	6.0nm,0.3s						
NATA				AML	AML	02 11 03.7	
	5.1nm,0.7s						
BOZY	Bozyazi-Mersin	1.17	65	Pn	Pb	02 10 40.0	+0.5
MNVG	Manavgat-Antal	1.18	350	Pn	Pb	02 10 41.4	+1.7
TROD	Troodos	1.20	124	P	Pb	02 10 39.5	-0.6
TROD				S	Sn	02 10 55.3	+1.4
TROD				AML	AML	02 11 04.7	
	0.6nm,0.5s						
TROD				AML	AML	02 11 09.5	
	0.5nm,0.6s						
KEPZ	Antalya-Kepez	1.27	358	P	Pb	02 10 40.8	-0.5
KEPZ				S	Sn	02 10 54.6	-0.9
AKUM	Antalya-Kumluc	1.27	303	P	Pb	02 10 42.1	+0.8
AKUM				S	Sb	02 11 00.4	+3.1
TEKE	Tekeli-Mersin	1.29	66	Pn	Pb	02 10 41.6	+0.1
KEMT	Kemer-ANTALYA	1.32	318	Pn	Pb	02 10 42.2	+0.1
APOL	The Sanctuary	1.37	134	P	Pb	02 10 42.4	-0.5
APOL				S	Sb	02 11 01.1	+1.0
APOL				AML	AML	02 11 08.4	
	0.6nm,0.6s						
APOL				AML	AML	02 11 13.0	
	0.6nm,0.7s						
ERMK	Ermenek	1.43	45	P	Pb	02 10 43.7	-0.4
ERMK				S	Sn	02 11 00.6	+0.8
ERMK				*i* AML	AML	02 11 06.0	
	comp=E,256nm,0.3s						
ERMK				*i* AML	AML	02 11 10.0	
	comp=N,320nm,0.7s						
BERE	Bereket-Mersin	1.46	60	Pn	Pb	02 10 44.1	-0.4
HDMB	Hadim	1.49	26	Pn	Pb	02 10 45.8	+0.7
ATHAL	Athalassa	1.50	108	S	Sb	02 11 03.1	-0.6
ATHAL				AML	AML	02 11 12.5	
	0.7nm,0.6s						
ATHAL				AML	AML	02 11 23.2	
	0.6nm,0.7s						
ANTB	Antalya	1.51	328	Pn	Pb	02 10 45.4	+0.2
YORU	Yoruktepe-Mers	1.51	69	Pn	Pb	02 10 44.8	-0.5
CSS	Mathiatis	1.52	115	Pn	Pb	02 10 44.6	-0.8
CSS	Mathiatis	1.52	115	P	Pn	02 10 43.6	+0.8
CSS				S	Sb	02 11 03.2	-1.1
CSS				AML	AML	02 11 12.2	
	0.3nm,0.4s						
CSS				AML	AML	02 11 18.7	
	0.2nm,0.4s						
CSS	Mathiatis	1.52	115	P	Pn	02 10 43.0	+0.2
CSS	Mathiatis	1.52	115	S	Sn	02 11 02.4	+0.9
ASGA	Asgata	1.55	122	P	Pb	02 10 44.9	-1.0
ASGA				S	Sb	02 11 04.7	-0.4
ASGA				AML	AML	02 11 13.4	
	0.4nm,0.3s						
ASGA				AML	AML	02 11 16.2	
	0.6nm,0.3s						
LFK	Lefkose	1.57	102	Pn	Pb	02 10 45.6	-0.7
OREN	Orenkoy-Mersin	1.57	68	Pn	Pb	02 10 45.1	-1.2
AKIN	Akıncılar- Kıb	1.60	112	Pn	Pb	02 10 45.5	-1.2
AKK1	Akkuyu-Mersin	1.61	71	Pn	Pb	02 10 46.7	-0.3
AKKU	Akkuyu-Mersin	1.62	70	Pn	Pb	02 10 46.9	-0.3
GULN	MERŞİN_Gulnar	1.63	69	P	Pn	02 10 45.0	+0.6
GULN				*i* AML	AML	02 11 10.0	
	comp=N,228nm,0.5s						
TEPK	Tepekoy-MERSIN	1.64	68	Pn	Pb	02 10 47.3	-0.2
TEVE	Tevekalti-Mers	1.66	60	Pn	Pb	02 10 47.5	-0.3
YESI	Yesilovacik-Me	1.71	70	Pn	Pb	02 10 48.0	-0.6
MVOU	Mavrovouni	1.72	110	⇓*e*P	Pn	02 10 45.9	+0.3
MVOU				S	Sn	02 11 07.7	+1.1
MVOU				AML	AML	02 11 18.6	
	0.2nm,0.4s						
MVOU				AML	AML	02 11 21.0	
	0.2nm,0.5s						
TISA	Tisan-Mersin	1.72	71	Pn	Pb	02 10 47.9	-1.0
KORT	Korkueli	1.73	323	Pn	Pb	02 10 49.0	-0.1
IKL	Isikli	1.75	69	Pn	Pb	02 10 48.7	-0.7
KARG	Kargicak-Mersi	1.76	70	Pn	Pb	02 10 48.7	-0.8
AKAS	Kas	1.77	291	Pn	Pb	02 10 48.8	-1.0
AKAS	Kas	1.77	291	P	Pn	02 10 47.6	+1.2
SEYD	Seydisehir-KON	1.78	5	Pn	Pb	02 10 49.8	-0.2
ELL	Elmali	1.81	309	Pn	Pb	02 10 50.0	-0.4
SEDI	Konya, Seydise	1.82	2	P	Pb	02 10 49.6	-1.0
SEDI				S	Sn	02 11 10.3	+1.1
SEDI				*i* AML	AML	02 11 19.0	
	comp=E,147nm,0.5s						
SEDI				*i* AML	AML	02 11 20.0	
	comp=N,145nm,0.6s						
KEBE	Keben-Mersin	1.85	63	Pn	Pb	02 10 50.4	-0.8
KKBE	Karaman, Kazim	1.90	33	P	Pb	02 10 51.3	-0.5
BUCA	Burdur, Bucak-	1.92	333	P	Pb	02 10 52.3	+0.1
SILI	Silifke-Mersin	1.98	67	Pn	Pb	02 10 52.3	-0.9
SLFK	Silifke-Mersin	2.00	67	Pn	Pb	02 10 52.1	-1.6
KRMN	Karaman	2.01	39	Pn	Pb	02 10 52.7	-1.2
BCK	Bucak	2.02	335	Pn	Pb	02 10 53.3	-0.7
EREN	Erenkoy	2.05	92	Pn	Pb	02 10 52.5	-1.9
EREN	Erenkoy	2.05	92	P	Pb	02 10 52.6	-1.8
EREN				S	Sn	02 11 13.0	-1.5
EREN				*i* AML	AML	02 11 22.0	
	comp=E,126nm,0.7s						
KNIK	Mula-Seydike	2.08	306	P	Pb	02 10 53.6	-1.4
KNIK				S	Sn	02 11 16.7	+1.2
IZZE	Mula-Seydike	2.13	293	P	Pn	02 10 52.5	+1.2
IZZE				S	Sn	02 11 15.6	-1.1
KIZK	Mersin	2.19	66	Pn	Pb	02 10 55.0	-1.7
KIZK	Mersin	2.19	66	P	Pb	02 10 54.5	-2.3
CAME	Cameli-Denizli	2.31	305	Pn	Pb	02 10 57.1	-1.9
FETY	Fethiye	2.32	297	Pn	Pb	02 10 56.7	-2.3
GOLH	Golhisar	2.33	314	P	Pb	02 10 57.6	-1.8
GOLH				S	Sn	02 11 23.1	+1.3
GOLH				*i* AML	AML	02 11 42.0	
	comp=E,74nm,0.5s						
GOLH				*i* AML	AML	02 11 48.0	
	comp=N,79nm,0.7s						
ISP	Isparta	2.38	338	Pn	Pb	02 10 58.3	-1.7
ISP	Isparta	2.38	338	P	Pn	02 10 55.5	+0.8
ISP	Isparta	2.38	338	S	Sn	02 11 23.9	+1.1
KONT	Konya--Tatoy	2.38	13	Pn	Pb	02 10 58.1	-2.0
KONT	Konya--Tatoy	2.38	13	P	Pb	02 10 58.4	-1.7
CAEL	Denizli, Camel	2.41	309	P	Pb	02 11 00.6	-0.1
CAEL				*i* AML	AML	02 11 44.0	
	comp=E,77nm,1.1s						
CAEL				*i* AML	AML	02 11 52.0	
	comp=N,113nm,0.9s						
BRDR	BURDUR-Merkez	2.43	329	P	Pb	02 10 59.1	-1.9
BRDR				S	Sn	02 11 24.8	+0.6
DOGA	KONYA_Doganhis	2.48	0	P	Pb	02 10 59.3	-2.5
DOGA				S	Sn	02 11 24.4	-0.9
MERS	Mersin	2.62	61	Pn	Pb	02 11 01.3	-2.9
BASM	Basmaki-Afyon	2.63	331	Pn	Pb	02 11 01.7	-2.6
APMY	Acipayam-Deniz	2.65	315	Pn	Pb	02 11 01.7	-2.9
YVAC	Isparta, Yalva	2.66	353	P	Pn	02 11 01.5	+2.9
YVAC				S	Sn	02 11 28.4	-1.5
KERG	Konya-Eregli	2.67	47	P	Pb	02 11 02.0	-3.1
KERG				S	Sn	02 11 30.5	+0.4
KERG				*i* AML	AML	02 12 32.0	
	comp=N,63nm,2.8s						
INCE	Denizli-Bozkur	2.67	322	P	Pn	02 11 01.7	+2.9
INCE				S	Sn	02 11 30.4	+0.3
DALY	Dalyan (Mula)	2.71	297	Pn	Pn	02 11 00.4	+1.3
YESY	Yesilyurt	2.73	37	Pn	Pb	02 11 02.8	-3.2
AFYN	Afyon-Dinar-K	2.80	341	P	Pn	02 11 02.0	+1.4
AFYN				S	Sn	02 11 35.0	+1.8
ALIN	Konya, Altinte	2.84	20	P	Pn	02 11 03.4	+2.3
DED	Mersin	2.86	61	P	Pn	02 11 04.0	+2.6
KDHN	Kadinhani	2.91	7	P	Pn	02 11 05.1	+3.0
ARG	Arkhangelos	2.93	283	Pn	Pn	02 11 03.5	+1.3
SULT	Sultanhani-AKS	2.97	30	Pn	Pn	02 11 06.3	+3.5
TURN	Turunc	2.99	294	Pn	Pn	02 11 04.9	+1.8
GULE	Gulek	3.01	56	P	Pb	02 11 07.4	-3.5
GULE				S	Sn	02 11 41.7	+3.2
GULE				*i* AML	AML	02 11 48.0	
	comp=E,76nm,0.4s						
GULE				*i* AML	AML	02 11 50.0	
	comp=N,67nm,0.5s						
UCKU	Afyonkarahisar	3.01	356	P	Pn	02 11 06.4	+2.9
UCKU				S	Sn	02 11 40.7	+2.2
SHUT	Suhut-Afyon	3.05	343	Pn	Pn	02 11 07.6	+3.6
CHBY	Cihanbeyli	3.11	18	Pn	Pn	02 11 08.6	+3.8
YER	Yerkesik	3.11	300	Pn	Pn	02 11 08.2	+3.4
CBEY	Konya-Cihanbey	3.19	16	P	Pn	02 11 08.4	+2.5
CBEY				S	Sn	02 11 44.7	+1.9
KARA	Karaisali	3.19	58	Pn	Pn	02 11 09.6	+3.8
KIZT	Kizilcal	3.25	3	Pn	Pn	02 11 10.5	+3.7
CMRD	Camardi-Nigde	3.36	52	Pn	Pn	02 11 11.7	+3.4
BSIR	Belisirma, Guz	3.38	38	P	Pn	02 11 11.2	+2.7
CEYT	Ceyhan	3.58	66	Pn	Pn	02 11 14.7	+3.6
TAHT	Tahtakopru-Hat	3.74	77	Pn	Pn	02 11 17.1	+3.7
SVRH	Sivrihisar-ESK	3.81	358	Pn	Pn	02 11 17.9	+3.4
KOZT	Kozan	3.83	60	Pn	Pn	02 11 18.6	+4.0
AFSR	Afar-Bala (An	3.98	16	Pn	Pn	02 11 21.1	+4.4
MMA0B	Mount Meron ar	4.05	129	P	Pn	02 11 18.2	+0.6
MMA0B	Mount Meron ar	4.05	129	S	Sn	02 12 05.2	+1.2
MMAI	Mount Meron Ar	4.05	129	Pn	Pn	02 11 18.4	+0.7
	5.7nm,0.3s,baz=303,slow=12,SNR=44						
MMAI				Sn	Sn	02 12 02.6	-1.4
	4.9nm,0.3s,baz=313,slow=15,SNR=5.4						
	2.4nm,0.3s						
OFRI	`Ofer	4.07	136	P	Pn	02 11 18.7	+0.7
OFRI	`Ofer	4.07	136	S	Sn	02 12 05.6	+1.0
KAMT	Kaman	4.08	23	Pn	Pn	02 11 21.8	+3.7
GEM	Giv'at Ha'Em	4.09	125	P	Pn	02 11 19.1	+0.8
GEM	Giv'at Ha'Em	4.09	125	S	Sn	02 12 05.8	+0.7
NATI	Neve Ativ	4.11	124	P	Pn	02 11 19.1	+0.6
NATI	Neve Ativ	4.11	124	S	Sn	02 12 06.8	+1.4
BRTR	Keskin Array B	4.38	20	Pn	Pn	02 11 25.4	+3.1
	0.4nm,0.3s,baz=200,slow=16,SNR=14						
BRTR				Sn	Sn	02 12 17.2	+4.8
	0.3nm,0.3s,baz=214,slow=28,SNR=5.2						
	1.1nm,0.5s						
MMLI	Mount Malkishu	4.46	134	P	Pn	02 11 23.0	-0.2
MMLI	Mount Malkishu	4.46	134	S	Sn	02 12 15.2	+1.1
HMDT	Nahal Hemdat	4.65	135	P	Pn	02 11 27.0	+1.1
HMDT	Nahal Hemdat	4.65	135	S	Sn	02 12 20.2	+1.4
AMAZ	Amatzia	4.90	145	P	Pn	02 11 30.5	+1.1
AMAZ	Amatzia	4.90	145	S	Sn	02 12 26.4	+1.4
DSI	Dead Sea	5.10	141	P	Pn	02 11 33.0	+1.0
DSI	Dead Sea	5.10	141	S	Sn	02 12 30.8	+1.0
YTIR	Yattir	5.14	145	P	Pn	02 11 33.7	+1.0
YTIR	Yattir	5.14	145	S	Sn	02 12 32.1	+1.1
APE	Apeiranthos	5.15	288	P	Pn	02 11 33.7	+0.8
KZIT	Kziot	5.24	153	P	Pn	02 11 34.5	+0.6
KZIT	Kziot	5.24	153	S	Sn	02 12 34.6	+1.3
MSBI	Mazada	5.30	143	P	Pn	02 11 34.9	+0.2
MSBI	Mazada	5.30	143	S	Sn	02 12 35.8	+1.2
GHAJ	Ghor Haditha	5.41	142	P	Pn	02 11 37.2	+0.9
GHAJ	Ghor Haditha	5.41	142	S	Sn	02 12 38.7	+1.3
PRNI	Paran	5.96	151	P	Pn	02 11 44.7	+0.8
PRNI	Paran	5.96	151	S	Sn	02 12 52.5	+1.3
KRMI	Paran Flat	6.07	154	P	Pn	02 11 45.4	-0.1
KRMI	Paran Flat	6.07	154	S	Sn	02 12 55.0	+1.2
HRFI	Mount Harif	6.26	152	P	Pn	02 11 49.1	+1.1
HRFI	Mount Harif	6.26	152	S	Sn	02 12 59.8	+1.4
MBRI	Mt Berech	6.43	154	P	Pn	02 11 51.4	+1.0
MBRI	Mt Berech	6.43	154	S	Sn	02 13 04.4	+1.6
EIL	Elat	6.55	154	P	Pn	02 11 52.7	+0.6
EIL	Elat	6.55	154	S	Sn	02 13 07.5	+1.8
FINES	FINESS Array B	26.08	354	P	P	02 15 46.5	-1.8
	1.0nm,0.8s,baz=154,slow=10.0,SNR=5.6						
	1.0nm,0.8s						
ARCES	ARCESS Array B	34.13	356	P	P	02 16 59.0	-0.4
	6.2nm,1.2s,baz=175,slow=11,SNR=1.9						
	6.2nm,1.2s						

*NEIC **18** 02:27:57.7±1.7, 2°.94S±0°.10×137°.96E±0°.07, h42km±8km, mb4.5/22, Error ellipse: s-maj=14.3km s-min=10.2km az=181.0*
*IDC **18** 02:27:58.1±2.9, 2°.98S×137°.96E, h42km±29km, mb3.8/8, mbtmp4.2/12, ML4.5/3, MS3.4/3, Error ellipse: s-maj=28.5km s-min=17.6km az=82.0*
*DJA **18** 02:27:59.3±0.2, 3°S±4°×13°8E±°, h51km±25km, M4.8/8, mB5.4/4, mb5.1/6, MLv4.7/8, Mw(mB)4.8/4*

ISC 18 02:27:58.9±0.8, 2°.98S±0°.05×138°.06E±0°.04, h58km±9km, n68, σ1°46/75, mb4.3/14, MS3.5/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	1.18	33	P	Pn	02 28 18.7	-0.6
SMPI				S	Sn	02 28 33.7	-0.7
SRPI	Serui, Papua	2.13	301	P	Pn	02 28 33.3	+1.2
SRPI				S	Sn	02 28 57.4	0.0
GENI	Genyem	2.14	80	P	Pn	02 28 33.7	+1.4
GENI				S	Sn	02 28 59.3	+1.6
BAKI	Biak	2.64	312	P	Pn	02 28 40.5	+1.4
BAKI				S	Sn	02 29 10.8	+0.8
JAY	Jayapura	2.68	80	P	Pn	02 28 39.9	+0.2
	94nm,0.3s,baz=222,slow=10,SNR=20						
JAY				S	Sn	02 29 09.3	-1.8
	353nm,0.5s,baz=72,slow=20,SNR=9.8						
	205nm,0.4s						
JAY	Jayapura	2.68	80	P	Pn	02 28 39.8	+0.1
JAY				S	Sn	02 29 09.4	-1.7
KMPI	Kaimana, Papua	4.40	261	P	Pn	02 29 03.6	+0.4
KMPI				S	Sn	02 29 54.4	+1.2
FAKI	Fak Fak	5.80	270		Pn	02 29 20.5	-2.0
FAKI				Sn	Sn	02 30 24.2	-3.6
FAKI	Fak Fak	5.80	270	P	Pn	02 29 26.2	+3.7
FAKI	Fak Fak	5.80	270	P	Pn	02 29 22.8	+0.3
	0.5nm1μm107nm,0.5s						
FAKI				S	Sn	02 30 28.6	+0.8
	0.5nm1μm107nm,0.5s						
MMPI	Merauke	5.92	157	S	Sn	02 30 33.7	+3.2
SWI	Sorong	7.12	287	P	Pn	02 29 41.4	+1.0
	2μm153nm,0.6s						
BNDI	Bandanaira	8.28	259	P	Pn	02 29 57.1	+0.7
MSAI	Masohi	9.13	267	P	Pn	02 30 07.3	-0.7
	13μm84nm,0.5s						
NLAI	Namlea	10.95	268	P	Pn	02 30 35.2	+2.3
PMG	Port Moresby	11.07	126	P	Pn	02 30 35.4	+0.9
	12nm,0.4s,baz=236,slow=5.7,SNR=3.6						
KDU	Kakadu	11.12	210	P	Pn	02 30 35.4	+0.2
KDU	Kakadu	11.12	210	S	Sn	02 32 35.2	-2.8
DRS	Darwin Rock St	11.77	217	P	Pn	02 30 45.7	+1.6
MTN	Manton Dam	11.96	215		Pn	02 30 44.1	-2.6
MTN	Manton Dam	11.96	215	P	Pn	02 30 47.9	+1.2
MTN	Manton Dam	11.96	215	S	Sn	02 32 57.9	-0.7
COEN	Coen	12.02	155	Pn	Pn	02 30 47.5	-0.1
SANI	Sanana	12.10	274	P	Pn	02 30 50.2	+1.6
SOEI	Soe	15.26	243	Pn	Pn	02 31 28.4	-2.7
KNRA	Kununurra	15.59	215		Pn	02 31 33.6	-1.6
KNRA				IAmb	IAmb	02 31 39.4	
	comp=Z,24nm,0.8s						
WB0	Warramunga Arr	17.06	192		Pn	02 31 52.5	-1.2
WR8	Warramunga Arr	17.23	191	P	Pn	02 31 55.1	-0.6
WB2	Warramunga Arr	17.24	192	Pn	Pn	02 31 54.8	-1.1
WB2				IAmb	IAmb	02 32 22.0	
	comp=Z,13nm,0.6s						
WRA	Warramunga Arr	17.25	192		Pn	02 31 53.7	-2.2
WRA	Warramunga Arr	17.25	192	P	Pn	02 31 54.8	-1.1
	comp=Z,1.5nm,0.3s,baz=10,slow=12,SNR=27						
WRA				S	Sn	02 34 57.1	-10
	comp=Z,7.9nm,0.8s,baz=9.4,slow=23,SNR=5.6						
	comp=Z,3.0nm,0.4s						
WB1	Warramunga Ar.	17.26	192	P	Pn	02 31 56.7	+0.6
TOLI2	Tolitoli	17.75	283	P	Pn	02 31 58.9	-3.2
TOLI2	Tolitoli	17.75	283	P	P	02 32 04.4	+2.1
FITZ	Fitzroy Crossi	19.34	218		P	02 32 19.4	-0.3
FITZ	Fitzroy Crossi	19.34	218	P	P	02 32 19.8	+0.1
	comp=Z,1.0nm,0.3s,baz=33,slow=15,SNR=17						
FITZ				S	S	02 35 44.8	-11
	comp=Z,18nm,0.6s,baz=188,slow=15,SNR=9.5						
	comp=Z,2.9nm,0.8s						
FITZ	Fitzroy Crossi	19.34	218	P	P	02 32 20.6	+0.9
AS01	Alice Springs	20.94	191	P	P	02 32 37.9	+0.8
AS31	Alice Springs	20.95	191		P	02 32 38.3	+1.1
AS31				IAmb	IAmb	02 32 47.1	
	comp=Z,6.7nm,0.6s						
ASAR	Alice Springs	20.95	191	P	P	02 32 37.7	+0.5
ASAR	Alice Springs	20.95	191	P	P	02 32 38.1	+0.9
	comp=Z,6.8nm,0.5s,baz=15,slow=11,SNR=83						
ASAR				S	S	02 36 25.3	-2.4
	comp=Z,13nm,0.9s,baz=13,slow=24,SNR=23						
	comp=Z,6.8nm,0.5s						
MBWA	Marble Bar	25.39	223	P	P	02 33 20.4	-0.7
MBWA				IAmb	IAmb	02 33 51.7	
	comp=Z,16nm,1.1s						
EIDS	Eidsvold	25.54	152	P	P

SGSI				S	Sn	02 42 34.4	-0.2
TNTI	Ternate	2.93	192	P	Pn	02 42 11.4	+1.4
TNTI				S	Sn	02 42 46.1	+0.1
KMSI	Cibinong	5.02	232	P	Pn	02 42 39.0	+1.8
SANI	Sanana	6.01	199	P	Pn	02 42 48.9	-1.4
FITZ	Fitzroy Crossi 0.9nm,0.5s,baz=7.0,slow=9.1,SNR=7.5 0.9nm,0.5s	21.74	186	P	P	02 46 00.9	-2.2
WRA	Warramunga Arr 1.1nm,0.4s,baz=343,slow=10.0,SNR=8.7 1.1nm,0.4s	24.28	165	P	P	02 46 27.2	+0.2
ASAR	Alice Springs 1.7nm,0.5s,baz=354,slow=8.0,SNR=37 1.7nm,0.5s	27.77	168	P	P	02 46 59.2	+0.8
KSRS	Korea Array 1.1nm,0.5s,baz=175,slow=9.7,SNR=4.0 1.1nm,0.5s	33.63	360	P	P	02 47 49.3	-0.4
KLR	Kul'dur 1.2nm,0.7s,baz=180,slow=5.1,SNR=4.9 1.2nm,0.7s	45.52	3	P	P	02 49 28.6	+0.7
SONM	Songino Array 0.2nm,0.5s,baz=128,slow=4.8,SNR=2.1 0.2nm,0.5s	47.76	340	P	P	02 49 45.2	-0.3
MKAR	Makanchi Array 0.6nm,0.4s,baz=112,slow=8.8,SNR=9.6 0.6nm,0.4s	58.31	325	P	P	02 51 03.0	+0.3
KURBB	Kurchatov Arra 0.5nm,0.4s,baz=126,slow=5.4,SNR=3.1 0.5nm,0.4s	62.46	327	P	P	02 51 30.7	0.0

*IDC **18** 02:44:37.9±0.8, 52°.43N×168°.60W, h0km, mb4.4/27, mbtmp4.4/28, ML3.2/1, MS3.6/25, Error ellipse: s-maj=21.4km s-min=12.2km az=171.0*
*AEIC **18** 02:44:43.2±4.1, 52°.42N±0°.04×168°.33W±0°.09, h15km±3km, Error ellipse: s-maj=8.1km s-min=5.1km az=99.0*
*NEIC **18** 02:44:43.7±1.5, 52°.44N±0°.05×168°.68W±0°.08, h35km±1km, mb4.5/140, ML3.8/12, ML3.6(AEIC), Error ellipse: s-maj=9.4km s-min=8.2km az=191.0*
*BGR **18** 02:44:45.8, 52°.46N×167°.82W, h33km, mb4.9, Hypocentre not reviewed by the ISC*

ISC 18 02:44:42.1±0.4, 52°.33N±0°.06×168°.58W±0°.05, h29km, n540, σ0.99/475, mb4.6/111, MS3.5/24, 10C-11D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.67	345		Pb	02 44 55.0	-0.2
NIKH					Sb	02 45 04.4	+0.2
NIKH	comp=N,6μm,0.7s			IAML		02 45 11.4	
NIKH	Nikolski High	0.67	345	P	Pb	02 44 55.2	0.0
NIKH	Nikolski High baz=150	0.67	345	P	Pb	02 44 55.5	+0.3
OKSP	Okmok Steeple	0.94	11		Pn	02 44 59.2	-0.2
UNV	Unalaska Valle	1.97	39		Sn	02 45 39.0	+1.9
UNV	Unalaska Valle	1.97	39		Pn	02 45 12.8	-0.6
UNV	comp=E,551nm,1.0s			IAML		02 45 53.3	
UNV	Unalaska Valle	1.97	39	P	Pn	02 45 12.6	-0.8
UNV	Unalaska Valle baz=218	1.97	39	P	Pn	02 45 13.2	-0.3
MTBL	Makushin Table	2.00	34		Pn	02 45 14.7	+0.7
AKRB	Akutan Reef Bi	2.35	39		Pn	02 45 21.3	+2.5
AKRB					Sn	02 45 49.7	+3.0
LVA	Lava Point	2.39	39		Sn	02 45 49.6	+2.1
LVA	Lava Point	2.39	39		Pn	02 45 19.8	+0.6
AKGG	Akutan Green G	2.43	39		Pn	02 45 22.4	+2.5
AKUT	Akutan	2.47	42		Pn	02 45 20.5	+0.1
AKUT	comp=N,339nm,1.0s			IAML		02 46 07.2	
AKUT	Akutan	2.47	42	P	Pn	02 45 20.1	-0.3
ATKA	Atka Island	3.45	270		Pn	02 45 34.5	+0.7
ATKA	comp=N,166nm,1.5s			IAML		02 46 35.4	
ATKA	comp=E,188nm,1.1s			IAML		02 46 43.1	
P08K	Saint George I	4.32	353	Pn	Pn	02 45 45.5	-0.2
P08K	comp=E,150nm,1.2s			IAML		02 47 00.2	
P08K	Saint George I baz=170	4.32	353	P	Pn	02 45 46.7	+0.9
GSTR	Great Sitkin T	4.61	270		Pn	02 45 51.4	+1.6
SPIA	Saint Paul Isl baz=166	4.95	349	P	Pn	02 45 55.9	+1.5
KIWB	Kanaga Island	5.31	268		Pn	02 46 00.7	+1.3
SDPT	Sand Point	5.67	55	P	Pn	02 46 04.0	-0.3
SDPT	Sand Point baz=241	5.67	55	P	Pn	02 46 04.1	-0.3
CHNA	Chernabura Isl	5.91	61	P	Pn	02 46 06.4	-1.2
CHNA	Chernabura Isl baz=249	5.91	61	P	Pn	02 46 06.9	-0.7
S14K	Fog Glacier baz=237	6.60	50	P	Pn	02 46 16.5	-0.7
CHGN	Chignik baz=240	7.15	52	P	Pn	02 46 24.4	-0.3
O14K	Tigyukauivet M baz=213	8.07	28	P	Pn	02 46 36.5	-0.7
M11K	Mekoryuk baz=189	8.18	8	P	Pn	02 46 39.8	+1.1
CHIR	Chirikof Islan baz=251	8.38	60	P	Pn	02 46 41.9	+0.4
O15K	Ungalikthiuk R baz=219	8.45	32	P	Pn	02 46 42.5	+0.1
N14K	Kuskokwak Cree baz=209	8.53	24	P	Pn	02 46 43.6	+0.2
M13K	Dall Lake baz=201	8.61	18	P	Pn	02 46 45.0	+0.5
P16K	Nushagak River baz=226	8.98	37	P	Pn	02 46 49.7	0.0
N15K	Kwethluk River baz=214	9.16	28	P	Pn	02 46 52.0	-0.2
M14K	Bethel baz=206,SNR=6.2	9.20	21	P	Pn	02 46 52.5	0.0
O16K	Kokwok River B	9.35	35		Pn	02 46 56.6	+1.9
O16K	Kokwok River B baz=223	9.35	35	P	Pn	02 46 54.4	-0.3
Q17K	Contact Creek baz=236	9.36	46	P	Pn	02 46 54.6	-0.4
SII	Sitkinak Islan baz=249	9.39	58	P	Pn	02 46 54.7	-0.7
M15K	Kasigluk River baz=210	9.44	24	P	Pn	02 46 56.2	+0.2
L14K	Kuka Creek baz=202	9.59	17	P	Pn	02 46 58.5	+0.5
R18K	Karluk baz=243	9.66	52	P	Pn	02 46 58.6	-0.5
P17K	Kvichak River baz=230	9.69	40	P	Pn	02 46 58.8	-0.5
N16K	Nishlik Lake baz=217	9.80	30	P	Pn	02 47 01.0	+0.1
O17K	Koliganek Bris baz=225	9.83	36	P	Pn	02 47 00.8	-0.5
K13K	Kusilvak Mount baz=193	9.86	11	P	Pn	02 47 02.2	+0.5
Q18K	Katmai Hardscr baz=236	9.96	45	P	Pn	02 47 02.5	-0.7
OHAK	Old Harbor	10.09	55	P	Pn	02 47 02.4	-2.5
OHAK	Old Harbor baz=247	10.09	55	P	Pn	02 47 04.4	-0.5
L15K	Ungalak Mounta baz=205	10.13	20	P	Pn	02 47 05.6	+0.2
M16K	Timber Creek baz=215	10.18	27	P	Pn	02 47 05.5	-0.6
P18K	Big Mountain,	10.30	41		Pn	02 47 09.0	+1.2
P18K	Big Mountain, baz=232,SNR=5.5	10.30	41	P	Pn	02 47 07.5	-0.3
N17K	Nushagak Hills	10.34	33		Pn	02 47 10.1	+1.7
N17K	Nushagak Hills baz=222	10.34	33	P	Pn	02 47 07.8	-0.6
SHEM	Shemya Is, Ala comp=E,307nm,21.0s,baz=131,slow=37	10.56	279	LR	LR	02 51 11.7	
O18K	Koktuh Hills	10.60	39		Pn	02 47 12.0	+0.2
O18K	Koktuh Hills baz=230,SNR=6.3	10.60	39	P	Pn	02 47 11.1	-0.7
L16K	Owhat River baz=211	10.62	24	P	Pn	02 47 11.1	-1.0
KDAK	Kodiak Island comp=E,1.3nm,0.3s,baz=302,slow=2.5,SNR=32	10.66	53	Pn	Pn	02 47 10.9	-1.8
KDAK	Kodiak Island baz=246	10.66	53	P	Pn	02 47 11.6	-1.1
K15K	Wolf Creek Mou baz=203	10.69	18	P	Pn	02 47 13.2	+0.2
Q19K	Cape Douglas, baz=238	10.71	46	P	Pn	02 47 13.4	+0.1
J14K	Nanvaranak Lak baz=196	10.79	12	P	Pn	02 47 14.4	+0.1
N18K	Kilae Creek baz=225	10.90	35	P	Pn	02 47 15.5	-0.4
M17K	Holitna River baz=218	10.93	29	P	Pn	02 47 16.3	0.0
Q20K	Shuyak Island baz=242	11.12	49	P	Pn	02 47 18.1	-0.7
O19K	Port Alsworth	11.16	39		Pn	02 47 20.2	+0.8
O19K	Port Alsworth baz=231	11.16	39	P	Pn	02 47 19.3	-0.1
P19K	Oil Pt baz=236	11.28	43	P	Pn	02 47 20.4	-0.7
L17K	Donlin baz=214	11.28	25	P	Pn	02 47 20.6	-0.5
N19K	Bonanza Creek baz=228,SNR=6.4	11.49	37	P	Pn	02 47 23.5	-0.7
M18K	Stony River baz=222	11.51	32	P	Pn	02 47 23.9	-0.3
GAMB	Gambell baz=170	11.60	353	P	Pn	02 47 26.1	+0.7
J16K	Anvik River baz=204	11.77	18	P	Pn	02 47 27.8	0.0
K17K	Iditarod baz=212	11.77	24	P	Pn	02 47 27.7	-0.1
L18K	Granite Mounta baz=218	11.79	28	P	Pn	02 47 27.9	-0.3
HOM	Homer baz=239	11.96	46	P	Pn	02 47 29.6	-0.9
J17K	VABM Dome baz=208	12.18	21	P	Pn	02 47 32.7	-0.6
M19K	Big River Lodg	12.28	33		Pn	02 47 37.1	+2.4
M19K	Big River Lodg baz=225,SNR=5.7	12.28	33	P	Pn	02 47 33.9	-0.9
I17K	Unalakleet baz=203	12.30	17	P	Pn	02 47 35.1	+0.1
L19K	White Mountain baz=223	12.33	31	P	Pn	02 47 34.9	-0.5
ANM	Nome baz=188	12.38	6	P	Pn	02 47 36.5	+0.3
BRSE	Bradley Lake S baz=241	12.40	46	P	Pn	02 47 35.7	-0.8
TTA	Tatalina baz=217	12.55	27	P	Pn	02 47 38.1	-0.5
SPCR	Spurr Chakacha baz=232	12.60	39	P	Pn	02 47 38.8	-0.4
M20K	Styx River	12.70	35		Pn	02 47 41.7	+1.1
M20K	Styx River baz=228,SNR=8.1	12.70	35	P	Pn	02 47 39.0	-1.6
CAPN	Captain Cook N baz=236	12.76	42	P	Pn	02 47 39.1	-2.3
H16K	Elim baz=197	12.77	12	P	Pn	02 47 41.6	+0.1
J18K	Innoko River baz=214	12.79	25	P	Pn	02 47 40.7	-1.1
L20K	Farewell, AK baz=224	12.86	32	P	Pn	02 47 42.4	-0.3
G15K	Niukluk baz=192	12.92	9	P	Pn	02 47 42.8	-0.6
STLK	Strandline Lak	12.92	38		Pn	02 47 44.0	+0.4
SLKM	Skilak Lake	13.01	44		Pn	02 47 44.1	-0.7
SEW	Seward baz=242	13.15	46	P	Pn	02 47 45.5	-1.1
O22K	Cooper Landing baz=240	13.21	44	P	Pn	02 47 45.2	-2.2
F14K	Arctic Creek baz=185	13.24	4	P	Pn	02 47 46.5	-1.2
TNA	Tin City baz=181	13.28	1	P	Pn	02 47 46.8	-1.6
SUA	Susitna One baz=234	13.32	40	P	Pn	02 47 47.9	-1.3
SKT	Skwentna	13.34	37		Pn	02 47 49.9	+0.7
SKT	Skwentna baz=231	13.34	37	P	Pn	02 47 46.8	-2.4
H17K	Granite Mounta baz=203	13.40	16	P	Pn	02 47 48.8	-1.3
K20K	Telida baz=221	13.44	29	P	Pn	02 47 49.3	-1.4
G16K	Koyuk River baz=196	13.48	11	P	Pn	02 47 50.1	-1.0
J19K	Poorman baz=216	13.51	25	P	Pn	02 47 51.1	-0.5
RC01	Rabbit Creek A baz=238	13.52	42	P	Pn	02 47 48.5	-3.2
F15K	North Star Dit baz=190	13.57	7	P	Pn	02 47 52.2	-0.1
PPLA	Purkeypile baz=227,SNR=6.8	13.71	33	P	Pn	02 47 53.1	-1.3
M22K	Willow baz=235	13.73	39	P	Pn	02 47 54.0	-0.6
G17K	Kiwalik Mounta baz=200	13.81	14	P	Pn	02 47 56.1	+0.4
GCSA	Galena City Sc baz=211	13.83	21	P	Pn	02 47 54.6	-1.4
H18K	Honhosa River	13.88	18	Pn	Pn	02 47 58.5	+1.9
H18K	Honhosa River baz=206,SNR=8.9	13.88	18	P	Pn	02 47 55.7	-1.0
PWL	Port Wells baz=241	13.99	44	P	Pn	02 47 57.2	-0.9
P23K	Montague Islan baz=246	14.03	49	P	Pn	02 47 57.1	-1.5
PMR	Palmer baz=237	14.04	41	P	Pn	02 47 58.4	-0.3
J20K	Nowinta River baz=219	14.05	27	P	Pn	02 47 59.2	+0.3
CAST	Castle Rocks baz=225,SNR=29	14.10	32	P	Pn	02 47 59.8	+0.1
KNK	Knik Glacier baz=239	14.22	42	P	Pn	02 48 00.3	-0.9
CHUM	Lake Minchumin baz=224,SNR=7.3	14.36	30	P	Pn	02 48 03.1	-0.1
I20K	Naaghedeneel baz=216	14.45	25	P	Pn	02 48 04.6	+0.2
SML	Sawmill	14.47	41	Pn	Pn	02 48 03.9	-0.9
SML	Sawmill baz=238	14.47	41	P	Pn	02 48 03.8	-0.9
G18K	Tagagawik baz=204	14.50	16	P	Pn	02 48 04.9	-0.2
GLI	Glacier Island baz=243	14.54	46	P	Pn	02 48 04.4	-1.2
KTH	Kantishna Hill	14.57	33		Pn	02 48 05.8	-0.4
H19K	Roundabout Mou	14.60	20		Pn	02 48 07.1	+0.8
H19K	Roundabout Mou baz=210	14.60	20	P	Pn	02 48 06.7	+0.3
F17K	Baldwin Pennin baz=198	14.62	12	P	Pn	02 48 06.6	-0.1
M23K	Glacier View baz=239	14.71	42	P	Pn	02 48 05.4	-2.5
TRF	Thorofare Moun baz=229	14.72	34	P	Pn	02 48 07.1	-1.1
SCM	Sheep Creek Mo baz=240,SNR=14	14.89	42	P	Pn	02 48 08.8	-1.7
H20K	Anotleneega Mo baz=214	14.92	23	P	Pn	02 48 10.8	0.0
BPAW	Bear Paw Mtn.	14.93	31		Pn	02 48 10.8	0.0
BPAW	Bear Paw Mtn. baz=226,SNR=11	14.93	31	P	Pn	02 48 10.5	-0.3
F18K	Selawik baz=201,SNR=7.4	14.99	14	P	Pn	02 48 12.1	+0.5
EYAK	Cordova Ski Ar baz=247	15.00	48	P	Pn	02 48 11.1	-0.7
G19K	Purcell Mounta baz=208	15.01	18	P	Pn	02 48 12.1	+0.2
E17K	Hotham Inlet baz=196	15.17	10	P	Pn	02 48 14.9	+0.9
KLU	Klutina baz=243,SNR=15	15.32	44	P	Pn	02 48 13.2	-2.9
MCK	McKinley baz=231	15.37	34	P	Pn	02 48 16.2	-0.4
KAIM	Kayak Island baz=251	15.40	51	P	Pn	02 48 15.8	-1.2
I21K	Tanana	15.42	27		Pn	02 48 17.1	-0.3
I21K	comp=Z,40nm,1.1s			IAmb	IAmb	02 48 23.1	
I21K	Tanana baz=221,SNR=20	15.42	27	P	Pn	02 48 17.0	-0.3
F19K	Shaleruckik Mo	15.50	16	Pn	Pn	02 48 17.6	-0.7
F19K	Shaleruckik Mo baz=205,SNR=6.0	15.50	16	P	Pn	02 48 18.7	+0.4
M24K	Tolsona, Glenn baz=241,SNR=8.9	15.50	42	P	Pn	02 48 17.6	-0.9
H21K	Melozitna Rive	15.57	25	Pn	Pn	02 48 19.8	+0.5
H21K	comp=Z,35nm,0.9s			IAmb	IAmb	02 48 25.2	
H21K	Melozitna Rive baz=218,SNR=41	15.57	25	P	Pn	02 48 19.3	+0.1
E18K	Tukpahlearik C baz=198	15.64	11	P	Pn	02 48 19.5	-0.6
D17K	Noatak River baz=192	15.65	8	P	Pn	02 48 20.4	+0.1
BMRM	Bremner River baz=247	15.68	47	P	Pn	02 48 19.7	-1.1
NEA2	Nenana baz=228,SNR=8.7	15.88	32	P	Pn	02 48 21.9	-1.4
N25K	Chitina, Valde baz=245	15.94	45	P	Pn	02 48 22.8	-1.4
BGLC	Bering Glacier baz=252	16.00	51	P	Pn	02 48 23.0	-1.8
RDOG	Red Dog Mine baz=192	16.01	8	P	Pn	02 48 25.4	+0.4
HARP	HAARP baz=242,SNR=5.4	16.06	42	P	Pn	02 48 24.4	-1.2
F20K	Avaraart Lake	16.07	18	Pn	Pn	02 48 25.9	+0.3
F20K	Avaraart Lake baz=209,SNR=8.8	16.07	18	P	Pn	02 48 26.5	+0.9
C16K	Lisburne Hills baz=187	16.07	4	P	Pn	02 48 26.5	+0.8
G21K	Allakaket baz=215	16.09	22	P	Pn	02 48 26.3	+0.5
H22K	Ishtalitna Cre baz=220,SNR=14	16.12	26	P	Pn	02 48 26.7	+0.3
E19K	Redstone River baz=205	16.16	16	P	Pn	02 48 27.1	+0.3
I23K	Minto, Yukon-K baz=226,SNR=23	16.16	30	P	Pn	02 48 26.1	-0.7
PAX	Paxson baz=239,SNR=6.6	16.22	40	P	Pn	02 48 27.4	-0.3
COLA	College baz=230	16.46	32	P	Pn	02 48 29.6	-1.0
HDA	Harding Lake baz=233	16.47	34	P	Pn	02 48 29.3	-1.5
K24K	Donnelly Dome baz=236	16.54	37	P	Pn	02 48 30.3	-1.4
H23K	Yukon River baz=224	16.59	28	P	Pn	02 48 30.7	-1.5
MESA	MESA baz=254	16.66	51	P	Pn	02 48 32.4	-1.0
F21K	Alatna River baz=213	16.68	21	P	Pn	02 48 32.2	-1.2
ILAR	Eielson Array comp=Z,0.1nm,0.3s,baz=231,slow=12,SNR=34 comp=Z,4.0nm,0.9s	16.71	33	Pn	Pn	02 48 30.6	-3.2
C18K	Utukok River baz=195	16.75	9	P	Pn	02 48 34.2	-0.1
POKR	Poker Plat Res baz=230	16.75	32	P	Pn	02 48 33.3	-1.0
YAH	Yahtse comp=Z,57nm,0.8s	16.81	51	IAmb	IAmb	02 48 40.5	
RIDG	Independent Ri baz=238	16.86	38	P	Pn	02 48 35.1	-0.6
G22K	Bettles baz=218,SNR=8.6	16.89	23	P	Pn	02 48 35.8	-0.2
M26K	Nabesna, AK baz=245,SNR=16	16.96	44	P	Pn	02 48 35.8	-1.2
D19K	Kuna River baz=202	16.98	13	P	Pn	02 48 37.1	-0.1
E20K	Nigu River baz=206	17.06	16	P	Pn	02 48 37.9	-0.3
H24K	Noodor Dome baz=227,SNR=29	17.09	30	P	Pn	02 48 38.2	-0.4
L26K	Log Cabin Wild baz=243,SNR=11	17.09	41	P	Pn	02 48 37.7	-1.0
G23K	Bananza Creek baz=221,SNR=16	17.10	25	P	Pn	02 48 37.9	-0.9
J25K	Salcha River, baz=235,SNR=21	17.15	35	P	Pn	02 48 37.7	-1.6
F22K	John River baz=216,SNR=5.9	17.20	22	P	Pn	02 48 39.5	-0.4
SCRK	Sand Creek baz=239,SNR=6.7	17.31	38	P	Pn	02 48 40.1	-1.3
B18K	Kokolik River baz=194	17.39	8	P	Pn	02 48 42.4	+0.2
D20K	Etivluk River baz=205	17.40	15	P	Pn	02 48 42.2	-0.2
M27K	Edge Creek, AK baz=247,SNR=12	17.42	44	P	Pn	02 48 41.9	-1.0
COLD	Coldfoot baz=220,SNR=10	17.45	24	P	Pn	02 48 42.5	-0.5
PINM	Pinnacle baz=256	17.45	52	P	Pn	02 48 40.8	-2.4
E21K	Killik River baz=210	17.61	18	P	Pn	02 48 44.7	-0.4
PRP	Porcupine Dome baz=232,SNR=6.2	17.63	33	P	Pn	02 48 43.7	-1.7
O28M	Mount Upton comp=Z,29nm,1.0s	17.66	50	IAmb	IAmb	02 48 51.6	
O28M	Mount Upton baz=254,SNR=7.7	17.66	50	P	Pn	02 48 44.4	-1.6
L27K	Beaver Creek, baz=245	17.73	42	P	Pn	02 48 45.0	-1.6
J26L	Joseph Creek baz=238,SNR=26	17.74	37	P	Pn	02 48 45.7	-0.9
PNL	Peninsula baz=258	17.78	54	P	Pn	02 48 46.3	-0.9
E22K	Anaktuvuk Pass baz=215	17.79	21	P	Pn	02 48 46.8	-0.5
G24K	Hadweenzic Riv baz=226,SNR=31	17.80	28	P	Pn	02 48 46.8	-0.5
YUK3	Moose Creek baz=251	17.84	47	P	Pn	02 48 46.5	-1.5
BVCY	Beaver Creek baz=248	17.88	45	P	Pn	02 48 47.1	-1.4
YUK8	Steele Glacier baz=253,SNR=6.2	18.00	49	P	Pn	02 48 48.9	-1.3
H25L	Birch Creek baz=230	18.00	30	P	Pn	02 48 49.3	-0.5
K27K	Chicken baz=242	18.07	39	P	Pn	02 48 49.5	-1.1
C21K	Knifeblade Rid baz=208	18.09	16	P	Pn	02 48 50.8	-0.2
E23K	Chandalar baz=219,SNR=11	18.23	23	P	Pn	02 48 52.7	0.0
D22K	Ayikyak River baz=212	18.24	18	P	Pn	02 48 52.8	+0.1
G25K	Bearman Lake baz=228,SNR=9.8	18.25	29	P	Pn	02 48 51.6	-1.2
F24K	Squaw Lake baz=223,SNR=12	18.27	26	P	Pn	02 48 52.4	-0.7
A19K	Wainwright baz=194	18.27	8	P	Pn	02 48 52.8	-0.2
O29M	Mount Kennedy comp=Z,19nm,1.0s	18.32	52	IAmb	IAmb	02 49 04.3	
O29M	Mount Kennedy baz=258	18.32	52	P	P	02 48 52.0	-1.8
I26K	Coal Creek Min baz=237	18.32	35	P	P	02 48 50.7	-2.9
B20K	Meade River baz=202	18.51	12	P	P	02 48 55.4	-0.3
E24K	Your Creek baz=221	18.52	24	P	P	02 48 56.0	+0.1
B21K	Ikpikpuk River baz=207,SNR=7.0	18.54	15	P	P	02 48 55.0	-0.9
YUK4	Talbot Arm baz=254	18.54	49	P	P	02 48 56.4	+0.1
YUK6	Outpost Mounta baz=256,SNR=6.0	18.57	50	P	P	02 48 55.3	-1.4
P29M	Windy Craggy comp=Z,28nm,1.1s	18.60	55	IAmb	IAmb	02 49 24.2	
P29M	Windy Craggy baz=260	18.60	55	P	P	02 48 55.6	-1.2
TOLK	Toolik Lake Re baz=218	18.70	22	P	P	02 48 58.5	+0.7
D23K	Nanushuk River baz=216,SNR=7.6	18.71	20	P	P	02 48 58.4	+0.5
F25K	Christian Rive baz=227,SNR=17	18.93	27	P	P	02 48 59.2	-1.2
M29M	Somme Creek baz=251,SNR=8.4	18.94	46	P	P	02 49 01.0	+0.4
HYT	Haines Junctio comp=Z,28nm,0.9s	18.95	51	IAmb	IAmb	02 49 06.5	
HYT	Haines Junctio baz=257,SNR=13	18.95	51	P	P	02 49 00.8	+0.1
I27K	Kandik River baz=238,SNR=7.3	19.02	35	P	P	02 49 00.1	-1.3
G26K	Porcupine Rive baz=232	19.07	30	P	P	02 49 01.6	-0.2
P30M	Million Dollar baz=260	19.07	53	P	P	02 49 01.4	-0.6
DAWY	Dawson baz=246,SNR=13	19.14	41	P	P	02 49 01.8	-0.9
S31K	Pelican baz=267	19.20	60	P	P	02 49 03.8	+0.5
D24K	Happy Valley baz=219	19.27	22	P	P	02 49 04.4	+0.4
N30M	Aishikik Lake comp=Z,51nm,0.9s	19.29	49	IAmb	IAmb	02 49 08.1	

N30M Aishikik Lake 19.29 49 P **P 02 49 04.5 +0.2**
baz=256,SNR=32
L29M L29M 19.31 44 IAmb IAmb 02 49 20.6
comp=Z,31nm,1.2s
L29M L29M 19.31 44 P **P 02 49 04.4 -0.1**
baz=250,SNR=13
E25K Arctic Village 19.32 26 P **P 02 49 04.2 -0.4**
baz=226,SNR=16
B22K Teshekpuk Lake 19.37 15 P **P 02 49 04.9 -0.1**
baz=209,SNR=6.7
H27K Steamboat Moun 19.39 34 P **P 02 49 03.8 -1.5**
baz=237,SNR=21
F26K Sheenjek River 19.43 28 P **P 02 49 05.7 -0.2**
baz=229,SNR=12
C23K Itkillik River 19.44 19 P **P 02 49 05.9 0.0**
baz=214,SNR=13
I28M Miner Creek 19.55 37 P **P 02 49 06.1 -1.1**
baz=241,SNR=10
O30N Mendenhall 19.61 52 IAmb IAmb 02 49 24.2
comp=Z,24nm,0.8s
O30N Mendenhall 19.61 52 P **P 02 49 07.5 -0.4**
baz=259,SNR=13
G27K Doyon Strip 19.66 32 P **P 02 49 07.8 -0.6**
baz=235,SNR=7.0
SIT Sitka 19.66 63 P **P 02 49 08.1 -0.3**
baz=270
M30M Minto, Yukon 19.72 46 P **P 02 49 09.2 +0.1**
baz=253
A22K Sinclair Lake 19.72 13 P **P 02 49 09.9 +1.0**
baz=205
C24K Franklin Bluff 19.74 21 P **P 02 49 09.1 0.0**
baz=218
J29N Klondike Camp 19.77 40 P **P 02 49 09.6 0.0**
baz=246
SKAG Skagway 19.79 56 P P 02 48 56.1 -14
SKAG Skagway 19.79 56 P **P 02 49 10.0 +0.2**
baz=264
K29M Barlow Dome 19.82 42 P **P 02 49 09.7 -0.5**
baz=249,SNR=11
N31M Braeburn, Yuko 19.91 50 P **P 02 49 11.5 +0.4**
baz=257,SNR=14
D25K Kavik River 19.97 23 P **P 02 49 11.3 -0.4**
baz=222,SNR=9.4
S32K Killisnoo 20.07 62 P **P 02 49 13.0 +0.2**
baz=270
I29M Ogilvie Camp, 20.11 38 P **P 02 49 12.5 -0.8**
baz=244
R32K Eaglecrest 20.12 59 P **P 02 49 13.3 -0.1**
baz=268
WHY Whitehorse 20.18 52 P 02 49 14.4 +0.3
WHY Whitehorse 20.18 52 P **P 02 49 14.2 0.0**
baz=261,SNR=13
PETK Petropavlovsk- 20.34 286 P 02 49 15.4 -0.4
PETK Petropavlovsk- 20.34 286 P **P 02 49 15.0 -0.8**
comp=Z,12nm,0.8s,baz=93,slow=13,SNR=18
comp=Z,12nm,0.8s
H29M Whitestone 20.48 36 P **P 02 49 16.6 -0.6**
baz=242,SNR=11
E27K Coleen River 20.49 29 P 02 49 17.2 -0.2
E27K Coleen River 20.49 29 P **P 02 49 17.2 -0.2**
baz=232,SNR=6.8
J30M Hart River 20.57 41 P **P 02 49 18.2 -0.1**
baz=249,SNR=5.8
P32M Atlin 20.62 56 P **P 02 49 19.2 +0.3**
baz=265
M31M Drury Creek, Y 20.71 48 IAmb IAmb 02 49 21.6
comp=Z,17nm,0.9s
M31M Drury Creek, Y 20.71 48 P **P 02 49 19.9 +0.2**
baz=257
C26K Camden Bay 20.76 23 P **P 02 49 19.3 -0.8**
baz=224,SNR=25
I30M Mount Dempster 20.80 39 P **P 02 49 18.8 -2.0**
baz=247,SNR=13
C27K Jago River 20.85 24 P **P 02 49 20.1 -1.0**
baz=226,SNR=12
U33K Whale Pass 20.92 65 P **P 02 49 20.7 -1.3**
baz=275
G29M Pine Creek 20.94 34 P **P 02 49 21.0 -1.2**
baz=241,SNR=55
N32M Quiet Lake 21.13 51 P **P 02 49 23.4 -0.9**
baz=261
P33M Teslin, Yukon 21.14 54 P 02 49 25.6 +1.2
P33M IAmb IAmb 02 49 29.3
comp=Z,17nm,1.1s
P33M Teslin, Yukon 21.14 54 P **P 02 49 24.0 -0.4**
baz=264,SNR=6.9
EPYK Eagle Plains 21.15 36 P **P 02 49 22.4 -2.1**
baz=244,SNR=32
FARO Faro, Yukon 21.19 48 IAmb IAmb 02 49 31.1
comp=Z,24nm,0.9s
FARO Faro, Yukon 21.19 48 P **P 02 49 24.0 -1.0**
baz=258,SNR=9.4
Q32M Nakina River 21.32 58 P **P 02 49 25.6 -1.0**
baz=266
D27M Malcolm River 21.33 27 P **P 02 49 26.2 -0.2**
baz=231,SNR=15
WRAK Wrangell Islan 21.33 65 P **P 02 49 25.3 -1.1**
baz=274
E28M Babbage River 21.36 29 P 02 49 26.2 -0.4
E28M Babbage River 21.36 29 P **P 02 49 26.0 -0.6**
baz=235,SNR=7.8
G30M tAoh Zrail Nji 21.60 35 P **P 02 49 27.6 -1.6**
baz=243,SNR=14
E29M Blow River 21.74 31 P **P 02 49 29.5 -1.2**
baz=238,SNR=10
H31M Peel River 21.80 39 P **P 02 49 28.9 -2.5**
baz=248,SNR=22
V35K Ketchikan 21.85 67 P **P 02 49 30.5 -1.5**
baz=278
S34M Telegraph Cree 21.92 60 P **P 02 49 31.7 -1.0**
baz=272
D28M Stokes Point 22.01 28 P **P 02 49 32.0 -1.6**
baz=234,SNR=21
R33M Jennings River 22.01 56 IAmb IAmb 02 49 57.8
comp=Z,14nm,1.1s
R33M Jennings River 22.01 56 P **P 02 49 32.5 -1.4**
baz=268
F30M Barrier River 22.04 34 P **P 02 49 32.2 -1.8**
baz=242,SNR=11
MMPY Sheldon Lake, 22.22 48 IAmb IAmb 02 49 41.3
comp=Z,21nm,0.9s
MMPY Sheldon Lake, 22.22 48 P **P 02 49 34.6 -1.4**
baz=260,SNR=11
G31M Satah River 22.27 36 P **P 02 49 34.0 -2.3**
baz=246
F31M Tsiigehtchic 22.67 35 P **P 02 49 39.2 -1.5**
baz=245
SEY Seymchan 23.05 313 LR LR 02 59 10.2
comp=Z,141nm,18.3s,baz=148,slow=38
INK Inuvik 23.11 33 P **P 02 49 43.2 -2.0**
baz=244,SNR=9.1
TGTN Hyland Airport 23.47 51 P **P 02 49 48.3 -0.7**
baz=265,SNR=6.7
MA2 Magadan 23.57 304 P 02 49 44.5 -5.3
MA2 Magadan 23.57 304 LR LR 02 58 47.9
comp=Z,97nm,18.9s,baz=109,slow=36
TOAD Toad River Com 24.98 58 P **P 02 50 03.2 +0.3**
baz=274
KOTAN Kotaneelee Air 25.51 55 P **P 02 50 08.6 +1.0**
baz=272
WRGLY Wrigley 25.84 47 P **P 02 50 11.0 +0.5**
baz=266,SNR=11
C36M Paulatuk 26.69 34 IAmb IAmb 02 50 22.9
comp=Z,6.5nm,0.8s
C36M Paulatuk 26.69 34 P **P 02 50 17.8 -0.4**
baz=253
A36M Sachs Harbour 27.22 28 P 02 50 22.6 -0.4
A36M IAmb IAmb 02 51 05.4
comp=Z,8.7nm,0.9s
A36M Sachs Harbour 27.22 28 P **P 02 50 22.9 -0.1**
baz=247,SNR=7.1
YKAW3 Yellowknife Wh 29.89 49 IAmb IAmb 02 50 48.3
comp=Z,7.1nm,1.4s
YKA Yellowknife Ar 29.90 49 P **P 02 50 46.6 -0.3**
comp=Z,1.1nm,0.8s,baz=271,slow=8.9,SNR=21
YKA PcP **PcP 02 53 49.2 +0.3**
comp=Z,0.6nm,0.8s,baz=288,slow=1.9,SNR=6.3
YKA LR LR 03 05 19.1
comp=Z,175nm,19.5s,baz=318,slow=42
comp=Z,1.1nm,0.8s
YKAW1 Yellowknife Wh 29.96 49 IAmb IAmb 02 50 51.3
comp=Z,4.8nm,1.1s
YBH Yreka Blue Hor 32.49 90 P **P 02 51 11.0 +1.0**
YBH IAmb IAmb 02 51 25.9
comp=Z,5.2nm,1.1s
YBH Yreka Blue Hor 32.49 90 LR LR 03 01 08.9
comp=Z,92nm,21.7s,baz=278,slow=30
ASAJ Asahikawa 32.99 275 LR LR 03 04 04.2
comp=Z,93nm,20.8s,baz=53,slow=35
TIXI Tiksi 33.02 329 P 02 51 14.1 -0.1
TIXI IAmb IAmb 02 51 14.6
comp=Z,5.9nm,1.1s
TIXI Tiksi 33.02 329 LR LR 03 05 57.1
comp=Z,40nm,18.1s,baz=124,slow=39
O02D Mt. Diablo Mer 33.36 93 P **P 02 51 18.1 +0.5**
O02D IAmb IAmb 02 51 33.6
comp=Z,7.1nm,0.8s
YAK Yakutsk 33.56 311 LR LR 03 05 40.4
comp=Z,163nm,18.4s,baz=130,slow=38
PAHR Pah Rah Range 35.73 91 P **P 02 51 39.1 +0.9**
PAHR IAmb IAmb 02 51 55.4
comp=Z,10nm,1.4s
PNTR Pine Nut 35.97 92 P 02 51 41.4 +1.0
PNTR IAmb IAmb 02 51 55.4
comp=Z,7.6nm,0.9s
HLID Hailey 36.55 82 P **P 02 51 45.7 +0.5**
KLR Kul'dur 36.93 290 P **P 02 51 46.9 -1.2**
comp=Z,4.8nm,0.9s,baz=43,slow=9.3,SNR=9.4
KLR LR LR 03 06 56.3
comp=Z,97nm,20.7s,baz=32,slow=36
comp=Z,4.8nm,0.9s
EGMT Eagleton 37.02 73 IAmb IAmb 02 52 08.9
comp=Z,12nm,1.1s
NVAR Mina Array Bea 37.18 92 P **P 02 51 51.3 +0.7**
comp=Z,1.1nm,0.8s,baz=298,slow=9.2,SNR=5.7
comp=Z,1.1nm,0.8s
H11N2 WAKE ISLAND Hy 37.73 220 T T 03 33 03.6
baz=24,slow=76,SNR=5.7
H11N3 WAKE ISLAND Hy 37.73 220 T T 03 32 54.2
baz=24,slow=76,SNR=5.9
H11N1 WAKE ISLAND Hy 37.75 220 T T 03 32 54.0
baz=24,slow=76,SNR=7.0
BLKN Baker Lake 37.75 43 IAmb IAmb 02 51 55.6
comp=Z,12nm,1.0s
YHL Hebgen Lake 37.80 78 IAmb IAmb 02 52 05.3
comp=Z,6.2nm,1.1s
H17A Grant Village 38.41 78 IAmb IAmb 02 52 12.5
comp=Z,4.7nm,0.9s
RLMT Red Lodge 38.80 76 IAmb IAmb 02 52 38.1
comp=Z,13nm,1.5s
H11S1 WAKE ISLAND Hy 38.91 219 T T 03 34 10.5
baz=23,slow=76,SNR=32
HEH HeiHe 38.92 293 *e*P **P 02 52 04.3 -0.6**
HEH pmax pmax
comp=Z,12nm,1.1s
H11S2 WAKE ISLAND Hy 38.93 219 T T 03 33 54.5
baz=23,slow=76,SNR=16
H11S3 WAKE ISLAND Hy 38.93 219 T T 03 33 51.7
baz=23,slow=76,SNR=18
JSD Sado 39.20 270 P 02 52 07.6 +0.3
JSD IAmb IAmb 02 52 09.3
comp=Z,11nm,0.9s
USRK Ussuriysk Ar. 39.38 283 LR LR 03 10 47.5
comp=Z,66nm,18.5s,baz=61,slow=40
PRN Pahroc Range 39.82 90 IAmb IAmb 02 52 17.6
comp=Z,6.2nm,1.2s
BW06 Boulder Array 39.93 80 P **P 02 52 13.6 -0.1**
BW06 IAmb IAmb 02 52 14.1
comp=Z,4.3nm,0.9s
PD31 Pinedale Array 39.93 80 P 02 52 13.8 0.0
PD31 IAmb IAmb 02 52 14.5
comp=Z,4.3nm,0.9s
PDAR Pinedale Array 39.93 80 P 02 52 13.6 -0.2
PDAR Pinedale Array 39.93 80 P **P 02 52 13.8 0.0**
comp=Z,2.9nm,0.8s,baz=307,slow=4.5,SNR=27
comp=Z,2.9nm,0.8s
MJAR Matsushiro Arr 40.18 268 P **P 02 52 15.3 -0.3**
comp=Z,1.6nm,0.5s,baz=51,slow=7.8,SNR=8.6
MJAR LR LR 03 08 43.8
comp=Z,78nm,20.5s,baz=70,slow=36
comp=Z,1.6nm,0.5s
MJB9 Matsu-Tunnel 40.18 269 P 02 52 15.9 +0.3
MJB9 IAmb IAmb 02 52 20.1
comp=Z,9.8nm,0.9s
MAJO Matsushiro 40.18 268 P 02 52 15.8 +0.2
MAJO IAmb IAmb 02 52 19.1
comp=Z,9.7nm,0.9s
BNX BinXian 41.25 287 ⇑P **P 02 52 23.5 -0.7**
BNX pmax pmax
comp=Z,13nm,1.0s
ILON Igloolik, Nuna 41.36 32 P 02 52 24.4 -0.5
P18A Preston Nutter 41.38 84 P **P 02 52 24.0 -1.7**
P18A IAmb IAmb 02 52 33.2
comp=Z,17nm,1.2s
SRU San Rafael Swe 41.52 85 IAmb IAmb 02 52 47.1
comp=Z,9.5nm,0.7s
O20A White River Ci 42.29 82 P 02 52 32.6 -0.4
O20A IAmb IAmb 02 52 34.0
comp=Z,9.5nm,0.8s
SDCO Great Sand Dun 45.45 83 P **P 02 52 59.1 +0.5**
SDCO IAmb IAmb 02 53 06.6
comp=Z,6.9nm,1.4s
KSRS Korea Array 45.89 277 P **P 02 53 02.9 +1.2**
comp=Z,8.4nm,0.8s,baz=56,slow=7.6,SNR=19
KSRS LR LR 03 10 27.8
comp=Z,42nm,21.0s,baz=165,slow=34
comp=Z,8.4nm,0.8s
T25A Trinidad 46.50 83 P 02 53 07.3 +0.5
ANMO Albuquerque 46.69 86 LR LR 03 10 36.5
comp=Z,55nm,18.9s,baz=120,slow=33
NRIK Noril'sk 46.69 332 P **P 02 53 06.5 -1.1**
comp=Z,1.5nm,0.6s,baz=127,slow=9.8,SNR=3.8
comp=Z,1.5nm,0.6s
TJN Taejon 46.93 277 P 02 53 09.9 +0.1
JNU Nakatsue 46.95 271 P **P 02 53 10.1 0.0**
comp=Z,9.6nm,0.9s,baz=63,slow=8.5,SNR=5.2
comp=Z,9.6nm,0.9s
MNTX Cornudas Mount 49.55 89 P **P 02 53 30.6 +0.4**
MNTX IAmb IAmb 02 53 47.6
comp=Z,2.8nm,0.8s
SPITS Spitsbergen Ar 49.72 359 P **P 02 53 29.9 -1.0**
comp=Z,8.4nm,0.9s,baz=18,slow=2.9,SNR=6.3
comp=Z,8.4nm,0.9s
SUMG Summit 50.68 17 P 02 53 38.8 +0.1
SUMG Summit 50.68 17 *i* P **P 02 53 38.0 -0.6**
OK048 Pawnee Station 51.49 78 P **P 02 53 45.5 +0.7**
SONM Songino Array 51.74 301 P 02 53 46.2 -0.4
SONM IAmb IAmb 02 53 48.3
comp=Z,5.7nm,1.1s
SONM Songino Array 51.74 301 P **P 02 53 46.4 -0.3**
comp=Z,4.3nm,1.0s,baz=54,slow=7.5,SNR=21
comp=Z,4.3nm,1.0s
SFJD Kangerlussuaq 52.20 26 LR LR 03 20 56.4
comp=Z,66nm,19.3s,baz=326,slow=42
TX31 Lajitas Ar. Si 52.26 90 IAmb IAmb 02 54 07.9
comp=Z,4.3nm,0.9s
TXAR Lajitas Array 52.26 90 P **P 02 53 50.5 -0.3**
comp=Z,1.0nm,0.8s,baz=295,slow=6.1,SNR=7.2
comp=Z,1.0nm,0.8s
KUQ Kuujjuuaa 52.30 41 P **P 02 53 50.1 -0.3**
P40A Paris 52.33 72 P 02 53 49.4 -1.6
R40A Maddies Statio 53.02 73 IAmb IAmb 02 54 06.7
comp=Z,4.7nm,0.9s
HNS HongShan 53.86 286 ⇑P **P 02 54 03.3 +1.1**
HNS pmax pmax
comp=Z,22nm,0.9s
JMIC Jan Mayen 56.16 8 LR LR 03 18 49.6
comp=Z,32nm,19.7s,baz=90,slow=37
WVT Waverly 57.09 72 P **P 02 54 24.8 -0.7**
WVT IAmb IAmb 02 54 25.3
comp=Z,2.7nm,0.8s
LYN LuoYang 57.13 285 ⇓P **P 02 54 26.8 +1.0**
LYN pmax pmax
comp=Z,18nm,1.2s
ARCES ARCESS Array B 58.01 354 P **P 02 54 31.3 -0.2**
comp=Z,7.4nm,0.9s,baz=350,slow=4.5,SNR=8.2
ARCES LR LR 03 21 18.4
comp=Z,57nm,18.9s,baz=322,slow=38
comp=Z,7.4nm,0.9s
FPAL Fort Paine 59.49 72 IAmb IAmb 02 54 50.6
comp=Z,5.0nm,1.0s
XAN Xi'an 59.57 287 ⇓P **P 02 54 43.5 +0.5**
XAN pmax pmax
comp=Z,13nm,1.1s
BORG Borgarnes 60.54 15 LR LR 03 24 44.2
comp=Z,34nm,18.0s,baz=340,slow=40
BLA Blacksburg 60.58 66 P 02 54 49.5 -0.3
T59A Double "B" Far 62.35 65 P **P 02 55 01.6 -0.1**
ZSN Zaisan 62.54 313 *e*P **P 02 55 03.2 +0.3**
comp=Z,7.3nm,0.7s
KURK Kurchatov 62.73 319 P 02 55 03.9 0.0
KURK IAmb IAmb 02 55 04.6
comp=Z,6.0nm,0.9s
KURBB Kurchatov Arra 62.83 319 P **P 02 55 04.2 -0.5**
comp=Z,4.1nm,0.8s,baz=46,slow=7.3,SNR=24
comp=Z,4.1nm,0.8s
BVAR Borovoye Array 64.02 325 P **P 02 55 12.6 +0.1**
comp=Z,8.6nm,0.9s,baz=54,slow=7.5,SNR=32
comp=Z,8.6nm,0.9s
BRVK Borovoye 64.03 325 P 02 55 12.4 -0.2
BRVK IAmb IAmb 02 55 14.1
comp=Z,8.0nm,1.0s
JOF Joensuu 64.03 350 *e*P **P 02 55 12.0 -0.4**
MK31 Makanchi Array 64.18 314 P **P 02 55 14.0 +0.3**
MK31 IAmb IAmb 02 55 14.2
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 64.18 314 P **P 02 55 13.0 -0.7**
comp=Z,4.2nm,0.8s,baz=49,slow=6.8,SNR=32
comp=Z,4.2nm,0.8s
MAKZ Makanchi 64.31 314 P **P 02 55 14.3 -0.2**
MAKZ IAmb IAmb 02 55 14.7
comp=Z,5.4nm,0.9s
VAF Ylistaro 64.63 354 *e*P **P 02 55 16.0 -0.3**
ARTI Arti 64.96 333 P 02 55 18.7 +0.1
KEF Keuruu 65.35 353 *e*P **P 02 55 20.2 -0.8**
BRZS Berezniki 65.64 322 *e*P **P 02 55 23.0 -0.1**
FINES FINESS Array B 65.98 352 P 02 55 24.3 -0.8
FINES FINESS Array B 65.98 352 P **P 02 55 24.5 -0.6**
comp=Z,12nm,0.8s,baz=18,slow=6.6,SNR=27
comp=Z,12nm,0.8s
GOMU GeErMu 65.98 298 P P 02 55 22.3 -3.7
GOMU pmax pmax
comp=Z,17nm,1.0s
GOMU pmax pmax
comp=Z,220nm,5.2s
RAF Rauma 66.70 355 *e*P **P 02 55 29.2 -0.4**
NC204 NORSAR Array S 66.74 0 P **P 02 55 30.3 +0.2**
NB2 NORSAR Subarra 66.98 0 P **P 02 55 30.9 -0.7**
comp=Z,1.6nm,0.8s,baz=360,slow=6.2
NOA NORSAR Array B 66.98 0 P **P 02 55 30.8 -0.8**
comp=Z,3.0nm,0.8s,baz=0.2,slow=6.3,SNR=17
comp=Z,3.0nm,0.8s
TDK Taldyqorghan 67.28 315 *e*P **P 02 55 33.9 +0.2**
MEF Metsahovi 67.32 353 *e*P **P 02 55 33.5 -0.2**
HFS Hagfors 67.88 359 P **P 02 55 36.5 -0.7**
comp=Z,3.9nm,0.5s,baz=45,slow=4.4,SNR=34
comp=Z,3.9nm,0.5s
ARBE Arbavere 67.97 352 *e*P **P 02 55 36.9 -0.8**
SHLS Shalkode 68.27 313 *e*P **P 02 55 39.3 -0.8**
comp=Z,6.9nm,0.8s
UZB Uzynbulak 68.48 313 *e*P **P 02 55 41.8 +0.3**
comp=Z,3.9nm,0.6s
ZHN Zhinishke 68.72 314 *e*P **P 02 55 43.2 +0.2**
comp=Z,5.2nm,1.0s
MTSE Matsula 68.86 353 *e*P **P 02 55 43.4 +0.1**
VSU Vasula 68.87 351 *e*P **P 02 55 42.9 -0.4**
MDOK Medeo 69.34 315 *e*P **P 02 55 47.0 +0.2**
AAA Alma-Ata 69.36 315 *e*P **P 02 55 47.0 +0.2**
TNSS Tian-Shan 69.48 315 *e*P **P 02 55 47.9 -0.1**
SLIT Slitere, Latvi 70.04 354 *e*P **P 02 55 50.4 -0.2**
KDJ Kajisay 70.11 314 IAmb IAmb 02 55 52.8
comp=Z,6.1nm,0.9s
SGDS Sogindy 70.15 316 *e*P **P 02 55 51.8 +0.1**
TARG Taragay, Kyrgy 70.15 313 IAmb IAmb 02 55 54.1
comp=Z,3.9nm,0.9s
BOOM Boomskoye usch 70.36 315 IAmb IAmb 02 55 54.5
comp=Z,6.9nm,0.9s
AB31 Akbulak array 70.72 329 P **P 02 55 55.1 +0.2**
ABKAR Akbulak array 70.72 329 P 02 55 55.1 +0.2
ABKAR Akbulak array 70.72 329 P 02 55 54.8 -0.2
AAK Ala-Archa 70.87 316 P 02 55 56.2 0.0
AAK IAmb IAmb 02 55 57.5
comp=Z,6.9nm,0.9s
AAK Ala-Archa 70.87 316 LR LR 03 29 01.0
comp=Z,46nm,19.3s,baz=46,slow=38
BELG Belogornoye 71.31 338 LR LR 03 32 20.2
comp=Z,57nm,18.4s,baz=29,slow=40
VSVD Vaisvydziai 71.56 353 *e*P **P 02 56 00.6 +0.7**
DZA Taraz 71.98 318 *e*P **P 02 56 02.9 +0.1**
comp=Z,5.5nm,0.5s
EKA Eskdalemuir Ar 72.03 9 P **P 02 56 03.8 +1.1**
comp=Z,1.5nm,0.8s,baz=357,slow=7.0,SNR=4.5
comp=Z,1.5nm,0.8s
PABE Paberze 72.03 353 *e*P **P 02 56 03.1 +0.4**
KK31 Karatay Array 72.14 319 IAmb IAmb 02 56 04.5
comp=Z,7.2nm,0.9s
KKAR Karatay Array 72.14 319 P 02 56 03.5 -0.1
KKAR Karatay Array 72.14 319 IAmb IAmb 02 56 04.5
comp=Z,7.5nm,0.9s
BRLS Borolday 72.47 319 *e*P **P 02 56 07.2 +1.6**
ARSB Arslanbob 72.59 316 IAmb IAmb 02 56 07.9
comp=Z,8.4nm,1.1s
KSH Kashi 72.76 313 P **P 02 56 11.4 +3.8**
KSH pmax pmax
comp=Z,16nm,1.0s
IUG Iuzhnay 73.14 318 *e*P **P 02 56 09.7 -0.1**
comp=Z,5.8nm,0.9s
SUW Suwalki 73.58 353 *e*P **P 02 56 11.7 -0.2**
SUW Suwalki 73.58 353 *e*P **P 02 56 11.6 -0.4**
BTK Batken 74.56 317 IAmb IAmb 02 56 19.3
comp=Z,10.0nm,0.9s
AKASG Malin Array Be 76.25 348 P **P 02 56 26.7 -0.7**
comp=Z,3.3nm,0.6s,baz=15,slow=5.6,SNR=17
AKASG LR LR 03 34 10.1
comp=Z,36nm,19.3s,baz=9.5,slow=39
comp=Z,3.3nm,0.6s
AKBB Malin Array Si 76.25 348 IAmb IAmb 02 56 27.4
comp=Z,9.0nm,0.9s
KIEV Kiev 76.25 348 P 02 56 26.5 -1.0
KIEV IAmb IAmb 02 56 27.4
comp=Z,8.7nm,0.9s
KIEV Kiev 76.25 348 ⇓P **P 02 56 26.8 -0.7**
SIMJ Simiganj 76.49 317 P 02 56 29.1 -0.1
CLL Collm 76.73 359 *i* P **P 02 56 30.2 +0.1**
comp=Z,7.0nm,1.2s
CMAR Chiang Mai Arr 77.10 283 P 02 56 32.4 -0.4
CMAR Chiang Mai Arr 77.10 283 P **P 02 56 33.7 +0.9**
comp=Z,7.1nm,0.9s,baz=26,slow=6.3,SNR=34
comp=Z,7.1nm,0.9s
KSP Ksiaz 77.12 357 *e*P **P 02 56 32.9 +0.5**
OSTC Ostas 77.41 357 *e*P **P 02 56 34.9 +0.9**
OJC Ojcow 77.58 355 *e*P **P 02 56 35.7 +0.7**
DPC Dobruska-Polom 77.61 357 *e*P **P 02 56 35.8 +0.6**
KRLC Kraliky 77.87 356 *e*P **P 02 56 37.6 +1.0**
STEB Steborice 77.97 356 *e*P **P 02 56 37.6 +0.5**
MORC Moravsky Berou 78.14 356 IAmb IAmb 02 56 39.7
comp=Z,6.9nm,1.1s
MORC Moravsky Berou 78.14 356 *e*P **P 02 56 38.4 +0.3**
MORC Moravsky Berou 78.14 356 ⇓P **P 02 56 39.0 +0.8**
STHS Stebnicka Huta 78.29 353 *e*P **P 02 56 39.1 +0.2**
NIE Niedzica 78.35 354 *e*P **P 02 56 40.4 +1.1**
GRF Grafenberg Arr 78.36 0 *e*P 02 56 40.4
comp=Z,11nm,1.0s,baz=0.4,slow=5.0
MAUC Maruska 78.54 356 *e*P **P 02 56 41.1 +0.8**
ZVC Zvikov 78.58 358 *e*P **P 02 56 41.6 +1.1**
VRAC Vranov 78.64 357 *e*P **P 02 56 41.4 +0.5**
VRAC Vranov 78.64 357 ⇓P **P 02 56 42.0 +1.1**
LANS Liptovska Anna 78.67 355 *e*P **P 02 56 42.3 +1.2**
KOLS Kolonicke sedl 78.69 353 *e*P **P 02 56 42.1 +0.9**
NIL Nilore 78.83 311 P 02 56 42.5 +0.4
SORM Soroca 78.88 349 ⇑P **P 02 56 41.8 -0.3**
KRUC Moravsky 78.90 357 *e*P **P 02 56 42.4 +0.1**
KHC Kasperske Hory 78.90 359 *e*P **P 02 56 43.2 +0.9**
JAVC Velka Javorina 79.05 356 *e*P **P 02 56 44.7 +1.5**
GEC2 GERESS Array S 79.19 358 IAmb IAmb 02 56 46.0
comp=Z,5.2nm,1.1s
GERES GERESS Array B 79.19 358 P **P 02 56 43.6 -0.3**
comp=Z,2.4nm,0.8s,baz=345,slow=4.1,SNR=15
comp=Z,2.4nm,0.8s
CKRC Cesky Krumlov 79.20 358 *e*P **P 02 56 44.5 +0.5**
VYHS Vyhne 79.36 355 *e*P **P 02 56 45.6 +0.8**
MODS Modra-Piesok 79.55 356 *e*P **P 02 56 47.1 +1.2**
BUR08 Bucovina Ar. S 79.71 351 IAmb IAmb 02 56 47.9
comp=Z,4.8nm,0.9s
BURAR Bucovina Array 79.74 351 P 02 56 47.0 +0.1
BURAR Bucovina Array 79.74 351 ⇓P **P 02 56 47.1 +0.1**
ECH Echery 79.77 3 IAmb IAmb 02 56 49.0
comp=Z,8.8nm,1.0s
PSZ Piszkesteto 79.87 354 IAmb IAmb 02 56 49.7
comp=Z,11nm,1.2s
PSZ Piszkesteto 79.87 354 ⇓P **P 02 56 48.9 +1.2**
PSZ Piszkesteto 79.87 354 *e*P **P 02 56 48.9 +1.2**
KBL Kabul 79.96 315 P 02 56 48.1 -0.5
KBL IAmb IAmb 02 56 48.8
comp=Z,9.0nm,0.8s
CONA Conrad Observa 80.05 357 *i* pP **P 02 56 50.1 +1.5**
comp=Z,11nm,1.0s,SNR=6.0
SRO Srobarova 80.06 355 *e*P **P 02 56 50.1 +1.5**
MOA Molln 80.17 358 *e*pP **P 02 56 50.3 +1.1**
comp=Z,5.7nm,1.2s

RONA	Rosalia, Austr	80.26	357	*e*P		P	02 56 51.1 +1.3
	comp=Z,4.7nm,0.9s						
BIZ	Bicaz	80.31	350	⇑P		P	02 56 50.6 +0.6
BIOA	Bad Ischl, Aus	80.34	358	*e*P		P	02 56 50.8 +0.6
	comp=Z,8.4nm,1.3s						
ARCR	ARCALIA	80.35	351	⇓P		P	02 56 51.4 +1.2
KIV	Kislovodsk	80.37	338			P	02 56 50.5 0.0
KIV	Kislovodsk	80.37	338	⇑P		P	02 56 50.9 +0.4
KBZ	Khabaz	80.54	337	P		P	02 56 52.3 +1.1
	comp=Z,9.6nm,0.9s,baz=54,slow=1.6,SNR=9.7						
	comp=Z,9.6nm,0.9s						
RETA	Reutte	80.56	0	*e*P		P	02 56 52.2 +0.8
	comp=Z,7.2nm,1.2s						
LESA	Schwarzleotal	80.62	359	*e*P		P	02 56 53.4 +1.6
	comp=Z,3.7nm,1.1s						
MOTA	Moosalm	80.70	0	*e*P		P	02 56 53.0 +0.7
	comp=Z,13nm,1.0s						
WATA	Walderalm	80.71	360	*e*P		P	02 56 53.1 +0.7
	comp=Z,10nm,1.0s						
ARSA	Arzberg	80.74	357	IAmb	IAmb		02 56 54.4
	comp=Z,8.1nm,1.0s						
ARSA	Arzberg	80.74	357	*e*P		P	02 56 53.6 +1.3
	comp=Z,6.6nm,0.9s						
DAVA	Damuels	80.75	1	*i* pP		P	02 56 54.1 +1.5
	comp=Z,4.9nm,1.3s						
WTTA	Wattenberg	80.79	360	*e*P		P	02 56 53.6 +0.8
	comp=Z,11nm,1.0s						
SQTA	Sankt Quirin	80.83	0	*e*P		P	02 56 54.0 +1.1
	comp=Z,16nm,0.9s						
KBA	Koelnbreinsper	80.96	359	*i* pP		P	02 56 54.7 +1.1
	comp=Z,23nm,0.9s,SNR=12						
FETA	Feichten	81.03	0	*i* pP		P	02 56 55.0 +0.9
	comp=Z,11nm,0.9s,SNR=5.5						
DAVOX	Davos/Dischmat	81.26	1	LR	LR		03 36 24.2
	comp=Z,14nm,18.3s,baz=68,slow=38						
ABTA	Abfaltersbach	81.30	359	*i* pP		P	02 56 56.9 +1.6
	comp=Z,14nm,1.2s,SNR=6.5						
SOKA	Soboth	81.32	357	*i* pP		P	02 56 56.8 +1.3
	comp=Z,16nm,1.0s,SNR=9.6						
DOPR	Dopca	81.35	350	⇑P		P	02 56 57.0 +1.4
SIRR	Siria	81.39	353	⇓P		P	02 56 56.0 +0.3
MYKA	Terra Mystica	81.40	358	*e*pP		P	02 56 57.3 +1.4
	comp=Z,6.4nm,1.2s						
FUORN	Ofenpass-Fuorn	81.42	1			P	02 56 55.8 -0.4
OBKA	Obir	81.50	358	*e*pP		P	02 56 57.4 +1.0
	comp=Z,9.2nm,0.8s						
TUE	Stuetta	81.56	1	IAmb	IAmb		02 56 59.1
	comp=Z,7.0nm,1.1s						
PRED	Cave del Predi	81.59	359	IAmb	IAmb		02 56 58.5
	comp=Z,7.1nm,0.9s						
MLR	Muntele Rosu	81.76	350	IAmb	IAmb		02 57 00.5
	comp=Z,3.4nm,1.0s						
MLR	Muntele Rosu	81.76	350	LR	LR		03 36 23.9
	comp=Z,36nm,19.7s,baz=62,slow=38						
MLR	Muntele Rosu	81.76	350	⇑P		P	02 56 59.1 +1.2
TPGR	Topolog	82.09	348	⇑P		P	02 56 59.8 +0.3
MDVR	Moldovita	82.86	353	⇑P		P	02 57 04.1 +0.5
BNI	Bardonecchia	82.91	3			P	02 57 04.6 +0.7
GNI	Garni	83.45	335	LR	LR		03 40 00.3
	comp=Z,29nm,19.3s,baz=37,slow=40						
BOVS	Bovan	84.00	353	⇑P		P	02 57 09.7 +0.4
PDG	Podgorica	85.38	354	⇓P		P	02 57 16.4 +0.1
BRTR	Keskin Array B	86.31	343	P		P	02 57 21.7 +0.5
	comp=Z,3.4nm,0.9s,baz=48,slow=2.0,SNR=15						
BRTR				LR	LR		03 39 59.7
	comp=Z,20nm,22.0s,baz=330,slow=38						
	comp=Z,3.4nm,0.9s						
ANTO	Ankara	86.31	344	⇓P		P	02 57 22.3 +1.2
ESDC	Sonseca Array	87.40	12	P		P	02 57 26.5 +0.1
	comp=Z,2.9nm,0.8s,baz=344,slow=4.5,SNR=15						
	comp=Z,2.9nm,0.8s						
ASAR	Alice Springs	90.74	231	P		P	02 57 41.9 -0.2
ASAR	Alice Springs	90.74	231	P		P	02 57 41.5 -0.6
	comp=Z,1.5nm,0.8s,baz=35,slow=4.6,SNR=8.6						
	comp=Z,1.5nm,0.8s						
RPN	Rapa Nui	94.50	130	P		P	02 57 59.8 +0.5
PALK	Pallekele	96.67	291	LR	LR		03 49 30.1
	comp=Z,28nm,18.1s,baz=110,slow=40						
TOO	Toolangi	98.06	215	P		P	02 58 15.8 +0.5
NNA	Nana	100.44	96	Pdif		Pdif	02 58 26.4 -0.1
CO05	La Serena	117.38	104	PKPdif		PKPdif	03 03 25.5 +1.1
CO02	Combarbal	118.45	105	PKPdif		PKPdif	03 03 26.7 +0.2
DBIC	Dimbokro	119.61	19	PKPdif		PKPdif	03 03 29.1 -0.1
MT01	Popeta	120.20	107	PKPdif		PKPdif	03 03 29.2 -0.5
BELA	Belgrano 2	149.51	163	PKPdif		PKPdif	03 04 24.4 +2.2

*IDC **18** 02:50:01.2±2.4, 3°.91S×131°.21E, h0km, mb3.7/2, mbtmp3.8/5, ML3.9/3, MS3.3/2, Error ellipse: s-maj=132.9km s-min=25.1km az=77.0*
*DJA **18** 02:50:06.5±0.3, 4°.S±2°.×13°.2E±°, h91km±6km, M4.4/12, mB5.4/2, mb4.6/5, MLv4.2/12, Mw(mB)4.9/2*
ISC 18 02:50:04.2±0.7,**3°.96S**±0°.06×**131°.58E**±0°.04,**h29**km,**n19,**
σ1**s86**/25,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.23	33	P	Pn	02 50 26.0	+0.6
FAKI				S	Sb	02 50 45.1	+2.8
BNDI	Bandanaira	1.76	252	P	Pb	02 50 35.4	-0.5
BNDI				S	Sb	02 50 58.9	+1.3
KMPI	Kaimana, Papua	2.14	82	S	Sb	02 51 07.2	-1.2
MSAI	Masohi	2.72	283	P	Pn	02 50 47.5	+1.6
MSAI				S	Sn	02 51 18.4	+0.5
SWI	Sorong	3.09	354	P	Pn	02 50 50.9	-0.2
SWI				S	Sn	02 51 23.1	-4.0
AAI	Ambon	3.39	274	P	Pn	02 50 57.1	+1.9
AAI				S	Sn	02 51 34.8	+0.3
RKPI	Ransiki, Papua	3.56	47	P	Pn	02 50 58.6	+1.2
RKPI				S	Sn	02 51 39.6	+1.1
NLAI	Namlea	4.53	279	P	Pn	02 51 12.2	+1.3
NLAI				S	Sn	02 52 03.6	+1.0
BAKI	Biak	5.29	59	P	Pn	02 51 23.8	+2.5
	0.3nm89nm,0.8s						
SANI	Sanana	5.90	289	P	Pn	02 51 28.7	-1.0
	0.2nm639nm36nm,0.5s						
GENI	Genyem	8.68	81	P	Pn	02 52 11.5	+3.6
KMSI	Cibinong	8.83	301	P	Pn	02 52 08.1	-1.9
FITZ	Fitzroy Crossi	15.21	202	Pn	Pn	02 53 35.3	-1.7
	0.7nm,0.3s,baz=28,slow=12,SNR=18						
	1.9nm,0.3s						
WRA	Warramunga Arr	16.11	171	Pn	P	02 53 49.6	-2.2
	0.2nm,0.3s,baz=353,slow=13,SNR=4.9						
WRA				Sn	Sn	02 56 45.1	-1.6
	0.2nm,0.3s,baz=326,slow=23,SNR=4.9						
	0.7nm,0.7s						
ASAR	Alice Springs	19.72	174	P	Pn	02 54 34.2	+1.0
	0.6nm,0.3s,baz=354,slow=10,SNR=46						
	3.4nm,0.6s						
JCJ	Chichijima	32.53	18	LR	LR	03 08 54.1	
	comp=Z,68nm,20.8s,baz=38,slow=35						
JNU	Nakatsue	36.89	359	LR	LR	03 12 06.7	
	comp=Z,31nm,20.6s,baz=36,slow=36						
MKAR	Makanchi Array	66.60	325	P	P	03 00 51.0	-0.9
	0.3nm,0.5s,baz=132,slow=7.1,SNR=4.5						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	70.79	327	P	P	03 01 18.6	+0.8
	0.8nm,0.6s,baz=131,slow=5.6,SNR=6.9						
	0.8nm,0.6s						

*IDC **18** 03:03:37.7±1.9, 9°.56S×151°.40E, h0km, mb3.7/4, mbtmp3.7/6, ML2.7/2, MS3.2/4, Error ellipse: s-maj=59.3km s-min=26.9km az=131.0*
ISC 18 03:03:41.9±1.3,**9°.5S**±0°.2×**151°.3E**±0°.1,**h24**km,**n11,**
σ0**s74/8**,**mb3.8**/4,**MS3.2**/4,**D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.06	271	Pn	Pn	03 04 43.4	+0.8
	5.2nm,0.3s,baz=89,slow=6.8,SNR=15						
PMG				Sn	Sb	03 05 40.7	-0.7
	4.2nm,0.3s,baz=174,slow=14,SNR=4.2						
	19nm,0.6s						
WRA	Warramunga Arr	19.35	236	P	P	03 08 05.6	-0.4
	0.1nm,0.3s,baz=57,slow=10,SNR=2.6						
	0.8nm,0.8s						
ASAR	Alice Springs	21.75	228	P	P	03 08 31.9	0.0
	1.4nm,0.8s,baz=57,slow=9.3,SNR=14						
	1.4nm,0.8s						
GUMO	Guam	23.83	344	LR	LR	03 16 07.3	
	comp=Z,47nm,21.7s,baz=94,slow=31						
URZ	Urewera	36.84	145	LR	LR	03 24 49.0	
	comp=Z,58nm,18.6s,baz=9.5,slow=35						
JOW	Kunigami	42.48	329	LR	LR	03 27 03.6	
	comp=Z,27nm,19.0s,baz=287,slow=33						
JNU	Nakatsue	46.65	336	LR	LR	03 28 39.9	
	comp=Z,24nm,18.6s,baz=172,slow=32						
SONM	Songino Array	69.55	330	P	P	03 14 49.6	+0.7
	1.2nm,0.9s,baz=148,slow=5.9,SNR=8.0						
	1.2nm,0.9s						
MKAR	Makanchi Array	82.90	320	P	P	03 16 03.9	-0.8
	0.8nm,0.9s,baz=97,slow=5.1,SNR=3.8						
	0.8nm,0.9s						
ILAR	Eielson Array	87.08	22	P	P	03 16 24.9	-0.4
	0.3nm,0.6s,baz=250,slow=5.4,SNR=7.8						
	0.3nm,0.6s						
TORD	Torodi Ar. Bea	149.96	280	PKPbc	PKPbc	03 23 31.7	+0.3
	110nm,0.3s,baz=51,slow=2.9,SNR=1.6						

*NEIC **18** 03:15:15.3±1.0, 35°.96N±0°.01×120°.46W±0°.02, h10km±1km, Error ellipse: s-maj=2.9km s-min=2.6km az=216.0*
NCEDC 18 03:15:15.6±1.5,**35°.93N**±0°.02×**120°.48W**±0°.02,**h10**km±4km,
Md3.0/82,**ML2.6**/59(NEIC),**Error ellipse: s-maj=2.5km**
s-min=2.2km az=47.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSTM	Stockdale Moun	0.03	270		Pg	03 15 17.6	+0.2
PVCM	Vineyard Canyo	0.05	262		Pg	03 15 17.8	+0.2
PKD	Bear Valley Ra	0.06	287		Pg	03 15 19.3	+1.7
PHFM	Heflinger Ranc	0.08	128		Pg	03 15 18.2	+0.4
CTM	Castle Mountai	0.11	88		Pg	03 15 19.4	+1.0
PPO	Portuguese Can	0.13	241		Pg	03 15 19.2	+0.6
GHC	Gold Hill	0.14	134		Pg	03 15 19.1	+0.3
PSMM	Smith Mountain	0.17	326		Pg	03 15 20.1	+0.8
PSMM					Sg	03 15 23.5	+1.6
PSRM	Scobie Ranch	0.17	114		Pg	03 15 19.8	+0.5
PKLM	Kerr Lake	0.19	145		Pg	03 15 20.2	+0.6
PMRM	Maxey Ranch	0.24	126		Pg	03 15 20.9	+0.4
TCHL	Shandon	0.25	166		Pg	03 15 21.4	+0.8
PAGB	Antelope Grade	0.27	137		Pg	03 15 21.5	+0.5
THIS	South End of C	0.29	135		Pg	03 15 22.0	+0.7
TRAM	Private Proper	0.30	146		Pg	03 15 22.1	+0.5
TRAM	Private Proper	0.30	146	IAML		03 15 31.0	
	comp=N,2μm,0.6s						
TCAS	Cass Winery, P	0.33	192		Pg	03 15 22.6	+0.5
PSAM	San Ardo	0.35	286		Pg	03 15 22.6	+0.2
PSAM					Sg	03 15 27.8	+0.7
PMPB	Monarch Peak	0.39	317		Pg	03 15 23.7	+0.4
PMPB	Monarch Peak	0.39	317	IAML		03 15 33.7	
	comp=E,843nm,0.8s						
PMPB				IAML		03 15 36.9	
	comp=N,809nm,0.7s						
TSCN	Private Proper	0.40	165		Pg	03 15 24.0	+0.6
PDRM	Domengine Ranc	0.41	12		Sg	03 15 27.9	-1.4
RAMR	Ramage Ranch	0.43	228		Pg	03 15 24.3	+0.2
RAMR	Ramage Ranch	0.43	228	IAML		03 15 32.7	
	comp=N,5μm,0.3s						
RAMR				IAML		03 15 35.5	
	comp=E,4μm,0.5s						
TRAY	Twisselman Ran	0.47	143		Pb	03 15 25.6	-0.4
PBPM	Bitterwater Pu	0.48	137		Pg	03 15 25.4	+0.5
PHSB	Hesperia Broad	0.48	258		Pg	03 15 25.0	0.0
TSCS	Shell Creek So	0.50	168		Pg	03 15 25.3	0.0
PWMM	Westland Maint	0.55	23		Pb	03 15 28.4	+1.1
PTAM	Tassajara Cree	0.57	200		Pg	03 15 26.7	+0.1
PCCM	Crazy Canyon	0.58	286		Pg	03 15 26.9	0.0
ARDC	Alexander Ranc	0.62	222		Pn	03 15 29.6	-0.8
HULI	Fort Hunter Li	0.62	279		Pg	03 15 27.6	-0.1
HULI	Fort Hunter Li	0.62	279	IAML		03 15 40.1	
	comp=E,477nm,0.6s						
EFD	Emergency Oper	0.64	199		Pg	03 15 27.9	-0.1
LRV	Little Rabbit	0.66	319		Pg	03 15 28.7	+0.3
SMMC	Simmler	0.73	147		Pg	03 15 29.8	+0.1
DPD	Davis Peak	0.74	200		Pg	03 15 30.2	+0.3
DCD	Diablo Creek	0.77	203		Pg	03 15 30.6	+0.1
BBGB	Big Mountain B	0.79	325		Pb	03 15 31.4	-0.2
BSGM	Shirttail Gulc	0.79	308		Pg	03 15 30.2	-0.7
BAVM	Antelope Valle	0.84	328		Pb	03 15 32.3	-0.1
BSMM	Soledad Missio	0.89	301		Pg	03 15 32.2	-0.6
CRGC	Crocker Grade	0.92	138		Pg	03 15 33.5	+0.2
BJCM	Johnson Can.	0.96	310		Pg	03 15 33.4	-0.7
BJOM	Mount Johnson	0.97	316		Pg	03 15 33.3	-1.0
SCZ	Santa Cruz	1.00	312		Pg	03 15 33.8	-1.1
SCZ	Santa Cruz	1.00	312	IAML		03 15 49.1	
	comp=E,184nm,0.5s						
SCZ				IAML		03 15 49.1	
	comp=N,235nm,0.7s						
KARE	Kearney REC, C	1.03	49		Pg	03 15 34.5	-0.9
BSRM	Salinas Radio	1.12	311		Pb	03 15 35.9	-1.2
BPRM	Ponciano Ridge	1.12	296		Pb	03 15 35.5	-1.7
BPCNC	Pine Canyon	1.13	305		Pb	03 15 36.2	-1.1
VES	Vestal, Richgr	1.13	94		Pb	03 15 35.6	-1.7
SAO	San Andreas Ge	1.14	317		Pb	03 15 36.2	-1.3
FRP	Fremont Peak	1.16	315		Pb	03 15 36.4	-1.4
PKM	Mcpherson Peak	1.17	152		Pb	03 15 37.5	-0.6
FRI	Friant	1.23	30		Pn	03 15 37.6	-1.3
FIGC	Figueroa Mtn.	1.26	161		Pn	03 15 38.7	-0.7
SLD	San Luis Dam	1.29	333		Pn	03 15 39.5	-0.3
HPCM	Pacheco Lake	1.30	331		Pn	03 15 39.2	-0.6
HTUM	Tustin Road	1.30	314		Pn	03 15 38.4	-1.5
LEGD	La Grand CA	1.31	11		Pn	03 15 38.8	-1.2
BCW	Bitter Crk WRg	1.31	138		Pn	03 15 39.9	-0.2
HERM	Elkhorn Road	1.32	311		Pn	03 15 39.5	-0.6
HMOM	Monterey	1.34	300		Pn	03 15 39.0	-1.5
CDC	Canada Road	1.36	324		Pn	03 15 40.2	-0.5
HCOM	Corn Cob Canyo	1.38	314		Pn	03 15 39.9	-1.1
SPG2	Springville 2	1.41	78		Pn	03 15 39.8	-1.7
HLPM	Lions Peak	1.45	320		Pn	03 15 40.7	-1.2
ARVC	Arvin	1.56	120		Pn	03 15 42.8	-0.7
WASM	Alta Sierra Ca	1.57	96		Pn	03 15 42.4	-1.4
CCOB	Coe Ranch Numb	1.64	324		Pn	03 15 43.9	-0.6
ISA	Isabella, Lake	1.65	99		Pn	03 15 43.7	-1.0
ISA	Isabella, Lake	1.65	99	IAML		03 16 07.5	
	comp=E,90nm,0.4s						
MHC	Mount Hamilton	1.69	327		Pn	03 15 44.4	-1.0
MDPB	Devils Postpil	2.04	33		Pn	03 15 50.1	-0.1
MINS	Minaret Summit	2.06	33		Pn	03 15 51.4	+0.7
MTUM	Tungsten Hills	2.09	47		Pn	03 15 51.6	+0.6
MLCM	Laurel Creek C	2.10	36		Pn	03 15 52.2	+1.1
CMB	Columbia Colle	2.10	2		Pn	03 15 50.9	-0.1
BHPR	Bishop	2.10	49		Pn	03 15 51.8	+0.6
MDCM	Deadman Creek	2.12	32		Pn	03 15 52.1	+0.7
CCAC	Calif City Air	2.15	110		Pn	03 15 51.1	-0.5
CCAC				IAML		03 16 26.2	
	comp=N,46nm,0.5s						
CCAC				IAML		03 16 29.5	
	comp=E,49nm,1.2s						
MDRNC	Doe Ridge	2.15	37		Pn	03 15 53.2	+1.3
CTAM	Taylor	2.43	330		Pg	03 16 02.4	+0.2
DSP	Deep Springs	2.48	54		Pn	03 15 56.2	+0.2
DSP				IAML		03 16 35.1	
	comp=N,23nm,0.9s						
DSP				IAML		03 16 47.1	
	comp=E,25nm,0.9s						
WAKR	Walker	2.70	18		Pn	03 15 59.3	-0.1
WAKR				IAML		03 16 44.2	
	comp=N,31nm,0.6s						
WAKR				IAML		03 16 44.9	
	comp=E,33nm,0.6s						
GRAC	Grapevine Rang	2.72	66		Pn	03 16 00.2	+0.7
GRAC				IAML		03 16 53.6	
	comp=E,29nm,0.8s						
GRAC				IAML		03 16 57.4	
	comp=N,25nm,0.5s						
LHV	Little Huntoon	2.80	34		Pn	03 16 00.8	+0.3
LHV				IAML		03 16 57.0	
	comp=E,25nm,0.6s						
LHV				IAML		03 17 05.3	
	comp=N,22nm,2.4s						
NVAR	Mina Array Bea	3.04	34		Pn	03 16 04.3	+0.3
MZP	Montezuma Peak	3.05	54	Pn	Pn	03 16 03.5	-0.6
GSC	Goldstone, Bar	3.06	101		Pn	03 16 02.7	-1.4
GSC				IAML		03 16 52.0	
	comp=N,14nm,0.9s						
GSC				IAML		03 17 17.5	
	comp=E,19nm,2.8s						
GWY	Greenwater Val	3.10	84		Pn	03 16 04.4	-0.3
GWY				IAML		03 16 43.8	
	comp=E,12nm,4.1s						
NV11	Mina Array Sit	3.11	36		Pn	03 16 05.5	+0.6
RYN	Ryan	3.11	29	Pn	Pn	03 16 05.0	+0.1
RYN				IAML		03 17 05.4	
	comp=E,12nm,0.9s						
WCT	Wildcat Mounta	3.23	73	Pn	Pn	03 16 06.7	+0.3
PNTR	Pine Nut	3.23	12	Pn	Pn	03 16 06.6	0.0
PNTR				IAML		03 17 08.5	
	comp=E,23nm,1.2s						
PNTR				IAML		03 17 21.1	
	comp=N,24nm,1.0s						
MPK	Martis Peak	3.38	6	Pn	Pn	03 16 08.7	-0.1
TPNV	Topopah Spring	3.56	72		Pn	03 16 11.6	+0.6
TPNV				IAML		03 17 23.5	
	comp=N,14nm,2.0s						
TPNV				IAML		03 17 43.3	
	comp=N,11nm,3.2s						
PAHR	Pah Rah Range	3.87	13	Pn	Pn	03 16 15.3	0.0
PAHR				IAML		03 17 30.1	
	comp=E,10.0nm,4.9s						
PAHR				IAML		03 18 19.4	
	comp=N,6.8nm,3.8s						
PFO	Pinyon Flats O	4.03	124	Pn	Pn	03 16 18.3	+0.7
PFO				IAML		03 17 08.2	
	comp=N,5.4nm,4.8s						
PFO				IAML		03 17 22.8	
	comp=N,6.2nm,3.8s						
R11B	Troy Canyon, C	4.59	57	Pn	Pn	03 16 26.1	+0.7
R11B				IAML		03 17 39.4	
	comp=N,5.0nm,5.0s						
R11B				IAML		03 17 59.7	
	comp=E,4.1nm,4.9s						

*SNET **18** 03:17:26.5±1.2, 13°.91N×91°.66W, h28km±44km, ML3.9*
*CATAC **18** 03:17:26.6±0.6, 14°N±3°×9°2W±°, h20km±4km, M3.8/17, MLv3.8/17, Error ellipse: s-maj=7.2km s-min=4.6km az=49.8, confirmed*
*GCG **18** 03:17:27.3±1.9, 13°.97N×91°.61W, h49km±28km, MD4.1*
ISC 18 03:17:26.5±1.8,**13°.91N**±0°.08×**91°.65W**±0°.07,**h22**km±7km,
n54,σ1**s53**/63,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG5	El Palmar, Qui	0.57	30	*i* P	Pn	03 17 40.7	+1.2
STG0	El Palmar, Qui	0.59	30	*e*P	Pn	03 17 41.2	+1.4
STG8	El Palmar, Qui	0.61	28	*i* P	Pn	03 17 41.7	+1.5
RTAL	Retalhuleu	0.62	356	P	Pn	03 17 39.2	-0.8
RTAL				S	Sn	03 17 49.5	+0.2
ESSG	Sabana Grande	0.92	59	*e*P	Pn	03 17 43.3	-1.0
SOKI	Kika Raxquin	0.94	14	*e*P	Pn	03 17 43.8	-1.0
SOKI				*e*S	Sn	03 17 57.1	-0.7
SMCA	Catarina	1.03	336	*e*P	Pn	03 17 43.9	-1.8
FG8	Yepocapa, Chim	1.11	71	*i* P	Pn	03 17 42.9	-3.9
FG8				*e*S	Sn	03 17 54.2	-7.4
FG16	Alotenango, Sa	1.16	72	*e*P	Pn	03 17 44.0	-3.7
THIG		1.16	329	*e*P	Pn	03 17 46.0	-1.5
THIG				*e*S	Sb	03 18 02.1	-0.5
HUEH	Huehuetenango	1.41	6	*e*P	Pn	03 17 51.0	-0.1
HUEH	Huehuetenango	1.41	6	*e*P	Pn	03 17 51.3	+0.2
HUEH	Huehuetenango	1.41	6	P	Pn	03 17 51.1	-0.1
HUEH	Huehuetenango	1.41	6	S	Sb	03 18 10.4	+0.5
NUBE	Las Nubes	1.81	90	P	Pn	03 17 56.3	-0.3
NUBE	Las Nubes	1.81	90	S	Sn	03 18 17.6	-1.4
SLOZ	Alcaldia de Sa	1.81	86	P	Pn	03 17 56.9	+0.4
SLOZ	Alcaldia de Sa	1.81	86	S	Sn	03 18 18.7	-0.1
CEVE	Cerro Verde	1.96	92	*e*P	Pn	03 17 58.2	-0.6
CEVE				*e*S	Sn	03 18 24.4	+1.5
CEVE				IAML		03 18 31.1	
	comp=Z,987nm,0.4s						
CEVE	Cerro Verde	1.96	92	P	Pn	03 17 58.5	-0.3
UNIC	Universidad Ca	2.04	88	P	Pn	03 17 59.9	+0.3
UNIC	Universidad Ca	2.04	88	S	Sn	03 18 25.0	+0.6
JAYA	Jayaque - finc	2.15	96	*e*P	Pn	03 18 00.6	-0.6
JAYA				*e*S	Sn	03 18 26.8	-0.5
JAYA				IAML		03 18 32.3	
	comp=Z,709nm,0.2s						
JAYA	Jayaque - finc	2.15	96	*e*P	Pn	03 18 00.4	-0.8
JAYA				*e*S	Sn	03 18 26.6	-0.7
JAYA	Jayaque - finc	2.15	96	S	Sn	03 18 27.4	+0.1
JAYA	Jayaque - finc	2.15	96	P	Pn	03 18 00.5	-0.8
CEDA	San Andres	2.19	92	P	Pn	03 18 02.0	+0.3
CEDA	San Andres	2.19	92	S	Sn	03 18 29.9	+1.8
MTO3	Montecristo	2.27	77	*e*P	Pn	03 18 02.7	-0.2
MTO3	Montecristo	2.27	77	P	Pn	03 18 02.9	0.0
MTO3	Montecristo	2.27	77	S	Sn	03 18 31.8	+1.4
PMON	Piamonte	2.27	95	P	Pn	03 18 03.1	+0.2
PMON	Piamonte	2.27	95	S	Sn	03 18 31.8	+1.4
LALI	Alcalda de L	2.30	100	*e*P	Pn	03 18 02.8	-0.3
LALI	Alcalda de L	2.30	100	*e*P	Pn	03 18 02.9	-0.3
LALI				*e*S	Sn	03 18 30.3	-0.4
LALI	Alcalda de L	2.30	100	P	Pn	03 18 02.8	-0.3
LALI	Alcalda de L	2.30	100	S	Sn	03 18 32.4	+1.7
BOQS	Boqueron	2.30	94	*e*P	Pn	03 18 03.8	+0.4
ITCA	Escuela Especi	2.31	95	S	Sn	03 18 32.1	+0.9
ESQI	Esquipulas	2.33	74	*e*P	Pn	03 18 04.1	+0.5
ESQI	Esquipulas	2.33	74	P	Pn	03 18 04.5	+0.8
ESQI	Esquipulas	2.33	74	S	Sn	03 18 33.0	+1.4
UEES	Universidad Ev	2.34	94	P	Pn	03 18 05.0	+1.1
UEES	Universidad Ev	2.34	94	S

ENA			S		Sn	03 27 52.3	+0.7
NACB	**Ninganchiao**	**0.78 285**	P		Pn	03 27 41.0	-0.3
NACB			S		Sn	03 27 51.8	-0.1
SHUL	**Shoufeng**	**0.81 257**	*eP*		Pb	03 27 42.8	+0.7
TWC	**Suao**	**0.82 320**	*eP*		Pn	03 27 40.9	-0.9
TWC			S		Sn	03 27 52.3	-0.5
ETM	**Tongmen**	**0.85 269**	*eP*		Pn	03 27 42.1	-0.1
ETLH	**Xiulin Townshi**	**0.89 285**	*eP*		Pn	03 27 43.0	+0.2
ETLH			S		Sb	03 27 55.2	+0.1
ESL	**Shilin**	**0.92 260**	*eP*		Pb	03 27 43.9	0.0
LXIB	**Xiulin Townshi**	**0.92 273**	P		Pn	03 27 43.8	+0.4
LXIB			*eS*		Sn	03 27 55.4	-0.3
EGS		**0.97 333**	*eP*		Pb	03 27 44.6	-0.3
WARBT	**Fenglin Townsh**	**0.98 255**	*eP*		Pn	03 27 44.2	+0.1
LATG	**Datong**	**0.99 304**	*eP*		Pb	03 27 44.9	-0.3
ENTT	**Nioudou**	**1.02 310**	*eP*		Pn	03 27 45.0	+0.3
HGSD	**Ruisui**	**1.03 242**	*eP*		Pn	03 27 45.5	+0.8
HGSD			*eS*		Sn	03 27 58.6	+0.4
NNSB	**Datong**	**1.05 296**	*eP*		Pb	03 27 46.0	-0.2
NNSB			*eS*		Sn	03 27 58.7	0.0
WHF	**Hehuan Shan**	**1.07 279**	*eP*		Pb	03 27 46.5	-0.3
FUSB	**Fushanzhiwuyua**	**1.09 316**	*eP*		Pn	03 27 46.3	+0.7
ECBN	**Changbin**	**1.11 234**	*eP*		Pn	03 27 45.0	-0.8
FUSS	**Fushou**	**1.11 284**	*eP*		Pn	03 27 46.7	+0.6
EHY	**Hungye**	**1.11 245**	*eP*		Pb	03 27 46.9	-0.3
TIPB	**Shuangxi**	**1.13 331**	*eP*		Pb	03 27 47.2	-0.4
TIPB			*eS*		Sn	03 28 00.9	+0.3
OWD	**Renai**	**1.14 269**	*eP*		Pn	03 27 46.8	+0.4
NWLT	**Wulai**	**1.16 314**	*eP*		Pn	03 27 47.3	+0.8
YHNB	**Yeheng**	**1.18 306**	*eP*		Pn	03 27 47.4	+0.5
YHNB			*eS*		Sb	03 28 02.8	-0.6
TDCB	**Techi**	**1.19 284**	*eP*		Pb	03 27 47.9	-0.6
VWDT	**VWDT**	**1.19 260**	*eP*		Pb	03 27 48.9	+0.3
VWDT			*eS*		Sn	03 28 02.3	+0.3
NSK	**Sanguang**	**1.19 306**	*eP*		Pn	03 27 47.1	0.0
TWF1	**Yuli**	**1.21 239**	*eP*		Pb	03 27 48.3	-0.5
TWF1			*eS*		Sb	03 28 03.7	-0.3
SXI1	**Grass Mountain**	**1.22 336**	*eP*		Pn	03 27 47.9	+0.5
SXI1			*eS*		Sn	03 28 02.5	-0.4
CHKH	**Chenggong**	**1.22 231**	*eP*		Pn	03 27 47.6	+0.3
IRIF	**Iriomote-Funau**	**1.25 73**	*eP*		Pn	03 27 48.2	+0.5
IRIF			*eS*		Sb	03 28 04.5	-0.6
SSLB	**Suanglung**	**1.36 262**	*eP*		Pb	03 27 51.6	+0.2
WHP	**Taichung City**	**1.38 283**	*eP*		Pb	03 27 51.8	0.0
WCS	**Beigang Elemen**	**1.38 274**	*eP*		Pb	03 27 51.1	-0.6
SMLT	**Sun Moon Lake**	**1.40 266**	*eP*		Pn	03 27 51.0	+1.1
YUS	**Yu-Shan**	**1.43 250**	*eP*		Pn	03 27 49.0	-1.7
TYC	**Yuchr**	**1.43 267**	*eP*		Pb	03 27 53.4	+0.8
WHYT	**Xinyi Township**	**1.46 259**	*eP*		Pb	03 27 53.1	0.0
JKRS	**Kuro-shima**	**1.47 80**	*eP*		Pn	03 27 51.7	+0.9
JKRS			*eS*		Sb	03 28 11.0	-0.7
ALS	**Alishan**	**1.55 253**	*eP*		Pb	03 27 53.8	-1.1
LDUT	**Ludao**	**1.57 214**	*eP*		Pn	03 27 52.5	+0.4
STYH	**Taoyuan**	**1.71 242**	*eP*		Pn	03 27 54.5	+0.5
CHN4	**Tsaushan**	**1.79 250**	*eP*		Pb	03 27 58.1	-0.6
JISG	**Ishigakijimahi**	**1.83 70**	*eS*		Sn	03 28 17.8	0.0
CHN1	**Nanshi**	**1.91 246**	*eP*		Pb	03 28 00.5	-0.2
MASBT	**Mashibuluo**	**2.13 231**	*eP*		Pn	03 28 00.9	+1.0

IDC 18 03:36:28.8±1.4, 7°.47N×127°.22E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=30.8km s-min=23.3km az=48.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.68**	**257**	Pn		Pn 03 36 60.0	+0.5
	174nm,0.3s,baz=137,slow=6.4,SNR=20						
DAV				Sn		Sn 03 37 21.6	-0.1
	78nm,0.3s,baz=109,slow=23,SNR=14						
DAV				LR		LR 03 37 26.6	
	comp=Z,246nm,18.8s,baz=324,slow=34						
WRA	**Warramunga Arr**	**28.12**	**166**	P		P 03 42 21.1	-1.6
	0.7nm,0.8s,baz=346,slow=11,SNR=5.2						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**31.62**	**168**	P		P 03 42 55.4	+1.6
	0.2nm,0.5s,baz=348,slow=7.3,SNR=4.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**54.82**	**324**	P		P 03 45 59.5	-1.3
	0.2nm,0.4s,baz=117,slow=7.7,SNR=4.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**58.90**	**326**	P		P 03 46 30.8	+1.1
	0.2nm,0.2s,baz=123,slow=6.8,SNR=2.3						
	0.2nm,0.2s						

BJI ***18*** *04:06:28.7, 29°.42S×72°.19W, h18km, mB5.4/22, Ms5.6/2, Ms7 5.2/3*
VAO ***18*** *04:06:31.8±1.0, 29°.39S×71°.45W, h31km±7km, mb5.6*
SJA ***18*** *04:06:32.0±0.6, 29°.38S×71°.70W, h40km±999km, ML5.6, MW5.4*
MOS ***18*** *04:06:33.7±1.0, 29°.27S×71°.55W, h56km, mb5.6/24, Error ellipse: s-maj=13.1km s-min=6.8km az=103.2*
GUC ***18*** *04:06:33.8±0.9, 29°.38S×71°.57W, h65km±2km, ML5.5*
NEIC ***18*** *04:06:34.9±1.6, 29°.37S±0°.04×71°.59W±0°.07, h54km±1km, mb5.5/581, Mwb5.6/52, Mwr5.6/88, Mww5.6/22, Error ellipse: s-maj=10.9km s-min=6.0km az=101.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=1.03; Mθθ=0.55; Mφφ=0.48; Mrθ=-0.04; Mrφ=-0.47; Mθφ=-3.24; Fault plane solution: M0=3.40000×10^17 NP1: φs=126.62000°, δ=10.72000°, λ=-140.58000°. NP2: φs=357.69000°, δ=83.21000°, λ=-81.68000°. Principal axes: T 3.1004, Plg38.0000°, Azm80.0000°; N 0.5291, Plg8.0000°, Azm177.0000°; P -3.6295, Plg51.0000°, Azm277.0000°; Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=1.03; Mθθ=0.20; Mφφ=1.23; Mrθ=0.11; Mrφ=-0.08; Mθφ=-2.55; Fault plane solution: M0=2.80000×10^17 NP1: φs=176.14000°, δ=11.96000°, λ=-91.36000°. NP2: φs=357.53000°, δ=78.05000°, λ=-89.71000°. Principal axes: T 2.8916, Plg33.0000°, Azm87.0000°; N -0.2017, Plg0.0000°, Azm177.0000°; P -2.6899, Plg57.0000°, Azm268.0000°;*
NEIC ***18*** *04:06:34.5, 29°.37S×71°.61W, h48km*
NEIC ***18*** *04:06:34.6, 29°.37S×71°.59W, h49km*
NEIC ***18*** *04:06:34.6, 29°.37S×72°.00W, h50km, Moment Tensor Solution. Duration: 3s4 Moment tensor: Scale 10^17 Nm; Mrr=1.99; Mθθ=0.11; Mφφ=1.88; Mrθ=0.23; Mrφ=-0.36; Mθφ=-2.90; Fault plane solution: M0=3.52000×10^17 NP1: φs=163.82000°, δ=17.26000°, λ=-100.01000°. NP2: φs=354.29000°, δ=73.01000°, λ=-86.91000°. Principal axes: T 3.4886, Plg28.0000°, Azm82.0000°; N 0.0588, Plg3.0000°, Azm173.0000°; P -3.5475, Plg62.0000°, Azm269.0000°;*
NEIC ***18*** *04:06:34.6, 29°.37S×71°.61W, h48km*
IDC ***18*** *04:06:35.1±0.4, 29°.35S×71°.52W, h61km±3km, mb4.9/17, mbtmp5.2/19, MS4.8/37, Error ellipse: s-maj=15.1km s-min=9.1km az=52.0*
GCMT ***18*** *04:06:35.0±0.1, 29°.46S±0°.01×71°.53W±0°.01, h74km±1km, MW5.6/140, Moment Tensor Solution. s140,c258; s134,c254; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr=1.51±.03; Mθθ=0.12±.03; Mφφ=1.63±.04; Mrθ=0.27±.03; Mrφ=-0.04±.03; Mθφ=-2.66±.03; Best double couple: M0=3.10100×10^17 NP1: φs=183.00000°, δ=15.00000°, λ=-82.00000°. NP2: φs=355.00000°, δ=75.00000°, λ=-92.00000°. Principal axes: T 3.1570, Plg30.0000°, Azm87.0000°; N -0.1170, Plg2.0000°, Azm355.0000°; P -3.0440, Plg60.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 04:06:34.2±0.3, 29°.36S±0°.02×71°.62W±0°.03, h55km±2km, h55km:pP-P, n738, σ1s56/582, mb5.5/295, MS4.8/34, 27C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.65**	**149**		Pn	04 06 47.0	-0.4
CO05				Sn	Sn	04 06 56.6	-0.6
CO05	**La Serena**	**0.65**	**149**	↑*iP*	Pn	04 06 47.4	-0.1
CO05				*eS*	Sn	04 06 57.0	-0.1
LCO	**Las Campanas**	**0.87**	**67**		Pn	04 06 50.5	-0.1
LCO					Sn	04 07 02.5	-0.2
LCO	**Las Campanas**	**0.87**	**67**	*eP*	Pn	04 06 50.3	-0.4
LCO	**Las Campanas**	**0.87**	**67**	*eP*	Pn	04 06 50.2	-0.4
LCO				*eS*	Sn	04 07 05.2	+2.5
LCO				IAML		04 07 06.7	
	comp=Z,375μm,0.6s						
LCO	**Las Campanas**	**0.87**	**67**	P	Pn	04 06 50.5	-0.1
LCO				S	Sn	04 07 02.5	-0.2
GO04	**Tololo Observa**	**1.08**	**139**		Pn	04 06 52.5	-0.8
GO04				Sn	Sn	04 07 07.7	+0.3
GO04	**Tololo Observa**	**1.08**	**139**	*eP*	Pn	04 06 52.5	-0.8
GO04				*eS*	Sn	04 07 05.9	-1.5
GO04	**Tololo Observa**	**1.08**	**139**	*eP*	Pn	04 06 52.5	-0.8
GO04				*eS*	Sn	04 07 07.7	+0.3
AC04	**Llanos de Chal**	**1.25**	**23**		Pn	04 06 54.9	-0.5
AC04	**Llanos de Chal**	**1.25**	**23**	↓*iP*	Pn	04 06 55.0	-0.4
AC04				*eS*	Sn	04 07 10.6	-0.6
AC04				IAML		04 07 12.9	
	comp=E,109μm,0.3s						
AC04	**Llanos de Chal**	**1.25**	**23**	*eP*	Pn	04 06 55.0	-0.5
AC04				*eS*	Sn	04 07 10.8	-0.3
AC04				IAML		04 07 13.8	
	comp=Z,41μm,0.3s						
AC05	**El Transito**	**1.29**	**66**		Pn	04 06 55.8	-0.2
AC05	**El Transito**	**1.29**	**66**	↑*eP*	Pn	04 06 56.2	+0.2
AC05				*eS*	Sn	04 07 12.6	+0.3
AC05				IAML		04 07 14.3	
	comp=N,253μm,0.3s						
AC05	**El Transito**	**1.29**	**66**	*eP*	Pn	04 06 56.0	0.0
AC05				*eS*	Sn	04 07 13.8	+1.5
AC05				IAML		04 07 16.5	
	comp=Z,63μm,0.3s						
CO06	**Fray Jorge**	**1.31**	**181**		Pn	04 06 55.3	-0.9
CO06	**Fray Jorge**	**1.31**	**181**	↑*iP*	Pn	04 06 55.4	-0.9
CO06				*eS*	Sn	04 07 13.4	+0.8
CO01	**Juntas del Tor**	**1.46**	**115**		Pn	04 06 58.8	+0.3
CO01	**Juntas del Tor**	**1.46**	**115**	↓*eP*	Pn	04 06 58.8	+0.3
CO01				*eS*	Sn	04 07 16.9	+0.2
CO01				IAML		04 07 19.7	
	comp=N,85μm,0.3s						
CO01	**Juntas del Tor**	**1.46**	**115**	*eP*	Pn	04 06 58.8	+0.3
CO01				*eS*	Sn	04 07 18.1	+1.4
CO01				IAML		04 07 18.9	
	comp=Z,67μm,0.7s						
CO03	**El Pedregal**	**1.68**	**152**		Pn	04 07 00.5	-0.7
CO03	**El Pedregal**	**1.68**	**152**	↑*iP*	Pn	04 07 00.8	-0.5
CO03				*eS*	Sn	04 07 21.3	-0.4
CO03				IAML		04 07 23.4	
	comp=N,168μm,0.4s						
CO03	**El Pedregal**	**1.68**	**152**	*eP*	Pn	04 07 00.7	-0.6
CO03				*eS*	Sn	04 07 21.3	-0.4
CO03				IAML		04 07 24.0	
	comp=Z,112μm,0.6s						
CO02	**Combarbal**	**1.91**	**164**		Pn	04 07 03.6	-0.9
CO02	**Combarbal**	**1.91**	**164**	↑*iP*	Pn	04 07 04.2	-0.3
CO02				*i S*	Sn	04 07 26.7	-0.8
CO02	**Combarbal**	**1.91**	**164**	*eP*	Pn	04 07 04.0	-0.5
CO02				*eS*	Sn	04 07 26.1	-1.3
CO02				IAML		04 07 33.5	
	comp=Z,72μm,0.5s						
GO03	**Copiapo**	**2.14**	**35**		Pn	04 07 07.3	-0.3
GO03	**Copiapo**	**2.14**	**35**	↓*eP*	Pn	04 07 06.9	-0.7
GO03	**Copiapo**	**2.14**	**35**	*eP*	Pn	04 07 07.0	-0.6
GO03				*eS*	Sn	04 07 34.8	+1.7
AC06	**Mina Casimiro**	**2.29**	**29**		Pn	04 07 09.5	-0.1
AC06	**Mina Casimiro**	**2.29**	**29**	↓*iP*	Pn	04 07 09.4	-0.1
AC06				*eS*	Sn	04 07 36.5	0.0
AC06				IAML		04 07 39.7	
	comp=E,24μm,0.6s						
ACCO	**Cerro Coronel**	**2.53**	**120**	*eP*	Pn	04 07 16.9	+3.8
ACCO				*eS*	Sn	04 07 46.3	+3.4
DOCA	**Reserva Natura**	**2.71**	**126**	*eP*	Pn	04 07 17.9	+2.3
DOCA				*eS*	Sn	04 07 38.5	-8.8
DOCA				IAML		04 08 00.8	
	comp=Z,16μm,1.2s						
AGUA	**GUANDACOL**	**2.73**	**93**	*eP*	Pn	04 07 18.6	+3.0
AGUA				IAML		04 08 19.3	
	comp=Z,17μm,0.8s						
RTLS	**Leoncito**	**3.15**	**141**	*eP*	Pn	04 07 23.6	+2.0
RTLS				*eS*	Sn	04 08 04.7	+6.7
VA06	**Catapilco**	**3.20**	**175**		Pn	04 07 21.3	-0.7
AC01	**Pan de Azucar**	**3.33**	**16**		Pn	04 07 22.5	-1.3
AC01	**Pan de Azucar**	**3.33**	**16**	*eP*	Pn	04 07 22.1	-1.6
AC01				*eS*	Sn	04 08 00.3	-1.7
AC01				IAML		04 08 28.0	
	comp=Z,6μm,0.5s						
AC02	**Maricunga**	**3.34**	**42**		Pn	04 07 24.6	+0.2
AC02	**Maricunga**	**3.34**	**42**	*eP*	Pn	04 07 24.6	+0.2
AC02				*eS*	Sn	04 08 05.2	+2.1
AC02				IAML		04 08 20.2	
	comp=Z,14μm,1.1s						
ZON	**Zonda**	**3.34**	**131**	*eP*	Pn	04 07 25.7	+1.7
ZON				*eS*	Sn	04 07 49.3	-13
ZON				IAML		04 08 34.8	
	comp=Z,9μm,1.3s						
ZON	**Zonda**	**3.34**	**131**	P	Pn	04 07 25.9	+1.9
SJA	**San Juan**	**3.41**	**130**	*eP*	Pn	04 07 27.0	+2.1
SJA				IAML		04 08 40.1	
	comp=Z,9μm,0.9s						
VA03	**San Esteban**	**3.51**	**165**		Pn	04 07 26.6	+0.2
VA03	**San Esteban**	**3.51**	**165**	↑*iP*	Pn	04 07 26.5	+0.2
VA03	**San Esteban**	**3.51**	**165**	*eP*	Pn	04 07 26.9	+0.5
VA03				*eS*	Sn	04 08 09.6	+2.9
VA03				IAML		04 08 13.4	
	comp=Z,16μm,0.8s						
VA01	**Torpederas**	**3.65**	**180**		Pn	04 07 26.4	-1.8
VA01	**Torpederas**	**3.65**	**180**	↑*eP*	Pn	04 07 26.5	-1.6
VA01	**Torpederas**	**3.65**	**180**	*eP*	Pn	04 07 26.9	-1.3
VA01				IAML		04 08 41.6	
	comp=Z,5μm,0.8s						
CFA	**Coronel Fontan**	**3.67**	**128**	P	Pn	04 07 29.4	+0.9
	comp=Z,694nm,0.3s,baz=312,slow=13,SNR=1934						
CFA				S	Sn	04 08 11.9	+1.2
	comp=Z,2μm,0.3s,baz=66,slow=17,SNR=8.8						
CFA				LR	LR	04 09 10.5	
	comp=Z,14μm,20.4s,baz=293,slow=43						
CFA	**Coronel Fontan**	**3.67**	**128**	*eP*	Pn	04 07 30.1	+1.5
CFA				*eS*	Sn	04 08 14.8	+4.1
PEL	**Peldehue**	**3.85**	**168**		Pn	04 07 30.4	-0.6
PEL	**Peldehue**	**3.85**	**168**	P	Pn	04 07 30.4	-0.6
MT02	**Curacav**	**3.91**	**174**		Pn	04 07 30.2	-1.5
MT02	**Curacav**	**3.91**	**174**	*eP*	Pn	04 07 30.5	-1.2
MT02				*eS*	Sn	04 08 15.9	-0.4
MT02				IAML		04 08 35.9	
	comp=Z,11μm,0.6s						
MT05	**Renca**	**4.09**	**170**		Pn	04 07 33.6	-0.6
MT05	**Renca**	**4.09**	**170**	*eP*	Pn	04 07 34.0	-0.2
MT05				*eS*	Sn	04 08 22.6	+1.8
MT05				IAML		04 08 54.2	
	comp=Z,11μm,2.0s						
MT16	**CCHEN**	**4.16**	**167**		Pn	04 07 35.1	-0.1
MT04	**Ro Olivares**	**4.22**	**163**	*eP*	Pn	04 07 37.8	+1.6
MT04				*eS*	Sn	04 08 26.6	+2.2
MT04				IAML		04 08 32.7	
	comp=Z,14μm,0.5s						
MT03	**Universidad Ad**	**4.23**	**167**		Pn	04 07 35.7	-0.5
MT03	**Universidad Ad**	**4.23**	**167**	*eP*	Pn	04 07 36.6	+0.5
MT03				*eS*	Sn	04 08 26.1	+1.8
VA05	**Santo Domingo**	**4.28**	**180**		Pn	04 07 35.0	-1.8
MT08	**Bocatoma Ro**	**4.29**	**162**		Pn	04 07 38.2	+1.0
MT08	**Bocatoma Ro**	**4.29**	**162**	*eP*	Pn	04 07 38.8	+1.6
MT08				*eS*	Sn	04 08 31.2	+5.1
MT08				IAML		04 08 33.4	
	comp=Z,8μm,0.8s						
MT09	**Talagante**	**4.43**	**173**		Pn	04 07 38.1	-1.0
MT01	**Popeta**	**4.50**	**176**		Pn	04 07 38.3	-1.5
MT01	**Popeta**	**4.50**	**176**	*eP*	Pn	04 07 38.6	-1.2
MT01				IAML		04 09 00.6	
	comp=Z,3μm,0.3s						
MT13	**San Alfonso**	**4.51**	**166**		Pn	04 07 40.3	+0.1
MT13	**San Alfonso**	**4.51**	**166**	*eP*	Pn	04 07 41.0	+0.9
MT13				IAML		04 09 01.0	
	comp=Z,6μm,1.6s						
GO02	**Mina Guanaco**	**4.55**	**24**		Pn	04 07 39.4	-1.5
GO02	**Mina Guanaco**	**4.55**	**24**	*eP*	Pn	04 07 39.8	-1.1
PB14	**IPOC Station P**	**4.84**	**13**	*eP*	Pn	04 07 42.4	-2.4
H03N1	**Juan Fernandez**	**7.44**	**235**	T	T	04 16 07.3	
	baz=63,slow=72,SNR=1014						
H03N2	**Juan Fernandez**	**7.46**	**235**	T	T	04 16 10.3	
	baz=63,slow=72,SNR=329						
H03N3	**Juan Fernandez**	**7.46**	**235**	T	T	04 16 10.4	
	baz=63,slow=72,SNR=218						
VA04	**Juan Fernndez**	**7.49**	**233**		Pn	04 08 18.3	-2.5
PB12	**IPOC Station P**	**10.76**	**7**		Pn	04 09 01.6	-4.1
PB16	**IPOC Station P**	**11.14**	**10**		Pn	04 09 07.7	-3.7
PLCA	**Paso Flores**	**11.38**	**176**	P	Pn	04 09 12.4	-1.6
	comp=Z,15nm,0.6s,baz=345,slow=11,SNR=86						
PLCA				LR	LR	04 14 12.0	
	comp=Z,4μm,20.6s,baz=347,slow=40						
PLCA	**Paso Flores**	**11.38**	**176**	P	Pn	04 09 13.2	-0.8
PLCA	**Paso Flores**	**11.38**	**176**	*eP*	Pn	04 09 12.4	-1.6
TRQA	**Tornquist**	**11.81**	**140**		Pn	04 09 18.4	-1.4
TRQA	**Tornquist**	**11.81**	**140**	P	Pn	04 09 18.5	-1.4
CPUP	**Villa Florida**	**13.00**	**80**		Pn	04 09 32.4	-3.7
CPUP	**Villa Florida**	**13.00**	**80**	P	Pn	04 09 33.5	-2.7
	comp=Z,33nm,0.9s,baz=261,slow=12,SNR=50						
CPUP				LR	LR	04 15 04.1	
	comp=Z,14μm,20.1s,baz=254,slow=39						
CPUP	**Villa Florida**	**13.00**	**80**	P	Pn	04 09 32.8	-3.3
CPUP	**Villa Florida**	**13.00**	**80**	*eP*	Pn	04 09 32.1	-4.0
ITQB	**Itaqui**	**13.06**	**95**		Pn	04 09 33.4	-3.6
ITQB	**Itaqui**	**13.06**	**95**	*eP*	Pn	04 09 32.9	-4.0
LPAZ	**La Paz**	**13.40**	**15**		Pn	04 09 39.0	-3.2
LPAZ	**La Paz**	**13.40**	**15**	P	Pn	04 09 39.3	-2.9
	comp=Z,9.1nm,0.3s,baz=198,slow=5.1,SNR=103						
LPAZ				LR	LR	04 15 10.3	
	comp=Z,4μm,19.5s,baz=182,slow=38						
LPAZ	**La Paz**	**13.40**	**15**	P	Pn	04 09 40.0	-2.2
LPAZ				pmax	pmax		
	comp=Z,148nm,1.0s						
LPAZ	**La Paz**	**13.40**	**15**	*eP*	Pn	04 09 39.0	-3.2
TBOT	**Tacuaremb**	**13.71**	**104**	*eP*	Pn	04 09 42.3	-3.5
SJPY	**San Joaquin**	**14.47**	**76**	*eP*	Pn	04 09 53.8	-2.2
MURT	**Porto Murtinho**	**14.78**	**62**	*eP*	Pn	04 09 56.9	-3.2
AY01	**Puyuhuapi**	**15.05**	**183**		Pn	04 10 01.9	-1.5
PLTB	**Pedras Altas**	**15.70**	**103**	*eP*	Pn	04 10 07.8	-4.1
CPSB	**Cacapava Do Su**	**15.80**	**98**	*eP*	Pn	04 10 09.7	-3.5
COYC	**Coyhaique**	**16.19**	**181**	P	Pn	04 10 18.1	+0.2
SIV	**San Ignacio**	**16.47**	**38**	P	Pn	04 10 15.9	-5.8
	comp=Z,11nm,0.4s,baz=235,slow=10.0,SNR=34						
AQDB	**Aquidauana**	**16.92**	**62**	P	Pn	04 10 26.2	-1.0
AQDB	**Aquidauana**	**16.92**	**62**	*eP*	Pn	04 10 24.2	-3.0
ITAB	**Concordia**	**17.29**	**88**	P	Pn	04 10 29.6	-2.3
ITAB				IAmb	IAmb	04 10 35.6	
	comp=Z,494nm,1.0s						
ITAB	**Concordia**	**17.29**	**88**	*eP*	Pn	04 10 29.1	-2.7
AY03	**Cochrane**	**17.88**	**182**	P	P	04 10 39.2	+0.3
NNA	**Nana**	**17.96**	**343**	P	Pn	04 10 41.1	+1.0
NNA	**Nana**	**17.96**	**343**	P	P	04 10 39.8	-0.2
	comp=Z,33nm,0.7s,baz=184,slow=14,SNR=13						
NNA				LR	LR	04 16 10.0	
	comp=Z,3μm,21.7s,baz=174,slow=32						
PTLB	**Pontes e Lacer**	**18.00**	**42**	P	P	04 10 38.1	-2.4
PTLB	**Pontes e Lacer**	**18.00**	**42**	*eP*	P	04 10 38.3	-2.2
PTGB	**Pitanga**	**18.02**	**80**	*eP*	P	04 10 38.3	-2.4
CNLB	**Canela**	**18.11**	**95**	*eP*	P	04 10 39.2	-2.4
RPRD	**Ribas do Rio P**	**18.48**	**65**	*eP*	P	04 10 44.7	-1.1
LDASE	**Londrina, Braz**	**19.29**	**77**	*eP*	P	04 10 53.6	-1.1
TER01	**Tubaro-SC**	**19.70**	**93**	*eP*	P	04 10 58.1	-0.9
SALV	**Santo Antonio**	**19.86**	**51**	*eP*	P	04 10 59.9	-0.8
C2SB	**Chapadao do Su**	**20.10**	**63**	*eP*	Pn	04 11 04.0	-1.7
FRTB	**Fartura**	**20.64**	**78**	*eP*	P	04 11 08.3	-1.0
CZSB	**Cruzeiro do Su**	**21.54**	**357**	P	P	04 11 18.9	-0.1
CZSB	**Cruzeiro do Su**	**21.54**	**357**	*eP*	P	04 11 20.1	+1.1
ITRB	**Iturama**	**21.57**	**68**	*eP*	P	04 11 17.8	-1.4
PET01	**Itanhaem-SP**	**22.29**	**83**	*eP*	P	04 11 25.5	-1.4
MG05	**Puerto Natales**	**22.30**	**181**	P	P	04 11 27.2	+0.4
MG05				IAmb	IAmb	04 11 30.8	
	comp=Z,126nm,0.9s						
BB19B	**Bebedouro**	**22.43**	**74**	*eP*	P	04 11 25.7	-2.9
PDRB	**Porto dos Gac**	**22.46**	**41**	*eP*	P	04 11 27.0	-1.9
ARAG	**Araguaiana, MT**	**22.74**	**58**	*eP*	P	04 11 29.3	-2.5
VAO	**Valinhos**	**22.99**	**80**	P	P	04 11 32.7	-1.7
VAO				IAmb	IAmb	04 11 50.6	
	comp=Z,174nm,0.7s						
VAO	**Valinhos**	**22.99**	**80**	*eP*	P	04 11 32.5	-2.0
ATAH	**Atahualpa**	**23.01**	**343**	P	P	04 11 35.1	+0.1
	comp=Z,20nm,0.8s,baz=154,slow=5.9,SNR=13						
ATAH				LR	LR	04 19 08.7	
	comp=Z,824nm,20.5s,baz=189,slow=33						
	comp=Z,20nm,0.8s						
CLDB	**Colider**	**23.59**	**42**	*eP*	P	04 11 38.3	-1.8
PARB	**Paraibuna**	**24.03**	**82**	*eP*	P	04 11 42.4	-1.8
IPMB	**Ipameri, GO**	**24.19**	**67**	*eP*	P	04 11 44.6	-1.1
EFI	**East Falkland**	**24.48**	**159**	*i P*	P	04 11 49.2	+1.3
EFI				pmax	pmax		
	comp=Z,37nm,0.9s						
MG03	**Isla Dawson**	**24.48**	**178**	P	P	04 11 47.6	-0.3
MG03				IAmb	IAmb	04 11 51.6	
	comp=Z,100nm,

JTS	Las Juntas de	41.47	340	P	P	04 14 16.6	+0.7
JTS	Las Juntas de	41.47	340	LR	LR	04 28 24.4	
	comp=Z,240nm,21.2s,baz=166,slow=32						
JTS	Las Juntas de	41.47	340	P	P	04 14 16.6	+0.7
JTS				pmax	pmax		
	comp=Z,28nm,1.0s						
JTS	Las Juntas de	41.47	340	P	P	04 14 18.0	+2.1
ESPN	Las Esperanzas	43.09	342	P	P	04 14 29.7	+0.7
ACON	Acoyapa	43.12	340	P	P	04 14 29.9	+0.6
MPOM	Morne Pois Mar	44.77	15	IAmb	IAmb	04 14 42.8	
	comp=Z,111nm,1.0s						
TGUH	Tegucigalpa,Un	45.74	339	P	P	04 14 51.2	+0.9
TGUH				IAmb	IAmb	04 14 52.2	
	comp=Z,56nm,0.9s						
MTO3	Montecristo	46.76	336	P	P	04 14 59.3	+0.9
ESQI	Esquipulas	46.90	336	P	P	04 14 59.7	+0.3
ESQI				IAmb	IAmb	04 15 26.8	
	comp=Z,132nm,1.4s						
CRPR	Cabo Rojo, PR	47.29	6	P	P	04 15 02.4	+0.2
IGPR	InterUniversit	47.35	7	P	P	04 15 02.0	-0.8
IGPR				IAmb	IAmb	04 15 03.4	
	comp=Z,64nm,0.8s						
OBIP	Obispado Ponce	47.38	6	P	P	04 15 01.2	-1.7
CELP	Cerrillos	47.41	7	P	P	04 15 02.9	-0.3
PDPR	Patillas Dam,	47.41	7	P	P	04 15 02.0	-1.1
PDPR				IAmb	IAmb	04 15 18.8	
	comp=Z,39nm,0.7s						
SJG	San Juan	47.49	7	LR	LR	04 36 54.0	
	comp=Z,290nm,18.8s,baz=194,slow=38						
SJG	San Juan	47.49	7	P	P	04 15 02.5	-1.3
SJG				pP	pP	04 15 18.4	+0.2
BANI	BANI	47.49	2	P	P	04 15 03.9	-0.1
PRSN	Puerto Rico Se	47.50	6	P	P	04 15 03.2	-0.6
UUPR	Utuado, UPR, P	47.57	6	P	P	04 15 04.0	-0.5
UUPR				IAmb	IAmb	04 15 05.9	
	comp=Z,51nm,0.7s						
MTDJ	Mount Denham	47.65	352	P	P	04 15 05.9	+0.7
MTDJ				IAmb	IAmb	04 15 07.0	
	comp=Z,87nm,1.1s						
AOPR	Arecibo Observ	47.66	6	P	P	04 15 04.2	-1.0
AOPR				IAmb	IAmb	04 15 23.3	
	comp=Z,49nm,0.9s						
SC01	Santiago de lo	48.51	1	P	P	04 15 12.2	+0.5
PETF	Flores	49.27	337	P	P	04 15 18.0	+0.4
CCIG	Comitan	49.52	334	P	P	04 15 20.0	+0.4
BELA	Belgrano 2	51.38	171	P	P	04 15 32.7	-0.1
BELA				IAmb	IAmb	04 15 35.6	
	comp=Z,47nm,1.0s						
TEIG	Tepich	51.85	340	P	P	04 15 37.1	+0.1
TEIG	Tepich	51.85	340	P	P	04 15 37.3	+0.4
SOR	Soroa	53.00	347	P	P	04 15 45.8	+0.3
SOR				IAmb	IAmb	04 15 46.5	
	comp=Z,56nm,1.0s						
SOR	Soroa	53.00	347	P	P	04 15 45.8	+0.3
SOR				pmax	pmax		
	comp=Z,56nm,1.0s						
TLIG	Tlapa	53.41	327	P	P	04 15 49.5	+0.7
TLIG				IAmb	IAmb	04 15 51.9	
	comp=Z,44nm,0.9s						
VNA3	Neumayer Olymp	53.53	159	⇑P	P	04 15 48.9	0.0
	comp=Z,110nm,0.8s						
VNA1	Neumayer--Stat	53.81	158	⇑P	P	04 15 50.7	-0.2
	comp=Z,88nm,0.9s						
VNA2	Neumayer--Watz	54.16	159	⇑P	P	04 15 53.5	+0.1
	comp=Z,118nm,0.6s,baz=280,slow=6.6						
RKT	Rikitea	56.58	260	*e*P	P	04 16 15.2	+3.7
RKT				*e*S	S	04 23 57.0	-2.5
	comp=Z,2μm,31.0s						
RKT				*e*SS	SS	04 27 48.2	+0.7
	comp=Z,3μm,32.0s						
RKT				*e*LR	LR	04 32 47.8	
	comp=Z,2μm,35.2s						
JRQG	Juriquilla Cam	57.01	327	P	P	04 16 15.2	+0.4
TROLL	Troll, Antarti	57.47	159	⇑P	P	04 16 17.2	0.0
	comp=Z,12μm,7.3s						
DWPF	Disney Wildern	57.91	350	P	P	04 16 21.0	+0.3
DWPF	Disney Wildern	57.91	350	P	P	04 16 20.7	0.0
DWPF				pP	pP	04 16 37.4	+2.1
656A	Willston	59.33	349	P	P	04 16 30.2	-0.2
ZAIG	Zacatecas	59.78	327	P	P	04 16 34.4	+0.3
NVL	N'lazarevskaya	60.45	158	*e*P	P	04 16 37.9	+0.2
NVL				pmax	pmax		
	comp=Z,37nm,1.0s						
553A	Crawfordville	60.47	347	P	P	04 16 38.8	+0.5
456A	Hilliard	60.57	350	P	P	04 16 39.0	0.0
QSPA	South Pole Qui	60.86	180	P	P	04 16 41.1	+0.3
QSPA				IAmb	IAmb	04 17 05.0	
	comp=Z,80nm,1.4s						
QSPA	South Pole Qui	60.86	180	P	P	04 16 40.5	-0.3
	comp=Z,22nm,0.6s,baz=166,slow=1.7,SNR=114						
QSPA				pP	sP	04 16 58.1	-3.4
	comp=Z,21nm,0.7s,baz=133,slow=3.6,SNR=9.1						
QSPA				LR	LR	04 43 04.6	
	comp=Z,426nm,19.1s,baz=154,slow=36						
	comp=Z,22nm,0.6s						
QSPA	South Pole Qui	60.86	180	P	P	04 16 41.1	+0.3
QSPA				pP	pP	04 16 58.0	+2.6
TIGA	Tifton	61.53	348	IAmb	IAmb	04 16 46.2	
	comp=Z,40nm,0.9s						
SHEL	Horse Pasture	61.54	93	P	P	04 16 46.2	+0.2
SHEL	Horse Pasture	61.54	93	P	P	04 16 46.2	+0.2
SHEL				pmax	pmax		
	comp=Z,120nm,1.0s						
BBSR	BB Station	61.75	7	P	P	04 16 47.1	+0.2
BBSR				IAmb	IAmb	04 16 49.9	
	comp=Z,52nm,1.3s						
BBSR	BB Station	61.75	7	P	P	04 16 46.7	-0.1
BBSR				pP	pP	04 17 04.1	+2.6
HBVL	Hebbronville	61.80	333	P	P	04 16 48.4	+1.0
352A	Blakely	61.82	347	P	P	04 16 47.4	0.0
BRAL	Brewton	61.96	345	P	P	04 16 49.0	+0.6
CSU	Charleston Sou	62.52	352	P	P	04 16 52.6	+0.5
250A	Grady	62.57	346	P	P	04 16 52.2	-0.2
250A				IAmb	IAmb	04 16 53.2	
	comp=Z,44nm,0.9s						
154A	Montrose	62.59	349	P	P	04 16 52.5	0.0
NHSC	New Hope	62.66	352	P	P	04 16 53.8	+0.8
346A	Big Creek Wild	62.76	343	P	P	04 16 53.9	+0.2
152A	Waverly Hall	62.93	348	P	P	04 16 54.3	-0.6
152A				IAmb	IAmb	04 16 55.4	
	comp=Z,32nm,0.9s						
735A	Kenedy	63.07	334	P	P	04 16 56.7	+0.9
Y60A	Bolivia	63.33	354	P	P	04 16 57.7	+0.3
HKT	Hockley	63.34	337	P	P	04 16 58.3	+0.8
HKT	Hockley	63.34	337	*i* P	P	04 16 58.6	+1.1
HKT				pmax	pmax		
	comp=Z,30nm,0.9s						
HKT	Hockley	63.34	337	P	P	04 16 58.8	+1.3
Y58A	Scranton	63.38	353	P	P	04 16 58.1	+0.4
GOGA	Godfrey	63.43	349	P	P	04 16 57.8	-0.3
GOGA	Godfrey	63.43	349	P	P	04 16 57.8	-0.3
GOGA				pmax	pmax		
	comp=Z,14nm,0.8s						
Y57A	Sumter	63.58	352	P	P	04 16 58.9	-0.1
Y57A				IAmb	IAmb	04 17 00.1	
	comp=Z,51nm,1.0s						
MLDN	Muldoon	63.63	335	P	P	04 16 60.0	+0.5
MLDN				IAmb	IAmb	04 17 01.7	
	comp=Z,48nm,0.8s						
LRAL	Lakeview Retre	63.75	346	P	P	04 16 60.0	-0.2
VBMS	Vicksburg	63.82	342	P	P	04 17 01.5	+0.8
146A	Union	63.84	344	P	P	04 17 01.3	+0.5
146A				IAmb	IAmb	04 17 02.6	
	comp=Z,59nm,1.0s						
ELIB	Princess Elisa	63.90	160	*d*P	P	04 17 00.5	-0.5
	comp=Z,19nm,0.7s						
JSC	Jenkinsville	63.95	351	P	P	04 17 01.2	-0.3
JSC				IAmb	IAmb	04 17 02.5	
	comp=Z,32nm,0.9s						
JSC	Jenkinsville	63.95	351	P	P	04 17 01.2	-0.3
JSC				pmax	pmax		
	comp=Z,32nm,0.9s						
HODGE	Hodges	64.05	350	P	P	04 17 01.8	-0.3
Z47A	Carrollton	64.14	345	P	P	04 17 03.3	+0.5
Z47A				IAmb	IAmb	04 17 03.8	
	comp=Z,59nm,0.8s						
BIRD	Birdtown, Kers	64.21	352	P	P	04 17 03.3	+0.1
SLBS	Sierra La Lagu	64.35	321	P	P	04 17 05.2	+0.7
W57A	Gilead	64.65	352	IAmb	IAmb	04 17 07.1	
	comp=Z,43nm,0.9s						
435B	Jarrell	64.72	335	IAmb	IAmb	04 17 08.8	
	comp=Z,39nm,0.8s						
HPIG		64.79	326	IAmb	IAmb	04 17 10.0	
	comp=Z,46nm,1.0s						
KMSC	Kings Mountain	64.81	351	IAmb	IAmb	04 17 08.1	
	comp=Z,34nm,0.9s						
LPIG	La Paz	64.88	321	LR	LR	04 39 21.3	
	comp=Z,246nm,19.7s,baz=158,slow=30						
BG3	Lake Jocassee	64.89	350	IAmb	IAmb	04 17 08.8	
	comp=Z,28nm,0.8s						
W52A	Murphy	65.15	349	IAmb	IAmb	04 17 10.6	
	comp=Z,44nm,1.0s						
V58A	Windy Hill, Pi	65.19	353	IAmb	IAmb	04 17 10.5	
	comp=Z,46nm,0.9s						
V55A	Taylorsville	65.49	351	IAmb	IAmb	04 17 12.7	
	comp=Z,47nm,0.9s						
W50A	Signal Mountai	65.50	348	IAmb	IAmb	04 17 12.7	
	comp=Z,60nm,0.8s						
V53A	Saluda	65.54	350	IAmb	IAmb	04 17 12.8	
	comp=Z,31nm,0.9s						
CPCT	Cooper Cave	65.60	348	IAmb	IAmb	04 17 13.3	
	comp=Z,53nm,1.0s						
TKL	Tuckaleechee C	65.68	349	IAmb	IAmb	04 17 13.5	
	comp=Z,51nm,1.0s						
PLAL	Pickwick Lake	65.86	345	IAmb	IAmb	04 17 14.5	
	comp=Z,52nm,0.9s						
U56A	King	65.88	352	IAmb	IAmb	04 17 15.4	
	comp=Z,50nm,1.0s						
TXAR	Lajitas Array	65.90	329	P	P	04 17 15.3	+0.9
TXAR	Lajitas Array	65.90	329	P	P	04 17 15.5	+1.1
	comp=Z,23nm,0.8s,baz=150,slow=8.1,SNR=146						
TXAR				LR	LR	04 41 34.7	
	comp=Z,338nm,20.9s,baz=142,slow=32						
	comp=Z,23nm,0.8s						
TREL	Terrell	65.97	338	IAmb	IAmb	04 17 16.9	
	comp=Z,49nm,0.9s						
Z38A	Mt. Pleasant	66.10	339	IAmb	IAmb	04 17 17.6	
	comp=Z,64nm,1.1s						
U54A	Nelsons Funny	66.23	351	IAmb	IAmb	04 17 17.2	
	comp=Z,78nm,1.0s						
TZTN	Tazewell	66.51	350	IAmb	IAmb	04 17 18.9	
	comp=Z,66nm,1.5s						
CLTN	Cedars of Leba	66.56	347	IAmb	IAmb	04 17 19.5	
	comp=Z,30nm,0.8s						
UALR	University of	66.73	342	IAmb	IAmb	04 17 22.0	
	comp=Z,42nm,1.2s						
MIAR	Mount Ida	66.86	340	P	P	04 17 20.9	+0.6
MIAR				pmax	pmax		
	comp=Z,42nm,1.1s						
U49A	Red Boiling Sp	66.86	348	IAmb	IAmb	04 17 21.2	
	comp=Z,46nm,1.1s						
WVT	Waverly	66.91	346	P	P	04 17 20.1	-0.5
WVT	Waverly	66.91	346	P	P	04 17 20.1	-0.5
WVT				pmax	pmax		
	comp=Z,90nm,1.0s						
WVT	Waverly	66.91	346	P	P	04 17 20.3	-0.2
TAOE	Nuku Hiva Isla	67.03	273	*e*PKIKP	P	04 17 26.3	+4.3
	comp=Z,323nm,30.5s						
TAOE	Nuku Hiva Isla	67.03	273	*e*PP	PP	04 19 48.1	-2.1
	comp=Z,115nm,29.3s						
TAOE				*e*S	S	04 26 12.0	0.0
	comp=Z,395nm,30.1s						
TAOE	Nuku Hiva Isla	67.03	273	*e*LR	LR	04 37 38.2	
	comp=Z,2μm,29.2s						
SGCY	Sterling City	67.08	333	IAmb	IAmb	04 17 24.1	
	comp=Z,72nm,1.0s						
S57A	Dark Hollow, R	67.12	354	IAmb	IAmb	04 17 23.4	
	comp=Z,58nm,1.1s						
WHAR	Wooly Hollow	67.20	342	IAmb	IAmb	04 17 23.9	
	comp=Z,44nm,0.9s						
MNHN	Monahans	67.25	331	IAmb	IAmb	04 17 25.0	
	comp=Z,62nm,0.8s						
CBN	Corbin Frederi	67.43	355	IAmb	IAmb	04 17 25.5	
	comp=Z,94nm,1.2s						
S51A	Beattyville	67.59	350	IAmb	IAmb	04 17 25.6	
	comp=Z,43nm,1.0s						
SBA	Scott Base	67.68	191	P	P	04 17 25.6	+0.6
SBA				IAmb	IAmb	04 17 45.8	
	comp=Z,122nm,1.9s						
SBA	Scott Base	67.68	191	P	P	04 17 25.6	+0.6
SBA				pmax	pmax		
	comp=Z,122nm,2.0s						
SBA	Scott Base	67.68	191	P	P	04 17 26.6	+1.5
R55A	Marlinton	67.76	353	IAmb	IAmb	04 17 27.8	
	comp=Z,44nm,1.0s						
SN05	Snyder 5	67.84	334	IAmb	IAmb	04 17 28.4	
	comp=Z,32nm,0.9s						
SN07	Snyder 07	68.03	334	IAmb	IAmb	04 17 29.4	
	comp=Z,49nm,0.9s						
POST	Post	68.25	333	IAmb	IAmb	04 17 30.6	
	comp=Z,31nm,0.8s						
Q56A	Snyder Ridge,	68.42	354	IAmb	IAmb	04 17 32.1	
	comp=Z,42nm,1.1s						
CGM3	Cape Girardeau	68.44	345	IAmb	IAmb	04 17 30.9	
	comp=Z,49nm,0.8s						
T42A	Van Buren	68.53	343	IAmb	IAmb	04 17 31.8	
	comp=Z,37nm,1.0s						
DKNS	Dickens	68.55	334	IAmb	IAmb	04 17 32.6	
	comp=Z,45nm,0.8s						
SSFO	Shawnee State	68.56	350	IAmb	IAmb	04 17 31.8	
	comp=Z,39nm,0.9s						
HHAR	Hobbs	68.59	341	IAmb	IAmb	04 17 32.6	
	comp=Z,67nm,0.9s						
WCI	Wyandotte Cave	68.63	348	P	P	04 17 30.9	-0.5
WCI				IAmb	IAmb	04 17 31.9	
	comp=Z,49nm,0.9s						
WCI	Wyandotte Cave	68.63	348	P	P	04 17 30.9	-0.5
WCI				pmax	pmax		
	comp=Z,49nm,1.0s						
WCI	Wyandotte Cave	68.63	348	P	P	04 17 30.6	-0.7
MNTX	Cornudas Mount	68.69	329	IAmb	IAmb	04 17 33.4	
	comp=Z,40nm,0.9s						
VNDA	Vanda	68.71	191	P	P	04 17 32.4	+0.9
VNDA	Vanda	68.71	191	P	P	04 17 32.8	+1.3
	comp=Z,6.7nm,0.8s,baz=137,slow=3.9,SNR=20						
VNDA				LR	LR	04 43 03.3	
	comp=Z,274nm,21.2s,baz=134,slow=32						
VNDA				PKPPKP	P'P'df	04 45 45.0	-4.4
	comp=Z,1.4nm,0.9s,baz=325,slow=3.3,SNR=5.9						
	comp=Z,6.7nm,0.8s						
VNDA	Vanda	68.71	191	P	P	04 17 32.5	+0.9
FNO	Franklin	68.72	338	IAmb	IAmb	04 17 34.6	
	comp=Z,36nm,0.9s						
WMOK	Wichita Mounta	68.72	336	P	P	04 17 32.2	+0.1
WMOK				pmax	pmax		
	comp=Z,28nm,1.0s						
P57A	Homestead Farm	68.75	355	IAmb	IAmb	04 17 34.4	
	comp=Z,69nm,0.9s						
RLO	Rose Lookout	68.80	340	IAmb	IAmb	04 17 33.9	
	comp=Z,57nm,1.0s						
TBI	Tubuai	68.83	254	*e*PKP2	P	04 17 36.3	+3.2
	comp=Z,1μm,30.2s						
TBI				*e*S	S	04 26 31.5	-1.6
	comp=Z,1μm,25.2s						
TBI				*e*SS	SS	04 30 56.0	-2.8
	comp=Z,791nm,33.2s						
TBI				*e*LR	LR	04 38 26.4	
	comp=Z,12μm,29.8s						
TBI				*e*LR	LR	04 38 27.1	
	comp=Z,3μm,30.0s						
BBTS	Babate	68.84	58	LR	LR	04 47 33.4	
	comp=Z,954nm,19.5s,baz=97,slow=36						
OKCSW	OKLAHOMA CITY	68.87	338	IAmb	IAmb	04 17 35.2	
	comp=Z,70nm,0.9s						
Q51A	Peebles	68.91	350	IAmb	IAmb	04 17 34.5	
	comp=Z,68nm,1.0s						
MGMO	Mountain Grove	68.94	342	IAmb	IAmb	04 17 34.9	
	comp=Z,46nm,0.9s						
MCWV	Mont Chateau	69.09	353	IAmb	IAmb	04 17 35.7	
	comp=Z,38nm,0.8s						
P53A	Whipple	69.10	352	IAmb	IAmb	04 17 35.4	
	comp=Z,43nm,1.0s						
MVL	Millersville	69.15	356	IAmb	IAmb	04 17 37.2	
	comp=Z,58nm,1.0s						
HSIG		69.15	324	IAmb	IAmb	04 17 37.4	
	comp=Z,33nm,0.8s						
OK052	Battle Ridge R	69.19	338	IAmb	IAmb	04 17 36.8	
	comp=Z,85nm,1.0s						
OK029	Liberty Lake	69.23	338	IAmb	IAmb	04 17 36.4	
	comp=Z,85nm,0.9s						
P51A	Williamsport	69.31	351	IAmb	IAmb	04 17 36.3	
	comp=Z,67nm,0.9s						
QUOK	Quay	69.33	338	IAmb	IAmb	04 17 37.2	
	comp=Z,57nm,0.9s						
P52A	Corning	69.34	351	IAmb	IAmb	04 17 37.0	
	comp=Z,81nm,1.1s						
CCM	Cathedral Cave	69.54	344	P	P	04 17 37.3	+0.3
CCM	Cathedral Cave	69.54	344	P	P	04 17 37.3	+0.3
CCM				pmax	pmax		
	comp=Z,117nm,0.9s						
CCM	Cathedral Cave	69.54	344	P	P	04 17 37.3	+0.3
CCM				pP	pP	04 17 54.7	+3.0
BLO	Bloomington	69.58	348	IAmb	IAmb	04 17 37.3	
	comp=Z,37nm,0.7s						
OK048	Pawnee Station	69.63	338	IAmb	IAmb	04 17 39.1	
	comp=Z,62nm,0.8s						
P48A	Milroy	69.67	349	IAmb	IAmb	04 17 38.1	
	comp=Z,44nm,0.8s						
OK051	E0350 and S346	69.67	339	IAmb	IAmb	04 17 39.5	
	comp=Z,70nm,0.9s						
LUPA	Lehigh Univers	69.69	357	IAmb	IAmb	04 17 40.0	
	comp=Z,45nm,0.9s						
BRNJ	Basking Ridge	69.74	358	IAmb	IAmb	04 17 40.4	
	comp=Z,69nm,0.8s						
O52A	Adamsville	69.77	352	IAmb	IAmb	04 17 39.2	
	comp=Z,34nm,0.8s						
Q44A	Meyer Farm, Va	69.83	346	IAmb	IAmb	04 17 39.4	
	comp=Z,72nm,0.9s						
SSPA	Standing Stone	69.89	355	P	P	04 17 39.5	+0.4
SSPA				IAmb	IAmb	04 17 40.9	
	comp=Z,41nm,1.0s						
SSPA	Standing Stone	69.89	355	P	P	04 17 39.6	+0.6
SSPA				pP	sP	04 17 58.3	-1.9
AMTX	Amarillo	69.92	334	IAmb	IAmb	04 17 42.0	
	comp=Z,52nm,0.8s						
T35A	Sooner Cattle	69.95	339	IAmb	IAmb	04 17 41.8	
	comp=Z,35nm,0.8s						
N58A	Sunbury	70.01	356	IAmb	IAmb	04 17 41.9	
	comp=Z,56nm,0.9s						
ACSO	Alum Creek Sta	70.04	351	IAmb	IAmb	04 17 40.9	
	comp=Z,78nm,0.9s						
SYO	Syowa Base	70.05	159	*i*P	P	04 17 39.0	-0.8
SYO	Syowa Base	70.05	159	⇑*e*PcP	PcP	04 18 01.4	-0.3
SYO	Syowa Base	70.05	159	⇑*e*PP	PP	04 20 14.8	0.0
CROK	Carrier	70.05	338	IAmb	IAmb	04 17 42.2	
	comp=Z,60nm,0.9s						
ODNJ	Ogdensburg	70.14	358	IAmb	IAmb	04 17 42.6	
	comp=Z,51nm,1.0s						
WSPT	Westport, CT	70.19	359	IAmb	IAmb	04 17 43.5	
	comp=Z,61nm,1.0s						
O49A	Covington	70.20	350	IAmb	IAmb	04 17 41.8	
	comp=Z,76nm,1.0s						
319A	Douglas	70.23	326	IAmb	IAmb	04 17 44.4	
	comp=Z,51nm,0.9s						
OK038	West end E0370	70.28	337	IAmb	IAmb	04 17 43.3	
	comp=Z,58nm,0.9s						
O48B	Farmland	70.40	349	IAmb	IAmb	04 17 42.7	
	comp=Z,69nm,1.0s						
KAN17	Caldwell West	70.47	338	IAmb	IAmb	04 17 44.4	
	comp=Z,41nm,0.9s						
NOKA	Waynoka	70.49	337	IAmb	IAmb	04 17 44.6	
	comp=Z,51nm,0.8s						
KAN09	Caldwell North	70.50	338	IAmb	IAmb	04 17 44.7	
	comp=Z,70nm,1.0s						
M57A	Sunshine Farm,	70.53	356	IAmb	IAmb	04 17 45.0	
	comp=Z,63nm,1.2s						
KAN05	Bluff City Nor	70.56	338	IAmb	IAmb	04 17 45.1	
	comp=Z,74nm,1.0s						
KAN01	Argonia South	70.56	338	IAmb	IAmb	04 17 45.1	
	comp=Z,66nm,0.9s						
N51A	Ashland	70.63	351	IAmb	IAmb	04 18 03.7	
	comp=Z,92nm,1.5s						
UCCT	U. Connecticut	70.80	360	IAmb	IAmb	04 17 46.5	
	comp=Z,37nm,0.8s						
SFIN	Lafayette	70.86	348	IAmb	IAmb	04 17 45.3	
	comp=Z,63nm,1.0s						
L64A	Middleborough	70.95	1	IAmb	IAmb	04 17 47.5	
	comp=Z,51nm,1.0s						
ALLY	Alegheny Colle	71.09	353	IAmb	IAmb	04 17 47.6	
	comp=Z,60nm,1.1s						
M52A	Chesterland	71.12	352	IAmb	IAmb	04 17 47.6	
	comp=Z,54nm,0.8s						
PPTF	Pamatai, Papee	71.31	260	P	P	04 17 49.0	+0.4
PPTF				IAmb	IAmb	04 17 51.5	
	comp=Z,95nm,1.0s						
BINY	Binghamton	71.32	357	IAmb	IAmb	04 17 49.8	
	comp=Z,45nm,1.1s						
PPT2	Papeete2	71.33	260	*e*PKIKP	P	04 17 46.2	-2.4
	comp=Z,420nm,30.0s						
PPT2	Papeete2	71.33	260	*e*PP	PP	04 20 26.8	-0.5
	comp=Z,144nm,27.2s						
PPT2				*e*S	S	04 27 02.4	-0.2
	comp=Z,478nm,30.2s						
PPT2				*e*SS	SS	04 31 30.3	-7.3
	comp=Z,118nm,24.0s						
PPT2				*e*LR	LR	04 39 30.8	
	comp=Z,3μm,23.2s						
PPT2				*e*LR	LR	04 39 37.1	
	comp=Z,3μm,23.5s						
PPT	Papeete	71.33	260	P	P	04 17 49.4	+0.9
	comp=Z,72nm,0.9s,baz=246,slow=20,SNR=7.4						
PPT				LR	LR	04 40 56.9	
	comp=Z,2μm,21.3s,baz=98,slow=29						
	comp=Z,72nm,0.9s						
L56A	Greenwood	71.35	355	IAmb	IAmb	04 17 49.8	
	comp=Z,96nm,1.0s						
HDIL	Hopedale	71.47	346	IAmb	IAmb	04 17 49.6	
	comp=Z,75nm,0.9s						
HRV	Adam Dziewonsk	71.51	0	P	P	04 17 49.8	+0.8
HRV				IAmb	IAmb	04 17 51.7	
	comp=Z,63nm,0.9s						
HRV	Adam Dziewonsk	71.51	0	P	P	04 17 49.8	+0.8
HRV				pmax	pmax		
	comp=Z,63nm,1.0s						
HRV	Adam Dziewonsk	71.51	0	P	P	04 17 50.1	+1.1
HRV				pP	PcP	04 18 08.0	-0.1
ERPA	Erie	71.54	353	IAmb	IAmb	04 17 50.3	
	comp=Z,66nm,0.9s						
P38A	Dawn	71.60	342	IAmb	IAmb	04 17 50.7	
	comp=Z,66nm,1.0s						
K62A	Royalston	71.67	360	IAmb	IAmb	04 17 53.4	
	comp=Z,48nm,1.0s						
TUC	Tucson	71.72	326	P	P	04 17 51.9	+1.3
TUC				pmax	pmax		
	comp=Z,17nm,1.1s						
TUC	Tucson	71.72	326	P	P	04 17 51.6	+1.1
TUC				pP	PcP	04 18 08.9	-0.4
K57A	Scipio Center	71.88	356	IAmb	IAmb	04 17 52.5	
	comp=Z,38nm,0.9s						
ANMO	Albuquerque	71.92	330	P	P	04 17 52.6	+0.8
ANMO	Albuquerque	71.92	330	LR	LR	04 44 52.2	
	comp=Z,662nm,22.0s,baz=310,slow=32						
ANMO	Albuquerque	71.92	330	*ce*P	P	04 17 53.2	+1.4
ANMO				pmax	pmax		
	comp=Z,11nm,1.1s						
MMNY	Mt. Morris Dam	71.97	355	IAmb	IAmb	04 17 53.2	
	comp=Z,79nm,1.0s						
KSU1	Kansas State U	71.99	340	IAmb	IAmb	04 17

comp=Z,39nm,0.8s
DBIC Dimbokro 73.39 72 P **P 04 18 00.5 -0.3**
comp=Z,40nm,0.7s,baz=221,slow=5.9,SNR=47
DBIC LR LR 04 47 32.8
comp=Z,2µm,21.7s,baz=222,slow=34
comp=Z,40nm,0.7s
DBIC Dimbokro 73.39 72 P **P 04 18 00.6 -0.2**
DBIC pmax pmax
comp=Z,39nm,0.8s
H62A Milan 73.58 0 IAmb IAmb 04 18 52.4
comp=Z,68nm,1.6s
DELO Deloro Mine 73.73 356 IAmb IAmb 04 18 22.6
comp=Z,101nm,2.0s
FRNY Flat Rock 73.86 359 IAmb IAmb 04 18 04.6
comp=Z,48nm,0.8s
JFWS Jewell Farm 73.94 346 IAmb IAmb 04 18 04.6
comp=Z,55nm,0.8s
HAL Halifax 74.01 6 IAmb IAmb 04 18 05.4
comp=Z,46nm,0.9s
WBO Williamsburg 74.08 357 IAmb IAmb 04 18 05.6
comp=Z,60nm,0.8s
G62A West of Eustis 74.23 1 IAmb IAmb 04 18 07.3
comp=Z,69nm,0.8s
GGN Saint George 74.25 4 P **P 04 18 06.4 +1.3**
GGN IAmb IAmb 04 18 07.8
comp=Z,50nm,1.0s
I42A Draeger Farm, 74.60 347 IAmb IAmb 04 18 08.3
comp=Z,52nm,0.9s
WUAZ Wupatki 74.61 327 IAmb IAmb 04 18 10.7
comp=Z,70nm,1.0s
BLYC Blythe 74.75 324 P **P 04 18 09.5 +1.2**
CBX Cerro Bola 74.77 322 IAmb IAmb 04 18 11.1
comp=Z,48nm,1.0s
BUKO Buck Lake 74.78 354 IAmb IAmb 04 18 09.7
comp=Z,80nm,1.1s
Q24A Divide 74.83 333 IAmb IAmb 04 18 11.6
comp=Z,51nm,0.8s
F64A Sherman 74.93 2 IAmb IAmb 04 18 11.2
comp=Z,39nm,0.9s
I40A Norwalk 74.95 346 IAmb IAmb 04 18 10.2
comp=Z,41nm,0.9s
LMN Caledonia Moun 75.11 5 IAmb IAmb 04 18 12.9
comp=Z,63nm,0.9s
TRQ Mont Tremblant 75.28 358 IAmb IAmb 04 18 12.3
comp=Z,51nm,0.9s
OGNE Ogallala 75.42 337 IAmb IAmb 04 18 14.3
comp=Z,42nm,0.9s
E62A Clayton Lake 75.65 1 IAmb IAmb 04 18 15.3
comp=Z,47nm,0.9s
PFO Pinyon Flats O 75.66 323 P **P 04 18 13.9 +0.2**
PFO Pinyon Flats O 75.66 323 LR LR 04 44 40.2
comp=Z,502nm,21.5s,baz=140,slow=30
PFO Pinyon Flats O 75.66 323 *i* P **P 04 18 14.2 +0.5**
PFO pmax pmax
comp=Z,50nm,1.0s
ISCO Idaho Springs 75.73 334 P **P 04 18 15.7 +1.5**
ISCO pmax pmax
comp=Z,42nm,1.2s
U15A North Rim 75.79 327 IAmb IAmb 04 18 17.7
comp=Z,47nm,0.9s
D62A Allapoint, All 76.12 2 IAmb IAmb 04 18 17.8
comp=Z,60nm,0.9s
ELS Elsinore Mount 76.20 322 IAmb IAmb 04 18 20.0
comp=Z,58nm,0.9s
F42A Maple Grove Fa 76.26 348 IAmb IAmb 04 18 18.2
comp=Z,32nm,0.8s
BATG Bathurst New B 76.45 4 IAmb IAmb 04 18 20.3
comp=Z,54nm,1.1s
V12A Nelson 76.47 325 IAmb IAmb 04 18 20.8
comp=Z,40nm,0.9s
KNB Kanab 76.51 327 IAmb IAmb 04 18 22.3
comp=Z,79nm,1.0s
LMQ La Malbaie 76.56 1 IAmb IAmb 04 18 20.4
comp=Z,40nm,1.1s
PKCU Pink Cliffs 76.62 328 IAmb IAmb 04 18 22.6
comp=Z,44nm,0.9s
SPMN Marine on St. 76.70 345 IAmb IAmb 04 18 19.9
comp=Z,44nm,0.9s
ACRG Accra 76.74 76 P **P 04 18 19.7 -0.4**
COWI Conover 76.77 348 IAmb IAmb 04 18 20.9
comp=Z,44nm,1.1s
SUR Sutherland 76.78 120 LR LR 04 47 47.2
comp=Z,766nm,21.6s,baz=244,slow=32
LDAQ Lac Daran 76.97 0 IAmb IAmb 04 18 22.3
comp=Z,43nm,1.0s
PASC Pasadena Art C 77.01 322 IAmb IAmb 04 18 24.6
comp=Z,39nm,0.9s
MTPU Mount Pierson 77.04 328 IAmb IAmb 04 18 24.3
comp=Z,44nm,0.8s
GSC Goldstone, Bar 77.14 323 IAmb IAmb 04 18 24.9
comp=Z,32nm,0.9s
SRU San Rafael Swe 77.17 330 IAmb IAmb 04 18 24.5
comp=Z,62nm,0.9s
VLDQ Val d'Or 77.30 356 IAmb IAmb 04 18 23.9
comp=Z,41nm,0.9s
Q16A Castle Valley 77.30 329 IAmb IAmb 04 18 25.8
comp=Z,62nm,0.9s
MVU Marysvale 77.43 328 IAmb IAmb 04 18 26.7
comp=Z,46nm,0.9s
MAW Mawson 77.52 164 P **P 04 18 23.0 -0.5**
comp=Z,12nm,0.7s,baz=227,slow=4.1,SNR=7.9
MAW LR LR 04 54 27.5
comp=Z,507nm,19.5s,baz=226,slow=37
comp=Z,12nm,0.7s
CCAC Calif City Air 77.66 323 IAmb IAmb 04 18 27.6
comp=Z,51nm,0.8s
E38A The Farm, Brul 77.73 346 IAmb IAmb 04 18 25.9
comp=Z,34nm,0.9s
GWY Greenwater Val 77.75 324 IAmb IAmb 04 18 28.4
comp=Z,40nm,0.9s
TPNV Topopah Spring 78.13 325 IAmb IAmb 04 18 30.6
comp=Z,48nm,0.9s
WCT Wildcat Mounta 78.20 325 IAmb IAmb 04 18 31.0
comp=Z,39nm,0.9s
PSUT Pine Spring 78.22 327 IAmb IAmb 04 18 30.9
comp=Z,37nm,0.9s
BCW Bitter Crk WRg 78.25 322 IAmb IAmb 04 18 31.3
comp=Z,80nm,0.9s
ISA Isabella, Lake 78.29 323 IAmb IAmb 04 18 31.4
comp=Z,52nm,0.9s
MPU Maple Canyon 78.40 330 IAmb IAmb 04 18 32.0
comp=Z,76nm,1.0s
S11A Rachel 78.42 326 IAmb IAmb 04 18 32.6
comp=Z,41nm,0.9s
ICQ Pointe Anglais 78.62 3 IAmb IAmb 04 18 31.4
comp=Z,76nm,0.9s
GRAC Grapevine Rang 78.73 324 IAmb IAmb 04 18 33.7
comp=Z,33nm,0.8s
DUG Dugway, Tooele 79.07 329 IAmb IAmb 04 18 35.3
comp=Z,57nm,0.9s
DUG Dugway, Tooele 79.07 329 P **P 04 18 34.2 +1.5**
DUG pmax pmax
comp=Z,67nm,1.0s
TCUT Toone Canyon 79.21 331 IAmb IAmb 04 18 35.8
comp=Z,56nm,0.8s
TBO Thunder Bay 79.27 348 IAmb IAmb 04 18 34.5
comp=Z,46nm,0.9s
PDAR Pinedale Array 79.81 333 P **P 04 18 37.2 +0.5**
comp=Z,22nm,0.9s,baz=133,slow=6.0,SNR=80
PDAR PKKPbc **PKKPbc 04 37 22.7 -2.1**
comp=Z,0.3nm,0.6s,baz=18,slow=0.5,SNR=4.2
PDAR LR LR 04 50 52.1
comp=Z,239nm,20.4s,baz=144,slow=33
comp=Z,22nm,0.9s
PMPB Monarch Peak 79.95 322 IAmb IAmb 04 18 41.3
comp=Z,44nm,0.9s
TSUM Tsumeb 80.15 106 P **P 04 18 39.1 0.0**
TSUM Tsumeb 80.15 106 LR LR 04 51 12.6
comp=Z,1µm,18.3s,baz=228,slow=33
SOE Somerset East 80.19 122 P **P 04 18 39.1 +0.1**
SOE IAmb IAmb 04 18 41.9
comp=Z,46nm,1.0s
LHV Little Huntoon 80.27 324 IAmb IAmb 04 18 42.1
comp=Z,41nm,0.9s
AGMN Agassiz Nation 80.31 344 IAmb IAmb 04 18 40.7
comp=Z,44nm,0.9s
NVAR Mina Array Bea 80.31 325 P **P 04 18 40.3 +0.8**
NVAR Mina Array Bea 80.31 325 P **P 04 18 40.9 +1.4**
comp=Z,18nm,0.8s,baz=158,slow=6.2,SNR=95
NVAR PKKPbc **PKKPbc 04 37 23.8 +0.4**
comp=Z,0.6nm,0.7s,baz=263,slow=1.9,SNR=6.1
NVAR LR LR 04 47 39.2
comp=Z,350nm,20.6s,baz=170,slow=31
comp=Z,18nm,0.8s
HVU Hansel Valley 80.34 330 IAmb IAmb 04 18 41.8
comp=Z,68nm,0.9s
BBGB Big Mountain B 80.35 322 IAmb IAmb 04 18 46.3
comp=Z,65nm,0.8s

AHID Auburn Hatcher 80.44 332 IAmb IAmb 04 18 42.0
comp=Z,50nm,1.0s
KOOLE Kule 80.56 111 IAmb IAmb 04 18 59.5
comp=Z,46nm,0.6s
KOOLE Kule 80.56 111 *i* P **P 04 18 41.6 +0.3**
ELK Elko 80.62 328 IAmb IAmb 04 18 43.7
comp=Z,52nm,0.9s
ELK Elko 80.62 328 P **P 04 18 42.1 +1.0**
LKGWB Lokgwabe 80.87 112 *i* P **P 04 18 45.3 +2.5**
SNOW Snow King Moun 80.87 332 IAmb IAmb 04 18 45.5
comp=Z,41nm,0.9s
TPAW Teton Pass 80.98 332 IAmb IAmb 04 18 45.6
comp=Z,37nm,0.9s
EPLO Experimental L 81.11 346 IAmb IAmb 04 18 44.2
comp=Z,38nm,1.0s
PNTR Pine Nut 81.47 324 IAmb IAmb 04 18 49.0
comp=Z,65nm,0.8s
PHPEN Phepeng 81.54 114 IAmb IAmb 04 19 05.2
comp=Z,67nm,1.6s
RLMT Red Lodge 81.67 334 IAmb IAmb 04 18 48.6
comp=Z,31nm,0.7s
PAHR Pah Rah Range 81.82 325 IAmb IAmb 04 18 50.3
comp=Z,57nm,1.0s
MPK Martis Peak 81.84 324 IAmb IAmb 04 18 50.7
comp=Z,52nm,1.0s
YNE Yellowstone No 81.86 334 IAmb IAmb 04 18 49.5
comp=Z,33nm,0.8s
BOSA Boshof 81.92 118 IAmb IAmb 04 19 06.2
comp=Z,27nm,0.7s
BOSA Boshof 81.92 118 P **P 04 18 47.9 -0.5**
comp=Z,21nm,0.8s,baz=231,slow=4.8,SNR=28
BOSA pP **pP 04 19 04.0 +0.2**
comp=Z,26nm,0.6s,baz=252,slow=4.2,SNR=13
BOSA LR LR 04 53 49.6
comp=Z,615nm,18.1s,baz=242,slow=35
comp=Z,21nm,0.8s
ULM Lac du Bonnet 82.13 345 IAmb IAmb 04 18 49.5
comp=Z,65nm,0.9s
ULM Lac du Bonnet 82.13 345 P **P 04 18 48.4 -0.2**
comp=Z,61nm,0.9s,baz=161,slow=4.6,SNR=60
comp=Z,61nm,0.9s
ULM Lac du Bonnet 82.13 345 *i* P **P 04 18 48.7 +0.1**
GRTLG Ghanzi 82.16 110 *i* P **P 04 18 49.8 0.0**
TORD Torodi Ar. Bea 82.30 70 P **P 04 18 50.0 -0.3**
TORD IAmb IAmb 04 19 09.6
comp=Z,26nm,0.8s
TORD Torodi Ar. Bea 82.30 70 P **P 04 18 50.0 -0.3**
comp=Z,69nm,0.3s,baz=276,slow=4.9,SNR=1.6
TORD LR LR 04 52 55.0
comp=Z,2µm,21.8s,baz=224,slow=34
comp=Z,69nm,0.3s
BEKR Beckworth 82.44 324 IAmb IAmb 04 18 53.2
comp=Z,38nm,0.9s
HLID Hailey 82.49 330 IAmb IAmb 04 18 53.9
comp=Z,53nm,0.9s
ORV Oroville 82.79 323 IAmb IAmb 04 18 55.1
comp=Z,65nm,1.0s
SKOMA Sekoma 82.85 114 *i* P **P 04 18 53.5 +0.2**
WVOR Wild Horse Val 83.53 327 P **P 04 18 57.2 +1.0**
WVOR pmax pmax
comp=Z,21nm,1.1s
LBTB Lobatse 83.93 115 IAmb IAmb 04 19 15.5
comp=Z,83nm,1.4s
LBTB Lobatse 83.93 115 LR LR 04 51 16.9
comp=Z,2µm,21.8s,baz=233,slow=32
LBTB Lobatse 83.93 115 P **P 04 18 58.5 -0.3**
LBTB pmax pmax
comp=Z,57nm,1.0s
KDWAN Kaudwane 83.98 113 IAmb IAmb 04 19 31.8
comp=Z,60nm,1.1s
KDWAN Kaudwane 83.98 113 *i* P **P 04 18 59.1 0.0**
KCPM Cahto Peak 83.99 322 IAmb IAmb 04 19 01.8
comp=Z,55nm,1.0s
PLID Pearl Lake 84.40 330 IAmb IAmb 04 19 02.6
comp=Z,58nm,0.8s
KMPM Mount Pierce 84.80 323 IAmb IAmb 04 19 05.6
comp=Z,61nm,1.0s
KHMM Horse Mountain 84.92 323 IAmb IAmb 04 19 10.4
comp=Z,28nm,1.0s
LPHEP Lephephe 84.95 114 IAmb IAmb 04 19 21.0
comp=Z,48nm,1.2s
L04D Klamath Falls 85.17 325 IAmb IAmb 04 19 06.2
comp=Z,37nm,1.1s
K04D Chiloquin, OR 85.19 325 IAmb IAmb 04 19 06.8
comp=Z,54nm,1.0s
I07A Izee 85.20 328 IAmb IAmb 04 19 07.0
comp=Z,27nm,0.9s
J05D Fort Rock, OR 85.43 326 IAmb IAmb 04 19 08.2
comp=Z,39nm,1.0s
PHDHD Phuduhudu 85.44 110 IAmb IAmb 04 19 33.6
comp=Z,85nm,1.6s
F10A Beach Ranch, E 85.63 330 IAmb IAmb 04 19 10.0
comp=Z,28nm,0.9s
L02F Cave Junction 85.74 324 IAmb IAmb 04 19 09.7
comp=Z,36nm,0.9s
BBOR Butler Butte 85.85 325 IAmb IAmb 04 19 09.2
comp=Z,24nm,0.9s
DBO Dodson Butte 86.30 325 IAmb IAmb 04 19 12.5
comp=Z,45nm,0.9s
G06A Carlson Farm, 86.60 328 IAmb IAmb 04 19 14.0
comp=Z,31nm,1.2s
MRZ Mangatainoka R 86.60 225 IAmb IAmb 04 19 40.9
comp=Z,40nm,1.3s
MREMI Moremi 86.61 114 IAmb IAmb 04 19 40.2
comp=Z,77nm,1.8s
J01E Myrtle Point 86.68 325 IAmb IAmb 04 19 13.8
comp=Z,42nm,1.0s
I03D Drain, OR 86.77 325 IAmb IAmb 04 19 18.6
comp=Z,27nm,1.0s
KHZ Kahutara 86.78 222 IAmb IAmb 04 19 39.7
comp=Z,47nm,1.3s
HAWA Hanford 86.97 329 IAmb IAmb 04 19 15.2
comp=Z,36nm,0.8s
HOOD Mount Hood Mea 87.14 327 IAmb IAmb 04 19 16.4
comp=Z,42nm,1.0s
KUQ Kuujjuuaa 87.17 2 IAmb IAmb 04 19 14.4
comp=Z,22nm,1.0s
D08A Wollman Farm, 87.21 330 IAmb IAmb 04 19 16.2
comp=Z,20nm,0.8s
WAH2 Wahluke Slope 87.26 329 IAmb IAmb 04 19 16.2
comp=Z,19nm,0.9s
LTZ Lake Taylor 87.29 221 P **P 04 19 15.8 +0.7**
NEW Newport 87.37 332 P **P 04 19 14.6 -0.5**
comp=Z,8.8nm,0.9s,baz=118,slow=5.3,SNR=12
NEW LR LR 04 54 29.5
comp=Z,507nm,21.7s,baz=132,slow=33
comp=Z,8.8nm,0.9s
COR Corvallis 87.40 326 P **P 04 19 15.6 +0.4**
COR Corvallis 87.40 326 P **P 04 19 15.6 +0.4**
COR pmax pmax
comp=Z,95nm,1.0s
MXC Moxie City 87.45 329 IAmb IAmb 04 19 17.7
comp=Z,20nm,0.9s
THZ Tophouse 87.55 223 IAmb IAmb 04 19 44.4
comp=Z,34nm,1.0s
FFC Flin Flon 87.73 343 P **P 04 19 16.2 -0.3**
FFC Flin Flon 87.73 343 P **P 04 19 16.2 -0.3**
FFC pmax pmax
comp=Z,15nm,1.1s
INZ Inchbonnie 87.80 221 IAmb IAmb 04 19 45.3
comp=Z,34nm,1.1s
MRNZ Matariki Terra 87.86 223 P **P 04 19 17.7 -0.1**
QRZ Quartz Range 88.35 223 P **P 04 19 19.6 -0.5**
QRZ IAmb IAmb 04 19 47.8
comp=Z,54nm,1.4s
TOZ Tahuroa Road 88.39 227 IAmb IAmb 04 19 24.1
comp=Z,28nm,1.0s
MATP Matopo 88.54 113 LR LR 04 56 49.9
comp=Z,381nm,18.1s,baz=246,slow=34
MDT Midelt 88.62 51 LR LR 04 58 42.0
comp=Z,587nm,20.6s,baz=235,slow=35
GNW Green Mountain 89.34 328 IAmb IAmb 04 19 25.8
comp=Z,47nm,0.8s
A04D Lummi Island 90.14 329 IAmb IAmb 04 19 29.8
comp=Z,28nm,0.9s
PGC Sidney 90.42 329 IAmb IAmb 04 19 31.6
comp=Z,19nm,0.9s
TAM Tamanrasset 90.49 64 P **P 04 19 30.6 +0.1**
TAM IAmb IAmb 04 19 49.0
comp=Z,21nm,0.6s
TAM Tamanrasset 90.49 64 P **P 04 19 30.6 +0.1**
TAM pmax pmax
comp=Z,21nm,0.6s
LSZ Lusaka 90.90 108 P **P 04 19 32.5 -0.2**
LSZ IAmb IAmb 04 19 57.7
comp=Z,52nm,1.6s
LSZ Lusaka 90.90 108 LR LR 04 57 41.5
comp=Z,611nm,18.5s,baz=224,slow=34

LSZ Lusaka 90.90 108 P **P 04 19 32.5 -0.2**
LSZ pmax pmax
comp=Z,52nm,1.7s
CBB Campbell River 92.29 329 IAmb IAmb 04 19 40.0
comp=Z,28nm,1.1s
FRB Frobisher Bay 92.82 1 P **P 04 19 39.4 -0.7**
comp=Z,4.8nm,1.0s,baz=187,slow=14,SNR=4.3
comp=Z,4.8nm,1.0s
ESDC Sonseca Array 93.10 46 P **P 04 19 41.5 -0.6**
comp=Z,1.4nm,1.0s,baz=246,slow=5.7,SNR=5.3
ESDC LR LR 04 58 23.2
comp=Z,1µm,21.8s,baz=224,slow=33
comp=Z,1.4nm,1.0s
STCH Steam Cracks 93.89 290 P **P 04 19 46.7 +0.5**
YKAW1 Yellowknife Wh 97.75 341 IAmb IAmb 04 20 03.8
comp=Z,7.6nm,0.9s
YKA Yellowknife Ar 97.79 341 P **P 04 20 02.4 -0.4**
comp=Z,4.2nm,0.9s,baz=143,slow=4.4,SNR=65
YKA pP **pP 04 20 20.8 +2.7**
comp=Z,2.2nm,0.9s,baz=142,slow=3.9,SNR=4.7
comp=Z,4.2nm,0.9s
YKAW3 Yellowknife Wh 97.85 341 IAmb IAmb 04 20 03.9
comp=Z,6.7nm,0.9s
DLBC Dease Lake 100.04 333 P **Pdif 04 20 13.4 +0.3**
comp=Z,9.1nm,0.9s,baz=133,slow=5.6,SNR=8.5
DZM Mont Dzumac 104.25 234 *e*P **Pdif 04 20 31.3 -1.5**
comp=Z,77nm,25.9s
DZM Mont Dzumac 104.25 234 *e*PP **PKiKP 04 24 44.6 -4.9**
comp=Z,136nm,28.6s
DZM Mont Dzumac 104.25 234 *e*SS SS 04 39 37.7 +1.2
comp=Z,872nm,31.1s
DZM Mont Dzumac 104.25 234 *e*LQ LQ 04 50 28.8
comp=Z,2µm,34.0s
DZM *e*LR LR 04 54 51.5
comp=Z,2µm,28.2s
RES Resolute Bay 104.90 354 Pdiff **Pdif 04 20 32.1 -2.1**
comp=Z,0.3nm,0.4s,baz=225,slow=5.7,SNR=1.9
M29M Somme Creek 105.80 334 **Pdif 04 20 39.7 +1.0**
L29M L29M 106.04 334 **Pdif 04 20 40.6 +1.0**
L27K Beaver Creek, 107.44 333 **Pdif 04 20 46.8 +0.9**
INK Inuvik 107.46 340 Pdiff **Pdif 04 20 45.5 -0.2**
comp=Z,2.2nm,1.1s,baz=105,slow=3.9,SNR=4.9
INK PP **PP 04 25 16.1 +1.8**
comp=Z,2.3nm,1.1s,baz=129,slow=7.8,SNR=5.0
GERES GERESS Array B 108.61 44 PKiKP **PKiKP 04 24 56.5 -0.1**
comp=Z,1.4nm,0.8s,baz=236,slow=1.4,SNR=7.0
ILAR Eielson Array 110.22 334 Pdiff **Pdif 04 20 58.0 -0.2**
comp=Z,0.8nm,0.8s,baz=157,slow=4.0,SNR=8.5
ILAR PKiKP **PKiKP 04 24 59.1 +0.1**
comp=Z,1.0nm,0.9s,baz=192,slow=1.2,SNR=9.2
ILAR PP **PP 04 25 37.8 +3.2**
comp=Z,1.8nm,0.9s,baz=108,slow=6.5,SNR=5.3
STKA Stephens Creek 111.41 210 PKiKP **PKiKP 04 25 02.4 -0.1**
comp=Z,1.5nm,0.5s,baz=281,slow=5.2,SNR=3.8
HFS Hagfors 112.74 33 PKKPbc PKKPbc 04 35 58.2 +4.4
comp=Z,1.4nm,0.9s,baz=166,slow=2.4,SNR=3.8
MNK Minsk 118.70 41 *i* P **Pdif 04 21 35.9 -0.2**
MNK *i* 04 32 00.2
MNK *i* PS **PS 04 36 21.9 -0.2**
MNK *i* SS SS 04 42 52.5 +3.5
MNK *i* SSS SSS 04 47 16.6
MNK pmax pmax
comp=Z,4.0nm,0.6s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=E,9.0nm,0.7s
KIEV Kiev 118.73 45 **PKPdf 04 25 14.9 -0.8**
KIEV Kiev 118.73 45 PKIKP **PKPdf 04 25 14.9 -0.8**
AKASG Malin Array Be 118.74 45 **PKPdf 04 25 15.0 -0.8**
AKASG Malin Array Be 118.74 45 PKP **PKPdf 04 25 14.8 -0.9**
comp=E,3.7nm,0.7s,baz=264,slow=2.7,SNR=10
AKASG pPKP **pPKPdf 04 25 32.3 +0.2**
comp=E,2.5nm,0.6s,baz=266,slow=3.0,SNR=4.8
AKASG PP PP 04 26 43.2 +8.2
comp=E,4.1nm,1.1s,baz=260,slow=5.9,SNR=6.5
AKASG PKKPbc **PKKPbc 04 35 33.8 +1.3**
comp=E,0.1nm,0.3s,baz=71,slow=3.5,SNR=4.0
AKASG Malin Array Be 118.74 45 PKIKP **PKPdf 04 25 15.0 -0.8**
AKBB Malin Array Si 118.74 45*c* *i*PKIKP **PKPdf 04 25 15.3 -0.5**
VSU Vasula 118.79 36*c* *i*PKIKP **PKPdf 04 25 14.9 -0.7**
VSU pmax pmax
comp=Z,38nm,2.5s
FINES FINESS Array B 118.94 33 PKP **PKPdf 04 25 15.3 -0.5**
comp=Z,1.6nm,0.8s,baz=116,slow=4.4,SNR=5.6
FINES PKKPbc **PKKPbc 04 35 32.0 0.0**
comp=Z,1.8nm,0.8s,baz=188,slow=3.9,SNR=4.5
BR131 Keskin Array S 119.19 58 *i* PKIKP **PKiKP 04 25 17.3 0.0**
BRTR Keskin Array B 119.19 58 **PKPdf 04 25 16.7 -0.5**
BRTR Keskin Array B 119.19 58 PKP **PKiKP 04 25 17.1 -0.1**
comp=Z,3.9nm,0.8s,baz=191,slow=3.1,SNR=21
BRTR pPKP **pPKPdf 04 25 34.8 +1.3**
comp=Z,3.4nm,0.8s,baz=194,slow=3.4,SNR=8.0
BRTR PKKPbc **PKKPab 04 35 31.2 -0.1**
comp=Z,0.7nm,0.8s,baz=69,slow=7.0,SNR=3.8
ARCES ARCESS Array B 119.65 24 PKP **PKPdf 04 25 16.7 -0.3**
comp=Z,2.6nm,0.9s,baz=0.0,slow=1.2,SNR=3.6
ARCES pPKP **pPKPdf 04 25 34.7 +1.7**
comp=Z,1.6nm,0.6s,baz=242,slow=2.6,SNR=1.9
ASAR Alice Springs 121.84 208 PKP **PKPdf 04 25 21.5 -1.3**
comp=Z,6.6nm,0.8s,baz=148,slow=2.1,SNR=47
ASAR PKKPbc **PKKPbc 04 35 20.9 +0.1**
comp=Z,1.6nm,0.8s,baz=334,slow=3.2,SNR=10
OBN Obninsk 123.77 41 *i* PKIKP **PKiKP 04 25 25.6 +0.1**
OBN *e* 04 27 07.1
OBN pmax pmax
comp=Z,27nm,1.7s
OBN MLR MLR
comp=Z,1µm,17.0s
WRA Warramunga Arr 124.96 210 **PKPdf 04 25 27.2 -1.7**
WRA Warramunga Arr 124.96 210 PKP **PKPdf 04 25 28.0 -0.8**
comp=Z,18nm,0.8s,baz=154,slow=1.7,SNR=78
WRA pPKP **pPKPdf 04 25 47.1 +2.1**
comp=Z,7.4nm,0.8s,baz=160,slow=1.5,SNR=5.5
WRAB Tennant Creek 124.96 210 **PKPdf 04 25 27.8 -1.0**
WRAB Tennant Creek 124.96 210 PKIKP **PKPdf 04 25 27.8 -1.0**
LPSR Galich'ya Gora 124.99 44 *e*PKIKP **PKiKP 04 25 27.9 -0.1**
LPSR pmax pmax
comp=Z,15nm,0.9s
VSR Storozhevoye 125.03 46 *e*PKIKP **PKPdf 04 25 24.1 -3.7**
VSR pmax pmax
comp=Z,8.0nm,1.0s
WB0 Warramunga Arr 125.09 210 **PKPdf 04 25 28.4 -0.7**
VORR Voronezh 125.10 45 PKIKP **PKiKP 04 25 28.1 -0.2**
VORR pmax pmax
comp=Z,13nm,0.6s
KLMR Klimovskoe 125.41 34 *e*PKIKP **PKPdf 04 25 27.1 -1.2**
KLMR pmax pmax
comp=Z,38nm,1.2s
H11S2 WAKE ISLAND Hyl 26.07 272 T T 06 44 39.2
baz=115,slow=75,SNR=432
H11S1 WAKE ISLAND Hyl 26.08 272 T T 06 44 40.8
baz=115,slow=75,SNR=335
H11S3 WAKE ISLAND Hyl 26.09 272 T T 06 44 32.7
baz=115,slow=75,SNR=317
H11N3 WAKE ISLAND Hyl 26.37 274 T T 06 44 51.6
baz=113,slow=75,SNR=98
H11N1 WAKE ISLAND Hyl 26.38 274 T T 06 44 53.6
baz=113,slow=75,SNR=63
H11N2 WAKE ISLAND Hyl 26.39 274 T T 06 44 51.4
baz=113,slow=75,SNR=80
VRH Novokhopyorsk 126.64 46 *e*PKIKP **PKiKP 04 25 30.9 -0.5**
VRH pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 126.65 55 *i* PKIKP **PKiKP 04 25 31.8 0.0**
KIV pmax pmax
comp=Z,12nm,1.1s
KBZ Khabaz 126.77 55 PKP **PKiKP 04 25 31.9 0.0**
comp=Z,9.2nm,0.9s,baz=164,slow=3.3,SNR=10.0
KBZ pPKP **pPKPdf 04 25 48.1 +0.4**
comp=Z,5.5nm,0.8s,baz=206,slow=3.0,SNR=4.0
KBZ Khabaz 126.77 55*c* *i*PKIKP **PKiKP 04 25 32.9 +1.0**
PSA00 Pilbara Seismi 128.17 194 **PKPdf 04 25 33.9 -1.0**
PSA00 Pilbara Seismi 128.17 194 **PKPdf 04 25 34.8 -0.2**
BILL Bilibino 128.80 336 **PKiKP 04 25 34.7 -0.5**
BILL Bilibino 128.80 336*c* *i*PKIKP **PKiKP 04 25 34.7 -0.5**
BILL pmax pmax
comp=Z,10.0nm,0.8s
FITZ Fitzroy Crossi 129.96 202 **PKPdf 04 25 38.1 -0.2**
FITZ Fitzroy Crossi 129.96 202 PKP **PKPdf 04 25 38.3 0.0**
comp=Z,10.0nm,0.7s,baz=197,slow=4.0,SNR=22
KIRV Kirov 130.64 36 PKP **PKPdf 04 25 38.0 -0.2**
comp=Z,2.1nm,0.3s,baz=346,slow=8.4,SNR=4.4
KIRV Kirov 130.64 36*c* *i*PKIKP **PKiKP 04 25 39.9 +0.8**
ARTI Arti 135.85 38 **PKPdf 04 25 48.7 +0.5**
ARTI Arti 135.85 38 PKP **PKPdf 04 25 48.5 +0.3**

comp=Z,11nm,0.8s,baz=260,slow=2.2,SNR=18
ARTI Arti 135.85 38 *i* PKIKP **PKiKP 04 25 49.2 -0.6**
SEY Seymchan 136.14 333*c i* PKIKP **PKiKP 04 25 49.9 -0.3**
SEY pmax pmax
comp=Z,23nm,0.8s
TIXI Tiksi 136.20 351 *i* PKIKP **PKPdf 04 25 48.9 +0.5**
AKTO Aktyubinsk 136.98 46 PKP **PKPdf 04 25 50.8 +0.3**
comp=Z,4.6nm,0.9s,baz=12,slow=0.5,SNR=8.1
PEA0B Petropavlovsk- 137.08 318*c i* PKIKP **PKiKP 04 25 53.0 +0.6**
PETK Petropavlovsk- 137.08 318 PKP **PKPdf 04 25 50.6 +0.1**
PETK Petropavlovsk- 137.08 318 PKP **PKPdf 04 25 51.0 +0.4**
comp=Z,26nm,0.9s,baz=107,slow=3.4,SNR=20
PETK pPKP **pPKPdf 04 26 09.1 +2.3**
comp=Z,11nm,0.9s,baz=95,slow=3.4,SNR=4.0
NRIK Noril'sk 138.21 11 PKiKP 04 25 53.2 -1.1
NRIK Noril'sk 138.21 11 PKP **PKPdf 04 25 52.5 +0.3**
comp=Z,5.3nm,1.0s,baz=307,slow=1.0,SNR=5.0
NRIK Noril'sk 138.21 11*c i* PKIKP **PKPdf 04 25 52.7 +0.5**
ABKAR Akbulak array 138.41 48 PKPdf **PKPdf 04 25 53.4 +0.2**
BRVK Borovoye 143.47 39 PKPbc 04 26 00.3 +0.7
BRVK Borovoye 143.47 39 PKIKP PKPbc 04 26 00.3 +0.7
BVAR Borovoye Array 143.54 39 PKP PKPbc 04 26 00.5 +0.7
comp=Z,3.3nm,0.5s,baz=306,slow=3.7,SNR=18
BVAR pPKP pPKPdf 04 26 18.9 +0.3
comp=Z,5.4nm,0.7s,baz=318,slow=2.0,SNR=6.4
KAPI Kappang 144.12 200 PKPbc 04 26 03.1 +0.5
KAPI Kappang 144.12 200 PKIKP PKPbc 04 26 03.1 +0.5
YAK Yakutsk 144.45 343 PKPbc 04 26 02.4 +0.2
YAK Yakutsk 144.45 343 PKP PKPbc 04 26 02.0 -0.2
comp=Z,228nm,0.8s,baz=25,slow=1.5,SNR=56
YAK Yakutsk 144.45 343 *e*PKIKP PKPbc 04 26 01.9 -0.3
YAK *e*SS SS 04 47 55.6 -6.0
YAK pmax pmax
comp=Z,213nm,0.9s
YAK pmax pmax
comp=E,15nm,0.9s
YAK pmax pmax
comp=N,19nm,0.9s
SIMJ Simiganj 146.28 63 PKPbc 04 26 08.0 -0.9
KBL Kabul 146.37 71 PKPdf 04 26 07.5 -0.6
KBL Kabul 146.37 71 PKIKP **PKPdf 04 26 07.5 -0.6**
TYV Tymovskoe 146.56 320 *e*PKP2 **PKPbc 04 26 09.3 +0.2**
TYV pmax pmax
comp=Z,38nm,0.9s
TYV pmax pmax
comp=Z,100nm,2.7s
KKAR Karatay Array 146.81 55 PKPdf 04 26 08.8 +0.5
KKAR Karatay Array 146.81 55 PKP2 **PKPdf 04 26 08.8 +0.5**
YSS Yuzhno-Sakhali 148.10 313 PKPdf **PKPdf 04 26 10.7 +0.5**
YSS Yuzhno-Sakhali 148.10 313*c i* PKP2 **PKPbc 04 26 13.4 -0.1**
YSS pmax pmax
comp=Z,50nm,0.8s
KURK Kurchatov 149.13 38 PKPdf **PKPdf 04 26 12.2 +0.4**
KURK Kurchatov 149.13 38*c i* PKIKP **PKPdf 04 26 13.3 +1.5**
KURK pmax pmax
comp=Z,33nm,1.0s
KURBB Kurchatov Arra 149.13 38 PKP **PKPdf 04 26 12.3 +0.5**
comp=Z,25nm,0.7s,baz=304,slow=3.1,SNR=39
KURBB PKPbc **PKiKP 04 26 16.4 -0.8**
comp=Z,25nm,0.7s,baz=303,slow=3.2,SNR=60
EKS2 Erkin-Say 149.25 55 P **PKPdf 04 26 13.6 +1.2**
SNR=20
ERM Erimo 149.28 304*c i* PKP2 **PKiKP 04 26 17.9 +0.1**
ERM pmax pmax
comp=Z,45nm,0.7s
AML Almayashu 149.31 56 P **PKPdf 04 26 14.3 +1.4**
SNR=22
TOLI2 Tolitoli 149.52 205 PKPdf **PKPdf 04 26 13.2 -0.4**
USP Ospenovka 149.60 54 P **PKiKP 04 26 18.3 -0.2**
SNR=11
AAK Ala-Archa 149.76 55 PKPdf **PKPdf 04 26 13.8 +0.5**
AAK Ala-Archa 149.76 55 PKPbc **PKiKP 04 26 19.0 -0.1**
comp=Z,48nm,0.9s,baz=214,slow=2.5,SNR=32
AAK Ala-Archa 149.76 55 P **PKiKP 04 26 19.3 +0.2**
SNR=24
AAK Ala-Archa 149.76 55*c i* PKHKP PKPpre 04 26 14.7
AAK pmax pmax
comp=Z,52nm,1.3s
NIL Nilore 149.83 73 PKPdf **PKPdf 04 26 13.9 +0.3**
NIL Nilore 149.83 73 PKHKP PKPpre 04 26 13.9
CHMS Chumysh 149.85 54 P **PKiKP 04 26 19.1 +0.1**
SNR=13
UCH Uchtor 149.88 56 P **PKiKP 04 26 20.5 +0.8**
SNR=6.2
GRNR Gornyy 150.01 323 ⇓*i* PKP2 **PKiKP 04 26 18.9 -0.2**
GRNR pmax pmax
comp=Z,40nm,0.9s
GRNR MLR MLR
comp=Z,100nm,13.0s
ZAA0 Zalesovo Array 150.05 28 PKPdf 04 26 13.7 +0.6
ZALV Zalesovo Beam 150.05 28 PKP **PKPdf 04 26 13.5 +0.4**
comp=Z,102nm,0.8s,baz=310,slow=2.0,SNR=46
ZALV PKPbc **PKiKP 04 26 18.4 -0.6**
comp=Z,102nm,0.8s,baz=300,slow=3.5,SNR=74
ZALV pPKPbc **sPKPdf 04 26 36.1 +1.1**
comp=Z,80nm,0.7s,baz=299,slow=3.4,SNR=8.9
KBK Karagaybulak 150.08 55 P **PKiKP 04 26 20.1 +0.3**
SNR=5.6
HYB Hyderabad 150.24 107 *e*PKiKP **PKiKP 04 26 20.4 -0.1**
TKM2 Tokmak 2 150.47 54 P **PKPdf 04 26 14.8 +0.3**
SNR=5.5
ULHL Ulahol 151.12 55 P **PKiKP 04 26 22.6 +0.7**
SNR=20
BOD Bodaibo 151.28 354 *e*PKIKP **PKPdf 04 26 14.6 -0.3**
BOD pmax pmax
comp=Z,64nm,1.6s
KSH Kashi 151.55 60 PKPbc **PKiKP 04 26 22.8 0.0**
KSH pPKP pPKPdf 04 26 31.9 -0.5
KSH sPKP 04 26 40.5
RPSI Rantau Prapat 152.00 160 PKPdf 04 26 16.5 -0.9
ZEA Zeya 152.02 336 *e*PKIKP **PKPdf 04 26 16.6 +0.4**
ZEA pmax pmax
comp=Z,20nm,1.1s
PSI Prapat 152.10 159 PKP **PKPdf 04 26 16.5 -1.2**
comp=Z,10nm,0.8s,baz=45,slow=5.1,SNR=3.8
PSI PKPbc **PKPbc 04 26 22.5 -1.9**
comp=Z,10nm,0.8s,baz=152,slow=6.4,SNR=7.8
SBUM Sibu 152.99 188 PKPdf **PKPdf 04 26 17.9 -1.0**
MAKZ Makanchi 153.07 42 PKPdf 04 26 18.2 +0.3
MAKZ Makanchi 153.07 42 PKIKP **PKPdf 04 26 18.3 +0.3**
MKAR Makanchi Array 153.26 42 PKPdf 04 26 17.9 -0.4
MKAR Makanchi Array 153.26 42 PKP **PKPdf 04 26 17.8 -0.5**
comp=Z,4.3nm,0.9s,baz=294,slow=1.2,SNR=20
MKAR PKPbc **PKiKP 04 26 25.7 -0.2**
comp=Z,16nm,0.8s,baz=313,slow=2.2,SNR=41
MKAR pPKPbc **pPKPbc 04 26 43.4 +1.2**
comp=Z,15nm,0.7s,baz=330,slow=2.4,SNR=11
KLR Kul'dur 153.34 325 PKP **PKPdf 04 26 17.9 -0.4**
comp=Z,4.6nm,0.9s,baz=66,slow=1.2,SNR=9.2
KLR PKPbc **PKiKP 04 26 25.9 -0.1**
comp=Z,13nm,0.8s,baz=59,slow=4.4,SNR=28
KLR Kul'dur 153.34 325 *i* PKIKP **PKPbc 04 26 24.6 -1.3**
KLR pmax pmax
comp=Z,19nm,0.9s
MJAR Matsushiro Arr 154.04 294 PKP **PKPdf 04 26 19.3 -0.4**
comp=Z,1.8nm,0.4s,baz=171,slow=1.2,SNR=11
MJAR PKPbc **PKiKP 04 26 28.0 +0.1**
comp=Z,1.6nm,0.4s,baz=351,slow=0.9,SNR=11
MJAR PKPab **PKPab 04 26 42.0 +0.5**
comp=Z,39nm,0.9s,baz=117,slow=2.3,SNR=30
HEH HeiHe 154.66 331 PKPbc **PKPdf 04 26 19.4 -0.7**
HEH pPKP **PKPbc 04 26 28.3 -0.3**
HEH PKPab **PKPab 04 26 43.4 -0.2**
HEH PP **PP 04 30 21.0 +1.9**
HEH AMB AMB
comp=Z,250nm,10.8s
USRK Ussuriysk Ar. 156.10 315 PKPbc PKPdf 04 26 31.5 +9.2
comp=Z,1.8nm,0.2s,baz=0.5,slow=23,SNR=7.9
USRK PKPab **PKPab 04 26 50.9 +0.9**
comp=Z,14nm,0.8s,baz=62,slow=3.1,SNR=12
IRK Irkutsk 156.94 6 *e*PKIKP **PKPdf 04 26 22.5 -0.6**
IRK *e* 04 26 41.5
IRK pmax pmax
comp=Z,36nm,0.6s
MOY Mondy 157.04 12 *e*PKIKP **PKPdf 04 26 21.2 -2.2**
MOY pmax pmax
comp=Z,22nm,2.2s
BNX BinXian 157.85 323 ⇓PKP **PKPdf 04 26 23.8 -0.6**
BNX PP **PP 04 30 42.6 +5.6**
BNX AMB AMB
comp=Z,330nm,11.2s
WMQ Urumqi 158.08 43 *e*PKP **PKPdf 04 26 25.3 +0.4**
HIA Hailar 158.31 340 PKPdf **PKPdf 04 26 24.8 -0.1**
HIA Hailar 158.31 340 PKIKP **PKPdf 04 26 24.8 -0.1**
ZAK Zakamensk 158.65 9 *e*PKIKP **PKPdf 04 26 26.0 +0.6**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
CN2 Changchun 160.17 321 *e*PKP **PKPdf 04 26 29.1 +1.9**
SONM Songino Array 161.49 4 PKPdf 04 26 28.3 -0.4
SONM PKPab **PKPab 04 27 14.3 +1.0**
SONM Songino Array 161.49 4 PKP **PKPdf 04 26 28.3 -0.4**
comp=Z,4.8nm,0.9s,baz=278,slow=0.3,SNR=19
SONM PKPab **PKPab 04 27 13.7 +0.3**
comp=Z,8.1nm,1.0s,baz=338,slow=3.9,SNR=10
KSRS Korea Array 161.82 301 PKP **PKPdf 04 26 28.2 -0.9**
comp=Z,3.2nm,0.9s,baz=21,slow=0.4,SNR=9.9
KSRS PKPab **PKPab 04 27 16.2 +1.2**
comp=Z,3.1nm,0.9s,baz=83,slow=5.3,SNR=7.5
KSAR Wonju Array Be 161.85 301 PKPdf 04 26 29.0 -0.2
KSAR Wonju Array Be 161.85 301 PKIKP **PKPdf 04 26 29.0 -0.2**
SHL Shillong 164.87 101 PKIKP **PKPdf 04 26 33.0 +0.3**
CMAR Chiang Mai Arr 166.14 139 PKP **PKPdf 04 26 32.9 -0.8**
comp=Z,0.8nm,0.3s,baz=264,slow=1.9,SNR=10
GOMU GeErMu 166.71 56 PKP **PKPdf 04 26 35.3 +1.2**
GOMU PP **PP 04 31 25.5 +0.3**
GOMU SKS **SKSdf 04 33 38.8 +5.0**
GOMU SKKS **SKKSac 04 38 09.4 +1.2**
GOMU SS **SS 04 52 04.8 +0.1**
GTA Gaotai 167.74 33 *e*PKP **PKPdf 04 26 35.5 +1.1**
GTA PKPab **PKPab 04 27 41.3 +0.2**
GTA PP **PP 04 31 36.8 +7.4**
GTA SS SS 04 52 12.9 -0.2
HHC Hu-ho-hao-te 168.25 348 *e*PKP **PKPdf 04 26 36.3 +1.6**
BTO Baotou 168.70 354 *e*PKP **PKPdf 04 26 33.3 -1.7**
BTO pPKP **pPKPdf 04 26 43.9 -7.3**
BTO PKPab **PKPab 04 27 44.9 -0.3**
BTO PP **PP 04 31 32.6 -1.1**
QIZ Qiongzhong 169.63 188 PKP **PKPdf 04 26 36.5 +0.4**
QIZ PP **PP 04 31 40.8 +2.6**
QIZ SS SS 04 52 37.5 +6.8
QIZ AMB AMB
comp=Z,250nm,12.0s
QZH Quanzhou 169.90 247 PKP **PKPdf 04 26 37.3 +1.2**
QZH PKPab **PKPab 04 27 53.3 +2.3**
QZH PP **PP 04 31 40.9 -0.3**
TIA Tai'an 169.97 315 PKP **PKPdf 04 26 34.5 -1.3**
TIA SKKS 04 38 20.0
TIA SS **SS 04 52 41.4 +5.6**
TIA AMB AMB
comp=Z,280nm,5.1s
HNS HongShan 170.40 328 ⇓PKP **PKPdf 04 26 36.8 +0.8**
HNS PKPab **PKPab 04 27 53.6 +0.9**
HNS PP **PP 04 31 42.9 +0.3**
HNS SS SS 04 52 36.5 -2.8
HNS AMB AMB
comp=Z,350nm,9.4s
NJ2 Nanjing 170.60 289 PKP **PKPdf 04 26 36.6 +0.4**
LZH Lanzhou 172.28 29 PKP **PKPdf 04 26 40.0 +2.8**
LZH SKKS 04 38 34.4
LZH AMB AMB
comp=Z,220nm,5.3s
KMI Kunming 173.44 129 PKP **PKPdf 04 26 40.8 +2.7**
KMI SKKS 04 38 40.4
PZH PanZhiHua 173.47 114 PKP **PKPdf 04 26 36.9 -1.0**
LYN LuoYang 173.77 327 ⇑PKP **PKPdf 04 26 39.6 +2.0**
LYN PP **PP 04 31 58.8 -0.5**
LYN AMB AMB
comp=Z,560nm,7.2s
WHN Wuhan 174.69 284 PKP **PKPdf 04 26 39.9 +1.9**
WHN PKPab **PKPab 04 28 14.3 +2.1**
WHN PP **PP 04 32 05.8 +0.7**
XAN Xi'an 175.31 355 ⇓PKP **PKPdf 04 26 38.6 +0.4**
XAN PKPab **PKPab 04 28 14.5 -0.1**
XAN PP **PP 04 32 04.3 -1.9**
XAN AMB AMB
comp=Z,330nm,5.6s
CD2 Chengdu 175.71 68 PKP **PKPdf 04 26 38.0 -0.4**
CNSH ChangSha 175.84 255 PKP **PKPdf 04 26 38.9 +0.5**
CNSH PP **PP 04 32 07.6 -3.0**
CNSH AMB AMB
comp=Z,280nm,9.1s
GYA Guiyang 176.73 152 ⇓PKP **PKPdf 04 26 38.5 -0.3**
GYA PP **PP 04 32 16.9 +3.4**
GYA AMB AMB
comp=Z,51nm,4.0s
GYA LR LR
comp=Z,930nm,15.3s

*NEIC **18** 04:09:24.5±0.9, 36°.263N±0°.008×98°.57W±0°.01, h5km±1km, mb_Lg2.3/8, ML2.5/27, ML2.6/44, Error ellipse: s-maj=2.5km s-min=1.4km az=27.0*
NEIC 18 04:09:24.6±0.8, 36°.266N±0°.009×98°.56W±0°.01, h8km±4km, Error ellipse: s-maj=1.4km s-min=1.3km az=60.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.26**	**326**		Pg	04 09 30.0	+0.3
OK038					Sg	04 09 34.2	+1.0
NOKA	**Waynoka**	**0.47**	**321**	Pg	Pg	04 09 33.2	-0.5
NOKA				IAML		04 09 40.9	
comp=E,483nm,0.2s							
NOKA				IAML		04 09 40.9	
comp=N,430nm,0.2s							
CROK	**Carrier**	**0.53**	**63**		Pg	04 09 34.8	0.0
CROK					Sg	04 09 42.2	+0.6
CROK				IAML		04 09 42.4	
comp=N,514nm,0.3s							
CROK				IAML		04 09 48.0	
comp=E,314nm,0.2s							
OK032	**Salt Plains WL**	**0.61**	**28**		Pg	04 09 33.8	-2.6
OK032				IAML		04 09 48.9	
comp=E,463nm,0.2s							
OK032				IAML		04 09 52.4	
comp=E,317nm,0.2s							
CSTR	**Hydro, Custer**	**0.63**	**189**		Pg	04 09 36.8	+0.1
CSTR					Sb	04 09 45.9	-0.9
ELIS	**Ellis County**	**0.72**	**254**	Pg	Pg	04 09 38.2	-0.2
ELIS				IAML		04 09 49.4	
comp=N,235nm,0.2s							
GC02	**Grant County #**	**0.81**	**44**		Pg	04 09 40.0	-0.3
GC02					Sg	04 09 51.2	+0.3
KAN14	**Manchester OK**	**0.84**	**35**		Pg	04 09 40.5	-0.3
KAN14					Sg	04 09 52.1	+0.3
KAN14				IAML		04 09 52.4	
comp=N,253nm,0.2s							
KAN10	**Anthony SW Sta**	**0.94**	**24**		Pg	04 09 42.2	-0.3
KAN10					Sg	04 09 55.2	+0.5
KAN17	**Caldwell West**	**1.01**	**39**	Pg	Pg	04 09 43.5	-0.4
KAN17				IAML		04 10 00.3	
comp=N,186nm,0.3s							
OK029	**Liberty Lake**	**1.01**	**117**		Pg	04 09 43.8	-0.3
OK029					Sg	04 09 57.2	0.0
OK029				IAML		04 09 57.9	
comp=N,138nm,0.2s							
KAN08	**Anthony NE Sta**	**1.07**	**26**		Pg	04 09 44.7	-0.4
KAN08					Sb	04 09 59.4	-0.1
KAN08				IAML		04 10 01.0	
comp=N,126nm,0.1s							
KAN01	**Argonia South**	**1.10**	**36**		Pg	04 09 45.3	-0.4
KAN01					Sg	04 09 59.9	0.0
KAN01				IAML		04 10 01.5	
comp=N,116nm,0.1s							
KAN01				IAML		04 10 04.3	
comp=E,122nm,0.2s							
KAN12	**Harper NE Stat**	**1.13**	**24**	Pg	Pg	04 09 45.5	-0.7
KAN12				IAML		04 10 10.0	
comp=E,177nm,0.3s							
KAN13	**South Haven SW**	**1.15**	**49**		Pn	04 09 46.9	-0.1
KAN09	**Caldwell North**	**1.15**	**41**		Pg	04 09 46.1	-0.6
KAN09					Sb	04 10 01.9	0.0
BLOK	**Blackwell**	**1.19**	**65**		Pb	04 09 46.8	-0.7
BLOK					Sg	04 10 02.6	-0.4
OK048	**Pawnee Station**	**1.32**	**83**		Pn	04 09 48.8	-0.5
OK048				IAML		04 10 11.1	
comp=E,88nm,0.1s							
FNO	**Franklin**	**1.38**	**136**		Pn	04 09 49.7	-0.5
OK051	**E0350 and S346**	**1.42**	**80**		Pn	04 09 50.1	-0.5
OK052	**Battle Ridge R**	**1.45**	**100**		Pn	04 09 50.7	-0.4
WMOK	**Wichita Mounta**	**1.54**	**187**		Pn	04 09 51.7	-0.6
DEOK	**Depew**	**1.73**	**104**		Pn	04 09 54.7	-0.2
X34A	**Smith Ranch, M**	**1.77**	**160**	Pn	Pn	04 09 56.2	+0.7
W35A	**Tecumseh**	**1.77**	**128**		Pn	04 09 55.7	+0.2
SMWD	**Samnorwood**	**1.79**	**230**		Pn	04 09 56.0	+0.2
SMWD				IAmb_Lg		04 10 19.6	
comp=Z,12nm,1.2s							
SMWD	**Samnorwood**	**1.79**	**230**	P	Pb	04 09 57.4	-0.3
R32A	**Long Quarter,**	**2.16**	**357**	Pn	Pn	04 10 01.9	+1.0
WTFS	**Witchita Falls**	**2.50**	**178**		Pn	04 10 05.1	-0.4
AMTX	**Amarillo**	**2.89**	**242**	IAmb_Lg		04 10 57.3	
comp=Z,7.2nm,0.8s							
AMTX	**Amarillo**	**2.89**	**242**	P	Pb	04 10 17.2	+0.7
DKNS	**Dickens**	**3.24**	**217**	Pn	Pn	04 10 16.0	+0.2
DKNS	**Dickens**	**3.24**	**217**	P	Pb	04 10 22.6	+0.2
RTBA	**Rita Blanca**	**3.37**	**274**	P	Pb	04 10 26.4	+1.7
U38A	**Gravette**	**3.38**	**86**	Pn	Pn	04 10 17.5	-0.2
ABTX	**Abilene, Hawle**	**3.74**	**194**	Pn	Pn	04 10 23.4	+0.8
FW14	**Alvarado**	**4.02**	**163**	IAmb_Lg		04 11 40.6	
comp=Z,10nm,0.8s							
CCM	**Cathedral Cave**	**6.11**	**71**	IAmb_Lg		04 12 39.6	
comp=Z,6.1nm,1.0s							

*NEIC **18** 04:11:05.7±0.9, 59°.94N±0°.04×152°.51W±0°.02, h86km±7km, Error ellipse: s-maj=5.8km s-min=1.1km az=190.0*
AEIC 18 04:11:06.5±1.2, 59°.96N±0°.03×152°.49W±0°.05, h74km±6km, ML2.3, ML2.6/108(NEIC), **Error ellipse: s-maj=5.2km s-min=3.6km az=161.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILSW	**Iliamna Southw**	**0.33**	**275**		Pn	04 11 18.3	-0.1
ILSW				Sn	Sn	04 11 28.1	+0.9
P19K	**Oil Pt**	**0.48**	**231**	Pn	Pn	04 11 19.4	-0.1
P19K				Sn	Sn	04 11 30.3	+1.1
P19K				IAML		04 11 31.6	
comp=N,120nm,0.5s							
P19K				IAML		04 11 33.6	
comp=E,127nm,0.3s							
HOM	**Homer**	**0.52**	**125**		Pn	04 11 20.4	+0.6
HOM				Sn	Sn	04 11 31.4	+1.7
CNPM	**China Poot**	**0.77**	**124**		Pn	04 11 22.7	+0.2
CNPM				Sn	Sn	04 11 34.5	+0.3
CNPM				IAML		04 11 36.2	
comp=N,191nm,0.5s							
CNPM				IAML		04 11 37.5	
comp=E,202nm,0.3s							
BRLK	**Bradley Lake**	**0.83**	**103**		Pn	04 11 23.1	-0.1
BRLK				Sn	Sn	04 11 35.6	+0.1
BRLK				IAML		04 11 36.6	
comp=N,233nm,0.1s							
BRLK				IAML		04 11 39.3	
comp=E,194nm,0.1s							
Q19K	**Port Alsworth**	**0.95**	**285**		Pn	04 11 24.4	-0.1
Q19K				Sn	Sn	04 11 38.1	+0.3
CAPN	**Captain Cook N**	**1.05**	**39**	Pn	Pn	04 11 26.7	+1.0
Q19K	**Cape Douglas,**	**1.19**	**210**	Pn	Pn	04 11 28.0	+0.5
Q19K				IAML		04 11 54.9	
comp=E,130nm,1.1s							
Q19K				IAML		04 11 58.2	
comp=N,99nm,1.4s							
SLKM	**Skilak Lake**	**1.26**	**63**		Pn	04 11 28.2	-0.2
SLKM				IAML		04 11 48.8	
comp=E,67nm,0.2s							
SLKM				IAML		04 11 48.8	
comp=N,95nm,0.3s							
N19K	**Bonanza Creek**	**1.31**	**312**		Pn	04 11 28.9	-0.2
N19K				IAML		04 11 46.1	
comp=E,79nm,0.6s							
SYI	**Shuyak Island**	**1.35**	**178**		Pn	04 11 29.4	-0.2
SYI				IAML		04 11 50.4	
comp=E,80nm,0.6s							
SYI				IAML		04 11 51.8	
comp=N,77nm,0.7s							
O18K	**Koktuh Hills**	**1.37**	**267**	Pn	Pn	04 11 29.5	-0.3
O18K				IAML		04 11 48.2	
comp=N,77nm,0.6s							
O18K				IAML		04 11 48.5	
comp=E,44nm,0.5s							
O22K	**Cooper Landing**	**1.48**	**68**	Pn	Pn	04 11 30.8	-0.4
P18K	**Big Mountain,**	**1.50**	**249**		Pn	04 11 31.1	-0.5
SEW	**Seward**	**1.53**	**83**		Pn	04 11 32.6	+0.7
SEW				IAML		04 11 56.6	
comp=N,41nm,0.7s							
SEW				IAML		04 11 57.8	
comp=E,48nm,0.3s							
STLK	**Strandline Lak**	**1.58**	**12**		Pn	04 11 32.5	-0.1
FIS	**Fire Island**	**1.64**	**42**	Pn	Pn	04 11 33.2	0.0
SUA	**Susitna One**	**1.74**	**29**		Pn	04 11 34.6	-0.1
SUA				IAML		04 11 59.2	
comp=N,56nm,0.8s							
SUA				IAML		04 11 59.8	
comp=E,65nm,0.7s							
RC01	**Rabbit Creek A**	**1.77**	**49**		Pn	04 11 35.0	-0.1
RC01				IAML		04 12 01.8	
comp=E,44nm,0.5s							
RC01				IAML		04 12 07.4	
comp=N,35nm,0.6s							
N18K	**Kilae Creek**	**1.84**	**295**		Pn	04 11 35.6	-0.4
N18K				IAML		04 11 58.6	
comp=E,24nm,0.8s							
M20K	**Styx River**	**1.96**	**351**		Pn	04 11 37.5	-0.1
SKT	**Skwentna**	**2.08**	**13**		Pn	04 11 38.6	-0.6
SKT				IAML		04 12 08.2	
comp=N,20nm,1.1s							
M19K	**Big River Lodg**	**2.16**	**335**		Pn	04 11 40.1	-0.3
KDAK	**Kodiak Island**	**2.18**	**181**	Pn	Pn	04 11 40.0	-0.6
KDAK				IAML		04 12 08.0	
comp=N,20nm,1.4s							
KDAK				IAML		04 12 16.0	
comp=N,22nm,1.2s							
PWL	**Port Wells**	**2.25**	**65**	Pn	Pn	04 11 40.1	-1.4
PWL				IAML		04 12 08.5	
comp=N,34nm,0.5s							
PWL				IAML		04 12 18.0	
comp=E,49nm,0.5s							
ACHA	**Angle Creek He**	**2.28**	**221**	Pn	Pn	04 11 40.8	-1.2
PMR	**Palmer**	**2.32**	**44**	Pn	Pn	04 11 41.8	-0.7
PMR				IAML		04 12 13.4	
comp=E,15nm,0.7s							
N17K	**Nushagak Hills**	**2.41**	**286**	Pn	Pn	04 11 43.1	-0.6
N17K				IAML		04 12 25.6	
comp=N,19nm,0.6s							
KNK	**Knik Glacier**	**2.46**	**52**	Pn	Pn	04 11 43.4	-1.0
KNK				IAML		04 12 19.9	
comp=E,36nm,0.9s							
L19K	**White Mountain**	**2.51**	**334**		Pn	04 11 44.7	-0.3
L19K				IAML		04 12 14.5	
comp=E,17nm,0.7s							
L19K				IAML		04 12 14.6	
comp=N,21nm,1.0s							
GHO	**Glory Hole Cre**	**2.52**	**42**		Pn	04 11 45.0	-0.2
GHO				IAML		04 12 22.4	
comp=E,31nm,0.8s							
GHO				IAML		04 12 22.7	
comp=N,30nm,0.5s							
P23K	**Montague Islan**	**2.56**	**87**	Pn	Pn	04 11 44.4	-1.3
P23K				IAML		04 12 33.1	
comp=N,36nm,1.1s							
CUT	**Chulitna**	**2.68**	**23**	Pn	Pn	04 11 47.2	-0.1
CUT				IAML		04 12 24.8	
comp=E,36nm,0.7s							
SML	**Sawmill**	**2.75**	**46**	Pn	Pn	04 11 47.6	-0.8
SML				IAML		04 12 29.0	
comp=N,23nm,0.9s							
SML				IAML		04 12 31.1	
comp=E,15nm,1.4s							
OHAK	**Old Harbor**	**2.78**	**189**	Pn	Pn	04 11 48.2	-0.4
OHAK				IAML		04 12 29.9	
comp=N,19nm,1.3s							
GLI	**Glacier Island**	**2.83**	**69**	Pn	Pn	04 11 48.5	-0.9
GLI				IAML		04 12 22.4	
comp=E,22nm,1.2s							
GLI				IAML		04 12 40.2	
comp=N,19nm,1.3s							
M17K	**Holitna River**	**2.83**	**303**		Pn	04 11 48.8	-0.6
M17K				IAML		04 12 22.3	
comp=N,22nm,0.6s							
O16K	**Kokwok River B**	**2.86**	**265**	Pn	Pn	04 11 49.4	-0.3
PPLA	**Purkeypile**	**2.95**	**3**	Pn	Pn	04 11 51.8	+0.7
P16K	**Nushagak River**	**2.96**	**254**	Pn	Pn	04 11 50.9	-0.1
P16K				IAML		04 12 15.2	
comp=N,17nm,1.4s							
P16K				IAML		04 13 49.5	
comp=E,23nm,1.4s							
HIN	**Hinchinbrook I**	**3.02**	**79**	Pn	Pn	04 11 51.6	-0.4
L18K	**Granite Mounta**	**3.05**	**320**		Pn	04 11 51.9	-0.4
L18K				IAML		04 12 26.2	
comp=N,12nm,0.8s							
FID	**Port Fidalgo**	**3.09**	**73**	Pn	Pn	04 11 51.4	-1.5
SCM	**Sheep Creek Mo**	**3.15**	**51**	Pn	Pn	04 11 52.9	-0.8
SCM				IAML		04 12 43.8	

	comp=N,13nm,0.8s					
SCM			IAML		04 12 53.5	
	comp=E,13nm,1.2s					
CAST	**Castle Rocks**	**3.48 3**		Pn	04 11 58.3	+0.1
K20K	**Telida**	**3.49 348**		Pn	04 11 57.9	-0.4
KLU	**Klutina**	**3.57 62**		Pn	04 11 57.7	-1.8
KLU			IAML		04 12 41.5	
	comp=E,10nm,0.7s					
KLU			IAML		04 12 41.9	
	comp=N,16nm,0.4s					
TRF	**Thorofare Moun**	**3.66 16**		Pn	04 12 00.8	0.0
TRF			IAML		04 12 47.0	
	comp=E,8.4nm,0.6s					
TRF			IAML		04 12 49.6	
	comp=N,11nm,0.9s					
K17K	**Iditarod**	**3.94 317**		Pn	04 12 04.2	-0.2
K17K			IAML		04 13 03.9	
	comp=E,8.6nm,0.9s					
K17K			IAML		04 13 24.5	
	comp=N,6.0nm,1.2s					
RIDG	**Independent Ri**	**5.24 40**		Pn	04 12 21.4	-0.8
RIDG			IAML		04 13 43.0	
	comp=N,4.3nm,1.2s					
IL31		**5.49 26**		Pn	04 12 25.1	-0.4

RSNC 18 04:12:05.5±0.0, 7°N±1°×7°3W±°, h147km±2km, M3.1, mb4.1, mB5.8, ML2.9, Mw(mB)5.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23 191**		P	Pn	04 12 25.3	-0.5
BARC				S	Sn	04 12 39.9	-1.4
BRJC	**Barrancabermej**	**0.62 284**		P	Pn	04 12 27.0	-0.2
BRJC				S	Sn	04 12 43.8	+0.2
PAMC	**Pamplona, Colo**	**0.68 40**		P	Pn	04 12 28.1	0.0
PAMC				S	Sn	04 12 45.0	-0.3
RUSC	**La Rusia**	**0.92 176**		P	Pn	04 12 29.2	-0.7
RUSC				S	Sn	04 12 47.1	-1.4
PTBC	**PUERTO BERRIO,**	**1.34 258**		P	Pn	04 12 31.9	-1.3
PTBC				S	Sn	04 12 52.6	-1.7
TAMC	**Tame, Arauca**	**1.39 106**		P	Pn	04 12 33.6	-0.2
TAMC				S	Sn	04 12 54.8	-0.6
OCAC	**Ocana**	**1.42 353**		P	Pn	04 12 33.8	-0.4
OCAC				S	Sn	04 12 55.3	-0.9
ZARC	**Zaragoza, Cauc**	**1.83 292**		P	Pn	04 12 38.3	-0.2
ZARC				S	Sn	04 13 03.3	-0.5
NORC	**Norcasia**	**2.12 234**		P	Pn	04 12 41.2	-0.8
NORC				S	Sn	04 13 09.1	-0.9
CHIC	**Chingaza**	**2.25 195**		P	Pn	04 12 43.4	-0.5
CHIC				S	Sn	04 13 12.5	-0.9
ROSC	**El Rosal**	**2.29 211**		P	Pn	04 12 44.9	+0.6
ROSC				S	Sn	04 13 15.4	+1.2
CVER	**Cruz Verde, Cu**	**2.46 202**		P	Pn	04 12 46.7	+0.1
CVER				S	Sn	04 13 17.6	-0.5
UREC	**San Jos de Ur**	**2.55 291**		P	Pn	04 12 46.1	-1.0
UREC				S	Sn	04 13 16.1	-3.0
GUY2C	**Guyana, Caldas**	**2.72 234**		P	Pn	04 12 49.7	0.0
GUY2C				S	Sn	04 13 24.6	+0.8
PTGC	**Puerto Gaitan,**	**2.79 159**		P	Pn	04 12 48.6	-1.5
PTGC				S	Sn	04 13 21.7	-2.9
CBOC	**Ciudad Bolivar**	**3.01 252**		P	Pn	04 12 53.1	+0.1
CBOC				S	Sn	04 13 25.6	-4.1
DBBC	**Dabeiba**	**3.05 274**		P	Pn	04 12 53.0	-0.5
DBBC				S	Sn	04 13 28.7	-1.9
ARGC	**Ariguani, Magd**	**3.21 340**		P	Pn	04 12 55.3	-0.2
ARGC				S	Sn	04 13 34.4	+0.2
SDV	**Santo Domingo**	**3.22 50**		P	Pn	04 12 54.7	-1.1
SDV				S	Sn	04 13 32.1	-2.6
ANIL	**Santa Ana**	**3.23 224**		P	Pn	04 12 56.9	+0.9
ANIL				S	Sn	04 13 34.7	-0.3
PRAC	**Prado**	**3.54 209**		P	Pn	04 12 59.0	-0.8
PRAC				S	Sn	04 13 41.8	-0.1
ORTC	**Ortega, Tolima**	**3.57 216**		P	Pn	04 12 59.5	-0.7
ORTC				S	Sn	04 13 42.8	+0.2
APAC	**Apartado, Choc**	**3.58 288**		P	Pn	04 12 59.3	-0.9
APAC				S	Sn	04 13 41.2	-1.4
SJCC	**San Jacinto, C**	**3.66 327**		P	Pn	04 12 59.1	-2.3
SJCC				S	Sn	04 13 40.8	-3.9
URMC	**La Uribe, Meta**	**3.76 199**		P	Pn	04 13 01.8	-0.8
URMC				S	Sn	04 13 47.1	+0.1
LCBC	**Los crdobas,**	**3.79 303**		P	Pn	04 13 02.5	-0.4
LCBC				S	Sn	04 13 47.3	-0.1
CRJC	**Cerrejon, Guaj**	**4.18 3**		P	Pn	04 13 05.7	-2.5
CRJC				S	Sn	04 13 52.7	-4.2
YOTC	**Yotoco, Valle**	**4.26 229**		P	Pn	04 13 08.1	-1.1
YOTC				S	Sn	04 13 59.1	+0.4
GUVC	**San Jose del G**	**4.28 173**		P	Pn	04 13 09.4	0.0
GUVC				S	Sn	04 13 58.0	-1.1
SMRC	**Santa Marta, M**	**4.45 346**		P	Pn	04 13 10.6	-1.0
SMRC				S	Sn	04 13 58.9	-4.1
CAPC	**Capurgana**	**4.55 294**		P	Pn	04 13 14.6	+1.7
CAPC				S	Sn	04 13 59.2	-6.1
BETC	**Betania**	**4.71 209**		P	Pn	04 13 13.9	-1.2
BETC				S	Sn	04 14 05.8	-3.5
URIC	**Uribia, Colomb**	**4.98 13**		P	Pn	04 13 16.4	-2.2
URIC				S	Sn	04 14 11.6	-4.1
MALC	**Bahia Malaga**	**5.02 236**		P	Pn	04 13 19.7	+0.5
MALC				S	Sn	04 14 25.6	+9.0
POPC	**Popayan, Colom**	**5.52 220**		P	Pn	04 13 25.6	-0.5
	26nm,1.0s					
POPC				S	Sn	04 14 27.4	-1.5
	26nm,1.0s					
FLOC	**Florencia**	**5.77 206**		P	Pn	04 13 27.9	-1.4
FLOC				S	Sn	04 14 33.2	-1.5

DNK ***18*** *04:36:54.0±4.1, 79°.01N×13°.44W, h18km±51km, ML2.5*
KOLA ***18*** *04:36:56.4, 80°.55N×13°.44W, h0km, ML2.2, Error ellipse: s-maj=218.6km s-min=39.6km az=20.0, Greenland sea*
BER ***18*** *04:36:56.0±2.9, 79°.02N×13°.61W, h15km±23km, mb(Pn)4.6, ML2.5(DNK), Confirmed Earthquake*

ISC 18 04:36:49.8±0.8, 78°.97N±0°.05×13°.78W±0°.05, h10km, n21, σ3°04/36, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.69 351**		*i* P	**Pb**	**04 37 36.9**	**-1.1**
NOR				*i* S	**Sn**	**04 38 06.2**	**+0.5**
NOR				IAML		04 38 23.1	
	comp=Z,62nm,0.4s						
NOR	**Nord**	**2.69 351**		*e*	**Pn**	**04 37 36.1**	**+3.0**
	baz=149,slow=18						
NOR				*i* P	**Pb**	**04 37 36.9**	**-1.1**
NOR				*i* S	**Sn**	**04 38 06.2**	**+0.5**
NOR				IAML		04 38 23.1	
	comp=Z,62nm,0.4s						
DBG	**Daneborg**	**4.91 201**		*eP*	**Pn**	**04 38 06.1**	**+2.5**
DBG				*eS*	**Sn**	**04 38 56.8**	**-3.5**
DBG				IAML		04 38 59.8	
	comp=Z,51nm,0.4s						
DBG	**Daneborg**	**4.91 201**		*i* P	**Pn**	**04 38 04.8**	**+1.3**
DBG				*i*		04 38 56.7	
DBG				IAML		04 38 59.8	
	comp=Z,51nm,0.4s						
KBS	**Kingsbay**	**4.92 78**		P	**Pn**	**04 38 06.1**	**+2.4**
KBS				S	**Sn**	**04 38 58.5**	**-2.0**
KBS	**Kingsbay**	**4.92 78**		*i* P	**Pn**	**04 38 05.8**	**+2.2**
KBS				*eP*	**Pn**	**04 38 06.2**	**+2.5**
KBS				*eS*	**Sn**	**04 38 58.5**	**-2.0**
KBS	**Kingsbay**	**4.92 78**		*i* P	**Pn**	**04 38 05.8**	**+2.2**
BRBB	**Barentsburg B**	**5.61 85**		P	Pn	04 38 18.2	+5.0
BRBB				S	**Sn**	**04 39 14.8**	**-2.8**
BRBB	**Barentsburg B**	**5.61 85**		*eP*	**Pn**	**04 38 17.5**	**+4.3**
SPA0	**Spitsbergen Ar**	**6.00 83**		*eP*	**Pn**	**04 38 21.2**	**+2.8**
SPA0				*eS*	**Sn**	**04 39 23.8**	**-3.2**
SPA0	**Spitsbergen Ar**	**6.00 83**		*eP*	**Pn**	**04 38 21.7**	**+3.3**
SPA0				*eS*	**Sn**	**04 39 24.5**	**-2.5**
SPITS	**Spitsbergen Ar**	**6.00 83**		P	**Pn**	**04 38 21.4**	**+3.0**
SPITS				S	**Sn**	**04 39 25.6**	**-1.4**
NEEM	**North Greenlan**	**7.68 277**		*i* P	**Pn**	**04 38 42.8**	**+1.1**
NEEM				IAML		04 40 05.4	
	comp=Z,27nm,0.3s						
NEEM	**North Greenlan**	**7.68 277**		*i* P	**Pn**	**04 38 42.8**	**+1.1**
NEEM				IAML		04 40 05.4	
	comp=Z,27nm,0.3s						
JNW	**Jan Mayen West**	**8.10 167**		*eP*	**Pn**	**04 38 50.7**	**+3.5**
JNW				*eS*	**Sn**	**04 40 15.3**	**-3.2**
SUMG	**Summit**	**8.73 236**		*i* P	**Pn**	**04 38 58.7**	**+2.5**
SUMG				*i* S	**Sn**	**04 40 30.4**	**-4.3**
SUMG				IAML		04 40 35.0	
	comp=Z,7.4nm,0.4s						
SUMG	**Summit**	**8.73 236**		*i* P	**Pn**	**04 38 58.7**	**+2.5**
SUMG				*i* S	**Sn**	**04 40 30.4**	**-4.3**
SUMG				IAML		04 40 35.0	
	comp=Z,7.4nm,0.4s						
SCO	**Scoresbysund**	**8.78 198**		*i* P	**Pn**	**04 38 59.6**	**+3.1**
SCO				IAML		04 40 38.0	
	comp=Z,2.6nm,0.4s						
SCO	**Scoresbysund**	**8.78 198**		*i* P	**Pn**	**04 38 59.6**	**+3.1**
SCO				IAML		04 40 38.0	
	comp=Z,2.6nm,0.4s						
ZFI2	**Zemlya Franca-**	**10.48 51**		*eP*	**Pn**	**04 39 22.7**	**+2.9**
ZFI2				S	**Sn**	**04 41 11.5**	**-5.5**
OMEGA	**Omega**	**10.50 51**		*eP*	**Pn**	**04 39 23.0**	**+3.0**
OMEGA				S	**Sn**	**04 41 12.0**	**-5.5**

IDC ***18*** *04:41:06.6±2.3, 36°.31N×140°.99E, h55km±20km, mb3.5/7, mbtmp3.8/11, ML3.4/4, Error ellipse: s-maj=20.0km s-min=11.7km az=68.0*
NIED ***18*** *04:41:08.7, 36°.35N×140°.71E, h55km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-0.37; Mθθ1.78; Mφφ-1.41; Mrθ-1.26; Mθφ-3.28; Mφr-1.94; Fault plane solution: M0*4.27000×10^14 *NP1: φs343.00000°, δ70.00000°, λ-20.00000°. NP2:φs81.00000°, δ71.00000°, λ-159.00000°.*
JMA ***18*** *04:41:08.7±0.1, 36°.4N±0°.2×140°.7E±0°.6, h55km, MV3.5/32, E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
NEIC ***18*** *04:41:08.6±1.7, 36°.35N±0°.06×140°.89E±0°.09, h54km±7km, mb4.4/16, Error ellipse: s-maj=10.7km s-min=7.9km az=107.0*

ISC 18 04:41:07.7±0.8, 36°.34N±0°.04×140°.84E±0°.06, h54km±6km, n51, σ1°20/54, mb4.2/15, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.21 271**		⇓*i*P	**Pn**	**04 41 17.1**	**+0.6**
JHYU				⇓*e*S	**Sn**	**04 41 23.1**	**+0.3**
JHO	**Hitachi**	**0.35 321**		P	**Pn**	**04 41 18.1**	**+0.4**
JHO				S	**Sn**	**04 41 24.8**	**-0.1**
JIHU	**Itakohorinouch**	**0.45 215**		*i* P	**Pn**	**04 41 19.9**	**+1.2**
JIHU				*e*S	**Sn**	**04 41 27.0**	**+0.5**
JYT	**Yasato**	**0.54 258**		P	**Pn**	**04 41 19.6**	**0.0**
JYT				S	**Sn**	**04 41 26.9**	**-1.3**
ONAJ	**Iwakimizuishiy**	**0.76 357**		P	**Pn**	**04 41 22.8**	**+0.3**
ONAJ				S	**Sn**	**04 41 33.2**	**-0.1**
JAG	**Ashikaga**	**1.12 275**		⇓P	**Pn**	**04 41 27.2**	**0.0**
JAG				⇓S	**Sn**	**04 41 40.2**	**-1.5**
JMM	**Marumori**	**1.52 359**			**Pn**	**04 41 33.6**	**+0.9**
JMM				Sn	**Sn**	**04 41 51.8**	**+0.4**
MJAR	**Matsushiro Arr**	**2.13 276**		P	**Pn**	**04 41 41.4**	**+0.5**
	1.2nm,0.3s,baz=100,slow=8.8,SNR=43						
MJAR				S	**Sn**	**04 42 08.0**	**+1.7**
	29nm,0.5s,baz=195,slow=23,SNR=5.2						
	28nm,0.7s						
MAJO	**Matsushiro**	**2.13 276**			**Pn**	**04 41 42.4**	**+1.4**
MJB9	**Matsu-Tunnel**	**2.14 276**			**Pn**	**04 41 43.1**	**+2.1**
JSD	**Sado**	**2.67 310**			**Pn**	**04 41 48.5**	**+0.2**
JGF	**Kuroka**	**2.92 256**			**Pn**	**04 41 53.7**	**+2.0**
INU	**Inuyama**	**3.26 253**			**Pn**	**04 41 57.9**	**+1.5**
JHJ	**Hachijo jima 2**	**3.33 195**		P	**Pn**	**04 41 56.7**	**-0.6**
	12nm,0.3s,baz=343,slow=22,SNR=8.3						
JHJ				S	**Sn**	**04 42 35.4**	**-0.2**
	64nm,0.3s,baz=82,slow=23,SNR=1.6						
	150nm,0.8s						
JHJ2	**Mitsune**	**3.33 195**		Pn	**Pn**	**04 41 58.9**	**+1.6**
JTM	**Tenmabayashi**	**4.45 2**			**Pn**	**04 42 14.2**	**+1.7**
ERM	**Erimo**	**5.95 17**			**Pn**	**04 42 32.8**	**-0.3**
ASAJ	**Asahikawa**	**7.88 9**		P	**Pn**	**04 42 56.9**	**-2.8**
	1.4nm,0.3s,baz=207,slow=16,SNR=4.2						
	4.8nm,0.4s						
JKA	**Kamikawa-asahi**	**7.88 9**		Pn	**Pn**	**04 43 00.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**10.36 322**		P	**Pn**	**04 43 33.5**	**0.0**
	0.2nm,0.3s,baz=130,slow=18,SNR=4.4						
	2.3nm,0.7s						
SONM	**Songino Array**	**27.80 305**		P	**P**	**04 46 51.0**	**-0.7**
	1.0nm,0.7s,baz=108,slow=9.5,SNR=4.1						
	1.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.20 119**		T	T	05 16 59.9	
	baz=313,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.21 119**		T	T	05 17 02.2	
	baz=313,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.22 119**		T	T	05 17 03.2	
	baz=313,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**28.88 121**		T	T	05 17 44.7	
	baz=314,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**28.88 121**		T	T	05 17 48.4	
	baz=314,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.90 121**		T	T	05 17 52.4	
	baz=314,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**42.05 313**		P	**P**	**04 48 53.8**	**0.0**
	0.7nm,0.3s,baz=67,slow=4.8,SNR=2.2						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**44.10 303**		P	**P**	**04 49 10.5**	**-0.1**
MKAR	**Makanchi Array**	**44.10 303**		P	**P**	**04 49 10.2**	**-0.3**
	1.0nm,0.7s,baz=83,slow=9.9,SNR=8.0						
	1.0nm,0.7s						
MAKZ	**Makanchi**	**44.31 303**		P	**P**	**04 49 12.8**	**+0.5**
J17K	**VABM Dome**	**44.92 34**		P	**P**	**04 49 17.0**	**+0.2**
C18K	**Utukok River**	**45.10 26**		P	**P**	**04 49 19.5**	**+1.3**
C18K				IAmb	IAmb	04 49 45.9	
	comp=Z,10nm,1.4s						
KURBB	**Kurchatov Arra**	**46.07 308**		P	**P**	**04 49 25.6**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=84,slow=7.9,SNR=7.4						
	comp=Z,1.1nm,0.7s						
E19K	**Redstone River**	**46.30 28**		P	**P**	**04 49 29.0**	**+1.3**
E19K				IAmb	IAmb	04 49 29.5	
	comp=Z,5.2nm,1.5s						
B20K	**Meade River**	**46.81 25**		P	**P**	**04 49 33.6**	**+2.0**
SII	**Sitkinak Islan**	**47.12 43**		P	**P**	**04 49 34.3**	**0.0**
B21K	**Ikpikpuk River**	**47.61 25**		P	**P**	**04 49 39.6**	**+1.8**
TARG	**Taragay, Kyrgy**	**48.30 297**		P	**P**	**04 49 45.0**	**+0.9**
TARG				IAmb	IAmb	04 49 45.8	
	comp=Z,2.5nm,0.8s						
E22K	**Anaktuvuk Pass**	**48.43 28**		P	**P**	**04 49 45.4**	**+1.1**
E22K				IAmb	IAmb	04 49 51.6	
	comp=Z,4.7nm,1.4s						
KDJ	**Kajisay**	**48.64 297**		P	**P**	**04 49 47.0**	**+0.6**
BWN	**Browne**	**49.22 33**		P	**P**	**04 49 50.4**	**+0.1**
BWN				IAmb	IAmb	04 49 52.8	
	comp=Z,4.7nm,0.9s						
ILAR	**Eielson Array**	**50.33 32**		P	**P**	**04 49 58.3**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=277,slow=7.3,SNR=2.4						
	comp=Z,0.3nm,0.8s						
WR8	**Warramunga Arr**	**56.31 187**		P	**P**	**04 50 43.1**	**+0.1**
WB2	**Warramunga Arr**	**56.31 187**		P	**P**	**04 50 46.3**	**+3.3**
WB2				IAmb	IAmb	04 51 13.3	
	comp=Z,8.4nm,1.3s						
WRA	**Warramunga Arr**	**56.31 187**		P	**P**	**04 50 42.1**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=1.1,slow=7.4,SNR=2.1						
	comp=Z,0.5nm,0.7s						
SIT	**Sitka**	**57.21 40**		P	**P**	**04 50 48.9**	**-0.2**
AB31	**Akbulak array**	**58.04 310**		P	**P**	**04 50 55.4**	**+0.4**
AB31				IAmb	IAmb	04 51 23.9	
	comp=Z,3.6nm,1.5s						
ABKAR	**Akbulak array**	**58.04 310**		P	**P**	**04 50 54.7**	**-0.3**
ABKAR	**Akbulak array**	**58.04 310**		P	**P**	**04 50 55.2**	**+0.2**
ABKAR				IAmb	IAmb	04 51 23.9	
	comp=Z,3.6nm,1.5s						
STKA	**Stephens Creek**	**67.86 179**		P	**P**	**04 51 57.2**	**-3.0**
	comp=Z,1.8nm,0.7s,baz=353,slow=11,SNR=3.4						
	comp=Z,1.8nm,0.7s						

BGR ***18*** *05:01:02.8, 23°.28N×122°.35E, h33km, mb6.2, mB_BB6.5, Ms6.8, Hypocentre not reviewed by the ISC*
IDC ***18*** *05:01:03.4±0.3, 24°.14N×121°.66E, h0km, mb5.6/36, mbtmp5.6/43, ML5.5/6, MS6.1/79, Error ellipse: s-maj=10.8km s-min=9.9km az=102.0*
IPGP ***18*** *05:01:05.0, 24°.07N×121°.69E, h21km, Mw6.2, Fault plane solution: NP1:φs219.00000°, δ41.00000°, λ68.00000°. NP2:φs68.00000°, δ52.00000°, λ108.00000°.*
NEIC ***18*** *05:01:05.1, 24°.06N×121°.76E, h10km*
ISC-PP ***18*** *05:01:06, 24°.04N×121°.65E, h8km, Mwppsm6.7, Moment Tensor Solution. s41 Moment tensor: Scale 10^19Nm; Mrr0.43±.04; Mθθ0.85±.18; Mφφ-0.18±.12; Mrθ-0.03±.17; Mθφ-0.17±.11; Mφr-0.05±.08; Fault plane solution: M0*1.30000×10^19 *NP1:φs316.90000°, δ77.00000°, λ352.10000°. NP2:φs48.70000°, δ82.30000°, λ-166.90000°.*
BJI ***18*** *05:01:06.4, 24°.08N×121°.60E, h24km, mB6.5/63, mb5.8/72, ML6.4/12, Ms6.7/60, Ms7 6.7/66*
NIED ***18*** *05:01:06.5, 24°.01N×121°.52E, h20km, MW6.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^18Nm; Mrr1.60; Mθθ-0.77; Mφφ-0.83; Mrθ1.90; Mθφ-1.22; Mφr-0.26; Fault plane solution: M0*2.64000×10^18 *NP1: φs199.00000°, δ35.00000°, λ38.00000°. NP2:φs76.00000°, δ69.00000°, λ119.00000°.*
JMA ***18*** *05:01:06.5±0.1, 24°.0N±0°.4×12°2E±°, h20km±1km, MD6.5/19, MW6.2/19, TAIWAN REGION*
JMA Felt II J1 at TAIWAN REGION .
NEIC ***18*** *05:01:06.5, 24°.04N×121°.68E, h30km*
NEIC ***18*** *05:01:06.5±2.3, 24°.04N±0°.07×121°.65E±0°.06, h20km±1km, mb6.3/516, Ms_20 6.2/1044, Mwb6.0/79, Mww6.1/37, Error ellipse: s-maj=12.6km s-min=8.9km az=164.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr1.21; Mθθ-0.85; Mφφ-0.37; Mrθ0.25; Mθφ-0.81; Mφr-0.27; Fault plane solution: M0*1.40000×10^18 *NP1: φs215.76000°, δ47.01000°, λ64.59000°. NP2:φs70.63000°, δ48.65000°, λ114.72000°. Principal axes: T 1.3319, Plg72.0000°, Azm51.0000°; N 0.1234, Plg18.0000°, Azm234.0000°; P -1.4553, Plg1.0000°, Azm143.0000°;*
NEIC ***18*** *05:01:06.5, 24°.04N×122°.00E, h30km, Moment Tensor Solution. Duration: 5s2 Moment tensor: Scale 10^18Nm; Mrr1.82; Mθθ-1.06; Mφφ-0.76; Mrθ0.31; Mθφ-1.11; Mφr-0.32; Fault plane solution: M0*1.99000×10^18 *NP1: φs214.88000°, δ46.35000°, λ69.87000°. NP2:φs62.85000°, δ47.21000°, λ109.84000°. Principal axes: T 1.9392, Plg76.0000°, Azm47.0000°; N 0.0977, Plg14.0000°, Azm229.0000°; P -2.0369, Plg0.0000°, Azm139.0000°;*
TAP ***18*** *05:01:07.1, 24°.05N×121°.56E, h20km, ML6.3, B*
ASIES ***18*** *05:01:07.1, 24°.05N×121°.56E, h20km, ML6.3, Mw6.1, Moment Tensor Solution. Moment tensor: Scale 10^25Nm; Mrr2.07; Mθθ-0.61; Mφφ-0.51; Mrθ-0.50; Mθφ-0.76; Mφr-0.95; Fault plane solution: M0*2.04823×10^25 *NP1: φs55.06000°, δ30.04000°, λ105.37000°. NP2: φs217.44000°, δ61.14000°, λ81.29000°. Principal axes: T Plg72.4480°, Azm106.6350°; N Plg7.6250°, Azm221.6750°; P Plg15.7120°, Azm313.8330°;*
GCMT ***18*** *05:01:08.5±0.1, 24°.09N×121°.40E, h30km, MW6.2/160, Moment Tensor Solution. s160,c386; s158,c565; Duration: 3s0 Moment tensor: Scale 10^18Nm; Mrr1.89±.01; Mθθ-0.98±.01; Mφφ-0.90±.01; Mrθ0.25±.02; Mθφ-1.13±.01; Mφr-1.24±.02; Best double couple: M0*2.34400×10^18 *NP1:φs68.00000°, δ40.00000°, λ128.00000°. NP2:φs202.00000°, δ60.00000°, λ63.00000°. Principal axes: T 2.4880, Plg64.0000°, Azm264.0000°; N -0.2820, Plg23.0000°, Azm217.0000°; P -2.2000, Plg11.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
MOS ***18*** *05:01:09.4±1.2, 24°.15N×121°.77E, h16km, mb6.1/120, MS6.5/60 Error ellipse: s-maj=5.1km s-min=3.1km az=115.6*

ISC 18 05:01:05.6±0.3, 24°.053N±0°.010×121°.62E±0°.01, h14km±1km, h14km:pP-P, n2713, σ1°79/2776, mb6.2/512, MS6.2/628, 244C-125D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.03 321**		⇑*i*P	**Pg**	**05 01 10.9**	**+2.8**
TWD				*i* S	**Sg**	**05 01 13.4**	**+3.5**
HWA	**Hwalien**	**0.08 190**		⇓P	**Pg**	**05 01 11.7**	**+3.2**
HWA				*e*S	**Sg**	**05 01 14.8**	**+4.3**
ETL	**Fush Village**	**0.11 2**		⇑P	**Pb**	**05 01 11.3**	**+1.8**
NACB	**Ninganchiao**	**0.12 349**			**Pb**	**05 01 10.7**	**+0.9**
NACB	**Ninganchiao**	**0.12 349**	P		**Pb**	**05 01 11.2**	**+1.4**
NACB	**Ninganchiao**	**0.12 349**	S		**Sb**	**05 01 14.1**	**+1.6**
NACB	**Ninganchiao**	**0.12 349**	⇑*i*P		**Pb**	**05 01 11.3**	**+1.4**
NACB			*e*S		**Sb**	**05 01 13.6**	**+1.1**
ETM	**Tongmen**	**0.14 233**	*eP*		**Pb**	**05 01 11.0**	**+0.9**
ETM			*eS*		**Sb**	**05 01 13.6**	**+0.5**
LXIB	**Xiulin Townshi**	**0.19 260**	⇑P		**Pb**	**05 01 11.3**	**+0.3**
ETLH	**Xiulin Townshi**	**0.20 321**	⇑*eP*		**Pb**	**05 01 11.8**	**+0.7**
ETLH			*e*S		**Sb**	**05 01 14.7**	**-0.1**
SHUL	**Shoufeng**	**0.27 191**	⇑P		**Pb**	**05 01 13.8**	**+1.5**
SHUL			*e*S		**Sb**	**05 01 18.3**	**+1.6**
EHP	**Heping Village**	**0.28 23**	⇑P		**Pb**	**05 01 14.2**	**+1.7**
EHP			S		**Sb**	**05 01 18.6**	**+1.6**
ESL	**Shilin**	**0.29 216**	⇑P		**Pb**	**05 01 13.0**	**+0.3**
ESL			S		**Sg**	**05 01 17.1**	**+1.3**
EAHA	**Aohua**	**0.30 22**	⇑*eP*		**Pb**	**05 01 14.2**	**+1.5**
EAHA			*e*S		**Sb**	**05 01 18.6**	**+1.1**
WHF	**Hehuan Shan**	**0.34 286**	⇑*eP*		**Pg**	**05 01 13.6**	**+0.9**
WHF			*e*S		**Sb**	**05 01 19.0**	**-0.1**
TEGC	**Jichi Village**	**0.35 192**	⇓*eP*		**Pb**	**05 01 15.1**	**+1.4**
TEGC			*e*S		**Sb**	**05 01 20.4**	**+1.4**
ENA	**Nanau**	**0.39 17**	⇑P		**Pb**	**05 01 15.7**	**+1.4**
ENA			S		**Sb**	**05 01 21.4**	**+1.2**
FUSS	**Fushou**	**0.39 300**	⇓*i*P		**Pb**	**05 01 14.9**	**+0.3**
FUSS			*e*S		**Sg**	**05 01 20.0**	**+0.9**
WARBT	**Fenglin Townsh**	**0.40 213**	P		**Pg**	**05 01 14.5**	**+0.9**
WARBT			*e*S		**Sb**	**05 01 20.4**	**0.0**
EWUT	**Wuta**	**0.42 20**	⇑P		**Pb**	**05 01 16.2**	**+1.5**
EWUT			S		**Sb**	**05 01 22.6**	**+1.6**
OWD	**Renai**	**0.42 256**	⇑*i*P		**Pg**	**05 01 14.9**	**+0.9**
OWD			*e*S		**Sg**	**05 01 20.2**	**+0.4**
EGFH	**Guangfu**	**0.42 205**	*eP*		**Pb**	**05 01 15.5**	**+0.6**
NNSB	**Datong**	**0.43 330**	⇓*i*P		**Pb**	**05 01 15.8**	**+0.7**
NNSB			S		**Sb**	**05 01 21.4

ILA	**Ilan**	**0.72 9**	*eP*	**Pn**	**05 01 21.2**	**-0.1**
ILA			*eS*	**Sn**	**05 01 31.4**	**-0.9**
YULB	**Yu-li**	**0.72 204**		**Pb**	**05 01 19.2**	**-0.8**
YULB	**Yu-li**	**0.72 204**	P	**Pg**	**05 01 20.9**	**+1.2**
YULB	**Yu-li**	**0.72 204**	S	**Sn**	**05 01 31.4**	**-0.9**
YULB	**Yu-li**	**0.72 204⇓**	*eP*	**Pb**	**05 01 19.1**	**-0.8**
NWLT	**Wulai**	**0.73 352 ⇑**	P	**Pg**	**05 01 21.1**	**+1.3**
NWLT			S	**Sb**	**05 01 30.4**	**+0.4**
NFF	**Wufeng Townshi**	**0.74 322 ⇓**	P	**Pb**	**05 01 20.9**	**+0.6**
NFF			*eS*	**Sn**	**05 01 31.7**	**-1.0**
ECBN	**Changbin**	**0.75 192**	*eP*	**Pg**	**05 01 21.3**	**+1.0**
ECBN			*eS*	**Sn**	**05 01 32.8**	**-0.1**
EYUL	**Yuli**	**0.76 201**	*eP*	**Pb**	**05 01 20.9**	**+0.4**
EYUL			*eS*	**Sn**	**05 01 32.6**	**-0.5**
TWF1	**Yuli**	**0.76 203**	*eP*	**Pb**	**05 01 19.7**	**-0.9**
TWF1			*eS*	**Sn**	**05 01 32.7**	**-0.5**
WHYT	**Xinyi Township**	**0.79 243⇑**	*eP*	**Pb**	**05 01 21.4**	**+0.3**
WHYT			*eS*	**Sg**	**05 01 32.9**	**+1.6**
NSTT	**Nanjuang**	**0.81 316⇓**	*iP*	**Pn**	**05 01 22.4**	**-0.2**
NSTT			S	**Sn**	**05 01 33.7**	**-0.7**
LIOB	**Emei**	**0.81 317**	⇓P	**Pn**	**05 01 22.6**	**0.0**
LIOB			S	**Sn**	**05 01 33.9**	**-0.6**
NTC	**Toucheng**	**0.82 13**	*eP*	**Pn**	**05 01 23.3**	**+0.6**
NTC			S	**Sn**	**05 01 34.7**	**-0.1**
KSHI	**Guanxi Townshi**	**0.83 331**	⇓P	**Pn**	**05 01 23.2**	**+0.4**
KSHI			S	**Sn**	**05 01 34.5**	**-0.4**
TWQ1	**Liyutan**	**0.83 291⇓**	*iP*	**Pn**	**05 01 23.0**	**+0.1**
TWQ1			S	**Sn**	**05 01 34.4**	**-0.5**
NJD	**Zhudong**	**0.83 325**	⇓P	**Pn**	**05 01 23.5**	**+0.5**
NJD			S	**Sn**	**05 01 34.4**	**-0.7**
EGS		**0.84 20⇑**	*iP*	**Pn**	**05 01 23.4**	**+0.4**
EGS			S	**Sn**	**05 01 35.0**	**-0.2**
WWF	**Wufeng**	**0.84 269⇓**	*eP*	**Pn**	**05 01 23.6**	**+0.5**
WJS	**Zhushan**	**0.85 254**	⇓P	**Pn**	**05 01 23.4**	**+0.2**
WJS			*eS*	**Sn**	**05 01 35.0**	**-0.4**
TCU	**Taichung**	**0.87 276**	⇓P	**Pn**	**05 01 23.9**	**+0.5**
TCU			*eS*	**Sn**	**05 01 35.3**	**-0.6**
WNT1	**Nantou City**	**0.87 261**	P	**Pn**	**05 01 24.0**	**+0.5**
WNT1			*eS*	**Sn**	**05 01 35.8**	**-0.2**
WNT	**Mingjian**	**0.87 259**	⇓P	**Pn**	**05 01 23.8**	**+0.3**
WNT			*eS*	**Sn**	**05 01 35.6**	**-0.4**
CHKH	**Chenggong**	**0.88 194⇓**	*eP*	**Pb**	**05 01 22.7**	**0.0**
CHKH			*eS*	**Sn**	**05 01 37.0**	**+0.8**
NMLH	**Miaoli**	**0.90 303**	⇓P	**Pn**	**05 01 24.8**	**+1.0**
NMLH			*eS*	**Sn**	**05 01 36.5**	**-0.2**
FULB	**Fuli**	**0.90 199**	*eP*	**Pg**	**05 01 23.8**	**+0.7**
HSN1	**Hsinchu**	**0.91 323⇓**	*iP*	**Pn**	**05 01 25.0**	**+1.0**
HSN1			S	**Sn**	**05 01 36.8**	**0.0**
NHDH	**Xindian Distri**	**0.91 355**	*eP*	**Pn**	**05 01 24.9**	**+0.9**
NHDH			*eS*	**Sn**	**05 01 36.5**	**-0.5**
ALS	**Alishan**	**0.92 234 ⇑**	P	**Pg**	**05 01 24.2**	**+0.7**
ALS			*eS*	**Sn**	**05 01 37.5**	**-0.2**
TWA	**Mucha**	**0.92 358⇑**	*iP*	**Pn**	**05 01 25.7**	**+1.4**
TWA			S	**Sn**	**05 01 37.5**	**+0.1**
TATO	**Taipei**	**0.93 353**		**Pn**	**05 01 24.9**	**+0.6**
TATO	**Taipei**	**0.93 353**	P	**Pn**	**05 01 25.7**	**+1.5**
TATO	**Taipei**	**0.93 353**	P	**Pn**	**05 01 25.7**	**+1.5**
TATO	**Taipei**	**0.93 353⇑**	*iP*	**Pn**	**05 01 24.8**	**+0.6**
TATO			S	**Sg**	**05 01 36.8**	**+1.1**
NJN	**Zhunan**	**0.93 313**	⇓P	**Pn**	**05 01 25.3**	**+1.0**
NJN			*eS*	**Sn**	**05 01 37.7**	**+0.3**
TIPB	**Shuangxi**	**0.93 12 ⇑**	P	**Pg**	**05 01 24.6**	**+0.9**
TIPB			S	**Sg**	**05 01 36.7**	**+0.7**
SBCB	**Hsinchu**	**0.94 322**	⇓P	**Pn**	**05 01 25.6**	**+1.2**
SBCB			S	**Sn**	**05 01 37.6**	**0.0**
WDJ	**Dajia District**	**0.94 288**	⇓P	**Pn**	**05 01 25.1**	**+0.7**
WDJ			*eS*	**Sn**	**05 01 37.5**	**-0.3**
HSN	**Hsinchu**	**0.95 322**	⇓P	**Pn**	**05 01 25.5**	**+0.9**
HSN			*eS*	**Sn**	**05 01 38.6**	**+0.7**
BACT	**New Taipei Cit**	**0.95 350**	*i P*	**Pn**	**05 01 25.1**	**+0.5**
BACT			*eS*	**Sg**	**05 01 37.5**	**+0.9**
WCHH	**Zhanghua**	**0.97 272**	⇓P	**Pn**	**05 01 25.3**	**+0.5**
WCHH			*eS*	**Sn**	**05 01 38.8**	**+0.4**
CHN5	**Tsauling**	**0.97 242**	⇑P	**Pn**	**05 01 25.4**	**+0.4**
CHN5			*eS*	**Sg**	**05 01 38.2**	**+0.9**
EHD	**Haiduan**	**0.98 203**	*eP*	**Pb**	**05 01 25.1**	**+0.7**
CHKT	**Chengkung**	**0.98 194⇓**	*eP*	**Pb**	**05 01 24.1**	**-0.2**
CHKT			*eS*	**Sn**	**05 01 39.7**	**+1.1**
WCH1	**Changhua City**	**0.98 271**	⇓P	**Pn**	**05 01 25.6**	**+0.6**
WCH1			*eS*	**Sn**	**05 01 39.1**	**+0.4**
NHY	**Taipei**	**0.98 357**	*eP*	**Pg**	**05 01 26.2**	**+1.6**
TAP	**Taipei**	**0.99 354⇑**	*eP*	**Pg**	**05 01 25.9**	**+1.1**
TAP			S	**Sn**	**05 01 39.1**	**+0.3**
NCUH	**Zhongli**	**0.99 337⇓**	*eP*	**Pg**	**05 01 26.4**	**+1.5**
NCUH			*eS*	**Sn**	**05 01 39.9**	**+0.8**
NCU	**National Centr**	**0.99 337**	*eP*	**Pg**	**05 01 26.6**	**+0.7**
NCU			*eS*	**Sn**	**05 01 39.7**	**+0.6**
TWB1	**Santiao Chiao**	**1.01 19 ⇑**	P	**Pn**	**05 01 25.8**	**+0.4**
TWB1			S	**Sn**	**05 01 39.4**	**0.0**
ECS	**Chishang**	**1.02 201**	*eP*	**Pb**	**05 01 25.6**	**+0.4**
ECS			*eS*	**Sn**	**05 01 41.2**	**+1.5**
ELDTW	**Lidau**	**1.02 213**	*eP*	**Pb**	**05 01 24.1**	**-1.1**
NWF	**Wu-fen Shan**	**1.02 8⇑**	*eP*	**Pg**	**05 01 26.6**	**+1.1**
NWF			S	**Sn**	**05 01 40.1**	**+0.2**
WFSB	**Wu-fen Shan**	**1.02 8⇑**	*iP*	**Pg**	**05 01 26.6**	**+1.1**
WFSB			S	**Sn**	**05 01 39.9**	**+0.1**
WGK	**Gukeng**	**1.03 250**	⇓P	**Pg**	**05 01 26.6**	**+1.0**
WDL	**Douliou City**	**1.04 251**	*eP*	**Pg**	**05 01 26.9**	**+1.0**
WDL			*eS*	**Sn**	**05 01 41.0**	**+0.8**
WDLH	**Douliu**	**1.05 250**	*eP*	**Pg**	**05 01 27.0**	**+1.0**
WDLH			*eS*	**Sn**	**05 01 41.2**	**+0.7**
TWS1	**Kuangyinshan**	**1.06 350⇑**	*eP*	**Pb**	**05 01 26.1**	**+0.4**
TWS1			*eS*	**Sn**	**05 01 41.3**	**+0.6**
SXI1	**Grass Mountain**	**1.06 13⇑**	*iP*	**Pg**	**05 01 27.3**	**+1.1**
SXI1			*eS*	**Sg**	**05 01 40.8**	**+0.7**
NHW	**Xinwu Township**	**1.08 331⇓**	*eP*	**Pg**	**05 01 27.7**	**+1.2**
NHW			*eS*	**Sg**	**05 01 42.8**	**+2.1**
YM01	**YM01**	**1.09 358⇑**	*iP*	**Pn**	**05 01 27.0**	**+0.4**
YM01			S	**Sn**	**05 01 41.5**	**+0.1**
TNOU	**National Taiwa**	**1.10 7 ⇑**	P	**Pg**	**05 01 28.1**	**+1.2**
TNOU			S	**Sg**	**05 01 43.0**	**+1.7**
ZUZH	**Zhuzihu**	**1.11 356**	⇑P	**Pn**	**05 01 27.4**	**+0.6**
ZUZH			S	**Sg**	**05 01 42.6**	**+1.2**
WCKO	**Fanlu**	**1.11 237⇑**	*eP*	**Pg**	**05 01 27.9**	**+0.8**
WCKO			*eS*	**Sg**	**05 01 43.7**	**+2.0**
EDH	**Donghe**	**1.11 195⇓**	*eP*	**Pb**	**05 01 25.8**	**-0.9**
EDH			*eS*	**Sg**	**05 01 43.1**	**+1.5**
NTST	**Danshui**	**1.12 352**	⇑P	**Pg**	**05 01 27.8**	**+0.6**
NTST			S	**Sg**	**05 01 43.8**	**+2.0**
ANP	**Anpu**	**1.13 355**	⇑P	**Pb**	**05 01 27.4**	**+0.4**
ANP			S	**Sg**	**05 01 43.0**	**+0.7**
NWRT	**Kuosheng**	**1.15 2**	*eP*	**Pg**	**05 01 28.2**	**+0.5**
NWRT			*eS*	**Sg**	**05 01 43.5**	**+0.8**
WRL	**Guolierlin Hig**	**1.15 263**	*eP*	**Pg**	**05 01 28.6**	**+0.9**
WRL			*eS*	**Sg**	**05 01 44.4**	**+1.7**
RLNB	**Erlin**	**1.16 262⇓**	*iP*	**Pg**	**05 01 28.3**	**+0.2**
RLNB			*eS*	**Sb**	**05 01 42.2**	**-0.3**
CHN2	**Minshiung**	**1.17 244**	*eP*	**Pg**	**05 01 28.9**	**+0.7**
STYH	**Taoyuan**	**1.17 222⇓**	*eP*	**Pn**	**05 01 26.5**	**-1.1**
STYH			*eS*	**Sg**	**05 01 44.1**	**+0.7**
CHN4	**Tsaushan**	**1.17 234**	⇑P	**Pg**	**05 01 28.6**	**+0.3**
TPUB	**Ta-pu**	**1.18 231**		**Pb**	**05 01 28.6**	**+0.8**
TPUB	**Ta-pu**	**1.18 231**	P	**Pg**	**05 01 29.6**	**+1.3**
TPUB	**Ta-pu**	**1.18 231**	S	**Sg**	**05 01 48.0**	**+4.3**
TPUB	**Ta-pu**	**1.18 231⇑**	*iP*	**Pb**	**05 01 28.5**	**+0.8**
TPUB			S	**Sg**	**05 01 44.9**	**+1.2**
WTK	**Tuku**	**1.18 252**	*eP*	**Pg**	**05 01 29.3**	**+0.8**
WTK			*eS*	**Sg**	**05 01 45.2**	**+1.3**
STYT	**Tauyuan**	**1.19 222⇓**	*eP*	**Pn**	**05 01 27.2**	**-0.7**
STYT			*eS*	**Sg**	**05 01 45.7**	**+1.7**
TWY	**Chenhua**	**1.22 359⇑**	*eP*	**Pn**	**05 01 28.1**	**-0.2**
TWY			*eS*	**Sn**	**05 01 44.7**	**+0.1**
WTP	**Ta-pu**	**1.22 229⇓**	*iP*	**Pg**	**05 01 29.5**	**+0.3**
WTP			*eS*	**Sg**	**05 01 46.4**	**+1.2**
CHY	**Chiayi**	**1.23 243**	*eP*	**Pg**	**05 01 30.2**	**+0.9**
CHY			*eS*	**Sg**	**05 01 47.2**	**+1.9**
LONT	**Longtian**	**1.23 202**	*eP*	**Pn**	**05 01 28.0**	**-0.4**
LONT			*eS*	**Sg**	**05 01 45.8**	**+0.5**
NSM	**Shimen**	**1.23 359**	*eP*	**Pb**	**05 01 29.4**	**+0.7**
NSM			*eS*	**Sg**	**05 01 46.1**	**+0.7**
WTCT	**Ta-ch'eng**	**1.24 262**	P	**Pg**	**05 01 29.7**	**+0.2**
WTCT			*eS*	**Sg**	**05 01 46.3**	**+0.7**
JYNG	**Yonagunijimaku**	**1.27 72**	P	**Pg**	**05 01 30.7**	**+0.5**
JYNG			S	**Sg**	**05 01 49.2**	**+2.5**
JYNG	**Yonagunijimaku**	**1.27 72**	A	A	05 01 30.7	
	comp=N,2μm,3.5s,comp=E,2μm,3.3s					
TWK	**Hsinying**	**1.30 233**	⇓P	**Pg**	**05 01 31.2**	**+0.5**
TWK			*eS*	**Sg**	**05 01 48.8**	**+1.2**
SNST	**Tainan City**	**1.32 231⇑**	*eP*	**Pg**	**05 01 31.4**	**+0.3**
CHN1	**Nanshi**	**1.32 229**	*eP*	**Pg**	**05 01 31.4**	**+0.3**
CHN1			*eS*	**Sg**	**05 01 49.9**	**+1.5**
TWG	**Pinlang**	**1.33 202**		**Pn**	**05 01 27.9**	**-1.9**
TWG	**Pinlang**	**1.33 202**	*eP*	**Pn**	**05 01 28.1**	**-1.7**
TWGBT	**Beinan**	**1.33 202**	P	**Pg**	**05 01 31.4**	**+0.2**
TWGBT	**Beinan**	**1.33 202⇓**	*eP*	**Pn**	**05 01 28.3**	**-1.5**
YOJ	**Yonaguni jima**	**1.33 72**		**Pn**	**05 01 30.4**	**+0.5**
YOJ	**Yonaguni jima**	**1.33 72**	P	**Pg**	**05 01 32.1**	**+0.8**
YOJ	**Yonaguni jima**	**1.33 72**	P	**Pn**	**05 01 30.4**	**+0.5**
YOJ	**Yonaguni jima**	**1.33 72**	*eP*	**Pb**	**05 01 31.5**	**+1.0**
YOJ			*eS*	**Sg**	**05 01 50.8**	**+2.1**
YOJ	**Yonaguni jima**	**1.33 72**	A	A	05 01 31.5	
	comp=N,1μm,3.3s,comp=E,2μm,3.5s					
YOJ	**Yonaguni jima**	**1.33 72**	⇑P	**Pb**	**05 01 31.4**	**+1.0**
YOJ	**Yonaguni jima**	**1.33 72**	⇑*iP*	**Pb**	**05 01 31.6**	**+1.2**
YOJ			S	**Sg**	**05 01 49.3**	**+0.7**
WSF	**Szhu**	**1.34 252**	*eP*	**Pb**	**05 01 31.1**	**+0.5**
WSF			*eS*	**Sg**	**05 01 49.3**	**+0.3**
SGST	**Jiashian**	**1.36 225⇓**	*eP*	**Pb**	**05 01 31.2**	**+0.4**
SGST			*eS*	**Sg**	**05 01 50.2**	**+0.8**
TTN	**Taitung**	**1.36 199**	*eP*	**Pb**	**05 01 31.3**	**+0.4**
LDUT	**Ludao**	**1.38 186**	*eP*	**Pn**	**05 01 29.3**	**-1.2**
LDUT			*eS*	**Sg**	**05 01 50.3**	**+0.1**
WSL	**Shuilin Townsh**	**1.38 248⇓**	*eP*	**Pb**	**05 01 31.9**	**+0.7**
WSL			*eS*	**Sg**	**05 01 51.2**	**+1.1**
ICHU	**Yijhu**	**1.41 241**	*eP*	**Pg**	**05 01 32.9**	**+0.2**
ICHU			*eS*	**Sg**	**05 01 52.8**	**+1.7**
CHN8	**Yiju**	**1.47 242**	*eP*	**Pb**	**05 01 33.8**	**+1.0**
CHN8			*eS*	**Sg**	**05 01 54.0**	**+1.0**
CHN3	**Shinhua**	**1.51 230**	*eP*	**Pg**	**05 01 34.7**	**+0.1**
CHN3			*eS*	**Sg**	**05 01 55.0**	**+0.7**
SSHA	**Shanhua**	**1.52 233**	*eP*	**Pg**	**05 01 35.1**	**+0.2**
SCST	**Cishan**	**1.56 222**	*eP*	**Pg**	**05 01 35.4**	**-0.1**
SHHT	**Tainan City**	**1.56 229⇑**	*eP*	**Pb**	**05 01 35.3**	**+1.1**
SHHT			*eS*	**Sg**	**05 01 56.9**	**+1.1**
ECL	**Taimali**	**1.57 203**	*eP*	**Pb**	**05 01 34.6**	**0.0**
SCLT	**Jiali**	**1.57 237**	*eP*	**Pg**	**05 01 35.8**	**-0.1**
SCLT			*eS*	**Sg**	**05 01 56.5**	**+0.2**
SSD	**Sandimen**	**1.59 215**	*eP*	**Pb**	**05 01 34.9**	**+0.1**
SSD			*eS*	**Sg**	**05 01 57.1**	**+0.3**
TSMG	**Majia**	**1.61 214**	*eP*	**Pb**	**05 01 36.1**	**+0.9**
TSMG			S	**Sg**	**05 01 57.3**	**-0.3**
PCYT	**Pengchaiyu**	**1.62 15⇑**	*eP*	**Pn**	**05 01 34.4**	**+0.5**
PCYT			*eS*	**Sg**	**05 01 57.7**	**-0.2**
TAI1	**Yung-k'ang**	**1.63 232**	*eP*	**Pg**	**05 01 36.8**	**-0.2**
TAI1			*eS*	**Sg**	**05 01 57.6**	**-0.5**
TWM1	**Shoushan**	**1.65 222**	*eP*	**Pg**	**05 01 37.2**	**-0.1**
TSCK	**Chigu Township**	**1.67 238**	*eP*	**Pg**	**05 01 37.9**	**+0.1**
TSCK			S	**Sb**	**05 01 58.0**	**+0.9**
TAI	**Tainan**	**1.68 231**	*eP*	**Pg**	**05 01 38.8**	**+1.0**
MASBT	**Mashibuluo**	**1.70 213**	*eP*	**Pn**	**05 01 36.0**	**+1.2**
MASBT			S	**Sb**	**05 01 59.6**	**+1.7**
TSPT	**Pingtung City**	**1.71 217**	*eP*	**Pb**	**05 01 38.2**	**+1.3**
TSPT			*eS*	**Sg**	**05 02 01.0**	**+0.1**
SNJT	**Kaohsiung City**	**1.75 223**	*eP*	**Pg**	**05 01 39.5**	**+0.2**
EAST	**Anshuo**	**1.81 203**	*eP*	**Pb**	**05 01 38.4**	**-0.2**
TAWH	**Dawu Township**	**1.83 202**	*eP*	**Pn**	**05 01 37.5**	**+0.8**
SSPT	**Xinbi**	**1.84 212**	*eP*	**Pg**	**05 01 41.0**	**+0.1**
WSSB	**Gushan**	**1.88 222**	*eP*	**Pb**	**05 01 40.5**	**+0.8**
WSSB			*eS*	**Sb**	**05 02 03.8**	**+0.7**
KAU	**Kaohsiung**	**1.91 219**	*eP*	**Pb**	**05 01 41.4**	**+1.2**
SCZT	**Fangliau**	**1.91 209**	*eP*	**Pb**	**05 01 39.8**	**-0.5**
SCZT			*eS*	**Sb**	**05 02 05.5**	**+1.5**
IRIF	**Iriomote-Funau**	**1.95 81**	P	**Pn**	**05 01 40.0**	**+1.7**
IRIF	**Iriomote-Funau**	**1.95 81**	A	A	05 01 40.0	
	comp=N,751nm,5.8s,comp=E,756nm,2.5s					
PHUB	**P'eng-hu**	**1.95 254⇓**	*eP*	**Pn**	**05 01 38.8**	**+0.5**
PHUB			S	**Sb**	**05 02 04.1**	**-1.1**
PNG	**Penghu**	**1.95 256⇓**	*eP*	**Pn**	**05 01 38.9**	**+0.6**
PNG			*eS*	**Sb**	**05 02 04.7**	**-0.5**
WDGT	**Dungji**	**1.96 247⇑**	*eP*	**Pn**	**05 01 39.4**	**+0.9**
WDGT			S	**Sn**	**05 02 04.0**	**+1.1**
SLIU	**Shizi**	**1.98 203**	*eP*	**Pb**	**05 01 41.6**	**+0.1**
HATJ	**Hateruma jima**	**2.00 89**	P	**Pn**	**05 01 40.7**	**+1.7**
HATJ	**Hateruma jima**	**2.00 89**	A	A	05 01 40.7	
	comp=N,1μm,7.0s,comp=E,1μm,2.7s					
LAY	**Lan-yu**	**2.01 182**	*eP*	**Pn**	**05 01 38.6**	**-0.5**
LYUB	**Lan-yu**	**2.04 181⇓**	*eP*	**Pn**	**05 01 38.6**	**-1.0**
WLCH	**Liuqiu**	**2.04 214**	*eP*	**Pb**	**05 01 43.0**	**+0.4**
TWP	**Hsiaoliuchiu**	**2.06 214**	*eP*	**Pb**	**05 01 42.8**	**+0.1**
VCHM	**Qimei**	**2.18 248⇑**	*eP*	**Pn**	**05 01 42.4**	**+0.9**
VCHM			*eS*	**Sb**	**05 02 10.8**	**-0.9**
VWUC	**VWUC**	**2.19 296⇓**	*eP*	**Pn**	**05 01 41.4**	**-0.2**
JKRS	**Kuro-shima**	**2.19 85**	P	**Pb**	**05 01 43.9**	**-1.1**
JKRS	**Kuro-shima**	**2.19 85**	A	A	05 01 43.9	
	comp=N,1μm,2.4s,comp=E,981nm,4.2s					
HEN	**Hengchun**	**2.19 202**	*eP*	**Pb**	**05 01 44.6**	**-0.5**
TWK1	**Hengchun**	**2.23 200**	*eP*	**Pb**	**05 01 44.5**	**-1.2**
TWKBT	**Hengchun**	**2.23 200**	*eP*	**Pn**	**05 01 43.9**	**+1.7**
TWKBT			*eS*	**Sn**	**05 02 11.3**	**+1.8**
TSEB	**Hengchuen, Pin**	**2.24 197**	*eP*	**Pn**	**05 01 44.3**	**+2.0**
JIJ	**Ishigaki jima**	**2.32 82**	P	**Pn**	**05 01 45.0**	**+1.5**
JIJ	**Ishigaki jima**	**2.32 82**	A	A	05 01 45.0	
	comp=N,311nm,4.1s,comp=E,307nm,2.2s					
PTMZ	**Houxiangcun**	**2.48 294⇓**	*eP*	**Pn**	**05 01 45.2**	**-0.4**
JISG	**Ishigakijimahi**	**2.51 77**	P	**Pn**	**05 01 47.4**	**+1.3**
JISG			*eS*	**Sn**	**05 02 17.2**	**+0.8**
JISG	**Ishigakijimahi**	**2.51 77**	A	A	05 01 47.4	
	comp=N,325nm,5.3s,comp=E,195nm,5.5s					
MATB	**Ma-tsu**	**2.58 324⇑**	*eP*	**Pn**	**05 01 47.2**	**+0.2**
MATB			*eS*	**Sb**	**05 02 22.4**	**-0.9**
JTJ	**Tarama**	**2.87 78**	P	**Pn**	**05 01 52.9**	**+1.9**
JTJ	**Tarama**	**2.87 78**	A	A	05 01 52.9	
	comp=N,588nm,5.4s,comp=E,511nm,2.2s					
QZH	**Quanzhou**	**2.90 288⇓**	*iP*	**Pn**	**05 01 50.4**	**-0.9**
QZH			Sn	**Sn**	**05 02 24.8**	**-1.2**
QZH			smax	smax		
	comp=E,40μm,1.3s					
QZH			smax	smax		
	comp=E,21μm,1.1s					
KNM	**Kinmen**	**2.93 278**	*eP*	**Pn**	**05 01 54.3**	**+2.5**
KNMB	**Chin-men Tao**	**2.98 279**		**Pn**	**05 01 52.1**	**-0.4**
KNMB	**Chin-men Tao**	**2.98 279⇓**	*eP*	**Pn**	**05 01 51.9**	**-0.6**
MHZQ	**Yeshan**	**3.11 311⇓**	*eP*	**Pn**	**05 01 54.8**	**+0.5**
MHZQ			*eS*	**Sn**	**05 02 32.0**	**+0.8**
XPSS	**Dashiqiu**	**3.14 336⇑**	*eP*	**Pn**	**05 01 54.8**	**+0.1**
XPSS			*eS*	**Sn**	**05 02 32.9**	**+0.8**
JIRB	**Irabujima**	**3.33 76**	P	**Pn**	**05 01 59.1**	**+1.8**
JIRB	**Irabujima**	**3.33 76**	A	A	05 01 59.1	
	comp=N,431nm,3.3s,comp=E,313nm,8.1s					
JIKM	**Ikemajima**	**3.42 75**	P	**Pn**	**05 02 00.7**	**+2.1**
JIKM	**Ikemajima**	**3.42 75**	A	A	05 02 00.7	
	comp=N,485nm,4.0s,comp=E,389nm,3.3s					
AXDP	**Jialang**	**3.43 285⇓**	*eP*	**Pn**	**05 01 58.3**	**-0.3**
JMJ	**Miyako jima 2**	**3.43 76**	P	**Pn**	**05 02 02.0**	**+3.3**
JMJ	**Miyako jima 2**	**3.43 76**	*eP*	**Pn**	**05 02 00.9**	**+2.1**
JMJ2	**Miyako jima3**	**3.45 78**	P	**Pn**	**05 02 01.1**	**+2.2**
JMJ2	**Miyako jima3**	**3.45 78**	A	A	05 02 01.1	
	comp=N,474nm,3.0s,comp=E,605nm,3.0s					
JOGS	**Gusukube**	**3.52 78**	*eP*	**Pn**	**05 02 02.3**	**+2.3**
JOGS	**Gusukube**	**3.52 78**	A	A	05 02 02.3	
	comp=N,706nm,5.0s,comp=E,520nm,6.2s					
ZPLA	**Ao Xicun**	**3.54 269⇓**	*eP*	**Pn**	**05 02 00.1**	**-0.1**
DSXP	**Dongshan**	**3.85 266⇓**	*eP*	**Pn**	**05 02 04.5**	**0.0**
DSXP			*eS*	**Sn**	**05 02 50.6**	**+1.0**
SXFK	**Yanhouchang**	**4.29 304⇓**	*eP*	**Pn**	**05 02 10.3**	**-0.3**
JKE	**Kume jima 2**	**5.20 63**	A	A	05 02 26.9	
	comp=N,42nm,9.5s,comp=E,42nm,3.6s					
VDOS	**Pratas Island**	**5.62 235⇑**	*eP*	**Pn**	**05 02 30.6**	**+1.8**
JAGN	**Aguni-jima**	**5.68 62**	A	A	05 02 33.7	
	comp=N,84nm,6.9s,comp=E,85nm,6.0s					
JJT3	**Tamagusuku3**	**5.96 68**	A	A	05 02 37.6	
	comp=N,184nm,5.3s,comp=E,172nm,4.0s					
JNTH	**Nagotoyohara**	**6.29 66**	A	A	05 02 42.2	
	comp=N,58nm,9.1s,comp=E,46nm,5.6s					
JIH	**Iheya**	**6.46 61**	A	A	05 02 44.5	
	comp=N,54nm,7.6s,comp=E,57nm,8.2s					
SZP	**Santa**	**6.56 190**	P	**Pn**	**05 02 43.9**	**+2.2**
SZP	**Santa**	**6.56 190**	⇑P	**Pn**	**05 02 44.2**	**+2.5**
JOW	**Kunigami**	**6.62 64**		**Pn**	**05 02 42.5**	**0.0**
JOW	**Kunigami**	**6.62 64**	Pn	**Pn**	**05 02 42.7**	**+0.1**
	comp=E,209nm,0.3s,baz=239,slow=9.9,SNR=87					
	comp=E,383nm,0.3s					
JOW	**Kunigami**	**6.62 64**	P	**Pn**	**05 02 43.4**	**+0.8**
JOW	**Kunigami**	**6.62 64**	A	A	05 02 46.8	
	comp=N,58nm,6.6s,comp=E,54nm,6.4s					
JOW	**Kunigami**	**6.62 64**	⇑P	**Pn**	**05 02 42.9**	**+0.3**
JOW	**Kunigami**	**6.62 64**	⇑*eP*	**Pn**	**05 02 43.3**	**+0.7**
JYRO	**Yoronjima**	**6.84 63**	A	A	05 02 49.9	
	comp=N,36nm,6.4s,comp=E,64nm,10.3s					
SSE	**Sheshan**	**7.03 357**	Pn	**Pn**	**05 02 47.0**	**-1.1**
SSE			Sn	**Sn**	**05 04 05.1**	**-2.7**
SSE			smax	smax		
	comp=E,9μm,1.2s					
SSE			smax	smax		
	comp=E,9μm,1.1s					
HKC	**Hong Kong Obse**	**7.07 257**	⇑P	**Pn**	**05 02 50.0**	**+1.3**
JOKE	**Okinoerabujima**	**7.08 61**	A	A	05 02 53.2	
	comp=N,42nm,15.5s,comp=E,44nm,9.7s					
HKPS	**Hong Kong Po S**	**7.10 257**		**Pn**	**05 02 50.2**	**+1.0**
HKPS	**Hong Kong Po S**	**7.10 257**	*eP*	**Pn**	**05 02 49.3**	**+0.1**
GZH	**Guangzhou**	**7.65 264**	Pn	**Pn**	**05 02 52.3**	**-4.4**
GZH			Sn	**Sn**	**05 04 14.9**	**-8.4**
GZH			smax	smax		
	comp=E,10μm,0.9s					
GZH			smax	smax		
	comp=E,8μm,1.3s					
MCO	**Taipa Grande**	**7.67 257**	P	**Pn**	**05 02 59.0**	**+2.1**
NJ2	**Nanjing**	**8.33 344**	⇑P	**Pn**	**05 03 05.3**	**-0.8**
NJ2			sP	Pb	05 03 14.1	-16
NJ2			S	**Sn**	**05 04 36.9**	**-3.1**
NJ2			smax	smax		
	comp=E,22μm,1.0s					
NJ2			smax	smax		
	comp=E,28μm,1.2s					
NJ2			LR	LR		
	comp=E,150μm,4.7s					
NJ2			LR	LR		
	comp=E,256μm,3.8s					
NJ2			LR	LR		
	comp=E,644μm,10.4s					
CNSH	**ChangSha**	**8.82 300**	P	**Pn**	**05 03 12.4**	**-0.4**
CNSH			S	**Sn**	**05 04 48.1**	**-4.0**
CNSH			smax	smax		
	comp=E,22μm,1.8s					
CNSH			smax	smax		
	comp=E,16μm,1.8s					
CNSH			LR	LR		
	comp=E,678μm,12.4s					
JMZ	**Minamidaito 2**	**8.89 77**		**Pn**	**05 03 11.9**	**-1.8**
JMZ	**Minamidaito 2**	**8.89 77**	P	**Pn**	**05 03 11.5**	**-2.2**
JMZ	**Minamidaito 2**	**8.89 77**	⇑P	**Pn**	**05 03 12.1**	**-1.7**
WHN	**Wuhan**	**9.14 317**	⇓P	**Pn**	**05 03 17.8**

BJI LR LR
comp=Z,124µm,13.7s
KMI Kunming 17.21 277 ⇓P **Pn 05 05 06.3 +0.4**
KMI pP pP 05 05 13.0 +1.5
KMI S **Sn 05 08 18.3 +1.0**
KMI pmax pmax
comp=Z,480nm,1.7s
KMI LR LR
comp=Z,56µm,10.4s
CD2 Chengdu 17.25 297 P **P 05 05 07.6 -0.1**
CD2 sP sP 05 05 18.3 +4.4
CD2 S **Sn 05 08 18.1 +0.1**
CD2 pmax pmax
comp=Z,2µm,1.2s
CD2 pmax pmax
comp=Z,12µm,6.0s
CD2 LR LR
comp=Z,275µm,11.2s
DAV Davao City (W) 17.31 167 P **P 05 05 08.9 +0.5**
comp=Z,43nm,0.3s,baz=351,slow=4.3,SNR=1.5
DAV LR LR 05 11 27.7
comp=Z,48µm,20.3s,baz=344,slow=36
comp=Z,142nm,0.4s
DAV Davao City (W) 17.31 167 P **Pn 05 05 08.0 +1.0**
DAV Davao City (W) 17.31 167 P **Pn 05 05 07.4 +0.4**
DLV Lat 17.33 228 P **Pn 05 05 07.3 -0.2**
DLV Lat 17.33 228 P **P 05 05 13.1 +4.2**
DLV Lat 17.33 228 ⇑P **P 05 05 10.9 +2.1**
INU Inuyama 17.46 46 P **Pn 05 05 05.4 -3.3**
INU Inuyama 17.46 46 P **P 05 05 10.8 +0.9**
INU Inuyama 17.46 46 ⇑P **Pn 05 05 05.6 -3.2**
UBPT Khong Chiam 17.52 243 P **P 05 05 13.2 +2.5**
SNY Shenyang 17.80 5 ⇑P **P 05 05 14.3 +0.7**
SNY S **S 05 08 35.4 -2.5**
SNY pmax pmax
comp=Z,26µm,6.7s
SNY LR LR
comp=Z,158µm,12.9s
SNY LR LR
comp=Z,70µm,11.7s
SNY LR LR
comp=Z,245µm,13.9s
JGF Kuroka 17.83 46 P **Pn 05 05 11.8 -1.6**
JGF Kuroka 17.83 46 P **P 05 05 14.6 +0.5**
JGF Kuroka 17.83 46 ⇑P **Pn 05 05 08.5 -4.9**
JSG Sagara 17.88 50 P **P 05 05 19.0 +4.4**
PZH PanZhiHua 18.14 282 P **P 05 05 19.4 +1.7**
PZH S **Sn 05 08 34.6 -5.2**
PZH ScP **ScP 05 13 22.8 -3.2**
PZH pmax pmax
comp=Z,430nm,1.7s
PZH pmax pmax
comp=Z,8µm,9.0s
PZH LR LR
comp=Z,376µm,14.7s
NONG Nongkai 18.24 254 P **P 05 05 22.0 +3.4**
JHJ Hachijo jima 2 18.31 56 P **Pn 05 05 19.4 +0.1**
comp=Z,88nm,0.3s,baz=218,slow=6.6,SNR=49
JHJ LR LR 05 11 58.6
comp=Z,37µm,20.7s,baz=242,slow=36
comp=Z,675nm,0.8s
JHJ2 Mitsune 18.33 56 P **P 05 05 24.3 +4.7**
JHJ2 Mitsune 18.33 56 ⇑P **Pn 05 05 19.3 -0.2**
KKM Kota Kinabalu 18.64 197 P **Pn 05 05 23.9 +0.4**
KKM Kota Kinabalu 18.64 197 P **Pn 05 05 26.3 +2.8**
KKM Kota Kinabalu 18.64 197 ⇑P **Pn 05 05 24.5 +1.0**
HHC Hu-ho-hao-te 18.75 336 ⇑*i*P **Pn 05 05 26.8 +2.1**
HHC pP pP 05 05 30.8 +2.2
HHC PP **PnPn 05 05 44.0 +7.1**
HHC S **S 05 08 58.0 +0.5**
HHC sS sS 05 09 04.3 +0.4
HHC pmax pmax
comp=Z,1µm,2.4s
HHC pmax pmax
comp=Z,12µm,5.5s
HHC LR LR
comp=Z,205µm,13.3s
HHC LR LR
comp=Z,119µm,16.1s
HHC LR LR
comp=Z,264µm,16.7s
JCJ Chichijima 18.80 76 P **P 05 05 24.8 0.0**
JCJ IAmb IAmb 05 05 31.9
comp=Z,2µm,0.9s
JCJ Chichijima 18.80 76 P **P 05 05 24.2 -0.6**
comp=Z,57nm,0.3s,baz=218,slow=2.0,SNR=20
comp=Z,761nm,0.7s
JCJ Chichijima 18.80 76 P **Pn 05 05 27.5 +2.2**
JCJ Chichijima 18.80 76 ⇑P **Pn 05 05 25.9 +0.6**
MAJO Matsushiro 18.94 45 P **P 05 05 24.1 -2.2**
MAJO Matsushiro 18.94 45 P **P 05 05 26.1 -0.2**
MAJO Matsushiro 18.94 45 *i*P **P 05 05 24.0 -2.2**
MAJO pmax pmax
comp=Z,57nm,0.9s
MAJO Matsushiro 18.94 45 ⇑P **P 05 05 23.7 -2.6**
MAJO Matsushiro 18.94 45 P **P 05 05 22.6 -3.7**
MAJO S **Sn 05 08 59.1 +0.3**
MJB9 Matsu-Tunnel 18.94 45 P **P 05 05 24.6 -1.7**
MJAR Matsushiro Arr 18.94 45 P **P 05 05 24.3 -2.0**
comp=Z,39nm,0.7s,baz=234,slow=9.6,SNR=88
MJAR LR LR 05 13 11.3
comp=Z,33µm,20.1s,baz=231,slow=39
MYLDM Lahad Datu 19.00 190 P **Pn 05 05 29.0 +1.3**
MYLDM Lahad Datu 19.00 190 P **Pn 05 05 31.1 +3.3**
MYLDM Lahad Datu 19.00 190 ⇑P **Pn 05 05 29.4 +1.6**
BTO Baotou 19.16 332 *e*P **Pn 05 05 32.8 +3.1**
BTO pP **sP 05 05 37.6 +3.0**
BTO sP **pP 05 05 40.8 +7.6**
BTO PP **PnPn 05 05 48.3 +5.8**
BTO pmax pmax
comp=Z,460nm,1.9s
LZH Lanzhou 19.47 312 ⇑P **Pn 05 05 35.3 +1.8**
LZH sP sP 05 05 48.6 +10
LZH S **Sn 05 09 11.1 -0.7**
LZH SS **SnSn 05 09 31.9 +5.8**
LZH pmax pmax
comp=Z,2µm,1.3s
LZH pmax pmax
comp=Z,25µm,4.8s
JSD Sado 19.89 42 P **P 05 05 33.9 -2.8**
JSD Sado 19.89 42 P **P 05 05 35.4 -1.3**
JSD Sado 19.89 42 ⇑P **P 05 05 32.9 -3.8**
CN2 Changchun 19.95 8 ⇑P **P 05 05 37.8 +0.6**
CN2 *es*P sP 05 05 46.4 +3.2
CN2 *e*S **S 05 09 16.6 -4.7**
CN2 pmax pmax
comp=Z,300nm,1.2s
CN2 pmax pmax
comp=Z,5µm,4.0s
CN2 LR LR
comp=Z,102µm,14.0s
CN2 LR LR
comp=Z,84µm,14.0s
CN2 LR LR
comp=Z,85µm,15.0s
PSTR Posyet 20.05 20 *i*P **P 05 05 38.7 +0.4**
MSHR Mys Shultsa 20.10 21 *ce*P **P 05 05 39.6 +0.8**
MSHR pmax pmax
comp=Z,2µm,1.7s
MSHR MLR MLR
comp=Z,59µm,16.0s
XLT XiLinHaoTe 20.31 348 *e*P **P 05 05 41.5 +0.2**
XLT S **S 05 09 22.5 -6.2**
XLT pmax pmax
comp=Z,790nm,1.3s
XLT pmax pmax
comp=Z,12µm,5.8s
XLT LR LR
comp=Z,14µm,13.2s
XLT LR LR
comp=Z,52µm,10.4s
XLT LR LR
comp=Z,195µm,15.0s
TNCH TengChong 21.04 277 ⇑P **P 05 05 52.1 +2.7**
TNCH pP pP 05 05 55.4 +1.9
TNCH sP sP 05 05 58.5 +3.0
TNCH PP **PnPn 05 06 14.5 +6.2**
TNCH pmax pmax
comp=Z,2µm,1.2s
TNCH pmax pmax
comp=Z,7µm,3.1s
JMM Marumori 21.39 45 P **P 05 05 48.8 -4.1**
JMM Marumori 21.39 45 P **P 05 05 50.1 -2.8**
JMM Marumori 21.39 45 ⇑P **P 05 05 46.4 -6.5**

NAYO Nakonayok 21.45 247 P **P 05 05 56.2 +2.5**
MDJ Mudanjiang 21.52 16 P **P 05 05 54.2 0.0**
MDJ IAMs_20 IAMs_20 05 14 36.4
comp=Z,60µm,19.0s
MDJ Mudanjiang 21.52 16 P **P 05 05 54.3 0.0**
MDJ S **S 05 09 52.3 -0.1**
MDJ pmax pmax
comp=Z,10µm,6.5s
MDJ LR LR
comp=Z,160µm,16.0s
MDJ LR LR
comp=Z,105µm,13.3s
MDJ LR LR
comp=Z,217µm,15.0s
CHTO Chiang Mai 21.73 260 P **P 05 05 58.6 +1.9**
CHTO IAmb IAmb 05 06 02.8
comp=Z,1µm,1.4s
CHTO IAMs_20 IAMs_20 05 15 09.9
comp=Z,118µm,19.0s
CHTO Chiang Mai 21.73 260 P **P 05 05 58.7 +1.9**
CHTO P **P 05 05 58.7 +1.9**
CHTO Chiang Mai 21.73 260 P **P 05 05 58.5 +1.9**
CHTO Chiang Mai 21.73 260 P **P 05 05 58.6 +1.9**
CHTO pmax pmax
comp=Z,1µm,1.4s
CHTO MLR MLR
comp=Z,118µm,19.0s
CHTO Chiang Mai 21.73 260 ⇑P **P 05 05 58.6 +1.9**
CHTO Chiang Mai 21.73 260 P **P 05 05 58.9 +2.2**
USA0B Ussuriysk Arra 21.82 20 P **P 05 05 56.6 -0.8**
USA0B IAmb IAmb 05 06 15.5
comp=Z,1µm,1.9s
USA0B Ussuriysk Arra 21.82 20 *i*P **P 05 05 57.6 +0.2**
USRK Ussuriysk Ar. 21.82 20 P **P 05 05 57.0 -0.3**
USRK Ussuriysk Ar. 21.82 20 P **P 05 05 56.3 -1.1**
comp=Z,55nm,0.7s,baz=210,slow=10,SNR=74
USRK LR LR 05 15 05.9
comp=Z,37µm,19.1s,baz=193,slow=39
comp=Z,55nm,0.7s
USRK Ussuriysk Ar. 21.82 20 P **P 05 05 57.1 -0.3**
CM31 Chiang Mai Arr 21.84 260 P **P 05 06 00.1 +2.1**
CM31 IAmb IAmb 05 06 03.4
comp=Z,1µm,1.6s
CMAR Chiang Mai Arr 21.84 260 P **P 05 05 59.9 +2.0**
CMAR Chiang Mai Arr 21.84 260 P **P 05 05 59.0 +1.1**
comp=Z,150nm,1.1s,baz=66,slow=6.1,SNR=142
CMAR PcP **PcP 05 09 58.5 +0.8**
comp=Z,43nm,1.1s,baz=75,slow=0.8,SNR=12
CMAR LR LR 05 15 03.9
comp=Z,58µm,18.6s,baz=50,slow=38
comp=Z,150nm,1.1s
CMAR Chiang Mai Arr 21.84 260 *i*P **P 05 06 00.1 +2.2**
CMAR pmax pmax
comp=Z,431nm,1.3s
BNX BinXian 22.14 11 ⇑P **P 05 05 59.5 -1.3**
BNX S **S 05 10 02.3 -2.1**
BNX pmax pmax
comp=Z,170nm,1.3s
BNX pmax pmax
comp=Z,9µm,7.1s
BNX LR LR
comp=Z,104µm,13.8s
BNX LR LR
comp=Z,69µm,14.0s
BNX LR LR
comp=Z,126µm,14.2s
TOLI2 Tolitoli 22.82 182 P **P 05 06 06.8 -1.5**
TOLI2 Tolitoli 22.82 182 P **P 05 06 10.8 +2.5**
SRDT SRDT 23.31 250 P **P 05 06 15.4 +2.1**
SBUM Sibu 23.32 204 P **P 05 06 12.2 -1.3**
SBUM IAmb IAmb 05 06 37.6
comp=Z,769nm,1.2s
SBUM IAMs_20 IAMs_20 05 14 34.5
comp=Z,58µm,20.0s
SBUM Sibu 23.32 204 P **P 05 06 13.1 -0.4**
SBUM Sibu 23.32 204 ⇑P **P 05 06 12.6 -0.9**
JTM Tenmabayashi 23.32 40 P **P 05 06 08.1 -5.2**
JTM Tenmabayashi 23.32 40 P **P 05 06 10.6 -2.7**
JTM Tenmabayashi 23.32 40 ⇑P **P 05 06 08.4 -4.9**
KMSI Cibinong 23.45 174 P **P 05 06 17.4 +2.6**
comp=Z,32µmcomp=Z,19µmcomp=Z,400nm,0.9s
MPSI Mapaga 23.63 184 P **P 05 06 18.5 +2.0**
TNTI Ternate 23.80 166 P **P 05 06 17.3 -0.9**
TNTI Ternate 23.80 166 P **P 05 06 22.4 +4.2**
TNTI Ternate 23.80 166 P **P 05 06 20.5 +2.3**
GTA Gaotai 23.96 315 P **P 05 06 20.8 +1.1**
GTA pP sP 05 06 28.3 +2.0
GTA S **S 05 10 34.4 -1.7**
GTA sS sS 05 10 47.5 +3.4
GTA pmax pmax
comp=Z,14µm,4.7s
GTA LR LR
comp=Z,110µm,14.9s
GTA LR LR
comp=Z,204µm,13.8s
GTA LR LR
comp=Z,268µm,14.5s
TEY Ternei 24.22 27⇑ *e*P **P 05 06 19.2 -2.7**
TEY pmax pmax
comp=N,30nm,1.5s
TEY pmax pmax
comp=E,20nm,1.5s
TEY pmax pmax
comp=Z,60nm,1.5s
TEY pmax pmax
comp=Z,200nm,15.6s
TEY MLR MLR
comp=Z,1µm,11.0s
GUMO Guam 24.31 111 P **P 05 06 23.4 +0.5**
GUMO Guam 24.31 111 LR LR 05 16 35.0
comp=Z,20µm,18.1s,baz=297,slow=38
GUMO Guam 24.31 111 P **P 05 06 26.7 +3.8**
GUMO Guam 24.31 111 P **P 05 06 23.4 +0.5**
GUMO pmax pmax
comp=Z,6µm,1.5s
GUMO Guam 24.31 111 ⇑P **P 05 06 23.6 +0.7**
SMKI Samarinda 24.73 191 P **P 05 06 29.2 +2.5**
comp=Z,21µmcomp=Z,529nm,1.2s
APSI Ampana 24.82 180 P **P 05 06 29.9 +2.4**
comp=Z,10µmcomp=Z,619nm,1.2s
PCI Palu 24.87 184 P **P 05 06 31.6 +3.6**
comp=Z,30µmcomp=Z,16µmcomp=Z,633nm,1.2s
LUWI Luwuk 24.97 177 **P 05 06 26.6 -2.3**
LUWI IAmb IAmb 05 06 56.6
comp=Z,737nm,1.0s
LUWI Luwuk 24.97 177 P **P 05 06 25.5 -3.4**
LUWI Luwuk 24.97 177 P **P 05 06 34.7 +5.8**
LUWI Luwuk 24.97 177 P **P 05 06 31.2 +2.3**
comp=Z,25µmcomp=Z,11µmcomp=Z,828nm,1.3s
LUWI Luwuk 24.97 177 ⇑P **P 05 06 26.2 -2.7**
KSM Kuching 24.98 208 P **P 05 06 28.8 -0.2**
KSM IAmb IAmb 05 06 36.5
comp=Z,644nm,1.1s
KSM Kuching 24.98 208 P **P 05 06 31.5 +2.5**
KSM Kuching 24.98 208 ⇑P **P 05 06 29.1 +0.1**
KOHI KOHIMA 25.00 280 *e*P **P 05 06 28.0 -1.4**
KOHI IAmb IAmb 05 06 33.3
comp=Z,2µm,1.7s
IMP Imphal 25.19 278 *e*P **P 05 06 30.9 -0.1**
IMP IAmb IAmb 05 06 35.9
comp=Z,2µm,1.9s
HIA Hailar 25.21 357 P **P 05 06 29.8 -1.1**
HIA Hailar 25.21 357 IAMs_20 IAMs_20 05 17 49.0
comp=Z,100µm,19.0s
HIA Hailar 25.21 357 *c i*P **P 05 06 29.1 -1.8**
HIA pmax pmax
comp=Z,862nm,3.5s
ZIRO ZIRO 25.22 284 *e*P **P 05 06 32.3 +0.9**
ZIRO IAmb IAmb 05 06 44.0
comp=Z,7µm,2.3s
ERM Erimo 25.32 40 P **P 05 06 28.8 -3.0**
ERM Erimo 25.32 40 P **P 05 06 29.6 -2.2**
ERM Erimo 25.32 40 P **P 05 06 28.8 -3.0**
ERM pmax pmax
comp=Z,247nm,1.0s
ERM MLR MLR
comp=Z,48µm,21.0s
ERM Erimo 25.32 40 ⇑P **P 05 06 28.4 -3.5**
ERM Erimo 25.32 40 P **P 05 06 28.6 -3.2**
ERM S **S 05 11 00.2 +2.7**
JEM Erimo 25.32 40 P **P 05 06 29.7 -2.1**
ITAN ITANAGAR 25.33 283 *e*P **P 05 06 34.2 +2.1**
ITAN IAmb IAmb 05 06 38.6
comp=Z,11µm,1.4s
BKB Balikpapan 25.58 191 P **P 05 06 36.0 +1.6**

BKB Balikpapan 25.58 191 P **P 05 06 35.8 +1.4**
comp=Z,14µmcomp=Z,675nm,1.1s
STKI Sintang 25.80 204 P **P 05 06 38.9 +2.5**
comp=Z,18µmcomp=Z,15µmcomp=Z,398nm,1.8s
GOMU GeErMu 26.06 304 P **P 05 06 39.8 +0.6**
GOMU sP sP 05 06 47.5 +1.9
GOMU S **S 05 11 10.0 -0.2**
GOMU pmax pmax
comp=Z,780nm,1.4s
GOMU pmax pmax
comp=Z,16µm,5.2s
GOMU LR LR
comp=Z,109µm,16.9s
GOMU LR LR
comp=Z,148µm,17.8s
GOMU LR LR
comp=Z,275µm,17.0s
SRIT Nakonsritamara 26.07 238 P **P 05 06 41.5 +2.6**
SANI Sanana 26.29 170 P **P 05 06 37.7 -3.2**
SANI Sanana 26.29 170 P **P 05 06 42.6 +1.7**
SANI Sanana 26.29 170 P **P 05 06 43.5 +2.6**
comp=Z,23µmcomp=Z,107nm,0.8s
SANI Sanana 26.29 170 ⇑P **P 05 06 38.4 -2.5**
SAIH SAIHA 26.33 272 *e*P **P 05 06 41.5 0.0**
SAIH IAmb IAmb 05 06 48.0
comp=Z,223nm,0.6s
KLR Kul'dur 26.36 15 LR LR 05 18 18.7
comp=Z,57µm,18.9s,baz=202,slow=39
KLR Kul'dur 26.36 15 *e*P **P 05 06 40.1 -1.2**
KLR pmax pmax
comp=Z,385nm,1.3s
ASAJ Asahikawa 26.37 35 LR LR 05 17 41.9
comp=Z,53µm,18.7s,baz=247,slow=38
ASAJ Asahikawa 26.37 35 P **P 05 06 39.0 -2.4**
ASAJ pmax pmax
comp=Z,247nm,1.1s
ASAJ MLR MLR
comp=Z,53µm,20.0s
JKA Kamikawa-asahi 26.37 35 P **P 05 06 39.0 -2.3**
JKA IAMs_20 IAMs_20 05 17 11.8
comp=Z,53µm,20.0s
AZL Aizawl 26.43 275 *e*P **P 05 06 42.5 +0.2**
AZL IAmb IAmb 05 06 47.2
comp=Z,1µm,1.2s
ULN Ulaanbaatar 26.44 338 P **P 05 06 42.6 +0.5**
ULN IAmb IAmb 05 06 45.1
comp=Z,645nm,1.3s
ULN Ulaanbaatar 26.44 338 P **P 05 06 42.7 +0.5**
ULN P **P 05 06 42.7 +0.5**
ULN Ulaanbaatar 26.44 338 *ce*P **P 05 06 42.3 +0.1**
ULN pmax pmax
comp=Z,801nm,1.7s
ULN Ulaanbaatar 26.44 338 ⇑P **P 05 06 42.5 +0.3**
SWI Sorong 26.48 158 P **P 05 06 44.5 +1.9**
comp=Z,25µmcomp=Z,5µmcomp=Z,158nm,1.1s
HEH HeiHe 26.54 8 *e*P **P 05 06 41.8 -1.1**
HEH S **S 05 11 14.3 -2.4**
HEH pmax pmax
comp=Z,81nm,1.6s
HEH pmax pmax
comp=Z,12µm,8.5s
HEH LR LR
comp=Z,114µm,13.3s
HEH LR LR
comp=Z,65µm,13.3s
HEH LR LR
comp=Z,166µm,14.3s
SONM Songino Array 26.64 337 P **P 05 06 44.0 0.0**
SONM Songino Array 26.64 337 P **P 05 06 44.1 0.0**
comp=Z,218nm,1.0s,baz=157,slow=6.5,SNR=268
SONM LR LR 05 18 24.1
comp=Z,207µm,18.0s,baz=148,slow=39
comp=Z,218nm,1.0s
SHL Shillong 27.01 279 P **P 05 06 48.3 +0.7**
SHL Shillong 27.01 279 P **P 05 06 48.5 +0.9**
SNR=602
SHL Shillong 27.01 279 *e*P **P 05 06 46.7 -0.9**
SHL Shillong 27.01 279 P **P 05 06 48.3 +0.7**
SHL pmax pmax
comp=Z,3µm,1.4s
SHL MLR MLR
comp=Z,109µm,21.0s
KULM Kulim 27.48 231 IAMs_20 IAMs_20 05 17 40.9
comp=Z,58µm,20.0s
KULM Kulim 27.48 231 P **P 05 06 54.0 +2.3**
KULM Kulim 27.48 231 ⇑P **P 05 06 52.5 +0.9**
BRDH Bariadhala 27.53 273 P **P 05 06 53.0 +1.0**
comp=Z,118nm,0.3s,baz=72,slow=8.7,SNR=22
BRDH LR LR 05 19 07.5
comp=Z,49µm,18.6s,baz=93,slow=39
comp=Z,118nm,0.3s
NLAI Namlea 27.65 168 P **P 05 06 55.4 +2.3**
comp=Z,26µmcomp=Z,8µmcomp=Z,485nm,1.3s
LSA Lhasa 27.71 288 **P 05 06 56.1 +2.0**
LSA IAmb IAmb 05 07 03.3
comp=Z,294nm,0.7s
LSA Lhasa 27.71 288 P **P 05 06 56.8 +2.7**
LSA S **S 05 11 38.3 +1.8**
LSA pmax pmax
comp=Z,280nm,1.2s
LSA LR LR
comp=Z,42µm,17.3s
LSA LR LR
comp=Z,189µm,17.6s
LSA Lhasa 27.71 288 P **P 05 06 54.3 +0.2**
LSA P **P 05 06 54.3 +0.2**
LSA Lhasa 27.71 288 P **P 05 06 56.1 +2.0**
LSA pmax pmax
comp=Z,294nm,0.7s
LSA MLR MLR
comp=Z,165µm,18.0s
LSA Lhasa 27.71 288 P **P 05 06 55.6 +1.5**
AGT Agartala 27.73 276 *e*P **P 05 06 56.7 +2.9**
AGT IAmb IAmb 05 07 01.4
comp=Z,1µm,1.2s
SPSI Sidrap Palu 27.91 184 P **P 05 06 56.5 +1.1**
MYKOM Kota Tinggi 28.03 220 P **P 05 06 56.8 +0.3**
MYKOM Kota Tinggi 28.03 220 P **P 05 06 59.7 +3.2**
MYKOM Kota Tinggi 28.03 220 ⇑P **P 05 06 57.2 +0.6**
YUK Yuzh-Kuril'sk 28.12 39 *d i*P **P 05 06 54.3 -2.8**
YUK *e* 05 07 45.1
YUK *i*S **S 05 11 41.2 -0.5**
YUK *e*SS **SnSn 05 12 54.7 -2.7**
YUK *e*SSS SSS 05 13 18.0
YUK pmax pmax
comp=Z,517nm,1.1s
YUK pmax pmax
comp=E,322nm,1.2s
YUK pmax pmax
comp=Z,1µm,2.0s
YUK MLR MLR
comp=Z,45µm,16.0s
YUK MLR MLR
comp=N,25µm,15.0s
YUK MLR MLR
comp=E,32µm,17.0s
MSAI Masohi 28.15 164 P **P 05 06 59.8 +2.2**
comp=E,21µmcomp=E,7µmcomp=E,221nm,1.2s
AAI Ambon 28.31 166 P **P 05 07 00.8 +1.8**
comp=E,28µmcomp=E,4µmcomp=E,219nm,1.1s
BNSI Bone 28.32 183 P **P 05 07 01.2 +2.1**
comp=E,18µmcomp=E,5µmcomp=E,206nm,1.4s
YSS Yuzhno-Sakhali 28.43 31 P **P 05 06 58.2 -1.6**
YSS IAmb IAmb 05 07 04.3
comp=Z,432nm,0.9s
YSS Yuzhno-Sakhali 28.43 31 P **P 05 06 59.5 -0.3**
YSS Yuzhno-Sakhali 28.43 31 *ce*P **P 05 06 57.6 -2.2**
YSS pmax pmax
comp=Z,721nm,1.3s
YSS Yuzhno-Sakhali 28.43 31 ⇑P **P 05 06 58.0 -1.8**
CIT Chita 28.60 350 *e*P **P 05 06 59.0 -2.4**
CIT *e* 05 08 11.8
CIT pmax pmax
comp=Z,1µm,3.8s
FAKI Fak Fak 28.74 157 P **P 05 07 01.1 -1.7**
FAKI Fak Fak 28.74 157 P **P 05 07 04.0 +1.2**
FAKI Fak Fak 28.74 157 P **P 05 07 02.7 -0.1**
comp=Z,19µmcomp=Z,4µmcomp=Z,223nm,1.2s
FAKI Fak Fak 28.74 157 ⇑P **P 05 07 01.7 -1.1**
BAKI Biak 28.77 149 P **P 05 07 05.2 +2.1**
comp=Z,21µmcomp=Z,6µmcomp=Z,252nm,1.4s
KAPI Kappang 28.95 184 P **P 05 07 03.4 -1.3**
KAPI Kappang 28.95 184 LR LR 05 18 39.9
comp=Z,13µm,20.7s,baz=5.0,slow=36
KAPI Kappang 28.95 184 P **P 05 07 06.4 +1.7**

KAPI	**Kappang**	**28.95**	**184**	*i* P	**P**	**05 07 05.1**	**+0.4**
KAPI				pmax	pmax		
	comp=Z,64nm,1.0s						
KAPI	**Kappang**	**28.95**	**184**	P	**P**	**05 07 03.1**	**-1.6**
GRNR	**Gornyy**	**29.03**	**20**	⇑*i* P	**P**	**05 07 04.3**	**-0.9**
GRNR				pmax	pmax		
	comp=Z,40nm,0.8s						
GRNR				MLR	MLR		
	comp=N,23μm,15.0s						
GRNR				MLR	MLR		
	comp=E,18μm,15.0s						
GRNR				MLR	MLR		
	comp=Z,38μm,16.0s						
DGPR	**DIGLIPUR**	**29.20**	**253**	*e*P	**P**	**05 07 06.6**	**-0.4**
SRPI	**Serui, Papua**	**29.43**	**149**	P	**P**	**05 07 10.5**	**+1.5**
BNDI	**Bandanaira**	**29.53**	**163**	P	P	05 07 15.0	+5.2
BNDI	**Bandanaira**	**29.53**	**163**	P	**P**	**05 07 12.6**	**+2.8**
	comp=Z,17μmcomp=Z,465nm,1.3s						
UGL	**Uglegorsk**	**29.70**	**28**	*e*P	**P**	**05 07 11.3**	**+0.2**
UGL				*e*		05 07 34.5	
UGL				*e*		05 08 15.0	
UGL				*e*SS	SS	05 14 00.0	-13
UGL				pmax	pmax		
	comp=Z,300nm,1.5s						
UGL				pmax	pmax		
	comp=Z,6μm,14.0s						
UGL				MLR	MLR		
	comp=N,27μm,16.0s						
UGL				MLR	MLR		
	comp=Z,45μm,16.0s						
JPG	**JALPAIGURI**	**29.81**	**282**	*e*P	**P**	**05 07 13.8**	**+1.5**
JPG				IAmb	IAmb	05 07 22.5	
	comp=Z,1μm,1.2s						
GTK	**Tadong**	**29.88**	**283**	*e*P	**P**	**05 07 14.9**	**+1.8**
GTK				IAmb	IAmb	05 07 22.5	
	comp=Z,711nm,0.9s						
ZAK	**Zakamensk**	**29.90**	**336**	*e*P	**P**	**05 07 12.0**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,81nm,1.4s						
TPI	**Tanjungpandan**	**29.91**	**209**	P	**P**	**05 07 15.3**	**+2.0**
	comp=Z,14μmcomp=Z,5μmcomp=Z,246nm,1.3s						
ZEA	**Zeya**	**29.95**	**7**	*e*P	**P**	**05 07 12.7**	**-0.5**
ZEA				*e*S	**S**	**05 12 05.4**	**-4.8**
ZEA				pmax	pmax		
	comp=E,300nm,2.9s						
ZEA				pmax	pmax		
	comp=N,2μm,6.2s						
ZEA				pmax	pmax		
	comp=Z,4μm,9.1s						
ZEA				pmax	pmax		
	comp=N,110nm,1.6s						
ZEA				pmax	pmax		
	comp=E,100nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,210nm,1.1s						
ZEA				MLR	MLR		
	comp=E,35μm,13.0s						
ZEA				MLR	MLR		
	comp=N,74μm,15.0s						
ZEA				MLR	MLR		
	comp=Z,74μm,14.0s						
KUR	**Kuril'sk**	**29.98**	**39**	P	**P**	**05 07 13.4**	**-0.2**
KUR				S	**S**	**05 12 12.5**	**+1.5**
KUR				MLR	MLR		
	comp=Z,38μm,19.0s						
PBA	**Port Blair**	**30.05**	**251**	IAMs_20	IAMs_20	05 19 52.8	
	comp=Z,57μm,19.0s						
PBA	**Port Blair**	**30.05**	**251**	*e*P	**P**	**05 07 14.1**	**-0.5**
PPBI	**Pangkal Pinang**	**30.09**	**212**	P	**P**	**05 07 18.8**	**+3.9**
TSI	**Tuntungan**	**30.21**	**231**	P	**P**	**05 07 18.5**	**+2.6**
LHMI	**Lhok Sumawe**	**30.23**	**236**	IAMs_20	IAMs_20	05 19 41.0	
	comp=Z,39μm,20.0s						
LHMI	**Lhok Sumawe**	**30.23**	**236**	P	**P**	**05 07 20.4**	**+4.3**
LHMI	**Lhok Sumawe**	**30.23**	**236**	P	**P**	**05 07 20.8**	**+4.7**
	comp=Z,17μmcomp=Z,6μmcomp=Z,307nm,1.1s						
PSI	**Prapat**	**30.45**	**230**	P	**P**	**05 07 19.0**	**+0.8**
	comp=Z,54nm,0.9s,baz=31,slow=8.5,SNR=54						
PSI				PcP	**PcP**	**05 10 18.2**	**+0.5**
	comp=Z,28nm,0.9s,baz=317,slow=2.6,SNR=4.3						
PSI				LR	LR	05 19 37.6	
	comp=Z,35μm,19.2s,baz=84,slow=36						
	comp=Z,54nm,0.9s						
PSI	**Prapat**	**30.45**	**230**	P	**P**	**05 07 20.3**	**+2.1**
PSI	**Prapat**	**30.45**	**230**	P	**P**	**05 07 18.8**	**+0.6**
PSI				pmax	pmax		
	comp=Z,172nm,1.1s						
PSI				MLR	MLR		
	comp=Z,34μm,20.0s						
RPSI	**Rantau Prapat**	**30.52**	**229**	P	**P**	**05 07 18.8**	**0.0**
SMPI	**Sarmi**	**30.76**	**145**	P	**P**	**05 07 23.0**	**+2.2**
	comp=Z,19μmcomp=Z,612nm,2.3s						
BKNI	**Bangkinang**	**30.89**	**223**	P	**P**	**05 07 20.5**	**-1.4**
BKNI	**Bangkinang**	**30.89**	**223**	P	**P**	**05 07 26.3**	**+4.3**
BKNI	**Bangkinang**	**30.89**	**223**	P	**P**	**05 07 25.2**	**+3.2**
	comp=Z,11μmcomp=Z,5μmcomp=Z,216nm,1.1s						
IRK	**Irkutsk**	**31.11**	**339**	*e*P	**P**	**05 07 22.6**	**-0.9**
IRK				pmax	pmax		
	comp=Z,941nm,1.8s						
MLSI	**Meulaboh, Aceh**	**31.27**	**235**	P	**P**	**05 07 28.4**	**+3.1**
	comp=Z,6μmcomp=Z,263nm,0.8s						
TYV	**Tymovskoe**	**31.32**	**26**	*e*P	**P**	**05 07 27.3**	**+1.9**
TYV				pmax	pmax		
	comp=Z,124nm,1.0s						
TYV				pmax	pmax		
	comp=Z,2μm,4.9s						
TYV				MLR	MLR		
	comp=Z,39μm,15.0s						
BSI	**Banda Aceh**	**31.32**	**238**	P	**P**	**05 07 27.7**	**+1.9**
	comp=Z,14μmcomp=Z,8μmcomp=Z,285nm,1.8s						
MNSI	**Mandailing Nat**	**31.47**	**226**	P	**P**	**05 07 29.6**	**+2.5**
	comp=Z,304nm,1.4s						
CMBY	**CAMPBELL BAY**	**31.50**	**242**	*e*P	**P**	**05 07 28.2**	**+0.8**
MOY	**Mondy**	**31.79**	**335**	*e*P	**P**	**05 07 29.1**	**-0.6**
MOY				*e*		05 18 02.1	
MOY				pmax	pmax		
	comp=Z,648nm,3.9s						
KMMI	**Kalianget**	**31.80**	**195**	P	**P**	**05 07 32.9**	**+3.0**
	comp=Z,18μmcomp=Z,5μmcomp=Z,183nm,1.1s						
PPI	**Padang Panjang**	**31.90**	**223**	P	**P**	**05 07 32.7**	**+1.8**
	comp=Z,12μmcomp=Z,7μmcomp=Z,223nm,1.5s						
GRJI	**Gresik**	**32.05**	**197**	P	**P**	**05 07 35.0**	**+2.9**
	comp=Z,15μmcomp=Z,8μmcomp=Z,381nm,1.2s						
GENI	**Genyem**	**32.05**	**143**	P	**P**	**05 07 36.5**	**+4.4**
GENI	**Genyem**	**32.05**	**143**	P	**P**	**05 07 34.6**	**+2.5**
	comp=Z,17μmcomp=Z,8μmcomp=Z,410nm,1.4s						
TBJI	**Tambak Boyo**	**32.13**	**198**	P	**P**	**05 07 35.2**	**+2.4**
JAY	**Jayapura**	**32.28**	**142**	LR	LR	05 17 52.4	
	comp=Z,24μm,21.1s,baz=343,slow=31						
JAY	**Jayapura**	**32.28**	**142**	P	**P**	**05 07 36.0**	**+1.8**
	comp=Z,16μmcomp=Z,5μmcomp=Z,156nm,1.6s						
NKL	**Nikolayevsk**	**32.44**	**22**	*e*P	**P**	**05 07 31.8**	**-3.3**
NKL				*e*S	**S**	**05 12 43.6**	**-5.6**
NKL				pmax	pmax		
	comp=E,89nm,1.0s						
NKL				pmax	pmax		
	comp=N,166nm,1.6s						
NKL				pmax	pmax		
	comp=Z,324nm,1.6s						
NKL				smax	smax		
	comp=N,610nm,4.3s						
NKL				smax	smax		
	comp=E,251nm,4.3s						
NKL				MLR	MLR		
	comp=N,174μm,14.0s						
NKL				MLR	MLR		
	comp=E,80μm,14.0s						
NKL				MLR	MLR		
	comp=Z,188μm,14.0s						
GSI	**Gunungsitoli**	**32.46**	**229**	P	**P**	**05 07 34.7**	**-1.1**
GSI				IAMs_20	IAMs_20	05 20 40.7	
	comp=Z,45μm,19.0s						
GSI	**Gunungsitoli**	**32.46**	**229**	P	**P**	**05 07 39.3**	**+3.6**
GSI	**Gunungsitoli**	**32.46**	**229**	P	**P**	**05 07 37.6**	**+1.9**
	comp=Z,6μmcomp=Z,132nm,1.3s						
GSI	**Gunungsitoli**	**32.46**	**229**	⇓P	**P**	**05 07 37.4**	**+1.7**
MMRI	**Maumere**	**32.49**	**179**	P	**P**	**05 07 34.9**	**-1.1**
MMRI	**Maumere**	**32.49**	**179**	P	**P**	**05 07 38.5**	**+2.5**
MMRI	**Maumere**	**32.49**	**179**	P	**P**	**05 07 38.8**	**+2.8**
	comp=Z,14μmcomp=Z,9μmcomp=Z,436nm,1.4s						
SRBI	**Singaraja**	**32.55**	**192**	P	**P**	**05 07 38.9**	**+2.4**
	comp=Z,14μmcomp=Z,166nm,1.5s						
BOK	**Bokaro**	**32.61**	**277**	*e*P	**P**	**05 07 35.7**	**-1.4**
SMRI	**Semarang**	**32.78**	**201**	P	**P**	**05 07 40.7**	**+2.1**
SMRI	**Semarang**	**32.78**	**201**	P	**P**	**05 07 41.3**	**+2.7**
	comp=Z,3μmcomp=Z,148nm,0.8s						
PLAI	**Plampang**	**32.89**	**187**	P	**P**	**05 07 44.1**	**+4.6**
PLAI	**Plampang**	**32.89**	**187**	P	**P**	**05 07 40.5**	**+1.0**
	comp=Z,13μmcomp=Z,5μmcomp=Z,195nm,2.4s						
MDSI	**Maura Dua**	**33.07**	**213**	P	**P**	**05 07 44.1**	**+3.1**
	comp=Z,13μmcomp=Z,8μmcomp=Z,330nm,1.4s						
DNP	**Denpasar**	**33.13**	**192**	P	**P**	**05 07 43.9**	**+2.4**
JAGI	**Jajag, Banyuwa**	**33.14**	**194**	P	**P**	**05 07 45.7**	**+4.1**
JAGI	**Jajag, Banyuwa**	**33.14**	**194**	P	**P**	**05 07 43.7**	**+2.1**
	comp=Z,6μmcomp=Z,11μmcomp=Z,114nm,1.0s						
KSI	**Kapahiang**	**33.19**	**216**	P	**P**	**05 07 44.6**	**+2.4**
KNTI	**KHUNTI**	**33.27**	**276**	*e*P	**P**	**05 07 43.0**	**+0.2**
KNTI				IAmb	IAmb	05 07 47.0	
	comp=Z,951nm,2.0s						
SISI	**Saibi**	**33.40**	**224**	P	**P**	**05 07 45.9**	**+1.9**
	comp=Z,6μmcomp=Z,224nm,1.4s						
YOGI	**Yogyakarta**	**33.55**	**201**	P	**P**	**05 07 49.0**	**+3.7**
	comp=Z,6μmcomp=Z,362nm,1.6s						
WBSI	**Waikabubak, Su**	**33.56**	**184**	P	**P**	**05 07 44.7**	**-0.7**
	comp=Z,11μmcomp=Z,127nm,1.1s						
UGM	**Wanagama**	**33.57**	**200**	P	**P**	**05 07 47.7**	**+2.3**
UGM	**Wanagama**	**33.57**	**200**	P	**P**	**05 07 48.3**	**+2.9**
	comp=Z,440nm,1.5s						
LWLI	**Liwa**	**33.58**	**213**	P	**P**	**05 07 48.0**	**+2.3**
MNAI	**Manna**	**33.59**	**215**	P	**P**	**05 07 50.2**	**+4.6**
MNAI	**Manna**	**33.59**	**215**	P	**P**	**05 07 49.0**	**+3.4**
	comp=Z,12μmcomp=Z,408nm,1.9s						
LEM	**Lembang**	**33.60**	**206**	P	**P**	**05 07 46.6**	**+0.8**
	comp=Z,210nm,1.1s,baz=29,slow=8.4,SNR=24						
LEM				LR	LR	05 23 27.9	
	comp=Z,11μm,18.3s,baz=39,slow=40						
	comp=Z,210nm,1.1s						
SOEI	**Soe**	**33.70**	**175**	IAmb	IAmb	05 08 32.5	
	comp=Z,249nm,1.0s						
SOEI	**Soe**	**33.70**	**175**	P	P	05 07 41.4	-5.3
SOEI	**Soe**	**33.70**	**175**	P	**P**	**05 07 47.6**	**+0.9**
SOEI	**Soe**	**33.70**	**175**	P	**P**	**05 07 48.8**	**+2.1**
	comp=Z,12μmcomp=Z,186nm,0.8s						
SOEI	**Soe**	**33.70**	**175**	⇓P	**P**	**05 07 44.5**	**-2.2**
WMQ	**Urumqi**	**34.03**	**314**	⇑P	**P**	**05 07 51.3**	**+2.0**
WMQ				PcP	**PcP**	**05 10 28.5**	**+1.5**
WMQ				S	**S**	**05 13 16.3**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,260nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,7μm,3.7s						
WMQ				LR	LR		
	comp=Z,57μm,13.5s						
WMQ				LR	LR		
	comp=Z,71μm,12.1s						
WMQ				LR	LR		
	comp=Z,59μm,17.7s						
BBJI	**Bungbulang**	**34.16**	**205**	P	**P**	**05 07 54.4**	**+3.7**
BOD	**Bodaibo**	**34.18**	**353**	*e*P	**P**	**05 07 48.2**	**-2.1**
BOD				pmax	pmax		
	comp=Z,151nm,1.4s						
CGJI	**Cibinong**	**34.21**	**209**	P	**P**	**05 07 52.4**	**+1.4**
	comp=Z,3μmcomp=Z,139nm,1.3s						
CNJI	**Cibinong**	**34.23**	**206**	P	**P**	**05 07 53.4**	**+2.2**
	comp=Z,99nm,1.3s						
JHSG	**JHARSUGUGA**	**34.87**	**274**	*e*P	**P**	**05 07 57.7**	**+0.9**
VAR	**Varanasi**	**35.02**	**280**	*e*P	**P**	**05 07 59.6**	**+1.7**
VAR				IAmb	IAmb	05 08 01.5	
	comp=Z,3μm,1.9s						
RAGD	**RAYAGADA**	**35.72**	**270**	*e*P	**P**	**05 08 01.6**	**-2.4**
MANU	**Manus Island**	**36.05**	**132**	⇑P	**P**	**05 08 04.7**	**-2.2**
ALBI	**Allahabad**	**36.11**	**280**	*e*P	**P**	**05 08 07.8**	**+0.4**
VIS	**Vishakhapatnam**	**36.24**	**267**	*e*P	**P**	**05 08 07.2**	**-1.4**
BLSP	**Bilaspur**	**36.30**	**275**	*e*P	**P**	**05 08 08.4**	**-0.6**
BLSP				IAmb	IAmb	05 08 12.6	
	comp=Z,1μm,1.8s						
LKN	**LUCKNOW**	**36.79**	**283**	*e*P	**P**	**05 08 13.1**	**-0.1**
LKN				IAmb	IAmb	05 08 17.9	
	comp=Z,6μm,1.9s						
LGTI	**Lohaghat**	**37.19**	**288**	*e*P	**P**	**05 08 13.9**	**-2.6**
PTH	**Pithoragarh**	**37.22**	**288**	*e*P	**P**	**05 08 18.0**	**+1.0**
ZSN	**Zaisan**	**37.37**	**318**	*e*P	**P**	**05 08 18.1**	**+0.3**
ZSN				*e*S	**S**	**05 14 07.2**	**+1.9**
ZSN	**Zaisan**	**37.37**	**318**	*e*P	**P**	**05 08 18.1**	**+0.3**
ZSN				*e*S	**S**	**05 14 07.3**	**+1.9**
DRS	**Darwin Rock St**	**37.38**	**165**	P	**P**	**05 08 18.6**	**+0.5**
BNDA	**BANDA**	**37.41**	**281**	*e*P	**P**	**05 08 17.9**	**-0.6**
BNDA				IAmb	IAmb	05 08 21.6	
	comp=Z,1μm,1.6s						
SKR	**Severo-Kuril's**	**37.63**	**36**	*e*P	**P**	**05 08 17.7**	**-2.2**
SKR				*e*		05 09 44.1	
SKR				*e*S	**S**	**05 14 01.3**	**-7.8**
SKR				pmax	pmax		
	comp=Z,370nm,1.8s						
SKR				pmax	pmax		
	comp=Z,1μm,5.0s						
SKR				smax	smax		
	comp=E,1μm,10.3s						
SKR				smax	smax		
	comp=N,1μm,14.8s						
SKR				MLR	MLR		
	comp=Z,20μm,17.0s						
JOSI	**Joshimath**	**37.77**	**289**	*e*P	**P**	**05 08 20.7**	**-1.0**
JOSI				IAmb	IAmb	05 08 25.6	
	comp=Z,932nm,1.3s						
MTN	**Manton Dam**	**37.83**	**165**	P	**P**	**05 08 19.7**	**-2.3**
MTN				IAmb	IAmb	05 08 26.0	
	comp=Z,890nm,1.8s						
MTN	**Manton Dam**	**37.83**	**165**	P	**P**	**05 08 19.4**	**-2.6**
	comp=Z,0.0nmcomp=Z,306nm,1.6s						
MTN	**Manton Dam**	**37.83**	**165**	P	**P**	**05 08 19.4**	**-2.6**
MTN	**Manton Dam**	**37.83**	**165**	⇑P	**P**	**05 08 19.0**	**-3.0**
FRKB	**FARRUKHABAD**	**37.90**	**284**	*e*P	**P**	**05 08 22.4**	**-0.2**
FRKB				IAmb	IAmb	05 08 25.2	
	comp=Z,418nm,0.7s						
KDU	**Kakadu**	**38.02**	**163**	P	**P**	**05 08 21.3**	**-2.3**
	comp=Z,0.0nmcomp=Z,126nm,1.0s						
KDU	**Kakadu**	**38.02**	**163**	P	**P**	**05 08 21.7**	**-1.9**
KDU	**Kakadu**	**38.02**	**163**	⇑P	**P**	**05 08 21.1**	**-2.5**
HNLY	**HANLEY**	**38.29**	**293**	*e*P	**P**	**05 08 25.7**	**-0.8**
HNLY				IAmb	IAmb	05 08 31.1	
	comp=Z,324nm,1.3s						
YAK	**Yakutsk**	**38.36**	**6**	P	**P**	**05 08 24.1**	**-1.8**
YAK				IAmb	IAmb	05 08 28.9	
	comp=Z,872nm,1.8s						
YAK	**Yakutsk**	**38.36**	**6**	IAMs_20	IAMs_20	05 25 15.3	
	comp=Z,45μm,20.0s						
YAK	**Yakutsk**	**38.36**	**6**	LR	LR	05 25 32.0	
	comp=Z,42μm,18.6s,baz=186,slow=38						
YAK	**Yakutsk**	**38.36**	**6**	*c i*P	**P**	**05 08 24.2**	**-1.7**
YAK				*e*		05 09 54.8	
YAK				*e*S	**S**	**05 14 17.6**	**-2.3**
YAK				pmax	pmax		
	comp=Z,109nm,1.3s						
YAK				pmax	pmax		
	comp=N,103nm,1.5s						
YAK				pmax	pmax		
	comp=E,33nm,1.5s						
YAK				pmax	pmax		
	comp=Z,830nm,3.7s						
YAK				pmax	pmax		
	comp=E,195nm,2.2s						
YAK				pmax	pmax		
	comp=N,473nm,2.7s						
YAK				smax	smax		
	comp=E,755nm,4.0s						
YAK				smax	smax		
	comp=N,2μm,3.5s						
YAK				MLR	MLR		
	comp=Z,115μm,16.0s						
YAK				MLR	MLR		
	comp=E,48μm,14.0s						
YAK				MLR	MLR		
	comp=N,101μm,15.0s						
TKRD	**Thakurdwara**	**38.42**	**287**	*e*P	**P**	**05 08 25.8**	**-1.1**
MK31	**Makanchi Array**	**38.71**	**316**	*c e*P	**P**	**05 08 29.6**	**+0.4**
MKAR	**Makanchi Array**	**38.71**	**316**	P	**P**	**05 08 29.6**	**+0.4**
MKAR	**Makanchi Array**	**38.71**	**316**	P	**P**	**05 08 29.7**	**+0.5**
	comp=N,371nm,0.9s,baz=101,slow=11,SNR=235						
MKAR				LR	LR	05 26 03.5	
	comp=N,98μm,18.6s,baz=94,slow=39						
	comp=N,371nm,0.9s						
MKAR	**Makanchi Array**	**38.71**	**316**	*i* P	**P**	**05 08 29.7**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,373nm,0.9s						
MAKZ	**Makanchi**	**38.91**	**316**	P	**P**	**05 08 31.5**	**+0.6**
MAKZ				IAmb	IAmb	05 08 35.3	
	comp=Z,558nm,0.9s						
MAKZ	**Makanchi**	**38.91**	**316**	P	**P**	**05 08 31.5**	**+0.6**
MAKZ				pmax	pmax		
	comp=Z,558nm,1.0s						
MAKZ				MLR	MLR		
	comp=Z,143μm,18.0s						
MAKZ	**Makanchi**	**38.91**	**316**	⇑P	**P**	**05 08 31.4**	**+0.6**
JHNI	**Jhansi**	**39.02**	**281**	*e*P	**P**	**05 08 30.9**	**-1.2**
VJD	**Vijayawada**	**39.05**	**267**	*e*P	**P**	**05 08 32.1**	**-0.1**
VJD				IAmb	IAmb	05 08 36.8	
	comp=Z,873nm,2.2s						
DDI	**Dehra Dun**	**39.07**	**289**	*e*P	**P**	**05 08 32.9**	**+0.5**
PATS	**Pohnpei**	**39.12**	**110**	P	**P**	**05 08 31.5**	**-1.4**
PATS				IAMs_20	IAMs_20	05 21 34.8	
	comp=Z,31μm,22.0s						
PATS	**Pohnpei**	**39.12**	**110**	P	**P**	**05 08 32.7**	**-0.3**
	comp=Z,2μm,1.4s						
PATS	**Pohnpei**	**39.12**	**110**	P	**P**	**05 08 35.4**	**+2.5**
WUS	**Wushi**	**39.16**	**306**	P	**P**	**05 08 34.4**	**+1.2**
UGON	**Onchagaon**	**39.30**	**286**	*e*P	**P**	**05 08 30.4**	**-4.0**
UGON				IAmb	IAmb	05 08 36.8	
	comp=Z,1μm,1.3s						
NGP	**Nagpur**	**39.30**	**274**	*e*P	**P**	**05 08 33.6**	**-0.9**
NGP				IAmb	IAmb	05 08 46.4	
	comp=Z,714nm,1.4s						
SHLS	**Shalkode**	**39.45**	**309**	*e*P	**P**	**05 08 33.0**	**-2.6**
SHLS				*e*S	**S**	**05 14 34.3**	**-2.9**
SHLS	**Shalkode**	**39.45**	**309**	*e*P	**P**	**05 08 33.1**	**-2.6**
SHLS				*e*S	**S**	**05 14 34.4**	**-2.9**
PEA0B	**Petropavlovsk-**	**39.75**	**34**	P	**P**	**05 08 37.4**	**-0.4**
PEA0B	**Petropavlovsk-**	**39.75**	**34**	*c e*P	**P**	**05 08 39.0**	**+1.2**
PETK	**Petropavlovsk-**	**39.75**	**34**	P	**P**	**05 08 36.3**	**-1.5**
PETK	**Petropavlovsk-**	**39.75**	**34**	P	**P**	**05 08 36.8**	**-1.0**
	comp=Z,12nm,0.8s,baz=242,slow=7.2,SNR=14						
PETK				PcP	**PcP**	**05 10 44.3**	**+0.3**
	comp=Z,37nm,0.8s,baz=218,slow=3.6,SNR=10.0						
PETK				LR	LR	05 26 08.4	
	comp=Z,23μm,18.5s,baz=227,slow=38						
	comp=Z,12nm,0.8s						
UZB	**Uzynbulak**	**39.76**	**309**	*e*P	**P**	**05 08 38.2**	**0.0**
UZB				*e*S	**S**	**05 14 43.6**	**+1.7**
UZB	**Uzynbulak**	**39.76**	**309**	*e*P	**P**	**05 08 38.3**	**0.0**
UZB				*e*S	**S**	**05 14 43.7**	**+1.7**
SMLA	**Simla**	**39.82**	**290**	*e*P	**P**	**05 08 37.9**	**-0.7**
JMIU	**JAMIA UNIVERSI**	**39.82**	**286**	*e*P	**P**	**05 08 37.3**	**-1.4**
JMIU				IAmb	IAmb	05 08 41.6	
	comp=Z,345nm,0.9s						
NDI	**New Delhi**	**39.88**	**286**	*e*P	**P**	**05 08 38.5**	**-0.7**
LDR	**Lodi Road**	**39.89**	**286**	*e*P	**P**	**05 08 37.9**	**-1.4**
LDR				IAmb	IAmb	05 08 42.1	
	comp=Z,528nm,1.1s						
NPLP	**NPLP New Delhi**	**39.92**	**286**	*e*P	**P**	**05 08 38.2**	**-1.3**
NPLP				IAmb	IAmb	05 08 44.5	
	comp=Z,178nm,0.8s						
AYAN	**Aya Nagar**	**39.97**	**286**	*e*P	**P**	**05 08 38.5**	**-1.4**
SONA	**Sohna**	**40.03**	**286**	*e*P	**P**	**05 08 42.6**	**+2.2**
PRZ	**Przheval'sk**	**40.05**	**308**	P	**P**	**05 08 42.9**	**+2.3**
PRZ				pmax	pmax		
	comp=Z,230nm,2.9s						
KNRA	**Kununurra**	**40.10**	**169**	P	**P**	**05 08 38.5**	**-2.4**
KNRA	**Kununurra**	**40.10**	**169**	P	**P**	**05 08 38.7**	**-2.3**
	comp=Z,0.0nmcomp=Z,174nm,1.2s						
KKR	**Kurukshetra**	**40.15**	**289**	*e*P	**P**	**05 08 41.8**	**+0.3**
SATY	**Saty**	**40.18**	**309**	*e*P	**P**	**05 08 41.6**	**0.0**
SATY				*e*S	**S**	**05 14 49.5**	**+1.4**
SATY	**Saty**	**40.18**	**309**	*e*P	**P**	**05 08 41.6**	**0.0**
SATY				*e*S	**S**	**05 14 49.5**	**+1.4**
ZHN	**Zhinishke**	**40.18**	**309**	*e*P	**P**	**05 08 41.6**	**0.0**
ZHN				*e*S	**S**	**05 14 49.8**	**+1.6**
ZHN				pmax	pmax		
	comp=Z,723nm,2.8s						
ZHN	**Zhinishke**	**40.18**	**309**	*e*P	**P**	**05 08 41.6**	**0.0**
	comp=Z,723nm,2.8s						
ZHN				*e*S	**S**	**05 14 49.8**	**+1.6**
PET	**Petropavlovsk**	**40.20**	**34**	P	**P**	**05 08 40.3**	**-1.2**
PET				IAMs_20	IAMs_20	05 27 09.5	
	comp=Z,34μm,18.0s						
PET	**Petropavlovsk**	**40.20**	**34**	P	**P**	**05 08 41.5**	**+0.1**
PET	**Petropavlovsk**	**40.20**	**34**	*c i*P	**P**	**05 08 39.2**	**-2.2**
PET				*e*		05 10 46.8	
PET				*e*S	**S**	**05 14 39.7**	**-8.1**
PET				pmax	pmax		
	comp=Z,3μm,10.7s						
PET				pmax	pmax		
	comp=Z,2μm,18.3s						
PET				pmax	pmax		
	comp=Z,164nm,1.2s						
PET				smax	smax		
	comp=E,2μm,12.0s						
PET				smax	smax		
	comp=E,2μm,20.5s						
PET				MLR	MLR		
	comp=Z,30μm,17.0s						
PET				MLR	MLR		
	comp=Z,28μm,16.0s						
PET	**Petropavlovsk**	**40.20**	**34**	P	**P**	**05 08 41.2**	**-0.2**
	comp=Z,3μmcomp=Z,149nm,1.4s						
GUNA	**GUNA**	**40.22**	**280**	*e*P	**P**	**05 08 40.9**	**-1.2**
GUNA				IAmb	IAmb	05 08 44.7	
	comp=Z,2μm,2.1s						
TARG	**Taragay, Kyrgy**	**40.31**	**307**	P	**P**	**05 08 44.9**	**+1.8**
TARG				pmax	pmax		
	comp=Z,214nm,2.2s						
BHPL	**Bhopal**	**40.37**	**278**	*e*P	**P**	**05 08 41.2**	**-2.1**
BHK	**Bhakra**	**40.45**	**291**	*e*P	**P**	**05 08 46.7**	**+2.7**
DHRM	**DHARAMSHALA**	**40.54**	**292**	*e*P	**P**	**05 08 42.9**	**-2.0**
RTK	**Rohtak**	**40.56**	**287**	*e*P	**P**	**05 08 43.6**	**-1.1**
RTK				IAmb	IAmb	05 08 49.8	
	comp=Z,3μm,1.4s						
KUDL	**Kundal**	**40.56**	**286**	*e*P	**P**	**05 08 42.6**	**-2.2**
ZAA0	**Zalesovo Array**	**40.57**	**327**	P	**P**	**05 08 44.0**	**-0.5**
ZALV	**Zalesovo Beam**	**40.57**	**327**	P	**P**	**05 08 43.9**	**-0.7**
	comp=Z,216nm,0.8s,baz=116,slow=7.9,SNR=226						
ZALV				LR	LR	05 26 37.2	
	comp=Z,79μm,19.4s,baz=128,slow=38						
	comp=Z,216nm,0.8s						
MDRS	**Chennai**	**40.58**	**262**

comp=Z,33µm,15.0s
MDOK Medeo 41.17 309 *e*P **P 05 08 49.8 0.0**
MDOK *e*S **S 05 15 04.3 +1.4**
MDOK LR LR 05 26 23.3
comp=Z,33µm,14.6s
TNSS Tian-Shan 41.21 309 *e*P **P 05 08 50.2 -0.3**
TNSS Tian-Shan 41.21 309 *e*P **P 05 08 50.2 -0.3**
AAA Alma-Ata 41.27 309 *e*P **P 05 08 50.5 -0.1**
AAA pmax pmax
comp=Z,214nm,1.7s
AAA Alma-Ata 41.27 309 *e*P **P 05 08 50.5 -0.1**
comp=Z,214nm,1.7s
KSH Kashi 41.30 303 P **P 05 08 55.1 +4.1**
KSH sP sP 05 09 05.5 +8.0
KSH PP **PnPn 05 10 37.4 +6.5**
KSH S **S 05 15 11.5 +6.5**
KSH SS **SS 05 18 11.3 +2.8**
KSH pmax pmax
comp=Z,220nm,1.4s
KSH pmax pmax
comp=Z,5µm,5.7s
CHKK Chushkaly 41.37 310 *e*P **P 05 08 51.4 +0.1**
CHKK Chushkaly 41.37 310 *e*P **P 05 08 51.4 +0.1**
ULHL Ulahol 41.56 307 P **P 05 08 54.6 +1.5**
SNR=158
PMG Port Moresby 41.57 140 P **P 05 08 53.6 +0.4**
PMG IAmb IAmb 05 08 57.2
comp=Z,627nm,1.2s
PMG Port Moresby 41.57 140 LR LR 05 25 36.9
comp=Z,16µm,18.7s,baz=302,slow=35
PMG Port Moresby 41.57 140 P **P 05 08 55.6 +2.4**
PMG Port Moresby 41.57 140 P **P 05 08 53.6 +0.4**
PMG pmax pmax
comp=Z,627nm,1.3s
PMG MLR MLR
comp=Z,18µm,18.0s
PMG Port Moresby 41.57 140 ⇑P **P 05 08 54.0 +0.8**
JMU Jammu 41.72 293 *e*P **P 05 08 55.9 +1.6**
SRNI Srinagar 41.77 295 *e*P **P 05 08 53.5 -1.2**
SRNI IAmb IAmb 05 09 14.7
comp=Z,1µm,1.3s
BOOM Boomskoye usch 41.83 307 P **P 05 08 56.5 +1.2**
BOOM pmax pmax
comp=Z,103nm,2.7s
FITZ Fitzroy Crossi 42.08 174 P **P 05 08 55.4 -1.9**
FITZ Fitzroy Crossi 42.08 174 P **P 05 08 55.3 -1.9**
comp=Z,0.0nmcomp=Z,28nm,1.3s
FITZ Fitzroy Crossi 42.08 174 P **P 05 08 57.2 0.0**
FITZ Fitzroy Crossi 42.08 174 ⇓P **P 05 08 55.3 -1.9**
H11N1 WAKE ISLAND Hy 42.10 87 P **P 05 08 59.2 +1.9**
baz=255,slow=8.8,SNR=6.9
H11N2 WAKE ISLAND Hy 42.10 87 P **P 05 08 59.2 +1.9**
baz=255,slow=8.8,SNR=6.5
H11N3 WAKE ISLAND Hy 42.11 87 P **P 05 08 59.6 +2.2**
baz=255,slow=8.8,SNR=7.5
TKM2 Tokmak 2 42.16 308 P **P 05 08 59.5 +1.5**
SNR=158
TKM2 Tokmak 2 42.16 308 *i* P **P 05 08 59.6 +1.6**
TKM2 pmax pmax
comp=Z,206nm,1.1s
MALK Mahakanadarawa 42.21 255 P **P 05 08 58.8 +0.2**
MALK Mahakanadarawa 42.21 255 ⇑P **P 05 08 59.9 +1.4**
H11S3 WAKE ISLAND Hy 42.22 89 P **P 05 09 00.0 +1.7**
baz=291,slow=6.7,SNR=4.5
H11S1 WAKE ISLAND Hy 42.23 89 P **P 05 09 00.5 +2.0**
baz=291,slow=6.7,SNR=4.1
H11S2 WAKE ISLAND Hy 42.24 89 P **P 05 09 00.5 +2.0**
baz=291,slow=6.7,SNR=2.9
AJM Ajmer 42.37 284 *e*P **P 05 08 59.0 -0.8**
KURK Kurchatov 42.45 320 P **P 05 08 59.9 0.0**
KURK IAmb IAmb 05 09 03.9
comp=Z,448nm,1.2s
KURK Kurchatov 42.45 320 IAMs_20 IAMs_20 05 28 44.9
comp=Z,32µm,18.0s
KURK Kurchatov 42.45 320 P **P 05 09 00.6 +0.6**
KURK P **P 05 09 00.6 +0.6**
KURK Kurchatov 42.45 320 *ce*P **P 05 08 59.7 -0.3**
KURK pmax pmax
comp=Z,956nm,2.5s
KURK MLR MLR
comp=Z,40µm,15.0s
KURK Kurchatov 42.45 320 ⇑P **P 05 09 00.1 +0.1**
KURBB Kurchatov Arra 42.46 320 P **P 05 09 00.1 0.0**
comp=Z,134nm,0.9s,baz=112,slow=7.8,SNR=156
KURBB PP **PP 05 10 41.2 +2.7**
comp=Z,35nm,1.0s,baz=113,slow=12,SNR=5.0
KURBB LR LR 05 28 56.1
comp=Z,35µm,18.5s,baz=116,slow=39
KURBB PKPPKP **P'P'df 05 41 02.4 -4.8**
comp=Z,1.4nm,1.0s,baz=262,slow=3.2,SNR=4.9
comp=Z,134nm,0.9s
KURBB Kurchatov Arra 42.46 320 P **P 05 09 00.4 +0.3**
KBK Karagaybulak 42.58 308 P **P 05 09 03.1 +1.8**
SNR=55
PALK Pallekele 42.58 254 P **P 05 09 01.6 0.0**
PALK Pallekele 42.58 254 P **P 05 09 03.2 +1.7**
comp=Z,37nm,1.1s,baz=57,slow=8.6,SNR=22
PALK LR LR 05 28 32.0
comp=Z,9µm,18.9s,baz=56,slow=39
comp=Z,37nm,1.1s
PALK Pallekele 42.58 254 P **P 05 09 03.4 +1.8**
PALK Pallekele 42.58 254 P **P 05 09 01.6 0.0**
PALK pmax pmax
comp=Z,366nm,1.9s
PALK MLR MLR
comp=Z,10µm,20.0s
PALK Pallekele 42.58 254 ⇑P **P 05 09 03.3 +1.7**
PALK Pallekele 42.58 254 P **P 05 09 03.4 +1.8**
PALK S **S 05 15 27.8 +3.6**
SRGN SRI GANGA NAGA 42.70 289 *e*P **P 05 09 02.5 +0.2**
SRGN IAmb IAmb 05 09 06.8
comp=Z,1µm,1.1s
CHMS Chumysh 42.78 308 P **P 05 09 06.0 +3.1**
SNR=43
UCH Uchtor 42.82 307 P **P 05 09 05.0 +1.3**
SNR=40
ARLS Aral 42.90 306 P **P 05 09 05.8 +1.8**
ARLS pmax pmax
comp=Z,286nm,1.5s
AAK Ala-Archa 42.90 307 P **P 05 09 05.3 +1.3**
AAK Ala-Archa 42.90 307 LR LR 05 29 42.8
comp=Z,47µm,19.3s,baz=92,slow=40
AAK Ala-Archa 42.90 307 P **P 05 09 05.5 +1.4**
AAK P **P 05 09 05.5 +1.4**
AAK Ala-Archa 42.90 307 P **P 05 09 05.4 +1.4**
SNR=51
AAK Ala-Archa 42.90 307 *ce*P **P 05 09 05.3 +1.3**
AAK pmax pmax
comp=Z,305nm,2.5s
AAK Ala-Archa 42.90 307 *i* P **P 05 09 05.4 +1.4**
SNR=60
AAK Ala-Archa 42.90 307 ⇑P **P 05 09 05.3 +1.3**
AAK Ala-Archa 42.90 307 P **P 05 09 05.3 +1.3**
SGDS Sogindy 42.95 309 *e*P **P 05 09 04.4 +0.1**
SGDS *e*S **S 05 15 30.8 +1.7**
SGDS Sogindy 42.95 309 *e*P **P 05 09 04.5 +0.1**
SGDS *e*S **S 05 15 30.9 +1.7**
SALM Salem 42.96 261 *e*P **P 05 09 03.0 -1.5**
USP Ospenovka 43.01 308 P **P 05 09 07.8 +3.0**
SNR=68
NIL Nilore 43.10 294 P **P 05 09 05.8 +0.2**
NIL IAmb IAmb 05 09 10.1
comp=Z,565nm,1.4s
NIL Nilore 43.10 294 P **P 05 09 06.8 +1.2**
NIL Nilore 43.10 294 P **P 05 09 05.8 +0.2**
NIL pmax pmax
comp=Z,565nm,1.4s
NIL MLR MLR
comp=Z,55µm,18.0s
HALK Hakmana 43.16 252 ⇑P **P 05 09 07.8 +1.6**
COEN Coen 43.25 149 P **P 05 09 06.7 -0.2**
COEN IAmb IAmb 05 09 14.5
comp=Z,908nm,1.2s
COEN IAMs_20 IAMs_20 05 27 17.2
comp=Z,25µm,20.0s
COEN Coen 43.25 149 P **P 05 09 07.9 +1.0**
comp=Z,717nm,1.2s
COEN Coen 43.25 149 P **P 05 09 08.9 +2.0**
COEN Coen 43.25 149 ⇑P **P 05 09 07.2 +3.0**
BKNR BIKANER 43.40 286 *e*P **P 05 09 05.5 -2.5**
BKNR IAmb IAmb 05 09 18.2
comp=Z,2µm,2.1s
AML Almayashu 43.40 307 P **P 05 09 09.9 +1.6**
SNR=187
COCO West Island 43.41 217 P **P 05 12 6 +4.5**

COCO West Island 43.41 217 P **P 05 09 08.3 +0.2**
COCO pmax pmax
comp=Z,333nm,1.3s
EKS2 Erkin-Say 43.43 307 P **P 05 09 09.4 +1.2**
SNR=65
ARSB Arslanbob 43.81 305 IAmb IAmb 05 09 24.5
comp=Z,572nm,1.8s
OHH Osh 43.86 304 P **P 05 09 13.2 +1.5**
OHH pmax pmax
comp=Z,506nm,1.7s
SEY Seymchan 43.97 20 LR LR 05 27 56.9
comp=Z,17µm,18.3s,baz=221,slow=37
SEY Seymchan 43.97 20 *ce*P **P 05 09 11.5 -0.6**
SEY pmax pmax
comp=Z,277nm,2.5s
SEY MLR MLR
comp=Z,20µm,15.0s
KOD Kodaikanal 44.18 260 *e*P **P 05 09 17.4 +2.6**
DRK Karamyk 44.51 302 P **P 05 09 18.5 +1.3**
KAD Karad 44.72 271 *e*P **P 05 09 19.8 +1.0**
MBWA Marble Bar 44.98 182 P **P 05 09 18.5 -2.0**
MBWA IAmb IAmb 05 09 25.3
comp=Z,296nm,1.1s
MBWA Marble Bar 44.98 182 P **P 05 09 18.2 -2.4**
comp=Z,0.0nmcomp=Z,320nm,1.2s
MBWA Marble Bar 44.98 182 P **P 05 09 20.5 -0.1**
MBWA Marble Bar 44.98 182 ⇓P **P 05 09 18.9 -1.7**
TRKS Terek-Say 45.21 305 P **P 05 09 23.7 +1.1**
TRKS pmax pmax
comp=Z,150nm,1.6s
DZA Taraz 45.24 307 *e*P **P 05 09 22.5 -0.1**
DZA pmax pmax
comp=Z,263nm,2.2s
DZA Taraz 45.24 307 *e*P **P 05 09 22.5 -0.1**
comp=Z,263nm,2.2s
WB0 Warramunga Arr 45.30 163 P **P 05 09 21.7 -1.4**
WB0 IAmb IAmb 05 09 25.3
comp=Z,596nm,1.6s
BTK Batken 45.31 303 P **P 05 09 24.4 +1.1**
BTK pmax pmax
comp=Z,155nm,2.5s
TRD Trivandrum 45.35 258 *e*P **P 05 09 24.4 +0.6**
PSA00 Pilbara Seismi 45.38 182 P **P 05 09 21.8 -2.1**
PSA00 Pilbara Seismi 45.38 182 P **P 05 09 21.7 -2.1**
comp=Z,512nm,1.5s
PSA00 Pilbara Seismi 45.38 182 P **P 05 09 22.3 -1.5**
WRAB Tennant Creek 45.45 163 P **P 05 09 22.9 -1.4**
WRAB IAmb IAmb 05 09 26.5
comp=Z,621nm,1.6s
WRAB Tennant Creek 45.45 163 P **P 05 09 22.9 -1.4**
WRAB pmax pmax
comp=Z,621nm,1.7s
WRA Warramunga Arr 45.45 163 P **P 05 09 23.1 -1.4**
WRA Warramunga Arr 45.45 163 P **P 05 09 23.6 -0.9**
comp=Z,88nm,0.7s,baz=344,slow=8.4,SNR=83
WRA PKPPKP P'P'df 05 40 41.8 -10
comp=Z,2.1nm,1.0s,baz=116,slow=2.0,SNR=6.8
comp=Z,88nm,0.7s
WRA Warramunga Arr 45.45 163 *i* P **P 05 09 23.0 -1.4**
WRA pmax pmax
comp=Z,93nm,0.7s
WB2 Warramunga Arr 45.46 163 P **P 05 09 23.2 -1.2**
WB2 IAmb IAmb 05 09 26.6
comp=Z,751nm,1.6s
WR8 Warramunga Arr 45.51 163 IAmb IAmb 05 09 27.1
comp=Z,712nm,1.7s
GAR Garm 45.62 302 IAmb IAmb 05 09 30.5
comp=Z,566nm,1.0s
BRZS Berezniki 45.80 317 *e*P **P 05 09 27.1 +0.2**
BRZS *e*S **S 05 16 11.9 +1.7**
BRZS pmax pmax
comp=Z,364nm,3.0s
BRZS Berezniki 45.80 317 *e*P **P 05 09 27.1 +0.2**
comp=Z,364nm,3.0s
BRZS *e*S **S 05 16 11.9 +1.7**
KK31 Karatay Array 45.87 307 P **P 05 09 28.3 +0.7**
KK31 Karatay Array 45.87 307 *e*P **P 05 09 28.6 +1.0**
KKAR Karatay Array 45.87 307 P **P 05 09 28.0 +0.4**
KKAR Karatay Array 45.87 307 P **P 05 09 28.0 +0.4**
KKAR Karatay Array 45.87 307 ⇑P **P 05 09 28.2 +0.7**
IUG Iuzhnay 46.10 306 *e*P **P 05 09 29.5 0.0**
IUG Iuzhnay 46.10 306 *e*P **P 05 09 29.6 0.0**
BRLS Borolday 46.35 307 *e*P **P 05 09 32.1 +0.7**
BRLS *e*S **S 05 16 21.1 +2.8**
BRLS Borolday 46.35 307 *e*P **P 05 09 32.1 +0.7**
BRLS *e*S **S 05 16 21.1 +2.8**
KBU Kabul Universi 46.50 295 P **P 05 09 33.8 +0.9**
KBL Kabul 46.58 295 P **P 05 09 33.9 +0.4**
KBL IAmb IAmb 05 09 38.5
comp=Z,555nm,1.2s
KBL Kabul 46.58 295 P **P 05 09 34.8 +1.3**
SNR=231
KBL P **P 05 09 34.8 +1.3**
SNR=231
KBL Kabul 46.58 295 P **P 05 09 33.9 +0.4**
KBL pmax pmax
comp=Z,555nm,1.2s
SIMJ Simiganj 46.63 301 P **P 05 09 34.0 +0.3**
SIMJ IAmb IAmb 05 09 37.5
comp=Z,660nm,1.9s
DZET Dzherino 46.77 301 P **P 05 09 35.9 +1.0**
DZET pmax pmax
comp=Z,301nm,1.4s
GIRL Giralia 46.97 189 P **P 05 09 38.6 +2.3**
GIRL Giralia 46.97 189 ⇓P **P 05 09 36.9 +0.7**
BHUJ Bhuj 47.38 280 *e*P **P 05 09 40.2 +0.5**
MTSU Mount Surprise 47.42 150 P **P 05 09 42.0 +2.1**
QIS Mount Isa 47.68 157 P **P 05 09 41.7 -0.2**
TIXI Tiksi 47.80 3 P **P 05 09 40.6 -1.6**
TIXI Tiksi 47.80 3 LR LR 05 31 48.5
comp=Z,54µm,18.4s,baz=196,slow=39
TIXI Tiksi 47.80 3 *ce*P **P 05 09 40.2 -2.0**
TIXI pmax pmax
comp=Z,616nm,1.3s
TIXI MLR MLR
comp=Z,74µm,15.0s
TIXI Tiksi 47.80 3 ⇑P **P 05 09 40.3 -2.0**
BVA0 Borovoye Array 48.03 321 *i* P **P 05 09 45.1 +0.8**
BVAR Borovoye Array 48.03 321 P **P 05 09 44.3 0.0**
comp=Z,50nm,0.6s,baz=112,slow=7.9,SNR=178
BVAR LR LR 05 33 11.4
comp=Z,15µm,19.3s,baz=91,slow=40
comp=Z,50nm,0.6s
BRVK Borovoye 48.10 321 P **P 05 09 44.9 +0.1**
BRVK IAmb IAmb 05 10 06.3
comp=Z,322nm,1.2s
BRVK Borovoye 48.10 321 P **P 05 09 45.4 +0.6**
BRVK P **P 05 09 45.4 +0.6**
BRVK Borovoye 48.10 321 P **P 05 09 44.9 +0.1**
BRVK pmax pmax
comp=Z,322nm,1.3s
SHEM Shemya Is, Ala 48.67 40 P **P 05 09 48.2 -1.0**
comp=Z,206nm,1.2s,baz=304,slow=6.0,SNR=4.8
SHEM PcP **PcP 05 11 15.3 +0.9**
comp=Z,143nm,0.8s,baz=360,slow=3.7,SNR=6.6
SHEM LR LR 05 32 09.4
comp=Z,5µm,18.9s,baz=255,slow=38
comp=Z,206nm,1.2s
SMY Shemya 48.67 40 P **P 05 09 51.5 +2.3**
AS31 Alice Springs 48.91 165 P **P 05 09 50.8 -0.6**
AS31 Alice Springs 48.91 165 P **P 05 09 50.6 -0.8**
comp=Z,28nm,0.9s
AS04 Alice Springs 48.91 165 P **P 05 09 50.5 -0.9**
comp=Z,129nm,1.2s
AS12 Alice Springs 48.91 165 P **P 05 09 50.9 -0.5**
comp=Z,117nm,1.1s
ASAR Alice Springs 48.91 165 P **P 05 09 50.7 -0.7**
comp=Z,171nm,1.1s,baz=341,slow=6.1,SNR=80
ASAR LR LR 05 32 01.3
comp=Z,6µm,20.2s,baz=351,slow=38
ASAR PKPPKP **P'P'df 05 40 54.7 +7.5**
comp=Z,1.5nm,0.8s,baz=136,slow=3.1,SNR=4.5
comp=Z,171nm,1.1s
AS01 Alice Springs 48.92 165 P **P 05 09 52.9 +1.5**
WRKA Warakurna 49.23 172 P **P 05 09 52.1 -1.6**
comp=Z,0.0nmcomp=Z,208nm,1.3s
WRKA Warakurna 49.23 172 P **P 05 09 54.6 +0.8**
WRKA Warakurna 49.23 172 ⇑P **P 05 09 52.5 -1.3**
TATA Tatamba Isabel 49.29 126 P **P 05 09 58.1 +3.7**
TV1H Townsville Har 49.56 148 P **P 05 09 59.5 +3.2**
NRIK Noril'sk 49.63 345 P **P 05 09 54.8 -1.5**
NRIK IAmb IAmb 05 09 57.5
comp=Z,218nm,1.1s
NRIK Noril'sk 49.63 345 P **P 05 09 54.9 -1.5**
comp=Z,209nm,1.2s,baz=127,slow=7.2,SNR=121

NRIK LR LR 05 32 31.9
comp=Z,35µm,20.4s,baz=144,slow=38
comp=Z,209nm,1.2s
NRIK Noril'sk 49.63 345 *ce*P **P 05 09 54.8 -1.5**
NRIK pmax pmax
comp=Z,172nm,1.1s
SAVO Savo Central 49.80 127 P **P 05 10 00.1 +1.8**
HNR Honiara 50.09 127 LR LR 05 29 36.3
comp=Z,10µm,19.9s,baz=294,slow=34
HNR Honiara 50.09 127 P **P 05 10 03.1 +2.6**
HNR Honiara 50.09 127 P **P 05 10 00.5 0.0**
HNR pmax pmax
comp=Z,564nm,1.2s
ALEG Aligegeo Malai 50.19 126 P **P 05 10 03.7 +2.4**
MEEK Meekatharra 50.48 183 P **P 05 10 01.0 -2.2**
comp=Z,0.0nmcomp=Z,176nm,1.4s
MEEK Meekatharra 50.48 183 P **P 05 10 04.3 +1.1**
NGOA Tingoa Renbel 51.61 129 P **P 05 10 15.2 +3.3**
BILL Bilibino 51.67 20 P **P 05 10 10.6 -1.1**
BILL IAmb IAmb 05 10 13.3
comp=Z,586nm,1.8s
BILL IAMs_20 IAMs_20 05 32 53.4
comp=Z,20µm,18.0s
BILL Bilibino 51.67 20 *ce*P **P 05 10 10.5 -1.2**
BILL pmax pmax
comp=Z,66nm,1.0s
BILL MLR MLR
comp=Z,20µm,17.0s
HRA Herat 52.19 296 P **P 05 10 16.7 +0.3**
KAAM Kaadhehdhoo 52.58 251 IAMs_20 IAMs_20 05 30 40.4
comp=Z,20µm,22.0s
MORW Morawa 53.09 186 P **P 05 10 22.1 -0.6**
comp=Z,0.0nmcomp=Z,167nm,1.1s
MORW Morawa 53.09 186 P **P 05 10 23.3 +0.6**
MORW Morawa 53.09 186 ⇓P **P 05 10 21.2 -1.5**
OOD Oodnadatta 53.30 164 P **P 05 10 24.7 +0.5**
AB31 Akbulak array 53.82 314 IAmb IAmb 05 10 32.3
comp=Z,620nm,1.7s
AB31 Akbulak array 53.82 314 *i* P **P 05 10 28.2 +0.3**
ABKAR Akbulak array 53.82 314 P **P 05 10 28.2 +0.3**
ABKAR Akbulak array 53.82 314 ⇑P **P 05 10 28.4 +0.5**
SVE Sverdlovsk 54.38 324 *de*P **P 05 10 32.0 +0.1**
SVE *e*PPP PPP 05 13 51.6
SVE *e*S **S 05 18 09.6 -0.1**
SVE *e*SS **SS 05 21 47.6 -4.0**
SVE pmax pmax
comp=Z,504nm,1.5s
SVE pmax pmax
comp=Z,2µm,13.3s
SVE MLR MLR
comp=N,21µm,16.0s
SVE MLR MLR
comp=Z,69µm,15.0s
SVE MLR MLR
comp=E,51µm,15.0s
MIDW Midway 54.44 72 P **P 05 10 36.6 +3.9**
GSTR Great Sitkin T 54.48 42 P **P 05 10 32.9 +0.2**
NGCH Negor - Chabah 54.54 285 P **P 05 10 36.1 +2.6**
SNR=11
BLDU Ballidu 54.56 185 P **P 05 10 31.8 -1.6**
comp=Z,116nm,1.1s
BLDU Ballidu 54.56 185 P **P 05 10 36.7 +3.3**
INKA Innaminka 54.70 159 P **P 05 10 37.0 +2.6**
RK1H Rockhampton Ha 54.86 147 P **P 05 10 38.4 +2.7**
FORT Forrest 54.87 173 P **P 05 10 34.9 -0.8**
FORT IAmb IAmb 05 10 41.5
comp=Z,322nm,0.8s
FORT Forrest 54.87 173 P **P 05 10 34.7 -0.9**
comp=Z,0.0nmcomp=Z,471nm,1.1s
FORT Forrest 54.87 173 P **P 05 10 38.2 +2.6**
FORT Forrest 54.87 173 ⇑P **P 05 10 34.7 -0.9**
QLP Quilpie 54.88 155 P **P 05 10 36.0 +0.3**
comp=Z,0.0nmcomp=Z,179nm,1.4s
QLP Quilpie 54.88 155 P **P 05 10 38.5 +2.7**
QLP Quilpie 54.88 155 ⇓P **P 05 10 36.1 +0.3**
KMBL Kambalda 55.11 180 P **P 05 10 36.3 -1.1**
comp=Z,149nm,1.2s
KMBL Kambalda 55.11 180 P **P 05 10 39.5 +2.1**
AKTO Aktyubinsk 55.15 316 LR LR 05 35 49.5
comp=Z,57µm,20.5s,baz=102,slow=38
AKTO Aktyubinsk 55.15 316 P **P 05 10 39.0 +1.4**
LUES Luesalemba Tem 55.34 123 P **P 05 10 43.3 +3.9**
KLBR Kellerberrin 55.45 184 P **P 05 10 38.0 -1.8**
comp=Z,320nm,0.9s
KLBR Kellerberrin 55.45 184 P **P 05 10 42.4 +2.5**
ARTI Arti 55.54 323 P **P 05 10 39.6 -0.7**
ARTI IAmb IAmb 05 10 45.2
comp=Z,227nm,1.2s
ARTI IAMs_20 IAMs_20 05 37 13.8
comp=Z,27µm,19.0s
ARTI Arti 55.54 323 LR LR 05 36 47.6
comp=Z,24µm,19.1s,baz=101,slow=39
ARTI Arti 55.54 323 *c i* P **P 05 10 39.6 -0.7**
ARTI 05 11 41.9
ARTI 05 12 43.3
ARTI S **S 05 18 25.9 +0.7**
ARTI 05 20 23.3
ARTI SS **SS 05 22 09.9 0.0**
ARTI SSS SSS 05 24 19.3
ARTI pmax pmax
comp=Z,344nm,1.5s
ARTI MLR MLR
comp=Z,25µm,15.0s
ARTI Arti 55.54 323 ⇑P **P 05 10 39.6 -0.7**
GD1S Gladstone Soft 55.58 147 P **P 05 10 44.9 +4.0**
ATKA Atka Island 55.63 42 P **P 05 10 41.3 +0.3**
ATKA Atka Island 55.63 42 ⇑P **P 05 10 38.9 -2.1**
MTKN Mount Kenneth 55.95 186 P **P 05 10 46.6 +3.2**
MUN Mundaring 55.96 186 P **P 05 10 43.9 +0.4**
comp=Z,0.0nmcomp=Z,151nm,1.1s
MUN Mundaring 55.96 186 P **P 05 10 44.8 +1.3**
MUN Mundaring 55.96 186 P **P 05 10 44.4 +0.9**
LCRK Leigh Creek 56.48 163 P **P 05 10 49.2 +2.0**
EIDS Eidsvold 56.81 148 P **P 05 10 48.9 -0.8**
EIDS Eidsvold 56.81 148 P **P 05 10 50.8 +1.1**
comp=Z,0.0nmcomp=Z,133nm,2.3s
EIDS Eidsvold 56.81 148 P **P 05 10 52.2 +2.5**
EIDS Eidsvold 56.81 148 ⇑P **P 05 10 50.2 +0.5**
NWAO Narrogin (SRO) 56.82 184 P **P 05 10 48.7 -0.9**
NWAO IAmb IAmb 05 10 52.5
comp=Z,523nm,1.2s
NWAO Narrogin (SRO) 56.82 184 P **P 05 10 48.3 -1.3**
NWAO Narrogin (SRO) 56.82 184 LR LR 05 36 42.1
comp=Z,2µm,20.6s,baz=9.5,slow=38
NWAO Narrogin (SRO) 56.82 184 P **P 05 10 50.9 +1.3**
NWAO Narrogin (SRO) 56.82 184 P **P 05 10 48.7 -0.9**
NWAO pmax pmax
comp=Z,523nm,1.3s
JLN Jalan Bani Buh 56.83 282 P **P 05 10 51.2 +1.2**
JLN P **P 05 10 51.2 +1.2**
SNR=21
JLN P **P 05 10 51.2 +1.2**
JLN P **P 05 10 51.2 +1.2**
SNR=21
WBK Wadi Bani Khal 57.11 282 P **P 05 10 54.5 +2.5**
SNR=28
WSAR Wadi Sarin 57.25 283 LR LR 05 37 41.2
comp=Z,144nm,20.4s,baz=106,slow=38
WSAR Wadi Sarin 57.25 283 P **P 05 10 54.6 +1.6**
SNR=26
DGAR Diego Garcia 57.26 243 IAMs_20 IAMs_20 05 37 31.6
comp=Z,20µm,18.0s
BIDO Bidbid 57.63 283 P **P 05 10 58.5 +2.8**
SNR=55
BIDO P **pP 05 10 58.8 -1.7**
SMDO Samad 57.82 283 P **P 05 10 58.7 +1.6**
SNR=36
SMDO P **P 05 10 58.7 +1.6**
SNR=36
JMDO Jabal Madar 57.95 282 P **P 05 11 00.1 +2.1**
JMDO P **P 05 11 00.1 +2.1**
JMDO P **P 05 11 00.1 +2.1**
SNR=21
JMDO P **P 05 11 00.1 +2.1**
SNR=21
BBOO Buckleboo 58.20 166 P **P 05 10 58.6 -0.7**
BBOO IAmb IAmb 05 11 01.7
comp=Z,534nm,1.6s
BBOO Buckleboo 58.20 166 P **P 05 10 57.8 -1.5**
comp=Z,0.0nmcomp=Z,192nm,1.5s
BBOO Buckleboo 58.20 166 P **P 05 11 00.5 +1.2**
SPIA Saint Paul Isl 58.31 36 P **P 05 11 01.7 +1.8**
SPIA Saint Paul Isl 58.31 36 P **P 05 11 00.2 +0.4**
baz=266
HOQ Hoqain 58.34 284 P **P 05 11 03.2 +2.5**

SNR=51
HOQ P **P** **05 11 03.2 +2.5**
SNR=51
GAMB Gambell 58.41 29 P **P** **05 10 59.9 -0.5**
GAMB IAmb IAmb 05 11 02.9
comp=Z,362nm,1.4s
GAMB Gambell 58.41 29 P **P** **05 11 00.6 +0.2**
baz=260,SNR=23
GAMB S **S** **05 19 02.7 0.0**
baz=260
GAMB Gambell 58.41 29 ⇑P **P** **05 11 00.1 -0.3**
MHTO MHTO 58.44 281 P **P** **05 11 02.1 +0.8**
SNR=28
MHTO P **P** **05 11 02.1 +0.8**
SNR=28
RKGY Rocky Gully 58.51 184 P **P** **05 11 01.5 +0.1**
comp=Z,101nm,1.2s
P08K Saint George I 58.65 37 IAmb IAmb 05 11 04.6
comp=Z,313nm,1.0s
P08K Saint George I 58.65 37 P **P** **05 11 02.3 0.0**
baz=266
BSY Bisya 58.66 283 P **P** **05 11 05.1 +2.1**
SNR=35
BANOM Banah 58.67 287 P **P** **05 11 05.5 +2.5**
BANOM P **P** **05 11 05.5 +2.5**
BANOM Banah 58.67 287 *i* P **P** **05 11 03.8 +0.8**
SNR=26
WHYH Whyalla 58.77 164 P **P** **05 11 05.0 +1.7**
SHME Shamm 58.78 287 P **P** **05 11 06.9 +3.2**
SNR=15
SHME P **P** **05 11 06.9 +3.2**
SNR=15
SHME Shamm 58.78 287 *i* P **P** **05 11 04.5 +0.8**
SNR=38
STKA Stephens Creek 58.80 160 P **P** **05 11 02.4 -1.2**
comp=Z,0.0nmcomp=Z,358nm,1.1s
STKA Stephens Creek 58.80 160 P **P** **05 11 03.1 -0.5**
comp=Z,42nm,0.6s,baz=338,slow=6.8,SNR=43
STKA LR LR 05 36 42.4
comp=Z,5μm,21.7s,baz=337,slow=36
comp=Z,42nm,0.6s
STKA Stephens Creek 58.80 160 P **P** **05 11 03.5 -0.1**
MDH Madha 58.82 286 P **P** **05 11 06.0 +2.1**
SNR=9.4
MDH P **P** **05 11 06.0 +2.1**
SNR=9.4
MDH Madha 58.82 286 *i* P **P** **05 11 03.8 -0.2**
SNR=18
SOHO SOHO 58.89 285 P **P** **05 11 06.8 +2.3**
SOHO P **P** **05 11 06.8 +2.3**
SOHO SOHO 58.89 285 *i* P **P** **05 11 04.2 -0.3**
SNR=36
MASF Masafi 58.92 286 P **P** **05 11 06.0 +1.2**
SNR=10.0
NIKH Nikolski High 58.92 41 P **P** **05 11 02.3 -1.9**
NIKH IAmb IAmb 05 11 55.3
comp=Z,174nm,1.0s
NIKH Nikolski High 58.92 41 P **P** **05 11 05.3 +1.1**
NIKH Nikolski High 58.92 41 P **P** **05 11 02.8 -1.5**
baz=269
MSFE Esma-Masafi 58.92 286 *i* P **P** **05 11 05.2 +0.4**
SNR=32
UOSS Minazif 58.98 286 IAMs_20 IAMs_20 05 39 59.2
comp=Z,21μm,22.0s
UOSS Minazif 58.98 286 P **P** **05 11 07.0 +1.9**
UOSS Minazif 58.98 286 *i* P **P** **05 11 04.8 -0.4**
SNR=24
UOSS Minazif 58.98 286 P **P** **05 11 05.1 -0.1**
HATD Hatta, Dubai 59.08 285 P **P** **05 11 09.0 +3.2**
SNR=11
HATD P **P** **05 11 09.0 +3.2**
SNR=11
HATD Hatta, Dubai 59.08 285 *i* P **P** **05 11 06.2 +0.3**
SNR=31
ARQ Araqi 59.10 284 P **P** **05 11 07.2 +1.1**
SNR=38
ARQ P **P** **05 11 07.2 +1.1**
SNR=38
DQM DQM 59.12 280 P **P** **05 11 07.4 +1.3**
SNR=13
ASHO Ashiyiah 59.18 285 P **P** **05 11 08.5 +1.9**
SNR=7.4
ASHO Ashiyiah 59.18 285 *i* P **P** **05 11 06.8 +0.3**
SNR=20
UMQ Umm Al-Quwin 59.32 286 *i* P **P** **05 11 08.6 +1.1**
SNR=15
NAZ Nazwa, Dubai 59.45 286 P **P** **05 11 11.2 +2.8**
SNR=10
NAZ P **P** **05 11 11.2 +2.8**
SNR=10
NAZ Nazwa, Dubai 59.45 286 *i* P **P** **05 11 08.7 +0.3**
SNR=24
HTT Hallett 59.49 163 P **P** **05 11 08.0 -0.3**
comp=Z,28nm,1.5s
HTT Hallett 59.49 163 P **P** **05 11 10.1 +1.7**
HTT Hallett 59.49 163 P **P** **05 11 09.5 +1.1**
HTT Hallett 59.49 163 ⇓P **P** **05 11 08.4 0.0**
FAQ Al Faqa, Dubai 59.57 286 P **P** **05 11 08.3 -0.9**
SNR=20
FAQ P **P** **05 11 08.3 -0.9**
SNR=20
FAQ Al Faqa, Dubai 59.57 286 *i* P **P** **05 11 09.7 +0.5**
SNR=27
ALNE Al Ain 59.60 285 P **P** **05 11 12.3 +2.8**
SNR=39
ALNE P **P** **05 11 12.3 +2.8**
SNR=39
ALNE Al Ain 59.60 285 *i* P **P** **05 11 10.0 +0.5**
SNR=13
ASUD Al Ashush, Dub 59.84 285 P **P** **05 11 14.0 +3.0**
SNR=37
ASUD P **P** **05 11 14.0 +3.0**
SNR=37
ASUD Al Ashush, Dub 59.84 285 *i* P **P** **05 11 12.1 +1.0**
SNR=28
CMSA Cobar Meteorol 59.88 156 P **P** **05 11 12.2 +1.1**
comp=Z,0.0nmcomp=Z,130nm,1.1s
CMSA Cobar Meteorol 59.88 156 P **P** **05 11 12.8 +1.7**
VLAKA Lakatoro 59.94 127 P **P** **05 11 14.3 +2.6**
AJN Ajban 60.15 285 *i* P **P** **05 11 13.4 +0.2**
SNR=43
TNA Tin City 60.28 27 IAMs_20 IAMs_20 05 37 38.1
comp=Z,11μm,18.0s
TNA Tin City 60.28 27 P **P** **05 11 13.4 0.0**
baz=263
UNV Unalaska Valle 60.33 40 P **P** **05 11 12.1 -1.9**
UNV Unalaska Valle 60.33 40 P **P** **05 11 11.8 -2.1**
baz=271
KIRV Kirov 60.55 325 LR LR 05 39 24.6
comp=Z,47μm,18.5s,baz=95,slow=38
KIRV Kirov 60.55 325 *i* P **P** **05 11 13.7 -1.6**
M11K Mekoryuk 60.61 33 P **P** **05 11 16.3 +0.7**
baz=267,SNR=8.8
M11K S **S** **05 19 33.4 +2.1**
baz=267
KOUNC Koumac, New Ca 60.76 133 P **P** **05 11 19.8 +2.6**
KOUNC Koumac, New Ca 60.76 133 ⇑P **P** **05 11 17.7 +0.5**
F14K Arctic Creek 60.93 27 P **P** **05 11 18.3 +0.5**
baz=264,SNR=30
F14K S **S** **05 19 35.6 +0.3**
baz=264
ANM Nome 61.25 28 P **P** **05 11 20.2 +0.1**
baz=266,SNR=45
ANM S **S** **05 19 40.6 +1.2**
baz=266
ARMA Armidale 61.34 151 P **P** **05 11 21.4 +0.3**
ARMA IAMs_20 IAMs_20 05 36 07.4
comp=Z,11μm,20.0s
ARMA Armidale 61.34 151 P **P** **05 11 21.4 +0.3**
comp=Z,0.0nmcomp=Z,66nm,1.2s
ARMA Armidale 61.34 151 P **P** **05 11 24.4 +3.3**
K13K Kusilvak Mount 61.43 31 IAmb IAmb 05 11 24.0
comp=Z,598nm,1.6s
K13K IAMs_20 IAMs_20 05 37 25.2
comp=Z,12μm,21.0s
K13K Kusilvak Mount 61.43 31 P **P** **05 11 21.4 +0.2**
baz=268,SNR=50
K13K S **S** **05 19 42.6 +1.0**
baz=268
C16K Lisburne Hills 61.61 24 P **P** **05 11 21.4 -1.0**
C16K IAmb IAmb 05 11 24.4
comp=Z,192nm,1.1s
C16K IAMs_20 IAMs_20 05 38 46.6
comp=Z,16μm,19.0s
C16K Lisburne Hills 61.61 24 P **P** **05 11 22.0 -0.3**
baz=264,SNR=25
C16K S **S** **05 19 41.3 -2.5**
baz=264
F15K North Star Dit 61.65 27 IAmb IAmb 05 11 25.5
comp=Z,336nm,1.3s
F15K IAMs_20 IAMs_20 05 40 02.0
comp=Z,12μm,19.0s
F15K North Star Dit 61.65 27 P **P** **05 11 22.9 +0.2**
baz=266,SNR=77
F15K S **S** **05 19 45.3 +0.9**
baz=266
BELG Belogornoye 61.66 318 LR LR 05 40 27.7
comp=Z,15μm,18.2s,baz=77,slow=38
BELG Belogornoye 61.66 318 *c i* P **P** **05 11 21.2 -1.7**
BELG pmax pmax
comp=Z,30nm,1.1s
G15K Niukluk 61.85 28 P **P** **05 11 24.3 +0.2**
baz=267,SNR=100
G15K S **S** **05 19 47.8 +0.8**
baz=267
MZR Muzera 61.89 284 P **P** **05 11 26.9 +1.8**
SNR=46
MZR Muzera 61.89 284 *i* P **P** **05 11 25.0 -0.1**
SNR=25
JRN Qarnain Island 61.93 286 P **P** **05 11 26.5 +1.2**
SNR=31
J14K Nanvaranak Lak 61.97 30 IAmb IAmb 05 11 27.6
comp=Z,381nm,1.4s
J14K Nanvaranak Lak 61.97 30 P **P** **05 11 25.0 +0.1**
baz=268,SNR=32
J14K S **S** **05 19 50.3 +1.8**
baz=268
M13K Dall Lake 62.03 33 IAmb IAmb 05 11 28.4
comp=Z,303nm,1.1s
M13K IAMs_20 IAMs_20 05 42 58.0
comp=Z,11μm,18.0s
M13K Dall Lake 62.03 33 P **P** **05 11 25.8 +0.5**
baz=270,SNR=22
M13K S **S** **05 19 49.2 0.0**
baz=270
FALS False Pass 62.11 39 IAmb IAmb 05 11 33.1
comp=Z,512nm,1.7s
FALS False Pass 62.11 39 P **P** **05 11 26.9 +1.0**
FALS False Pass 62.11 39 P **P** **05 11 24.1 -1.8**
baz=273
DMTO DMTO 62.12 278 P **P** **05 11 28.3 +1.7**
DMTO P **P** **05 11 28.3 +1.7**
L14K Kuka Creek 62.36 32 IAMs_20 IAMs_20 05 40 12.7
comp=Z,10μm,18.0s
L14K Kuka Creek 62.36 32 P **P** **05 11 28.1 +0.6**
baz=270,SNR=103
L14K S **S** **05 19 53.5 +0.1**
baz=270
D17K Noatak River 62.41 25 P **P** **05 11 28.0 +0.3**
baz=266,SNR=58
D17K S **S** **05 19 53.3 -0.6**
baz=266
RDOG Red Dog Mine 62.50 24 IAmb IAmb 05 11 30.8
comp=Z,571nm,2.0s
RDOG IAMs_20 IAMs_20 05 41 49.1
comp=Z,14μm,19.0s
RDOG Red Dog Mine 62.50 24 P **P** **05 11 28.0 -0.4**
baz=266,SNR=14
RDOG S **S** **05 19 54.2 -0.9**
baz=266
DOK Doka 62.58 279 P **P** **05 11 30.3 +0.6**
SNR=18
DOK P **P** **05 11 30.3 +0.6**
SNR=18
G16K Koyuk River 62.58 27 IAmb IAmb 05 12 11.0
comp=Z,194nm,1.1s
G16K Koyuk River 62.58 27 P **P** **05 11 29.1 +0.2**
baz=268
G16K S **S** **05 19 56.1 0.0**
baz=268
H16K Elim 62.61 28 P **P** **05 11 29.1 0.0**
baz=268,SNR=96
H16K S **S** **05 19 56.6 +0.1**
baz=268
MAK Makhachkala 62.68 307 *e* P **P** **05 11 27.8 -2.2**
MAK *e* 05 13 44.0
MAK *e* S **S** **05 19 57.8 -0.3**
MAK *e* SS **SS** **05 24 01.6 -0.8**
MAK pmax pmax
comp=Z,7μm,5.0s
MAK pmax pmax
comp=Z,224nm,0.9s
MAK MLR MLR
comp=Z,40μm,15.0s
MAK MLR MLR
comp=E,53μm,17.0s
MAK MLR MLR
comp=N,28μm,13.0s
M14K Bethel 62.71 32 IAmb IAmb 05 11 32.5
comp=Z,224nm,0.9s
M14K Bethel 62.71 32 P **P** **05 11 30.2 +0.3**
baz=271,SNR=46
M14K S **S** **05 19 58.7 +0.8**
baz=271
E17K Hotham Inlet 62.86 25 P **P** **05 11 31.1 +0.3**
baz=268,SNR=93
E17K S **S** **05 20 00.9 +1.2**
baz=268
RBK Rabkut 62.86 278 P **P** **05 11 32.6 +1.0**
SNR=32
RBK P **P** **05 11 32.6 +1.0**
SNR=32
N14K Kuskokwak Cree 62.86 33 IAmb IAmb 05 11 33.5
comp=Z,519nm,1.4s
N14K Kuskokwak Cree 62.86 33 P **P** **05 11 31.2 +0.3**
baz=271,SNR=20
N14K S **S** **05 19 60.0 +0.2**
baz=271
K15K Wolf Creek Mou 62.90 31 IAmb IAmb 05 11 34.3
comp=Z,400nm,1.3s
K15K Wolf Creek Mou 62.90 31 P **P** **05 11 31.7 +0.6**
baz=270,SNR=58
K15K S **S** **05 20 01.4 +1.1**
baz=270
L15K Ungalak Mounta 62.93 31 P **P** **05 11 31.4 +0.1**
baz=271,SNR=22
L15K S **S** **05 20 01.3 +0.7**
baz=271
B18K Kokolik River 62.99 23 P **P** **05 11 32.0 +0.5**
baz=266,SNR=94
B18K S **S** **05 20 00.6 -0.6**
baz=266
F17K Baldwin Pennin 63.07 26 IAMs_20 IAMs_20 05 39 56.5
comp=Z,10μm,18.0s
F17K Baldwin Pennin 63.07 26 P **P** **05 11 32.4 +0.3**
baz=268,SNR=140
F17K S **S** **05 20 04.2 +2.1**
baz=268
O14K Tigyukauivet M 63.10 34 IAmb IAmb 05 11 34.9
comp=Z,174nm,1.2s
O14K Tigyukauivet M 63.10 34 P **P** **05 11 32.5 0.0**
baz=272,SNR=12
O14K S **S** **05 19 59.0 -3.9**
baz=272
WHFO Wadi Hawf 63.12 279 P **P** **05 11 33.4 0.0**
SNR=29
WHFO P **P** **05 11 33.4 0.0**
SNR=29
C18K Utukok River 63.17 24 IAmb IAmb 05 11 35.1
comp=Z,573nm,1.9s
C18K IAMs_20 IAMs_20 05 39 13.8
comp=Z,20μm,19.0s
C18K Utukok River 63.17 24 P **P** **05 11 32.5 -0.3**
baz=267,SNR=83
C18K S **S** **05 20 02.9 -0.7**
baz=267
DZM Mont Dzumac 63.25 133 IAMs_20 IAMs_20 05 33 48.8
comp=Z,16μm,22.0s
DZM Mont Dzumac 63.25 133 *e* P **P** **05 11 34.4 +0.3**
comp=Z,506nm,1.3s
DZM Mont Dzumac 63.25 133 *e* PP **PP** **05 13 48.9 -4.6**
comp=Z,1μm,26.4s
DZM *e* S **S** **05 20 04.2 -1.7**
comp=Z,11μm,28.6s
DZM *e* SS **SS** **05 24 07.5 -5.2**
comp=Z,10μm,27.4s
DZM *e* LQ LQ 05 27 40.1
comp=Z,14μm,24.8s
DZM *e* LR LR 05 30 18.1
comp=Z,34μm,23.4s
DZM Mont Dzumac 63.25 133 LR LR 05 34 22.2
comp=Z,13μm,21.8s,baz=315,slow=32
DZM Mont Dzumac 63.25 133 P **P** **05 11 36.5 +2.4**
DZM Mont Dzumac 63.25 133 ⇑P **P** **05 11 36.0 +1.9**
I17K Unalakleet 63.27 29 IAmb IAmb 05 11 36.7
comp=Z,267nm,1.1s
I17K IAMs_20 IAMs_20 05 43 09.6
comp=Z,15μm,18.0s
I17K Unalakleet 63.27 29 P **P** **05 11 34.1 +0.6**
baz=270,SNR=54
I17K S **S** **05 20 04.2 -0.7**
baz=270
A19K Wainwright 63.29 22 P **P** **05 11 33.8 +0.3**
baz=267,SNR=54
A19K S **S** **05 20 03.2 -1.7**
baz=267
G17K Kiwalik Mounta 63.29 27 P **P** **05 11 34.0 +0.3**
baz=270,SNR=186
G17K S **S** **05 20 05.5 +0.3**
baz=270
J16K Anvik River 63.32 30 IAMs_20 IAMs_20 05 38 29.2
comp=Z,11μm,20.0s
J16K Anvik River 63.32 30 P **P** **05 11 34.1 +0.2**
baz=271,SNR=38
J16K S **S** **05 20 05.6 +0.1**
baz=271
M15K Kasigluk River 63.34 33 P **P** **05 11 33.9 -0.1**
baz=272,SNR=49
M15K S **S** **05 20 06.0 +0.2**
baz=272
SHMA Al-Shehemyia 63.34 288 P **P** **05 11 34.4 -0.3**
E18K Tukpahlearik C 63.35 25 IAMs_20 IAMs_20 05 40 06.9
comp=Z,13μm,21.0s
E18K Tukpahlearik C 63.35 25 P **P** **05 11 34.5 +0.5**
baz=268,SNR=113
E18K S **S** **05 20 06.1 +0.4**
baz=268
TRNA Turayna 63.42 287 P **P** **05 11 36.0 +0.7**
SNR=14
ONTNC Ouen Toro 63.42 133 P **P** **05 11 38.1 +3.0**
ARPS Mount Arapiles 63.43 162 P **P** **05 11 33.6 -1.3**
comp=Z,109nm,1.0s
ARPS Mount Arapiles 63.43 162 P **P** **05 11 36.5 +1.6**
NTLH Newcastle Hard 63.49 152 P **P** **05 11 38.7 +3.4**
INH Isangel 63.52 129 P P 05 11 40.7 +4.9
YATNC Mamie plateau, 63.55 133 P **P** **05 11 38.8 +2.9**
H17K Granite Mounta 63.61 28 IAmb IAmb 05 11 38.8
comp=Z,247nm,1.0s
H17K Granite Mounta 63.61 28 P **P** **05 11 36.2 +0.4**
baz=270,SNR=153
H17K S **S** **05 20 06.6 -2.4**
baz=270
N15K Kwethluk River 63.65 33 IAmb IAmb 05 11 38.9
comp=Z,261nm,0.9s
N15K Kwethluk River 63.65 33 P **P** **05 11 36.5 +0.4**
baz=273,SNR=68
N15K S **S** **05 20 07.5 -2.3**
baz=273
SAKB Bahrain 63.68 288 P **P** **05 11 38.4 +1.5**
F18K Selawik 63.71 26 P **P** **05 11 36.6 +0.2**
baz=270,SNR=240
F18K S **S** **05 20 11.1 +0.9**
baz=270
ABTO Aybut 63.73 278 P **P** **05 11 37.3 -0.2**
SNR=47
OUENC Ouen Island, N 63.76 133 P **P** **05 11 40.8 +3.5**
SMRA Abu-Samra 63.76 287 P **P** **05 11 38.6 +1.2**
SNR=26
SDPT Sand Point 63.76 39 IAmb IAmb 05 11 37.1
comp=Z,160nm,0.7s
SDPT Sand Point 63.76 39 P **P** **05 11 37.3 +0.4**
SDPT Sand Point 63.76 39 P **P** **05 11 34.6 -2.4**
baz=275,SNR=9.1
SYDH Sydney Hard Ro 63.83 153 P **P** **05 11 40.0 +2.5**
O15K Ungalikthiuk R 63.84 34 IAmb IAmb 05 11 39.8
comp=Z,262nm,1.1s
O15K Ungalikthiuk R 63.84 34 P **P** **05 11 37.4 0.0**
baz=273,SNR=32
O15K S **S** **05 20 13.0 +0.9**
baz=273
L16K Owhat River 63.89 31 IAmb IAmb 05 11 40.3
comp=Z,363nm,1.4s
L16K IAMs_20 IAMs_20 05 39 01.3
comp=Z,12μm,21.0s
L16K Owhat River 63.89 31 P **P** **05 11 38.1 +0.4**
baz=272
L16K S **S** **05 20 11.1 -1.5**
baz=272
J17K VABM Dome 64.00 29 IAmb IAmb 05 11 41.5
comp=Z,312nm,0.9s
J17K IAMs_20 IAMs_20 05 38 40.3
comp=Z,11μm,20.0s
J17K VABM Dome 64.00 29 P **P** **05 11 39.1 +0.7**
baz=272,SNR=153
J17K S **S** **05 20 14.4 +0.4**
baz=272
G18K Tagagawik 64.12 27 IAmb IAmb 05 11 40.6
comp=Z,329nm,1.6s
G18K IAMs_20 IAMs_20 05 38 48.0
comp=Z,14μm,19.0s
G18K Tagagawik 64.12 27 P **P** **05 11 39.0 -0.2**
baz=271,SNR=114
G18K S **S** **05 20 14.6 -0.8**
baz=271
M16K Timber Creek 64.17 32 IAmb IAmb 05 11 42.2
comp=Z,250nm,1.0s
M16K Timber Creek 64.17 32 P **P** **05 11 39.9 +0.4**
baz=273,SNR=87
M16K S **S** **05 20 14.9 -1.2**
baz=273
S14K Fog Glacier 64.20 37 P **P** **05 11 38.0 -1.9**
baz=275
H18K Honhosa River 64.26 28 IAmb IAmb 05 11 42.7
comp=Z,223nm,1.1s
H18K IAMs_20 IAMs_20 05 38 51.0
comp=Z,10μm,19.0s
H18K Honhosa River 64.26 28 P **P** **05 11 40.1 0.0**
baz=272,SNR=90
H18K S **S** **05 20 16.7 -0.5**
baz=272
D19K Kuna River 64.30 24 IAmb IAmb 05 11 44.9
comp=Z,345nm,1.0s
D19K IAMs_20 IAMs_20 05 39 58.6
comp=Z,15μm,20.0s
D19K Kuna River 64.30 24 P **P** **05 11 40.4 0.0**
baz=270,SNR=279
D19K S **S** **05 20 15.5 -2.1**
baz=270
N16K Nishlik Lake 64.30 33 P **P** **05 11 40.9 +0.5**
baz=274,SNR=82
N16K S **S** **05 20 19.2 +1.4**
baz=274
PINNC Pines Island, 64.30 133 IAMs_20 IAMs_20 05 34 31.4
comp=Z,18μm,22.0s
PINNC Pines Island, 64.30 133 P **P** **05 11 43.5 +2.6**
CHNA Chernabura Isl 64.32 39 P **P** **05 11 41.1 +0.5**
CHNA Chernabura Isl 64.32 39 P **P** **05 11 39.2 -1.4**
baz=276,SNR=26
CHNA S **S** **05 20 16.4 -1.7**
baz=276
CNBA Chernabura Isl 64.32 39 IAmb IAmb 05 11 41.6
comp=Z,299nm,0.9s
K17K Iditarod 64.39 30 IAmb IAmb 05 11 44.1
comp=Z,312nm,0.9s
K17K Iditarod 64.39 30 P **P** **05 11 41.6 +0.7**
baz=273,SNR=111
K17K S **S** **05 20 20.9 +2.2**
baz=273
JOHN Johnston Islan 64.41 82 IAMs_20 IAMs_20 05 35 20.0
comp=Z,13μm,21.0s
JOHN Johnston Islan 64.41 82 P **P** **05 11 45.9 +4.1**
L17K Donlin 64.42 31 P **P** **05 11 42.0 +0.9**
baz=273,SNR=129
L17K S **S** **05 20 21.7 +2.5**
baz=273
F19K Shaleruckik Mo 64.45 26 IAmb IAmb 05 11 43.6
comp=Z,614nm,1.8s
F19K IAMs_20 IAMs_20 05 41 11.2
comp=Z,10μm,19.0s
F19K Shaleruckik Mo 64.45 26 P **P** **05 11 40.8 -0.5**
baz=271,SNR=90
F19K S **S** **05 20 17.9 -1.5**
baz=271
CAN Canberra 64.50 155 IAMs_20 IAMs_20 05 40 46.2
comp=Z,11μm,18.0s
CAN Canberra 64.50 155 P **P** **05 11 43.4 +1.4**
comp=Z,0.0nmcomp=Z,54nm,1.4s
CAN Canberra 64.50 155 P **P** **05 11 44.7 +2.7**
CAN Canberra 64.50 155 ⇑P **P** **05 11 42.8 +0.7**
B20K Meade River 64.62 22 IAmb IAmb 05 11 47.1
comp=Z,275nm,1.0s
B20K IAMs_20 IAMs_20 05 39 12.3
comp=Z,16μm,20.0s

B20K	**Meade River**	64.62	22	P	**P**	05 11 42.6	+0.2
	baz=270,SNR=110						
B20K				S	**S**	05 20 21.7	+0.2
	baz=270						
CNB	**Canberra Magne**	64.63	155	P	**P**	05 11 43.5	+0.6
	comp=Z,0.0nmcomp=Z,71nm,0.8s						
CNB	**Canberra Magne**	64.63	155	P	P	05 11 47.8	+4.9
E19K	**Redstone River**	64.65	25	IAmb	IAmb	05 11 47.3	
	comp=Z,168nm,0.9s						
E19K				IAMs_20	IAMs_20	05 41 48.9	
	comp=Z,13µm,18.0s						
E19K	**Redstone River**	64.65	25	P	**P**	05 11 42.6	0.0
	baz=272,SNR=197						
E19K				S	**S**	05 20 21.5	-0.4
	baz=272						
O16K	**Kokwok River B**	64.70	34	IAmb	IAmb	05 11 45.6	
	comp=Z,428nm,1.5s						
O16K	**Kokwok River B**	64.70	34	P	**P**	05 11 43.2	+0.2
	baz=275,SNR=43						
O16K				S	**S**	05 20 21.8	-0.9
	baz=275						
G19K	**Purcell Mounta**	64.75	26	IAmb	IAmb	05 11 45.8	
	comp=Z,364nm,1.5s						
G19K				IAMs_20	IAMs_20	05 41 16.1	
	comp=Z,11µm,18.0s						
G19K	**Purcell Mounta**	64.75	26	P	**P**	05 11 43.3	0.0
	baz=272,SNR=85						
G19K				S	**S**	05 20 22.5	-0.7
	baz=272						
A21K	**Barrow**	64.79	21	P	**P**	05 11 43.3	-0.1
	baz=270,SNR=7.3						
A21K				S	**S**	05 20 22.2	-1.3
	baz=270						
P16K	**Nushagak River**	64.80	34	IAmb	IAmb	05 11 46.1	
	comp=Z,187nm,0.9s						
P16K	**Nushagak River**	64.80	34	P	**P**	05 11 43.8	+0.1
	baz=275,SNR=11						
CHGN	**Chignik**	64.83	37	P	**P**	05 11 42.1	-1.8
	baz=276						
D20K	**Etivluk River**	64.84	24	IAmb	IAmb	05 11 48.5	
	comp=Z,329nm,1.1s						
D20K				IAMs_20	IAMs_20	05 39 53.0	
	comp=Z,21µm,19.0s						
D20K	**Etivluk River**	64.84	24	P	**P**	05 11 43.9	+0.1
	baz=272,SNR=239						
D20K				S	**S**	05 20 23.1	-1.2
	baz=272						
M17K	**Holitna River**	64.88	32	IAmb	IAmb	05 11 47.5	
	comp=Z,280nm,1.0s						
M17K				IAMs_20	IAMs_20	05 39 42.4	
	comp=Z,10µm,20.0s						
M17K	**Holitna River**	64.88	32	P	**P**	05 11 45.0	+0.8
	baz=274,SNR=61						
M17K				S	**S**	05 20 23.8	-1.0
	baz=274						
GCSA	**Galena City Sc**	64.91	28	P	**P**	05 11 44.5	+0.2
	baz=273,SNR=57						
GCSA				S	**S**	05 20 26.4	+1.3
	baz=273						
E20K	**Nigu River**	65.01	24	P	**P**	05 11 45.2	+0.1
	baz=272,SNR=325						
E20K				S	**S**	05 20 26.5	0.0
	baz=272						
H19K	**Roundabout Mou**	65.04	27	IAMs_20	IAMs_20	05 39 26.4	
	comp=Z,17µm,19.0s						
H19K	**Roundabout Mou**	65.04	27	P	**P**	05 11 45.6	+0.5
	baz=273,SNR=299						
H19K				S	**S**	05 20 27.8	+1.1
	baz=273						
J18K	**Innoko River**	65.06	29	IAmb	IAmb	05 11 48.0	
	comp=Z,205nm,1.1s						
J18K				IAMs_20	IAMs_20	05 39 33.2	
	comp=Z,11µm,21.0s						
J18K	**Innoko River**	65.06	29	P	**P**	05 11 45.4	+0.1
	baz=274,SNR=120						
J18K				S	**S**	05 20 26.8	-0.3
	baz=274						
N17K	**Nushagak Hills**	65.07	33	P	**P**	05 11 46.1	+0.7
	baz=275,SNR=98						
N17K				S	**S**	05 20 28.3	+1.0
	baz=275						
R16K	**Pilot Point**	65.16	36	P	**P**	05 11 45.3	-0.7
	baz=276						
L18K	**Granite Mounta**	65.17	31	IAmb	IAmb	05 11 49.2	
	comp=Z,237nm,1.1s						
L18K	**Granite Mounta**	65.17	31	P	**P**	05 11 46.6	+0.6
	baz=275,SNR=90						
L18K				S	**S**	05 20 30.6	+2.2
	baz=275						
O17K	**Koliganek Bris**	65.19	33	P	**P**	05 11 46.4	+0.2
	baz=275,SNR=34						
O17K				S	**S**	05 20 30.7	+2.1
	baz=275						
GNI	**Garni**	65.20	305	LR	LR	05 44 16.8	
	comp=Z,25µm,19.1s,baz=75,slow=40						
F20K	**Avaraart Lake**	65.25	25	IAMs_20	IAMs_20	05 41 24.8	
	comp=Z,13µm,20.0s						
F20K	**Avaraart Lake**	65.25	25	P	**P**	05 11 46.5	0.0
	baz=273,SNR=114						
F20K				S	**S**	05 20 30.0	+0.8
	baz=273						
TOO	**Toolangi**	65.28	159	P	**P**	05 11 46.3	-0.7
TOO	**Toolangi**	65.28	159	P	**P**	05 11 48.2	+1.2
	comp=Z,0.0nmcomp=Z,38nm,1.2s						
TOO	**Toolangi**	65.28	159	P	**P**	05 11 46.3	-0.7
TOO				pmax	pmax		
	comp=Z,90nm,1.6s						
TOO				MLR	MLR		
	comp=Z,3µm,19.0s						
TOO	**Toolangi**	65.28	159	⇓P	**P**	05 11 47.3	+0.2
KBD	**Kabd**	65.30	292	P	**P**	05 11 48.5	+1.1
A22K	**Sinclair Lake**	65.33	21	P	**P**	05 11 47.3	+0.4
	baz=272,SNR=158						
A22K				S	**S**	05 20 31.4	+1.3
	baz=272						
TRLG	**Trialeti**	65.41	306	P	**P**	05 11 49.3	+1.1
NCK	**Nalchik**	65.42	308	*c iP*	**P**	05 11 48.0	0.0
NCK				pmax	pmax		
	comp=Z,51nm,0.9s						
TTA	**Tatalina**	65.42	30	P	**P**	05 11 47.4	-0.4
TTA				IAmb	IAmb	05 11 50.4	
	comp=Z,150nm,0.9s						
TTA	**Tatalina**	65.42	30	P	**P**	05 11 47.4	-0.4
TTA				pmax	pmax		
	comp=Z,150nm,0.9s						
TTA	**Tatalina**	65.42	30	P	**P**	05 11 48.0	+0.2
	baz=275,SNR=107						
TTA				S	**S**	05 20 32.3	+0.6
	baz=275						
TTA	**Tatalina**	65.42	30	⇑P	**P**	05 11 48.0	+0.2
VRH	**Novokhopyorsk**	65.42	317	*eP*	**P**	05 11 45.8	-2.1
VRH				*eS*	**S**	05 20 24.8	-7.0
VRH				pmax	pmax		
	comp=Z,200nm,0.7s						
VRH				pmax	pmax		
	comp=Z,2µm,2.7s						
VRH				smax	smax		
	comp=E,4µm,10.1s						
VRH				MLR	MLR		
	comp=Z,13µm,13.0s						
C21K	**Knifeblade Rid**	65.48	23	P	**P**	05 11 48.2	+0.2
	baz=273,SNR=298						
C21K				S	**S**	05 20 31.3	-0.9
	baz=273						
KLMR	**Klimovskoe**	65.49	328	*c iP*	**P**	05 11 47.2	-0.9
KLMR				S	**S**	05 20 31.2	-1.1
KLMR				pmax	pmax		
	comp=Z,590nm,1.3s						
KLMR				MLR	MLR		
	comp=Z,53µm,17.0s						
J19K	**Poorman**	65.51	29	IAmb	IAmb	05 11 51.2	
	comp=Z,300nm,1.1s						
J19K				IAMs_20	IAMs_20	05 44 17.0	
	comp=Z,10µm,19.0s						
J19K	**Poorman**	65.51	29	P	**P**	05 11 48.5	+0.3
	baz=275,SNR=160						
J19K				S	**S**	05 20 33.1	+0.6
	baz=275						
B21K	**Ikpikpuk River**	65.52	22	IAMs_20	IAMs_20	05 40 30.9	
	comp=Z,19µm,18.0s						
B21K	**Ikpikpuk River**	65.52	22	P	**P**	05 11 48.4	+0.2
	baz=273,SNR=508						
B21K				S	**S**	05 20 31.8	-0.7
	baz=273						
Q16K	**King Salmon**	65.52	35	P	**P**	05 11 48.0	-0.3
	baz=276						
GOF	**Gofitskoye**	65.53	310	*c iP*	**P**	05 11 48.9	+0.2
P17K	**Kvichak River**	65.58	34	P	**P**	05 11 48.9	+0.2
	baz=276,SNR=31						
M18K	**Stony River**	65.64	31	P	**P**	05 11 49.8	+0.7
	baz=276,SNR=76						
M18K				S	**S**	05 20 34.8	+0.6
	baz=276						
N18K	**Kilae Creek**	65.69	32	IAmb	IAmb	05 11 52.6	
	comp=Z,437nm,1.6s						
N18K	**Kilae Creek**	65.69	32	P	**P**	05 11 49.9	+0.4
	baz=276,SNR=30						
N18K				S	**S**	05 20 36.0	+1.0
	baz=276						
H20K	**Anotleneega Mo**	65.70	27	P	**P**	05 11 49.8	+0.3
	baz=275,SNR=143						
H20K				S	**S**	05 20 35.5	+0.6
	baz=275						
E21K	**Killik River**	65.83	24	IAMs_20	IAMs_20	05 44 09.8	
	comp=Z,15µm,18.0s						
E21K	**Killik River**	65.83	24	P	**P**	05 11 50.2	0.0
	baz=274						
KBZ	**Khabaz**	65.87	309	P	**P**	05 11 51.3	+0.4
	comp=Z,108nm,0.9s,baz=89,slow=3.8,SNR=67						
KBZ				S	**S**	05 20 37.4	-0.2
	comp=Z,3.0nm,0.9s,baz=91,slow=10,SNR=2.5						
KBZ				LR	LR	05 45 11.8	
	comp=Z,24µm,18.2s,baz=64,slow=40						
	comp=Z,108nm,0.9s						
KBZ	**Khabaz**	65.87	309	*c iP*	**P**	05 11 51.4	+0.5
KBZ				pmax	pmax		
	comp=Z,118nm,0.9s						
B22K	**Teshekpuk Lake**	65.89	22	IAMs_20	IAMs_20	05 43 38.6	
	comp=Z,17µm,18.0s						
B22K	**Teshekpuk Lake**	65.89	22	P	**P**	05 11 50.5	0.0
	baz=274,SNR=294						
B22K				S	**S**	05 20 35.0	-1.9
	baz=274						
I20K	**Naaghedeneel**	65.93	28	IAMs_20	IAMs_20	05 44 24.2	
	comp=Z,11µm,18.0s						
I20K	**Naaghedeneel**	65.93	28	P	**P**	05 11 51.8	+0.9
	baz=275,SNR=165						
I20K				S	**S**	05 20 38.4	+0.8
	baz=275						
Q17K	**Contact Creek**	65.97	35	P	**P**	05 11 49.9	-1.6
	baz=277,SNR=19						
Q17K				S	**S**	05 20 36.9	-1.7
	baz=277						
KVAR	**Kislovodsk Arr**	65.97	309	LR	LR	05 45 35.1	
	comp=Z,26µm,18.0s,baz=222,slow=40						
KIV	**Kislovodsk**	65.98	309	P	**P**	05 11 52.0	+0.3
KIV	**Kislovodsk**	65.98	309	P	**P**	05 11 52.8	+1.0
KIV	**Kislovodsk**	65.98	309	⇓P	**P**	05 11 53.8	+2.1
KIV	**Kislovodsk**	65.98	309	*eP*	**P**	05 11 51.4	-0.4
KIV				*e*		05 12 22.0	
KIV				*e*		05 14 15.1	
KIV				*eS*	**S**	05 20 40.1	+1.0
KIV				*eSS*	**SS**	05 24 56.6	+2.6
KIV				pmax	pmax		
	comp=Z,1µm,3.5s						
KIV				pmax	pmax		
	comp=Z,206nm,1.0s						
KIV				MLR	MLR		
	comp=Z,18µm,17.0s						
KIV	**Kislovodsk**	65.98	309	*i* P	**P**	05 11 52.3	+0.5
	SNR=32						
KIV	**Kislovodsk**	65.98	309	P	**P**	05 11 52.1	+0.3
	comp=Z,9µmcomp=Z,292nm,1.5s						
KIV	**Kislovodsk**	65.98	309	P	**P**	05 11 52.0	+0.3
KIV				S	**S**	05 20 40.6	+1.4
L19K	**White Mountain**	66.03	31	IAmb	IAmb	05 11 54.8	
	comp=Z,254nm,1.0s						
L19K	**White Mountain**	66.03	31	P	**P**	05 11 52.1	+0.4
	baz=276,SNR=117						
L19K				S	**S**	05 20 38.7	-0.3
	baz=276						
SHA1	**Shidzhatmaz**	66.04	309	*c iP*	**P**	05 11 53.4	+1.1
MILA	**Mila**	66.09	156	P	**P**	05 11 53.9	+1.6
	comp=Z,32nm,1.5s						
F21K	**Alatna River**	66.11	25	P	**P**	05 11 51.8	-0.3
F21K	**Alatna River**	66.11	25	P	**P**	05 11 51.9	-0.2
	baz=275,SNR=79						
F21K				S	**S**	05 20 39.9	0.0
	baz=275						
O18K	**Koktuh Hills**	66.12	33	IAmb	IAmb	05 11 58.1	
	comp=Z,132nm,0.8s						
O18K	**Koktuh Hills**	66.12	33	P	**P**	05 11 52.7	+0.4
	baz=277,SNR=41						
O18K				S	**S**	05 20 41.6	+1.4
	baz=277						
J20K	**Nowinta River**	66.14	28	IAmb	IAmb	05 11 55.5	
	comp=Z,303nm,1.1s						
J20K				IAMs_20	IAMs_20	05 43 17.3	
	comp=Z,12µm,18.0s						
J20K	**Nowinta River**	66.14	28	P	**P**	05 11 53.0	+0.7
	baz=276,SNR=166						
J20K				S	**S**	05 20 41.7	+1.6
	baz=276						
G21K	**Allakaket**	66.17	26	IAmb	IAmb	05 11 58.1	
	comp=Z,414nm,1.1s						
G21K				IAMs_20	IAMs_20	05 40 05.1	
	comp=Z,13µm,19.0s						
G21K	**Allakaket**	66.17	26	P	**P**	05 11 52.9	+0.4
	baz=275,SNR=341						
G21K				S	**S**	05 20 39.4	-1.2
	baz=275						
P18K	**Big Mountain,**	66.17	34	P	**P**	05 11 52.5	-0.1
	baz=277,SNR=29						
P18K				S	**S**	05 20 41.1	+0.2
	baz=277						
K20K	**Telida**	66.26	29	IAMs_20	IAMs_20	05 40 09.8	
	comp=Z,10µm,20.0s						
K20K	**Telida**	66.26	29	P	**P**	05 11 53.6	+0.6
	baz=276,SNR=133						
K20K				S	**S**	05 20 41.9	+0.2
	baz=276						
D22K	**Ayikyak River**	66.26	23	P	**P**	05 11 53.5	+0.4
	baz=275,SNR=451						
D22K				S	**S**	05 20 40.2	-1.4
	baz=275						
M19K	**Big River Lodg**	66.28	31	IAmb	IAmb	05 11 56.5	
	comp=Z,193nm,1.0s						
M19K	**Big River Lodg**	66.28	31	P	**P**	05 11 53.5	+0.3
	baz=277,SNR=77						
M19K				S	**S**	05 20 42.6	+0.6
	baz=277						
KARS	**Kars**	66.35	305	P	**P**	05 11 57.1	+2.8
KARS				pmax	pmax		
	comp=Z,303nm,1.1s						
KARS	**Kars**	66.35	305	⇑P	**P**	05 11 55.8	+1.5
N19K	**Bonanza Creek**	66.36	32	IAmb	IAmb	05 11 59.8	
	comp=Z,122nm,0.8s						
N19K	**Bonanza Creek**	66.36	32	P	**P**	05 11 54.4	+0.5
	baz=277,SNR=60						
N19K				S	**S**	05 20 42.9	-0.4
	baz=277						
Q18K	**Katmai Hardscr**	66.38	35	P	**P**	05 11 52.9	-1.1
	baz=278,SNR=19						
Q18K				S	**S**	05 20 42.4	-1.2
	baz=278						
CHIR	**Chirikof Islan**	66.44	38	P	**P**	05 11 53.9	-0.5
	baz=278						
L20K	**Farewell, AK**	66.45	30	P	**P**	05 11 54.9	+0.6
	baz=277,SNR=75						
L20K				S	**S**	05 20 44.6	+0.5
	baz=277						
O19K	**Port Alsworth**	66.52	33	P	**P**	05 11 55.1	+0.3
	baz=278,SNR=36						
O19K				S	**S**	05 20 45.9	+1.0
	baz=278						
H21K	**Melozitna Rive**	66.54	27	IAmb	IAmb	05 11 57.9	
	comp=Z,264nm,0.9s						
H21K	**Melozitna Rive**	66.54	27	P	**P**	05 11 55.5	+0.7
	baz=276,SNR=356						
H21K				S	**S**	05 20 45.5	+0.4
	baz=276						
F22K	**John River**	66.58	25	P	**P**	05 11 55.9	+0.8
	baz=276						
E22K	**Anaktuvuk Pass**	66.65	24	IAMs_20	IAMs_20	05 41 56.9	
	comp=Z,15µm,20.0s						
E22K	**Anaktuvuk Pass**	66.65	24	P	**P**	05 11 55.8	+0.2
	baz=276,SNR=507						
E22K				S	**S**	05 20 44.8	-1.7
	baz=276						
R18K	**Karluk**	66.83	36	P	**P**	05 11 55.1	-1.7
	baz=278						
R18K				S	**S**	05 20 46.4	-2.3
	baz=278						
LVZ	**Lovozero**	66.83	336	P	**P**	05 11 56.1	-0.5
LVZ				IAmb	IAmb	05 12 18.4	
	comp=Z,319nm,1.6s						
LVZ	**Lovozero**	66.83	336	P	**P**	05 11 56.8	+0.1
M20K	**Styx River**	66.87	31	IAMs_20	IAMs_20	05 40 57.1	
	comp=Z,10µm,21.0s						
M20K	**Styx River**	66.87	31	P	**P**	05 11 57.9	+0.7
	baz=278,SNR=110						
M20K				S	**S**	05 20 49.9	+0.5
	baz=278						
C23K	**Itkillik River**	66.89	22	IAmb	IAmb	05 11 59.8	
	comp=Z,264nm,1.0s						
C23K				IAMs_20	IAMs_20	05 40 37.2	
	comp=Z,16µm,19.0s						
C23K	**Itkillik River**	66.89	22	P	**P**	05 11 57.1	+0.1
	baz=277,SNR=164						
C23K				S	**S**	05 20 47.7	-1.4
	baz=277						
VORR	**Voronezh**	66.90	318	*eP*	**P**	05 11 56.2	-1.2
VORR				*eS*	**S**	05 20 43.8	-6.0
VORR				pmax	pmax		
	comp=Z,150nm,0.5s						
VORR				pmax	pmax		
	comp=Z,3µm,2.7s						
VORR				smax	smax		
	comp=E,3µm,10.4s						
VORR				MLR	MLR		
	comp=Z,12µm,11.0s						
G22K	**Bettles**	66.91	25	P	**P**	05 11 57.2	0.0
	baz=277						
G22K				S	**S**	05 20 49.3	-0.2
	baz=277						
LPSR	**Galich'ya Gora**	66.91	319	*eP*	**P**	05 11 55.0	-2.4
LPSR				*eS*	**S**	05 20 43.8	-6.1
LPSR				pmax	pmax		
	comp=Z,210nm,0.8s						
LPSR				pmax	pmax		
	comp=Z,2µm,2.4s						
LPSR				smax	smax		
	comp=E,4µm,10.7s						
LPSR				MLR	MLR		
	comp=Z,19µm,16.0s						
I21K	**Tanana**	66.94	27	IAmb	IAmb	05 12 03.4	
	comp=Z,250nm,0.9s						
I21K				IAMs_20	IAMs_20	05 40 32.6	
	comp=Z,12µm,18.0s						
I21K	**Tanana**	66.94	27	P	**P**	05 11 58.2	+0.8
	baz=277,SNR=196						
I21K				S	**S**	05 20 51.2	+1.3
	baz=277						
CHUM	**Lake Minchumin**	66.97	29	P	**P**	05 11 58.2	+0.6
	baz=278,SNR=175						
CHUM				S	**S**	05 20 50.8	+0.5
	baz=278						
D23K	**Nanushuk River**	66.97	23	P	**P**	05 11 58.1	+0.6
	baz=277,SNR=442						
D23K				S	**S**	05 20 49.7	-0.5
	baz=277						
VORD	**Divnogorie**	66.97	317	*eP*	**P**	05 11 56.3	-1.5
VORD				*eS*	**S**	05 20 44.8	-5.9
VORD				pmax	pmax		
	comp=Z,80nm,0.9s						
VORD				pmax	pmax		
	comp=Z,510nm,2.1s						
VORD				smax	smax		
	comp=E,2µm,9.5s						
VORD				MLR	MLR		
	comp=Z,12µm,14.0s						
VSR	**Storozhevoye**	67.01	317	*eP*	**P**	05 11 55.9	-2.1
VSR				*eS*	S	05 20 41.9	-9.2
VSR				pmax	pmax		
	comp=Z,460nm,2.2s						
VSR				pmax	pmax		
	comp=Z,2µm,2.6s						
VSR				smax	smax		
	comp=E,3µm,10.6s						
VSR				MLR	MLR		
	comp=Z,15µm,15.0s						
Q19K	**Cape Douglas,**	67.04	34	IAmb	IAmb	05 11 59.4	
	comp=Z,254nm,0.9s						
Q19K	**Cape Douglas,**	67.04	34	P	**P**	05 11 56.9	-1.3
	baz=279,SNR=9.4						
H22K	**Ishtalitna Cre**	67.10	26	P	**P**	05 11 59.3	+0.9
	baz=278,SNR=368						
H22K				S	**S**	05 20 51.9	0.0
	baz=278						
SII	**Sitkinak Islan**	67.13	37	IAmb	IAmb	05 12 00.7	
	comp=Z,363nm,1.0s						
SII	**Sitkinak Islan**	67.13	37	P	**P**	05 11 59.9	+1.2
SII	**Sitkinak Islan**	67.13	37	P	**P**	05 11 58.4	-0.4
	baz=279						
CAST	**Castle Rocks**	67.14	29	IAmb	IAmb	05 12 03.8	
	comp=Z,297nm,0.9s						
CAST	**Castle Rocks**	67.14	29	P	**P**	05 11 59.1	+0.4
	baz=278,SNR=316						
CAST				S	**S**	05 20 52.7	+0.3
	baz=278						
ILSW	**Iliamna Southw**	67.14	33	IAmb	IAmb	05 12 01.9	
	comp=Z,429nm,1.7s						
P19K	**Oil Pt**	67.14	33	IAmb	IAmb	05 12 02.3	
	comp=Z,257nm,0.8s						
P19K	**Oil Pt**	67.14	33	P	**P**	05 11 58.3	-0.6
	baz=279,SNR=19						
P19K				S	**S**	05 20 51.3	-1.3
	baz=279						
MOS	**Moscow**	67.15	322	*eP*	**P**	05 11 56.3	-2.5
MOS				*e*		05 12 23.8	
MOS				*e*PPP	PPP	05 15 59.8	
MOS				*eS*	**S**	05 20 48.3	-4.4
MOS				*e*		05 21 49.2	
MOS				*eSS*	**SS**	05 25 08.3	-3.0
MOS				pmax	pmax		
	comp=Z,4µm,3.7s						
MOS				pmax	pmax		
	comp=Z,566nm,1.9s						
MOS				pmax	pmax		
	comp=N,170nm,1.9s						
MOS				pmax	pmax		
	comp=E,192nm,1.9s						
MOS				pmax	pmax		
	comp=N,1µm,3.7s						
MOS				pmax	pmax		
	comp=E,2µm,4.4s						
MOS				smax	smax		
	comp=N,2µm,4.2s						
MOS				smax	smax		
	comp=E,2µm,4.5s						
MOS				MLR	MLR		
	comp=N,14µm,16.0s						
MOS				MLR	MLR		
	comp=E,40µm,16.0s						
MOS				MLR	MLR		
	comp=Z,51µm,16.0s						
PPLA	**Purkeypile**	67.16	30	IAmb	IAmb	05 12 03.6	
	comp=Z,189nm,0.8s						
PPLA				IAMs_20	IAMs_20	05 40 37.8	
	comp=Z,12µm,21.0s						
PPLA	**Purkeypile**	67.16	30	P	**P**	05 11 59.5	+0.5
	baz=278,SNR=83						
PPLA				S	**S**	05 20 52.6	-0.4
	baz=278						
ERBR	**Yeremizino-Bor**	67.18	311	*eP*	**P**	05 11 59.5	+0.3
ERBR				*e*		05 14 25.8	
ERBR				*eS*	**S**	05 20 55.4	+2.0
ERBR				*eSS*	**SS**	05 25 05.3	-7.0
ERBR				pmax	pmax		
	comp=E,35nm,0.9s						
ERBR				pmax	pmax		
	comp=Z,265nm,0.9s						
ERBR				pmax	pmax		
	comp=N,8.0nm,0.5s						
ERBR				MLR	MLR		
	comp=Z,36µm,18.0s						
ERBR				MLR	MLR		
	comp=E,63µm,17.0s						
ERBR				MLR	MLR		
	comp=N,38µm,15.0s						
LABN	**Labinsk**	67.23	310	*eP*	**P**	05 12 01.1	+1.5
LABN				*e*		05 14 25.7	
LABN				*eS*	**S**	05 20 57.7	+3.7
LABN				pmax	pmax		
	comp=Z,95nm,1.3s						
LABN				pmax	pmax		
	comp=E,18nm,0.6s						
LABN				pmax	pmax		
	comp=N,25nm,0.7s						
LABN				MLR	MLR		
	comp=E,63µm,15.0s						
LABN				MLR	MLR		
	comp=Z,44µm,16.0s						

LABN					MLR	MLR		
	comp=N,37µm,16.0s							
APA	**Apatity**	**67.34**	**335**	⇓	*i* P	**P**	**05 11 59.1**	**-0.8**
APA					*i*		05 12 27.0	
APA					*i*		05 14 29.0	
APA					*i* PPP	PPP	05 16 04.0	
APA					*i* S	**S**	**05 20 53.0**	**-1.7**
APA					pmax	pmax		
	comp=Z,132nm,1.0s							
APA					MLR	MLR		
	comp=Z,54µm,15.0s							
COLD	**Coldfoot**	**67.38**	**25**		IAmb	IAmb	05 12 03.2	
	comp=Z,614nm,1.8s							
COLD	**Coldfoot**	**67.38**	**25**		P	**P**	**05 12 00.4**	**+0.2**
	baz=278,SNR=136							
COLD					S	**S**	**05 20 55.7**	**+0.5**
	baz=278							
SPCR	**Spurr Chakacha**	**67.41**	**32**		P	**P**	**05 12 00.7**	**+0.2**
	baz=279,SNR=98							
SPCR					S	**S**	**05 20 56.7**	**+0.9**
	baz=279							
TOLK	**Toolik Lake Re**	**67.41**	**23**		IAmb	IAmb	05 12 03.1	
	comp=Z,187nm,0.8s							
TOLK	**Toolik Lake Re**	**67.41**	**23**		P	**P**	**05 12 00.6**	**+0.2**
	baz=278,SNR=244							
TOLK					S	**S**	**05 20 56.2**	**+0.6**
	baz=278							
E23K	**Chandalar**	**67.48**	**24**		IAmb	IAmb	05 12 06.7	
	comp=Z,402nm,1.1s							
E23K					IAMs_20	IAMs_20	05 42 56.8	
	comp=Z,17µm,20.0s							
E23K	**Chandalar**	**67.48**	**24**		P	**P**	**05 12 01.5**	**+0.6**
	baz=278,SNR=329							
E23K					S	**S**	**05 20 56.0**	**-0.5**
	baz=278							
OHAK	**Old Harbor**	**67.50**	**36**		P	**P**	**05 12 02.2**	**+1.1**
OHAK	**Old Harbor**	**67.50**	**36**		P	**P**	**05 12 00.1**	**-1.0**
	baz=280,SNR=12							
OHAK					S	**S**	**05 20 56.4**	**-0.4**
	baz=280							
BPAW	**Bear Paw Mtn.**	**67.52**	**28**		IAmb	IAmb	05 12 05.9	
	comp=Z,206nm,1.0s							
BPAW					IAMs_20	IAMs_20	05 41 22.8	
	comp=Z,11µm,19.0s							
BPAW	**Bear Paw Mtn.**	**67.52**	**28**		P	**P**	**05 12 01.5**	**+0.4**
	baz=279,SNR=175							
BPAW					S	**S**	**05 20 58.0**	**+1.0**
	baz=279							
G23K	**Bananza Creek**	**67.52**	**25**		IAmb	IAmb	05 12 04.0	
	comp=Z,201nm,0.9s							
G23K					IAMs_20	IAMs_20	05 41 09.3	
	comp=Z,10µm,18.0s							
G23K	**Bananza Creek**	**67.52**	**25**		P	**P**	**05 12 01.4**	**+0.3**
	baz=278,SNR=207							
G23K					S	**S**	**05 20 59.5**	**+2.5**
	baz=278							
STLK	**Strandline Lak**	**67.54**	**31**		IAmb	IAmb	05 12 05.4	
	comp=Z,148nm,0.8s							
C24K	**Franklin Bluff**	**67.56**	**22**		IAMs_20	IAMs_20	05 41 56.2	
	comp=Z,18µm,19.0s							
C24K	**Franklin Bluff**	**67.56**	**22**		P	**P**	**05 12 01.3**	**+0.1**
	baz=278							
C24K					S	**S**	**05 20 58.3**	**+1.1**
	baz=278							
GURO	**Guroymak-BITLI**	**67.60**	**303**		P	**P**	**05 12 03.1**	**+0.9**
GURO	**Guroymak-BITLI**	**67.60**	**303**	⇑	P	**P**	**05 12 03.3**	**+1.1**
SKT	**Skwentna**	**67.61**	**31**		P	**P**	**05 12 00.8**	**-0.9**
SKT					IAmb	IAmb	05 12 05.2	
	comp=Z,139nm,0.8s							
SKT					IAMs_20	IAMs_20	05 41 42.5	
	comp=Z,10µm,21.0s							
SKT	**Skwentna**	**67.61**	**31**		P	**P**	**05 12 01.1**	**-0.6**
	baz=279,SNR=94							
SKT					S	**S**	**05 20 58.5**	**+0.5**
	baz=279							
D24K	**Happy Valley**	**67.61**	**23**		P	**P**	**05 12 02.1**	**+0.5**
	baz=279							
D24K					S	**S**	**05 20 57.7**	**-0.1**
	baz=279							
KTH	**Kantishna Hill**	**67.63**	**29**		P	**P**	**05 12 01.7**	**-0.2**
KTH					IAmb	IAmb	05 12 06.5	
	comp=Z,227nm,0.9s							
KTH					IAMs_20	IAMs_20	05 40 55.2	
	comp=Z,10µm,21.0s							
Q20K	**Shuyak Island**	**67.74**	**34**		P	**P**	**05 12 01.7**	**-0.9**
	baz=280,SNR=12							
Q20K					S	**S**	**05 20 59.1**	**-0.6**
	baz=280							
SYI	**Shuyak Island**	**67.74**	**34**		IAmb	IAmb	05 12 04.1	
	comp=Z,354nm,1.1s							
KDAK	**Kodiak Island**	**67.78**	**35**		P	**P**	**05 12 02.2**	**-0.6**
KDAK					IAmb	IAmb	05 12 04.8	
	comp=Z,401nm,1.1s							
KDAK	**Kodiak Island**	**67.78**	**35**		P	**P**	**05 12 03.1**	**+0.3**
	comp=Z,142nm,0.8s,baz=159,slow=20,SNR=11							
KDAK					LR	LR	05 41 56.7	
	comp=Z,6µm,21.9s,baz=122,slow=36							
	comp=Z,142nm,0.8s							
KDAK	**Kodiak Island**	**67.78**	**35**		P	**P**	**05 12 02.5**	**-0.3**
	baz=280							
KDAK					S	**S**	**05 20 59.6**	**-0.6**
	baz=280							
OBN	**Obninsk**	**67.85**	**322**		P	**P**	**05 12 02.4**	**-0.8**
OBN	**Obninsk**	**67.85**	**322**		LR	LR	05 44 06.3	
	comp=Z,24µm,18.8s,baz=6.0,slow=38							
OBN	**Obninsk**	**67.85**	**322**	⇑	P	**P**	**05 12 03.0**	**-0.3**
OBN	**Obninsk**	**67.85**	**322**	*c*	*i* P	**P**	**05 12 01.9**	**-1.4**
OBN					*e*		05 12 32.7	
OBN					*e* PPP	PPP	05 16 11.7	
OBN					*i* S	**S**	**05 20 56.7**	**-4.4**
OBN					*e* SS	**SS**	**05 25 26.5**	**+4.3**
H23K	**Yukon River**	**67.85**	**26**		IAMs_20	IAMs_20	05 42 33.1	
	comp=Z,10µm,20.0s							
H23K	**Yukon River**	**67.85**	**26**		P	**P**	**05 12 04.0**	**+0.8**
	baz=279							
H23K					S	**S**	**05 21 02.7**	**+1.7**
	baz=279							
E24K	**Your Creek**	**67.90**	**24**		P	**P**	**05 12 03.8**	**+0.3**
	baz=279,SNR=465							
E24K					S	**S**	**05 21 01.2**	**-0.2**
	baz=279							
TRF	**Thorofare Moun**	**67.93**	**29**		IAmb	IAmb	05 12 08.0	
	comp=Z,198nm,0.9s							
TRF					IAMs_20	IAMs_20	05 45 43.7	
	comp=Z,11µm,18.0s							
TRF	**Thorofare Moun**	**67.93**	**29**		P	**P**	**05 12 03.5**	**-0.4**
	baz=280,SNR=118							
TRF					S	**S**	**05 21 02.3**	**+0.1**
	baz=280							
HOM	**Homer**	**67.94**	**33**		P	**P**	**05 12 03.2**	**-0.5**
	baz=280,SNR=8.0							
CAPN	**Captain Cook N**	**67.99**	**32**		P	**P**	**05 12 03.8**	**-0.2**
	baz=280							
I23K	**Minto, Yukon-K**	**68.04**	**27**		IAmb	IAmb	05 12 34.1	
	comp=Z,565nm,1.6s							
I23K					IAMs_20	IAMs_20	05 47 26.6	
	comp=Z,14µm,19.0s							
I23K	**Minto, Yukon-K**	**68.04**	**27**		P	**P**	**05 12 04.7**	**+0.4**
	baz=280,SNR=168							
I23K					S	**S**	**05 21 03.0**	**-0.1**
	baz=280							
SUA	**Susitna One**	**68.06**	**31**		P	**P**	**05 12 03.8**	**-0.9**
	baz=280,SNR=270							
SUA					S	**S**	**05 21 04.2**	**+0.5**
	baz=280							
CUT	**Chulitna**	**68.12**	**30**		IAMs_20	IAMs_20	05 45 30.8	
	comp=Z,12µm,18.0s							
CUT	**Chulitna**	**68.12**	**30**		P	**P**	**05 12 04.2**	**-0.7**
	baz=280,SNR=106							
CUT					S	**S**	**05 21 04.3**	**+0.3**
	baz=280							
SOC	**Sochi**	**68.16**	**309**		*e* P	**P**	**05 12 03.3**	**-2.2**
SOC					*e*		05 14 33.5	
SOC					*e* PPP	PPP	05 16 10.3	
SOC					*e* S	**S**	**05 21 04.3**	**-1.0**
SOC					*e* SS	**SS**	**05 25 27.4**	**-0.2**
SOC					pmax	pmax		
	comp=Z,99nm,0.8s							
SOC					MLR	MLR		
	comp=Z,30µm,16.0s							
BWN	**Browne**	**68.17**	**28**		IAmb	IAmb	05 12 11.0	
	comp=Z,266nm,0.7s							
CNPM	**China Poot**	**68.17**	**33**		IAmb	IAmb	05 12 08.8	
	comp=Z,153nm,0.9s							
F24K	**Squaw Lake**	**68.22**	**24**		IAmb	IAmb	05 12 08.4	
	comp=Z,250nm,0.8s							
F24K					IAMs_20	IAMs_20	05 42 57.2	
	comp=Z,13µm,20.0s							
F24K	**Squaw Lake**	**68.22**	**24**		P	**P**	**05 12 05.8**	**+0.4**
	baz=280,SNR=432							
F24K					S	**S**	**05 21 06.1**	**+0.8**
	baz=280							
NEA2	**Nenana**	**68.26**	**28**		IAMs_20	IAMs_20	05 43 38.8	
	comp=Z,10µm,19.0s							
NEA2	**Nenana**	**68.26**	**28**		P	**P**	**05 12 05.7**	**0.0**
	baz=280,SNR=404							
NEA2					S	**S**	**05 21 06.7**	**+0.9**
	baz=280							
BRLK	**Bradley Lake**	**68.30**	**33**		IAmb	IAmb	05 12 11.1	
	comp=Z,290nm,0.8s							
M22K	**Willow**	**68.30**	**31**		P	**P**	**05 12 04.8**	**-1.2**
	baz=280,SNR=185							
HOPEN	**Hopen**	**68.33**	**345**	⇑	*i* P	**P**	**05 12 05.1**	**-0.9**
HOPEN					IVmB_BB		05 12 08.6	
	comp=Z,3µm,4.1s							
HOPEN					*e* S	**S**	**05 21 06.6**	**+0.3**
HOPEN					IVMs_BB	IVMs_BB	05 47 18.6	
	comp=Z,23µm,15.4s							
BRSE	**Bradley Lake S**	**68.37**	**33**		P	**P**	**05 12 05.2**	**-1.4**
	baz=281,SNR=31							
BRSE					S	**S**	**05 21 06.2**	**-1.1**
	baz=281							
VADS	**Vadso**	**68.38**	**338**	⇑	*i* P	**P**	**05 12 05.1**	**-1.3**
VADS					IVmB_BB		05 12 07.2	
	comp=Z,3µm,2.1s							
VADS					*e* S	**S**	**05 21 07.9**	**+1.0**
VADS					IVMs_BB	IVMs_BB	05 48 49.1	
	comp=Z,8µm,12.5s							
D25K	**Kavik River**	**68.44**	**22**		P	**P**	**05 12 06.9**	**0.0**
	baz=281,SNR=432							
D25K					S	**S**	**05 21 07.8**	**-0.1**
	baz=281							
MCK	**McKinley**	**68.47**	**29**		IAmb	IAmb	05 12 12.0	
	comp=Z,208nm,0.9s							
MCK					IAMs_20	IAMs_20	05 46 07.5	
	comp=Z,11µm,20.0s							
MCK	**McKinley**	**68.47**	**29**		P	**P**	**05 12 06.6**	**-0.5**
MCK	**McKinley**	**68.47**	**29**		P	**P**	**05 12 06.6**	**-0.5**
	baz=281,SNR=152							
MCK					S	**S**	**05 21 09.4**	**+1.0**
	baz=281							
SLKM	**Skilak Lake**	**68.48**	**32**		IAmb	IAmb	05 12 09.8	
	comp=Z,186nm,1.0s							
G24K	**Hadweenzic Riv**	**68.52**	**25**		IAmb	IAmb	05 12 10.5	
	comp=Z,204nm,0.8s							
G24K					IAMs_20	IAMs_20	05 41 32.4	
	comp=Z,11µm,18.0s							
G24K	**Hadweenzic Riv**	**68.52**	**25**		P	**P**	**05 12 07.9**	**+0.5**
	baz=281,SNR=222							
G24K					S	**S**	**05 21 09.2**	**+0.3**
	baz=281							
H24K	**Noodor Dome**	**68.53**	**26**		IAmb	IAmb	05 12 13.3	
	comp=Z,498nm,1.4s							
H24K					IAMs_20	IAMs_20	05 41 27.8	
	comp=Z,10µm,21.0s							
H24K	**Noodor Dome**	**68.53**	**26**		P	**P**	**05 12 08.1**	**+0.6**
	baz=281,SNR=236							
H24K					S	**S**	**05 21 09.8**	**+0.7**
	baz=281							
RND	**Reindeer**	**68.57**	**29**		IAMs_20	IAMs_20	05 42 07.6	
	comp=Z,12µm,20.0s							
RC01	**Rabbit Creek A**	**68.61**	**31**		IAmb	IAmb	05 12 10.8	
	comp=Z,185nm,1.0s							
RC01	**Rabbit Creek A**	**68.61**	**31**		P	**P**	**05 12 07.3**	**-0.6**
	baz=281,SNR=21							
RC01					S	**S**	**05 21 08.5**	**-1.5**
	baz=281							
WRH	**Wood River Hil**	**68.70**	**28**		IAmb	IAmb	05 12 14.9	
	comp=Z,126nm,0.8s							
WRH					IAMs_20	IAMs_20	05 43 52.4	
	comp=Z,10µm,20.0s							
COLA	**College**	**68.72**	**27**		P	**P**	**05 12 08.2**	**-0.4**
COLA					IAmb	IAmb	05 12 14.0	
	comp=Z,182nm,0.8s							
COLA	**College**	**68.72**	**27**		P	**P**	**05 12 09.5**	**+0.9**
COLA	**College**	**68.72**	**27**		P	**P**	**05 12 09.3**	**+0.7**
COLA	**College**	**68.72**	**27**		P	**P**	**05 12 08.4**	**-0.2**
	baz=281							
COLA					S	**S**	**05 21 12.7**	**+1.5**
	baz=281							
COLA	**College**	**68.72**	**27**	⇑	P	**P**	**05 12 08.0**	**-0.6**
COLA	**College**	**68.72**	**27**		P	**P**	**05 12 07.8**	**-0.8**
COLA					S	**S**	**05 21 12.0**	**+0.8**
O22K	**Cooper Landing**	**68.73**	**32**		P	**P**	**05 12 07.8**	**-0.9**
	baz=281,SNR=26							
O22K					S	**S**	**05 21 12.7**	**+1.3**
	baz=281							
CCB	**Clear Creek Bu**	**68.78**	**28**		IAMs_20	IAMs_20	05 43 52.7	
	comp=Z,9µm,20.0s							
PMR	**Palmer**	**68.80**	**31**		IAmb	IAmb	05 12 11.9	
	comp=Z,236nm,0.8s							
PMR	**Palmer**	**68.80**	**31**		P	**P**	**05 12 09.6**	**+0.5**
PMR	**Palmer**	**68.80**	**31**		P	**P**	**05 12 08.3**	**-0.8**
	baz=281,SNR=106							
PMR					S	**S**	**05 21 11.4**	**-0.7**
	baz=281							
C26K	**Camden Bay**	**68.82**	**22**		P	**P**	**05 12 09.9**	**+0.8**
	baz=282,SNR=363							
C26K					S	**S**	**05 21 13.3**	**+1.1**
	baz=282							
POKR	**Poker Plat Res**	**68.85**	**27**		IAmb	IAmb	05 12 14.8	
	comp=Z,295nm,0.9s							
POKR	**Poker Plat Res**	**68.85**	**27**		P	**P**	**05 12 09.6**	**+0.1**
	baz=281,SNR=90							
POKR					S	**S**	**05 21 12.3**	**-0.4**
	baz=281							
GHO	**Glory Hole Cre**	**68.86**	**31**		IAmb	IAmb	05 12 12.8	
	comp=Z,209nm,0.8s							
GHO					IAMs_20	IAMs_20	05 46 05.3	
	comp=Z,11µm,19.0s							
SEW	**Seward**	**68.94**	**32**		IAmb	IAmb	05 12 15.7	
	comp=Z,247nm,1.0s							
SEW					IAMs_20	IAMs_20	05 44 41.8	
	comp=Z,10µm,19.0s							
SEW	**Seward**	**68.94**	**32**		P	**P**	**05 12 09.0**	**-1.1**
	baz=282,SNR=45							
SEW					S	**S**	**05 21 11.7**	**-2.2**
	baz=282							
MSVF	**Nonsavu**	**68.96**	**122**		LR	LR	05 37 06.5	
	comp=Z,5µm,21.8s,baz=323,slow=31							
MSVF	**Nonsavu**	**68.96**	**122**		P	**P**	**05 12 14.9**	**+4.0**
E25K	**Arctic Village**	**68.97**	**24**		IAmb	IAmb	05 12 15.0	
	comp=Z,428nm,1.6s							
E25K					IAMs_20	IAMs_20	05 43 55.0	
	comp=Z,15µm,19.0s							
E25K	**Arctic Village**	**68.97**	**24**		P	**P**	**05 12 10.6**	**+0.5**
	baz=282,SNR=130							
E25K					S	**S**	**05 21 15.6**	**+1.5**
	baz=282							
JOF	**Joensuu**	**69.02**	**331**	*e*	P	**P**	**05 12 11.2**	**+0.8**
G25K	**Bearman Lake**	**69.05**	**25**		P	**P**	**05 12 11.4**	**+0.9**
	baz=282,SNR=184							
G25K					S	**S**	**05 21 17.3**	**+2.3**
	baz=282							
F25K	**Christian Rive**	**69.05**	**24**		IAmb	IAmb	05 12 14.0	
	comp=Z,189nm,0.8s							
F25K					IAMs_20	IAMs_20	05 43 04.6	
	comp=Z,11µm,20.0s							
F25K	**Christian Rive**	**69.05**	**24**		P	**P**	**05 12 11.4**	**+0.7**
	baz=282,SNR=291							
F25K					S	**S**	**05 21 15.9**	**+0.7**
	baz=282							
KHAM	**Kharkiv**	**69.07**	**316**		P	**P**	**05 12 12.2**	**+1.1**
SML	**Sawmill**	**69.13**	**31**		IAMs_20	IAMs_20	05 46 13.4	
	comp=Z,12µm,19.0s							
SML	**Sawmill**	**69.13**	**31**		P	**P**	**05 12 10.7**	**-0.5**
	baz=282,SNR=125							
SML					S	**S**	**05 21 15.8**	**-0.5**
	baz=282							
ILAR	**Eielson Array**	**69.15**	**27**		P	**P**	**05 12 09.6**	**-1.7**
	comp=Z,29nm,0.7s,baz=270,slow=4.2,SNR=132							
ILAR					PKPPKP	**P'P'df**	**05 40 23.1**	**-4.2**
	comp=Z,1.8nm,1.1s,baz=139,slow=2.4,SNR=6.6							
ILAR					LR	LR	05 47 12.4	
	comp=Z,5µm,18.4s,baz=308,slow=40							
	comp=Z,29nm,0.7s							
KNK	**Knik Glacier**	**69.15**	**31**		IAmb	IAmb	05 12 14.7	
	comp=Z,289nm,0.8s							
KNK					IAMs_20	IAMs_20	05 42 50.3	
	comp=Z,10µm,19.0s							
KNK	**Knik Glacier**	**69.15**	**31**		P	**P**	**05 12 11.0**	**-0.4**
	baz=282,SNR=162							
KNK					S	**S**	**05 21 14.8**	**-1.7**
	baz=282							
HDA	**Harding Lake**	**69.20**	**28**		IAmb	IAmb	05 12 15.5	
	comp=Z,499nm,1.5s							
HDA	**Harding Lake**	**69.20**	**28**		P	**P**	**05 12 10.4**	**-1.2**
	baz=282,SNR=134							
HDA					S	**S**	**05 21 15.9**	**-1.0**
	baz=282							
KEV	**Kevo**	**69.25**	**338**		P	**P**	**05 12 11.2**	**-0.5**
KEV					IAmb	IAmb	05 12 13.8	
	comp=Z,161nm,1.1s							
KEV	**Kevo**	**69.25**	**338**		P	**P**	**05 12 11.2**	**-0.5**
KEV					pmax	pmax		
	comp=Z,161nm,1.1s							
KEV					MLR	MLR		
	comp=Z,22µm,19.0s							
KEV	**Kevo**	**69.25**	**338**	⇑	P	**P**	**05 12 11.7**	**-0.1**
KEV	**Kevo**	**69.25**	**338**		P	**P**	**05 12 11.2**	**-0.5**
KEV					S	**S**	**05 21 15.9**	**-1.3**
H25L	**Birch Creek**	**69.26**	**26**		P	**P**	**05 12 12.5**	**+0.6**
	baz=282							
H25L					S	**S**	**05 21 17.2**	**-0.4**
	baz=282							
C27K	**Jago River**	**69.29**	**22**		IAMs_20	IAMs_20	05 43 14.7	
	comp=Z,16µm,18.0s							
C27K	**Jago River**	**69.29**	**22**		P	**P**	**05 12 12.6**	**+0.5**
	baz=283,SNR=471							
C27K					S	**S**	**05 21 18.0**	**+0.1**
	baz=283							
PWL	**Port Wells**	**69.32**	**32**		IAMs_20	IAMs_20	05 44 59.0	
	comp=Z,9µm,18.0s							
PWL	**Port Wells**	**69.32**	**32**		P	**P**	**05 12 11.7**	**-0.8**
	baz=282,SNR=105							
PWL					S	**S**	**05 21 16.7**	**-1.8**
	baz=282							
MSF	**Maaselka**	**69.35**	**334**		P	**P**	**05 12 11.1**	**-1.4**
MSF					pmax	pmax		
	comp=Z,200nm,1.3s							
M23K	**Glacier View**	**69.41**	**30**		P	**P**	**05 12 12.4**	**-0.6**
	baz=282,SNR=128							
M23K					S	**S**	**05 21 18.4**	**-1.2**
	baz=282							
FYU	**Fort Yukon**	**69.43**	**25**		IAmb	IAmb	05 12 16.1	
	comp=Z,309nm,1.2s							
FYU					IAMs_20	IAMs_20	05 44 25.6	
	comp=Z,9µm,21.0s							
DGTI	**Dogotuki**	**69.47**	**119**		P	**P**	**05 12 18.0**	**+4.0**
ANN	**Anapa**	**69.48**	**311**	*e*	P	**P**	**05 12 13.0**	**-0.7**
ANN				*e*			05 14 46.6	
ANN				*e*	S	**S**	**05 21 20.7**	**-0.1**
ANN				*e*	SS	**SS**	**05 25 54.1**	**+6.3**
ANN					pmax	pmax		
	comp=Z,429nm,1.2s							
ANN					pmax	pmax		
	comp=N,126nm,0.9s							
ANN					pmax	pmax		
	comp=E,160nm,1.2s							
ANN					MLR	MLR		
	comp=E,20µm,16.0s							
ANN					MLR	MLR		
	comp=N,17µm,20.0s							
ANN					MLR	MLR		
	comp=Z,25µm,17.0s							
BMAR	**Burnt Mountain**	**69.48**	**24**		P	**P**	**05 12 13.2**	**-0.2**
PRP	**Porcupine Dome**	**69.55**	**26**		IAmb	IAmb	05 12 19.3	
	comp=Z,528nm,1.6s							
PRP					IAMs_20	IAMs_20	05 42 07.8	
	comp=Z,9µm,20.0s							
PRP	**Porcupine Dome**	**69.55**	**26**		P	**P**	**05 12 13.6**	**-0.3**
	baz=283,SNR=143							
PRP					S	**S**	**05 21 20.4**	**-0.9**
	baz=283							
F26K	**Sheenjek River**	**69.58**	**24**		IAmb	IAmb	05 12 17.2	
	comp=Z,252nm,0.9s							
F26K					IAMs_20	IAMs_20	05 45 27.4	
	comp=Z,16µm,18.0s							
F26K	**Sheenjek River**	**69.58**	**24**		P	**P**	**05 12 14.7**	**+0.7**
	baz=283,SNR=274							
F26K					S	**S**	**05 21 24.1**	**+2.6**
	baz=283							
SCM	**Sheep Creek Mo**	**69.59**	**30**		IAMs_20	IAMs_20	05 43 06.8	
	comp=Z,9µm,18.0s							
SCM	**Sheep Creek Mo**	**69.59**	**30**		P	**P**	**05 12 13.8**	**-0.4**
	baz=283,SNR=133							
SCM					S	**S**	**05 21 21.5**	**-0.2**
	baz=283							
SPA0	**Spitsbergen Ar**	**69.69**	**348**		IVmB_BB		05 12 15.2	
	comp=Z,2µm,3.0s							
SPA0				*e*	P	**P**	**05 12 15.7**	**+1.2**
SPA0				*e*	S	**S**	**05 21 20.7**	**-1.7**
SPA0					IVMs_BB	IVMs_BB	05 46 46.8	
	comp=Z,30µm,16.1s							
SPITS	**Spitsbergen Ar**	**69.69**	**348**		P	**P**	**05 12 13.4**	**-1.1**
	comp=Z,33nm,0.9s,baz=90,slow=8.4,SNR=14							
SPITS					LR	LR	05 46 50.0	
	comp=Z,51µm,18.2s,baz=19,slow=40							
	comp=Z,33nm,0.9s							
ARA0	**ARCESS Array S**	**69.81**	**338**	*e*	P	**P**	**05 12 16.3**	**+1.0**
ARA0					IVmB_BB		05 12 16.4	
	comp=Z,2µm,3.5s							
ARA0				*e*	S	**S**	**05 21 25.5**	**+1.6**
ARA0					IVMs_BB	IVMs_BB	05 46 01.0	
	comp=Z,10µm,17.3s							
ARCES	**ARCESS Array B**	**69.81**	**338**		P	**P**	**05 12 14.5**	**-0.8**
	comp=Z,54nm,1.0s,baz=70,slow=8.2,SNR=32							
ARCES					LR	LR	05 46 22.4	
	comp=Z,26µm,18.8s,baz=70,slow=39							
	comp=Z,54nm,1.0s							
J25K	**Salcha River,**	**69.82**	**27**		IAMs_20	IAMs_20	05 46 58.0	
	comp=Z,10µm,20.0s							
J25K	**Salcha River,**	**69.82**	**27**		P	**P**	**05 12 13.7**	**-1.8**
	baz=283,SNR=100							
J25K					S	**S**	**05 21 22.6**	**-1.7**
	baz=283							
K24K	**Donnelly Dome**	**69.83**	**28**		IAMs_20	IAMs_20	05 44 49.3	
	comp=Z,10µm,19.0s							
K24K	**Donnelly Dome**	**69.83**	**28**		P	**P**	**05 12 14.9**	**-0.6**
	baz=283,SNR=210							
K24K					S	**S**	**05 21 24.1**	**-0.3**
	baz=283							
G26K	**Porcupine Rive**	**69.90**	**25**		IAmb	IAmb	05 12 21.0	
	comp=Z,304nm,1.0s							
G26K					IAMs_20	IAMs_20	05 42 06.1	
	comp=Z,9µm,20.0s							
G26K	**Porcupine Rive**	**69.90**	**25**		P	**P**	**05 12 16.2**	**+0.4**
	baz=284,SNR=306							
G26K					S	**S**	**05 21 25.1**	**+0.1**
	baz=284							
GLI	**Glacier Island**	**69.91**	**31**		P	**P**	**05 12 15.6**	**-0.4**
	baz=283,SNR=51							
GLI					S	**S**	**05 21 23.5**	**-1.9**
	baz=283							
SGF	**Sodankyl**	**69.96**	**336**		P	**P**	**05 12 15.7**	**-0.5**
SGF					pmax	pmax		
	comp=Z,245nm,1.3s							
P23K	**Montague Islan**	**69.97**	**32**		P	**P**	**05 12 15.7**	**-0.7**
	baz=283,SNR=27							
P23K					S	**S**	**05 21 27.0**	**+0.9**
	baz=283							
TAVE	**Taveuni**	**69.98**	**120**		P	**P**	**05 12 21.7**	**+4.6**
M24K	**Tolsona, Glenn**	**70.05**	**30**		IAMs_20	IAMs_20	05 43 00.2	
	comp=Z

KBS IVMs_BB IVMs_BB 05 46 48.1
comp=Z,41µm,15.8s
KBS Kingsbay 70.24 349 *i* P **P 05 12 16.1 -1.7**
RIDG Independent Ri 70.25 28 IAMs_20 IAMs_20 05 47 57.4
comp=Z,9µm,18.0s
RIDG Independent Ri 70.25 28 P **P 05 12 17.6 -0.6**
RIDG S **S 05 21 25.8 -3.6**
baz=284
MOO Moorlands 70.25 160 P **P 05 12 19.4 +1.2**
comp=Z,0.0nmcomp=Z,80nm,1.7s
HSPB Hornsund (broa 70.28 347 *e*P **P 05 12 16.6 -1.4**
HSPB *e*S **S 05 21 26.2 -3.0**
HSPB *e*L L 05 39 48.0
comp=Z,50µm,25.3s
HIN Hinchinbrook I 70.31 32 IAmb IAmb 05 12 22.0
HIN IAMs_20 IAMs_20 05 43 16.7
comp=Z,12µm,21.0s
KLU Klutina 70.32 31 IAmb IAmb 05 12 22.2
comp=Z,230nm,0.8s
KLU IAMs_20 IAMs_20 05 43 21.2
comp=Z,10µm,20.0s
KLU Klutina 70.32 31 P **P 05 12 18.2 -0.4**
baz=284,SNR=96
KLU S **S 05 21 28.8 -1.5**
baz=284
BJO1 Bjornoya 70.33 344 *e*P **P 05 12 16.5 -1.8**
BJO1 IVmB_BB 05 12 17.5
comp=Z,2µm,3.2s
BJO1 *e*S **S 05 21 27.0 -2.8**
BJO1 IVMs_BB IVMs_BB 05 48 33.2
comp=Z,14µm,15.8s
D27M Malcolm River 70.33 22 IAmb IAmb 05 12 24.1
comp=Z,482nm,1.2s
D27M Malcolm River 70.33 22 P **P 05 12 18.8 +0.2**
baz=286,SNR=360
D27M S **S 05 21 30.9 +0.7**
baz=286
MSEY Mahe Island 70.38 255 IAMs_20 IAMs_20 05 40 33.8
comp=Z,11µm,20.0s
MSEY Mahe Island 70.38 255 P **P 05 12 20.3 +0.5**
MSEY Mahe Island 70.38 255 *i* P **P 05 12 20.2 +0.5**
SNR=20
E27K Coleen River 70.39 23 IAmb IAmb 05 12 24.5
comp=Z,528nm,1.4s
E27K IAMs_20 IAMs_20 05 44 30.8
comp=Z,16µm,20.0s
E27K Coleen River 70.39 23 P **P 05 12 19.2 +0.2**
baz=285,SNR=315
E27K S **S 05 21 31.9 +1.0**
baz=285
HARP HAARP 70.44 30 P **P 05 12 19.6 +0.3**
baz=284,SNR=59
HARP S **S 05 21 31.0 -0.6**
baz=284
DIV Divide 70.48 31 IAmb IAmb 05 12 23.2
comp=Z,294nm,1.0s
DIV IAMs_20 IAMs_20 05 44 04.4
comp=Z,9µm,18.0s
SCRK Sand Creek 70.56 28 IAmb IAmb 05 12 24.9
comp=Z,175nm,0.9s
SCRK IAMs_20 IAMs_20 05 47 55.5
comp=Z,8µm,19.0s
SCRK Sand Creek 70.56 28 P **P 05 12 19.4 -0.7**
baz=285,SNR=174
SCRK S **S 05 21 31.7 -1.4**
baz=285
I26K Coal Creek Min 70.56 26 P **P 05 12 19.6 -0.3**
baz=285
I26K S **S 05 21 33.5 +0.6**
baz=285
J26L Joseph Creek 70.60 27 IAmb IAmb 05 12 23.9
comp=Z,258nm,0.8s
J26L Joseph Creek 70.60 27 P **P 05 12 19.5 -0.8**
baz=285,SNR=351
J26L S **S 05 21 32.3 -1.3**
baz=285
DOT Dot Lake 70.61 28 IAmb IAmb 05 12 24.1
comp=Z,145nm,0.8s
DOT IAMs_20 IAMs_20 05 49 09.5
comp=Z,11µm,18.0s
EYAK Cordova Ski Ar 70.63 32 IAmb IAmb 05 12 24.3
comp=Z,300nm,1.0s
EYAK IAMs_20 IAMs_20 05 43 49.2
comp=Z,15µm,20.0s
EYAK Cordova Ski Ar 70.63 32 P **P 05 12 22.4 +2.0**
EYAK Cordova Ski Ar 70.63 32 P **P 05 12 20.8 +0.4**
baz=284,SNR=38
EYAK S **S 05 21 33.9 +0.1**
baz=284
TAU Tasmania Unive 70.72 160 P **P 05 12 25.2 +4.2**
TAU Tasmania Unive 70.72 160 P **P 05 12 23.3 +2.3**
TAU pmax pmax
comp=Z,84nm,1.7s
KTK1 Kautokeino 70.73 338⇑ *i*P **P 05 12 20.0 -0.9**
KTK1 IVmB_BB 05 12 21.8
comp=Z,3µm,2.8s
KTK1 *i* 05 16 41.3
KTK1 *e*S **S 05 21 35.5 +0.9**
KTK1 IVMs_BB IVMs_BB 05 48 02.7
comp=Z,11µm,14.2s
G27K Doyon Strip 70.75 25 IAmb IAmb 05 12 24.1
comp=Z,183nm,1.1s
G27K IAMs_20 IAMs_20 05 42 38.5
comp=Z,8µm,19.0s
G27K Doyon Strip 70.75 25 P **P 05 12 21.6 +0.5**
baz=286,SNR=160
G27K S **S 05 21 36.3 +1.3**
baz=286
OUL Oulu 70.82 333 P **P 05 12 21.0 -0.5**
OUL pmax pmax
comp=Z,250nm,1.2s
N25K Chitina, Valde 70.90 30 IAmb IAmb 05 12 29.9
comp=Z,175nm,0.8s
N25K IAMs_20 IAMs_20 05 43 28.3
comp=Z,13µm,20.0s
N25K Chitina, Valde 70.90 30 P **P 05 12 22.6 +0.4**
baz=285,SNR=72
N25K S **S 05 21 37.3 +0.1**
baz=285
MENT Mentasta 70.95 29 IAmb IAmb 05 12 30.5
comp=Z,268nm,0.8s
MENT IAMs_20 IAMs_20 05 43 09.5
comp=Z,13µm,21.0s
MENT Mentasta 70.95 29 P **P 05 12 23.5 +1.1**
H27K Steamboat Moun 70.96 25 IAmb IAmb 05 12 28.3
comp=Z,479nm,1.4s
H27K IAMs_20 IAMs_20 05 44 32.1
comp=Z,9µm,19.0s
H27K Steamboat Moun 70.96 25 P **P 05 12 22.9 +0.5**
baz=286,SNR=224
H27K S **S 05 21 38.5 +0.9**
baz=286
E28M Babbage River 71.01 23 IAmb IAmb 05 12 25.3
comp=Z,231nm,1.0s
E28M Babbage River 71.01 23 P **P 05 12 22.7 0.0**
baz=287,SNR=199
E28M S **S 05 21 36.8 -1.2**
baz=287
D28M Stokes Point 71.06 22 P **P 05 12 23.2 +0.3**
baz=288,SNR=92
D28M S **S 05 21 38.3 -0.3**
baz=288
BMRM Bremner River 71.07 31 IAMs_20 IAMs_20 05 41 49.0
comp=Z,11µm,22.0s
BMRM Bremner River 71.07 31 P **P 05 12 22.9 -0.3**
baz=285,SNR=74
BMRM S **S 05 21 37.4 -1.6**
baz=285
L26K Log Cabin Wild 71.09 29 IAmb IAmb 05 12 27.1
comp=Z,164nm,0.8s
L26K IAMs_20 IAMs_20 05 48 37.2
comp=Z,14µm,18.0s
L26K Log Cabin Wild 71.09 29 P **P 05 12 23.5 +0.3**
baz=286,SNR=119
L26K S **S 05 21 39.0 -0.2**
baz=286
I27K Kandik River 71.10 26 P **P 05 12 23.8 +0.5**
baz=286,SNR=325
I27K S **S 05 21 40.8 +1.5**
baz=286
RAGM Ragged Mountai 71.19 32 IAmb IAmb 05 12 29.4
comp=Z,394nm,1.0s
RAGM IAMs_20 IAMs_20 05 47 47.9
comp=Z,17µm,18.0s
GLB Gilahina Butte 71.31 30 IAMs_20 IAMs_20 05 44 00.4
comp=Z,10µm,20.0s

K27K Chicken 71.36 28 P **P 05 12 25.1 +0.3**
baz=286
K27K S **S 05 21 40.3 -1.8**
baz=286
HMT Hamilton 71.40 32 IAmb IAmb 05 12 28.8
comp=Z,272nm,0.9s
HMT IAMs_20 IAMs_20 05 48 10.5
comp=Z,14µm,18.0s
M26K Nabesna, AK 71.42 29 IAMs_20 IAMs_20 05 43 46.2
comp=Z,10µm,20.0s
M26K Nabesna, AK 71.42 29 S **S 05 21 43.0 -0.1**
baz=286
KAIM Kayak Island 71.44 32 IAMs_20 IAMs_20 05 49 05.5
comp=Z,17µm,18.0s
KAIM Kayak Island 71.44 32 P **P 05 12 25.8 +0.5**
baz=286,SNR=16
JETT Jettan, Norway 71.52 339⇑ *i*P **P 05 12 25.3 -0.4**
JETT IVmB_BB 05 12 28.1
comp=Z,4µm,4.8s
JETT *e*PP **PP 05 15 04.9 +0.9**
JETT *e*S **S 05 21 45.0 +1.0**
JETT IVMs_BB IVMs_BB 05 50 46.6
comp=Z,18µm,15.2s
VRDI Verde Repeater 71.54 31 IAMs_20 IAMs_20 05 43 41.4
comp=Z,8µm,19.0s
GAZ Gaziantep 71.64 303 P **P 05 12 27.6 +0.5**
GAZ IAmb IAmb 05 12 39.9
comp=Z,233nm,1.1s
E29M Blow River 71.65 23 IAmb IAmb 05 12 31.8
comp=Z,340nm,1.5s
E29M IAMs_20 IAMs_20 05 46 01.9
comp=Z,14µm,20.0s
E29M Blow River 71.65 23 P **P 05 12 26.5 +0.1**
baz=289,SNR=154
E29M S **S 05 21 44.9 -0.4**
baz=289
BERG Berg Lake 71.65 31 IAMs_20 IAMs_20 05 44 53.4
comp=Z,10µm,20.0s
LKBA Tubou, Lakemba 71.69 120 P **P 05 12 29.9 +2.4**
SIM Simferopol' 71.72 312 *c i*P **P 05 12 26.7 -0.7**
SIM *e* 05 12 46.0
SIM *e* 05 15 07.0
SIM *e*S **S 05 21 44.0 -3.0**
SIM pmax pmax
comp=Z,209nm,0.7s
L27K Beaver Creek, 71.74 28 IAmb IAmb 05 12 31.5
comp=Z,299nm,0.8s
L27K IAMs_20 IAMs_20 05 48 25.8
comp=Z,9µm,20.0s
L27K Beaver Creek, 71.74 28 P **P 05 12 27.8 +0.6**
baz=287,SNR=339
L27K S **S 05 21 46.3 -0.4**
baz=287
FIA1 FINESS Array S 71.76 330 P **P 05 12 26.5 -0.8**
FINES FINESS Array B 71.76 330 P **P 05 12 25.8 -1.4**
FINES FINESS Array B 71.76 330 P **P 05 12 26.9 -0.3**
comp=Z,103nm,1.0s,baz=73,slow=6.6,SNR=110
FINES LR LR 05 46 44.5
comp=Z,59µm,19.1s,baz=74,slow=38
comp=Z,103nm,1.0s
FINES FINESS Array B 71.76 330 *i* P **P 05 12 26.7 -0.5**
FINES pmax pmax
comp=Z,103nm,1.0s
I28M Miner Creek 71.81 26 IAmb IAmb 05 12 32.6
comp=Z,230nm,1.0s
I28M IAMs_20 IAMs_20 05 43 27.3
comp=Z,12µm,20.0s
I28M Miner Creek 71.81 26 P **P 05 12 28.1 +0.4**
baz=288,SNR=195
I28M S **S 05 21 48.8 +1.2**
baz=288
DIKM Dikmen 71.83 308⇑ P **P 05 12 30.2 +2.1**
M27K Edge Creek, AK 71.93 29 IAMs_20 IAMs_20 05 48 55.4
comp=Z,14µm,18.0s
M27K Edge Creek, AK 71.93 29 P **P 05 12 28.6 +0.2**
baz=287,SNR=86
M27K S **S 05 21 48.9 -0.2**
baz=287
BGLC Bering Glacier 71.93 32 P **P 05 12 29.0 +0.7**
baz=287
TRO Tromso 71.98 339 P **P 05 12 26.8 -1.6**
TRO Tromso 71.98 339⇑ *i*P **P 05 12 27.7 -0.7**
TRO IVmB_BB 05 12 30.4
comp=Z,2µm,20.9s
TRO *e*S **S 05 21 50.6 +1.5**
TRO IVMs_BB IVMs_BB 05 51 12.1
comp=Z,10µm,14.0s
WAX Waxell Ridge 72.04 31 IAMs_20 IAMs_20 05 44 46.4
comp=Z,14µm,18.0s
G29M Pine Creek 72.08 24 IAmb IAmb 05 12 31.7
comp=Z,470nm,1.1s
G29M IAMs_20 IAMs_20 05 43 43.9
comp=Z,10µm,20.0s
G29M Pine Creek 72.08 24 P **P 05 12 29.5 +0.4**
baz=289,SNR=178
G29M S **S 05 21 51.3 +0.8**
baz=289
KEF Keuruu 72.09 331 *e*P **P 05 12 29.3 0.0**
SNH Sunshine Point 72.13 32 IAMs_20 IAMs_20 05 44 14.0
comp=Z,9µm,18.0s
H29M Whitestone 72.18 25 IAmb IAmb 05 12 34.2
comp=Z,268nm,1.0s
H29M IAMs_20 IAMs_20 05 43 43.4
comp=Z,10µm,21.0s
H29M Whitestone 72.18 25 P **P 05 12 29.8 0.0**
baz=289,SNR=172
H29M S **S 05 21 52.1 +0.5**
baz=289
BNN Bunyan 72.19 305 IAmb IAmb 05 12 43.0
comp=Z,578nm,1.3s
VSU Vasula 72.31 327 *c i*P **P 05 12 28.8 -1.8**
VSU pmax pmax
comp=Z,141nm,1.1s
VSU Vasula 72.31 327 *e*P **P 05 12 28.7 -1.8**
BVCY Beaver Creek 72.36 29 P **P 05 12 31.5 +0.5**
baz=288,SNR=23
BVCY S **S 05 21 56.4 +2.5**
baz=288
ARBE Arbavere 72.39 328 *e*P **P 05 12 30.6 -0.5**
DAWY Dawson 72.47 27 P **P 05 12 31.1 -0.5**
DAWY IAmb IAmb 05 12 35.9
comp=Z,312nm,0.9s
DAWY IAMs_20 IAMs_20 05 49 56.1
comp=Z,8µm,18.0s
DAWY Dawson 72.47 27 P **P 05 12 31.7 +0.1**
baz=289,SNR=323
DAWY S **S 05 21 55.6 +0.5**
baz=289
I29M Ogilvie Camp, 72.49 26 IAMs_20 IAMs_20 05 45 38.4
comp=Z,14µm,18.0s
I29M Ogilvie Camp, 72.49 26 P **P 05 12 31.8 +0.2**
baz=289
I29M S **S 05 21 55.7 +0.5**
baz=289
NOR Nord 72.51 354 P **P 05 12 30.0 -1.5**
NOR pmax pmax
comp=Z,44nm,1.2s
NOR Nord 72.51 354 *i* P **P 05 12 30.0 -1.5**
NOR IAmb IAmb 05 12 32.4
comp=Z,6.8nm,1.0s
MESA MESA 72.55 31 IAMs_20 IAMs_20 05 50 32.9
comp=Z,11µm,19.0s
MESA MESA 72.55 31 P **P 05 12 32.4 +0.1**
baz=288,SNR=20
MESA S **S 05 21 56.9 +0.5**
baz=288
YAH Yahtse 72.59 31 IAMs_20 IAMs_20 05 48 41.0
comp=Z,11µm,19.0s
BZK Bozkurt 72.64 309⇑ P **P 05 12 34.2 +1.3**
BZK Bozkurt 72.64 309 P **P 05 12 33.7 +0.8**
comp=Z,6µmcomp=Z,236nm,1.1s
F30M Barrier River 72.66 23 IAmb IAmb 05 12 35.0
comp=Z,336nm,1.1s
F30M IAMs_20 IAMs_20 05 45 53.7
comp=Z,15µm,19.0s
F30M Barrier River 72.66 23 P **P 05 12 32.4 -0.2**
baz=291,SNR=266
F30M S **S 05 21 55.6 -1.5**
baz=291
G30M tAoh Zraii Nji 72.73 24 IAmb IAmb 05 12 34.7
comp=Z,385nm,1.1s
G30M IAMs_20 IAMs_20 05 44 59.4
comp=Z,13µm,20.0s
G30M tAoh Zraii Nji 72.73 24 P **P 05 12 32.1 -1.0**
baz=291,SNR=199
G30M S **S 05 21 57.4 -0.5**
baz=291

YUK3 Moose Creek 72.74 30 P **P 05 12 33.4 0.0**
baz=288,SNR=11
YUK3 S **S 05 21 59.2 +0.6**
baz=288
EPYK Eagle Plains 72.76 24 IAmb IAmb 05 12 35.0
comp=Z,255nm,1.1s
EPYK IAMs_20 IAMs_20 05 44 56.6
comp=Z,9µm,18.0s
EPYK Eagle Plains 72.76 24 P **P 05 12 32.4 -0.8**
baz=290,SNR=142
EPYK S **S 05 22 00.2 +1.9**
baz=290
VAF Ylistaro 72.78 332 *e*P **P 05 12 32.1 -1.2**
J29N Klondike Camp 72.83 27 IAMs_20 IAMs_20 05 47 02.4
comp=Z,10µm,20.0s
J29N Klondike Camp 72.83 27 P **P 05 12 34.4 +0.7**
baz=290
J29N S **S 05 22 00.6 +1.4**
baz=290
MNK Minsk 72.87 322 *i* P **P 05 12 34.3 +0.3**
MNK *i* 05 15 16.4
MNK *i* PPP PPP 05 17 01.0
MNK *i* S **S 05 22 01.3 +1.5**
MNK *i* SS **SS 05 26 43.3 +3.9**
MNK pmax pmax
comp=N,49nm,1.4s
MNK pmax pmax
comp=Z,76nm,0.8s
MNK pmax pmax
comp=E,34nm,1.2s
MNK MLR MLR
comp=N,28µm,17.0s
MNK MLR MLR
comp=Z,36µm,16.0s
MNK MLR MLR
comp=E,6µm,14.0s
MEF Metsahovi 72.92 329 *e*P **P 05 12 33.2 -1.0**
ILGA Ilgaz 73.11 308 IAmb IAmb 05 12 40.6
comp=Z,505nm,1.4s
FKH Fakeheh 73.13 300 *e*P **P 05 12 37.2 +1.1**
KIP Kipapa 73.16 74 IAMs_20 IAMs_20 05 39 42.0
comp=Z,18µm,21.0s
KIP Kipapa 73.16 74 P **P 05 12 39.3 +3.0**
KIP Kipapa 73.16 74 P **P 05 12 39.0 +2.7**
O28M Mount Upton 73.19 30 IAMs_20 IAMs_20 05 43 31.1
comp=Z,9µm,21.0s
O28M Mount Upton 73.19 30 P **P 05 12 36.5 +0.3**
baz=289,SNR=22
O28M S **S 05 22 03.9 0.0**
baz=289
INK Inuvik 73.19 22 LR LR 05 47 24.1
comp=Z,12µm,19.9s,baz=298,slow=38
INK Inuvik 73.19 22 P **P 05 12 35.0 -0.7**
baz=293,SNR=207
INK S **S 05 22 01.3 -1.7**
baz=293
HON Honolulu 73.20 74 IAMs_20 IAMs_20 05 39 53.2
comp=Z,17µm,21.0s
BEIL Beino 73.21 301 *e*P **P 05 12 36.9 +0.4**
YUK8 Steele Glacier 73.22 30 P **P 05 12 36.8 +0.4**
baz=289,SNR=16
YUK8 S **S 05 22 04.3 +0.2**
baz=289
AKASG Malin Array Be 73.23 318 P **P 05 12 35.1 -1.2**
AKASG IAmb IAmb 05 13 06.1
comp=Z,266nm,1.4s
AKASG Malin Array Be 73.23 318 P **P 05 12 35.0 -1.2**
comp=Z,29nm,6.7s,baz=61,slow=6.0,SNR=107
comp=Z,29nm,0.7s
AKASG Malin Array Be 73.23 318 *i* P **P 05 12 35.0 -1.2**
AKASG pmax pmax
comp=Z,39nm,0.8s
AKBB Malin Array Si 73.23 318 IAmb IAmb 05 12 39.3
comp=Z,638nm,2.0s
AK08 Malin Array Si 73.23 318 P **P 05 12 35.6 -0.6**
AK01 Malin Array Si 73.24 318 P **P 05 12 35.3 -1.0**
KIEV Kiev 73.24 318 P **P 05 12 34.9 -1.4**
KIEV IAmb IAmb 05 12 39.3
comp=Z,534nm,1.9s
KIEV Kiev 73.24 318 P **P 05 12 34.9 -1.4**
KIEV pmax pmax
comp=Z,534nm,2.0s
KIEV MLR MLR
comp=Z,20µm,20.0s
KIEV Kiev 73.24 318 *i* P **P 05 12 35.3 -1.0**
SNR=34
AK11 Malin Array Si 73.27 318 P **P 05 12 35.5 -1.0**
AK15 Malin Array Si 73.29 318 P **P 05 12 35.7 -0.9**
I30M Mount Dempster 73.30 25 P **P 05 12 36.1 -0.4**
I30M IAmb IAmb 05 12 41.4
comp=Z,366nm,1.2s
I30M IAMs_20 IAMs_20 05 46 02.5
comp=Z,10µm,19.0s
I30M Mount Dempster 73.30 25 P **P 05 12 36.2 -0.3**
baz=291,SNR=187
I30M S **S 05 22 02.8 -1.8**
baz=291
L29M L29M 73.32 28 P **P 05 12 37.5 +0.8**
baz=290,SNR=325
L29M S **SKiKP 05 22 07.2 -0.4**
baz=290
K29M Barlow Dome 73.32 27 IAmb IAmb 05 12 41.5
comp=Z,234nm,1.1s
K29M Barlow Dome 73.32 27 P **P 05 12 37.0 +0.3**
baz=290,SNR=159
K29M S **SKiKP 05 22 06.4 -1.4**
baz=290
ASF Jabal al Asfar 73.38 298 LR LR 05 49 36.2
comp=Z,16µm,19.5s,baz=100,slow=40
PINM Pinnacle 73.38 31 P **P 05 12 37.4 +0.3**
baz=289,SNR=39
PINM S **S 05 22 06.1 +0.5**
baz=289
M29M Somme Creek 73.41 29 P **P 05 12 37.9 +0.7**
baz=290,SNR=89
M29M S **SKiKP 05 22 07.7 -0.1**
baz=290
CIDE Kastamonu/Cide 73.42 309⇑ P **P 05 12 39.1 +1.6**
F31M Tsiigehtchic 73.45 23 IAmb IAmb 05 12 38.8
comp=Z,256nm,0.9s
F31M Tsiigehtchic 73.45 23 P **P 05 12 36.4 -0.8**
baz=293,SNR=276
F31M S **S 05 22 04.3 -1.7**
baz=293
G31M Satah River 73.46 24 P **P 05 12 36.0 -1.3**
G31M IAMs_20 IAMs_20 05 45 41.9
comp=Z,11µm,20.0s
G31M Satah River 73.46 24 P **P 05 12 36.0 -1.3**
baz=292,SNR=154
G31M S **S 05 22 05.2 -0.9**
baz=292
HWQ Hawqa 73.48 301 *e*P **P 05 12 37.6 -0.6**
ISAL Salakas 73.51 324 *e*P **P 05 12 37.4 -0.4**
KIRS Kirsehir-Merke 73.55 306⇑ P **P 05 12 39.5 +1.0**
J30M Hart River 73.55 26 IAMs_20 IAMs_20 05 45 15.2
comp=Z,10µm,18.0s
J30M Hart River 73.55 26 P **P 05 12 38.0 -0.1**
baz=291,SNR=116
J30M S **SKiKP 05 22 08.6 +0.5**
baz=291
BR131 Keskin Array S 73.57 307 P **P 05 12 38.5 -0.2**
SNR=91
BRTR Keskin Array B 73.57 307 P **P 05 12 38.2 -0.4**
comp=Z,86nm,0.9s,baz=112,slow=3.3,SNR=144
BRTR LR LR 05 49 24.3
comp=Z,6µm,19.2s,baz=64,slow=39
comp=Z,86nm,0.9s
BRTR Keskin Array B 73.57 307 *i* P **P 05 12 38.2 -0.4**
BRTR pmax pmax
comp=Z,89nm,0.9s
BR104 Keskin Array S 73.57 307 P **P 05 12 39.1 +0.4**
comp=Z,1µmcomp=Z,110nm,1.2s
BR105 Keskin Array S 73.59 307 P **P 05 12 39.2 +0.4**
comp=Z,1µmcomp=Z,118nm,1.0s
MTSE Matsula 73.68 327 *e*P **P 05 12 37.4 -1.3**
YUK4 Talbot Arm 73.70 30 P **P 05 12 39.4 +0.3**
baz=290,SNR=26
YUK4 S **S 05 22 09.0 -0.5**
baz=290
BCPM Bancas Point 73.72 31 IAMs_20 IAMs_20 05 45 19.2
comp=Z,10µm,20.0s
RCY Rachaya 73.81 300 *e*P **P 05 12 40.8 +0.6**
BHL Bhannes 73.83 300 *e*P **P 05 12 40.0 -0.3**
BAL3X Bal3x, Balta 73.84 316 P **P 05 12 40.3 +0.4**
H31M Peel River 73.87 25 IAMs_20 IAMs_20 05 45 40.5
comp=Z,10µm,19.0s
H31M Peel River 73.87 25 P **P 05 12 39.0 -0.7**

baz=293,SNR=109
H31M S **SKiKP** **05 22 08.1 -0.2**
baz=293
STEI Steigen 73.87 338 ⇑*i*P **P** **05 12 38.0 -1.7**
STEI IVmB_BB 05 12 41.6
comp=Z,4μm,4.6s
STEI *e*S **S** **05 22 11.2 +0.5**
STEI IVMs_BB IVMs_BB 05 49 31.1
comp=Z,24μm,13.7s
RAF Rauma 73.87 330 *e*P **P** **05 12 38.2 -1.6**
QRWL Qaraoun 73.92 300 *e*P **P** **05 12 41.3 +0.6**
SHBL Chebaa 73.93 300 *e*P **P** **05 12 41.9 +1.0**
PNL Peninsula 73.93 31 P **P** **05 12 43.4 +3.2**
PNL Peninsula 73.93 31 P **P** **05 12 40.7 +0.5**
baz=290,SNR=21
PNL S **S** **05 22 12.2 +0.5**
baz=290
YUK6 Outpost Mounta 73.97 30 P **P** **05 12 41.5 +0.8**
baz=290,SNR=55
YUK6 S **S** **05 22 13.3 +0.7**
baz=290
FAUS Fauske 74.08 337 *e*P **P** **05 12 39.1 -1.7**
FAUS IVmB_BB 05 12 41.4
comp=Z,3μm,2.6s
FAUS *e*S **S** **05 22 12.1 -0.9**
FAUS IVMs_BB IVMs_BB 05 52 18.6
comp=Z,12μm,15.8s
M30M Minto, Yukon 74.08 28 IAmb IAmb 05 12 46.2
comp=Z,339nm,1.0s
M30M Minto, Yukon 74.08 28 P **P** **05 12 42.0 +0.9**
baz=291,SNR=157
O29M Mount Kennedy 74.10 31 IAMs_20 IAMs_20 05 44 45.9
comp=Z,13μm,20.0s
O29M Mount Kennedy 74.10 31 P **P** **05 12 41.7 +0.4**
baz=290,SNR=32
O29M S **S** **05 22 13.5 -0.3**
baz=290
A36M Sachs Harbour 74.13 17 IAMs_20 IAMs_20 05 47 34.5
comp=Z,14μm,20.0s
A36M Sachs Harbour 74.13 17 P **P** **05 12 40.0 -1.1**
baz=299,SNR=146
A36M S **SKiKP** **05 22 09.1 +0.6**
baz=299
ANTO Ankara 74.14 307 P **P** **05 12 42.0 0.0**
ANTO Ankara 74.14 307 P **P** **05 12 42.4 +0.5**
ANTO Ankara 74.14 307 ⇑P **P** **05 12 42.3 +0.3**
ANTO Ankara 74.14 307 P **P** **05 12 42.0 0.0**
ANTO pmax pmax
comp=Z,175nm,1.0s
ANTO Ankara 74.14 307 P **P** **05 12 42.2 +0.3**
comp=Z,3μmcomp=Z,126nm,1.3s
ANTO Ankara 74.14 307 P **P** **05 12 41.9 0.0**
ANTO S **S** **05 22 17.7 +2.7**
MMAI Mount Meron Ar 74.31 299 P **P** **05 12 42.6 -0.4**
comp=Z,23nm,0.8s,baz=98,slow=3.5,SNR=16
MMAI LR LR 05 50 07.0
comp=Z,18μm,19.2s,baz=55,slow=40
comp=Z,23nm,0.8s
N30M Aishikik Lake 74.36 29 IAmb IAmb 05 12 47.1
comp=Z,251nm,0.9s
N30M IAMs_20 IAMs_20 05 48 31.8
comp=Z,11μm,18.0s
N30M Aishikik Lake 74.36 29 P **P** **05 12 43.6 +0.8**
baz=291,SNR=90
N30M S **S** **05 22 17.0 +0.4**
baz=291
LOF Lofoten 74.36 338 ⇑*i*P **P** **05 12 40.9 -1.7**
LOF IVmB_BB 05 12 42.8
comp=Z,3μm,3.4s
LOF *e*S **S** **05 22 16.2 0.0**
LOF IVMs_BB IVMs_BB 05 49 52.3
comp=Z,16μm,13.0s
LUBAR Lubar, Ukraine 74.37 318 P **P** **05 12 42.0 -0.9**
HYT Haines Junctio 74.41 30 P **P** **05 12 42.3 -0.8**
HYT IAmb IAmb 05 12 47.3
comp=Z,244nm,0.9s
HYT IAMs_20 IAMs_20 05 45 42.9
comp=Z,15μm,20.0s
HYT Haines Junctio 74.41 30 P **P** **05 12 43.7 +0.6**
baz=291,SNR=67
HYT S **S** **05 22 17.3 0.0**
baz=291
VSVD Vaisvydziai 74.55 325 *e*P **P** **05 12 43.4 -0.4**
SORM Soroca 74.57 316 ⇓P **P** **05 12 44.9 +0.7**
SORM Soroca 74.57 316 P **P** **05 12 44.8 +0.7**
SORM Soroca 74.57 316 P **P** **05 12 43.3 -0.8**
comp=Z,5μmcomp=Z,98nm,1.1s
KIS Kishinev 74.64 315 ⇑*i*P **P** **05 12 43.0 -1.6**
comp=Z,1μm,5.5s
KIS Kishinev 74.64 315 *e*PP PP 05 15 31.0 -0.1
KIS *e*S **S** **05 22 16.0 -4.0**
KIS *e*L L 05 44 39.0
KIS LRM MLR 05 49 52.0
comp=Z,6μm,18.0s
MILM Milestii Mici 74.67 315 ⇑*i*P **P** **05 12 43.0 -1.7**
comp=Z,4μm,5.6s
MILM Milestii Mici 74.67 315 *e*PP PP 05 15 30.0 -1.3
PABE Paberze 74.69 324 P **P** **05 12 44.2 -0.4**
PABE IAmb IAmb 05 12 58.6
comp=Z,350nm,1.1s
PABE Paberze 74.69 324 *e*P **P** **05 12 43.9 -0.7**
P29M Windy Craggy 74.73 31 IAMs_20 IAMs_20 05 46 08.9
comp=Z,10μm,20.0s
P29M Windy Craggy 74.73 31 P **P** **05 12 45.7 +0.8**
baz=291,SNR=72
P29M S **S** **05 22 22.4 +1.6**
baz=291
SLIT Slitere, Latvi 74.81 327 *e*P **P** **05 12 43.4 -1.9**
MOR8 Moi Rana 74.89 336 ⇑*i*P **P** **05 12 42.7 -3.0**
MOR8 IVmB_BB 05 12 45.2
comp=Z,3μm,2.9s
MOR8 *e*S **S** **05 22 19.1 -3.1**
MOR8 *e*SS **SS** **05 27 09.5 -0.2**
MOR8 IVMs_BB IVMs_BB 05 49 04.3
comp=Z,15μm,14.1s
P30M Million Dollar 74.92 31 P **P** **05 12 46.7 +0.7**
baz=292
P30M S **S** **05 22 21.7 -1.2**
baz=292
N31M Braeburn, Yuko 74.94 29 IAmb IAmb 05 12 51.1
comp=Z,380nm,0.9s
N31M IAMs_20 IAMs_20 05 46 28.9
comp=Z,10μm,19.0s
N31M Braeburn, Yuko 74.94 29 P **P** **05 12 46.8 +0.8**
baz=292,SNR=95
N31M S **S** **05 22 21.2 -1.7**
baz=292
RNPP8 Varash 75.05 320 P **P** **05 12 46.4 -0.4**
RNPP5 Staryi Chortor 75.06 320 P **P** **05 12 46.5 -0.4**
O30N Mendenhall 75.07 30 IAmb IAmb 05 12 50.9
comp=Z,177nm,0.8s
O30N Mendenhall 75.07 30 P **P** **05 12 47.5 +0.6**
baz=292,SNR=93
O30N S **S** **05 22 23.4 -1.1**
baz=292
VAGH Vaagaholmen 75.07 337 ⇑*i*P **P** **05 12 45.6 -1.1**
VAGH IVmB_BB 05 12 46.9
comp=Z,3μm,3.1s
VAGH *e*S **S** **05 22 23.7 -0.4**
VAGH IVMs_BB IVMs_BB 05 49 01.6
comp=Z,17μm,15.5s
MDUB Mudurnu 75.11 308 P **P** **05 12 47.3 -0.3**
AFI Afiamalu 75.19 113 IAMs_20 IAMs_20 05 41 58.8
comp=Z,9μm,21.0s
AFI Afiamalu 75.19 113 P **P** **05 12 52.1 +3.9**
AFI Afiamalu 75.19 113 P **P** **05 12 50.6 +2.4**
AFI pmax pmax
comp=Z,251nm,1.2s
KONS Konsvik 75.23 337 *e*P **P** **05 12 47.4 -0.2**
KONS IVmB_BB 05 12 48.0
comp=Z,2μm,3.0s
KONS IVMs_BB IVMs_BB 05 49 04.6
comp=Z,15μm,18.9s
ATD Arta Tunnel 75.23 276 LR LR 05 46 47.5
comp=Z,324nm,18.9s,baz=62,slow=36
ATD Arta Tunnel 75.23 276 P **P** **05 12 51.8 +3.2**
SNR=6.7
TLCR 75.23 313 ⇑P **P** **05 12 48.1 0.0**
TLCR 75.23 313 P **P** **05 12 48.0 0.0**
M31M Drury Creek, Y 75.26 28 IAMs_20 IAMs_20 05 47 22.8
comp=Z,7μm,18.0s
M31M Drury Creek, Y 75.26 28 P **P** **05 12 48.0 +0.1**
baz=293
M31M S **S** **05 22 26.5 0.0**
baz=293
CSS Mathiatis 75.31 302 IAmb IAmb 05 13 00.1
comp=Z,191nm,1.0s
CSS IAMs_20 IAMs_20 05 50 19.2
comp=Z,9μm,20.0s
JURR Jurilovca 75.33 313 ⇑P **P** **05 12 49.4 +0.9**
STOK Stokkvaagen 75.34 337 ⇑*i*P **P** **05 12 47.4 -0.8**
STOK IVmB_BB 05 12 48.5
comp=Z,2μm,3.5s
STOK *e*S **S** **05 22 26.4 -0.8**
STOK IVMs_BB IVMs_BB 05 53 11.8
comp=Z,13μm,15.2s
LEIR Leirfjorden 75.40 336 ⇑*i*P **P** **05 12 47.1 -1.5**
LEIR IVmB_BB 05 12 49.0
comp=Z,2μm,2.8s
LEIR *e*PP **PP** **05 15 38.3 +1.3**
LEIR *e*S **S** **05 22 27.5 -0.4**
LEIR IVMs_BB IVMs_BB 05 49 27.0
comp=Z,19μm,14.6s
VLDR Vladesti 75.50 314 ⇑P **P** **05 12 50.6 +1.1**
PBUR Paburge 75.58 325 *e*P **P** **05 12 48.9 -0.9**
TPGR Topolog 75.61 313 ⇑P **P** **05 12 50.9 +0.7**
SCTR Scanteiesti 75.61 314 ⇑P **P** **05 12 51.8 +1.6**
KMPD K-Podol'skiy 75.62 317 P **P** **05 12 49.3 -0.9**
KMPD P **pP** **05 12 49.6 -5.1**
SUW Suwalki 75.64 323 *e*P **P** **05 12 49.5 -0.7**
SUW *e*S **S** **05 22 28.6 -2.3**
SUW *e*L L 05 48 45.9
comp=Z,49μm,18.6s
SUW Suwalki 75.64 323 P **P** **05 12 49.0 -1.2**
SUW Suwalki 75.64 323 P **P** **05 12 49.0 -1.2**
SUW MLR MLR
comp=Z,45μm,19.0s
SUW Suwalki 75.64 323 *e*P **P** **05 12 49.4 -0.7**
BIR Birlad 75.66 314 ⇑P **P** **05 12 51.3 +0.8**
BIR Birlad 75.66 314 P **P** **05 12 51.2 +0.8**
WHY Whitehorse 75.66 30 P **P** **05 12 50.2 -0.1**
WHY IAMs_20 IAMs_20 05 45 46.1
comp=Z,15μm,20.0s
WHY Whitehorse 75.66 30 P **P** **05 12 51.2 +0.9**
baz=293,SNR=92
WHY S **S** **05 22 30.8 -0.4**
baz=293
HUH Hualalai 75.67 75 IAMs_20 IAMs_20 05 40 34.5
comp=Z,10μm,20.0s
HPAH Hawaii Prepara 75.67 74 IAMs_20 IAMs_20 05 39 32.5
comp=Z,12μm,22.0s
CFR Carcaliu 75.69 313 ⇑P **P** **05 12 50.8 +0.1**
CFR Carcaliu 75.69 313 P **P** **05 12 50.7 +0.1**
FARO Faro, Yukon 75.70 28 IAmb IAmb 05 12 54.8
comp=Z,216nm,0.9s
FARO IAMs_20 IAMs_20 05 47 30.0
comp=Z,9μm,19.0s
FARO Faro, Yukon 75.70 28 P **P** **05 12 50.6 +0.2**
baz=294,SNR=147
FARO S **S** **05 22 30.8 -0.6**
baz=294
TIRR Tirgusor 75.74 312 ⇑P **P** **05 12 51.8 +0.8**
TIRR Tirgusor 75.74 312 P **P** **05 12 51.7 +0.8**
C36M Paulatuk 75.79 19 IAmb IAmb 05 12 53.7
comp=Z,850nm,1.8s
C36M IAMs_20 IAMs_20 05 47 02.9
comp=Z,9μm,20.0s
C36M Paulatuk 75.79 19 P **P** **05 12 49.5 -1.3**
baz=301,SNR=206
C36M S **S** **05 22 30.7 -1.3**
baz=301
MFTR Murfatlar 75.83 312 ⇑P **P** **05 12 52.8 +1.3**
MANR Mangalia 75.84 312 ⇓P **P** **05 12 52.6 +1.1**
GHRR 75.87 314 ⇓P **P** **05 12 53.8 +2.1**
POHA Pohakuloa 75.91 74 IAMs_20 IAMs_20 05 39 37.9
comp=Z,12μm,22.0s
POHA Pohakuloa 75.91 74 P **P** **05 12 54.5 +1.8**
SKAG Skagway 75.93 31 IAMs_20 IAMs_20 05 49 38.4
comp=Z,10μm,18.0s
SKAG Skagway 75.93 31 P **P** **05 12 54.0 +2.3**
SKAG Skagway 75.93 31 P **P** **05 12 52.7 +1.0**
baz=293,SNR=114
SKAG S **S** **05 22 33.0 -1.0**
baz=293
MWH Mokuaweoweo 75.95 75 IAMs_20 IAMs_20 05 39 37.9
comp=Z,12μm,22.0s
HARR Harsova 75.99 313 ⇓P **P** **05 12 53.7 +1.3**
HARR Harsova 75.99 313 P **P** **05 12 53.6 +1.3**
HMH Humu'ula Sheep 76.01 75 IAMs_20 IAMs_20 05 39 40.5
comp=Z,13μm,21.0s
KHU Kahuku 76.02 75 IAMs_20 IAMs_20 05 42 05.8
comp=Z,10μm,20.0s
S31K Pelican 76.09 32 IAMs_20 IAMs_20 05 50 50.6
comp=Z,10μm,19.0s
S31K Pelican 76.09 32 P **P** **05 12 53.5 +0.9**
baz=293,SNR=15
PANC Panciu 76.10 314 ⇑P **P** **05 12 54.7 +1.7**
MLH Mauna Loa 76.14 75 IAMs_20 IAMs_20 05 42 40.8
comp=Z,10μm,20.0s
R31K City Hall, Gus 76.15 32 P **P** **05 12 53.5 +0.5**
baz=293
TESR Tescani 76.21 315 ⇓P **P** **05 12 55.0 +1.4**
UWE Uwekahuna 76.24 75 IAMs_20 IAMs_20 05 40 29.7
comp=Z,11μm,22.0s
N32M Quiet Lake 76.26 29 IAMs_20 IAMs_20 05 48 15.3
comp=Z,10μm,18.0s
N32M Quiet Lake 76.26 29 P **P** **05 12 54.1 +0.4**
baz=295
N32M S **S** **05 22 36.9 -0.8**
baz=295
HATHI Halema'uma'u T 76.27 75 IAMs_20 IAMs_20 05 40 29.4
comp=Z,10μm,21.0s
ICOR Ion Corvin 76.27 312 ⇑P **P** **05 12 54.8 +0.9**
HLP Hilina Pali 76.27 75 IAMs_20 IAMs_20 05 44 01.5
comp=Z,12μm,20.0s
PUH Pauahi 76.33 75 IAMs_20 IAMs_20 05 40 31.9
comp=Z,10μm,21.0s
VRI Vrincioaia 76.38 314 ⇓P **P** **05 12 55.2 +0.5**
VRI Vrincioaia 76.38 314 P **P** **05 12 55.1 +0.5**
VRI Vrincioaia 76.38 314 P **P** **05 12 55.2 +0.5**
comp=Z,7μmcomp=Z,264nm,1.6s
YLV Yalova 76.39 308 P **P** **05 12 54.7 -0.2**
comp=Z,4μmcomp=Z,188nm,1.2s
STCH Steam Cracks 76.40 75 IAMs_20 IAMs_20 05 40 25.9
comp=Z,13μm,22.0s
MMPY Sheldon Lake, 76.41 27 IAmb IAmb 05 12 57.4
comp=Z,732nm,2.0s
MMPY Sheldon Lake, 76.41 27 P **P** **05 12 54.6 +0.1**
baz=296,SNR=48
MMPY S **S** **05 22 39.4 +0.1**
baz=296
PLOR5 Plostina Array 76.43 314 P **P** **05 12 55.4 +0.5**
comp=Z,7μmcomp=Z,212nm,1.6s
ONER Baraj Valea Uz 76.43 315 ⇓P **P** **05 12 56.0 +1.1**
PLOR Plostina 76.44 314 ⇓P **P** **05 12 56.9 +1.9**
PLOR Plostina 76.44 314 P **P** **05 12 56.8 +1.9**
PLOR3 Plostina Array 76.44 314 P **P** **05 12 55.5 +0.5**
comp=Z,7μmcomp=Z,171nm,1.5s
ISK Istanbul-Kandi 76.45 309 P **P** **05 12 54.4 -0.6**
ISK Istanbul-Kandi 76.45 309 P **P** **05 12 54.5 -0.6**
ISP Isparta 76.49 305 P **P** **05 12 54.8 -0.7**
ISP IAmb IAmb 05 13 06.7
comp=Z,239nm,1.1s
ISP IAMs_20 IAMs_20 05 51 36.2
comp=Z,11μm,19.0s
ISP Isparta 76.49 305 P **P** **05 12 54.8 -0.7**
ISP pmax pmax
comp=Z,239nm,1.1s
ISP MLR MLR
comp=Z,11μm,19.0s
ISP Isparta 76.49 305 *e*P **P** **05 12 56.5 +1.0**
JOKA Jonika Flow 76.49 75 IAMs_20 IAMs_20 05 40 15.3
comp=Z,11μm,21.0s
BISRR Bisoca 76.50 314 ⇑P **P** **05 12 56.4 +1.0**
BESE Bessie Mountai 76.51 32 IAmb IAmb 05 13 01.1
comp=Z,478nm,1.2s
BESE IAMs_20 IAMs_20 05 47 02.7
comp=Z,10μm,21.0s
NSS Namsos 76.56 335 ⇑*i*P **P** **05 12 54.1 -1.1**
NSS IVmB_BB 05 12 55.3
comp=Z,3μm,3.8s
NSS *e*S **S** **05 22 40.3 -0.2**
NSS IVMs_BB IVMs_BB 05 50 07.7
comp=Z,26μm,14.2s
KSV Kosov 76.58 317 P **P** **05 12 54.9 -0.8**
KSV Kosov 76.58 317 P **P** **05 12 54.9 -0.8**
P32M Atlin 76.63 30 IAmb IAmb 05 13 00.7
comp=Z,248nm,1.1s
P32M IAMs_20 IAMs_20 05 45 16.8
comp=Z,11μm,22.0s
P32M Atlin 76.63 30 P **P** **05 12 56.5 +0.6**
baz=295,SNR=37
P32M S **S** **05 22 43.0 +1.2**
baz=295
COVR Voineasa-Covas 76.73 314 ⇓P **P** **05 12 57.7 +1.0**
BURAR Bucovina Array 76.73 316 ⇑P **P** **05 12 58.7 +2.0**
BURAR Bucovina Array 76.73 316 P **P** **05 12 58.7 +2.0**
ISR Istrita 76.77 314 ⇓P **P** **05 12 58.8 +1.9**
ISR Istrita 76.77 314 P **P** **05 12 58.7 +1.9**
P33M Teslin, Yukon 76.78 30 IAMs_20 IAMs_20 05 47 17.7
comp=Z,11μm,19.0s
P33M Teslin, Yukon 76.78 30 P **P** **05 12 57.0 +0.3**
baz=295,SNR=77
P33M S **S** **05 22 43.5 +0.1**
baz=295
STNU Starunia 76.78 318 P **P** **05 12 56.9 +0.1**
OUZ Omahuta 76.80 139 IAMs_20 IAMs_20 05 42 18.5
comp=Z,11μm,20.0s
OUZ Omahuta 76.80 139 P **P** **05 12 57.8 +0.9**
R32K Eaglecrest 76.80 32 IAmb IAmb 05 13 01.9
comp=Z,390nm,1.3s
R32K IAMs_20 IAMs_20 05 46 36.6
comp=Z,9μm,19.0s
R32K Eaglecrest 76.80 32 P **P** **05 12 57.3 +0.6**
baz=294,SNR=28
NEHR Nehoiu 76.82 314 ⇑P **P** **05 12 58.4 +1.3**
JIS Juneau Island 76.86 32 P **P** **05 12 59.6 +2.6**
SIT Sitka 76.90 33 P **P** **05 12 59.7 +2.4**
SIT Sitka 76.90 33 P **P** **05 12 59.5 +2.2**
SIT Sitka 76.90 33 P **P** **05 12 57.6 +0.4**
baz=294,SNR=21
SIT S **S** **05 22 45.1 +0.5**
baz=294
OZUR 76.91 315 ⇑P **P** **05 12 58.9 +1.2**
MLR Muntele Rosu 77.03 314 LR LR 05 51 28.4
comp=Z,22μm,18.4s,baz=60,slow=39
MLR Muntele Rosu 77.03 314 ⇑P **P** **05 13 00.1 +1.6**
MLR Muntele Rosu 77.03 314 P **P** **05 13 00.0 +1.6**
MLR Muntele Rosu 77.03 314 P **P** **05 12 58.7 +0.3**
comp=Z,4μmcomp=Z,139nm,2.1s
S32K Killisnoo 77.10 33 IAmb IAmb 05 13 01.6
comp=Z,597nm,1.7s
S32K IAMs_20 IAMs_20 05 51 57.6
comp=Z,7μm,18.0s
S32K Killisnoo 77.10 33 P **P** **05 12 58.9 +0.5**
baz=294,SNR=12
DOPR Dopca 77.22 315 ⇑P **P** **05 13 00.2 +0.9**
RAZG Razgrad 77.34 312 ⇓P **P** **05 13 00.4 +0.3**
BAND Balkesir-Ban 77.38 309 ⇑P **P** **05 13 01.1 +0.8**
R9F13 Warsaw-Wawer 77.45 322 *e*P **P** **05 13 01.8 +1.3**
R9F13 *e*S **S** **05 22 57.1 +6.3**
ARCR ARCALIA 77.47 316 ⇓P **P** **05 13 02.5 +1.7**
Q32M Nakina River 77.57 31 IAmb IAmb 05 13 04.8
comp=Z,370nm,1.3s
Q32M IAMs_20 IAMs_20 05 47 21.7
comp=Z,11μm,20.0s
Q32M Nakina River 77.57 31 P **P** **05 13 02.1 +0.8**
baz=296,SNR=42
Q32M S **S** **05 22 51.1 -1.3**
baz=296
VOIR 77.63 314 ⇓P **P** **05 13 02.9 +1.1**
VOIR 77.63 314 P **P** **05 13 02.8 +1.1**
WCZ Waipu Caves 77.73 139 P **P** **05 13 04.2 +2.1**
KSL Kastellorizon 77.78 304 P **P** **05 13 00.9 -1.7**
EDRB Edirne 77.80 310 P **P** **05 13 01.9 -0.7**
BEL Belsk 77.80 321 *e*P **P** **05 13 02.3 -0.2**
BEL *e*S **S** **05 22 54.9 +0.2**
BEL *e*L L 05 50 12.3
comp=Z,120μm,18.7s
BEL Belsk 77.80 321 P **P** **05 13 02.3 -0.2**
TBLU Trondheim 77.83 334 IVmB_BB 05 13 02.1
comp=Z,3μm,2.8s
TBLU *e*S **S** **05 22 53.4 -1.2**
TBLU IVMs_BB IVMs_BB 05 50 45.7
comp=Z,16μm,15.2s
KORU Korolevo 77.84 317 P **P** **05 13 03.8 +1.1**
BRIU Brid 77.84 318 P **P** **05 13 03.0 +0.3**
HFS Hagfors 77.87 331 P **P** **05 13 01.8 -0.9**
comp=Z,20nm,0.7s,baz=65,slow=7.0,SNR=30
HFS LR LR 05 50 33.6
comp=Z,101μm,18.8s,baz=62,slow=38
comp=Z,20nm,0.7s
ARR Arges 77.93 314 ⇓P **P** **05 13 03.8 +0.4**
R33M Jennings River 77.98 30 IAmb IAmb 05 13 07.1
comp=Z,745nm,1.6s
R33M IAMs_20 IAMs_20 05 48 06.4
comp=Z,11μm,20.0s
R33M Jennings River 77.98 30 P **P** **05 13 04.3 +0.8**
baz=297,SNR=84
R33M S **S** **05 22 58.5 +1.9**
baz=297
MUKU Mukachevo 78.00 318 P **P** **05 13 03.9 +0.3**
HUMR Humele 78.02 313 ⇑P **P** **05 13 04.1 +0.3**
TNR Turnu Rosu 78.06 315 ⇑P **P** **05 13 05.7 +1.6**
TNR Turnu Rosu 78.06 315 P **P** **05 13 05.6 +1.6**
KOLS Kolonicke sedl 78.07 318 *e*P **P** **05 13 04.8 +0.8**
KOLS pmax pmax
comp=Z,21nm,0.9s
KOLS Kolonicke sedl 78.07 318 *e*P **P** **05 13 04.8 +0.8**
CJR Cluj-Napoca 78.09 316 ⇓P **P** **05 13 06.2 +1.9**
CJR Cluj-Napoca 78.09 316 P **P** **05 13 06.1 +1.9**
BERU Beregovo 78.11 318 P **P** **05 13 04.6 +0.4**
HOLU Holmets 78.16 318 P **P** **05 13 04.8 +0.3**
TGTN Hyland Airport 78.16 27 P **P** **05 13 04.4 +0.1**
baz=299,SNR=106
TGTN S **S** **05 22 56.7 -1.7**
baz=299
T33K Petersburg 78.18 33 P **P** **05 13 05.3 +0.9**
baz=296
NC303 NORSAR Array S 78.37 332 P **P** **05 13 04.1 -1.3**
U33K Whale Pass 78.41 33 IAMs_20 IAMs_20 05 48 29.8
comp=Z,10μm,18.0s
U33K Whale Pass 78.41 33 P **P** **05 13 06.2 +0.6**
baz=296,SNR=11
U33K S **S** **05 22 59.2 -1.7**
baz=296
MARR Marisel-Cluj 78.41 316 ⇓P **P** **05 13 08.0 +1.9**
LOT Lotru 78.47 315 ⇑P **P** **05 13 08.0 +1.6**
STHS Stebnicka Huta 78.50 319 *e*P **P** **05 13 06.7 +0.3**
STHS pmax pmax
comp=Z,134nm,2.5s
STHS Stebnicka Huta 78.50 319 *e*P **P** **05 13 06.7 +0.3**
NB2 NORSAR Subarra 78.53 332 P **P** **05 13 04.7 -1.7**
comp=Z,1μm,2.5s,baz=59,slow=5.6
NB2 NORSAR Subarra 78.53 332 P **P** **05 13 04.7 -1.7**
baz=59,slow=5.6
NOA NORSAR Array B 78.53 332 P **P** **05 13 04.6 -1.7**
comp=Z,9.7nm,0.7s,baz=60,slow=5.3,SNR=79
NOA PP **PP** **05 16 07.3 +3.8**
comp=Z,7.9nm,1.0s,baz=65,slow=7.6,SNR=4.1
NOA LR LR 05 51 05.1
comp=Z,82μm,18.1s,baz=60,slow=38
comp=Z,9.7nm,0.7s
NC602 NORSAR Array S 78.53 332 ⇑*i*P **P** **05 13 03.5 -2.8**
NC602 IVmB_BB 05 13 06.4
comp=Z,2μm,3.2s
NC602 *e*S **S** **05 23 00.8 -1.4**
NC602 *e*SS **SS** **05 28 06.7 +1.9**
NC602 IVMs_BB IVMs_BB 05 51 09.5
comp=Z,76μm,14.5s
NORES NORESS Array B 78.53 332 P **P** **05 13 09.2 +2.9**
NORES pmax pmax
comp=Z,30nm,1.2s
S34M Telegraph Cree 78.58 31 IAmb IAmb 05 13 10.2
comp=Z,551nm,1.6s
S34M IAMs_20 IAMs_20 05 53 47.3
comp=Z,9μm,18.0s
S34M Telegraph Cree 78.58 31 P **P** **05 13 07.7 +1.1**
baz=297,SNR=39
S34M S **S** **05 23 03.3 +0.5**
baz=297
BLEU Blekinge 78.60 327 *i*P **P** **05 13 04.5 -2.2**
BLEU IAmb IAmb 05 13 11.7
comp=Z,13nm,0.8s
GRZ Great Barrier 78.61 138 P **P** **05 13 08.2 +1.2**
WTLY Watson Lake, Y 78.62 29 IAmb IAmb 05 13 10.3
comp=Z,369nm,1.0s
WTLY IAMs_20 IAMs_20 05 54 40.3
comp=Z,9μm,19.0s
WTLY Watson Lake, Y 78.62 29 P **P** **05 13 07.0 +0.2**
baz=298,SNR=151
ENEZ Enez 78.62 310 P **P** **05 13 06.4 -0.8**
DRGR 78.63 316 ⇓P **P** **05 13 08.5 +1.3**
DRGR 78.63 316 P **P** **05 13 08.5 +1.3**
CAVK Edirne/Enez-Ca 78.63 309 ⇑P **P** **05 13 08.6 +1.4**
NEEM North Greenlan 78.63 358 *i*P **P** **05 13 05.5 -1.4**
ALN Alexandroupoli 78.64 310 P **P** **05 13 05.9 -1.4**

ALN Alexandroupoli 78.64 310 IAMs_20 IAMs_20 05 54 13.7
comp=Z,11µm,20.0s
WRAK Wrangell Islan 78.66 33 IAMs_20 IAMs_20 05 47 44.7
comp=Z,7µm,20.0s
WRAK Wrangell Islan 78.66 33 P **P** **05 13 08.0 +0.9**
baz=296,SNR=13
WRAK S **S** **05 23 02.0 -1.6**
baz=296
RES Resolute Bay 78.73 9 LR LR 05 49 07.1
comp=Z,12µm,21.4s,baz=332,slow=37
RES Resolute Bay 78.73 9 P **P** **05 13 06.1 -1.0**
RES pmax pmax
comp=Z,135nm,1.5s
DBG Daneborg 78.79 350 *i* P **P** **05 13 04.8 -2.8**
DBG IAmb IAmb 05 13 15.4
comp=Z,15nm,1.1s
EZN Ezine 78.84 309 P **P** **05 13 07.9 -0.5**
EZN Ezine 78.84 309 P **P** **05 13 08.3 -0.1**
EZN Ezine 78.84 309 P **P** **05 13 08.3 -0.1**
comp=Z,5µmcomp=Z,120nm,1.3s
ARG Arkhangelos 78.85 305 P **P** **05 13 07.5 -1.1**
ARG Arkhangelos 78.85 305 IAmb IAmb 05 13 35.8
comp=Z,284nm,1.3s
ARG Arkhangelos 78.85 305 P **P** **05 13 07.8 -0.8**
ARG pmax pmax
comp=Z,209nm,1.4s
DLBC Dease Lake 78.86 31 LR LR 05 48 33.1
comp=Z,9µm,21.3s,baz=321,slow=36
DLBC Dease Lake 78.86 31 P **P** **05 13 08.9 +0.7**
baz=298,SNR=68
DLBC S **S** **05 23 07.7 +1.8**
baz=298
DEV Deva 78.86 315 ⇑P **P** **05 13 09.4 +0.9**
DEV Deva 78.86 315 P **P** **05 13 09.3 +0.9**
RDO Rodhopi 78.90 310 P **P** **05 13 07.8 -0.9**
RDO Rodhopi 78.90 310 IAMs_20 IAMs_20 05 53 02.6
comp=Z,11µm,19.0s
DOMB Dombas 78.92 334 *eP* **P** **05 13 07.9 -0.6**
DOMB IVmB_BB 05 13 09.0
comp=Z,3µm,2.9s
DOMB *eS* **S** **05 23 04.4 -2.0**
DOMB *eSS* **SS** **05 28 15.5 +4.9**
DOMB IVMs_BB IVMs_BB 05 51 45.0
comp=Z,22µm,13.5s
MKAZ Moumakai 79.00 139 P **P** **05 13 10.4 +1.3**
JNE Jan Mayen East 79.01 345 *eP* **P** **05 13 07.9 -0.8**
JNE *eS* **S** **05 23 07.8 +1.0**
JNE *eSS* **SS** **05 28 11.1 -0.3**
JNE IVmB_BB 05 51 54.8
comp=Z,11µm,15.1s
JNW Jan Mayen West 79.01 345 *eP* **P** **05 13 09.7 +0.9**
JNW IVmB_BB 05 13 10.2
comp=Z,4µm,3.1s
JNW *eS* **S** **05 23 09.9 +3.0**
JNW IVMs_BB IVMs_BB 05 51 58.5
comp=Z,10µm,14.7s
OJC Ojcow 79.03 320 *eP* **P** **05 13 09.1 -0.2**
OJC *eS* **S** **05 23 01.8 -6.1**
OJC *eL* L 05 50 46.1
comp=Z,21µm,18.0s
OJC Ojcow 79.03 320 P **P** **05 13 09.1 -0.2**
comp=Z,6µmcomp=Z,197nm,1.8s
JMIC Jan Mayen 79.06 345 LR LR 05 53 16.4
comp=Z,12µm,18.4s,baz=38,slow=40
JMIC Jan Mayen 79.06 345 *eP* **P** **05 13 08.2 -0.8**
JMIC IVmB_BB 05 13 12.1
comp=Z,4µm,4.8s
JMIC *eS* **S** **05 23 10.1 +2.6**
JMIC IVMs_BB IVMs_BB 05 51 51.4
comp=Z,10µm,16.4s
NIE Niedzica 79.06 319 *eP* **P** **05 13 09.6 +0.1**
NIE *eS* **S** **05 23 08.2 -0.1**
NIE *eL* L 05 52 41.7
comp=Z,14µm,18.0s
NIE Niedzica 79.06 319 P **P** **05 13 09.2 -0.3**
comp=Z,2µmcomp=Z,51nm,1.1s
GZR Gura Zlata 79.13 315 ⇓P **P** **05 13 10.4 +0.3**
GZR Gura Zlata 79.13 315 P **P** **05 13 10.3 +0.3**
JMI Jan Mayen 79.15 345 *eP* **P** **05 13 09.7 +0.1**
JMI IVMs_BB IVMs_BB 05 51 54.4
comp=Z,10µm,16.3s
SMTH Samothraki Isl 79.16 309 P **P** **05 13 08.8 -1.4**
GKP Gorka Klasztor 79.18 324 *eP* **P** **05 13 09.7 -0.3**
GKP *eS* **S** **05 23 08.1 -1.3**
GKP *eL* L 05 51 41.5
comp=Z,73µm,18.3s
GKP Gorka Klasztor 79.18 324 *eP* **P** **05 13 09.9 -0.2**
WRGLY Wrigley 79.23 25 IAMs_20 IAMs_20 05 54 05.3
comp=Z,9µm,18.0s
WRGLY Wrigley 79.23 25 P **P** **05 13 09.9 -0.2**
baz=302,SNR=66
MOL Molde 79.25 335 ⇑*iP* **P** **05 13 09.4 -0.8**
MOL IVmB_BB 05 13 12.7
comp=Z,3µm,7.1s
MOL *eS* **S** **05 23 08.1 -1.6**
MOL IVMs_BB IVMs_BB 05 51 35.5
comp=Z,19µm,15.5s
OSL Oslo 79.28 331 ⇑*iP* **P** **05 13 09.7 -0.7**
OSL IVmB_BB 05 13 11.1
comp=Z,4µm,3.2s
OSL *eS* **S** **05 23 09.9 -0.2**
OSL *eSS* **SS** **05 28 15.7 -0.3**
OSL IVMs_BB IVMs_BB 05 51 32.5
comp=Z,71µm,15.0s
NIUE Niue 79.29 116 P P 05 13 16.9 +5.8
SBV Sambava 79.31 250 P **P** **05 13 14.7 +3.4**
SNR=7.0
KECS Kecovo 79.33 318 *eP* **P** **05 13 12.7 +1.7**
KECS pmax pmax
comp=Z,185nm,2.0s
KECS Kecovo 79.33 318 *eP* **P** **05 13 12.7 +1.7**
SIGR SIGRI 79.41 308 P **P** **05 13 10.2 -1.3**
SURR Surduc 79.41 315 ⇑P **P** **05 13 12.1 +0.6**
T35M Bob Quinn 79.43 32 IAmb IAmb 05 13 15.0
comp=Z,273nm,1.4s
T35M Bob Quinn 79.43 32 P **P** **05 13 12.1 +0.7**
baz=298,SNR=23
TULEG Thule 79.43 2 IAMs_20 IAMs_20 05 53 44.7
comp=Z,13µm,19.0s
TULEG Thule 79.43 2 *iP* **P** **05 13 08.6 -2.4**
BORU Boraas 79.47 329 *iP* **P** **05 13 10.1 -1.4**
PUNG Punghina 79.47 314 ⇑P **P** **05 13 13.1 +1.3**
DEL Delary 79.48 327 *iP* **P** **05 13 10.4 -1.2**
SIRR Siria 79.50 316 ⇑P **P** **05 13 12.8 +0.8**
V35K Ketchikan 79.52 34 IAMs_20 IAMs_20 05 49 04.5
comp=Z,8µm,19.0s
V35K Ketchikan 79.52 34 P **P** **05 13 11.8 -0.1**
baz=297
STRU Stroemstad 79.52 330 *iP* **P** **05 13 09.4 -2.3**
STRU *i* 05 16 11.6
HERR Herculane 79.57 314 ⇓P **P** **05 13 13.6 +1.3**
BSD Bornholm Skovb 79.59 326 *iP* **P** **05 13 11.2 -1.0**
BSD IAmb IAmb 05 13 14.0
comp=Z,21nm,0.9s
TOZ Tahuroa Road 79.61 139 IAMs_20 IAMs_20 05 43 50.1
comp=Z,7µm,20.0s
LANS Liptovska Anna 79.67 319 *eP* **P** **05 13 13.2 +0.3**
LANS pmax pmax
comp=Z,29nm,1.4s
LANS Liptovska Anna 79.67 319 *eP* **P** **05 13 13.2 +0.3**
KAVA Kavala 79.67 310 P **P** **05 13 12.1 -0.9**
AKN Aaknes 79.67 334 *eP* **P** **05 13 13.2 +0.6**
AKN IVmB_BB 05 13 15.2
comp=Z,3µm,7.3s
AKN *ePP* **PP** **05 16 13.8 +0.9**
AKN *eS* **S** **05 23 15.1 +0.8**
AKN *e* 05 28 10.8
AKN IVMs_BB IVMs_BB 05 51 37.4
comp=Z,16µm,16.9s
THAS Thassos island 79.68 310 P **P** **05 13 11.7 -1.3**
HIZ Hauiti 79.75 140 IAMs_20 IAMs_20 05 43 27.7
comp=Z,8µm,22.0s
HIZ Hauiti 79.75 140 P **P** **05 13 17.0 +3.8**
BZS Buzias 79.79 315 ⇓P **P** **05 13 14.5 +0.9**
BZS Buzias 79.79 315 P **P** **05 13 14.4 +0.9**
FABU Falkenberg 79.79 328 *iP* **P** **05 13 11.5 -1.8**
FABU *i* 05 16 13.3
TJOU Tjoern 79.81 329 *iP* **P** **05 13 11.5 -1.8**
TJOU *i* 05 16 14.0
KARP Karpathos 79.83 304 P **P** **05 13 13.3 -0.7**
KARP Karpathos 79.83 304 IAmb IAmb 05 13 25.7
comp=Z,357nm,1.1s
KARP Karpathos 79.83 304 *eP* **P** **05 13 13.0 -1.0**
KONO Kongsberg 79.92 331 P **P** **05 13 12.7 -1.2**
KONO pmax pmax
comp=Z,43nm,1.1s
KONO MLR MLR
comp=Z,82µm,19.0s
KONO Kongsberg 79.92 331 ⇑*iP* **P** **05 13 12.3 -1.6**
KONO IVmB_BB 05 13 16.3
comp=Z,3µm,6.2s
KONO *eSS* SS 05 28 23.9 -1.6
KONO IVMs_BB IVMs_BB 05 51 52.8
comp=Z,69µm,15.2s
PSZ Piszkesteto 79.92 318 IAmb IAmb 05 13 35.5
comp=Z,373nm,1.6s
PSZ Piszkesteto 79.92 318 ⇓P **P** **05 13 15.3 +0.9**
PSZ Piszkesteto 79.92 318 P **P** **05 13 15.2 +0.9**
PSZ Piszkesteto 79.92 318 *eP* **P** **05 13 13.3 -1.0**
SKAR Skarslia 79.94 333 ⇑*iP* **P** **05 13 12.3 -1.8**
SKAR IVmB_BB 05 13 17.1
comp=Z,3µm,6.1s
SKAR *ePP* **PP** **05 16 16.1 +0.8**
SKAR *eS* **S** **05 23 16.3 -1.0**
SKAR IVMs_BB IVMs_BB 05 51 56.1
comp=Z,47µm,15.2s
ONAU Onsala 79.98 329 *iP* **P** **05 13 12.6 -1.7**
QRZ Quartz Range 80.01 143 P **P** **05 13 13.8 -0.8**
U35K Hyder 80.04 33 IAMs_20 IAMs_20 05 54 40.4
comp=Z,7µm,19.0s
U35K Hyder 80.04 33 P **P** **05 13 14.8 +0.2**
baz=298
MDVR Moldovita 80.07 315 ⇑P **P** **05 13 15.3 +0.2**
TGRZ Tauranga 80.07 139 P **P** **05 13 16.7 +1.8**
BJUU Bjuv 80.09 327 *iP* **P** **05 13 14.3 -0.6**
KOKK Kokkinochori, 80.10 310 P **P** **05 13 14.2 -1.1**
LIRD Liard River Hi 80.15 29 P **P** **05 13 15.8 +0.6**
baz=301,SNR=128
OKC Ostrava-Krasne 80.16 320 *eP* **P** **05 13 16.0 +0.6**
OKC *eS* **S** **05 23 18.0 -1.8**
OKC Ostrava-Krasne 80.16 320 *eP* **P** **05 13 16.0 +0.6**
OKC *e* 05 23 18.0
KARZ Kaharoa 80.25 139 P **P** **05 13 17.2 +1.3**
DSZ Denniston Nort 80.26 144 IAMs_20 IAMs_20 05 45 53.1
comp=Z,8µm,20.0s
NGRZ Ngongotaha 80.27 139 P **P** **05 13 18.1 +2.1**
SRS Serrai 80.27 311 P **P** **05 13 14.3 -1.9**
OUR Ouranopolis 80.30 310 P **P** **05 13 14.5 -1.9**
KUTZ Kaahu Road 80.31 140 P **P** **05 13 18.3 +2.1**
VYHS Vyhne 80.32 319 *eP* **P** **05 13 16.2 -0.2**
VYHS pmax pmax
comp=Z,936nm,2.4s
VYHS Vyhne 80.32 319 *eP* **P** **05 13 16.2 -0.2**
STEB Steborice 80.33 320 *eP* **P** **05 13 17.4 +1.0**
OMRZ Omania 80.38 139 P **P** **05 13 18.0 +1.4**
JCZ Jackson Bay 80.38 148 P **P** **05 13 19.5 +2.9**
JCZ Jackson Bay 80.38 148 P **P** **05 13 16.8 +0.2**
WATZ Wairara 80.40 140 P **P** **05 13 19.0 +2.2**
APE Apeiranthos 80.46 306 P **P** **05 13 15.7 -1.7**
TWVZ Taurewa 80.46 140 P **P** **05 13 18.5 +1.4**
HLRZ Highlands Stat 80.46 139 P **P** **05 13 18.6 +1.5**
SKY Skiros Island 80.47 308 P **P** **05 13 16.1 -1.2**
WIZ White Island 80.50 138 P **P** **05 13 17.7 +0.5**
FOZ Fox Glacier 80.50 147 P **P** **05 13 16.0 -1.1**
HRRZ Handcock Road 80.51 139 P **P** **05 13 18.6 +1.2**
RATZ Rangitukua 80.52 140 P **P** **05 13 17.0 -0.5**
MRNZ Matariki Terra 80.53 144 P **P** **05 13 17.0 -0.4**
MRNZ Matariki Terra 80.53 144 P **P** **05 13 16.6 -0.8**
MORC Moravsky Berou 80.53 320 IAMs_20 IAMs_20 05 51 14.4
comp=Z,13µm,20.0s
MORC Moravsky Berou 80.53 320 ⇑*iP* **P** **05 13 16.9 -0.6**
MORC Moravsky Berou 80.53 320 *eS* **S** **05 23 22.7 -1.2**
MORC Moravsky Berou 80.53 320 ⇓P **P** **05 13 18.7 +1.1**
MORC Moravsky Berou 80.53 320 P **P** **05 13 18.6 +1.1**
BOVS Bovan 80.54 314 ⇓P **P** **05 13 18.7 +1.1**
TARZ Mount Tarawera 80.54 139 P **P** **05 13 18.4 +0.8**
MAUC Maruska 80.55 320 *eP* **P** **05 13 18.6 +1.0**
KATZ Kakaramea 80.55 140 P **P** **05 13 18.3 +0.6**
HYA Hoyanger 80.55 334 ⇑*iP* **P** **05 13 15.2 -2.0**
HYA IVmB_BB 05 13 19.7
comp=Z,3µm,6.7s
HYA *eS* **S** **05 23 24.4 +1.0**
HYA IVMs_BB IVMs_BB 05 52 20.3
comp=Z,29µm,15.7s
SOH Sokhos 80.55 310 P **P** **05 13 16.1 -1.7**
PKVZ Pokaka 80.55 141 P **P** **05 13 17.6 -0.1**
COP Copenhagen 80.57 327 P **P** **05 13 17.1 -0.4**
COP pmax pmax
comp=Z,794nm,1.0s
COP Copenhagen 80.57 327 *iP* **P** **05 13 16.7 -0.7**
WTVZ West Tongariro 80.58 140 P **P** **05 13 17.8 0.0**
KRVZ Karewarewa 80.60 140 P **P** **05 13 17.8 -0.2**
NNVZ North Ngauruho 80.61 140 P **P** **05 13 18.6 +0.6**
COVZ Chateau Observ 80.61 140 P **P** **05 13 17.1 -0.9**
NGZ Ngauruhoe 80.63 140 P **P** **05 13 18.5 +0.4**
DCZ Deep Cove 80.64 149 P **P** **05 13 16.6 -1.2**
WVZ Waitaha Valley 80.64 146 P **P** **05 13 16.8 -1.1**
BUD Budapest 80.64 318 P **P** **05 13 17.8 -0.3**
BUD pmax pmax
comp=Z,70nm,1.1s
TMVZ Te Maari 80.65 140 P **P** **05 13 17.7 -0.5**
FWVZ Far West T-bar 80.65 141 P **P** **05 13 16.7 -1.6**
KOTAN Kotaneelee Air 80.66 28 P **P** **05 13 17.9 0.0**
baz=302,SNR=45
OTVZ Oturere 80.66 140 P **P** **05 13 17.4 -0.9**
WAZ Wanganui 80.66 141 P **P** **05 13 19.6 +1.5**
SNVZ South Ngauruho 80.66 140 P **P** **05 13 19.4 +1.1**
PLG Polygyros 80.66 310 P **P** **05 13 17.0 -1.4**
ETVZ East Tongariro 80.67 140 P **P** **05 13 16.8 -1.5**
MAVZ Matarangi 80.67 141 P **P** **05 13 18.4 -0.1**
PAIG Paliouri 80.68 309 P **P** **05 13 16.6 -1.8**
TRVZ Turoa 80.68 141 P **P** **05 13 15.9 -2.6**
MTVZ Mangateitei 80.69 141 P **P** **05 13 18.3 -0.1**
WHVZ Whangaehu Hut 80.69 141 P **P** **05 13 18.3 -0.3**
ZKR Zakros 80.70 304 P **P** **05 13 18.3 -0.4**
TUVZ Tukino 80.72 140 P **P** **05 13 19.1 +0.4**
WNVZ Wahianoa 80.72 141 P **P** **05 13 19.4 +0.8**
KNT Kendrikon 80.73 311 P **P** **05 13 17.3 -1.4**
NNZ Nelson 80.75 143 P **P** **05 13 17.0 -1.5**
INZ Inchbonnie 80.76 145 P **P** **05 13 17.0 -1.5**
DUWZ D'Urville Isla 80.76 143 P **P** **05 13 18.6 0.0**
FOO Floro 80.77 334 *eP* **P** **05 13 17.6 -0.8**
FOO IVmB_BB 05 13 19.2
comp=Z,3µm,3.7s
FOO IVMs_BB IVMs_BB 05 52 38.3
comp=Z,19µm,17.0s
KSP Ksiaz 80.78 322 *eP* **P** **05 13 18.6 -0.2**
KSP *eS* **S** **05 23 24.9 -1.4**
KSP *eL* L 05 53 23.6
comp=Z,32µm,17.8s
KSP Ksiaz 80.78 322 P **P** **05 13 18.8 +0.1**
comp=Z,4µmcomp=Z,120nm,1.5s
HORT Hortiatis 80.82 310 P **P** **05 13 15.1 -4.2**
TOAD Toad River Com 80.83 29 P **P** **05 13 18.6 -0.3**
baz=302,SNR=96
OVD Ostervraa, Den 80.83 329 *iP* **P** **05 13 17.8 -1.0**
AOS Alonnisos 80.84 309 P **P** **05 13 18.0 -1.3**
KRLC Kraliky 80.84 321 *eP* **P** **05 13 20.0 +0.8**
KRLC *eS* **S** **05 23 24.8 -2.4**
KRLC AMS AMS 05 52 00.0
comp=Z,32µm,16.3s
KRLC Kraliky 80.84 321 *eP* **P** **05 13 20.0 +0.8**
KRLC *e* 05 23 24.8
KRLC MLR MLR
comp=Z,32µm,16.3s
JAVC Velka Javorina 80.86 320 ⇑*iP* **P** **05 13 20.2 +0.9**
JAVC Velka Javorina 80.86 320 *eS* **S** **05 23 27.4 0.0**
THZ Tophouse 80.86 144 P **P** **05 13 16.4 -2.8**
MOVZ Moawhango 80.87 141 P **P** **05 13 19.6 +0.3**
KARY Karystos 80.89 307 P **P** **05 13 17.8 -1.8**
KYMI Kymi, Euboea I 80.89 308 P **P** **05 13 17.9 -1.7**
XMAS Kiritimati 80.89 92 IAMs_20 IAMs_20 05 43 37.0
comp=Z,7µm,21.0s
XMAS Kiritimati 80.89 92 P **P** **05 13 23.6 +3.6**
VAY Valandovo 80.89 311 *iP* **P** **05 13 19.9 +0.4**
THE Thessaloniki 80.90 310 P **P** **05 13 17.3 -2.2**
URZ Urewera 80.92 139 LR LR 05 45 08.2
comp=Z,5µm,21.4s,baz=45,slow=33
URZ Urewera 80.92 139 P **P** **05 13 17.7 -1.8**
SRO Srobarova 80.93 318 *eP* **P** **05 13 21.2 +1.6**
SRO pmax pmax
comp=Z,360nm,2.5s
SRO Srobarova 80.93 318 *eP* **P** **05 13 21.2 +1.6**
OSTC Ostas 80.95 321 *eP* **P** **05 13 20.5 +0.8**
OSTC *eS* **S** **05 23 26.3 -1.9**
OSTC AMS AMS 05 53 50.0
comp=Z,36µm,17.6s
OSTC Ostas 80.95 321 *eP* **P** **05 13 20.5 +0.8**
OSTC *e* 05 23 26.3
OSTC MLR MLR
comp=Z,36µm,17.6s
DPC Dobruska-Polom 80.98 321 *eP* **P** **05 13 20.7 +0.8**
DPC *eS* **S** **05 23 27.0 -1.6**
DPC AMS AMS 05 52 10.0
comp=Z,30µm,16.0s
DPC Dobruska-Polom 80.98 321 *eP* **P** **05 13 20.7 +0.8**
DPC *e* 05 23 27.0
DPC MLR MLR
comp=Z,30µm,16.0s
DPC Dobruska-Polom 80.98 321 P **P** **05 13 20.3 +0.4**
comp=Z,4µmcomp=Z,49nm,1.8s
HAZ Te Kaha 81.00 138 P **P** **05 13 18.7 -1.2**
MLZ Mavora Lakes 81.02 149 P **P** **05 13 20.1 +0.2**
CHVC Chvalec 81.03 322 *eP* **P** **05 13 20.1 0.0**
CHVC *eS* **S** **05 23 28.3 -0.7**
CHVC AMS AMS 05 53 50.0
comp=Z,36µm,17.4s
CHVC Chvalec 81.03 322 *eP* **P** **05 13 20.1 0.0**
CHVC *e* 05 23 28.3
CHVC MLR MLR
comp=Z,36µm,17.4s
ODD1 Odda 81.06 332 ⇑*iP* **P** **05 13 17.9 -2.2**
ODD1 IVmB_BB 05 13 20.9
comp=Z,3µm,4.0s
ODD1 *eS* **S** **05 23 30.4 +1.4**
ODD1 IVMs_BB IVMs_BB 05 52 39.2
comp=Z,58µm,14.8s
RTZ Ruatahuna 81.07 139 IAMs_20 IAMs_20 05 42 50.7
comp=Z,9µm,22.0s
RUGZ Raukumara Rang 81.08 138 P **P** **05 13 19.8 -0.7**
UPC Upice 81.09 322 *eP* **P** **05 13 21.2 +0.8**
UPC *eSKS* **S** **05 23 28.8 -0.8**
UPC AMS AMS 05 53 50.0
comp=Z,40µm,17.4s
UPC Upice 81.09 322 *eP* **P** **05 13 21.2 +0.8**
UPC *e* 05 23 28.8
UPC MLR MLR
comp=Z,40µm,17.4s
HOMB Homborsund 81.12 331 *eP* **P** **05 13 19.1 -1.3**
HOMB IVmB_BB 05 13 23.1
comp=Z,3µm,5.3s
HOMB *eS* **S** **05 23 26.4 -3.1**
HOMB *eSS* **SS** **05 28 46.0 +2.5**
HOMB IVMs_BB IVMs_BB 05 52 20.0
comp=Z,37µm,16.4s
HOMB Homborsund 81.12 331 *iP* **P** **05 13 19.2 -1.1**
FRGS Fruska Gora 81.14 315 ⇑*iP* **P** **05 13 20.0 -0.8**
BKZ Black Stump Fm 81.14 140 IAMs_20 IAMs_20 05 44 21.5
comp=Z,11µm,22.0s
BKZ Black Stump Fm 81.14 140 P P 05 13 26.2 +5.4
MTHZ Maungataniwha 81.14 140 P **P** **05 13 21.1 +0.4**
GRG Griva 81.16 311 P **P** **05 13 19.6 -1.4**
SMOL Smolenice 81.16 319 *eP* **P** **05 13 21.0 +0.2**
SMOL pmax pmax
comp=Z,309nm,2.3s
SUE Sulen 81.19 334 ⇑*iP* **P** **05 13 19.1 -1.6**
SUE IVmB_BB 05 13 25.6
comp=Z,4µm,4.6s
SUE *ePP* **PP** **05 16 24.1 -1.3**
SUE *eS* **S** **05 23 31.0 +0.9**
SUE IVMs_BB IVMs_BB 05 53 06.6
comp=Z,26µm,14.2s
MXZ Matakaoa Point 81.20 138 IAMs_20 IAMs_20 05 43 57.1
comp=Z,9µm,21.0s
MWZ Matawai 81.22 139 P **P** **05 13 18.7 -2.4**
LTZ Lake Taylor 81.23 145 P **P** **05 13 21.1 -0.1**
DION Dionisos Attik 81.23 308 P **P** **05 13 19.3 -2.2**
XOR Xorichti 81.25 309 P **P** **05 13 19.0 -2.5**
NEO Neokhori 81.25 309 P **P** **05 13 19.8 -1.7**
RAGZ Rawiri 81.26 139 P **P** **05 13 22.3 +0.9**
RPZ Rata Peaks 81.26 146 LR LR 05 45 33.7
comp=Z,4µm,21.0s,baz=322,slow=33
KWHZ Kaweka Forest 81.27 140 P **P** **05 13 22.0 +0.5**
NMHZ Naumai 81.28 140 P **P** **05 13 22.2 +0.7**
PTL Penteli 81.29 308 P **P** **05 13 19.8 -2.0**
VRAC Vranov 81.30 320 LR LR 05 52 35.6
comp=Z,24µm,18.8s,baz=59,slow=38
VRAC Vranov 81.30 320 ⇑*iP* **P** **05 13 21.6 0.0**
VRAC Vranov 81.30 320 *eS* **S** **05 23 31.7 -0.1**
VRAC Vranov 81.30 320 ⇑P **P** **05 13 22.7 +1.2**
VRAC Vranov 81.30 320 P **P** **05 13 22.7 +1.2**
LBZ Lake Benmore 81.30 147 P **P** **05 13 19.9 -1.5**
MODS Modra-Piesok 81.31 319 *eP* **P** **05 13 22.0 +0.3**
MODS pmax pmax
comp=Z,1µm,2.4s
MODS Modra-Piesok 81.31 319 *eP* **P** **05 13 22.0 +0.3**
RAHZ Arahi 81.33 139 P **P** **05 13 24.1 +2.3**
BER Bergen 81.33 333 *eP* **P** **05 13 20.8 -0.6**
BER IVmB_BB 05 13 24.2
comp=Z,3µm,5.4s
BER *eS* **S** **05 23 32.3 +0.6**
BER *eSS* **SS** **05 28 48.3 +1.8**
BER IVMs_BB IVMs_BB 05 52 50.3
comp=Z,38µm,16.1s
ASK Askoy 81.33 333 *eP* **P** **05 13 19.6 -1.8**
ASK IVmB_BB 05 13 24.2
comp=Z,4µm,6.2s
ASK *eS* **S** **05 23 32.7 +1.0**
ASK IVMs_BB IVMs_BB 05 52 51.2
comp=Z,42µm,15.8s
KRHZ Kereru 81.38 140 P **P** **05 13 21.9 -0.1**
BLS5 Blasjo 81.40 332 *eP* **P** **05 13 20.5 -1.4**
BLS5 IVmB_BB 05 13 22.8
comp=Z,3µm,3.9s
BLS5 *eS* **S** **05 23 34.1 +1.6**
BLS5 *eSS* **SS** **05 28 50.1 +2.4**
BLS5 IVMs_BB IVMs_BB 05 52 49.6
comp=Z,78µm,14.6s
RUE Ruedersdorf 81.41 324 *eP* **P** **05 13 21.1 -0.9**
RUE Ruedersdorf 81.41 324 *eP* 05 13 22.1
baz=61,slow=5.2
TSZ Takapari Road 81.42 141 P **P** **05 13 22.4 +0.3**
MORH Mrgy, Hungar 81.42 317 ⇓P **P** **05 13 23.6 +1.3**
ATH Athens Observa 81.43 308 P **P** **05 13 20.5 -1.9**
LIT Litokhoron 81.44 310 P **P** **05 13 20.4 -2.1**
LIT Litokhoron 81.44 310 P **P** **05 13 21.4 -1.1**
LIT pmax pmax
comp=Z,123nm,1.7s
PNHZ Pukenui 81.46 141 P **P** **05 13 22.7 +0.3**
OGWZ Otaki Gorge 81.47 142 P **P** **05 13 20.6 -1.7**
OXZ Oxford 81.49 145 P **P** **05 13 20.3 -2.1**
PUZ Puketiti 81.50 138 P **P** **05 13 21.4 -1.2**
KRUC Moravsky 81.53 320 ⇑*iP* **P** **05 13 22.6 -0.1**
KRUC Moravsky 81.53 320 *eS* **S** **05 23 34.1 -0.1**
KRUC Moravsky 81.53 320 P **P** **05 13 22.6 -0.1**
POWZ Post Office Ro 81.53 141 P **P** **05 13 22.9 +0.2**
SNZO South Karori 81.54 142 P **P** **05 13 21.7 -1.0**
TEKS Tekeris 81.58 315 ⇑*iP* **P** **05 13 22.0 -1.2**
KTI Kastanea 81.58 310 P **P** **05 13 23.4 0.0**
MRZ Mangatainoka R 81.60 142 P **P** **05 13 23.4 +0.3**
MRZ IAMs_20 IAMs_20 05 45 41.6
comp=Z,10µm,21.0s
KULLO Kullorsuaq 81.61 360 *iP* **P** **05 13 20.2 -2.5**
IDI Anoyia 81.64 305 P **P** **05 13 21.3 -2.4**
IDI Anoyia 81.64 305 P **P** **05 13 21.8 -1.9**
IDI Anoyia 81.64 305 LR LR 05 55 15.9
comp=Z,4µm,19.9s,baz=68,slow=40
VILL Villia 81.65 308 P **P** **05 13 20.0 -3.7**
KHZ Kahutara 81.65 144 P **P** **05 13 21.4 -1.9**
SNART Snartemo 81.66 331 ⇓*iP* **P** **05 13 23.5 +0.2**
SNART IVmB_BB 05 13 26.1
comp=Z,6µm,5.5s
SNART *eS* **S** **05 23 29.3 -5.8**
SNART IVMs_BB IVMs_BB 05 52 46.2
comp=Z,84µm,15.8s
SNART Snartemo 81.66 331 *iP* **P** **05 13 21.3 -1.9**
SNART IAmb IAmb 05 13 30.9
comp=Z,27nm,1.0s
LKR Lokris 81.67 309 P **P** **05 13 20.7 -3.0**
MPLH Magyarpolny 81.69 318 P **P** **05 13 24.5 +0.9**
comp=Z,9µmcomp=Z,434nm,1.5s
DVHZ Dannevirke 81.69 141 P **P** **05 13 21.9 -1.7**
WPHZ Waipukurau 81.70 141 P **P** **05 13 22.6 -1.1**
HOWZ Holdsworth Sta 81.72 142 P **P** **05 13 23.0 -0.7**
PRWZ Pori Road 81.75 141 P **P** **05 13 22.8 -1.1**
MUD Monsted U'grnd 81.76 329 *iP* **P** **05 13 22.3 -1.4**
MUD IAmb IAmb 05 13 30.4
comp=Z,24nm,1.0s

GVZ **Greta Valley S** 81.76 145 IAmb IAmb 05 13 27.7
comp=Z,499nm,1.9s
GVZ IAMs_20 IAMs_20 05 47 08.9
comp=Z,8µm,20.0s
TYRN **Tyrnavos** 81.78 310 P P 05 13 21.8 -2.5
SJES **Sjenica** 81.84 314⇑ *i* P P 05 13 24.6 -0.1
AXAR **Agios Charalam** 81.87 309 P P 05 13 22.8 -2.0
PVCC **Panska Ves** 81.90 322 *e*S S 05 23 37.3 -0.6
PVCC **Panska Ves** 81.90 322 P P 05 13 24.8 +0.1
PVCC pmax pmax
comp=Z,87nm,1.5s
MSWZ **Moikau Station** 81.92 142 P P 05 13 24.6 -0.1
TREC **Trest** 81.95 321 *e*P P 05 13 25.6 +0.6
TREC AMS AMS 05 52 30.0
comp=Z,32µm,16.9s
TREC **Trest** 81.95 321 P P 05 13 24.4 -0.6
TREC pmax pmax
comp=Z,69nm,1.6s
BBLS **Lazi&#263i** 81.95 314⇑ *i* P P 05 13 24.7 -0.5
BFZ **Birch Farm** 81.99 141 IAmb IAmb 05 13 46.7
comp=Z,255nm,1.3s
BFZ IAMs_20 IAMs_20 05 45 54.0
comp=Z,9µm,20.0s
BFZ **Birch Farm** 81.99 141 P P 05 13 30.8 +5.7
AGG **Agios Georgios** 82.00 309 P P 05 13 22.7 -2.8
AGG **Agios Georgios** 82.00 309 IAMs_20 IAMs_20 05 55 13.5
comp=Z,11µm,21.0s
THL **Klokotos Trika** 82.00 310 P P 05 13 22.5 -2.9
KMY **Karmoy** 82.03 332⇑ *i* P P 05 13 23.2 -2.0
KMY IVmB_BB 05 13 27.8
comp=Z,4µm,6.3s
KMY *e*S S 05 23 39.2 +0.3
KMY *e*SS SS 05 28 50.3 -6.7
KMY IVMs_BB IVMs_BB 05 53 10.0
comp=Z,69µm,14.8s
SSRD **Sdr. Stenderup** 82.05 328 *i* P P 05 13 25.5 +0.2
SOP **Sopron** 82.05 319 P P 05 13 25.3 -0.2
SOP pmax pmax
comp=Z,76nm,1.6s
IVA **Berane** 82.06 313⇑ *i* P P 05 13 25.6 -0.2
GOPC **GO Pecny, Ondr** 82.06 321 *e*P P 05 13 26.1 +0.5
GOPC AMS AMS 05 54 20.0
comp=Z,31µm,16.7s
GOPC **GO Pecny, Ondr** 82.06 321 *e*P P 05 13 26.1 +0.5
GOPC MLR MLR
comp=Z,31µm,16.7s
KRND **KRANIDI** 82.08 307 P P 05 13 22.9 -3.0
RUDO **Rudo** 82.08 314 *e*P P 05 13 25.7 -0.1
BRG **Berggiesshubel** 82.09 322 *e*P P 05 13 27.0 +1.4
BRG Amp 05 13 29.3
comp=Z,36nm,1.1s
BRG **Berggiesshubel** 82.09 322 ⇑SKS S 05 23 41.0 +1.1
BRG **Berggiesshubel** 82.09 322 SS SS 05 28 58.0 -0.3
BRG **Berggiesshubel** 82.09 322 P P 05 13 25.5 -0.2
BRG pmax pmax
comp=Z,46nm,1.7s
BRG **Berggiesshubel** 82.09 322 *e*P 05 13 25.0
comp=Z,431nm,2.2s,baz=61,slow=5.2
MAKR **Makrakomi, Fth** 82.14 309 P P 05 13 24.1 -2.2
HAPS **Han Pijesak,Bl** 82.15 315⇑ *i* P P 05 13 25.9 -0.4
RICC **Richard** 82.16 322 *e*P P 05 13 26.9 +0.9
RICC AMS AMS 05 54 40.0
comp=Z,29µm,16.2s
PRU **Pruhonice** 82.17 321 *e*P P 05 13 26.4 +0.3
PRU *e*SKS S 05 23 41.0 +0.3
PRU AMS AMS 05 54 30.0
comp=Z,37µm,16.3s
PRU **Pruhonice** 82.17 321 *e*P P 05 13 26.4 +0.3
PRU *e* 05 23 41.0
PRU MLR MLR
comp=Z,37µm,16.3s
PRA **Prague** 82.19 322 *e*P P 05 13 26.8 +0.6
PRA AMS AMS 05 54 30.0
comp=Z,39µm,17.1s
PRA **Prague** 82.19 322 *e*P P 05 13 26.8 +0.6
PRA MLR MLR
comp=Z,39µm,17.1s
OHR **Ohrid** 82.19 311 *i* P P 05 13 26.5 0.0
PLE **Pljevlja** 82.19 314⇑ *i* P P 05 13 26.2 -0.3
RONA **Rosalia, Austr** 82.20 319 *i* P P 05 13 26.2 -0.2
comp=Z,2µm,4.0s,SNR=15
RONA *e*PP PP 05 16 37.1 +2.8
comp=Z,1µm,4.0s
RONA *e*S S 05 23 40.3 -1.0
comp=Z,2µm,10.0s
IMMV **Iera Moni Meta** 82.25 305 P P 05 13 25.4 -1.4
SCO **Scoresbysund** 82.27 348 *i* P P 05 13 24.9 -1.4
NEST **Nestorio** 82.32 311 P P 05 13 25.1 -2.1
KOME **Kolasin** 82.32 313⇑ *i* P P 05 13 26.8 -0.4
PENT **Pentalofos** 82.35 311 P P 05 13 25.3 -2.1
CONA **Conrad Observa** 82.36 319 *i* P P 05 13 27.2 -0.1
comp=Z,2µm,3.3s,SNR=50
CONA *e*PP PP 05 16 38.5 +2.9
comp=Z,2µm,4.8s
CONA *e*S S 05 23 41.5 -1.4
comp=Z,571nm,5.7s
CLL **Collm** 82.40 323 P P 05 13 27.9 +0.6
comp=Z,3µmcomp=Z,63nm,1.1s
CLL **Collm** 82.40 323 *e*P 05 13 26.0
comp=Z,381nm,2.1s,baz=61,slow=5.2
EVR **Evrytania** 82.41 309 P P 05 13 26.5 -1.3
GVD **Gavdhos** 82.42 305 P P 05 13 26.0 -1.7
GUR **Goura** 82.44 308 P P 05 13 24.9 -3.0
ANX **Ano Chora** 82.47 309 P P 05 13 26.1 -1.9
HSKC **Hora Svate Kat** 82.50 322 *e*P P 05 13 28.2 +0.3
HSKC *e*S S 05 23 42.8 -1.4
HSKC AMS AMS 05 55 00.0
comp=Z,45µm,14.6s
BSEG **Bad Segeberg** 82.50 326 P P 05 13 28.0 +0.3
BSEG pmax pmax
comp=Z,70nm,1.1s
BSEG **Bad Segeberg** 82.50 326 *e*P 05 13 27.6
comp=Z,307nm,2.2s,baz=61,slow=5.2
VLI **Velia** 82.51 307 P P 05 13 24.9 -3.3
KLV **Kalavryta, Ach** 82.53 308 P P 05 13 25.3 -3.0
EFP **Efpalio** 82.55 309 P P 05 13 26.5 -1.8
KNDR **Palaiochora Ch** 82.56 305 P P 05 13 26.8 -1.6
UPM **Unac-Piva** 82.57 314⇑ *i* P P 05 13 27.7 -0.9
ANKY **Antikythira Is** 82.59 306 P P 05 13 26.6 -2.0
ZVC **Zvikov** 82.63 321 *e*P P 05 13 29.2 +0.7
ZVC AMS AMS 05 53 10.0
comp=Z,32µm,15.2s
SUMG **Summit** 82.67 354 IAMs_20 IAMs_20 05 55 14.6
comp=Z,12µm,18.0s
SUMG **Summit** 82.67 354 P P 05 13 27.2 -1.6
SUMG **Summit** 82.67 354 *i* P P 05 13 27.9 -0.9
SUMG IAmb IAmb 05 13 34.2
comp=Z,24nm,0.8s
PDG **Podgorica** 82.67 313 IAmb IAmb 05 13 49.7
comp=Z,297nm,1.7s
PDG IAMs_20 IAMs_20 05 54 04.5
comp=Z,11µm,20.0s
PDG **Podgorica** 82.67 313⇑ *i* P P 05 13 28.1 -0.8
PDG **Podgorica** 82.67 313 ⇓ *i* P P 05 13 29.3 +0.4
PDG **Podgorica** 82.67 313⇑ *i* P P 05 13 28.2 -0.7
NKME **Niksic** 82.73 314⇑ *i* P P 05 13 28.4 -0.9
TIR **Tirane** 82.73 312 IAmb IAmb 05 14 05.0
comp=Z,562nm,1.6s
TIR IAMs_20 IAMs_20 05 55 48.3
comp=Z,13µm,19.0s
TIR **Tirane** 82.73 312 P P 05 13 28.7 -0.5
TIR pmax pmax
comp=Z,192nm,1.1s
JAN **Janina** 82.78 310 P P 05 13 27.6 -1.9
KOGS **Kog** 82.80 318 *e*P P 05 13 28.8 -0.7
KOGS *e*PcP sP 05 13 38.8 +3.1
KOGS *e*S S 05 23 45.7 -1.6
DRME **Dracevica, Mon** 82.83 313⇑ *i* P P 05 13 29.2 -0.5
DRME **Dracevica, Mon** 82.83 313⇑ *i* P P 05 13 29.3 -0.5
FLTG **Flechtingen** 82.84 325 *e*P 05 13 28.4
comp=Z,593nm,2.5s,baz=61,slow=5.2
CEME **Cevo** 82.85 313⇑ *i* P P 05 13 28.9 -1.0
BBB **Bella Bella** 82.85 36 LR LR 05 50 44.5
comp=Z,2µm,19.5s,baz=340,slow=36
CKRC **Cesky Krumlov** 82.86 321 *e*P P 05 13 30.1 +0.3
CKRC *e*S S 05 23 46.9 -1.0
CKRC AMS AMS 05 53 10.0
comp=Z,28µm,17.5s
CKRC **Cesky Krumlov** 82.86 321 *e*P P 05 13 30.1 +0.3
CKRC *e* 05 23 46.9
CKRC MLR MLR
comp=Z,28µm,17.5s
ARSA **Arzberg** 82.88 319 *i* P P 05 13 29.4 -0.5
comp=Z,2µm,3.7s,SNR=16
ARSA *e*PP PP 05 16 41.9 +2.1
comp=Z,897nm,4.2s
ARSA *e*S S 05 23 46.9 -1.3
comp=Z,0.1nm,13.1s
ULC **Ulcinj** 82.88 313⇑ *i* P P 05 13 30.0 -0.1
DRO **Drossia** 82.89 308 P P 05 13 27.8 -2.3
YKAW3 **Yellowknife Wh** 82.89 23 IAmb IAmb 05 13 31.6
comp=Z,266nm,1.2s
YKA **Yellowknife Ar** 82.94 23 P P 05 13 28.9 -1.0
comp=Z,54nm,0.8s,baz=313,slow=5.0,SNR=232
YKA PKKPbc PKKPbc 05 31 51.8 -1.9
comp=Z,1.8nm,1.0s,baz=132,slow=2.2,SNR=9.4
YKA PKP2bc 05 39 37.1
comp=Z,0.4nm,1.1s,baz=198,slow=2.1,SNR=4.3
YKA LR LR 05 53 44.9
comp=Z,8µm,18.8s,baz=321,slow=38
comp=Z,54nm,0.8s
YKA **Yellowknife Ar** 82.94 23 *i* P P 05 13 28.8 -1.0
YKA pmax pmax
comp=Z,56nm,0.9s
BRY **Bratogost** 82.94 314 *e*P P 05 13 30.2 -0.3
BRY **Bratogost** 82.94 314⇑ *i* P P 05 13 29.6 -0.9
BUM **Brajici-Budva** 82.97 313⇑ *i* P P 05 13 29.9 -0.7
YKAW1 **Yellowknife Wh** 82.98 23 IAmb IAmb 05 13 32.1
comp=Z,253nm,1.2s
BLY **Banja Luka** 82.99 316⇑ *i* P P 05 13 30.2 -0.3
RLS **Riolos of Patr** 83.02 308 P P 05 13 29.3 -1.5
AXS **Araxos** 83.02 309 P P 05 13 28.0 -2.8
A051A **Mrakovica** 83.05 316⇑ *i* P P 05 13 30.1 -0.8
ITM **Ithomi** 83.05 308 P P 05 13 28.9 -2.1
ITM **Ithomi** 83.05 308 IAmb IAmb 05 13 41.6
comp=Z,270nm,1.0s
NEUB **Neuenburg** 83.12 323 *e*P 05 13 30.6
comp=Z,766nm,2.3s,baz=61,slow=5.2
KHC **Kasperske Hory** 83.13 321 *e*P P 05 13 31.4 +0.2
KHC *e*x x 05 13 51.0
KHC *e*PP PP 05 16 41.6 -0.2
KHC *e*S SKSac 05 23 51.5 -1.4
KHC AMS AMS 05 55 10.0
comp=Z,30µm,17.2s
KHC **Kasperske Hory** 83.13 321 *e*P P 05 13 31.4 +0.2
KHC *e* 05 13 51.0
KHC *e* 05 16 41.6
KHC *e* 05 23 51.5
KHC MLR MLR
comp=Z,30µm,17.2s
KHC **Kasperske Hory** 83.13 321 P P 05 13 30.9 -0.3
comp=Z,3µmcomp=Z,60nm,1.5s
TANN **Tannenbergstha** 83.13 323 *e*P 05 13 30.7
comp=Z,329nm,2.1s,baz=61,slow=5.2
TREB **Trebinje** 83.15 314 *e*P P 05 13 29.9 -1.5
HCY **Herceg Novi** 83.17 313⇑ *i* P P 05 13 31.2 -0.3
IGT **Igoumenitsa** 83.19 310 P P 05 13 29.4 -2.3
GEC2 **GERESS Array S** 83.20 321 *e*P 05 13 30.8
comp=Z,608nm,2.4s,baz=61,slow=5.2
GERES **GERESS Array B** 83.20 321 P P 05 13 31.0 -0.6
comp=Z,15nm,0.8s,baz=33,slow=5.1,SNR=51
GERES PKKPbc PKKPbc 05 31 51.0 -1.8
comp=Z,0.2nm,0.2s,baz=176,slow=4.0,SNR=4.6
comp=Z,15nm,0.8s
NKC **Novy Kostel** 83.23 322 AMS AMS 05 54 20.0
comp=Z,35µm,13.9s
ASSE **Asse, Remlinge** 83.24 325 *e*P 05 13 31.1
comp=Z,546nm,2.2s,baz=61,slow=5.2
PLN **Plauen** 83.27 323 *e*P 05 13 31.4
comp=Z,132nm,2.1s,baz=61,slow=5.2
LKD2 **Lefkada island** 83.28 309 P P 05 13 29.6 -2.6
NYDR **Nydri-Lefkada** 83.28 309 P P 05 13 31.6 -0.5
MOA **Molln** 83.34 320 *i* P P 05 13 31.8 -0.5
comp=Z,3µm,3.5s,SNR=38
MOA *e*PP PP 05 16 46.1 +2.4
comp=Z,1µm,4.3s
EVGI **Lefkada island** 83.35 309 P P 05 13 30.4 -2.1
NRDL **Niedersach Rie** 83.35 325 *e*P 05 13 32.4
comp=Z,610nm,2.2s,baz=61,slow=5.2
UPNV **Upernavik** 83.40 359 *i* P P 05 13 27.9 -4.1
UPNV IAmb IAmb 05 13 39.4
comp=Z,28nm,0.8s
SOKA **Soboth** 83.44 318 *i* P P 05 13 32.3 -0.6
comp=Z,2µm,3.6s,SNR=38
SOKA *e*S S 05 23 50.7 -3.3
comp=Z,0.1nm,12.2s
KEK **Kerkira** 83.48 311 P P 05 13 32.0 -1.2
MOX **Moxa** 83.49 323 P P 05 13 32.3 -0.7
MOX pmax pmax
comp=Z,45nm,1.6s
MOX **Moxa** 83.49 323 *e*P 05 13 32.6
comp=Z,376nm,2.2s,baz=61,slow=5.2
MOX *e*L 05 54 42.7
comp=Z,57µm,18.4s
FSK **Fiskardo** 83.49 309 P P 05 13 30.5 -2.7
RTZL **Ratzakli, Kefa** 83.50 309 P P 05 13 31.6 -1.7
STON **Ston** 83.51 314⇑ *i* P P 05 13 31.7 -1.5
WET **Wettzell** 83.52 321 P P 05 13 32.8 -0.4
WET **Wettzell** 83.53 321 *e*P 05 13 32.6
comp=Z,512nm,2.2s,baz=61,slow=5.2
A050A **Klekovaca** 83.53 316⇑ *i* P P 05 13 32.8 -0.6
MANZ **Manzenberg** 83.54 322 *e*P 05 13 32.7
comp=Z,127nm,2.4s,baz=61,slow=5.2
CLZ **Clausthal** 83.55 324 *e*P 05 13 33.1
comp=Z,626nm,2.1s,baz=61,slow=5.2
CRES **Cresnjevec Ost** 83.58 317⇑ *i* P P 05 13 33.1 -0.5
VLS **Valsamata** 83.59 309 P P 05 13 31.6 -2.2
ROTZ **Rotzenmuhle** 83.60 322 *e*P 05 13 32.9
comp=Z,130nm,2.2s,baz=61,slow=5.2
RETH **Rethem/Aller,** 83.61 326 *e*P 05 13 33.0
comp=Z,3µm,2.5s,baz=61,slow=5.2
PSDA **Pessada-Kefalo** 83.62 309 P P 05 13 32.2 -1.7
DMLN **Damoulianata-K** 83.72 309 P P 05 13 31.9 -2.5
BIOA **Bad Ischl, Aus** 83.79 320 *e*P P 05 13 34.4 -0.2
comp=Z,2µm,3.4s,SNR=23
BIOA *e*PP PP 05 16 48.2 +0.9
comp=Z,28nm,1.1s
OBKA **Obir** 83.81 318⇑ *i* P P 05 13 33.9 -0.9
OBKA **Obir** 83.81 318 *i* P P 05 13 34.0 -0.8
comp=Z,2µm,4.0s,SNR=14
OBKA *e*PP PP 05 16 51.0 +3.4
comp=Z,996nm,3.6s
BOJS **Bojanci** 83.86 317⇑ *i* P P 05 13 34.4 -0.6
GTTG **Gottingen** 83.92 324 *e*P 05 13 34.9
comp=Z,443nm,2.0s,baz=61,slow=5.2
OPO **Ambohidratompo** 84.00 247 LR LR 05 47 59.2
comp=Z,3µm,20.9s,baz=199,slow=34
LJU **Ljubljana** 84.05 318 *e*P P 05 13 35.4 -0.5
LJU *e*PcP PcP 05 13 38.4 -1.5
LJU *e* 05 14 04.0
GBAS **Gorenja Brezov** 84.15 318 *e*P P 05 13 35.5 -1.0
GBAS *e*PcP PcP 05 13 39.0 -1.3
ABPO **Ambohimpanom** 84.18 246 P P 05 13 37.3 +0.1
ABPO **Ambohimpanom** 84.18 246 IAMs_20 IAMs_20 05 46 06.1
comp=Z,9µm,22.0s
ABPO **Ambohimpanom** 84.18 246 P P 05 13 37.3 +0.1
ABPO pmax pmax
comp=Z,93nm,0.9s
GRA1 **Grafenberg Arr** 84.19 322 IAmb IAmb 05 14 01.7
comp=Z,253nm,1.6s
GRF **Grafenberg Arr** 84.19 322 *e*P 05 13 36.1
comp=Z,689nm,2.1s,baz=61,slow=5.2
GRF *e*L 05 55 17.6
comp=Z,28µm,20.3s
GRFO **Grafenberg** 84.19 322 P P 05 13 36.4 -0.2
GRFO IAmb IAmb 05 13 40.4
comp=Z,181nm,1.4s
GRFO **Grafenberg** 84.19 322 P P 05 13 36.4 -0.2
GRFO pmax pmax
comp=Z,181nm,1.4s
GRFO MLR MLR
comp=Z,32µm,20.0s
CRNS **Crni Vrh** 84.19 318 *e*P P 05 13 35.5 -1.2
CRNS *e*S SKSac 05 23 58.1 -1.9
CRNS *e* 05 24 50.8
CRNS *e* 05 43 08.9
SCTE **Santa Cesarea** 84.25 311 IAmb IAmb 05 13 50.8
comp=Z,182nm,1.4s
CEY **Cerknica** 84.26 318⇑ *i* P P 05 13 36.2 -0.8
KBA **Koelnbreinsper** 84.26 319 P P 05 13 36.3 -0.9
KBA pmax pmax
comp=Z,90nm,1.2s
KBA **Koelnbreinsper** 84.26 319 *i* P P 05 13 36.1 -1.1
comp=Z,2µm,4.2s,SNR=17
KBA *e*PP PP 05 16 51.7 +0.4
comp=Z,1µm,4.2s
RJOB **Jochberg** 84.27 320 *e*P 05 13 36.8
baz=61,slow=5.2
UBBA **Unterbreizbach** 84.28 324 *e*P 05 13 36.5
comp=Z,462nm,2.2s,baz=61,slow=5.2
MYKA **Terra Mystica** 84.31 319 *i* P P 05 13 36.2 -1.1
comp=Z,2µm,4.4s,SNR=8.9
MYKA *e*PP PP 05 16 53.1 +1.6
comp=Z,824nm,3.4s
MYKA *e*SKS SKSac 05 23 59.4 -1.3
comp=Z,1µm,7.2s
LESA **Schwarzleotal** 84.49 320 *i* P P 05 13 37.6 -0.7
comp=Z,2µm,3.3s,SNR=27
LESA *e*PP PP 05 16 54.0 +0.9
comp=Z,2µm,4.6s
NUUG **Nuugaatsiaq** 84.60 358 *i* P P 05 13 34.9 -3.3
SKDS **Skadanscina** 84.60 318⇑ *i* P P 05 13 37.4 -1.4
SABO **M.te Sabotino** 84.65 318 P P 05 13 37.6 -1.4
SABO IAmb IAmb 05 14 03.1
comp=Z,396nm,1.7s
IBBN **Ibbenburen** 84.67 326 *e*P 05 13 38.4
comp=Z,825nm,2.2s,baz=61,slow=5.2
ABTA **Abfaltersbach** 84.92 319 *i* P P 05 13 39.0 -1.5
comp=Z,533nm,2.5s,SNR=17
ABTA *e*PP PP 05 16 56.5 -0.1
comp=Z,628nm,3.7s
KASTN **Kahler Asten** 84.93 325 *e*P 05 13 40.4
comp=Z,395nm,2.1s,baz=61,slow=5.2
FUR **Furstenfeldbru** 84.93 321 P P 05 13 40.2 -0.2
FUR pmax pmax
comp=Z,144nm,1.0s
FUR **Furstenfeldbru** 84.93 321 *e*P 05 13 40.2
baz=61,slow=5.2
KIBK **Kibwezi** 85.08 265 IAMs_20 IAMs_20 05 51 30.8
comp=Z,7µm,21.0s
KIBK **Kibwezi** 85.08 265 P P 05 13 41.4 -0.4
KIBK **Kibwezi** 85.08 265 P P 05 13 42.8 +1.0
SNR=56
WATA **Walderalm** 85.18 320 *i* P P 05 13 40.5 -1.3
comp=Z,1µm,3.4s,SNR=13
WATA *e*PP PP 05 16 59.3 +0.6
comp=Z,2µm,4.3s
WTTA **Wattenberg** 85.18 320 P P 05 13 40.9 -1.0
WTTA pmax pmax
comp=Z,109nm,1.1s
WTTA **Wattenberg** 85.18 320 *i* P P 05 13 40.7 -1.1
comp=Z,2µm,3.1s,SNR=29
WTTA *e*PP PP 05 16 59.9 +1.1
comp=Z,2µm,4.3s
MATE **Matera** 85.18 312 *e*P P 05 13 38.7 -3.1
LODK **Lodwar** 85.20 272 IAMs_20 IAMs_20 05 52 06.9
comp=Z,8µm,20.0s
LODK **Lodwar** 85.20 272 P P 05 13 43.3 +0.9
SNR=36
KMBO **Kilima Mbogo** 85.31 267 P P 05 13 43.3 +0.1
KMBO **Kilima Mbogo** 85.31 267 P P 05 13 43.0 -0.2
comp=Z,43nm,0.9s,baz=45,slow=7.0,SNR=54
KMBO LR LR 05 50 31.8
comp=Z,6µm,21.5s,baz=67,slow=35
comp=Z,43nm,0.9s
KMBO **Kilima Mbogo** 85.31 267 P P 05 13 46.0 +2.9
KMBO **Kilima Mbogo** 85.31 267*c* *i* P P 05 13 43.6 +0.5
KMBO pmax pmax
comp=Z,45nm,0.9s
KMBO **Kilima Mbogo** 85.31 267 *i* P P 05 13 44.4 +1.3
SNR=71
SGRT **San Giovanni R** 85.31 314 IAMs_20 IAMs_20 05 59 23.3
comp=Z,9µm,18.0s
ILON **Igloolik, Nuna** 85.31 8 IAmb IAmb 05 13 42.9
comp=Z,172nm,1.0s
BUG **Bochum–Univer** 85.40 325 *e*P 05 13 41.5
comp=Z,421nm,1.9s,baz=61,slow=5.2
UMMG **Uummannaq** 85.43 358 *i* P P 05 13 40.3 -2.0
TNS **Taunus Mts** 85.44 324 P P 05 13 43.4 +0.5
TNS **Taunus Mts** 85.44 324 *e*P 05 13 41.8
comp=Z,438nm,2.2s,baz=61,slow=5.2
CBB **Campbell River** 85.45 37 IAmb IAmb 05 13 45.9
comp=Z,220nm,1.2s
MOTA **Moosalm** 85.45 320 *i* P P 05 13 41.6 -1.6
comp=Z,2µm,4.6s
MOTA *e*PP PP 05 17 01.6 +0.7
comp=Z,2µm,4.1s
SQTA **Sankt Quirin** 85.45 320 *e*P P 05 13 42.2 -1.0
comp=Z,1µm,3.6s,SNR=19
SQTA *e*PP PP 05 17 00.7 -0.3
comp=Z,2µm,4.6s
RETA **Reutte** 85.58 321 P P 05 13 41.0 -2.7
comp=Z,2µm,4.4s
RETA *e*PP PP 05 17 02.4 +0.5
comp=Z,1µm,3.3s
STU **Stuttgart** 85.80 322 P P 05 13 43.9 -0.8
STU pmax pmax
comp=Z,55nm,2.3s
STU **Stuttgart** 85.80 322 *e*P P 05 13 43.1 -1.6
STU **Stuttgart** 85.80 322 *e*P 05 13 43.5
baz=61,slow=5.2
TIP **Timpagrande** 85.83 311 IAmb IAmb 05 14 10.3
comp=Z,630nm,2.0s
TIP IAMs_20 IAMs_20 05 58 28.8
comp=Z,10µm,19.0s
TIP **Timpagrande** 85.83 311 ⇓ *i* P P 05 13 46.0 +0.9
TIP **Timpagrande** 85.83 311 P P 05 13 45.6 +0.5
FETA **Feichten** 85.84 320 *i* P P 05 13 43.3 -1.8
comp=Z,2µm,4.5s,SNR=22
FETA *e*PP PP 05 17 04.1 0.0
comp=Z,2µm,5.0s
UBR **Ueberruh** 85.86 321 *e*P 05 13 44.6
comp=Z,336nm,2.0s,baz=61,slow=5.2
VOI **Vohitsoka** 85.88 244 IAmb IAmb 05 14 04.3
comp=Z,387nm,1.7s
VOI IAMs_20 IAMs_20 05 50 29.0
comp=Z,8µm,20.0s
CUC **Castrocucco** 86.09 312 IAMs_20 IAMs_20 05 57 35.1
comp=Z,11µm,20.0s
TEOL **Teolo** 86.13 318 IAmb IAmb 05 14 11.3
comp=Z,128nm,1.0s
ICESG **Greenland Ices** 86.13 353 *i* P P 05 13 44.9 -1.4
DAVA **Damuels** 86.19 321 *e*P P 05 13 46.0 -0.9
comp=Z,2µm,4.6s,SNR=11
DAVA *e*PP PP 05 17 07.4 +0.4
comp=Z,2µm,5.3s
GUMA **Gualdo di Mace** 86.24 316 IAmb IAmb 05 14 08.7
comp=Z,360nm,1.3s
FUORN **Ofenpass-Fuorn** 86.32 320 P P 05 13 46.8 -0.8
INTR **Introdacqua** 86.39 315 P P 05 13 46.6 -1.3
INTR IAmb IAmb 05 14 25.5
comp=Z,328nm,1.8s
INTR IAMs_20 IAMs_20 05 57 31.8
comp=Z,12µm,19.0s
FDMO **Fiordimonte** 86.41 316 IAmb IAmb 05 14 09.6
comp=Z,196nm,1.0s
PAOL **Paolisi** 86.43 314 IAMs_20 IAMs_20 05 59 22.0
comp=Z,7µm,18.0s
CAMP **Campotosto** 86.45 315 IAmb IAmb 05 14 09.6
comp=Z,132nm,1.0s
DAVOX **Davos/Dischmat** 86.46 320 LR LR 05 56 07.5
comp=Z,32µm,18.4s,baz=36,slow=38
BTNL **Ternell** 86.47 325 *d*P P 05 13 48.5 +0.4
comp=Z,21nm,1.7s
NRCA **Norcia** 86.50 316 P P 05 13 47.7 -0.6
NRCA IAmb IAmb 05 14 26.0
comp=Z,126nm,0.8s
BFO **Black Forest** 86.52 322 P P 05 13 47.3 -1.0
BFO IAmb IAmb 05 13 50.3
comp=Z,239nm,2.0s
BFO **Black Forest** 86.52 322 P P 05 13 47.3 -1.0
BFO pmax pmax
comp=Z,239nm,2.0s
BFO MLR MLR
comp=Z,31µm,20.0s
BFO **Black Forest** 86.52 322 *e*P 05 13 46.7
comp=Z,264nm,2.0s,baz=61,slow=5.2
MEM **Membach** 86.53 325 *d*P P 05 13 48.7 +0.5
comp=Z,21nm,1.4s
MEM **Membach** 86.53 325 P P 05 13 47.4 -0.8
MEM pmax pmax
comp=Z,63nm,2.2s
AQU **L'Aquila** 86.55 315 PP PP 05 17 11.4 +1.6
AQU P P 05 13 47.5 -1.1
BEBN **Eben Emael** 86.59 325 *d*P P 05 13 47.5 -1.0
BHOU **Houvegnez** 86.67 325 *d*P P 05 13 49.2 +0.2
BSTI **Sart Tilman** 86.77 325 *d*P P 05 13 48.1 -1.3
CEL **Celeste** 86.85 311 P P 05 13 49.3 -0.9
CEL IAMs_20 IAMs_20 05 57 55.0
comp=Z,11µm,20.0s
ILULI **Ilulissat** 86.86 357 *i* P P 05 13 46.5 -2.9
TUE **Stuetta** 86.94 320 P P 05 13 49.6 -1.0
CESX **Cesi** 86.95 316 P P 05 13 49.7 -0.8
BORG **Borgarnes** 86.95 345 LR LR 05 55 42.9
comp=Z,24µm,19.6s,baz=28,slow=38
WLF **Walferdange** 86.98 324 PP PP 05 17 12.9 -0.2

WLF P **P** **05 13 48.4 -2.1**
WLF Walferdange 86.98 324 *d*P **P** **05 13 50.4 -0.1**
WLF Walferdange 86.98 324 *e*P 05 13 49.8
baz=61,slow=5.2
LLLB Lillooet 86.99 35 IAMs_20 IAMs_20 05 53 48.1
comp=Z,6μm,18.0s
BCLA Clavier 87.00 325 *d*P **P** **05 13 49.9 -0.6**
ZCCA Zocca 87.07 318 IAmb IAmb 05 14 39.7
comp=Z,142nm,1.2s
BGES Gesves 87.14 325 *d*P **P** **05 13 51.2 0.0**
FOMA Nahampoana Res 87.16 241 IAMs_20 IAMs_20 05 51 15.8
comp=Z,7μm,19.0s
BLKN Baker Lake 87.17 15 IAmb IAmb 05 13 55.3
comp=Z,364nm,1.9s
PGC Sidney 87.26 37 IAmb IAmb 05 13 55.1
comp=Z,391nm,1.3s
UCC Uccle 87.28 326 *d*P **P** **05 13 52.5 +0.7**
OSSC Osservatorio P 87.33 317 IAMs_20 IAMs_20 05 59 16.4
comp=Z,11μm,18.0s
BMRD Maredsous 87.35 325 *d*P **P** **05 13 51.1 -1.2**
VLC Villacollemand 87.53 318 PP **PP** **05 17 18.0 +0.3**
VLC P **P** **05 13 50.9 -2.4**
DOU Dourbes 87.56 325 *d*P **P** **05 13 51.9 -1.3**
comp=Z,25nm,0.9s
DOU *d*PcP **PcP** **05 13 53.9 -1.4**
DOU *d*pP **pP** **05 13 58.4 +0.5**
DOU *d*sP **sP** **05 14 01.0 +1.5**
DOU Dourbes 87.56 325 P **P** **05 13 52.2 -1.1**
GDLE Glaisdale, N Y 87.57 330 *e*P **P** **05 13 52.2 -1.0**
NLWA Neilton Lookou 87.72 38 IAMs_20 IAMs_20 06 00 44.7
comp=Z,6μm,18.0s
EDMD Edmundbyers 87.82 331 *e*P **P** **05 13 52.2 -2.2**
CASP Castiglione de 87.94 316 IAMs_20 IAMs_20 05 58 58.8
comp=Z,12μm,19.0s
LMK Market Rasen 87.96 329 *e*P **P** **05 13 53.3 -1.8**
WACR West Acre 87.97 329 *e*P **P** **05 13 54.0 -1.1**
MSSA Maissana 87.98 318 IAMs_20 IAMs_20 05 57 04.5
comp=Z,12μm,20.0s
EKA Eskdalemuir Ar 88.01 332 P **P** **05 13 55.2 -0.1**
comp=Z,2.7nm,0.6s,baz=54,slow=2.4,SNR=15
EKA PP **PP** **05 17 26.5 +5.4**
comp=Z,5.4nm,0.9s,baz=65,slow=6.8,SNR=3.7
comp=Z,2.7nm,0.6s
ESK Eskdalemuir 88.04 332 *e*P **P** **05 13 54.8 -0.6**
SENIN Lac Senin/Sane 88.19 321 P **P** **05 13 55.3 -1.3**
HPK Haverah Park 88.23 330 *e*P **P** **05 13 55.4 -0.9**
HPK IAmb IAmb 05 13 57.9
comp=Z,579nm,2.1s
RAFF Raffo Rosso 88.42 310 IAMs_20 IAMs_20 05 59 02.4
comp=Z,8μm,20.0s
LBWR Ladybower, Pea 88.64 330 *e*P **P** **05 13 55.7 -2.6**
RAR Rarotonga 88.70 114 P **P** **05 14 03.0 +3.9**
RAR Rarotonga 88.70 114 P **P** **05 14 03.5 +4.4**
RAR pmax pmax
comp=Z,97nm,2.3s
CWF Charnwood Fore 88.88 329 *e*P **P** **05 13 57.3 -2.1**
SFJD Kangerlussuaq 89.04 357 IAMs_20 IAMs_20 05 56 46.8
comp=Z,10μm,18.0s
SFJD Kangerlussuaq 89.04 357 LR LR 05 56 57.6
comp=Z,9μm,18.1s,baz=358,slow=38
SFJD Kangerlussuaq 89.04 357 *i* P P 05 13 55.0 -4.9
SFJD Kangerlussuaq 89.04 357 P **P** **05 13 57.9 -2.0**
BNI Bardonecchia 89.28 320 P **P** **05 14 01.1 -0.6**
BNI pmax pmax
comp=Z,38nm,1.4s
IOMK Kirk Michael 89.34 332 *e*P **P** **05 14 00.5 -1.1**
CLGH Cloghs, Cushen 89.43 333 *e*P **P** **05 14 00.7 -1.3**
LOR Lormes 89.61 323 P **P** **05 14 02.2 -0.8**
LOR pmax pmax
comp=Z,40nm,1.9s
FOEL Foel Wylfa 89.65 330 *e*P **P** **05 14 00.5 -2.6**
B08A Colville Reser 89.66 36 IAMs_20 IAMs_20 05 54 38.8
comp=Z,6μm,20.0s
HLM1 Long Mynd 89.75 330 *e*P **P** **05 14 02.2 -1.3**
ORIF Oris-en-Rattie 89.82 320 P **P** **05 14 03.8 -0.4**
ORIF pmax pmax
comp=Z,50nm,1.7s
LLW Llanuwychllyn 89.89 330 *e*P **P** **05 14 02.2 -2.0**
WLF1 Llynfaes 89.92 331 *e*P **P** **05 14 01.4 -2.8**
CLF Chambon-Foret 90.03 324 IAmb IAmb 05 14 25.7
comp=Z,283nm,1.8s
MCH1 Michaelchurch 90.14 329 *e*P **P** **05 14 03.9 -1.5**
MCH1 IAmb IAmb 05 14 06.7
comp=Z,474nm,2.5s
VSL Villasalto 90.63 314 IAMs_20 IAMs_20 05 57 55.1
comp=Z,9μm,22.0s
F07A Phinny Hill Vi 90.81 38 IAMs_20 IAMs_20 06 02 03.2
comp=Z,6μm,18.0s
NEW Newport 90.88 35 IAMs_20 IAMs_20 06 00 32.1
comp=Z,6μm,19.0s
NEW Newport 90.88 35 LR LR 05 55 19.0
comp=Z,4μm,20.6s,baz=330,slow=36
NEW Newport 90.88 35 P **P** **05 14 09.7 +0.7**
NEW pmax pmax
comp=Z,316nm,1.5s
E08A Dider Farm, El 90.93 37 IAMs_20 IAMs_20 05 56 41.5
comp=Z,6μm,20.0s
RSBS Rosebush, Pemb 90.98 330 *e*P **P** **05 14 07.2 -2.1**
MBAR Mbarara 91.05 270 P **P** **05 14 12.2 +1.7**
YBH Yreka Blue Hor 91.58 42 LR LR 05 54 19.6
comp=Z,1μm,20.2s,baz=320,slow=35
KMRM Mail Ridge 91.80 44 IAMs_20 IAMs_20 05 57 28.1
comp=Z,6μm,18.0s
FRB Frobisher Bay 92.13 5 LR LR 05 57 53.6
comp=Z,9μm,21.3s,baz=346,slow=37
FRB Frobisher Bay 92.13 5 P **P** **05 14 12.7 -1.6**
FRB pmax pmax
comp=Z,49nm,1.4s
F10A Beach Ranch, E 92.25 37 IAMs_20 IAMs_20 05 57 01.5
comp=Z,5μm,19.0s
O02D Mt. Diablo Mer 92.41 44 IAMs_20 IAMs_20 05 54 54.9
comp=Z,7μm,20.0s
KEST Kesra 92.65 311 P **P** **05 14 17.0 -0.5**
comp=Z,42nm,1.0s,baz=87,slow=3.5,SNR=23
KEST LR LR 06 01 51.0
comp=Z,8μm,19.8s,baz=13,slow=39
comp=Z,42nm,1.0s
KEST Kesra 92.65 311 P **P** **05 14 18.8 +1.3**
SNR=17
BMO Blue Mountains 92.91 38 IAmb IAmb 05 14 21.6
comp=Z,287nm,1.4s
BMO IAMs_20 IAMs_20 06 02 46.8
comp=Z,5μm,19.0s
EJON La Jonquera 93.02 319 PP **PP** **05 17 59.9 -1.4**
EJON P **P** **05 14 17.3 -1.7**
FFC Flin Flon 93.09 24 P **P** **05 14 18.3 -0.7**
FFC Flin Flon 93.09 24 IAMs_20 IAMs_20 05 58 30.8
comp=Z,9μm,20.0s
FFC Flin Flon 93.09 24 P **P** **05 14 18.3 -0.7**
FFC pmax pmax
comp=Z,233nm,1.2s
FFC MLR MLR
comp=Z,9μm,20.0s
GDXM Geysers 93.18 45 IAmb IAmb 05 14 23.4
comp=Z,316nm,1.6s
VAL Valentia 93.40 332 PP PP 05 17 55.6 -8.2
VAL P **P** **05 14 18.7 -1.7**
MSO Missoula 93.46 35 IAMs_20 IAMs_20 05 58 17.2
comp=Z,8μm,20.0s
PLID Pearl Lake 93.48 37 IAmb IAmb 05 14 24.1
comp=Z,180nm,1.7s
PLID IAMs_20 IAMs_20 05 57 58.0
comp=Z,6μm,19.0s
MAHO Mahon 93.68 317 PP PP 05 18 06.1 -0.3
AFDM Forest Hills D 94.27 44 IAmb IAmb 05 14 27.6
comp=Z,218nm,1.7s
ETOS Mallorca 94.66 317 PP **PP** **05 18 14.4 +0.2**
EGMT Eagleton 94.74 32 IAmb IAmb 05 14 29.3
comp=Z,222nm,1.2s
EGMT IAMs_20 IAMs_20 05 58 34.1
comp=Z,6μm,19.0s
SET Setif 95.07 313 P **P** **05 14 30.0 +1.4**
DLMT Dillon 95.13 35 IAMs_20 IAMs_20 05 59 30.5
comp=Z,6μm,19.0s
CMB Columbia Colle 95.17 44 P **P** **05 14 28.8 -0.2**
SAO San Andreas Ge 95.22 46 IAmb IAmb 05 14 31.9
comp=Z,189nm,1.7s
SAO San Andreas Ge 95.22 46 P **P** **05 14 28.7 -0.5**
HLID Hailey 95.33 37 IAmb IAmb 05 14 33.5
comp=Z,229nm,1.4s
HLID IAMs_20 IAMs_20 05 59 27.0
comp=Z,5μm,19.0s
BOZ Bozeman (W) 95.48 34 IAMs_20 IAMs_20 06 05 19.0
comp=Z,6μm,18.0s
PPT Papeete 95.94 106 LR LR 05 49 57.1
comp=Z,6μm,21.6s,baz=281,slow=31
PPT2 Papeete2 95.94 107 *e*P **P** **05 14 33.1 +0.3**
comp=Z,67nm,1.3s
PPT2 Papeete2 95.94 107 *e*PP **PP** **05 18 23.0 -2.4**
comp=Z,787nm,24.5s
PPT2 *e*S **S** **05 25 46.4 -4.9**
comp=Z,5μm,30.2s
PPT2 *e*SS **SS** **05 32 19.2 -3.1**
comp=Z,3μm,25.8s
PPT2 *e*LQ LQ 05 41 26.8
comp=Z,6μm,30.5s
PPT2 *e*LR LR 05 45 25.2
comp=Z,16μm,23.5s
PPT2 *e*LR LR 05 45 33.9
comp=Z,21μm,23.5s
PMPB Monarch Peak 95.96 46 IAmb IAmb 05 14 41.3
comp=Z,240nm,1.6s
PAE Paea 95.97 107 *e*PKIKP **P** **05 14 31.2 -1.6**
comp=Z,316nm,24.6s
PAE Paea 95.97 107 *e*S **S** **05 25 44.0 -7.3**
PAE comp=Z,520nm,25.9s *e*SS **SS** **05 32 22.4 -0.1**
comp=Z,614nm,26.3s
PAE Paea 95.97 107 *e*LR LR 05 45 32.1
comp=Z,4μm,23.0s
EIBI Ibiza 96.02 317 PP **PP** **05 18 21.2 -3.5**
YHL Hebgen Lake 96.21 35 IAmb IAmb 05 14 37.2
comp=Z,154nm,1.3s
YHL IAMs_20 IAMs_20 06 06 09.2
comp=Z,8μm,18.0s
NVAR Mina Array Bea 96.25 43 P **P** **05 14 33.5 -0.6**
NVAR Mina Array Bea 96.25 43 P **P** **05 14 34.6 +0.4**
comp=Z,22nm,0.7s,baz=285,slow=4.0,SNR=87
NVAR PKKPbc **PKKPdf** **05 31 20.9 +0.4**
comp=Z,0.8nm,0.8s,baz=176,slow=3.4,SNR=4.6
NVAR LR LR 05 57 26.5
comp=Z,3μm,19.6s,baz=325,slow=35
comp=Z,22nm,0.7s
YHB Horse Butte 96.28 35 IAmb IAmb 05 14 37.4
comp=Z,181nm,1.3s
YHB IAMs_20 IAMs_20 06 05 55.8
comp=Z,8μm,18.0s
TVO Taravao 96.30 107 *e*LR LR 05 45 43.4
comp=Z,4μm,23.1s
NV11 Mina Array Sit 96.35 43 IAmb IAmb 05 14 37.7
comp=Z,295nm,1.8s
PMOR Pomariorio Ree 96.42 103 *e*P **P** **05 14 32.4 -2.4**
comp=Z,2μm,26.1s
PMOR Pomariorio Ree 96.42 103 *e*S **S** **05 25 49.8 -5.5**
comp=Z,2μm,24.6s
PMOR Pomariorio Ree 96.42 103 *e*LR LR 05 45 42.6
comp=Z,17μm,22.8s
YMR Madison River 96.45 35 IAmb IAmb 05 14 38.4
comp=Z,153nm,1.4s
YMR IAMs_20 IAMs_20 06 01 22.5
comp=Z,6μm,20.0s
ELK Elko 96.67 40 IAmb IAmb 05 14 39.6
comp=Z,264nm,1.9s
ELK IAMs_20 IAMs_20 06 06 23.5
comp=Z,5μm,18.0s
ELK Elko 96.67 40 LR LR 05 54 16.5
comp=Z,3μm,22.0s,baz=328,slow=33
YNE Yellowstone No 96.71 34 IAMs_20 IAMs_20 06 00 20.1
comp=Z,7μm,20.0s
VAH Vaihoa 96.75 104 *e*LR LR 05 45 52.4
comp=Z,17μm,23.4s
H17A Grant Village 96.84 35 IAmb IAmb 05 14 41.5
comp=Z,185nm,1.4s
H17A IAMs_20 IAMs_20 06 00 25.8
comp=Z,11μm,20.0s
DGMT Dagmar 96.98 29 IAMs_20 IAMs_20 06 04 06.9
comp=Z,8μm,18.0s
RLMT Red Lodge 97.01 34 IAmb IAmb 05 14 40.3
comp=Z,137nm,1.4s
RLMT IAMs_20 IAMs_20 06 00 02.2
comp=Z,6μm,20.0s
ECHE Chera 97.08 319 PP **PP** **05 18 33.7 +0.8**
FXWY Fox Creek 97.12 36 IAmb IAmb 05 14 41.4
comp=Z,118nm,1.8s
MOOW Moose Ponds 97.20 35 IAmb IAmb 05 14 41.8
comp=Z,154nm,1.9s
MOOW IAMs_20 IAMs_20 06 06 59.2
comp=Z,6μm,20.0s
TPAW Teton Pass 97.26 36 IAMs_20 IAMs_20 06 07 14.9
comp=Z,5μm,18.0s
LOHW Long Hollow 97.36 35 IAmb IAmb 05 14 42.3
comp=Z,106nm,1.9s
LOHW IAMs_20 IAMs_20 06 07 13.6
comp=Z,6μm,19.0s
LAO LASA Array 97.38 31 IAmb IAmb 05 14 41.5
comp=Z,165nm,1.3s
LAO IAMs_20 IAMs_20 06 04 43.5
comp=Z,10μm,18.0s
SNOW Snow King Moun 97.39 36 IAMs_20 IAMs_20 06 07 18.3
comp=Z,6μm,20.0s
HVU Hansel Valley 97.41 38 IAmb IAmb 05 14 42.6
comp=Z,175nm,1.9s
HVU IAMs_20 IAMs_20 06 00 56.0
comp=Z,5μm,19.0s
BCW Bitter Crk WRg 97.62 46 IAMs_20 IAMs_20 06 00 50.0
comp=Z,5μm,20.0s
GRAC Grapevine Rang 97.72 44 IAmb IAmb 05 14 48.3
comp=Z,120nm,1.8s
ISA Isabella, Lake 97.81 45 IAmb IAmb 05 14 42.9
comp=Z,94nm,1.6s
BGU Big Grassy Mou 97.83 39 IAmb IAmb 05 14 44.6
comp=Z,201nm,2.0s
UCM Universidad Co 97.96 321 PP **PP** **05 18 37.7 -1.9**
HWUT Hardware Ranch 98.20 37 IAmb IAmb 05 14 46.0
comp=Z,178nm,1.8s
HWUT IAMs_20 IAMs_20 06 07 02.9
comp=Z,8μm,19.0s
GUD Guadarrama 98.26 321 P Pdif 05 14 44.5 +1.4
TBI Tubuai 98.27 112 *e*PKP2 **P** **05 14 43.2 +0.1**
comp=Z,3μm,25.8s
TBI Tubuai 98.27 112 *e*PP **PP** **05 18 40.3 -2.9**
comp=Z,3μm,27.5s
TBI *e*S **S** **05 26 06.3 -4.6**
comp=Z,15μm,30.8s
TBI *e*SS **SS** **05 32 51.6 -3.3**
comp=Z,15μm,29.0s
TBI *e*LQ LQ 05 42 25.1
comp=Z,21μm,36.2s
TBI *e*LR LR 05 46 26.7
comp=Z,31μm,24.5s
TBI *e*LR LR 05 46 31.9
comp=Z,8μm,25.0s
WCT Wildcat Mounta 98.31 44 IAmb IAmb 05 14 46.3
comp=Z,144nm,1.8s
WCT IAMs_20 IAMs_20 06 04 38.0
comp=Z,5μm,18.0s
S11A Rachel 98.33 43 IAmb IAmb 05 14 48.2
comp=Z,100nm,1.4s
CART Cartagena 98.36 317 PP **PP** **05 18 41.4 -1.2**
CCAC Calif City Air 98.42 46 IAMs_20 IAMs_20 06 02 28.9
comp=Z,5μm,20.0s
DUG Dugway, Tooele 98.44 39 IAmb IAmb 05 14 49.8
comp=Z,104nm,1.5s
DUG IAMs_20 IAMs_20 06 07 49.2
comp=Z,6μm,18.0s
DUG Dugway, Tooele 98.44 39 P Pdif 05 14 44.6 +0.7
DUG pmax pmax
comp=Z,54nm,2.3s
TPNV Topopah Spring 98.45 43 IAmb IAmb 05 14 49.3
comp=Z,104nm,1.8s
BW06 Boulder Array 98.50 35 IAMs_20 IAMs_20 06 06 35.7
comp=Z,7μm,18.0s
PDAR Pinedale Array 98.50 35 P **P** **05 14 43.3 -0.9**
PDAR Pinedale Array 98.50 35 P **P** **05 14 44.0 -0.2**
comp=Z,7.6nm,1.0s,baz=321,slow=1.9,SNR=23
PDAR PP **PP** **05 18 47.0 +3.1**
comp=Z,2.1nm,0.9s,baz=305,slow=5.2,SNR=3.9
PDAR PKKPbc **PKKPbc** **05 31 14.1 -0.4**
comp=Z,0.7nm,0.8s,baz=108,slow=4.8,SNR=5.4
PDAR LR LR 05 58 14.2
comp=Z,2μm,21.7s,baz=337,slow=35
comp=Z,7.6nm,1.0s
SNCC San Nicolas Is 98.54 48 IAMs_20 IAMs_20 05 54 44.4
comp=Z,7μm,19.0s
TCUT Toone Canyon 98.62 38 IAMs_20 IAMs_20 06 03 33.0
comp=Z,7μm,20.0s
GWY Greenwater Val 98.66 44 IAmb IAmb 05 14 47.8
comp=Z,220nm,1.9s
ESDC Sonseca Array 98.79 321 P **P** **05 14 44.2 -1.1**
ESDC IAmb IAmb 05 18 19.5
comp=Z,188nm,1.9s
ESDC Sonseca Array 98.79 321 P **P** **05 14 44.4 -1.0**
comp=Z,1.6nm,0.9s,baz=53,slow=4.8,SNR=6.4
ESDC PP **PP** **05 18 43.5 -2.4**
comp=Z,10nm,1.2s,baz=49,slow=8.3,SNR=6.6
ESDC PKKPbc **PKKPdf** **05 31 15.6 -0.2**
comp=Z,0.9nm,0.9s,baz=297,slow=2.8,SNR=4.8
ESDC LR LR 06 03 55.5
comp=Z,9μm,19.8s,baz=40,slow=38
PASC Pasadena Art C 98.89 46 IAmb IAmb 05 14 48.3
comp=Z,129nm,1.6s
PASC IAMs_20 IAMs_20 05 54 27.6
comp=Z,6μm,20.0s
PRN Pahroc Range 98.91 42 IAmb IAmb 05 14 49.4
comp=Z,95nm,1.6s
ULM Lac du Bonnet 98.91 23 P **P** **05 14 45.5 -0.1**
comp=Z,17nm,1.0s,baz=321,slow=5.0,SNR=15
ULM LR LR 06 02 39.3
comp=Z,11μm,18.2s,baz=348,slow=37
comp=Z,17nm,1.0s
GSC Goldstone, Bar 99.11 45 IAmb IAmb 05 14 49.8
comp=Z,134nm,1.6s
LSZ Lusaka 99.14 257 P **Pdif** **05 14 46.5 -0.8**
LSZ Lusaka 99.14 257 IAMs_20 IAMs_20 05 59 47.2
comp=Z,10μm,19.0s
LSZ Lusaka 99.14 257 LR LR 05 59 49.8
comp=Z,9μm,18.4s,baz=82,slow=36
LSZ Lusaka 99.14 257 P **Pdif** **05 14 49.1 +1.7**
LSZ Lusaka 99.14 257 P **Pdif** **05 14 46.5 -0.8**
LSZ pmax pmax
comp=Z,25nm,1.2s
LSZ MLR MLR
comp=Z,10μm,19.0s
MPU Maple Canyon 99.23 39 IAmb IAmb 05 14 50.6
comp=Z,102nm,1.8s
MPU IAMs_20 IAMs_20 06 02 07.2
comp=Z,5μm,19.0s
BSUT Blindstream Ca 99.38 38 IAMs_20 IAMs_20 06 05 24.9
comp=Z,5μm,18.0s
MDND Maddock 99.42 27 IAMs_20 IAMs_20 06 05 36.2
comp=Z,7μm,19.0s
E28A Huff 99.96 28 IAMs_20 IAMs_20 06 04 31.6
comp=Z,6μm,18.0s
EPLO Experimental L 100.16 22 IAMs_20 IAMs_20 06 04 30.6
comp=Z,8μm,19.0s
K22A Casper 100.16 34 IAMs_20 IAMs_20 06 05 45.6
comp=Z,5μm,18.0s
Q16A Castle Valley 100.23 39 IAMs_20 IAMs_20 06 09 38.8
comp=Z,5μm,19.0s
P18A Preston Nutter 100.28 38 IAMs_20 IAMs_20 06 08 36.0
comp=Z,6μm,19.0s
PFO Pinyon Flats O 100.37 46 IAMs_20 IAMs_20 05 55 23.9
comp=Z,6μm,20.0s
PFO Pinyon Flats O 100.37 46 P **Pdif** **05 14 52.9 +0.3**
PFO pmax pmax
comp=Z,45nm,1.7s
AGMN Agassiz Nation 100.53 24 IAMs_20 IAMs_20 06 03 43.5
comp=Z,8μm,20.0s
TJX Tijuana 100.65 47 IAMs_20 IAMs_20 05 56 08.1
comp=Z,5μm,20.0s
CBX Cerro Bola 101.03 47 IAMs_20 IAMs_20 05 56 20.2
comp=Z,6μm,20.0s
TAOE Nuku Hiva Isla 101.03 95 *e*PKIKP **Pdif** **05 14 51.9 -3.8**
comp=Z,645nm,25.6s
TAOE Nuku Hiva Isla 101.03 95 *e*PP PP 05 18 56.3 -8.1
comp=Z,919nm,25.2s
TAOE *e*S **Sdif** **05 26 30.9 -3.8**
comp=Z,2μm,29.4s
TAOE *e*SS **SS** **05 33 35.7 +1.8**
comp=Z,2μm,26.4s
TAOE *e*LQ LQ 05 43 18.3
comp=Z,4μm,34.0s
TAOE *e*LR LR 05 47 51.5
comp=Z,7μm,21.5s
CCX Cicese 101.30 48 IAMs_20 IAMs_20 05 55 36.4
comp=Z,5μm,20.0s
ESJX Sierra Juarez 101.70 47 IAMs_20 IAMs_20 05 57 21.9
comp=Z,6μm,20.0s
EVO Evora 101.88 322 PP **PP** **05 19 08.3 -1.0**
VTX Valle De La Tr 102.19 47 IAMs_20 IAMs_20 05 56 42.8
comp=Z,6μm,20.0s
LIS Lisbon 102.39 323 *e*Pdif **Pdif** **05 15 01.4 +0.2**
LIS *e*PP **PP** **05 19 14.3 +1.2**
LIS IAMs_20 IAMs_20 06 07 56.1
comp=Z,32μm,16.1s
LIS Lisbon 102.39 323 *e*P **Pdif** **05 15 01.4 +0.2**
LIS *e* 05 19 14.3
SUSD Miller 102.39 28 IAMs_20 IAMs_20 06 06 10.0
comp=Z,8μm,19.0s
Y14A Wickenburg 102.40 44 IAMs_20 IAMs_20 06 10 02.4
comp=Z,4μm,18.0s
TAM Tamanrasset 102.42 302 IAMs_20 IAMs_20 06 07 38.0
comp=Z,8μm,20.0s
TAM Tamanrasset 102.42 302 P **Pdif** **05 15 03.2 +1.3**
MESJ Messejana 102.48 321 *e*Pdif **Pdif** **05 15 01.8 +0.1**
MESJ *e*PP **PP** **05 19 14.8 +1.0**
MESJ *e*SS SS 05 33 54.5 +3.2
MESJ IAMs_20 IAMs_20 06 08 14.9
comp=Z,44μm,18.4s
MESJ Messejana 102.48 321 *e*P **Pdif** **05 15 01.8 +0.1**
MESJ *e* 05 19 14.8
MESJ *e*SS SS 05 33 54.5 +3.2
TBO Thunder Bay 102.48 20 IAMs_20 IAMs_20 06 04 40.1
comp=Z,9μm,20.0s
ISCO Idaho Springs 102.70 35 IAMs_20 IAMs_20 06 04 15.8
comp=Z,6μm,21.0s
ISCO Idaho Springs 102.70 35 P **Pdif** **05 15 02.7 -0.3**
BRIGG Briggsdale 102.80 34 IAMs_20 IAMs_20 06 07 09.2
comp=Z,6μm,19.0s
MVCO Mesa Verde 102.94 39 IAMs_20 IAMs_20 06 11 16.6
comp=Z,7μm,18.0s
SFX San Felipe 103.03 47 IAMs_20 IAMs_20 05 56 59.2
comp=Z,5μm,20.0s
MORF Marmelete 103.10 321 *e*Pdif **Pdif** **05 15 04.4 -0.1**
MORF *e*PP **PP** **05 19 19.6 +1.1**
MORF IAMs_20 IAMs_20 06 08 43.6
comp=Z,28μm,18.3s
MORF Marmelete 103.10 321 *e*P **Pdif** **05 15 04.4 -0.1**
MORF *e* 05 19 19.6
K30B Basset 103.49 30 IAMs_20 IAMs_20 06 05 39.2
comp=Z,10μm,20.0s
S22A 4UR Ranch, Cre 103.51 38 IAMs_20 IAMs_20 06 05 07.1
comp=Z,6μm,20.0s
E38A The Farm, Brul 103.53 23 IAMs_20 IAMs_20 06 04 50.9
comp=Z,9μm,19.0s
IFR Ifrane 103.54 316 PP **PKiKP** **05 19 20.5 -4.9**
Q24A Divide 103.55 36 IAMs_20 IAMs_20 06 02 38.4
comp=Z,6μm,19.0s
OGNE Ogallala 103.68 33 IAMs_20 IAMs_20 06 10 07.3
comp=Z,8μm,19.0s
X18A Snowflake 103.91 42 IAMs_20 IAMs_20 05 59 10.2
comp=Z,5μm,21.0s
ECSD EROS Data Cent 103.96 28 IAMs_20 IAMs_20 06 05 23.6
comp=Z,9μm,20.0s
VNDA Vanda 104.11 172 Pdiff **Pdif** **05 15 08.7 +0.8**
comp=Z,0.8nm,0.7s,baz=324,slow=7.6,SNR=8.1
VNDA PP **PP** **05 19 25.3 -0.7**
comp=Z,24nm,1.2s,baz=318,slow=8.7,SNR=18
SDCO Great Sand Dun 104.24 37 IAMs_20 IAMs_20 06 05 09.8
comp=Z,7μm,20.0s
SPMN Marine on St. 104.25 24 IAMs_20 IAMs_20 06 12 00.0
comp=Z,7μm,18.0s
TUC Tucson 104.87 44 IAMs_20 IAMs_20 06 08 43.8
comp=Z,4μm,18.0s
TUC Tucson 104.87 44 P **Pdif** **05 15 14.2 +1.6**
TUC pmax pmax
comp=Z,13nm,2.8s
I37A Lemond, Waseca 105.04 25 IAMs_20 IAMs_20 06 10 04.0
comp=Z,6μm,19.0s
AVE Averroes 105.11 318 PP **PKiKP** **05 19 34.1 +6.1**
BGNE Belgrade 105.16 30 IAMs_20 IAMs_20 06 05 59.3
comp=Z,7μm,20.0s
T25A Trinidad 105.28 37 IAMs_20 IAMs_20 06 09 11.9
comp=Z,6μm,18.0s
L34A Svendsen Farm, 105.50 28 IAMs_20 IAMs_20 06 06 38.3
comp=Z,8μm,20.0s
ANMO Albuquerque 105.70 39 IAMs_20 IAMs_20 06 13 04.5
comp=Z,6μm,18.0s
ANMO Albuquerque 105.70 39 IAMs_20 IAMs_20 06 13 04.5
comp=Z,6μm,18.0s
ANMO Albuquerque 105.70 39 IAMs_20 IAMs_20 06 13 04.5
comp=Z,6μm,18.0s
Y22D IRIS PASSCAL I 106.04 40 IAMs_20 IAMs_20 06 00 40.6
comp=Z,4μm,20.0s
Y22D IRIS PASSCAL I 106.04 40 PKiKP **PKiKP** **05 19 30.4 +0.4**
baz=315
E46A Sault Ste Mari 106.08 18 IAMs_20 IAMs_20 06 09 42.1
comp=Z,8μm,19.0s
319A Douglas 106.45 44 IAMs_20 IAMs_20 06 13 49.5
comp=Z,4μm,18.0s
TIO Tiouine 106.61 316 PP **PP** **05 19 40.5 -4.4**

N35A **Tabor** 106.72 29 IAMs_20 IAMs_20 06 07 15.6
comp=Z,8µm,20.0s
I42A **Draeger Farm,** 106.81 23 IAMs_20 IAMs_20 06 03 46.8
comp=Z,9µm,22.0s
HSIG 106.92 47 IAMs_20 IAMs_20 05 59 39.2
comp=Z,6µm,20.0s
R32A **Long Quarter,** 107.25 32 IAMs_20 IAMs_20 06 09 58.9
comp=Z,8µm,20.0s
GLMI **Grayling** 107.39 19 IAMs_20 IAMs_20 06 05 17.7
comp=Z,10µm,21.0s
SOE **Somerset East** 107.42 241 IAMs_20 IAMs_20 06 04 01.3
comp=Z,7µm,18.0s
I45A **Fountain** 107.59 21 IAMs_20 IAMs_20 06 12 26.2
comp=Z,6µm,18.0s
N38A **Joes South For** 107.81 27 IAMs_20 IAMs_20 06 08 41.2
comp=Z,6µm,20.0s
K43A **Burlington** 108.06 23 IAMs_20 IAMs_20 06 04 33.7
comp=Z,8µm,22.0s
AMTX **Amarillo** 108.43 36 IAMs_20 IAMs_20 06 12 40.7
comp=Z,5µm,20.0s
MSTX **Muleshoe** 108.51 38 IAMs_20 IAMs_20 06 12 23.8
comp=Z,6µm,20.0s
NOKA **Waynoka** 108.54 33 IAMs_20 IAMs_20 06 10 35.0
comp=Z,9µm,22.0s
MNTX **Cornudas Mount** 108.63 41 IAMs_20 IAMs_20 06 12 16.1
comp=Z,5µm,20.0s
L44A **Lake County Fo** 108.67 23 IAMs_20 IAMs_20 06 04 51.9
comp=Z,8µm,21.0s
I49A **Point Hope** 108.72 18 IAMs_20 IAMs_20 06 10 20.0
comp=Z,7µm,20.0s
OK038 **West end E0370** 108.75 33 IAMs_20 IAMs_20 06 10 50.8
comp=Z,8µm,19.0s
OK032 **Salt Plains WL** 108.77 33 IAMs_20 IAMs_20 06 11 00.0
comp=Z,7µm,19.0s
N41A **Harden Midland** 108.84 26 IAMs_20 IAMs_20 06 08 39.6
comp=Z,9µm,21.0s
CROK **Carrier** 109.11 33 IAMs_20 IAMs_20 06 09 55.2
comp=Z,5µm,19.0s
M44A **Midewin, Midew** 109.32 23 IAMs_20 IAMs_20 06 09 16.0
comp=Z,7µm,20.0s
L46A **Eue Claire** 109.37 22 IAMs_20 IAMs_20 06 07 39.5
comp=Z,9µm,20.0s
SYO **Syowa Base** 109.41 202⇑ *e*PKiKP **PKiKP** 05 19 36.3 +1.5
T35A **Sooner Cattle** 109.51 32 IAMs_20 IAMs_20 06 07 47.5
comp=Z,9µm,19.0s
WBO **Williamsburg** 109.57 13 IAMs_20 IAMs_20 06 07 13.4
comp=Z,9µm,20.0s
OK051 **E0350 and S346** 109.68 32 IAMs_20 IAMs_20 06 14 52.1
comp=Z,7µm,18.0s
OK048 **Pawnee Station** 109.70 32 IAMs_20 IAMs_20 06 14 53.6
comp=Z,7µm,18.0s
K50A **Casco** 109.85 19 IAMs_20 IAMs_20 06 07 43.9
comp=Z,6µm,20.0s
OK029 **Liberty Lake** 109.93 33 IAMs_20 IAMs_20 06 10 27.0
comp=Z,7µm,19.0s
TSUM **Tsumeb** 110.00 257 IAMs_20 IAMs_20 06 10 36.8
comp=Z,5µm,20.0s
QUOK **Quay** 110.01 32 IAMs_20 IAMs_20 06 09 01.8
comp=Z,7µm,21.0s
WMOK **Wichita Mounta** 110.09 35 IAMs_20 IAMs_20 06 12 26.3
comp=Z,8µm,20.0s
OK052 **Battle Ridge R** 110.10 32 IAMs_20 IAMs_20 06 07 51.3
comp=Z,6µm,20.0s
P43A **Skaggs, Pawnee** 110.28 25 IAMs_20 IAMs_20 06 09 31.7
comp=Z,9µm,20.0s
R40A **Maddies Statio** 110.31 28 IAMs_20 IAMs_20 06 14 17.5
comp=Z,8µm,18.0s
S39A **Bolivar** 110.35 29 IAMs_20 IAMs_20 06 10 24.6
comp=Z,9µm,19.0s
DEOK **Depew** 110.37 32 IAMs_20 IAMs_20 06 15 59.4
comp=Z,9µm,20.0s
FNO **Franklin** 110.39 33 IAMs_20 IAMs_20 06 10 45.9
comp=Z,6µm,19.0s
SFIN **Lafayette** 110.54 23 IAMs_20 IAMs_20 06 06 34.5
comp=Z,7µm,21.0s
N47A **Urbana** 110.59 22 IAMs_20 IAMs_20 06 07 28.6
comp=Z,6µm,20.0s
X34A **Smith Ranch, M** 110.68 34 IAMs_20 IAMs_20 06 15 01.8
comp=Z,5µm,20.0s
RKT **Rikitea** 110.69 107 *e*P **Pdif** 05 15 34.6 -3.8
comp=Z,1µm,26.2s
RKT **Rikitea** 110.69 107 *e*PP **PP** 05 20 11.8 -3.8
comp=Z,4µm,26.5s
RKT *e*S **SKKSac** 05 27 20.2 +2.0
comp=Z,11µm,27.5s
RKT *e*SS **SS** 05 35 36.7 -8.8
comp=Z,15µm,33.8s
RKT **Rikitea** 110.69 107 *e*LR LR 05 52 24.4
comp=Z,39µm,23.2s
NCB **Newcomb** 110.77 12 IAMs_20 IAMs_20 06 08 46.0
comp=Z,8µm,19.0s
SLM **Saint Louis** 110.86 26 IAMs_20 IAMs_20 06 10 42.0
comp=Z,8µm,20.0s
U38A **Gravette** 110.89 30 IAMs_20 IAMs_20 06 10 08.2
comp=Z,7µm,20.0s
CCM **Cathedral Cave** 110.94 27 IAMs_20 IAMs_20 06 09 16.5
comp=Z,8µm,19.0s
M50A **Fremont** 110.97 20 IAMs_20 IAMs_20 06 09 12.7
comp=Z,9µm,20.0s
Q44A **Meyer Farm, Va** 111.11 25 IAMs_20 IAMs_20 06 08 57.7
comp=Z,9µm,20.0s
HHAR **Hobbs** 111.23 30 IAMs_20 IAMs_20 06 10 03.1
comp=Z,7µm,20.0s
O48B **Farmland** 111.33 22 IAMs_20 IAMs_20 06 07 52.2
comp=Z,7µm,20.0s
FVM **French Village** 111.34 27 IAMs_20 IAMs_20 06 10 38.8
comp=Z,9µm,20.0s
M52A **Chesterland** 111.35 18 IAMs_20 IAMs_20 06 13 38.6
comp=Z,8µm,18.0s
TXAR **Lajitas Array** 111.35 42 Pdiff **Pdif** 05 15 43.5 +2.0
comp=Z,1.0nm,0.8s,baz=347,slow=1.7,SNR=5.6
TXAR PKiKP **PKiKP** 05 19 39.8 -0.2
comp=Z,4.9nm,0.8s,baz=211,slow=0.9,SNR=11
TXAR PP **PP** 05 20 19.7 +0.4
comp=Z,6.7nm,1.0s,baz=310,slow=4.4,SNR=5.9
TXAR PKKPbc **PKKPab** 05 30 41.5 -5.3
comp=Z,1.0nm,0.8s,baz=152,slow=5.7,SNR=3.6
N51A **Ashland** 111.62 19 IAMs_20 IAMs_20 06 08 48.9
comp=Z,9µm,20.0s
O49A **Covington** 111.66 21 IAMs_20 IAMs_20 06 09 09.1
comp=Z,9µm,20.0s
HPIG 111.78 45 IAMs_20 IAMs_20 06 06 40.3
comp=Z,5µm,20.0s
BLO **Bloomington** 111.82 23 IAMs_20 IAMs_20 06 09 36.2
comp=Z,8µm,20.0s
T42A **Van Buren** 111.87 28 IAMs_20 IAMs_20 06 10 06.9
comp=Z,7µm,20.0s
P48A **Milroy** 111.95 22 IAMs_20 IAMs_20 06 15 21.6
comp=Z,7µm,18.0s
Z35A **Perchaven, San** 111.97 35 IAMs_20 IAMs_20 06 17 22.3
comp=Z,6µm,19.0s
FW06 **Azle** 112.10 35 IAMs_20 IAMs_20 06 13 11.6
comp=Z,6µm,18.0s
FW07 **Weatherford** 112.19 35 IAMs_20 IAMs_20 06 13 20.0
comp=Z,6µm,19.0s
CGM3 **Cape Girardeau** 112.24 27 IAMs_20 IAMs_20 06 09 38.6
comp=Z,8µm,20.0s
O52A **Adamsville** 112.52 19 IAMs_20 IAMs_20 06 14 40.7
comp=Z,7µm,18.0s
O53A **New Philadelph** 112.58 19 IAMs_20 IAMs_20 06 08 29.3
comp=Z,8µm,21.0s
LCAR **Lake Charles** 112.65 28 IAMs_20 IAMs_20 06 16 03.6
comp=Z,8µm,18.0s
P51A **Williamsport** 112.72 21 IAMs_20 IAMs_20 06 10 42.9
comp=Z,8µm,20.0s
WCI **Wyandotte Cave** 112.73 24 IAMs_20 IAMs_20 06 10 15.5
comp=Z,9µm,20.0s
PARMO **Parma** 112.75 27 IAMs_20 IAMs_20 06 11 30.0
comp=Z,9µm,20.0s
KSPA **Keystone Colle** 112.76 14 IAMs_20 IAMs_20 06 13 11.9
comp=Z,9µm,20.0s
JCT **Junction City** 112.78 38 IAMs_20 IAMs_20 06 14 34.8
comp=Z,6µm,20.0s
WHAR **Wooly Hollow** 112.80 30 IAMs_20 IAMs_20 06 15 39.7
comp=Z,7µm,18.0s
MIAR **Mount Ida** 112.82 31 IAMs_20 IAMs_20 06 10 58.3
comp=Z,8µm,20.0s
P52A **Corning** 112.87 20 IAMs_20 IAMs_20 06 09 37.0
comp=Z,9µm,22.0s
T45A **Paducah** 112.89 26 IAMs_20 IAMs_20 06 13 15.8
comp=Z,8µm,19.0s
WHTX **Lake Whitney,** 112.91 36 IAMs_20 IAMs_20 06 04 25.0
comp=Z,6µm,22.0s
PVMO **Portageville** 112.98 27 IAMs_20 IAMs_20 06 11 39.2
comp=Z,8µm,20.0s
R49A **Shelbyville** 113.08 23 IAMs_20 IAMs_20 06 12 28.6
comp=Z,5µm,19.0s
Z38A **Mt. Pleasant** 113.18 33 IAMs_20 IAMs_20 06 10 18.9
comp=Z,8µm,19.0s
GNAR **Gosnell** 113.23 28 IAMs_20 IAMs_20 06 10 24.9
comp=Z,7µm,20.0s
GLAT **Glass** 113.28 27 IAMs_20 IAMs_20 06 11 34.0
comp=Z,9µm,20.0s
HBAR **Harrisburg** 113.30 28 IAMs_20 IAMs_20 06 13 52.9
comp=Z,6µm,19.0s
R50A **Paris** 113.38 22 IAMs_20 IAMs_20 06 08 52.6
comp=Z,9µm,21.0s
UTMT **University of** 113.39 27 IAMs_20 IAMs_20 06 12 15.8
comp=Z,6µm,20.0s
Q52A **Bidwell** 113.44 20 IAMs_20 IAMs_20 06 15 08.1
comp=Z,8µm,18.0s
T47A **Sharon Grove** 113.52 25 IAMs_20 IAMs_20 06 11 32.4
comp=Z,8µm,20.0s
MCWV **Mont Chateau** 113.52 18 IAMs_20 IAMs_20 06 09 06.2
comp=Z,8µm,20.0s
HALT **Halls** 113.56 27 IAMs_20 IAMs_20 06 10 31.6
comp=Z,9µm,20.0s
M63A **Gales Ferry** 113.65 11 IAMs_20 IAMs_20 06 08 19.4
comp=Z,9µm,21.0s
WLAR **White Oak Lake** 113.75 31 IAMs_20 IAMs_20 06 13 08.7
comp=Z,8µm,19.0s
QSPA **South Pole Qui** 113.84 180 PKiKP **PKiKP** 05 19 43.1 -0.2
comp=Z,6.8nm,0.7s,baz=288,slow=1.2,SNR=23
QSPA PKKPbc **PKKPbc** 05 30 28.4 0.0
comp=Z,3.9nm,1.1s,baz=216,slow=3.5,SNR=4.6
CCAR **Cane Creek** 114.18 30 IAMs_20 IAMs_20 06 13 51.2
comp=Z,6µm,20.0s
Q56A **Snyder Ridge,** 114.28 18 IAMs_20 IAMs_20 06 08 47.3
comp=Z,7µm,19.0s
T50A **Nancy** 114.33 23 IAMs_20 IAMs_20 06 08 06.8
comp=Z,8µm,22.0s
WUPA **West Chester U** 114.35 14 IAMs_20 IAMs_20 06 11 29.9
comp=Z,6µm,18.0s
U49A **Red Boiling Sp** 114.44 24 IAMs_20 IAMs_20 06 13 57.7
comp=Z,7µm,19.0s
NATX **Nacogdoches** 114.55 34 IAMs_20 IAMs_20 06 13 57.2
comp=Z,7µm,18.0s
SDMD **Soldier's Deli** 114.55 16 IAMs_20 IAMs_20 06 14 27.3
comp=Z,7µm,18.0s
CLTN **Cedars of Leba** 114.61 25 IAMs_20 IAMs_20 06 11 22.4
comp=Z,4µm,20.0s
S54A **Dingess, Beckl** 114.81 20 IAMs_20 IAMs_20 06 09 51.2
comp=Z,9µm,22.0s
PLAL **Pickwick Lake** 114.88 27 IAMs_20 IAMs_20 06 14 27.5
comp=Z,6µm,18.0s
735A **Kenedy** 115.14 38 IAMs_20 IAMs_20 06 15 51.2
comp=Z,8µm,18.0s
TZTN **Tazewell** 115.22 22 IAMs_20 IAMs_20 06 10 00.1
comp=Z,9µm,21.0s
Y45A **Yeager Farm, C** 115.22 28 IAMs_20 IAMs_20 06 11 29.6
comp=Z,9µm,20.0s
ELIB **Princess Elisa** 115.22 200 *d*PKiKP **PKiKP** 05 19 45.9 -0.1
143A **Sons Landing,** 115.36 31 IAMs_20 IAMs_20 06 17 07.5
comp=Z,7µm,18.0s
SWET **Sewanee** 115.53 25 IAMs_20 IAMs_20 06 11 49.6
comp=Z,8µm,20.0s
R58B **Mineral** 115.65 17 IAMs_20 IAMs_20 06 15 32.4
comp=Z,8µm,20.0s
X48A **Hartselle** 115.76 26 IAMs_20 IAMs_20 06 11 41.8
comp=Z,6µm,20.0s
W50A **Signal Mountai** 115.78 24 **PKPdf** 05 19 48.7 +0.5
W50A IAMs_20 IAMs_20 06 19 05.1
comp=Z,7µm,18.0s
U54A **Nelsons Funny** 115.82 21 IAMs_20 IAMs_20 06 11 45.0
comp=Z,6µm,19.0s
CPCT **Cooper Cave** 115.85 24 IAMs_20 IAMs_20 06 18 44.0
comp=Z,5µm,18.0s
TKL **Tuckaleechee C** 115.93 23 **PKPdf** 05 19 48.8 +0.4
TKL **Tuckaleechee C** 115.93 23 PKIKP **PKPdf** 05 19 48.8 +0.4
441A **DeRidder** 116.10 33 IAMs_20 IAMs_20 06 12 28.3
comp=Z,8µm,20.0s
FPAL **Fort Paine** 116.25 25 IAMs_20 IAMs_20 06 12 11.9
comp=Z,5µm,21.0s
V53A **Saluda** 116.26 22 **PKPdf** 05 19 49.5 +0.3
W52A **Murphy** 116.38 23 IAMs_20 IAMs_20 06 11 04.1
comp=Z,7µm,21.0s
Z47A **Carrollton** 116.42 28 IAMs_20 IAMs_20 06 16 06.4
comp=Z,6µm,19.0s
X51A **Calhoun** 116.51 24 IAMs_20 IAMs_20 06 11 39.6
comp=Z,7µm,20.0s
Y49A **Blount Mountai** 116.53 26 **PKPdf** 05 19 49.6 0.0
Y49A IAMs_20 IAMs_20 06 12 57.2
comp=Z,9µm,21.0s
T59A **Double "B" Far** 116.67 17 IAMs_20 IAMs_20 06 13 56.4
comp=Z,7µm,20.0s
ZAIG **Zacatecas** 116.69 46 IAMs_20 IAMs_20 06 20 35.8
comp=Z,5µm,19.0s
LRAL **Lakeview Retre** 117.01 27 IAMs_20 IAMs_20 06 20 44.6
comp=Z,7µm,18.0s
346A **Big Creek Wild** 117.36 30 IAMs_20 IAMs_20 06 14 55.2
comp=Z,6µm,19.0s
Y52A **Lilburn** 117.44 24 IAMs_20 IAMs_20 06 19 07.0
comp=Z,6µm,18.0s
W59A **Clinton** 118.11 19 IAMs_20 IAMs_20 06 11 53.5
comp=Z,9µm,22.0s
250A **Grady** 118.23 27 IAMs_20 IAMs_20 06 15 53.3
comp=Z,7µm,18.0s
152A **Waverly Hall** 118.25 25 IAMs_20 IAMs_20 06 14 17.6
comp=Z,7µm,20.0s
352A **Blakely** 119.22 26 IAMs_20 IAMs_20 06 13 56.3
comp=Z,8µm,20.0s
DBIC **Dimbokro** 119.54 293 PKP **PKPdf** 05 19 54.5 -1.3
comp=Z,23nm,0.8s,baz=60,slow=2.7,SNR=18
DBIC PKKPbc **PKKPab** 05 30 11.2 +1.5
comp=Z,8.5nm,0.8s,baz=255,slow=4.0,SNR=5.7
DBIC **Dimbokro** 119.54 293 PKP **PKiKP** 05 19 56.5 +0.6
451A **Vernon** 119.64 27 IAMs_20 IAMs_20 06 14 38.5
comp=Z,7µm,20.0s
MOIG **Morelia** 119.76 48 IAMs_20 IAMs_20 06 19 17.2
comp=Z,4µm,18.0s
TIGA **Tifton** 119.78 25 IAMs_20 IAMs_20 06 21 28.0
comp=Z,6µm,18.0s
UNM **Universidad Na** 121.34 46 IAMs_20 IAMs_20 06 15 35.8
comp=Z,4µm,21.0s
TROLL **Troll, Antarti** 121.56 199 ⇓P **PKPdf** 05 19 58.2 0.0
comp=Z,2µm,1.1s
TLIG **Tlapa** 123.00 47 IAMs_20 IAMs_20 06 25 06.3
comp=Z,4µm,19.0s
BBSR **BB Station** 123.57 6 IAMs_20 IAMs_20 06 17 01.9
comp=Z,6µm,21.0s
VNA2 **Neumayer--Watz** 124.89 198 ⇓P **PKPdf** 05 20 04.1 -0.3
comp=Z,50nm,0.6s,baz=102,slow=1.3
060A **Indiantown** 124.95 24 IAMs_20 IAMs_20 06 25 31.0
comp=Z,7µm,19.0s
BELA **Belgrano 2** 124.96 186 **PKPdf** 05 20 03.6 -0.8
VNA1 **Neumayer--Stat** 125.28 198 ⇓P **PKiKP** 05 20 05.5 +0.1
comp=Z,62nm,1.0s
VNA3 **Neumayer Olymp** 125.36 197 ⇓P **PKPdf** 05 20 05.5 +0.1
comp=Z,33nm,0.8s
061Z **Ochoppi** 125.80 25 IAMs_20 IAMs_20 06 15 25.5
comp=Z,7µm,21.0s
TEIG **Tepich** 127.23 36 IAMs_20 IAMs_20 06 24 25.6
comp=Z,4µm,20.0s
CCIG **Comitan** 128.10 43 IAMs_20 IAMs_20 06 15 24.5
comp=Z,4µm,21.0s
SACV **Santiago Islan** 128.44 315 IAMs_20 IAMs_20 06 20 29.4
comp=Z,5µm,20.0s
PETF **Flores** 128.98 40 IAMs_20 IAMs_20 06 29 17.0
comp=Z,5µm,19.0s
RTAL **Retalhuleu** 129.71 44 IAMs_20 IAMs_20 06 29 28.6
comp=Z,5µm,19.0s
MTO3 **Montecristo** 131.25 42 IAMs_20 IAMs_20 06 22 44.2
comp=Z,4µm,21.0s
HLGC **Holguin** 132.13 23 *e*P **PKPdf** 05 20 15.9 -3.9
PILO **Pilon** 132.53 25 *e*P **PKPdf** 05 20 17.9 -2.8
PINC **Pinares de May** 132.59 22 *e*P **PKPdf** 05 20 18.5 -2.2
MOAC **Moa** 132.72 21 *e*P **PKPdf** 05 20 20.3 -0.5
TGUH **Tegucigalpa,Un** 132.76 40 **PKPdf** 05 20 14.5 -6.7
TGUH IAMs_20 IAMs_20 06 29 16.1
comp=Z,4µm,20.0s
NMDO **Nuevo Mundo** 132.80 21 IAMs_20 IAMs_20 06 22 47.8
comp=Z,7µm,20.0s
NMDO **Nuevo Mundo** 132.80 21 *e*P **PKPdf** 05 20 17.2 -3.8
CHIV **Chivirico** 132.84 23 IAMs_20 IAMs_20 06 22 37.0
comp=Z,8µm,21.0s
CHIV **Chivirico** 132.84 23 *e*P **PKPdf** 05 20 18.6 -2.5
MARVS **Santiago de Cu** 133.00 23 *e*P **PKPdf** 05 20 20.3 -1.1
RCC **Rio Carpintero** 133.08 23 *e*P **PKPdf** 05 20 14.6 -7.0
QMBU **Quimbuelo** 133.19 21 *e*P **PKPdf** 05 20 18.6 -3.2
GTBY **Guantanamo Bay** 133.34 22 IAMs_20 IAMs_20 06 23 07.3
comp=Z,6µm,21.0s
GTBY **Guantanamo Bay** 133.34 22 *e*P **PKPdf** 05 20 18.6 -3.5
GTBY *e*S SKPbc 05 23 28.6 -21
CRIN **San Cristobal** 133.96 41 IAMs_20 IAMs_20 06 25 29.2
comp=Z,3µm,20.0s
MTDJ **Mount Denham** 134.01 26 IAMs_20 IAMs_20 06 26 29.1
comp=Z,6µm,19.0s
MTDJ **Mount Denham** 134.01 26 *e*P **PKPdf** 05 20 22.2 -1.3
HERN **Volcan Telica** 134.16 40 IAMs_20 IAMs_20 06 28 39.9
comp=Z,3µm,21.0s
STH **Stony Hill** 134.43 25 *e*P PKPdf 05 20 15.9 -8.3
ASCN **Ascension** 134.97 283 IAMs_20 IAMs_20 06 24 04.1
comp=Z,3µm,20.0s
SDDR **Presa de Saban** 135.41 18 *e*P PKPdf 05 20 17.3 -8.8
PAPH **Port-au-Prince** 135.56 19 *e*P **PKPdf** 05 20 24.1 -2.1
AGPR **Aguadilla, PR** 136.89 12 IAMs_20 IAMs_20 06 21 42.8
comp=Z,5µm,22.0s
EMPR **Esperanza - Ma** 136.99 11 IAMs_20 IAMs_20 06 19 40.4
comp=Z,4µm,22.0s
JTS **Las Juntas de** 137.11 40 PKPpre 05 20 20.6
JTS **Las Juntas de** 137.11 40 IAMs_20 IAMs_20 06 30 02.1
comp=Z,3µm,19.0s
JTS **Las Juntas de** 137.11 40 PKHKP PKPpre 05 20 20.6
PRSN **Puerto Rico Se** 137.12 12 IAMs_20 IAMs_20 06 21 52.0
comp=Z,6µm,22.0s
UUPR **Utuado, UPR, P** 137.17 12 IAMs_20 IAMs_20 06 26 25.2
comp=Z,3µm,20.0s
CRPR **Cabo Rojo, PR** 137.34 12 IAMs_20 IAMs_20 06 21 30.6
comp=Z,6µm,22.0s
OBIP **Obispado Ponce** 137.40 12 IAMs_20 IAMs_20 06 26 49.2
comp=Z,3µm,20.0s
SJG **San Juan** 137.41 11 IAMs_20 IAMs_20 06 21 20.7
comp=Z,6µm,22.0s
PDPR **Patillas Dam,** 137.53 11 IAMs_20 IAMs_20 06 22 27.5
comp=Z,4µm,22.0s
IGPR **InterUniversit** 137.56 11 IAMs_20 IAMs_20 06 21 43.5
comp=Z,4µm,22.0s
HDC **Heredia** 137.84 40 IAMs_20 IAMs_20 06 33 27.1
comp=Z,4µm,20.0s
SMRT **St. Maarten** 137.90 7 IAMs_20 IAMs_20 06 18 48.4
comp=Z,5µm,22.0s
SABA **Saba** 138.31 7 IAMs_20 IAMs_20 06 29 38.2
comp=Z,5µm,20.0s
ANWB **Willy Bob** 138.40 5 IAMs_20 IAMs_20 06 21 09.7
comp=Z,4µm,21.0s
SEUS **St. Eustatius** 138.46 7 IAMs_20 IAMs_20 06 23 30.3
comp=Z,5µm,20.0s
MBWH 139.28 6 *e*P PKPpre 05 20 22.9
ABD **La Joyeuse, An** 139.61 5 IAMs_20 IAMs_20 06 25 57.7
comp=Z,4µm,20.0s
BRU2 **Volcan** 139.63 39 IAMs_20 IAMs_20 06 31 00.7
comp=Z,5µm,20.0s
GDHS **Morne Mazeau,** 139.78 5 IAMs_20 IAMs_20 06 23 27.0
comp=Z,6µm,21.0s
CBE **Ff, Capester** 140.00 5 IAMs_20 IAMs_20 06 27 30.1
comp=Z,6µm,21.0s
MAGL **Barre de l'ile** 140.14 4 IAMs_20 IAMs_20 06 25 55.8
comp=Z,6µm,20.0s
DSLB **Salisbury** 140.64 5 *e*P **PKPdf** 05 20 34.9 -0.8
DLPL **La Plaine** 140.75 4 *e*P PKPpre 05 20 23.5
BCIP **Isla Barro Col** 140.89 35 IAMs_20 IAMs_20 06 28 49.6
comp=Z,4µm,21.0s
SVN **Savane Anatole** 141.25 4 IAMs_20 IAMs_20 06 30 25.2
comp=Z,5µm,20.0s
PAYG **Puerto Ayora** 141.33 58 IAMs_20 IAMs_20 06 12 19.8
comp=Z,4µm,21.0s
ILAM **Ilet Lapin Mar** 141.33 4 IAMs_20 IAMs_20 06 25 35.4
comp=Z,5µm,20.0s
FDF **Fort de France** 141.36 4 IAMs_20 IAMs_20 06 30 28.0
comp=Z,6µm,20.0s
BIM **Bigot** 141.58 4 IAMs_20 IAMs_20 06 30 32.9
comp=Z,5µm,20.0s
MPOM **Morne Pois Mar** 141.66 4 IAMs_20 IAMs_20 06 23 43.1
comp=Z,5µm,22.0s
GRGR **Grenville** 143.89 5 IAMs_20 IAMs_20 06 31 15.3
comp=Z,4µm,21.0s
TPR **Prospect** 144.90 4 *e*P **PKPdf** 05 20 43.1 -0.1
SDV **Santo Domingo** 145.14 22 **PKPbc** 05 20 42.1 -1.2
SDV IAMs_20 IAMs_20 06 32 54.1
comp=Z,5µm,20.0s
SDV **Santo Domingo** 145.14 22 PKP **PKPbc** 05 20 42.0 -1.4
SDV PKP **PKPab** 05 20 42.3 -1.1
TRN **Trinidad (W)** 145.38 5 *e*P **PKPbc** 05 20 39.2 -4.6
PCRV **Puerto La Cruz** 145.44 11 *e*P PKPbc 05 20 34.9 -9.2
TBH **Brigand Hill** 145.57 5 *e*P **PKPab** 05 20 46.5 +1.8
HOPE **Hope Point** 145.66 203 IAMs_20 IAMs_20 06 40 30.7
comp=Z,3µm,19.0s
BAUV **El Baul** 145.87 17 *e*P **PKPdf** 05 20 39.8 -5.2
ROSC **El Rosal** 147.35 30 PKPbc **PKPbc** 05 20 51.0 +0.7
comp=Z,53nm,0.6s,baz=351,slow=4.2,SNR=29
ROSC **El Rosal** 147.35 30 PKP2 **PKPbc** 05 20 51.0 +0.7
OTAV **Otavalo** 148.98 42 IAMs_20 IAMs_20 06 34 43.6
comp=Z,4µm,22.0s
GO10 **Punta Arenas** 149.40 165 **PKiKP** 05 20 56.7 +1.6
FLOC **Florencia** 149.49 36 **PKPdf** 05 20 51.4 +0.4
SLOR **San Lorenzo -** 149.71 43 **PKPbc** 05 20 54.6 -1.9
MDP **Montagnes des** 150.49 348 PKP **PKPdf** 05 20 51.3 -1.3
comp=Z,24nm,1.1s,baz=38,slow=5.8,SNR=3.5
MDP PKPbc **PKiKP** 05 20 58.8 +0.2
comp=Z,38nm,0.8s,baz=104,slow=1.5,SNR=9.4
COHC **Cochancay** 150.54 46 **PKPdf** 05 20 53.1 +0.6
NBPV **Pedro Velho** 151.73 305 PKP **PKPdf** 05 20 53.9 -0.5
NBPV PKP **pPKPdf** 05 20 55.7 -3.4
RCBR **Riachuelo** 151.80 306 **PKPdf** 05 20 55.7 +1.2
RCBR **Riachuelo** 151.80 306 PKP **PKPdf** 05 20 54.3 -0.3
comp=Z,7.2nm,1.0s,baz=222,slow=5.4,SNR=7.5
RCBR PKPbc **PKPbc** 05 21 01.3 +0.4
comp=Z,30nm,0.8s,baz=29,slow=7.2,SNR=47
RCBR **Riachuelo** 151.80 306 PKP **PKPdf** 05 20 54.0 -0.6
RCBR PKP **pPKPdf** 05 20 54.8 -4.5
NBCL **Cascavel-CE** 152.37 312 PKP **PKPdf** 05 20 54.7 -0.6
NBCL PKP **pPKPdf** 05 20 56.9 -3.2
EFI **East Falkland** 152.42 180 **PKiKP** 05 21 02.3 +1.0
NBPA **Parau_RN** 152.63 308 PKP **PKPdf** 05 20 54.9 -0.8
NBPA PKP **pPKPdf** 05 20 57.5 -2.9
NBMO **Morrinhos-CE** 152.82 317 PKP **PKPdf** 05 20 54.5 -1.5
SBBR **Sobral** 153.30 316 PKP **PKPdf** 05 20 55.6 -1.1
SBBR PKP **pPKPdf** 05 20 58.2 -3.3
NBCA **Caruaru-PE** 153.44 303 PKP **PKPdf** 05 20 56.2 -0.8
BOAV **Boa Vista** 153.63 5 **PKPdf** 05 20 58.6 +1.3
BOAV IAMs_20 IAMs_20 06 32 12.1
comp=Z,5µm,21.0s
BOAV **Boa Vista** 153.63 5 PKP **PKPdf** 05 20 56.4 -0.8
BOAV PKP **pPKPdf** 05 20 58.4 -3.6
NBPB **Pedra_Branca-C** 154.20 313 PKP **PKPdf** 05 20 57.2 -0.8
NBPB PKP **pPKPdf** 05 20 58.3 -4.5
ATAH **Atahualpa** 154.48 52 PKP **PKPdf** 05 20 58.9 0.0
comp=Z,18nm,1.1s,baz=36,slow=0.9,SNR=16
ATAH PKPbc **PKiKP** 05 21 08.6 +1.3
comp=Z,51nm,0.9s,baz=338,slow=2.8,SNR=17
NBAN **Anadia - AL** 154.52 300 PKP **PKPdf** 05 20 57.3 -1.1
NBAN PKP **pPKPdf** 05 20 58.3 -4.9
NBPS **Pedro II - PI** 154.53 318 PKP **PKPdf** 05 20 57.0 -1.6
NBPS PKP **pPKPdf** 05 20 59.6 -3.7
SGC2 **Sao Gabriel da** 154.82 21 PKP **PKPdf** 05 20 57.7 -1.1
SGC2 PKP **pPKPdf** 05 20 59.1 -4.6
NBMA **Muriti-CE** 154.92 308 PKP **PKPdf** 05 20 57.6 -1.5
NBMA PKP **pPKPdf** 05 21 00.0 -3.8
COYC **Coyhaique** 155.83 156 **PKPdf** 05 21 00.0 +0.8
TMAB **Tom-Au,PA,Br** 156.26 334 PKP **PKPdf** 05 21 00.3 -0.5
TMAB PKP **pPKPdf** 05 21 01.9 -3.7
AY01 **Puyuhuapi** 156.57 154 **PKPab** 05 21 29.3 +0.3
AY01 IAMs_20 IAMs_20 06 39 19.0
comp=Z,3µm,20.0s
TBTG **Tabatinga, AM** 157.34 31 PKP **PKPdf** 05 21 00.5 -1.7
TBTG PKP **pPKPdf** 05 21 02.3 -4.7
LL07 **Hotel Espejo d** 157.49 150 IAMs_20 IAMs_20 06 46 50.6
comp=Z,3µm,19.0s
NBBC **Barra do Corda** 157.68 324 PKP **PKPdf** 05 21 01.4 -1.2
NBBC PKP **pPKPdf** 05 21 03.7 -3.7
MAL2 **Monte Alegre,** 157.72 349 PKP **PKPdf** 05 21 01.5 -1.2
LL02 **Futaleuf** 157.91 153 IAMs_20 IAMs_20 06 27 22.6
comp=Z,3µm,21.0s
LL01 **San Ignacio de** 158.33 151 IAMs_20 IAMs_20 06 34 18.7
comp=Z,3µm,21.0s
BMO2 **UHE Belo Monte** 158.51 342 PKP **PKPdf** 05 21 02.5 -1.1
BMO2 PKP **pPKPdf** 05 21 04.4 -4.0
ATM1 **UHE Belo Monte** 158.52 343 PKP **PKPdf** 05 21 02.8 -0.9
ATM1 PKP **pPKPdf** 05 21 04.3 -4.1
TEFE **Tefe** 158.70 17 PKP **PKPdf** 05 21 02.6 -1.2
TEFE PKP **pPKPdf** 05 21 04.6 -4.0
CZSB **Cruzeiro do Su** 158.75 43 IAMs_20 IAMs_20 06 45 04.5
comp=Z,4µm,22.0s
CZSB **Cruzeiro do Su** 158.75 43 PKP **PKPdf** 05 21 01.9 -2.0
CZSB PKP **pPKPdf** 05 21 03.6 -5.1
NNA **Nana** 158.77 59 IAMs_20 IAMs_20 06 46 13.7
comp=Z,4µm,21.0s
NNA **Nana** 158.77 59 PKP **PKPdf** 05 21 02.5 -1.4
comp=Z,4.3nm,0.4s,baz=205,slow=9.7,SNR=2.3
NNA PKPab **PKPab** 05 21 39.1 -0.4

comp=Z,46nm,0.9s,baz=284,slow=4.9,SNR=14
MACA Manacapuru-AM 159.11 6 PKP **PKPdf 05 21 02.8 -1.6**
MACA PKP **pPKPdf 05 21 04.7 -4.4**
LL03 Petrohue 159.31 149 IAMs_20 IAMs_20 06 49 17.9
comp=Z,3μm,20.0s
LR04 Corral 159.75 145 IAMs_20 IAMs_20 06 26 45.7
comp=Z,3μm,21.0s
PAL2 UHE Estreito - 159.78 327 PKP **PKPdf 05 21 04.3 -0.8**
PAL2 PKP **pPKPdf 05 21 05.4 -4.5**
PAL01 Palmeiras do T 159.81 327 PKP **PKPdf 05 21 04.1 -1.1**
PAL01 PKP **pPKPdf 05 21 06.3 -3.6**
NBIT Itapeh - BA 159.99 294 PKP **PKPdf 05 21 04.4 -0.8**
NBIT PKP **pPKPdf 05 21 07.2 -2.8**
ITTB Itaituba 160.26 352 PKP **PKPdf 05 21 04.6 -1.1**
ITTB PKP **pPKPdf 05 21 05.9 -4.5**
CMC01 Camacan, BA 160.27 293 PKP **PKPdf 05 21 04.8 -0.7**
CMC01 PKP **PKPdf 05 21 04.9 -0.7**
PRPB Parauapebas 160.41 334 PKP **PKPdf 05 21 04.4 -1.5**
PRPB PKP **pPKPdf 05 21 05.7 -4.9**
PLCA Paso Flores 160.48 151 PKP **PKPdf 05 21 05.0 -0.2**
comp=Z,10nm,1.2s,baz=178,slow=2.9,SNR=7.5
PLCA Paso Flores 160.48 151 PKIKP **PKPdf 05 21 05.0 -0.2**
ABR01 Abrolhos, BA 160.66 285 PKP **PKPdf 05 21 05.2 -0.7**
GUA01 Guaratinga, BA 161.07 290 PKP **PKPdf 05 21 05.5 -0.9**
GUA01 PKP **pPKPdf 05 21 06.1 -5.1**
SMTB Santa Maria do 161.71 324 PKP **PKPdf 05 21 05.6 -1.6**
SMTB PKP **pPKPdf 05 21 06.4 -5.6**
CAR01 Carai MG 162.62 290 PKP **PKPdf 05 21 07.6 -0.5**
CAR01 PKP **pPKPdf 05 21 09.2 -3.6**
RIB01 Linhares ES 162.63 282 PKP **PKPdf 05 21 07.4 -0.5**
RIB01 PKP **pPKPdf 05 21 08.7 -4.0**
SDBA SAO DESIDERIO 162.75 310 PKP **PKPdf 05 21 07.4 -0.9**
SDBA PKP **pPKPdf 05 21 08.1 -4.9**
NPGB Novo Progresso 162.84 350 PKP **PKPdf 05 21 07.3 -1.1**
NPGB PKP **PKPdf 05 21 07.3 -1.1**
LAJE UHE Lajeado 163.03 324 PKP **PKPdf 05 21 07.8 -0.7**
LAJE PKP **pPKPdf 05 21 08.7 -4.6**
SJMB Sao Joao De Ma 163.13 285 PKP **PKPdf 05 21 07.6 -0.8**
JANB Januaria 164.01 301 PKP **PKPdf 05 21 08.6 -0.8**
CAM01 Campos-RJ 164.44 275 PKP **PKPdf 05 21 08.9 -0.6**
DUB01 Friburgo-RJ 165.14 274 PKP **PKPdf 05 21 09.6 -0.7**
DIAM Diamantina, MG 165.14 290 PKP **PKPdf 05 21 09.6 -0.9**
DIAM PKP **pPKPdf 05 21 11.4 -4.1**
JQT1 Jequitai-MG 165.23 295 PKP **PKPdf 05 21 09.9 -0.5**
TRQA Tornquist 165.71 168 PKP **PKPdf 05 21 09.5 -0.7**
VAS01 Vassouras-RJ 166.15 274 PKP **PKPdf 05 21 11.4 +0.4**
VAS01 PKP **pPKPdf 05 21 12.3 -3.5**
SNDB Serra Nova Dou 166.23 330 PKP **PKPdf 05 21 10.0 -1.3**
SNDB PKP **pPKPdf 05 21 10.8 -5.2**
CLDB Colider 166.66 349 PKP **PKPdf 05 21 10.9 -0.8**
CLDB PKP **pPKPdf 05 21 11.7 -4.7**
BDFB Brasilia 167.16 309 **PKPdf 05 21 10.9 -1.2**
BDFB **PKPab 05 22 16.4 +0.1**
BDFB Brasilia 167.16 309 PKP **PKPdf 05 21 10.9 -1.2**
comp=Z,12nm,0.8s,baz=353,slow=0.2,SNR=17
BDFB PKPab **PKPab 05 22 17.0 +0.7**
comp=Z,16nm,0.7s,baz=65,slow=6.1,SNR=12
BDFB Brasilia 167.16 309 PKP **PKPdf 05 21 10.7 -1.3**
BDFB PKP **pPKPdf 05 21 11.5 -5.4**
PDRB Porto dos Gac 167.53 352 PKP **PKPdf 05 21 11.6 -0.6**
PDRB PKP **pPKPdf 05 21 12.3 -4.8**
PMNB Patos De Minas 167.59 294 PKP **PKPdf 05 21 11.1 -1.2**
BAT2 UHE Batalha 167.82 301 PKP **PKPdf 05 21 12.5 0.0**
BAT2 PKP **pPKPdf 05 21 12.6 -4.6**
BAT3 Ipameri 167.89 301 PKP **PKPdf 05 21 12.6 +0.1**
BAT3 PKP **pPKPdf 05 21 13.3 -4.0**
LPAZ La Paz 168.03 52 PKP **PKPdf 05 21 13.1 -0.2**
comp=Z,22nm,1.1s,baz=8.5,slow=2.6,SNR=9.3
LPAZ PKPab **PKPab 05 22 20.8 0.0**
comp=Z,50nm,1.1s,baz=8.2,slow=4.0,SNR=5.6
LPAZ PP **PP 05 26 13.9 +4.8**
comp=Z,21nm,1.2s,baz=337,slow=9.0,SNR=4.4
LPAZ La Paz 168.03 52 PKP **PKPdf 05 21 12.9 -0.4**
LPAZ PKP **pPKPdf 05 21 13.8 -4.3**
PARB Paraibuna 168.29 271 PKP **PKPdf 05 21 12.7 +0.1**
CFA Coronel Fontan 168.49 133 PKP **PKPdf 05 21 13.5 +1.0**
comp=Z,4.0nm,0.8s,baz=239,slow=1.9,SNR=12
CFA PKPab **PKPab 05 22 22.1 +0.3**
comp=Z,3.1nm,1.0s,baz=224,slow=6.1,SNR=3.9
CFA PP **PP 05 26 12.5 +1.8**
comp=Z,2.1nm,1.1s,baz=237,slow=7.7,SNR=4.0
IPMB Ipameri, GO 168.75 301 PKP **PKPdf 05 21 13.3 +0.2**
PB14 IPOC Station P 169.02 95 PKP **PKPdf 05 21 12.2 -1.2**
PB08 IPOC Station P 169.28 71 PKP **PKPdf 05 21 12.2 -1.5**
ITU3 Corumbazu 169.40 301 PKP **PKPdf 05 21 12.8 -0.6**
VABB Valinhos 169.48 273 PKP **PKPdf 05 21 13.3 -0.2**
ARAG Araguaiana, MT 169.65 322 PKP **PKPdf 05 21 13.6 0.0**
ARAG PKP **pPKPdf 05 21 14.5 -3.9**
BB19B Bebedouro 170.42 286 PKP **PKPdf 05 21 14.1 +0.1**
BB19B PKP **pPKPdf 05 21 14.8 -4.0**
PLTB Pedras Altas 171.24 208 PKP **PKPdf 05 21 14.0 -0.1**
PLTB PKP **pPKPdf 05 21 14.7 -4.1**
ITRB Iturama 171.39 299 PKP **PKPdf 05 21 14.5 0.0**
PTLB Pontes e Lacer 171.41 5 PKP **PKPdf 05 21 13.8 -0.7**
SALV Santo Antonio 171.51 342 PKP **PKPdf 05 21 14.1 -0.5**
SIV San Ignacio 171.59 18 PKP **PKPdf 05 21 14.1 -0.6**
comp=Z,20nm,1.0s,baz=286,slow=0.1,SNR=44
SIV PKPab **PKPab 05 22 33.2 -2.4**
comp=Z,30nm,1.1s,baz=6.0,slow=2.6,SNR=7.9
SIV PP **PP 05 26 29.1 +3.9**
comp=Z,6.6nm,1.0s,baz=330,slow=7.7,SNR=5.5
FRTB Fartura 171.89 273 PKP **PKPdf 05 21 15.0 +0.4**
CPSB Cacapava Do Su 172.30 214 PKP **PKPdf 05 21 13.9 -0.7**
CPSB PKP **pPKPdf 05 21 14.6 -4.8**
C2SB Chapadao do Su 172.63 314 PKP **PKPdf 05 21 15.0 0.0**
C2SB PKP **pPKPdf 05 21 16.2 -3.6**
ITAB Concordia 173.53 239 PKP **PKPdf 05 21 14.6 -0.5**
ITQB Itaqui 174.19 195 PKP **PKPdf 05 21 15.3 0.0**
ITQB PKP **pPKPdf 05 21 16.3 -3.8**
AQDB Aquidauana 175.66 325 **PKPdf 05 21 14.4 -1.6**
AQDB Aquidauana 175.66 325 PKP **PKPdf 05 21 15.2 -0.8**
AQDB PKP **pPKPdf 05 21 15.3 -5.5**
CPUP Villa Florida 177.54 203 PKP **PKPdf 05 21 15.0 -1.2**
comp=Z,22nm,1.2s,baz=44,slow=1.0,SNR=12
CPUP PKPab PKPab 05 23 00.6 -1.2
comp=Z,8.6nm,1.0s,baz=185,slow=2.8,SNR=6.2
CPUP PP **PP 05 26 59.4 +5.4**
comp=Z,9.6nm,1.3s,baz=246,slow=5.0,SNR=3.9
CPUP Villa Florida 177.54 203 PKP **PKPdf 05 21 15.5 -0.7**
CPUP PKP **pPKPdf 05 21 16.2 -4.8**

JMA 18 05:01:57.8±0.1, 36°.4N±0°.3×140°.7E±0°.6, h52km±1km, MV1.2/27, E OFF IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.29**	**336**	*i* P	Pn	05 02 07.0	-0.1
JHO				S	Sn	05 02 13.6	-0.2
JYT	**Yasato**	**0.44**	**255**	P	Pn	05 02 08.6	0.0
JYT				*eS*	Sn	05 02 16.2	-0.1
JAG	**Ashikaga**	**1.02**	**275**	*eS*	Sn	05 02 29.5	+0.2
JFK	**Kawauchi**	**1.03**	**7**	*eP*	Pn	05 02 16.8	+0.8

IDC 18 05:15:53.8±1.8, 17°.23N×120°.96E, h0km, mb3.8/4, mbtmp3.9/5, ML4.4/1, Error ellipse: s-maj=61.9km s-min=23.0km az=63.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.10**	**180**	Pn	Pn	05 16 43.7	-0.4
	50nm,0.3s,baz=143,slow=9.0,SNR=2.0						
TGY				Sn	Sb	05 17 26.1	-2.3
	49nm,0.3s,baz=160,slow=19,SNR=4.2						
	121nm,0.4s						
CMAR	**Chiang Mai Arr**	**20.99**	**277**	P	P	05 20 39.0	+0.1
	1.6nm,0.3s,baz=92,slow=8.7,SNR=5.2						
	1.6nm,0.3s						
WRA	**Warramunga Arr**	**39.20**	**160**	P	P	05 23 23.9	0.0
	0.6nm,0.8s,baz=342,slow=8.2,SNR=5.0						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**43.40**	**321**	P	P	05 23 57.5	-0.6
	0.7nm,0.7s,baz=129,slow=8.4,SNR=3.5						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**47.45**	**324**	P	P	05 24 30.4	+0.2
	2.7nm,0.8s,baz=120,slow=8.2,SNR=7.1						
	2.7nm,0.8s						

---

*IDC **18** 05:17:22.2±0.9, 24°.02N×121°.90E, h0km, mb3.7/8, mbtmp3.7/10, ML3.8/2, Error ellipse: s-maj=25.0km s-min=21.1km az=73.0*

*TAP **18** 05:17:26.6, 24°.08N×121°.53E, h21km, ML4.2, B*

ISC 18 05:17:26.0±0.7, 24°.05N±0°.01×121°.58E±0°.02, h24km±3km, n199, σ1.9 s62/370, mb3.7/8, 7C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.03**	**34**	*i* P	Pb	05 17 30.6	+0.5
TWD				*i* S	Sb	05 17 33.3	+0.4
HWA	**Hwalien**	**0.08**	**161**	↓*i* P	Pb	05 17 31.5	+1.1
HWA				*i* S	Sb	05 17 35.0	+1.8
ETL	**Fush Village**	**0.11**	**22**	*i* P	Pb	05 17 30.9	+0.2
ETL				S	Sb	05 17 34.0	+0.1
ETM	**Tongmen**	**0.12**	**221**	*i* P	Pb	05 17 31.0	+0.4
ETM				*i* S	Sb	05 17 33.9	+0.1
NACB	**Ninganchiao**	**0.12**	**8**	P	Pb	05 17 30.5	-0.2
NACB	**Ninganchiao**	**0.12**	**8**	S	Sb	05 17 33.9	0.0
NACB	**Ninganchiao**	**0.12**	**8**	↑*i* P	Pb	05 17 30.8	+0.1
NACB				S	Sb	05 17 33.7	-0.2
LXIB	**Xiulin Townshi**	**0.15**	**258**	↑*i* P	Pb	05 17 31.1	-0.1
LXIB				S	Sb	05 17 34.2	-0.4
ETLH	**Xiulin Townshi**	**0.18**	**331**	↑*i* P	Pb	05 17 31.3	-0.1
ETLH				*i* S	Sb	05 17 34.4	-0.6
SHUL	**Shoufeng**	**0.27**	**183**	*i* P	Pn	05 17 33.6	-0.9
SHUL				*i* S	Sn	05 17 39.0	-0.8
ESL	**Shilin**	**0.27**	**209**	*i* P	Pb	05 17 32.7	+0.1
ESL				*i* S	Sb	05 17 37.1	+0.2
EHP	**Heping Village**	**0.30**	**30**	*i* P	Pb	05 17 33.5	+0.5
EHP				S	Sb	05 17 38.4	+0.8
WHF	**Hehuan Shan**	**0.30**	**288**	*i* P	Pb	05 17 33.1	-0.2
WHF				*i* S	Sb	05 17 37.3	-0.9
EAHA	**Aohua**	**0.31**	**28**	*i* P	Pb	05 17 33.5	+0.3
EAHA				S	Sb	05 17 38.4	+0.4
TEGC	**Jichi Village**	**0.34**	**185**	*i* P	Pn	05 17 34.7	-0.8
TEGC				S	Sn	05 17 41.7	0.0
FUSS	**Fushou**	**0.36**	**303**	↓↓*i* P	Pb	05 17 34.1	0.0
FUSS				*i* S	Sb	05 17 39.2	-0.4
WARBT	**Fenglin Townsh**	**0.38**	**208**	↑↑*i* P	Pb	05 17 34.1	0.0
WARBT				S	Sb	05 17 39.8	+0.1
OWD	**Renai**	**0.38**	**255**	↑↑*i* P	Pb	05 17 34.5	+0.2
OWD				*i* S	Sb	05 17 39.5	-0.4
ENA	**Nanau**	**0.40**	**22**	*i* P	Pb	05 17 34.8	+0.2
ENA				*i* S	Sb	05 17 40.6	+0.2
EGFH	**Guangfu**	**0.41**	**200**	*i* P	Pb	05 17 35.0	+0.4
EGFH				*i* S	Sb	05 17 40.8	+0.4
NNSB	**Datong**	**0.41**	**335**	↓↓*i* P	Pb	05 17 34.8	0.0
NNSB				*i* S	Sb	05 17 40.1	-0.7
TWT	**Tachien**	**0.42**	**299**	↓↓*i* P	Pb	05 17 35.2	+0.3
TWT				*i* S	Sb	05 17 40.6	-0.4
WUSB	**Renai**	**0.42**	**262**	↑↑*i* P	Pb	05 17 35.3	+0.3
WUSB				*i* S	Sb	05 17 40.6	-0.5
NNS	**Nan Shan**	**0.43**	**334**	↓↓*i* P	Pb	05 17 35.0	-0.1
NNS				*i* S	Sb	05 17 40.5	-0.7
TDCB	**Techi**	**0.43**	**298**	↓↓*i* P	Pb	05 17 35.2	+0.1
TDCB				*i* S	Sb	05 17 40.8	-0.6
EWUT	**Wuta**	**0.43**	**25**	*i* P	Pb	05 17 35.5	+0.4
EWUT				*i* S	Sb	05 17 41.6	+0.3
LATG	**Datong**	**0.48**	**355**	↓↓*i* P	Pb	05 17 36.0	0.0
LATG				*i* S	Sb	05 17 42.4	-0.4
VWDT	**VWDT**	**0.50**	**233**	↑↑*i* P	Pb	05 17 36.6	+0.5
VWDT				S	Sb	05 17 44.2	+1.2
WPL	**Puli Township**	**0.57**	**266**	*i* P	Pb	05 17 37.6	+0.2
WPL				*eS*	Sb	05 17 44.9	-0.1
ESAO	**Su ao**	**0.57**	**25**	*i* P	Pb	05 17 37.9	+0.4
ESAO				S	Sb	05 17 45.2	-0.1
HGSD	**Ruisui**	**0.57**	**194**	*i* P	Pn	05 17 38.5	-0.3
HGSD				*eS*	Sn	05 17 48.9	+1.4
ENTT	**Nioudou**	**0.58**	**359**	*i* P	Pb	05 17 37.9	+0.2
ENTT				S	Sb	05 17 45.9	+0.3
EHY	**Hungye**	**0.59**	**203**	*i* P	Pb	05 17 38.0	+0.2
EHY				*i* S	Sb	05 17 46.0	+0.2
NDS	**Dongshan**	**0.59**	**12**	*i* P	Pb	05 17 37.3	-0.5
NDS				*i* S	Sb	05 17 45.2	-0.6
DPDB	**Guoxing**	**0.59**	**268**	*i* P	Pb	05 17 38.0	+0.1
DPDB				S	Sb	05 17 45.6	-0.2
TWC	**Suao**	**0.61**	**24**	*i* P	Pb	05 17 38.3	+0.3
TWC				*i* S	Sb	05 17 46.6	+0.4
WCS	**Beigang Elemen**	**0.61**	**271**	*i* P	Pb	05 17 38.1	+0.1
WCS				S	Sb	05 17 46.2	0.0
WHP	**Taichung City**	**0.62**	**291**	*i* P	Pb	05 17 38.2	0.0
WHP				S	Sb	05 17 46.3	-0.3
SSLB	**Suanglung**	**0.63**	**245**	P	Pb	05 17 38.5	+0.1
SSLB	**Suanglung**	**0.63**	**245**	S	Sb	05 17 46.3	-0.5
SSLB	**Suanglung**	**0.63**	**245**	*i* P	Pb	05 17 38.4	+0.1
SSLB				S	Sb	05 17 46.5	-0.3
SMLT	**Sun Moon Lake**	**0.64**	**255**	*i* P	Pb	05 17 37.9	-0.7
SMLT				S	Sb	05 17 45.9	-1.3
YHNB	**Yeheng**	**0.64**	**343**	P	Pb	05 17 38.9	+0.3
YHNB	**Yeheng**	**0.64**	**343**	S	Sb	05 17 47.2	0.0
YHNB	**Yeheng**	**0.64**	**343**	*i* P	Pb	05 17 38.6	-0.1
YHNB				*i* S	Sb	05 17 47.3	0.0
NSK	**Sanguang**	**0.65**	**342**	↓↓*i* P	Pb	05 17 38.7	-0.1
NSK				*i* S	Sb	05 17 47.1	-0.4
TWE	**Neicheng**	**0.67**	**7**	*i* P	Pb	05 17 39.2	+0.1
TWE				*i* S	Sb	05 17 48.4	+0.4
TYC	**Yuchr**	**0.67**	**257**	*i* P	Pb	05 17 39.2	0.0
TYC				*i* S	Sb	05 17 47.4	-0.7
EOS4	**EOS4**	**0.68**	**84**	*eP*	Pn	05 17 41.8	+2.0
EOS4				*eS*	Sn	05 17 51.5	+1.9
EOS2	**EOS2**	**0.70**	**59**	*eP*	Pn	05 17 42.1	+1.7
EOS2				*eS*	Sn	05 17 55.1	+4.7
FUSB	**Fushanzhiwuyua**	**0.70**	**1**	*i* P	Pb	05 17 39.8	+0.1
FUSB				S	Sb	05 17 48.4	-0.6
YULB	**Yu-li**	**0.70**	**201**	P	Pb	05 17 40.1	+0.4
YULB	**Yu-li**	**0.70**	**201**	S	Sb	05 17 49.7	+0.7
YULB	**Yu-li**	**0.70**	**201**	*i* P	Pb	05 17 40.2	+0.4
YULB				*i* S	Sb	05 17 49.5	+0.6
NFF	**Wufeng Townshi**	**0.71**	**324**	*i* P	Pb	05 17 40.0	+0.1
NFF				*eS*	Sb	05 17 48.3	-0.9
EOS3	**EOS3**	**0.72**	**71**	*eP*	Pn	05 17 42.1	+1.5
EOS3				*eS*	Sn	05 17 54.9	+4.2
NWLT	**Wulai**	**0.72**	**355**	*i* P	Pb	05 17 40.2	+0.2
NWLT				*i* S	Sb	05 17 48.9	-0.6
ILA	**Ilan**	**0.73**	**12**	*i* P	Pn	05 17 40.5	-0.3
ILA				*i* S	Sn	05 17 51.4	+0.2
EYUL	**Yuli**	**0.74**	**199**	*i* P	Pn	05 17 41.3	+0.3
EYUL				*i* S	Sn	05 17 51.7	+0.2
ECBN	**Changbin**	**0.74**	**189**	P	Pn	05 17 40.8	-0.3
ECBN				S	Sn	05 17 52.3	+0.7
TWF1	**Yuli**	**0.74**	**200**	*i* P	Pn	05 17 40.9	-0.2
TWF1				*i* S	Sn	05 17 51.3	-0.3
WHYT	**Xinyi Township**	**0.75**	**242**	*i* P	Pn	05 17 41.3	+0.1
WHYT				S	Sn	05 17 51.7	-0.2
NSTT	**Nanjuang**	**0.78**	**318**	↓↓*i* P	Pn	05 17 41.3	-0.2
NSTT				S	Sb	05 17 51.3	+0.3
LIOB	**Emei**	**0.78**	**319**	*i* P	Pn	05 17 41.5	-0.1
LIOB				S	Sn	05 17 52.0	-0.5
TWQ1	**Liyutan**	**0.79**	**292**	↓↓*i* P	Pn	05 17 41.8	+0.1
TWQ1				*i* S	Sn	05 17 52.6	-0.2
YUS	**Yu-Shan**	**0.80**	**226**	*eP*	Pb	05 17 37.9	-3.7
YUS				*eS*	Sb	05 17 48.4	-3.8
WWF	**Wufeng**	**0.80**	**269**	*i* P	Pn	05 17 42.8	+0.9
WWF				S	Sn	05 17 54.0	+0.9
KSHI	**Guanxi Townshi**	**0.81**	**333**	*i* P	Pn	05 17 42.7	+0.7
KSHI				S	Sn	05 17 53.4	+0.2
WJS	**Zhushan**	**0.81**	**254**	*i* P	Pn	05 17 42.6	+0.7
WJS				*i* S	Sn	05 17 54.4	+1.2
NJD	**Zhudong**	**0.81**	**327**	*i* P	Pn	05 17 42.9	+0.9
NJD				*eS*	Sn	05 17 54.4	+1.0
NSY	**Sanyi**	**0.83**	**296**	↓↓*i* P	Pb	05 17 39.6	-2.1
NSY				S	Sb	05 17 51.0	-1.5
TCU	**Taichung**	**0.83**	**277**	*i* P	Pn	05 17 43.1	+0.9
TCU				*i* S	Sn	05 17 55.0	+1.3
NTC	**Toucheng**	**0.83**	**16**	*i* P	Pb	05 17 41.8	0.0
NTC				*i* S	Sn	05 17 54.5	+0.8
WNT1	**Nantou City**	**0.83**	**260**	*i* P	Pn	05 17 43.4	+1.2
WNT1				S	Sn	05 17 55.4	+1.6
WNT	**Mingjian**	**0.83**	**258**	*i* P	Pn	05 17 43.3	+1.0
WNT				*i* S	Sn	05 17 54.8	+1.0
EGS		**0.85**	**22**	*i* P	Pn	05 17 43.0	+0.5
EGS				*eS*	Sn	05 17 55.1	+0.9
NMLH	**Miaoli**	**0.86**	**304**	*i* P	Pn	05 17 44.0	+1.3
NMLH				*i* S	Sn	05 17 55.6	+1.0
CHKH	**Chenggong**	**0.87**	**191**	*i* P	Pb	05 17 42.1	-0.4
CHKH				S	Sn	05 17 54.7	0.0
HSN1	**Hsinchu**	**0.88**	**325**	*i* P	Pn	05 17 44.1	+1.1
HSN1				*eS*	Sn	05 17 57.6	+2.5
ALS	**Alishan**	**0.89**	**233**	*i* P	Pn	05 17 43.7	+0.4
ALS				*i* S	Sn	05 17 55.7	+0.1
FULB	**Fuli**	**0.89**	**197**	*i* P	Pn	05 17 43.8	+0.8
FULB				*eS*	Sn	05 17 57.1	+1.9
NJN	**Zhunan**	**0.90**	**314**	*eP*	Pn	05 17 44.4	+1.3
NJN				*eS*	Sn	05 17 57.7	+2.3
WDJ	**Dajia District**	**0.90**	**289**	*i* P	Pn	05 17 44.6	+1.4
WDJ				*eS*	Sn	05 17 56.8	+1.2
NHDH	**Xindian Distri**	**0.91**	**357**	*i* P	Pn	05 17 44.2	+0.9
NHDH				*i* S	Sn	05 17 56.3	+0.7
SBCB	**Hsinchu**	**0.91**	**324**	*i* P	Pn	05 17 44.5	+1.1
SBCB				*eS*	Sn	05 17 57.5	+1.8
TATO	**Taipei**	**0.92**	**355**	P	Pn	05 17 44.1	+0.6
TATO	**Taipei**	**0.92**	**355**	S	Sb	05 17 55.5	+0.3
TATO	**Taipei**	**0.92**	**355**	*i* P	Pn	05 17 43.9	+0.4
TATO				S	Sb	05 17 55.4	+0.3
TWA	**Mucha**	**0.92**	**0**	*i* P	Pn	05 17 44.8	+1.2
TWA				*i* S	Sn	05 17 57.2	+1.1
HSN	**Hsinchu**	**0.93**	**324**	*i* P	Pn	05 17 45.0	+1.4
HSN				*eS*	Sn	05 17 57.0	+0.8
WCHH	**Zhanghua**	**0.93**	**272**	*i* P	Pn	05 17 44.5	+0.9
WCHH				*i* S	Sn	05 17 58.6	+2.4
CHN5	**Tsauling**	**0.94**	**241**	*i* P	Pn	05 17 44.9	+1.1
CHN5				*i* S	Sn	05 17 58.7	+2.1
WCH1	**Changhua City**	**0.94**	**271**	*i* P	Pn	05 17 45.0	+1.2
WCH1				S	Sn	05 17 59.3	+2.8
TIPB	**Shuangxi**	**0.94**	**14**	*i* P	Pn	05 17 44.1	+0.2
TIPB				*i* S	Sn	05 17 56.5	-0.1
BACT	**New Taipei Cit**	**0.95**	**353**	*eP*	Pn	05 17 44.3	+0.4
BACT				*eS*	Sn	05 17 56.7	+0.1
EHD	**Haiduan**	**0.96**	**201**	P	Pn	05 17 44.5	+0.4
EHD				*i* S	Sn	05 17 58.1	+1.1
CHKT	**Chengkung**	**0.97**	**192**	*i* P	Pb	05 17 43.5	-0.6
CHKT				*i* S	Sn	05 17 57.0	-0.1
NTY	**Taoyuan**	**0.98**	**345**	P	Pb	05 17 32.8	-12
NTY				S	Sb	05 17 46.7	-10
NCUH	**Zhongli**	**0.98**	**339**	*i* P	Pn	05 17 45.6	+1.3
NCUH				*i* S	Sn	05 17 59.9	+2.5
NHY	**Taipei**	**0.98**	**360**	*i* P	Pn	05 17 46.1	+1.8
NHY				S	Sn	05 17 59.1	+1.6
TAP	**Taipei**	**0.98**	**356**	*i* P	Pn	05 17 45.5	+1.2
TAP				S	Sn	05 17 59.0	+1.5
WGK	**Gukeng**	**1.00**	**249**	*i* P	Pb	05 17 45.5	+0.8
WGK				S	Sn	05 18 00.0	+2.2
ELDTW	**Lidau**	**1.00**	**211**	*i* P	Pn	05 17 44.2	-0.5
ELDTW				S	Sn	05 17 58.3	+0.2
WDL	**Douliou City**	**1.01**	**251**	*eP*	Pb	05 17 47.0	+2.2
WDL				S	Sn	05 18 01.0	+2.9
ECS	**Chishang**	**1.01**	**199**	P	Pn	05 17 44.8	0.0
ECS				*eS*	Sn	05 17 59.6	+1.4
WDLH	**Douliu**	**1.02**	**249**	*i* P	Pb	05 17 46.2	+1.3
WDLH				*i* S	Sn	05 18 00.8	+2.4
TWB1	**Santiao Chiao**	**1.02**	**21**	*i* P	Pb	05 17 45.8	+0.7
TWB1				S	Sn	05 17 59.9	+1.4
NWF	**Wu-fen Shan**	**1.03**	**10**	*i* P	Pb	05 17 45.8	+0.6
NWF				S	Sn	05 18 00.3	+1.5
WFSB	**Wu-fen Shan**	**1.03**	**10**	*i* P	Pb	05 17 46.0	+0.8
WFSB				*i* S	Sn	05 17 59.5	+0.8
TWS1	**Kuangyinshan**	**1.05**	**352**	*i* P	Pb	05 17 45.6	0.0
TWS1				*i* S	Sn	05 18 00.5	+1.2
NHW	**Xinwu Township**	**1.06**	**333**	*i* P	Pb	05 17 46.9	+1.1
NHW				*i* S	Sn	05 18 02.3	+2.8
SXI1	**Grass Mountain**	**1.07**	**15**	*i* P	Pb	05 17 46.3	+0.4
SXI1				S	Sn	05 18 00.7	+0.9
WCKO	**Fanlu**	**1.08**	**236**	*i* P	Pb	05 17 47.5	+1.4
WCKO				S	Sn	05 18 02.8	+2.8
YM01	**YM01**	**1.09**	**360**	*i* P	Pb	05 17 46.6	+0.3
YM01				S	Sn	05 18 01.4	+1.2
EDH	**Donghe**	**1.10**	**193**	*i* P	Pn	05 17 45.7	-0.3
EDH				*i* S	Sn	05 18 01.5	+1.0
ZUZH	**Zhuzihu**	**1.10**	**359**	*i* P	Pn	05 17 46.0	-0.1
ZUZH				*i* S	Sn	05 18 01.8	+1.2
TNOU	**National Taiwa**	**1.11**	**9**	*i* P	Pb	05 17 47.4	+0.9
TNOU				S	Sn	05 18 03.2	+2.6
NTST	**Danshui**	**1.11**	**354**	*i* P	Pb	05 17 47.4	+0.8
NTST				*i* S	Sn	05 18 03.4	+2.7
RLNB	**Erlin**	**1.12**	**262**	*i* P	Pb	05 17 47.8	+1.0
RLNB				*i* S	Sn	05 18 03.6	+2.6
ANP	**Anpu**	**1.13**	**357**	*i* P	Pb	05 17 46.9	-0.1
ANP				*i* S	Sn	05 18 03.1	+1.8
CHN2	**Minshiung**	**1.13**	**243**	*i* P	Pb	05 17 47.8	+0.9
CHN2				*i* S	Sn	05 18 04.5	+3.3
CHN4	**Tsaushan**	**1.14**	**232**	*i* P	Pb	05 17 48.8	+1.8
CHN4				*i* S

WSSB			*e*S	**Sb**	**05 18 25.2**	**+3.2**
SCZT	**Fangliau**	**1.89 208**	*i* P	**Pb**	**05 17 59.2**	**-0.6**
SCZT			*e*S	**Sb**	**05 18 24.4**	**+1.3**
PHUB	**P'eng-hu**	**1.91 254**	*i* P	**Pn**	**05 17 57.9**	**+0.8**
PHUB			*i* S	**Sn**	**05 18 21.8**	**+1.3**
PNG	**Penghu**	**1.91 256**	*i* P	**Pn**	**05 17 57.6**	**+0.5**
PNG			*i* S	**Sn**	**05 18 22.1**	**+1.7**
WDGT	**Dungji**	**1.93 246**	*i* P	**Pn**	**05 17 58.7**	**+1.4**
WDGT			*i* S	**Sn**	**05 18 22.3**	**+1.5**
SLIU	**Shizi**	**1.96 202**	*i* P	**Pb**	**05 18 02.0**	**+0.9**
SLIU			*e*S	**Sb**	**05 18 25.6**	**+0.5**
LAY	**Lan-yu**	**2.00 181**	*i* P	**Pn**	**05 17 58.4**	**-0.1**
LAY			*e*S	**Sb**	**05 18 25.5**	**-0.9**
LYUB	**Lan-yu**	**2.04 180**	*i* P	**Pn**	**05 17 57.3**	**-1.6**
LYUB			*e*S	**Sn**	**05 18 23.7**	**+0.1**
SMST	**Manzhou Townsh**	**2.13 199**	*e*P	**Pb**	**05 18 02.9**	**-1.1**
SMST			S	**Sb**	**05 18 28.5**	**-1.5**
VCHM	**Qimei**	**2.14 247**	*i* P	**Pn**	**05 18 01.3**	**+1.1**
VCHM			*i* S	**Sb**	**05 18 28.5**	**-1.8**
VWUC	**VWUC**	**2.15 296**	*i* P	**Pn**	**05 18 00.6**	**+0.2**
VWUC			S	**Sn**	**05 18 25.2**	**-1.1**
HEN	**Hengchun**	**2.18 201**	*e*P	**Pb**	**05 18 05.5**	**+0.7**
HEN			*e*S	**Sb**	**05 18 30.7**	**-0.6**
TWK1	**Hengchun**	**2.22 199**	*i* P	**Pn**	**05 18 02.5**	**+1.2**
TWK1			*e*S	**Sn**	**05 18 30.0**	**+2.0**
TWKBT	**Hengchun**	**2.22 199**	*i* P	**Pn**	**05 18 01.6**	**+0.3**
TWKBT			*e*S	**Sb**	**05 18 30.6**	**-1.9**
TSEB	**Hengchuen, Pin**	**2.23 196**	*e*P	**Pb**	**05 18 03.9**	**-1.8**
TSEB			S	**Sn**	**05 18 30.6**	**+2.2**
PTMZ	**Houxiangcun**	**2.44 294**	*i* P	**Pn**	**05 18 04.5**	**0.0**
PTMZ			S	**Sn**	**05 18 32.6**	**-0.9**
MATB	**Ma-tsu**	**2.56 325**	*i* P	**Pn**	**05 18 06.0**	**0.0**
MATB			*e*S	**Sn**	**05 18 36.7**	**+0.2**
QZH	**Quanzhou**	**2.86 289**	*e*Pn	**Pn**	**05 18 10.6**	**+0.5**
QZH			Sn	**Sn**	**05 18 45.4**	**+1.6**
QZH			smax	smax		
	comp=N,220nm,0.9s					
QZH			smax	smax		
	comp=E,190nm,0.7s					
KNM	**Kinmen**	**2.89 278**	*i* P	**Pn**	**05 18 12.1**	**+1.5**
KNM			*e*S	**Sb**	**05 18 48.4**	**-3.4**
KNMB	**Chin-men Tao**	**2.94 279**	*i* P	**Pn**	**05 18 11.1**	**-0.1**
KNMB			S	**Sn**	**05 18 43.3**	**-2.4**
XPSS	**Dashiqiu**	**3.13 337**	*i* P	**Pn**	**05 18 13.7**	**-0.1**
XPSS			S	**Sn**	**05 18 50.0**	**-0.4**
AXDP	**Jialang**	**3.39 285**	*i* P	**Pn**	**05 18 17.7**	**+0.2**
AXDP			S	**Sn**	**05 18 56.6**	**-0.4**
ZPLA	**Ao Xicun**	**3.50 269**	*i* P	**Pn**	**05 18 19.6**	**+0.6**
ZPLA			S	**Sn**	**05 18 59.1**	**-0.5**
DSXP	**Dongshan**	**3.81 266**	P	**Pn**	**05 18 23.9**	**+0.6**
DSXP			*e*S	**Sn**	**05 19 07.4**	**0.0**
SXFK	**Yanhouchang**	**4.26 304**	P	**Pn**	**05 18 29.7**	**+0.2**
SXFK			S	**Sn**	**05 19 17.1**	**-1.3**
JOW	**Kunigami**	**6.66 64**	Pn	**Pn**	**05 18 59.8**	**-2.6**
	comp=E,5.3nm,0.3s,baz=189,slow=11,SNR=12					
	comp=E,12nm,0.3s					
KSRS	**Korea Array**	**14.42 21**	Pn	**Pn**	**05 20 46.9**	**-1.8**
	comp=E,0.3nm,0.3s,baz=198,slow=12,SNR=7.1					
	comp=E,0.4nm,0.5s					
CMAR	**Chiang Mai Arr**	**21.80 260**	P	**P**	**05 22 19.9**	**+3.3**
	comp=E,0.8nm,0.4s,baz=59,slow=9.0,SNR=5.6					
	comp=E,0.8nm,0.4s					
SONM	**Songino Array**	**26.63 337**	P	**P**	**05 23 04.3**	**+1.4**
	comp=E,1.1nm,0.9s,baz=165,slow=9.8,SNR=3.0					
	comp=E,1.1nm,0.9s					
MKAR	**Makanchi Array**	**38.68 316**	P	**P**	**05 24 49.9**	**+2.0**
	comp=E,2.4nm,0.7s,baz=104,slow=10,SNR=11					
	comp=E,2.4nm,0.7s					
WRA	**Warramunga Arr**	**45.46 163**	P	**P**	**05 25 41.9**	**-1.6**
	comp=E,0.6nm,0.6s,baz=343,slow=8.7,SNR=4.6					
	comp=E,0.6nm,0.6s					
BVAR	**Borovoye Array**	**48.00 321**	P	**P**	**05 26 03.7**	**+0.7**
	comp=E,1.1nm,0.6s,baz=105,slow=9.5,SNR=4.7					
	comp=E,1.1nm,0.6s					
ASAR	**Alice Springs**	**48.92 165**	P	**P**	**05 26 09.7**	**-0.6**
	comp=E,0.3nm,0.4s,baz=341,slow=8.3,SNR=2.5					
	comp=E,0.3nm,0.4s					
ILAR	**Eielson Array**	**69.17 27**	P	**P**	**05 28 29.2**	**-1.0**
	comp=E,0.3nm,0.5s,baz=265,slow=5.0,SNR=6.6					
	comp=E,0.3nm,0.5s					
YKA	**Yellowknife Ar**	**82.95 23**	P	**P**	**05 29 47.8**	**-0.9**
	comp=E,0.3nm,0.7s,baz=315,slow=5.2,SNR=4.2					
	comp=E,0.3nm,0.7s					
VNA2	**Neumayer--Watz**	**124.88 198**	⇓P	**Pdif**	**05 32 51.0**	**-8.2**
	comp=Z,1.1nm,0.2s,baz=327,slow=16					
VNA3	**Neumayer Olymp**	**125.34 197**	⇓P	**Pdif**	**05 32 47.3**	**-14**
	comp=Z,0.4nm,0.1s					

*IDC **18** 05:38:45.8±1.4, 24°.20N×142°.89E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=46.8km s-min=28.8km az=85.0*

ISC 18 05:38:50.3±1.3, 24°.2N±0°.2×143°.0E±0°.3, h29km, n6, σ0°89/6, mb3.8/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.36**	**191**	P	**P**	**05 47 29.6**	**0.0**
	0.8nm,0.8s,baz=352,slow=5.1,SNR=7.5						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**52.88**	**311**	P	**P**	**05 48 03.8**	**+0.2**
	0.3nm,0.6s,baz=99,slow=8.1,SNR=3.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**55.59**	**316**	P	**P**	**05 48 21.6**	**-1.5**
	0.8nm,0.6s,baz=93,slow=7.6,SNR=4.9						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**59.95**	**28**	P	**P**	**05 48 53.6**	**+0.1**
	0.3nm,0.6s,baz=251,slow=5.6,SNR=5.1						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**60.66**	**319**	P	**P**	**05 48 58.7**	**0.0**
	1.4nm,0.5s,baz=89,slow=6.6,SNR=8.3						
	1.4nm,0.5s						
FINES	**FINESS Array B**	**80.86**	**334**	P	**P**	**05 51 01.1**	**-0.1**
	0.3nm,0.3s,baz=58,slow=4.7,SNR=6.5						
	0.3nm,0.3s						

IDC 18 05:42:04.6±8.5, 4°.56S×142°.47E, h0km, mb3.3/2, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=302.6km s-min=35.9km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.22**	**207**	P	Pn	05 46 06.2	-0.4
	0.1nm,0.3s,baz=30,slow=13,SNR=1.3						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**20.71**	**203**	P	P	05 46 46.9	+0.2
	0.6nm,0.6s,baz=33,slow=9.7,SNR=7.4						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**73.55**	**322**	P	P	05 53 39.5	0.0
	0.4nm,0.8s,baz=126,slow=7.3,SNR=3.0						
	0.4nm,0.8s						

*DNK **18** 05:50:12.8±5.6, 79°.30N×18°.40W, h16km±85km, ML1.7*
*BER **18** 05:50:14.2±4.1, 79°.32N×19°.16W, h15km±50km, mb(Pn)3.6, ML1.7(DNK), Confirmed Earthquake*

ISC 18 05:50:09.7±1.0, 79°.41N±0°.07×18°.87W±0°.06, h10km, n11, σ1°71/18, Eastern Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.23**	**8**	*i* P	**Pb**	**05 50 50.6**	**+0.5**
NOR				*i* S	**Sb**	**05 51 18.8**	**+1.1**
NOR				IAML		05 51 22.9	
	comp=Z,22nm,0.4s						
NOR	**Nord**	**2.23**	**8**	*e*	**Pn**	**05 50 45.6**	**-1.0**
	baz=160,slow=16						
NOR				*i* P	**Pb**	**05 50 50.6**	**+0.5**
NOR				*i* S	**Sb**	**05 51 18.8**	**+1.1**
NOR				IAML		05 51 22.9	
	comp=Z,22nm,0.4s						
DBG	**Daneborg**	**5.14**	**184**	*i* P	**Pn**	**05 51 28.4**	**+1.8**
DBG				IAML		05 52 28.1	
	comp=Z,2.8nm,0.3s						
DBG	**Daneborg**	**5.14**	**184**	*i* P	**Pn**	**05 51 28.4**	**+1.8**
DBG				IAML		05 52 28.1	
	comp=Z,2.8nm,0.3s						
KBS	**Kingsbay**	**5.78**	**80**	*e*P	**Pn**	**05 51 36.9**	**+1.5**
KBS				*e*S	**Sn**	**05 52 38.1**	**-3.5**
KBS				IAML		05 52 49.1	
	comp=Z,3.4nm,0.7s						
KBS	**Kingsbay**	**5.78**	**80**	*i* P	**Pn**	**05 51 35.4**	**0.0**
NEEM	**North Greenlan**	**6.69**	**269**	*i* P	**Pn**	**05 51 48.8**	**+0.7**
NEEM				*i* S	**Sn**	**05 53 02.4**	**-2.1**
NEEM				IAML		05 53 04.1	
	comp=Z,1.5nm,0.3s						
NEEM	**North Greenlan**	**6.69**	**269**	*i* P	**Pn**	**05 51 48.8**	**+0.7**
NEEM				*i* S	**Sn**	**05 53 02.4**	**-2.1**
NEEM				IAML		05 53 04.1	
	comp=Z,1.5nm,0.3s						
SPA0	**Spitsbergen Ar**	**6.89**	**83**	*e*P	**Pn**	**05 51 52.5**	**+1.9**
SPA0				*e*S	**Sn**	**05 53 06.7**	**-2.2**
SPA0				IAML		05 53 26.2	
	comp=Z,3.7nm,0.8s						
SUMG	**Summit**	**8.27**	**225**	*i* P	**Pn**	**05 52 10.5**	**+0.6**
SUMG				IAML		05 54 10.4	
	comp=Z,0.9nm,0.3s						
SUMG	**Summit**	**8.27**	**225**	*i* P	**Pn**	**05 52 10.5**	**+0.6**
SUMG				IAML		05 54 10.4	
	comp=Z,0.9nm,0.3s						

*NEIC **18** 05:57:21.3±1.1, 66°.30N±0°.02×157°.24W±0°.06, h8km±6km, Error ellipse: s-maj=3.6km s-min=2.3km az=118.0*

AEIC 18 05:57:21.4±1.1, 66°.28N±0°.02×157°.20W±0°.03, h6km±6km, ML3.4, ML3.5/136(NEIC)**, Error ellipse: s-maj=2.5km s-min=1.5km az=160.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.15**	**163**		Pg	05 57 24.7	+0.3
G19K				IAML		05 57 27.5	
	comp=N,18μm,0.7s						
F19K	**Shaleruckik Mo**	**0.60**	**338**		Pg	05 57 32.5	-0.3
G18K	**Tagagawik**	**0.71**	**237**		Pg	05 57 35.1	+0.1
H19K	**Roundabout Mou**	**0.82**	**158**		Pg	05 57 36.9	-0.2
F20K	**Avaraart Lake**	**0.97**	**37**		Pg	05 57 39.1	-0.7
F20K					Sg	05 57 52.3	-0.1
F20K				IAML		05 57 56.1	
	comp=N,1μm,0.5s						
F18K	**Selawik**	**1.04**	**289**		Pg	05 57 40.7	-0.6
F18K					Sb	05 57 55.3	-0.2
E19K	**Redstone River**	**1.18**	**359**		Pg	05 57 43.4	-0.6
E19K					Sg	05 57 58.4	-0.8
E19K				IAML		05 58 01.4	
	comp=N,1μm,0.5s						
E19K				IAML		05 58 01.6	
	comp=E,1μm,0.7s						
H18K	**Honhosa River**	**1.23**	**204**		Pg	05 57 44.1	-0.9
H18K					Sb	05 58 01.3	+0.1
H18K				IAML		05 58 03.7	
	comp=E,1μm,0.8s						
H20K	**Anotleneega Mo**	**1.24**	**129**		Pg	05 57 44.1	-1.0
H20K					Sn	05 58 02.2	0.0
G21K	**Allakaket**	**1.50**	**79**		Pn	05 57 48.6	-0.3
GCSA	**Galena City Sc**	**1.55**	**175**		Pn	05 57 49.7	+0.3
GCSA					Sb	05 58 10.2	-0.1
G17K	**Kiwalik Mounta**	**1.62**	**243**		Pn	05 57 49.6	-0.8
F17K	**Baldwin Pennin**	**1.64**	**277**		Pn	05 57 50.4	-0.3
F17K				IAML		05 58 19.4	
	comp=E,467nm,0.6s						
F17K				IAML		05 58 20.9	
	comp=N,470nm,1.0s						
F21K	**Alatna River**	**1.75**	**56**		Pn	05 57 52.2	-0.1
F21K				IAML		05 58 18.7	
	comp=N,414nm,0.4s						
F21K				IAML		05 58 19.3	
	comp=E,679nm,0.6s						
H17K	**Granite Mounta**	**1.76**	**221**		Pn	05 57 52.3	-0.1
H17K				IAML		05 58 25.1	
	comp=N,392nm,0.7s						
H17K				IAML		05 58 30.4	
	comp=E,409nm,0.8s						
E18K	**Tukpahlearik C**	**1.77**	**312**		Pn	05 57 53.0	+0.6
I20K	**Naaghedeneel**	**1.87**	**142**		Pn	05 57 54.4	+0.5
I20K				IAML		05 58 58.3	
	comp=E,595nm,1.0s						
H21K	**Melozitna Rive**	**1.90**	**107**		Pn	05 57 54.1	-0.3
H21K				IAML		05 58 23.4	
	comp=N,398nm,0.8s						
E20K	**Nigu River**	**2.02**	**11**		Pb	05 57 57.2	-1.2
D19K	**Kuna River**	**2.25**	**351**		Pn	05 58 00.1	+1.1
D19K				IAML		05 58 34.5	
	comp=N,387nm,0.5s						
G16K	**Koyuk River**	**2.30**	**250**		Pn	05 57 58.8	-1.0
G16K				IAML		05 58 36.4	
	comp=E,260nm,0.5s						
G16K				IAML		05 58 36.7	
	comp=N,322nm,0.8s						
J19K	**Poorman**	**2.39**	**163**		Pn	05 58 01.3	+0.3
J19K				IAML		05 58 41.4	
	comp=E,246nm,0.9s						
H22K	**Ishtalitna Cre**	**2.40**	**97**		Pn	05 58 01.1	-0.1
I21K	**Tanana**	**2.42**	**115**		Pn	05 58 01.4	0.0
I21K				IAML		05 58 40.3	
	comp=E,354nm,0.5s						
I21K				IAML		05 58 44.4	
	comp=N,371nm,0.7s						
D20K	**Etivluk River**	**2.45**	**5**		Pn	05 58 03.2	+1.3
D20K				IAML		05 58 40.9	
	comp=N,241nm,0.8s						
D20K				IAML		05 58 43.5	
	comp=E,285nm,0.9s						
J20K	**Nowinta River**	**2.48**	**147**		Pn	05 58 02.5	+0.3
J20K				IAML		05 58 45.8	
	comp=E,182nm,1.1s						
E21K	**Killik River**	**2.50**	**28**		Pn	05 58 03.1	+0.5
E21K				IAML		05 58 48.4	
	comp=N,196nm,1.1s						
H16K	**Elim**	**2.68**	**234**		Pn	05 58 03.6	-1.3
E22K	**Anaktuvuk Pass**	**2.80**	**46**		Pn	05 58 08.0	+1.3
J18K	**Innoko River**	**2.84**	**176**		Pn	05 58 07.4	+0.2
G23K	**Bananza Creek**	**2.91**	**78**		Pn	05 58 08.1	0.0
G23K				IAML		05 59 02.9	
	comp=E,190nm,0.8s						
COLD	**Coldfoot**	**2.93**	**68**		Pn	05 58 08.1	-0.3
COLD				IAML		05 59 01.0	
	comp=N,149nm,0.6s						
COLD				IAML		05 59 03.7	
	comp=E,123nm,0.6s						
J17K	**VABM Dome**	**3.01**	**196**		Pn	05 58 09.9	+0.4
J17K				IAML		05 59 03.5	
	comp=E,214nm,0.9s						
J17K				IAML		05 59 08.1	
	comp=N,138nm,0.9s						
D22K	**Ayikyak River**	**3.13**	**32**		Pn	05 58 12.0	+0.8
D22K				IAML		05 59 12.7	
	comp=N,141nm,0.7s						
D22K				IAML		05 59 15.0	
	comp=E,170nm,0.8s						
H23K	**Yukon River**	**3.15**	**95**		Pn	05 58 11.4	-0.1
K20K	**Telida**	**3.23**	**154**		Pn	05 58 12.8	+0.3
J16K	**Anvik River**	**3.35**	**207**		Pn	05 58 14.8	+0.7
J16K				IAML		05 59 12.4	
	comp=E,116nm,0.7s						
J16K				IAML		05 59 15.2	
	comp=N,146nm,0.6s						
TTA	**Tatalina**	**3.41**	**171**		Pn	05 58 15.4	+0.3
BPAW	**Bear Paw Mtn.**	**3.41**	**127**		Pn	05 58 15.6	+0.5
BPAW				IAML		05 59 20.7	
	comp=N,92nm,0.7s						
I23K	**Minto, Yukon-K**	**3.43**	**106**		Pn	05 58 16.1	+0.8
E23K	**Chandalar**	**3.45**	**55**		Pn	05 58 16.5	+0.8
E23K				IAML		05 59 22.9	
	comp=N,106nm,0.7s						
E23K				IAML		05 59 25.1	
	comp=E,98nm,0.7s						
B21K	**Ikpikpuk River**	**3.49**	**15**		Pn	05 58 15.5	-0.5
B21K				IAML		05 59 22.6	
	comp=N,126nm,1.0s						
CAST	**Castle Rocks**	**3.61**	**140**		Pn	05 58 18.4	+0.6
K17K	**Iditarod**	**3.62**	**188**		Pn	05 58 17.7	-0.1
K17K				IAML		05 59 25.3	
	comp=E,102nm,0.9s						
K17K				IAML		05 59 32.8	
	comp=N,80nm,1.0s						
D23K	**Nanushuk River**	**3.67**	**40**		Pn	05 58 19.3	+0.7
D23K				IAML		05 59 24.1	
	comp=N,118nm,0.9s						
D23K				IAML		05 59 37.2	
	comp=E,86nm,0.7s						
B20K	**Meade River**	**3.74**	**0**		Pn	05 58 20.2	+0.7
B20K				IAML		05 59 27.9	
	comp=N,85nm,0.8s						
TOLK	**Toolik Lake Re**	**3.77**	**48**		Pn	05 58 20.6	+0.7
TOLK				IAML		05 59 27.5	
	comp=N,96nm,0.9s						
NEA2	**Nenana**	**3.79**	**113**		Pn	05 58 20.4	+0.2
NEA2				IAML		05 59 24.5	
	comp=N,89nm,1.1s						
NEA2				IAML		05 59 31.2	
	comp=E,96nm,1.1s						
H24K	**Noodor Dome**	**3.83**	**92**		Pn	05 58 21.6	+0.8
H24K				IAML		05 59 27.7	
	comp=N,105nm,0.9s						
KTH	**Kantishna Hill**	**3.83**	**133**		Pn	05 58 21.6	+0.8
KTH				IAML		05 59 32.4	
	comp=N,63nm,1.0s						
KTH				IAML		05 59 35.4	
	comp=E,59nm,1.2s						
E24K	**Your Creek**	**3.84**	**58**		Pn	05 58 21.4	+0.4
E24K				IAML		05 59 31.0	
	comp=E,95nm,0.7s						
E24K				IAML		05 59 36.8	
	comp=N,93nm,0.6s						
F24K	**Squaw Lake**	**3.87**	**67**		Pn	05 58 21.9	+0.5
F24K				IAML		05 59 28.8	
	comp=E,110nm,0.6s						
BWN	**Browne**	**3.88**	**120**		Pn	05 58 22.5	+1.0
PPLA	**Purkeypile**	**4.03**	**145**		Pn	05 58 24.8	+1.2
L18K	**Granite Mounta**	**4.09**	**177**		Pn	05 58 25.1	+0.8
TRF	**Thorofare Moun**	**4.09**	**131**		Pn	05 58 25.1	+0.6
TRF				IAML		05 59 37.9	
	comp=N,52nm,1.2s						
TRF				IAML		05 59 49.0	
	comp=E,56nm,1.1s						
COLA	**College**	**4.13**	**106**		Pn	05 58 25.2	+0.3
POKR	**Poker Plat Res**	**4.20**	**102**		Pn	05 58 26.5	+0.6
WRH	**Wood River Hil**	**4.22**	**111**		Pn	05 58 26.1	-0.1
WRH				IAML		05 59 37.0	
	comp=E,64nm,0.8s						
WRH				IAML		05 59 39.3	
	comp=N,48nm,1.1s						
L19K	**White Mountain**	**4.24**	**165**		Pn	05 58 26.8	+0.3
L19K				IAML		05 59 44.9	
	comp=N,51nm,0.9s						
L19K				IAML		05 59 50.2	
	comp=E,52nm,1.0s						
CCB	**Clear Creek Bu**	**4.25**	**108**		Pn	05 58 26.4	0.0
CCB				IAML		05 59 39.2	
	comp=E,53nm,0.7s						
CCB				IAML		05 59 42.5	
	comp=N,51nm,0.5s						
D24K	**Happy Valley**	**4.29**	**44**	Pn	Pn	05 58 27.9	+0.7
D24K				IAML		05 59 49.6	
	comp=E,78nm,1.1s						
C23K	**Itkillik River**	**4.34**	**32**		Pn	05 58 27.8	+0.1
C23K				IAML		05 59 59.8	
	comp=E,55nm,0.7s						
C23K				IAML		06 00 02.4	
	comp=N,60nm,1.0s						
MCK	**McKinley**	**4.34**	**122**		Pn	05 58 28.1	+0.3
MCK				IAML		05 59 45.4	
	comp=N,40nm,1.1s						
IL31		**4.55**	**105**		Pn	05 58 30.7	+0.1
ILAR	**Eielson Array**	**4.55**	**105**		Pn	05 58 30.7	+0.1
RND	**Reindeer**	**4.58**	**125**		Pn	05 58 31.9	+0.7
F25K	**Christian Rive**	**4.73**	**69**		Pn	05 58 34.6	+1.5
F25K				IAML		05 59 54.9	
	comp=N,56nm,0.8s						
M20K	**Styx River**	**4.76**	**156**		Pn	05 58 35.1	+1.4
PRP	**Porcupine Dome**	**4.85**	**94**		Pn	05 58 34.8	-0.1
CUT	**Chulitna**	**4.92**	**139**		Pn	05 58 37.0	+1.3
CUT				IAML		06 00 27.3	
	comp=N,50nm,0.9s						
SKT	**Skwentna**	**4.98**	**148**		Pn	05 58 38.0	+1.4
SKT				IAML		06 00 11.9	
	comp=E,27nm,0.9s						
D25K	**Kavik River**	**5.11**	**48**		Pn	05 58 38.9	+0.6
D25K				IAML		06 00 28.5	
	comp=N,27nm,1.2s						
D25K				IAML		06 00 30.1	
	comp=E,28nm,1.1s						
J25K	**Salcha River,**	**5.21**	**103**		Pn	05 58 39.8	0.0
J25K				IAML		06 00 07.0	
	comp=E,38nm,0.7s						
F26K	**Sheenjek River**	**5.31**	**69**		Pn	05 58 41.9	+0.8
STLK	**Strandline Lak**	**5.36**	**151**		Pn	05 58 43.0	+1.3
G26K	**Porcupine Rive**	**5.38**	**77**		Pn	05 58 43.8	+1.7
K24K	**Donnelly Dome**	**5.44**	**112**		Pn	05 58 43.1	+0.3
M22K	**Willow**	**5.51**	**142**	Pn	Pn	05 58 45.1	+1.4
SUA	**Susitna One**	**5.61**	**147**		Pn	05 58 47.3	+1.9
N19K	**Bonanza Creek**	**5.62**	**166**	Pn	Pn	05 58 46.1	+0.6
N18K	**Kilae Creek**	**5.66**	**173**		Pn	05 58 47.0	+1.1
GHO	**Glory Hole Cre**	**5.80**	**137**		Pn	05 58 49.3	+1.4
PMR	**Palmer**	**5.90**	**139**		Pn	05 58 50.4	+1.3
SML	**Sawmill**	**5.94**	**135**		Pn	05 58 50.7	+0.9
J26L	**Joseph Creek**	**5.97**	**101**		Pn	05 58 51.2	+1.0
SCRK	**Sand Creek**	**6.03**	**106**		Pn	05 58 51.0	-0.2
PAX	**Paxson**	**6.04**	**118**	Pn	Pn	05 58 51.7	+0.6
C27K	**Jago River**	**6.08**	**50**		Pn	05 58 52.6	+1.0
SCM	**Sheep Creek Mo**	**6.22**	**131**	Pn	Pn	05 58 54.6	+1.0
M24K	**Tolsona, Glenn**	**6.38**	**126**	Pn	Pn	05 58 58.2	+2.4
D27M	**Malcolm River**	**6.83**	**57**		Pn	05 59 04.3	+2.3
I28M	**Miner Creek**	**7.12**	**89**	Pn	Pn	05 59 06.6	+0.5
BRLK	**Bradley Lake**	**7.14**	**153**	Pn	Pn	05 59 07.4	+1.1
E28M	**Babbage River**	**7.17**	**63**	Pn	Pn	05 59 07.4	+0.8
N25K	**Chitina, Valde**	**7.26**	**124**	Pn	Pn	05 59 10.4	+2.6
M26K	**Nabesna, AK**	**7.28**	**116**	Pn	Pn	05 59 10.2	+2.0
L27K	**Beaver Creek,**	**7.33**	**109**		Pn	05 59 08.8	-0.1
BCAR	**Beaver Creek A**	**7.35**	**109**	Pn	Pn	05 59 09.6	+0.5
H29M	**Whitestone**	**7.60**	**82**	Pn	Pn	05 59 13.8	+1.4
G29M	**Pine Creek**	**7.65**	**77**	Pn	Pn	05 59 14.0	+0.7
M27K	**Edge Creek, AK**	**7.72**	**114**	Pn	Pn	05 59 15.3	+1.0
E29M	**Blow River**	**7.74**	**65**		Pn	05 59 15.4	+1.1
F30M	**Barrier River**	**8.49**	**71**	Pn	Pn	05 59 27.9	+3.2
I30M	**Mount Dempster**	**8.62**	**87**		Pn	05 59 27.0	+0.4
K29M	**Barlow Dome**	**8.65**	**97**	Pn	Pn	05 59 27.5	+0.4
L29M	**L29M**	**8.75**	**102**	Pn	Pn	05 59 29.3	+1.0
M29M	**Somme Creek**	**8.97**	**107**	Pn	Pn	05 59 31.7	+0.3
G31M	**Satah River**	**9.12**	**76**	Pn	Pn	05 59 33.2	-0.1
F31M	**Tsiigehtchic**	**9.28**	**72**	Pn	Pn	05 59 36.8	+1.3
BCPM	**Bancas Point**	**10.14**	**120**	Pn	Pn	05 59 49.2	+1.9
A36M	**Sachs Harbour**	**12.59**	**49**	Pn	Pn	06 00 19.2	-1.5
C36M	**Paulatuk**	**12.78**	**61**	Pn	Pn	06 00 22.3	-0.9

**IDC 18 06:01:12.5

HAZ			S	S	06 08 30.7	-0.3
PKGZ	**Pakihiroa**	**6.75 190**	P	Pn	06 07 16.8	+5.2
PKGZ			S	S	06 08 30.7	-1.6
RUGZ	**Raukumara Rang**	**6.91 192**	P	Pn	06 07 17.3	+3.6
RUGZ			S	S	06 08 37.2	+1.2
PUZ	**Puketiti**	**6.93 188**	P	Pn	06 07 17.4	+3.7
PUZ			S	S	06 08 35.6	-0.6
TWGZ	**Tauwhareparae**	**7.07 190**	P	Pn	06 07 15.2	-0.2
TWGZ			S	S	06 08 38.7	-0.5
MWZ	**Matawai**	**7.29 192**	P	Pn	06 07 19.9	+1.8
MWZ			S	S	06 08 44.0	-0.1
URZ	**Urewera**	**7.31 195**	P	Pn	06 07 19.3	+1.2
	10nm,0.3s,baz=340,slow=4.2,SNR=21					
URZ			S	S	06 08 45.3	+1.0
	19nm,0.3s,baz=151,slow=22,SNR=19					
URZ	**Urewera**	**7.31 195**	P	Pn	06 07 21.8	+3.7
URZ			S	S	06 08 45.0	+0.7
CNGZ	**Carnagh Statio**	**7.34 188**	P	Pn	06 07 21.5	+3.0
CNGZ			S	S	06 08 41.9	-3.1
TKGZ	**Te Karaka**	**7.34 190**	P	Pn	06 07 19.2	+0.6
TKGZ			S	S	06 08 44.0	-1.1
RAGZ	**Rawiri**	**7.47 193**	P	Pn	06 07 20.5	+0.4
RAGZ			S	S	06 08 48.8	+0.8
MUGZ	**Murupara**	**7.59 196**	S	S	06 08 51.2	+0.7
RIGZ	**Rimuhau**	**7.62 190**	P	Pn	06 07 24.5	+2.7
RIGZ			S	S	06 08 49.5	-1.6
SNGZ	**Shannon Statio**	**7.76 193**	P	Pn	06 07 26.3	+2.7
SNGZ			S	S	06 08 56.0	+1.8
PRGZ	**Paritu Road**	**7.81 189**	S	S	06 08 55.7	+0.4
MTHZ	**Maungataniwha**	**7.94 195**	P	Pn	06 07 26.4	+0.8
MTHZ			S	S	06 08 59.7	+1.7
MHGZ	**Mahia Peninsul**	**8.04 189**	P	P	06 07 29.8	+0.1
MHGZ			S	S	06 08 57.8	-2.3
NMHZ	**Naumai**	**8.18 195**	S	S	06 09 04.0	+0.7
OTVZ	**Oturere**	**8.54 201**	P	Pn	06 07 32.8	0.0
OTVZ			S	S	06 09 14.3	+3.0
NGZ	**Ngauruhoe**	**8.57 201**	P	P	06 07 35.8	-0.1
NGZ			S	S	06 09 15.4	+3.4
COVZ	**Chateau Observ**	**8.61 201**	P	Pn	06 07 29.7	-4.0
WAZ	**Wanganui**	**9.29 202**	S	S	06 09 27.8	+0.2
STKA	**Stephens Creek**	**32.21 259**	P	P	06 11 29.2	+0.1
	1.7nm,0.4s,baz=72,slow=9.6,SNR=4.7					
	1.7nm,0.4s					
ASAR	**Alice Springs**	**40.94 269**	P	P	06 12 41.3	-0.9
	1.6nm,0.6s,baz=105,slow=7.5,SNR=24					
	1.6nm,0.6s					
WRA	**Warramunga Arr**	**42.00 274**	P	P	06 12 49.9	-0.9
	2.3nm,0.5s,baz=112,slow=8.0,SNR=13					
	2.3nm,0.5s					
QSPA	**South Pole Qui**	**58.91 180**	P	P	06 14 51.1	-4.2
	2.4nm,1.0s,baz=64,slow=1.3,SNR=5.2					
	2.4nm,1.0s					
FINES	**FINESS Array B**	**145.12 338**	PKPbc	PKPdf	06 24 20.8	-6.8
	0.9nm,0.4s,baz=29,slow=3.2,SNR=2.5					

*IDC **18** 06:22:40.8±12.0, 1°.48N×126°.54E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=197.1km s-min=176.8km az=156.0*
*DJA **18** 06:22:43.5±0.7, 2°.N±2°.×12°.6E±°, h13km±6km, M4.0/12, mB5.5/1, mb4.4/4, MLv3.9/12, Mw(mB)5.0/1*
ISC 18 06:22:41.5±1.3, 2°.16N±0°.07×126°.34E±0°.07, h10km, n11, σ1§91/12, mb3.5/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.72 332**		P	**Pn**	**06 23 12.2**	**+0.7**
TNTI	**Ternate**	**1.72 143**		P	**Pb**	**06 23 13.4**	**+0.2**
TNTI				S	**Sb**	**06 23 36.5**	**+1.5**
KMSI	**Cibinong**	**2.83 236**		P	**Pn**	**06 23 27.6**	**+0.7**
KMSI				S	**Sn**	**06 24 02.1**	**+1.0**
SANI	**Sanana**	**4.20 185**		P	**Pn**	**06 23 44.1**	**-1.5**
LUWI	**Luwuk**	**4.78 228**		P	**Pn**	**06 23 54.9**	**+1.3**
LUWI				S	**Sn**	**06 24 49.7**	**+0.6**
NLAI	**Namlea**	**5.42 172**		P	**Pn**	**06 24 02.2**	**-0.2**
	0.2nm22nm,1.0s						
MSAI	**Masohi**	**6.05 155**		P	**Pn**	**06 24 13.3**	**+2.2**
	0.3nm4μm19nm,0.4s						
AAI	**Ambon**	**6.10 162**		P	**Pn**	**06 24 13.2**	**+1.4**
WRA	**Warramunga Arr**	**23.33 161**		P	P	06 27 42.6	-7.5
	1.0nm,0.6s,baz=338,slow=11,SNR=8.6						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**26.71 164**		P	**P**	**06 28 17.1**	**-4.2**
	0.3nm,0.4s,baz=345,slow=11,SNR=9.5						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**36.82 158**		P	P	06 29 43.8	-6.1
	0.8nm,0.5s,baz=330,slow=16,SNR=1.5						
	0.8nm,0.5s						

*IDC **18** 06:33:09.0±3.2, 14°.71S×172°.94W, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=173.0km s-min=25.3km az=145.0*
ISC 18 06:33:14.5±3.3, 15°S±1°×173°.0W±0°.7, h35km, n6, σ0§94/6, mb3.8/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.38 256**		P	**P**	**06 42 08.6**	**-0.1**
	1.0nm,0.8s,baz=91,slow=6.2,SNR=5.0						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**50.70 251**		P	**P**	**06 42 11.2**	**+0.1**
	5.0nm,0.9s,baz=93,slow=7.8,SNR=26						
	5.0nm,0.9s						
NVAR	**Mina Array Bea**	**73.52 42**		P	**P**	**06 44 44.8**	**+0.6**
	0.3nm,0.8s,baz=224,slow=8.5,SNR=4.6						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**81.64 11**		P	**P**	**06 45 29.1**	**+0.6**
	0.7nm,0.6s,baz=227,slow=5.8,SNR=17						
	0.7nm,0.6s						
YKA	**Yellowknife Ar**	**89.26 23**		P	**P**	**06 46 05.2**	**-1.4**
	0.3nm,0.8s,baz=235,slow=4.7,SNR=6.3						
	0.3nm,0.8s						
BRTR	**Keskin Array B**	**145.80 322**		PKPbc	**PKPbc**	**06 52 50.8**	**+0.3**
	1.2nm,0.8s,baz=151,slow=2.8,SNR=4.1						

*IDC **18** 06:35:03.6±2.3, 10°.37S×118°.45E, h0km, mb3.3/1, mbtmp3.4/5, ML3.2/4, Error ellipse: s-maj=76.2km s-min=24.8km az=59.0*
*DJA **18** 06:35:09.5±0.5, 10°S±4°×11°9E±°, h10km, M3.9/9, mb4.1/2, MLv3.8/9*
ISC 18 06:35:07.0±0.9, 10°.20S±0°.07×118°.81E±0°.04, h10km, n15, σ1§17/23, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.80**	**46**	P	**Pg**	**06 35 22.0**	**-0.4**
WBSI				S	**Sb**	**06 35 33.6**	**-0.3**
WSI	**Waingapu**	**1.56**	**70**	P	**Pg**	**06 35 36.7**	**-0.2**
WSI				S	**Sg**	**06 35 58.1**	**+0.9**
PLAI	**Plampang**	**1.71 323**		P	**Pn**	**06 35 36.7**	**-0.1**
PLAI				S	**Sn**	**06 35 58.8**	**+0.1**
TWSI	**Taliwang, Sumb**	**2.40 307**		P	**Pn**	**06 35 46.9**	**+0.6**
TWSI				S	**Sn**	**06 36 16.8**	**+1.0**
EDFI	**Ende, Flores**	**3.19**	**63**	P	**Pn**	**06 35 58.2**	**+0.9**
DNP	**Denpasar**	**3.86 293**		P	**Pn**	**06 36 07.9**	**+1.4**
DNP				S	**Sn**	**06 36 53.4**	**+1.4**
SRBI	**Singaraja**	**4.13 300**		S	**Sn**	**06 36 59.8**	**+1.2**
BSSI	**Bau Bau, Buton**	**4.36**	**23**	P	**Pn**	**06 36 14.0**	**+0.6**
BSSI				S	**Sn**	**06 37 03.9**	**-0.5**
BKSI	**Bulukumba**	**5.02**	**15**	P	**Pn**	**06 36 23.5**	**+1.1**
BKSI				S	**Sn**	**06 37 20.4**	**-0.2**
KAPI	**Kappang**	**5.24**	**10**	Pn	**Pn**	**06 36 27.5**	**+2.0**
	2.8nm,0.3s,baz=208,slow=11,SNR=7.2						
KAPI				Sn	**Sn**	**06 37 26.2**	**+0.2**
	3.9nm,0.3s,baz=360,slow=21,SNR=6.8						
	11nm,0.5s						
SOEI	**Soe**	**5.39**	**86**	P	**Pn**	**06 36 30.3**	**+2.6**
FITZ	**Fitzroy Crossi**	**10.27 141**		Pn	**Pn**	**06 37 34.0**	**-0.4**
	0.2nm,0.3s,baz=324,slow=14,SNR=6.6						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**17.83 125**		P	**Pn**	**06 39 14.9**	**-0.5**
	baz=300,slow=14,SNR=0.8						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**19.66 135**		P	**P**	**06 39 36.4**	**+0.1**
	0.1nm,0.3s,baz=325,slow=12,SNR=9.7						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**65.44 333**		P	**P**	**06 45 47.8**	**-2.3**
	0.2nm,0.5s,baz=142,slow=7.3,SNR=1.1						
	0.2nm,0.5s						

TRN 18 06:37:12.4, 17°.37N×61°.04W, h17km, MD3.5, South-west of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.76 245**		*eP*	Pn	06 37 30.4	+2.1
ANBD				*eS*	Sn	06 37 42.0	+2.5
ANWB	**Willy Bob**	**0.77 293**		*eP*	Pn	06 37 28.9	+0.5
ANWB				*eS*	Sn	06 37 42.9	+3.3
MBWH		**1.26 241**		*eP*	Pb	06 37 35.8	0.0
MLYT	**Lee's Yard**	**1.27 240**		*eP*	Pg	06 37 38.2	+1.2
MBFL	**Flemmings, Mon**	**1.28 241**		*eP*	Pg	06 37 37.5	+0.5
TBG	**Guadaloupe-3**	**1.61 201**		*eP*	Pb	06 37 42.6	+0.8
SKI	**Saint Kitts**	**1.62 269**		*eP*	Pb	06 37 42.3	+0.4
SKI				*eS*	Sg	06 38 03.8	-0.9
DSLB	**Salisbury**	**1.95 191**		*eP*	Pb	06 37 46.6	-1.0
SLBI	**Saint Lucia, B**	**3.33 179**		*eP*	Pn	06 38 05.5	+1.8
SLBI				*eS*	Sn	06 38 45.6	+2.8

*AFAD **18** 06:49:04.5, 36°.98N×27°.37E, h1km±2km, ML3.2*
*IDC **18** 06:49:08.0±1.8, 37°.03N×27°.74E, h0km, mb3.3/2, mbtmp3.4/4, ML3.7/2, Error ellipse: s-maj=41.9km s-min=22.3km az=0.0*
*ISK **18** 06:49:08.8, 37°.04N×27°.67E, h10km, ML3.2/30*
*THE **18** 06:49:09.2, 37°.04N×27°.64E, h11km±3km, ML3.3/3, Error ellipse: s-maj=6.0km s-min=1.9km az=347.0*
*ATH **18** 06:49:10.0, 36°.96N×27°.67E, h13km±5km, ML3.2/4, Manual Solution by S.Koutrakis First location: 2019/04/18 06:50:33, This location: 2019/04/18 08:43:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 5 km*
ISC 18 06:49:09.6±0.9, 37°.02N±0°.02×27°.65E±0°.02, h11km±7km, n56, σ1§31/85, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DATC	**Datca-Mugla**	**0.26 177**		Pg	**Pg**	**06 49 14.9**	**0.0**
DATC				Sg	**Sg**	**06 49 19.5**	**+1.0**
BODT	**Bodrum**	**0.27 279**		Pg	**Pg**	**06 49 15.2**	**0.0**
BODT				Sg	**Sg**	**06 49 20.0**	**+1.1**
DAT	**Datca**	**0.29 191**		Pg	**Pg**	**06 49 14.6**	**-1.0**
DAT				Sg	**Sg**	**06 49 20.2**	**+0.6**
MLSB	**Milas**	**0.29**	**21**	Pg	**Pg**	**06 49 14.9**	**-0.8**
MLSB				Sg	**Sg**	**06 49 19.2**	**-0.5**
YKAV	**Yalikavak-Bodr**	**0.31 290**		Pg	**Pg**	**06 49 15.6**	**-0.3**
YKAV				Sg	**Sg**	**06 49 20.6**	**+0.5**
DIDI	**Didim-Aydin**	**0.48 318**		Pg	**Pg**	**06 49 18.4**	**-0.7**
DIDI				Sg	**Sg**	**06 49 25.9**	**+0.4**
YER	**Yerkesik**	**0.52**	**77**	Pg	**Pg**	**06 49 19.2**	**-0.7**
YER				Sg	**Sb**	**06 49 26.8**	**-1.7**
TURN	**Turunc**	**0.54 117**		Pg	**Pg**	**06 49 19.6**	**-0.5**
TURN				Sg	**Sb**	**06 49 27.6**	**-1.3**
KLNA	**Kalymnos**	**0.54 264**		P	**Pg**	**06 49 20.9**	**+0.7**
KLNA				S	**Sg**	**06 49 28.6**	**+1.2**
NISR	**Nisiros**	**0.58 226**		P	**Pg**	**06 49 20.7**	**-0.2**
NISR				S	**Sg**	**06 49 29.7**	**+1.1**
	3μm,0.3s						
GCAM	**G?zelcaml?**	**0.76 334**		Pg	**Pg**	**06 49 23.8**	**-0.5**
GCAM				Sg	**Sb**	**06 49 34.4**	**-0.8**
DALY	**Dalyan (Mula)**	**0.83 104**		Pg	**Pg**	**06 49 24.5**	**-1.2**
DALY				Sg	**Sb**	**06 49 37.0**	**-0.3**
ARG	**Arkhangelos**	**0.89 154**		P	**Pg**	**06 49 25.4**	**-1.3**
ARG				S	**Sb**	**06 49 39.6**	**+0.6**
	3μm,0.4s						
ARG	**Arkhangelos**	**0.89 154**		Pg	**Pg**	**06 49 26.5**	**-0.3**
ARG	**Arkhangelos**	**0.89 154**		P	**Pg**	**06 49 25.5**	**-1.3**
ARG				S	**Sg**	**06 49 37.5**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**12**	Pg	**Pg**	**06 49 27.1**	**-0.8**
NAZL	**Nazilli-Aydin**	**1.07**	**28**	Pg	**Pg**	**06 49 29.4**	**-0.9**
SABU	**Mula-Dalaman**	**1.08 100**		P	**Pg**	**06 49 28.6**	**-1.8**
SABU				S	**Sn**	**06 49 47.3**	**+1.6**
ASTA	**Astypalaia**	**1.14 246**		P	**Pb**	**06 49 31.5**	**+0.1**
ASTA				S	**Sb**	**06 49 46.2**	**0.0**
GMLD	**Gumuldur**	**1.21 331**		Pn	**Pb**	**06 49 32.3**	**-0.2**
FETY	**Fethiye**	**1.22 108**		Pn	**Pg**	**06 49 32.7**	**-0.3**
FETY	**Fethiye**	**1.22 108**		P	**Pg**	**06 49 34.5**	**+1.5**
FETY				S	Sn	06 49 58.2	+9.1
ODEM	**Odemis-Izmir**	**1.30**	**15**	Pn	**Pn**	**06 49 33.4**	**-0.5**
CAME	**Cameli-Denizli**	**1.33**	**93**	Pn	**Pn**	**06 49 33.9**	**-0.4**
CAEL	**Denizli, Camel**	**1.34**	**85**	P	**Pn**	**06 49 34.2**	**-0.3**
CAEL				S	**Sn**	**06 49 58.2**	**+5.7**
CAEL				*i* AML	AML	06 50 17.0	
	comp=N,391nm,0.9s						
CAEL				*i* AML	AML	06 50 17.0	
	comp=E,415nm,1.1s						
IZZE	**Mula-Seydike**	**1.40 114**		P	**Pn**	**06 49 34.6**	**-0.5**
IZZE				S	**Sg**	**06 49 58.2**	**+3.6**
IZZE				*i* AML	AML	06 50 01.0	
	comp=E,681nm,0.3s						
IZZE				*i* AML	AML	06 50 03.0	
	comp=N,965nm,0.4s						
APMY	**Acipayam-Deniz**	**1.40**	**71**	Pn	**Pn**	**06 49 34.9**	**-0.3**
BLCB	**Balcova**	**1.45 341**		Pn	**Pn**	**06 49 35.1**	**-0.7**
KARP	**Karpathos**	**1.52 195**		P	**Pn**	**06 49 36.0**	**-0.8**
KARP				S	**Sn**	**06 49 54.7**	**-1.9**
	492nm,0.5s						
KARP	**Karpathos**	**1.52 195**		Pn	**Pn**	**06 49 36.4**	**-0.4**
KARP	**Karpathos**	**1.52 195**		P	**Pn**	**06 49 36.0**	**-0.8**
KARP				S	**Sn**	**06 49 55.4**	**-1.2**
GOLH	**Golhisar**	**1.55**	**81**	P	**Pb**	**06 49 38.1**	**-0.3**
GOLH				S	**Sg**	**06 50 02.8**	**+3.3**
GOLH				*i* AML	AML	06 50 04.0	
	comp=N,233nm,0.8s						
GOLH				*i* AML	AML	06 50 06.0	
	comp=E,261nm,0.5s						
KNIK	**Mula-Seydike**	**1.55**	**96**	P	**Pg**	**06 49 38.4**	**-1.1**
KNIK				S	**Sg**	**06 50 03.0**	**+3.4**
APE	**Apeiranthos**	**1.69 272**		Pn	**Pn**	**06 49 39.7**	**+0.5**
KULA	**Kula-Manisa**	**1.70**	**28**	Pn	**Pn**	**06 49 39.0**	**-0.3**
GOMA	**Golmarmara-Man**	**1.70**	**7**	Pn	**Pn**	**06 49 38.9**	**-0.4**
AKAS	**Kas**	**1.76 116**		Pn	**Pn**	**06 49 40.3**	**+0.1**
AKAS	**Kas**	**1.76 116**		P	**Pb**	**06 49 41.5**	**-0.6**
AKAS				S	**Sg**	**06 50 09.3**	**+3.0**
AKAS				*i* AML	AML	06 50 15.0	
	comp=N,394nm,0.6s						
AKAS				*i* AML	AML	06 50 21.0	
	comp=E,184nm,0.6s						
KSL	**Kastellorizon**	**1.78 118**		P	**Pb**	**06 49 41.7**	**-0.7**
KSL				S	**Sb**	**06 50 05.1**	**+0.3**
KSL	**Kastellorizon**	**1.78 118**		P	**Pn**	**06 49 40.6**	**+0.2**
ELL	**Elmali**	**1.83**	**98**	Pn	**Pn**	**06 49 41.2**	**-0.1**
AKS	**Akhisar**	**1.86**	**4**	Pn	**Pn**	**06 49 41.7**	**+0.2**
GORD	**Gordes-Manisa**	**1.93**	**12**	Pn	**Pn**	**06 49 42.3**	**-0.3**
DKL	**Dikili**	**2.13 344**		Pn	**Pn**	**06 49 45.4**	**+0.2**
SOMA	**Soma-Manisa**	**2.14 358**		Pn	**Pn**	**06 49 45.4**	**+0.1**
KORT	**Korkueli**	**2.17**	**90**	P	**Pg**	**06 49 49.7**	**-1.5**
KORT				S	**Sg**	**06 50 20.2**	**+0.9**
KORT				*i* AML	AML	06 50 28.0	
	comp=E,104nm,0.6s						
ZKR	**Zakros**	**2.23 212**		Pn	**Pn**	**06 49 47.4**	**+0.9**
AKUM	**Antalya-Kumluc**	**2.28 107**		P	**Pb**	**06 49 49.3**	**-1.5**
AKUM				S	**Sg**	**06 50 21.3**	**-1.5**
AKUM				*i* AML	AML	06 50 35.0	
	comp=E,93nm,0.7s						
SIGR	**SIGRI**	**2.60 328**		P	**Pn**	**06 49 51.8**	**0.0**
KARY	**Karystos**	**2.74 293**		P	**Pn**	**06 49 54.1**	**+0.5**
IDI	**Anoyia**	**2.82 233**		P	**Pn**	**06 49 55.5**	**+0.8**
KEPZ	**Antalya-Kepez**	**3.17**	**91**	P	**Pn**	**06 50 01.8**	**+2.2**
KEPZ				S	**Sb**	**06 50 44.4**	**-0.4**
BRTR	**Keskin Array B**	**5.43**	**58**	Pn	**Pn**	**06 50 31.2**	**+0.6**
	0.6nm,0.3s,baz=238,slow=16,SNR=12						
BRTR				Sn	**Sn**	**06 51 32.9**	**-0.3**
	0.3nm,0.3s,baz=259,slow=22,SNR=4.3						
	1.4nm,0.3s						
MMAI	**Mount Meron Ar**	**7.51 120**		Pn	**Pn**	**06 50 59.2**	**0.0**
	5.6nm,0.3s,baz=305,slow=12,SNR=8.6						
MMAI				Sn	**Sn**	**06 52 22.1**	**-2.4**
	5.5nm,0.3s,baz=319,slow=33,SNR=3.8						
	3.0nm,0.3s						
ESDC	**Sonseca Array**	**24.87 286**		P	**P**	**06 54 32.7**	**+0.3**
	0.6nm,0.7s,baz=83,slow=9.2,SNR=6.3						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**41.08**	**59**	P	**P**	**06 56 53.2**	**-0.1**
	0.1nm,0.5s,baz=289,slow=9.0,SNR=2.0						
	0.1nm,0.5s						

*IDC **18** 06:51:25.1±2.1, 2°.64N×126°.39E, h0km, mb3.5/4, mbtmp3.6/4, MS3.5/1, Error ellipse: s-maj=117.6km s-min=26.6km az=69.0*

*DJA **18** 06:51:35.6±1.0, 3°.N±2°.×12°.7E±°, h23km±9km, M4.2/12, mB5.0/1, mb4.6/2, MLv4.0/12, Mw(mB)4.4/1*
ISC 18 06:51:34.6±1.3, 2°.64N±0°.07×126°.76E±0°.07, h35km, n12, σ3§07/13, mb3.5/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.61 310**		P	**Pn**	**06 52 02.4**	**+1.9**
SGSI				S	**Sn**	**06 52 21.6**	**+1.6**
TNTI	**Ternate**	**1.95 162**		P	**Pn**	**06 52 08.8**	**+3.6**
TNTI				S	**Sn**	**06 52 31.5**	**+2.9**
KMSI	**Cibinong**	**3.45 234**		P	**Pn**	**06 52 28.0**	**+2.1**
KMSI				S	**Sn**	**06 53 07.5**	**+1.9**
SANI	**Sanana**	**4.72 189**		P	**Pn**	**06 52 43.0**	**-0.3**
LUWI	**Luwuk**	**5.41 227**		P	**Pn**	**06 52 54.9**	**+2.1**
	0.3nm79nm,0.8s						
SWI	**Sorong**	**5.69 128**		P	**Pn**	**06 52 59.0**	**+2.4**
NLAI	**Namlea**	**5.85 177**		P	**Pn**	**06 53 00.4**	**+1.5**
FITZ	**Fitzroy Crossi**	**20.64 183**		P	**P**	**06 56 07.3**	**-3.9**
	1.7nm,0.4s,baz=354,slow=5.7,SNR=13						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**23.64 162**		P	**P**	**06 56 38.6**	**-4.2**
	0.8nm,0.4s,baz=338,slow=10,SNR=7.7						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**27.06 165**		P	**P**	**06 57 10.4**	**-3.6**
	0.2nm,0.3s,baz=345,slow=11,SNR=9.0						
	0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**31.45 302**		LR	LR	07 12 59.8	
	comp=Z,82nm,18.1s,baz=340,slow=42						
MKAR	**Makanchi Array**	**58.46 326**		P	P	07 01 21.4	-5.7
	0.2nm,0.5s,baz=141,slow=7.1,SNR=2.2						
	0.2nm,0.5s						

*NEIC **18** 06:59:12.3±0.4, 36°.52N±0°.01×98°.99W±0°.01, h7km±1km, Error ellipse: s-maj=1.8km s-min=1.6km az=208.0*
NEIC 18 06:59:12.2±0.9, 36°.53N±0°.01×98°.98W±0°.01, h5km±1km, ML2.3/13, ML2.3/16, Error ellipse: s-maj=2.4km s-min=1.9km az=351.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	**Waynoka**	**0.12**	**20**		Pg	06 59 15.2	+0.6
NOKA					Sg	06 59 15.3	-0.9
OK038	**West end E0370**	**0.20 104**			Pg	06 59 16.8	+0.7
OK038				IAML		06 59 22.3	
	622nm,0.2s						
OK038				IAML		06 59 22.4	
	598nm,0.2s						
ELIS	**Ellis County**	**0.58 218**		Pg	Pg	06 59 23.1	-0.2
ELIS				IAML		06 59 33.9	
	comp=E,140nm,0.3s						
ELIS				IAML		06 59 41.6	
	comp=N,144nm,0.3s						
OK032	**Salt Plains WL**	**0.68**	**66**		Pg	06 59 25.0	-0.2
OK032				IAML		06 59 38.8	
	comp=N,220nm,0.2s						
CROK	**Carrier**	**0.80**	**91**	Pg	Pg	06 59 27.6	0.0
CROK					Pb	06 59 27.7	-0.9
KAN14	**Manchester OK**	**0.92**	**62**		Pg	06 59 29.9	0.0
KAN14				IAML		06 59 48.6	
	comp=E,127nm,0.1s						
GC02	**Grant County #**	**0.96**	**70**	Pg	Pg	06 59 30.2	-0.4
GC02					Pb	06 59 30.4	-0.8
DRZT	**Darrouzett**	**1.06 266**			Pg	06 59 32.0	-0.6
DRZT					Sg	06 59 46.8	+0.4
KAN17	**Caldwell West**	**1.10**	**62**		Pg	06 59 32.9	-0.4
KAN01	**Argonia South**	**1.16**	**57**		Pg	06 59 33.7	-0.8
KAN01				IAML		06 59 51.4	
	comp=N,97nm,0.3s						
OK048	**Pawnee Station**	**1.65**	**93**		Pb	06 59 42.5	-0.5
OK051	**E0350 and S346**	**1.73**	**90**		Pb	06 59 43.8	-0.6
SMWD	**Samnorwood**	**1.75 216**			Pn	06 59 44.0	+0.7
WMOK	**Wichita Mounta**	**1.79 175**			Pn	06 59 43.7	-0.1
WMOK	**Wichita Mounta**	**1.79 175**		Pn	Pn	06 59 43.5	-0.3
OK052	**Battle Ridge R**	**1.84 106**			Pn	06 59 45.0	+0.6
R32A	**Long Quarter,**	**1.91**	**6**	Pn	Pn	06 59 46.1	+0.7
W35A	**Tecumseh**	**2.19 128**		Pn	Pn	06 59 49.4	+0.1

CATAC 18 07:14:08.2±0.4, 12°N±2°.×8°7W±°, h27km±2km, M3.0/20, MLv3.0/20, Error ellipse: s-maj=6.1km s-min=2.6km az=36.4, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.54**	**41**	S	Sn	07 14 29.6	+1.1
CRIN	**San Cristobal**	**0.54**	**41**	P	Pn	07 14 20.3	+0.1
QUEN	**Al S del Volca**	**0.63**	**62**	P	Pb	07 14 20.0	-0.7
QUEN				S	Sn	07 14 30.3	-0.3
HERN	**Volcan Telica**	**0.65**	**61**	P	Pb	07 14 20.7	-0.5
HERN	**Volcan Telica**	**0.65**	**61**	S	Sn	07 14 31.2	-0.1
POLN	**Al Sur del Vol**	**0.69**	**59**	P	Pb	07 14 21.3	-0.4
POLN				S	Sn	07 14 32.4	+0.3
CSGN	**Cosiguina Volc**	**0.69 349**		P	Pn	07 14 22.5	+0.2
CSGN				S	Sn	07 14 33.4	+1.1
PLRN	**Geotermica Pol**	**0.70**	**65**	P	Pn	07 14 22.1	+0.2
PLRN				S	Sn	07 14 33.1	+0.9
POTN	**Potosi Cosigui**	**0.71 353**		P	Pn	07 14 22.7	+0.2
POTN				S	Sn	07 14 33.7	+1.2
CNGA	**Al SSO del Vol**	**0.73**	**74**	P	Pn	07 14 23.3	+0.5
CNGA				S	Sn	07 14 33.9	+0.9
CNGN

ROC1	El Roble	0.71	85	eP	Pb	07 14 25.1	-1.0
ROCH	El Roble	0.72	85	⇓iP	Pb	07 14 25.3	-0.9
ROCH				eS	Sb	07 14 35.0	-0.8
MT01	Popeta	0.97	148	⇓iP	Pb	07 14 29.8	-0.6
MT01				eS	Sb	07 14 42.8	+0.1
MT01				IAML		07 14 43.3	
	comp=E,2μm,0.3s						
MT01	Popeta	0.97	148	eP	Pb	07 14 29.1	-1.3
MT01				IAML		07 14 45.4	
	comp=Z,512nm,0.5s						
PEL	Peldehue	0.99	96	eP	Pb	07 14 29.8	-1.0
PEL				eS	Sb	07 14 43.5	+0.1
PEL				IAML		07 14 44.6	
	comp=N,3μm,0.3s						
PEL	Peldehue	0.99	96	eP	Pb	07 14 30.1	-0.7
MT05	Renca	1.01	111	⇓iP	Pb	07 14 30.5	-0.5
MT05				eS	Sb	07 14 43.9	+0.1
MT05				IAML		07 14 45.4	
	comp=E,3μm,0.4s						
MT05	Renca	1.01	111	eP	Pb	07 14 30.5	-0.5
MT05				IAML		07 14 49.6	
	comp=Z,378nm,0.2s						
MT09	Talagante	1.04	135	⇓iP	Pb	07 14 30.9	-0.7
MT09				eS	Sb	07 14 44.6	-0.2
MT09				IAML		07 14 47.7	
	comp=N,2μm,0.4s						
MT10	Hacienda Santa	1.14	102	⇓iP	Pn	07 14 32.5	-0.6
MT10				eS	Sn	07 14 47.9	-0.3
VA03	San Esteban	1.14	76	⇓iP	Pn	07 14 31.7	-1.3
VA03				eS	Sb	07 14 47.0	-0.6
VA03				IAML		07 14 49.0	
	comp=E,3μm,0.2s						
VA03	San Esteban	1.14	76	eP	Pn	07 14 31.8	-1.3
VA03				IAML		07 14 52.5	
	comp=Z,1μm,0.8s						
MT14	Cerro Calı̣n	1.17	108	⇓iP	Pn	07 14 33.2	-0.3
MT14				eS	Sn	07 14 48.6	-0.3
MT14				IAML		07 14 52.3	
	comp=E,2μm,0.5s						
MT16	CCHEN	1.19	109	⇓iP	Pn	07 14 33.4	-0.3
MT16				eS	Sb	07 14 49.0	-0.1
MT16				IAML		07 14 50.6	
	comp=N,718nm,0.5s						
MT03	Universidad Ad	1.22	112	⇓iP	Pn	07 14 33.9	-0.3
MT03				eS	Sn	07 14 50.1	-0.1
MT03				IAML		07 14 53.9	
	comp=E,3μm,0.3s						
MT03	Universidad Ad	1.22	112	eP	Pn	07 14 34.0	-0.3
MT03				IAML		07 14 55.2	
	comp=Z,1μm,0.2s						
MT15	Las Vizcachas	1.27	117	eP	Pn	07 14 34.5	-0.3
MT15				eS	Sb	07 14 51.1	-0.2
MT15				IAML		07 14 55.8	
	comp=E,3μm,0.3s						
MT12	Pirque	1.30	123	⇓iP	Pn	07 14 35.0	-0.2
MT12				eS	Sb	07 14 52.7	+0.5
MT12				IAML		07 14 54.1	
	comp=N,1μm,0.4s						
FCH	Farellones	1.35	103	eP	Pn	07 14 36.0	-0.2
FCH				eS	Sb	07 14 54.0	0.0
FCH				IAML		07 14 58.8	
	comp=E,1μm,0.2s						
BO04	La Punta	1.41	132	⇓iP	Pn	07 14 36.9	+0.1
BO04				eS	Sb	07 14 55.5	0.0
BO04				IAML		07 15 03.2	
	comp=E,778nm,0.3s						
MT04	Ro Olivares	1.49	105	⇓iP	Pn	07 14 38.2	+0.2
MT04				eS	Sb	07 14 57.4	-0.6
MT04				IAML		07 14 58.8	
	comp=N,660nm,0.2s						
MT04	Ro Olivares	1.49	105	eP	Pn	07 14 38.3	+0.2
MT04				IAML		07 15 03.1	
	comp=Z,340nm,0.3s						
MT13	San Alfonso	1.50	119	⇓iP	Pb	07 14 38.4	-1.0
MT13				eS	Sb	07 14 58.0	+0.1
MT13	San Alfonso	1.50	119	eP	Pb	07 14 38.4	-1.0
MT13				eS	Sb	07 14 59.5	+1.6
MT13				IAML		07 15 02.1	
	comp=Z,714nm,0.4s						
BO01	Tunca	1.50	155	eP	Pn	07 14 36.9	-1.1
BO01				IAML		07 15 04.1	
	comp=Z,228nm,0.3s						
MT08	Bocatoma Ro	1.60	105	eP	Pb	07 14 40.2	-1.0
MT08				eS	Sb	07 15 01.2	+0.1
MT08				IAML		07 15 06.3	
	comp=N,432nm,0.3s						
MT08	Bocatoma Ro	1.60	105	eP	Pb	07 14 40.6	-0.6
MT08				IAML		07 15 07.4	
	comp=Z,301nm,0.3s						
LMEL	Las Melosas	1.61	121	⇓iP	Pn	07 14 40.0	+0.5
LMEL				eS	Sb	07 15 01.6	+0.4
LMEL				IAML		07 15 06.2	
	comp=N,1μm,0.4s						
LMEL	Las Melosas	1.61	121	eP	Pb	07 14 40.2	-1.0
LMEL				eS	Sb	07 15 03.6	+2.4
BO02	Sierra Bellavi	1.97	153	eP	Pn	07 14 44.7	+0.3
BO02				IAML		07 15 16.9	
	comp=Z,270nm,0.7s						
CO02	Combarbal	1.97	22	eP	Pn	07 14 43.6	-1.0
CO02				IAML		07 15 16.1	
	comp=Z,395nm,0.3s						
CO03	El Pedregal	2.41	25	eP	Pn	07 14 50.1	-0.4
CO03				eS	Sb	07 15 23.6	-0.6
CO03				IAML		07 15 29.2	
	comp=Z,186nm,0.4s						
RTLS	Leoncito	2.50	61	eP	Pb	07 14 54.1	-2.5
RTLS				eS	Sn	07 15 23.3	+1.3
RTLS				IAML		07 15 35.2	
	comp=Z,280nm,0.4s						
GO04	Tololo Observa	3.00	18	eP	Pn	07 14 57.8	-1.0
GO04				eS	Sn	07 15 36.1	+1.9
ZON	Zonda	3.08	62	eP	Pb	07 15 03.6	-2.8
ZON				IAML		07 15 55.6	
	comp=Z,64nm,0.6s						
DOCA	Reserva Natura	3.15	49	eP	Pn	07 15 02.5	+1.5
DOCA				eS	Sn	07 15 39.9	+1.7
DOCA				IAML		07 16 00.3	
	comp=Z,80nm,0.9s						
RTLL	Cerro Villicun	3.34	60	eP	Pb	07 15 06.8	-4.0
RTLL				eS	Sb	07 15 51.0	0.0
CFA	Coronel Fontan	3.39	66	eP	Pn	07 15 06.9	+3.0
CFA				IAML		07 15 55.0	
	comp=Z,254nm,0.3s						
EDS3	Malargue	3.40	144	eP	Pn	07 15 05.2	+0.9
CO01	Juntas del Tor	3.41	27	eP	Pn	07 15 05.3	+0.9
CO01				eS	Sn	07 15 48.1	+3.8
CO01				IAML		07 16 01.7	
	comp=Z,47nm,0.6s						
ACCO	Cerro Coronel	3.41	45	eP	Pn	07 15 03.5	-1.1
ACCO				eS	Sb	07 15 50.5	-2.9
LCO	Las Campanas	4.14	14	eP	Pn	07 15 13.1	-1.4
LCO				eS	Sb	07 16 15.5	+1.4
LCO				IAML		07 16 20.9	
	comp=Z,65nm,0.7s						
AC05	El Transito	4.41	18	eP	Pn	07 15 17.5	-0.5
AC05				eS	Sn	07 16 13.4	+4.6
AC05				IAML		07 16 32.7	
	comp=Z,40nm,0.5s						
AGUA	GUANDACOL	4.57	40	eP	Pn	07 15 21.8	+1.6
AGUA				eS	Sb	07 16 32.8	+6.4
AGUA				IAML		07 16 38.5	
	comp=Z,67nm,0.8s						
AC04	Llanos de Chal	4.87	8	eP	Pn	07 15 09.9	-14
AC04				eS	Sb	07 16 32.1	-2.7
AC04				IAML		07 16 44.6	
	comp=Z,36nm,0.5s						

*DRS **18** 07:19:58.8, 42°.51N×46°.15E, h24km*
*NORS **18** 07:19:58.5, 42°.50N×46°.14E, h5km, MPVA4.0*
MOS 18 07:19:56.9, 42°.54N×46°.17E, h14km, MPVA3.9, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.13	18	iPg	Pb	07 20 01.6	+0.4
BTLR				eSg	Sb	07 20 03.8	-0.2
BTLR	Botlikh	0.13	18	iPG	Pb	07 20 01.6	+0.4
BTLR				pmax	pmax		
	comp=Z,871nm,0.2s						
XNZR	Khunzakh	0.40	90	ePg	Pn	07 20 07.3	-1.0
XNZR				eSg	Sn	07 20 13.8	-1.9
HNZR	Khunzah	0.41	87	ePG	Pn	07 20 07.3	-1.2
HNZR				eS	Sb	07 20 13.9	+1.9
UNCR	Uncukul	0.49	69	iPg	Pn	07 20 08.7	-0.9
UNCR				eSg	Sb	07 20 16.1	+1.6
UNCR	Uncukul	0.49	69	iPG	Pn	07 20 08.7	-0.8
UNCR				eS	Sb	07 20 16.0	+1.6
GNBR	Gunib	0.61	104	ePg	Pn	07 20 11.2	0.0
GNBR				eSg	Sn	07 20 19.9	-0.9
GNBR	Gunib	0.61	104	ePG	Pn	07 20 11.1	0.0
GNBR				pmax	pmax		
	comp=Z,45nm,0.1s						
ARKR	Arakani	0.61	84	ePg	Pn	07 20 11.1	-0.1
ARKR				eSg	Sn	07 20 20.4	-0.5
ARKR	Arakani	0.61	84	ePG	Pn	07 20 11.1	-0.1
ARKR				eS	Sn	07 20 20.4	-0.5
KRNR	Karanay	0.61	62	ePg	Pn	07 20 10.8	-0.4
KRNR				eSg	Sn	07 20 19.7	-1.3
KRNR	Karanay	0.61	62	ePG	Pn	07 20 10.9	-0.4
KRNR				eS	Sn	07 20 19.7	-1.3
DLMR	Dylym	0.63	33	ePg	Pn	07 20 10.6	-0.8
DLMR				eSg	Sn	07 20 20.9	-0.3
DLMR	Dylym	0.63	33	ePG	Pn	07 20 10.6	-0.8
DLMR				eS	Sn	07 20 20.9	-0.3
DBC	Dubki	0.68	45	ePg	Pn	07 20 12.3	+0.1
DBC				eSg	Sn	07 20 22.7	+0.1
DBC	Dubki	0.68	45	ePG	Pn	07 20 12.3	+0.1
DBC				pmax	pmax		
	comp=Z,46nm,0.3s						
GROC	Groznyy	0.71	338	iPg	Pn	07 20 13.2	+0.6
GROC				eSg	Sn	07 20 24.7	+1.4
GROC	Groznyy	0.71	338	iPG	Pn	07 20 13.4	+0.8
BUJR	Buynaksk	0.75	67	ePg	Pn	07 20 13.9	+0.9
BUJR				eSg	Sn	07 20 25.2	+1.0
BUJR	Buynaksk	0.75	67	ePG	Pn	07 20 13.9	+0.9
BUJR				eS	Sn	07 20 25.2	+1.0
SHTL	Shatili	0.76	279	PG	Pg	07 20 11.7	0.0
KMKR	Kumukh	0.80	120	ePG	Pn	07 20 14.5	+0.6
KMKR				eS	Sn	07 20 25.9	+0.1
MAK	Makhachkala	1.07	66	ePG	Pg	07 20 19.6	+2.1
MAK				eS	Sn	07 20 34.9	+2.9
MAK				pmax	pmax		
	comp=Z,162nm,0.3s						
MAK				smax	smax		
	comp=E,420nm,0.5s						
MAK				smax	smax		
	comp=E,580nm,0.5s						
SGKR	Sergokala	1.10	94	ePg	Pg	07 20 20.8	+2.6
SGKR				eSg	Sn	07 20 35.6	+2.7
SGKR	Sergokala	1.10	94	ePG	Pg	07 20 20.8	+2.6
SGKR				eS	Sn	07 20 35.7	+2.7
URKR	Urkarakh	1.15	109	ePg	Pg	07 20 21.4	+2.3
URKR				eSg	Sn	07 20 37.1	+2.9
URKR	Urkarakh	1.15	109	ePG	Pg	07 20 21.4	+2.3
URKR				eS	Sn	07 20 37.1	+2.9
VLKR	Vladikavkaz	1.21	295	iPg	Pg	07 20 22.6	+2.4
VLKR				eSg	Sg	07 20 39.6	+3.7
VLKR	Vladikavkaz	1.21	295	iPG	Pg	07 20 22.5	+2.3
VLKR				eS	Sg	07 20 39.6	+3.7
MTEO	Meteo	1.22	277	PG	Pg	07 20 22.4	+2.0
LACR	Lac	1.41	282	ePg	Pg	07 20 23.6	-0.4
LACR				eSg	Sn	07 20 40.7	+0.1
LACR	Lac	1.41	282	ePG	Pg	07 20 23.6	-0.4
ARNR	Ardon	1.52	295	ePg	Pg	07 20 27.5	+1.3
ARNR				eSg	Sg	07 20 47.6	+1.5
ARNR	Ardon	1.52	295	ePG	Pg	07 20 27.5	+1.3
ARNR				eS	Sg	07 20 47.6	+1.6
AKT	Akhty	1.57	132	ePg	Pg	07 20 27.8	+0.6
AKT				eSg	Sg	07 20 48.3	+0.7
AKT	Akhty	1.57	132	iPG	Pg	07 20 27.7	+0.5
TRKR	Terskaya	1.58	319	ePg	Pg	07 20 27.8	+0.5
TRKR				eSg	Sg	07 20 51.0	+3.2
TRKR	Terskaya	1.58	319	ePG	Pg	07 20 27.8	+0.5
TRKR				eS	Sg	07 20 51.0	+3.2
KORR	Kora	1.64	290	ePg	Pb	07 20 26.9	+0.1
KORR				eSg	Sg	07 20 50.6	+1.0
KORR	Kora	1.64	290	ePN	Pb	07 20 27.0	+0.1
KORR				eS	Sg	07 20 50.6	+0.9
KSMR	Kasumkent	1.73	122	ePg	Pg	07 20 32.4	+2.2
KSMR				eSg	Sg	07 20 51.8	-1.0
KSMR	Kasumkent	1.73	122	ePN	Pg	07 20 32.4	+2.2
KZRT	Kazreti	1.75	229	PN	Pb	07 20 29.0	+0.2
STDR	Stavd-Durt	1.75	299	ePN	Pg	07 20 30.5	0.0
STDR				eS	Sg	07 20 55.5	+2.2
PRTR	Priterechnaya	1.83	312	ePg	Pg	07 20 32.3	+0.2
PRTR				eSg	Sg	07 20 57.6	+1.7
PRTR	Priterechnaya	1.83	312	iPN	Pg	07 20 32.8	+0.7
TRLG	Trialeti	1.84	238	PN	Pb	07 20 31.0	+0.7
LSNR	Lesken	1.87	294	ePg	Pg	07 20 32.2	-0.6
LSNR				eSg	Sg	07 20 57.0	-0.1
LSNR	Lesken	1.87	294	ePN	Pg	07 20 32.2	-0.6
ALIG	Mtskhetisjvari	1.92	258	PN	Pb	07 20 31.4	-0.3
DIGR	Digorskoe uzhe	1.94	281	ePg	Pg	07 20 33.2	-1.0
DIGR				eSg	Sg	07 20 58.1	-1.2
DIGR	Digorskoe uzhe	1.94	281	ePN	Pg	07 20 33.2	-0.9
NCK	Nalchik	2.11	298	iPN	Pb	07 20 34.4	-0.6
KBTC	Kuba-Taba	2.39	303	ePn	Pn	07 20 36.8	+1.2
KBTC				eSn	Sb	07 21 08.7	-0.2
KBTC	Kuba-Taba	2.39	303	ePN	Pn	07 20 36.8	+1.2
KBTC				eS	Sb	07 21 08.7	-0.2
NEUR	Neytrino	2.65	287	ePn	Pn	07 20 35.5	-3.8
NEUR				eSn	Sn	07 21 08.5	-2.7
NEUR	Neytrino	2.65	287	ePN	Pn	07 20 35.5	-3.8
KBZ	Khabaz	2.67	297	ePn	Pn	07 20 41.0	+1.6
KBZ				eSn	Sb	07 21 16.3	-0.7
KBZ	Khabaz	2.67	297	iPN	Pn	07 20 41.6	+2.2
PYA1	Pyatigorsk	2.71	305	ePn	Pn	07 20 42.3	+2.3
PYA1				eSn	Sn	07 21 13.1	+0.6
PYA1	Pyatigorsk	2.71	305	ePN	Pn	07 20 42.3	+2.3
SHA1	Shidzhatmaz	2.83	296	ePn	Pn	07 20 43.9	+2.0
SHA1				eSn	Sb	07 21 22.4	+0.4
SHA1	Shidzhatmaz	2.83	296	iPN	Pn	07 20 43.9	+2.0
BEYR	Belyy Ugol+	2.85	302	ePn	Pn	07 20 42.4	+0.4
BEYR				eSn	Sn	07 21 16.8	+0.6
BEYR	Belyy Ugol+	2.85	302	ePN	Pn	07 20 42.4	+0.4
KIV0	Kislovodsk Arr	2.90	300	ePn	Pb	07 20 48.4	-0.1
KIV0				eSn	Sn	07 21 18.5	+1.0
KIV	Kislovodsk	2.91	300	ePn	Pb	07 20 47.9	-0.7
KIV				eSn	Sb	07 21 20.8	-3.2
KIV	Kislovodsk	2.91	300	ePN	Pb	07 20 47.9	-0.7
KIV				eS	Sn	07 21 20.8	+3.2
GOF	Gofitskoye	3.38	319	cePN	Pg	07 21 03.0	+1.3
GOF				eS	Sg	07 21 49.9	+4.4
SOC	Sochi	4.84	285	ePN	Pn	07 21 09.9	+0.7
SOC				ePPP	PPP	07 21 27.6	
SOC				e		07 22 06.6	
SOC						07 22 27.8	
SOC				MLR	MLR		
	comp=Z,287nm,18.0s						
OBN	Obninsk	14.06	337	eP	Pn	07 23 18.5	+3.1
OBN				pmax	pmax		
	comp=Z,15nm,0.4s						
OBN				MLR	MLR		
	comp=Z,193nm,14.0s						

DJA 18 07:20:37.3±0.7, 10°.5S±5°.5×11°.9E±°, h11km±4km, M3.8/9, mB4.6/1, mb4.1/2, MLv3.7/9, Mw(mB)3.8/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.78	43	P	Pg	07 20 52.0	-0.3
WBSI				S	Sb	07 21 04.0	+0.5
WSI	Waingapu	1.52	69	P	Pn	07 21 03.6	-0.9
PLAI	Plampang	1.73	322	P	Pn	07 21 06.4	-1.0
PLAI				S	Sn	07 21 29.1	-0.4
TWSI	Taliwang, Sumb	2.43	307	P	Pn	07 21 16.8	-0.2
EDFI	Ende, Flores	3.15	63	P	Pn	07 21 26.5	-0.6
EDFI				S	Sn	07 22 04.9	+0.1
MMRI	Maumere	3.69	65	P	Pn	07 21 34.7	+0.4
DNP	Denpasar	3.90	293	P	Pn	07 21 37.3	+0.1
BSSI	Bau Bau, Buton	4.36	22	P	Pn	07 21 44.4	+0.9
BSSI				S	Sn	07 22 35.0	+0.7
BKSI	Bulukumba	5.02	15	P	Pn	07 21 52.7	+0.1
	0.1nm594nm23nm,0.6s						
BKSI				S	Sn	07 22 51.9	+1.3
	0.1nm594nm23nm,0.6s						

*NEIC **18** 07:27:23.0±1.3, 15°.8S±0°.2×177°.3W±0°.2, h420km±10km, mb4.1/13, Error ellipse: s-maj=27.7km s-min=16.9km az=138.0*
*IDC **18** 07:27:25.9±2.3, 15°.68S×177°.61W, h439km±24km, mb3.2/9, mbtmp4.0/10, Error ellipse: s-maj=35.1km s-min=16.6km az=144.0*
ISC 18 07:27:21.8±0.6, 15°.9S±0°.1×177°.3W±0°.1, h400km, n31, σ19.14/30, mb3.8/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	Fugatoga	1.71	334	P	Pn	07 28 19.1	+2.9
MSVF	Nonsavu	4.80	246	P	Pn	07 28 46.5	+4.6
	48nm,0.7s,baz=94,slow=12,SNR=24						
AFI	Afiamalu	5.71	71	P	Pn	07 28 51.8	+0.4
DZM	Mont Dzumac	16.54	246	P	P	07 30 51.3	+0.3
DSZ	Denniston Nort	27.45	198	P	P	07 32 33.2	0.0
DSZ				IAmb	IAmb	07 32 50.1	
	comp=Z,19nm,1.2s						
WHZ	Wether Hill Ro	32.39	199	P	P	07 33 15.3	-0.9
WHZ				IAmb	IAmb	07 33 50.8	
	comp=Z,24nm,1.5s						
STKA	Stephens Creek	40.54	239	P	P	07 34 23.4	-0.9
STKA	Stephens Creek	40.54	239	P	P	07 34 23.9	-0.4
	comp=Z,1.8nm,0.5s,baz=90,slow=9.3,SNR=5.1						
	comp=Z,1.8nm,0.5s						
BBOO	Buckleboo	45.31	239	P	P	07 35 01.2	-0.8
BBOO				IAmb	IAmb	07 35 35.6	
	comp=Z,24nm,1.4s						
WR8	Warramunga Arr	45.90	257	P	P	07 35 05.2	-1.6
WRA	Warramunga Arr	46.05	257	P	P	07 35 07.1	-0.9
WRA	Warramunga Arr	46.05	257	P	P	07 35 07.0	-0.9
	comp=Z,1.3nm,0.7s,baz=87,slow=6.6,SNR=19						
	comp=Z,1.3nm,0.7s						
AS31	Alice Springs	46.36	252		P	07 35 09.7	-0.7
AS31				IAmb	IAmb	07 35 10.7	
	comp=Z,2.8nm,0.6s						
ASAR	Alice Springs	46.37	252	P	P	07 35 09.8	-0.5
ASAR	Alice Springs	46.37	252	P	P	07 35 10.1	-0.3
	comp=Z,7.1nm,0.5s,baz=86,slow=7.9,SNR=143						
	comp=Z,7.1nm,0.5s						
VNDA	Vanda	62.57	185	P	P	07 37 06.3	+1.8
VNDA				IAmb	IAmb	07 37 14.6	
	comp=Z,7.0nm,1.5s						
QSPA	South Pole Qui	74.19	180	P	P	07 38 16.1	+0.1
QSPA				IAmb	IAmb	07 38 25.5	
	comp=Z,6.2nm,1.4s						
QSPA	South Pole Qui	74.19	180	P	P	07 38 17.3	+1.4
	comp=Z,1.6nm,0.9s,baz=350,slow=1.1,SNR=5.3						
	comp=Z,1.6nm,0.9s						
NVAR	Mina Array Bea	77.23	44	P	P	07 38 34.2	+0.7
	comp=Z,1.0nm,0.7s,baz=224,slow=8.3,SNR=8.2						
	comp=Z,1.0nm,0.7s						
Y22D	IRIS PASSCAL I	83.31	52	P	P	07 39 03.5	-2.0
H21K	Melozitna Rive	83.34	10	P	P	07 39 04.5	-0.3
CCB	Clear Creek Bu	83.36	12	P	P	07 39 04.1	-0.7
L27K	Beaver Creek,	83.39	15	P	P	07 39 04.2	-0.9
L27K				IAmb	IAmb	07 39 28.1	
	comp=Z,4.4nm,1.4s						
BCAR	Beaver Creek A	83.40	15		P	07 39 04.8	-0.3
ILAR	Eielson Array	83.66	13	P	P	07 39 05.7	-0.7
	comp=Z,0.6nm,0.4s,baz=223,slow=5.2,SNR=20						
	comp=Z,0.6nm,0.4s						
TXAR	Lajitas Array	84.03	57	P	P	07 39 11.0	+1.8
	comp=Z,0.9nm,0.6s,baz=202,slow=6.5,SNR=4.3						
	comp=Z,0.9nm,0.6s						
PDAR	Pinedale Array	85.16	43	P	P	07 39 15.2	+0.5
	comp=Z,0.1nm,0.4s,baz=239,slow=5.0,SNR=2.1						
	comp=Z,0.1nm,0.4s						
YKA	Yellowknife Ar	92.04	24	P	P	07 39 45.3	-0.8
	comp=Z,0.2nm,0.8s,baz=242,slow=4.5,SNR=3.4						
	comp=Z,0.2nm,0.8s						
ARCES	ARCESS Array B	124.48	350	PKP	PKPdf	07 45 32.6	-1.0
	comp=Z,3.2nm,1.0s,baz=324,slow=3.3,SNR=5.5						
BRTR	Keskin Array B	144.02	318	PKP	PKPdf	07 46 09.8	-1.2
	comp=Z,2.0nm,0.8s,baz=94,slow=5.0,SNR=7.8						
GERES	GERESS Array B	145.88	347	PKPbc	PKPbc	07 46 14.9	-0.3
	comp=Z,0.4nm,0.5s,baz=299,slow=1.4,SNR=4.4						

TXNET 18 07:31:18.9, 31°.3N±0°.6×103°.6W±0°.6, h6km±1km, ML2.2/14, Error ellipse: s-maj=1.0km s-min=0.7km az=42.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB10	Southeast of T	0.11	260	P	Pg	07 31 21.7	+0.3
TPB10				S	Sg	07 31 24.0	+1.0
PCOS	Crockett Middl	0.14	43	P	Pg	07 31 21.6	-0.3
PCOS				S	Sg	07 31 24.2	+0.3
PCOS	Crockett Middl	0.14	43	P	Pg	07 31 21.7	-0.2
PCOS				S	Sg	07 31 24.2	+0.2
PECS	Pecos	0.22	288	P	Pg	07 31 24.0	+0.8
PECS				S	Sg	07 31 27.7	+1.5
TPB03	Saragosa	0.24	156	P	Pg	07 31 24.4	+0.8
TPB03				S	Sg	07 31 28.5	+1.7
TPB07	Mentone	0.28	352	P	Pg	07 31 25.2	+0.8
TPB07				S	Sg	07 31 29.5	+1.4
TPB12	Southwest of T	0.30	253	P	Pg	07 31 25.0	+0.2
TPB12				S	Sg	07 31 29.7	+0.9
TPB04	Verhalen	0.33	111	P	Pg	07 31 26.1	+0.8
TPB04				S	Sg	07 31 31.0	+1.4
TPB16	Coyonosa	0.37	119	P	Pg	07 31 26.6	+0.5
TPB16				P	Pb	07 31 28.1	+0.2
TPB16				S	Sg	07 31 32.2	+1.3
TPB16				Sn	Sb	07 31 34.2	+0.2
TPB01	Permian Basin	0.38	201	P	Pg	07 31 26.8	+0.4
TPB01				P	Pb	07 31 28.2	-0.1
TPB01				S	Sg	07 31 32.7	+1.2
TPB01				Sn	Sb	07 31 34.0	-0.4
TPB05	Hovey Rd	0.46	146	P	Pg	07 31 28.4	+0.6
TPB05				S	Sg	07 31 35.2	+1.4
TPB06	Permian Basin	0.49	45	P	Pg	07 31 28.7	+0.3
TPB11	China Draw	0.72	331	S	Sg	07 31 42.7	+0.4
MNHN	Monahans	0.74	87	P	Pg	07 31 33.5	+0.3
MNHN				S	Sg	07 31 42.7	-0.1
TPB08	Permian Basin	0.74	123	P	Pb	07 31 34.0	-0.3
TPB08				S	Sg	07 31 43.2	+0.4
ALPN	Alpine	0.93	181	P	Pg	07 31 35.8	-1.0
ALPN				S	Sb	07 31 50.0	-0.1
CLNB	Carlsbad	0.98	347	P	Pb	07 31 38.3	-0.2
CLNB				S	Sb	07 31 51.2	-0.6
NM01	Eunice	1.07	10	P	Pn	07 31 40.3	-0.3
NM01				S	Sb	07 31 53.8	-0.4

TPB12	**Southwest of T**	**0.30 253**	S	Sg	07 37 16.5	+1.2
TPB04	**Verhalen**	**0.32 111**	P	Pg	07 37 12.4	+0.7
TPB04			S	Sg	07 37 17.5	+1.5
TPB16	**Coyonosa**	**0.36 119**	P	Pg	07 37 13.0	+0.5
TPB16			S	Sg	07 37 18.8	+1.5
TPB01	**Permian Basin**	**0.38 201**	P	Pg	07 37 12.4	-0.5
TPB01			S	Sg	07 37 19.2	+1.2
TPB05	**Hovey Rd**	**0.46 146**	P	Pg	07 37 14.7	+0.4
TPB05			S	Sg	07 37 21.6	+1.3
TPB06	**Permian Basin**	**0.49 45**	S	Sb	07 37 24.0	+0.1
MNHN	**Monahans**	**0.74 87**	P	Pb	07 37 20.6	-0.1
MNHN			S	Sb	07 37 30.5	-0.6
TPB08	**Permian Basin**	**0.74 124**	P	Pb	07 37 20.3	-0.5
TPB08			S	Sb	07 37 30.3	-0.8
ALPN	**Alpine**	**0.93 181**	P	Pg	07 37 22.9	-0.3
ALPN			S	Sb	07 37 36.9	+0.3
CLNB	**Carlsbad**	**0.98 347**	P	Pb	07 37 24.7	-0.2
NM01	**Eunice**	**1.07 10**	S	Sb	07 37 40.4	-0.2
ODSA	**Odessa**	**1.23 48**	S	Sb	07 37 45.3	+0.1
VHRN	**Van Horn**	**1.28 247**	P	Pg	07 37 29.4	-0.6
VHRN			S	Sg	07 37 46.6	0.0
TMB02	**Rankin**	**1.36 94**	P	Pn	07 37 31.0	0.0
TMB02			S	Sb	07 37 48.9	-0.2
MNTX	**Cornudas Mount**	**1.55 285**	P	Pb	07 37 34.7	+0.1
MNTX			S	Sg	07 37 55.7	+0.3
SAND	**Sanderson**	**1.86 136**	P	Pb	07 37 39.3	-0.6
SAND			S	Sb	07 38 03.9	+0.4
TX31	**Lajitas Ar. Si**	**1.96 181**	P	Pb	07 37 40.8	-0.8
TX31			S	Sg	07 38 07.5	-1.0
OZNA	**Ozona**	**2.17 99**	P	Pn	07 37 43.2	+1.0
OZNA			S	Sn	07 38 10.9	+1.4
SGCY	**Sterling City**	**2.21 73**	P	Pn	07 37 43.9	+1.1
SGCY			S	Sb	07 38 12.3	-1.3

IDC 18 07:43:50.0±3.1, 9˚44S×151˚44E, h0km, mb3.1/1, mbtmp3.3/3, ML2.5/2, Error ellipse: s-maj=66.4km s-min=46.2km az=167.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.23**	**270**	Pn	Pn	07 44 55.8	+0.1
	3.5nm,0.3s,baz=90,slow=10,SNR=9.2						
PMG				Sn	Sn	07 45 48.4	+2.6
	0.2nm,0.3s,baz=232,slow=22,SNR=1.3 13nm,0.7s						
WRA	**Warramunga Arr**	**19.54**	**236**	P	P	07 48 18.0	-1.4
	baz=64,slow=12,SNR=2.0 0.5nm,0.7s						
ASAR	**Alice Springs**	**21.93**	**228**	P	P	07 48 46.0	+0.7
	0.8nm,0.8s,baz=56,slow=9.9,SNR=8.7 0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.12**	**280**	PKPbc	PKPbc	08 03 43.5	-0.4
	146nm,0.3s,baz=61,slow=3.6,SNR=1.6						

*IDC **18** 07:51:30.9±13.0, 21˚72N×143˚25E, h234km±129km, mb3.2/9, mbtmp3.7/9, MS3.8/1, Error ellipse: s-maj=32.5km s-min=23.9km az=62.0*

ISC 18 07:51:38.4±0.9, 21˚6N±0˚2×143˚2E±0˚2, h311km, n11, σ0°65/10, mb3.3/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.46**	**345**	LR	LR	08 00 50.2	
	comp=Z,367nm,21.6s,baz=79,slow=36						
WRA	**Warramunga Arr**	**42.22**	**192**	P	**P**	**07 59 01.6**	**-0.2**
	0.4nm,0.7s,baz=14,slow=8.8,SNR=2.2 0.4nm,0.7s						
MKAR	**Makanchi Array**	**54.72**	**313**	P	**P**	**08 00 36.3**	**+0.1**
	0.2nm,0.5s,baz=84,slow=8.3,SNR=2.2 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**57.55**	**317**	P	**P**	**08 00 56.1**	**+0.2**
	0.8nm,0.5s,baz=94,slow=7.0,SNR=9.3 0.8nm,0.5s						
ILAR	**Eielson Array**	**62.10**	**27**	P	**P**	**08 01 25.6**	**-0.9**
	0.3nm,0.8s,baz=269,slow=5.4,SNR=4.3 0.3nm,0.8s						
BVAR	**Borovoye Array**	**62.70**	**320**	P	**P**	**08 01 31.1**	**+0.4**
	1.3nm,0.5s,baz=96,slow=7.5,SNR=5.9 1.9nm,0.5s						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	**P**	**08 02 54.4**	**+0.1**
	0.3nm,0.6s,baz=291,slow=5.6,SNR=11 0.3nm,0.6s						
ARCES	**ARCESS Array B**	**78.97**	**341**	P	**P**	**08 03 08.0**	**+0.4**
	1.9nm,0.8s,baz=65,slow=8.6,SNR=6.7 1.9nm,0.8s						
NVAR	**Mina Array Bea**	**83.19**	**51**	P	**P**	**08 03 31.2**	**+0.5**
	0.3nm,0.6s,baz=294,slow=3.7,SNR=3.7 0.3nm,0.6s						
FINES	**FINESS Array B**	**83.22**	**334**	P	**P**	**08 03 28.9**	**-1.1**
	0.6nm,0.4s,baz=66,slow=6.5,SNR=5.5 0.6nm,0.4s						
LPAZ	**La Paz**	**149.96**	**85**	PKPbc	**PKiKP**	**08 10 55.1**	**+0.6**
	1.0nm,0.7s,baz=134,slow=1.0,SNR=3.8						

*BJI **18** 08:09:23.8, 34˚01N×137˚52E, h332km, mB4.5/10, mb4.6/45*
*JMA **18** 08:09:25.6±0.2, 34˚N±1˚×13˚8E±˚, h344km±2km, MV3.5/38, ENSYUNADA*
*NEIC **18** 08:09:26.7±2.4, 34˚12N±0˚06×137˚53E±0˚06, h336km±5km, mb4.1/50, Error ellipse: s-maj=10.9km s-min=3.4km az=146.0*
*IDC **18** 08:09:26.2±0.8, 34˚06N×137˚54E, h332km±8km, mb3.7/22, mbtmp4.5/30, Error ellipse: s-maj=11.6km s-min=8.2km az=81.0*

ISC 18 08:09:26.3±0.5, 34˚12N±0˚04×137˚47E±0˚05, h332km±4km, n208, σ1°04/233, mb4.2/57, 3C-1D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**0.13**	**152**	P	**Pn**	**08 10 09.0**	**+1.2**
TTO4				*e*S	**S**	**08 10 42.7**	**+1.8**
TTO5	**TONANKAI O.B.S**	**0.24**	**57**	P	**Pn**	**08 10 09.2**	**+1.3**
TTO5				*e*S	**S**	**08 10 43.2**	**+2.1**
TTO3	**TONANKAI O.B.S**	**0.26**	**193**	*e*P	**Pn**	**08 10 09.5**	**+1.4**
TTO3				*e*S	**S**	**08 10 43.8**	**+2.5**
TTO2	**TONANKAI O.B.S**	**0.53**	**224**	P	**Pn**	**08 10 09.4**	**+1.1**
TTO2				*e*S	**S**	**08 10 45.0**	**+3.2**
JIE	**Ise**	**0.69**	**294**	P	**Pn**	**08 10 09.8**	**+0.9**
JIE				*e*S	**S**	**08 10 43.8**	**+0.8**
TTO1	**TONANKAI O.B.S**	**0.75**	**229**	*e*P	**Pn**	**08 10 10.0**	**+1.2**
JSG	**Sagara**	**0.81**	**47**		**Pn**	**08 10 09.9**	**+0.6**
JSG				Sn	**S**	**08 10 45.3**	**+1.5**
JSG	**Sagara**	**0.81**	**47**	P	**Pn**	**08 10 10.7**	**+1.4**
JSG	**Sagara**	**0.81**	**47**	S	**S**	**08 10 45.8**	**+2.1**
INU	**Inuyama**	**1.28**	**343**		**Pn**	**08 10 12.0**	**+0.7**
INU				Sn	**S**	**08 10 47.8**	**+0.4**
INU	**Inuyama**	**1.28**	**343**	P	**Pn**	**08 10 12.0**	**+0.7**
INU	**Inuyama**	**1.28**	**343**	S	**S**	**08 10 48.1**	**+0.7**
JGF	**Kuroka**	**1.48**	**357**		**Pn**	**08 10 12.8**	**+0.4**
JGF				Sn	**S**	**08 10 49.3**	**-0.2**
JGF	**Kuroka**	**1.48**	**357**	P	**Pn**	**08 10 12.9**	**+0.4**
JGF	**Kuroka**	**1.48**	**357**	S	**S**	**08 10 49.8**	**+0.3**
JTNC	**Tanabenakahech**	**1.57**	**259**	P	**Pn**	**08 10 13.8**	**+0.7**
JTNC				*e*S	**S**	**08 10 50.7**	**+0.2**
JYTA	**Yamagatataniai**	**1.59**	**338**	P	**Pn**	**08 10 14.0**	**+1.0**
JYTA				*e*S	**S**	**08 10 50.8**	**+0.3**
JYN	**Shimob**	**1.64**	**33**	*e*P	**Pn**	**08 10 14.4**	**+0.9**
JYN				*e*S	**S**	**08 10 53.1**	**+1.9**
JOD2	**Odawara 2**	**1.76**	**49**	P	**Pn**	**08 10 14.6**	**+0.4**
JOD2				*e*S	**S**	**08 10 52.9**	**+0.3**
JWT	**Wachi**	**2.06**	**305**	P	**Pn**	**08 10 17.2**	**+0.9**
JWT				*e*S	**S**	**08 10 56.1**	**-0.2**
JHJ	**Hachijo jima 2**	**2.17**	**117**	P	**Pn**	**08 10 17.3**	**0.0**
	476nm,0.5s,baz=341,slow=22,SNR=29						
JHJ2	**Mitsune**	**2.20**	**117**		**Pn**	**08 10 17.4**	**-0.1**
JHJ2	**Mitsune**	**2.20**	**117**	P	**Pn**	**08 10 18.2**	**+0.7**
JHJ2	**Mitsune**	**2.20**	**117**	S	**S**	**08 10 58.7**	**+0.2**
JHJ2	**Mitsune**	**2.20**	**117**	*e*P	**Pn**	**08 10 17.3**	**-0.2**
JRY	**Ryogami san**	**2.23**	**31**	P	**Pn**	**08 10 18.3**	**+0.7**
JRY				*e*S	**S**	**08 10 59.1**	**+0.4**
JKG	**Kaga**	**2.34**	**337**	P	**Pn**	**08 10 19.3**	**+0.9**
MJAR	**Matsushiro Arr**	**2.49**	**14**	P	**Pn**	**08 10 20.1**	**+0.4**
	206nm,0.4s,baz=183,slow=9.7,SNR=625						
MJAR				S	**S**	**08 11 02.1**	**-0.5**
	113nm,0.8s,baz=190,slow=14,SNR=17						
MAJO	**Matsushiro**	**2.49**	**14**		**Pn**	**08 10 20.1**	**+0.3**
MAJO				Sn	**S**	**08 11 01.6**	**-1.0**
MAJO	**Matsushiro**	**2.49**	**14**	P	**Pn**	**08 10 19.8**	**+0.1**
MAJO	**Matsushiro**	**2.49**	**14**	S	**S**	**08 11 02.5**	**-0.1**
MAT	**Matsushiro**	**2.49**	**14**	P	**Pn**	**08 10 20.1**	**+0.4**
MAT				*e*S	**S**	**08 11 02.2**	**-0.4**
MJB9	**Matsu-Tunnel**	**2.49**	**14**		**Pn**	**08 10 20.9**	**+1.1**
MJB9				Sn	**S**	**08 11 02.7**	**+0.1**
JAI	**Aioi**	**2.53**	**263**	P	**Pn**	**08 10 20.6**	**+0.5**
JAI				*e*S	**S**	**08 11 02.6**	**-0.7**
JAG	**Ashikaga**	**2.82**	**35**	P	**Pn**	**08 10 21.8**	**-0.8**
JAG				*e*S	**S**	**08 11 03.8**	**-3.9**
BSO1	**Boso 1**	**2.95**	**79**	*e*P	**Pn**	**08 10 21.8**	**-1.4**
JMN	**Monobe**	**3.01**	**264**		**Pn**	**08 10 25.0**	**+0.5**
JMN				Sn	**S**	**08 11 11.3**	**+0.2**
JMN	**Monobe**	**3.01**	**264**	P	**Pn**	**08 10 24.9**	**+0.5**
JMN	**Monobe**	**3.01**	**264**	P	**Pn**	**08 10 25.1**	**+0.5**
JMN				*e*S	**S**	**08 11 11.2**	**+0.1**
JHS	**Saijyo**	**3.70**	**285**	P	**Pn**	**08 10 32.2**	**+1.1**
JSD	**Sado**	**3.96**	**9**		**Pn**	**08 10 33.2**	**-0.5**
JSD				Sn	**S**	**08 11 25.8**	**-2.2**
JSD	**Sado**	**3.96**	**9**	P	**Pn**	**08 10 33.2**	**-0.5**
JMM	**Marumori**	**4.61**	**35**		**Pn**	**08 10 40.1**	**-0.5**
JMM	**Marumori**	**4.61**	**35**	P	**Pn**	**08 10 39.7**	**-1.0**
JNU	**Nakatsue**	**5.59**	**262**		**Pn**	**08 10 52.0**	**+0.2**
JNU	**Nakatsue**	**5.59**	**262**	P	**Pn**	**08 10 52.5**	**+0.6**
	113nm,0.6s,baz=83,slow=3.1,SNR=95						
JNU	**Nakatsue**	**5.59**	**262**	P	**Pn**	**08 10 52.3**	**+0.5**
JTU	**Tsushima**	**6.69**	**276**	P	**Pn**	**08 11 05.2**	**+0.7**
JTM	**Tenmabayashi**	**7.24**	**22**		**Pn**	**08 11 10.0**	**-1.0**
JTM	**Tenmabayashi**	**7.24**	**22**	P	**Pn**	**08 11 10.6**	**-0.4**
JCJ	**Chichijima**	**8.09**	**149**	P	Pn	08 11 16.6	-4.8
	169nm,0.4s,baz=280,slow=22,SNR=17						
JCJ				S	S	08 12 42.4	-13
	524nm,0.5s,baz=298,slow=23,SNR=21						
KSRS	**Korea Array**	**8.44**	**296**	P	**Pn**	**08 11 26.9**	**+1.6**
	46nm,0.8s,baz=111,slow=12,SNR=117						
KSAR	**Wonju Array Be**	**8.46**	**296**		**Pn**	**08 11 26.8**	**+1.1**
KS19	**Wonju Array Si**	**8.50**	**296**		**Pn**	**08 11 26.8**	**+0.7**
TJN	**Taejon**	**8.57**	**288**		**Pn**	**08 11 26.3**	**-0.6**
TJN	**Taejon**	**8.57**	**288**	P	**Pn**	**08 11 27.9**	**+1.0**
ERM	**Erimo**	**9.07**	**28**		**Pn**	**08 11 31.5**	**-1.4**
ERM	**Erimo**	**9.07**	**28**	P	**Pn**	**08 11 31.0**	**-1.8**
JEM	**Erimo**	**9.07**	**28**	P	**Pn**	**08 11 31.2**	**-1.7**
INCN	**Inchon**	**9.42**	**294**		**Pn**	**08 11 37.9**	**+0.7**
INCN	**Inchon**	**9.42**	**294**	P	**Pn**	**08 11 38.1**	**+0.9**
ASAJ	**Asahikawa**	**10.74**	**20**	P	**Pn**	**08 11 52.1**	**-0.9**
	33nm,0.4s,baz=224,slow=12,SNR=55						
JKA	**Kamikawa-asahi**	**10.74**	**20**		**Pn**	**08 11 52.0**	**-1.1**
JOW	**Kunigami**	**10.75**	**230**		**Pn**	**08 11 53.0**	**-0.4**
JOW	**Kunigami**	**10.75**	**230**	P	**Pn**	**08 11 52.8**	**-0.6**
	26nm,0.7s,baz=87,slow=10,SNR=8.2						
JOW	**Kunigami**	**10.75**	**230**	P	**Pn**	**08 11 54.2**	**+0.8**
USA0B	**Ussuriysk Arra**	**10.92**	**339**	P	**Pn**	**08 11 55.8**	**+0.6**
USRK	**Ussuriysk Ar.**	**10.92**	**339**		**Pn**	**08 11 55.6**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.92**	**339**	P	**Pn**	**08 11 55.3**	**+0.1**
	26nm,0.7s,baz=143,slow=11,SNR=23						
MDJ	**Mudanjiang**	**12.12**	**332**		**Pn**	**08 12 09.3**	**-0.2**
MDJ	**Mudanjiang**	**12.12**	**332**	P	**Pn**	**08 12 10.0**	**+0.5**
YSS	**Yuzhno-Sakhali**	**13.43**	**16**		**P**	**08 12 24.0**	**-0.2**
YSS	**Yuzhno-Sakhali**	**13.43**	**16**	P	**P**	**08 12 24.5**	**+0.2**
DL2	**Dalian**	**13.60**	**295**	P	**P**	**08 12 26.3**	**0.0**
DL2				pmax	pmax		
	comp=Z,90nm,0.8s						
BNX	**BinXian**	**13.92**	**329**	⇑P	**P**	**08 12 30.4**	**+0.6**
BNX				pmax	pmax		
	comp=Z,26nm,0.5s						
KLR	**Kul'dur**	**15.68**	**346**	P	**P**	**08 12 49.4**	**+0.4**
	20nm,0.5s,baz=164,slow=9.5,SNR=76						
TIA	**Tai'an**	**16.77**	**283**	P	**P**	**08 13 00.8**	**-0.1**
TIA				pmax	pmax		
	comp=Z,52nm,0.8s						
TIA				pmax	pmax		
	comp=Z,160nm,3.6s						
SSLB	**Suanglung**	**17.72**	**239**		**P**	**08 13 09.7**	**-1.6**
SSLB	**Suanglung**	**17.72**	**239**	P	**P**	**08 13 10.7**	**-0.6**
HEH	**HeiHe**	**17.73**	**338**	*e*P	**P**	**08 13 10.3**	**-0.8**
HEH				pmax	pmax		
	comp=Z,11nm,1.4s						
BJT	**Baijiatuau**	**17.97**	**295**		**P**	**08 13 12.6**	**-1.2**
BJT	**Baijiatuau**	**17.97**	**295**	P	**P**	**08 13 14.5**	**+0.7**
TPUB	**Ta-pu**	**18.26**	**238**		**P**	**08 13 15.6**	**-1.5**
TPUB	**Ta-pu**	**18.26**	**238**	P	**P**	**08 13 16.3**	**-0.8**
HNS	**HongShan**	**18.75**	**287**	⇑P	**P**	**08 13 21.8**	**-0.3**
HNS				pmax	pmax		
	comp=Z,130nm,0.7s						
XLT	**XiLinHaoTe**	**19.23**	**307**	*e*P	**P**	**08 13 28.4**	**+1.2**
XLT				pmax	pmax		
	comp=Z,18nm,1.0s						
WHN	**Wuhan**	**19.85**	**266**	P	**P**	**08 13 32.9**	**-0.9**
WHN				sP	**sP**	**08 15 01.6**	**-4.1**
HIA	**Hailar**	**20.03**	**324**	P	**P**	**08 13 34.6**	**-0.9**
LYN	**LuoYang**	**20.64**	**278**	⇑P	**P**	**08 13 39.8**	**-1.6**
LYN				pmax	pmax		
	comp=Z,35nm,1.2s						
GUMO	**Guam**	**21.52**	**160**	P	**P**	**08 13 47.9**	**-1.7**
GUMO	**Guam**	**21.52**	**160**	P	**P**	**08 13 48.7**	**-0.8**
	90nm,0.5s,baz=190,slow=17,SNR=7.5						
HHC	**Hu-ho-hao-te**	**21.58**	**296**	*e*P	**P**	**08 13 49.0**	**-1.1**
HHC				pmax	pmax		
	comp=Z,16nm,0.5s						
HHC				pmax	pmax		
	comp=Z,90nm,4.0s						
XAN	**Xi'an**	**23.62**	**278**	⇓P	**P**	**08 14 08.0**	**-0.6**
XAN				pmax	pmax		
	comp=Z,47nm,0.7s						
PETK	**Petropavlovsk-**	**23.83**	**31**		**P**	**08 14 11.4**	**+1.2**
PETK	**Petropavlovsk-**	**23.83**	**31**	P	**P**	**08 14 09.4**	**-0.8**
	8.2nm,0.9s,baz=224,slow=6.2,SNR=11 8.2nm,0.9s						
ENH	**Enshi**	**23.95**	**269**	P	**P**	**08 14 11.9**	**+0.3**
ULN	**Ulaanbaatar**	**26.55**	**310**		**P**	**08 14 36.1**	**+1.3**
ULN				IAmb	IAmb	08 14 38.1	
	comp=Z,8.0nm,0.8s						
SONM	**Songino Array**	**26.96**	**310**		**P**	**08 14 39.1**	**+0.8**
SONM				IAmb	IAmb	08 14 41.8	
	comp=Z,8.5nm,0.9s						
SONM	**Songino Array**	**26.96**	**310**	P	**P**	**08 14 39.4**	**+1.1**
	comp=Z,7.4nm,0.7s,baz=115,slow=8.7,SNR=33 comp=Z,7.4nm,0.7s						
GTA	**Gaotai**	**30.47**	**291**	*e*P	**P**	**08 15 09.9**	**+0.5**
GTA				pmax	pmax		
	comp=Z,17nm,0.8s						
GTA				LR	LR		
	comp=Z,87nm,14.2s						
GTA				LR	LR		
	comp=Z,96nm,16.7s						
GTA				LR	LR		
	comp=Z,240nm,19.6s						
PZH	**PanZhiHua**	**31.64**	**266**	P	**P**	**08 15 18.8**	**-0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SLVN	**Son La**	**32.17**	**255**	P	**P**	**08 15 24.5**	**+0.2**
UBPT	**Khong Chiam**	**34.39**	**245**		**P**	**08 15 42.4**	**-0.8**
UBPT	**Khong Chiam**	**34.39**	**245**	P	**P**	**08 15 43.3**	**+0.1**
NONG	**Nongkai**	**34.52**	**251**	P	**P**	**08 15 44.7**	**+0.3**
GOMU	**GeErMu**	**34.73**	**286**	P	**P**	**08 15 46.6**	**+0.2**
GOMU				pmax	pmax		
	comp=Z,49nm,0.9s						
FAKI	**Fak Fak**	**37.17**	**189**		**P**	**08 16 04.8**	**-1.8**
FAKI	**Fak Fak**	**37.17**	**189**	P	**P**	**08 16 06.4**	**-0.3**
CHTO	**Chiang Mai**	**37.46**	**256**		**P**	**08 16 09.5**	**+0.4**
CHTO				IAmb	IAmb	08 16 10.4	
	comp=Z,10nm,0.9s						
CHTO	**Chiang Mai**	**37.46**	**256**	P	**P**	**08 16 09.7**	**+0.6**
CM31	**Chiang Mai Arr**	**37.65**	**255**	P	**P**	**08 16 09.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**37.65**	**255**		**P**	**08 16 09.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**37.65**	**255**	P	**P**	**08 16 10.3**	**-0.4**
	comp=Z,5.5nm,0.5s,baz=49,slow=7.3,SNR=28 comp=Z,5.5nm,0.5s						
BILL	**Bilibino**	**37.74**	**17**		**P**	**08 16 11.8**	**+1.0**
BILL				IAmb	IAmb	08 16 13.4	
	comp=Z,7.2nm,0.7s						
SHL	**Shillong**	**40.18**	**270**	P	**P**	**08 16 29.9**	**-1.8**
SHL				IAmb	IAmb	08 16 32.0	
	comp=Z,7.0nm,0.5s						
ZALV	**Zalesovo Beam**	**41.59**	**315**	P	**P**	**08 16 42.0**	**-0.4**
ZALV	**Zalesovo Beam**	**41.59**	**315**	P	**P**	**08 16 42.9**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=90,slow=8.9,SNR=5.5						
ZALV				PcP	**PcP**	**08 18 32.2**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=107,slow=5.3,SNR=7.4 comp=Z,1.7nm,0.4s						
MKAR	**Makanchi Array**	**43.01**	**304**		**P**	**08 16 54.4**	**+0.5**
MKAR	**Makanchi Array**	**43.01**	**304**	P	**P**	**08 16 54.6**	**+0.7**
	comp=Z,8.8nm,0.5s,baz=89,slow=10.0,SNR=86 comp=Z,8.8nm,0.5s						
MAKZ	**Makanchi**	**43.23**	**304**		**P**	**08 16 56.0**	**+0.3**
MAKZ				IAmb	IAmb	08 16 57.3	
	comp=Z,11nm,0.8s						
KURBB	**Kurchatov Arra**	**45.33**	**310**	P	**P**	**08 17 12.2**	**+0.2**
	comp=Z,5.7nm,0.5s,baz=91,slow=6.7,SNR=54 comp=Z,5.7nm,0.5s						
PRZ	**Przheval'sk**	**46.28**	**299**	P	**P**	**08 17 20.1**	**+0.3**
PRZ				IAmb	IAmb	08 17 21.8	
	comp=Z,15nm,0.6s						
F15K	**North Star Dit**	**46.31**	**29**	P	**P**	**08 17 20.4**	**+1.0**
KDU	**Kakadu**	**46.79**	**187**	P	**P**	**08 17 22.9**	**-0.7**
TARG	**Taragay, Kyrgy**	**46.85**	**298**		**P**	**08 17 24.4**	**-0.1**
MTN	**Manton Dam**	**47.09**	**188**		**P**	**08 17 24.2**	**-1.7**
MTN	**Manton Dam**	**47.09**	**188**	P	**P**	**08 17 24.7**	**-1.3**
PSI	**Prapat**	**47.53**	**238**	P	**P**	**08 17 30.2**	**+0.6**
RPSI	**Rantau Prapat**	**47.60**	**237**		**P**	**08 17 29.9**	**-0.1**
RPSI				IAmb	IAmb	08 17 32.7	
	comp=Z,4.4nm,0.6s						
J17K	**VABM Dome**	**48.28**	**33**	P	**P**	**08 17 36.1**	**+1.6**
C18K	**Utukok River**	**48.30**	**25**	P	**P**	**08 17 35.7**	**+1.1**
K17K	**Iditarod**	**48.57**	**34**	P	**P**	**08 17 38.0**	**+1.3**
K17K				IAmb	IAmb	08 18 16.5	
	comp=Z,12nm,1.4s						
KSH	**Kashi**	**48.69**	**295**	P	**P**	**08 17 42.1**	**+3.9**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
G18K	**Tagagawik**	**48.77**	**29**	P	**P**	**08 17 39.3**	**+1.1**
M17K	**Holitna River**	**48.89**	**35**	P	**P**	**08 17 40.0**	**+0.9**
M17K				IAmb	IAmb	08 17 52.8	
	comp=Z,19nm,1.5s						
N17K	**Nushagak Hills**	**48.97**	**37**	P	**P**	**08 17 40.3**	**+0.5**
N17K				IAmb	IAmb	08 17 52.3	
	comp=Z,13nm,1.4s						
D19K	**Kuna River**	**49.38**	**26**	P	**P**	**08 17 44.0**	**+1.3**
E19K	**Redstone River**	**49.55**	**27**		**P**	**08 17 45.4**	**+1.5**
J19K	**Poorman**	**49.87**	**32**	P	**P**	**08 17 47.4**	**+0.9**
BVAR	**Borovoye Array**	**50.20**	**314**	P	**P**	**08 17 49.2**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=100,slow=8.4,SNR=16						
BVAR				PcP	**PcP**	**08 19 02.9**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=88,slow=3.5,SNR=6.8 comp=Z,2.2nm,0.3s						
KNRA	**Kununurra**	**50.21**	**191**		**P**	**08 17 48.5**	**-1.0**
KNRA				IAmb	IAmb	08 17 49.6	
	comp=Z,14nm,0.7s						
ARSB	**Arslanbob**	**50.47**	**298**		**P**	**08 17 51.9**	**+0.5**
ARSB				IAmb	IAmb	08 17 53.2	
	comp=Z,15nm,1.4s						
J20K	**Nowinta River**	**50.52**	**32**	P	**P**	**08 17 52.9**	**+1.6**
B21K	**Ikpikpuk River**	**50.79**	**25**	P	**P**	**08 17 54.4**	**+1.3**
B21K				IAmb	IAmb	08 17 56.2	
	comp=Z,6.3nm,0.8s						
B22K	**Teshekpuk Lake**	**51.28**	**24**	P	**P**	**08 17 58.5**	**+1.8**
D22K	**Ayikyak River**	**51.39**	**26**		**P**	**08 17 59.4**	**+1.8**
D22K				IAmb	IAmb	08 18 00.6	
	comp=Z,4.0nm,0.6s						
KK31	**Karatay Array**	**51.83**	**301**		**P**	**08 18 02.0**	**+0.8**
KKAR	**Karatay Array**	**51.83**	**301**		**P**	**08 18 01.4**	**+0.1**
KKAR	**Karatay Array**	**51.83**	**301**		**P**	**08 18 01.5**	**+0.2**
KKAR				IAmb	IAmb	08 18 02.4	
	comp=Z,14nm,0.7s						
E23K	**Chandalar**	**52.48**	**27**		**P**	**08 18 07.4**	**+1.7**
E23K				IAmb	IAmb	08 18 09.1	
	comp=Z,4.8nm,0.8s						
NEA2	**Nenana**	**52.73**	**31**	P	**P**	**08 18 08.6**	**+1.1**
D24K	**Happy Valley**	**52.80**	**26**	P	**P**	**08 18 09.1**	**+1.2**
D24K				IAmb	IAmb	08 18 11.0	
	comp=Z,4.7nm,0.6s						
GAR	**Garm**	**53.06**	**296**		**P**	**08 18 10.4**	**0.0**
GAR				IAmb	IAmb	08 18 11.4	
	comp=Z,17nm,0.9s						
ILAR	**Eielson Array**	**53.66**	**31**	P	**P**	**08 18 15.0**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=276,slow=6.2,SNR=13 comp=Z,1.4nm,0.9s						
WB0	**Warramunga Arr**	**53.67**	**184**		**P**	**08 18 13.4**	**-1.3**
D25K	**Kavik River**	**53.67**	**25**		**P**	**08 18 16.0**	**+1.7**
D25K				IAmb	IAmb	08 18 17.1	
	comp=Z,4.3nm,0.7s						
WRAB	**Tennant Creek**	**53.83**	**184**		**P**	**08 18 14.8**	**-1.2**
WRA	**Warramunga Arr**	**53.84**	**184**		**P**	**08 18 13.9**	**-2.2**
WRA	**Warramunga Arr**	**53.84**	**184**	P	**P**	**08 18 15.0**	**-1.0**
	comp=Z,15nm,0.3s,baz=0.1,slow=7.6,SNR=252						
SIMJ	**Simiganj**	**54.14**	**296**	P	**P**	**08 18 18.0**	**-0.2**
SIMJ				IAmb	IAmb	08 18 19.3	
	comp=Z,10nm,0.8s				

KHZ	Kahutara	83.03	154	P	P	08 21 14.8	+0.1
GERES	GERESS Array B	83.42	326	P	P	08 21 17.0	0.0
	comp=Z,2.0nm,0.6s,baz=35,slow=4.9,SNR=11						
	comp=Z,2.0nm,0.6s						
EKA	Eskdalemuir Ar	84.73	339	P	P	08 21 23.4	+0.1
	comp=Z,0.5nm,0.5s,baz=43,slow=5.0,SNR=4.3						
	comp=Z,0.5nm,0.5s						
DAVOX	Davos/Dischmat	86.69	327	P	P	08 21 33.1	-0.1
	comp=Z,2.4nm,0.5s,baz=74,slow=3.4,SNR=4.3						
	comp=Z,2.4nm,0.5s						

VAO 18 08:11:44.8, 3°.84N×59°.93W, h0km±6km, mbR3.7, Guyana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAV	Boa Vista	1.55	203	eP	Pn	08 12 12.0	-1.7
BOAV				eS	Sn	08 12 33.3	-1.3
MACA	Manacapuru-AM	7.00	186	eP	Pn	08 13 27.8	-0.8
MACA				eS	Sn	08 14 46.5	-2.4
ITTB	Itaituba	9.16	153	eP	Pn	08 13 55.2	-3.2
ITTB				eS	Sn	08 15 32.9	-9.5
NPGB	Novo Progresso	11.73	157	eP	Pn	08 14 28.2	-5.5
NPGB				eS	Sn	08 16 32.9	-13
PRPB	Parauapebas	14.17	135	eP	Pn	08 15 00.6	-6.4
PRPB				eS	Sn	08 17 31.8	-13
PDRB	Porto dos Gac	15.68	168	eP	Pn	08 15 22.9	-4.3
PDRB				eS	Sn	08 18 07.7	-14

*CATAC **18** 08:12:15.2±0.2, 14°.N±2°.×9°.0W±°, h2km±1km, M2.8/19, MLv2.8/19, Error ellipse: s-maj=5.5km s-min=2.0km az=29.5, confirmed*
*SNET **18** 08:12:16.6±1.0, 13°.86N×89°.94W, h17km±11km, ML2.3*
*GCG **18** 08:12:16.2±1.1, 13°.87N×89°.94W, h31km±13km, MD3.5*
ISC 18 08:12:17.4±1.0, 13°.87N±0°.03×89°.91W±0°.03, h18km±3km, n52, σ0°.91/59, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLOZ	Alcaldia de Sa	0.20	38	iP	Pb	08 12 21.9	-0.4
SLOZ				eS	Sg	08 12 27.0	+1.1
SLOZ				IAML		08 12 28.8	
	comp=Z,230nm,0.1s						
SLOZ	Alcaldia de Sa	0.20	38	P	Pb	08 12 22.0	-0.3
SLOZ	Alcaldia de Sa	0.20	38	S	Sg	08 12 27.1	+1.3
CEVE	Cerro Verde	0.28	98	eP	Pg	08 12 23.7	-0.2
CEVE				eS	Sb	08 12 29.7	+1.3
CEVE				IAML		08 12 33.8	
	comp=Z,474nm,0.3s						
CEVE	Cerro Verde	0.28	98	P	Pg	08 12 23.6	-0.2
SNJE	San Jose	0.30	90	eP	Pg	08 12 23.9	-0.1
UNIC	Universidad Ca	0.37	72	P	Pg	08 12 25.1	-0.2
UNIC	Universidad Ca	0.37	72	S	Sb	08 12 31.9	+0.8
JAYA	Jayaque - finc	0.50	115	eP	Pg	08 12 26.6	-0.9
JAYA				IAML		08 12 27.0	
	comp=Z,411nm,0.2s						
JAYA				eS	Sg	08 12 34.7	+0.4
JAYA	Jayaque - finc	0.50	115	iP	Pg	08 12 26.6	-0.9
JAYA	Jayaque - finc	0.50	115	P	Pg	08 12 26.6	-0.9
PMON	Piamonte	0.60	105	P	Pg	08 12 28.8	-0.6
PMON	Piamonte	0.60	105	S	Sb	08 12 38.5	+0.9
UEES	Universidad Ev	0.67	103	P	Pb	08 12 30.0	-0.6
UEES	Universidad Ev	0.67	103	S	Sn	08 12 41.4	-0.8
LALI	Alcalda de L	0.69	123	P	Pb	08 12 30.0	-0.8
LALI	Alcalda de L	0.69	123	S	Sg	08 12 41.0	+0.9
SEMO	Seminario San	0.69	104	P	Pb	08 12 30.3	-0.6
SEMO	Seminario San	0.69	104	S	Sg	08 12 41.3	+1.1
UTEC	Universidad Te	0.71	103	P	Pb	08 12 30.6	-0.7
UTEC	Universidad Te	0.71	103	S	Sn	08 12 42.4	-0.7
UDBS	Universidad Do	0.75	102	P	Pb	08 12 31.9	-0.1
UDBS	Universidad Do	0.75	102	S	Sg	08 12 42.9	+0.8
MTO3	Montecristo	0.75	45	eP	Pb	08 12 31.4	-0.7
MTO3				eS	Sg	08 12 42.8	+0.6
MTO3	Montecristo	0.75	45	iP	Pb	08 12 31.5	-0.6
MTO3				eS	Sg	08 12 42.6	+0.3
MTO3	Montecristo	0.75	45	P	Pb	08 12 31.4	-0.7
MTO3	Montecristo	0.75	45	S	Sn	08 12 43.4	-1.0
PANCS	Alcalda de	0.76	110	P	Pb	08 12 31.0	-1.1
PANCS	Alcalda de	0.76	110	S	Sb	08 12 42.4	+0.3
ESQI	Esquipulas	0.88	39	eP	Pb	08 12 33.7	-0.6
ESQI				eS	Sg	08 12 46.9	+0.5
ESQI	Esquipulas	0.88	39	P	Pb	08 12 33.9	-0.4
ESQI	Esquipulas	0.88	39	S	Sn	08 12 47.3	-0.2
PAVA	Las Pavas	0.96	99	S	Sn	08 12 50.3	+0.9
PAVA	Las Pavas	0.96	99	P	Pb	08 12 35.3	-0.3
LLGN	La Laguna	0.98	73	S	Sn	08 12 50.9	+1.0
COEG	Centro de Oper	1.03	104	eP	Pb	08 12 36.3	-0.5
COEG	Centro de Oper	1.03	104	P	Pb	08 12 36.4	-0.4
COEG	Centro de Oper	1.03	104	S	Sn	08 12 51.8	+0.7
UESV	Universidad de	1.12	102	P	Pn	08 12 37.9	-0.3
UESV	Universidad de	1.12	102	S	Sg	08 12 54.0	+0.3
TECO	Alcaldia de Te	1.15	106	P	Pn	08 12 38.0	-0.6
TECO	Alcaldia de Te	1.15	106	S	Sg	08 12 55.0	+0.2
SCLA	Alcaldia de Sa	1.16	98	P	Pn	08 12 39.1	+0.3
SCLA	Alcaldia de Sa	1.16	98	S	Sg	08 12 56.8	+1.6
PQSS	Presa 15 de Se	1.34	100	P	Pb	08 12 41.9	-0.1
PQSS	Presa 15 de Se	1.34	100	S	Sg	08 13 02.3	+1.6
STG5	El Palmar, Qui	1.49	291	eP	Pb	08 12 45.2	+0.5
STG5				eS	Sg	08 13 07.7	+2.0
STG0	El Palmar, Qui	1.49	292	eP	Pb	08 12 45.3	+0.6
PACA	Pacayal	1.59	104	P	Pb	08 12 46.5	+0.1
PACA	Pacayal	1.59	104	S	Sg	08 13 11.4	+2.5
RTAL	Retalhuleu	1.85	291	S	Sn	08 13 11.5	+0.3
RTAL	Retalhuleu	1.85	291	P	Pn	08 12 45.9	-2.4

*IDC **18** 08:18:25.6±0.7, 0°.73S×27°.44E, h0km, mb4.0/17, mbtmp4.1/20, ML4.3/3, MS3.6/4, Error ellipse: s-maj=21.9km s-min=16.0km az=94.0*
*NEIC **18** 08:18:27.7±2.8, 0°.76S±0°.09×27°.48E±0°.09, h10km±1km, mb4.5/22, Error ellipse: s-maj=16.9km s-min=13.5km az=145.0*
ISC 18 08:18:27.1±0.5, 0°.78S±0°.06×27°.48E±0°.07, h10km, n79, σ1°.09/78, mb4.5/39, MS3.6/3, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	Mbarara	3.26	87		Pn	08 19 20.4	+1.9
MBAR				Sn	Sn	08 19 57.8	+0.3
LODK	Lodwar	8.91	62		Pn	08 20 35.7	-0.4
LODK				Sn	Sn	08 22 14.1	-2.7
KMBO	Kilima Mbogo	9.78	92		Pn	08 20 49.1	+1.0
KMBO	Kilima Mbogo	9.78	92	Pn	Pn	08 20 47.6	-0.5
	1.7nm,0.3s,baz=265,slow=17,SNR=9.4						
KMBO				Lg	Lg	08 23 33.2	
	3.5nm,0.3s,baz=193,slow=22,SNR=9.6						
	4.8nm,0.4s						
KIBK	Kibwezi	10.68	98		Pn	08 20 59.3	-1.1
LSZ	Lusaka	14.42	177	Pn	Pn	08 21 50.1	-1.5
	0.8nm,0.3s,baz=4.9,slow=11,SNR=14						
LSZ				Sn	Sn	08 24 19.8	-12
	3.6nm,0.3s,baz=114,slow=12,SNR=6.2						
LSZ				Lg	Lg	08 25 59.9	
	2.2nm,0.3s,baz=117,slow=16,SNR=8.9						
LSZ				LR	LR	08 27 12.0	
	comp=Z,234nm,21.6s,baz=153,slow=36						
	9.4nm,0.7s						
XAUDM	Khaudum	18.65	199	P	P	08 22 45.4	0.0
PHDHD	Phuduhudu	19.51	188	P	P	08 22 55.8	+1.0
PHDHD				IAmb	IAmb	08 23 01.3	
	comp=Z,19nm,0.8s						
MATP	Matopo	19.55	177	P	Pn	08 22 56.5	-0.1
	comp=Z,0.5nm,0.3s,baz=4.7,slow=11,SNR=18						
MATP				S	S	08 26 33.6	-2.7
	comp=Z,4.0nm,0.7s,baz=82,slow=20,SNR=5.1						
MATP				Lg	Lg	08 28 42.0	
	comp=Z,0.1nm,0.3s,baz=279,slow=23,SNR=4.6						
	comp=Z,5.5nm,1.1s						
QNGWA	Qangwa	19.63	198	P	P	08 22 54.8	-1.4
QNGWA				IAmb	IAmb	08 23 02.4	
	comp=Z,32nm,1.4s						
TSUM	Tsumeb	20.72	207		P	08 23 07.1	-1.0
TSUM	Tsumeb	20.72	207	P	P	08 23 08.8	+0.8
	comp=Z,1.3nm,0.3s,baz=11,slow=14,SNR=6.4						
TSUM				S	S	08 26 45.7	-14
	comp=Z,5.6nm,0.5s,baz=280,slow=20,SNR=2.6						
	comp=Z,1.3nm,0.3s						
GRTLG	Ghanzi	21.35	196	P	P	08 23 15.4	+0.6
GRTLG				IAmb	IAmb	08 23 22.7	
	comp=Z,21nm,1.3s						
MREMI	Moremi	21.66	180	P	P	08 23 19.4	+1.3
MREMI				IAmb	IAmb	08 23 25.1	
	comp=Z,17nm,0.9s						
KGCAE	Kacgae	22.54	193	P	P	08 23 27.2	-0.3
KGCAE				IAmb	IAmb	08 23 32.8	
	comp=Z,42nm,1.2s						
KDWAN	Kaudwane	22.64	187	P	P	08 23 28.4	-0.2
KDWAN				IAmb	IAmb	08 23 32.8	
	comp=Z,20nm,0.6s						
LBTB	Lobatse	24.16	184		P	08 23 44.8	+1.0
LBTB	Lobatse	24.16	184	LR	LR	08 32 41.8	
	comp=Z,196nm,20.2s,baz=170,slow=35						
MAKGR	Makgori	25.02	186	P	P	08 23 52.6	+1.0
MAKGR				IAmb	IAmb	08 24 15.7	
	comp=Z,16nm,1.1s						
BOSA	Boshof	27.76	184	LR	LR	08 34 49.5	
	comp=Z,83nm,20.3s,baz=184,slow=35						
TORD	Torodi Ar. Bea	29.07	299		P	08 24 28.8	+0.7
TORD				IAmb	IAmb	08 24 31.4	
	comp=Z,6.4nm,0.8s						
TORD	Torodi Ar. Bea	29.07	299	P	P	08 24 26.4	-1.7
	comp=Z,167nm,0.3s,baz=100,slow=7.5,SNR=2.0						
EIL	Elat	31.11	13	LR	LR	08 36 36.6	
	comp=Z,123nm,19.6s,baz=251,slow=35						
SUR	Sutherland	32.06	191	P	P	08 24 55.8	+1.4
DBIC	Dimbokro	33.11	283	P	P	08 25 04.5	+0.8
DBIC				IAmb	IAmb	08 25 49.6	
	comp=Z,4.6nm,0.8s						
DBIC	Dimbokro	33.11	283	P	P	08 25 03.3	-0.3
	comp=Z,4.5nm,0.8s,baz=108,slow=10,SNR=6.0						
	comp=Z,4.5nm,0.8s						
IDI	Anoyia	35.96	356	P	P	08 25 28.4	+0.2
IDI				IAmb	IAmb	08 25 29.4	
	comp=Z,17nm,1.4s						
UOSS	Minazif	37.78	45	P	P	08 25 44.8	+1.1
ITM	Ithomi	38.12	353	P	P	08 25 46.8	+0.4
ITM				IAmb	IAmb	08 26 02.1	
	comp=Z,7.1nm,0.9s						
KEST	Kesra	40.07	337	P	P	08 26 03.8	+1.0
	comp=Z,4.3nm,0.9s,baz=1.2,slow=6.5,SNR=5.1						
	comp=Z,4.3nm,0.9s						
BR104	Keskin Array S	40.68	7	P	P	08 26 08.7	+0.7
	comp=Z,91nmcomp=Z,11nm,0.7s						
BR105	Keskin Array S	40.69	7	P	P	08 26 08.8	+0.8
	comp=Z,115nmcomp=Z,13nm,0.6s						
BRTR	Keskin Array B	40.70	7	P	P	08 26 08.9	+0.8
	comp=Z,6.5nm,0.6s,baz=183,slow=10,SNR=32						
	comp=Z,6.5nm,0.6s						
BR106	Keskin Array S	40.71	7	P	P	08 26 08.9	+0.8
	comp=Z,104nmcomp=Z,13nm,0.7s						
TIP	Timpagrande	40.96	347	P	P	08 26 11.7	+1.6
VOIR		46.07	358	P	P	08 26 49.7	-1.6
	comp=Z,5.6nm,0.6s						
MLR	Muntele Rosu	46.09	359	P	P	08 26 51.6	+0.1
	comp=Z,2.5nm,0.6s,baz=282,slow=8.9,SNR=4.7						
	comp=Z,2.5nm,0.6s						
MLR	Muntele Rosu	46.09	359	P	P	08 26 51.5	0.0
	comp=Z,5.4nm,0.6s						
ODBI	Odobesti	46.34	360	P	P	08 26 54.3	+1.0
	comp=Z,657nmcomp=Z,9.7nm,0.4s						
BURAR	Bucovina Array	48.24	358	P	P	08 27 08.6	+0.4
BUR08	Bucovina Ar. S	48.27	358	P	P	08 27 08.2	-0.2
BUR08				IAmb	IAmb	08 27 14.2	
	comp=Z,3.4nm,1.1s						
CTI	Castel Tesino	48.67	345	P	P	08 27 11.1	-0.6
MYKA	Terra Mystica	48.75	347	eP	P	08 27 12.8	+0.6
	comp=Z,0.9nm,0.3s						
PSZ	Piszkesteto	48.95	353		P	08 27 14.3	+0.7
BRIU	Brid	49.07	356	P	P	08 27 15.2	+0.7
STNU	Starunia	49.36	357	P	P	08 27 16.7	0.0
ESDC	Sonseca Array	49.47	328	P	P	08 27 17.5	-0.3
	comp=Z,2.0nm,1.0s,baz=133,slow=7.4,SNR=7.7						
	comp=Z,2.0nm,1.0s						
VYHS	Vyhne	49.65	352	eP	P	08 27 23.8	+4.9
TUE	Stuetta	49.68	344	P	P	08 27 19.4	-0.1
	comp=Z,33nm,1.0s						
MOA	Molln	49.78	348	eP	P	08 27 20.4	+0.5
	comp=Z,1.6nm,0.5s						
WTTA	Wattenberg	49.81	346	eP	P	08 27 21.1	+0.7
	comp=Z,1.8nm,0.4s						
LUBAR	Lubar, Ukraine	50.50	0	P	P	08 27 23.5	-1.8
GERES	GERESS Array B	50.84	348	P	P	08 27 27.2	-0.8
	comp=Z,0.9nm,0.5s,baz=151,slow=8.5,SNR=7.1						
	comp=Z,0.9nm,0.5s						
KHC	Kasperske Hory	51.14	348	P	P	08 27 29.0	-1.2
	comp=Z,8.3nm,0.7s						
AK10	Malin Array Si	51.20	1	P	P	08 27 29.4	-1.2
AK17	Malin Array Si	51.29	1	P	P	08 27 30.2	-1.0
AKASG	Malin Array Be	51.31	1	P	P	08 27 29.8	-1.6
	comp=Z,0.8nm,0.6s,baz=190,slow=8.1,SNR=5.5						
	comp=Z,0.8nm,0.6s						
AK19	Malin Array Si	51.32	1	P	P	08 27 29.8	-1.7
AK18	Malin Array Si	51.32	1	P	P	08 27 30.4	-1.1
RNPP5	Staryi Chortor	51.83	359	P	P	08 27 35.6	+0.3
ABKAR	Akbulak array	57.14	25	P	P	08 28 14.6	+0.6
EKA	Eskdalemuir Ar	61.28	341	P	P	08 28 41.7	-0.8
	comp=Z,0.4nm,0.4s,baz=129,slow=6.6,SNR=4.2						
	comp=Z,0.4nm,0.4s						
HFS	Hagfors	61.68	352	P	P	08 28 44.9	-0.2
	comp=Z,1.1nm,0.6s,baz=190,slow=7.5,SNR=6.5						
	comp=Z,1.1nm,0.6s						
FINES	FINESS Array B	62.06	359	P	P	08 28 46.8	-0.8
FINES	FINESS Array B	62.06	359	P	P	08 28 46.6	-1.0
	comp=Z,0.7nm,0.6s,baz=193,slow=7.8,SNR=4.9						
	comp=Z,0.7nm,0.6s						
NC405	NORSAR Array S	62.90	351	P	P	08 28 52.7	-0.7
NB2	NORSAR Subarra	62.91	351	P	P	08 28 52.5	-0.9
	comp=Z,2.9nm,0.7s,baz=164,slow=6.5						
NOA	NORSAR Array B	62.91	351	P	P	08 28 52.9	-0.5
	comp=Z,1.3nm,0.6s,baz=164,slow=6.5,SNR=13						
	comp=Z,1.3nm,0.6s						
NC303	NORSAR Array S	63.06	351	P	P	08 28 53.4	-0.9
BVAR	Borovoye Array	64.43	27	P	P	08 29 02.5	-1.1
	comp=Z,0.5nm,0.7s,baz=233,slow=7.2,SNR=7.5						
	comp=Z,0.5nm,0.7s						
KURBB	Kurchatov Arra	67.05	33	P	P	08 29 21.4	+1.0
	comp=Z,0.4nm,0.4s,baz=244,slow=6.9,SNR=7.9						
	comp=Z,0.4nm,0.4s						
MKAR	Makanchi Array	67.29	37		P	08 29 21.8	-0.3
MKAR	Makanchi Array	67.29	37	P	P	08 29 22.4	+0.2
	comp=Z,0.6nm,0.6s,baz=238,slow=5.2,SNR=9.9						
	comp=Z,0.6nm,0.6s						
ARCES	ARCESS Array B	70.19	359	P	P	08 29 38.9	-0.9
	comp=Z,1.4nm,0.5s,baz=52,slow=7.9,SNR=7.9						
	comp=Z,1.4nm,0.5s						
PZH	PanZhiHua	76.29	63	P	P	08 30 18.6	+1.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,8.3s						
LZH	Lanzhou	79.45	53	eP	P	08 30 31.6	-2.7
LZH				sP	sP	08 30 39.3	+0.1
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC	Hu-ho-hao-te	86.02	49	eP	P	08 31 10.3	+2.0
HHC				pmax	pmax		
	comp=Z,23nm,0.6s						
HHC				pmax	pmax		
	comp=Z,70nm,3.9s						
QSPA	South Pole Qui	89.26	180	P	P	08 31 23.8	+0.4
	comp=Z,1.8nm,0.9s,baz=264,slow=2.8,SNR=6.4						
	comp=Z,1.8nm,0.9s						
NJ2	Nanjing	91.57	58	eP	P	08 31 35.5	+0.8
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						

*NEIC **18** 08:21:33.6±0.9, 59°.81N±0°.05×152°.15W±0°.08, h74km±9km, Error ellipse: s-maj=6.9km s-min=5.9km az=157.0*
AEIC 18 08:21:34.6±1.0, 59°.82N±0°.04×152°.15W±0°.08, h56km±7km, ML2.8, ML3.0/138(NEIC), Error ellipse: s-maj=6.4km s-min=5.7km az=155.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	Homer	0.30	122		Pn	08 21 44.8	+0.5
ILSW	Iliamna Southw	0.53	289		Pn	08 21 46.7	0.0
ILSW				IAML		08 21 56.6	
	comp=N,609nm,0.6s						
ILSW				IAML		08 21 58.7	
	comp=E,596nm,0.5s						
CNPM	China Poot	0.55	122		Pn	08 21 47.0	+0.2
P19K	Oil Pt	0.57	254		Pn	08 21 47.4	+0.3
P19K				IAML		08 21 58.3	
	comp=E,949nm,0.5s						
BRLK	Bradley Lake	0.64	94		Pn	08 21 47.7	-0.1
CAPN	Captain Cook N	1.07	27		Pn	08 21 54.0	+0.6
O19K	Port Alsworth	1.16	290		Pn	08 21 53.7	-0.8
Q19K	Cape Douglas,	1.18	221		Pn	08 21 54.6	-0.2
Q19K				IAML		08 22 16.1	
	comp=E,204nm,0.7s						
Q19K				IAML		08 22 21.8	
	comp=N,236nm,0.7s						
SLKM	Skilak Lake	1.19	53		Pn	08 21 54.4	-0.5
SLKM				IAML		08 22 14.3	
	comp=N,362nm,0.3s						
SLKM				IAML		08 22 15.4	
	comp=E,314nm,0.2s						
SYI	Shuyak Island	1.22	186		Pn	08 21 56.0	+0.7
SYI				IAML		08 22 14.8	
	comp=N,383nm,0.7s						
SYI				IAML		08 22 16.2	
	comp=E,377nm,0.4s						
O22K	Cooper Landing	1.38	60		Pn	08 21 57.9	+0.4
SEW	Seward	1.39	77		Pn	08 21 57.9	+0.3
SEW				IAML		08 22 20.4	
	comp=N,239nm,0.5s						
SEW				IAML		08 22 21.2	
	comp=E,197nm,0.4s						
N19K	Bonanza Creek	1.53	312		Pn	08 21 58.5	-1.2
N19K				IAML		08 22 18.4	
	comp=N,153nm,0.5s						
O18K	Koktuh Hills	1.55	273		Pn	08 21 59.1	-0.7
O18K				IAML		08 22 19.0	
	comp=E,111nm,0.6s						
P18K	Big Mountain,	1.62	256	Pn	Pn	08 22 00.8	-0.1
STLK	Strandline Lak	1.69	5		Pn	08 22 01.4	-0.4
STLK				IAML		08 22 24.4	
	comp=E,123nm,0.6s						
RC01	Rabbit Creek A	1.75	42		Pn	08 22 01.9	-0.6
RC01				IAML		08 22 28.4	
	comp=N,122nm,0.2s						
RC01				IAML		08 22 29.0	
	comp=E,144nm,0.3s						
SUA	Susitna One	1.79	22		Pn	08 22 02.7	-0.5
SUA				IAML		08 22 28.5	
	comp=N,210nm,0.9s						
KDAK	Kodiak Island	2.05	187		Pn	08 22 05.8	-0.8
KDAK				IAML		08 22 40.9	
	comp=N,61nm,0.6s						
KDAK				IAML		08 22 42.0	
	comp=N,63nm,0.7s						
N18K	Kilae Creek	2.06	296		Pn	08 22 05.8	-1.0
N18K				IAML		08 22 30.2	
	comp=N,69nm,0.6s						
N18K				IAML		08 22 30.9	
	comp=E,63nm,1.0s						
PWL	Port Wells	2.17	59		Pn	08 22 06.8	-1.4
PWL				IAML		08 22 41.1	
	comp=N,144nm,0.5s						
PWL				IAML		08 22 42.5	
	comp=E,109nm,0.5s						
M22K	Willow	2.18	26	Pn	Pn	08 22 08.8	+0.4
SKT	Skwentna	2.19	8		Pn	08 22 07.8	-0.8
SKT				IAML		08 22 38.4	
	comp=E,81nm,0.6s						
PMR	Palmer	2.32	38		Pn	08 22 09.6	-0.6
PMR				IAML		08 22 42.8	
	comp=E,58nm,0.3s						
M19K	Big River Lodg	2.37	333		Pn	08 22 10.7	-0.3
KNK	Knik Glacier	2.42	47		Pn	08 22 11.2	-0.5
KNK				IAML		08 22 48.2	
	comp=N,68nm,0.6s						
KNK				IAML		08 22 49.2	
	comp=E,78nm,0.6s						
GHO	Glory Hole Cre	2.52	37		Pn	08 22 13.4	+0.3
GHO				IAML		08 22 50.8	
	comp=E,76nm,0.5s						
N17K	Nushagak Hills	2.62	288		Pn	08 22 13.2	-1.2
N17K				IAML		08 22 44.2	
	comp=N,39nm,0.3s						
N17K				IAML		08 22 57.4	
	comp=E,37nm,0.5s						
OHAK	Old Harbor	2.67	193	Pn	Pn	08 22 14.1	-0.9
OHAK				IAML		08 23 00.7	
	comp=N,37nm,1.3s						
L19K	White Mountain	2.71	332	Pn	Pn	08 22 14.7	-1.0
L19K				IAML		08 22 47.9	
	comp=N,56nm,0.6s						
L19K				IAML		08 22 48.3	
	comp=E,32nm,0.7s						
SML	Sawmill	2.73	41	Pn	Pn	08 22 15.6	-0.4
SML				IAML		08 22 57.4	
	comp=N,37nm,0.7s						
SML				IAML		08 22 57.5	
	comp=E,33nm,0.9s						
CUT	Chulitna	2.75	19	Pn	Pn	08 22 16.2	+0.1
HIN	Hinchinbrook I	2.88	76	Pn	Pn	08 22 16.1	-1.9
HIN				IAML		08 23 06.5	
	comp=N,70nm,0.9s						
HIN				IAML		08 23 15.1	
	comp=E,68nm,1.3s						
FID	Port Fidalgo	2.97	69	Pn	Pn	08 22 16.4	-2.8
FID				IAML		08 22 50.8	
	comp=N,61nm,0.2s						
FID				IAML		08 23 05.6	
	comp=E,71nm,0.6s						
M17K	Holitna River	3.06	304	Pn	Pn	08 22 19.3	-1.0
M17K				IAML		08 22 56.1	
	comp=N,61nm,0.6s						
P16K	Nushagak River	3.09	258	Pn	Pn	08 22 20.3	-0.4
P16K				IAML		08 23 15.6	
	comp=N,52nm,1.3s						
PPLA	Purkeypile	3.09	360	Pn	Pn	08 22 21.2	+0.3
PPLA				IAML		08 23 04.3	
	comp=N,26nm,1.3s						
SCM	Sheep Creek Mo	3.11	47	Pn	Pn	08 22 20.2	-0.9
SCM				IAML		08 22 58.3	
	comp=N,29nm,1.4s						
SCM				IAML		08 22 58.6	
	comp=E,51nm,0.6s						
L18K	Granite Mounta	3.27	319	Pn	Pn	08 22 22.4	-0.8
L18K				IAML		08 22 60.0	
	comp=N,35nm,0.3s						
KLU	Klutina	3.49	59		Pn	08 22 24.8	-1.6
KLU				IAML		08 23 05.4	
	comp=E,20nm,0.2s						
KLU				IAML		08 23 19.0	
	comp=N,38nm,0.6s						
M16K	Timber Creek	3.59	293	Pn	Pn	08 22 26.9	-0.7
CAST	Castle Rocks	3.62	0	Pn	Pn	08 22 27.3	-0.7
TTA	Tatalina	3.63	331		Pn	08 22 27.4	-0.9
K20K	Telida	3.67	346

comp=N,10nm,0.7s
PAX Paxson 4.50 43 Pn Pn 08 22 39.4 -0.9
PAX IAML 08 23 52.1
comp=N,9.8nm,0.5s
PAX IAML 08 23 55.5
comp=E,10nm,0.8s
WAX Waxell Ridge 4.69 78 Pn Pn 08 22 41.4 -1.4
J17K VABM Dome 4.88 320 Pn Pn 08 22 44.4 -1.0
J17K IAML 08 23 54.9
comp=N,8.1nm,0.7s
NEA2 Nenana 5.00 15 Pn 08 22 46.2 -0.8
NEA2 IAML 08 23 49.3
comp=N,5.7nm,0.9s
K24K Donnelly Dome 5.01 34 Pn 08 22 48.2 +1.1
WRH Wood River Hil 5.04 20 Pn Pn 08 22 46.6 -0.9
K15K Wolf Creek Mou 5.19 303 Pn Pn 08 22 48.9 -0.6
K15K IAML 08 23 46.7
comp=N,7.9nm,0.5s
HDA Harding Lake 5.21 26 Pn 08 22 49.1 -0.8
CCB Clear Creek Bu 5.25 21 Pn Pn 08 22 49.2 -1.2
J16K Anvik River 5.33 314 Pn 08 22 50.8 -0.7
J16K IAML 08 24 05.1
comp=E,4.4nm,1.4s
J16K IAML 08 24 14.4
comp=N,4.9nm,1.4s
I21K Tanana 5.38 1 Pn 08 22 52.1 -0.1
I23K Minto, Yukon-K 5.50 12 Pn Pn 08 22 53.0 -0.8
J25K Salcha River, 5.76 30 Pn 08 22 57.2 -0.2
H21K Melozitna Rive 5.87 357 Pn Pn 08 22 58.2 -0.7
H17K Granite Mounta 6.28 328 Pn 08 23 04.2 -0.3
PRP Porcupine Dome 6.48 25 Pn 08 23 05.7 -1.6

GCG 18 08:22:26.7±1.0, 14°.75N×91°.54W, h1km±2km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKI	**Kika Raxquin**	**0.15**	**61**	*e*P	Pg	08 22 31.8	+2.1
SOKI				*e*S	Sg	08 22 34.4	+2.8
STG8	**El Palmar, Qui**	**0.35**	**149**	*i* P	Pg	08 22 28.5	-4.9
STG8				*i* S	Sg	08 22 29.0	-8.9
STG0	**El Palmar, Qui**	**0.37**	**149**	*i* P	Pg	08 22 28.6	-5.2
STG0				*i* S	Sg	08 22 29.3	-9.4
STG5	**El Palmar, Qui**	**0.39**	**152**	*i* P	Pg	08 22 29.3	-4.9
STG5				*i* S	Sg	08 22 30.6	-8.7

*NOU **18** 08:57:27.1, 17°.80S×177°.88W, h535km, mb4.5/41, Fiji Islands Region*
*NEIC **18** 08:57:27.9±1.7, 17°.7S±0°.1×178°.1W±0°.1, h526km±6km, mb4.4/77, Error ellipse: s-maj=18.9km s-min=14.3km az=139.0*
*IDC **18** 08:57:29.1±1.6, 17°.65S×178°.22W, h540km±17km, mb3.7/15, mbtmp4.6/17, Error ellipse: s-maj=17.1km s-min=12.8km az=125.0*
ISC 18 08:57:28.7±0.4, 17°.81S±0°.07×178°.05W±0°.06, h550km, n236, σ1°.37/240, mb4.4/59, 5C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.84**	**240**	P	**P**	**08 58 32.1**	**-2.5**
TAVE	**Taveuni**	**2.08**	**301**	P	**P**	**08 58 36.7**	**-2.2**
DGTI	**Dogotuki**	**2.59**	**305**	P	**P**	**08 58 38.6**	**-2.9**
FUTU	**Fugatoga**	**3.48**	**359**	P	**P**	**08 58 44.2**	**-2.8**
MSVF	**Nonsavu**	**3.71**	**271**		**P**	**08 58 47.3**	**-1.3**
MSVF	**Nonsavu**	**3.71**	**271**	P	**P**	**08 58 47.6**	**-1.1**
	461nm,0.8s,baz=129,slow=13,SNR=197						
MSVF	**Nonsavu**	**3.71**	**271**	P	**P**	**08 58 47.5**	**-1.1**
AFI	**Afiamalu**	**7.17**	**58**		**P**	**08 59 13.9**	**-4.6**
NIUE	**Niue**	**7.81**	**101**	P	**P**	**08 59 22.7**	**-2.0**
GLKZ	**Green Lake**	**11.40**	**179**	P	**P**	**08 59 58.0**	**-2.9**
PINNC	**Pines Island,**	**14.42**	**248**	P	**P**	**09 00 30.2**	**-2.1**
DZM	**Mont Dzumac**	**15.18**	**251**	P	**P**	**09 00 37.4**	**-2.8**
DZM	**Mont Dzumac**	**15.18**	**251**	P	**P**	**09 00 37.8**	**-2.4**
	9.1nm,0.6s,baz=133,slow=20,SNR=7.4						
DZM	**Mont Dzumac**	**15.18**	**251**	P	**P**	**09 00 38.8**	**-1.4**
KOUNC	**Koumac, New Ca**	**16.91**	**258**	P	**P**	**09 00 56.0**	**-0.7**
OUZ	**Omahuta**	**18.87**	**202**	P	**P**	**09 01 16.0**	**+1.6**
QUZ	**Omahuta**	**18.87**	**202**	P	**P**	**09 01 16.4**	**+2.0**
GRZ	**Great Barrier**	**19.25**	**196**	P	**P**	**09 01 19.1**	**+1.2**
WCZ	**Waipu Caves**	**19.28**	**199**	P	**P**	**09 01 20.1**	**+2.0**
KUZ	**Kuaotunu**	**19.65**	**195**	P	**P**	**09 01 22.7**	**+1.2**
KUZ	**Kuaotunu**	**19.65**	**195**	P	**P**	**09 01 23.0**	**+1.6**
ABAZ	**Army Bay**	**19.75**	**197**	P	**P**	**09 01 24.3**	**+1.9**
WIAZ	**Waiheke Island**	**19.84**	**196**	P	**P**	**09 01 24.6**	**+1.3**
MBAZ	**Motutapu North**	**19.89**	**197**	P	**P**	**09 01 25.6**	**+2.0**
MXZ	**Matakaoa Point**	**19.94**	**189**	P	**P**	**09 01 22.5**	**-1.6**
MXZ	**Matakaoa Point**	**19.94**	**189**	P	**P**	**09 01 23.5**	**-0.6**
MXZ	**Matakaoa Point**	**19.94**	**189**	P	**P**	**09 01 22.9**	**-1.2**
ETAZ	**East Tamaki Re**	**20.05**	**197**	P	**P**	**09 01 26.7**	**+1.6**
MKAZ	**Moumakai**	**20.13**	**196**	P	**P**	**09 01 27.4**	**+1.6**
WMGZ	**Waiomatatini S**	**20.18**	**188**	P	**P**	**09 01 26.1**	**-0.2**
HAZ	**Te Kaha**	**20.21**	**190**	P	**P**	**09 01 25.3**	**-1.2**
AWAZ	**Awhitu Peninsu**	**20.23**	**197**	P	**P**	**09 01 28.0**	**+1.3**
PKGZ	**Pakihiroa**	**20.27**	**189**	P	**P**	**09 01 26.1**	**-1.0**
RUGZ	**Raukumara Rang**	**20.43**	**190**	P	**P**	**09 01 27.3**	**-1.3**
PUZ	**Puketiti**	**20.45**	**188**	P	**P**	**09 01 26.9**	**-1.8**
TGRZ	**Tauranga**	**20.46**	**193**	P	**P**	**09 01 30.0**	**+1.1**
TWGZ	**Tauwhareparae**	**20.59**	**189**	P	**P**	**09 01 29.5**	**-0.6**
TOZ	**Tahuroa Road**	**20.64**	**195**		**P**	**09 01 30.7**	**+0.3**
TOZ	**Tahuroa Road**	**20.64**	**195**	P	**P**	**09 01 30.8**	**+0.4**
URZ	**Urewera**	**20.81**	**191**	P	**P**	**09 01 29.3**	**-2.7**
	22nm,0.3s,baz=1.0,slow=2.8,SNR=66						
URZ	**Urewera**	**20.81**	**191**	P	**P**	**09 01 30.1**	**-1.9**
URZ	**Urewera**	**20.81**	**191**	P	**P**	**09 01 28.5**	**-3.4**
MWZ	**Matawai**	**20.81**	**190**	P	**P**	**09 01 29.9**	**-2.1**
CNGZ	**Carnagh Statio**	**20.86**	**188**	P	**P**	**09 01 31.7**	**-0.7**
RIGZ	**Rimuhau**	**21.14**	**189**	P	**P**	**09 01 34.5**	**-0.5**
RTZ	**Ruatahuna**	**21.18**	**191**		**P**	**09 01 33.0**	**-2.4**
RTZ	**Ruatahuna**	**21.18**	**191**	P	**P**	**09 01 33.2**	**-2.2**
TLZ	**Tolley Road**	**21.20**	**194**	P	**P**	**09 01 36.8**	**+1.3**
SNGZ	**Shannon Statio**	**21.28**	**190**	P	**P**	**09 01 32.8**	**-3.5**
HIZ	**Hauiti**	**21.54**	**195**	P	**P**	**09 01 39.0**	**+0.4**
HIZ	**Hauiti**	**21.54**	**195**	P	**P**	**09 01 39.1**	**+0.6**
HIZ	**Hauiti**	**21.54**	**195**	P	**P**	**09 01 39.9**	**+1.3**
BKZ	**Black Stump Fm**	**21.80**	**191**		**P**	**09 01 38.1**	**-2.9**
BKZ	**Black Stump Fm**	**21.80**	**191**	P	**P**	**09 01 38.6**	**-2.4**
BKZ	**Black Stump Fm**	**21.80**	**191**	P	**P**	**09 01 37.2**	**-3.8**
NGZ	**Ngauruhoe**	**22.00**	**193**	P	**P**	**09 01 42.0**	**-0.8**
VRZ	**Vera Road**	**22.14**	**195**	P	**P**	**09 01 45.3**	**+1.4**
NEZ	**North Egmont**	**22.45**	**196**	P	**P**	**09 01 47.8**	**+1.0**
PXZ	**Pawanui**	**22.58**	**190**	P	**P**	**09 01 46.0**	**-1.8**
WAZ	**Wanganui**	**22.69**	**194**	P	**P**	**09 01 47.9**	**-0.9**
TSZ	**Takapari Road**	**22.77**	**192**	P	**P**	**09 01 47.8**	**-1.8**
BFZ	**Birch Farm**	**23.32**	**191**	P	**P**	**09 01 52.6**	**-1.8**
BFZ	**Birch Farm**	**23.32**	**191**	P	**P**	**09 01 52.6**	**-1.8**
MRZ	**Mangatainoka R**	**23.43**	**192**		**P**	**09 01 52.9**	**-2.5**
MRZ				IAmb	IAmb	09 01 54.8	
	comp=Z,9.8nm,0.6s						
MRZ	**Mangatainoka R**	**23.43**	**192**	P	**P**	**09 01 52.6**	**-2.7**
TATA	**Tatamba Isabel**	**23.49**	**291**	P	**P**	**09 01 57.5**	**+1.2**
SNZO	**South Karori**	**24.23**	**193**	P	**P**	**09 02 00.9**	**-1.6**
SNZO	**South Karori**	**24.23**	**193**	P	**P**	**09 02 00.9**	**-1.6**
QRZ	**Quartz Range**	**24.33**	**198**	P	**P**	**09 02 03.2**	**-0.2**
QRZ	**Quartz Range**	**24.33**	**198**	P	**P**	**09 02 03.6**	**+0.2**
PLWZ	**Palliser**	**24.37**	**192**	P	**P**	**09 02 01.4**	**-2.4**
NNZ	**Nelson**	**24.46**	**196**	P	**P**	**09 02 02.7**	**-1.9**
MRNZ	**Matariki Terra**	**24.80**	**197**	P	**P**	**09 02 05.7**	**-1.9**
THZ	**Tophouse**	**25.10**	**196**		**P**	**09 02 08.6**	**-1.7**
THZ				IAmb	IAmb	09 02 14.8	
	comp=Z,13nm,0.9s						
THZ	**Tophouse**	**25.10**	**196**	P	**P**	**09 02 09.1**	**-1.1**
DSZ	**Denniston Nort**	**25.39**	**198**	P	**P**	**09 02 11.2**	**-1.5**
DSZ	**Denniston Nort**	**25.39**	**198**	P	**P**	**09 02 12.5**	**-0.3**
KHZ	**Kahutara**	**25.55**	**195**	P	**P**	**09 02 12.3**	**-1.8**
KHZ	**Kahutara**	**25.55**	**195**	P	**P**	**09 02 12.6**	**-1.5**
GVZ	**Greta Valley S**	**26.20**	**195**	P	**P**	**09 02 18.3**	**-1.6**
LTZ	**Lake Taylor**	**26.22**	**196**	P	**P**	**09 02 18.3**	**-1.8**
INZ	**Inchbonnie**	**26.39**	**198**	P	**P**	**09 02 20.1**	**-1.5**
OXZ	**Oxford**	**26.79**	**196**	P	**P**	**09 02 23.9**	**-1.1**
WVZ	**Waitaha Valley**	**26.92**	**198**	P	**P**	**09 02 25.2**	**-1.0**
MQZ	**McQueen's Vall**	**26.99**	**195**	P	**P**	**09 02 25.4**	**-1.3**
RPZ	**Rata Peaks**	**27.42**	**197**	P	**P**	**09 02 30.8**	**+0.2**
RPZ	**Rata Peaks**	**27.42**	**197**	P	**P**	**09 02 30.3**	**-0.2**
FOZ	**Fox Glacier**	**27.62**	**199**	P	**P**	**09 02 30.5**	**-1.8**
TMZ	**Timaru**	**28.05**	**197**	P	**P**	**09 02 34.9**	**-1.1**
LBZ	**Lake Benmore**	**28.28**	**198**	P	**P**	**09 02 36.6**	**-1.6**
JCZ	**Jackson Bay**	**28.44**	**200**	P	**P**	**09 02 39.2**	**-0.3**
JCZ	**Jackson Bay**	**28.44**	**200**	P	**P**	**09 02 39.3**	**-0.3**
ODZ	**Otahua Downs**	**28.76**	**197**	P	**P**	**09 02 41.7**	**-0.5**
ODZ	**Otahua Downs**	**28.76**	**197**	P	**P**	**09 02 41.5**	**-0.7**
WKZ	**Wanaka**	**29.04**	**199**	P	**P**	**09 02 43.9**	**-0.8**
EAZ	**Earnscleugh**	**29.31**	**198**	P	**P**	**09 02 46.2**	**-0.8**
EIDS	**Eidsvold**	**29.62**	**250**	P	**P**	**09 02 49.1**	**-0.9**
EIDS				IAmb	IAmb	09 02 50.4	
	comp=Z,19nm,0.9s						
MLZ	**Mavora Lakes**	**29.80**	**200**	P	**P**	**09 02 51.0**	**-0.3**
DCZ	**Deep Cove**	**30.21**	**201**	P	**P**	**09 02 54.7**	**-0.1**
ARMA	**Armidale**	**30.28**	**240**	P	**P**	**09 02 56.3**	**+0.5**
ARMA	**Armidale**	**30.28**	**240**	P	**P**	**09 02 56.6**	**+0.8**
WHZ	**Wether Hill Ro**	**30.33**	**200**	P	**P**	**09 02 55.4**	**-0.4**
PYZ	**Puysegur Point**	**30.99**	**201**	P	**P**	**09 03 01.9**	**+0.5**
CNB	**Canberra Magne**	**33.76**	**232**	P	**P**	**09 03 26.1**	**+0.9**
CAN	**Canberra**	**34.03**	**233**	P	**P**	**09 03 28.3**	**+0.8**
CAN				IAmb	IAmb	09 03 28.6	
	comp=Z,19nm,0.9s						
CAN	**Canberra**	**34.03**	**233**	P	**P**	**09 03 28.3**	**+0.8**
GLAD	**Gladstone**	**37.16**	**224**	P	**P**	**09 03 53.7**	**+0.5**
COEN	**Coen**	**37.44**	**270**	P	**P**	**09 03 55.8**	**-0.1**
COEN				IAmb	IAmb	09 03 57.0	
	comp=Z,14nm,0.9s						
COEN	**Coen**	**37.44**	**270**	P	**P**	**09 03 56.4**	**+0.5**
TOO	**Toolangi**	**37.50**	**231**	P	**P**	**09 03 56.5**	**+0.4**
TOO				IAmb	IAmb	09 03 57.8	
	comp=Z,9.1nm,0.9s						
STKA	**Stephens Creek**	**38.98**	**241**	P	**P**	**09 04 08.7**	**+0.5**
STKA	**Stephens Creek**	**38.98**	**241**	P	**P**	**09 04 08.9**	**+0.8**
	comp=Z,14nm,0.9s,baz=80,slow=8.1,SNR=21						
STKA				PcP	**PcP**	**09 06 05.3**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=52,slow=4.3,SNR=3.5						
	comp=Z,14nm,0.9s						
STKA	**Stephens Creek**	**38.98**	**241**	P	**P**	**09 04 08.9**	**+0.8**
INKA	**Innaminka**	**39.10**	**248**	P	**P**	**09 04 10.1**	**+0.9**
HTT	**Hallett**	**41.49**	**239**	P	**P**	**09 04 29.1**	**+0.8**
LCRK	**Leigh Creek**	**41.60**	**244**	P	**P**	**09 04 29.6**	**+0.4**
OOD	**Oodnadatta**	**43.57**	**248**	P	**P**	**09 04 45.3**	**+0.7**
BBOO	**Buckleboo**	**43.75**	**241**	P	**P**	**09 04 45.8**	**-0.2**
BBOO				IAmb	IAmb	09 04 46.8	
	comp=Z,16nm,0.8s						
BBOO	**Buckleboo**	**43.75**	**241**	P	**P**	**09 04 46.4**	**+0.5**
WB0	**Warramunga Arr**	**44.95**	**260**	P	**P**	**09 04 54.0**	**-1.3**
WRA	**Warramunga Arr**	**44.98**	**259**	P	**P**	**09 04 54.5**	**-1.1**
WRA	**Warramunga Arr**	**44.98**	**259**	P	**P**	**09 04 55.1**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=97,slow=6.8,SNR=34						
WRA				PcP	**PcP**	**09 06 25.6**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=91,slow=3.7,SNR=10.0						
	comp=Z,3.1nm,0.6s						
PTCN	**Pitcairn Islan**	**45.03**	**108**	P	**P**	**09 04 54.3**	**-1.6**
AS01	**Alice Springs**	**45.10**	**254**	P	**P**	**09 04 56.3**	**-0.2**
AS31	**Alice Springs**	**45.14**	**254**	P	**P**	**09 04 56.3**	**-0.5**
AS31				IAmb	IAmb	09 04 57.8	
	comp=Z,9.1nm,0.7s						
ASAR	**Alice Springs**	**45.14**	**254**	P	**P**	**09 04 56.8**	**-0.1**
	comp=Z,31nm,0.6s,baz=89,slow=8.2,SNR=632						
ASAR				PcP	**PcP**	**09 06 26.2**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=102,slow=3.7,SNR=14						
ASAR				S	**S**	**09 10 55.4**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=88,slow=15,SNR=11						
	comp=Z,31nm,0.6s						
MTN	**Manton Dam**	**49.14**	**268**	P	**P**	**09 05 25.5**	**-1.4**
MTN				IAmb	IAmb	09 05 53.5	
	comp=Z,20nm,1.5s						
WRKA	**Warakurna**	**50.20**	**252**	P	**P**	**09 05 34.7**	**+0.1**
FORT	**Forrest**	**50.36**	**245**	P	**P**	**09 05 35.0**	**-0.6**
FORT	**Forrest**	**50.36**	**245**	P	**P**	**09 05 35.3**	**-0.3**
KNRA	**Kununurra**	**50.84**	**264**	P	**P**	**09 05 38.6**	**-0.7**
KNRA				IAmb	IAmb	09 05 46.0	
	comp=Z,9.4nm,1.2s						
FAKI	**Fak Fak**	**50.89**	**281**	P	**P**	**09 05 39.3**	**-0.5**
FAKI				IAmb	IAmb	09 05 41.3	
	comp=Z,9.6nm,1.0s						
FAKI	**Fak Fak**	**50.89**	**281**	P	**P**	**09 05 39.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**53.38**	**260**	P	**P**	**09 05 57.6**	**0.0**
SOEI	**Soe**	**56.41**	**270**	P	**P**	**09 06 19.5**	**+0.6**
SOEI				IAmb	IAmb	09 06 21.4	
	comp=Z,21nm,0.8s						
MBWA	**Marble Bar**	**58.43**	**256**	P	**P**	**09 06 31.4**	**-1.0**
MBWA				IAmb	IAmb	09 06 58.2	
	comp=Z,20nm,1.4s						
MEEK	**Meekatharra**	**58.79**	**249**	P	**P**	**09 06 34.5**	**-0.3**
SBA	**Scott Base**	**60.54**	**184**	P	**P**	**09 06 48.4**	**+2.9**
SBA				IAmb	IAmb	09 06 50.1	
	comp=Z,16nm,1.1s						
VNDA	**Vanda**	**60.57**	**185**	P	**P**	**09 06 48.1**	**+2.4**
VNDA	**Vanda**	**60.57**	**185**	P	**P**	**09 06 48.4**	**+2.6**
	comp=Z,2.0nm,0.8s,baz=356,slow=6.8,SNR=9.6						
	comp=Z,2.0nm,0.8s						
PLAI	**Plampang**	**62.84**	**269**	P	**P**	**09 07 02.3**	**+0.7**
TOLI2	**Tolitoli**	**63.03**	**281**	P	**P**	**09 07 03.6**	**+0.8**
JAGI	**Jajag, Banyuwa**	**66.38**	**268**	P	**P**	**09 07 22.4**	**-1.6**
MJAR	**Matsushiro Arr**	**68.03**	**323**	P	**P**	**09 07 32.7**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=162,slow=4.9,SNR=4.6						
	comp=Z,1.6nm,0.6s						
UGM	**Wanagama**	**69.99**	**268**	P	**P**	**09 07 45.6**	**-0.3**
JKA	**Kamikawa-asahi**	**71.35**	**331**	P	**P**	**09 07 53.5**	**+0.3**
JKA				IAmb	IAmb	09 07 58.7	
	comp=Z,21nm,1.4s						
ASAJ	**Asahikawa**	**71.35**	**331**	P	**P**	**09 07 54.2**	**+1.0**
	comp=Z,2.7nm,0.5s,baz=238,slow=9.8,SNR=4.2						
	comp=Z,2.7nm,0.5s						
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**	**09 07 59.8**	**+1.5**
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**	**09 08 00.2**	**+1.9**
	comp=Z,26nm,0.9s,baz=12,slow=0.6,SNR=128						
	comp=Z,26nm,0.9s						
KSM	**Kuching**	**73.01**	**277**	P	**P**	**09 08 03.6**	**+0.1**
SAO	**San Andreas Ge**	**76.12**	**44**	P	**P**	**09 08 21.6**	**+1.2**
SAO				IAmb	IAmb	09 08 47.3	
	comp=Z,9.4nm,1.0s						
ISA	**Isabella, Lake**	**77.50**	**46**	P	**P**	**09 08 28.4**	**+0.2**
ISA				IAmb	IAmb	09 08 30.9	
	comp=Z,13nm,1.4s						
CMB	**Columbia Colle**	**77.53**	**43**	P	**P**	**09 08 29.1**	**+0.9**
AFDM	**Forest Hills D**	**77.68**	**42**	P	**P**	**09 08 29.1**	**+0.1**
YUH	**Yuha Desert**	**77.73**	**50**	P	**P**	**09 08 30.3**	**+0.9**
YUH				IAmb	IAmb	09 08 32.3	
	comp=Z,8.6nm,1.1s						
SLBS	**Sierra La Lagu**	**78.22**	**60**	P	**P**	**09 08 34.2**	**+1.9**
SLBS				IAmb	IAmb	09 08 40.9	
	comp=Z,18nm,1.2s						
YBH	**Yreka Blue Hor**	**78.23**	**39**	P	**P**	**09 08 33.1**	**+1.1**
WAKR	**Walker**	**78.42**	**43**	P	**P**	**09 08 34.3**	**+1.1**
MPK	**Martis Peak**	**78.48**	**42**	P	**P**	**09 08 34.6**	**+1.0**
MPK				IAmb	IAmb	09 08 36.3	
	comp=Z,21nm,1.2s						
BEKR	**Beckworth**	**78.59**	**42**	P	**P**	**09 08 35.0**	**+0.9**
N14K	**Kuskokwak Cree**	**78.59**	**8**	P	**P**	**09 08 34.2**	**+0.9**
PNTR	**Pine Nut**	**78.64**	**43**	P	**P**	**09 08 36.0**	**+1.7**
PNTR				IAmb	IAmb	09 08 37.1	
	comp=Z,11nm,0.9s						
DSP	**Deep Springs**	**78.77**	**45**		**P**	**09 08 36.0**	**+1.3**
LHV	**Little Huntoon**	**78.89**	**44**	P	**P**	**09 08 36.7**	**+1.3**
LHV				IAmb	IAmb	09 08 38.5	
	comp=Z,11nm,1.0s						
NVAR	**Mina Array Bea**	**79.12**	**44**	P	**P**	**09 08 37.8**	**+0.9**
NVAR	**Mina Array Bea**	**79.12**	**44**	P	**P**	**09 08 38.5**	**+1.6**
	comp=Z,4.3nm,0.8s,baz=225,slow=9.0,SNR=29						
	comp=Z,4.3nm,0.8s						
PAHR	**Pah Rah Range**	**79.12**	**42**	P	**P**	**09 08 37.7**	**+0.9**
NV11	**Mina Array Sit**	**79.22**	**44**	P	**P**	**09 08 38.2**	**+0.8**
NV11				IAmb	IAmb	09 08 40.0	
	comp=Z,8.1nm,1.1s						
J04A	**Umpqua Nationa**	**79.49**	**38**		**P**	**09 08 39.6**	**+0.9**
J04A				IAmb	IAmb	09 08 40.9	
	comp=Z,13nm,0.7s						
J05D	**Fort Rock, OR**	**80.03**	**38**		**P**	**09 08 42.8**	**+1.2**
J05D				IAmb	IAmb	09 08 43.8	
	comp=Z,8.7nm,0.7s						
SHPR	**Sheep Range**	**80.23**	**47**	P	**P**	**09 08 44.0**	**+1.3**
PINE	**Pine Mountain**	**80.50**	**38**		**P**	**09 08 45.3**	**+1.3**
PINE				IAmb	IAmb	09 08 47.0	
	comp=Z,16nm,1.2s						
K15K	**Wolf Creek Mou**	**80.90**	**8**	P	**P**	**09 08 46.8**	**+1.4**
K15K				IAmb	IAmb	09 08 47.9	
	comp=Z,22nm,1.2s						
I07A	**Izee**	**81.52**	**38**		**P**	**09 08 50.6**	**+1.4**
I07A				IAmb	IAmb	09 08 51.8	
	comp=Z,5.9nm,0.9s						
J08A	**Circle Bar Ran**	**81.73**	**39**		**P**	**09 08 50.7**	**+0.5**
J08A				IAmb	IAmb	09 08 52.8	
	comp=Z,11nm,1.2s						
KNB	**Kanab**	**82.11**	**47**	P	**P**	**09 08 54.3**	**+1.9**
BELA	**Belgrano 2**	**82.22**	**173**	P	**P**	**09 08 52.7**	**+0.6**
J18K	**Innoko River**	**82.70**	**9**	P	**P**	**09 08 55.0**	**+0.4**
J18K				IAmb	IAmb	09 08 56.2	
	comp=Z,6.3nm,0.9s						
SEY	**Seymchan**	**83.76**	**347**	P	**P**	**09 08 59.9**	**+0.1**
	comp=Z,3.8nm,0.6s,baz=132,slow=6.4,SNR=15						
	comp=Z,3.8nm,0.6s						
TRF	**Thorofare Moun**	**83.84**	**12**	P	**P**	**09 08 59.7**	**-0.7**
TRF				IAmb	IAmb	09 09 01.3	
	comp=Z,6.8nm,0.7s						
RND	**Reindeer**	**84.10**	**13**	P	**P**	**09 09 01.4**	**-0.2**
RND				IAmb	IAmb	09 09 02.6	
	comp=Z,9.4nm,0.6s						
PLID	**Pearl Lake**	**84.16**	**39**	P	**P**	**09 09 03.4**	**+0.9**
VHRN	**Van Horn**	**85.18**	**56**	P	**P**	**09 09 09.4**	**+1.7**
VHRN				IAmb	IAmb	09 09 10.6	
	comp=Z,6.2nm,1.1s						
HDA	**Harding Lake**	**85.39**	**13**	P	**P**	**09 09 07.5**	**-0.2**
HDA				IAmb	IAmb	09 09 08.1	
	comp=Z,4.6nm,0.9s						
TX31	**Lajitas Ar. Si**	**85.66**	**57**	P	**P**	**09 09 11.9**	**+1.9**
TX31				IAmb	IAmb	09 09 13.8	
	comp=Z,14nm,1.2s						
TXAR	**Lajitas Array**	**85.66**	**57**	P	**P**	**09 09 11.7**	**+1.7**
TXAR	**Lajitas Array**	**85.66**	**57**	P	**P**	**09 09 12.6**	**+2.6**
	comp=Z,4.4nm,0.8s,baz=221,slow=6.1,SNR=38						
	comp=Z,4.4nm,0.8s						
ILAR	**Eielson Array**	**85.71**	**13**	P	**P**	**09 09 08.8**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=223,slow=5.4,SNR=38						
	comp=Z,0.9nm,0.4s						
J26L	**Joseph Creek**	**86.22**	**14**	P	**P**	**09 09 12.3**	**+0.5**
XAN	**Xi'an**	**86.47**	**307**	⇓P	**P**	**09 09 15.3**	**+1.6**
XAN				pmax	pmax		
	comp=Z,12nm,1.3s						
MOOW	**Moose Ponds**	**86.74**	**42**	P	**P**	**09 09 16.1**	**+1.2**
YHL	**Hebgen Lake**	**86.99**	**41**	P	**P**	**09 09 17.3**	**+1.1**
YHL				IAmb	IAmb	09 09 20.1	
	comp=Z,16nm,1.3s						
YMR	**Madison River**	**87.04**	**41**	P	**P**	**09 09 18.3**	**+2.0**
YMR				IAmb	IAmb	09 09 19.6	
	comp=Z,8.9nm,1.1s						
PD31	**Pinedale Array**	**87.05**	**43**	P	**P**	**09 09 17.0**	**+0.6**
PDAR	**Pinedale Array**	**87.05**	**43**	P	**P**	**09 09 17.6**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=206,slow=3.5,SNR=13						
	comp=Z,1.8nm,0.8s						
HHC	**Hu-ho-hao-te**	**87.44**	**314**	*e*P	**P**	**09 09 18.1**	**-0.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,68nm,5.1s						
CMAR	**Chiang Mai Arr**	**89.17**	**290**	P	**P**	**09 09 27.8**	**+1.2**
	comp=Z,2.6nm,0.3s,baz=104,slow=2.6,SNR=15						
	comp=Z,2.6nm,0.3s						
ELIB	**Princess Elisa**	**89.30**	**187**	*d*P	**P**	**09 09 27.4**	**+1.0**
	comp=Z,22nm,0.8s						
PZH	**PanZhiHua**	**89.41**	**298**	P	**P**	**09 09 28.8**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,6.5s						
TROLL	**Troll, Antarti**	**90.41**	**180**	⇑P	**P**	**09 09 32.6**	**+1.2**
	comp=Z,514nm,0.5s						
E28M	**Babbage River**	**90.53**	**13**	P	**P**	**09 09 32.3**	**+0.5**
VNA3	**Neumayer Olymp**	**90.82**	**176**	⇑P	**P**	**09 09 33.8**	**+0.6**
	comp=Z,25nm,0.6s						
F31M	**Tsiigehtchic**	**91.00**	**16**	P	**P**	**09 09 34.3**	**+0.5**
PLCA	**Paso Flores**	**91.15**	**134**	P	**P**	**09 09 36.0**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=250,slow=7.2,SNR=3.3						
	comp=Z,1.3nm,0.8s						
VNA2	**Neumayer--Watz**	**91.26**	**177**	⇑P	**P**	**09 09 36.3**	**+1.1**
	comp=Z,

JYRO	**Yoronjima**	**2.15**	**6**	*e*P	**Pn**	**09 25 40.2**	**-1.5**
JYRO				S	**Sn**	**09 26 04.2**	**-4.0**
JIH	**Iheya**	**2.15**	**355**	*e*P	**Pn**	**09 25 39.6**	**-2.1**
JOKE	**Okinoerabujima**	**2.50**	**8**	P	**Pn**	**09 25 45.2**	**-1.2**
JOKE				*e*S	**Sn**	**09 26 11.9**	**-4.8**
JOGS	**Gusukube**	**2.52**	**268**	P	**Pn**	**09 25 45.7**	**-1.1**
JOGS				S	**Sn**	**09 26 14.2**	**-3.2**
JMJ2	**Miyako jima3**	**2.60**	**268**	P	**Pn**	**09 25 46.6**	**-1.2**
JMJ2				S	**Sn**	**09 26 15.5**	**-3.7**
JIKM	**Ikemajima**	**2.66**	**272**	P	**Pn**	**09 25 47.3**	**-1.4**
JIKM				S	**Sn**	**09 26 17.3**	**-3.6**
JIRB	**Irabujima**	**2.73**	**270**	P	**Pn**	**09 25 48.2**	**-1.5**
JIRB				S	**Sn**	**09 26 17.9**	**-4.6**
JMZ	**Minamidaito 2**	**2.91**	**71**		**Pn**	**09 25 49.5**	**-2.5**
JMZ	**Minamidaito 2**	**2.91**	**71**	P	**Pn**	**09 25 48.7**	**-3.3**
JMZ				*e*S	**Sn**	**09 26 22.7**	**-4.2**
JTK	**Tokunoshima**	**2.97**	**13**	*e*P	**Pn**	**09 25 51.7**	**-1.3**
JTK				S	**Sn**	**09 26 23.4**	**-5.2**
JKDJ	**Kitadaitoujima**	**3.01**	**69**	P	**Pn**	**09 25 50.5**	**-3.1**
JKDJ				S	**Sn**	**09 26 23.9**	**-5.5**
JTJ	**Tarama**	**3.17**	**266**	P	**Pn**	**09 25 54.1**	**-1.6**
JTJ				S	**Sn**	**09 26 29.2**	**-4.2**
JAMN	**Amaminishikomi**	**3.46**	**15**	*e*P	**Pn**	**09 25 58.8**	**-1.0**
JAMN				S	**Sn**	**09 26 36.2**	**-4.4**
JISG	**Ishigakijimahi**	**3.53**	**266**	P	**Pn**	**09 25 58.9**	**-1.8**
JISG				S	**Sn**	**09 26 36.1**	**-6.2**
JIJ	**Ishigaki jima**	**3.71**	**263**	P	**Pn**	**09 26 01.2**	**-1.9**
JIJ				*e*S	**Sn**	**09 26 39.8**	**-6.9**
JAM	**Amami Oshima**	**3.74**	**20**	*e*P	**Pn**	**09 26 02.0**	**-1.5**
JAM				S	**Sn**	**09 26 42.5**	**-4.8**
JZK	**Kikaishima**	**3.78**	**25**	*e*P	**Pn**	**09 26 01.9**	**-2.1**
JZK				*e*S	**Sn**	**09 26 44.7**	**-3.6**
JKRS	**Kuro-shima**	**3.85**	**261**	*e*P	**Pn**	**09 26 03.9**	**-1.2**
JKRS				S	**Sn**	**09 26 45.8**	**-4.4**
HATJ	**Hateruma jima**	**4.07**	**259**	*e*P	**Pn**	**09 26 06.2**	**-1.9**
HATJ				S	**Sn**	**09 26 49.6**	**-6.0**
JTAJ	**Takarajima**	**4.35**	**12**	*e*P	**Pn**	**09 26 09.1**	**-2.9**
JTAJ				S	**Sn**	**09 26 56.7**	**-5.8**
YOJ	**Yonaguni jima**	**4.72**	**266**	Pn	**Pn**	**09 26 15.8**	**-1.2**
YOJ	**Yonaguni jima**	**4.72**	**266**	P	**Pn**	**09 26 15.8**	**-1.2**
JYAK	**Yakushimahirau**	**5.72**	**21**	*e*P	**Pn**	**09 26 29.1**	**-1.7**
JYAK				*e*S	**Sn**	**09 27 30.8**	**-5.5**
NACB	**Ninganchiao**	**6.04**	**265**		**Pn**	**09 26 32.4**	**-2.8**
YHNB	**Yeheng**	**6.19**	**269**		**Pn**	**09 26 36.7**	**-0.6**
YHNB	**Yeheng**	**6.19**	**269**	P	**Pn**	**09 26 36.6**	**-0.7**
YULB	**Yu-li**	**6.46**	**258**		**Pn**	**09 26 37.3**	**-3.7**
YULB	**Yu-li**	**6.46**	**258**	P	**Pn**	**09 26 37.3**	**-3.7**
SSLB	**Suanglung**	**6.68**	**262**		**Pn**	**09 26 41.5**	**-2.6**
SSLB	**Suanglung**	**6.68**	**262**	P	Pn	09 26 38.4	-5.6
TWG	**Pinlang**	**6.82**	**254**	Pn	**Pn**	**09 26 42.6**	**-3.4**
TPUB	**Ta-pu**	**7.08**	**259**		**Pn**	**09 26 47.6**	**-1.9**
TPUB	**Ta-pu**	**7.08**	**259**	P	**Pn**	**09 26 47.2**	**-2.2**
JNU	**Nakatsue**	**8.54**	**15**	Pn	**Pn**	**09 27 08.1**	**-1.4**
	0.3nm,0.3s,baz=155,slow=2.4,SNR=5.6						
	22nm,1.1s						
KSRS	**Korea Array**	**12.54**	**359**	Pn	**Pn**	**09 28 02.8**	**-1.4**
	1.1nm,0.5s,baz=157,slow=16,SNR=4.3						
MJAR	**Matsushiro Arr**	**14.46**	**34**	Pn	**Pn**	**09 28 30.4**	**-0.1**
	baz=219,slow=7.5,SNR=2.0						
	0.5nm,0.4s						
LYN	**LuoYang**	**16.69**	**309**	⇑P	**P**	**09 29 03.4**	**+1.4**
LYN				pmax	pmax		
	comp=Z,33nm,0.9s						
XAN	**Xi'an**	**19.07**	**303**	⇓P	**Pn**	**09 29 29.3**	**+0.2**
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
USA0B	**Ussuriysk Arra**	**19.52**	**8**	P	**Pn**	**09 29 35.4**	**+1.0**
USA0B	**Ussuriysk Arra**	**19.52**	**8**	P	**Pn**	**09 29 35.4**	**+1.0**
USA0B				pmax	pmax		
	comp=Z,11nm,1.0s						
USRK	**Ussuriysk Ar.**	**19.52**	**8**	P	**Pn**	**09 29 35.5**	**+1.1**
USRK	**Ussuriysk Ar.**	**19.52**	**8**	P	**P**	**09 29 33.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=183,slow=9.9,SNR=7.8						
	comp=Z,5.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**19.52**	**8**	P	**Pn**	**09 29 35.5**	**+1.1**
ERM	**Erimo**	**21.11**	**32**	P	**P**	**09 29 51.0**	**+0.6**
ERM				IAmb	IAmb	09 30 03.2	
	comp=Z,21nm,1.1s						
ERM	**Erimo**	**21.11**	**32**	*i* P	**P**	**09 29 49.5**	**-0.9**
TEY	**Ternei**	**21.24**	**17**	*e*P	P	09 29 58.8	+7.1
XLT	**XiLinHaoTe**	**21.40**	**335**	*e*P	**P**	**09 29 57.5**	**+3.9**
XLT				sP	pwP	09 30 06.3	+1.3
XLT				PcS	**PcS**	**09 37 37.1**	**+1.9**
XLT				pmax	pmax		
	comp=Z,13nm,0.9s						
XLT				LR	LR		
	comp=N,23nm,13.5s						
XLT				LR	LR		
	comp=E,150nm,13.8s						
XLT				LR	LR		
	comp=Z,290nm,15.3s						
BTO	**Baotou**	**21.82**	**320**	*e*P	**P**	**09 30 05.0**	**+6.8**
BTO				pP	**pwP**	**09 30 10.3**	**+0.7**
BTO				sP	sP	09 30 12.3	+11
BTO				PP	PnPn	09 30 30.6	+11
BTO				S	Sn	09 34 13.0	+4.1
BTO				SS	SnSn	09 34 42.4	+18
BTO				pmax	pmax		
	comp=Z,25nm,0.7s						
BTO				pmax	pmax		
	comp=Z,240nm,4.4s						
BTO				LR	LR		
	comp=N,530nm,12.8s						
BTO				LR	LR		
	comp=E,210nm,6.2s						
BTO				LR	LR		
	comp=Z,560nm,12.1s						
LZH	**Lanzhou**	**23.70**	**304**	*e*P	**P**	**09 30 18.6**	**+0.7**
LZH				pmax	pmax		
	comp=Z,40nm,1.3s						
KLR	**Kul'dur**	**24.47**	**6**	P	**P**	**09 30 24.3**	**-0.4**
	comp=Z,6.9nm,1.1s,baz=176,slow=8.7,SNR=8.6						
	comp=Z,6.9nm,1.1s						
KLR	**Kul'dur**	**24.47**	**6**	*e*P	**P**	**09 30 24.0**	**-0.7**
KLR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YSS	**Yuzhno-Sakhali**	**24.91**	**24**	*i* P	**P**	**09 30 29.5**	**+0.8**
YSS				pmax	pmax		
	comp=Z,21nm,1.3s						
CMAR	**Chiang Mai Arr**	**27.88**	**263**	P	**P**	**09 30 56.1**	**+0.2**
	comp=Z,2.4nm,0.3s,baz=76,slow=8.3,SNR=1.4						
	comp=Z,2.4nm,0.3s						
GTA	**Gaotai**	**27.91**	**308**	*e*P	**P**	**09 30 56.8**	**+0.8**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
FAKI	**Fak Fak**	**27.91**	**171**	P	**P**	**09 30 55.5**	**-0.5**
FAKI				IAmb	IAmb	09 30 59.8	
	comp=Z,10nm,0.8s						
ULN	**Ulaanbaatar**	**28.38**	**329**	*i* P	**P**	**09 31 03.2**	**+3.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SONM	**Songino Array**	**28.67**	**329**	P	**P**	**09 31 01.9**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=143,slow=13,SNR=3.7						
SONM				LR	LR	09 44 06.9	
	comp=Z,102nm,20.6s,baz=83,slow=40						
	comp=Z,0.5nm,0.5s						
ZEA	**Zeya**	**28.83**	**359**	*i* P	**P**	**09 31 05.3**	**+1.4**
JAY	**Jayapura**	**29.82**	**154**	LR	LR	09 41 53.2	
	comp=Z,80nm,20.2s,baz=320,slow=34						
PETK	**Petropavlovsk-**	**35.87**	**30**	P	**P**	**09 32 05.5**	**0.0**
	comp=Z,3.7nm,0.9s,baz=211,slow=11,SNR=3.9						
	comp=Z,3.7nm,0.9s						
MTN	**Manton Dam**	**37.60**	**175**		**P**	**09 32 19.4**	**-1.2**
MTN				IAmb	IAmb	09 32 20.2	
	comp=Z,14nm,0.9s						
KNRA	**Kununurra**	**40.31**	**179**		**P**	**09 32 43.2**	**-0.1**
COEN	**Coen**	**41.28**	**158**	P	**P**	**09 32 51.6**	**+0.3**
COEN				IAmb	IAmb	09 32 52.5	
	comp=Z,8.6nm,0.9s						
MK31	**Makanchi Array**	**42.41**	**313**	*i* P	**P**	**09 32 59.4**	**-1.0**
MKAR	**Makanchi Array**	**42.41**	**313**		**P**	**09 33 00.3**	**-0.1**
MKAR	**Makanchi Array**	**42.41**	**313**	P	**P**	**09 33 00.0**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=98,slow=10,SNR=11						
	comp=Z,1.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**42.79**	**184**		**P**	**09 33 03.3**	**-0.3**
ZALV	**Zalesovo Beam**	**43.30**	**324**	P	**P**	**09 33 06.8**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=112,slow=9.6,SNR=7.2						
	comp=Z,2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**43.30**	**324**	*e*P	**P**	**09 33 08.3**	**+0.9**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WB0	**Warramunga Arr**	**44.79**	**172**		**P**	**09 33 19.5**	**-0.2**
WRAB	**Tennant Creek**	**44.95**	**172**		**P**	**09 33 20.5**	**-0.5**
WRAB	**Tennant Creek**	**44.95**	**172**	P	**P**	**09 33 20.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**44.95**	**172**	P	**P**	**09 33 20.6**	**-0.5**
	comp=Z,8.4nm,0.8s,baz=352,slow=8.6,SNR=35						
	comp=Z,8.4nm,0.8s						
WRA	**Warramunga Arr**	**44.95**	**172**	*e*P	**P**	**09 33 20.5**	**-0.5**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WR8	**Warramunga Arr**	**44.99**	**172**	P	**P**	**09 33 21.2**	**-0.1**
KURK	**Kurchatov**	**45.77**	**318**	*i* P	**P**	**09 33 28.6**	**+1.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
TIXI	**Tiksi**	**46.80**	**0**	*i* P	**P**	**09 33 32.9**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
AAK	**Ala-Archa**	**47.21**	**306**	LR	LR	09 56 21.6	
	comp=Z,65nm,18.4s,baz=124,slow=40						
AS31	**Alice Springs**	**48.58**	**173**		**P**	**09 33 49.3**	**-0.1**
ASAR	**Alice Springs**	**48.58**	**173**	P	**P**	**09 33 49.6**	**+0.2**
ASAR	**Alice Springs**	**48.58**	**173**	P	**P**	**09 33 49.3**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=4.8,slow=9.8,SNR=29						
	comp=Z,2.2nm,0.8s						
ASAR	**Alice Springs**	**48.58**	**173**	P	**P**	**09 33 49.6**	**+0.2**
KK31	**Karatay Array**	**50.16**	**306**	P	**P**	**09 34 02.8**	**+1.4**
KK31	**Karatay Array**	**50.16**	**306**	P	**P**	**09 34 02.8**	**+1.4**
KK31				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KKAR	**Karatay Array**	**50.16**	**306**		**P**	**09 34 02.6**	**+1.2**
KKAR	**Karatay Array**	**50.16**	**306**	P	**P**	**09 34 02.6**	**+1.2**
GAR	**Garm**	**50.31**	**301**	P	**P**	**09 34 02.9**	**+0.2**
BVAR	**Borovoye Array**	**51.26**	**319**	P	**P**	**09 34 10.1**	**+0.6**
	comp=Z,3.0nm,0.6s,baz=99,slow=7.9,SNR=12						
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**51.32**	**319**		**P**	**09 34 10.1**	**+0.1**
BRVK	**Borovoye**	**51.32**	**319**	*i* P	**P**	**09 34 10.7**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,16nm,1.4s						
KBL	**Kabul**	**51.63**	**295**	P	**P**	**09 34 13.1**	**+0.3**
KBL				IAmb	IAmb	09 34 26.6	
	comp=Z,7.7nm,0.8s						
KBL	**Kabul**	**51.63**	**295**	P	**P**	**09 34 13.1**	**+0.3**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ABKAR	**Abkulak array**	**57.54**	**314**		**P**	**09 34 55.8**	**+0.6**
ABKAR	**Abkulak array**	**57.54**	**314**		**P**	**09 34 55.5**	**+0.2**
STKA	**Stephens Creek**	**57.88**	**167**	P	**P**	**09 34 57.0**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=334,slow=9.9,SNR=4.9						
	comp=Z,2.3nm,0.8s						
ARTI	**Arti**	**58.52**	**322**	*d i* P	**P**	**09 35 03.1**	**+1.1**
ARTI						09 37 13.8	
ARTI				S	**S**	**09 43 06.7**	**+1.6**
ARTI				SS	**SS**	**09 46 59.3**	**+2.0**
ARTI				pmax	pmax		
	comp=Z,8.0nm,1.5s						
E19K	**Redstone River**	**61.37**	**25**		**P**	**09 35 22.3**	**+0.9**
E19K				IAmb	IAmb	09 35 23.6	
	comp=Z,3.3nm,0.9s						
D20K	**Etivluk River**	**61.69**	**24**		**P**	**09 35 24.5**	**+1.0**
D20K				IAmb	IAmb	09 35 35.7	
	comp=Z,3.3nm,0.9s						
B21K	**Ikpikpuk River**	**62.46**	**23**	IAmb	IAmb	09 35 31.7	
	comp=Z,3.2nm,0.8s						
H21K	**Melozitna Rive**	**63.09**	**27**	IAmb	IAmb	09 35 35.5	
	comp=Z,3.8nm,1.0s						
KIRV	**Kirov**	**63.31**	**325**	P	**P**	**09 35 34.6**	**+0.2**
	comp=Z,12nm,0.8s,baz=45,slow=1.4,SNR=4.1						
	comp=Z,12nm,0.8s						
D23K	**Nanushuk River**	**63.85**	**23**		**P**	**09 35 39.2**	**+1.3**
D23K				IAmb	IAmb	09 35 40.1	
	comp=Z,6.4nm,1.1s						
D24K	**Happy Valley**	**64.51**	**23**	IAmb	IAmb	09 36 08.0	
	comp=Z,4.8nm,1.0s						
C24K	**Franklin Bluff**	**64.53**	**23**	IAmb	IAmb	09 35 44.6	
	comp=Z,6.3nm,1.0s						
RND	**Reindeer**	**64.93**	**30**		**P**	**09 35 45.1**	**-0.1**
RND				IAmb	IAmb	09 35 47.1	
	comp=Z,4.6nm,0.7s						
RND	**Reindeer**	**64.93**	**30**	P	**P**	**09 35 45.1**	**-0.1**
RND				pmax	pmax		
	comp=Z,5.0nm,0.7s						
F24K	**Squaw Lake**	**64.97**	**25**		**P**	**09 35 46.4**	**+1.1**
F24K				IAmb	IAmb	09 35 47.6	
	comp=Z,3.4nm,0.8s						
ILAR	**Eielson Array**	**65.64**	**28**	P	**P**	**09 35 49.5**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=264,slow=6.9,SNR=6.9						
	comp=Z,0.4nm,0.7s						
F26K	**Sheenjek River**	**66.37**	**25**		**P**	**09 35 56.4**	**+2.1**
F26K				IAmb	IAmb	09 36 07.8	
	comp=Z,2.7nm,0.9s						
E28M	**Babbage River**	**67.92**	**23**		**P**	**09 36 05.4**	**+1.2**
E28M				IAmb	IAmb	09 36 06.5	
	comp=Z,3.1nm,0.9s						
BCAR	**Beaver Creek A**	**68.14**	**29**	P	**P**	**09 36 06.9**	**+1.2**
KBZ	**Khabaz**	**69.98**	**310**	P	**P**	**09 36 18.5**	**+1.1**
	comp=Z,3.0nm,0.8s,baz=121,slow=1.7,SNR=4.3						
	comp=Z,3.0nm,0.8s						
KBZ	**Khabaz**	**69.98**	**310**	*i* P	**P**	**09 36 18.0**	**+0.7**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV	**Kislovodsk**	**70.07**	**310**	*e*P	**P**	**09 36 16.7**	**-1.3**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
A36M	**Sachs Harbour**	**71.52**	**18**		**P**	**09 36 26.9**	**+0.7**
A36M				IAmb	IAmb	09 36 48.7	
	comp=Z,4.3nm,0.9s						
M31M	**Drury Creek, Y**	**71.67**	**29**	P	**P**	**09 36 27.9**	**+0.5**
M31M				IAmb	IAmb	09 36 44.1	
	comp=Z,12nm,1.4s						
FINES	**FINESS Array B**	**74.01**	**331**	P	**P**	**09 36 41.8**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=74,slow=8.1,SNR=4.6						
	comp=Z,0.6nm,0.5s						
FINES	**FINESS Array B**	**74.01**	**331**	*e*P	**P**	**09 36 43.8**	**+2.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKBB	**Malin Array Si**	**76.53**	**320**		**P**	**09 36 57.2**	**+1.4**
AKBB	**Malin Array Si**	**76.53**	**320**	*i* P	**P**	**09 36 55.8**	**-0.1**
AKBB				pmax	pmax		
	comp=Z,59nm,0.8s						
KIEV	**Kiev**	**76.54**	**320**		**P**	**09 36 57.2**	**+1.3**
KIEV	**Kiev**	**76.54**	**320**	P	**P**	**09 36 57.2**	**+1.3**
KIEV				pmax	pmax		
	comp=Z,53nm,0.8s						
BRTR	**Keskin Array B**	**77.83**	**308**	P	**P**	**09 37 03.1**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=93,slow=6.7,SNR=4.9						
	comp=Z,0.8nm,0.7s						
BRTR	**Keskin Array B**	**77.83**	**308**	*e*P	**P**	**09 37 05.5**	**+1.9**
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MMAI	**Mount Meron Ar**	**79.05**	**301**	LR	LR	10 16 47.4	
	comp=Z,76nm,18.4s,baz=148,slow=39						
YKA	**Yellowknife Ar**	**79.76**	**25**	P	**P**	**09 37 12.9**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=301,slow=5.1,SNR=13						
	comp=Z,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**79.76**	**25**	*e*P	**P**	**09 37 14.0**	**+0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	**NORSAR Subarra**	**80.50**	**334**	P	**P**	**09 37 17.1**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=55,slow=5.3						
NOA	**NORSAR Array B**	**80.50**	**334**	P	**P**	**09 37 17.3**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=52,slow=5.3,SNR=4.7						
	comp=Z,0.7nm,0.8s						
J05D	**Fort Rock, OR**	**86.98**	**43**		**P**	**09 37 52.4**	**+1.0**
J05D				IAmb	IAmb	09 37 53.5	
	comp=Z,5.1nm,0.9s						
NVAR	**Mina Array Bea**	**91.47**	**46**	P	**P**	**09 38 13.9**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=274,slow=5.9,SNR=4.7						
	comp=Z,0.4nm,0.6s						
ELIB	**Princess Elisa**	**118.04**	**200**	*d*PKPdf	**PKiKP**	**09 43 54.4**	**+2.4**

BEO ***18*** *09:25:28.9±0.8, 37°.43N×20°.41E, h0km, ML3.8/12*
IDC ***18*** *09:25:29.3±1.2, 37°.71N×20°.35E, h0km, mb3.9/10, mbtmp3.8/16, ML2.7/4, MS3.2/5, Error ellipse: s-maj=20.1km s-min=17.8km az=11.0*
PDG ***18*** *09:25:30.2±0.6, 37°.51N×20°.54E, h8km±6km, ML4.0/11, Error ellipse: s-maj=6.5km s-min=2.4km az=90.0*
NEIC ***18*** *09:25:31.2±1.9, 37°.55N±0°.07×20°.66E±0°.02, h10km±2km, mb4.2/8, Error ellipse: s-maj=12.0km s-min=3.0km az=191.0*
THE ***18*** *09:25:31.3, 37°.60N×20°.65E, h0km±2km, ML3.9/19, Error ellipse: s-maj=2.7km s-min=0.6km az=223.0*
ATH ***18*** *09:25:31.5, 37°.60N×20°.64E, h8km, Mw3.9, Moment Tensor Solution. s9 Moment tensor: Mrr0.84; Mθθ7.07; Mφφ-7.91; Mrθ0.89; Mθφ3.58; Mφr1.74; Fault plane solution:*

NP1:ϕ_s*32.00000°,* δ*89.00000°,* λ*167.00000°. NP2:*
ϕ_s*122.00000°,* δ*77.00000°,* λ*1.00000°.*
NAO ***18*** *09:25:38.1, 37°.58N×20°.59E, h10km, mb3.6*
ISC 18 09:25:31.1±1.0, 37°.60N±0°.03×20°.63E±0°.03, h12km±6km, n201, σ1°08/265, mb4.1/13, MS3.8/3, 1C-8D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
LTHK	**Lithakia**	**0.20**	**57**	P	**Pg**	**09 25 35.5**	**+0.1**
LTHK				S	**Sg**	**09 25 37.8**	**-0.6**
	200μm,0.3s						
LTHK	**Lithakia**	**0.20**	**57**	P	**Pg**	**09 25 35.5**	**+0.1**
LTHK				S	**Sg**	**09 25 38.1**	**-0.4**
ORTH	**Orthonies,Zaky**	**0.26**	**13**	P	**Pg**	**09 25 36.7**	**+0.2**
ORTH				S	**Sg**	**09 25 40.2**	**+0.1**
KYPS	**Kipseli, Zakin**	**0.27**	**36**	P	**Pg**	**09 25 36.7**	**+0.1**
KYPS				S	**Sg**	**09 25 41.0**	**+0.7**
RTZL	**Ratzakli, Kefa**	**0.49**	**14**	P	**Pg**	**09 25 40.7**	**0.0**
RTZL				S	**Sg**	**09 25 48.0**	**+0.8**
	18μm,0.5s						
CLEM	**Kyllini,Ilia,G**	**0.49**	**54**	P	**Pg**	**09 25 40.6**	**-0.3**
CLEM				S	**Sg**	**09 25 47.6**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.51**	**356**	P	**Pg**	**09 25 41.3**	**+0.1**
PSDA				S	**Sg**	**09 25 48.6**	**+0.6**
	14μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.51**	**356**	P	**Pg**	**09 25 41.2**	**+0.1**
PSDA				S	**Sg**	**09 25 48.0**	**0.0**
VLS	**Valsamata**	**0.57**	**357**	P	**Pg**	**09 25 42.2**	**-0.2**
VLS				S	**Sg**	**09 25 50.8**	**+0.8**
	11μm,0.3s						
VLS	**Valsamata**	**0.57**	**357**	P	**Pg**	**09 25 42.1**	**-0.3**
VLS				S	**Sg**	**09 25 50.8**	**+0.8**
LCHA	**Lechaina**	**0.61**	**56**	P	**Pg**	**09 25 43.3**	**+0.4**
LCHA				S	**Sg**	**09 25 51.4**	**+0.4**
LXR1	**Lixouri, Cepha**	**0.62**	**346**	P	**Pb**	**09 25 43.8**	**-0.1**
LXR1				S	**Sb**	**09 25 53.1**	**+0.6**
	41μm,0.4s						
SMHA	**Samh**	**0.65**	**2**	P	**Pg**	**09 25 43.3**	**-0.4**
SMHA				S	**Sg**	**09 25 52.2**	**-0.1**
DMLN	**Damoulianata-K**	**0.67**	**343**	P	**Pg**	**09 25 44.4**	**+0.3**
DMLN	**Damoulianata-K**	**0.67**	**343**	P	**Pg**	**09 25 44.2**	**+0.1**
DMLN				S	**Sb**	**09 25 53.6**	**-0.4**
YRMI	**Loutra Irminis**	**0.76**	**49**	P	**Pg**	**09 25 45.1**	**-0.7**
YRMI				S	**Sg**	**09 25 55.4**	**-0.4**
RLS	**Riolos of Patr**	**0.81**	**55**	P	**Pg**	**09 25 46.1**	**-0.6**
RLS				S	**Sg**	**09 25 57.6**	**+0.3**
	14μm,0.2s						
RLS	**Riolos of Patr**	**0.81**	**55**	P	**Pg**	**09 25 46.2**	**-0.5**
RLS				S	**Sg**	**09 25 57.6**	**+0.3**
VSK1	**VASILIKIADES**	**0.81**	**357**	P	**Pg**	**09 25 46.3**	**-0.5**
VSK1				S	**Sb**	**09 25 58.5**	**+0.4**
	13μm,0.5s						
AXS	**Araxos**	**0.84**	**45**	P	**Pg**	**09 25 46.7**	**-0.7**
AXS				S	**Sg**	**09 25 58.1**	**-0.3**
FSK	**Fiskardo**	**0.86**	**357**	P	**Pg**	**09 25 47.0**	**-0.7**
FSK				S	**Sb**	**09 26 00.0**	**+0.5**
	6μm,0.4s						
FSK	**Fiskardo**	**0.86**	**357**	P	**Pg**	**09 25 47.0**	**-0.7**
FSK				S	**Sb**	**09 25 59.6**	**+0.1**
AMT	**Artemida-Makis**	**0.86**	**94**	P	**Pg**	**09 25 47.6**	**-0.3**
AMT				S	**Sb**	**09 25 59.5**	**-0.1**
DRO	**Drossia**	**0.93**	**68**	P	**Pg**	**09 25 48.3**	**-0.8**
DRO				S	**Sn**	**09 26 02.6**	**-0.8**
	12μm,0.3s						
DRO	**Drossia**	**0.93**	**68**	P	**Pg**	**09 25 48.2**	**-0.9**
DRO				S	**Sb**	**09 26 01.9**	**+0.3**
EVGI	**Lefkada island**	**1.02**	**1**	P	**Pb**	**09 25 49.9**	**-0.8**
EVGI				S	**Sb**	**09 26 04.9**	**+0.8**
	11μm,0.3s						
EVGI	**Lefkada island**	**1.02**	**1**	P	**Pb**	**09 25 50.0**	**-0.8**
EVGI				S	**Sb**	**09 26 04.9**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.11**	**3**	P	**Pb**	**09 25 51.4**	**-0.9**
NYDR				S	**Sn**	**09 26 08.3**	**+0.5**
	4μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.11**	**3**	P	**Pb**	**09 25 51.9**	**-0.4**
NYDR				S	**Sn**	**09 26 07.6**	**-0.3**
ITM	**Ithomi**	**1.12**	**112**	P	**Pb**	**09 25 51.7**	**-0.8**
ITM				S	**Sn**	**09 26 08.3**	**+0.2**
	5μm,0.7s						
ITM	**Ithomi**	**1.12**	**112**		**Pb**	**09 25 51.7**	**-0.8**
ITM	**Ithomi**	**1.12**	**112**	P	**Pb**	**09 25 52.2**	**-0.3**
ITM				S	**Sn**	**09 26 07.9**	**-0.1**
UPR	**University Cam**	**1.14**	**53**	P	**Pb**	**09 25 52.6**	**-0.3**
UPR	**

NEST Nestorio 2.83 7 P **Pb 09 26 19.9 -1.8**
KYMI Kymi, Euboea I 2.93 68 P **Pn 09 26 18.9 +1.4**
SCTE Santa Cesarea 2.99 326 Pn 09 26 18.8 +0.4
AOS Alonnisos 3.00 58 P **Pn 09 26 18.1 -0.4**
KARY Karystos 3.05 81 P **Pn 09 26 19.8 +0.6**
TIP Timpagrande 3.42 299 Pn 09 26 25.2 +0.8
OHR Ohrid 3.51 2 *i* Pn **Pn 09 26 24.9 -0.6**
OHR Ohrid 3.51 2 *e*Pn **Pn 09 26 28.2 +2.6**
TIR Tirane 3.79 351 Pn 09 26 30.7 +1.3
TIR Tirane 3.79 351 *e*Pn **Pn 09 26 28.7 -0.7**
CEL Celeste 3.80 281 Pn 09 26 30.4 +0.8
KNT Kendrikon 3.97 26 P **Pn 09 26 33.0 +1.1**
VAY Valandovo 4.01 21 *e*Pn **Pn 09 26 34.4 +2.0**
IDI Anoyia 4.14 123 Pn **Pn 09 26 34.7 +0.4**
IDI Anoyia 4.14 123 Pn **Pn 09 26 36.8 +2.5**
2.4nm,0.3s,baz=251,slow=8.5,SNR=8.7
IDI Sn **Sn 09 27 23.3 +0.6**
16nm,0.3s,baz=321,slow=2.5,SNR=12
4.8nm,0.4s
SRS Serrai 4.20 32 *e*Pn **Pn 09 26 36.6 +1.6**
CUC Castrocucco 4.45 304 Pn 09 26 40.5 +2.0
PUK Puka 4.47 353 Pn 09 26 38.8 0.0
ULC Ulcinj 4.48 347 *e*Pn **Pn 09 26 39.1 +0.1**
ULC *e*Sn **Sn 09 27 31.7 +0.6**
DRME Dracevica, Mon 4.71 347 *e*Pn **Pn 09 26 42.5 +0.5**
DRME Dracevica, Mon 4.71 347 ⇓*i*Pn **Pn 09 26 42.6 +0.5**
DRME *e*Sn **Sn 09 27 36.5 -0.1**
PDG Podgorica 4.94 348 Pn 09 26 45.4 +0.2
PDG Podgorica 4.94 348 *e*Pn **Pn 09 26 43.2 -1.9**
PDG Podgorica 4.94 348 *e*Pn **Pn 09 26 45.5 +0.4**
PDG Podgorica 4.94 348 ⇓*i*Pn **Pn 09 26 45.3 +0.2**
PDG *e*Sn **Sn 09 27 41.4 -0.7**
VAE Valguarnera 4.94 270 Pn **Pn 09 26 42.5 -2.7**
2.5nm,0.3s,baz=141,slow=14,SNR=1.9
6.9nm,0.3s
RAFF Raffo Rosso 5.00 268 Pn 09 26 46.2 +0.1
PVY Plav 5.01 354 *e*Pn **Pn 09 26 47.1 +0.8**
PVY *e*Sn **Sn 09 27 44.5 +0.2**
BOSS Bosilegrad 5.09 16 *e*Pn **Pn 09 26 48.8 +1.5**
HCY Herceg Novi 5.11 342 *e*Pn **Pn 09 26 43.2 -4.3**
HCY Herceg Novi 5.11 342 ⇑*i*Pn **Pn 09 26 46.9 -0.6**
HCY *e*Sn **Sn 09 27 45.8 -0.6**
CEME Cevo 5.11 346 ⇓*i*Pn **Pn 09 26 47.2 -0.4**
CEME *e*Sn **Sn 09 27 44.9 -1.7**
RDO Rodhopi 5.20 46 Pn 09 26 49.1 +0.4
WDD Wied Dalam 5.21 252 Pn 09 26 50.1 +1.3
BARS Barje 5.29 10 *e*Pn **Pn 09 26 50.8 +0.8**
IVA Berane 5.29 354 ⇓*i*Pn **Pn 09 26 51.6 +1.5**
IVA *e*Sn **Sn 09 27 50.8 -0.3**
KOME Kolasin 5.31 351 ⇓*i*Pn **Pn 09 26 51.2 +0.8**
KOME *e*Sn **Sn 09 27 51.7 +0.1**
NKME Niksic 5.32 347 ⇓*i*Pn **Pn 09 26 50.5 +0.1**
NKME *e*Sn **Sn 09 27 51.2 -0.4**
ALN Alexandroupoli 5.34 50 Pn **Pn 09 26 52.0 +1.3**
VTS Vitosha 5.39 21 *e*Pn **Pn 09 26 53.5 +1.9**
TREB Trebinje 5.40 342 *e*Pn **Pn 09 26 50.2 -1.3**
BRY Bratogost 5.53 344 *e*Pn **Pn 09 26 50.6 -2.8**
BRY Bratogost 5.53 344 ⇓*i*Pn **Pn 09 26 52.7 -0.7**
BRY *e*Sn **Sn 09 27 55.9 -1.1**
SGRT San Giovanni R 5.60 319 Pn **Pn 09 26 55.0 +0.6**
SELS Selova 5.62 4 *e*Pn **Pn 09 26 55.0 +0.4**
KARP Karpathos 5.64 109 Pn **Pn 09 26 54.4 -0.6**
SJES Sjenica 5.67 355 *e*Pn **Pn 09 26 55.5 +0.1**
SJES Sjenica 5.67 355 *e*Pn **Pn 09 26 56.2 +0.8**
STON Ston 5.72 338 *e*Pn **Pn 09 26 55.1 -0.8**
STON Ston 5.72 338 *e*Pn **Pn 09 26 55.0 -0.8**
UPM Unac-Piva 5.75 347 *e*Pn **Pn 09 26 54.7 -1.8**
UPM Unac-Piva 5.75 347 ⇓*i*Pn **Pn 09 26 57.1 +0.6**
UPM *i* Sn **Sn 09 28 01.4 -1.0**
ZAPS Zavoj 5.87 14 *e*Pn **Pn 09 26 59.9 +1.9**
GOCS Kraljevo Serbi 5.96 2 *e*Pn **Pn 09 26 59.9 +0.6**
IVAS Ivanjica 5.98 357 *e*Pn **Pn 09 26 59.4 -0.1**
RUDO Rudo 6.08 351 *e*Pn **Pn 09 26 59.6 -1.3**
GRUS Gruza 6.28 1 *e*Pn **Pn 09 27 03.6 0.0**
ZAGS Zajecar 6.32 11 *e*Pn **Pn 09 27 05.5 +1.3**
BBLS Lazi&#263i 6.33 352 *e*Pn **Pn 09 27 06.1 +1.8**
BBLS Lazi&#263i 6.33 352 *e*Pn **Pn 09 27 05.2 +0.9**
DIVS Divibare 6.51 356 *e*Pn **Pn 09 27 06.4 -0.4**
TRUS Trudelj 6.62 359 *e*Pn **Pn 09 27 08.8 +0.6**
INTR Introdacqua 6.79 312 Pn **Pn 09 27 14.0 +3.3**
TEKS Tekeris 6.99 354 *e*Pn **Pn 09 27 11.3 -2.1**
TEKS Tekeris 6.99 354 *e*Pn **Pn 09 27 13.2 -0.2**
A050A Klekovaca 7.54 337 *e*Pn **Pn 09 27 21.2 +0.3**
BLY Banja Luka 7.60 341 *e*Pn **Pn 09 27 23.6 +1.9**
NRCA Norcia 7.76 315 Pn 09 27 25.5 +1.4
FDMO Fiordimonte 7.91 316 Pn 09 27 27.5 +1.5
A051A Mrakovica 7.91 340 *e*Pn **Pn 09 27 25.0 -1.1**
MLR Muntele Rosu 8.83 25 Pn **Pn 09 27 39.7 +1.0**
1.5nm,0.4s,baz=144,slow=14,SNR=4.1
MLR LR LR 09 31 11.0
comp=Z,68nm,20.8s,baz=58,slow=39
BOJS Bojanci 8.86 335 *e*Pn **Pn 09 27 38.1 -0.9**
BOJS Bojanci 8.86 335 *e*Pn **Pn 09 27 38.6 -0.4**
GBRS Gornja Briga 9.04 333 *i* Pn **Pn 09 27 41.6 +0.2**
CRES Cresnjevec Ost 9.08 336 *e*Pn **Pn 09 27 40.2 -1.8**
CRES Cresnjevec Ost 9.08 336 *i* Pn **Pn 09 27 41.3 -0.7**
SKDS Skadanscina 9.35 330 *e*Pn **Pn 09 27 44.6 -1.2**
SKDS Skadanscina 9.35 330 *e*Pn **Pn 09 27 45.0 -0.8**
CEY Cerknica 9.36 332 *e*Pn **Pn 09 27 45.6 -0.2**
CEY Cerknica 9.36 332 *e*Pn **Pn 09 27 44.5 -1.3**
PDKS Podkum 9.44 335 *i* Pn **Pn 09 27 46.5 -0.4**
SOKA Soboth 9.97 337 *e*Pn **Pn 09 27 53.3 -1.0**
2.4nm,0.3s
SOKA *e*Sn **Sn 09 29 46.6 +0.4**
4.4nm,0.8s
OBKA Obir 9.98 335 *e*Pn **Pn 09 27 53.2 -1.2**
OBKA Obir 9.98 335 *e*Pn **Pn 09 27 55.5 +1.1**
4.3nm,0.6s
OBKA *e*Sn **Sn 09 29 45.2 -1.1**
14nm,0.7s
PRED Cave del Predi 10.27 332 Pn **Pn 09 27 59.4 +1.0**
BRTR Keskin Array B 10.40 74 Pn **Pn 09 28 03.3 +3.1**
0.2nm,0.3s,baz=259,slow=12,SNR=5.6
0.6nm,0.5s
KBA Koelnbreinsper 10.89 333 *e*Pn **Pn 09 28 07.5 +0.5**
1.7nm,0.5s
KBA *e*Sn **Sn 09 30 04.9 -3.9**
3.7nm,0.7s
MOA Molln 11.25 338 *i* Pn **Pn 09 28 14.2 +2.4**
2.0nm,0.3s
MOA Molln 11.25 338 *e*Pn **Pn 09 28 10.8 -1.0**
LESA Schwarzleotal 11.43 332 *e*Pn **Pn 09 28 15.2 +0.9**
4.2nm,0.5s
GERES GERESS Array B 12.31 338 Pn **Pn 09 28 23.7 -2.6**
0.1nm,0.3s,baz=143,slow=14,SNR=3.6
0.6nm,0.4s
AKASG Malin Array Be 14.46 22 Pn **Pn 09 28 56.1 +0.6**
0.3nm,0.4s,baz=211,slow=8.7,SNR=5.0
GNI Garni 18.94 75 LR LR 09 39 13.9
comp=Z,44nm,18.5s,baz=290,slow=43
HFS Hagfors 22.98 351 P **P 09 30 34.1 -1.3**
2.7nm,0.5s,baz=163,slow=11,SNR=22
2.7nm,0.5s
NC602 NORSAR Array S 23.86 349 P **P 09 30 43.6 -0.6**
NC602 IAmb IAmb 09 30 50.0
comp=Z,9.2nm,1.4s
EKA Eskdalemuir Ar 23.95 325 P **P 09 30 42.5 -2.5**
comp=Z,0.2nm,0.2s,baz=134,slow=13,SNR=7.0
comp=Z,0.2nm,0.2s
BELG Belogornoye 23.96 43 P **P 09 30 47.1 +2.0**
comp=Z,8.0nm,0.6s,baz=216,slow=4.5,SNR=4.9
comp=Z,8.0nm,0.6s
EKB Eskdalemuir 23.96 325 P **P 09 30 45.8 +0.6**
EKB IAmb IAmb 09 30 46.9
comp=Z,11nm,1.0s
FINES FINESS Array B 24.11 6 P **P 09 30 45.4 -1.0**
FINES FINESS Array B 24.11 6 P **P 09 30 45.1 -1.3**
comp=Z,1.1nm,0.4s,baz=176,slow=10,SNR=14
comp=Z,1.1nm,0.4s
FIA1 FINESS Array S 24.11 6 P **P 09 30 45.3 -1.1**
NB2 NORSAR Subarra 24.20 349 P **P 09 30 46.9 -0.5**
comp=Z,0.9nm,0.7s,baz=162,slow=9.3
NOA NORSAR Array B 24.20 349 P **P 09 30 46.7 -0.6**
comp=Z,0.3nm,0.4s,baz=163,slow=11,SNR=7.8
NOA LR LR 09 42 03.4
comp=Z,16nm,21.1s,baz=340,slow=41
comp=Z,0.3nm,0.4s
TORD Torodi Ar. Bea 29.64 220 P **P 09 31 36.5 0.0**
comp=Z,97nm,0.2s,baz=21,slow=12,SNR=1.0
AB31 Akbulak array 30.50 55 P **P 09 31 43.5 -0.4**
ABKAR Akbulak array 30.50 55 P **P 09 31 43.4 -0.6**
ARCES ARCESS Array B 32.10 3 P **P 09 31 56.8 -1.0**
comp=Z,4.3nm,1.1s,baz=189,slow=11,SNR=8.9
comp=Z,4.3nm,1.1s
BVAR Borovoye Array 37.43 49 P **P 09 32 44.6 +0.6**
comp=Z,1.1nm,0.5s,baz=260,slow=4.5,SNR=6.1
comp=Z,1.1nm,0.5s
KKAR Karatay Array 37.95 66 P **P 09 32 48.0 -0.6**
KURBB Kurchatov Arra 42.51 53 P **P 09 33 25.3 -0.9**
comp=Z,0.6nm,0.3s,baz=282,slow=8.8,SNR=6.4
comp=Z,0.6nm,0.3s
KURK Kurchatov 42.56 53 P **P 09 33 25.7 -0.9**
KURK IAmb IAmb 09 33 40.1
comp=Z,7.7nm,1.2s
MKAR Makanchi Array 45.53 58 P **P 09 33 53.1 +2.5**
comp=Z,0.6nm,0.4s,baz=272,slow=7.8,SNR=9.1
comp=Z,0.6nm,0.4s
ZAA0 Zalesovo Array 46.02 48 P **P 09 33 54.8 +0.5**
ZALV Zalesovo Beam 46.02 48 P **P 09 33 53.4 -0.8**
ZALV Zalesovo Beam 46.02 48 P **P 09 33 53.9 -0.4**
comp=Z,1.4nm,0.4s,baz=282,slow=7.0,SNR=5.5
comp=Z,1.4nm,0.4s
ILON Igloolik, Nuna 59.50 336 P **P 09 35 34.4 +0.7**
JNU Nakatsue 84.28 52 LR LR 10 19 17.6
comp=Z,36nm,18.8s,baz=206,slow=38
CPUP Villa Florida 96.85 242 LR LR 10 26 04.1
comp=Z,67nm,18.3s,baz=145,slow=38

*NEIC **18** 09:26:00.2±0.5, 36°.52N±0°.02×98°.98W±0°.03, h7km±3km, Error ellipse: s-maj=3.6km s-min=1.9km az=120.0*
NEIC 18 09:25:59.9±0.9, 36°.514N±0°.007×99°.01W±0°.02, h5km±1km, mb_Lg2.4/10, ML2.4/18, ML2.5/17, Error ellipse: s-maj=2.6km s-min=2.4km az=98.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	**Waynoka**	**0.14**	**27**		Pg	09 26 03.2	+0.5
NOKA					Sg	09 26 05.4	+0.9
NOKA				IAML		09 26 05.6	
comp=N,2μm,0.3s							
OK038	**West end E0370**	**0.22**	**99**		Pg	09 26 04.6	+0.5
OK038				IAML		09 26 08.1	
comp=N,894nm,0.3s							
OK038				IAML		09 26 08.3	
comp=N,1μm,0.4s							
ELIS	**Ellis County**	**0.56**	**217**		Sb	09 26 19.6	-0.9
OK032	**Salt Plains WL**	**0.70**	**65**	Pg	Pg	09 26 13.3	-0.1
CROK	**Carrier**	**0.82**	**90**		Pg	09 26 15.5	-0.2
CROK					Sg	09 26 26.6	+0.2
CROK				IAML		09 26 27.0	
comp=N,168nm,0.3s							
CROK				IAML		09 26 34.5	
comp=E,172nm,0.3s							
CSTR	**Hydro, Custer**	**0.90**	**163**		Pg	09 26 17.6	+0.4
CSTR					Sb	09 26 30.0	-0.4
KAN14	**Manchester OK**	**0.95**	**62**		Pg	09 26 17.8	-0.3
KAN14					Sg	09 26 30.1	-0.3
GC02	**Grant County #**	**0.98**	**70**		Pg	09 26 18.4	-0.4
GC02					Sg	09 26 31.4	-0.1
DRZT	**Darrouzett**	**1.04**	**267**		Pg	09 26 20.2	+0.3
DRZT					Sb	09 26 34.6	+0.1
KAN12	**Harper NE Stat**	**1.12**	**46**		Pg	09 26 21.2	-0.3
KAN12					Sg	09 26 35.8	-0.3
KAN17	**Caldwell West**	**1.13**	**62**		Pg	09 26 21.0	-0.6
KAN17					Sg	09 26 35.8	-0.4
KAN09	**Caldwell North**	**1.27**	**60**		Pg	09 26 23.6	-0.7
KAN09					Sg	09 26 40.5	-0.4
KAN09				IAmb_Lg		09 26 43.5	
comp=Z,49nm,0.8s							
KAN13	**South Haven SW**	**1.32**	**67**		Pn	09 26 24.2	-0.9
KAN13					Sg	09 26 42.0	-0.5
OK029	**Liberty Lake**	**1.45**	**119**		Pn	09 26 26.8	0.0
OK048	**Pawnee Station**	**1.67**	**93**		Pn	09 26 29.9	+0.1
SMWD	**Samnorwood**	**1.73**	**216**		Pn	09 26 31.1	+0.4
OK051	**E0350 and S346**	**1.75**	**90**		Pn	09 26 31.3	+0.4
WMOK	**Wichita Mounta**	**1.78**	**174**		Pn	09 26 31.7	+0.3
WMOK	**Wichita Mounta**	**1.78**	**174**	IAmb_Lg		09 27 01.3	
comp=Z,7.6nm,0.8s							
OK052	**Battle Ridge R**	**1.85**	**106**		Pn	09 26 32.9	+0.6
R32A	**Long Quarter,**	**1.92**	**7**		Pn	09 26 34.2	+0.9
AMTX	**Amarillo**	**2.72**	**234**	IAmb_Lg		09 27 26.4	
comp=Z,14nm,1.1s							
SN07	**Snyder 07**	**3.75**	**205**	IAmb_Lg		09 28 08.5	
comp=Z,10nm,1.2s							
HHAR	**Hobbs**	**4.09**	**92**	IAmb_Lg		09 28 12.2	
comp=Z,9.3nm,1.1s							

*IDC **18** 09:27:07.0±0.6, 26°.18N×129°.38E, h0km, mb4.4/26, mbtmp4.4/30, ML4.3/3, MS3.7/4, Error ellipse: s-maj=17.6km s-min=12.8km az=73.0*
*BJI **18** 09:27:07.4, 26°.19N×129°.36E, h5km, mB4.6/13, mb4.7/51, Ms4.2/28, Ms7 3.9/31*
*NIED **18** 09:27:09.2, 26°.21N×129°.54E, h46km, MW4.4, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.93; $M_{\theta\theta}$1.83; $M_{\phi\phi}$ 1.10; $M_{r\theta}$2.22; $M_{\theta\phi}$1.10; $M_{r\phi}$1.29; Fault plane solution: $M_0$3.78000×10^{15} NP1:ϕ_s51.00000°, δ24.00000°, λ-96.00000°. NP2:ϕ_s238.00000°, δ66.00000°, λ-87.00000°.*
*JMA **18** 09:27:09.2±0.1, 26°.2N±0°.8×129°.5E±0°.5, h46km, MD4.3/27, MV4.3/27, NEAR OKINAWAJIMA ISLAND*
*NEIC **18** 09:27:09.0±1.3, 26°.10N±0°.04×129°.49E±0°.04, h10km±1km, mb4.9/59, Error ellipse: s-maj=8.4km s-min=2.9km az=133.0*
ISC 18 09:27:07.4±1.4, 26°.20N±0°.04×129°.54E±0°.03, h3km±8km, n139, σ2°.07/135, mb4.8/62, MS3.8/7, 3C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.28**	**311**	*i* P	**Pn**	**09 27 31.2**	**-1.0**
JYRO				S	**Sb**	**09 27 45.8**	**-3.0**
JOW	**Kunigami**	**1.30**	**300**	Pn	**Pn**	**09 27 31.6**	**-0.9**
1μm,0.3s,baz=135,slow=15,SNR=111							
JOW				Sn	**Sb**	**09 27 46.3**	**-3.2**
414nm,0.3s,baz=121,slow=23,SNR=5.6							
JOW	**Kunigami**	**1.30**	**300**	P	**Pn**	**09 27 31.5**	**-0.9**
JOW				S	**Sb**	**09 27 46.7**	**-2.8**
JOW	**Kunigami**	**1.30**	**300**	A	A	09 27 31.5	
comp=N,8.0nm,5.3s,comp=E,6.0nm,4.4s							
JNTH	**Nagotoyohara**	**1.40**	**284**	*i* P	**Pn**	**09 27 32.7**	**-1.1**
JNTH				S	**Sb**	**09 27 48.9**	**-3.4**
JOKE	**Okinoerabujima**	**1.45**	**324**	P	**Pn**	**09 27 33.7**	**-0.8**
JOKE				*e*S	**Sn**	**09 27 50.6**	**-3.4**
JMZ	**Minamidaito 2**	**1.56**	**103**	Pn	**Pn**	**09 27 35.2**	**-0.9**
JMZ	**Minamidaito 2**	**1.56**	**103**	P	**Pn**	**09 27 35.0**	**-1.1**
JMZ				S	**Sn**	**09 27 52.6**	**-4.2**
JMZ	**Minamidaito 2**	**1.56**	**103**	A	A	09 27 35.0	
comp=N,16nm,5.9s,comp=E,12nm,4.5s							
JJT3	**Tamagusuku3**	**1.58**	**269**	*e*P	**Pn**	**09 27 35.7**	**-0.6**
JJT3				S	**Sn**	**09 27 54.6**	**-2.5**
JKDJ	**Kitadaitoujima**	**1.60**	**98**	P	**Pn**	**09 27 35.6**	**-1.0**
JKDJ				S	**Sn**	**09 27 54.3**	**-3.5**
JIH	**Iheya**	**1.64**	**301**	P	**Pn**	**09 27 36.5**	**-0.5**
JIH				*e*S	**Sn**	**09 27 54.8**	**-3.8**
JTK	**Tokunoshima**	**1.67**	**342**	P	**Pn**	**09 27 36.9**	**-0.7**
JTK				*e*S	**Sn**	**09 27 55.9**	**-3.6**
JAMN	**Amaminishikomi**	**2.06**	**351**	P	**Pn**	**09 27 42.2**	**-0.8**
JAMN				*e*S	**Sn**	**09 28 05.9**	**-3.3**
JAGN	**Aguni-jima**	**2.09**	**281**	P	**Pn**	**09 27 43.0**	**-0.4**
JAGN				S	**Sn**	**09 28 07.1**	**-2.8**
JAGN	**Aguni-jima**	**2.09**	**281**	A	A	09 27 43.0	
comp=N,5.0nm,0.5s,comp=E,7.0nm,2.6s							
JZK	**Kikaishima**	**2.15**	**10**	P	**Pn**	**09 27 43.8**	**-0.3**
JZK				*e*S	**Sn**	**09 28 09.3**	**-2.0**
JAM	**Amami Oshima**	**2.21**	**2**	P	**Pn**	**09 27 44.0**	**-0.9**
JAM				S	**Sn**	**09 28 08.9**	**-3.9**
JKE	**Kume jima 2**	**2.47**	**274**	P	**Pn**	**09 27 47.3**	**-1.3**
JKE				S	**Sn**	**09 28 15.1**	**-4.2**
JTAJ	**Takarajima**	**2.96**	**354**	P	**Pn**	**09 27 54.2**	**-1.1**
JTAJ				S	**Sn**	**09 28 26.9**	**-4.5**
JNN	**Nakanoshima**	**3.65**	**5**	*e*P	**Pn**	**09 28 04.4**	**-0.3**
JYAK	**Yakushimahirau**	**4.12**	**12**	P	**Pn**	**09 28 10.4**	**-0.8**
JYAK				S	**Sn**	**09 28 54.7**	**-5.2**
JKC	**Kuchinoerabu**	**4.29**	**8**	P	**Pn**	**09 28 13.0**	**-0.6**
JKC				*e*S	**Sn**	**09 28 59.4**	**-4.8**
JMTN	**Minamitane**	**4.36**	**16**	P	**Pn**	**09 28 13.9**	**-0.6**
JMTN				S	**Sn**	**09 29 00.8**	**-5.0**
JTN	**Tanegashima 3**	**4.62**	**16**	*e*P	**Pn**	**09 28 17.4**	**-0.7**
JTN				S	**Sn**	**09 29 08.1**	**-4.2**
JNU	**Nakatsue**	**7.00**	**9**	Pn	**Pn**	**09 28 51.8**	**+0.9**
comp=E,9.7nm,0.3s,baz=214,slow=9.2,SNR=47							
JNU				Sn	**Sn**	**09 30 05.1**	**-6.0**
comp=E,1.6nm,0.3s,baz=284,slow=21,SNR=5.8
comp=E,30nm,0.4s
SSLB Suanglung 8.15 255 Pn 09 29 04.0 -2.6
TPUB Ta-pu 8.59 252 Pn 09 29 10.9 -1.8
NJ2 Nanjing 11.01 304 *e*P **Pn 09 29 43.9 -1.9**
NJ2 pmax pmax
comp=E,19nm,0.5s
NJ2 LR LR
comp=E,350nm,11.8s
NJ2 LR LR
comp=E,530nm,12.8s
NJ2 LR LR
comp=E,520nm,10.4s
KSRS Korea Array 11.31 353 Pn **Pn 09 29 50.5 +0.6**
comp=E,0.8nm,0.3s,baz=175,slow=14,SNR=11
comp=E,3.6nm,0.7s
JCJ Chichijima 11.35 83 LR LR 09 32 52.5
comp=E,101nm,21.6s,baz=2.0,slow=30
MJAR Matsushiro Arr 12.69 34 Pn **Pn 09 30 12.1 +3.3**
comp=E,0.7nm,0.6s,baz=202,slow=13,SNR=1.7
DL2 Dalian 14.31 334 P **Pn 09 30 32.1 +1.2**
DL2 *e*S **Sn 09 33 11.8 +1.6**
DL2 pmax pmax
comp=E,26nm,0.8s
DL2 LR LR
comp=E,430nm,12.9s
DL2 LR LR
comp=E,420nm,12.5s
DL2 LR LR
comp=E,510nm,15.3s
CNSH ChangSha 14.91 281 P **P 09 30 45.6 +0.6**
CNSH S **S 09 33 45.8 +2.6**
CNSH pmax pmax
comp=Z,15nm,1.0s
CNSH LR LR
comp=N,380nm,17.0s
CNSH LR LR
comp=E,350nm,10.8s
CNSH LR LR
comp=Z,340nm,12.8s
HNS HongShan 16.82 315 ⇑P **P 09 31 06.3 +0.2**
HNS pmax pmax
comp=Z,42nm,1.0s
HNS LR LR
comp=Z,120nm,12.7s
HNS LR LR
comp=Z,240nm,13.4s
HNS LR LR
comp=Z,250nm,12.2s
LYN LuoYang 16.90 304 ⇑P **P 09 31 07.4 +0.3**
LYN pmax pmax
comp=Z,77nm,0.8s
LYN LR LR
comp=Z,570nm,14.9s
LYN LR LR
comp=Z,370nm,15.0s
LYN LR LR
comp=Z,830nm,16.5s
BJT Baijiatuau 17.73 324 P 09 31 16.8 +0.6
BJI Beijing 17.74 324 P **P 09 31 15.8 -0.5**
BJI pmax pmax
comp=Z,27nm,0.8s
BJI pmax pmax
comp=Z,87nm,6.2s
CN2 Changchun 17.88 350 *e*P **P 09 31 20.5 +2.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
USRK Ussuriysk Ar. 18.07 6 P **P 09 31 21.7 +1.8**
comp=Z,0.4nm,0.3s,baz=186,slow=10.0,SNR=6.1
comp=Z,3.7nm,0.6s
GUMO Guam 19.08 128 LR LR 09 37 33.4
comp=Z,128nm,18.4s,baz=313,slow=33
XAN Xi'an 19.45 299 ⇑P **P 09 31 35.0 -0.2**
XAN sP pwP 09 31 41.4 -1.7
XAN pmax pmax
comp=Z,90nm,0.6s
XAN LR LR
comp=Z,310nm,15.1s
XAN LR LR
comp=Z,500nm,13.7s
XAN LR LR
comp=Z,650nm,15.6s
BNX BinXian 19.58 356 ⇓P **Pn 09 31 38.3 +0.6**
BNX pmax pmax
comp=Z,17nm,0.7s
XLT XiLinHaoTe 20.77 332 *e*P Pn 09 31 50.8 -1.1
XLT pmax pmax
comp=Z,46nm,0.7s
XLT LR LR
comp=Z,23nm,13.3s
XLT LR LR
comp=Z,180nm,10.7s
XLT LR LR
comp=Z,290nm,15.1s
ASAJ Asahikawa 20.78 27 P Pn 09 31 52.0 +0.1
comp=Z,10nm,0.6s,baz=224,slow=15,SNR=13
comp=Z,10nm,0.6s
JKA Kamikawa-asahi 20.78 27 P **P 09 31 50.8 +1.2**
HHC Hu-ho-hao-te 20.87 319 *e*P Pn 09 31 54.5 +1.3
HHC pmax pmax
comp=Z,23nm,0.6s
HHC pmax pmax
comp=Z,69nm,4.0s
HHC LR LR
comp=Z,160nm,14.2s
HHC LR LR
comp=Z,190nm,14.2s
HHC LR LR
comp=Z,240nm,16.0s
BTO Baotou 21.66 316 *e*P **P 09 32 02.3 +3.1**
BTO pP **pwP 09 32 06.8 -0.2**
BTO sP sP 09 32 10.3 +13
BTO PP **PnPn 09 32 27.3 +7.6**
BTO SS **SnSn 09 36 30.6 +7.2**
BTO pmax pmax
comp=Z,35nm,1.0s
BTO pmax pmax
comp=Z,230nm,4.7s
BTO LR LR
comp=Z,530nm,14.0s
BTO LR LR
comp=Z,260nm,10.1s
BTO LR LR
comp=Z,380nm,8.4s
KLR Kul'dur 23.06 4 P **P 09 32 12.8 -1.1**
comp=Z,9.6nm,1.0s,baz=193,slow=6.8,SNR=12
comp=Z,9.6nm,1.0s
CD2 Chengdu 23.10 288 P **P 09 32 14.5 -0.1**
CD2 pmax pmax
comp=Z,20nm,0.4s
LZH Lanzhou 24.04 300 *e*P **P 09 32 25.3 +1.4**
LZH sP pwP 09 32 33.1 +1.4
LZH pmax pmax
comp=Z,29nm,1.0s
HEH HeiHe 24.08 357 *e*P **P 09 32 23.8 -0.1**
PZH PanZhiHua 24.89 277 P **P 09 32 32.3 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,6.1s
TOLI2 Tolitoli 26.32 200 P **P 09 32 44.0 -0.6**
GTA Gaotai 28.10 305 *e*P **P 09 32 59.8 -0.8**
GTA pmax pmax
comp=Z,11nm,0.7s
GTA LR LR
comp=Z,140nm,13.8s
GTA LR LR
comp=Z,150nm,14.9s
GTA LR LR
comp=Z,200nm,15.3s
SONM Songino Array 28.23 326 P **P 09 33 00.5 -1.1**
comp=Z,2.8nm,0.7s,baz=140,slow=11,SNR=7.4
comp=Z,2.8nm,0.7s
FAKI Fak Fak 29.06 174 P **P 09 33 08.3 -0.9**
CHTO Chiang Mai 29.15 262 P **P 09 33 09.8 -0.1**
CMAR Chiang Mai Arr 29.28 261 P **P 09 33 10.8 -0.3**
comp=Z,1.0nm,0.3s,baz=48,slow=8.7,SNR=4.5
comp=Z,1.0nm,0.3s
GOMU GeErMu 31.19 297 P **P 09 33 28.5 +0.2**
GOMU pmax pmax
comp=Z,18nm,0.8s
SHL Shillong 33.81 277 P 09 33 50.2 -0.9
SHL IAmb IAmb 09 33 53.1
comp=Z,15nm,0.9s
WMQ Urumqi 38.05 308 *e*P **P 09 34 30.0 +2.8**
WMQ pmax pmax
comp=Z,36nm,0.7s

WMQ LR LR
comp=Z,110nm,23.1s
KNRA Kununurra 41.63 181 P 09 34 56.7 -0.2
KNRA IAmb IAmb 09 35 09.1
comp=Z,16nm,0.8s
MKAR Makanchi Array 42.43 312 P **P 09 35 02.5 -1.0**
MKAR Makanchi Array 42.43 312 P **P 09 35 02.0 -1.4**
comp=Z,2.6nm,0.7s,baz=88,slow=10,SNR=8.8
comp=Z,2.6nm,0.7s
ZALV Zalesovo Beam 42.99 322 P **P 09 35 06.1 -1.7**
comp=Z,2.7nm,0.5s,baz=108,slow=9.2,SNR=6.1
comp=Z,2.7nm,0.5s
KURBB Kurchatov Arra 45.69 316 P **P 09 35 28.8 -0.6**
comp=Z,4.0nm,0.5s,baz=102,slow=8.8,SNR=20
comp=Z,4.0nm,0.5s
WB0 Warramunga Arr 45.93 174 P 09 35 30.9 -0.8
WB0 IAmb IAmb 09 35 43.7
comp=Z,11nm,0.9s
WRAB Tennant Creek 46.09 174 P **P 09 35 31.6 -1.3**
WRAB IAmb IAmb 09 35 44.9
comp=Z,9.2nm,0.9s
WRA Warramunga Arr 46.10 174 P **P 09 35 32.2 -0.8**
WRA Warramunga Arr 46.10 174 P **P 09 35 33.0 +0.1**
comp=Z,6.4nm,0.7s,baz=353,slow=8.5,SNR=14
comp=Z,6.4nm,0.7s
WR8 Warramunga Arr 46.13 174 P **P 09 35 33.2 +0.1**
WR8 IAmb IAmb 09 35 34.3
comp=Z,19nm,1.3s
BILL Bilibino 47.34 18 P 09 35 42.7 +0.5
BILL IAmb IAmb 09 35 55.3
comp=Z,12nm,1.1s
ASAR Alice Springs 49.75 175 P **P 09 36 01.9 +0.6**
comp=Z,2.3nm,0.7s,baz=4.4,slow=14,SNR=23
comp=Z,2.3nm,0.7s
KKAR Karatay Array 50.39 305 P 09 36 05.5 -0.5
GAR Garm 50.70 300 P 09 36 08.4 -0.1
GAR IAmb IAmb 09 36 10.1
comp=Z,24nm,1.3s
BVAR Borovoye Array 51.08 318 P **P 09 36 11.2 +0.1**
comp=Z,4.9nm,0.6s,baz=78,slow=8.7,SNR=13
comp=Z,4.9nm,0.6s
KBL Kabul 52.19 295 P 09 36 19.1 -0.8
ABKAR Akbulak array 57.52 313 P 09 36 58.2 +0.2
ABKAR Akbulak array 57.52 313 IAmb IAmb 09 36 58.8
comp=Z,6.0nm,0.8s
ARTI Arti 58.24 322 P 09 37 01.2 -1.7
ARTI Arti 58.24 322 P **P 09 37 01.8 -1.2**
comp=Z,9.4nm,0.6s,baz=107,slow=3.9,SNR=19
comp=Z,9.4nm,0.6s
C18K Utukok River 58.33 24 P 09 37 04.5 +1.0
AKTO Aktyubinsk 58.69 315 P **P 09 37 04.3 -1.9**
comp=Z,3.0nm,0.8s,baz=70,slow=8.5,SNR=4.8
comp=Z,3.0nm,0.8s
STKA Stephens Creek 58.88 168 P **P 09 37 06.9 -0.7**
comp=Z,2.1nm,0.5s,baz=344,slow=5.9,SNR=6.9
comp=Z,2.1nm,0.5s
D19K Kuna River 59.43 24 P 09 37 12.0 +0.9
D19K IAmb IAmb 09 37 24.8
comp=Z,7.8nm,0.8s
E19K Redstone River 59.67 25 IAmb IAmb 09 37 26.8
comp=Z,9.6nm,0.9s
E21K Killik River 60.95 24 IAmb IAmb 09 37 35.0
comp=Z,7.2nm,0.8s
B22K Teshekpuk Lake 61.23 22 IAmb IAmb 09 37 36.9
comp=Z,8.2nm,0.7s
H21K Melozitna Rive 61.37 27 IAmb IAmb 09 37 38.5
comp=Z,7.3nm,1.0s
D22K Ayikyak River 61.44 24 P **P 09 37 26.8 +2.0**
D22K IAmb IAmb 09 37 38.9
comp=Z,8.3nm,0.8s
E22K Anaktuvuk Pass 61.75 25 IAmb IAmb 09 37 40.9
comp=Z,7.1nm,0.8s
D23K Nanushuk River 62.16 24 IAmb IAmb 09 37 44.0
comp=Z,9.0nm,0.9s
E23K Chandalar 62.58 25 IAmb IAmb 09 37 48.1
comp=Z,1.1nm,0.9s
H23K Yukon River 62.71 27 IAmb IAmb 09 37 47.9
comp=Z,8.6nm,0.8s
KIRV Kirov 62.95 325 P **P 09 37 34.8 -0.2**
comp=Z,11nm,0.6s,baz=85,slow=14,SNR=4.0
comp=Z,11nm,0.6s
E24K Your Creek 63.00 25 IAmb IAmb 09 37 49.4
comp=Z,4.0nm,0.7s
RND Reindeer 63.19 30 P **P 09 37 37.1 +0.4**
F24K Squaw Lake 63.26 25 IAmb IAmb 09 37 51.1
comp=Z,7.1nm,0.7s
H24K Noodor Dome 63.39 27 P **P 09 37 39.2 +1.3**
ILAR Eielson Array 63.91 28 P **P 09 37 41.1 -0.2**
comp=Z,0.9nm,0.8s,baz=271,slow=4.9,SNR=8.7
comp=Z,0.9nm,0.8s
F25K Christian Rive 64.11 25 IAmb IAmb 09 37 58.7
comp=Z,7.0nm,1.1s
C27K Jago River 64.59 23 IAmb IAmb 09 37 59.5
comp=Z,4.2nm,0.8s
F26K Sheenjek River 64.67 25 IAmb IAmb 09 38 00.5
comp=Z,5.8nm,0.8s
BELG Belogornoye 64.89 318 P **P 09 37 46.7 -1.1**
comp=Z,13nm,0.7s,baz=354,slow=8.3,SNR=4.4
comp=Z,13nm,0.7s
J26L Joseph Creek 65.37 28 IAmb IAmb 09 38 03.4
comp=Z,7.9nm,0.8s
M26K Nabesna, AK 65.98 31 IAmb IAmb 09 38 09.5
comp=Z,10nm,0.9s
EPYK Eagle Plains 67.78 26 IAmb IAmb 09 38 19.7
comp=Z,12nm,1.0s
KBZ Khabaz 70.09 310 P **P 09 38 21.5 +0.6**
comp=Z,8.6nm,1.0s,baz=140,slow=3.1,SNR=6.9
comp=Z,8.6nm,1.0s
JOF Joensuu 70.64 331 *eP* **P 09 38 24.6 +0.6**
C36M Paulatuk 71.31 21 IAmb IAmb 09 38 40.7
comp=Z,6.5nm,0.6s
FIA1 FINESS Array S 73.47 331 P 09 38 41.4 +0.4
FINES FINESS Array B 73.47 331 P **P 09 38 41.3 +0.3**
comp=Z,3.9nm,0.6s,baz=75,slow=6.1,SNR=14
comp=Z,3.9nm,0.6s
KEF Keuruu 73.69 332 *eP* **P 09 38 41.5 -0.7**
ARBE Arbavere 74.35 329 *eP* **P 09 38 45.6 -0.5**
VSU Vasula 74.40 328 *eP* **P 09 38 47.2 +0.7**
MEF Metsahovi 74.74 330 *eP* **P 09 38 49.2 +0.8**
RAF Rauma 75.53 331 *eP* **P 09 38 53.3 +0.4**
MTSE Matsula 75.67 329 *eP* **P 09 38 54.6 +0.9**
AKASG Malin Array Be 76.32 320 P **P 09 38 57.7 +0.1**
comp=Z,1.4nm,0.5s,baz=55,slow=6.1,SNR=5.8
comp=Z,1.4nm,0.5s
BRTR Keskin Array B 77.98 308 P 09 39 07.4 0.0
BRTR Keskin Array B 77.98 308 P **P 09 39 08.0 +0.6**
comp=Z,3.7nm,0.8s,baz=99,slow=4.2,SNR=13
comp=Z,3.7nm,0.8s
YKA Yellowknife Ar 78.06 25 P **P 09 39 07.8 +0.6**
comp=Z,1.2nm,1.1s,baz=302,slow=5.3,SNR=4.9
comp=Z,1.2nm,1.1s
RTZ Ruatahuna 78.28 144 P 09 39 08.9 +0.2
HFS Hagfors 79.39 333 P **P 09 39 14.0 -0.6**
comp=Z,4.3nm,0.8s,baz=67,slow=5.0,SNR=9.4
comp=Z,4.3nm,0.8s
NC405 NORSAR Array S 79.62 334 P 09 39 15.8 0.0
NC405 IAmb IAmb 09 39 19.1
comp=Z,8.0nm,0.8s
NB2 NORSAR Subarra 79.86 334 P **P 09 39 16.7 -0.5**
comp=Z,2.1nm,0.7s,baz=51,slow=5.6
NOA NORSAR Array B 79.86 334 P **P 09 39 16.9 -0.3**
comp=Z,4.1nm,0.8s,baz=51,slow=5.5,SNR=14
comp=Z,4.1nm,0.8s
SUMG Summit 81.15 356 *i P* P 09 39 32.0 +7.7
ILON Igloolik, Nuna 82.03 11 IAmb IAmb 09 39 49.7
comp=Z,5.4nm,0.7s
J05D Fort Rock, OR 85.19 44 P 09 39 46.1 +0.6
J05D IAmb IAmb 09 39 59.4
comp=Z,6.5nm,0.8s
GERES GERESS Array B 85.93 323 P **P 09 39 49.2 +0.2**
comp=Z,1.1nm,0.7s,baz=34,slow=9.9,SNR=3.6
comp=Z,1.1nm,0.7s
J08A Circle Bar Ran 86.85 43 P 09 39 55.8 +2.2
J08A IAmb IAmb 09 39 56.3
comp=Z,7.7nm,1.1s
BEKR Beckworth 87.56 46 P 09 39 58.8 +1.6
DAVOX Davos/Dischmat 89.23 323 LR LR 10 24 11.2
comp=Z,58nm,19.9s,baz=69,slow=38
NVAR Mina Array Bea 89.68 47 P **P 09 40 08.8 +1.4**
comp=Z,0.5nm,0.7s,baz=305,slow=5.2,SNR=4.0
comp=Z,0.5nm,0.7s
VAE Valguarnera 92.15 314 LR LR 10 28 32.5
comp=Z,120nm,19.5s,baz=164,slow=40
PDAR Pinedale Array 92.45 39 P **P 09 40 20.7 +0.5**
comp=Z,0.6nm,0.9s,baz=307,slow=3.9,SNR=3.9
comp=Z,0.6nm,0.9s
QSPA South Pole Qui 115.97 180 PKP **PKiKP 09 45 50.6 -0.4**
comp=Z,0.9nm,0.8s,baz=101,slow=13,SNR=1.8

*IDC **18** 09:30:56.3±0.8, 40°.10S×78°.51E, h0km, mb4.1/8, mbtmp4.1/8, MS4.4/37, Error ellipse: s-maj=24.1km s-min=22.4km az=15.0*
*NEIC **18** 09:30:57.7±0.8, 40°.06S±0°.08×78°.35E±0°.06, h10km±2km, mb4.9/26, Error ellipse: s-maj=14.5km s-min=7.4km az=12.0*
*GCMT **18** 09:31:02.0±0.2, 40°.18S±0°.01×78°.44E±0°.01, h15km±1km, MW5.1/117, Moment Tensor Solution. s43,c57; s117,c163; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=0.38±.15; $M_{\theta\theta}$=5.13±.15; $M_{\phi\phi}$=5.51±.16; $M_{r\theta}$=0.49±.30; $M_{\theta\phi}$=0.79±.12; $M_{r\phi}$=0.35±.24; Best double couple: M_0=5.41300×10^16^ NP1:φs=41.00000°, δ=84.00000°, λ=-1.00000°. NP2:φs=131.00000°, δ=89.00000°, λ=-174.00000°. Principal axes: T 5.5940, Plg=4.0000°, Azm=266.0000°; N -0.3630, Plg=83.0000°, Azm=141.0000°; P -5.2320, Plg=5.0000°, Azm=356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 18 09:30:57.9±0.6, 40°.02S±0°.10×78°.4E±0°.1, h14km, n75, σ0=81/34, mb4.8/20, MS4.5/38, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**2.31**	**344**		**Pn**	**09 31 35.0**	**-0.5**
H04N2	**CROZET ISLANDS**	**20.30**	**244**	T	T	09 56 49.9	
baz=82,slow=75,SNR=1093							
H04N1	**CROZET ISLANDS**	**20.32**	**244**	T	T	09 56 45.0	
baz=82,slow=75,SNR=1317							
H04N3	**CROZET ISLANDS**	**20.32**	**244**	T	T	09 56 48.0	
baz=82,slow=75,SNR=1220							
H01W2	**Cape Leeuwin H**	**28.71**	**91**	T	T	10 06 39.8	
baz=248,slow=74,SNR=79							
H01W3	**Cape Leeuwin H**	**28.72**	**91**	T	T	10 06 38.3	
baz=248,slow=74,SNR=82							
H01W1	**Cape Leeuwin H**	**28.73**	**91**	T	T	10 06 38.7	
baz=248,slow=74,SNR=67							
MAW	**Mawson**	**28.93**	**192**	LR	LR	09 46 24.1	
comp=Z,942nm,18.2s,baz=16,slow=32							
NWAO	**Narrogin (SRO)**	**31.85**	**90**	LR	LR	09 47 20.9	
comp=Z,1μm,19.5s,baz=250,slow=31							
H08S2	**Diego Garcia H**	**32.66**	**349**	T	T	10 12 01.6	
baz=171,slow=76,SNR=8.7							
H08S1	**Diego Garcia H**	**32.66**	**349**	T	T	10 11 58.2	
baz=171,slow=76,SNR=11							
H08S3	**Diego Garcia H**	**32.68**	**349**	T	T	10 12 04.2	
baz=171,slow=76,SNR=11							
LEM	**Lembang**	**42.18**	**46**	LR	LR	09 53 02.6	
comp=Z,209nm,19.0s,baz=194,slow=32							
BOSA	**Boshof**	**44.74**	**268**	P	**P**	**09 39 12.9**	**+2.0**
3.8nm,0.8s,baz=144,slow=8.7,SNR=4.8							
BOSA				LR	LR	09 54 33.2	
comp=Z,884nm,18.3s,baz=190,slow=32							
3.8nm,0.8s							
FITZ	**Fitzroy Crossi**	**46.10**	**76**	LR	LR	09 55 09.3	
comp=Z,618nm,21.9s,baz=245,slow=32							
LBTB	**Lobatse**	**46.31**	**272**	LR	LR	09 56 08.5	
comp=Z,832nm,18.2s,baz=123,slow=33							
SUR	**Sutherland**	**46.38**	**261**	LR	LR	09 54 56.7	
comp=Z,576nm,19.1s,baz=126,slow=31							
RPSI	**Rantau Prapat**	**46.50**	**29**	P	**P**	**09 39 24.2**	**-0.5**
RPSI				IAmb	IAmb	09 39 31.5	
comp=Z,10nm,1.2s							
MAKGR	**Makgori**	**46.50**	**271**	P	**P**	**09 39 23.6**	**-1.3**
MAKGR				IAmb	IAmb	09 39 27.6	
comp=Z,14nm,0.9s							
PSI	**Prapat**	**46.59**	**29**	LR	LR	09 56 13.6	
comp=Z,326nm,18.6s,baz=202,slow=33							
MATP	**Matopo**	**46.66**	**280**	LR	LR	09 56 05.7	
comp=Z,460nm,19.4s,baz=66,slow=32							
LPHEP	**Lephephe**	**47.00**	**274**	P	**P**	**09 39 28.3**	**-0.5**
PALK	**Pallekele**	**47.10**	**3**	LR	LR	09 54 33.1	
comp=Z,763nm,21.9s,baz=182,slow=30							
MYKOM	**Kota Tinggi**	**47.69**	**36**	P	**P**	**09 39 34.7**	**+0.6**
MYKOM				IAmb	IAmb	09 39 39.1	
comp=Z,11nm,1.1s							
ASAR	**Alice Springs**	**49.14**	**88**	P	**P**	**09 39 44.2**	**-1.1**
ASAR	**Alice Springs**	**49.14**	**88**	P	**P**	**09 39 45.4**	**0.0**
comp=Z,1.1nm,0.8s,baz=241,slow=6.1,SNR=9.1							
ASAR				LR	LR	09 58 15.2	
comp=Z,1μm,18.4s,baz=256,slow=33							
comp=Z,1.1nm,0.8s							
KULM	**Kulim**	**49.53**	**30**	P	**P**	**09 39 47.1**	**-1.1**
PHDHD	**Phuduhudu**	**49.80**	**277**	P	**P**	**09 39 49.9**	**-0.5**
PHDHD				IAmb	IAmb	09 39 54.1	
comp=Z,12nm,0.7s							
VNDA	**Vanda**	**49.90**	**164**	P	**P**	**09 39 50.4**	**+0.1**
VNDA	**Vanda**	**49.90**	**164**	P	**P**	**09 39 49.5**	**-0.9**
comp=Z,2.0nm,0.9s,baz=290,slow=7.7,SNR=7.2							
VNDA				LR	LR	09 59 28.4	
comp=Z,952nm,18.1s,baz=266,slow=34							
comp=Z,2.0nm,0.9s							
KNRA	**Kununurra**	**49.93**	**76**	P	**P**	**09 39 50.5**	**-0.8**
KNRA				IAmb	IAmb	09 40 13.7	
comp=Z,28nm,1.5s							
LSZ	**Lusaka**	**50.04**	**285**	P	**P**	**09 39 52.0**	**-0.4**
LSZ				IAmb	IAmb	09 39 56.0	
comp=Z,12nm,0.8s							
QSPA	**South Pole Qui**	**50.14**	**180**	P	**P**	**09 39 52.6**	**+0.1**
QSPA	**South Pole Qui**	**50.14**	**180**	P	**P**	**09 39 52.4**	**-0.1**
comp=Z,6.4nm,0.8s,baz=272,slow=2.1,SNR=23							
QSPA				LR	LR	09 59 52.3	
comp=Z,2μm,18.1s,baz=292,slow=35							
comp=Z,6.4nm,0.8s							
STKA	**Stephens Creek**	**50.88**	**102**	P	**P**	**09 39 58.5**	**+0.1**
comp=Z,0.7nm,0.3s,baz=222,slow=20,SNR=3.3							
comp=Z,0.7nm,0.3s							
KAPI	**Kappang**	**50.97**	**58**	LR	LR	09 57 19.2	
comp=Z,254nm,21.6s,baz=220,slow=31							
KOOLE	**Kule**	**51.55**	**271**	P	**P**	**09 40 02.7**	**-1.0**
KOOLE				IAmb	IAmb	09 40 06.3	
comp=Z,8.3nm,0.6s							
WRA	**Warramunga Arr**	**51.57**	**84**	P	**P**	**09 40 04.3**	**+0.6**
comp=Z,1.0nm,0.7s,baz=235,slow=7.2,SNR=5.6							
WRA				LR	LR	09 59 39.5	
comp=Z,739nm,19.4s,baz=179,slow=34							
comp=Z,1.0nm,0.7s							
GRTLG	**Ghanzi**	**51.67**	**273**	P	**P**	**09 40 04.3**	**-0.3**
GRTLG				IAmb	IAmb	09 40 07.7	
comp=Z,13nm,0.8s							
WB0	**Warramunga Arr**	**51.71**	**84**	P	**P**	**09 40 04.6**	**-0.2**
WB0				IAmb	IAmb	09 41 52.7	
comp=Z,31nm,1.9s							
KIBK	**Kibwezi**	**52.34**	**305**	P	**P**	**09 40 09.3**	**-0.3**
SBUM	**Sibu**	**52.41**	**45**	P	**P**	**09 40 10.2**	**+0.4**
MTN	**Manton Dam**	**53.50**	**75**	P	**P**	**09 40 18.1**	**+0.1**
KMBO	**Kilima Mbogo**	**53.78**	**305**	P	**P**	**09 40 19.9**	**-0.5**
KMBO	**Kilima Mbogo**	**53.78**	**305**	P	**P**	**09 40 22.2**	**+1.8**
comp=Z,0.9nm,0.5s,baz=110,slow=6.2,SNR=3.7							
comp=Z,0.9nm,0.5s							
TSUM	**Tsumeb**	**55.70**	**273**	P	**P**	**09 40 34.7**	**+0.5**
TSUM				IAmb	IAmb	09 40 37.5	
comp=Z,9.6nm,1.0s							
TSUM	**Tsumeb**	**55.70**	**273**	LR	LR	10 00 49.2	
comp=Z,838nm,20.8s,baz=149,slow=32							
BELA	**Belgrano 2**	**55.77**	**194**	P	**P**	**09 40 34.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**61.25**	**22**	P	**P**	**09 41 13.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**61.25**	**22**	P	**P**	**09 41 13.4**	**+0.9**
comp=Z,1.0nm,0.7s,baz=205,slow=7.9,SNR=7.3							
CMAR				LR	LR	10 03 45.7	
comp=Z,72nm,19.4s,baz=205,slow=32							
comp=Z,1.0nm,0.7s							
CHTO	**Chiang Mai**	**61.59**	**22**	P	**P**	**09 41 15.1**	**+0.2**
CHTO				IAmb	IAmb	09 41 18.0	
comp=Z,11nm,1.8s							
RPZ	**Rata Peaks**	**65.48**	**127**	LR	LR	10 04 33.4	
comp=Z,253nm,21.9s,baz=155,slow=31							
SHL	**Shillong**	**66.45**	**13**	P	**P**	**09 41 47.2**	**+0.3**
JAY	**Jayapura**	**67.41**	**73**	LR	LR	10 08 34.4	
comp=Z,340nm,22.0s,baz=212,slow=34							
PMG	**Port Moresby**	**67.78**	**84**	LR	LR	10 10 43.1	
comp=Z,358nm,18.0s,baz=222,slow=35							
PMSA	**Palmer Station**	**71.47**	**196**	LR	LR	10 12 35.5	
comp=Z,254nm,20.5s,baz=128,slow=35							
KBL	**Kabul**	**74.69**	**352**	P	**P**	**09 42 37.8**	**+0.7**
KBL				IAmb	IAmb	09 43 03.8	
comp=Z,13nm,1.4s							
HNR	**Honiara**	**77.56**	**92**	LR	LR	10 14 37.4	
comp=Z,265nm,19.0s,baz=226,slow=34							
EIL	**Elat**	**80.21**	**323**	LR	LR	10 12 50.4	
comp=Z,93nm,20.6s,baz=62,slow=31							
GUMO	**Guam**	**81.47**	**64**	LR	LR	10 15 11.1	
comp=Z,25nm,21.4s,baz=211,slow=33							
AAK	**Ala-Archa**	**82.35**	**357**	LR	LR	10 15 56.9	
comp=Z,470nm,21.5s,baz=184,slow=33							
GNI	**Garni**	**85.48**	**335**	LR	LR	10 18 07.5	
comp=Z,88nm,20.6s,baz=162,slow=33							
MSVF	**Nonsavu**	**85.93**	**110**	LR	LR	10 15 29.5	
comp=Z,153nm,18.3s,baz=205,slow=31							
MKAR	**Makanchi Array**	**86.50**	**3**	LR	LR	10 19 38.7	
comp=Z,362nm,20.2s,baz=149,slow=34							
TORD	**Torodi Ar. Bea**	**88.42**	**289**	LR	LR	10 21 51.6	
comp=Z,370nm,19.2s,baz=129,slow=34							
DBIC	**Dimbokro**	**89.08**	**279**	LR	LR	10 18 42.2	
comp=Z,324nm,21.2s,baz=124,slow=32							
KBZ	**Khabaz**	**89.30**	**335**	LR	LR	10 19 50.7	
comp=Z,91nm,21.0s,baz=162,slow=33							
KSRS	**Korea Array**	**89.50**	**37**	LR	LR	10 20 00.8	
comp=Z,34nm,21.8s,baz=225,slow=33							
SONM	**Songino Array**	**90.95**	**18**	LR	LR	10 23 38.3	
comp=Z,84nm,19.8s,baz=258,slow=35							
AKTO	**Aktyubinsk**	**91.83**	**347**	LR	LR	10 22 19.7	
comp=Z,89nm,21.0s,baz=102,slow=34							
JHJ	**Hachijo jima 2**	**92.28**	**48**	LR	LR	10 23 18.6	
comp=Z,12nm,19.5s,baz=264,slow=34							
ZALV	**Zalesovo Beam**	**93.76**	**4**	LR	LR	10 23 50.7	
comp=Z,282nm,20.6s,baz=69,slow=34							
BELG	**Belogornoye**	**95.84**	**342**	LR	LR	10 26 27.1	
comp=Z,55nm,18.0s,baz=171,slow=35							
USRK	**Ussuriysk Ar.**	**96.74**	**36**	LR	LR	10 26 43.6	
comp=Z,52nm,19.6s,baz=205,slow=35							
YKA	**Yellowknife Ar**	**156.17**	**15**	PKPab	**PKPab**	**09 51 17.3**	**-1.3**
comp=Z,0.3nm,0.9s,baz=3.2,slow=2.7,SNR=4.0							

*IDC **18** 09:31:08.2±0.9, 26°.18N×129°.31E, h0km, mb3.7/10, mbtmp3.8/11, ML3.7/1, Error ellipse: s-maj=28.9km s-min=15.3km az=66.0*
*NEIC **18** 09:31:09.6±1.5, 26°.12N±0°.09×129°.51E±0°.07, h10km±1km, mb4.4/6, Error ellipse: s-maj=15.5km s-min=8.4km az=204.0*
*NIED **18** 09:31:09.8, 26°.20N×129°.54E, h46km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; M_{rr}=4.86; $M_{\theta\theta}$=4.32; $M_{\phi\phi}$=0.54; $M_{r\theta}$=7.14; $M_{\theta\phi}$=0.64; $M_{r\phi}$=3.11; Fault plane solution: M_0=9.06000×10^14^ NP1:φs=89.00000°, δ=16.00000°, λ=-71.00000°. NP2:φs=249.00000°, δ=75.00000°, λ=-95.00000°.*
*JMA **18** 09:31:09.8±0.1, 26°.2N±0°.8×129°.5E±0°.5, h46km, MV3.6/24, NEAR MINAMI-DAITOJIMA IS*

ISC 18 09:31:11.6±0.6, 26°.20N±0°.04×129°.54E±0°.03, h30km, n42, σ2=92/61, mb3.9/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.28**	**311**	P	**Pn**	**09 31 31.8**	**-1.6**
JYRO				*eS*	**Sn**	**09 31 46.9**	**-2.6**
JOW	**Kunigami**	**1.30**	**300**	Pn	**Pn**	**09 31 32.2**	**-1.4**
JOW	**Kunigami**	**1.30**	**300**	Pn	**Pn**	**09 31 32.3**	**-1.4**
165nm,0.3s,baz=136,slow=14,SNR=18							
JOW				Sn	**Sn**	**09 31 46.9**	**-3.2**
86nm,0.3s,baz=105,slow=26,SNR=4.1							
JOW	**Kunigami**	**1.30**	**300**	P	**Pn**	**09 31 32.2**	**-1.4**
JNTH	**Nagotoyohara**	**1.40**	**284**	P	**Pn**	**09 31 33.5**	**-1.6**
JNTH				*eS*	**Sn**	**09 31 49.9**	**-2.6**
JOKE	**Okinoerabujima**	**1.45**	**324**	P	**Pn**	**09 31 34.4**	**-1.3**
JOKE				*eS*	**Sn**	**09 31 51.5**	**-2.3**
JMZ	**Minamidaito 2**	**1.56**	**103**	Pn	**Pn**	**09 31 35.4**	**-1.9**
JMZ				Sn	**Sn**	**09 31 53.0**	**-3.6**
JMZ	**Minamidaito 2**	**1.56**	**103**	P	**Pn**	**09 31 35.6**	**-1.7**
JMZ				S	**Sn**	**09 31 53.2**	**-3.3**
JJT3	**Tamagusuku3**	**1.58**	**269**	*eP*	**Pn**	**09 31 36.0**	**-1.5**
JJT3				*eS*	**Sn**	**09 31 54.8**	**-2.1**
JKDJ	**Kitadaitoujima**	**1.60**	**98**	P	**Pn**	**09 31 36.5**	**-1.3**
JKDJ				S	**Sn**	**09 31 54.9**	**-2.6**
JIH	**Iheya**	**1.64**	**301**	P	**Pn**	**09 31 37.3**	**-1.1**
JIH				*eS*	**Sn**	**09 31 56.3**	**-2.1**
JTK	**Tokunoshima**	**1.67**	**342**	P	**Pn**	**09 31 37.6**	**-1.2**
JTK				S	**Sn**	**09 31 56.4**	**-2.8**
JAMN	**Amaminishikomi**	**2.06**	**351**	P	**Pn**	**09 31 42.9**	**-1.3**
JAMN				*eS*	**Sn**	**09 32 06.7**	**-2.3**
JAGN	**Aguni-jima**	**2.10**	**281**	P	**Pn**	**09 31 43.8**	**-0.9**
JAGN				S	**Sn**	**09 32 07.9**	**-1.8**
JZK	**Kikaishima**	**2.15**	**10**	*eP*	**Pn**	**09 31 44.9**	**-0.4**
JZK				S	**Sn**	**09 32 10.3**	**-0.7**
JAM	**Amami Oshima**	**2.21**	**2**	P	**Pn**	**09 31 44.7**	**-1.5**
JAM				S	**Sn**	**09 32 09.6**	**-3.0**
JKE	**Kume jima 2**	**2.48**	**274**	P	**Pn**	**09 31 48.2**	**-1.7**
JKE				*eS*	**Sn**	**09 32 16.5**	**-2.6**
JTAJ	**Takarajima**	**2.96**	**354**	P	**Pn**	**09 31 55.4**	**-1.2**
JTAJ				S	**Sn**	**09 32 27.6**	**-3.5**
JYAK	**Yakushimahirau**	**4.12**	**12**	*eP*	**Pn**	**09 32 11.2**	**-1.2**
JYAK				S	**Sn**	**09 32 55.7**	**-3.9**
JMTN	**Minamitane**	**4.36**	**16**	*eP*	**Pn**	**09 32 15.5**	**-0.2**
JMTN				S	**Sn**	**09 33 03.3**	**-2.2**
JNU	**Nakatsue**	**7.00**	**9**	Pn	**Pn**	**09 32 51.5**	**-0.7**
JNU	**Nakatsue**	**7.00**	**9**	Pn	**Pn**	**09 32 52.6**	**+0.5**
1.3nm,0.3s,baz=184,slow=16,SNR=6.6							
JNU				Sn	**Sn**	**09 34 05.5**	**-5.2**
0.4nm,0.3s,baz=61,slow=17,SNR=2.3							
5.1nm,0.4s							
SSLB	**Suanglung**	**8.15**	**255**	Pn	**Pn**	**09 33 04.8**	**-3.1**
DAV	**Davao City (W)**	**19.39**	**192**	P	**P**	**09 35 34.6**	**-0.7**
249nm,0.4s,baz=307,slow=5.4,SNR=4.8							
KLR	**Kul'dur**	**23.06**	**4**	P	**P**	**09 36 14.1**	**-0.3**
1.9nm,0.7s,baz=221,slow=3.7,SNR=3.7							
1.9nm,0.7s							
SONM	**Songino Array**	**28.23**	**326**	P	**P**	**09 37 01.8**	**-0.1**
0.5nm,0.6s,baz=126,slow=7.3,SNR=2.0							
0.5nm,0.6s							
MKAR	**Makanchi Array**	**42.43**	**312**	P	**P**	**09 39 03.7**	**+0.1**
0.5nm,0.7s,baz=102,slow=9.1,SNR=3.2							
0.5nm,0.7s							
ZALV	**Zalesovo Beam**	**42.99**	**322**	P	**P**	**09 39 07.7**	**-0.2**
0.8nm,0.4s,baz=115,slow=9.7,SNR=1.9							
0.8nm,0.4s							
KURBB	**Kurchatov Arra**	**45.69**	**316**	P	**P**	**09 39 29.1**	**-0.5**
0.7nm,0.4s,baz=102,slow=8.7,SNR=4.4							
0.7nm,0.4s							
WB0	**Warramunga Arr**	**45.93**	**174**	P	**P**	**09 39 32.2**	**+0.4**
WB0				IAmb	IAmb	09 39 57.6	
comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**46.10**	**174**	P	**P**	**09 39 33.4**	**+0.2**
comp=Z,1.0nm,0.8s,baz=354,slow=7.9,SNR=5.0							
comp=Z,1.0nm,0.8s							
WR8	**Warramunga Arr**	**46.13**	**174**	P	**P**	**09 39 33.0**	**-0.4**
WR8				IAmb	IAmb	09 40 13.2	
comp=Z,5.1nm,1.1s							
ASAR	**Alice Springs**	**49.75**	**175**	P	**P**	**09

TPB04	**Verhalen**	**0.24 100**	P	Pg	09 32 24.3 +0.8
TPB16	**Coyonosa**	**0.28 112**	P	Pg	09 32 24.6 +0.4
TPB16			S	Sg	09 32 29.4 +1.5
TPB16	**Coyonosa**	**0.28 112**	P	Pg	09 32 24.7 +0.5
PECS	**Pecos**	**0.30 297**	P	Pg	09 32 25.4 +0.7
PECS			S	Sg	09 32 30.1 +1.3
PECS	**Pecos**	**0.30 297**	P	Pg	09 32 25.4 +0.7
TPB01	**Permian Basin**	**0.35 215**	P	Pg	09 32 26.0 +0.5
TPB01			S	Sb	09 32 31.8 -1.5
TPB12	**Southwest of T**	**0.35 267**	P	Pg	09 32 25.5 -0.1
TPB12			S	Sg	09 32 31.3 +1.1
TPB07	**Mentone**	**0.36 344**	S	Sg	09 32 31.4 +0.8
TPB05	**Hovey Rd**	**0.36 148**	P	Pg	09 32 26.5 +0.6
TPB05			S	Sg	09 32 31.6 +1.0
TPB06	**Permian Basin**	**0.50 34**	P	Pg	09 32 28.7 +0.3
TPB06			Pn	Pb	09 32 31.1 +1.0
TPB06			S	Sg	09 32 35.6 +0.6
TPB06			S	Sb	09 32 39.0 +1.3
TPB08	**Permian Basin**	**0.65 121**	S	Sb	09 32 40.8 -1.0
MNHN	**Monahans**	**0.68 81**	S	Sg	09 32 41.0 +0.2
TPB11	**China Draw**	**0.81 330**	S	Sg	09 32 45.5 +0.5
ALPN	**Alpine**	**0.86 185**	P	Pg	09 32 34.9 -0.3
ALPN			S	Sg	09 32 46.2 -0.2
VHRN	**Van Horn**	**1.31 251**	P	Pn	09 32 43.2 -0.6
VHRN			S	Sb	09 33 01.2 +0.2
MNTX	**Cornudas Mount**	**1.63 287**	P	Pb	09 32 49.2 -0.1
MNTX			S	Sg	09 33 11.0 -0.3
SAND	**Sanderson**	**1.77 136**	P	Pb	09 32 50.9 -0.8
SAND			S	Sg	09 33 15.2 -0.4
TX31	**Lajitas Ar. Si**	**1.89 183**	P	Pb	09 32 52.8 -1.0
OZNA	**Ozona**	**2.10 98**	S	Sb	09 33 24.1 +0.4

*IDC **18** 09:50:23.4±1.3, 24°.88N×128°.23E, h0km, mb3.8/5, mbtmp3.8/5, MS3.9/5, Error ellipse: s-maj=58.5km s-min=17.7km az=77.0*
*NEIC **18** 09:50:26.4±2.6, 24°.99N±0°.09×128°.17E±0°.08, h29km±3km, mb4.5/7, Error ellipse: s-maj=13.1km s-min=10.2km az=172.0*
*JMA **18** 09:50:27.3±0.3, 25°N±1°×12°8E±°, h86km, MV3.0/25, NEAR OKINAWAJIMA ISLAND*
ISC 18 09:50:23.1±2.7, **24°.87N**±0°.05×**128°.20E**±0°.04, **h10**km±17km, **n47**, σ1§85/56, **mb4.2**/10, **MS3.9**/5, **Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.32**	**344**	P	**Pn**	**09 50 48.7**	**+1.0**
JJT3				*e*S	**Sg**	**09 51 04.2**	**-1.5**
JNTH	**Nagotoyohara**	**1.65**	**355**	P	**Pn**	**09 50 52.8**	**+0.7**
JNTH				*e*S	**Sn**	**09 51 10.8**	**-2.6**
JAGN	**Aguni-jima**	**1.92**	**333**	*e*P	**Pn**	**09 50 56.2**	**+0.4**
JAGN				*e*S	**Sn**	**09 51 18.2**	**-1.8**
JKE	**Kume jima 2**	**1.93**	**319**	P	**Pn**	**09 50 56.8**	**+0.8**
JOW	**Kunigami**	**1.96**	**2**	Pn	**Pn**	**09 50 56.6**	**+0.2**
JOW	**Kunigami**	**1.96**	**2**	Pn	**Pn**	**09 50 57.7**	**+1.3**
	15nm,0.3s,baz=116,slow=27,SNR=9.6						
JOW				Sn	**Sn**	**09 51 22.2**	**+1.2**
	12nm,0.3s,baz=212,slow=21,SNR=9.5						
JOW	**Kunigami**	**1.96**	**2**	*e*P	**Pn**	**09 50 57.3**	**+0.9**
JOW				*e*S	**Sn**	**09 51 17.8**	**-3.2**
JYRO	**Yoronjima**	**2.16**	**6**	*e*S	**Sn**	**09 51 23.6**	**-2.4**
JIH	**Iheya**	**2.17**	**355**	*e*S	**Sn**	**09 51 23.9**	**-2.3**
JOKE	**Okinoerabujima**	**2.50**	**8**	*e*S	**Sn**	**09 51 32.0**	**-2.5**
JOGS	**Gusukube**	**2.54**	**268**	P	**Pn**	**09 51 05.4**	**+1.0**
JOGS				S	**Sn**	**09 51 34.5**	**-0.9**
JMJ2	**Miyako jima3**	**2.61**	**268**	P	**Pn**	**09 51 06.2**	**+0.9**
JMJ2				S	**Sn**	**09 51 35.5**	**-1.7**
JIKM	**Ikemajima**	**2.68**	**272**	P	**Pn**	**09 51 07.4**	**+1.0**
JIKM				S	**Sn**	**09 51 36.5**	**-2.3**
JIRB	**Irabujima**	**2.75**	**270**	P	**Pn**	**09 51 07.9**	**+0.6**
JIRB				S	**Sn**	**09 51 38.1**	**-2.5**
JMZ	**Minamidaito 2**	**2.90**	**70**	Pn	**Pn**	**09 51 08.5**	**-0.7**
JMZ	**Minamidaito 2**	**2.90**	**70**	P	**Pn**	**09 51 08.6**	**-0.7**
JMZ				*e*S	**Sn**	**09 51 42.2**	**-2.0**
JTK	**Tokunoshima**	**2.98**	**13**	S	**Sn**	**09 51 43.5**	**-2.9**
JKDJ	**Kitadaitoujima**	**3.00**	**68**	P	**Pn**	**09 51 10.4**	**-0.4**
JKDJ				*e*S	**Sn**	**09 51 44.5**	**-2.2**
JTJ	**Tarama**	**3.19**	**267**	*e*P	**Pn**	**09 51 14.1**	**+0.8**
JTJ				S	**Sn**	**09 51 49.2**	**-2.2**
JAMN	**Amaminishikomi**	**3.47**	**14**	*e*S	**Sn**	**09 51 56.6**	**-1.8**
JISG	**Ishigakijimahi**	**3.55**	**266**	P	**Pn**	**09 51 18.3**	**+0.1**
JISG				S	**Sn**	**09 51 56.5**	**-3.7**
JIJ	**Ishigaki jima**	**3.73**	**263**	P	**Pn**	**09 51 22.0**	**+1.3**
JIJ				*e*S	**Sn**	**09 52 01.1**	**-3.6**
JAM	**Amami Oshima**	**3.75**	**19**	P	**Pn**	**09 51 22.9**	**+1.9**
JAM				*e*S	**Sn**	**09 52 01.9**	**-3.3**
JZK	**Kikaishima**	**3.78**	**24**	*e*P	**Pn**	**09 51 23.6**	**+2.1**
JZK				*e*S	**Sn**	**09 52 05.1**	**-0.9**
NACB	**Ninganchiao**	**6.05**	**265**	Pn	**Pn**	**09 51 51.8**	**-1.0**
YULB	**Yu-li**	**6.47**	**258**	Pn	**Pn**	**09 51 56.9**	**-1.7**
TPUB	**Ta-pu**	**7.09**	**259**	Pn	**Pn**	**09 52 07.6**	**+0.6**
KSRS	**Korea Array**	**12.55**	**359**	LR	LR	09 57 59.7	
	comp=Z,23nm,21.2s,baz=190,slow=36						
KNRA	**Kununurra**	**40.30**	**179**	P	**P**	**09 58 01.7**	**+1.0**
KNRA				IAmb	IAmb	09 58 16.1	
	comp=Z,11nm,1.3s						
MKAR	**Makanchi Array**	**42.43**	**313**	P	**P**	**09 58 20.1**	**+2.0**
MKAR	**Makanchi Array**	**42.43**	**313**	P	**P**	**09 58 19.3**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=97,slow=11,SNR=6.6						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**43.31**	**324**	P	**P**	**09 58 27.8**	**+2.7**
	comp=Z,0.8nm,0.3s,baz=108,slow=14,SNR=1.2						
	comp=Z,0.8nm,0.3s						
TARG	**Taragay, Kyrgy**	**44.70**	**305**	P	P	09 58 33.3	-3.6
TARG				IAmb	IAmb	09 58 37.2	
	comp=Z,3.0nm,0.5s						
WB0	**Warramunga Arr**	**44.78**	**172**	P	**P**	**09 58 38.3**	**+1.2**
WRA	**Warramunga Arr**	**44.94**	**172**	P	**P**	**09 58 39.8**	**+1.3**
	comp=Z,2.3nm,0.9s,baz=349,slow=8.6,SNR=9.1						
	comp=Z,2.3nm,0.9s						
WR8	**Warramunga Arr**	**44.98**	**172**	P	**P**	**09 58 40.3**	**+1.6**
WR8				IAmb	IAmb	09 58 41.6	
	comp=Z,8.1nm,1.1s						
ASAR	**Alice Springs**	**48.56**	**173**	P	**P**	**09 59 08.8**	**+2.0**
	comp=Z,0.5nm,0.9s,baz=3.7,slow=7.1,SNR=5.5						
	comp=Z,0.5nm,0.9s						
KK31	**Karatay Array**	**50.18**	**306**		**P**	**09 59 18.5**	**-0.6**
KK31				IAmb	IAmb	09 59 20.9	
	comp=Z,4.1nm,0.7s						
KKAR	**Karatay Array**	**50.18**	**306**		**P**	**09 59 17.1**	**-1.9**
KKAR	**Karatay Array**	**50.18**	**306**		**P**	**09 59 18.6**	**-0.4**
KKAR				IAmb	IAmb	09 59 20.9	
	comp=Z,4.3nm,0.7s						
BVAR	**Borovoye Array**	**51.27**	**319**	P	**P**	**09 59 29.2**	**+2.1**
	comp=Z,0.9nm,0.5s,baz=81,slow=7.6,SNR=5.8						
	comp=Z,0.9nm,0.5s						
K13K	**Kusilvak Mount**	**57.63**	**31**	P	**P**	**10 00 11.9**	**-1.2**
KIRV	**Kirov**	**63.33**	**325**	LR	LR	10 30 22.7	
	comp=Z,70nm,19.3s,baz=161,slow=38						
ARCES	**ARCESS Array B**	**71.26**	**339**	LR	LR	10 39 37.4	
	comp=Z,57nm,18.1s,baz=127,slow=42						
FINES	**FINESS Array B**	**74.03**	**331**	LR	LR	10 36 45.7	
	comp=Z,93nm,20.2s,baz=148,slow=38						
HFS	**Hagfors**	**80.01**	**332**	LR	LR	10 41 49.3	
	comp=Z,149nm,18.0s,baz=112,slow=39						
NOA	**NORSAR Array B**	**80.52**	**334**	LR	LR	10 41 33.8	
	comp=Z,30nm,18.2s,baz=120,slow=38						

*KOLA **18** 09:59:51.7, 64°.43N×30°.49E, h0km, ML2.2, Error ellipse: s-maj=22.3km s-min=15.1km az=150.0, Karelia*
*HEL **18** 09:59:53.0±0.1, 64°.70N×30°.93E, h0km, ML2.0, Suspected explosion*
*IDC **18** 09:59:55.4±1.9, 64°.65N×30°.83E, h0km, mbtmp2.8/4, ML2.1/4, Error ellipse: s-maj=22.5km s-min=8.4km az=106.0*
ISC 18 09:59:52.9±0.8, **64°.72N**±0°.03×**30°.82E**±0°.04, **h0**km, **n45**, σ1§68/69, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU1	**Kurvinen**	**1.00**	**328**	PG	**Pg**	**10 00 11.6**	**-0.4**
	baz=145						
KU6	**Riekki**	**1.36**	**344**	PG	**Pg**	**10 00 18.1**	**-0.9**
	baz=165						
KU6				MSG		10 00 35.2	
	comp=Z,10nm,0.2s						
KU6				SG	**Sg**	**10 00 36.3**	**-0.3**
MSF	**Maaselka**	**1.41**	**329**	PG	**Pn**	**10 00 18.9**	**-0.9**
	baz=147						
MSF				SN	**Sn**	**10 00 42.7**	**+3.7**
KU2	**Taivalkoski**	**1.48**	**313**	PB	**Pn**	**10 00 19.7**	**-1.0**
	baz=130						
OLKF	**Oulanka, Finla**	**1.71**	**340**	PG	**Pn**	**10 00 24.3**	**+0.4**
OLKF				MSG		10 00 45.1	
	comp=Z,7.7nm,0.2s						
OLKF				SN	**Sg**	**10 00 49.0**	**+1.2**
JOF	**Joensuu**	**1.83**	**173**	*e*P	**Pn**	**10 00 25.1**	**-0.4**
JOF	**Joensuu**	**1.83**	**173**	PG	**Pn**	**10 00 25.0**	**-0.4**
JOF				SG	**Sn**	**10 00 50.1**	**+0.8**
NIF	**Nilsia**	**1.88**	**226**	PB	**Pn**	**10 00 26.0**	**-0.3**
RANF	**Ranua**	**2.13**	**309**	PB	**Pn**	**10 00 30.7**	**+1.0**
	baz=123						
RANF				SG	**Sb**	**10 00 58.7**	**-0.5**
OUL	**Oulu**	**2.13**	**282**	PB	**Pn**	**10 00 30.9**	**+1.2**
OUL				SN	**Sn**	**10 00 57.3**	**+0.5**
KVDA	**Kovda**	**2.15**	**22**	P	**Pb**	**10 00 32.5**	**-0.1**
KVDA				S	**Sg**	**10 01 02.1**	**+0.3**
OBF4	**Vikkela, Lumij**	**2.45**	**275**	PN	**Pn**	**10 00 35.8**	**+1.7**
	baz=91						
OBF4				MSG		10 01 06.8	
	comp=Z,7.9nm,0.2s						
OBF4				SB	**Sb**	**10 01 08.6**	**+0.1**
OUF	**Merijarvi**	**2.66**	**265**	PN	**Pn**	**10 00 37.9**	**+1.0**
OUF				MSG		10 01 12.6	
	comp=Z,12nm,0.2s						
OUF				SN	**Sn**	**10 01 12.7**	**+3.0**
RNF	**Rovaniemi**	**2.75**	**316**	PN	**Pn**	**10 00 39.8**	**+1.7**
RNF				SG	**Sg**	**10 01 20.4**	**-0.6**
OBF0	**Syolatti, Pyha**	**2.85**	**268**	PN	**Pn**	**10 00 40.1**	**+0.6**
OBF0				MSG		10 01 18.2	
	comp=Z,6.0nm,0.2s						
OBF0				SG	**Sg**	**10 01 24.6**	**+0.3**
SUF	**Sumiainen**	**2.89**	**228**	PN	**Pn**	**10 00 41.5**	**+1.4**
SUF				MSG		10 01 18.8	
	comp=Z,3.3nm,0.2s						
APA0	**Apatity Array**	**3.03**	**16**	P	**Pb**	**10 00 45.6**	**-1.9**
APA0				S	**Sb**	**10 01 24.1**	**-0.9**
TOF	**Tornio**	**3.04**	**300**	PN	**Pn**	**10 00 43.1**	**+1.0**
TOF				MSG		10 01 23.7	
	comp=Z,1.7nm,0.2s						
TOF				SG	**Sg**	**10 01 31.2**	**+0.8**
VRF	**Varrio**	**3.08**	**351**	PB	**Pn**	**10 00 45.0**	**+2.3**
VRF				MSG		10 01 24.2	
	comp=Z,3.2nm,0.2s						
VRF				SG	**Sg**	**10 01 29.4**	**-2.2**
OBF8	**Ulkokalla**	**3.21**	**266**	PN	**Pn**	**10 00 46.5**	**+2.0**
	baz=78						
KAF	**Kangasniemi**	**3.31**	**220**	PN	**Pn**	**10 00 47.5**	**+1.6**
KAF				SB	**Sb**	**10 01 34.7**	**+1.4**
KALU	**Kalix**	**3.34**	**293**	PN	**Pn**	**10 00 47.5**	**+1.3**
KALU				SG	**Sg**	**10 01 39.6**	**-0.4**
RUF	**Ruokolahti**	**3.42**	**195**	PN	**Pn**	**10 00 47.7**	**+0.4**
LVZ	**Lovozero**	**3.54**	**24**	PG	**Pb**	**10 00 56.1**	**-0.3**
LVZ				SB	**Sb**	**10 01 37.2**	**-2.7**
KEF	**Keuruu**	**3.71**	**229**	*e*P	**Pn**	**10 00 51.5**	**+0.2**
KEF	**Keuruu**	**3.71**	**229**	PN	**Pn**	**10 00 52.6**	**+1.4**
KLF	**Kolari**	**3.77**	**315**	PN	**Pn**	**10 00 53.8**	**+1.6**
	baz=133						
KLF				SB	**Sb**	**10 01 46.4**	**+0.1**
RAJF	**Raja-Jooseppi**	**3.90**	**346**	PN	**Pn**	**10 00 55.4**	**+1.4**
PAJU	**Pajala**	**3.92**	**310**	PN	**Pn**	**10 00 57.0**	**+2.8**
PAJU				SG	**Sg**	**10 01 57.3**	**-1.3**
FIA0	**FINESS Array S**	**3.94**	**215**	PN	**Pn**	**10 00 55.9**	**+1.5**
	baz=36						
FIA0				SG	**Sb**	**10 01 55.6**	**+4.5**
FINES	**FINESS Array B**	**3.94**	**215**	Pn	**Pn**	**10 00 55.8**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=6.0						
FINES				Lg	Lg	10 01 55.5	
	comp=Z,2.1nm,0.3s,baz=34,slow=26,SNR=13						
	comp=Z,0.3nm,0.3s						
VAF	**Ylistaro**	**3.98**	**249**	*e*P	**Pn**	**10 00 55.8**	**+0.8**
VAF	**Ylistaro**	**3.98**	**249**	PN	**Pn**	**10 00 55.7**	**+0.8**
VAF				SN	**Sn**	**10 01 42.1**	**-0.2**
ERTU	**Ertsjaerv**	**4.02**	**301**	PN	**Pn**	**10 00 57.4**	**+1.7**
ERTU				SG	**Sg**	**10 02 00.4**	**-1.5**
BURU	**Burvik**	**4.07**	**272**	PN	**Pn**	**10 00 55.9**	**-0.3**
VJF	**Virojoki**	**4.46**	**201**	SG	**Sg**	**10 02 14.2**	**-1.8**
UMAU	**Umeaa**	**4.50**	**264**	SN	**Sn**	**10 01 54.0**	**-1.0**
TERR	**Teriberka**	**4.80**	**19**	S	**Sn**	**10 02 07.0**	**+4.5**
ARCES	**ARCESS Array B**	**5.26**	**339**	Pn	**Pn**	**10 01 13.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=154,slow=13,SNR=12						
ARCES				Sn	**Sn**	**10 02 15.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=150,slow=20,SNR=5.2						
ARCES				Lg	Lg	10 02 39.6	
	comp=Z,0.4nm,0.3s,baz=151,slow=30,SNR=8.2						
	comp=Z,0.5nm,0.4s						
ARCES	**ARCESS Array B**	**5.26**	**339**	P	**Pn**	**10 01 13.1**	**+0.5**
ARCES				S	**Sn**	**10 02 12.9**	**-0.9**
VADS	**Vadso**	**5.45**	**355**	S	**Sn**	**10 02 21.0**	**+2.5**
RAF	**Rauma**	**5.56**	**232**	*e*P	**Pn**	**10 01 16.9**	**+0.1**
I37NO	**I37NO**	**6.49**	**318**	I	I	10 39 32.7	
	comp=Z,0.1nm,0.7s,baz=126,slow=320,SNR=8.0						
HFS	**Hagfors**	**9.16**	**248**	Pn	**Pn**	**10 02 05.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=58,slow=14,SNR=2.2						
HFS				Sn	**Sn**	**10 03 44.4**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=48,slow=28,SNR=5.0						
HFS				Lg	Lg	10 04 39.1	
	comp=Z,0.5nm,0.3s,baz=56,slow=27,SNR=4.1						
	comp=Z,0.4nm,0.3s						
NOA	**NORSAR Array B**	**9.67**	**257**	Pn	**Pn**	**10 02 12.3**	**-0.8**
	baz=59,slow=13,SNR=4.0						
NOA				Lg	Lg	10 04 57.5	
	baz=67,slow=21,SNR=4.3						
	comp=Z,0.3nm,0.7s						

*GUC **18** 10:01:55.5±0.8, 31°.51S×69°.93W, h162km±5km, ML3.6*
*SJA **18** 10:01:55.3±0.7, 31°.52S×69°.58W, h115km±3km, ML3.5, MW3.5*
ISC 18 10:01:55.9±1.5, **31°.52S**±0°.03×**69°.63W**±0°.04, **h123**km±10km, **n55**, σ1§69/98, **San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.40**	**134**	*e*P	**Pn**	**10 02 13.4**	**-0.5**
RTLS				*e*S	**Sn**	**10 02 26.7**	**-0.9**
RTLS				IAML		10 02 26.8	
	comp=Z,4μm,0.2s						
DOCA	**Reserva Natura**	**0.74**	**39**	*e*P	**Pn**	**10 02 15.6**	**-0.7**
DOCA				*e*S	**Sn**	**10 02 30.9**	**-0.7**
DOCA				IAML		10 02 31.9	
	comp=Z,340nm,0.3s						
ZON	**Zonda**	**0.81**	**92**	*e*P	**Pn**	**10 02 15.8**	**-0.7**
ZON				*e*S	**Sn**	**10 02 30.8**	**-1.3**
ZON				IAML		10 02 31.7	
	comp=Z,856nm,0.2s						
SJA	**San Juan**	**0.91**	**91**	*e*P	**Pn**	**10 02 16.2**	**-1.1**
SJA				*e*S	**Sn**	**10 02 32.1**	**-1.5**
SJA				IAML		10 02 34.5	
	comp=Z,1μm,0.6s						
RTLL	**Cerro Villicun**	**1.00**	**79**	*e*P	**Pn**	**10 02 17.2**	**-1.0**
RTLL				*e*S	**Sn**	**10 02 33.5**	**-1.7**
ACCO	**Cerro Coronel**	**1.05**	**28**	*e*P	**Pn**	**10 02 20.9**	**+1.9**
CO03	**El Pedregal**	**1.14**	**307**	*e*P	**Pn**	**10 02 20.1**	**+0.5**
CO03				*i* S	**Sn**	**10 02 38.3**	**+0.7**
CO03				IAML		10 02 39.6	
	comp=N,1μm,0.4s						
CO03	**El Pedregal**	**1.14**	**307**	*e*P	**Pn**	**10 02 19.5**	**-0.1**
CO03				*e*S	Sn	10 02 20.3	-17
CO03				IAML		10 02 20.5	
	comp=Z,741nm,0.2s						
CO03				*e*S		10 02 38.6	
CFA	**Coronel Fontan**	**1.19**	**94**	*e*P	**Pn**	**10 02 19.2**	**-0.9**
CFA				*e*S	**Sn**	**10 02 37.1**	**-1.4**
CO02	**Combarbal**	**1.22**	**285**	*e*P	**Pn**	**10 02 20.5**	**+0.1**
CO02				*i* S	**Sn**	**10 02 40.1**	**+1.1**
CO02	**Combarbal**	**1.22**	**285**	*e*P	**Pn**	**10 02 20.3**	**-0.1**
CO02				*e*S	**Sn**	**10 02 40.9**	**+1.8**
CO02				IAML		10 02 42.7	
	comp=Z,974nm,0.2s						
VA03	**San Esteban**	**1.46**	**212**	*e*P	**Pn**	**10 02 23.5**	**+0.3**
VA03				*i* S	**Sn**	**10 02 44.7**	**+0.8**
VA03				IAML		10 02 45.4	
	comp=N,1μm,0.5s						
VA03	**San Esteban**	**1.46**	**212**	*e*P	**Pn**	**10 02 23.0**	**-0.2**
VA03				*e*S	**Sn**	**10 02 45.1**	**+1.2**
VA03				IAML		10 02 49.2	
	comp=Z,478nm,0.8s						
CO01	**Juntas del Tor**	**1.59**	**345**	*e*P	**Pn**	**10 02 26.1**	**+1.3**
CO01				*i* S	**Sn**	**10 02 49.1**	**+2.3**
CO01				IAML		10 02 52.6	
	comp=E,242nm,0.2s						
CO01	**Juntas del Tor**	**1.59**	**345**	*e*P	**Pn**	**10 02 25.9**	**+1.1**
CO01				*e*S	**Sn**	**10 02 49.2**	**+2.4**
CO01				IAML		10 02 52.0	
	comp=Z,149nm,0.2s						
GO04	**Tololo Observa**	**1.68**	**323**	*e*P	**Pn**	**10 02 25.9**	**+0.1**
GO04				*i* S	**Sn**	**10 02 48.8**	**+0.1**
GO04	**Tololo Observa**	**1.68**	**323**	*e*P	**Pn**	**10 02 25.4**	**-0.4**
GO04				*e*S	**Sn**	**10 02 49.4**	**+0.7**
VA06	**Catapilco**	**1.75**	**233**	*e*P	**Pn**	**10 02 25.6**	**-0.8**
VA06				*i* S	**Sn**	**10 02 48.7**	**-1.1**
VA06				IAML		10 02 54.1	
	comp=E,947nm,0.2s						
PEL	**Peldehue**	**1.85**	**209**	*e*P	**Pn**	**10 02 26.7**	**-0.9**
PEL				*i* S	**Sn**	**10 02 51.8**	**-0.1**
PEL				IAML		10 02 53.7	
	comp=E,528nm,0.1s						
PEL	**Peldehue**	**1.85**	**209**	*e*S	**Sn**	**10 02 53.0**	**+1.1**
ROCH	**El Roble**	**1.86**	**219**	*e*P	**Pn**	**10 02 27.6**	**-0.4**
ROCH				*i* S	**Sn**	**10 02 52.3**	**-0.1**
ROCH				IAML		10 02 53.7	
	comp=N,434nm,0.4s						
ROC1	**El Roble**	**1.87**	**219**	*e*S	**Sn**	**10 02 53.0**	**+0.4**
FCH	**Farellones**	**1.89**	**197**	*e*P	**Pn**	**10 02 29.1**	**+0.8**
FCH				*i* S	**Sn**	**10 02 54.8**	**+1.6**
FCH				IAML		10 02 56.3	
	comp=N,394nm,0.3s						
MT10	**Hacienda Santa**	**1.91**	**204**	*e*P	**Pn**	**10 02 28.8**	**+0.4**
MT10				*i* S	**Sn**	**10 02 54.7**	**+1.3**
CO06	**Fray Jorge**	**1.92**	**296**	*e*P	**Pn**	**10 02 27.6**	**-0.8**
CO06				*i* S	**Sn**	**10 02 51.0**	**-2.3**
CO06				IAML		10 03 00.8	
	comp=N,351nm,0.2s						
MT04	**Ro Olivares**	**1.93**	**193**	*e*P	**Pn**	**10 02 29.6**	**+0.9**
MT04				*i* S	**Sn**	**10 02 55.9**	**+2.0**
MT04	**Ro Olivares**	**1.93**	**193**	*e*P	**Pn**	**10 02 29.3**	**+0.5**
MT04				*e*S	**Sn**	**10 03 02.6**	**+8.6**
MT08	**Bocatoma Ro**	**1.94**	**190**	*e*P	**Pn**	**10 02 29.9**	**+0.9**
MT08				*i* S	**Sn**	**10 02 56.2**	**+1.9**
MT08	**Bocatoma Ro**	**1.94**	**190**	*e*P	**Pn**	**10 02 29.5**	**+0.5**
MT08				*e*S	**Sn**	**10 03 00.1**	**+5.7**
MT08				*e*S		10 03 06.1	
MT14	**Cerro Cal¡n**	**2.02**	**202**	*e*P	**Pn**	**10 02 30.0**	**+0.2**
MT14				*i* S	**Sn**	**10 02 56.6**	**+0.9**
MT14				IAML		10 02 59.7	
	comp=E,508nm,0.6s						
MT05	**Renca**	**2.09**	**206**	*e*P	**Pn**	**10 02 30.7**	**+0.2**
MT05				*i* S	**Sn**	**10 02 57.5**	**+0.3**
MT05	**Renca**	**2.09**	**206**	*e*P	**Pn**	**10 02 30.1**	**-0.4**
MT05				*e*S	**Sn**	**10 03 00.1**	**+2.9**
MT05				IAML		10 03 00.2	
	comp=Z,323nm,0.2s						
MT03	**Universidad Ad**	**2.10**	**201**	*e*P	**Pn**	**10 02 31.1**	**+0.2**
MT03				*i* S	**Sn**	**10 02 58.7**	**+1.1**
MT03	**Universidad Ad**	**2.10**	**201**	*e*P	**Pn**	**10 02 31.3**	**+0.5**
MT03				*e*S	**Sn**	**10 02 59.0**	**+1.3**
MT03				IAML		10 03 02.0	
	comp=Z,361nm,0.7s						
CO05	**La Serena**	**2.12**	**319**	*e*P	**Pn**	**10 02 30.5**	**-0.4**
CO05				*i* S	**Sn**	**10 02 56.5**	**-1.1**
MT02	**Curacav**	**2.15**	**216**	*e*P	**Pn**	**10 02 30.5**	**-0.8**
MT02				*i* S	**Sn**	**10 02 57.8**	**-0.7**
MT02				IAML		10 02 59.4	
	comp=E,215nm,0.2s						
MT02	**Curacav**	**2.15**	**216**	*e*P	**Pn**	**10 02 30.2**	**-1.2**
MT02				*e*S	**Sn**	**10 02 58.1**	**-0.5**
MT02				IAML		10 03 03.0	
	comp=Z,128nm,0.3s						
MT15	**Las Vizcachas**	**2.20**	**199**	*e*P	**Pn**	**10 02 32.3**	**+0.3**
MT15				*i* S	**Sn**	**10 03 00.6**	**+0.9**
AGUA	**GUANDACOL**	**2.25**	**26**	*e*P	**Pn**	**10 02 33.5**	**+0.7**
AGUA				*e*S	**Sn**	**10 03 01.9**	**+0.9**
AGUA				IAML		10 03 04.2	
	comp=Z,280nm,0.2s						
VA01	**Torpederas**	**2.27**	**228**	*e*P	**Pn**	**10 02 31.9**	**-0.9**
VA01				*e*S	**Sn**	**10 02 59.5**	**-1.7**
VA01				IAML		10 03 07.3	
	comp=Z,110nm,0.2s						
MT13	**San Alfonso**	**2.28**	**194**	*e*P	**Pn**	**10 02 33.6**	**+0.5**
MT13				*i* S	**Sn**	**10 03 02.8**	**+1.1**
MT13				IAML		10 03 07.3	
	comp=N,323nm,0.3s						
MT13	**San Alfonso**	**2.28**	**194**	*e*P	**Pn**	**10 02 33.9**	**+0.8**
MT13				*e*S	**Sn**	**10 03 03.5**	**+1.8**
MT13				IAML		10 03 10.2	
	comp=Z,125nm,0.2s						
MT12	**Pirque**	**2.34**	**199**	*e*P	**Pn**	**10 02 33.7**	**0.0**
MT12				*i* S	**Sn**	**10 03 03.3**	**+0.5**
MT12				IAML		10 03

mbtmp3.8/4, ML4.1/3, Error ellipse: s-maj=116.8km s-min=31.2km az=81.0
*DJA **18** 10:20:21.1±1.1, 5°S±7°×13°2E±°, h25km±14km, M4.2/10, mb4.4/2, MLv4.2/10*
ISC 18 10:20:15.4±0.8, **5°71S**±0°06×**132°58E**±0°05, **h35**km, **n25**, σ1°**98**/30, **Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**2.33**	**29**	P	**Pn**	**10 20 53.1**	**+1.9**
KMPI				S	**Sn**	**10 21 19.3**	**+0.7**
FAKI	**Fak Fak**	**2.79**	**353**	P	**Pn**	**10 20 58.7**	**+1.1**
FAKI	**Fak Fak**	**2.79**	**353**	S	**Sn**	**10 21 29.1**	**-1.0**
FAKI	**Fak Fak**	**2.79**	**353**	P	**Pn**	**10 20 58.8**	**+1.1**
FAKI				S	**Sn**	**10 21 27.3**	**-2.8**
BNDI	**Bandanaira**	**2.91**	**294**	P	**Pn**	**10 21 01.2**	**+2.0**
BNDI	**Bandanaira**	**2.91**	**294**	S	**Sn**	**10 21 34.3**	**+1.3**
BNDI	**Bandanaira**	**2.91**	**294**	P	**Pn**	**10 21 01.4**	**+2.2**
BNDI				S	**Sn**	**10 21 35.1**	**+2.1**
MSAI	**Masohi**	**4.33**	**303**	P	**Pn**	**10 21 20.2**	**+1.5**
RKPI	**Ransiki, Papua**	**4.47**	**21**	P	**Pn**	**10 21 23.8**	**+3.1**
RKPI				S	**Sn**	**10 22 11.3**	**-0.2**
AAI	**Ambon**	**4.81**	**295**	P	**Pn**	**10 21 28.0**	**+2.7**
SWI	**Sorong**	**4.99**	**345**	P	**Pn**	**10 21 28.3**	**+0.4**
SWI				S	**Sn**	**10 22 21.3**	**-3.1**
BAKI	**Biak**	**5.71**	**38**	P	**Pn**	**10 21 42.2**	**+4.5**
DRS	**Darwin Rock St**	**6.88**	**194**	P	**Pn**	**10 21 54.9**	**+1.1**
KDU	**Kakadu**	**6.93**	**181**	P	**Pn**	**10 21 55.6**	**+1.1**
MTN	**Manton Dam**	**7.23**	**191**	P	**Pn**	**10 21 59.4**	**+0.8**
SANI	**Sanana**	**7.51**	**299**	P	**Pn**	**10 22 02.3**	**-0.2**
COEN	**Coen**	**13.27**	**129**	P	**Pn**	**10 23 21.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**14.05**	**208**	Pn	**Pn**	**10 23 29.8**	**-2.3**
	3.7nm,0.3s,baz=36,slow=11,SNR=79						
FITZ				Sn	Sn	10 25 54.3	-13
	2.0nm,0.3s,baz=167,slow=16,SNR=9.5						
	9.5nm,0.4s						
WRA	**Warramunga Arr**	**14.25**	**173**	Pn	**Pn**	**10 23 31.4**	**-3.4**
	0.5nm,0.3s,baz=353,slow=13,SNR=31						
WRA				Sn	Sn	10 25 59.7	-12
	1.1nm,0.3s,baz=355,slow=24,SNR=9.9						
	0.9nm,0.3s						
QIS	**Mount Isa**	**16.26**	**156**	P	**Pn**	**10 23 59.8**	**-1.5**
ASAR	**Alice Springs**	**17.90**	**176**	P	**Pn**	**10 24 19.6**	**-2.1**
	0.2nm,0.3s,baz=352,slow=12,SNR=17						
ASAR				S	Sn	10 27 26.7	-14
	1.8nm,0.7s,baz=358,slow=25,SNR=12						
	0.5nm,0.4s						
AS01	**Alice Springs**	**17.90**	**176**	P	**Pn**	**10 24 21.5**	**-0.2**
WRKA	**Warakurna**	**19.65**	**192**	P	**P**	**10 24 41.9**	**+0.6**
OOD	**Oodnadatta**	**22.16**	**173**	P	**P**	**10 25 08.1**	**-0.3**
MKAR	**Makanchi Array**	**68.59**	**325**	P	**P**	**10 31 14.8**	**0.0**
	0.2nm,0.4s,baz=120,slow=8.5,SNR=1.9						
	0.2nm,0.4s						

*IDC **18** 10:26:44.8±1.5, 21°70S×68°93E, h0km, mb3.9/8, mbtmp3.9/8, MS3.5/2, Error ellipse: s-maj=48.0km s-min=25.1km az=37.0*
ISC 18 10:26:46.4±1.5, **21°7S**±0°3×**68°9E**±0°2, **h10**km, **n17**, σ0°**53**/9, **mb4.0**/8, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**14.42**	**14**	T	T	10 44 53.4	
	baz=194,slow=76,SNR=23						
H08S2	**Diego Garcia H**	**14.43**	**14**	T	T	10 44 49.4	
	baz=194,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**14.44**	**14**	T	T	10 44 54.1	
	baz=194,slow=76,SNR=22						
H04N2	**CROZET ISLANDS**	**28.08**	**206**	T	T	11 02 12.6	
	baz=36,slow=75,SNR=29						
H04N1	**CROZET ISLANDS**	**28.09**	**206**	T	T	11 02 12.3	
	baz=36,slow=75,SNR=23						
H04N3	**CROZET ISLANDS**	**28.10**	**206**	T	T	11 02 07.2	
	baz=36,slow=75,SNR=22						
PALK	**Pallekele**	**31.06**	**23**	LR	LR	10 43 35.9	
	comp=Z,64nm,18.4s,baz=152,slow=33						
CMAR	**Chiang Mai Arr**	**49.59**	**39**	P	**P**	**10 35 38.5**	**+0.4**
	0.4nm,0.3s,baz=238,slow=8.2,SNR=4.5						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**59.50**	**105**	P	**P**	**10 36 50.2**	**0.0**
	1.1nm,0.7s,baz=259,slow=6.3,SNR=12						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**60.74**	**101**	P	**P**	**10 36 58.8**	**0.0**
	1.1nm,0.7s,baz=256,slow=6.6,SNR=4.5						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**69.27**	**10**	P	**P**	**10 37 52.9**	**-0.7**
	1.4nm,0.7s,baz=181,slow=5.6,SNR=11						
	1.4nm,0.7s						
BRTR	**Keskin Array B**	**69.46**	**332**	P	**P**	**10 37 55.6**	**+0.5**
	0.6nm,0.7s,baz=140,slow=9.7,SNR=3.6						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**72.54**	**6**	P	**P**	**10 38 12.7**	**-0.6**
	1.0nm,0.8s,baz=201,slow=7.3,SNR=5.1						
	1.0nm,0.8s						
BVAR	**Borovoye Array**	**74.46**	**1**	P	**P**	**10 38 24.6**	**0.0**
	0.6nm,0.5s,baz=168,slow=8.5,SNR=2.4						
	0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**74.50**	**291**	P	**P**	**10 38 25.6**	**-0.1**
	139nm,0.3s,baz=92,slow=6.1,SNR=1.4						
JOW	**Kunigami**	**75.03**	**53**	LR	LR	11 04 39.6	
	comp=Z,49nm,21.8s,baz=131,slow=30						
ZALV	**Zalesovo Beam**	**76.61**	**10**	P	**P**	**10 38 36.3**	**-0.6**
	0.6nm,0.3s,baz=224,slow=4.0,SNR=1.6						
	0.6nm,0.3s						

*IDC **18** 10:26:51.0±10.0, 29°80S×178°78W, h138km±73km, mb3.3/3, mbtmp3.7/4, Error ellipse: s-maj=80.4km s-min=27.1km az=46.0*
ISC 18 10:26:52.8±1.7, **30°0S**±0°1×**178°8W**±0°3, **h150**km, **n18**, σ1°**92**/31, **mb3.4**/3, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**8.27**	**199**	P	**Pn**	**10 28 51.2**	**+1.4**
HAZ				S	**Sn**	**10 30 24.8**	**+3.0**
PKGZ	**Pakihiroa**	**8.29**	**197**	P	**Pn**	**10 28 51.5**	**+1.4**
PKGZ				S	**Sn**	**10 30 20.9**	**-1.5**
PUZ	**Puketiti**	**8.45**	**196**	P	**Pn**	**10 28 52.6**	**+0.5**
PUZ				S	**Sn**	**10 30 25.1**	**-0.9**
RUGZ	**Raukumara Rang**	**8.50**	**199**	P	**Pn**	**10 28 54.3**	**+1.5**
RUGZ				S	**Sn**	**10 30 26.4**	**-1.0**
CNGZ	**Carnagh Statio**	**8.85**	**195**	P	**Pn**	**10 28 57.7**	**+0.3**
URZ	**Urewera**	**8.94**	**201**	P	**Pn**	**10 28 59.8**	**+1.2**
	4.3nm,0.8s,baz=350,slow=4.1,SNR=12						
URZ				S	**Sn**	**10 30 38.2**	**+0.4**
	12nm,0.3s,baz=276,slow=22,SNR=18						
URZ	**Urewera**	**8.94**	**201**	P	**Pn**	**10 28 59.9**	**+1.3**
URZ				S	**Sn**	**10 30 36.8**	**-1.0**
RIGZ	**Rimuhau**	**9.17**	**197**	P	**Pn**	**10 29 02.8**	**+1.1**
RIGZ				S	**Sn**	**10 30 42.2**	**-1.2**
MUGZ	**Murupara**	**9.25**	**202**	P	**Pn**	**10 29 03.8**	**+1.1**
MUGZ				S	**Sn**	**10 30 44.5**	**-0.8**
MTHZ	**Maungataniwha**	**9.57**	**201**	P	**Pn**	**10 29 09.0**	**+2.0**
MTHZ				S	**Sn**	**10 30 52.2**	**-0.8**
KWHZ	**Kaweka Forest**	**10.22**	**201**	P	**Pn**	**10 29 19.7**	**+4.0**
KWHZ				S	**Sn**	**10 31 06.4**	**-2.3**
OTVZ	**Oturere**	**10.24**	**205**	P	**Pn**	**10 29 18.7**	**+2.6**
OTVZ				S	**Sn**	**10 31 10.0**	**+0.5**
KAHZ	**Kahuranaki**	**10.43**	**199**	P	**Pn**	**10 29 19.3**	**+1.0**
KAHZ				S	**Sn**	**10 31 11.3**	**-2.4**
PNHZ	**Pukenui**	**10.74**	**201**	P	**Pn**	**10 29 22.2**	**-0.3**
PNHZ				S	**Sn**	**10 31 15.8**	**-5.4**
ASAR	**Alice Springs**	**42.44**	**267**	P	**P**	**10 34 33.5**	**+0.5**
	0.3nm,0.7s,baz=109,slow=7.9,SNR=4.8						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**43.39**	**272**	P	**P**	**10 34 39.5**	**-1.2**
	0.4nm,0.4s,baz=110,slow=8.1,SNR=7.2						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**60.14**	**180**	P	**P**	**10 36 45.2**	**+0.9**
	2.7nm,0.8s,baz=15,slow=4.9,SNR=15						
	2.7nm,0.8s						
FINES	**FINESS Array B**	**144.50**	**340**	PKP	**PKPab**	**10 46 07.5**	**-1.8**
	1.0nm,0.5s,baz=52,slow=5.4,SNR=8.8						

*SNET **18** 10:27:01.5±3.6, 12°68N×88°14W, h60km, ML3.8*
*CATAC **18** 10:27:01.1±0.5, 13°N±3°×8°8W±°, h34km±5km, M4.2/9, MLv4.2/9, Error ellipse: s-maj=7.8km s-min=2.1km az=30.0, confirmed*
*GCG **18** 10:27:02.3±3.1, 12°67N×88°21W, h50km±999km, MD4.3*
ISC 18 10:27:01.1±1.4, **12°56N**±0°07×**88°21W**±0°04, **h44**km±40km, **n66**, σ0°**77**/78, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.76**	**57**	P	**Pn**	**10 27 15.3**	**-0.2**
CSGN				S	**Sn**	**10 27 26.7**	**+0.7**
CNCH	**Conchagua**	**0.81**	**27**	*i* P	**Pn**	**10 27 15.8**	**-0.3**
CNCH				*e*S	**Sn**	**10 27 26.9**	**-0.2**
CNCH	**Conchagua**	**0.81**	**27**	P	**Pn**	**10 27 15.9**	**-0.3**
CNCH	**Conchagua**	**0.81**	**27**	S	**Sn**	**10 27 27.4**	**+0.2**
LCND	**La Caada**	**0.81**	**23**	*e*P	**Pn**	**10 27 15.8**	**-0.3**
POTN	**Potosi Cosigui**	**0.82**	**57**	P	**Pn**	**10 27 16.0**	**-0.2**
POTN				S	**Sn**	**10 27 27.4**	**+0.2**
LCY	**Lacayo**	**0.86**	**355**	*i* P	**Pn**	**10 27 16.7**	**-0.3**
RANC	**El Ranchito**	**0.88**	**355**	P	**Pn**	**10 27 16.9**	**-0.3**
RANC	**El Ranchito**	**0.88**	**355**	S	**Sn**	**10 27 29.5**	**+0.6**
BLLM	**Bellamira**	**0.88**	**358**	*i* P	**Pn**	**10 27 16.7**	**-0.6**
CNRM	**Centro Naciona**	**0.91**	**3**	P	**Pn**	**10 27 17.1**	**-0.4**
CNRM	**Centro Naciona**	**0.91**	**3**	S	**Sn**	**10 27 29.5**	**-0.1**
PACA	**Pacayal**	**0.91**	**353**	*e*P	**Pn**	**10 27 17.5**	**-0.2**
PACA				*e*S	**Sn**	**10 27 29.7**	**-0.1**
PACA	**Pacayal**	**0.91**	**353**	P	**Pn**	**10 27 17.5**	**-0.2**
PQSS	**Presa 15 de Se**	**1.11**	**342**	P	**Pn**	**10 27 20.2**	**0.0**
PQSS	**Presa 15 de Se**	**1.11**	**342**	S	**Sn**	**10 27 35.0**	**+0.6**
TECO	**Alcaldia de Te**	**1.12**	**331**	P	**Pn**	**10 27 20.1**	**-0.3**
TECO	**Alcaldia de Te**	**1.12**	**331**	S	**Sn**	**10 27 34.2**	**-0.5**
FAGO	**Alcalda de S**	**1.14**	**5**	*e*P	**Pn**	**10 27 24.9**	**+4.3**
CRIN	**San Cristobal**	**1.15**	**83**	P	**Pn**	**10 27 21.4**	**+0.7**
CRIN	**San Cristobal**	**1.15**	**83**	S	**Sn**	**10 27 37.0**	**+1.7**
CAHU	**Cacacuatique**	**1.21**	**0**	*e*P	**Pn**	**10 27 21.6**	**-0.1**
UESV	**Universidad de**	**1.21**	**333**	P	**Pn**	**10 27 21.7**	**+0.1**
UESV	**Universidad de**	**1.21**	**333**	S	**Sn**	**10 27 36.8**	**-0.1**
COEG	**Centro de Oper**	**1.24**	**328**	*e*P	**Pn**	**10 27 21.9**	**-0.2**
COEG				*e*S	**Sn**	**10 27 35.5**	**-2.2**
COEG	**Centro de Oper**	**1.24**	**328**	P	**Pn**	**10 27 21.9**	**-0.2**
COEG	**Centro de Oper**	**1.24**	**328**	S	**Sn**	**10 27 37.6**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.24**	**336**	P	**Pn**	**10 27 22.2**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.24**	**336**	S	**Sn**	**10 27 38.6**	**+0.8**
QUEN	**Al S del Volca**	**1.33**	**88**	P	**Pn**	**10 27 21.7**	**-1.6**
QUEN				S	**Sn**	**10 27 39.5**	**-0.3**
PAVA	**Las Pavas**	**1.35**	**329**	P	**Pn**	**10 27 23.9**	**+0.4**
PAVA	**Las Pavas**	**1.35**	**329**	S	**Sn**	**10 27 41.5**	**+1.1**
HERN	**Volcan Telica**	**1.35**	**88**	P	**Pn**	**10 27 23.7**	**+0.1**
HERN	**Volcan Telica**	**1.35**	**88**	S	**Sn**	**10 27 40.9**	**+0.5**
POLN	**Al Sur del Vol**	**1.37**	**86**	P	**Pn**	**10 27 23.2**	**-0.6**
POLN				S	**Sn**	**10 27 40.4**	**-0.4**
CHOHN	**Orocuina**	**1.38**	**48**	P	**Pn**	**10 27 23.3**	**-0.7**
CHOHN	**Orocuina**	**1.38**	**48**	S	**Sn**	**10 27 40.7**	**-0.4**
PLRN	**Geotermica Pol**	**1.41**	**89**	P	**Pn**	**10 27 24.1**	**-0.2**
PLRN				S	**Sn**	**10 27 41.3**	**-0.5**
LOMA	**Loma Larga**	**1.43**	**319**	*e*P	**Pn**	**10 27 24.8**	**+0.1**
LOMA	**Loma Larga**	**1.43**	**319**	P	**Pn**	**10 27 25.1**	**+0.4**
LOMA	**Loma Larga**	**1.43**	**319**	S	**Sn**	**10 27 42.4**	**+0.1**
CNGA	**Al SSO del Vol**	**1.48**	**92**	P	**Pn**	**10 27 25.5**	**+0.2**
CNGA				S	**Sn**	**10 27 43.3**	**-0.2**
CNGN	**Cerro Negro**	**1.48**	**92**	P	**Pn**	**10 27 25.4**	**+0.1**
CNGN	**Cerro Negro**	**1.48**	**92**	S	**Sn**	**10 27 44.8**	**+1.3**
UEES	**Universidad Ev**	**1.52**	**319**	P	**Pn**	**10 27 26.2**	**+0.2**
UEES	**Universidad Ev**	**1.52**	**319**	S	**Sn**	**10 27 44.6**	**-0.1**
LEVN	**Ruinas Leon Vi**	**1.57**	**95**	P	**Pn**	**10 27 26.5**	**0.0**
LEVN				S	**Sn**	**10 27 46.8**	**+1.2**
PMON	**Piamonte**	**1.57**	**317**	P	**Pn**	**10 27 27.2**	**+0.5**
PMON	**Piamonte**	**1.57**	**317**	S	**Sn**	**10 27 46.7**	**+0.9**
MARCA	**Marcala la Paz**	**1.60**	**6**	*e*P	**Pn**	**10 27 26.9**	**-0.1**
MARCA				*i* S	**Sn**	**10 27 46.0**	**-0.6**
JAYA	**Jayaque - finc**	**1.62**	**312**	*e*P	**Pn**	**10 27 27.3**	**-0.1**
JAYA	**Jayaque - finc**	**1.62**	**312**	*e*P	**Pn**	**10 27 27.3**	**-0.1**
JAYA	**Jayaque - finc**	**1.62**	**312**	P	**Pn**	**10 27 27.1**	**-0.3**
JAYA	**Jayaque - finc**	**1.62**	**312**	S	**Sn**	**10 27 46.0**	**-1.2**
COPN	**Copaltepe**	**1.63**	**103**	P	**Pn**	**10 27 27.2**	**-0.1**
MOMN	**Momotombo**	**1.64**	**95**	P	**Pn**	**10 27 27.5**	**-0.1**
MOMN				S	**Sn**	**10 27 47.1**	**-0.4**
LLGN	**La Laguna**	**1.75**	**336**	P	**Pn**	**10 27 28.9**	**-0.1**
LLGN	**La Laguna**	**1.75**	**336**	S	**Sn**	**10 27 50.8**	**+0.6**
YUSH	**Yuscaran**	**1.93**	**44**	P	**Pn**	**10 27 31.1**	**-0.4**
YUSH	**Yuscaran**	**1.93**	**44**	S	**Sn**	**10 27 53.8**	**-0.8**
TISN	**Laguna Tiscapa**	**1.94**	**102**	P	**Pn**	**10 27 31.1**	**-0.6**
MTO3	**Montecristo**	**2.14**	**329**	*e*P	**Pn**	**10 27 34.6**	**0.0**
MTO3	**Montecristo**	**2.14**	**329**	*e*P	**Pn**	**10 27 34.7**	**+0.1**
MTO3	**Montecristo**	**2.14**	**329**	P	**Pn**	**10 27 34.6**	**0.0**
MTO3	**Montecristo**	**2.14**	**329**	S	**Sn**	**10 28 00.0**	**-0.1**
ESQI	**Esquipulas**	**2.27**	**331**	*e*P	**Pn**	**10 27 36.7**	**+0.5**

*JMA **18** 10:29:55.8±0.1, 24°1N±0°5×12°2E±°, h20km±1km, MV2.9/12, TAIWAN REGION*
*ASIES **18** 10:29:56.6, 24°14N×121°57E, h20km, ML3.7, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.42; $M_{\theta\theta}$-0.82; $M_{\phi\phi}$-0.60; $M_{r\theta}$0.18; $M_{\theta\phi}$-0.60; $M_{\phi r}$-0.12; Fault plane solution: $M_0$1.38792×10^{21} NP1: ϕ_s222.76000°, δ44.24000°, λ79.19000°. NP2:ϕ_s57.68000°, δ46.74000°, λ100.35000°. Principal axes: T Plg82.3750°, Azm40.9140°; N Plg7.5190°, Azm230.5490°; P Plg1.2620°, Azm140.3830°;*
*TAP **18** 10:29:56.6, 24°14N×121°57E, h20km, ML3.7, B*
ISC 18 10:29:56.5±0.8, **24°12N**±0°01×**121°61E**±0°02, **h18**km±2km, **n138**, σ0°**73**/234, **16C-15D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.04**	**14**	⇑*i*P	**Pg**	**10 30 00.4**	**+0.7**
ETL				*e*S	**Sg**	**10 30 03.1**	**+1.2**
NACB	**Ninganchiao**	**0.06**	**343**	⇑*i*P	**Pg**	**10 30 00.3**	**+0.5**
NACB				*i* S	**Sg**	**10 30 02.8**	**+0.8**
HWA	**Hwalien**	**0.14**	**183**	⇓*i*P	**Pg**	**10 30 01.9**	**+1.3**
HWA				S	**Sg**	**10 30 05.7**	**+2.4**
ETLH	**Xiulin Townshi**	**0.15**	**306**	⇑*i*P	**Pb**	**10 30 01.0**	**+0.6**
ETLH				*i* S	**Sg**	**10 30 04.1**	**+0.4**
ETM	**Tongmen**	**0.19**	**215**	⇑*i*P	**Pg**	**10 30 01.6**	**+0.4**
ETM				*i* S	**Sg**	**10 30 05.0**	**+0.6**
LXIB	**Xiulin Townshi**	**0.21**	**242**	⇑*i*P	**Pb**	**10 30 01.8**	**+0.1**
LXIB				S	**Sb**	**10 30 05.5**	**+0.5**
EHP	**Heping Village**	**0.22**	**32**	*e*P	**Pg**	**10 30 02.5**	**+0.7**
EHP				S	**Sg**	**10 30 06.6**	**+1.3**
EAHA	**Aohua**	**0.24**	**29**	P	**Pg**	**10 30 02.4**	**+0.5**
EAHA				*e*S	**Sg**	**10 30 06.5**	**+0.7**
WHF	**Hehuan Shan**	**0.32**	**275**	⇑P	**Pg**	**10 30 03.5**	**-0.1**
WHF				S	**Sb**	**10 30 08.0**	**-0.9**
ENA	**Nanau**	**0.33**	**21**	⇑*i*P	**Pg**	**10 30 03.8**	**+0.3**
ENA				*e*S	**Sg**	**10 30 08.4**	**+0.1**
SHUL	**Shoufeng**	**0.33**	**188**	⇑*i*P	**Pb**	**10 30 04.7**	**+0.8**
SHUL				*e*S	**Sb**	**10 30 10.4**	**+1.5**
ESL	**Shilin**	**0.35**	**208**	⇑P	**Pg**	**10 30 03.9**	**+0.1**
ESL				*e*S	**Sg**	**10 30 08.8**	**0.0**
EWUT	**Wuta**	**0.36**	**25**	⇑P	**Pg**	**10 30 04.3**	**+0.3**
EWUT				S	**Sg**	**10 30 09.3**	**+0.2**
FUSS	**Fushou**	**0.36**	**291**	⇓*i*P	**Pg**	**10 30 04.2**	**+0.1**
FUSS				*e*S	**Sg**	**10 30 09.4**	**0.0**
NNSB	**Datong**	**0.37**	**326**	⇓*i*P	**Pg**	**10 30 04.3**	**0.0**
NNSB				*e*S	**Sg**	**10 30 09.2**	**-0.4**
NNS	**Nan Shan**	**0.39**	**326**	⇓*i*P	**Pg**	**10 30 04.5**	**-0.1**
NNS				S	**Sg**	**10 30 09.7**	**-0.4**
TEGC	**Jichi Village**	**0.41**	**189**	*e*P	**Pb**	**10 30 05.8**	**+0.5**
TEGC				*e*S	**Sb**	**10 30 12.2**	**+1.0**
TWT	**Tachien**	**0.42**	**288**	⇓*i*P	**Pg**	**10 30 05.4**	**+0.2**
TWT				*i* S	**Sg**	**10 30 11.0**	**-0.1**
LATG	**Datong**	**0.42**	**349**	⇓*i*P	**Pg**	**10 30 05.0**	**-0.2**
LATG				S	**Sg**	**10 30 10.2**	**-0.8**
OWD	**Renai**	**0.43**	**248**	⇑*i*P	**Pg**	**10 30 05.3**	**-0.1**
OWD				*e*S	**Sg**	**10 30 11.0**	**-0.4**
TDCB	**Techi**	**0.43**	**288**	⇓*i*P	**Pg**	**10 30 05.4**	**0.0**
TDCB				*i* S	**Sg**	**10 30 11.0**	**-0.5**
WARBT	**Fenglin Townsh**	**0.45**	**207**	⇓*i*P	**Pg**	**10 30 05.0**	**-0.6**
WARBT				*e*S	**Sg**	**10 30 11.6**	**-0.2**
WUSB	**Renai**	**0.47**	**254**	⇑*i*P	**Pg**	**10 30 06.1**	**+0.1**
WUSB				*e*S	**Sg**	**10 30 11.6**	**-0.9**
EGFH	**Guangfu**	**0.48**	**201**	*e*P	**Pg**	**10 30 06.3**	**+0.2**
EGFH				*i* S	**Sg**	**10 30 13.2**	**+0.5**
ESAO	**Su ao**	**0.50**	**25**	*e*P	**Pb**	**10 30 06.8**	**0.0**
ESAO				*e*S	**Sg**	**10 30 13.1**	**-0.2**
ENTT	**Nioudou**	**0.52**	**355**	⇓*i*P	**Pb**	**10 30 06.7**	**-0.4**
ENTT				*e*S	**Sb**	**10 30 14.2**	**-0.1**
NDS	**Dongshan**	**0.52**	**10**	*e*P	**Pb**	**10 30 06.1**	**-1.0**
NDS				S	**Sb**	**10 30 13.0**	**-1.3**
TWC	**Suao**	**0.53**	**24**	⇑*i*P	**Pb**	**10 30 07.2**	**-0.1**
TWC				S	**Sb**	**10 30 14.5**	**-0.1**
VWDT	**VWDT**	**0.56**	**230**	⇑*i*P	**Pb**	**10 30 07.9**	**+0.1**
VWDT				*i* S	**Sb**	**10 30 15.5**	**0.0**
YHNB	**Yeheng**	**0.59**	**339**	⇓*i*P	**Pb**	**10 30 07.9**	**-0.4**
YHNB				S	**Sb**	**10 30 15.4**	**-1.0**
NSK	**Sanguang**	**0.60**	**337**	⇓*i*P	**Pb**	**10 30 08.0**	**-0.1**
NSK				*e*S	**Sb**	**10 30 15.4**	**-1.3**
TWE	**Neicheng**	**0.60**	**5**	⇑*i*P	**Pb**	**10 30 08.2**	**-0.2**
TWE				*e*S	**Sb**	**10 30 15.6**	**-1.0**
WHP	**Taichung City**	**0.63**	**285**	*e*P	**Pb**	**10 30 08.4**	**-0.5**
WHP				*e*S	**Sb**	**10 30 16.9**	**-0.6**
FUSB	**Fushanzhiwuyua**	**0.64**	**358**	⇓*i*P	**Pb**	**10 30 08.9**	**-0.2**
FUSB				*i* S	**Sb**	**10 30 16.9**	**-0.8**
EOS2	**EOS2**	**0.64**	**62**	*e*P	**Pn**	**10 30 11.0**	**+0.5**
WCS	**Beigang Elemen**	**0.64**	**265**	*e*P	**Pb**	**10 30 08.9**	**-0.2**
WCS				*e*S	**Sb**	**10 30 16.9**	**-0.9**
EOS4	**EOS4**	**0.65**	**90**	*e*P	**Pn**	**10 30 10.1**	**-0.3**
HGSD	**Ruisui**	**0.65**	**195**	*e*P	**Pb**	**10 30 09.3**	**+0.1**
ILA	**Ilan**	**0.65**	**11**	*e*P	**Pb**	**10 30 09.5**	**+0.1**
ILA				*e*S	**Sb**	**10 30 18.5**	**+0.3**
NWLT	**Wulai**	**0.66**	**351**	⇓P	**Pb**	**10 30 09.1**	**-0.4**
NWLT				*e*S	**Sb**	**10 30 17.6**	**-0.8**
EOS3	**EOS3**	**0.67**	**75**	*e*P	**Pn**	**10 30 11.4**	**+0.6**
EHY	**Hungye**	**0.67**	**204**	*e*P	**Pb**	**10 30 08.1**	**-1.5**
EHY				*e*S	**Sb**	**10 30 17.5**	**-1.0**
NFF	**Wufeng Townshi**	**0.68**	**319**	⇓P	**Pb**	**10 30 09.4**	**-0.5**
NFF				*e*S	**Sb**	**10 30 16.5**	**-2.5**
SSLB	**Suanglung**	**0.69**	**241**	⇑P	**Pb**	**10 30 09.6**	**-0.4**
SSLB				S	**Sb**	**10 30 18.3**	**-0.9**
SMLT	**Sun Moon Lake**	**0.69**	**250**	*e*P	**Pb**	**10 30 08.8**	**-1.2**
SMLT				*e*S	**Sb**	**10 30 18.2**	**-1.1**
TYC	**Yuchr**	**0.72**	**253**	⇓*e*P	**Pb**	**10 30 10.2**	**-0.3**
TYC				*e*S	**Sb**	**10 30 19.5**	**-0.7**
LIOB	**Emei**	**0.76**	**314**	*e*P	**Pb**	**10 30 11.2**	**+0.1**
NSTT	**Nanjuang**	**0.76**	**313**	*e*P	**Pb**	**10 30 11.1**	**0.0**
KSHI	**Guanxi Townshi**	**0.77**	**329**	*e*P	**Pb**	**10 30 11.6**	**+0.3**
EGS		**0.78**	**22**	*e*P	**Pb**	**10 30 11.9**	**+0.5**
YULB	**Yu-li**	**0.78**	**202**	*e*P	**Pb**	**10 30 09.6**	**-1.9**
YULB				S	**Sb**	**10 30 21.6**	**-0.2**
TWQ1	**Liyutan**	**0.80**	**287**	P	**Pb**	**10 30 12.1**	**+0.3**
TWQ1				*e*S	**Sb**	**10 30 22.9**	**+0.5**
WHYT	**Xinyi Township**	**0.81**	**239**	*e*P	**Pb**	**10 30 12.3**	**+0.2**
WHYT				*e*S	**Sb**	**10 30 22.9**	**+0.1**
ECBN	**Changbin**	**0.81**	**190**	*e*P	**Pb**	**10 30 11.8**	**-0.3**
ECBN				*e*S	**Sg**	**10 30 23.5**	**+0.4**
EYUL	**Yuli**	**0.81**	**199**	*e*P	**Pb**	**10 30 12.0**	**-0.1**
EYUL				*e*S	**Sg**	**10 30 23.7**	**+0.5**
TWF1	**Yuli**	**0.82**	**201**	*e*P	**Pb**	**10 30 10.1**	**-2.0**
TWF1				*e*S	**Sb**	**10 30 22.3**	**-0.6**
NHDH	**Xindian Distri**	**0.84**	**355**	*e*P	**Pb**	**10 30 12.8**	**+0.2**
NHDH				*e*S	**Sb**	**10 30 23.3**	**-0.3**
TCU	**Taichung**	**0.86**	**272**	*e*P	**Pg**	**10 30 13

LAY	Lan-yu	2.07 182	eP	Pn	10 30 29.4	-1.1
VWUC	VWUC	2.15 294	eP	Pn	10 30 30.6	-0.9
JKRS	Kuro-shima	2.19 86	P	Pn	10 30 33.2	+1.2
JKRS			S	Sb	10 31 00.6	-1.9
VCHM	Qimei	2.20 246	eP	Pn	10 30 32.3	+0.2
JIJ	Ishigaki jima	2.32 83	P	Pn	10 30 34.2	+0.4
JIJ			S	Sn	10 31 02.4	+0.5
PTMZ	Houxiangcun	2.45 292	eP	Pn	10 30 34.6	-0.9
JISG	Ishigakijimahi	2.50 79	P	Pn	10 30 37.1	+0.8
JISG			S	Sn	10 31 07.1	+0.7
KNM	Kinmen	2.92 276	eP	Pn	10 30 42.4	+0.4
MHZQ	Yeshan	3.06 311	eP	Pn	10 30 43.5	-0.5
XPSS	Dashiqiu	3.08 336	eP	Pn	10 30 43.2	-1.0
AXDP	Jialang	3.41 284	eP	Pn	10 30 47.9	-0.9
ZPLA	Ao Xicun	3.54 268	eP	Pn	10 30 50.1	-0.4

*HEL **18** 10:41:48.9±0.1, 63°.14N×27°.72E, h0km, ML1.7, Suspected explosion*
*IDC **18** 10:41:50.0±1.9, 63°.09N×27°.70E, h0km, mbtmp3.3/1, ML2.2/1, Error ellipse: s-maj=34.6km s-min=6.9km az=104.0*
ISC 18 10:41:47.8±0.8, 63°.12N±0°.02×27°.73E±0°.02, h0km, n37, σ1°.27/58, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	Nilsia	0.27	8	PG	Pg	10 41 53.3	+0.3
NIF	baz=184						
				SG	Sg	10 41 57.2	+0.7
SUF	Sumiainen	0.83	241	PG	Pg	10 42 03.7	0.0
SUF				MSG		10 42 14.6	
	comp=Z,4.2nm,0.2s						
SUF				SB	Sb	10 42 16.3	-0.4
KAF	Kangasniemi	1.21	214	PG	Pg	10 42 10.5	-0.5
KAF				MSG		10 42 25.7	
	comp=Z,4.2nm,0.2s						
KAF				SN	Sn	10 42 28.7	-0.3
RMF	Romuvaara	1.47	41	PG	Pn	10 42 15.4	-0.2
RMF	baz=226						
				MSG		10 42 33.0	
	comp=Z,4.1nm,0.2s						
RMF				SG	Sn	10 42 36.5	+1.0
KEF	Keuruu	1.63	235	eP	Pn	10 42 15.9	-1.9
KEF	Keuruu	1.63	235	PN	Pb	10 42 18.8	0.0
KEF	baz=55						
				MSG		10 42 37.9	
	comp=Z,4.7nm,0.2s						
KEF				SN	Sg	10 42 40.6	+0.4
JOF	Joensuu	1.65	96	eP	Pn	10 42 17.8	-0.1
JOF	Joensuu	1.65	96	PG	Pb	10 42 18.6	-0.4
JOF				SN	Sg	10 42 40.9	+0.2
RUF	Ruokolahti	1.80	161	PG	Pb	10 42 21.3	-0.3
RUF	baz=341						
				MSG		10 42 42.8	
	comp=Z,6.8nm,0.2s						
RUF				SN	Sg	10 42 46.4	+0.9
OUF	Merijarvi	1.83	314	PG	Pb	10 42 21.3	-0.8
OUF	baz=133						
				MSG		10 42 43.1	
	comp=Z,6.4nm,0.2s						
OUF				SG	Sg	10 42 47.2	+0.8
FIA0	FINESS Array S	1.85	205	PG	Pb	10 42 22.3	-0.2
FIA0	baz=22						
				MSG		10 42 44.4	
	comp=Z,5.8nm,0.2s						
FIA0				SG	Sg	10 42 47.1	-0.2
FINES	FINESS Array B	1.85	205	Pg	Pb	10 42 22.5	-0.1
	comp=Z,0.1nm,0.3s,baz=23,slow=17,SNR=5.9						
FINES				Lg	Lg	10 42 47.2	
	comp=Z,0.4nm,0.3s,baz=20,slow=25,SNR=14						
OBF4	Vikkela, Lumij	2.05	327	PG	Pb	10 42 25.4	-0.5
OBF4				MSG		10 42 49.5	
	comp=Z,4.6nm,0.2s						
OBF4				SG	Sg	10 42 54.2	+0.5
OBF0	Syolatti, Pyha	2.07	313	PB	Pb	10 42 25.4	-0.9
OBF0				MSG		10 42 50.1	
	comp=Z,2.8nm,0.2s						
OBF0				SG	Sg	10 42 55.2	+0.9
OUL	Oulu	2.13	339	PG	Pb	10 42 26.4	-0.8
OUL	baz=152						
				SG	Sg	10 42 55.4	-0.7
OBF8	Ulkokalla	2.26	304	PB	Pb	10 42 28.5	-0.9
OBF8				MSG		10 42 55.5	
	comp=Z,3.6nm,0.2s						
OBF8				SG	Sg	10 42 59.6	-0.7
VAF	Ylistaro	2.30	270	eP	Pb	10 42 30.5	+0.3
VAF	Ylistaro	2.30	270	PG	Pb	10 42 29.5	-0.7
VAF				MSG		10 42 57.0	
	comp=Z,5.9nm,0.2s						
VAF				SG	Sb	10 43 00.0	+0.9
KU1	Kurvinen	2.58	17	PB	Pb	10 42 33.2	-1.7
	baz=200						
VJF	Virojoki	2.60	182	PG	Pg	10 42 37.4	-0.1
VJF				MSG		10 43 05.9	
	comp=Z,3.6nm,0.2s						
VJF				SG	Sb	10 43 08.1	+0.5
KU2	Taivalkoski	2.61	5	PB	Pb	10 42 33.8	-1.6
	baz=184						
KU2				SG	Sg	10 43 10.7	-0.7
PVF	Pernaja	2.74	200	PG	Pb	10 42 38.5	+0.9
PVF				MSG		10 43 09.8	
	comp=Z,2.0nm,0.2s						
MSF	Maaselka	2.86	11	PN	Pn	10 42 36.5	+1.9
	baz=188						
MSF				SB	Sb	10 43 14.9	-0.1
KPF	Kankaanpaa	2.93	246	PB	Pb	10 42 39.1	-1.7
KPF				SG	Sb	10 43 17.3	+0.2
RANF	Ranua	2.93	352	PB	Pb	10 42 39.4	-1.5
RANF				SB	Sb	10 43 17.5	+0.3
KU6	Riekki	3.06	17	PB	Pb	10 42 40.8	-2.3
	baz=197						
KU6				MSG		10 43 18.6	
	comp=Z,1.5nm,0.2s						
BURU	Burvik	3.17	300	PB	Pb	10 42 43.9	-1.0
	baz=116						
BURU				SG	Sg	10 43 27.5	-2.1
UMAU	Umeaa	3.25	287	PN	Pn	10 42 41.8	+1.8
UMAU				SB	Sb	10 43 23.6	-2.8
OLKF	Oulanka, Finla	3.29	12	PB	Pb	10 42 44.1	-2.9
OLKF				SB	Sb	10 43 27.1	-0.4
MEF	Metsahovi	3.32	210	SG	Sg	10 43 33.1	-1.3
RAF	Rauma	3.51	236	eP	Pn	10 42 37.0	-6.5
RNF	Rovaniemi	3.58	349	PN	Pn	10 42 46.8	+2.4
ERTU	Ertsjaerv	4.18	328	PN	Pn	10 42 55.7	+3.0
	baz=147						
PAJU	Pajala	4.38	336	PN	Pn	10 42 58.0	+2.5
KLF	Kolari	4.42	341	PN	Pn	10 42 58.3	+2.2
ARCES	ARCESS Array B	6.50	353	Pn	Pn	10 43 25.1	+0.5
	baz=166,slow=14,SNR=1.4						
ARCES				Sn	Sn	10 44 40.2	+0.8
	baz=172,slow=21,SNR=1.9						
	comp=Z,2.8nm,1.1s						
I37NO	I37NO	7.02	332	I	I	11 25 00.0	
	baz=140,slow=317,SNR=0.6						

WEL 18 10:43:50.1±1.1, 32°.S±13°.×17°.9W±2°.3, h432km±11km, M4.0/5, mB4.1/4, MLv4.3/5, Mw(mB)3.1/4, Error ellipse: s-maj=34.0km s-min=8.0km az=116.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.84	203	P	P	10 45 19.9	-1.9
MXZ				S	S	10 46 35.8	-1.2
WMGZ	Waiomatatini S	6.04	201	P	P	10 45 23.4	-0.5
WMGZ				S	S	10 46 40.1	-0.7
PKGZ	Pakihiroa	6.19	203	P	P	10 45 28.3	+2.8
PKGZ				S	S	10 46 43.3	-0.5
HAZ	Te Kaha	6.20	206	P	P	10 45 23.3	-2.2
HAZ				S	S	10 46 42.9	-0.9
PUZ	Puketiti	6.32	201	P	P	10 45 25.5	-1.4
RUGZ	Raukumara Rang	6.42	205	P	P	10 45 27.3	-0.7
RUGZ				S	S	10 46 48.0	-0.4
TWGZ	Tauwhareparae	6.50	203	P	P	10 45 32.2	+3.1
TWGZ				S	S	10 46 52.1	+2.2
MWZ	Matawai	6.80	205	P	P	10 45 32.9	+0.6
MWZ				S	S	10 46 56.9	+1.2
URZ	Urewera	6.89	208	P	P	10 45 31.2	-2.0
URZ				S	S	10 46 57.4	0.0
ETAZ	East Tamaki Re	6.99	226	P	P	10 45 36.5	+2.2
RIGZ	Rimuhau	7.06	202	P	P	10 45 36.1	+1.1
RIGZ				S	S	10 47 01.2	+0.4
MUGZ	Murupara	7.21	209	P	P	10 45 36.0	-0.7
MUGZ				S	S	10 47 05.3	+1.4
PRGZ	Paritu Road	7.22	201	S	S	10 47 07.6	+3.6
SNGZ	Shannon Statio	7.27	204	P	P	10 45 38.5	+1.2
SNGZ				S	S	10 47 07.7	+2.8
PXZ	Pawanui	8.55	203	P	P	10 45 50.7	-0.4
PXZ				P	S	10 47 32.9	+2.2
TSZ	Takapari Road	8.89	207	P	S	10 47 38.7	+0.9
DVHZ	Dannevirke	9.03	205	P	S	10 47 42.7	+2.1
ANWZ	Angora Road	9.06	203	P	S	10 47 42.7	+1.5
BFZ	Birch Farm	9.34	204	P	P	10 46 00.8	+1.0
BFZ				S	S	10 47 47.2	+0.4
TIWZ	Tintock	9.55	205	S	S	10 47 52.5	+1.4
MRZ	Mangatainoka R	9.56	206	P	P	10 46 02.4	+0.2
MRZ				S	S	10 47 51.4	+0.1
HOWZ	Holdsworth Sta	9.79	206	S	S	10 47 55.3	-0.6
KIW	Kapiti Island	9.99	208	S	S	10 47 59.6	-0.4
PAWZ	Paruwai Farm	10.25	205	S	S	10 48 06.4	+1.3
MSWZ	Moikau Station	10.34	206	S	S	10 48 07.6	+0.7
DUWZ	D'Urville Isla	10.37	212	S	S	10 48 09.0	+1.5
TCW	Tory Channel	10.55	210	S	S	10 48 11.6	+0.6
TUWZ	Tuamarina	10.87	210	P	S	10 48 19.1	+1.6
NNZ	Nelson	10.95	212	S	S	10 48 19.9	+0.9
QRZ	Quartz Range	11.05	216	P	P	10 46 16.0	-2.5
QRZ				S	S	10 48 21.4	+0.3
MRNZ	Matariki Terra	11.38	214	S	S	10 48 28.7	+1.0

*NEIC **18** 10:48:38.9±1.0, 3°.5S±0°.1×153°.8E±0°.1, h427km±12km, mb4.2/16, Error ellipse: s-maj=20.3km s-min=14.1km az=210.0*
*IDC **18** 10:48:39.3±2.0, 3°.61S×153°.79E, h438km±21km, mb3.3/10, mbtmp4.2/12, Error ellipse: s-maj=18.4km s-min=14.3km az=133.0*
ISC 18 10:48:38.4±0.7, 3°.54S±0°.10×153°.8E±0°.1, h428km, n33, σ0°.97/36, mb3.9/17, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.77	248	P	P	10 49 34.0	-1.7
HNR	Honiara	8.45	134	P	P	10 50 38.4	-0.2
	40nm,0.3s,baz=194,slow=10,SNR=4.0						
PMG	Port Moresby	8.81	228	P	P	10 50 43.1	+0.5
PMG	Port Moresby	8.81	228	P	P	10 50 45.0	+2.4
	17nm,0.7s,baz=85,slow=5.5,SNR=3.8						
COEN	Coen	14.75	225	P	P	10 51 49.5	+2.1
FAKI	Fak Fak	21.54	271	P	P	10 52 55.9	+0.6
FAKI				IAmb	IAmb	10 52 58.4	
	comp=Z,6.8nm,0.7s						
DZM	Mont Dzumac	22.13	147	P	P	10 53 00.8	+0.2
DZM	Mont Dzumac	22.13	147	P	P	10 53 00.1	-0.6
	comp=Z,5.3nm,0.4s,baz=249,slow=5.3,SNR=15						
	comp=Z,5.3nm,0.4s						
WB0	Warramunga Arr	24.89	228	P	P	10 53 25.1	-0.2
WR8	Warramunga Arr	24.92	228	P	P	10 53 25.6	-0.1
WR8				IAmb	IAmb	10 54 08.0	
	comp=Z,12nm,1.4s						
WRA	Warramunga Arr	25.03	228	P	P	10 53 25.0	-1.6
WRA	Warramunga Arr	25.03	228	P	P	10 53 26.4	-0.3
	comp=Z,0.5nm,0.3s,baz=53,slow=9.3,SNR=17						
WRA				PcP	PcP	10 56 48.6	+0.6
	comp=Z,0.6nm,0.4s,baz=46,slow=2.5,SNR=6.8						
	comp=Z,0.5nm,0.3s						
ARMA	Armidale	26.82	184	P	P	10 53 42.5	0.0
ARMA				IAmb	IAmb	10 54 24.7	
	comp=Z,20nm,1.4s						
KNRA	Kununurra	27.44	242	P	P	10 53 46.5	-1.5
KNRA				IAmb	IAmb	10 53 48.3	
	comp=Z,15nm,1.4s						
AS31	Alice Springs	27.75	222	P	P	10 53 50.3	-0.4
AS31				IAmb	IAmb	10 53 50.8	
	comp=Z,1.6nm,0.3s						
ASAR	Alice Springs	27.76	222	P	P	10 53 49.9	-0.9
ASAR	Alice Springs	27.76	222	P	P	10 53 50.4	-0.4
	comp=Z,1.6nm,0.3s,baz=54,slow=9.1,SNR=68						
ASAR				PcP	PcP	10 56 54.9	+0.4
	comp=Z,0.5nm,0.6s,baz=59,slow=2.7,SNR=6.6						
ASAR				S	S	10 58 00.3	-1.7
	comp=Z,2.0nm,0.8s,baz=47,slow=14,SNR=15						
	comp=Z,1.6nm,0.3s						
FITZ	Fitzroy Crossi	31.15	240	P	P	10 54 19.5	-0.9
FITZ	Fitzroy Crossi	31.15	240	P	P	10 54 19.6	-0.8
	comp=Z,1.1nm,0.7s,baz=57,slow=14,SNR=5.7						
	comp=Z,1.1nm,0.7s						
BBOO	Buckleboo	33.53	208	P	P	10 54 40.3	-0.3
FORT	Forrest	36.40	219	P	P	10 55 04.8	0.0
RTZ	Ruatahuna	40.81	152	P	P	10 55 41.1	+0.2
RTZ				IAmb	IAmb	10 56 03.9	
	comp=Z,27nm,1.4s						
MRNZ	Matariki Terra	41.36	158	P	P	10 55 45.6	+0.5
JNU	Nakatsue	42.43	331	P	P	10 55 54.2	+0.4
MORW	Morawa	43.92	231	P	P	10 56 05.2	-0.4
MORW				IAmb	IAmb	10 56 21.2	
	comp=Z,26nm,1.5s						
VNDA	Vanda	74.05	178	P	P	10 59 28.8	+0.1
	comp=Z,2.2nm,0.7s,baz=335,slow=6.8,SNR=9.1						
	comp=Z,2.2nm,0.7s						
MKAR	Makanchi Array	80.05	319	P	P	11 00 03.2	+1.0
	comp=Z,0.4nm,0.6s,baz=120,slow=4.3,SNR=2.8						
	comp=Z,0.4nm,0.6s						
ILAR	Eielson Array	80.62	22	P	P	11 00 04.5	-0.3
	comp=Z,0.5nm,0.7s,baz=262,slow=5.1,SNR=6.3						
	comp=Z,0.5nm,0.7s						
KURBB	Kurchatov Arra	83.44	322	P	P	11 00 19.3	-0.2
	comp=Z,0.4nm,0.5s,baz=87,slow=4.9,SNR=2.9						
	comp=Z,0.4nm,0.5s						
G31M	Satah River	86.23	22	P	P	11 00 33.9	+1.1
QSPA	South Pole Qui	86.42	180	P	P	11 00 34.2	+0.2
QSPA				IAmb	IAmb	11 00 34.7	
	comp=Z,4.8nm,0.8s						
QSPA	South Pole Qui	86.42	180	P	P	11 00 33.7	-0.3
	comp=Z,4.6nm,0.8s,baz=335,slow=1.3,SNR=33						
	comp=Z,4.6nm,0.8s						
BVAR	Borovoye Array	88.84	323	P	P	11 00 43.8	-1.7
	comp=Z,0.8nm,0.5s,baz=87,slow=7.4,SNR=2.5						
	comp=Z,0.8nm,0.5s						

*SOF **18** 10:50:56.6, 41°.13N±0°.01×23°.63E, h7km±1km, MD2.6/6*
*ATH **18** 10:50:58.1, 41°.16N×23°.64E, h12km±3km, ML2.0/8, Manual Solution by A.Papageorgiou First location: 2019/04/18 10:51:54, This location: 2019/04/18 11:23:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 2 km*
*SKO **18** 10:50:58.5, 41°.22N×23°.69E, h0km, ML1.7*
ISC 18 10:50:58.2±0.8, 41°.17N±0°.02×23°.66E±0°.02, h12km±5km, n26, σ0°.47/52, 2C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	Serrai	0.07	224	iPg	Pg	10 51 00.9	+0.1
SRS				i Sg	Sg	10 51 02.9	+0.2
SRS	Serrai	0.07	224	P	Pg	10 51 00.7	-0.1
SRS				S	Sg	10 51 02.6	-0.1
MMB	Musomishta	0.39	10	iP	Pg	10 51 05.2	-0.7
MMB				i S	Sg	10 51 10.7	-0.5
MMB	Musomishta	0.39	10	i Pg	Pg	10 51 05.3	-0.7
MMB				i Sg	Sg	10 51 10.5	-0.7
SOH	Sokhos	0.41	214	iPg	Pb	10 51 06.8	-0.7
SOH				i Sg	Sb	10 51 13.1	-0.7
KOKK	Kokkinochori,	0.44	143	P	Pg	10 51 06.9	0.0
KOKK				S	Sg	10 51 12.9	+0.2
KNT	Kendrikon	0.57	270	i Pg	Pg	10 51 09.3	-0.1
KNT				i Sg	Sg	10 51 17.1	+0.1
KNT	Kendrikon	0.57	270	P	Pg	10 51 09.3	-0.1
KNT				S	Sg	10 51 16.8	-0.3
KVLA	Kavala	0.60	112	P	Pb	10 51 10.6	0.0
KVLA				S	Sg	10 51 17.3	-0.5
KAVA	Kavala	0.67	105	P	Pb	10 51 12.0	+0.2
KAVA				S	Sg	10 51 19.4	-0.7
HORT	Hortiatis	0.71	217	P	Pg	10 51 11.8	-0.2
HORT				S	Sg	10 51 21.0	-0.4
THE	Thessaloniki	0.75	225	i Pg	Pb	10 51 12.8	-0.4
THE				i Sg	Sb	10 51 23.4	+0.1
THE	Thessaloniki	0.75	225	P	Pg	10 51 12.6	-0.1
THE				S	Sg	10 51 22.4	-0.2
KKB	Krupnik	0.78	330	i P	Pg	10 51 12.6	-0.8
KKB				i S	Sg	10 51 23.2	-0.4
KKB	Krupnik	0.78	330	i Pg	Pg	10 51 12.5	-0.8
KKB				i Sg	Sg	10 51 23.1	-0.6
PLG	Polygyros	0.81	191	P	Pb	10 51 13.9	-0.3
PLG				S	Sb	10 51 24.8	-0.3
VAY	Valandovo	0.83	281	i Pg	Pb	10 51 15.2	+0.5
VAY				i Sg	Sb	10 51 26.2	+0.4
VAY				eLg	Lg	10 51 27.8	
	comp=N,16nm,0.3s						
VAY				eLg	Lg	10 51 28.5	
	comp=E,14nm,0.3s						
OUR	Ouranopolis	0.87	163	P	Pb	10 51 15.1	-0.1
OUR				S	Sb	10 51 27.3	+0.6
RZN	Rozhen	0.97	57	i P	Pg	10 51 16.7	-0.3
RZN				i S	Sg	10 51 30.0	+0.4
THAS	Thassos island	0.98	124	P	Pg	10 51 17.2	+0.1
THAS				S	Sg	10 51 29.5	-0.5
XANC	Avdira	1.00	100	P	Pg	10 51 17.4	0.0
XANC				S	Sg	10 51 30.0	-0.5
KDZ	Kurdzhali	1.35	69	i P	Pn	10 51 23.3	+0.5
KDZ				i S	Sb	10 51 40.8	+0.2
PGB	Panagyurishte	1.40	16	i P	Pn	10 51 24.3	+0.7
PGB				i S	Sg	10 51 43.8	+0.5
RDO	Rodhopi	1.42	90	P	Pn	10 51 23.5	-0.3
RDO				S	Sb	10 51 42.5	-0.2
VTS	Vitosha	1.48	348	i P	Pn	10 51 25.7	+0.9
VTS				i S	Sb	10 51 45.4	+0.8
SMTH	Samothraki Isl	1.58	115	P	Pn	10 51 25.9	-0.2
SMTH				S	Sn	10 51 47.0	+0.5

*DJA **18** 10:54:33.0±0.4, 10°.S±3°.×11°.9E±°, h10km, M4.4/17, mb4.4/7, MLv4.3/17*
*IDC **18** 10:54:36.4±4.5, 10°.14S×119°.06E, h66km±43km, mb3.5/4, mbtmp3.8/8, ML3.7/4, MS3.2/2, Error ellipse: s-maj=64.8km s-min=15.1km az=70.0*
ISC 18 10:54:30.6±0.7, 10°.28S±0°.05×118°.81E±0°.04, h10km, n35, σ1°.79/41, mb3.8/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.86	42	P	Pg	10 54 46.6	-0.5
WBSI				S	Sg	10 54 58.3	0.0
WSI	Waingapu	1.59	68	P	Pb	10 55 00.6	+0.6
WSI				S	Sg	10 55 22.3	+0.6
PLAI	Plampang	1.77	325	P	Pn	10 55 00.8	-0.5
PLAI	Plampang	1.77	325	P	Pn	10 55 00.8	-0.5
PLAI				S	Sn	10 55 23.7	-0.1
TWSI	Taliwang, Sumb	2.44	309	P	Pn	10 55 11.0	+0.5
EDFI	Ende, Flores	3.23	62	P	Pn	10 55 23.1	+1.7
MMRI	Maumere	3.76	64	P	Pn	10 55 32.2	+3.6
MMRI	Maumere	3.76	64	P	Pn	10 55 30.5	+1.9
MMRI				S	Sn	10 56 12.5	-0.5
DNP	Denpasar	3.89	294	P	Pn	10 55 32.5	+2.0
DNP				S	Sn	10 56 18.3	+2.0
SRBI	Singaraja	4.17	301	P	Pn	10 55 35.1	+0.8
SRBI				S	Sn	10 56 23.4	+0.3
BSSI	Bau Bau, Buton	4.44	22	P	Pn	10 55 38.9	+0.9
BSSI				S	Sn	10 56 29.3	-0.4
JAGI	Jajag, Banyuwa	4.94	291	P	Pn	10 55 46.1	+1.3
BKSI	Bulukumba	5.10	15	P	Pn	10 55 47.9	+0.8
BKSI				S	Sn	10 56 45.3	-0.7
KAPI	Kappang	5.32	10	P	Pn	10 55 51.2	+1.1
	5.6nm,0.3s,baz=183,slow=7.8,SNR=23						
KAPI				S	Sn	10 56 49.6	-1.9
	47nm,0.4s,baz=355,slow=21,SNR=11						
KAPI				LR	LR	10 58 24.2	
	comp=Z,108nm,20.7s,baz=166,slow=44						
	24nm,0.5s						
KAPI	Kappang	5.32	10	P	Pn	10 55 52.5	+2.4
SOEI	Soe	5.40	85	P	Pn	10 55 56.9	+5.5
SOEI	Soe	5.40	85	P	Pn	10 55 53.9	+2.5
	0.2nm27nm,1.1s						
GMJI	Gumukmas	5.66	290	P	Pn	10 55 56.5	+1.7
	0.3nm45nm,1.5s						
BNSI	Bone	5.98	13	P	Pn	10 56 00.4	+1.1
	0.2nm43nm,0.8s						
BBSI	Bau Bau	6.05	38	P	Pn	10 56 01.1	+1.0
FITZ	Fitzroy Crossi	10.21	140	P	Pn	10 56 57.9	+0.7
	0.6nm,0.3s,baz=324,slow=8.8,SNR=10						
FITZ				S	Sn	10 58 45.8	-6.0
	2.0nm,0.4s,baz=154,slow=15,SNR=4.0						
	3.1nm,0.6s						
MBWA	Marble Bar	10.85	175	P	Pn	10 57 07.8	+1.7
GIRL	Giralia	13.05	199	P	Pn	10 57 37.0	+0.9
MEEK	Meekatharra	16.27	181	P	Pn	10 58 20.6	+1.3
WRA	Warramunga Arr	17.79	124	P	Pn	10 58 37.4	-1.2
	0.2nm,0.3s,baz=301,slow=13,SNR=6.7						
	0.9nm,0.7s						
ASAR	Alice Springs	19.61	135	P	P	10 59 00.5	+1.2
	0.2nm,0.3s,baz=319,slow=11,SNR=26						
	1.6nm,0.7s						
QIZ	Qiongzhong	30.44	343	P	P	11 00 45.3	+1.8
QIZ				S	S	11 05 46.3	+1.7
QIZ				LR	LR		
	comp=N,350nm,13.3s						
QIZ				LR	LR		
	comp=E,220nm,12.5s						
QIZ				LR	LR		
	comp=Z,220nm,12.2s						
CMAR	Chiang Mai Arr	34.64	325	P	P	11 01 20.8	+0.4
	comp=Z,0.3nm,0.4s,baz=143,slow=9.7,SNR=1.5						
	comp=Z,0.3nm,0.4s						
H08S2	Diego Garcia H	45.80	269	T	T	11 52 13.8	
	baz=95,slow=75,SNR=6.8						
H08S3	Diego Garcia H	45.81	269	T	T	11 51 59.0	
	baz=95,slow=75,SNR=11						
H08S1	Diego Carcia H	45.81	269	T	T	11 52 11.1	
	baz=95,slow=75,SNR=6.5						
SONM	Songino Array	58.90	350	P	P	11 04 27.9	-2.0
	comp=Z,0.5nm,0.4s,baz=169,slow=8.8,SNR=1.8						
	comp=Z,0.5nm,0.4s						
KLR	Kul'dur	60.34	10	LR	LR	11 30 36.6	
	comp=Z,46nm,19.6s,baz=341,slow=36						
MKAR	Makanchi Array	65.51	333	P	P	11 05 13.1	-1.0
	comp=Z,0.3nm,0.6s,baz=145,slow=7.2,SNR=4.1						
	comp=Z,0.3nm,0.6s						
ZALV	Zalesovo Beam	70.17	339	P	P	11 05 40.1	-3.1
	comp=Z,0.7nm,0.3s,baz=133,slow=8.1,SNR=2.0						
	comp=Z,0.7nm,0.3s						

*EST **18** 10:55:24.8±0.1, 59°.28N×27°.63E, h0km, ML1.6(HEL), Explosion*
*LVSN **18** 10:55:27.4±1.2, 58°.84N×26°.74E, h0km±13km, ML1.6*
HEL 18 10:55:24.5±0.4, 59°.26N×27°.65E, h0km, ML1.8, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	Vaivara Sinima	0.16	45	eP	Pg	10 55 27.0	-0.6
EE04				eS	Sg	10 55 29.9	+0.2
EE03	Tooma soojaam,	0.81	242	eP	Pg	10 55 39.3	-0.7
EE03				eS	Sg	10 55 50.1	-0.4
ARBE	Ar

HEL1 Helsinki 1.68 304 *e*PG Pn 10 55 54.7 -0.4
HEL1 *e*SG Sn 10 56 16.3 -0.9
HEL1 MSG 10 56 18.8
comp=Z,4.5nm,0.1s
MEF Metsahovi 1.91 302 *e*P Pn 10 55 58.8 +0.6
MEF Metsahovi 1.91 302 *e*PG Pn 10 55 59.0 +0.8
MEF *e*SN Sn 10 56 22.5 -0.4
MEF MSG 10 56 24.4
comp=Z,3.9nm,0.1s
NUR Nurmijarvi 1.96 311 *e*PG Pn 10 55 59.7 +0.7
NUR *e*SG Sn 10 56 24.7 +0.4
NUR MSG 10 56 26.4
comp=Z,4.2nm,0.1s
MTSE Matsula 2.06 256 *e*P Pn 10 56 00.7 +0.5
MTSE Matsula 2.06 256 *e*PG Pn 10 56 01.4 +1.1
MTSE *e*SG Sb 10 56 27.8 -1.0
RUF Ruokolahti 2.27 16 *e*P Pn 10 56 02.7 -0.4
RUF MSG 10 56 31.6
comp=Z,3.1nm,0.2s
RUF *e*SG Sb 10 56 33.9 -0.8
FIA0 FINESS Array S 2.33 341 *e*P Pn 10 56 03.7 -0.3
FIA0 *e*PB Pb 10 56 05.0 -2.3
FIA0 *e*SG Sb 10 56 35.2 -1.3
FIA0 MSG 10 56 36.4
comp=Z,1.2nm,0.1s
FIA1 FINESS Array S 2.33 341 *e*PB Pn 10 56 05.0 +1.0
FIA1 *e*SG Sb 10 56 35.1 -1.4
EE06 Soera, Palade, 2.49 265 *e*P Pn 10 56 06.7 +0.4
EE06 *e*SB Sn 10 56 39.2 +1.9
KAF Kangasniemi 2.94 348 *e*PB Pb 10 56 15.2 -2.5
KAF *e*SG Sb 10 56 54.8 +0.7
KAF MSG 10 56 56.6
comp=Z,0.9nm,0.1s
KEF Keuruu 3.22 336 *e*P Pn 10 56 17.1 +0.8
RAF Rauma 3.43 304 *e*P Pn 10 56 19.9 +0.7
RAF Rauma 3.43 304 *e*P Pn 10 56 20.1 +1.0
RAF AML AML 10 57 02.3
comp=Z,1.8nm,0.6s
RAF AML AML 10 57 13.7
comp=N,3.6nm,0.5s
RAF AML AML 10 57 21.1
comp=E,2.6nm,0.3s
RAF Rauma 3.43 304 *e*P Pn 10 56 20.2 +1.0
KPF Kankaanpaa 3.78 316 *e*P Pn 10 56 25.0 +1.1
JOF Joensuu 4.08 24 *e*P Pn 10 56 26.0 -2.0
JOF Joensuu 4.08 24 *e*P Pn 10 56 28.6 +0.5
VAF Ylistaro 4.50 330 *e*P Pn 10 56 34.4 +0.6

---

*NEIC **18** 11:01:01.9±1.9, 5°.60N±0°.07×124°.49E±0°.08, h47km±6km, mb4.3/9, Error ellipse: s-maj=11.8km s-min=9.8km az=89.0*
*IDC **18** 11:01:04.1±2.3, 5°.69N×124°.61E, h82km±23km, mb3.7/13, mbtmp4.1/14, MS3.2/8, Error ellipse: s-maj=27.3km s-min=11.4km az=74.0*
ISC 18 11:00:59.4±0.5, 5°.64N±0°.06×124°.50E±0°.07, h35km, n38, σ1§43/33, mb4.1/17, MS3.1/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.78**	**37**	P	**Pn**	**11 01 29.8**	**+2.1**
	934nm,0.4s,baz=237,slow=5.8,SNR=36						
DAV				S	**Sn**	**11 01 53.0**	**+3.9**
	2μm,0.7s,baz=59,slow=22,SNR=14						
DAV				LR	LR	11 02 16.0	
	comp=Z,1μm,18.3s,baz=124,slow=43						
DAV	**Davao City (W)**	**1.78**	**37**	P	**Pn**	**11 01 26.0**	**-1.7**
TOLI2	**Tolitoli**	**5.83**	**220**		**Pn**	**11 02 21.8**	**-1.6**
MYLDM	**Lahad Datu**	**5.99**	**266**		**Pn**	**11 02 27.6**	**+2.0**
LUWI	**Luwuk**	**6.86**	**195**	Pn	**Pn**	**11 02 40.0**	**+2.4**
FAKI	**Fak Fak**	**11.50**	**137**	Pn	**Pn**	**11 03 40.6**	**-0.6**
KAPI	**Kappang**	**11.60**	**204**	LR	LR	11 08 14.1	
	comp=Z,111nm,19.9s,baz=76,slow=37						
JAY	**Jayapura**	**18.10**	**116**	P	**P**	**11 05 08.5**	**+0.1**
	17nm,0.8s,baz=150,slow=0.8,SNR=3.6						
MTN	**Manton Dam**	**19.51**	**160**	P	**P**	**11 05 23.0**	**-0.8**
MTN				IAmb	IAmb	11 05 31.3	
	comp=Z,9.6nm,1.0s						
GUMO	**Guam**	**21.57**	**67**	LR	LR	11 13 03.8	
	comp=Z,20nm,21.1s,baz=231,slow=34						
KNRA	**Kununurra**	**21.60**	**169**	P	**P**	**11 05 47.1**	**+0.7**
KNRA				IAmb	IAmb	11 05 48.6	
	comp=Z,8.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.61**	**177**	P	**P**	**11 06 08.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**23.61**	**177**	P	**P**	**11 06 08.7**	**+1.3**
	comp=Z,5.5nm,0.4s,baz=5.7,slow=8.4,SNR=28						
	comp=Z,5.5nm,0.4s						
WB0	**Warramunga Arr**	**27.06**	**159**	P	**P**	**11 06 39.0**	**+0.2**
WB0				IAmb	IAmb	11 07 07.0	
	comp=Z,10nm,1.2s						
PMG	**Port Moresby**	**27.08**	**123**	LR	LR	11 17 09.4	
	comp=Z,91nm,19.0s,baz=78,slow=36						
WRA	**Warramunga Arr**	**27.20**	**159**	P	**P**	**11 06 40.5**	**+0.4**
WRA	**Warramunga Arr**	**27.20**	**159**	P	**P**	**11 06 39.8**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=332,slow=10,SNR=21						
	comp=Z,2.4nm,0.5s						
WR8	**Warramunga Arr**	**27.27**	**159**	P	**P**	**11 06 41.0**	**+0.3**
WR8				IAmb	IAmb	11 07 18.5	
	comp=Z,9.7nm,1.3s						
CMAR	**Chiang Mai Arr**	**28.00**	**299**	P	**P**	**11 06 48.9**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=117,slow=8.3,SNR=5.0						
CMAR				LR	LR	11 18 18.8	
	comp=Z,38nm,18.0s,baz=150,slow=37						
	comp=Z,0.6nm,0.4s						
AS31	**Alice Springs**	**30.54**	**163**	P	**P**	**11 07 10.2**	**+0.5**
ASAR	**Alice Springs**	**30.54**	**163**	P	**P**	**11 07 10.3**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=337,slow=7.3,SNR=37						
ASAR				PcP	**PcP**	**11 10 07.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=346,slow=2.5,SNR=4.4						
	comp=Z,2.0nm,0.7s						
JHJ	**Hachijo jima 2**	**30.82**	**26**	LR	LR	11 17 34.1	
	comp=Z,53nm,22.0s,baz=252,slow=32						
MJAR	**Matsushiro Arr**	**33.22**	**20**	LR	LR	11 19 04.0	
	comp=Z,44nm,21.4s,baz=220,slow=33						
FORT	**Forrest**	**36.37**	**175**	P	**P**	**11 08 00.9**	**+0.5**
BBOO	**Buckleboo**	**39.79**	**165**	P	**P**	**11 08 30.4**	**+1.2**
BBOO				IAmb	IAmb	11 08 30.7	
	comp=Z,7.2nm,0.7s						
STKA	**Stephens Creek**	**40.72**	**157**	P	**P**	**11 08 37.3**	**+0.5**
	comp=Z,2.9nm,0.5s,baz=321,slow=8.1,SNR=6.9						
	comp=Z,2.9nm,0.5s						
SONM	**Songino Array**	**44.81**	**343**	P	**P**	**11 09 10.3**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=183,slow=7.2,SNR=1.8						
	comp=Z,0.3nm,0.4s						
PETK	**Petropavlovsk-**	**54.55**	**24**	P	**P**	**11 10 24.6**	**+0.6**
	comp=Z,2.4nm,1.0s,baz=213,slow=5.5,SNR=2.1						
	comp=Z,2.4nm,1.0s						
MKAR	**Makanchi Array**	**54.73**	**326**	P	**P**	**11 10 25.7**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=122,slow=8.9,SNR=13						
	comp=Z,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**58.94**	**328**	P	**P**	**11 10 54.1**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=124,slow=6.8,SNR=7.9						
	comp=Z,1.3nm,0.8s						
BTK	**Batken**	**59.00**	**314**	P	**P**	**11 10 56.0**	**+0.1**
KKAR	**Karatay Array**	**60.33**	**317**		**P**	**11 11 05.0**	**+0.1**
SEY	**Seymchan**	**60.71**	**14**	LR	LR	11 35 57.5	
	comp=Z,25nm,21.4s,baz=161,slow=34						
BVAR	**Borovoye Array**	**64.52**	**327**	P	**P**	**11 11 32.6**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=127,slow=11,SNR=5.1						
	comp=Z,1.1nm,0.6s						
KVAR	**Kislovodsk Arr**	**80.21**	**313**	LR	LR	11 54 33.6	
	comp=Z,40nm,18.7s,baz=272,slow=40						
ILAR	**Eielson Array**	**84.34**	**26**	P	**P**	**11 13 25.1**	**-2.6**
	comp=Z,0.3nm,0.8s,baz=252,slow=5.3,SNR=5.8						
	comp=Z,0.3nm,0.8s						
BRTR	**Keskin Array B**	**87.10**	**309**	P	**P**	**11 13 40.6**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=102,slow=4.0,SNR=4.0						
	comp=Z,0.7nm,0.8s						
FINES	**FINESS Array B**	**89.11**	**332**	P	**P**	**11 13 48.7**	**-2.2**
	comp=Z,2.1nm,1.1s,baz=59,slow=5.1,SNR=4.3						
	comp=Z,2.1nm,1.1s						

---

*IDC **18** 11:06:41.8±1.4, 25°.01N×128°.33E, h0km, mb3.5/3, mbtmp3.5/3, MS2.9/1, Error ellipse: s-maj=76.6km s-min=19.6km az=81.0*
*JMA **18** 11:06:44.4±0.4, 25°.N±2°×12°8E±°, h75km, MV3.0/21, FAR S OFF OKINAWAJIMA*
ISC 18 11:06:43.7±1.5, 24°.89N±0°.07×128°.24E±0°.05, h72km±42km, n22, σ1§08/29, mb3.4/3, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.32**	**342**	*e*P	**Pn**	**11 07 07.0**	**+0.6**
JJT3				S	**Sn**	**11 07 23.7**	**+0.3**

2019 APR

JNTH Nagotoyohara 1.64 353 *e*P **Pn 11 07 10.9 +0.3**
JAGN Aguni-jima 1.92 332 P **Pn 11 07 15.3 +0.9**
JAGN S **Sn 11 07 37.2 -0.4**
JOW Kunigami 1.94 1 Pn **Pn 11 07 14.6 -0.1**
11nm,0.3s,baz=151,slow=17,SNR=6.8
JOW Sn **Sn 11 07 37.1 -1.0**
14nm,0.3s,baz=344,slow=30,SNR=6.8
JOW Kunigami 1.94 1 P **Pn 11 07 15.3 +0.7**
JOW S **Sn 11 07 37.7 -0.4**
JKE Kume jima 2 1.94 318 P **Pn 11 07 15.1 +0.4**
JYRO Yoronjima 2.14 5 *e*P **Pn 11 07 18.2 +0.8**
JYRO S **Sn 11 07 42.6 -0.3**
JIH Iheya 2.15 354 S **Sn 11 07 42.0 -1.3**
JOKE Okinoerabujima 2.48 7 S **Sn 11 07 49.6 -1.7**
JOGS Gusukube 2.57 268 S **Sn 11 07 53.5 0.0**
JMJ2 Miyako jima3 2.65 267 *e*P **Pn 11 07 25.0 +0.9**
JMJ2 S **Sn 11 07 55.3 +0.1**
JIRB Irabujima 2.78 269 P **Pn 11 07 26.6 +0.6**
JIRB S **Sn 11 07 57.3 -1.2**
JMZ Minamidaito 2 2.86 70 P **Pn 11 07 26.8 -0.2**
JMZ S **Sn 11 08 00.9 +0.5**
JTK Tokunoshima 2.96 12 P **Pn 11 07 29.9 +1.5**
JTK S **Sn 11 08 01.2 -1.7**
JKDJ Kitadaitoujima 2.96 68 P **Pn 11 07 28.6 +0.2**
JKDJ S **Sn 11 08 02.4 -0.6**
JAMN Amaminishikomi 3.45 14 S **Sn 11 08 13.9 -0.8**
JISG Ishigakijimahi 3.58 266 S **Sn 11 08 15.9 -2.1**
JAM Amami Oshima 3.72 19 P **Pn 11 07 40.9 +2.2**
JAM S **Sn 11 08 19.9 -1.5**
MKAR Makanchi Array 42.44 313 P P 11 14 38.5 +7.1
0.4nm,0.6s,baz=104,slow=10,SNR=2.1
0.4nm,0.6s
SHEM Shemya Is, Ala 44.21 39 LR LR 11 29 35.4
comp=Z,16nm,20.9s,baz=284,slow=31
WRA Warramunga Arr 44.95 172 P P 11 14 58.8 +7.0
1.0nm,0.8s,baz=352,slow=8.6,SNR=5.6
1.0nm,0.8s
ASAR Alice Springs 48.58 173 P P 11 15 28.4 +8.3
0.3nm,0.8s,baz=353,slow=7.6,SNR=5.2
0.3nm,0.8s

---

*IDC **18** 11:07:25.0±1.4, 20°.42N×97°.94E, h0km, mb3.5/3, mbtmp3.5/4, ML3.7/1, MS3.5/3, Error ellipse: s-maj=19.8km s-min=13.8km az=66.0*
*BKK **18** 11:07:24.2±2.3, 21°N±14°×9°8E±1°0, h2km±11km, M4.6/22, mB4.7/3, mb4.3/3, Mjma4.5/22, ML4.9/19, MLv4.8/22, Mw(mB)3.9/3*
ISC 18 11:07:26.4±1.2, 20°.41N±0°.08×98°.0E±0°.1, h10km, n19, σ0§38/18, mb3.5/3, MS3.6/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYA	**Payao**	**2.05**	**120**	P	**Pn**	**11 08 00.3**	**-0.6**
CM15	**Chiang Mai Arr**	**2.13**	**156**	P	**Pn**	**11 08 02.4**	**+0.3**
CM31	**Chiang Mai Arr**	**2.14**	**155**	P	**Pn**	**11 08 02.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**2.14**	**155**	Pn	**Pn**	**11 08 02.0**	**-0.1**
	6.9nm,0.3s,baz=332,slow=13,SNR=77						
CMAR				Pg	**Pb**	**11 08 05.7**	**+0.4**
	62nm,0.3s,baz=330,slow=16,SNR=180						
CMAR				Lg	Lg	11 08 34.0	
	320nm,0.3s,baz=330,slow=29,SNR=31						
	133nm,0.5s						
CM13	**Chiang Mai Arr**	**2.15**	**156**	P	**Pn**	**11 08 02.2**	**-0.2**
CM02	**Chiang Mai Arr**	**2.16**	**155**	P	**Pn**	**11 08 02.2**	**-0.2**
CM01	**Chiang Mai Arr**	**2.18**	**155**	P	**Pn**	**11 08 02.5**	**-0.2**
CM05	**Chiang Mai Arr**	**2.19**	**156**	P	**Pn**	**11 08 02.7**	**-0.2**
MHMT	**Maesarieng**	**2.22**	**182**	P	**Pn**	**11 08 03.0**	**-0.3**
MHMT				S	**Sg**	**11 08 37.2**	**-0.6**
LAMP	**Lampang**	**2.43**	**140**	P	**Pn**	**11 08 05.8**	**-0.4**
NANT	**Nan**	**3.01**	**122**	P	**Pn**	**11 08 14.4**	**+0.2**
PHIT	**Phitsanulok**	**3.94**	**144**	P	**Pn**	**11 08 27.1**	**+0.2**
UTHA	**Uthaitani**	**5.02**	**164**	P	**Pn**	**11 08 42.3**	**+0.6**
	0.9nm0.5nm718nm12nm,0.5s						
MKAR	**Makanchi Array**	**29.27**	**338**	P	**P**	**11 13 29.1**	**+0.3**
	0.4nm,0.6s,baz=150,slow=11,SNR=3.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**33.84**	**338**	P	**P**	**11 14 08.4**	**-0.4**
	0.4nm,0.5s,baz=147,slow=8.6,SNR=2.5						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**56.07**	**140**	P	**P**	**11 17 05.9**	**0.0**
	0.4nm,0.8s,baz=323,slow=7.3,SNR=5.5						
	0.4nm,0.8s						
MMAI	**Mount Meron Ar**	**56.58**	**297**	LR	LR	11 46 34.0	
	comp=Z,29nm,19.3s,baz=148,slow=42						
MLR	**Muntele Rosu**	**63.27**	**311**	LR	LR	11 50 33.3	
	comp=Z,36nm,18.6s,baz=41,slow=41						
SPITS	**Spitsbergen Ar**	**68.45**	**347**	LR	LR	11 51 33.5	
	comp=Z,37nm,18.4s,baz=326,slow=39						

ISC 18 11:14:24.8±3.4, 9°.91S×151°.76E, h0km, mb3.7/3, mbtmp3.8/5, ML2.6/2, MS3.1/4, Error ellipse: s-maj=80.5km s-min=32.8km az=119.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.56**	**276**	Pn	Pn	11 15 35.3	+0.2
	2.1nm,0.3s,baz=74,slow=7.3,SNR=11						
	55nm,0.8s						
WRA	**Warramunga Arr**	**19.54**	**237**	P	P	11 18 53.0	-1.3
	0.1nm,0.3s,baz=62,slow=11,SNR=7.5						
	2.2nm,0.8s						
ASAR	**Alice Springs**	**21.86**	**229**	P	P	11 19 20.2	+1.0
	2.7nm,0.8s,baz=61,slow=7.6,SNR=26						
	2.7nm,0.8s						
STKA	**Stephens Creek**	**23.80**	**202**	LR	LR	11 28 42.5	
	comp=Z,60nm,19.3s,baz=9.2,slow=36						
GUMO	**Guam**	**24.33**	**344**	LR	LR	11 27 49.2	
	comp=Z,31nm,19.6s,baz=214,slow=33						
JHJ	**Hachijo jima 2**	**44.29**	**346**	LR	LR	11 39 11.5	
	comp=Z,23nm,18.8s,baz=90,slow=34						
MJAR	**Matsushiro Arr**	**47.93**	**345**	LR	LR	11 43 21.0	
	comp=Z,22nm,18.1s,baz=156,slow=36						
SONM	**Songino Array**	**70.12**	**329**	P	P	11 25 40.1	+1.0
	0.8nm,0.7s,baz=116,slow=6.8,SNR=3.8						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**83.50**	**320**	P	P	11 26 53.4	-1.2
	0.4nm,0.7s,baz=100,slow=8.1,SNR=2.8						
	0.4nm,0.7s						

---

*HEL **18** 11:29:41.2±0.1, 63°.97N×28°.12E, h0km, ML1.7, Suspected explosion*
*IDC **18** 11:29:41.5±1.9, 63°.88N×28°.81E, h0km, mbtmp2.9/3, ML1.9/3, Error ellipse: s-maj=35.9km s-min=9.8km az=100.0*
ISC 18 11:29:41.1±0.8, 63°.89N±0°.03×28°.15E±0°.03, h0km, n35, σ1§22/55, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.53**	**197**	PG	**Pb**	**11 29 52.1**	**-1.1**
	baz=13						
NIF				SG	**Sb**	**11 29 59.4**	**-1.9**
RMF	**Romuvaara**	**0.85**	**67**	PB	**Pg**	**11 29 56.9**	**-0.4**
RMF				MSG		11 30 07.1	
	comp=Z,11nm,0.2s						
RMF				SB	**Sg**	**11 30 07.8**	**-0.5**
SUF	**Sumiainen**	**1.48**	**218**	PN	**Pg**	**11 30 09.2**	**-0.3**
SUF				MSG		11 30 27.3	
	comp=Z,3.6nm,0.2s						
SUF				SN	**Sn**	**11 30 31.8**	**+2.7**
OUL	**Oulu**	**1.54**	**322**	PN	**Pn**	**11 30 08.3**	**-1.4**
OUF	**Merijarvi**	**1.57**	**289**	PG	**Pn**	**11 30 08.8**	**-1.4**
OUF				MSG		11 30 27.3	
	comp=Z,6.5nm,0.2s						
OUF				SN	**Sn**	**11 30 30.8**	**-0.5**
OBF4	**Vikkela, Lumij**	**1.61**	**306**	PG	**Pn**	**11 30 09.6**	**-1.2**
	baz=117						
OBF4				MSG		11 30 27.9	
	comp=Z,3.7nm,0.2s						
JOF	**Joensuu**	**1.73**	**123**	*e*P	**Pg**	**11 30 13.9**	**-0.2**
JOF	**Joensuu**	**1.73**	**123**	PG	**Pg**	**11 30 13.3**	**-0.8**
	baz=306						
JOF				SN	**Sg**	**11 30 37.7**	**+1.2**
KU1	**Kurvinen**	**1.78**	**19**	PG	**Pn**	**11 30 12.3**	**-0.8**
KU1				SN	**Sn**	**11 30 35.8**	**-0.6**
OBF0	**Syolatti, Pyha**	**1.82**	**291**	PG	**Pn**	**11 30 13.3**	**-0.3**
OBF0				MSG		11 30 34.1	
	comp=Z,6.4nm,0.2s						
OBF0				SG	**Sn**	**11 30 36.8**	**-0.4**
KU2	**Taivalkoski**	**1.82**	**1**	PG	**Pn**	**11 30 12.9**	**-0.8**

KAF Kangasniemi 1.98 206 PG **Pb 11 30 17.6 -0.2**
baz=23
KAF MSG 11 30 41.6
comp=Z,5.6nm,0.2s
KAF SG **Sg 11 30 45.8 +1.3**
MSF Maaselka 2.06 10 PG **Pn 11 30 16.9 0.0**
baz=194
MSF SG **Sn 11 30 44.0 +0.7**
OBF8 Ulkokalla 2.11 284 PG **Pn 11 30 18.1 +0.5**
OBF8 MSG 11 30 42.9
comp=Z,4.3nm,0.2s
RANF Ranua 2.21 345 PG **Pn 11 30 19.1 +0.2**
baz=167
RANF SG **Sn 11 30 46.8 -0.1**
KU6 Riekki 2.27 18 PG **Pn 11 30 20.2 +0.5**
baz=200
KU6 MSG 11 30 46.2
comp=Z,2.2nm,0.2s
KU6 SG **Sn 11 30 50.0 +1.6**
KEF Keuruu 2.29 222 *e*P **Pb 11 30 23.6 +0.4**
KEF Keuruu 2.29 222 PG **Pb 11 30 22.6 -0.6**
baz=38
KEF MSG 11 30 50.1
comp=Z,6.3nm,0.2s
KEF SG **Sg 11 30 53.8 -0.8**
OLKF Oulanka, Finla 2.49 12 PG **Pn 11 30 24.2 +1.3**
OLKF MSG 11 30 52.7
comp=Z,2.1nm,0.2s
OLKF SG **Sn 11 30 56.1 +2.2**
RUF Ruokolahti 2.51 171 PG **Pb 11 30 26.9 0.0**
RUF MSG 11 30 57.4
comp=Z,3.3nm,0.2s
RUF SG **Sg 11 31 00.8 -0.7**
VAF Ylistaro 2.60 253 *e*P **Pb 11 30 26.9 -1.7**
VAF Ylistaro 2.60 253 PG **Pb 11 30 27.0 -1.6**
baz=67
VAF MSG 11 30 58.2
comp=Z,3.7nm,0.2s
VAF SG **Sb 11 31 01.7 +0.7**
FIA0 FINESS Array S 2.64 202 PB **Pb 11 30 27.9 -1.3**
FIA0 MSG 11 31 00.8
comp=Z,3.0nm,0.2s
FIA0 SG **Sb 11 31 02.4 +0.3**
FINES FINESS Array B 2.64 202 Pn **Pb 11 30 28.4 -0.8**
comp=Z,0.4nm,0.3s,baz=28,slow=15,SNR=12
FINES Sn **Sb 11 31 02.8 +0.7**
comp=Z,0.7nm,0.3s,baz=26,slow=26,SNR=14
comp=Z,1.6nm,0.5s
TOF Tornio 2.73 325 PB **Pn 11 30 26.8 +0.7**
baz=138
TOF MSG 11 30 59.5
comp=Z,1.0nm,0.2s
KALU Kalix 2.84 316 PB **Pn 11 30 28.2 +0.6**
KALU SB **Sn 11 31 04.1 +1.7**
RNF Rovaniemi 2.87 343 PG **Pn 11 30 30.4 +2.4**
RNF SG **Sn 11 31 05.3 +2.1**
BURU Burvik 3.04 286 PB **Pn 11 30 30.8 +0.4**
BURU SG **Sb 11 31 15.3 +1.8**
UMAU Umeaa 3.30 273 PN **Pn 11 30 34.0 +0.1**
ERTU Ertsjaerv 3.66 319 PB **Pn 11 30 40.2 +1.3**
baz=134
KLF Kolari 3.78 334 PN **Pn 11 30 41.0 +0.5**
PAJU Pajala 3.78 328 PN **Pn 11 30 41.4 +0.9**
ARCES ARCESS Array B 5.76 351 Pn **Pn 11 31 08.1 +0.3**
comp=Z,0.1nm,0.3s,baz=164,slow=14,SNR=9.8
ARCES Sn **Sn 11 32 11.4 -3.0**
comp=Z,0.1nm,0.3s,baz=167,slow=24,SNR=1.6
ARCES Lg Lg 11 32 36.8
comp=Z,0.1nm,0.3s,baz=168,slow=32,SNR=5.6
comp=Z,2.1nm,0.9s
I37NO I37NO 6.45 328 I I 12 11 10.0
baz=137,slow=319,SNR=4.8
HFS Hagfors 7.77 248 Pn **Pn 11 31 37.0 +1.8**
comp=Z,0.1nm,0.3s,baz=52,slow=15,SNR=1.2
comp=Z,0.5nm,0.6s

---

*IDC **18** 11:42:32.8±1.4, 24°.84N×127°.97E, h0km, mb3.5/3, mbtmp3.5/4, ML3.2/1, MS2.7/1, Error ellipse: s-maj=67.9km s-min=23.3km az=81.0*
*JMA **18** 11:42:36.2±0.3, 25°N±1°×12°8E±°, h79km, MV3.3/23, FAR S OFF OKINAWAJIMA*
ISC 18 11:42:35.2±2.2, 24°.91N±0°.06×128°.22E±0°.05, h25km±18km, n24, σ1§67/34, mb3.5/3, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.29**	**342**	P	**Pb**	**11 42 58.6**	**-0.3**
JNTH	**Nagotoyohara**	**1.62**	**354**	P	**Pn**	**11 43 02.5**	**+0.4**
JAGN	**Aguni-jima**	**1.89**	**333**	P	**Pn**	**11 43 06.8**	**+0.8**
JAGN				*e*S	**Sn**	**11 43 28.3**	**-0.7**
JKE	**Kume jima 2**	**1.92**	**318**	*i* P	**Pn**	**11 43 06.8**	**+0.5**
JOW	**Kunigami**	**1.92**	**1**	Pn	**Pn**	**11 43 07.0**	**+0.6**
	13nm,0.3s,baz=109,slow=25,SNR=44						
JOW				Sn	**Sn**	**11 43 27.6**	**-2.1**
	23nm,0.3s,baz=105,slow=26,SNR=14						
	32nm,0.2s						
JOW	**Kunigami**	**1.92**	**1**	*i* P	**Pn**	**11 43 07.0**	**+0.6**
JYRO	**Yoronjima**	**2.12**	**6**	P	**Pn**	**11 43 09.7**	**+0.7**
JIH	**Iheya**	**2.13**	**354**	P	**Pn**	**11 43 10.3**	**+1.1**
JOKE	**Okinoerabujima**	**2.47**	**7**	P	**Pn**	**11 43 14.7**	**+0.8**
JOKE				*e*S	**Sn**	**11 43 41.0**	**-2.2**
JOGS	**Gusukube**	**2.56**	**267**	P	**Pn**	**11 43 15.8**	**+0.7**
JOGS				*e*S	**Sn**	**11 43 44.7**	**-0.7**
JMJ2	**Miyako jima3**	**2.63**	**267**	P	**Pn**	**11 43 16.7**	**+0.6**
JIKM	**Ikemajima**	**2.70**	**271**	*e*S	**Sn**	**11 43 48.1**	**-0.8**
JIRB	**Irabujima**	**2.77**	**269**	*e*P	**Pn**	**11 43 18.2**	**+0.2**
JIRB				*e*S	**Sn**	**11 43 48.8**	**-1.7**
JTK	**Tokunoshima**	**2.94**	**13**	P	**Pn**	**11 43 21.5**	**+1.2**
JTK				*e*S	**Sn**	**11 43 52.0**	**-2.9**
JKDJ	**Kitadaitoujima**	**2.97**	**69**	P	**Pn**	**11 43 20.1**	**-0.6**
JKDJ				*e*S	**Sn**	**11 43 53.3**	**-2.3**
JTJ	**Tarama**	**3.21**	**266**	*e*S	**Sn**	**11 43 59.1**	**-2.4**
JAMN	**Amaminishikomi**	**3.43**	**14**	*e*P	**Pn**	**11 43 28.3**	**+1.2**
JAMN				*e*S	**Sn**	**11 44 04.3**	**-2.7**
JISG	**Ishigakijimahi**	**3.57**	**266**	P	**Pn**	**11 43 28.9**	**0.0**
JISG				*e*S	**Sn**	**11 44 06.1**	**-4.2**
JAM	**Amami Oshima**	**3.71**	**19**	P	**Pn**	**11 43 32.4**	**+1.5**
JAM				*e*S	**Sn**	**11 44 11.1**	**-2.6**
JZK	**Kikaishima**	**3.74**	**24**	*e*P	**Pn**	**11 43 33.2**	**+1.8**
JZK				*e*S	**Sn**	**11 44 13.9**	**-0.7**
GUMO	**Guam**	**19.31**	**123**	LR	LR	11 52 12.0	
	comp=Z,23nm,21.8s,baz=354,slow=30						
MKAR	**Makanchi Array**	**42.42**	**313**	P	**P**	**11 50 28.9**	**+1.1**
	0.3nm,0.7s,baz=99,slow=8.9,SNR=1.6						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**44.97**	**172**	P	**P**	**11 50 49.8**	**+1.2**
	1.0nm,0.8s,baz=348,slow=8.8,SNR=5.0						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**48.60**	**173**	P	**P**	**11 51 17.6**	**+0.7**
	0.4nm,0.8s,baz=350,slow=7.7,SNR=4.9						
	0.4nm,0.8s						

---

*IDC **18** 11:58:51.0±4.2, 21°.74S×68°.85E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=127.9km s-min=31.0km az=53.0*
ISC 18 11:58:52.9±3.9, 21°.7S±0°.5×68°.9E±0°.6, h10km, n12, σ0§21/6, mb4.0/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**14.40**	**14**	T	T	12 16 58.6	
	baz=194,slow=74,SNR=61						
H08S2	**Diego Garcia H**	**14.40**	**14**	T	T	12 16 57.6

0.6nm,0.7s
BVAR Borovoye Array 74.43 1 P **P 12 10 31.1 +0.2**
0.5nm,0.6s,baz=148,slow=8.5,SNR=1.9
0.5nm,0.6s
ZALV Zalesovo Beam 76.59 10 P **P 12 10 43.3 +0.1**
0.7nm,0.4s,baz=199,slow=4.0,SNR=3.8
0.7nm,0.4s

IDC 18 11:59:41.1±5.5, 21°.61S×69°.07E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=151.1km s-min=37.4km az=60.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**49.40**	**39**	P	P	12 08 32.6	-0.3
	0.4nm,0.3s,baz=239,slow=8.5,SNR=4.4						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**59.40**	**105**	P	P	12 09 45.5	-0.3
	1.1nm,0.7s,baz=264,slow=6.0,SNR=8.6						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**60.63**	**101**	P	P	12 09 54.6	+0.3
	1.4nm,0.8s,baz=258,slow=6.2,SNR=5.4						
	1.4nm,0.8s						
MKAR	**Makanchi Array**	**69.12**	**10**	P	P	12 10 49.1	+0.2
	0.9nm,0.8s,baz=198,slow=7.6,SNR=5.4						
	0.9nm,0.8s						

TAP 18 11:59:42.9, 23°.98N×121°.58E, h4km, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.08**	**260**	P	Pg	11 59 45.5	+0.9
ETM				eS	Sg	11 59 47.3	+1.5
TWD	**Chiawan**	**0.10**	**8**	eP	Pg	11 59 45.4	+0.5
TWD				eS	Sg	11 59 47.5	+1.2
LXIB	**Xiulin Townshi**	**0.16**	**285**	i P	Pg	11 59 46.9	+0.8
LXIB				i S	Sg	11 59 50.1	+1.9
ETL	**Fush Village**	**0.18**	**12**	eP	Pg	11 59 46.7	+0.2
ETL				S	Sg	11 59 49.9	+1.0
SHUL	**Shoufeng**	**0.19**	**185**	eP	Pg	11 59 47.7	+1.1
NACB	**Ninganchiao**	**0.19**	**4**	i P	Pg	11 59 46.9	+0.2
NACB				S	Sg	11 59 50.2	+1.0
ESL	**Shilin**	**0.21**	**219**	P	Pg	11 59 47.6	+0.5
ESL				eS	Sg	11 59 51.4	+1.6
ETLH	**Xiulin Townshi**	**0.24**	**338**	eP	Pg	11 59 48.2	+0.5
ETLH				eS	Sg	11 59 52.3	+1.4
WARBT	**Fenglin Townsh**	**0.32**	**214**	eP	Pg	11 59 49.4	+0.4
WARBT				eS	Sg	11 59 54.2	+1.0
WHF	**Hehuan Shan**	**0.33**	**300**	eP	Pg	11 59 50.2	+0.8
WHF				eS	Sg	11 59 55.5	+1.6
OWD	**Renai**	**0.37**	**266**	eP	Pb	11 59 51.6	-0.6
OWD				eS	Sb	11 59 56.9	-1.5
FUSS	**Fushou**	**0.41**	**311**	eP	Pb	11 59 51.8	-1.0
FUSS				eS	Sb	11 59 58.5	-1.0
WUSB	**Renai**	**0.42**	**272**	eP	Pb	11 59 52.4	-0.6
WUSB				eS	Sb	11 59 59.0	-0.8
VWDT	**VWDT**	**0.46**	**241**	eP	Pg	11 59 52.1	+0.3
ENA	**Nanau**	**0.47**	**18**	eP	Pg	11 59 52.5	+0.6
TDCB	**Techi**	**0.47**	**305**	eP	Pb	11 59 53.5	-0.4
NNSB	**Datong**	**0.48**	**338**	eP	Pg	11 59 53.0	+0.8
NNSB				eS	Sb	12 00 00.1	-1.4
NNS	**Nan Shan**	**0.50**	**338**	eP	Pb	11 59 53.6	-0.7
NNS				eS	Sb	12 00 00.6	-1.4
EWUT	**Wuta**	**0.50**	**21**	eP	Pg	11 59 53.0	+0.5
EHY	**Hungye**	**0.53**	**207**	eP	Pg	11 59 53.8	+0.8
LATG	**Datong**	**0.56**	**355**	eP	Pg	11 59 54.0	+0.4
DPDB	**Guoxing**	**0.60**	**275**	eP	Pb	11 59 56.3	+0.2
SSLB	**Suanglung**	**0.60**	**252**	eP	Pg	11 59 55.2	+0.7
SSLB				S	Sg	12 00 03.6	+1.2
YULB	**Yu-li**	**0.64**	**204**	eP	Pb	11 59 56.0	-0.7
TWC	**Suao**	**0.67**	**21**	eP	Pb	11 59 56.6	-0.7
EYUL	**Yuli**	**0.67**	**201**	eP	Pg	11 59 56.2	+0.4
YHNB	**Yeheng**	**0.71**	**345**	eP	Pg	11 59 57.2	+0.6
NSK	**Sanguang**	**0.72**	**344**	eP	Pb	11 59 57.5	-0.7
NFF	**Wufeng Townshi**	**0.78**	**327**	eP	Pb	11 59 58.9	-0.1
FUSB	**Fushanzhiwuyua**	**0.78**	**0**	eP	Pg	11 59 58.4	+0.6
NWLT	**Wulai**	**0.80**	**355**	eP	Pb	11 59 58.8	-0.5
LIOB	**Emei**	**0.84**	**322**	eP	Pb	12 00 00.2	+0.1

---

*HEL **18** 12:08:10.5±0.3, 60°.96N×29°.07E, h0km, ML1.6, Suspected explosion*
*IDC **18** 12:08:10.8±2.9, 60°.75N×28°.86E, h0km, mbtmp3.5/1, ML2.4/1, Error ellipse: s-maj=25.0km s-min=15.1km az=179.0*
ISC 18 12:08:07.9±1.4, 60°.94N±0°.06×29°.19E±0°.06, h0km, n14, σ1§16/21, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.50**	**347**	PG	**Pb**	**12 08 19.3**	**-0.3**
RUF				SG	**Sg**	**12 08 24.9**	**+0.9**
RUF				MSG		12 08 25.8	
	comp=Z,7.4nm,0.2s						
VJF	**Virojoki**	**0.90**	**244**	PB	**Pn**	**12 08 26.8**	**-1.0**
	baz=58						
VJF				MSG		12 08 37.0	
	comp=Z,6.4nm,0.2s						
VJF				SB	**Sb**	**12 08 38.2**	**-0.5**
FIA0	**FINESS Array S**	**1.59**	**290**	PG	**Pb**	**12 08 37.5**	**-0.6**
FIA0				MSG		12 08 56.4	
	comp=Z,5.3nm,0.2s						
FIA0				SG	**Sn**	**12 08 57.8**	**-0.7**
FINES	**FINESS Array B**	**1.59**	**290**	Pg	**Pg**	**12 08 37.9**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=112,slow=17,SNR=28						
FINES				Lg	Lg	12 08 58.3	
	comp=Z,1.9nm,0.3s,baz=116,slow=31,SNR=23						
FINES				Rg	Rg	12 09 04.1	
	comp=Z,25nm,0.9s,baz=105,slow=14,SNR=18						
PVF	**Pernaja**	**1.68**	**258**	PG	**Pg**	**12 08 39.7**	**-0.3**
PVF				MSG		12 08 59.2	
	comp=Z,6.6nm,0.2s						
PVF				SN	**Sg**	**12 09 03.7**	**+1.8**
KAF	**Kangasniemi**	**1.82**	**312**	PG	**Pg**	**12 08 42.5**	**-0.1**
KAF				MSG		12 09 02.9	
	comp=Z,3.4nm,0.2s						
JOF	**Joensuu**	**2.23**	**26**	PG	**Pg**	**12 08 50.5**	**0.0**
JOF				SG	**Sg**	**12 09 19.1**	**-0.3**
SUF	**Sumiainen**	**2.30**	**322**	PG	**Pg**	**12 08 51.1**	**-0.8**
SUF				MSG		12 09 16.8	
	comp=Z,1.4nm,0.2s						
SUF				SG	**Sb**	**12 09 19.4**	**+0.4**
KEF	**Keuruu**	**2.41**	**303**	PG	**Pb**	**12 08 52.0**	**0.0**
KEF				MSG		12 09 19.7	
	comp=Z,2.0nm,0.2s						
KEF				SG	**Sb**	**12 09 22.6**	**+0.3**
MEF	**Metsahovi**	**2.47**	**255**	MSG		12 09 22.0	
	comp=Z,2.9nm,0.2s						
MEF				SG	**Sb**	**12 09 23.2**	**-0.9**
NIF	**Nilsia**	**2.54**	**346**	PG	**Pb**	**12 08 54.8**	**+0.4**
NIF				SG	**Sg**	**12 09 27.8**	**-1.8**
KU2	**Taivalkoski**	**4.81**	**355**	PB	**Pb**	**12 09 30.8**	**-2.1**
ARCES	**ARCESS Array B**	**8.77**	**351**	Pn	**Pn**	**12 10 18.6**	**+2.8**
	baz=176,slow=13,SNR=2.1						
	comp=Z,2.2nm,0.9s						
I37NO	**I37NO**	**9.30**	**336**	I	I	13 07 40.0	
	baz=145,slow=324,SNR=7.0						

---

*IDC **18** 12:20:12.6±0.9, 2°.10S×122°.54E, h0km, mb4.1/7, mbtmp4.1/9, ML3.9/2, MS3.2/3, Error ellipse: s-maj=28.4km s-min=16.8km az=65.0*
*NEIC **18** 12:20:15.1±1.2, 2°.11S±0°.06×122°.43E±0°.07, h10km±2km, mb4.1/9, Error ellipse: s-maj=12.6km s-min=9.3km az=282.0*
*DJA **18** 12:20:15.2±0.2, 2°S±2°×12°2E±°, h10km, M4.6/19, mB5.0/4, mb4.8/7, MLv4.6/19, Mw(mB)4.4/4*
ISC 18 12:20:14.6±0.6, 2°.16S±0°.05×122°.40E±0°.05, h10km, n49, σ1§33/50, mb4.1/13, 1C, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.17**	**19**		**Pb**	**12 20 36.1**	**-0.8**
LUWI	**Luwuk**	**1.17**	**19**	P	**Pb**	**12 20 36.4**	**-0.5**
APSI	**Ampana**	**1.45**	**329**	P	**Pn**	**12 20 40.4**	**-0.4**
PCI	**Palu**	**2.84**	**296**	P	**Pn**	**12 21 00.4**	**+0.3**
KMSI	**Cibinong**	**3.14**	**30**	P	**Pn**	**12 21 05.9**	**+1.7**
SPSI	**Sidrap Palu**	**3.18**	**236**	P	**Pn**	**12 21 05.7**	**+1.0**
BNSI	**Bone**	**3.19**	**226**	P	**Pn**	**12 21 05.1**	**+0.2**
BBSI	**Bau Bau**	**3.31**	**177**	P	**Pn**	**12 21 06.6**	**+0.1**
MPSI	**Mapaga**	**3.52**	**315**	P	**Pn**	**12 21 09.5**	**+0.2**
TOLI2	**Tolitoli**	**3.63**	**334**		**Pn**	**12 21 11.2**	**+0.4**
KAPI	**Kappang**	**3.88**	**223**		**Pn**	**12 21 14.9**	**+0.7**
KAPI	**Kappang**	**3.88**	**223**	Pn	**Pn**	**12 21 15.1**	**+0.9**
	10nm,0.3s,baz=61,slow=22,SNR=20						
KAPI				Sn	**Sn**	**12 21 58.9**	**-1.0**
	28nm,0.3s,baz=28,slow=19,SNR=7.5						
	55nm,0.5s						
BKSI	**Bulukumba**	**3.88**	**216**	P	**Pn**	**12 21 14.7**	**+0.4**
BSSI	**Bau Bau, Buton**	**4.39**	**206**	P	**Pn**	**12 21 21.6**	**+0.2**
BSSI				S	**Sn**	**12 22 13.9**	**+1.3**
NLAI	**Namlea**	**4.82**	**103**	P	**Pn**	**12 21 27.1**	**-0.1**
NLAI				S	**Sn**	**12 22 24.3**	**+1.1**
BKB	**Balikpapan**	**5.57**	**279**		**Pn**	**12 21 38.7**	**+1.2**
BKB	**Balikpapan**	**5.57**	**279**	P	**Pn**	**12 21 38.6**	**+1.0**
TNTI	**Ternate**	**5.76**	**60**		**Pn**	**12 21 39.9**	**-0.3**
TNTI	**Ternate**	**5.76**	**60**	P	**Pn**	**12 21 40.9**	**+0.7**
	0.3nm1μm51nm,0.7s						
MMRI	**Maumere**	**6.44**	**181**		**Pn**	**12 21 49.9**	**+0.3**
EDFI	**Ende, Flores**	**6.59**	**186**	P	**Pn**	**12 21 51.4**	**-0.3**
	0.1nm40nm,0.6s						
SOEI	**Soe**	**7.77**	**166**		**Pn**	**12 22 11.1**	**+3.1**
MYLDM	**Lahad Datu**	**8.26**	**332**	Pn	**Pn**	**12 22 14.8**	**+0.3**
DAV	**Davao City (W)**	**9.70**	**19**	LR	LR	12 27 05.7	
	comp=Z,99nm,18.2s,baz=177,slow=43						
FAKI	**Fak Fak**	**9.87**	**95**		**Pn**	**12 22 36.4**	**-0.3**
FAKI	**Fak Fak**	**9.87**	**95**	P	**Pn**	**12 22 36.3**	**-0.3**
MTN	**Manton Dam**	**13.70**	**141**	Pn	**Pn**	**12 23 30.4**	**+1.4**
KNRA	**Kununurra**	**14.83**	**155**	Pn	**Pn**	**12 23 44.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**16.16**	**169**	Pn	**Pn**	**12 23 57.7**	**-4.2**
FITZ	**Fitzroy Crossi**	**16.16**	**169**	Pn	**Pn**	**12 24 00.5**	**-1.5**
	0.2nm,0.3s,baz=12,slow=9.5,SNR=10						
	3.9nm,0.7s						
WB0	**Warramunga Arr**	**21.07**	**147**	P	**P**	**12 24 58.9**	**-0.3**
WB0				IAmb	IAmb	12 25 04.6	
	comp=Z,8.1nm,1.2s						
WRAB	**Tennant Creek**	**21.18**	**147**	P	**P**	**12 25 00.3**	**0.0**
WRAB				IAmb	IAmb	12 25 09.1	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr**	**21.18**	**147**	P	**P**	**12 24 55.7**	**-4.7**
WRA	**Warramunga Arr**	**21.18**	**147**	P	**P**	**12 24 59.5**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=334,slow=9.7,SNR=24						
	comp=Z,4.2nm,0.8s						
WR8	**Warramunga Arr**	**21.28**	**147**	P	**P**	**12 25 01.2**	**-0.2**
WR8				IAmb	IAmb	12 25 04.2	
	comp=Z,7.9nm,0.8s						
RPSI	**Rantau Prapat**	**23.95**	**281**	P	**P**	**12 25 30.2**	**+0.9**
PSI	**Prapat**	**23.98**	**282**	P	**P**	**12 25 30.2**	**+0.6**
	comp=Z,5.3nm,0.5s,baz=119,slow=5.8,SNR=11						
	comp=Z,5.3nm,0.5s						
AS31	**Alice Springs**	**24.11**	**153**	P	**P**	**12 25 30.3**	**-0.5**
AS31				IAmb	IAmb	12 25 47.8	
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**24.11**	**153**	P	**P**	**12 25 30.3**	**-0.4**
ASAR	**Alice Springs**	**24.11**	**153**	P	**P**	**12 25 30.5**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=326,slow=7.6,SNR=50						
ASAR				LR	LR	12 35 06.0	
	comp=Z,94nm,19.4s,baz=296,slow=37						
	comp=Z,4.6nm,0.7s						
JOW	**Kunigami**	**29.37**	**11**	LR	LR	12 37 53.8	
	comp=Z,28nm,20.6s,baz=213,slow=36						
CMAR	**Chiang Mai Arr**	**30.86**	**313**	P	**P**	**12 26 30.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=140,slow=7.5,SNR=5.1						
	comp=Z,0.4nm,0.3s						
BBOO	**Buckleboo**	**33.08**	**159**	P	**P**	**12 26 50.3**	**-0.4**
STKA	**Stephens Creek**	**34.66**	**151**	P	**P**	**12 27 04.2**	**-0.2**
STKA	**Stephens Creek**	**34.66**	**151**	P	**P**	**12 27 03.7**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=328,slow=8.6,SNR=4.2						
	comp=Z,3.0nm,0.7s						
CAN	**Canberra**	**41.22**	**146**	P	**P**	**12 28 00.7**	**+0.9**
CAN				IAmb	IAmb	12 28 18.1	
	comp=Z,27nm,1.4s						
MJAR	**Matsushiro Arr**	**41.22**	**19**	P	**P**	**12 27 57.5**	**-2.2**
	comp=Z,3.1nm,0.8s,baz=189,slow=8.5,SNR=8.4						
	comp=Z,3.1nm,0.8s						
BNX	**BinXian**	**47.90**	**5**	⇑P	**P**	**12 28 55.3**	**+2.4**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.8s						
SONM	**Songino Array**	**51.72**	**346**	P	**P**	**12 29 22.7**	**+0.6**
	comp=Z,1.7nm,1.0s,baz=161,slow=6.6,SNR=7.5						
	comp=Z,1.7nm,1.0s						

IDC 18 12:32:25.6±7.5, 17°.82S×175°.06W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=325.8km s-min=38.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.78**	**259**	P	P	12 41 04.8	-0.3
	0.2nm,0.3s,baz=97,slow=7.5,SNR=14						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**47.88**	**254**	P	P	12 41 06.1	+0.2
	0.5nm,0.7s,baz=85,slow=8.7,SNR=4.6						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**85.12**	**12**	P	P	12 45 03.0	-0.1
	0.2nm,0.6s,baz=206,slow=5.2,SNR=5.4						
	0.2nm,0.6s						

IDC 18 12:45:41.6±1.3, 12°.90N×145°.19E, h0km, mb3.6/3, mbtmp3.6/3, MS2.9/1, Error ellipse: s-maj=44.2km s-min=15.0km az=81.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.75**	**335**	Pn	Pn	12 46 00.2	+0.7
	78nm,0.3s,baz=81,slow=4.9,SNR=30						
GUMO				Sn	Sn	12 46 10.9	-0.8
	285nm,0.3s,baz=8.7,slow=21,SNR=11						
JHJ	**Hachijo jima 2**	**20.73**	**347**	LR	LR	12 57 50.3	
	comp=Z,28nm,18.1s,baz=254,slow=35						
WRA	**Warramunga Arr**	**34.34**	**198**	P	P	12 52 29.8	-0.6
	1.4nm,0.8s,baz=22,slow=9.8,SNR=8.8						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**37.98**	**197**	P	P	12 53 01.6	+0.2
	0.4nm,0.6s,baz=23,slow=9.6,SNR=13						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**69.05**	**25**	P	P	12 56 48.9	-0.2
	0.2nm,0.6s,baz=251,slow=5.3,SNR=7.3						
	0.2nm,0.6s						

---

*KOLA **18** 12:47:43.3, 68°.09N×33°.09E, h0km, ML1.8, Error ellipse: s-maj=3.2km s-min=2.0km az=90.0, Olenegorsk City, Mines*
*IDC **18** 12:47:44.4±2.6, 68°.02N×32°.64E, h0km, mbtmp2.8/2, ML1.7/2, Error ellipse: s-maj=28.0km s-min=11.8km az=71.0*
ISC 18 12:47:40.5±0.9, 68°.08N±0°.03×33°.07E±0°.04, h0km, n11, σ1§31/19, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.48**	**184**	P	**Pb**	**12 47 52.0**	**+0.3**
APA0				S	**Sb**	**12 47 58.8**	**-0.5**
APA	**Apatity**	**0.53**	**166**	P	**Pb**	**12 47 52.9**	**+0.3**
APA				S	**Sb**	**12 47 59.8**	**-1.0**
LVZ	**Lovozero**	**0.62**	**106**	P	**Pb**	**12 47 54.2**	**0.0**
LVZ				S	**Sb**	**12 48 02.5**	**-1.0**
TERR	**Teriberka**	**1.35**	**33**	P	**Pb**	**12 48 06.7**	**+0.1**
TERR				S	**Sn**	**12 48 24.7**	**-0.4**
KVDA	**Kovda**	**1.40**	**183**	P	**Pb**	**12 48 07.2**	**-0.2**
KVDA				S	**Sn**	**12 48 26.5**	**+0.2**
VADS	**Vadso**	**2.44**	**329**	P	**Pb**	**12 48 24.6**	**-0.5**
VADS				S	**Sb**	**12 48 54.4**	**-1.4**
ARCES	**ARCESS Array B**	**3.11**	**301**	Pn	**Pn**	**12 48 31.9**	**+1.1**
	0.1nm,0.3s,baz=118,slow=15,SNR=12						
ARCES				Pg	**Pg**	**12 48 39.4**	**-0.6**
	0.2nm,0.3s,baz=118,slow=14,SNR=10.0						
ARCES				Sn	**Sn**	**12 49 09.8**	**+1.3**
	0.5nm,0.3s,baz=114,slow=33,SNR=12						
ARCES				Lg	Lg	12 49 17.4	
	0.6nm,0.3s,baz=115,slow=34,SNR=4.3						
	3.6nm,1.0s						
ARCES	**ARCESS Array B**	**3.11**	**301**	P	**Pn**	**12 48 33.1**	**+2.3**
ARCES				S	**Sn**	**12 49 10.5**	**+2.0**
I37NO	**I37NO**	**5.39**	**287**	I	I	13 19 30.0	
	baz=93,slow=326,SNR=7.9						
FAUS	**Fauske**	**6.79**	**272**	S	**Sn**	**12 50 36.0**	**-3.1**
FINES	**FINESS Array B**	**7.30**	**207**	Pn	**Pn**	**12 49 28.9**	**+0.7**
	baz=25,slow=14,SNR=1.6						
FINES				Lg	Lg	12 51 26.9	
	0.1nm,0.3s,baz=28,slow=24,SNR=2.7						
	0.9nm,0.9s						

---

*IDC **18** 12:56:05.2±1.3, 3°.19S×135°.50E, h0km, mb3.9/3, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=39.5km s-min=28.1km az=107.0*
*DJA **18** 12:56:11.5±0.4, 3°S±3°×13°6E±°, h27km±3km, M3.8/7, MLv3.8/7*
ISC 18 12:56:10.8±0.7, 3°.39S±0°.06×135°.70E±0°.05, h35km, n20, σ1§54/24, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.60**	**20**	P	**Pn**	**12 56 36.8**	**+0.2**
SRPI				S	**Sn**	**12 56 56.5**	**+0.4**
KMPI	**Kaimana, Papua**	**2.01**	**262**	P	**Pn**	**12 56 43.8**	**+1.6**
KMPI				S	**Sn**	**12 57 07.2**	**+1.1**
BAKI	**Biak**	**2.22**	**11**	P	**Pn**	**12 56 47.2**	**+2.1**
BAKI				S	**Sn**	**12 57 11.7**	**+0.3**
RKPI	**Ransiki, Papua**	**2.41**	**321**	P	**Pn**	**12 56 48.1**	**+0.4**
RKPI				S	**Sn**	**12 57 16.3**	**+0.4**
FAKI	**Fak Fak**	**3.48**	**278**	P	**Pn**	**12 57 02.0**	**-0.4**
FAKI	**Fak Fak**	**3.48**	**278**	P	**Pn**	**12 57 02.0**	**-0.4**
JAY	**Jayapura**	**5.08**	**80**	Pn	**Pn**	**12 57 25.3**	**+0.8**
	0.8nm,0.3s,baz=173,slow=18,SNR=4.2						
	6.8nm,0.7s						
KDU	**Kakadu**	**9.77**	**199**	P	**Pn**	**12 58 29.1**	**+0.2**
DRS	**Darwin Rock St**	**10.16**	**208**	P	**Pn**	**12 58 35.7**	**+1.5**
MTN	**Manton Dam**	**10.42**	**205**	P	**Pn**	**12 58 37.7**	**-0.1**
COEN	**Coen**	**12.84**	**145**	P	**Pn**	**12 59 10.3**	**-0.6**
WRA	**Warramunga Arr**	**16.51**	**185**	Pn	**Pn**	**12 59 55.5**	**-4.3**
	0.3nm,0.3s,baz=7.7,slow=13,SNR=16						
QIS	**Mount Isa**	**17.48**	**168**	P	**P**	**13 00 13.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**17.63**	**213**	P	**Pn**	**13 00 11.9**	**-1.8**
	0.1nm,0.3s,baz=31,slow=9.8,SNR=9.7						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**20.23**	**185**	P	**P**	**13 00 44.5**	**+1.4**
	4.1nm,0.5s,baz=8.5,slow=11,SNR=74						
	4.1nm,0.5s						
WRKA	**Warakurna**	**22.67**	**198**	P	**P**	**13 01 09.1**	**-0.2**
OOD	**Oodnadatta**	**24.27**	**180**	P	**P**	**13 01 26.5**	**+1.7**
QLP	**Quilpie**	**24.47**	**161**	P	**P**	**13 01 29.3**	**+2.7**
MKAR	**Makanchi Array**	**68.52**	**324**	P	**P**	**13 07 08.3**	**-1.4**
	0.5nm,0.6s,baz=103,slow=6.4,SNR=4.3						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**87.70**	**25**	P	**P**	**13 08 54.5**	**-1.0**
	0.3nm,0.5s,baz=261,slow=4.4,SNR=7.9						
	0.3nm,0.5s						

---

*IDC **18** 12:56:25.8±1.5, 24°.93N×128°.45E, h0km, mb3.6/4, mbtmp3.6/4, MS3.0/2, Error ellipse: s-maj=75.6km s-min=19.2km az=78.0*
*JMA **18** 12:56:30.6±0.3, 25°N±1°×12°8E±°, h81km, MV3.0/25, FAR S OFF OKINAWAJIMA*
ISC 18 12:56:27.7±2.1, 24°.87N±0°.05×128°.21E±0°.04, h15km±13km, n28, σ1§54/44, mb3.6/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.32**	**343**	P	**Pg**	**12 56 52.5**	**-0.7**
JJT3				eS	**Sb**	**12 57 08.7**	**-0.3**
JNTH	**Nagotoyohara**	**1.65**	**354**	P	**Pn**	**12 56 56.3**	**+0.2**
JNTH				eS	**Sn**	**12 57 14.6**	**-2.3**
JAGN	**Aguni-jima**	**1.92**	**333**	i P	**Pn**	**12 57 00.7**	**+0.9**
JAGN				S	**Sn**	**12 57 22.7**	**-1.0**
JKE	**Kume jima 2**	**1.93**	**319**	P	**Pn**	**12 57 00.6**	**+0.6**
JOW	**Kunigami**	**1.95**	**2**	Pn	**Pn**	**12 57 00.1**	**-0.1**
	11nm,0.3s,baz=124,slow=23,SNR=44						
JOW				Sn	**Sn**	**12 57 23.3**	**-1.2**
	12nm,0.3s,baz=327,slow=26,SNR=11						
JOW	**Kunigami**	**1.95**	**2**	P	**Pn**	**12 57 01.1**	**+0.8**
JOW				S	**Sn**	**12 57 22.4**	**-2.2**
JYRO	**Yoronjima**	**2.15**	**6**	P	**Pn**	**12 57 03.9**	**+0.8**
JYRO				eS	**Sn**	**12 57 26.7**	**-2.8**
JIH	**Iheya**	**2.16**	**354**	P	**Pn**	**12 57 03.6**	**+0.4**
JIH				S	**Sn**	**12 57 28.2**	**-1.5**
JOKE	**Okinoerabujima**	**2.50**	**7**	P	**Pn**	**12 57 08.7**	**+0.9**
JOKE				eS	**Sn**	**12 57 35.7**	**-2.4**
JOGS	**Gusukube**	**2.55**	**268**	P	**Pn**	**12 57 09.2**	**+0.8**
JOGS				eS	**Sn**	**12 57 37.4**	**-1.7**
JMJ2	**Miyako jima3**	**2.62**	**268**	P	**Pn**	**12 57 10.0**	**+0.6**
JMJ2				eS	**Sn**	**12 57 39.4**	**-1.6**
JIKM	**Ikemajima**	**2.69**	**272**	P	**Pn**	**12 57 11.1**	**+0.7**
JIKM				S	**Sn**	**12 57 40.5**	**-2.1**
JIRB	**Irabujima**	**2.75**	**270**	P	**Pn**	**12 57 11.7**	**+0.4**
JIRB				eS	**Sn**	**12 57 42.0**	**-2.3**
JMZ	**Minamidaito 2**	**2.89**	**70**	P	**Pn**	**12 57 12.5**	**-0.7**
JTK	**Tokunoshima**	**2.98**	**13**	P	**Pn**	**12 57 15.6**	**+1.2**
JTK				S	**Sn**	**12 57 47.3**	**-2.5**
JKDJ	**Kitadaitoujima**	**2.99**	**68**	P	**Pn**	**12 57 14.3**	**-0.3**
JKDJ				S	**Sn**	**12 57 48.3**	**-1.9**
JTJ	**Tarama**	**3.19**	**267**	eP	**Pn**	**12 57 17.6**	**+0.3**
JTJ				eS	**Sn**	**12 57 53.6**	**-1.5**
JAMN	**Amaminishikomi**	**3.47**	**14**	P	**Pn**	**12 57 22.7**	**+1.6**
JISG	**Ishigakijimahi**	**3.55**	**266**	eP	**Pn**	**12 57 22.6**	**+0.4**
JISG				S	**Sn**	**12 58 00.8**	**-3.2**
JIJ	**Ishigaki jima**	**3.73**	**263**	P	**Pn**	**12 57 24.8**	**0.0**
JAM	**Amami Oshima**	**3.74**	**19**	P	**Pn**	**12 57 25.9**	**+1.0**
JAM				eS	**Sn**	**12 58 06.0**	**-2.7**
JZK	**Kikaishima**	**3.77**	**24**	P	**Pn**	**12 57 27.6**	**+2.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	5.6nm,1.1s						
ULM	Lac du Bonnet	49.24	319	LR	LR	13 34 35.9	
	comp=Z,52nm,20.3s,baz=27,slow=33						
TXAR	Lajitas Array	52.74	292	LR	LR	13 39 39.0	
	comp=Z,23nm,19.5s,baz=64,slow=36						
ANMO	Albuquerque	54.83	299	LR	LR	13 38 34.9	
	comp=Z,46nm,21.4s,baz=250,slow=34						
NOA	NORSAR Array B	56.54	29	LR	LR	13 36 35.8	
	comp=Z,16nm,20.1s,baz=255,slow=30						
PDAR	Pinedale Array	57.27	308	LR	LR	13 39 31.2	
	comp=Z,37nm,20.3s,baz=90,slow=33						
HFS	Hagfors	57.43	31	P	P	13 17 39.2	-0.5
	1.6nm,0.7s,baz=234,slow=8.8,SNR=4.1						
	1.6nm,0.7s						
YKA	Yellowknife Ar	62.28	331	P	P	13 18 13.1	0.0
	0.3nm,0.8s,baz=104,slow=7.1,SNR=5.4						
YKA				LR	LR	13 42 40.0	
	comp=Z,46nm,20.2s,baz=307,slow=34						
	0.3nm,0.8s						
PFO	Pinyon Flats O	63.19	298	LR	LR	13 46 03.9	
	comp=Z,42nm,18.5s,baz=54,slow=36						
ARCES	ARCESS Array B	64.51	22	P	P	13 18 26.8	-0.9
	3.3nm,0.8s,baz=297,slow=8.0,SNR=4.7						
	3.3nm,0.8s						
YBH	Yreka Blue Hor	67.06	308	LR	LR	13 47 22.1	
	comp=Z,58nm,18.9s,baz=65,slow=35						
ILAR	Eielson Array	76.31	334	P	P	13 19 40.6	+0.7
	0.7nm,0.8s,baz=71,slow=4.9,SNR=6.3						
	0.7nm,0.8s						
AKTO	Aktyubinsk	82.93	39	LR	LR	13 53 37.7	
	comp=Z,67nm,19.7s,baz=286,slow=33						

*IDC **18** 13:08:49.7±0.6,21°.70S×69°.03E, h0km, mb4.1/17, mbtmp4.1/17, MS4.1/58, Error ellipse: s-maj=18.6km s-min=15.6km az=46.0*

*NEIC **18** 13:08:50.6±2.7,21°.8S±0°.1×68°.90E±0°.07, h10km±1km, mb4.4/27, Error ellipse: s-maj=21.9km s-min=9.4km az=161.0*

*GCMT **18** 13:08:51.6±0.2,21°.80S±0°.02×68°.91E±0°.02, h13km, MW5.0/109, Moment Tensor Solution. s35,c39; s109,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.30±.17; $M_{\theta\theta}$1.46±.10; $M_{\phi\phi}$1.84±.11; $M_{r\theta}$-0.64±.28; $M_{\theta\phi}$-1.32±.07; $M_{\phi r}$0.94±.29; Best double couple: $M_0$3.34200×10^{16} NP1:ϕ_s317.00000°, δ35.00000°, λ-93.00000°. NP2:ϕ_s141.00000°, δ55.00000°, λ-88.00000°. Principal axes: T 3.1820, Plg10.0000°, Azm230.0000°; N 0.3210, Plg2.0000°, Azm320.0000°; P -3.5030, Plg80.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 13:08:50.6±0.5,21.74S±0.09×68.85E±0.08, h10km, n103, σ1.9, 81/52, mb4.3/32, MS4.2/62, 1C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	14.45	15	T	T	13 26 58.6	
	baz=194,slow=76,SNR=250						
H08S2	Diego Garcia H	14.45	15	T	T	13 26 58.7	
	baz=194,slow=76,SNR=225						
H08S3	Diego Garcia H	14.46	15	T	T	13 26 59.9	
	baz=194,slow=76,SNR=250						
FOMA	Nahampoana Res	20.33	257	P	P	13 13 27.9	+0.9
ABPO	Ambohimpanom	20.45	274	P	P	13 13 29.4	+0.9
VOI	Vohitsoka	20.48	265	P	Pn	13 13 30.1	-0.8
OPO	Ambohidratompo	20.57	275	P	Pn	13 13 32.6	+0.5
	2.5nm,0.7s,baz=87,slow=17,SNR=4.5						
	2.5nm,0.7s						
MSEY	Mahe Island	21.35	321	P	P	13 13 34.7	-3.5
MSEY				IAmb	IAmb	13 13 45.2	
	comp=Z,28nm,1.1s						
H04N2	CROZET ISLANDS	28.05	206	T	T	13 44 10.7	
	baz=37,slow=75,SNR=67						
H04N1	CROZET ISLANDS	28.05	206	T	T	13 44 11.6	
	baz=37,slow=75,SNR=68						
H04N3	CROZET ISLANDS	28.07	206	T	T	13 44 07.6	
	baz=37,slow=75,SNR=68						
PALK	Pallekele	31.09	23	LR	LR	13 24 26.2	
	comp=Z,606nm,19.8s,baz=210,slow=30						
KIBK	Kibwezi	35.62	299	P	P	13 15 47.6	-1.3
KIBK				IAmb	IAmb	13 16 03.1	
	comp=Z,4.1nm,1.1s						
GSI	Gununguitoli	36.22	54	P	P	13 15 52.2	-1.8
KMBO	Kilima Mbogo	36.97	299	P	P	13 15 55.0	-5.7
KMBO	Kilima Mbogo	36.97	299	P	P	13 16 02.2	+1.6
	comp=Z,1.2nm,0.4s,baz=113,slow=7.7,SNR=1.8						
KMBO				LR	LR	13 27 48.5	
	comp=Z,145nm,21.9s,baz=92,slow=31						
	comp=Z,1.2nm,0.4s						
MATP	Matopo	37.60	264	LR	LR	13 28 52.0	
	comp=Z,175nm,20.5s,baz=62,slow=32						
PSI	Prapat	38.21	54	LR	LR	13 28 21.9	
	comp=Z,358nm,19.3s,baz=237,slow=31						
LSZ	Lusaka	39.00	272	LR	LR	13 30 24.2	
	comp=Z,460nm,20.7s,baz=142,slow=33						
LBTB	Lobatse	39.71	257	P	P	13 16 21.3	-2.3
LBTB				IAmb	IAmb	13 16 32.5	
	comp=Z,7.1nm,1.1s						
LBTB	Lobatse	39.71	257	LR	LR	13 29 54.5	
	comp=Z,342nm,21.2s,baz=97,slow=32						
BOSA	Boshof	39.87	251	P	P	13 16 23.4	-1.4
BOSA	Boshof	39.87	251	P	P	13 16 27.4	+2.6
	comp=Z,2.9nm,0.8s,baz=73,slow=4.7,SNR=3.9						
BOSA				LR	LR	13 31 21.6	
	comp=Z,378nm,18.0s,baz=70,slow=34						
	comp=Z,2.9nm,0.8s						
KHWEE	KHWEE	40.18	261	P	P	13 16 26.6	-0.9
KHWEE				IAmb	IAmb	13 16 36.2	
	comp=Z,13nm,1.1s						
LEM	Lembang	40.24	74	LR	LR	13 29 14.4	
	comp=Z,352nm,20.5s,baz=187,slow=31						
KULM	Kulim	41.14	53	P	P	13 16 34.5	-0.8
LODK	Lodwar	41.22	303	P	P	13 16 38.0	+2.0
MYKOM	Kota Tinggi	41.43	60	P	P	13 16 34.5	-3.1
MYKOM				IAmb	IAmb	13 16 41.0	
	comp=Z,6.3nm,1.0s						
MBAR	Mbarara	42.66	294	P	P	13 16 46.6	-1.4
MBAR				IAmb	IAmb	13 16 58.1	
	comp=Z,5.4nm,1.1s						
SUR	Sutherland	43.76	245	P	P	13 16 52.9	-3.8
SUR				IAmb	IAmb	13 16 55.4	
	comp=Z,11nm,1.1s						
SUR	Sutherland	43.76	245	LR	LR	13 31 49.0	
	comp=Z,323nm,20.6s,baz=98,slow=31						
NWAO	Narrogin (SRO)	44.07	115	LR	LR	13 31 09.1	
	comp=Z,258nm,21.2s,baz=242,slow=30						
MAW	Mawson	46.01	183	P	P	13 17 15.6	+1.7
MAW	Mawson	46.01	183	LR	LR	13 32 58.4	
	comp=Z,174nm,19.2s,baz=329,slow=31						
TSUM	Tsumeb	47.92	263	LR	LR	13 34 58.9	
	comp=Z,620nm,21.4s,baz=148,slow=33						
BRDH	Bariadhala	49.42	28	LR	LR	13 35 48.4	
	comp=Z,618nm,21.4s,baz=190,slow=33						
CMAR	Chiang Mai Arr	49.64	39	P	P	13 17 40.6	-2.0
CMAR	Chiang Mai Arr	49.64	39	P	P	13 17 43.8	+1.2
	comp=Z,0.8nm,0.5s,baz=233,slow=7.3,SNR=6.4						
CMAR				LR	LR	13 37 17.7	
	comp=Z,157nm,18.7s,baz=220,slow=34						
	comp=Z,0.8nm,0.5s						
KAPI	Kappang	51.97	79	LR	LR	13 37 14.5	
	comp=Z,74nm,20.2s,baz=278,slow=33						
FITZ	Fitzroy Crossi	53.27	97	LR	LR	13 39 33.6	
	comp=Z,166nm,18.2s,baz=284,slow=35						
TOLI2	Tolitoli	55.53	73	P	P	13 18 23.7	-2.6
TOLI2				IAmb	IAmb	13 18 27.3	
	comp=Z,7.5nm,1.0s						
QIZ	Qiongzhong	57.01	48	P	P	13 18 38.5	+1.7
QIZ				S	S	13 26 37.5	+5.9
QIZ				LR	LR		
	comp=N,380nm,12.2s						
QIZ				LR	LR		
	comp=E,280nm,17.8s						
QIZ				LR	LR		
	comp=Z,400nm,17.2s						
ASAR	Alice Springs	59.57	105	P	P	13 18 54.2	-0.6
ASAR	Alice Springs	59.57	105	P	P	13 18 54.6	-0.2
	comp=Z,3.6nm,0.7s,baz=260,slow=6.3,SNR=72						
ASAR				PcP	PcP	13 19 41.8	-0.4
	comp=Z,1.2nm,0.8s,baz=265,slow=3.6,SNR=4.7						
ASAR				LR	LR	13 41 31.0	
	comp=Z,279nm,20.1s,baz=270,slow=33						
	comp=Z,3.6nm,0.7s						
AS31	Alice Springs	59.57	105	P	P	13 18 53.8	-1.1
AS31				IAmb	IAmb	13 18 55.0	
	comp=Z,1.4nm,0.8s						
EIL	Elat	60.64	326	LR	LR	13 41 30.9	
	comp=Z,43nm,20.8s,baz=254,slow=32						
WRA	Warramunga Arr	60.81	101	P	P	13 19 01.6	-1.8
WRA	Warramunga Arr	60.81	101	P	P	13 19 03.4	0.0
	comp=Z,3.3nm,0.6s,baz=255,slow=6.4,SNR=22						
WRA				PcP	PcP	13 19 46.3	-0.9
	comp=Z,1.2nm,0.8s,baz=250,slow=2.2,SNR=5.6						
	comp=Z,3.3nm,0.6s						
WB0	Warramunga Arr	60.90	101	P	P	13 19 02.7	-1.3
WR8	Warramunga Arr	60.95	101	P	P	13 19 03.0	-1.3
WR8				IAmb	IAmb	13 19 24.9	
	comp=Z,2.4nm,0.9s						
KSH	Kashi	61.30	6	P	P	13 19 04.8	-1.5
KSH				pmax	pmax		
	comp=Z,11nm,1.4s						
KSH				LR	LR		
	comp=N,280nm,20.8s						
KSH				LR	LR		
	comp=E,180nm,17.3s						
KSH				LR	LR		
	comp=Z,390nm,19.4s						
ASF	Jabal al Asfar	61.72	329	LR	LR	13 42 37.9	
	comp=Z,52nm,21.6s,baz=175,slow=33						
DAV	Davao City (W)	62.54	69	LR	LR	13 43 41.1	
	comp=Z,90nm,21.5s,baz=187,slow=34						
KDJ	Kajisay	64.01	7	P	P	13 19 23.0	-1.4
KDJ				IAmb	IAmb	13 19 28.5	
	comp=Z,4.3nm,1.2s						
AAK	Ala-Archa	64.27	5	P	P	13 19 25.1	-1.0
AAK				IAmb	IAmb	13 19 44.5	
	comp=Z,3.1nm,1.1s						
AAK	Ala-Archa	64.27	5	LR	LR	13 45 13.2	
	comp=Z,254nm,20.5s,baz=185,slow=34						
KK31	Karatay Array	64.54	1	P	P	13 19 28.9	+1.2
KK31				IAmb	IAmb	13 19 45.3	
	comp=Z,3.4nm,0.9s						
KKAR	Karatay Array	64.54	1	P	P	13 19 24.1	-3.5
STKA	Stephens Creek	64.65	116	P	P	13 19 28.9	+0.1
	comp=Z,2.0nm,0.6s,baz=260,slow=6.1,SNR=3.2						
STKA				LR	LR	13 43 59.1	
	comp=Z,155nm,20.0s,baz=215,slow=33						
	comp=Z,2.0nm,0.6s						
GNI	Garni	65.55	340	LR	LR	13 46 07.5	
	comp=Z,89nm,20.3s,baz=124,slow=34						
XAN	Xi'an	67.32	35	⇑P	P	13 19 46.5	+0.7
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN				LR	LR		
	comp=N,290nm,18.5s						
XAN				LR	LR		
	comp=E,200nm,15.1s						
XAN				LR	LR		
	comp=Z,370nm,19.2s						
GTA	Gaotai	67.37	26	eP	P	13 19 47.8	+1.6
GTA				pP	pwP	13 19 54.4	+2.0
GTA				pmax	pmax		
	comp=Z,5.0nm,1.9s						
GTA				LR	LR		
	comp=N,160nm,19.3s						
GTA				LR	LR		
	comp=E,150nm,18.5s						
GTA				LR	LR		
	comp=Z,200nm,20.0s						
QSPA	South Pole Qui	68.37	180	P	P	13 19 52.2	0.0
QSPA	South Pole Qui	68.37	180	P	P	13 19 53.6	+1.4
	comp=Z,6.8nm,1.1s,baz=296,slow=2.1,SNR=16						
QSPA				LR	LR	13 47 03.1	
	comp=Z,193nm,18.1s,baz=284,slow=34						
	comp=Z,6.8nm,1.1s						
MKAR	Makanchi Array	69.29	10	P	P	13 19 57.9	0.0
	comp=Z,1.6nm,0.8s,baz=199,slow=6.0,SNR=10						
MKAR				LR	LR	13 48 29.7	
	comp=Z,163nm,20.5s,baz=188,slow=34						
	comp=Z,1.6nm,0.8s						
KBZ	Khabaz	69.37	340	LR	LR	13 48 10.2	
	comp=Z,64nm,20.6s,baz=148,slow=34						
BRTR	Keskin Array B	69.43	332	P	P	13 20 00.2	+1.2
	comp=Z,1.3nm,0.7s,baz=158,slow=7.3,SNR=6.0						
	comp=Z,1.3nm,0.7s						
VNDA	Vanda	69.58	167	P	P	13 19 59.8	+0.4
	comp=Z,1.3nm,0.9s,baz=266,slow=8.8,SNR=4.0						
VNDA				LR	LR	13 47 07.5	
	comp=Z,60nm,18.0s,baz=254,slow=33						
	comp=Z,1.3nm,0.9s						
KURBB	Kurchatov Arra	72.55	6	P	P	13 20 18.4	+0.8
	comp=Z,1.5nm,0.8s,baz=203,slow=6.7,SNR=12						
KURBB				LR	LR	13 50 55.4	
	comp=Z,237nm,18.8s,baz=173,slow=35						
	comp=Z,1.5nm,0.8s						
TORD	Torodi Ar. Bea	74.43	291	P	P	13 20 31.1	+1.7
	comp=Z,174nm,0.4s,baz=107,slow=6.3,SNR=2.1						
BVAR	Borovoye Array	74.46	1	P	P	13 20 29.4	+0.6
	comp=Z,1.2nm,0.6s,baz=178,slow=7.4,SNR=6.4						
BVAR				LR	LR	13 53 39.0	
	comp=Z,38nm,18.5s,baz=186,slow=36						
	comp=Z,1.2nm,0.6s						
JOW	Kunigami	75.10	53	LR	LR	13 50 47.4	
	comp=Z,60nm,21.0s,baz=300,slow=34						
PMG	Port Moresby	75.78	95	LR	LR	13 51 15.3	
	comp=Z,124nm,21.0s,baz=292,slow=34						
BELG	Belogornoye	76.11	347	LR	LR	13 52 23.0	
	comp=Z,54nm,21.7s,baz=176,slow=34						
ZALV	Zasovo Beam	76.63	10	P	P	13 20 40.8	-0.3
	comp=Z,1.8nm,0.7s,baz=204,slow=3.3,SNR=7.4						
ZALV				LR	LR	13 53 00.3	
	comp=Z,125nm,21.4s,baz=140,slow=35						
	comp=Z,1.8nm,0.7s						
SONM	Songino Array	77.03	25	P	P	13 20 44.0	+0.2
	comp=Z,0.3nm,0.4s,baz=216,slow=7.3,SNR=4.9						
SONM				LR	LR	13 53 20.7	
	comp=Z,176nm,21.6s,baz=250,slow=35						
	comp=Z,0.3nm,0.4s						
MLR	Muntele Rosu	77.45	331	LR	LR	13 54 00.6	
	comp=Z,61nm,19.5s,baz=114,slow=35						
DBIC	Dimbokro	77.49	282	LR	LR	13 52 04.2	
	comp=Z,80nm,21.3s,baz=137,slow=33						
ARTI	Arti	78.32	354	LR	LR	13 54 57.2	
	comp=Z,74nm,19.4s,baz=170,slow=35						
AKASG	Malin Array Be	80.14	336	P	P	13 21 01.2	+0.5
	comp=Z,0.4nm,0.4s,baz=120,slow=4.1,SNR=5.8						
	comp=Z,0.4nm,0.4s						
KEST	Kesra	80.22	315	LR	LR	13 56 05.9	
	comp=Z,93nm,19.1s,baz=293,slow=35						
JNU	Nakatsue	80.47	49	LR	LR	13 53 27.5	
	comp=Z,161nm,21.6s,baz=246,slow=33						
KSRS	Korea Array	80.95	44	P	P	13 21 04.9	-0.4
	comp=Z,1.1nm,0.7s,baz=250,slow=5.1,SNR=3.8						
KSRS				LR	LR	13 57 03.8	
	comp=Z,126nm,18.2s,baz=240,slow=36						
	comp=Z,1.1nm,0.7s						
KIRV	Kirov	81.63	350	LR	LR	13 56 23.4	
	comp=Z,65nm,20.4s,baz=152,slow=35						
GUMO	Guam	82.39	72	LR	LR	13 53 45.1	
	comp=Z,40nm,21.2s,baz=236,slow=33						
VRAC	Vranov	84.60	329	LR	LR	13 58 11.6	
	comp=Z,20nm,21.8s,baz=122,slow=35						
JCJ	Chichijima	85.94	59	LR	LR	13 54 11.3	
	comp=Z,67nm,21.8s,baz=292,slow=32						
PMSA	Palmer Station	86.47	198	LR	LR	13 59 31.2	
	comp=Z,126nm,18.3s,baz=92,slow=35						
JHJ	Hachijo jima 2	86.87	53	LR	LR	13 55 39.2	
	comp=Z,43nm,20.4s,baz=257,slow=32						
USRK	Ussuriysk Ar.	87.35	40	LR	LR	13 58 24.2	
	comp=Z,111nm,21.8s,baz=196,slow=34						
MJAR	Matsushiro Arr	87.39	49	LR	LR	13 57 59.6	
	comp=Z,153nm,21.8s,baz=246,slow=34						
HNR	Honiara	87.57	99	LR	LR	13 57 27.9	
	comp=Z,68nm,21.9s,baz=360,slow=33						
MDT	Midelt	88.61	306	LR	LR	14 02 32.6	
	comp=Z,127nm,18.1s,baz=154,slow=36						
KLR	Kul'dur	90.03	36	LR	LR	14 03 28.0	
	comp=Z,147nm,19.1s,baz=247,slow=36						
BBTS	Babate	91.16	285	LR	LR	14 01 05.3	
	comp=Z,154nm,20.5s,baz=356,slow=34						
ESDC	Sonseca Array	91.27	312	LR	LR	14 04 03.3	
	comp=Z,66nm,18.6s,baz=134,slow=36						
NRIK	Noril'sk	91.82	7	LR	LR	14 03 22.0	
	comp=Z,116nm,20.2s,baz=184,slow=36						
ASAJ	Asahikawa	93.90	44	LR	LR	14 01 44.5	
	comp=Z,47nm,21.8s,baz=228,slow=34						
USHA	Ushuaia	95.44	203	LR	LR	13 54 24.8	
	comp=Z,88nm,20.9s,baz=169,slow=29						
ARCES	ARCESS Array B	96.14	346	LR	LR	14 06 25.7	
	comp=Z,42nm,18.7s,baz=126,slow=36						
YAK	Yakutsk	96.38	24	LR	LR	14 06 40.1	
	comp=Z,141nm,20.3s,baz=224,slow=36						
YKA	Yellowknife Ar	139.21	2	PKP	PKPdf	13 28 17.5	+0.2
	comp=Z,0.3nm,0.9s,baz=343,slow=3.0,SNR=5.5						
PDAR	Pinedale Array	158.99	357	PKP	PKPdf	13 28 49.0	-0.4
	comp=Z,0.1nm,0.3s,baz=42,slow=2.4,SNR=3.7						

JMA 18 13:16:26.5±0.2,25°.N±1°.×123°.5E±0°.3, h65km±3km, MV1.6/10, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.40	142	P	Pn	13 16 37.8	-0.1
YOJ	Yonaguni jima	0.45	245	P	Pn	13 16 38.5	+0.1
JYNG	Yonagunijimaku	0.51	247	P	Pn	13 16 39.0	0.0
JKRS	Kuro-shima	0.65	130	*i* P	Pn	13 16 40.7	+0.2
JKRS				*e*S	Sn	13 16 51.5	+0.8
HATJ	Hateruma jima	0.67	152	*e*P	Pn	13 16 40.8	0.0
JIJ	Ishigaki jima	0.69	115	*i* P	Pn	13 16 40.9	0.0
JIJ				S	Sn	13 16 51.5	+0.1
JISG	Ishigakijimahi	0.78	95	P	Pn	13 16 42.1	+0.1
JISG				*e*S	Sn	13 16 54.0	+0.7
JTJ	Tarama	1.13	90	*e*P	Pn	13 16 47.0	+0.6

TAP 18 13:17:12.4,24°.92N×122°.43E, h21km±1km, ML2.0, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.41	283	*e*P	Pb	13 17 21.3	+0.6
TWB1				*e*S	Sb	13 17 27.6	+1.2
EOS2	EOS2	0.53	200	*e*P	Pb	13 17 23.6	+0.8
EOS2				*e*S	Sn	13 17 31.8	-0.8
SXI1	Grass Mountain	0.53	290	P	Pb	13 17 23.8	+0.7
TIPB	Shuangxi	0.55	276	P	Pb	13 17 24.1	+0.7
TWC	Suao	0.61	240	P	Pb	13 17 24.5	+0.1
TWC				*e*S	Sb	13 17 32.4	-0.1
ESAO	Su ao	0.63	237	*e*P	Pb	13 17 25.2	+0.5
EOS3	EOS3	0.63	189	*e*P	Pn	13 17 25.5	-0.4
EOS3				*e*S	Sn	13 17 35.8	+0.4
YOJ	Yonaguni jima	0.70	130	P	Pb	13 17 25.7	-0.2
TWE	Neicheng	0.72	254	*e*P	Pn	13 17 26.9	-0.3
FUSB	Fushanzhiwuyua	0.78	259	*e*P	Pn	13 17 28.3	+0.2
ENA	Nanau	0.79	232	*e*P	Pb	13 17 27.7	+0.3
ENA				*e*S	Sb	13 17 38.4	+0.8
ENTT	Nioudou	0.83	251	*e*P	Pn	13 17 29.0	+0.2
TWY	Chenhua	0.83	296	*e*P	Pn	13 17 28.7	-0.1
TWY				*e*S	Sn	13 17 40.3	0.0
LATG	Datong	0.90	245	*e*P	Pn	13 17 30.2	+0.4
LATG				*e*S	Sn	13 17 42.6	+0.3
YHNB	Yeheng	0.98	256	*e*P	Pn	13 17 31.4	+0.4
NACB	Ninganchiao	1.06	226	*e*P	Pb	13 17 32.2	+0.3
NACB				*e*S	Sn	13 17 46.3	+0.3
NNSB	Datong	1.06	243	*e*P	Pb	13 17 32.6	+0.5

RSNC 18 13:25:29.7±0.0,8°.N±1°.×7°.6W±°, h18km±2km, M3.0, mb4.3, ML2.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UREC	San Jos de Ur	0.45	184	P	Pg	13 25 37.6	-1.2
UREC				S	Sg	13 25 44.8	-0.2
ZARC	Zaragoza, Cauc	0.95	138	P	Pb	13 25 45.8	-1.8
ZARC				S	Sb	13 25 59.6	-0.3
LCBC	Los crdobas,	1.08	307	P	Pb	13 25 47.9	-2.0
LCBC				S	Sn	13 26 04.6	+0.2
APAC	Apartado, Choc	1.11	255	P	Pn	13 25 48.4	-2.0
APAC				S	Sn	13 26 05.4	+0.2
DBBC	Dabeiba	1.37	211	P	Pn	13 25 52.2	-1.8
DBBC				S	Sn	13 26 10.1	-1.7
SJCC	San Jacinto, C	1.71	11	P	Pn	13 25 55.9	-2.9
SJCC				S	Sn	13 26 17.1	-3.2
CAPC	Capurgana	1.88	283	P	Pn	13 25 58.2	-2.8
CAPC				S	Sn	13 26 19.7	-4.6
PTBC	PUERTO BERRIO,	1.95	148	P	Pn	13 26 00.8	-1.1
PTBC				S	Sn	13 26 25.6	-0.4
ARGC	Ariguani, Magd	2.06	37	P	Pn	13 26 04.6	+1.1
ARGC				S	Sn	13 26 28.2	-0.5
BRJC	Barrancabermej	2.12	125	P	Pn	13 26 04.4	+0.1
BRJC				S	Sb	13 26 32.3	-1.5
OCAC	Ocana	2.16	89	P	Pn	13 26 04.1	-0.8
OCAC				S	Sn	13 26 31.7	+0.3
CBOC	Ciudad Bolivar	2.38	192	P	Pn	13 26 07.1	-0.9
CBOC				S	Sn	13 26 36.1	-0.6
NORC	Norcasia	2.69	167	P	Pn	13 26 11.0	-1.2
NORC				S	Sn	13 26 44.0	-0.4
BARC	Barichara	2.80	125	P	Pn	13 26 14.0	+0.2
BARC				S	Sn	13 26 48.5	+1.2
PAMC	Pamplona, Colo	2.90	107	P	Pn	13 26 15.5	0.0
PAMC				S	Sn	13 26 52.1	+1.9
GUY2C	Guyana, Caldas	2.96	177	P	Pn	13 26 15.7	-0.6
GUY2C				S	Sb	13 26 55.5	-2.8
SMRC	Santa Marta, M	3.20	23	P	Pn	13 26 20.2	+1.0
SMRC				S	Sn	13 26 57.9	+1.0
RUSC	La Rusia	3.32	134	P	Pn	13 26 21.2	0.0
RUSC				S	Sb	13 27 04.6	-4.0
ANIL	Santa Ana	3.69	178	P	Pg	13 26 38.0	-2.4
ANIL				S	Sg	13 27 30.6	+2.3
CRJC	Cerrejon, Guaj	3.81	42	P	Pn	13 26 25.1	-2.5
CRJC				S	Sn	13 27 07.7	-4.4
CHIC	Chingaza	3.96	154	P	Pn	13 26 29.3	-0.6
CHIC				S	Sn	13 27 14.7	-1.5
ORTC	Ortega, Tolima	4.27	177	P	Pb	13 26 41.8	-2.5
ORTC				S	Sg	13 27 43.6	-3.4
PRAC	Prado	4.50	172	P	Pn	13 26 37.5	+0.4
PRAC				S	Sb	13 27 44.9	+2.7
SDV	Santo Domingo	4.86	82	P	Pn	13 26 42.1	-0.1
SDV				S	Sn	13 27 37.3	-0.9
URIC	Uribia, Colomb	4.90	45	P	Pn	13 26 41.1	-1.5
URIC				S	Sn	13 27 33.7	-5.2
PTGC	Puerto Gaitan,	5.20	140	P	Pn	13 26 45.2	-1.4
PTGC				S	Sn	13 27 45.6	-0.5

*IDC **18** 13:25:35.6±5.4,9°.49N×83°.13W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s

PISJ	San Jernim	0.93	291	eP		Pb	13 25 54.4	-0.8
LNBQ3	Los Naranjos,	0.94	122	eP		Pb	13 25 55.2	-0.2
LNBQ3				eS		Sg	13 26 08.1	-0.2
PTAR3	Potrerillos Ar	0.95	129	eP		Pn	13 25 56.1	-0.1
PTAR3				eS		Sn	13 26 09.9	+0.6
TRIO	Tres Rios	0.96	310	eP		Pb	13 25 54.6	-1.2
LESP3	La Esperanza,	0.99	153	eP		Pb	13 25 52.5	-3.7
PICV	PH. Pirrs	0.99	290	eP		Pb	13 25 55.8	-0.5
CVTG	V. Turrialba,	0.99	328	eP		Pb	13 25 56.0	-0.3
AMPA	Desamparados	1.00	307	eP		Pb	13 25 55.3	-1.3
CORON	Coronado	1.01	312	eP		Pb	13 25 56.2	-0.4
SJS3	Mercedes San J	1.02	309	eP		Pb	13 25 56.1	-0.7
SJS	Escuela Geolog	1.02	309	eP		Pb	13 25 56.0	-0.9
ACOS	Acosta	1.03	299	eP		Pb	13 25 56.0	-1.1
CENT	San Jose	1.04	308	eP		Pb	13 25 56.7	-0.4
PILE	Guapiles	1.06	330	eP		Pg	13 25 58.3	0.0
DOMI	Santo Domingo	1.08	309	eP		Pb	13 25 56.9	-0.9
HEME	Heredia, Merce	1.12	309	eP		Pn	13 25 58.0	-0.6
SANTA	Santa Ana	1.12	305	eP		Pn	13 25 57.7	-0.8
CHGR2	Aguacate	1.14	108	eP		Pn	13 25 58.3	-0.4
CHGR2				eS		Sn	13 26 13.9	0.0
BELE	Belen	1.15	306	eP		Pn	13 25 58.1	-0.8
DVD	David	1.16	137	eP		Pg	13 26 00.1	0.0
DVD				eS		Sg	13 26 15.7	+0.5
CARI	Cariari	1.17	336	eP		Pn	13 25 58.9	-0.1
VBV1	V. Barva	1.17	314	eP		Pn	13 25 58.8	-0.6
PURI	Puriscal	1.19	298	eP		Pn	13 25 58.7	-0.7
UELA	Alajuela	1.19	307	eP		Pg	13 26 00.1	-0.6
TCS1	Tacares	1.28	306	eP		Pb	13 26 00.8	-0.4
VPS5	V. Poas	1.32	313	eP		Pn	13 26 01.2	-0.3
VPS8	V Poas	1.32	312	eP		Pn	13 26 01.6	+0.1
SARCI	Sarchi	1.34	306	eP		Pg	13 26 03.3	-0.3
OROT	Orotina	1.41	296	eP		Pn	13 26 02.4	0.0
RAMO	San Ramon	1.44	303	eP		Pb	13 26 04.4	+0.4
SRA1	San Ramn	1.45	303	eP		Pn	13 26 03.2	+0.2
ARZA	Esparza	1.56	296	eP		Pn	13 26 04.8	+0.3
SOCE	Pocosol	1.73	309	eP		Pb	13 26 08.3	-0.6
FORC	Fortuna	1.82	310	eP		Pb	13 26 09.9	-0.6
CBL1	Cabuya	1.84	279	eP		Pn	13 26 09.1	+0.7
ARE1	Arenal 1	1.86	309	eP		Pb	13 26 10.4	-0.7
VARE2	V. Arenal	1.86	309	eP		Pb	13 26 10.3	-0.8
MTEVE	Monteverde	1.86	303	eP		Pb	13 26 11.1	-0.1
CEDE	Laguna Cedeo	1.86	310	eP		Pb	13 26 10.6	-0.6
TABAC	Tabacon	1.92	309	eP		Pb	13 26 11.2	-0.9
JCR1	Jicaral	1.92	287	eP		Pn	13 26 10.5	+1.0
JTS	Las Juntas de	1.95	301	Pn		Pn	13 26 11.0	+1.1
	154nm,0.3s,baz=99,slow=19,SNR=283							
JTS				Lg		Lg	13 26 37.5	
	62nm,0.3s,baz=302,slow=22,SNR=15							
JTS	Las Juntas de	1.95	301	eP		Pn	13 26 10.7	+0.9
JTS	Las Juntas de	1.95	301	eP		Pb	13 26 11.9	-0.7
JTS				eS		Sb	13 26 38.0	+1.3
JUNT	Juntas	1.95	300	eP		Pb	13 26 11.3	-1.3
QUEB	Quebradon, Cot	2.10	309	eP		Pn	13 26 13.2	+1.4
AZU	Azuero	3.30	117	P		Pb	13 26 31.9	-3.7
AZU				S		Sb	13 27 16.5	+1.1
AZU	Azuero	3.30	117	eP		Pn	13 26 28.8	+0.5
BCIP	Isla Barro Col	3.37	92	P		Pn	13 26 31.1	+1.8
BCIP				S		Sn	13 27 08.5	-0.3
YKA	Yellowknife Ar	57.76	343	P		P	13 35 27.7	+0.4
	0.6nm,0.8s,baz=143,slow=6.8,SNR=6.0							
	0.6nm,0.8s							
ILAR	Eielson Array	70.56	336	P		P	13 36 51.1	-0.2
	0.3nm,0.7s,baz=120,slow=4.2,SNR=9.1							
	0.3nm,0.7s							
ESDC	Sonseca Array	75.90	51	P		P	13 37 23.5	+0.1
	0.5nm,0.7s,baz=281,slow=5.3,SNR=2.7							
	0.5nm,0.7s							
NOA	NORSAR Array B	84.10	29	P		P	13 38 06.5	-0.8
	0.4nm,0.8s,baz=277,slow=7.6,SNR=3.3							
	0.4nm,0.8s							

IDC 18 13:27:34.3±1.6, 21°.74S×69°.45E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=55.6km s-min=32.0km az=74.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	14.31	12	T	T	13 45 46.5	
	baz=194,slow=76,SNR=26						
H08S2	Diego Garcia H	14.31	12	T	T	13 45 44.4	
	baz=194,slow=76,SNR=28						
H08S3	Diego Garcia H	14.33	12	T	T	13 45 50.7	
	baz=194,slow=76,SNR=28						
H04N2	CROZET ISLANDS	28.30	206	T	T	14 02 53.7	
	baz=36,slow=75,SNR=11						
H04N1	CROZET ISLANDS	28.30	206	T	T	14 02 55.4	
	baz=36,slow=75,SNR=9.2						
H04N3	CROZET ISLANDS	28.32	206	T	T	14 02 54.7	
	baz=36,slow=75,SNR=9.5						
ASAR	Alice Springs	59.03	105	P	P	13 37 37.9	+1.4
	0.3nm,0.7s,baz=257,slow=6.3,SNR=6.5						
	0.3nm,0.7s						
WRA	Warramunga Arr	60.26	101	P	P	13 37 43.1	-1.9
	0.5nm,0.6s,baz=258,slow=7.4,SNR=1.8						
	0.5nm,0.6s						
QSPA	South Pole Qui	68.38	180	P	P	13 38 37.5	-0.1
	1.1nm,0.9s,baz=270,slow=3.0,SNR=2.4						
	1.1nm,0.9s						
MKAR	Makanchi Array	69.19	9	P	P	13 38 42.1	-0.5
	0.4nm,0.8s,baz=185,slow=7.3,SNR=4.4						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	72.48	6	P	P	13 39 03.3	+0.7
	0.2nm,0.2s,baz=191,slow=3.8,SNR=1.3						
	0.2nm,0.2s						

*NEIC **18** 13:30:28.9±2.9, 21°.6S±0°.1×68°.7E±0°.1, h10km±1km, mb4.5/15, Error ellipse: s-maj=25.4km s-min=21.0km az=145.0*

*IDC **18** 13:30:30.3±1.1, 21°.75S×68°.97E, h0km, mb3.9/10, mbtmp3.9/10, MS3.6/9, Error ellipse: s-maj=37.4km s-min=21.5km az=67.0*

ISC 18 13:30:30.1±0.7, 21°.6S±0°.1×68°.8E±0°.1, h10km, n41, σ2°.38/27, mb4.3/16, MS3.6/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	14.32	15	T	T	13 48 38.3	
	baz=194,slow=76,SNR=47						
H08S2	Diego Garcia H	14.32	15	T	T	13 48 39.0	
	baz=194,slow=76,SNR=38						
H08S3	Diego Garcia H	14.34	15	T	T	13 48 41.8	
	baz=194,slow=76,SNR=44						
ABPO	Ambohimpanom	20.43	273	P	P	13 35 05.0	-2.9
ABPO				IAmb	IAmb	13 35 32.0	
	comp=Z,21nm,1.5s						
KAAM	Kaadhehdhoo	22.34	11	P	P	13 35 27.5	-0.7
H04N2	CROZET ISLANDS	28.16	206	T	T	14 05 54.0	
	baz=36,slow=74,SNR=16						
H04N1	CROZET ISLANDS	28.17	206	T	T	14 05 54.3	
	baz=36,slow=74,SNR=18						
H04N3	CROZET ISLANDS	28.18	206	T	T	14 05 53.1	
	baz=36,slow=74,SNR=18						
PALK	Pallekele	30.97	23	LR	LR	13 46 47.4	
	comp=Z,106nm,20.5s,baz=214,slow=32						
KMBO	Kilima Mbogo	36.89	299	LR	LR	13 49 04.1	
	comp=Z,31nm,20.7s,baz=102,slow=30						
PSI	Prapat	38.14	54	LR	LR	13 49 52.1	
	comp=Z,181nm,18.5s,baz=190,slow=30						
LSZ	Lusaka	38.99	272	LR	LR	13 52 16.4	
	comp=Z,70nm,19.7s,baz=140,slow=33						
LBTB	Lobatse	39.73	256	LR	LR	13 51 00.2	
	comp=Z,90nm,20.8s,baz=113,slow=31						
SOE	Somerset East	39.82	244	P	P	13 38 05.8	+2.1
BOSA	Boshof	39.90	251	LR	LR	13 50 30.7	
	comp=Z,96nm,20.7s,baz=51,slow=30						
SUR	Sutherland	42.80	245	LR	LR	13 53 06.0	
	comp=Z,72nm,20.7s,baz=108,slow=31						
NWAO	Narrogin (SRO)	44.14	115	LR	LR	13 53 18.5	
	comp=Z,73nm,18.2s,baz=16,slow=31						
SBUM	Sibu	48.69	66	P	P	13 39 14.8	-0.2
SBUM				IAmb	IAmb	13 39 29.6	
	comp=Z,3.9nm,1.1s						
CMAR	Chiang Mai Arr	49.54	39		P	13 39 21.7	+0.3
CMAR	Chiang Mai Arr	49.54	39	P	P	13 39 24.2	+2.8
	comp=Z,0.8nm,0.7s,baz=239,slow=8.2,SNR=7.4						
CMAR				LR	LR	13 58 21.9	
	comp=Z,51nm,18.0s,baz=220,slow=34						
	comp=Z,0.8nm,0.7s						
FITZ	Fitzroy Crossi	53.30	97	P	P	13 39 48.8	-0.9
ASAR	Alice Springs	59.62	105	P	P	13 40 33.4	-1.3
ASAR	Alice Springs	59.62	105	P	P	13 40 34.8	+0.1
	comp=Z,2.0nm,0.8s,baz=263,slow=6.6,SNR=22						
	comp=Z,2.0nm,0.8s						
AS31	Alice Springs	59.62	105	P	P	13 40 33.2	-1.6
WRA	Warramunga Arr	60.85	101	P	P	13 40 44.2	+1.0
	comp=Z,2.4nm,0.8s,baz=257,slow=6.6,SNR=12						
	comp=Z,2.4nm,0.8s						
WB0	Warramunga Arr	60.94	101	P	P	13 40 42.8	-1.0
WB0				IAmb	IAmb	13 40 51.7	
	comp=Z,4.4nm,1.1s						
WR8	Warramunga Arr	60.99	101	P	P	13 40 41.3	-2.9
WR8				IAmb	IAmb	13 40 52.4	
	comp=Z,7.2nm,1.2s						
AAK	Ala-Archa	64.13	5		P	13 41 02.9	-1.9
AAK				IAmb	IAmb	13 41 09.1	
	comp=Z,3.4nm,1.2s						
KKAR	Karatay Array	64.41	1		P	13 41 04.1	-2.3
QSPA	South Pole Qui	68.51	180	P	P	13 41 30.7	-1.8
QSPA	South Pole Qui	68.51	180	P	P	13 41 33.8	+1.2
	comp=Z,2.7nm,1.0s,baz=265,slow=1.4,SNR=6.1						
	comp=Z,2.7nm,1.0s						
MKAR	Makanchi Array	69.16	10		P	13 41 33.8	-2.8
MKAR	Makanchi Array	69.16	10	P	P	13 41 38.8	+2.2
	comp=Z,1.7nm,0.9s,baz=193,slow=5.0,SNR=10						
	comp=Z,1.7nm,0.9s						
BRTR	Keskin Array B	69.30	332	P	P	13 41 41.2	+3.5
	comp=Z,0.4nm,0.6s,baz=133,slow=5.4,SNR=4.1						
	comp=Z,0.4nm,0.6s						
AB31	Akbulak array	70.98	354	P	P	13 41 44.1	-3.6
AB31				IAmb	IAmb	13 41 58.0	
	comp=Z,4.6nm,1.1s						
ABKAR	Akbulak array	70.98	354		P	13 41 44.3	-3.4
ABKAR	Akbulak array	70.98	354	P	P	13 41 44.0	-3.7
ABKAR				IAmb	IAmb	13 41 58.0	
	comp=Z,4.6nm,1.1s						
KURBB	Kurchatov Arra	72.42	6	P	P	13 41 59.6	+3.3
	comp=Z,0.5nm,0.3s,baz=202,slow=6.8,SNR=6.1						
	comp=Z,0.5nm,0.3s						
BVAR	Borovoye Array	74.33	1	P	P	13 42 09.8	+2.3
	comp=Z,0.8nm,0.5s,baz=174,slow=4.5,SNR=5.3						
	comp=Z,0.8nm,0.5s						
ZALV	Zalesovo Beam	76.50	10	P	P	13 42 21.2	+1.3
	comp=Z,1.0nm,0.6s,baz=207,slow=6.2,SNR=6.2						
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	76.91	25	P	P	13 42 25.1	+2.5
	comp=Z,0.2nm,0.4s,baz=193,slow=5.9,SNR=3.8						
	comp=Z,0.2nm,0.4s						

TAP 18 13:44:12.0, 23°.61N×120°.74E, h13km, ML1.1, 3C-2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN5	Tsauling	0.06	261	⇑iP	Pg	13 44 15.0	+0.3
CHN5				iS	Sg	13 44 17.2	+0.7
ALS	Alishan	0.11	147	⇓iP	Pb	13 44 16.1	-0.1
ALS				S	Sb	13 44 19.1	+0.1
WHYT	Xinyi Township	0.14	50	⇑P	Pg	13 44 16.0	+0.4
WHYT				S	Sb	13 44 19.2	-0.3
WGK	Gukeng	0.18	296	iP	Pb	13 44 16.9	-0.2
WGK				S	Sb	13 44 21.0	+0.4
WDLH	Douliu	0.20	294	iP	Pb	13 44 17.5	0.0
WDLH				S	Sb	13 44 21.5	+0.2
WCKO	Fanlu	0.21	216	⇓P	Pb	13 44 17.2	-0.5
WCKO				S	Sb	13 44 20.8	-0.6
WDL	Douliou City	0.21	301	eP	Pb	13 44 17.4	-0.3
WJS	Zhushan	0.21	358	P	Pb	13 44 17.7	-0.1
WJS				S	Sb	13 44 21.7	+0.1
SSLB	Suanglung	0.27	48	⇑P	Pb	13 44 18.4	-0.3
SSLB				S	Sb	13 44 22.9	-0.3
CHN4	Tsaushan	0.29	208	P	Pb	13 44 19.0	0.0
CHN4				S	Sb	13 44 24.5	+0.8
CHY	Chiayi	0.31	250	P	Pb	13 44 19.0	-0.3
CHY				eS	Sb	13 44 23.9	-0.4
SMLT	Sun Moon Lake	0.31	28	P	Pb	13 44 19.4	-0.1
SMLT				S	Sb	13 44 24.9	+0.3
TYC	Yuchr	0.32	20	P	Pb	13 44 19.6	+0.1
TYC				eS	Sb	13 44 25.2	+0.7
TPUB	Ta-pu	0.32	198	P	Pb	13 44 19.4	-0.2
TPUB				S	Sb	13 44 24.4	-0.3
WTP	Ta-pu	0.38	198	eP	Pb	13 44 20.6	+0.1
WTP				S	Sb	13 44 26.1	-0.2
VWDT	VWDT	0.40	68	eP	Pb	13 44 21.2	+0.3
VWDT				eS	Sg	13 44 24.9	-0.4
TWK	Hsinying	0.41	214	eP	Pb	13 44 21.1	0.0
TWK				S	Sb	13 44 27.5	+0.3
STYH	Taoyuan	0.43	175	eP	Pg	13 44 19.6	-1.0
STYH				eS	Sg	13 44 26.2	-0.3
CHN1	Nanshi	0.46	205	iP	Pb	13 44 21.6	-0.4
CHN1				S	Sb	13 44 29.1	+0.4
WCS	Beigang Elemen	0.48	19	eP	Pb	13 44 22.5	+0.2
WCS				eS	Sg	13 44 27.4	-0.4

*THE **18** 13:46:57.3, 37°.62N×20°.50E, h7km, ML3.6/10, Error ellipse: s-maj=1.5km s-min=0.6km az=43.0*

*ATH **18** 13:46:57.3, 37°.65N×20°.52E, h14km±1km, ML3.5/18, Manual Solution by A.Agalos First location: 2019/04/18 13:47:49, This location: 2019/04/18 14:12:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

*PDG **18** 13:46:59.0±0.4, 37°.76N×20°.48E, h10km±4km, ML3.6/6, Error ellipse: s-maj=4.1km s-min=1.4km az=90.0*

*IDC **18** 13:46:59.8±15.0, 38°.19N×20°.81E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=297.1km s-min=50.5km az=39.0*

ISC 18 13:46:57.0±1.3, 37°.70N±0°.04×20°.49E±0°.04, h14km±7km, n73, σ1°.18/107, mb3.6/4, 3C-2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	Orthonies,Zaky	0.23	46	P	Pb	13 47 02.8	-0.1
ORTH				S	Sb	13 47 06.0	-0.9
LTHK	Lithakia	0.28	87	P	Pg	13 47 02.8	0.0
LTHK				S	Sg	13 47 06.5	-0.2
	27μm,0.3s						
LTHK	Lithakia	0.28	87	P	Pg	13 47 02.8	0.0
LTHK				S	Sg	13 47 06.1	-0.6
KYPS	Kipseli, Zakin	0.29	65	P	Pb	13 47 03.8	-0.2
KYPS				S	Sb	13 47 07.7	-1.1
PSDA	Pessada-Kefalo	0.42	10	P	Pb	13 47 06.7	+0.3
PSDA				S	Sn	13 47 14.3	-2.1
	18μm,0.2s						
PSDA	Pessada-Kefalo	0.42	10	P	Pb	13 47 06.6	+0.3
PSDA				S	Sn	13 47 13.1	-3.3
RTZL	Ratzakli, Kefa	0.44	30	P	Pb	13 47 06.7	+0.1
RTZL				S	Sn	13 47 14.0	-2.8
VLS	Valsamata	0.49	9	P	Pb	13 47 07.7	+0.3
VLS				S	Sn	13 47 16.2	-1.8
	12μm,0.3s						
VLS	Valsamata	0.49	9	P	Pb	13 47 07.8	+0.3
VLS				S	Sn	13 47 15.1	-2.9
LXR1	Lixouri, Cepha	0.51	355	P	Pn	13 47 09.0	-0.8
CLEM	Kyllini,Ilia,G	0.55	69	P	Pb	13 47 08.1	-0.3
CLEM				S	Sb	13 47 15.3	-0.8
DMLN	Damoulianata-K	0.55	350	P	Pn	13 47 09.3	-1.2
DMLN				S	Sn	13 47 19.3	-0.2
	16μm,0.3s						
DMLN	Damoulianata-K	0.55	350	P	Pn	13 47 09.4	-1.1
DMLN				S	Sn	13 47 17.5	-2.0
SMHA	Samh	0.57	13	P	Pb	13 47 08.3	-0.5
SMHA				S	Sn	13 47 17.1	-2.8
VSK1	VASILIKIADES	0.72	5	P	Pn	13 47 12.1	-0.6
VSK1				S	Sn	13 47 23.7	+0.1
FSK	Fiskardo	0.77	4	P	Pn	13 47 12.4	-1.0
FSK				S	Sn	13 47 25.2	+0.4
	5μm,0.2s						
FSK	Fiskardo	0.77	4	P	Pn	13 47 12.7	-0.7
FSK				S	Sn	13 47 23.9	-0.9
YRMI	Loutra Irminis	0.79	59	P	Pb	13 47 12.2	-0.4
YRMI				S	Sn	13 47 23.2	-2.2
RLS	Riolos of Patr	0.85	65	P	Pb	13 47 13.6	0.0
RLS				S	Sn	13 47 26.5	-0.4
	3μm,0.4s						
RLS	Riolos of Patr	0.85	65	P	Pg	13 47 13.2	-0.4
RLS				S	Sb	13 47 24.9	0.0
AXS	Araxos	0.86	54	P	Pb	13 47 13.3	-0.4
EVGI	Lefkada island	0.93	8	P	Pn	13 47 15.8	+0.1
EVGI				S	Sn	13 47 30.8	+1.9
	3μm,0.2s						
EVGI	Lefkada island	0.93	8	P	Pn	13 47 15.6	-0.1
EVGI				S	Sn	13 47 29.2	+0.3
ZARO	Zacharo	0.94	102	P	Pb	13 47 14.8	-0.3
AMT	Artemida-Makis	0.98	99	P	Pb	13 47 15.1	-0.7
DRO	Drossia	1.00	75	P	Pb	13 47 16.1	-0.1
DRO				S	Sn	13 47 31.8	+1.2
	3μm,0.5s						
DRO	Drossia	1.00	75	P	Pb	13 47 16.1	-0.1
NYDR	Nydri-Lefkada	1.03	9	P	Pn	13 47 17.4	+0.4
NYDR				S	Sn	13 47 33.6	+2.3
	1μm,0.5s						
NYDR	Nydri-Lefkada	1.03	9	P	Pn	13 47 17.2	+0.2
LKD2	Lefkada island	1.10	7	P	Pn	13 47 18.6	+0.5
LKD2				S	Sn	13 47 35.8	+2.7
LKD2	Lefkada island	1.10	7	P	Pn	13 47 18.5	+0.4
PATG	Patra B	1.12	61	P	Pg	13 47 18.3	-0.3
TSLK	Tsoukalades, L	1.14	7	P	Pg	13 47 19.4	+0.5
TSLK				S	Sn	13 47 37.5	+3.6
TSLK	Tsoukalades, L	1.14	7	P	Pg	13 47 19.2	+0.3
PVO	Paravola	1.23	41	P	Pg	13 47 20.4	-0.3
ITM	Ithomi	1.25	114	P	Pn	13 47 19.9	-0.2
ITM				S	Sn	13 47 37.7	+0.9
	552nm,0.5s						
ITM	Ithomi	1.25	114	P	Pn	13 47 19.6	-0.5
EFP	Efpalio	1.34	56	P	Pb	13 47 21.8	0.0
EFP				S	Sg	13 47 42.6	+2.5
EFP	Efpalio	1.34	56	P	Pb	13 47 21.3	-0.6
KLV	Kalavryta, Ach	1.36	75	P	Pn	13 47 21.8	+0.1
KLV	Kalavryta, Ach	1.36	75	P	Pn	13 47 21.6	-0.1
SERG	Sergoula	1.43	59	P	Pb	13 47 22.8	-0.7
ANX	Ano Chora	1.44	51	P	Pg	13 47 23.8	-0.9
ANX				S	Sg	13 47 45.7	+2.2
ANX	Ano Chora	1.44	51	P	Pb	13 47 23.4	-0.3
GUR	Goura	1.49	80	P	Pb	13 47 24.1	-0.4
GUR	Goura	1.49	80	P	Pn	13 47 23.8	+0.4
VLX	Vlachokerasia	1.54	102	P	Pn	13 47 24.2	+0.1
EVR	Evrytania	1.60	40	P	Pg	13 47 28.2	+0.4
EVR	Evrytania	1.60	40	P	Pb	13 47 25.8	-0.6
TETR	Tetrakomo, Epi	1.76	20	P	Pb	13 47 28.4	-0.7
IGT	Igoumenitsa	1.84	356	P	Pb	13 47 29.2	-1.2
MAKR	Makrakomi, Fth	1.84	44	P	Pb	13 47 29.9	-0.7
AGG	Agios Georgios	1.96	47	P	Pg	13 47 33.3	-1.4
AXAR	Agios Charalam	2.02	57	P	Pb	13 47 33.9	+0.4
KEK	Kerkira	2.09	345	P	Pb	13 47 35.3	+0.7
THL	Klokotos Trika	2.22	32	P	Pb	13 47 37.0	+0.1
THL	Klokotos Trika	2.22	32	P	Pn	13 47 34.5	+1.1
VIL2	Platees	2.26	76	P	Pn	13 47 34.6	+0.6
VILL	Villia	2.28	77	P	Pb	13 47 36.6	-1.4
TYRN	Tyrnavos	2.43	34	P	Pb	13 47 39.5	-1.0
DION	Dionisos Attik	2.75	81	P	Pn	13 47 42.6	+1.9
SCTE	Santa Cesarea	2.85	327	P	Pn	13 47 42.9	+0.8
OHR	Ohrid	3.42	4	iPn	Pb	13 47 54.7	-2.7
ULC	Ulcinj	4.37	348	⇓iPn	Pn	13 48 03.9	+0.9
ULC				eSn	Sn	13 48 53.1	-0.6
DRME	Dracevica, Mon	4.60	348	ePn	Pn	13 48 07.5	+1.4
DRME				eSn	Sn	13 48 58.4	-0.9
BUM	Brajici-Budva	4.76	346	⇑iPn	Pn	13 48 10.0	+1.6
BUM				i Sn	Sn	13 49 02.6	-0.8
HCY	Herceg Novi	4.99	343	⇑iPn	Pn	13 48 11.3	-0.2
HCY				eSn	Sn	13 49 08.6	-0.3
CEME	Cevo	4.99	347	⇓iPn	Pn	13 48 12.5	+0.9
CEME				eSn	Sn	13 49 08.2	-0.9
IVA	Berane	5.19	355	⇑iPn	Pn	13 48 16.0	+1.7
IVA				i Sn	Sn	13 49 12.8	-1.3
HFS	Hagfors	22.87	351	P	P	13 51 59.7	-0.1
	1.2nm,0.5s,baz=163,slow=11,SNR=16						
	1.2nm,0.5s						
FINES	FINESS Array B	24.03	7	P	P	13 52 11.6	+0.4
	0.8nm,0.6s,baz=166,slow=12,SNR=6.1						
	0.8nm,0.6s						
ARCES	ARCESS Array B	32.02	3	P	P	13 53 22.4	-0.2
	2.4nm,0.9s,baz=187,slow=8.9,SNR=1.9						
	2.4nm,0.9s						
MKAR	Makanchi Array	45.58	58	P	P	13 55 17.5	+1.0
	0.2nm,0.6s,baz=275,slow=8.1,SNR=1.8						
	0.2nm,0.6s						

KRSC 18 13:50:13.6±1.8, 50°.57N×157°.51E, h48km±25km, MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.89	278	eP	Pn	13 50 30.6	+0.9
SKR				eS	Sn	13 50 41.4	-0.2
PAU	Pauzhetka	1.00	334	eP	Pn	13 50 32.8	+1.6
PAU				eS	Sn	13 50 44.8	+0.7
KDTR	Khodutka, Kamc	1.29	16	eP	Pn	13 50 37.5	+2.4
KDTR				eS	Sn	13 50 53.3	+2.1
RUS	Russkaya	1.96	18	eP	Pn	13 50 46.8	+2.4
RUS				eS	Sn	13 51 09.2	+1.5
GRL	Gorelyy	2.01	10	eP	Pn	13 50 48.1	+2.9
GRL				eS	Sn	13 51 11.9	+2.7
KRMR	Karymshinskiy	2.29	10	eP	Pn	13 50 52.2	+3.3
KRMR				eS	Sn	13 51 20.2	+4.3
APC	Apacha	2.36	355	eP	Pn	13 50 52.3	+2.4
PET	Petropavlovsk	2.56	16	eP	Pn	13 50 55.3	+2.9
PET				eS	Sn	13 51 25.1	+2.8
DALK	Dalny	2.58	17	eP	Pn	13 50 56.1	+3.3
DALK				eS	Sn	13 51 26.1	+3.2
INSR	Institute	2.59	15	e

*IDC **18** 13:58:15.7±0.7,21°.79S×68°.99E,h0km,mb4.1/13, mbtmp4.1/13,MS3.9/19,Error ellipse: s-maj=21.2km s-min=19.2km az=33.0*
*NEIC **18** 13:58:17.7±2.8,21°.8S±0°.1×68°.9E±0°.1,h10km±1km, mb4.5/15,Error ellipse: s-maj=25.2km s-min=16.9km az=180.0*
*GCMT **18** 13:58:19.7±0.4,21°.90S±0°.03×68°.99E±0°.03,h20km±1km, MW4.9/69,Moment Tensor Solution. s17,c17; s69,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.83±.22; Mθθ1.31±.15; Mφφ1.52±.14; Mrθ-1.15±.30; Mθφ-1.19±.07; Mφr-0.01±.22; Best double couple: M0:2.93600×10^16 NP1:φs330.00000°,δ39.00000°,λ-68.00000°. NP2: φs123.00000°,δ55.00000°,λ-107.00000°. Principal axes: T 2.7230, Plg8.0000°, Azm225.0000°; N 0.4260, Plg14.0000°, Azm133.0000°; P -3.1490, Plg74.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 13:58:18.1±0.6,21°.9S±0°.1×68°.91E±0°.08,h19km,n53, σ1§21/32,mb4.3/19,MS3.9/19,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**12.27**	**271**	Pn	**Pn**	**14 01 11.4**	**-0.6**
H08S1	**Diego Carcia H**	**14.56**	**14**	T	T	14 16 22.6	
baz=194,slow=76,SNR=158							
H08S2	**Diego Garcia H**	**14.56**	**14**	T	T	14 16 25.0	
baz=194,slow=76,SNR=158							
H08S3	**Diego Garcia H**	**14.57**	**14**	T	T	14 16 28.3	
baz=194,slow=76,SNR=175							
ABPO	**Ambohimpanom**	**20.51**	**274**	P	**P**	**14 02 55.5**	**0.0**
VOI	**Vohitsoka**	**20.52**	**266**	P	**P**	**14 02 51.7**	**-3.9**
H04N2	**CROZET ISLANDS**	**27.95**	**206**	T	T	14 33 33.0	
baz=37,slow=75,SNR=62							
H04N1	**CROZET ISLANDS**	**27.96**	**206**	T	T	14 33 42.1	
baz=37,slow=75,SNR=61							
H04N3	**CROZET ISLANDS**	**27.97**	**206**	T	T	14 33 32.6	
baz=37,slow=75,SNR=54							
PALK	**Pallekele**	**31.19**	**23**	LR	LR	14 14 03.5	
comp=Z,323nm,18.9s,baz=204,slow=30							
KMBO	**Kilima Mbogo**	**37.08**	**300**		**P**	**14 05 25.9**	**-1.8**
KMBO				IAmb	IAmb	14 05 32.8	
comp=Z,4.5nm,1.1s							
KMBO	**Kilima Mbogo**	**37.08**	**300**	P	**P**	**14 05 29.1**	**+1.4**
comp=Z,1.0nm,0.3s,baz=74,slow=4.6,SNR=7.1							
KMBO				LR	LR	14 17 24.1	
comp=Z,113nm,19.0s,baz=94,slow=31							
comp=Z,1.0nm,0.3s							
MNAI	**Manna**	**37.30**	**67**	P	**P**	**14 05 28.0**	**-1.4**
PSI	**Prapat**	**38.24**	**54**	LR	LR	14 17 28.0	
comp=Z,240nm,20.4s,baz=228,slow=30							
LSZ	**Lusaka**	**39.06**	**273**	LR	LR	14 19 50.0	
comp=Z,278nm,20.3s,baz=134,slow=33							
LBTB	**Lobatse**	**39.74**	**257**	LR	LR	14 19 09.6	
comp=Z,239nm,21.8s,baz=102,slow=32							
BOSA	**Boshof**	**39.88**	**251**	P	**P**	**14 05 52.0**	**+0.9**
comp=Z,4.0nm,0.9s,baz=96,slow=9.9,SNR=4.2							
BOSA				LR	LR	14 19 14.5	
comp=Z,245nm,20.1s,baz=50,slow=32							
comp=Z,4.0nm,0.9s							
LEM	**Lembang**	**40.23**	**74**	LR	LR	14 18 30.5	
comp=Z,295nm,20.2s,baz=180,slow=30							
MAKGR	**Makgori**	**40.40**	**255**	P	**P**	**14 05 55.9**	**+0.6**
LODK	**Lodwar**	**41.34**	**303**	P	**P**	**14 06 03.9**	**+0.8**
MORW	**Morawa**	**42.93**	**110**	P	**P**	**14 06 14.3**	**-1.6**
MORW				IAmb	IAmb	14 06 20.1	
comp=Z,5.7nm,0.9s							
SUR	**Sutherland**	**43.75**	**246**	P	**P**	**14 06 23.1**	**+0.4**
SUR	**Sutherland**	**43.75**	**246**	LR	LR	14 21 15.1	
comp=Z,157nm,21.3s,baz=103,slow=32							
NWAO	**Narrogin (SRO)**	**43.96**	**115**	LR	LR	14 20 35.7	
comp=Z,180nm,20.8s,baz=38,slow=30							
MAW	**Mawson**	**45.89**	**183**	LR	LR	14 23 19.4	
comp=Z,83nm,19.5s,baz=336,slow=33							
TSUM	**Tsumeb**	**47.96**	**263**	LR	LR	14 24 24.9	
comp=Z,352nm,21.3s,baz=149,slow=33							
BRDH	**Bariadhala**	**49.51**	**28**	LR	LR	14 28 25.4	
comp=Z,246nm,18.4s,baz=188,slow=37							
CMAR	**Chiang Mai Arr**	**49.70**	**39**	P	**P**	**14 07 09.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**49.70**	**39**	P	**P**	**14 07 08.7**	**-0.5**
comp=Z,0.6nm,0.4s,baz=235,slow=9.1,SNR=7.1							
CMAR				LR	LR	14 26 54.7	
comp=Z,112nm,18.1s,baz=200,slow=35							
comp=Z,0.6nm,0.4s							
KAPI	**Kappang**	**51.94**	**79**	LR	LR	14 25 35.9	
comp=Z,104nm,21.4s,baz=296,slow=32							
KBL	**Kabul**	**56.10**	**0**	P	**P**	**14 07 56.6**	**+0.2**
KBL				IAmb	IAmb	14 08 04.9	
comp=Z,5.7nm,0.9s							
ASAR	**Alice Springs**	**59.48**	**105**	P	**P**	**14 08 20.4**	**+0.1**
comp=Z,1.8nm,0.7s,baz=262,slow=6.3,SNR=28							
comp=Z,1.8nm,0.7s							
WRA	**Warramunga Arr**	**60.73**	**101**	P	**P**	**14 08 29.3**	**+0.3**
comp=Z,1.9nm,0.7s,baz=255,slow=6.7,SNR=11							
comp=Z,1.9nm,0.7s							
WR8	**Warramunga Arr**	**60.87**	**101**	P	**P**	**14 08 31.0**	**+1.1**
WR8				IAmb	IAmb	14 08 44.5	
comp=Z,5.0nm,1.1s							
ASF	**Jabal al Asfar**	**61.85**	**329**	LR	LR	14 31 31.4	
comp=Z,18nm,21.2s,baz=242,slow=32							
AAK	**Ala-Archa**	**64.39**	**5**	P	**P**	**14 08 53.7**	**+0.8**
AAK				IAmb	IAmb	14 09 00.8	
comp=Z,3.0nm,1.1s							
AAK	**Ala-Archa**	**64.39**	**5**	LR	LR	14 34 40.9	
comp=Z,83nm,21.7s,baz=180,slow=34							
KK31	**Karatay Array**	**64.67**	**1**	P	**P**	**14 08 55.4**	**+0.8**
KK31				IAmb	IAmb	14 09 03.7	
comp=Z,3.9nm,1.0s							
KKAR	**Karatay Array**	**64.67**	**1**	P	**P**	**14 08 56.7**	**+2.1**
GNI	**Garni**	**65.69**	**340**	LR	LR	14 35 23.5	
comp=Z,37nm,19.7s,baz=124,slow=34							
QSPA	**South Pole Qui**	**68.24**	**180**	P	**P**	**14 09 18.8**	**+1.3**
comp=Z,1.5nm,0.7s,baz=207,slow=2.2,SNR=11							
comp=Z,1.5nm,0.7s							
MKAR	**Makanchi Array**	**69.41**	**10**	P	**P**	**14 09 24.0**	**-0.7**
MKAR	**Makanchi Array**	**69.41**	**10**	P	**P**	**14 09 25.0**	**+0.4**
comp=Z,1.1nm,0.8s,baz=186,slow=4.9,SNR=8.3							
MKAR				LR	LR	14 37 56.2	
comp=Z,70nm,21.0s,baz=176,slow=34							
comp=Z,1.1nm,0.8s							
KBZ	**Khabaz**	**69.51**	**340**	LR	LR	14 37 13.0	
comp=Z,36nm,20.1s,baz=164,slow=34							
BRTR	**Keskin Array B**	**69.57**	**332**	P	**P**	**14 09 24.9**	**-1.0**
BRTR	**Keskin Array B**	**69.57**	**332**	P	**P**	**14 09 25.7**	**-0.3**
comp=Z,1.4nm,0.8s,baz=148,slow=7.3,SNR=6.5							
comp=Z,1.4nm,0.8s							
AB31	**Akbulak array**	**71.25**	**354**	P	**P**	**14 09 35.3**	**-0.6**
AB31				IAmb	IAmb	14 09 37.7	
comp=Z,5.0nm,0.9s							
ABKAR	**Akbulak array**	**71.25**	**354**	P	**P**	**14 09 35.3**	**-0.6**
KURBB	**Kurchatov Arra**	**72.67**	**6**	P	**P**	**14 09 44.4**	**+0.1**
comp=Z,1.2nm,0.2s,baz=204,slow=7.0,SNR=6.0							
comp=Z,1.2nm,0.2s							
BVAR	**Borovoye Array**	**74.59**	**1**	P	**P**	**14 09 55.3**	**-0.2**
comp=Z,1.1nm,0.8s,baz=152,slow=6.7,SNR=5.5							
comp=Z,1.1nm,0.8s							
ZALV	**Zalesovo Beam**	**76.75**	**10**	P	**P**	**14 10 08.8**	**+0.9**
comp=Z,0.5nm,0.3s,baz=212,slow=5.3,SNR=4.4							
comp=Z,0.5nm,0.3s							
SONM	**Songino Array**	**77.12**	**25**	P	**P**	**14 10 11.2**	**+0.9**
comp=Z,0.4nm,0.6s,baz=232,slow=5.3,SNR=4.0							
comp=Z,0.4nm,0.6s							
DBIC	**Dimbokro**	**77.57**	**282**	P	**P**	**14 10 14.8**	**+1.4**
comp=Z,3.1nm,0.9s,baz=126,slow=7.4,SNR=3.3							
comp=Z,3.1nm,0.9s							

DJA 18 13:59:18.2±0.6,10°.S±7°.×12°.0E±°,h44km±8km,M3.9/8, mb4.2/1,MLv3.7/8,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.41**	**17**	P	Pn	13 59 28.1	+0.1
WSI				S	Sn	13 59 38.8	+3.9
WBSI	**Waikabubak, Su**	**0.88**	**298**	P	Pn	13 59 33.4	-0.9
WBSI				S	Sn	13 59 47.8	+1.8
EDFI	**Ende, Flores**	**1.98**	**49**	P	Pn	13 59 48.8	-0.5
EDFI				S	Sn	14 00 12.9	-0.1
MMRI	**Maumere**	**2.48**	**55**	P	Pn	13 59 55.6	-0.5
MMRI				S	Sn	14 00 25.4	+0.3
PLAI	**Plampang**	**2.67**	**297**	P	Pn	13 59 58.3	-0.4
BSSI	**Bau Bau, Buton**	**3.90**	**5**	P	Pn	14 00 10.8	-4.9
SOEI	**Soe**	**4.04**	**86**	P	Pn	14 00 18.7	+1.0
BKSI	**Bulukumba**	**4.71**	**359**	P	Pn	14 00 28.9	+2.2
BBSI	**Bau Bau**	**5.12**	**28**	P	Pn	14 00 31.8	-0.7

TAP 18 14:25:17.6,24°.52N×121°.82E,h10km±1km,ML1.0,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.06**	**23**	*i* P	Pg	14 25 19.4	-0.2
ESAO				S	Sg	14 25 21.0	0.0
EWUT	**Wuta**	**0.09**	**206**	*e*P	Pg	14 25 21.2	+1.3
EWUT				*i* S	Sg	14 25 21.9	+0.4
TWC	**Suao**	**0.09**	**18**	P	Pg	14 25 19.9	0.0
TWC				S	Sg	14 25 21.7	0.0
ENA	**Nanau**	**0.12**	**217**	*e*S	Sg	14 25 23.6	+1.2
NDS	**Dongshan**	**0.14**	**320**	P	Pg	14 25 19.9	-0.9
NDS				S	Sg	14 25 22.6	-0.5
TWE	**Neicheng**	**0.24**	**325**	P	Pg	14 25 22.5	0.0
TWE				*i* S	Sg	14 25 25.9	+0.1
ENTT	**Nioudou**	**0.26**	**297**	*e*P	Pg	14 25 22.9	+0.1
ENTT				*i* S	Sg	14 25 26.5	+0.2
LATG	**Datong**	**0.27**	**273**	*i* P	Pg	14 25 22.6	-0.4
LATG				S	Sg	14 25 26.8	+0.2
FUSB	**Fushanzhiwuyua**	**0.32**	**318**	*e*P	Pg	14 25 24.1	+0.2
NWLT	**Wulai**	**0.38**	**311**	P	Pg	14 25 25.1	0.0
NWLT				*i* S	Sg	14 25 30.7	+0.5
NACB	**Ninganchiao**	**0.40**	**211**	P	Pg	14 25 25.6	+0.1
NACB				*e*S	Sg	14 25 30.3	-0.5
NNSB	**Datong**	**0.41**	**257**	P	Pg	14 25 25.7	+0.1
YHNB	**Yeheng**	**0.43**	**290**	*e*P	Pg	14 25 26.5	+0.5
ETLH	**Xiulin Townshi**	**0.44**	**224**	*i* P	Pg	14 25 26.0	-0.2
NSK	**Sanguang**	**0.45**	**290**	*e*P	Pg	14 25 26.6	+0.3
NSK				S	Sg	14 25 32.1	-0.1
TIPB	**Shuangxi**	**0.45**	**1**	*e*P	Pb	14 25 27.0	-0.6
TIPB				*e*S	Sg	14 25 32.2	0.0

*IDC **18** 14:26:05.7±1.7,1°.64N×126°.19E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=172.5km s-min=21.7km az=66.0*
*DJA **18** 14:26:10.9±0.3,2°.N±3°.×12°.6E±°,h10km,M3.6/11,mb3.6/2, MLv3.6/11*

ISC 18 14:26:12.0±1.3,1°.8N±0°.1×126°.55E±0°.07,h47km,n9, σ1§10/11,mb3.5/4,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.32**	**142**	P	**Pn**	**14 26 34.7**	**+0.7**
TNTI				S	**Sn**	**14 26 50.5**	**+0.1**
KMSI	**Cibinong**	**2.85**	**244**	P	**Pn**	**14 26 55.6**	**+0.6**
KMSI				S	**Sn**	**14 27 26.9**	**-1.3**
SANI	**Sanana**	**3.88**	**188**	P	**Pn**	**14 27 10.1**	**+0.9**
LUWI	**Luwuk**	**4.73**	**233**	P	**Pn**	**14 27 22.5**	**+1.7**
NLAI	**Namlea**	**5.05**	**174**	P	**Pn**	**14 27 25.7**	**+0.5**
WRA	**Warramunga Arr**	**22.93**	**161**	P	**P**	**14 31 10.7**	**-1.6**
1.1nm,0.6s,baz=339,slow=11,SNR=15							
1.1nm,0.6s							
ASAR	**Alice Springs**	**26.32**	**165**	P	**P**	**14 31 43.1**	**-0.4**
0.2nm,0.4s,baz=341,slow=9.1,SNR=7.4							
0.2nm,0.4s							
MKAR	**Makanchi Array**	**59.02**	**326**	P	**P**	**14 36 06.6**	**-0.5**
0.2nm,0.4s,baz=122,slow=7.9,SNR=5.7							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**63.25**	**328**	P	**P**	**14 36 36.1**	**+0.5**
0.6nm,0.2s,baz=127,slow=6.2,SNR=4.2							
0.6nm,0.2s							

GCG 18 14:29:50.8±0.3,14°.26N×91°.83W,h92km±9km,MD4.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG5	**El Palmar, Qui**	**0.49**	**73**	*e*P	Pn	14 30 06.1	+0.3
STG0	**El Palmar, Qui**	**0.50**	**71**	*e*P	Pn	14 30 06.6	+0.6
STG8	**El Palmar, Qui**	**0.50**	**68**	*e*P	Pn	14 30 07.0	+0.9
STG8				*e*S	Sn	14 30 19.7	+2.2
FG8	**Yepocapa, Chim**	**1.23**	**90**	*e*P	Pn	14 30 10.1	-3.4
FG16	**Alotenango, Sa**	**1.28**	**89**	*e*P	Pn	14 30 11.3	-2.9

*CATAC **18** 14:44:57.8±0.6,12°.N±4°.×9°.0W±°,h5km,M4.3/7,MLv4.3/7, Error ellipse: s-maj=8.6km s-min=7.4km az=63.4, confirmed*
*IDC **18** 14:45:00.5±2.2,13°.22N×88°.82W,h0km,mb3.8/5, mbtmp3.8/6,ML3.4/1,Error ellipse: s-maj=98.3km s-min=29.1km az=46.0*
*SNET **18** 14:45:02.5±3.3,12°.54N×89°.42W,h11km,ML3.8*
*GCG **18** 14:45:04.9±1.8,12°.71N×89°.51W,h24km±20km,MD4.6*

ISC 18 14:44:59.7±1.7,12°.51N±0°.06×89°.44W±0°.04,h7km±9km, n63,σ1§62/68,mb3.9/5,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.98**	**7**	*e*P	**Pn**	**14 45 19.8**	**0.0**
LALI				*e*S	**Sn**	**14 45 36.0**	**+2.1**
LALI	**Alcalda de L**	**0.98**	**7**	*e*P	**Pn**	**14 45 19.9**	**0.0**
LALI	**Alcalda de L**	**0.98**	**7**	P	**Pn**	**14 45 20.0**	**+0.1**
LALI	**Alcalda de L**	**0.98**	**7**	S	**Sn**	**14 45 35.2**	**+1.2**
JAYA	**Jayaque - finc**	**1.13**	**360**	*e*P	**Pn**	**14 45 22.4**	**+0.2**
JAYA	**Jayaque - finc**	**1.13**	**360**	*e*P	**Pn**	**14 45 21.8**	**-0.4**
JAYA				*e*S	**Sb**	**14 45 34.3**	**-2.5**
JAYA	**Jayaque - finc**	**1.13**	**360**	P	**Pn**	**14 45 22.6**	**+0.5**
JAYA	**Jayaque - finc**	**1.13**	**360**	S	**Sn**	**14 45 39.6**	**+1.5**
LOMA	**Loma Larga**	**1.15**	**13**	*e*P	**Pn**	**14 45 22.3**	**-0.2**
LOMA	**Loma Larga**	**1.15**	**13**	P	**Pn**	**14 45 22.7**	**+0.2**
LOMA	**Loma Larga**	**1.15**	**13**	S	**Sn**	**14 45 41.0**	**+2.5**
LFRS	**El Faro**	**1.16**	**19**	*e*P	**Pn**	**14 45 22.2**	**-0.4**
PMON	**Piamonte**	**1.20**	**6**	P	**Pn**	**14 45 23.6**	**+0.5**
PMON	**Piamonte**	**1.20**	**6**	S	**Sn**	**14 45 41.8**	**+2.1**
TECO	**Alcaldia de Te**	**1.21**	**32**	P	**Pn**	**14 45 24.6**	**+1.5**
TECO	**Alcaldia de Te**	**1.21**	**32**	S	**Sn**	**14 45 42.5**	**+2.8**
BOQS	**Boqueron**	**1.22**	**7**	*e*P	**Pn**	**14 45 23.7**	**+0.2**
COEG	**Centro de Oper**	**1.23**	**26**	*e*P	**Pn**	**14 45 23.5**	**+0.1**
COEG	**Centro de Oper**	**1.23**	**26**	P	**Pn**	**14 45 23.3**	**-0.2**
COEG	**Centro de Oper**	**1.23**	**26**	S	**Sn**	**14 45 43.7**	**+3.3**
LFU	**La Fuente**	**1.27**	**15**	*e*P	**Pn**	**14 45 24.3**	**+0.3**
PAVA	**Las Pavas**	**1.29**	**22**	P	**Pn**	**14 45 24.6**	**+0.2**
PAVA	**Las Pavas**	**1.29**	**22**	S	**Sn**	**14 45 46.3**	**+4.4**
CEVE	**Cerro Verde**	**1.32**	**352**	*e*P	**Pn**	**14 45 25.2**	**+0.3**
CEVE	**Cerro Verde**	**1.32**	**352**	P	**Pn**	**14 45 25.1**	**+0.3**
CEVE	**Cerro Verde**	**1.32**	**352**	S	**Sn**	**14 45 46.4**	**+3.7**
SCLA	**Alcaldia de Sa**	**1.37**	**30**	P	**Pg**	**14 45 25.7**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.37**	**30**	S	**Sn**	**14 45 46.1**	**+2.3**
PQSS	**Presa 15 de Se**	**1.40**	**38**	P	**Pn**	**14 45 25.6**	**-0.1**
PQSS	**Presa 15 de Se**	**1.40**	**38**	S	**Sn**	**14 45 47.1**	**+2.7**
PACA	**Pacayal**	**1.45**	**49**	P	**Pb**	**14 45 27.0**	**-0.1**
PACA	**Pacayal**	**1.45**	**49**	S	**Sg**	**14 45 49.9**	**+3.5**
RANC	**El Ranchito**	**1.45**	**51**	P	**Pb**	**14 45 27.1**	**-0.1**
RANC	**El Ranchito**	**1.45**	**51**	S	**Sg**	**14 45 49.1**	**+2.7**
UNIC	**Universidad Ca**	**1.46**	**356**	P	**Pg**	**14 45 27.1**	**-0.8**
UNIC	**Universidad Ca**	**1.46**	**356**	S	**Sg**	**14 45 47.9**	**+1.0**
BLLM	**Bellamira**	**1.49**	**52**	*e*P	**Pn**	**14 45 26.6**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.54**	**348**	P	**Pg**	**14 45 29.0**	**-0.3**
SLOZ	**Alcaldia de Sa**	**1.54**	**348**	S	**Sg**	**14 45 51.1**	**+1.8**
LLGN	**La Laguna**	**1.71**	**16**	P	**Pg**	**14 45 31.9**	**-0.6**
LLGN	**La Laguna**	**1.71**	**16**	S	**Sg**	**14 45 57.0**	**+2.2**
CAHU	**Cacacuatique**	**1.73**	**44**	*e*P	**Pn**	**14 45 30.8**	**+0.3**
CNCH	**Conchagua**	**1.74**	**64**	*e*P	**Pn**	**14 45 31.4**	**+0.8**
CNCH	**Conchagua**	**1.74**	**64**	P	**Pn**	**14 45 31.7**	**+1.1**
CNCH	**Conchagua**	**1.74**	**64**	S	**Sg**	**14 45 54.9**	**-1.0**
MTO3	**Montecristo**	**1.88**	**2**	*e*P	**Pb**	**14 45 33.5**	**-1.0**
MTO3				*e*S	**Sg**	**14 46 01.2**	**+1.1**
MTO3	**Montecristo**	**1.88**	**2**	*e*P	**Pb**	**14 45 33.2**	**-1.2**
MTO3	**Montecristo**	**1.88**	**2**	P	**Pb**	**14 45 33.6**	**-1.0**
MTO3	**Montecristo**	**1.88**	**2**	S	**Sg**	**14 45 59.8**	**-0.3**
CSGN	**Cosiguina Volc**	**1.90**	**76**	P	**Pn**	**14 45 32.8**	**+0.2**
CSGN				S	**Sg**	**14 46 00.5**	**-0.2**
ESQI	**Esquipulas**	**2.04**	**3**	*e*P	**Pb**	**14 45 36.3**	**-0.8**
ESQI				*e*S	**Sg**	**14 46 05.8**	**+0.6**
ESQI	**Esquipulas**	**2.04**	**3**	P	**Pb**	**14 45 36.9**	**-0.2**
ESQI	**Esquipulas**	**2.04**	**3**	S	**Sg**	**14 46 04.9**	**-0.3**
MARCA	**Marcala la Paz**	**2.13**	**40**	*e*P	**Pb**	**14 45 37.3**	**-1.6**
STG5	**El Palmar, Qui**	**2.64**	**316**	*e*P	**Pb**	**14 45 48.7**	**+1.3**
STG8	**El Palmar, Qui**	**2.67**	**316**	*e*P	**Pb**	**14 45 49.3**	**+1.2**
JTS	**Las Juntas de**	**4.93**	**116**	Pn	**Pn**	**14 46 15.4**	**+1.1**
1.8nm,0.3s,baz=303,slow=18,SNR=6.4							
JTS				Lg	Lg	14 47 40.1	
0.8nm,0.3s,baz=322,slow=21,SNR=9.4							
4.0nm,0.3s							
TXAR	**Lajitas Array**	**21.33**	**324**	P	**P**	**14 49 49.2**	**+1.7**
2.5nm,0.7s,baz=141,slow=10.0,SNR=16							
2.5nm,0.7s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**36.39**	**320**	P	**P**	**14 52 06.2**	**+1.1**
0.7nm,0.8s,baz=150,slow=9.8,SNR=4.6							
0.7nm,0.8s							
ULM	**Lac du Bonnet**	**38.00**	**353**	P	**P**	**14 52 15.4**	**-2.9**
1.7nm,0.5s,baz=164,slow=9.9,SNR=2.5							
1.7nm,0.5s							
YKA	**Yellowknife Ar**	**53.05**	**346**	P	**P**	**14 54 15.6**	**-1.8**
1.4nm,1.0s,baz=148,slow=7.6,SNR=12							
1.4nm,1.0s							
ILAR	**Eielson Array**	**65.18**	**337**	P	**P**	**14 55 38.8**	**-2.6**
0.9nm,1.0s,baz=130,slow=3.1,SNR=6.1							
0.9nm,1.0s							
CMAR	**Chiang Mai Arr**	**148.13**	**345**	PKPbc	**PKPdf**	**15 04 46.5**	**+2.3**
2.0nm,0.8s,baz=352,slow=3.2,SNR=8.1							

*IDC **18** 14:46:00.5±0.4,51°.16S×139°.08E,h0km,mb5.4/13, mbtmp5.4/14,ML5.1/1,MS6.1/45,Error ellipse: s-maj=24.0km s-min=13.8km az=86.0*
*BGR **18** 14:46:00.8,52°.58S×141°.19E,h10km,Ms6.3,Hypocentre not reviewed by the ISC*
*ISC-PP **18** 14:46:01.51°.13S×139°.32E,h12km±3km,Mwppsm6.3, Moment Tensor Solution. s25 Moment tensor: Scale 10^18Nm; Mrr-0.22±.12; Mθθ0.21±.22; Mφφ0.01±.16; Mrθ0.55±.12; Mθφ0.04±.12; Mφr0.38±.12; Fault plane solution: M0:4.03000×10^18 NP1:φs13.40000°,δ32.10000°, λ201.60000°. NP2:φs264.90000°,δ78.70000°, λ-59.70000°.*
*MOS **18** 14:46:01.4±1.3,50°.96S×139°.42E,h8km,mb5.8/29, MS6.1/32 Error ellipse: s-maj=17.6km s-min=6.8km az=89.7*
*NEIC **18** 14:46:01.7±2.8,51°.13S±0°.09×139°.3E±0°.2,h10km±1km, mb6.0/96,Ms_20 6.3/852,Mwb6.2/49,Mww6.3/40,Error ellipse: s-maj=17.1km s-min=13.8km az=114.0,Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr-0.58; Mθθ0.49; Mφφ0.09; Mrθ-0.35; Mθφ-2.77; Mφr0.31; Fault plane solution: M0:2.86000×10^18 NP1: φs267.73000°,δ85.14000°,λ174.69000°. NP2: φs358.18000°,δ84.71000°,λ4.88000°. Principal axes: T 3.1295, Plg7.0000°, Azm223.0000°; N -0.6423, Plg83.0000°, Azm45.0000°; P -2.4872, Plg0.0000°, Azm313.0000°;*
*IPGP **18** 14:46:01.0,51°.06S×139°.49E,h10km,Mw6.4,Fault plane solution: NP1:φs357.00000°,δ83.00000°,λ8.00000°. NP2:φs266.00000°,δ82.00000°,λ173.00000°.*
*NEIC **18** 14:46:02.5,51°.06S×139°.41E,h10km*
*NEIC **18** 14:46:02.5,51°.08S×139°.43E,h12km*
*BJI **18** 14:46:02.0,51°.05S×139°.55E,h10km,mB6.0/66,mb5.5/71, Ms6.3/91,Ms7 6.2/89*
*NEIC **18** 14:46:02.5,51°.08S×139°.00E,h12km,Moment Tensor Solution. Duration: 8§2 Moment tensor: Scale 10^18Nm; Mrr-0.16; Mθθ0.25; Mφφ-0.10; Mrθ1.25; Mθφ-3.23; Mφr0.59; Fault plane solution: M0:3.51000×10^18 NP1: φs176.74000°,δ69.19000°,λ-8.60000°. NP2:φs269.82000°, δ81.97000°,λ-158.97000°. Principal axes: T 3.3897, Plg9.0000°, Azm42.0000°; N 0.2470, Plg68.0000°, Azm290.0000°; P -3.6367, Plg20.0000°, Azm135.0000°;*
*GCMT **18** 14:46:05.7±0.0,51°.10S×139°.35E,h12km,MW6.3/169, Moment Tensor Solution. s169,c413; s167,c654; Duration: 3§6 Moment tensor: Scale 10^18Nm; Mrr-0.17±.01; Mθθ0.42±.02; Mφφ-0.25±.01; Mrθ-0.57±.04; Mθφ-3.93±.01; Mφr-0.03±.04; Best double couple: M0:3.98600×10^18 NP1:φs358.00000°,δ82.00000°, λ-1.00000°. NP2:φs88.00000°,δ89.00000°,λ-172.00000°. Principal axes: T 4.0660, Plg5.0000°, Azm222.0000°; N -0.1590, Plg82.0000°, Azm91.0000°; P -3.9060, Plg6.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 18 14:46:03.1±0.4,51°.21S±0°.04×139°.46E±0°.04,h15km±2km, h15km:pP-P,n1572,σ1§84/1217,mb5.9/199,MS6.3/530, 71C-58D,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**9.88**	**36**		**Pn**	**14 48 23.2**	**-1.3**
TAU	**Tasmania Unive**	**9.88**	**36**	P	**Pn**	**14 48 24.8**	**+0.3**
TAU	**Tasmania Unive**	**9.88**	**36**	P	**Pn**	**14 48 23.2**	**-1.3**
TAU	**Tasmania Unive**	**9.88**	**36**	⇑P	**Pn**	**14 48 23.4**	**-1.1**
MOO	**Moorlands**	**10.24**	**34**	P	**Pn**	**14 48 30.1**	**+0.5**
comp=Z,531nm,1.7s,comp=Z,0.0nm							
MOO	**Moorlands**	**10.24**	**34**	P	**Pn**	**14 48 30.0**	**+0.5**
MOO	**Moorlands**	**10.24**	**34**	P	**Pn**	**14 48

CMSA	Cobar Meteorol	20.19	16	P		P	14 50 36.3	-0.8
NTLH	Newcastle Hard	20.39	31	P		Pn	14 50 40.4	-0.9
TUZ	Tuapeka	20.56	87	P		P	14 50 40.8	-0.2
EAZ	Earnscleugh	20.68	85	P		P	14 50 42.9	+0.6
WKZ	Wanaka	20.69	84	P		P	14 50 41.9	-0.5
WKZ				IAmb		IAmb	14 50 51.1	
	comp=Z,2μm,1.5s							
WKZ				IAMs_20		IAMs_20	14 56 13.1	
	comp=Z,94μm,20.0s							
WKZ	Wanaka	20.69	84	P		Pn	14 50 44.0	-0.8
LCRK	Leigh Creek	20.77	357	P		P	14 50 42.2	-1.1
JCZ	Jackson Bay	20.91	82	P		Pn	14 50 47.0	-0.5
JCZ	Jackson Bay	20.91	82	P		P	14 50 44.5	-0.4
CASY	Casey	20.98	213			P	14 50 43.6	-1.8
CASY				IAmb		IAmb	14 50 55.2	
	comp=Z,716nm,1.4s							
CASY	Casey	20.98	213	IAMs_20		IAMs_20	14 56 41.1	
	comp=Z,108μm,22.0s							
CASY	Casey	20.98	213	⇓P		P	14 50 44.4	-1.0
HHSZ	Highcliff Hill	21.19	88	P		P	14 50 47.8	-0.1
ODZ	Otahua Downs	21.60	86			P	14 50 52.6	+0.4
ODZ				IAmb		IAmb	14 51 01.8	
	comp=Z,691nm,1.6s							
ODZ				IAMs_20		IAMs_20	14 57 14.5	
	comp=Z,77μm,18.0s							
ODZ	Otahua Downs	21.60	86	P		P	14 50 51.0	-1.3
ODZ	Otahua Downs	21.60	86	⇑P		P	14 50 52.3	0.0
LBZ	Lake Benmore	21.63	84			P	14 50 53.0	+0.4
LBZ				IAmb		IAmb	14 51 00.3	
	comp=Z,828nm,1.4s							
LBZ				IAMs_20		IAMs_20	14 57 05.1	
	comp=Z,102μm,20.0s							
LBZ	Lake Benmore	21.63	84	P		P	14 50 51.5	-1.0
FOZ	Fox Glacier	21.83	81	P		P	14 50 54.1	-0.5
FOZ	Fox Glacier	21.83	81	P		P	14 50 53.7	-1.0
FORT	Forrest	22.10	333	P		P	14 50 55.8	-1.9
FORT				IAMs_20		IAMs_20	14 57 37.3	
	comp=Z,89μm,20.0s							
FORT	Forrest	22.10	333	P		P	14 50 56.3	-1.3
	comp=Z,0.0nmcomp=Z,1μm,1.4s							
FORT	Forrest	22.10	333	P		P	14 50 56.8	-0.9
FORT	Forrest	22.10	333	⇓P		P	14 50 56.0	-1.7
TMZ	Timaru	22.14	84	P		P	14 50 56.4	-1.7
RPZ	Rata Peaks	22.51	83	P		P	14 50 59.8	-2.2
RPZ				IAMs_20		IAMs_20	14 57 42.3	
	comp=Z,108μm,20.0s							
RPZ	Rata Peaks	22.51	83	LR		LR	14 57 53.2	
	comp=Z,104μm,20.1s,baz=242,slow=31							
WVZ	Waitaha Valley	22.64	81	P		P	14 51 06.5	+3.1
ARMA	Armidale	22.67	28	P		P	14 51 02.0	-1.8
ARMA	Armidale	22.67	28	P		P	14 51 02.9	-0.9
	comp=Z,0.0nmcomp=Z,589nm,1.7s							
ARMA	Armidale	22.67	28	P		P	14 51 03.4	-0.5
ARMA	Armidale	22.67	28	⇑P		P	14 51 03.0	-0.8
MHCZ	Mount Hutt	22.92	83	P		P	14 51 09.2	+2.8
RKGY	Rocky Gully	23.23	307	P		P	14 51 08.0	-1.5
	comp=Z,279nm,2.5s							
INZ	Inchbonnie	23.27	81	P		P	14 51 07.4	-2.5
INZ				IAmb		IAmb	14 51 20.9	
	comp=Z,1μm,1.8s							
INZ	Inchbonnie	23.27	81	P		P	14 51 09.7	-0.2
OXZ	Oxford	23.32	83	P		P	14 51 10.4	0.0
OXZ	Oxford	23.32	83	P		P	14 51 12.3	+1.9
INKA	Innaminka	23.46	3	P		P	14 51 10.9	-1.0
MQZ	McQueen's Vall	23.51	84	P		P	14 51 12.9	+0.6
MQZ				IAmb		IAmb	14 51 31.5	
	comp=Z,900nm,1.7s							
MQZ				IAMs_20		IAMs_20	14 58 11.0	
	comp=Z,89μm,20.0s							
OOD	Oodnadatta	23.56	352	P		P	14 51 12.3	-0.6
KMBL	Kambalda	23.71	320	P		P	14 51 12.2	-2.1
	comp=Z,0.0nmcomp=Z,653nm,1.8s							
KMBL	Kambalda	23.71	320	P		P	14 51 12.4	-1.9
LTZ	Lake Taylor	23.75	82	P		P	14 51 14.4	-0.3
LTZ				IAmb		IAmb	14 51 25.8	
	comp=Z,476nm,1.3s							
LTZ	Lake Taylor	23.75	82	P		P	14 51 15.5	+0.8
DSZ	Denniston Nort	24.03	79	P		P	14 51 16.8	-0.6
DSZ				IAmb		IAmb	14 51 28.0	
	comp=Z,594nm,1.1s							
DSZ	Denniston Nort	24.03	79	P		P	14 51 16.6	-0.8
GVZ	Greta Valley S	24.13	83	P		P	14 51 16.6	-1.7
GVZ				IAMs_20		IAMs_20	14 58 18.3	
	comp=Z,75μm,21.0s							
GVZ	Greta Valley S	24.13	83	P		P	14 51 20.1	+1.8
LHI	Lord Howe Isla	24.43	44	P		P	14 51 19.8	-1.2
LHI				IAmb		IAmb	14 51 28.5	
	comp=Z,582nm,1.3s							
LHI	Lord Howe Isla	24.43	44	P		P	14 51 21.3	+0.3
NWAO	Narrogin (SRO)	24.46	310	P		P	14 51 17.8	-3.5
NWAO				IAmb		IAmb	14 51 31.8	
	comp=Z,886nm,1.6s							
NWAO	Narrogin (SRO)	24.46	310	P		P	14 51 19.1	-2.2
	comp=Z,578nm,1.4s							
NWAO	Narrogin (SRO)	24.46	310	LR		LR	14 58 38.4	
	comp=Z,139μm,21.2s,baz=122,slow=31							
NWAO	Narrogin (SRO)	24.46	310	P		P	14 51 19.7	-1.6
NWAO				P		P	14 51 19.7	-1.6
NWAO				S		S	14 55 36.3	-4.4
NWAO				S		S	14 55 36.3	-4.4
NWAO	Narrogin (SRO)	24.46	310	P		P	14 51 21.7	+0.4
NWAO	Narrogin (SRO)	24.46	310	P		P	14 51 20.4	-0.9
NWAO	Narrogin (SRO)	24.46	310	P		P	14 51 17.8	-3.5
NWAO				pmax		pmax		
	comp=Z,886nm,1.6s							
H01W1	Cape Leeuwin H	24.48	302	T		T	15 16 29.2	
	baz=138,slow=75,SNR=8852							
H01W2	Cape Leeuwin H	24.48	302	T		T	15 16 31.1	
	baz=138,slow=75							
H01W3	Cape Leeuwin H	24.49	302	T		T	15 16 30.5	
	baz=138,slow=75							
THZ	Tophouse	24.70	81	IAmb		IAmb	14 51 34.2	
	comp=Z,538nm,1.1s							
THZ	Tophouse	24.70	81	P		P	14 51 22.5	-1.0
KHZ	Kahutara	24.74	83	P		P	14 51 24.4	+0.7
KHZ	Kahutara	24.74	83	⇑P		P	14 51 23.7	0.0
MRNZ	Matariki Terra	24.82	80	P		P	14 51 24.5	0.0
QLP	Quilpie	24.87	10	P		P	14 51 23.9	-1.0
	comp=Z,0.0nmcomp=Z,743nm,1.3s							
QLP	Quilpie	24.87	10	P		P	14 51 25.1	+0.1
QLP	Quilpie	24.87	10	⇑P		P	14 51 24.0	-1.0
QRZ	Quartz Range	25.00	78	P		P	14 51 20.9	-5.3
QRZ				IAmb		IAmb	14 51 34.9	
	comp=Z,439nm,1.2s							
QRZ	Quartz Range	25.00	78	P		P	14 51 27.6	+1.4
TKNZ	Takaka Hill	25.15	79	P		P	14 51 26.4	-1.1
TKNZ	Takaka Hill	25.15	79	P		P	14 51 30.8	+3.3
NNZ	Nelson	25.30	80	P		P	14 51 30.6	+1.7
KLBR	Kellerberrin	25.31	312	P		P	14 51 26.3	-2.7
	comp=Z,622nm,1.2s							
KLBR	Kellerberrin	25.31	312	P		P	14 51 27.8	-1.2
BSWZ	Blackbirch Sta	25.33	82	P		P	14 51 30.3	+1.2
GC1S	Gold Coast 1 S	25.35	30	P		P	14 51 30.8	+1.5
RMQ	Roma	25.69	20	P		P	14 51 32.3	-0.2
	comp=Z,117nm,1.6s							
RMQ	Roma	25.69	20	P		P	14 51 33.5	+1.0
MUN	Mundaring	25.73	309	P		P	14 51 30.3	-2.5
	comp=Z,0.0nmcomp=Z,367nm,1.4s							
MUN	Mundaring	25.73	309	P		P	14 51 31.1	-1.7
MUN	Mundaring	25.73	309	P		P	14 51 30.4	-2.4
MTKN	Mount Kenneth	25.98	309	P		P	14 51 35.7	+0.7
SNZO	South Karori	26.07	82	P		P	14 51 33.1	-2.8
SNZO	South Karori	26.07	82	P		P	14 51 38.5	+2.7
SNZO	South Karori	26.07	82	⇑P		P	14 51 34.9	-1.0
BHW	Baring Head	26.12	82	IAmb		IAmb	14 51 52.0	
	comp=Z,374nm,1.3s							
BLDU	Ballidu	26.62	312	P		P	14 51 37.8	-3.0
	comp=Z,0.0nmcomp=Z,159nm,1.1s							
BLDU	Ballidu	26.62	312	P		P	14 51 39.1	-1.8
KHEZ	Kahui Hut	26.83	77	P		P	14 51 47.0	+4.2
MRZ	Mangatainoka R	26.99	81	IAMs_20		IAMs_20	15 00 28.8	
	comp=Z,57μm,18.0s							
MRZ	Mangatainoka R	26.99	81	P		P	14 51 43.6	-0.6
EIDS	Eidsvold	27.30	23	P		P	14 51 44.4	-2.6
EIDS				IAmb		IAmb	14 51 59.6	
	comp=Z,685nm,1.8s							
EIDS	Eidsvold	27.30	23	P		P	14 51 46.4	-0.6
	comp=Z,0.0nmcomp=Z,180nm,1.8s							
EIDS	Eidsvold	27.30	23	P		P	14 51 47.0	0.0
BFZ	Birch Farm	27.39	82	P		P	14 51 46.5	-1.2
BFZ				IAmb		IAmb	14 51 59.3	
	comp=Z,449nm,1.1s							
BFZ	Birch Farm	27.39	82	P		P	14 51 51.4	+3.7
BFZ	Birch Farm	27.39	82	P		P	14 51 47.1	-0.7
WRKA	Warakurna	27.51	338	P		P	14 51 47.1	-1.8
	comp=Z,0.0nmcomp=Z,263nm,1.0s							
WRKA	Warakurna	27.51	338	P		P	14 51 47.1	-1.8
WRKA	Warakurna	27.51	338	⇓P		P	14 51 46.8	-2.1
VNDA	Vanda	27.71	170	P		P	14 51 49.6	-0.6
VNDA	Vanda	27.71	170	P		P	14 51 50.4	+0.2
	comp=Z,49nm,1.1s,baz=326,slow=10,SNR=41							
VNDA				LR		LR	15 01 20.6	
	comp=Z,22μm,19.3s,baz=336,slow=33							
	comp=Z,49nm,1.1s							
AS19	Alice Springs	27.79	349	P		P	14 51 49.8	-1.7
	comp=Z,97nm,1.2s							
AS09	Alice Springs	27.80	349	P		P	14 51 49.8	-1.7
	comp=Z,93nm,0.9s							
AS10	Alice Springs	27.80	349	P		P	14 51 49.8	-1.7
	comp=Z,126nm,0.8s							
AS01	Alice Springs	27.83	349	P		P	14 51 50.6	-1.2
HIZ	Hauiti	27.83	77	IAMs_20		IAMs_20	14 59 57.9	
	comp=Z,54μm,18.0s							
HIZ	Hauiti	27.83	77	P		P	14 51 52.9	+1.2
ASAR	Alice Springs	27.84	349	P		P	14 51 49.0	-2.8
	comp=Z,30nm,0.9s,baz=165,slow=10,SNR=105							
ASAR				PcP		PcP	14 55 07.0	-0.7
	comp=Z,7.7nm,0.8s,baz=165,slow=2.0,SNR=4.9							
ASAR				LR		LR	15 01 36.7	
	comp=Z,51μm,20.4s,baz=174,slow=34							
ASAR				PKiKP		PKiKP	15 02 42.6	-1.3
	comp=Z,0.5nm,0.8s,baz=149,slow=1.1,SNR=4.3							
	comp=Z,30nm,0.9s							
AS31	Alice Springs	27.84	349	P		P	14 51 49.3	-2.6
MORW	Morawa	28.23	313	P		P	14 51 51.5	-3.8
MORW				IAmb		IAmb	14 52 09.2	
	comp=Z,349nm,1.6s							
MORW	Morawa	28.23	313	P		P	14 51 52.6	-2.7
	comp=Z,0.0nmcomp=Z,107nm,1.8s							
MORW	Morawa	28.23	313	P		P	14 51 54.5	-0.8
MORW	Morawa	28.23	313	⇑P		P	14 51 53.0	-2.4
BKZ	Black Stump Fm	28.44	79	IAMs_20		IAMs_20	15 01 07.1	
	comp=Z,57μm,19.0s							
BKZ	Black Stump Fm	28.44	79	P		P	14 52 00.7	+3.5
BKZ	Black Stump Fm	28.44	79	P		P	14 51 55.3	-1.9
SBA	Scott Base	28.58	168	P		P	14 51 59.5	+1.6
SBA	Scott Base	28.58	168	P		P	14 51 59.5	+1.6
SBA				pmax		pmax		
	comp=Z,220nm,1.4s							
TOZ	Tahuroa Road	28.72	76	IAMs_20		IAMs_20	15 01 24.3	
	comp=Z,57μm,18.0s							
TOZ	Tahuroa Road	28.72	76	P		P	14 51 57.6	-1.9
RK1H	Rockhampton Ha	29.07	21	P		P	14 52 03.4	+0.7
RTZ	Ruatahuna	29.08	79	IAmb		IAmb	14 52 13.2	
	comp=Z,412nm,1.1s							
RTZ	Ruatahuna	29.08	79	P		P	14 52 01.4	-1.4
WCZ	Waipu Caves	29.20	72	P		P	14 52 05.5	+1.6
MEEK	Meekatharra	29.21	319	P		P	14 52 01.7	-2.4
	comp=Z,0.0nmcomp=Z,116nm,2.2s							
MEEK	Meekatharra	29.21	319	P		P	14 52 02.7	-1.4
OUZ	Omahuta	29.24	70	IAMs_20		IAMs_20	15 01 40.4	
	comp=Z,69μm,19.0s							
URZ	Urewera	29.38	79	LR		LR	15 02 58.5	
	comp=Z,54μm,18.7s,baz=319,slow=34							
URZ	Urewera	29.38	79	P		P	14 52 04.6	-0.8
URZ	Urewera	29.38	79	⇑P		P	14 52 03.5	-1.9
KUZ	Kuaotunu	29.49	75	P		P	14 52 10.7	+4.3
KUZ	Kuaotunu	29.49	75	P		P	14 52 06.2	-0.2
MWZ	Matawai	29.59	79	P		P	14 52 07.1	-0.3
GRZ	Great Barrier	29.66	74	P		P	14 52 08.0	+0.1
HAZ	Te Kaha	30.10	79	P		P	14 52 11.7	-0.1
PUZ	Puketiti	30.20	79	P		P	14 52 11.5	-1.2
QIS	Mount Isa	30.59	0	P		P	14 52 14.9	-1.4
	comp=Z,0.0nmcomp=Z,222nm,0.9s							
QIS	Mount Isa	30.59	0	P		P	14 52 15.2	-1.1
WR0	Warramunga Arr	31.43	351	P		P	14 52 21.8	-1.9
WR8	Warramunga Arr	31.44	351	IAmb		IAmb	14 52 31.0	
	comp=Z,212nm,1.2s							
WRA	Warramunga Arr	31.47	351	P		P	14 52 21.8	-2.3
	comp=Z,27nm,0.7s,baz=179,slow=8.3,SNR=145							
WRA				PcP		PcP	14 55 16.5	-0.5
	comp=Z,19nm,1.0s,baz=180,slow=2.3,SNR=5.3							
WRA				LR		LR	15 04 37.0	
	comp=Z,41μm,19.0s,baz=174,slow=36							
	comp=Z,27nm,0.7s							
WRAB	Tennant Creek	31.48	351	P		P	14 52 21.1	-3.0
WRAB				IAmb		IAmb	14 52 28.6	
	comp=Z,131nm,0.8s							
WRAB	Tennant Creek	31.48	351	*i* P		P	14 52 22.0	-2.1
WRAB				pmax		pmax		
	comp=Z,291nm,1.5s							
WRAB				MLR		MLR		
	comp=Z,34μm,15.0s							
WB0	Warramunga Arr	31.64	351	IAmb		IAmb	14 52 51.5	
	comp=Z,248nm,1.3s							
TV1H	Townsville Har	32.41	13	P		P	14 52 32.4	+0.1
MTSU	Mount Surprise	33.23	8	P		P	14 52 39.8	+0.3
PSAD2	Pilbara Seismi	33.23	325	P		P	14 52 37.8	-1.7
	comp=Z,182nm,1.2s							
PSAD3	Pilbara Seismi	33.27	325	P		P	14 52 37.2	-2.7
	comp=Z,138nm,2.0s							
PSA00	Pilbara Seismi	33.31	325	P		P	14 52 37.5	-2.7
PSA00	Pilbara Seismi	33.31	325	P		P	14 52 38.7	-1.5
MBWA	Marble Bar	33.74	325	P		P	14 52 41.9	-2.0
MBWA	Marble Bar	33.74	325	P		P	14 52 42.2	-1.7
	comp=Z,0.0nmcomp=Z,207nm,1.6s							
MBWA	Marble Bar	33.74	325	P		P	14 52 41.5	-2.4
MBWA				P		P	14 52 41.5	-2.4
MBWA				S		S	14 58 01.8	-4.9
MBWA				S		S	14 58 01.8	-4.9
MBWA	Marble Bar	33.74	325	P		P	14 52 43.0	-0.9
MBWA	Marble Bar	33.74	325	⇑P		P	14 52 42.4	-1.4
GIRL	Giralia	34.59	316	P		P	14 52 48.0	-3.3
GIRL	Giralia	34.59	316	P		P	14 52 51.7	+0.5
	comp=Z,0.0nmcomp=Z,483nm,1.6s							
GIRL	Giralia	34.59	316	P		P	14 52 52.0	+0.8
GIRL	Giralia	34.59	316	⇓P		P	14 52 52.1	+0.8
FITZ	Fitzroy Crossi	34.82	337	P		P	14 52 51.1	-2.1
	comp=Z,30nm,0.8s							
FITZ	Fitzroy Crossi	34.82	337	LR		LR	15 06 06.6	
	comp=Z,53μm,21.0s,baz=164,slow=35							
FITZ	Fitzroy Crossi	34.82	337	P		P	14 52 52.3	-0.9
FITZ	Fitzroy Crossi	34.82	337	⇓P		P	14 52 50.9	-2.4
ONTNC	Ouen Toro	35.67	46	IAmb		IAmb	14 53 10.3	
	comp=Z,268nm,1.3s							
ONTNC				IAMs_20		IAMs_20	15 04 38.3	
	comp=Z,59μm,19.0s							
ONTNC	Ouen Toro	35.67	46	P		P	14 53 03.4	+2.8
OUENC	Ouen Island, N	35.75	47	P		P	14 53 03.9	+2.6
PINNC	Pines Island,	35.86	48	P		P	14 53 05.1	+2.9
DZM	Mont Dzumac	35.87	46	P		P	14 53 00.6	-1.8
DZM				IAmb		IAmb	14 53 09.8	
	comp=Z,561nm,1.9s							
DZM	Mont Dzumac	35.87	46	*e*P		P	14 53 00.6	-1.8
	comp=Z,385nm,1.4s							
DZM	Mont Dzumac	35.87	46	*e*PP		PP	14 54 22.2	-1.7
	comp=Z,3μm,24.4s							
DZM				*e*S		S	14 58 35.2	-4.6
	comp=Z,19μm,25.9s							
DZM				*e*LR		LR	15 02 36.8	
	comp=Z,166μm,26.1s							
DZM	Mont Dzumac	35.87	46	LR		LR	15 04 55.4	
	comp=Z,65μm,19.9s,baz=184,slow=32							
DZM	Mont Dzumac	35.87	46	P		P	14 53 03.0	+0.6
DZM	Mont Dzumac	35.87	46	⇑P		P	14 53 02.5	+0.1
YATNC	Mamie plateau,	36.08	47	P		P	14 53 06.3	+2.2
KOUNC	Koumac, New Ca	36.27	42	P		P	14 53 06.3	+0.6
KOUNC	Koumac, New Ca	36.27	42	⇑P		P	14 53 05.1	-0.6
KNRA	Kununurra	36.48	343	P		P	14 53 06.1	-1.3
	comp=Z,0.0nmcomp=Z,123nm,0.9s							
COEN	Coen	37.28	6	P		P	14 53 11.3	-3.1
COEN				IAmb		IAmb	14 53 23.7	
	comp=Z,391nm,1.9s							
COEN	Coen	37.28	6	P		P	14 53 13.8	-0.6
	comp=Z,0.0nmcomp=Z,123nm,2.4s							
COEN	Coen	37.28	6	P		P	14 53 14.2	-0.2
COEN	Coen	37.28	6	⇑P		P	14 53 14.0	-0.4
KDU	Kakadu	38.84	349	P		P	14 53 26.2	-1.2
	comp=Z,0.0nmcomp=Z,418nm,1.0s							
KDU	Kakadu	38.84	349	P		P	14 53 26.6	-0.9
KDU	Kakadu	38.84	349	⇓P		P	14 53 25.8	-1.7
MTN	Manton Dam	38.86	347	IAmb		IAmb	14 53 32.7	
	comp=Z,186nm,0.9s							
MTN				IAMs_20		IAMs_20	15 08 46.9	
	comp=Z,52μm,19.0s							
MTN	Manton Dam	38.86	347	P		P	14 53 26.2	-1.5
	comp=Z,0.0nmcomp=Z,231nm,0.9s							
MTN	Manton Dam	38.86	347	P		P	14 53 26.9	-0.8
MTN	Manton Dam	38.86	347	⇑P		P	14 53 26.1	-1.5
QSPA	South Pole Qui	38.90	180	P		P	14 53 26.8	-1.0
QSPA				IAmb		IAmb	14 53 35.3	
	comp=Z,501nm,1.2s							
QSPA	South Pole Qui	38.90	180	P		P	14 53 27.8	+0.1
	comp=Z,121nm,0.8s,baz=342,slow=2.6,SNR=272							
QSPA				LR		LR	15 08 17.9	
	comp=Z,27μm,21.7s,baz=2.5,slow=34							
	comp=Z,121nm,0.8s							
MAW	Mawson	39.29	216	P		P	14 53 29.7	-1.0
MAW	Mawson	39.29	216	P		P	14 53 30.5	-0.2
	comp=Z,20nm,1.1s							
MAW	Mawson	39.29	216	P		P	14 53 29.5	-1.2
	comp=Z,62nm,1.0s,baz=102,slow=10.0,SNR=15							
MAW				LR		LR	15 07 19.8	
	comp=Z,78μm,21.8s,baz=92,slow=33							
	comp=Z,62nm,1.0s							
MAW	Mawson	39.29	216	P		P	14 53 29.7	-1.0
MAW				pmax		pmax		
	comp=Z,25nm,1.2s							
MAW	Mawson	39.29	216	⇑P		P	14 53 32.4	+1.7
DRS	Darwin Rock St	39.30	347	P		P	14 53 31.4	+0.1
VLAKA	Lakatoro	41.55	43	P		P	14 53 50.9	+0.9
PMG	Port Moresby	42.16	11	P		P	14 53 53.5	-1.5
PMG				IAmb		IAmb	14 54 08.3	
	comp=Z,1μm,1.9s							
PMG	Port Moresby	42.16	11	LR		LR	15 10 47.8	
	comp=Z,63μm,20.5s,baz=188,slow=35							
PMG	Port Moresby	42.16	11	P		P	14 53 56.0	+1.0
PMG	Port Moresby	42.16	11	*ce*P		P	14 53 53.8	-1.2
PMG				pmax		pmax		
	comp=Z,346nm,1.5s							
PMG				MLR		MLR		
	comp=Z,65μm,16.0s							
PMG	Port Moresby	42.16	11	⇑P		P	14 53 54.3	-0.7
PAF	Port-aux-Franc	42.78	244	IAMs_20		IAMs_20	15 06 53.6	
	comp=Z,43μm,20.0s							
NGOA	Tingoa Renbel	42.97	30	P		P	14 54 03.3	+1.7
SOEI	Soe	43.18	338	P		P	14 54 02.3	-1.1
SOEI				IAmb		IAmb	14 54 30.4	
	comp=Z,370nm,1.2s							
SOEI	Soe	43.18	338	P		P	14 54 02.7	-0.7
SOEI	Soe	43.18	338	P		P	14 54 04.3	+0.9
SOEI	Soe	43.18	338	P		P	14 54 03.8	+0.4
	comp=Z,5μmcomp=Z,266nm,1.3s							
SOEI	Soe	43.18	338	⇓P		P	14 54 03.5	+0.1
WSI	Waingapu	44.31	332	P		P	14 54 10.4	-2.0
WBSI	Waikabubak, Su	44.61	331	P		P	14 54 13.1	-1.7
	comp=Z,7μmcomp=Z,3μmcomp=Z,262nm,1.1s							
MMRI	Maumere	44.76	335	P		P	14 54 13.8	-2.2
MMRI				IAMs_20		IAMs_20	15 11 34.4	
	comp=Z,31μm,19.0s							
MMRI	Maumere	44.76	335	P		P	14 54 17.1	+1.1
MMRI	Maumere	44.76	335	P		P	14 54 15.2	-0.8
MMRI	Maumere	44.76	335	⇓P		P	14 54 14.9	-1.1
EDFI	Ende, Flores	44.80	335	P		P	14 54 14.4	-2.0
	comp=Z,7μmcomp=Z,3μmcomp=Z,144nm,1.8s							
AIS	Amsterdam Isla	44.83	262	IAMs_20		IAMs_20	15 08 42.2	
	comp=Z,41μm,21.0s							
HNR	Honiara	44.94	29	P		P	14 54 14.6	-2.7
HNR				IAMs_20		IAMs_20	15 12 31.7	
	comp=Z,25μm,18.0s							
HNR	Honiara	44.94	29	LR		LR	15 11 51.2	
	comp=Z,20μm,18.9s,baz=194,slow=34							
HNR	Honiara	44.94	29	P		P	14 54 19.4	+2.1
HNR	Honiara	44.94	29	P		P	14 54 14.6	-2.7
HNR				pmax		pmax		
	comp=Z,579nm,1.5s							
HNR				MLR		MLR		
	comp=Z,25μm,18.0s							
SAVO	Savo Central	45.16	29	P		P	14 54 20.0	+0.8
MSVF	Nonsavu	45.26	57	P		P	14 54 18.4	-1.6
MSVF	Nonsavu	45.26	57	LR		LR	15 10 02.6	
	comp=Z,49μm,19.0s,baz=214,slow=32							
MSVF	Nonsavu	45.26	57	P		P	14 54 23.1	+3.1
MSVF	Nonsavu	45.26	57	*i* P		P	14 54 18.9	-1.1
MSVF				MLR		MLR		
	comp=Z,13μm,16.0s							
MSVF	Nonsavu	45.26	57	⇑P		P	14 54 20.5	+0.5
ALEG	Aligegeo Malai	45.81	30	P		P	14 54 26.1	+1.8
LUES	Luesalemba Tem	45.86	38	P		P	14 54 27.0	+2.3
PLAI	Plampang	45.88	329	P		P	14 54 25.4	+0.6
PL

SANI	Sanana	50.29	342	P	P	14 55 00.1	+1.2
SANI	Sanana	50.29	342	P	P	14 54 56.2	-2.7
	comp=Z,4μmcomp=Z,73nm,1.6s						
SANI	Sanana	50.29	342	⇓P	P	14 54 56.4	-2.5
SWI	Sorong	50.65	349	P	P	14 55 00.7	-0.9
	comp=Z,2μmcomp=Z,119nm,0.8s						
BBJI	Bungbulang	50.92	318	P	P	14 55 04.6	+0.8
BELA	Belgrano 2	51.13	182	P	P	14 55 02.5	-2.0
BELA				IAmb	IAmb	14 55 11.4	
	comp=Z,142nm,1.1s						
CNJI	Cibinong	51.28	317	P	P	14 55 06.0	-0.4
	comp=Z,99nm,1.4s						
LEM	Lembang	51.51	318	LR	LR	15 15 36.0	
	comp=Z,22μm,20.3s,baz=141,slow=35						
SKJI	Sukabumi	51.80	317	P	P	14 55 08.3	-2.0
LUWI	Luwuk	51.94	339	IAms_20	IAms_20	15 16 53.6	
	comp=Z,34μm,20.0s						
LUWI	Luwuk	51.94	339	P	P	14 55 08.1	-3.2
LUWI	Luwuk	51.94	339	P	P	14 55 11.8	+0.5
LUWI	Luwuk	51.94	339	P	P	14 55 10.3	-1.0
	comp=Z,6μmcomp=Z,5μmcomp=Z,345nm,1.8s						
LUWI	Luwuk	51.94	339	⇓P	P	14 55 10.0	-1.3
COCO	West Island	52.00	303	P	P	14 55 14.4	+2.6
COCO				S	S	15 02 30.8	-3.8
APSI	Ampana	52.34	337	P	P	14 55 18.8	+4.6
	comp=Z,3μmcomp=Z,130nm,1.8s						
CGJI	Cibinong	52.53	316	P	P	14 55 11.6	-4.1
	comp=Z,4μmcomp=Z,132nm,2.1s						
PCI	Palu	52.80	335	P	P	14 55 15.7	-2.0
	comp=Z,3μmcomp=Z,155nm,2.1s						
TNTI	Ternate	52.80	345	IAmb	IAmb	14 55 37.9	
	comp=Z,167nm,1.4s						
TNTI	Ternate	52.80	345	P	P	14 55 18.8	+1.1
TNTI	Ternate	52.80	345	P	P	14 55 22.2	+4.5
KMSI	Cibinong	53.24	341	P	P	14 55 20.2	-0.8
BKB	Balikpapan	53.30	331	P	P	14 55 23.3	+2.0
TROLL	Troll, Antarti	53.41	195	⇓P	P	14 55 18.9	-2.8
	comp=Z,389nm,0.6s						
TROLL				⇑S	S	15 02 53.3	+0.4
AFI	Afiamalu	53.97	65	IAms_20	IAms_20	15 13 34.4	
	comp=Z,25μm,21.0s						
MPSI	Mapaga	53.98	336	P	P	14 55 24.5	-1.8
	comp=Z,5μmcomp=Z,2μmcomp=Z,79nm,0.9s						
H04S1	CROZET ISLANDS	54.28	238	T	T	15 54 58.8	
	baz=127,slow=76,SNR=816						
H04S2	CROZET ISLANDS	54.28	238	T	T	15 54 31.2	
	baz=127,slow=76,SNR=2489						
H04S3	CROZET ISLANDS	54.30	238	T	T	15 54 48.2	
	baz=127,slow=76,SNR=1721						
TOLI2	Tolitoli	54.50	337	IAmb	IAmb	14 55 43.7	
	comp=Z,244nm,1.2s						
TOLI2				IAms_20	IAms_20	15 18 21.3	
	comp=Z,34μm,21.0s						
TOLI2	Tolitoli	54.50	337	P	P	14 55 29.4	-0.7
CRZF	Crozet Islands	54.57	238	IAms_20	IAms_20	15 12 41.3	
	comp=Z,21μm,21.0s						
LWLI	Liwa	54.67	315	P	P	14 55 29.4	-2.1
	comp=Z,8μmcomp=Z,6μmcomp=Z,221nm,2.0s						
MDSI	Maura Dua	55.09	315	P	P	14 55 33.7	-0.7
	comp=Z,8μmcomp=Z,3μmcomp=Z,166nm,1.7s						
TPI	Tanjungpandan	55.18	320	P	P	14 55 33.7	-1.4
	comp=Z,6μmcomp=Z,2μmcomp=Z,110nm,1.9s						
RAR	Rarotonga	55.51	81	LR	LR	15 16 33.4	
	comp=Z,11μm,18.5s,baz=218,slow=33						
VNA2	Neumayer--Watz	55.87	193	⇓P	P	14 55 38.1	-1.3
	comp=Z,58nm,0.7s,baz=158,slow=7.6						
VNA2				⇑S	S	15 03 22.7	-3.0
	baz=159,slow=7.0						
VNA3	Neumayer Olymp	55.88	192	⇓P	P	14 55 37.1	-2.4
	comp=Z,44nm,0.9s						
VNA3				⇑S	S	15 03 22.8	-3.1
VNA1	Neumayer--Stat	56.24	192	⇓P	P	14 55 41.0	-1.0
	comp=Z,156nm,0.9s						
STKI	Sintang	56.32	326	P	P	14 55 41.7	-1.6
	comp=Z,7μmcomp=Z,174nm,1.1s						
KSI	Kapahiang	56.54	314	P	P	14 55 50.3	+5.4
KSM	Kuching	58.04	325	IAmb	IAmb	14 56 09.4	
	comp=Z,378nm,1.5s						
KSM				IAms_20	IAms_20	15 18 31.5	
	comp=Z,23μm,22.0s						
KSM	Kuching	58.04	325	P	P	14 55 55.7	+0.3
KSM	Kuching	58.04	325	⇑P	P	14 55 54.7	-0.8
SBUM	Sibu	58.28	327	IAmb	IAmb	14 56 11.4	
	comp=Z,284nm,1.6s						
SBUM				IAms_20	IAms_20	15 19 58.0	
	comp=Z,18μm,20.0s						
SBUM	Sibu	58.28	327	P	P	14 55 57.6	+0.5
MYLDM	Lahad Datu	58.98	335	P	P	14 56 03.3	+1.3
DAV	Davao City (W)	59.27	344	LR	LR	15 20 02.4	
	comp=Z,9μm,21.9s,baz=133,slow=34						
DAV	Davao City (W)	59.27	344	P	P	14 56 04.6	+0.6
DAV				S	S	15 04 11.4	-0.1
DAV	Davao City (W)	59.27	344	P	P	14 56 03.0	-1.0
SMAI	San Martin Ant	59.33	169	P	P	14 56 05.1	+1.4
SISI	Saibi	60.20	312	P	P	14 56 08.8	-1.6
	comp=Z,5μmcomp=Z,180nm,2.1s						
PPI	Padang Panjang	60.36	314	P	P	14 56 10.1	-1.4
	comp=Z,7μmcomp=Z,4μmcomp=Z,86nm,2.3s						
TBI	Tubuai	60.41	91	*e*P	P	14 56 06.7	-5.1
	comp=Z,2μm,31.0s						
TBI	Tubuai	60.41	91	*e*PP	PP	14 58 21.0	-3.8
	comp=Z,1μm,27.8s						
TBI				*e*S	S	15 04 24.6	-1.6
	comp=Z,19μm,27.8s						
TBI				*e*SS	SS	15 08 22.0	-1.7
	comp=Z,24μm,32.2s						
TBI				*e*LQ	LQ	15 11 20.2	
	comp=Z,168μm,28.8s						
TBI				*e*LR	LR	15 13 46.3	
	comp=Z,78μm,31.2s						
TBI				*e*LR	LR	15 13 52.0	
	comp=Z,16μm,34.5s						
BKNI	Bangkinang	60.77	315	IAms_20	IAms_20	15 19 34.9	
	comp=Z,19μm,20.0s						
BKNI	Bangkinang	60.77	315	P	P	14 56 10.3	-4.0
MYKOM	Kota Tinggi	60.86	318	P	P	14 56 13.6	-1.3
MYKOM	Kota Tinggi	60.86	318	P	P	14 56 15.8	+0.9
MNSI	Mandailing Nat	61.84	313	P	P	14 56 20.0	-1.5
	comp=Z,6μmcomp=Z,4μmcomp=Z,89nm,1.2s						
PMSA	Palmer Station	62.92	169	LR	LR	15 20 57.7	
	comp=Z,11μm,19.1s,baz=198,slow=33						
GSI	Gunungsitoli	63.22	312	P	P	14 56 29.8	-1.0
GSI				IAms_20	IAms_20	15 18 47.0	
	comp=Z,16μm,20.0s						
GSI	Gunungsitoli	63.22	312	P	P	14 56 32.5	+1.7
GSI	Gunungsitoli	63.22	312	P	P	14 56 32.9	+2.1
	comp=Z,8μmcomp=Z,6μmcomp=Z,193nm,1.4s						
GSI	Gunungsitoli	63.22	312	⇑P	P	14 56 32.0	+1.3
GSI				⇓P	sP	14 56 36.1	+0.3
RPSI	Rantau Prapat	63.82	314	IAmb	IAmb	14 56 46.8	
	comp=Z,157nm,1.5s						
RPSI				IAms_20	IAms_20	15 20 10.9	
	comp=Z,24μm,21.0s						
PSI	Prapat	63.91	314	LR	LR	15 20 33.3	
	comp=Z,25μm,21.5s,baz=142,slow=33						
PSI	Prapat	63.91	314	P	P	14 56 34.2	-1.3
PAE	Paea	64.53	87	*e*P	P	14 56 40.5	+1.1
	comp=Z,45nm,1.3s						
PAE				*e*S	S	15 05 15.5	-2.6
	comp=Z,266nm,24.8s						
PAE				*e*SS	SS	15 09 30.1	+1.8
	comp=Z,254nm,23.7s						
PAE				*e*LQ	LQ	15 13 10.7	
	comp=Z,1μm,25.3s						
PAE				*e*LR	LR	15 15 55.1	
	comp=Z,4μm,23.1s						
PPT2	Papeete2	64.59	87	*e*P	P	14 56 41.1	+1.2
	comp=Z,131nm,1.4s						
PPT2	Papeete2	64.59	87	*e*PP	PP	14 58 54.5	-7.3
	comp=Z,361nm,28.0s						
PPT2				*e*S	S	15 05 13.0	-6.0
	comp=Z,2μm,26.2s						
PPT2				*e*SS	SS	15 09 29.3	-0.1
	comp=Z,2μm,26.8s						
PPT2				*e*LQ	LQ	15 13 00.0	
	comp=Z,73μm,30.8s						
PPT2				*e*LR	LR	15 15 46.0	
	comp=Z,16μm,24.5s						
PPT2				*e*LR	LR	15 15 54.1	
	comp=Z,22μm,24.0s						
PPTF	Pamatai, Papee	64.59	87	P	P	14 56 44.3	+4.4
PPT	Papeete	64.60	87	P	P	14 56 42.8	+2.8
	comp=Z,30nm,0.9s,baz=183,slow=5.7,SNR=5.7						
PPT				LR	LR	15 18 31.5	
	comp=Z,8μm,21.9s,baz=232,slow=30						
	comp=Z,30nm,0.9s						
TVO	Taravao	64.65	87	*e*P	P	14 56 41.5	+1.2
	comp=Z,30nm,0.9s						
TVO	Taravao	64.65	87	*e*LQ	LQ	15 13 13.4	
	comp=Z,1μm,25.2s						
TVO				*e*LR	LR	15 15 58.8	
	comp=Z,4μm,23.2s						
GUMO	Guam	64.70	6	IAms_20	IAms_20	15 22 27.7	
	comp=Z,17μm,21.0s						
GUMO	Guam	64.70	6	LR	LR	15 22 50.3	
	comp=Z,15μm,21.7s,baz=188,slow=34						
KULM	Kulim	65.36	317	IAms_20	IAms_20	15 22 10.7	
	comp=Z,20μm,21.0s						
KULM	Kulim	65.36	317	P	P	14 56 45.1	+0.3
TGY	Tagaytay City	67.02	340	LR	LR	15 26 38.9	
	comp=Z,8μm,22.0s,baz=168,slow=36						
VAH	Vaihoa	67.58	87	*e*P	P	14 56 59.8	+0.8
	comp=Z,146nm,1.1s						
VAH				*e*S	S	15 05 51.2	-4.1
	comp=Z,8μm,32.4s						
VAH				*e*LQ	LQ	15 14 05.2	
	comp=Z,4μm,23.1s						
VAH				*e*LR	LR	15 17 20.6	
	comp=Z,15μm,22.2s						
PMOR	Pomariorio Ree	67.59	86	*e*P	P	14 56 58.8	-0.3
	comp=Z,178nm,1.1s						
PMOR	Pomariorio Ree	67.59	86	*e*PP	PP	14 59 26.6	-1.4
	comp=Z,2μm,26.1s						
PMOR				*e*S	S	15 05 54.1	-1.3
	comp=Z,3μm,25.1s						
PMOR				*e*LQ	LQ	15 14 04.8	
	comp=Z,4μm,22.3s						
PMOR				*e*LR	LR	15 17 13.7	
	comp=Z,13μm,22.0s						
BSI	Banda Aceh	67.96	312	P	P	14 56 57.7	-3.7
	comp=Z,3μmcomp=Z,132nm,1.3s						
DLV	Lat	68.41	327	P	P	14 57 03.9	-0.5
DLV	Lat	68.41	327	P	P	14 57 05.5	+1.1
SRIT	Nakonsritamara	68.77	317	P	P	14 57 06.6	+0.2
RKT	Rikitea	69.62	102	*e*P	P	14 57 08.9	-2.8
	comp=Z,2μm,28.2s						
RKT				*e*S	S	15 06 18.3	-1.1
	comp=Z,19μm,31.5s						
RKT				*e*SS	SS	15 10 48.2	+1.3
	comp=Z,10μm,30.0s						
RKT				*e*LQ	LQ	15 15 11.1	
	comp=Z,169μm,38.5s						
RKT				*e*LR	LR	15 18 16.3	
	comp=Z,64μm,31.5s						
H08S2	Diego Garcia H	69.71	283	T	T	16 13 01.0	
	baz=142,slow=76,SNR=3210						
H08S1	Diego Carcia H	69.72	283	T	T	16 13 02.7	
	baz=142,slow=76,SNR=3931						
H08S3	Diego Garcia H	69.73	283	T	T	16 13 03.1	
	baz=142,slow=76,SNR=4278						
DGAR	Diego Garcia	69.92	284	P	P	14 57 21.1	+7.5
DGAR	Diego Garcia	69.92	284	*i* P	P	14 57 12.6	-1.0
DGAR				pmax	pmax		
	comp=Z,214nm,1.2s						
CMBY	CAMPBELL BAY	69.94	311	*e*P	P	14 57 10.8	-2.8
CMBY				*i* Pg	pP	14 57 11.4	-5.9
CMBY				IAmb	IAmb	14 57 27.8	
	comp=Z,391nm,1.6s						
SZP	Santa	70.47	341	P	P	14 57 18.8	+2.1
PTCN	Pitcairn Islan	71.15	107	IAms_20	IAms_20	15 21 43.6	
	comp=Z,12μm,21.0s						
USHA	Ushuaia	71.79	163	LR	LR	15 23 08.1	
	comp=Z,8μm,20.4s,baz=199,slow=31						
MG01	Puerto William	71.84	164	IAms_20	IAms_20	15 22 39.7	
	comp=Z,17μm,22.0s						
MG03	Isla Dawson	72.35	162	IAmb	IAmb	14 57 47.0	
	comp=Z,348nm,1.8s						
FOMA	Nahampoana Res	72.44	252	IAms_20	IAms_20	15 22 29.4	
	comp=Z,15μm,20.0s						
NAYO	Nakonayok	73.23	321	P	P	14 57 35.1	+1.7
MG05	Puerto Natales	73.97	160	P	P	14 57 37.6	+0.1
MG05				IAmb	IAmb	14 57 48.3	
	comp=Z,200nm,1.4s						
SRDT	SRDT	74.14	319	P	P	14 57 40.4	+1.6
PBA	Port Blair	74.55	312	P	P	14 57 41.0	-0.1
	SNR=57						
PBA				S	S	15 07 14.4	-1.5
PBA	Port Blair	74.55	312	*e*P	P	14 57 40.4	-0.7
PBA				IAmb	IAmb	14 57 56.0	
	comp=Z,299nm,1.0s						
QIZ	Qiongzhong	74.61	331	P	P	14 57 40.5	-1.0
QIZ	Qiongzhong	74.61	331	IAms_20	IAms_20	15 29 38.5	
	comp=Z,15μm,22.0s						
QIZ	Qiongzhong	74.61	331	P	P	14 57 43.1	+1.7
QIZ				PcP	PcP	14 57 54.4	-1.3
QIZ				PP	PP	15 00 29.0	+0.4
QIZ				S	S	15 07 19.3	+2.8
QIZ				ScS	ScS	15 07 53.3	+1.1
QIZ				SS	SS	15 12 03.3	-1.0
QIZ				pmax	pmax		
	comp=Z,46nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,970nm,5.5s						
QIZ				LR	LR		
	comp=Z,7μm,21.9s						
QIZ				LR	LR		
	comp=Z,2μm,24.8s						
QIZ				LR	LR		
	comp=Z,13μm,26.4s						
QIZ	Qiongzhong	74.61	331	P	P	14 57 43.5	+2.1
VOI	Vohitsoka	74.86	254	P	P	14 57 41.1	-2.1
VOI				IAms_20	IAms_20	15 23 16.1	
	comp=Z,14μm,20.0s						
VOI	Vohitsoka	74.86	254	P	P	14 57 48.5	+5.3
TWGBT	Beinan	75.47	343	P	P	14 57 48.5	+2.2
DGPR	DIGLIPUR	75.80	313	*i* Pg	P	14 57 41.5	-6.8
DGPR				*e*P	pP	14 57 47.5	-4.9
DGPR				IAmb	IAmb	14 57 58.9	
	comp=Z,193nm,1.2s						
KAAM	Kaadhehdhoo	75.85	289	IAms_20	IAms_20	15 24 11.0	
	comp=Z,14μm,19.0s						
NONG	Nongkai	75.96	325	P	P	14 57 50.4	+1.2
YULB	Yu-li	75.98	343	P	P	14 57 50.6	+1.4
TPUB	Ta-pu	76.02	342	P	P	14 57 51.0	+1.5
EFI	East Falkland	76.42	169	*i* P	P	14 57 51.4	-0.1
EFI				pmax	pmax		
	comp=Z,37nm,1.2s						
EFI				MLR	MLR		
	comp=Z,1μm,17.0s						
SSLB	Suanglung	76.43	343	IAms_20	IAms_20	15 36 12.6	
	comp=Z,11μm,19.0s						
HKPS	Hong Kong Po S	76.49	336	IAms_20	IAms_20	15 30 49.2	
	comp=Z,12μm,21.0s						
NACB	Ninganchiao	76.69	343	P	P	14 57 55.4	+2.2
PALK	Pallekele	76.94	299	P	P	14 57 54.5	-0.6
PALK	Pallekele	76.94	299	LR	LR	15 25 51.9	
	comp=Z,29μm,20.3s,baz=156,slow=31						
PALK	Pallekele	76.94	299	P	P	14 57 55.0	0.0
PALK				P	sP	14 58 00.5	+0.4
PALK				S	S	15 07 42.6	-0.1
PALK	Pallekele	76.94	299	*i* P	P	14 57 54.2	-0.8
PALK				pmax	pmax		
	comp=Z,42nm,1.2s						
JMZ	Minamidaito 2	77.04	352	P	P	14 57 57.5	+2.4
TAOE	Nuku Hiva Isla	77.14	88	*e*P	P	14 57 53.6	-2.6
	comp=Z,261nm,27.4s						
TAOE	Nuku Hiva Isla	77.14	88	*e*PP	PP	15 00 50.1	+0.2
	comp=Z,204nm,26.6s						
TAOE				*e*S	S	15 07 43.2	-1.8
	comp=Z,7μm,40.2s						
TAOE				*e*SS	SS	15 12 43.5	+1.2
	comp=Z,8μm,28.1s						
TAOE				*e*LQ	LQ	15 18 20.2	
	comp=Z,14μm,32.1s						
TAOE				*e*LR	LR	15 21 47.0	
	comp=Z,14μm,24.6s						
OPO	Ambohidratompo	77.14	256	LR	LR	15 25 47.8	
	comp=Z,9μm,18.4s,baz=358,slow=31						
YHNB	Yeheng	77.22	343	P	P	14 57 58.6	+2.3
GZH	Guangzhou	77.47	335	P	P	14 57 59.5	+1.9
GZH				PP	PP	15 00 57.0	+4.3
GZH				S	S	15 07 54.5	+6.7
GZH				LR	LR		
	comp=Z,11μm,28.4s						
GZH				LR	LR		
	comp=Z,4μm,22.6s						
GZH				LR	LR		
	comp=Z,16μm,29.9s						
TATO	Taipei	77.49	343	P	P	14 57 59.4	+1.7
CM31	Chiang Mai Arr	77.92	321	P	P	14 58 01.8	+1.5
	SNR=100						
CM31				S	S	15 07 54.8	+1.9
CMAR	Chiang Mai Arr	77.92	321	P	P	14 58 00.1	-0.1
CMAR	Chiang Mai Arr	77.92	321	P	P	14 58 00.5	+0.2
	comp=Z,43nm,1.2s,baz=175,slow=4.7,SNR=94						
CMAR				PKPPKP	P'P'df	15 25 12.4	+13
	comp=Z,0.3nm,0.4s,baz=336,slow=3.1,SNR=4.6						
CMAR				LR	LR	15 32 32.9	
	comp=Z,15μm,19.2s,baz=160,slow=36						
	comp=Z,43nm,1.2s						
CMAR	Chiang Mai Arr	77.92	321	*c*eP	P	14 58 01.2	+0.9
CMAR				pmax	pmax		
	comp=Z,44nm,1.2s						
MALK	Mahakanadarawa	77.96	300	P	P	14 57 59.0	-1.6
JCJ	Chichijima	78.00	2	LR	LR	15 31 49.0	
	comp=Z,3μm,21.7s,baz=172,slow=35						
QZH	Quanzhou	78.03	341	P	P	14 57 58.9	-1.8
QZH				S	S	15 07 55.0	+1.3
QZH				SS	SS	15 12 52.6	-3.2
QZH				pmax	pmax		
	comp=Z,770nm,5.4s						
QZH				LR	LR		
	comp=Z,6μm,21.3s						
QZH				LR	LR		
	comp=Z,3μm,19.2s						
QZH				LR	LR		
	comp=Z,8μm,25.4s						
CHTO	Chiang Mai	78.25	321	P	P	14 58 01.5	-0.5
CHTO	Chiang Mai	78.25	321	P	P	14 58 03.1	+1.0
CHTO				S	S	15 07 56.3	-0.1
CHTO	Chiang Mai	78.25	321	P	P	14 58 03.3	+1.2
CHTO	Chiang Mai	78.25	321	P	P	14 58 01.5	-0.5
CHTO				pmax	pmax		
	comp=Z,598nm,2.0s						
CHTO				MLR	MLR		
	comp=Z,18μm,19.0s						
SOE	Somerset East	78.27	232	IAmb	IAmb	14 58 19.6	
	comp=Z,159nm,1.4s						
JOW	Kunigami	78.33	350	IAmb	IAmb	14 58 15.4	
	comp=Z,168nm,1.4s						
JOW				IAms_20	IAms_20	15 33 45.8	
	comp=Z,12μm,20.0s						
JOW	Kunigami	78.33	350	LR	LR	15 33 38.7	
	comp=Z,8μm,19.4s,baz=168,slow=36						
JOW	Kunigami	78.33	350	P	P	14 58 03.5	+1.2
SLVN	Son La	78.70	326	IAmb	IAmb	14 58 20.0	
	comp=Z,237nm,1.5s						
SLVN	Son La	78.70	326	P	P	14 58 06.4	+1.8
SBV	Sambava	79.35	262	P	P	14 58 09.9	+1.5
COYC	Coyhaique	79.81	158	P	P	14 58 11.1	+0.6
TRD	Trivandrum	80.04	297	*e*P	P	14 58 10.7	-1.3
TRD				IAmb	IAmb	14 58 25.5	
	comp=Z,102nm,1.2s						
GULI	GuiLin	80.37	333	P	P	14 58 14.5	+1.0
GULI				S	SKSac	15 08 23.5	-7.1
GULI				pmax	pmax		
	comp=Z,50nm,1.2s						
GULI				LR	LR		
	comp=Z,3μm,21.7s						
GULI				LR	LR		
	comp=Z,4μm,22.2s						
GULI				LR	LR		
	comp=Z,6μm,16.5s						
HMDM	Hanimaadhoo	80.78	293	IAms_20	IAms_20	15 31 33.7	
	comp=Z,11μm,18.0s						
SUR	Sutherland	80.84	229	P	P	14 58 16.5	0.0
SUR				IAmb	IAmb	14 58 27.9	
	comp=Z,220nm,1.4s						
SUR	Sutherland	80.84	229	LR	LR	15 26 22.1	
	comp=Z,13μm,22.0s,baz=152,slow=30						
SUR	Sutherland	80.84	229	P	P	14 58 18.6	+2.1
SUR				S	S	15 08 29.8	+5.5
JOHN	Johnston Islan	80.98	49	IAms_20	IAms_20	15 28 50.3	
	comp=Z,14μm,20.0s						
KOD	Kodaikanal	81.17	298	*e*P	P	14 58 17.8	-0.6
KOD				IAmb	IAmb	14 58 31.4	
	comp=Z,172nm,1.6s						
BOSA	Boshof	81.74	234	P	P	14 58 19.2	-2.0
BOSA				IAmb	IAmb	14 58 31.5	
	comp=Z,188nm,1.6s						
BOSA	Boshof	81.74	234	P	P	14 58 19.9	-1.3
	comp=Z,13nm,0.9s,baz=131,slow=6.3,SNR=9.1						
BOSA				LR	LR	15 26 52.9	
	comp=Z,20μm,21.9s,baz=139,slow=30						
	comp=Z,13nm,0.9s						
GO07	Milladeo Hill,	81.74	156	IAms_20	IAms_20	15 26 43.7	
	comp=Z,10μm,20.0s						
SALM	Salem	81.93	300	*e*P	P	14 58 21.4	-0.7
SALM				IAmb	IAmb	14 58 31.1	
	comp=Z,147nm,1.4s						
MDRS	Chennai	82.01	302	*e*P	P	14 58 21.2	-1.2
MDRS				IAmb	IAmb	14 58 40.1	
	comp=Z,399nm,2.2s						
CNSH	ChangSha	82.44	337	P	P	14 58 24.8	+0.4
CNSH				S	S	15 08 40.3	+0.3
CNSH				pmax	pmax		
	comp=Z,19nm,1.3s						
CNSH				LR	LR		
	comp=Z,6μm,19.7s						
CNSH				LR	LR		
	comp=Z,3μm,20.9s						
CNSH				LR	LR		
	comp=Z,9μm,24.5s						
GYA	Guiyang	82.56	331	⇑P	P	14 58 26.4	+1.2
GYA				PP	PP	15 01 35.1	-0.1
GYA				S	SKSac	15 08 44.1	-1.6
GYA				SKS	SKSac	15 08 45.6	-0.1
GYA				SS	SS	15 14 08.4	+4.4
GYA				pmax	pmax		
	comp=Z,25nm,1.2s						
GYA				pmax	pmax		
	comp=Z,1μm,5.6s						
GYA				LR	LR		
	comp=Z,3μm,24.7s						
GYA				LR	LR		
	comp=Z,4μm,22.2s						
GYA				LR	LR		
	comp=Z,6μm,29.2s						
KMI	Kunming	82.60	327	⇓P	P	14 58 27.3	+1.7
KMI				sP	pwP	14 58 32.8	-0.6
KMI				PP	PP	15 01 38.3	+2.7
KMI				S	S	15 08 48.6	+6.3
KMI				pmax	pmax		
	comp=Z,64nm,1.3s						
KMI				pmax	pmax		
	comp=Z,850nm,5.1s						
KMI				LR	LR		
	comp=Z,7μm,23.8s						
KMI				LR	LR		
	comp=Z,9μm,23.5s						
KMI				LR	LR		
	comp=Z,17μm,19.4s						
MSEY	Mahe Island	82.61	272	P	P	14 58 28.2	+2.4
MSEY				S	SKSac	15 08 46.1	-0.6
SSE	Sheshan	83.52	344	P	P	14 58 29.4	-0.5
SSE				S	S	15 08 46.1	-4.7
SSE				sS	ScS	15 09 06.0	+1.9
SSE				SS	SS	15 14 17.0	-0.9
SSE				pmax	pmax		
	comp=Z,65nm,1.1s						
SSE				pmax	pmax		
	comp=Z,360nm,3.2s						
SSE				LR	LR		
	comp=Z,3μm,20.1s						
JHJ2	Mitsune	83.96	0	IAms_20	IAms_20	15 31 51.0	
	comp=Z,17μm,22.0s						
JHJ	Hachijo jima 2	83.97	0	LR	LR	15 32 46.7	
	comp=Z,15μm,21.5

PZH			pmax	pmax		
	comp=Z,1μm,4.7s					
PZH			LR	LR		
	comp=Z,13μm,24.9s					
PZH			LR	LR		
	comp=Z,7μm,23.9s					
PZH			LR	LR		
	comp=Z,19μm,24.5s					
JNU	**Nakatsue**	**84.31 353**	P	**P**	**14 58 31.9**	**-2.1**
JNU			IAmb	IAmb	14 58 46.3	
	comp=Z,144nm,1.5s					
JNU	**Nakatsue**	**84.31 353**	LR	LR	15 36 30.5	
	comp=Z,5μm,20.1s,baz=180,slow=36					
JNU	**Nakatsue**	**84.31 353**	P	**P**	**14 58 35.8**	**+1.8**
VIS	**Vishakhapatnam**	**84.32 307**	*e*P	**P**	**14 58 33.3**	**-1.0**
WHN	**Wuhan**	**84.36 338**	P	**P**	**14 58 34.4**	**+0.2**
WHN			pP	**PcP**	**14 58 37.8**	**-0.1**
WHN			sP	**sP**	**14 58 39.5**	**-0.2**
WHN			PP	**PP**	**15 01 50.1**	**+0.4**
WHN			SKS	**SKSac**	**15 08 54.9**	**-2.1**
WHN			S	**S**	**15 09 00.0**	**+0.7**
WHN			pmax	pmax		
	comp=Z,680nm,1.8s					
WHN			pmax	pmax		
	comp=Z,3μm,4.7s					
WHN			LR	LR		
	comp=Z,16μm,16.2s					
WHN			LR	LR		
	comp=Z,10μm,19.2s					
WHN			LR	LR		
	comp=Z,22μm,18.8s					
LBTB	**Lobatse**	**84.49 236**	P	**P**	**14 58 33.1**	**-2.4**
LBTB			IAmb	IAmb	14 58 45.9	
	comp=Z,183nm,1.9s					
LBTB	**Lobatse**	**84.49 236**	LR	LR	15 30 47.9	
	comp=Z,11μm,18.1s,baz=158,slow=32					
LBTB	**Lobatse**	**84.49 236**	P	**P**	**14 58 33.1**	**-2.4**
LBTB			pmax	pmax		
	comp=Z,183nm,1.9s					
VJD	**Vijayawada**	**84.67 304**	*e*P	**P**	**14 58 35.7**	**-0.5**
BRDH	**Bariadhala**	**84.72 317**	P	**P**	**14 58 34.4**	**-1.8**
	comp=Z,93nm,0.3s,baz=77,slow=11,SNR=4.2					
BRDH			LR	LR	15 37 04.1	
	comp=Z,11μm,19.9s,baz=152,slow=36					
	comp=Z,93nm,0.3s					
JMN	**Monobe**	**84.72 355**	IAMs_20	IAMs_20	15 35 24.0	
	comp=Z,11μm,19.0s					
JMN	**Monobe**	**84.72 355**	P	**P**	**14 58 38.0**	**+2.0**
PLCA	**Paso Flores**	**84.75 158**	P	**P**	**14 58 35.2**	**-1.3**
PLCA			IAmb	IAmb	14 58 48.3	
	comp=Z,261nm,1.9s					
PLCA	**Paso Flores**	**84.75 158**	P	**P**	**14 58 36.7**	**+0.2**
	comp=Z,20nm,1.2s,baz=193,slow=7.2,SNR=13					
PLCA			LR	LR	15 29 31.0	
	comp=Z,5μm,20.9s,baz=194,slow=31					
	comp=Z,20nm,1.2s					
PLCA	**Paso Flores**	**84.75 158**	*e*P	**P**	**14 58 36.4**	**-0.2**
NJ2	**Nanjing**	**84.87 343**	*e*P	**P**	**14 58 36.9**	**+0.1**
NJ2			pP	**sP**	**14 58 41.6**	**-0.6**
NJ2			sP	**pwP**	**14 58 47.3**	**+2.7**
NJ2			S	**S**	**15 09 04.5**	**+0.2**
NJ2			pmax	pmax		
	comp=Z,26nm,1.3s					
NJ2			pmax	pmax		
	comp=Z,800nm,4.1s					
NJ2			LR	LR		
	comp=Z,5μm,22.7s					
NJ2			LR	LR		
	comp=Z,3μm,20.8s					
NJ2			LR	LR		
	comp=Z,7μm,21.8s					
ENH	**Enshi**	**85.33 334**	P	**P**	**14 58 40.1**	**+0.9**
JSG	**Sagara**	**85.53 359**	IAMs_20	IAMs_20	15 35 01.5	
	comp=Z,12μm,20.0s					
RAGD	**RAYAGADA**	**85.55 308**	*e*P	**P**	**14 58 39.7**	**-0.8**
RAGD			IAmb	IAmb	14 58 57.4	
	comp=Z,362nm,2.1s					
IMP	**Imphal**	**85.65 319**	*e*P	**P**	**14 58 39.6**	**-1.4**
IMP			IAmb	IAmb	14 58 53.0	
	comp=Z,453nm,2.2s					
AGT	**Agartala**	**85.95 317**	*e*P	**P**	**14 58 41.7**	**-0.6**
AGT			IAmb	IAmb	14 58 57.0	
	comp=Z,93nm,0.7s					
CAL	**Calcutta**	**86.06 314**	*e*P	**P**	**14 58 43.2**	**+0.3**
CAL			IAmb	IAmb	14 58 49.0	
	comp=Z,3μm,0.5s					
INU	**Inuyama**	**86.22 358**	IAMs_20	IAMs_20	15 34 24.7	
	comp=Z,12μm,22.0s					
INU	**Inuyama**	**86.22 358**	P	**P**	**14 58 45.6**	**+2.2**
KOHI	**KOHIMA**	**86.38 320**	*e*P	**P**	**14 58 44.1**	**-0.5**
KOHI			IAmb	IAmb	14 58 49.6	
	comp=Z,128nm,1.2s					
JGF	**Kuroka**	**86.47 358**	P	**P**	**14 58 46.0**	**+1.3**
HYB	**Hyderabad**	**86.52 303**	*e*P	**P**	**14 58 44.5**	**-0.9**
HYB			IVmB_BB		14 59 14.4	
	comp=Z,1μm,3.4s					
HYB			*e*PP	**PP**	**15 02 08.2**	**+0.8**
HYB			*e*SKSac	**SKSac**	**15 09 10.2**	**-1.1**
HYB			*e*SKKSac	**SKKSac**	**15 09 17.7**	**-1.6**
HYB			*e*SPn	**SPn**	**15 10 17.6**	**-1.1**
HYB			*e*SS	**SS**	**15 15 00.0**	**-2.3**
HYB			IVMs_BB	IVMs_BB	15 31 16.4	
	comp=Z,6μm,20.2s					
MATP	**Matopo**	**86.63 241**	LR	LR	15 32 24.0	
	comp=Z,9μm,18.4s,baz=150,slow=32					
SHL	**Shillong**	**87.16 318**	IAMs_20	IAMs_20	15 36 43.5	
	comp=Z,15μm,21.0s					
SHL	**Shillong**	**87.16 318**	P	**P**	**14 58 49.1**	**+0.6**
	SNR=143					
SHL			S	**SKSac**	**15 09 17.6**	**+2.4**
SHL	**Shillong**	**87.16 318**	*e*P	**P**	**14 58 46.8**	**-1.7**
SHL			IAmb	IAmb	14 59 03.3	
	comp=Z,376nm,1.4s					
MJAR	**Matsushiro Arr**	**87.39 359**	P	**P**	**14 58 49.5**	**+0.4**
	comp=Z,25nm,1.2s,baz=184,slow=5.4,SNR=15					
MJAR			LR	LR	15 36 24.3	
	comp=Z,10μm,20.8s,baz=171,slow=35					
	comp=Z,25nm,1.2s					
MAJO	**Matsushiro**	**87.39 359**	IAMs_20	IAMs_20	15 36 01.8	
	comp=Z,9μm,20.0s					
MAJO	**Matsushiro**	**87.39 359**	P	**P**	**14 58 50.2**	**+1.1**
MAJO	**Matsushiro**	**87.39 359**	*i* P	**P**	**14 58 48.4**	**-0.7**
MAJO			pmax	pmax		
	comp=Z,182nm,1.7s					
MAJO			MLR	MLR		
	comp=Z,6μm,19.0s					
GOA	**Goa**	**87.49 298**	*e*P	**P**	**14 58 49.0**	**-1.0**
GOA			IAmb	IAmb	14 59 07.3	
	comp=Z,107nm,1.3s					
JHSG	**JHARSUGUGA**	**87.53 310**	*e*P	**P**	**14 58 48.8**	**-1.4**
JHSG			IAmb	IAmb	14 59 06.9	
	comp=Z,178nm,1.1s					
CD2	**Chengdu**	**87.61 330**	P	**P**	**14 58 51.4**	**+1.0**
CD2			sP	pwP	14 58 59.5	+1.3
CD2			SKS	**SKSac**	**15 09 17.3**	**-0.2**
CD2			S	**S**	**15 09 34.5**	**+3.2**
CD2			SS	**SS**	**15 15 22.6**	**+4.4**
CD2			pmax	pmax		
	comp=Z,70nm,1.0s					
CD2			pmax	pmax		
	comp=Z,680nm,6.0s					
CD2			LR	LR		
	comp=Z,11μm,21.2s					
CD2			LR	LR		
	comp=Z,14μm,21.0s					
TJN	**Taejon**	**87.87 350**	P	**P**	**14 58 53.4**	**+2.0**
TJN	**Taejon**	**87.87 350**	*i* P	**P**	**14 58 51.6**	**+0.2**
TJN			pmax	pmax		
	comp=Z,5.0nm,1.5s					
KNTI	**KHUNTI**	**87.92 312**	*e*P	**P**	**14 58 53.2**	**+1.1**
KNTI			IAmb	IAmb	14 59 05.9	
	comp=Z,57nm,1.1s					
ZIRO	**ZIRO**	**88.09 321**	*e*P	**P**	**14 58 51.8**	**-1.1**
ZIRO			IAmb	IAmb	14 59 07.9	
	comp=Z,464nm,1.5s					
BOK	**Bokaro**	**88.27 312**	*e*P	**P**	**14 58 52.5**	**-1.1**
BOK			IAmb	IAmb	14 59 06.2	
	comp=Z,7μm,6.9s					
LYN	**LuoYang**	**88.64 338**	⇑P	**P**	**14 58 55.9**	**+0.8**
LYN			pP	sP	14 59 00.5	-0.1
LYN			SKS	**SKSac**	**15 09 23.9**	**+0.6**
LYN			S	**ScS**	**15 09 44.5**	**-1.8**
LYN			pmax	pmax		
	comp=Z,69nm,1.0s					
LYN			pmax	pmax		
	comp=Z,1μm,5.4s					
LYN			LR	LR		
	comp=Z,6μm,23.5s					
LYN			LR	LR		
	comp=Z,5μm,21.6s					
LYN			LR	LR		
	comp=Z,11μm,21.6s					
BLSP	**Bilaspur**	**88.64 309**	*e*P	**P**	**14 58 54.5**	**-0.9**
BLSP			IAmb	IAmb	14 59 02.8	
	comp=Z,71nm,1.2s					
TRIS	**Tristan da Cun**	**88.66 202**	IAMs_20	IAMs_20	15 32 43.5	
	comp=Z,8μm,19.0s					
JMM	**Marumori**	**88.71 1**	P	**P**	**14 58 57.0**	**+1.7**
KAD	**Karad**	**88.77 300**	*e*P	**P**	**14 58 55.3**	**-0.9**
KAD			IAmb	IAmb	14 59 12.8	
	comp=Z,182nm,1.6s					
H03S2	**Juan Fernandez**	**88.82 149**	T	T	16 38 30.4	
	baz=201,slow=74,SNR=48					
H03S1	**Juan Fernandez**	**88.83 149**	T	T	16 38 31.5	
	baz=201,slow=74,SNR=49					
H03S3	**Juan Fernandez**	**88.84 149**	T	T	16 38 31.2	
	baz=201,slow=74,SNR=50					
KSAR	**Wonju Array Be**	**88.87 351**	P	**P**	**14 58 56.1**	**0.0**
KSAR	**Wonju Array Be**	**88.87 351**	P	**P**	**14 58 56.1**	**0.0**
KSRS	**Korea Array**	**88.87 351**	P	**P**	**14 58 56.1**	**0.0**
	comp=Z,23nm,1.2s,baz=180,slow=4.4,SNR=20					
KSRS			PP	**PP**	**15 02 29.5**	**+3.4**
	comp=Z,3.5nm,0.9s,baz=173,slow=9.5,SNR=4.3					
KSRS			LR	LR	15 37 53.2	
	comp=Z,5μm,20.5s,baz=185,slow=35					
	comp=Z,23nm,1.2s					
JSD	**Sado**	**88.88 359**	P	**P**	**14 58 58.9**	**+2.8**
TAWA	**Tawang**	**88.95 319**	*e*P	**P**	**14 58 55.9**	**-1.3**
TAWA			IAmb	IAmb	14 59 12.6	
	comp=Z,490nm,1.8s					
INCN	**Inchon**	**89.04 350**	P	**P**	**14 58 59.7**	**+2.8**
INCN			S	**SKSac**	**15 09 30.2**	**+4.6**
INCN	**Inchon**	**89.04 350**	P	**P**	**14 58 58.9**	**+2.0**
INCN	**Inchon**	**89.04 350**	P	**P**	**14 58 56.9**	**0.0**
XAN	**Xi'an**	**89.04 335**	⇓P	**P**	**14 58 57.3**	**+0.2**
XAN			pP	sP	14 59 02.3	-0.3
XAN			SKS	**SKSac**	**15 09 25.0**	**-0.9**
XAN			S	**S**	**15 09 44.6**	**-0.1**
XAN			SS	**SS**	**15 15 43.0**	**+4.0**
XAN			pmax	pmax		
	comp=Z,29nm,1.2s					
XAN			pmax	pmax		
	comp=Z,2μm,5.3s					
XAN			LR	LR		
	comp=Z,12μm,17.9s					
XAN			LR	LR		
	comp=Z,9μm,18.1s					
XAN			LR	LR		
	comp=Z,18μm,19.2s					
TRQA	**Tornquist**	**89.14 163**	P	**P**	**14 58 57.8**	**0.0**
TRQA			IAmb	IAmb	14 59 08.8	
	comp=Z,194nm,1.7s					
TRQA			IAMs_20	IAMs_20	15 35 21.4	
	comp=Z,9μm,20.0s					
TRQA	**Tornquist**	**89.14 163**	P	**P**	**14 58 57.8**	**0.0**
TRQA			pmax	pmax		
	comp=Z,194nm,1.7s					
TRQA	**Tornquist**	**89.14 163**	*e*P	**P**	**14 58 59.2**	**+1.4**
TIA	**Tai'an**	**89.24 342**	P	**P**	**14 58 58.0**	**+0.1**
TIA			SKS	**SKSac**	**15 09 27.8**	**+1.0**
TIA			S	**S**	**15 09 43.3**	**-3.1**
TIA			pmax	pmax		
	comp=Z,27nm,1.2s					
TIA			pmax	pmax		
	comp=Z,620nm,4.1s					
TIA			LR	LR		
	comp=Z,7μm,20.3s					
TIA			LR	LR		
	comp=Z,6μm,18.5s					
TIA			LR	LR		
	comp=Z,11μm,19.8s					
NGP	**Nagpur**	**89.37 306**	*e*P	**P**	**14 58 58.2**	**-0.6**
NGP			IAmb	IAmb	14 59 15.9	
	comp=Z,142nm,1.8s					
JPG	**JALPAIGURI**	**89.37 316**	*e*P	**P**	**14 59 02.0**	**+3.3**
JPG			IAmb	IAmb	14 59 07.7	
	comp=Z,216nm,0.2s					
HJU	**Haeju**	**89.70 349**	P	**P**	**14 59 03.9**	**+4.0**
HJU			S	**SKSac**	**15 09 25.4**	**-3.9**
HJU			AmB			
	comp=Z,1μm,2.4s					
HJU			AMS	AMS		
	comp=Z,9μm,19.6s					
AKL	**Akola**	**90.05 304**	*e*P	**P**	**14 59 00.9**	**-1.1**
GTK	**Tadong**	**90.09 316**	*e*P	**P**	**14 59 01.1**	**-1.2**
GTK			IAmb	IAmb	14 59 20.3	
	comp=Z,226nm,1.5s					
PYAG	**Pyongyang**	**90.69 349**	P	**P**	**14 59 08.0**	**+3.4**
PYAG			S	**SKSac**	**15 09 32.1**	**-2.9**
PYAG			AmB			
	comp=Z,626nm,2.5s					
PYAG			AMS	AMS		
	comp=Z,5μm,18.4s					
HNS	**HongShan**	**90.88 341**	⇓P	**P**	**14 59 05.8**	**+0.3**
HNS			SKS	**SKSac**	**15 09 36.8**	**+0.6**
HNS			S	**S**	**15 10 01.4**	**0.0**
HNS			pmax	pmax		
	comp=Z,41nm,1.1s					
HNS			pmax	pmax		
	comp=Z,530nm,3.9s					
HNS			LR	LR		
	comp=Z,4μm,20.9s					
HNS			LR	LR		
	comp=Z,5μm,20.8s					
HNS			LR	LR		
	comp=Z,9μm,20.2s					
LSZ	**Lusaka**	**90.95 244**	LR	LR	15 33 38.5	
	comp=Z,23μm,20.5s,baz=144,slow=32					
LSZ	**Lusaka**	**90.95 244**	P	**P**	**14 59 08.8**	**+2.1**
LSZ			S	**SKSac**	**15 09 45.0**	**+6.6**
DL2	**Dalian**	**91.09 346**	*e*P	**P**	**14 59 07.1**	**+0.7**
DL2			PP	**PP**	**15 02 44.8**	**+1.1**
DL2			SKS	**SKSac**	**15 09 35.3**	**-2.1**
DL2			S	**ScS**	**15 10 05.6**	**-0.8**
DL2			SS	**SS**	**15 16 06.6**	**-1.8**
DL2			pmax	pmax		
	comp=Z,54nm,1.3s					
DL2			pmax	pmax		
	comp=Z,570nm,5.8s					
DL2			LR	LR		
	comp=Z,7μm,21.1s					
DL2			LR	LR		
	comp=Z,3μm,20.9s					
DL2			LR	LR		
	comp=Z,11μm,22.6s					
LSA	**Lhasa**	**91.10 319**	P	**P**	**14 59 07.9**	**+0.6**
LSA			pmax	pmax		
	comp=Z,26nm,1.1s					
LSA			LR	LR		
	comp=Z,6μm,37.4s					
LSA			LR	LR		
	comp=Z,19μm,37.0s					
HHU	**Hamhung**	**91.36 351**	P	**P**	**14 59 05.3**	**-2.3**
HHU			S	SKSac	15 09 27.4	-11
HHU			AmB			
	comp=Z,345nm,1.9s					
HHU			AMS	AMS		
	comp=Z,5μm,16.7s					
ALBI	**Allahabad**	**91.48 310**	*e*P	**P**	**14 59 07.6**	**-1.0**
ALBI			IAmb	IAmb	14 59 09.5	
	comp=Z,103nm,1.1s					
JTM	**Tenmabayashi**	**91.63 1**	IAMs_20	IAMs_20	15 39 55.1	
	comp=Z,10μm,21.0s					
JTM	**Tenmabayashi**	**91.63 1**	P	**P**	**14 59 11.2**	**+2.3**
NRDN	**NARMADA NAGAR**	**91.63 305**	*e*P	**P**	**14 59 08.7**	**-0.7**
NRDN			IAmb	IAmb	14 59 17.3	
	comp=Z,78nm,1.1s					
TIY	**Taiyuan**	**91.67 339**	*e*P	**P**	**14 59 13.3**	**+4.0**
TIY			SKS	**SKSac**	**15 09 40.5**	**-0.5**
TIY			S	**S**	**15 10 04.3**	**-4.5**
TIY			pmax	pmax		
	comp=Z,320nm,3.9s					
TIY			LR	LR		
	comp=Z,3μm,23.4s					
TIY			LR	LR		
	comp=Z,4μm,21.3s					
TIY			LR	LR		
	comp=Z,6μm,26.8s					
SUJ	**Sinuiju**	**91.88 349**	P	**P**	**14 59 13.8**	**+3.8**
SUJ			S	**SKSac**	**15 09 46.1**	**+4.3**
SUJ			AmB			
	comp=Z,567nm,2.4s					
SUJ			AMS	AMS		
	comp=Z,4μm,13.9s					
PEL	**Peldehue**	**91.91 155**	P	**P**	**14 59 12.1**	**+1.3**
PEL			pmax	pmax		
	comp=Z,51nm,2.5s					
BHPL	**Bhopal**	**91.93 306**	*e*P	**P**	**14 59 07.7**	**-3.1**
BHPL			IAmb	IAmb	14 59 27.3	
	comp=Z,74nm,1.2s					
BNDA	**BANDA**	**92.35 309**	*e*P	**P**	**14 59 10.4**	**-2.2**
BNDA			IAmb	IAmb	14 59 17.6	
	comp=Z,58nm,0.3s					
LZH	**Lanzhou**	**92.39 332**	⇓P	**P**	**14 59 13.9**	**+1.1**
LZH			pP	pwP	14 59 19.8	-0.8
LZH			sP	sP	14 59 24.6	+6.3
LZH			SKS	**SKSac**	**15 09 44.8**	**-0.5**
LZH			S	**ScS**	**15 10 18.5**	**+0.8**
LZH			pmax	pmax		
	comp=Z,150nm,1.2s					
LZH			pmax	pmax		
	comp=Z,950nm,4.8s					
LZH			LR	LR		
	comp=Z,7μm,19.6s					
LZH			LR	LR		
	comp=Z,2μm,19.2s					
LZH			LR	LR		
	comp=Z,12μm,21.8s					
ERM	**Erimo**	**92.91 3**	IAMs_20	IAMs_20	15 37 12.7	
	comp=Z,9μm,22.0s					
BJT	**Baijiatuau**	**93.11 342**	P	**P**	**14 59 17.8**	**+2.0**
BJI	**Beijing**	**93.13 342**	P	**P**	**14 59 16.3**	**+0.5**
BJI			pP	**sP**	**14 59 21.0**	**-0.3**
BJI			sP	**pwP**	**14 59 23.6**	**-0.1**
BJI			PP	**PP**	**15 03 03.9**	**+4.1**
BJI			SKS	**SKSac**	**15 09 48.3**	**-0.5**
BJI			SS	**SS**	**15 16 41.5**	**+3.8**
BJI			pmax	pmax		
	comp=Z,10.0nm,1.1s					
BJI			pmax	pmax		
	comp=Z,130nm,3.5s					
BJI			LR	LR		
	comp=Z,3μm,21.0s					
BJI			LR	LR		
	comp=Z,2μm,21.8s					
BJI			LR	LR		
	comp=Z,3μm,21.2s					
GUNA	**GUNA**	**93.14 306**	*e*P	**P**	**14 59 15.4**	**-1.0**
GUNA			IAmb	IAmb	14 59 26.0	
	comp=Z,393nm,2.0s					
LKN	**LUCKNOW**	**93.16 310**	*e*P	**P**	**14 59 13.9**	**-2.4**
LKN			IAmb	IAmb	14 59 32.6	
	comp=Z,332nm,0.9s					
JHNI	**Jhansi**	**93.22 308**	*e*P	**P**	**14 59 15.8**	**-0.8**
JHNI			IAmb	IAmb	14 59 28.3	
	comp=Z,181nm,1.7s					
TSUM	**Tsumeb**	**93.42 234**	LR	LR	15 34 06.3	
	comp=Z,22μm,21.8s,baz=149,slow=31					
SNY	**Shenyang**	**93.69 348**	⇑P	P	14 59 23.3	+4.9
SNY			S	**S**	**15 10 29.8**	**+3.4**
SNY			pmax	pmax		
	comp=Z,20nm,1.3s					
SNY			pmax	pmax		
	comp=Z,290nm,7.0s					
SNY			LR	LR		
	comp=Z,4μm,20.7s					
SNY			LR	LR		
	comp=Z,2μm,19.9s					
SNY			LR	LR		
	comp=Z,6μm,24.5s					
FRKB	**FARRUKHABAD**	**94.32 310**	*e*P	**P**	**14 59 19.3**	**-2.3**
FRKB			IAmb	IAmb	14 59 27.9	
	comp=Z,110nm,0.6s					
HHC	**Hu-ho-hao-te**	**94.87 339**	*e*P	**P**	**14 59 24.6**	**+0.6**
HHC			PP	**PP**	**15 03 11.6**	**-1.9**
HHC			SKS	**SKSac**	**15 10 02.8**	**+4.3**
HHC			S	**S**	**15 10 37.3**	**+0.3**
HHC			SS	**SS**	**15 17 02.8**	**0.0**
HHC			pmax	pmax		
	comp=Z,11nm,0.5s					
HHC			pmax	pmax		
	comp=Z,320nm,5.9s					
HHC			LR	LR		
	comp=Z,4μm,21.0s					
HHC			LR	LR		
	comp=Z,4μm,20.6s					
HHC			LR	LR		
	comp=Z,8μm,21.0s					
ASAJ	**Asahikawa**	**94.99 2**	LR	LR	15 41 46.9	
	comp=Z,6μm,20.8s,baz=187,slow=35					
BTO	**Baotou**	**94.99 338**	*e*P	**P**	**14 59 26.6**	**+2.1**
BTO			pP	**sP**	**14 59 30.9**	**+0.9**
BTO			sP	**pwP**	**14 59 32.9**	**+0.5**
BTO			PP	**PP**	**15 03 18.5**	**+4.0**
BTO			SKS	**SKSac**	**15 09 59.6**	**+0.4**
BTO			S	**ScS**	**15 10 43.9**	**+4.9**
BTO			pmax	pmax		
	comp=Z,19nm,0.8s					
BTO			pmax	pmax		
	comp=Z,530nm,5.4s					
BTO			LR	LR		
	comp=Z,10μm,20.6s					
BTO			LR	LR		
	comp=Z,7μm,22.4s					
BTO			LR	LR		
	comp=Z,9μm,22.9s					
YUK	**Yuzh-Kuril'sk**	**95.03 5**	*e*P	**P**	**14 59 24.8**	**+0.4**
YUK			S	**SKSac**	**15 10 00.1**	**+1.2**
YUK			SS	**SS**	**15 17 12.3**	**+7.6**
YUK			pmax	pmax		
	comp=Z,400nm,1.6s					
USA0B	**Ussuriysk Arra**	**95.25 355**	*i* P	**P**	**14 59 23.8**	**-1.7**
USRK	**Ussuriysk Ar.**	**95.25 355**	P	**P**	**14 59 26.0**	**+0.5**
	comp=Z,7.9nm,1.0s,baz=192,slow=3.5,SNR=6.5					
USRK			LR	LR	15 43 14.9	
	comp=Z,4μm,18.1s,baz=173,slow=36					
	comp=Z,7.9nm,1.0s					
KIBK	**Kibwezi**	**95.33 260**	IAMs_20	IAMs_20	15 34 16.6	
	comp=Z,9μm,21.0s					
KIBK	**Kibwezi**	**95.33 260**	P	**P**	**14 59 22.2**	**-4.6**
KIBK	**Kibwezi**	**95.33 260**	P	**P**	**14 59 29.5**	**+2.7**
	SNR=6.1					
GOMU	**GeErMu**	**95.46 325**	P	**P**	**14 59 27.5**	**+0.4**
GOMU			PP	**PP**	**15 03 19.1**	**+0.6**
GOMU			S	**S**	**15 10 45.8**	**+2.9**
GOMU			pmax	pmax		
	comp=Z,15nm,1.2s					
GOMU			pmax	pmax		
	comp=Z,510nm,5.3s					
GOMU			LR	LR		
	comp=Z,12μm,22.1s					
GOMU			LR	LR		
	comp=Z,7μm,22.7s					
GOMU			LR	LR		
	comp=Z,22μm,22.9s					
LGTI	**Lohaghat**	**95.71 311**	*e*P	**P**	**14 59 27.5**	**-0.4**
LGTI			IAmb	IAmb	14 59 42.5	
	comp=Z,24nm,1.3s					
PTH	**Pithoragarh**	**95.81 311**	*e*P	**P**	**14 59 28.2**	**-0.5**
PTH			IAmb	IAmb	14 59 43.2	
	comp=Z,16nm,0.9s					
LCO	**Las Campanas**	**95.81 154**	P	**P**	**14 59 30.6**	**+1.5**
LCO			pmax	pmax		
	comp=Z,15nm,2.4s					
MDJ	**Mudanjiang**	**95.83 353**	P	**P**	**14 59 30.3**	**+2.2**
MDJ			S	**S**	**15 10 46.8**	**+1.9**
MDJ			pmax	pmax		
	comp=Z,5.0nm,1.4s					
MDJ			pmax	pmax		
	comp=Z,310nm,5.7s					
MDJ			LR	LR		
	comp=Z,3μm,19.3s					
MDJ			LR	LR		
	comp=Z,3μm,18.6s					
MDJ			LR	LR		
	comp=Z,7μm,18.0s					
MDJ	**Mudanjiang**	**95.83 353**	P	**P**	**14 59 30.5**	**+2.4**
TKRD	**Thakurdwara**	**96.12 310**	*e*P	**P**	**14 59 28.5**	**-1.4**
SONA	**Sohna**	**96.24 308**	*e*P	**P**	**14 59 29.9**	**-0.5**
SONA			IAmb	IAmb	14 59 41.7	
	comp=Z,59nm,1.4s					
MERT	**Meerut**	**96.52 309**	*e*P	**P**	**14 59 35.6**	**+4.0**
MERT			IAmb	IAmb	14 59 46.2	
	comp=Z,181nm,0.5s					
NPLP	**NPLP New Delhi**	**96.52 308**	*e*P	**P**	**14 59 28.3**	**-3.4**
NPLP			IAmb	IAmb	14 59 34.6	
	comp=Z,16nm,0.4s					
NDI	**New Delhi**	**96.53 309**	*e*P	**P**	**14 59 31.6**	**-0.2**

NDI					IAmb	IAmb	14 59 47.6		
	comp=Z,9.1nm,0.7s								
GTA	**Gaotai**	**96.68**	**330**	*e*P		**P**	**14 59 33.9**	**+1.6**	
GTA				PP		**PP**	**15 03 29.5**	**+1.9**	
GTA				SKS		**SKSac**	**15 10 07.1**	**-1.1**	
GTA				S		**ScS**	**15 10 55.4**	**+2.1**	
GTA				SS		**SS**	**15 17 33.3**	**+4.7**	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,210nm,5.5s								
GTA				LR		LR			
	comp=Z,5μm,24.0s								
GTA				LR		LR			
	comp=Z,3μm,24.0s								
GTA				LR		LR			
	comp=Z,8μm,24.4s								
KMBO	**Kilima Mbogo**	**96.76**	**260**		IAMs_20	IAMs_20	15 35 10.1		
	comp=Z,8μm,21.0s								
KMBO	**Kilima Mbogo**	**96.76**	**260**		LR	LR	15 35 22.1		
	comp=Z,8μm,20.8s,baz=134,slow=31								
KMBO	**Kilima Mbogo**	**96.76**	**260**		P	**P**	**14 59 36.5**	**+3.0**	
KMBO	**Kilima Mbogo**	**96.76**	**260**	*i*	P	**P**	**14 59 31.4**	**-2.2**	
XLT	**XiLinHaoTe**	**96.88**	**343**	*e*P		**P**	**14 59 32.8**	**-0.3**	
XLT				sP		pwP	14 59 42.3	+1.4	
XLT				SKS		**SKSac**	**15 10 08.1**	**-0.8**	
XLT				S		**S**	**15 10 50.6**	**-3.6**	
XLT				pmax		pmax			
	comp=Z,28nm,1.7s								
XLT				pmax		pmax			
	comp=Z,210nm,5.4s								
XLT				LR		LR			
	comp=Z,410nm,22.2s								
XLT				LR		LR			
	comp=Z,3μm,18.8s								
XLT				LR		LR			
	comp=Z,6μm,23.3s								
YSS	**Yuzhno-Sakhali**	**97.83**	**2**	*i*	P	**P**	**14 59 36.2**	**-0.9**	
YSS				pmax		pmax			
	comp=Z,5.0nm,1.2s								
YSS				MLR		MLR			
	comp=Z,6μm,21.0s								
JASL	**Jaisalmer**	**98.33**	**303**	*e*P		Pdif	14 59 45.8	+5.9	
JASL				IAmb		IAmb	14 59 52.2		
	comp=Z,28nm,0.5s								
KLR	**Kul'dur**	**100.28**	**355**	*i*	P	**Pdif**	**14 59 48.5**	**+0.5**	
KLR				pmax		pmax			
	comp=Z,3.0nm,1.2s								
RBK	**Rabkut**	**100.53**	**285**		P	**Pdif**	**14 59 55.8**	**+5.8**	
ABTO	**Aybut**	**100.97**	**284**		P	**Pdif**	**14 59 59.3**	**+7.3**	
	SNR=5.6								
JLN	**Jalan Bani Buh**	**100.99**	**292**		P	**Pdif**	**14 59 59.4**	**+7.5**	
JLN					S	**SKSac**	**15 10 31.0**	**+0.7**	
WHFO	**Wadi Hawf**	**101.11**	**285**		P	**Pdif**	**14 59 59.8**	**+7.2**	
LODK	**Lodwar**	**101.48**	**261**		IAMs_20	IAMs_20	15 42 51.1		
	comp=Z,8μm,18.0s								
HIA	**Hailar**	**101.51**	**347**		IAMs_20	IAMs_20	15 48 30.5		
	comp=Z,8μm,20.0s								
HEH	**HeiHe**	**101.61**	**352**		P	**Pdif**	**14 59 51.4**	**-2.5**	
HEH					SS	SS	15 18 41.9	+4.9	
HEH					LR	LR			
	comp=Z,5μm,21.8s								
HEH					LR	LR			
	comp=Z,3μm,22.5s								
HEH					LR	LR			
	comp=Z,8μm,23.5s								
NIL	**Nilore**	**102.54**	**309**		IAMs_20	IAMs_20	15 42 52.7		
	comp=Z,10μm,20.0s								
ULN	**Ulaanbaatar**	**102.55**	**338**		IAMs_20	IAMs_20	15 50 55.9		
	comp=Z,11μm,20.0s								
ULN	**Ulaanbaatar**	**102.55**	**338**		P	**Pdif**	**14 59 59.6**	**+1.3**	
ULN					S	**SKSac**	**15 10 38.1**	**+1.2**	
ULN	**Ulaanbaatar**	**102.55**	**338**	*i*	P	**Pdif**	**14 59 59.0**	**+0.7**	
ULN				pmax		pmax			
	comp=Z,14nm,1.5s								
SONM	**Songino Array**	**102.67**	**338**		P	**Pdif**	**14 59 58.6**	**-0.3**	
	comp=Z,2.2nm,0.9s,baz=178,slow=4.3,SNR=9.2								
SONM					PP	**PKiKP**	**15 04 18.4**	**-1.1**	
	comp=Z,1.0nm,0.6s,baz=185,slow=8.9,SNR=3.7								
HOQ	**Hoqain**	**103.32**	**291**		P	**Pdif**	**15 00 09.4**	**+7.2**	
HOQ					S	**SKSac**	**15 10 42.0**	**+0.6**	
PB08	**IPOC Station P**	**104.64**	**152**		PKP	**PKiKP**	**15 04 21.5**	**-3.0**	
PETK	**Petropavlovsk-**	**105.08**	**11**		PP	**PP**	**15 04 35.1**	**+4.4**	
	comp=Z,5.7nm,1.1s,baz=177,slow=5.9,SNR=3.8								
ZEA	**Zeya**	**105.08**	**353**	*e*P		**Pdif**	**15 00 14.5**	**+5.3**	
ZEA				*e*			15 10 54.5		
ZEA				*e*			15 19 27.0		
PET	**Petropavlovsk**	**105.11**	**12**		IAMs_20	IAMs_20	15 44 05.9		
	comp=Z,7μm,21.0s								
CIT	**Chita**	**105.17**	**344**	*e*P		**Pdif**	**15 00 18.6**	**+8.9**	
CIT				pmax		pmax			
	comp=Z,76nm,1.5s								
MDH	**Madha**	**105.22**	**291**		P	**Pdif**	**15 00 14.9**	**+4.3**	
MDH					S	**SKSac**	**15 10 52.2**	**+2.2**	
ASUD	**Al Ashush, Dub**	**105.28**	**290**		P	**Pdif**	**15 00 13.6**	**+2.7**	
ASUD					S	**SKSac**	**15 10 51.9**	**+1.6**	
MASF	**Masafi**	**105.36**	**291**		P	**Pdif**	**15 00 15.1**	**+3.8**	
ADK	**Adak**	**109.21**	**27**		IAMs_20	IAMs_20	15 47 03.1		
	comp=Z,10μm,20.0s								
MKAR	**Makanchi Array**	**109.30**	**322**		Pdiff	**Pdif**	**15 00 28.2**	**-0.1**	
	comp=Z,0.9nm,0.7s,baz=132,slow=3.6,SNR=6.9								
MKAR					PKiKP	**PKiKP**	**15 04 29.6**	**-2.2**	
	comp=Z,0.9nm,0.7s,baz=218,slow=2.9,SNR=6.9								
MKAR					PKKPbc	**PKKPab**	**15 15 44.0**	**-2.5**	
	comp=Z,2.2nm,1.0s,baz=345,slow=3.8,SNR=5.8								
MAKZ	**Makanchi**	**109.44**	**322**		IAMs_20	IAMs_20	15 50 17.8		
	comp=Z,7μm,21.0s								
ATKA	**Atka Island**	**110.22**	**28**		IAMs_20	IAMs_20	15 45 30.8		
	comp=Z,10μm,21.0s								
NIKH	**Nikolski High**	**112.54**	**31**		IAMs_20	IAMs_20	15 45 25.5		
	comp=Z,6μm,22.0s								
NIKH	**Nikolski High**	**112.54**	**31**		P	**PKiKP**	**15 04 36.7**	**-0.9**	
	baz=212								
PAYG	**Puerto Ayora**	**113.41**	**124**		IAMs_20	IAMs_20	15 41 06.5		
	comp=Z,9μm,21.0s								
VILB	**Vilhena**	**113.85**	**159**		IAMs_20	IAMs_20	15 55 11.0		
	comp=Z,7μm,21.0s								
KURBB	**Kurchatov Arra**	**113.87**	**322**		PKiKP	**PKiKP**	**15 04 39.1**	**-1.0**	
	comp=Z,2.7nm,0.9s,baz=150,slow=1.9,SNR=13								
KURBB					PP	**PP**	**15 05 36.9**	**+2.3**	
	comp=Z,3.8nm,1.1s,baz=160,slow=3.1,SNR=4.8								
KURBB					PKKPbc	**PKKPab**	**15 15 25.2**	**-1.1**	
	comp=Z,0.5nm,0.7s,baz=313,slow=3.4,SNR=5.0								
KURK	**Kurchatov**	**113.91**	**323***c*	*i*	PKIKP	**PKiKP**	**15 04 41.0**	**+0.7**	
KURK					pmax	pmax			
	comp=Z,12nm,1.7s								
UNV	**Unalaska Valle**	**114.04**	**32**		P	PKPdf	15 04 39.4	-0.9	
	baz=214								
ZALV	**Zalesovo Beam**	**114.33**	**328**		PP	**PP**	**15 05 40.5**	**+2.8**	
	comp=Z,2.8nm,0.8s,baz=134,slow=4.3,SNR=4.6								
ZALV					PKKPbc	**PKKPbc**	**15 15 22.3**	**+1.7**	
	comp=Z,0.5nm,0.3s,baz=336,slow=3.3,SNR=6.0								
P08K	**Saint George I**	**115.39**	**28**		IAMs_20	IAMs_20	15 47 10.7		
	comp=Z,10μm,22.0s								
P08K	**Saint George I**	**115.39**	**28**		P	**PKPdf**	**15 04 42.2**	**-0.7**	
	baz=213								
SPIA	**Saint Paul Isl**	**115.67**	**28**		IAMs_20	IAMs_20	15 49 57.1		
	comp=Z,9μm,20.0s								
SPIA	**Saint Paul Isl**	**115.67**	**28**		P	**PKPdf**	**15 04 42.7**	**-0.7**	
	baz=212								
FALS	**False Pass**	**115.91**	**33**		IAMs_20	IAMs_20	15 47 29.7		
	comp=Z,7μm,21.0s								
FALS	**False Pass**	**115.91**	**33**		P	**PKPdf**	**15 04 42.9**	**-1.0**	
	baz=216								
SAML	**Samuel**	**116.96**	**155**		IAMs_20	IAMs_20	15 59 41.9		
	comp=Z,5μm,20.0s								
CNBA	**Chernabura Isl**	**117.21**	**35**		IAMs_20	IAMs_20	15 45 31.6		
	comp=Z,9μm,21.0s								
CHNA	**Chernabura Isl**	**117.22**	**35**		P	**PKPdf**	**15 04 45.5**	**-1.0**	
	baz=218								
SDPT	**Sand Point**	**117.31**	**34**		P	**PKPdf**	**15 04 45.9**	**-0.8**	
	baz=218								
S14K	**Fog Glacier**	**118.38**	**34**		P	**PKPdf**	**15 04 48.0**	**-0.8**	
	baz=219								
BVAR	**Borovoye Array**	**118.94**	**320**		PKP	**PKPdf**	**15 04 48.9**	**-1.0**	
	comp=Z,3.6nm,0.8s,baz=131,slow=4.5,SNR=14								
BVAR					PKKPbc	**PKKPab**	**15 15 06.6**	**+2.4**	
	comp=Z,1.5nm,0.8s,baz=316,slow=4.1,SNR=5.3								
BRVK	**Borovoye**	**119.00**	**320**		IAMs_20	IAMs_20	15 57 14.0		
	comp=Z,8μm,20.0s								
BRVK	**Borovoye**	**119.00**	**320***c*	*i*	PKIKP	**PKiKP**	**15 04 50.5**	**+0.4**	
BRVK					pmax	pmax			
	comp=Z,31nm,2.5s								
BRVK					MLR	MLR			
	comp=Z,8μm,20.0s								
CHIR	**Chirikof Islan**	**119.43**	**36**		IAMs_20	IAMs_20	15 53 44.1		
	comp=Z,6μm,20.0s								
CHIR	**Chirikof Islan**	**119.43**	**36**		P	**PKPdf**	**15 04 50.0**	**-0.8**	
	baz=221								
M11K	**Mekoryuk**	**119.52**	**28**		IAMs_20	IAMs_20	15 50 20.7		
	comp=Z,9μm,22.0s								
M11K	**Mekoryuk**	**119.52**	**28**		P	**PKPdf**	**15 04 50.0**	**-0.7**	
	baz=216								
R16K	**Pilot Point**	**120.06**	**34**		P	**PKPdf**	**15 04 51.3**	**-0.5**	
	baz=220								
O14K	**Tigyukauivet M**	**120.12**	**31**		IAMs_20	IAMs_20	15 49 42.1		
	comp=Z,9μm,21.0s								
O14K	**Tigyukauivet M**	**120.12**	**31**		P	**PKPdf**	**15 04 51.4**	**-0.6**	
	baz=219								
M13K	**Dall Lake**	**120.39**	**29**		IAMs_20	IAMs_20	15 50 50.9		
	comp=Z,8μm,22.0s								
M13K	**Dall Lake**	**120.39**	**29**		P	**PKPdf**	**15 04 51.9**	**-0.4**	
	baz=218								
SII	**Sitkinak Islan**	**120.52**	**36**		IAMs_20	IAMs_20	15 48 54.8		
	comp=Z,8μm,21.0s								
SII	**Sitkinak Islan**	**120.52**	**36**		P	**PKPdf**	**15 04 52.4**	**-0.4**	
	baz=222								
N14K	**Kuskokwak Cree**	**120.52**	**30**		P	**PKPdf**	**15 04 52.3**	**-0.3**	
	baz=219								
O15K	**Ungalikthiuk R**	**120.53**	**31**		P	**PKPdf**	**15 04 52.4**	**-0.4**	
	baz=220								
NPGB	**Novo Progresso**	**120.58**	**163**	*e*P		**PKiKP**	**15 04 56.1**	**+1.6**	
BILL	**Bilibino**	**120.61**	**11**		IAMs_20	IAMs_20	15 57 09.9		
	comp=Z,8μm,20.0s								
BILL	**Bilibino**	**120.61**	**11***c*	*i*	PKIKP	**PKiKP**	**15 04 53.3**	**+0.6**	
BILL					pmax	pmax			
	comp=Z,11nm,1.3s								
ABKAR	**Akbulak array**	**120.82**	**311**			**PKPdf**	**15 04 52.7**	**-0.9**	
GAMB	**Gambell**	**120.84**	**23**		P	**PKPdf**	**15 04 52.9**	**-0.3**	
	baz=214								
SLBS	**Sierra La Lagu**	**120.89**	**90**		IAMs_20	IAMs_20	15 44 50.9		
	comp=Z,6μm,21.0s								
P16K	**Nushagak River**	**121.03**	**32**		IAMs_20	IAMs_20	15 48 27.2		
	comp=Z,9μm,22.0s								
P16K	**Nushagak River**	**121.03**	**32**		P	**PKPdf**	**15 04 52.6**	**-1.1**	
	baz=221								
M14K	**Bethel**	**121.08**	**29**		IAMs_20	IAMs_20	15 51 46.2		
	comp=Z,9μm,21.0s								
M14K	**Bethel**	**121.08**	**29**		P	**PKPdf**	**15 04 52.7**	**-1.0**	
	baz=219								
Q17K	**Contact Creek**	**121.17**	**34**		P	**PKPdf**	**15 04 53.3**	**-0.8**	
	baz=222								
K13K	**Kusilvak Mount**	**121.21**	**27**		P	**PKPdf**	**15 04 53.4**	**-0.5**	
	baz=218								
N15K	**Kwethluk River**	**121.21**	**31**		P	**PKPdf**	**15 04 53.1**	**-0.9**	
	baz=220								
Q16K	**King Salmon**	**121.22**	**33**		P	**PKPdf**	**15 04 53.0**	**-1.0**	
	baz=221								
L14K	**Kuka Creek**	**121.32**	**29**		IAMs_20	IAMs_20	15 53 21.5		
	comp=Z,8μm,20.0s								
L14K	**Kuka Creek**	**121.32**	**29**		P	**PKPdf**	**15 04 53.6**	**-0.6**	
	baz=219								
OHAK	**Old Harbor**	**121.34**	**36**		P	**PKPdf**	**15 04 53.3**	**-1.0**	
	baz=223								
O16K	**Kokwok River B**	**121.42**	**32**		IAMs_20	IAMs_20	15 48 49.5		
	comp=Z,8μm,22.0s								
O16K	**Kokwok River B**	**121.42**	**32**		P	**PKPdf**	**15 04 53.6**	**-0.8**	
	baz=221								
M15K	**Kasigluk River**	**121.43**	**30**		P	**PKPdf**	**15 04 53.3**	**-1.1**	
	baz=220								
P17K	**Kvichak River**	**121.68**	**33**		P	**PKPdf**	**15 04 54.6**	**-0.3**	
	baz=222								
TEFE	**Tefe**	**121.73**	**151**	*e*P		**PKiKP**	**15 04 57.7**	**+1.0**	
Q18K	**Katmai Hardscr**	**121.77**	**34**		P	**PKPdf**	**15 04 54.8**	**-0.5**	
	baz=222								
ASF	**Jabal al Asfar**	**121.87**	**283**		PKP	**PKPdf**	**15 04 56.1**	**-0.2**	
	comp=Z,1.2nm,0.3s,baz=182,slow=3.4,SNR=3.7								
N16K	**Nishlik Lake**	**121.87**	**31**		P	**PKPdf**	**15 04 55.0**	**-0.3**	
	baz=221								
O17K	**Koliganek Bris**	**121.89**	**32**		P	**PKPdf**	**15 04 54.5**	**-0.9**	
	baz=222								
L15K	**Ungalak Mounta**	**121.94**	**29**		P	**PKPdf**	**15 04 55.0**	**-0.4**	
	baz=220								
KDAK	**Kodiak Island**	**122.01**	**36**		P	**PKPdf**	**15 04 55.1**	**-0.5**	
	baz=224								
GHAJ	**Ghor Haditha**	**122.09**	**281**		IAMs_20	IAMs_20	15 53 09.5		
	comp=Z,7μm,19.0s								
J14K	**Nanvaranak Lak**	**122.17**	**27**		IAMs_20	IAMs_20	15 52 23.9		
	comp=Z,9μm,21.0s								
J14K	**Nanvaranak Lak**	**122.17**	**27**		P	**PKPdf**	**15 04 55.6**	**-0.2**	
	baz=219								
M16K	**Timber Creek**	**122.23**	**30**		P	**PKPdf**	**15 04 55.3**	**-0.7**	
	baz=221								
P18K	**Big Mountain,**	**122.24**	**33**		IAMs_20	IAMs_20	15 53 57.3		
	comp=Z,7μm,22.0s								
P18K	**Big Mountain,**	**122.24**	**33**		P	**PKPdf**	**15 04 55.6**	**-0.5**	
	baz=222								
PRPB	**Paraua pebas**	**122.29**	**169**	*e*P		**PKiKP**	**15 04 58.7**	**+0.8**	
K15K	**Wolf Creek Mou**	**122.41**	**28**		IAMs_20	IAMs_20	15 54 57.2		
	comp=Z,8μm,21.0s								
K15K	**Wolf Creek Mou**	**122.41**	**28**		P	**PKPdf**	**15 04 55.9**	**-0.4**	
	baz=220								
N17K	**Nushagak Hills**	**122.43**	**32**		P	**PKPdf**	**15 04 55.8**	**-0.5**	
	baz=222								
Q19K	**Cape Douglas,**	**122.46**	**34**		IAMs_20	IAMs_20	15 47 20.1		
	comp=Z,8μm,22.0s								
Q19K	**Cape Douglas,**	**122.46**	**34**		P	**PKPdf**	**15 04 56.2**	**-0.3**	
	baz=223								
L16K	**Owhat River**	**122.59**	**30**		P	**PKPdf**	**15 04 56.2**	**-0.4**	
	baz=221								
O18K	**Koktuh Hills**	**122.59**	**33**		IAMs_20	IAMs_20	15 52 34.5		
	comp=Z,7μm,21.0s								
O18K	**Koktuh Hills**	**122.59**	**33**		P	**PKPdf**	**15 04 55.8**	**-0.9**	
	baz=223								
GNI	**Garni**	**122.61**	**295**		PKP	**PKiKP**	**15 04 58.6**	**+0.8**	
	comp=Z,8.9nm,0.8s,baz=73,slow=9.9,SNR=5.3								
Q20K	**Shuyak Island**	**122.68**	**35**		P	**PKPdf**	**15 04 56.3**	**-0.6**	
	baz=224								
SYI	**Shuyak Island**	**122.68**	**35**		IAMs_20	IAMs_20	15 50 38.9		
	comp=Z,9μm,22.0s								
TIXI	**Tiksi**	**122.79**	**356**		IAMs_20	IAMs_20	16 02 56.5		
	comp=Z,7μm,20.0s								
TIXI	**Tiksi**	**122.79**	**356***c*	*i*	PKIKP	**PKPdf**	**15 04 55.9**	**-0.8**	
TIXI					pmax	pmax			
	comp=Z,16nm,1.3s								
MAK	**Makhachkala**	**122.93**	**299**	*i*	P	**Pdif**	**15 01 21.7**	**-7.2**	
MAK				*e*			15 11 51.8		
MAK					pmax	pmax			
	comp=Z,267nm,1.1s								
N18K	**Kilae Creek**	**122.97**	**32**		P	**PKPdf**	**15 04 56.7**	**-0.7**	
	baz=223								
MCCM	**Marconi Confer**	**122.98**	**69**		IAMs_20	IAMs_20	15 49 49.2		
	comp=Z,7μm,20.0s								
M17K	**Holitna River**	**123.00**	**31**		P	**PKPdf**	**15 04 57.1**	**-0.3**	
	baz=222								
RCBR	**Riachuelo**	**123.05**	**186**		IAMs_20	IAMs_20	15 52 46.8		
	comp=Z,6μm,20.0s								
ANM	**Nome**	**123.10**	**25**		IAMs_20	IAMs_20	15 58 02.2		
	comp=Z,6μm,20.0s								
ANM	**Nome**	**123.10**	**25**		P	**PKPdf**	**15 04 57.4**	**-0.1**	
	baz=218								
ITTB	**Itaituba**	**123.12**	**162**	*e*P		**PKiKP**	**15 05 00.9**	**+1.4**	
P19K	**Oil Pt**	**123.13**	**34**		IAMs_20	IAMs_20	15 48 53.9		
	comp=Z,5μm,22.0s								
P19K	**Oil Pt**	**123.13**	**34**		P	**PKPdf**	**15 04 57.4**	**-0.4**	
	baz=224								
O19K	**Port Alsworth**	**123.15**	**33**		IAMs_20	IAMs_20	15 52 41.2		
	comp=Z,8μm,22.0s								
O19K	**Port Alsworth**	**123.15**	**33**		P	**PKPdf**	**15 04 57.3**	**-0.4**	
	baz=224								
TNA	**Tin City**	**123.24**	**23**		IAMs_20	IAMs_20	15 52 33.8		
	comp=Z,7μm,21.0s								
TNA	**Tin City**	**123.24**	**23**		P	**PKPdf**	**15 04 57.8**	**+0.1**	
	baz=217								
L17K	**Donlin**	**123.28**	**30**		P	**PKPdf**	**15 04 57.7**	**-0.3**	
	baz=222								
MOIG	**Morelia**	**123.42**	**100**		IAMs_20	IAMs_20	15 56 05.5		
	comp=Z,5μm,18.0s								
TLIG	**Tlapa**	**123.43**	**104**		IAMs_20	IAMs_20	15 47 59.1		
	comp=Z,7μm,19.0s								
HOPS	**Hopland Field**	**123.43**	**68**		IAMs_20	IAMs_20	15 50 40.1		
	comp=Z,8μm,20.0s								
J16K	**Anvik River**	**123.44**	**28**		IAMs_20	IAMs_20	15 55 27.6		
	comp=Z,7μm,20.0s								
J16K	**Anvik River**	**123.44**	**28**		P	**PKPdf**	**15 04 57.9**	**-0.3**	
	baz=221								
N19K	**Bonanza Creek**	**123.54**	**33**		IAMs_20	IAMs_20	15 53 33.6		
	comp=Z,8μm,21.0s								
N19K	**Bonanza Creek**	**123.54**	**33**		P	**PKPdf**	**15 04 58.6**	**0.0**	
	baz=224								
F14K	**Arctic Creek**	**123.57**	**24**		P	**PKPdf**	**15 04 58.4**	**0.0**	
	baz=218								
M18K	**Stony River**	**123.59**	**31**		P	**PKPdf**	**15 04 58.4**	**-0.2**	
	baz=223								
HOM	**Homer**	**123.70**	**35**		IAMs_20	IAMs_20	15 49 47.8		
	comp=Z,7μm,22.0s								
HOM	**Homer**	**123.70**	**35**		P	**PKiKP**	**15 04 59.0**	**0.0**	
	baz=225								
K17K	**Iditarod**	**123.71**	**29**			**PKiKP**	**15 04 58.9**	**-0.1**	
K17K					IAMs_20	IAMs_20	15 52 55.7		
	comp=Z,9μm,21.0s								
K17K	**Iditarod**	**123.71**	**29**		P	**PKPdf**	**15 04 58.6**	**-0.2**	
	baz=222								
G15K	**Niukluk**	**123.79**	**25**		P	**PKPdf**	**15 04 59.0**	**+0.1**	
	baz=219								
L18K	**Granite Mounta**	**123.85**	**30**		P	**PKiKP**	**15 04 59.2**	**-0.1**	
	baz=223								
I17K	**Unalakleet**	**123.87**	**27**		IAMs_20	IAMs_20	15 55 21.9		
	comp=Z,6μm,20.0s								
I17K	**Unalakleet**	**123.87**	**27**		P	**PKPdf**	**15 04 59.1**	**+0.1**	
	baz=221								
J17K	**VABM Dome**	**123.98**	**28**		IAMs_20	IAMs_20	15 53 45.8		
	comp=Z,6μm,20.0s								
J17K	**VABM Dome**	**123.98**	**28**		P	**PKPdf**	**15 04 59.1**	**-0.1**	
	baz=222								
H16K	**Elim**	**124.01**	**26**		P	**PKPdf**	**15 04 59.4**	**+0.1**	
	baz=220								
BRSE	**Bradley Lake S**	**124.08**	**35**		P	**PKPdf**	**15 04 59.2**	**-0.4**	
	baz=226								
F15K	**North Star Dit**	**124.19**	**24**		IAMs_20	IAMs_20	15 54 01.0		
	comp=Z,8μm,22.0s								
F15K	**North Star Dit**	**124.19**	**24**		P	**PKPdf**	**15 04 59.3**	**-0.3**	
	baz=219								
M19K	**Big River Lodg**	**124.36**	**32**		P	**PKPdf**	**15 04 59.7**	**-0.3**	
	baz=224								
CMB	**Columbia Colle**	**124.37**	**70**		IAMs_20	IAMs_20	15 50 21.2		
	comp=Z,7μm,20.0s								
UNM	**Universidad Na**	**124.40**	**102**		IAMs_20	IAMs_20	15 49 51.7		
	comp=Z,6μm,20.0s								
L19K	**White Mountain**	**124.41**	**31**			**PKiKP**	**15 05 00.6**	**+0.2**	
L19K	**White Mountain**	**124.41**	**31**		P	**PKPdf**	**15 05 00.0**	**-0.1**	
	baz=224								
G16K	**Koyuk River**	**124.55**	**26**		IAMs_20	IAMs_20	15 55 03.8		
	comp=Z,6μm,20.0s								
G16K	**Koyuk River**	**124.55**	**26**		P	**PKPdf**	**15 05 00.2**	**-0.1**	
	baz=220								
TTA	**Tatalina**	**124.58**	**30**		P	**PKPdf**	**15 05 00.1**	**-0.4**	
	baz=224								
SPCR	**Spurr Chakacha**	**124.59**	**33**		P	**PKPdf**	**15 05 00.3**	**-0.3**	
	baz=225								
CAPN	**Captain Cook N**	**124.66**	**34**		IAMs_20	IAMs_20	15 48 53.2		
	comp=Z,9μm,22.0s								
CAPN	**Captain Cook N**	**124.66**	**34**		P	**PKPdf**	**15 05 00.4**	**-0.2**	
	baz=226								
ORV	**Oroville**	**124.72**	**68**		IAMs_20	IAMs_20	15 51 31.2		
	comp=Z,6μm,20.0s								
J18K	**Innoko River**	**124.75**	**29**		P	**PKPdf**	**15 05 00.7**	**0.0**	
	baz=223								
M20K	**Styx River**	**124.76**	**32**		IAMs_20	IAMs_20	15 55 02.9		
	comp=Z,7μm,21.0s								
M20K	**Styx River**	**124.76**	**32**		P	**PKPdf**	**15 05 00.9**	**0.0**	
	baz=225								
SEW	**Seward**	**124.80**	**35**		IAMs_20	IAMs_20	15 53 23.1		
	comp=Z,5μm,22.0s								
SEW	**Seward**	**124.80**	**35**		P	**PKPdf**	**15 05 00.8**	**-0.1**	
	baz=226								
SLKM	**Skilak Lake**	**124.81**	**35**		IAMs_20	IAMs_20	15 50 11.2		
	comp=Z,7μm,22.0s								
H17K	**Granite Mounta**	**124.89**	**27**		IAMs_20	IAMs_20	15 58 25.7		
	comp=Z,8μm,20.0s								
H17K	**Granite Mounta**	**124.89**	**27**		P	**PKPdf**	**15 05 00.9**	**0.0**	
	baz=222,SNR=8.7								
L20K	**Farewell, AK**	**124.94**	**31**		P	**PKPdf**	**15 05 01.1**	**0.0**	
	baz=225								
O22K	**Cooper Landing**	**124.97**	**35**		IAMs_20	IAMs_20	15 55 53.4		
	comp=Z,6μm,20.0s								
O22K	**Cooper Landing**	**124.97**	**35**		P	**PKPdf**	**15 05 01.

CUT	Chulitna	126.10	33	IAMs_20	IAMs_20	15 53 08.2	
	comp=Z,7μm,22.0s						
CUT	Chulitna	126.10	33	P	PKPdf	15 05 03.3	0.0
	baz=227						
D17K	Noatak River	126.12	23	P	PKPdf	15 05 03.3	+0.1
	baz=221						
GHO	Glory Hole Cre	126.13	34	IAMs_20	IAMs_20	15 53 35.1	
	comp=Z,7μm,21.0s						
TPNV	Topopah Spring	126.14	74	IAMs_20	IAMs_20	15 54 34.0	
	comp=Z,6μm,19.0s						
CAST	Castle Rocks	126.19	31	IAMs_20	IAMs_20	15 51 37.4	
	comp=Z,8μm,21.0s						
CAST	Castle Rocks	126.19	31	P	PKiKP	15 05 04.1	+0.1
	baz=226						
GLI	Glacier Island	126.19	36	IAMs_20	IAMs_20	15 51 29.8	
	comp=Z,7μm,22.0s						
GLI	Glacier Island	126.19	36	P	PKPdf	15 05 03.2	-0.4
	baz=228						
F18K	Selawik	126.19	26	P	PKiKP	15 05 03.7	-0.1
	baz=223						
KIV	Kislovodsk	126.25	297	⇑P	PKiKP	15 05 05.0	+0.3
KIV	Kislovodsk	126.25	297	*i* PKIKP	PKPdf	15 05 04.3	-0.1
KIV				*e*		15 06 58.2	
KIV				*e*		15 12 08.6	
KIV				*e*PS	PS	15 17 01.1	-1.0
KIV				*e*SS	SS	15 24 02.4	-0.3
KIV				*e*SSS	SSS	15 28 42.1	
KIV				pmax	pmax		
	comp=Z,25nm,1.0s						
KIV				MLR	MLR		
	comp=Z,4μm,23.0s						
ARTI	Arti	126.29	317	*i* PKIKP	PKiKP	15 05 04.4	+0.1
ARTI						15 06 58.4	
ARTI						15 12 15.8	
ARTI				SP	SP	15 17 02.9	+3.0
ARTI				SS	SS	15 23 56.4	-6.2
ARTI				MLR	MLR		
	comp=Z,8μm,20.0s						
H19K	Roundabout Mou	126.32	28	IAMs_20	IAMs_20	15 56 28.6	
	comp=Z,6μm,20.0s						
H19K	Roundabout Mou	126.32	28	P	PKPdf	15 05 03.8	+0.1
	baz=225,SNR=19						
FID	Port Fidalgo	126.33	36	IAMs_20	IAMs_20	15 49 52.0	
	comp=Z,7μm,22.0s						
SML	Sawmill	126.36	34	IAMs_20	IAMs_20	15 57 22.3	
	comp=Z,7μm,20.0s						
SML	Sawmill	126.36	34	P	PKPdf	15 05 03.8	-0.2
	baz=228						
HERN	Volcan Telica	126.36	119	IAMs_20	IAMs_20	15 50 21.8	
	comp=Z,3μm,21.0s						
I20K	Naaghedeneel	126.39	29	P	PKPdf	15 05 03.9	+0.1
	baz=226						
TUC	Tucson	126.41	82	IAMs_20	IAMs_20	15 52 28.8	
	comp=Z,5μm,19.0s						
RDOG	Red Dog Mine	126.43	23	IAMs_20	IAMs_20	15 57 15.2	
	comp=Z,6μm,20.0s						
RDOG	Red Dog Mine	126.43	23	P	PKPdf	15 05 04.0	+0.2
	baz=221						
CHUM	Lake Minchumin	126.43	31	P	PKPdf	15 05 03.9	0.0
	baz=227,SNR=7.1						
EYAK	Cordova Ski Ar	126.47	36	IAMs_20	IAMs_20	15 52 38.2	
	comp=Z,5μm,20.0s						
EYAK	Cordova Ski Ar	126.47	36	P	PKPdf	15 05 03.6	-0.4
	baz=229						
E18K	Tukpahlearik C	126.55	25	IAMs_20	IAMs_20	15 56 07.3	
	comp=Z,8μm,21.0s						
E18K	Tukpahlearik C	126.55	25	P	PKPdf	15 05 04.2	+0.1
	baz=223						
KAIM	Kayak Island	126.56	37	P	PKPdf	15 05 04.0	-0.3
	baz=230						
M23K	Glacier View	126.57	34	P	PKPdf	15 05 04.1	-0.1
	baz=228						
G19K	Purcell Mounta	126.58	27	P	PKPdf	15 05 04.4	+0.2
	baz=224,SNR=14						
DBIC	Dimbokro	126.67	226	⇑PKIKP	PKiKP	15 05 13.8	+7.4
SCM	Sheep Creek Mo	126.74	35	P	PKPdf	15 05 04.7	0.0
	baz=229						
GOF	Gofitskoye	126.74	298	*ce*PKIKP	PKiKP	15 05 06.3	+0.7
H20K	Anotleneega Mo	126.76	28	P	PKPdf	15 05 04.6	0.0
	baz=226,SNR=9.6						
TRF	Thorofare Moun	126.80	32	IAMs_20	IAMs_20	15 56 47.6	
	comp=Z,8μm,20.0s						
TRF	Thorofare Moun	126.80	32	P	PKPdf	15 05 04.8	-0.1
	baz=228,SNR=12						
DIV	Divide	126.84	36	IAMs_20	IAMs_20	15 53 45.0	
	comp=Z,6μm,21.0s						
F19K	Shaleruckik Mo	126.88	26	P	PKPdf	15 05 04.6	-0.1
	baz=224						
COR	Corvallis	126.91	62	IAMs_20	IAMs_20	15 49 16.6	
	comp=Z,8μm,21.0s						
BPAW	Bear Paw Mtn.	127.01	31	IAMs_20	IAMs_20	15 55 01.1	
	comp=Z,7μm,20.0s						
BPAW	Bear Paw Mtn.	127.01	31	P	PKPdf	15 05 04.8	-0.3
	baz=228,SNR=10						
KLU	Klutina	127.02	35	IAMs_20	IAMs_20	16 02 17.8	
	comp=Z,5μm,19.0s						
KLU	Klutina	127.02	35	P	PKPdf	15 05 05.0	-0.2
	baz=230						
BGLC	Bering Glacier	127.12	38	P	PKPdf	15 05 05.2	-0.1
	baz=230						
BCIP	Isla Barro Col	127.13	128	IAMs_20	IAMs_20	15 47 23.0	
	comp=Z,6μm,22.0s						
BMRM	Bremner River	127.17	36	IAMs_20	IAMs_20	16 03 16.7	
	comp=Z,6μm,20.0s						
BMRM	Bremner River	127.17	36	P	PKPdf	15 05 05.2	-0.3
	baz=230						
RND	Reindeer	127.25	32	IAMs_20	IAMs_20	15 54 03.6	
	comp=Z,8μm,22.0s						
C18K	Utukok River	127.30	23	P	PKPdf	15 05 05.0	-0.5
	baz=223						
M24K	Tolsona, Glenn	127.33	35	IAMs_20	IAMs_20	15 58 16.9	
	comp=Z,6μm,20.0s						
M24K	Tolsona, Glenn	127.33	35	P	PKPdf	15 05 04.7	-1.1
	baz=230						
RUSC	La Rusia	127.36	138		PKPdf	15 05 07.5	-0.4
X16A	Lo Mia Camp, P	127.41	80	IAMs_20	IAMs_20	15 51 38.4	
	comp=Z,6μm,20.0s						
I21K	Tanana	127.43	30	P	PKPdf	15 05 05.3	-0.5
	baz=228						
MCK	McKinley	127.44	32	IAMs_20	IAMs_20	15 55 01.6	
	comp=Z,6μm,22.0s						
MCK	McKinley	127.44	32	P	PKPdf	15 05 05.5	-0.4
	baz=229,SNR=14						
E19K	Redstone River	127.47	26	IAMs_20	IAMs_20	16 01 14.9	
	comp=Z,6μm,20.0s						
E19K	Redstone River	127.47	26	P	PKPdf	15 05 05.5	-0.3
	baz=225						
H21K	Melozitna Rive	127.50	29	P	PKPdf	15 05 06.1	+0.1
	baz=227						
N25K	Chitina, Valde	127.58	36	IAMs_20	IAMs_20	15 53 55.6	
	comp=Z,5μm,20.0s						
N25K	Chitina, Valde	127.58	36	P	PKPdf	15 05 06.1	-0.2
	baz=230						
F20K	Avaraart Lake	127.60	27	IAMs_20	IAMs_20	15 55 34.4	
	comp=Z,6μm,22.0s						
F20K	Avaraart Lake	127.60	27	P	PKiKP	15 05 06.4	-0.2
	baz=226						
MESA	MESA	127.67	38	P	PKPdf	15 05 06.2	-0.4
	baz=231						
B18K	Kokolik River	127.68	23	P	PKPdf	15 05 06.2	0.0
	baz=223						
SOC	Sochi	127.69	295	*e*PKIKP	PKPdf	15 05 07.1	+0.1
SOC				*e*		15 07 10.8	
SOC				*e*PPP	PPP	15 09 53.5	
SOC				*e*SS	SS	15 24 14.1	-6.4
SOC				*e*SSS	SSS	15 29 09.1	
VRDI	Verde Repeater	127.76	37	IAMs_20	IAMs_20	15 54 21.5	
	comp=Z,7μm,21.0s						
LABN	Labinsk	127.78	297	*i* PKIKP	PKiKP	15 05 13.1	+5.4
LABN				*e*		15 07 16.5	
LABN				pmax	pmax		
	comp=Z,25nm,0.8s						
YAH	Yahtse	127.87	38	IAMs_20	IAMs_20	15 58 16.4	
	comp=Z,7μm,20.0s						
G21K	Allakaket	127.88	28	IAMs_20	IAMs_20	15 58 04.7	
	comp=Z,8μm,20.0s						
G21K	Allakaket	127.88	28	P	PKPdf	15 05 06.8	+0.2
	baz=227,SNR=13						
HARP	HAARP	127.88	35	P	PKPdf	15 05 06.5	-0.2
	baz=230						
NEA2	Nenana	127.96	31	IAMs_20	IAMs_20	15 52 41.3	
	comp=Z,8μm,22.0s						
NEA2	Nenana	127.96	31	P	PKPdf	15 05 06.7	-0.2
	baz=229						
D19K	Kuna River	127.97	24	IAMs_20	IAMs_20	15 56 33.2	
	comp=Z,7μm,21.0s						
D19K	Kuna River	127.97	24	P	PKiKP	15 05 07.3	-0.1
	baz=225						
H22K	Ishtalitna Cre	128.09	29	P	PKiKP	15 05 07.7	+0.1
	baz=228						
PAX	Paxson	128.14	34	IAMs_20	IAMs_20	15 54 15.2	
	comp=Z,6μm,21.0s						
PAX	Paxson	128.14	34	P	PKPdf	15 05 07.4	+0.1
	baz=231						
WUAZ	Wupatki	128.18	79	IAMs_20	IAMs_20	15 52 59.3	
	comp=Z,7μm,20.0s						
WRH	Wood River Hil	128.21	32	IAMs_20	IAMs_20	15 57 47.8	
	comp=Z,5μm,20.0s						
I23K	Minto, Yukon-K	128.23	31	IAMs_20	IAMs_20	15 56 10.4	
	comp=Z,7μm,20.0s						
I23K	Minto, Yukon-K	128.23	31	P	PKiKP	15 05 07.8	-0.2
	baz=229						
PCA	Pinnacle	128.29	39	IAMs_20	IAMs_20	15 51 56.7	
	comp=Z,7μm,21.0s						
PINM	Pinnacle	128.29	39	P	PKPdf	15 05 07.9	+0.2
	baz=232						
KIRS	Kirsehir-Merke	128.30	287	⇑P	PKiKP	15 05 12.9	+3.9
E20K	Nigu River	128.32	25	P	PKiKP	15 05 07.8	-0.3
	baz=226,SNR=34						
F21K	Alatna River	128.36	27	IAMs_20	IAMs_20	16 02 51.5	
	comp=Z,5μm,19.0s						
F21K	Alatna River	128.36	27	P	PKiKP	15 05 08.2	0.0
	baz=228						
PNL	Peninsula	128.37	40	P	PKPdf	15 05 08.1	+0.3
	baz=232						
CCB	Clear Creek Bu	128.41	32	IAMs_20	IAMs_20	15 58 04.2	
	comp=Z,5μm,20.0s						
BCPM	Bancas Point	128.45	39	IAMs_20	IAMs_20	15 57 04.9	
	comp=Z,7μm,19.0s						
A19K	Wainwright	128.47	22	P	PKiKP	15 05 08.4	+0.1
	baz=224						
SIT	Sitka	128.50	44	P	PKiKP	15 05 08.4	-0.2
	baz=233						
D20K	Etivluk River	128.52	25	IAMs_20	IAMs_20	15 57 01.6	
	comp=Z,8μm,21.0s						
D20K	Etivluk River	128.52	25	P	PKiKP	15 05 08.2	-0.3
	baz=226,SNR=11						
BOAV	Boa Vista	128.53	154	IAMs_20	IAMs_20	16 08 05.2	
	comp=Z,6μm,19.0s						
BOAV	Boa Vista	128.53	154	*e*P	PKiKP	15 05 11.0	+0.8
COLA	College	128.54	31	IAMs_20	IAMs_20	15 58 26.6	
	comp=Z,8μm,20.0s						
COLA	College	128.54	31	⇑PKIKP	PKiKP	15 05 08.4	-0.1
COLA	College	128.54	31	P	PKPdf	15 05 08.0	+0.1
	baz=230						
HDA	Harding Lake	128.54	32	P	PKiKP	15 05 08.4	-0.2
	baz=230,SNR=17						
K24K	Donnelly Dome	128.56	33	P	PKiKP	15 05 08.7	0.0
	baz=231						
ERBR	Yeremizino-Bor	128.57	298	*i* P	Pdif	15 01 59.5	+5.6
ERBR				*e*		15 07 21.3	
ERBR				*e*		15 12 20.4	
ERBR				pmax	pmax		
	comp=Z,20nm,1.1s						
H23K	Yukon River	128.62	30	P	PKiKP	15 05 08.9	+0.1
	baz=230						
S31K	Pelican	128.65	43	P	PKiKP	15 05 08.8	-0.1
	baz=233						
M26K	Nabesna, AK	128.67	36	IAMs_20	IAMs_20	15 58 02.4	
	comp=Z,6μm,21.0s						
M26K	Nabesna, AK	128.67	36	P	PKPdf	15 05 08.6	+0.2
	baz=232						
EPT	El Paso	128.72	86	IAMs_20	IAMs_20	15 56 41.2	
	comp=Z,5μm,19.0s						
O28M	Mount Upton	128.73	38	IAMs_20	IAMs_20	15 57 01.2	
	comp=Z,7μm,20.0s						
O28M	Mount Upton	128.73	38	P	PKPdf	15 05 09.1	+0.3
	baz=233						
G22K	Bettles	128.74	28	P	PKiKP	15 05 09.1	+0.2
	baz=229,SNR=31						
ILAR	Eielson Array	128.80	32		PKPdf	15 05 05.7	-2.7
ILAR	Eielson Array	128.80	32	PKP	PKPdf	15 05 07.2	-1.3
	comp=Z,2.9nm,0.9s,baz=268,slow=3.0,SNR=24						
ILAR				SKKPbc	SKKPbc	15 18 19.5	-0.5
	comp=Z,1.0nm,1.0s,baz=318,slow=0.9,SNR=4.2						
BELG	Belogornoye	128.81	308	*i* PKIKP	PKPdf	15 05 08.0	-0.8
BELG				MLR	MLR		
	comp=Z,1μm,21.0s						
BR131	Keskin Array S	128.84	288	*i* PKIKP	PKPdf	15 05 09.3	-0.2
BRTR	Keskin Array B	128.84	288	PKP	PKPdf	15 05 08.6	-1.0
	comp=Z,10nm,1.2s,baz=166,slow=2.7,SNR=9.6						
BRTR				PP	PP	15 07 20.3	+3.2
	comp=Z,8.4nm,1.2s,baz=149,slow=5.8,SNR=6.1						
POKR	Poker Plat Res	128.84	31	IAMs_20	IAMs_20	15 58 45.4	
	comp=Z,6μm,21.0s						
POKR	Poker Plat Res	128.84	31	P	PKPdf	15 05 08.8	+0.3
	baz=231						
RIDG	Independent Ri	128.84	34	IAMs_20	IAMs_20	15 55 08.7	
	comp=Z,8μm,21.0s						
RIDG	Independent Ri	128.84	34	P	PKPdf	15 05 09.0	+0.3
	baz=232,SNR=14						
TXAR	Lajitas Array	128.84	90		PKPdf	15 05 07.8	-1.9
TXAR	Lajitas Array	128.84	90	PKP	PKPdf	15 05 08.7	-1.1
	comp=Z,3.9nm,1.0s,baz=197,slow=3.9,SNR=9.7						
TXAR				SKKPbc	SKKPbc	15 18 23.7	+6.9
	comp=Z,0.9nm,1.0s,baz=64,slow=2.9,SNR=3.7						
U33K	Whale Pass	128.92	46	P	PKPdf	15 05 09.0	+0.1
	baz=234						
L26K	Log Cabin Wild	128.93	35	IAMs_20	IAMs_20	15 53 18.1	
	comp=Z,7μm,22.0s						
L26K	Log Cabin Wild	128.93	35	P	PKPdf	15 05 09.1	+0.4
	baz=232						
F22K	John River	128.93	27	P	PKiKP	15 05 09.8	+0.5
	baz=229						
TORD	Torodi Ar. Bea	129.00	237		PKPdf	15 05 09.5	-0.8
P29M	Windy Craggy	129.02	40	P	PKPdf	15 05 09.4	+0.4
	baz=234						
G23K	Bananza Creek	129.04	29	P	PKiKP	15 05 09.7	+0.1
	baz=230,SNR=8.9						
E21K	Killik River	129.05	26	IAMs_20	IAMs_20	16 04 39.5	
	comp=Z,4μm,19.0s						
E21K	Killik River	129.05	26	P	PKiKP	15 05 09.6	0.0
	baz=228						
M27K	Edge Creek, AK	129.05	36	IAMs_20	IAMs_20	15 59 40.6	
	comp=Z,7μm,21.0s						
M27K	Edge Creek, AK	129.05	36	P	PKPdf	15 05 09.5	+0.3
	baz=233						
DOT	Dot Lake	129.06	34	IAMs_20	IAMs_20	15 55 16.4	
	comp=Z,7μm,22.0s						
S32K	Killisnoo	129.07	44	P	PKiKP	15 05 09.9	+0.1
	baz=234						
O29M	Mount Kennedy	129.08	39	IAMs_20	IAMs_20	15 54 09.7	
	comp=Z,8μm,20.0s						
O29M	Mount Kennedy	129.08	39	P	PKPdf	15 05 09.6	+0.3
	baz=233						
R31K	City Hall, Gus	129.13	43	P	PKiKP	15 05 10.1	+0.2
	baz=234						
V35K	Ketchikan	129.14	47	P	PKPdf	15 05 09.5	+0.2
	baz=234						
H24K	Noodor Dome	129.15	30	IAMs_20	IAMs_20	15 56 26.7	
	comp=Z,7μm,20.0s						
H24K	Noodor Dome	129.15	30	P	PKiKP	15 05 10.1	+0.2
	baz=231						
ELK	Elko	129.17	71	IAMs_20	IAMs_20	15 54 14.2	
	comp=Z,7μm,19.0s						
YUK8	Steele Glacier	129.20	38	P	PKiKP	15 05 10.4	+0.1
	baz=233						
J25K	Salcha River,	129.21	33	P	PKiKP	15 05 10.3	+0.3
	baz=232,SNR=16						
YUK3	Moose Creek	129.23	37	P	PKiKP	15 05 10.3	-0.1
	baz=233						
B20K	Meade River	129.28	23	P	PKiKP	15 05 09.9	0.0
	baz=227						
SCRK	Sand Creek	129.29	34	IAMs_20	IAMs_20	15 55 32.5	
	comp=Z,7μm,22.0s						
SCRK	Sand Creek	129.29	34	P	PKiKP	15 05 10.2	-0.1
	baz=232,SNR=19						
C21K	Kneblade Rid	129.31	25	P	PKiKP	15 05 10.3	+0.3
	baz=228,SNR=14						
COLD	Coldfoot	129.33	28	P	PKiKP	15 05 10.5	+0.4
	baz=230,SNR=11						
MNTX	Cornudas Mount	129.38	87	IAMs_20	IAMs_20	15 54 50.6	
	comp=Z,6μm,19.0s						
ANTO	Ankara	129.43	287	IAMs_20	IAMs_20	15 59 49.7	
	comp=Z,5μm,19.0s						
WRAK	Wrangell Islan	129.45	46	P	PKiKP	15 05 10.8	+0.2
	baz=235						
E22K	Anaktuvuk Pass	129.45	27	IAMs_20	IAMs_20	16 00 46.2	
	comp=Z,5μm,20.0s						
E22K	Anaktuvuk Pass	129.45	27	P	PKiKP	15 05 10.7	+0.3
	baz=229						
BVCY	Beaver Creek	129.47	36	P	PKiKP	15 05 10.5	-0.1
	baz=233						
L27K	Beaver Creek,	129.50	35	IAMs_20	IAMs_20	15 58 46.3	
	comp=Z,5μm,21.0s						
L27K	Beaver Creek,	129.50	35	P	PKiKP	15 05 10.9	+0.3
	baz=233						
YUK6	Outpost Mounta	129.55	39	P	PKPdf	15 05 10.4	+0.1
	baz=234						
R32K	Eaglecrest	129.57	43	P	PKiKP	15 05 10.7	-0.2
	baz=235						
B21K	Ikpikpuk River	129.67	25	IAMs_20	IAMs_20	15 56 09.8	
	comp=Z,6μm,22.0s						
B21K	Ikpikpuk River	129.67	25	P	PKPdf	15 05 10.3	+0.4
	baz=228,SNR=12						
YUK4	Talbot Arm	129.67	38	P	PKPdf	15 05 10.6	+0.2
	baz=234						
D22K	Ayikyak River	129.69	26	IAMs_20	IAMs_20	16 01 11.6	
	comp=Z,6μm,20.0s						
D22K	Ayikyak River	129.69	26	P	PKiKP	15 05 10.7	-0.2
	baz=229						
PRP	Porcupine Dome	129.71	32	IAMs_20	IAMs_20	15 54 31.6	
	comp=Z,6μm,22.0s						
PRP	Porcupine Dome	129.71	32	P	PKPdf	15 05 10.7	+0.4
	baz=232						
ANN	Anapa	129.74	295	*i* PKIKP	PKiKP	15 05 17.8	+6.2
ANN				*e*		15 07 30.3	
ANN				pmax	pmax		
	comp=Z,61nm,1.6s						
ANN				MLR	MLR		
	comp=N,3μm,20.0s						
ANN				MLR	MLR		
	comp=Z,4μm,19.0s						
ANN				MLR	MLR		
	comp=E,3μm,20.0s						
J26L	Joseph Creek	129.75	33	IAMs_20	IAMs_20	15 56 37.9	
	comp=Z,6μm,21.0s						
J26L	Joseph Creek	129.75	33	P	PKPdf	15 05 10.8	+0.4
	baz=233,SNR=12						
HYT	Haines Junctio	129.82	39	P	PKPdf	15 05 10.6	-0.1
	baz=234						
G24K	Hadweenzic Riv	129.82	30	P	PKiKP	15 05 10.9	-0.2
	baz=232,SNR=11						
SKAG	Skagway	129.91	42	P	PKiKP	15 05 11.2	-0.2
	baz=235						
K27K	Chicken	129.99	34	IAMs_20	IAMs_20	15 56 31.2	
	comp=Z,7μm,21.0s						
K27K	Chicken	129.99	34	P	PKiKP	15 05 11.5	-0.1
	baz=234						
Y22D	IRIS PASSCAL I	130.00	83	IAMs_20	IAMs_20	15 53 13.8	
	comp=Z,7μm,20.0s						
E23K	Chandalar	130.03	28	IAMs_20	IAMs_20	15 58 15.7	
	comp=Z,8μm,20.0s						
E23K	Chandalar	130.03	28	P	PKiKP	15 05 11.4	-0.2
	baz=231						
H25L	Birch Creek	130.08	31	P	PKiKP	15 05 11.7	+0.1
	baz=232						
KARP	Karpathos	130.13	279	IAMs_20	IAMs_20	16 05 19.6	
	comp=Z,5μm,20.0s						
F24K	Squaw Lake	130.21	29	P	PKiKP	15 05 11.9	0.0
	baz=232,SNR=9.4						
DUG	Dugway, Tooele	130.28	73	IAMs_20	IAMs_20	15 52 49.7	
	comp=Z,5μm,20.0s						
G25K	Bearman Lake	130.29	30	P	PKiKP	15 05 12.4	+0.4
	baz=233						
D23K	Nanushuk River	130.30	26	IAMs_20	IAMs_20	16 01 24.7	
	comp=Z,6μm,20.0s						
D23K	Nanushuk River	130.30	26	P	PKiKP	15 05 12.0	-0.1
	baz=231						
N30M	Aishikik Lake	130.35	39	P	PKPdf	15 05 11.9	+0.3
	baz=235						
O30N	Mendenhall	130.35	40	IAMs_20	IAMs_20	15 57 01.3	
	comp=Z,6μm,20.0s						
O30N	Mendenhall	130.35	40	P	PKPdf	15 05 11.9	+0.3
	baz=235						
E24K	Your Creek	130.37	28	P	PKiKP	15 05 12.1	-0.2
	baz=232						
I26K	Coal Creek Min	130.38	33	IAMs_20	IAMs_20	15 53 44.3	
	comp=Z,8μm,22.0s						
I26K	Coal Creek Min	130.38	33	P	PKiKP	15 05 12.0	-0.3
	baz=234						
M29M	Somme Creek	130.39	37	P	PKPdf	15 05 11.7	+0.1
	baz=235						
TOLK	Toolik Lake Re	130.41	27	IAMs_20	IAMs_20	15 56 20.7	
	comp=Z,7μm,21.0s						
TOLK	Toolik Lake Re	130.41	27	P	PKPdf	15 05 11.7	+0.2
	baz=231						
FYU	Fort Yukon	130.45	31	IAMs_20	IAMs_20	15 56 54.9	
	comp=Z,8μm,22.0s						
B22K	Teshekpuk Lake	130.45	24	P	PKiKP	15 05 11.8	-0.4
	baz=230,SNR=12						
MFID	Camas Ranch	130.45	68	IAMs_20	IAMs_20	15 58 33.0	
	comp=Z,4μm,20.0s						
A22K	Sinclair Lake	130.50	23	P	PKPdf	15 05 11.8	+0.3
	baz=229						
P32M	Atlin	130.66	42	P	PKPdf	15 05 12.4	+0.2
	baz=236						
T35M	Bob Quinn	130.72	46	P	PKPdf	15 05 12.6	+0.3
	baz=236						
WHY	Whitehorse	130.78	40	P	PKiKP	15 05 12.9	-0.4
	baz=236						
S34M	Telegraph Cree	130.84	45	P	PKPdf	15 05 13.0	+0.5
	baz=236						
ANMO	Albuquerque	130.86	83	IAMs_20	IAMs_20	15 55 59.5	
	comp=Z,6μm,19.0s						
ANMO	Albuquerque	130.86	83	IAMs_20	IAMs_20	15 55 59.5	
	comp=Z,6μm,19.0s						
ANMO	Albuquerque	130.86	83	IAMs_20	IAMs_20	15 55 59.5	
	comp=Z,6μm,19.0s						
ANMO	Albuquerque	130.86	83	*c i* PKIKP	PKiKP	15 05 14.7	+0.2
ANMO				pmax	pmax		
	comp=Z,14nm,2.5s						
C23K	Itkillik River	130.87	26	IAMs_20	IAMs_20	15 58 03.7	
	comp=Z,6μm,21.0s						
C23K	Itkillik River	130.87	26	P	PKiKP	15 05 13.0	-0.1
	baz=231						
N31M	Braeburn, Yuko	130.88	39	IAMs_20	IAMs_20	15 59 01.3	
	comp=Z,7μm,19.0s						
N31M	Braeburn, Yuko	130.88	39	P	PKPdf	15 05 12.8	+0.3
	baz=236						
L29M	L29M	130.89	37	IAMs_20	IAMs_20	16 01 30.3	
	comp=Z,6μm,20.0s						
L29M	L29M	130.89	37	P	PKiKP	15 05 13.2	-0.3
	baz=236						
Q32M	Nakina River	130.93	43	P	PKPdf	15 05 13.2	+0.3
	baz=236						
F25K	Christian Rive	130.94	29	IAMs_20	IAMs_20	15 56 24.8	
	comp=Z,8μm,22.0s						
F25K	Christian Rive	130.94	29	P	PKiKP	15 05 13.8	+0.4
	baz=234,SNR=11						
D24K	Happy Valley	130.94	27	IAMs_20	IAMs_20	16 00

I28M	Miner Creek	131.56	33	IAMs_20	IAMs_20	15 54 11.7	
	comp=Z,8µm,22.0s						
I28M	Miner Creek	131.56	33	P	PKiKP	15 05 14.3	-0.5
	baz=236						
J29N	Klondike Camp	131.62	35	IAMs_20	IAMs_20	16 00 29.2	
	comp=Z,7µm,21.0s						
DLBC	Dease Lake	131.62	45	P	PKPdf	15 05 14.0	0.0
	baz=237						
TEIG	Tepich	131.64	112	IAMs_20	IAMs_20	15 54 56.7	
	comp=Z,5µm,20.0s						
SIM	Simferopol'	131.72	293	*e*PKHKP	PKPpre	15 05 00.0	
SIM				pmax	pmax		
	comp=Z,11nm,0.7s						
R33M	Jennings River	131.73	43	P	PKPdf	15 05 14.3	0.0
	baz=238						
D25K	Kavik River	131.74	27	P	PKPdf	15 05 14.4	+0.4
	baz=234						
G27K	Doyon Strip	131.75	31	P	PKiKP	15 05 14.6	-0.4
	baz=236						
N32M	Quiet Lake	131.79	41	P	PKPdf	15 05 14.5	+0.2
	baz=238						
M31M	Drury Creek, Y	131.83	39	P	PKPdf	15 05 14.6	+0.3
	baz=237						
JCT	Junction City	132.06	92	IAMs_20	IAMs_20	15 51 13.5	
	comp=Z,5µm,22.0s						
I29M	Ogilvie Camp,	132.08	34	P	PKPdf	15 05 15.1	+0.5
	baz=237						
VORD	Divnogorie	132.26	303	*e*PKIKP	PKiKP	15 05 16.0	-0.4
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FARO	Faro, Yukon	132.26	39	P	PKPdf	15 05 15.6	+0.5
	baz=238						
J30M	Hart River	132.37	36	IAMs_20	IAMs_20	15 57 48.2	
	comp=Z,7µm,22.0s						
J30M	Hart River	132.37	36	P	PKPdf	15 05 15.7	+0.3
	baz=238						
S22A	4UR Ranch, Cre	132.41	79	IAMs_20	IAMs_20	15 52 27.9	
	comp=Z,7µm,22.0s						
VSR	Storozhevoye	132.46	303	*e*PKIKP	PKPdf	15 05 15.2	-0.6
VSR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
C26K	Camden Bay	132.51	27	P	PKiKP	15 05 16.0	-0.4
	baz=236						
H29M	Whitestone	132.53	33	P	PKPdf	15 05 15.9	+0.4
	baz=238						
MSTX	Muleshoe	132.53	86	IAMs_20	IAMs_20	15 58 52.9	
	comp=Z,5µm,19.0s						
E27K	Coleen River	132.53	30	P	PKPdf	15 05 16.0	+0.5
	baz=237,SNR=5.6						
VORR	Voronezh	132.69	304	*e*PKIKP	PKiKP	15 05 18.8	+1.5
VORR				pmax	pmax		
	comp=Z,20nm,0.9s						
C27K	Jago River	132.69	28	P	PKiKP	15 05 16.4	-0.4
	baz=236						
I30M	Mount Dempster	132.69	35	P	PKPdf	15 05 16.1	+0.1
	baz=238,SNR=5.6						
AHID	Auburn Hatcher	132.85	71	IAMs_20	IAMs_20	15 53 54.8	
	comp=Z,6µm,22.0s						
G29M	Pine Creek	133.01	32	P	PKPdf	15 05 17.0	+0.6
	baz=239						
O20A	White River Ci	133.01	76	IAMs_20	IAMs_20	15 56 32.1	
	comp=Z,6µm,20.0s						
WTLY	Watson Lake, Y	133.04	43	P	PKiKP	15 05 17.4	-0.4
	baz=239						
EPYK	Eagle Plains	133.17	33	IAMs_20	IAMs_20	15 54 48.2	
	comp=Z,5µm,21.0s						
EPYK	Eagle Plains	133.17	33	P	PKiKP	15 05 17.6	-0.3
	baz=239						
SDCO	Great Sand Dun	133.23	80	IAMs_20	IAMs_20	15 55 57.2	
	comp=Z,5µm,20.0s						
MMPY	Sheldon Lake,	133.29	39	P	PKPdf	15 05 17.7	+0.6
	baz=240						
D27M	Malcolm River	133.30	29	IAMs_20	IAMs_20	15 57 53.1	
	comp=Z,6µm,22.0s						
D27M	Malcolm River	133.30	29	P	PKPdf	15 05 17.4	+0.5
	baz=238,SNR=8.9						
LPSR	Galich'ya Gora	133.33	304	*e*PKIKP	PKPdf	15 05 16.0	-1.3
LPSR				pmax	pmax		
	comp=Z,20nm,1.0s						
TPAW	Teton Pass	133.37	71	IAMs_20	IAMs_20	15 56 55.1	
	comp=Z,5µm,20.0s						
E28M	Babbage River	133.40	30	IAMs_20	IAMs_20	15 59 38.0	
	comp=Z,6µm,20.0s						
E28M	Babbage River	133.40	30	P	PKPdf	15 05 17.4	+0.4
	baz=239,SNR=6.7						
FXWY	Fox Creek	133.41	70	IAMs_20	IAMs_20	16 01 53.3	
	comp=Z,5µm,19.0s						
SNOW	Snow King Moun	133.47	71	IAMs_20	IAMs_20	15 56 48.9	
	comp=Z,6µm,20.0s						
DLMT	Dillon	133.47	68	IAMs_20	IAMs_20	15 53 23.8	
	comp=Z,7µm,22.0s						
T25A	Trinidad	133.53	82	IAMs_20	IAMs_20	15 54 45.0	
	comp=Z,4µm,20.0s						
ABTX	Abilene, Hawle	133.61	90	IAMs_20	IAMs_20	15 53 46.7	
	comp=Z,6µm,22.0s						
MOOW	Moose Ponds	133.64	70	IAMs_20	IAMs_20	15 57 51.4	
	comp=Z,5µm,20.0s						
LOHW	Long Hollow	133.64	71	IAMs_20	IAMs_20	16 02 11.9	
	comp=Z,6µm,19.0s						
G30M	tAoh Zraii Nji	133.66	33	IAMs_20	IAMs_20	15 55 58.9	
	comp=Z,7µm,22.0s						
G30M	tAoh Zraii Nji	133.66	33	P	PKPdf	15 05 18.1	+0.4
	baz=240						
H31M	Peel River	133.72	35	IAMs_20	IAMs_20	16 00 30.9	
	comp=Z,7µm,20.0s						
H31M	Peel River	133.72	35	P	PKiKP	15 05 18.5	-0.5
	baz=240						
BW06	Boulder Array	133.78	72	IAMs_20	IAMs_20	15 57 33.2	
	comp=Z,6µm,19.0s						
PDAR	Pinedale Array	133.78	72		PKPdf	15 05 15.8	-3.1
PDAR	Pinedale Array	133.78	72	PKP	PKPdf	15 05 18.7	-0.2
	comp=Z,0.8nm,0.7s,baz=173,slow=2.7,SNR=8.2						
PDAR				SKKPbc	SKKPbc	15 18 02.1	+1.8
	comp=Z,1.7nm,1.1s,baz=70,slow=1.7,SNR=4.8						
AMTX	Amarillo	133.81	86	IAMs_20	IAMs_20	16 00 51.7	
	comp=Z,5µm,19.0s						
E29M	Blow River	133.81	31	IAMs_20	IAMs_20	15 57 19.9	
	comp=Z,7µm,21.0s						
E29M	Blow River	133.81	31	P	PKPdf	15 05 18.3	+0.5
	baz=240,SNR=8.1						
LIRD	Liard River Hi	133.87	45	P	PKPdf	15 05 18.3	+0.1
	baz=240						
TGTN	Hyland Airport	133.97	42	P	PKPdf	15 05 18.9	+0.5
	baz=241						
TOAD	Toad River Com	133.98	46	P	PKPdf	15 05 18.6	+0.1
	baz=241						
D28M	Stokes Point	134.02	29	P	PKPdf	15 05 18.3	+0.1
	baz=240						
F30M	Barrier River	134.12	32	IAMs_20	IAMs_20	16 05 02.0	
	comp=Z,7µm,20.0s						
F30M	Barrier River	134.12	32	P	PKPdf	15 05 19.0	+0.6
	baz=241						
BOZ	Bozeman (W)	134.16	68	IAMs_20	IAMs_20	15 54 08.2	
	comp=Z,8µm,22.0s						
ISCO	Idaho Springs	134.42	78	IAMs_20	IAMs_20	16 06 58.5	
	comp=Z,5µm,18.0s						
WHTX	Lake Whitney,	134.56	92	IAMs_20	IAMs_20	15 53 04.6	
	comp=Z,5µm,22.0s						
F31M	Tsiigehtchic	134.72	33	IAMs_20	IAMs_20	15 58 41.2	
	comp=Z,8µm,22.0s						
F31M	Tsiigehtchic	134.72	33	P	PKPdf	15 05 20.2	+0.7
	baz=242						
FW07	Weatherford	134.83	91	IAMs_20	IAMs_20	15 53 21.7	
	comp=Z,7µm,22.0s						
TLCR		134.95	291	⇓P	PKiKP	15 05 25.0	+2.9
TLCR		134.95	291	⇓PKIKP	PKiKP	15 05 25.0	+2.9
KOTAN	Kotaneelee Air	135.12	45	P	PKPdf	15 05 20.5	-0.1
	baz=242						
FW06	Azle	135.15	91	IAMs_20	IAMs_20	15 53 30.2	
	comp=Z,7µm,22.0s						
INK	Inuvik	135.20	32	P	PKPdf	15 05 21.0	+0.7
	baz=243						
RLMT	Red Lodge	135.29	70	IAMs_20	IAMs_20	15 53 22.0	
	comp=Z,6µm,22.0s						
CFR	Carcaliu	135.34	290	⇓P	PKiKP	15 05 22.6	-0.3
CFR	Carcaliu	135.34	290	⇓PKIKP	PKiKP	15 05 22.6	-0.3
WMOK	Wichita Mounta	135.53	88	IAMs_20	IAMs_20	15 56 39.6	
	comp=Z,6µm,20.0s						
K22A	Casper	135.54	74	IAMs_20	IAMs_20	16 00 41.8	
	comp=Z,6µm,19.0s						
MOS	Moscow	135.57	308	*i* PKIKP	PKiKP	15 05 23.5	+0.5
MOS				*e*		15 08 00.4	
MOS				*e*PPP	PPP	15 10 56.5	
MOS				*e*		15 12 31.5	
MOS				pmax	pmax		
	comp=Z,300nm,2.2s						
MOS				MLR	MLR		
	comp=E,4µm,21.0s						
MOS				MLR	MLR		
	comp=Z,8µm,21.0s						
MOS				MLR	MLR		
	comp=N,5µm,22.0s						
Z35A	Perchaven, San	135.58	91	IAMs_20	IAMs_20	16 04 56.9	
	comp=Z,6µm,19.0s						
BRIGG	Briggsdale	135.68	78	IAMs_20	IAMs_20	15 57 24.9	
	comp=Z,4µm,19.0s						
KSCO	Kaye Shedlock'	135.79	81	IAMs_20	IAMs_20	15 57 24.0	
	comp=Z,7µm,20.0s						
OBN	Obninsk	135.80	307	*i* PKIKP	PKiKP	15 05 23.0	-0.5
OBN				*e*		15 05 27.9	
OBN				*e*		15 07 59.7	
OBN				*e*		15 12 32.8	
OBN				*e*SS	SS	15 26 00.8	+1.8
OBN				pmax	pmax		
	comp=Z,84nm,1.7s						
OBN				MLR	MLR		
	comp=Z,4µm,20.0s						
MILM	Milestii Mici	135.89	293	*e*PKP	PKiKP	15 05 27.0	+3.0
MILM	Milestii Mici	135.89	293	⇑P	PKiKP	15 05 27.3	+3.3
MILM	Milestii Mici	135.89	293	⇑PKIKP	PKiKP	15 05 27.3	+3.3
KIS	Kishinev	135.93	293	*e*PKP	PKiKP	15 05 26.0	+1.9
MTDJ	Mount Denham	135.99	125	IAMs_20	IAMs_20	15 56 35.7	
	comp=Z,5µm,19.0s						
ISR	Istrita	136.25	289	⇑P	PKiKP	15 05 26.8	+1.9
ISR	Istrita	136.25	289	⇑PKIKP	PKiKP	15 05 26.8	+1.9
VAY	Valandovo	136.52	282	*i* P	PKiKP	15 05 26.0	+0.5
VRI	Vrincioaia	136.55	290	⇓P	PKiKP	15 05 26.4	+1.0
VRI	Vrincioaia	136.55	290	⇓PKIKP	PKiKP	15 05 26.4	+1.0
PLOR	Plostina	136.59	290	⇑P	PKiKP	15 05 26.7	+1.2
PLOR	Plostina	136.59	290	⇑PKIKP	PKiKP	15 05 26.7	+1.2
OK038	West end E0370	136.66	86	IAMs_20	IAMs_20	16 02 07.4	
	comp=Z,5µm,18.0s						
WRGLY	Wrigley	136.74	41	P	PKPdf	15 05 24.2	+0.8
	baz=246						
SORM	Soroca	136.80	294	⇓P	PKiKP	15 05 25.0	-0.7
SORM	Soroca	136.80	294	⇓PKIKP	PKiKP	15 05 25.0	-0.7
MLR	Muntele Rosu	136.81	290	IAMs_20	IAMs_20	16 03 24.7	
	comp=Z,7µm,21.0s						
MLR	Muntele Rosu	136.81	290	⇑P	PKiKP	15 05 25.9	-0.2
MLR	Muntele Rosu	136.81	290	⇑PKIKP	PKiKP	15 05 25.9	-0.2
TESR	Tescani	136.94	291	⇑P	PKiKP	15 05 27.2	+1.0
KLMR	Klimovskoe	136.97	315	*e*PKIKP	PKPdf	15 05 19.9	-4.0
KLMR				*e*		15 08 04.6	
KLMR				SS	SS	15 26 10.3	-2.5
KLMR				pmax	pmax		
	comp=Z,84nm,1.6s						
KLMR				MLR	MLR		
	comp=Z,5µm,19.0s						
ONER	Baraj Valea Uz	137.00	291	⇑P	PKiKP	15 05 26.5	+0.2
OK029	Liberty Lake	137.04	88	IAMs_20	IAMs_20	15 58 52.6	
	comp=Z,6µm,19.0s						
OK032	Salt Plains WL	137.20	87	IAMs_20	IAMs_20	16 02 15.6	
	comp=Z,5µm,18.0s						
OGNE	Ogallala	137.30	79	IAMs_20	IAMs_20	15 55 36.9	
	comp=Z,5µm,21.0s						
VOIR		137.31	289	⇓P	PKPdf	15 05 23.5	-1.7
VOIR		137.31	289	⇓PKIKP	PKPdf	15 05 23.5	-1.7
DOPR	Dopca	137.39	290	⇑P	PKiKP	15 05 30.2	+3.1
CBKS	Cedar Bluff	137.47	83	IAMs_20	IAMs_20	16 00 51.6	
	comp=Z,6µm,20.0s						
OHR	Ohrid	137.49	281	*i* P	PKiKP	15 05 30.7	+3.2
OK052	Battle Ridge R	137.58	88	IAMs_20	IAMs_20	15 58 33.7	
	comp=Z,6µm,20.0s						
AKASG	Malin Array Be	137.59	298	PKP	PKPdf	15 05 22.8	-2.6
	comp=Z,1.9nm,0.6s,baz=92,slow=1.5,SNR=6.9						
AKASG				PP	PP	15 08 16.4	+3.8
	comp=Z,0.6nm,0.5s,baz=105,slow=4.9,SNR=4.7						
AKBB	Malin Array Si	137.59	298*c*	*i* PKIKP	PKiKP	15 05 28.6	+1.3
KIEV	Kiev	137.59	298	IAMs_20	IAMs_20	16 03 26.7	
	comp=Z,5µm,21.0s						
KIEV	Kiev	137.59	298	⇓P	PKiKP	15 05 27.7	+0.4
KIEV	Kiev	137.59	298	⇓PKIKP	PKiKP	15 05 27.7	+0.4
OK048	Pawnee Station	137.75	88	IAMs_20	IAMs_20	15 59 07.4	
	comp=Z,6µm,20.0s						
R32A	Long Quarter,	137.88	84	IAMs_20	IAMs_20	15 57 45.5	
	comp=Z,5µm,20.0s						
LAO	LASA Array	137.92	69	IAMs_20	IAMs_20	15 56 53.6	
	comp=Z,7µm,22.0s						
CHIV	Chivirico	138.02	125	IAMs_20	IAMs_20	15 56 17.6	
	comp=Z,3µm,19.0s						
T35A	Sooner Cattle	138.34	88	IAMs_20	IAMs_20	15 59 59.8	
	comp=Z,7µm,19.0s						
BOVS	Bovan	138.35	285	⇑P	PKiKP	15 05 34.8	+5.7
WLAR	White Oak Lake	138.41	94	IAMs_20	IAMs_20	16 02 07.8	
	comp=Z,4µm,19.0s						
ARCR	ARCALIA	138.59	291	⇓P	PKiKP	15 05 31.2	+1.8
HERR	Herculane	138.59	287	⇑P	PKiKP	15 05 33.9	+4.4
GZR	Gura Zlata	138.65	288	⇑P	PKPdf	15 05 26.9	-0.7
GZR	Gura Zlata	138.65	288	⇑PKIKP	PKPdf	15 05 26.9	-0.7
MIAR	Mount Ida	138.68	93	IAMs_20	IAMs_20	16 01 14.8	
	comp=Z,4µm,19.0s						
C36M	Paulatuk	138.76	32	IAMs_20	IAMs_20	16 07 31.9	
	comp=Z,5µm,19.0s						
C36M	Paulatuk	138.76	32	P	PKPdf	15 05 26.7	-0.2
	baz=252						
PAPH	Port-au-Prince	138.84	131	IAMs_20	IAMs_20	16 15 05.3	
	comp=Z,5µm,21.0s						
CEL	Celeste	138.86	274	IAMs_20	IAMs_20	16 13 28.0	
	comp=Z,4µm,19.0s						
TIP	Timpagrande	138.87	276	IAMs_20	IAMs_20	16 09 56.1	
	comp=Z,5µm,22.0s						
MDVR	Moldovita	138.96	286	⇑P	PKiKP	15 05 33.4	+3.0
BBGH	Gun Hill	139.02	151	IAMs_20	IAMs_20	15 58 14.4	
	comp=Z,5µm,20.0s						
MARR	Marisel-Cluj	139.11	290	⇓P	PKiKP	15 05 29.9	-0.8
X40A	Basin Creek Fa	139.11	93	IAMs_20	IAMs_20	16 00 45.2	
	comp=Z,4µm,20.0s						
A36M	Sachs Harbour	139.19	28	IAMs_20	IAMs_20	16 04 39.8	
	comp=Z,5µm,21.0s						
A36M	Sachs Harbour	139.19	28	P	PKPdf	15 05 28.2	+0.5
	baz=254						
NMDO	Nuevo Mundo	139.24	126	IAMs_20	IAMs_20	16 17 31.0	
	comp=Z,4µm,22.0s						
U38A	Gravette	139.38	90	IAMs_20	IAMs_20	15 59 22.4	
	comp=Z,6µm,20.0s						
CCAR	Cane Creek	139.41	95	IAMs_20	IAMs_20	16 00 00.0	
	comp=Z,4µm,19.0s						
KSU1	Kansas State U	139.60	85	IAMs_20	IAMs_20	15 58 50.1	
	comp=Z,7µm,21.0s						
UALR	University of	139.60	93	IAMs_20	IAMs_20	16 02 15.3	
	comp=Z,4µm,20.0s						
MATE	Matera	139.76	278	⇑P	PKiKP	15 05 34.5	+2.5
SIRR	Siria	139.77	288	⇑P	PKiKP	15 05 31.7	-0.2
K30B	Basset	139.77	78	IAMs_20	IAMs_20	15 59 20.2	
	comp=Z,5µm,20.0s						
CUC	Castrocucco	139.94	276	IAMs_20	IAMs_20	16 04 56.4	
	comp=Z,5µm,20.0s						
BGNE	Belgrade	139.97	81	IAMs_20	IAMs_20	16 00 29.7	
	comp=Z,6µm,19.0s						
MNK	Minsk	140.03	302	*i* PKIKP	PKiKP	15 05 39.9	+7.7
MNK				*i*		15 08 34.0	
MNK				*i* PPP	PPP	15 11 38.9	
MNK				pmax	pmax		
	comp=Z,56nm,0.9s						
MNK				pmax	pmax		
	comp=N,37nm,1.1s						
MNK				pmax	pmax		
	comp=E,13nm,0.7s						
MNK				MLR	MLR		
	comp=Z,4µm,18.0s						
YKA	Yellowknife Ar	140.24	44	PKhKP	PKPpre	15 05 21.8	
	comp=Z,1.3nm,0.7s,baz=252,slow=3.9,SNR=21						
YKA				PP	PP	15 08 34.3	+5.6
	comp=Z,0.8nm,0.8s,baz=261,slow=5.8,SNR=4.6						
YKA				SKKPbc	SKKPbc	15 17 38.9	+2.1
	comp=Z,0.5nm,1.0s,baz=69,slow=4.2,SNR=3.5						
KOLS	Kolonicke sedl	140.71	292	*e*PKHKP	PKPpre	15 05 25.4	
KOLS				*e*		15 05 31.0	
KOLS	Kolonicke sedl	140.71	292	*e*PKP	PKPdf	15 05 31.0	-0.2
E28A	Huff	141.15	73	IAMs_20	IAMs_20	16 02 17.4	
	comp=Z,6µm,19.0s						
HBAR	Harrisburg	141.16	94	IAMs_20	IAMs_20	16 13 04.6	
	comp=Z,4µm,18.0s						
LCAR	Lake Charles	141.18	93	IAMs_20	IAMs_20	16 08 51.9	
	comp=Z,4µm,18.0s						
N35A	Tabor	141.22	83	IAMs_20	IAMs_20	16 01 23.0	
	comp=Z,5µm,21.0s						
OXF	Oxford	141.27	96	IAMs_20	IAMs_20	16 08 17.5	
	comp=Z,4µm,20.0s						
LVZ	Lovozero	141.30	324	IAMs_20	IAMs_20	16 11 22.2	
	comp=Z,7µm,21.0s						
LVZ	Lovozero	141.30	324	⇑PKHKP	PKPpre	15 05 24.7	
L34A	Svendsen Farm,	141.38	81	IAMs_20	IAMs_20	15 58 31.1	
	comp=Z,6µm,22.0s						
KEST	Kesra	141.42	266	PKP	PKPdf	15 05 29.9	-3.0
	comp=Z,16nm,1.0s,baz=337,slow=1.2,SNR=5.5						
060A	Indiantown	141.48	113	IAMs_20	IAMs_20	16 21 48.7	
	comp=Z,6µm,22.0s						
MORH	Mrgy, Hungar	141.55	286	⇓P	PKPdf	15 05 28.1	-4.6
PSZ	Piszkesteto	141.63	290	IAMs_20	IAMs_20	16 07 54.2	
	comp=Z,4µm,20.0s						
PSZ	Piszkesteto	141.63	290	⇓P	PKiKP	15 05 36.1	+0.3
PSZ	Piszkesteto	141.63	290	⇓PKIKP	PKiKP	15 05 36.1	+0.3
APA	Apatity	141.69	323	⇓PKIKP	PKiKP	15 05 36.4	+1.2
APA				*i*		15 08 38.0	
APA				*i*		15 12 45.0	
APA				*i* SS	SS	15 27 05.0	-2.9
APA				pmax	pmax		
	comp=Z,12nm,1.0s						
LRAL	Lakeview Retre	141.79	100	IAMs_20	IAMs_20	16 21 24.6	
	comp=Z,5µm,22.0s						
T42A	Van Buren	141.81	92	IAMs_20	IAMs_20	15 58 01.7	
	comp=Z,5µm,21.0s						
GNAR	Gosnell	141.82	94	IAMs_20	IAMs_20	16 09 26.1	
	comp=Z,4µm,19.0s						
P38A	Dawn	141.84	86	IAMs_20	IAMs_20	16 00 13.4	
	comp=Z,6µm,21.0s						
352A	Blakely	142.00	104	IAMs_20	IAMs_20	16 22 50.7	
	comp=Z,5µm,22.0s						
PEBM	Pemiscott Bayo	142.01	94	IAMs_20	IAMs_20	16 12 41.1	
	comp=Z,4µm,19.0s						
PBMO	Poplar Bluff	142.08	93	IAMs_20	IAMs_20	16 02 30.7	
	comp=Z,4µm,20.0s						
NIE	Niedzica	142.08	292	*e*PKP	PKiKP	15 05 38.3	+1.7
NIE				*e*L	L	15 57 29.3	
	comp=Z,3µm,30.8s						
ECSD	EROS Data Cent	142.19	79	IAMs_20	IAMs_20	16 01 06.2	
	comp=Z,7µm,20.0s						
LNXT	Lenox	142.24	94	IAMs_20	IAMs_20	16 03 07.1	
	comp=Z,4µm,20.0s						
PVMO	Portageville	142.31	94	IAMs_20	IAMs_20	16 11 09.8	
	comp=Z,5µm,18.0s						
SUW	Suwalki	142.37	300	*e*PKP	PKiKP	15 05 37.1	+0.2
SUW				*e*L	L	15 56 00.5	
	comp=Z,6µm,37.4s						
SUW	Suwalki	142.37	300	IAMs_20	IAMs_20	16 19 53.0	
	comp=Z,5µm,21.0s						
MDND	Maddock	142.41	71	PKPdf	PKPdf	15 05 31.3	-3.0
PARMO	Parma	142.43	93	IAMs_20	IAMs_20	16 04 31.1	
	comp=Z,4µm,20.0s						
GLAT	Glass	142.47	94	IAMs_20	IAMs_20	16 11 09.3	
	comp=Z,4µm,18.0s						
PABE	Paberze	142.50	302	IAMs_20	IAMs_20	16 19 35.0	
	comp=Z,5µm,22.0s						
SRO	Srobarova	142.52	289	*e*PKIKP	PKiKP	15 05 38.3	+0.8
SRO	Srobarova	142.52	289	*e*PKP	PKiKP	15 05 38.3	+0.8
VYHS	Vyhne	142.52	290	*e*PKHKP	PKPpre	15 05 30.2	
VYHS	Vyhne	142.52	290	*e*PKP	PKiKP	15 05 37.2	-0.3
HICK	Hickman	142.68	94	IAMs_20	IAMs_20	16 04 53.8	
	comp=Z,4µm,19.0s						
Y49A	Blount Mountai	142.71	100	IAMs_20	IAMs_20	16 04 02.7	
	comp=Z,4µm,20.0s						
P40A	Paris	142.71	88	IAMs_20	IAMs_20	16 00 24.7	
	comp=Z,6µm,21.0s						
OJC	Ojcow	142.72	293	*e*PKP	PKPdf	15 05 34.2	-0.5
OJC				*e*L	L	15 58 53.7	
	comp=Z,6µm,31.9s						
AQU	L'Aquila	142.77	278	PKP	PKPdf	15 05 35.6	+0.5
UTMT	University of	142.79	94	IAMs_20	IAMs_20	16 23 06.7	
	comp=Z,4µm,18.0s						
R9F13	Warsaw-Wawer	142.79	296	*e*PKPc		15 05 39.3	
BEL	Belsk	142.84	296	*e*PKP	PKiKP	15 05 39.1	+1.1
BEL				*e*L	L	16 05 00.4	
	comp=Z,35µm,23.6s						
CGM3	Cape Girardeau	142.88	92	IAMs_20	IAMs_20	16 16 45.0	
	comp=Z,4µm,19.0s						
ABSA	Djebel Ababsia	142.93	265	P	PKPdf	15 05 37.2	+1.5
CMAH	Djebel Manchou	143.19	266	P	PKiKP	15 05 38.7	-0.7
BOJS	Bojanci	143.26	284	*e*PKPdf	PKPdf	15 05 34.7	-1.1
BOJS				*e*SS	SS	15 27 27.2	+0.1
BOJS				*e*		15 45 37.2	
BOJS				*e*		15 54 33.5	
FINES	FINESS Array B	143.30	312		PKPbc	15 05 32.8	+0.2
FINES	FINESS Array B	143.30	312	PKP	PKPbc	15 05 32.5	0.0
	comp=Z,4.9nm,0.7s,baz=132,slow=2.8,SNR=20						
FINES	FINESS Array B	143.30	312	PKIKP	PKPbc	15 05 32.8	+0.3
WVT	Waverly	143.30	96	IAMs_20	IAMs_20	16 03 29.2	
	comp=Z,5µm,19.0s						
T45A	Paducah	143.35	94	IAMs_20	IAMs_20	16 21 11.3	
	comp=Z,4µm,20.0s						
SMOL	Smolenice	143.37	289	*e*PKIKP	PKiKP	15 05 39.4	+0.2
JAVC	Velka Javorina	143.38	290	*e*PKP	PKPbc	15 05 32.7	-0.5
MODS	Modra-Piesok	143.39	289	*e*PKIKP	PKPdf	15 05 35.6	-0.4
MODS				*e*		15 05 41.2	
MODS	Modra-Piesok	143.39	289	*e*PKP	PKiKP	15 05 41.2	+1.9
SIUC	Southern Illin	143.41	92	IAMs_20	IAMs_20	16 06 51.1	
	comp=Z,5µm,19.0s				

ARA0 ARCESS Array S 144.84 326 *e*PKPbc **PKPab 15 05 36.6 -0.4**
ARA0 IVmB_BB 15 05 51.7
comp=Z,2μm,3.7s
ARA0 *e*SS SS 15 27 47.0 +2.7
ARA0 IVMs_BB IVMs_BB 16 08 20.7
comp=Z,2μm,19.4s
ARCES ARCESS Array B 144.84 326 PKP **PKPab 15 05 36.5 -0.5**
comp=Z,34nm,0.8s,baz=95,slow=3.8,SNR=76
TREC Trest 144.86 289 *e*PKP **PKPab 15 05 37.1 -0.6**
TREC AMS AMS 16 14 40.0
comp=Z,5μm,23.5s
TREC Trest 144.86 289 *e*PKIKP **PKPab 15 05 37.1 -0.6**
TREC MLR MLR
comp=Z,5μm,23.5s
OSTC Ostas 144.95 292 *e*PKP **PKPab 15 05 36.1 -1.9**
OSTC AMS AMS 16 05 10.0
comp=Z,4μm,23.6s
OSTC Ostas 144.95 292 *e*PKIKP **PKPab 15 05 36.1 -1.9**
OSTC MLR MLR
comp=Z,4μm,23.6s
MOA Molln 144.96 287 *i* PKP **PKPab 15 05 36.4 -1.7**
comp=Z,183nm,1.4s,SNR=29
KSP Ksiaz 145.02 292 *e*PKP **PKPdf 15 05 39.3 +0.5**
KSP *e*L L 15 59 27.1
comp=Z,6μm,30.0s
UPC Upice 145.05 292 *e*PKP **PKPdf 15 05 38.8 0.0**
UPC AMS AMS 16 05 10.0
comp=Z,6μm,23.9s
UPC Upice 145.05 292 *e*PKIKP **PKPdf 15 05 38.8 0.0**
UPC MLR MLR
comp=Z,6μm,23.9s
CHVC Chvalec 145.06 292 *e*PKP **PKPbc 15 05 37.7 -0.6**
CHVC AMS AMS 16 05 20.0
comp=Z,5μm,24.2s
CHVC Chvalec 145.06 292 *e*PKIKP **PKPbc 15 05 37.7 -0.6**
CHVC MLR MLR
comp=Z,5μm,24.2s
W52A Murphy 145.06 100 IAMs_20 IAMs_20 16 20 29.0
comp=Z,4μm,20.0s
KBA Koelnbreinsper 145.17 285 *i* PKP **PKPbc 15 05 37.6 -1.4**
comp=Z,160nm,1.2s,SNR=58
BIOA Bad Ischl, Aus 145.27 286 *i* PKP **PKPbc 15 05 38.2 -0.9**
comp=Z,74nm,1.3s,SNR=16
SPMN Marine on St. 145.30 79 IAMs_20 IAMs_20 15 58 57.4
comp=Z,5μm,22.0s
CKRC Cesky Krumlov 145.36 288 *e*PKP **PKPbc 15 05 38.3 -1.0**
CKRC AMS AMS 16 28 00.0
comp=Z,4μm,20.9s
CKRC Cesky Krumlov 145.36 288 *e*PKP2 **PKPbc 15 05 38.3 -1.0**
CKRC MLR MLR
comp=Z,4μm,20.9s
GKP Gorka Klasztor 145.39 297 *e*PKP **PKPab 15 05 40.4 +1.0**
GKP *e*L L 16 05 34.7
comp=Z,8μm,24.4s
HAMF Hammerfest 145.50 328 *e*PKPbc **PKPdf 15 05 38.4 -0.6**
HAMF *e*SS SS 15 27 53.5 +1.9
ABTA Abfaltersbach 145.53 284 *i* PKP **PKPdf 15 05 39.2 -0.7**
comp=Z,260nm,1.3s,SNR=51
GOPC GO Pecny, Ondr 145.53 290 *e*PKP **PKPdf 15 05 39.5 -0.2**
GOPC AMS AMS 16 13 20.0
comp=Z,5μm,20.7s
GOPC GO Pecny, Ondr 145.53 290 *e*PKIKP **PKPdf 15 05 39.5 -0.2**
GOPC MLR MLR
comp=Z,5μm,20.7s
WCI Wyandotte Cave 145.56 94 **PKPdf 15 05 39.7 -0.4**
WCI Wyandotte Cave 145.56 94 IAMs_20 IAMs_20 16 25 46.0
comp=Z,4μm,20.0s
WCI Wyandotte Cave 145.56 94 PKIKP **PKPdf 15 05 39.7 -0.4**
WCI MLR MLR
comp=Z,4μm,20.0s
L42A Oliver, Polo 145.60 86 IAMs_20 IAMs_20 16 03 01.9
comp=Z,5μm,22.0s
BG3 Lake Jocassee 145.61 101 IAMs_20 IAMs_20 16 25 18.6
comp=Z,5μm,21.0s
KTK1 Kautokeino 145.62 325 *e*PKPbc **PKPdf 15 05 39.4 +0.2**
KTK1 *e*SS SS 15 27 55.7 +2.5
ULM Lac du Bonnet 145.66 69 PKPbc **PKPdf 15 05 39.8 0.0**
comp=Z,9.3nm,0.8s,baz=250,slow=2.6,SNR=13
ZVC Zvikov 145.69 289 *e*PKP **PKPdf 15 05 39.0 -0.9**
ZVC AMS AMS 16 12 10.0
comp=Z,4μm,21.3s
PRU Pruhonice 145.71 290 *e*PKP **PKPbc 15 05 40.2 -0.2**
PRU AMS AMS 16 04 20.0
comp=Z,5μm,24.1s
PRU Pruhonice 145.71 290 *e*PKIKP **PKPbc 15 05 40.2 -0.2**
PRU MLR MLR
comp=Z,5μm,24.1s
JFWS Jewell Farm 145.72 84 **PKPdf 15 05 38.5 -1.7**
JFWS Jewell Farm 145.72 84 IAMs_20 IAMs_20 16 03 43.0
comp=Z,6μm,20.0s
JFWS Jewell Farm 145.72 84 PKIKP **PKPdf 15 05 38.5 -1.7**
T50A Nancy 145.73 97 IAMs_20 IAMs_20 16 04 56.6
comp=Z,4μm,20.0s
GEC2 GERESS Array S 145.73 288 *e*PKPbc 15 05 40.1
baz=115,slow=2.7
GERES GERESS Array B 145.73 288 **PKPdf 15 05 39.8 -0.4**
GERES GERESS Array B 145.73 288 PKPbc **PKPdf 15 05 39.0 -1.1**
comp=Z,36nm,0.9s,baz=140,slow=3.1,SNR=72
GERES GERESS Array B 145.73 288 PKIKP **PKPdf 15 05 39.8 -0.4**
LESA Schwarzleotal 145.74 285 *i* PKP **PKPdf 15 05 39.3 -0.9**
comp=Z,233nm,1.2s,SNR=40
RJOB Jochberg 145.80 286 *e*PKPbc 15 05 40.0
baz=115,slow=2.7
PRA Prague 145.80 290 AMS AMS 16 13 40.0
comp=Z,4μm,21.1s
PVCC Panska Ves 145.91 291 *e*PKP **PKPbc 15 05 41.0 0.0**
PVCC AMS AMS 16 26 20.0
comp=Z,4μm,19.9s
PVCC Panska Ves 145.91 291 *e*PKP2 **PKPbc 15 05 41.0 0.0**
PVCC MLR MLR
comp=Z,4μm,19.9s
KHC Kasperske Hory 145.93 288 *e*PKP **PKPbc 15 05 41.0 -0.1**
KHC *ex* x 15 05 46.5
KHC *e*PP PP 15 07 56.1 -67
KHC *e*SS SS 15 27 55.5 -2.2
KHC AMS AMS 16 18 50.0
comp=Z,5μm,21.9s
KHC Kasperske Hory 145.93 288 *e*PKP2 **PKPbc 15 05 41.0 -0.1**
KHC *e*SS SS 15 27 55.5 -2.2
KHC MLR MLR
comp=Z,5μm,21.9s
BLO Bloomington 145.98 92 IAMs_20 IAMs_20 16 23 47.0
comp=Z,6μm,20.0s
I40A Norwalk 145.99 82 **PKPdf 15 05 39.6 -1.1**
NHSC New Hope 146.02 107 IAMs_20 IAMs_20 16 25 09.4
comp=Z,5μm,19.0s
RICC Richard 146.19 291 *e*PKP **PKPbc 15 05 42.0 +0.2**
RICC AMS AMS 16 13 20.0
comp=Z,4μm,20.7s
MSSA Maissana 146.21 278 **PKPdf 15 05 40.7 -0.4**
TZTN Tazewell 146.23 99 IAMs_20 IAMs_20 16 19 50.0
comp=Z,4μm,19.0s
SPB2 Spitsbergen Ar 146.25 342 **PKPdf 15 05 40.5 +0.4**
SPA0 Spitsbergen Ar 146.26 342 *e*PKPdf **PKPdf 15 05 40.6 +0.5**
SPITS Spitsbergen Ar 146.26 342 PKPbc **PKPbc 15 05 41.1 -0.2**
comp=Z,75nm,0.8s,baz=96,slow=7.6,SNR=28
WTTA Wattenberg 146.30 284 *i* PKP **PKPbc 15 05 42.8 +0.3**
comp=Z,134nm,1.3s,SNR=43
R49A Shelbyville 146.30 95 IAMs_20 IAMs_20 16 22 56.7
comp=Z,5μm,21.0s
WET Wettzell 146.35 288 *e*PKPbc 15 05 41.7
baz=115,slow=2.7
WATA Walderalm 146.37 284 *i* PKP **PKPdf 15 05 41.9 +0.6**
comp=Z,99nm,1.1s,SNR=26
BRG Berggiesshubel 146.40 291 *e*PKPbc 15 05 42.2
baz=115,slow=2.7
BRG Berggiesshubel 146.41 291 *e*PKP **PKPbc 15 05 42.2 -0.2**
BRG Amp 15 05 53.6
comp=Z,90nm,1.4s
Y57A Sumter 146.51 105 IAMs_20 IAMs_20 16 23 37.5
comp=Z,4μm,20.0s
SQTA Sankt Quirin 146.54 284 *i* PKP **PKPdf 15 05 41.3 -0.3**
comp=Z,21nm,0.8s,SNR=33
BJO1 Bjornoya 146.57 335 *e*PKPdf **PKPdf 15 05 40.7 +0.1**
BJO1 IVmB_BB 15 05 53.0
comp=Z,2μm,1.8s
BJO1 *e*SS SS 15 28 06.0 +2.5
HSKC Hora Svate Kat 146.60 291 *e*PKP **PKPbc 15 05 42.8 -0.3**
HSKC AMS AMS 16 17 50.0
comp=Z,5μm,20.6s
JETT Jettan, Norway 146.63 326 *e*PKPdf **PKPdf 15 05 41.5 +0.5**
MOTA Moosalm 146.66 284 *e*PKP **PKPdf 15 05 41.9 +0.1**
comp=Z,238nm,1.0s
KMSC Kings Mountain 146.69 103 IAMs_20 IAMs_20 16 25 48.3
comp=Z,4μm,22.0s
EPLO Experimental L 146.71 71 **PKPbc 15 05 43.1 -0.2**

FETA Feichten 146.74 283 *i* PKP **PKPdf 15 05 42.4 +0.4**
comp=Z,169nm,1.2s,SNR=35
HSPB Hornsund (broa 146.79 340 *e*PKP **PKiKP 15 05 45.5 +0.1**
HSPB *e*L L 16 08 46.1
comp=Z,6μm,24.5s
L44A Lake County Fo 146.79 87 IAMs_20 IAMs_20 16 04 54.6
comp=Z,6μm,20.0s
KBS Kingsbay 146.81 344 *e*PKPbc **PKPbc 15 05 42.4 -0.4**
KBS *e*SS SS 15 28 10.2 +4.1
R50A Paris 146.82 96 IAMs_20 IAMs_20 16 23 00.5
comp=Z,5μm,20.0s
FUORN Ofenpass-Fuorn 146.85 282 IAMs_20 IAMs_20 16 26 26.8
comp=Z,5μm,21.0s
Y58A Scranton 146.88 106 IAMs_20 IAMs_20 16 20 08.1
comp=Z,4μm,20.0s
S51A Beattyville 146.89 97 IAMs_20 IAMs_20 16 24 27.3
comp=Z,4μm,20.0s
FUR Furstenfeldbru 146.91 285 *e*PKPbc 15 05 43.6
baz=115,slow=2.7
RETA Reutte 146.93 284 *i* PKP **PKPbc 15 05 43.9 -0.3**
comp=Z,62nm,1.0s,SNR=26
ROTZ Rotzenmuhle 147.00 289 *e*PKPbc 15 05 43.6
baz=115,slow=2.7
NKC Novy Kostel 147.04 289 AMS AMS 16 14 40.0
comp=Z,4μm,19.3s
RUE Ruedersdorf 147.08 294 *e*PKPbc 15 05 44.4
baz=115,slow=2.7
TANN Tannenbergstha 147.10 290 *e*PKPbc 15 05 44.2
baz=115,slow=2.7
CLL Collm 147.12 292 IAMs_20 IAMs_20 16 18 02.3
comp=Z,5μm,21.0s
CLL Collm 147.12 292 *e*PKPbc 15 05 44.6
baz=115,slow=2.7
MANZ Manzenberg 147.15 289 *e*PKPbc 15 05 44.6
baz=115,slow=2.7
TRO Tromso 147.15 326 *e*PKPdf **PKPdf 15 05 42.8 +1.1**
TRO IVmB_BB 15 06 00.1
comp=Z,2μm,3.9s
TRO IVMs_BB IVMs_BB 16 03 06.7
comp=Z,2μm,22.0s
V55A Taylorsville 147.23 102 IAMs_20 IAMs_20 16 19 04.5
comp=Z,5μm,20.0s
BSD Bornholm Skovb 147.27 299 *i* P **PKPbc 15 05 45.5 +0.8**
U54A Nelsons Funny 147.29 100 IAMs_20 IAMs_20 16 20 42.0
comp=Z,6μm,21.0s
DAVA Damuels 147.38 283 *i* PKP **PKPbc 15 05 44.6 -0.9**
comp=Z,107nm,1.2s,SNR=32
UBR Ueberruh 147.41 284 *e*PKPbc 15 05 44.6
baz=115,slow=2.7
X58A Rowland 147.52 106 IAMs_20 IAMs_20 16 19 05.1
comp=Z,5μm,21.0s
W57A Gilead 147.52 104 IAMs_20 IAMs_20 16 19 51.2
comp=Z,4μm,21.0s
GRA1 Grafenberg Arr 147.56 288 IAMs_20 IAMs_20 16 15 05.3
comp=Z,6μm,22.0s
GRF Grafenberg Arr 147.56 288 *e*PKPbc 15 05 45.5
baz=115,slow=2.7
GRF *e*L 16 15 16.2
comp=Z,5μm,21.9s
GRFO Grafenberg 147.56 288 IAMs_20 IAMs_20 16 15 05.3
comp=Z,6μm,22.0s
MOX Moxa 147.69 290 *e*L 16 15 59.2
comp=Z,5μm,21.6s
NEUB Neuenburg 147.80 291 *e*PKPbc 15 05 46.4
baz=115,slow=2.7
Y60A Bolivia 147.82 108 IAMs_20 IAMs_20 16 16 20.1
comp=Z,4μm,22.0s
Q51A Peebles 147.89 95 IAMs_20 IAMs_20 16 07 35.6
comp=Z,5μm,21.0s
O49A Covington 147.94 93 IAMs_20 IAMs_20 16 06 18.0
comp=Z,6μm,20.0s
RGN Rugen 147.99 297 IAMs_20 IAMs_20 16 26 39.9
comp=Z,4μm,20.0s
H43A Windswept, Lux 148.06 83 IAMs_20 IAMs_20 16 03 53.8
comp=Z,5μm,20.0s
U56A King 148.07 102 IAMs_20 IAMs_20 16 18 18.6
comp=Z,5μm,19.0s
DEL Delary 148.20 301 *i* P **PKPbc 15 05 47.0 -0.2**
BNI Bardonecchia 148.34 278 IAMs_20 IAMs_20 16 12 20.6
comp=Z,4μm,20.0s
S54A Dingess, Beckl 148.41 99 IAMs_20 IAMs_20 16 20 39.6
comp=Z,6μm,21.0s
N49A Columbus Grove 148.45 92 IAMs_20 IAMs_20 16 01 48.4
comp=Z,6μm,22.0s
W59A Clinton 148.47 106 IAMs_20 IAMs_20 16 20 55.4
comp=Z,5μm,20.0s
V58A Windy Hill, Pi 148.48 104 IAMs_20 IAMs_20 16 26 06.6
comp=Z,4μm,22.0s
FLTG Flechtingen 148.50 293 *e*PKPbc 15 05 48.3
baz=115,slow=2.7
Q52A Bidwell 148.52 96 IAMs_20 IAMs_20 16 07 59.5
comp=Z,5μm,22.0s
SENIN Lac Senin/Sane 148.56 280 **PKPbc 15 05 47.8 -1.0**
STEI Steigen 148.59 323 *e* **PKPbc 15 05 47.8 0.0**
STEI IVmB_BB 15 06 03.4
comp=Z,4μm,2.2s
STEI IVMs_BB IVMs_BB 16 06 53.6
comp=Z,2μm,30.9s
BLA Blacksburg 148.59 101 IAMs_20 IAMs_20 16 20 13.5
comp=Z,5μm,20.0s
FAUS Fauske 148.60 322 *e*PKPdf **PKPdf 15 05 45.3 +1.1**
FAUS IVmB_BB 15 05 57.4
comp=Z,3μm,2.0s
FAUS *e*SS SS 15 28 23.8 -3.0
FAUS IVMs_BB IVMs_BB 16 07 47.3
comp=Z,1μm,30.4s
NOR Nord 148.60 353 *i* P **PKPbc 15 05 46.7 -1.0**
NOR IAMs_20 IAMs_20 16 10 27.2
comp=Z,8μm,22.9s
NOR IVMs_BB IVMs_BB 16 10 32.1
comp=Z,2μm,23.4s
BFO Black Forest 148.77 284 *e*PKPbc 15 05 49.1
baz=115,slow=2.7
BFO Black Forest 148.77 284 **PKPdf 15 05 45.5 +0.4**
BFO Black Forest 148.77 284 PKIKP **PKPdf 15 05 45.5 +0.4**
BLKN Baker Lake 148.78 44 **PKPdf 15 05 45.8 +1.3**
COP Copenhagen 148.79 299 *i* P **PKiKP 15 05 49.6 -0.5**
CLZ Clausthal 148.84 291 *e*PKPbc 15 05 49.5
baz=115,slow=2.7
MOR8 Moi Rana 148.98 320 *e*PKPdf **PKPdf 15 05 44.6 -0.3**
MOR8 *e*SS SS 15 28 27.6 -3.7
HFS Hagfors 148.98 308 PKPbc **PKPbc 15 05 47.5 -1.6**
comp=Z,29nm,1.0s,baz=158,slow=4.8,SNR=24
CART Cartagena 149.04 259 IAMs_20 IAMs_20 16 11 03.0
comp=Z,5μm,19.0s
T57A Hurt 149.18 102 IAMs_20 IAMs_20 16 23 07.0
comp=Z,5μm,19.0s
NRDL Niedersach Rie 149.21 293 *e*PKPbc 15 05 51.2
baz=115,slow=2.7
LOF Lofoten 149.21 324 *e*PKPdf **PKPdf 15 05 46.6 +1.5**
LOF *e*SS SS 15 28 35.0 +1.5
LOF IVMs_BB IVMs_BB 16 05 00.1
comp=Z,1μm,30.9s
J47A Sunmer 149.29 87 IAMs_20 IAMs_20 16 07 40.7
comp=Z,6μm,19.0s
P53A Whipple 149.38 96 IAMs_20 IAMs_20 16 10 12.2
comp=Z,4μm,21.0s
TNS Taunus Mts 149.42 288 *e*PKPbc 15 05 50.9
baz=115,slow=2.7
VAGH Vaagaholmen 149.43 321 *e*PKPdf **PKPdf 15 05 46.1 +0.5**
VAGH IVmB_BB 15 05 54.8
comp=Z,1μm,2.3s
M50A Fremont 149.44 92 IAMs_20 IAMs_20 16 02 05.5
comp=Z,6μm,21.0s
ECH Echery 149.44 283 IAMs_20 IAMs_20 16 22 54.2
comp=Z,4μm,20.0s
R55A Marlinton 149.45 99 IAMs_20 IAMs_20 16 16 52.6
comp=Z,6μm,21.0s
O52A Adamsville 149.47 95 IAMs_20 IAMs_20 16 06 46.1
comp=Z,5μm,20.0s
KONS Konsvik 149.50 320 *e* **PKPbc 15 05 48.7 -1.5**
BSEG Bad Segeberg 149.51 295 *e*PKPbc 15 05 51.9
baz=115,slow=2.7
LEIR Leirfjorden 149.52 320 *e*PKPdf **PKPdf 15 05 47.0 +1.3**
STOK Stokkvaagen 149.55 320 *e*PKPdf **PKPdf 15 05 46.3 +0.6**
STOK *e*SS SS 15 28 38.3 +0.8
SSB Saint Sauveur 149.78 277 IAMs_20 IAMs_20 16 15 01.8
comp=Z,5μm,21.0s
KASTN Kahler Asten 149.78 289 *e*PKPbc 15 05 52.0
baz=115,slow=2.7
S57A Dark Hollow, R 149.85 101 IAMs_20 IAMs_20 16 18 43.7
comp=Z,5μm,20.0s
O53A New Philadelph 149.94 95 IAMs_20 IAMs_20 16 13 56.9
comp=Z,6μm,19.0s
V61A Roper 150.02 107 IAMs_20 IAMs_20 16 28 46.3
comp=Z,5μm,21.0s
NSS Namsos 150.06 317 *e*PKPdf **PKPdf 15 05 47.0 +0.5**

NC602 NORSAR Array S 150.11 309 *e*PKPdf **PKPdf 15 05 48.4 +1.6**
RTC Rabat Centre 150.16 248 PKP **PKiKP 15 05 54.1 +0.4**
T59A Double "B" Far 150.20 104 IAMs_20 IAMs_20 16 17 40.2
comp=Z,5μm,20.0s
NB2 NORSAR Subarra 150.30 310 PKP **PKPbc 15 05 52.1 -0.3**
comp=Z,319nm,1.7s,baz=95,slow=4.3
NB2 NORSAR Subarra 150.30 310 PKP **PKPbc 15 05 52.1 -0.3**
baz=95,slow=4.3
NOA NORSAR Array B 150.30 310 PKP **PKPdf 15 05 46.7 -0.5**
comp=Z,0.7nm,0.9s,baz=101,slow=1.8,SNR=2.8
NOA PKPbc **PKPbc 15 05 51.8 -0.6**
comp=Z,26nm,1.1s,baz=250,slow=3.0,SNR=31
O54A Avella 150.42 96 IAMs_20 IAMs_20 16 06 12.7
comp=Z,6μm,20.0s
OSL Oslo 150.44 307 *e*PKPdf **PKPdf 15 05 47.5 +0.1**
OSL IVMs_BB IVMs_BB 16 02 39.1
comp=Z,1μm,28.7s
MCWV Mont Chateau 150.45 98 IAMs_20 IAMs_20 16 19 47.5
comp=Z,5μm,20.0s
Q56A Snyder Ridge, 150.49 99 IAMs_20 IAMs_20 16 21 42.6
comp=Z,5μm,22.0s
IBBN Ibbenburen 150.52 291 *e*PKPbc 15 05 54.0
baz=115,slow=2.7
BUG Bochum--Univer 150.54 289 *e*PKPbc 15 05 54.3
baz=115,slow=2.7
WLF Walferdange 150.60 286 IAMs_20 IAMs_20 16 26 32.0
comp=Z,5μm,20.0s
WLF Walferdange 150.60 286 PKP **PKPdf 15 05 49.7 +1.8**
WLF Walferdange 150.60 286 *d*PKP **PKPbc 15 05 52.8 -0.6**
WLF Walferdange 150.60 286 *e*PKPbc 15 05 54.1
baz=115,slow=2.7
R58B Mineral 150.64 102 IAMs_20 IAMs_20 16 22 15.6
comp=Z,5μm,20.0s
MUD Monsted U'grnd 150.74 300 *i* P **PKiKP 15 05 54.0 -0.1**
MUD IVMs_BB IVMs_BB 16 15 19.4
comp=Z,1μm,18.8s
MUD IAMs_20 IAMs_20 16 16 06.1
comp=Z,5μm,22.1s
TBLU Trondheim 150.83 314 *e* **PKiKP 15 05 54.3 +0.1**
BHOU Houvegnez 150.94 287 *d*PKP **PKiKP 15 05 54.5 -0.3**
BTNL Ternell 150.94 287 *d*PKP **PKPbc 15 05 54.2 0.0**
KONO Kongsberg 150.98 307 IAMs_20 IAMs_20 16 22 03.4
comp=Z,5μm,20.0s
KONO Kongsberg 150.98 307 *c* *i*PKIKP **PKiKP 15 05 54.8 +0.3**
KONO pmax pmax
comp=Z,106nm,2.5s
KONO Kongsberg 150.98 307 *e*PKPdf **PKPdf 15 05 49.9 +1.7**
KONO *e*SS SS 15 28 53.2 -0.7
KONO IVMs_BB IVMs_BB 16 07 11.2
comp=Z,976nm,21.4s
MEM Membach 151.02 287 *d*PKP **PKPbc 15 05 53.3 -1.0**
BSTI Sart Tilman 151.28 287 *d*PKPdf **PKPdf 15 05 49.4 +0.5**
BSTI *d*PKP **PKiKP 15 05 55.8 +0.3**
BEBN Eben Emael 151.28 288 *d*PKP **PKiKP 15 05 55.9 +0.5**
DOMB Dombas 151.37 311 *e* **PKiKP 15 05 55.8 +0.5**
DOMB IVmB_BB 15 06 04.4
comp=Z,1μm,2.1s
DOMB IVMs_BB IVMs_BB 16 09 08.3
comp=Z,1μm,23.2s
BCLA Clavier 151.38 287 *d*PKP **PKiKP 15 05 55.6 -0.1**
HOMB Homborsund 151.38 304 *e*PKPdf **PKPdf 15 05 49.2 +0.4**
HOMB *e*SS SS 15 28 59.6 +1.2
P57A Homestead Farm 151.48 100 IAMs_20 IAMs_20 16 18 19.0
comp=Z,5μm,21.0s
BGES Gesves 151.50 286 *d*PcP **PKiKP 15 05 56.4 +0.4**
BMRD Maredsous 151.66 286 *d*PKPdf **PKPdf 15 05 48.2 -1.3**
BMRD *d*PKP **PKPbc 15 05 56.0 +0.2**
SKAR Skarslia 151.70 309 *e*PKPdf **PKPdf 15 05 50.8 +1.5**
SKAR *e*SS SS 15 28 58.0 -3.9
SKAR *e*SS **SS 15 29 03.7 +1.8**
SKAR IVMs_BB IVMs_BB 16 03 14.9
comp=Z,1μm,27.5s
DOU Dourbes 151.70 286 *d*PKP **PKPbc 15 05 55.6 -0.3**
ERPA Erie 151.74 93 IAMs_20 IAMs_20 16 05 43.5
comp=Z,5μm,22.0s
S61A Accomac 151.81 105 IAMs_20 IAMs_20 16 23 24.6
comp=Z,6μm,20.0s
SNART Snartemo 152.07 304 *e* **PKPdf 15 05 52.9 +3.0**
SNART Snartemo 152.07 304 *i* P **PKPbc 15 05 54.0 -2.5**
UCC Uccle 152.07 287 *d*PKP **PKiKP 15 05 57.3 +0.3**
MOL Molde 152.08 313 *e*PKPdf **PKPdf 15 05 50.5 +0.7**
ESDC Sonseca Array 152.15 260 PKPbc **PKPbc 15 05 56.5 -0.9**
comp=Z,6.5nm,0.8s,baz=53,slow=1.4,SNR=33
SSPA Standing Stone 152.24 98 IAMs_20 IAMs_20 16 16 25.8
comp=Z,5μm,20.0s
PAB San Pablo 152.31 259 ⇑PKIKP **PKiKP 15 05 58.5 +0.4**
TULEG Thule 152.32 14 IAMs_20 IAMs_20 16 14 44.4
comp=Z,5μm,22.0s
AKN Aaknes 152.35 312 *e*PKPdf **PKPdf 15 05 50.6 +0.4**
ODD1 Odda 152.50 307 *e* **PKiKP 15 05 57.9 +0.2**
ODD1 *e*SS SS 15 29 09.4 -1.3
ODD1 IVMs_BB IVMs_BB 16 07 56.4
comp=Z,878nm,17.4s
BLS5 Blasjo 152.56 306 *e* **PKiKP 15 05 59.3 +1.4**
BLS5 IVmB_BB 15 06 07.5
comp=Z,1μm,2.4s
HYA Hoyanger 152.74 310 *e*PKPdf **PKPdf 15 05 52.9 +2.1**
HYA *e*SS SS 15 29 14.1 +1.0
MVL Millersville 152.82 100 IAMs_20 IAMs_20 16 17 37.4
comp=Z,6μm,22.0s
BER Bergen 153.16 308 *e*PKPdf **PKPdf 15 05 52.4 +1.0**
BER IVmB_BB 15 06 25.6
comp=Z,2μm,3.7s
BER *e*SS SS 15 29 17.5 -0.2
BER IVMs_BB IVMs_BB 16 07 34.2
comp=Z,909nm,27.0s
KMY Karmoy 153.16 305 *e*PKPdf **PKPdf 15 05 51.4 0.0**
KMY *e*SS SS 15 29 18.8 +0.9
ASK Askoy 153.23 308 *e* **PKiKP 15 05 59.5 +0.4**
ASK IVmB_BB 15 06 25.7
comp=Z,2μm,4.5s
ASK *e*SS SS 15 29 18.9 +0.5
MEDO Medina 153.25 93 IAMs_20 IAMs_20 16 10 15.6
comp=Z,6μm,21.0s
L56A Greenwood 153.28 95 IAMs_20 IAMs_20 16 24 41.2
comp=Z,7μm,22.0s
FOO Floro 153.29 311 *e*pPKPdf **pPKPdf 15 05 56.2 +0.5**
FOO *e*SS SS 15 29 11.2 -7.9
NEEM North Greenlan 153.37 5 *i* P **PKPbc 15 05 55.6 -3.7**
SUE Sulen 153.44 309 *e*PKPdf **PKPdf 15 05 52.5 +0.7**
SUE *e* 15 06 03.9
MORF Marmelete 153.51 251 *e*PKPdf **PKPdf 15 05 52.6 -0.2**
MORF IAMs_20 IAMs_20 15 59 48.7
comp=Z,9μm,46.9s
MORF Marmelete 153.51 251 *e*PKIKP **PKPdf 15 05 52.6 -0.2**
MESJ Messejana 153.60 252 *e*PKPdf **PKPdf 15 05 52.9 0.0**
MESJ *e*SS SS 15 29 25.5 +2.4
MESJ IAMs_20 IAMs_20 16 00 22.2
comp=Z,14μm,48.7s
MESJ Messejana 153.60 252 *e*PKIKP **PKPdf 15 05 52.9 0.0**
MESJ *e*SS SS 15 29 25.5 +2.4
BINY Binghamton 154.29 97 IAMs_20 IAMs_20 16 14 34.2
comp=Z,5μm,19.0s
LIS Lisbon 154.73 253 *e*PKPdf **PKPdf 15 05 54.4 0.0**
LIS IAMs_20 IAMs_20 16 00 23.5
comp=Z,13μm,44.2s
LIS Lisbon 154.73 253 *e*PKIKP **PKPdf 15 05 54.4 0.0**
CPNY Central Park 154.76 101 IAMs_20 IAMs_20 16 14 45.8
comp=Z,6μm,21.0s
MTE Manteigas 154.79 258 IAMs_20 IAMs_20 16 13 31.3
comp=Z,6μm,21.0s
PAL Palisades 154.92 101 IAMs_20 IAMs_20 16 15 39.9
comp=Z,5μm,19.0s
J57A Williamstown 154.92 94 IAMs_20 IAMs_20 16 06 17.8
comp=Z,6μm,21.0s
N62A Caunsett State 155.15 102 IAMs_20 IAMs_20 16 12 49.0
comp=Z,5μm,20.0s
JNE Jan Mayen East 155.34 335 *e*PKPdf **PKPdf 15 05 55.1 +0.9**
JMIC Jan Mayen 155.40 335 *e* **PKPdf 15 05 58.5 +4.2**
J59A Piesco 155.89 95 IAMs_20 IAMs_20 16 22 30.3
comp=Z,6μm,20.0s
ACCN Adirondack Com 156.37 96 IAMs_20 IAMs_20 16 23 05.1
comp=Z,6μm,21.0s
UCCT U. Connecticut 156.41 101 IAMs_20 IAMs_20 16 13 43.3
comp=Z,5μm,20.0s
L61B Northampton 156.49 99 IAMs_20 IAMs_20 16 24 43.4
comp=Z,5μm,20.0s
EKA Eskdalemuir Ar 157.46 295 PKP **PKPdf 15 05 58.2 +0.8**
comp=Z,1.7nm,0.9s,baz=64,slow=7.2,SNR=1.7
EKA PKPab **PKPab 15 06 28.8 -0.5**
comp=Z,21nm,1.1s,baz=96,slow=6.0,SNR=6.1
SUMG Summit 158.54 358 PKP **PKPdf 15 05 56.9 -1.9**
SUMG Summit 158.54 358 *i* P **PKPdf 15 06 00.6 +1.8**
SUMG IAMs_20 IAMs_20 16 10 34.9
comp=Z,10μm,25.9s

SCO	Scoresbysund	158.84 343	IAMs_20	IAMs_20	16 24 39.5
	comp=Z,5μm,21.0s				
DSB	Dublin	159.09 289	IAMs_20	IAMs_20	16 30 01.1
	comp=Z,5μm,20.0s				
UMMG	Uummannaq	159.75 11	*i* P	PKPdf	15 06 00.6 +0.9
PSMN	Pico do Norte,	162.02 224	*e*LR	LR	16 02 17.9
PSMN			*i* AMs_20		16 06 19.0
	comp=Z,848nm,21.6s				
PSMN	Pico do Norte,	162.02 224	*e*LR	LR	16 02 17.9
PSMN			*i* AMs_20		16 06 19.0
	comp=Z,848nm,21.6s				
PSET	Sete Cidades	162.99 224	*e*LR	LR	16 02 31.4
PSET			*i* AMs_20		16 06 00.7
	comp=Z,632nm,21.0s				
PSET	Sete Cidades	162.99 224	*e*LR	LR	16 02 31.4
PSET			*i* AMs_20		16 06 00.7
	comp=Z,632nm,21.0s				
PAGU	Agualva, Azore	164.41 222	*e*LR	LR	16 02 50.9
PAGU			*i* AMs_20		16 06 35.2
	comp=Z,1μm,25.2s				
PAGU	Agualva, Azore	164.41 222	*e*LR	LR	16 02 50.9
PAGU			*i* AMs_20		16 06 35.2
	comp=Z,1μm,25.2s				
ROSA	Rosais	164.80 219	*e*LR	LR	16 02 57.0
ROSA			*i* AMs_20		16 06 42.4
	comp=Z,922nm,24.6s				
ROSA	Rosais	164.80 219	*e*LR	LR	16 02 57.0
ROSA			*i* AMs_20		16 06 42.4
	comp=Z,922nm,24.6s				
CALA	Caldeira	164.86 218	*i* AMs_20		16 06 37.0
	comp=Z,671nm,15.6s				
CALA	Caldeira	164.86 218	*i* AMs_20		16 06 37.0
	comp=Z,671nm,15.6s				

TAP ***18*** *14:56:43.2,25°.14N×121°.98E,h162*km*,ML3.1,D*
JMA ***18*** *14:56:44.0±0.2,25°.N±1°.×122°.1E±0°.5,h151*km*±1km,*
MV2.5/17,TAIWAN REGION

ISC 18 14:56:42.3±1.8**,25°.12N**±0°.06×**122°.02E**±0°.03**,h164**km±8km**,**n100,**σ0.86/188,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.12**	**195**	P	**Pn**	**14 57 04.5**	**+0.4**
TWB1				*e*S	**Sn**	**14 57 21.2**	**+0.4**
SXI1	**Grass Mountain**	**0.14**	**259**	*e*P	**Pn**	**14 57 04.4**	**+0.2**
SXI1				*e*S	**Sn**	**14 57 20.7**	**-0.2**
TIPB	**Shuangxi**	**0.23**	**230**	*i* P	**Pn**	**14 57 04.6**	**+0.3**
TIPB				*i* S	**Sn**	**14 57 20.5**	**-0.7**
YM01	**YM01**	**0.41**	**274**	*e*P	**Pn**	**14 57 04.5**	**-0.4**
YM01				S	**Sn**	**14 57 21.1**	**-1.0**
TWY	**Chenhua**	**0.41**	**292**	*e*P	**Pn**	**14 57 04.2**	**-0.6**
TWY				*e*S	**Sn**	**14 57 20.9**	**-1.2**
TWA	**Mucha**	**0.42**	**251**	*i* P	**Pn**	**14 57 06.6**	**+1.7**
TWA				S	**Sn**	**14 57 23.0**	**+0.9**
ZUZH	**Zhuzihu**	**0.43**	**276**	*e*P	**Pn**	**14 57 06.0**	**+1.1**
ZUZH				S	**Sn**	**14 57 21.4**	**-0.9**
ANP	**Anpu**	**0.46**	**278**	*e*P	**Pn**	**14 57 06.6**	**+1.5**
ANP				*e*S	**Sn**	**14 57 21.8**	**-0.8**
NHDH	**Xindian Distri**	**0.48**	**251**	*e*P	**Pn**	**14 57 05.0**	**0.0**
NHDH				S	**Sn**	**14 57 22.6**	**+0.2**
TATO	**Taipei**	**0.51**	**254**	*e*P	**Pn**	**14 57 05.0**	**-0.2**
TATO				S	**Sn**	**14 57 22.3**	**-0.4**
TWE	**Neicheng**	**0.51**	**219**	*i* P	**Pn**	**14 57 05.5**	**+0.3**
TWE				*i* S	**Sn**	**14 57 23.1**	**+0.3**
FUSB	**Fushanzhiwuyua**	**0.53**	**228**	*i* P	**Pn**	**14 57 05.7**	**+0.3**
FUSB				*i* S	**Sn**	**14 57 22.6**	**-0.5**
TWC	**Suao**	**0.53**	**197**	*e*P	**Pn**	**14 57 05.6**	**+0.2**
TWC				*i* S	**Sn**	**14 57 22.2**	**-0.9**
TWS1	**Kuangyinshan**	**0.55**	**268**	*i* P	**Pn**	**14 57 05.2**	**-0.2**
TWS1				*i* S	**Sn**	**14 57 22.3**	**-0.8**
NDS	**Dongshan**	**0.56**	**210**	*e*P	**Pn**	**14 57 05.7**	**+0.1**
NDS				*e*S	**Sn**	**14 57 23.4**	**+0.1**
ESAO	**Su ao**	**0.57**	**197**	*i* P	**Pn**	**14 57 06.7**	**+1.1**
ESAO				*i* S	**Sn**	**14 57 22.5**	**-0.8**
NWLT	**Wulai**	**0.58**	**234**	P	**Pn**	**14 57 06.2**	**+0.5**
NWLT				S	**Sn**	**14 57 22.6**	**-0.9**
ENTT	**Nioudou**	**0.63**	**221**	*e*P	**Pn**	**14 57 06.6**	**+0.7**
ENTT				*i* S	**Sn**	**14 57 23.9**	**-0.1**
EWUT	**Wuta**	**0.71**	**198**	P	**Pn**	**14 57 07.0**	**+0.7**
EWUT				S	**Sn**	**14 57 25.2**	**+0.5**
EOS2	**EOS2**	**0.72**	**165**	*i* P	**Pn**	**14 57 07.2**	**+1.0**
EOS2				*i* S	**Sn**	**14 57 25.3**	**+0.6**
ENA	**Nanau**	**0.73**	**200**	*e*P	**Pn**	**14 57 07.5**	**+0.9**
ENA				*e*S	**Sn**	**14 57 25.6**	**+0.6**
LATG	**Datong**	**0.74**	**218**	*i* P	**Pn**	**14 57 07.5**	**+0.9**
LATG				*i* S	**Sn**	**14 57 25.3**	**0.0**
YHNB	**Yeheng**	**0.74**	**233**	P	**Pn**	**14 57 06.3**	**-0.3**
YHNB	**Yeheng**	**0.74**	**233**	P	**Pn**	**14 57 07.0**	**+0.4**
YHNB				S	**Sn**	**14 57 23.9**	**-1.3**
NSK	**Sanguang**	**0.75**	**234**	*e*P	**Pn**	**14 57 07.0**	**+0.3**
NSK				S	**Sn**	**14 57 23.2**	**-2.1**
NCUH	**Zhongli**	**0.77**	**259**	*e*P	**Pn**	**14 57 07.5**	**+0.8**
NCUH				S	**Sn**	**14 57 25.3**	**-0.1**
EAHA	**Aohua**	**0.83**	**198**	*i* P	**Pn**	**14 57 07.8**	**+0.7**
EAHA				S	**Sn**	**14 57 26.5**	**+0.4**
KSHI	**Guanxi Townshi**	**0.84**	**246**	*i* P	**Pn**	**14 57 07.8**	**+0.7**
KSHI				*i* S	**Sn**	**14 57 24.5**	**-1.8**
EOS3	**EOS3**	**0.87**	**162**	*i* P	**Pn**	**14 57 08.4**	**+1.2**
EOS3				*i* S	**Sn**	**14 57 26.8**	**+0.4**
NNS	**Nan Shan**	**0.90**	**221**	*i* P	**Pn**	**14 57 09.2**	**+1.4**
NNS				*i* S	**Sn**	**14 57 26.9**	**-0.4**
NNSB	**Datong**	**0.90**	**220**	*i* P	**Pn**	**14 57 08.5**	**+0.7**
NNSB				S	**Sn**	**14 57 26.9**	**-0.4**
NFF	**Wufeng Townshi**	**0.95**	**240**	*i* P	**Pn**	**14 57 08.2**	**+0.2**
NFF				*i* S	**Sn**	**14 57 26.8**	**-1.1**
NACB	**Ninganchiao**	**1.02**	**203**	P	**Pn**	**14 57 08.5**	**-0.1**
NACB	**Ninganchiao**	**1.02**	**203**	S	**Sn**	**14 57 27.4**	**-1.3**
NACB	**Ninganchiao**	**1.02**	**203**	*i* P	**Pn**	**14 57 08.6**	**+0.1**
NACB				*i* S	**Sn**	**14 57 27.8**	**-1.0**
ETL	**Fush Village**	**1.02**	**201**	*i* P	**Pn**	**14 57 09.2**	**+0.5**
ETL				*i* S	**Sn**	**14 57 29.1**	**+0.3**
LIOB	**Emei**	**1.03**	**243**	*i* P	**Pn**	**14 57 09.2**	**+0.5**
LIOB				S	**Sn**	**14 57 27.9**	**-0.9**
EOS4	**EOS4**	**1.03**	**165**	P	**Pn**	**14 57 08.9**	**+0.7**
EOS4				*i* S	**Sn**	**14 57 28.2**	**+0.1**
ETLH	**Xiulin Townshi**	**1.03**	**208**	*e*P	**Pn**	**14 57 09.4**	**+0.6**
ETLH				*i* S	**Sn**	**14 57 28.4**	**-0.7**
NSTT	**Nanjuang**	**1.05**	**242**	*i* P	**Pn**	**14 57 09.2**	**+0.4**
NSTT				S	**Sn**	**14 57 28.6**	**-0.5**
JYNG	**Yonaguni jima**	**1.07**	**128**	P	**Pn**	**14 57 09.1**	**+0.2**
JYNG				*e*S	**Sn**	**14 57 28.1**	**-1.3**
TWD	**Chiawan**	**1.11**	**201**	*e*P	**Pn**	**14 57 09.7**	**+0.5**
TWD				S	**Sn**	**14 57 28.9**	**-1.0**
YOJ	**Yonaguni jima**	**1.11**	**126**	P	**Pn**	**14 57 09.2**	**-0.1**
YOJ	**Yonaguni jima**	**1.11**	**126**	S	**Sn**	**14 57 28.4**	**-1.6**
YOJ	**Yonaguni jima**	**1.11**	**126**	*e*P	**Pn**	**14 57 09.4**	**+0.2**
YOJ	**Yonaguni jima**	**1.11**	**126**	*i* P	**Pn**	**14 57 09.6**	**+0.3**
YOJ				S	**Sn**	**14 57 30.6**	**+0.6**
FUSS	**Fushou**	**1.12**	**219**	*i* P	**Pn**	**14 57 10.9**	**+1.3**
FUSS				S	**Sn**	**14 57 31.1**	**+0.4**
TWT	**Tachien**	**1.16**	**222**	*i* P	**Pn**	**14 57 11.0**	**+1.1**
TWT				S	**Sn**	**14 57 31.0**	**-0.1**
TDCB	**Techi**	**1.17**	**222**	*e*P	**Pn**	**14 57 11.1**	**+1.1**
TDCB				*e*S	**Sn**	**14 57 29.2**	**-2.0**
WHF	**Hehuan Shan**	**1.19**	**216**	*i* P	**Pn**	**14 57 11.2**	**+0.7**
WHF				S	**Sn**	**14 57 31.3**	**-0.8**
HWA	**Hwalien**	**1.20**	**199**	*e*P	**Pn**	**14 57 11.3**	**+1.2**
HWA				*e*S	**Sn**	**14 57 32.0**	**+0.6**
LXIB	**Xiulin Townshi**	**1.23**	**207**	*i* P	**Pn**	**14 57 10.5**	**0.0**
LXIB				S	**Sn**	**14 57 31.6**	**-0.5**
ETM	**Tongmen**	**1.25**	**203**	P	**Pn**	**14 57 09.9**	**-0.6**
ETM				*e*S	**Sn**	**14 57 31.6**	**-0.6**
WHP	**Taichung City**	**1.29**	**230**	P	**Pn**	**14 57 11.7**	**+0.7**
WHP				*i* S	**Sn**	**14 57 32.7**	**-0.3**
TWQ1	**Liyutan**	**1.37**	**236**	P	**Pn**	**14 57 12.5**	**+0.8**
TWQ1				*e*S	**Sn**	**14 57 33.6**	**-0.6**
SHUL	**Shoufeng**	**1.39**	**198**	*e*P	**Pn**	**14 57 12.5**	**+0.6**
SHUL				*e*S	**Sn**	**14 57 34.9**	**+0.3**
OWD	**Renai**	**1.39**	**214**	*e*P	**Pn**	**14 57 13.2**	**+1.2**
OWD				S	**Sn**	**14 57 34.8**	**-0.1**
WUSB	**Renai**	**1.39**	**216**	*i* P	**Pn**	**14 57 13.3**	**+1.3**
WUSB				S	**Sn**	**14 57 34.2**	**-0.6**
ESL	**Shilin**	**1.41**	**203**	*e*P	**Pn**	**14 57 12.2**	**+0.2**
ESL				S	**Sn**	**14 57 32.9**	**-2.0**
WCS	**Beigang Elemen**	**1.46**	**224**	*e*P	**Pn**	**14 57 13.4**	**+0.8**
WCS				*e*S	**Sn**	**14 57 35.5**	**-0.3**
WARBT	**Fenglin Townsh**	**1.51**	**203**	*i* P	**Pn**	**14 57 12.7**	**-0.4**
WARBT				*i* S	**Sn**	**14 57 35.2**	**-1.6**
EGFH	**Guangfu**	**1.54**	**201**	*e*P	**Pn**	**14 57 13.2**	**-0.2**
EGFH				*i* S	**Sn**	**14 57 35.8**	**-1.5**
VWDT	**VWDT**	**1.58**	**211**	*i* P	**Pn**	**14 57 15.1**	**+1.4**
VWDT				S	**Sn**	**14 57 38.2**	**+0.3**
SMLT	**Sun Moon Lake**	**1.60**	**220**	*i* P	**Pn**	**14 57 13.7**	**-0.3**
SMLT				*e*S	**Sn**	**14 57 38.0**	**-0.5**
TYC	**Yuchr**	**1.61**	**221**	*e*P	**Pn**	**14 57 15.1**	**+1.0**
TYC				S	**Sn**	**14 57 38.6**	**+0.2**
SSLB	**Suanglung**	**1.65**	**216**	P	**Pn**	**14 57 14.8**	**+0.3**
SSLB	**Suanglung**	**1.65**	**216**	S	**Sn**	**14 57 39.0**	**-0.2**
SSLB	**Suanglung**	**1.65**	**216**	P	**Pn**	**14 57 15.2**	**+0.7**
SSLB				S	**Sn**	**14 57 38.6**	**-0.6**
HGSD	**Ruisui**	**1.71**	**199**	*i* P	**Pn**	**14 57 16.2**	**+1.1**
HGSD				S	**Sn**	**14 57 39.6**	**-0.8**
EHY	**Hungye**	**1.73**	**202**	*i* P	**Pn**	**14 57 15.9**	**+0.5**
EHY				*e*S	**Sn**	**14 57 39.0**	**-1.8**
WNT	**Mingjian**	**1.74**	**225**	*e*P	**Pn**	**14 57 16.5**	**+1.1**
WNT				S	**Sn**	**14 57 41.2**	**+0.4**
WJS	**Zhushan**	**1.75**	**223**	P	**Pn**	**14 57 15.7**	**+0.2**
WJS				S	**Sn**	**14 57 40.3**	**-0.8**
WHYT	**Xinyi Township**	**1.77**	**217**	*i* P	**Pn**	**14 57 16.8**	**+0.9**
WHYT				*i* S	**Sn**	**14 57 41.9**	**+0.2**
YULB	**Yu-li**	**1.84**	**201**	P	**Pn**	**14 57 18.4**	**+1.8**
YULB	**Yu-li**	**1.84**	**201**	*i* P	**Pn**	**14 57 16.5**	**-0.1**
YULB				S	**Sn**	**14 57 40.8**	**-2.2**
EYUL	**Yuli**	**1.88**	**200**	*i* P	**Pn**	**14 57 17.8**	**+0.8**
EYUL				*e*S	**Sn**	**14 57 41.8**	**-1.9**
TWF1	**Yuli**	**1.88**	**201**	*i* P	**Pn**	**14 57 17.0**	**0.0**
TWF1				S	**Sn**	**14 57 41.4**	**-2.3**
HATJ	**Hateruma jima**	**1.94**	**123**	*e*S	**Sn**	**14 57 44.0**	**-0.8**
ALS	**Alishan**	**1.95**	**215**	*i* P	**Pn**	**14 57 19.1**	**+1.0**
ALS				*i* S	**Sn**	**14 57 44.9**	**-0.7**
CHN5	**Tsauling**	**1.95**	**219**	P	**Pn**	**14 57 18.8**	**+1.0**
CHN5				*i* S	**Sn**	**14 57 45.5**	**+0.3**
JKRS	**Kuro-shima**	**2.01**	**116**	*e*P	**Pn**	**14 57 19.1**	**+0.8**
JKRS				S	**Sn**	**14 57 45.8**	**-0.4**
FULB	**Fuli**	**2.03**	**199**	P	**Pn**	**14 57 18.8**	**+0.2**
FULB				S	**Sn**	**14 57 47.1**	**+0.4**
JIJ	**Ishigaki jima**	**2.07**	**111**	*e*P	**Pn**	**14 57 19.4**	**+0.4**
JIJ				S	**Sn**	**14 57 45.5**	**-1.9**
WCKO	**Fanlu**	**2.12**	**218**	*e*P	**Pn**	**14 57 20.7**	**+1.1**
WCKO				*i* S	**Sn**	**14 57 48.7**	**+0.2**
ELDTW	**Lidau**	**2.13**	**206**	*i* P	**Pn**	**14 57 19.9**	**+0.1**
ELDTW				S	**Sn**	**14 57 48.4**	**-0.6**
JISG	**Ishigakijimahi**	**2.15**	**104**	*e*P	**Pn**	**14 57 20.6**	**+0.7**
JISG				*e*S	**Sn**	**14 57 47.8**	**-1.2**
CHN4	**Tsaushan**	**2.19**	**217**	*i* P	**Pn**	**14 57 21.2**	**+0.7**
CHN4				*i* S	**Sn**	**14 57 50.0**	**0.0**
TPUB	**Ta-pu**	**2.21**	**215**	*e*P	**Pn**	**14 57 21.3**	**+0.6**
TPUB				*e*S	**Sn**	**14 57 50.0**	**-0.5**
EDH	**Donghe**	**2.24**	**197**	*i* P	**Pn**	**14 57 21.9**	**+0.9**
EDH				*i* S	**Sn**	**14 57 50.3**	**-0.6**
STYH	**Taoyuan**	**2.25**	**211**	P	**Pn**	**14 57 20.7**	**-0.5**
STYH				S	**Sn**	**14 57 49.7**	**-1.5**
WTP	**Ta-pu**	**2.27**	**215**	*i* P	**Pn**	**14 57 21.5**	**+0.1**
WTP				*i* S	**Sn**	**14 57 51.2**	**-0.4**
WSL	**Shuilin Townsh**	**2.28**	**226**	*e*P	**Pn**	**14 57 21.8**	**+0.3**
WSL				S	**Sn**	**14 57 51.5**	**-0.3**
TWK	**Hsinying**	**2.32**	**218**	*e*P	**Pn**	**14 57 21.7**	**-0.3**
TWK				*i* S	**Sn**	**14 57 51.9**	**-0.8**
SNST	**Tainan City**	**2.35**	**217**	*e*P	**Pn**	**14 57 21.3**	**-1.0**
SNST				S	**Sn**	**14 57 52.1**	**-1.2**
CHN1	**Nanshi**	**2.36**	**216**	*i* P	**Pn**	**14 57 22.8**	**+0.3**
CHN1				*i* S	**Sn**	**14 57 53.3**	**-0.3**
JTJ	**Tarama**	**2.48**	**101**	*e*S	**Sn**	**14 57 55.2**	**-0.8**
MASBT	**Mashibuluo**	**2.80**	**207**	*e*P	**Pn**	**14 57 28.8**	**+1.0**
MASBT				*e*S	**Sn**	**14 58 03.2**	**+0.2**
JIRB	**Irabujima**	**2.87**	**95**	*e*P	**Pn**	**14 57 29.6**	**+1.0**
JIRB				*e*S	**Sn**	**14 58 03.8**	**-0.8**
JMJ2	**Miyako jima3**	**3.02**	**96**	*e*P	**Pn**	**14 57 31.7**	**+1.3**
JMJ2				*e*S	**Sn**	**14 58 07.4**	**-0.5**
JOGS	**Gusukube**	**3.09**	**96**	*e*S	**Sn**	**14 58 08.9**	**-0.6**

NEIC ***18*** *14:58:26.0±2.9,51°.12S±0°.08×139°.2E±0°.3,h10*km*±2km,*
mb4.5/16,Error ellipse: s-maj=30.1km s-min=10.4km
az=70.0
IDC ***18*** *14:58:26.2±1.0,50°.90S×139°.62E,h0*km*,mb4.2/5,*
mbtmp4.3/6,ML4.2/1,Error ellipse: s-maj=78.2km
s-min=17.8km az=84.0

ISC 18 14:58:27.0±0.5**,51°.01S**±0°.09×**139°.6E**±0°.1**,h11**km**,n57,**
σ19.31/48,mb4.3/10,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGBR	**Mount Gambier**	**13.30**	**3**	Pn	**Pn**	**15 01 37.5**	**+1.9**
STKA	**Stephens Creek**	**19.17**	**5**	P	**Pn**	**15 02 50.2**	**-1.2**
STKA	**Stephens Creek**	**19.17**	**5**	P	**Pn**	**15 02 51.0**	**-0.4**
	0.4nm,0.3s,baz=169,slow=12,SNR=11						
	8.1nm,0.7s						
WHZ	**Wether Hill Ro**	**19.43**	**86**	P	**P**	**15 02 52.3**	**-0.9**
WHZ				IAmb	IAmb	15 02 58.4	
	comp=Z,30nm,1.1s						
MLZ	**Mavora Lakes**	**19.77**	**85**	P	**Pn**	**15 02 58.3**	**-0.2**
MLZ				IAmb	IAmb	15 03 02.4	
	comp=Z,27nm,0.8s						
WKZ	**Wanaka**	**20.59**	**84**	P	Pn	15 03 09.1	+1.0
LBZ	**Lake Benmore**	**21.53**	**84**	P	**P**	**15 03 19.0**	**+3.0**
LBZ				IAmb	IAmb	15 03 20.7	
	comp=Z,27nm,1.2s						
FORT	**Forrest**	**21.95**	**333**	P	**P**	**15 03 22.2**	**+1.6**
FORT				IAmb	IAmb	15 03 51.2	
	comp=Z,12nm,0.8s						
INZ	**Inchbonnie**	**23.16**	**82**	P	**P**	**15 03 35.2**	**+1.9**
INZ				IAmb	IAmb	15 03 43.1	
	comp=Z,23nm,1.2s						
DSZ	**Denniston Nort**	**23.91**	**80**	P	**P**	**15 03 40.5**	**-0.3**
H01W1	**Cape Leeuwin H**	**24.43**	**301**	T	T	15 28 52.1	
	baz=139,slow=76,SNR=43						
H01W2	**Cape Leeuwin H**	**24.44**	**301**	T	T	15 28 55.3	
	baz=139,slow=76,SNR=51						
H01W3	**Cape Leeuwin H**	**24.45**	**301**	T	T	15 28 56.4	
	baz=139,slow=76,SNR=40						
ASAR	**Alice Springs**	**27.65**	**349**	P	**P**	**15 04 13.5**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=165,slow=9.3,SNR=19						
ASAR				PcP	**PcP**	**15 07 32.0**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=159,slow=2.3,SNR=6.3						
	comp=Z,1.8nm,0.9s						
AS31	**Alice Springs**	**27.65**	**349**	P	**P**	**15 04 13.0**	**-1.7**
VNDA	**Vanda**	**27.90**	**170**	P	**P**	**15 04 16.8**	**+0.4**
VNDA	**Vanda**	**27.90**	**170**	P	**P**	**15 04 18.9**	**+2.5**
	comp=Z,1.3nm,0.8s,baz=325,slow=11,SNR=5.2						
	comp=Z,1.3nm,0.8s						
RTZ	**Ruatahuna**	**28.96**	**79**	P	**P**	**15 04 26.2**	**-0.2**
WR8	**Warramunga Arr**	**31.25**	**351**	P	**P**	**15 04 43.9**	**-2.7**
WRA	**Warramunga Arr**	**31.27**	**350**	P	**P**	**15 04 47.1**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=178,slow=7.8,SNR=32						
	comp=Z,2.9nm,0.6s						
WRAB	**Tennant Creek**	**31.28**	**350**	P	**P**	**15 04 45.8**	**-1.1**
WRAB				IAmb	IAmb	15 04 49.6	
	comp=Z,5.5nm,0.7s						
WB0	**Warramunga Arr**	**31.44**	**351**	P	**P**	**15 04 46.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**34.66**	**336**	P	**P**	**15 05 14.7**	**-1.7**
KNRA	**Kununurra**	**36.30**	**342**	P	**P**	**15 05 28.3**	**-2.2**
QSPA	**South Pole Qui**	**39.11**	**180**	P	**P**	**15 05 52.5**	**-1.6**
QSPA				IAmb	IAmb	15 05 58.1	
	comp=Z,16nm,1.1s						
QSPA	**South Pole Qui**	**39.11**	**180**	P	**P**	**15 05 55.6**	**+1.6**
	comp=Z,10nm,0.9s,baz=314,slow=3.0,SNR=14						
	comp=Z,10nm,0.9s						
FAKI	**Fak Fak**	**48.32**	**350**	P	**P**	**15 07 08.1**	**-0.3**
BELA	**Belgrano 2**	**51.34**	**182**	P	**P**	**15 07 29.5**	**-1.2**
BELA				IAmb	IAmb	15 07 40.2	
	comp=Z,3.0nm,0.9s						
H04S1	**CROZET ISLANDS**	**54.46**	**237**	T	T	16 07 13.6	
	baz=128,slow=75,SNR=7.4						
H04S2	**CROZET ISLANDS**	**54.46**	**237**	T	T	16 07 07.2	
	baz=128,slow=75,SNR=32						
H04S3	**CROZET ISLANDS**	**54.48**	**237**	T	T	16 07 06.6	
	baz=128,slow=75,SNR=19						
H08S2	**Diego Garcia H**	**69.74**	**283**	T	T	16 25 19.1	
	baz=142,slow=76,SNR=41						
H08S1	**Diego Carcia H**	**69.75**	**283**	T	T	16 25 22.3	
	baz=142,slow=76,SNR=61						
H08S3	**Diego Garcia H**	**69.76**	**283**	T	T	16 25 22.8	
	baz=142,slow=76,SNR=48						
CMAR	**Chiang Mai Arr**	**77.81**	**321**	P	**P**	**15 10 26.0**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=178,slow=5.9,SNR=11						
	comp=Z,1.1nm,0.6s						
ARSA	**Arzberg**	**143.95**	**286**	*i* PKP	**PKPdf**	**15 18 01.6**	**0.0**
	comp=Z,1.5nm,0.5s						
SOKA	**Soboth**	**143.98**	**285**	*i* PKP	**PKPdf**	**15 18 01.0**	**-0.8**
	comp=Z,1.9nm,0.9s						
CONA	**Conrad Observa**	**144.05**	**288**	*e*PKP	**PKiKP**	**15 18 03.9**	**-1.5**
	comp=Z,2.6nm,1.0s						
OBKA	**Obir**	**144.20**	**285**	*i* PKP	**PKiKP**	**15 18 06.2**	**+0.5**
	comp=Z,5.4nm,1.5s						
ARCES	**ARCESS Array B**	**144.71**	**326**	PKP	**PKPdf**	**15 18 02.1**	**-0.2**
	comp=Z,4.8nm,0.9s,baz=108,slow=2.7,SNR=12						
MYKA	**Terra Mystica**	**144.81**	**284**	*i* PKP	**PKPdf**	**15 18 04.9**	**+1.6**
	comp=Z,4.8nm,1.0s						
MOA	**Molln**	**144.98**	**287**	*i* PKP	**PKPdf**	**15 18 03.2**	**-0.2**
	comp=Z,2.5nm,0.7s						
KBA	**Koelnbreinsper**	**145.20**	**285**	*i* PKP	**PKiKP**	**15 18 06.2**	**-1.7**
	comp=Z,3.5nm,1.2s						
BIOA	**Bad Ischl, Aus**	**145.29**	**286**	*e*PKP	**PKiKP**	**15 18 06.5**	**-1.4**
	comp=Z,7.9nm,1.2s						
ABTA	**Abfaltersbach**	**145.56**	**284**	*e*PKP	**PKPab**	**15 18 05.9**	**+0.9**
	comp=Z,4.5nm,1.0s						
GERES	**GERESS Array B**	**145.75**	**288**	PKPbc	**PKPbc**	**15 18 05.0**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=131,slow=3.9,SNR=7.7						
LESA	**Schwarzleotal**	**145.76**	**285**	*i* PKP	**PKPab**	**15 18 05.7**	**-0.1**
	comp=Z,3.3nm,0.9s						
WTTA	**Wattenberg**	**146.32**	**284**	*i* PKP	**PKiKP**	**15 18 09.6**	**-0.6**
	comp=Z,26nm,1.8s						
WATA	**Walderalm**	**146.39**	**284**	*e*PKP	**PKiKP**	**15 18 09.6**	**-0.7**
	comp=Z,17nm,1.4s						
SQTA	**Sankt Quirin**	**146.56**	**284**	*e*PKP	**PKiKP**	**15 18 12.2**	**+1.5**
	comp=Z,1.6nm,0.5s						
MOTA	**Moosalm**	**146.68**	**284**	*i* PKP	**PKPab**	**15 18 09.1**	**-0.3**
	comp=Z,3.1nm,0.6s						
FETA	**Feichten**	**146.77**	**284**	*i* PKP	**PKPbc**	**15 18 08.7**	**+0.2**
	comp=Z,6.8nm,0.9s						
DAVA	**Damuels**	**147.41**	**283**	*i* PKP	**PKiKP**	**15 18 12.6**	**+0.2**
	comp=Z,8.0nm,1.0s						
HFS	**Hagfors**	**148.92**	**308**	PKPbc	**PKPbc**	**15 18 13.7**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=270,slow=0.7,SNR=4.4						
NB2	**NORSAR Subarra**	**150.23**	**310**	PKP	**PKiKP**	**15 18 17.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=86,slow=4.1						
NOA	**NORSAR Array B**	**150.23**	**310**	PKPbc	**PKiKP**	**15 18 17.4**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=249,slow=3.0,SNR=6.5						
ESDC	**Sonseca Array**	**152.26**	**260**	PKPbc	**PKiKP**	**15 18 22.9**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=67,slow=2.1,SNR=5.4						

JMA 18 15:10:32.8±0.3**,24°.2N**±0°.5×**123°.7E**±0°.9**,h16**km±2km**,**
MV1.1/8,NEAR ISHIGAKIJIMA ISLAND,Southwestern
Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**22**	P	Pg	15 10 36.5	-0.1
IRIF				*e*S	Sg	15 10 39.2	+0.2
HATJ	**Hateruma jima**	**0.19**	**143**	P	Pg	15 10 37.3	-0.1
JKRS	**Kuro-shima**	**0.30**	**85**	*i* P	Pg	15 10 39.3	0.0
JKRS				*e*S	Sb	15 10 44.3	-0.3
JIJ	**Ishigaki jima**	**0.45**	**70**	P	Pg	15 10 41.6	-0.3
JIJ				*e*S	Sg	15 10 47.6	-0.4
JISG	**Ishigakijimahi**	**0.69**	**57**	*e*P	Pg	15 10 46.1	-0.2
JTJ	**Tarama**	**1.03**	**65**	*e*S	Sn	15 11 06.6	0.0

TAP 18 15:10:49.0,24°.13N×121°.57E,h18km**,ML2.3,2C,B,**
Taiwan

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

TWQ1			*e*S		Sn	15 11 15.2	-0.8
YULB	**Yu-li**	**0.78 199**	P		Pb	15 11 03.8	-0.3
YULB	**Yu-li**	**0.78 199**	*i* P		Pb	15 11 03.4	-0.7
YULB			S		Sb	15 11 13.9	-0.5
WHYT	**Xinyi Township**	**0.79 237**	*i* P		Pg	15 11 04.8	+0.3
WHYT			S		Sg	15 11 15.3	+0.4
EYUL	**Yuli**	**0.82 197**	*i* P		Pb	15 11 04.1	-0.6
EYUL			*e*S		Sg	15 11 16.4	+0.6
TWF1	**Yuli**	**0.82 198**	*i* P		Pb	15 11 04.0	-0.8
TWF1			S		Sb	15 11 15.4	0.0
WJS	**Zhushan**	**0.83 248**	P		Pn	15 11 05.8	-0.1
WJS			*e*S		Sn	15 11 18.1	+0.3
TIPB	**Shuangxi**	**0.87 15**	*i* P		Pb	15 11 05.5	-0.1
TIPB			S		Sg	15 11 17.7	+0.3
ALS	**Alishan**	**0.94 229**	*i* P		Pb	15 11 06.8	-0.1
ALS			S		Sn	15 11 21.0	+0.3
FULB	**Fuli**	**0.96 195**	*e*P		Pn	15 11 07.7	-0.1
FULB			*e*S		Sn	15 11 20.9	-0.2
TWS1	**Kuangyinshan**	**0.97 352**	*e*P		Pb	15 11 07.0	-0.4
TWS1			S		Sn	15 11 21.9	+0.7
CHN5	**Tsauling**	**0.98 237**	*i* P		Pg	15 11 08.7	+0.7
CHN5			*e*S		Sn	15 11 22.9	+1.5
SXI1	**Grass Mountain**	**1.00 16**	P		Pb	15 11 08.0	+0.2
SXI1			*e*S		Sn	15 11 22.2	+0.3
YM01	**YM01**	**1.01 360**	*i* P		Pg	15 11 08.9	+0.3
YM01			*e*S		Sn	15 11 23.5	+1.3
ZUZH	**Zhuzihu**	**1.02 359**	*e*P		Pg	15 11 09.7	+0.8
ZUZH			*i* S		Sn	15 11 22.9	+0.3
ELDTW	**Lidau**	**1.07 209**	*i* P		Pb	15 11 09.1	0.0
ELDTW			S		Sb	15 11 23.2	+0.4
WCKO	**Fanlu**	**1.12 232**	*i* P		Pg	15 11 11.5	+0.7
WCKO			S		Sg	15 11 27.6	+2.0
WTK	**Tuku**	**1.17 248**	*e*P		Pg	15 11 12.1	+0.4
WTK			S		Sg	15 11 28.4	+1.4
EDH	**Donghe**	**1.18 192**	*e*P		Pn	15 11 08.9	-1.8
EDH			*e*S		Sb	15 11 25.6	-0.3
CHN4	**Tsaushan**	**1.19 229**	*i* P		Pg	15 11 12.1	0.0
CHN4			S		Sg	15 11 30.2	+2.6
TPUB	**Ta-pu**	**1.20 226**	P		Pg	15 11 12.0	-0.2
TPUB	**Ta-pu**	**1.20 226**	*i* P		Pb	15 11 11.5	+0.3
TPUB			S		Sg	15 11 29.4	+1.5
STYH	**Taoyuan**	**1.21 218**	*i* P		Pn	15 11 09.8	-1.2
STYH			*e*S		Sg	15 11 28.4	+0.3
LONT	**Longtian**	**1.29 199**	*e*P		Pn	15 11 12.1	0.0
LONT			*e*S		Sb	15 11 28.2	-0.7
TWK	**Hsinying**	**1.32 229**	*i* P		Pb	15 11 13.5	+0.3
TWK			*e*S		Sg	15 11 33.8	+2.1
SNST	**Tainan City**	**1.34 228**	*e*P		Pg	15 11 14.7	-0.2
SNST			*e*S		Sg	15 11 35.0	+2.6
CHN1	**Nanshi**	**1.34 226**	*i* P		Pg	15 11 15.5	+0.5
CHN1			*e*S		Sg	15 11 34.5	+1.9

NEIC ***18*** *15:15:46.4±1.4, 12°.4S±0°.1×166°.4E±0°.1, h51km±7km, mb4.4/17, Error ellipse: s-maj=21.9km s-min=10.6km az=54.0*
IDC ***18*** *15:15:47.0±4.2, 12°.34S×166°.14E, h48km±31km, mb3.8/5, mbtmp4.2/7, ML4.5/2, Error ellipse: s-maj=55.0km s-min=25.6km az=73.0*
ISC 18 15:15:47.0±1.2, 12°.38S±0°.10×166°.3E±0°.1, h59km, n28, σ0°82/32, mb4.3/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.88 295**		Pn	**Pn**	**15 17 25.3**	**0.0**
HNR				Sn	**Sn**	**15 18 41.3**	**-1.1**
HNR	**Honiara**	**6.88 295**		P	**Pn**	**15 17 23.8**	**-1.5**
	9.1nm,0.3s,baz=101,slow=7.4,SNR=5.1						
	21nm,0.4s						
DZM	**Mont Dzumac**	**9.64 179**		Pn	**Pn**	**15 18 03.4**	**+0.4**
DZM				Sn	**Sn**	**15 19 48.2**	**-1.7**
DZM	**Mont Dzumac**	**9.64 179**		P	**Pn**	**15 18 04.0**	**+0.9**
	4.6nm,0.3s,baz=318,slow=11,SNR=22						
DZM				S	**Sn**	**15 19 50.6**	**+0.7**
	7.3nm,0.8s,baz=301,slow=20,SNR=1.1						
	7.9nm,0.3s						
ONTNC	**Ouen Toro**	**9.87 179**		Pn	**Pn**	**15 18 05.9**	**-0.3**
ONTNC				Sn	**Sn**	**15 19 54.4**	**-1.2**
PINNC	**Pines Island,**	**10.23 174**		Pn	**Pn**	**15 18 10.8**	**-0.4**
ARMA	**Armidale**	**22.50 215**		P	**P**	**15 20 43.1**	**+1.2**
TOZ	**Tahuroa Road**	**26.55 164**		P	**P**	**15 21 19.4**	**0.0**
TOZ				IAmb	IAmb	15 21 52.2	
	comp=Z,20nm,1.4s						
BKZ	**Black Stump Fm**	**28.17 163**		P	**P**	**15 21 33.2**	**-0.6**
BKZ				IAmb	IAmb	15 21 38.5	
	comp=Z,14nm,1.2s						
MRZ	**Mangatainoka R**	**29.33 165**		P	**P**	**15 21 43.1**	**-1.0**
MRZ				IAmb	IAmb	15 21 50.9	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**29.87 226**		P	**P**	**15 21 49.7**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=63,slow=8.8,SNR=3.9						
	comp=Z,2.4nm,0.8s						
WR8	**Warramunga Arr**	**31.41 252**		P	**P**	**15 22 03.0**	**+0.3**
WR8				IAmb	IAmb	15 22 17.9	
	comp=Z,15nm,1.5s						
WB0	**Warramunga Arr**	**31.48 252**		P	**P**	**15 22 03.4**	**0.0**
WB0				IAmb	IAmb	15 22 11.8	
	comp=Z,3.6nm,1.0s						
WRA	**Warramunga Arr**	**31.55 252**		P	**P**	**15 22 04.1**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=80,slow=9.4,SNR=10						
	comp=Z,0.8nm,0.6s						
AS31	**Alice Springs**	**32.70 245**		P	**P**	**15 22 13.1**	**-0.9**
ASAR	**Alice Springs**	**32.70 245**		P	**P**	**15 22 13.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=65,slow=9.8,SNR=14						
	comp=Z,1.1nm,0.6s						
MTN	**Manton Dam**	**34.30 265**		P	**P**	**15 22 28.0**	**0.0**
BBOO	**Buckleboo**	**34.33 229**		P	**P**	**15 22 28.7**	**+0.6**
FAKI	**Fak Fak**	**34.98 283**		P	**P**	**15 22 33.4**	**-0.5**
FAKI				IAmb	IAmb	15 22 44.2	
	comp=Z,14nm,1.1s						
KNRA	**Kununurra**	**36.52 260**		P	**P**	**15 22 47.8**	**+0.7**
KNRA				IAmb	IAmb	15 23 09.8	
	comp=Z,5.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.57 257**		P	**P**	**15 23 12.7**	**-0.1**
FORT	**Forrest**	**39.73 236**		P	**P**	**15 23 13.8**	**-0.1**
NWAO	**Narrogin (SRO)**	**49.17 237**		P	**P**	**15 24 30.5**	**+1.2**
MORW	**Morawa**	**49.47 242**		P	**P**	**15 24 32.8**	**+1.2**
YULB	**Yu-li**	**56.58 309**		P	**P**	**15 25 24.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**73.13 294**		P	**P**	**15 27 12.9**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=121,slow=4.6,SNR=11						
	comp=Z,1.4nm,0.6s						
QSPA	**South Pole Qui**	**77.63 180**		P	**P**	**15 27 36.4**	**-0.5**
QSPA				IAmb	IAmb	15 27 56.4	
	comp=Z,3.9nm,1.2s						
MKAR	**Makanchi Array**	**94.86 317**		P	**P**	**15 29 02.2**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=96,slow=7.4,SNR=3.9						
	comp=Z,0.7nm,0.9s						

SJA ***18*** *15:17:24.1±1.1, 22°.07S×67°.45W, h198km, ML3.8, MW3.7*
NEIC ***18*** *15:17:25.5±2.1, 22°.06S±0°.05×67°.7W±0°.1, h206km±4km, mb4.3/12, Error ellipse: s-maj=17.7km s-min=7.9km az=86.0*
SCB ***18*** *15:17:25.5±1.3, 22°.07S×67°.43W, h177km±12km, ML4.3/3, MW3.7, Error ellipse: s-maj=9.2km s-min=4.2km az=0.0*
GUC ***18*** *15:17:25.8±0.8, 22°.08S×67°.42W, h181km±7km, ML4.1*
IDC ***18*** *15:17:29.4±3.2, 21°.69S×66°.96W, h208km±26km, mb3.4/3, mbtmp4.0/7, Error ellipse: s-maj=37.9km s-min=17.7km az=38.0*
ISC 18 15:17:24.4±0.6, 22°.08S±0°.03×67°.49W±0°.03, h194km±6km, n112, σ1°43/170, mb4.2/7, 13C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.07 216**		Pn	**Pn**	**15 17 56.0**	**+1.6**
AF01				Sn	**Sn**	**15 18 19.3**	**+1.6**
AF01	**San Pedro de A**	**1.07 216**		*e*P	Pn	15 18 09.2	+15
AF01				*e*S	**Sn**	**15 18 14.7**	**-3.0**
AF01				*e*P	**Sn**	**15 18 14.7**	**-3.0**
AF01				IAML		15 18 39.5	
	comp=Z,260nm,1.1s						
PB09	**IPOC Station P**	**1.65 280**			**Pn**	**15 18 00.6**	**+1.5**
PB09				Sn	**Sn**	**15 18 27.4**	**+1.4**
PB09	**IPOC Station P**	**1.65 280**		⇑*i* P	**Pn**	**15 18 00.7**	**+1.5**
PB09				*e*S	**Sn**	**15 18 26.2**	**+0.2**
PB09	**IPOC Station P**	**1.65 280**		*e*P	**Pn**	**15 18 00.6**	**+1.5**
PB09				*e*S	**Sn**	**15 18 28.5**	**+2.4**
PB09				IAML		15 18 31.5	
	comp=Z,280nm,0.2s						
PB09	**IPOC Station P**	**1.65 280**		Pg	**Pn**	**15 18 00.6**	**+1.5**
YJA	**Yavi**	**1.84 93**		*i* P	**Pn**	**15 18 01.2**	**-0.1**
YJA				*i* S	**Sn**	**15 18 27.1**	**-2.7**
YJA	**Yavi**	**1.84 93**		*e*P	**Pn**	**15 18 01.3**	**0.0**
YJA				*e*S	**Sn**	**15 18 28.8**	**-1.0**
YJA	**Yavi**	**1.84 93**		Pg	**Pn**	**15 18 01.0**	**-0.3**
MOCB	**Mochara**	**1.91 65**		Pg	**Pn**	**15 18 02.1**	**0.0**
MOCB				Sg	**Sn**	**15 18 29.4**	**-1.8**
MOCB				IAML		15 18 33.4	
	comp=Z,576nm,0.2s						
PB06	**IPOC Station P**	**2.02 252**		⇑*i* P	**Pn**	**15 18 03.9**	**+1.1**
PB06				*i* S	**Sn**	**15 18 32.8**	**+0.1**
PB06				IAML		15 18 34.6	
	comp=E,576nm,0.1s						
PB06	**IPOC Station P**	**2.02 252**		*e*P	**Pn**	**15 18 03.9**	**+1.1**
PB06				*e*S	**Sn**	**15 18 34.0**	**+1.3**
PB06				IAML		15 18 34.7	
	comp=Z,250nm,0.1s						
PB03	**IPOC Station P**	**2.10 271**		⇑*i* P	**Pn**	**15 18 04.6**	**+0.9**
PB03				*i* S	**Sn**	**15 18 33.6**	**-0.6**
PB03				IAML		15 18 35.6	
	comp=E,650nm,0.2s						
PB03	**IPOC Station P**	**2.10 271**		*e*P	**Pn**	**15 18 04.6**	**+0.9**
PB03				*e*S	**Sn**	**15 18 34.5**	**+0.4**
PB03				IAML		15 18 36.0	
	comp=Z,452nm,0.1s						
PB01	**IPOC Station P**	**2.13 299**			**Pn**	**15 18 04.8**	**+0.9**
PB01				Sn	**Sn**	**15 18 34.3**	**-0.2**
PB01	**IPOC Station P**	**2.13 299**		⇑*i* P	**Pn**	**15 18 04.8**	**+0.9**
PB01				*i* S	**Sn**	**15 18 34.6**	**0.0**
PB01				IAML		15 18 35.7	
	comp=N,2μm,0.4s						
PB01	**IPOC Station P**	**2.13 299**		*e*P	**Pn**	**15 18 05.0**	**+1.0**
PB01				*e*S	**Sn**	**15 18 35.3**	**+0.7**
PB01				IAML		15 18 36.0	
	comp=Z,595nm,0.2s						
PB01	**IPOC Station P**	**2.13 299**		Pg	**Pn**	**15 18 04.9**	**+1.0**
PB01				Sg	**Sn**	**15 18 34.5**	**0.0**
PB01				IAML		15 18 35.6	
	comp=Z,1μm,0.3s						
SALTA		**2.38 154**		*e*P	**Pn**	**15 18 08.1**	**+1.0**
PB08	**IPOC Station P**	**2.48 321**			**Pn**	**15 18 09.4**	**+1.3**
PB08				Sn	**Sn**	**15 18 42.3**	**+0.2**
PB08	**IPOC Station P**	**2.48 321**		⇑*i* P	**Pn**	**15 18 09.8**	**+1.7**
PB08				*i* S	**Sn**	**15 18 42.6**	**+0.5**
PB08				IAML		15 18 47.6	
	comp=N,500nm,0.1s						
PB08	**IPOC Station P**	**2.48 321**		*e*P	**Pn**	**15 18 09.8**	**+1.7**
PB08				*e*S	**Sn**	**15 18 44.0**	**+1.9**
PB08				IAML		15 18 47.0	
	comp=Z,186nm,0.3s						
PB08	**IPOC Station P**	**2.48 321**		Pg	**Pn**	**15 18 10.0**	**+1.9**
PB05	**IPOC Station P**	**2.62 252**			**Pn**	**15 18 10.2**	**+0.8**
PB05				Sn	**Sn**	**15 18 43.0**	**-1.5**
PB05	**IPOC Station P**	**2.62 252**		⇑*i* P	**Pn**	**15 18 10.5**	**+1.1**
PB05				*i* S	**Sn**	**15 18 43.5**	**-1.0**
PB05				IAML		15 18 45.9	
	comp=E,467nm,0.3s						
PB05	**IPOC Station P**	**2.62 252**		*e*P	**Pn**	**15 18 10.0**	**+0.5**
PB05				*e*S	**Sn**	**15 18 44.3**	**-0.2**
PB05				IAML		15 18 45.9	
	comp=Z,268nm,0.3s						
AOVT	**TarijaAcel**	**2.65 79**		Pg	**Pn**	**15 18 09.5**	**-0.3**
PATCX	**Punta Patache**	**2.78 296**			**Pn**	**15 18 11.7**	**+0.5**
PATCX				Sn	**Sn**	**15 18 46.8**	**-0.9**
PATCX	**Punta Patache**	**2.78 296**		*i* P	**Pn**	**15 18 11.8**	**+0.5**
PATCX				*i* S	**Sn**	**15 18 46.9**	**-0.8**
PATCX				IAML		15 18 49.0	
	comp=N,766nm,0.5s						
PATCX	**Punta Patache**	**2.78 296**		*e*P	**Pn**	**15 18 11.8**	**+0.5**
PATCX				*e*S	**Sn**	**15 18 48.0**	**+0.3**
PATCX				IAML		15 18 52.0	
	comp=Z,236nm,0.9s						
HMBC	**Humberstone**	**2.87 308**			**Pn**	**15 18 12.2**	**-0.1**
HMBC				Sn	**Sn**	**15 18 48.0**	**-1.7**
HMBC	**Humberstone**	**2.87 308**		⇑*i* P	**Pn**	**15 18 12.5**	**+0.2**
HMBC				*i* S	**Sn**	**15 18 48.3**	**-1.4**
HMBC	**Humberstone**	**2.87 308**		*e*P	**Pn**	**15 18 12.5**	**+0.2**
HMBC				*e*S	**Sn**	**15 18 49.7**	**0.0**
HMBC				IAML		15 18 50.8	
	comp=Z,519nm,0.3s						
GO01	**Chusmiza**	**2.88 326**			**Pn**	**15 18 14.0**	**+1.1**
GO01				Sn	**Sn**	**15 18 50.8**	**+0.2**
GO01	**Chusmiza**	**2.88 326**		⇑*i* P	**Pn**	**15 18 14.0**	**+1.1**
GO01				*i* S	**Sn**	**15 18 51.5**	**+0.9**
GO01	**Chusmiza**	**2.88 326**		*e*P	**Pn**	**15 18 14.5**	**+1.7**
GO01				*e*S	**Sn**	**15 18 52.0**	**+1.4**
GO01	**Chusmiza**	**2.88 326**		Pg	**Pn**	**15 18 13.8**	**+0.9**
TA01	**Diego Aracena**	**2.93 301**			**Pn**	**15 18 12.9**	**+0.1**
TA01				Sn	**Sn**	**15 18 49.3**	**-1.4**
TA01	**Diego Aracena**	**2.93 301**		⇑*i* P	**Pn**	**15 18 12.9**	**+0.1**
TA01				*i* S	**Sn**	**15 18 49.5**	**-1.1**
TA01	**Diego Aracena**	**2.93 301**		*e*P	**Pn**	**15 18 13.2**	**+0.3**
TA01				*e*S	**Sn**	**15 18 50.3**	**-0.4**
TA01				IAML		15 18 50.7	
	comp=Z,301nm,0.2s						
TA02	**Huaiquique**	**3.05 306**			**Pn**	**15 18 14.0**	**-0.4**
TA02				Sn	**Sn**	**15 18 51.8**	**-1.5**
TA02	**Huaiquique**	**3.05 306**		*e*P	**Pn**	**15 18 14.5**	**+0.1**
TA02				*e*S	**Sn**	**15 18 52.7**	**-0.7**
TA02				IAML		15 18 55.0	
	comp=Z,200nm,0.2s						
PB11	**IPOC Station P**	**3.07 318**			**Pn**	**15 18 14.9**	**+0.2**
PB11				Sn	**Sn**	**15 18 52.4**	**-1.7**
PB11	**IPOC Station P**	**3.07 318**		⇑*i* P	**Pn**	**15 18 15.0**	**+0.2**
PB11				*i* S	**Sn**	**15 18 52.6**	**-1.5**
PB11	**IPOC Station P**	**3.07 318**		*e*P	**Pn**	**15 18 15.0**	**+0.2**
PB11				*e*S	**Sn**	**15 18 53.5**	**-0.5**
PB11				IAML		15 18 55.3	
	comp=Z,441nm,0.3s						
PB11	**IPOC Station P**	**3.07 318**		Pg	**Pn**	**15 18 15.2**	**+0.4**
PB11				Sg	**Sn**	**15 18 53.6**	**-0.5**
PB11				IAML		15 18 53.8	
	comp=Z,1μm,0.2s						
AZAP	**Zapla**	**3.09 134**		*e*P	**Pn**	**15 18 14.8**	**-0.3**
AZAP				IAML		15 18 56.2	
	comp=Z,86nm,0.8s						
PB10	**IPOC Station P**	**3.16 243**			**Pn**	**15 18 16.6**	**+0.8**
PB10				Sn	**Sn**	**15 18 53.8**	**-2.0**
PB10	**IPOC Station P**	**3.16 243**		⇑*i* P	**Pn**	**15 18 16.6**	**+0.8**
PB10				*i* S	**Sn**	**15 18 54.0**	**-1.8**
PB10				IAML		15 18 58.7	
	comp=E,203nm,0.3s						
PB10	**IPOC Station P**	**3.16 243**		*e*P	**Pn**	**15 18 16.5**	**+0.8**
PB10				*e*S	**Sn**	**15 18 55.1**	**-0.7**
PB10				IAML		15 19 00.4	
	comp=Z,144nm,0.4s						
SLA	**San Lorenzo**	**3.20 146**		*e*P	**Pn**	**15 18 17.2**	**+0.9**
SLA				*e*S	**Sn**	**15 19 02.1**	**+5.2**
ASTB	**Santa Barbara**	**3.36 124**		*e*S	**Sn**	**15 19 02.5**	**+2.2**
SOEO	**Opoqueri**	**3.52 354**		Pg	**Pn**	**15 18 22.0**	**+1.4**
GO02	**Mina Guanaco**	**3.62 212**			**Pn**	**15 18 22.7**	**+1.1**
GO02				Sn	**Sn**	**15 19 05.6**	**-0.7**
GO02	**Mina Guanaco**	**3.62 212**		⇓*i* P	**Pn**	**15 18 22.7**	**+1.1**
GO02				*i* S	**Sn**	**15 19 05.9**	**-0.5**
GO02	**Mina Guanaco**	**3.62 212**		*e*P	**Pn**	**15 18 22.6**	**+1.1**
GO02				*e*S	**Sn**	**15 19 06.1**	**-0.2**
ALOL	**LOMAS DE OLMED**	**3.67 119**		*e*P	**Pn**	**15 18 21.0**	**-0.9**
PB14	**IPOC Station P**	**3.68 226**			**Pn**	**15 18 23.2**	**+0.8**
PB14				Sn	**Sn**	**15 19 05.2**	**-2.6**
PB14	**IPOC Station P**	**3.68 226**		*e*P	**Pn**	**15 18 23.3**	**+1.0**
PB14				*e*S	**Sn**	**15 19 06.7**	**-1.0**
PB14				IAML		15 19 08.8	
	comp=Z,104nm,0.4s						
PB16	**IPOC Station P**	**4.18 333**			**Pn**	**15 18 29.9**	**+1.1**
PB16				Sn	**Sn**	**15 19 17.9**	**-1.4**
PB16	**IPOC Station P**	**4.18 333**		⇑*i* P	**Pn**	**15 18 29.9**	**+1.1**
PB16				*i* S	**Sn**	**15 19 18.6**	**-0.8**
PB16	**IPOC Station P**	**4.18 333**		*e*P	**Pn**	**15 18 29.9**	**+1.1**
PB16				*e*S	**Sn**	**15 19 19.5**	**+0.2**
PB16				IAML		15 19 21.3	
	comp=Z,71nm,0.6s						
PB16	**IPOC Station P**	**4.18 333**		Pg	**Pn**	**15 18 30.0**	**+1.1**
FSA	**Cafayete**	**4.24 161**		*e*P	**Pn**	**15 18 30.5**	**+1.3**
SOET	**ToroToro**	**4.25 22**		Pg	**Pn**	**15 18 30.1**	**+0.5**
PB12	**IPOC Station P**	**4.36 322**			**Pn**	**15 18 29.2**	**-1.4**
PB12				Sn	**Sn**	**15 19 18.0**	**-4.6**
PB12	**IPOC Station P**	**4.36 322**		⇑*i* P	**Pn**	**15 18 29.5**	**-1.2**
PB12				*i* S	**Sn**	**15 19 18.7**	**-3.9**
PB12	**IPOC Station P**	**4.36 322**		*e*P	**Pn**	**15 18 29.5**	**-1.2**
PB12				*e*S	**Sn**	**15 19 19.6**	**-3.0**
PB12				IAML		15 19 22.1	
	comp=Z,113nm,0.5s						
AOEA	**Aiquile**	**4.42 29**		Pg	**Pn**	**15 18 31.5**	**-0.2**
AP01	**Chacalluta**	**4.56 324**		Pn	**Pn**	**15 18 32.0**	**-1.1**
PB18	**Visviri**	**4.85 337**			**Pn**	**15 18 38.9**	**+1.6**
AC01	**Pan de Azucar**	**4.94 214**			**Pn**	**15 18 37.5**	**-0.4**
AC01	**Pan de Azucar**	**4.94 214**		*e*P	**Pn**	**15 18 37.7**	**-0.2**
AC01				*e*S	**Sn**	**15 19 33.8**	**-2.1**
AC01				IAML		15 19 39.3	
	comp=Z,24nm,0.2s						
AC02	**Maricunga**	**4.96 197**			**Pn**	**15 18 39.1**	**+0.5**
AC02	**Maricunga**	**4.96 197**		*e*P	**Pn**	**15 18 39.5**	**+0.8**
AC02				*e*S	**Sn**	**15 19 33.5**	**-3.5**
AC02				*e*S		15 19 44.3	
SOEJ	**Jacaque**	**5.12 352**		Pg	**Pn**	**15 18 41.7**	**+0.9**
BBOE	**La Paz, Chanca**	**5.26 355**		Pg	**Pn**	**15 18 44.5**	**+1.8**
LPAZ	**La Paz**	**5.80 354**			**Pn**	**15 18 50.6**	**+1.0**
LPAZ	**La Paz**	**5.80 354**		P	**Pn**	**15 18 51.2**	**+1.6**
	comp=Z,10nm,0.4s,baz=154,slow=7.6,SNR=49						
LPAZ				S	**Sn**	**15 19 55.5**	**-1.2**
	comp=Z,5.1nm,0.6s,baz=356,slow=12,SNR=5.4						
LPAZ	**La Paz**	**5.80 354**		Pg	**Pn**	**15 18 51.0**	**+1.4**
AC06	**Mina Casimiro**	**5.86 206**		Pn	**Pn**	**15 18 48.5**	**-1.3**
GO03	**Copiapo**	**6.03 204**			**Pn**	**15 18 50.4**	**-1.6**
AC04	**Llanos de Chal**	**6.91 207**		Pn	**Pn**	**15 19 00.7**	**-2.6**
AC05	**El Transito**	**7.18 200**		Pn	**Pn**	**15 19 05.5**	**-1.5**
LCO	**Las Campanas**	**7.48 202**		Pn	**Pn**	**15 19 09.6**	**-1.6**
CO01	**Juntas del Tor**	**8.20 196**		Pn	**Pn**	**15 19 19.9**	**-0.6**
SIV	**San Ignacio**	**8.58 46**		P	**Pn**	**15 19 22.2**	**-3.1**
	comp=Z,26nm,0.3s,baz=223,slow=10,SNR=83						
SIV				S	Sn	15 20 51.1	-10
	comp=Z,7.2nm,0.3s,baz=136,slow=23,SNR=12						
GO04	**Tololo Observa**	**8.59 200**		Pn	**Pn**	**15 19 23.9**	**-1.6**
CO06	**Fray Jorge**	**9.33 203**		Pn	**Pn**	**15 19 32.6**	**-2.4**
CO02	**Combarbal**	**9.61 198**		Pn	**Pn**	**15 19 36.1**	**-2.6**
CPUP	**Villa Florida**	**10.19 117**		Pn	**Pn**	**15 19 45.2**	**-1.1**
CPUP	**Villa Florida**	**10.19 117**		P	**Pn**	**15 19 47.6**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=293,slow=11,SNR=3.0						
PTLB	**Pontes e Lacer**	**10.30 52**			**Pn**	**15 19 46.0**	**-1.7**
VILB	**Vilhena**	**11.43 39**			**Pn**	**15 20 00.8**	**-1.5**
MT02	**Curacav**	**11.59 195**		Pn	**Pn**	**15 20 03.6**	**-0.6**
ITAB	**Concordia**	**14.87 113**			**P**	**15 20 46.3**	**0.0**
PLTB	**Pedras Altas**	**15.68 131**			**Pn**	**15 20 54.8**	**-0.4**
PLTB				IAmb	IAmb	15 21 05.3	
	comp=Z,16nm,1.4s						
TRQA	**Tornquist**	**16.61 165**		P	**Pn**	**15 21 06.4**	**0.0**
VAO	**Valinhos**	**18.98 97**		P	**P**	**15 21 31.0**	**-0.6**
BDFB	**Brasilia**	**19.50 74**		P	**P**	**15 21 36.3**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=256,slow=17,SNR=3.1						
FLOC	**Florencia**	**24.83 340**		P	**P**	**15 22 28.5**	**-0.7**
FLOC				IAmb	IAmb	15 22 32.0	
	comp=Z,4.0nm,0.6s						
MG05	**Puerto Natales**	**29.80 186**		P	**P**	**15 23 12.3**	**-0.7**
MG02	**Cerro Sombrero**	**30.68 182**		P	**P**	**15 23 20.6**	**-0.1**
MG02				IAmb	IAmb	15 23 58.1	
	comp=Z,559nm,1.5s						
Y49A	**Blount Mountai**	**58.48 342**		P	**P**	**15 26 58.4**	**-1.8**
Y49A				IAmb	IAmb	15 27 28.4	
	comp=Z,13nm,1.4s						
BG3	**Lake Jocassee**	**58.62 345**		P	**P**	**15 27 00.4**	**-0.8**
BG3				IAmb	IAmb	15 27 03.5	
	comp=Z,4.7nm,0.7s						
Z35A	**Perchaven, San**	**61.99 332**		P	**P**	**15 27 24.3**	**+0.3**
DBIC	**Dimbokro**	**67.64 73**		P	**P**	**15 28 01.3**	**+0.3**
DBIC				IAmb	IAmb	15 28 29.3	
	comp=Z,11nm,1.4s						
PDAR	**Pinedale Array**	**75.28 329**		P	**P**	**15 28 48.3**	**+2.0**
PDAR	**Pinedale Array**	**75.28 329**		P	**P**	**15 28 49.1**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=113,slow=8.6,SNR=3.9						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.32 70**			**P**	**15 28 52.5**	**0.0**
BOSA	**Boshof**	**82.01 118**		P	**P**	**15 29 24.8**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=258,slow=8.9,SNR=2.0						
	comp=Z,0.8nm,0.4s						
YKA	**Yellowknife Ar**	**92.18 340**		P	**P**	**15 30 14.1**	**+2.7**
	comp=Z,0.

SRBI	**Singaraja**	**5.23**	**59**	P	Pn	16 07 35.5	+0.5
	0.4nm46nm,0.6s						
BWJI	**Bawean**	**5.33**	**21**	P	Pn	16 07 35.7	-0.7
CGJI	**Cibinong**	**6.50**	**310**	P	Pn	16 07 53.6	+1.2
	0.2nm46nm,1.4s						
PLAI	**Plampang**	**7.26**	**75**	P	Pn	16 08 02.4	-0.5
	0.2nm49nm,0.9s						
WBSI	**Waikabubak, Su**	**8.64**	**83**	P	Pn	16 08 21.3	-0.6
WSI	**Waingapu**	**9.52**	**84**	P	Pn	16 08 31.6	-2.3
EDFI	**Ende, Flores**	**11.03**	**80**	P	Pn	16 08 51.4	-3.4

*HEL **18** 16:28:04.9±1.2, 69°.33N×31°.06E, h0km, ML0.8, Suspected explosion*

KOLA 18 16:28:06.6, 69°.45N×31°.02E, h0km, ML1.2, Error ellipse: s-maj=11.3km s-min=7.5km az=80.0, Zapolyarny City, Mines, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VADS	**Vadso**	**0.89**	**320**	P	Pg	16 28 22.1	-1.4
VADS				S	Sg	16 28 34.2	-0.8
RAJF	**Raja-Jooseppi**	**1.38**	**226**	PN	Pg	16 28 30.7	-2.3
KEV	**Kevo**	**1.44**	**284**	PN	Pn	16 28 32.7	-1.1
	baz=109						
KEV				MSG		16 28 49.5	
	comp=Z,0.6nm,0.2s						
KEV				SG	Sg	16 28 49.8	-2.9
ARA0	**ARCESS Array S**	**1.94**	**275**	PG	Pn	16 28 41.4	+0.6
ARA0				SG	Sn	16 29 05.5	-0.4
ARCES	**ARCESS Array B**	**1.94**	**275**	P	Pn	16 28 41.1	+0.3
ARCES				S	Sn	16 29 05.4	-0.5
KVDA	**Kovda**	**2.85**	**165**	S	Sn	16 29 26.4	-1.8

*NNC **18** 16:32:08.3±2.8, 36°.87N×70°.19E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=23.7km s-min=18.4km az=168.0*
*MOS **18** 16:32:10.8±1.0, 36°.47N×70°.39E, h200km, mb4.3/14, Error ellipse: s-maj=8.0km s-min=3.9km az=81.8*
*IDC **18** 16:32:10.9±2.6, 36°.38N×70°.47E, h191km±25km, mb3.6/18, mbtmp4.2/23, Error ellipse: s-maj=14.2km s-min=11.2km az=43.0*
*NEIC **18** 16:32:11.9±1.8, 36°.51N±0°.01×70°.29E±0°.07, h194km±6km, mb4.3/51, Error ellipse: s-maj=8.7km s-min=1.6km az=90.0*
*BJI **18** 16:32:11.3, 36°.49N×70°.37E, h203km, mB5.0/2, mb4.6/10*

ISC 18 16:32:12.0±0.3, 36°.45N±0°.03×70°.40E±0°.04, h204km, n234, σ1ᵽ87/269, mb4.2/49, 18C-12D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.20**	**211**		**Pn**	**16 32 52.9**	**-0.3**
KBL				Sn	**S**	**16 33 22.5**	**-2.1**
KBL	**Kabul**	**2.20**	**211**	P	**Pn**	**16 32 52.9**	**-0.3**
	SNR=94						
KBL				S	**S**	**16 33 23.0**	**-1.7**
KBL	**Kabul**	**2.20**	**211**	PN	**Pn**	**16 32 52.9**	**-0.3**
KBL						16 33 22.5	
CHGR	**Chuyangaron**	**2.42**	**336**	Sn	**S**	**16 33 23.9**	**-4.8**
SIMJ	**Simiganj**	**2.47**	**334**		**Pn**	**16 32 54.4**	**-1.6**
SIMJ				Sn	**S**	**16 33 24.8**	**-4.9**
GAR	**Garm**	**2.55**	**359**		**Pn**	**16 32 55.6**	**-1.2**
GAR				Sn	**S**	**16 33 27.1**	**-4.3**
DZET	**Dzherino**	**2.66**	**333**	PN	**Pn**	**16 32 56.5**	**-1.6**
BTK	**Batken**	**3.62**	**5**		**Pn**	**16 33 09.3**	**0.0**
BTK				Sn	**S**	**16 33 52.0**	**-1.9**
BTK	**Batken**	**3.62**	**5**	PN	**Pn**	**16 33 09.3**	**0.0**
BTK				S	**S**	**16 33 51.0**	**-2.9**
NIL	**Nilore**	**3.64**	**139**		**Pn**	**16 33 11.0**	**+1.3**
NIL				Sn	**S**	**16 33 54.3**	**+0.1**
NIL	**Nilore**	**3.64**	**139**	PN	**Pn**	**16 33 10.0**	**+0.4**
NIL				S	**S**	**16 33 54.3**	**+0.1**
OHH	**Osh**	**4.48**	**24**	PN	**Pn**	**16 33 19.5**	**-0.5**
TRKS	**Terek-Say**	**5.11**	**6**	PN	**Pn**	**16 33 26.5**	**-1.5**
JMU	**Jammu**	**5.26**	**134**	*e*P	**Pn**	**16 33 26.0**	**-3.8**
JMU				*e*S	**S**	**16 34 22.9**	**-7.9**
JMU				IAML		16 34 31.7	
	comp=E,564nm,0.7s						
JMU				IAML		16 34 43.9	
	comp=E,704nm,0.5s						
KSH	**Kashi**	**5.37**	**53**	P	Pn	16 33 26.5	-4.8
KSH				S	S	16 34 22.8	-11
KSH				smax	smax		
	comp=E,280nm,0.6s						
KSH				smax	smax		
	comp=E,250nm,0.7s						
ARK	**Arkit**	**5.48**	**12**	PN	**Pn**	**16 33 31.6**	**-1.1**
ARLS	**Aral**	**6.21**	**28**	PN	**Pn**	**16 33 40.8**	**-1.3**
AML	**Almayashu**	**6.23**	**23**	P	**Pn**	**16 33 41.5**	**-1.0**
	SNR=566						
DHRM	**DHARAMSHALA**	**6.43**	**129**	*e*P	**Pn**	**16 33 42.8**	**-2.4**
DHRM				*e*S	**S**	**16 34 53.4**	**-5.3**
DHRM				IAML		16 34 57.3	
	comp=N,802nm,0.3s						
DHRM				IAML		16 34 58.4	
	comp=E,821nm,0.3s						
UCH	**Uchtor**	**6.59**	**28**	P	**Pn**	**16 33 46.9**	**-0.5**
	SNR=15						
KK31	**Karatay Array**	**6.65**	**1**		**Pn**	**16 33 45.9**	**-1.7**
KK31	**Karatay Array**	**6.65**	**1**	⇑P	**Pn**	**16 33 43.1**	**-4.6**
	comp=E,15nm,0.2s,baz=191,slow=14,SNR=222						
KK31				⇑S	**S**	**16 34 55.0**	**-8.5**
	comp=E,42nm,0.4s,baz=193,slow=24,SNR=5.6						
KK31	**Karatay Array**	**6.65**	**1**	PN	**Pn**	**16 33 45.9**	**-1.7**
KKAR	**Karatay Array**	**6.65**	**1**		**Pn**	**16 33 46.0**	**-1.6**
KKAR	**Karatay Array**	**6.65**	**1**		**Pn**	**16 33 46.1**	**-1.6**
KKAR	**Karatay Array**	**6.65**	**1**	PN	**Pn**	**16 33 46.1**	**-1.6**
EKS2	**Erkin-Say**	**6.73**	**22**	P	**Pn**	**16 33 48.2**	**-0.6**
	SNR=54						
AAK	**Ala-Archa**	**6.95**	**26**	P	**Pn**	**16 33 50.9**	**-0.8**
	comp=E,19nm,0.3s,baz=188,slow=4.6,SNR=35						
AAK				S	**S**	**16 35 05.7**	**-4.9**
	comp=E,72nm,0.7s,baz=198,slow=19,SNR=3.7						
AAK	**Ala-Archa**	**6.95**	**26**	P	**Pn**	**16 33 51.1**	**-0.5**
AAK				S	**S**	**16 35 07.2**	**-3.4**
AAK	**Ala-Archa**	**6.95**	**26**	P	**Pn**	**16 33 51.0**	**-0.5**
	SNR=30						
AAK	**Ala-Archa**	**6.95**	**26**	⇓P	**Pn**	**16 33 50.1**	**-1.5**
	comp=E,6.7nm,0.3s						
AAK				⇑S	**S**	**16 35 06.0**	**-4.7**
	comp=E,269nm,0.7s						
AAK	**Ala-Archa**	**6.95**	**26**	P	**Pn**	**16 33 51.2**	**-0.5**
KBK	**Karagaybulak**	**7.13**	**28**	P	**Pn**	**16 33 53.7**	**-0.3**
	SNR=16						
FRU1	**Bishkek**	**7.14**	**26**		**Pn**	**16 33 53.6**	**-0.5**
FRU1	**Bishkek**	**7.14**	**26**	PN	**Pn**	**16 33 53.7**	**-0.5**
ULHL	**Ulahol**	**7.35**	**36**	P	**Pn**	**16 33 57.0**	**+0.1**
	SNR=15						
CHMS	**Chumysh**	**7.35**	**26**	P	**Pn**	**16 33 56.1**	**-0.7**
	SNR=13						
CHMS	**Chumysh**	**7.35**	**26**	⇓P	**Pn**	**16 33 55.7**	**-1.2**
	comp=E,13nm,0.6s						
CHMS				⇓S	**S**	**16 35 14.9**	**-5.2**
	comp=E,172nm,0.9s						
CHMS	**Chumysh**	**7.35**	**26**	PN	**Pn**	**16 33 55.6**	**-1.2**
BOOM	**Boomskoye usch**	**7.40**	**34**		**Pn**	**16 33 57.1**	**-0.5**
BOOM	**Boomskoye usch**	**7.40**	**34**	PN	**Pn**	**16 33 57.1**	**-0.5**
USP	**Ospenovka**	**7.51**	**24**	P	**Pn**	**16 33 57.6**	**-1.2**
	SNR=16						
TKM2	**Tokmak 2**	**7.61**	**30**	P	**Pn**	**16 33 59.8**	**-0.5**
	SNR=19						
TKM2	**Tokmak 2**	**7.61**	**30**	⇓P	**Pn**	**16 33 59.0**	**-1.2**
	comp=E,12nm,0.5s						
TKM2				⇓S	**S**	**16 35 21.6**	**-4.8**
	comp=E,71nm,0.8s						
TKM2	**Tokmak 2**	**7.61**	**30**	PN	**Pn**	**16 33 59.3**	**-1.0**
KDJ	**Kajisay**	**7.74**	**41**		**Pn**	**16 34 01.8**	**-0.1**
KDJ	**Kajisay**	**7.74**	**41**	PN	**Pn**	**16 34 01.8**	**-0.1**
TARG	**Taragay, Kyrgy**	**7.81**	**45**		**Pn**	**16 34 02.1**	**-1.0**
TARG	**Taragay, Kyrgy**	**7.81**	**45**	PN	**Pn**	**16 34 02.1**	**-1.0**
WUS	**Wushi**	**8.36**	**53**		**Pn**	**16 34 08.9**	**-1.1**
MDOK	**Medeo**	**8.44**	**35**	P	**Pn**	**16 34 10.1**	**-0.9**
	comp=E,12nm,0.7s						
MDOK				S	**S**	**16 35 41.3**	**-4.7**
	comp=E,8.8nm,0.8s						
MDOK	**Medeo**	**8.44**	**35**	PN	**Pn**	**16 34 10.1**	**-0.9**
ANVS	**Anan'yevo**	**8.46**	**39**	PN	**Pn**	**16 34 12.6**	**+1.3**
ANVS				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PRZ	**Przheval'sk**	**8.64**	**43**	PN	**Pn**	**16 34 13.9**	**+0.3**
PRZ				pmax	pmax		
	comp=Z,15nm,0.5s						
BKNR	**BIKANER**	**8.75**	**163**	*e*P	**Pn**	**16 34 13.4**	**-1.6**
BKNR				*e*S	S	16 35 41.9	-12
JOSI	**Joshimath**	**9.64**	**125**	*e*P	**Pn**	**16 34 26.9**	**0.0**
JOSI				IAML		16 36 11.0	
	comp=E,86nm,0.3s						
NDI	**New Delhi**	**9.64**	**141**	*e*S	S	16 36 06.1	-8.7
NDI				IAML		16 36 07.3	
	comp=E,82nm,0.6s						
NDI				IAML		16 36 09.6	
	comp=N,68nm,0.6s						
NPLP	**NPLP New Delhi**	**9.66**	**142**	*e*S	**S**	**16 36 06.9**	**-8.1**
NPLP				IAML		16 36 07.5	
	comp=E,140nm,0.6s						
NPLP				IAML		16 36 07.8	
	comp=N,167nm,0.5s						
KUDL	**Kundal**	**9.75**	**146**	*e*P	**Pn**	**16 34 27.6**	**-0.4**
KUDL				*e*S	S	16 36 08.2	-9.1
KUDL				IAML		16 36 11.2	
	comp=E,84nm,0.7s						
KUDL				IAML		16 36 15.6	
	comp=E,65nm,0.5s						
PDGK	**Podgornoye**	**9.80**	**43**	⇑P	**Pn**	**16 34 26.7**	**-1.9**
	comp=E,3.4nm,0.8s						
PDGK				⇓S	**S**	**16 36 15.9**	**-2.5**
	comp=E,21nm,1.4s						
PDGK	**Podgornoye**	**9.80**	**43**	P	**Pn**	**16 34 26.7**	**-1.9**
PDGK				S	**S**	**16 36 15.9**	**-2.5**
LGTI	**Lohaghat**	**10.82**	**127**	*e*P	**Pn**	**16 34 40.0**	**-1.7**
LGTI				*e*S	S	16 36 33.6	-9.3
LGTI				IAML		16 36 36.6	
	comp=E,37nm,0.5s						
LGTI				IAML		16 36 45.5	
	comp=E,29nm,0.3s						
OTUK	**Ortayu**	**11.88**	**6**	⇑P	**Pn**	**16 34 52.7**	**-2.4**
	comp=E,8.4nm,0.6s						
OTUK				⇓S	**S**	**16 37 03.5**	**-3.5**
	comp=E,28nm,0.8s						
OTUK	**Ortayu**	**11.88**	**6**	P	**Pn**	**16 34 52.7**	**-2.4**
OTUK				S	**S**	**16 37 03.5**	**-3.5**
MAKZ	**Makanchi**	**13.48**	**36**		**Pn**	**16 35 14.3**	**-1.0**
MAKZ	**Makanchi**	**13.48**	**36**	⇑P	**Pn**	**16 35 14.3**	**-1.0**
	comp=E,28nm,0.7s						
MAKZ	**Makanchi**	**13.48**	**36**	P	**Pn**	**16 35 14.3**	**-1.0**
MK31	**Makanchi Array**	**13.62**	**37**	Pn	**Pn**	**16 35 16.3**	**-0.7**
MK31	**Makanchi Array**	**13.62**	**37**	P	**Pn**	**16 35 16.2**	**-0.7**
	comp=E,21nm,0.7s,baz=212,slow=11,SNR=96						
MK31	**Makanchi Array**	**13.62**	**37**	*ce*P	**Pn**	**16 35 16.5**	**-0.5**
MKAR	**Makanchi Array**	**13.62**	**37**		**Pn**	**16 35 15.3**	**-1.7**
MKAR	**Makanchi Array**	**13.62**	**37**	P	**Pn**	**16 35 16.1**	**-0.9**
	comp=E,15nm,0.7s,baz=219,slow=9.4,SNR=31						
MKAR	**Makanchi Array**	**13.62**	**37**	*ce*P	**Pn**	**16 35 17.1**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,13nm,0.6s						
AB31	**Akbulak array**	**14.90**	**332**	P	**Pn**	**16 35 30.6**	**-2.0**
AB31	**Akbulak array**	**14.90**	**332**	⇑P	**Pn**	**16 35 30.5**	**-2.2**
	comp=Z,2.6nm,0.3s,baz=149,slow=11,SNR=128						
AB31				S	**S**	**16 38 17.0**	**-0.7**
	comp=Z,3.7nm,0.6s,baz=152,slow=24,SNR=4.9						
AB31	**Akbulak array**	**14.90**	**332**	P	**Pn**	**16 35 30.5**	**-2.2**
AB31				S	**S**	**16 38 17.1**	**-0.7**
ABKAR	**Akbulak array**	**14.90**	**332**		**Pn**	**16 35 31.0**	**-1.7**
ABKAR	**Akbulak array**	**14.90**	**332**		**Pn**	**16 35 30.8**	**-1.9**
WMQ	**Urumqi**	**15.13**	**56**	*e*P	**Pn**	**16 35 34.4**	**-1.2**
WMQ				pmax	pmax		
	comp=Z,39nm,0.7s						
KURBB	**Kurchatov Arra**	**15.33**	**20**	P	**Pn**	**16 35 36.0**	**-1.9**
	comp=Z,1.9nm,0.5s,baz=208,slow=10,SNR=20						
KURBB				S	**S**	**16 38 29.2**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=201,slow=29,SNR=1.7						
KURBB	**Kurchatov Arra**	**15.33**	**20**	⇓P	**P**	**16 35 39.4**	**+1.3**
	comp=Z,9.3nm,1.0s						
KURBB	**Kurchatov Arra**	**15.33**	**20**	P	**P**	**16 35 39.4**	**+1.3**
KURK	**Kurchatov**	**15.44**	**20**		**Pn**	**16 35 37.7**	**-1.5**
KURK	**Kurchatov**	**15.44**	**20**	P	**Pn**	**16 35 38.3**	**-0.9**
KURK	**Kurchatov**	**15.44**	**20**	⇓P	**P**	**16 35 39.9**	**+0.6**
	comp=Z,8.2nm,1.2s						
KURK	**Kurchatov**	**15.44**	**20**	*ce*P	**Pn**	**16 35 36.9**	**-2.3**
KURK				pmax	pmax		
	comp=Z,13nm,1.7s						
BANOM	**Banah**	**15.97**	**233**	P	**Pn**	**16 35 45.4**	**-0.5**
BANOM	**Banah**	**15.97**	**233**	P	**Pn**	**16 35 45.4**	**-0.5**
SHME	**Shamm**	**15.98**	**234**	P	**Pn**	**16 35 47.9**	**+2.0**
	SNR=5.1						
SHME	**Shamm**	**15.98**	**234**	P	**Pn**	**16 35 46.0**	**0.0**
MDH	**Madha**	**16.41**	**231**	P	**P**	**16 35 49.9**	**-0.4**
MASF	**Masafi**	**16.45**	**232**	P	**Pn**	**16 35 53.1**	**+1.5**
BVA0	**Borovoye Array**	**16.58**	**360**	P	**Pn**	**16 35 54.8**	**+1.9**
	comp=Z,6.5nm,0.8s,baz=166,slow=12,SNR=83						
BVA0	**Borovoye Array**	**16.58**	**360**	P	**Pn**	**16 35 54.8**	**+1.9**
BVAR	**Borovoye Array**	**16.58**	**360**	P	**P**	**16 35 51.8**	**0.0**
	comp=Z,8.4nm,0.4s,baz=179,slow=8.3,SNR=61						
BVAR				S	**S**	**16 38 50.5**	**-4.1**
	comp=Z,1.5nm,0.6s,baz=164,slow=22,SNR=2.9						
AKTO	**Aktyubinsk**	**16.59**	**331**	P	**Pn**	**16 35 52.4**	**-0.6**
	comp=Z,39nm,0.7s,baz=152,slow=9.6,SNR=104						
AKTO				S	**S**	**16 38 48.9**	**-6.0**
	comp=Z,5.5nm,0.9s,baz=110,slow=21,SNR=3.9						
AKTO	**Aktyubinsk**	**16.59**	**331**	⇓P	**Pn**	**16 35 55.2**	**+2.2**
	comp=Z,25nm,0.8s						
AKTO				⇓S	**S**	**16 38 56.9**	**+2.0**
	comp=Z,9.7nm,1.4s						
BRVK	**Borovoye**	**16.61**	**360**		**P**	**16 35 50.9**	**-1.2**
BRVK				IAmb	IAmb	16 35 55.4	
	comp=Z,12nm,0.7s						
BRVK	**Borovoye**	**16.61**	**360**	P	**Pn**	**16 35 52.4**	**-0.8**
BRVK	**Borovoye**	**16.61**	**360**	⇓P	**Pn**	**16 35 54.8**	**+1.5**
	comp=Z,15nm,0.9s						
BRVK	**Borovoye**	**16.61**	**360**	*ce*P	**Pn**	**16 35 52.4**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,13nm,0.7s						
WSAR	**Wadi Sarin**	**16.64**	**221**	P	**Pn**	**16 35 53.0**	**-0.9**
	baz=258,slow=24,SNR=9.4						
WSAR	**Wadi Sarin**	**16.64**	**221**	P	**Pn**	**16 35 55.1**	**+1.2**
UOSS	**Minazif**	**16.72**	**231**	P	**P**	**16 35 53.3**	**-0.4**
UOSS				IAmb	IAmb	16 35 57.9	
	comp=Z,9.4nm,1.1s						
UOSS	**Minazif**	**16.72**	**231**	P	**Pn**	**16 35 54.9**	**+0.1**
HATD	**Hatta, Dubai**	**16.85**	**231**	P	**Pn**	**16 35 58.2**	**+1.8**
ASHO	**Ashiyiah**	**17.00**	**230**	P	**Pn**	**16 35 57.7**	**-0.5**
	SNR=6.9						
ASHO	**Ashiyiah**	**17.00**	**230**	P	**Pn**	**16 35 57.8**	**-0.4**
SMDO	**Samad**	**17.09**	**222**	P	**Pn**	**16 36 00.4**	**+1.0**
SOHO	**SOHO**	**17.12**	**228**	P	**Pn**	**16 36 00.4**	**+0.9**
ASUD	**Al Ashush, Dub**	**17.50**	**232**	P	**Pn**	**16 36 03.4**	**-0.6**
ASUD	**Al Ashush, Dub**	**17.50**	**232**	P	**P**	**16 36 01.4**	**-0.8**
JMDO	**Jabal Madar**	**17.62**	**221**	P	**Pn**	**16 36 05.5**	**0.0**
ALNE	**Al Ain**	**17.65**	**230**	P	**Pn**	**16 36 04.8**	**-1.0**
ALNE	**Al Ain**	**17.65**	**230**	P	**P**	**16 36 03.8**	**0.0**
ARQ	**Araqi**	**17.73**	**226**	P	**Pn**	**16 36 06.3**	**-0.5**
	SNR=6.6						
BSY	**Bisya**	**17.81**	**224**	P	**Pn**	**16 36 07.4**	**-0.3**
LSA	**Lhasa**	**18.63**	**105**	P	**P**	**16 36 15.5**	**+0.5**
LSA				IAmb	IAmb	16 36 23.5	
	comp=Z,4.8nm,0.7s						
LSA	**Lhasa**	**18.63**	**105**	P	**P**	**16 36 15.5**	**+0.5**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MHTO	**MHTO**	**18.84**	**219**	P	**Pn**	**16 36 18.8**	**-0.9**
JRN	**Qarnain Island**	**18.92**	**238**	P	**P**	**16 36 16.8**	**-0.7**
UMZA	**Um Al Zommool**	**19.01**	**228**	P	**P**	**16 36 18.9**	**+0.3**
SHMA	**Al-Shehemyia**	**19.66**	**243**	P	**P**	**16 36 25.7**	**+0.2**
	SNR=8.7						
MZR	**Muzera**	**19.84**	**232**	P	**P**	**16 36 28.3**	**+0.8**
MZR				S	**S**	**16 39 55.5**	**-4.3**
MZR	**Muzera**	**19.84**	**232**	P	**P**	**16 36 26.2**	**-1.3**
SAKB	**Bahrain**	**19.90**	**244**	P	**P**	**16 36 28.3**	**+0.2**
ZAA0	**Zalesovo Array**	**20.17**	**25**		**P**	**16 36 31.1**	**+0.4**
ZAA0				IAmb	IAmb	16 36 31.8	
	comp=Z,14nm,0.8s						
ZALV	**Zalesovo Beam**	**20.17**	**25**	P	**P**	**16 36 30.8**	**+0.1**
	comp=Z,14nm,0.3s,baz=213,slow=10,SNR=76						
ZALV				S	**S**	**16 40 01.1**	**-4.4**
	comp=Z,0.4nm,0.3s,baz=220,slow=13,SNR=1.6						
ZALV	**Zalesovo Beam**	**20.17**	**25**	*i* P	**P**	**16 36 31.0**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,14nm,0.3s						
SLWR	**Sila**	**20.28**	**238**	P	**P**	**16 36 32.6**	**+0.4**
SLWR				S	**S**	**16 40 03.2**	**-5.0**
SMRA	**Abu-Samra**	**20.45**	**241**	P	**P**	**16 36 33.9**	**-0.1**
SMRA				S	**S**	**16 40 07.2**	**-4.2**
SHL	**Shillong**	**21.33**	**115**	P	**P**	**16 36 43.5**	**+0.2**
SHL	**Shillong**	**21.33**	**115**	P	**P**	**16 36 43.6**	**+0.2**
SHL				pmax	pmax		
	comp=Z,24nm,1.2s						
SVE	**Sverdlovsk**	**21.42**	**345**	*e*P	**P**	**16 36 43.9**	**+0.1**
SVE				pmax	pmax		
	comp=Z,17nm,1.2s						
ARTI	**Arti**	**21.54**	**342**		**P**	**16 36 45.4**	**+0.4**
ARTI	**Arti**	**21.54**	**342**	P	**P**	**16 36 45.3**	**+0.4**
	comp=Z,17nm,0.7s,baz=157,slow=4.7,SNR=28						
	comp=Z,17nm,0.7s						
ARTI	**Arti**	**21.54**	**342**	*c i* P	**P**	**16 36 45.6**	**+0.6**
ARTI				*PP	**pP**	**16 37 20.0**	**-0.1**
ARTI						16 37 26.9	
ARTI				S	**S**	**16 40 32.6**	**+2.7**
ARTI				pmax	pmax		
	comp=Z,18nm,0.7s						
KBZ	**Khabaz**	**22.19**	**298**	P	**P**	**16 36 52.6**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=90,slow=8.1,SNR=0.9						
	comp=Z,0.4nm,0.4s						
SHA1	**Shidzhatmaz**	**22.37**	**298**	*i* P	**P**	**16 36 54.7**	**+1.2**
BELG	**Belogornoye**	**22.63**	**322**	*i* P	**P**	**16 36 55.8**	**+0.4**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DOK	**Doka**	**22.82**	**223**	P	**P**	**16 36 58.2**	**+0.7**
	SNR=5.2						
DMTO	**DMTO**	**23.12**	**220**	P	**P**	**16 37 01.1**	**+0.9**
	SNR=5.4						
GTA	**Gaotai**	**23.35**	**74**	*e*P	**P**	**16 37 04.9**	**+2.7**
GTA				pP	pP	16 37 48.5	+7.7
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WHFO	**Wadi Hawf**	**23.58**	**223**	P	**P**	**16 37 04.9**	**+0.5**
RBK	**Rabkut**	**23.69**	**221**	P	**P**	**16 37 05.9**	**+0.5**
ABTO	**Aybut**	**24.30**	**223**	P	**P**	**16 37 11.3**	**+0.3**
	SNR=9.4						
RAYN	**Ar Rayn**	**25.03**	**246**		**P**	**16 37 17.9**	**+0.3**
RAYN	**Ar Rayn**	**25.03**	**246**	P	**P**	**16 37 17.9**	**+0.3**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RAYN	**Ar Rayn**	**25.03**	**246**	P	**P**	**16 37 17.2**	**-0.4**
KIRV	**Kirov**	**26.08**	**335**	*i* P	**P**	**16 37 27.4**	**+0.9**
TNCH	**TengChong**	**26.62**	**107**	P	**P**	**16 37 33.8**	**+1.8**
TNCH				PP	**PnPn**	**16 38 24.9**	**-1.0**
TNCH				S	**S**	**16 41 52.0**	**+0.2**
TNCH				sS	sS	16 42 59.1	-7.9
TNCH				SS	SS	16 43 26.9	-26
TNCH				pmax	pmax		
	comp=Z,140nm,4.5s						
TNCH				LR	LR		
	comp=Z,220nm,14.9s						
TNCH				LR	LR		
	comp=Z,250nm,18.0s						
TNCH				LR	LR		
	comp=Z,440nm,19.8s						
PZH	**PanZhiHua**	**28.41**	**101**	P	**P**	**16 37 49.1**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SONM	**Songino Array**	**28.77**	**55**	P	**P**	**16 37 51.1**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=267,slow=8.7,SNR=2.7						
	comp=Z,0.4nm,0.5s						
BRTR	**Keskin Array B**	**28.99**	**288**	P	**P**	**16 37 53.5**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=119,slow=5.3,SNR=1.8						
	comp=Z,0.3nm,0.6s						
OBN	**Obninsk**	**29.66**	**320**	*e*P	**P**	**16 37 59.0**	**+0.7**
OBN				*e**PP	**pP**	**16 38 39.3**	**-0.7**
OBN				*e**SP	**sP**	**16 39 01.4**	**-2.3**
OBN				*e*		16 39 05.9	
OBN				*i*		16 40 59.6	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.86**	**118**	P	**P**	**16 38 09.2**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=294,slow=8.2,SNR=8.1						
	comp=Z,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.86**	**118**	*ce*P	**P**	**16 38 10.5**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**32.24**	**69**	*e*P	**P**	**16 38 22.9**	**+1.6**
HHC				pmax	pmax		
	comp=Z,24nm,0.5s						
HHC				pmax	pmax		
	comp=Z,190nm,5.0s						
AKASG	**Malin Array Be**	**32.60**	**309**	P	**P**	**16 38 23.8**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=83,slow=7.2,SNR=5.5						
	comp=Z,0.4nm,0.4s						
AKASG	**Malin Array Be**	**32.60**	**309**	*ce*P	**P**	**16 38 24.6**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NRIK	**Noril'sk**	**34.27**	**11**		**P**	**16 38 39.9**	**+1.6**
NRIK				IAmb	IAmb	16 38 40.8	
	comp=Z,6.9nm,0.9s						
NRIK	**Noril'sk**	**34.27**	**11**	P	**P**	**16 38 40.0**	**+1.6**
	comp=Z,5.1nm,0.5s,baz=197,slow=5.4,SNR=20						
	comp=Z,5.1nm,0.5s						
NRIK	**Noril'sk**	**34.27**	**11**	*ce*P	**P**	**16 38 39.9**	**+1.6**
NRIK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
FIA1	**FINESS Array S**	**37.26**	**326**	P	**P**

LSZ	Lusaka	65.07	226	P	P	16 42 30.7	-0.3
LSZ				pmax	pmax		
comp=Z,10.0nm,1.5s							
TORD	Torodi Ar. Bea	65.23	268	P	P	16 42 30.8	-1.2
C16K	Lisburne Hills	67.67	19	P	P	16 42 46.8	+0.3
C16K				IAmb	IAmb	16 43 15.6	
comp=Z,6.7nm,1.4s							
B20K	Meade River	68.39	16	P	P	16 42 52.2	+1.2
B20K				IAmb	IAmb	16 43 05.7	
comp=Z,6.8nm,1.4s							
C18K	Utukok River	68.47	18	P	P	16 42 52.7	+1.0
C18K				IAmb	IAmb	16 43 10.5	
comp=Z,7.3nm,1.4s							
B22K	Teshekpuk Lake	68.92	15	P	P	16 42 55.9	+1.5
B21K	Ikpikpuk River	69.25	15	P	P	16 42 57.9	+1.6
B21K				IAmb	IAmb	16 42 58.9	
comp=Z,6.3nm,1.2s							
E18K	Tukpahlearik C	69.53	19	P	P	16 42 59.4	+1.3
D23K	Nanushuk River	70.60	15	P	P	16 43 05.4	+0.8
TOLK	Toolik Lake Re	71.10	14	P	P	16 43 09.1	+1.4
TOLK				IAmb	IAmb	16 43 09.8	
comp=Z,4.3nm,0.5s							
J16K	Anvik River	72.65	22	P	P	16 43 18.6	+1.7
J16K				IAmb	IAmb	16 43 21.9	
comp=Z,4.9nm,1.1s							
BMAR	Burnt Mountain	73.11	13	P	P	16 43 21.5	+1.9
INK	Inuvik	74.03	9	P	P	16 43 26.4	+1.5
LBTB	Lobatse	74.31	222	P	P	16 43 27.9	+0.7
F30M	Barrier River	74.39	10	P	P	16 43 28.6	+1.6
F30M				IAmb	IAmb	16 44 03.1	
comp=Z,4.4nm,1.3s							
KTH	Kantishna Hill	75.06	18	P	P	16 43 31.9	+0.8
KTH				IAmb	IAmb	16 43 49.1	
comp=Z,8.6nm,1.3s							
FITZ	Fitzroy Crossi	75.25	126	P	P	16 43 33.1	+0.5
KNRA	Kununurra	75.61	122	P	P	16 43 34.6	-0.1
KNRA				IAmb	IAmb	16 44 01.3	
comp=Z,8.3nm,1.2s							
LKGWB	Lokgwabe	76.03	225	P	P	16 43 36.0	-1.1
RIDG	Independent Ri	76.30	15	P	P	16 43 38.5	+0.4
RIDG				IAmb	IAmb	16 43 54.7	
comp=Z,7.6nm,1.4s							
BOSA	Boshof	77.39	220	P	P	16 43 44.3	-0.3
BOSA	Boshof	77.39	220	P	P	16 43 44.7	+0.1
comp=Z,1.5nm,0.5s,baz=277,slow=5.7,SNR=3.8							
comp=Z,1.5nm,0.5s							
BCAR	Beaver Creek A	77.54	14	P	P	16 43 45.5	+0.6
UNV	Unalaska Valle	77.55	31	P	P	16 43 45.7	+0.7
OHAK	Old Harbor	79.68	22	P	P	16 43 55.3	-1.2
YKA	Yellowknife Ar	81.32	2	P	P	16 44 05.8	+0.6
comp=Z,0.3nm,0.6s,baz=360,slow=5.3,SNR=7.3							
comp=Z,0.3nm,0.6s							
YKA	Yellowknife Ar	81.32	2	*ce*P	P	16 44 07.0	+1.8
P33M	Teslin, Yukon	81.81	11	P	P	16 44 08.7	+0.7
P33M				IAmb	IAmb	16 44 21.3	
comp=Z,12nm,1.4s							
WRA	Warramunga Arr	82.38	121	P	P	16 44 10.4	-1.0
comp=Z,1.3nm,0.8s,baz=323,slow=5.2,SNR=9.4							
comp=Z,1.3nm,0.8s							
WRA	Warramunga Arr	82.38	121	*i* P	P	16 44 10.8	-0.6
WRA				pmax	pmax		
comp=Z,1.0nm,0.8s							
WB2	Warramunga Arr	82.39	121	P	P	16 44 10.3	-1.1
WB2				IAmb	IAmb	16 44 44.9	
comp=Z,11nm,1.5s							
WR8	Warramunga Arr	82.50	121	P	P	16 44 10.8	-1.2
WR8				IAmb	IAmb	16 44 29.0	
comp=Z,11nm,1.4s							
AS31	Alice Springs	84.62	124	P	P	16 44 22.1	-0.7
ASAR	Alice Springs	84.62	124	P	P	16 44 22.1	-0.6
comp=Z,1.2nm,0.6s,baz=312,slow=4.9,SNR=22							
comp=Z,1.2nm,0.6s							

*NOU **18** 16:34:04.7, 10.46S×161.34E, h104km, mb4.6/25, Solomon Islands*
*NEIC **18** 16:34:05.5±2.0, 10.41S±0.09×161.32E±0.10, h118km±6km, mb4.3/27, Error ellipse: s-maj=17.9km s-min=7.7km az=224.0*
*IDC **18** 16:34:05.0±2.0, 10.51S×161.30E, h118km±14km, mb3.8/9, mbtmp4.2/10, Error ellipse: s-maj=26.4km s-min=16.3km az=83.0*

ISC 18 16:34:03.2±0.5, 10.50S±0.05×161.42E±0.07, h100km, n66, σ1.53/70, mb4.2/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGOA	Tingoa Renbel	1.69	232	P	Pn	16 34 32.8	+1.0
NGOA	Tingoa Renbel	1.69	232	S	Sn	16 34 54.8	+1.2
HNR	Honiara	1.79	306		Pn	16 34 34.5	+1.4
HNR				Sn	Sn	16 34 58.0	+2.1
HNR	Honiara	1.79	306	P	Pn	16 34 34.9	+1.8
1μm,0.3s,baz=150,slow=6.6,SNR=196							
HNR				S	Sn	16 34 57.5	+1.6
1μm,0.3s,baz=255,slow=24,SNR=10							
HNR	Honiara	1.79	306	P	Pn	16 34 34.7	+1.6
ALEG	Aligegeo Malai	1.87	338	P	Pn	16 34 34.9	+0.8
ALEG	Aligegeo Malai	1.87	338	P	Sn	16 34 59.3	+1.6
KOUNC	Koumac, New Ca	10.37	165	P	Pn	16 36 31.4	+2.5
RABL	Rabaul	11.11	304	Pn	Pn	16 36 38.3	-0.7
DZM	Mont Dzumac	12.48	158	P	Pn	16 36 59.5	+2.3
4.7nm,0.3s,baz=2.1,slow=6.7,SNR=33							
DZM				S	Sn	16 39 09.4	-5.1
12nm,0.6s,baz=69,slow=24,SNR=5.5							
DZM	Mont Dzumac	12.48	158	P	Pn	16 37 00.3	+3.0
ONTNC	Ouen Toro	12.70	158	Pn	Pn	16 37 03.5	+3.4
ONTNC				Sn	Sn	16 39 16.7	-3.0
OUENC	Ouen Island, N	12.94	157	P	Pn	16 37 05.8	+2.5
PINNC	Pines Island,	13.36	155	Pn	Pn	16 37 10.2	+1.4
PATS	Pohnpei	17.50	350		P	16 37 59.6	-1.0
PATS	Pohnpei	17.50	350	P	P	16 38 00.8	+0.2
EIDS	Eidsvold	17.74	212	P	P	16 38 02.8	-0.5
EIDS				IAmb	IAmb	16 38 10.6	
comp=Z,22nm,1.4s							
COEN	Coen	18.15	257	P	P	16 38 08.0	+0.1
COEN				IAmb	IAmb	16 38 19.4	
comp=Z,19nm,1.2s							
MTSU	Mount Surprise	18.21	243	P	Pn	16 38 09.6	0.0
LKBA	Tubou, Lakemba	20.62	114	P	P	16 38 36.6	+1.9
ARMA	Armidale	21.81	203	P	P	16 38 49.1	+1.7
ARMA				IAmb	IAmb	16 38 50.9	
comp=Z,13nm,1.0s							
ARMA	Armidale	21.81	203	P	P	16 38 48.5	+1.1
JAY	Jayapura	22.04	290	P	P	16 38 48.9	-1.0
comp=Z,13nm,1.0s,baz=122,slow=9.5,SNR=2.1							
comp=Z,13nm,1.0s							
QIS	Mount Isa	23.24	242	P	P	16 39 03.3	+1.3
CMSA	Cobar Meteorol	25.50	213	P	P	16 39 24.3	+2.0
INKA	Innaminka	25.92	226	P	P	16 39 27.3	+1.2
CNB	Canberra Magne	27.03	202	P	P	16 39 37.0	+0.9
CAN	Canberra	27.17	203	P	P	16 39 37.9	+0.5
WR8	Warramunga Arr	27.58	247	P	P	16 39 41.3	+0.1
WR8				IAmb	IAmb	16 39 41.8	
comp=Z,3.9nm,0.5s							
WRAB	Tennant Creek	27.71	247	P	P	16 39 42.2	-0.1
WRAB				IAmb	IAmb	16 40 09.0	
comp=Z,11nm,1.4s							
WRA	Warramunga Arr	27.72	247	P	P	16 39 42.5	+0.1
comp=Z,3.7nm,0.5s,baz=78,slow=9.0,SNR=53							
comp=Z,3.7nm,0.5s							
STKA	Stephens Creek	28.08	218	P	P	16 39 45.1	-0.3
STKA	Stephens Creek	28.08	218	P	P	16 39 44.5	-0.9
comp=Z,2.2nm,0.8s,baz=14,slow=9.5,SNR=4.6							
comp=Z,2.2nm,0.8s							
AS31	Alice Springs	29.30	240	P	P	16 39 55.8	-0.7
ASAR	Alice Springs	29.30	240	P	P	16 39 55.4	-1.1
comp=Z,1.4nm,0.5s,baz=63,slow=10.0,SNR=43							
comp=Z,1.4nm,0.5s							
LCRK	Leigh Creek	29.32	224	P	P	16 39 58.1	+1.7
TOO	Toolangi	30.53	205	P	P	16 40 08.5	+1.4
TOO				IAmb	IAmb	16 40 09.3	
comp=Z,5.2nm,0.7s							
KHEZ	Kahui Hut	30.80	161	P	P	16 40 11.8	+2.3
KNRA	Kununurra	32.20	257	P	P	16 40 21.9	0.0
KNRA				IAmb	IAmb	16 40 26.8	
comp=Z,13nm,1.4s							
BBOO	Buckleboo	32.22	223	P	P	16 40 22.0	+0.1
BBOO	Buckleboo	32.22	223	P	P	16 40 23.3	+1.3
WRKA	Warakurna	34.58	241	P	P	16 40 42.1	-0.5
FITZ	Fitzroy Crossi	35.43	254	P	P	16 40 49.6	-0.4
PSA00	Pilbara Seismi	41.32	249	P	P	16 41 37.6	-1.7
JCJ	Chichijima	41.77	334	P	P	16 41 42.7	-0.1
TOLI2	Tolitoli	42.04	283	P	P	16 41 43.7	-1.5
TOLI2				IAmb	IAmb	16 41 55.7	
comp=Z,8.2nm,1.1s							
MEEK	Meekatharra	43.40	242	P	P	16 41 57.1	+0.9
BLDU	Ballidu	46.03	237	P	P	16 42 17.3	+0.4
MORW	Morawa	46.19	240	P	P	16 42 18.2	-0.1
JMJ	Miyako jima 2	49.73	315	P	P	16 42 45.4	-0.1
ERM	Erimo	54.88	343	P	P	16 43 21.4	-1.8
USRK	Ussuriysk Ar.	60.64	336	P	P	16 44 03.9	+0.4
comp=Z,2.0nm,0.8s,baz=127,slow=11,SNR=4.5							
comp=Z,2.0nm,0.8s							
ULN	Ulaanbaatar	75.40	326	P	P	16 45 33.5	-2.6
SONM	Songino Array	75.75	325	P	P	16 45 36.0	-2.1
SONM	Songino Array	75.75	325	P	P	16 45 37.8	-0.4
comp=Z,1.6nm,0.8s,baz=150,slow=5.3,SNR=8.3							
comp=Z,1.6nm,0.8s							
M16K	Timber Creek	77.83	19	P	P	16 45 50.0	+0.6
L18K	Granite Mounta	79.45	19	P	P	16 45 59.3	+1.1
L18K				IAmb	IAmb	16 46 36.4	
comp=Z,14nm,1.5s							
QSPA	South Pole Qui	79.50	180	P	P	16 45 58.2	-0.5
QSPA				IAmb	IAmb	16 46 25.9	
comp=Z,5.7nm,1.3s							
QSPA	South Pole Qui	79.50	180	P	P	16 45 58.3	-0.4
comp=Z,1.5nm,0.7s,baz=239,slow=0.3,SNR=9.1							
comp=Z,1.5nm,0.7s							
J17K	VABM Dome	79.63	17	P	P	16 46 00.1	+0.9
J17K				IAmb	IAmb	16 46 41.5	
comp=Z,9.9nm,1.5s							
M19K	Big River Lodg	79.96	20	P	P	16 46 01.7	+0.7
M19K				IAmb	IAmb	16 46 06.5	
comp=Z,11nm,1.4s							
CAST	Castle Rocks	81.78	19	P	P	16 46 09.7	-1.0
E19K	Redstone River	83.25	15	P	P	16 46 18.7	+0.5
E19K				IAmb	IAmb	16 46 54.2	
comp=Z,3.9nm,1.4s							
ILAR	Eielson Array	84.39	20	P	P	16 46 23.9	-0.2
comp=Z,0.2nm,0.4s,baz=227,slow=4.7,SNR=2.4							
comp=Z,0.2nm,0.4s							
B20K	Meade River	85.20	13	P	P	16 46 27.8	-0.2
MKAR	Makanchi Array	90.23	318	P	P	16 46 51.6	-1.1
comp=Z,0.4nm,0.4s,baz=87,slow=5.9,SNR=7.5							
comp=Z,0.4nm,0.4s							

*IDC **18** 16:40:36.9±2.8, 29.99N×142.56E, h0km, mb3.7/8, mbtmp3.7/10, ML3.0/2, Error ellipse: s-maj=111.9km s-min=17.4km az=75.0*

ISC 18 16:40:43.3±2.3, 29.8N±0.2×142.0E±0.7, h35km, n10, σ1.32/12, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.72	176	Pn	Pn	16 41 25.0	+0.5
2.5nm,0.3s,baz=285,slow=20,SNR=1.3							
JCJ				Sn	Sn	16 41 53.7	-2.5
20nm,0.3s,baz=114,slow=22,SNR=6.3							
33nm,0.6s							
MJAR	Matsushiro Arr	7.40	336	Pn	Pn	16 42 28.4	-0.4
0.2nm,0.3s,baz=161,slow=11,SNR=17							
MJAR				Sn	Sn	16 43 49.6	-2.0
0.1nm,0.3s,baz=169,slow=8.9,SNR=4.2							
1.5nm,0.4s							
SONM	Songino Array	32.66	313	P	P	16 47 12.5	+0.5
0.4nm,0.4s,baz=110,slow=7.8,SNR=3.5							
0.4nm,0.4s							
ZALV	Zalesovo Beam	47.33	318	P	P	16 49 14.7	+1.3
0.4nm,0.4s,baz=99,slow=6.3,SNR=2.1							
0.4nm,0.4s							
MKAR	Makanchi Array	48.62	308	P	P	16 49 24.9	+1.3
1.0nm,0.5s,baz=85,slow=9.8,SNR=9.8							
1.0nm,0.5s							
WRA	Warramunga Arr	50.02	189	P	P	16 49 35.0	+0.7
0.7nm,0.4s,baz=6.6,slow=7.6,SNR=10							
0.7nm,0.4s							
KURBB	Kurchatov Arra	51.02	313	P	P	16 49 42.0	+0.3
0.4nm,0.4s,baz=93,slow=9.3,SNR=7.8							
0.4nm,0.4s							
ASAR	Alice Springs	53.74	189	P	P	16 50 02.7	+0.6
0.2nm,0.5s,baz=8.3,slow=7.0,SNR=8.4							
0.2nm,0.5s							
BVAR	Borovoye Array	55.93	316	P	P	16 50 18.1	+0.4
0.7nm,0.4s,baz=85,slow=5.3,SNR=7.6							
0.7nm,0.4s							
FINES	FINESS Array B	75.43	333	P	P	16 52 22.8	-0.5
0.3nm,0.5s,baz=51,slow=6.5,SNR=3.9							
0.3nm,0.5s							

*ISN **18** 16:51:00.2±0.8, 33.73N×45.81E, h8km±4km, ML2.5*
*TEH **18** 16:51:01.4, 33.73N×45.84E, h8km±112km*

ISC 18 16:51:00.9±1.4, 33.74N±0.03×45.85E±0.04, h4km±13km, n12, σ0.71/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.38	8	Pg	Pg	16 51 08.4	+0.1
GLG1				Sg	Sb	16 51 15.2	-1.3
IBDR	Badra	0.63	174	*e*Pg	Pg	16 51 13.0	-0.1
IBDR				*e*Sg	Sg	16 51 21.0	-0.3
IBDR				AML	AML	16 51 27.2	
comp=N,193nm,1.9s							
IBDR				AML	AML	16 51 30.7	
comp=E,266nm,0.5s							
KGS1	Ghasr-e-Shirin	0.79	344	Pg	Pb	16 51 17.6	+0.2
IGHG	Ghaleghazi	0.84	45	Pg	Pb	16 51 18.7	+0.4
IDHR	Dehrash	1.06	25	Pg	Pn	16 51 22.1	-0.6
KCHF	Cheshme Sefid,	1.13	61	Pg	Pn	16 51 23.5	-0.1
BHD	Baghdad	1.31	249	*e*Pn	Pg	16 51 26.0	-0.1
BHD				*e*Sn	Sn	16 51 45.0	+1.0
ILIN	Lien	1.50	38	Pg	Pg	16 51 30.3	+0.7
IKFM	Kafar-mosalman	1.68	97	Pg	Pg	16 51 33.3	+0.1
SNQR	Sonqor, Kerman	1.85	52	Pn	Pb	16 51 35.8	+0.3
RAFI	Al-Rafai	2.02	174	*e*Pn	Pn	16 51 36.0	+0.2
RAFI				*e*Sn	Sb	16 52 03.0	-0.8
IKRK	Kirkuk	2.07	324	*e*Pn	Pn	16 51 37.0	+0.5
IKRK				*e*Sn	Sb	16 52 04.0	-1.2

*NEIC **18** 17:00:02.7±1.2, 47.46N±0.03×92.99W±0.06, h0km±1km, ML3.0/4, Error ellipse: s-maj=7.8km s-min=5.0km az=63.0*
*IDC **18** 17:00:04.6±3.2, 47.44N×93.12W, h0km, mbtmp2.7/3, ML0.9/1, Error ellipse: s-maj=34.3km s-min=16.5km az=91.0*

ISC 18 17:00:01.4±0.9, 47.47N±0.05×93.01W±0.06, h0km, n17, σ1.21/18, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	Ely	1.13	64		Pb	17 00 23.8	-0.1
EYMN				IAML		17 00 43.6	
192nm,1.3s							
E38A	The Farm, Brul	1.32	130		Pb	17 00 27.2	+0.2
E38A				IAML		17 00 55.9	
484nm,0.4s							
AGMN	Agassiz Nation	2.09	294		Pn	17 00 38.4	+0.8
SPMN	Marine on St.	2.25	176		Pn	17 00 40.7	+0.9
EPLO	Experimental L	2.26	348	Pn	Pb	17 00 43.1	+0.1
F33A	5 Mile Ranch,	2.79	235		Pn	17 00 48.5	+1.2
G40A	Rib Lake	2.94	137		Pn	17 00 51.2	+1.9
COWI	Conover	3.00	116		Pn	17 00 51.1	+1.0
ULM	Lac du Bonnet	3.36	327	Pn	Pn	17 00 57.0	+1.9
0.2nm,0.3s,baz=145,slow=8.9,SNR=1.2							
ULM				Pg	Pg	17 01 03.9	-1.9
1.4nm,0.3s,baz=148,slow=14,SNR=8.5							
ULM				Sn	Sn	17 01 37.0	+1.2
1.5nm,0.3s,baz=84,slow=18,SNR=4.7							
ULM				Lg	Lg	17 01 48.2	
4.2nm,0.3s,baz=54,slow=22,SNR=10							
0.6nm,0.3s							
I10CA	LAC DU BONNET	3.38	325	I	I	17 21 20.0	
0.1nm,1.0s,baz=145,slow=327,SNR=10.0							
I37A	Lemond, Waseca	3.46	185		Pn	17 00 57.8	+1.2
F42A	Maple Grove Fa	3.77	115	Pn	Pn	17 01 01.7	+0.9
I40A	Norwalk	3.95	154		Pn	17 01 02.6	-0.7
L40A	Anamosa	5.55	166		Pn	17 01 26.3	+1.0
L42A	Oliver, Polo	5.96	155		Pn	17 01 29.5	-1.4
PDAR	Pinedale Array	12.59	254	Pn	Pn	17 03 01.7	-0.2
0.1nm,0.3s,baz=75,slow=12,SNR=2.1							
PDAR				Lg	Lg	17 06 31.6	
0.1nm,0.3s,baz=64,slow=25,SNR=5.6							
YKA	Yellowknife Ar	19.34	329	Pn	P	17 04 27.7	-0.4
0.1nm,0.4s,baz=130,slow=12,SNR=2.9							
YKA				Lg	Lg	17 09 60.0	
baz=116,slow=25,SNR=1.8							

*UPP **18** 17:00:25.5±0.1, 67.08N×20.94E, h0km, ML2.5, Unknown*
*IDC **18** 17:00:25.8±0.9, 67.07N×21.11E, h0km, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=14.2km s-min=7.5km az=117.0*

ISC 18 17:00:25.0±1.1, 67.07N±0.03×20.98E±0.04, h8km±9km, n17, σ1.07/25, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.17	290	P	Pg	17 00 28.7	+0.2
DUNU				S	Sg	17 00 31.0	+0.1
MASU	Masugnsbyn	0.56	45	P	Pb	17 00 36.3	-0.8
MASU				S	Sb	17 00 44.2	-1.1
PAJU	Pajala	0.84	92	P	Pb	17 00 41.5	-0.4
PAJU				S	Sb	17 00 53.2	-0.2
KUA	Kurravaara	0.93	345	P	Pg	17 00 42.5	-0.4
KUA				S	Sg	17 00 55.0	+0.2
RATU	Laukkuluspa	0.93	326	P	Pg	17 00 42.5	-0.4
RATU				S	Sg	17 00 55.1	+0.2
SALU	Saltoluokta	1.01	289	P	Pg	17 00 44.1	-0.4
SALU	Saltoluokta	1.01	289	*e*P	Pg	17 00 44.4	0.0
LANU	Lannavaara	1.06	21	P	Pg	17 00 44.9	-0.5
KOVU	Salmi	1.20	345	P	Pg	17 00 47.5	-0.6
KALU	Kalix	1.54	141	P	Pg	17 00 54.0	-0.6
SJUU	Sjulsmark	1.58	170	P	Pg	17 00 54.9	-0.5
HEF	Hetta	1.69	36	*e*P	Pb	17 00 56.1	-0.3
I37NO	I37NO	2.21	337	I	I	17 14 50.0	
baz=154,slow=320,SNR=2.2							
ARCES	ARCESS Array B	3.00	32	Pn	Pn	17 01 14.5	+1.7
0.8nm,0.3s,baz=211,slow=14,SNR=39							
ARCES				Sn	Sn	17 01 50.1	+1.2
1.2nm,0.3s,baz=217,slow=24,SNR=8.7							
1.9nm,0.2s							
FINES	FINESS Array B	6.06	156	Pn	Pn	17 01 57.3	+2.4
0.3nm,0.3s,baz=343,slow=13,SNR=9.5							
FINES				Sn	Sn	17 03 04.6	+0.2
0.7nm,0.3s,baz=343,slow=23,SNR=9.8							
FINES				Lg	Lg	17 03 35.9	
0.8nm,0.3s,baz=343,slow=28,SNR=6.9							
0.5nm,0.3s							
NOA	NORSAR Array B	7.40	220	Pn	Pn	17 02 12.7	-0.6
baz=24,slow=12,SNR=9.8							
NOA				Sn	Sn	17 03 37.5	+0.1
baz=229,slow=22,SNR=2.9							
NOA				Lg	Lg	17 04 21.1	
baz=17,slow=20,SNR=4.7							
0.2nm,0.5s							
HFS	Hagfors	7.67	208	Pn	Pn	17 02 18.4	+1.4
0.2nm,0.3s,baz=27,slow=14,SNR=11							
HFS				Sn	Sn	17 03 41.2	-2.8
0.1nm,0.3s,baz=26,slow=27,SNR=1.7							
HFS				Lg	Lg	17 04 22.1	
0.4nm,0.3s,baz=26,slow=27,SNR=5.8							
0.4nm,0.2s							

NOU 18 17:30:35.9, 16.94S×167.39E, h0km, MLv3.9/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	0.83	2	P	Pg	17 30 52.0	+0.2
VLAKA	Lakatoro	0.83	2	S	Sg	17 31 03.1	+0.5
KOUNC	Koumac, New Ca	4.64	219	P	Pn	17 31 47.6	+0.3
DZM	Mont Dzumac	5.18	190	P	Pn	17 31 54.3	-0.5
ONTNC	Ouen Toro	5.41	189	P	Pn	17 31 57.7	-0.2

*CNRM **18** 17:41:08.5, 36.53N×9.61W, h25km, ML1.4*
*SFS **18** 17:41:08.7, 36.63N×9.77W, h38km, ML3.5/13, ML3.6/13, MLv3.4/13*
*MDD **18** 17:41:08.4±0.7, 36.64N×9.75W, h24km±6km, mb_Lg3.4/18, Error ellipse: s-maj=5.6km s-min=3.2km az=85.0*
*IGIL **18** 17:41:10.1, 36.65N×9.73W, h32km, ML2.6*

ISC 18 17:41:06.5±1.7, 36.61N±0.04×9.78W±0.08, h35km, n49, σ1.81/81, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.93	55	S	Sn	17 41 35.4	+0.3
PFVI				P	Pn	17 41 24.8	+1.8
PFVI	Vila Bisbo	0.93	55	S	Sn	17 41 36.9	+1.8
MORF	Marmelete	1.14	52	*e*P	Pn	17 41 27.9	+1.9
MORF				*e*S	Sn	17 41 40.7	+0.3
MORF				IAML		17 41 42.9	
comp=N,158nm,0.1s							
PCVE	Castro Verde	1.73	53	S	Sn	17 41 55.5	+0.6
PCVE				P	Pn	17 41 36.0	+1.9
MESJ	Messejana	1.75	45	*e*P	Pn	17 41 36.2	+1.9
MESJ				*e*S	Sn	17 41 55.4	0.0
MESJ				IAML		17 41 57.6	
comp=N,29nm,0.1s							
PVAQ	Vaqueiros	1.83	64	P	Pn	17 41 37.5	+2.0
PVAQ	Vaqueiros	1.83	64	P	Pn	17 41 37.5	+2.0
PVAQ	Vaqueiros	1.83	64	S	Sn	17 42 00.4	+3.0
EXAYA	Ayamonte	2.00	71	Sn	Sn	17 42 01.5	0.0
EGRO	El Granado	2.06	63	P	Pn	17 41 40.4	+1.9
EGRO				S	Sn	17 42 03.6	+0.6
EGRO	El Granado	2.06	63	Pn	Pn	17 41 40.6	+2.1
EGRO				Sn	Sn	17 42 03.7	+0.8
EGRO				*i* Vmb_Lg		17 42 05.2	
PMAFR	Mafra	2.38	9	P	Pn	17 41 44.4	+1.4
PMAFR				S	Sn	17 42 10.6	-0.3
PBAR	Barrancos	2.69	54	P	Pn	17 41 49.0	+1.8
PBAR				S	Sn	17 42 17.6	-0.9
EMIN	Mina Concepcio	2.74	64	P	Pn	17 41 49.5	+1.6
EMIN				S	Sn	17 42 19.4	-0.4
EMIN	Mina Concepcio	2.74	64	Pn	Pn	17 41 49.6	+1.6
EMIN				Sn	Sn	17 42 19.4	-0.4
EMIN				*i* Vmb_Lg		17 42 21.5	
PESTR	Estremoz	2.84	37	P	Pn	17 41 50.3	+0.9
PESTR				S	Sn	17 42 21.2	-1.3
EBAD	Badajoz	3.07	45	P	Pn	17 41 53.6	+1.1
EBAD				S	Sn	17 42 26.8	-1.1
EBAD	Badajoz	3.07	45	Pn	Pn	17 41 53.6	+1.1
EBAD				Sn	Sn	17 42 26.9	-1.0
EBAD				*i* Vmb_Lg		17 42 30.3	
ESP

ECAL	**Calabor**	**5.82**	**23**	P	**Pn**	**17 42 32.1**	**+1.7**
ECAL				S	**Sn**	**17 43 32.8**	**-3.2**
ECAL	**Calabor**	**5.82**	**23**	Pn	**Pn**	**17 42 32.1**	**+1.7**
ECAL				Sn	**Sn**	**17 43 33.2**	**-2.8**
ECAL				*i* Vmb_Lg		17 43 37.6	
GUD	**Guadarrama**	**5.97**	**46**	Pn	**Pn**	**17 42 33.6**	**+1.2**
GUD				Sn	**Sn**	**17 43 36.1**	**-3.5**
GUD				*i* Vmb_Lg		17 43 39.1	
TIO	**Tiouine**	**6.04**	**159**	P	**Pn**	**17 42 34.6**	**+1.1**
TIO				S	**Sn**	**17 43 39.4**	**-2.1**
TIO	**Tiouine**	**6.04**	**159**	P	**Pn**	**17 42 34.8**	**+1.3**
JBK	**JBK**	**6.31**	**109**	P	**Pn**	**17 42 36.8**	**-0.3**
UCM	**Universidad Co**	**6.32**	**52**	P	**Pn**	**17 42 37.0**	**-0.2**
UCM				S	**Sn**	**17 43 45.3**	**-2.8**
EAGO	**Agolada(Pontev**	**6.32**	**11**	Pn	**Pn**	**17 42 38.2**	**+1.0**
EAGO				Sn	**Sn**	**17 43 44.5**	**-3.6**
EAGO				*i* Vmb_Lg		17 43 48.3	

IDC 18 17:41:52.2±4.8, 17°.86S×178°.22W, h603km±24km, mb3.0/4, mbtmp3.9/5, Error ellipse: s-maj=123.4km s-min=77.1km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.56**	**271**	P	P	17 43 15.1	0.0
	5.8nm,0.6s,baz=31,slow=4.3,SNR=5.0						
STKA	**Stephens Creek**	**38.82**	**241**	P	P	17 48 27.0	-0.2
	1.3nm,0.8s,baz=23,slow=7.7,SNR=1.4						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**44.82**	**259**	P	P	17 49 14.2	-0.2
	0.9nm,0.5s,baz=94,slow=7.2,SNR=20						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**44.98**	**254**	P	P	17 49 15.5	-0.1
	1.9nm,0.4s,baz=90,slow=8.1,SNR=82						
ASAR				PcP	PcP	17 50 43.2	-0.3
	0.2nm,0.5s,baz=93,slow=3.7,SNR=4.5						
	1.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.22**	**260**	P	P	17 50 16.3	+0.2
	2.2nm,1.1s,baz=90,slow=6.1,SNR=1.8						
	2.2nm,1.1s						

*ISK **18** 17:42:19.1, 36°.03N×30°.93E, h21km, ML2.8/18*
*NIC **18** 17:42:20.6, 36°.01N×30°.82E, h19km±1km, Ml2.6/7*
*AFAD **18** 17:42:20.3, 36°.13N×30°.95E, h37km±1km, ML2.8*
ISC 18 17:42:20.1±1.3, 36°.03N±0°.03×30°.92E±0°.02, h21km±5km, n47, σ0s67/69, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.55**	**302**	P	**Pb**	**17 42 31.9**	**+0.9**
AKUM				S	**Sn**	**17 42 40.7**	**-0.5**
AKUM				*i* AML	AML	17 42 43.0	
	comp=N,726nm,0.6s						
KEMT	**Kemer-ANTALYA**	**0.64**	**333**	Pg	**Pb**	**17 42 32.6**	**0.0**
KEMT				Sg	**Sb**	**17 42 41.9**	**+0.7**
DEMR	**Demre-Antalya**	**0.84**	**284**	Pg	**Pb**	**17 42 36.3**	**+0.3**
MNVG	**Manavgat-Antal**	**0.86**	**28**	Pg	**Pb**	**17 42 36.5**	**+0.2**
MNVG				Sg	**Sn**	**17 42 48.6**	**-0.4**
ANTB	**Antalya**	**0.89**	**346**	Pg	**Pb**	**17 42 37.2**	**+0.3**
ANTB				Sg	**Sn**	**17 42 50.2**	**+0.5**
KEPZ	**Antalya-Kepez**	**1.03**	**32**	P	**Pb**	**17 42 38.9**	**-0.4**
KEPZ				S	**Sb**	**17 42 51.8**	**-0.6**
KEPZ				*i* AML	AML	17 42 54.0	
	comp=N,282nm,0.3s						
KEPZ				*i* AML	AML	17 42 55.0	
	comp=E,227nm,0.5s						
ALAN	**Alanya-ANTALYA**	**1.04**	**59**	Pg	**Pb**	**17 42 38.8**	**-0.7**
ALAN				Sg	**Sn**	**17 42 53.3**	**-0.2**
KORT	**Korkueli**	**1.07**	**335**	Pg	**Pb**	**17 42 39.7**	**-0.3**
KORT	**Korkueli**	**1.07**	**335**	P	**Pb**	**17 42 39.8**	**-0.1**
KORT				S	**Sn**	**17 42 55.7**	**+1.3**
KORT				*i* AML	AML	17 42 57.0	
	comp=E,224nm,0.5s						
KORT				*i* AML	AML	17 42 59.0	
	comp=N,173nm,0.5s						
AKAS	**Kas**	**1.08**	**281**	Pn	**Pn**	**17 42 39.5**	**-0.6**
AKAS	**Kas**	**1.08**	**281**	P	**Pn**	**17 42 39.2**	**-1.0**
AKAS				S	**Sb**	**17 42 53.0**	**-0.9**
AKAS				*i* AML	AML	17 42 58.0	
	comp=E,220nm,0.4s						
ELL	**Elmali**	**1.08**	**312**	Pn	**Pn**	**17 42 39.7**	**-0.5**
ELL				Sn	**Sn**	**17 42 54.8**	**+0.2**
ELL	**Elmali**	**1.08**	**312**	P	**Pn**	**17 42 40.0**	**-0.2**
ELL				S	**Sn**	**17 42 55.1**	**+0.5**
ELL				AML	AML	17 42 57.2	
	1.8nm,0.6s						
ELL				AML	AML	17 42 58.9	
	1.2nm,0.3s						
KSL	**Kastellorizon**	**1.08**	**277**	P	**Pn**	**17 42 39.8**	**-0.3**
KSL				S	**Sb**	**17 42 53.6**	**-0.2**
KSL	**Kastellorizon**	**1.08**	**277**	P	**Pn**	**17 42 39.7**	**-0.4**
KSL				S	**Sb**	**17 42 54.1**	**+0.3**
KSL				AML	AML	17 42 56.1	
	0.6nm,0.3s						
KSL				AML	AML	17 43 03.6	
	0.2nm,0.4s						
GAZI	**Gazipasa**	**1.15**	**79**	Pn	**Pn**	**17 42 40.6**	**-0.4**
GAZI	**Gazipasa**	**1.15**	**79**	P	**Pb**	**17 42 41.2**	**0.0**
GAZI				S	**Sn**	**17 42 56.3**	**+0.1**
GAZI				*i* AML	AML	17 42 57.0	
	comp=E,241nm,0.3s						
GAZI				*i* AML	AML	17 42 58.0	
	comp=N,753nm,0.3s						
BUCA	**Burdur, Bucak-**	**1.33**	**348**	P	**Pn**	**17 42 42.9**	**-0.6**
KNIK	**Mula-Seydike**	**1.35**	**307**	P	**Pn**	**17 42 44.1**	**+0.2**
KNIK				S	**Sn**	**17 43 01.5**	**+0.2**
KNIK				*i* AML	AML	17 43 03.0	
	comp=E,142nm,0.4s						
BCK	**Bucak**	**1.45**	**350**	Pn	**Pn**	**17 42 44.9**	**-0.3**
AKMS	**Akamas**	**1.54**	**131**	P	**Pb**	**17 42 47.3**	**-0.6**
AKMS				S	**Sb**	**17 43 08.8**	**+2.0**
AKMS				AML	AML	17 43 18.4	
	0.2nm,0.3s						
AKMS				AML	AML	17 43 19.8	
	0.4nm,0.4s						
SEYD	**Seydisehir-KON**	**1.56**	**28**	Pn	**Pn**	**17 42 46.4**	**-0.3**
HDMB	**Hadim**	**1.57**	**53**	Pn	**Pn**	**17 42 46.7**	**-0.3**
CAME	**Cameli-Denizli**	**1.59**	**306**	Pn	**Pn**	**17 42 46.8**	**-0.3**
FETY	**Fethiye**	**1.60**	**293**	Pn	**Pn**	**17 42 46.9**	**-0.3**
GOLH	**Golhisar**	**1.62**	**318**	P	**Pb**	**17 42 48.9**	**-0.5**
GOLH				S	**Sn**	**17 43 08.8**	**+0.9**
ALFC	**Alefka**	**1.63**	**122**	P	**Pn**	**17 42 48.2**	**+0.6**
ALFC				S	**Sb**	**17 43 10.8**	**+1.3**
ALFC				AML	AML	17 43 14.6	
	0.2nm,0.3s						
ALFC				AML	AML	17 43 20.3	
	0.2nm,0.2s						
ERMK	**Ermenek**	**1.73**	**69**	P	**Pn**	**17 42 49.8**	**+0.7**
BRDR	**BURDUR-Merkez**	**1.80**	**338**	P	**Pn**	**17 42 50.3**	**+0.3**
ISP	**Isparta**	**1.82**	**350**	Pn	**Pn**	**17 42 50.2**	**-0.1**
TROD	**Troodos**	**1.93**	**124**	P	**Pn**	**17 42 52.9**	**+1.1**
TROD				S	**Sb**	**17 43 18.5**	**+0.3**
TROD				AML	AML	17 43 33.5	
	0.1nm,0.4s						
TROD				AML	AML	17 43 38.9	
	0.1nm,0.5s						
APMY	**Acipayam-Deniz**	**1.94**	**318**	Pn	**Pn**	**17 42 51.9**	**0.0**
BAGO	**Egridir - ISPA**	**1.96**	**357**	P	**Pn**	**17 42 52.3**	**+0.1**
BAGO				S	**Sn**	**17 43 15.0**	**-1.2**
DALY	**Dalyan (Mula)**	**1.98**	**294**	Pn	**Pn**	**17 42 52.3**	**-0.1**
BASM	**Basmaki-Afyon**	**2.01**	**340**	Pn	**Pn**	**17 42 52.9**	**0.0**
KKBE	**Karaman, Kazim**	**2.02**	**53**	P	**Pb**	**17 42 55.3**	**-0.8**
KKBE				S	**Sn**	**17 43 18.0**	**+0.3**
GULN	**MERSIN_Gulnar**	**2.13**	**85**	P	**Pn**	**17 42 55.6**	**+1.1**
GULN				S	**Sb**	**17 43 23.3**	**-0.7**
DOGA	**KONYA_Doganhis**	**2.16**	**16**	P	**Pn**	**17 42 56.2**	**+1.2**
DOGA				S	**Sn**	**17 43 20.7**	**-0.5**
DOGA				*i* AML	AML	17 43 25.0	
	comp=N,65nm,0.4s						
KONT	**Konya--Tatoy**	**2.23**	**31**	P	**Pn**	**17 42 57.0**	**+1.0**
YVAC	**Isparta, Yalva**	**2.25**	**7**	P	**Pn**	**17 42 56.6**	**+0.4**
AFYN	**Afyon-Dinar-K**	**2.26**	**352**	P	**Pn**	**17 42 56.6**	**+0.2**
ARG	**Arkhangelos**	**2.27**	**276**	P	**Pn**	**17 42 55.9**	**-0.4**
ASGA	**Asgata**	**2.27**	**122**	P	**Pb**	**17 42 58.5**	**-1.9**
ASGA				AML	AML	17 43 42.1	
	0.1nm,0.5s						
ASGA				AML	AML	17 43 43.9	
	0.1nm,0.5s						
MVOU	**Mavrovouni**	**2.44**	**114**	P	**Pn**	**17 42 58.3**	**-0.4**
MVOU				AML	AML	17 43 40.7	
	0.1nm,0.4s						
MVOU				AML	AML	17 43 43.5	
	0.1nm,0.4s						
UCKU	**Afyonkarahisar**	**2.63**	**9**	P	**Pn**	**17 43 01.9**	**+0.4**
KDHN	**Kadinhani**	**2.67**	**21**	P	**Pn**	**17 43 01.5**	**-0.4**
KARP	**Karpathos**	**3.09**	**262**	P	**Pn**	**17 43 07.7**	**0.0**

*IDC **18** 17:42:54.2±0.7, 52°.52S×118°.57W, h0km, mb4.3/7, mbtmp4.3/7, MS4.3/18, Error ellipse: s-maj=41.8km s-min=20.4km az=157.0*
ISC 18 17:42:55.8±0.8, 52°.5S±0°.3×118°.6W±0°.2, h10km, n43, σ1s07/14, mb4.4/7, MS4.2/18, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**29.27**	**115**	LR	LR	17 57 33.5	
	comp=Z,480nm,19.4s,baz=220,slow=30						
H03S2	**Juan Fernandez**	**33.87**	**72**	T	T	18 25 20.9	
	baz=222,slow=74						
H03S1	**Juan Fernandez**	**33.87**	**72**	T	T	18 25 20.7	
	baz=222,slow=74						
H03S3	**Juan Fernandez**	**33.88**	**72**	T	T	18 25 26.3	
	baz=222,slow=74						
H03N3	**Juan Fernandez**	**34.14**	**72**	T	T	18 25 37.9	
	baz=224,slow=72						
H03N2	**Juan Fernandez**	**34.15**	**72**	T	T	18 25 36.6	
	baz=224,slow=72						
H03N1	**Juan Fernandez**	**34.16**	**72**	T	T	18 25 38.9	
	baz=224,slow=72						
PLCA	**Paso Flores**	**34.40**	**89**	LR	LR	17 59 55.8	
	comp=Z,405nm,20.4s,baz=234,slow=30						
QSPA	**South Pole Qui**	**37.65**	**180**	P	**P**	**17 50 10.8**	**0.0**
	4.3nm,1.0s,baz=104,slow=4.7,SNR=7.0						
	4.3nm,1.0s						
RPZ	**Rata Peaks**	**46.05**	**252**	LR	LR	18 06 29.8	
	comp=Z,474nm,21.4s,baz=182,slow=31						
CPUP	**Villa Florida**	**52.19**	**85**	P	**P**	**17 52 06.8**	**+0.2**
	3.3nm,1.0s,baz=229,slow=6.3,SNR=5.2						
CPUP				LR	LR	18 11 05.4	
	comp=Z,524nm,19.3s,baz=205,slow=32						
	3.3nm,1.0s						
NNA	**Nana**	**52.45**	**55**	LR	LR	18 08 54.7	
	comp=Z,190nm,18.4s,baz=186,slow=30						
LPAZ	**La Paz**	**53.54**	**67**	P	**P**	**17 52 17.2**	**-0.1**
	5.3nm,1.1s,baz=203,slow=7.7,SNR=11						
LPAZ				LR	LR	18 09 28.3	
	comp=Z,265nm,21.5s,baz=196,slow=30						
	5.3nm,1.1s						
ATAH	**Atahualpa**	**55.89**	**51**	LR	LR	18 11 05.3	
	comp=Z,271nm,18.5s,baz=197,slow=30						
SIV	**San Ignacio**	**57.83**	**73**	LR	LR	18 13 12.5	
	comp=Z,140nm,21.1s,baz=250,slow=31						
MSVF	**Nonsavu**	**59.97**	**280**	LR	LR	18 11 07.4	
	comp=Z,192nm,21.4s,baz=212,slow=28						
DZM	**Mont Dzumac**	**63.73**	**268**	LR	LR	18 14 28.2	
	comp=Z,516nm,21.1s,baz=196,slow=30						
BDFB	**Brasilia**	**65.92**	**84**	P	**P**	**17 53 42.3**	**+0.2**
	2.1nm,0.4s,baz=162,slow=3.2,SNR=3.2						
BDFB				LR	LR	18 19 18.0	
	comp=Z,326nm,21.0s,baz=190,slow=33						
	2.1nm,0.4s						
ROSC	**El Rosal**	**68.31**	**48**	LR	LR	18 18 55.6	
	comp=Z,139nm,19.0s,baz=192,slow=32						
JTS	**Las Juntas de**	**68.90**	**36**	LR	LR	18 16 51.9	
	comp=Z,118nm,20.0s,baz=181,slow=30						
SDV	**Santo Domingo**	**73.57**	**50**	LR	LR	18 22 40.8	
	comp=Z,75nm,19.8s,baz=122,slow=32						
MDP	**Montagnes des**	**79.73**	**68**	LR	LR	18 24 58.9	
	comp=Z,130nm,21.4s,baz=174,slow=32						
RCBR	**Riachuelo**	**80.94**	**88**	LR	LR	18 28 56.0	
	comp=Z,144nm,18.7s,baz=230,slow=34						
ASAR	**Alice Springs**	**81.53**	**242**	P	**P**	**17 55 13.4**	**-0.1**
	1.5nm,0.9s,baz=151,slow=5.7,SNR=7.1						
ASAR				LR	LR	18 27 24.1	
	comp=Z,192nm,18.6s,baz=188,slow=33						
	1.5nm,0.9s						
H01W1	**Cape Leeuwin H**	**81.56**	**221**	T	T	19 25 45.3	
	baz=150,slow=76						
H01W2	**Cape Leeuwin H**	**81.56**	**221**	T	T	19 25 44.7	
	baz=150,slow=76						
H01W3	**Cape Leeuwin H**	**81.58**	**221**	T	T	19 25 47.1	
	baz=150,slow=76						
WRA	**Warramunga Arr**	**84.29**	**245**	P	**P**	**17 55 28.6**	**+0.7**
	2.2nm,1.0s,baz=144,slow=5.3,SNR=5.5						
	2.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**90.48**	**239**	P	**P**	**17 55 57.0**	**-0.8**
	1.5nm,0.7s,baz=170,slow=6.1,SNR=5.4						
	1.5nm,0.7s						
ELK	**Elko**	**92.95**	**3**	LR	LR	18 30 09.7	
	comp=Z,121nm,18.9s,baz=101,slow=30						
H11S2	**WAKE ISLAND Hy**	**95.56**	**293**	T	T	19 43 11.8	
	baz=144,slow=76						
H11S3	**WAKE ISLAND Hy**	**95.58**	**293**	T	T	19 43 10.6	
	baz=144,slow=76						
H11S1	**WAKE ISLAND Hy**	**95.58**	**293**	T	T	19 43 11.8	
	baz=144,slow=76						
H11N3	**WAKE ISLAND Hy**	**96.43**	**294**	T	T	19 44 12.0	
	baz=144,slow=76						
H11N1	**WAKE ISLAND Hy**	**96.44**	**294**	T	T	19 44 12.4	
	baz=144,slow=76						
H11N2	**WAKE ISLAND Hy**	**96.45**	**294**	T	T	19 44 13.3	
	baz=144,slow=76						
GERES	**GERESS Array B**	**149.98**	**78**	PKPbc	**PKiKP**	**18 02 45.8**	**-0.7**
	0.7nm,0.6s,baz=200,slow=3.5,SNR=7.7						
SONM	**Songino Array**	**151.20**	**279**	PKPbc	**PKiKP**	**18 02 48.9**	**-0.1**
	1.3nm,0.7s,baz=127,slow=2.1,SNR=8.0						
NB2	**NORSAR Subarra**	**151.87**	**53**	PKP	**PKiKP**	**18 02 52.8**	**+2.9**
	comp=Z,3.3nm,1.0s,baz=268,slow=2.5						
NOA	**NORSAR Array B**	**151.87**	**53**	PKPbc	**PKPbc**	**18 02 48.1**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=268,slow=2.1,SNR=4.9						
HFS	**Hagfors**	**153.01**	**55**	PKPbc	**PKiKP**	**18 02 52.0**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=266,slow=5.5,SNR=1.9						
BRTR	**Keskin Array B**	**157.03**	**113**	PKPab	**PKPab**	**18 03 21.1**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=186,slow=5.4,SNR=8.6						
MKAR	**Makanchi Array**	**165.34**	**255**	PKPab	**PKPab**	**18 03 57.8**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=108,slow=4.7,SNR=7.1						

TXNET 18 17:52:30.1, 31°.1N±0°.8×10°.5W±°, h3km±2km, ML2.1/4, 1C-1D, Error ellipse: s-maj=2.1km s-min=1.2km az=75.2, final, Texas-Mexico border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHRN	**Van Horn**	**0.35**	**175**	⇑P	Pg	17 52 36.6	-0.2
VHRN				S	Sg	17 52 41.9	+0.5
MNTX	**Cornudas Mount**	**0.64**	**331**	⇓P	Pg	17 52 42.4	-0.1
MNTX				S	Sg	17 52 51.6	+0.8
TPB12	**Southwest of T**	**0.91**	**85**	P	Pg	17 52 45.8	-1.8
TPB12				S	Sg	17 52 58.8	-0.6
PECS	**Pecos**	**1.01**	**76**	P	Pg	17 52 49.5	0.0
PECS				S	Sg	17 53 03.1	+0.4
TPB10	**Southeast of T**	**1.09**	**82**	S	Sg	17 53 05.7	+0.5
TPB11	**China Draw**	**1.16**	**46**	S	Sb	17 53 08.4	+0.2
TPB07	**Mentone**	**1.24**	**69**	S	Sb	17 53 10.9	+0.4
TPB03	**Saragosa**	**1.29**	**92**	S	Sn	17 53 13.5	+0.6
ALPN	**Alpine**	**1.41**	**122**	P	Pn	17 52 56.6	-0.1
ALPN				S	Sn	17 53 17.0	+1.2
TPB05	**Hovey Rd**	**1.47**	**98**	S	Sg	17 53 19.7	+2.4
MNHN	**Monahans**	**1.94**	**83**	Pg	Pb	17 53 06.0	-0.2
MNHN				S	Sb	17 53 31.2	+0.4
MNHN				Sg	Sg	17 53 32.4	-0.1
TX31	**Lajitas Ar. Si**	**2.14**	**147**	Pg	Pb	17 53 09.8	+0.2
TX31				Sg	Sg	17 53 38.5	-0.4

TAP 18 17:56:55.5, 24°.47N×121°.92E, h12km, ML1.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.13**	**327**	*e*P	Pg	17 56 58.7	-0.1
ESAO				*e*S	Sg	17 57 01.1	0.0
EWUT	**Wuta**	**0.13**	**260**	P	Pg	17 56 58.6	-0.2
EWUT				S	Sg	17 57 01.1	0.0
TWC	**Suao**	**0.15**	**335**	P	Pg	17 56 59.1	-0.1
TWC				*e*S	Sg	17 57 01.3	-0.4
ENA	**Nanau**	**0.17**	**256**	P	Pg	17 56 59.1	-0.3
ENA				S	Sg	17 57 02.1	+0.1
EAHA	**Aohua**	**0.21**	**230**	P	Pg	17 56 59.7	-0.4
EAHA				S	Sg	17 57 04.2	+0.9
EHP	**Heping Village**	**0.23**	**226**	*e*P	Pb	17 57 01.1	-0.5
EHP				*e*S	Sg	17 57 04.9	+1.3
NDS	**Dongshan**	**0.25**	**312**	*e*P	Pg	17 56 59.6	-1.2
NDS				*e*S	Sg	17 57 03.7	-0.6
EOS2	**EOS2**	**0.29**	**100**	P	Pg	17 57 01.2	-0.2
EOS2				S	Sg	17 57 06.3	+0.9
TWE	**Neicheng**	**0.34**	**318**	P	Pg	17 57 02.4	-0.1
TWE				S	Sg	17 57 07.2	+0.1
ENTT	**Nioudou**	**0.36**	**298**	*e*P	Pg	17 57 02.9	0.0
ENTT				*e*S	Sg	17 57 07.7	-0.1
LATG	**Datong**	**0.36**	**281**	*e*P	Pg	17 57 02.9	0.0
LATG				S	Sg	17 57 08.2	+0.3
EGS		**0.38**	**2**	*e*P	Pg	17 57 03.4	+0.3
EGS				*e*S	Sb	17 57 09.6	-0.4
EOS3	**EOS3**	**0.41**	**116**	P	Pg	17 57 03.3	-0.3
EOS3				*e*S	Sg	17 57 09.2	+0.3
ETL	**Fush Village**	**0.41**	**221**	*e*P	Pg	17 57 02.8	-0.9
ETL				*e*S	Sb	17 57 10.7	-0.3
NACB	**Ninganchiao**	**0.42**	**225**	*e*P	Pg	17 57 03.0	-0.8
NACB				*i* S	Sg	17 57 09.2	-0.1
FUSB	**Fushanzhiwuyua**	**0.42**	**314**	*e*P	Pg	17 57 04.2	+0.3
FUSB				S	Sg	17 57 10.4	+0.9
ETLH	**Xiulin Townshi**	**0.48**	**237**	*e*P	Pg	17 57 04.0	-1.0
ETLH				S	Sg	17 57 11.7	+0.3
TWD	**Chiawan**	**0.49**	**218**	*e*P	Pg	17 57 04.0	-1.2
TWD				S	Sg	17 57 12.0	+0.5
NWLT	**Wulai**	**0.49**	**309**	*e*P	Pg	17 57 05.1	-0.1
NWLT				*i* S	Sg	17 57 11.7	0.0
NNSB	**Datong**	**0.49**	**266**	P	Pg	17 57 04.9	-0.3
NNSB				*e*S	Sg	17 57 11.0	-0.8
NNS	**Nan Shan**	**0.50**	**267**	P	Pg	17 57 04.8	-0.5
NNS				S	Sg	17 57 12.4	+0.4
TIPB	**Shuangxi**	**0.51**	**350**	P	Pg	17 57 05.5	-0.1
TIPB				*e*S	Sg	17 57 12.2	-0.2
YHNB	**Yeheng**	**0.54**	**292**	P	Pg	17 57 05.9	-0.2
YHNB				S	Sg	17 57 13.2	+0.1
NSK	**Sanguang**	**0.55**	**292**	P	Pg	17 57 06.1	-0.3
NSK				S	Sg	17 57 13.6	-0.1
SXI1	**Grass Mountain**	**0.62**	**356**	*e*P	Pg	17 57 08.1	+0.3
SXI1				S	Sg	17 57 16.1	+0.1
FUSS	**Fushou**	**0.66**	**251**	*e*P	Pg	17 57 07.9	-0.4
FUSS				*e*S	Sg	17 57 16.7	-0.3
OWD	**Renai**	**0.85**	**233**	*e*P	Pg	17 57 11.0	-1.0
OWD				*i* S	Sg	17 57 23.0	-0.1
WUSB	**Renai**	**0.87**	**237**	*i* P	Pg	17 57 11.4	-1.0
WUSB				*e*S	Sb	17 57 24.5	0.0
WARBT	**Fenglin Townsh**	**0.89**	**213**	*e*P	Pg	17 57 12.2	-0.5
WARBT				*e*S	Sb	17 57 25.2	+0.3
VWDT	**VWDT**	**1.01**	**225**	*e*P	Pb	17 57 14.4	-0.5
VWDT				*e*S	Sn	17 57 28.9	-0.7

*TAP **18** 17:57:33.3, 24°.08N×122°.24E, h24km±1km, ML2.5, C*
*JMA **18** 17:57:34.0±0.2, 24°.N±2°.×122°.3E±0°.5, h19km±4km, MV2.0/9, TAIWAN REGION*
ISC 18 17:57:34.1±0.9, 24°.10N±0°.03×122°.25E±0°.02, h26km±6km, n49, σ0s65/74, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.07**	**70**	P	**Pb**	**17 57 37.8**	**-0.4**
EOS4				*i* S	**Sb**	**17 57 40.8**	**-0.2**
EOS3	**EOS3**	**0.20**	**19**	*i* P	**Pb**	**17 57 39.5**	**-0.2**
EOS3				S	**Sb**	**17 57 44.1**	**+0.6**
EOS2	**EOS2**	**0.32**	**358**	*i* P	**Pb**	**17 57 41.6**	**+0.2**
EOS2				S	**Sb**	**17 57 47.5**	**+1.1**
EAHA	**Aohua**	**0.52**	**297**	*e*P	**Pn**	**17 57 45.5**	**-0.3**
EWUT	**Wuta**	**0.55**	**309**	P	**Pb**	**17 57 44.8**	**-0.3**
EWUT				S	**Sb**	**17 57 53.4**	**+0.7**
ENA	**Nanau**	**0.57**	**306**	*i* P	**Pb**	**17 57 45.3**	**-0.2**
ENA				S	**Sb**	**17 57 53.5**	**+0.4**
NACB	**Ninganchiao**	**0.60**	**278**	P	**Pb**	**17 57 46.2**	**+0.2**
NACB	**Ninganchiao**	**0.60**	**278**	*e*P	**Pb**	**17 57 45.7**	**-0.3**
ESAO	**Su ao**	**0.60**	**323**	P	**Pb**	**17 57 45.3**	**-0.8**
ESAO				S	**Sb**	**17 57 53.4**	**-0.7**
TWC	**Suao**	**0.63**	**325**	*i* P	**Pb**	**17 57 45.4**	**-1.0**
TWC				*i* S	**Sb**	**17 57 53.5**	**-1.3**
SHUL	**Shoufeng**	**0.70**	**244**	*e*P	**Pb**	**17 57 46.8**	**-0.8**
SHUL				*e*S	**Sb**	**17 57 57.0**	**+0.3**
ETM	**Tongmen**	**0.70**	**259**	*e*P	**Pb**	**17 57 46.9**	**-0.8**
ETM				*e*S	**Sb**	**17 57 56.4**	**-0.6**
ETLH	**Xiulin Townshi**	**0.71**	**279**	*e*P	**Pb**	**17 57 47.8**	**0.0**
NDS	**Dongshan**	**0.72**	**318**	*e*P	**Pb**	**17 57 46.3**	**-1.7**
NDS				*e*S	**Sb**	**17 57 56.7**	**-0.8**
JYNG	**Yonagunijimaku**	**0.73**	**61**	*e*P	**Pb**	**17 57 47.7**	**-0.5**
JYNG				*e*S	**Sb**	**17 57 57.4**	**-0.4**
LXIB	**Xiulin Townshi**	**0.76**	**265**	P	**Pb**	**17 57 48.5**	**-0.3**
LXIB				S	**Sb**	**17 57 59.2**	**+0.3**
LATG	**Datong**	**0.79**	**304**	P	**Pb**	**17 57 49.4**	**+0.2**
LATG				*e*S	**Sn**	**17 58 00.9**	**+0.3**
YOJ	**Yonaguni jima**	**0.79**	**62**	P	**Pb**	**17 57 49.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.79**	**62**	S	**Sb**	**17 57 59.3**	**-0.1**
YOJ	**Yonaguni jima**	**0.79**	**62**	P	**Pb**	**17 57 49.1**	**0.0**
YOJ				S	**Sb**	**17 57 58.9**	**-0.5**
ESL	**Shilin**	**0.79**	**249**	*e*P	**P

LCRM	**LCR**	**3.36**	**44**	P	**Pn**	**17 59 56.2**	**0.0**
LCRM	**LCR**	**3.36**	**44**	S	**Sn**	**18 00 36.6**	**+0.3**
AKLM	**AKL**	**4.53**	**44**	P	**Pn**	**18 00 13.9**	**+1.8**
AKLM	**AKL**	**4.53**	**44**	S	**Sn**	**18 01 08.7**	**+3.8**
SMIR	**Smir Dam**	**4.77**	**23**	P	**Pn**	**18 00 17.3**	**+1.9**
JBK	**JBK**	**5.25**	**53**	P	**Pn**	**18 00 22.3**	**0.0**
GOG	**Mont Gurugu**	**5.53**	**44**	P	**Pn**	**18 00 27.5**	**+1.5**
PFVI	**Vila Bisbo**	**5.90**	**351**	P	**Pn**	**18 00 32.8**	**+1.8**
MORF	**Marmelete**	**6.05**	**352**	*e*P	**Pn**	**18 00 31.9**	**-1.1**
PVAQ	**Vaqueiros**	**6.09**	**360**	P	**Pn**	**18 00 34.6**	**+0.9**
MESJ	**Messejana**	**6.55**	**356**	*e*P	**Pn**	**18 00 38.5**	**-1.4**

*UPA **18** 18:08:59.6±0.6, 9°.02N×78°.48W, h11km±5km, MW3.4*
*RSNC **18** 18:09:00.0±0.0, 9°N±3°×7°8W±°, h43km±49km, M2.6, mB4.6, mb4.1, ML2.6, MLv3.4, Mw(mB)3.8*

ISC 18 18:08:58.7±1.3, **9°.30N**±0°.06×**78°.44W**±0°.02, **h31**km±13km, **n22**, σ1°.28/41, **Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNTA3	**Canitas, Panam**	**0.45**	**260**	*e*P	**Pn**	**18 09 09.9**	**+0.9**
CNTA3				*e*S	**Sn**	**18 09 17.7**	**+1.6**
CHPO	**Chepo, Panama**	**0.68**	**259**	*e*P	**Pb**	**18 09 12.2**	**+0.1**
UPA	**Univ. de Panam**	**1.12**	**254**	*e*P	**Pn**	**18 09 18.7**	**+0.4**
UPA				*e*S	**Sn**	**18 09 32.8**	**+0.1**
TABO3	**Taboga, Panama**	**1.21**	**246**	*e*P	**Pn**	**18 09 19.3**	**-0.1**
TABO3				*e*S	**Sb**	**18 09 34.9**	**-1.3**
CAPC	**Capurgana**	**1.26**	**121**	P	**Pn**	**18 09 20.8**	**+0.6**
CAPC				S	**Sb**	**18 09 37.4**	**-0.4**
CHOR3	**La Chorrera**	**1.37**	**253**	*e*P	**Pn**	**18 09 22.2**	**+0.6**
CHOR3				*e*S	**Sn**	**18 09 39.3**	**+0.6**
BCIP	**Isla Barro Col**	**1.38**	**265**	P	**Pn**	**18 09 22.7**	**+0.8**
BCIP				S	**Sn**	**18 09 39.6**	**+0.5**
BCIP	**Isla Barro Col**	**1.38**	**265**	*e*P	**Pn**	**18 09 23.1**	**+1.2**
BCIP				*e*S	**Sb**	**18 09 41.4**	**+0.2**
LCBC	**Los crdobas,**	**2.09**	**102**	P	**Pn**	**18 09 34.0**	**+2.3**
LCBC				S	**Sn**	**18 09 56.7**	**0.0**
PTAC	**Punta Ardita,**	**2.23**	**164**	*e*P	**Pn**	**18 09 33.5**	**0.0**
APAC	**Apartado, Choc**	**2.31**	**127**	P	**Pb**	**18 09 38.4**	**-1.2**
APAC				S	**Sb**	**18 10 10.2**	**+2.5**
AZU	**Azuero**	**2.35**	**231**	P	**Pn**	**18 09 35.2**	**0.0**
AZU				S	**Sn**	**18 10 01.6**	**-1.4**
AZU	**Azuero**	**2.35**	**231**	*e*P	**Pn**	**18 09 35.1**	**-0.1**
AZU				*e*S	**Sn**	**18 10 01.7**	**-1.3**
CHIT3	**Chitre**	**2.37**	**236**	*e*P	**Pn**	**18 09 35.5**	**+0.1**
CHIT3				*e*S	**Sn**	**18 10 02.7**	**-0.7**
CRIS3	**El Cristo, Coc**	**2.39**	**244**	*e*P	**Pn**	**18 09 35.6**	**-0.1**
UREC	**San Jos de Ur**	**3.26**	**118**	P	**Pn**	**18 09 49.0**	**+1.2**
UREC				S	**Sn**	**18 10 25.7**	**+0.1**
SJCC	**San Jacinto, C**	**3.27**	**79**	P	**Pn**	**18 09 49.7**	**+1.8**
SJCC				S	**Sn**	**18 10 25.1**	**-0.8**
ZARC	**Zaragoza, Cauc**	**3.97**	**117**	P	**Pn**	**18 09 58.5**	**+1.0**
ZARC				S	**Sn**	**18 10 41.3**	**-1.8**
CBOC	**Ciudad Bolivar**	**4.18**	**145**	P	**Pn**	**18 10 02.8**	**+2.3**
CBOC				S	**Sn**	**18 10 48.2**	**-0.2**
PTBC	**PUERTO BERRIO,**	**4.81**	**124**	P	**Pn**	**18 10 09.9**	**+0.9**
PTBC				S	**Sn**	**18 11 03.7**	**0.0**
OCAC	**Ocana**	**5.17**	**101**	P	**Pn**	**18 10 14.5**	**+0.4**
	0.1nm584nm15nm,0.7s						
OCAC				S	**Sn**	**18 11 12.7**	**-0.2**
	0.1nm584nm15nm,0.7s						
CRJC	**Cerrejon, Guaj**	**5.73**	**72**	P	**Pn**	**18 10 22.0**	**+0.2**
CRJC				S	**Sn**	**18 11 22.4**	**-4.3**

*DNK **18** 18:16:52.3±1.1, 78°.90N×4°.04E, h36km±64km, ML1.6*
*KOLA **18** 18:16:52.9, 78°.83N×5°.20E, h0km, ML1.9, Error ellipse: s-maj=26.7km s-min=18.3km az=150.0, Greenland sea, Knipovich ridge, north*
*BER **18** 18:16:53.3±1.8, 79°.00N×4°.11E, h24km±20km, mb(Pn)3.4, ML1.6(DNK), Confirmed Earthquake*
*FCIAR **18** 18:16:54.0, 78°.68N×4°.78E, h10km, station ZFI2 has station magnitude of 3.20 station OMEGA has station magnitude of 3.30*

ISC 18 18:16:47.6±1.7, **79°.01N**±0°.06×**3°.77E**±0°.05, **h16**km±12km, **n18**, σ2°.11/36, **1C, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.58**	**89**	P	**Pg**	**18 17 16.9**	**-1.0**
KBS				S	**Sn**	**18 17 34.4**	**-0.5**
KBS	**Kingsbay**	**1.58**	**89**	*i* P	**Pb**	**18 17 16.4**	**+0.1**
KBS				*e*P	**Pg**	**18 17 17.3**	**-0.5**
KBS				*e*S	**Sn**	**18 17 34.6**	**-0.3**
KBS				*i* S	**Sb**	**18 17 35.0**	**-1.0**
KBS				IAML		18 17 37.6	
	comp=Z,47nm,0.5s						
KBS	**Kingsbay**	**1.58**	**89**	*i* P	**Pg**	**18 17 17.3**	**-0.5**
KBS				*i* S	**Sn**	**18 17 34.5**	**-0.3**
BRBB	**Barentsburg B**	**2.28**	**109**	P	**Pb**	**18 17 26.7**	**-1.5**
BRBB				S	**Sn**	**18 17 52.2**	**+0.1**
BRBB	**Barentsburg B**	**2.28**	**109**	*e*P	**Pb**	**18 17 26.8**	**-1.5**
BRBB				*e*S	**Sn**	**18 17 51.2**	**-0.9**
BRBA	**Barentsburg A**	**2.29**	**109**	*e*P	**Pb**	**18 17 28.3**	**-0.2**
BRBA				*e*S	**Sn**	**18 17 52.4**	**-0.1**
SPA0	**Spitsbergen Ar**	**2.64**	**102**	⇑*i* P	**Pb**	**18 17 32.8**	**-1.6**
SPA0				*i* S	**Sn**	**18 18 01.2**	**+0.1**
SPA0	**Spitsbergen Ar**	**2.64**	**102**	*e*P	**Pb**	**18 17 32.9**	**-1.6**
SPA0				*e*S	**Sn**	**18 18 01.2**	**+0.1**
SPA0				IAML		18 18 06.0	
	comp=Z,14nm,0.6s						
SPITS	**Spitsbergen Ar**	**2.64**	**102**	P	**Pb**	**18 17 32.4**	**-2.1**
SPITS				S	**Sn**	**18 18 02.2**	**+1.1**
HSPB	**Hornsund (broa**	**3.17**	**123**	P	**Pn**	**18 17 39.2**	**+2.5**
HSPB				S	**Sn**	**18 18 13.1**	**-1.1**
NOR	**Nord**	**4.30**	**317**	*i* P	**Pn**	**18 17 55.1**	**+2.8**
NOR				*e*S	**Sn**	**18 18 43.2**	**+1.2**
NOR				IAML		18 18 44.4	
	comp=Z,2.8nm,0.3s						
HOPEN	**Hopen**	**5.14**	**108**	*e*P	**Pn**	**18 18 06.2**	**+2.4**
HOPEN				*e*S	**Sn**	**18 18 59.8**	**-2.9**
DBG	**Daneborg**	**7.21**	**242**	*i* P	**Pn**	**18 18 34.2**	**+2.0**
DBG				*i* S	**Sn**	**18 19 50.6**	**-3.1**
DBG				IAML		18 19 58.8	
	comp=Z,2.1nm,0.6s						
DBG	**Daneborg**	**7.21**	**242**	*i* P	**Pn**	**18 18 33.3**	**+1.1**
DBG				*i* S	**Sn**	**18 19 47.8**	**-5.9**
DBG				IAML		18 19 58.8	
	comp=Z,2.1nm,0.6s						
ZFI2	**Zemlya Franca-**	**7.74**	**56**	*e*P	**Pn**	**18 18 42.9**	**+3.5**
ZFI2				*e*S	**Sn**	**18 20 03.9**	**-2.8**
	comp=Z,7.1nm,1.7s						
OMEGA	**Omega**	**7.76**	**56**	*e*P	**Pn**	**18 18 43.4**	**+3.7**
OMEGA				*e*S	**Sn**	**18 20 04.1**	**-2.9**
	comp=Z,8.0nm,1.2s						
NEEM	**North Greenlan**	**10.94**	**290**	*i* P	**Pn**	**18 19 22.0**	**-1.5**
NEEM	**North Greenlan**	**10.94**	**290**	*i* P	**Pn**	**18 19 23.8**	**+0.3**

DJA 18 18:46:15.4±0.8, **9°S**±6°×**124°E**±°, **h61**km±13km, **M4.0**/7, **mb4.2**/1, **MLv3.8**/7, **Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.33**	**160**	P	Pn	18 46 27.6	+1.5
MMRI	**Maumere**	**2.05**	**293**	P	Pn	18 46 48.1	+0.5
MMRI				S	Sn	18 47 13.1	+1.0
EDFI	**Ende, Flores**	**2.52**	**286**	P	Pn	18 46 54.5	+0.4
EDFI				S	Sn	18 47 23.5	-0.3
WSI	**Waingapu**	**3.81**	**266**	P	Pn	18 47 11.5	-0.1
BBSI	**Bau Bau**	**4.23**	**338**	P	Pn	18 47 17.2	-0.2
WBSI	**Waikabubak, Su**	**4.70**	**267**	P	Pn	18 47 23.5	-0.3
WBSI				S	Sn	18 48 11.2	-5.9
BSSI	**Bau Bau, Buton**	**4.89**	**312**	P	Pn	18 47 26.2	-0.2
PLAI	**Plampang**	**6.32**	**275**	P	Pn	18 47 46.0	-0.1

*DJA **18** 18:54:54.0±1.7, 4°S±6°×15°2E±1°1, h199km±11km, M4.9/32, mb5.0/32, mB5.3/12, MLv5.2/1, Mw(mB)4.7/12*
*IDC **18** 18:54:54.1±1.7, 4°.06S×152°.16E, h208km±15km, mb3.9/17, mbtmp4.5/20, Error ellipse: s-maj=14.6km s-min=10.1km az=80.0*
*NEIC **18** 18:54:55.0±1.7, 4°.06S±0°.07×152°.1E±0°.1, h206km±6km, mb4.7/47, Error ellipse: s-maj=15.5km s-min=10.7km az=86.0*

ISC 18 18:54:55.6±0.9, **4°.16S**±0°.06×**152°.05E**±0°.06, **h218**km±8km, **n146**, σ1°.50/145, **mb4.7**/56, **1C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.11**	**104**	Pn	**Pn**	**18 55 21.6**	**-2.4**
MANU	**Manus Island**	**5.13**	**294**		**Pn**	**18 56 11.1**	**-1.0**
PMG	**Port Moresby**	**7.12**	**223**		**Pn**	**18 56 37.6**	**0.0**
PMG	**Port Moresby**	**7.12**	**223**	P	**Pn**	**18 56 36.8**	**-0.8**
	80nm,0.5s,baz=46,slow=6.0,SNR=44						
PMG				S	**S**	**18 57 58.0**	**-0.8**
	38nm,0.6s,baz=283,slow=4.1,SNR=3.5						
PMG	**Port Moresby**	**7.12**	**223**	P	**Pn**	**18 56 37.6**	**0.0**
PMG	**Port Moresby**	**7.12**	**223**	P	**Pn**	**18 56 37.4**	**-0.2**
SAVO	**Savo Central**	**9.16**	**123**	P	**P**	**18 57 11.5**	**-1.0**
HNR	**Honiara**	**9.42**	**124**	P	**Pn**	**18 57 04.9**	**-2.4**
	39nm,0.6s,baz=200,slow=15,SNR=2.1						
NGOA	**Tingoa Renbel**	**10.81**	**133**	P	**P**	**18 57 32.5**	**+1.6**
JAY	**Jayapura**	**11.45**	**278**	P	**Pn**	**18 57 33.2**	**0.0**
	38nm,0.7s,baz=110,slow=5.8,SNR=14						
JAY	**Jayapura**	**11.45**	**278**	P	**Pn**	**18 57 32.6**	**-0.6**
	69nm,0.9s						
GENI	**Genyem**	**11.97**	**277**	P	**Pn**	**18 57 40.9**	**+1.2**
GENI	**Genyem**	**11.97**	**277**	P	**Pn**	**18 57 39.0**	**-0.7**
	2μm168nm,0.6s						
COEN	**Coen**	**13.09**	**221**		**Pn**	**18 57 54.2**	**+0.4**
COEN	**Coen**	**13.09**	**221**	P	**Pn**	**18 57 54.1**	**+0.3**
SMPI	**Sarmi**	**13.50**	**279**	P	**Pn**	**18 57 59.2**	**+0.4**
	2μm194nm,0.9s						
MTSU	**Mount Surprise**	**15.81**	**208**	P	**P**	**18 58 27.3**	**+0.8**
TV1H	**Townsville Har**	**15.86**	**198**	P	**Pn**	**18 58 28.4**	**+0.9**
BAKI	**Biak**	**16.20**	**280**	P	**Pn**	**18 58 36.0**	**+4.3**
	120nm,0.8s						
RKPI	**Ransiki, Papua**	**18.05**	**278**	P	**Pn**	**18 58 53.1**	**-0.4**
	3μm269nm,0.8s						
KMPI	**Kaimana, Papua**	**18.31**	**271**	P	**Pn**	**18 58 55.6**	**-1.0**
FAKI	**Fak Fak**	**19.80**	**273**		**P**	**18 59 10.3**	**+0.4**
FAKI	**Fak Fak**	**19.80**	**273**	P	**P**	**18 59 10.8**	**+0.9**
FAKI	**Fak Fak**	**19.80**	**273**	P	**P**	**18 59 10.3**	**+0.4**
	842nm88nm,0.8s						
QIS	**Mount Isa**	**20.30**	**216**	P	**P**	**18 59 16.1**	**+0.9**
SWI	**Sorong**	**21.03**	**278**	P	**P**	**18 59 23.9**	**+1.0**
	2μm233nm,0.8s						
KDU	**Kakadu**	**21.12**	**245**	P	**P**	**18 59 23.2**	**-0.6**
MTN	**Manton Dam**	**22.40**	**246**		**P**	**18 59 36.1**	**-0.1**
DRS	**Darwin Rock St**	**22.47**	**247**	P	**P**	**18 59 36.7**	**-0.1**
DZM	**Mont Dzumac**	**22.62**	**143**		**P**	**18 59 39.4**	**+1.2**
DZM	**Mont Dzumac**	**22.62**	**143**	P	**P**	**18 59 39.0**	**+0.8**
	22nm,0.5s,baz=305,slow=12,SNR=7.2						
	22nm,0.5s						
DZM	**Mont Dzumac**	**22.62**	**143**	P	**P**	**18 59 39.6**	**+1.4**
OUENC	**Ouen Island, N**	**23.12**	**143**	P	**P**	**18 59 45.3**	**+2.7**
WB0	**Warramunga Arr**	**23.17**	**227**	P	**P**	**18 59 44.4**	**+1.2**
WR8	**Warramunga Arr**	**23.22**	**226**	P	**P**	**18 59 44.3**	**+0.8**
WRAB	**Tennant Creek**	**23.31**	**226**		**P**	**18 59 45.3**	**+0.9**
WRA	**Warramunga Arr**	**23.32**	**226**		**P**	**18 59 50.3**	**+5.7**
WRA					PP	19 00 41.3	-1.2
WRA	**Warramunga Arr**	**23.32**	**226**	P	**P**	**18 59 45.5**	**+1.0**
	274nm,0.5s,baz=45,slow=9.6,SNR=253						
WRA				PcP	**PcP**	**19 03 25.4**	**+0.2**
	2.2nm,0.7s,baz=31,slow=1.9,SNR=5.3						
WRA				S	**S**	**19 03 35.8**	**-5.1**
	5.7nm,0.8s,baz=47,slow=16,SNR=7.4						
WRA				ScP	**ScP**	**19 06 42.8**	**+0.1**
	1.9nm,0.7s,baz=53,slow=3.0,SNR=4.9						
QLP	**Quilpie**	**23.52**	**198**	P	**P**	**18 59 46.9**	**+0.7**
AAI	**Ambon**	**23.81**	**270**	P	**P**	**18 59 51.1**	**+2.1**
	55nm,0.7s						
KNRA	**Kununurra**	**25.60**	**242**		**P**	**19 00 05.0**	**-0.2**
KNRA				IAmb	IAmb	19 00 09.2	
	comp=Z,14nm,0.6s						
INKA	**Innaminka**	**25.81**	**204**	P	**P**	**19 00 07.3**	**+0.4**
AS01	**Alice Springs**	**26.10**	**220**	P	**P**	**19 00 09.9**	**+0.3**
SANI	**Sanana**	**26.11**	**274**	P	**P**	**19 00 10.0**	**+0.2**
SANI	**Sanana**	**26.11**	**274**	P	**P**	**19 00 13.2**	**+3.4**
	comp=Z,42nm,0.8s						
AS31	**Alice Springs**	**26.13**	**220**	P	**P**	**19 00 10.6**	**+0.7**
AS31				IAmb	IAmb	19 00 12.1	
	comp=Z,12nm,0.3s						
ASAR	**Alice Springs**	**26.13**	**220**	P	**P**	**19 00 10.4**	**+0.5**
	comp=Z,8.5nm,0.4s,baz=50,slow=8.4,SNR=255						
ASAR				PcP	**PcP**	**19 03 31.6**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=71,slow=3.8,SNR=3.5						
ASAR				S	**S**	**19 04 18.4**	**-6.9**
	comp=Z,2.3nm,0.9s,baz=45,slow=13,SNR=4.3						
ASAR				ScP	**ScP**	**19 06 50.6**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=47,slow=2.8,SNR=4.9						
	comp=Z,8.5nm,0.4s						
CMSA	**Cobar Meteorol**	**27.88**	**192**	P	**P**	**19 00 26.3**	**+1.0**
OOD	**Oodnadatta**	**28.20**	**212**	P	**P**	**19 00 28.8**	**+0.5**
KMSI	**Cibinong**	**28.44**	**279**	P	**P**	**19 00 33.7**	**+3.1**
LCRK	**Leigh Creek**	**29.23**	**205**	P	**P**	**19 00 37.7**	**+0.4**
STKA	**Stephens Creek**	**29.27**	**198**	P	**P**	**19 00 37.7**	**+0.1**
	comp=Z,3.2nm,0.4s,baz=25,slow=9.4,SNR=13						
	comp=Z,3.2nm,0.4s						
STKA	**Stephens Creek**	**29.27**	**198**	P	**P**	**19 00 38.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**29.32**	**240**	P	**P**	**19 00 37.6**	**-0.6**
FITZ				IAmb	IAmb	19 00 39.1	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	**29.32**	**240**	P	**P**	**19 00 37.7**	**-0.6**
LUWI	**Luwuk**	**29.41**	**275**	P	**P**	**19 00 37.8**	**-1.3**
LUWI				IAmb	IAmb	19 00 41.5	
	comp=Z,34nm,1.0s						
LUWI	**Luwuk**	**29.41**	**275**	P	**P**	**19 00 40.8**	**+1.7**
	comp=Z,40nm,1.0s						
WRKA	**Warakurna**	**30.86**	**225**	P	**P**	**19 00 51.4**	**-0.4**
CAN	**Canberra**	**31.13**	**185**	P	**P**	**19 00 56.1**	**+2.1**
HTT	**Hallett**	**31.59**	**201**	P	**P**	**19 00 58.6**	**+0.5**
TOLI2	**Tolitoli**	**31.68**	**279**	P	**P**	**19 00 58.2**	**-0.9**
TOLI2				IAmb	IAmb	19 01 01.7	
	comp=Z,12nm,0.7s						
TOLI2	**Tolitoli**	**31.68**	**279**	P	**P**	**19 00 59.5**	**+0.4**
BBOO	**Buckleboo**	**32.19**	**206**	P	**P**	**19 01 03.8**	**+0.6**
PCI	**Palu**	**32.34**	**275**	P	**P**	**19 01 09.1**	**+4.2**
	comp=Z,52nm,0.9s						
MPSI	**Mapaga**	**32.44**	**277**	P	**P**	**19 01 05.7**	**0.0**
	comp=Z,681nmcomp=Z,58nm,0.8s						
PLAI	**Plampang**	**34.36**	**260**	P	**P**	**19 01 20.1**	**-2.1**
MYLDM	**Lahad Datu**	**34.78**	**285**		P	19 01 33.1	+7.3
MYLDM				IAmb	IAmb	19 01 34.0	
	comp=Z,14nm,1.0s						
FORT	**Forrest**	**34.82**	**218**	P	**P**	**19 01 26.5**	**+0.5**
MBWA	**Marble Bar**	**35.65**	**239**	P	**P**	**19 01 32.6**	**-0.6**
MBWA				IAmb	IAmb	19 01 33.4	
	comp=Z,35nm,1.1s						
MBWA	**Marble Bar**	**35.65**	**239**	P	**P**	**19 01 32.8**	**-0.4**
PSA00	**Pilbara Seismi**	**35.72**	**238**	P	**P**	**19 01 33.6**	**-0.2**
JOW	**Kunigami**	**38.45**	**325**	P	**P**	**19 01 57.1**	**+0.5**
JOW				IAmb	IAmb	19 01 58.6	
	comp=Z,28nm,1.1s						
MEEK	**Meekatharra**	**39.00**	**232**	P	**P**	**19 02 01.4**	**+0.1**
KMBL	**Kambalda**	**39.20**	**223**	P	**P**	**19 02 03.4**	**+0.5**
SBUM	**Sibu**	**40.34**	**279**	P	**P**	**19 02 12.2**	**-0.3**
SBUM				IAmb	IAmb	19 02 15.0	
	comp=Z,15nm,0.9s						
SBUM	**Sibu**	**40.34**	**279**	P	**P**	**19 02 12.1**	**-0.4**
STKI	**Sintang**	**40.76**	**275**	P	**P**	**19 02 17.4**	**+1.5**
QRZ	**Quartz Range**	**40.88**	**156**	P	**P**	**19 02 19.1**	**+2.6**
URZ	**Urewera**	**40.91**	**149**	P	**P**	**19 02 17.3**	**+0.6**
	comp=Z,8.9nm,0.9s,baz=7.2,slow=3.5,SNR=2.1						
	comp=Z,8.9nm,0.9s						
GIRL	**Giralia**	**40.93**	**240**	P	**P**	**19 02 17.3**	**+0.1**
SSLB	**Suanglung**	**41.11**	**314**	P	**P**	**19 02 19.4**	**+0.8**
KSM	**Kuching**	**42.09**	**277**	P	**P**	**19 02 27.3**	**+0.6**
KSM				IAmb	IAmb	19 02 28.3	
	comp=Z,23nm,0.7s						
MORW	**Morawa**	**42.17**	**230**	P	**P**	**19 02 26.7**	**-0.5**
KLBR	**Kellerberrin**	**42.20**	**226**	P	**P**	**19 02 27.4**	**0.0**
BLDU	**Ballidu**	**42.45**	**228**	P	**P**	**19 02 28.9**	**-0.4**
KHZ	**Kahutara**	**42.63**	**156**	P	**P**	**19 02 31.6**	**+1.0**
MUN	**Mundaring**	**43.52**	**226**	P	**P**	**19 02 38.5**	**+0.6**
TPI	**Tanjungpandan**	**44.34**	**270**	P	**P**	**19 02 45.7**	**+1.0**
	comp=Z,26nm,1.0s						
KSRS	**Korea Array**	**47.10**	**334**	P	**P**	**19 03 04.2**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=148,slow=7.7,SNR=4.4						
	comp=Z,1.4nm,0.8s						
MDSI	**Maura Dua**	**47.73**	**268**	P	**P**	**19 03 10.4**	**-0.7**
NJ2	**Nanjing**	**47.88**	**321**	*e*P	**P**	**19 03 13.0**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KULM	**Kulim**	**52.19**	**280**	P	**P**	**19 03 44.0**	**-0.7**
KULM				IAmb	IAmb	19 03 45.3	
	comp=Z,17nm,0.7s						
KULM	**Kulim**	**52.19**	**280**	P	**P**	**19 03 44.6**	**-0.1**
NONG	**Nongkai**	**53.03**	**296**	P	**P**	**19 03 51.7**	**+1.0**
BNX	**BinXian**	**54.31**	**339**	⇑P	**P**	**19 03 59.1**	**-0.4**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GSI	**Gunungsitoli**	**54.71**	**275**	P	**P**	**19 04 02.6**	**-0.4**
BJI	**Beijing**	**54.95**	**327**	P	**P**	**19 04 06.0**	**+1.8**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CM31	**Chiang Mai Arr**	**56.93**	**295**	IAmb	IAmb	19 04 21.2	
	comp=Z,13nm,0.8s						
CMAR	**Chiang Mai Arr**	**56.93**	**295**	P	**P**	**19 04 19.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**56.93**	**295**	P	**P**	**19 04 19.8**	**+1.1**
	comp=Z,8.5nm,0.7s,baz=119,slow=5.5,SNR=72						
	comp=Z,8.5nm,0.7s						
CHTO	**Chiang Mai**	**57.04**	**295**	P	**P**	**19 04 20.4**	**+1.0**
PETK	**Petropavlovsk-**	**57.26**	**4**	P	**P**	**19 04 19.2**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=158,slow=7.0,SNR=12						
	comp=Z,1.4nm,0.7s						
PZH	**PanZhiHua**	**57.40**	**305**	P	**P**	**19 04 22.8**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,5.7s						
HHC	**Hu-ho-hao-te**	**58.10**	**325**	*e*P	**P**	**19 04 28.9**	**+2.4**
HHC				pmax	pmax		
	comp=Z,23nm,0.5s						
HHC				pmax	pmax		
	comp=Z,130nm,5.6s						
TNCH	**TengChong**	**59.51**	**302**	P	**P**	**19 04 36.6**	**0.0**
TNCH				pP	pwP	19 05 24.8	-3.6
TNCH				sP	sP	19 05 42.8	-5.8
TNCH				S	**S**	**19 12 28.1**	**-1.1**
TNCH				sS	sS	19 13 54.3	-0.5
LZH	**Lanzhou**	**60.26**	**316**	*e*P	**P**	**19 04 42.3**	**+0.8**
LZH				sP	sP	19 05 45.4	-8.3
LZH				pmax	pmax		
	comp=Z,17nm,0.9s						
GTA	**Gaotai**	**64.69**	**317**	*e*P	**P**	**19 05 12.6**	**+1.9**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SHL	**Shillong**	**65.34**	**300**	P	**P**	**19 05 15.8**	**+0.6**
SHL				IAmb	IAmb	19 05 16.9	
	comp=Z,29nm,1.2s						
SONM	**Songino Array**	**65.39**	**328**	P	**P**	**19 05 14.8**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=149,slow=6.1,SNR=6.2						
	comp=Z,1.0nm,0.8s						
GOMU	**GeErMu**	**66.79**	**312**	P	**P**	**19 05 25.0**	**+0.6**
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
VNDA	**Vanda**	**73.49**	**178**	P	**P**	**19 06 03.1**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=333,slow=5.3,SNR=13						
	comp=Z,1.3nm,0.5s						
WMQ	**Urumqi**	**74.77**	**317**	*e*P	**P**	**19 06 11.4**	**-0.6**
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
MKAR	**Makanchi Array**	**79.36**	**319**	P	**P**	**19 06 36.5**	**-0.9**
MKAR	**Makanchi Array**	**79.36**	**319**	P	**P**	**19 06 36.4**	**-1.0**
	comp=Z,5.7nm,1.0s,baz=101,slow=6.8,SNR=22						
	comp=Z,5.7nm,1.0s						
ZALV	**Zalesovo Beam**	**80.21**	**326**	P	**P**	**19 06 40.2**	**-1.6**
ZALV	**Zalesovo Beam**	**80.21**	**326**	P	**P**	**19 06 40.5**	**-1.3**
	comp=Z,2.4nm,0.5s,baz=113,slow=5.9,SNR=12						
	comp=Z,2.4nm,0.5s						
ILAR	**Eielson Array**	**81.86**	**22**	P	**P**	**19 06 48.5**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=248,slow=4.9,SNR=11						
	comp=Z,0.7nm,0.6s						
KSH	**Kashi**	**81.96**	**311**	P	**P**	**19 06 52.9**	**+1.4**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
J25K	**Salcha River,**	**82.36**	**23**	P	**P**	**19 06 52.0**	**-0.9**
KURK	**Kurchatov**	**82.81**	**322**	P	**P**	**19 06 55.2**	**-0.3**
KURBB	**Kurchatov Arra**	**82.84**	**322**	P	**P**	**19 06 55.1**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=101,slow=4.3,SNR=10						
	comp=Z,1.1nm,0.3s						
TKM2	**Tokmak 2**	**82.95**	**314**	P	**P**	**19 06 57.1**	**+0.4**
	SNR=5.2						
NIL	**Nilore**	**83.00**	**304**	P	**P**	**19 06 56.7**	**-0.2**
NIL				IAmb	IAmb	19 06 58.0	
	comp=Z,13nm,0.7s						
AAK	**Ala-

JAK	Akkeshi	1.26 222	P	Pn	18 56 42.7	+0.5
JAK			S	S	18 57 03.9	-0.1
JTKR	Abashiri--Toko	1.39 272	eP	Pn	18 56 43.3	-0.1
JAR	Ashorobuto	1.63 247	eP	Pn	18 56 46.7	+0.8
JOB	Onbets	1.79 235	P	Pn	18 56 48.4	+0.9
JOB			S	S	18 57 13.3	-0.2
JCH	Churui	2.24 235	eP	Pn	18 56 53.0	+0.5
JCH			eS	S	18 57 21.2	-1.3
JNBK	Urakawa-nobuka	2.80 235	P	Pn	18 56 59.0	-0.2

*KRNET **18** 19:06:49.1±0.1, 42°.21N×80°.52E, mb3.7*
*SOME **18** 19:06:49.8, 42°.20N×80°.40E, h5^{km}*
*NNC **18** 19:06:51.5±1.1, 42°.28N×80°.35E, h0^{km}, mb4.0, mpv3.8,*
Error ellipse: s-maj=6.6km s-min=5.5km az=125.0

ISC 18 19:06:53.1±1.5, 42°.34N±0°.06×80°.28E±0°.05, h10^{km}, n37, σ1§60/55, 18C-15D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	1.02 324		P	Pg	19 07 09.9	-2.8
	61nm,0.2s						
SHLS				S	Sg	19 07 24.5	-1.4
	614nm,0.4s						
SHLS	Shalkode	1.02 324		eP	Pg	19 07 09.9	-2.8
	28nm,0.1s						
SHLS				eS	Sg	19 07 24.6	-1.4
	439nm,0.2s						
PDGK	Podgornoye	1.15 330		↑P	Pb	19 07 14.4	-0.7
	30nm,0.4s						
PDGK				↓S	Sg	19 07 31.2	+1.1
	134nm,0.8s						
UZB	Uzynbulak	1.23 311		P	Pn	19 07 16.2	-0.3
	33nm,0.2s						
UZB				S	Sn	19 07 35.4	+2.1
	47nm,0.2s						
UZB	Uzynbulak	1.23 311		eP	Pn	19 07 16.2	-0.3
	19nm,0.4s						
UZB				eS	Sn	19 07 35.4	+2.1
	127nm,0.2s						
PRZ	Przheval'sk	1.40 276		↑eP	Pn	19 07 19.1	+0.2
PRZ				↑iS	Sg	19 07 41.2	+3.0
ZHN	Zhinishke	1.59 302		P	Pb	19 07 23.3	+0.6
	65nm,0.3s						
ZHN				S	Sg	19 07 47.5	+3.1
	121nm,0.2s						
ZHN	Zhinishke	1.59 302		eP	Pb	19 07 23.3	+0.6
	64nm,0.2s						
ZHN				eS	Sg	19 07 47.5	+3.1
	434nm,0.3s						
TARG	Taragay, Kyrgy	1.94 253		↑iP	Pn	19 07 27.6	+1.0
TARG				↑iS	Sg	19 07 55.4	-0.2
ANVS	Anan'yevo	1.98 284		↑iP	Pb	19 07 28.9	-0.5
ANVS				↑iS	Sg	19 07 57.9	+1.1
KDJ	Kajisay	2.31 266		↓eP	Pn	19 07 32.8	+1.4
KDJ				↓iS	Sb	19 08 04.5	+0.8
MDOK	Medeo	2.52 290		↑Pg	Pb	19 07 38.4	-0.1
	42nm,0.5s						
MDOK				Pg	Pg	19 07 38.6	-2.8
	63nm,0.4s						
MDOK				Lg	Lg	19 08 14.4	
	67nm,0.5s						
MDOK				↓Lg	Lg	19 08 14.8	
	54nm,0.7s						
TNSS	Tian-Shan	2.56 287		Pg	Pb	19 07 39.2	-0.1
	27nm,0.3s						
TNSS				Lg	Lg	19 08 15.2	
	50nm,0.3s						
TNSS	Tian-Shan	2.56 287		eP	Pb	19 07 39.2	-0.1
	27nm,0.1s						
TNSS				eS	Sg	19 08 15.2	0.0
	59nm,0.2s						
ARXS	Arharly	2.59 317		Pg	Pb	19 07 39.8	+0.1
ARXS				Lg	Lg	19 08 17.0	
KNDC	Almaty	2.59 291		↓Pg	Pb	19 07 40.0	+0.2
	78nm,0.7s						
KNDC				↓Lg	Lg	19 08 16.6	
	137nm,0.7s						
AAA	Alma-Ata	2.63 290		eP	Pb	19 07 40.9	+0.6
	14nm,0.1s						
AAA				eS	Sg	19 08 17.7	+0.2
	37nm,0.6s						
CHKK	Chushkaly	2.85 303		Pg	Pb	19 07 45.0	+0.9
	7.2nm,0.4s						
CHKK				Lg	Lg	19 08 24.5	
	110nm,0.3s						
CHKK	Chushkaly	2.85 303		eP	Pb	19 07 45.0	+0.9
	6.8nm,0.1s						
CHKK				eS	Sg	19 08 24.8	+0.2
	110nm,0.2s						
MTBS	Maitube	2.95 287		Pg	Pb	19 07 46.2	+0.4
	17nm,0.4s						
MTBS				Lg	Lg	19 08 26.8	
	97nm,0.5s						
MTBS	Maitube	2.95 287		eP	Pb	19 07 46.2	+0.4
	13nm,0.2s						
MTBS				eS	Sg	19 08 26.8	-0.9
	97nm,0.5s						
TDK	Taldyqorghan	2.99 334		eP	Pb	19 07 48.1	+1.6
	9.0nm,0.3s						
TDK				eS	Sg	19 08 29.9	+0.8
	110nm,0.3s						
ULHL	Ulahol	3.00 270		↑eP	Pn	19 07 42.6	+1.7
ULHL				↑iS	Sb	19 08 21.7	-1.8
BOOM	Boomskoye usch	3.22 274		↑eP	Pn	19 07 45.6	+1.7
BOOM				↑iS	Sb	19 08 27.1	-2.7
KST	Kastek	3.26 284		eP	Pb	19 07 51.5	+0.4
	25nm,0.3s						
KST				eS	Sg	19 08 36.1	-1.7
	82nm,0.6s						
KUU	Kurty	3.28 300		Pg	Pb	19 07 52.2	+0.9
	7.9nm,0.6s						
KUU				Lg	Lg	19 08 37.2	
	73nm,0.6s						
KUU	Kurty	3.28 300		eP	Pb	19 07 53.0	+1.6
	2.6nm,0.3s						
KUU				eS	Sg	19 08 38.5	+0.2
	102nm,0.2s						
TKM2	Tokmak 2	3.51 281		↓Pg	Pb	19 07 53.8	-1.6
	8.4nm,0.6s						
TKM2				↑Lg	Lg	19 08 43.3	
	27nm,0.5s						
CHMS	Chumysh	4.13 281		↓Pg	Pb	19 08 07.6	+1.7
	4.3nm,0.6s						
CHMS				↓Lg	Lg	19 09 04.7	
	28nm,0.9s						
AAK	Ala-Archa	4.29 276		↑Pg	Pg	19 08 12.7	-2.6
	7.4nm,0.5s						
AAK				↓Lg	Lg	19 09 09.5	
	25nm,0.6s						
MAKZ	Makanchi	4.63 15		↓Pn	Pn	19 08 03.9	+0.8
	6.3nm,0.6s						
MAKZ				↓Lg	Lg	19 09 18.9	
	7.7nm,0.5s						
MK31	Makanchi Array	4.68 17		↓Pn	Pn	19 08 04.7	+0.9
	1.4nm,0.2s,baz=200,slow=13,SNR=9.5						
MK31				↓Sn	Sn	19 09 02.1	+4.0
	9.5nm,0.6s						
MK31				↑Lg	Lg	19 09 19.8	
	8.4nm,0.6s,baz=186,slow=27,SNR=4.2						
ZSN	Zaisan	6.06 31		eP	Pg	19 08 43.9	-5.1
	2.3nm,0.2s						
ZSN				eS	Sg	19 10 05.9	-1.6
	10.0nm,0.3s						
KK31	Karatay Array	7.24 279		↑Pg	Pb	19 09 05.4	+6.6
	0.9nm,0.5s,baz=89,slow=16,SNR=5.4						
KK31				Lg	Lg	19 10 41.8	
	2.2nm,0.4s,baz=96,slow=27,SNR=6.2						
OTUK	Ortayu	8.13 319		↑Lg	Lg	19 11 12.9	
	9.3nm,1.1s						
KURBB	Kurchatov Arra	8.37 352		↓Lg	Lg	19 11 21.5	
	16nm,0.7s						
KURK	Kurchatov	8.46 353		↑Lg	Lg	19 11 21.9	
	14nm,0.9s						

IDC 18 19:08:06.6±4.9, 9°.37S×147°.84E, h153^{km}±13^{km}, mb3.0/2, mbtmp3.4/4, MS3.3/6, Error ellipse: s-maj=140.2km s-min=27.5km az=107.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	0.68 267		P	Pn	19 08 29.6	+0.4
	5.4nm,0.5s,baz=89,slow=18,SNR=1.3						
WRA	Warramunga Arr	16.75 230		P	P	19 11 51.9	-0.2
	0.3nm,0.7s,baz=57,slow=11,SNR=5.8						
ASAR	Alice Springs	19.49 221		P	P	19 12 21.9	-0.1
	1.2nm,0.9s,baz=51,slow=8.8,SNR=15						
ASAR				LR	LR	19 20 47.6	
	comp=Z,123nm,18.2s,baz=80,slow=39						
GUMO	Guam	23.00 353		LR	LR	19 21 07.1	
	comp=Z,50nm,20.9s,baz=174,slow=34						
STKA	Stephens Creek	23.14 194		LR	LR	19 22 41.1	
	comp=Z,88nm,18.1s,baz=24,slow=38						
JCJ	Chichijima	36.66 352		LR	LR	19 28 45.9	
	comp=Z,32nm,20.3s,baz=120,slow=34						
NWAO	Narrogin (SRO)	36.70 226		LR	LR	19 31 08.2	
	comp=Z,147nm,18.4s,baz=304,slow=38						
KSRS	Korea Array	50.18 339		LR	LR	19 36 43.1	
	comp=Z,11nm,20.3s,baz=215,slow=34						
SONM	Songino Array	67.74 331		P	P	19 18 47.2	-0.5
	0.2nm,0.4s,baz=131,slow=5.9,SNR=2.6						
	0.2nm,0.4s						
MKAR	Makanchi Array	80.61 321		P	P	19 20 02.7	+0.5
	0.2nm,0.5s,baz=110,slow=6.4,SNR=4.1						
	0.2nm,0.5s						

*NIED **18** 19:32:12.1, 39°.77N×143°.57E, h32^{km}, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.18; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-1.84; $M_{r\theta}$1.11; $M_{\theta\phi}$-0.85; $M_{\phi r}$1.35; Fault plane solution: M_o2.81000×10^{14} NP1: ϕ_s195.00000°, δ27.00000°, λ73.00000°. NP2: ϕ_s34.00000°, δ64.00000°, λ98.00000°.*

JMA 18 19:32:12.1±0.3, 39°.8N±0°.6×14°4E±°, h32^{km}, MV3.5/29, FAR E OFF SANRIKU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.37 262		iP	Pn	19 32 35.7	+0.8
JKEN	Kujiedanarisaw	1.49 287		P	Pn	19 32 37.3	+0.6
JANG	Nango	1.69 291		P	Pn	19 32 40.0	+0.7
JOM	Ohasama	1.79 261		iP	Pn	19 32 42.2	+1.5
JOM				eS	Sn	19 33 04.2	+1.9
JMK	Ichinoseki	2.00 246		P	Pn	19 32 44.8	+1.1
JTM	Tenmabayashi	2.17 299		eP	Pn	19 32 47.9	+1.9
JIO	Ouri	2.17 233		P	Pn	19 32 46.8	+0.7
JNBK	Urakawa-nobuka	2.58 346		S	Sb	19 33 26.8	-2.1

*DJA **18** 19:48:01.4±0.4, 1°.N±3°.×10°.0E±°, h201^{km}±7^{km}, M3.9/12, mB3.1/1, mb4.0/6, MLv3.8/12, Mw(mB)1.8/1*
*IDC **18** 19:48:40.9±22.0, 1°.65N×101°.00E, h650^{km}±331^{km}, mb2.7/5, mbtmp3.8/5, Error ellipse: s-maj=276.7km s-min=37.0km az=56.0*

ISC 18 19:48:02.0±0.9, 1°.24N±0°.07×100°.13E±0°.09, h200^{km}, n15, σ1§88/20, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	0.71 231		P	Pn	19 48 32.2	+2.2
PPI	Padang Panjang	1.71 171		P	Pn	19 48 38.1	+0.5
PBSI	Pulau Batu	2.26 235		P	Pn	19 48 44.3	+1.1
PBSI				S	Sn	19 49 13.9	-1.4
GSI	Gunungsitoli	2.56 271		P	Pn	19 48 48.4	+1.9
GSI				S	Sn	19 49 20.6	-0.6
SISI	Saibi	2.75 202		P	Pn	19 48 48.5	-0.3
SISI				S	Sn	19 49 23.6	-1.8
MLSI	Meulaboh, Aceh	4.79 309		P	Pn	19 49 14.7	+1.0
MLSI				S	Sn	19 50 07.9	-2.3
LHMI	Lhok Sumawe	5.08 321		P	Pn	19 49 16.3	-1.1
	0.3nm81nm,1.2s						
MNAI	Manna	6.24 153		P	Pn	19 49 31.3	-1.1
BSI	Banda Aceh	6.42 311		P	Pn	19 49 35.2	+0.5
	0.1nm8.8nm,1.2s						
BSI				S	Sn	19 50 43.4	-4.8
	0.1nm8.8nm,1.2s						
PPBI	Pangkal Pinang	6.89 119		P	Pn	19 49 37.8	-3.0
WRA	Warramunga Arr	39.59 124		P	P	19 55 15.5	+1.2
	0.7nm,1.0s,baz=302,slow=8.1,SNR=1.7						
	0.7nm,1.0s						
MKAR	Makanchi Array	47.97 344		P	P	19 56 21.9	+1.3
	0.9nm,0.3s,baz=157,slow=8.4,SNR=27						
	0.9nm,0.3s						
KURBB	Kurchatov Arra	52.51 343		P	P	19 56 55.0	+0.5
	0.6nm,0.5s,baz=160,slow=7.6,SNR=9.4						
	0.6nm,0.5s						
ZALV	Zalesovo Beam	54.03 349		P	P	19 57 05.1	-0.4
	0.3nm,0.4s,baz=166,slow=6.7,SNR=2.0						
	0.3nm,0.4s						
BVAR	Borovoye Array	57.22 339		P	P	19 57 28.6	+0.4
	0.8nm,0.5s,baz=146,slow=8.5,SNR=7.6						
	0.8nm,0.5s						

*IDC **18** 19:58:19.6±2.0, 18°.67N×81°.69W, h0^{km}, mb3.5/4, mbtmp3.5/4, ML2.0/1, MS3.0/4, Error ellipse: s-maj=53.2km s-min=39.2km az=11.0*

ISC 18 19:58:20.3±1.9, 18°.5N±0°.3×81°.8W±0°.2, h10^{km}, n11, σ0§84/7, mb3.7/4, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	Tepich	6.41 287		Pn	Pn	19 59 54.4	-0.4
	baz=94,slow=24,SNR=6.6						
TEIG				Sn	Sn	20 00 58.4	-10
	baz=44,slow=24,SNR=7.7						
JTS	Las Juntas de	8.70 201		LR	LR	20 04 07.4	
	comp=Z,67nm,18.6s,baz=98,slow=39						
SJG	San Juan	14.82 89		LR	LR	20 06 51.9	
	comp=Z,56nm,21.3s,baz=138,slow=35						
TXAR	Lajitas Array	22.73 302		P	P	20 03 24.2	+1.4
	0.3nm,0.7s,baz=128,slow=6.3,SNR=3.6						
	0.3nm,0.7s						
MDP	Montagnes des	31.37 111		LR	LR	20 18 49.1	
	comp=Z,32nm,18.3s,baz=285,slow=39						
PDAR	Pinedale Array	33.78 322		P	P	20 05 02.6	-0.1
	0.6nm,0.8s,baz=133,slow=7.0,SNR=5.1						
	0.6nm,0.8s						
NVAR	Mina Array Bea	37.47 310		LR	LR	20 22 22.1	
	comp=Z,33nm,19.0s,baz=190,slow=39						
ILAR	Eielson Array	62.91 334		P	P	20 08 45.8	-0.8
	0.4nm,0.5s,baz=117,slow=3.5,SNR=8.4						
	0.4nm,0.5s						
FINES	FINESS Array B	82.16 28		P	P	20 10 41.5	+0.3
	0.9nm,0.8s,baz=294,slow=10,SNR=2.0						
	0.9nm,0.8s						
WRA	Warramunga Arr	145.93 262		PKPbc	PKPbc	20 18 01.1	+0.1
	0.4nm,0.7s,baz=81,slow=3.7,SNR=2.0						
ASAR	Alice Springs	146.39 255		PKPbc	PKPab	20 18 03.2	0.0
	0.4nm,0.9s,baz=99,slow=3.6,SNR=2.2						

*IDC **18** 20:01:10.9±2.0, 4°.55S×101°.85E, h0^{km}, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=81.0km s-min=16.7km az=54.0*
*DJA **18** 20:01:18.7±0.7, 4°.S±3°.×10°.2E±°, h26^{km}±8^{km}, M4.0/10, mb3.9/4, MLv4.0/10*

ISC 18 20:01:16.6±1.0, 4°.6S±0°.1×101°.92E±0°.08, h37^{km}, n29, σ1§44/25, mb3.8/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	1.05 78		P	Pn	20 01 36.1	+1.3
MNAI				S	Sn	20 01 47.0	-1.2
KSI	Kapahiang	1.13 36		P	Pn	20 01 36.3	+0.4
LWLI	Liwa	2.17 102		P	Pn	20 01 52.8	+2.5
LWLI				S	Sn	20 02 16.8	+0.8
MDSI	Maura Dua	2.25 88		P	Pn	20 01 53.2	+2.0
MDSI				S	Sn	20 02 18.6	+0.8
CGJI	Cibinong	4.26 119		P	Pn	20 02 20.7	+1.7
CGJI				S	Sn	20 03 04.1	-3.4
SISI	Saibi	4.29 319		P	Pn	20 02 21.8	+2.5
SISI				S	Sn	20 03 07.4	-0.8
CNJI	Cibinong	5.85 118		P	Pn	20 02 40.9	+0.1
	0.1nm35nm,1.3s						
TPI	Tanjungpandan	6.00 73		P	Pn	20 02 44.1	+1.3
	0.0nm2.6nm,1.1s						
GSI	Gunungsitoli	7.28 323		P	Pn	20 03 02.4	+2.0
CMAR	Chiang Mai Arr	23.07 353		P	P	20 06 19.6	+0.6
	0.5nm,0.8s,baz=195,slow=9.6,SNR=4.1						
	0.5nm,0.8s						
FITZ	Fitzroy Crossi	26.81 122		P	P	20 06 53.8	+0.3
	2.0nm,0.8s,baz=297,slow=6.8,SNR=3.4						
	2.0nm,0.8s						
H08S2	Diego Garcia H	29.42 263		T	T	20 37 40.0	
	baz=84						
H08S3	Diego Garcia H	29.43 263		T	T	20 37 33.9	
	baz=84,slow=74						
H08S1	Diego Carcia H	29.44 263		T	T	20 37 38.7	
	baz=84,slow=74						
H01W3	Cape Leeuwin H	32.21 161		T	T	20 41 35.6	
	baz=338						
H01W2	Cape Leeuwin H	32.23 161		T	T	20 41 39.7	
	baz=338						
H01W1	Cape Leeuwin H	32.23 161		T	T	20 41 37.0	
	baz=338						
WRA	Warramunga Arr	35.06 119		P	P	20 08 06.7	+0.4
	0.4nm,0.4s,baz=306,slow=9.0,SNR=10						
	0.4nm,0.4s						
ASAR	Alice Springs	36.21 125		P	P	20 08 16.4	+0.3
	0.3nm,0.4s,baz=301,slow=7.8,SNR=9.5						
	0.3nm,0.4s						
SONM	Songino Array	52.33 4		P	P	20 10 24.7	-0.1
	1.2nm,0.6s,baz=187,slow=11,SNR=7.5						
	1.2nm,0.6s						
MKAR	Makanchi Array	54.02 343		P	P	20 10 36.7	-0.4
	1.0nm,0.6s,baz=155,slow=7.6,SNR=9.8						
	1.0nm,0.6s						
USRK	Ussuriysk Ar.	55.56 26		P	P	20 10 47.0	-1.2
	2.1nm,0.7s,baz=215,slow=8.7,SNR=4.7						
	2.1nm,0.7s						
KURBB	Kurchatov Arra	58.55 343		P	P	20 11 08.7	-0.6
	0.3nm,0.6s,baz=150,slow=6.4,SNR=2.3						
	0.3nm,0.6s						
H04N2	CROZET ISLANDS	59.92 218		T	T	21 16 08.6	
	baz=58,slow=74						
H04N1	CROZET ISLANDS	59.94 218		T	T	21 16 08.9	
	baz=58						
H04N3	CROZET ISLANDS	59.94 218		T	T	21 16 07.9	
	baz=58,slow=74						
ZALV	Zalesovo Beam	60.05 348		P	P	20 11 18.7	-0.9
	1.2nm,0.4s,baz=167,slow=5.8,SNR=7.4						
	1.2nm,0.4s						
BVAR	Borovoye Array	63.25 339		P	P	20 11 40.3	-0.9
	0.4nm,0.4s,baz=147,slow=7.3,SNR=5.1						
	0.4nm,0.4s						
TXAR	Lajitas Array	145.45 42		PKPbc	PKPbc	20 20 51.3	-0.3
	1.4nm,0.6s,baz=298,slow=0.9,SNR=14						

*IDC **18** 20:07:55.4±1.2, 10°.36S×118°.32E, h0^{km}, mb3.7/6, mbtmp3.8/10, ML3.7/4, MS3.5/2, Error ellipse: s-maj=62.6km s-min=17.1km az=55.0*
*DJA **18** 20:08:02.6±0.8, 10°.5±5°.×11°.9E±°, h29^{km}±8^{km}, M4.3/12, mb4.4/7, MLv4.2/12*

ISC 18 20:08:01.6±0.6, 10°.28S±0°.05×118°.78E±0°.04, h35^{km}, n40, σ2§38/43, mb3.8/6, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.87 44		P	Pn	20 08 15.4	-2.0
WSI	Waingapu	1.61 68		P	Pn	20 08 28.4	+0.8
WSI				S	Sn	20 08 51.6	+4.5
PLAI	Plampang	1.75 325		P	Pn	20 08 30.9	+1.4
PLAI	Plampang	1.75 325		S	Sn	20 08 52.8	+2.3
PLAI	Plampang	1.75 325		P	Pn	20 08 29.8	+0.3
EDFI	Ende, Flores	3.25 62		P	Pn	20 08 51.3	+1.1
EDFI				S	Sn	20 09 26.8	-0.9
MMRI	Maumere	3.78 65		P	Pn	20 09 01.0	+3.6
MMRI	Maumere	3.78 65		P	Pn	20 08 58.2	+0.8
SRBI	Singaraja	4.14 301		P	Pn	20 09 03.5	+1.1
SRBI				S	Sn	20 09 51.0	+1.4
BSSI	Bau Bau, Buton	4.44 23		P	Pn	20 09 07.8	+1.3
BSSI				S	Sn	20 09 58.2	+1.1
JAGI	Jajag, Banyuwa	4.91 291		P	Pn	20 09 15.0	+2.0
JAGI	Jajag, Banyuwa	4.91 291		S	Sn	20 10 09.0	+0.4
JAGI	Jajag, Banyuwa	4.91 291		P	Pn	20 09 14.4	+1.4
JAGI				S	Sn	20 10 07.0	-1.6
KAPI	Kappang	5.32 10		Pn	Pn	20 09 19.1	+0.5
	5.6nm,0.3s,baz=194,slow=10.0,SNR=17						
KAPI				Sn	Sn	20 10 19.9	+1.3
	6.8nm,0.3s,baz=263,slow=24,SNR=6.3						
KAPI				LR	LR	20 11 33.7	
	comp=Z,218nm,20.4s,baz=231,slow=40						
	33nm,0.6s						
KAPI	Kappang	5.32 10		P	Pn	20 09 21.3	+2.7
SOEI	Soe	5.43 85		P	Pn	20 09 25.4	+5.2
SOEI	Soe	5.43 85		P	Pn	20 09 22.5	+2.3
	0.3nm41nm,0.9s						
BNSI	Bone	5.98 13		P	Pn	20 09 24.9	-2.8
BBSI	Bau Bau	6.06 39		P	Pn	20 09 30.7	+1.9
	0.2nm44nm,1.1s						
SPSI	Sidrap Palu	6.35 9		P	Pn	20 09 35.4	+2.7
	0.1nm32nm,0.8s						
FITZ	Fitzroy Crossi	10.23 140		Pn	Pn	20 10 26.7	+0.7
	0.8nm,0.3s,baz=320,slow=8.2,SNR=24						
FITZ				Sn	Sn	20 12 15.8	-3.8
	0.6nm,0.3s,baz=3.2,slow=18,SNR=9.0						
	5.0nm,0.6s						
MBWA	Marble Bar	10.86 175		P	Pn	20 10 36.8	+2.2
PSA00	Pilbara Seismi	11.28 175		P	Pn	20 10 41.9	+1.5
MTN	Manton Dam	12.37 103		P	Pn	20 11 01.6	+6.3
GIRL	Giralia	13.05 199		P	Pn	20 11 06.8	+2.3
MEEK	Meekatharra	16.28 181		P	Pn	20 11 49.3	+1.6
WRKA	Warakurna	17.24 150		P	P	20 12 04.7	+3.6
WRA	Warramunga Arr	17.82 124		P	Pn	20 12 07.2	+0.3
	0.1nm,0.3s,baz=301,slow=13,SNR=5.5						
WRA				Sn	Sn	20 15 18.6	-6.0
	0.1nm,0.3s,baz=291,slow=22,SNR=4.6						
	1.1nm,0.8s						
MORW	Morawa	18.87 187		P	Pn	20 12 23.1	+3.4
ASAR	Alice Springs	19.63 135		P	Pn	20 12 30.1	+1.2
	0.3nm,0.3s,baz=319,slow=11,SNR=43						
ASAR				S	S	20 16 02.4	-4.8
	0.5nm,0.8s,baz=316,slow=26,SNR=3.2						
	2.2nm,0.7s						
STKA	Stephens Creek	30.12 139		P	P	20 14 09.1	+0.8
	2.1nm,1.1s,baz=346,slow=9.4,SNR=3.3						
	2.1nm,1.1s						
CMAR	Chiang Mai Arr	34.62 325		P	P	20 14 45.1	-2.6
	0.3nm,0.8s,baz=150,slow=8.6,SNR=1.9						
	0.3nm,0.8s						
PALK	Pallekele	41.73 293		LR	LR	20 33 38.5	
	comp=Z,102nm,18.6s,baz=113,slow=37						
H08S2	Diego Garcia H	45.77 269		T	T	21 05 40.4	
	baz=92,slow=74						
H08S3	Diego Garcia H	45.78 269		T	T	21 05 37.7	
	baz=92,slow=74						
H08S1	Diego Carcia H	45.79 269		T	T	21 05 41.8	
	baz=92						
SONM	Songino Array	58.89 350		P	P	20 17 56.2	-0.9
	0.6nm,0.5s,baz=166,slow=7.6,SNR=4.5						
	0.6nm,0.5s						
MKAR	Makanchi Array	65.49 333		P	P	20 18 39.4	-1.9
	0.7nm,0.7s,baz=149,slow=7.8,SNR=6.7						
	0.7nm,0.7s						
KURBB	Kurchatov Arra	70.01 334		P	P	20 19 08.1	-1.5
	0.4nm,0.7s,baz=151,slow=5.4,SNR=4.9						
	0.4nm,0.7s						
ZALV	Zalesovo Beam	70.15 339		P	P	20 19 09.2	-1.2
	1.3nm,0.6s,baz=133,slow=7.5,SNR=5.8						
	1.3nm,0.6s						

*IDC **18** 20:08:37.0±0.8, 52°.46S×119°.27W, h0^{km}, mb3.9/6, mbtmp3.9/6, MS4.0/32, Error ellipse: s-maj=36.7km s-min=23.3km az=153.0*
*GCMT **18** 20:08:45.0±0.3, 53°.23S±0°.02×117°.94W±0°.02, h15^{km}, MW5.0/79, Moment Tensor Solution. s13,c14; s79,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.04±.13; $M_{\theta\theta}$-2.56±.11; $M_{\phi\phi}$2.52±.09; $M_{r

H03N2	Juan Fernandez	34.44	72	T	T	20 51 17.5	
	baz=223,slow=72,SNR=365						
H03N1	Juan Fernandez	34.45	72	T	T	20 51 19.0	
	baz=223,slow=72,SNR=362						
PLCA	Paso Flores	34.71	90	LR	LR	20 25 37.4	
	comp=Z,382nm,20.6s,baz=214,slow=29						
VNDA	Vanda	37.08	201	P	P	20 15 49.8	+1.2
	0.6nm,0.9s,baz=104,slow=4.2,SNR=2.9						
VNDA				LR	LR	20 26 31.5	
	comp=Z,148nm,21.9s,baz=92,slow=29						
	0.6nm,0.9s						
QSPA	South Pole Qui	37.68	180	P	P	20 15 53.5	-0.6
	5.3nm,1.0s,baz=109,slow=3.6,SNR=7.4						
QSPA				LR	LR	20 29 24.5	
	comp=Z,280nm,19.1s,baz=101,slow=33						
	5.3nm,1.0s						
PPT	Papeete	42.28	314	LR	LR	20 28 07.6	
	comp=Z,35nm,21.6s,baz=156,slow=28						
RAR	Rarotonga	44.18	299	LR	LR	20 30 52.2	
	comp=Z,136nm,19.1s,baz=142,slow=30						
URZ	Urewera	45.53	262	LR	LR	20 32 17.7	
	comp=Z,342nm,19.0s,baz=220,slow=31						
CPUP	Villa Florida	52.50	85	P	P	20 17 51.9	-0.2
	1.8nm,0.9s,baz=201,slow=8.0,SNR=2.9						
CPUP				LR	LR	20 37 06.4	
	comp=Z,507nm,18.2s,baz=220,slow=32						
	1.8nm,0.9s						
NNA	Nana	52.70	56	LR	LR	20 34 37.4	
	comp=Z,143nm,18.9s,baz=191,slow=30						
LPAZ	La Paz	53.82	68	P	P	20 18 03.2	+0.6
	1.4nm,0.8s,baz=185,slow=5.5,SNR=5.3						
LPAZ				LR	LR	20 35 29.2	
	comp=Z,139nm,18.4s,baz=224,slow=30						
	1.4nm,0.8s						
ATAH	Atahualpa	56.12	51	LR	LR	20 36 38.8	
	comp=Z,178nm,18.0s,baz=228,slow=30						
SIV	San Ignacio	58.13	74	LR	LR	20 38 56.2	
	comp=Z,161nm,21.5s,baz=284,slow=31						
MSVF	Nonsavu	59.65	281	LR	LR	20 38 17.3	
	comp=Z,142nm,20.1s,baz=166,slow=30						
MAW	Mawson	60.19	181	LR	LR	20 42 11.8	
	comp=Z,116nm,20.8s,baz=209,slow=33						
BDFB	Brasilia	66.23	85	LR	LR	20 44 50.3	
	comp=Z,285nm,21.9s,baz=172,slow=33						
ROSC	El Rosal	68.53	49	LR	LR	20 43 28.6	
	comp=Z,95nm,20.3s,baz=105,slow=30						
JTS	Las Juntas de	69.07	36	LR	LR	20 42 20.0	
	comp=Z,135nm,21.4s,baz=141,slow=29						
STKA	Stephens Creek	70.62	243	LR	LR	20 44 27.8	
	comp=Z,85nm,21.8s,baz=195,slow=30						
SDV	Santo Domingo	73.80	50	LR	LR	20 48 36.7	
	comp=Z,72nm,18.9s,baz=215,slow=32						
LPIG	La Paz	76.58	8	LR	LR	20 45 29.4	
	comp=Z,81nm,18.5s,baz=28,slow=29						
HNR	Honiara	77.08	271	LR	LR	20 47 36.1	
	comp=Z,74nm,18.8s,baz=188,slow=30						
MDP	Montagnes des	80.02	68	LR	LR	20 52 14.5	
	comp=Z,74nm,19.2s,baz=178,slow=33						
ASAR	Alice Springs	81.25	243	P	P	20 20 54.0	-1.3
	0.7nm,0.9s,baz=151,slow=5.6,SNR=4.1						
ASAR				LR	LR	20 51 34.4	
	comp=Z,170nm,20.1s,baz=106,slow=32						
	0.7nm,0.9s						
RCBR	Riachuelo	81.26	88	LR	LR	20 54 38.5	
	comp=Z,133nm,18.7s,baz=246,slow=34						
H01W1	Cape Leeuwin H	81.36	222	T	T	21 51 24.4	
	baz=150,slow=75,SNR=5.2						
H01W2	Cape Leeuwin H	81.37	222	T	T	21 51 24.8	
	baz=150,slow=75,SNR=6.7						
H01W3	Cape Leeuwin H	81.38	222	T	T	21 51 24.3	
	baz=150,slow=75,SNR=6.0						
NWAO	Narrogin (SRO)	81.77	225	LR	LR	20 48 59.1	
	comp=Z,79nm,20.5s,baz=318,slow=30						
WRA	Warramunga Arr	84.01	245	P	P	20 21 08.6	-1.0
	0.5nm,0.3s,baz=143,slow=5.0,SNR=9.3						
	0.5nm,0.3s						
PMG	Port Moresby	84.89	261	LR	LR	20 56 06.4	
	comp=Z,81nm,20.2s,baz=222,slow=34						
PFO	Pinyon Flats O	85.80	2	LR	LR	20 51 44.9	
	comp=Z,95nm,18.2s,baz=180,slow=30						
ANMO	Albuquerque	87.79	10	LR	LR	20 52 52.7	
	comp=Z,45nm,21.2s,baz=328,slow=30						
NVAR	Mina Array Bea	90.58	1	LR	LR	20 54 42.9	
	comp=Z,96nm,18.4s,baz=190,slow=31						
YBH	Yreka Blue Hor	93.92	357	LR	LR	20 55 01.7	
	comp=Z,70nm,19.8s,baz=198,slow=30						
H11S2	WAKE ISLAND Hy	95.26	294	T	T	22 08 52.6	
	baz=143,slow=76,SNR=64						
PDAR	Pinedale Array	95.26	7	LR	LR	20 58 08.7	
	comp=Z,44nm,19.2s,baz=230,slow=31						
H11S3	WAKE ISLAND Hy	95.27	293	T	T	22 08 54.9	
	baz=143,slow=76,SNR=73						
H11S1	WAKE ISLAND Hy	95.28	294	T	T	22 08 58.0	
	baz=143,slow=76,SNR=67						
H11N3	WAKE ISLAND Hy	96.13	294	T	T	22 09 54.5	
	baz=144,slow=75,SNR=53						
H11N1	WAKE ISLAND Hy	96.14	294	T	T	22 09 57.5	
	baz=144,slow=75,SNR=40						
H11N2	WAKE ISLAND Hy	96.15	294	T	T	22 09 55.5	
	baz=144,slow=75,SNR=31						
GERES	GERESS Array B	150.28	78	PKPbc	PKPbc	20 28 29.1	-0.3
	0.7nm,0.7s,baz=251,slow=3.0,SNR=5.3						
SONM	Songino Array	150.88	279	PKPbc	PKPbc	20 28 29.4	-1.6
	0.5nm,0.7s,baz=136,slow=2.6,SNR=3.6						
BRTR	Keskin Array B	157.34	113	PKPab	PKPab	20 29 06.1	+0.1
	1.1nm,0.8s,baz=139,slow=3.1,SNR=4.9						
MKAR	Makanchi Array	165.04	256	PKPab	PKPab	20 29 38.8	-0.6
	0.9nm,0.9s,baz=121,slow=4.7,SNR=7.0						
ZALV	Zalesovo Beam	165.63	285	PKPab	PKPab	20 29 41.4	-0.3
	0.2nm,0.3s,baz=71,slow=3.5,SNR=1.4						
KURBB	Kurchatov Arra	168.87	267	PKPab	PKPab	20 30 01.8	+5.6
	0.1nm,0.4s,baz=151,slow=2.1,SNR=1.6						

DJA 18 20:26:52.6±1.2, 10°S±9°×11°9E±°, h26km±13km, M4.0/7, mb4.1/2, MLv3.9/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.98	40	P	Pn	20 27 08.4	-2.3
WSI	Waingapu	1.68	65	P	Pb	20 27 21.7	-1.2
WSI				S	Sb	20 27 44.3	+0.6
PLAI	Plampang	1.82	328	P	Pn	20 27 23.2	+0.9
PLAI				S	Sn	20 27 45.2	+0.6
EDFI	Ende, Flores	3.33	61	P	Pn	20 27 43.5	+0.4
EDFI				S	Sn	20 28 19.3	-2.6
BSSI	Bau Bau, Buton	4.56	22	P	Pn	20 28 00.3	+0.4
JAGI	Jajag, Banyuwa	4.92	292	P	Pn	20 28 01.8	-3.1
BKSI	Bulukumba	5.22	15	P	Pn	20 28 08.8	-0.2
	0.3nm21nm,0.6s						
BNSI	Bone	6.10	13	P	Pn	20 28 16.1	-5.1

*IDC **18** 20:28:00.9±2.3, 9°64S×119°44E, h0km, mb3.6/4, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=159.5km s-min=24.7km az=52.0*
*DJA **18** 20:28:04.8±0.8, 10°S±7°×11°9E±°, h11km±5km, M4.1/10, mb4.4/1, MLv4.0/10*

ISC 18 20:28:01.3±1.1, 10°14S±0°09×118°77E±0°05, h10km, n14, σ1§28/17, mb3.7/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.79	51	P	Pg	20 28 16.5	+0.1
WSI	Waingapu	1.57	73	P	Pb	20 28 31.1	+0.6
WSI				S	Sg	20 28 52.4	+0.5
PLAI	Plampang	1.63	323	P	Pn	20 28 31.5	+1.4
PLAI				S	Sb	20 28 53.1	+0.9
EDFI	Ende, Flores	3.19	65	P	Pn	20 28 53.0	+1.3
MMRI	Maumere	3.73	67	P	Pn	20 29 01.1	+2.1
MMRI				S	Sn	20 29 41.4	-1.6
SRBI	Singaraja	4.07	300	P	Pn	20 29 04.5	+0.9
BSSI	Bau Bau, Buton	4.32	23	P	Pn	20 29 08.2	+1.1
BNSI	Bone	5.85	13	P	Pn	20 29 27.0	-1.2
WRA	Warramunga Arr	17.90	125	P	Pn	20 32 09.2	-1.4
	0.1nm,0.3s,baz=296,slow=13,SNR=8.3						
	0.3nm,0.7s						
ASAR	Alice Springs	19.73	135	P	P	20 32 31.2	-0.1
	0.2nm,0.3s,baz=317,slow=11,SNR=11						
	0.7nm,0.6s						
SONM	Songino Array	58.76	350	P	P	20 37 58.0	-1.6
	0.3nm,0.5s,baz=166,slow=7.0,SNR=1.9						
	0.3nm,0.5s						
MKAR	Makanchi Array	65.37	333	P	P	20 38 43.9	0.0
	0.2nm,0.4s,baz=145,slow=5.3,SNR=7.0						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	69.89	334	P	P	20 39 13.8	+1.5
	0.3nm,0.7s,baz=149,slow=5.4,SNR=2.9						
	0.3nm,0.7s						
ZALV	Zalesovo Beam	70.02	339	P	P	20 39 12.4	-0.6
	0.6nm,0.5s,baz=130,slow=4.9,SNR=3.0						
	0.6nm,0.5s						

DJA 18 20:48:38.2±1.9, 2°N±9°×11°1E±°, h21km±23km, M3.9/4, mb4.3/1, MLv3.6/4, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKI	Sintang	1.87	179	P	Pn	20 49 09.0	0.0

*IDC **18** 20:53:01.1±1.2, 4°51S×102°23E, h0km, mb4.1/13, mbtmp4.1/16, ML3.9/3, Error ellipse: s-maj=44.9km s-min=14.0km az=50.0*
*NEIC **18** 20:53:04.7±1.9, 4°75S±0°06×102°22E±0°07, h32km±6km, mb4.4/19, Error ellipse: s-maj=13.8km s-min=2.4km az=48.0*
*DJA **18** 20:53:06.4±0.3, 5°S±3°×10°2E±°, h43km±13km, M4.6/18, mB5.3/3, mb4.5/10, MLv4.6/18, Mw(mB)4.7/3*

ISC 18 20:53:05.2±0.6, 4°70S±0°07×102°19E±0°06, h37km, n83, σ1§75/77, mb4.3/23, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.83	66		Pn	20 53 19.5	-0.9
MNAI	Manna	0.83	66	P	Pn	20 53 19.8	-0.6
KSI	Kapahiang	1.12	21	P	Pn	20 53 23.9	-0.4
KSI				S	Sn	20 53 36.0	-2.5
LWLI	Liwa	1.89	100	P	Pn	20 53 35.4	+0.5
MDSI	Maura Dua	1.99	84	P	Pn	20 53 36.7	+0.4
MDSI				S	Sn	20 53 58.5	-1.5
CGJI	Cibinong	3.97	119	P	Pn	20 54 04.5	+1.0
CGJI				S	Sn	20 54 46.8	-1.9
SISI	Saibi	4.57	317	P	Pn	20 54 13.3	+1.6
SISI				S	Sn	20 55 03.6	0.0
PPI	Padang Panjang	4.58	337	P	Pn	20 54 13.2	+1.2
PPBI	Pangkal Pinang	4.68	57	P	Pn	20 54 13.1	-0.1
SKJI	Sukabumi	4.91	118	P	Pn	20 54 18.2	+1.8
BKNI	Bangkinang	5.13	347	P	Pn	20 54 19.8	+0.4
	0.5nm2μm141nm,1.1s						
CNJI	Cibinong	5.55	118	P	Pn	20 54 26.7	+1.5
	0.2nm19nm,0.7s						
CNJI				S	Sn	20 55 23.7	-4.1
	0.2nm19nm,0.7s						
TPI	Tanjungpandan	5.78	71	P	Pn	20 54 27.7	-0.7
LEM	Lembang	5.79	112	Pn	Pn	20 54 30.3	+1.5
	2.1nm,0.3s,baz=221,slow=6.4,SNR=13						
LEM				Sn	Sn	20 55 41.9	+7.8
	2.0nm,0.3s,baz=352,slow=23,SNR=1.4						
	4.8nm,0.3s						
LEM	Lembang	5.79	112	P	Pn	20 54 33.1	+4.3
PBSI	Pulau Batu	6.05	320	P	Pn	20 54 34.0	+1.9
	0.5nm56nm,0.8s						
MNSI	Mandailing Nat	6.05	334	P	Pn	20 54 33.8	+1.6
	0.2nm38nm,0.6s						
MYKOM	Kota Tinggi	6.66	14		Pn	20 54 41.0	+0.5
XMIS	Christmas Isla	6.69	149	Pn	Pn	20 54 37.9	-2.9
GSI	Gunungsitoli	7.54	322		Pn	20 54 54.0	+1.3
GSI	Gunungsitoli	7.54	322	P	Pn	20 54 53.9	+1.3
RPSI	Rantau Prapat	8.04	336		Pn	20 54 59.0	-0.5
PSI	Prapat	8.14	336	Pn	Pn	20 54 59.0	-2.0
	0.9nm,0.3s,baz=177,slow=7.2,SNR=2.6						
	2.4nm,0.4s						
KULM	Kulim	10.05	351	Pn	Pn	20 55 26.5	-0.5
GMJI	Gumukmas	11.73	108	P	Pn	20 55 49.4	-0.6
	55nm,0.8s						
BSI	Banda Aceh	12.25	326	P	Pn	20 55 55.5	-1.7
	32nm,1.2s						
JAGI	Jajag, Banyuwa	12.46	108	Pn	Pn	20 55 58.4	-1.6
JAGI	Jajag, Banyuwa	12.46	108	P	Pn	20 55 59.5	-0.5
KAPI	Kappang	17.50	92	P	Pn	20 57 07.6	+1.2
	1.2nm,0.3s,baz=217,slow=3.6,SNR=3.8						
	6.6nm,0.6s						
UBPT	Khong Chiam	20.12	9	P	P	20 57 35.8	-0.2
SOEI	Soe	22.46	104	P	P	20 57 59.5	-2.0
SOEI				IAmb	IAmb	20 58 32.3	
	comp=Z,18nm,1.0s						
CMAR	Chiang Mai Arr	23.24	352	P	P	20 58 08.4	-0.8
	comp=Z,0.6nm,0.3s,baz=186,slow=8.8,SNR=9.4						
	comp=Z,0.6nm,0.3s						
FITZ	Fitzroy Crossi	26.51	122	P	P	20 58 38.9	-0.5
KNRA	Kununurra	28.29	115	P	P	20 58 53.2	-2.2
H08S2	Diego Garcia H	29.67	263	T	T	21 29 32.9	
	baz=85,slow=75,SNR=6.3						
H08S3	Diego Garcia H	29.67	263	T	T	21 29 33.5	
	baz=85,slow=75,SNR=9.0						
H08S1	Diego Carcia H	29.68	263	T	T	21 29 34.3	
	baz=85,slow=75,SNR=5.5						
MTN	Manton Dam	29.70	108	P	P	20 59 06.8	-1.1
H01W3	Cape Leeuwin H	32.00	161	T	T	21 33 27.1	
	baz=339,slow=76,SNR=8.3						
H01W2	Cape Leeuwin H	32.02	161	T	T	21 33 21.9	
	baz=339,slow=76,SNR=10						
H01W1	Cape Leeuwin H	32.02	161	T	T	21 33 19.8	
	baz=339,slow=76,SNR=10.0						
WB0	Warramunga Arr	34.75	118	P	P	20 59 53.0	+0.8
WB0				IAmb	IAmb	21 00 33.9	
	comp=Z,9.9nm,1.4s						
WRA	Warramunga Arr	34.76	119	P	P	20 59 54.9	+2.6
WRA	Warramunga Arr	34.76	119	P	P	20 59 53.4	+1.1
	comp=Z,0.6nm,0.4s,baz=310,slow=8.8,SNR=23						
	comp=Z,0.6nm,0.4s						
WR8	Warramunga Arr	34.91	119	P	P	20 59 53.9	+0.3
WR8				IAmb	IAmb	21 00 17.4	
	comp=Z,7.3nm,1.1s						
AS31	Alice Springs	35.91	125	P	P	21 00 00.9	-1.3
AS31				IAmb	IAmb	21 00 11.0	
	comp=Z,2.3nm,0.5s						
ASAR	Alice Springs	35.91	125	P	P	21 00 01.5	-0.7
ASAR	Alice Springs	35.91	125	P	P	21 00 03.9	+1.7
	comp=Z,0.9nm,0.4s,baz=297,slow=8.3,SNR=19						
	comp=Z,0.9nm,0.4s						
BBOO	Buckleboo	42.20	136	P	P	21 00 53.8	-0.8
STKA	Stephens Creek	45.73	131	P	P	21 01 23.7	+0.7
STKA	Stephens Creek	45.73	131	P	P	21 01 25.4	+2.5
	comp=Z,1.9nm,0.5s,baz=313,slow=9.4,SNR=5.3						
	comp=Z,1.9nm,0.5s						
TARG	Taragay, Kyrgy	51.28	337	P	P	21 02 05.4	-0.7
KDJ	Kajisay	51.87	336		P	21 02 11.1	+0.9
KDJ				IAmb	IAmb	21 02 12.5	
	comp=Z,3.6nm,1.1s						
SONM	Songino Array	52.45	4	P	P	21 02 15.2	+1.0
SONM	Songino Array	52.45	4	P	P	21 02 15.0	+0.8
	comp=Z,1.5nm,0.6s,baz=186,slow=9.9,SNR=16						
	comp=Z,1.5nm,0.6s						
BOOM	Boomskoye usch	52.68	336	P	P	21 02 16.3	+0.2
ARSB	Arslanbob	53.01	333	P	P	21 02 19.3	+0.7
ARSB				IAmb	IAmb	21 02 31.8	
	comp=Z,3.0nm,0.9s						
MKAR	Makanchi Array	54.22	343		P	21 02 26.7	-0.4
MKAR	Makanchi Array	54.22	343	P	P	21 02 27.3	+0.1
	comp=Z,1.3nm,0.4s,baz=151,slow=8.7,SNR=24						
	comp=Z,1.3nm,0.4s						
MAKZ	Makanchi	54.32	343	P	P	21 02 27.9	0.0
MAKZ				IAmb	IAmb	21 02 34.0	
	comp=Z,3.7nm,1.3s						
USRK	Ussuriysk Ar.	55.56	26	P	P	21 02 36.0	-0.9
USRK	Ussuriysk Ar.	55.56	26	P	P	21 02 36.0	-0.9
	comp=Z,3.2nm,0.6s,baz=215,slow=7.1,SNR=7.7						
	comp=Z,3.2nm,0.6s						
KURBB	Kurchatov Arra	58.76	343	P	P	21 02 58.9	-0.4
	comp=Z,1.1nm,0.2s,baz=153,slow=7.1,SNR=4.2						
	comp=Z,1.1nm,0.2s						
H04N2	CROZET ISLANDS	59.99	218	T	T	22 08 38.5	
	baz=64,slow=75,SNR=16						
H04N1	CROZET ISLANDS	60.00	218	T	T	22 08 39.7	
	baz=64,slow=75,SNR=21						
H04N3	CROZET ISLANDS	60.00	218	T	T	22 08 39.4	
	baz=64,slow=75,SNR=21						
ZAA0	Zalesovo Array	60.23	348	P	P	21 03 09.3	-0.1
ZAA0				IAmb	IAmb	21 03 21.8	
	comp=Z,2.9nm,0.8s						
ZALV	Zalesovo Beam	60.23	348		P	21 03 08.8	-0.6
ZALV	Zalesovo Beam	60.23	348	P	P	21 03 09.2	-0.2
	comp=Z,1.5nm,0.4s,baz=163,slow=6.1,SNR=8.9						
	comp=Z,1.5nm,0.4s						
H04S1	CROZET ISLANDS	60.23	217	T	T	22 08 56.5	
	baz=61						
H04S3	CROZET ISLANDS	60.25	217	T	T	22 09 01.0	
	baz=61						
H04S2	CROZET ISLANDS	60.25	217	T	T	22 09 04.0	
	baz=61						
BVAR	Borovoye Array	63.47	339	P	P	21 03 31.0	-0.2
	comp=Z,1.1nm,0.5s,baz=141,slow=8.6,SNR=5.9						
	comp=Z,1.1nm,0.5s						
BRVK	Borovoye	63.53	339	P	P	21 03 30.8	-0.8
BRVK				IAmb	IAmb	21 03 31.9	
	comp=Z,1.8nm,0.8s						
AB31	Akbulak array	65.05	331	P	P	21 03 41.7	0.0
AB31				IAmb	IAmb	21 03 42.5	
	comp=Z,2.6nm,0.6s						
ABKAR	Akbulak array	65.05	331		P	21 03 41.8	+0.2
BRTR	Keskin Array B	76.75	312	P	P	21 04 54.9	+1.8
	comp=Z,0.3nm,0.7s,baz=111,slow=7.4,SNR=1.4						
	comp=Z,0.3nm,0.7s						
FINES	FINESS Array B	87.51	332	P	P	21 05 50.0	+1.1
	comp=Z,2.9nm,1.2s,baz=100,slow=7.6,SNR=1.2						
	comp=Z,2.9nm,1.2s						
ARCES	ARCESS Array B	89.75	340	P	P	21 06 00.2	+0.9
	comp=Z,3.1nm,1.0s,baz=110,slow=6.9,SNR=1.8						
	comp=Z,3.1nm,1.0s						
TX31	Lajitas Ar. Si	145.37	42		PKPbc	21 12 36.5	-3.3
TXAR	Lajitas Array	145.37	42		PKPbc	21 12 36.2	-3.7
TXAR	Lajitas Array	145.37	42	PKPbc	PKPbc	21 12 40.4	+0.5
	comp=Z,0.2nm,0.3s,baz=319,slow=2.2,SNR=4.1						
T42A	Van Buren	145.60	19	PKPdf	PKPdf	21 12 38.6	-1.4

*NEIC **18** 21:05:02.7±1.1, 6°0S±0°1×155°0E±0°1, h179km±8km, mb4.9/34, Error ellipse: s-maj=22.1km s-min=11.1km az=60.0*
*IDC **18** 21:05:03.5±1.8, 6°11S×154°95E, h188km±18km, mb3.7/13, mbtmp4.3/17, MS3.1/1, Error ellipse: s-maj=15.2km s-min=12.8km az=178.0*

ISC 18 21:05:04.2±0.4, 6°03S±0°06×155°07E±0°05, h200km, n100, σ1§53/104, mb4.8/35, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.43	302		Pn	21 05 54.4	-4.5
TATA	Tatamba Isabel	5.25	117	P	Pn	21 06 19.1	-2.7
SAVO	Savo Central	5.63	124	P	Pn	21 06 24.0	-2.7
HNR	Honiara	5.89	125	P	Pn	21 06 28.9	-1.2
	27nm,0.4s,baz=71,slow=4.1,SNR=3.6						
HNR				S	Sn	21 07 38.6	+0.6
	40nm,0.7s,baz=207,slow=13,SNR=1.0						
NGOA	Tingoa Renbel	7.38	138	P	Pn	21 06 47.9	-1.5
NGOA	Tingoa Renbel	7.38	138	S	Sn	21 08 10.8	-2.2
PMG	Port Moresby	8.53	246		Pn	21 07 03.2	-1.2
PMG	Port Moresby	8.53	246	P	Pn	21 07 02.1	-2.3
	52nm,0.8s,baz=30,slow=5.0,SNR=10						
PMG				S	Sn	21 08 37.1	-3.2
	8.8nm,0.7s,baz=104,slow=13,SNR=1.1						
PMG	Port Moresby	8.53	246	S	Sn	21 08 44.4	+4.2
PMG	Port Moresby	8.53	246	P	Pn	21 07 06.5	+2.1
PMG	Port Moresby	8.53	246	S	Sn	21 08 44.8	+4.6
MANU	Manus Island	8.65	297		Pn	21 07 03.5	-2.5
COEN	Coen	14.11	235		P	21 08 16.7	-0.6
COEN	Coen	14.11	235	P	P	21 08 16.5	-0.8
COEN	Coen	14.11	235	S	Sn	21 10 57.3	+3.9
JAY	Jayapura	14.74	283	P	Pn	21 08 23.2	-0.2
	15nm,0.9s,baz=137,slow=5.3,SNR=3.5						
TV1H	Townsville Har	15.42	211	P	P	21 08 32.8	+1.0
DZM	Mont Dzumac	19.37	147	P	P	21 09 15.8	+0.9
	69nm,0.5s,baz=283,slow=8.1,SNR=130						
DZM	Mont Dzumac	19.37	147	P	P	21 09 15.2	+0.2
ONTNC	Ouen Toro	19.56	147		P	21 09 17.5	+0.5
EIDS	Eidsvold	19.60	191	P	P	21 09 17.7	+0.3
OUENC	Ouen Island, N	19.86	146	P	P	21 09 19.0	-1.2
QIS	Mount Isa	20.83	225	P	P	21 09 29.8	-0.7
QLP	Quilpie	22.90	206	P	P	21 09 51.6	+0.9
FAKI	Fak Fak	22.96	277	P	P	21 09 49.6	-1.8
FAKI	Fak Fak	22.96	277	P	P	21 09 50.6	-0.8
KDU	Kakadu	23.25	252	P	P	21 09 53.4	-0.5
WB0	Warramunga Arr	24.30	234		P	21 10 02.9	-0.7
WB0				IAmb	IAmb	21 10 05.1	
	comp=Z,28nm,0.6s						
WR8	Warramunga Arr	24.31	233	P	P	21 10 03.1	-0.5
WRAB	Tennant Creek	24.42	234		P	21 10 04.2	-0.4
WRAB				IAmb	IAmb	21 10 06.2	
	comp=Z,22nm,0.7s						
WRA	Warramunga Arr	24.43	234		P	21 10 03.8	-0.9
WRA	Warramunga Arr	24.43	234	P	P	21 10 04.2	-0.6
	comp=Z,21nm,0.6s,baz=57,slow=9.9,SNR=104						
	comp=Z,21nm,0.6s						
ARMA	Armidale	24.47	187	P	P	21 10 05.5	+0.4
MTN	Manton Dam	24.55	252		P	21 10 05.1	-0.7
MTN	Manton Dam	24.55	252	P	P	21 10 06.9	+1.1
DRS	Darwin Rock St	24.68	253	P	P	21 10 08.3	+1.3
INKA	Innaminka	25.52	211	P	P	21 10 14.3	-0.1
AS01	Alice Springs	26.84	227	P	P	21 10 25.3	-1.1
AS31	Alice Springs	26.87	227		P	21 10 25.8	-0.9
ASAR	Alice Springs	26.87	227	P	P	21 10 25.9	-0.7
ASAR	Alice Springs	26.87	227	P	P	21 10 25.4	-1.3
	comp=Z,3.6nm,0.5s,baz=58,slow=8.9,SNR=91						
ASAR				PcP	PcP	21 13 44.0	+0.1
	comp=Z,0.3nm,0.5s,baz=56,slow=1.7,SNR=2.0						
	comp=Z,3.6nm,0.5s						
KNRA	Kununurra	27.52	247	P	P	21 10 31.5	-1.0
OOD	Oodnadatta	28.41	218	P	P	21 10 39.8	-0.4
STKA	Stephens Creek	28.64	204	P	P	21 10 41.4	-0.8
STKA	Stephens Creek	28.64	204	P	P	21 10 41.3	-0.9
	comp=Z,4.

comp=Z,95nm,2.0s
MQZ McQueen's Vall 40.59 160 P **P** **21 12 25.0 +0.8**
MQZ IAmb IAmb 21 12 26.1
comp=Z,23nm,0.6s
ODZ Otahua Downs 41.17 163 P **P** **21 12 29.3 +0.4**
ODZ IAmb IAmb 21 13 23.8
comp=Z,35nm,1.4s
MIDW Midway 43.20 37 P **P** **21 12 46.7 +1.1**
TPUB Ta-pu 44.52 312 P **P** **21 12 55.3 -0.9**
CTZ Chatham Island 45.04 151 P **P** **21 13 00.7 +0.7**
NJ2 Nanjing 51.23 320 *eP* **P** **21 13 48.5 +1.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.9s
PETK Petropavlovsk- 58.96 2 P **P** **21 14 43.7 +1.3**
comp=Z,3.8nm,0.8s,baz=180,slow=4.4,SNR=5.7
comp=Z,3.8nm,0.8s
CMAR Chiang Mai Arr 60.44 295 P **P** **21 14 53.8 +0.5**
comp=Z,1.3nm,0.3s,baz=110,slow=7.1,SNR=1.9
comp=Z,1.3nm,0.3s
PZH PanZhiHua 60.93 305 P **P** **21 14 57.8 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.7s
CD2 Chengdu 61.25 310 *eP* **P** **21 14 58.0 -0.5**
HHC Hu-ho-hao-te 61.37 323 *eP* **P** **21 15 01.3 +2.1**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,76nm,6.0s
DRV Dumont d'Urvil 61.42 187 P **P** **21 14 59.4 +0.5**
DRV pP **PcP** **21 15 41.0 +2.0**
SONM Songino Array 68.57 327 P **P** **21 15 46.7 +1.2**
comp=Z,0.7nm,0.5s,baz=133,slow=4.9,SNR=7.6
comp=Z,0.7nm,0.5s
CCD Concordia, Ant 71.36 188 P **P** **21 16 02.8 +0.4**
CCD sP **sP** **21 17 06.2 -3.7**
WMQ Urumqi 78.18 317 *eP* **P** **21 16 41.8 +0.2**
WMQ pmax pmax
comp=Z,28nm,0.7s
ILAR Eielson Array 82.46 22 P **P** **21 17 04.7 +0.8**
comp=Z,0.2nm,0.4s,baz=247,slow=5.4,SNR=2.2
comp=Z,0.2nm,0.4s
MKAR Makanchi Array 82.74 319 P **P** **21 17 06.1 +0.4**
comp=Z,1.5nm,0.8s,baz=100,slow=5.9,SNR=15
comp=Z,1.5nm,0.8s
ZALV Zalesovo Beam 83.43 326 P **P** **21 17 08.6 -0.5**
comp=Z,0.8nm,0.5s,baz=130,slow=4.6,SNR=3.9
comp=Z,0.8nm,0.5s
QSPA South Pole Qui 83.94 180 P **P** **21 17 11.8 +0.2**
comp=Z,1.6nm,0.6s,baz=45,slow=1.4,SNR=11
comp=Z,1.6nm,0.6s
NVAR Mina Array Bea 91.07 52 P **P** **21 17 48.9 +2.4**
comp=Z,1.1nm,0.8s,baz=272,slow=5.9,SNR=3.6
comp=Z,1.1nm,0.8s
BVAR Borovoye Array 91.58 323 P **P** **21 17 47.1 -1.1**
comp=Z,0.3nm,0.5s,baz=94,slow=4.5,SNR=2.2
comp=Z,0.3nm,0.5s
YKA Yellowknife Ar 95.45 28 P **P** **21 18 06.7 +0.9**
comp=Z,0.4nm,0.7s,baz=275,slow=4.6,SNR=7.4
comp=Z,0.4nm,0.7s
LPAZ La Paz 131.85 118 PKP **PKiKP** **21 23 56.8 +0.4**
comp=Z,0.8nm,0.6s,baz=304,slow=3.9,SNR=3.6

*SJA **18** 21:10:47.8±0.7, 24°.19S×66°.90W, h211km±6km, ML3.8, MW3.5*
*GUC **18** 21:10:49.7±0.5, 24°.14S×66°.96W, h198km±4km, ML4.2*
ISC 18 21:10:47.6±2.0, 24°.17S±0°.04×66°.90W±0°.06, h214km±15km, n31, σ1§19/53, 5C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.51**	**97**	⇓*eP*	**Pn**	**21 11 17.2**	**+0.2**
SALTA				*eS*	**S**	**21 11 38.8**	**-1.0**
SALTA		**0.51**	**97**	*eP*	**Pn**	**21 11 17.3**	**+0.2**
SLA	**San Lorenzo**	**1.39**	**114**	⇓*eP*	**Pn**	**21 11 22.6**	**+0.8**
SLA				*eS*	**S**	**21 11 47.8**	**-0.4**
SLA	**San Lorenzo**	**1.39**	**114**	*eP*	**Pn**	**21 11 22.8**	**+1.0**
AZAP	**Zapla**	**1.67**	**92**	*eP*	**Pn**	**21 11 24.0**	**-0.4**
AF01	**San Pedro de A**	**1.69**	**316**	*eP*	**Pn**	**21 11 27.6**	**+3.0**
FSA	**Cafayete**	**2.11**	**157**	*eP*	**Pn**	**21 11 29.3**	**+0.9**
FSA				*eS*	**S**	**21 11 58.9**	**-1.2**
GO02	**Mina Guanaco**	**2.64**	**247**	⇑*eP*	**Pn**	**21 11 35.3**	**+1.1**
GO02				*eS*	**S**	**21 12 10.1**	**-0.2**
GO02				IAML		21 12 13.3	
comp=N,655nm,0.2s							
GO02	**Mina Guanaco**	**2.64**	**247**	*eP*	**Pn**	**21 11 34.9**	**+0.6**
GO02				*eS*	**S**	**21 12 10.6**	**+0.3**
ALOL	**LOMAS DE OLMED**	**2.69**	**83**	*eP*	Pn	21 11 44.6	+10
PB06	**IPOC Station P**	**2.85**	**300**	⇑*eP*	**Pn**	**21 11 37.5**	**+1.0**
PB06				*eS*	**S**	**21 12 12.8**	**-1.5**
PB06				IAML		21 12 14.9	
comp=E,471nm,0.2s							
PB06	**IPOC Station P**	**2.85**	**300**	*eP*	**Pn**	**21 11 37.3**	**+0.8**
PB06				*eS*	**S**	**21 12 13.7**	**-0.7**
PB06				IAML		21 12 18.3	
comp=Z,272nm,0.2s							
PB09	**IPOC Station P**	**3.20**	**317**	⇑*eP*	**Pn**	**21 11 41.9**	**+1.4**
PB09				*eS*	**S**	**21 12 21.1**	**-0.4**
PB09				IAML		21 12 27.5	
PB09	**IPOC Station P**	**3.20**	**317**	*eP*	**Pn**	**21 11 41.5**	**+1.1**
PB09				*eS*	**S**	**21 12 21.8**	**+0.2**
PB09				IAML		21 12 25.2	
comp=Z,140nm,0.2s							
PB14	**IPOC Station P**	**3.23**	**261**	*eP*	**Pn**	**21 11 41.8**	**+0.8**
PB14				*eS*	**S**	**21 12 20.3**	**-2.1**
PB14	**IPOC Station P**	**3.23**	**261**	*eP*	**Pn**	**21 11 41.6**	**+0.7**
PB14				*eS*	**S**	**21 12 21.0**	**-1.3**
PB14				IAML		21 12 22.2	
comp=Z,160nm,0.2s							
AC02	**Maricunga**	**3.34**	**217**	*eP*	**Pn**	**21 11 44.2**	**+1.8**
AC02	**Maricunga**	**3.34**	**217**	*eP*	**Pn**	**21 11 44.5**	**+2.2**
AC02				*eS*	S	21 12 12.3	-13
PB03	**IPOC Station P**	**3.37**	**308**	⇑*eP*	**Pn**	**21 11 43.2**	**+0.8**
PB03				*eS*	**S**	**21 12 23.4**	**-1.7**
PB03	**IPOC Station P**	**3.37**	**308**	*eP*	**Pn**	**21 11 43.3**	**+0.8**
PB03				*eS*	**S**	**21 12 24.0**	**-1.1**
PB03				IAML		21 12 27.0	
comp=Z,218nm,0.2s							
PB10	**IPOC Station P**	**3.41**	**280**	⇑*eP*	**Pn**	**21 11 43.6**	**+0.9**
PB10				*eS*	**S**	**21 12 24.8**	**-1.0**
PB10	**IPOC Station P**	**3.41**	**280**	*eP*	**Pn**	**21 11 43.7**	**+0.9**
PB10				*eS*	**S**	**21 12 25.2**	**-0.5**
PB10				IAML		21 12 27.4	
comp=Z,100nm,0.2s							
AC01	**Pan de Azucar**	**3.89**	**239**	*eP*	**Pn**	**21 11 48.7**	**+0.1**
AC01				*eS*	**S**	**21 12 34.4**	**-1.8**
AC01				IAML		21 12 34.6	
comp=Z,49nm,0.2s							
PB01	**IPOC Station P**	**3.92**	**322**	*eP*	**Pn**	**21 11 49.6**	**+0.5**
PB01				*eS*	**S**	**21 12 37.1**	**0.0**
PB01				IAML		21 12 38.5	
comp=Z,78nm,0.2s							
PB08	**IPOC Station P**	**4.52**	**332**	*eP*	**Pn**	**21 11 57.9**	**+1.2**
PB08				*eS*	**S**	**21 12 51.5**	**+0.6**
GO03	**Copiapo**	**4.55**	**221**	*eP*	**Pn**	**21 11 57.4**	**+0.7**
GO03				*eS*	**S**	**21 12 49.8**	**-1.2**
TA01	**Diego Aracena**	**4.70**	**319**	*eP*	**Pn**	**21 11 58.2**	**-0.4**
TA01				*eS*	**S**	**21 12 52.6**	**-1.7**
HMBC	**Humberstone**	**4.76**	**324**	*eP*	**Pn**	**21 11 58.7**	**-0.8**
HMBC				*eS*	**S**	**21 12 53.8**	**-2.1**
HMBC				IAML		21 12 58.0	
comp=Z,82nm,0.4s							
GO01	**Chusmiza**	**4.96**	**334**	*eP*	Pn	21 11 47.1	-15
GO01				*eS*	**S**	**21 13 02.0**	**+1.0**
PB11	**IPOC Station P**	**5.08**	**329**	*eP*	**Pn**	**21 12 03.0**	**-0.5**
PB11				*eS*	**S**	**21 13 01.3**	**-1.9**
PB11				IAML		21 13 04.5	
comp=Z,41nm,0.2s							
ACLC	**CERRO LA CRUZ**	**5.24**	**181**	*eP*	**Pn**	**21 12 06.8**	**+1.3**
ACLC				*eS*	**S**	**21 13 06.8**	**-0.1**

*IDC **18** 21:31:43.8±3.9, 1°.78N×125°.06E, h176km±40km, mb3.7/7, mbtmp4.2/9, MS3.4/1, Error ellipse: s-maj=35.2km s-min=14.6km az=78.0*
*NEIC **18** 21:31:45.0±0.9, 1°.68N±0°.07×125°.21E±0°.07, h170km±5km, mb4.5/25, Error ellipse: s-maj=11.8km s-min=9.1km az=223.0*
*DJA **18** 21:31:44.4±0.2, 2°N±3°×12°5E±°, h164km±2km, M4.3/19, mb4.4/19, mB5.0/6, MLv4.3/18, Mw(mB)4.3/6*
ISC 18 21:31:44.4±0.5, 1°.65N±0°.05×125°.28E±0°.06, h170km, n63, σ1§01/66, mb4.4/22, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.68**	**230**	P	**Pn**	**21 32 18.2**	**+0.9**
SGSI	**Sangihe**	**2.04**	**7**	P	**Pn**	**21 32 20.8**	**-0.5**
TNTI	**Ternate**	**2.27**	**113**		**Pn**	**21 32 24.8**	**+1.0**
TNTI				Sn	**Sn**	**21 32 55.0**	**+0.6**
TNTI	**Ternate**	**2.27**	**113**	P	**Pn**	**21 32 25.0**	**+1.2**
TNTI	**Ternate**	**2.27**	**113**	P	**Pn**	**21 32 24.4**	**+0.6**
MRSI	**Marisa**	**3.53**	**251**	P	**Pn**	**21 32 39.9**	**+0.6**
LUWI	**Luwuk**	**3.66**	**223**		**Pn**	**21 32 41.2**	**+0.3**
LUWI	**Luwuk**	**3.66**	**223**	P	**Pn**	**21 32 41.2**	**+0.3**
LUWI	**Luwuk**	**3.66**	**223**	P	**Pn**	**21 32 40.6**	**-0.3**
SANI	**Sanana**	**3.74**	**169**	P	**Pn**	**21 32 40.6**	**-1.4**
SANI	**Sanana**	**3.74**	**169**	P	**Pn**	**21 32 40.8**	**-1.2**
APSI	**Ampana**	**4.43**	**235**	P	**Pn**	**21 32 51.4**	**+0.6**
TOLI2	**Tolitoli**	**4.52**	**263**		**Pn**	**21 32 51.7**	**-0.3**
TOLI2	**Tolitoli**	**4.52**	**263**	P	**Pn**	**21 32 51.8**	**-0.2**
NLAI	**Namlea**	**5.19**	**159**	P	**Pn**	**21 33 00.5**	**-0.2**
3μm39nm,0.5s							
DAV	**Davao City (W)**	**5.39**	**3**	S	**Sn**	**21 34 03.6**	**-1.7**
47nm,0.4s,baz=140,slow=18,SNR=1.1							
MPSI	**Mapaga**	**5.53**	**256**	P	**Pn**	**21 33 05.9**	**+0.7**
PCI	**Palu**	**6.00**	**245**	P	**Pn**	**21 33 11.4**	**0.0**
0.2nm2μm41nm,0.7s							
MSAI	**Masohi**	**6.16**	**144**	P	**Pn**	**21 33 14.9**	**+1.4**
BBSI	**Bau Bau**	**7.59**	**201**	P	**Pn**	**21 33 33.1**	**+0.8**
0.1nm20nm,0.7s							
SPSI	**Sidrap Palu**	**7.83**	**225**	P	**Pn**	**21 33 35.0**	**-0.6**
0.1nm17nm,1.1s							
KAPI	**Kappang**	**8.62**	**220**	Pn	**Pn**	**21 33 46.0**	**0.0**
KAPI	**Kappang**	**8.62**	**220**	P	**Pn**	**21 33 46.5**	**+0.6**
2.7nm,0.4s,baz=260,slow=12,SNR=2.8							
KAPI				S	**Sn**	**21 35 20.4**	**-1.8**
2.6nm,0.4s,baz=238,slow=13,SNR=1.6							
MTN	**Manton Dam**	**15.53**	**158**	Pn	**Pn**	**21 35 13.6**	**-1.0**
KNRA	**Kununurra**	**17.56**	**169**		**P**	**21 35 38.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.63**	**179**		**P**	**21 35 60.0**	**0.0**
FITZ	**Fitzroy Crossi**	**19.63**	**179**	P	**P**	**21 36 00.1**	**0.0**
6.1nm,0.4s,baz=7.9,slow=8.8,SNR=24							
FITZ				LR	LR	21 44 44.4	
comp=Z,103nm,18.1s,baz=118,slow=40							
WB0	**Warramunga Arr**	**23.09**	**158**		**P**	**21 36 35.6**	**+0.2**
WRAB	**Tennant Creek**	**23.22**	**158**		**P**	**21 36 36.7**	**+0.2**
WRAB				IAmb	IAmb	21 36 38.1	
comp=Z,17nm,0.7s							
WRA	**Warramunga Arr**	**23.23**	**158**	P	**P**	**21 36 36.0**	**-0.6**
WRA	**Warramunga Arr**	**23.23**	**158**	P	**P**	**21 36 37.2**	**+0.6**
comp=Z,15nm,0.7s,baz=336,slow=10,SNR=97							
comp=Z,15nm,0.7s							
WR8	**Warramunga Arr**	**23.30**	**158**	P	**P**	**21 36 37.5**	**+0.2**
WR8				IAmb	IAmb	21 36 38.9	
comp=Z,12nm,0.6s							
MBWA	**Marble Bar**	**23.31**	**193**	P	**P**	**21 36 36.6**	**-0.7**
MBWA				IAmb	IAmb	21 36 56.0	
comp=Z,10nm,1.1s							
COEN	**Coen**	**23.56**	**132**	P	**P**	**21 36 39.4**	**-0.3**
COEN				IAmb	IAmb	21 36 50.4	
comp=Z,17nm,1.1s							
PSA00	**Pilbara Seismi**	**23.68**	**193**	P	**P**	**21 36 40.8**	**0.0**
PSA00				IAmb	IAmb	21 36 41.5	
comp=Z,9.6nm,0.8s							
JOW	**Kunigami**	**25.20**	**6**	P	**P**	**21 36 54.7**	**+0.2**
JOW				IAmb	IAmb	21 36 56.8	
comp=Z,18nm,0.9s							
AS31	**Alice Springs**	**26.53**	**162**		**P**	**21 37 06.7**	**+0.2**
ASAR	**Alice Springs**	**26.53**	**162**	P	**P**	**21 37 07.1**	**+0.6**
ASAR	**Alice Springs**	**26.53**	**162**	P	**P**	**21 37 06.8**	**+0.3**
comp=Z,2.1nm,0.3s,baz=345,slow=7.6,SNR=60							
ASAR				PcP	**PcP**	**21 40 26.9**	**0.0**
comp=Z,0.4nm,0.4s,baz=344,slow=2.1,SNR=4.4							
comp=Z,2.1nm,0.3s							
NJ2	**Nanjing**	**30.84**	**349**	*eP*	**P**	**21 37 45.6**	**+1.1**
NJ2				pmax	pmax		
comp=Z,10.0nm,1.0s							
MORW	**Morawa**	**31.80**	**195**	P	**P**	**21 37 52.8**	**-0.2**
MORW				IAmb	IAmb	21 38 01.3	
comp=Z,11nm,1.0s							
FORT	**Forrest**	**32.36**	**176**	P	**P**	**21 37 58.2**	**+0.4**
PZH	**PanZhiHua**	**33.50**	**320**	P	**P**	**21 38 10.9**	**+2.9**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,110nm,5.2s							
NWAO	**Narrogin (SRO)**	**35.22**	**192**	P	**P**	**21 38 22.4**	**-0.2**
BBOO	**Buckleboo**	**35.76**	**164**	P	**P**	**21 38 27.0**	**-0.1**
BBOO				IAmb	IAmb	21 38 36.5	
comp=Z,12nm,1.1s							
MAJO	**Matsushiro**	**36.72**	**18**	P	**P**	**21 38 35.3**	**0.0**
MAJO				IAmb	IAmb	21 38 36.6	
comp=Z,5.1nm,1.0s							
MJAR	**Matsushiro Arr**	**36.72**	**18**	P	**P**	**21 38 32.6**	**-2.7**
comp=Z,1.6nm,0.8s,baz=192,slow=8.4,SNR=4.7							
comp=Z,1.6nm,0.8s							
MJB9	**Matsu-Tunnel**	**36.73**	**18**	P	**P**	**21 38 36.3**	**+0.9**
STKA	**Stephens Creek**	**36.76**	**156**	P	**P**	**21 38 36.4**	**+0.7**
STKA	**Stephens Creek**	**36.76**	**156**	P	**P**	**21 38 36.2**	**+0.6**
comp=Z,1.5nm,0.3s,baz=329,slow=10,SNR=18							
comp=Z,1.5nm,0.3s							
HHC	**Hu-ho-hao-te**	**40.95**	**344**	*eP*	**P**	**21 39 12.4**	**+1.9**
USA0B	**Ussuriysk Arra**	**42.79**	**7**		**P**	**21 39 25.3**	**+0.1**
USA0B				IAmb	IAmb	21 39 26.4	
comp=Z,8.1nm,0.8s							
USRK	**Ussuriysk Ar.**	**42.79**	**7**	P	**P**	**21 39 24.3**	**-0.9**
CAN	**Canberra**	**42.95**	**151**	P	**P**	**21 39 27.1**	**+0.3**
TOO	**Toolangi**	**43.28**	**156**	P	**P**	**21 39 30.8**	**+1.4**
JKA	**Kamikawa-asahi**	**45.00**	**18**	P	**P**	**21 39 42.7**	**-0.1**
JKA				IAmb	IAmb	21 39 57.1	
comp=Z,8.3nm,1.1s							
DZM	**Mont Dzumac**	**46.58**	**123**	P	**P**	**21 39 57.3**	**+1.6**
DZM				IAmb	IAmb	21 40 00.4	
comp=Z,19nm,1.0s							
HMDM	**Hanimaadhoo**	**52.17**	**277**	P	**P**	**21 40 37.3**	**-0.9**
PEA0B	**Petropavlovsk-**	**57.89**	**22**	P	**P**	**21 41 18.0**	**-0.5**
PEA0B				IAmb	IAmb	21 41 29.6	
comp=Z,15nm,1.1s							
PETK	**Petropavlovsk-**	**57.89**	**22**	P	**P**	**21 41 18.0**	**-0.5**
PETK	**Petropavlovsk-**	**57.89**	**22**	P	**P**	**21 41 17.7**	**-0.8**
comp=Z,1.6nm,0.8s,baz=225,slow=8.0,SNR=2.5							
comp=Z,1.6nm,0.8s							
MKAR	**Makanchi Array**	**58.45**	**327**	P	**P**	**21 41 19.3**	**-3.2**
comp=Z,0.3nm,0.5s,baz=125,slow=6.9,SNR=4.9							
comp=Z,0.3nm,0.5s							
VNDA	**Vanda**	**81.56**	**172**	P	**P**	**21 43 41.2**	**-1.4**
comp=Z,0.8nm,0.5s,baz=347,slow=3.7,SNR=3.8							
comp=Z,0.8nm,0.5s							

DJA 18 21:42:22.8±0.8, 2°S±4°×12°3E±°, h10km, M3.5/6, MLv3.5/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.96**	**12**	P	Pg	21 42 41.3	0.0
LUWI				S	Sg	21 42 53.6	-0.3
APSI	**Ampana**	**1.42**	**319**	P	Pn	21 42 48.9	+0.2
PCI	**Palu**	**2.95**	**291**	P	Pn	21 43 11.3	+1.6
SPSI	**Sidrap Palu**	**3.42**	**235**	P	Pn	21 43 18.4	+2.1
BNSI	**Bone**	**3.44**	**226**	P	Pn	21 43 14.0	-2.5
BNSI				S	Sn	21 43 58.5	+1.2
MPSI	**Mapaga**	**3.54**	**311**	P	Pn	21 43 17.4	-0.5

*THE **18** 21:44:41.1, 37°.55N×20°.63E, h3km±1km, ML3.5/11, Error ellipse: s-maj=2.0km s-min=0.8km az=13.0*
*ATH **18** 21:44:41.9, 37°.60N×20°.58E, h9km±3km, ML3.7/14, Manual Solution by A.Moschou First location: 2019/04/18 21:45:37, This location: 2019/04/18 22:08:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
*PDG **18** 21:44:42.7±0.7, 37°.60N×20°.62E, h9km±1km, ML3.8/10, Error ellipse: s-maj=3.4km s-min=2.2km az=90.0*
*BEO **18** 21:44:42.2±1.4, 37°.36N×20°.48E, h49km, ML3.5/14*
*NAO **18** 21:44:47.5, 37°.57N×20°.66E, h10km, mb3.6*
*IDC **18** 21:44:48.5±2.2, 37°.47N×20°.44E, h88km±23km, mb3.3/8, mbtmp3.5/16, Error ellipse: s-maj=21.2km s-min=15.0km az=161.0*
ISC 18 21:44:41.4±0.9, 37°.61N±0°.03×20°.62E±0°.02, h17km±6km, n150, σ1§63/203, mb3.5/8, 12C-10D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.20**	**59**	P	**Pg**	**21 44 45.8**	**-0.4**
LTHK				S	**Sg**	**21 44 48.8**	**-0.8**
ORTH	**Orthonies,Zaky**	**0.25**	**14**	P	**Pb**	**21 44 47.6**	**0.0**
ORTH				S	**Sg**	**21 44 50.8**	**-0.1**
KYPS	**Kipseli, Zakin**	**0.27**	**38**	P	**Pb**	**21 44 47.7**	**-0.1**
KYPS				S	**Sg**	**21 44 51.5**	**+0.2**
RTZL	**Ratzakli, Kefa**	**0.49**	**15**	P	**Pg**	**21 44 51.2**	**+0.1**
RTZL				S	**Sb**	**21 44 58.7**	**+0.3**
CLEM	**Kyllini,Ilia,G**	**0.50**	**55**	P	**Pb**	**21 44 51.8**	**0.0**
CLEM				S	**Sb**	**21 44 59.4**	**+0.6**
PSDA	**Pessada-Kefalo**	**0.51**	**357**	P	**Pb**	**21 44 51.9**	**0.0**
PSDA				S	**Sb**	**21 44 59.8**	**+0.8**
5μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.51**	**357**	P	**Pb**	**21 44 52.1**	**+0.2**
PSDA				S	**Sg**	**21 44 58.6**	**+0.2**
VLS	**Valsamata**	**0.57**	**358**	P	**Pg**	**21 44 52.8**	**+0.1**
VLS				S	**Sb**	**21 45 02.1**	**+1.2**
5μm,0.4s							
VLS	**Valsamata**	**0.57**	**358**	P	**Pb**	**21 44 52.9**	**-0.1**
VLS				S	**Sb**	**21 45 01.3**	**+0.4**
LCHA	**Lechaina**	**0.61**	**57**	P	**Pb**	**21 44 54.0**	**+0.4**
LCHA				S	**Sb**	**21 45 02.9**	**+0.9**
LXR1	**Lixouri, Cepha**	**0.61**	**347**	P	**Pb**	**21 44 54.4**	**+0.8**
SMHA	**Samh**	**0.65**	**2**	P	**Pg**	**21 44 53.3**	**-0.8**
SMHA				S	**Sg**	**21 45 02.3**	**-0.4**
DMLN	**Damoulianata-K**	**0.66**	**343**	P	**Pb**	**21 44 54.8**	**+0.3**
DMLN				S	**Sn**	**21 45 06.0**	**0.0**
10μm,0.6s							
DMLN	**Damoulianata-K**	**0.66**	**343**	P	**Pb**	**21 44 55.0**	**+0.5**
DMLN				S	**Sb**	**21 45 04.2**	**+0.8**
VSK1	**VASILIKIADES**	**0.80**	**357**	P	**Pg**	**21 44 57.1**	**0.0**
VSK1				S	**Sn**	**21 45 09.8**	**+0.2**
6μm,0.4s							
RLS	**Riolos of Patr**	**0.81**	**56**	P	**Pb**	**21 44 56.7**	**-0.3**
RLS				S	**Sg**	**21 45 08.4**	**+0.5**
6μm,0.7s							
RLS	**Riolos of Patr**	**0.81**	**56**	P	**Pb**	**21 44 56.8**	**-0.3**
RLS				S	**Sg**	**21 45 08.7**	**+0.8**
ZARO	**Zacharo**	**0.83**	**98**	P	**Pn**	**21 44 58.2**	**-0.1**
ZARO				S	**Sn**	**21 45 10.1**	**0.0**
FSK	**Fiskardo**	**0.85**	**357**	P	**Pb**	**21 44 57.6**	**-0.2**
FSK				S	**Sn**	**21 45 11.6**	**+0.8**
3μm,0.6s							
FSK	**Fiskardo**	**0.85**	**357**	P	**Pb**	**21 44 57.9**	**+0.1**
FSK				S	**Sg**	**21 45 10.3**	**+1.0**
AMT	**Artemida-Makis**	**0.87**	**94**	P	**Pg**	**21 44 58.4**	**0.0**
AMT				S	**Sn**	**21 45 11.3**	**+0.1**
DRO	**Drossia**	**0.93**	**68**	P	**Pb**	**21 44 59.0**	**-0.1**
DRO				S	**Sn**	**21 45 12.8**	**0.0**
5μm,0.5s							
DRO	**Drossia**	**0.93**	**68**	P	**Pg**	**21 44 59.4**	**-0.1**
DRO				S	**Sn**	**21 45 12.7**	**0.0**
AST1	**Astakos**	**1.01**	**22**	P	**Pb**	**21 45 00.7**	**+0.3**
EVGI	**Lefkada island**	**1.01**	**2**	P	**Pb**	**21 45 00.6**	**+0.1**
EVGI				S	**Sn**	**21 45 16.7**	**+1.9**
1μm,0.2s							
EVGI	**Lefkada island**	**1.01**	**2**	P	**Pb**	**21 45 00.8**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.11**	**3**	P	**Pb**	**21 45 01.9**	**-0.2**
NYDR				S	**Sg**	**21 45 20.7**	**+3.3**
2μm,0.5s							
NYDR	**Nydri-Lefkada**	**1.11**	**3**	P	**Pb**	**21 45 02.2**	**+0.1**
NYDR				S	**Sg**	**21 45 19.1**	**+1.8**
PATC	**Patra C**	**1.12**	**53**	P	**Pb**	**21 45 02.6**	**+0.3**
ITM	**Ithomi**	**1.13**	**112**	P	**Pn**	**21 45 02.5**	**+0.1**
ITM	**Ithomi**	**1.13**	**112**	P	**Pg**	**21 45 03.0**	**-0.2**
ITM				S	**Sg**	**21 45 19.2**	**+1.3**
UPR	**University Cam**	**1.15**	**53**	P	**Pg**	**21 45 04.2**	**+0.7**
UPR	**University Cam**	**1.15**	**53**	P	**Pg**	**21 45 03.8**	**+0.3**
UPR				S	**Sg**	**21 45 20.0**	**+1.4**
LKD2	**Lefkada island**	**1.18**	**2**	P	**Pb**	**21 45 03.5**	**+0.1**
LKD2				S	**Sg**	**21 45 22.9**	**+3.2**
2μm,0.5s							
LKD2	**Lefkada island**	**1.18**	**2**	P	**Pb**	**21 45 03.7**	**+0.3**
LKD2				S	**Sg**	**21 45 20.1**	**+0.4**
TSLK	**Tsoukalades, L**	**1.22**	**1**	P	**Pb**	**21 45 04.1**	**+0.1**
TSLK	**Tsoukalades, L**	**1.22**	**1**	P	**Pg**	**21 45 04.6**	**-0.3**
TSLK				S	**Sg**	**21 45 21.4**	**+0.5**
PVO	**Paravola**	**1.24**	**35**	P	**Pb**	**21 45 04.8**	**+0.4**
PVO				S	**Sg**	**21 45 22.7**	**+1.2**
KLV	**Kalavryta, Ach**	**1.29**	**70**	P	**Pn**	**21 45 04.9**	**+0.2**
KLV				S	**Sg**	**21 45 24.6**	**+1.4**
1μm,0.9s							
KLV	**Kalavryta, Ach**	**1.29**	**70**	P	**Pg**	**21 45 06.2**	**-0.1**
EFP	**Efpalio**	**1.31**	**51**	P	**Pn**	**21 45 05.1**	**+0.2**
EFP	**Efpalio**	**1.31**	**51**	P	**Pb**	**21 45 05.7**	**+0.2**
EFP				S	**Sg**	**21 45 24.9**	**+1.2**
GUR	**Goura**	**1.41**	**76**	P	**Pb**	**21 45 07.1**	**-0.2**
GUR	**Goura**	**1.41**	**76**	P	**Pg**	**21 45 08.2**	**-0.3**
GUR				S	**Sg**	**21 45 27.5**	**+0.7**
ANX	**Ano Chora**	**1.43**	**46**	P	**Pb**	**21 45 07.4**	**-0.2**
EVR	**Evrytania**	**1.61**	**35**	P	**Pb**	**21 45 11.5**	**+0.8**
EVR	**Evrytania**	**1.61**	**35**	P	**Pb**	**21 45 11.6**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.84**	**40**	P	**Pb**	**21 45 15.3**	**+0.6**
IGT	**Igoumenitsa**	**1.94**	**353**	P	**Pb**	**21 45 15.6**	**-0.7**
IGT	**Igoumenitsa**	**1.94**	**353**	*e*Pn	**Pb**	**21 45 15.5**	**-0.7**
IGT				*e*Sn	**Sb**	**21 45 40.1**	**0.0**
IGT	**Igoumenitsa**	**1.94**	**353**	P	**Pb**	**21 45 15.9**	**-0.3**
AGG	**Agios Georg

UPM	**Unac-Piva**	**5.74**	**347**	⇑*i*Pn	**Pn**	**21 46 08.8**	**+2.8**
UPM				*e*Sn	**Sn**	**21 47 12.4**	**+0.8**
ZAPS	**Zavoj**	**5.87**	**15**	*e*Pn	**Pn**	**21 46 08.5**	**+0.9**
GOCS	**Kraljevo Serbi**	**5.95**	**2**	*e*Sn	**Sn**	**21 47 15.7**	**-1.0**
IVAS	**Ivanjica**	**5.98**	**357**	*e*Pn	**Pn**	**21 46 09.5**	**+0.4**
IVAS				*e*Sn	**Sn**	**21 47 16.1**	**-1.1**
BOVS	**Bovan**	**6.08**	**7**	⇓P	**Pn**	**21 46 07.0**	**-3.4**
RUDO	**Rudo**	**6.08**	**351**	*e*Pn	**Pn**	**21 46 12.3**	**+1.8**
GRUS	**Gruza**	**6.28**	**1**	*e*Sn	**Sn**	**21 47 23.4**	**-1.1**
BBLS	**Lazi&#263i**	**6.32**	**352**	*e*Pn	**Pn**	**21 46 16.2**	**+2.4**
BBLS	**Lazi&#263i**	**6.32**	**352**	*e*Pn	**Pn**	**21 46 15.5**	**+1.7**
BBLS				*e*Sn	**Sn**	**21 47 24.7**	**-1.0**
ZAGS	**Zajecar**	**6.32**	**11**	*e*Pn	**Pn**	**21 46 15.1**	**+1.3**
ZAGS				*e*Sn	**Sn**	**21 47 24.8**	**-0.8**
DIVS	**Divibare**	**6.50**	**356**	*e*Sn	**Sn**	**21 47 28.2**	**-2.0**
TRUS	**Trudelj**	**6.61**	**359**	*e*Sn	**Sn**	**21 47 30.9**	**-1.9**
MDVR	**Moldovita**	**7.22**	**6**	⇑P	**Pn**	**21 46 25.2**	**-0.9**
A050A	**Klekovaca**	**7.53**	**337**	*e*Pn	**Pn**	**21 46 31.9**	**+1.5**
BLY	**Banja Luka**	**7.59**	**341**	*e*Pn	**Pn**	**21 46 32.7**	**+1.5**
A051A	**Mrakovica**	**7.91**	**341**	*e*Pn	**Pn**	**21 46 35.6**	**0.0**
GZR	**Gura Zlata**	**7.95**	**11**	⇓P	**Pn**	**21 46 35.0**	**-1.2**
BZS	**Buzias**	**8.04**	**5**	⇓P	**Pn**	**21 46 34.9**	**-2.4**
VOIR		**8.50**	**22**	⇓P	**Pn**	**21 46 42.4**	**-1.4**
MLR	**Muntele Rosu**	**8.83**	**25**	P	Pn	21 46 55.2	+6.9
	2.6nm,0.6s,baz=201,slow=11,SNR=4.6						
BOJS	**Bojanci**	**8.86**	**335**	*e*Pn	**Pn**	**21 46 48.8**	**+0.3**
NEHR	**Nehoiu**	**8.90**	**27**	⇓P	**Pn**	**21 46 46.1**	**-3.1**
CRES	**Cresnjevec Ost**	**9.07**	**336**	*e*Pn	**Pn**	**21 46 51.3**	**-0.2**
KEST	**Kesra**	**9.25**	**262**	P	**Pn**	**21 46 56.7**	**+2.7**
	3.6nm,0.8s,baz=71,slow=17,SNR=4.2						
KEST				S	**Sn**	**21 48 38.0**	**+0.4**
	1.9nm,0.8s,baz=63,slow=17,SNR=1.1						
SKDS	**Skadanscina**	**9.35**	**330**	*e*Pn	**Pn**	**21 46 55.4**	**+0.1**
CEY	**Cerknica**	**9.35**	**332**	*e*Pn	**Pn**	**21 46 55.4**	**+0.1**
PLOR	**Plostina**	**9.39**	**27**	⇓P	**Pn**	**21 46 53.3**	**-2.6**
VRI	**Vrincioaia**	**9.43**	**27**	⇑P	**Pn**	**21 46 51.9**	**-4.6**
SOKA	**Soboth**	**9.97**	**337**	*e*Pn	**Pn**	**21 47 06.4**	**+2.5**
	0.8nm,0.4s						
OBKA	**Obir**	**9.97**	**335**	*e*Pn	**Pn**	**21 47 04.5**	**+0.6**
OBKA	**Obir**	**9.97**	**335**	*i*Pn	**Pn**	**21 47 07.0**	**+3.1**
	0.7nm,0.3s						
ARSA	**Arzberg**	**10.35**	**340**	*e*Pn	**Pn**	**21 47 12.3**	**+3.4**
	1.7nm,0.4s						
BRTR	**Keskin Array B**	**10.40**	**74**	P	Pn	21 47 17.3	+7.4
	0.3nm,0.6s,baz=256,slow=14,SNR=1.7						
ABTA	**Abfaltersbach**	**10.93**	**329**	*i*Pn	**Pn**	**21 47 21.2**	**+4.2**
	0.8nm,0.5s						
MOA	**Molln**	**11.25**	**338**	*e*Pn	**Pn**	**21 47 24.9**	**+3.6**
	1.0nm,0.4s						
DAVOX	**Davos/Dischmat**	**12.13**	**322**	P	Pn	21 47 38.3	+4.8
	0.4nm,0.4s,baz=140,slow=9.8,SNR=2.6						
DAVOX				S	**Sn**	**21 49 42.8**	**-5.7**
	1.5nm,0.7s,baz=106,slow=16,SNR=2.8						
GERES	**GERESS Array B**	**12.31**	**338**	P	P	21 47 42.4	-5.6
	0.4nm,0.6s,baz=141,slow=13,SNR=2.9						
GERES				S	**Sn**	**21 49 46.5**	**-6.1**
	0.5nm,0.4s,baz=148,slow=23,SNR=4.7						
KHC	**Kasperske Hory**	**12.60**	**338**	*e*SN	**Sn**	**21 49 54.6**	**-5.1**
EIL	**Elat**	**14.31**	**119**	P	**P**	**21 48 07.3**	**-3.0**
	3.2nm,1.0s,baz=14,slow=14,SNR=1.8						
EIL				S	Sn	21 50 27.3	-14
	2.6nm,0.5s,baz=336,slow=18,SNR=1.9						
AKASG	**Malin Array Be**	**14.46**	**22**	P	**P**	**21 48 11.7**	**-0.2**
	0.4nm,0.5s,baz=210,slow=8.2,SNR=5.9						
ESDC	**Sonseca Array**	**19.30**	**284**	P	**Pn**	**21 49 06.4**	**-0.2**
	0.7nm,1.0s,baz=92,slow=9.1,SNR=1.5						
HFS	**Hagfors**	**22.98**	**351**	P	**P**	**21 49 46.3**	**+1.5**
	1.7nm,0.6s,baz=162,slow=10,SNR=14						
	1.7nm,0.6s						
EKA	**Eskdalemuir Ar**	**23.94**	**325**	P	**P**	**21 49 54.8**	**+0.4**
	1.0nm,0.7s,baz=141,slow=7.0,SNR=4.3						
	1.0nm,0.7s						
FINES	**FINESS Array B**	**24.11**	**6**	P	**P**	**21 49 56.5**	**+0.7**
	0.7nm,0.5s,baz=173,slow=9.9,SNR=16						
	0.7nm,0.5s						
NB2	**NORSAR Subarra**	**24.19**	**349**	P	**P**	**21 49 57.9**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=162,slow=9.3						
NB2	**NORSAR Subarra**	**24.19**	**349**	P	**P**	**21 49 57.9**	**+1.1**
	baz=162,slow=9.3						
NOA	**NORSAR Array B**	**24.19**	**349**	P	**P**	**21 49 57.0**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=151,slow=11,SNR=5.1						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.64**	**220**	P	**P**	**21 50 43.4**	**-2.6**
	comp=Z,52nm,0.3s,baz=20,slow=10,SNR=1.7						
ARCES	**ARCESS Array B**	**32.10**	**3**	P	**P**	**21 51 07.4**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=185,slow=8.8,SNR=2.4						
	comp=Z,2.6nm,0.9s						
KURBB	**Kurchatov Arra**	**42.51**	**53**	P	**P**	**21 52 37.1**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=286,slow=9.0,SNR=2.4						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.54**	**58**	P	**P**	**21 53 00.9**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=276,slow=6.9,SNR=5.7						
	comp=Z,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**46.02**	**48**	P	**P**	**21 53 04.3**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=278,slow=8.3,SNR=5.1						
	comp=Z,0.5nm,0.4s						

IDC ***18*** *21:48:04.9±1.4, 1°.06N×97°.04E, h0km, mb3.5/6, mbtmp3.5/8, ML3.4/2, MS4.3/2, Error ellipse: s-maj=23.6km s-min=22.1km az=115.0*
DJA ***18*** *21:48:07.3±0.8, 1°.N±4°×9°.7E±°, h32km±7km, M4.0/10, mb4.3/1, MLv3.9/10*
ISC 18 21:48:07.8±1.0, 1°.13N±0°.07×97°.03E±0°.08, h25km, n27, σ1§52/18, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.57**	**72**	P	**Pn**	**21 48 19.7**	**-0.6**
GSI				S	**Sn**	**21 48 28.3**	**-0.6**
PBSI	**Pulau Batu**	**1.71**	**133**	P	**Pn**	**21 48 35.4**	**-0.7**
PBSI				S	**Sn**	**21 48 55.1**	**-2.1**
PSI	**Prapat**	**2.52**	**49**	Pn	**Pn**	**21 48 47.3**	**0.0**
	2.0nm,0.3s,baz=208,slow=8.3,SNR=11						
PSI				Lg	Lg	21 49 24.1	
	2.4nm,0.3s,baz=229,slow=20,SNR=4.3						
	5.4nm,0.4s						
MNSI	**Mandailing Nat**	**2.57**	**97**	P	**Pn**	**21 48 47.6**	**-0.2**
MNSI				S	**Sn**	**21 49 16.2**	**-2.1**
PPI	**Padang Panjang**	**3.71**	**115**	P	**Pn**	**21 49 03.2**	**-0.4**
PPI				S	**Sn**	**21 49 44.1**	**-2.5**
LHMI	**Lhok Sumawe**	**4.08**	**359**	P	**Pn**	**21 49 06.9**	**-1.7**
BSI	**Banda Aceh**	**4.67**	**338**	P	**Pn**	**21 49 14.5**	**-2.3**
CMAR	**Chiang Mai Arr**	**17.32**	**6**	P	**P**	**21 52 08.6**	**-0.8**
	0.1nm,0.3s,baz=175,slow=13,SNR=6.4						
	0.4nm,0.5s						
H08S2	**Diego Garcia H**	**25.98**	**250**	T	T	22 20 37.8	
	baz=71,slow=75,SNR=507						
H08S3	**Diego Garcia H**	**25.98**	**250**	T	T	22 20 41.5	
	baz=71,slow=75,SNR=745						
H08S1	**Diego Carcia H**	**26.00**	**250**	T	T	22 20 42.6	
	baz=71,slow=75,SNR=510						
H01W3	**Cape Leeuwin H**	**39.24**	**158**	T	T	22 37 03.3	
	baz=333,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**39.26**	**158**	T	T	22 37 04.1	
	baz=333,slow=76,SNR=11						
H01W1	**Cape Leeuwin H**	**39.26**	**158**	T	T	22 37 03.3	
	baz=333,slow=76,SNR=9.1						
WRA	**Warramunga Arr**	**42.14**	**122**	P	**P**	**21 55 58.0**	**-0.5**
	0.4nm,0.7s,baz=298,slow=8.0,SNR=1.8						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**21 56 10.7**	**+1.3**
	0.2nm,0.7s,baz=291,slow=8.5,SNR=1.6						
	0.2nm,0.7s						
SONM	**Songino Array**	**47.23**	**9**	P	**P**	**21 56 39.9**	**+1.1**
	0.5nm,0.6s,baz=194,slow=5.9,SNR=4.1						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**47.27**	**346**	P	**P**	**21 56 40.5**	**+1.5**
	0.8nm,0.7s,baz=175,slow=8.4,SNR=2.9						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**53.60**	**351**	P	**P**	**21 57 28.4**	**+1.6**
	1.1nm,0.6s,baz=163,slow=8.1,SNR=6.2						
ZALV				LR	LR	22 25 03.2	
	comp=Z,240nm,19.0s,baz=181,slow=41						
	1.1nm,0.6s						
BVAR	**Borovoe Array**	**56.26**	**341**	P	**P**	**21 57 47.4**	**+1.3**
	0.3nm,0.5s,baz=157,slow=7.8,SNR=2.6						
	0.3nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.62**	**214**	T	T	23 05 14.7	
	baz=55,slow=76,SNR=82						
H04N1	**CROZET ISLANDS**	**61.63**	**214**	T	T	23 05 15.2	
	baz=55,slow=76,SNR=102						
H04N3	**CROZET ISLANDS**	**61.64**	**214**	T	T	23 05 13.0	
	baz=55,slow=76,SNR=70						
H04S1	**CROZET ISLANDS**	**61.96**	**213**	T	T	23 05 34.1	
	baz=53,slow=75,SNR=12						
H04S3	**CROZET ISLANDS**	**61.97**	**213**	T	T	23 05 38.3	
	baz=53,slow=75,SNR=12						
H04S2	**CROZET ISLANDS**	**61.98**	**213**	T	T	23 05 35.7	
	baz=53,slow=75,SNR=11						
BELG	**Belogornoye**	**65.54**	**329**	LR	LR	22 31 58.4	
	comp=Z,227nm,19.6s,baz=144,slow=40						

MOS ***18*** *21:52:07.8±1.0, 7°.61N×94°.29E, h13km, mb5.1/52, MS4.3/9, Error ellipse: s-maj=8.2km s-min=3.8km az=116.9*
IDC ***18*** *21:52:07.7±0.4, 7°.53N×94°.21E, h0km, mb4.6/29, mbtmp4.6/33, ML4.6/4, MS4.4/19, Error ellipse: s-maj=16.4km s-min=11.2km az=53.0*
NEIC ***18*** *21:52:10.5±2.0, 7°.59N±0°.06×94°.37E±0°.07, h10km±1km, mb5.1/159, Mww5.0/18, Error ellipse: s-maj=12.5km s-min=9.6km az=52.0*
BJI ***18*** *21:52:10.3, 7°.33N×93°.96E, h41km, mB4.9/28, mb4.7/67, Ms4.8/70, Ms7 4.5/67*
NEIC ***18*** *21:52:10.6, 7°.31N×94°.00E, h16km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16^Nm; M_{rr}-0.50; $M_{\theta\theta}$-2.92; $M_{\phi\phi}$3.42; $M_{r\theta}$-1.42; $M_{\theta\phi}$2.16; $M_{\phi r}$-0.39; Fault plane solution: $M_0$4.13000×10^16^ NP1: ϕ_s153.32000°, δ68.87000°, λ-172.86000°. NP2: ϕ_s60.73000°, δ83.34000°, λ-21.28000°. Principal axes: T 4.2211, Plg10.0000°, Azm109.0000°; N -0.1917, Plg68.0000°, Azm224.0000°; P -4.0295, Plg20.0000°, Azm15.0000°;*
NEIC ***18*** *21:52:10.6, 7°.61N×94°.36E, h16km*
NDI ***18*** *21:52:11.0±1.0, 7°.66N×94°.40E, h10km, ML4.9, MW5.0, mb5.1(NEIC)*
GCMT ***18*** *21:52:13.5±0.2, 7°.59N±0°.01×94°.33E±0°.01, h20km±1km, MW5.1/125, Moment Tensor Solution. s52, c62; s125, c192; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.98±.15; $M_{\theta\theta}$-2.57±.12; $M_{\phi\phi}$3.55±.14; $M_{r\theta}$-1.82±.29; $M_{\theta\phi}$3.61±.12; $M_{\phi r}$-0.03±.24; Best double couple: $M_0$5.13000×10^16^ NP1: ϕ_s162.00000°, δ69.00000°, λ-169.00000°. NP2: ϕ_s68.00000°, δ79.00000°, λ-22.00000°. Principal axes: T 5.3250, Plg7.0000°, Azm116.0000°; N -0.3890, Plg66.0000°, Azm223.0000°; P -4.9340, Plg23.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***18*** *21:52:14.0±0.4, 8°N±2°×9°4E±°, h36km±5km, M5.0/36, mb5.1/36, mB5.5/19, MLv5.2/11, Mw(mB)4.9/19, MwMwp4.7/2, Mwp5.0/2*
ISC 18 21:52:10.9±0.5, 7°.54N±0°.03×94°.27E±0°.03, h16km±2km, h17km:pP-P, n644, σ1§73/662, mb5.0/210, MS4.5/53, 38C-31b, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.63**	**213**	*e*P	**Pb**	**21 52 24.0**	**+0.5**
CMBY				*e*P	**Pb**	**21 52 24.0**	**+0.5**
CMBY				*e*S	**Sn**	**21 52 33.6**	**-1.2**
CMBY				IAML		21 52 35.3	
	comp=N,62μm,0.3s						
CMBY				IAML		21 52 35.9	
	comp=E,45μm,0.4s						
BSI	**Banda Aceh**	**2.27**	**153**	P	**Pn**	**21 52 47.9**	**+0.1**
LHMI	**Lhok Sumawe**	**3.52**	**131**		**Pn**	**21 53 04.4**	**-0.5**
LHMI	**Lhok Sumawe**	**3.52**	**131**	P	**Pn**	**21 53 05.6**	**+0.7**
LHMI	**Lhok Sumawe**	**3.52**	**131**	P	**Pn**	**21 53 04.8**	**-0.1**
LHMI				S	**Sn**	**21 53 46.3**	**+0.1**
MLSI	**Meulaboh, Aceh**	**3.88**	**147**	P	**Pn**	**21 53 12.5**	**+2.5**
PBA	**Port Blair**	**4.36**	**340**		**Pn**	**21 53 17.1**	**+0.7**
PBA	**Port Blair**	**4.36**	**340**	*e*P	**Pn**	**21 53 15.8**	**-0.7**
PBA				IAML		22 00 08.5	
	comp=E,4μm,1.7s						
PBA				IAML		22 00 27.0	
	comp=E,3μm,1.7s						
SRIT	**Nakonsritamara**	**5.38**	**78**		**Pn**	**21 53 29.6**	**-1.1**
SRIT	**Nakonsritamara**	**5.38**	**78**	P	**Pn**	**21 53 31.2**	**+0.6**
SRIT	**Nakonsritamara**	**5.38**	**78**	S	**Sn**	**21 54 29.5**	**-2.8**
DGPR	**DIGLIPUR**	**5.75**	**347**	*e*P	**Pn**	**21 53 35.9**	**+0.2**
DGPR				*e*S	**Sn**	**21 54 37.0**	**-4.4**
DGPR				IAML		21 55 04.9	
	comp=N,3μm,2.0s						
TSI	**Tuntungan**	**5.87**	**133**	P	**Pn**	**21 53 36.8**	**-0.4**
	comp=N,1.7nmcomp=N,4μmcomp=N,4μmcomp=N,205nm,0.9s						
PSI	**Prapat**	**6.61**	**135**	Pn	**Pn**	**21 53 48.8**	**+1.3**
	comp=N,9.4nm,0.3s,baz=298,slow=9.9,SNR=42						
PSI				Sn	**Sn**	**21 55 02.2**	**-0.4**
	comp=N,3.0nm,0.3s,baz=342,slow=21,SNR=1.4						
	comp=N,25nm,0.4s						
PSI	**Prapat**	**6.61**	**135**	P	**Pn**	**21 53 49.5**	**+2.0**
RPSI	**Rantau Prapat**	**6.68**	**136**		**Pn**	**21 53 48.2**	**-0.3**
KULM	**Kulim**	**6.72**	**109**		**Pn**	**21 53 47.6**	**-1.5**
KULM	**Kulim**	**6.72**	**109**	P	**Pn**	**21 53 47.9**	**-1.1**
KULM	**Kulim**	**6.72**	**109**	S	**Sn**	**21 55 02.2**	**-3.2**
GSI	**Gunungsitoli**	**7.02**	**152**		**Pn**	**21 53 52.6**	**-0.4**
GSI	**Gunungsitoli**	**7.02**	**152**	P	**Pn**	**21 53 51.8**	**-1.3**
	comp=N,0.6nmcomp=N,101nm,1.4s						
SRDT	**SRDT**	**8.28**	**35**	P	**Pn**	**21 54 11.1**	**+0.8**
MNSI	**Mandailing Nat**	**8.54**	**141**	P	**Pn**	**21 54 15.4**	**+1.4**
	comp=N,82nm,0.6s						
NAYO	**Nakonayok**	**9.66**	**45**	P	**Pn**	**21 54 29.8**	**+0.5**
BKNI	**Bangkinang**	**9.85**	**136**	Pn	**Pn**	**21 54 32.0**	**+0.1**
BKNI	**Bangkinang**	**9.85**	**136**	P	**Pn**	**21 54 32.9**	**+1.0**
	comp=N,2μmcomp=N,235nm,1.1s						
PPI	**Padang Panjang**	**10.02**	**142**	P	**Pn**	**21 54 34.3**	**0.0**
	comp=N,1μmcomp=N,153nm,1.0s						
MYKOM	**Kota Tinggi**	**11.13**	**120**		**Pn**	**21 54 48.2**	**-1.2**
MYKOM	**Kota Tinggi**	**11.13**	**120**	P	**Pn**	**21 54 48.9**	**-0.5**
MYKOM	**Kota Tinggi**	**11.13**	**120**	S	**Sn**	**21 56 50.0**	**-3.6**
CM31	**Chiang Mai Arr**	**11.77**	**22**		**Pn**	**21 54 57.6**	**-0.6**
CM31	**Chiang Mai Arr**	**11.77**	**22**	P	**Pn**	**21 54 59.3**	**+1.1**
	SNR=17						
CMAR	**Chiang Mai Arr**	**11.77**	**22**		**Pn**	**21 54 58.2**	**0.0**
CMAR	**Chiang Mai Arr**	**11.77**	**22**	Pn	**Pn**	**21 54 59.5**	**+1.3**
	comp=N,2.6nm,0.3s,baz=211,slow=14,SNR=37						
	comp=N,7.5nm,0.4s						
CHTO	**Chiang Mai**	**12.09**	**22**	Pn	**Pn**	**21 55 01.3**	**-1.4**
CHTO	**Chiang Mai**	**12.09**	**22**	P	**Pn**	**21 55 03.8**	**+1.2**
CHTO				S	Sn	21 57 03.1	-14
CHTO	**Chiang Mai**	**12.09**	**22**	P	**Pn**	**21 55 03.9**	**+1.2**
CHTO	**Chiang Mai**	**12.09**	**22**	P	**Pn**	**21 55 01.3**	**-1.4**
UBPT	**Khong Chiam**	**13.40**	**54**	Pn	**Pn**	**21 55 18.3**	**-2.3**
PALK	**Pallekele**	**13.46**	**270**		**Pn**	**21 55 24.4**	**+3.1**
PALK	**Pallekele**	**13.46**	**270**	Pn	**Pn**	**21 55 20.2**	**-1.2**
	comp=N,0.6nm,0.3s,baz=87,slow=16,SNR=5.7						
PALK				Sn	Sn	21 57 40.4	-10
	comp=N,1.2nm,0.3s,baz=170,slow=22,SNR=5.0						
	comp=N,4.3nm,0.7s						
PALK	**Pallekele**	**13.46**	**270**	*i*P	**Pn**	**21 55 22.7**	**+1.3**
KSI	**Kapahiang**	**13.88**	**143**	P	**Pn**	**21 55 26.8**	**-0.4**
	comp=N,3μmcomp=N,95nm,0.9s						
DLV	**Lat**	**14.68**	**72**	Pn	**Pn**	**21 55 38.4**	**+0.2**
VIS	**Vishakhapatnam**	**14.70**	**315**	*e*P	**Pn**	**21 55 37.4**	**-0.9**
VIS				*e*S	Sn	21 58 08.9	-12
VIS				IAML		21 58 16.4	
	comp=N,31nm,1.9s						
VIS				IAML		21 58 26.8	
	comp=E,32nm,1.2s						
MDSI	**Maura Dua**	**15.51**	**140**	P	**Pn**	**21 55 45.3**	**-3.8**
	comp=E,31nm,0.8s						
LWLI	**Liwa**	**15.85**	**142**	P	**P**	**21 55 56.0**	**-1.3**
	comp=E,156nm,0.7s						
SLVN	**Son La**	**16.57**	**33**	P	**P**	**21 56 06.8**	**+1.5**
TPI	**Tanjungpandan**	**16.82**	**127**	P	**Pn**	**21 56 04.8**	**-1.1**
	comp=E,727nmcomp=E,61nm,1.4s						
KSM	**Kuching**	**17.08**	**110**	P	**P**	**21 56 10.6**	**-0.3**
KSM				IAmb	IAmb	21 56 14.8	
	comp=Z,163nm,1.1s						
IMP	**Imphal**	**17.20**	**359**	*e*P	**Pn**	**21 56 09.5**	**-1.1**
IMP				IAML		22 02 08.8	
	comp=N,17nm,2.7s						
IMP				IAML		22 02 09.0	
	comp=E,13nm,1.9s						
TNCH	**TengChong**	**17.86**	**13**	⇓*i*P	**P**	**21 56 20.8**	**+1.2**
TNCH				PP	**PnPn**	**21 56 35.9**	**+5.9**
TNCH				S	**Sn**	**21 59 35.8**	**-2.1**
TNCH				SS	**SnSn**	**21 59 58.0**	**+6.0**
TNCH				pmax	pmax		
	comp=E,310nm,1.9s						
TNCH				LR	LR		
	comp=E,1μm,11.1s						
TNCH				LR	LR		
	comp=E,2μm,10.9s						
TNCH				LR	LR		
	comp=E,2μm,15.8s						
SHL	**Shillong**	**18.07**	**353**	P	**Pn**	**21 56 18.9**	**-2.7**
SHL	**Shillong**	**18.07**	**353**	P	**Pn**	**21 56 19.4**	**-2.2**
	SNR=24						
SHL	**Shillong**	**18.07**	**353**	P	**Pn**	**21 56 18.9**	**-2.7**
SHL				pmax	pmax		
	comp=Z,38nm,0.8s						
HYB	**Hyderabad**	**18.20**	**304**	*e*P	**P**	**21 56 23.7**	**+0.5**
HYB				*e*		21 59 46.8	
HYB				*e*S	**S**	**21 59 48.7**	**-2.5**
SBUM	**Sibu**	**18.58**	**105**	P	**P**	**21 56 26.5**	**-0.9**
SBUM				IAmb	IAmb	21 56 33.2	
	comp=Z,210nm,1.6s						
STKI	**Sintang**	**18.70**	**113**	P	**Pn**	**21 56 31.4**	**+2.2**
QIZ	**Qiongzhong**	**18.96**	**51**	P	**Pn**	**21 56 34.5**	**+2.2**
QIZ				S	**S**	**22 00 07.5**	**+1.0**
QIZ				pmax	pmax		
	comp=Z,37nm,2.0s						
QIZ				pmax	pmax		
	comp=Z,550nm,3.5s						
QIZ				LR	LR		
	comp=Z,4μm,12.6s						
QIZ				LR	LR		
	comp=Z,2μm,13.9s						
QIZ				LR	LR		
	comp=Z,1μm,8.9s						
KMI	**Kunming**	**19.27**	**24**	⇓P	**Pn**	**21 56 38.5**	**+2.3**
KMI				PP	**PnPn**	**21 56 54.0**	**+4.7**
KMI				S	**Sn**	**22 00 11.3**	**-0.8**
KMI				pmax	pmax		
	comp=Z,30nm,1.0s						
KMI				pmax	pmax		
	comp=Z,240nm,3.8s						
KMI				LR	LR		
	comp=Z,640nm,13.5s						
KMI				LR	LR		
	comp=Z,1μm,19.4s						
KMI				LR	LR		
	comp=Z,1μm,18.3s						
LEM	**Lembang**	**19.52**	**137**	P	**P**	**21 56 37.4**	**-0.6**
	comp=Z,2.8nm,0.3s,baz=352,slow=16,SNR=3.7						
LEM				LR	LR	22 05 57.1	
	comp=Z,2μm,18.6s,baz=302,slow=42						
	comp=Z,11nm,0.4s						
COCO	**West Island**	**19.77**	**173**	P	Pn	21 57 01.7	+20
PZH	**PanZhiHua**	**20.15**	**20**	P	Pn	21 56 46.8	+0.2
PZH				S	Sn	22 00 33.8	+0.5
PZH				pmax	pmax		
	comp=Z,70nm,1.0s						
PZH				pmax	pmax		
	comp=Z,250nm,3.5s						
PZH				LR	LR		
	comp=Z,1μm,13.1s						
PZH				LR	LR		
	comp=Z,2μm,13.1s						
PZH				LR	LR		
	comp=Z,990nm,11.3s						
HMDM	**Hanimaadhoo**	**20.93**	**269**	P	**P**	**21 56 54.1**	**+0.9**
HMDM	**Hanimaadhoo**	**20.93**	**269**	P	Pn	21 57 04.0	+8.3
SMRI	**Semarang**	**21.68**	**132**	P	**P**	**21 57 01.7**	**+0.4**
SMRI				IAmb	IAmb	21 57 07.5	
	comp=Z,90nm,0.9s						
SMRI	**Semarang**	**21.68**	**132**	P	**P**	**21 57 03.9**	**+2.7**
	comp=Z,957nmcomp=Z,90nm,0.9s						
KKM	**Kota Kinabalu**	**21.84**	**93**	P	**P**	**21 57 00.6**	**-2.4**
KKM				IAmb	IAmb	21 57 07.2	
	comp=Z,76nm,1.2s						
GYA	**Guiyang**	**22.20**	**31**	⇓P	**P**	**21 57 07.9**	**+1.1**
GYA				S	**S**	**22 01 13.6**	**+2.6**
GYA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,180nm,4.7s						
GYA				LR	LR		
	comp=Z,1μm,13.7s						
GYA				LR	LR		
	comp=Z,740nm,8.4s						
GYA				LR	LR		
	comp=Z,1μm,13.0s						
LSA	**Lhasa**	**22.24**	**353**	P	**P**	**21 57 06.3**	**-1.2**
LSA				IAmb	IAmb	21 57 10.7	
	comp=Z,82nm,0.7s						
LSA	**Lhasa**	**22.24**	**353**	P	**P**	**21 57 06.3**	**-1.2**
LSA				pmax	pmax		
	comp=Z,16nm,1.1s						
LSA	**Lhasa**	**22.24**	**353**	P	**P**	**21 57 06.5**	**-1.1**
LSA				P	**P**	**21 57 06.5**	**-1.1**
LSA	**Lhasa**	**22.24**	**353**	P	**P**	**21 57 06.3**	**-1.2**
LSA				pmax	pmax		
	comp=Z,83nm,0.7s						
LSA	**Lhasa**	**22.24**	**353**	*i*P	**P**	**21 57 07.0**	**-0.6**
	SNR=14						
MYLDM	**Lahad Datu**	**24.20**	**94**	P	**

comp=Z,15nm,1.0s
LZH LR LR
comp=Z,500nm,12.9s
LZH LR LR
comp=Z,700nm,13.1s
LZH LR LR
comp=Z,850nm,17.9s
KMSI Cibinong 30.42 102 P **P 21 58 22.8 0.0**
DAV Davao City (W) 31.06 89 P **P 21 58 32.0 +3.5**
LYN LuoYang 31.68 29 ⇑P **P 21 58 35.0 +1.3**
LYN S **S 22 03 38.6 -4.0**
LYN pmax pmax
comp=Z,19nm,1.0s
LYN LR LR
comp=Z,2μm,15.0s
LYN LR LR
comp=Z,2μm,15.1s
LYN LR LR
comp=Z,2μm,18.2s
GTA Gaotai 32.12 8 *e*P **P 21 58 38.1 +0.4**
GTA PcP **PcP 22 01 29.3 +2.5**
GTA pmax pmax
comp=Z,11nm,0.9s
GTA LR LR
comp=Z,340nm,17.8s
GTA LR LR
comp=Z,270nm,18.5s
GTA LR LR
comp=Z,440nm,17.8s
NIL Nilore 32.44 326 **P 21 58 39.4 -1.1**
NIL Nilore 32.44 326 P **P 21 58 39.8 -0.7**
NIL Nilore 32.44 326 P **P 21 58 39.4 -1.1**
NIL pmax pmax
comp=Z,42nm,0.8s
NJ2 Nanjing 33.44 40 *e*P **P 21 58 49.5 +0.3**
NJ2 pmax pmax
comp=Z,9.0nm,1.2s
NJ2 LR LR
comp=Z,1μm,13.3s
NJ2 LR LR
comp=Z,980nm,10.9s
NJ2 LR LR
comp=Z,810nm,13.3s
SSE Sheshan 34.38 43 P **P 21 58 57.9 +0.6**
SSE S **S 22 04 23.8 -0.7**
SSE pmax pmax
comp=Z,9.0nm,0.7s
SSE pmax pmax
comp=Z,90nm,4.1s
SSE LR LR
comp=Z,840nm,13.9s
SSE LR LR
comp=Z,520nm,15.7s
SOEI Soe 34.47 119 P **P 21 58 57.5 -1.0**
SOEI IAmb IAmb 21 59 17.9
comp=Z,28nm,0.9s
SOEI Soe 34.47 119 P **P 21 58 57.2 -1.3**
comp=Z,29nm,0.8s
HNS HongShan 35.04 29 ⇑P **P 21 59 05.1 +2.1**
HNS S **S 22 04 39.8 +5.1**
HNS pmax pmax
comp=Z,17nm,0.9s
HNS LR LR
comp=Z,1μm,14.1s
HNS LR LR
comp=Z,1μm,12.9s
HNS LR LR
comp=Z,890nm,17.1s
TIA Tai'an 35.36 33 P **P 21 59 06.8 +1.0**
TIA pmax pmax
comp=Z,6.0nm,1.0s
TIA LR LR
comp=Z,630nm,18.7s
TIA LR LR
comp=Z,710nm,12.9s
TIA LR LR
comp=Z,1μm,13.3s
KBL Kabul 35.51 323 P **P 21 59 06.8 -0.5**
KBL Kabul 35.51 323 P **P 21 59 07.5 +0.1**
KBL P **P 21 59 07.5 +0.1**
KBL Kabul 35.51 323 P **P 21 59 06.9 -0.5**
KBL pmax pmax
comp=Z,11nm,0.9s
BTO Baotou 35.80 21 *e*P **P 21 59 08.8 -0.8**
BTO PP **PP 22 00 36.6 +5.5**
BTO S **S 22 04 43.1 -3.4**
BTO pmax pmax
comp=Z,15nm,0.5s
BTO LR LR
comp=Z,1μm,14.0s
BTO LR LR
comp=Z,2μm,11.3s
BTO LR LR
comp=Z,1μm,13.8s
KSH Kashi 35.83 335 P **P 21 59 06.8 -3.1**
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH LR LR
comp=Z,510nm,18.8s
KSH LR LR
comp=Z,530nm,18.2s
KSH LR LR
comp=Z,690nm,18.4s
WUS Wushi 36.09 341 P **P 21 59 11.3 -0.9**
WUS IAmb IAmb 21 59 12.3
comp=Z,28nm,0.7s
HHC Hu-ho-hao-te 36.58 22 *e*P **P 21 59 17.3 +1.0**
HHC S **S 22 05 01.5 +3.1**
HHC LR LR
comp=Z,300nm,18.5s
HHC LR LR
comp=Z,740nm,16.8s
HHC LR LR
comp=Z,590nm,18.5s
WMQ Urumqi 36.59 352 *e*P **P 21 59 16.8 +0.5**
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ pmax pmax
comp=Z,220nm,5.1s
WMQ LR LR
comp=Z,370nm,21.9s
WMQ LR LR
comp=Z,640nm,24.2s
WMQ LR LR
comp=Z,260nm,23.9s
WBK Wadi Bani Khal 37.10 298 P **P 21 59 24.1 +3.2**
WBK P **P 21 59 24.1 +3.2**
PRZ Przheval'sk 37.52 341 P **P 21 59 24.7 +0.4**
PRZ Przheval'sk 37.52 341 P **P 21 59 24.7 +0.4**
PRZ pmax pmax
comp=Z,15nm,0.8s
WSAR Wadi Sarin 37.60 299 P **P 21 59 28.3 +3.2**
SNR=5.4
KDJ Kajisay 37.62 339 P **P 21 59 24.2 -1.0**
SHLS Shalkode 37.79 342 *e*P **P 21 59 23.7 -2.8**
SHLS Shalkode 37.79 342 *e*P **P 21 59 23.8 -2.8**
JMDO Jabal Madar 37.79 297 P **P 21 59 29.7 +2.9**
JMDO P **P 21 59 29.7 +2.9**
SWI Sorong 37.83 101 P **P 21 59 26.2 -0.9**
comp=Z,795nmcomp=Z,69nm,1.2s
BJI Beijing 37.84 28 P **P 21 59 28.6 +1.8**
BJI PP **PnPn 22 00 58.3 +3.7**
BJI S **S 22 05 18.4 +1.1**
BJI pmax pmax
comp=Z,5.0nm,1.2s
BJI pmax pmax
comp=Z,79nm,7.3s
BJI LR LR
comp=Z,310nm,12.4s
BJI LR LR
comp=Z,440nm,14.3s
BJI LR LR
comp=Z,400nm,15.5s
UZB Uzynbulak 37.91 342 *e*P **P 21 59 25.9 -1.7**
UZB Uzynbulak 37.91 342 *e*P **P 21 59 25.1 -2.5**
GAR Garm 38.02 329 P **P 21 59 27.5 -1.1**
GAR IAmb IAmb 21 59 30.5
comp=Z,50nm,1.0s
SATY Saty 38.03 341 *e*P **P 21 59 26.9 -1.7**
SATY Saty 38.03 341 *e*P **P 21 59 26.9 -1.7**
SMDO Samad 38.05 298 P **P 21 59 32.2 +3.2**
SMDO P **P 21 59 32.2 +3.2**
ULHL Ulahol 38.06 338 P **P 21 59 28.3 -0.6**
SNR=8.5
ZHN Zhinishke 38.12 341 *e*P **P 21 59 27.7 -1.6**
ZHN Zhinishke 38.12 341 *e*P **P 21 59 27.8 -1.6**

BIDO Bidbid 38.12 299 P **P 21 59 33.1 +3.6**
SNR=6.4
BIDO P **P 21 59 33.1 +3.6**
SNR=6.4
BOOM Boomskoye usch 38.38 338 **P 21 59 30.2 -1.4**
BOOM Boomskoye usch 38.38 338 P **P 21 59 30.2 -1.4**
BOOM pmax pmax
comp=Z,8.0nm,0.9s
SIMJ Simiganj 38.45 328 P **P 21 59 31.2 -1.1**
SIMJ IAmb IAmb 21 59 34.3
comp=Z,22nm,0.8s
TNSS Tian-Shan 38.50 339 *e*P **P 21 59 30.9 -2.0**
TNSS Tian-Shan 38.50 339 *e*P **P 21 59 30.9 -2.0**
MDOK Medeo 38.57 340 *e*P **P 21 59 31.4 -1.8**
MDOK Medeo 38.57 340 *e*P **P 21 59 31.5 -1.8**
BTK Batken 38.58 331 **P 21 59 32.6 -0.7**
BTK IAmb IAmb 22 00 17.0
comp=Z,20nm,0.8s
BTK Batken 38.58 331 P **P 21 59 32.6 -0.7**
BTK pmax pmax
comp=Z,20nm,0.9s
ARSB Arslanbob 38.59 334 **P 21 59 32.5 -0.9**
ARSB IAmb IAmb 21 59 33.8
comp=Z,30nm,0.6s
ARSB Arslanbob 38.59 334 P **P 21 59 32.5 -0.9**
ARSB pmax pmax
comp=Z,30nm,0.6s
DZET Dzherino 38.66 327 P **P 21 59 32.7 -1.2**
DZET pmax pmax
comp=Z,11nm,0.9s
AAA Alma-Ata 38.66 340 *e*P **P 21 59 31.8 -2.0**
AAA pmax pmax
comp=Z,17nm,0.7s
AAA Alma-Ata 38.66 340 *e*P **P 21 59 31.9 -2.0**
comp=Z,17nm,0.7s
BSY Bisya 38.70 297 P **P 21 59 37.8 +3.4**
SNR=7.6
BSY P **P 21 59 37.8 +3.4**
SNR=7.6
HOQ Hoqain 38.85 298 P **P 21 59 38.7 +3.0**
HOQ P **P 21 59 38.7 +3.0**
TKM2 Tokmak 2 38.88 338 P **P 21 59 35.3 -0.6**
SNR=5.1
KBK Karagaybulak 38.90 337 P **P 21 59 36.0 0.0**
SNR=18
AML Almayashu 38.96 335 P **P 21 59 36.7 -0.1**
SNR=6.3
AAK Ala-Archa 39.06 337 P **P 21 59 37.2 -0.1**
AAK Ala-Archa 39.06 337 LR LR 22 17 12.6
comp=Z,1μm,21.2s,baz=156,slow=38
AAK Ala-Archa 39.06 337 P **P 21 59 37.9 +0.6**
AAK P **P 21 59 37.9 +0.6**
AAK Ala-Archa 39.06 337 P **P 21 59 37.1 -0.2**
SNR=13
AAK Ala-Archa 39.06 337⇑ *e*P **P 21 59 37.1 -0.2**
AAK pmax pmax
comp=Z,19nm,1.2s
AAK Ala-Archa 39.06 337 *i* P **P 21 59 36.0 -1.4**
SNR=20
FRU1 Bishkek 39.16 337 P **P 21 59 39.1 +1.1**
FRU1 Bishkek 39.16 337 P **P 21 59 39.1 +1.1**
FRU1 pmax pmax
comp=Z,18nm,1.1s
CHMS Chumysh 39.27 337 P **P 21 59 38.4 -0.5**
SNR=7.4
FAKI Fak Fak 39.30 104 P **P 21 59 38.0 -1.4**
FAKI IAmb IAmb 21 59 41.2
comp=Z,34nm,1.1s
EKS2 Erkin-Say 39.37 336 P **P 21 59 39.8 0.0**
SNR=18
KUU Kurty 39.46 340 *e*P **P 21 59 38.7 -1.7**
KUU Kurty 39.46 340 *e*P **P 21 59 38.8 -1.7**
ARQ Araqi 39.47 298 P **P 21 59 43.8 +2.9**
ARQ P **P 21 59 43.8 +2.9**
USP Ospenovka 39.59 337 P **P 21 59 41.0 -0.6**
SNR=14
SGDS Sogindy 39.70 337 *e*P **P 21 59 41.0 -1.5**
SGDS Sogindy 39.70 337 *e*P **P 21 59 41.0 -1.5**
SOHO SOHO 39.70 299 P **P 21 59 45.8 +3.1**
SOHO P **P 21 59 45.8 +3.1**
DL2 Dalian 39.77 34 *e*P **P 21 59 40.8 -2.3**
DL2 S **S 22 05 46.4 -0.2**
DL2 pmax pmax
comp=Z,27nm,1.2s
DL2 LR LR
comp=Z,760nm,14.7s
DL2 LR LR
comp=Z,740nm,15.3s
DL2 LR LR
comp=Z,860nm,11.7s
TDK Taldyqorghan 39.78 342 *e*P **P 21 59 41.6 -1.5**
TDK Taldyqorghan 39.78 342 *e*P **P 21 59 41.6 -1.5**
FITZ Fitzroy Crossi 40.10 130 LR LR 22 18 43.2
comp=Z,359nm,20.1s,baz=298,slow=40
UOSS Minazif 40.24 300 P **P 21 59 48.0 +0.8**
HATD Hatta, Dubai 40.27 300 P **P 21 59 49.8 +2.4**
SNR=5.4
HATD P **P 21 59 49.8 +2.4**
SNR=5.4
HATD Hatta, Dubai 40.27 300 *i* P **P 21 59 49.6 +2.2**
SNR=5.3
ASHO Ashiyiah 40.28 300 P **P 21 59 51.7 +4.0**
ALNE Al Ain 40.36 298 P **P 21 59 51.0 +2.8**
SNR=8.9
ALNE P **P 21 59 51.0 +2.8**
SNR=8.9
ALNE Al Ain 40.36 298 *i* P **P 21 59 50.4 +2.2**
SNR=8.7
MK31 Makanchi Array 40.44 347 *d i*P **P 21 59 47.4 -1.1**
MKAR Makanchi Array 40.44 347 P **P 21 59 47.9 -0.7**
MKAR Makanchi Array 40.44 347 P **P 21 59 47.5 -1.0**
comp=Z,26nm,0.7s,baz=165,slow=8.1,SNR=197
MKAR PcP **PcP 22 01 50.6 -0.7**
comp=Z,1.1nm,0.7s,baz=157,slow=4.7,SNR=1.4
comp=Z,26nm,0.7s
UMZA Um Al Zommool 40.50 296 P **P 21 59 52.2 +2.8**
UMZA P **P 21 59 52.2 +2.8**
MAKZ Makanchi 40.52 347 P **P 21 59 47.5 -1.8**
MAKZ IAmb IAmb 21 59 48.9
comp=Z,22nm,0.7s
MAKZ Makanchi 40.52 347 P **P 21 59 47.5 -1.8**
MAKZ pmax pmax
comp=Z,22nm,0.7s
DOK Doka 40.52 290 P **P 21 59 52.6 +3.0**
DOK P **P 21 59 52.6 +3.0**
MSEY Mahe Island 40.56 254 P **P 21 59 51.5 +1.5**
MSEY IAmb IAmb 21 59 55.4
comp=Z,72nm,1.7s
MSEY Mahe Island 40.56 254 P **P 21 59 51.5 +1.5**
MSEY pmax pmax
comp=Z,72nm,1.7s
ZSN Zaisan 40.57 350 *e*P **P 21 59 48.1 -1.5**
ZSN Zaisan 40.57 350 *e*P **P 21 59 48.1 -1.5**
IUG Iuzhnay 40.58 332 *e*P **P 21 59 48.2 -1.7**
IUG Iuzhnay 40.58 332 *e*P **P 21 59 48.3 -1.7**
DZA Taraz 40.59 334 *e*P **P 21 59 48.2 -1.6**
DZA Taraz 40.59 334 *e*P **P 21 59 48.3 -1.6**
WHFO Wadi Hawf 40.74 289 P **P 21 59 54.3 +2.9**
WHFO P **P 21 59 54.3 +2.9**
ASUD Al Ashush, Dub 40.90 299 P **P 21 59 55.1 +2.5**
SNR=10
ASUD P **P 21 59 55.1 +2.5**
SNR=10
ASUD Al Ashush, Dub 40.90 299 *i* P **P 21 59 55.0 +2.3**
SNR=9.4
XLT XiLinHaoTe 40.93 24 *e*P **P 21 59 53.9 +1.2**
XLT pP pwP 22 00 06.0 +6.2
XLT sP sP 22 00 12.8 +14
XLT PcP **PcP 22 01 52.6 -0.5**
XLT ScP **ScP 22 05 39.8 -2.5**
XLT S **S 22 06 05.3 +1.3**
XLT pmax pmax
comp=Z,13nm,0.9s
XLT LR LR
comp=Z,560nm,17.7s
XLT LR LR
comp=Z,760nm,21.1s
ABTO Aybut 41.10 288 P **P 21 59 57.3 +2.8**
ABTO P **P 21 59 57.3 +2.8**
KK31 Karatay Array 41.12 333 P **P 21 59 53.6 -0.6**
KK31 Karatay Array 41.12 333 P **P 21 59 53.6 -0.6**
KK31 pmax pmax
comp=Z,12nm,1.0s
KKAR Karatay Array 41.12 333 P **P 21 59 53.2 -1.0**
KKAR Karatay Array 41.12 333 P **P 21 59 52.9 -1.3**

KKAR IAmb IAmb 21 59 54.6
comp=Z,12nm,1.0s
KKAR Karatay Array 41.12 333 P **P 21 59 53.2 -1.0**
BRLS Borolday 41.36 333 *e*P **P 21 59 53.5 -2.7**
BRLS Borolday 41.36 333 *e*P **P 21 59 53.6 -2.7**
SONM Songino Array 41.46 12 P **P 21 59 56.8 -0.3**
SONM Songino Array 41.46 12 P **P 21 59 56.7 -0.3**
comp=Z,6.7nm,0.9s,baz=196,slow=7.9,SNR=35
SONM PcP **PcP 22 01 53.2 -1.5**
comp=Z,2.5nm,0.7s,baz=201,slow=2.9,SNR=4.9
comp=Z,6.7nm,0.9s
ULN Ulaanbaatar 41.63 13 P **P 21 59 57.5 -1.0**
ULN Ulaanbaatar 41.63 13 P **P 21 59 56.3 -2.2**
ULN Ulaanbaatar 41.63 13 *ce*P **P 21 59 57.8 -0.7**
ULN pmax pmax
comp=Z,8.0nm,1.3s
MZR Muzera 42.07 296 P **P 22 00 04.8 +2.5**
SNR=11
MZR P **P 22 00 04.8 +2.5**
SNR=11
MZR Muzera 42.07 296 *i* P **P 22 00 04.5 +2.2**
SNR=21
KSRS Korea Array 42.63 41 P **P 22 00 07.4 +0.8**
comp=Z,1.9nm,0.8s,baz=224,slow=8.2,SNR=5.8
KSRS LR LR 22 19 26.4
comp=Z,492nm,18.8s,baz=215,slow=38
comp=Z,1.9nm,0.8s
KURBB Kurchatov Arra 44.90 346 P **P 22 00 24.0 -0.6**
comp=Z,32nm,0.7s,baz=167,slow=7.1,SNR=229
KURBB PcP **PcP 22 02 05.3 -0.7**
comp=Z,2.0nm,0.9s,baz=161,slow=3.1,SNR=2.5
comp=Z,32nm,0.7s
KURK Kurchatov 44.96 346 **P 22 00 24.6 -0.5**
KURK Kurchatov 44.96 346 P **P 22 00 24.8 -0.3**
KURK P **P 22 00 24.8 -0.3**
KURK Kurchatov 44.96 346 *d i*P **P 22 00 24.7 -0.5**
KURK pmax pmax
comp=Z,47nm,1.0s
CN2 Changchun 45.24 32 *e*P P 22 00 32.4 +4.9
CN2 pmax pmax
comp=Z,10.0nm,0.6s
NWAO Narrogin (SRO) 45.80 153 LR LR 22 18 28.2
comp=Z,372nm,21.0s,baz=328,slow=34
BRZS Berezniki 46.00 341 *e*P **P 22 00 31.6 -1.8**
BRZS Berezniki 46.00 341 *e*P **P 22 00 31.7 -1.8**
WRKA Warakurna 46.33 135 P **P 22 00 36.0 -0.5**
comp=Z,24nm,2.2s
HIA Hailar 46.78 23 P **P 22 00 39.5 -0.1**
ZALV Zalesovo Beam 46.90 352 P **P 22 00 39.7 -0.7**
ZALV Zalesovo Beam 46.90 352 P **P 22 00 39.9 -0.5**
comp=Z,28nm,0.7s,baz=175,slow=8.1,SNR=118
ZALV PcP **PcP 22 02 11.9 -1.1**
comp=Z,1.5nm,0.5s,baz=178,slow=4.3,SNR=1.0
comp=Z,28nm,0.7s
ZALV Zalesovo Beam 46.90 352 *i* P **P 22 00 39.9 -0.5**
ZALV pmax pmax
comp=Z,27nm,0.7s
BNX BinXian 47.59 31 ⇓P **P 22 00 47.3 +1.4**
BNX S **S 22 07 41.5 +0.9**
BNX pmax pmax
comp=Z,5.0nm,1.3s
BNX LR LR
comp=Z,580nm,12.8s
BNX LR LR
comp=Z,560nm,12.0s
BNX LR LR
comp=Z,520nm,15.3s
WB0 Warramunga Arr 47.92 125 IAmb IAmb 22 00 59.8
comp=Z,19nm,1.4s
WRA Warramunga Arr 47.97 125 P **P 22 00 48.1 -1.1**
WRA Warramunga Arr 47.97 125 P **P 22 00 47.8 -1.5**
comp=Z,3.8nm,0.8s,baz=304,slow=9.1,SNR=21
WRA PcP **PcP 22 02 16.7 -0.7**
comp=Z,1.8nm,0.8s,baz=294,slow=3.3,SNR=3.3
comp=Z,3.8nm,0.8s
WRA Warramunga Arr 47.97 125 *i* P **P 22 00 47.7 -1.5**
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRAB Tennant Creek 47.97 125 P **P 22 00 47.8 -1.4**
WRAB IAmb IAmb 22 01 09.2
comp=Z,9.4nm,0.8s
WRAB Tennant Creek 47.97 125 *i* P **P 22 00 48.0 -1.3**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WR8 Warramunga Arr 48.10 125 P **P 22 00 49.4 -0.9**
WR8 IAmb IAmb 22 01 02.0
comp=Z,18nm,1.1s
USRK Ussuriysk Ar. 49.11 36 P **P 22 00 57.9 +0.2**
comp=Z,1.5nm,0.7s,baz=209,slow=5.9,SNR=5.7
comp=Z,1.5nm,0.7s
MJAR Matsushiro Arr 49.29 47 P **P 22 00 59.8 +0.6**
comp=Z,1.3nm,0.6s,baz=244,slow=9.7,SNR=5.9
MJAR PcP **PcP 22 02 22.1 +0.1**
comp=Z,2.3nm,0.7s,baz=255,slow=3.2,SNR=5.2
MJAR LR LR 22 24 05.5
comp=Z,375nm,18.9s,baz=242,slow=39
comp=Z,1.3nm,0.6s
RAYN Ar Rayn 49.34 295 P **P 22 01 01.2 +1.3**
RAYN Ar Rayn 49.34 295 P **P 22 01 01.2 +1.3**
RAYN pmax pmax
comp=Z,29nm,0.8s
RAYN Ar Rayn 49.34 295 P **P 22 01 01.1 +1.3**
BVAR Borovoye Array 49.34 341 P **P 22 00 58.4 -1.0**
comp=Z,12nm,0.7s,baz=139,slow=8.6,SNR=70
BVAR PcP **PcP 22 02 21.8 0.0**
comp=Z,2.3nm,0.9s,baz=232,slow=1.7,SNR=4.1
comp=Z,12nm,0.7s
BRVK Borovoye 49.41 341 P **P 22 00 59.0 -0.8**
BRVK IAmb IAmb 22 00 59.5
comp=Z,12nm,0.8s
BRVK Borovoye 49.41 341 P **P 22 00 59.0 -0.8**
BRVK pmax pmax
comp=Z,12nm,0.8s
ASAR Alice Springs 49.61 130 P **P 22 01 00.4 -1.4**
comp=Z,3.8nm,0.7s,baz=302,slow=6.7,SNR=28
ASAR PcP **PcP 22 02 23.2 -0.1**
comp=Z,4.8nm,0.8s,baz=309,slow=3.6,SNR=10.0
comp=Z,3.8nm,0.7s
AS31 Alice Springs 49.61 130 **P 22 01 00.1 -1.7**
FORT Forrest 50.00 141 P **P 22 01 04.3 -0.4**
FORT Forrest 50.00 141 P **P 22 01 05.0 +0.3**
comp=Z,59nm,0.8s
AB31 Akbulak array 50.58 331 IAmb IAmb 22 01 11.5
comp=Z,24nm,1.2s
ABKAR Akbulak array 50.58 331 **P 22 01 08.1 -0.7**
HEH HeiHe 50.74 27 *e*P **P 22 01 09.3 -0.7**
HEH LR LR
comp=Z,240nm,14.7s
HEH LR LR
comp=Z,630nm,14.7s
HEH LR LR
comp=Z,440nm,14.1s
ATD Arta Tunnel 50.81 279 LR LR 22 19 11.2
comp=Z,15nm,21.9s,baz=102,slow=32
KLR Kul'dur 52.11 30 LR LR 22 28 01.2
comp=Z,259nm,18.1s,baz=216,slow=41
KLR Kul'dur 52.11 30 *e*P **P 22 01 23.2 +3.0**
KLR pmax pmax
comp=Z,5.0nm,1.3s
BOD Bodaibo 52.44 13 *e*P **P 22 01 22.1 -0.5**
BOD pmax pmax
comp=Z,25nm,1.1s
ZEA Zeya 53.21 24 *e*P P 22 01 39.1 +11
GNI Garni 54.76 314 **P 22 01 39.6 -0.6**
GNI IAmb IAmb 22 01 49.9
comp=Z,19nm,1.0s
GNI Garni 54.76 314 *i* P **P 22 01 39.5 -0.6**
GNI pmax pmax
comp=Z,24nm,1.1s
GNI Garni 54.76 314 P **P 22 01 40.9 +0.8**
SVE Sverdlovsk 55.76 338 *e*P **P 22 01 46.4 -0.4**
SVE pmax pmax
comp=Z,43nm,0.7s
ARTI Arti 56.28 337 **P 22 01 49.2 -1.4**
ARTI Arti 56.28 337 LR LR 22 28 04.6
comp=Z,654nm,20.7s,baz=146,slow=38
ARTI Arti 56.28 337 *d i*P **P 22 01 49.6 -0.9**
ARTI 22 02 45.9
ARTI 22 03 52.6
ARTI S **S 22 09 42.7 +2.9**
ARTI SS **SS 22 13 27.8 +1.2**
ARTI pmax pmax
comp=Z,33nm,1.1s
ARTI MLR MLR
comp=Z,636nm,20.0s
NCK Nalchik 56.86 318 *i* P **P 22 01 53.8 -1.1**

NCK pmax pmax
comp=Z,5.0nm,1.0s
KIBK Kibwezi 56.94 262 P 22 01 56.7 +0.6
KIBK Kibwezi 56.94 262 P **P 22 01 58.3 +2.2**
KBZ Khabaz 57.42 318 P **P 22 01 57.8 -1.0**
comp=Z,5.8nm,0.9s,baz=132,slow=5.1,SNR=9.5
comp=Z,5.8nm,0.9s
KBZ Khabaz 57.42 318 *ce*P **P 22 01 58.1 -0.7**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 57.51 264 P 22 02 01.1 +0.8
KMBO IAmb IAmb 22 02 05.5
comp=Z,16nm,1.3s
KMBO Kilima Mbogo 57.51 264 P **P 22 02 02.9 +2.6**
comp=Z,5.5nm,0.6s,baz=74,slow=9.0,SNR=16
KMBO Kilima Mbogo 57.51 264 P **P 22 02 02.8 +2.4**
KMBO P **P 22 02 02.8 +2.4**
KMBO Kilima Mbogo 57.51 264 *i* P **P 22 02 01.7 +1.4**
KMBO Kilima Mbogo 57.51 264 *i* P **P 22 02 02.6 +2.3**
SNR=10
SHA1 Shidzhatmaz 57.58 318 *i* P **P 22 01 59.1 -1.2**
KIV Kislovodsk 57.65 318 P 22 01 59.6 -1.0
KIV IAmb IAmb 22 02 07.3
comp=Z,21nm,0.9s
KIV Kislovodsk 57.65 318 P **P 22 02 00.3 -0.3**
KIV P **P 22 02 00.3 -0.3**
KIV Kislovodsk 57.65 318 *eP* **P 22 01 59.1 -1.5**
KIV *eS* **S 22 09 58.6 +0.1**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,134nm,17.0s
KIV Kislovodsk 57.65 318 P **P 22 01 59.9 -0.7**
KIV Kislovodsk 57.65 318 P **P 22 01 59.1 -1.5**
comp=Z,18nm,0.9s
ASF Jabal al Asfar 58.50 303 P **P 22 02 05.7 -1.1**
comp=Z,5.2nm,1.0s,baz=128,slow=4.5,SNR=4.5
comp=Z,5.2nm,1.0s
BELG Belogornoye 58.66 329 *d i*P **P 22 02 05.9 -1.4**
BELG pmax pmax
comp=Z,13nm,0.8s
GHAJ Ghor Haditha 59.45 302 P 22 02 13.0 -0.2
GHAJ IAmb IAmb 22 02 20.3
comp=Z,23nm,1.2s
SOC Sochi 59.51 317 *eP* **P 22 02 11.0 -2.4**
SOC *e* 22 04 22.0
SOC *eS* **S 22 10 21.7 -0.8**
SOC *eSS* **SS 22 14 14.8 -3.0**
SOC MLR MLR
comp=Z,199nm,20.0s
EIL Elat 59.70 300 P **P 22 02 13.6 -1.5**
comp=Z,7.4nm,1.0s,baz=81,slow=4.4,SNR=4.5
comp=Z,7.4nm,1.0s
STKA Stephens Creek 59.79 134 P **P 22 02 14.6 -0.9**
STKA Stephens Creek 59.79 134 P **P 22 02 14.2 -1.4**
comp=Z,2.9nm,0.9s,baz=296,slow=10.0,SNR=4.9
comp=Z,2.9nm,0.9s
YAK Yakutsk 60.27 18 P **P 22 02 17.6 -0.7**
YAK Yakutsk 60.27 18 *eP* **P 22 02 17.8 -0.5**
YAK *e**PP **pP 22 02 21.1 -1.9**
YAK *e* 22 04 31.7
YAK *e*PPP PPP 22 05 52.7
YAK *eS* **S 22 10 29.1 -2.5**
YAK *e**SS **sS 22 10 39.3 +0.1**
YAK *eSS* **SS 22 14 35.1 +6.1**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=Z,6.0nm,0.5s
YAK smax smax
comp=E,30nm,1.8s
VRH Novokhopyorsk 61.27 325 *eP* **P 22 02 23.3 -2.0**
VRH pmax pmax
comp=Z,25nm,0.9s
KIRV Kirov 61.37 335 *ce*P **P 22 02 24.9 -0.9**
NRIK Noril'sk 61.88 357 P 22 02 28.6 -0.5
NRIK Noril'sk 61.88 357 P **P 22 02 28.3 -0.8**
comp=Z,5.5nm,0.5s,baz=148,slow=5.2,SNR=15
comp=Z,5.5nm,0.5s
NRIK Noril'sk 61.88 357 *ce*P **P 22 02 28.2 -0.9**
NRIK pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 62.56 324 *eP* **P 22 02 29.8 -4.2**
VORD pmax pmax
comp=Z,10.0nm,0.9s
CMSA Cobar Meteorol 62.61 131 P **P 22 02 34.2 -0.5**
comp=Z,12nm,1.2s
VSR Storozhevoye 62.73 325 *eP* **P 22 02 31.6 -3.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
BRTR Keskin Array B 62.74 311 P **P 22 02 34.4 -1.3**
BRTR Keskin Array B 62.74 311 P **P 22 02 34.0 -1.7**
comp=Z,2.6nm,0.6s,baz=132,slow=7.5,SNR=6.3
BRTR LR LR 22 32 44.6
comp=Z,140nm,20.1s,baz=114,slow=39
comp=Z,2.6nm,0.6s
BRTR Keskin Array B 62.74 311 *i* P **P 22 02 33.7 -2.0**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BR131 Keskin Array S 62.74 311 P **P 22 02 34.3 -1.3**
BR131 IAmb IAmb 22 02 40.9
comp=Z,6.1nm,0.7s
BR131 Keskin Array S 62.74 311 P **P 22 02 34.3 -1.4**
BR131 pmax pmax
comp=Z,6.0nm,0.7s
VORR Voronezh 62.90 325 P **P 22 02 35.0 -1.2**
VORR pmax pmax
comp=Z,26nm,0.8s
LPSR Galich'ya Gora 63.43 326 *eP* **P 22 02 38.6 -1.2**
LPSR pmax pmax
comp=Z,32nm,0.9s
SIM Simferopol' 63.76 317 *eP* P 22 02 35.6 -6.5
SIM *e* 22 03 12.0
SIM pmax pmax
comp=Z,24nm,1.4s
ELL Elmali 65.02 307 P 22 02 50.2 -0.5
ELL Elmali 65.02 307 P **P 22 02 50.2 -0.5**
ELL pmax pmax
comp=Z,76nm,0.8s
MOS Moscow 65.43 329 *eP* **P 22 02 49.6 -3.2**
MOS pmax pmax
comp=Z,51nm,0.8s
H04N2 CROZET ISLANDS 65.51 211 T T 23 13 24.3
baz=48,slow=76,SNR=23
H04N1 CROZET ISLANDS 65.52 211 T T 23 13 28.4
baz=48,slow=76,SNR=26
H04N3 CROZET ISLANDS 65.53 211 T T 23 13 23.7
baz=48,slow=76,SNR=23
OBN Obninsk 65.73 328 *c i*P **P 22 02 53.7 -1.0**
OBN *e**PP **pP 22 02 58.5 -1.0**
OBN *e* 22 03 26.7
OBN *e* 22 05 15.7
OBN *e*PPP PPP 22 06 52.7
OBN *eS* **S 22 11 36.4 -3.8**
OBN *eSS* **SS 22 15 55.6 +1.1**
OBN pmax pmax
comp=Z,29nm,1.0s
OBN MLR MLR
comp=Z,261nm,21.0s
OBN Obninsk 65.73 328 P **P 22 02 53.0 -1.7**
comp=Z,30nm,1.2s
H04S1 CROZET ISLANDS 65.91 210 T T 23 13 49.1
baz=49
H04S3 CROZET ISLANDS 65.92 210 T T 23 13 47.8
baz=49,slow=74
H04S2 CROZET ISLANDS 65.93 210 T T 23 13 50.4
baz=49,slow=74
KLMR Klimovskoe 66.81 334 *eP* **P 22 02 57.6 -4.0**
KLMR pmax pmax
comp=Z,18nm,1.4s
PURM Purcari 67.04 317 ⇑P **P 22 02 58.6 -4.7**
TIXI Tiksi 67.53 11 P 22 03 04.7 -1.3
TIXI Tiksi 67.53 11 ⇓ *i*P **P 22 03 04.7 -1.3**
TIXI pmax pmax
comp=Z,26nm,1.4s
MILM Milestii Mici 67.84 318 ⇑P **P 22 03 06.7 -1.7**
MILM Milestii Mici 67.84 318 ⇑P **P 22 03 06.7 -1.7**
CFR Carcaliu 67.92 316 ⇑P **P 22 03 06.5 -2.4**
CFR Carcaliu 67.92 316 ⇑P **P 22 03 06.5 -2.4**
HARR Harsova 67.96 315 ⇑P **P 22 03 06.4 -2.8**
HARR Harsova 67.96 315 ⇑P **P 22 03 06.4 -2.8**

VLDR Vladesti 68.10 316 ⇑P **P 22 03 08.6 -1.5**
VARL Varlezi 68.27 316 ⇑P **P 22 03 10.1 -1.0**
SORM Soroca 68.42 319 ⇑P **P 22 03 09.2 -2.8**
SORM Soroca 68.42 319 ⇑P **P 22 03 09.2 -2.8**
SORM Soroca 68.42 319 P **P 22 03 09.6 -2.4**
comp=Z,13nm,1.3s
AK09 Malin Array Si 68.43 322 P **P 22 03 09.5 -2.5**
AK10 Malin Array Si 68.45 322 P **P 22 03 10.1 -2.0**
AK08 Malin Array Si 68.46 322 P **P 22 03 09.9 -2.3**
AK07 Malin Array Si 68.47 322 P **P 22 03 09.4 -2.8**
AK05 Malin Array Si 68.48 322 P **P 22 03 10.6 -1.7**
AK05 pP **pP 22 03 16.6 -0.5**
AKASG Malin Array Be 68.49 322 P **P 22 03 10.0 -2.4**
comp=Z,0.6nm,0.4s,baz=88,slow=4.9,SNR=13
comp=Z,0.6nm,0.4s
AKASG Malin Array Be 68.49 322 *i* P **P 22 03 10.3 -2.1**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKBB Malin Array Si 68.49 322 P 22 03 10.8 -1.6
AKBB Malin Array Si 68.49 322 *ce*P **P 22 03 10.7 -1.7**
AKBB pmax pmax
comp=Z,9.0nm,1.0s
AKBB Malin Array Si 68.49 322 P **P 22 03 10.1 -2.3**
KIEV Kiev 68.50 322 P 22 03 10.8 -1.6
KIEV Kiev 68.50 322 ⇓P **P 22 03 10.5 -1.9**
KIEV Kiev 68.50 322 P **P 22 03 10.8 -1.6**
KIEV pmax pmax
comp=Z,7.0nm,1.0s
KIEV Kiev 68.50 322 P **P 22 03 10.5 -1.9**
KIEV Kiev 68.50 322 P **P 22 03 09.6 -2.8**
comp=Z,30nm,1.0s
AK04 Malin Array Si 68.53 322 P **P 22 03 10.0 -2.6**
AK14 Malin Array Si 68.55 322 P **P 22 03 09.8 -2.9**
GHRR 68.60 317 ⇓P **P 22 03 12.3 -0.8**
VRI Vrincioaia 69.03 316 ⇑P **P 22 03 14.9 -1.0**
VRI Vrincioaia 69.03 316 ⇑P **P 22 03 14.9 -1.0**
VRI Vrincioaia 69.03 316 P **P 22 03 14.7 -1.2**
comp=Z,22nm,0.7s
PLOR5 Plostina Array 69.07 316 P **P 22 03 15.5 -0.7**
comp=Z,40nm,0.7s
PLOR Plostina 69.08 316 ⇑P **P 22 03 16.0 -0.2**
PLOR Plostina 69.08 316 ⇑P **P 22 03 16.0 -0.2**
RDO Rodhopi 69.08 311 P **P 22 03 16.0 -0.2**
RDO IAmb IAmb 22 03 22.3
comp=Z,8.7nm,1.0s
PLOR3 Plostina Array 69.08 316 P **P 22 03 15.1 -1.2**
comp=Z,22nm,0.8s
MI30 MI30,Zelenitsa 69.14 322 P **P 22 03 15.2 -1.2**
comp=Z,15nm,0.9s
SEY Seymchan 69.17 25 *eP* **P 22 03 19.6 +3.2**
SEY pmax pmax
comp=Z,7.0nm,1.4s
TESR Tescani 69.21 317 ⇓P **P 22 03 14.9 -2.1**
TESR Tescani 69.21 317 P **P 22 03 15.2 -1.8**
comp=Z,18nm,0.7s
LUBAR Lubar, Ukraine 69.21 321 P **P 22 03 14.6 -2.3**
MI29 MI29, Kamyanyy 69.27 321 P **P 22 03 16.5 -0.8**
comp=Z,91nm,1.2s
LSZ Lusaka 69.28 251 P 22 03 18.4 +0.4
LSZ Lusaka 69.28 251 P **P 22 03 18.4 +0.4**
LSZ pmax pmax
comp=Z,4.0nm,0.8s
MLR Muntele Rosu 69.50 316 ⇑P **P 22 03 18.0 -1.0**
MLR Muntele Rosu 69.50 316 ⇑P **P 22 03 18.0 -1.0**
MLR Muntele Rosu 69.50 316 P **P 22 03 18.6 -0.3**
comp=Z,19nm,1.1s
MI28 Mi28,Pidlybu 69.50 322 P **P 22 03 16.5 -2.2**
OZUR 69.72 316 ⇓P P 22 03 29.9 +10
DOPR Dopca 69.96 316 ⇑P **P 22 03 20.1 -1.6**
HUMR Humele 70.01 315 ⇑P **P 22 03 20.8 -1.1**
VOIR 70.11 316 ⇑P **P 22 03 20.1 -2.5**
VOIR 70.11 316 ⇑P **P 22 03 20.1 -2.5**
VOIR 70.11 316 P **P 22 03 22.2 -0.4**
comp=Z,5.0nm,0.7s
MNK Minsk 70.27 325 *i* P **P 22 03 21.3 -2.0**
MNK *i* 22 05 56.6
MNK *i* PPP PPP 22 07 39.0
MNK *i* S **S 22 12 32.5 -2.1**
MNK *i* SSS SSS 22 20 04.0
MNK pmax pmax
comp=Z,26nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=N,12nm,0.8s
MNK MLR MLR
comp=Z,199nm,19.0s
MNK MLR MLR
comp=N,126nm,18.0s
MNK MLR MLR
comp=E,178nm,21.0s
BURAR Bucovina Array 70.38 318 P **P 22 03 23.2 -1.0**
BURAR Bucovina Array 70.38 318 ⇓P **P 22 03 21.0 -3.2**
BURAR Bucovina Array 70.38 318 ⇓P **P 22 03 21.0 -3.2**
ARR Arges 70.39 315 ⇓P **P 22 03 25.9 +1.6**
BUR08 Bucovina Ar. S 70.39 318 P **P 22 03 23.3 -1.0**
RNPP5 Staryi Chortor 70.67 322 P **P 22 03 23.2 -2.6**
RNPP9 Sopachiv 70.70 322 P **P 22 03 23.4 -2.6**
RNPP8 Varash 70.71 322 P **P 22 03 23.9 -2.2**
STNU Starunia 71.05 319 P **P 22 03 25.4 -2.8**
JOF Joensuu 71.20 334 *eP* **P 22 03 28.1 -0.7**
LIT Litokhoron 71.25 310 IAmb IAmb 22 03 35.3
comp=Z,14nm,0.7s
ITM Ithomi 71.42 307 P **P 22 03 30.5 -0.2**
ITM IAmb IAmb 22 03 36.3
comp=Z,28nm,1.3s
ISAL Salakas 71.52 326 *eP* **P 22 03 29.8 -1.1**
MARR Marisel-Cluj 71.63 317 ⇑P **P 22 03 30.4 -1.5**
MEZ Mezhgor'ye 71.66 319 P **P 22 03 31.6 -0.3**
HERR Herculane 71.87 315 ⇑P **P 22 03 28.5 -4.7**
MREMI Moremi 71.88 243 P **P 22 03 35.3 +1.4**
MREMI IAmb IAmb 22 03 44.3
comp=Z,18nm,1.1s
LVZ Lovozero 71.91 340 ⇑P **P 22 03 31.9 -1.2**
VSU Vasula 71.94 329 *ce*P **P 22 03 31.5 -1.8**
VSU pmax pmax
comp=Z,32nm,1.0s
VSU Vasula 71.94 329 *eP* **P 22 03 31.7 -1.6**
BRIU Brid 71.95 318 P **P 22 03 32.7 -1.0**
SURR Surduc 72.19 316 ⇓P **P 22 03 32.5 -2.6**
APA Apatity 72.20 339 ⇓ *i*P **P 22 03 31.2 -3.6**
APA pmax pmax
comp=Z,11nm,0.9s
BOVS Bovan 72.22 313 ⇓P **P 22 03 30.7 -4.6**
MDVR Moldovita 72.35 315 ⇓P P 22 03 25.1 -11
BZS Buzias 72.52 315 ⇑P **P 22 03 35.1 -2.0**
BZS Buzias 72.52 315 ⇑P **P 22 03 35.1 -2.0**
KOLS Kolonicke sedl 72.54 319 *eP* **P 22 03 37.4 +0.2**
KOLS Kolonicke sedl 72.54 319 *eP* **P 22 03 37.4 +0.2**
ARBE Arbavere 72.57 330 *eP* **P 22 03 36.3 -0.8**
SIRR Siria 72.57 316 ⇓P **P 22 03 36.7 -0.8**
PABE Paberze 72.70 326 *eP* **P 22 03 36.6 -1.4**
SUW Suwalki 72.85 324 *eP* **P 22 03 37.4 -1.5**
SUW Suwalki 72.85 324 P 22 03 38.4 -0.5
SUW Suwalki 72.85 324 P **P 22 03 38.4 -0.5**
SUW Suwalki 72.85 324 *eP* **P 22 03 37.8 -1.1**
FINES FINESS Array B 73.06 332 P 22 03 38.8 -1.2
FINES FINESS Array B 73.06 332 P **P 22 03 39.1 -0.8**
comp=Z,12nm,0.7s,baz=90,slow=4.7,SNR=80
comp=Z,12nm,0.7s
MTSE Matsula 73.48 329 *eP* **P 22 03 41.7 -0.8**
KHWEE KHWEE 73.49 245 IAmb IAmb 22 03 46.8
comp=Z,16nm,0.9s
LPHEP Lephephe 73.51 243 P **P 22 03 44.8 +1.3**
LPHEP IAmb IAmb 22 03 54.9
comp=Z,29nm,1.4s
MEF Metsahovi 73.54 331 *eP* **P 22 03 42.2 -0.7**
KEF Keuruu 73.81 333 *eP* **P 22 03 43.6 -0.8**
NIE Niedzica 73.89 319 *eP* **P 22 03 45.0 -0.2**
NIE Niedzica 73.89 319 P **P 22 03 44.5 -0.7**
NIE Niedzica 73.89 319 P **P 22 03 44.5 -0.7**
comp=Z,3.4nm,1.2s
PDG Podgorica 73.89 312 ⇓P **P 22 03 46.9 +1.6**
PBUR Paburge 73.93 326 *eP* **P 22 03 45.1 -0.1**
LBTB Lobatse 74.19 241 P 22 03 48.0 +0.5
LBTB Lobatse 74.19 241 P **P 22 03 48.0 +0.5**
LBTB pmax pmax
comp=Z,9.0nm,0.9s
OJC Ojcow 74.31 320 *eP* **P 22 03 46.5 -1.1**
OJC Ojcow 74.31 320 P **P 22 03 45.9 -1.7**
OJC Ojcow 74.31 320 P **P 22 03 45.9 -1.7**
comp=Z,13nm,0.8s
VADS Vadso 74.55 341 *eP* **P 22 03 48.4 -0.2**

MORH Mrgy, Hungar 74.65 316 ⇓P **P 22 03 47.2 -2.5**
MORH Mrgy, Hungar 74.65 316 P **P 22 03 47.5 -2.1**
comp=Z,4.9nm,0.8s
VYHS Vyhne 74.74 318 *eP* **P 22 03 49.1 -1.0**
VYHS Vyhne 74.74 318 *eP* **P 22 03 49.1 -1.0**
RAF Rauma 74.99 331 *eP* **P 22 03 50.2 -1.1**
VAF Ylistaro 75.01 333 *eP* **P 22 03 51.4 +0.1**
SRO Srobarova 75.02 317 *eP* **P 22 03 52.4 +0.7**
SRO Srobarova 75.02 317 *eP* **P 22 03 52.4 +0.7**
MAKGR Makgori 75.11 241 IAmb IAmb 22 04 04.0
comp=Z,9.5nm,0.8s
MAUC Maruska 75.48 319 *eP* **P 22 03 53.8 -0.7**
MAUC *ep*P **pP 22 03 59.8 +0.5**
MPLH Magyarpolny 75.49 317 P **P 22 03 53.0 -1.4**
comp=Z,35nm,0.7s
BOSA Boshof 75.52 238 P **P 22 03 55.6 +0.5**
BOSA IAmb IAmb 22 04 11.8
comp=Z,25nm,1.4s
BOSA Boshof 75.52 238 P **P 22 03 56.0 +0.9**
comp=Z,5.5nm,0.7s,baz=78,slow=3.5,SNR=16
comp=Z,5.5nm,0.7s
BOSA Boshof 75.52 238 P **P 22 03 56.0 +0.9**
JAVC Velka Javorina 75.54 318 *eP* **P 22 03 54.9 +0.1**
STEB Steborice 75.58 320 *eP* **P 22 03 54.6 -0.3**
STEB *ep*P **sP 22 04 01.0 -0.5**
TIP Timpagrande 75.60 308 P **P 22 03 55.2 -0.1**
TIP IAmb IAmb 22 03 58.1
comp=Z,29nm,1.9s
ARA0 ARCESS Array S 75.62 340 *eP* **P 22 03 54.3 -0.4**
ARCES ARCESS Array B 75.62 340 P **P 22 03 54.5 -0.3**
comp=Z,5.2nm,0.8s,baz=95,slow=5.8,SNR=26
ARCES LR LR 22 40 01.3
comp=Z,595nm,20.2s,baz=112,slow=38
comp=Z,5.2nm,0.8s
MORC Moravsky Berou 75.71 319 IAmb IAmb 22 04 06.7
comp=Z,20nm,1.4s
MORC Moravsky Berou 75.71 319 *eP* **P 22 03 55.2 -0.5**
MORC Moravsky Berou 75.71 319 ⇓P **P 22 03 55.2 -0.5**
MORC Moravsky Berou 75.71 319 ⇓P **P 22 03 55.2 -0.5**
MODS Modra-Piesok 75.76 318 *eP* **P 22 03 55.4 -0.6**
MODS Modra-Piesok 75.76 318 *eP* **P 22 03 55.4 -0.6**
KRLC Kraliky 76.22 320 *eP* **P 22 03 58.6 -0.1**
KRLC *ep*P **sP 22 04 04.9 -0.3**
KRLC Kraliky 76.22 320 *eP* **P 22 03 58.6 -0.1**
KRLC *e* 22 04 04.9
CEL Celeste 76.25 307 IAmb IAmb 22 04 13.3
comp=Z,22nm,1.1s
CEL Celeste 76.25 307 P **P 22 03 58.4 -0.7**
comp=Z,333nmcomp=Z,18nm,1.1s
BILL Bilibino 76.35 22 *i* P **P 22 03 58.4 -0.5**
BILL pmax pmax
comp=Z,13nm,1.5s
RONA Rosalia, Austr 76.37 317 *eP* **P 22 03 58.4 -1.1**
comp=Z,2.2nm,1.1s
KRUC Moravsky 76.40 319 *eP* **P 22 03 58.8 -0.8**
KRUC Moravsky 76.40 319 *eP* **PKiKP 22 09 44.4 +0.1**
DZM Mont Dzumac 76.54 115 *e*LR LR 22 27 35.7
comp=Z,338nm,28.0s
DPC Dobruska-Polom 76.54 320 *eP* **P 22 04 00.1 -0.4**
DPC AMS AMS 22 43 40.0
comp=Z,200nm,20.5s
DPC Dobruska-Polom 76.54 320 *eP* **P 22 04 00.1 -0.4**
DPC MLR MLR
comp=Z,200nm,20.5s
DPC Dobruska-Polom 76.54 320 P **P 22 04 00.0 -0.4**
comp=Z,8.2nm,0.9s
DPC Dobruska-Polom 76.54 320 P **PKiKP 22 09 45.1 +0.6**
comp=Z,8.3nm,1.7s
KSP Ksiaz 76.60 320 *eP* **P 22 04 00.7 -0.1**
KSP Ksiaz 76.60 320 P **P 22 04 00.0 -0.7**
KSP Ksiaz 76.60 320 P **P 22 04 00.0 -0.7**
comp=Z,14nm,0.8s
OSTC Ostas 76.62 320 *eP* **P 22 04 00.5 -0.4**
OSTC AMS AMS 22 43 10.0
comp=Z,200nm,17.3s
OSTC Ostas 76.62 320 *eP* **P 22 04 00.5 -0.4**
OSTC MLR MLR
comp=Z,200nm,17.3s
CONA Conrad Observa 76.67 317 *i* P **P 22 04 00.4 -0.9**
comp=Z,4.0nm,0.9s
UPC Upice 76.75 320 *eP* **P 22 04 01.6 0.0**
UPC Upice 76.75 320 *eP* **P 22 04 01.6 0.0**
QNGWA Qangwa 76.78 248 P **P 22 04 03.3 +0.8**
ARSA Arzberg 76.86 317 *i* P **P 22 04 02.4 0.0**
comp=Z,5.1nm,0.9s
SOKA Soboth 77.17 316 *i* P **P 22 04 03.8 -0.3**
comp=Z,5.8nm,1.0s
JETT Jettan, Norway 77.36 340 *eP* **P 22 04 04.5 -0.2**
OBKA Obir 77.50 316 *eP* **P 22 04 05.8 -0.2**
comp=Z,7.7nm,1.1s
PRU Pruhonice 77.66 319 AMS AMS 22 43 30.0
comp=Z,200nm,26.3s
PRA Prague 77.73 320 AMS AMS 22 43 30.0
comp=Z,200nm,13.4s
MOA Molln 77.74 317 *eP* **P 22 04 07.3 0.0**
comp=Z,6.1nm,1.1s
CKRC Cesky Krumlov 77.75 318 *eP* **P 22 04 06.9 -0.4**
CKRC *ex* x 22 04 13.4
CKRC AMS AMS 22 44 40.0
comp=Z,200nm,17.1s
CKRC Cesky Krumlov 77.75 318 *eP* **P 22 04 06.9 -0.4**
CKRC *e* 22 04 13.4
CKRC MLR MLR
comp=Z,200nm,17.1s
BSD Bornholm Skovb 77.76 325 *i* P **P 22 04 07.0 -0.1**
BSD IAmb IAmb 22 04 08.7
comp=Z,11nm,0.7s
ZVC Zvikov 77.86 319 *eP* **P 22 04 07.5 -0.3**
BRG Berggiesshubel 78.09 320 *eP* **P 22 04 08.8 -0.3**
BRG Amp 22 04 16.4
comp=Z,4.2nm,0.9s
BRG Berggiesshubel 78.09 320 P P 22 04 19.5 +10
BRG Amp 22 04 27.8
comp=Z,5.4nm,0.9s
MYKA Terra Mystica 78.13 316 *eP* **P 22 04 08.7 -0.7**
comp=Z,4.7nm,0.8s
GEC2 GERESS Array S 78.16 318 P 22 04 08.9 -0.7
GERES GERESS Array B 78.16 318 P 22 04 08.9 -0.7
GERES GERESS Array B 78.16 318 P **P 22 04 09.2 -0.4**
comp=Z,3.9nm,0.7s,baz=77,slow=5.8,SNR=31
comp=Z,3.9nm,0.7s
BIOA Bad Ischl, Aus 78.16 317 *i* P **P 22 04 09.0 -0.6**
comp=Z,1.1nm,0.9s
PRED Cave del Predi 78.17 316 P 22 04 09.0 -0.7
PRED IAmb IAmb 22 04 17.2
comp=Z,9.6nm,0.8s
KHC Kasperske Hory 78.25 319 *eP* **P 22 04 09.6 -0.4**
KHC *ep*P **pP 22 04 14.2 -0.7**
KHC AMS AMS 22 46 10.0
comp=Z,100nm,19.2s
KHC Kasperske Hory 78.25 319 *ce*P **P 22 04 09.8 -0.2**
KHC pmax pmax
comp=Z,5.0nm,0.7s
KHC Kasperske Hory 78.25 319 P **P 22 04 09.2 -0.8**
comp=Z,6.8nm,0.7s
KBA Koelnbreinsper 78.34 316 P **P 22 04 10.0 -0.8**
KBA Koelnbreinsper 78.34 316 *i* P **P 22 04 09.8 -1.0**
comp=Z,4.6nm,0.8s
HSKC Hora Svate Kat 78.40 320 AMS AMS 22 45 00.0
comp=Z,300nm,15.5s
DEL Delary 78.45 326 IAmb IAmb 22 04 11.0
comp=Z,6.6nm,0.6s
DEL Delary 78.45 326 *i* P **P 22 04 09.0 -1.9**
KOOLE Kule 78.46 245 IAmb IAmb 22 04 15.3
comp=Z,11nm,0.7s
CLL Collm 78.70 321 *i* P **P 22 04 11.8 -0.6**
comp=Z,91nm,2.9s
CLL *i* PcP **PcP 22 04 21.9 +0.6**
comp=Z,21nm,1.6s
CLL *i* pPcP 22 04 24.2
CLL *eP*P **PP 22 07 09.0 -1.4**
CLL AMS AMS 22 44 00.0
comp=N,200nm,21.9s
CLL AMS AMS 22 44 00.0
comp=E,100nm,20.8s
CLL AMS AMS 22 45 00.0
comp=Z,200nm,18.4s
STAL STALIGIAL 78.76 316 IAmb IAmb 22 04 26.4
comp=Z,31nm,1.3s
LESA Schwarzleotal 78.80 317 *eP* **P 22 04 11.5 -1.7**
comp=Z,3.2nm,0.6s
HFS Hagfors 78.81 330 P **P 22 04 12.1 -0.7**
comp=Z,7.9nm,0.5s,baz=102,slow=6.4,SNR=104
HFS LR LR 22 43 20.7
comp=Z,291nm,19.5s,baz=90,slow=39

comp=Z,7.9nm,0.5s
FAUS Fauske 78.84 337 *e*P **P 22 04 12.2 -0.6**
BJUU Bjuv 78.90 326 *i* P **P 22 04 13.0 -0.4**
ABTA Abfaltersbach 78.91 316 *e*P **P 22 04 12.5 -1.3**
comp=Z,2.0nm,0.6s
STEI Steigen 78.93 338 *e*P **P 22 04 12.5 -0.8**
MOR8 Moi Rana 79.03 336 *e*P **P 22 04 12.9 -1.1**
FABU Falkenberg 79.11 327 *i* P **P 22 04 14.0 -0.5**
BORU Boraas 79.12 327 *i* P **P 22 04 13.9 -0.7**
CTI Castel Tesino 79.50 315 P 22 04 16.5 -0.6
CTI IAmb IAmb 22 04 32.4
comp=Z,20nm,1.2s
CTI Castel Tesino 79.50 315 P **P 22 04 16.5 -0.6**
CTI pmax pmax
comp=Z,20nm,1.2s
WTTA Wattenberg 79.51 317 *e*P **P 22 04 15.8 -1.4**
comp=Z,5.9nm,0.7s,SNR=8.1
WATA Walderalm 79.55 317 *e*P **P 22 04 15.6 -1.8**
comp=Z,2.0nm,0.6s
LEIR Leirfjorden 79.56 336 *e*P **P 22 04 16.6 -0.2**
ONAU Onsala 79.57 327 *i* P **P 22 04 16.3 -0.7**
TJOU Tjoern 79.75 328 *i* P **P 22 04 16.6 -1.4**
OSSC Osservatorio P 79.80 313 P 22 04 18.6 0.0
SQTA Sankt Quirin 79.80 317 *e*P **P 22 04 17.4 -1.3**
comp=Z,5.5nm,0.7s,SNR=6.2
NC405 NORSAR Array S 79.84 331 IAmb IAmb 22 04 25.2
comp=Z,13nm,0.7s
MOTA Moosalm 79.87 317 *e*P **P 22 04 17.6 -1.6**
comp=Z,5.9nm,0.9s
NC602 NORSAR Array S 79.91 330 IAmb IAmb 22 04 25.3
comp=Z,12nm,0.7s
NC602 NORSAR Array S 79.91 330 *e*P **P 22 04 17.8 -1.0**
NORES NORESS Array B 79.91 330 P **P 22 04 17.9 -0.9**
NSS Namsos 79.92 334 *e*P **P 22 04 18.1 -0.7**
ZCCA Zocca 79.98 314 IAmb IAmb 22 04 35.8
comp=Z,22nm,1.0s
STRU Stroemstad 80.02 329 *i* P **P 22 04 18.9 -0.6**
NB2 NORSAR Subarra 80.08 331 P **P 22 04 18.4 -1.4**
comp=Z,11nm,0.8s,baz=92,slow=5.9
NB2 NORSAR Subarra 80.08 331 P **P 22 04 18.4 -1.4**
baz=92,slow=5.9
NOA NORSAR Array B 80.08 331 P **P 22 04 18.8 -1.1**
comp=Z,4.4nm,0.7s,baz=93,slow=5.6,SNR=48
comp=Z,4.4nm,0.7s
RETA Reutte 80.10 317 *e*P **P 22 04 19.4 -0.9**
comp=Z,6.1nm,0.6s
FETA Feichten 80.13 316 *e*P **P 22 04 19.7 -0.9**
comp=Z,2.4nm,0.7s,SNR=5.7
SPITS Spitsbergen Ar 80.19 348 P **P 22 04 19.4 -0.6**
comp=Z,10nm,0.8s,baz=95,slow=10,SNR=12
SPITS LR LR 22 46 19.0
comp=Z,237nm,19.0s,baz=85,slow=40
comp=Z,10nm,0.8s
NAO01 NORSAR Array S 80.23 330 IAmb IAmb 22 04 27.2
comp=Z,13nm,0.9s
OSL Oslo 80.28 329 *e*P **P 22 04 20.5 -0.3**
NBO00 NORSAR Array S 80.29 331 P **P 22 04 19.7 -1.2**
DAVA Damuels 80.71 317 *i* P **P 22 04 22.9 -0.7**
comp=Z,5.6nm,0.9s
DAVOX Davos/Dischmat 80.72 316 LR LR 22 46 02.8
comp=Z,53nm,20.4s,baz=84,slow=40
KONO Kongsberg 80.85 329 ⇑P **P 22 04 23.5 -0.4**
MUD Monsted U'grnd 81.05 326 *i* P **P 22 04 24.9 -0.1**
MUD IAmb IAmb 22 04 25.9
comp=Z,6.2nm,0.6s
TUE Stuetta 81.09 316 IAmb IAmb 22 04 40.9
comp=Z,15nm,1.2s
TUE Stuetta 81.09 316 P **P 22 04 24.7 -1.1**
DOMB Dombas 81.14 332 *e*P **P 22 04 24.8 -0.7**
HOMB Homborsund 81.41 328 *i* P **P 22 04 26.2 -0.6**
SKAR Skarslia 81.50 330 *e*P **P 22 04 26.4 -1.1**
KEST Kesra 81.53 305 P **P 22 04 28.1 -0.1**
comp=Z,3.5nm,0.7s,baz=11,slow=10,SNR=4.8
KEST LR LR 22 48 52.9
comp=Z,150nm,18.1s,baz=328,slow=42
comp=Z,3.5nm,0.7s
SNART Snartemo 82.09 328 *i* P **P 22 04 29.8 -0.7**
BLS5 Blasjo 82.45 329 *e*P **P 22 04 32.4 0.0**
SENIN Lac Senin/Sane 82.51 316 P 22 04 32.4 -0.9
SENIN IAmb IAmb 22 05 09.8
comp=Z,29nm,1.6s
BNI Bardonecchia 83.02 314 P 22 04 35.6 -0.3
BNI IAmb IAmb 22 04 40.6
comp=Z,33nm,1.6s
BNI Bardonecchia 83.02 314 P **P 22 04 35.6 -0.3**
BNI pmax pmax
comp=Z,33nm,1.7s
KMY Karmoy 83.08 329 *e*P **P 22 04 35.3 -0.3**
WLF Walferdange 83.09 319 *d*P **P 22 04 36.1 +0.2**
BCLA Clavier 83.59 320 *d*P **P 22 04 41.0 +2.6**
BGES Gesves 83.73 320 *d*P **P 22 04 39.9 +0.8**
DOU Dourbes 84.07 320 *d*P **P 22 04 42.4 +1.4**
NOR Nord 85.59 352 *i* P **P 22 04 46.0 -2.0**
NOR IAmb IAmb 22 04 48.1
comp=Z,6.6nm,0.7s
TAM Tamanrasset 85.97 292 P **P 22 04 53.5 +2.3**
TAM pmax pmax
comp=Z,4.0nm,2.4s
JMIC Jan Mayen 87.06 341 LR LR 22 46 32.8
comp=Z,146nm,19.2s,baz=88,slow=38
EKA Eskdalemuir Ar 88.06 325 P **P 22 05 00.2 -0.3**
comp=Z,4.0nm,0.7s,baz=92,slow=5.6,SNR=16
comp=Z,4.0nm,0.7s
MSWZ Moikau Station 88.22 132 P **P 22 05 00.4 -1.2**
PLWZ Palliser 88.26 132 P **P 22 05 01.2 -0.5**
C18K Utukok River 88.27 21 P 22 05 01.3 0.0
C18K IAmb IAmb 22 05 13.7
comp=Z,10nm,1.0s
G16K Koyuk River 88.72 24 P **P 22 05 04.3 +0.9**
G16K IAmb IAmb 22 05 12.1
comp=Z,9.1nm,1.2s
E18K Tukpahlearik C 88.83 22 P **P 22 05 04.2 +0.3**
E18K IAmb IAmb 22 05 12.9
comp=Z,8.5nm,0.9s
F17K Baldwin Pennin 88.87 23 IAmb IAmb 22 05 16.6
comp=Z,10nm,1.1s
B20K Meade River 89.21 19 P **P 22 05 06.9 +1.3**
B20K IAmb IAmb 22 05 19.9
comp=Z,11nm,1.1s
D19K Kuna River 89.40 21 P **P 22 05 06.8 +0.2**
D19K IAmb IAmb 22 05 19.1
comp=Z,9.9nm,1.0s
D20K Etivluk River 89.84 20 IAmb IAmb 22 05 21.2
comp=Z,15nm,1.0s
J16K Anvik River 90.04 26 P **P 22 05 10.4 +0.8**
J16K IAmb IAmb 22 05 21.9
comp=Z,9.3nm,0.9s
E19K Redstone River 90.06 21 IAmb IAmb 22 05 22.1
comp=Z,10nm,0.8s
F19K Shaleruckik Mo 90.07 22 IAmb IAmb 22 05 22.0
comp=Z,16nm,1.2s
B21K Ikpikpuk River 90.17 19 IAmb IAmb 22 05 22.7
comp=Z,7.9nm,1.0s
B22K Teshekpuk Lake 90.27 18 IAmb IAmb 22 05 22.2
comp=Z,14nm,1.3s
G19K Purcell Mounta 90.56 23 P 22 05 12.2 +0.2
G19K IAmb IAmb 22 05 24.7
comp=Z,8.8nm,1.0s
J17K VABM Dome 90.66 26 P **P 22 05 12.8 +0.2**
J17K IAmb IAmb 22 08 08.0
comp=Z,18nm,1.5s
F20K Avaraart Lake 90.75 22 IAmb IAmb 22 05 25.4
comp=Z,14nm,0.9s
TORD Torodi Ar. Bea 90.80 283 P 22 05 14.6 +0.4
TORD Torodi Ar. Bea 90.80 283 P **P 22 05 13.8 -0.4**
comp=Z,47nm,0.4s,baz=80,slow=4.6,SNR=1.4
E21K Killik River 90.84 20 P 22 05 12.7 -0.7
E21K IAmb IAmb 22 05 25.6
comp=Z,10nm,0.8s
D22K Ayikyak River 91.10 19 IAmb IAmb 22 05 27.2
comp=Z,13nm,1.2s
ELIB Princess Elisa 91.31 197 *d*P **P 22 05 17.3 +1.8**
ESDC Sonseca Array 91.53 310 P 22 05 17.5 +0.3
ESDC Sonseca Array 91.53 310 P **P 22 05 16.7 -0.5**
comp=Z,3.5nm,1.1s,baz=60,slow=4.0,SNR=14
ESDC LR LR 22 50 07.8
comp=Z,98nm,20.9s,baz=76,slow=38
comp=Z,3.5nm,1.1s
J18K Innoko River 91.64 25 IAmb IAmb 22 05 29.7
comp=Z,8.0nm,1.1s
E22K Anaktuvuk Pass 91.70 20 P **P 22 05 18.5 +1.1**
E22K IAmb IAmb 22 05 29.0
comp=Z,15nm,1.6s
D23K Nanushuk River 91.72 19 P 22 05 18.0 +0.6
D23K IAmb IAmb 22 05 30.1
comp=Z,12nm,1.1s
J19K Poorman 91.91 24 P 22 05 18.8 +0.5
I20K Naaghedeneel 92.07 24 P 22 05 19.0 0.0
TOLK Toolik Lake Re 92.22 19 IAmb IAmb 22 05 39.3
comp=Z,8.4nm,0.9s
D24K Happy Valley 92.23 19 P **P 22 05 20.6 +0.9**
H21K Melozitna Rive 92.38 22 P **P 22 05 20.6 +0.1**
J20K Nowinta River 92.44 24 P 22 05 21.1 +0.4
E23K Chandalar 92.48 20 IAmb IAmb 22 05 32.9
comp=Z,12nm,1.4s
COLD Coldfoot 92.65 21 P 22 05 22.6 +0.9
COLD IAmb IAmb 22 05 34.5
comp=Z,19nm,1.9s
K20K Telida 92.79 25 P **P 22 05 22.9 +0.5**
E24K Your Creek 92.84 20 IAmb IAmb 22 05 35.1
comp=Z,5.8nm,1.1s
I21K Tanana 92.89 23 P **P 22 05 23.2 +0.4**
I21K IAmb IAmb 22 05 37.5
comp=Z,7.4nm,1.1s
G23K Bananza Creek 92.95 21 IAmb IAmb 22 05 35.7
comp=Z,7.1nm,1.1s
MDT Midelt 93.35 304 LR LR 22 55 57.4
comp=Z,155nm,18.6s,baz=116,slow=41
CAST Castle Rocks 93.58 24 P 22 05 26.1 0.0
CAST IAmb IAmb 22 05 29.7
comp=Z,10nm,0.8s
BPAW Bear Paw Mtn. 93.73 24 P **P 22 05 25.0 -1.8**
BORG Borgarnes 93.78 337 LR LR 22 50 42.2
comp=Z,111nm,18.3s,baz=54,slow=38
F25K Christian Rive 94.02 19 P 22 05 29.0 +0.9
SKT Skwentna 94.42 26 P 22 05 29.7 -0.3
BMAR Burnt Mountain 94.46 19 P **P 22 05 31.0 +1.0**
F26K Sheenjek River 94.46 19 P **P 22 05 30.2 +0.1**
F26K IAmb IAmb 22 05 41.1
comp=Z,18nm,1.8s
D27M Malcolm River 94.57 17 P 22 05 30.9 +0.3
D27M IAmb IAmb 22 05 41.0
comp=Z,5.0nm,0.9s
G26K Porcupine Rive 94.98 20 P 22 05 32.6 +0.2
SUA Susitna One 94.98 26 P **P 22 05 33.4 +0.7**
SUA IAmb IAmb 22 05 35.3
comp=Z,8.9nm,0.8s
ILAR Eielson Array 95.00 22 P **P 22 05 31.6 -0.9**
comp=Z,0.5nm,0.6s,baz=287,slow=4.9,SNR=5.3
comp=Z,0.5nm,0.6s
M22K Willow 95.12 26 P **P 22 05 32.1 -1.0**
E29M Blow River 95.98 17 P 22 05 37.2 +0.2
E29M IAmb IAmb 22 05 48.4
comp=Z,13nm,1.4s
QSPA South Pole Qui 97.44 180 P **P 22 05 43.4 -0.3**
comp=Z,0.7nm,0.9s,baz=326,slow=3.4,SNR=1.3
comp=Z,0.7nm,0.9s
YKA Yellowknife Ar 106.72 14 PP **PP 22 10 51.5 +1.8**
comp=Z,0.4nm,0.8s,baz=338,slow=7.5,SNR=5.7
YKA PKKP **PKKPdf 22 22 07.2 -0.8**
comp=Z,0.3nm,0.8s,baz=142,slow=3.7,SNR=3.8
TBI Tubuai 117.05 112 *e*LR LR 22 46 23.8
comp=Z,893nm,27.2s
PPT2 Papeete2 117.13 106 *e*LR LR 22 46 19.8
comp=Z,152nm,24.8s
PPT2 *e*LR LR 22 46 20.7
comp=Z,181nm,34.0s
ULM Lac du Bonnet 121.78 8 PKP **PKPdf 22 11 03.4 -0.9**
comp=Z,1.7nm,0.5s,baz=25,slow=8.8,SNR=3.0
NVAR Mina Array Bea 125.14 31 PKP **PKPdf 22 11 11.3 -0.1**
comp=Z,0.7nm,0.6s,baz=270,slow=1.5,SNR=3.6
PDAR Pinedale Array 125.43 21 PKP **PKPdf 22 11 11.3 -0.5**
comp=Z,1.2nm,0.9s,baz=9.5,slow=3.6,SNR=6.6
TAOE Nuku Hiva Isla 126.16 95 *e*LR LR 22 50 32.9
comp=Z,152nm,25.6s
RKT Rikitea 130.30 114 *e*LR LR 22 52 27.4
comp=Z,597nm,26.8s
TXAR Lajitas Array 139.47 24 PKP **PKPdf 22 11 36.8 -1.7**
comp=Z,0.5nm,0.8s,baz=42,slow=2.0,SNR=3.8
TXAR PP **PP 22 14 35.9 +4.4**
comp=Z,0.5nm,0.9s,baz=347,slow=5.1,SNR=3.9
BDFB Brasilia 142.24 254 PKP **PKPdf 22 11 43.6 -0.1**
comp=Z,1.3nm,0.5s,baz=154,slow=6.4,SNR=3.2
PLCA Paso Flores 144.28 200 PKPdf 22 11 46.1 -0.6
PLCA Paso Flores 144.28 200 PKP **PKPdf 22 11 46.0 -0.6**
comp=Z,4.3nm,0.9s,baz=172,slow=3.3,SNR=8.2
PLCA Paso Flores 144.28 200 PKIKP **PKPdf 22 11 46.1 -0.6**
CPUP Villa Florida 147.16 232 PKPbc 22 11 53.3 -0.8
CPUP Villa Florida 147.16 232 PKPbc **PKPbc 22 11 53.6 -0.5**
comp=Z,4.3nm,0.8s,baz=98,slow=2.4,SNR=9.9
CPUP Villa Florida 147.16 232 PKP2 **PKPbc 22 11 53.3 -0.8**
BI02 San Fabin de 148.15 202 PKPbc 22 11 57.0 +0.4
AQDB Aquidauana 148.22 243 PKPbc 22 11 57.3 +0.2
CELP Cerrillos 148.29 324 PKPbc 22 11 57.8 +0.4
CO03 El Pedregal 152.88 209 PKPbc 22 12 07.8 -0.3

NDI ***18*** *21:57:01.7±0.9, 7.°60N×94.°34E, h10km, mb4.9, ML5.0, MW4.9*
BJI ***18*** *21:57:52.9, 7.°20N×94.°01E, h27km, mB5.0/20, mb4.8/63, Ms4.9/36, Ms7 4.6/35*
MOS ***18*** *21:57:53.0±0.7, 7.°59N×94.°29E, h10km, mb5.2/61, Error ellipse: s-maj=11.2km s-min=5.2km az=108.2*
IDC ***18*** *21:57:53.3±0.4, 7.°58N×94.°28E, h0km, mb4.7/30, mbtmp4.6/34, ML4.4/4, MS4.4/8, Error ellipse: s-maj=16.2km s-min=11.2km az=56.0*
BGR ***18*** *21:57:54.8, 6.°04N×93.°58E, h33km, mb4.2, Hypocentre not reviewed by the ISC*
NEIC ***18*** *21:57:56.1±1.7, 7.°62N±0.°06×94.°37E±0.°07, h10km±1km, mb5.1/182, Mww4.9/20, Error ellipse: s-maj=13.7km s-min=9.0km az=236.0*
NEIC ***18*** *21:57:56.2, 7.°60N×94.°36E, h14km*
NEIC ***18*** *21:57:56.2, 7.°50N×94.°00E, h14km, Moment Tensor Solution. Duration: 1§5 Moment tensor: Scale 10^16^Nm; Mrr-0.31; Mθθ-2.72; Mφφ3.03; Mrθ-0.56; Mφθ0.20; Mφr0.11; Fault plane solution: M0 2.94000×10^16^ NP1:φs=46.33000°, δ80.08000°, λ-7.82000°. NP2:φs=137.68000°, δ82.30000°, λ-169.99000°. Principal axes: T 3.0371, Plg2.0000°, Azm272.0000°; N -0.1877, Plg77.0000°, Azm175.0000°; P -2.8494, Plg13.0000°, Azm2.0000°;*
DJA ***18*** *21:57:58.8±0.4, 8.°N±2.°×9.°4E±.°, h39km±5km, M5.2/31, mb5.1/31, mB5.8/6, MLv5.2/12, Mw(mB)5.4/6, MwMwp5.1/1, Mwp5.3/1*
GCMT ***18*** *21:57:59.1±0.2, 7.°58N±0.°01×94.°31E±0.°01, h18km±1km, MW5.0/113, Moment Tensor Solution. s21,c23; s113,c164; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.03±.17; Mθθ-3.54±.12; Mφφ3.51±.13; Mrθ-0.73±.33; Mφθ1.39±.11; Mφr-0.42±.31; Best double couple: M0 3.88100×10^16^ NP1:φs=146.00000°, δ78.00000°, λ-179.00000°. NP2:φs=56.00000°, δ89.00000°, λ-12.00000°. Principal axes: T 3.8550, Plg8.0000°, Azm101.0000°; N 0.0540, Plg78.0000°, Azm233.0000°; P -3.9070, Plg9.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 21:57:58.1±0.6, 7.°56N±0.°03×94.°26E±0.°04, h29km±3km, h29km:pP-P, n789, σ1§59/802, mb5.0/216, MS4.5/21, 43C-17D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.64**	**211**	*e*P	**Pn**	**21 58 12.9**	**+1.7**
CMBY				*e*S	**Sn**	**21 58 21.8**	**+1.3**
CMBY				IAML		21 59 22.6	
	comp=E,85μm,0.1s						
CMBY				IAML		21 59 22.9	
	comp=N,99μm,0.2s						
BSI	**Banda Aceh**	**2.29**	**153**	P	**Pn**	**21 58 34.7**	**+0.7**
LHMI	**Lhok Sumawe**	**3.54**	**131**		**Pn**	**21 58 50.9**	**-0.1**
LHMI				Sn	**Sn**	**21 59 31.4**	**-0.6**
LHMI	**Lhok Sumawe**	**3.54**	**131**	P	**Pn**	**21 58 50.8**	**-0.3**
LHMI	**Lhok Sumawe**	**3.54**	**131**	P	**Pn**	**21 58 49.5**	**-1.6**
LHMI				S	**Sn**	**21 59 32.0**	**+0.1**
MLSI	**Meulaboh, Aceh**	**3.91**	**147**	P	**Pn**	**21 58 56.4**	**+0.2**
PBA	**Port Blair**	**4.33**	**340**		**Pn**	**21 59 02.4**	**+0.4**
PBA	**Port Blair**	**4.33**	**340**	*e*P	Pn	21 59 07.1	+5.0
PBA				*e*S	**Sn**	**21 59 56.3**	**+4.6**
PBA				IAML		22 01 04.8	
	comp=N,5μm,0.4s						
PBA				IAML		22 01 06.3	
	comp=E,5μm,0.9s						
SRIT	**Nakonsritamara**	**5.39**	**79**		**Pn**	**21 59 15.2**	**-1.3**
DGPR	**DIGLIPUR**	**5.73**	**347**	*e*P	Pn	21 59 26.4	+5.1
DGPR				*e*S	**Sn**	**22 00 28.4**	**+2.3**
TSI	**Tuntungan**	**5.88**	**133**	P	**Pn**	**21 59 23.1**	**-0.3**
	comp=E,1.6nmcomp=E,160nm,0.7s						
PSI	**Prapat**	**6.63**	**135**	Pn	**Pn**	**21 59 34.3**	**+0.6**
	comp=E,5.2nm,0.3s,baz=317,slow=8.0,SNR=9.2						
PSI				Sn	**Sn**	**22 00 44.7**	**-3.7**
	comp=E,2.4nm,0.3s,baz=315,slow=22,SNR=1.3						
	comp=E,17nm,0.6s						
PSI	**Prapat**	**6.63**	**135**	P	**Pn**	**21 59 35.4**	**+1.7**
PSI	**Prapat**	**6.63**	**135**	P	**Pn**	**21 59 34.7**	**+1.0**
RPSI	**Rantau Prapat**	**6.70**	**136**		**Pn**	**21 59 34.7**	**+0.1**
KULM	**Kulim**	**6.74**	**109**		**Pn**	**21 59 33.5**	**-1.6**
KULM	**Kulim**	**6.74**	**109**	P	**Pn**	**21 59 33.3**	**-1.8**
GSI	**Gunungsitoli**	**7.04**	**152**		**Pn**	**21 59 37.8**	**-1.5**
GSI	**Gunungsitoli**	**7.04**	**152**	P	**Pn**	**21 59 38.8**	**-0.5**
GSI	**Gunungsitoli**	**7.04**	**152**	P	**Pn**	**21 59 37.3**	**-2.0**
SRDT	**SRDT**	**8.26**	**35**	P	**Pn**	**21 59 56.8**	**+0.7**
MNSI	**Mandailing Nat**	**8.56**	**141**	P	**Pn**	**21 59 59.8**	**-0.4**
	comp=E,62nm,0.5s						
NAYO	**Nakonayok**	**9.65**	**45**	P	**Pn**	**22 00 15.8**	**+0.7**
BKNI	**Bangkinang**	**9.87**	**136**	Pn	**Pn**	**22 00 19.0**	**+0.9**
BKNI	**Bangkinang**	**9.87**	**136**	P	**Pn**	**22 00 19.0**	**+0.9**
PPI	**Padang Panjang**	**10.04**	**142**	P	**Pn**	**22 00 21.2**	**+0.7**
	comp=E,75nm,0.9s						
MYKOM	**Kota Tinggi**	**11.14**	**120**		**Pn**	**22 00 33.6**	**-2.0**
MYKOM	**Kota Tinggi**	**11.14**	**120**	P	**Pn**	**22 00 34.0**	**-1.6**
CM31	**Chiang Mai Arr**	**11.75**	**22**		**Pn**	**22 00 42.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**11.75**	**22**	Pn	**Pn**	**22 00 44.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**11.75**	**22**	Pn	**Pn**	**22 00 42.6**	**-1.3**
	comp=E,2.1nm,0.3s,baz=213,slow=14,SNR=26						
CMAR				ScP	**ScP**	**22 10 03.4**	**+0.2**
	comp=E,0.8nm,0.3s,baz=191,slow=1.6,SNR=6.8						
	comp=E,3.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**11.75**	**22**	P	**Pn**	**22 00 44.0**	**+0.1**
CHTO	**Chiang Mai**	**12.08**	**22**		**Pn**	**22 00 48.9**	**+0.5**
CHTO	**Chiang Mai**	**12.08**	**22**	P	**Pn**	**22 00 50.2**	**+1.9**
CHTO	**Chiang Mai**	**12.08**	**22**	P	**Pn**	**22 00 48.9**	**+0.5**
PALK	**Pallekele**	**13.45**	**270**	Pn	**Pn**	**22 01 07.7**	**+0.6**
	comp=E,0.3nm,0.3s,baz=88,slow=16,SNR=1.6						
PALK				Sn	Sn	22 03 24.2	-12
	comp=E,1.4nm,0.3s,baz=156,slow=20,SNR=6.8						
	comp=E,3.4nm,0.7s						
PALK	**Pallekele**	**13.45**	**270**	*i* P	**Pn**	**22 01 07.3**	**+0.1**
KSI	**Kapahiang**	**13.90**	**143**	P	P	22 01 36.2	+15
MNAI	**Manna**	**14.68**	**144**	Pn	**Pn**	**22 01 23.6**	**-0.3**
MDRS	**Chennai**	**14.83**	**293**	*e*P	**P**	**22 01 31.1**	**-0.4**
MDRS				IAmb	IAmb	22 02 47.2	
	comp=Z,146nm,1.3s						
MDRS				*e*S	**Sn**	**22 04 04.2**	**-5.2**
BRDH	**Bariadhala**	**15.24**	**351**	Pn	**Pn**	**22 01 31.0**	**-0.3**
	comp=Z,53nm,0.3s,baz=229,slow=20,SNR=4.0						
MDSI	**Maura Dua**	**15.53**	**140**	P	**Pn**	**22 01 32.4**	**-2.8**
	comp=Z,43nm,1.1s						
RAGD	**RAYAGADA**	**15.65**	**319**	*e*P	**P**	**22 01 41.1**	**+0.5**
RAGD				IAmb	IAmb	22 02 54.7	
	comp=Z,61nm,0.8s						
RAGD				*e*S	**Sn**	**22 04 22.5**	**-6.9**
LWLI	**Liwa**	**15.87**	**142**	P	**Pn**	**22 01 41.0**	**+1.4**
	comp=Z,174nm,0.8s						
SLVN	**Son La**	**16.56**	**33**		**Pn**	**22 01 47.6**	**-0.9**
KOD	**Kodaikanal**	**16.80**	**280**	*e*P	**P**	**22 01 56.8**	**+3.0**
KOD				IAmb	IAmb	22 03 16.6	
	comp=Z,89nm,1.3s						
KOD				*e*S	**Sn**	**22 04 49.8**	**-8.1**
TPI	**Tanjungpandan**	**16.84**	**127**	P	**Pn**	**22 01 50.8**	**-1.1**
	comp=Z,49nm,1.2s						
KSM	**Kuching**	**17.10**	**110**		**Pn**	**22 01 53.9**	**-1.3**
KSM				IAmb	IAmb	22 02 01.0	
	comp=Z,205nm,1.4s						
IMP	**Imphal**	**17.18**	**359**	*e*P	**P**	**22 02 02.0**	**+4.4**
IMP				IAmb	IAmb	22 03 06.7	
	comp=Z,39nm,0.9s						
IMP				*e*S	**Sn**	**22 04 56.6**	**-10**
TNCH	**TengChong**	**17.84**	**13**	⇓P	**P**	**22 02 06.1**	**+1.1**
TNCH				PP	**PnPn**	**22 02 21.4**	**+5.7**
TNCH				S	**Sn**	**22 05 22.3**	**-0.4**
TNCH				SS	**SnSn**	**22 05 46.3**	**+9.5**
TNCH				pmax	pmax		
	comp=Z,88nm,1.5s						
TNCH				LR	LR		
	comp=Z,1μm,10.7s						
TNCH				LR	LR		
	comp=Z,2μm,11.7s						
TNCH				LR	LR		
	comp=Z,2μm,13.4s						
SHL	**Shillong**	**18.05**	**353**		**Pn**	**22 02 04.5**	**-2.5**
SHL	**Shillong**	**18.05**	**353**	P	**Pn**	**22 02 06.4**	**-0.6**
	SNR=12						
SHL	**Shillong**	**18.05**	**353**	P	**Pn**	**22 02 04.5**	**-2.5**
SHL				pmax	pmax		
	comp=Z,40nm,0.9s						
CGJI	**Cibinong**	**18.12**	**141**	P	**Pn**	**22 02 04.9**	**-2.9**
	comp=Z,45nm,0.9s						
HYB	**Hyderabad**	**18.18**	**304**	*e*P	**P**	**22 02 09.2**	**+0.5**
HYB				*e*S	**Sn**	**22 05 33.4**	**+2.5**
SBUM	**Sibu**	**18.59**	**105**	P	**Pn**	**22 02 13.3**	**-0.3**
STKI	**Sintang**	**18.71**	**113**	P	**Pn**	**22 02 15.7**	**+0.7**
	comp=Z,6μmcomp=Z,109nm,1.2s						
QIZ	**Qiongzhong**	**18.95**	**51**	P	**Pn**	**22 02 17.6**	**-0.3**
QIZ				S	**Sn**	**22 05 47.6**	**-1.8**
QIZ				LR	LR		
	comp=Z,5μm,12.1s						
QIZ				LR	LR		
	comp=Z,2μm,12.3s						
QIZ				LR	LR		
	comp=Z,1μm,9.6s						
KMI	**Kunming**	**19.25**	**24**	⇑P	**Pn**	**22 02 25.0**	**+3.3**
KMI				LR	LR		
	comp=Z,750nm,14.6s						
KMI				LR	LR		
	comp=Z,1μm,15.4s						
KMI				LR	LR		
	comp=Z,1μm,16.6s						
LEM	**Lembang**	**19.54**	**137**	P	**Pn**	**22 02 24.9**	**-0.3**
	comp=Z,2.6nm,0.3s,baz=297,slow=22,SNR=1.7						
	comp=Z,12nm,0.5s						
PZH	**PanZhiHua**	**20.14**	**20**	P	Pn	22 02 32.4	+0.3
PZH				pmax	pmax		
	comp=Z,70nm,1.0s						
PZH				pmax	pmax		
	comp=Z,220nm,4.3s						
GTK	**Tadong**	**20.37**	**345**	*e*P	Pn	22 02 44.4	+10
GTK				*e*S	**S**	**22 06 11.0**	**-8.7**
SMRI	**Semarang**	**21.70**	**132**	P	**P**	**22 02 46.7**	**-0.3**
SMRI	**Semarang**	**21.70**	**132**	P	**P**	**22 02 46.8**	**-0.2**
	comp=Z,150nm,0.9s						
KKM	**Kota Kinabalu**	**21.85**	**93**	P	**P**	**22 02 45.9**	**-2.9**
KKM				IAmb	IAmb	22 02 52.9	
	comp=Z,133nm,1.7s						
GYA	**Guiyang**	**22.19**	**31**	⇓P	**P**	**22 02 54.3**	**+2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LSA	**Lhasa**	**22.22**	**353**	P	**P**	**22 02 52.1**	**-0.8**
LSA				IAmb	IAmb	22 02 56.4	
	comp=Z,95nm,0.8s						
LSA	**Lhasa**	**22.22**	**353**	P	**P**	**22 02 51.8**	**-1.1**
LSA				pmax	pmax		
	comp=Z,21nm,0.9s						
LSA	**Lhasa**	**22.22**	**353**	P	**P**	**22 02 52.1**	**-0.8**
LSA				pmax	pmax		
	comp=Z,95nm,0.8s						
MYLDM	**Lahad Datu**	**24.20**	**94**	P	**P**	**22 03 12.4**	**-0.1**
MYLDM				IAmb	IAmb	22 03 16.8	
	comp=Z,88nm,1.1s						
BKB	**Balikpapan**	**24.22**	**110**	P	**P**	**22 03 13.8**	**+1.2**
CD2	**Chengdu**	**24.87**	**20**	P	**P**	**22 03 19.5**	**+1.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
SRBI	**Singaraja**	**26.04**	**126**	P	**P**	**22 03 27.6**	**-1.5**
	comp=Z,142nm,1.2s						
H08S3	**Diego Garcia H**	**26.44**	**236**	T	T	22 30 25.3	
	baz=54,slow=75,SNR=391						
H08S2	**Diego Garcia H**	**26.44**	**236**	T	T	22 30 24.3	
	baz=54,slow=75,SNR=33						
H08S1	**Diego Carcia H**	**26.46**	**236**	T	T	22 30 25.2	
	baz=54,slow=75,SNR=315						
MPSI	**Mapaga**	**26.55**	**105**	P	**P**	**22 03 33.6**	**-0.1**
	comp=Z,3μmcomp=Z,90nm,1.0s						
ENH	**Enshi**	**26.73**	**30**	P	**P**	**22 03 35.1**	**-0.1**
ENH				IAmb	IAmb	22 03 44.3	
	comp=Z,28nm,1.1s						
PCI	**Palu**	**26.86**	**107**	P	**P**	**22 03 37.6**	**+1.0**
	comp=Z,33nm,1.4s						
TOLI2	**Tolitoli**	**27.20**	**102**		**P**	**22 03 38.6**	**-1.0**
TOLI2				IAmb	IAmb	22 03 45.2	
	comp=Z,22nm,0

GOMU pP pP 22 03 55.6 -3.7
GOMU pmax pmax
comp=Z,20nm,1.0s
GOMU pmax pmax
comp=Z,330nm,5.1s
GOMU LR LR
comp=Z,690nm,16.9s
GOMU LR LR
comp=Z,630nm,14.5s
GOMU LR LR
comp=Z,860nm,16.4s
WHN Wuhan 29.61 37 P **P 22 04 02.8 +1.9**
WHN pmax pmax
comp=Z,68nm,1.1s
XAN Xi'an 29.62 25 ⇑P **P 22 04 01.3 +0.2**
XAN pmax pmax
comp=Z,16nm,1.0s
XAN LR LR
comp=Z,3μm,14.1s
XAN LR LR
comp=Z,3μm,14.1s
XAN LR LR
comp=Z,1μm,15.1s
LUWI Luwuk 29.69 106 P **P 22 04 02.4 +0.5**
LZH Lanzhou 29.71 16 *e*P **P 22 04 02.8 +0.8**
LZH sP sP 22 04 13.0 0.0
LZH PP **PnPn 22 04 59.9 +2.0**
LZH pmax pmax
comp=Z,14nm,1.2s
LZH LR LR
comp=Z,690nm,12.5s
LZH LR LR
comp=Z,840nm,15.1s
LZH LR LR
comp=Z,1μm,14.8s
LYN LuoYang 31.66 29 ⇑P **P 22 04 21.0 +2.0**
LYN sP pwP 22 04 29.6 0.0
LYN pmax pmax
comp=Z,24nm,0.6s
LYN LR LR
comp=Z,2μm,15.0s
LYN LR LR
comp=Z,2μm,15.5s
LYN LR LR
comp=Z,1μm,14.8s
GTA Gaotai 32.10 8 *e*P **P 22 04 24.3 +1.4**
GTA sP pwP 22 04 31.9 -1.5
GTA PcP **PcP 22 07 13.8 +1.9**
GTA ScP **ScP 22 10 53.8 +0.1**
GTA pmax pmax
comp=Z,12nm,1.1s
GTA LR LR
comp=Z,310nm,15.6s
GTA LR LR
comp=Z,320nm,14.5s
GTA LR LR
comp=Z,310nm,17.1s
NIL Nilore 32.42 326 **P 22 04 25.4 -0.3**
NIL Nilore 32.42 326 P **P 22 04 25.4 -0.3**
NIL pmax pmax
comp=Z,47nm,0.7s
NJ2 Nanjing 33.43 40 *e*P **P 22 04 34.6 +0.1**
NJ2 pmax pmax
comp=Z,11nm,1.3s
TNTI Ternate 33.68 100 P **P 22 04 36.2 -0.7**
TNTI IAmb IAmb 22 04 37.4
comp=Z,23nm,1.2s
HNS HongShan 35.03 29 ⇑P **P 22 04 50.9 +2.6**
HNS pmax pmax
comp=Z,17nm,0.6s
TIA Tai'an 35.34 33 P **P 22 04 52.0 +0.9**
TIA pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 35.49 323 P **P 22 04 52.1 -0.5**
KBL IAmb IAmb 22 04 54.4
comp=Z,18nm,0.8s
KBL Kabul 35.49 323 P **P 22 04 52.9 +0.3**
SNR=7.3
KBL P **P 22 04 52.9 +0.3**
SNR=7.3
KBL Kabul 35.49 323 P **P 22 04 52.1 -0.5**
KBL pmax pmax
comp=Z,18nm,0.9s
BTO Baotou 35.79 21 *e*P **P 22 04 55.9 +1.0**
BTO sP **pwP 22 05 03.3 -2.2**
BTO PP **PP 22 06 16.3 -0.2**
BTO S **S 22 10 35.3 +4.7**
BTO pmax pmax
comp=Z,11nm,0.6s
BTO pmax pmax
comp=Z,160nm,3.5s
BTO LR LR
comp=Z,2μm,13.1s
BTO LR LR
comp=Z,1μm,10.7s
BTO LR LR
comp=Z,1μm,12.8s
KSH Kashi 35.81 335 P **P 22 04 53.0 -2.1**
KSH pmax pmax
comp=Z,9.0nm,0.7s
KSH LR LR
comp=Z,510nm,19.1s
KSH LR LR
comp=Z,540nm,19.6s
KSH LR LR
comp=Z,500nm,22.1s
WUS Wushi 36.07 341 P **P 22 04 57.0 -0.4**
JLN Jalan Bani Buh 36.56 297 P **P 22 05 06.1 +4.5**
SNR=6.0
JLN P **P 22 05 06.1 +4.5**
SNR=6.0
HHC Hu-ho-hao-te 36.56 22 *e*P **P 22 05 03.1 +1.6**
HHC LR LR
comp=Z,500nm,13.5s
HHC LR LR
comp=Z,1μm,13.9s
HHC LR LR
comp=Z,540nm,14.3s
WMQ Urumqi 36.57 352 *e*P **P 22 05 01.3 -0.2**
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ LR LR
comp=Z,570nm,18.9s
WMQ LR LR
comp=Z,560nm,21.9s
WMQ LR LR
comp=Z,270nm,24.3s
TARG Taragay, Kyrgy 37.02 339 P **P 22 05 05.8 0.0**
TARG Taragay, Kyrgy 37.02 339 P **P 22 05 05.8 0.0**
TARG pmax pmax
comp=Z,13nm,0.8s
PRZ Przheval'sk 37.49 341 P **P 22 05 10.2 +0.6**
PRZ IAmb IAmb 22 05 11.3
comp=Z,16nm,0.8s
PRZ Przheval'sk 37.49 341 P **P 22 05 10.2 +0.6**
PRZ pmax pmax
comp=Z,16nm,0.8s
WSAR Wadi Sarin 37.58 299 P P 22 05 15.6 +5.2
SNR=7.0
KDJ Kajisay 37.60 339 P **P 22 05 10.5 +0.1**
KDJ Kajisay 37.60 339 P **P 22 05 10.5 +0.1**
KDJ pmax pmax
comp=Z,16nm,0.8s
DQM DQM 37.63 293 P **P 22 05 15.3 +4.5**
SHLS Shalkode 37.77 342 *e*P **P 22 05 09.7 -2.1**
SHLS Shalkode 37.77 342 *e*P **P 22 05 09.7 -2.1**
JMDO Jabal Madar 37.78 297 P P 22 05 17.1 +5.0
JMDO P P 22 05 17.1 +5.0
SWI Sorong 37.84 101 P **P 22 05 12.5 -0.1**
comp=Z,52nm,1.1s
UZB Uzynbulak 37.89 342 *e*P **P 22 05 11.5 -1.3**
UZB Uzynbulak 37.89 342 *e*P **P 22 05 11.6 -1.3**
MBWA Marble Bar 37.95 139 P **P 22 05 14.1 +0.7**
MBWA IAmb IAmb 22 06 06.8
comp=Z,65nm,1.7s
GAR Garm 38.00 329 **P 22 05 13.0 -0.8**
SATY Saty 38.01 341 *e*P **P 22 05 12.6 -1.2**
SATY Saty 38.01 341 *e*P **P 22 05 12.7 -1.2**
SMDO Samad 38.03 298 P **P 22 05 18.9 +4.6**
SMDO P **P 22 05 18.9 +4.6**
ULHL Ulahol 38.04 338 P **P 22 05 14.1 -0.1**
SNR=13
ZHN Zhinishke 38.10 341 *e*P **P 22 05 13.5 -1.0**
ZHN Zhinishke 38.10 341 *e*P **P 22 05 13.5 -1.0**
BIDO Bidbid 38.11 299 P P 22 05 21.0 +6.2
SNR=8.4
BIDO P P 22 05 21.0 +6.2
SNR=8.4
PSA00 Pilbara Seismi 38.32 140 **P 22 05 15.0 -1.5**
PSA00 Pilbara Seismi 38.32 140 P **P 22 05 15.6 -1.0**
BOOM Boomskoye usch 38.36 338 P **P 22 05 16.2 -0.7**
BOOM Boomskoye usch 38.36 338 P **P 22 05 16.2 -0.7**
BOOM pmax pmax
comp=Z,9.0nm,0.9s
SIMJ Simiganj 38.43 327 **P 22 05 16.5 -0.9**
SIMJ IAmb IAmb 22 05 20.1
comp=Z,34nm,0.9s
TNSS Tian-Shan 38.48 339 *e*P **P 22 05 16.5 -1.6**
TNSS Tian-Shan 38.48 339 *e*P **P 22 05 16.5 -1.6**
MDOK Medeo 38.55 340 *e*P **P 22 05 17.1 -1.3**
MDOK Medeo 38.55 340 *e*P **P 22 05 17.2 -1.3**
BTK Batken 38.56 331 P **P 22 05 19.0 +0.5**
BTK IAmb IAmb 22 05 21.5
comp=Z,32nm,1.1s
BTK Batken 38.56 331 P **P 22 05 19.0 +0.5**
BTK pmax pmax
comp=Z,32nm,1.1s
ARSB Arslanbob 38.57 334 IAmb IAmb 22 05 19.6
comp=Z,34nm,0.7s
DZET Dzherino 38.64 327 P **P 22 05 18.4 -0.7**
DZET pmax pmax
comp=Z,14nm,1.3s
AAA Alma-Ata 38.64 340 *e*P **P 22 05 18.0 -1.0**
AAA pmax pmax
comp=Z,21nm,0.7s
AAA Alma-Ata 38.64 340 *e*P **P 22 05 18.1 -1.0**
comp=Z,21nm,0.7s
BSY Bisya 38.69 297 P **P 22 05 22.8 +3.1**
SNR=10
BSY P **P 22 05 22.8 +3.1**
SNR=10
HOQ Hoqain 38.84 298 P **P 22 05 24.0 +3.1**
SNR=6.5
HOQ P **P 22 05 24.0 +3.1**
SNR=6.5
TKM2 Tokmak 2 38.86 338 P **P 22 05 20.8 -0.3**
SNR=5.9
KBK Karagaybulak 38.88 337 P **P 22 05 21.7 +0.5**
SNR=18
AML Almayashu 38.94 335 P **P 22 05 22.2 +0.2**
SNR=37
AAK Ala-Archa 39.04 337 P **P 22 05 22.8 +0.2**
AAK Ala-Archa 39.04 337 P **P 22 05 18.4 -4.2**
AAK P **P 22 05 18.4 -4.2**
AAK Ala-Archa 39.04 337 P **P 22 05 23.2 +0.7**
SNR=14
AAK Ala-Archa 39.04 337 *ce*P **P 22 05 22.5 0.0**
AAK pmax pmax
comp=Z,15nm,1.0s
CHMS Chumysh 39.25 337 P **P 22 05 24.2 +0.1**
SNR=8.3
FAKI Fak Fak 39.31 104 P **P 22 05 24.3 -0.7**
EKS2 Erkin-Say 39.35 336 P **P 22 05 25.5 +0.5**
SNR=19
KUU Kurty 39.44 340 *e*P **P 22 05 24.6 -1.1**
KUU Kurty 39.44 340 *e*P **P 22 05 24.6 -1.1**
ARQ Araqi 39.45 298 P P 22 05 31.1 +5.0
ARQ P P 22 05 31.1 +5.0
USP Ospenovka 39.57 337 P **P 22 05 26.4 -0.4**
SNR=15
SGDS Sogindy 39.68 337 *e*P **P 22 05 26.8 -1.0**
SGDS Sogindy 39.68 337 *e*P **P 22 05 26.8 -1.0**
DL2 Dalian 39.76 34 *e*P **P 22 05 27.0 -1.4**
DL2 S **S 22 11 28.5 -2.1**
DL2 pmax pmax
comp=Z,18nm,1.0s
DL2 LR LR
comp=Z,680nm,15.6s
DL2 LR LR
comp=Z,1μm,16.8s
DL2 LR LR
comp=Z,790nm,11.6s
TDK Taldyqorghan 39.76 342 *e*P **P 22 05 27.3 -1.0**
TDK Taldyqorghan 39.76 342 *e*P **P 22 05 27.3 -1.0**
FITZ Fitzroy Crossi 40.12 130 P **P 22 05 30.8 -0.8**
UOSS Minazif 40.23 300 P **P 22 05 33.7 +1.2**
UOSS Minazif 40.23 300 P **P 22 05 36.2 +3.7**
UOSS P **P 22 05 36.2 +3.7**
HATD Hatta, Dubai 40.25 300 P **P 22 05 37.2 +4.5**
HATD P **P 22 05 37.2 +4.5**
MDH Madha 40.26 301 P **P 22 05 36.3 +3.6**
MDH P **P 22 05 36.3 +3.6**
ALNE Al Ain 40.34 298 P P 22 05 38.4 +5.0
SNR=11
ALNE P P 22 05 38.4 +5.0
SNR=11
MK31 Makanchi Array 40.42 347 *ce*P **P 22 05 33.3 -0.5**
MKAR Makanchi Array 40.42 347 P **P 22 05 33.2 -0.6**
comp=Z,31nm,0.8s,baz=165,slow=8.1,SNR=155
MKAR LR LR 22 25 36.4
comp=Z,227nm,18.4s,baz=160,slow=41
comp=Z,31nm,0.8s
BANOM Banah 40.47 301 P **P 22 05 35.9 +1.3**
BANOM P **P 22 05 35.9 +1.3**
UMZA Um Al Zommool 40.48 296 P **P 22 05 37.6 +3.0**
UMZA P **P 22 05 37.6 +3.0**
MAKZ Makanchi 40.50 347 **P 22 05 33.8 -0.7**
MAKZ IAmb IAmb 22 05 34.7
comp=Z,25nm,0.7s
MAKZ Makanchi 40.50 347 P **P 22 05 33.8 -0.7**
MAKZ pmax pmax
comp=Z,25nm,0.7s
DOK Doka 40.51 290 P **P 22 05 37.4 +2.5**
DOK P **P 22 05 37.4 +2.5**
ZSN Zaisan 40.55 350 *e*P **P 22 05 34.0 -0.8**
ZSN Zaisan 40.55 350 *e*P **P 22 05 34.0 -0.8**
IUG Iuzhnay 40.56 332 *e*P **P 22 05 33.8 -1.3**
IUG pmax pmax
comp=Z,14nm,0.6s
IUG Iuzhnay 40.56 332 *e*P **P 22 05 33.9 -1.3**
comp=Z,14nm,0.6s
DZA Taraz 40.56 334 *e*P **P 22 05 34.0 -1.0**
DZA Taraz 40.56 334 *e*P **P 22 05 34.1 -1.0**
SHME Shamm 40.65 302 P **P 22 05 39.8 +3.9**
SHME P **P 22 05 39.8 +3.9**
WHFO Wadi Hawf 40.73 289 P **P 22 05 38.9 +2.1**
WHFO P **P 22 05 38.9 +2.1**
ASUD Al Ashush, Dub 40.88 299 P **P 22 05 40.7 +2.8**
SNR=8.0
ASUD P **P 22 05 40.7 +2.8**
SNR=8.0
ABTO Aybut 41.09 288 P **P 22 05 44.2 +4.5**
ABTO P **P 22 05 44.2 +4.5**
KK31 Karatay Array 41.09 333 P **P 22 05 38.8 -0.6**
KK31 Karatay Array 41.09 333 P **P 22 05 38.8 -0.6**
KK31 pmax pmax
comp=Z,12nm,1.0s
KKAR Karatay Array 41.09 333 **P 22 05 38.7 -0.7**
KKAR Karatay Array 41.09 333 IAmb IAmb 22 05 40.4
comp=Z,13nm,1.0s
KKAR Karatay Array 41.09 333 P **P 22 05 38.7 -0.7**
AJN Ajban 41.16 299 P **P 22 05 44.5 +4.4**
SNR=5.7
AJN P **P 22 05 44.5 +4.4**
SNR=5.7
BRLS Borolday 41.34 333 *e*P **P 22 05 39.3 -2.1**
BRLS Borolday 41.34 333 *e*P **P 22 05 39.3 -2.1**
SONM Songino Array 41.44 12 P **P 22 05 41.8 -0.6**
SONM Songino Array 41.44 12 P **P 22 05 41.7 -0.6**
comp=Z,8.3nm,0.9s,baz=198,slow=8.0,SNR=28
SONM PcP **PcP 22 07 40.6 +0.7**
comp=Z,2.3nm,0.8s,baz=194,slow=5.2,SNR=3.7
comp=Z,8.3nm,0.9s
ULN Ulaanbaatar 41.61 13 **P 22 05 42.6 -1.2**
ULN Ulaanbaatar 41.61 13 P **P 22 05 42.6 -1.2**
ULN pmax pmax
comp=Z,8.0nm,0.9s
INCN Inchon 41.81 40 P **P 22 05 43.0 -2.4**
MZWR Madinat Zayed 41.90 297 P **P 22 05 50.3 +4.0**
MZWR P **P 22 05 50.3 +4.0**
MZR Muzera 42.05 296 P **P 22 05 50.5 +2.9**
SNR=15
MZR P **P 22 05 50.5 +2.9**
SNR=15
JNU Nakatsue 42.36 48 LR LR 22 23 55.9
comp=Z,521nm,20.0s,baz=254,slow=37
KSRS Korea Array 42.62 41 P **P 22 05 51.5 -0.4**
comp=Z,1.2nm,0.6s,baz=230,slow=9.7,SNR=4.6
comp=Z,1.2nm,0.6s
KURBB Kurchatov Arra 44.88 346 P **P 22 06 09.7 -0.1**
comp=Z,42nm,0.8s,baz=166,slow=7.1,SNR=173
KURBB PcP **PcP 22 07 51.6 +0.5**
comp=Z,3.7nm,0.9s,baz=165,slow=2.7,SNR=4.6
KURBB ScP **ScP 22 11 42.4 +0.6**
comp=Z,1.6nm,0.9s,baz=157,slow=3.2,SNR=6.2
comp=Z,42nm,0.8s
KURK Kurchatov 44.94 346 **P 22 06 10.3 0.0**
KURK Kurchatov 44.94 346 *ce*P **P 22 06 10.5 +0.1**
KURK pmax pmax
comp=Z,59nm,1.0s
CN2 Changchun 45.23 32 *e*P **P 22 06 13.8 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
BRZS Berezniki 45.98 341 *e*P **P 22 06 17.8 -0.8**
BRZS Berezniki 45.98 341 *e*P **P 22 06 17.8 -0.8**
ZALV Zalesovo Beam 46.88 352 **P 22 06 25.5 -0.1**
ZALV Zalesovo Beam 46.88 352 P **P 22 06 25.6 0.0**
comp=Z,46nm,0.9s,baz=175,slow=8.1,SNR=87
comp=Z,46nm,0.9s
BNX BinXian 47.57 31 ⇓P **P 22 06 32.6 +1.4**
BNX pmax pmax
comp=Z,7.0nm,1.4s
AIS Amsterdam Isla 47.74 198 P **P 22 06 33.4 +0.9**
WB0 Warramunga Arr 47.94 125 IAmb IAmb 22 06 48.9
comp=Z,47nm,1.9s
WRA Warramunga Arr 47.98 125 P **P 22 06 33.6 -1.2**
WRA Warramunga Arr 47.98 125 P **P 22 06 33.3 -1.5**
comp=Z,4.5nm,0.9s,baz=304,slow=9.1,SNR=21
comp=Z,4.5nm,0.9s
WRA Warramunga Arr 47.98 125 *i* P **P 22 06 33.4 -1.4**
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRAB Tennant Creek 47.99 125 **P 22 06 33.9 -0.9**
WRAB IAmb IAmb 22 06 46.0
comp=Z,8.4nm,0.9s
WRAB Tennant Creek 47.99 125 *i* P **P 22 06 33.6 -1.2**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
MDJ Mudanjiang 48.00 34 P **P 22 06 36.1 +1.6**
MDJ pmax pmax
comp=Z,6.0nm,1.4s
WR8 Warramunga Arr 48.12 125 IAmb IAmb 22 06 47.6
comp=Z,23nm,1.3s
USRK Ussuriysk Ar. 49.09 36 P **P 22 06 42.5 -0.4**
USRK Ussuriysk Ar. 49.09 36 P **P 22 06 42.5 -0.4**
MJAR Matsushiro Arr 49.28 48 P **P 22 06 45.2 +0.6**
comp=Z,2.0nm,0.7s,baz=238,slow=8.6,SNR=7.8
MJAR PcP **PcP 22 08 06.2 -1.0**
comp=Z,2.8nm,0.8s,baz=262,slow=3.6,SNR=5.9
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 49.32 341 P **P 22 06 43.9 -0.7**
comp=Z,18nm,0.8s,baz=134,slow=8.5,SNR=57
BVAR PcP **PcP 22 08 05.9 -1.0**
comp=Z,3.0nm,0.8s,baz=132,slow=4.1,SNR=2.3
comp=Z,18nm,0.8s
RAYN Ar Rayn 49.32 294 P **P 22 06 46.4 +1.3**
RAYN IAmb IAmb 22 06 50.5
comp=Z,35nm,1.2s
RAYN Ar Rayn 49.32 294 P **P 22 06 46.4 +1.3**
RAYN pmax pmax
comp=Z,35nm,1.2s
BRVK Borovoye 49.38 341 P **P 22 06 44.7 -0.3**
BRVK IAmb IAmb 22 06 45.7
comp=Z,15nm,0.8s
BRVK Borovoye 49.38 341 P **P 22 06 44.7 -0.3**
BRVK pmax pmax
comp=Z,15nm,0.8s
AS31 Alice Springs 49.62 130 P **P 22 06 45.8 -1.5**
ASAR Alice Springs 49.62 130 P **P 22 06 46.0 -1.4**
ASAR Alice Springs 49.62 130 P **P 22 06 46.1 -1.2**
comp=Z,5.7nm,0.9s,baz=306,slow=7.2,SNR=23
ASAR PcP **PcP 22 08 07.4 -1.2**
comp=Z,5.7nm,0.8s,baz=308,slow=3.9,SNR=11
comp=Z,5.7nm,0.9s
FORT Forrest 50.02 141 P **P 22 06 49.5 -0.7**
GUMO Guam 50.03 79 LR LR 22 24 47.3
comp=Z,115nm,21.4s,baz=280,slow=32
AB31 Akbulak array 50.56 331 IAmb IAmb 22 06 57.8
comp=Z,33nm,1.1s
ABKAR Akbulak array 50.56 331 **P 22 06 53.9 -0.1**
ABKAR Akbulak array 50.56 331 IAmb IAmb 22 06 57.8
comp=Z,33nm,1.1s
HEH HeiHe 50.72 27 *e*P **P 22 06 58.6 +3.4**
HEH pmax pmax
comp=Z,6.0nm,1.0s
HEH LR LR
comp=Z,650nm,12.2s
HEH LR LR
comp=Z,590nm,14.3s
HEH LR LR
comp=Z,840nm,13.7s
KLR Kul'dur 52.09 30 *i* P **P 22 07 05.6 +0.1**
KLR pmax pmax
comp=Z,13nm,2.3s
AKTO Aktyubinsk 52.28 331 P **P 22 07 06.2 -0.7**
comp=Z,12nm,0.7s,baz=138,slow=6.8,SNR=8.8
AKTO ScP **ScP 22 12 12.1 -1.1**
comp=Z,1.9nm,0.8s,baz=160,slow=4.3,SNR=3.7
comp=Z,12nm,0.7s
BOD Bodaibo 52.42 13 *e*P **P 22 07 07.9 +0.1**
BOD pmax pmax
comp=Z,18nm,1.0s
ZEA Zeya 53.19 24 *e*P P 22 07 24.6 +11
MAK Makhachkala 54.03 319 *e*P P 22 07 14.8 -5.0
MAK *e*S **S 22 14 49.0 -5.2**
MAK *e*SS **SKiKP 22 18 32.4 +1.7**
MAK *e*SSS SSS 22 20 34.1
MAK pmax pmax
comp=Z,143nm,0.9s
MAK MLR MLR
comp=Z,251nm,15.0s
GNI Garni 54.74 314 **P 22 07 25.5 +0.2**
GNI IAmb IAmb 22 07 36.4
comp=Z,37nm,1.3s
GNI Garni 54.74 314 *ce*P **P 22 07 26.5 +1.2**
GNI pmax pmax
comp=Z,33nm,1.3s
SVE Sverdlovsk 55.73 338 *ce*P **P 22 07 32.2 +0.2**
SVE pmax pmax
comp=Z,58nm,0.8s
GURO Guroymak-BITLI 56.13 312 P **P 22 07 35.1 -0.2**
ARTI Arti 56.26 337 **P 22 07 35.3 -0.4**
ARTI Arti 56.26 337 *d i*P **P 22 07 35.4 -0.4**
ARTI 22 08 29.4
ARTI S **S 22 15 26.2 +2.5**
ARTI SS **SS 22 19 12.0 +1.4**
ARTI pmax pmax
comp=Z,36nm,1.0s
MARD Mardin 56.68 310 **P 22 07 38.9 -0.4**
NCK Nalchik 56.84 318 *i* P **P 22 07 39.8 -0.3**
NCK pmax pmax
comp=Z,7.0nm,1.0s
KIBK Kibwezi 56.94 262 P **P 22 07 42.6 +1.2**
KBZ Khabaz 57.40 318 P **P 22 07 42.6 -1.4**
comp=Z,6.7nm,1.1s,baz=125,slow=10,SNR=6.8
comp=Z,6.7nm,1.1s
KBZ Khabaz 57.40 318 *ce*P **P 22 07 43.5 -0.5**
KBZ pmax pmax
comp=Z,9.0nm,1.1s
KMBO Kilima Mbogo 57.51 264 P **P 22 07 46.5 +0.9**
KMBO Kilima Mbogo 57.51 264 P **P 22 07 45.5 -0.2**
comp=Z,4.2nm,0.6s,baz=60,slow=11,SNR=14
comp=Z,4.2nm,0.6s
KMBO Kilima Mbogo 57.51 264 P **P 22 07 46.5 +0.9**
KMBO pmax pmax
comp=Z,8.0nm,1.1s
SHA1 Shidzhatmaz 57.56 318 *i* P **P 22 07 44.8 -0.7**
KIV Kislovodsk 57.63 318 **P 22 07 45.4 -0.4**
KIV IAmb IAmb 22 07 48.5
comp=Z,25nm,1.1s
KIV Kislovodsk 57.63 318 ⇑P **P 22 07 44.3 -1.5**
KIV Kislovodsk 57.63 318 *e*P **P 22 07 44.6 -1.2**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV Kislovodsk 57.63 318 P **P 22 07 44.9 -0.9**
comp=Z,19nm,1.2s
BELG Belogornoye 58.64 329 *i* P **P 22 07 52.2 -0.3**
BELG pmax pmax
comp=Z,14nm,0.8s
LODK Lodwar 58.74 269 P **P 22 07 55.3 +1.3**
GAZ Gaziantep 59.38 309 P **P 22 07 58.7 +0.6**
GAZ IAmb IAmb 22 08 01.4
comp=Z,9.6nm,1.1s
GHAJ Ghor Haditha 59.43 302 P **P 22 07 58.8 +0.3**
GHAJ IAmb IAmb 22 08 15.2
comp=Z,15nm,1.0s
STKA Stephens Creek 59.80 134 P **P 22 08 01.0 0.0**

STKA Stephens Creek 59.80 134 P **P 22 07 59.7 -1.3**
comp=Z,3.1nm,0.8s,baz=311,slow=6.7,SNR=5.6
comp=Z,3.1nm,0.8s
STKA Stephens Creek 59.80 134 P **P 22 08 01.0 0.0**
STKA pmax pmax
comp=Z,77nm,1.4s
YAK Yakutsk 60.25 18 P **P 22 08 03.4 -0.1**
YAK Yakutsk 60.25 18 *e*P **P 22 08 03.0 -0.5**
YAK *e*S **S 22 16 13.4 -2.1**
YAK *e*SS **sS 22 16 33.8 +4.7**
YAK *e*SS **SS 22 20 13.8 +0.7**
YAK pmax pmax
comp=Z,15nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK smax smax
comp=E,44nm,2.0s
BNN Bunyan 60.85 310 P **P 22 08 07.8 -0.5**
BNN IAmb IAmb 22 08 10.0
comp=Z,34nm,1.4s
VRH Novokhopyorsk 61.25 325 *e*P **P 22 08 09.4 -1.1**
VRH pmax pmax
comp=Z,29nm,1.1s
KIRV Kirov 61.34 335 *ce*P **P 22 08 11.0 0.0**
NRIK Noril'sk 61.86 357 P **P 22 08 13.5 -0.8**
NRIK IAmb IAmb 22 08 28.2
comp=Z,11nm,0.8s
NRIK Noril'sk 61.86 357 P **P 22 08 12.9 -1.4**
comp=Z,5.3nm,0.6s,baz=163,slow=6.3,SNR=6.8
comp=Z,5.3nm,0.6s
NRIK Noril'sk 61.86 357 *ce*P **P 22 08 14.3 0.0**
NRIK pmax pmax
comp=Z,10.0nm,1.0s
KIRS Kirsehir-Merke 62.38 310 ⇑P **P 22 08 17.3 -1.1**
VORD Divnogorie 62.54 324 *e*P **P 22 08 15.7 -3.5**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 62.71 325 *e*P **P 22 08 17.0 -3.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
BR104 Keskin Array S 62.72 311 P **P 22 08 19.3 -1.5**
comp=Z,42nmcomp=Z,5.0nm,0.7s
BR131 Keskin Array S 62.72 311 ⇓*i*P **P 22 08 18.9 -2.0**
BRTR Keskin Array B 62.72 311 P **P 22 08 19.4 -1.5**
comp=Z,3.0nm,0.7s,baz=128,slow=7.4,SNR=21
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 62.72 311 *ce*P **P 22 08 19.3 -1.6**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BR105 Keskin Array S 62.74 311 P **P 22 08 19.1 -1.9**
comp=Z,5.4nm,0.8s
BR106 Keskin Array S 62.74 311 P **P 22 08 19.1 -1.9**
comp=Z,5.3nm,0.8s
VORR Voronezh 62.88 325 *e*P **P 22 08 20.4 -1.0**
VORR pmax pmax
comp=Z,29nm,1.0s
LPSR Galich'ya Gora 63.41 326 *e*P **P 22 08 24.0 -1.0**
LPSR pmax pmax
comp=Z,26nm,0.9s
SIM Simferopol' 63.74 317 *e*P **P 22 08 25.4 -1.9**
SIM *e* 22 09 02.0
SIM pmax pmax
comp=Z,19nm,0.9s
MBAR Mbarara 63.86 266 P **P 22 08 29.8 +1.0**
MBAR Mbarara 63.86 266 *i* P **P 22 08 28.9 +0.1**
MBAR pmax pmax
comp=Z,5.0nm,1.1s
ELL Elmali 65.00 307 P **P 22 08 35.6 -0.3**
ELL Elmali 65.00 307 P **P 22 08 35.6 -0.3**
ELL pmax pmax
comp=Z,102nm,1.1s
MOS Moscow 65.41 329 *e*P **P 22 08 35.6 -2.3**
MOS *e*S **S 22 17 17.1 -3.3**
MOS pmax pmax
comp=Z,100nm,0.9s
MOS pmax pmax
comp=Z,56nm,0.8s
H04N2 CROZET ISLANDS 65.52 211 T T 23 19 10.5
baz=48,slow=76,SNR=27
H04N1 CROZET ISLANDS 65.53 211 T T 23 19 14.2
baz=48,slow=76,SNR=30
H04N3 CROZET ISLANDS 65.54 211 T T 23 19 18.6
baz=48,slow=76,SNR=22
OBN Obninsk 65.71 328 P **P 22 08 39.4 -0.5**
OBN Obninsk 65.71 328 *ce*P **P 22 08 39.3 -0.5**
OBN *e**PP **pP 22 08 44.6 -3.6**
OBN *e* 22 09 08.9
OBN *e* 22 11 04.9
OBN *e*PPP PPP 22 12 37.7
OBN *e*S **S 22 17 26.7 +2.7**
OBN pmax pmax
comp=Z,37nm,1.2s
OBN MLR MLR
comp=Z,181nm,16.0s
OBN Obninsk 65.71 328 P **P 22 08 38.9 -1.0**
comp=Z,30nm,0.9s
KLMR Klimovskoe 66.79 334 *e*P **P 22 08 45.3 -1.4**
KLMR pmax pmax
comp=Z,38nm,1.3s
PURM Purcari 67.02 317 P **P 22 08 47.6 -0.9**
comp=Z,21nm,1.3s
TIXI Tiksi 67.51 11 **P 22 08 50.4 -0.7**
TIXI Tiksi 67.51 11 *ce*P **P 22 08 50.2 -0.9**
TIXI pmax pmax
comp=Z,26nm,1.3s
BAL3X Bal3x, Balta 67.54 319 P **P 22 08 52.2 +0.4**
MILM Milestii Mici 67.82 318 ⇑P **P 22 08 52.1 -1.4**
MILM Milestii Mici 67.82 318 P **P 22 08 52.1 -1.4**
CFR Carcaliu 67.90 316 ⇓P **P 22 08 53.0 -1.1**
CFR Carcaliu 67.90 316 P **P 22 08 53.0 -1.1**
HARR Harsova 67.94 315 ⇑P **P 22 08 53.7 -0.7**
HARR Harsova 67.94 315 P **P 22 08 53.7 -0.7**
SCTR Scanteiesti 68.10 316 ⇑P **P 22 08 54.8 -0.5**
VARL Varlezi 68.25 316 ⇑P **P 22 08 55.1 -1.1**
SORM Soroca 68.40 319 ⇑P **P 22 08 56.1 -1.1**
SORM Soroca 68.40 319 P **P 22 08 56.0 -1.1**
SORM Soroca 68.40 319 P **P 22 08 55.3 -1.9**
comp=Z,14nm,1.1s
AK09 Malin Array Si 68.41 322 P **P 22 08 55.6 -1.6**
AK10 Malin Array Si 68.43 322 P **P 22 08 55.6 -1.7**
AK10 pP **pP 22 09 05.7 +0.1**
AK08 Malin Array Si 68.44 322 P **P 22 08 55.4 -1.9**
AK07 Malin Array Si 68.44 322 P **P 22 08 55.7 -1.7**
AK05 Malin Array Si 68.46 322 P **P 22 08 56.2 -1.3**
AKASG Malin Array Be 68.47 322 P **P 22 08 57.6 0.0**
AKASG Malin Array Be 68.47 322 P **P 22 08 55.7 -1.8**
comp=Z,1.6nm,0.6s,baz=91,slow=5.0,SNR=14
AKASG PP **PP 22 11 27.4 -1.4**
comp=Z,0.9nm,0.6s,baz=105,slow=7.2,SNR=4.9
comp=Z,1.6nm,0.6s
AKASG Malin Array Be 68.47 322 *ce*P **P 22 08 56.2 -1.4**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 68.47 322 **P 22 08 56.6 -1.0**
AKBB IAmb IAmb 22 09 06.3
comp=Z,7.3nm,0.9s
AKBB Malin Array Si 68.47 322 *ce*P **P 22 08 56.5 -1.0**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 68.47 322 P **P 22 08 55.4 -2.2**
AK01 Malin Array Si 68.48 322 P **P 22 08 55.7 -1.9**
AK03 Malin Array Si 68.48 322 P **P 22 08 55.5 -2.1**
KIEV Kiev 68.48 322 P **P 22 08 56.6 -1.0**
KIEV Kiev 68.48 322 ⇓P **P 22 08 55.9 -1.7**
KIEV Kiev 68.48 322 P **P 22 08 56.6 -1.0**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 68.48 322 P **P 22 08 55.7 -1.9**
comp=Z,39nm,0.9s
AK12 Malin Array Si 68.50 322 P **P 22 08 55.8 -1.9**
GHRR 68.58 317 ⇑P **P 22 08 57.1 -1.3**
GHRR 68.58 317 P **P 22 08 57.3 -1.1**
VRI Vrincioaia 69.01 316 ⇑P **P 22 08 59.1 -1.9**
VRI Vrincioaia 69.01 316 P **P 22 08 59.1 -1.9**
VRI Vrincioaia 69.01 316 P **P 22 09 00.3 -0.8**
comp=Z,26nm,1.2s
PLOR5 Plostina Array 69.05 316 P **P 22 09 01.2 -0.1**
comp=Z,32nm,0.8s
PLOR Plostina 69.06 316 ⇑P **P 22 09 00.7 -0.8**
PLOR Plostina 69.06 316 P **P 22 09 00.6 -0.8**
PLOR3 Plostina Array 69.06 316 P **P 22 09 00.9 -0.5**
comp=Z,26nm,1.2s
NDNU Novodnistrovsk 69.14 319 P **P 22 08 59.8 -2.0**

SEY Seymchan 69.16 25 *ce*P **P 22 09 01.8 +0.2**
SEY pmax pmax
comp=Z,11nm,2.0s
TESR Tescani 69.19 317 ⇓P **P 22 09 01.5 -0.6**
TESR Tescani 69.19 317 P **P 22 09 00.9 -1.2**
comp=Z,21nm,1.2s
LUBAR Lubar, Ukraine 69.19 321 P **P 22 09 00.7 -1.4**
LSZ Lusaka 69.28 251 P **P 22 09 04.2 +0.8**
LSZ IAmb IAmb 22 09 46.3
comp=Z,26nm,1.8s
LSZ Lusaka 69.28 251 LR LR 22 35 13.7
comp=Z,315nm,19.7s,baz=98,slow=32
LSZ Lusaka 69.28 251 P **P 22 09 04.2 +0.8**
LSZ pmax pmax
comp=Z,26nm,1.8s
COVR Voineasa-Covas 69.36 316 ⇑P **P 22 09 02.1 -1.1**
MLR Muntele Rosu 69.48 316 **P 22 09 04.4 +0.3**
MLR IAmb IAmb 22 09 16.5
comp=Z,24nm,1.1s
MLR Muntele Rosu 69.48 316 ⇑P **P 22 09 03.5 -0.6**
MLR Muntele Rosu 69.48 316 P **P 22 09 04.4 +0.3**
MLR pmax pmax
comp=Z,24nm,1.1s
MLR Muntele Rosu 69.48 316 P **P 22 09 03.3 -0.8**
comp=Z,21nm,1.3s
MI28 Mi28,Pidlybu 69.48 322 P **P 22 09 04.0 +0.1**
PRAR RASCA 69.64 318 ⇓P **P 22 09 03.2 -1.7**
DOPR Dopca 69.94 316 ⇑P **P 22 09 05.3 -1.6**
HUMR Humele 69.99 315 ⇓P **P 22 09 06.4 -0.7**
VOIR 70.09 316 ⇑P **P 22 09 05.7 -2.2**
VOIR 70.09 316 P **P 22 09 05.6 -2.2**
VOIR 70.09 316 P **P 22 09 07.0 -0.8**
comp=Z,4.4nm,0.8s
MNK Minsk 70.25 325 *i* P **P 22 09 07.5 -1.0**
MNK *i* 22 11 42.2
MNK *i* PPP PPP 22 13 23.9
MNK *i* S **S 22 18 19.3 +0.9**
MNK *i* SS **SS 22 22 45.1 -3.8**
MNK pmax pmax
comp=N,14nm,1.1s
MNK pmax pmax
comp=Z,21nm,0.8s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=N,110nm,19.0s
MNK pmax pmax
comp=E,108nm,24.0s
MNK pmax pmax
comp=Z,137nm,18.0s
BURAR Bucovina Array 70.36 318 **P 22 09 09.3 -0.1**
BURAR Bucovina Array 70.36 318 ⇓P **P 22 09 07.7 -1.7**
BURAR Bucovina Array 70.36 318 P **P 22 09 07.7 -1.7**
KSV Kosov 70.58 319 P **P 22 09 09.4 -1.3**
KSV Kosov 70.58 319 P **P 22 09 09.4 -1.3**
RNPP5 Staryi Chortor 70.65 322 P **P 22 09 09.6 -1.4**
RNPP9 Sopachiv 70.68 322 P **P 22 09 10.6 -0.6**
RNPP8 Varash 70.69 322 P **P 22 09 11.6 +0.4**
LOT Lotru 70.98 315 ⇑P **P 22 09 11.2 -2.1**
STNU Starunia 71.03 319 P **P 22 09 12.2 -1.2**
JOF Joensuu 71.18 334 *e*P **P 22 09 14.1 +0.1**
LIT Litokhoron 71.23 310 IAmb IAmb 22 09 16.0
comp=Z,19nm,1.0s
AGG Agios Georgios 71.25 309 IAmb IAmb 22 09 16.5
comp=Z,38nm,2.0s
CJR Cluj-Napoca 71.29 317 ⇓P **P 22 09 14.5 -0.6**
CJR Cluj-Napoca 71.29 317 P **P 22 09 14.5 -0.6**
ITM Ithomi 71.40 307 P **P 22 09 15.7 -0.2**
MARR Marisel-Cluj 71.61 317 ⇑P **P 22 09 15.1 -2.0**
MEZ Mezhgor'ye 71.64 319 P **P 22 09 16.9 -0.2**
GZR Gura Zlata 71.66 315 ⇑P **P 22 09 16.8 -0.6**
GZR Gura Zlata 71.66 315 P **P 22 09 16.8 -0.6**
HERR Herculane 71.85 315 ⇑P **P 22 09 16.8 -1.6**
MREMI Moremi 71.89 243 P **P 22 09 20.1 +1.0**
MREMI IAmb IAmb 22 09 32.9
comp=Z,16nm,1.1s
LVZ Lovozero 71.89 340 P **P 22 09 17.4 -0.8**
LVZ Lovozero 71.89 340 P **P 22 09 17.4 -0.8**
LVZ pmax pmax
comp=Z,125nm,1.9s
LVZ Lovozero 71.89 340 P **P 22 09 17.6 -0.7**
comp=Z,27nm,2.0s
VSU Vasula 71.92 329 *ce*P **P 22 09 17.3 -1.2**
VSU pmax pmax
comp=Z,51nm,1.3s
VSU Vasula 71.92 329 *e*P **P 22 09 17.3 -1.2**
BRIU Brid 71.94 318 P **P 22 09 18.7 -0.1**
TRSU Trosnyk 71.94 318 P **P 22 09 19.0 +0.2**
SURR Surduc 72.17 316 ⇑P **P 22 09 17.9 -2.4**
APA Apatity 72.18 339 ⇓*i*P **P 22 09 16.2 -3.7**
APA pmax pmax
comp=Z,9.0nm,0.8s
BOVS Bovan 72.20 313 ⇑P **P 22 09 18.7 -1.8**
MDVR Moldovita 72.33 315 ⇑P **P 22 09 19.2 -2.2**
BZS Buzias 72.50 315 ⇓P **P 22 09 20.2 -2.2**
BZS Buzias 72.50 315 P **P 22 09 20.1 -2.2**
KOLS Kolonicke sedl 72.52 319 *e*P **P 22 09 24.1 +1.8**
KOLS Kolonicke sedl 72.52 319 *e*P **P 22 09 24.1 +1.8**
ARBE Arbavere 72.55 330 *e*P **P 22 09 22.4 +0.1**
SIRR Siria 72.55 316 ⇓P **P 22 09 21.2 -1.5**
PABE Paberze 72.68 326 *e*P **P 22 09 23.2 +0.1**
SUW Suwalki 72.83 324 *e*P **P 22 09 23.2 -0.8**
SUW Suwalki 72.83 324 *e*P **P 22 09 23.9 -0.1**
FINES FINESS Array B 73.04 332 **P 22 09 24.6 -0.5**
FINES FINESS Array B 73.04 332 P **P 22 09 24.9 -0.3**
comp=Z,14nm,0.7s,baz=104,slow=8.0,SNR=47
comp=Z,14nm,0.7s
MTSE Matsula 73.46 329 *e*P **P 22 09 27.6 0.0**
KHWEE KHWEE 73.50 245 P **P 22 09 29.8 +1.1**
KHWEE IAmb IAmb 22 09 33.3
comp=Z,21nm,1.1s
MEF Metsahovi 73.52 331 *e*P **P 22 09 27.9 -0.1**
KEF Keuruu 73.79 333 *e*P **P 22 09 29.3 -0.2**
NIE Niedzica 73.87 319 *e*P **P 22 09 32.7 +2.4**
NIE Niedzica 73.87 319 P **P 22 09 30.3 0.0**
NIE Niedzica 73.87 319 P **P 22 09 30.3 0.0**
comp=Z,4.3nm,1.3s
PHDHD Phuduhudu 73.87 247 P **P 22 09 31.6 +0.6**
PHDHD IAmb IAmb 22 09 44.8
comp=Z,45nm,1.7s
PBUR Paburge 73.91 326 *e*P **P 22 09 30.1 -0.2**
PSZ Piszkesteto 73.95 318 P **P 22 09 33.2 +2.3**
PSZ pmax pmax
comp=Z,9.0nm,1.5s
LBTB Lobatse 74.20 241 P **P 22 09 32.5 -0.3**
LBTB Lobatse 74.20 241 LR LR 22 38 34.4
comp=Z,206nm,19.8s,baz=85,slow=33
LBTB Lobatse 74.20 241 P **P 22 09 32.5 -0.3**
OJC Ojcow 74.29 320 *e*P **P 22 09 32.5 -0.2**
OJC Ojcow 74.29 320 P **P 22 09 32.0 -0.8**
OJC Ojcow 74.29 320 P **P 22 09 32.0 -0.8**
comp=Z,16nm,1.1s
VADS Vadso 74.53 341 *e*P **P 22 09 34.1 +0.4**
MORH Mrgy, Hungar 74.63 316 ⇑P **P 22 09 33.7 -1.0**
MORH Mrgy, Hungar 74.63 316 P **P 22 09 33.2 -1.6**
comp=Z,4.1nm,1.2s
VYHS Vyhne 74.72 318 *e*P **P 22 09 35.0 -0.3**
VYHS Vyhne 74.72 318 *e*P **P 22 09 35.0 -0.3**
RAF Rauma 74.97 331 *e*P **P 22 09 36.1 -0.3**
VAF Ylistaro 74.99 333 *e*P **P 22 09 36.9 +0.4**
MAKGR Makgori 75.11 241 P **P 22 09 39.0 +0.9**
MAUC Maruska 75.47 319 *e*P **P 22 09 39.8 +0.2**
MPLH Magyarpolny 75.47 317 P **P 22 09 39.0 -0.6**
comp=Z,39nm,1.3s
BOSA Boshof 75.52 238 P **P 22 09 41.2 +0.8**
comp=Z,5.9nm,0.9s,baz=85,slow=3.8,SNR=10
comp=Z,5.9nm,0.9s
JAVC Velka Javorina 75.52 318 *e*P **P 22 09 40.7 +0.7**
STEB Steborice 75.56 320 *e*P **P 22 09 40.1 0.0**
STEB *ex* x 22 09 47.1
TIP Timpagrande 75.58 308 P **P 22 09 41.4 +0.9**
ARCES ARCESS Array B 75.60 340 P **P 22 09 39.8 -0.2**
comp=Z,5.2nm,0.8s,baz=88,slow=6.2,SNR=10
comp=Z,5.2nm,0.8s
MORC Moravsky Berou 75.69 319 **P 22 09 41.2 +0.3**
MORC IAmb IAmb 22 09 44.5
comp=Z,12nm,1.1s
MORC Moravsky Berou 75.69 319 *e*P **P 22 09 41.0 +0.1**
MORC Moravsky Berou 75.69 319 ⇑P **P 22 09 38.2 -2.7**
MORC Moravsky Berou 75.69 319 P **P 22 09 41.2 +0.3**
MORC pmax pmax
comp=Z,12nm,1.1s
MODS Modra-Piesok 75.74 318 *e*P **P 22 09 41.3 +0.1**

MODS Modra-Piesok 75.74 318 *e*P **P 22 09 41.3 +0.1**
BEHE Becsehely 75.94 316 P **P 22 09 43.8 +1.4**
KRLC Kraliky 76.20 320 *e*P **P 22 09 44.4 +0.6**
KRLC Kraliky 76.20 320 *e*P **P 22 09 44.4 +0.6**
KTK1 Kautokeino 76.23 339 *e*P **P 22 09 43.1 -0.4**
CEL Celeste 76.23 307 P **P 22 09 44.7 +0.5**
CEL IAmb IAmb 22 09 57.5
comp=Z,20nm,1.1s
BILL Bilibino 76.33 22 P **P 22 09 44.7 +0.6**
BILL Bilibino 76.33 22 *i* P **P 22 09 44.8 +0.6**
BILL pmax pmax
comp=Z,10.0nm,1.5s
RONA Rosalia, Austr 76.35 317 *i* P **P 22 09 44.4 -0.3**
comp=Z,3.0nm,0.9s
DPC Dobruska-Polom 76.52 320 *e*P **P 22 09 46.1 +0.5**
DPC Dobruska-Polom 76.52 320 *e*P **P 22 09 46.1 +0.5**
KSP Ksiaz 76.58 320 *e*P **P 22 09 46.4 +0.5**
KSP Ksiaz 76.58 320 P **P 22 09 44.9 -1.0**
KSP Ksiaz 76.58 320 P **P 22 09 44.9 -1.0**
comp=Z,12nm,1.2s
OSTC Ostas 76.61 320 *e*P **P 22 09 43.2 -2.9**
OSTC Ostas 76.61 320 *e*P **P 22 09 43.2 -2.9**
KGCAE Kacgae 76.63 244 P **P 22 09 48.8 +2.0**
CONA Conrad Observa 76.66 317 *e*P **P 22 09 46.3 -0.2**
comp=Z,5.7nm,1.3s
UPC Upice 76.73 320 *e*P **P 22 09 46.9 +0.1**
UPC Upice 76.73 320 *e*P **P 22 09 46.9 +0.1**
QNGWA Qangwa 76.79 248 P **P 22 09 48.6 +0.8**
ARSA Arzberg 76.84 317 P **P 22 09 46.8 -0.7**
ARSA Arzberg 76.84 317 *i* P **P 22 09 48.0 +0.5**
comp=Z,4.7nm,0.9s
SOKA Soboth 77.15 316 *i* P **P 22 09 49.2 -0.2**
comp=Z,14nm,1.2s
BLEU Blekinge 77.34 326 *i* P **P 22 09 49.8 -0.2**
OBKA Obir 77.48 316 *i* P **P 22 09 51.3 +0.2**
comp=Z,4.4nm,0.8s
MOA Molln 77.72 317 *i* P **P 22 09 52.0 -0.4**
comp=Z,2.5nm,1.0s
CKRC Cesky Krumlov 77.73 318 *e*P **P 22 09 52.6 +0.2**
CKRC Cesky Krumlov 77.73 318 *e*P **P 22 09 52.6 +0.2**
ZVC Zvikov 77.84 319 *e*P **P 22 09 53.3 +0.3**
BRG Berggiesshubel 78.07 320 *e*P **P 22 09 54.7 +0.5**
BRG Amp 22 09 58.9
comp=Z,3.0nm,0.8s
BRG Berggiesshubel 78.07 320 *e*P 22 09 54.6
comp=Z,1.9nm,0.7s,baz=92,slow=5.4
MYKA Terra Mystica 78.11 316 *e*P **P 22 09 54.5 -0.1**
comp=Z,5.5nm,0.9s
SABO M.te Sabotino 78.12 315 P **P 22 09 53.8 -0.9**
SABO IAmb IAmb 22 09 56.6
comp=Z,18nm,1.2s
GEC2 GERESS Array S 78.14 318 **P 22 09 54.7 0.0**
GEC2 IAmb IAmb 22 10 07.0
comp=Z,13nm,1.1s
GEC2 GERESS Array S 78.14 318 *e*P 22 09 55.0
comp=Z,4.3nm,0.7s,baz=92,slow=5.4
GERES GERESS Array B 78.14 318 **P 22 09 54.7 0.0**
GERES GERESS Array B 78.14 318 P **P 22 09 54.9 +0.1**
comp=Z,4.5nm,0.7s,baz=84,slow=5.5,SNR=28
comp=Z,4.5nm,0.7s
BIOA Bad Ischl, Aus 78.14 317 *e*P **P 22 09 54.1 -0.7**
comp=Z,3.1nm,0.8s
PRED Cave del Predi 78.16 316 P **P 22 09 54.7 -0.2**
PRED IAmb IAmb 22 10 04.2
comp=Z,10nm,1.0s
KHC Kasperske Hory 78.23 319 *e*P **P 22 09 54.9 -0.3**
KHC *e*pP **pP 22 10 00.0 -3.6**
KHC Kasperske Hory 78.23 319 *ce*P **P 22 09 55.7 +0.5**
KHC pmax pmax
comp=Z,11nm,1.3s
KHC Kasperske Hory 78.23 319 P **P 22 09 53.9 -1.3**
comp=Z,4.3nm,1.1s
KBA Koelnbreinsper 78.32 316 P **P 22 09 54.9 -1.0**
KBA Koelnbreinsper 78.32 316 *e*P **P 22 09 55.3 -0.6**
comp=Z,3.6nm,1.0s
DEL Delary 78.43 326 *i* P **P 22 09 55.8 -0.2**
KOOLE Kule 78.46 245 P **P 22 09 57.9 +0.8**
KOOLE IAmb IAmb 22 10 06.6
comp=Z,55nm,1.9s
CLL Collm 78.68 321 P **P 22 09 57.6 +0.1**
CLL IAmb IAmb 22 09 59.4
comp=Z,31nm,2.0s
CLL Collm 78.68 321 P **P 22 09 57.6 +0.1**
CLL pmax pmax
comp=Z,31nm,2.0s
CLL Collm 78.68 321 P **P 22 09 57.5 -0.1**
comp=Z,272nmcomp=Z,4.9nm,1.2s
CLL Collm 78.68 321 *i* P **P 22 09 57.7 +0.1**
CLL *i* PcP **PcP 22 10 07.2 +0.8**
WET Wettzell 78.69 319 *e*P 22 09 57.8
comp=Z,2.4nm,0.8s,baz=92,slow=5.4
RJOB Jochberg 78.71 317 *e*P 22 09 57.6
comp=Z,4.9nm,0.8s,baz=92,slow=5.4
STAL STALIGIAL 78.74 316 P **P 22 09 57.9 -0.2**
STAL IAmb IAmb 22 10 01.0
comp=Z,21nm,1.1s
HFS Hagfors 78.78 330 P **P 22 09 57.9 -0.1**
comp=Z,8.2nm,0.5s,baz=101,slow=6.2,SNR=47
comp=Z,8.2nm,0.5s
LESA Schwarzleotal 78.78 317 *i* P **P 22 09 57.6 -0.8**
comp=Z,1.8nm,0.4s
FAUS Fauske 78.82 337 *e*P **P 22 09 58.0 0.0**
BJUU Bjuv 78.88 326 *i* P **P 22 09 58.9 +0.4**
ABTA Abfaltersbach 78.89 316 *i* P **P 22 09 58.2 -0.7**
comp=Z,6.9nm,1.0s
STEI Steigen 78.91 338 *e*P **P 22 09 57.7 -0.8**
FABU Falkenberg 79.09 327 *i* P **P 22 09 59.7 0.0**
BORU Boraas 79.10 327 *i* P **P 22 09 59.6 -0.1**
ROTZ Rotzenmuhle 79.14 319 *e*P 22 10 00.9
comp=Z,0.6nm,0.6s,baz=92,slow=5.4
MANZ Manzenberg 79.21 319 *e*P 22 10 01.1
comp=Z,0.6nm,0.8s,baz=92,slow=5.4
TEOL Teolo 79.47 315 P **P 22 10 02.7 +0.7**
CTI Castel Tesino 79.48 315 IAmb IAmb 22 10 08.5
comp=Z,13nm,1.0s
WTTA Wattenberg 79.49 317 *e*P **P 22 10 01.5 -0.9**
comp=Z,5.0nm,0.6s,SNR=6.0
WATA Walderalm 79.53 317 *i* P **P 22 10 01.5 -1.0**
comp=Z,3.1nm,0.7s
MOX Moxa 79.54 320 *e*P 22 10 02.4
comp=Z,1.0nm,0.8s,baz=92,slow=5.4
LEIR Leirfjorden 79.54 336 *e*P **P 22 10 02.4 +0.4**
ONAU Onsala 79.55 327 *i* P **P 22 10 01.7 -0.4**
TJOU Tjoern 79.73 328 *i* P **P 22 10 02.7 -0.4**
GRA1 Grafenberg Arr 79.78 319 P **P 22 10 02.7 -1.0**
GRA1 IAmb IAmb 22 10 05.0
comp=Z,10nm,0.8s
GRF Grafenberg Arr 79.78 319 P **P 22 10 02.7 -1.0**
GRF pmax pmax
comp=Z,10.0nm,0.8s
GRFO Grafenberg 79.78 319 P **P 22 10 03.5 -0.1**
GRFO IAmb IAmb 22 10 04.9
comp=Z,9.8nm,0.8s
GRFO Grafenberg 79.78 319 P **P 22 10 03.5 -0.1**
GRFO pmax pmax
comp=Z,10.0nm,0.8s
OSSC Osservatorio P 79.78 313 P **P 22 10 03.5 -0.3**
SQTA Sankt Quirin 79.78 317 *e*P **P 22 10 03.4 -0.5**
comp=Z,6.1nm,0.7s,SNR=7.5
NC405 NORSAR Array S 79.82 331 IAmb IAmb 22 10 04.0
comp=Z,10.0nm,0.7s
MOTA Moosalm 79.85 317 *i* P **P 22 10 03.8 -0.5**
comp=Z,6.2nm,0.9s
NC602 NORSAR Array S 79.89 330 IAmb IAmb 22 10 04.1
comp=Z,13nm,0.8s
NC602 NORSAR Array S 79.89 330 *e*P **P 22 10 03.5 -0.5**
NORES NORESS Array B 79.89 330 P **P 22 10 03.8 -0.2**
NORES pmax pmax
comp=Z,2.0nm,0.6s
NSS Namsos 79.90 334 *e*P **P 22 10 03.7 -0.3**
ZCCA Zocca 79.97 314 P **P 22 10 05.3 +0.5**
ZCCA IAmb IAmb 22 10 11.9
comp=Z,23nm,0.9s
STRU Stroemstad 80.00 329 *i* P **P 22 10 04.3 -0.2**
NB201 NORSAR Array S 80.02 331 IAmb IAmb 22 11 28.7
comp=Z,34nm,1.7s
TSUM Tsumeb 80.03 249 LR LR 22 42 22.2
comp=Z,272nm,18.6s,baz=68,slow=33
NB2 NORSAR Subarra 80.06 331 P **P 22 10 04.0 -1.0**
comp=Z,11nm,1.1s,baz=92,slow=5.9
NB2 NORSAR Subarra 80.06 331 P **P 22 10 01.1 -3.9**
NB2 pmax pmax
comp=Z,635nm,4.0s
NB2 NORSAR Subarra 80.06 331 P **P 22 10 04.0 -1.0**
baz=92,slow=5.9

NOA	NORSAR Array B	80.06	331	P	P	22 10 04.2 -0.8
	comp=Z,5.1nm,0.7s,baz=93,slow=5.6,SNR=38					
	comp=Z,5.1nm,0.7s					
RETA	Reutte	80.08	317	*e*P	P	22 10 04.9 -0.6
	comp=Z,6.6nm,0.7s					
FETA	Feichten	80.11	316	*e*P	P	22 10 05.4 -0.3
	comp=Z,4.4nm,0.8s,SNR=6.4					
SPA0	Spitsbergen Ar	80.17	348	*e*P	P	22 10 03.6 -1.6
SPITS	Spitsbergen Ar	80.17	348	P	P	22 10 05.2 0.0
	comp=Z,17nm,0.9s,baz=123,slow=10,SNR=6.1					
	comp=Z,17nm,0.9s					
SPITS	Spitsbergen Ar	80.17	348	P	P	22 10 05.6 +0.4
OSL	Oslo	80.26	329	*e*P	P	22 10 06.4 +0.4
NBO00	NORSAR Array S	80.27	331	P	P	22 10 06.5 +0.4
NBO00				IAmb	IAmb	22 10 37.5
	comp=Z,35nm,1.8s					
NC204	NORSAR Array S	80.29	331	P	P	22 10 06.0 -0.2
CLZ	Clausthal	80.33	321	*e*P		22 10 06.8
	comp=Z,2.8nm,0.7s,baz=92,slow=5.4					
BSEG	Bad Segeberg	80.37	323	*e*P		22 10 07.3
	comp=Z,7.9nm,0.9s,baz=92,slow=5.4					
UBR	Ueberruh	80.53	317	*e*P		22 10 06.9
	comp=Z,3.1nm,0.7s,baz=92,slow=5.4					
DAVA	Damuels	80.69	317	*i* P	P	22 10 08.7 -0.1
	comp=Z,3.8nm,0.7s					
KONO	Kongsberg	80.83	329	P	P	22 10 09.1 +0.1
KONO				IAmb	IAmb	22 10 22.5
	comp=Z,19nm,1.4s					
KONO	Kongsberg	80.83	329	P	P	22 10 09.1 +0.1
KONO				pmax	pmax	
	comp=Z,19nm,1.4s					
KONO	Kongsberg	80.83	329	*e*P	P	22 10 08.9 -0.1
TUE	Stuetta	81.07	316	P	P	22 10 10.5 -0.4
	comp=Z,40nm,1.0s					
DOMB	Dombas	81.12	332	*e*P	P	22 10 10.5 -0.1
KEST	Kesra	81.52	305	P	P	22 10 14.2 +0.9
	comp=Z,5.1nm,1.0s,baz=72,slow=6.4,SNR=2.2					
	comp=Z,5.1nm,1.0s					
BFO	Black Forest	81.70	318	P	P	22 10 12.8 -1.2
BFO	Black Forest	81.70	318	*e*P		22 10 13.7
	comp=Z,2.0nm,0.9s,baz=92,slow=5.4					
BLS5	Blasjo	82.43	329	*e*P	P	22 10 18.1 +0.5
SENIN	Lac Senin/Sane	82.49	316	IAmb	IAmb	22 10 36.8
	comp=Z,9.1nm,1.0s					
BNI	Bardonecchia	83.00	314	P	P	22 10 21.9 +0.9
BNI				IAmb	IAmb	22 10 39.6
	comp=Z,8.9nm,0.9s					
BNI	Bardonecchia	83.00	314	P	P	22 10 21.9 +0.9
BNI				pmax	pmax	
	comp=Z,9.0nm,0.9s					
KMY	Karmoy	83.06	329	*e*P	P	22 10 21.1 +0.3
GAMB	Gambell	85.06	26	P	P	22 10 31.4 +0.6
	baz=277					
SYO	Syowa Base	85.14	197	‖*e*PcP	PcP	22 10 36.5 +2.3
NOR	Nord	85.57	352	*i* P	P	22 10 31.5 -1.6
TAM	Tamanrasset	85.96	292	P	P	22 10 36.3 -0.1
TAM	Tamanrasset	85.96	292	P	P	22 10 36.3 -0.1
C16K	Lisburne Hills	86.86	22	P	P	22 10 40.1 +0.4
	baz=282					
F14K	Arctic Creek	87.07	24	P	P	22 10 41.3 +0.5
	baz=282					
P08K	Saint George I	87.15	33	P	P	22 10 41.8 +0.5
	baz=279					
ANM	Nome	87.66	25	P	P	22 10 44.0 +0.4
	baz=282					
F15K	North Star Dit	87.70	24	P	P	22 10 45.1 +1.3
	baz=283					
RDOG	Red Dog Mine	87.80	22	P	P	22 10 45.5 +1.2
	baz=285					
D17K	Noatak River	87.83	22	P	P	22 10 45.8 +1.4
	baz=284					
B18K	Kokolik River	87.85	20	P	P	22 10 45.4 +1.0
	baz=286					
A19K	Wainwright	87.86	19	P	P	22 10 45.1 +0.7
	baz=286					
EKA	Eskdalemuir Ar	88.05	325	P	P	22 10 46.0 +0.3
	comp=Z,4.7nm,0.7s,baz=99,slow=5.1,SNR=17					
	comp=Z,4.7nm,0.7s					
EKA	Eskdalemuir Ar	88.05	325	P	P	22 10 46.0 +0.3
ESK	Eskdalemuir	88.07	325	*i* P	P	22 10 48.3 +2.5
G15K	Niukluk	88.12	25	P	P	22 10 46.4 +0.6
	baz=284					
NIKH	Nikolski High	88.15	37	P	P	22 10 47.4 +1.1
	baz=280					
C18K	Utukok River	88.25	21	IAmb	IAmb	22 10 55.9
	comp=Z,9.9nm,1.1s					
C18K	Utukok River	88.25	21	P	P	22 10 47.5 +1.0
	baz=286,SNR=6.5					
E17K	Hotham Inlet	88.46	22	P	P	22 10 48.4 +1.0
	baz=286					
K13K	Kusilvak Mount	88.57	28	P	P	22 10 49.1 +1.1
	baz=283					
G16K	Koyuk River	88.70	24	P	P	22 10 47.3 -1.3
G16K				IAmb	IAmb	22 11 13.0
	comp=Z,27nm,1.8s					
G16K	Koyuk River	88.70	24	P	P	22 10 49.6 +1.1
	baz=285					
E18K	Tukpahlearik C	88.82	22	P	P	22 10 49.9 +0.8
E18K				IAmb	IAmb	22 10 59.3
	comp=Z,15nm,1.1s					
E18K	Tukpahlearik C	88.82	22	P	P	22 10 50.4 +1.3
	baz=287					
F17K	Baldwin Pennin	88.85	23	P	P	22 10 49.0 -0.2
F17K				IAmb	IAmb	22 11 02.2
	comp=Z,7.2nm,1.0s					
F17K	Baldwin Pennin	88.85	23	P	P	22 10 50.8 +1.6
	baz=286					
J14K	Nanvaranak Lak	88.87	27	P	P	22 10 50.4 +1.0
	baz=284					
A21K	Barrow	88.91	18	P	P	22 10 50.6 +1.2
	baz=290					
H16K	Elim	88.95	25	P	P	22 10 51.0 +1.3
	baz=285					
B20K	Meade River	89.19	19	P	P	22 10 51.3 +0.6
B20K				IAmb	IAmb	22 11 03.3
	comp=Z,7.1nm,1.1s					
B20K	Meade River	89.19	19	P	P	22 10 51.4 +0.6
	baz=290					
G17K	Kiwalik Mounta	89.36	24	P	P	22 10 53.0 +1.4
	baz=287					
UNV	Unalaska Valle	89.37	36	P	P	22 10 52.5 +0.6
	baz=282					
D19K	Kuna River	89.38	21	P	P	22 10 51.5 -0.3
D19K				IAmb	IAmb	22 11 32.4
	comp=Z,15nm,1.3s					
D19K	Kuna River	89.38	21	P	P	22 10 52.8 +1.0
	baz=289					
F18K	Selawik	89.42	23	P	P	22 10 53.2 +1.3
	baz=288					
A22K	Sinclair Lake	89.52	18	P	P	22 10 53.7 +1.4
	baz=292					
M13K	Dall Lake	89.55	29	P	P	22 10 53.6 +1.0
	baz=284					
L14K	Kuka Creek	89.62	28	P	P	22 10 53.4 +0.4
	baz=285					
I17K	Unalakleet	89.81	25	P	P	22 10 54.9 +1.1
	baz=287					
H17K	Granite Mounta	89.82	24		P	22 10 55.2 +1.3
H17K				IAmb	IAmb	22 11 03.6
	comp=Z,8.2nm,1.1s					
H17K	Granite Mounta	89.82	24	P	P	22 10 54.7 +0.8
	baz=287					
D20K	Etivluk River	89.82	20	IAmb	IAmb	22 11 12.4
	comp=Z,24nm,1.5s					
D20K	Etivluk River	89.82	20	P	P	22 10 55.0 +1.2
	baz=290					
K15K	Wolf Creek Mou	89.89	27	P	P	22 10 55.2 +0.9
	baz=286					
J16K	Anvik River	90.02	26	P	P	22 10 56.2 +1.4
J16K				IAmb	IAmb	22 11 04.1
	comp=Z,11nm,1.0s					
J16K	Anvik River	90.02	26	P	P	22 10 55.2 +0.4
	baz=287					
G18K	Tagagawik	90.03	23	P	P	22 10 55.8 +1.0
G18K	Tagagawik	90.03	23	P	P	22 10 56.0 +1.2
	baz=289					
E19K	Redstone River	90.04	21	IAmb	IAmb	22 11 04.8
	comp=Z,10nm,0.9s					
E19K	Redstone River	90.04	21	P	P	22 10 56.2 +1.4
	baz=290					
F19K	Shaleruckik Mo	90.05	22	IAmb	IAmb	22 11 05.3
	comp=Z,14nm,1.1s					
F19K	Shaleruckik Mo	90.05	22	P	P	22 10 56.3 +1.4
	baz=289					
L15K	Ungalak Mounta	90.09	28	P	P	22 10 56.3 +1.2
	baz=286					
M14K	Bethel	90.12	28	P	P	22 10 55.9 +0.6
	baz=286					
E20K	Nigu River	90.13	21	P	P	22 10 56.8 +1.4
	baz=291					
B21K	Ikpikpuk River	90.16	19	P	P	22 10 55.9 +0.6
B21K				IAmb	IAmb	22 11 00.7
	comp=Z,10nm,1.1s					
B21K	Ikpikpuk River	90.16	19	P	P	22 10 56.7 +1.4
	baz=292					
B22K	Teshekpuk Lake	90.25	18	P	P	22 10 57.0 +1.3
B22K				IAmb	IAmb	22 11 05.6
	comp=Z,15nm,1.4s					
B22K	Teshekpuk Lake	90.25	18	P	P	22 10 56.9 +1.2
	baz=293					
C21K	Knifeblade Rid	90.28	20	P	P	22 10 57.0 +1.1
	baz=292					
H18K	Honhosa River	90.38	24	P	P	22 10 57.5 +1.0
H18K				IAmb	IAmb	22 13 37.9
	comp=Z,6.6nm,0.5s					
H18K	Honhosa River	90.38	24	P	P	22 10 57.3 +0.8
	baz=289					
N14K	Kuskokwak Cree	90.48	29	P	P	22 10 59.2 +2.3
N14K	Kuskokwak Cree	90.48	29	P	P	22 10 58.3 +1.4
	baz=286					
G19K	Purcell Mounta	90.55	23	P	P	22 10 58.5 +1.3
	baz=290,SNR=18					
J17K	VABM Dome	90.64	26	P	P	22 10 58.8 +1.1
	baz=288					
F20K	Avaraart Lake	90.73	22	P	P	22 10 58.7 +0.7
F20K	Avaraart Lake	90.73	22	P	P	22 10 59.3 +1.2
	baz=291,SNR=20					
M15K	Kasigluk River	90.74	28	P	P	22 10 58.9 +0.7
	baz=287					
TORD	Torodi Ar. Bea	90.78	283	P	P	22 11 00.1 +0.7
	comp=Z,48nm,0.3s,baz=88,slow=4.3,SNR=1.3					
E21K	Killik River	90.83	20	P	P	22 10 58.8 +0.3
E21K				IAmb	IAmb	22 11 08.3
	comp=Z,8.4nm,0.9s					
E21K	Killik River	90.83	20	P	P	22 10 59.9 +1.4
	baz=293,SNR=7.3					
O14K	Tigyukauivet M	90.87	30	P	P	22 11 00.0 +1.2
	baz=286					
FALS	False Pass	90.90	34	P	P	22 10 59.6 +0.6
	baz=284					
L16K	Owhat River	90.99	27	P	P	22 11 00.3 +0.9
	baz=288					
H19K	Roundabout Mou	91.01	23		P	22 11 00.6 +1.3
H19K	Roundabout Mou	91.01	23	P	P	22 11 00.2 +0.8
	baz=291,SNR=12					
D22K	Ayikyak River	91.08	19	P	P	22 11 00.3 +0.6
D22K				IAmb	IAmb	22 11 11.3
	comp=Z,28nm,1.9s					
D22K	Ayikyak River	91.08	19	P	P	22 11 00.8 +1.1
	baz=294					
N15K	Kwethluk River	91.17	29	P	P	22 11 01.5 +1.2
	baz=287					
K17K	Iditarod	91.20	26	P	P	22 11 00.9 +0.6
K17K	Iditarod	91.20	26	P	P	22 11 01.6 +1.3
	baz=289					
ELIB	Princess Elisa	91.33	197	*d*P	P	22 11 03.4 +2.6
	comp=Z,3.4nm,1.2s					
C23K	Itkillik River	91.34	18	P	P	22 11 01.6 +0.8
C23K				IAmb	IAmb	22 11 13.2
	comp=Z,19nm,1.5s					
C23K	Itkillik River	91.34	18	P	P	22 11 02.0 +1.2
	baz=296					
L17K	Donlin	91.39	27	P	P	22 11 02.3 +1.1
	baz=289					
S12K	Black Hills	91.43	33	P	P	22 11 01.6 +0.1
	baz=286					
M16K	Timber Creek	91.44	28	P	P	22 11 02.6 +1.1
	baz=288					
F21K	Alatna River	91.48	21	P	P	22 11 02.4 +0.8
F21K				IAmb	IAmb	22 11 12.0
	comp=Z,10nm,1.0s					
F21K	Alatna River	91.48	21	P	P	22 11 01.8 +0.2
	baz=293					
ESBB	Sonseca Array	91.51	310	P	P	22 11 02.8 +0.5
ESDC	Sonseca Array	91.51	310		P	22 11 02.8 +0.4
ESDC	Sonseca Array	91.51	310	P	P	22 11 02.6 +0.3
	comp=Z,3.6nm,1.0s,baz=54,slow=3.8,SNR=12					
	comp=Z,3.6nm,1.0s					
O15K	Ungalikthiuk R	91.60	30	P	P	22 11 02.5 +0.3
	baz=287					
J18K	Innoko River	91.62	25		P	22 11 02.1 -0.2
J18K				IAmb	IAmb	22 11 12.5
	comp=Z,15nm,1.2s					
J18K	Innoko River	91.62	25	P	P	22 11 02.8 +0.5
	baz=290					
H20K	Anotleneega Mo	91.63	23	P	P	22 11 02.5 +0.2
	baz=292,SNR=15					
E22K	Anaktuvuk Pass	91.69	20	P	P	22 11 02.9 +0.4
E22K				IAmb	IAmb	22 11 14.8
	comp=Z,9.8nm,1.4s					
E22K	Anaktuvuk Pass	91.69	20	P	P	22 11 03.5 +0.9
	baz=295					
D23K	Nanushuk River	91.70	19	P	P	22 11 03.7 +1.1
D23K				IAmb	IAmb	22 11 13.3
	comp=Z,20nm,1.5s					
D23K	Nanushuk River	91.70	19	P	P	22 11 03.2 +0.7
	baz=296					
N16K	Nishlik Lake	91.71	28	P	P	22 11 03.4 +0.6
	baz=288					
G21K	Allakaket	91.75	22	IAmb	IAmb	22 11 12.7
	comp=Z,14nm,0.9s					
G21K	Allakaket	91.75	22	P	P	22 11 03.6 +0.8
	baz=293					
F22K	John River	91.82	21	P	P	22 11 03.9 +0.8
	baz=294,SNR=5.3					
J19K	Poorman	91.89	24	P	P	22 11 04.4 +0.9
J19K	Poorman	91.89	24	P	P	22 11 03.9 +0.4
	baz=291,SNR=7.2					
M17K	Holitna River	92.02	27	P	P	22 11 04.8 +0.7
	baz=290					
I20K	Naaghedeneel	92.05	24	P	P	22 11 05.2 +1.0
I20K	Naaghedeneel	92.05	24	P	P	22 11 05.1 +1.0
	baz=292					
L18K	Granite Mounta	92.07	26	P	P	22 11 05.9 +1.6
	baz=290					
TTA	Tatalina	92.11	26	P	P	22 11 05.3 +0.7
TTA				IAmb	IAmb	22 11 15.1
	comp=Z,9.8nm,1.2s					
TTA	Tatalina	92.11	26	P	P	22 11 05.4 +0.7
TTA				pmax	pmax	
	comp=Z,10.0nm,1.2s					
TTA	Tatalina	92.11	26	P	P	22 11 04.9 +0.2
	baz=291					
TOLK	Toolik Lake Re	92.21	19	P	P	22 11 05.7 +0.8
	baz=297					
D24K	Happy Valley	92.21	19	P	P	22 11 06.1 +1.3
	baz=298					
G22K	Bettles	92.31	21	P	P	22 11 06.9 +1.6
	baz=295					
O16K	Kokwok River B	92.31	29	P	P	22 11 06.1 +0.6
	baz=289					
H21K	Melozitna Rive	92.36	22	P	P	22 11 07.0 +1.4
H21K	Melozitna Rive	92.36	22	P	P	22 11 06.6 +0.9
	baz=294,SNR=7.5					
SDPT	Sand Point	92.39	33	P	P	22 11 06.8 +0.9
	baz=287					
J20K	Nowinta River	92.42	24	P	P	22 11 07.0 +1.1
	baz=293,SNR=7.2					
N17K	Nushagak Hills	92.43	28	P	P	22 11 06.9 +0.8
	baz=290					
E23K	Chandalar	92.46	20	P	P	22 11 06.8 +0.7
	baz=297					
VNDA	Vanda	92.60	168	P	P	22 11 06.5 +0.1
	comp=Z,0.8nm,0.8s,baz=329,slow=7.7,SNR=3.7					
	comp=Z,0.8nm,0.8s					
COLD	Coldfoot	92.64	21	P	P	22 11 08.3 +1.4
	baz=296					
M18K	Stony River	92.71	27	P	P	22 11 08.2 +0.8
	baz=291					
O17K	Koliganek Bris	92.73	29	P	P	22 11 08.9 +1.5
	baz=290					
K20K	Telida	92.77	25	P	P	22 11 09.1 +1.5
	baz=293					
H22K	Ishtalitna Cre	92.80	22	P	P	22 11 09.8 +2.2
	baz=295,SNR=7.9					
E24K	Your Creek	92.83	20		P	22 11 09.6 +1.7
E24K				IAmb	IAmb	22 11 19.8
	comp=Z,19nm,1.9s					
E24K	Your Creek	92.83	20	P	P	22 11 09.2 +1.4
	baz=298					
I21K	Tanana	92.87	23	P	P	22 11 08.0 0.0
I21K				IAmb	IAmb	22 11 18.0
	comp=Z,13nm,1.1s					
I21K	Tanana	92.87	23	P	P	22 11 09.5 +1.5
	baz=295					
L19K	White Mountain	92.89	26	P	P	22 11 08.7 +0.5
L19K				IAmb	IAmb	22 11 18.7
	comp=Z,11nm,1.1s					
L19K	White Mountain	92.89	26	P	P	22 11 09.6 +1.4
	baz=292					
D25K	Kavik River	92.89	18	P	P	22 11 07.7 -0.4
D25K	Kavik River	92.89	18	P	P	22 11 09.6 +1.5
	baz=300					
NEEM	North Greenlan	92.91	353	*i* P	P	22 11 07.5 -0.9
G23K	Bananza Creek	92.93	21	P	P	22 11 07.7 -0.6
G23K				IAmb	IAmb	22 11 18.5
	comp=Z,18nm,1.6s					
G23K	Bananza Creek	92.93	21	P	P	22 11 09.4 +1.1
	baz=296					
C26K	Camden Bay	93.03	17	P	P	22 11 10.0 +1.4
	baz=301					
L20K	Farewell, AK	93.19	26	P	P	22 11 10.6 +1.0
	baz=293					
M19K	Big River Lodg	93.19	26	P	P	22 11 11.0 +1.4
	baz=292					
P17K	Kvichak River	93.24	29	P	P	22 11 11.1 +1.3
	baz=290					
CHUM	Lake Minchumin	93.28	24	P	P	22 11 11.4 +1.5
	baz=294					
F24K	Squaw Lake	93.29	20	IAmb	IAmb	22 11 20.5
	comp=Z,17nm,1.9s					
F24K	Squaw Lake	93.29	20	P	P	22 11 11.6 +1.6
	baz=298					
Q16K	King Salmon	93.32	30	P	P	22 11 10.6 +0.5
	baz=290					
H23K	Yukon River	93.50	22	P	P	22 11 12.3 +1.3
H23K				IAmb	IAmb	22 11 21.4
	comp=Z,8.5nm,1.2s					
H23K	Yukon River	93.50	22	P	P	22 11 11.6 +0.7
	baz=297					
C27K	Jago River	93.54	17	P	P	22 11 11.6 +0.6
C27K				IAmb	IAmb	22 11 24.4
	comp=Z,5.7nm,1.1s					
C27K	Jago River	93.54	17	P	P	22 11 12.4 +1.4
	baz=303					
CAST	Castle Rocks	93.57	24	P	P	22 11 11.2 -0.1
CAST	Castle Rocks	93.57	24	P	P	22 11 12.4 +1.2
	baz=294,SNR=7.9					
N19K	Bonanza Creek	93.57	27		P	22 11 12.2 +0.7
N19K	Bonanza Creek	93.57	27	P	P	22 11 12.8 +1.4
	baz=292,SNR=6.7					
O18K	Koktuh Hills	93.59	28	P	P	22 11 12.9 +1.4
	baz=292					
BPAW	Bear Paw Mtn.	93.72	24	P	P	22 11 12.9 +1.0
BPAW	Bear Paw Mtn.	93.72	24	P	P	22 11 13.0 +1.0
	baz=296,SNR=6.1					
PPLA	Purkeypile	93.74	25	P	P	22 11 12.1 -0.1
	baz=294					
M20K	Styx River	93.75	26		P	22 11 13.2 +0.9
M20K				IAmb	IAmb	22 11 25.9
	comp=Z,11nm,1.0s					
M20K	Styx River	93.75	26	P	P	22 11 12.7 +0.5
	baz=293					
E25K	Arctic Village	93.76	19	P	P	22 11 12.4 +0.3
E25K	Arctic Village	93.76	19	P	P	22 11 13.2 +1.1
	baz=301					
G24K	Hadweenzic Riv	93.83	21	P	P	22 11 13.1 +0.7
	baz=299					
Q17K	Contact Creek	93.84	30	P	P	22 11 13.2 +0.5
	baz=291					
I23K	Minto, Yukon-K	93.88	22	P	P	22 11 14.1 +1.5
	baz=297					
F25K	Christian Rive	94.01	19		P	22 11 14.4 +1.1
F25K	Christian Rive	94.01	19	P	P	22 11 14.2 +1.0
	baz=301					
H24K	Noodor Dome	94.11	21	P	P	22 11 14.4 +0.7
	baz=298					
Q18K	Katmai Hardscr	94.13	29	P	P	22 11 14.9 +0.8
	baz=292					
NEA2	Nenana	94.25	23	P	P	22 11 15.7 +1.3
	baz=297					
G25K	Bearman Lake	94.27	20	P	P	22 11 14.8 +0.4
	baz=300					
SKT	Skwentna	94.40	26	P	P	22 11 13.6 -1.5
SKT	Skwentna	94.40	26	P	P	22 11 15.5 +0.4
	baz=295					
SPCR	Spurr Chakacha	94.43	26	P	P	22 11 15.7 +0.3
	baz=294					
BMAR	Burnt Mountain	94.44	19	P	P	22 11 16.2 +1.0
F26K	Sheenjek River	94.44	19	P	P	22 11 15.6 +0.3
F26K				IAmb	IAmb	22 11 33.8
	comp=Z,17nm,1.8s					
F26K	Sheenjek River	94.44	19	P	P	22 11 16.4 +1.2
	baz=302					
STLK	Strandline Lak	94.47	26	P	P	22 11 14.8 -0.8
STLK				IAmb	IAmb	22 11 23.8
	comp=Z,8.0nm,1.2s					
D27M	Malcolm River	94.56	17	P	P	22 11 14.8 -0.9
D27M	Malcolm River	94.56	17	P	P	22 11 17.1 +1.3
	baz=305					
P19K	Oil Pt	94.59	28	P	P	22 11 16.2 +0.1
	baz=293					
POKR	Poker Plat Res	94.61	22	P	P	22 11 16.1 +0.1
	baz=299					
H25L	Birch Creek	94.62	21	P	P	22 11 16.4 +0.4
	baz=300					
MCK	McKinley	94.70	23	P	P	22 11 16.7 +0.2
	baz=297					
G26K	Porcupine Rive	94.96	20	P	P	22 11 18.1 +0.5
G26K				IAmb	IAmb	22 11 27.9
	comp=Z,5.4nm,0.9s					
G26K	Porcupine Rive	94.96	20	P	P	22 11 18.9 +1.4
	baz=302					
ILAR	Eielson Array	94.99	22	P	P	22 11 17.2 -0.5
	comp=Z,0.7nm,1.0s,baz=317,slow=5.3,SNR=1.5					
	comp=Z,0.7nm,1.0s					
M22K	Willow	95.10	26	P	P	22 11 18.2 0.0
M22K	Willow	95.10	26	P	P	22 11 19.1 +0.8
	baz=296					
PRP	Porcupine Dome	95.11	21	P	P	22 11 19.9 +1.5
	baz=301					
HDA	Harding Lake	95.14	22	P	P	22 11 18.5 +0.1
	baz=299					
D28M	Stokes Point	95.14	17	P	P	22 11 19.8 +1.4
	baz=307					
E28M	Babbage River	95.35	17		P	22 11 20.0 +0.7
E28M				IAmb	IAmb	22 11 22.5
	comp=Z,22nm,1.9s					
E28M	Babbage River	95.35	17	P	P	22 11 21.0 +1.7
	baz=306					
Q20K	Shuyak Island	95.41	29	P	P	22 11 19.9 +0.2
	baz=294					
OHAK	Old Harbor	95.52	30	P	P	22 11 20.6 +0.3
	baz=293					
RC01	Rabbit Creek A	95.56	26	P	P	22 11 21.5 +1.1
	baz=296					
PMR	Palmer	95.60	25	P	P	22 11 21.3 +0.8
	baz=297					
G27K	Doyon Strip	95.74	19	P	P	22 11 21.8 +0.6
	baz=304					
SML	Sawmill	95.84	25	P	P	22 11 22.2 +0.5
	baz=298					
E29M	Blow River	95.96	17	P	P	22 11 23.2 +1.1
	baz=308					
KNK	Knik Glacier	95.97	25	P	P	22 11 23.3 +1.0
	baz=298					
H27K	Steamboat Moun	96.11	20	P	P	22 11 24.0 +1.1
	baz=304					
SEW	Seward	96.13	27	P	P	22 11 24.0 +1.0
	baz=297					
SCM	Sheep Creek Mo	96.24	25	P	P	22 11 24.6 +1.0
	baz=299					
PWL	Port Wells	96.28	26	P	P	22 11 24.7 +1.0
	baz=298					
RIDG	Independent Ri	96.28	23	P	P	22 11 24.4 +0.7
	baz=301					
J26L	Joseph Creek	96.36	22	P	P	22 11 24.6 +0.5
	baz=302					
I27K	Kandik River	96.44	20	P	P	22 11 24.9 +0.5
	baz=304					
SCRK	Sand Creek	96.48	22	P	P	22 11 25.3 +0.6
	baz=302					
A36M	Sachs Harbour	96.53	11		P	22 11 25.0 +0.5
A36M	Sachs Harbour	96.53	11	P	P	22 11 24.8 +0.2
	baz=320					
G29M	Pine Creek	96.84	18	P	P	22 11 26.2 0.0
	baz=308					
K27K	Chicken	97.16	22	P	Pdif	22 11 28.1 +0.4
	baz=304					
L26K	Log Cabin Wild	97.23	23	P	Pdif	22 11 28.5 +0.4
	baz=302					

INK Inuvik 97.26 16 P Pdif 22 11 28.0 0.0
comp=Z,2.1nm,1.0s,baz=281,slow=5.2,SNR=4.0
comp=Z,2.1nm,1.0s
INK Inuvik 97.26 16 P Pdif 22 11 28.0 0.0
QSPA South Pole Qui 97.47 180 LR LR 22 51 20.2
comp=Z,184nm,20.6s,baz=302,slow=33
N25K Chitina, Valde 97.48 24 P Pdif 22 11 29.6 +0.3
baz=301
EPYK Eagle Plains 97.58 18 P Pdif 22 11 30.6 +1.0
baz=309
RES Resolute Bay 97.71 2 P **P 22 11 29.7 -0.1**
comp=Z,2.3nm,1.0s,baz=289,slow=5.4,SNR=6.6
comp=Z,2.3nm,1.0s
F31M Tsiigehtchic 97.78 17 P Pdif 22 11 31.3 +1.0
baz=312
DBIC Dimbokro 98.10 278 LR LR 22 55 32.2
comp=Z,274nm,18.8s,baz=66,slow=35
C36M Paulatuk 98.84 13 Pdif 22 11 35.4 +0.4
C36M IAmb IAmb 22 11 54.3
comp=Z,10.0nm,1.4s
YKA Yellowknife Ar 106.70 14 PP **PP 22 16 32.5 -2.4**
comp=Z,0.6nm,0.9s,baz=340,slow=7.5,SNR=5.4
PLID Pearl Lake 120.95 25 **PKPdf 22 16 48.1 -0.3**
ULM Lac du Bonnet 121.76 8 PKP **PKPdf 22 16 49.4 0.0**
comp=Z,2.1nm,0.5s,baz=148,slow=5.6,SNR=3.6
NVAR Mina Array Bea 125.12 31 PKP **PKiKP 22 16 56.9 0.0**
comp=Z,1.6nm,0.9s,baz=267,slow=2.0,SNR=5.8
PDAR Pinedale Array 125.41 21 PKP **PKPdf 22 16 56.9 -0.2**
comp=Z,1.4nm,0.8s,baz=38,slow=2.6,SNR=9.5
TXAR Lajitas Array 139.46 24 PKP **PKPdf 22 17 24.6 +1.0**
comp=Z,0.5nm,0.7s,baz=254,slow=0.9,SNR=5.2
BDFB Brasilia 142.24 254 PKP **PKPdf 22 17 30.5 +1.5**
comp=Z,1.5nm,0.4s,baz=70,slow=9.9,SNR=4.2
PLCA Paso Flores 144.30 200 PKP PKPbc 22 17 30.8 +0.7
comp=Z,7.9nm,0.8s,baz=167,slow=3.4,SNR=15
CPUP Villa Florida 147.17 232 PKPbc **PKPbc 22 17 39.3 0.0**
comp=Z,5.6nm,0.8s,baz=126,slow=3.0,SNR=14
LPAZ La Paz 160.73 242 PKP **PKPdf 22 17 57.7 +0.6**
comp=Z,1.1nm,0.9s,baz=46,slow=6.0,SNR=3.6

STR 18 22:02:00.7±1.8, 50°N±8°×°±°, h16km±6km, MLv2.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=41.4, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABH	**Alteburg**	**0.22**	**229**	Pg	Pg	22 02 05.4	-0.4
ABH				Sg	Sg	22 02 09.5	+0.2
LEMB	**Lembach**	**0.99**	**182**	Pg	Pb	22 02 18.7	-0.8
LEMB				Sg	Sg	22 02 32.9	0.0
NEEW	**Neewiller pres**	**1.09**	**169**	Pn	Pg	22 02 22.1	+0.3
NEEW				Sg	Sg	22 02 36.1	+0.1
SZBH	**soultz borehol**	**1.09**	**178**	Sg	Sg	22 02 38.0	+1.9
WLF	**Walferdange**	**1.13**	**252**	Pg	Pn	22 02 20.8	-1.0
WLF				Sg	Sg	22 02 37.7	+0.5
VOEL	**Voellerdingen**	**1.15**	**203**	Pg	Pn	22 02 21.6	-0.5
VOEL				Sg	Sg	22 02 37.9	0.0
CIEL	**Dossenheim-sur**	**1.23**	**194**	Pg	Pb	22 02 23.8	+0.3
CIEL				Sg	Sg	22 02 40.5	+0.1
HOHE	**HOHENGOEFT**	**1.38**	**189**	Pg	Pg	22 02 27.1	-0.2

RSNC 18 22:02:11.9±0.0, 12°N±3°×8°2W±°, h4km±5km, M3.0, mb4.3, ML3.0, MLv3.7, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIC	**Isla e San And**	**0.11**	**302**	P	Pg	22 02 14.3	+0.2
SAIC				S	Sg	22 02 16.1	+0.6
PRVC	**Isla de Provid**	**0.93**	**16**	P	Pg	22 02 27.7	-2.0
PRVC				S	Sg	22 02 39.8	-1.9
RNCC	**Cayo Roncador,**	**1.84**	**54**	P	Pn	22 02 43.5	-0.9
RNCC				S	Sn	22 03 05.6	-2.6
BLUN	**Bluefields**	**2.16**	**258**	P	Pn	22 02 47.9	-0.8
BLUN				S	Sn	22 03 15.1	-0.8
SERC	**Banco Serrana,**	**2.17**	**34**	P	Pn	22 02 48.5	-0.3
SERC				S	Sn	22 03 16.4	+0.2
ESPN	**Las Esperanzas**	**2.63**	**264**	P	Pn	22 02 53.8	-1.4
ESPN				S	Sn	22 03 25.6	-2.1
ACON	**Acoyapa**	**3.51**	**262**	P	Pn	22 03 07.8	+0.5
ACON				S	Sn	22 03 52.8	+3.5
BCIP	**Isla Barro Col**	**3.73**	**152**	P	Pn	22 03 06.8	-3.5
BCIP				S	Sn	22 03 50.7	-4.0
AZU	**Azuero**	**4.84**	**164**	P	Pn	22 03 25.7	+0.1
AZU				S	Sn	22 04 19.2	-3.0
TGUH	**Tegucigalpa,Un**	**5.72**	**287**	P	Pn	22 03 38.3	+0.5
	39nm,0.8s						
TGUH				S	Sb	22 05 07.3	+5.8
	39nm,0.8s						
SJCC	**San Jacinto, C**	**6.82**	**111**	P	Pn	22 03 52.5	-0.4
SJCC				S	Sn	22 05 08.1	-3.0

---

*IDC **18** 22:16:40.9±0.9, 26°.20N×129°.37E, h0km, mb3.7/10, mbtmp3.7/11, ML4.0/1, Error ellipse: s-maj=30.6km s-min=16.7km az=58.0*
*JMA **18** 22:16:42.4±0.1, 26°.2N±0°.8×129°.5E±0°.5, h45km, MV3.6/27, NEAR MINAMI-DAITOJIMA IS*
ISC 18 22:16:40.0±1.6, 26°.19N±0°.04×129°.49E±0°.03, h2km±10km, n33, σ1°81/53, mb3.6/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.25**	**312**	P	**Pg**	**22 17 04.4**	**+0.4**
JYRO				*e*S	**Sg**	**22 17 19.4**	**-0.8**
JOW	**Kunigami**	**1.27**	**301**	Pn	**Pg**	**22 17 04.5**	**+0.2**
	167nm,0.3s,baz=132,slow=5.7,SNR=105						
JOW				Sn	**Sg**	**22 17 20.3**	**-0.4**
	243nm,0.3s,baz=134,slow=28,SNR=16						
JOW	**Kunigami**	**1.27**	**301**	P	**Pg**	**22 17 04.6**	**+0.3**
JOW				*e*S	**Sg**	**22 17 20.1**	**-0.6**
JNTH	**Nagotoyohara**	**1.36**	**284**	P	**Pn**	**22 17 05.6**	**-0.4**
JNTH				*e*S	**Sg**	**22 17 21.5**	**-2.2**
JOKE	**Okinoerabujima**	**1.43**	**325**	P	**Pn**	**22 17 07.1**	**+0.1**
JOKE				*e*S	**Sb**	**22 17 24.7**	**-1.3**
JJT3	**Tamagusuku3**	**1.54**	**269**	P	**Pn**	**22 17 08.5**	**+0.1**
JJT3				S	**Sn**	**22 17 27.4**	**-1.5**
JMZ	**Minamidaito 2**	**1.60**	**103**	P	**Pn**	**22 17 08.5**	**-0.7**
JMZ				S	**Sn**	**22 17 26.6**	**-3.9**
JIH	**Iheya**	**1.61**	**302**	*i* P	**Pn**	**22 17 09.7**	**+0.3**
JIH				S	**Sn**	**22 17 28.5**	**-2.1**
JKDJ	**Kitadaitoujima**	**1.64**	**98**	P	**Pn**	**22 17 09.3**	**-0.5**
JKDJ				S	**Sn**	**22 17 28.7**	**-2.7**
JTK	**Tokunoshima**	**1.66**	**343**	*i* P	**Pn**	**22 17 10.6**	**+0.4**
JTK				*e*S	**Sn**	**22 17 29.5**	**-2.6**
JAGN	**Aguni-jima**	**2.06**	**282**	P	**Pn**	**22 17 15.9**	**+0.4**
JAGN				*e*S	**Sn**	**22 17 39.2**	**-2.6**
JAMN	**Amaminishikomi**	**2.07**	**352**	P	**Pn**	**22 17 16.2**	**+0.6**
JZK	**Kikaishima**	**2.16**	**11**	*e*P	**Pn**	**22 17 18.1**	**+1.1**
JZK				S	**Sn**	**22 17 44.4**	**0.0**
JAM	**Amami Oshima**	**2.22**	**3**	P	**Pn**	**22 17 18.0**	**+0.3**
JAM				S	**Sn**	**22 17 43.9**	**-1.9**
JKE	**Kume jima 2**	**2.44**	**274**	P	**Pn**	**22 17 20.4**	**-0.4**
JKE				S	**Sn**	**22 17 47.7**	**-3.4**
JTAJ	**Takarajima**	**2.97**	**355**	*e*P	**Pn**	**22 17 28.3**	**+0.3**
JTAJ				S	**Sn**	**22 18 01.6**	**-2.6**
JNN	**Nakanoshima**	**3.66**	**5**	*e*S	**Sn**	**22 18 18.5**	**-2.8**
JYAK	**Yakushimahirau**	**4.13**	**12**	P	**Pn**	**22 17 44.3**	**+0.2**
JYAK				S	**Sn**	**22 18 29.4**	**-3.7**
JKC	**Kuchinoerabu**	**4.30**	**8**	*e*P	**Pn**	**22 17 47.0**	**+0.6**
JKC				*e*S	**Sn**	**22 18 33.7**	**-3.5**
JMTN	**Minamitane**	**4.37**	**16**	P	**Pn**	**22 17 48.6**	**+1.2**
JMTN				*e*S	**Sn**	**22 18 36.6**	**-2.4**
JTN	**Tanegashima 3**	**4.64**	**16**	*e*P	**Pn**	**22 17 51.7**	**+0.6**
JTN				S	**Sn**	**22 18 42.9**	**-2.6**
JNU	**Nakatsue**	**7.01**	**10**	Pn	**Pn**	**22 18 25.4**	**+1.6**
	2.4nm,0.3s,baz=145,slow=23,SNR=4.3						
JNU				Sn	**Sn**	**22 19 39.2**	**-4.9**
	0.8nm,0.3s,baz=196,slow=18,SNR=2.2						
	5.1nm,0.3s						
MKAR	**Makanchi Array**	**42.41**	**312**	P	**P**	**22 24 37.3**	**+1.4**
	0.2nm,0.4s,baz=75,slow=9.4,SNR=4.6						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**42.97**	**322**	P	**P**	**22 24 40.4**	**+0.1**
	0.4nm,0.4s,baz=110,slow=8.3,SNR=2.0						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**45.67**	**316**	P	**P**	**22 25 02.1**	**+0.1**
	0.2nm,0.4s,baz=102,slow=9.1,SNR=3.8						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**46.09**	**174**	P	**P**	**22 25 06.2**	**+0.5**
	0.6nm,0.6s,baz=353,slow=8.5,SNR=4.9						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**49.74**	**175**	P	**P**	**22 25 35.5**	**+1.6**
	0.4nm,0.7s,baz=2.6,slow=14,SNR=8.2						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**51.06**	**318**	P	**P**	**22 25 44.6**	**+1.0**
	0.4nm,0.4s,baz=108,slow=9.3,SNR=4.0						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**63.94**	**28**	P	**P**	**22 27 15.2**	**+1.0**
	0.3nm,0.8s,baz=267,slow=7.5,SNR=2.8						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**73.46**	**331**	P	**P**	**22 28 15.0**	**+1.4**
	1.2nm,0.8s,baz=50,slow=6.0,SNR=4.5						
	1.2nm,0.8s						
NB2	**NORSAR Subarra**	**79.85**	**334**	P	**P**	**22 28 49.7**	**-0.1**
	comp=Z,5.1nm,1.7s,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**79.85**	**334**	P	**P**	**22 28 50.2**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=56,slow=5.0,SNR=3.6						
	comp=Z,0.4nm,0.8s						
KMBO	**Kilima Mbogo**	**92.50**	**270**	P	**P**	**22 29 54.7**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=153,slow=2.3,SNR=4.9						
	comp=Z,1.2nm,0.5s						

---

*ATH **18** 22:22:17.3, 34°.79N×19°.56E, h33km±8km, ML3.5/11, Manual Solution by A.Moschou First location: 2019/04/18 22:23:55, This location: 2019/04/18 22:36:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 8 km*
*THE **18** 22:22:18.0, 34°.99N×19°.44E, h18km±13km, ML3.4/5, Error ellipse: s-maj=17.4km s-min=2.5km az=218.0*
*GII **18** 22:22:24.9±0.0, 34°.156N±0°.004×20°.909E±0°.002, h1km, Md3.9/2, confirmed*
ISC 18 22:22:13.0±2.9, 34°.8N±0°.1×19°.5E±0°.1, h10km, n76, σ1°56/82, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**3.13**	**39**	P	**Pn**	**22 23 03.5**	**+1.0**
ITM				S	**Sn**	**22 23 40.1**	**+0.1**
ITM	**Ithomi**	**3.13**	**39**	P	**Pn**	**22 23 03.4**	**+1.0**
ITM				S	**Sn**	**22 23 39.4**	**-0.6**
AMT	**Artemida-Makis**	**3.31**	**32**	P	**Pn**	**22 23 06.0**	**+1.0**
AMT				S	**Sn**	**22 23 43.7**	**-0.7**
ANKY	**Antikythira Is**	**3.32**	**69**	P	**Pn**	**22 23 05.9**	**+0.9**
ANKY	**Antikythira Is**	**3.32**	**69**	P	**Pn**	**22 23 06.1**	**+1.1**
ANKY				S	**Sn**	**22 23 43.3**	**-1.2**
VLI	**Veliai**	**3.43**	**54**	P	**Pn**	**22 23 08.3**	**+1.7**
VLI				S	**Sn**	**22 23 47.3**	**0.0**
	255nm,0.6s						
VLI	**Veliai**	**3.43**	**54**	P	**Pn**	**22 23 08.4**	**+1.9**
VLI				S	**Sn**	**22 23 46.3**	**-1.0**
PSDA	**Pessada-Kefalo**	**3.48**	**15**	P	**Pn**	**22 23 07.4**	**+0.2**
PSDA				S	**Sn**	**22 23 47.3**	**-1.0**
	240nm,0.2s						
PSDA	**Pessada-Kefalo**	**3.48**	**15**	P	**Pn**	**22 23 07.3**	**+0.2**
PSDA				S	**Sn**	**22 23 47.0**	**-1.3**
RTZL	**Ratzakli, Kefa**	**3.48**	**17**	P	**Pn**	**22 23 07.5**	**+0.3**
KNDR	**Palaiochora Ch**	**3.49**	**81**	P	**Pn**	**22 23 11.0**	**+3.7**
KNDR	**Palaiochora Ch**	**3.49**	**81**	P	**Pn**	**22 23 06.7**	**-0.6**
KNDR				S	**Sn**	**22 23 46.8**	**-1.8**
VLS	**Valsamata**	**3.54**	**14**	P	**Pn**	**22 23 08.2**	**+0.2**
VLS				S	**Sn**	**22 23 47.9**	**-2.0**
	150nm,0.2s						
DMLN	**Damoulianata-K**	**3.56**	**11**	P	**Pn**	**22 23 08.6**	**+0.3**
DMLN				S	**Sn**	**22 23 48.8**	**-1.6**
	190nm,0.2s						
DRO	**Drossia**	**3.67**	**29**	P	**Pn**	**22 23 11.7**	**+1.8**
DRO	**Drossia**	**3.67**	**29**	P	**Pn**	**22 23 11.6**	**+1.7**
DRO				S	**Sn**	**22 23 52.9**	**-0.3**
RLS	**Riolos of Patr**	**3.67**	**25**	P	**Pn**	**22 23 11.3**	**+1.4**
RLS				S	**Sn**	**22 23 51.7**	**-1.5**
	42nm,0.5s						
RLS	**Riolos of Patr**	**3.67**	**25**	P	**Pn**	**22 23 11.2**	**+1.4**
VSK1	**VASILIKIADES**	**3.76**	**13**	P	**Pn**	**22 23 11.6**	**+0.5**
VSK1				S	**Sn**	**22 23 54.6**	**-0.7**
IMMV	**Iera Moni Meta**	**3.76**	**78**	P	**Pn**	**22 23 12.8**	**+1.7**
IMMV				S	**Sn**	**22 23 53.2**	**-2.2**
GVD	**Gavdhos**	**3.79**	**87**	P	**Pn**	**22 23 12.3**	**+0.7**
GVD	**Gavdhos**	**3.79**	**87**	P	**Pn**	**22 23 12.2**	**+0.7**
GVD				S	**Sn**	**22 23 54.4**	**-1.8**
FSK	**Fiskardo**	**3.81**	**13**	P	**Pn**	**22 23 12.0**	**+0.3**
FSK	**Fiskardo**	**3.81**	**13**	P	**Pn**	**22 23 12.2**	**+0.5**
FSK				S	**Sn**	**22 23 55.8**	**-0.7**
GUR	**Goura**	**3.93**	**35**	P	**Pn**	**22 23 15.6**	**+2.0**
GUR	**Goura**	**3.93**	**35**	P	**Pn**	**22 23 15.1**	**+1.5**
KLV	**Kalavryta, Ach**	**3.93**	**32**	P	**Pn**	**22 23 15.3**	**+1.7**
KLV	**Kalavryta, Ach**	**3.93**	**32**	P	**Pn**	**22 23 15.2**	**+1.7**
KRND	**KRANIDI**	**3.97**	**47**	P	**Pn**	**22 23 14.6**	**+0.6**
KRND	**KRANIDI**	**3.97**	**47**	P	**Pn**	**22 23 14.6**	**+0.6**
EVGI	**Lefkada island**	**3.98**	**13**	P	**Pn**	**22 23 15.1**	**+0.9**
EVGI	**Lefkada island**	**3.98**	**13**	P	**Pn**	**22 23 15.0**	**+0.9**
EVGI				S	**Sn**	**22 23 59.9**	**-0.9**
NYDR	**Nydri-Lefkada**	**4.08**	**14**	P	**Pn**	**22 23 16.5**	**+1.1**
NYDR	**Nydri-Lefkada**	**4.08**	**14**	P	**Pn**	**22 23 16.7**	**+1.3**
NYDR				S	**Sn**	**22 24 03.7**	**+0.5**
ALIK	**Aliki, Aigiali**	**4.10**	**30**	P	**Pn**	**22 23 19.1**	**+3.4**
LKD2	**Lefkada island**	**4.14**	**13**	P	**Pn**	**22 23 17.4**	**+1.0**
LKD2	**Lefkada island**	**4.14**	**13**	P	**Pn**	**22 23 18.0**	**+1.6**
EFP	**Efpalio**	**4.16**	**27**	P	**Pn**	**22 23 19.4**	**+2.9**
EFP	**Efpalio**	**4.16**	**27**	P	**Pn**	**22 23 18.5**	**+2.0**
EFP				S	**Sn**	**22 24 04.9**	**-0.3**
TSLK	**Tsoukalades, L**	**4.18**	**13**	P	**Pn**	**22 23 18.3**	**+1.5**
ANX	**Ano Chora**	**4.31**	**26**	P	**Pn**	**22 23 21.3**	**+2.6**
IDI	**Anoyia**	**4.47**	**82**	P	**Pn**	**22 23 22.4**	**+1.5**
EVR	**Evrytania**	**4.56**	**23**	P	**Pn**	**22 23 26.0**	**+3.8**
VILL	**Villía**	**4.60**	**41**	P	**Pn**	**22 23 24.4**	**+1.7**
MAKR	**Makrakomi, Fth**	**4.76**	**26**	P	**Pn**	**22 23 27.5**	**+2.7**
IGT	**Igoumenitsa**	**4.82**	**8**	P	**Pn**	**22 23 25.7**	**0.0**
AGG	**Agios Georgios**	**4.84**	**27**	P	**Pn**	**22 23 28.4**	**+2.5**
KEK	**Kerkira**	**4.96**	**3**	P	**Pn**	**22 23 28.9**	**+1.3**
JAN	**Janina**	**5.02**	**12**	P	**Pn**	**22 23 29.7**	**+1.3**
KARY	**Karystos**	**5.17**	**49**	P	**Pn**	**22 23 30.9**	**+0.4**
THL	**Klokotos Trika**	**5.22**	**22**	P	**Pn**	**22 23 32.7**	**+1.6**
APE	**Apeiranthos**	**5.43**	**63**	S	**Sn**	**22 24 34.8**	**-1.9**
NEO	**Neokhori**	**5.45**	**32**	P	**Pn**	**22 23 35.7**	**+1.4**
XOR	**Xorichti**	**5.48**	**32**	P	**Pn**	**22 23 36.3**	**+1.5**
PENT	**Pentalofos**	**5.59**	**13**	P	**Pn**	**22 23 38.3**	**+1.9**
AOS	**Alonnisos**	**5.65**	**37**	P	**Pn**	**22 23 37.2**	**+0.2**
LIT	**Litokhoron**	**5.85**	**23**	P	**Pn**	**22 23 41.0**	**+1.1**
OHR	**Ohrid**	**6.44**	**9**	*e*Pn	**Pn**	**22 23 50.0**	**+2.0**
OHR				*e*Sn	**Sn**	**22 25 00.5**	**-0.9**
VAY	**Valandovo**	**7.00**	**19**	*e*Pn	**Pn**	**22 23 56.7**	**+1.1**
VAY				*e*Sn	**Sn**	**22 25 12.0**	**-3.2**
BARS	**Barje**	**8.26**	**12**	*e*Pn	**Pn**	**22 24 12.4**	**-0.5**
CSS	**Mathiatis**	**11.38**	**85**	P	Pn	22 24 52.2	-3.5
KZIT	**Kziot**	**13.12**	**103**	P	Pn	22 25 15.1	-4.3
SLTI	**Sal'it**	**13.23**	**97**	P	Pn	22 25 17.2	-3.7
SLTI	**Sal'it**	**13.23**	**97**	S	Sn	22 27 32.4	-16
MMA0B	**Mount Meron ar**	**13.34**	**93**	P	Pn	22 25 19.2	-3.4
MMLI	**Mount Malkishu**	**13.49**	**95**	P	Pn	22 25 20.3	-4.2
HMDT	**Nahal Hemdat**	**13.62**	**96**	P	Pn	22 25 22.6	-3.7
UJAP	**Al Uja**	**13.65**	**97**	P	Pn	22 25 23.6	-3.1
KRMI	**Paran Flat**	**13.68**	**106**	P	Pn	22 25 22.5	-4.5
DSI	**Dead Sea**	**13.69**	**99**	P	Pn	22 25 22.9	-4.3
DSI	**Dead Sea**	**13.69**	**99**	S	Sn	22 27 42.9	-16
MSBI	**Mazada**	**13.75**	**100**	P	Pn	22 25 23.8	-4.2
PRNI	**Paran**	**13.81**	**104**	P	Pn	22 25 24.8	-4.1
GHAJ	**Ghor Haditha**	**13.93**	**100**	P	Pn	22 25 27.6	-2.9
HRFI	**Mount Harif**	**13.96**	**105**	P	Pn	22 25 27.3	-3.7
MBRI	**Mt Berech**	**13.96**	**106**	P	Pn	22 25 27.1	-3.9

FUNV 18 22:35:45.5, 8°.51N×62°.16W, h35km, MW3.5, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**2.95**	**304**	*e*P	Pn	22 36 28.6	-1.4
PCRV				*e*S	Sn	22 36 59.7	-4.5
CACV	**CAICARA DEL OR**	**4.43**	**258**	*e*P	Pn	22 36 41.9	-8.4
CACV				*e*S	Sn	22 37 24.0	-17
BENV	**Beln**	**5.56**	**285**	*e*P	Pn	22 37 03.8	-2.0
BENV				*e*S	Sn	22 38 02.9	-5.7
BAUV	**El Baul**	**5.83**	**275**	*e*P	Pn	22 37 07.5	-2.0
BAUV				*e*S	Sn	22 38 07.5	-7.7

---

*NEIC **18** 22:53:50.2±1.6, 32°.38N±0°.03×115°.16W±0°.04, h31km±2km, Error ellipse: s-maj=4.3km s-min=4.0km az=55.0*
*PAS **18** 22:53:50.7±1.4, 32°.35N±0°.03×115°.14W±0°.04, h29km±7km, ML2.9/91, ML2.9/44(NEIC), Error ellipse: s-maj=5.1km s-min=3.9km az=135.0*
*ECX **18** 22:53:50.5±0.6, 32°.41N×115°.18W, h13km±1km, MD2.8, ML3.0*
*MEX **18** 22:53:51.1±0.6, 32°.43N×115°.06W, h9km±3km, MD3.2*
ISC 18 22:53:50.6±0.9, 32°.39N±0°.02×115°.16W±0°.02, h24km±3km, n78, σ0°94/95, 15C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.04**	**305**	*i* P	**Pb**	**22 53 53.9**	**-0.8**
MBIG				*e*S	**Sb**	**22 53 56.6**	**-0.9**
MBIG	**Mexicali**	**0.04**	**305**	*e*P	**Pb**	**22 53 53.8**	**-1.0**
MBIG				*i* S	**Sb**	**22 53 56.6**	**-0.9**
GUVIX	**Guadalupe Vict**	**0.11**	**138**		**Pb**	**22 53 55.6**	**+0.4**
GUVIX					**Sn**	**22 53 59.2**	**+0.9**
GUVIX	**Guadalupe Vict**	**0.11**	**138**	⇑*i*P	**Pb**	**22 53 55.6**	**+0.4**
GUVIX				*e*S	**Sn**	**22 53 58.9**	**+0.6**
GUVIX				IAML		22 53 59.6	
	comp=N,39μm,0.2s						
GUVIX				⇓*e*		22 53 59.6	
GUVIX				IAML		22 53 59.8	
	comp=E,27μm,0.2s						
GUVIX				⇑*e*		22 53 59.8	
CPBX	**Cerro Prieto**	**0.12**	**285**		**Pb**	**22 53 55.0**	**-0.4**
CPBX	**Cerro Prieto**	**0.12**	**285**	⇑*e*P	**Pb**	**22 53 55.0**	**-0.4**
CPBX				*e*S	**Sn**	**22 53 57.9**	**-0.7**
CPBX				⇑*e*		22 54 00.3	
CPBX				IAML		22 54 00.3	
	comp=E,13μm,0.2s						
CPBX				IAML		22 54 01.3	
	comp=N,11μm,0.3s						
PESCX	**Ej. Pescaderos**	**0.17**	**75**		**Pb**	**22 53 56.2**	**+0.3**
PESCX					**Sb**	**22 53 59.9**	**+0.5**
PESCX	**Ej. Pescaderos**	**0.17**	**75**	*e*P	**Pb**	**22 53 56.1**	**+0.3**
PESCX				*e*S	**Sb**	**22 53 59.9**	**+0.5**
YUCAX	**Ej. Yucat¡n**	**0.23**	**15**	⇑*i*P	**Pb**	**22 53 56.9**	**+0.4**
YUCAX				*i* S	**Sb**	**22 54 01.4**	**+0.9**
RHX	**Rio Hardy**	**0.27**	**202**	⇑*i*P	**Pn**	**22 53 57.7**	**-1.4**
RHX				IAML		22 54 02.5	
	comp=E,900nm,0.3s						
RHX				IAML		22 54 02.8	
	comp=N,415nm,0.3s						
RHX				⇑*e*		22 54 02.8	
RITX	**Riito Sonora**	**0.28**	**142**	*e*P	**Pn**	**22 53 58.7**	**-0.5**
UABX	**UABC, Campus M**	**0.34**	**316**		**Pb**	**22 53 58.7**	**+0.6**
UABX					**Sn**	**22 54 05.1**	**-1.0**
UABX	**UABC, Campus M**	**0.34**	**316**	⇑*e*P	**Pn**	**22 53 58.9**	**-1.1**
5054	**Holtville Bond**	**0.34**	**334**		**Pn**	**22 53 59.0**	**-1.1**
5054					**Sn**	**22 54 04.8**	**-1.3**
EMSC	**East Mesa**	**0.38**	**23**		**Pn**	**22 53 59.6**	**-1.0**
EMSC					**Sn**	**22 54 05.8**	**-1.4**
EMSC	**East Mesa**	**0.38**	**23**	⇑*e*P	**Pn**	**22 53 59.6**	**-1.0**
JARAX	**Ej. Heriberto**	**0.38**	**293**	⇑*i*P	**Pb**	**22 53 58.9**	**+0.1**
JARAX				⇓*e*		22 54 13.5	
JARAX				IAML		22 54 13.5	
	comp=N,1μm,0.5s						
5053	**Calexico**	**0.40**	**316**		**Pn**	**22 53 59.9**	**-0.9**
5053					**Sn**	**22 54 06.4**	**-1.2**
COA	**Coachella**	**0.48**	**4**		**Pn**	**22 54 01.1**	**-0.8**
COA					**Sn**	**22 54 08.8**	**-0.8**
DREC	**Desert Rsrch C**	**0.48**	**330**		**Pn**	**22 54 01.6**	**-0.4**
DREC	**Desert Rsrch C**	**0.48**	**330**	⇑*e*P	**Pn**	**22 54 01.6**	**-0.4**
SNR	**Schaffner Ranc**	**0.53**	**334**		**Pn**	**22 54 01.9**	**-0.7**
SGL	**Mount Signal**	**0.54**	**299**		**Pb**	**22 54 01.6**	**+0.1**
SGL					**Sn**	**22 54 10.0**	**-1.2**
ALAMX	**Rancho Alamar**	**0.60**	**231**	*e*P	**Pn**	**22 54 03.8**	**+0.2**
ALAMX				*e*S	**Sn**	**22 54 12.6**	**+0.1**
ALAMX				⇑*e*		22 54 13.6	
ALAMX				IAML		22 54 13.6	
	comp=N,928nm,0.3s						
ALAMX				IAML		22 54 14.4	
	comp=E,1μm,0.4s						
ALAMX				⇓*e*		22 54 14.4	
RUN	**Ruthven**	**0.60**	**15**		**Pn**	**22 54 02.7**	**-1.0**
WESC	**Westside Schoo**	**0.61**	**308**		**Pn**	**22 54 02.9**	**-0.8**
WESC	**Westside Schoo**	**0.61**	**308**	⇑*i*P	**Pn**	**22 54 02.8**	**-0.9**
IMPE	**Imperial**	**0.61**	**327**		**Pn**	**22 54 03.5**	**-0.3**
IMPE					**Sn**	**22 54 13.2**	**+0.3**
COK2	**Cook Ranch 2**	**0.66**	**314**		**Pn**	**22 54 03.7**	**-0.8**
YUH2	**Yuha Desert**	**0.69**	**292**	⇑*i*P	**Pn**	**22 54 04.0**	**-0.9**
YUH	**Yuha Desert**	**0.69**	**292**		**Pn**	**22 54 04.1**	**-0.8**
GLA	**Glamis**	**0.72**	**23**		**Pb**	**22 54 04.7**	**+

comp=E,16nm,1.7s
CCAC IAML 22 56 20.8
comp=N,20nm,1.8s
TPNV Topopah Spring 4.64 349 IAML 22 56 27.3
comp=N,12nm,2.7s
TPNV IAML 22 56 32.8
comp=N,14nm,2.9s

*IDC **18** 23:15:07.2±1.3, 11°.97N×85°.48W, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=97.6km s-min=18.5km az=67.0*
*UCR **18** 23:15:08.2±1.0, 10°.87N×86°.69W, h16km±7km, MW4.7*
*CATAC **18** 23:15:12.2±0.6, 11°.N±2°×.8°.7W±°., h21km±5km, M3.9/21, MLv3.9/21, Error ellipse: s-maj=5.5km s-min=4.0km az=25.8, confirmed*
ISC 18 23:15:10.4±1.5, 10°.98N±0°.04×86°.66W±0°.05, h26km±11km, n61, σ1§23/72, mb3.6/5, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.98**	**39**	*e*P	**Pb**	**23 15 28.3**	**-0.5**
LCRUZ	**La Cruz**	**1.02**	**84**	*e*P	**Pb**	**23 15 28.2**	**-1.2**
NANN	**Nandasmo**	**1.09**	**29**	P	**Pb**	**23 15 31.9**	**+1.3**
NANN	**Nandasmo**	**1.09**	**29**	S	**Sn**	**23 15 45.5**	**+1.2**
MASN	**Masaya**	**1.12**	**27**	P	**Pb**	**23 15 32.1**	**+0.9**
MASN				S	**Sb**	**23 15 45.7**	**+0.3**
CARN	**Rivas**	**1.14**	**79**	P	**Pb**	**23 15 32.3**	**+0.8**
CARN				S	**Sn**	**23 15 48.8**	**+3.4**
ELI1	**Hacienda Flor**	**1.14**	**107**	*e*P	**Pn**	**23 15 29.8**	**-0.9**
MAS3	**Al N del Volca**	**1.14**	**25**	P	**Pn**	**23 15 31.4**	**+0.6**
MAS3				S	**Sb**	**23 15 46.1**	**+0.1**
ALIBA	**Liberia Airpor**	**1.16**	**109**	*e*P	**Pn**	**23 15 29.9**	**-1.0**
CONN	**Concepcion**	**1.17**	**60**	P	**Pb**	**23 15 33.1**	**+1.1**
CONN				S	**Sn**	**23 15 48.4**	**+2.1**
UNAN	**Cigeo UNAN**	**1.19**	**19**	P	**Pn**	**23 15 32.3**	**+0.9**
UNAN				S	**Sb**	**23 15 46.4**	**-0.9**
COPN	**Copaltepe**	**1.20**	**3**	*e*P	**Pn**	**23 15 31.5**	**+0.1**
COPN	**Copaltepe**	**1.20**	**3**	P	**Pn**	**23 15 31.7**	**+0.2**
SAPS	**Ciudad Sandino**	**1.21**	**12**	P	**Pn**	**23 15 32.6**	**+1.0**
SAPS	**Ciudad Sandino**	**1.21**	**12**	S	**Sb**	**23 15 47.2**	**-0.8**
TISN	**Laguna Tiscapa**	**1.22**	**18**	P	**Pn**	**23 15 30.7**	**-1.1**
MGAN	**Managua**	**1.23**	**19**	*e*P	**Pn**	**23 15 32.7**	**+0.8**
MGAN	**Managua**	**1.23**	**19**	P	**Pn**	**23 15 32.8**	**+0.9**
APYN	**Apoyeque**	**1.28**	**14**	P	**Pn**	**23 15 33.7**	**+1.0**
APYN				S	**Sn**	**23 15 49.0**	**0.0**
VORI	**VORI**	**1.30**	**97**	*e*P	**Pn**	**23 15 32.2**	**-0.8**
GPS2	**Hotel Rincn d**	**1.31**	**100**	*e*P	**Pn**	**23 15 31.9**	**-1.1**
PEJA	**Penjamo Buenos**	**1.33**	**93**	*e*P	**Pn**	**23 15 32.6**	**-0.7**
MOMN	**Momotombo**	**1.43**	**5**	P	**Pn**	**23 15 35.2**	**+0.6**
MOMN				S	**Sn**	**23 15 52.3**	**-0.3**
BAGA	**Bagaces**	**1.45**	**108**	*e*P	**Pn**	**23 15 35.0**	**+0.2**
COLC	**Colonia**	**1.47**	**102**	*e*P	**Pn**	**23 15 34.1**	**-1.1**
HORNC	**Hornillas**	**1.48**	**100**	*e*P	**Pn**	**23 15 34.7**	**-0.7**
CNGA	**AI SSO del Vol**	**1.51**	**359**	P	**Pn**	**23 15 36.3**	**+0.6**
CNGA				S	**Sn**	**23 15 55.0**	**+0.4**
CUI	**Cuipilapa**	**1.51**	**102**	*e*P	**Pn**	**23 15 34.7**	**-1.0**
CNGN	**Cerro Negro**	**1.51**	**359**	P	**Pn**	**23 15 36.5**	**+0.6**
VMAR	**Armenia, Volca**	**1.53**	**96**	*e*P	**Pn**	**23 15 35.9**	**-0.2**
INDI	**Punta indio, G**	**1.59**	**134**	P	**Pb**	**23 15 42.0**	**+2.9**
UPAL	**Upala**	**1.62**	**93**	*e*P	**Pn**	**23 15 36.8**	**-0.4**
POLN	**AI Sur del Vol**	**1.67**	**355**	P	**Pn**	**23 15 38.4**	**+0.4**
POLN				S	**Sn**	**23 16 00.5**	**+2.0**
CRIN	**San Cristobal**	**1.75**	**348**	*e*P	**Pn**	**23 15 39.2**	**+0.1**
ACON	**Acoyapa**	**1.76**	**56**	*e*P	**Pn**	**23 15 39.4**	**+0.3**
ACON	**Acoyapa**	**1.76**	**56**	P	**Pb**	**23 15 41.3**	**-0.7**
ACON	**Acoyapa**	**1.76**	**56**	S	**Sb**	**23 16 03.7**	**0.0**
QUEB	**Quebradon, Cot**	**1.77**	**101**	*e*P	**Pn**	**23 15 39.1**	**-0.3**
JTS	**Las Juntas de**	**1.81**	**112**	Pn	**Pn**	**23 15 38.7**	**-1.2**
	6.2nm,0.3s,baz=314,slow=6.9,SNR=21						
JTS				Sn	**Sn**	**23 16 02.7**	**+0.5**
	28nm,0.3s,baz=333,slow=16,SNR=5.5						
JTS	**Las Juntas de**	**1.81**	**112**	*e*P	**Pn**	**23 15 38.6**	**-1.4**
VARE2	**V. Arenal**	**1.98**	**105**	*e*P	**Pn**	**23 15 42.8**	**+0.5**
ARE1	**Arenal 1**	**1.98**	**105**	*e*P	**Pn**	**23 15 42.9**	**+0.7**
CEDE	**Laguna Cedeo**	**1.99**	**104**	*e*P	**Pb**	**23 15 45.8**	**-0.1**
MATN	**Matagalpa**	**2.07**	**20**	P	**Pn**	**23 15 44.2**	**+0.7**
MATN	**Matagalpa**	**2.07**	**20**	S	**Sn**	**23 16 07.5**	**-1.0**
SOCE	**Pocosol**	**2.10**	**106**	P	**Pb**	**23 15 47.0**	**-0.7**
CSGN	**Cosiguina Volc**	**2.17**	**336**	*e*P	**Pn**	**23 15 45.0**	**+0.1**
CSGN	**Cosiguina Volc**	**2.17**	**336**	P	**Pn**	**23 15 45.4**	**+0.5**
CSGN				S	**Sn**	**23 16 11.9**	**+0.9**
CNCH	**Conchagua**	**2.56**	**333**	P	**Pn**	**23 15 50.6**	**+0.4**
CNCH	**Conchagua**	**2.56**	**333**	S	**Sn**	**23 16 21.5**	**+0.9**
RANC	**El Ranchito**	**2.91**	**327**	P	**Pn**	**23 15 53.7**	**-1.5**
RANC	**El Ranchito**	**2.91**	**327**	S	**Sn**	**23 16 29.3**	**-0.1**
PACA	**Pacayal**	**2.96**	**327**	P	**Pn**	**23 15 56.1**	**+0.3**
PACA	**Pacayal**	**2.96**	**327**	S	**Sn**	**23 16 30.4**	**-0.2**
TXAR	**Lajitas Array**	**24.20**	**321**	P	**P**	**23 20 25.3**	**+0.3**
	2.1nm,0.9s,baz=140,slow=10,SNR=13						
	2.1nm,0.9s						
PDAR	**Pinedale Array**	**37.43**	**332**	P	**P**	**23 22 19.0**	**-2.7**
	0.9nm,0.7s,baz=159,slow=14,SNR=2.1						
	0.9nm,0.7s						
NVAR	**Mina Array Bea**	**39.31**	**319**	P	**P**	**23 22 39.4**	**+1.8**
	0.2nm,0.4s,baz=122,slow=5.3,SNR=2.0						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**55.23**	**345**	P	**P**	**23 24 37.5**	**-3.3**
	0.2nm,0.7s,baz=141,slow=7.8,SNR=5.0						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**67.67**	**336**	P	**P**	**23 26 03.6**	**-1.4**
	0.4nm,0.8s,baz=133,slow=4.0,SNR=4.1						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**139.58**	**252**	PKP	**PKiKP**	**23 34 41.1**	**+2.1**
	0.4nm,0.9s,baz=90,slow=1.9,SNR=2.0						
CMAR	**Chiang Mai Arr**	**150.23**	**349**	PKPbc	**PKPdf**	**23 34 58.4**	**+3.5**
	0.4nm,0.5s,baz=358,slow=2.5,SNR=0.9						

*IDC **18** 23:31:33.2±10.0, 29°.89S×178°.66W, h109km±73km, mb3.7/4, mbtmp4.0/5, ML3.6/1, Error ellipse: s-maj=87.0km s-min=26.3km az=40.0*
ISC 18 23:31:33.3±1.7, 30°.0S±0°.1×178°.8W±0°.3, h100km, n7, σ1§77/8, mb4.1/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.87**	**201**	P	**Pn**	**23 33 41.0**	**+2.4**
	0.6nm,0.3s,baz=348,slow=3.9,SNR=8.1						
URZ				S	**Sn**	**23 35 13.9**	**-2.8**
	5.9nm,0.3s,baz=166,slow=23,SNR=7.9						
	2.7nm,0.6s						
STKA	**Stephens Creek**	**33.87**	**257**	P	**P**	**23 38 06.5**	**+0.2**
	2.3nm,0.7s,baz=79,slow=11,SNR=4.5						
	2.3nm,0.7s						
ASAR	**Alice Springs**	**42.41**	**267**	P	**P**	**23 39 18.3**	**+0.1**
	0.9nm,0.7s,baz=109,slow=8.4,SNR=14						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**43.37**	**272**	P	**P**	**23 39 26.2**	**+0.3**
	1.6nm,0.4s,baz=111,slow=8.1,SNR=16						
	1.6nm,0.4s						
QSPA	**South Pole Qui**	**60.08**	**180**	P	**P**	**23 41 29.6**	**0.0**
	3.0nm,0.8s,baz=350,slow=0.4,SNR=14						
	3.0nm,0.8s						
FINES	**FINESS Array B**	**144.55**	**340**	PKP	**PKPab**	**23 50 55.0**	**-1.0**
	0.3nm,0.4s,baz=65,slow=4.7,SNR=7.4						
MMAI	**Mount Meron Ar**	**150.74**	**285**	PKPbc	**PKPbc**	**23 51 13.1**	**-1.0**
	2.8nm,0.9s,baz=80,slow=7.9,SNR=1.8						

*CATAC **18** 23:56:10.8±0.2, 12°.N±2°×.8°.8W±°., h44km±17km, M4.1/11, MLv4.1/11, Error ellipse: s-maj=4.9km s-min=1.5km az=32.3, confirmed*
*IDC **18** 23:56:10.2±1.3, 12°.54N×86°.79W, h0km, mb3.7/6, mbtmp3.7/7, ML2.8/2, MS3.4/20, Error ellipse: s-maj=75.0km s-min=20.5km az=56.0*
*NEIC **18** 23:56:11.4±1.6, 11°.76N±0°.06×87°.59W±0°.03, h10km±2km, mb4.4/25, Error ellipse: s-maj=11.1km s-min=4.6km az=191.0*
*SNET **18** 23:56:12.9±1.2, 11°.75N×87°.78W, h34km±999km, ML4.2*
ISC 18 23:56:11.3±1.6, 11°.69N±0°.05×87°.66W±0°.04, h23km±11km, n149, σ1§24/150, mb4.3/18, MS3.5/18, 7C-15D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.16**	**65**	⇓P	**Pn**	**23 56 31.9**	**-0.2**
CRIN	**San Cristobal**	**1.17**	**31**		**Pb**	**23 56 33.0**	**0.0**
CRIN	**San Cristobal**	**1.17**	**31**	S	**Sb**	**23 56 49.5**	**+1.7**
CRIN	**San Cristobal**	**1.17**	**31**	⇓P	**Pb**	**23 56 32.8**	**-0.2**
QUEN	**AI S del Volca**	**1.20**	**41**	S	**Sb**	**23 56 49.0**	**+0.5**
HERN	**Volcan Telica**	**1.22**	**41**		**Pb**	**23 56 33.3**	**-0.6**
HERN	**Volcan Telica**	**1.22**	**41**	⇓P	**Pn**	**23 56 32.9**	**-0.2**
HERN	**Volcan Telica**	**1.22**	**41**	S	**Sb**	**23 56 49.7**	**+0.4**
CNGA	**AI SSO del Vol**	**1.23**	**49**	⇓P	**Pb**	**23 56 33.3**	**-0.7**
CNGA				S	**Sb**	**23 56 50.9**	**+1.3**
CNGN	**Cerro Negro**	**1.24**	**49**		**Pb**	**23 56 33.6**	**-0.5**
CNGN	**Cerro Negro**	**1.24**	**49**	S	**Sb**	**23 56 51.0**	**+1.3**
CNGN	**Cerro Negro**	**1.24**	**49**	⇓P	**Pb**	**23 56 33.8**	**-0.3**
LEVN	**Ruinas Leon Vi**	**1.24**	**55**	⇓P	**Pn**	**23 56 33.3**	**0.0**
LEVN				S	**Sb**	**23 56 50.8**	**+1.0**
PLRN	**Geotermica Pol**	**1.25**	**44**	⇓P	**Pn**	**23 56 32.5**	**-0.8**
PLRN				S	**Sb**	**23 56 51.0**	**+1.1**
POLN	**AI Sur del Vol**	**1.27**	**41**	⇓P	**Pn**	**23 56 32.8**	**-0.8**
POLN				S	**Sb**	**23 56 51.7**	**+1.2**
CSGN	**Cosiguina Volc**	**1.29**	**4**	⇑P	**Pn**	**23 56 33.9**	**0.0**
CSGN				S	**Sb**	**23 56 52.1**	**+1.2**
ILCN	**San Idelfonso**	**1.29**	**47**	⇓P	**Pb**	**23 56 34.0**	**-1.0**
ILCN				S	**Sb**	**23 56 51.9**	**+0.8**
BC84	**Volcan Momotom**	**1.30**	**57**	S	**Sb**	**23 56 52.9**	**+1.5**
MOMN	**Momotombo**	**1.31**	**57**	⇓P	**Pn**	**23 56 34.2**	**-0.1**
MOMN				S	**Sb**	**23 56 51.6**	**-0.1**
POTN	**Potosi Cosigui**	**1.31**	**7**	⇑P	**Pb**	**23 56 34.6**	**-0.8**
POTN				S	**Sb**	**23 56 52.6**	**+0.8**
SAPS	**Ciudad Sandino**	**1.32**	**69**	S	**Sb**	**23 56 51.6**	**-0.3**
SAPS	**Ciudad Sandino**	**1.32**	**69**	⇓P	**Pb**	**23 56 35.0**	**-0.5**
CRUN	**El Crucero**	**1.36**	**77**	P	**Pn**	**23 56 34.5**	**-0.5**
ABCN	**Banco Central**	**1.39**	**72**	S	**Sb**	**23 56 53.1**	**-0.9**
APYN	**Apoyeque**	**1.39**	**67**	⇓P	**Pn**	**23 56 35.4**	**+0.1**
APYN				S	**Sb**	**23 56 53.9**	**-0.2**
APQ2	**Apoyeque**	**1.40**	**69**	P	**Pn**	**23 56 35.4**	**0.0**
APQ2				S	**Sb**	**23 56 53.9**	**-0.4**
UNAN	**Cigeo UNAN**	**1.42**	**73**	P	**Pn**	**23 56 35.8**	**0.0**
TISN	**Laguna Tiscapa**	**1.43**	**71**	P	**Pn**	**23 56 35.6**	**-0.4**
MGAN	**Managua**	**1.46**	**72**		**Pn**	**23 56 36.6**	**+0.4**
MGAN	**Managua**	**1.46**	**72**	⇓P	**Pn**	**23 56 36.5**	**+0.3**
MGAN	**Managua**	**1.46**	**72**	S	**Sb**	**23 56 54.7**	**-1.2**
MAS3	**AI N del Volca**	**1.49**	**77**	S	**Sb**	**23 56 56.8**	**-0.1**
NANN	**Nandasmo**	**1.53**	**80**	⇓P	**Pn**	**23 56 36.2**	**-1.0**
NANN	**Nandasmo**	**1.53**	**80**	S	**Sb**	**23 56 56.3**	**-1.7**
CNCH	**Conchagua**	**1.59**	**354**	*e*P	**Pn**	**23 56 37.2**	**-0.9**
CNCH				IAML		23 57 09.2	
	comp=Z,3μm,0.5s						
CNCH	**Conchagua**	**1.59**	**354**	S	**Sb**	**23 56 58.5**	**-1.4**
CNCH	**Conchagua**	**1.59**	**354**	⇑P	**Pn**	**23 56 38.5**	**+0.3**
VSM	**San Miguel**	**1.83**	**341**	*e*P	**Pn**	**23 56 41.7**	**0.0**
VSM				*e*S	**Sn**	**23 57 03.4**	**-0.9**
BLLM	**Bellamira**	**1.83**	**342**	*e*P	**Pn**	**23 56 40.5**	**-1.1**
LCY	**Lacayo**	**1.83**	**340**	*e*P	**Pn**	**23 56 41.2**	**-0.3**
RANC	**El Ranchito**	**1.84**	**341**	*e*P	**Pn**	**23 56 41.3**	**-0.4**
RANC				*e*S	**Sn**	**23 57 04.1**	**-0.2**
RANC	**El Ranchito**	**1.84**	**341**	S	**Sb**	**23 57 05.5**	**-1.7**
RANC	**El Ranchito**	**1.84**	**341**	⇑P	**Pn**	**23 56 41.7**	**0.0**
CHOHN	**Orocuina**	**1.85**	**15**	⇑P	**Pn**	**23 56 42.1**	**+0.4**
CHOHN	**Orocuina**	**1.85**	**15**	S	**Sb**	**23 57 07.0**	**-0.4**
PACA	**Pacayal**	**1.89**	**340**	*e*P	**Pn**	**23 56 42.3**	**0.0**
PACA				*e*S	**Sn**	**23 57 04.8**	**-0.6**
PACA	**Pacayal**	**1.89**	**340**	⇑P	**Pn**	**23 56 42.3**	**0.0**
PACA	**Pacayal**	**1.89**	**340**	S	**Sn**	**23 57 05.3**	**-0.1**
TECA	**Tecapa**	**1.98**	**335**	*e*P	**Pn**	**23 56 43.6**	**0.0**
CONN	**Concepcion**	**2.00**	**93**	P	**Pn**	**23 56 43.5**	**-0.2**
CONN				S	**Sn**	**23 57 08.6**	**+0.7**
MATN	**Matagalpa**	**2.10**	**54**	P	**Pn**	**23 56 44.6**	**-0.5**
MATN	**Matagalpa**	**2.10**	**54**	S	**Sb**	**23 57 11.0**	**-3.5**
PQSS	**Presa 15 de Se**	**2.12**	**336**	S	**Sn**	**23 57 11.9**	**+0.9**
TECO	**Alcaldia de Te**	**2.14**	**329**	S	**Sn**	**23 57 11.0**	**-0.6**
CARN	**Rivas**	**2.15**	**103**	S	**Sn**	**23 57 11.6**	**-0.2**
UESV	**Universidad de**	**2.23**	**331**	S	**Sn**	**23 57 16.0**	**+0.3**
SCLA	**Alcaldia de Sa**	**2.26**	**333**	⇑P	**Pn**	**23 56 47.5**	**+0.1**
SCLA	**Alcaldia de Sa**	**2.26**	**333**	S	**Sn**	**23 57 15.2**	**+0.7**
COEG	**Centro de Oper**	**2.26**	**328**	S	**Sn**	**23 57 14.2**	**-0.4**
RCVN	**Varillal2**	**2.37**	**37**	S	**Sb**	**23 57 18.6**	**-3.7**
RCVN	**Varillal2**	**2.37**	**37**	⇓P	**Pn**	**23 56 49.1**	**+0.2**
PAVA	**Las Pavas**	**2.37**	**328**	S	**Sn**	**23 57 18.1**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.39**	**9**		**Pn**	**23 56 50.1**	**+0.9**
TGUH	**Tegucigalpa,Un**	**2.39**	**9**	P	**Pn**	**23 56 49.5**	**+0.3**
TGUH				S	**Sb**	**23 57 19.0**	**-3.8**
YUSH	**Yuscaran**	**2.39**	**19**	P	**Pn**	**23 56 50.1**	**+0.9**
LALI	**Alcalda de L**	**2.42**	**318**	S	**Sn**	**23 57 17.7**	**-0.6**
LOMA	**Loma Larga**	**2.44**	**323**	S	**Sn**	**23 57 19.3**	**+0.2**
ACON	**Acoyapa**	**2.45**	**83**		**Pn**	**23 56 50.2**	**+0.4**
ACON	**Acoyapa**	**2.45**	**83**	P	**Pn**	**23 56 50.0**	**+0.1**
ACON	**Acoyapa**	**2.45**	**83**	S	**Sn**	**23 57 19.9**	**+0.7**
UDBS	**Universidad Do**	**2.49**	**324**	S	**Sn**	**23 57 19.6**	**-0.6**
UTEC	**Universidad Te**	**2.50**	**323**	S	**Sn**	**23 57 19.8**	**-0.8**
UEES	**Universidad Ev**	**2.54**	**323**	S	**Sn**	**23 57 21.8**	**+0.4**
PMON	**Piamonte**	**2.58**	**321**	S	**Sn**	**23 57 22.6**	**+0.1**
JAYA	**Jayaque - finc**	**2.62**	**318**	*e*P	**Pn**	**23 56 51.6**	**-0.8**
JAYA				*e*S	**Sn**	**23 57 20.5**	**-3.2**
JAYA	**Jayaque - finc**	**2.62**	**318**	S	**Sn**	**23 57 23.4**	**-0.2**
CEDA	**San Andres**	**2.70**	**321**	S	**Sn**	**23 57 25.5**	**+0.1**
CMARA	**Lajas Hojancha**	**2.75**	**127**	S	**Sn**	**23 57 24.4**	**-2.3**
INDI	**Punta indio, G**	**2.79**	**130**	S	**Sn**	**23 57 23.9**	**-3.5**
CEVE	**Cerro Verde**	**2.86**	**318**	S	**Sn**	**23 57 29.5**	**-0.2**
JTS	**Las Juntas de**	**3.00**	**117**		**Pn**	**23 56 58.5**	**+1.0**
JTS	**Las Juntas de**	**3.00**	**117**	Pn	**Pn**	**23 56 57.9**	**+0.5**
	comp=Z,4.7nm,0.3s,baz=313,slow=20,SNR=8.7						
JTS				LR	LR	23 57 31.8	
	comp=Z,71nm,20.8s,baz=290,slow=28						
JTS				Sn	**Sn**	**23 57 32.1**	**-0.6**
	comp=Z,6.1nm,0.3s,baz=236,slow=9.7,SNR=7.8						
	comp=Z,11nm,0.3s						
NUBE	**Las Nubes**	**3.02**	**317**	S	**Sn**	**23 57 32.3**	**-1.2**
SLOZ	**Alcaldia de Sa**	**3.12**	**319**	S	**Sn**	**23 57 35.6**	**-0.1**
MTO3	**Montecristo**	**3.17**	**329**		**Pn**	**23 57 00.7**	**+0.7**
MTO3	**Montecristo**	**3.17**	**329**	S	**Sn**	**23 57 36.8**	**-0.3**
MTO3	**Montecristo**	**3.17**	**329**	P	**Pn**	**23 56 59.0**	**-0.9**
SOCE	**Pocosol**	**3.25**	**113**	Pn	**Pn**	**23 57 02.9**	**+1.9**
SOCE	**Pocosol**	**3.25**	**113**	S	**Sn**	**23 57 37.0**	**-2.0**
ESQI	**Esquipulas**	**3.29**	**330**		**Pn**	**23 57 03.2**	**+1.6**
ESPN	**Las Esperanzas**	**3.33**	**81**	Pn	**Pn**	**23 57 02.1**	**+0.1**
ESPN	**Las Esperanzas**	**3.33**	**81**	S	**Sn**	**23 57 40.3**	**-0.5**
COVE	**Coope Vega, Sa**	**3.34**	**106**	S	**Sn**	**23 57 40.1**	**-1.0**
BLUN	**Bluefields**	**3.82**	**85**	S	**Sn**	**23 57 53.9**	**+1.1**
OCHAL	**Ojochal**	**4.71**	**123**	S	**Sn**	**23 58 13.0**	**-2.0**
RTAL	**Retalhuleu**	**4.84**	**306**	S	**Sn**	**23 58 17.4**	**-0.8**
CDITO	**Canoas**	**5.64**	**123**	S	**Sn**	**23 58 36.3**	**-1.5**
BRU2	**Volcan**	**5.67**	**120**		**Pn**	**23 57 35.5**	**+1.2**
BRU2	**Volcan**	**5.67**	**120**	S	**Sn**	**23 58 37.3**	**-1.6**
TEIG	**Tepich**	**8.51**	**356**	Pn	Pn	23 58 06.1	-7.1
	baz=21,slow=24,SNR=1.9						
ROSC	**El Rosal**	**14.84**	**116**	Pn	**Pn**	**23 59 43.8**	**+3.5**
	comp=Z,0.6nm,0.3s,baz=206,slow=22,SNR=1.4						
SDV	**Santo Domingo**	**16.98**	**98**	Pn	**Pn**	**00 00 07.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=308,slow=7.4,SNR=3.0						
SDV				LR	LR	00 08 03.5	
	comp=Z,75nm,18.5s,baz=263,slow=44						
HBVL	**Hebbronville**	**18.47**	**327**	P	**Pn**	**00 00 27.9**	**+2.0**
BAUV	**El Baul**	**19.49**	**96**	P	**P**	**00 00 36.5**	**-0.5**
BAUV				IAmb	IAmb	00 01 08.2	
	comp=Z,21nm,1.3s						
ATAH	**Atahualpa**	**20.85**	**153**	LR	LR	00 07 53.8	
	comp=Z,121nm,18.9s,baz=345,slow=33						
GOGA	**Godfrey**	**21.96**	**9**	P	**P**	**00 01 04.5**	**+1.0**
GOGA				IAmb	IAmb	00 01 06.9	
	comp=Z,20nm,1.2s						
Z41A	**Richland Creek**	**21.98**	**348**	P	**P**	**00 01 04.4**	**+0.6**
BRDY	**Brady**	**22.14**	**333**	P	**P**	**00 01 07.3**	**+1.8**
Y52A	**Lilburn**	**22.32**	**8**	P	**P**	**00 01 07.8**	**+0.4**
Y52A				IAmb	IAmb	00 01 16.3	
	comp=Z,30nm,1.3s						
TXAR	**Lajitas Array**	**23.04**	**322**	P	**P**	**00 01 16.1**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=140,slow=9.5,SNR=22						
	comp=Z,1.1nm,0.5s						
TX31	**Lajitas Ar. Si**	**23.04**	**322**		**P**	**00 01 16.3**	**+1.1**
MIAR	**Mount Ida**	**23.39**	**348**		**P**	**00 01 18.4**	**0.0**
MIAR				IAmb	IAmb	00 01 20.1	
	comp=Z,9.6nm,0.9s						
SWET	**Sewanee**	**23.48**	**4**	P	**P**	**00 01 19.1**	**-0.3**
SWET				IAmb	IAmb	00 01 19.9	
	comp=Z,11nm,1.3s						
W50A	**Signal Mountai**	**23.51**	**5**	P	**P**	**00 01 20.2**	**+0.5**
W50A				IAmb	IAmb	00 01 20.7	
	comp=Z,12nm,1.0s						
CPCT	**Cooper Cave**	**23.83**	**6**		**P**	**00 01 23.5**	**+0.8**
CPCT				IAmb	IAmb	00 01 24.2	
	comp=Z,12nm,1.0s						
MNHN	**Monahans**	**24.03**	**327**	P	**P**	**00 01 26.3**	**+1.6**
MNHN				IAmb	IAmb	00 01 38.1	
	comp=Z,17nm,1.2s						
TKL	**Tuckaleechee C**	**24.12**	**8**	P	**P**	**00 01 26.1**	**+0.6**
TKL				IAmb	IAmb	00 01 27.3	
	comp=Z,16nm,1.1s						
TKL	**Tuckaleechee C**	**24.12**	**8**	LR	LR	00 10 23.5	
	comp=Z,52nm,18.5s,baz=252,slow=37						
LCAR	**Lake Charles**	**24.48**	**353**	P	**P**	**00 01 27.6**	**-1.1**
FNO	**Franklin**	**25.08**	**341**	P	**P**	**00 01 34.3**	**+0.1**
WMOK	**Wichita Mounta**	**25.08**	**338**	P	**P**	**00 01 36.5**	**+2.3**
V58A	**Windy Hill, Pi**	**25.22**	**16**	P	**P**	**00 01 35.6**	**+0.2**
T42A	**Van Buren**	**25.42**	**354**	IAmb	IAmb	00 01 36.4	
	comp=Z,4.4nm,0.7s						
T42A				P	**P**	**00 01 36.5**	**-0.8**
P38A	**Dawn**	**28.31**	**350**	P	**P**	**00 02 02.1**	**-1.1**
ECSD	**EROS Data Cent**	**32.86**	**348**	P	**P**	**00 02 43.0**	**-0.4**
ECSD				IAmb	IAmb	00 02 51.0	
	comp=Z,4.3nm,0.8s						
MDP	**Montagnes des**	**35.23**	**98**	LR	LR	00 19 38.8	
	comp=Z,30nm,19.9s,baz=316,slow=41						
PDAR	**Pinedale Array**	**36.35**	**332**	P	**P**	**00 03 13.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=152,slow=6.5,SNR=1.0						
PDAR				LR	LR	00 20 24.2	
	comp=Z,37nm,18.2s,baz=126,slow=40						
	comp=Z,0.3nm,0.6s						
AGMN	**Agassiz Nation**	**37.14**	**351**		**P**	**00 03 18.7**	**-1.5**
AGMN				IAmb	IAmb	00 03 19.3	
	comp=Z,9.9nm,1.2s						
ELK	**Elko**	**37.77**	**325**	LR	LR	00 22 47.8	
	comp=Z,92nm,18.4s,baz=136,slow=42						
NVAR	**Mina Array Bea**	**38.14**	**320**	P	**P**	**00 03 30.7**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=140,slow=3.9,SNR=2.5						
	comp=Z,0.6nm,0.8s						
EPLO	**Experimental L**	**38.20**	**354**		**P**	**00 03 27.1**	**-2.2**
EPLO				IAmb	IAmb	00 03 34.5	
	comp=Z,6.3nm,0.5s						
ULM	**Lac du Bonnet**	**39.04**	**352**	P	**P**	**00 03 34.3**	**-1.9**
ULM	**Lac du Bonnet**	**39.04**	**352**	P	**P**	**00 03 33.7**	**-2.5**
	comp=Z,3.3nm,0.5s,baz=155,slow=5.8,SNR=5.1						
ULM				LR	LR	00 21 32.6	
	comp=Z,67nm,18.1s,baz=160,slow=40						
	comp=Z,3.3nm,0.5s						
LMN	**Caledonia Moun**	**39.21**	**25**	P	**P**	**00 03 37.1**	**-0.6**
YBH	**Yreka Blue Hor**	**42.81**	**321**	LR	LR	00 25 07.4	
	comp=Z,46nm,19.4s,baz=164,slow=41						
FRB	**Frobisher Bay**	**53.71**	**10**	LR	LR	00 29 10.4	
	comp=Z,86nm,18.3s,baz=228,slow=38						
YKA	**Yellowknife Ar**	**54.29**	**345**	P	**P**	**00 05 31.5**	**-3.9**
	comp=Z,1.1nm,1.0s,baz=140,slow=7.6,SNR=11						
YKA				LR	LR	00 30 22.4	
	comp=Z,48nm,18.3s,baz=302,slow=38		

comp=Z,6.1nm,1.1s
PB05 IPOC Station P 48.52 299 P **P 00 05 12.9 -1.9**
PB05 IAmb IAmb 00 05 25.4
comp=Z,13nm,1.2s
PB09 IPOC Station P 49.02 301 P **P 00 05 19.1 +0.3**
LBTB Lobatse 49.18 68 P **P 00 05 19.4 -0.5**
LBTB IAmb IAmb 00 05 43.0
comp=Z,12nm,1.4s
KGCAE Kacgae 49.48 63 P **P 00 05 22.0 -0.2**
KGCAE IAmb IAmb 00 05 32.3
comp=Z,5.9nm,0.8s
PB01 IPOC Station P 49.80 301 P **P 00 05 23.6 -0.9**
GO01 Chusmiza 50.88 302 P **P 00 05 31.9 -1.3**
PB11 IPOC Station P 51.00 302 P **P 00 05 33.9 +0.2**
PB11 IAmb IAmb 00 05 42.6
comp=Z,20nm,1.4s
QNGWA Qangwa 51.93 60 P **P 00 05 41.1 +0.4**
QNGWA IAmb IAmb 00 05 43.0
comp=Z,7.1nm,1.2s
PB16 IPOC Station P 52.20 303 P **P 00 05 42.9 -0.3**
PHDHD Phuduhudu 52.85 64 P **P 00 05 47.9 +0.5**
LPAZ La Paz 53.45 305 P **P 00 05 52.6 0.0**
LPAZ La Paz 53.45 305 P **P 00 05 51.5 -1.1**
comp=Z,1.2nm,0.4s,baz=141,slow=5.3,SNR=5.7
comp=Z,1.2nm,0.4s
LSZ Lusaka 58.81 65 P **P 00 06 30.3 0.0**
LSZ IAmb IAmb 00 06 41.6
comp=Z,3.8nm,0.9s
DBIC Dimbokro 68.16 22 P **P 00 07 31.6 -0.3**
OTAV Otavalo 72.64 303 P **P 00 08 00.7 +0.8**
OTAV IAmb IAmb 00 08 06.8
comp=Z,4.8nm,1.1s
TORD Torodi Ar. Bea 75.81 27 P **P 00 08 18.1 +0.4**
TORD IAmb IAmb 00 08 28.1
comp=Z,5.3nm,1.1s
TORD Torodi Ar. Bea 75.81 27 P **P 00 08 18.1 +0.4**
comp=Z,48nm,0.4s,baz=196,slow=6.4,SNR=1.4
LTZ Lake Taylor 76.81 193 P **P 00 08 23.2 -0.1**
LTZ IAmb IAmb 00 08 50.0
comp=Z,9.6nm,1.2s
TAU Tasmania Unive 77.48 174 P **P 00 08 26.9 0.0**
THZ Tophouse 77.74 194 P **P 00 08 29.6 +1.0**
BHW Baring Head 77.84 195 P **P 00 08 31.8 +2.8**
MRNZ Matariki Terra 78.12 194 P **P 00 08 29.9 -0.7**
ASAR Alice Springs 95.09 161 P **P 00 09 54.5 -0.5**
comp=Z,1.1nm,0.7s,baz=181,slow=4.3,SNR=8.2
comp=Z,1.1nm,0.7s
PDAR Pinedale Array 123.21 299 PKP **PKPdf 00 15 26.5 -1.5**
comp=Z,0.1nm,0.4s,baz=124,slow=1.5,SNR=2.5
NOA NORSAR Array B 123.71 20 PKP **PKPdf 00 15 26.6 -1.5**
comp=Z,0.2nm,0.7s,baz=204,slow=1.9,SNR=1.4
NVAR Mina Array Bea 123.80 289 PKP **PKPdf 00 15 28.9 -0.4**
comp=Z,0.9nm,0.8s,baz=191,slow=4.9,SNR=4.2
FINES FINESS Array B 127.16 28 PKP **PKPdf 00 15 33.5 -1.0**
comp=Z,0.6nm,0.7s,baz=243,slow=0.9,SNR=5.6
MKAR Makanchi Array 136.93 74 PKP **PKPdf 00 15 52.2 -1.4**
comp=Z,0.3nm,0.7s,baz=214,slow=2.2,SNR=2.3
YKA Yellowknife Ar 139.64 314 PKP **PKPdf 00 15 58.3 +0.3**
comp=Z,0.9nm,0.8s,baz=127,slow=2.3,SNR=18
ZALV Zalesovo Beam 142.89 67 PKhKP PKPpre 00 16 00.3
comp=Z,0.4nm,0.3s,baz=228,slow=1.7,SNR=3.8
SONM Songino Array 149.67 91 PKPbc **PKPbc 00 16 20.6 0.0**
comp=Z,2.4nm,0.7s,baz=224,slow=3.0,SNR=15
ILAR Eielson Array 153.33 306 PKPbc **PKPbc 00 16 26.5 -1.9**
comp=Z,1.4nm,0.8s,baz=156,slow=1.8,SNR=12

---

*IDC **18** 23:57:20.7±3.9, 39.°11N×142.°84E, $h0^{km}$, mb3.7/4, mbtmp3.8/7, ML2.9/2, Error ellipse: s-maj=68.6km s-min=28.7km az=98.0*
*NIED **18** 23:57:29.0, 38.°77N×142.°10E, $h45^{km}$, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.01; $M_{\theta\theta}$1.86; $M_{\phi\phi}$-1.87; $M_{r\theta}$-1.14; $M_{\theta\phi}$0.11; $M_{\phi r}$-0.34; Fault plane solution: $M_0$2.18000×10^{14} NP1: ϕ_s317.00000°, δ64.00000°, λ11.00000°. NP2: ϕ_s222.00000°, δ80.00000°, λ153.00000°.*
*JMA **18** 23:57:29.0±0.1, 38.°8N±0.°2×142.°1E±0.°6, $h45^{km}$±1^{km}, MV3.6/40, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
ISC 18 23:57:28.3±2.0, 38.°83N±0.°06×142.°1E±0.°1, h28^{km}±12^{km}, n24, σ1°45/24, mb3.5/4, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.43**	**305**	*i* P	**Pn**	**23 57 39.5**	**+0.9**
OFUJ				S	**Sn**	**23 57 46.8**	**+1.2**
JKMT	**Kesennumamotoy**	**0.51**	**268**	⇓*i*P	**Pn**	**23 57 39.9**	**+0.2**
JKMT				⇓S	**Sn**	**23 57 47.3**	**-0.1**
JMK	**Ichinoseki**	**0.71**	**280**	⇓*i*P	**Pn**	**23 57 42.7**	**+0.2**
JMK				⇓S	**Sn**	**23 57 51.9**	**-0.6**
JIO	**Ouri**	**0.71**	**238**	*i* P	**Pb**	**23 57 42.0**	**-0.2**
JIO				S	**Sb**	**23 57 50.9**	**-0.8**
JOM	**Ohasama**	**0.91**	**315**	*i* P	**Pn**	**23 57 46.0**	**+0.8**
JOM				S	**Sn**	**23 57 58.1**	**+0.8**
JTH	**Tanohata**	**1.12**	**350**	*i* P	**Pb**	**23 57 49.5**	**+0.4**
JOU	**Okura**	**1.23**	**248**	⇓*i*P	**Pn**	**23 57 49.5**	**-0.2**
JRG	**Rokugo**	**1.28**	**296**	P	**Pb**	**23 57 51.2**	**-0.7**
JYK	**Kaneyama**	**1.38**	**274**	P	**Pn**	**23 57 52.0**	**+0.3**
JMM	**Marumori**	**1.42**	**228**	*i* P	**Pn**	**23 57 51.4**	**-0.9**
MJAR	**Matsushiro Arr**	**3.85**	**235**	Pn	**Pn**	**23 58 28.6**	**+2.8**
	0.2nm,0.3s,baz=40,slow=12,SNR=8.3						
MJAR				Sn	**Sb**	**23 59 22.4**	**+0.5**
	0.2nm,0.3s,baz=51,slow=26,SNR=5.2						
	2.4nm,0.4s						
ASAJ	**Asahikawa**	**5.29**	**4**	Pn	**Pn**	**23 58 43.3**	**-2.1**
	0.4nm,0.3s,baz=238,slow=31,SNR=2.3						
JHJ	**Hachijo jima 2**	**6.01**	**199**	Pn	**Pn**	**23 58 58.4**	**+3.1**
	152nm,0.5s,baz=204,slow=13,SNR=4.2						
USRK	**Ussuriysk Ar.**	**9.30**	**308**	Pn	**Pn**	**23 59 42.0**	**+1.6**
	0.2nm,0.3s,baz=129,slow=18,SNR=5.9						
	3.3nm,0.7s						
SONM	**Songino Array**	**27.29**	**301**	P	**P**	**00 03 12.0**	**+1.5**
	0.2nm,0.4s,baz=96,slow=8.9,SNR=2.1						
	0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy 28.65**	**125**		T	T	00 33 47.5	
	baz=317,slow=75,SNR=77						
H11N1	**WAKE ISLAND Hy 28.66**	**125**		T	T	00 33 49.2	
	baz=317,slow=75,SNR=114						
H11N3	**WAKE ISLAND Hy 28.67**	**125**		T	T	00 33 49.6	
	baz=317,slow=75,SNR=101						
H11S1	**WAKE ISLAND Hy 29.42**	**127**		T	T	00 34 37.3	
	baz=318,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy 29.43**	**127**		T	T	00 34 42.5	
	baz=318,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy 29.44**	**127**		T	T	00 34 43.6	
	baz=318,slow=76,SNR=28						
ZALV	**Zalesovo Beam**	**41.14**	**311**	P	**P**	**00 05 08.3**	**-1.4**
	0.6nm,0.5s,baz=71,slow=7.0,SNR=3.7						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**43.66**	**301**	P	**P**	**00 05 28.6**	**-1.9**
	0.3nm,0.4s,baz=75,slow=8.6,SNR=4.4						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**45.36**	**307**	P	**P**	**00 05 42.0**	**-1.9**
	1.4nm,0.5s,baz=83,slow=8.3,SNR=12						
	1.4nm,0.5s						

---

*IDC **18** 23:57:59.9±3.9, 3.°96S×141.°94E, $h86^{km}$±27^{km}, mb3.6/8, mbtmp4.0/9, Error ellipse: s-maj=55.6km s-min=13.9km az=82.0*
*NEIC **18** 23:58:01.1±2.6, 4.°08S±0.°09×141.°9E±0.°1, $h88^{km}$±7^{km}, mb4.5/13, Error ellipse: s-maj=18.2km s-min=11.8km az=69.0*
ISC 18 23:58:01.6±0.7, 4.°04S±0.°07×141.°8E±0.°1, h100^{km}, n30, σ1°03/31, mb3.9/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.86**	**325**	P	**Pn**	**23 58 31.8**	**-0.7**
	33nm,0.4s,baz=163,slow=9.4,SNR=50						
JAY				S	**Sn**	**23 58 54.1**	**-1.8**
	75nm,0.4s,baz=146,slow=8.7,SNR=13						
FAKI	**Fak Fak**	**9.58**	**276**	Pn	**Pn**	**00 00 17.0**	**+0.3**
COEN	**Coen**	**9.95**	**172**	Pn	**Pn**	**00 00 19.8**	**-1.9**
MTN	**Manton Dam**	**13.69**	**230**		**Pn**	**00 01 10.7**	**-0.9**
WB0	**Warramunga Arr**	**17.21**	**204**	P	**Pn**	**00 01 55.2**	**-0.7**
KNRA	**Kununurra**	**17.25**	**227**		**P**	**00 01 54.8**	**-1.7**
KNRA				IAmb	IAmb	00 02 00.1	
	comp=Z,20nm,1.1s						
WR8	**Warramunga Arr**	**17.34**	**204**	P	**P**	**00 01 57.0**	**-0.4**
WR8				IAmb	IAmb	00 02 12.9	
	comp=Z,12nm,1.2s						
WRAB	**Tennant Creek**	**17.38**	**204**	P	**Pn**	**00 01 58.9**	**+0.9**
WRAB				IAmb	IAmb	00 02 01.9	
	comp=Z,8.1nm,0.6s						
WRA	**Warramunga Arr**	**17.39**	**204**	P	**P**	**00 01 57.4**	**-0.6**
WRA	**Warramunga Arr**	**17.39**	**204**	P	**P**	**00 01 57.3**	**-0.7**
	comp=Z,2.3nm,0.3s,baz=23,slow=13,SNR=27						
AS31	**Alice Springs**	**20.94**	**201**	P	**P**	**00 02 37.2**	**+0.6**
ASAR	**Alice Springs**	**20.94**	**201**	P	**P**	**00 02 37.4**	**+0.8**
ASAR	**Alice Springs**	**20.94**	**201**	P	**P**	**00 02 37.1**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=26,slow=11,SNR=41						
	comp=Z,2.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.09**	**227**	P	**P**	**00 02 38.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.09**	**227**	P	**P**	**00 02 40.5**	**+2.3**
	comp=Z,2.9nm,0.5s,baz=44,slow=9.4,SNR=16						
	comp=Z,2.9nm,0.5s						
STKA	**Stephens Creek**	**27.69**	**180**	P	**P**	**00 03 40.4**	**0.0**
STKA				IAmb	IAmb	00 03 56.0	
	comp=Z,40nm,1.5s						
STKA	**Stephens Creek**	**27.69**	**180**	P	**P**	**00 03 39.9**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=7.6,slow=10,SNR=2.8						
	comp=Z,1.1nm,0.6s						
CAN	**Canberra**	**31.84**	**169**	P	**P**	**00 04 18.2**	**+1.1**
CAN				IAmb	IAmb	00 04 35.1	
	comp=Z,21nm,1.4s						
TWG	**Pinlang**	**33.50**	**324**	P	**P**	**00 04 33.7**	**+2.0**
NWAO	**Narrogin (SRO)**	**36.77**	**216**	P	**P**	**00 04 60.0**	**+0.3**
SONM	**Songino Array**	**60.25**	**333**	P	**P**	**00 07 59.8**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=152,slow=9.3,SNR=2.4						
	comp=Z,0.3nm,0.4s						
ADK	**Adak**	**65.93**	**27**	P	**P**	**00 08 38.0**	**+1.1**
ADK				IAmb	IAmb	00 08 53.5	
	comp=Z,43nm,1.1s						
MKAR	**Makanchi Array**	**72.72**	**322**	P	**P**	**00 09 18.0**	**-0.9**
MKAR	**Makanchi Array**	**72.72**	**322**	P	**P**	**00 09 19.2**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=107,slow=7.6,SNR=13						
	comp=Z,1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**74.63**	**329**	P	**P**	**00 09 29.0**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=138,slow=7.6,SNR=2.9						
	comp=Z,0.9nm,0.6s						
S12K	**Black Hills**	**75.12**	**29**	P	**P**	**00 09 31.8**	**-0.9**
KURBB	**Kurchatov Arra**	**76.58**	**324**	P	**P**	**00 09 40.6**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=122,slow=5.6,SNR=5.0						
	comp=Z,0.7nm,0.8s						
QSPA	**South Pole Qui**	**85.91**	**180**	P	**P**	**00 10 30.8**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=206,slow=0.9,SNR=9.4						
	comp=Z,0.5nm,0.4s						
EKA	**Eskdalemuir Ar**	**121.60**	**337**	PKP	**PKiKP**	**00 16 43.7**	**0.0**
	comp=Z,1.8nm,1.0s,baz=98,slow=2.1,SNR=2.5						
LPAZ	**La Paz**	**144.18**	**125**	PKP	**PKPdf**	**00 17 27.4**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=267,slow=5.1,SNR=5.5						

---

*TAP **19** 00:01:19.5, 24.°06N×121.°52E, $h18^{km}$, ML3.1, B*
ISC 19 00:01:19.4±0.8, 24.°05N±0.°01×121.°53E±0.°01, h18^{km}±2^{km}, n129, σ0°54/231, 12C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.07**	**64**	⇑*i*P	**Pg**	**00 01 23.3**	**+0.5**
TWD				*i* S	**Sg**	**00 01 25.8**	**+0.7**
ETM	**Tongmen**	**0.09**	**202**	⇑*i*P	**Pg**	**00 01 23.4**	**+0.4**
ETM				*i* S	**Sg**	**00 01 25.9**	**+0.4**
HWA	**Hwalien**	**0.10**	**137**	⇓*i*P	**Pg**	**00 01 24.0**	**+0.9**
HWA				*e*S	**Sg**	**00 01 27.0**	**+1.5**
LXIB	**Xiulin Townshi**	**0.11**	**255**	⇑*i*P	**Pg**	**00 01 23.4**	**+0.1**
LXIB				*i* S	**Sg**	**00 01 26.5**	**+0.5**
NACB	**Ninganchiao**	**0.14**	**25**	P	**Pg**	**00 01 23.7**	**+0.2**
NACB	**Ninganchiao**	**0.14**	**25**	S	**Sg**	**00 01 26.6**	**+0.4**
NACB	**Ninganchiao**	**0.14**	**25**	⇑*i*P	**Pg**	**00 01 23.6**	**+0.2**
NACB				*i* S	**Sg**	**00 01 26.1**	**+0.1**
ETL	**Fush Village**	**0.14**	**38**	*i* P	**Pg**	**00 01 23.8**	**+0.3**
ETL				*i* S	**Sg**	**00 01 26.8**	**+0.4**
ETLH	**Xiulin Townshi**	**0.16**	**344**	⇑*i*P	**Pg**	**00 01 24.1**	**+0.2**
ETLH				*i* S	**Sg**	**00 01 27.2**	**+0.3**
ESL	**Shilin**	**0.25**	**201**	⇓*i*P	**Pg**	**00 01 25.0**	**-0.2**
ESL				*i* S	**Sg**	**00 01 29.1**	**0.0**
WHF	**Hehuan Shan**	**0.26**	**291**	⇑P	**Pg**	**00 01 25.6**	**0.0**
WHF				*i* S	**Sg**	**00 01 29.7**	**-0.1**
SHUL	**Shoufeng**	**0.26**	**174**	⇓*i*P	**Pb**	**00 01 25.8**	**+0.3**
SHUL				S	**Sb**	**00 01 30.7**	**+1.1**
EHP	**Heping Village**	**0.32**	**37**	P	**Pb**	**00 01 26.6**	**-0.1**
EHP				S	**Sb**	**00 01 31.6**	**+0.2**
FUSS	**Fushou**	**0.33**	**307**	⇓*i*P	**Pb**	**00 01 26.9**	**+0.1**
FUSS				*i* S	**Sb**	**00 01 31.8**	**0.0**
EAHA	**Aohua**	**0.34**	**34**	*e*P	**Pb**	**00 01 26.7**	**-0.1**
EAHA				*e*S	**Sg**	**00 01 31.6**	**+0.2**
OWD	**Renai**	**0.34**	**254**	⇑*i*P	**Pb**	**00 01 26.9**	**-0.1**
OWD				*i* S	**Sg**	**00 01 31.4**	**-0.2**
TEGC	**Jichi Village**	**0.34**	**179**	*e*P	**Pb**	**00 01 27.6**	**+0.6**
TEGC				S	**Sb**	**00 01 33.4**	**+1.4**
WARBT	**Fenglin Townsh**	**0.36**	**202**	⇓P	**Pg**	**00 01 26.3**	**-0.6**
WARBT				S	**Sg**	**00 01 31.8**	**-0.3**
TWT	**Tachien**	**0.38**	**302**	⇓*i*P	**Pb**	**00 01 28.0**	**+0.2**
TWT				*i* S	**Sb**	**00 01 33.6**	**+0.2**
WUSB	**Renai**	**0.38**	**261**	⇑*i*P	**Pb**	**00 01 27.8**	**0.0**
WUSB				*i* S	**Sb**	**00 01 33.0**	**-0.4**
EGFH	**Guangfu**	**0.39**	**194**	*e*P	**Pg**	**00 01 27.4**	**-0.2**
EGFH				*e*S	**Sg**	**00 01 32.6**	**-0.4**
TDCB	**Techi**	**0.40**	**301**	⇓*i*P	**Pb**	**00 01 28.1**	**+0.1**
TDCB				*i* S	**Sg**	**00 01 33.3**	**0.0**
NNSB	**Datong**	**0.40**	**340**	⇓*i*P	**Pb**	**00 01 27.9**	**-0.1**
NNSB				*i* S	**Sg**	**00 01 33.3**	**0.0**
NNS	**Nan Shan**	**0.41**	**340**	*i* P	**Pb**	**00 01 28.2**	**-0.1**
NNS				*i* S	**Sg**	**00 01 33.8**	**0.0**
ENA	**Nanau**	**0.42**	**27**	P	**Pg**	**00 01 28.1**	**+0.1**
ENA				S	**Sg**	**00 01 34.1**	**+0.2**
EWUT	**Wuta**	**0.45**	**30**	⇑P	**Pg**	**00 01 28.5**	**-0.1**
EWUT				S	**Sg**	**00 01 34.7**	**-0.1**
VWDT	**VWDT**	**0.46**	**230**	⇑*i*P	**Pb**	**00 01 28.9**	**-0.1**
VWDT				S	**Sb**	**00 01 35.4**	**-0.1**
LATG	**Datong**	**0.48**	**359**	⇓*i*P	**Pg**	**00 01 29.3**	**+0.1**
LATG				S	**Sg**	**00 01 35.7**	**-0.1**
WPL	**Puli Township**	**0.53**	**266**	*i* P	**Pb**	**00 01 30.1**	**+0.1**
WPL				*e*S	**Sg**	**00 01 36.9**	**-0.2**
DPDB	**Guoxing**	**0.55**	**268**	*e*P	**Pb**	**00 01 30.6**	**+0.1**
DPDB				*e*S	**Sg**	**00 01 37.8**	**-0.1**
HGSD	**Ruisui**	**0.56**	**190**	*e*P	**Pb**	**00 01 30.8**	**+0.1**
HGSD				*e*S	**Sb**	**00 01 39.5**	**+1.1**
WCS	**Beigang Elemen**	**0.57**	**271**	*e*P	**Pb**	**00 01 30.7**	**-0.1**
WCS				*e*S	**Sb**	**00 01 38.5**	**+0.1**
EHY	**Hungye**	**0.57**	**199**	P	**Pg**	**00 01 30.5**	**-0.4**
EHY				S	**Sg**	**00 01 38.5**	**-0.1**
WHP	**Taichung City**	**0.58**	**293**	*i* P	**Pb**	**00 01 31.2**	**+0.2**
WHP				*i* S	**Sb**	**00 01 39.3**	**+0.4**
ENTT	**Nioudou**	**0.59**	**3**	*e*P	**Pb**	**00 01 31.1**	**0.0**
ENTT				*e*S	**Sb**	**00 01 39.0**	**0.0**
SSLB	**Suanglung**	**0.59**	**244**	P	**Pg**	**00 01 31.0**	**-0.1**
SSLB	**Suanglung**	**0.59**	**244**	S	**Sg**	**00 01 38.5**	**-0.6**
SSLB	**Suanglung**	**0.59**	**244**	P	**Pg**	**00 01 31.0**	**-0.1**
SSLB				*e*S	**Sg**	**00 01 38.1**	**-1.0**
ESAO	**Su ao**	**0.59**	**29**	*e*P	**Pg**	**00 01 31.2**	**0.0**
ESAO				*e*S	**Sg**	**00 01 38.5**	**-0.7**
SMLT	**Sun Moon Lake**	**0.60**	**254**	P	**Pg**	**00 01 30.5**	**-0.9**
SMLT				S	**Sg**	**00 01 38.1**	**-1.3**
NDS	**Dongshan**	**0.60**	**16**	*e*P	**Pb**	**00 01 30.6**	**-0.8**
NDS				*e*S	**Sg**	**00 01 38.6**	**-0.9**
TWC	**Suao**	**0.63**	**27**	P	**Pb**	**00 01 31.5**	**-0.3**
TWC				*i* S	**Sb**	**00 01 40.2**	**+0.1**
YHNB	**Yeheng**	**0.63**	**347**	P	**Pg**	**00 01 32.0**	**0.0**
YHNB	**Yeheng**	**0.63**	**347**	S	**Sb**	**00 01 40.5**	**+0.1**
YHNB	**Yeheng**	**0.63**	**347**	P	**Pb**	**00 01 31.7**	**-0.2**
YHNB				*i* S	**Sb**	**00 01 40.4**	**0.0**
TYC	**Yuchr**	**0.63**	**257**	P	**Pb**	**00 01 31.8**	**-0.1**
TYC				S	**Sb**	**00 01 39.5**	**-0.9**
NSK	**Sanguang**	**0.64**	**346**	*e*P	**Pg**	**00 01 32.1**	**0.0**
NSK				*e*S	**Sg**	**00 01 40.1**	**-0.7**
TWE	**Neicheng**	**0.68**	**10**	*e*P	**Pg**	**00 01 32.8**	**+0.1**
TWE				S	**Sg**	**00 01 42.2**	**+0.4**
NFF	**Wufeng Townshi**	**0.69**	**327**	*e*P	**Pg**	**00 01 32.9**	**-0.1**
NFF				*e*S	**Sg**	**00 01 42.5**	**+0.3**
YULB	**Yu-li**	**0.69**	**198**	P	**Pb**	**00 01 32.5**	**-0.4**
YULB	**Yu-li**	**0.69**	**198**	S	**Sb**	**00 01 41.5**	**-0.5**
YULB	**Yu-li**	**0.69**	**198**	*e*P	**Pb**	**00 01 31.4**	**-1.4**
YULB				*e*S	**Sb**	**00 01 41.8**	**-0.3**
FUSB	**Fushanzhiwuyua**	**0.71**	**4**	⇑P	**Pb**	**00 01 33.0**	**-0.2**
FUSB				*e*S	**Sb**	**00 01 41.9**	**-0.8**
WHYT	**Xinyi Township**	**0.71**	**240**	*e*P	**Pg**	**00 01 33.6**	**+0.2**
EOS4	**EOS4**	**0.72**	**84**	*e*P	**Pg**	**00 01 33.9**	**+0.4**
EOS4				*e*S	**Sn**	**00 01 44.6**	**-0.1**
NWLT	**Wulai**	**0.72**	**358**	P	**Pg**	**00 01 33.5**	**-0.1**
NWLT				S	**Sb**	**00 01 42.5**	**-0.5**
EYUL	**Yuli**	**0.73**	**196**	*e*P	**Pb**	**00 01 33.3**	**-0.2**
EYUL				*e*S	**Sg**	**00 01 43.3**	**-0.1**
TWF1	**Yuli**	**0.73**	**197**	P	**Pb**	**00 01 33.1**	**-0.4**
TWF1				S	**Sb**	**00 01 42.8**	**-0.3**
ECBN	**Changbin**	**0.73**	**186**	*e*P	**Pb**	**00 01 32.9**	**-0.7**
ECBN				*e*S	**Sg**	**00 01 44.6**	**+1.0**
EOS2	**EOS2**	**0.74**	**60**	*e*P	**Pn**	**00 01 34.5**	**-0.2**
NSTT	**Nanjuang**	**0.75**	**320**	⇓*i*P	**Pg**	**00 01 34.4**	**+0.3**
NSTT				*e*S	**Sg**	**00 01 44.4**	**+0.2**
TWQ1	**Liyutan**	**0.75**	**293**	P	**Pn**	**00 01 34.7**	**-0.4**
TWQ1				*e*S	**Sg**	**00 01 44.6**	**+0.4**
EOS3	**EOS3**	**0.76**	**72**	*e*P	**Pn**	**00 01 34.9**	**-0.1**
LIOB	**Emei**	**0.76**	**322**	⇓*e*P	**Pg**	**00 01 34.6**	**+0.4**
LIOB				*e*S	**Sg**	**00 01 45.0**	**+0.7**
WWF	**Wufeng**	**0.76**	**270**	*e*P	**Pn**	**00 01 35.3**	**0.0**
WJS	**Zhushan**	**0.77**	**253**	*e*P	**Pn**	**00 01 35.0**	**-0.3**
WJS				*e*S	**Sn**	**00 01 45.8**	**-0.7**
TCU	**Taichung**	**0.79**	**277**	*e*P	**Pn**	**00 01 35.4**	**-0.2**
TCU				*e*S	**Sn**	**00 01 47.3**	**+0.5**
KSHI	**Guanxi Townshi**	**0.79**	**336**	*e*P	**Pn**	**00 01 35.7**	**0.0**
NMLH	**Miaoli**	**0.83**	**306**	*e*P	**Pn**	**00 01 36.5**	**+0.3**
ALS	**Alishan**	**0.86**	**231**	⇑*i*P	**Pg**	**00 01 36.1**	**-0.1**
ALS				S	**Sg**	**00 01 48.1**	**+0.5**
CHKH	**Chenggong**	**0.86**	**188**	*e*P	**Pb**	**00 01 35.5**	**-0.3**
CHKH				*e*S	**Sg**	**00 01 47.6**	**-0.1**
EGS		**0.87**	**25**	*e*P	**Pn**	**00 01 36.7**	**0.0**
EGS				*e*S	**Sg**	**00 01 48.4**	**+0.5**
NJN	**Zhunan**	**0.87**	**316**	*e*P	**Pn**	**00 01 36.6**	**-0.2**
FULB	**Fuli**	**0.88**	**194**	*e*P	**Pg**	**00 01 36.5**	**0.0**
FULB				*e*S	**Sn**	**00 01 49.1**	**0.0**
SBCB	**Hsinchu**	**0.89**	**326**	*e*P	**Pn**	**00 01 37.5**	**+0.5**
SBCB				*e*S	**Sn**	**00 01 49.9**	**+0.5**
WCHH	**Zhanghua**	**0.89**	**272**	*e*P	**Pn**	**00 01 37.3**	**+0.3**
WCHH				*e*S	**Sn**	**00 01 50.4**	**+1.0**
NHDH	**Xindian Distri**	**0.91**	**360**	*e*P	**Pn**	**00 01 37.6**	**+0.3**
TATO	**Taipei**	**0.92**	**358**	S	**Sg**	**00 01 49.4**	**-0.1**
TATO	**Taipei**	**0.92**	**358**	P	**Pn**	**00 01 37.5**	**+0.1**
TATO	**Taipei**	**0.92**	**358**	P	**Pg**	**00 01 37.2**	**-0.1**
TATO				S	**Sg**	**00 01 49.1**	**-0.4**
TWA	**Mucha**	**0.93**	**3**	*e*P	**Pn**	**00 01 38.0**	**+0.5**
TWA				*e*S	**Sn**	**00 01 50.1**	**-0.2**
EHD	**Haiduan**	**0.95**	**198**	*e*P	**Pb**	**00 01 36.9**	**-0.4**
EHD				*e*S	**Sb**	**00 01 49.6**	**+0.2**
TIPB	**Shuangxi**	**0.95**	**16**	*e*P	**Pn**	**00 01 37.8**	**-0.2**
TIPB				*e*S	**Sb**	**00 01 49.3**	**-0.5**
CHKT	**Chengkung**	**0.96**	**189**	*e*P	**Pb**	**00 01 37.7**	**+0.2**
CHKT				*e*S	**Sb**	**00 01 49.9**	**0.0**
NCUH	**Zhongli**	**0.97**	**341**	P	**Pg**	**00 01 38.6**	**+0.4**
NCUH				S	**Sn**	**00 01 52.1**	**+0.8**
WDLH	**Douliu**	**0.98**	**249**	*e*P	**Pg**	**00 01 38.6**	**+0.3**
WDLH				*e*S	**Sn**	**00 01 52.6**	**+1.0**
ELDTW	**Lidau**	**0.98**	**209**	P	**Pb**	**00 01 37.5**	**-0.4**
ELDTW				S	**Sb**	**00 01 50.2**	**-0.3**
TWB1	**Santiao Chiao**	**1.04**	**24**	*e*P	**Pg**	**00 01 39.3**	**-0.2**
TWB1				S	**Sn**	**00 01 52.9**	**-0.2**
WFSB	**Wu-fen Shan**	**1.04**	**13**	*e*P	**Pn**	**00 01 39.0**	**-0.1**
WCKO	**Fanlu**	**1.04**	**234**	*e*P	**Pg**	**00 01 40.1**	**+0.5**
WCKO				*e*S	**Sg**	**00 01 54.6**	**+1.2**
NHW	**Xinwu Township**	**1.05**	**335**	*e*P	**Pg**	**00 01 40.0**	**+0.3**
TWS1	**Kuangyinshan**	**1.05**	**354**	*e*P	**Pn**	**00 01 39.3**	**+0.1**
TWS1				*e*S	**Sg**	**00 01 53.9**	**+0.3**
RLNB	**Erlin**	**1.08**	**262**	*e*P	**Pb**	**00 01 38.4**	**-1.2**
RLNB				*e*S	**Sg**	**00 01 55.7**	**+1.1**
SXI1	**Grass Mountain**	**1.08**	**17**	*e*P	**Pn**	**00 01 40.0**	**+0.2**
SXI1				*e*S	**Sg**	**00 01 54.9**	**+0.2**

HMH	**Humu'ula Sheep**	**0.33 119**		Pg	00 28 05.6	-0.1
HMH				Sg	00 28 10.9	+0.4
HMH			IAML		00 28 15.4	
	comp=N,8μm,0.4s					
MWH	**Mokuaweoweo**	**0.33 147**		Pg	00 28 05.3	-0.5
MWH				Sg	00 28 10.2	-0.6
MWH	**Mokuaweoweo**	**0.33 147**	IAML		00 28 15.3	
	comp=E,7μm,0.4s					
MWH			IAML		00 28 17.4	
	comp=N,8μm,0.5s					
MHA	**Mahukona**	**0.44 345**		Pg	00 28 06.9	-0.7
MLH	**Mauna Loa**	**0.46 125**		Pg	00 28 07.1	-1.0
MLH			Sg	Sg	00 28 13.8	-0.6
KHU	**Kahuku**	**0.54 162**		Pg	00 28 08.1	-1.4
KHU				Sg	00 28 14.8	-1.9
KHU			IAML		00 28 16.4	
	comp=E,3μm,0.2s					
KHU			IAML		00 28 24.1	
	comp=N,4μm,0.5s					
RSD	**Rainshed**	**0.56 122**	Pg	Pg	00 28 05.9	-4.1
RSD	**Rainshed**	**0.56 122**		Sg	00 28 15.9	-1.5
UWE	**Uwekahuna**	**0.57 126**		Pg	00 28 08.5	-1.6
UWE	**Uwekahuna**	**0.57 126**		Sg	00 28 16.3	-1.6
WRMHI	**West Rim**	**0.58 127**		Pg	00 28 08.4	-1.8
WRMHI				Sg	00 28 16.1	-1.8
OBL	**Observatory Le**	**0.58 126**		Pg	00 28 08.5	-1.8
UWB	**Uwekahuna Bluf**	**0.58 125**		Pg	00 28 08.4	-1.9
SBLHI	**Steaming Bluff**	**0.59 124**		Pg	00 28 08.4	-2.0
SDHHI	**Sand Hill**	**0.59 128**		Pg	00 28 08.6	-1.9
SDHHI				Sg	00 28 16.7	-1.7
HATHI	**Halema'uma'u T**	**0.60 124**		Pg	00 28 08.5	-2.1
HATHI			IAML		00 28 29.3	
	comp=E,3μm,0.8s					
RIM	**Rim**	**0.60 127**		Pg	00 28 08.7	-2.0
BYL	**Byron's Ledge**	**0.60 125**		Pg	00 28 08.7	-2.0
BYL			IAML		00 28 29.3	
	comp=E,3μm,0.6s					
KKO	**Keanakako'i**	**0.61 126**		Pg	00 28 08.8	-2.0
HTC	**Hot Caves**	**0.64 145**		Pg	00 28 09.4	-1.9
HLP	**Hilina Pali**	**0.65 136**		Pg	00 28 09.5	-2.0
HLP				Sg	00 28 17.8	-2.2
HLP	**Hilina Pali**	**0.65 136**	IAML		00 28 27.8	
	comp=N,4μm,0.3s					
PUH	**Pauahi**	**0.66 125**		Pg	00 28 09.2	-2.5
PUH	**Pauahi**	**0.66 125**		Sg	00 28 17.8	-2.7
PUH			IAML		00 28 23.2	
	comp=E,2μm,0.3s					
PUH			IAML		00 28 23.8	
	comp=N,1μm,0.3s					
KNHH	**Kane Nui o Ham**	**0.69 123**		Pg	00 28 09.8	-2.6
HPO	**Honuapo**	**0.70 162**	Sg	Sg	00 28 20.1	-1.7
HPO	**Honuapo**	**0.70 162**		Pg	00 28 10.3	-2.1
STCH	**Steam Cracks**	**0.73 121**		Pg	00 28 10.3	-2.7
STCH	**Steam Cracks**	**0.73 121**	Sg	Sg	00 28 19.2	-3.4
STCH			IAML		00 28 22.2	
	comp=E,2μm,0.2s					
STCH			IAML		00 28 22.4	
	comp=N,3μm,0.2s					
NPOC	**North of Pu'u**	**0.73 120**		Pg	00 28 10.4	-2.7
NPOC				Sg	00 28 19.2	-3.6
JCUZ	**Jacuzzi**	**0.75 120**		Pg	00 28 10.6	-2.7
JOKA	**Jonika Flow**	**0.81 114**		Pb	00 28 11.3	-3.1
JOKA				Sb	00 28 21.1	-3.9
JOKA	**Jonika Flow**	**0.81 114**	IAML		00 28 27.6	
	comp=E,2μm,0.3s					
JOKA			IAML		00 28 29.6	
	comp=N,3μm,0.6s					
WMR	**Waimanalo Ridg**	**2.36 311**		Pn	00 28 32.9	-3.8

*BUT **19** 00:28:06.8±1.3, 46°.90N±0°.02×112°.54W±0°.04, h13km±5km, Error ellipse: s-maj=4.3km s-min=1.7km az=56.0*
NEIC 19 00:28:06.1±1.9**, 46°.93N**±0°.04×**112°.51W**±0°.04**, h10**km±2km**, ML2.7**/42**, ML2.9**/22(BUT)**, Error ellipse: s-maj=9.1km s-min=3.0km az=33.0, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEMT	**Mount Belmont**	**0.22 146**			Pg	00 28 11.3	+0.5
BEMT					Sg	00 28 14.4	+0.5
OVMT	**Ovando**	**0.36 292**			Pg	00 28 13.9	+0.6
CHMT	**Chamberlain Mo**	**0.51 269**			Pg	00 28 16.4	+0.2
HRY	**Holter Researc**	**0.51 115**			Pg	00 28 16.4	+0.3
BPMT	**Black Pine Rid**	**0.81 233**			Pg	00 28 21.3	-0.6
BUT	**Butte**	**0.92 182**			Pg	00 28 23.5	-0.3
MSO	**Missoula**	**0.99 265**		Pg	Pg	00 28 25.0	-0.1
MSO				Sg	Sg	00 28 37.7	-0.4
MSO				IAML		00 28 41.3	
	166nm,0.2s						
MSO				IAML		00 28 41.9	
	188nm,0.7s						
PCMT	**Pistol Creek**	**1.08 286**			Pg	00 28 26.7	-0.2
LRM	**Limekiln Ridge**	**1.11 178**			Pg	00 28 26.9	-0.5
HBMT	**Mount Humbug**	**1.14 184**			Pg	00 28 27.5	-0.5
SWMT	**Swartz Lake**	**1.17 300**			Pb	00 28 27.8	-0.8
SXM	**Sixmile**	**1.19 131**			Pn	00 28 29.1	0.0
VCMT	**Victor**	**1.26 248**			Pn	00 28 29.1	-0.8
ALMT	**Alberton, Mont**	**1.33 275**			Pn	00 28 30.8	-0.2
YBMT	**Yellow Bay**	**1.39 313**			Pb	00 28 32.0	-0.2
FBMT	**Ferry Basin**	**1.39 291**			Pn	00 28 31.7	0.0
JTMT	**Jette**	**1.46 305**			Pn	00 28 33.0	+0.4
BOZ	**Bozeman (W)**	**1.47 155**	Pn	Pn	Pn	00 28 32.0	-0.7
DLMT	**Dillon**	**1.57 182**	Pn	Pn	Pn	00 28 32.9	-1.3
DLMT				IAML		00 28 56.3	
	72nm,0.6s						
DLMT				IAML		00 28 58.7	
	65nm,0.3s						
NDMT	**Ninemile Divid**	**1.60 283**			Pb	00 28 35.5	-0.4
BLMT	**Blacktail Moun**	**1.66 311**			Pb	00 28 36.8	-0.2
BGMT	**Barton Gulch**	**1.73 169**			Pn	00 28 36.0	-0.5
BZMT	**Bozeman Pass**	**1.75 137**			Pg	00 28 39.0	-0.6
MKMT	**Mink Peak**	**1.79 277**			Pn	00 28 37.1	-0.2
BSMT	**Bassoo Peak**	**1.80 302**			Pb	00 28 39.6	+0.2
BHMT	**Big Hole Peak**	**1.84 292**			Pb	00 28 39.1	-0.9
MSMT	**Mission Creek**	**1.98 130**			Pb	00 28 41.3	-1.1
MCMT	**McKenzie Canyo**	**2.12 187**			Pn	00 28 41.3	-0.5
EGMT	**Eagleton**	**2.16 59**	Pn	Pn	Pn	00 28 40.1	-2.2
EGMT				IAML		00 29 21.1	
	54nm,0.4s						
QLMT	**Earthquake Lak**	**2.23 160**			Pb	00 28 47.6	+0.9
YHL	**Hebgen Lake**	**2.27 156**	Pn	Pn	Pn	00 28 44.4	+0.3
YHL				IAML		00 29 23.3	
	comp=N,43nm,0.8s						
YHL				IAML		00 29 24.3	
	comp=E,34nm,0.8s						
TPMT	**Tepee Creek**	**2.28 165**			Pb	00 28 48.6	+1.1
MOMT	**Monida**	**2.34 178**			Pg	00 28 50.6	-0.4
YHB	**Horse Butte**	**2.36 157**	Pn	Pn	Pn	00 28 45.0	-0.2
YHH	**Holmes Hill**	**2.43 151**	Pn	Pn	Pn	00 28 46.1	-0.1
CMI	**Centennial Mou**	**2.48 165**			Pn	00 28 47.0	+0.1
YMR	**Madison River**	**2.50 154**	Pn	Pn	Pn	00 28 47.5	+0.3
YMR				IAML		00 29 35.5	
	comp=N,26nm,0.6s						
YMR				IAML		00 29 35.9	
	comp=E,23nm,0.8s						
YNE	**Yellowstone No**	**2.59 137**	Pn	Pn	Pn	00 28 48.8	+0.5
YNE				IAML		00 29 28.0	
	comp=E,32nm,0.4s						
YNE				IAML		00 29 30.1	
	comp=N,48nm,0.3s						
YMP	**Mirror Lake Pl**	**2.74 142**	Pn	Pn	Pn	00 28 49.8	-0.6
YMP				IAML		00 29 36.2	
	comp=E,22nm,0.3s						
YMP				IAML		00 29 37.2	
	comp=N,20nm,0.6s						
RLMT	**Red Lodge**	**2.89 128**	Pn	Pn	Pn	00 28 52.7	+0.3
RLMT				IAML		00 29 40.6	
	comp=N,21nm,0.4s						
RLMT				IAML		00 29 41.8	
	comp=N,24nm,1.0s						
PLID	**Pearl Lake**	**3.05 234**	Pn	Pn	Pn	00 28 55.9	+1.2
PLID				IAML		00 29 44.4	
	comp=N,13nm,0.4s						
PLID				IAML		00 29 44.9	
	comp=N,16nm,0.5s						
F10A	**Beach Ranch, E**	**3.40 255**	Pn	Pn	Pn	00 28 59.5	+0.2
MOOW	**Moose Ponds**	**3.42 158**	Pn	Pn	Pn	00 29 00.4	+0.8
FXWY	**Fox Creek**	**3.45 162**	Pn	Pn	Pn	00 29 00.8	+0.6
TPAW	**Teton Pass**	**3.61 162**	Pn	Pn	Pn	00 29 03.5	+1.1
TPAW				IAML		00 29 34.4	
	comp=N,14nm,3.1s						
HLID	**Hailey**	**3.63 202**	Pn	Pn	Pn	00 29 03.1	+0.6
E09A	**Wood Farm, Sta**	**3.90 266**	Pn	Pn	Pn	00 29 05.6	-0.5
E09A				IAML		00 30 13.8	
	comp=N,16nm,0.6s						
E09A				IAML		00 30 13.8	
	comp=E,15nm,0.6s						
BMO	**Blue Mountains**	**3.94 240**	Pn	Pn	Pn	00 29 08.4	+1.7
BMO				IAML		00 30 14.0	
	comp=E,9.2nm,4.9s						
LNOR	**Lincton Mounta**	**4.14 257**	Pn	Pn	Pn	00 29 10.3	+0.9
LNOR				IAML		00 29 46.7	
	comp=N,12nm,4.7s						
LAO	**LASA Array**	**4.32 91**	Pn	Pn	Pn	00 29 10.5	-1.4

*IDC **19** 00:38:03.4±1.0, 39°.62N×143°.62E, h0km, mb3.6/14, mbtmp3.6/18, ML3.2/4, MS3.2/4, Error ellipse: s-maj=24.7km s-min=20.5km az=79.0*
*NIED **19** 00:38:04.9, 39°.78N×143°.56E, h11km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}3.97; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-3.89; $M_{r\theta}$2.79; $M_{\theta\phi}$-2.12; $M_{\phi r}$2.54; Fault plane solution: $M_0$5.83000×10^14^ NP1: ϕ_s185.00000°, δ29.00000°, λ58.00000°. NP2:ϕ_s40.00000°, δ66.00000°, λ106.00000°.*
*JMA **19** 00:38:04.9±0.4, 39°.8N±0°.8×14°.4E±°, h11km±4km, MV4.1/28, FAR E OFF SANRIKU*
ISC 19 00:38:07.5±3.3**, 39°.71N**±0°.07×**143°.52E**±0°.09**, h24**km±22km**, n39**, σ1º01/35**, mb3.7**/14**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.29 281**		P	**Pn**	**00 38 28.8**	**-1.3**
JTH				S	**Sn**	**00 38 45.9**	**-0.8**
MIYJ	**Miyakonagasawa**	**1.32 265**	*i*	P	**Pn**	**00 38 29.8**	**-0.7**
MIYJ				*e*S	**Sn**	**00 38 47.5**	**+0.2**
JKEN	**Kujiedanarisaw**	**1.48 290**		P	**Pn**	**00 38 31.4**	**-1.2**
JANG	**Nango**	**1.68 294**		P	**Pn**	**00 38 34.1**	**-1.2**
JOM	**Ohasama**	**1.74 263**	*i*	P	**Pn**	**00 38 36.3**	**+0.1**
JOM				S	**Sb**	**00 39 00.1**	**0.0**
JMK	**Ichinoseki**	**1.94 248**		P	**Pn**	**00 38 38.8**	**-0.1**
JOT	**Ohata**	**2.52 312**		P	**Pn**	**00 38 48.3**	**+1.4**
JYK	**Kaneyama**	**2.58 253**		P	**Pn**	**00 38 48.1**	**+0.4**
JNBK	**Urakawa-nobuka**	**2.63 348**		*e*P	**Pn**	**00 38 49.0**	**+0.5**
JNBK				*e*S	**Sn**	**00 39 20.3**	**+0.7**
JCH	**Churui**	**2.90 358**		*e*P	**Pn**	**00 38 51.6**	**-0.6**
JCH				*e*S	**Sn**	**00 39 24.5**	**-1.8**
ASAJ	**Asahikawa**	**4.46 351**		Pn	**Pn**	**00 39 14.1**	**+0.6**
	1.5nm,0.3s,baz=209,slow=18,SNR=1.7						
ASAJ				Sn	**Sn**	**00 40 01.3**	**-3.3**
	2.1nm,0.3s,baz=293,slow=3.1,SNR=4.4						
	3.1nm,0.3s						
MJAR	**Matsushiro Arr**	**5.25 235**		Pn	**Pn**	**00 39 23.9**	**-0.5**
	0.3nm,0.3s,baz=40,slow=12,SNR=7.5						
	1.9nm,0.3s						
USRK	**Ussuriysk Ar.**	**9.69 301**		Pn	**Pn**	**00 40 26.3**	**+1.0**
	0.2nm,0.3s,baz=100,slow=13,SNR=1.8						
	2.9nm,0.8s						
JNU	**Nakatsue**	**12.11 241**		LR	LR	00 45 56.1	
	comp=Z,79nm,18.5s,baz=30,slow=39						
KSRS	**Korea Array**	**12.41 264**		LR	LR	00 45 21.4	
	comp=Z,45nm,20.3s,baz=60,slow=35						
KLR	**Kul'dur**	**12.68 322**		Pn	**Pn**	**00 41 06.6**	**+0.4**
	0.1nm,0.3s,baz=128,slow=13,SNR=2.0						
	0.4nm,0.3s						
SONM	**Songino Array**	**27.79 299**		P	**P**	**00 43 55.3**	**+0.6**
	0.8nm,0.7s,baz=92,slow=9.0,SNR=5.6						
	0.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.29 128**		T	T	01 13 51.2	
	baz=318,slow=76,SNR=54						
H11N1	**WAKE ISLAND Hy**	**28.30 128**		T	T	01 13 51.2	
	baz=318,slow=76,SNR=48						
H11N3	**WAKE ISLAND Hy**	**28.31 128**		T	T	01 13 51.2	
	baz=318,slow=76,SNR=54						
H11S1	**WAKE ISLAND Hy**	**29.11 130**		T	T	01 14 40.8	
	baz=321,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.11 130**		T	T	01 14 42.9	
	baz=321,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.13 130**		T	T	01 14 44.9	
	baz=321						
ZALV	**Zalesovo Beam**	**41.40 310**		P	**P**	**00 45 52.1**	**+0.6**
	1.0nm,0.5s,baz=99,slow=8.0,SNR=7.1						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**44.15 300**		P	**P**	**00 46 14.3**	**+0.2**
	0.8nm,0.7s,baz=80,slow=9.5,SNR=6.7						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**45.71 306**		P	**P**	**00 46 26.4**	**0.0**
	1.3nm,0.7s,baz=80,slow=8.5,SNR=10						
	1.3nm,0.7s						
ILAR	**Eielson Array**	**46.35 34**		P	**P**	**00 46 31.5**	**+0.3**
	0.3nm,0.8s,baz=276,slow=8.6,SNR=2.0						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**50.03 311**		P	**P**	**00 47 00.7**	**+0.9**
	0.9nm,0.5s,baz=75,slow=8.3,SNR=3.7						
	0.9nm,0.5s						
AKTO	**Aktyubinsk**	**58.14 311**		LR	LR	01 14 08.6	
	comp=Z,24nm,18.0s,baz=294,slow=37						
WRA	**Warramunga Arr**	**59.96 190**		P	**P**	**00 48 10.5**	**-1.3**
	0.5nm,0.7s,baz=7.7,slow=6.7,SNR=2.0						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**63.68 190**		P	**P**	**00 48 36.4**	**-0.4**
	0.3nm,0.9s,baz=4.8,slow=7.4,SNR=2.3						
	0.3nm,0.9s						
MSVF	**Nonsavu**	**65.61 144**		LR	LR	01 12 57.9	
	comp=Z,44nm,21.8s,baz=63,slow=32						
FINES	**FINESS Array B**	**67.22 332**		P	**P**	**00 48 59.6**	**+0.3**
	0.7nm,0.7s,baz=46,slow=8.3,SNR=3.6						
	0.7nm,0.7s						
KBZ	**Khabaz**	**70.41 311**		P	**P**	**00 49 20.3**	**+0.8**
	1.3nm,0.9s,baz=76,slow=8.3,SNR=2.2						
	1.3nm,0.9s						
HFS	**Hagfors**	**72.32 336**		P	**P**	**00 49 31.5**	**+0.7**
	0.4nm,0.4s,baz=46,slow=8.3,SNR=1.9						
	0.4nm,0.4s						
NB2	**NORSAR Subarra**	**72.35 338**		P	**P**	**00 49 31.8**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**72.35 338**		P	**P**	**00 49 31.4**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=41,slow=5.9,SNR=4.4						
	comp=Z,0.6nm,0.8s						
AKASG	**Malin Array Be**	**73.18 323**		P	**P**	**00 49 35.3**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=63,slow=0.7,SNR=1.7						
	comp=Z,0.2nm,0.4s						
PDAR	**Pinedale Array**	**74.62 47**		P	**P**	**00 49 44.9**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=314,slow=7.7,SNR=1.5						
	comp=Z,0.1nm,0.5s						

*IDC **19** 00:42:01.6±1.6, 12°.38N×86°.99W, h0km, mb3.1/3, mbtmp3.1/4, ML2.9/1, MS2.3/1, Error ellipse: s-maj=78.8km s-min=22.3km az=51.0*
*CATAC **19** 00:42:05.0±0.6, 12°N±3°×8°8W±°, h19km±5km, M3.5/18, MLv3.5/18, Error ellipse: s-maj=6.3km s-min=3.2km az=30.2, confirmed*
ISC 19 00:42:00.4±1.6**, 11°.74N**±0°.05×**87°.73W**±0°.04**, h10**km±9km**, n38**, σ1º02/49**, mb3.2**/3**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.16 35**		P	**Pn**	**00 42 25.0**	**+2.1**
CRIN	**San Cristobal**	**1.16 35**		S	**Sn**	**00 42 38.9**	**0.0**
COPN	**Copaltepe**	**1.20 68**		P	**Pg**	**00 42 23.9**	**+0.6**
QUEN	**Al S del Volca**	**1.21 45**		S	**Sg**	**00 42 38.9**	**-0.4**
CSGN	**Cosiguina Volc**	**1.24 8**		P	**Pg**	**00 42 25.9**	**+1.6**
CSGN				S	**Sn**	**00 42 41.4**	**+0.5**
CNGA	**Al SSO del Vol**	**1.25 53**		P	**Pg**	**00 42 25.5**	**+1.0**
CNGA				S	**Sg**	**00 42 40.2**	**-0.6**
CNGN	**Cerro Negro**	**1.26 53**		P	**Pg**	**00 42 25.3**	**+0.7**
CNGN	**Cerro Negro**	**1.26 53**		S	**Sb**	**00 42 39.8**	**-0.9**
PLRN	**Geotermica Pol**	**1.26 48**		S	**Sb**	**00 42 40.1**	**-0.5**
LEVN	**Ruinas Leon Vi**	**1.27 59**		P	**Pg**	**00 42 25.5**	**+0.7**
LEVN				S	**Sg**	**00 42 41.1**	**-0.2**
POLN	**Al Sur del Vol**	**1.27 44**		P	**Pg**	**00 42 24.9**	**0.0**
POTN	**Potosi Cosigui**	**1.27 10**		P	**Pg**	**00 42 26.3**	**+1.4**
POTN				S	**Sg**	**00 42 41.9**	**+0.5**
ILCN	**San Idelfonso**	**1.31 50**		P	**Pg**	**00 42 26.0**	**+0.5**
ILCN				S	**Sb**	**00 42 41.2**	**-0.7**
MOMN	**Momotombo**	**1.34 60**		P	**Pg**	**00 42 26.3**	**+0.2**
MOMN				S	**Sn**	**00 42 42.6**	**-0.6**
SAPS	**Ciudad Sandino**	**1.36 71**		P	**Pg**	**00 42 26.8**	**+0.2**
SAPS	**Ciudad Sandino**	**1.36 71**		S	**Sg**	**00 42 43.7**	**-0.6**
APYN	**Apoyeque**	**1.44 70**		P	**Pb**	**00 42 27.0**	**-0.3**
APYN				S	**Sn**	**00 42 44.1**	**-1.5**
UNAN	**Cigeo UNAN**	**1.47 75**		P	**Pb**	**00 42 27.8**	**-0.1**
UNAN				S	**Sn**	**00 42 45.0**	**-1.4**
CNCH	**Conchagua**	**1.53 356**		P	**Pg**	**00 42 30.0**	**+0.1**
CNCH	**Conchagua**	**1.53 356**		S	**Sg**	**00 42 49.4**	**-0.4**
NANN	**Nandasmo**	**1.58 83**		P	**Pb**	**00 42 29.9**	**+0.1**
NANN	**Nandasmo**	**1.58 83**		S	**Sb**	**00 42 49.7**	**-0.2**
PACA	**Pacayal**	**1.82 341**		P	**Pg**	**00 42 34.1**	**-1.2**
PACA	**Pacayal**	**1.82 341**		S	**Sg**	**00 42 57.7**	**-1.2**
CONN	**Concepcion**	**2.07 95**		P	**Pb**	**00 42 36.8**	**-1.2**
CONN				S	**Sn**	**00 43 01.6**	**+0.5**
MATN	**Matagalpa**	**2.12 56**		P	**Pb**	**00 42 37.1**	**-1.9**
SCLA	**Alcaldia de Sa**	**2.18 334**		P	**Pb**	**00 42 39.5**	**-0.6**
SCLA	**Alcaldia de Sa**	**2.18 334**		S	**Sb**	**00 43 06.8**	**-0.5**
TGUH	**Tegucigalpa,Un**	**2.35 11**		P	**Pb**	**00 42 41.9**	**-1.0**
TGUH				S	**Sb**	**00 43 10.1**	**-2.0**
RCVN	**Varillal2**	**2.37 39**		P	**Pb**	**00 42 41.8**	**-1.4**
RCPN	**Sur Rio San Ju**	**2.39 42**		P	**Pb**	**00 42 42.1**	**-1.5**
ACON	**Acoyapa**	**2.51 84**		P	**Pb**	**00 42 46.1**	**+0.5**
ACON	**Acoyapa**	**2.51 84**		S	**Sn**	**00 43 12.8**	**+0.8**
JTS	**Las Juntas de**	**3.08 118**	Pn	Pn	**Pn**	**00 42 49.3**	**+0.1**
	1.7nm,0.3s,baz=315,slow=17,SNR=8.1						
JTS				Sn	**Sn**	**00 43 23.9**	**-2.3**
	3.5nm,0.3s,baz=321,slow=16,SNR=4.4						
JTS				LR	LR	00 43 29.0	
	comp=Z,47nm,19.3s,baz=289,slow=30						
	3.3nm,0.3s						
TXAR	**Lajitas Array**	**22.96 322**		P	**P**	**00 47 07.0**	**+1.7**
	0.6nm,0.7s,baz=136,slow=10,SNR=6.1						
	0.6nm,0.7s						
PDAR	**Pinedale Array**	**36.27 332**		P	**P**	**00 49 04.6**	**+0.3**
	0.1nm,0.4s,baz=139,slow=8.1,SNR=1.8						
	0.1nm,0.4s						
YKA	**Yellowknife Ar**	**54.23 345**		P	**P**	**00 51 26.2**	**+0.1**
	0.3nm,0.7s,baz=140,slow=7.5,SNR=7.5						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**149.28 348**	PKPbc		**PKiKP**	**01 01 51.5**	**-0.2**
	0.7nm,0.4s,baz=346,slow=3.8,SNR=7.7						

*TEH **19** 00:57:45.7, 29°.12N×51°.24E, h9km±29km*
*OMAN **19** 00:57:48.3±0.1, 28°.97N×51°.47E, h10km, mb4.2/9, ml3.5/3, Error ellipse: s-maj=1.5km s-min=1.0km az=348.0*
*DSN **19** 00:57:52.3±1.3, 28°.74N×51°.64E, h7km, ML3.0/9, Error ellipse: s-maj=18.2km s-min=12.6km az=32.0*
*IDC **19** 00:57:55.5±24.0, 30°.60N×50°.40E, h0km, mb3.5/4, mbtmp3.5/5, ML2.7/1, MS3.2/4, Error ellipse: s-maj=483.2km s-min=37.6km az=4.0*
ISC 19 00:57:47.0±0.8**, 29°.09N**±0°.04×**51°.32E**±0°.05**, h17**km**, n65**, σ1º82/73**, mb3.5**/4**, MS3.3**/4**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.23 187**		Pg	**Pg**	**00 57 51.0**	**-1.2**
AHBU				Sg	**Sg**	**00 57 55.6**	**-0.1**
KAZ2	**Kazeron-Fars-I**	**0.60 29**		Pg	**Pg**	**00 57 57.3**	**-1.6**
DSBU	**Dashti - Bushe**	**0.72 184**		Pg	**Pg**	**00 58 00.4**	**-0.9**
SHI	**Shiraz**	**1.18 62**		Pg	**Pg**	**00 58 10.0**	**+0.2**
QIR1	**Qir**	**1.63 112**		Pg	**Pb**	**00 58 17.0**	**+0.4**
KLNJ	**Kolanjah**	**1.93 7**		Pn	**Pn**	**00 58 21.0**	**+1.6**
IBRJ	**Brojen**	**2.81 359**		Pn	**Pn**	**00 58 32.6**	**+1.1**
IRAM	**Ramesheh**	**2.86 18**		Pn	**Pn**	**00 58 33.9**	**+1.8**
ZNGN	**Zangian**	**3.05 352**		Pn	**Pn**	**00 58 36.3**	**+1.6**
SAKB	**Bahrain**	**3.18 193**		P	**Pn**	**00 58 36.3**	**+0.1**
SAKB				S	**Sn**	**00 59 16.7**	**+3.0**
SHMA	**Al-Shehemyia**	**3.23 186**		P	**Pn**	**00 58 38.5**	**+1.5**
	SNR=18						
SHMA				S	**Sn**	**00 59 16.9**	**+1.8**
IGAR	**Gharneh**	**3.36 10**		Pn	**Pn**	**00 58 40.4**	**+1.4**
IPIR	**Pirpir**	**3.60 354**		Pn	**Pn**	**00 58 43.7**	**+1.3**
IMEH	**Mehriz**	**3.66 50**		Pn	**Pn**	**00 58 45.5**	**+2.5**
IZEF	**Zefreh**	**3.89 13**		Pn	**Pn**	**00 58 47.8**	**+1.5**
IKLH	**Kolahrood**	**4.22 3**		Pn	**Pn**	**00 58 52.3**	**+1.5**
JRN	**Qarnain Island**	**4.35 161**		P	**Pn**	**00 58 54.5**	**+2.2**
SMRA	**Abu-Samra**	**4.35 186**		P	**Pn**	**00 58 52.7**	**+0.4**
ANAR	**Anarak**	**4.58 26**		Pn	**Pn**	**00 58 57.3**	**+1.7**
KHGB	**Koh Gabri**	**4.66 73**		Pn	**Pn**	**00 58 59.2**	**+2.4**
KRSH	**Karshahi**	**4.92 8**		Pn	**Pn**	**00 59 01.5**	**+1.3**
SLWR	**Sila**	**5.01 176**		S	**Sn**	**01 00 00.7**	**+1.8**
ISFB	**Sefidab**	**5.30 8**		Pn	**Pn**	**00 59 06.9**	**+1.3**
BANOM	**Banah**	**5.43 124**		P	**Pn**	**00 59 07.2**	**0.0**
BANOM				S	**Sn**	**01 00 09.9**	**+0.6**
BANOM	**Banah**	**5.43 124**		P	**Pn**	**00 59 07.3**	**+0.1**
HSAM	**Samen**	**5.61 336**		Pn	**Pn**	**00 59 10.9**	**+1.0**
NAZ	**Nazwa, Dubai**	**5.62 136**		P	**Pn**	**00 59 10.1**	**+0.3**
NAZ				S	**Sn**	**01 00 13.7**	**-0.4**
MSFE	**Esma-Masafi**	**5.69 130**		P	**Pn**	**00 59 10.8**	**+0.1**
ASUD

3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.59**	**255**	I	I	01 10 13.6	
	0.3nm,1.1s,baz=76,slow=341,SNR=6.4						
ZAA0	**Zalesovo Array**	**1.59**	**255**	⇑Pn	**Pb**	**01 00 49.8**	**-1.1**
	0.4nm,0.4s						
ZAA0				⇓Sn	**Sg**	**01 01 13.0**	**+1.4**
	4.8nm,0.9s						
ZALV	**Zalesovo Beam**	**1.59**	**255**	Pg	**Pg**	**01 00 50.2**	**-0.8**
	1.6nm,0.3s,baz=80,slow=10,SNR=20						
ZALV				Lg	Lg	01 01 11.0	
	1.6nm,0.3s,baz=76,slow=30,SNR=9.6						
ZALV				I	I	01 10 30.1	
	baz=78,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**6.61**	**239**	Pn	**Pn**	**01 02 01.7**	**+2.9**
	0.1nm,0.3s,baz=56,slow=14,SNR=7.7						
KURBB				Sn	**Sn**	**01 03 14.4**	**-0.4**
	0.1nm,0.3s,baz=58,slow=28,SNR=2.8						
KURBB				Lg	Lg	01 03 50.3	
	0.1nm,0.3s,baz=52,slow=32,SNR=2.4						
	1.1nm,0.2s						
KURBB	**Kurchatov Arra**	**6.61**	**239**	⇓Pn	**Pn**	**01 01 58.5**	**-0.4**
	1.5nm,0.6s						
KURBB				⇑Lg	Lg	01 03 50.8	
	7.5nm,1.0s						
MK31	**Makanchi Array**	**8.28**	**205**	⇑Sn	**Sn**	**01 03 56.0**	**0.0**
	0.3nm,0.5s,baz=11,slow=11,SNR=3.3						
MK31				⇓Lg	Lg	01 04 42.2	
	1.8nm,0.9s,baz=259,slow=50,SNR=4.5						
MKAR	**Makanchi Array**	**8.28**	**205**	Pn	**Pn**	**01 02 23.0**	**+1.2**
	0.1nm,0.3s,baz=28,slow=15,SNR=4.2						
MKAR				Sn	**Sn**	**01 03 54.5**	**-1.5**
	0.1nm,0.3s,baz=25,slow=27,SNR=5.7						
MKAR				Lg	Lg	01 04 42.0	
	baz=20,slow=28,SNR=3.5						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**10.19**	**269**	Pn	Pn	01 02 51.8	+3.8
	baz=82,slow=14,SNR=2.3						
	0.4nm,0.4s						

*CNRM **19** 01:20:22.6, 36°.46N×7°.47W, h9km*
*MDD **19** 01:20:25.0±0.9, 36°.52N×7°.64W, h19km±4km, mb_Lg2.3/11, Error ellipse: s-maj=7.2km s-min=4.0km az=20.0*
*SFS **19** 01:20:26.5, 36°.55N×7°.62W, h24km, ML2.6/9, ML2.6/9, MLv2.6/9*
*IGIL **19** 01:20:26.1, 36°.51N×7°.69W, h22km, ML1.1*

ISC 19 01:20:24.9±1.2, 36°.53N±0°.03×7°.58W±0°.04, h31km±13km, n34, σ1°18/52, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**0.87**	**353**	S	**Sn**	**01 20 53.0**	**+0.2**
PVAQ				P	**Pn**	**01 20 41.6**	**+0.5**
PVAQ	**Vaqueiros**	**0.87**	**353**	S	**Sn**	**01 20 54.4**	**+1.5**
EGRO	**El Granado**	**1.00**	**5**	S	**Sn**	**01 20 56.8**	**+0.8**
EGRO				P	**Pb**	**01 20 43.9**	**+0.1**
EGRO	**El Granado**	**1.00**	**5**	Pg	**Pb**	**01 20 43.8**	**0.0**
EGRO				Sg	**Sn**	**01 20 56.9**	**+0.9**
EGRO				*i* Vmb_Lg		01 20 57.5	
MORF	**Marmelete**	**1.15**	**312**	*e*P	**Pn**	**01 20 44.6**	**-0.3**
PCVE	**Castro Verde**	**1.15**	**342**	P	**Pb**	**01 20 45.6**	**-0.8**
PCVE				S	**Sb**	**01 20 59.9**	**-1.1**
PFVI	**Vila Bisbo**	**1.16**	**301**	P	**Pn**	**01 20 44.6**	**-0.5**
PFVI				S	**Sb**	**01 21 00.7**	**-0.5**
PFVI	**Vila Bisbo**	**1.16**	**301**	P	**Pb**	**01 20 46.8**	**+0.3**
PFVI	**Vila Bisbo**	**1.16**	**301**	S	**Sb**	**01 21 04.4**	**+3.3**
MESJ	**Messejana**	**1.40**	**339**	*e*P	**Pn**	**01 20 48.7**	**+0.3**
MESJ				*e*S	**Sn**	**01 21 05.3**	**-0.5**
MESJ				IAML		01 21 07.5	
	comp=N,2.5nm,0.1s						
ESPR	**Espera**	**1.43**	**76**	Sn	**Sn**	**01 21 07.5**	**+1.0**
ESPR				*i* Vmb_Lg		01 21 09.5	
EMIN	**Mina Concepcio**	**1.43**	**30**	Sn	**Sn**	**01 21 07.2**	**+0.6**
EMIN				*i* Vmb_Lg		01 21 15.0	
PBAR	**Barrancos**	**1.69**	**15**	P	**Pb**	**01 20 54.0**	**-1.5**
PBAR				S	**Sb**	**01 21 15.1**	**-1.2**
ECEU	**Ceuta**	**1.90**	**109**	P	**Pn**	**01 20 56.6**	**+1.4**
EBAD	**Badajoz**	**2.26**	**11**	S	**Sn**	**01 21 27.0**	**-0.1**
EBAD	**Badajoz**	**2.26**	**11**	Pn	**Pn**	**01 21 00.8**	**+0.5**
EBAD				Sn	**Sn**	**01 21 27.4**	**+0.2**
EBAD				*i* Vmb_Lg		01 21 33.3	
ECAB	**El Cabril**	**2.31**	**48**	P	**Pn**	**01 21 02.6**	**+1.6**
ECAB				S	**Sn**	**01 21 27.7**	**-0.7**
ECAB	**El Cabril**	**2.31**	**48**	Pn	**Pn**	**01 21 01.7**	**+0.8**
ECAB				Sn	**Sn**	**01 21 27.9**	**-0.5**
ECAB				*i* Vmb_Lg		01 21 40.1	
PESTR	**Estremoz**	**2.33**	**360**	P	**Pn**	**01 21 02.1**	**+0.9**
PESTR				S	**Sn**	**01 21 28.0**	**-0.8**
PMAFR	**Mafra**	**2.77**	**331**	P	**Pn**	**01 21 07.8**	**+0.6**
PMAFR				S	**Sn**	**01 21 38.8**	**-0.7**
EADA	**Adamuz**	**2.90**	**55**	S	**Sn**	**01 21 42.7**	**-0.1**
EADA				P	**Pn**	**01 21 10.3**	**+1.3**
EADA	**Adamuz**	**2.90**	**55**	Pn	**Pn**	**01 21 10.4**	**+1.3**
EADA				Sn	**Sn**	**01 21 42.3**	**-0.5**
EADA				*i* Vmb_Lg		01 21 48.1	
ZHG	**ZHG**	**3.18**	**166**	P	**Pn**	**01 21 12.6**	**-0.3**
ZHG	**ZHG**	**3.18**	**166**	S	**Sn**	**01 21 52.5**	**+2.8**
ELGU	**Los Guajares,**	**3.20**	**83**	P	**Pn**	**01 21 15.5**	**+2.3**
JAND	**Jandula**	**3.33**	**59**	Pn	**Pn**	**01 21 15.9**	**+0.8**
JAND				Sn	**Sn**	**01 21 52.5**	**-1.1**
JAND				*i* Vmb_Lg		01 21 54.9	
EPLA	**Plasencia**	**3.72**	**18**	Pn	**Pn**	**01 21 21.1**	**+0.8**
EPLA				Sn	**Sn**	**01 22 02.1**	**-1.0**
EPLA				*i* Vmb_Lg		01 22 04.8	
PSIM	**Granatula de C**	**3.80**	**52**	Pn	**Pn**	**01 21 22.7**	**+1.3**
PSIM				Sn	**Sn**	**01 22 04.0**	**-1.1**
EQES	**Quesada**	**3.82**	**69**	Sn	**Sn**	**01 22 05.1**	**-0.6**
EQES				*i* Vmb_Lg		01 22 05.7	
PAB	**San Pablo**	**3.94**	**39**	Pn	**Pn**	**01 21 24.6**	**+1.1**
PAB				Sn	**Sn**	**01 22 06.3**	**-2.4**
PAB				*i* Vmb_Lg		01 22 07.0	
MD31	**MD31**	**4.34**	**147**	P	**Pn**	**01 21 27.3**	**-1.5**
MD31	**MD31**	**4.34**	**147**	S	**Sn**	**01 22 18.0**	**-0.3**
MDT	**Midelt**	**4.45**	**146**	P	**Pn**	**01 21 28.9**	**-1.5**
MDT	**Midelt**	**4.45**	**146**	S	**Sn**	**01 22 20.5**	**-0.7**

*IDC **19** 01:30:54.2±2.5, 6°.06S×154°.66E, h240km±23km, mb3.5/11, mbtmp4.1/13, Error ellipse: s-maj=18.9km s-min=14.5km az=116.0*

ISC 19 01:30:55.2±0.8, 6°.1S±0°.1×154°.7E±0°.1, h250km, n13, σ0°87/16, mb3.7/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.17**	**246**	P	**Pn**	**01 32 50.8**	**+0.1**
	15nm,0.7s,baz=74,slow=15,SNR=4.3						
DZM	**Mont Dzumac**	**19.54**	**146**	P	**P**	**01 35 03.2**	**-1.3**
	12nm,1.1s,baz=292,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**24.11**	**233**	P	**P**	**01 35 48.1**	**-0.4**
	2.0nm,0.5s,baz=58,slow=9.7,SNR=32						
WRA				PcP	**PcP**	**01 39 23.7**	**+1.0**
	0.2nm,0.3s,baz=59,slow=2.8,SNR=1.5						
WRA				S	**S**	**01 39 48.1**	**+0.4**
	0.5nm,0.9s,baz=57,slow=18,SNR=1.7						
	2.0nm,0.5s						
ASAR	**Alice Springs**	**26.57**	**227**	P	**P**	**01 36 09.7**	**-0.9**
	0.6nm,0.4s,baz=55,slow=9.5,SNR=13						
ASAR				PcP	**PcP**	**01 39 29.3**	**+1.0**
	0.5nm,0.6s,baz=55,slow=2.1,SNR=5.8						
	0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**60.12**	**295**	P	**P**	**01 40 37.2**	**+0.3**
	1.6nm,0.3s,baz=122,slow=5.6,SNR=7.8						
	1.6nm,0.3s						
SONM	**Songino Array**	**68.40**	**327**	P	**P**	**01 41 29.8**	**-0.3**
	0.8nm,0.5s,baz=140,slow=5.4,SNR=6.1						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**82.52**	**319**	P	**P**	**01 42 50.1**	**0.0**
	1.0nm,0.6s,baz=99,slow=6.0,SNR=12						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**82.63**	**22**	P	**P**	**01 42 50.3**	**0.0**
	0.2nm,0.6s,baz=253,slow=5.7,SNR=4.4						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**83.25**	**326**	P	**P**	**01 42 52.6**	**-1.0**
	1.4nm,0.8s,baz=104,slow=6.3,SNR=4.8						
	1.4nm,0.8s						
QSPA	**South Pole Qui**	**83.90**	**180**	P	**P**	**01 42 57.8**	**+0.9**
	1.0nm,0.6s,baz=339,slow=8.3,SNR=16						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**85.96**	**322**	P	**P**	**01 43 06.4**	**-0.8**
	0.4nm,0.5s,baz=102,slow=4.8,SNR=5.9						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**91.38**	**323**	P	**P**	**01 43 31.6**	**-1.2**
	0.6nm,0.5s,baz=103,slow=6.2,SNR=4.2						
	0.6nm,0.5s						
NVAR	**Mina Array Bea**	**91.39**	**52**	P	**P**	**01 43 34.3**	**+0.9**
	0.5nm,0.8s,baz=291,slow=4.6,SNR=3.5						
	0.5nm,0.8s						

RSNC 19 01:31:21.4±0.0, 7°N±2°×7°8W±°, h10km±3km, M2.5, mb3.9, ML2.3, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.27**	**104**	P	Pg	01 31 26.1	-0.7
PTAC				S	Sg	01 31 29.7	-0.8
SOLC	**Bahia Solano**	**1.18**	**146**	P	Pb	01 31 42.5	-1.4
SOLC				S	Sb	01 31 57.0	-2.2
CAPC	**Capurgana**	**1.58**	**27**	P	Pn	01 31 49.0	-0.6
CAPC				S	Sn	01 32 07.9	-2.2
APAC	**Apartado, Choc**	**1.63**	**65**	P	Pn	01 31 49.5	-0.7
APAC				S	Sn	01 32 11.3	+0.1
DBBC	**Dabeiba**	**1.86**	**96**	P	Pn	01 31 52.1	-1.3
DBBC				S	Sn	01 32 15.3	-1.7
AZU	**Azuero**	**2.26**	**285**	P	Pn	01 31 57.7	-1.2
AZU				S	Sn	01 32 23.1	-3.7
PIZC	**Pizarro, Choco**	**2.34**	**162**	P	Pn	01 31 58.1	-1.8
CBOC	**Ciudad Bolivar**	**2.44**	**123**	P	Pn	01 31 59.7	-1.8
CBOC				S	Sn	01 32 31.6	0.0
UREC	**San Jos de Ur**	**2.57**	**78**	P	Pn	01 32 03.0	-0.2
UREC				S	Sn	01 32 34.5	-0.1
BCIP	**Isla Barro Col**	**2.62**	**318**	P	Pn	01 32 03.1	-0.6
CACAO	**El Cacao, Vera**	**2.77**	**273**	P	Pn	01 32 03.8	-2.1
CACAO				S	Sn	01 32 33.5	-6.0
GMAL	**Guarumal, Vera**	**3.18**	**280**	P	Pn	01 32 11.3	-0.3
GMAL				S	Sn	01 32 48.1	-1.5
ZARC	**Zaragoza, Cauc**	**3.20**	**85**	P	Pn	01 32 11.9	+0.1
ZARC				S	Sn	01 32 48.6	-1.4
MALC	**Bahia Malaga**	**3.26**	**167**	P	Pn	01 32 10.7	-1.9
MALC				S	Sn	01 32 49.5	-2.0
GUY2C	**Guyana, Caldas**	**3.33**	**126**	P	Pn	01 32 13.0	-1.1
GUY2C				S	Sn	01 32 57.2	+3.2
NORC	**Norcasia**	**3.58**	**117**	P	Pn	01 32 20.9	+3.9
NORC				S	Sn	01 33 02.8	+3.4
YOTC	**Yotoco, Valle**	**3.64**	**152**	P	Pn	01 32 16.7	-1.2
PTBC	**PUERTO BERRIO,**	**3.65**	**100**	P	Pn	01 32 18.2	+0.2
PTBC				S	Sn	01 33 03.1	+1.9
SJCC	**San Jacinto, C**	**3.91**	**47**	P	Pn	01 32 22.5	+0.9
SJCC				S	Sn	01 33 08.8	+1.1
OCAC	**Ocana**	**4.82**	**77**	P	Pn	01 32 35.3	+1.1
RUSC	**La Rusia**	**5.12**	**105**	P	Pn	01 32 40.0	+1.3
PAMC	**Pamplona, Colo**	**5.33**	**88**	P	Pn	01 32 42.7	+1.2

*NOU **19** 01:37:21.1, 36°.72S×179°.18W, h0km, mb4.0/5, East of North Island, N.Z.*
*WEL **19** 01:37:42.3±0.8, 37°S±5°×17°9E±°, h12km, M2.9/16, ML3.2/20, MLv2.9/16, Error ellipse: s-maj=9.3km s-min=5.5km az=121.0, confirmed*

ISC 19 01:37:39.7±2.8, 37°.09S±0°.08×179°.2E±0°.1, h12km±10km, n40, σ1°10/60, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.86**	**237**	P	**Pg**	**01 37 56.9**	**+0.5**
MXZ	**Matakaoa Point**	**0.86**	**237**	P	**Pg**	**01 37 56.3**	**0.0**
MXZ				S	**Sg**	**01 38 06.2**	**-1.4**
WMGZ	**Waiomatatini S**	**0.97**	**221**	P	**Pn**	**01 38 00.3**	**+1.2**
WMGZ				S	**Sn**	**01 38 14.0**	**+1.3**
PKGZ	**Pakihiroa**	**1.19**	**229**	P	**Pg**	**01 38 03.3**	**+0.7**
PKGZ				S	**Sn**	**01 38 19.0**	**+0.8**
PUZ	**Puketiti**	**1.24**	**218**	P	**Pn**	**01 38 03.8**	**+1.0**
PUZ				S	**Sn**	**01 38 20.0**	**+0.5**
HAZ	**Te Kaha**	**1.32**	**239**	P	**Pn**	**01 38 03.4**	**-0.5**
HAZ				S	**Sn**	**01 38 21.8**	**+0.4**
TWGZ	**Tauwhareparae**	**1.46**	**222**	P	**Pb**	**01 38 07.2**	**+0.4**
TWGZ				S	**Sb**	**01 38 25.4**	**0.0**
RUGZ	**Raukumara Rang**	**1.50**	**234**	P	**Pn**	**01 38 07.8**	**+1.3**
RUGZ				S	**Sb**	**01 38 27.2**	**+0.6**
CNGZ	**Carnagh Statio**	**1.60**	**210**	P	**Pn**	**01 38 09.2**	**+1.4**
MWZ	**Matawai**	**1.83**	**227**	P	**Pn**	**01 38 11.4**	**+0.6**
MWZ				S	**Sn**	**01 38 34.2**	**+0.2**
WHRZ	**Whale Island**	**1.94**	**246**	P	**Pb**	**01 38 14.7**	**-0.3**
WHRZ				S	**Sn**	**01 38 37.0**	**+0.3**
RAGZ	**Rawiri**	**2.00**	**225**	P	**Pn**	**01 38 14.3**	**+1.0**
RAGZ				S	**Sn**	**01 38 38.1**	**-0.2**
URZ	**Urewera**	**2.04**	**235**	P	**Pn**	**01 38 14.8**	**+1.1**
URZ	**Urewera**	**2.04**	**235**	P	**Pn**	**01 38 14.6**	**+0.9**
URZ				S	**Sn**	**01 38 38.4**	**-0.7**
SNGZ	**Shannon Statio**	**2.25**	**221**	P	**Pn**	**01 38 17.5**	**+0.8**
SNGZ				S	**Sn**	**01 38 45.7**	**+1.4**
MHGZ	**Mahia Peninsul**	**2.30**	**206**	P	**Pn**	**01 38 18.0**	**+0.6**
RTZ	**Ruatahuna**	**2.33**	**229**	P	**Pn**	**01 38 18.8**	**+0.9**
MUGZ	**Murupara**	**2.38**	**234**	P	**Pn**	**01 38 19.4**	**+0.9**
TARZ	**Mount Tarawera**	**2.44**	**241**	P	**Pn**	**01 38 20.6**	**+1.2**
RAHZ	**Arahi**	**2.48**	**222**	P	**Pn**	**01 38 21.7**	**+1.8**
MTHZ	**Maungataniwha**	**2.57**	**226**	P	**Pn**	**01 38 22.0**	**+0.9**
MTHZ				S	**Sn**	**01 38 52.4**	**+0.1**
NMHZ	**Naumai**	**2.76**	**223**	P	**Pn**	**01 38 24.8**	**+1.1**
NMHZ				S	**Sn**	**01 38 57.0**	**-0.1**
KUZ	**Kuaotunu**	**2.82**	**276**	P	**Pn**	**01 38 24.9**	**+0.4**
KUZ	**Kuaotunu**	**2.82**	**276**	P	**Pn**	**01 38 23.9**	**-0.6**
BKZ	**Black Stump Fm**	**2.98**	**225**	P	**Pn**	**01 38 27.3**	**+0.4**
KWHZ	**Kaweka Forest**	**3.20**	**223**	P	**Pn**	**01 38 29.6**	**-0.3**
KWHZ				S	**Sn**	**01 39 06.6**	**-1.3**
MKAZ	**Moumakai**	**3.24**	**269**	P	**Pn**	**01 38 30.5**	**+0.2**
KAHZ	**Kahuranaki**	**3.26**	**214**	P	**Pn**	**01 38 30.0**	**-0.7**
KAHZ				S	**Sn**	**01 39 08.3**	**-1.1**
TMVZ	**Te Maari**	**3.43**	**233**	P	**Pn**	**01 38 33.2**	**+0.2**
TMVZ				S	**Sn**	**01 39 11.3**	**-2.3**
NTVZ	**North Tongarir**	**3.44**	**233**	P	**Pn**	**01 38 33.5**	**+0.4**
OTVZ	**Oturere**	**3.48**	**232**	P	**Pn**	**01 38 33.9**	**+0.2**
SNVZ	**South Ngauruho**	**3.51**	**232**	P	**Pn**	**01 38 34.2**	**+0.1**
NGZ	**Ngauruhoe**	**3.53**	**233**	P	**Pn**	**01 38 34.6**	**+0.2**
NGZ				S	**Sn**	**01 39 14.4**	**-1.7**
WNVZ	**Wahianoa**	**3.62**	**231**	P	**Pn**	**01 38 35.6**	**-0.1**
WNVZ				S	**Sn**	**01 39 16.8**	**-1.6**
PNHZ	**Pukenui**	**3.68**	**219**	P	**Pn**	**01 38 35.0**	**-1.4**
PNHZ				S	**Sn**	**01 39 17.0**	**-2.6**
HIZ	**Hauiti**	**3.73**	**246**	P	**Pn**	**01 38 39.1**	**+2.0**
HIZ	**Hauiti**	**3.73**	**246**	P	**Pn**	**01 38 38.8**	**+1.7**
PKVZ	**Pokaka**	**3.76**	**233**	P	**Pn**	**01 38 38.6**	**+1.1**
WCZ	**Waipu Caves**	**4.09**	**285**	P	**Pn**	**01 38 42.1**	**+0.1**
BFZ	**Birch Farm**	**4.27**	**212**	P	**Pn**	**01 38 41.7**	**-2.7**

*IDC **19** 01:54:28.8±1.0, 23°.96N×121°.65E, h0km, mb3.5/7, mbtmp3.6/8, ML3.6/1, MS3.6/1, Error ellipse: s-maj=38.1km s-min=20.0km az=63.0*
*ASIES **19** 01:54:32.8, 24°.05N×121°.52E, h20km, ML3.9, Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}3.76; $M_{\theta\theta}$-1.57; $M_{\phi\phi}$-2.17; $M_{r\theta}$0.84; $M_{\theta\phi}$-1.68; $M_{\phi r}$-0.84; Fault plane solution: $M_0$3.85696×10^{21} NP1:ϕ_s54.82000°, δ46.25000°, λ111.79000°. NP2:ϕ_s204.79000°, δ47.88000°, λ68.81000°. Principal axes: T Plg74.4220°, Azm42.6200°; N Plg15.5540°, Azm219.3670°; P Plg0.8410°, Azm309.6010°;*
*JMA **19** 01:54:32.7±0.1, 24°.0N±0°.2×121°.6E±0°.5, h21km, MV3.3/14, TAIWAN REGION*
*TAP **19** 01:54:32.8, 24°.05N×121°.52E, h20km, ML3.9, B*

ISC 19 01:54:32.5±0.7, 24°.04N±0°.01×121°.56E±0°.01, h19km±1km, n194, σ0°68/337, mb3.5/7, 18C-21D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.06**	**39**	⇑*i*P	**Pg**	**01 54 36.8**	**+0.8**
TWD				*i* S	**Sg**	**01 54 39.5**	**+1.1**
HWA	**Hwalien**	**0.07**	**145**	⇓*i*P	**Pg**	**01 54 37.5**	**+1.4**
HWA				S	**Sg**	**01 54 40.6**	**+2.1**
ETM	**Tongmen**	**0.09**	**220**	⇑*i*P	**Pg**	**01 54 36.9**	**+0.5**
ETM				*i* S	**Sg**	**01 54 39.4**	**+0.5**
LXIB	**Xiulin Townshi**	**0.13**	**263**	⇑*i*P	**Pg**	**01 54 36.9**	**+0.1**
LXIB				*i* S	**Sg**	**01 54 40.1**	**+0.2**
ETL	**Fush Village**	**0.14**	**26**	P	**Pg**	**01 54 37.3**	**+0.5**
ETL				*e*S	**Sg**	**01 54 40.3**	**+0.7**
NACB	**Ninganchiao**	**0.14**	**14**	P	**Pg**	**01 54 36.9**	**+0.1**
NACB	**Ninganchiao**	**0.14**	**14**	S	**Sg**	**01 54 40.2**	**+0.5**
NACB	**Ninganchiao**	**0.14**	**14**	⇑*i*P	**Pg**	**01 54 37.1**	**+0.3**
NACB				*i* S	**Sg**	**01 54 39.9**	**+0.2**
ETLH	**Xiulin Townshi**	**0.18**	**337**	⇑*i*P	**Pg**	**01 54 37.6**	**+0.2**
ETLH				*i* S	**Sg**	**01 54 40.7**	**-0.1**
SHUL	**Shoufeng**	**0.25**	**179**	⇓*i*P	**Pg**	**01 54 39.3**	**+1.0**
SHUL				S	**Sg**	**01 54 44.1**	**+1.9**
ESL	**Shilin**	**0.25**	**207**	⇓*i*P	**Pb**	**01 54 38.5**	**+0.2**
ESL				*i* S	**Sg**	**01 54 42.4**	**+0.1**
WHF	**Hehuan Shan**	**0.29**	**292**	⇑*i*P	**Pb**	**01 54 39.2**	**0.0**
WHF				*i* S	**Sb**	**01 54 43.4**	**-0.4**
EHP	**Heping Village**	**0.32**	**32**	P	**Pb**	**01 54 39.9**	**+0.3**
EHP				*e*S	**Sb**	**01 54 45.1**	**+0.7**
TEGC	**Jichi Village**	**0.33**	**183**	⇓P	**Pb**	**01 54 40.6**	**+0.8**
TEGC				S	**Sn**	**01 54 46.9**	**-1.5**
EAHA	**Aohua**	**0.33**	**30**	P	**Pg**	**01 54 40.0**	**+0.3**
EAHA				S	**Sb**	**01 54 45.3**	**+0.4**
FUSS	**Fushou**	**0.35**	**306**	⇓*i*P	**Pg**	**01 54 40.4**	**+0.2**
FUSS				*i* S	**Sg**	**01 54 45.5**	**+0.1**
WARBT	**Fenglin Townsh**	**0.35**	**206**	⇓*i*P	**Pg**	**01 54 39.8**	**-0.3**
WARBT				*i* S	**Sg**	**01 54 45.0**	**-0.3**
OWD	**Renai**	**0.36**	**257**	⇑*i*P	**Pg**	**01 54 40.4**	**+0.2**
OWD				*i* S	**Sg**	**01 54 45.0**	**-0.5**
EGFH	**Guangfu**	**0.39**	**198**	*e*P	**Pg**	**01 54 40.6**	**0.0**
EGFH				*e*S	**Sg**	**01 54 46.2**	**+0.1**
WUSB	**Renai**	**0.41**	**264**	⇑*i*P	**Pg**	**01 54 41.2**	**+0.2**
WUSB				*i* S	**Sg**	**01 54 46.3**	**-0.5**
TWT	**Tachien**	**0.41**	**302**	⇓*i*P	**Pg**	**01 54 41.5**	**+0.4**
TWT				*i* S	**Sg**	**01 54 47.0**	**+0.1**
NNSB	**Datong**	**0.42**	**338**	⇓*i*P	**Pg**	**01 54 41.5**	**+0.2**
NNSB				*i* S	**Sg**	**01 54 46.7**	**-0.5**
ENA	**Nanau**	**0.42**	**23**	⇑*i*P	**Pg**	**01 54 41.5**	**+0.2**
ENA				*e*S	**Sg**	**01 54 47.6**	**+0.4**
TDCB	**Techi**	**0.42**	**301**	⇓*i*P	**Pg**	**01 54 41.5**	**+0.2**
TDCB				*i* S	**Sg**	**01 54 46.9**	**-0.5**
NNS	**Nan Shan**	**0.43**	**337**	⇓*i*P	**Pg**	**01 54 41.7**	**+0.1**
NNS				*i* S	**Sg**	**01 54 47.3**	**-0.3**
EWUT	**Wuta**	**0.45**	**26**	⇑*i*P	**Pg**	**01 54 41.9**	**+0.1**
EWUT				S	**Sg**	**01 54 48.3**	**+0.3**
VWDT	**VWDT**	**0.47**	**234**	⇑*i*P	**Pg**	**01 54 42.4**	**+0.2**
VWDT				*i* S	**Sg**	**01 54 48.8**	**+0.1**
LATG	**Datong**	**0.50**	**357**	⇓*i*P	**Pg**	**01 54 42.7**	**0.0**
LATG				*i* S	**Sg**	**01 54 49.1**	**-0.3**
WPL	**Puli Township**	**0.55**	**267**	*e*P	**Pb**	**01 54 43.6**	**+0.1**
WPL				S	**Sb**	**01 54 50.5**	**-0.4**
HGSD	**Ruisui**	**0.56**	**193**	P	**Pg**	**01 54 44.2**	**+0.5**
HGSD				S	**Sg**	**01 54 52.5**	**+1.2**
EHY	**Hungye**	**0.57**	**202**	*e*P	**Pb**	**01 54 43.5**	**-0.3**
EHY				*e*S	**Sg**	**01 54 51.9**	**+0.2**
DPDB	**Guoxing**	**0.58**	**270**	P	**Pb**	**01 54 44.1**	**+0.2**
DPDB				S	**Sb**	**01 54 51.3**	**-0.5**
WCS	**Beigang Elemen**	**0.59**	**272**	⇓*i*P	**Pb**	**01 54 44.2**	**0.0**
WCS				S	**Sb**	**01 54 51.7**	**-0.4**
ESAO	**Su ao**	**0.60**	**26**	*e*P	**Pb**	**01 54 44.4**	**+0.2**
ESAO				*e*S	**Sb**	**01 54 51.9**	**-0.3**
ENTT	**Nioudou**	**0.60**	**1**	⇑P	**Pb**	**01 54 44.5**	**+0.2**
ENTT				*i* S	**Sb**	**01 54 52.5**	**+0.1**
SSLB	**Suanglung**	**0.61**	**246**	⇑*i*P	**Pb**	**01 54 44.3**	**-0.1**
SSLB				*e*S	**Sb**	**01 54 51.5**	**-1.1**
WHP	**Taichung City**	**0.61**	**293**	⇓P	**Pb**	**01 54 44.7**	**+0.2**
WHP				*e*S	**Sb**	**01 54 52.3**	**-0.4**
NDS	**Dongshan**	**0.61**	**14**	*e*P	**Pb**	**01 54 44.1**	**-0.4**
NDS				*e*S	**Sb**	**01 54 52.2**	**-0.4**
SMLT	**Sun Moon Lake**	**0.62**	**256**	⇑P	**Pb**	**01 54 43.9**	**-0.9**
SMLT				*e*S	**Sb**	**01 54 51.6**	**-1.4**
TWC	**Suao**	**0.63**	**25**	P	**Pb**	**01 54 44.9**	**+0.1**
TWC				S	**Sb**	**01 54 53.4**	**+0.2**
YHNB	**Yeheng**	**0.65**	**345**	P	**Pb**	**01 54 45.7**	**+0.4**
YHNB	**Yeheng**	**0.65**	**345**	S	**Sb**	**01 54 54.3**	**+0.4**
YHNB	**Yeheng**	**0.65**	**345**	⇓*i*P	**Pb**	**01 54 45.2**	**-0.1**
Y

WDL				eS	Sg	01 55 05.9	+1.1
ECS	**Chishang**	0.99	198	eP	Pb	01 54 51.3	+0.3
ECS				eS	Sn	01 55 05.4	+0.6
NCU	**National Centr**	0.99	340	eP	Pb	01 54 51.6	+0.5
NCU				eS	Sn	01 55 05.2	+0.4
WDLH	**Douliu**	1.00	250	eP	Pn	01 54 51.7	+0.3
WDLH				eS	Sg	01 55 06.3	+1.3
TAP	**Taipei**	1.00	357	eP	Pn	01 54 51.8	+0.3
TAP				eS	Sb	01 55 04.8	+0.8
TWB1	**Santiao Chiao**	1.04	22	eP	Pn	01 54 52.5	+0.4
TWB1				eS	Sb	01 55 05.6	+0.4
WFSB	**Wu-fen Shan**	1.05	11	eP	Pn	01 54 52.6	+0.4
WFSB				eS	Sb	01 55 06.1	+0.7
WCKO	**Fanlu**	1.06	236	eP	Pg	01 54 53.1	0.0
WCKO				eS	Sg	01 55 08.1	+1.1
TWS1	**Kuangyinshan**	1.07	353	eP	Pb	01 54 52.6	+0.2
TWS1				eS	Sg	01 55 07.5	+0.2
NHW	**Xinwu Township**	1.07	334	eP	Pg	01 54 53.4	+0.1
NHW				eS	Sg	01 55 08.5	+1.1
EDH	**Donghe**	1.09	192	eP	Pb	01 54 52.2	-0.4
EDH				eS	Sb	01 55 06.6	+0.2
SXI1	**Grass Mountain**	1.09	15	P	Pb	01 54 52.9	+0.1
SXI1				eS	Sn	01 55 07.7	+0.3
YM01	**YM01**	1.10	1	eP	Pb	01 54 53.5	+0.5
YM01				eS	Sb	01 55 07.8	+0.8
RLNB	**Erlin**	1.11	263	eP	Pb	01 54 53.6	+0.6
RLNB				eS	Sn	01 55 08.4	+0.8
CHN2	**Minshiung**	1.11	243	eP	Pg	01 54 54.5	+0.4
CHN4	**Tsaushan**	1.12	233	P	Pg	01 54 54.5	+0.3
CHN4				eS	Sg	01 55 10.7	+1.8
ZUZH	**Zhuzihu**	1.12	359	eP	Pn	01 54 53.4	+0.2
ZUZH				eS	Sn	01 55 08.5	+0.4
STYH	**Taoyuan**	1.12	220	eP	Pn	01 54 52.5	-0.7
STYH				eS	Sb	01 55 07.5	0.0
TPUB	**Ta-pu**	1.12	229	P	Pg	01 54 54.6	+0.3
TPUB	**Ta-pu**	1.12	229	P	Pb	01 54 54.1	+0.8
TPUB				eS	Sg	01 55 09.4	+0.3
TNOU	**National Taiwa**	1.12	10	eP	Pg	01 54 54.9	+0.6
TNOU				eS	Sg	01 55 09.3	+0.1
NTST	**Danshui**	1.13	355	eP	Pb	01 54 54.2	+0.9
NTST				eS	Sg	01 55 09.9	+0.7
WTK	**Tuku**	1.13	252	eP	Pb	01 54 53.9	+0.5
WTK				eS	Sg	01 55 09.4	+0.3
STYT	**Tauyuan**	1.14	220	eP	Pn	01 54 52.8	-0.7
ANP	**Anpu**	1.14	358	eP	Pn	01 54 54.0	+0.5
ANP				eS	Sn	01 55 09.2	+0.4
CHY	**Chiayi**	1.17	243	eP	Pb	01 54 54.9	+0.8
CHY				eS	Sg	01 55 10.9	+0.4
WTP	**Ta-pu**	1.17	228⇑	iP	Pb	01 54 54.9	+0.7
WTP				eS	Sg	01 55 10.4	-0.2
WTCT	**Ta-ch'eng**	1.18	262	eP	Pb	01 54 55.1	+0.8
WTCT				eS	Sg	01 55 10.8	-0.1
LONT	**Longtian**	1.19	199	eP	Pn	01 54 54.4	+0.2
LONT				eS	Sn	01 55 10.2	+0.4
TWY	**Chenhua**	1.23	2	eP	Pn	01 54 54.5	-0.2
TWY				eS	Sb	01 55 10.6	-0.2
TWK	**Hsinying**	1.25	232	eP	Pb	01 54 56.0	+0.6
TWK				eS	Sg	01 55 12.5	-0.5
SNST	**Tainan City**	1.27	230	eP	Pg	01 54 57.0	-0.1
SNST				eS	Sg	01 55 13.7	0.0
CHN1	**Nanshi**	1.27	228	eP	Pb	01 54 56.4	+0.5
CHN1				eS	Sg	01 55 14.0	+0.3
WSF	**Szhu**	1.29	252	eP	Pb	01 54 56.4	+0.3
WSF				eS	Sb	01 55 13.7	+1.5
TWG	**Pinlang**	1.29	200	eP	Pn	01 54 56.1	+0.5
TWG				eS	Sb	01 55 12.6	+0.2
TWGBT	**Beinan**	1.29	200	P	Pb	01 54 56.6	+0.4
TWGBT	**Beinan**	1.29	200	eP	Pn	01 54 56.0	+0.5
TWGBT				eS	Sn	01 55 12.1	-0.1
SGST	**Jiashian**	1.31	223	eP	Pb	01 54 56.7	+0.2
SGST				eS	Sb	01 55 13.9	+1.1
WSL	**Shuilin Townsh**	1.32	247	eP	Pb	01 54 57.4	+0.7
WSL				eS	Sg	01 55 15.6	+0.2
JYNG	**Yonagunijimaku**	1.33	72	eP	Pn	01 54 56.5	+0.5
JYNG				eS	Sn	01 55 13.4	+0.2
ICHU	**Yijhu**	1.35	240	eP	Pb	01 54 57.7	+0.5
ICHU				eS	Sg	01 55 16.0	-0.4
LDUT	**Ludao**	1.36	183	eP	Pn	01 54 55.5	-1.0
LDUT				eS	Sn	01 55 13.6	-0.3
YOJ	**Yonaguni jima**	1.39	72	P	Pn	01 54 47.8	-9.1
YOJ	**Yonaguni jima**	1.39	72	eP	Pn	01 54 57.1	+0.3
YOJ				eS	Sb	01 55 15.3	+0.1
YOJ	**Yonaguni jima**	1.39	72⇑	iP	Pn	01 54 57.2	+0.3
YOJ				i S	Sb	01 55 15.4	+0.1
CHN8	**Yiju**	1.41	241	eP	Pb	01 54 58.6	+0.4
CHN8				eS	Sg	01 55 17.9	-0.4
CHN3	**Shinhua**	1.45	229	eP	Pb	01 54 60.0	+1.0
CHN3				S	Sg	01 55 20.6	+1.0
SHHT	**Tainan City**	1.50	228	eP	Pg	01 55 01.8	+0.3
SHHT				eS	Sg	01 55 22.4	+1.3
SCST	**Cishan**	1.51	221	eP	Pb	01 55 00.6	+0.8
SCST				eS	Sg	01 55 20.7	-0.6
SCLT	**Jiali**	1.52	236	eP	Pb	01 54 60.0	-0.1
SCLT				eS	Sb	01 55 20.5	+1.6
ECL	**Taimali**	1.54	201	eP	Pn	01 54 59.0	+0.2
SSD	**Sandimen**	1.54	214	eP	Pb	01 55 00.6	+0.1
SSD				eS	Sb	01 55 20.8	+1.2
TSMG	**Majia**	1.57	213	eP	Pb	01 55 01.5	+0.6
TSMG				eS	Sb	01 55 21.7	+1.3
TWM1	**Shoushan**	1.60	221	eP	Pg	01 55 03.0	-0.3
PCYT	**Pengchaiyu**	1.65	16	i P	Pn	01 55 01.3	+0.8
PCYT				eS	Sb	01 55 22.7	-0.1
MASBT	**Mashibuluo**	1.66	211	eP	Pn	01 55 01.4	+0.9
MASBT				eS	Sb	01 55 23.4	+0.6
EAST	**Anshuo**	1.77	202	eP	Pb	01 55 04.2	-0.2
EAST				eS	Sn	01 55 25.1	+0.9
TAWH	**Dawu Township**	1.80	200	eP	Pb	01 55 04.7	-0.1
WSSB	**Gushan**	1.83	221	eP	Pb	01 55 05.7	+0.3
WSSB				eS	Sb	01 55 29.8	+1.9
SCZT	**Fangliau**	1.87	208	i P	Pb	01 55 06.1	+0.1
SCZT				eS	Sb	01 55 28.6	-0.4
PHUB	**P'eng-hu**	1.89	254	eP	Pn	01 55 04.4	+0.6
PHUB				eS	Sn	01 55 28.0	+0.9
PNG	**Penghu**	1.89	256	eP	Pn	01 55 05.1	+1.3
PNG				i S	Sn	01 55 28.4	+1.2
WDGT	**Dungji**	1.91	246	P	Pn	01 55 04.6	+0.7
WDGT				eS	Sb	01 55 29.4	-0.6
SLIU	**Shizi**	1.94	201	eP	Pb	01 55 07.0	-0.3
LAY	**Lan-yu**	1.99	180	eP	Pn	01 55 04.8	-0.4
LAY				eS	Sn	01 55 28.3	-1.3
IRIF	**Iriomote-Funau**	2.00	81	P	Pn	01 55 05.9	+0.6
IRIF				eS	Sn	01 55 30.5	+0.6
TWP	**Hsiaoliuchiu**	2.01	213	eP	Pb	01 55 09.6	+1.1
LYUB	**Lan-yu**	2.03	179	eP	Pn	01 55 05.8	+0.1
LYUB				eS	Sn	01 55 27.8	-2.6
HATJ	**Hateruma jima**	2.05	89	eS	Sn	01 55 31.3	+0.2
VCHM	**Qimei**	2.12	248	P	Pn	01 55 07.9	+1.0
VCHM				S	Sn	01 55 33.8	+1.1
VWUC	**VWUC**	2.14	297	eP	Pn	01 55 06.5	-0.7
VWUC				eS	Sn	01 55 31.7	-1.6
TWK1	**Hengchun**	2.20	199	eP	Pn	01 55 09.5	+1.5
TWKBT	**Hengchun**	2.20	198	eP	Pn	01 55 09.7	+1.7
TWKBT				eS	Sn	01 55 35.0	+0.4
TSEB	**Hengchuen, Pin**	2.21	196	eP	Pn	01 55 09.9	+1.7
TSEB				eS	Sn	01 55 35.2	+0.2
JKRS	**Kuro-shima**	2.25	84	eP	Pn	01 55 09.3	+0.6
JIJ	**Ishigaki jima**	2.38	82	eP	Pn	01 55 10.8	+0.3
JIJ				eS	Sn	01 55 39.2	0.0
PTMZ	**Houxiangcun**	2.44	295	eP	Pn	01 55 11.4	+0.1
MATB	**Ma-tsu**	2.56	326	eP	Pn	01 55 13.0	0.0
JISG	**Ishigakijimahi**	2.57	77	eP	Pn	01 55 13.5	+0.4
JISG				eS	Sn	01 55 43.5	-0.4
KNM	**Kinmen**	2.88	278	eP	Pn	01 55 19.1	+1.8
KNM				eS	Sn	01 55 53.5	+2.1
KNMB	**Chin-men Tao**	2.92	279	eP	Pn	01 55 17.6	-0.4
KNMB				eS	Sn	01 55 52.0	-0.5
MHZQ	**Yeshan**	3.08	312	eP	Pn	01 55 20.2	+0.1
MHZQ				eS	Sn	01 55 56.0	-0.3
XPSS	**Dashiqiu**	3.13	337	eP	Pn	01 55 20.6	-0.3
AXDP	**Jialang**	3.38	285	eP	Pn	01 55 24.1	-0.2
ZPLA	**Ao Xicun**	3.48	269	eP	Pn	01 55 25.6	-0.1
ZPLA				eS	Sn	01 56 05.8	-0.6
JMJ	**Miyako jima 2**	3.49	76	eP	Pn	01 55 25.6	-0.1
DSXP	**Dongshan**	3.80	266	eP	Pn	01 55 30.1	+0.2
SXFK	**Yanhouchang**	4.25	304	eP	Pn	01 55 36.4	+0.1
SXFK				eS	Sn	01 56 23.5	-1.9
JOW	**Kunigami**	6.68	64	Pn	Pn	01 56 08.8	-0.8
	2.7nm,0.3s,baz=131,slow=27,SNR=9.9						
	5.7nm,0.3s						
JOW	**Kunigami**	6.68	64	eP	Pn	01 56 09.3	-0.3
SONM	**Songino Array**	26.64	337	P	P	02 00 10.8	+0.8
	0.3nm,0.3s,baz=142,slow=7.2,SNR=2.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	38.68	316	P	P	02 01 55.5	+0.5
	0.7nm,0.7s,baz=102,slow=11,SNR=6.3						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	40.55	327	P	P	02 02 09.1	-1.3
	0.6nm,0.4s,baz=120,slow=8.5,SNR=2.4						
	0.6nm,0.4s						
H11N1	**WAKE ISLAND Hy**	42.15	87	T	T	02 47 46.8	
	baz=283						
H11N2	**WAKE ISLAND Hy**	42.16	87	T	T	02 47 40.4	
	baz=283						
H11N3	**WAKE ISLAND Hy**	42.17	87	T	T	02 47 29.7	
	baz=283						
H11S3	**WAKE ISLAND Hy**	42.28	89	T	T	02 47 37.2	
	baz=284,slow=74						
H11S1	**WAKE ISLAND Hy**	42.29	89	T	T	02 47 38.5	
	baz=284,slow=74						
H11S2	**WAKE ISLAND Hy**	42.30	89	T	T	02 48 05.2	
	baz=284						
KURBB	**Kurchatov Arra**	42.44	320	P	P	02 02 26.7	+0.8
	0.4nm,0.6s,baz=114,slow=7.2,SNR=3.3						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	45.45	163	P	P	02 02 48.3	-2.2
	0.3nm,0.5s,baz=345,slow=8.5,SNR=4.8						
WRA				LR	LR	02 22 43.9	
	comp=Z,67nm,20.0s,baz=88,slow=37						
	0.3nm,0.5s						
ASAR	**Alice Springs**	48.91	165	P	P	02 03 16.5	-1.0
	0.1nm,0.3s,baz=340,slow=6.8,SNR=5.8						
	0.1nm,0.3s						
YKA	**Yellowknife Ar**	82.97	23	P	P	02 06 54.8	-1.3
	0.3nm,0.7s,baz=312,slow=4.8,SNR=4.2						
	0.3nm,0.7s						

*WEL **19** 01:56:01.7±0.2, 40°.5S±1°×17°.5E±°, h12km, M3.6/26, ML3.9/26, MLv3.6/26, Error ellipse: s-maj=2.6km s-min=1.8km az=66.8, confirmed*
*NOU **19** 01:56:02.6, 40°.41S×174°.91E, h31km, MLv3.5/18, Cook Strait, New Zealand*
ISC 19 01:56:02.6±0.9, 40°.40S±0°.02×174°.90E±0°.02, h32km±8km, n117, σ0.82/140, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	0.37	59	P	Pb	01 56 11.0	-0.1
OHWZ				S	Sn	01 56 17.7	-0.1
KIW	**Kapiti Island**	0.46	179	P	Pb	01 56 12.2	-0.3
KIW				S	Sb	01 56 19.0	-0.3
OGWZ	**Otaki Gorge**	0.47	154	P	Pb	01 56 12.4	-0.2
OGWZ				S	Sb	01 56 19.4	0.0
WCDS	**Wanganui Civil**	0.48	14	P	Pb	01 56 12.9	+0.2
WCDS				S	Sn	01 56 20.9	+0.5
MRZ	**Mangatainoka R**	0.58	117	P	Pb	01 56 14.2	-0.1
MRZ				S	Sb	01 56 22.3	-0.1
WAZ	**Wanganui**	0.65	6	P	Pb	01 56 15.2	-0.3
WAZ				S	Sb	01 56 24.7	+0.4
POWZ	**Post Office Ro**	0.66	90	P	Pb	01 56 15.4	-0.3
POWZ				S	Sb	01 56 24.6	-0.1
HOWZ	**Holdsworth Sta**	0.68	137	P	Pb	01 56 15.9	-0.2
HOWZ				S	Sn	01 56 25.4	-0.2
CAW	**Cannon Point**	0.72	170	P	Pb	01 56 16.1	-0.6
CAW				S	Sb	01 56 26.1	-0.2
PRWZ	**Pori Road**	0.83	101	P	Pn	01 56 18.4	+0.4
TIWZ	**Tintock**	0.84	117	P	Pn	01 56 18.6	+0.4
DUWZ	**D'Urville Isla**	0.85	241	P	Pb	01 56 17.6	-1.2
DUWZ				S	Sb	01 56 29.4	-0.6
TSZ	**Takapari Road**	0.88	68	P	Pb	01 56 18.5	-0.8
MTW	**Mount Morrison**	0.89	149	P	Pn	01 56 19.1	+0.3
MTW				S	Sn	01 56 31.2	+0.6
WEL	**Wellington**	0.89	186	P	Pb	01 56 18.7	-0.9
SNZO	**South Karori**	0.92	189	P	Pb	01 56 18.9	-1.2
SNZO	**South Karori**	0.92	189	S	Sn	01 56 33.9	+2.4
TCW	**Tory Channel**	0.94	210	P	Pb	01 56 19.0	-1.3
TCW				S	Sb	01 56 31.8	-0.7
DVHZ	**Dannevirke**	0.97	84	P	Pb	01 56 20.4	-0.5
BHW	**Baring Head**	1.01	181	P	Pb	01 56 20.6	-0.9
LREZ	**Lake Rotokare**	1.01	338	P	Pb	01 56 20.9	-0.7
LREZ				S	Sn	01 56 34.8	+1.1
TMWZ	**Te Maipa**	1.03	134	P	Pn	01 56 21.5	+0.7
TMWZ				S	Sn	01 56 35.3	+1.1
MSWZ	**Moikau Station**	1.05	166	P	Pb	01 56 21.4	-0.8
MSWZ				S	Sn	01 56 35.5	+0.8
PAWZ	**Paruwai Farm**	1.06	158	P	Pn	01 56 21.6	+0.3
PAWZ				S	Sn	01 56 37.0	+2.0
BFZ	**Birch Farm**	1.06	106	P	Pn	01 56 21.0	-0.3
BFZ	**Birch Farm**	1.06	106	P	Pn	01 56 21.2	-0.1
BFZ				S	Sn	01 56 36.4	+1.4
MTVZ	**Mangateitei**	1.10	24	P	Pn	01 56 21.5	-0.4
PNHZ	**Pukenui**	1.11	64	P	Pn	01 56 22.0	+0.1
CPWZ	**Castlepoint**	1.11	118	P	Pb	01 56 22.8	-0.5
PKVZ	**Pokaka**	1.16	17	P	Pn	01 56 22.0	-0.7
TRWZ	**Traveller**	1.16	149	P	Pb	01 56 23.6	-0.5
TRWZ				S	Sn	01 56 40.3	+2.8
MOVZ	**Moawhango**	1.19	34	P	Pn	01 56 22.2	-0.8
WNVZ	**Wahianoa**	1.20	27	P	Pn	01 56 22.8	-0.5
PLWZ	**Palliser**	1.20	167	P	Pn	01 56 23.6	+0.4
PREZ	**Palmer Road**	1.20	331	P	Pn	01 56 23.9	+0.7
PREZ				S	Sn	01 56 40.7	+2.3
ANWZ	**Angora Road**	1.20	93	P	Pn	01 56 23.4	+0.2
ANWZ				S	Sn	01 56 39.8	+1.4
TRVZ	**Turoa**	1.21	25	P	Pn	01 56 23.0	-0.5
WPHZ	**Waipukurau**	1.23	75	P	Pn	01 56 24.1	+0.6
WHVZ	**Whangaehu Hut**	1.23	26	P	Pn	01 56 23.4	-0.5
MAVZ	**Matarangi**	1.24	24	P	Pn	01 56 23.7	-0.3
FWVZ	**Far West T-bar**	1.25	24	P	Pn	01 56 23.5	-0.5
TUWZ	**Tuamarina**	1.26	215	P	Pn	01 56 24.3	+0.4
NMEZ	**Namu Road**	1.26	321	P	Pn	01 56 24.8	+0.9
NMEZ				S	Sb	01 56 41.9	+0.3
TUVZ	**Tukino**	1.27	27	P	Pn	01 56 24.1	-0.1
VRZ	**Vera Road**	1.28	355	P	Pn	01 56 24.3	+0.1
NEZ	**North Egmont**	1.29	331	P	Pn	01 56 25.1	+0.7
NEZ				S	Sb	01 56 42.4	0.0
COVZ	**Chateau Observ**	1.29	23	P	Pn	01 56 24.2	-0.3
KHEZ	**Kahui Hut**	1.30	328	P	Pn	01 56 25.3	+0.7
KHEZ	**Kahui Hut**	1.30	328	S	Sb	01 56 43.2	+0.4
KHEZ	**Kahui Hut**	1.30	328	P	Pn	01 56 25.4	+0.9
DREZ	**Durham Road**	1.32	336	P	Pn	01 56 25.6	+0.8
DREZ				S	Sb	01 56 43.4	0.0
PRHZ	**Porangahau**	1.33	85	P	Pn	01 56 25.3	+0.4
NGZ	**Ngauruhoe**	1.33	24	P	Pn	01 56 25.0	-0.2
SNVZ	**South Ngauruho**	1.34	25	P	Pn	01 56 25.1	-0.1
KRHZ	**Kereru**	1.36	57	P	Pn	01 56 25.9	+0.6
OTVZ	**Oturere**	1.37	26	P	Pn	01 56 25.4	-0.2
NNVZ	**North Ngauruho**	1.38	24	P	Pn	01 56 25.4	-0.4
NBEZ	**Newall Road No**	1.38	324	S	Sb	01 56 44.9	-0.2
WTVZ	**West Tongariro**	1.39	23	P	Pn	01 56 25.4	-0.4
TWVZ	**Taurewa**	1.39	17	P	Pn	01 56 25.1	-0.8
ETVZ	**East Tongariro**	1.41	27	P	Pn	01 56 26.0	-0.1
NNZ	**Nelson**	1.42	234	P	Pn	01 56 26.7	+0.7
KRVZ	**Karewarewa**	1.42	24	P	Pn	01 56 25.9	-0.4
TMVZ	**Te Maari**	1.42	26	P	Pn	01 56 26.2	-0.1
NTVZ	**North Tongarir**	1.43	25	P	Pn	01 56 26.2	-0.2
CMWZ	**Cape Campbell**	1.45	201	P	Pb	01 56 28.0	-0.9
KWHZ	**Kaweka Forest**	1.52	51	P	Pn	01 56 28.5	+0.8
BSWZ	**Blackbirch Sta**	1.53	210	P	Pn	01 56 28.3	+0.7
PXZ	**Pawanui**	1.55	77	P	Pn	01 56 28.3	+0.4
KATZ	**Kakaramea**	1.55	24	P	Pn	01 56 28.0	-0.1
RITZ	**Rihia Road**	1.60	28	P	Pn	01 56 29.9	+1.3
TKNZ	**Takaka Hill**	1.61	246	P	Pn	01 56 29.2	+0.4
KAHZ	**Kahuranaki**	1.63	69	P	Pn	01 56 29.5	+0.4
RATZ	**Rangitukua**	1.67	24	P	Pn	01 56 30.4	+0.7
MCHZ	**McNeill Hill**	1.68	56	P	Pn	01 56 31.4	+1.7
BKZ	**Black Stump Fm**	1.74	45	P	Pn	01 56 31.1	+0.5
BKZ	**Black Stump Fm**	1.74	45	P	Pn	01 56 31.3	+0.8
WATZ	**Wairara**	1.81	21	P	Pn	01 56 31.9	+0.4
QRZ	**Quartz Range**	1.86	256	P	Pn	01 56 31.8	-0.4
QRZ	**Quartz Range**	1.86	256	S	Sn	01 56 55.3	+0.8
QRZ	**Quartz Range**	1.86	256	P	Pn	01 56 32.1	0.0
HIZ	**Hauiti**	1.88	359	P	Pn	01 56 32.3	-0.2
HIZ	**Hauiti**	1.88	359	S	Sn	01 56 56.5	+1.3
HIZ	**Hauiti**	1.88	359	P	Pn	01 56 32.5	-0.1
MRNZ	**Matariki Terra**	1.91	238	P	Pn	01 56 33.9	+1.0
WHTZ	**Whakaora**	1.91	26	P	Pn	01 56 34.9	+1.9
MRHZ	**Matea Rd**	1.95	37	P	Pn	01 56 33.7	+0.2
NMHZ	**Naumai**	1.96	49	P	Pn	01 56 34.2	+0.6
ARHZ	**Aropaoanui**	1.97	56	P	Pb	01 56 36.0	-1.8
THZ	**Tophouse**	2.03	227	P	Pn	01 56 35.6	+0.9
KUTZ	**Kaahu Road**	2.04	21	P	Pb	01 56 37.2	-1.7
WPRZ	**Whakapapatarin**	2.12	28	P	Pn	01 56 36.2	+0.4
TLZ	**Tolley Road**	2.12	14	P	Pn	01 56 35.3	-0.6
ALRZ	**Allen Road**	2.15	32	P	Pn	01 56 36.6	+0.4
MTHZ	**Maungataniwha**	2.15	45	P	Pn	01 56 36.2	0.0
PRRZ	**Plateau Road**	2.22	32	P	Pn	01 56 37.6	+0.4
KHZ	**Kahutara**	2.26	207	P	Pn	01 56 37.6	-0.1
KHZ	**Kahutara**	2.26	207	S	Sn	01 57 04.7	+0.2
KHZ	**Kahutara**	2.26	207	P	Pn	01 56 37.8	+0.1
RTZ	**Ruatahuna**	2.40	43	P	Pn	01 56 39.5	-0.2
MUGZ	**Murupara**	2.40	38	P	Pn	01 56 39.4	-0.3
SNGZ	**Shannon Statio**	2.48	50	P	Pn	01 56 41.7	+0.9
TARZ	**Mount Tarawera**	2.49	30	P	Pn	01 56 42.4	+1.4
MHGZ	**Mahia Peninsul**	2.63	63	P	Pn	01 56 41.9	-0.9
DSZ	**Denniston Nort**	2.70	239	P	Pn	01 56 44.6	+0.8
TOZ	**Tahuroa Road**	2.71	10	P	Pn	01 56 43.7	-0.1
PRGZ	**Paritu Road**	2.73	58	P	Pn	01 56 42.9	-1.4
URZ	**Urewera**	2.74	39	P	Pn	01 56 43.0	-1.3
URZ	**Urewera**	2.74	39	S	Sn	01 57 16.5	+0.2
URZ	**Urewera**	2.74	39	P	Pn	01 56 43.2	-1.1
RIGZ	**Rimuhau**	2.78	54	P	Pn	01 56 43.9	-1.0
GVZ	**Greta Valley S**	2.92	208	P	Pn	01 56 46.2	-0.6
RUGZ	**Raukumara Rang**	3.25	42	P	Pn	01 56 50.1	-1.4
MKAZ	**Moumakai**	3.30	4	P	Pn	01 56 52.0	+0.1
RPZ	**Rata Peaks**	4.38	220	P	Pn	01 57 06.8	-0.1
ODZ	**Otahua Downs**	5.60	213	P	Pn	01 57 21.7	-1.9
JCZ	**Jackson Bay**	5.84	229	P	Pn	01 57 27.3	+0.3

*SJA **19** 02:09:12.0±0.8, 31°.68S×72°.21W, h22km±4km, ML3.2, MW3.6*
*GUC **19** 02:09:14.1±0.9, 31°.70S×72°.15W, h38km±4km, ML3.2*
ISC 19 02:09:10.6±2.1, 31°.67S±0°.03×72°.32W±0°.07, h7km±13km, n44, σ1.9/60/65, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	1.15	31	eP	Pb	02 09 33.5	+0.7
CO02	**Combarbal**	1.22	68	eP	Pb	02 09 33.7	-0.3
CO02				eS	Sb	02 09 48.1	-1.9
CO02				IAML		02 09 52.5	
	comp=E,2μm,0.5s						
CO02	**Combarbal**	1.22	68	eP	Pb	02 09 28.5	-5.6
CO02				eP	Pb	02 09 33.8	-0.3
CO02				eS	Sb	02 09 48.9	-1.1
CO02				IAML		02 09 49.8	
	comp=Z,924nm,0.4s						
VA06	**Catapilco**	1.24	136	eP	Pn	02 09 34.1	-0.3
VA06				eS	Sb	02 09 49.0	-1.6
VA06				IAML		02 09 56.4	
	comp=E,1μm,0.5s						
CO03	**El Pedregal**	1.62	60	eP	Pn	02 09 40.5	+0.7
CO03				eS	Sb	02 10 00.1	-1.5
CO03				IAML		02 10 03.8	
	comp=E,419nm,0.4s						
CO03	**El Pedregal**	1.62	60	eP	Pn	02 09 40.6	+0.9
CO03				IAML		02 10 06.2	
	comp=Z

IDC 19 02:16:40.4±0.7, 37.85N×129.61E, h0km, mb3.8/11, mbtmp3.7/16, ML3.4/5, MS3.1/11, Error ellipse: s-maj=14.7km s-min=12.7km az=150.0

NIED 19 02:16:42.2, 37.68N×129.82E, h0km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.70; $M_{\theta\theta}$0.41; $M_{\phi\phi}$-4.11; $M_{r\theta}$-4.30; $M_{\theta\phi}$0.57; $M_{\phi r}$1.67; Fault plane solution: $M_0$5.89000×10^{14} NP1: ϕ_s194.00000°, δ34.00000°, λ142.00000°. NP2: ϕ_s316.00000°, δ70.00000°, λ62.00000°.

JMA 19 02:16:42.2±0.7, 38.3N×13.0E±., h0km, MV4.2/12, S KOREAN PENINSULA REG

KMA 19 02:16:43.2±0.4, 37.88N×129.55E, h32km±3km, Error ellipse: s-maj=3.8km s-min=2.5km az=33.0

NEIC 19 02:16:43.1±2.0, 37.86N±0.07×129.52E±0.05, h10km±1km, mb4.4/17, Error ellipse: s-maj=11.8km s-min=6.9km az=165.0

KEA 19 02:16:46.1, 38.05N×129.70E, h18km, ML3.7/2

ISC 19 02:16:41.7±0.5, 37.77N±0.03×129.56E±0.03, h10km, n75, σ1$40/78, mb4.1/20, MS3.2/6, 1C, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSTOH	**DONGHAE**	**0.44**	**232**	P	**Pn**	**02 16 54.0**	**-0.1**
KSTOH	SNR=328			S	**Sb**	**02 17 01.1**	**+2.9**
OKEB	**Okgye-meyeon**	**0.48**	**252**	P	**Pn**	**02 16 54.2**	**-0.5**
	SNR=2095						
KAW	**Gangneung Acc**	**0.56**	**274**	P	**Pn**	**02 16 54.8**	**-0.9**
	SNR=843						
IMWB	**Imwonan-gil**	**0.56**	**198**	P	**Pn**	**02 16 56.4**	**+0.6**
	SNR=289						
SNGB	**Singi**	**0.57**	**222**	P	**Pn**	**02 16 56.3**	**+0.5**
	SNR=536						
YAYB	**Yangyang**	**0.63**	**293**	P	**Pn**	**02 16 56.2**	**-0.5**
	SNR=764						
KSDGY	**Daegwallycong**	**0.71**	**264**	P	**Pn**	**02 16 57.4**	**-0.4**
	SNR=3165						
KSDGY				S	**Sb**	**02 17 07.1**	**+1.2**
YAYA	**Ganghyeon**	**0.84**	**296**	P	**Pb**	**02 16 58.2**	**-0.2**
	SNR=489						
KSSKC	**Sokcho**	**0.97**	**303**	P	**Pg**	**02 17 00.2**	**-0.1**
	SNR=104						
TAHA	**Taeha**	**1.03**	**104**	P	**Pn**	**02 17 01.5**	**-0.7**
	SNR=65						
KSRS	**Korea Array**	**1.34**	**257**	Pg	**Pg**	**02 17 07.3**	**-0.1**
	136nm,0.3s,baz=78,slow=18,SNR=279						
KSRS				Lg	Lg	02 17 26.3	
	1μm,0.3s,baz=74,slow=30,SNR=42						
KS19	**Wonju Array Si**	**1.37**	**259**	Pn	**Pg**	**02 17 08.1**	**+0.1**
KS19				Sb	**Sg**	**02 17 27.9**	**+2.2**
KSAR	**Wonju Array Be**	**1.37**	**257**	Pn	**Pg**	**02 17 07.6**	**-0.4**
WOSN	**Wonsan**	**2.18**	**310**	Pg	**Pb**	**02 17 22.0**	**+0.8**
WOSN				Sg	**Sb**	**02 17 49.4**	**+1.2**
WOSN				AML	AML		
	comp=N,513nm,0.1s						
WOSN				AML	AML		
	comp=E,611nm,0.2s						
WOSN				AML	AML		
	comp=Z,294nm,0.2s						
TJN	**Taejon**	**2.24**	**232**		**Pb**	**02 17 20.2**	**-2.0**
INCN	**Inchon**	**2.34**	**264**		**Pb**	**02 17 22.7**	**-1.3**
JTU	**Tsushima**	**3.24**	**182**	*e*P	**Pn**	**02 17 34.5**	**+1.9**
JHGM	**Hagimishima**	**3.25**	**156**	*e*S	**Sn**	**02 18 10.7**	**-0.6**
PYAG	**Pyongyang**	**3.25**	**294**	Pg	**Pg**	**02 17 42.3**	**-1.6**
PYAG				Sg	**Sg**	**02 18 24.1**	**-1.8**
JOI	**OKI**	**3.30**	**115**	*e*P	**Pn**	**02 17 33.3**	**-0.1**
JOI				*e*S	**Sn**	**02 18 10.9**	**-1.8**
JTSM	**Tsushimamitsus**	**3.43**	**182**	*e*P	**Pn**	**02 17 37.3**	**+2.1**
JTSM				*e*S	**Sb**	**02 18 19.3**	**-5.0**
JGT2	**ShimaneMisato**	**3.60**	**138**	*e*P	**Pn**	**02 17 38.0**	**+0.4**
JHS	**Saijyo**	**3.99**	**133**	*e*P	**Pn**	**02 17 43.5**	**+0.6**
JNU	**Nakatsue**	**4.76**	**167**		**Pn**	**02 17 56.3**	**+2.7**
JNU	**Nakatsue**	**4.76**	**167**	Pn	**Pn**	**02 17 55.5**	**+2.0**
	comp=Z,4.9nm,0.3s,baz=7.2,slow=3.6,SNR=19						
JNU				Sn	**Sn**	**02 18 51.4**	**+2.5**
	comp=Z,2.2nm,0.3s,baz=241,slow=22,SNR=1.9						
	comp=Z,14nm,0.4s						
JMN	**Monobe**	**5.35**	**138**	Pn	**Pn**	**02 18 03.9**	**+2.2**
DL2	**Dalian**	**6.34**	**283**	Pg	**Pg**	**02 18 42.9**	**-0.1**
DL2				Sg	**Sg**	**02 20 00.1**	**-5.0**
DL2				smax	smax		
	comp=N,410nm,0.7s						
DL2				smax	smax		
	comp=E,320nm,0.9s						
DL2				LR	LR		
	comp=N,450nm,8.8s						
DL2				LR	LR		
	comp=E,870nm,9.3s						
DL2				LR	LR		
	comp=Z,950nm,9.5s						
JGF	**Kuroka**	**6.63**	**107**	Pn	**Pn**	**02 18 21.6**	**+2.4**
USA0B	**Ussuriysk Arra**	**6.68**	**15**	Pn	**Pn**	**02 18 20.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**6.68**	**15**		**Pn**	**02 18 20.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**6.68**	**15**	Pn	**Pn**	**02 18 20.1**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=202,slow=13,SNR=22						
USRK				LR	LR	02 20 41.9	
	comp=Z,140nm,18.9s,baz=177,slow=37						
	comp=Z,4.1nm,0.3s						
MJAR	**Matsushiro Arr**	**7.02**	**97**	Pn	**Pn**	**02 18 26.6**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=275,slow=16,SNR=2.0						
MJAR				LR	LR	02 20 57.9	
	comp=Z,50nm,18.5s,baz=79,slow=37						
	comp=Z,1.4nm,0.5s						
BNX	**BinXian**	**8.12**	**349**	⇑P	**Pn**	**02 18 39.3**	**-0.3**
BNX				LR	LR		
	comp=N,21nm,1.0s						
BNX				LR	LR		
	comp=E,32nm,1.0s						
JTM	**Tenmabayashi**	**9.42**	**68**	Pn	Pn	02 19 01.1	+3.7
KLR	**Kul'dur**	**11.56**	**7**	Pn	**Pn**	**02 19 25.5**	**-1.2**
	comp=E,0.1nm,0.3s,baz=170,slow=19,SNR=2.1						
KLR				LR	LR	02 23 38.4	
	comp=E,64nm,20.1s,baz=298,slow=36						
	comp=E,0.5nm,0.4s						
ASAJ	**Asahikawa**	**11.71**	**53**	LR	LR	02 23 22.9	
	comp=E,56nm,19.9s,baz=146,slow=35						
JCJ	**Chichijima**	**15.05**	**131**	LR	LR	02 24 39.9	
	comp=E,45nm,21.7s,baz=29,slow=32						
SONM	**Songino Array**	**19.68**	**308**	P	**P**	**02 21 10.9**	**-0.1**
	baz=126,slow=10,SNR=4.8						
	comp=E,0.7nm,0.6s						
MA2	**Magadan**	**25.71**	**25**	LR	LR	02 32 58.3	
	comp=E,68nm,18.5s,baz=301,slow=38						
CMAR	**Chiang Mai Arr**	**32.94**	**243**	LR	LR	02 38 37.2	
	comp=E,36nm,18.1s,baz=195,slow=40						
TIXI	**Tiksi**	**33.95**	**360**	LR	LR	02 39 13.7	
	comp=E,24nm,19.2s,baz=196,slow=40						
MKAR	**Makanchi Array**	**35.65**	**300**	P	**P**	**02 23 39.0**	**-0.8**
MKAR	**Makanchi Array**	**35.65**	**300**	P	**P**	**02 23 39.8**	**+0.1**
	comp=E,0.5nm,0.6s,baz=92,slow=10,SNR=6.5						
	comp=E,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**38.03**	**307**	P	**P**	**02 24 00.1**	**+0.1**
	comp=E,0.8nm,0.3s,baz=92,slow=9.5,SNR=6.6						
KURBB				PcP	**PcP**	**02 26 14.9**	**-0.3**
	comp=E,0.5nm,0.7s,baz=91,slow=2.8,SNR=5.0						
	comp=E,0.8nm,0.3s						
BVAR	**Borovoye Array**	**42.99**	**310**	P	**P**	**02 24 41.9**	**+0.9**
	comp=E,0.5nm,0.5s,baz=83,slow=12,SNR=2.5						
BVAR				PcP	**PcP**	**02 26 31.8**	**+0.6**
	comp=E,1.4nm,0.6s,baz=102,slow=3.5,SNR=7.4						
	comp=E,0.5nm,0.5s						
C18K	**Utukok River**	**47.90**	**27**	P	**P**	**02 25 20.1**	**+0.3**
C18K				IAmb	IAmb	02 25 26.4	
	comp=Z,4.6nm,1.1s						
ARTI	**Arti**	**49.52**	**316**	P	**P**	**02 25 32.8**	**+0.5**
D20K	**Etivluk River**	**49.58**	**27**	P	**P**	**02 25 33.7**	**+1.2**
AB31	**Akbulak array**	**50.09**	**307**	P	**P**	**02 25 37.7**	**+1.1**
AB31				IAmb	IAmb	02 25 38.2	
	comp=Z,2.2nm,0.8s						
ABKAR	**Akbulak array**	**50.09**	**307**	P	**P**	**02 25 37.7**	**+1.0**
ABKAR				IAmb	IAmb	02 25 38.2	
	comp=Z,2.2nm,0.8s						
ABKAR	**Akbulak array**	**50.09**	**307**	P	**P**	**02 25 37.2**	**+0.6**
E22K	**Anaktuvuk Pass**	**51.39**	**28**	P	**P**	**02 25 47.3**	**+1.1**
F24K	**Squaw Lake**	**52.95**	**29**	P	**P**	**02 25 57.7**	**-0.2**
F24K				IAmb	IAmb	02 26 12.8	
	comp=Z,6.0nm,1.4s						
NEA2	**Nenana**	**53.02**	**32**	P	**P**	**02 25 59.9**	**+1.6**
KNRA	**Kununurra**	**53.17**	**181**	P	**P**	**02 26 01.0**	**+1.1**
ILAR	**Eielson Array**	**53.90**	**32**	P	**P**	**02 26 04.4**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=286,slow=7.3,SNR=9.2						
	comp=Z,0.6nm,0.7s						
HDA	**Harding Lake**	**53.95**	**32**	P	**P**	**02 26 04.9**	**-0.4**
C27K	**Jago River**	**54.04**	**26**	P	**P**	**02 26 07.1**	**+1.3**
I28M	**Miner Creek**	**56.55**	**30**	P	**P**	**02 26 25.4**	**+1.4**
I28M				IAmb	IAmb	02 26 32.8	
	comp=Z,5.9nm,1.5s						
WB0	**Warramunga Arr**	**57.41**	**175**	P	**P**	**02 26 30.5**	**0.0**
WRA	**Warramunga Arr**	**57.58**	**175**	P	**P**	**02 26 32.2**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=353,slow=7.7,SNR=10						
	comp=Z,1.6nm,0.7s						
WR8	**Warramunga Arr**	**57.61**	**174**	P	**P**	**02 26 32.0**	**+0.2**
ARCES	**ARCESS Array B**	**59.78**	**337**	LR	LR	02 58 21.9	
	comp=Z,19nm,18.2s,baz=18,slow=42						
C36M	**Paulatuk**	**60.59**	**23**	P	**P**	**02 26 51.9**	**-0.1**
C36M				IAmb	IAmb	02 27 24.3	
	comp=Z,5.6nm,1.4s						
EUNU	**Eureka**	**60.71**	**7**	P	**P**	**02 26 53.0**	**+0.2**
EUNU				IAmb	IAmb	02 26 53.8	
	comp=Z,2.5nm,0.8s						
ASAR	**Alice Springs**	**61.25**	**175**	P	**P**	**02 26 57.4**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=3.6,slow=11,SNR=9.4						
	comp=Z,0.8nm,0.7s						
FINES	**FINESS Array B**	**63.50**	**329**	P	**P**	**02 27 11.4**	**-0.3**
FINES	**FINESS Array B**	**63.50**	**329**	P	**P**	**02 27 11.1**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=52,slow=5.4,SNR=4.8						
	comp=Z,1.0nm,0.7s						
YKAW3	**Yellowknife Wh**	**67.63**	**27**	P	**P**	**02 27 39.0**	**+0.7**
YKAW3				IAmb	IAmb	02 27 39.6	
	comp=Z,1.8nm,1.1s						
AKASG	**Malin Array Be**	**67.64**	**317**	P	**P**	**02 27 38.7**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=60,slow=6.6,SNR=1.8						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**67.67**	**27**	P	**P**	**02 27 38.3**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=311,slow=7.0,SNR=12						
YKA				LR	LR	03 02 27.0	
	comp=Z,39nm,19.1s,baz=255,slow=41						
	comp=Z,0.5nm,0.8s						
HFS	**Hagfors**	**69.20**	**331**	P	**P**	**02 27 47.2**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=49,slow=4.4,SNR=4.4						
	comp=Z,1.2nm,0.9s						
NOA	**NORSAR Array B**	**69.53**	**333**	P	**P**	**02 27 50.5**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=48,slow=5.9,SNR=3.2						
	comp=Z,0.6nm,0.9s						
ILON	**Igloolik, Nuna**	**70.69**	**11**	P	**P**	**02 27 56.2**	**-1.0**
ILON				IAmb	IAmb	02 27 57.9	
	comp=Z,3.7nm,1.0s						
ESDC	**Sonseca Array**	**91.91**	**326**	LR	LR	03 16 01.4	
	comp=Z,25nm,20.1s,baz=152,slow=39						

RSNC 19 02:30:24.5±0.0, 5.7N±5.7×7.9W±., h32km±11km, M2.6, mb4.0, ML2.4, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	**Pizarro, Choco**	**1.19**	**82**	P	Pn	02 30 45.0	+0.1
PIZC				S	Sn	02 30 56.9	-3.1
MALC	**Bahia Malaga**	**1.43**	**123**	P	Pn	02 30 47.2	-1.0
MALC				S	Sn	02 31 05.6	-0.3
GR1C	**Gorgona, Isla**	**1.81**	**168**	P	Pn	02 30 51.6	-1.9
GR1C				S	Sn	02 31 13.4	-2.0
YOTC	**Yotoco, Valle**	**2.33**	**110**	P	Pn	02 30 59.2	-1.6
YOTC				S	Sn	02 31 25.2	-3.2
CBOC	**Ciudad Bolivar**	**2.73**	**67**	P	Pn	02 31 04.4	-2.0
POPC	**Popayan, Colom**	**2.91**	**140**	P	Pn	02 31 07.9	-0.9
POPC				S	Sn	02 31 41.8	-1.0
BBAC	**Balboa, Cauca**	**3.04**	**155**	P	Pn	02 31 09.5	-1.1
BBAC				S	Sn	02 31 42.7	-3.3
ANIL	**Santa Ana**	**3.14**	**95**	P	Pn	02 31 11.5	-0.6
ANIL				S	Sn	02 31 47.1	-1.5
GUY2C	**Guyana, Caldas**	**3.19**	**82**	P	Pn	02 31 13.4	+0.5
GUY2C				S	Sn	02 31 49.8	-0.4
DBBC	**Dabeiba**	**3.21**	**46**	P	Pn	02 31 11.8	-1.0
DBBC				S	Sn	02 31 49.2	-0.7
ORTC	**Ortega, Tolima**	**3.40**	**105**	P	Pn	02 31 16.2	+0.8
ORTC				S	Sn	02 31 55.0	+0.3
BETC	**Betania**	**3.73**	**124**	P	Pn	02 31 22.2	+2.2
BETC				S	Sn	02 32 05.6	+2.6
GCUF	**Volcan Galeras**	**3.74**	**161**	P	Pn	02 31 20.6	+0.2
NORC	**Norcasia**	**3.74**	**78**	P	Pn	02 31 21.1	+1.1
PRAC	**Prado**	**3.80**	**106**	P	Pn	02 31 21.3	+0.4
PRAC				S	Sn	02 32 04.4	-0.1
GARC	**Garzon, Huila**	**3.99**	**130**	P	Pn	02 31 25.3	+1.6
GARC				S	Sn	02 32 11.7	+2.1
FLOC	**Florencia**	**4.30**	**138**	P	Pn	02 31 29.0	+1.3
FLOC				S	Sn	02 32 18.1	+1.3
PTBC	**PUERTO BERRIO,**	**4.42**	**67**	P	Pn	02 31 30.6	+1.2
PTBC				S	Sn	02 32 21.3	+1.5
URMC	**La Uribe, Meta**	**4.42**	**110**	P	Pn	02 31 30.5	+1.0
URMC				S	Sn	02 32 20.6	+0.5
ZARC	**Zaragoza, Cauc**	**4.54**	**54**	P	Pn	02 31 33.2	+2.1
ZARC				S	Sn	02 32 22.3	-0.5
CHIC	**Chingaza**	**4.79**	**92**	P	Pn	02 31 37.0	+2.1
MACC	**Macarena, Meta**	**5.37**	**119**	P	Pn	02 31 43.2	+0.7
	13nm,0.8s						
MACC				S	Sn	02 32 42.1	-1.2
	13nm,0.8s						
SJCC	**San Jacinto, C**	**6.07**	**33**	P	Pn	02 31 52.6	+0.4

SCB 19 02:35:55.9±1.2, 22.22S×67.45W, h173km±19km, ML2.2/3, Error ellipse: s-maj=8.8km s-min=4.1km az=0.0

GUC 19 02:35:55.8±0.7, 22.27S×67.95W, h235km±12km, ML2.7

ISC 19 02:35:54.7±2.4, 22.25S±0.06×67.44W±0.05, h189km±23km, n17, σ1$04/25, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.73**	**285**	*e*P	**Pn**	**02 36 31.1**	**+1.2**
PB09				*e*S	**S**	**02 36 57.4**	**+0.4**
PB09	**IPOC Station P**	**1.73**	**285**	Pg	**Pn**	**02 36 30.8**	**+0.9**
YJA	**Yavi**	**1.78**	**88**	Pg	**Pn**	**02 36 31.0**	**+0.4**
MOCB	**Mochara**	**1.95**	**60**	Pg	**Pn**	**02 36 32.9**	**+0.6**
MOCB				Sg	**S**	**02 37 00.6**	**-0.8**
MOCB				IAML		02 37 01.3	
	9.7nm,0.4s						
PB03	**IPOC Station P**	**2.16**	**275**	*e*P	**Pn**	**02 36 34.7**	**+0.5**
PB03				*e*S	**S**	**02 37 03.9**	**-1.0**
PB03				IAML		02 37 04.8	
	comp=N,47nm,0.1s						
PB03	**IPOC Station P**	**2.16**	**275**	Pg	**Pn**	**02 36 35.0**	**+0.8**
PB01	**IPOC Station P**	**2.25**	**302**	*e*P	**Pn**	**02 36 35.9**	**+0.6**
PB01				*e*S	**S**	**02 37 05.9**	**-0.7**
PB01				IAML		02 37 07.6	
	comp=E,14nm,0.2s						
PB01	**IPOC Station P**	**2.25**	**302**	Pg	**Pn**	**02 36 36.0**	**+0.7**
PB01				Sg	**S**	**02 37 06.0**	**-0.7**
PB01				IAML		02 37 08.5	
	comp=E,8.9nm,0.2s						
PB05	**IPOC Station P**	**2.62**	**256**	Pg	**Pn**	**02 36 40.0**	**+0.5**
PB08	**IPOC Station P**	**2.64**	**322**	*e*P	**Pn**	**02 36 41.6**	**+1.6**
PB08	**IPOC Station P**	**2.64**	**322**	Pg	**Pn**	**02 36 41.5**	**+1.5**
HMBC	**Humberstone**	**3.01**	**310**	*e*P	**Pn**	**02 36 44.1**	**0.0**
HMBC				IAML		02 37 23.5	
	comp=N,9.9nm,0.4s						
HMBC	**Humberstone**	**3.01**	**310**	Pg	**Pn**	**02 36 44.8**	**+0.7**
HMBC				Sg	**S**	**02 37 20.6**	**-1.9**
HMBC				IAML		02 37 23.1	
	comp=N,6.8nm,1.3s						
GO01	**Chusmiza**	**3.05**	**327**	*e*P	**Pn**	**02 36 46.4**	**+1.5**
GO01				IAML		02 37 29.5	
	comp=N,11nm,0.2s						
PB11	**IPOC Station P**	**3.23**	**320**	*e*P	**Pn**	**02 36 46.9**	**+0.1**
PB11				*e*S	**S**	**02 37 26.1**	**-1.3**
PB11				IAML		02 37 28.9	
	comp=N,10nm,0.2s						
PB11	**IPOC Station P**	**3.23**	**320**	Pg	**Pn**	**02 36 47.1**	**+0.3**
GO02	**Mina Guanaco**	**3.51**	**214**	*e*P	**Pn**	**02 36 51.1**	**+0.9**
GO02				*e*S	**S**	**02 37 32.5**	**-1.1**
GO02				IAML		02 37 35.0	
	comp=N,11nm,0.1s						

ASIES 19 02:37:09.7, 24.09N×121.52E, h22km, ML3.6, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.57; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$-1.32; $M_{r\theta}$0.01; $M_{\theta\phi}$-0.65; $M_{\phi r}$-0.87; Fault plane solution: $M_0$1.82184×10^{21} NP1:ϕ_s37.18000°, δ33.14000°, λ110.20000°. NP2:ϕ_s193.45000°, δ59.14000°, λ77.29000°. Principal axes: T Plg72.7220°, Azm71.8860°; N Plg10.8810°, Azm200.0570°; P Plg13.2560°, Azm292.6520°;

TAP 19 02:37:09.7, 24.09N×121.52E, h22km, ML3.6, B

JMA 19 02:37:09.3±0.2, 24.1N±0.6×12.2E±., h20km±1km, MV2.8/13, TAIWAN REGION

ISC 19 02:37:09.9±0.8, 24.08N±0.01×121.56E±0.02, h24km±3km, n163, σ0$75/288, 11C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.04**	**83**	⇓*i*P	**Pb**	**02 37 14.0**	**0.0**
TWD				*i* S	**Sb**	**02 37 16.7**	**0.0**
ETL	**Fush Village**	**0.10**	**37**	⇑*i*P	**Pb**	**02 37 14.3**	**-0.2**
ETL				*i* S	**Sb**	**02 37 17.4**	**0.0**
NACB	**Ninganchiao**	**0.10**	**20**	P	**Pb**	**02 37 14.1**	**-0.3**
NACB	**Ninganchiao**	**0.10**	**20**	S	**Sb**	**02 37 17.4**	**0.0**
NACB	**Ninganchiao**	**0.10**	**20**	⇓*i*P	**Pb**	**02 37 14.1**	**-0.3**
NACB				*i* S	**Sb**	**02 37 17.1**	**-0.3**
HWA	**Hwalien**	**0.11**	**155**	⇓*i*P	**Pb**	**02 37 14.8**	**+0.4**
HWA				S	**Sb**	**02 37 18.4**	**+1.0**
ETM	**Tongmen**	**0.12**	**207**	⇓*i*P	**Pb**	**02 37 14.3**	**-0.2**
ETM				*i* S	**Sb**	**02 37 17.4**	**-0.3**
LXIB	**Xiulin Townshi**	**0.14**	**247**	⇑*i*P	**Pb**	**02 37 14.3**	**-0.5**
LXIB				*i* S	**Sb**	**02 37 17.6**	**-0.6**
ETLH	**Xiulin Townshi**	**0.15**	**333**	⇑*i*P	**Pb**	**02 37 14.5**	**-0.4**
ETLH				*i* S	**Sb**	**02 37 17.5**	**-0.8**
WHF	**Hehuan Shan**	**0.27**	**285**	⇑*i*P	**Pb**	**02 37 16.2**	**-0.6**
WHF				S	**Sb**	**02 37 20.5**	**-0.9**
ESL	**Shilin**	**0.28**	**203**	⇓*i*P	**Pb**	**02 37 15.9**	**-0.6**
ESL				*e*S	**Sb**	**02 37 20.8**	**-0.3**
SHUL	**Shoufeng**	**0.29**	**179**	⇓*i*P	**Pb**	**02 37 16.8**	**+0.2**
SHUL				*i* S	**Sb**	**02 37 22.3**	**+1.2**
EHP	**Heping Village**	**0.29**	**36**	P	**Pb**	**02 37 16.6**	**-0.1**
EHP				S	**Sb**	**02 37 21.8**	**+0.5**
EAHA	**Aohua**	**0.30**	**34**	P	**Pb**	**02 37 16.7**	**-0.2**
EAHA				S	**Sb**	**02 37 21.6**	**0.0**
FUSS	**Fushou**	**0.33**	**301**	⇑*i*P	**Pb**	**02 37 17.2**	**-0.3**
FUSS				*i* S	**Sb**	**02 37 22.1**	**-0.6**
TEGC	**Jichi Village**	**0.36**	**182**	*e*P	**Pb**	**02 37 18.0**	**+0.2**
TEGC				S	**Sb**	**02 37 24.3**	**+1.2**
OWD	**Renai**	**0.37**	**251**	⇑*i*P	**Pb**	**02 37 17.6**	**-0.4**
OWD				*i* S	**Sb**	**02 37 22.4**	**-1.0**
NNSB	**Datong**	**0.39**	**336**	⇓*i*P	**Pb**	**02 37 17.8**	**-0.4**
NNSB				*i* S	**Sb**	**02 37 22.9**	**-1.0**
WARBT	**Fenglin Townsh**	**0.39**	**203**	*e*P	**Pb**	**02 37 17.2**	**-1.0**
WARBT				*e*S	**Sb**	**02 37 23.0**	**-0.8**
TWT	**Tachien**	**0.39**	**297**	⇓*i*P	**Pb**	**02 37 18.2**	**-0.1**
TWT				*i* S	**Sb**	**02 37 23.7**	**-0.4**
ENA	**Nanau**	**0.39**	**26**	⇑P	**Pb**	**02 37 17.9**	**-0.3**
ENA				*i* S	**Sb**	**02 37 23.8**	**-0.2**
NNS	**Nan Shan**	**0.40**	**336**	P	**Pb**	**02 37 18.1**	**-0.4**
NNS				S	**Sb**	**02 37 23.5**	**-0.8**
TDCB	**Techi**	**0.40**	**296**	⇓*i*P	**Pb**	**02 37 18.2**	**-0.3**
TDCB				*i* S	**Sb**	**02 37 23.5**	**-0.9**
WUSB	**Renai**	**0.41**	**258**	⇑*i*P	**Pb**	**02 37 18.3**	**-0.3**
WUSB				*i* S	**Sb**	**02 37 23.7**	**-0.9**
EGFH	**Guangfu**	**0.42**	**196**	*e*P	**Pb**	**02 37 18.2**	**-0.5**
EGFH				*e*S	**Sb**	**02 37 24.1**	**-0.7**
EWUT	**Wuta**	**0.42**	**29**	*e*P	**Pb**	**02 37 18.4**	**-0.4**
EWUT				*e*S	**Sb**	**02 37 24.6**	**-0.2**
LATG	**Datong**	**0.46**	**357**	⇓P	**Pb**	**02 37 18.9**	**-0.5**
LATG				S	**Sb**	**02 37 25.6**	**-0.4**
VWDT	**VWDT**	**0.49**	**230**	⇑*i*P	**Pb**	**02 37 19.8**	**-0.2**
VWDT				S	**Sb**	**02 37 26.8**	**0.0**
ENTT	**Nioudou**	**0.56**	**1**	P	**Pb**	**02 37 20.9**	**-0.3**
ENTT				S	**Sb**	**02 37 28.8**	**0.0**
ESAO	**Su ao**	**0.56**	**28**	*e*P	**Pb**	**02 37 21.2**	**+0.1**
ESAO				*e*S	**Sb**	**02 37 28.2**	**-0.6**
NDS	**Dongshan**	**0.57**	**15**	*e*P	**Pb**	**02 37 20.9**	**-0.4**
NDS				*e*S	**Sb**	**02 37 28.2**	**-0.9**
DPDB	**Guoxing**	**0.58**	**266**	*e*P	**Pb**	**02 37 21.0**	**-0.4**
DPDB				*e*S	**Sb**	**02 37 28.6**	**-0.6**
WCS	**Beigang Elemen**	**0.59**	**268**	*e*P	**Pb**	**02 37 21.1**	**-0.5**
WCS				*e*S	**Sb**	**02 37 28.7**	**-0.7**
WHP	**Taichung City**	**0.59**	**290**	*e*P	**Pb**	**02 37 21.3**	**-0.4**
WHP				*e*S	**Sb**	**02 37 29.0**	**-0.7**
HGSD	**Ruisui**	**0.59**	**192**	*e*P	**Pb**	**02 37 20.9**	**-0.7**
HGSD				*e*S	**Sb**	**02 37 30.3**	**+0.7**
TWC	**Suao**	**0.60**	**27**	*e*P	**Pb**	**02 37 21.4**	**-0.3**
TWC				S	**Sb**	**02 37 29.7**	**0.0**
EHY	**Hungye**	**0.60**	**201**	*e*P	**Pb**	**02 37 20.1**	**-1.8**
EHY				*e*S	**Sb**	**02 37 29.7**	**-0.2**
YHNB	**Yeheng**	**0.61**	**345**	P	**Pb**	**02 37 21.7**	**-0.4**
YHNB	**Yeheng**	**0.61**	**345**	S	**Sb**	**02 37 30.1**	**-0.2**
YHNB	**Yeheng**	**0.61**	**345**	⇓P	**Pb**	**02 37 21.6**	**-0.4**
YHNB				S	**Sb**	**02 37 29.7**	**-0.6**
SSLB	**Suanglung**	**0.62**	**243**	P	**Pb**	**02 37 21.4**	**-0.7**
SSLB	**Suanglung**	**0.62**	**243**	S	**Sb**	**02 37 29.7**	**-0.7**
SSLB	**Suanglung**	**0.62**	**243**	⇑P	**Pb**	**02 37 21.4**	**-0.7**
SSLB				*e*S	**Sb**	**02 37 29.2**	**-1.3**
NSK	**Sanguang**	**0.62**	**343**	*e*P	**Pb**	**02 37 21.8**	**-0.4**
NSK				S	**Sb**	**02 37 30.2**	**-0.5**
SMLT	**Sun Moon Lake**	**0.63**	**252**	*e*P	**Pb**	**02 37 20.8**	**-1.5**

TIPB			eS	Sb	02 37 38.8	-0.4
NCUH	**Zhongli**	**0.95 339**	eP	Pn	02 37 28.3	+0.5
NCU	**National Centr**	**0.95 339**	eP	Pb	02 37 27.3	-0.4
NCU			eS	Sn	02 37 41.3	+0.7
TAP	**Taipei**	**0.96 357**	eP	Pn	02 37 28.1	+0.2
TAP			eS	Sn	02 37 41.0	+0.2
EHD	**Haiduan**	**0.98 199**	eP	Pb	02 37 26.9	-1.2
CHKT	**Chengkung**	**0.99 190**	eP	Pb	02 37 26.5	-1.8
CHKT			eS	Sb	02 37 40.2	-0.7
WGK	**Gukeng**	**0.99 247**	eP	Pb	02 37 28.4	0.0
WGK			eS	Sn	02 37 42.5	+1.0
WDL	**Douliou City**	**1.00 249**	eP	Pn	02 37 29.1	+0.8
WDL			eS	Sn	02 37 42.8	+1.1
WDLH	**Douliu**	**1.01 248**	eP	Pn	02 37 29.4	+0.8
WDLH			eS	Sn	02 37 43.1	+1.1
ELDTW	**Lidau**	**1.01 209**	eP	Pb	02 37 26.4	-2.3
ELDTW			eS	Sb	02 37 41.4	-0.3
TWB1	**Santiao Chiao**	**1.01 23**	eP	Pn	02 37 29.2	+0.6
TWB1			eS	Sn	02 37 42.6	+0.6
WFSB	**Wu-fen Shan**	**1.01 12**	eP	Pb	02 37 28.4	-0.4
WFSB			eS	Sn	02 37 42.3	+0.2
ECS	**Chishang**	**1.02 198**	eP	Pn	02 37 28.6	-0.2
ECS			eS	Sb	02 37 42.6	+0.7
TWS1	**Kuangyinshan**	**1.03 353**	eP	Pn	02 37 28.6	-0.3
TWS1			eS	Sn	02 37 43.2	+0.7
NHW	**Xinwu Township**	**1.04 334**	eP	Pb	02 37 29.5	+0.4
NHW			eS	Sn	02 37 43.7	+1.0
SXI1	**Grass Mountain**	**1.06 16**	eP	Pn	02 37 29.2	-0.1
SXI1			eS	Sn	02 37 43.7	+0.4
YM01	**YM01**	**1.07 1**	eP	Pb	02 37 29.8	0.0
YM01			eS	Sn	02 37 43.7	+0.1
WCKO	**Fanlu**	**1.08 234**	eP	Pb	02 37 30.5	+0.7
WCKO			eS	Sn	02 37 45.1	+1.4
ZUZH	**Zhuzihu**	**1.08 360**	eP	Pb	02 37 30.1	+0.1
ZUZH			eS	Sn	02 37 44.0	0.0
NTST	**Danshui**	**1.09 355**	eP	Pb	02 37 30.4	+0.3
NTST			eS	Sn	02 37 45.1	+1.1
TNOU	**National Taiwa**	**1.09 10**	eP	Pb	02 37 30.4	+0.3
TNOU			eS	Sn	02 37 44.8	+0.8
ANP	**Anpu**	**1.11 358**	eP	Pb	02 37 30.5	+0.1
ANP			eS	Sn	02 37 44.5	-0.1
RLNB	**Erlin**	**1.11 261**	eP	Pb	02 37 30.4	0.0
RLNB			eS	Sn	02 37 44.9	+0.4
EDH	**Donghe**	**1.12 192**	eP	Pn	02 37 28.7	-1.4
EDH			eS	Sb	02 37 44.0	-0.8
WTK	**Tuku**	**1.14 250**	eP	Pn	02 37 30.5	+0.2
WTK			eS	Sn	02 37 45.8	+0.7
CHN4	**Tsaushan**	**1.14 231**	eP	Pb	02 37 31.4	+0.6
CHN4			eS	Sn	02 37 46.8	+1.6
TPUB	**Ta-pu**	**1.15 228**	P	Pb	02 37 31.6	+0.6
TPUB	**Ta-pu**	**1.15 228**	eP	Pb	02 37 31.3	+0.2
TPUB			eS	Sn	02 37 46.4	+0.9
STYH	**Taoyuan**	**1.15 219**	eP	Pn	02 37 29.5	-1.0
STYH			eS	Sb	02 37 45.8	+0.3
STYT	**Tauyuan**	**1.17 219**	eP	Pn	02 37 29.9	-0.9
STYT			eS	Sb	02 37 45.4	-0.7
CHY	**Chiayi**	**1.18 241**	eP	Pb	02 37 32.1	+0.5
CHY			eS	Sb	02 37 47.4	+0.8
WTCT	**Ta-ch'eng**	**1.18 260**	eP	Pn	02 37 31.2	+0.3
WTCT			eS	Sb	02 37 47.3	+0.8
WTP	**Ta-pu**	**1.19 226**	eP	Pb	02 37 32.0	+0.1
WTP			eS	Sb	02 37 47.7	+0.8
TWY	**Chenhua**	**1.20 2**	eP	Pb	02 37 31.4	-0.4
TWY			eS	Sb	02 37 47.2	+0.3
LONT	**Longtian**	**1.23 199**	eP	Pn	02 37 32.0	+0.4
LONT			eS	Sn	02 37 46.5	-0.9
TWK	**Hsinying**	**1.27 231**	eP	Pb	02 37 33.0	-0.1
TWK			eS	Sb	02 37 49.7	+0.7
SNST	**Tainan City**	**1.29 229**	eP	Pb	02 37 34.2	+0.7
SNST			eS	Sb	02 37 51.6	+1.9
WSF	**Szhu**	**1.29 251**	eP	Pb	02 37 33.6	0.0
WSF			eS	Sb	02 37 50.9	+1.1
JYNG	**Yonagunijimaku**	**1.32 73**	eP	Pn	02 37 32.1	-0.8
TWG	**Pinlang**	**1.32 200**	eP	Pn	02 37 32.8	-0.1
TWG			eS	Sn	02 37 49.7	-0.1
TWGBT	**Beinan**	**1.32 199**	P	Pb	02 37 35.6	+1.5
TWGBT	**Beinan**	**1.32 199**	eP	Pn	02 37 32.3	-0.7
TWGBT			eS	Sn	02 37 49.3	-0.6
SGST	**Jiashian**	**1.33 222**	eP	Pn	02 37 33.2	+0.1
SGST			eS	Sb	02 37 50.9	+0.1
WSL	**Shuilin Townsh**	**1.33 246**	eP	Pb	02 37 34.1	-0.1
WSL			eS	Sb	02 37 52.6	+1.8
YOJ	**Yonaguni jima**	**1.38 74**	eP	Pn	02 37 33.9	+0.1
YOJ	**Yonaguni jima**	**1.38 74**	eP	Pn	02 37 33.5	-0.2
YOJ			eS	Sb	02 37 52.2	-0.1
LDUT	**Ludao**	**1.40 183**	eP	Pn	02 37 31.6	-2.3
LDUT			eS	Sn	02 37 49.3	-2.3
CHN8	**Yiju**	**1.43 240**	eP	Pb	02 37 35.3	-0.5
CHN8			eS	Sb	02 37 54.5	+0.8
SHHT	**Tainan City**	**1.52 227**	eP	Pb	02 37 38.0	+0.5
SHHT			eS	Sb	02 37 59.1	+2.7
SCST	**Cishan**	**1.53 220**	eP	Pb	02 37 37.7	+0.1
SCST			eS	Sb	02 37 57.0	+0.3
ECL	**Taimali**	**1.57 201**	eP	Pn	02 37 37.6	+1.3
SSD	**Sandimen**	**1.57 213**	eP	Pn	02 37 37.4	+1.1
SSD			eS	Sb	02 37 58.0	+0.3
TSMG	**Majia**	**1.60 212**	eP	Pb	02 37 38.5	-0.3
TSMG			eS	Sb	02 37 58.2	-0.3
PCYT	**Pengchaiyu**	**1.62 17**	eP	Pn	02 37 37.3	+0.3
PCYT			eS	Sb	02 37 59.0	-0.1
MASBT	**Mashibuluo**	**1.69 210**	eP	Pn	02 37 39.1	+1.2
MASBT			eS	Sb	02 38 00.4	-0.6
EAST	**Anshuo**	**1.81 201**	eP	Pn	02 37 41.0	+1.4
TAWH	**Dawu Township**	**1.83 200**	eP	Pb	02 37 41.7	-1.0
PHUB	**P'eng-hu**	**1.90 253**	eP	Pn	02 37 41.2	+0.4
PHUB			eS	Sn	02 38 04.5	+0.5
WDGT	**Dungji**	**1.92 245**	eP	Pn	02 37 41.9	+0.8
WDGT			eS	Sn	02 38 05.7	+1.3
IRIF	**Iriomote-Funau**	**2.00 82**	P	Pn	02 37 42.3	+0.1
IRIF			eS	Sn	02 38 07.3	+0.7
LAY	**Lan-yu**	**2.03 180**	eP	Pn	02 37 41.1	-1.5
HATJ	**Hateruma jima**	**2.06 90**	eP	Pn	02 37 43.5	+0.5
HATJ			eS	Sn	02 38 07.2	-0.7
LYUB	**Lan-yu**	**2.06 179**	eP	Pn	02 37 41.0	-2.1
VWUC	**VWUC**	**2.12 296**	eP	Pn	02 37 43.4	-0.5
VWUC			eS	Sn	02 38 07.5	-2.1
VCHM	**Qimei**	**2.13 247**	eP	Pn	02 37 45.0	+0.9
VCHM			eS	Sn	02 38 10.7	+1.0
TWK1	**Hengchun**	**2.23 198**	eP	Pn	02 37 46.2	+0.8
TWK1			eS	Sn	02 38 12.7	+0.5
TWKBT	**Hengchun**	**2.23 198**	eP	Pn	02 37 46.1	+0.7
JKRS	**Kuro-shima**	**2.25 85**	eP	Pn	02 37 46.4	+0.8
PTMZ	**Houxiangcun**	**2.42 294**	eP	Pn	02 37 47.2	-0.7
MATB	**Ma-tsu**	**2.53 325**	eP	Pn	02 37 49.1	-0.4
JISG	**Ishigakijimahi**	**2.56 78**	eP	Pn	02 37 50.4	+0.4
JISG			eS	Sn	02 38 20.8	+0.3
KNM	**Kinmen**	**2.87 277**	eP	Pn	02 37 55.8	+1.7
KNMB	**Chin-men Tao**	**2.92 278**	eP	Pn	02 37 54.7	-0.1
MHZQ	**Yeshan**	**3.05 312**	eP	Pn	02 37 56.5	-0.2
XPSS	**Dashiqiu**	**3.10 337**	eP	Pn	02 37 57.0	-0.4
AXDP	**Jialang**	**3.37 285**	eP	Pn	02 38 00.6	-0.4
ZPLA	**Ao Xicun**	**3.48 268**	eP	Pn	02 38 02.5	0.0

*TAP **19** 02:49:09.4, 22.°90N×121.°34E, h24km, ML2.4, B*

ISC 19 02:49:09.4±0.9, 22.°88N±0.°02×121.°35E±0.°03, h29km±5km, n47, σ1°15/83, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.10 338**	*i* P		**Pb**	**02 49 13.8**	**-0.7**
EDH				S	**Sb**	**02 49 16.8**	**-1.3**
LONT	**Longtian**	**0.20 279**	*i* P		**Pb**	**02 49 15.5**	**0.0**
LONT				S	**Sb**	**02 49 20.0**	**+0.3**
CHKT	**Chengkung**	**0.22 4**	*i* P		**Pb**	**02 49 15.2**	**-0.5**
CHKT				S	**Sb**	**02 49 19.3**	**-0.8**
LDUT	**Ludao**	**0.23 151**	*i* P		**Pb**	**02 49 15.7**	**-0.2**
LDUT				S	**Sb**	**02 49 20.3**	**+0.1**
ECS	**Chishang**	**0.25 332**	*i* P		**Pb**	**02 49 16.2**	**+0.1**
ECS				S	**Sb**	**02 49 21.6**	**+1.0**
TWGBT	**Beinan**	**0.25 257**	P		**Pb**	**02 49 15.9**	**-0.2**
TWGBT	**Beinan**	**0.25 257**	*i* P		**Pb**	**02 49 15.8**	**-0.3**
TWGBT				S	**Sb**	**02 49 20.3**	**-0.3**
TWG	**Pinlang**	**0.26 258**	*i* P		**Pb**	**02 49 15.8**	**-0.4**
TWG				S	**Sb**	**02 49 20.4**	**-0.4**
EHD	**Haiduan**	**0.30 335**	*i* P		**Pb**	**02 49 16.3**	**-0.5**
EHD				S	**Sb**	**02 49 21.0**	**-0.8**
CHKH	**Chenggong**	**0.32 8**	*i* P		**Pb**	**02 49 16.4**	**-0.5**
CHKH				S	**Sb**	**02 49 21.6**	**-0.5**
FULB	**Fuli**	**0.33 351**	P		**Pb**	**02 49 16.5**	**-0.7**
FULB				S	**Sb**	**02 49 22.1**	**-0.3**
ELDTW	**Lidau**	**0.43 316**	*i* P		**Pb**	**02 49 17.8**	**-1.0**
ELDTW				S	**Sb**	**02 49 23.5**	**-1.8**
ECL	**Taimali**	**0.46 233**	P		**Pb**	**02 49 18.4**	**-0.7**
ECL				S	**Sb**	**02 49 24.8**	**-0.9**
EYUL	**Yuli**	**0.47 357**	P		**Pb**	**02 49 18.4**	**-0.9**
EYUL				S	**Sb**	**02 49 26.0**	**-0.1**
TWF1	**Yuli**	**0.48 354**	P		**Pb**	**02 49 18.6**	**-0.9**
TWF1				eS	**Sb**	**02 49 24.7**	**-1.5**
YULB	**Yu-li**	**0.52 355**	P		**Pn**	**02 49 21.0**	**+0.1**
YULB	**Yu-li**	**0.52 355**	P		**Pn**	**02 49 18.9**	**-1.1**
YULB				S	**Sb**	**02 49 25.7**	**-1.7**
STYH	**Taoyuan**	**0.60 299**	eP		**Pb**	**02 49 19.8**	**-1.6**
STYH				eS	**Sb**	**02 49 28.1**	**-1.5**
HGSD	**Ruisui**	**0.62 7**	P		**Pb**	**02 49 21.2**	**-0.6**
HGSD				eS	**Sb**	**02 49 29.8**	**-0.3**
EHY	**Hungye**	**0.63 358**	P		**Pb**	**02 49 20.7**	**-1.2**
EHY				eS	**Sb**	**02 49 28.4**	**-2.1**
TSMG	**Majia**	**0.67 255**	P		**Pb**	**02 49 22.2**	**-0.3**
SSD	**Sandimen**	**0.67 259**	P		**Pb**	**02 49 21.9**	**-0.8**
SSD				eS	**Sb**	**02 49 29.9**	**-1.8**
MASBT	**Mashibuluo**	**0.71 248**	*i* P		**Pb**	**02 49 22.7**	**-0.5**
MASBT				eS	**Sb**	**02 49 31.5**	**-1.2**
WTP	**Ta-pu**	**0.77 299**	P		**Pn**	**02 49 24.4**	**0.0**
WTP				eS	**Sn**	**02 49 35.7**	**+0.6**
TPUB	**Ta-pu**	**0.78 303**	P		**Pn**	**02 49 24.8**	**+0.2**
TPUB	**Ta-pu**	**0.78 303**	P		**Pn**	**02 49 24.8**	**+0.2**
TPUB				eS	**Sn**	**02 49 36.3**	**+0.9**
ALS	**Alishan**	**0.81 322**	P		**Pb**	**02 49 24.8**	**-0.2**
ALS				S	**Sb**	**02 49 35.5**	**-0.2**
WARBT	**Fenglin Townsh**	**0.84 2**	P		**Pb**	**02 49 23.6**	**-1.9**
WARBT				eS	**Sb**	**02 49 34.1**	**-2.3**
CHN4	**Tsaushan**	**0.84 304**	P		**Pn**	**02 49 25.8**	**+0.4**
CHN4				S	**Sn**	**02 49 37.8**	**+1.0**
LAY	**Lan-yu**	**0.85 167**	eP		**Pb**	**02 49 24.5**	**-1.2**
LAY				S	**Sb**	**02 49 36.5**	**-0.3**
SNST	**Tainan City**	**0.85 294**	eP		**Pn**	**02 49 26.0**	**+0.5**
TWK	**Hsinying**	**0.88 296**	eP		**Pn**	**02 49 26.2**	**+0.3**
TWK				eS	**Sn**	**02 49 39.4**	**+1.5**
WCKO	**Fanlu**	**0.88 309**	eP		**Pn**	**02 49 27.2**	**+1.2**
WCKO				eS	**Sn**	**02 49 39.5**	**+1.7**
VWDT	**VWDT**	**0.89 348**	P		**Pb**	**02 49 25.6**	**-0.7**
SHUL	**Shoufeng**	**0.93 12**	eP		**Pn**	**02 49 27.2**	**+0.7**
SHUL				eS	**Sn**	**02 49 40.6**	**+1.6**
WHYT	**Xinyi Township**	**0.93 331**	eP		**Pb**	**02 49 26.4**	**-0.7**
WHYT				eS	**Sn**	**02 49 39.1**	**-0.1**
SSLB	**Suanglung**	**0.98 338**	P		**Pn**	**02 49 30.9**	**+3.6**
SSLB	**Suanglung**	**0.98 338**	eP		**Pn**	**02 49 28.0**	**+0.7**
SSLB				eS	**Sn**	**02 49 41.0**	**+0.8**
TWKBT	**Hengchun**	**1.05 208**	eP		**Pn**	**02 49 28.0**	**-0.3**
TWKBT				eS	**Sb**	**02 49 42.1**	**-0.4**
TWK1	**Hengchun**	**1.05 208**	eS		**Sb**	**02 49 42.0**	**-0.5**
OWD	**Renai**	**1.08 352**	eP		**Pn**	**02 49 28.1**	**-0.8**
OWD				eS	**Sb**	**02 49 41.3**	**-2.2**
TYC	**Yuchr**	**1.12 336**	P		**Pb**	**02 49 30.4**	**+0.2**
TYC				eS	**Sn**	**02 49 46.1**	**+2.5**
WUSB	**Renai**	**1.13 349**	eP		**Pn**	**02 49 29.7**	**+0.2**
WUSB				eS	**Sb**	**02 49 43.3**	**-1.5**
LXIB	**Xiulin Townshi**	**1.14 3**	eP		**Pn**	**02 49 28.3**	**-1.4**
FUSS	**Fushou**	**1.37 356**	eP		**Pn**	**02 49 33.2**	**+0.3**
FUSS				eS	**Sn**	**02 49 49.6**	**-0.5**
WHP	**Taichung City**	**1.44 345**	eP		**Pb**	**02 49 35.8**	**+0.1**
YHNB	**Yeheng**	**1.79 1**	P		**Pb**	**02 49 45.0**	**+3.5**

DJA 19 03:00:39.0±1.0, 2.°S±11.°×12.°3E±.°, h10km, M3.9/6, mb4.1/1, MLv3.8/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.52 337**		P	Pn	03 01 05.7	-0.5
APSI	**Ampana**	**2.29 312**		P	Pn	03 01 13.8	-3.1
BBSI	**Bau Bau**	**3.12 195**		P	Pg	03 01 44.8	+6.0
NLAI	**Namlea**	**3.82 102**		P	Pg	03 01 55.5	+3.3
PCI	**Palu**	**3.84 293**		P	Pn	03 01 37.9	-0.3
SPSI	**Sidrap Palu**	**3.89 247**		P	Pb	03 01 45.4	-2.3
MPSI	**Mapaga**	**4.43 309**		P	Pn	03 01 46.1	-0.2
TNTI	**Ternate**	**5.13 51**		P	Pn	03 01 55.8	-0.1

*SJA **19** 03:08:24.9±0.7, 19.°97S×69.°53W, h83km±2km, ML3.5, MW3.7*

*GUC **19** 03:08:26.3±0.8, 19.°95S×69.°56W, h75km±2km, ML3.4*

ISC 19 03:08:27.8±1.3, 19.°95S±0.°03×69.°58W±0.°04, h67km±6km, n32, σ1°67/56, 4C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.20 340**	↓	*e*P	**Pn**	**03 08 38.1**	**-0.3**
PB11				*e*S	**Sn**	**03 08 47.3**	**+1.2**
PB11				IAML		03 08 48.2	
	comp=N,6μm,0.3s						
PB11	**IPOC Station P**	**0.20 340**		*e*P	**Pn**	**03 08 37.8**	**-0.6**
PB11				*e*S	**Sn**	**03 08 47.9**	**+1.8**
PB11				IAML		03 08 48.4	
	comp=Z,2μm,0.1s						
HMBC	**Humberstone**	**0.43 222**	↓	*e*P	**Pn**	**03 08 39.5**	**-0.4**
HMBC				*e*S	**Sn**	**03 08 49.6**	**+0.8**
HMBC				IAML		03 08 51.0	
	comp=E,4μm,0.6s						
HMBC	**Humberstone**	**0.43 222**		*e*P	**Pn**	**03 08 39.4**	**-0.6**
HMBC				*e*S	**Sn**	**03 08 49.9**	**+1.1**
HMBC				IAML		03 08 53.8	
	comp=Z,3μm,0.2s						
PB08	**IPOC Station P**	**0.44 115**	↓	*e*P	**Pn**	**03 08 39.5**	**-0.9**
PB08				*e*S	**Sn**	**03 08 49.8**	**+0.4**
PB08	**IPOC Station P**	**0.44 115**		*e*P	**Pn**	**03 08 39.4**	**-0.9**
PB08				*e*S	**Sn**	**03 08 50.4**	**+0.9**
PB08				IAML		03 08 51.0	
	comp=Z,827nm,0.1s						
PX03	**IPOC Station P**	**0.45 186**		*e*P	**Pn**	**03 08 38.7**	**-1.4**
PX03				*e*S	**Sn**	**03 08 49.2**	**+0.2**
PX03				IAML		03 08 49.9	
	comp=N,6μm,0.3s						
GO01	**Chusmiza**	**0.46 52**		*e*P	**Pn**	**03 08 39.8**	**-0.9**
GO01				*e*S	**Sn**	**03 08 50.5**	**+0.6**
GO01	**Chusmiza**	**0.46 52**		*e*P	**Pn**	**03 08 39.4**	**-1.2**
GO01				*e*S	**Sn**	**03 08 50.7**	**+0.8**
TA02	**Huaiquique**	**0.61 239**	↑	*e*P	**Pn**	**03 08 41.0**	**-0.4**
TA02				*e*S	**Sn**	**03 08 52.8**	**+1.3**
TA02	**Huaiquique**	**0.61 239**		*e*P	**Pn**	**03 08 41.1**	**-0.4**
TA02				*e*S	**Sn**	**03 08 53.2**	**+1.7**
TA02				IAML		03 08 55.2	
	comp=Z,3μm,0.3s						
TA01	**Diego Aracena**	**0.83 223**	↑	*e*P	**Pn**	**03 08 43.1**	**-0.9**
TA01				*e*S	**Sn**	**03 08 56.1**	**0.0**
TA01				IAML		03 09 00.2	
	comp=E,1μm,0.2s						
TA01	**Diego Aracena**	**0.83 223**		*e*P	**Pn**	**03 08 43.0**	**-1.1**
TA01				IAML		03 08 59.1	
	comp=Z,501nm,0.2s						
PATCX	**Punta Patache**	**1.02 212**	↑	*e*P	**Pn**	**03 08 45.3**	**-1.2**
PATCX				*e*S	**Sn**	**03 09 00.2**	**-0.1**
PATCX				IAML		03 09 05.9	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**1.09 175**	↓	*e*P	**Pn**	**03 08 46.1**	**-1.3**
PB01				*e*S	**Sn**	**03 09 01.7**	**-0.3**
PB01				IAML		03 09 02.9	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**1.09 175**		*e*P	**Pn**	**03 08 46.1**	**-1.3**
PB01				*e*S	**Sn**	**03 09 02.0**	**0.0**
PB01				IAML		03 09 03.0	
	comp=Z,1μm,0.2s						
PX02	**IPOC Station P**	**1.15 329**		*e*P	**Pn**	**03 08 47.1**	**-1.0**
PX02				*e*S	**Sn**	**03 09 02.4**	**-0.9**
PB12	**IPOC Station P**	**1.51 332**	↓	*e*P	**Pn**	**03 08 51.5**	**-1.4**
PB12				*e*S	**Sn**	**03 09 11.5**	**-0.3**
PB12				IAML		03 09 15.4	
	comp=E,561nm,0.6s						
PB12	**IPOC Station P**	**1.51 332**		*e*P	**Pn**	**03 08 51.5**	**-1.4**
PB12				*e*S	**Sn**	**03 09 12.9**	**+1.0**
PB12				IAML		03 09 15.3	
	comp=Z,256nm,0.4s						
PB16	**IPOC Station P**	**1.61 2**	↑	*e*P	**Pn**	**03 08 55.1**	**+0.3**
PB16				*e*S	**Sn**	**03 09 16.9**	**+1.9**
PB16				IAML		03 09 19.3	
	comp=N,322nm,0.3s						
PB16	**IPOC Station P**	**1.61 2**		*e*P	**Pn**	**03 08 54.9**	**+0.1**
PB16				IAML		03 09 20.4	
	comp=Z,201nm,0.6s						
AP01	**Chacalluta**	**1.73 335**	↓	*e*P	**Pn**	**03 08 55.3**	**-0.5**
AP01				*e*S	**Sn**	**03 09 17.7**	**+0.7**
AP01				IAML		03 09 26.7	
	comp=E,1μm,0.7s						
AP01	**Chacalluta**	**1.73 335**		*e*P	**Pn**	**03 08 55.3**	**-0.5**
AP01				IAML		03 09 24.7	
	comp=Z,360nm,0.4s						
PB09	**IPOC Station P**	**1.86 170**		*e*P	**Pn**	**03 08 56.9**	**-0.8**
PB09				*e*S	**Sn**	**03 09 21.2**	**+0.8**
PB09				IAML		03 09 28.2	
	comp=N,352nm,0.2s						
PB09	**IPOC Station P**	**1.86 170**		*e*P	**Pn**	**03 08 56.9**	**-0.8**
PB09				*e*S	**Sn**	**03 09 22.4**	**+2.0**
PB09				IAML		03 09 27.1	
	comp=Z,284nm,0.2s						
PB03	**IPOC Station P**	**2.09 184**		*e*P	**Pn**	**03 08 59.4**	**-1.4**
PB03				*e*S	**Sn**	**03 09 26.2**	**+0.3**
PB03				IAML		03 09 31.1	
PB03	**IPOC Station P**	**2.09 184**		*e*P	**Pn**	**03 08 59.0**	**-1.8**
PB03				IAML		03 09 32.1	
	comp=Z,528nm,0.2s						
PB06	**IPOC Station P**	**2.74 180**		*e*P	**Pn**	**03 09 08.6**	**-1.0**
PB06				*e*S	**Sn**	**03 09 47.6**	**+5.9**
PB06				IAML		03 09 47.9	
	comp=Z,198nm,0.3s						
PB05	**IPOC Station P**	**2.94 191**		*e*P	**Pn**	**03 09 10.3**	**-2.0**
PB05				*e*S	**Sn**	**03 09 53.1**	**+6.5**
PB05				IAML		03 10 03.1	
	comp=Z,108nm,0.7s						
AF01	**San Pedro de A**	**3.26 157**		*e*P	Pn	03 09 21.7	+4.9
AF01				*e*S	Sn	03 10 03.6	+9.1
AF01				IAML		03 10 27.4	
	comp=Z,156nm,0.4s						
PB10	**IPOC Station P**	**3.66 194**		*e*P	**Pn**	**03 09 20.4**	**-1.6**
PB10				*e*S	Sn	03 10 10.7	+6.8
PB10				IAML		03 10 19.6	
	comp=Z,51nm,0.4s						
GO02	**Mina Guanaco**	**5.18 180**		*e*P	**Pn**	**03 09 40.1**	**-3.0**
GO02				*e*S	Sn	03 10 52.9	+11

DJA 19 03:14:17.3±0.4, 0.°S±4.°×12.°3E±.°, h113km±11km, M3.6/11, mb3.7/3, MLv3.6/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.94 36**		P	Pn	03 14 37.0	-1.2
LUWI	**Luwuk**	**1.07 217**		P	Pn	03 14 40.8	+1.4
APSI	**Ampana**	**1.91 248**		P	Pn	03 14 49.3	0.0
SANI	**Sanana**	**3.16 126**		P	Pn	03 15 04.6	-1.0
MPSI	**Mapaga**	**3.56 278**		P	Pn	03 15 10.2	-0.6
TNTI	**Ternate**	**4.06 76**		P	Pn	03 15 18.6	+1.1
NLAI	**Namlea**	**4.76 130**		P	Pn	03 15 28.4	+1.4
FAKI	**Fak Fak**	**9.23 107**		P	Pn	03 16 27.0	-0.6

*IDC **19** 03:32:11.6±0.8, 12.°87S×45.°42E, h0km, mb3.7/8, mbtmp3.8/10, ML4.9/2, MS3.5/3, Error ellipse: s-maj=25.0km s-min=21.7km az=101.0*

*NEIC **19** 03:32:13.4±2.6, 12.°84S±0.°09×45.°37E±0.°06, h10km±1km, mb4.3/14, Error ellipse: s-maj=16.5km s-min=6.5km az=329.0*

ISC 19 03:32:12.1±0.6, 12.°92S±0.°05×45.°46E±0.°07, h10km, n44, σ2°14/48, mb4.2/13, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.38 97**		P	**Pn**	**03 33 19.0**	**+0.2**
SBV				S	**Sn**	**03 34 05.0**	**-4.9**
OPO	**Ambohidratompo**	**5.86 164**		Pn	**Pn**	**03 33 40.8**	**+1.6**
	7.3nm,0.3s,baz=336,slow=12,SNR=336						
OPO				Sn	**Sn**	**03 34 42.7**	**-3.9**
	7.0nm,0.3s,baz=157,slow=2.9,SNR=11						
OPO	**Ambohidratompo**	**5.86 164**		P	**Pn**	**03 33 41.0**	**+1.7**
OPO				S	Sn	03 34 40.5	-6.0
FIRM	**Firavahana**	**5.91 167**		P	**Pn**	**03 33 41.8**	**+1.9**
FIRM				S	**Sn**	**03 34 44.0**	**-3.8**
ATG	**Ambohiby**	**5.96 173**		P	**Pn**	**03 33 42.0**	**+1.4**
ABPO	**Ambohimpanom**	**6.29 165**		Pn	**Pn**	**03 33 46.7**	**+1.4**
ABPO	**Ambohimpanom**	**6.29 165**		P	**Pn**	**03 33 46.6**	**+1.4**
ABPO				S	**Sn**	**03 34 52.4**	**-4.9**
AVY	**Angavokely**	**6.36 160**		P	**Pn**	**03 33 47.3**	**+1.1**
DGRM	**Ambatolahisoa**	**6.37 172**		P	**Pn**	**03 33 48.1**	**+1.9**
DGRM				S	**Sn**	**03 34 55.5**	**-3.7**
ABM	**Ambohimiarambe**	**7.06 165**		P	**Pn**	**03 33 57.3**	**+1.5**
ABM				S	**Sn**	**03 35 12.3**	**-4.0**
VOI	**Vohitsoka**	**9.03 172**		Pn	**Pn**	**03 34 23.9**

JMA 19 03:44:17.2±0.7, 31°N±4°×13°9E±°, h414km, MV3.1/22, NEAR TORISHIMA IS
ISC 19 03:44:17.7±1.0, 30°.95N±0°.08×138°.6E±0°.2, h400km, n10, σ1°37/10, mb2.9/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.96**	**140**	P	**Pn**	**03 45 40.1**	**+0.8**
	35nm,0.5s,baz=288,slow=14,SNR=10.0						
JCJ				S	**S**	**03 46 44.2**	**-1.6**
	61nm,0.4s,baz=274,slow=23,SNR=10.0						
JAG	**Ashikaga**	**5.51**	**7**	P	**Pn**	**03 45 46.3**	**+1.4**
JAG				*e*S	**S**	**03 46 53.6**	**-2.3**
JHO	**Hitachi**	**5.88**	**16**	*e*P	**Pn**	**03 45 50.2**	**+1.4**
JHO				*e*S	**S**	**03 47 02.8**	**-0.5**
USRK	**Ussuriysk Ar.**	**14.22**	**340**	LR	LR	03 51 50.8	
	comp=Z,41nm,20.5s,baz=122,slow=32						
MKAR	**Makanchi Array**	**45.63**	**307**	P	P	03 51 56.8	-3.2
	0.2nm,0.5s,baz=74,slow=7.8,SNR=2.2						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**48.12**	**312**	P	**P**	**03 52 18.1**	**-0.9**
	0.3nm,0.4s,baz=92,slow=9.3,SNR=5.2						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**50.77**	**185**	P	**P**	**03 52 38.8**	**-0.2**
	0.5nm,0.5s,baz=0.5,slow=7.5,SNR=4.9						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**53.09**	**315**	P	**P**	**03 52 55.6**	**0.0**
	0.5nm,0.5s,baz=107,slow=8.3,SNR=2.2						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**54.49**	**185**	P	**P**	**03 53 06.2**	**+0.2**
	0.3nm,0.5s,baz=4.2,slow=8.0,SNR=7.9						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**55.90**	**30**	P	P	03 53 43.5	+28
	0.1nm,0.4s,baz=283,slow=6.3,SNR=7.7						
	0.1nm,0.4s						

NNC 19 03:55:24.8±0.3, 42°.97N×77°.70E, h1km±2km, mb3.8, mpv4.0, Error ellipse: s-maj=4.0km s-min=1.2km az=178.0
KRNET 19 03:55:25.3±0.1, 42°.95N×77°.67E, h20km, mb3.9
SOME 19 03:55:25.6, 42°.98N×77°.62E, h10km
KNET 19 03:55:26.8±0.5, 42°.90N×77°.53E, h11km±4km, ml3.3, Error ellipse: s-maj=4.7km s-min=3.4km az=144.0
ISC 19 03:55:25.4±1.0, 42°.96N±0°.02×77°.60E±0°.01, h4km±9km, n79, σ1°75/148, 49C-28D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**0.19**	**164**	⇑*i*P	**Pg**	**03 55 29.8**	**+0.7**
ANVS				⇑*e*S	**Sg**	**03 55 32.4**	**+0.8**
MDOK	**Medeo**	**0.45**	**297**	⇑P	**Pg**	**03 55 35.1**	**+0.9**
	149nm,0.4s						
MDOK				Pg	**Pb**	**03 55 35.4**	**-0.7**
	329nm,0.2s						
MDOK				⇑S	**Sb**	**03 55 42.2**	**-1.0**
	332nm,0.4s						
MDOK				Lg	Lg	03 55 42.4	
	1μm,0.2s						
MDOK	**Medeo**	**0.45**	**297**	*e*P	**Pb**	**03 55 35.4**	**-0.7**
MDOK				*e*S	**Sb**	**03 55 42.5**	**-0.7**
TNSS	**Tian-Shan**	**0.48**	**279**	P	**Pg**	**03 55 35.9**	**+1.1**
	177nm,0.1s						
TNSS				S	**Sb**	**03 55 43.5**	**-0.9**
	1μm,0.2s						
TNSS	**Tian-Shan**	**0.48**	**279**	*e*P	**Pg**	**03 55 35.9**	**+1.1**
TNSS				*e*S	**Sb**	**03 55 43.5**	**-0.9**
TNSS	**Tian-Shan**	**0.48**	**279**	*e*P	**Pg**	**03 55 35.9**	**+1.1**
	177nm,0.1s						
TNSS				*e*S	**Sb**	**03 55 43.5**	**-0.9**
	1μm,0.2s						
KNDC	**Almaty**	**0.53**	**299**	⇓P	**Pb**	**03 55 36.8**	**-0.6**
	115nm,0.5s						
KNDC				⇓S	**Sb**	**03 55 45.3**	**0.0**
	988nm,0.6s						
AAA	**Alma-Ata**	**0.56**	**297**	P	**Pb**	**03 55 37.8**	**0.0**
	945nm,0.2s						
AAA				S	**Sb**	**03 55 46.7**	**+0.5**
	675nm,0.1s						
AAA	**Alma-Ata**	**0.56**	**297**	*e*P	**Pb**	**03 55 37.8**	**0.0**
	945nm,0.2s						
AAA				*e*S	**Sb**	**03 55 46.7**	**+0.5**
	675nm,0.1s						
SATY	**Saty**	**0.60**	**80**	P	**Pg**	**03 55 35.5**	**-1.5**
	239nm,0.1s						
SATY				S	**Sg**	**03 55 42.6**	**-2.2**
	4μm,0.2s						
ZHN	**Zhinishke**	**0.65**	**71**	P	**Pg**	**03 55 36.5**	**-1.4**
	581nm,0.1s						
ZHN				S	**Sg**	**03 55 44.3**	**-2.0**
	5μm,0.2s						
ZHN	**Zhinishke**	**0.65**	**71**	*e*P	**Pg**	**03 55 36.5**	**-1.4**
ZHN				*e*S	**Sg**	**03 55 44.4**	**-2.0**
ZHN	**Zhinishke**	**0.65**	**71**	*e*P	**Pg**	**03 55 36.5**	**-1.4**
	581nm,0.1s						
ZHN				*e*S	**Sg**	**03 55 44.3**	**-2.0**
	5μm,0.2s						
KURS	**Kuram**	**0.67**	**38**	P	**Pg**	**03 55 37.8**	**-0.6**
	60nm,0.1s						
KURS				S	**Sg**	**03 55 46.7**	**-0.4**
	606nm,0.4s						
KURS	**Kuram**	**0.67**	**38**	*e*P	**Pg**	**03 55 37.8**	**-0.6**
KURS				*e*S	**Sg**	**03 55 46.7**	**-0.4**
KURS	**Kuram**	**0.67**	**38**	*e*P	**Pn**	**03 55 44.8**	**+3.0**
	302nm,0.2s						
KURS				*e*S	**Sn**	**03 55 58.5**	**+5.6**
	286nm,0.2s						
KASK	**Kaskelen**	**0.74**	**290**	⇓S	**Sb**	**03 55 51.3**	**-0.2**
	326nm,0.4s						
PRZ	**Przheval'sk**	**0.76**	**129**	⇑*e*P	**Pg**	**03 55 39.2**	**-0.8**
PRZ				⇑*e*S	**Sg**	**03 55 48.4**	**-1.5**
MTBS	**Maitube**	**0.87**	**282**	P	**Pb**	**03 55 42.9**	**-0.3**
	72nm,0.3s						
MTBS				S	**Sb**	**03 55 55.1**	**-0.1**
	902nm,0.3s						
MTBS	**Maitube**	**0.87**	**282**	*e*P	**Pb**	**03 55 42.9**	**-0.3**
MTBS				*e*S	**Sb**	**03 55 55.2**	**-0.1**
MTBS	**Maitube**	**0.87**	**282**	*e*P	**Pb**	**03 55 42.9**	**-0.3**
	72nm,0.3s						
MTBS				*e*S	**Sb**	**03 55 55.1**	**-0.1**
	902nm,0.3s						
KDJ	**Kajisay**	**0.89**	**200**	⇑*e*P	**Pg**	**03 55 42.2**	**-0.2**
KDJ				⇑*e*S	**Sg**	**03 55 53.9**	**0.0**
CHKK	**Chushkaly**	**1.00**	**334**	P	**Pb**	**03 55 44.8**	**-0.5**
	302nm,0.2s						
CHKK				S	**Sb**	**03 55 58.5**	**-0.3**
	286nm,0.2s						
CHKK	**Chushkaly**	**1.00**	**334**	*e*P	**Pb**	**03 55 44.8**	**-0.5**
CHKK				*e*S	**Sb**	**03 55 58.5**	**-0.3**
CHKK	**Chushkaly**	**1.00**	**334**	*e*P	**Pb**	**03 55 44.8**	**-0.5**
	302nm,0.2s						
CHKK				*e*S	**Sb**	**03 55 58.5**	**-0.3**
	286nm,0.2s						
KTBS	**Karatobe**	**1.00**	**319**	P	**Pb**	**03 55 45.2**	**-0.2**
	106nm,0.1s						
KTBS				S	**Sn**	**03 55 59.1**	**-1.9**
	178nm,0.2s						
KTBS	**Karatobe**	**1.00**	**319**	*e*P	**Pb**	**03 55 45.2**	**-0.2**
KTBS				*e*S	**Sn**	**03 55 59.1**	**-1.9**
UZB	**Uzynbulak**	**1.06**	**79**	P	**Pg**	**03 55 43.6**	**-2.2**
	143nm,0.1s						
UZB				S	**Sg**	**03 55 56.4**	**-3.1**
	663nm,0.2s						
UZB	**Uzynbulak**	**1.06**	**79**	*e*P	**Pg**	**03 55 43.5**	**-2.2**
	143nm,0.1s						
UZB				*e*S	**Sg**	**03 55 56.4**	**-3.1**
	663nm,0.2s						
KST	**Kastek**	**1.20**	**274**	P	**Pb**	**03 55 48.7**	**-0.2**
	59nm,0.2s						
KST				S	**Sn**	**03 56 05.1**	**-0.8**
	247nm,0.2s						
KST	**Kastek**	**1.20**	**274**	*e*P	**Pb**	**03 55 48.7**	**-0.2**
	59nm,0.2s						
KST				*e*S	**Sn**	**03 56 05.1**	**-0.8**
	247nm,0.2s						
ULHL	**Ulahol**	**1.23**	**235**	P	**Pn**	**03 55 48.7**	**-0.9**
	330nm,0.2s,SNR=620						
ULHL				⇑S	**Sb**	**03 56 05.8**	**+0.2**
	155nm,0.1s						
ULHL	**Ulahol**	**1.23**	**235**	⇑*e*P	**Pn**	**03 55 48.7**	**-0.9**
ULHL				⇑*e*S	**Sb**	**03 56 05.2**	**-0.4**
ARXS	**Arharly**	**1.26**	**8**	P	**Pn**	**03 55 48.9**	**-1.0**
	79nm,0.2s						
ARXS				S	**Sg**	**03 56 05.4**	**-0.6**
	534nm,0.2s						
KUU	**Kurty**	**1.31**	**316**	P	**Pg**	**03 55 50.8**	**+0.3**
	93nm,0.2s						
KUU				S	**Sg**	**03 56 08.5**	**+1.1**
	354nm,0.2s						
KUU	**Kurty**	**1.31**	**316**	*e*P	**Pg**	**03 55 50.8**	**+0.3**
	93nm,0.2s						
KUU				*e*S	**Sg**	**03 56 08.5**	**+1.1**
	354nm,0.2s						
BOOM	**Boomskoye usch**	**1.31**	**249**	⇑*e*P	**Pn**	**03 55 50.1**	**-0.5**
BOOM				⇑*e*S	**Sb**	**03 56 07.7**	**-0.2**
SHLS	**Shalkode**	**1.38**	**81**	P	**Pg**	**03 55 55.3**	**+3.4**
	74nm,0.2s						
SHLS				S	**Sg**	**03 56 16.6**	**+6.8**
	322nm,0.3s						
SHLS	**Shalkode**	**1.38**	**81**	*e*P	**Pg**	**03 55 55.3**	**+3.4**
SHLS				*e*S	**Sg**	**03 56 16.7**	**+6.8**
SHLS	**Shalkode**	**1.38**	**81**	*e*P	**Pg**	**03 55 55.3**	**+3.4**
	74nm,0.2s						
SHLS				*e*S	**Sg**	**03 56 16.6**	**+6.8**
	322nm,0.3s						
PDGK	**Podgornoye**	**1.43**	**75**	⇑P	**Pn**	**03 55 49.7**	**-2.6**
	34nm,0.5s						
PDGK				⇓S	**Sn**	**03 56 07.6**	**-4.0**
	115nm,0.5s						
TKM2	**Tokmak 2**	**1.47**	**269**	⇑P	**Pb**	**03 55 53.2**	**-0.2**
	56nm,0.2s,SNR=36						
TKM2				⇓S	**Sg**	**03 56 14.3**	**+1.7**
	310nm,0.1s						
TKM2	**Tokmak 2**	**1.47**	**269**	⇓P	**Pb**	**03 55 53.1**	**-0.4**
	7.1nm,0.2s						
TKM2				⇑S	**Sg**	**03 56 15.0**	**+2.4**
	295nm,0.5s						
TKM2	**Tokmak 2**	**1.47**	**269**	⇑*e*P	**Pb**	**03 55 53.3**	**-0.2**
TKM2				⇑*e*S	**Sg**	**03 56 13.2**	**+0.5**
NRN	**Naryn**	**1.93**	**218**	⇑*e*P	**Pb**	**03 56 00.7**	**-0.7**
NRN				⇑*e*S	**Sb**	**03 56 26.0**	**0.0**
KBK	**Karagaybulak**	**1.97**	**262**	⇑P	**Pb**	**03 56 02.2**	**+0.2**
	61nm,0.2s,SNR=52						
KBK				⇓S	**Sg**	**03 56 29.8**	**+1.0**
	447nm,0.3s						
KBK	**Karagaybulak**	**1.97**	**262**	⇑*e*P	**Pb**	**03 56 01.3**	**-0.7**
KBK				⇑*e*S	**Sb**	**03 56 27.0**	**0.0**
CHMS	**Chumysh**	**2.09**	**272**	⇑P	**Pb**	**03 56 04.0**	**+0.1**
	27nm,0.1s,SNR=26						
CHMS				⇑S	**Sg**	**03 56 32.4**	**-0.1**
	150nm,0.2s						
CHMS	**Chumysh**	**2.09**	**272**	⇓Pn	**Pb**	**03 56 02.9**	**-1.0**
	29nm,0.4s						
CHMS				⇑Lg	Lg	03 56 33.7	
	100nm,0.4s						
CHMS	**Chumysh**	**2.09**	**272**	⇑*e*P	**Pb**	**03 56 02.8**	**-1.1**
CHMS				⇑*i*S	**Sb**	**03 56 29.6**	**-0.6**
TDK	**Taldyqorghan**	**2.12**	**16**	*e*P	**Pb**	**03 56 03.2**	**-1.3**
	67nm,0.3s						
TDK				*e*S	**Sb**	**03 56 30.1**	**-1.0**
	908nm,0.3s						
FRU1	**Bishkek**	**2.19**	**267**	⇑*e*P	**Pb**	**03 56 04.3**	**-1.3**
FRU1				⇑*e*S	**Sb**	**03 56 32.1**	**-0.9**
SGDS	**Sogindy**	**2.22**	**284**	Pg	**Pg**	**03 56 07.4**	**-0.7**
	20nm,0.1s						
SGDS				Lg	Lg	03 56 36.6	
	219nm,0.3s						
USP	**Ospenovka**	**2.29**	**279**	⇑P	**Pb**	**03 56 06.6**	**-0.7**
	36nm,0.2s,SNR=14						
USP				⇓S	**Sg**	**03 56 37.8**	**-1.1**
	232nm,0.3s						
USP	**Ospenovka**	**2.29**	**279**	⇓*e*P	**Pb**	**03 56 05.7**	**-1.6**
USP				⇓*i*S	**Sb**	**03 56 34.6**	**-1.3**
AAK	**Ala-Archa**	**2.31**	**263**	⇑P	**Pb**	**03 56 07.3**	**-0.4**
	47nm,0.2s,SNR=74						
AAK				⇓S	**Sg**	**03 56 38.6**	**-1.0**
	91nm,0.2s						
AAK	**Ala-Archa**	**2.31**	**263**	⇓Pn	**Pb**	**03 56 06.3**	**-1.4**
	15nm,0.3s						
AAK				⇑Lg	Lg	03 56 40.2	
	82nm,0.5s						
AAK	**Ala-Archa**	**2.31**	**263**	⇓*e*P	**Pb**	**03 56 06.0**	**-1.7**
AAK				⇓*e*S	**Sb**	**03 56 35.0**	**-1.6**
UCH	**Uchtor**	**2.39**	**253**	⇑P	**Pb**	**03 56 08.1**	**-1.2**
	23nm,0.2s,SNR=25						
UCH	**Uchtor**	**2.39**	**253**	⇑*e*P	**Pn**	**03 56 07.2**	**+1.4**
UCH				⇑*e*S	**Sn**	**03 56 37.3**	**+1.5**
ARLS	**Aral**	**2.66**	**247**	⇓*e*P	**Pn**	**03 56 10.7**	**+1.5**
ARLS				⇓*e*S	**Sn**	**03 56 43.3**	**+1.3**
EKS2	**Erkin-Say**	**2.83**	**265**	⇓del		03 56 14.8	
	15nm,0.2s,SNR=6.8						
EKS2	**Erkin-Say**	**2.83**	**265**	⇑*e*P	**Pn**	**03 56 13.1**	**+1.6**
EKS2				⇑*i*S	**Sn**	**03 56 47.4**	**+1.4**
AML	**Almayashu**	**3.00**	**255**	⇑*e*P	**Pn**	**03 56 15.7**	**+1.6**
AML				⇑*e*S	**Sn**	**03 56 52.0**	**+1.3**
MRKS	**Merke**	**3.22**	**268**	Pg	**Pb**	**03 56 25.3**	**+2.0**
	15nm,0.4s						
MRKS				Lg	Lg	03 57 07.0	
	74nm,0.3s						
MRKS	**Merke**	**3.22**	**268**	*e*P	**Pb**	**03 56 25.3**	**+2.0**
	15nm,0.4s						
MRKS				*e*S	**Sg**	**03 57 07.0**	**-1.9**
	74nm,0.3s						
MNAS	**Manas**	**3.78**	**265**	⇓*e*P	**Pn**	**03 56 26.4**	**+1.8**
MNAS				⇓*e*S	**Sn**	**03 57 10.4**	**+0.8**
SFK	**Sufi-Kurgan**	**4.26**	**228**	⇑*e*P	**Pn**	**03 56 32.8**	**+1.6**
SFK				⇑*e*S	**Sn**	**03 57 21.3**	**-0.2**
ARK	**Arkit**	**4.33**	**256**	⇑*e*P	**Pn**	**03 56 34.0**	**+1.8**
ARK				⇑*e*S	**Sn**	**03 57 23.4**	**+0.2**
OHH	**Osh**	**4.35**	**238**	⇓*e*P	**Pn**	**03 56 34.0**	**+1.7**
OHH				⇓*e*S	**Sn**	**03 57 23.4**	**0.0**
DZA	**Taraz**	**4.60**	**271**	Pg	**Pg**	**03 56 51.0**	**-2.5**
	65nm,0.2s						
DZA				Lg	Lg	03 57 50.3	
	76nm,0.1s						
MAKZ	**Makanchi**	**4.95**	**37**	⇑Pn	**Pn**	**03 56 40.5**	**0.0**
	0.8nm,0.7s						
MAKZ				⇓Pg	**Pb**	**03 56 54.9**	**+2.3**
	1.9nm,0.6s						
MAKZ				⇑Lg	Lg	03 57 57.9	
	7.5nm,0.6s						
TRKS	**Terek-Say**	**5.00**	**256**	⇓*e*P	**Pn**	**03 56 43.2**	**+1.8**
TRKS				⇓*e*S	**Sn**	**03 57 39.5**	**-0.2**
MK31	**Makanchi Array**	**5.08**	**39**	Pn	**Pn**	**03 56 41.9**	**-0.5**
	0.2nm,0.2s,baz=216,slow=16,SNR=19						
MK31				⇓Pg	**Pb**	**03 56 56.0**	**+1.2**
	0.8nm,0.3s,baz=213,slow=16,SNR=5.1						
MK31				⇑Sn	**Sn**	**03 57 39.9**	**-1.5**
	0.9nm,0.3s,baz=217,slow=22,SNR=3.7						
MK31				⇑Lg	Lg	03 58 02.1	
	4.2nm,0.4s,baz=217,slow=28,SNR=14						
KK31	**Karatay Array**	**5.20**	**274**	Pg	**Pg**	**03 57 01.8**	**-3.2**
	0.9nm,0.3s,baz=94,slow=16,SNR=17						
KK31				⇑Lg	Lg	03 58 10.8	
	8.7nm,0.4s,baz=86,slow=28,SNR=8.2						
KKAR	**Karatay Array**	**5.20**	**274**	⇓*e*P	**Pn**	**03 56 45.9**	**+2.0**
KKAR				⇓*e*S	**Sn**	**03 57 44.1**	**-0.2**
IUG	**Iuzhnay**	**5.65**	**264**	Pg	**Pg**	**03 57 11.2**	**-2.4**
	15nm,0.6s						
IUG				Lg	Lg	03 58 25.1	
	73nm,0.7s						
BRLS	**Borolday**	**5.69**	**273**	Pg	**Pg**	**03 57 14.4**	**-0.1**
	1.5nm,0.4s						
BRLS				Lg	Lg	03 58 30.4	
	12nm,0.4s						
BRLS	**Borolday**	**5.69**	**273**	*e*P	**Pg**	**03 57 12.2**	**-2.3**
	1.5nm,0.4s						
BRLS				*e*S	**Sg**	**03 58 28.0**	**-0.2**
	12nm,0.4s						

IDC 19 04:03:12.9±3.3, 22°.20S×147°.96E, h0km, mb3.9/1, mbtmp3.5/4, ML3.2/3, Error ellipse: s-maj=57.8km s-min=27.0km az=17.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**11.18**	**209**	Pn	Pn	04 05 54.4	+0.3
	0.2nm,0.3s,baz=29,slow=15,SNR=5.3						
STKA				Sn	Sn	04 07 54.3	-5.6
	0.3nm,0.3s,baz=312,slow=23,SNR=2.9						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**12.91**	**278**	Pn	Pn	04 06 17.9	+0.1
	0.1nm,0.3s,baz=99,slow=13,SNR=5.0						
WRA				Sn	Sn	04 08 32.8	-9.4
	baz=102,slow=24,SNR=1.1						
WRA				Lg	Lg	04 10 03.8	
	0.1nm,0.3s,baz=107,slow=28,SNR=2.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**13.03**	**261**	Pn	Pn	04 06 19.6	+0.2
	baz=90,slow=14,SNR=1.8						
ASAR				Sn	Sn	04 08 45.6	+0.4
	0.1nm,0.3s,baz=85,slow=25,SNR=3.9						
ASAR				Lg	Lg	04 10 06.0	
	baz=86,slow=29,SNR=3.3						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**67.87**	**180**	P	P	04 14 13.0	0.0
	1.0nm,0.8s,baz=18,slow=6.4,SNR=5.4						
	1.0nm,0.8s						

BGR 19 04:14:56.6, 43°.33N×147°.44E, h43km, mb4.5, Hypocentre not reviewed by the ISC
MOS 19 04:14:57.9±0.9, 43°.29N×146°.36E, h50km, mb4.9/44, Error ellipse: s-maj=7.3km s-min=4.5km az=106.3
MOS Felt (II-III) at Malokuril'skoye, Yuzhno-Kuril'sk; (II) at Goryachiy Plyazh.
SKHL 19 04:14:58.0±0.3, 43°.20N×146°.50E, h53km±2km, mb5.6/3
JMA 19 04:14:58.6±0.2, 43°.3N±0°.7×14°.6E±°, h46km±1km, MD4.2/35, MV4.3/35, OFF NEMURO PENINSULA
JMA Felt II J1 at OFF NEMURO PENINSULA .
NIED 19 04:14:58.6, 43°.26N×146°.35E, h46km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}3.07; $M_{\theta\theta}$-0.74; $M_{\phi\phi}$-2.33; $M_{r\theta}$3.21; $M_{\theta\phi}$-3.21; $M_{\phi r}$0.03; Fault plane solution: $M_0$5.32000×10^{15} NP1: ϕ_s187.00000°, δ42.00000°, λ36.00000°. NP2:ϕ_s69.00000°, δ67.00000°, λ126.00000°.
NEIC 19 04:15:00.2±1.1, 43°.36N±0°.07×146°.3E±0°.1, h51km±7km, mb4.7/140 Error ellipse: s-maj=13.3km s-min=9.6km az=121.0
IDC 19 04:15:00.2±1.9, 43°.31N×146°.41E, h58km±16km, mb4.1/24, mbtmp4.3/31, MS3.5/45, Error ellipse: s-maj=13.8km s-min=12.5km az=165.0
ISC 19 04:14:58.8±0.5, 43°.30N±0°.04×146°.42E±0°.04, h44km±3km, h44km:pP-P, n692, σ0°93/649, mb4.6/178, MS3.7/38, 25C-35D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.50**	**278**	P	**Pn**	**04 15 09.1**	**-0.5**
NEM2				S	**Sn**	**04 15 16.4**	**-1.0**
NEM2	**Nemuro 2**	**0.50**	**278**	A	A	04 15 09.1	
	comp=N,63nm,0.9s,comp=E,32nm,0.3s						
NMR	**Nemuro--Hokkai**	**0.51**	**278**	⇓*i*PN	**Pn**	**04 15 09.1**	**-0.7**
NMR				*i* S	**Sn**	**04 15 16.5**	**-1.1**
NMR	**Nemuro--Hokkai**	**0.51**	**278**	*i* P	**Pn**	**04 15 09.1**	**-0.7**
NMR				*i* S	**Sn**	**04 15 16.7**	**-0.9**
SHO	**Shikotan**	**0.64**	**27**	*d i*PN	**Pn**	**04 15 11.6**	**0.0**
SHO				*i* S	**Sn**	**04 15 20.6**	**-0.1**
SHO				pmax	pmax		
	comp=Z,1μm,0.4s						
SHO				pmax	pmax		
	comp=N,404nm,0.2s						
SHO				pmax	pmax		
	comp=E,318nm,0.3s						
SHO				smax	smax		
	comp=N,8μm,0.2s						
SHO				smax	smax		
	comp=E,16μm,0.3s						
SHO	**Shikotan**	**0.64**	**27**	*i* P	**Pn**	**04 15 11.5**	**0.0**
SHO				AMB	AMB	04 15 12.1	
	comp=E,2μm,0.2s						
SHO				*i* S	**Sn**	**04 15 20.6**	**-0.1**
SHO				A	A	04 15 20.9	
	comp=E,7μm,0.3s						
SHO				A	A	04 15 20.9	
	comp=E,19μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.84**	**331**	*d i*PN	**Pn**	**04 15 13.8**	**-0.4**
YUK				*i* S	**Sn**	**04 15 25.2**	**-0.2**
YUK				pmax	pmax		
	comp=Z,4μm,0.3s						
YUK				pmax	pmax		
	comp=N,2μm,0.2s						
YUK				pmax	pmax		
	comp=E,1μm,0.2s						
YUK				smax	smax		
	comp=N,7μm,0.4s						
YUK				smax	smax		
	comp=E,37μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.84**	**331**	*i* P	**Pn**	**04 15 13.8**	**-0.4**
YUK				*i* S	**Sn**	**04 15 25.4**	**0.0**
YUK				A	A	04 15 25.7	
	comp=E,6μm,0.5s						
YUK				A	A	04 15 25.7	
	comp=E,49μm,0.5s						
JKHN	**Kushirohamanak**	**0.95**	**257**	P	**Pn**	**04 15 15.3**	**-0.4**
JKHN				*e*S	**Sn**	**04 15 27.2**	**-0.8**
JKHN	**Kushirohamanak**	**0.95**	**257**	A	A	04 15 15.3	
	comp=N,22nm,2.7s,comp=E,19nm,1.1s						
JNSB	**Nemuroshibetsu**	**1.14**	**295**	*i* P	**Pn**	**04 15 17.9**	**-0.3**
JNSB				*e*S	**Sn**	**04 15 33.1**	**+0.5**
JNSB	**Nemuroshibetsu**	**1.14**	**295**	A	A	04 15 17.9	
	comp=N,11nm,2.6s,comp=E,11nm,1.2s						
JRA	**Rausu**	**1.14**	**304**	P	**Pn**	**04 15 18.4**	**+0.1**
JRA				S	**Sn**	**04 15 32.8**	**+0.1**
JRA	**Rausu**	**1.14**	**304**	A	A	04 15 18.4	
	comp=N,6.0nm,1.9s,comp=E,8.0nm,0.8s						
RUSJ	**Misakicho**	**1.17**	**314**	⇓*i*PN	**Pn**	**04 15 19.0**	**+0.3**
RUSJ				*i* S	**Sn**	**04 15 34.7**	**+1.2**
AKK	**Akkeshi**	**1.19**	**257**	*e*P	**Pn**	**04 15 18.2**	**-0.8**
AKK				*e*S	**Sn**	**04 15 33.6**	**-0.3**
JNK	**Nakash**	**1.27**	**284**	P	**Pn**	**04 15 19.5**	**-0.6**
JNK				*e*S	**Sn**	**04 15 34.7**	**-1.3**
JNK	**Nakash**	**1.27**	**284**	A	A	04 15 19.5	
	comp=N,11nm,0.9s,comp=E,10.0nm,0.7s						
JAK	**Akkeshi**	**1.30**	**257**	P	**Pn**	**04 15 19.6**	**-0.8**
JAK				*e*S	**Sn**	**04 15 34.9**	**-1.7**
JAK	**Akkeshi**	**1.30**	**257**	A	A	04 15 19.6	
	comp=N,12nm,1.0s,comp=E,9.0nm,1.1s						
JAR	**Ashorobuto**	**1.94**	**271**	P	**Pn**	**04 15 29.1**	**-0.1**
JAR				*e*S	**Sn**	**04 15 51.9**	**-0.4**
JOB	**Onbets**	**1.94**	**259**	P	**Pn**	**04 15 28.7**	**-0.4**
JOB				*e*S	**Sn**	**04 15 51.4**	**-0.8**
JTKR	**Abashiri--Toko**	**1.94**	**291**	P	**Pn**	**04 15 30.1**	**+0.8**
KUR	**Kuril'sk**	**2.19**	**28**	*e*PN	**Pn**	**04 15 34.2**	**+1.5**
KUR				*e*S	**Sn**	**04 16 01.4**	**+2.8**
KUR				pmax	pmax		
	comp=Z,529nm,0.3s						
KUR				pmax	pmax		
	comp=N,463nm,0.2s						

JTM Tenmabayashi 4.71 240 Pn 04 16 07.6 +0.3
UGL Uglegorsk 6.52 334 *e*P **Pn 04 16 34.3 +2.2**
TYV Tymovskoe 7.99 343 *e*PN **Pn 04 16 56.5 +4.3**
TYV pmax pmax
comp=Z,100nm,2.5s
TYV pmax pmax
comp=Z,21nm,1.0s
TYV Tymovskoe 7.99 343 *e*P **Pn 04 16 54.3 +2.1**
TYV *e*S **Sn 04 18 21.0 -0.1**
TYV A A 04 18 21.8
comp=Z,10.0nm,0.8s
TYV A A 04 18 21.8
comp=Z,10.0nm,0.8s
JSD Sado 8.13 232 Pn **Pn 04 16 53.7 -0.4**
MJAR Matsushiro Arr 9.23 226 P **Pn 04 17 08.9 -0.4**
comp=Z,1.3nm,0.4s,baz=33,slow=14,SNR=4.8
MJAR S **Sn 04 18 53.3 +1.4**
comp=Z,0.7nm,0.3s,baz=23,slow=19,SNR=1.2
MJAR LR LR 04 21 11.1
comp=Z,153nm,21.4s,baz=48,slow=40
MJB9 Matsu-Tunnel 9.23 226 Pn **Pn 04 17 09.2 -0.2**
MAJO Matsushiro 9.24 226 **Pn 04 17 09.2 -0.2**
MAJO Matsushiro 9.24 226 *i* PN **Pn 04 17 10.7 +1.3**
SKR Severo-Kuril's 9.91 38 *e*PN **Pn 04 17 21.7 +3.2**
SKR pmax pmax
comp=Z,72nm,0.6s
SKR pmax pmax
comp=Z,400nm,5.2s
SKR MLR MLR
comp=Z,500nm,12.0s
SKR Severo-Kuril's 9.91 38 *e*P **Pn 04 17 19.3 +0.8**
SKR *e*S **Sn 04 19 06.0 -2.3**
SKR A A 04 19 07.7
comp=Z,20nm,0.2s
SKR A A 04 19 07.7
comp=Z,30nm,0.2s
GRNR Gornyy 10.11 321 *e*PN **Pn 04 17 22.4 +1.1**
GRNR MLR MLR
comp=E,220nm,13.0s
GRNR Gornyy 10.11 321 *e*P **Pn 04 17 22.4 +1.1**
JGF Kuroka 10.40 225 Pn **Pn 04 17 24.4 -0.9**
USRK Ussuriysk Ar. 10.48 280 P **Pn 04 17 26.5 +0.1**
comp=E,3.7nm,0.8s,baz=96,slow=16,SNR=4.7
USRK LR LR 04 21 28.7
comp=E,152nm,20.4s,baz=98,slow=37
NKL Nikolayevsk 10.57 341 *e*P **Pn 04 17 29.9 +2.4**
PAU Pauzhetka 10.78 37 *e*P **Pn 04 17 31.0 +0.7**
KLR Kul'dur 11.75 305 P **Pn 04 17 46.9 +3.2**
comp=E,3.0nm,0.7s,baz=114,slow=15,SNR=16
KLR LR LR 04 22 46.2
comp=E,194nm,18.4s,baz=87,slow=40
KLR Kul'dur 11.75 305 *e*PN **Pn 04 17 46.4 +2.7**
KLR pmax pmax
comp=Z,11nm,1.5s
MDJ Mudanjiang 12.20 282 P **Pn 04 17 51.8 +1.9**
MDJ pmax pmax
comp=Z,6.0nm,0.7s
PEA0B Petropavlovsk- 12.35 33 **Pn 04 17 51.6 -0.2**
PEA0B Petropavlovsk- 12.35 33 *i* PN **Pn 04 17 50.7 -1.1**
PETK Petropavlovsk- 12.35 33 **Pn 04 17 51.7 -0.1**
PETK Petropavlovsk- 12.35 33 P **Pn 04 17 51.3 -0.5**
comp=Z,3.1nm,0.5s,baz=189,slow=7.0,SNR=13
PETK LR LR 04 22 44.7
comp=Z,53nm,18.6s,baz=194,slow=38
PETK Petropavlovsk- 12.35 33 PN **Pn 04 17 51.7 -0.1**
BNX BinXian 13.79 287 ⇑P **Pn 04 18 12.4 +0.9**
BNX pmax pmax
comp=Z,9.0nm,0.7s
HEH HeiHe 14.74 305 *e*P **Pn 04 18 26.1 +1.8**
HEH LR LR
comp=N,130nm,14.6s
HEH LR LR
comp=E,140nm,13.4s
HEH LR LR
comp=Z,260nm,15.5s
CN2 Changchun 15.22 279 *e*P **Pn 04 18 31.8 +1.2**
CN2 *e*S **Sn 04 21 18.8 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=N,300nm,11.0s
CN2 LR LR
comp=E,200nm,11.0s
CN2 LR LR
comp=Z,200nm,10.0s
KSRS Korea Array 15.25 254 P **Pn 04 18 31.3 +0.3**
comp=Z,1.1nm,0.6s,baz=71,slow=12,SNR=4.5
KSRS LR LR 04 24 54.2
comp=Z,58nm,18.6s,baz=60,slow=39
JNU Nakatsue 15.87 235 Pn **Pn 04 18 38.9 -0.2**
JNU Nakatsue 15.87 235 P **Pn 04 18 37.8 -1.2**
comp=Z,4.4nm,0.7s,baz=49,slow=9.3,SNR=1.9
JNU LR LR 04 24 36.4
comp=Z,72nm,20.7s,baz=62,slow=36
ZEA Zeya 16.39 316 *e*P P 04 19 00.8 +13
MA2 Magadan 16.52 8 Pn **Pn 04 18 47.0 0.0**
MA2 Magadan 16.52 8 LR LR 04 24 46.6
comp=Z,116nm,20.4s,baz=214,slow=36
MA2 Magadan 16.52 8 *i* P **Pn 04 18 47.5 +0.5**
MA2 Magadan 16.52 8 *e*P **Pn 04 18 47.5 +0.5**
JCJ Chichijima 16.53 193 LR LR 04 23 21.0
comp=Z,128nm,20.9s,baz=352,slow=30
SEY Seymchan 19.97 8 P **P 04 19 25.1 -2.0**
comp=Z,7.8nm,0.8s,baz=197,slow=12,SNR=7.9
SEY LR LR 04 26 58.1
comp=Z,87nm,20.2s,baz=180,slow=36
SEY Seymchan 19.97 8 *i* P **P 04 19 24.7 -2.4**
SEY pmax pmax
comp=Z,11nm,0.9s
SHEM Shemya Is, Ala 20.66 53 LR LR 04 29 18.6
comp=Z,18nm,18.9s,baz=348,slow=42
YAK Yakutsk 21.21 338 P **P 04 19 41.0 +0.6**
YAK IAmb IAmb 04 19 55.4
comp=Z,24nm,0.5s
YAK Yakutsk 21.21 338 *ce*P **P 04 19 42.0 +1.6**
YAK pmax pmax
comp=Z,11nm,0.6s
YAK Yakutsk 21.21 338 *e*P **P 04 19 42.0 +1.6**
JOW Kunigami 22.07 228 P **P 04 19 50.0 +0.1**
JOW IAmb IAmb 04 20 10.0
comp=Z,24nm,1.2s
BJI Beijing 22.77 272 P **P 04 19 56.0 -1.3**
BJI pP **pP 04 20 06.8 -1.1**
BJI pmax pmax
comp=Z,4.0nm,0.7s
TIA Tai'an 23.53 262 P **P 04 20 04.9 0.0**
TIA pP **pP 04 20 15.4 -0.7**
TIA sP **sP 04 20 18.8 -2.7**
TIA pmax pmax
comp=Z,20nm,1.0s
TIA pmax pmax
comp=Z,180nm,4.4s
NJ2 Nanjing 24.43 252 *e*P **P 04 20 13.6 +0.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
HNS HongShan 24.78 267 ⇑P **P 04 20 17.6 +1.2**
HNS pmax pmax
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 25.88 277 *e*P **P 04 20 27.6 +1.1**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,72nm,5.6s
BILL Bilibino 26.94 16 P **P 04 20 36.9 +1.2**
BILL Bilibino 26.94 16 *i* P **P 04 20 36.1 +0.5**
BTO Baotou 27.07 277 *e*P **P 04 20 38.8 +1.6**
BTO pP **pP 04 20 50.5 +1.7**
BTO sP **sP 04 20 56.0 +1.9**
BTO PP **PnPn 04 21 25.8 +4.5**
BTO pmax pmax
comp=Z,23nm,0.9s
BTO pmax pmax
comp=Z,270nm,5.8s
ULN Ulaanbaatar 27.71 293 P **P 04 20 42.2 -0.8**
ULN Ulaanbaatar 27.71 293 *ce*P **P 04 20 43.2 +0.2**
ULN pmax pmax
comp=Z,5.0nm,0.7s
ULN Ulaanbaatar 27.71 293 *e*P **P 04 20 43.2 +0.2**
SONM Songino Array 28.16 293 P **P 04 20 45.5 -1.4**
SONM Songino Array 28.16 293 P **P 04 20 47.4 +0.5**
comp=Z,4.8nm,0.6s,baz=88,slow=8.4,SNR=16
SONM LR LR 04 33 07.0
comp=Z,146nm,19.5s,baz=77,slow=39
comp=Z,4.8nm,0.6s
H11N2 WAKE ISLAND Hy 29.12 137 T T 04 51 40.4
baz=329,slow=76,SNR=3290
H11N1 WAKE ISLAND Hy 29.13 137 T T 04 51 40.4
baz=329,slow=76,SNR=3116
H11N3 WAKE ISLAND Hy 29.14 137 T T 04 51 44.6
baz=329,slow=76,SNR=3936
GUMO Guam 29.64 183 LR LR 04 31 49.6
comp=Z,39nm,19.7s,baz=68,slow=34
TIXI Tiksi 29.70 349 LR LR 04 34 47.3
comp=Z,80nm,18.1s,baz=192,slow=40
KNMB Chin-men Tao 29.70 240 P **P 04 21 01.0 +0.4**
H11S1 WAKE ISLAND Hy 30.07 139 T T 04 52 50.8
baz=330,slow=76,SNR=5577
H11S3 WAKE ISLAND Hy 30.07 139 T T 04 52 50.6
baz=330,slow=76,SNR=6876
H11S2 WAKE ISLAND Hy 30.08 139 T T 04 52 52.3
baz=330,slow=76,SNR=3768
SPIA Saint Paul Isl 30.42 48 P **P 04 21 06.8 +0.2**
baz=262
P08K Saint George I 30.72 49 P **P 04 21 08.6 -0.7**
baz=264
NIKH Nikolski High 30.91 56 P **P 04 21 11.0 -0.1**
baz=270
UNV Unalaska Valle 32.32 54 P **P 04 21 23.1 -0.3**
baz=271
LZH Lanzhou 33.26 272 *e*P P 04 21 37.9 +5.9
LZH pP sP 04 21 49.8 +0.8
LZH sP pP 04 21 56.8 +13
LZH pmax pmax
comp=Z,16nm,1.0s
K13K Kusilvak Mount 34.00 40 P **P 04 21 39.1 +1.1**
K13K IAmb IAmb 04 21 40.1
comp=Z,17nm,1.2s
K13K Kusilvak Mount 34.00 40 P **P 04 21 38.4 +0.4**
baz=260
ANM Nome 34.26 35 P **P 04 21 41.0 +0.8**
ANM Nome 34.26 35 P **P 04 21 41.0 +0.8**
ANM pmax pmax
comp=Z,20nm,1.1s
J14K Nanvaranak Lak 34.66 38 P **P 04 21 44.7 +1.1**
J14K Nanvaranak Lak 34.66 38 P **P 04 21 43.8 +0.2**
baz=260
L14K Kuka Creek 34.84 41 P **P 04 21 45.5 +0.2**
baz=263
F15K North Star Dit 34.86 33 P **P 04 21 45.2 -0.2**
baz=254
S12K Black Hills 34.86 51 P **P 04 21 45.3 -0.2**
baz=271
G15K Niukluk 34.92 34 P **P 04 21 45.8 -0.1**
baz=256
M14K Bethel 35.12 42 P **P 04 21 47.4 -0.2**
baz=264
N14K Kuskokwak Cree 35.19 43 P **P 04 21 48.2 0.0**
baz=266
O14K Tigyukauivet M 35.35 45 P **P 04 21 49.2 -0.5**
baz=267
C16K Lisburne Hills 35.38 29 P **P 04 21 49.8 0.0**
baz=250
L15K Ungalak Mounta 35.45 40 P **P 04 21 50.5 0.0**
baz=263
K15K Wolf Creek Mou 35.51 39 P **P 04 21 51.2 +0.2**
baz=262
H16K Elim 35.59 35 P **P 04 21 51.8 +0.2**
baz=258
G16K Koyuk River 35.70 34 P **P 04 21 52.1 -0.5**
baz=257
M15K Kasigluk River 35.74 42 P **P 04 21 52.1 -0.8**
baz=266
N15K Kwethluk River 36.00 43 P **P 04 21 55.5 +0.2**
baz=267
D17K Noatak River 36.01 30 P **P 04 21 55.3 +0.1**
baz=254
J16K Anvik River 36.07 38 P **P 04 21 56.3 +0.5**
J16K IAmb IAmb 04 22 20.1
comp=Z,5.8nm,0.8s
J16K Anvik River 36.07 38 P **P 04 21 55.7 -0.1**
baz=262
O15K Ungalikthiuk R 36.09 45 P **P 04 21 56.7 +0.7**
baz=268
I17K Unalakleet 36.12 37 P **P 04 21 56.3 +0.2**
baz=261
RDOG Red Dog Mine 36.18 30 P **P 04 21 57.3 +0.7**
baz=253
E17K Hotham Inlet 36.31 31 P **P 04 21 57.8 0.0**
baz=256
CHNA Chernabura Isl 36.32 52 P **P 04 21 58.3 +0.3**
baz=274
F17K Baldwin Pennin 36.38 32 P **P 04 21 58.3 -0.1**
baz=257,SNR=6.5
L16K Owhat River 36.41 41 P **P 04 21 59.1 +0.4**
baz=265
G17K Kiwalik Mounta 36.42 34 P **P 04 21 57.9 -0.8**
baz=259,SNR=9.3
M16K Timber Creek 36.61 42 P **P 04 21 59.3 -1.1**
baz=267
H17K Granite Mounta 36.63 35 P **P 04 21 59.7 -0.8**
baz=260,SNR=5.6
N16K Nishlik Lake 36.67 43 P **P 04 22 00.8 -0.1**
baz=268
J17K VABM Dome 36.77 38 P **P 04 22 01.9 +0.2**
baz=263,SNR=8.6
E18K Tukpahlearik C 36.86 31 P **P 04 22 02.7 +0.3**
E18K Tukpahlearik C 36.86 31 P **P 04 22 01.4 -1.1**
baz=256
B18K Kokolik River 36.95 28 P **P 04 22 03.2 0.0**
baz=253
C18K Utukok River 36.96 29 IAmb IAmb 04 22 16.4
comp=Z,6.5nm,1.1s
C18K Utukok River 36.96 29 P **P 04 22 02.8 -0.5**
baz=254
O16K Kokwok River B 36.99 44 P **P 04 22 03.5 -0.1**
baz=269
L17K Donlin 37.00 40 P **P 04 22 03.5 -0.2**
baz=266,SNR=5.2
F18K Selawik 37.04 32 P **P 04 22 03.6 -0.3**
baz=258,SNR=6.9
K17K Iditarod 37.05 39 P **P 04 22 04.0 -0.1**
baz=265,SNR=8.4
G18K Tagagawik 37.31 34 IAmb IAmb 04 22 08.6
comp=Z,7.0nm,0.8s
G18K Tagagawik 37.31 34 P **P 04 22 06.0 -0.3**
baz=260,SNR=9.0
H18K Honhosa River 37.31 35 P **P 04 22 06.8 +0.5**
baz=262,SNR=13
M17K Holitna River 37.37 41 P **P 04 22 07.3 +0.5**
baz=268
A19K Wainwright 37.45 26 P **P 04 22 07.8 +0.4**
baz=252,SNR=5.5
N17K Nushagak Hills 37.46 43 P **P 04 22 08.1 +0.5**
baz=269
O17K Koliganek Bris 37.49 44 P **P 04 22 08.6 +0.7**
baz=270
L18K Granite Mounta 37.76 40 IAmb IAmb 04 22 14.2
comp=Z,13nm,1.2s
L18K Granite Mounta 37.76 40 P **P 04 22 10.1 0.0**
baz=267
F19K Shaleruckik Mo 37.82 32 IAmb IAmb 04 22 12.5
comp=Z,8.9nm,1.2s
F19K Shaleruckik Mo 37.82 32 P **P 04 22 10.9 +0.3**
baz=260,SNR=8.5
J18K Innoko River 37.83 38 IAmb IAmb 04 22 12.9
comp=Z,8.1nm,0.9s
J18K Innoko River 37.83 38 P **P 04 22 11.1 +0.4**
baz=266,SNR=6.0
P17K Kvichak River 37.83 45 P **P 04 22 11.1 +0.3**
baz=271
GCSA Galena City Sc 37.88 36 P **P 04 22 10.5 -0.6**
baz=264
G19K Purcell Mounta 37.98 33 P **P 04 22 11.3 -0.7**
baz=262
D19K Kuna River 38.02 30 IAmb IAmb 04 22 15.0
comp=Z,6.5nm,0.8s
D19K Kuna River 38.02 30 P **P 04 22 11.3 -1.0**
baz=258,SNR=9.4
N18K Kilae Creek 38.10 42 P **P 04 22 12.7 -0.4**
baz=270
TTA Tatalina 38.11 39 P **P 04 22 13.2 0.0**
baz=267
E19K Redstone River 38.14 31 IAmb IAmb 04 22 17.9
comp=Z,7.3nm,0.9s
E19K Redstone River 38.14 31 P **P 04 22 13.2 0.0**
baz=260,SNR=12
M18K Stony River 38.14 41 P **P 04 22 13.8 +0.4**
baz=269
Q17K Contact Creek 38.15 46 P **P 04 22 14.1 +0.4**
baz=273
H19K Roundabout Mou 38.16 34 P **P 04 22 13.8 +0.4**
baz=263,SNR=26
J19K Poorman 38.36 37 P **P 04 22 15.4 +0.2**
baz=266,SNR=24
O18K Koktuh Hills 38.45 44 P **P 04 22 15.7 -0.3**
baz=272
P18K Big Mountain, 38.45 44 P **P 04 22 16.3 +0.2**
baz=272
Q18K Katmai Hardscr 38.59 46 P **P 04 22 17.4 +0.1**
baz=273
D20K Etivluk River 38.60 29 IAmb IAmb 04 22 40.0
comp=Z,6.3nm,0.8s
D20K Etivluk River 38.60 29 P **P 04 22 17.3 +0.2**
baz=259,SNR=10
L19K White Mountain 38.62 40 P **P 04 22 17.9 +0.5**
baz=269
F20K Avaraart Lake 38.65 32 P **P 04 22 17.5 0.0**
baz=262
E20K Nigu River 38.67 30 P **P 04 22 17.9 +0.1**
baz=260,SNR=6.8
B20K Meade River 38.69 27 P **P 04 22 17.7 -0.1**
baz=257,SNR=19
N19K Bonanza Creek 38.79 42 P **P 04 22 18.4 -0.5**
baz=271
H20K Anotleneega Mo 38.80 35 P **P 04 22 19.0 +0.1**
baz=265,SNR=20
M19K Big River Lodg 38.83 40 P **P 04 22 19.5 +0.4**
baz=270
O19K Port Alsworth 38.88 43 P **P 04 22 20.2 +0.7**
baz=272
I20K Naaghedeneel 38.91 36 P **P 04 22 19.6 -0.1**
baz=266
R18K Karluk 38.96 47 P **P 04 22 20.5 +0.2**
baz=275
K20K Telida 39.01 38 IAmb IAmb 04 22 23.1
comp=Z,7.4nm,0.9s
K20K Telida 39.01 38 P **P 04 22 20.6 -0.1**
baz=268,SNR=5.3
J20K Nowinta River 39.02 37 P **P 04 22 20.6 0.0**
baz=267,SNR=17
L20K Farewell, AK 39.08 40 P **P 04 22 21.7 +0.4**
baz=269
Q19K Cape Douglas, 39.29 45 P **P 04 22 23.0 0.0**
baz=274
C21K Knifeblade Rid 39.33 29 P **P 04 22 24.1 +0.8**
baz=260,SNR=8.6
NRIK Noril'sk 39.39 331 LR LR 04 38 39.5
comp=Z,44nm,21.6s,baz=74,slow=36
M20K Styx River 39.43 40 P **P 04 22 24.5 +0.2**
baz=271
P19K Oil Pt 39.45 44 P **P 04 22 24.8 +0.4**
baz=273
G21K Allakaket 39.46 33 IAmb IAmb 04 22 26.4
comp=Z,9.1nm,0.8s
G21K Allakaket 39.46 33 P **P 04 22 25.2 +0.8**
baz=265,SNR=14
B21K Ikpikpuk River 39.47 28 IAmb IAmb 04 22 27.1
comp=Z,10nm,0.7s
B21K Ikpikpuk River 39.47 28 P **P 04 22 24.9 +0.6**
baz=260
E21K Killik River 39.51 30 P **P 04 22 24.8 0.0**
baz=262
F21K Alatna River 39.54 32 P **P 04 22 24.7 -0.4**
baz=264
A22K Sinclair Lake 39.62 26 P **P 04 22 25.2 -0.4**
baz=258,SNR=9.5
OHAK Old Harbor 39.62 48 P **P 04 22 25.8 0.0**
baz=276
H21K Melozitna Rive 39.68 35 P **P 04 22 25.7 -0.5**
baz=266,SNR=14
GOMU GeErMu 39.77 278 P **P 04 22 27.8 0.0**
GOMU pP pP 04 22 38.8 -0.9
GOMU sP sP 04 22 43.0 -1.9
GOMU PcP **PcP 04 24 33.3 -0.1**
GOMU pmax pmax
comp=Z,29nm,0.8s
PZH PanZhiHua 39.78 260 P **P 04 22 28.3 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,6.0s
CHUM Lake Minchumin 39.81 37 P **P 04 22 27.5 +0.2**
baz=269,SNR=7.5
PPLA Purkeypile 39.86 39 P **P 04 22 27.9 0.0**
baz=270
SPCR Spurr Chakacha 39.89 42 P **P 04 22 28.4 +0.4**
baz=272
CAST Castle Rocks 39.91 38 IAmb IAmb 04 22 30.6
comp=Z,11nm,0.7s
CAST Castle Rocks 39.91 38 P **P 04 22 28.7 +0.5**
baz=270,SNR=14
KDAK Kodiak Island 39.94 47 P **P 04 22 28.6 +0.2**
baz=276
Q20K Shuyak Island 39.96 46 P **P 04 22 28.1 -0.5**
baz=275
I21K Tanana 39.99 35 IAmb IAmb 04 22 31.1
comp=Z,11nm,0.9s
I21K Tanana 39.99 35 P **P 04 22 28.9 +0.1**
baz=268,SNR=10
B22K Teshekpuk Lake 40.00 27 IAmb IAmb 04 22 30.5
comp=Z,6.2nm,0.7s
B22K Teshekpuk Lake 40.00 27 P **P 04 22 28.6 -0.1**
baz=260,SNR=7.4
D22K Ayikyak River 40.04 29 IAmb IAmb 04 22 31.8
comp=Z,5.3nm,0.7s
D22K Ayikyak River 40.04 29 P **P 04 22 29.9 +0.8**
baz=263,SNR=7.3
STLK Strandline Lak 40.06 41 IAmb IAmb 04 22 42.0
comp=Z,11nm,1.2s
F22K John River 40.07 32 P **P 04 22 30.2 +0.8**
baz=265,SNR=12
SKT Skwentna 40.18 40 P **P 04 22 30.7 +0.3**
baz=272
E22K Anaktuvuk Pass 40.27 31 P **P 04 22 31.6 +0.5**
baz=264,SNR=16
H22K Ishtalitna Cre 40.28 34 P **P 04 22 31.4 +0.3**
baz=268,SNR=10
G22K Bettles 40.28 33 P **P 04 22 31.0 -0.1**
baz=266
BPAW Bear Paw Mtn. 40.40 37 P **P 04 22 32.3 +0.1**
baz=270,SNR=6.1
CAPN Captain Cook N 40.42 42 P **P 04 22 31.3 -1.0**
baz=274
KTH Kantishna Hill 40.43 38 IAmb IAmb 04 22 46.0
comp=Z,16nm,0.9s
DAV Davao City (W) 40.47 213 LR LR 04 37 18.3
comp=Z,96nm,19.4s,baz=158,slow=33
SUA Susitna One 40.58 41 P **P 04 22 33.3 -0.5**
baz=273
BRSE Bradley Lake S 40.71 44 P **P 04 22 34.0 -0.8**
baz=275
TRF Thorofare Moun 40.72 38 P **P 04 22 34.4 -0.6**
baz=271
CUT Chulitna 40.76 40 P **P 04 22 34.6 -0.5**
baz=273
D23K Nanushuk River 40.77 29 P **P 04 22 34.8 -0.4**
baz=265,SNR=6.2
COLD Coldfoot 40.81 32 P **P 04 22 35.7 +0.1**
baz=267,SNR=6.2
ZALV Zalesovo Beam 40.85 307 P **P 04 22 35.7 -0.2**
comp=Z,0.5nm,0.4s,baz=74,slow=7.7,SNR=2.8
ZALV PcP **PcP 04 24 36.1 +0.1**
comp=Z,1.9nm,0.6s,baz=108,slow=3.1,SNR=8.4
ZALV LR LR 04 40 41.2
comp=Z,30nm,21.1s,baz=108,slow=38
comp=Z,0.5nm,0.4s
G23K Bananza Creek 40.86 33 P **P 04 22 35.9 0.0**
baz=268,SNR=9.3
C23K Itkillik River 40.88 28 P **P 04 22 36.0 0.0**
baz=264,SNR=9.1
H23K Yukon River 41.03 34 P **P 04 22 38.2 +0.9**
baz=269,SNR=34
E23K Chandalar 41.09 31 IAmb IAmb 04 22 49.6
comp=Z,6.0nm,0.7s
E23K Chandalar 41.09 31 P **P 04 22 38.3 +0.4**
baz=267,SNR=9.5
RC01 Rabbit Creek A 41.09 42 P **P 04 22 38.7 +0.8**
baz=275
I23K Minto, Yukon-K 41.10 35 P **P 04 22 38.2 +0.3**
baz=270,SNR=7.9
TOLK Toolik Lake Re 41.14 30 P **P 04 22 38.2 -0.1**
baz=266,SNR=6.2
NEA2 Nenana 41.23 36 IAmb IAmb 04 22 41.0
comp=Z,15nm,0.7s
NEA2 Nenana 41.23 36 P **P 04 22 39.7 +0.6**
baz=271,SNR=16
MCK McKinley 41.31 38 **P 04 22 40.5 +0.8**
MCK IAmb IAmb 04 22 57.2
comp=Z,10nm,0.9s

MCK **McKinley** 41.31 38 P **P** 04 22 40.5 +0.8
MCK pmax pmax
comp=Z,10.0nm,0.9s
MCK **McKinley** 41.31 38 P **P** 04 22 40.1 +0.4
baz=272,SNR=6.3
SEW **Seward** 41.32 43 P **P** 04 22 39.9 +0.1
baz=276
PMR **Palmer** 41.34 41 P **P** 04 22 39.8 -0.1
baz=274
RND **Reindeer** 41.36 38 **P** 04 22 40.4 +0.2
RND **Reindeer** 41.36 38 P **P** 04 22 40.4 +0.2
RND pmax pmax
comp=Z,7.0nm,0.8s
GHO **Glory Hole Cre** 41.43 40 P **P** 04 22 41.2 +0.4
GHO IAmb IAmb 04 23 01.6
comp=Z,20nm,1.3s
D24K **Happy Valley** 41.45 29 IAmb IAmb 04 22 43.2
comp=Z,11nm,0.6s
D24K **Happy Valley** 41.45 29 P **P** 04 22 41.4 +0.7
baz=266
E24K **Your Creek** 41.51 31 P **P** 04 22 42.3 +0.9
baz=268,SNR=20
C24K **Franklin Bluff** 41.53 28 P **P** 04 22 42.0 +0.7
baz=266,SNR=7.8
WRH **Wood River Hil** 41.66 36 **P** 04 22 43.3 +0.9
KNK **Knik Glacier** 41.68 41 IAmb IAmb 04 22 55.6
comp=Z,11nm,0.7s
KNK **Knik Glacier** 41.68 41 P **P** 04 22 43.2 +0.5
baz=275
SML **Sawmill** 41.71 40 **P** 04 22 43.7 +0.7
SML IAmb IAmb 04 22 55.5
comp=Z,11nm,0.7s
SML **Sawmill** 41.71 40 P **P** 04 22 43.7 +0.7
SML pmax pmax
comp=Z,11nm,0.7s
SML **Sawmill** 41.71 40 P **P** 04 22 43.3 +0.3
baz=275
H24K **Noodor Dome** 41.72 34 P **P** 04 22 44.1 +1.1
baz=271,SNR=11
F24K **Squaw Lake** 41.72 32 P **P** 04 22 43.7 +0.7
baz=269,SNR=13
COLA **College** 41.75 36 P **P** 04 22 44.4 +1.3
COLA IAmb IAmb 04 22 45.2
comp=Z,16nm,0.8s
COLA **College** 41.75 36 *i* P **P** 04 22 44.6 +1.4
COLA pmax pmax
comp=Z,17nm,0.9s
COLA **College** 41.75 36 P **P** 04 22 43.7 +0.5
baz=272
PWL **Port Wells** 41.79 42 P **P** 04 22 44.0 +0.3
baz=276
G24K **Hadweenzic Riv** 41.87 33 P **P** 04 22 44.7 +0.5
baz=270,SNR=10
POKR **Poker Plat Res** 41.92 35 IAmb IAmb 04 22 47.0
comp=Z,19nm,0.8s
POKR **Poker Plat Res** 41.92 35 P **P** 04 22 45.6 +1.0
baz=272,SNR=6.3
M23K **Glacier View** 41.99 40 P **P** 04 22 46.2 +0.9
baz=275
HDA **Harding Lake** 42.15 36 IAmb IAmb 04 22 47.7
comp=Z,8.9nm,0.6s
HDA **Harding Lake** 42.15 36 P **P** 04 22 47.2 +0.7
baz=273,SNR=11
IL31 **42.16** 36 IAmb IAmb 04 22 59.0
comp=Z,13nm,1.1s
ILAR **Eielson Array** 42.16 36 P **P** 04 22 46.8 +0.2
ILAR **Eielson Array** 42.16 36 P **P** 04 22 46.4 -0.3
comp=Z,4.9nm,0.6s,baz=273,slow=6.1,SNR=47
ILAR PcP **PcP** 04 24 39.7 -0.4
comp=Z,0.4nm,0.6s,baz=270,slow=3.5,SNR=1.6
comp=Z,4.9nm,0.6s
ILAR **Eielson Array** 42.16 36 P **P** 04 22 46.8 +0.2
SCM **Sheep Creek Mo** 42.18 40 P **P** 04 22 47.5 +0.7
baz=276
D25K **Kavik River** 42.33 29 P **P** 04 22 47.9 -0.1
baz=268,SNR=16
P23K **Montague Islan** 42.35 43 P **P** 04 22 48.5 +0.3
baz=278
GLI **Glacier Island** 42.39 42 P **P** 04 22 48.9 +0.4
baz=277
G25K **Bearman Lake** 42.42 33 P **P** 04 22 49.6 +0.9
baz=271
H25L **Birch Creek** 42.55 34 P **P** 04 22 50.7 +1.0
baz=272
F25K **Christian Rive** 42.58 32 P **P** 04 22 50.8 +0.8
baz=271,SNR=9.6
E25K **Arctic Village** 42.61 31 P **P** 04 22 50.8 +0.5
baz=270,SNR=9.5
M24K **Tolsona, Glenn** 42.69 40 P **P** 04 22 51.6 +0.6
baz=276
PRP **Porcupine Dome** 42.70 35 IAmb IAmb 04 22 53.2
comp=Z,14nm,0.6s
PRP **Porcupine Dome** 42.70 35 P **P** 04 22 51.4 +0.3
baz=273,SNR=19
K24K **Donnelly Dome** 42.71 37 IAmb IAmb 04 23 03.3
comp=Z,18nm,0.9s
K24K **Donnelly Dome** 42.71 37 P **P** 04 22 51.7 +0.6
baz=275,SNR=6.4
J25K **Salcha River,** 42.82 36 P **P** 04 22 52.2 +0.2
baz=274
C26K **Camden Bay** 42.86 28 P **P** 04 22 52.4 +0.2
baz=269
KLU **Klutina** 42.88 41 P **P** 04 22 53.0 +0.4
baz=277
PAX **Paxson** 42.92 38 P **P** 04 22 53.6 +0.6
baz=276
BMAR **Burnt Mountain** 42.99 32 P **P** 04 22 54.3 +0.9
EYAK **Cordova Ski Ar** 43.09 42 P **P** 04 22 54.7 +0.5
baz=278
RIDG **Independent Ri** 43.13 37 IAmb IAmb 04 23 06.9
comp=Z,9.5nm,0.9s
RIDG **Independent Ri** 43.13 37 P **P** 04 22 54.9 +0.4
baz=276
HARP **HAARP** 43.13 39 P **P** 04 22 55.0 +0.4
baz=277
F26K **Sheenjek River** 43.15 32 IAmb IAmb 04 22 57.8
comp=Z,10nm,0.8s
F26K **Sheenjek River** 43.15 32 P **P** 04 22 55.4 +0.8
baz=272,SNR=18
C27K **Jago River** 43.27 29 IAmb IAmb 04 22 58.7
comp=Z,7.0nm,0.8s
C27K **Jago River** 43.27 29 P **P** 04 22 55.7 +0.1
baz=270,SNR=12
G26K **Porcupine Rive** 43.33 33 IAmb IAmb 04 22 59.3
comp=Z,19nm,1.1s
G26K **Porcupine Rive** 43.33 33 P **P** 04 22 56.9 +0.9
baz=273,SNR=15
SCRK **Sand Creek** 43.48 37 P **P** 04 22 57.7 +0.3
baz=276,SNR=6.4
N25K **Chitina, Valde** 43.50 40 P **P** 04 22 58.1 +0.5
baz=278
BMRM **Bremner River** 43.59 41 P **P** 04 22 58.1 -0.1
baz=279
J26L **Joseph Creek** 43.61 36 P **P** 04 22 58.1 -0.3
baz=276
I26K **Coal Creek Min** 43.70 35 P **P** 04 22 59.7 +0.7
baz=276
MENT **Mentasta** 43.72 38 IAmb IAmb 04 23 16.9
comp=Z,5.6nm,0.5s
KAIM **Kayak Island** 43.85 43 P **P** 04 23 00.3 0.0
baz=280
L26K **Log Cabin Wild** 43.88 38 IAmb IAmb 04 23 03.0
comp=Z,7.0nm,0.7s
L26K **Log Cabin Wild** 43.88 38 P **P** 04 23 01.6 +1.1
baz=278,SNR=6.9
E27K **Coleen River** 44.09 31 P **P** 04 23 03.2 +1.0
baz=274,SNR=6.6
M26K **Nabesna, AK** 44.13 39 P **P** 04 23 03.4 +0.8
baz=279
G27K **Doyon Strip** 44.17 33 P **P** 04 23 03.9 +1.0
baz=275
D27M **Malcolm River** 44.25 29 P **P** 04 23 04.3 +0.8
baz=273
H27K **Steamboat Moun** 44.28 34 P **P** 04 23 05.1 +1.4
baz=276,SNR=15
K27K **Chicken** 44.31 37 IAmb IAmb 04 23 16.7
comp=Z,13nm,0.8s
K27K **Chicken** 44.31 37 P **P** 04 23 05.7 +1.7
baz=278
I27K **Kandik River** 44.31 34 P **P** 04 23 05.5 +1.4
baz=277
MK31 **Makanchi Array** 44.33 298 *ce*P **P** 04 23 03.7 -0.6
MKAR **Makanchi Array** 44.33 298 P **P** 04 23 03.9 -0.5
MKAR **Makanchi Array** 44.33 298 P **P** 04 23 03.7 -0.6
comp=Z,1.4nm,0.6s,baz=80,slow=9.2,SNR=15
MKAR PcP **PcP** 04 24 47.8 0.0
comp=Z,0.8nm,0.7s,baz=38,slow=2.6,SNR=2.2
MKAR LR LR 04 42 57.8
comp=Z,75nm,18.1s,baz=72,slow=38
comp=Z,1.4nm,0.6s
MKAR **Makanchi Array** 44.33 298 *i* P **P** 04 23 04.0 -0.3
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR **Makanchi Array** 44.33 298 *e*P **P** 04 23 04.0 -0.3
MAKZ **Makanchi** 44.52 298 P **P** 04 23 05.1 -0.8
MAKZ **Makanchi** 44.52 298 P **P** 04 23 05.1 -0.8
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
L27K **Beaver Creek,** 44.56 38 P **P** 04 23 07.2 +1.2
baz=279,SNR=9.7
BCAR **Beaver Creek A** 44.58 38 P **P** 04 23 07.6 +1.5
M27K **Edge Creek, AK** 44.65 39 P **P** 04 23 06.9 0.0
baz=280
E28M **Babbage River** 44.82 30 P **P** 04 23 09.0 +1.0
baz=275
I28M **Miner Creek** 45.03 35 P **P** 04 23 10.6 +0.8
baz=278,SNR=15
D28M **Stokes Point** 45.04 29 P **P** 04 23 10.0 +0.4
baz=275
BVCY **Beaver Creek** 45.11 39 P **P** 04 23 11.2 +0.8
baz=280
KURK **Kurchatov** 45.34 304 P **P** 04 23 11.7 -0.6
KURK **Kurchatov** 45.34 304 *ce*P **P** 04 23 12.3 0.0
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK **Kurchatov** 45.34 304 *e*P **P** 04 23 12.3 0.0
YUK3 **Moose Creek** 45.41 40 P **P** 04 23 13.3 +0.3
baz=281
KURBB **Kurchatov Arra** 45.43 304 P **P** 04 23 12.4 -0.6
comp=Z,3.1nm,0.6s,baz=70,slow=8.7,SNR=17
KURBB PcP **PcP** 04 24 51.0 -0.5
comp=Z,1.2nm,0.6s,baz=82,slow=3.1,SNR=6.9
comp=Z,3.1nm,0.6s
E29M **Blow River** 45.44 30 P **P** 04 23 14.0 +1.2
baz=277,SNR=17
DAWY **Dawson** 45.47 36 P **P** 04 23 14.0 +0.7
DAWY **Dawson** 45.47 36 P **P** 04 23 13.7 +0.5
baz=280
H29M **Whitestone** 45.55 33 P **P** 04 23 15.1 +1.3
baz=279,SNR=9.5
G29M **Pine Creek** 45.59 32 P **P** 04 23 15.1 +1.0
baz=278,SNR=16
I29M **Ogilvie Camp,** 45.71 34 IAmb IAmb 04 23 27.7
comp=Z,14nm,0.8s
I29M **Ogilvie Camp,** 45.71 34 P **P** 04 23 15.8 +0.7
baz=280
PINM **Pinnacle** 45.86 42 P **P** 04 23 17.4 +1.0
baz=283
J29N **Klondike Camp** 45.91 36 P **P** 04 23 17.7 +0.9
baz=281
EPYK **Eagle Plains** 46.19 33 P **P** 04 23 19.4 +0.6
baz=280,SNR=15
M29M **Somme Creek** 46.20 39 P **P** 04 23 19.4 +0.4
baz=282
L29M **L29M** 46.21 38 P **P** 04 23 20.4 +1.4
baz=282,SNR=6.0
G30M **tAoh Zraii Nji** 46.28 32 P **P** 04 23 19.6 0.0
baz=280
K29M **Barlow Dome** 46.33 36 P **P** 04 23 20.8 +0.8
baz=282
F30M **Barrier River** 46.34 31 P **P** 04 23 21.1 +1.1
baz=280,SNR=35
YUK4 **Talbot Arm** 46.35 40 P **P** 04 23 21.6 +1.2
baz=283
I30M **Mount Dempster** 46.54 34 P **P** 04 23 22.3 +0.6
baz=281,SNR=17
YUK6 **Outpost Mounta** 46.58 41 P **P** 04 23 22.2 0.0
baz=284
O29M **Mount Kennedy** 46.63 41 P **P** 04 23 22.6 +0.1
baz=284
J30M **Hart River** 46.69 35 P **P** 04 23 24.2 +1.3
baz=282
M30M **Minto, Yukon** 46.92 38 P **P** 04 23 26.1 +1.4
baz=284
HYT **Haines Junctio** 47.01 41 P **P** 04 23 27.5 +2.0
HYT **Haines Junctio** 47.01 41 P **P** 04 23 26.8 +1.3
baz=284,SNR=8.8
N30M **Aishikik Lake** 47.05 40 P **P** 04 23 26.0 +0.3
baz=284
INK **Inuvik** 47.06 30 P **P** 04 23 25.8 +0.3
INK **Inuvik** 47.06 30 P **P** 04 23 26.1 +0.6
baz=281,SNR=16
F31M **Tsiigehtchic** 47.14 31 P **P** 04 23 26.8 +0.6
baz=282,SNR=19
P29M **Windy Craggy** 47.21 42 P **P** 04 23 28.0 +1.1
baz=285,SNR=5.3
H31M **Peel River** 47.25 33 P **P** 04 23 28.5 +1.4
baz=282,SNR=12
P30M **Million Dollar** 47.46 41 P **P** 04 23 30.3 +1.4
baz=286
N31M **Braeburn, Yuko** 47.65 39 P **P** 04 23 31.6 +1.2
baz=285
O30N **Mendenhall** 47.70 40 P **P** 04 23 31.4 +0.7
baz=286
M31M **Drury Creek, Y** 48.10 38 P **P** 04 23 34.6 +0.8
baz=286
WHY **Whitehorse** 48.30 40 P **P** 04 23 36.8 +1.4
baz=287
SKAG **Skagway** 48.43 42 P **P** 04 23 37.2 +0.9
baz=287
S31K **Pelican** 48.44 44 P **P** 04 23 36.3 0.0
baz=288
FARO **Faro, Yukon** 48.56 38 P **P** 04 23 38.3 +0.9
baz=286
A36M **Sachs Harbour** 49.00 24 P **P** 04 23 40.9 +0.4
A36M **Sachs Harbour** 49.00 24 P **P** 04 23 41.6 +1.2
baz=285
N32M **Quiet Lake** 49.00 39 P **P** 04 23 41.9 +1.1
baz=288
P32M **Atlin** 49.18 41 P **P** 04 23 43.2 +1.0
baz=288
TARG **Taragay, Kyrgy** 49.28 293 P **P** 04 23 43.0 -0.6
TARG **Taragay, Kyrgy** 49.28 293 P **P** 04 23 43.0 -0.6
TARG pmax pmax
comp=Z,3.0nm,0.8s
MMPY **Sheldon Lake,** 49.38 37 P **P** 04 23 44.0 +0.4
baz=288
BVAR **Borovoye Array** 49.38 309 P **P** 04 23 43.2 -0.5
comp=Z,0.9nm,0.3s,baz=81,slow=8.9,SNR=6.6
BVAR PcP **PcP** 04 25 05.4 -0.1
comp=Z,1.2nm,0.6s,baz=80,slow=1.6,SNR=3.9
BVAR LR LR 04 46 17.9
comp=Z,44nm,19.4s,baz=68,slow=38
comp=Z,0.9nm,0.3s
P33M **Teslin, Yukon** 49.41 40 IAmb IAmb 04 23 46.3
comp=Z,6.5nm,0.9s
P33M **Teslin, Yukon** 49.41 40 P **P** 04 23 44.4 +0.5
baz=288
BRVK **Borovoye** 49.43 310 *ce*P **P** 04 23 43.9 -0.1
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BRVK **Borovoye** 49.43 310 *e*P **P** 04 23 43.9 -0.1
KDJ **Kajisay** 49.52 294 P **P** 04 23 45.0 -0.2
KDJ IAmb IAmb 04 23 46.2
comp=Z,4.7nm,0.8s
KDJ **Kajisay** 49.52 294 P **P** 04 23 45.0 -0.2
KDJ pmax pmax
comp=Z,5.0nm,0.8s
Q32M **Nakina River** 50.09 42 P **P** 04 23 49.5 +0.3
baz=290
C36M **Paulatuk** 50.12 28 P **P** 04 23 49.5 +0.5
baz=288,SNR=7.0
BOOM **Boomskoye usch** 50.18 295 P **P** 04 23 50.6 +0.4
R33M **Jennings River** 50.57 41 P **P** 04 23 53.3 +0.5
baz=290
U33K **Whale Pass** 50.66 46 P **P** 04 23 54.1 +0.8
baz=292
WRAK **Wrangell Islan** 50.95 45 P **P** 04 23 56.5 +1.0
baz=292
S34M **Telegraph Cree** 51.02 43 P **P** 04 23 57.2 +1.2
baz=292
TGTN **Hyland Airport** 51.06 38 P **P** 04 23 57.2 +0.9
baz=291
AAK **Ala-Archa** 51.07 296 *ce*P **P** 04 23 55.7 -1.2
AAK pmax pmax
comp=Z,1.0nm,0.5s
AAK **Ala-Archa** 51.07 296 *e*P **P** 04 23 55.7 -1.2
DLBC **Dease Lake** 51.37 42 P **P** 04 24 00.1 +1.4
baz=292
T35M **Bob Quinn** 51.81 44 P **P** 04 24 03.3 +1.3
baz=293
WRGLY **Wrigley** 52.51 35 P **P** 04 24 08.1 +1.1
baz=293
EUNU **Eureka** 53.40 10 P **P** 04 24 11.9 -1.5
KK31 **Karatay Array** 53.45 298 P **P** 04 24 14.1 -0.2
KK31 IAmb IAmb 04 24 14.9
comp=Z,5.1nm,0.8s
KK31 **Karatay Array** 53.45 298 P **P** 04 24 14.1 -0.2
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR **Karatay Array** 53.45 298 P **P** 04 24 13.5 -0.8
KKAR **Karatay Array** 53.45 298 IAmb IAmb 04 24 14.9
comp=Z,5.3nm,0.8s
KKAR **Karatay Array** 53.45 298 P **P** 04 24 13.5 -0.8
TOAD **Toad River Com** 53.51 40 P **P** 04 24 15.8 +1.3
baz=295
HNR **Honiara** 53.91 163 LR LR 04 44 05.7
comp=Z,49nm,21.5s,baz=44,slow=32
ARTI **Arti** 54.42 317 P **P** 04 24 19.7 -1.4
ARTI **Arti** 54.42 317 LR LR 04 50 07.3
comp=Z,55nm,20.5s,baz=52,slow=39
ARTI **Arti** 54.42 317 *c i* P **P** 04 24 20.2 -0.9
ARTI 04 25 22.4
ARTI 04 26 19.7
ARTI S **S** 04 31 56.5 +0.3
ARTI SS **SS** 04 35 34.4 -3.9
ARTI pmax pmax
comp=Z,8.0nm,0.8s
BBB **Bella Bella** 54.97 49 LR LR 04 47 55.3
comp=Z,16nm,19.7s,baz=250,slow=36
SPITS **Spitsbergen Ar** 55.12 349 P **P** 04 24 24.6 -1.3
comp=Z,11nm,1.0s,baz=38,slow=7.3,SNR=2.1
SPITS LR LR 04 49 20.2
comp=Z,28nm,18.2s,baz=6.5,slow=37
comp=Z,11nm,1.0s
GAR **Garm** 55.60 294 IAmb IAmb 04 24 31.1
comp=Z,6.0nm,0.6s
NIL **Nilore** 56.41 287 **P** 04 24 35.9 0.0
NIL **Nilore** 56.41 287 P **P** 04 24 35.9 0.0
NIL pmax pmax
comp=Z,9.0nm,0.7s
YKAW3 **Yellowknife Wh** 56.43 33 IAmb IAmb 04 24 37.6
comp=Z,5.6nm,0.9s
YKA **Yellowknife Ar** 56.47 33 P **P** 04 24 35.8 +0.1
comp=Z,4.5nm,0.9s,baz=302,slow=6.8,SNR=48
comp=Z,4.5nm,0.9s
YKA **Yellowknife Ar** 56.47 33 *i* P **P** 04 24 36.2 +0.5
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKAW1 **Yellowknife Wh** 56.52 33 IAmb IAmb 04 24 37.9
comp=Z,4.1nm,0.9s
AB31 **Akbulak array** 56.93 309 IAmb IAmb 04 24 40.1
comp=Z,5.9nm,0.5s
ABKAR **Akbulak array** 56.93 309 **P** 04 24 38.9 -0.3
ABKAR **Akbulak array** 56.93 309 IAmb IAmb 04 24 40.1
comp=Z,6.0nm,0.5s
AKTO **Aktyubinsk** 57.43 311 LR LR 04 51 13.6
comp=Z,60nm,18.9s,baz=112,slow=38
KIRV **Kirov** 57.62 322 LR LR 04 52 11.3
comp=Z,67nm,18.3s,baz=58,slow=39
KIRV **Kirov** 57.62 322 *ce*P **P** 04 24 44.5 +0.6
PSI **Prapat** 58.28 240 LR LR 04 51 45.1
comp=Z,66nm,18.7s,baz=146,slow=38
APA **Apatity** 58.57 336 *i,i* P P 04 24 55.7 +5.3
APA *i* 04 25 37.0
APA pmax pmax
comp=Z,4.0nm,0.8s
KBL **Kabul** 58.84 290 P **P** 04 24 52.4 -0.7
KBL IAmb IAmb 04 24 53.3
comp=Z,8.1nm,1.0s
KBL **Kabul** 58.84 290 P **P** 04 24 52.4 -0.7
KBL pmax pmax
comp=Z,8.0nm,1.0s
NEEM **North Greenlan** 59.04 4 *i* P **P** 04 24 52.7 -1.2
NEEM IAmb IAmb 04 24 53.7
comp=Z,9.7nm,0.8s
ARCES **ARCESS Array B** 59.48 339 P **P** 04 24 56.3 -0.5
comp=Z,1.0nm,0.5s,baz=34,slow=7.3,SNR=9.7
ARCES LR LR 04 55 58.7
comp=Z,40nm,18.3s,baz=29,slow=41
comp=Z,1.0nm,0.5s
BELG **Belogornoye** 61.86 317 LR LR 04 55 04.3
comp=Z,49nm,19.5s,baz=70,slow=39
ILON **Igloolik, Nuna** 62.18 17 IAmb IAmb 04 25 15.0
comp=Z,7.3nm,0.8s
JOF **Joensuu** 62.24 332 *e*P **P** 04 25 14.7 -0.8
NEW **Newport** 63.03 48 LR LR 04 53 16.4
comp=Z,22nm,19.3s,baz=306,slow=36
UPNV **Upernavik** 63.15 7 *i* P **P** 04 25 20.3 -1.2
UPNV IAmb IAmb 04 25 21.1
comp=Z,12nm,0.9s
WR8 **Warramunga Arr** 63.89 192 P **P** 04 25 26.9 -0.1
WR8 IAmb IAmb 04 25 48.0
comp=Z,14nm,1.4s
WRA **Warramunga Arr** 63.90 193 P **P** 04 25 27.8 +0.8
WRA **Warramunga Arr** 63.90 193 P **P** 04 25 26.9 -0.2
comp=Z,1.5nm,0.7s,baz=9.8,slow=6.8,SNR=7.6
comp=Z,1.5nm,0.7s
WRA **Warramunga Arr** 63.90 193 *i* P **P** 04 25 28.7 +1.7
WRA pmax pmax
comp=Z,2.0nm,0.7s
SUMG **Summit** 64.38 2 **P** 04 25 30.1 +0.1
SUMG **Summit** 64.38 2 P **P** 04 25 30.2 +0.1
SUMG pmax pmax
comp=Z,20nm,0.9s
SUMG **Summit** 64.38 2 *i* P **P** 04 25 30.0 0.0
SUMG IAmb IAmb 04 25 31.0
comp=Z,20nm,0.9s
KEF **Keuruu** 64.90 334 *e*P **P** 04 25 31.9 -1.2
VAF **Ylistaro** 64.95 335 *e*P **P** 04 25 33.0 -0.4
FINES **FINESS Array B** 65.03 333 P **P** 04 25 33.3 -0.7
comp=Z,6.0nm,0.6s,baz=41,slow=7.7,SNR=81
FINES LR LR 04 56 47.2
comp=Z,40nm,18.2s,baz=52,slow=39
comp=Z,6.0nm,0.6s
FINES **FINESS Array B** 65.03 333 *i* P **P** 04 25 33.7 -0.3
FINES pmax pmax
comp=Z,6.0nm,0.6s
OBN **Obninsk** 65.36 324 *e*P **P** 04 25 34.8 -1.4
OBN *e* 04 26 14.1
OBN *e* 04 28 00.4
OBN *e*PPP PPP 04 29 33.0
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,43nm,17.0s
OBN **Obninsk** 65.36 324 *e*P **P** 04 25 36.3 +0.1
VRH **Novokhopyorsk** 65.50 318 *e*P **P** 04 25 36.8 -0.4
VRH pmax pmax
comp=Z,16nm,1.0s
PLID **Pearl Lake** 65.53 50 P **P** 04 25 38.2 +0.3
UMMG **Uummannaq** 65.54 7 *i* P **P** 04 25 36.4 -0.7
UMMG IAmb IAmb 04 25 39.0
comp=Z,8.7nm,1.0s
LPSR **Galich'ya Gora** 65.94 320 *e*P **P** 04 25 39.6 -0.4
LPSR pmax pmax
comp=Z,17nm,1.1s
BEKR **Beckworth** 66.12 57 P **P** 04 25 41.5 -0.2
SCO **Scoresbysund** 66.22 356 P **P** 04 25 41.2 -0.3
SCO **Scoresbysund** 66.22 356 P **P** 04 25 41.2 -0.3
SCO pmax pmax
comp=Z,26nm,1.5s
SCO **Scoresbysund** 66.22 356 *i* P **P** 04 25 40.9 -0.6
SCO IAmb IAmb 04 25 42.5
comp=Z,6.2nm,0.8s
FFC **Flin Flon** 66.38 36 P **P** 04 25 43.3 +0.5
FFC IAmb IAmb 04 26 00.9
comp=Z,6.8nm,0.9s
FFC **Flin Flon** 66.38 36 P **P** 04 25 43.3 +0.5
FFC pmax pmax
comp=Z,7.0nm,1.0s
VORR **Voronezh** 66.41 320 P **P** 04 25 42.9 -0.1
VORR pmax pmax
comp=Z,12nm,0.7s
MEF **Metsahovi** 66.49 333 *e*P **P** 04 25 42.3 -1.1
ARBE **Arbavere** 66.52 331 *e*P **P** 04 25 43.6 0.0
VSR **Storozhevoye** 66.73 319 *e*P **P** 04 25 42.6 -2.5
VSR pmax pmax
comp=Z,9.0nm,0.8s
RAF **Rauma** 66.75 334 *e*P **P** 04 25 44.4 -0.6
VORD **Divnogorie** 66.83 319 *e*P **P** 04 25 44.2 -1.5
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSU **Vasula** 66.96 330 *ce*P **P** 04 25 45.7 -0.7
VSU pmax pmax
comp=Z,12nm,1.3s
VSU **Vasula** 66.96 330 *e*P **P** 04 25 45.2 -1.2
ILULI **Ilulissat** 67.06 7 *i* P **P** 04 25 46.4 -0.5
ILULI IAmb IAmb 04 25 48.5
comp=Z,14nm,0.8s
DZM **Mont Dzumac** 67.61 160 *e*LR LR 04 46 20.4

comp=Z,79nm,25.3s
ASAR Alice Springs 67.62 192 P **P 04 25 51.6 +0.6**
ASAR Alice Springs 67.62 192 P **P 04 25 50.9 0.0**
comp=Z,0.6nm,0.7s,baz=5.7,slow=5.3,SNR=9.5
comp=Z,0.6nm,0.7s
ASAR Alice Springs 67.62 192 P **P 04 25 51.6 +0.6**
BOZ Bozeman (W) 67.64 48 **P 04 25 51.4 +0.3**
BOZ IAmb IAmb 04 26 09.8
comp=Z,5.9nm,1.2s
BOZ Bozeman (W) 67.64 48 P **P 04 25 51.4 +0.3**
BOZ pmax pmax
comp=Z,6.0nm,1.3s
MTSE Matsula 67.81 332 *e*P **P 04 25 51.2 -0.6**
ICESG Greenland Ices 67.84 2 *i* P **P 04 25 51.3 -0.9**
NVAR Mina Array Bea 68.27 57 P **P 04 25 56.2 +0.9**
comp=Z,1.4nm,0.7s,baz=298,slow=6.2,SNR=12
comp=Z,1.4nm,0.7s
SLIT Slitere, Latvi 69.16 332 *e*P **P 04 25 59.2 -1.0**
SFJD Kangerlussuaq 69.26 7 LR LR 04 57 12.2
comp=Z,37nm,18.1s,baz=322,slow=37
SFJD Kangerlussuaq 69.26 7 *i* P **P 04 25 59.3 -1.4**
SFJD IAmb IAmb 04 26 02.2
comp=Z,24nm,1.4s
MNK Minsk 69.41 327 *i* P **P 04 26 02.7 +0.9**
MNK *i* *PP **pP 04 26 16.1 +1.5**
MNK *i* *SP **sP 04 26 21.2 +1.6**
MNK *i* *SP **PcP 04 26 21.5 -3.5**
MNK *i* 04 28 36.4
MNK *i* PPP PPP 04 30 17.3
MNK *i* S **S 04 35 07.2 +1.8**
MNK *i* SS **SS 04 39 36.0 +3.9**
MNK pmax pmax
comp=N,17nm,0.7s
MNK pmax pmax
comp=E,16nm,0.8s
MNK pmax pmax
comp=Z,19nm,0.9s
MNK MLR MLR
comp=E,150nm,19.0s
MNK MLR MLR
comp=Z,73nm,20.0s
MNK MLR MLR
comp=N,100nm,21.0s
NC303 NORSAR Array S 69.63 339 IAmb IAmb 04 26 04.0
comp=Z,4.5nm,0.8s
KIV Kislovodsk 69.67 312 **P 04 26 04.5 +0.7**
KIV Kislovodsk 69.67 312 *e*P **P 04 26 01.7 -2.0**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,48nm,17.0s
KIV Kislovodsk 69.67 312 *e*P **P 04 26 01.7 -2.0**
KIV Kislovodsk 69.67 312 P **P 04 26 04.5 +0.7**
comp=Z,26nm,1.0s
ERBR Yeremizino-Bor 69.69 314 *e*P **P 04 26 04.4 +0.7**
ERBR *e**PP **pP 04 26 18.8 +2.4**
ERBR pmax pmax
comp=Z,38nm,0.9s
KBZ Khabaz 69.70 311 P **P 04 26 03.8 +0.1**
comp=Z,13nm,0.8s,baz=64,slow=4.4,SNR=29
KBZ LR LR 05 01 30.0
comp=Z,76nm,18.9s,baz=72,slow=40
comp=Z,13nm,0.8s
KBZ Khabaz 69.70 311 *ce*P **P 04 26 05.0 +1.2**
KBZ pmax pmax
comp=Z,13nm,0.8s
KBZ Khabaz 69.70 311 *e*P **P 04 26 05.0 +1.2**
NC204 NORSAR Array S 69.75 339 IAmb IAmb 04 26 04.4
comp=Z,8.4nm,0.6s
FRB Frobisher Bay 69.76 16 LR LR 04 59 56.6
comp=Z,33nm,18.2s,baz=316,slow=39
SHA1 Shidzhatmaz 69.82 311 *i* P **P 04 26 06.0 +1.1**
NB2 NORSAR Subarra 69.83 339 P **P 04 26 03.6 -0.8**
comp=Z,6.5nm,0.7s,baz=31,slow=6.5
NB2 NORSAR Subarra 69.83 339 P **P 04 26 00.2 -4.2**
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 69.83 339 P **P 04 26 03.6 -0.8**
comp=Z,2.8nm,0.5s,baz=32,slow=6.5,SNR=74
NOA LR LR 05 01 41.6
comp=Z,51nm,18.8s,baz=5.0,slow=40
comp=Z,2.8nm,0.5s
HFS Hagfors 69.90 337 P **P 04 26 04.0 -0.7**
comp=Z,9.2nm,0.4s,baz=45,slow=6.5,SNR=103
HFS LR LR 05 02 04.1
comp=Z,34nm,18.6s,baz=65,slow=40
comp=Z,9.2nm,0.4s
HFS Hagfors 69.90 337 P **P 04 26 04.0 -0.7**
NBO00 NORSAR Array S 69.95 339 IAmb IAmb 04 26 05.5
comp=Z,7.1nm,0.9s
NORES NORESS Array B 70.00 338 P **P 04 26 04.7 -0.6**
PABE Paberze 70.18 329 *e*P **P 04 26 06.5 0.0**
LABN Labinsk 70.27 313 *e*P **P 04 26 05.9 -1.4**
LABN *e**PP **pP 04 26 18.7 -1.4**
LABN pmax pmax
comp=Z,19nm,0.7s
TPNV Topopah Spring 70.46 57 **P 04 26 10.0 +1.2**
TPNV IAmb IAmb 04 26 10.8
comp=Z,10nm,1.4s
TPNV Topopah Spring 70.46 57 P **P 04 26 10.0 +1.2**
TPNV pmax pmax
comp=Z,10.0nm,1.4s
PDAR Pinedale Array 70.60 49 P **P 04 26 10.2 +0.5**
PDAR Pinedale Array 70.60 49 P **P 04 26 10.0 +0.3**
comp=Z,0.7nm,0.7s,baz=248,slow=1.8,SNR=8.4
comp=Z,0.7nm,0.7s
KONO Kongsberg 71.44 338 *ce*P **P 04 26 13.0 -1.1**
KONO pmax pmax
comp=Z,17nm,2.5s
AK03 Malin Array Si 71.61 323 P **P 04 26 14.2 -1.1**
AKASG Malin Array Be 71.63 323 P **P 04 26 15.7 +0.3**
AKASG Malin Array Be 71.63 323 P **P 04 26 14.9 -0.5**
comp=Z,8.1nm,0.5s,baz=41,slow=6.0,SNR=70
AKASG LR LR 05 00 32.4
comp=Z,58nm,19.7s,baz=66,slow=38
comp=Z,8.1nm,0.5s
AKASG Malin Array Be 71.63 323 *i* P **P 04 26 14.8 -0.6**
AKASG pmax pmax
comp=Z,8.0nm,0.5s
AKBB Malin Array Si 71.63 323 *ce*P **P 04 26 14.8 -0.6**
AKBB pmax pmax
comp=Z,16nm,0.8s
AKBB Malin Array Si 71.63 323 P **P 04 26 14.6 -0.8**
AK04 Malin Array Si 71.64 323 P **P 04 26 14.6 -0.9**
AK01 Malin Array Si 71.64 323 P **P 04 26 14.5 -1.0**
KIEV Kiev 71.64 323 **P 04 26 15.0 -0.5**
KIEV Kiev 71.64 323 ⇓P **P 04 26 15.4 -0.1**
KIEV Kiev 71.64 323 ⇓P **P 04 26 15.4 -0.1**
KIEV Kiev 71.64 323 P **P 04 26 14.7 -0.8**
comp=Z,1μcomp=Z,87nm,0.8s
AK22 Malin Array Si 71.65 324 P **P 04 26 14.7 -0.8**
ANN Anapa 71.89 315 *e*P **P 04 26 16.4 -0.7**
ANN *e**PP **pP 04 26 27.4 -2.5**
ANN pmax pmax
comp=Z,33nm,0.8s
MI28 MI28,Pidlybu 72.13 324 P **P 04 26 17.8 -0.6**
RNPP9 Sopachiv 72.51 326 P **P 04 26 20.4 -0.3**
RNPP8 Varash 72.58 326 P **P 04 26 20.6 -0.5**
RNPP5 Staryi Chortor 72.65 325 P **P 04 26 21.1 -0.4**
LUBAR Lubar, Ukraine 72.84 324 P **P 04 26 22.0 -0.7**
GURO Guroymak-BITLI 73.63 308 IAmb IAmb 04 26 29.9
comp=Z,7.5nm,0.8s
GOET G??ttrup 73.78 337 *i* P **P 04 26 28.6 +0.6**
GOET IAmb IAmb 04 26 29.0
comp=Z,24nm,0.8s
PV10 Paradox Valley 73.83 52 IAmb IAmb 04 26 47.2
comp=Z,8.1nm,0.8s
SORM Soroca 73.90 322 ⇑P **P 04 26 28.4 -0.6**
SORM Soroca 73.90 322 ⇑P **P 04 26 28.4 -0.6**
SORM Soroca 73.90 322 P **P 04 26 28.3 -0.6**
comp=Z,20nm,0.8s
COP Copenhagen 73.97 335 *i* P **P 04 26 28.1 -1.1**
COP IAmb IAmb 04 26 28.5
comp=Z,46nm,0.8s
NDNU Novodnistrovsk 74.00 323 P **P 04 26 29.1 -0.4**
MUD Monsted U'grnd 74.29 337 *i* P **P 04 26 31.1 +0.1**
MUD IAmb IAmb 04 26 31.7
comp=Z,7.5nm,0.7s
KMPD K-Podol'skiy 74.42 323 P **P 04 26 31.0 -0.9**
KMPD P **P 04 26 31.2 -0.7**
STNU Starunia 75.15 324 P **P 04 26 35.8 -0.4**
RAKU Rahkiv 75.82 324 P **P 04 26 39.5 -0.6**
OJC Ojcow 75.88 328 *e*P **P 04 26 40.6 +0.2**
OJC Ojcow 75.88 328 P **P 04 26 40.0 -0.4**
OJC Ojcow 75.88 328 P **P 04 26 40.0 -0.4**
comp=Z,17nm,0.9s
TESR Tescani 75.89 322 ⇓P **P 04 26 40.6 +0.1**
TESR Tescani 75.89 322 P **P 04 26 40.1 -0.4**
comp=Z,467nmcomp=Z,20nm,0.7s
KOLS Kolonicke sedl 75.91 326 *e*P **P 04 26 41.4 +0.8**
KOLS pmax pmax
comp=Z,8.0nm,1.0s
KOLS Kolonicke sedl 75.91 326 *e*P **P 04 26 41.4 +0.8**
STHS Stebnicka Huta 75.95 327 *e*P **P 04 26 40.8 0.0**
STHS Stebnicka Huta 75.95 327 *e*P **P 04 26 40.8 0.0**
BSEG Bad Segeberg 76.11 335 *e*P 04 26 41.6
comp=Z,7.9nm,0.8s,baz=31,slow=5.4
CFR Carcaliu 76.21 320 ⇓P **P 04 26 42.8 +0.5**
CFR Carcaliu 76.21 320 ⇓P **P 04 26 42.8 +0.5**
BERU Beregovo 76.30 325 P **P 04 26 43.1 +0.4**
TPGR Topolog 76.31 320 ⇑P **P 04 26 43.5 +0.5**
NIE Niedzica 76.32 327 *e*P **P 04 26 43.8 +0.9**
NIE Niedzica 76.32 327 P **P 04 26 43.1 +0.2**
NIE Niedzica 76.32 327 P **P 04 26 43.1 +0.2**
comp=Z,5.5nm,0.9s
VRI Vrincioaia 76.34 321 ⇓P **P 04 26 43.6 +0.5**
VRI Vrincioaia 76.34 321 ⇓P **P 04 26 43.6 +0.5**
PLOR Plostina 76.39 321 ⇑P **P 04 26 46.2 +2.8**
PLOR Plostina 76.39 321 ⇑P **P 04 26 46.2 +2.8**
OZUR 76.59 322 ⇑P **P 04 26 45.6 +1.1**
COVR Voineasa-Covas 76.59 322 ⇑P **P 04 26 45.8 +1.3**
KSP Ksiaz 76.69 330 *e*P **P 04 26 45.1 +0.2**
KSP Ksiaz 76.69 330 P **P 04 26 44.9 -0.1**
KSP Ksiaz 76.69 330 P **P 04 26 44.9 -0.1**
comp=Z,8.7nm,0.8s
LANS Liptovska Anna 76.86 327 *e*P **P 04 26 47.1 +1.1**
LANS pmax pmax
comp=Z,5.0nm,0.7s
LANS Liptovska Anna 76.86 327 *e*P **P 04 26 47.1 +1.1**
DOPR Dopca 76.87 322 ⇓P **P 04 26 47.4 +1.4**
STEB Steborice 76.89 329 *e*P **P 04 26 46.6 +0.5**
MLR Muntele Rosu 76.98 322 LR LR 05 03 21.5
comp=Z,62nm,20.7s,baz=250,slow=38
MLR Muntele Rosu 76.98 322 P **P 04 26 47.6 +0.8**
MLR Muntele Rosu 76.98 322 P **P 04 26 47.6 +0.8**
comp=Z,6.5nm,1.5s
CHVC Chvalec 76.99 330 *e*P **P 04 26 46.5 -0.2**
CHVC Chvalec 76.99 330 *e*P **P 04 26 46.5 -0.2**
DPC Dobruska-Polom 77.09 330 *e*P **P 04 26 47.9 +0.7**
DPC Dobruska-Polom 77.09 330 *e*P **P 04 26 47.9 +0.7**
DPC Dobruska-Polom 77.09 330 P **P 04 26 47.5 +0.3**
comp=Z,6.7nm,1.0s
MORC Moravsky Berou 77.10 329 IAmb IAmb 04 26 48.7
comp=Z,6.4nm,0.9s
MORC Moravsky Berou 77.10 329 *e*P **P 04 26 47.7 +0.4**
MORC Moravsky Berou 77.10 329 ⇓P **P 04 26 48.1 +0.7**
MORC Moravsky Berou 77.10 329 ⇓P **P 04 26 48.1 +0.7**
FLTG Flechtingen 77.19 334 *e*P 04 26 47.6
comp=Z,7.6nm,0.8s,baz=31,slow=5.4
MAUC Maruska 77.33 328 *e*P **P 04 26 49.2 +0.6**
VOIR 77.43 322 ⇑P **P 04 26 50.6 +1.3**
VOIR 77.43 322 P **P 04 26 49.8 +0.5**
VOIR 77.43 322 P **P 04 26 49.8 +0.5**
comp=Z,7.9nm,0.8s
CLL Collm 77.47 332 P **P 04 26 48.0 -1.3**
CLL Collm 77.47 332 P **P 04 26 48.0 -1.3**
comp=Z,16nm,0.9s
CLL Collm 77.47 332 *i* P **P 04 26 48.7 -0.6**
comp=Z,14nm,0.9s
CLL *e*PcP **PcP 04 26 58.0 -1.5**
CLL *i* pP **sP 04 27 05.3 -1.8**
BR131 Keskin Array S 77.47 313 **P 04 26 49.8 +0.1**
BR131 IAmb IAmb 04 26 50.4
comp=Z,5.1nm,1.1s
BR131 Keskin Array S 77.47 313 P **P 04 26 49.8 +0.1**
BR131 pmax pmax
comp=Z,5.0nm,1.1s
BRTR Keskin Array B 77.47 313 P **P 04 26 50.1 +0.5**
comp=Z,2.0nm,0.7s,baz=88,slow=3.4,SNR=13
comp=Z,2.0nm,0.7s
CLL Collm 77.47 332 *e*P 04 26 49.2
comp=Z,10nm,0.8s,baz=31,slow=5.4
CLL *es*P 04 27 06.7
BR106 Keskin Array S 77.47 313 P **P 04 26 50.1 +0.4**
comp=Z,3.1nm,0.8s
BR104 Keskin Array S 77.48 313 P **P 04 26 50.0 +0.3**
comp=Z,2.9nm,0.9s
BR105 Keskin Array S 77.48 313 P **P 04 26 49.8 0.0**
comp=Z,3.5nm,0.8s
BRG Berggiesshubel 77.51 331 *e*P **P 04 26 49.6 +0.1**
BRG Amp 04 26 52.1
comp=Z,2.6nm,0.8s
BRG Berggiesshubel 77.51 331 *e*P 04 26 49.5
comp=Z,2.2nm,0.8s,baz=31,slow=5.4
VYHS Vyhne 77.64 327 *e*P **P 04 26 50.5 +0.2**
VYHS pmax pmax
comp=Z,3.0nm,0.7s
VYHS Vyhne 77.64 327 *e*P **P 04 26 50.5 +0.2**
ARR Arges 77.67 322 ⇑P **P 04 26 52.3 +1.7**
JAVC Velka Javorina 77.80 328 *e*P **P 04 26 52.6 +1.3**
ANTO Ankara 77.81 314 P **P 04 26 52.1 +0.6**
ANTO Ankara 77.81 314 P **P 04 26 52.1 +0.6**
comp=Z,9.4nm,0.8s
VRAC Vranov 77.84 329 LR LR 05 03 28.1
comp=Z,53nm,20.5s,baz=48,slow=37
VRAC Vranov 77.84 329 *e*P **P 04 26 51.9 +0.5**
VRAC Vranov 77.84 329 ⇓P **P 04 26 52.3 +0.9**
VRAC Vranov 77.84 329 ⇓P **P 04 26 52.3 +0.9**
CLZ Clausthal 77.89 334 *e*P 04 26 51.7
comp=Z,7.2nm,0.7s,baz=31,slow=5.4
GOPC GO Pecny, Ondr 78.00 330 *e*P **P 04 26 52.8 +0.5**
GOPC GO Pecny, Ondr 78.00 330 *e*P **P 04 26 52.8 +0.5**
PRU Pruhonice 78.03 331 *e*P **P 04 26 53.0 +0.6**
PRU Pruhonice 78.03 331 *e*P **P 04 26 53.0 +0.6**
KRUC Moravsky 78.12 329 *e*P **P 04 26 53.4 +0.5**
SMOL Smolenice 78.17 328 *e*P **P 04 26 54.3 +1.0**
SMOL pmax pmax
comp=Z,3.0nm,0.8s
TREC Trest 78.26 330 *e*P **P 04 26 54.1 +0.3**
TREC Trest 78.26 330 *e*P **P 04 26 54.1 +0.3**
GTTG Gottingen 78.27 334 *e*P 04 26 53.5
comp=Z,8.0nm,0.7s,baz=31,slow=5.4
IBBN Ibbenben 78.30 336 *e*P 04 26 53.7
comp=Z,9.5nm,0.8s,baz=31,slow=5.4
IBBN *es*P 04 27 11.4
MODS Modra-Piesok 78.34 328 *e*P **P 04 26 55.4 +1.1**
MODS pmax pmax
comp=Z,13nm,1.1s
MODS Modra-Piesok 78.34 328 *e*P **P 04 26 55.4 +1.1**
SRO Srobarova 78.40 327 *e*P **P 04 26 55.6 +1.1**
SRO pmax pmax
comp=Z,8.0nm,1.0s
SRO Srobarova 78.40 327 *e*P **P 04 26 55.6 +1.1**
EKA Eskdalemuir Ar 78.40 343 P **P 04 26 54.3 -0.1**
comp=Z,3.9nm,0.5s,baz=25,slow=5.3,SNR=37
comp=Z,3.9nm,0.5s
TANN Tannenbergstha 78.41 332 *e*P 04 26 54.2
baz=31,slow=5.4
SURR Surduc 78.47 324 ⇓P **P 04 26 55.5 +0.5**
GZR Gura Zlata 78.47 323 ⇓P **P 04 26 55.5 +0.4**
GZR Gura Zlata 78.47 323 ⇓P **P 04 26 55.5 +0.4**
MOX Moxa 78.50 333 *e*P 04 26 55.0
comp=Z,2.1nm,0.7s,baz=31,slow=5.4
ZVC Zvikov 78.51 330 *e*P **P 04 26 56.0 +0.3**
BZS Buzias 78.80 324 ⇓P **P 04 26 56.8 +0.1**
BZS Buzias 78.80 324 ⇓P **P 04 26 56.8 +0.1**
UBBA Unterbreizbach 78.88 334 *e*P 04 26 56.6
comp=Z,1.6nm,0.7s,baz=31,slow=5.4
MANZ Manzenberg 78.89 332 *e*P 04 26 57.3
comp=Z,0.4nm,0.7s,baz=31,slow=5.4
ROTZ Rotzenmuhle 79.04 332 *e*P 04 26 57.6
comp=Z,0.6nm,0.8s,baz=31,slow=5.4
CKRC Cesky Krumlov 79.09 330 *e*P **P 04 26 58.3 0.0**
CKRC Cesky Krumlov 79.09 330 *e*P **P 04 26 58.3 0.0**
KHC Kasperske Hory 79.09 331 *e*P **P 04 26 58.8 +0.4**
KHC Kasperske Hory 79.09 331 *ce*P **P 04 26 59.0 +0.6**
KHC pmax pmax
comp=Z,13nm,0.8s
KHC Kasperske Hory 79.09 331 P **P 04 26 58.1 -0.3**
comp=Z,9.7nm,1.1s
BUG Bochum--Univer 79.20 335 *e*P 04 26 58.4
comp=Z,6.0nm,0.7s,baz=31,slow=5.4
MPLH Magyarpolny 79.22 327 P **P 04 26 58.8 -0.3**
comp=Z,17nm,0.8s
CONA Conrad Observa 79.25 329 *e*P **P 04 26 57.5 -1.8**
comp=Z,3.0nm,0.7s
RONA Rosalia, Austr 79.28 328 *i* P **P 04 26 58.8 -0.6**
comp=Z,5.4nm,0.8s
GERES GERESS Array B 79.29 330 P **P 04 26 59.2 -0.4**
comp=Z,1.1nm,0.6s,baz=38,slow=6.8,SNR=11
GERES LR LR 05 05 15.3
comp=Z,54nm,18.8s,baz=63,slow=38
comp=Z,1.1nm,0.6s
GEC2 GERESS Array S 79.29 330 *e*P 04 26 59.6
comp=Z,1.9nm,0.9s,baz=31,slow=5.4
WET Wettzell 79.33 331 *e*P 04 26 59.3
comp=Z,3.3nm,0.9s,baz=31,slow=5.4
WET *es*P 04 27 17.0
MDVR Moldovita 79.42 323 ⇓P **P 04 27 00.2 0.0**
GRF Grafenberg Arr 79.44 332 *e*P 04 26 60.0
comp=Z,5.8nm,0.7s,baz=31,slow=5.4
MORH Mrgy, Hungar 79.56 326 ⇓P **P 04 27 00.8 -0.1**
MORH Mrgy, Hungar 79.56 326 P **P 04 27 00.6 -0.3**
comp=Z,2.5nm,1.1s
TNS Taunus Mts 79.90 334 *e*P 04 27 02.4
comp=Z,2.8nm,0.8s,baz=31,slow=5.4
MOA Molln 79.92 330 *e*P **P 04 27 02.4 -0.5**
comp=Z,1.1nm,0.6s
ARSA Arzberg 79.94 328 *e*P **P 04 27 02.8 -0.2**
comp=Z,2.6nm,0.9s
BIOA Bad Ischl, Aus 80.28 330 *i* P **P 04 27 04.7 -0.1**
comp=Z,2.9nm,0.7s
BTNL Ternell 80.30 336 *d*P **P 04 27 04.8 0.0**
comp=Z,5.3nm,1.1s
MEM Membach 80.31 336 *d*P **P 04 27 04.3 -0.6**
comp=Z,5.5nm,0.9s
BSTI Sart Tilman 80.47 336 *d*P **P 04 27 05.4 -0.4**
BSTI *d*PcP **PcP 04 27 12.5 -0.1**
BHOU Houvegnez 80.54 336 *d*P **P 04 27 05.7 -0.5**
RJOB Jochberg 80.55 330 *e*P 04 27 06.4
comp=Z,3.1nm,0.8s,baz=31,slow=5.4
SOKA Soboth 80.61 328 *i* P **P 04 27 06.8 +0.2**
comp=Z,4.6nm,0.8s
BCLA Clavier 80.69 336 *d*P **P 04 27 06.6 -0.3**
comp=Z,3.3nm,0.7s
BGES Gesves 80.79 336 *d*P **P 04 27 07.5 +0.1**
comp=Z,4.6nm,0.9s
LESA Schwarzleotal 80.86 330 *i* P **P 04 27 08.3 +0.3**
comp=Z,4.3nm,0.7s
KBA Koelnbreinsper 80.90 330 P **P 04 27 08.6 +0.2**
KBA Koelnbreinsper 80.90 330 *i* P **P 04 27 09.0 +0.6**
comp=Z,4.8nm,0.7s
STU Stuttgart 80.91 333 IAmb IAmb 04 27 09.0
comp=Z,8.2nm,0.8s
STU Stuttgart 80.91 333 P **P 04 27 09.2 +1.0**
STU pmax pmax
comp=Z,11nm,0.9s
STU Stuttgart 80.91 333 *e*P 04 27 08.0
comp=Z,14nm,0.7s,baz=31,slow=5.4
STU *es*P 04 27 25.2
BMRD Maredsous 80.96 336 *d*P **P 04 27 08.0 -0.3**
BMRD *d*PcP **PcP 04 27 14.8 +0.1**
RAR Rarotonga 81.00 130 LR LR 05 04 05.1
comp=Z,65nm,18.4s,baz=154,slow=36
DOU Dourbes 81.19 336 *d*P **P 04 27 09.3 -0.3**
DOU *dp*P **pP 04 27 21.7 -0.9**
WATA Walderalm 81.33 331 *i* P **P 04 27 10.7 +0.1**
comp=Z,3.0nm,0.6s
MMAI Mount Meron Ar 81.34 308 P **P 04 27 10.6 -0.2**
comp=Z,5.1nm,0.7s,baz=36,slow=12,SNR=2.6
MMAI LR LR 05 09 29.2
comp=Z,36nm,18.8s,baz=99,slow=40
comp=Z,5.1nm,0.7s
WTTA Wattenberg 81.37 331 *i* P **P 04 27 10.8 0.0**
comp=Z,4.3nm,0.6s
RETA Reutte 81.48 331 *e*P **P 04 27 11.6 +0.3**
comp=Z,0.8nm,0.3s
MOTA Moosalm 81.49 331 *i* P **P 04 27 11.5 0.0**
comp=Z,6.2nm,0.9s
ABTA Abfaltersbach 81.49 330 *i* P **P 04 27 10.0 -1.3**
comp=Z,3.3nm,1.0s
SQTA Sankt Quirin 81.56 331 *i* P **P 04 27 12.0 +0.2**
comp=Z,2.8nm,0.5s
BFO Black Forest 81.58 333 P **P 04 27 11.8 0.0**
BFO IAmb IAmb 04 27 12.3
comp=Z,3.7nm,0.7s
BFO Black Forest 81.58 333 P **P 04 27 11.8 0.0**
BFO pmax pmax
comp=Z,4.0nm,0.7s
BFO Black Forest 81.58 333 *e*P 04 27 11.6
comp=Z,2.6nm,0.8s,baz=31,slow=5.4
FETA Feichten 81.90 331 *i* P **P 04 27 13.6 0.0**
comp=Z,2.6nm,1.0s
DAVA Damuels 81.96 332 *i* P **P 04 27 14.0 0.0**
comp=Z,2.0nm,0.6s
ECH Echery 82.06 334 IAmb IAmb 04 27 14.8
comp=Z,4.6nm,0.9s
DAVOX Davos/Dischmat 82.40 332 LR LR 05 07 47.2
comp=Z,45nm,20.0s,baz=72,slow=38
FUORN Ofenpass-Fuorn 82.41 331 IAmb IAmb 04 27 17.6
comp=Z,5.4nm,0.9s
TUE Stuetta 82.85 332 P **P 04 27 18.6 -0.1**
comp=Z,17nm,0.8s
TXAR Lajitas Array 83.34 56 P **P 04 27 22.0 +0.7**
TXAR Lajitas Array 83.34 56 P **P 04 27 21.6 +0.3**
comp=Z,1.9nm,0.7s,baz=301,slow=3.9,SNR=28
comp=Z,1.9nm,0.7s
TAOE Nuku Hiva Isla 84.19 108 *e*LR LR 04 53 54.5
comp=Z,43nm,24.9s
PPT Papeete 84.25 120 LR LR 05 00 25.9
comp=Z,46nm,20.7s,baz=297,slow=32
PPT2 Papeete2 84.26 121 *e*LR LR 04 53 50.5
comp=Z,70nm,25.2s
TBI Tubuai 88.65 124 *e*LR LR 04 56 02.6
comp=Z,246nm,27.8s
ESDC Sonseca Array 93.17 338 P **P 04 28 07.6 -0.7**
comp=Z,1.2nm,0.7s,baz=10,slow=3.6,SNR=12
ESDC LR LR 05 15 49.9
comp=Z,27nm,18.6s,baz=18,slow=39
comp=Z,1.2nm,0.7s
RKT Rikitea 97.70 114 *e*LR LR 05 00 15.2
comp=Z,362nm,38.0s
MDT Midelt 99.75 336 LR LR 05 18 34.4
comp=Z,34nm,18.5s,baz=163,slow=38
H03N2 Juan Fernandez 143.50 90 T T 07 14 05.4
baz=304,slow=76,SNR=10
H03N3 Juan Fernandez 143.51 90 T T 07 14 03.8
baz=304,slow=76,SNR=7.1
H03N1 Juan Fernandez 143.51 90 T T 07 14 06.8
baz=304,slow=76,SNR=9.9
BDFB Brasilia 149.80 29 PKPbc **PKPbc 04 34 44.5 +0.1**
comp=Z,5.0nm,1.1s,baz=194,slow=10.0,SNR=4.2

NEIC ***19*** *04:39:46.3±1.5, 19°.29S±0°.08×177°.2W±0°.2, h579km±13km, mb4.3/12, Error ellipse: s-maj=23.9km s-min=10.1km az=102.0*

IDC ***19*** *04:39:47.9±2.1, 19°.43S×177°.60W, h576km±22km, mb3.0/5, mbtmp4.0/7, Error ellipse: s-maj=27.3km s-min=23.3km az=36.0*

ISC 19 04:39:47.2±0.8, 19°.2S±0°.1×177°.3W±0°.1, h600km, n24, σ1$66/25, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.62**	**287**	P	**P**	**04 41 15.7**	**-1.6**
MSVF	**Nonsavu**	**4.62**	**287**	P	**P**	**04 41 15.6**	**-1.7**
11nm,0.6s,baz=142,slow=19,SNR=9.6							
FUTU	**Fugatoga**	**4.91**	**351**	P	**P**	**04 41 17.1**	**-2.4**
NIUE	**Niue**	**6.99**	**90**	P	**P**	**04 41 33.7**	**-3.5**
AFI	**Afiamalu**	**7.47**	**46**	P	**P**	**04 41 40.1**	**-1.6**
URZ	**Urewera**	**19.61**	**193**	P	**P**	**04 43 35.5**	**-1.7**
4.4nm,0.3s,baz=350,slow=1.9,SNR=14							
QRZ	**Quartz Range**	**23.25**	**200**	P	**P**	**04 44 09.5**	**-0.3**
QRZ				IAmb	IAmb	04 44 33.9	
comp=Z,16nm,1.2s							
LTZ	**Lake Taylor**	**25.11**	**198**	P	**P**	**04 44 24.2**	**-2.1**
LTZ				IAmb	IAmb	04 44 53.9	
comp=Z,17nm,1.3s							
FOZ	**Fox Glacier**	**26.57**	**201**	P	**P**	**04 44 38.3**	**-0.7**
TOO	**Toolangi**	**37.19**	**233**	P	**P**	**04 46 09.4**	**+0.4**
TOO				IAmb	IAmb	04 46 37.5	
comp=Z,6.3nm,1.4s							
STKA	**Stephens Creek**	**38.94**	**243**	P	**P**	**04 46 24.0**	**+0.8**
STKA	**Stephens Creek**	**38.94**	**243**	P	**P**	**04 46 23.6**	**+0.4**
comp=Z,1.3nm,0.5s,baz=87,slow=7.9,SNR=3.9							
comp=Z,1.3nm,0.5s							
BBOO	**Buckleboo**	**43.71**	**242**	P	**P**	**04 47 01.2**	**+0.5**
WR8	**Warramunga Arr**	**45.27**	**261**	P	**P**	**04 47 12.4**	**-0.5**
WR8				IAmb	IAmb	04 47 17.9	
comp=Z,11nm,1.5s							
WB0	**Warramunga Arr**	**45.40**	**261**	P	**P**	**04 47 13.5**	**-0.4**
WB0				IAmb	IAmb	04 47 25.0	
comp=Z,11nm,1.2s							
WRA	**Warramunga Arr**	**45.43**	**261**	P	**P**	**04 47 13.4**	**-0.7**

comp=Z,0.7nm,0.4s,baz=98,slow=7.0,SNR=22
comp=Z,0.7nm,0.4s
AS31 Alice Springs 45.45 255 P **P 04 47 14.5 +0.2**
ASAR Alice Springs 45.45 255 P **P 04 47 14.1 -0.2**
comp=Z,2.0nm,0.7s,baz=88,slow=8.2,SNR=33
ASAR PcP **PcP 04 48 41.6 +1.2**
comp=Z,0.4nm,0.7s,baz=90,slow=4.0,SNR=2.1
comp=Z,2.0nm,0.7s
MTN Manton Dam 49.80 269 P **P 04 47 46.3 -0.4**
MTN IAmb IAmb 04 48 19.9
comp=Z,20nm,1.4s
FITZ Fitzroy Crossi 53.84 261 P **P 04 48 15.8 +0.2**
QSPA South Pole Qui 70.88 180 P **P 04 50 05.4 +0.7**
QSPA South Pole Qui 70.88 180 P **P 04 50 06.9 +2.3**
comp=Z,2.5nm,1.2s,baz=25,slow=1.8,SNR=5.0
comp=Z,2.5nm,1.2s
TXAR Lajitas Array 85.81 57 P **P 04 51 28.8 +4.1**
comp=Z,0.2nm,0.6s,baz=214,slow=6.2,SNR=4.6
comp=Z,0.2nm,0.6s
KEK Kerkira 154.77 328 PKPab **PKPab 04 59 00.9 +1.0**

*FUNV **19** 04:47:23.4, 10°.74N×72°.30W, h13km, MW3.1*
*RSNC **19** 04:47:29.6±0.0, 10°.N±2°.×7°.2W±°, h0km±3km, M1.7, ML1.8*
ISC 19 04:47:27.9±1.0, 10°.33N±0°.04×72°.03W±0°.05, h10km, n8, σ1s57/16, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.57**	**241**	*e*P	**Pg**	**04 47 37.4**	**-1.7**
MCQV				*e*S	**Sb**	**04 47 46.6**	**-1.6**
CRJC	**Cerrejon, Guaj**	**1.08**	**309**	P	**Pg**	**04 47 47.7**	**-1.1**
CRJC				S	**Sg**	**04 48 01.8**	**-1.1**
URIC	**Uribia, Colomb**	**1.36**	**1**	P	**Pn**	**04 47 53.3**	**+0.3**
URIC				S	**Sb**	**04 48 12.8**	**+1.8**
OCAC	**Ocana**	**2.44**	**212**	P	**Pn**	**04 48 09.5**	**+1.6**
OCAC				S	**Sn**	**04 48 39.1**	**+1.2**
CAPV	**Capacho**	**2.47**	**187**	*e*P	**Pn**	**04 48 07.7**	**-0.7**
CAPV				*e*S	**Sn**	**04 48 41.2**	**+2.5**
PAMC	**Pamplona, Colo**	**3.04**	**193**	P	**Pb**	**04 48 23.2**	**+0.7**
PAMC				S	**Sb**	**04 49 00.7**	**+0.8**
SJCC	**San Jacinto, C**	**3.13**	**262**	P	**Pn**	**04 48 19.4**	**+2.0**
SJCC				S	**Sb**	**04 49 00.0**	**-2.1**
BAUV	**El Baul**	**4.17**	**109**	*e*P	**Pn**	**04 48 30.5**	**-1.1**
BAUV				*e*S	**Sn**	**04 49 20.5**	**+0.2**

*ASRS **19** 05:10:21.0±1.1, 53°.59N×86°.80E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 05:10:20.8±2.6, 53°.67N×87°.02E, h0km, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=23.9km s-min=13.8km az=76.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**283**	I	I	05 19 48.2	
	baz=102,slow=337,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.34**	**283**	Pg	Pg	05 10 45.2	-1.3
	1.1nm,0.3s,baz=104,slow=16,SNR=10						
ZALV				Lg	Lg	05 11 03.9	
	1.5nm,0.3s,baz=102,slow=30,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.05**	**243**	Pn	Pn	05 11 51.9	+0.4
	0.1nm,0.3s,baz=55,slow=12,SNR=1.1						
KURBB				Lg	Lg	05 13 33.5	
	baz=60,slow=30,SNR=1.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.52**	**206**	Pn	Pn	05 12 13.4	+1.7
	0.2nm,0.3s,baz=28,slow=15,SNR=5.1						
MKAR				Sn	Sn	05 13 37.4	-0.2
	baz=27,slow=29,SNR=1.5						
MKAR				Lg	Lg	05 14 19.6	
	baz=18,slow=38						
	0.2nm,0.3s						

*IDC **19** 05:26:46.8±33.0, 0°.87S×101°.91E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=604.9km s-min=216.6km az=141.0*
*DJA **19** 05:27:21.7±0.4, 6°.S±4°.×10°.3E±°, h10km, M3.7/7, MLv3.7/7*
ISC 19 05:27:20.8±1.4, 5°.66S±0°.07×103°.2E±0°.1, h10km, n8, σ0s89/10, mb3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.06**	**53**	P	**Pb**	**05 27 41.7**	**+0.4**
LWLI				S	**Sb**	**05 27 55.1**	**-0.2**
MNAI	**Manna**	**1.32**	**349**	P	**Pn**	**05 27 45.0**	**-0.3**
MNAI				S	**Sn**	**05 28 04.3**	**+1.4**
MDSI	**Maura Dua**	**1.51**	**40**	P	**Pn**	**05 27 47.5**	**-0.5**
CGJI	**Cibinong**	**2.64**	**111**	P	**Pn**	**05 28 03.4**	**-0.2**
CNJI	**Cibinong**	**4.22**	**113**	P	**Pn**	**05 28 26.1**	**+0.8**
WRA	**Warramunga Arr**	**33.42**	**118**	P	**P**	**05 33 58.5**	**-1.5**
	0.4nm,0.7s,baz=297,slow=11,SNR=5.9						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**34.54**	**124**	P	**P**	**05 34 09.6**	**-0.2**
	0.3nm,0.6s,baz=300,slow=7.7,SNR=4.9						
	0.3nm,0.6s						
STKA	**Stephens Creek**	**44.34**	**131**	P	**P**	**05 35 31.7**	**+0.3**
	2.1nm,0.5s,baz=300,slow=7.0,SNR=8.1						
	2.1nm,0.5s						

*MEX **19** 05:40:54.1±0.6, 14°.26N×93°.48W, h14km±43km, MD4.0*
*GCG **19** 05:41:02.6±0.4, 14°.83N×92°.70W, h78km±11km, MD4.1*
ISC 19 05:40:48.3±2.3, 14°.2N±0°.1×93°.58W±0°.07, h26km±17km, n14, σ0s80/23, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.44**	**62**	*e*P	**Pb**	**05 41 14.9**	**+0.5**
THIG				*e*S	**Sn**	**05 41 30.3**	**-0.5**
THIG		**1.44**	**62**	*i* P	**Pb**	**05 41 15.3**	**+0.9**
PCIG		**1.51**	**13**	*e*P	**Pb**	**05 41 17.2**	**+1.6**
PCIG				*e*S	**Sn**	**05 41 31.9**	**-0.6**
PATR	**El Naranjo**	**1.57**	**56**	*e*P	**Pb**	**05 41 16.8**	**-0.1**
PATR				*e*S	**Sn**	**05 41 34.0**	**-0.4**
PAVE	**Pavencul**	**1.66**	**55**	*e*P	**Pb**	**05 41 18.2**	**-0.2**
PAVE				*e*S	**Sn**	**05 41 36.7**	**+0.1**
RTAL	**Retalhuleu**	**1.85**	**81**	*e*P	**Pb**	**05 41 21.1**	**-0.3**
RTAL				*e*S	**Sn**	**05 41 41.4**	**+0.5**
STG5	**El Palmar, Qui**	**2.17**	**85**	*i* P	**Pn**	**05 41 23.2**	**+0.4**
STG8	**El Palmar, Qui**	**2.17**	**84**	*i* P	**Pn**	**05 41 23.2**	**+0.2**
STG0	**El Palmar, Qui**	**2.17**	**85**	*i* P	**Pn**	**05 41 23.5**	**+0.5**
CCIG	**Comitan**	**2.47**	**34**	*e*P	**Pb**	**05 41 32.6**	**+0.5**
CCIG				*e*S	**Sb**	**05 42 01.7**	**-0.5**
TGIG		**2.57**	**10**	*e*P	**Pb**	**05 41 34.4**	**+0.5**
TGIG				*e*S	**Sb**	**05 42 04.5**	**-0.6**
TGIG		**2.57**	**10**	*i* P	**Pb**	**05 41 34.6**	**+0.7**
CMIG	**Matias Romero**	**3.11**	**336**	*e*P	**Pb**	**05 41 43.4**	**+0.4**
CMIG				*e*S	**Sb**	**05 42 18.4**	**-2.2**
UXUV	**UXUV**	**3.12**	**350**	*e*P	**Pb**	**05 41 43.6**	**+0.5**
UXUV				*e*S	**Sb**	**05 42 20.8**	**0.0**

*IPEC **19** 06:05:03.1±0.2, 51°.46N×16°.34E, h1km, ML2.5/5, Error ellipse: s-maj=2.8km s-min=1.5km az=72.0*
*PRU **19** 06:05:06.0, 51°.35N×16°.20E, h0km*
VIE 19 06:05:05.0±1.3, 51°.31N×16°.09E, h0km, mb2.5/4, ml2.8/6, Error ellipse: s-maj=8.5km s-min=8.1km az=22.0 68 km WNW of Wroclaw Suspected Mining induced., Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.49**	**165**	*e*Pg	Pg	06 05 15.2	+1.0
KSP				*e*Sg	Sb	06 05 22.9	-1.1
CHVC	**Chvalec**	**0.73**	**182**	*e*PG	Pb	06 05 20.1	-0.4
CHVC				*e*SG	Sb	06 05 31.3	+0.3
	comp=Z,30nm,0.2s						
OSTC	**Ostas**	**0.76**	**174**	*e*SG	Sb	06 05 32.1	+0.1
	comp=Z,40nm,0.3s						
UPC	**Upice**	**0.81**	**184**	*e*PG	Pb	06 05 21.7	-0.2
UPC				*e*SG	Sb	06 05 33.9	+0.6
	comp=Z,121nm,0.3s						
DPC	**Dobruska-Polom**	**0.97**	**171**	*e*PG	Pg	06 05 24.0	+0.4
DPC				*e*SG	Sb	06 05 37.9	-0.2
	comp=Z,32nm,0.4s						
PIVO	**Bartosovice**	**1.16**	**165**	*e*Pg	Pg	06 05 27.3	+0.1
	baz=354						
PIVO				*e*Sg	Sb	06 05 43.3	-0.3
	80nm,0.3s,baz=354						
PVCC	**Panska Ves**	**1.24**	**231**	*e*PG	Pn	06 05 30.1	+0.5
PVCC				*e*SG	Sn	06 05 48.7	+1.7
	comp=Z,120nm,0.4s						
KRLC	**Kraliky**	**1.31**	**160**	*e*PG	Pg	06 05 29.6	-0.5
KRLC				*e*SG	Sb	06 05 47.9	0.0
	comp=Z,40nm,0.2s						
BRG	**Berggiesshubel**	**1.42**	**253**	Pg	Pb	06 05 33.3	+0.9
BRG				Sg	Sn	06 05 53.7	+2.2
BRG				Amp		06 05 56.4	
	comp=Z,36nm,0.4s						
RICC	**Richard**	**1.48**	**239**	*e*SG	Sn	06 05 54.4	+1.6
PRA	**Prague**	**1.63**	**221**	*e*SG	Sg	06 06 00.2	+2.9
PRU	**Pruhonice**	**1.65**	**217**	*e*PG	Pg	06 05 36.9	+0.3
PRU				*e*SG	Sg	06 06 00.3	+2.3
	comp=Z,37nm,0.6s						
STEB	**Steborice**	**1.75**	**142**	*e*PG	Pn	06 05 36.0	-0.5
STEB				*e*SG	Sn	06 05 59.5	0.0
MORC	**Moravsky Berou**	**1.79**	**148**	*e*Pn	Pn	06 05 36.1	-1.1
	baz=336						
MORC				*e*Sg	Sb	06 06 01.3	-0.5
	comp=Z,24nm,0.3s,baz=336						
HSKC	**Hora Svate Kat**	**1.82**	**248**	*e*PG	Pb	06 05 39.5	+0.3
HSKC				*e*SG	Sg	06 06 05.5	+2.0
	comp=Z,24nm,0.3s						
CLL	**Collm**	**1.94**	**271**	*i* Pg	Pg	06 05 41.6	-0.5
CLL				*ex*	x	06 05 44.0	
CLL				*e*Sg	Sg	06 06 08.0	+0.8
	comp=Z,13nm,0.7s						
OKC	**Ostrava-Krasne**	**1.98**	**138**	*e*PG	Pb	06 05 41.0	-0.7
VRAC	**Vranov**	**2.03**	**171**	*e*Pn	Pn	06 05 40.4	0.0
	baz=356						
VRAC				*e*Sg	Sg	06 06 10.9	+0.7
	comp=Z,16nm,0.3s,baz=356						
TREC	**Trest**	**2.06**	**191**	*e*SG	Sg	06 06 12.6	+1.6
ZVC	**Zvikov**	**2.23**	**214**	*e*SG	Sg	06 06 17.9	+1.2
KRUC	**Moravsky**	**2.26**	**175**	*e*Pn	Pn	06 05 43.4	-0.2
	baz=359						
KRUC				*e*Sg	Sg	06 06 18.3	+0.7
	comp=Z,16nm,0.4s,baz=359						
KRUC	**Moravsky**	**2.26**	**175**	*e*PN	Pn	06 05 43.5	-0.1
KRUC				*e*SG	Sg	06 06 18.4	+0.8
NKC	**Novy Kostel**	**2.55**	**246**	*e*SG	Sg	06 06 29.5	+2.6
	comp=Z,25nm,0.4s						
OJC	**Ojcow**	**2.60**	**113**	*e*Pg	Pb	06 05 52.9	+0.5
OJC				*e*Sg	Sb	06 06 26.4	+1.6
JAVC	**Velka Javorina**	**2.66**	**157**	*e*Pn	Pn	06 05 47.9	-1.2
	baz=342						
JAVC	**Velka Javorina**	**2.66**	**157**	*e*PN	Pn	06 05 48.0	-1.1
KHC	**Kasperske Hory**	**2.72**	**217**	*e*PN	Pn	06 05 50.8	+0.9
KHC				*e*PG	Pg	06 05 56.4	-0.6
KHC				*e*SN	Sn	06 06 24.1	+0.7
KHC				*e*SG	Sg	06 06 33.6	+1.5
	comp=Z,14nm,0.6s						
CKRC	**Cesky Krumlov**	**2.75**	**205**	*e*PG	Pg	06 05 56.9	-0.7
CKRC				*e*SG	Sg	06 06 33.2	+0.1
	comp=Z,22nm,0.7s						
MODS	**Modra-Piesok**	**3.04**	**165**	*e*PG	Pg	06 06 03.8	+0.6
MODS				*e*SG	Sg	06 06 45.5	+2.9
LANS	**Liptovska Anna**	**3.06**	**134**	*e*PG	Pg	06 06 03.0	-0.6
LANS				*e*SG	Sg	06 06 41.0	-2.3
VYHS	**Vyhne**	**3.33**	**147**	*e*PG	Pg	06 06 08.8	0.0
VYHS				*e*SG	Sg	06 06 52.5	+0.5
CONA	**Conrad Observa**	**3.39**	**183**	*i* Pn	Pn	06 05 58.6	-0.6
	comp=Z,0.4nm,0.2s						
CONA				*e*Sg	Sg	06 06 57.0	+3.2
	comp=Z,2.9nm,0.2s						
RONA	**Rosalia, Austr**	**3.62**	**178**	*e*Pn	Pn	06 06 03.7	+1.4
	comp=Z,1.2nm,0.3s						
RONA				*e*Sg	Sg	06 07 03.3	+2.1
	comp=Z,4.0nm,0.5s						
MOA	**Molln**	**3.66**	**200**	*i* Pn	Pn	06 06 02.3	-0.6
	comp=Z,0.4nm,0.3s						
MOA				Sg	Sg	06 07 07.7	+5.1
	comp=Z,6.7nm,0.4s						
BSD	**Bornholm Skovb**	**3.87**	**350**	*e*	Pn	06 05 59.9	-5.8
	baz=198,slow=14						
BSD				*i* P	Pn	06 06 01.5	-4.1
BSD				*i* S	Sn	06 06 40.2	-12
BSD				IAML		06 06 48.7	
	comp=Z,1.4nm,0.3s						
BIOA	**Bad Ischl, Aus**	**3.96**	**205**	*e*Sg	Sg	06 07 17.8	+5.7
	comp=Z,12nm,0.4s						
LESA	**Schwarzleotal**	**4.49**	**211**	*e*Pn	Pn	06 06 15.6	+1.4
	comp=Z,0.1nm,0.1s						
LESA				*i* Sg	Sg	06 07 30.9	+1.9
	comp=Z,2.1nm,0.2s						
KBA	**Koelnbreinsper**	**4.60**	**204**	*i* Pn	Pn	06 06 11.8	-4.2
	comp=Z,0.3nm,0.3s						
KBA				Sg	Sg	06 07 37.0	+4.2
	comp=Z,11nm,0.8s						
BLEU	**Blekinge**	**5.00**	**358**	*i* P	Pn	06 06 17.4	-3.8
BLEU				IAML		06 07 14.6	
	comp=Z,0.7nm,0.3s						
BJUU	**Bjuv**	**5.11**	**340**	*i* P	Pn	06 06 17.4	-5.2
BJUU				*e*S	Sn	06 07 12.1	-10
DEL	**Delary**	**5.33**	**347**	*i* P	Pn	06 06 21.0	-4.7
DEL				IAML		06 07 22.0	
	comp=Z,1.9nm,0.3s						

*IDC **19** 06:10:11.3±3.7, 55°.73N×86°.08E, h0km, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=32.1km s-min=28.3km az=42.0*
ASRS 19 06:10:07.0±1.4, 55°.82N×86°.04E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**201**	I	I	06 22 57.1	
	baz=25,slow=336,SNR=1.6						
ZALV	**Zalesovo Beam**	**2.00**	**201**	Pn	Pb	06 10 44.5	+0.2
	2.2nm,0.3s,baz=19,slow=16,SNR=9.3						
ZALV				Lg	Lg	06 11 12.3	
	1.7nm,0.3s,baz=19,slow=25,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.88**	**224**	Pn	Pn	06 11 52.3	+3.2
	baz=39,slow=13,SNR=1.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**9.34**	**196**	Pn	Pn	06 12 26.3	+3.5
	0.1nm,0.3s,baz=12,slow=15,SNR=4.8						
	0.1nm,0.3s						

*GCG **19** 06:13:18.4±0.4, 14°.43N×92°.66W, h35km±999km, MD3.4*
*MEX **19** 06:13:19.5±0.8, 14°.22N×92°.70W, h26km±29km, MD3.9*
ISC 19 06:13:14.1±2.0, 14°.33N±0°.10×92°.62W±0°.06, h6km±12km, n12, σ1s71/21, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.67**	**30**	*e*S	**Sn**	**06 13 42.8**	**+1.8**
PATR	**El Naranjo**	**0.87**	**25**	*e*P	**Pn**	**06 13 34.7**	**+1.5**
PATR				*e*S	**Sn**	**06 13 47.5**	**+1.2**
RTAL	**Retalhuleu**	**0.91**	**77**	*e*P	**Pn**	**06 13 35.6**	**+2.1**
RTAL				*e*S	**Sn**	**06 13 48.3**	**+1.2**
PAVE	**Pavencul**	**0.96**	**26**	*e*P	**Pn**	**06 13 36.3**	**+1.9**
PAVE				*e*S	**Sn**	**06 13 50.2**	**+1.7**
STG5	**El Palmar, Qui**	**1.23**	**86**	*e*P	**Pn**	**06 13 37.2**	**-0.8**
STG5				*e*S	**Sb**	**06 13 51.7**	**-2.3**
STG8	**El Palmar, Qui**	**1.23**	**84**	*i* P	**Pg**	**06 13 37.8**	**0.0**
STG0	**El Palmar, Qui**	**1.24**	**85**	*i* P	**Pg**	**06 13 37.9**	**0.0**
STG0				*e*S	**Sb**	**06 13 53.0**	**-1.3**
PCIG		**1.49**	**337**	*e*P	**Pg**	**06 13 43.3**	**+0.6**
PCIG				*e*S	**Sg**	**06 14 02.2**	**+0.1**
CCIG	**Comitan**	**2.00**	**13**	*e*P	**Pn**	**06 13 46.5**	**-2.2**
TGIG		**2.49**	**349**	*e*P	**Pb**	**06 13 59.0**	**-0.3**
TGIG				*e*S	**Sb**	**06 14 27.3**	**-3.0**
UXUV	**UXUV**	**3.32**	**334**	*e*P	**Pn**	**06 14 07.6**	**+0.9**
UXUV				*e*S	**Sn**	**06 14 46.7**	**+0.2**
CMIG	**Matias Romero**	**3.51**	**322**	*e*P	**Pn**	**06 14 11.6**	**+2.2**
CMIG				*e*S	**Sn**	**06 14 49.4**	**-1.9**

CATAC 19 06:24:50.1±0.6, 13°N±3°.×8°7W±°, h10km±3km, M2.1/7, MLv2.1/7, Error ellipse: s-maj=7.0km s-min=2.7km az=36.4, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.24**	**113**	P	Pb	06 24 57.5	+0.8
CRIN	**San Cristobal**	**0.24**	**113**	S	Sg	06 25 02.6	+4.0
POTN	**Potosi Cosigui**	**0.30**	**313**	P	Pb	06 24 57.2	-0.4
POTN				S	Sb	06 25 02.0	-0.6
CSGN	**Cosiguina Volc**	**0.33**	**304**	P	Pb	06 24 57.7	-0.4
CSGN				S	Sb	06 25 02.6	-0.8
POLN	**Al Sur del Vol**	**0.48**	**108**	P	Pg	06 24 59.8	+0.2
POLN				S	Sb	06 25 06.9	-0.9
CNGN	**Cerro Negro**	**0.64**	**117**	P	Pg	06 25 01.7	-0.8
CNGN	**Cerro Negro**	**0.64**	**117**	S	Sb	06 25 12.3	-0.1
CHOHN	**Orocuina**	**0.69**	**10**	P	Pg	06 25 03.9	+0.3
CHOHN	**Orocuina**	**0.69**	**10**	S	Sb	06 25 13.6	-0.4
CNCH	**Conchagua**	**0.72**	**312**	S	Sb	06 25 15.1	+0.2
YUSH	**Yuscaran**	**1.23**	**20**	S	Sg	06 25 29.9	+0.1
YUSH	**Yuscaran**	**1.23**	**20**	P	Pn	06 25 13.2	-0.3

*SOME **19** 06:35:50.0, 41°.32N×83°.72E, h5km*
*NNC **19** 06:35:54.7±2.2, 41°.27N×83°.43E, h12km±11km, mb3.6, mpv3.3, Error ellipse: s-maj=17.5km s-min=11.6km az=173.0*
ISC 19 06:35:45.2±3.7, 41°.0N±0°.2×83°.67E±0°.09, h10km, n14, σ1s29/21, 5C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.81**	**306**	Pg	**Pb**	**06 36 53.6**	**+0.9**
	8.3nm,0.3s						
SHLS				Lg	Lg	06 37 39.4	
	42nm,0.4s						
SHLS	**Shalkode**	**3.81**	**306**	*e*P	**Pb**	**06 36 53.6**	**+0.9**
	8.3nm,0.3s						
SHLS				*e*S	**Sb**	**06 37 39.5**	**+0.4**
	42nm,0.4s						
PDGK	**Podgornoye**	**3.90**	**308**	⇑Pg	**Pg**	**06 37 00.3**	**+0.5**
	1.3nm,0.4s						
PDGK				⇑Lg	Lg	06 37 48.3	
	20nm,0.6s						
UZB	**Uzynbulak**	**4.08**	**304**	Pg	**Pg**	**06 37 02.7**	**-0.7**
	2.6nm,0.1s						
UZB				Lg	Lg	06 37 55.5	
	16nm,0.4s						
UZB	**Uzynbulak**	**4.08**	**304**	*e*P	**Pg**	**06 37 02.7**	**-0.7**
	2.6nm,0.1s						
UZB				*e*S	**Sg**	**06 37 55.5**	**-0.8**
	16nm,0.4s						
SATY	**Saty**	**4.44**	**300**	Pg	**Pg**	**06 37 09.9**	**-0.3**
	2.2nm,0.2s						
SATY				Lg	Lg	06 38 07.7	
	18nm,0.7s						
ARXS	**Arharly**	**5.39**	**309**	Pg	**Pg**	**06 37 27.0**	**-1.4**
	1.0nm,0.3s						
ARXS				Lg	Lg	06 38 37.3	
	6.5nm,0.6s						
TNSS	**Tian-Shan**	**5.41**	**295**	*e*P	**Pg**	**06 37 27.8**	**-1.2**
	0.6nm,0.1s						
TNSS				*e*S	**Sg**	**06 38 37.7**	**-1.4**
	3.9nm,0.6s						
CHKK	**Chushkaly**	**5.72**	**302**	*e*P	**Pg**	**06 37 34.0**	**-0.7**
	0.6nm,0.0s						
CHKK				*e*S	**Sg**	**06 38 49.4**	**+0.6**
	4.3nm,0.2s						
MK31	**Makanchi Array**	**5.90**	**351**	⇑Pn	Pn	06 37 19.0	+6.3
	0.2nm,0.4s,baz=175,slow=14,SNR=3.4						
MK31				⇑Pg	**Pg**	**06 37 34.5**	**-3.6**
	0.4nm,0.4s,baz=171,slow=16,SNR=6.0						
MK31				⇓Sn	**Sn**	**06 38 21.9**	**+1.5**
	0.5nm,0.5s,baz=177,slow=28,SNR=4.5						
MK31				⇑Lg	Lg	06 38 48.5	
	3.1nm,0.8s,baz=174,slow=25,SNR=4.2						
KST	**Kastek**	**6.10**	**292**	Pg	**Pg**	**06 37 40.9**	**-1.2**
	1.5nm,0.2s						
KST				Lg	Lg	06 39 00.8	
	5.3nm,0.7s						
KST	**Kastek**	**6.10**	**292**	*e*P	**Pg**	**06 37 40.9**	**-1.2**
	1.5nm,0.2s						
KST				*e*S	**Sg**	**06 39 00.8**	**-0.1**
	5.3nm,0.7s						
ZSN	**Zaisan**	**6.53**	**7**	Pg	**Pg**	**06 37 49.5**	**-0.7**
	2.0nm,0.2s						
ZSN				Lg	Lg	06 39 15.8	
	7.9nm,0.7s						
ZSN	**Zaisan**	**6.53**	**7**	*e*P	**Pg**	**06 37 49.5**	**-0.7**
	2.0nm,0.2s						
ZSN				*e*S	**Sg**	**06 39 15.8**	**+1.1**
	7.9nm,0.7s						

IDC 19 06:50:05.8±3.7, 54°.20N×87°.36E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=33.0km s-min=20.5km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.52**	**261**	I	I	07 00 26.1	
	baz=80,slow=335,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.52**	**261**	Pg	Pn	06 50 32.6	-1.6
	0.8nm,0.3s,baz=77,slow=14,SNR=7.5						
ZALV				Lg	Lg	06 50 54.1	
	1.3nm,0.3s,baz=81,slow=22,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.48**	**240**	Pn	Pn	06 51 43.0	+0.7
	baz=54,slow=14,SNR=2.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**8.09**	**206**	Pn	Pn	06 52 05.8	+1.4
	0.1nm,0.3s,baz=26,slow=13,SNR=1.9						
	0.1nm,0.4s						

*ASRS **19** 06:54:07.0±0.9, 54°.39N×86°.82E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 06:54:08.0±3.3, 54°.40N×86°.96E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=30.0km s-min=19.2km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**251**	I	I	07 03 34.6	
	baz=70,slow=331,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.34**	**251**	Pg	Pg	06 54 31.4	-2.2
	0.9nm,0.3s,baz=70,slow=16,SNR=13						
ZALV				Lg	Lg	06 54 50.8	
	0.8nm,0.3s,baz=72,slow=29,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.39**	**237**	Pn	Pn	06 55 44.1	+0.9
	0.1nm,0.3s,baz=52,slow=13,SNR=20						
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**8.17**	**203**	Pn	Pn	06 56 09.4	+1.6
	0.1nm,0.3s,baz=25,slow=12,SNR=2.1						
MKAR				Lg	Lg	06 58 26.2	
	0.1nm,0.3s,baz=24,slow=28,SNR=2.2						
	0.1nm,0.2s						

*SDD **19** 06:56:02.8±1.0, 18°.13N×71°.47W, h24km±8km, MD3.3, ML2.2, MW3.0*
*OSPL **19** 06:56:04.2±1.5, 18°.26N×71°.35W, h25km±9km, ML2.0*
**ISC 19 06:56:03.0±1.0, 18°.17N±0°.04×71°.45W±0°.04, h20km±3km, n10, σ0s70/20, 9C-1D, Dominican Republic

REDR IAML 06 56 40.0
comp=N,41nm,0.1s

*IDC **19** 06:58:46.5±0.9, 39°.70N×29°.69W, h0km, mb3.7/15, mbtmp3.7/15, MS3.4/14, Error ellipse: s-maj=31.8km s-min=13.9km az=168.0*
*INMG **19** 06:58:49.5±1.2, 40°.00N×29°.71W, h15km, ML3.5, Error ellipse: s-maj=7.9km s-min=5.2km az=70.0, #DIST_RANGE: LOCAL #IPMA_REGION: Crista Mdia Atlntico N*
*SVSA **19** 06:58:49.5±1.2, 40°.00N×29°.71W, h15km, ML3.5(INMG), Error ellipse: s-maj=7.9km s-min=5.2km az=70.0, #DIST_RANGE: LOCAL #IPMA_REGION: Crista Mdia Atlntico N*

ISC 19 06:58:48.9±0.6, 39°.73N±0°.06×29°.63W±0°.05, h14km, n59, σ1§40/67, mb3.8/15, MS3.4/13, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**1.27**	**254**	Pn	**Pn**	**06 59 09.6**	**-2.7**
PCED	**Cedros**	**1.32**	**147**	*eP*	**Pn**	**06 59 12.5**	**-0.4**
PCED				*eS*	**Sn**	**06 59 30.2**	**0.0**
PCED				*i* AML	AML	06 59 31.0	
PCED				*i* AML	AML	06 59 31.3	
PCED				*i* AML	AML	06 59 32.3	
PCED	**Cedros**	**1.32**	**147**	*eP*	**Pn**	**06 59 12.5**	**-0.4**
PCED				*eS*	**Sn**	**06 59 30.2**	**0.0**
PCED				*i* AML	AML	06 59 31.0	
PCED				*i* AML	AML	06 59 31.3	
PCED				*i* AML	AML	06 59 32.3	
CALA	**Caldeira**	**1.36**	**148**	*eP*	**Pn**	**06 59 13.4**	**-0.1**
CALA				*eS*	**Sb**	**06 59 30.9**	**-0.5**
CALA				*i* AML	AML	06 59 35.9	
CALA				*i* AML	AML	06 59 37.5	
CALA				*i* AML	AML	06 59 38.0	
CALA	**Caldeira**	**1.36**	**148**	*eP*	**Pn**	**06 59 13.4**	**-0.1**
CALA				*eS*	**Sb**	**06 59 30.9**	**-0.5**
CALA				*i* AML	AML	06 59 35.9	
CALA				*i* AML	AML	06 59 37.5	
CALA				*i* AML	AML	06 59 38.0	
PFCBR	**Castelo Branco**	**1.40**	**149**	*eS*	**Sn**	**06 59 32.1**	**-0.1**
PFCBR				*i* AML	AML	06 59 33.6	
PFCBR				*i* AML	AML	06 59 35.2	
PFCBR	**Castelo Branco**	**1.40**	**149**	*eS*	**Sn**	**06 59 32.1**	**-0.1**
PFCBR				*i* AML	AML	06 59 33.6	
PFCBR				*i* AML	AML	06 59 35.2	
HOR	**Horta**	**1.43**	**147**	*eS*	**Sb**	**06 59 33.2**	**-0.2**
HOR				*i* AML	AML	06 59 34.2	
HOR				*i* AML	AML	06 59 34.4	
HOR				*i* AML	AML	06 59 36.4	
HOR	**Horta**	**1.43**	**147**	*eS*	**Sb**	**06 59 33.2**	**-0.2**
HOR				*i* AML	AML	06 59 34.2	
HOR				*i* AML	AML	06 59 34.4	
HOR				*i* AML	AML	06 59 36.4	
PGRA	**Graciosa**	**1.46**	**118**	*eP*	Pg	06 59 26.1	+9.2
PGRA				*eS*	Sg	06 59 43.8	+8.0
PGRA				*i* AML	AML	06 59 49.8	
PGRA				*i* AML	AML	06 59 51.2	
PGRA				*i* AML	AML	06 59 51.6	
PGRA	**Graciosa**	**1.46**	**118**	*eP*	Pg	06 59 26.1	+9.2
PGRA				*eS*	Sg	06 59 43.8	+8.0
PGRA				*i* AML	AML	06 59 49.8	
PGRA				*i* AML	AML	06 59 51.2	
PGRA				*i* AML	AML	06 59 51.6	
ROSA	**Rosais**	**1.48**	**133**	*eP*	**Pn**	**06 59 13.7**	**-1.4**
ROSA	**Rosais**	**1.48**	**133**	*eP*	**Pn**	**06 59 13.7**	**-1.4**
PCAN	**Candelaria**	**1.55**	**145**	*eP*	**Pn**	**06 59 16.1**	**0.0**
PCAN				*eS*	**Sn**	**06 59 35.3**	**-0.6**
PCAN				*i* AML	AML	06 59 35.9	
PCAN				*i* AML	AML	06 59 36.5	
PCAN				*i* AML	AML	06 59 36.8	
PCAN	**Candelaria**	**1.55**	**145**	*eP*	**Pn**	**06 59 16.1**	**0.0**
PCAN				*eS*	**Sn**	**06 59 35.3**	**-0.6**
PCAN				*i* AML	AML	06 59 35.9	
PCAN				*i* AML	AML	06 59 36.5	
PCAN				*i* AML	AML	06 59 36.8	
PMAN	**Manadas**	**1.62**	**132**	*eP*	**Pn**	**06 59 16.5**	**-0.5**
PMAN				*eS*	**Sn**	**06 59 36.0**	**-1.7**
PMAN				*i* AML	AML	06 59 38.1	
PMAN				*i* AML	AML	06 59 38.1	
PMAN				*i* AML	AML	06 59 38.7	
PMAN	**Manadas**	**1.62**	**132**	*eP*	**Pn**	**06 59 16.5**	**-0.5**
PMAN				*eS*	**Sn**	**06 59 36.0**	**-1.7**
PMAN				*i* AML	AML	06 59 38.1	
PMAN				*i* AML	AML	06 59 38.1	
PMAN				*i* AML	AML	06 59 38.7	
PSBA	**Serra de Santa**	**2.03**	**118**	*eP*	**Pn**	**06 59 21.5**	**-1.2**
PSBA				*eS*	**Sn**	**06 59 45.4**	**-2.5**
PSBA				*i* AML	AML	06 59 46.6	
PSBA				*i* AML	AML	06 59 47.6	
PSBA				*i* AML	AML	06 59 48.2	
PSBA	**Serra de Santa**	**2.03**	**118**	*eP*	**Pn**	**06 59 21.5**	**-1.2**
PSBA				*eS*	**Sn**	**06 59 45.4**	**-2.5**
PSBA				*i* AML	AML	06 59 46.6	
PSBA				*i* AML	AML	06 59 47.6	
PSBA				*i* AML	AML	06 59 48.2	
PAGU	**Agualva, Azore**	**2.13**	**116**	*eP*	**Pn**	**06 59 23.0**	**-1.0**
PAGU				*eS*	**Sn**	**06 59 48.1**	**-2.1**
PAGU	**Agualva, Azore**	**2.13**	**116**	*eP*	**Pn**	**06 59 23.0**	**-1.0**
PAGU				*eS*	**Sn**	**06 59 48.1**	**-2.1**
PSCM	**Serra do Cume**	**2.21**	**117**	*eP*	**Pn**	**06 59 24.0**	**-1.1**
PSCM				*eS*	**Sn**	**06 59 49.8**	**-2.3**
PSCM				*i* AML	AML	06 59 53.8	
PSCM				*i* AML	AML	06 59 54.2	
PSCM				*i* AML	AML	06 59 54.3	
PSCM	**Serra do Cume**	**2.21**	**117**	*eP*	**Pn**	**06 59 24.0**	**-1.1**
PSCM				*eS*	**Sn**	**06 59 49.8**	**-2.3**
PSCM				*i* AML	AML	06 59 53.8	
PSCM				*i* AML	AML	06 59 54.2	
PSCM				*i* AML	AML	06 59 54.3	
CMLA	**Cha da Macela**	**3.76**	**120**	*eP*	**Pn**	**06 59 45.4**	**-1.1**
CMLA				*eS*	**Sn**	**07 00 27.9**	**-2.7**
CMLA				*i* AML	AML	07 00 32.1	
CMLA				*i* AML	AML	07 00 32.2	
CMLA				*i* AML	AML	07 00 32.3	
CMLA	**Cha da Macela**	**3.76**	**120**	*eP*	**Pn**	**06 59 45.4**	**-1.1**
CMLA				*eS*	**Sn**	**07 00 27.9**	**-2.7**
CMLA				*i* AML	AML	07 00 32.1	
CMLA				*i* AML	AML	07 00 32.2	
CMLA				*i* AML	AML	07 00 32.3	
BART	**Pico Bartolome**	**4.00**	**118**	*eP*	**Pn**	**06 59 49.3**	**-0.4**
BART	**Pico Bartolome**	**4.00**	**118**	*eP*	**Pn**	**06 59 49.3**	**-0.4**
PSMA	**Santa Maria**	**4.47**	**126**	*eP*	**Pn**	**06 59 55.8**	**-0.4**
PSMA				*eS*	**Sn**	**07 00 46.1**	**-1.9**
PSMA				*i* AML	AML	07 00 47.9	
PSMA				*i* AML	AML	07 00 49.0	
PSMA				*i* AML	AML	07 00 51.6	
PSMA	**Santa Maria**	**4.47**	**126**	*eP*	**Pn**	**06 59 55.8**	**-0.4**
PSMA				*eS*	**Sn**	**07 00 46.1**	**-1.9**
PSMA				*i* AML	AML	07 00 47.9	
PSMA				*i* AML	AML	07 00 49.0	
PSMA				*i* AML	AML	07 00 51.6	
PSMN	**Pico do Norte,**	**4.50**	**126**	*eP*	**Pn**	**06 59 56.2**	**-0.5**
PSMN				*eS*	**Sn**	**07 00 46.4**	**-2.5**
PSMN				*i* AML	AML	07 00 49.1	
PSMN				*i* AML	AML	07 00 49.4	
PSMN				*i* AML	AML	07 00 50.0	
PSMN	**Pico do Norte,**	**4.50**	**126**	*eP*	**Pn**	**06 59 56.2**	**-0.5**
PSMN				*eS*	**Sn**	**07 00 46.4**	**-2.5**
PSMN				*i* AML	AML	07 00 49.1	
PSMN				*i* AML	AML	07 00 49.4	
PSMN				*i* AML	AML	07 00 50.0	
ESDC	**Sonseca Array**	**19.73**	**82**	P	**Pn**	**07 03 23.6**	**+4.0**
	3.3nm,0.9s,baz=276,slow=12,SNR=8.9						
ESDC				LR	LR	07 09 56.4	
	comp=Z,166nm,18.2s,baz=285,slow=34						
MDT	**Midelt**	**21.28**	**101**	LR	LR	07 09 43.0	
	comp=Z,96nm,20.6s,baz=338,slow=31						
EKA	**Eskdalemuir Ar**	**23.52**	**40**	P	**P**	**07 03 57.0**	**-1.2**
	2.3nm,0.9s,baz=231,slow=7.3,SNR=4.0						
	2.3nm,0.9s						
DAVOX	**Davos/Dischmat**	**29.38**	**63**	LR	LR	07 14 32.4	
	comp=Z,49nm,19.5s,baz=261,slow=32						
NOA	**NORSAR Array B**	**32.85**	**36**	P	**P**	**07 05 22.0**	**+0.1**
	0.4nm,0.9s,baz=246,slow=7.8,SNR=4.0						
	0.4nm,0.9s						
SJG	**San Juan**	**38.18**	**246**	LR	LR	07 17 48.7	
	comp=Z,44nm,20.9s,baz=120,slow=30						
TORD	**Torodi Ar. Bea**	**38.22**	**125**	P	**P**	**07 06 07.7**	**-0.7**
	206nm,0.4s,baz=321,slow=7.7,SNR=3.2						
TORD				LR	LR	07 20 54.8	
	comp=Z,50nm,18.6s,baz=5.0,slow=35						
FINES	**FINESS Array B**	**39.90**	**38**	P	**P**	**07 06 21.3**	**-0.7**
	1.1nm,0.7s,baz=265,slow=11,SNR=5.0						
	1.1nm,0.7s						
AKASG	**Malin Array Be**	**41.84**	**55**	P	**P**	**07 06 37.3**	**-0.8**
	0.2nm,0.3s,baz=277,slow=8.3,SNR=5.5						
	0.2nm,0.3s						
TKL	**Tuckaleechee C**	**42.50**	**282**	LR	LR	07 21 40.9	
	comp=Z,46nm,19.3s,baz=20,slow=32						
ULM	**Lac du Bonnet**	**46.56**	**306**	LR	LR	07 25 32.6	
	comp=Z,67nm,18.1s,baz=16,slow=34						
SDV	**Santo Domingo**	**47.72**	**241**	LR	LR	07 23 31.5	
	comp=Z,27nm,21.8s,baz=276,slow=31						
MMAI	**Mount Meron Ar**	**51.77**	**76**	P	**P**	**07 07 57.5**	**+1.3**
	0.6nm,0.4s,baz=276,slow=14,SNR=2.4						
	0.6nm,0.4s						
KBZ	**Khabaz**	**52.67**	**60**	P	**P**	**07 08 04.7**	**+2.1**
	0.8nm,0.5s,baz=301,slow=5.9,SNR=3.6						
	0.8nm,0.5s						
ROSC	**El Rosal**	**53.16**	**241**	LR	LR	07 27 57.9	
	comp=Z,47nm,20.8s,baz=78,slow=33						
YKA	**Yellowknife Ar**	**53.47**	**325**	P	**P**	**07 08 09.0**	**+0.8**
	0.3nm,0.8s,baz=70,slow=7.1,SNR=4.5						
YKA				PcP	**PcP**	**07 09 15.6**	**+0.6**
	0.9nm,1.1s,baz=76,slow=3.5,SNR=5.4						
	0.3nm,0.8s						
JTS	**Las Juntas de**	**56.99**	**255**	LR	LR	07 29 51.3	
	comp=Z,25nm,19.9s,baz=202,slow=33						
ARTI	**Arti**	**57.04**	**41**	P	**P**	**07 08 34.5**	**+0.5**
	1.9nm,0.7s,baz=304,slow=8.1,SNR=4.1						
	1.9nm,0.7s						
PDAR	**Pinedale Array**	**57.99**	**301**	P	**P**	**07 08 40.4**	**-0.9**
	0.9nm,0.8s,baz=55,slow=7.4,SNR=15						
	0.9nm,0.8s						
AKTO	**Aktyubinsk**	**59.35**	**48**	P	**P**	**07 08 49.9**	**-0.4**
	0.8nm,0.3s,baz=297,slow=6.8,SNR=4.5						
	0.8nm,0.3s						
TXAR	**Lajitas Array**	**60.30**	**285**	P	**P**	**07 08 58.2**	**+0.9**
	2.3nm,0.9s,baz=58,slow=5.9,SNR=13						
TXAR				LR	LR	07 35 33.6	
	comp=Z,21nm,18.6s,baz=32,slow=37						
	2.3nm,0.9s						
NVAR	**Mina Array Bea**	**65.92**	**301**	P	**P**	**07 09 33.4**	**-1.2**
	0.1nm,0.3s,baz=47,slow=4.9,SNR=4.4						
	0.1nm,0.3s						
LPAZ	**La Paz**	**66.29**	**221**	LR	LR	07 34 37.9	
	comp=Z,24nm,21.1s,baz=32,slow=32						
PFO	**Pinyon Flats O**	**67.27**	**295**	LR	LR	07 39 14.5	
	comp=Z,44nm,18.4s,baz=42,slow=36						
LPIG	**La Paz**	**68.12**	**284**	LR	LR	07 39 52.4	
	comp=Z,23nm,18.3s,baz=19,slow=36						
KURBB	**Kurchatov Arra**	**70.26**	**40**	P	**P**	**07 10 01.9**	**+0.5**
	0.8nm,0.8s,baz=314,slow=5.9,SNR=4.3						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**71.04**	**35**	P	**P**	**07 10 06.7**	**+0.6**
	0.3nm,0.3s,baz=312,slow=8.7,SNR=3.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**74.64**	**41**	P	**P**	**07 10 27.7**	**+0.1**
	0.8nm,0.9s,baz=319,slow=6.3,SNR=3.8						
	0.8nm,0.9s						

*NNC **19** 07:00:11.6±1.0, 53°.64N×88°.07E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=9.1km s-min=4.8km az=55.0, Suspected Mining explosion.*
*ASRS **19** 07:00:15.0±1.2, 53°.56N×87°.69E, h0km, M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **19** 07:00:15.7±2.8, 53°.51N×87°.62E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=22.9km s-min=13.9km az=63.0*

ISC 19 07:00:13.7±3.4, 53°.6N±0°.1×87°.7E±0°.2, h0km, n8, σ2§02/11, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**281**	I	I	07 12 20.0	
	0.3nm,0.9s,baz=101,slow=334,SNR=9.3						
ZAA0	**Zalesovo Array**	**1.74**	**281**	⇓Pn	**Pn**	**07 00 45.9**	**+0.6**
	0.5nm,0.6s						
ZAA0				⇑Sn	**Sg**	**07 01 12.3**	**+2.6**
	3.1nm,0.6s						
ZALV	**Zalesovo Beam**	**1.74**	**281**	Pg	**Pb**	**07 00 46.0**	**-0.6**
	1.1nm,0.3s,baz=106,slow=16,SNR=11						
ZALV				Lg	Lg	07 01 11.0	
	3.8nm,0.3s,baz=108,slow=25,SNR=12						
KURBB	**Kurchatov Arra**	**6.41**	**246**	Pn	**Pn**	**07 01 50.5**	**+1.2**
	0.1nm,0.3s,baz=61,slow=14,SNR=6.5						
KURBB				Sn	**Sn**	**07 03 01.3**	**-1.8**
	baz=68,slow=27,SNR=4.7						
KURBB				Lg	Lg	07 03 34.7	
	baz=64,slow=31,SNR=7.6						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**6.41**	**246**	⇑Pn	**Pn**	**07 01 50.5**	**+1.2**
	1.1nm,0.6s						
KURBB				⇓Lg	Lg	07 03 39.8	
	17nm,1.0s						
MK31	**Makanchi Array**	**7.68**	**209**	⇑Pn	**Pn**	**07 02 06.2**	**-0.6**
	0.4nm,0.6s,baz=30,slow=8.2,SNR=7.7						
MK31				⇓Sn	**Sn**	**07 03 36.0**	**+1.6**
	3.1nm,1.1s,baz=31,slow=24,SNR=4.3						
MK31				⇑Lg	Lg	07 04 18.8	
	5.6nm,1.0s,baz=44,slow=36,SNR=6.5						
MKAR	**Makanchi Array**	**7.68**	**209**	Pn	**Pn**	**07 02 08.2**	**+1.4**
	0.2nm,0.3s,baz=26,slow=12,SNR=7.5						
MKAR				Sn	**Sn**	**07 03 33.2**	**-1.3**
	0.1nm,0.3s,baz=30,slow=24,SNR=7.6						
MKAR				Lg	Lg	07 04 14.2	
	0.1nm,0.3s,baz=28,slow=23,SNR=11						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**10.38**	**274**	Sn	**Sn**	**07 04 37.2**	**-3.5**
	baz=77,slow=28,SNR=2.6						

IDC 19 07:04:56.6±3.6, 53°.32N×90°.77E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=32.5km s-min=25.8km az=34.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.60**	**282**	I	I	07 27 45.0	
	0.1nm,1.1s,baz=94,slow=333,SNR=3.0						
ZALV	**Zalesovo Beam**	**3.60**	**282**	Pn	Pn	07 05 55.4	+1.8
	0.7nm,0.3s,baz=96,slow=15,SNR=4.8						
ZALV				Lg	Lg	07 06 51.8	
	0.6nm,0.3s,baz=100,slow=26,SNR=9.5						
	1.2nm,0.3s						
KURBB	**Kurchatov Arra**	**8.03**	**255**	Pn	Pn	07 06 53.7	-0.7
	0.1nm,0.3s,baz=64,slow=16,SNR=5.1						
KURBB				Sn	Sn	07 08 23.9	-1.9
	baz=66,slow=25,SNR=8.4						
KURBB				Lg	Lg	07 09 11.3	
	baz=64,slow=34,SNR=4.4						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**8.51**	**223**	Pn	Pn	07 07 02.0	+1.0
	0.1nm,0.3s,baz=33,slow=13,SNR=2.6						
MKAR				Lg	Lg	07 09 27.1	
	baz=37,slow=31,SNR=3.5						
	0.4nm,0.7s						

*IDC **19** 07:05:24.1±0.8, 85°.26N×12°.84E, h0km, mb3.5/12, mbtmp3.7/15, ML4.0/3, MS3.3/20, Error ellipse: s-maj=24.1km s-min=13.4km az=53.0*
*NEIC **19** 07:05:26.9±2.2, 85°.0N±0°.1×°.±°., h10km±1km, mb4.1/13, Error ellipse: s-maj=25.1km s-min=9.9km az=49.0*
*FCIAR **19** 07:05:26.0, 85°.63N×17°.19E, h10km, station ZFI2 has station magnitude of 3.60 station OMEGA has station magnitude of 3.60*

ISC 19 07:05:24.8±0.6, 85°.13N±0°.05×14°.29E±0°.06, h10km, n111, σ2§08/111, mb3.9/18, MS3.2/18, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**4.94**	**241**	Pn	**Pn**	**07 06 41.6**	**+2.7**
NOR	**Nord**	**4.94**	**241**	*eP*	**Pn**	**07 06 42.0**	**+3.1**
NOR	**Nord**	**4.94**	**241**	*i* P	**Pn**	**07 06 42.0**	**+3.1**
ZFI2	**Zemlya Franca-**	**5.81**	**119**	*i* P	**Pn**	**07 06 51.0**	**+0.1**
ZFI2				*eS*	**Sn**	**07 07 54.0**	**-3.5**
	26nm,0.4s						
ZFI2				*i* tx	tx	07 11 22.9	
OMEGA	**Omega**	**5.84**	**119**	*i* P	**Pn**	**07 06 51.0**	**-0.3**
OMEGA				*eS*	**Sn**	**07 07 54.1**	**-4.1**
	29nm,0.5s						
OMEGA				*i* tx	tx	07 11 25.7	
KBS	**Kingsbay**	**6.25**	**184**		**Pn**	**07 06 57.3**	**+0.4**
KBS	**Kingsbay**	**6.25**	**184**	Pn	**Pn**	**07 06 57.1**	**+0.1**
KBS				Sn	**Sn**	**07 08 07.1**	**-1.2**
KBS	**Kingsbay**	**6.25**	**184**	*eP*	**Pn**	**07 06 57.0**	**+0.1**
KBS				IAML		07 06 58.6	
	comp=Z,62nm,0.4s						
KBS	**Kingsbay**	**6.25**	**184**	*i* P	**Pn**	**07 06 57.1**	**+0.1**
SPA0	**Spitsbergen Ar**	**7.00**	**176**	Pn	**Pn**	**07 07 07.9**	**+0.6**
	baz=360,slow=14						
SPA0				Sn	**Sn**	**07 08 26.4**	**-0.5**
	baz=17,slow=37						
SPA0	**Spitsbergen Ar**	**7.00**	**176**	*eP*	**Pn**	**07 07 07.2**	**-0.1**
SPA0				*eS*	**Sn**	**07 08 24.9**	**-1.9**
SPA0	**Spitsbergen Ar**	**7.00**	**176**	Pn	**Pn**	**07 07 07.9**	**+0.6**
	baz=360,slow=14						
SPA0				Sn	**Sn**	**07 08 26.4**	**-0.5**
	baz=17,slow=37						
SPA0	**Spitsbergen Ar**	**7.00**	**176**	Pn	**Pn**	**07 07 07.9**	**+0.6**
	baz=360,slow=14						
SPA0				Sn	**Sn**	**07 08 26.4**	**-0.5**
	baz=17,slow=37						
SPITS	**Spitsbergen Ar**	**7.00**	**176**	Pn	**Pn**	**07 07 07.5**	**+0.2**
	baz=2.5,slow=13						
SPITS				Sn	**Sn**	**07 08 25.5**	**-1.3**
	baz=9.7,slow=18						
	comp=Z,12nm,0.2s						
SPB2	**Spitsbergen Ar**	**7.01**	**176**	Pn	**Pn**	**07 07 08.0**	**+0.7**
BRBB	**Barentsburg B**	**7.08**	**180**	Pn	**Pn**	**07 07 08.7**	**+0.4**
BRBB				Sn	**Sn**	**07 08 28.3**	**-0.4**
BRBB	**Barentsburg B**	**7.08**	**180**	*eP*	**Pn**	**07 07 08.7**	**+0.4**
BRBB				*eS*	**Sn**	**07 08 28.6**	**-0.1**
BRBB	**Barentsburg B**	**7.08**	**180**	Pn	**Pn**	**07 07 08.7**	**+0.4**
BRBB				Sn	**Sn**	**07 08 28.3**	**-0.4**
BRBA	**Barentsburg A**	**7.12**	**180**	Pn	**Pn**	**07 07 09.5**	**+0.7**
BRBA	**Barentsburg A**	**7.12**	**180**	*eP*	**Pn**	**07 07 09.7**	**+0.9**
BRBA	**Barentsburg A**	**7.12**	**180**	Pn	**Pn**	**07 07 09.5**	**+0.7**
HSPB	**Hornsund (broa**	**8.18**	**178**	Pn	**Pn**	**07 07 23.7**	**+0.3**
HSPB	**Hornsund (broa**	**8.18**	**178**	*eP*	**Pn**	**07 07 24.0**	**+0.6**
HSPB				IAML		07 07 27.3	
	comp=Z,11nm,0.3s						
HSPB	**Hornsund (broa**	**8.18**	**178**	Pn	**Pn**	**07 07 23.7**	**+0.3**
HOPEN	**Hopen**	**8.81**	**163**	Pn	**Pn**	**07 07 32.2**	**+0.3**
HOPEN				Sn	**Sn**	**07 09 07.5**	**-3.5**
HOPEN	**Hopen**	**8.81**	**163**	*eP*	**Pn**	**07 07 31.8**	**-0.2**
HOPEN				*eS*	**Sn**	**07 09 07.5**	**-3.5**
HOPEN	**Hopen**	**8.81**	**163**	*eP*	**Pn**	**07 07 32.2**	**+0.3**
HOPEN				IAML		07 07 33.5	
	comp=Z,42nm,0.2s						
HOPEN				*eS*	**Sn**	**07 09 07.5**	**-3.5**
HOPEN	**Hopen**	**8.81**	**163**	Pn	**Pn**	**07 07 32.2**	**+0.3**
HOPEN				Sn	**Sn**	**07 09 07.5**	**-3.5**
BJO1	**Bjornoya**	**10.72**	**173**	Pn	**Pn**	**07 07 57.6**	**-0.5**
BJO1	**Bjornoya**	**10.72**	**173**	*eP*	**Pn**	**07 07 56.8**	**-1.2**
BJO1				S	**Sn**	**07 09 50.6**	**-7.3**
BJO1	**Bjornoya**	**10.72**	**173**	*eP*	**Pn**	**07 07 57.6**	**-0.5**
BJO1	**Bjornoya**	**10.72**	**173**	Pn	**Pn**	**07 07 57.6**	**-0.5**
NEEM	**North Greenlan**	**11.48**	**268**	*i* P	**Pn**	**07 08 05.3**	**-3.4**
NEEM	**North Greenlan**	**11.48**	**268**	*i* P	**Pn**	**07 08 05.3**	**-3.4**
EUNU	**Eureka**	**11.93**	**304**		**Pn**	**07 08 11.3**	**-3.3**
DBG	**Daneborg**	**12.07**	**228**	Pn	**Pn**	**07 08 17.3**	**+0.8**
DBG	**Daneborg**	**12.07**	**228**	Pn	**Pn**	**07 08 17.3**	**+0.8**
HAMF	**Hammerfest**	**14.66**	**168**	Pn	**Pn**	**07 08 51.0**	**-0.9**
HAMF	**Hammerfest**	**14.66**	**168**	Pn	**Pn**	**07 08 51.0**	**-0.9**
SUMG	**Summit**	**15.06**	**247**		Pn	**07 08 49.5**	**-8.1**
SUMG	**Summit**	**15.06**	**247**	*i* P	**Pn**	**07 08 57.8**	**+0.1**
SUMG	**Summit**	**15.06**	**247**	*i* P	**Pn**	**07 08 57.8**	**+0.1**
VADS	**Vadso**	**15.32**	**160**	P	**Pn**	**07 08 59.3**	**-1.4**
VADS	**Vadso**	**15.32**	**160**	*eP*	**Pn**	**07 08 58.6**	**-2.1**
TRO	**Tromso**	**15.61**	**174**	P	**Pn**	**07 09 04.6**	**+0.1**
TRO	**Tromso**	**15.61**	**174**	P	**Pn**	**07 09 04.6**	**+0.1**
KEV	**Kevo**	**15.62**	**163**	P	**Pn**	**07 09 05.0**	**+0.3**
KEV	**Kevo**	**15.62**	**163**	*eP*	**Pn**	**07 09 05.3**	**+0.6**
JETT	**Jettan, Norway**	**15.71**	**172**	P	**Pn**	**07 09 06.3**	**+0.5**
JETT	**Jettan, Norway**	**15.71**	**172**	*eP*	**Pn**	**07 09 06.5**	**+0.7**
ARA0	**ARCESS Array S**	**15.81**	**165**	P	**Pn**	**07 09 06.7**	**-0.4**
	baz=352,slow=12						
ARA0	**ARCESS Array S**	**15.81**	**165**	*eP*	**Pn**	**07 09 07.8**	**+0.7**
ARCES	**ARCESS Array B**	**15.81**	**165**	Pn	**Pn**	**07 09 05.1**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=356,slow=10,SNR=42						
ARCES				Sn	**Sn**	**07 11 53.3**	**-8.8**
	comp=Z,0.1nm,0.3s,baz=2.8,slow=20,SNR=1.9						
ARCES				LR	LR	07 14 57.1	
	comp=Z,65nm,21.8s,baz=308,slow=36						
	comp=Z,6.1nm,0.9s						
KIF	**Kilpisjarvi**	**16.27**	**172**	P	**Pn**	**07 09 13.6**	**+0.7**
KIF	**Kilpisjarvi**	**16.27**	**172**	P	**Pn**	**07 09 13.6**	**+0.7**
KTK1	**Kautokeino**	**16.29**	**168**	*eP*	**Pn**	**07 09 14.7**	**+1.4**
HEF	**Hetta**	**16.91**	**168**	P	**Pn**	**07 09 21.5**	**+0.4**
HEF	**Hetta**	**16.91**	**168**	*eP*	**Pn**	**07 09 21.5**	**+0.4**
RES	**Resolute Bay**	**17.63**	**304**	P	**Pn**	**07 09 26.9**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=18,slow=13,SNR=8.7						
RES				LR	LR	07 16 20.3	
	comp=Z,113nm,19.8s,baz=16,slow=38						
	comp=Z,0.7nm,0.6s						
APA0	**Apatity Array**	**17.95**	**157**	P	**P**	**07 09 34.5**	**-0.1**
	baz=357,slow=11						
APA0	**Apatity Array**	**17.95**	**157**	P	**P**	**07 09

comp=Z,0.7nm,0.6s
AKASG Malin Array Be 34.77 163 P **P 07 12 16.8 +2.0**
comp=Z,1.7nm,0.6s,baz=357,slow=8.8,SNR=6.2
comp=Z,1.7nm,0.6s
ZALV Zalesovo Beam 34.87 103 LR LR 07 29 42.0
comp=Z,44nm,18.0s,baz=20,slow=42
AKTO Aktyubinsk 36.34 132 LR LR 07 31 03.0
comp=Z,60nm,18.4s,baz=216,slow=42
GERES GERESS Array B 36.45 181 LR LR 07 27 15.2
comp=Z,34nm,19.7s,baz=76,slow=36
KDAK Kodiak Island 37.18 348 LR LR 07 27 41.3
comp=Z,36nm,19.6s,baz=245,slow=36
KURBB Kurchatov Arra 37.65 110 P **P 07 12 40.7 +1.3**
comp=Z,0.2nm,0.3s,baz=6.8,slow=8.6,SNR=4.3
comp=Z,0.2nm,0.3s
BUR08 Bucovina Ar. S 37.74 168 P **P 07 12 43.1 +2.7**
BUR08 IAmb IAmb 07 12 45.3
comp=Z,3.0nm,0.8s
BURAR Bucovina Array 37.77 168 P **P 07 12 43.0 +2.4**
DAVOX Davos/Dischmat 38.53 185 LR LR 07 28 52.5
comp=Z,20nm,19.0s,baz=90,slow=36
MKAR Makanchi Array 41.76 107 P **P 07 13 17.4 +3.7**
comp=Z,0.2nm,0.5s,baz=350,slow=7.3,SNR=2.2
MKAR LR LR 07 31 40.6
comp=Z,54nm,19.0s,baz=344,slow=38
comp=Z,0.2nm,0.5s
AAK Ala-Archa 45.27 116 LR LR 07 35 39.4
comp=Z,32nm,18.2s,baz=288,slow=40
GNI Garni 45.87 147 LR LR 07 36 27.0
comp=Z,20nm,18.9s,baz=63,slow=40
WUS Wushi 47.07 111 P P 07 14 04.1 +7.8
PDAR Pinedale Array 50.28 307 P **P 07 14 20.2 -0.9**
comp=Z,0.1nm,0.5s,baz=9.1,slow=2.4,SNR=3.7
PDAR LR LR 07 34 11.4
comp=Z,57nm,19.2s,baz=24,slow=34
comp=Z,0.1nm,0.5s
NVAR Mina Array Bea 55.16 315 P **P 07 14 57.4 +0.3**
comp=Z,0.2nm,0.5s,baz=331,slow=3.8,SNR=2.5
comp=Z,0.2nm,0.5s
TKL Tuckaleechee C 55.36 281 LR LR 07 38 17.0
comp=Z,54nm,18.3s,baz=354,slow=36
ANMO Albuquerque 57.84 303 LR LR 07 39 40.2
comp=Z,54nm,19.3s,baz=186,slow=36
TXAR Lajitas Array 63.22 300 P **P 07 15 52.5 -0.4**
comp=Z,0.1nm,0.6s,baz=347,slow=5.9,SNR=2.4
comp=Z,0.1nm,0.6s
JCJ Chichijima 66.13 50 LR LR 07 44 04.2
comp=Z,300nm,20.6s,baz=236,slow=35
TORD Torodi Ar. Bea 72.16 193 P **P 07 16 51.2 +1.9**
comp=Z,165nm,0.3s,baz=352,slow=7.7,SNR=4.9

*BGR **19** 07:05:52.4, 43.°54N×141.°90E, h33km, mb5.0, Hypocentre not reviewed by the ISC*
*BJI **19** 07:05:55.5, 42.°53N×141.°62E, h131km, mB4.8/12, mb4.5/35*
*MOS **19** 07:05:56.2±0.9, 42.°64N×141.°55E, h130km, mb4.7/42, Error ellipse: s-maj=6.1km s-min=4.5km az=98.5*
*NEIC **19** 07:05:57.6±1.5, 42.°58N±0.°06×141.°6E±0.°1, h131km±7km, mb4.6/92, Error ellipse: s-maj=12.7km s-min=7.5km az=107.0*
*NIED **19** 07:05:57.5, 42.°58N×141.°54E, h122km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.08; Mθθ3.45; Mφφ-3.54; Mrθ2.05; Mφθ1.75; Mφr0.36; Fault plane solution: M0 4.37000×10^15 NP1:φ=29.00000°, δ72.00000°, λ164.00000°. NP2:φ=124.00000°, δ75.00000°, λ19.00000°.*
*SKHL **19** 07:05:57.7±0.5, 42.°60N×141.°70E, h133km±6km, mb5.8/7, mbv5.3/3, msha6.0/4*
*JMA **19** 07:05:57.5±0.1, 42.°6N±0.°4×141.°5E±0.°5, h122km, MV3.9/40, S OFF TOMAKOMAI*
JMA Felt I J1 at S OFF TOMAKOMAI .
*IDC **19** 07:05:57.9±0.8, 42.°71N×141.°51E, h128km±5km, mb4.3/34, mbtmp4.7/40, MS3.0/2, Error ellipse: s-maj=10.6km s-min=7.7km az=133.0*
ISC 19 07:05:57.1±0.4, 42.°60N±0.°03×141.°58E±0.°03, h129km±3km, h128km:pP-P, n642, σ1.07/700, mb4.6/138, 10C-30D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIAM	**Iburiatsuma**	**0.25**	**85**	*i* P	**Pn**	**07 06 15.0**	**+0.2**
JIAM				S	**Sn**	**07 06 28.7**	**+0.4**
JEW	**Eniwo**	**0.26**	**338**	*i* P	**Pn**	**07 06 14.9**	**0.0**
JEW				S	**Sn**	**07 06 27.7**	**-0.7**
JNB	**Noboribetsu**	**0.42**	**252**	*i* P	**Pn**	**07 06 15.1**	**-0.5**
JNB				S	**Sn**	**07 06 28.5**	**-1.0**
JBT2	**Biratori 2**	**0.60**	**73**	*i* P	**Pn**	**07 06 16.8**	**+0.2**
JBT2				S	**Sn**	**07 06 32.0**	**+0.6**
JISS	**Ishikarishitsu**	**0.68**	**350**	⇓P	**Pn**	**07 06 17.6**	**+0.4**
JISS				⇓S	**Sn**	**07 06 32.5**	**0.0**
JKB	**Kayabe**	**0.82**	**210**	*i* P	**Pn**	**07 06 17.9**	**-0.4**
JKB				S	**Sn**	**07 06 32.9**	**-1.3**
JNBK	**Urakawa-nobuka**	**0.93**	**110**	P	**Pn**	**07 06 19.5**	**+0.3**
JFR	**Furan**	**0.93**	**53**	⇓P	**Pn**	**07 06 19.0**	**-0.2**
JFR				⇓S	**Sn**	**07 06 35.9**	**-0.1**
JAB	**Ashibetsu**	**1.02**	**27**	⇓*i*P	**Pn**	**07 06 20.8**	**+0.8**
JAB				⇓S	**Sn**	**07 06 38.2**	**+0.7**
JYM2	**Yakumo 2**	**1.02**	**242**	⇓*i*P	**Pn**	**07 06 20.0**	**-0.1**
JYM2				⇓S	**Sn**	**07 06 36.7**	**-0.7**
JHR	**Hokuryu**	**1.15**	**5**	P	**Pn**	**07 06 22.4**	**+1.1**
JHR				S	**Sn**	**07 06 40.9**	**+1.2**
JOT	**Ohata**	**1.28**	**198**	*i* P	**Pn**	**07 06 22.4**	**-0.2**
JOT				S	**Sn**	**07 06 41.8**	**-0.3**
ERM	**Erimo**	**1.31**	**116**		**Pn**	**07 06 23.5**	**+0.5**
ERM	**Erimo**	**1.31**	**116**	P	**Pn**	**07 06 23.7**	**+0.8**
ERM	**Erimo**	**1.31**	**116**	*c i*PN	**Pn**	**07 06 23.9**	**+1.0**
JEM	**Erimo**	**1.31**	**116**	P	**Pn**	**07 06 23.8**	**+0.9**
JCH	**Churui**	**1.32**	**89**	⇓*i*P	**Pn**	**07 06 23.2**	**+0.1**
JCH				⇓S	**Sn**	**07 06 42.9**	**+0.1**
JKK2	**Kamakawa 2**	**1.53**	**34**	⇓*i*P	**Pn**	**07 06 25.8**	**+0.4**
JKK2				⇓S	**Sn**	**07 06 47.1**	**0.0**
JOMM	**Oshimamatsumae**	**1.59**	**228**	P	**Pn**	**07 06 26.3**	**+0.2**
JOMM				S	**Sn**	**07 06 47.1**	**-1.1**
JOSM	**Okushiri--Mats**	**1.64**	**252**	*i* P	**Pn**	**07 06 26.6**	**-0.1**
JOSM				S	**Sn**	**07 06 48.3**	**-1.0**
ASAJ	**Asahikawa**	**1.69**	**26**	P	**Pn**	**07 06 27.6**	**+0.5**
	276nm,0.3s,baz=219,slow=6.5,SNR=654						
ASAJ				S	**Sn**	**07 06 49.8**	**-0.4**
	1μm,0.6s,baz=162,slow=20,SNR=47						
JKA	**Kamikawa-asahi**	**1.69**	**26**		**Pn**	**07 06 27.4**	**+0.3**
JKA	**Kamikawa-asahi**	**1.69**	**26**	*e*P	**Pn**	**07 06 27.6**	**+0.4**
JAR	**Ashorobuto**	**1.75**	**66**	*i* P	**Pn**	**07 06 27.8**	**-0.2**
JAR				S	**Sn**	**07 06 51.2**	**-0.3**
JSS	**Shosan**	**1.81**	**6**	*i* P	**Pn**	**07 06 30.0**	**+1.4**
JSS				S	**Sn**	**07 06 54.4**	**+1.6**
JTM	**Tenmabayashi**	**1.85**	**192**		**Pn**	**07 06 28.9**	**-0.3**
AKK	**Akkeshi**	**2.44**	**79**	*e*P	**Pn**	**07 06 36.2**	**-0.2**
AKK				*e*S	**Sn**	**07 07 05.4**	**-1.1**
RUSJ	**Misakicho**	**3.07**	**59**	⇓*i*PN	**Pn**	**07 06 45.7**	**+1.2**
RUSJ				S	**Sn**	**07 07 22.7**	**+1.6**
NMR	**Nemuro--Hokkai**	**3.14**	**74**	⇓*i*PN	**Pn**	**07 06 44.7**	**-0.7**
NMR				*i* S	**Sn**	**07 07 20.4**	**-2.3**
NMR	**Nemuro--Hokkai**	**3.14**	**74**	*i* P	**Pn**	**07 06 44.9**	**-0.5**
NMR				*i* S	**Sn**	**07 07 20.4**	**-2.3**
YUK	**Yuzh-Kuril'sk**	**3.44**	**64**	*d i*PN	**Pn**	**07 06 50.1**	**+0.8**
YUK				*i* S	**Sn**	**07 07 30.8**	**+1.1**
YUK				pmax	pmax		
	comp=N,186nm,0.3s						
YUK				pmax	pmax		
	comp=E,313nm,0.3s						
YUK				pmax	pmax		
	comp=Z,3μm,0.3s						
YUK				pmax	pmax		
	comp=Z,2μm,1.2s						
YUK				smax	smax		
	comp=E,273nm,0.2s						
YUK				smax	smax		
	comp=N,838nm,0.4s						
YUK				smax	smax		
	comp=N,1μm,1.1s						
YUK				smax	smax		
	comp=E,2μm,1.1s						
YUK	**Yuzh-Kuril'sk**	**3.44**	**64**	*e*P	**Pn**	**07 06 50.4**	**+1.1**
YUK				AMB	AMB	07 06 50.9	
	comp=E,4μm,0.4s						
YUK				*e*S	**Sn**	**07 07 29.8**	**+0.1**
YUK				A	A	07 07 32.5	
	comp=E,900nm,0.5s						
YUK				A	A	07 07 32.5	
	comp=E,1μm,0.5s						
SHO	**Shikotan**	**4.04**	**70**	*d i*PN	**Pn**	**07 06 57.0**	**-0.2**
SHO				*i* S	**Sn**	**07 07 41.3**	**-2.7**
SHO				pmax	pmax		
	comp=E,556nm,0.2s						
SHO				pmax	pmax		
	comp=Z,1μm,0.2s						
SHO				pmax	pmax		
	comp=N,256nm,0.4s						
SHO				smax	smax		
	comp=E,566nm,0.4s						
SHO				smax	smax		
	comp=N,557nm,0.3s						
SHO	**Shikotan**	**4.04**	**70**	*i* P	**Pn**	**07 06 57.1**	**-0.2**
SHO				AMB	AMB	07 06 57.5	
	comp=N,1μm,0.3s						
SHO				*i* S	**Sn**	**07 07 42.1**	**-1.9**
SHO				A	A	07 07 42.6	
	comp=N,300nm,0.3s						
SHO				A	A	07 07 42.6	
	comp=N,370nm,0.3s						
TEY	**Ternei**	**4.35**	**306**	*e*PN	**Pn**	**07 07 01.7**	**+0.4**
YSS	**Yuzhno-Sakhali**	**4.43**	**10**		**Pn**	**07 07 03.1**	**+0.7**
YSS	**Yuzhno-Sakhali**	**4.43**	**10**	P	**Pn**	**07 07 03.7**	**+1.3**
YSS	**Yuzhno-Sakhali**	**4.43**	**10**	*i* PN	**Pn**	**07 07 03.5**	**+1.1**
YSS				*e*S	**Sn**	**07 07 53.8**	**+0.5**
YSS				pmax	pmax		
	comp=Z,170nm,0.6s						
YSS				pmax	pmax		
	comp=Z,200nm,2.2s						
YSS				smax	smax		
	comp=N,80nm,0.8s						
YSS				smax	smax		
	comp=E,80nm,0.7s						
YSS	**Yuzhno-Sakhali**	**4.43**	**10**	*i* P	**Pn**	**07 07 03.5**	**+1.1**
YSS				AMB	AMB	07 07 04.3	
	comp=E,170nm,0.5s						
YSS				AMB	AMB	07 07 06.4	
	comp=E,250nm,2.0s						
YSS				*e*S	**Sn**	**07 07 53.5**	**+0.2**
KHLM	**Kholmsk**	**4.47**	**4**	*e*P	**Pn**	**07 07 04.5**	**+1.6**
JMM	**Marumori**	**4.77**	**188**		**Pn**	**07 07 05.5**	**-1.5**
JSD	**Sado**	**5.22**	**210**		**Pn**	**07 07 13.4**	**+0.3**
JSD	**Sado**	**5.22**	**210**	P	**Pn**	**07 07 14.2**	**+1.2**
KUR	**Kuril'sk**	**5.25**	**58**	*e*PN	**Pn**	**07 07 13.9**	**+0.5**
KUR				*i* S	**Sn**	**07 08 15.4**	**+2.6**
KUR				pmax	pmax		
	comp=Z,486nm,0.9s						
KUR				pmax	pmax		
	comp=N,110nm,0.6s						
KUR				pmax	pmax		
	comp=E,101nm,0.6s						
KUR				smax	smax		
	comp=E,168nm,0.7s						
KUR				smax	smax		
	comp=N,122nm,0.5s						
KUR	**Kuril'sk**	**5.25**	**58**	*e*P	**Pn**	**07 07 14.7**	**+1.3**
KUR				AMB	AMB	07 07 16.2	
	comp=N,600nm,0.7s						
KUR				*i* S	**Sn**	**07 08 11.4**	**-1.4**
KUR				A	A	07 08 21.0	
	comp=N,210nm,0.5s						
KUR				A	A	07 08 21.0	
	comp=N,250nm,0.5s						
UGL	**Uglegorsk**	**6.49**	**3**	*i* P	**Pn**	**07 07 30.9**	**+0.9**
UGL				*e*S	**Sn**	**07 08 42.1**	**-0.5**
MJB9	**Matsu-Tunnel**	**6.58**	**204**		**Pn**	**07 07 32.6**	**+1.2**
MAJO	**Matsushiro**	**6.59**	**204**		**Pn**	**07 07 31.8**	**+0.3**
MAJO	**Matsushiro**	**6.59**	**204**	P	**Pn**	**07 07 32.7**	**+1.2**
MAJO	**Matsushiro**	**6.59**	**204**	*d i*PN	**Pn**	**07 07 31.8**	**+0.3**
MJAR	**Matsushiro Arr**	**6.59**	**204**	P	**Pn**	**07 07 31.7**	**+0.2**
	comp=N,10nm,0.4s,baz=19,slow=15,SNR=21						
MJAR				S	**Sn**	**07 08 46.1**	**+0.8**
	comp=N,5.2nm,0.5s,baz=2.9,slow=26,SNR=2.0						
USA0B	**Ussuriysk Arra**	**7.17**	**286**		**Pn**	**07 07 39.5**	**+0.3**
USA0B	**Ussuriysk Arra**	**7.17**	**286**	*d i*PN	**Pn**	**07 07 39.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**7.17**	**286**		**Pn**	**07 07 39.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**7.17**	**286**	P	**Pn**	**07 07 40.2**	**+1.0**
	comp=N,11nm,0.5s,baz=93,slow=14,SNR=31						
MSHR	**Mys Shultsa**	**7.69**	**273**	*d i*PN	**Pn**	**07 07 46.9**	**+0.6**
JGF	**Kuroka**	**7.72**	**207**		**Pn**	**07 07 48.1**	**+1.3**
JGF	**Kuroka**	**7.72**	**207**	P	**Pn**	**07 07 47.6**	**+0.8**
INU	**Inuyama**	**8.06**	**208**		**Pn**	**07 07 51.9**	**+0.5**
INU	**Inuyama**	**8.06**	**208**	P	**Pn**	**07 07 52.5**	**+1.1**
TYV	**Tymovskoe**	**8.30**	**5**	*e*PN	**Pn**	**07 07 55.5**	**+1.1**
TYV				*e*S	**Sn**	**07 09 30.1**	**+3.8**
TYV				pmax	pmax		
	comp=Z,28nm,0.7s						
TYV				pmax	pmax		
	comp=Z,100nm,2.4s						
TYV				smax	smax		
	comp=N,7.0nm,2.0s						
TYV				smax	smax		
	comp=E,9.0nm,2.0s						
TYV				smax	smax		
	comp=N,100nm,2.5s						
TYV				smax	smax		
	comp=E,100nm,2.5s						
TYV	**Tymovskoe**	**8.30**	**5**	*e*P	**Pn**	**07 07 55.5**	**+1.1**
TYV				AMB	AMB	07 07 56.5	
	comp=E,230nm,4.0s						
TYV				AMB	AMB	07 07 56.7	
	comp=E,40nm,0.6s						
TYV				*e*S	**Sn**	**07 09 24.6**	**-1.7**
GRNR	**Gornyy**	**8.90**	**338**	*e*PN	**Pn**	**07 08 02.7**	**+0.2**
GRNR				MLR	MLR		
	comp=N,270nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,120nm,12.0s						
GRNR	**Gornyy**	**8.90**	**338**	*e*P	**Pn**	**07 08 02.7**	**+0.2**
MDJ	**Mudanjiang**	**8.93**	**287**	P	**Pn**	**07 08 03.9**	**+1.0**
MDJ				S	**Sn**	**07 09 45.9**	**+4.2**
MDJ				pmax	pmax		
	comp=Z,17nm,1.2s						
KLR	**Kul'dur**	**9.53**	**317**	P	**Pn**	**07 08 11.2**	**+0.3**
	comp=Z,16nm,1.0s,baz=134,slow=11,SNR=18						
KLR	**Kul'dur**	**9.53**	**317**	*e*PN	**Pn**	**07 08 09.4**	**-1.5**
KLR				pmax	pmax		
	comp=Z,26nm,1.2s						
JHJ	**Hachijo jima 2**	**9.57**	**189**	P	Pn	07 08 06.2	-5.5
	comp=Z,96nm,0.3s,baz=53,slow=20,SNR=8.3						
JHJ				S	Sn	07 09 47.1	-10
	comp=Z,115nm,0.4s,baz=17,slow=19,SNR=2.7						
BNX	**BinXian**	**10.65**	**292**	⇓P	**Pn**	**07 08 27.3**	**+1.2**
BNX				S	**Sn**	**07 10 23.3**	**-0.2**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSRS	**Korea Array**	**11.66**	**248**	P	**Pn**	**07 08 40.5**	**+1.0**
	comp=Z,9.7nm,0.9s,baz=59,slow=12,SNR=21						
KSRS				LR	LR	07 12 44.3	
	comp=Z,51nm,18.1s,baz=55,slow=35						
KS19	**Wonju Array Si**	**11.67**	**249**	Pn	**Pn**	**07 08 39.7**	**0.0**
KSAR	**Wonju Array Be**	**11.69**	**248**	Pn	**Pn**	**07 08 39.4**	**-0.5**
KSAR	**Wonju Array Be**	**11.69**	**248**	PN	**Pn**	**07 08 39.4**	**-0.5**
CN2	**Changchun**	**11.84**	**281**	*e*P	**Pn**	**07 08 42.1**	**+0.3**
CN2				*e*S	**Sn**	**07 10 50.9**	**-1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
CN2				LR	LR		
	comp=Z,100nm,12.0s						
CN2				LR	LR		
	comp=Z,100nm,11.0s						
HEH	**HeiHe**	**12.40**	**313**	*e*P	**Pn**	**07 08 50.8**	**+1.8**
HEH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SKR	**Severo-Kuril's**	**12.83**	**46**	*e*PN	**Pn**	**07 08 55.4**	**+0.8**
SKR				pmax	pmax		
	comp=Z,700nm,5.2s						
SKR				MLR	MLR		
	comp=Z,600nm,13.0s						
SKR	**Severo-Kuril's**	**12.83**	**46**	*e*P	**Pn**	**07 08 53.7**	**-0.9**
SKR				AMB	AMB	07 08 54.9	
	comp=Z,100nm,0.5s						
SKR				AMB	AMB	07 08 56.5	
	comp=Z,600nm,5.0s						
SKR				*e*S	**Sn**	**07 11 07.8**	**-8.1**
ZEA	**Zeya**	**14.65**	**324**	*e*P	**Pn**	**07 09 17.6**	**-0.2**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=N,20nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.8s						
ZEA	**Zeya**	**14.65**	**324**	*e*P	**Pn**	**07 09 17.6**	**-0.2**
PEA0B	**Petropavlovsk-**	**15.05**	**40**	Pn	**Pn**	**07 09 21.4**	**-1.5**
PEA0B				IAmb	IAmb	07 10 02.8	
	comp=Z,29nm,1.4s						
PEA0B	**Petropavlovsk-**	**15.05**	**40**	*c i*P	**Pn**	**07 09 21.9**	**-1.0**
PETK	**Petropavlovsk-**	**15.05**	**40**		**Pn**	**07 09 21.1**	**-1.8**
PETK	**Petropavlovsk-**	**15.05**	**40**	P	**Pn**	**07 09 21.6**	**-1.3**
	comp=Z,3.3nm,0.5s,baz=229,slow=11,SNR=5.3						
PET	**Petropavlovsk**	**15.46**	**42**	*e*P	**Pn**	**07 09 27.6**	**-0.3**
PET	**Petropavlovsk**	**15.46**	**42**	*e*P	**Pn**	**07 09 26.5**	**-1.4**
JCJ	**Chichijima**	**15.48**	**178**	Pn	**Pn**	**07 09 26.1**	**-2.4**
JCJ	**Chichijima**	**15.48**	**178**	P	**Pn**	**07 09 24.9**	**-3.5**
	comp=Z,40nm,0.3s,baz=278,slow=15,SNR=6.6						
JCJ				S	Sn	07 12 06.4	-14
	comp=Z,41nm,0.7s,baz=287,slow=19,SNR=1.9						
JCJ	**Chichijima**	**15.48**	**178**	P	**Pn**	**07 09 27.9**	**-0.5**
MA2	**Magadan**	**17.92**	**15**	P	**P**	**07 09 55.2**	**-1.4**
MA2	**Magadan**	**17.92**	**15**	P	**P**	**07 09 55.1**	**-1.6**
	comp=Z,65nm,0.8s,baz=202,slow=13,SNR=15						
MA2	**Magadan**	**17.92**	**15**	P	**P**	**07 09 56.4**	**-0.2**
MA2	**Magadan**	**17.92**	**15**	*c i*P	**P**	**07 09 56.2**	**-0.5**
MA2				pmax	pmax		
	comp=Z,87nm,0.8s						
MA2	**Magadan**	**17.92**	**15**	*e*P	**P**	**07 09 56.2**	**-0.5**
XLT	**XiLinHaoTe**	**18.60**	**283**	*e*P	**Pn**	**07 10 05.8**	**-0.4**
XLT				S	**S**	**07 13 22.9**	**-6.8**
XLT				pmax	pmax		
	comp=Z,12nm,1.0s						
XLT				pmax	pmax		
	comp=Z,55nm,4.3s						
BJI	**Beijing**	**19.23**	**271**	P	**P**	**07 10 10.6**	**-0.5**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BJT	**Baijiatuau**	**19.24**	**271**	P	**P**	**07 10 10.5**	**-0.8**
BJT	**Baijiatuau**	**19.24**	**271**	P	**P**	**07 10 10.5**	**-0.8**
BJT				pmax	pmax		
	comp=Z,11nm,1.0s						
TIA	**Tai'an**	**19.91**	**259**	P	**P**	**07 10 17.0**	**-1.5**
TIA				pmax	pmax		
	comp=Z,21nm,0.7s						
YAK	**Yakutsk**	**20.71**	**344**	P	**P**	**07 10 24.8**	**-1.9**
	comp=Z,34nm,0.3s,baz=147,slow=4.7,SNR=7.9						
YAK				S	**S**	**07 14 07.8**	**-2.9**
	comp=Z,14nm,0.4s,baz=158,slow=19,SNR=1.6						
	comp=Z,34nm,0.3s						
YAK	**Yakutsk**	**20.71**	**344**	*e*P	**P**	**07 10 24.7**	**-2.1**
YAK				*e*S	**S**	**07 14 08.2**	**-2.5**
YAK				*e*		07 14 30.1	
YAK				*e**SS	**sS**	**07 14 47.3**	**-2.5**
YAK				*e*		07 21 37.6	
YAK				pmax	pmax		
	comp=Z,33nm,0.6s						
YAK				pmax	pmax		
	comp=N,8.0nm,0.6s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.8s						
YAK				smax	smax		
	comp=E,94nm,5.6s						
YAK				smax	smax		
	comp=N,68nm,5.8s						
YAK	**Yakutsk**	**20.71**	**344**	*e*P	**P**	**07 10 24.9**	**-1.9**
YAK				*e*S	**S**	**07 14 06.5**	**-4.2**
NJ2	**Nanjing**	**20.86**	**247**	*e*P	**P**	**07 10 29.8**	**+1.1**
NJ2				pmax	pmax		
	comp=N,16nm,0.6s						
HNS	**HongShan**	**21.19**	**265**	⇓P	**P**	**07 10 32.3**	**+0.1**
SEY	**Seymchan**	**21.33**	**14**	P	**P**	**07 10 31.9**	**-1.5**
	comp=N,22nm,0.3s,baz=206,slow=12,SNR=126						
	comp=N,22nm,0.3s						
SEY	**Seymchan**	**21.33**	**14**	*d i*P	**P**	**07 10 32.4**	**-1.1**
SEY				pmax	pmax		
	comp=Z,28nm,0.6s						
SEY	**Seymchan**	**21.33**	**14**	*e*P	**P**	**07 10 32.4**	**-1.1**
HHC	**Hu-ho-hao-te**	**22.42**	**276**	*e*P	**P**	**07 10 45.6**	**+0.4**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
ULN	**Ulaanbaatar**	**24.74**	**294**	P	**P**	**07 11 05.8**	**-0.8**
ULN	**Ulaanbaatar**	**24.74**	**294**	*ce*P	**P**	**07 11 07.2**	**+0.6**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ULN	**Ulaanbaatar**	**24.74**	**294**	*e*P	**P**	**07 11 07.2**	**+0.6**
SONM	**Songino Array**	**25.18**	**294**	P	**P**	**07 11 10.9**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=83,slow=9.0,SNR=5.6						
	comp=Z,2.4nm,0.5s						
XAN	**Xi'an**	**26.88**	**262**	⇑P	**P**	**07 11 26.4**	**+0.6**
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
BILL	**Bilibino**	**28.69**	**19**	⇓*e*P	**P**	**07 11 40.5**	**-1.0**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MOY	**Mondy**	**28.73**	**303**	*e*P	**P**	**07 11 43.2**	**+1.0**
MOY				pmax	pmax		
	comp=Z,25nm,1.6s						
MOY	**Mondy**	**28.73**	**303**	*e*P	**P**	**07 11 43.2**	**+1.0**
TIXI	**Tiksi**	**29.79**	**352**	P	**P**	**07 11 49.3**	**-1.9**
TIXI	**Tiksi**	**29.79**	**352**	P	**P**	**07 11 49.2**	**-2.1**
	comp=Z,3.4nm,0.3s,baz=165,slow=7.6,SNR=5.7						
	comp=Z,3.4nm,0.3s						
TIXI	**Tiksi**	**29.79**	**352**	⇓*i*P	**P**	**07 11 49.1**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**31.23**	**129**	T	T	07 43 21.9	
	baz=322,slow=75,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**31.25**	**129**	T	T	07 43 20.0	
	baz=322,slow=74						
H11N3	**WAKE ISLAND Hy**	**31.25**	**129**	T	T	07 43 25.8	
	baz=322,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy**	**32.10**	**131**	T	T	07 44 31.7	
	baz=329,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**32.10**	**131**	T	T	07 44 29.9	
	baz=329,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**32.11**	**131**	T	T	07 44 35.3	
	baz=329,slow=76,SNR=28						
SPIA	**Saint Paul Isl**	**33.51**	**47**	P	**P**	**07 12 23.9**	**0.0**
	baz=265						
GAMB	**Gambell**	**33.99**	**35**	P	**P**	**07 12 27.2**	**-0.7**
	baz=254						
NIKH	**Nikolski High**	**34.24**	**55**	P	**P**	**07 12 29.7**	**-0.5**
	baz=273						
UNV	**Unalaska Valle**	**35.60**	**53**	P	**P**	**07 12 41.5**	**-0.3**
	baz=273						
M11K	**Mekoryuk**	**35.90**	**42**	P	**P**	**07 12 44.1**	**-0.3**
	baz=264						
PZH	**PanZhiHua**	**36.16**	**257**	P	**P**	**07 12 48.8**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
KMI	**Kunming**	**36.28**	**254**	P	**P**	**07 12 51.3**	**+2.9**
KMI				pmax	pmax		
	comp=Z,15nm,0.7s						
F14K	**Arctic Creek**	**36.66**	**33**	P	**P**	**07 12 50.3**	**-0.5**
	baz=257						
K13K	**Kusilvak Mount**	**36.81

NRIK IAmb IAmb 07 13 04.3
comp=Z,10nm,1.2s
NRIK Noril'sk 38.33 332 P P 07 13 04.0 -0.8
comp=Z,3.2nm,0.5s,baz=108,slow=9.6,SNR=9.0
NRIK LR LR 07 30 06.9
comp=Z,23nm,18.8s,baz=42,slow=38
comp=Z,3.2nm,0.5s
NRIK Noril'sk 38.33 332 ⇓i P P 07 13 03.6 -1.2
NRIK pmax pmax
comp=Z,9.0nm,1.3s
O14K Tigyukauivet M 38.34 44 P P 07 13 05.0 0.0
baz=270
D17K Noatak River 38.40 30 P P 07 13 05.6 +0.1
baz=258
ZAA0 Zalesovo Array 38.44 307 P 07 13 06.0 +0.1
ZALV Zalesovo Beam 38.44 307 P 07 13 06.6 +0.6
ZALV Zalesovo Beam 38.44 307 P P 07 13 06.4 +0.4
comp=Z,18nm,0.5s,baz=85,slow=8.2,SNR=46
ZALV PcP **PcP 07 15 17.0 +0.6**
comp=Z,5.4nm,0.6s,baz=90,slow=2.0,SNR=8.7
ZALV ScP **ScP 07 18 53.2 +1.0**
comp=Z,2.7nm,0.7s,baz=83,slow=4.5,SNR=9.9
comp=Z,18nm,0.5s
ZALV Zalesovo Beam 38.44 307 i P P 07 13 06.5 +0.6
ZALV pmax pmax
comp=Z,19nm,0.5s
M15K Kasigluk River 38.64 42 P P 07 13 07.9 +0.4
baz=269
E17K Hotham Inlet 38.76 31 P P 07 13 08.6 +0.2
baz=260,SNR=15
J16K Anvik River 38.80 38 P P 07 13 09.5 +0.7
baz=266
I17K Unalakleet 38.81 37 P P 07 13 09.0 +0.2
baz=265
F17K Baldwin Pennin 38.88 33 P P 07 13 09.8 +0.3
baz=261
N15K Kwethluk River 38.93 43 P P 07 13 11.9 +1.9
N15K Kwethluk River 38.93 43 P P 07 13 09.3 -0.6
baz=270,SNR=5.4
SDPT Sand Point 38.98 50 P P 07 13 10.1 -0.2
baz=276
G17K Kiwalik Mounta 38.99 34 P P 07 13 10.6 +0.2
baz=263
O15K Ungalikthiuk R 39.08 44 P P 07 13 10.5 -0.8
baz=272
B18K Kokolik River 39.23 28 P P 07 13 11.9 -0.3
baz=257,SNR=9.3
H17K Granite Mounta 39.24 35 P P 07 13 12.2 -0.3
baz=264
L16K Owhat River 39.25 40 P P 07 13 13.0 +0.4
baz=269
E18K Tukpahlearik C 39.29 31 P 07 13 13.2 +0.4
E18K IAmb IAmb 07 13 14.2
comp=Z,9.3nm,1.2s
E18K Tukpahlearik C 39.29 31 P P 07 13 12.6 -0.3
baz=261
C18K Utukok River 39.29 29 P 07 13 12.1 -0.8
C18K IAmb IAmb 07 13 13.5
comp=Z,11nm,1.0s
C18K Utukok River 39.29 29 P P 07 13 12.2 -0.7
baz=259,SNR=8.5
M16K Timber Creek 39.49 41 P P 07 13 14.9 +0.3
M16K Timber Creek 39.49 41 P P 07 13 14.1 -0.5
baz=270
J17K VABM Dome 39.49 38 P P 07 13 14.3 -0.2
baz=267
F18K Selawik 39.54 32 P P 07 13 14.5 -0.4
baz=263,SNR=5.1
CHNA Chernabura Isl 39.54 51 P P 07 13 14.7 -0.3
baz=277
N16K Nishlik Lake 39.59 42 P P 07 13 15.3 -0.1
baz=271
A19K Wainwright 39.66 27 P P 07 13 15.7 -0.2
baz=257,SNR=10
L17K Donlin 39.81 40 P P 07 13 17.2 0.0
baz=269
K17K Iditarod 39.82 39 P P 07 13 16.8 -0.5
baz=269
G18K Tagagawik 39.86 34 P P 07 13 17.5 -0.1
G18K IAmb IAmb 07 13 19.7
comp=Z,6.8nm,0.7s
G18K Tagagawik 39.86 34 P P 07 13 17.3 -0.4
baz=264,SNR=11
H18K Honhosa River 39.92 35 P P 07 13 17.9 -0.1
baz=266
O16K Kokwok River B 39.95 43 P P 07 13 17.1 -1.3
baz=272
P16K Nushagak River 40.03 44 P P 07 13 17.9 -1.2
baz=273
M17K Holitna River 40.22 41 P P 07 13 21.1 +0.4
M17K Holitna River 40.22 41 P P 07 13 20.5 -0.1
baz=271
F19K Shaleruckik Mo 40.31 32 P P 07 13 21.0 -0.2
F19K IAmb IAmb 07 13 24.9
comp=Z,7.8nm,0.8s
F19K Shaleruckik Mo 40.31 32 P P 07 13 21.0 -0.2
baz=264,SNR=15
R16K Pilot Point 40.36 47 P P 07 13 21.6 -0.2
baz=275
N17K Nushagak Hills 40.37 42 P P 07 13 21.5 -0.3
baz=272
D19K Kuna River 40.38 30 P 07 13 21.4 -0.5
D19K IAmb IAmb 07 13 22.8
comp=Z,15nm,1.1s
D19K Kuna River 40.38 30 P P 07 13 21.3 -0.6
baz=262,SNR=9.2
O17K Koliganek Bris 40.45 43 P P 07 13 22.1 -0.4
baz=273
G19K Purcell Mounta 40.52 33 P P 07 13 22.7 -0.3
G19K IAmb IAmb 07 13 50.3
comp=Z,5.5nm,0.5s
G19K Purcell Mounta 40.52 33 P P 07 13 22.6 -0.5
baz=266,SNR=6.0
GCSA Galena City Sc 40.52 35 P P 07 13 22.8 -0.2
baz=268
J18K Innoko River 40.56 37 P 07 13 23.0 -0.4
J18K Innoko River 40.56 37 P P 07 13 22.8 -0.5
baz=269
L18K Granite Mounta 40.57 39 P P 07 13 25.0 +1.5
L18K IAmb IAmb 07 13 26.2
comp=Z,9.6nm,0.8s
L18K Granite Mounta 40.57 39 P P 07 13 22.8 -0.6
baz=271
E19K Redstone River 40.58 31 P P 07 13 23.6 +0.1
E19K IAmb IAmb 07 13 24.8
comp=Z,20nm,1.4s
E19K Redstone River 40.58 31 P P 07 13 22.7 -0.8
baz=264,SNR=15
H19K Roundabout Mou 40.74 34 P P 07 13 25.6 +0.8
H19K Roundabout Mou 40.74 34 P P 07 13 24.8 0.0
baz=267,SNR=17
P17K Kvichak River 40.82 44 P P 07 13 25.1 -0.4
baz=274
TTA Tatalina 40.87 38 P P 07 13 25.8 -0.3
baz=270
B20K Meade River 40.94 27 P P 07 13 26.2 -0.2
B20K Meade River 40.94 27 P P 07 13 25.8 -0.6
baz=261,SNR=27
D20K Etivluk River 40.95 29 P P 07 13 26.0 -0.6
baz=263,SNR=20
M18K Stony River 40.99 40 P P 07 13 27.0 0.0
baz=272
N18K Kilae Creek 41.00 42 P P 07 13 27.4 +0.3
baz=273
J19K Poorman 41.05 37 P P 07 13 26.8 -0.6
baz=270
E20K Nigu River 41.06 30 P P 07 13 27.2 -0.3
baz=264,SNR=14
F20K Avaraart Lake 41.13 32 P P 07 13 27.7 -0.2
F20K Avaraart Lake 41.13 32 P P 07 13 27.8 -0.2
baz=266
Q17K Contact Creek 41.19 45 P P 07 13 27.9 -0.8
baz=276
A21K Barrow 41.33 25 P P 07 13 29.2 -0.4
baz=260
H20K Anotleneega Mo 41.39 34 P P 07 13 30.6 +0.4
baz=268,SNR=8.0
P18K Big Mountain, 41.42 44 P P 07 13 30.2 -0.3
baz=275
L19K White Mountain 41.43 39 P P 07 13 31.1 +0.5
baz=272
MK31 Makanchi Array 41.49 297 c i P P 07 13 31.5 +0.3
MKAR Makanchi Array 41.49 297 P P 07 13 31.2 0.0
MKAR Makanchi Array 41.49 297 P P 07 13 31.4 +0.1
comp=Z,3.5nm,0.5s,baz=80,slow=9.2,SNR=32
MKAR PcP **PcP 07 15 28.2 +1.8**
comp=Z,0.9nm,0.6s,baz=81,slow=4.2,SNR=2.3
comp=Z,3.5nm,0.5s
MKAR Makanchi Array 41.49 297 i P P 07 13 31.6 +0.3
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 41.49 297 e P P 07 13 31.5 +0.3
I20K Naaghedeneel 41.55 35 P P 07 13 31.4 0.0
baz=270
M19K Big River Lodg 41.66 40 P P 07 13 33.1 +0.7
baz=273
C21K Knifeblade Rid 41.66 29 P P 07 13 32.0 -0.4
baz=264,SNR=16
N19K Bonanza Creek 41.68 41 P P 07 13 32.8 +0.1
baz=274
MAKZ Makanchi 41.69 297 P P 07 13 32.3 -0.6
MAKZ IAmb IAmb 07 13 37.7
comp=Z,7.4nm,0.6s
MAKZ Makanchi 41.69 297 P P 07 13 32.3 -0.6
MAKZ pmax pmax
comp=Z,7.0nm,0.6s
J20K Nowinta River 41.70 36 P P 07 13 33.1 +0.5
J20K Nowinta River 41.70 36 P P 07 13 32.9 +0.3
baz=271,SNR=6.4
K20K Telida 41.75 38 P P 07 13 33.0 -0.1
baz=272
B21K Ikpikpuk River 41.77 28 P P 07 13 33.2 +0.1
B21K Ikpikpuk River 41.77 28 P P 07 13 33.5 +0.3
baz=264,SNR=18
A22K Sinclair Lake 41.81 26 P P 07 13 33.6 +0.1
baz=262,SNR=13
L20K Farewell, AK 41.87 39 P P 07 13 34.3 +0.2
baz=273
E21K Killik River 41.89 30 P P 07 13 34.0 -0.3
baz=266
G21K Allakaket 41.98 33 P P 07 13 35.2 +0.2
G21K IAmb IAmb 07 13 39.9
comp=Z,9.6nm,0.8s
G21K Allakaket 41.98 33 P P 07 13 35.0 0.0
baz=269,SNR=16
F21K Alatna River 42.01 32 P P 07 13 35.6 +0.4
F21K IAmb IAmb 07 13 39.5
comp=Z,5.2nm,0.7s
F21K Alatna River 42.01 32 P P 07 13 35.2 -0.1
baz=268
B22K Teshekpuk Lake 42.25 27 P P 07 13 37.3 +0.3
baz=264
M20K Styx River 42.25 40 P P 07 13 38.6 +1.3
M20K Styx River 42.25 40 P P 07 13 37.1 -0.3
baz=274
H21K Melozitna Rive 42.26 34 P P 07 13 37.3 +0.1
H21K Melozitna Rive 42.26 34 P P 07 13 37.1 -0.1
baz=270
Q19K Cape Douglas, 42.28 44 P P 07 13 37.3 -0.2
baz=277
D22K Ayikyak River 42.39 29 P P 07 13 38.2 -0.1
baz=267,SNR=13
CHUM Lake Minchumin 42.51 37 P P 07 13 40.2 +0.9
baz=273
F22K John River 42.53 31 P P 07 13 39.6 +0.3
baz=269
I21K Tanana 42.61 35 P P 07 13 40.6 +0.6
I21K Tanana 42.61 35 P P 07 13 40.3 +0.3
baz=271
PPLA Purkeypile 42.62 38 P P 07 13 41.1 +0.7
baz=274
CAST Castle Rocks 42.64 37 P 07 13 41.5 +1.1
CAST IAmb IAmb 07 13 42.7
comp=Z,10.0nm,0.7s
CAST Castle Rocks 42.64 37 P P 07 13 41.2 +0.9
baz=273,SNR=9.9
E22K Anaktuvuk Pass 42.68 30 P P 07 13 40.7 0.0
E22K IAmb IAmb 07 13 44.9
comp=Z,10nm,0.6s
E22K Anaktuvuk Pass 42.68 30 P P 07 13 40.7 0.0
baz=268,SNR=22
SPCR Spurr Chakacha 42.75 41 P P 07 13 41.3 0.0
baz=276
KURK Kurchatov 42.78 304 P 07 13 41.7 +0.2
KURK Kurchatov 42.78 304 c i P P 07 13 41.8 +0.2
KURK pmax pmax
comp=Z,47nm,0.8s
KURK Kurchatov 42.78 304 e P P 07 13 41.8 +0.2
G22K Bettles 42.78 32 P P 07 13 41.6 +0.2
baz=270
H22K Ishtalitna Cre 42.84 34 P P 07 13 42.2 +0.2
baz=271,SNR=7.6
KURBB Kurchatov Arra 42.86 303 P P 07 13 42.4 +0.2
comp=Z,42nm,0.7s,baz=76,slow=8.9,SNR=115
KURBB PcP **PcP 07 15 31.8 +1.0**
comp=Z,1.0nm,0.7s,baz=79,slow=4.0,SNR=2.7
comp=Z,42nm,0.7s
Q20K Shuyak Island 42.97 45 P P 07 13 43.3 +0.3
baz=278
KDAK Kodiak Island 43.00 46 P P 07 13 43.6 +0.4
baz=279
BPAW Bear Paw Mtn. 43.08 36 P P 07 13 44.9 +1.0
BPAW Bear Paw Mtn. 43.08 36 P P 07 13 44.0 +0.1
baz=274
D23K Nanushuk River 43.12 29 P P 07 13 44.0 -0.2
D23K IAmb IAmb 07 13 45.8
comp=Z,23nm,1.4s
D23K Nanushuk River 43.12 29 P P 07 13 43.9 -0.2
baz=268,SNR=9.3
KTH Kantishna Hill 43.15 37 P P 07 13 45.3 +0.8
KTH IAmb IAmb 07 13 46.9
comp=Z,18nm,0.9s
C23K Itkillik River 43.17 28 P P 07 13 44.4 -0.1
C23K IAmb IAmb 07 13 46.2
comp=Z,8.2nm,0.7s
C23K Itkillik River 43.17 28 P P 07 13 44.7 +0.2
baz=268,SNR=12
COLD Coldfoot 43.29 32 P P 07 13 45.8 +0.2
COLD Coldfoot 43.29 32 P P 07 13 45.0 -0.6
baz=271,SNR=11
CMAR Chiang Mai Arr 43.30 250 P P 07 13 47.4 +1.3
comp=Z,1.7nm,0.6s,baz=47,slow=7.3,SNR=9.5
comp=Z,1.7nm,0.6s
CMAR Chiang Mai Arr 43.30 250 i P P 07 13 47.5 +1.3
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CAPN Captain Cook N 43.31 41 P P 07 13 45.0 -0.7
baz=277
G23K Bananza Creek 43.37 33 P P 07 13 46.0 -0.2
G23K IAmb IAmb 07 13 48.4
comp=Z,6.0nm,0.7s
G23K Bananza Creek 43.37 33 P P 07 13 45.6 -0.6
baz=272,SNR=9.6
SUA Susitna One 43.42 40 P P 07 13 46.0 -0.8
baz=276
TRF Thorofare Moun 43.44 37 P P 07 13 46.6 -0.4
baz=275
E23K Chandalar 43.51 31 P P 07 13 47.6 +0.3
E23K Chandalar 43.51 31 P P 07 13 47.0 -0.3
baz=270,SNR=9.4
TOLK Toolik Lake Re 43.52 30 P P 07 13 47.4 0.0
baz=270,SNR=8.8
CUT Chulitna 43.55 39 P P 07 13 47.9 +0.3
baz=276
H23K Yukon River 43.60 34 P P 07 13 48.3 +0.3
baz=273
I23K Minto, Yukon-K 43.72 35 P P 07 13 49.3 +0.4
I23K IAmb IAmb 07 13 53.8
comp=Z,12nm,1.4s
I23K Minto, Yukon-K 43.72 35 P P 07 13 49.4 +0.4
baz=274
BWN Browne 43.74 36 P P 07 13 50.4 +1.2
D24K Happy Valley 43.79 29 P P 07 13 49.5 0.0
baz=270
C24K Franklin Bluff 43.84 28 P P 07 13 49.6 -0.1
baz=270
SHL Shillong 43.88 264 P P 07 13 49.7 -1.2
SHL IAmb IAmb 07 13 51.7
comp=Z,6.3nm,0.6s
SHL Shillong 43.88 264 P P 07 13 49.7 -1.2
SHL pmax pmax
comp=Z,6.0nm,0.6s
NEA2 Nenana 43.88 36 P P 07 13 51.2 +0.9
NEA2 IAmb IAmb 07 13 53.3
comp=Z,10nm,0.8s
NEA2 Nenana 43.88 36 P P 07 13 50.4 +0.1
baz=275,SNR=8.8
E24K Your Creek 43.93 31 P P 07 13 51.0 +0.3
E24K Your Creek 43.93 31 P P 07 13 50.6 -0.1
baz=272,SNR=9.8
RC01 Rabbit Creek A 43.96 41 P P 07 13 51.0 +0.1
baz=278
MCK McKinley 44.02 37 P 07 13 51.8 +0.4
MCK IAmb IAmb 07 13 53.1
comp=Z,10.0nm,0.9s
MCK McKinley 44.02 37 P P 07 13 51.8 +0.4
MCK pmax pmax
comp=Z,10.0nm,0.9s
MCK McKinley 44.02 37 P P 07 13 51.5 +0.1
baz=276,SNR=6.7
RND Reindeer 44.09 37 P P 07 13 56.9 +4.9
F24K Squaw Lake 44.18 31 P P 07 13 52.4 -0.2
F24K IAmb IAmb 07 13 56.3
comp=Z,6.4nm,0.7s
F24K Squaw Lake 44.18 31 P P 07 13 53.1 +0.5
baz=273,SNR=17
PMR Palmer 44.18 40 P P 07 13 53.2 +0.5
baz=278
GHO Glory Hole Cre 44.25 40 P P 07 13 54.0 +0.6
H24K Noodor Dome 44.28 34 P P 07 13 54.7 +1.1
H24K Noodor Dome 44.28 34 P P 07 13 54.2 +0.7
baz=274
COLA College 44.38 35 P P 07 13 54.8 +0.6
COLA IAmb IAmb 07 13 56.0
comp=Z,10nm,0.5s
COLA College 44.38 35 d i P P 07 13 54.8 +0.6
COLA pmax pmax
comp=Z,11nm,0.8s
COLA College 44.38 35 P P 07 13 54.9 +0.8
baz=275
G24K Hadweenzic Riv 44.38 33 P P 07 13 55.0 +0.8
G24K Hadweenzic Riv 44.38 33 P P 07 13 54.8 +0.5
baz=274,SNR=5.6
CCB Clear Creek Bu 44.42 35 P P 07 13 54.9 +0.4
KNK Knik Glacier 44.52 40 P P 07 13 56.1 +0.7
baz=278
SML Sawmill 44.52 40 P P 07 13 55.6 +0.1
SML Sawmill 44.52 40 P P 07 13 55.6 +0.1
SML pmax pmax
comp=Z,39nm,1.4s
SML Sawmill 44.52 40 P P 07 13 56.0 +0.5
baz=278
POKR Poker Plat Res 44.53 35 P P 07 13 55.7 +0.3
baz=276
D25K Kavik River 44.66 29 P P 07 13 56.1 -0.3
D25K IAmb IAmb 07 13 58.1
comp=Z,7.2nm,0.8s
D25K Kavik River 44.66 29 P P 07 13 56.6 +0.1
baz=272,SNR=14
PWL Port Wells 44.67 41 P P 07 13 57.0 +0.4
baz=279
IL31 44.80 35 P P 07 13 57.6 +0.1
IL31 IAmb IAmb 07 13 59.3
comp=Z,7.7nm,0.9s
ILAR Eielson Array 44.80 35 P P 07 13 57.7 +0.1
comp=Z,5.4nm,0.9s,baz=276,slow=8.3,SNR=53
comp=Z,5.4nm,0.9s
M23K Glacier View 44.81 40 P P 07 13 58.1 +0.3
baz=279
HDA Harding Lake 44.81 36 P P 07 13 57.5 -0.2
HDA Harding Lake 44.81 36 P P 07 13 58.4 +0.7
baz=277
G25K Bearman Lake 44.92 32 P P 07 13 58.5 0.0
baz=275
SCM Sheep Creek Mo 44.99 39 P P 07 13 59.0 -0.2
baz=279
E25K Arctic Village 45.02 30 P P 07 13 59.7 +0.4
E25K Arctic Village 45.02 30 P P 07 13 60.0 +0.6
baz=274,SNR=7.1
F25K Christian Rive 45.03 31 P P 07 14 00.4 +0.9
baz=275,SNR=6.6
H25L Birch Creek 45.08 33 P P 07 14 00.4 +0.7
baz=276
C26K Camden Bay 45.15 28 P P 07 14 00.9 +0.7
baz=273,SNR=6.5
PRP Porcupine Dome 45.29 34 P P 07 14 02.6 +1.0
PRP IAmb IAmb 07 14 03.5
comp=Z,7.9nm,0.7s
PRP Porcupine Dome 45.29 34 P P 07 14 01.8 +0.2
baz=277,SNR=14
FYU Fort Yukon 45.29 33 P P 07 14 02.5 +1.1
FYU IAmb IAmb 07 14 04.3
comp=Z,21nm,1.2s
K24K Donnelly Dome 45.40 37 P P 07 14 02.8 +0.4
baz=278
J25K Salcha River, 45.47 35 P P 07 14 03.5 +0.6
baz=278
M24K Tolsona, Glenn 45.49 39 P P 07 14 04.0 +0.9
baz=280
C27K Jago River 45.58 28 P P 07 14 03.9 +0.2
baz=274,SNR=13
F26K Sheenjek River 45.59 31 P P 07 14 04.3 +0.5
baz=276,SNR=15
PAX Paxson 45.67 38 P P 07 14 05.1 +0.6
baz=279
KLU Klutina 45.71 40 P P 07 14 05.7 +0.8
baz=280
G26K Porcupine Rive 45.81 32 P P 07 14 06.4 +0.9
baz=277,SNR=17
RIDG Independent Ri 45.82 37 P P 07 14 06.3 +0.6
baz=279
HARP HAARP 45.91 38 P P 07 14 07.1 +0.8
baz=280
SCRK Sand Creek 46.16 36 P P 07 14 08.8 +0.4
baz=280,SNR=13
J26L Joseph Creek 46.25 35 P P 07 14 09.4 +0.2
baz=279
I26K Coal Creek Min 46.30 34 P P 07 14 09.3 0.0
I26K Coal Creek Min 46.30 34 P P 07 14 09.7 +0.4
baz=279
MENT Mentasta 46.46 37 P P 07 14 11.5 +0.8
MENT IAmb IAmb 07 14 13.3
comp=Z,19nm,1.4s
E27K Coleen River 46.49 30 P P 07 14 11.2 +0.4
baz=278
KDJ Kajisay 46.52 292 P P 07 14 10.8 -0.8
KDJ Kajisay 46.52 292 P P 07 14 10.8 -0.8
KDJ pmax pmax
comp=Z,5.0nm,0.8s
D27M Malcolm River 46.58 29 P P 07 14 12.2 +0.6
baz=277
L26K Log Cabin Wild 46.61 37 P P 07 14 12.7 +0.9
baz=281,SNR=7.0
G27K Doyon Strip 46.67 32 P P 07 14 13.3 +1.0
baz=279
H27K Steamboat Moun 46.81 33 P P 07 14 14.4 +1.0
baz=280
I27K Kandik River 46.88 34 P P 07 14 15.3 +1.3
baz=280,SNR=5.1
M26K Nabesna, AK 46.89 38 P P 07 14 15.1 +1.0
baz=282,SNR=8.1
K27K Chicken 46.98 36 P P 07 14 15.8 +1.1
baz=281
BVAR Borovoye Array 47.06 309 P P 07 14 16.1 +0.7
comp=Z,23nm,0.4s,baz=73,slow=8.5,SNR=137
BVAR PcP **PcP 07 15 46.0 +0.7**
comp=Z,6.0nm,0.6s,baz=71,slow=2.2,SNR=8.1
comp=Z,23nm,0.4s
BRVK Borovoye 47.11 309 P P 07 14 16.2 +0.4
BRVK IAmb IAmb 07 14 19.4
comp=Z,18nm,1.0s
BRVK Borovoye 47.11 309 c i P P 07 14 16.5 +0.7
BRVK pmax pmax
comp=Z,8.0nm,0.5s
BRVK Borovoye 47.11 309 e P P 07 14 16.5 +0.7
E28M Babbage River 47.19 29 P P 07 14 17.1 +0.8
baz=279,SNR=8.4
BOOM Boomskoye usch 47.22 293 P P 07 14 17.7 +0.6
BOOM IAmb IAmb 07 14 18.8
comp=Z,8.2nm,0.7s
BOOM Boomskoye usch 47.22 293 P P 07 14 17.7 +0.6
BOOM pmax pmax
comp=Z,8.0nm,0.7s
L27K Beaver Creek, 47.28 37 P P 07 14 19.0 +1.9
baz=282,SNR=16
D28M Stokes Point 47.36 28 P P 07 14 18.2 +0.8
baz=279,SNR=5.6
M27K Edge Creek, AK 47.41 38 P P 07 14 19.8 +1.6
baz=283
I28M Miner Creek 47.60 34 P P 07 14 20.5 +0.9
I28M IAmb IAmb 07 14 22.1
comp=Z,14nm,0.8s
I28M Miner Creek 47.60 34 P P 07 14 21.3 +1.8
baz=282,SNR=16
E29M Blow River 47.82 30 P P 07 14 22.6 +1.5
baz=281,SNR=10.0
BVCY Beaver Creek 47.86 38 P P 07 14 22.8 +1.3
baz=284
G29M Pine Creek 48.06 32 P P 07 14 24.3 +1.3
baz=282
H29M Whitestone 48.07 32 P P 07 14 24.2 +1.2

H29M IAmb IAmb 07 14 25.4
comp=Z,5.8nm,0.7s
H29M Whitestone 48.07 32 P **P 07 14 24.3 +1.2**
baz=282
DAWY Dawson 48.12 35 P **P 07 14 24.3 +0.7**
baz=283
AAK Ala-Archa 48.14 294 P **P 07 14 24.7 +0.5**
comp=Z,1.9nm,0.4s,baz=41,slow=20,SNR=4.3
comp=Z,1.9nm,0.4s
AAK Ala-Archa 48.14 294⇑ *i*P **P 07 14 23.4 -0.7**
AAK pmax pmax
comp=Z,1.0nm,0.4s
AAK Ala-Archa 48.14 294 *e*P **P 07 14 23.4 -0.7**
YUK3 Moose Creek 48.20 39 P **P 07 14 25.6 +1.3**
baz=284
I29M Ogilvie Camp, 48.28 34 P **P 07 14 26.3 +1.6**
baz=283,SNR=5.4
KSH Kashi 48.45 290 P P 07 14 31.3 +4.8
KSH pmax pmax
comp=Z,4.0nm,0.6s
J29N Klondike Camp 48.53 35 P **P 07 14 28.2 +1.5**
baz=284
O28M Mount Upton 48.58 40 P **P 07 14 29.1 +1.7**
baz=285
EPYK Eagle Plains 48.69 32 P **P 07 14 28.3 +0.5**
EPYK Eagle Plains 48.69 32 P **P 07 14 29.3 +1.4**
baz=283,SNR=12
PINM Pinnacle 48.74 41 P **P 07 14 29.5 +1.2**
baz=286
G30M tAoh Zraii Nji 48.74 31 P **P 07 14 29.6 +1.4**
baz=283
F30M Barrier River 48.76 30 P **P 07 14 30.1 +1.8**
baz=283,SNR=18
L29M L29M 48.91 36 P **P 07 14 31.8 +2.3**
baz=285,SNR=16
M29M Somme Creek 48.93 37 P **P 07 14 32.1 +2.3**
baz=285
K29M Barlow Dome 48.98 35 P **P 07 14 32.0 +1.8**
baz=285,SNR=13
I30M Mount Dempster 49.10 34 P **P 07 14 32.7 +1.6**
baz=285,SNR=22
J30M Hart River 49.29 34 P **P 07 14 34.2 +1.7**
baz=285,SNR=7.9
INK Inuvik 49.42 29 P **P 07 14 34.1 +0.9**
INK pmax pmax
comp=Z,14nm,0.8s
INK Inuvik 49.42 29 P **P 07 14 34.1 +0.9**
baz=284,SNR=20
O29M Mount Kennedy 49.48 40 P **P 07 14 33.7 -0.4**
baz=287
F31M Tsiigehtchic 49.56 30 P **P 07 14 35.1 +0.7**
baz=285,SNR=8.4
M30M Minto, Yukon 49.64 37 P **P 07 14 37.1 +1.9**
baz=287
ARSB Arslanbob 49.72 293 P **P 07 14 36.7 +0.5**
ARSB Arslanbob 49.72 293 P **P 07 14 36.7 +0.5**
ARSB pmax pmax
comp=Z,11nm,0.6s
H31M Peel River 49.77 32 P **P 07 14 37.5 +1.5**
baz=286,SNR=16
HYT Haines Junctio 49.83 39 P **P 07 14 37.8 +1.1**
HYT Haines Junctio 49.83 39 P **P 07 14 38.8 +2.1**
baz=287
P29M Windy Craggy 50.09 41 P **P 07 14 40.3 +1.8**
baz=288
P30M Million Dollar 50.30 40 P **P 07 14 41.9 +1.7**
baz=288
N31M Braeburn, Yuko 50.42 38 P **P 07 14 42.8 +1.8**
baz=288
O30N Mendenhall 50.51 39 P **P 07 14 42.5 +0.8**
baz=288
KK31 Karatay Array 50.61 296 P **P 07 14 41.9 -0.8**
KK31 Karatay Array 50.61 296 P **P 07 14 41.9 -0.8**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 50.61 296 P **P 07 14 42.3 -0.4**
KKAR Karatay Array 50.61 296 P **P 07 14 42.3 -0.4**
M31M Drury Creek, Y 50.82 37 P **P 07 14 44.7 +0.7**
baz=289
A36M Sachs Harbour 51.08 24 P **P 07 14 46.2 +0.5**
A36M Sachs Harbour 51.08 24 P **P 07 14 46.9 +1.2**
baz=289,SNR=38
WHY Whitehorse 51.11 39 P **P 07 14 47.8 +1.6**
baz=290
SVE Sverdlovsk 51.15 316 *e*P **P 07 14 47.1 +0.6**
SVE pmax pmax
comp=Z,25nm,1.0s
FARO Faro, Yukon 51.27 37 P **P 07 14 49.4 +2.0**
baz=290
MMPY Sheldon Lake, 52.05 36 P **P 07 14 55.2 +2.0**
baz=291
R32K Eaglecrest 52.12 42 P **P 07 14 55.6 +1.9**
baz=292
SIT Sitka 52.17 43 P **P 07 14 55.0 +1.0**
baz=292
P33M Teslin, Yukon 52.22 39 P **P 07 14 55.7 +1.2**
baz=291
C36M Paulatuk 52.36 27 P **P 07 14 56.0 +0.7**
baz=292,SNR=27
S32K Killisnoo 52.39 43 P **P 07 14 56.4 +0.8**
baz=292
ARTI Arti 52.47 316 P **P 07 14 56.6 +0.3**
ARTI Arti 52.47 316 P **P 07 14 56.5 +0.2**
comp=Z,16nm,0.8s,baz=71,slow=9.2,SNR=18
comp=Z,16nm,0.8s
ARTI Arti 52.47 316 *d i*P **P 07 14 56.5 +0.2**
ARTI *PP **pP 07 15 25.2 -1.2**
ARTI 07 16 02.0
ARTI 07 16 53.8
ARTI S **S 07 22 13.4 +1.0**
ARTI SS **SS 07 25 48.1 -3.4**
ARTI pmax pmax
comp=Z,11nm,0.6s
SIMJ Simiganj 53.65 292 P **P 07 15 05.3 -0.1**
SIMJ IAmb IAmb 07 15 06.1
comp=Z,5.9nm,0.7s
TGTN Hyland Airport 53.77 36 P **P 07 15 07.4 +1.6**
baz=294
DLBC Dease Lake 54.23 40 P **P 07 15 11.1 +1.9**
baz=295
AB31 Akbulak array 54.56 307 P **P 07 15 11.7 +0.1**
AB31 IAmb IAmb 07 15 12.6
comp=Z,6.4nm,0.6s
ABKAR Akbulak array 54.56 307 P **P 07 15 11.4 -0.2**
ABKAR IAmb IAmb 07 15 12.6
comp=Z,6.4nm,0.6s
HOPEN Hopen 54.69 345 *e*P **P 07 15 12.9 +0.8**
T35M Bob Quinn 54.74 42 P **P 07 15 14.4 +1.6**
baz=295
SPA0 Spitsbergen Ar 55.10 348 *e*P **P 07 15 15.5 +0.3**
SPA0 Spitsbergen Ar 55.10 348 *e*P **P 07 15 15.6 +0.4**
SPITS Spitsbergen Ar 55.10 348 P **P 07 15 15.4 +0.3**
comp=Z,3.6nm,0.4s,baz=69,slow=7.9,SNR=50
comp=Z,3.6nm,0.4s
AKTO Aktyubinsk 55.15 309 P **P 07 15 16.1 +0.3**
comp=Z,5.4nm,0.7s,baz=60,slow=6.6,SNR=9.7
AKTO PcP **PcP 07 16 16.4 +1.0**
comp=Z,2.0nm,0.3s,baz=90,slow=1.0,SNR=4.0
AKTO ScP **ScP 07 20 02.6 +0.6**
comp=Z,0.9nm,0.3s,baz=45,slow=2.9,SNR=1.5
comp=Z,5.4nm,0.7s
KBS Kingsbay 55.20 350 *i*P **P 07 15 15.8 0.0**
NOR Nord 55.51 356 *i*P **P 07 15 16.7 -1.3**
NOR IAmb IAmb 07 15 18.6
comp=Z,13nm,1.0s
LIRD Liard River Hi 55.65 38 P **P 07 15 20.8 +1.5**
baz=297
KIRV Kirov 55.95 321 P **P 07 15 21.9 +0.5**
comp=Z,19nm,0.6s,baz=81,slow=1.9,SNR=11
comp=Z,19nm,0.6s
KIRV Kirov 55.95 321 *c i*P **P 07 15 21.8 +0.4**
TOAD Toad River Com 56.30 39 P **P 07 15 26.4 +2.4**
baz=298
RES Resolute Bay 57.19 15 P **P 07 15 30.1 +0.1**
comp=Z,24nm,0.6s,baz=308,slow=7.2,SNR=169
comp=Z,24nm,0.6s
VADS Vadso 57.44 338 *e*P **P 07 15 32.0 +0.3**
VADS Vadso 57.44 338 *e*P **P 07 15 32.1 +0.4**
KEV Kevo 58.31 338 P **P 07 15 37.7 -0.1**
KEV Kevo 58.31 338 P **P 07 15 37.7 -0.1**
KEV pmax pmax
comp=Z,13nm,0.6s
HAMF Hammerfest 58.62 340 *e*P **P 07 15 40.1 +0.1**
ARA0 ARCESS Array S 58.85 338 *e*P **P 07 15 42.0 +0.3**
ARA0 ARCESS Array S 58.85 338 *e*P **P 07 15 41.9 +0.3**
ARCES ARCESS Array B 58.85 338 P **P 07 15 41.7 +0.1**
comp=Z,3.8nm,0.5s,baz=51,slow=6.5,SNR=45
comp=Z,3.8nm,0.5s
YKA Yellowknife Ar 58.97 32 P **P 07 15 43.2 +0.7**
comp=Z,3.0nm,0.7s,baz=306,slow=6.7,SNR=87
YKA PcP **PcP 07 16 29.8 -0.4**
comp=Z,0.6nm,0.8s,baz=303,slow=4.4,SNR=2.0
YKA ScP **ScP 07 20 20.0 +1.4**
comp=Z,0.1nm,0.4s,baz=313,slow=3.1,SNR=3.2
comp=Z,3.0nm,0.7s
KLMR Klimovskoe 59.16 326 *e*P **P 07 15 42.0 -1.9**
KLMR pmax pmax
comp=Z,29nm,1.4s
KTK1 Kautokeino 59.81 338 *e*P **P 07 15 48.7 +0.5**
KTK1 Kautokeino 59.81 338 *e*P **P 07 15 48.7 +0.5**
BELG Belogornoye 59.88 315 *e*P **P 07 15 49.3 +0.4**
BELG pmax pmax
comp=Z,4.0nm,0.9s
SGF Sodankyl 59.90 336 P **P 07 15 49.4 +0.6**
NEEM North Greenlan 59.97 3 *i*P **P 07 15 49.1 -0.5**
NEEM IAmb IAmb 07 15 50.4
comp=Z,13nm,0.4s
MSF Maaselka 60.08 334 P **P 07 15 50.2 +0.1**
MSF pmax pmax
comp=Z,20nm,0.8s
JETT Jettan, Norway 60.19 340 *e*P **P 07 15 51.1 +0.3**
JETT Jettan, Norway 60.19 340 *e*P **P 07 15 51.2 +0.3**
TRO Tromso 60.51 340 *e*P **P 07 15 53.2 +0.3**
TRO Tromso 60.51 340 *e*P **P 07 15 53.2 +0.3**
JOF Joensuu 61.15 331 *e*P **P 07 15 57.7 +0.4**
OUL Oulu 61.62 334 P **P 07 16 00.9 +0.5**
OUL pmax pmax
comp=Z,24nm,0.6s
WRA Warramunga Arr 62.59 188 P **P 07 16 07.2 -0.3**
WRA Warramunga Arr 62.59 188 P **P 07 16 08.2 +0.8**
comp=Z,0.4nm,0.4s,baz=6.3,slow=6.7,SNR=4.9
STEI Steigen 62.67 340 *e*P **P 07 16 07.4 0.0**
FAUS Fauske 63.07 340 *e*P **P 07 16 10.5 +0.4**
FAUS Fauske 63.07 340 *e*P **P 07 16 10.6 +0.4**
VRH Novokhopyorsk 63.59 316 *e*P **P 07 16 13.5 -0.3**
VRH pmax pmax
comp=Z,12nm,0.8s
OBN Obninsk 63.76 322 *e*P **P 07 16 14.8 0.0**
OBN *e*PP **pP 07 16 46.3 +0.2**
OBN *e* 07 16 50.3
OBN *e*SP **sP 07 17 02.5 +2.2**
OBN *e* 07 18 37.4
OBN *e*PPP PPP 07 20 12.2
OBN pmax pmax
comp=Z,20nm,0.9s
OBN Obninsk 63.76 322 *e*P **P 07 16 14.8 0.0**
KEF Keuruu 63.91 332 *e*P **P 07 16 15.9 +0.2**
FIA1 FINESS Array S 63.98 331 P **P 07 16 16.4 +0.3**
FINES FINESS Array B 63.98 331 P **P 07 16 16.0 -0.1**
FINES FINESS Array B 63.98 331 P **P 07 16 16.2 +0.1**
comp=Z,27nm,0.5s,baz=49,slow=6.8,SNR=153
comp=Z,27nm,0.5s
VAF Ylistaro 64.05 334 *e*P **P 07 16 17.4 +0.9**
VAGH Vaagaholmen 64.08 340 *e*P **P 07 16 16.3 -0.5**
LPSR Galich'ya Gora 64.16 319 *e*P **P 07 16 17.6 +0.1**
LPSR pmax pmax
comp=Z,18nm,1.0s
MOR8 Moi Rana 64.20 339 *e*P **P 07 16 16.4 -1.2**
MOR8 Moi Rana 64.20 339 *e*P **P 07 16 16.4 -1.2**
KONS Konsvik 64.30 340 *e*P **P 07 16 20.4 +2.2**
VORR Voronezh 64.58 318 P **P 07 16 20.5 +0.2**
VORR pmax pmax
comp=Z,8.0nm,0.4s
SUMG Summit 65.12 0 P **P 07 16 24.4 +0.5**
SUMG Summit 65.12 0 P **P 07 16 24.5 +0.5**
SUMG pmax pmax
comp=Z,15nm,0.6s
SUMG Summit 65.12 0 *i*P **P 07 16 24.8 +0.8**
SUMG IAmb IAmb 07 16 25.4
comp=Z,15nm,0.6s
ARBE Arbavere 65.37 330 *e*P **P 07 16 25.9 +0.7**
MEF Metsahovi 65.42 331 *e*P **P 07 16 26.1 +0.6**
VSU Vasula 65.75 328 *e*P **P 07 16 27.5 -0.2**
RAF Rauma 65.78 332 *e*P **P 07 16 28.1 +0.4**
ASAR Alice Springs 66.31 188 P **P 07 16 32.8 +1.2**
comp=Z,0.8nm,0.8s,baz=6.3,slow=6.8,SNR=5.1
MTSE Matsula 66.68 330 *e*P **P 07 16 34.3 +0.7**
KIV Kislovodsk 67.42 309 *e*P **P 07 16 39.9 +1.2**
KIV pmax pmax
comp=Z,16nm,1.1s
KBZ Khabaz 67.43 309 P **P 07 16 39.6 +1.0**
comp=Z,3.2nm,0.8s,baz=30,slow=8.1,SNR=7.5
comp=Z,3.2nm,0.8s
ISAL Salakas 67.98 326 *e*P **P 07 16 40.9 -1.0**
MNK Minsk 67.99 325 *i*P **P 07 16 41.8 -0.2**
comp=E,18nm,0.9s
MNK *i*P **P 07 16 41.8 -0.2**
comp=N,19nm,0.9s
MNK *i*P **P 07 16 41.8 -0.2**
comp=Z,21nm,0.9s,baz=47
MNK *i*pP **pP 07 17 13.9 +0.3**
MNK *i*sP **sP 07 17 29.7 +2.1**
MNK *i*PP **PP 07 19 12.9 0.0**
MNK *i*PPP PPP 07 20 53.1
MNK *i*S **S 07 25 30.6 +0.2**
MNK *i*sS **SKSac 07 26 27.6 -0.2**
MNK *i*SS **SS 07 29 56.4 +2.5**
MNK *i*SSS SSS 07 33 11.3
MNK *i*LR LR 07 44 24.2
MNK Minsk 67.99 325 *i*P **P 07 16 41.7 -0.2**
MNK *i* *PP **pP 07 17 13.8 +0.2**
MNK *i* *SP **sP 07 17 29.7 +2.1**
MNK *i* 07 19 12.9
MNK *i*PPP PPP 07 20 53.1
MNK *i*S **S 07 25 30.6 +0.2**
MNK *i* *SS **SKSac 07 26 27.6 -0.2**
MNK *i*SS **SS 07 29 56.4 +2.5**
MNK pmax pmax
comp=E,18nm,0.9s
MNK pmax pmax
comp=Z,21nm,0.9s
MNK pmax pmax
comp=N,19nm,0.9s
SLIT Slitere, Latvi 68.03 330 *e*P **P 07 16 42.3 +0.2**
ILULI Ilulissat 68.11 5 *i*P **P 07 16 44.0 +1.6**
ILULI IAmb IAmb 07 16 46.3
comp=Z,22nm,1.0s
ICESG Greenland Ices 68.62 0 *i*P **P 07 16 46.7 +0.6**
PABE Paberze 68.90 327 *e*P **P 07 16 48.2 +0.7**
DOMB Dombas 68.92 338 *e*P **P 07 16 48.0 +0.4**
DOMB Dombas 68.92 338 *e*P **P 07 16 48.0 +0.4**
HFS Hagfors 69.09 335 P **P 07 16 48.6 -0.1**
comp=Z,18nm,0.3s,baz=35,slow=5.0,SNR=116
comp=Z,18nm,0.3s
NB2 NORSAR Subarra 69.12 337 P **P 07 16 49.0 +0.1**
comp=Z,8.7nm,0.7s,baz=35,slow=6.2
NB2 NORSAR Subarra 69.12 337 P **P 07 16 50.9 +2.0**
NB2 pmax pmax
comp=Z,1.0nm,0.3s
NB2 NORSAR Subarra 69.12 337 P **P 07 16 49.0 +0.1**
baz=35,slow=6.2
NOA NORSAR Array B 69.12 337 P **P 07 16 49.0 +0.1**
comp=Z,11nm,0.8s,baz=36,slow=6.2,SNR=61
comp=Z,11nm,0.8s
NOA NORSAR Array B 69.12 337 P **P 07 16 49.0 +0.1**
NC602 NORSAR Array S 69.27 336 *e*P **P 07 16 49.6 -0.2**
NC602 NORSAR Array S 69.27 336 *e*P **P 07 16 49.6 -0.2**
NORES NORESS Array B 69.27 336 P **P 07 16 52.5 +2.8**
NAO01 NORSAR Array S 69.37 337 P **P 07 16 50.2 -0.2**
NAO01 IAmb IAmb 07 16 53.9
comp=Z,6.5nm,0.6s
AKASG Malin Array Be 70.01 321 P **P 07 16 54.5 +0.1**
comp=Z,5.2nm,0.5s,baz=44,slow=6.4,SNR=40
comp=Z,5.2nm,0.5s
AKBB Malin Array Si 70.01 321 P **P 07 16 54.1 -0.3**
AKBB IAmb IAmb 07 16 55.4
comp=Z,11nm,0.7s
AKBB Malin Array Si 70.01 321 P **P 07 16 54.1 -0.3**
AKBB pmax pmax
comp=Z,11nm,0.7s
KIEV Kiev 70.02 321 P **P 07 16 54.4 -0.1**
KIEV IAmb IAmb 07 16 55.4
comp=Z,9.6nm,0.7s
KIEV Kiev 70.02 321 P **P 07 16 54.4 -0.1**
KIEV pmax pmax
comp=Z,10.0nm,0.7s
SKAR Skarslia 70.25 338 *e*P **P 07 16 56.5 +0.7**
SFJD Kangerlussuaq 70.33 5 P **P 07 16 56.9 +0.8**
comp=Z,8.0nm,0.8s,baz=1.3,slow=6.5,SNR=6.6
comp=Z,8.0nm,0.8s
SFJD Kangerlussuaq 70.33 5 *i*P **P 07 16 56.4 +0.3**
SFJD IAmb IAmb 07 16 57.6
comp=Z,15nm,0.9s
BOZ Bozeman (W) 70.70 45 P **P 07 17 00.0 +1.0**
BOZ Bozeman (W) 70.70 45 P **P 07 17 00.0 +1.0**
BOZ pmax pmax
comp=Z,4.0nm,0.9s
KONO Kongsberg 70.72 336 *e*P **P 07 16 59.0 +0.3**
KONO Kongsberg 70.72 336 *e*P **P 07 16 59.1 +0.5**
ASK Askoy 71.26 339 *e*P **P 07 17 02.0 +0.1**
BER Bergen 71.31 339 *e*P **P 07 17 03.1 +1.0**
BER Bergen 71.31 339 *e*P **P 07 17 03.1 +1.0**
ODD1 Odda 71.35 338 *e*P **P 07 17 03.4 +0.9**
ODD1 Odda 71.35 338 *e*P **P 07 17 03.3 +0.9**
NVAR Mina Array Bea 71.60 55 P **P 07 17 04.9 +0.3**
NVAR Mina Array Bea 71.60 55 P **P 07 17 06.3 +1.7**
comp=Z,3.2nm,0.7s,baz=313,slow=6.5,SNR=36
comp=Z,3.2nm,0.7s
BLS5 Blasjo 71.81 338 *e*P **P 07 17 05.8 +0.5**
ELK Elko 71.91 51 P **P 07 17 08.5 +2.1**
HOMB Homborsund 72.18 336 *e*P **P 07 17 08.1 +0.7**
KMY Karmoy 72.32 338 *e*P **P 07 17 09.0 +0.8**
SNART Snartemo 72.50 337 *e*P **P 07 17 10.4 +1.1**
SNART Snartemo 72.50 337 *e*P **P 07 17 10.3 +1.0**
BSD Bornholm Skovb 72.62 331 *i*P **P 07 17 12.9 +2.8**
BSD IAmb IAmb 07 17 14.2
comp=Z,12nm,0.5s
MUD Monsted U'grnd 73.47 335 *i*P **P 07 17 17.6 +2.6**
MUD IAmb IAmb 07 17 19.6
comp=Z,4.4nm,0.6s
PDAR Pinedale Array 73.71 47 P **P 07 17 17.5 +0.4**
PDAR Pinedale Array 73.71 47 P **P 07 17 17.8 +0.7**
comp=Z,2.6nm,0.6s,baz=299,slow=2.5,SNR=39
comp=Z,2.6nm,0.6s
BURAR Bucovina Array 74.05 321 P **P 07 17 19.0 +0.3**
BURAR Bucovina Array 74.05 321 P **P 07 17 19.0 +0.3**
KOLS Kolonicke sedl 74.41 323 *e*P **P 07 17 21.5 +0.8**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 74.41 323 *e*P **P 07 17 21.5 +0.8**
STHS Stebnicka Huta 74.50 324 *e*P **P 07 17 21.8 +0.6**
STHS Stebnicka Huta 74.50 324 *e*P **P 07 17 21.8 +0.6**
OJC Ojcow 74.51 325 *e*P **P 07 17 22.2 +0.9**
OJC Ojcow 74.51 325 P **P 07 17 22.1 +0.9**
OJC Ojcow 74.51 325 P **P 07 17 22.1 +0.9**
ULM Lac du Bonnet 74.81 34 P **P 07 17 23.4 +0.5**
comp=Z,2.2nm,0.4s,baz=316,slow=4.0,SNR=4.0
comp=Z,2.2nm,0.4s
BRTR Keskin Array B 75.29 311 P **P 07 17 26.6 +0.5**
comp=Z,1.3nm,0.6s,baz=62,slow=2.0,SNR=5.4
comp=Z,1.3nm,0.6s
BRTR Keskin Array B 75.29 311 *i*P **P 07 17 27.0 +0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
KSP Ksiaz 75.45 328 *e*P **P 07 17 27.6 +1.0**
LANS Liptovska Anna 75.46 325 *e*P **P 07 17 28.6 +1.8**
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 75.46 325 *e*P **P 07 17 28.6 +1.8**
STEB Steborice 75.57 326 *e*P **P 07 17 28.4 +1.1**
CHVC Chvalec 75.75 328 *e*P **P 07 17 29.4 +1.0**
CHVC Chvalec 75.75 328 *e*P **P 07 17 29.4 +1.0**
MORC Moravsky Berou 75.78 326 P **P 07 17 29.0 +0.4**
MORC IAmb IAmb 07 17 35.0
comp=Z,7.8nm,0.7s
MORC Moravsky Berou 75.78 326 *e*P **P 07 17 29.5 +0.9**
MORC Moravsky Berou 75.78 326 P **P 07 17 29.0 +0.4**
MORC pmax pmax
comp=Z,8.0nm,0.7s
UPC Upice 75.83 328 *ex* x 07 17 34.3
UPC Upice 75.83 328 *e*P P 07 17 34.3 +5.5
DPC Dobruska-Polom 75.83 327 *e*P **P 07 17 30.0 +1.2**
DPC Dobruska-Polom 75.83 327 *e*P **P 07 17 30.0 +1.2**
KRLC Kraliky 75.86 327 *e*P **P 07 17 30.3 +1.3**
KRLC *ex* x 07 17 34.6
KRLC Kraliky 75.86 327 *e*P **P 07 17 30.3 +1.3**
KRLC *e* 07 17 34.6
PSZ Piszkesteto 76.22 324 P **P 07 17 33.2 +2.1**
PSZ pmax pmax
comp=Z,7.0nm,0.8s
VYHS Vyhne 76.23 325 *e*P **P 07 17 32.4 +1.3**
VYHS pmax pmax
comp=Z,6.0nm,1.3s
VYHS Vyhne 76.23 325 *e*P **P 07 17 32.4 +1.3**
BRG Berggiesshubel 76.34 329 *e*P **P 07 17 32.3 +0.7**
BRG Amp 07 17 32.9
comp=Z,2.6nm,0.8s
BRG Berggiesshubel 76.34 329 P P 07 17 36.9 +5.3
BRG Amp 07 17 37.2
comp=Z,2.0nm,0.5s
CLL Collm 76.35 330 P **P 07 17 31.8 +0.1**
CLL Collm 76.35 330 P **P 07 17 31.8 +0.1**
CLL pmax pmax
comp=Z,13nm,0.5s
CLL Collm 76.35 330 *i*P **P 07 17 31.8 +0.1**
comp=Z,12nm,1.0s
CLL *i*x x 07 17 34.7
CLL *i*x x 07 17 36.1
comp=Z,12nm,0.5s
PVCC Panska Ves 76.38 328 *e*P **P 07 17 33.1 +1.2**
PVCC Panska Ves 76.38 328 *e*P **P 07 17 33.1 +1.2**
JAVC Velka Javorina 76.44 326 *e*P **P 07 17 34.3 +1.9**
VRAC Vranov 76.54 327 *e*P **P 07 17 34.1 +1.3**
HSKC Hora Svate Kat 76.75 329 *e*P **P 07 17 34.8 +0.8**
HSKC *ex* x 07 17 39.0
KRUC Moravsky 76.81 326 *e*P **P 07 17 35.4 +1.1**
SMOL Smolenice 76.81 326 *e*P **P 07 17 36.3 +1.9**
SMOL pmax pmax
comp=Z,4.0nm,0.9s
PRU Pruhonice 76.82 328 *e*P **P 07 17 35.8 +1.4**
PRU *ex* x 07 17 40.2
PRU Pruhonice 76.82 328 *e*P **P 07 17 35.8 +1.4**
PRU *e* 07 17 40.2
SRO Srobarova 76.98 325 *e*P **P 07 17 37.2 +1.9**
SRO pmax pmax
comp=Z,10.0nm,0.9s
SRO Srobarova 76.98 325 *e*P **P 07 17 37.2 +1.9**
MODS Modra-Piesok 76.98 326 *e*P **P 07 17 37.4 +2.0**
MODS pmax pmax
comp=Z,15nm,0.9s
MODS Modra-Piesok 76.98 326 *e*P **P 07 17 37.4 +2.0**
PV10 Paradox Valley 77.03 50 P **P 07 17 37.6 +1.5**
ZVC Zvikov 77.39 328 *e*P **P 07 17 38.7 +1.1**
CKRC Cesky Krumlov 77.84 327 *e*P **P 07 17 40.5 +0.4**
CKRC Cesky Krumlov 77.84 327 *e*P **P 07 17 40.5 +0.4**
KHC Kasperske Hory 77.88 328 *e*P **P 07 17 41.4 +1.0**
KHC *ex* x 07 17 44.9
KHC Kasperske Hory 77.88 328 *e*P **P 07 17 41.4 +1.0**
KHC *e* 07 17 44.9
CONA Conrad Observa 77.92 326 *i*P **P 07 17 40.9 +0.2**
comp=Z,2.8nm,0.7s
RONA Rosalia, Austr 77.92 326 *i*P **P 07 17 40.0 -0.7**
comp=Z,4.0nm,0.6s
EKA Eskdalemuir Ar 77.94 340 P **P 07 17 40.9 +0.4**
comp=Z,1.1nm,0.4s,baz=24,slow=6.2,SNR=12
comp=Z,1.1nm,0.4s
GERES GERESS Array B 78.06 328 P **P 07 17 41.8 +0.3**
comp=Z,1.2nm,0.6s,baz=51,slow=7.7,SNR=7.4
comp=Z,1.2nm,0.6s
GRF Grafenberg Arr 78.33 330 *e*P 07 17 44.1
comp=Z,8.8nm,0.8s,baz=36,slow=4.9,SNR=2.3
ARSA Arzberg 78.60 326 *e*P **P 07 17 43.8 -0.5**
comp=Z,2.0nm,0.6s
MOA Molln 78.64 327 *e*P **P 07 17 45.2 +0.7**
comp=Z,3.2nm,1.3s
MMAI Mount Meron Ar 78.88 305 P **P 07 17 45.6 -0.6**
comp=Z,8.7nm,0.7s,baz=18,slow=5.0,SNR=6.1
comp=Z,8.7nm,0.7s
BIOA Bad Ischl, Aus 79.02 327 *i*P **P 07 17 47.0 +0.4**
comp=Z,5.7nm,1.0s
SOKA Soboth 79.26 326 *i*P **P 07 17 48.3 +0.3**
comp=Z,5.2nm,0.7s
MEM Membach 79.41 333 *d*P **P 07 17 49.0 +0.4**
comp=Z,5.9nm,0.9s
OBKA Obir 79.59 326 *i*P **P 07 17 49.1 -0.7**
comp=Z,1.4nm,0.5s
LESA Schwarzleotal 79.61 328 *i*P **P 07 17 50.6 +0.7**
comp=Z,11nm,1.2s
KBA Koelnbreinsper 79.63 327 *i*P **P 07 17 50.4 +0.3**
comp=Z,7.2nm,1.0s
BCLA Clavier 79.80 333 *d*P **P 07 17 51.4 +0.7**
MYKA Terra Mystica 79.87 326 *i*P **P 07 17 51.9 +0.6**
comp=Z,3.0nm,0.6s
BMRD Maredsous 80.08 334 *d*P **P 07 17 51.9 -0.3**
comp=Z,4.9nm,0.8s

WATA	Walderalm	80.12	328	*i* P	P	07 17 53.6	+0.9
	comp=Z,3.6nm,0.5s						
WTTA	Wattenberg	80.16	328	*i* P	P	07 17 53.8	+0.9
	comp=Z,4.9nm,0.8s						
WLF	Walferdange	80.16	332	P	P	07 17 50.1	-2.6
WLF				pmax	pmax		
	comp=Z,41nm,0.6s						
ABTA	Abfaltersbach	80.23	327	*e*P	P	07 17 54.2	+1.0
	comp=Z,0.1nm,0.3s						
MOTA	Moosalm	80.30	328	*i* P	P	07 17 54.3	+0.6
	comp=Z,8.0nm,0.9s						
RETA	Reutte	80.31	329	*i* P	P	07 17 54.6	+0.9
	comp=Z,6.3nm,0.9s						
SQTA	Sankt Quirin	80.36	328	*i* P	P	07 17 54.9	+1.0
	comp=Z,3.8nm,0.6s						
FETA	Feichten	80.71	328	*i* P	P	07 17 56.5	+0.6
	comp=Z,5.4nm,1.0s						
DAVA	Damuels	80.81	329	*i* P	P	07 17 57.3	+0.8
	comp=Z,9.6nm,0.9s						
ANMO	Albuquerque	80.92	50	P	P	07 18 00.4	+3.1
FUORN	Ofenpass-Fuorn	81.22	328		P	07 17 59.5	+0.7
FUORN				IAmb	IAmb	07 18 00.7	
	comp=Z,10.0nm,0.8s						
R40A	Maddies Statio	85.79	40		P	07 18 22.1	+0.2
R40A				IAmb	IAmb	07 18 23.0	
	comp=Z,5.4nm,0.6s						
TXAR	Lajitas Array	86.63	53	P	P	07 18 27.1	+0.7
	comp=Z,0.7nm,0.4s,baz=314,slow=4.7,SNR=20						
	comp=Z,0.7nm,0.4s						
ESDC	Sonseca Array	92.35	334	P	P	07 18 53.4	+0.5
	comp=Z,1.6nm,0.8s,baz=27,slow=4.0,SNR=8.4						
	comp=Z,1.6nm,0.8s						
TORD	Torodi Ar. Bea	113.43	317	PKiKP	PKiKP	07 24 20.3	+0.1
	comp=Z,126nm,0.3s,baz=20,slow=2.4,SNR=3.2						
DBIC	Dimbokro	122.23	320	PKP	PKiKP	07 24 37.4	+0.1
	comp=Z,2.8nm,0.7s,baz=9.2,slow=1.4,SNR=4.0						
BDFB	Brasília	151.90	20	PKPbc	PKiKP	07 25 38.2	+0.7
	comp=Z,5.9nm,0.6s,baz=195,slow=0.9,SNR=14						

*IDC **19** 07:08:09.5±0.6, 6°.47N×125°.58E, h173km±3km, mb3.5/11, mbtmp3.9/11, MS3.6/1, Error ellipse: s-maj=37.1km s-min=13.8km az=80.0*
*DJA **19** 07:08:11.1±0.7, 6°N±4°×12°6E±°, h148km±7km, M4.5/6, mb4.5/4, mB5.2/1, MLv4.5/6, Mw(mB)4.6/1*
ISC 19 07:08:10.8±0.7, 6°.43N±0°.07×125°.7E±0°.2, h200km, n19, σ2°.64/19, mb3.7/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	0.65	347	P	Pn	07 08 34.7	-4.0
	849nm,0.5s,baz=225,slow=1.4,SNR=21						
DAV				S	Sn	07 08 53.9	-6.4
	820nm,0.3s,baz=78,slow=20,SNR=12						
SGSI	Sangihe	2.73	184	P	Pn	07 08 56.8	-0.6
SGSI				S	Sn	07 09 30.7	-3.2
TNTI	Ternate	5.85	164	P	Pn	07 09 34.4	-1.9
	0.3nm31nm,0.8s						
TNTI				S	Sn	07 10 39.6	-4.3
	0.3nm31nm,0.8s						
LUWI	Luwuk	7.99	202	P	Pn	07 09 56.6	-7.4
NLAI	Namlea	9.70	172	P	Pn	07 10 25.7	-0.6
JOW	Kunigami	20.43	7	P	Pn	07 12 34.6	-3.4
	12nm,0.9s,baz=180,slow=14,SNR=4.4						
	12nm,0.9s						
PSI	Prapat	26.96	264	LR	LR	07 27 42.9	
	comp=Z,130nm,18.6s,baz=192,slow=44						
WRA	Warramunga Arr	27.54	162	P	P	07 13 41.1	+1.9
	0.7nm,0.8s,baz=342,slow=8.9,SNR=4.7						
	0.7nm,0.8s						
KSRS	Korea Array	30.95	3	P	P	07 14 09.6	+0.6
	0.7nm,0.5s,baz=184,slow=14,SNR=4.2						
	0.7nm,0.5s						
ASAR	Alice Springs	30.96	165	P	P	07 14 10.9	+1.5
	0.6nm,0.5s,baz=340,slow=8.6,SNR=17						
	0.6nm,0.5s						
MJAR	Matsushiro Arr	32.07	19	P	P	07 14 18.2	-0.8
	2.8nm,0.8s,baz=196,slow=7.7,SNR=5.2						
	2.8nm,0.8s						
MKAR	Makanchi Array	54.79	325	P	P	07 17 20.5	+0.5
	0.3nm,0.3s,baz=118,slow=6.8,SNR=5.3						
MKAR				PcP	PcP	07 18 20.6	+0.8
	0.6nm,0.7s,baz=118,slow=5.7,SNR=2.8						
	0.3nm,0.3s						
KURBB	Kurchatov Arra	58.95	327	P	P	07 17 49.3	+0.2
	0.3nm,0.4s,baz=125,slow=5.8,SNR=4.2						
	0.3nm,0.4s						
SEY	Seymchan	59.65	14	P	P	07 17 58.8	+5.2
	0.7nm,0.2s,baz=221,slow=20,SNR=1.7						
TIXI	Tiksi	65.17	1	P	P	07 18 31.8	+1.7
	0.8nm,0.3s,baz=180,slow=11,SNR=4.6						
	0.8nm,0.3s						
ILAR	Eielson Array	83.11	26	P	P	07 20 16.8	+2.9
	0.2nm,0.6s,baz=258,slow=5.7,SNR=4.8						
	0.2nm,0.6s						
ARCES	ARCESS Array B	87.59	340	P	P	07 20 37.3	+1.3
	1.5nm,0.8s,baz=78,slow=4.9,SNR=2.0						
	1.5nm,0.8s						
FINES	FINESS Array B	89.00	332	P	P	07 20 43.3	+0.5
	1.0nm,0.8s,baz=57,slow=5.6,SNR=1.7						
	1.0nm,0.8s						
TORD	Torodi Ar. Bea	121.11	289	PKP	PKiKP	07 26 42.1	+1.2
	186nm,0.3s,baz=50,slow=1.8,SNR=6.2						

*ASRS **19** 07:10:15.0±0.7, 53°.59N×86°.92E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 07:10:18.0±2.4, 53°.62N×86°.80E, h0km, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=23.0km s-min=14.0km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	Zalesovo Beam	1.22	287	Pg	Pg	07 10 39.7	-1.7
	1.6nm,0.3s,baz=107,slow=18,SNR=17						
ZALV				Lg	Lg	07 10 58.0	
	2.2nm,0.3s,baz=108,slow=31,SNR=14						
I46RU	ZALESOVO INFRA	1.23	287	I	I	07 19 30.0	
	baz=103,slow=333,SNR=1.5						
KURBB	Kurchatov Arra	5.91	243	Pn	Pn	07 11 47.4	+0.7
	0.1nm,0.3s,baz=60,slow=13,SNR=6.3						
KURBB				Lg	Lg	07 13 23.6	
	0.1nm,0.3s,baz=42,slow=31,SNR=7.3						
	0.2nm,0.3s						
MKAR	Makanchi Array	7.42	205	Pn	Pn	07 12 08.5	+1.1
	0.3nm,0.3s,baz=21,slow=12,SNR=6.6						
	0.3nm,0.3s						
BVAR	Borovoye Array	9.84	273	Pn	Pn	07 12 40.8	+0.2
	baz=73,slow=17,SNR=2.6						
	0.3nm,0.4s						

*ASRS **19** 07:14:30.0±1.1, 53°.65N×88°.04E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 07:14:30.8±2.6, 53°.66N×88°.08E, h0km, mbtmp3.1/3, ML2.9/2, Error ellipse: s-maj=27.1km s-min=18.1km az=27.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	Zalesovo Beam	1.96	280	Pn	Pn	07 15 05.9	+0.6
	1.1nm,0.3s,baz=100,slow=15,SNR=9.7						
ZALV				Lg	Lg	07 15 31.8	
	0.9nm,0.3s,baz=98,slow=24,SNR=6.7						
KURBB	Kurchatov Arra	6.62	247	Pn	Pn	07 16 10.4	+1.2
	0.2nm,0.4s,baz=55,slow=14,SNR=1.0						
KURBB				Lg	Lg	07 18 00.8	
	baz=63,slow=29						
MKAR	Makanchi Array	7.81	211	Pn	Pn	07 16 26.4	+0.8
	baz=25,slow=11,SNR=1.4						
MKAR				Lg	Lg	07 18 38.9	
	baz=26,slow=30,SNR=1.9						
	0.1nm,0.3s						
SONM	Songino Array	12.96	109	Pn	Pn	07 17 34.9	-1.3
	0.4nm,0.3s,baz=309,slow=50,SNR=3.7						
	1.4nm,0.6s						

*ISK **19** 07:18:15.7, 39°.80N×42°.55E, h5km, ML2.7/9*
*AFAD **19** 07:18:16.7, 39°.77N×42°.47E, h8km±1km, ML2.8*
ISC 19 07:18:16.5±1.0, 39°.78N±0°.02×42°.53E±0°.03, h5km±8km, n18, σ0°.77/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EATA	Eleskirt	0.09	339	P	Pg	07 18 18.3	-0.2
EATA				S	Sg	07 18 20.6	+0.6
EATA				*i* AML	AML	07 18 21.0	
	comp=E,1μm,0.6s						
EATA				*i* AML	AML	07 18 24.0	
	comp=N,9μm,0.6s						
AGRB	Hanur-Agry	0.41	120	Pg	Pg	07 18 24.7	+0.3
AGRB				Sg	Sb	07 18 31.9	-1.1
DORK	Agr/Tutak/Do	0.44	154	P	Pg	07 18 24.4	-0.6
DORK				S	Sg	07 18 31.9	+1.2
DORK				*i* AML	AML	07 18 41.0	
	comp=E,669nm,0.8s						
DORK				*i* AML	AML	07 18 43.0	
	comp=N,733nm,0.6s						
KOTA	Agri, Merkez-K	0.52	88	P	Pg	07 18 26.0	-0.5
KOTA				S	Sb	07 18 35.9	-0.3
HOMI	Horasan	0.55	299	P	Pg	07 18 26.5	-0.5
HOMI				S	Sb	07 18 37.2	+0.2
HOMI				*i* AML	AML	07 18 42.0	
	comp=N,599nm,0.6s						
HOMI				*i* AML	AML	07 18 42.0	
	comp=E,478nm,0.6s						
KOPR	Koprukoy-ERZUR	0.56	292	Pg	Pb	07 18 28.0	-1.0
MLAZ	Malazgirt-MUS	0.64	179	Pg	Pb	07 18 29.6	-0.7
MLAZ				Sg	Sb	07 18 39.7	+0.1
SENK	Senkaya-Erzuru	0.79	350	Pg	Pg	07 18 31.5	-0.2
DIGO	Kars	0.90	45	P	Pb	07 18 34.3	-0.5
DIGO				S	Sn	07 18 49.9	+0.2
DIGO				*i* AML	AML	07 18 56.0	
	comp=N,417nm,0.6s						
DIGO				*i* AML	AML	07 19 01.0	
	comp=E,302nm,0.6s						
DYDN	Diyadin	0.93	105	P	Pg	07 18 33.6	-0.6
DYDN				S	Sb	07 18 47.8	-0.1
DYDN				*i* AML	AML	07 18 50.0	
	comp=E,233nm,0.3s						
DYDN				*i* AML	AML	07 18 52.0	
	comp=N,292nm,0.7s						
KARS	Kars	0.94	26	Pg	Pg	07 18 34.7	+0.1
ADCV	BITLIS_Adilcev	0.98	171	P	Pg	07 18 33.8	-1.5
ADCV				S	Sb	07 18 48.6	-0.9
ETEKE	Tekederesi - E	1.07	271	P	Pb	07 18 36.8	-1.0
ETEKE				S	Sn	07 18 54.3	+0.4
KARO	Karliova-Bingo	1.24	248	Pn	Pn	07 18 41.1	+0.4
KARO				Sn	Sn	07 18 59.4	+1.5
DDEM	Demirkent	1.26	332	P	Pn	07 18 41.1	+0.2
DDEM				S	Sn	07 18 58.3	0.0
VANB	Van	1.36	150	Pn	Pg	07 18 44.1	+1.6
BNGB	Bingl	1.64	242	Pn	Pg	07 18 47.9	0.0
BCA	Borcka	1.80	338	Pn	Pb	07 18 49.7	-0.3

IDC 19 07:22:07.1±5.3, 17°.81S×178°.18E, h483km±40km, mb3.1/3, mbtmp4.0/3, Error ellipse: s-maj=186.5km s-min=26.9km az=118.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	0.15	303	P	P	07 23 05.6	+0.1
	26nm,0.7s,baz=119,slow=13,SNR=10.0						
STKA	Stephens Creek	35.85	240	P	P	07 28 25.6	+0.3
	1.2nm,0.5s,baz=80,slow=6.1,SNR=4.1						
	1.2nm,0.5s						
WRA	Warramunga Arr	41.45	260	P	P	07 29 10.6	-0.5
	0.8nm,0.7s,baz=96,slow=8.5,SNR=12						
	0.8nm,0.7s						
ASAR	Alice Springs	41.69	254	P	P	07 29 12.8	-0.1
	3.1nm,0.5s,baz=93,slow=7.8,SNR=73						
	3.1nm,0.5s						

*ASRS **19** 07:25:10.0±1.2, 53°.45N×87°.46E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 07:25:11.4±2.9, 53°.48N×87°.66E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=23.7km s-min=17.3km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.75	287	I	I	07 36 40.7	
	0.1nm,0.7s,baz=104,slow=336,SNR=2.5						
ZALV	Zalesovo Beam	1.75	287	Pn	Pn	07 25 42.7	-0.3
	0.6nm,0.3s,baz=109,slow=16,SNR=7.0						
ZALV				Lg	Lg	07 26 05.7	
	1.7nm,0.3s,baz=106,slow=24,SNR=5.5						
ZALV				I	I	07 36 46.9	
	baz=143,slow=44,SNR=4.3						
KURBB	Kurchatov Arra	6.32	247	Pn	Pn	07 26 46.1	+0.5
	0.1nm,0.3s,baz=60,slow=14,SNR=4.5						
KURBB				Sn	Sn	07 27 59.1	+0.6
	baz=59,slow=29,SNR=2.1						
KURBB				Lg	Lg	07 28 32.8	
	baz=66,slow=36,SNR=4.1						
	0.4nm,0.4s						
MKAR	Makanchi Array	7.53	209	Pn	Pn	07 27 03.6	+1.2
	0.1nm,0.3s,baz=27,slow=14,SNR=1.7						
MKAR				Lg	Lg	07 29 09.3	
	0.1nm,0.3s,baz=27,slow=29,SNR=3.4						
	0.2nm,0.3s						

*MAN **19** 07:29:54.1, 5°.34N×127°.07E, h33km, mb5.8, ML4.9, MS5.3*
*BJI **19** 07:29:55.1, 5°.16N×126°.84E, h65km, mB5.2/42, mb5.0/89, Ms4.6/84, Ms7 4.6/80*
*MOS **19** 07:29:56.1±1.0, 5°.47N×126°.71E, h57km, mb5.4/54, MS4.4/4, Error ellipse: s-maj=9.1km s-min=4.5km az=118.6*
*NEIC **19** 07:29:57.9, 5°.46N×127°.00E, h46km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.08; $M_{\theta\theta}$-5.14; $M_{\phi\phi}$3.06; $M_{r\theta}$-0.80; $M_{\theta\phi}$-7.61; $M_{\phi r}$-2.64; Fault plane solution: $M_0$9.11000×10^{16} NP1: ϕ_s103.69000°, δ70.63000°, λ174.30000°. NP2: ϕ_s195.59000°, δ84.62000°, λ19.46000°. Principal axes: T 8.1890, Plg18.0000°, Azm61.0000°; N 1.8419, Plg70.0000°, Azm210.0000°; P -10.0309, Plg10.0000°, Azm328.0000°;*
*NEIC **19** 07:29:57.3±1.5, 5°.44N±0°.06×126°.86E±0°.08, h47km±5km, mb5.1/113, Mww5.2/23 Error ellipse: s-maj=11.9km s-min=8.7km az=72.0*
*NEIC **19** 07:29:57.9, 5°.46N×126°.86E, h46km*
*GCMT **19** 07:29:58.3±0.1, 5°.48N±0°.01×126°.81E±0°.01, h43km, MW5.3/115, Moment Tensor Solution. s91,c136; s115,c179; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.25±.02; $M_{\theta\theta}$-0.69±.02; $M_{\phi\phi}$0.44±.02; $M_{r\theta}$-0.26±.02; $M_{\theta\phi}$-0.77±.02; $M_{\phi r}$-0.29±.02; Best double couple: $M_0$1.02500×10^{17} NP1:ϕ_s109.00000°, δ70.00000°, λ-180.00000°. NP2:ϕ_s19.00000°, δ90.00000°, λ-20.00000°. Principal axes: T 0.8720, Plg14.0000°, Azm66.0000°; N 0.3060, Plg70.0000°, Azm198.0000°; P -1.1780, Plg15.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **19** 07:29:58.3±0.3, 5°N±2°×12°7E±°, h53km±3km, M5.2/78, mB5.6/44, mb5.3/78, MLv5.7/11, Mw5.2/68, Mw(mB)5.2/44, MwMwp5.0/12, Mwp5.3/12*
*IDC **19** 07:29:58.6±0.9, 5°.43N×126°.72E, h62km±6km, mb4.6/36, mbtmp4.8/40, MS4.2/56, Error ellipse: s-maj=10.8km s-min=5.9km az=66.0*
ISC 19 07:29:58.7±0.3, 5°.40N±0°.03×126°.86E±0°.04, h63km±2km, h64km: pP-P, n781, σ1s58/856, mb5.1/179, 18C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	2.08	323		Pn	07 30 30.9	-0.5
DAV	Davao City (W)	2.08	323	P	Pn	07 30 31.3	-0.1
	3μm,0.6s,baz=111,slow=4.6,SNR=102						
DAV				S	Sn	07 30 55.0	-1.4
	10μm,0.8s,baz=72,slow=20,SNR=7.8						
DAV				LR	LR	07 31 27.6	
	comp=Z,11μm,21.7s,baz=113,slow=45						
DAV	Davao City (W)	2.08	323	P	Pn	07 30 32.1	+0.7
DAV	Davao City (W)	2.08	323	P	Pn	07 30 26.0	-5.4
SGSI	Sangihe	2.16	218	P	Pn	07 30 31.8	-0.6
SGSI				S	Sn	07 30 57.6	-0.5
TNTI	Ternate	4.63	174	P	Pn	07 31 05.5	-0.7
TNTI				S	Sn	07 31 59.3	+0.6
KMSI	Cibinong	5.59	211	P	Pn	07 31 19.7	+0.3
TOLI2	Tolitoli	7.41	235		Pn	07 31 42.7	-1.6
TOLI2	Tolitoli	7.41	235	P	Pn	07 31 43.0	-1.3
SANI	Sanana	7.45	187	P	Pn	07 31 42.1	-2.8
SANI	Sanana	7.45	187	P	Pn	07 31 41.8	-3.1
SANI				S	Sn	07 32 58.8	-9.2
LUWI	Luwuk	7.59	213		Pn	07 31 46.0	-0.8
LUWI	Luwuk	7.59	213	S	Sn	07 33 12.6	+1.2
LUWI	Luwuk	7.59	213	P	Pn	07 31 46.5	-0.3
SWI	Sorong	7.62	145	P	Pn	07 31 46.3	-0.9
	1.0nm6μm3μm264nm,1.2s						
I39PW	PALAU INFRASON	7.93	74	I	I	08 23 30.0	
	baz=265,slow=308,SNR=0.5						
APSI	Ampana	8.15	220	P	Pn	07 31 56.3	+1.9
MYLDM	Lahad Datu	8.32	269		Pn	07 31 58.0	+1.2
MYLDM	Lahad Datu	8.32	269	P	Pn	07 31 58.7	+1.9
MYLDM	Lahad Datu	8.32	269	S	Sn	07 33 33.1	+3.8
MPSI	Mapaga	8.58	234	P	Pn	07 32 00.6	+0.3
NLAI	Namlea	8.59	178	P	Pn	07 31 58.7	-1.7
MSAI	Masohi	8.94	167	P	Pn	07 32 06.1	+0.9
	10μm587nm,1.5s						
AAI	Ambon	9.13	172	P	Pn	07 32 07.1	-0.7
	3μm269nm,1.2s						
PCI	Palu	9.40	228	P	Pn	07 32 12.2	+0.6
	3μm175nm,1.1s						
FAKI	Fak Fak	9.87	147		Pn	07 32 17.5	-0.4
FAKI	Fak Fak	9.87	147	P	Pn	07 32 18.5	+0.6
FAKI	Fak Fak	9.87	147	P	Pn	07 32 17.5	-0.4
	5μm3μm247nm,1.0s						
RKPI	Ransiki, Papua	10.03	133	P	Pn	07 32 20.8	+0.6
	8μm215nm,0.9s						
KDI	Kendari	10.22	205	P	Pn	07 32 22.1	-0.6
BNDI	Bandanaira	10.32	163	P	Pn	07 32 24.3	+0.2
TGY	Tagaytay City	10.43	326	P	Pn	07 32 25.7	+0.1
	79nm,0.3s,baz=187,slow=16,SNR=14						
TGY				LR	LR	07 37 24.0	
	comp=Z,2μm,21.0s,baz=142,slow=43						
KKM	Kota Kinabalu	10.61	274		Pn	07 32 26.0	-2.1
SMKI	Samarinda	11.25	239	P	Pn	07 32 37.3	+0.5
	264nm,0.7s						
BAKI	Biak	11.33	125	P	Pn	07 32 39.0	+1.1
	3μm5μm368nm,1.1s						
SPSI	Sidrap Palu	11.69	217	P	Pn	07 32 42.4	-0.4
	85nm,0.9s						
SRPI	Serui, Papua	11.84	127	P	Pn	07 32 44.9	+0.1
	166nm,0.9s						
BNSI	Bone	11.84	215	P	Pn	07 32 45.9	+1.0
	2μm130nm,1.2s						
BKB	Balikpapan	11.95	237		Pn	07 32 45.0	-1.3
BKB	Balikpapan	11.95	237	P	Pn	07 32 45.4	-1.0
BKB	Balikpapan	11.95	237	P	Pn	07 32 44.1	-2.3
KAPI	Kappang	12.55	215		Pn	07 32 54.1	-0.4
KAPI	Kappang	12.55	215	P	Pn	07 32 55.1	+0.5
	37nm,0.6s,baz=26,slow=9.0,SNR=14						
KAPI				S	Sn	07 35 12.9	+0.2
	9.9nm,0.7s,baz=30,slow=20,SNR=1.3						
KAPI				LR	LR	07 38 19.4	
	comp=Z,999nm,19.3s,baz=52,slow=40						
KAPI	Kappang	12.55	215	P	Pn	07 32 54.8	+0.3
SZP	Santa	13.60	333	P	Pn	07 33 10.4	+1.6
SMPI	Sarmi	13.94	122	P	Pn	07 33 12.0	-1.3
	3μm131nm,1.3s						
MMRI	Maumere	14.69	198		Pn	07 33 23.1	0.0
MMRI	Maumere	14.69	198	P	Pn	07 33 24.6	+1.5
MMRI	Maumere	14.69	198	P	Pn	07 33 24.8	+1.7
	3μm249nm,0.9s						
SBUM	Sibu	14.89	259	Pn	Pn	07 33 25.6	-0.2
SBUM	Sibu	14.89	259	P	P	07 33 28.1	-1.9
EDFI	Ende, Flores	14.97	200	P	Pn	07 33 26.7	-0.2
	109nm,0.9s						
SOEI	Soe	15.28	190		Pn	07 33 31.1	+0.2
SOEI	Soe	15.28	190	P	Pn	07 33 32.3	+1.4
SOEI	Soe	15.28	190	P	Pn	07 33 32.6	+1.7
	3μm199nm,1.0s						
GENI	Genyem	15.49	121	P	Pn	07 33 34.0	+0.5
GENI	Genyem	15.49	121	P	Pn	07 33 33.4	-0.1
	3μm115nm,1.0s						
JAY	Jayapura	15.91	119	P	P	07 33 41.7	+0.2
	12nm,1.0s,baz=287,slow=20,SNR=3.6						
JAY				S	S	07 36 41.6	-3.9
	14nm,1.1s,baz=328,slow=13,SNR=1.4						
JAY				LR	LR	07 39 27.9	
	comp=Z,2μm,20.6s,baz=315,slow=36						
JAY	Jayapura	15.91	119	P	Pn	07 33 39.3	+0.4
STKI	Sintang	16.24	251	P	Pn	07 33 43.9	+0.8
WBSI	Waikabubak, Su	16.69	206	P	P	07 33 49.5	-0.6
	3μm177nm,0.8s						
PLAI	Plampang	16.79	213	P	P	07 33 50.8	-0.3
PLAI	Plampang	16.79	213	P	Pn	07 33 50.3	+0.5
	138nm,0.8s						
KSM	Kuching	16.97	257		P	07 33 52.7	-0.4
KSM				IAmb	IAmb	07 33 56.9	
	comp=Z,125nm,0.8s						
KSM	Kuching	16.97	257	P	P	07 33 55.0	+1.9
TWSI	Taliwang, Sumb	17.21	215	P	P	07 33 55.9	+0.1
	comp=Z,2μmcomp=Z,253nm,1.0s						
SRBI	Singaraja	17.73	221	P	P	07 34 02.0	+0.5
	comp=Z,113nm,1.1s						
KMMI	Kalianget	17.84	226	P	Pn	07 34 03.6	+0.8
	comp=Z,189nm,1.1s						
DRS	Darwin Rock St	18.17	167	P	P	07 34 05.0	-1.3
TWGBT	Beinan	18.19	343	P	Pn	07 34 09.4	+2.4
TWG	Pinlang	18.19	343	P	P	07 34 04.3	-2.2
MTN	Manton Dam	18.62	167	P	P	07 34 09.0	-2.3
MTN				IAmb	IAmb	07 34 13.1	
	comp=Z,146nm,1.1s						
MTN	Manton Dam	18.62	167	P	P	07 34 08.3	-2.9
	comp=Z,135nm,0.8s						
MTN	Manton Dam	18.62	167	P	P	07 34 09.4	-1.9
YULB	Yu-li	18.67	344	P	P	07 34 10.8	-1.0
YULB	Yu-li	18.67	344	P	P	07 34 12.1	+0.3
JAGI	Jajag, Banyuwa	18.72	223		P	07 34 12.1	-0.3
JAGI				IAmb	IAmb	07 34 22.2	
	comp=Z,138nm,1.1s						
JAGI	Jajag, Banyuwa	18.72	223	P	Pn	07 34 14.2	+0.8
JAGI	Jajag, Banyuwa	18.72	223	P	Pn	07 34 14.7	+1.3
	comp=Z,3μmcomp=Z,112nm,1.1s						
TPUB	Ta-pu	18.78	342	P	P	07 34 10.2	-2.8
TPUB	Ta-pu	18.78	342	P	Pn	07 34 14.2	+0.1
KDU	Kakadu	18.82	163	P	P	07 34 11.9	-1.5
	comp=Z,70nm,0.8s						
KDU	Kakadu	18.82	163	P	P	07 34 12.0	-1.5
GMJI	Gumukmas	19.07	225	P	Pn	07 34 21.4	+3.9
SSLB	Suanglung	19.14	343	P	P	07 34 16.1	-0.9
SSLB				IAmb	IAmb	07 34 22.1	
	comp=Z,121nm,1.1s						
SSLB	Suanglung	19.14	343	P	P	07 34 17.4	+0.4
DLV	Lat	19.28	291	P	P	07 34 18.6	-0.1
DLV				IAmb	IAmb	07 34 28.2	
	comp=Z,139nm,0.9s						
DLV	Lat	19.28	291	P	Pn	07 34 19.9	-0.4
GUMO	Guam	19.53

comp=Z,137nm,0.9s
KNRA Kununurra 21.03 175 P P 07 34 36.7 -0.7
comp=Z,195nm,1.0s
YOGI Yogyakarta 21.10 232 P P 07 34 40.1 +1.8
comp=Z,334nm,1.7s
JOW Kunigami 21.35 3 P P 07 34 39.8 -1.0
JOW Kunigami 21.35 3 P P 07 34 42.0 +1.1
comp=Z,14nm,0.8s,baz=180,slow=9.9,SNR=6.8
JOW S **S 07 38 33.4 -1.2**
comp=Z,7.8nm,0.8s,baz=253,slow=20,SNR=1.5
comp=Z,14nm,0.8s
JOW Kunigami 21.35 3 P P 07 34 43.6 +2.8
QIZ Qiongzhong 21.41 311 P P 07 34 42.1 +0.5
QIZ pP **pP 07 34 53.4 -1.4**
QIZ PP **PnPn 07 35 05.0 +0.8**
QIZ S **S 07 38 35.3 -0.6**
QIZ pmax pmax
comp=Z,100nm,1.3s
QIZ pmax pmax
comp=Z,380nm,3.9s
QIZ LR LR
comp=Z,940nm,20.6s
QIZ LR LR
comp=Z,700nm,19.1s
QIZ LR LR
comp=Z,1μm,22.8s
QIZ Qiongzhong 21.41 311 P P 07 34 43.8 +2.2
GZH Guangzhou 21.89 325 P P 07 34 50.3 +3.7
GZH S **S 07 38 48.3 +3.3**
GZH pmax pmax
comp=Z,140nm,1.2s
GZH LR LR
comp=Z,1μm,23.0s
GZH LR LR
comp=Z,1μm,24.6s
GZH LR LR
comp=Z,2μm,23.6s
PPBI Pangkal Pinang 22.02 251 P P 07 34 49.4 +1.3
LEM Lembang 22.72 238 LR LR 07 44 18.7
comp=Z,342nm,21.5s,baz=111,slow=38
LEM Lembang 22.72 238 P P 07 34 56.3 +0.5
comp=Z,2μmcomp=Z,136nm,1.0s
UBPT Khong Chiam 23.19 297 P P 07 35 03.0 +2.7
MYKOM Kota Tinggi 23.23 262 P P 07 35 00.1 -0.7
MYKOM Kota Tinggi 23.23 262 P P 07 35 01.3 +0.5
FITZ Fitzroy Crossi 23.38 183 P P 07 35 01.6 -0.5
FITZ Fitzroy Crossi 23.38 183 P P 07 35 01.5 -0.5
comp=Z,31nm,1.2s
FITZ Fitzroy Crossi 23.38 183 P P 07 35 02.6 +0.5
CGJI Cibinong 24.26 241 P P 07 35 18.1 +7.9
MDSI Maura Dua 24.69 247 P P 07 35 16.4 +2.4
comp=Z,1μmcomp=Z,74nm,0.9s
KASI Kota Agung 24.82 244 P P 07 35 17.2 +1.9
comp=Z,57nm,0.9s
LWLI Liwa 25.01 246 P P 07 35 19.3 +2.2
PMG Port Moresby 25.02 126 LR LR 07 47 22.7
comp=Z,422nm,18.2s,baz=311,slow=42
COEN Coen 25.15 140 P P 07 35 17.7 -0.5
COEN Coen 25.15 140 P P 07 35 19.8 +1.6
GULI GuiLin 25.32 323 P P 07 35 19.8 +0.1
GULI pmax pmax
comp=Z,50nm,1.5s
KSI Kapahiang 25.85 250 P P 07 35 27.8 +3.1
comp=Z,158nm,1.1s
JCJ Chichijima 26.05 32 P P 07 35 23.3 -3.1
WB0 Warramunga Arr 26.09 164 P P 07 35 27.0 +0.3
KULM Kulim 26.09 271 P P 07 35 26.0 -0.8
KULM IAmb IAmb 07 35 41.1
comp=Z,69nm,1.1s
KULM Kulim 26.09 271 P P 07 35 29.1 +2.3
SSE Sheshan 26.11 349 P P 07 35 27.0 +0.3
SSE S **S 07 39 55.4 +1.7**
SSE pmax pmax
comp=Z,10.0nm,1.2s
SSE pmax pmax
comp=Z,170nm,3.7s
SSE LR LR
comp=Z,320nm,18.0s
SSE LR LR
comp=Z,260nm,18.0s
WRA Warramunga Arr 26.24 164 P P 07 35 29.6 +1.6
WRA Warramunga Arr 26.24 164 P P 07 35 27.6 -0.5
comp=Z,35nm,0.6s,baz=343,slow=9.2,SNR=121
WRA PcP **PcP 07 38 53.5 0.0**
comp=Z,0.9nm,0.3s,baz=343,slow=2.3,SNR=1.7
WRA S **S 07 40 01.0 +4.9**
comp=Z,3.2nm,0.9s,baz=342,slow=15,SNR=7.0
WRA ScP **ScP 07 42 28.3 +0.3**
comp=Z,3.0nm,0.9s,baz=339,slow=3.0,SNR=5.6
WRA LR LR 07 48 01.7
comp=Z,710nm,21.0s,baz=344,slow=41
comp=Z,35nm,0.6s
WRA Warramunga Arr 26.24 164 *i* P **P 07 35 27.6 -0.5**
WRA pmax pmax
comp=Z,53nm,0.6s
BKNI Bangkinang 26.26 260 P P 07 35 27.4 -1.0
BKNI Bangkinang 26.26 260 P P 07 35 31.7 +3.3
WR8 Warramunga Arr 26.30 164 P P 07 35 29.8 +1.2
WR8 IAmb IAmb 07 36 07.1
comp=Z,73nm,0.8s
NONG Nongkai 26.36 301 P P 07 35 32.0 +2.8
NAYO Nakonayok 26.64 291 P P 07 35 34.7 +2.9
PPI Padang Panjang 27.05 258 P P 07 35 38.3 +2.8
comp=Z,81nm,1.5s
SRIT Nakonsritamara 27.23 278 P P 07 35 36.3 -0.8
SRIT IAmb IAmb 07 35 50.1
comp=Z,46nm,1.2s
SRIT Nakonsritamara 27.23 278 P P 07 35 41.2 +4.1
SLVN Son La 27.30 308 P P 07 35 40.1 +2.4
MBWA Marble Bar 27.31 195 P P 07 35 37.7 0.0
MBWA Marble Bar 27.31 195 P P 07 35 37.8 +0.2
comp=Z,94nm,1.1s
MBWA Marble Bar 27.31 195 P P 07 35 39.2 +1.6
NJ2 Nanjing 27.55 345 ⇑P **P 07 35 40.8 +1.1**
NJ2 sP **pwP 07 35 58.3 -0.6**
NJ2 S **S 07 40 20.3 +3.8**
NJ2 pmax pmax
comp=Z,28nm,0.8s
NJ2 pmax pmax
comp=Z,230nm,4.5s
NJ2 LR LR
comp=Z,480nm,19.9s
NJ2 LR LR
comp=Z,530nm,18.9s
NJ2 LR LR
comp=Z,1μm,20.8s
MNSI Mandailing Nat 27.61 261 P P 07 35 46.8 +6.3
WHN Wuhan 27.64 336 ⇑P **P 07 35 41.5 +1.0**
WHN pP **pP 07 35 55.1 +0.3**
WHN S **S 07 40 20.6 +2.6**
WHN pmax pmax
comp=Z,130nm,1.1s
WHN pmax pmax
comp=Z,790nm,2.6s
WHN LR LR
comp=Z,890nm,10.2s
WHN LR LR
comp=Z,2μm,15.0s
WHN LR LR
comp=Z,4μm,24.6s
PSA00 Pilbara Seismi 27.68 194 P P 07 35 41.1 +0.2
PSA00 IAmb IAmb 07 35 59.7
comp=Z,77nm,0.9s
PSA00 Pilbara Seismi 27.68 194 P P 07 35 41.3 +0.3
comp=Z,93nm,1.3s
PSA00 Pilbara Seismi 27.68 194 P P 07 35 43.1 +2.2
JNU Nakatsue 27.83 7 LR LR 07 47 18.4
comp=Z,354nm,21.1s,baz=198,slow=37
PSI Prapat 27.98 266 LR LR 07 48 11.4
comp=Z,351nm,21.5s,baz=76,slow=39
PSI Prapat 27.98 266 P P 07 35 47.8 +3.9
PSI Prapat 27.98 266 P P 07 35 42.3 -1.6
PSI pmax pmax
comp=Z,21nm,0.9s
RPSI Rantau Prapat 27.99 266 P P 07 35 42.3 -1.6
GYA Guiyang 28.46 320 ⇓P **P 07 35 51.0 +2.9**
GYA pP pwP 07 36 04.6 -2.0
GYA S **S 07 40 33.3 +2.0**
GYA pmax pmax
comp=Z,15nm,0.7s
GYA pmax pmax
comp=Z,78nm,3.1s
GYA LR LR
comp=Z,420nm,12.8s
GYA LR LR
comp=Z,840nm,17.9s
GYA LR LR
comp=Z,680nm,23.8s
QIS Mount Isa 28.68 154 P P 07 35 50.4 +0.6
comp=Z,49nm,0.8s
QIS Mount Isa 28.68 154 P P 07 35 50.5 +0.6
SRDT SRDT 28.70 290 P P 07 35 52.5 +2.3
GSI Gunungsitoli 29.50 263 P P 07 35 55.5 -1.9
GSI IAmb IAmb 07 36 15.6
comp=Z,63nm,0.9s
ENH Enshi 29.66 329 P P 07 35 58.8 +0.2
AS31 Alice Springs 29.70 167 P P 07 35 58.6 -0.3
AS31 Alice Springs 29.70 167 P P 07 35 59.3 +0.4
comp=Z,5.7nm,0.5s
ASAR Alice Springs 29.70 167 P P 07 35 58.5 -0.4
comp=Z,5.7nm,0.5s,baz=346,slow=8.1,SNR=81
ASAR PcP **PcP 07 39 02.0 +0.1**
comp=Z,2.5nm,0.4s,baz=351,slow=2.6,SNR=8.0
ASAR S **S 07 40 52.1 +1.6**
comp=Z,1.3nm,1.0s,baz=350,slow=21,SNR=1.5
ASAR ScP **ScP 07 42 38.7 0.0**
comp=Z,1.8nm,0.7s,baz=342,slow=3.0,SNR=5.3
ASAR LR LR 07 49 39.9
comp=Z,377nm,20.7s,baz=352,slow=40
comp=Z,5.7nm,0.5s
AS01 Alice Springs 29.71 167 P P 07 36 00.5 +1.5
JHJ Hachijo jima 2 30.09 22 LR LR 07 45 52.7
comp=Z,314nm,21.6s,baz=122,slow=32
CM31 Chiang Mai Arr 30.17 298 P P 07 36 01.6 -1.6
CMAR Chiang Mai Arr 30.17 298 P P 07 36 01.3 -1.9
CMAR Chiang Mai Arr 30.17 298 P P 07 36 02.1 -1.1
comp=Z,1.5nm,0.5s,baz=111,slow=9.1,SNR=9.3
CMAR PcP **PcP 07 39 05.3 +2.0**
comp=Z,2.5nm,0.3s,baz=112,slow=3.5,SNR=5.6
CMAR S **S 07 40 58.2 +0.1**
comp=Z,0.7nm,0.3s,baz=133,slow=16,SNR=2.0
CMAR ScP **ScP 07 42 38.1 -2.2**
comp=Z,1.1nm,0.3s,baz=103,slow=2.9,SNR=7.7
comp=Z,1.5nm,0.5s
CMAR Chiang Mai Arr 30.17 298 *ce*P **P 07 36 02.2 -1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
WRKA Warakurna 30.29 177 P P 07 36 04.7 +0.6
comp=Z,66nm,2.2s
WRKA Warakurna 30.29 177 P P 07 36 05.1 +0.9
CHTO Chiang Mai 30.30 299 P P 07 36 03.0 -1.4
CHTO Chiang Mai 30.30 299 P P 07 36 07.0 +2.6
CHTO Chiang Mai 30.30 299 P P 07 36 03.0 -1.4
CHTO pmax pmax
comp=Z,17nm,1.2s
CHTO Chiang Mai 30.30 299 P P 07 36 03.9 -0.5
KMI Kunming 30.32 313 P P 07 36 06.6 +1.9
KMI pP pwP 07 36 22.4 +0.4
KMI S **S 07 41 03.3 +2.6**
KMI pmax pmax
comp=Z,40nm,1.2s
KMI LR LR
comp=Z,650nm,21.5s
KMI LR LR
comp=Z,650nm,23.2s
KMI LR LR
comp=Z,1μm,27.6s
INU Inuyama 31.24 16 P P 07 36 15.5 +3.1
TV1H Townsville Har 31.41 142 P P 07 36 15.2 +1.2
PZH PanZhiHua 31.86 314 P P 07 36 19.0 +0.9
PZH PP **PnPn 07 37 24.1 -0.8**
PZH S **S 07 41 23.0 -1.5**
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,80nm,3.5s
PZH LR LR
comp=Z,580nm,21.6s
PZH LR LR
comp=Z,590nm,22.4s
PZH LR LR
comp=Z,980nm,22.5s
KSAR Wonju Array Be 31.90 2 P P 07 36 18.4 +0.2
KSAR Wonju Array Be 31.90 2 P P 07 36 18.4 +0.2
KSRS Korea Array 31.92 2 P P 07 36 18.8 +0.6
comp=Z,1.3nm,0.5s,baz=180,slow=10,SNR=7.7
KSRS LR LR 07 51 44.6
comp=Z,348nm,18.2s,baz=195,slow=41
comp=Z,1.3nm,0.5s
LYN LuoYang 31.92 337 ⇑P **P 07 36 19.3 +1.0**
LYN pP pP 07 36 32.8 0.0
LYN S **S 07 41 22.8 -2.2**
LYN sS sS 07 41 51.1 +1.0
LYN SS **SnSn 07 43 17.3 -1.9**
LYN pmax pmax
comp=Z,70nm,1.6s
LYN pmax pmax
comp=Z,260nm,3.9s
LYN LR LR
comp=Z,900nm,21.0s
LYN LR LR
comp=Z,730nm,18.9s
LYN LR LR
comp=Z,2μm,22.3s
TIA Tai'an 31.94 345 P P 07 36 18.4 -0.1
TIA S **S 07 41 20.5 -4.8**
TIA sS **sS 07 41 52.0 +1.6**
TIA pmax pmax
comp=Z,61nm,1.2s
TIA pmax pmax
comp=Z,250nm,5.3s
TIA LR LR
comp=Z,800nm,20.4s
TIA LR LR
comp=Z,220nm,17.3s
TIA LR LR
comp=Z,1μm,20.0s
MJAR Matsushiro Arr 32.69 17 P P 07 36 25.3 +0.1
comp=Z,4.1nm,0.8s,baz=185,slow=7.9,SNR=6.8
MJAR PcP **PcP 07 39 12.1 +2.4**
comp=Z,1.8nm,0.6s,baz=195,slow=3.6,SNR=2.4
MJAR ScP **ScP 07 42 48.9 +0.5**
comp=Z,3.2nm,1.0s,baz=195,slow=3.3,SNR=6.1
MJAR LR LR 07 50 46.6
comp=Z,303nm,19.7s,baz=213,slow=38
comp=Z,4.1nm,0.8s
MEEK Meekatharra 32.84 194 P P 07 36 26.3 -0.3
comp=Z,106nm,0.9s
MEEK Meekatharra 32.84 194 P P 07 36 27.0 +0.5
XAN Xi'an 33.00 332 ⇑P **P 07 36 26.5 -1.4**
XAN pP pP 07 36 43.1 +0.8
XAN PP **PnPn 07 37 38.8 -0.4**
XAN S **S 07 41 38.4 -3.5**
XAN pmax pmax
comp=Z,160nm,1.1s
XAN LR LR
comp=Z,2μm,23.3s
XAN LR LR
comp=Z,360nm,22.0s
XAN LR LR
comp=Z,2μm,24.0s
XAN Xi'an 33.00 332 P P 07 36 27.6 -0.3
CD2 Chengdu 33.39 322 P P 07 36 30.8 -0.6
CD2 S **S 07 41 44.5 -3.6**
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 LR LR
comp=Z,1μm,20.2s
CD2 LR LR
comp=Z,820nm,17.6s
DL2 Dalian 33.69 353 ⇑*i*P **P 07 36 34.4 +0.7**
DL2 S **S 07 41 53.1 +0.8**
DL2 pmax pmax
comp=Z,47nm,1.1s
DL2 pmax pmax
comp=Z,170nm,3.6s
DL2 LR LR
comp=Z,480nm,24.6s
DL2 LR LR
comp=Z,550nm,27.5s
DL2 LR LR
comp=Z,680nm,20.6s
HNS HongShan 33.72 342 ⇑P **P 07 36 34.8 +0.7**
HNS S **S 07 41 52.3 -0.7**
HNS pmax pmax
comp=Z,64nm,1.0s
HNS LR LR
comp=Z,450nm,20.6s
HNS LR LR
comp=Z,380nm,20.0s
HNS LR LR
comp=Z,580nm,18.4s
OOD Oodnadatta 34.09 166 P P 07 36 39.4 +2.1
TIY Taiyuan 34.74 340 *e*P **P 07 36 42.1 -0.9**
TIY S **S 07 42 07.3 -1.6**
TIY pmax pmax
comp=Z,250nm,3.9s
TIY LR LR
comp=Z,560nm,26.1s
TIY LR LR
comp=Z,350nm,23.4s
TIY LR LR
comp=Z,580nm,23.4s
INKA Innaminka 35.58 159 P P 07 36 52.2 +2.0
BJT Baijiatuau 35.78 346 P 07 36 51.5 -0.3
BJT Baijiatuau 35.78 346 P P 07 36 52.5 +0.7
BJT Baijiatuau 35.78 346 P P 07 36 51.5 -0.3
BJT pmax pmax
comp=Z,125nm,1.1s
BJT Baijiatuau 35.78 346 P P 07 36 52.3 +0.5
BJI Beijing 35.80 346 P P 07 36 52.0 0.0
BJI sP **sP 07 37 14.5 +1.1**
BJI S **S 07 42 22.0 -2.9**
BJI pmax pmax
comp=Z,59nm,1.1s
BJI pmax pmax
comp=Z,180nm,3.5s
BJI LR LR
comp=Z,280nm,17.2s
BJI LR LR
comp=Z,150nm,22.4s
BJI LR LR
comp=Z,350nm,21.8s
MORW Morawa 35.82 196 P P 07 36 51.9 -0.3
FORT Forrest 36.00 178 P P 07 36 54.7 +1.0
FORT Forrest 36.00 178 P P 07 36 54.3 +0.6
comp=Z,105nm,0.6s
FORT Forrest 36.00 178 P P 07 36 55.2 +1.5
HNR Honiara 36.12 114 LR LR 07 49 46.4
comp=Z,262nm,20.5s,baz=312,slow=33
SNY Shenyang 36.39 356 ⇑P **P 07 36 57.8 +0.9**
SNY S **S 07 42 41.4 +7.6**
SNY pmax pmax
comp=Z,27nm,1.3s
SNY pmax pmax
comp=Z,180nm,4.1s
SNY LR LR
comp=Z,330nm,15.5s
SNY LR LR
comp=Z,350nm,14.3s
SNY LR LR
comp=Z,380nm,18.4s
RK1H Rockhampton Ha 36.77 142 P P 07 37 02.9 +2.5
BLDU Ballidu 37.11 195 P P 07 37 03.5 +0.3
comp=Z,46nm,1.8s
BLDU Ballidu 37.11 195 P P 07 37 04.7 +1.5
LZH Lanzhou 37.14 328 *e*P **P 07 37 03.9 +0.2**
LZH pP pP 07 37 19.3 +0.3
LZH sP sP 07 37 26.4 +0.2
LZH PP **PnPn 07 38 32.6 +2.1**
LZH S **S 07 42 47.3 +1.5**
LZH sS sS 07 43 14.3 +3.1
LZH SS **SnSn 07 45 25.8 -0.1**
LZH pmax pmax
comp=Z,190nm,1.1s
LZH pmax pmax
comp=Z,490nm,4.8s
LZH LR LR
comp=Z,1μm,15.6s
LZH LR LR
comp=Z,660nm,16.1s
LZH LR LR
comp=Z,2μm,16.3s
LCRK Leigh Creek 37.27 164 P P 07 37 06.2 +1.6
KLBR Kellerberrin 37.80 193 P P 07 37 09.4 +0.4
comp=Z,114nm,1.1s
KLBR Kellerberrin 37.80 193 P P 07 37 12.1 +3.0
HHC Hu-ho-hao-te 37.86 341 ⇑*i*P **P 07 37 10.6 +1.0**
HHC pP pwP 07 37 28.5 -0.4
HHC sP sP 07 37 38.5 +7.2
HHC S **S 07 42 53.5 -3.0**
HHC pmax pmax
comp=Z,78nm,1.2s
HHC pmax pmax
comp=Z,110nm,5.9s
HHC LR LR
comp=Z,470nm,21.0s
HHC LR LR
comp=Z,400nm,21.0s
HHC LR LR
comp=Z,800nm,22.0s
BTO Baotou 38.17 339 *e*P **P 07 37 14.6 +2.4**
BTO pP **pwP 07 37 29.6 -1.8**
BTO sP **sP 07 37 37.1 +3.2**
BTO S **S 07 43 06.4 +5.2**
BTO SS **SnSn 07 45 48.3 -2.2**
BTO pmax pmax
comp=Z,25nm,0.7s
BTO pmax pmax
comp=Z,420nm,4.1s
BTO LR LR
comp=Z,640nm,21.7s
BTO LR LR
comp=Z,820nm,20.5s
BTO LR LR
comp=Z,1μm,23.8s
CN2 Changchun 38.26 358 *e*P **P 07 37 14.9 +2.1**
CN2 *e*S **S 07 43 09.8 +7.6**
CN2 SS **SnSn 07 45 46.5 -5.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,400nm,12.1s
EIDS Eidsvold 38.60 143 P P 07 37 16.4 +0.5
EIDS IAmb IAmb 07 37 57.4
comp=Z,32nm,1.1s
EIDS Eidsvold 38.60 143 P P 07 37 16.6 +0.7
comp=Z,30nm,1.4s
EIDS Eidsvold 38.60 143 P P 07 37 17.6 +1.7
USA0B Ussuriysk Arra 38.90 6 *e*P **P 07 37 15.7 -2.5**
USRK Ussuriysk Ar. 38.90 6 P P 07 37 18.0 -0.1
comp=Z,7.9nm,0.8s,baz=190,slow=7.3,SNR=7.8
comp=Z,7.9nm,0.8s
BBOO Buckleboo 39.00 168 P P 07 37 19.0 -0.1
BBOO IAmb IAmb 07 37 40.1
comp=Z,35nm,0.9s
BBOO Buckleboo 39.00 168 P P 07 37 19.2 +0.1
comp=Z,46nm,1.7s
BBOO Buckleboo 39.00 168 P P 07 37 20.7 +1.6
SHL Shillong 39.01 305 P P 07 37 17.7 -1.9
SHL Shillong 39.01 305 P P 07 37 17.7 -1.9
SHL pmax pmax
comp=Z,141nm,1.4s
MDJ Mudanjiang 39.13 3 P P 07 37 21.0 +1.0
MDJ S **S 07 43 12.0 -3.3**
MDJ pmax pmax
comp=Z,26nm,1.6s
MDJ Mudanjiang 39.13 3 P P 07 37 21.1 +1.0
NWAO Narrogin (SRO) 39.20 193 P P 07 37 20.4 -0.4
NWAO Narrogin (SRO) 39.20 193 LR LR 07 55 01.0
comp=Z,232nm,18.9s,baz=20,slow=38
NWAO Narrogin (SRO) 39.20 193 P P 07 37 22.0 +1.2
NWAO Narrogin (SRO) 39.20 193 P P 07 37 22.2 +1.4
NWAO Narrogin (SRO) 39.20 193 P P 07 37 20.4 -0.4
NWAO pmax pmax
comp=Z,352nm,1.9s
NWAO Narrogin (SRO) 39.20 193 P P 07 37 21.5 +0.7
NWAO pP **pP 07 37 33.5 -2.6**
NWAO sP **pwP 07 37 39.3 +1.0**
XLT XiLinHaoTe 39.50 348 *e*P **P 07 37 23.4 +0.1**
XLT pP pwP 07 37 42.3 -0.5
XLT sP sP 07 37 51.1 +6.2
XLT S **S 07 43 17.6 -3.4**
XLT pmax pmax
comp=Z,18nm,1.1s
XLT pmax pmax
comp=Z,240nm,3.7s
XLT LR LR
comp=Z,41nm,20.0s
XLT LR LR
comp=Z,210nm,15.7s

XLT LR LR
comp=Z,610nm,22.8s
WHYH Whyalla 39.56 166 P **P 07 37 25.2 +1.5**
STKA Stephens Creek 39.65 160 P **P 07 37 24.8 +0.2**
STKA Stephens Creek 39.65 160 P **P 07 37 24.7 +0.2**
comp=Z,222nm,1.1s
STKA Stephens Creek 39.65 160 P **P 07 37 24.4 -0.1**
comp=Z,8.6nm,0.3s,baz=336,slow=10,SNR=33
STKA LR LR 07 54 51.5
comp=Z,383nm,21.8s,baz=318,slow=38
comp=Z,8.6nm,0.3s
STKA Stephens Creek 39.65 160 P **P 07 37 25.5 +1.0**
STKA Stephens Creek 39.65 160 P **P 07 37 24.8 +0.2**
STKA pmax pmax
comp=Z,219nm,1.0s
BNX BinXian 40.18 1 ⇑P **P 07 37 29.8 +1.0**
BNX pP **pP 07 37 44.3 +0.7**
BNX sP **sP 07 37 51.6 +1.1**
BNX PP **PP 07 39 03.0 +0.7**
BNX S **S 07 43 32.3 +1.3**
BNX sS **sS 07 44 00.9 +4.3**
BNX pmax pmax
comp=Z,7.0nm,1.1s
BNX pmax pmax
comp=Z,130nm,5.4s
BNX LR LR
comp=Z,370nm,19.0s
BNX LR LR
comp=Z,300nm,21.1s
BNX LR LR
comp=Z,550nm,16.3s
HTT Hallett 40.28 164 P **P 07 37 32.2 +2.4**
CMSA Cobar Meteorol 40.90 155 P **P 07 37 35.6 +0.7**
comp=Z,22nm,1.9s
CMSA Cobar Meteorol 40.90 155 P **P 07 37 36.2 +1.3**
H11S3 WAKE ISLAND Hy 40.97 68 T T 08 21 43.5
baz=257,slow=75,SNR=32
H11S1 WAKE ISLAND Hy 40.99 68 T T 08 21 37.0
baz=257,slow=75,SNR=13
H11S2 WAKE ISLAND Hy 40.99 68 T T 08 21 37.6
baz=257,slow=75,SNR=26
LSA Lhasa 41.45 310 P **P 07 37 38.3 -1.8**
LSA pmax pmax
comp=Z,6.0nm,0.5s
H11N1 WAKE ISLAND Hy 41.45 66 T T 08 22 14.7
baz=255,slow=75,SNR=62
H11N2 WAKE ISLAND Hy 41.46 66 T T 08 22 15.3
baz=255,slow=75,SNR=45
H11N3 WAKE ISLAND Hy 41.47 66 T T 08 22 15.9
baz=255,slow=75,SNR=52
GTA Gaotai 41.74 328 *e*P **P 07 37 41.9 0.0**
GTA pP pP 07 37 57.8 +1.1
GTA PP **PP 07 39 20.3 +0.8**
GTA S **S 07 43 53.3 -1.4**
GTA SS **SS 07 46 59.4 -3.2**
GTA ScS **ScS 07 47 40.0 +0.6**
GTA pmax pmax
comp=Z,29nm,1.5s
GTA pmax pmax
comp=Z,160nm,4.4s
GTA LR LR
comp=Z,590nm,23.3s
GTA LR LR
comp=Z,900nm,23.3s
GTA LR LR
comp=Z,1μm,23.6s
GOMU GeErMu 42.47 321 P **P 07 37 47.9 -0.3**
GOMU PcP **PcP 07 39 39.8 -0.4**
GOMU S **S 07 44 07.8 +1.8**
GOMU sS sS 07 44 29.8 -1.9
GOMU pmax pmax
comp=Z,36nm,1.3s
GOMU pmax pmax
comp=Z,330nm,3.6s
GOMU LR LR
comp=Z,790nm,20.0s
GOMU LR LR
comp=Z,860nm,18.3s
GOMU LR LR
comp=Z,2μm,19.2s
ARMA Armidale 42.80 148 P **P 07 37 51.3 +0.8**
ARMA lAmb lAmb 07 38 12.1
comp=Z,45nm,1.1s
ARMA Armidale 42.80 148 P **P 07 37 49.9 -0.7**
comp=Z,36nm,1.3s
ARMA Armidale 42.80 148 P **P 07 37 52.1 +1.5**
KLR Kul'dur 43.87 5 *e*P **P 07 37 59.5 +0.7**
KLR pmax pmax
comp=Z,11nm,0.9s
HIA Hailar 44.12 353 P **P 07 38 04.3 +3.4**
ARPS Mount Arapiles 44.23 163 P **P 07 38 02.9 +1.1**
comp=Z,91nm,1.1s
ARPS Mount Arapiles 44.23 163 P **P 07 38 03.7 +1.9**
HEH HeiHe 44.70 1 *e*P **P 07 38 05.8 +0.4**
HEH sP **sP 07 38 33.8 +6.8**
HEH S **S 07 44 38.0 +0.7**
HEH SS **ScS 07 47 55.4 -1.6**
HEH pmax pmax
comp=Z,11nm,1.3s
HEH LR LR
comp=Z,390nm,17.6s
HEH LR LR
comp=Z,340nm,16.8s
HEH LR LR
comp=Z,470nm,17.3s
CAN Canberra 45.55 154 P **P 07 38 13.6 +1.1**
CAN lAmb lAmb 07 38 16.0
comp=Z,38nm,1.2s
CAN Canberra 45.55 154 P **P 07 38 14.2 +1.8**
comp=Z,27nm,1.3s
CAN Canberra 45.55 154 P **P 07 38 14.2 +1.8**
CAN Canberra 45.55 154 P **P 07 38 13.6 +1.1**
CAN pmax pmax
comp=Z,38nm,1.2s
CAN Canberra 45.55 154 P **P 07 38 14.3 +1.9**
ULN Ulaanbaatar 45.58 341 P **P 07 38 11.8 -0.8**
ULN Ulaanbaatar 45.58 341 P **P 07 38 11.8 -0.8**
ULN pmax pmax
comp=Z,66nm,1.2s
ULN Ulaanbaatar 45.58 341 P **P 07 38 13.0 +0.4**
ULN pP **pP 07 38 25.9 -1.8**
CNB Canberra Magne 45.70 154 P **P 07 38 14.7 +1.1**
comp=Z,33nm,1.2s
CNB Canberra Magne 45.70 154 P **P 07 38 15.5 +1.8**
SONM Songino Array 45.77 341 P **P 07 38 13.9 -0.1**
comp=Z,7.4nm,1.0s,baz=152,slow=9.6,SNR=11
SONM PP **PP 07 40 02.7 +0.3**
comp=Z,3.9nm,0.7s,baz=150,slow=3.2,SNR=3.6
SONM S **S 07 44 53.5 +0.4**
comp=Z,3.2nm,0.8s,baz=157,slow=7.8,SNR=1.7
SONM LR LR 07 58 33.5
comp=Z,366nm,20.9s,baz=88,slow=38
comp=Z,7.4nm,1.0s
TOO Toolangi 46.15 159 P **P 07 38 18.2 +1.1**
TOO Toolangi 46.15 159 P **P 07 38 19.1 +2.0**
comp=Z,7.1nm,1.3s
TOO Toolangi 46.15 159 P **P 07 38 18.2 +1.1**
TOO pmax pmax
comp=Z,12nm,1.3s
DZM Mont Dzumac 47.41 127 P **P 07 38 26.4 -0.9**
DZM lAmb lAmb 07 39 05.4
comp=Z,27nm,0.9s
DZM Mont Dzumac 47.41 127 *e*P **P 07 38 24.3 -3.0**
comp=Z,72nm,1.1s
DZM *e*S **S 07 45 19.1 +1.9**
comp=Z,346nm,28.8s
DZM *e*SS **SS 07 48 48.3 +2.5**
comp=Z,231nm,28.4s
DZM *e*LQ LQ 07 49 55.7
comp=Z,876nm,36.4s
DZM *e*LR LR 07 51 54.3
comp=Z,824nm,28.6s
CIT Chita 47.76 349 *e*P P 07 38 35.6 +6.1
CIT *e* 07 38 46.4
CIT *e* 07 38 58.2
CIT *e* 07 40 04.4
CIT pmax pmax
comp=Z,60nm,1.7s
ZEA Zeya 48.19 0 *e*P **P 07 38 37.0 +4.3**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.8s
HYB Hyderabad 48.69 288 *e*P **P 07 38 35.9 -1.3**
ZAK Zakamensk 49.00 340 *e*P **P 07 38 38.5 -0.6**
ZAK pmax pmax
comp=Z,9.0nm,2.1s
IRK Irkutsk 50.28 342 *e*P **P 07 38 49.0 +0.3**
IRK pmax pmax
comp=Z,63nm,1.9s
MOY Mondy 50.87 339 *e*P **P 07 38 54.0 +0.8**
MOY pmax pmax
comp=Z,99nm,2.5s
WMQ Urumqi 51.44 324 *e*P **P 07 38 58.5 +0.8**
WMQ sP sP 07 39 18.5 -1.1
WMQ pmax pmax
comp=Z,34nm,0.7s
WMQ LR LR
comp=Z,900nm,18.7s
WMQ LR LR
comp=Z,860nm,21.3s
WMQ LR LR
comp=Z,1μm,22.7s
BOD Bodaibo 53.24 351 *e*P **P 07 39 11.3 +0.7**
BOD pmax pmax
comp=Z,39nm,1.5s
PEA0B Petropavlovsk- 53.84 23 P **P 07 39 14.9 -0.2**
PEA0B lAmb lAmb 07 39 31.8
comp=Z,32nm,0.9s
PEA0B Petropavlovsk- 53.84 23 *e*P **P 07 39 14.3 -0.9**
PETK Petropavlovsk- 53.84 23 P **P 07 39 14.8 -0.4**
PETK Petropavlovsk- 53.84 23 P **P 07 39 15.2 0.0**
comp=Z,8.7nm,0.7s,baz=220,slow=6.8,SNR=7.4
PETK LR LR 08 02 07.6
comp=Z,73nm,21.4s,baz=210,slow=36
comp=Z,8.7nm,0.7s
MSVF Nonsavu 55.51 116 LR LR 07 59 58.4
comp=Z,164nm,20.8s,baz=48,slow=32
SHLS Shalkode 56.15 320 *e*P **P 07 39 28.8 -3.3**
SHLS pmax pmax
comp=Z,10.0nm,0.9s
SHLS Shalkode 56.15 320 *e*P **P 07 39 28.9 -3.3**
comp=Z,10.0nm,0.9s
MK31 Makanchi Array 56.27 325 *d i*P **P 07 39 31.4 -1.4**
MKAR Makanchi Array 56.27 325 P **P 07 39 31.3 -1.5**
MKAR Makanchi Array 56.27 325 P **P 07 39 31.5 -1.2**
comp=Z,16nm,0.9s,baz=126,slow=6.7,SNR=56
MKAR PcP **PcP 07 40 32.5 +2.8**
comp=Z,14nm,0.8s,baz=122,slow=4.4,SNR=6.2
MKAR ScP **ScP 07 44 24.1 +0.5**
comp=Z,3.1nm,0.8s,baz=108,slow=3.9,SNR=5.0
MKAR S **S 07 47 17.6 -0.5**
comp=Z,0.6nm,0.9s,baz=158,slow=4.2,SNR=2.8
MKAR LR LR 08 04 53.9
comp=Z,680nm,21.9s,baz=96,slow=37
comp=Z,16nm,0.9s
MKAR Makanchi Array 56.27 325 *c e*P **P 07 39 31.7 -1.1**
MKAR pmax pmax
comp=Z,12nm,0.8s
UZB Uzynbulak 56.43 319 *e*P **P 07 39 32.7 -1.5**
UZB pmax pmax
comp=Z,7.0nm,0.9s
UZB Uzynbulak 56.43 319 *e*P **P 07 39 32.7 -1.5**
comp=Z,6.7nm,0.9s
MAKZ Makanchi 56.45 324 P **P 07 39 32.6 -1.5**
MAKZ Makanchi 56.45 324 P **P 07 39 32.6 -1.5**
MAKZ pmax pmax
comp=Z,37nm,1.0s
MAKZ Makanchi 56.45 324 P **P 07 39 33.1 -1.0**
MAKZ pP **pP 07 39 45.9 -3.7**
PRZ Przheval'sk 56.54 318 P **P 07 39 33.7 -1.3**
PRZ Przheval'sk 56.54 318 P **P 07 39 33.7 -1.3**
PRZ pmax pmax
comp=Z,34nm,0.9s
YAK Yakutsk 56.54 2 *e*P **P 07 39 38.8 +4.4**
YAK *e**PP **pP 07 39 49.7 -0.1**
YAK *e* 07 40 32.4
YAK *e* 07 41 49.4
YAK *e*PPP PPP 07 43 03.4
YAK *e*S S 07 47 30.9 +10
YAK *e* 07 49 22.5
YAK pmax pmax
comp=Z,40nm,1.0s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,13nm,1.5s
YAK pmax pmax
comp=Z,8.0nm,0.4s
YAK pmax pmax
comp=N,35nm,2.4s
YAK pmax pmax
comp=E,24nm,1.6s
YAK smax smax
comp=N,47nm,1.5s
YAK smax smax
comp=E,42nm,1.8s
TARG Taragay, Kyrgy 56.60 317 P **P 07 39 35.0 -0.8**
TARG lAmb lAmb 07 39 57.7
comp=Z,29nm,1.3s
TARG Taragay, Kyrgy 56.60 317 P **P 07 39 35.0 -0.8**
TARG pmax pmax
comp=Z,29nm,1.3s
SATY Saty 56.79 319 *e*P **P 07 39 35.3 -1.4**
SATY pmax pmax
comp=Z,11nm,1.0s
SATY Saty 56.79 319 *e*P **P 07 39 35.4 -1.4**
comp=Z,11nm,1.0s
ZHN Zhinishke 56.82 319 *e*P **P 07 39 35.6 -1.3**
ZHN Zhinishke 56.82 319 *e*P **P 07 39 35.6 -1.3**
KSH Kashi 56.96 314 P **P 07 39 38.4 +0.4**
KSH pP pP 07 39 55.5 +1.3
KSH pmax pmax
comp=Z,14nm,1.4s
KSH LR LR
comp=Z,1μm,22.6s
KSH LR LR
comp=Z,990nm,24.5s
KSH LR LR
comp=Z,620nm,20.3s
NIL Nilore 57.02 307 P **P 07 39 37.8 -0.5**
KDJ Kajisay 57.20 318 P **P 07 39 38.9 -0.7**
KDJ lAmb lAmb 07 39 55.2
comp=Z,22nm,1.2s
KDJ Kajisay 57.20 318 P **P 07 39 38.9 -0.7**
KDJ pmax pmax
comp=Z,22nm,1.2s
TDK Taldyqorghan 57.69 321 *e*P **P 07 39 41.6 -1.3**
TDK pmax pmax
comp=Z,5.0nm,0.6s
TDK Taldyqorghan 57.69 321 *e*P **P 07 39 41.6 -1.3**
comp=Z,5.4nm,0.6s
MDOK Medeo 57.73 319 *e*P **P 07 39 42.0 -1.3**
MDOK Medeo 57.73 319 *e*P **P 07 39 42.0 -1.3**
TNSS Tian-Shan 57.74 318 *e*P **P 07 39 41.9 -1.8**
TNSS Tian-Shan 57.74 318 *e*P **P 07 39 41.9 -1.8**
CHKK Chushkaly 58.07 319 *e*P **P 07 39 44.2 -1.4**
CHKK Chushkaly 58.07 319 *e*P **P 07 39 44.2 -1.4**
KUU Kurty 58.51 319 *e*P **P 07 39 47.5 -1.1**
KUU Kurty 58.51 319 *e*P **P 07 39 47.5 -1.1**
TKM2 Tokmak 2 58.59 318 *i* P **P 07 39 48.1 -1.3**
TKM2 pmax pmax
comp=Z,12nm,1.0s
ZAA0 Zalesovo Array 59.17 333 P **P 07 39 51.6 -1.3**
ZALV Zalesovo Beam 59.17 333 P **P 07 39 51.5 -1.5**
ZALV Zalesovo Beam 59.17 333 P **P 07 39 51.7 -1.2**
comp=Z,21nm,0.8s,baz=126,slow=5.9,SNR=70
ZALV S **S 07 47 55.8 +0.1**
comp=Z,0.4nm,0.3s,baz=130,slow=15,SNR=5.6
ZALV LR LR 08 07 05.6
comp=Z,343nm,21.6s,baz=134,slow=38
comp=Z,21nm,0.8s
ZALV Zalesovo Beam 59.17 333 *i* P **P 07 39 52.0 -0.9**
ZALV pmax pmax
comp=Z,21nm,0.8s
AAK Ala-Archa 59.22 317 P **P 07 39 52.3 -1.4**
AAK lAmb lAmb 07 40 46.2
comp=Z,10nm,0.8s
AAK Ala-Archa 59.22 317 P **P 07 39 52.8 -1.0**
comp=Z,2.2nm,0.4s,baz=136,slow=8.3,SNR=7.6
AAK PcP **PcP 07 40 43.1 +1.6**
comp=Z,15nm,1.0s,baz=45,slow=2.0,SNR=5.6
AAK LR LR 08 08 15.3
comp=Z,223nm,21.9s,baz=100,slow=39
comp=Z,2.2nm,0.4s
SGDS Sogindy 59.45 318 *e*P **P 07 39 53.8 -1.4**
SGDS Sogindy 59.45 318 *e*P **P 07 39 53.8 -1.4**
ARSB Arslanbob 59.76 315 P **P 07 39 56.9 -0.6**
ARSB lAmb lAmb 07 40 08.7
comp=Z,29nm,1.1s
ARSB Arslanbob 59.76 315 P **P 07 39 56.9 -0.6**
ARSB pmax pmax
comp=Z,29nm,1.1s
SEY Seymchan 60.38 13 P **P 07 40 02.0 +0.9**
comp=Z,4.2nm,0.9s,baz=211,slow=11,SNR=8.2
SEY LR LR 08 07 10.4
comp=Z,106nm,19.9s,baz=200,slow=37
comp=Z,4.2nm,0.9s
SEY Seymchan 60.38 13 *e*P **P 07 40 01.6 +0.5**
SEY pmax pmax
comp=Z,17nm,1.8s
KURBB Kurchatov Arra 60.41 327 P **P 07 40 00.5 -1.1**
comp=Z,35nm,0.9s,baz=127,slow=6.0,SNR=138
KURBB LR LR 08 07 11.0
comp=Z,358nm,22.0s,baz=150,slow=37
KURBB PKP2bc 08 09 32.9
comp=Z,0.8nm,0.9s,baz=298,slow=2.9,SNR=4.2
comp=Z,35nm,0.9s
KURK Kurchatov 60.41 327 P **P 07 40 00.7 -0.8**
KURK Kurchatov 60.41 327 *c e*P **P 07 40 00.1 -1.4**
KURK pmax pmax
comp=Z,124nm,1.2s
KURK Kurchatov 60.41 327 P **P 07 40 00.9 -0.6**
KBL Kabul 60.62 307 P **P 07 40 02.3 -1.3**
KBL lAmb lAmb 07 40 08.8
comp=Z,18nm,0.9s
KBL Kabul 60.62 307 P **P 07 40 02.3 -1.3**
KBL pmax pmax
comp=Z,18nm,0.9s
BTK Batken 60.87 313 P **P 07 40 04.6 -0.4**
BTK Batken 60.87 313 P **P 07 40 04.6 -0.4**
BTK pmax pmax
comp=Z,73nm,1.6s
GAR Garm 60.90 312 P **P 07 40 04.4 -0.9**
SHEM Shemya Is, Ala 60.97 31 LR LR 08 03 28.2
comp=Z,69nm,19.6s,baz=314,slow=33
DZA Taraz 61.47 316 *e*P **P 07 40 07.7 -1.2**
DZA pmax pmax
comp=Z,5.0nm,0.5s
DZA Taraz 61.47 316 *e*P **P 07 40 07.8 -1.2**
comp=Z,4.6nm,0.5s
SIMJ Simiganj 61.77 311 P **P 07 40 09.9 -1.3**
SIMJ lAmb lAmb 07 41 00.7
comp=Z,21nm,1.1s
MSZ Milford Sound 61.97 148 P **P 07 40 14.3 +2.2**
KK31 Karatay Array 62.11 316 P **P 07 40 12.8 -0.4**
KK31 lAmb lAmb 07 40 14.5
comp=Z,21nm,0.9s
KK31 Karatay Array 62.11 316 *i* P **P 07 40 13.1 -0.1**
KKAR Karatay Array 62.11 316 P **P 07 40 12.3 -0.9**
KKAR Karatay Array 62.11 316 P **P 07 40 12.5 -0.7**
KKAR lAmb lAmb 07 40 14.5
comp=Z,22nm,0.9s
KKAR Karatay Array 62.11 316 P **P 07 40 12.5 -0.7**
KKAR pmax pmax
comp=Z,22nm,1.0s
IUG luzhnay 62.12 315 *e*P **P 07 40 12.1 -1.3**
IUG pmax pmax
comp=Z,4.0nm,0.5s
IUG luzhnay 62.12 315 *e*P **P 07 40 12.1 -1.3**
comp=Z,4.5nm,0.5s
QRZ Quartz Range 62.16 142 P **P 07 40 15.0 +1.5**
HIZ Hauiti 62.31 139 P **P 07 40 16.2 +1.6**
BRLS Borolday 62.55 316 *e*P **P 07 40 15.0 -1.1**
BRLS pmax pmax
comp=Z,7.0nm,0.9s
BRLS Borolday 62.55 316 *e*P **P 07 40 15.1 -1.1**
comp=Z,7.2nm,0.9s
MRNZ Matariki Terra 62.64 143 P **P 07 40 17.0 +0.3**
WHZ Wether Hill Ro 62.80 149 P **P 07 40 18.9 +1.2**
THZ Tophouse 62.94 143 P **P 07 40 18.7 -0.1**
THZ lAmb lAmb 07 40 20.9
comp=Z,16nm,0.7s
THZ Tophouse 62.94 143 P **P 07 40 18.8 0.0**
LBZ Lake Benmore 63.00 146 P **P 07 40 20.6 +1.5**
RPZ Rata Peaks 63.05 145 P **P 07 40 19.4 0.0**
RPZ Rata Peaks 63.05 145 LR LR 08 10 01.8
comp=Z,304nm,18.3s,baz=310,slow=38
RPZ Rata Peaks 63.05 145 P **P 07 40 20.0 +0.6**
EAZ Earnscleugh 63.07 148 P **P 07 40 20.2 +0.7**
WTVZ West Tongariro 63.12 139 P **P 07 40 21.8 +1.6**
NNVZ North Ngauruho 63.15 139 P **P 07 40 22.2 +1.8**
LTZ Lake Taylor 63.18 144 P **P 07 40 19.5 -0.8**
LTZ lAmb lAmb 07 40 22.2
comp=Z,33nm,1.2s
LTZ Lake Taylor 63.18 144 P **P 07 40 20.7 +0.4**
OTVZ Oturere 63.20 139 P **P 07 40 22.3 +1.6**
TMVZ Te Maari 63.20 139 P **P 07 40 22.3 +1.6**
ETVZ East Tongariro 63.21 139 P **P 07 40 22.0 +1.3**
MHCZ Mount Hutt 63.23 145 P **P 07 40 21.6 +1.0**
BRZS Berezniki 63.41 324 *e*P **P 07 40 20.3 -1.4**
BRZS pmax pmax
comp=Z,11nm,1.2s
BRZS Berezniki 63.41 324 *e*P **P 07 40 20.4 -1.4**
comp=Z,11nm,1.2s
URZ Urewera 63.68 138 LR LR 08 07 11.9
comp=Z,348nm,21.3s,baz=26,slow=35
URZ Urewera 63.68 138 P **P 07 40 23.4 -0.2**
KHZ Kahutara 63.71 143 P **P 07 40 23.2 -0.5**
BKZ Black Stump Fm 63.74 139 P **P 07 40 23.9 -0.2**
BKZ lAmb lAmb 07 40 25.8
comp=Z,20nm,0.9s
BKZ Black Stump Fm 63.74 139 P **P 07 40 22.8 -1.3**
RTZ Ruatahuna 63.77 138 P **P 07 40 23.6 -0.8**
MTHZ Maungataniwha 63.81 138 P **P 07 40 25.5 +0.9**
KWHZ Kaweka Forest 63.84 139 P **P 07 40 24.5 -0.3**
HAZ Te Kaha 63.87 137 P **P 07 40 26.4 +1.5**
RUGZ Raukumara Rang 63.91 137 P **P 07 40 24.5 -0.8**
NMHZ Naumai 63.91 138 P **P 07 40 26.3 +1.0**
KRHZ Kereru 63.92 139 P **P 07 40 24.7 -0.5**
PNHZ Pukenui 63.95 139 P **P 07 40 25.0 -0.5**
MQZ McQueen's Vall 63.96 145 P **P 07 40 27.3 +1.9**
RAHZ Arahi 64.00 138 P **P 07 40 26.4 +0.6**
MCHZ McNeill Hill 64.03 139 P **P 07 40 26.3 +0.3**
SNGZ Shannon Statio 64.10 138 P **P 07 40 26.9 +0.5**
KAHZ Kahuranaki 64.33 139 P **P 07 40 28.1 +0.1**
WMGZ Waiomatatini S 64.34 137 P **P 07 40 27.7 -0.2**
PXZ Pawanui 64.44 139 P **P 07 40 28.8 +0.2**
CNGZ Carnagh Statio 64.53 137 P **P 07 40 29.7 +0.5**
BVA0 Borovoye Array 66.00 327 *i* P **P 07 40 37.4 -1.1**
BVAR Borovoye Array 66.00 327 P **P 07 40 37.4 -1.1**
comp=Z,60nm,0.9s,baz=123,slow=7.0,SNR=130
BVAR PcP **PcP 07 41 07.7 -1.0**
comp=Z,21nm,0.8s,baz=90,slow=5.8,SNR=3.9
BVAR LR LR 08 12 29.2
comp=Z,220nm,19.9s,baz=110,slow=39
comp=Z,60nm,0.9s
BRVK Borovoye 66.07 327 P **P 07 40 37.7 -1.3**
BRVK Borovoye 66.07 327 P **P 07 40 37.7 -1.3**
BRVK pmax pmax
comp=Z,81nm,1.0s
BRVK Borovoye 66.07 327 P **P 07 40 39.2 +0.2**
BRVK pP **pP 07 40 52.6 -2.3**
TIXI Tiksi 66.18 1 LR LR 08 10 27.0
comp=Z,188nm,21.7s,baz=205,slow=37
NRIK Noril'sk 68.84 346 P **P 07 40 56.0 -0.2**
NRIK lAmb lAmb 07 41 09.2
comp=Z,24nm,0.8s
NRIK Noril'sk 68.84 346 P **P 07 40 56.1 -0.1**
comp=Z,16nm,0.7s,baz=137,slow=7.3,SNR=15
NRIK S **S 07 49 54.8 -0.2**
comp=Z,0.5nm,0.3s,baz=158,slow=19,SNR=10
NRIK LR LR 08 14 38.2
comp=Z,318nm,19.3s,baz=151,slow=39
comp=Z,16nm,0.7s
NRIK Noril'sk 68.84 346 *d i*P **P 07 40 55.6 -0.6**
NRIK pmax pmax
comp=Z,22nm,0.8s
AB31 Akbulak array 70.94 320 P **P 07 41 08.6 -0.9**
AB31 lAmb lAmb 07 41 28.6
comp=Z,24nm,1.1s
AB31 Akbulak array 70.94 320 *i* P **P 07 41 07.0 -2.4**
ABKAR Akbulak array 70.94 320 P **P 07 41 08.0 -1.4**
ABKAR Akbulak array 70.94 320 P **P 07 41 08.3 -1.2**
ABKAR lAmb lAmb 07 41 28.6
comp=Z,25nm,1.1s
UNV Unalaska Valle 71.98 35 P **P 07 41 15.3 -0.3**
baz=254
AKTO Aktyubinsk 72.44 321 P **P 07 41 17.4 -1.0**
comp=Z,18nm,0.9s,baz=101,slow=6.1,SNR=36
AKTO LR LR 08 15 30.6
comp=Z,707nm,21.8s,baz=88,slow=38
comp=Z,18nm,0.9s
SVE Sverdlovsk 72.61 328 *e*P **P 07 41 19.6 +0.3**
SVE pmax pmax
comp=Z,76nm,1.3s
GAMB Gambell 72.83 24 P **P 07 41 20.7 +0.3**

baz=246
ARTI Arti 73.68 327 P **P 07 41 24.3 -1.3**
comp=Z,28nm,1.1s,baz=103,slow=2.9,SNR=29
ARTI LR LR 08 17 20.6
comp=Z,161nm,21.3s,baz=103,slow=39
comp=Z,28nm,1.1s
ARTI Arti 73.68 327*d i*P **P 07 41 24.2 -1.4**
ARTI *PP **pP 07 41 41.7 -0.2**
ARTI 07 44 08.3
ARTI S **S 07 50 50.9 -0.5**
ARTI SS **SS 07 55 32.1 -3.6**
ARTI pmax pmax
comp=Z,54nm,1.3s
K13K Kusilvak Mount 75.22 27 P **P 07 41 34.6 +0.1**
baz=253
F14K Arctic Creek 75.61 23 P **P 07 41 36.9 +0.3**
baz=251
ANM Nome 75.70 24 P **P 07 41 37.1 -0.1**
baz=252
J14K Nanvaranak Lak 75.94 26 P **P 07 41 38.4 -0.1**
baz=254
L14K Kuka Creek 75.97 28 P **P 07 41 38.8 +0.1**
baz=255
N14K Kuskokwak Cree 76.10 29 P **P 07 41 39.7 +0.2**
baz=256
CHNA Chernabura Isl 76.15 35 P **P 07 41 39.0 -0.8**
baz=260
O14K Tigyukauivet M 76.15 30 P **P 07 41 39.0 -0.8**
baz=257
M14K Bethel 76.16 29 P **P 07 41 39.2 -0.6**
baz=256
F15K North Star Dit 76.34 23 P **P 07 41 40.3 -0.5**
baz=252
G15K Niukluk 76.37 24 P **P 07 41 40.8 -0.2**
baz=253
S14K Fog Glacier 76.44 33 P **P 07 41 40.8 -0.8**
baz=259
L15K Ungalak Mounta 76.61 28 P **P 07 41 41.8 -0.5**
baz=256
K15K Wolf Creek Mou 76.73 27 P **P 07 41 43.3 +0.2**
baz=256
M15K Kasigluk River 76.76 29 P **P 07 41 42.9 -0.3**
baz=257
O15K Ungalikthiuk R 76.86 30 P **P 07 41 43.8 0.0**
baz=258
C16K Lisburne Hills 76.89 21 P **P 07 41 42.8 -1.0**
C16K Lisburne Hills 76.89 21 P **P 07 41 43.7 -0.1**
baz=251
N15K Kwethluk River 76.93 29 P **P 07 41 43.8 -0.4**
baz=258
H16K Elim 77.02 25 P **P 07 41 45.1 +0.5**
baz=255
G16K Koyuk River 77.17 24 P **P 07 41 45.3 -0.1**
baz=255
J16K Anvik River 77.38 26 P **P 07 41 47.1 +0.4**
baz=257
I17K Unalakleet 77.48 26 P **P 07 41 47.3 +0.1**
baz=256
D17K Noatak River 77.52 22 P **P 07 41 48.0 +0.7**
baz=253
L16K Owhat River 77.55 28 P **P 07 41 47.8 +0.2**
baz=258
N16K Nishlik Lake 77.64 29 P **P 07 41 48.9 +0.7**
baz=259
M16K Timber Creek 77.65 29 P **P 07 41 49.2 +0.9**
baz=259
RDOG Red Dog Mine 77.69 21 P **P 07 41 48.5 +0.2**
baz=254
P16K Nushagak River 77.76 31 P **P 07 41 49.7 +0.8**
baz=260
O16K Kokwok River B 77.81 30 P **P 07 41 50.4 +1.3**
baz=260
E17K Hotham Inlet 77.82 22 P **P 07 41 50.2 +1.2**
baz=255
F17K Baldwin Pennin 77.88 23 **P 07 41 48.9 -0.4**
F17K Baldwin Pennin 77.88 23 P **P 07 41 49.6 +0.3**
baz=255
G17K Kiwalik Mounta 77.88 24 P **P 07 41 49.3 -0.1**
baz=256
H17K Granite Mounta 78.06 25 P **P 07 41 50.6 +0.2**
baz=257
J17K VABM Dome 78.08 26 P **P 07 41 49.9 -0.7**
J17K IAmb IAmb 07 42 16.0
comp=Z,19nm,1.1s
J17K VABM Dome 78.08 26 P **P 07 41 51.1 +0.5**
baz=258
L17K Donlin 78.18 28 P **P 07 41 52.0 +0.8**
baz=259
K17K Iditarod 78.29 27 P **P 07 41 51.9 +0.1**
K17K IAmb IAmb 07 42 18.4
comp=Z,23nm,1.1s
K17K Iditarod 78.29 27 P **P 07 41 52.2 +0.5**
baz=259
O17K Koliganek Bris 78.34 30 P **P 07 41 52.5 +0.5**
baz=261
E18K Tukpahlearik C 78.37 22 P **P 07 41 51.6 -0.5**
E18K Tukpahlearik C 78.37 22 P **P 07 41 52.3 +0.3**
baz=256
Q16K King Salmon 78.39 31 P **P 07 41 52.1 -0.2**
baz=261
N17K Nushagak Hills 78.42 29 P **P 07 41 53.3 +0.8**
baz=260
B18K Kokolik River 78.44 20 P **P 07 41 52.6 +0.2**
baz=254
M17K Holitna River 78.45 28 P **P 07 41 52.8 +0.1**
baz=260
C18K Utukok River 78.46 21 P **P 07 41 52.5 -0.2**
baz=255
F18K Selawik 78.54 23 P **P 07 41 52.9 -0.1**
baz=257
MAK Makhachkala 78.55 313 *eP* **P 07 41 51.1 -2.4**
MAK *e**PP **PcP 07 42 05.0 +2.6**
MAK *e**SP **pwP 07 42 12.5 -1.8**
MAK *e* 07 44 48.6
MAK *e*PPP PPP 07 46 42.6
MAK *e*S **S 07 51 43.3 -2.0**
MAK *e**SS **ScS 07 52 10.5 +1.2**
MAK *e*SS **SS 07 56 53.6 +3.7**
MAK *e*SSS SSS 08 00 14.6
MAK pmax pmax
comp=Z,106nm,0.9s
MAK MLR MLR
comp=Z,319nm,20.0s
P17K Kvichak River 78.58 31 P **P 07 41 53.0 -0.3**
baz=261
Q17K Contact Creek 78.73 32 P **P 07 41 53.5 -0.8**
baz=262
H18K Honhosa River 78.74 25 P **P 07 41 54.0 -0.2**
baz=258
G18K Tagagawik 78.78 24 P **P 07 41 54.9 +0.6**
baz=258
KIRV Kirov 78.87 329 P **P 07 41 54.4 -0.6**
comp=Z,21nm,0.7s,baz=138,slow=2.7,SNR=9.0
KIRV LR LR 08 20 03.0
comp=Z,256nm,21.8s,baz=99,slow=38
comp=Z,21nm,0.7s
KIRV Kirov 78.87 329*c i*P **P 07 41 55.2 +0.3**
A19K Wainwright 78.91 19 P **P 07 41 55.3 +0.3**
baz=255
L18K Granite Mounta 78.94 28 P **P 07 41 55.7 +0.4**
baz=260
N18K Kilae Creek 79.08 29 P **P 07 41 55.8 -0.3**
baz=262
J18K Innoko River 79.14 26 P **P 07 41 56.7 +0.4**
baz=260
BELG Belogornoye 79.17 322 P **P 07 41 56.6 -0.1**
comp=Z,45nm,1.0s,baz=86,slow=2.2,SNR=13
BELG LR LR 08 19 34.3
comp=Z,206nm,21.3s,baz=82,slow=38
comp=Z,45nm,1.0s
BELG Belogornoye 79.17 322*d i*P **P 07 41 56.3 -0.4**
BELG pmax pmax
comp=Z,15nm,1.2s
P18K Big Mountain, 79.22 31 P **P 07 41 56.6 -0.4**
baz=262
M18K Stony River 79.23 28 P **P 07 41 56.3 -0.6**
baz=261
Q18K Katmai Hardscr 79.24 31 P **P 07 41 57.2 0.0**
baz=263
GCSA Galena City Sc 79.29 25 P **P 07 41 57.2 +0.1**
baz=260
O18K Koktuh Hills 79.29 30 P **P 07 41 57.3 -0.1**
baz=262
F19K Shaleruckik Mo 79.32 23 P **P 07 41 57.5 +0.3**
baz=259
TTA Tatalina 79.36 27 P **P 07 41 58.0 +0.3**
baz=261
R18K Karluk 79.40 33 P **P 07 41 58.1 +0.2**
baz=263
G19K Purcell Mounta 79.45 24 P **P 07 41 58.6 +0.6**
baz=259
D19K Kuna River 79.53 21 P **P 07 41 58.2 -0.2**
D19K Kuna River 79.53 21 P **P 07 41 59.0 +0.6**
baz=258
H19K Roundabout Mou 79.60 24 P **P 07 41 58.9 +0.1**
H19K IAmb IAmb 07 42 24.4
comp=Z,24nm,1.1s
H19K Roundabout Mou 79.60 24 P **P 07 41 59.2 +0.3**
baz=260,SNR=6.9
E19K Redstone River 79.64 22 P **P 07 41 58.9 -0.2**
E19K IAmb IAmb 07 42 35.6
comp=Z,22nm,0.9s
E19K Redstone River 79.64 22 P **P 07 41 58.8 -0.2**
baz=259,SNR=12
J19K Poorman 79.70 26 P **P 07 41 59.3 -0.1**
J19K Poorman 79.70 26 P **P 07 41 59.6 +0.2**
baz=261
N19K Bonanza Creek 79.78 29 P **P 07 42 00.4 +0.3**
baz=263
O19K Port Alsworth 79.78 30 P **P 07 42 00.1 +0.2**
baz=263
L19K White Mountain 79.78 28 P **P 07 42 00.3 +0.4**
L19K White Mountain 79.78 28 P **P 07 42 00.7 +0.8**
baz=262
RAYN Ar Rayn 79.95 293 P **P 07 42 01.0 -0.7**
M19K Big River Lodg 79.96 28 P **P 07 42 01.0 +0.1**
baz=263
Q19K Cape Douglas, 79.97 31 P **P 07 42 00.9 -0.1**
baz=264
OHAK Old Harbor 79.99 33 P **P 07 42 00.8 -0.3**
baz=264
D20K Etivluk River 80.11 21 P **P 07 42 01.4 -0.2**
D20K Etivluk River 80.11 21 P **P 07 42 01.7 +0.1**
baz=259,SNR=7.3
F20K Avaraart Lake 80.15 23 P **P 07 42 02.4 +0.7**
F20K Avaraart Lake 80.15 23 P **P 07 42 02.1 +0.4**
baz=260,SNR=7.7
B20K Meade River 80.17 20 P **P 07 42 02.0 +0.2**
baz=259
E20K Nigu River 80.18 22 P **P 07 42 02.2 +0.2**
baz=260,SNR=8.6
H20K Anotleneega Mo 80.24 24 P **P 07 42 03.0 +0.7**
baz=262,SNR=6.8
L20K Farewell, AK 80.27 28 P **P 07 42 02.9 +0.3**
baz=263
K20K Telida 80.30 27 P **P 07 42 02.5 -0.2**
K20K Telida 80.30 27 P **P 07 42 03.1 +0.5**
baz=263
I20K Naaghedeneel 80.31 25 P **P 07 42 03.0 +0.4**
I20K IAmb IAmb 07 42 39.7
comp=Z,31nm,1.1s
I20K Naaghedeneel 80.31 25 P **P 07 42 02.8 +0.2**
baz=262
J20K Nowinta River 80.37 26 P **P 07 42 03.2 +0.1**
baz=262,SNR=5.6
KDAK Kodiak Island 80.42 32 P **P 07 42 03.1 -0.3**
comp=Z,4.5nm,0.5s,baz=165,slow=14,SNR=2.2
KDAK LR LR 08 16 29.0
comp=Z,82nm,19.1s,baz=101,slow=35
comp=Z,4.5nm,0.5s
KDAK Kodiak Island 80.42 32 P **P 07 42 03.7 +0.3**
baz=265
GNI Garni 80.52 310 LR LR 08 24 01.5
comp=Z,85nm,18.5s,baz=90,slow=40
M20K Styx River 80.55 28 P **P 07 42 04.5 +0.3**
M20K IAmb IAmb 07 42 31.9
comp=Z,24nm,1.2s
M20K Styx River 80.55 28 P **P 07 42 04.9 +0.7**
baz=264
Q20K Shuyak Island 80.59 32 P **P 07 42 04.2 -0.1**
baz=265
A21K Barrow 80.60 19 P **P 07 42 05.2 +1.1**
baz=259
C21K Knifeblade Rid 80.84 21 P **P 07 42 06.2 +0.8**
baz=261
SPCR Spurr Chakacha 80.92 29 P **P 07 42 06.4 +0.3**
baz=265
G21K Allakaket 80.94 24 P **P 07 42 06.3 +0.2**
baz=263,SNR=15
B21K Ikpikpuk River 80.97 20 P **P 07 42 06.5 +0.4**
baz=261,SNR=23
E21K Killik River 81.02 22 P **P 07 42 06.6 +0.1**
baz=262
F21K Alatna River 81.04 23 P **P 07 42 06.8 +0.2**
baz=263
A22K Sinclair Lake 81.07 19 P **P 07 42 06.5 -0.1**
baz=261
PPLA Purkeypile 81.09 27 P **P 07 42 07.0 -0.1**
baz=264
H21K Melozitna Rive 81.12 24 P **P 07 42 07.3 +0.3**
baz=263,SNR=8.8
CHUM Lake Minchumin 81.14 26 P **P 07 42 06.7 -0.4**
baz=264
CAST Castle Rocks 81.19 27 P **P 07 42 07.6 +0.1**
CAST IAmb IAmb 07 42 44.1
comp=Z,20nm,1.0s
CAST Castle Rocks 81.19 27 P **P 07 42 07.2 -0.3**
baz=264,SNR=5.5
SKT Skwentna 81.31 28 P **P 07 42 08.2 0.0**
baz=265
I21K Tanana 81.41 25 P **P 07 42 08.3 -0.2**
baz=264,SNR=10
B22K Teshekpuk Lake 81.48 20 **P 07 42 08.4 -0.4**
B22K IAmb IAmb 07 42 35.0
comp=Z,14nm,0.8s
B22K Teshekpuk Lake 81.48 20 P **P 07 42 08.8 0.0**
baz=262
BRSE Bradley Lake S 81.53 30 P **P 07 42 08.5 -0.8**
baz=266
D22K Ayikyak River 81.55 21 P **P 07 42 09.3 0.0**
baz=263
F22K John River 81.58 23 P **P 07 42 09.7 +0.2**
baz=264
SUA Susitna One 81.65 29 P **P 07 42 09.9 -0.1**
baz=266
H22K Ishtalitna Cre 81.73 24 P **P 07 42 10.1 -0.1**
baz=265,SNR=8.0
BPAW Bear Paw Mtn. 81.74 26 P **P 07 42 09.6 -0.7**
baz=265,SNR=11
G22K Bettles 81.78 23 P **P 07 42 10.7 +0.3**
baz=264
E22K Anaktuvuk Pass 81.78 22 P **P 07 42 10.7 +0.2**
E22K IAmb IAmb 07 42 46.5
comp=Z,20nm,0.9s
E22K Anaktuvuk Pass 81.78 22 P **P 07 42 10.9 +0.3**
baz=264,SNR=12
KBZ Khabaz 81.93 313 P **P 07 42 09.8 -1.9**
comp=Z,5.8nm,1.0s,baz=101,slow=5.2,SNR=6.8
KBZ S **S 07 52 19.3 -1.4**
comp=Z,1.1nm,0.8s,baz=98,slow=14,SNR=1.7
KBZ LR LR 08 24 10.7
comp=Z,199nm,19.2s,baz=74,slow=40
comp=Z,5.8nm,1.0s
KBZ Khabaz 81.93 313*ce*P **P 07 42 09.7 -2.0**
KBZ pmax pmax
comp=Z,8.0nm,1.1s
M22K Willow 81.96 28 P **P 07 42 10.8 -0.7**
baz=266
ABPO Ambohimpanom 81.99 250 P **P 07 42 12.0 -0.7**
ABPO IAmb IAmb 07 42 32.5
comp=Z,28nm,1.4s
ABPO Ambohimpanom 81.99 250 P **P 07 42 12.0 -0.7**
ABPO pmax pmax
comp=Z,28nm,1.5s
TRF Thorofare Moun 82.00 27 P **P 07 42 11.4 -0.5**
baz=266
KIV Kislovodsk 82.08 313 *eP* **P 07 42 12.1 -0.6**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,95nm,19.0s
RC01 Rabbit Creek A 82.11 29 P **P 07 42 13.1 +0.8**
baz=267
D23K Nanushuk River 82.28 21 P **P 07 42 14.0 +0.9**
D23K IAmb IAmb 07 42 35.9
comp=Z,21nm,1.1s
D23K Nanushuk River 82.28 21 P **P 07 42 13.2 +0.2**
baz=265
COLD Coldfoot 82.31 23 P **P 07 42 13.8 +0.6**
baz=266,SNR=6.9
G23K Bananza Creek 82.34 23 P **P 07 42 13.8 +0.3**
baz=266,SNR=5.7
C23K Itkillik River 82.38 20 P **P 07 42 13.9 +0.3**
baz=265,SNR=8.3
PMR Palmer 82.43 29 P **P 07 42 14.0 +0.1**
baz=267
H23K Yukon River 82.48 24 P **P 07 42 14.6 +0.4**
baz=266
I23K Minto, Yukon-K 82.51 25 P **P 07 42 14.3 0.0**
baz=267,SNR=7.7
E23K Chandalar 82.60 22 P **P 07 42 14.9 0.0**
baz=266,SNR=11
NEA2 Nenana 82.60 26 P **P 07 42 14.4 -0.4**
baz=267,SNR=6.6
MCK McKinley 82.62 27 P **P 07 42 14.2 -0.8**
baz=267,SNR=6.2
RND Reindeer 82.64 27 P **P 07 42 14.5 -0.6**
RND IAmb IAmb 07 42 51.6
comp=Z,31nm,1.3s
RND Reindeer 82.64 27 P **P 07 42 14.5 -0.6**
RND pmax pmax
comp=Z,31nm,1.3s
TOLK Toolik Lake Re 82.65 22 P **P 07 42 14.9 -0.1**
baz=266,SNR=6.9
KNK Knik Glacier 82.74 29 P **P 07 42 16.0 +0.4**
baz=268
VRH Novokhopyorsk 82.77 321 *eP* **P 07 42 16.0 +0.1**
VRH pmax pmax
comp=Z,33nm,1.6s
PWL Port Wells 82.78 29 P **P 07 42 16.2 +0.4**
baz=268
SML Sawmill 82.81 28 P **P 07 42 15.2 -0.9**
SML IAmb IAmb 07 42 41.3
comp=Z,26nm,1.0s
SML Sawmill 82.81 28 P **P 07 42 15.1 -0.9**
SML pmax pmax
comp=Z,25nm,1.0s
SML Sawmill 82.81 28 P **P 07 42 16.4 +0.3**
baz=268
D24K Happy Valley 82.96 21 P **P 07 42 17.1 +0.5**
baz=267
E24K Your Creek 83.02 22 P **P 07 42 17.5 +0.5**
baz=267,SNR=6.4
C24K Franklin Bluff 83.03 20 P **P 07 42 17.1 +0.2**
C24K Franklin Bluff 83.03 20 P **P 07 42 17.1 +0.2**
baz=267
M23K Glacier View 83.10 28 P **P 07 42 17.6 +0.1**
baz=269
COLA College 83.14 25⇑ *i*P **P 07 42 14.2 -3.3**
COLA pmax pmax
comp=Z,7.0nm,1.1s
COLA College 83.14 25 P **P 07 42 17.6 +0.1**
baz=268
H24K Noodor Dome 83.16 24 P **P 07 42 18.0 +0.2**
baz=268,SNR=6.6
F24K Squaw Lake 83.22 23 P **P 07 42 18.2 +0.2**
F24K Squaw Lake 83.22 23 P **P 07 42 18.1 0.0**
baz=268,SNR=6.4
SCM Sheep Creek Mo 83.29 28 P **P 07 42 18.8 +0.3**
baz=269
POKR Poker Plat Res 83.32 25 P **P 07 42 18.6 0.0**
baz=268
G24K Hadweenzic Riv 83.35 24 P **P 07 42 18.5 -0.2**
G24K IAmb IAmb 07 42 35.2
comp=Z,22nm,1.1s
G24K Hadweenzic Riv 83.35 24 P **P 07 42 18.5 -0.2**
baz=268,SNR=12
GLI Glacier Island 83.39 29 P **P 07 42 18.6 -0.4**
baz=269
LABN Labinsk 83.48 314 *eP* **P 07 42 15.3 -4.5**
LABN *e**PP **pP 07 42 32.4 -4.0**
LABN pmax pmax
comp=Z,35nm,0.7s
HDA Harding Lake 83.52 26 P **P 07 42 19.4 -0.2**
baz=269
ILAR Eielson Array 83.55 25 P **P 07 42 18.0 -1.7**
comp=Z,3.4nm,0.9s,baz=260,slow=5.2,SNR=25
comp=Z,3.4nm,0.9s
ERBR Yeremizino-Bor 83.63 315 *eP* **P 07 42 17.0 -3.5**
ERBR *e**PP **pP 07 42 33.2 -3.9**
ERBR pmax pmax
comp=Z,29nm,0.9s
D25K Kavik River 83.84 21 P **P 07 42 20.5 -0.6**
D25K IAmb IAmb 07 42 47.2
comp=Z,16nm,1.0s
D25K Kavik River 83.84 21 P **P 07 42 21.2 +0.1**
baz=269,SNR=9.6
M24K Tolsona, Glenn 83.84 28 P **P 07 42 21.2 -0.1**
baz=270
G25K Bearman Lake 83.90 23 P **P 07 42 21.5 +0.1**
baz=269,SNR=8.4
KLU Kluting 83.96 29 P **P 07 42 21.8 -0.1**
baz=270
H25L Birch Creek 84.01 24 P **P 07 42 22.5 +0.5**
baz=270
KLMR Klimovskoe 84.02 331 *eP* **P 07 42 18.2 -3.9**
KLMR pmax pmax
comp=Z,67nm,1.5s
K24K Donnelly Dome 84.02 26 P **P 07 42 22.5 +0.3**
baz=270
F25K Christian Rive 84.09 23 P **P 07 42 22.9 +0.5**
baz=270,SNR=7.7
E25K Arctic Village 84.12 22 P **P 07 42 23.6 +1.0**
E25K IAmb IAmb 07 42 59.8
comp=Z,39nm,1.4s
E25K Arctic Village 84.12 22 P **P 07 42 22.6 0.0**
baz=270,SNR=16
PRP Porcupine Dome 84.13 25 P **P 07 42 23.1 +0.2**
baz=270
PAX Paxson 84.17 27 P **P 07 42 22.6 -0.4**
PAX IAmb IAmb 07 43 01.9
comp=Z,20nm,1.2s
PAX Paxson 84.17 27 P **P 07 42 22.6 -0.4**
PAX pmax pmax
comp=Z,20nm,1.2s
PAX Paxson 84.17 27 P **P 07 42 23.6 +0.6**
baz=270
J25K Salcha River, 84.20 26 P **P 07 42 23.7 +0.6**
baz=270
VORD Divnogorie 84.30 321 *eP* **P 07 42 23.3 -0.5**
VORD pmax pmax
comp=Z,20nm,1.3s
HARP HAARP 84.31 28 P **P 07 42 24.4 +0.7**
baz=271
VORR Voronezh 84.34 321 *eP* **P 07 42 25.1 +1.1**
VORR pmax pmax
comp=Z,58nm,1.8s
C26K Camden Bay 84.35 20 P **P 07 42 24.2 +0.5**
baz=270,SNR=13
VSR Storozhevoye 84.38 321 *eP* **P 07 42 23.0 -1.2**
VSR pmax pmax
comp=Z,50nm,2.0s
RIDG Independent Ri 84.44 27 P **P 07 42 23.6 -0.7**
RIDG IAmb IAmb 07 43 00.5
comp=Z,24nm,1.0s
RIDG Independent Ri 84.44 27 P **P 07 42 24.1 -0.2**
baz=271,SNR=7.6
LPSR Galich'ya Gora 84.48 322 P **P 07 42 24.8 +0.1**
LPSR pmax pmax
comp=Z,60nm,1.8s
N25K Chitina, Valde 84.59 29 P **P 07 42 25.3 +0.1**
baz=271
BMRM Bremner River 84.60 29 P **P 07 42 24.9 -0.3**
baz=271
F26K Sheenjek River 84.66 23 P **P 07 42 25.9 +0.6**
F26K Sheenjek River 84.66 23 P **P 07 42 25.3 0.0**
baz=271
KAIM Kayak Island 84.72 30 P **P 07 42 25.7 -0.1**
baz=272
C27K Jago River 84.78 21 P **P 07 42 26.5 +0.7**
C27K IAmb IAmb 07 43 02.1
comp=Z,21nm,1.1s
C27K Jago River 84.78 21 P **P 07 42 26.4 +0.7**
baz=271,SNR=11
SCRK Sand Creek 84.81 26 P **P 07 42 25.9 -0.4**
baz=272
G26K Porcupine Rive 84.81 23 P **P 07 42 25.9 -0.1**
G26K IAmb IAmb 07 42 48.7
comp=Z,22nm,1.1s
G26K Porcupine Rive 84.81 23 P **P 07 42 25.8 -0.3**
baz=272,SNR=7.5
J26L Joseph Creek 84.98 26 P **P 07 42 26.5 -0.6**
J26L Joseph Creek 84.98 26 P **P 07 42 26.6 -0.6**
baz=272
VNDA Vanda 85.06 173 P **P 07 42 27.5 +0.4**
VNDA Vanda 85.06 173 P **P 07 42 27.2 +0.1**
comp=Z,2.2nm,0.5s,baz=326,slow=7.0,SNR=12
VNDA LR LR 08 19 38.2
comp=Z,190nm,21.4s,baz=331,slow=35
comp=Z,2.2nm,0.5s
VNDA Vanda 85.06 173 P **P 07 42 27.5 +0.4**

VNDA pmax pmax
comp=Z,9.0nm,1.1s
I26K Coal Creek Min 85.13 25 P **P 07 42 26.9 -0.7**
baz=272
L26K Log Cabin Wild 85.13 27 P **P 07 42 27.0 -0.8**
baz=272
MOS Moscow 85.14 325 *e*P **P 07 42 27.8 -0.1**
MOS *e**PP **pP 07 42 43.6 -1.1**
MOS *e*S **SKSac 07 52 47.1 0.0**
MOS pmax pmax
comp=Z,100nm,1.0s
MOS pmax pmax
comp=Z,77nm,0.9s
M26K Nabesna, AK 85.32 28 P **P 07 42 29.0 +0.3**
baz=273
PPT Papeete 85.51 108 LR LR 08 17 41.1
comp=Z,40nm,19.9s,baz=284,slow=33
PPT2 Papeete2 85.51 108 *e*P **P 07 42 30.4 -0.2**
comp=Z,41nm,29.5s
PPT2 Papeete2 85.51 108 *e*S **SKSac 07 52 54.4 +3.3**
comp=Z,49nm,24.0s
PPT2 *e*SS SS 07 58 22.6 -12
comp=Z,105nm,21.2s
PPT2 Papeete2 85.51 108 *e*LR LR 08 09 27.8
comp=Z,340nm,29.0s
PPT2 *e*LR LR 08 09 30.9
comp=Z,282nm,30.5s
E27K Coleen River 85.60 22 P **P 07 42 29.8 -0.2**
baz=274
K27K Chicken 85.65 26 P **P 07 42 30.6 +0.3**
baz=273
G27K Doyon Strip 85.66 23 P **P 07 42 31.0 +0.6**
G27K Doyon Strip 85.66 23 P **P 07 42 30.6 +0.2**
baz=274
H27K Steamboat Moun 85.75 24 P **P 07 42 31.3 +0.5**
baz=274
I27K Kandik River 85.75 25 P **P 07 42 30.9 0.0**
baz=274
D27M Malcolm River 85.76 21 P **P 07 42 31.2 +0.3**
D27M IAmb IAmb 07 43 11.2
comp=Z,15nm,1.2s
D27M Malcolm River 85.76 21 P **P 07 42 31.2 +0.3**
baz=274
OBN Obninsk 85.77 325 *e*P **P 07 42 29.5 -1.5**
OBN *e**PP **pP 07 42 46.6 -1.2**
OBN *e**SP **sP 07 42 54.5 0.0**
OBN *e* 07 45 49.1
OBN *e*PPP PPP 07 47 43.9
OBN pmax pmax
comp=Z,44nm,1.1s
OBN MLR MLR
comp=Z,341nm,22.0s
ANN Anapa 85.82 314 *e*P **P 07 42 31.4 -0.1**
ANN *e**PP **pP 07 42 44.9 -3.3**
ANN pmax pmax
comp=Z,97nm,0.9s
L27K Beaver Creek, 85.82 27 P **P 07 42 31.2 0.0**
baz=274
M27K Edge Creek, AK 85.84 28 P **P 07 42 31.7 +0.2**
baz=274
MESA MESA 85.95 30 P **P 07 42 32.5 +0.3**
baz=274
BVCY Beaver Creek 86.31 28 P **P 07 42 34.3 +0.6**
baz=275
E28M Babbage River 86.33 22 P **P 07 42 34.3 +0.7**
baz=275
TBI Tubuai 86.34 114 *e*P **P 07 42 31.7 -2.8**
comp=Z,401nm,36.5s
TBI Tubuai 86.34 114 *e*S **S 07 53 05.5 -0.1**
comp=Z,759nm,29.8s
TBI *e*SS **SS 07 58 41.9 -4.8**
comp=Z,496nm,29.2s
TBI *e*LQ LQ 08 06 16.9
comp=Z,2μm,31.5s
TBI *e*LR LR 08 09 56.6
comp=Z,1μm,28.8s
TBI *e*LR LR 08 10 00.2
comp=Z,1μm,27.5s
I28M Miner Creek 86.46 25 P **P 07 42 34.7 +0.2**
I28M IAmb IAmb 07 42 58.1
comp=Z,14nm,0.8s
I28M Miner Creek 86.46 25 P **P 07 42 33.9 -0.5**
baz=275
D28M Stokes Point 86.54 21 P **P 07 42 34.7 +0.1**
baz=276
YUK3 Moose Creek 86.55 28 P **P 07 42 33.9 -1.2**
baz=275
O28M Mount Upton 86.77 29 P **P 07 42 35.7 -0.6**
baz=275
PINM Pinnacle 86.80 30 P **P 07 42 36.1 -0.1**
baz=275
DAWY Dawson 86.83 26 P **P 07 42 35.6 -0.6**
baz=276
YUK8 Steele Glacier 86.93 29 P **P 07 42 36.2 -0.8**
baz=276
E29M Blow River 86.95 22 P **P 07 42 36.4 -0.2**
baz=277
H29M Whitestone 87.03 24 P **P 07 42 37.0 0.0**
baz=277
G29M Pine Creek 87.08 23 P **P 07 42 37.6 +0.3**
baz=277
ASF Jabal al Asfar 87.12 302 LR LR 08 28 34.7
comp=Z,56nm,18.2s,baz=109,slow=40
I29M Ogilvie Camp, 87.15 25 P **P 07 42 37.6 -0.1**
baz=277
J29N Klondike Camp 87.30 26 P **P 07 42 38.5 +0.1**
baz=277
M29M Somme Creek 87.42 28 P **P 07 42 38.9 -0.2**
baz=277
YUK4 Talbot Arm 87.46 29 P **P 07 42 39.3 -0.2**
baz=277
L29M L29M 87.49 27 P **P 07 42 39.2 -0.2**
baz=277
EPYK Eagle Plains 87.67 24 P **P 07 42 40.1 -0.1**
baz=278
K29M Barlow Dome 87.67 26 P **P 07 42 40.1 -0.2**
baz=277
G30M tAoh Zraii Nji 87.78 23 P **P 07 42 41.0 +0.4**
baz=278
F30M Barrier River 87.85 22 P **P 07 42 41.3 +0.3**
baz=279
I30M Mount Dempster 87.97 25 P **P 07 42 41.5 -0.2**
baz=278
HYT Haines Junctio 88.08 29 P **P 07 42 42.4 +0.1**
baz=278
J30M Hart River 88.09 25 P **P 07 42 42.0 -0.3**
baz=278
P29M Windy Craggy 88.11 30 P **P 07 42 41.6 -0.8**
baz=277
N30M Aishikik Lake 88.19 29 P **P 07 42 42.5 -0.2**
baz=278
MMAI Mount Meron Ar 88.31 303 P **P 07 42 45.7 +1.7**
comp=Z,3.6nm,0.7s,baz=90,slow=7.6,SNR=2.7
MMAI LR LR 08 27 52.8
comp=Z,69nm,20.3s,baz=80,slow=39
P30M Million Dollar 88.44 30 P **P 07 42 43.3 -0.7**
baz=278
INK Inuvik 88.57 22 P **P 07 42 43.2 -1.1**
comp=Z,2.5nm,0.9s,baz=285,slow=3.7,SNR=8.4
comp=Z,2.5nm,0.9s
INK Inuvik 88.57 22 P **P 07 42 44.3 0.0**
baz=281
F31M Tsiigehtchic 88.65 22 P **P 07 42 44.3 -0.4**
F31M IAmb IAmb 07 43 10.5
comp=Z,7.3nm,0.8s
F31M Tsiigehtchic 88.65 22 P **P 07 42 44.5 -0.2**
baz=281
H31M Peel River 88.71 24 P **P 07 42 45.2 +0.1**
baz=280
O30N Mendenhall 88.77 29 P **P 07 42 45.0 -0.5**
baz=279
N31M Braeburn, Yuko 88.81 28 P **P 07 42 44.8 -0.9**
baz=279
SPITS Spitsbergen Ar 88.87 349 P **P 07 42 45.9 +0.3**
comp=Z,5.9nm,0.7s,baz=82,slow=10,SNR=12
SPITS LR LR 08 27 23.3
comp=Z,211nm,21.6s,baz=24,slow=39
comp=Z,5.9nm,0.7s
ARCES ARCESS Array B 88.93 340 P **P 07 42 44.8 -1.2**
comp=Z,4.4nm,0.6s,baz=76,slow=5.8,SNR=30
ARCES LR LR 08 25 56.8
comp=Z,140nm,21.4s,baz=88,slow=38
comp=Z,4.4nm,0.6s
BR131 Keskin Array S 89.06 310 *e*P **P 07 42 45.1 -2.3**
BRTR Keskin Array B 89.06 310 P **P 07 42 46.8 -0.7**
BRTR Keskin Array B 89.06 310 P **P 07 42 45.9 -1.6**
comp=Z,7.8nm,0.9s,baz=118,slow=5.2,SNR=20
BRTR LR LR 08 29 00.7
comp=Z,66nm,20.6s,baz=85,slow=40
comp=Z,7.8nm,0.9s
BRTR Keskin Array B 89.06 310 P **P 07 42 46.8 -0.7**
S31K Pelican 89.12 32 P **P 07 42 46.4 -0.7**
baz=279
WHY Whitehorse 89.37 29 P **P 07 42 48.3 -0.1**
baz=280
FARO Faro, Yukon 89.81 27 P **P 07 42 49.3 -1.0**
baz=281
R32K Eaglecrest 89.97 31 P **P 07 42 49.7 -1.4**
baz=280
N32M Quiet Lake 90.15 29 P **P 07 42 51.8 -0.2**
baz=281
A36M Sachs Harbour 90.36 17 P **P 07 42 52.8 +0.2**
baz=289
FIA1 FINESS Array S 90.42 332 P **P 07 42 53.0 -0.1**
FINES FINESS Array B 90.42 332 P **P 07 42 52.4 -0.7**
FINES FINESS Array B 90.42 332 P **P 07 42 52.3 -0.8**
comp=Z,6.9nm,0.6s,baz=74,slow=4.1,SNR=56
FINES LR LR 08 28 17.4
comp=Z,226nm,19.4s,baz=78,slow=39
comp=Z,6.9nm,0.6s
FINES FINESS Array B 90.42 332 *ce*P **P 07 42 52.9 -0.2**
FINES pmax pmax
comp=Z,7.0nm,0.6s
AKASG Malin Array Be 90.68 321 P **P 07 42 53.3 -1.2**
comp=Z,5.4nm,0.8s,baz=70,slow=4.4,SNR=12
AKASG S **SKSac 07 53 20.1 -0.7**
comp=Z,0.4nm,0.3s,baz=83,slow=7.7,SNR=2.3
AKASG LR LR 08 26 46.6
comp=Z,189nm,21.9s,baz=66,slow=38
comp=Z,5.4nm,0.8s
AKBB Malin Array Si 90.68 321 ⇑ *i*P **P 07 42 53.0 -1.6**
AKBB pmax pmax
comp=Z,15nm,1.3s
KIEV Kiev 90.69 321 P **P 07 42 56.6 +2.0**
KIEV pmax pmax
comp=Z,34nm,1.8s
VSU Vasula 90.71 329 P **P 07 42 54.1 -0.4**
VSU pmax pmax
comp=Z,16nm,0.8s
MNK Minsk 90.83 325 *i* P **P 07 42 55.2 0.0**
MNK *i* *PP **pP 07 43 12.0 +0.2**
MNK *i* *SP **sP 07 43 19.2 +0.9**
MNK *i* 07 46 31.6
MNK *i* PPP PPP 07 48 29.0
MNK *i* S **SKSac 07 53 21.1 -0.4**
MNK *i* *SS **ScS 07 53 51.8 +1.7**
MNK *i* SS **SS 07 59 51.9 +1.7**
MNK *i* SSS SSS 08 03 29.6
MNK pmax pmax
comp=E,12nm,0.8s
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=Z,9.0nm,0.6s
MNK MLR MLR
comp=E,217nm,23.0s
MNK MLR MLR
comp=Z,360nm,24.0s
MNK MLR MLR
comp=N,232nm,21.0s
U33K Whale Pass 91.12 33 P **P 07 42 55.2 -1.3**
baz=281
WRAK Wrangell Islan 91.48 33 P **P 07 42 56.7 -1.4**
baz=282
C36M Paulatuk 91.60 20 P **P 07 42 57.2 -1.2**
baz=290
DLBC Dease Lake 92.25 31 P **P 07 43 01.3 -0.5**
comp=N,2.0nm,0.9s,baz=198,slow=16,SNR=1.6
DLBC LR LR 08 20 49.1
comp=N,71nm,19.7s,baz=280,slow=33
comp=N,2.0nm,0.9s
TGTN Hyland Airport 92.31 28 P **P 07 43 01.5 -0.5**
baz=286
TAOE Nuku Hiva Isla 93.77 98 *e*S **S 07 54 09.3 -5.5**
comp=N,72nm,33.2s
TAOE Nuku Hiva Isla 93.77 98 *e*LR LR 08 13 20.8
comp=N,319nm,23.9s
MLR Muntele Rosu 93.79 316 LR LR 08 30 25.6
comp=N,383nm,21.8s,baz=66,slow=39
WRGLY Wrigley 93.93 25 P **P 07 43 08.3 -0.9**
baz=290
SYO Syowa Base 94.02 201‖ *e*P **P 07 43 11.6 +2.1**
SYO Syowa Base 94.02 201‖ *e*pP pP 07 43 25.3 -1.3
TOAD Toad River Com 94.55 30 P **P 07 43 11.2 -1.1**
baz=288
BBB Bella Bella 94.89 37 LR LR 08 24 13.8
comp=N,33nm,18.5s,baz=290,slow=34
QSPA South Pole Qui 95.30 180 P **P 07 43 15.3 -0.3**
comp=N,2.9nm,0.9s,baz=317,slow=18,SNR=12
QSPA LR LR 08 27 19.8
comp=N,166nm,20.2s,baz=336,slow=36
comp=N,2.9nm,0.9s
RES Resolute Bay 96.15 10 LR LR 08 32 49.2
comp=N,54nm,18.8s,baz=343,slow=39
HFS Hagfors 96.60 332 P **P 07 43 20.2 -1.4**
comp=N,6.8nm,0.8s,baz=72,slow=4.7,SNR=13
HFS LR LR 08 32 35.7
comp=N,168nm,18.8s,baz=65,slow=39
comp=N,6.8nm,0.8s
NC303 NORSAR Array S 97.20 334 P **P 07 43 23.5 -0.8**
NC303 IAmb IAmb 07 43 35.2
comp=Z,5.5nm,0.8s
NB2 NORSAR Subarra 97.35 334 P **P 07 43 23.6 -1.4**
comp=Z,6.2nm,0.9s,baz=67,slow=4.4
NB2 NORSAR Subarra 97.35 334 P **P 07 43 23.6 -1.4**
baz=67,slow=4.4
NOA NORSAR Array B 97.35 334 P **P 07 43 23.3 -1.7**
comp=Z,4.0nm,0.8s,baz=64,slow=4.5,SNR=18
NOA LR LR 08 31 18.9
comp=Z,458nm,21.9s,baz=70,slow=38
comp=Z,4.0nm,0.8s
VYHS Vyhne 97.76 320 *i* P Pdif 07 43 30.4 +3.3
VYHS Vyhne 97.76 320 *e*PDIFF Pdif 07 43 30.4 +3.3
YKA Yellowknife Ar 97.93 24 P **P 07 43 25.8 -1.7**
comp=Z,0.6nm,1.0s,baz=302,slow=4.3,SNR=5.9
YKA PKKPbc **PKKPbc 08 00 01.1 -2.7**
comp=Z,0.1nm,0.4s,baz=115,slow=2.3,SNR=10
comp=Z,0.6nm,1.0s
MORC Moravsky Berou 98.18 322 *e*PDIFF Pdif 07 43 31.4 +2.4
JMIC Jan Mayen 98.27 347 LR LR 08 32 17.1
comp=Z,100nm,20.2s,baz=62,slow=38
JAVC Velka Javorina 98.39 321 *e*PDIFF Pdif 07 43 31.3 +1.3
VRAC Vranov 98.91 322 LR LR 08 32 23.9
comp=Z,72nm,18.3s,baz=68,slow=38
VRAC Vranov 98.91 322 *e*PDIFF Pdif 07 43 32.7 +0.4
KRUC Moravsky 99.12 321 *e*PDIFF **Pdif 07 43 33.6 +0.5**
RKT Rikitea 99.60 112 *e*S **S 07 54 58.0 -6.4**
comp=Z,668nm,36.2s
RKT Rikitea 99.60 112 *e*LR LR 08 16 06.7
comp=Z,942nm,30.0s
LSZ Lusaka 99.75 255 LR LR 08 25 13.1
comp=Z,52nm,21.5s,baz=140,slow=33
BRG Berggiesshubel 99.97 324 *e*P **Pdif 07 43 39.8 +2.8**
BRG Amp 07 43 42.0
comp=Z,5.3nm,1.0s
BRG Berggiesshubel 99.97 324 Amp 07 43 56.0
comp=Z,3.7nm,1.0s
BRG Berggiesshubel 99.97 324 P **Pdif 07 43 51.6 +15**
CLL Collm 100.36 324 *e*Pdif **Pdif 07 43 41.0 +2.4**
comp=Z,6.0nm,1.1s
CLL *e*(sPdif) 07 43 56.0
CLL *e*PP **PP 07 47 44.0 -1.2**
CLL *e*SKSac **SKSac 07 54 12.0 -0.1**
CLL *e*Sdif **Sdif 07 55 06.0 -3.6**
CLL *e*(SP) 07 56 30.0
CLL *e*SS **SS 08 02 12.0 +6.8**
GERES GERESS Array B 100.86 322 P **Pdif 07 43 38.6 -2.5**
comp=Z,1.1nm,0.8s,baz=65,slow=4.9,SNR=6.1
NVAR Mina Array Bea 105.70 48 Pdiff **Pdif 07 44 02.9 -0.1**
comp=Z,0.3nm,0.6s,baz=300,slow=5.9,SNR=3.7
NVAR PKKPbc **PKKPbc 07 59 40.4 -0.3**
comp=Z,0.4nm,0.6s,baz=74,slow=2.1,SNR=5.2
PDAR Pinedale Array 110.02 41 PKKPab PKKPab 07 59 35.7 -2.7
comp=Z,1.7nm,1.0s,baz=105,slow=4.1,SNR=8.3
PMSA Palmer Station 120.23 175 *e*P **PKiKP 07 48 46.8 +4.5**
TXAR Lajitas Array 120.47 51 PKP **PKiKP 07 48 44.1 0.0**
comp=Z,0.2nm,0.3s,baz=312,slow=4.1,SNR=8.1
TXAR PKKPbc **PKKPbc 07 58 49.4 -1.2**
comp=Z,0.7nm,0.9s,baz=107,slow=5.2,SNR=5.8
TORD Torodi Ar. Bea 122.50 289 PKP **PKPdf 07 48 47.6 -0.4**
comp=Z,14nm,0.3s,baz=63,slow=2.0,SNR=0.7
PLCA Paso Flores 141.51 159 PKhKP PKPpre 07 49 19.0
comp=Z,4.4nm,1.0s,baz=243,slow=3.2,SNR=4.9
PLCA Paso Flores 141.51 159 *e*P **PKiKP 07 49 25.5 -0.5**
BI02 San Fabin de 144.73 154 **PKPab 07 49 27.7 -0.2**
BO02 Sierra Bellavi 146.51 153 **PKPbc 07 49 32.9 -0.7**
LMEL Las Melosas 147.57 153 **PKPbc 07 49 36.5 -0.2**
PEL Peldehue 147.93 152 **PKPbc 07 49 38.0 +0.5**
PEL Peldehue 147.93 152 PKP2 **PKPbc 07 49 38.0 +0.5**
ITQB Itaqui 155.64 173 *e*P **PKPdf 07 49 48.7 +2.6**
CPUP Villa Florida 158.81 170 PKP **PKPdf 07 49 50.6 +0.5**
comp=Z,1.9nm,1.0s,baz=225,slow=1.4,SNR=2.8
CPUP PKPab **PKPab 07 50 26.9 +1.0**
comp=Z,1.8nm,0.7s,baz=185,slow=3.3,SNR=6.3
LPAZ La Paz 161.75 128 PKP **PKPdf 07 49 52.1 -2.3**
comp=Z,6.2nm,1.2s,baz=214,slow=1.8,SNR=9.6
LPAZ La Paz 161.75 128 *e*P **PKPdf 07 49 55.8 +1.3**
SJMB Sao Joao De Ma 162.37 220 *e*P **PKPdf 07 49 54.7 +0.5**
BDFB Brasilia 168.65 206 PKP **PKPdf 07 50 00.3 +0.7**
comp=Z,1.8nm,0.8s,baz=207,slow=6.7,SNR=2.4
BDFB PKPab **PKPab 07 51 08.2 -1.3**
comp=Z,7.1nm,1.1s,baz=158,slow=5.4,SNR=5.1

*INMG **19** 07:36:25.8±1.0, 40.°03N×29.°68W, h5km, ML3.5, Error ellipse: s-maj=212.1km s-min=10.2km az=41.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Crista Mdia AtIntico N*
*SVSA **19** 07:36:25.8±1.0, 40.°03N×29.°68W, h5km, ML3.5(INMG), Error ellipse: s-maj=212.1km s-min=10.2km az=41.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Crista Mdia AtIntico N*
*IDC **19** 07:36:27.9±4.0, 40.°46N×29.°99W, h0km, mb3.5/2, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=252.1km s-min=34.6km az=5.0*
ISC 19 07:36:26.4±1.1, 40.°0N±0.°1×29.°3W±0.°1, h10km, n15, σ2°90/21, **Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.49**	**161**	*e*P	**Pg**	**07 36 58.4**	**+3.5**
PCED				*e*S	Sn	07 37 03.2	-9.5
PCED				IAML		07 37 03.6	
PCED				IAML		07 37 03.7	
PCED				IAML		07 37 04.4	
PCED	**Cedros**	**1.49**	**161**	*e*P	**Pg**	**07 36 58.4**	**+3.5**
PCED				*e*S	Sn	07 37 03.2	-9.5
PCED				IAML		07 37 03.6	
PCED				IAML		07 37 03.7	
PCED				IAML		07 37 04.4	
PSBA	**Serra de Santa**	**2.00**	**129**	*e*P	**Pn**	**07 36 58.4**	**-2.0**
PSBA				*e*S	**Sn**	**07 37 22.6**	**-2.9**
PSBA	**Serra de Santa**	**2.00**	**129**	*e*P	**Pn**	**07 36 58.4**	**-2.0**
PSBA				*e*S	**Sn**	**07 37 22.6**	**-2.9**
PAGU	**Agualva, Azore**	**2.09**	**127**	*e*P	**Pn**	**07 36 59.9**	**-1.7**
PAGU				*e*S	**Sn**	**07 37 24.9**	**-2.7**
PAGU				*i* AML	AML	07 37 26.9	
PAGU				*i* AML	AML	07 37 27.7	
PAGU				*i* AML	AML	07 37 28.0	
PAGU	**Agualva, Azore**	**2.09**	**127**	*e*P	**Pn**	**07 36 59.9**	**-1.7**
PAGU				*e*S	**Sn**	**07 37 24.9**	**-2.7**
PAGU				*i* AML	AML	07 37 26.9	
PAGU				*i* AML	AML	07 37 27.7	
PAGU				*i* AML	AML	07 37 28.0	
ADH	**Angra Heroismo**	**2.13**	**130**	*e*P	**Pn**	**07 37 00.2**	**-1.8**
ADH	**Angra Heroismo**	**2.13**	**130**	*e*P	**Pn**	**07 37 00.2**	**-1.8**
PSCM	**Serra do Cume**	**2.17**	**127**	*e*P	**Pn**	**07 37 00.8**	**-1.8**
PSCM				*e*S	**Sn**	**07 37 27.4**	**-2.3**
PSCM				*i* AML	AML	07 37 29.9	
PSCM				*i* AML	AML	07 37 30.9	
PSCM				*i* AML	AML	07 37 33.1	
PSCM	**Serra do Cume**	**2.17**	**127**	*e*P	**Pn**	**07 37 00.8**	**-1.8**
PSCM				*e*S	**Sn**	**07 37 27.4**	**-2.3**
PSCM				*i* AML	AML	07 37 29.9	
PSCM				*i* AML	AML	07 37 30.9	
PSCM				*i* AML	AML	07 37 33.1	
CMLA	**Cha da Macela**	**3.74**	**126**	*e*S	**Sn**	**07 38 05.8**	**-2.5**
CMLA				*i* AML	AML	07 38 08.9	
CMLA				*i* AML	AML	07 38 09.1	
CMLA				*i* AML	AML	07 38 11.0	
CMLA	**Cha da Macela**	**3.74**	**126**	*e*S	**Sn**	**07 38 05.8**	**-2.5**
CMLA				*i* AML	AML	07 38 08.9	
CMLA				*i* AML	AML	07 38 09.1	
CMLA				*i* AML	AML	07 38 11.0	
ESDC	**Sonseca Array**	**19.46**	**83**	P	**Pn**	**07 41 01.1**	**+6.6**
	baz=285,slow=11,SNR=3.0						
	0.9nm,0.9s						
PDAR	**Pinedale Array**	**58.03**	**301**	P	**P**	**07 46 18.4**	**-1.3**
	0.5nm,0.8s,baz=64,slow=9.5,SNR=3.4						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**60.44**	**285**	P	**P**	**07 46 35.1**	**-1.3**
	0.4nm,0.8s,baz=59,slow=6.3,SNR=3.8						
	0.4nm,0.8s						

*AFAD **19** 07:39:18.7, 38.°74N×38.°17E, h7km±2km, ML2.5*
*ISK **19** 07:39:18.5, 38.°77N×38.°14E, h5km, ML2.0/9*
ISC 19 07:39:19.6±1.0, 38.°75N±0.°03×38.°16E±0.°03, h8km±10km, n16, σ0°84/27, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.20**	**309**	P	**Pg**	**07 39 23.3**	**-0.5**
HEKM				*i* AML	AML	07 39 27.0	
	comp=N,1μm,0.4s						
HEKM				*i* AML	AML	07 39 27.0	
	comp=E,2μm,0.4s						
HEKM				S	**Sg**	**07 39 27.1**	**+0.3**
ARPR	**Arapgir-MALATY**	**0.37**	**21**	Pg	**Pg**	**07 39 26.9**	**0.0**
ARPR				Sg	**Sg**	**07 39 32.4**	**+0.7**
AKCD	**Akcadag**	**0.49**	**203**	P	**Pg**	**07 39 28.2**	**-1.0**
AKCD				S	**Sg**	**07 39 36.1**	**+0.5**
AKCD				*i* AML	AML	07 39 39.0	
	comp=N,519nm,0.3s						
AKCD				*i* AML	AML	07 39 41.0	
	comp=E,240nm,0.4s						
DARE	**Darende-Malaty**	**0.56**	**252**	Pg	**Pg**	**07 39 29.8**	**-0.7**
DARE				Sg	**Sb**	**07 39 39.2**	**-0.8**
KEMA	**Kemaliye**	**0.58**	**26**	P	**Pg**	**07 39 29.6**	**-1.2**
KEMA				S	**Sg**	**07 39 39.1**	**+0.7**
ELZG	**Elazig**	**0.69**	**111**	P	**Pg**	**07 39 32.0**	**-1.0**
ELZG				*i* AML	AML	07 39 42.0	
	comp=N,273nm,0.2s						
ELZG				*i* AML	AML	07 39 42.0	
	comp=E,245nm,0.3s						
ELZG				S	**Sg**	**07 39 42.2**	**+0.3**
CUGUR	**Gurin_SVAS**	**0.70**	**268**	P	**Pg**	**07 39 33.0**	**-0.1**
CUGUR				S	**Sg**	**07 39 42.8**	**+0.6**
CUGUR				*i* AML	AML	07 39 44.0	
	comp=N,101nm,0.3s						
CUKAN	**kangal_SIVAS**	**0.78**	**316**	P	**Pg**	**07 39 33.0**	**-1.7**
CUKAN				S	**Sg**	**07 39 45.1**	**+0.2**
AKCA	**Adyaman/G¶‖**	**1.03**	**202**	P	**Pg**	**07 39 38.3**	**-1.0**
AKCA				S	**Sn**	**07 39 54.2**	**-0.9**
URFA	**Urfa**	**1.41**	**158**	Pn	**Pg**	**07 39 46.9**	**+0.3**
SARI	**SarD1z-Kayseri**	**1.41**	**256**	Pn	**Pb**	**07 39 46.2**	**-0.1**
SARI				Sn	**Sg**	**07 40 06.3**	**+1.3**
ERZN	**Erzincan**	**1.47**	**55**	Pn	**Pg**	**07 39 47.4**	**-0.4**
SVSK	**Karacayir**	**1.47**	**323**	Pn	**Pb**	**07 39 47.2**	**-0.1**
SVSK				Sn	**Sg**	**07 40 07.9**	**+0.9**
KMRS	**Kahramanmaras**	**1.59**	**219**	Pn	**Pb**	**07 39 49.2**	**-0.2**
KOZT	**Kozan**	**2.24**	**236**	Pn	**Pn**	**07 39 58.2**	**+1.2**
YOZ	**Yozgat**	**2.38**	**293**	Pn	**Pn**	**07 39 59.9**	**+0.8**

*IDC **19** 07:49:10.9±1.1, 42.°29S×173.°49E, h0km, mb3.4/2, mbtmp3.6/4, ML4.0/2, Error ellipse: s-maj=43.2km s-min=25.8km az=150.0*
*NOU **19** 07:49:11.2, 42.°60S×173.°77E, h0km, MLv4.7/18, South Island, New Zealand*
*NEIC **19** 07:49:12.2±0.8, 42.°56S±0.°03×173.°72E±0.°05, h12km±3km, mb4.3/5, Error ellipse: s-maj=5.9km s-min=3.7km az=118.0*
*WEL **19** 07:49:14.7, 42.°44S×173.°56E, h11km, ML4.6, Mw4.2, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}=1.86; $M_{\theta\theta}$=-0.61; $M_{\phi\phi}$=-1.26; $M_{r\theta}$=0.63; $M_{r\phi}$=2.66; $M_{\theta\phi}$=-0.34; Fault plane solution: M_0=2.90000×10^{15} NP1: ϕ_s=249.00000°, δ=60.00000°, λ=130.00000°. NP2: ϕ_s=10.00000°, δ=48.00000°, λ=41.00000°. Principal axes: T -3.6910, Plg=56.0000°, Azm=212.0000°; N 1.5780, Plg=34.0000°, Azm=46.0000°; P 2.1130, Plg=7.0000°, Azm=312.0000°; Stations used: LTZ NNZ INZ WAZ REVERSE FAULTING*

WEL 19 07:49:14.8±0.4,42°S±2°×17°4E±°,h7km±2km,M4.6/12, ML4.9/12,MLv4.6/12 Error ellipse: s-maj=3.8km s-min=2.2km az=126.9,confirmed

ISC 19 07:49:12.9±0.7,42°48S±0.02×173°72E±0.02,h17km±4km, n166,σ1°37/197,mb4.1/6,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKS	**Kaikoura**	**0.06**	**331**	P	**Pg**	**07 49 17.1**	**+1.1**
KIKS				S	**Sg**	**07 49 19.6**	**+1.4**
KHZ	**Kahutara**	**0.15**	**294**	Pg	**Pg**	**07 49 16.2**	**-0.8**
KHZ				Sg	**Sg**	**07 49 18.2**	**-1.5**
KHZ	**Kahutara**	**0.15**	**294**	P	**Pg**	**07 49 15.9**	**-1.1**
KHZ	**Kahutara**	**0.15**	**294**	P	**Pg**	**07 49 18.0**	**+1.0**
KHZ	**Kahutara**	**0.15**	**294**	P	**Pg**	**07 49 16.2**	**-0.8**
KHZ				S	**Sg**	**07 49 17.7**	**-2.0**
CECS	**Cheviot Emerge**	**0.47**	**224**	P	**Pb**	**07 49 23.7**	**+1.0**
CECS				S	**Sb**	**07 49 31.3**	**+1.9**
WTMC	**Te Mara Farm W**	**0.51**	**253**	P	**Pb**	**07 49 23.4**	**0.0**
WTMC				S	**Sg**	**07 49 30.3**	**+0.2**
MOLW	**Molesworth Sta**	**0.52**	**318**	P	**Pb**	**07 49 22.6**	**-1.0**
MOLW				S	**Sg**	**07 49 28.9**	**-1.4**
KEKS	**Kekerengu Vall**	**0.55**	**21**	P	**Pn**	**07 49 26.4**	**+0.4**
KEKS				S	**Sn**	**07 49 35.5**	**+0.7**
HSES	**Hanmer Springs**	**0.66**	**265**	P	**Pg**	**07 49 25.3**	**-0.6**
HSES				S	**Sg**	**07 49 33.2**	**-1.5**
GVZ	**Greta Valley S**	**0.70**	**225**	Pb	**Pb**	**07 49 27.5**	**+0.8**
GVZ				Sg	**Sb**	**07 49 37.8**	**+1.7**
GVZ	**Greta Valley S**	**0.70**	**225**	P	**Pb**	**07 49 28.0**	**+1.3**
GVZ				S	**Sb**	**07 49 38.2**	**+2.1**
WDFS	**Ward Fire Stat**	**0.72**	**26**	P	**Pn**	**07 49 29.9**	**+1.7**
BSWZ	**Blackbirch Sta**	**0.77**	**9**		**Pn**	**07 49 29.0**	**+0.1**
BSWZ				Sg	**Sn**	**07 49 39.8**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.77**	**9**	P	**Pn**	**07 49 29.2**	**+0.3**
BSWZ				S	**Sn**	**07 49 40.5**	**+0.5**
CMWZ	**Cape Campbell**	**0.81**	**27**		**Pn**	**07 49 30.8**	**+1.2**
CMWZ	**Cape Campbell**	**0.81**	**27**	P	**Pn**	**07 49 31.4**	**+1.8**
WAKC	**Waikari**	**0.89**	**236**	P	**Pb**	**07 49 30.5**	**+0.6**
THZ	**Tophouse**	**0.93**	**319**		**Pb**	**07 49 30.1**	**-0.5**
THZ	**Tophouse**	**0.93**	**319**	P	**Pb**	**07 49 30.5**	**-0.1**
AMCZ	**Amberley**	**1.05**	**228**		**Pg**	**07 49 32.5**	**-0.8**
AMCZ	**Amberley**	**1.05**	**228**	P	**Pg**	**07 49 32.8**	**-0.5**
TUWZ	**Tuamarina**	**1.06**	**9**		**Pn**	**07 49 34.1**	**+1.2**
TUWZ				Sn	**Sn**	**07 49 49.2**	**+2.0**
TUWZ	**Tuamarina**	**1.06**	**9**	P	**Pn**	**07 49 34.5**	**+1.6**
TUWZ				S	**Sn**	**07 49 50.3**	**+3.2**
LTZ	**Lake Taylor**	**1.11**	**253**		**Pg**	**07 49 33.2**	**-1.2**
LTZ				Sn	**Sg**	**07 49 47.7**	**-1.3**
LTZ	**Lake Taylor**	**1.11**	**253**	P	**Pg**	**07 49 33.5**	**-0.9**
LTZ				S	**Sg**	**07 49 48.0**	**-1.0**
NNZ	**Nelson**	**1.28**	**348**		**Pg**	**07 49 36.6**	**-1.0**
NNZ				Sn	**Sn**	**07 49 54.8**	**+2.1**
NNZ	**Nelson**	**1.28**	**348**	P	**Pg**	**07 49 37.0**	**-0.7**
NNZ				S	**Sn**	**07 49 54.2**	**+1.5**
MRNZ	**Matariki Terra**	**1.29**	**326**		**Pg**	**07 49 36.9**	**-1.0**
MRNZ				Sn	**Sn**	**07 49 54.6**	**+1.6**
MRNZ	**Matariki Terra**	**1.29**	**326**	P	**Pg**	**07 49 37.1**	**-0.8**
MRNZ				S	**Sn**	**07 49 54.3**	**+1.3**
TCW	**Tory Channel**	**1.33**	**18**		**Pg**	**07 49 37.4**	**-1.1**
TCW	**Tory Channel**	**1.33**	**18**	P	**Pg**	**07 49 37.8**	**-0.7**
OKCZ	**Okains Bay**	**1.34**	**201**	P	**Pn**	**07 49 37.0**	**+0.2**
BHW	**Baring Head**	**1.37**	**39**		**Pg**	**07 49 38.0**	**-1.3**
BHW	**Baring Head**	**1.37**	**39**	P	**Pg**	**07 49 38.5**	**-0.8**
SNZO	**South Karori**	**1.38**	**33**		**Pg**	**07 49 38.3**	**-1.1**
SNZO	**South Karori**	**1.38**	**33**	P	**Pg**	**07 49 38.6**	**-0.8**
WEL	**Wellington**	**1.43**	**34**	P	**Pg**	**07 49 39.4**	**-0.9**
WEL				S	**Sg**	**07 49 58.4**	**-0.5**
MQZ	**McQueen's Vall**	**1.46**	**212**		**Pn**	**07 49 37.4**	**-1.0**
MQZ	**McQueen's Vall**	**1.46**	**212**	P	**Pn**	**07 49 37.5**	**-0.8**
MQZ				S	**Sn**	**07 49 56.5**	**-0.5**
PLWZ	**Palliser**	**1.46**	**52**		**Pb**	**07 49 39.3**	**-0.3**
PLWZ	**Palliser**	**1.46**	**52**	P	**Pg**	**07 49 39.6**	**-1.4**
OXZ	**Oxford**	**1.50**	**235**		**Pn**	**07 49 38.0**	**-1.0**
OXZ	**Oxford**	**1.50**	**235**	P	**Pn**	**07 49 38.3**	**-0.7**
AKCZ	**Akaroa Harbour**	**1.52**	**203**	P	**Pn**	**07 49 39.2**	**0.0**
TKNZ	**Takaka Hill**	**1.55**	**338**		**Pg**	**07 49 41.2**	**-1.5**
TKNZ	**Takaka Hill**	**1.55**	**338**	P	**Pg**	**07 49 41.4**	**-1.3**
TKNZ				S	**Sg**	**07 50 02.0**	**-0.8**
MSWZ	**Moikau Station**	**1.56**	**48**		**Pb**	**07 49 40.5**	**-0.7**
MSWZ	**Moikau Station**	**1.56**	**48**	P	**Pb**	**07 49 40.9**	**-0.4**
DSZ	**Denniston Nort**	**1.60**	**296**		**Pn**	**07 49 40.9**	**+0.5**
DSZ	**Denniston Nort**	**1.60**	**296**	P	**Pn**	**07 49 40.9**	**+0.5**
DSZ				S	**Sb**	**07 50 01.8**	**-0.1**
DUWZ	**D'Urville Isla**	**1.68**	**5**	P	**Pb**	**07 49 42.9**	**-0.4**
PAWZ	**Paruwai Farm**	**1.68**	**50**	P	**Pb**	**07 49 42.3**	**-1.0**
CAW	**Cannon Point**	**1.70**	**37**	P	**Pb**	**07 49 43.0**	**-0.7**
INZ	**Inchbonnie**	**1.70**	**261**		**Pn**	**07 49 41.4**	**-0.3**
INZ	**Inchbonnie**	**1.70**	**261**	P	**Pn**	**07 49 41.5**	**-0.2**
RACZ	**Rakaia**	**1.70**	**222**	P	**Pn**	**07 49 41.2**	**-0.6**
TRWZ	**Traveller**	**1.82**	**54**	P	**Pn**	**07 49 44.3**	**+0.9**
KIW	**Kapiti Island**	**1.84**	**29**	P	**Pb**	**07 49 45.2**	**-0.9**
MTW	**Mount Morrison**	**1.87**	**46**	P	**Pn**	**07 49 44.8**	**+0.7**
QRZ	**Quartz Range**	**1.87**	**331**		**Pb**	**07 49 45.3**	**-1.3**
QRZ	**Quartz Range**	**1.87**	**331**	P	**Pb**	**07 49 46.4**	**-0.2**
QRZ	**Quartz Range**	**1.87**	**331**	P	**Pb**	**07 49 45.9**	**-0.7**
QRZ				S	**Sb**	**07 50 09.8**	**+0.1**
MHCZ	**Mount Hutt**	**1.90**	**235**	P	**Pn**	**07 49 43.7**	**-0.8**
OGWZ	**Otaki Gorge**	**1.98**	**34**	P	**Pb**	**07 49 46.8**	**-1.7**
OGWZ				S	**Sn**	**07 50 10.8**	**+0.8**
WACZ	**Wakanui South**	**2.01**	**222**	P	**Pn**	**07 49 45.4**	**-0.6**
HOWZ	**Holdsworth Sta**	**2.07**	**41**	P	**Pn**	**07 49 47.6**	**+0.7**
TMWZ	**Te Maipa**	**2.12**	**51**	P	**Pn**	**07 49 48.2**	**+0.6**
WVZ	**Waitaha Valley**	**2.28**	**254**	P	**Pn**	**07 49 49.8**	**+0.2**
MRZ	**Mangatainoka R**	**2.29**	**38**		**Pn**	**07 49 50.5**	**+0.7**
MRZ	**Mangatainoka R**	**2.29**	**38**	P	**Pn**	**07 49 50.6**	**+0.7**
MRZ				S	**Sn**	**07 50 18.4**	**+0.9**
RPZ	**Rata Peaks**	**2.31**	**237**		**Pn**	**07 49 49.6**	**-0.6**
RPZ	**Rata Peaks**	**2.31**	**237**	Pn	**Pn**	**07 49 49.4**	**-0.8**
	94nm,0.3s,baz=65,slow=3.6,SNR=287						
RPZ				Sn	**Sn**	**07 50 16.7**	**-1.5**
	70nm,0.3s,baz=30,slow=20,SNR=16						
	206nm,0.3s						
RPZ	**Rata Peaks**	**2.31**	**237**	P	**Pn**	**07 49 49.5**	**-0.6**
RPZ	**Rata Peaks**	**2.31**	**237**	P	**Pn**	**07 49 49.6**	**-0.6**
RPZ				S	**Sn**	**07 50 16.4**	**-1.8**
TIWZ	**Tintock**	**2.35**	**44**	P	**Pn**	**07 49 51.3**	**+0.6**
ARCZ	**Arundel**	**2.37**	**231**	P	**Pn**	**07 49 50.2**	**-0.8**
PRWZ	**Pori Road**	**2.56**	**42**	P	**Pn**	**07 49 54.1**	**+0.6**
OHWZ	**Ohakea**	**2.57**	**28**	P	**Pb**	**07 49 56.2**	**-2.2**
POWZ	**Post Office Ro**	**2.59**	**37**	P	**Pn**	**07 49 54.9**	**+0.9**
BFZ	**Birch Farm**	**2.61**	**47**		**Pn**	**07 49 54.6**	**+0.3**
BFZ	**Birch Farm**	**2.61**	**47**	P	**Pn**	**07 49 54.5**	**+0.3**
BFZ	**Birch Farm**	**2.61**	**47**	P	**Pn**	**07 49 54.3**	**+0.1**
GCSZ	**Gaunt Creek Bo**	**2.63**	**250**	P	**Pn**	**07 49 55.2**	**+0.7**
TMZ	**Timaru**	**2.75**	**225**	P	**Pn**	**07 49 55.5**	**-0.6**
DVHZ	**Dannevirke**	**2.85**	**41**	P	**Pn**	**07 49 57.5**	**-0.1**
WAZ	**Wanganui**	**2.88**	**20**	P	**Pb**	**07 50 01.0**	**-2.8**
ANWZ	**Angora Road**	**2.89**	**47**	P	**Pn**	**07 49 58.4**	**+0.3**
TSZ	**Takapari Road**	**2.95**	**36**	P	**Pn**	**07 49 59.3**	**+0.4**
FOZ	**Fox Glacier**	**3.05**	**248**		**Pn**	**07 50 00.8**	**+0.6**
FOZ	**Fox Glacier**	**3.05**	**248**	P	**Pn**	**07 50 00.7**	**+0.4**
LREZ	**Lake Rotokare**	**3.06**	**10**	P	**Pb**	**07 50 03.9**	**-2.9**
NMEZ	**Namu Road**	**3.06**	**2**	P	**Pb**	**07 50 04.2**	**-2.7**
PRHZ	**Porangahau**	**3.11**	**46**	P	**Pn**	**07 50 01.1**	**0.0**
PREZ	**Palmer Road**	**3.15**	**6**	P	**Pb**	**07 50 05.7**	**-2.7**
WPHZ	**Waipukurau**	**3.16**	**41**	P	**Pn**	**07 50 02.1**	**+0.2**
PNHZ	**Pukenui**	**3.17**	**37**	P	**Pn**	**07 50 02.2**	**+0.2**
KHEZ	**Kahui Hut**	**3.19**	**4**	P	**Pn**	**07 50 05.1**	**+2.9**
KHEZ	**Kahui Hut**	**3.19**	**4**	P	**Pb**	**07 50 05.5**	**-3.5**
LBZ	**Lake Benmore**	**3.21**	**232**		**Pn**	**07 50 02.3**	**-0.2**
LBZ	**Lake Benmore**	**3.21**	**232**	P	**Pn**	**07 50 02.2**	**-0.2**
NBEZ	**Newall Road No**	**3.21**	**2**	P	**Pb**	**07 50 05.9**	**-3.4**
NEZ	**North Egmont**	**3.21**	**5**	P	**Pb**	**07 50 06.8**	**-2.7**
DREZ	**Durham Road**	**3.30**	**7**	P	**Pb**	**07 50 07.4**	**-3.6**
MTVZ	**Mangateitei**	**3.36**	**24**	P	**Pn**	**07 50 07.2**	**+2.5**
ODZ	**Otahua Downs**	**3.40**	**220**		**Pn**	**07 50 04.2**	**-0.9**
ODZ	**Otahua Downs**	**3.40**	**220**	P	**Pn**	**07 50 04.4**	**-0.7**
ODZ	**Otahua Downs**	**3.40**	**220**	S	**Sn**	**07 50 45.3**	**+0.3**
ODZ	**Otahua Downs**	**3.40**	**220**	P	**Pn**	**07 50 04.4**	**-0.7**
PXZ	**Pawanui**	**3.40**	**45**	P	**Pn**	**07 50 05.2**	**+0.1**
PKVZ	**Pokaka**	**3.41**	**22**	P	**Pn**	**07 50 07.7**	**+2.4**
MOVZ	**Moawhango**	**3.43**	**27**	P	**Pn**	**07 50 06.9**	**+1.3**
VRZ	**Vera Road**	**3.44**	**14**	P	**Pn**	**07 50 08.4**	**+2.8**
TRVZ	**Turoa**	**3.46**	**24**	P	**Pn**	**07 50 08.4**	**+2.2**
KRHZ	**Kereru**	**3.47**	**36**	P	**Pn**	**07 50 06.1**	**0.0**
WHVZ	**Whangaehu Hut**	**3.49**	**25**	P	**Pn**	**07 50 08.6**	**+2.1**
MAVZ	**Matarangi**	**3.50**	**24**	P	**Pn**	**07 50 09.1**	**+2.4**
FWVZ	**Far West T-bar**	**3.50**	**24**	P	**Pn**	**07 50 08.8**	**+2.1**
TUVZ	**Tukino**	**3.52**	**25**	P	**Pn**	**07 50 08.8**	**+1.9**
COVZ	**Chateau Observ**	**3.55**	**24**	P	**Pn**	**07 50 09.4**	**+2.1**
KAHZ	**Kahuranaki**	**3.59**	**43**	P	**Pn**	**07 50 07.6**	**-0.1**
NGZ	**Ngauruhoe**	**3.59**	**24**	P	**Pn**	**07 50 10.0**	**+2.1**
SNVZ	**South Ngauruho**	**3.59**	**25**	P	**Pn**	**07 50 09.8**	**+1.9**
OTVZ	**Oturere**	**3.62**	**25**	P	**Pn**	**07 50 10.1**	**+1.8**
TWVZ	**Taurewa**	**3.64**	**22**	P	**Pn**	**07 50 10.5**	**+1.9**
WTVZ	**West Tongariro**	**3.64**	**24**	P	**Pn**	**07 50 10.5**	**+1.9**
ETVZ	**East Tongariro**	**3.66**	**25**	P	**Pn**	**07 50 10.8**	**+1.9**
MCHZ	**McNeill Hill**	**3.77**	**38**	P	**Pn**	**07 50 10.2**	**0.0**
BKZ	**Black Stump Fm**	**3.92**	**33**		**Pn**	**07 50 12.3**	**0.0**
BKZ	**Black Stump Fm**	**3.92**	**33**	P	**Pn**	**07 50 12.4**	**+0.1**
JCZ	**Jackson Bay**	**3.94**	**244**	P	**Pn**	**07 50 12.5**	**-0.1**
HIZ	**Hauiti**	**4.05**	**13**		**Pn**	**07 50 16.5**	**+2.4**
HIZ	**Hauiti**	**4.05**	**13**	P	**Pn**	**07 50 17.1**	**+3.0**
WKZ	**Wanaka**	**4.14**	**234**		**Pn**	**07 50 13.7**	**-1.7**
RTZ	**Ruatahuna**	**4.59**	**34**	Pn	**Pn**	**07 50 20.9**	**-0.6**
TOZ	**Tahuroa Road**	**4.93**	**17**		**Pn**	**07 50 26.8**	**+0.6**
URZ	**Urewera**	**4.94**	**33**	Pn	**Pn**	**07 50 24.7**	**-1.6**
	2.7nm,0.3s,baz=328,slow=9.7,SNR=20						
URZ				Sn	**Sn**	**07 51 20.1**	**-3.0**
	5.4nm,0.3s,baz=146,slow=18,SNR=3.6						
	5.7nm,0.3s						
URZ	**Urewera**	**4.94**	**33**	P	**Pn**	**07 50 26.6**	**+0.3**
MLZ	**Mavora Lakes**	**4.97**	**233**		**Pn**	**07 50 25.9**	**-0.8**
SYZ	**Scrubby Hill**	**5.22**	**217**	P	**Pn**	**07 50 29.6**	**-0.4**
WHZ	**Wether Hill Ro**	**5.38**	**229**	Pn	**Pn**	**07 50 30.4**	**-1.8**
DCZ	**Deep Cove**	**5.60**	**236**	Pn	**Pn**	**07 50 34.5**	**-0.8**
KUZ	**Kuaotunu**	**5.93**	**16**	P	**Pn**	**07 50 41.5**	**+1.7**
MXZ	**Matakaoa Point**	**6.04**	**37**	Pn	**Pn**	**07 50 41.2**	**-0.1**
MXZ	**Matakaoa Point**	**6.04**	**37**	P	**Pn**	**07 50 42.0**	**+0.7**
CTZ	**Chatham Island**	**7.18**	**103**	Pn	**Pn**	**07 50 57.2**	**+0.1**
CTZ	**Chatham Island**	**7.18**	**103**	P	**Pn**	**07 50 56.7**	**-0.3**
OUZ	**Omahuta**	**7.25**	**359**	P	**Pn**	**07 51 01.1**	**+3.2**
AS31	**Alice Springs**	**37.85**	**287**	P	**P**	**07 56 29.6**	**+0.9**
ASAR	**Alice Springs**	**37.85**	**287**	P	**P**	**07 56 28.1**	**-0.6**
ASAR	**Alice Springs**	**37.85**	**287**	P	**P**	**07 56 28.5**	**-0.3**
	0.3nm,0.6s,baz=124,slow=7.6,SNR=6.8						
ASAR				PcP	**PcP**	**07 58 44.5**	**-0.5**
	0.6nm,0.7s,baz=128,slow=3.8,SNR=7.2						
	0.3nm,0.6s						
WRA	**Warrumunga Arr**	**39.99**	**292**	P	**P**	**07 56 44.9**	**-1.8**
	0.3nm,0.4s,baz=132,slow=7.3,SNR=5.3						
	0.3nm,0.4s						
WB0	**Warrumunga Arr**	**40.08**	**292**	P	**P**	**07 56 46.8**	**-0.6**
WB0				IAmb	IAmb	07 57 23.5	
	comp=Z,13nm,1.5s						
PMG	**Port Moresby**	**40.34**	**317**	P	**P**	**07 56 49.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**47.32**	**286**	P	**P**	**07 57 44.3**	**-1.4**
FITZ				IAmb	IAmb	07 58 07.3	
	comp=Z,1.1nm,1.1s						
QSPA	**South Pole Qui**	**47.65**	**180**	P	**P**	**07 57 47.1**	**-0.8**
QSPA				IAmb	IAmb	07 58 30.8	
	comp=Z,8.9nm,1.3s						
PZH	**PanZhiHua**	**95.36**	**301**	P	**P**	**08 02 38.5**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC	**Hu-ho-hao-te**	**100.15**	**317**	*e*P	**Pdif**	**08 02 58.3**	**+0.9**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
YKA	**Yellowknife Ar**	**119.20**	**30**	PKP	**PKPdf**	**08 07 59.6**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=239,slow=1.9,SNR=10						
ULM	**Lac du Bonnet**	**121.28**	**49**	PKP	**PKiKP**	**08 08 07.2**	**+2.9**
	comp=Z,1.7nm,0.6s,baz=207,slow=2.3,SNR=3.1						
KURBB	**Kurchatov Arra**	**124.14**	**310**	PKP	**PKiKP**	**08 08 11.7**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=108,slow=3.0,SNR=2.7						
KBZ	**Khabaz**	**144.49**	**289**	PKP	**PKPab**	**08 08 46.8**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=90,slow=9.1,SNR=3.6						
ARCES	**ARCESS Array B**	**148.32**	**339**	PKPbc	**PKPbc**	**08 08 56.3**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=39,slow=1.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**149.97**	**196**	PKPbc	**PKPbc**	**08 09 03.4**	**+0.7**
	comp=Z,55nm,0.3s,baz=147,slow=1.4,SNR=3.9						
BRTR	**Keskin Array B**	**149.98**	**278**	PKPbc	**PKPbc**	**08 09 01.5**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=90,slow=2.9,SNR=5.6						
FINES	**FINESS Array B**	**152.91**	**326**	PKPbc	**PKPbc**	**08 09 08.0**	**0.0**
	comp=Z,1.1nm,0.8s,baz=108,slow=4.5,SNR=1.9						

IDC 19 07:55:07.9±1.1,4°99N×77°56W,h0km,mb3.4/3, mbtmp3.6/4,ML2.4/1,MS3.3/5,Error ellipse: s-maj=31.5km s-min=26.1km az=59.0

RSNC 19 07:55:12.1±0.0,5°N±1°×7°8W±°,h23km±1km,M3.0,mB5.8, ML2.8,Mw(mB)5.4

ISC 19 07:55:10.7±3.0,5°11N±0.03×77°63W±0.04,h17km±19km, n47,σ1°90/80,mb3.6/4,MS3.3/3,Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	**Pizarro, Choco**	**0.30**	**118**	P	**Pb**	**07 55 18.4**	**+0.8**
PIZC				S	**Sb**	**07 55 23.1**	**+0.8**
MALC	**Bahia Malaga**	**1.12**	**165**	P	**Pb**	**07 55 31.9**	**+0.2**
MALC				S	**Sn**	**07 55 47.1**	**+0.4**
SOLC	**Bahia Solano**	**1.14**	**11**	P	**Pn**	**07 55 30.7**	**-1.1**
SOLC				S	**Sb**	**07 55 44.3**	**-2.0**
YOTC	**Yotoco, Valle**	**1.69**	**131**	P	**Pn**	**07 55 38.3**	**-1.3**
YOTC				S	**Sn**	**07 55 57.3**	**-3.7**
CBOC	**Ciudad Bolivar**	**1.78**	**65**	P	**Pn**	**07 55 39.1**	**-1.7**
CBOC				S	**Sn**	**07 55 59.2**	**-3.8**
NIZA	**Niza - Manizal**	**2.15**	**91**	P	**Pn**	**07 55 46.0**	**0.0**
NIZA				S	**Sn**	**07 56 12.3**	**-0.1**
GR1C	**Gorgona, Isla**	**2.16**	**194**	P	**Pn**	**07 55 46.6**	**+0.7**
GR1C				S	**Sn**	**07 56 09.7**	**-2.5**
GUY2C	**Guyana, Caldas**	**2.26**	**87**	P	**Pn**	**07 55 47.2**	**-0.4**
GUY2C				S	**Sn**	**07 56 14.5**	**-0.8**
ANIL	**Santa Ana**	**2.30**	**105**	P	**Pn**	**07 55 47.9**	**-0.2**
ANIL				S	**Sn**	**07 56 15.3**	**-0.8**
MEDEC	**Medelln, Ant**	**2.34**	**60**	P	**Pn**	**07 55 47.1**	**-1.4**
MEDEC				S	**Sn**	**07 56 15.9**	**-1.1**
POPC	**Popayan, Colom**	**2.72**	**160**	P	**Pn**	**07 55 54.3**	**+0.5**
POPC				S	**Sn**	**07 56 24.1**	**-2.3**
NORC	**Norcasia**	**2.78**	**80**	P	**Pn**	**07 55 55.5**	**+1.0**
NORC				S	**Sn**	**07 56 27.2**	**-0.6**
APAC	**Apartado, Choc**	**2.96**	**20**	P	**Pn**	**07 55 56.9**	**-0.1**
APAC				S	**Sn**	**07 56 34.7**	**+2.5**
PRAC	**Prado**	**3.06**	**117**	P	**Pn**	**07 55 59.5**	**+1.1**
PRAC				S	**Sn**	**07 56 33.5**	**-1.2**
BBAC	**Balboa, Cauca**	**3.09**	**173**	P	**Pn**	**07 55 59.0**	**+0.1**
BBAC				S	**Sn**	**07 56 28.6**	**-6.9**
BETC	**Betania**	**3.25**	**138**	P	**Pn**	**07 56 02.8**	**+1.9**
BETC				S	**Sn**	**07 56 39.1**	**-0.2**
ROSC	**El Rosal**	**3.31**	**94**	Pn	**Pn**	**07 56 04.5**	**+2.5**
	7.2nm,0.3s,baz=308,slow=12,SNR=13						
ROSC	**El Rosal**	**3.31**	**94**	P	**Pb**	**07 56 06.1**	**-3.0**
PTBC	**PUERTO BERRIO,**	**3.46**	**66**	P	**Pn**	**07 56 05.1**	**+1.3**
PTBC				S	**Sn**	**07 56 45.0**	**+0.5**
CRUC	**La Cruz**	**3.58**	**169**	P	**Pn**	**07 56 07.5**	**+1.8**
CRUC				S	**Sn**	**07 56 48.6**	**+0.8**
CVER	**Cruz Verde, Cu**	**3.59**	**99**	P	**Pn**	**07 56 08.4**	**+2.4**
GARC	**Garzon, Huila**	**3.60**	**144**	P	**Pn**	**07 56 07.7**	**+1.8**
GARC				S	**Sn**	**07 56 48.9**	**+0.8**
ZARC	**Zaragoza, Cauc**	**3.63**	**49**	P	**Pn**	**07 56 08.9**	**+2.7**
ZARC				S	**Sn**	**07 56 49.5**	**+0.8**
URMC	**La Uribe, Meta**	**3.73**	**120**	P	**Pn**	**07 56 08.7**	**+1.1**
URMC				S	**Sn**	**07 56 50.1**	**-1.1**
AZU	**Azuero**	**3.75**	**316**	P	**Pn**	**07 56 07.9**	**+0.2**
AZU				S	**Sn**	**07 56 50.3**	**-1.2**
GCUF	**Volcan Galeras**	**3.86**	**176**	P	**Pn**	**07 56 11.2**	**+1.4**
GCUF				S	**Sn**	**07 56 54.1**	**-1.0**
CACAO	**El Cacao, Vera**	**3.91**	**305**	P	**Pn**	**07 56 10.1**	**+0.1**
CACAO				S	**Sn**	**07 56 54.0**	**-1.5**
CHIC	**Chingaza**	**3.91**	**97**	P	**Pn**	**07 56 12.8**	**+2.4**
FLOC	**Florencia**	**4.01**	**151**	P	**Pn**	**07 56 13.5**	**+2.0**
FLOC				S	**Sn**	**07 56 59.3**	**+1.1**
RUSC	**La Rusia**	**4.59**	**80**	P	**Pn**	**07 56 21.8**	**+2.0**
RUSC				S	**Sn**	**07 57 14.7**	**+1.7**
BCIP	**Isla Barro Col**	**4.59**	**332**	P	**Pn**	**07 56 19.1**	**-0.3**
BCIP				S	**Sn**	**07 57 12.5**	**+0.1**
BARC	**Barichara**	**4.66**	**71**	P	**Pn**	**07 56 22.0**	**+1.5**
BARC				S	**Sn**	**07 57 17.3**	**+2.9**
MACC	**Macarena, Meta**	**4.78**	**128**	P	**Pn**	**07 56 22.8**	**+0.8**
MACC				S	**Sn**	**07 57 17.5**	**+0.4**
PAC1	**Pacto, Paraso**	**4.95**	**194**	P	**Pn**	**07 56 27.0**	**+2.6**
PAC1				S	**Sn**	**07 57 16.5**	**-4.8**
OCAC	**Ocana**	**5.29**	**54**	P	**Pn**	**07 56 32.1**	**+3.0**
OCAC				S	**Sn**	**07 57 27.2**	**-2.6**
SJCC	**San Jacinto, C**	**5.34**	**27**	P	**Pn**	**07 56 32.1**	**+2.3**
SJCC				S	**Sn**	**07 57 28.5**	**-2.5**
PAMC	**Pamplona, Colo**	**5.38**	**65**	P	**Pn**	**07 56 31.8**	**+1.2**
PAMC				S	**Sn**	**07 57 31.0**	**-1.4**
GUVC	**San Jose del G**	**5.60**	**117**	P	**Pn**	**07 56 33.9**	**+0.7**
GUVC				S	**Sn**	**07 57 34.6**	**-2.6**
SDV	**Santo Domingo**	**7.89**	**61**	Pn	**Pn**	**07 57 06.2**	**+1.3**
	0.6nm,0.3s,baz=221,slow=15,SNR=6.9						
SDV				Sn	**Sn**	**07 58 34.9**	**+0.9**
	0.5nm,0.3s,baz=322,slow=17,SNR=1.2						
SDV				LR	LR	08 00 32.3	
	comp=Z,73nm,19.1s,baz=244,slow=41						
	6.1nm,0.7s						
JTS	**Las Juntas de**	**8.90**	**306**	LR	LR	08 00 35.0	
	comp=Z,154nm,19.2s,baz=111,slow=36						
LPAZ	**La Paz**	**23.24**	**156**	P	**P**	**08 00 16.6**	**-1.4**
	1.1nm,0.8s,baz=340,slow=14,SNR=5.2						
LPAZ				LR	LR	08 09 35.5	
	comp=Z,40nm,18.7s,baz=44,slow=38						
	1.1nm,0.8s						
PDAR	**Pinedale Array**	**46.98**	**328**	P	**P**	**08 03 43.3**	**+2.1**
	0.3nm,0.6s,baz=144,slow=9.2,SNR=4.4						
PDAR				LR	LR	08 26 13.2	
	comp=Z,34nm,20.8s,baz=308,slow=40						
	0.3nm,0.6s						
YKA	**Yellowknife Ar**	**63.40**	**342**	P	**P**	**08 05 39.0**	**0.0**
	0.4nm,0.7s,baz=137,slow=6.4,SNR=12						
	0.4nm,0.7s						
PMSA	**Palmer Station**	**70.42**	**174**	LR	LR	08 37 56.3	
	comp=Z,77nm,18.1s,baz=222,slow=36						
TORD	**Torodi Ar. Bea**	**78.48**	**78**	P	**P**	**08 07 10.7**	**-0.8**
	0.7nm,0.9s,baz=290,slow=5.9						
ASAR	**Alice Springs**	**144.46**	**236**	PKP	**PKPab**	**08 14 45.6**	**+0.3**
	1.8nm,0.8s,baz=112,slow=3.6,SNR=19						
WRA	**Warramunga Arr**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB				Sn	Sn	08 29 09.8	-1.0
	baz=66,slow=24,SNR=5.8						
KURBB				Lg	Lg	08 29 57.0	
	baz=64,slow=31,SNR=4.4						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**7.97**	**253**	⇓Pn	**Pn**	**08 27 39.9**	**-0.1**
	1.5nm,0.8s						
KURBB				⇓Sn	**Sn**	**08 29 11.0**	**+0.2**
	5.6nm,0.7s						
KURBB				⇑Lg	Lg	08 29 56.8	
	9.3nm,1.0s						
MKAR	**Makanchi Array**	**8.63**	**221**	Pn	**Pn**	**08 27 49.2**	**+0.2**
	0.1nm,0.3s,baz=38,slow=17,SNR=4.3						
	0.1nm,0.3s						

NNC 19 08:28:01.9±3.4, 40°.94N×83°.59E, h0km, mb3.5, mpv3.1, 5C-2D, Error ellipse: s-maj=27.5km s-min=15.7km az=170.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.87**	**309**	⇑Pg	Pb	08 29 12.8	+1.7
	6.5nm,0.8s						
PDGK				⇓Lg	Lg	08 30 05.5	
	51nm,0.7s						
MK31	**Makanchi Array**	**5.93**	**351**	⇓Pn	Pn	08 29 30.9	-0.1
	1.0nm,0.8s,baz=227,slow=10,SNR=4.1						
MK31				⇑Pg	Pb	08 29 50.7	+4.6
	0.7nm,0.4s,baz=172,slow=16,SNR=7.5						
MK31				⇑Lg	Lg	08 31 12.7	
	5.7nm,0.7s,baz=171,slow=28,SNR=4.2						
MAKZ	**Makanchi**	**5.98**	**349**	⇑Pg	Pb	08 29 49.5	+2.5
	1.1nm,0.5s						
MAKZ				⇑Lg	Lg	08 31 09.6	
	8.2nm,1.1s						

*IDC **19** 08:31:43.6±2.7, 35°.73N×139°.42E, h98km±13km, mb3.1/3, mbtmp3.6/4, Error ellipse: s-maj=67.4km s-min=9.4km az=65.0*
*JMA **19** 08:31:44.1±0.1, 35°.9N±0°.3×139°.6E±0°.5, h81km±1km, MV2.9/39, EASTERN SAITAMA PREF*
ISC 19 08:31:42.9±1.0, 35°.83N±0°.04×139°.61E±0°.05, h88km±8km, n25, σ1°.09/31, mb3.6/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRY	**Ryogami san**	**0.60**	**288**	*i* P	**Pn**	**08 31 59.2**	**+0.9**
JRY				S	**Sn**	**08 32 10.5**	**+0.7**
JAG	**Ashikaga**	**0.61**	**348**	*i* P	**Pn**	**08 31 58.8**	**+0.4**
JAG				S	**Sn**	**08 32 09.3**	**-0.6**
JOD2	**Odawara 2**	**0.71**	**217**	*i* P	**Pn**	**08 31 59.6**	**+0.3**
JOD2				S	**Sn**	**08 32 11.0**	**-0.5**
JYN	**Shimob**	**0.93**	**249**	*i* P	**Pn**	**08 32 02.3**	**+0.7**
JYN				S	**Sn**	**08 32 15.9**	**+0.2**
JKT	**Katashina**	**0.98**	**343**	*i* P	**Pn**	**08 32 02.7**	**+0.4**
JKT				S	**Sn**	**08 32 16.2**	**-0.6**
JIM2	**Oshima 3**	**1.12**	**187**	*e*P	**Pn**	**08 32 04.7**	**+0.8**
JIM2				S	**Sn**	**08 32 19.6**	**0.0**
MJAR	**Matsushiro Arr**	**1.33**	**303**	P	**Pn**	**08 32 06.4**	**0.0**
	12nm,0.3s,baz=128,slow=9.7,SNR=39						
MJAR				S	**Sn**	**08 32 24.0**	**-0.2**
	12nm,0.5s,baz=70,slow=35,SNR=8.2						
MAJO	**Matsushiro**	**1.34**	**303**	P	**Pn**	**08 32 07.1**	**+0.6**
MAT	**Matsushiro**	**1.34**	**303**	P	**Pn**	**08 32 06.9**	**+0.4**
MAT				*e*S	**Sn**	**08 32 24.7**	**+0.4**
BSO1	**Boso 1**	**1.62**	**136**	P	**Pn**	**08 32 10.5**	**+0.9**
JGF	**Kuroka**	**1.84**	**264**	P	**Pn**	**08 32 14.7**	**+1.7**
JGF	**Kuroka**	**1.84**	**264**	S	**Sn**	**08 32 37.2**	**+1.3**
INU	**Inuyama**	**2.16**	**258**	P	**Pn**	**08 32 18.8**	**+1.7**
INU	**Inuyama**	**2.16**	**258**	S	**Sn**	**08 32 44.3**	**+1.0**
JMM	**Marumori**	**2.24**	**25**	P	**Pn**	**08 32 20.3**	**+2.1**
JMM	**Marumori**	**2.24**	**25**	S	**Sn**	**08 32 46.5**	**+1.3**
JSD	**Sado**	**2.45**	**334**	P	**Pn**	**08 32 21.6**	**+0.6**
JHJ	**Hachijo jima 2**	**2.71**	**177**	P	**Pn**	**08 32 26.2**	**+1.8**
	198nm,0.3s,baz=45,slow=2.6,SNR=16						
JHJ				S	**Sn**	**08 32 55.8**	**-0.6**
	40nm,0.3s,baz=240,slow=20,SNR=1.1						
JHJ2	**Mitsune**	**2.72**	**176**	P	**Pn**	**08 32 26.2**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**28.85**	**116**	T	T	09 07 29.5	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**28.86**	**117**	T	T	09 07 28.9	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**28.87**	**116**	T	T	09 07 31.1	
	baz=308						
KURBB	**Kurchatov Arra**	**45.60**	**309**	P	**P**	**08 39 53.8**	**-0.2**
	0.2nm,0.4s,baz=81,slow=7.3,SNR=2.8						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**55.69**	**186**	P	**P**	**08 41 08.8**	**-1.4**
	0.4nm,0.5s,baz=9.4,slow=6.9,SNR=6.6						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**59.42**	**186**	P	**P**	**08 41 34.5**	**-1.8**
	0.4nm,0.8s,baz=8.5,slow=7.3,SNR=4.2						
	0.4nm,0.8s						

*ASRS **19** 08:40:10.0±0.7, 54°.05N×87°.39E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 08:40:09.2±3.5, 54°.02N×87°.83E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=26.8km s-min=17.4km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**269**	I	I	08 51 25.0	
	baz=84,slow=335,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.78**	**269**	Pg	Pn	08 40 41.8	+0.5
	0.8nm,0.3s,baz=86,slow=15,SNR=5.0						
ZALV				Lg	Lg	08 41 05.5	
	2.6nm,0.3s,baz=87,slow=25,SNR=8.8						
KURBB	**Kurchatov Arra**	**6.64**	**243**	Pn	Pn	08 41 49.1	+1.2
	baz=55,slow=14,SNR=3.1						
KURBB				Sn	Sn	08 43 03.5	-0.7
	baz=162,slow=18,SNR=1.4						
KURBB				Lg	Lg	08 43 34.8	
	0.1nm,0.3s,baz=250,slow=9.0,SNR=7.3						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**8.05**	**208**	Pn	Pn	08 42 08.2	+0.9
	baz=27,slow=16,SNR=1.9						
MKAR				Sn	Sn	08 43 38.0	-1.0
	0.1nm,0.3s,baz=118,slow=35,SNR=1.6						
MKAR				Lg	Lg	08 44 23.9	
	0.1nm,0.3s,baz=275,slow=36,SNR=1.8						
	0.2nm,0.6s						

*IDC **19** 08:39:59.7±6.4, 10°.38N×89°.92W, h0km, mb3.0/3, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=224.8km s-min=38.5km az=34.0*
*SNET **19** 08:40:24.7±1.1, 12°.92N×90°.82W, h15km±14km, ML3.5*
*CATAC **19** 08:40:26.7±0.8, 13°.N±3°.×9°.1W±°, h15km±5km, M3.4/18, MLv3.4/18, Error ellipse: s-maj=7.3km s-min=4.7km az=22.2, confirmed*
ISC 19 08:40:25.6±1.4, 12°.86N±0°.08×90°.67W±0°.05, h10km, n53, σ0°.93/57, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**1.17**	**33**	S	**Sb**	**08 41 03.4**	**+0.2**
CEVE	**Cerro Verde**	**1.40**	**47**	*e*P	**Pn**	**08 40 50.7**	**-0.8**
CEVE				*e*S	**Sg**	**08 41 12.4**	**+1.5**
CEVE				IAML		08 41 22.2	
	comp=Z,595nm,0.4s						
CEVE	**Cerro Verde**	**1.40**	**47**	P	**Pn**	**08 40 50.9**	**-0.7**
CEVE	**Cerro Verde**	**1.40**	**47**	S	**Sg**	**08 41 11.2**	**+0.3**
JAYA	**Jayaque - finc**	**1.43**	**56**	*e*P	**Pn**	**08 40 50.9**	**-1.0**
JAYA				IAML		08 41 19.7	
	comp=Z,203nm,0.5s						
JAYA	**Jayaque - finc**	**1.43**	**56**	P	**Pn**	**08 40 50.8**	**-1.0**
JAYA	**Jayaque - finc**	**1.43**	**56**	S	**Sg**	**08 41 12.3**	**+0.5**
RTR	**El Retiro**	**1.44**	**44**	*e*P	**Pn**	**08 40 51.2**	**-0.7**
SNJE	**San Jose**	**1.44**	**46**	*e*P	**Pn**	**08 40 51.2**	**-0.8**
SNJE				*e*P	**Pn**	**08 40 51.3**	**-0.8**
SNJE				*e*S	**Sg**	**08 41 12.2**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.45**	**37**	*e*P	**Pn**	**08 40 50.6**	**-1.3**
SLOZ				*e*S	**Sn**	**08 41 11.1**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.45**	**37**	P	**Pn**	**08 40 51.3**	**-0.6**
SLOZ	**Alcaldia de Sa**	**1.45**	**37**	S	**Sn**	**08 41 10.1**	**-0.9**
CEDA	**San Andres**	**1.56**	**53**	P	**Pn**	**08 40 53.3**	**-0.1**
UNIC	**Universidad Ca**	**1.56**	**44**	*e*P	**Pn**	**08 40 52.4**	**-1.1**
UNIC				*e*S	**Sn**	**08 41 14.2**	**+0.3**
UNIC	**Universidad Ca**	**1.56**	**44**	P	**Pn**	**08 40 52.9**	**-0.7**
UNIC	**Universidad Ca**	**1.56**	**44**	S	**Sn**	**08 41 13.2**	**-0.7**
PMON	**Piamonte**	**1.57**	**57**	*e*P	**Pn**	**08 40 53.7**	**0.0**
PMON	**Piamonte**	**1.57**	**57**	P	**Pn**	**08 40 53.4**	**-0.3**
UEES	**Universidad Ev**	**1.64**	**59**	*e*P	**Pn**	**08 40 54.0**	**-0.5**
UEES	**Universidad Ev**	**1.64**	**59**	P	**Pn**	**08 40 54.2**	**-0.3**
LOMA	**Loma Larga**	**1.66**	**62**	*e*P	**Pn**	**08 40 54.1**	**-0.9**
LOMA	**Loma Larga**	**1.66**	**62**	P	**Pn**	**08 40 54.1**	**-0.9**
PAVA	**Las Pavas**	**1.89**	**63**	*e*P	**Pn**	**08 40 58.5**	**+0.4**
PAVA	**Las Pavas**	**1.89**	**63**	P	**Pn**	**08 40 58.0**	**-0.1**
COEG	**Centro de Oper**	**1.90**	**66**	*e*P	**Pn**	**08 40 57.9**	**-0.3**
COEG	**Centro de Oper**	**1.90**	**66**	P	**Pn**	**08 40 58.1**	**-0.1**
RTAL	**Retalhuleu**	**1.93**	**329**	S	**Sn**	**08 41 23.8**	**+1.0**
RTAL	**Retalhuleu**	**1.93**	**329**	P	**Pb**	**08 41 00.6**	**-0.3**
TECO	**Alcaldia de Te**	**1.96**	**70**	*e*P	**Pn**	**08 40 58.5**	**-0.6**
TECO	**Alcaldia de Te**	**1.96**	**70**	P	**Pn**	**08 40 58.6**	**-0.4**
TECO	**Alcaldia de Te**	**1.96**	**70**	S	**Sn**	**08 41 23.9**	**+0.2**
MTO3	**Montecristo**	**1.99**	**40**	*e*P	**Pn**	**08 40 59.4**	**-0.2**
MTO3	**Montecristo**	**1.99**	**40**	P	**Pn**	**08 40 59.4**	**-0.2**
MTO3	**Montecristo**	**1.99**	**40**	S	**Sn**	**08 41 25.6**	**+0.9**
UESV	**Universidad de**	**1.99**	**67**	P	**Pn**	**08 40 59.8**	**+0.3**
SCLA	**Alcaldia de Sa**	**2.07**	**66**	*e*P	**Pn**	**08 41 01.3**	**+0.8**
SCLA	**Alcaldia de Sa**	**2.07**	**66**	P	**Pn**	**08 41 01.1**	**+0.6**
ESQI	**Esquipulas**	**2.13**	**37**	*e*P	**Pn**	**08 41 01.3**	**-0.1**
ESQI	**Esquipulas**	**2.13**	**37**	P	**Pn**	**08 41 01.2**	**-0.2**
PQSS	**Presa 15 de Se**	**2.19**	**70**	P	**Pn**	**08 41 02.3**	**+0.1**
PACA	**Pacayal**	**2.37**	**75**	*e*P	**Pn**	**08 41 05.2**	**+0.5**
PACA				IAML		08 41 38.9	
	comp=Z,628nm,0.4s						
PACA	**Pacayal**	**2.37**	**75**	P	**Pn**	**08 41 05.7**	**+1.0**
RANC	**El Ranchito**	**2.39**	**76**	P	**Pn**	**08 41 05.9**	**+0.9**
CNRM	**Centro Naciona**	**2.51**	**76**	P	**Pg**	**08 41 15.8**	**+1.9**
CNCH	**Conchagua**	**2.80**	**81**	*e*P	**Pn**	**08 41 11.4**	**+0.8**
CNCH	**Conchagua**	**2.80**	**81**	P	**Pn**	**08 41 10.9**	**+0.3**
POTN	**Potosi Cosigui**	**3.09**	**87**	P	**Pn**	**08 41 15.1**	**+0.5**
CHOHN	**Orocuina**	**3.48**	**79**	P	**Pn**	**08 41 19.7**	**-0.3**
CCIG	**Comitan**	**3.68**	**338**	P	**Pn**	**08 41 25.7**	**+2.9**
RCVN	**Varillal2**	**4.42**	**80**	P	**Pn**	**08 41 33.3**	**+0.3**
TXAR	**Lajitas Array**	**20.36**	**326**	P	**P**	**08 45 03.1**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=147,slow=10,SNR=5.8						
	comp=Z,0.2nm,0.4s						
NVAR	**Mina Array Bea**	**35.36**	**321**	P	**P**	**08 47 18.2**	**-3.6**
	comp=Z,0.2nm,0.7s,baz=111,slow=5.8,SNR=3.7						
	comp=Z,0.2nm,0.7s						
YKA	**Yellowknife Ar**	**52.43**	**346**	P	P	08 49 33.2	-4.9
	comp=Z,0.2nm,0.7s,baz=150,slow=7.5,SNR=3.8						
	comp=Z,0.2nm,0.7s						

*RSNC **19** 08:42:58.4±0.0, 5°.N±1°.×7°.8W±°, h29km±2km, M2.6, ML2.5*
ISC 19 08:42:57.0±1.2, 5°.10N±0°.03×77°.67W±0°.03, h26km±10km, n32, σ1°.78/54, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	**Pizarro, Choco**	**0.34**	**114**	P	**Pb**	**08 43 04.5**	**-0.1**
PIZC				S	**Sb**	**08 43 09.6**	**-0.2**
MALC	**Bahia Malaga**	**1.13**	**163**	P	**Pn**	**08 43 17.9**	**+0.8**
MALC				S	**Sn**	**08 43 33.1**	**+1.3**
SOLC	**Bahia Solano**	**1.15**	**13**	P	**Pn**	**08 43 16.8**	**-0.5**
SOLC				S	**Sn**	**08 43 30.2**	**-1.9**
YOTC	**Yotoco, Valle**	**1.72**	**130**	P	**Pn**	**08 43 24.4**	**-1.0**
YOTC				S	**Sn**	**08 43 43.3**	**-3.3**
CBOC	**Ciudad Bolivar**	**1.81**	**65**	P	**Pn**	**08 43 25.2**	**-1.4**
CBOC				S	**Sn**	**08 43 45.4**	**-3.5**
PTAC	**Punta Ardita,**	**2.04**	**356**	P	**Pn**	**08 43 29.9**	**+0.3**
PTAC				S	**Sn**	**08 43 51.3**	**-2.8**
GR1C	**Gorgona, Isla**	**2.15**	**193**	P	**Pn**	**08 43 32.0**	**+0.9**
GR1C				S	**Sn**	**08 43 55.0**	**-1.9**
NIZA	**Niza - Manizal**	**2.19**	**91**	P	**Pn**	**08 43 31.9**	**0.0**
NIZA				S	**Sn**	**08 43 56.6**	**-1.7**
GUY2C	**Guyana, Caldas**	**2.29**	**87**	P	**Pn**	**08 43 33.8**	**+0.3**
GUY2C				S	**Sn**	**08 43 59.4**	**-1.8**
ANIL	**Santa Ana**	**2.34**	**105**	P	**Pn**	**08 43 33.9**	**-0.1**
ANIL				S	**Sn**	**08 44 01.2**	**-0.8**
POPC	**Popayan, Colom**	**2.73**	**159**	P	**Pn**	**08 43 40.3**	**+0.9**
POPC				S	**Sn**	**08 44 11.4**	**-0.3**
NORC	**Norcasia**	**2.82**	**81**	P	**Pn**	**08 43 41.8**	**+1.4**
NORC				S	**Sn**	**08 44 13.4**	**-0.3**
APAC	**Apartado, Choc**	**2.98**	**21**	P	**Pb**	**08 43 48.1**	**-1.3**
BBAC	**Balboa, Cauca**	**3.09**	**172**	P	**Pn**	**08 43 44.8**	**+0.5**
BBAC				S	**Sn**	**08 44 18.3**	**-2.2**
PRAC	**Prado**	**3.10**	**116**	P	**Pn**	**08 43 45.4**	**+1.2**
BETC	**Betania**	**3.27**	**137**	P	**Pn**	**08 43 48.9**	**+2.2**
ROSC	**El Rosal**	**3.34**	**94**	Pn	**Pn**	**08 43 51.1**	**+3.2**
	5.5nm,0.3s,baz=288,slow=20,SNR=9.2						
ROSC	**El Rosal**	**3.34**	**94**	P	**Pn**	**08 43 51.4**	**+3.5**
ROSC	**El Rosal**	**3.34**	**94**				
	12nm,0.4s						
UREC	**San Jos de Ur**	**3.38**	**39**	P	**Pn**	**08 43 51.2**	**+3.1**
UREC				S	**Sn**	**08 44 28.3**	**+1.0**
PTBC	**PUERTO BERRIO,**	**3.50**	**66**	P	**Pn**	**08 43 51.0**	**+1.3**
PTBC				S	**Sn**	**08 44 29.2**	**-1.1**
GARC	**Garzon, Huila**	**3.62**	**143**	P	**Pn**	**08 43 54.1**	**+2.5**
CVER	**Cruz Verde, Cu**	**3.63**	**99**	P	**Pn**	**08 43 54.4**	**+2.5**
ZARC	**Zaragoza, Cauc**	**3.66**	**49**	P	**Pn**	**08 43 54.6**	**+2.6**
ZARC				S	**Sn**	**08 44 34.7**	**+0.3**
AZU	**Azuero**	**3.72**	**316**	P	**Pn**	**08 43 53.8**	**+1.1**
AZU				S	**Sn**	**08 44 36.5**	**+0.7**
URMC	**La Uribe, Meta**	**3.76**	**119**	P	**Pn**	**08 43 54.5**	**+1.1**
URMC				S	**Sn**	**08 44 37.6**	**+0.7**
GCUF	**Volcan Galeras**	**3.87**	**175**	P	**Pn**	**08 43 57.0**	**+1.8**
GCUF				S	**Sn**	**08 44 39.8**	**-0.2**
CACAO	**El Cacao, Vera**	**3.88**	**305**	P	**Pn**	**08 43 55.8**	**+0.9**
CACAO				S	**Sn**	**08 44 40.0**	**+0.3**
FLOC	**Florencia**	**4.03**	**150**	P	**Pn**	**08 43 59.0**	**+1.9**
FLOC				S	**Sn**	**08 44 44.9**	**+1.4**
BCIP	**Isla Barro Col**	**4.58**	**332**	P	**Pn**	**08 44 05.5**	**+1.0**
BCIP				S	**Sn**	**08 44 58.5**	**+1.7**
RUSC	**La Rusia**	**4.63**	**80**	P	**Pn**	**08 44 07.6**	**+1.9**
PAC1	**Pacto, Paraso**	**4.94**	**193**	P	**Pn**	**08 44 09.4**	**-0.2**
PAC1				S	**Sn**	**08 45 02.2**	**-3.8**

*IDC **19** 08:55:40.2±2.0, 24°.10S×66°.96W, h159km±20km, mb3.7/1, mbtmp4.0/7, Error ellipse: s-maj=31.6km s-min=16.9km az=108.0*
*SJA **19** 08:55:40.5±0.7, 24°.10S×67°.08W, h195km±6km, ML3.9, MW3.7*
*NEIC **19** 08:55:42.7±1.3, 24°.07S±0°.07×67°.3W±0°.2, h196km±10km, mb4.6/10, Error ellipse: s-maj=20.9km s-min=10.2km az=100.0*
*GUC **19** 08:55:42.5±0.8, 24°.07S×67°.12W, h180km±11km, ML4.1*
*VAO **19** 08:55:46.2±0.9, 23°.85S×66°.69W, h188km, mb4.1*
ISC 19 08:55:41.3±0.6, 24°.07S±0°.04×67°.10W±0°.04, h185km±7km, n93, σ1°.27/109, mb4.4/5, 8C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.71**	**103**	⇓*i*P	**Pn**	**08 56 08.7**	**+0.3**
SALTA		**0.71**	**103**	*e*P	**Pn**	**08 56 08.7**	**+0.3**
SALTA				*e*P		08 56 08.8	
SALTA				*e*P		08 56 08.9	
AF01	**San Pedro de A**	**1.49**	**318**		**Pn**	**08 56 15.6**	**+1.6**
AF01	**San Pedro de A**	**1.49**	**318**	*e*P	**Pn**	**08 56 15.8**	**+1.9**
AF01	**San Pedro de A**	**1.49**	**318**	*e*P	**Pn**	**08 56 15.9**	**+1.9**
AF01				*e*S	Sn	08 56 32.1	-7.1
AF01				*e*S		08 56 41.7	
SLA	**San Lorenzo**	**1.59**	**114**	*e*P	**Pn**	**08 56 15.7**	**+0.9**
SLA	**San Lorenzo**	**1.59**	**114**	*e*P	**Pn**	**08 56 15.8**	**+0.9**
SLA				*e*S	Sn	08 56 35.8	-5.0
FSA	**Cafayete**	**2.27**	**154**	*e*P	**Pn**	**08 56 22.1**	**+0.2**
FSA				*e*S	**Sn**	**08 56 52.9**	**-0.8**
YJA	**Yavi**	**2.38**	**38**	*e*P	**Pn**	**08 56 24.4**	**+0.8**
YJA	**Yavi**	**2.38**	**38**	*e*P	**Pn**	**08 56 24.6**	**+1.1**
YJA				*e*S	**Sn**	**08 56 53.7**	**-2.6**
GO02	**Mina Guanaco**	**2.51**	**244**		**Pn**	**08 56 25.2**	**+0.4**
GO02	**Mina Guanaco**	**2.51**	**244**	⇑*i*P	**Pn**	**08 56 25.6**	**+0.8**
GO02				*e*S	**Sn**	**08 56 58.8**	**+0.1**
GO02				IAML		08 57 00.2	
	comp=N,846nm,0.2s						
GO02	**Mina Guanaco**	**2.51**	**244**	*e*P	**Pn**	**08 56 25.0**	**+0.2**
GO02				*e*S	**Sn**	**08 56 58.6**	**0.0**
PB06	**IPOC Station P**	**2.64**	**300**	⇑*i*P	**Pn**	**08 56 27.2**	**+1.1**
PB06				*e*S	**Sn**	**08 57 00.7**	**-0.4**
PB06	**IPOC Station P**	**2.64**	**300**	*e*P	**Pn**	**08 56 27.3**	**+1.1**
PB06				*e*S	**Sn**	**08 57 01.2**	**+0.1**
PB06				IAML		08 57 02.3	
	comp=Z,632nm,0.3s						
PB09	**IPOC Station P**	**3.00**	**318**		**Pn**	**08 56 31.8**	**+1.3**
PB09	**IPOC Station P**	**3.00**	**318**	⇑*i*P	**Pn**	**08 56 32.1**	**+1.7**
PB09				*e*S	**Sn**	**08 57 08.8**	**+0.1**
PB09				IAML		08 57 11.3	
	comp=N,268nm,0.4s						
PB09	**IPOC Station P**	**3.00**	**318**	*e*P	**Pn**	**08 56 32.1**	**+1.7**
PB09				*e*S	**Sn**	**08 57 09.8**	**+1.0**
PB09				IAML		08 57 11.7	
	comp=Z,213nm,0.3s						
PB14	**IPOC Station P**	**3.06**	**259**		**Pn**	**08 56 31.1**	**-0.2**
PB14	**IPOC Station P**	**3.06**	**259**	*e*P	**Pn**	**08 56 31.6**	**+0.3**
PB14				*e*S	**Sn**	**08 57 09.6**	**-0.6**
PB14				IAML		08 57 11.8	
	comp=Z,148nm,0.4s						
PB05	**IPOC Station P**	**3.09**	**292**		**Pn**	**08 56 31.6**	**+0.1**
PB05	**IPOC Station P**	**3.09**	**292**	⇑*i*P	**Pn**	**08 56 32.2**	**+0.7**
PB05				IAML		08 57 10.6	
	comp=E,285nm,0.4s						
PB05	**IPOC Station P**	**3.09**	**292**	*e*P	Pn	08 56 18.9	-13
PB05				*e*S	**Sn**	**08 57 09.2**	**-1.4**
PB05				IAML		08 57 13.1	
	comp=Z,133nm,0.3s						
PB03	**IPOC Station P**	**3.16**	**309**	⇑*i*P	**Pn**	**08 56 33.2**	**+0.8**
PB03	**IPOC Station P**	**3.16**	**309**	*e*P	**Pn**	**08 56 33.1**	**+0.8**
PB03				*e*S	**Sn**	**08 57 11.1**	**-1.2**
PB03				IAML		08 57 15.8	
	comp=Z,556nm,0.4s						
PB10	**IPOC Station P**	**3.21**	**279**		**Pn**	**08 56 33.2**	**+0.5**
PB10	**IPOC Station P**	**3.21**	**279**	⇑*i*P	**Pn**	**08 56 33.5**	**+0.7**
PB10				IAML		08 57 13.0	
	comp=E,155nm,0.5s						
PB10	**IPOC Station P**	**3.21**	**279**	*e*P	**Pn**	**08 56 33.5**	**+0.7**
PB10				*e*S	**Sn**	**08 57 13.0**	**0.0**
PB10				IAML		08 57 13.2	
	comp=Z,86nm,0.4s						
AC02	**Maricunga**	**3.31**	**213**		**Pn**	**08 56 34.6**	**+0.2**
AC02	**Maricunga**	**3.31**	**213**	⇑*i*P	**Pn**	**08 56 35.2**	**+0.7**
AC02	**Maricunga**	**3.31**	**213**	*e*P	**Pn**	**08 56 35.1**	**+0.7**
AC02				*e*S	**Sn**	**08 57 13.4**	**-2.6**
AC02				IAML		08 57 46.1	
	comp=Z,356nm,0.8s						
PB01	**IPOC Station P**	**3.73**	**323**		**Pn**	**08 56 39.8**	**+0.4**
PB01	**IPOC Station P**	**3.73**	**323**	*e*P	**Pn**	**08 56 39.8**	**+0.4**
PB01				*e*S	**Sn**	**08 57 24.3**	**-0.4**
PB01				IAML		08 57 26.8	
	comp=Z,192nm,0.2s						
AC01	**Pan de Azucar**	**3.79**	**236**		**Pn**	**08 56 38.9**	**-1.1**
AC01	**Pan de Azucar**	**3.79**	**236**	⇑*i*P	**Pn**	**08 56 39.2**	**-0.7**
AC01	**Pan de Azucar**	**3.79**	**236**	*e*P	**Pn**	**08 56 39.2**	**-0.7**
AC01				*e*S	**Sn**	**08 57 24.3**	**-1.5**
AC01				IAML		08 57 25.2	
	comp=Z,144nm,0.5s						
PATCX	**Punta Patache**	**4.29**	**318**		**Pn**	**08 56 46.6**	**+0.2**
PATCX	**Punta Patache**	**4.29**	**318**	*e*P	**Pn**	**08 56 46.8**	**+0.3**
PATCX	**Punta Patache**	**4.29**	**318**	*e*P	**Pn**	**08 56 46.8**	**+0.3**
PATCX				*e*S	**Sn**	**08 57 35.1**	**-2.4**
PATCX				IAML		08 57 45.0	
	comp=Z,68nm,0.3s						
PB08	**IPOC Station P**	**4.35**	**334**		**Pn**	**08 56 48.0**	**+0.6**
PB08	**IPOC Station P**	**4.35**	**334**	*e*P	**Pn**	**08 56 48.6**	**+1.2**
PB08				*e*S	**Sn**	**08 57 39.5**	**+0.3**
PB08				IAML		08 57 43.1	
	comp=Z,78nm,0.6s						
AC06	**Mina Casimiro**	**4.40**	**221**		**Pn**	**08 56 46.6**	**-1.0**
TA01	**Diego Aracena**	**4.50**	**320**		**Pn**	**08 56 49.0**	**-0.1**
TA01	**Diego Aracena**	**4.50**	**320**	*e*P	**Pn**	**08 56 48.3**	**-0.7**
TA01				*e*S	**Sn**	**08 57 40.5**	**-1.6**
TA01				IAML		08 58 01.6	
	comp=Z,52nm,0.7s						
GO03	**Copiapo**	**4.50**	**218**	*e*P	Pn	08 56 44.7	-4.4
CYA	**Choya**	**4.51**	**165**	*e*P	**Pn**	**08 56 49.5**	**+0.4**
CYA				*e*S	Sn	08 57 29.0	-13
GO01	**Chusmiza**	**4.79**	**336**		**Pn**	**08 56 53.3**	**+0.1**
GO01	**Chusmiza**	**4.79**	**336**	*e*S	**Sn**	**08 57 50.4**	**+0.8**
PB11	**IPOC Station P**	**4.90**	**331**		**Pn**	**08 56 54.0**	**-0.3**
PB11	**IPOC Station P**	**4.90**	**331**	*e*P	**Pn**	**08 56 53.4**	**-0.9**
PB11				*e*S	**Sn**	**08 57 49.5**	**-2.1**

*IDC **19** 08:55:46.9±2.1, 54.°11N×86.°12E, h0km, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=16.5km s-min=11.2km az=55.0.*

ISC 19 08:55:47.0±4.4, 54.°2N±0.°2×86.°0E±0.°2, h0km, n9, σ1§05/11, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.71	253	I	I	09 00 40.2	
	0.1nm,1.5s,baz=80,slow=333,SNR=2.0						
ZAA0	Zalesovo Array	0.71	253	⇓P	Pb	08 56 01.3	-0.9
	0.1nm,0.2s						
ZAA0				⇓S	Sn	08 56 15.8	-0.2
	1.7nm,0.4s						
ZALV	Zalesovo Beam	0.71	253	Pg	Pg	08 56 00.2	-0.4
	0.9nm,0.3s,baz=74,slow=16,SNR=7.6						
ZALV				Lg	Lg	08 56 13.6	
	6.0nm,0.3s,baz=71,slow=29,SNR=26						
ZALV				I	I	09 00 42.0	
	baz=130,slow=28,SNR=12						
KURK	Kurchatov	5.67	235	⇑Pn	Pn	08 57 12.8	+0.4
	0.9nm,0.7s						
KURK				⇑Lg	Lg	08 58 52.8	
	4.6nm,1.3s						
KURBB	Kurchatov Arra	5.77	235	Pn	Pn	08 57 14.1	+0.3
	0.2nm,0.3s,baz=51,slow=13,SNR=14						
KURBB				Sn	Sn	08 58 22.1	+1.5
	baz=112,slow=38						
KURBB				Lg	Lg	08 58 51.6	
	0.1nm,0.3s,baz=52,slow=33,SNR=4.8						
	0.9nm,0.3s						
KURBB	Kurchatov Arra	5.77	235	⇑Pn	Pn	08 57 15.3	+1.6
	1.6nm,0.5s						
KURBB				⇓Lg	Lg	08 58 57.7	
	4.3nm,0.7s						
MK31	Makanchi Array	7.74	199	Pn	Pn	08 57 40.9	0.0
	0.3nm,0.3s,baz=27,slow=14,SNR=27						
MKAR	Makanchi Array	7.74	199	Pn	Pn	08 57 42.1	+1.3
	0.8nm,0.3s,baz=23,slow=13,SNR=25						
MKAR				Sn	Sn	08 59 08.3	-0.9
	baz=18,slow=28						
MKAR				Lg	Lg	08 59 51.5	
	baz=30,slow=32,SNR=1.9						
	1.0nm,0.3s						
BVAR	Borovoye Array	9.34	269	Pn	Pn	08 58 03.4	+0.6
	baz=69,slow=17,SNR=2.0						
	0.4nm,0.4s						

*NEIC **19** 08:56:46.5±1.6, 2.°84S±0.°09×28.°6E±0.°1, h10km±1km, mb4.5/9, Error ellipse: s-maj=19.9km s-min=13.9km az=285.0*

*IDC **19** 08:56:48.7±0.7, 2.°46S×28.°80E, h0km, mb4.0/11, mbtmp4.0/15, ML2.3/2, MS3.2/1, Error ellipse: s-maj=28.9km s-min=11.6km az=115.0*

ISC 19 08:56:49.5±0.6, 2.°58S±0.°06×29.°02E±0.°08, h10km, n34, σ1§76/35, mb4.2/15, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	Mbarara	2.61	41		Pb	08 57 35.1	-1.4
KMBO	Kilima Mbogo	8.35	80		Pn	08 58 53.2	+2.2
KMBO	Kilima Mbogo	8.35	80	Pn	Pn	08 58 54.2	+3.2
	3.4nm,0.3s,baz=244,slow=15,SNR=4.3						
KMBO				Sn	Sn	09 00 23.6	-2.0
	2.1nm,0.3s,baz=213,slow=11,SNR=6.3						
KMBO				Lg	Lg	09 01 16.2	
	3.6nm,0.3s,baz=160,slow=23,SNR=4.9						
LODK	Lodwar	8.70	47		Pn	08 58 56.5	+0.8
KIBK	Kibwezi	9.02	89		Pn	08 59 01.5	+1.4
LSZ	Lusaka	12.64	184	Pn	Pn	08 59 42.0	-7.7
LSZ	Lusaka	12.64	184	Pn	Pn	08 59 51.1	+1.5
	1.6nm,0.4s,baz=0.0,slow=7.1,SNR=1.5						
LSZ				Sn	Sn	09 02 08.8	-1.9
	0.7nm,0.3s,baz=79,slow=5.2,SNR=1.8						
LSZ				Lg	Lg	09 03 23.9	
	1.0nm,0.3s,baz=17,slow=8.9,SNR=5.1						
MATP	Matopo	17.74	182	P	Pn	09 00 58.5	+1.5
	0.1nm,0.3s,baz=352,slow=14,SNR=2.0						
MATP				S	Sn	09 04 10.2	-4.7
	1.1nm,0.8s,baz=36,slow=19,SNR=1.6						
MATP				Lg	Lg	09 06 06.8	
	0.1nm,0.3s,baz=7.1,slow=8.1,SNR=1.9						
	1.3nm,1.1s						
TSUM	Tsumeb	19.95	213	P	Pn	09 01 24.1	+0.4
	0.2nm,0.3s,baz=31,slow=13,SNR=4.4						
TSUM				S	Sn	09 05 08.0	-0.3
	3.1nm,0.8s,baz=313,slow=19,SNR=2.4						
TSUM				Lg	Lg	09 07 12.0	
	0.1nm,0.3s,baz=285,slow=16,SNR=4.5						
TSUM				LR	LR	09 09 36.5	
	comp=Z,60nm,19.0s,baz=323,slow=38						
	3.8nm,0.8s						
BOSA	Boshof	26.14	188	P	P	09 02 26.0	+1.9
	2.0nm,0.6s,baz=360,slow=9.3,SNR=5.6						
	2.0nm,0.6s						
FOMA	Nahampoana Res	28.20	144	P	P	09 02 39.3	-3.3
TORD	Torodi Ar. Bea	31.30	301	P	P	09 03 04.0	-6.2
RER	Riviere de l'E	31.91	127	P	P	09 03 13.0	-2.6
GHAJ	Ghor Haditha	34.27	10	P	P	09 03 34.5	-1.4
GHAJ				IAmb	IAmb	09 03 37.7	
	comp=Z,24nm,1.4s						
DBIC	Dimbokro	35.05	285	P	P	09 03 41.6	-1.3
	comp=Z,3.3nm,0.8s,baz=105,slow=10,SNR=2.2						
	comp=Z,3.3nm,0.8s						
BR131	Keskin Array S	42.31	5	P	P	09 04 41.9	-1.8
BR131				IAmb	IAmb	09 05 05.2	
	comp=Z,6.5nm,1.2s						
BRTR	Keskin Array B	42.31	5	P	P	09 04 41.5	-2.2
BRTR	Keskin Array B	42.31	5	P	P	09 04 43.3	-0.4
	comp=Z,1.2nm,0.6s,baz=177,slow=9.4,SNR=7.3						
	comp=Z,1.2nm,0.6s						
ANTO	Ankara	42.38	4	P	P	09 04 43.2	-1.0
ANTO				IAmb	IAmb	09 04 52.9	
	comp=Z,7.3nm,0.5s						
GEVA	Gevas	42.71	16	P	P	09 04 46.2	-0.9
ABKAR	Akbulak array	58.15	23	P	P	09 06 43.4	0.0
AKTO	Aktyubinsk	58.37	21	P	P	09 06 46.4	+1.3
	comp=Z,4.3nm,0.9s,baz=218,slow=6.2,SNR=8.5						
	comp=Z,4.3nm,0.9s						
KK31	Karatay Array	58.83	35	P	P	09 06 49.7	+1.3
KK31				IAmb	IAmb	09 06 51.3	
	comp=Z,2.2nm,0.8s						
KKAR	Karatay Array	58.83	35	P	P	09 06 49.6	+1.2
FINES	FINESS Array B	63.89	358	P	P	09 07 22.5	+0.4
	comp=Z,1.0nm,0.7s,baz=148,slow=9.1,SNR=2.8						
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	64.92	351	P	P	09 07 29.0	-0.1
	comp=Z,0.5nm,0.8s,baz=161,slow=5.7,SNR=3.1						
	comp=Z,0.5nm,0.8s						
BVAR	Borovoye Array	65.34	26	P	P	09 07 32.1	+0.2
	comp=Z,1.4nm,0.7s,baz=224,slow=8.3,SNR=6.2						
	comp=Z,1.4nm,0.7s						
KURBB	Kurchatov Arra	67.75	32	P	P	09 07 48.1	+0.8
	comp=Z,1.4nm,0.7s,baz=242,slow=6.5,SNR=9.1						
	comp=Z,1.4nm,0.7s						
MKAR	Makanchi Array	67.79	36	P	P	09 07 48.4	+0.7
MKAR	Makanchi Array	67.79	36	P	P	09 07 49.0	+1.2
	comp=Z,1.9nm,0.5s,baz=244,slow=6.1,SNR=19						
	comp=Z,1.9nm,0.5s						
KURK	Kurchatov	67.85	32	P	P	09 07 49.0	+1.1
KURK				IAmb	IAmb	09 07 50.5	
	comp=Z,2.8nm,0.9s						
ZALV	Zalesovo Beam	72.79	31	P	P	09 08 17.7	-0.5
	comp=Z,1.1nm,0.7s,baz=216,slow=7.3,SNR=5.0						
	comp=Z,1.1nm,0.7s						
QSPA	South Pole Qui	87.47	180	P	P	09 09 39.9	+2.6
	comp=Z,0.5nm,0.8s,baz=270,slow=3.0,SNR=1.1						
	comp=Z,0.5nm,0.8s						
MIDW	Midway	144.17	42	PKPdf	PKPab	09 16 21.9	-2.2

IDC 19 09:09:42.8±3.1, 9.°35S×151.°30E, h0km, mb3.3/2, mbtmp3.4/4, ML2.4/2, MS3.0/3, Error ellipse: s-maj=57.5km s-min=40.7km az=129.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.09	269	Pn	Pn	09 10 48.3	+1.8
	2.8nm,0.3s,baz=77,slow=6.7,SNR=7.1						
PMG				Sn	Sn	09 11 36.7	+1.6
	0.4nm,0.3s,baz=136,slow=18,SNR=1.7						
	14nm,0.8s						
DZM	Mont Dzumac	19.28	133	LR	LR	09 20 30.9	
	comp=Z,51nm,20.8s,baz=192,slow=34						
WRA	Warramunga Arr	19.48	235	P	P	09 14 09.8	-1.6
	baz=57,slow=10,SNR=2.6						
	0.9nm,1.1s						
ASAR	Alice Springs	21.89	227	P	P	09 14 37.7	+0.1
	0.8nm,0.7s,baz=60,slow=8.7,SNR=16						
	0.8nm,0.7s						
GUMO	Guam	23.67	344	LR	LR	09 24 17.5	
	comp=Z,25nm,19.5s,baz=116,slow=37						
JCJ	Chichijima	37.29	347	LR	LR	09 28 58.5	
	comp=Z,33nm,20.9s,baz=286,slow=31						
MKAR	Makanchi Array	82.78	320	P	P	09 22 09.0	+0.1
	0.2nm,0.5s,baz=116,slow=3.4,SNR=2.5						
	0.2nm,0.5s						

*IDC **19** 09:14:44.8±3.2, 54.°19N×87.°52E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=24.6km s-min=17.1km az=56.0*

*NNC **19** 09:14:44.1±2.1, 54.°17N×87.°57E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=14.7km s-min=9.5km az=77.0, Suspected Mining explosion.*

*ASRS **19** 09:14:46.0±1.2, 54.°13N×87.°17E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

ISC 19 09:14:45.4±4.6, 54.°2N±0.°2×87.°4E±0.°2, h0km, n7, σ1§12/9, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.54	261	I	I	09 24 53.6	
	0.8nm,0.8s,baz=81,slow=333,SNR=12						
ZAA0	Zalesovo Array	1.54	261	⇑P	Pn	09 15 13.1	-1.0
	1.0nm,0.6s,baz=81,slow=14						
ZAA0				⇓S	Sn	09 15 36.0	+1.3
	1.2nm,0.5s,baz=82,slow=24						
ZALV	Zalesovo Beam	1.54	261	Pg	Pn	09 15 13.2	-0.8
	2.1nm,0.3s,baz=83,slow=15,SNR=30						
ZALV				Lg	Lg	09 15 36.5	
	1.4nm,0.3s,baz=78,slow=27,SNR=6.8						
ZALV				I	I	09 24 56.1	
	baz=88,slow=28,SNR=8.5						
KURK	Kurchatov	6.40	240	⇓Pn	Pn	09 16 21.6	+0.7
	2.7nm,1.3s						
KURK				⇑Lg	Lg	09 18 11.0	
	5.6nm,1.4s						
KURBB	Kurchatov Arra	6.50	240	Pn	Pn	09 16 23.1	+0.8
	0.1nm,0.3s,baz=54,slow=13,SNR=5.5						
KURBB				Sn	Sn	09 17 36.7	-0.5
	baz=313,slow=41						
KURBB				Lg	Lg	09 18 13.5	
	baz=50,slow=29,SNR=5.3						
	0.8nm,0.5s						
KURBB	Kurchatov Arra	6.50	240	⇑Pn	Pn	09 16 22.5	+0.2
	3.8nm,1.1s						
KURBB				⇑Lg	Lg	09 18 13.5	
	3.3nm,0.6s						
MKAR	Makanchi Array	8.12	206	Pn	Pn	09 16 45.2	+0.8
	0.1nm,0.3s,baz=24,slow=12,SNR=1.6						
MKAR				Sn	Sn	09 18 15.4	-1.5
	baz=60,slow=24,SNR=1.6						
MKAR				Lg	Lg	09 19 03.1	
	baz=24,slow=30,SNR=5.7						
	0.1nm,0.4s						

*JMA **19** 09:17:29.9±0.4, 40.°N±1.°×14.°5E±.°, h50km, MV3.3/26, FAR E OFF NORTH HONSHU*

*IDC **19** 09:17:31.5±2.2, 38.°57N×144.°84E, h0km, mb3.6/3, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=48.2km s-min=34.7km az=57.0*

ISC 19 09:17:29.6±1.4, 39.°62N±0.°06×144.°8E±0.°1, h35km, n24, σ0§83/22, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	2.25	279	eP	Pn	09 18 04.0	-0.3
MIYJ	Miyakonagasawa	2.27	270	P	Pn	09 18 04.7	+0.1
MIYJ				S	Sn	09 18 30.2	-1.1
JKEN	Kujiedanarisaw	2.41	285	P	Pn	09 18 06.2	-0.3
JANG	Nango	2.60	288	P	Pn	09 18 08.7	-0.4
JOM	Ohasama	2.68	268	P	Pn	09 18 10.7	+0.5
JMK	Ichinoseki	2.82	257	P	Pn	09 18 12.2	+0.1
JNBK	Urakawa-nobuka	3.06	331	eP	Pn	09 18 16.7	+1.3
JNBK				S	Sn	09 18 52.2	+1.5
JCH	Churui	3.17	341	eP	Pn	09 18 17.2	+0.2
JOT	Ohata	3.33	303	P	Pn	09 18 19.7	+0.6
JYK	Kaneyama	3.48	260	P	Pn	09 18 22.0	+0.8
JAR	Ashorobuto	3.75	349	P	Pn	09 18 24.2	-0.7
JAR				eS	Sn	09 19 06.1	-1.6
NEM2	Nemuro 2	3.81	11	eP	Pn	09 18 24.8	-1.0
JTKR	Abashiri--Toko	4.39	352	eP	Pn	09 18 34.1	+0.4
JTKR				S	Sn	09 19 22.8	-0.8
JRY	Ryogami san	5.86	234	eP	Pn	09 18 53.4	-0.6
MJAR	Matsushiro Arr	6.01	241	Pn	Pn	09 18 55.8	-0.1
	0.1nm,0.3s,baz=51,slow=11,SNR=6.8						
MJAR				Sn	Sn	09 20 03.1	-0.4
	baz=338,slow=16						
	0.9nm,0.3s						
H11N2	WAKE ISLAND Hy	27.49	130	T	T	09 51 48.1	
	baz=322,slow=76,SNR=6.2						
H11N1	WAKE ISLAND Hy	27.50	130	T	T	09 51 52.9	
	baz=322,slow=76,SNR=7.9						
H11N3	WAKE ISLAND Hy	27.51	130	T	T	09 51 46.8	
	baz=322,slow=76,SNR=6.6						
H11S1	WAKE ISLAND Hy	28.33	132	T	T	09 52 56.3	
	baz=323,slow=76,SNR=8.1						
H11S3	WAKE ISLAND Hy	28.33	132	T	T	09 52 55.6	
	baz=323,slow=76,SNR=5.9						
H11S2	WAKE ISLAND Hy	28.35	132	T	T	09 52 54.1	
	baz=323,slow=76,SNR=6.9						
KURBB	Kurchatov Arra	46.53	307	P	P	09 26 05.7	+12
	0.9nm,0.6s,baz=80,slow=8.7,SNR=6.5						
	0.9nm,0.6s						
WRA	Warramunga Arr	60.05	191	P	P	09 27 32.8	-0.2
	0.5nm,0.7s,baz=24,slow=7.3,SNR=2.5						
	0.5nm,0.7s						
ASAR	Alice Springs	63.77	191	P	P	09 27 59.0	+1.0
	0.5nm,1.0s,baz=0.5,slow=10,SNR=2.1						
	0.5nm,1.0s						

*NEIC **19** 09:26:46.2±1.9, 35.°274N±0.°009×97.°73W±0.°01, h6km±1km, Error ellipse: s-maj=1.7km s-min=1.1km az=120.0*

NEIC 19 09:26:45.6±2.0, 35.°280N±0.°007×97.°730W±0.°010, h5km±1km, ML1.8/5, ML1.8/35, Error ellipse: s-maj=2.3km s-min=1.4km az=53.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCSW	OKLAHOMA CITY	0.27	62	Pg	Pg	09 26 49.5	-1.3
OKCSW				Sg	Sg	09 26 55.6	+1.2
OKCSW				IAML		09 26 58.8	
	comp=E,144nm,0.4s						
FNO	Franklin	0.27	95		Pg	09 26 50.5	-0.4
OK029	Liberty Lake	0.56	23		Pg	09 26 56.0	-0.4
OK029				Sg	Sg	09 27 04.9	+1.2
OK029				IAML		09 27 08.2	
	comp=E,41nm,1.1s						
X34A	Smith Ranch, M	0.68	187	Pg	Pg	09 26 57.8	-0.9
X34A				Sg	Sg	09 27 07.8	+0.3
X34A				IAML		09 27 10.3	
	comp=N,24nm,1.0s						
W35A	Tecumseh	0.71	100	Pg	Pb	09 26 59.9	-0.6
W35A				Sg	Sg	09 27 08.9	+0.4
WMOK	Wichita Mounta	1.02	238	Pg	Pg	09 27 04.1	-1.0
OK052	Battle Ridge R	1.04	46		Pg	09 27 05.6	+0.1
CROK	Carrier	1.24	351		Pg	09 27 08.4	-0.9
OK048	Pawnee Station	1.30	29	Pg	Pn	09 27 08.6	-1.8
OK048				IAML		09 27 31.9	
	comp=N,29nm,0.3s						
OK048				IAML		09 27 35.2	
	comp=N,17nm,0.3s						
OK051	E0350 and S346	1.42	30		Pn	09 27 11.0	-1.1
OK038	West end E0370	1.45	326		Pn	09 27 11.3	-1.2
OK032	Salt Plains WL	1.57	346		Pn	09 27 14.2	0.0

*ASRS **19** 09:27:14.0±2.2, 54.°16N×87.°15E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 09:27:09.9±3.2, 54.°14N×87.°43E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=25.3km s-min=18.8km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.55	264	I	I	09 37 20.0	
	0.3nm,0.8s,baz=81,slow=333,SNR=7.7						
ZALV	Zalesovo Beam	1.55	264	Pg	Pn	09 27 37.8	-1.0
	1.5nm,0.3s,baz=81,slow=17,SNR=16						
ZALV				Lg	Lg	09 27 59.1	
	1.1nm,0.3s,baz=84,slow=28,SNR=6.5						
KURBB	Kurchatov Arra	6.49	241	Pn	Pn	09 28 47.4	+0.9
	baz=54,slow=13,SNR=5.1						
KURBB				Sn	Sn	09 30 00.4	-0.8
	baz=86,slow=26,SNR=1.4						
KURBB				Lg	Lg	09 30 36.2	
	baz=52,slow=30,SNR=2.0						
	0.4nm,0.5s						
MKAR	Makanchi Array	8.05	206	Pn	Pn	09 29 09.0	+1.0
	baz=20,slow=14,SNR=1.4						
	0.1nm,0.3s						

*TAP **19** 09:29:49.3, 23.°85N×121.°94E, h41km, ML2.6, C*

ISC 19 09:29:48.7±1.0, 23.°81N±0.°02×121.°97E±0.°03, h32km±8km, n95, σ0§65/179, 1C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.37	296	P	Pn	09 29 58.2	+0.4
HWA				S	Sn	09 30 04.6	+0.6
SHUL	Shoufeng	0.37	266	P	Pn	09 29 58.1	+0.2
SHUL				S	Sn	09 30 05.2	+1.1
TEGC	Jichi Village	0.41	255	i P	Pn	09 29 58.6	+0.3
TEGC				i S	Sn	09 30 05.9	+1.1
TWD	Chiawan	0.43	308	eP	Pb	09 29 58.1	-0.1
TWD				S	Sb	09 30 05.0	+0.2
EOS4	EOS4	0.44	46	P	Pn	09 29 58.9	+0.4
EOS4				i S	Sn	09 30 05.9	+0.7
ETM	Tongmen	0.46	289	P	Pb	09 29 58.6	-0.1
ETM				S	Sb	09 30 05.6	+0.1
ETL	Fush Village	0.47	317	eP	Pb	09 29 58.6	-0.2
ETL				eS	Sb	09 30 05.7	-0.1
ESL	Shilin	0.49	270	eP	Pb	09 29 59.0	-0.2
ESL				S	Sb	09 30 06.5	+0.2
NACB	Ninganchiao	0.50	316	P	Pb	09 29 58.8	-0.4
NACB	Ninganchiao	0.50	316	S	Sb	09 30 06.1	-0.3
NACB	Ninganchiao	0.50	316	i P	Pb	09 29 58.9	-0.3
NACB				i S	Sb	09 30 06.2	-0.3
EGFH	Guangfu	0.52	254	i P	Pb	09 29 59.7	+0.1
EGFH				S	Sn	09 30 08.3	+0.7
WARBT	Fenglin Townsh	0.54	260	P	Pb	09 29 59.8	-0.2
WARBT				S	Sb	09 30 08.0	+0.3
LXIB	Xiulin Townshi	0.55	292	eP	Pb	09 30 00.1	-0.1
LXIB				S	Sn	09 30 08.9	+0.3
EAHA	Aohua	0.55	338	P	Pb	09 29 60.0	-0.2
EAHA				i S	Sn	09 30 08.4	-0.1
EOS3	EOS3	0.57	34	eP	Pn	09 30 00.9	+0.5
EOS3				eS	Sn	09 30 09.8	+1.1
ETLH	Xiulin Townshi	0.59	311	⇓P	Pb	09 30 00.6	-0.3
ETLH				eS	Sb	09 30 08.7	-0.5
HGSD	Ruisui	0.59	237	⇑P	Pb	09 30 00.6	-0.2
HGSD				eS	Sn	09 30 11.7	+2.2
ENA	Nanau	0.65	341	P	Pn	09 30 01.2	-0.4
ENA				eS	Sb	09 30 10.2	-0.3
EOS2	EOS2	0.65	22	i P	Pn	09 30 00.9	-0.7
EOS2				eS	Sn	09 30 11.6	+1.0
EWUT	Wuta	0.65	344	i P	Pn	09 30 01.6	-0.1
EWUT				eS	Sb	09 30 10.6	-0.1
EHYH	Wanrong	0.66	241	eP	Pn	09 30 01.7	-0.1
EHYH				eS	Sn	09 30 12.3	+1.3
EHY	Hungye	0.67	243	⇓P	Pn	09 30 01.6	-0.4
EHY				eS	Sn	09 30 12.1	+0.7
ECBN	Changbin	0.69	224	P	Pn	09 30 02.1	-0.1
ECBN				i S	Sb	09 30 11.8	+0.2
WHF	Hehuan Shan	0.72	297	P	Pn	09 30 02.7	-0.5
WHF				i S	Sb	09 30 12.7	-0.4
OWD	Renai	0.74	281	eP	Pn	09 30 02.9	-0.2
OWD				S	Sn	09 30 12.6	-0.7
YULB	Yu-li	0.75	236	P	Pn	09 30 02.8	-0.2
YULB	Yu-li	0.75	236	S	Sb	09 30 13.5	+0.2
YULB	Yu-li	0.75	236	P	Pn	09 30 02.9	-0.2
YULB				i S	Sn	09 30 13.0	-0.3
EYUL	Yuli	0.76	232	i P	Pn	09 30 03.5	+0.3
EYUL				eS	Sb	09 30 13.9	+0.3
VWDT	VWDT	0.76	266	eP	Pn	09 30 03.5	+0.3
VWDT				S	Sb	09 30 13.8	+0.2
ESAO	Su ao	0.77	351	P	Pn	09 30 03.6	+0.3
ESAO				i S	Sn	09 30 13.8	0.0
TWF1	Yuli	0.77	233	eP	Pn	09 30 03.2	-0.2
TWF1				i S	Sb	09 30 14.2	+0.3
FUSS	Fushou	0.79	303	i P	Pn	09 30 03.8	-0.1
FUSS				i S	Sn	09 30 14.3	-0.4
TWC	Suao	0.80	352	i P	Pn	09 30 04.0	+0.2
TWC				eS	Sn	09 30 13.8	-0.8
WUSB	Renai	0.80	283	i P	Pn	09 30 04.1	+0.2
WUSB				i S	Sb	09 30 15.2	+0.3
CHKH	Chenggong	0.81	220	i P	Pn	09 30 03.8	-0.2
CHKH				eS	Sn	09 30 13.5	-1.4
NNSB	Datong	0.81	319	i P	Pn	09 30 04.2	+0.1
NNSB				eS	Sn	09 30 14.4	-0.7
LATG	Datong	0.82	331	eP	Pn	09 30 04.1	-0.1
LATG				eS	Sn	09 30 14.6	-0.8
NNS	Nan Shan	0.83	319	i P	Pn	09 30 04.2	-0.1
TWT	Tachien	0.85	301	P	Pb	09 30 05.1	0.0
TWT				S	Sn	09 30 16.0	0.0
NDS	Dongshan	0.85	344	P	Pn	09 30 04.4	-0.1
NDS				eS	Sn	09 30 15.1	-0.7
TDCB	Techi	0.86	301	eP	Pb	09 30 05.4	0.0
TDCB				i S	Sn	09 30 15.9	-0.4
FULB	Fuli	0.87	225	P	Pn	09 30 04.7	-0.1
FULB				eS	Sn	09 30 16.2	-0.1
ENTT	Nioudou	0.90	336	P	Pn	09 30 05.3	+0.1
ENTT				eS	Sn	09 30 17.0	-0.1
CHKT	Chengkung	0.90	218	eP	Pn	09 30 04.5	-0.6
CHKT				eS	Sn	09 30 15.9	-1.2
SSLB	Suanglung	0.93	269	P	Pb	09 30 06.2	-0.2
SSLB	Suanglung	0.93	269	S	Sn	09 30 18.2	+0.3
SSLB	Suanglung	0.93	269	eP	Pn	09 30 06.0	+0.4
SSLB				eS	Sn	09 30 18.1	+0.2
TWE	Neicheng	0.94	343	i P	Pn	09 30 06.3	+0.5
TWE				S	Sn	09 30 18.2	0.0
DPDB	Guoxing	0.98	283	P	Pn	09 30 06.9	+0.6
DPDB				S	Sn	09 30 19.6	+0.5
SMLT	Sun Moon Lake	0.98	274	⇓iP	Pn	09 30 05.8	-0.6
SMLT				eS	Sn	09 30 19.7	+0.4
ECS	Chishang	0.99	224	P	Pb	09 30 07.6	+0.1
ECS				eS	Sb	09 30 20.4	+0.1
WCS	Beigang Elemen	1.00	284	P	Pn	09 30 06.7	+0.2
WCS				eS	Sn	09 30 19.9	+0.

TWQ1	**Liyutan**	**1.22 296**	P	**Pb**	**09 30 11.0**	**-0.2**
TWQ1			S	**Sn**	**09 30 25.8**	**+0.9**
LDUT	**Ludao**	**1.23 202**	*e*P	**Pn**	**09 30 10.2**	**+0.6**
LDUT			*e*S	**Sn**	**09 30 23.2**	**-1.8**
STYH	**Taoyuan**	**1.27 240**	*e*P	**Pn**	**09 30 09.9**	**-0.3**
STYH			*e*S	**Sn**	**09 30 26.3**	**+0.2**
SXI1	**Grass Mountain**	**1.28 356**	*e*P	**Pb**	**09 30 11.8**	**-0.5**
SXI1			*i* S	**Sb**	**09 30 28.2**	**-0.2**
TWGBT	**Beinan**	**1.29 220**	P	**Pn**	**09 30 10.4**	**0.0**
TWGBT			*e*S	**Sn**	**09 30 25.6**	**-0.9**
STYT	**Tauyuan**	**1.29 240**	P	**Pn**	**09 30 10.4**	**-0.1**
STYT			S	**Sn**	**09 30 27.5**	**+0.8**
TWG	**Pinlang**	**1.29 220**	*i* P	**Pn**	**09 30 10.5**	**0.0**
TWG			*e*S	**Sn**	**09 30 25.1**	**-1.5**
WCKO	**Fanlu**	**1.31 254**	*i* P	**Pb**	**09 30 12.2**	**-0.5**
WCKO			*e*S	**Sb**	**09 30 29.9**	**+0.7**
TPUB	**Ta-pu**	**1.33 248**	P	**Pb**	**09 30 12.8**	**-0.4**
TPUB	**Ta-pu**	**1.33 248**	S	**Sb**	**09 30 30.5**	**+0.6**
TPUB	**Ta-pu**	**1.33 248**	*e*P	**Pb**	**09 30 12.9**	**-0.2**
TPUB			*e*S	**Sb**	**09 30 30.5**	**+0.6**
WTP	**Ta-pu**	**1.37 246**	P	**Pb**	**09 30 13.1**	**-0.7**
WTP			S	**Sb**	**09 30 31.9**	**+0.9**
YM01	**YM01**	**1.38 345**	P	**Pn**	**09 30 12.2**	**+0.5**
YM01			S	**Sn**	**09 30 29.5**	**+0.6**
CHN1	**Nanshi**	**1.46 245**	P	**Pb**	**09 30 15.1**	**-0.3**
CHN1			S	**Sb**	**09 30 34.0**	**+0.3**
TWK	**Hsinying**	**1.47 248**	P	**Pb**	**09 30 14.7**	**-0.7**
TWK			*e*S	**Sb**	**09 30 33.9**	**+0.1**
SGST	**Jiashian**	**1.47 240**	*e*P	**Pn**	**09 30 13.9**	**+0.9**
SGST			S	**Sb**	**09 30 33.7**	**-0.1**
SNST	**Tainan City**	**1.48 247**	*i* P	**Pb**	**09 30 14.9**	**-0.7**
SNST			*e*S	**Sb**	**09 30 34.5**	**+0.5**
SSD	**Sandimen**	**1.63 229**	*e*P	**Pn**	**09 30 16.3**	**+1.2**
SSD			S	**Sb**	**09 30 36.9**	**-1.3**
MASBT	**Mashibuluo**	**1.72 226**	*e*P	**Pn**	**09 30 17.1**	**+0.7**
MASBT			*e*S	**Sn**	**09 30 39.1**	**+1.9**
LYUB	**Lan-yu**	**1.84 191**	*e*P	**Pn**	**09 30 19.4**	**+1.3**
LYUB			*e*S	**Sn**	**09 30 38.3**	**-1.9**
PHUB	**P'eng-hu**	**2.22 263**	P	**Pn**	**09 30 24.4**	**+1.2**
PHUB			*e*S	**Sn**	**09 30 49.9**	**+0.3**
VWUC	**VWUC**	**2.58 298**	*i* P	**Pn**	**09 30 29.1**	**+0.9**
VWUC			*e*S	**Sn**	**09 30 56.6**	**-1.9**
PTMZ	**Houxiangcun**	**2.87 296**	*e*P	**Pn**	**09 30 32.1**	**-0.2**
PTMZ			*e*S	**Sn**	**09 31 03.6**	**-2.0**

*ASRS **19** 09:31:35.0±1.8, 53°.65N×86°.88E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 09:31:29.3±2.6, 53°.69N×87°.11E, h0km, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=22.2km s-min=14.2km az=76.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.38 282**		Pg	Pg	09 31 55.0	-0.7
	1.2nm,0.3s,baz=102,slow=17,SNR=7.9						
ZALV				Lg	Lg	09 32 13.3	
	1.6nm,0.3s,baz=97,slow=32,SNR=6.6						
I46RU	**ZALESOVO INFRA**	**1.38 282**		I	I	09 40 52.9	
	baz=100,slow=332,SNR=3.3						
KURBB	**Kurchatov Arra**	**6.11 243**		Pn	Pn	09 33 01.5	+0.8
	0.1nm,0.3s,baz=59,slow=14,SNR=5.6						
KURBB				Sn	Sn	09 34 09.6	-1.6
	baz=69,slow=32,SNR=1.1						
KURBB				Lg	Lg	09 34 43.6	
	baz=62,slow=34,SNR=5.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.56 206**		Pn	Pn	09 33 21.9	+1.3
	0.1nm,0.3s,baz=24,slow=12,SNR=4.6						
MKAR				Sn	Sn	09 34 46.9	-0.1
	baz=34,slow=26,SNR=1.6						
MKAR				Lg	Lg	09 35 29.7	
	baz=28,slow=28,SNR=5.2						
	0.1nm,0.3s						

IDC 19 09:34:28.9±441.0, 48°.82N×51°.30E, h0km, Error ellipse: s-maj=176.4km s-min=94.1km az=61.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**4.66**	**68**	I	I	10 02 30.0	
	0.2nm,0.5s,baz=254,slow=331,SNR=1.5						
I43RU	**DUBNA INFRASONI**	**1.62 318**		I	I	10 48 00.0	
	baz=132,slow=326,SNR=2.5						
I46RU	**ZALESOVO INFRA**	**21.41**	**63**	I	I	11 40 00.0	
	baz=270,slow=329,SNR=1.7						

*ASRS **19** 09:35:12.0±1.0, 54°.04N×86°.48E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 09:35:10.6±3.0, 54°.07N×86°.75E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=24.2km s-min=14.2km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.15 265**		I	I	09 43 10.0	
	baz=84,slow=330,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.15 265**		Pg	Pg	09 35 32.5	0.0
	1.2nm,0.3s,baz=82,slow=18,SNR=13						
ZALV				Lg	Lg	09 35 48.0	
	1.5nm,0.3s,baz=84,slow=29,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.10 239**		Pn	Pn	09 36 42.3	+0.4
	0.1nm,0.3s,baz=57,slow=14,SNR=5.1						
KURBB				Sn	Sn	09 37 51.6	-0.8
	baz=51,slow=38						
KURBB				Lg	Lg	09 38 17.6	
	baz=67,slow=42,SNR=1.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.81 203**		Pn	Pn	09 37 06.8	+1.3
	0.1nm,0.3s,baz=25,slow=14,SNR=4.1						
MKAR				Sn	Sn	09 38 34.3	-0.3
	0.1nm,0.3s,baz=27,slow=26,SNR=1.8						
MKAR				Lg	Lg	09 39 16.6	
	0.1nm,0.3s,baz=32,slow=30,SNR=1.6						
	0.1nm,0.3s						

*NEIC **19** 09:44:17.3±2.0, 2°.28S±0°.10×142°.36E±0°.08, h10km±1km, mb4.4/16, Error ellipse: s-maj=16.6km s-min=13.5km az=349.0*

*IDC **19** 09:44:22.1±1.0, 3°.27S×142°.92E, h0km, mb3.9/7, mbtmp3.9/10, ML2.0/2, MS3.5/28, Error ellipse: s-maj=25.5km s-min=18.3km az=79.0*

ISC 19 09:44:23.8±0.8, 3°.40S±0°.08×142°.75E±0°.08, h10km, n62, σ2°.34/30, mb4.1/10, MS3.6/25, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.22 293**		Pn	**Pn**	**09 45 00.7**	**-0.1**
	1.7nm,0.3s,baz=19,slow=18,SNR=4.0						
JAY				Sn	**Sn**	**09 45 30.9**	**+2.5**
	13nm,0.3s,baz=182,slow=12,SNR=6.0						
JAY				LR	LR	09 45 35.3	
	comp=Z,374nm,20.6s,baz=64,slow=31						
	16nm,0.5s						
MANU	**Manus Island**	**4.80**	**74**	Pn	**Pn**	**09 45 33.0**	**-3.3**
PMG	**Port Moresby**	**7.40 144**		Pn	Pb	09 46 21.0	-11
PMG	**Port Moresby**	**7.40 144**		Pn	**Pn**	**09 46 11.3**	**-0.7**
	0.4nm,0.3s,baz=283,slow=19,SNR=1.8						
	5.5nm,0.8s						
FAKI	**Fak Fak**	**10.50 272**		Pn	Pn	09 46 42.3	-12
COEN	**Coen**	**10.50 178**		Pn	Pn	09 47 02.5	+8.0
SAUI	**Saumlaki**	**12.27 248**		Pn	Pn	09 47 13.9	-4.8
MTN	**Manton Dam**	**14.83 230**			**Pn**	**09 47 56.2**	**+2.4**
MTN				IAmb	IAmb	09 48 35.2	
	comp=Z,13nm,0.8s						
GUMO	**Guam**	**17.01**	**7**	LR	LR	09 54 03.3	
	comp=Z,78nm,19.7s,baz=174,slow=34						
WB0	**Warramunga Arr**	**18.20 206**		P	**P**	**09 48 39.6**	**+2.6**
WB0				IAmb	IAmb	09 48 52.1	
	comp=Z,20nm,1.2s						
WR8	**Warramunga Arr**	**18.32 205**		P	**Pn**	**09 48 39.5**	**+1.3**
WR8				IAmb	IAmb	09 48 43.7	
	comp=Z,37nm,1.5s						
WRAB	**Tennant Creek**	**18.36 206**			**Pn**	**09 48 40.2**	**+1.4**
WRAB				IAmb	IAmb	09 49 02.5	
	comp=Z,36nm,1.4s						
WRA	**Warramunga Arr**	**18.38 206**		P	**Pn**	**09 48 41.2**	**+2.2**
WRA	**Warramunga Arr**	**18.38 206**		P	**Pn**	**09 48 40.5**	**+1.5**
	comp=Z,7.9nm,1.0s,baz=32,slow=11,SNR=22						
WRA				S	**Sn**	**09 52 01.1**	**-3.3**
	comp=Z,0.4nm,0.9s,baz=73,slow=18,SNR=1.1						
WRA				LR	LR	09 57 07.9	
	comp=Z,176nm,20.0s,baz=296,slow=41						
KNRA	**Kununurra**	**18.40 228**			**P**	**09 48 37.7**	**-1.4**
SOEI	**Soe**	**19.41 250**		P	**P**	**09 48 44.5**	**-6.0**
SOEI				IAmb	IAmb	09 49 18.3	
	comp=Z,49nm,1.0s						
DAV	**Davao City (W)**	**20.05 301**		LR	LR	09 56 15.6	
	comp=Z,103nm,19.5s,baz=172,slow=36						
AS31	**Alice Springs**	**21.89 202**		P	**P**	**09 49 18.7**	**+1.5**
ASAR	**Alice Springs**	**21.89 202**		P	**P**	**09 49 18.1**	**+1.0**
ASAR	**Alice Springs**	**21.89 202**		P	**P**	**09 49 18.6**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=29,slow=11,SNR=13						
ASAR				S	**S**	**09 53 16.1**	**-3.1**
	comp=Z,0.7nm,1.0s,baz=25,slow=29,SNR=1.7						
ASAR				LR	LR	09 58 32.1	
	comp=Z,411nm,18.4s,baz=30,slow=38						
	comp=Z,1.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.23 228**		P	**P**	**09 49 18.6**	**-2.2**
FITZ	**Fitzroy Crossi**	**22.23 228**		P	**P**	**09 49 22.2**	**+1.3**
	comp=Z,6.7nm,0.9s,baz=24,slow=8.3,SNR=12						
FITZ				S	**S**	**09 53 23.8**	**-2.0**
	comp=Z,1.0nm,0.8s,baz=36,slow=19,SNR=0.9						
FITZ				LR	LR	09 59 02.9	
	comp=Z,324nm,18.2s,baz=56,slow=39						
	comp=Z,6.7nm,0.9s						
TOLI2	**Tolitoli**	**22.41 281**		P	P	09 49 09.5	-13
TOLI2				IAmb	IAmb	09 49 46.3	
	comp=Z,10nm,0.8s						
EIDS	**Eidsvold**	**23.27 161**		P	**P**	**09 49 34.4**	**+2.7**
EIDS				IAmb	IAmb	09 49 41.7	
	comp=Z,13nm,1.0s						
STKA	**Stephens Creek**	**28.35 182**		P	**P**	**09 50 21.3**	**+3.2**
STKA	**Stephens Creek**	**28.35 182**		P	**P**	**09 50 19.8**	**+1.7**
	comp=Z,1.5nm,0.5s,baz=352,slow=7.3,SNR=8.3						
STKA				LR	LR	10 01 52.8	
	comp=Z,124nm,19.7s,baz=13,slow=37						
	comp=Z,1.5nm,0.5s						
BBOO	**Buckleboo**	**29.92 191**		P	**P**	**09 50 34.6**	**+2.5**
JCJ	**Chichijima**	**30.32 359**		LR	LR	10 01 08.8	
	comp=Z,49nm,20.9s,baz=130,slow=33						
H11S3	**WAKE ISLAND Hy**	**32.08**	**46**	T	T	10 24 16.3	
	baz=229,slow=76						
H11S2	**WAKE ISLAND Hy**	**32.09**	**46**	T	T	10 24 11.9	
	baz=229,slow=76						
H11S1	**WAKE ISLAND Hy**	**32.10**	**46**	T	T	10 24 12.9	
	baz=229,slow=76						
CAN	**Canberra**	**32.29 170**		P	P	09 50 57.0	+4.1
CAN				IAmb	IAmb	09 51 31.0	
	comp=Z,6.9nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**33.02**	**45**	T	T	10 25 31.2	
	baz=228,slow=76						
H11N2	**WAKE ISLAND Hy**	**33.04**	**45**	T	T	10 25 35.9	
	baz=228,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.04**	**45**	T	T	10 25 36.9	
	baz=228,slow=76						
JOW	**Kunigami**	**33.15 336**		LR	LR	10 02 54.6	
	comp=Z,62nm,18.8s,baz=99,slow=34						
MGBR	**Mount Gambier**	**34.22 183**		P	**P**	**09 51 11.1**	**+1.4**
LEM	**Lembang**	**35.15 263**		LR	LR	10 07 12.9	
	comp=Z,150nm,18.8s,baz=16,slow=39						
JNU	**Nakatsue**	**38.02 344**		LR	LR	10 03 53.2	
	comp=Z,59nm,19.8s,baz=148,slow=31						
KULM	**Kulim**	**42.93 281**		P	P	09 52 11.4	-12
URZ	**Urewera**	**46.76 142**		LR	LR	10 10 53.0	
	comp=Z,100nm,20.7s,baz=18,slow=34						
USRK	**Ussuriysk Ar.**	**48.36 350**		LR	LR	10 11 26.0	
	comp=Z,31nm,20.4s,baz=186,slow=34						
PETK	**Petropavlovsk-**	**57.69**	**11**	LR	LR	10 18 33.9	
	comp=Z,20nm,20.1s,baz=198,slow=36						
SHEM	**Shemya Is, Ala**	**61.85**	**21**	LR	LR	10 14 51.5	
	comp=Z,50nm,21.4s,baz=294,slow=30						
MA2	**Magadan**	**63.10**	**5**	LR	LR	10 23 22.8	
	comp=Z,15nm,18.6s,baz=143,slow=37						
KIWB	**Kanaga Island**	**64.69**	**26**	P	P	09 54 48.8	-13
KIWB				PcP	PcP	09 55 24.3	-11
YAK	**Yakutsk**	**66.01 353**		LR	LR	10 21 59.3	
	comp=Z,26nm,20.9s,baz=164,slow=34						
SEY	**Seymchan**	**66.56**	**5**	LR	LR	10 21 39.2	
	comp=Z,22nm,21.8s,baz=254,slow=34						
MKAR	**Makanchi Array**	**72.82 321**		P	**P**	**09 55 53.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=102,slow=6.6,SNR=4.9						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**74.59 329**		LR	LR	10 27 10.5	
	comp=Z,29nm,22.0s,baz=78,slow=34						
O16K	**Kokwok River B**	**77.90**	**27**	P	P	09 56 10.1	-12
KDAK	**Kodiak Island**	**79.68**	**29**	LR	LR	10 24 51.7	
	comp=Z,54nm,21.1s,baz=107,slow=31						
BVAR	**Borovoye Array**	**82.20 324**		P	**P**	**09 56 44.7**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=106,slow=7.7,SNR=6.0						
	comp=Z,0.4nm,0.5s						
ILAR	**Eielson Array**	**84.80**	**24**	P	**P**	**09 56 57.7**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=259,slow=5.0,SNR=9.9						
ILAR				LR	LR	10 31 11.0	
	comp=Z,35nm,20.4s,baz=241,slow=33						
	comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**86.55 180**		P	**P**	**09 57 05.5**	**-1.6**
QSPA	**South Pole Qui**	**86.55 180**		P	**P**	**09 57 07.8**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=334,slow=2.8,SNR=12						
QSPA				LR	LR	10 35 49.6	
	comp=Z,79nm,20.1s,baz=359,slow=36						
	comp=Z,1.4nm,0.6s						
INK	**Inuvik**	**90.81**	**22**	LR	LR	10 37 22.1	
	comp=Z,22nm,20.3s,baz=240,slow=35						
BBB	**Bella Bella**	**92.13**	**38**	LR	LR	10 32 08.5	
	comp=Z,56nm,19.3s,baz=256,slow=31						
YBH	**Yreka Blue Hor**	**95.64**	**49**	LR	LR	10 31 55.0	
	comp=Z,32nm,19.9s,baz=300,slow=30						
YKA	**Yellowknife Ar**	**98.84**	**27**	LR	LR	10 37 15.3	
	comp=Z,41nm,21.6s,baz=314,slow=32						
NVAR	**Mina Array Bea**	**99.11**	**52**	LR	LR	10 35 24.9	
	comp=Z,51nm,20.1s,baz=289,slow=31						
NEW	**Newport**	**99.27**	**42**	LR	LR	10 32 42.8	
	comp=Z,18nm,20.9s,baz=300,slow=29						

*ASRS **19** 09:50:07.0±1.1, 53°.81N×88°.22E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 09:50:10.2±3.4, 54°.12N×87°.46E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=27.8km s-min=19.4km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57 265**		I	I	10 00 40.0	
	0.1nm,0.8s,baz=81,slow=331,SNR=12						
ZALV	**Zalesovo Beam**	**1.57 265**		Pg	Pn	09 50 38.4	-0.9
	1.0nm,0.3s,baz=82,slow=14,SNR=12						
ZALV				Lg	Lg	09 50 59.9	
	0.6nm,0.3s,baz=85,slow=27,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.49 241**		Pn	Pn	09 51 48.0	+1.1
	baz=58,slow=14,SNR=3.6						
KURBB				Sn	Sn	09 53 00.8	-0.8
	baz=328,slow=36,SNR=1.2						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**8.04 206**		Pn	Pn	09 52 09.0	+0.8
	0.2nm,0.3s,baz=23,slow=13,SNR=2.1						
	0.1nm,0.3s						

*ASRS **19** 09:54:36.0±1.0, 54°.36N×86°.66E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 09:54:35.9±2.5, 54°.46N×86°.85E, h0km, mbtmp3.5/3, ML3.2/3, Error ellipse: s-maj=20.0km s-min=16.7km az=37.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30 247**		I	I	10 03 26.1	
	baz=69,slow=328,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.30 247**		Pg	Pg	09 54 59.9	-0.9
	1.3nm,0.3s,baz=66,slow=18,SNR=26						
ZALV				Lg	Lg	09 55 17.3	
	2.1nm,0.3s,baz=61,slow=20,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.36 236**		Pn	Pn	09 56 11.5	+0.6
	0.1nm,0.3s,baz=53,slow=14,SNR=4.1						
KURBB				Sn	Sn	09 57 23.2	-0.9
	baz=70,slow=29,SNR=1.6						
KURBB				Lg	Lg	09 57 58.0	
	baz=51,slow=29,SNR=4.2						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**8.21 202**		Pn	Pn	09 56 37.4	+1.2
	0.2nm,0.3s,baz=25,slow=14,SNR=5.2						
MKAR				Sn	Sn	09 58 09.5	0.0
	0.1nm,0.3s,baz=345,slow=21,SNR=1.3						
MKAR				Lg	Lg	09 58 57.3	
	baz=25,slow=28						
	0.2nm,0.3s						
SONM	**Songino Array**	**13.92 110**		Pn	Pn	09 57 54.2	-0.2
	1.0nm,0.3s,baz=302,slow=14,SNR=3.2						
	3.2nm,0.6s						

IDC 19 09:57:50.1±431.0, 48°.45N×50°.08E, h0km, Error ellipse: s-maj=142.5km s-min=106.1km az=48.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.55**	**66**	I	I	10 32 10.0	
	0.2nm,0.4s,baz=255,slow=332,SNR=1.0						
I43RU	**DUBNA INFRASONI**	**1.38 322**		I	I	11 10 00.0	
	baz=139,slow=327,SNR=1.4						
I46RU	**ZALESOVO INFRA**	**22.30**	**63**	I	I	12 09 40.0	
	baz=269,slow=328,SNR=0.6						

*ASRS **19** 10:00:01.0±0.9, 53°.55N×87°.67E, h0km, M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*NNC **19** 10:00:03.2±2.7, 55°.77N×84°.75E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=21.3km s-min=19.2km az=30.0, Suspected Mining explosion.*

*IDC **19** 10:00:04.2±3.0, 53°.50N×87°.63E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=24.1km s-min=14.5km az=64.0*

ISC 19 09:59:49.5±2.4, 52°.17N±0°.07×88°.1E±0°.1, h0km, n9, σ2°.76/11, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.65 314**		I	I	10 12 10.0	
	0.2nm,0.9s,baz=100,slow=333,SNR=18						
ZAA0	**Zalesovo Array**	**2.65 314**		⇓P	**Pn**	**10 00 35.4**	**+2.1**
	0.2nm,0.2s						
ZAA0				⇓S	**Sn**	**10 01 00.5**	**-5.6**
	3.7nm,0.8s						
ZALV	**Zalesovo Beam**	**2.65 314**		Pg	**Pn**	**10 00 35.0**	**+1.6**
	1.1nm,0.3s,baz=106,slow=13,SNR=17						
ZALV				Lg	Lg	10 00 59.4	
	3.8nm,0.3s,baz=102,slow=27,SNR=11						
KURK	**Kurchatov**	**6.08 260**		⇑Lg	Lg	10 03 20.5	
	6.2nm,0.8s						
KURBB	**Kurchatov Arra**	**6.17 259**		Pn	**Pb**	**10 01 38.9**	**+1.3**
	0.1nm,0.3s,baz=61,slow=13,SNR=5.6						
KURBB				Sn	**Sb**	**10 02 50.1**	**-1.9**
	baz=132,slow=44,SNR=1.6						
KURBB				Lg	Lg	10 03 23.2	
	0.1nm,0.3s,baz=63,slow=26,SNR=3.6						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**6.17 259**		⇑Pn	**Pb**	**10 01 38.9**	**+1.3**
	1.3nm,0.6s						
KURBB				⇑Sn	**Sb**	**10 02 52.7**	**+0.8**
	3.7nm,0.6s						
KURBB				⇓Lg	Lg	10 03 23.4	
	7.7nm,0.7s						
MK31	**Makanchi Array**	**6.57 217**		⇑Pn	**Pb**	**10 01 43.3**	**-1.2**
	2.9nm,0.3s,baz=180,slow=14,SNR=62						
MK31				Sn	Sn	10 02 10.9	-32
	0.2nm,0.2s,baz=183,slow=27,SNR=7.4						
MKAR	**Makanchi Array**	**6.57 217**		Pn	**Pg**	**10 01 57.2**	**+2.0**
	0.3nm,0.3s,baz=29,slow=14,SNR=4.2						
MKAR				Sn	**Sg**	**10 03 20.3**	**0.0**
	baz=31,slow=28						
MKAR				Lg	Lg	10 04 00.8	
	0.1nm,0.3s,baz=26,slow=30,SNR=7.1						
	0.4nm,0.4s						
MAKZ	**Makanchi**	**6.67 219**		⇓Pn	**Pb**	**10 01 43.2**	**-3.1**
	2.5nm,0.5s						
MAKZ				⇑Sn	Sn	10 02 12.1	-33
	3.3nm,0.6s						

*BER **19** 10:10:07.8±0.8, 67°.77N×34°.26E, h0km, ML1.6, Suspected explosion*

*HEL **19** 10:10:12.6±0.3, 68°.14N×33°.33E, h0km, ML1.8, Explosion*

*KOLA **19** 10:10:14.4, 68°.16N×33°.19E, h0km, ML2.1, Error ellipse: s-maj=2.9km s-min=2.0km az=80.0, Olenegorsk City, Mines*

*IDC **19** 10:10:17.3±2.9, 68°.22N×32°.45E, h0km, mbtmp2.7/2, ML1.5/1, Error ellipse: s-maj=37.5km s-min=13.8km az=56.0*

ISC 19 10:10:13.6±0.9, 68°.18N±0°.03×33°.12E±0°.03, h0km, n40, σ1°.27/59, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.58 185**		P	**Pg**	**10 10 23.4**	**-1.1**
APA0				S	**Sg**	**10 10 31.4**	**-0.6**
APA	**Apatity**	**0.62 170**		P	**Pg**	**10 10 24.7**	**-0.7**
APA				S	**Sg**	**10 10 33.1**	**-0.3**
LVZ	**Lovozero**	**0.64 115**		P	**Pg**	**10 10 25.3**	**-0.5**
LVZ				S	**Sg**	**10 10 33.6**	**-0.4**
TERR	**Teriberka**	**1.26**	**34**	P	**Pg**	**10 10 35.9**	**-1.8**
TERR				S	**Sg**	**10 10 53.4**	**-0.5**
VRF	**Varrio**	**1.40 254**		PG	**Pg**	**10 10 38.8**	**-1.5**
VRF				MSG		10 10 56.4	
	comp=Z,8.6nm,0.2s						
VRF				SG	**Sg**	**10 10 57.5**	**-0.8**
KVDA	**Kovda**	**1.50 184**		P	**Pn**	**10 10 40.5**	**-1.1**
KVDA				S	**Sn**	**10 11 01.6**	**-0.1**
RAJF	**Raja-Jooseppi**	**1.81 282**		PG	**Pn**	**10 10 46.4**	**+0.4**
RAJF				SB	**Sn**	**10 11 09.8**	**+0.2**
OLKF	**Oulanka, Finla**	**2.36 220**		PG	**Pn**	**10 10 54.0**	**+0.4**
OLKF				MSG		10 11 23.1	
	comp=Z,2.5nm,0.2s						
VADS	**Vadso**	**2.37 327**		P	**Pn**	**10 10 54.1**	**+0.5**
VADS				S	**Sn**	**10 11 24.5**	**+1.1**
VADS	**Vadso**	**2.37 327**		*e*P	**Pn**	**10 10 53.8**	**+0.2**
KU6	**Riekki**	**2.50 212**		PG	**Pn**	**10 10 56.2**	**+0.7**
	baz=35						
KU6				MSG		10 11 27.0	
	comp=Z,2.1nm,0.2s						
KEV	**Kevo**	**2.72 308**		*e*P	**Pn**	**10 10 59.4**	**+1.0**
KEV	**Kevo**	**2.72 308**		PN	**Pn**	**10 10 59.5**	**+1.2**
	baz=122						
KEV				SN	**Sn**	**10 11 33.3

RMF	Romuvaara	4.18 200	PB	Pn	10 11 20.4	+1.9
	baz=17					
KALU	Kalix	4.48 243	PN	Pn	10 11 23.4	+0.8
ERTU	Ertsjaerv	4.53 254	PN	Pn	10 11 22.6	-0.7
ERTU			SN	Sn	10 12 15.5	-1.0
KIF	Kilpisjarvi	4.59 286	eP	Pn	10 11 23.0	-1.1
KIF	Kilpisjarvi	4.59 286	PN	Pn	10 11 24.8	+0.7
KIF			SN	Sn	10 12 17.0	-1.0
OBF4	Vikkela, Lumij	4.66 227	PN	Pn	10 11 24.6	-0.4
JETT	Jettan, Norway	4.80 293	eP	Pn	10 11 26.7	-0.4
I37NO	I37NO	5.38 286	I	I	10 43 31.1	
	baz=92,slow=321,SNR=1.1					
FAUS	Fauske	6.81 272	S	Sn	10 13 08.4	-4.1
FINES	FINESS Array B	7.39 207	Pn	Pn	10 12 03.5	+1.0
	comp=Z,1.4nm,0.9s,baz=29,slow=13,SNR=2.3					
FINES			Lg	Lg	10 13 57.5	
	comp=Z,0.1nm,0.3s,baz=32,slow=29,SNR=2.0					

*IDC **19** 10:30:55.6±1.4, 1°.22N×126°.57E, h0km, mb3.7/4, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=110.8km s-min=20.6km az=69.0*
*DJA **19** 10:31:01.2±0.3, 1°.N±3°×12°.6E±°, h10km, M3.9/11, mb4.0/2, MLv3.8/11*
ISC 19 10:30:59.5±1.1, 0°.8N±0°.1×126°.09E±0°.07, h10km, n10, σ1§57/10, mb3.8/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.28	91	P	Pn	10 31 25.2	+1.7
KMSI	Cibinong	2.12	264	P	Pn	10 31 35.8	+0.8
SANI	Sanana	2.83	182	P	Pn	10 31 44.4	-0.4
LUWI	Luwuk	3.78	241	P	Pn	10 31 59.5	+1.6
APSI	Ampana	4.75	249	P	Pn	10 32 12.9	+1.7
FITZ	Fitzroy Crossi	18.78	181	P	Pn	10 35 21.0	+1.5
	0.1nm,0.3s,baz=349,slow=5.2,SNR=0.9						
	1.1nm,0.7s						
WRA	Warramunga Arr	22.14	159	P	P	10 35 54.5	-1.1
	2.6nm,0.5s,baz=340,slow=11,SNR=27						
	2.6nm,0.5s						
ASAR	Alice Springs	25.47	163	P	P	10 36 28.6	+0.5
	0.8nm,0.4s,baz=344,slow=10,SNR=31						
ASAR				PcP	PcP	10 39 59.1	-0.9
	0.2nm,0.7s,baz=341,slow=2.4,SNR=2.0						
	0.8nm,0.4s						
MKAR	Makanchi Array	59.61	327	P	P	10 41 01.8	-1.9
	0.3nm,0.4s,baz=128,slow=8.2,SNR=5.9						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	63.87	328	P	P	10 41 27.6	-4.7
	0.2nm,0.5s,baz=130,slow=6.1,SNR=1.9						
	0.2nm,0.5s						

*KOLA **19** 10:51:50.0, 78°.23N×8°.05E, h0km, ML2.0, Greenland sea, Knipovich ridge, middle*
BER 19 10:51:53.8±1.5, 78°.37N×7°.93E, h10km, mb(Pn)2.8, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	0.97	53	P	Pg	10 52 10.8	-1.6
KBS				S	Sg	10 52 22.5	-2.5
KBS	Kingsbay	0.97	53	P	Pg	10 52 10.7	-1.8
KBS				S	Sg	10 52 22.6	-2.4
KBS	Kingsbay	0.97	53	eP	Pg	10 52 10.8	-1.7
KBS				eS	Sg	10 52 23.2	-1.9
BRBB	Barentsburg B	1.32	99	P	Pn	10 52 15.6	-2.6
BRBB				S	Sb	10 52 32.1	-3.4
BRBB	Barentsburg B	1.32	99	P	Pn	10 52 15.8	-2.3
BRBB				S	Sb	10 52 32.8	-2.7
BRBB	Barentsburg B	1.32	99	eP	Pn	10 52 16.0	-2.2
BRBB				eS	Sb	10 52 32.6	-2.9
BRBA	Barentsburg A	1.33	101	eP	Pn	10 52 16.3	-2.0
BRBA				eS	Sb	10 52 32.8	-3.0
SPA0	Spitsbergen Ar	1.74	92	eP	Pn	10 52 23.0	-1.0
SPA0				eS	Sn	10 52 44.6	-1.5
SPA0				IAML		10 52 46.5	
	comp=Z,9.8nm,0.3s						
SPITS	Spitsbergen Ar	1.74	92	P	Pn	10 52 22.7	-1.2
SPITS				S	Sn	10 52 44.1	-2.0
SPITS	Spitsbergen Ar	1.74	92	P	Pn	10 52 22.8	-1.2
SPITS				S	Sn	10 52 44.6	-1.5
HSPB	Hornsund (broa	2.13	126	P	Pn	10 52 23.9	-5.4
HSPB				S	Sn	10 52 50.8	-5.0
HSPB	Hornsund (broa	2.13	126	P	Pn	10 52 25.8	-3.6
HSPB				S	Sn	10 52 51.5	-4.4

*HEL **19** 11:19:25.7±0.4, 60°.70N×28°.82E, h0km, ML1.8, Explosion*
*IDC **19** 11:19:26.3±2.2, 60°.70N×28°.88E, h0km, mbtmp2.9/3, ML2.1/2, Error ellipse: s-maj=18.3km s-min=14.7km az=17.0*
ISC 19 11:19:24.7±1.1, 60°.81N±0°.04×28°.85E±0°.05, h0km, n28, σ1§19/37, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	Ruokolahti	0.62	4	PG	Pb	11 19 38.5	0.0
RUF				SG	Sb	11 19 47.7	-0.1
RUF				MSG		11 19 47.8	
	comp=Z,12nm,0.2s						
VJF	Virojoki	0.69	248	PG	Pg	11 19 37.9	-0.1
VJF				MSG		11 19 46.2	
	comp=Z,17nm,0.2s						
VJF				SG	Sg	11 19 46.8	-0.1
FIA0	FINESS Array S	1.49	297	PG	Pn	11 19 52.6	-0.1
	baz=116						
FIA0				MSG		11 20 11.1	
	comp=Z,12nm,0.2s						
FINES	FINESS Array B	1.49	297	Pg	Pn	11 19 52.3	-0.4
	comp=Z,1.0nm,0.3s,baz=119,slow=17,SNR=66						
FINES				Lg	Lg	11 20 15.2	
	comp=Z,2.9nm,0.3s,baz=113,slow=32,SNR=40						
PVF	Pernaja	1.50	261	PG	Pn	11 19 51.8	-1.0
PVF				MSG		11 20 09.8	
	comp=Z,12nm,0.2s						
PVF				SN	Sg	11 20 12.6	-0.1
KAF	Kangasniemi	1.79	318	PG	Pg	11 19 58.8	-0.2
KAF				MSG		11 20 20.6	
	comp=Z,7.8nm,0.2s						
KAF				SN	Sg	11 20 23.5	+1.2
ARBE	Arbavere	1.99	228	SG	Sb	11 20 27.4	+0.5
HEL1	Helsinki	2.06	254	PG	Pb	11 20 02.1	-0.9
HEL1				SG	Sb	11 20 29.3	+0.2
NUR	Nurmijarvi	2.09	264	PG	Pb	11 20 02.4	-1.1
	baz=80						
NUR				MSG		11 20 27.1	
	comp=Z,3.7nm,0.2s						
MEF	Metsahovi	2.28	257	eP	Pn	11 20 04.2	+0.6
MEF	Metsahovi	2.28	257	PG	Pn	11 20 04.8	+1.2
MEF				MSG		11 20 32.3	
	comp=Z,3.0nm,0.2s						
MEF				SG	Sb	11 20 35.0	-0.4
SUF	Sumiainen	2.31	327	PG	Pb	11 20 07.4	+0.1
SUF				MSG		11 20 35.7	
	comp=Z,1.8nm,0.2s						
SUF				SG	Sg	11 20 39.1	+0.2
KEF	Keuruu	2.35	307	eP	Pn	11 20 05.0	+0.4
KEF	Keuruu	2.35	307	PB	Pb	11 20 06.5	-1.4
	baz=127						
KEF				MSG		11 20 36.2	
	comp=Z,2.7nm,0.2s						
KEF				SG	Sg	11 20 39.8	-0.3
JOF	Joensuu	2.42	28	eP	Pg	11 20 10.1	-1.0
JOF	Joensuu	2.42	28	PB	Pb	11 20 09.2	+0.1
JOF				SB	Sg	11 20 41.0	-1.4
VSU	Vasula	2.58	205	SG	Sb	11 20 43.4	-0.7
NIF	Nilsia	2.64	350	PB	Pb	11 20 12.9	0.0
NIF				SG	Sg	11 20 48.1	-1.4
KPF	Kankaanpaa	3.43	290	PB	Pb	11 20 23.2	-3.1
RAF	Rauma	3.47	277	eP	Pn	11 20 20.7	+0.8
RAF	Rauma	3.47	277	PB	Pn	11 20 22.4	+2.5
RAF				SB	Sn	11 21 04.6	+3.0
VAF	Ylistaro	3.68	310	eP	Pn	11 20 23.6	+0.8
VAF	Ylistaro	3.68	310	PB	Pb	11 20 28.4	-2.2
I43RU	DUBNA INFRASON	5.97	130	I	I	11 56 40.0	
	baz=316,slow=327,SNR=1.5						
HFS	Hagfors	7.52	271	Pn	Pn	11 21 16.1	+0.6
	comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=1.6						
	comp=Z,0.3nm,0.4s						
NOA	NORSAR Array B	8.59	279	Pn	Pn	11 21 30.0	-0.3
	baz=92,slow=19,SNR=1.6						
	comp=Z,0.1nm,0.6s						
ARCES	ARCESS Array B	8.88	352	Pn	Pn	11 21 35.6	+1.5
	comp=Z,2.5nm,1.1s,baz=167,slow=12,SNR=1.5						
I37NO	I37NO	9.35	337	I	I	12 16 00.0	
	baz=144,slow=321,SNR=1.5						

*IDC **19** 11:19:53.0±1.4, 30°.97N×70°.23E, h0km, mb3.6/11, mbtmp3.7/13, ML4.0/1, MS2.9/3, Error ellipse: s-maj=26.8km s-min=25.0km az=145.0*
ISC 19 11:19:54.9±1.2, 31°.1N±0°.1×70°.3E±0°.1, h10km, n14, σ1§52/16, mb3.7/10, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	12.00	15	Pn	Pn	11 22 46.9	+0.8
	0.9nm,0.3s,baz=94,slow=10.0,SNR=7.1						
AAK				Sn	Sn	11 25 00.4	+0.5
	0.3nm,0.3s,baz=238,slow=19,SNR=1.7						
AAK				LR	LR	11 27 57.3	
	comp=Z,47nm,18.5s,baz=175,slow=40						
	3.5nm,0.6s						
MKAR	Makanchi Array	18.20	27	P	Pn	11 24 08.3	+0.7
	2.0nm,1.1s,baz=212,slow=10,SNR=2.1						
MKAR				S	Sn	11 27 26.1	-4.6
	0.4nm,0.4s,baz=189,slow=27,SNR=3.3						
MKAR				LR	LR	11 32 02.9	
	comp=Z,33nm,21.1s,baz=218,slow=40						
KURBB	Kurchatov Arra	20.45	15	P	P	11 24 33.5	+1.1
	0.5nm,0.4s,baz=208,slow=10,SNR=6.2						
	0.5nm,0.4s						
AKTO	Aktyubinsk	21.41	338	P	P	11 24 44.2	+1.5
	2.1nm,0.6s,baz=148,slow=9.1,SNR=5.2						
	2.1nm,0.6s						
BVAR	Borovoye Array	21.92	0	P	P	11 24 49.5	+1.3
	1.5nm,0.7s,baz=163,slow=11,SNR=7.8						
	1.5nm,0.7s						
ZALV	Zalesovo Beam	25.12	20	P	P	11 25 20.6	+0.9
	0.6nm,0.3s,baz=219,slow=9.2,SNR=4.0						
	0.6nm,0.3s						
BRTR	Keskin Array B	30.95	296	P	P	11 26 11.4	-0.9
	0.7nm,0.6s,baz=116,slow=12,SNR=4.4						
	0.7nm,0.6s						
AKASG	Malin Array Be	36.14	315	P	P	11 26 56.6	-0.5
	0.6nm,0.5s,baz=101,slow=7.0,SNR=8.0						
	0.6nm,0.5s						
HFS	Hagfors	47.08	325	P	P	11 28 26.6	0.0
	1.2nm,0.8s,baz=120,slow=8.8,SNR=6.1						
	1.2nm,0.8s						
NB2	NORSAR Subarra	48.46	326	P	P	11 28 37.1	-0.2
	comp=Z,0.5nm,0.5s,baz=106,slow=7.9						
NOA	NORSAR Array B	48.46	326	P	P	11 28 36.8	-0.5
	comp=Z,0.3nm,0.6s,baz=106,slow=8.0,SNR=4.9						
NOA				LR	LR	11 51 05.9	
	comp=Z,13nm,18.1s,baz=65,slow=39						
	comp=Z,0.3nm,0.6s						
ESDC	Sonseca Array	59.61	301	P	P	11 29 58.5	-0.6
	comp=Z,0.4nm,0.6s,baz=84,slow=7.0,SNR=4.7						
	comp=Z,0.4nm,0.6s						
ASAR	Alice Springs	81.66	124	P	P	11 32 13.5	-0.1
	comp=Z,0.3nm,0.7s,baz=305,slow=5.2,SNR=4.7						
	comp=Z,0.3nm,0.7s						
YKA	Yellowknife Ar	86.66	2	P	P	11 32 38.9	+0.5
	comp=Z,0.2nm,0.7s,baz=357,slow=4.7,SNR=5.5						
	comp=Z,0.2nm,0.7s						

*SOME **19** 11:21:07.3, 44°.85N×82°.47E, h15km*
*NNC **19** 11:21:09.4±4.3, 44°.42N×82°.73E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=48.1km s-min=11.7km az=121.0*
ISC 19 11:21:09.9±1.9, 44°.4N±0°.1×82°.7E±0°.1, h10km, n13, σ1§64/18, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.40	353	Pg	Pg	11 21 55.2	-0.6
	11nm,0.5s,baz=188,slow=14,SNR=242						
MK31				⇑Lg	Lg	11 22 24.5	
	5.2nm,0.3s,baz=184,slow=28,SNR=20						
MAKZ	Makanchi	2.45	348	⇑Pg	Pg	11 21 55.2	-1.6
	5.3nm,0.4s						
MAKZ				⇓Lg	Lg	11 22 25.2	
	8.9nm,0.4s						
PDGK	Podgornoye	2.59	246	⇓Pg	Pg	11 21 58.8	-0.6
	2.3nm,0.4s						
PDGK				⇓Lg	Lg	11 22 30.9	
	19nm,0.6s						
SHLS	Shalkode	2.69	243	Pg	Pn	11 21 54.2	+1.0
	2.0nm,0.1s						
SHLS				Lg	Lg	11 22 28.4	
	30nm,0.3s						
SHLS	Shalkode	2.69	243	eP	Pn	11 21 54.2	+1.0
	2.0nm,0.1s						
SHLS				eS	Sb	11 22 28.4	-2.8
	30nm,0.3s						
UZB	Uzynbulak	2.98	246	Pg	Pb	11 22 02.1	-1.0
	2.3nm,0.3s						
UZB				Lg	Lg	11 22 41.6	
	8.0nm,0.3s						
UZB	Uzynbulak	2.98	246	eP	Pb	11 22 02.1	-1.0
	2.3nm,0.3s						
UZB				eS	Sb	11 22 41.6	+2.1
	8.0nm,0.3s						
ZSN	Zaisan	3.38	25	Pg	Pn	11 22 03.5	+0.9
	3.1nm,0.2s						
ZSN				Lg	Lg	11 22 44.0	
	4.0nm,0.3s						
ZSN	Zaisan	3.38	25	eP	Pn	11 22 03.5	+0.9
	3.1nm,0.2s						
ZSN				eS	Sn	11 22 44.0	+1.2
	4.0nm,0.3s						
SATY	Saty	3.42	248	Pg	Pb	11 22 09.2	-1.4
	2.0nm,0.1s						
SATY				Lg	Lg	11 22 54.2	
	32nm,0.3s						
TNSS	Tian-Shan	4.42	254	Pg	Pb	11 22 26.5	-1.3
	0.7nm,0.1s						
TNSS				Lg	Lg	11 23 23.5	
	1.3nm,0.3s						
TNSS	Tian-Shan	4.42	254	eP	Pb	11 22 26.5	-1.3
	0.7nm,0.1s						
TNSS				eS	Sb	11 23 23.5	+2.2
	1.3nm,0.3s						
MTBS	Maitube	4.75	256	eP	Pb	11 22 32.2	-1.0
	1.7nm,0.3s						
MTBS				eS	Sb	11 23 32.9	+2.5
	6.7nm,0.4s						

*NEIC **19** 11:43:05.9±1.6, 14°.41N±0°.06×92°.84W±0°.05, h35km±2km, mb4.2/33, Md4.4/68(MEX), Error ellipse: s-maj=10.6km s-min=7.1km az=208.0*
*SNET **19** 11:43:09.3±1.0, 14°.65N×92°.55W, h63km±12km, ML3.9*
*CATAC **19** 11:43:10.0±0.8, 14°.N±7°×9°.3W±°, h26km±7km, M4.3/11, MLv4.3/11, Error ellipse: s-maj=17.3km s-min=9.8km az=152.4, confirmed*
*GCG **19** 11:43:10.4±1.6, 14°.65N×92°.46W, h68km±8km, MD4.3, ML3.7, MW3.6*
*MEX **19** 11:43:11.2±0.6, 14°.67N×92°.49W, h74km±6km, MD4.4*
*IDC **19** 11:43:15.5±4.1, 14°.97N×91°.96W, h128km±46km, mb3.3/3, mbtmp3.7/5, MS2.9/2, Error ellipse: s-maj=47.5km s-min=26.4km az=83.0*
ISC 19 11:43:09.7±0.8, 14°.62N±0°.05×92°.55W±0°.03, h76km±6km, n144, σ2§15/196, mb4.1/19, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.39	43	P	Pn	11 43 21.4	-0.7
THIG					Sn	11 43 29.7	-1.6
THIG		0.39	43	eP	Pn	11 43 21.4	-0.7
THIG				eS	Sn	11 43 29.7	-1.6
THIG		0.39	43	eP	Pn	11 43 21.3	-0.7
	comp=Z,3μm,0.2s						
THIG				i S	Sn	11 43 30.7	-0.6
THIG				IAML		11 43 33.4	
	comp=Z,3μm,0.2s						
SMCA	Catarina	0.51	63	eP	Pn	11 43 22.4	-0.8
SMCA				eS	Sn	11 43 31.4	-1.6
SMCA				IAML		11 43 34.7	
	comp=Z,4μm,0.2s						
PATR	El Naranjo	0.58	31	eP	Pn	11 43 22.9	-1.1
PATR				i S	Sn	11 43 32.8	-1.8
CHUJ	Union Juarez	0.63	42	eP	Pn	11 43 23.6	-1.0
CHUJ				eS	Sn	11 43 34.3	-1.3
PAVE	Pavencul	0.67	32	eP	Pn	11 43 24.0	-1.0
PAVE				eS	Sn	11 43 34.3	-2.0
RTAL	Retalhuleu	0.83	96		Pn	11 43 26.0	-0.4
RTAL				Sn	Sn	11 43 39.0	+0.1
RTAL	Retalhuleu	0.83	96	eP	Pn	11 43 26.1	-0.4
RTAL				eS	Sn	11 43 37.2	-1.7
RTAL	Retalhuleu	0.83	96	eP	Pn	11 43 26.0	-0.4
RTAL				eS	Sn	11 43 37.8	-1.2
RTAL	Retalhuleu	0.83	96	P	Pn	11 43 26.0	-0.4
RTAL				S	Sn	11 43 38.5	-0.4
SOKI	Kika Raxquin	1.12	80	eP	Pn	11 43 30.8	+0.5
SOKI				i S	Sn	11 43 46.9	+1.0
STG8	El Palmar, Qui	1.17	98	i P	Pn	11 43 27.0	-3.8
STG5	El Palmar, Qui	1.18	100	i P	Pn	11 43 27.0	-3.8
STG5				eS	Sn	11 43 40.4	-6.2
STG0	El Palmar, Qui	1.18	99	i P	Pn	11 43 27.2	-3.7
STG0				eS	Sn	11 43 39.8	-6.9
HUEH	Huehuetenango	1.22	55		Pn	11 43 31.4	-0.1
HUEH				Sn	Sn	11 43 49.8	+2.0
HUEH	Huehuetenango	1.22	55	eP	Pn	11 43 31.3	-0.2
HUEH				eS	Sn	11 43 48.1	+0.3
HUEH	Huehuetenango	1.22	55	eP	Pn	11 43 31.6	+0.1
HUEH				eS	Sn	11 43 48.0	+0.2
HUEH	Huehuetenango	1.22	55	eP	Pn	11 43 31.6	+0.1
HUEH				eS	Sn	11 43 49.3	+1.5
PCIG		1.26	329		Pn	11 43 31.8	0.0
PCIG					Sn	11 43 47.8	-0.5
PCIG		1.26	329	eP	Pn	11 43 31.8	0.0
PCIG				eS	Sn	11 43 47.8	-0.5
ESSG	Sabana Grande	1.68	98	eP	Pn	11 43 37.2	0.0
	comp=Z,1μm,1.0s						
ESSG				eS	Sn	11 43 57.1	-1.0
ESSG				IAML		11 43 59.5	
	comp=Z,1μm,1.0s						
CCIG	Comitan	1.70	13		Pn	11 43 38.0	+0.3
CCIG	Comitan	1.70	13	i P	Pn	11 43 38.0	+0.3
CCIG				eP		11 43 38.1	
CCIG				i S	Sn	11 43 56.7	-2.0
CCIG	Comitan	1.70	13	i P	Pn	11 43 38.2	+0.6
CCIG				IAML		11 44 03.9	
	comp=Z,470nm,0.5s						
FG8	Yepocapa, Chim	1.96	100	i P	Pn	11 43 35.9	-5.1
FG8				eS	Sn	11 43 54.9	-10
FG16	Alotenango, Sa	2.00	100	i P	Pn	11 43 37.3	-4.3
FG16				eS	Sn	11 43 57.2	-8.8
TGIG		2.22	346		Pn	11 43 42.9	-1.6
TGIG					Sn	11 44 09.6	-1.4
TGIG		2.22	346	eP	Pn	11 43 42.9	-1.6
TGIG				eS	Sn	11 44 09.6	-1.4
TGIG		2.22	346	eP	Pn	11 43 43.7	-0.7
	comp=Z,557nm,0.4s						
TGIG				IAML		11 44 22.8	
	comp=Z,557nm,0.4s						
SLOZ	Alcaldia de Sa	2.74	102	eP	Pn	11 43 51.2	-0.3
SLOZ				eS	Sn	11 44 25.1	+1.4
SLOZ	Alcaldia de Sa	2.74	102	P	Pn	11 43 51.8	+0.3
RTR	El Retiro	2.90	104	eP	Pn	11 43 54.4	+0.6
SBLS	San Blas	2.94	105	eP	Pn	11 43 54.5	+0.2
CEVE	Cerro Verde	2.94	105	eP	Pn	11 43 54.7	+0.3
CEVE				eS	Sn	11 44 30.1	+1.4
CEVE	Cerro Verde	2.94	105	P	Pn	11 43 55.0	+0.7
SNJE	San Jose	2.95	104	eP	Pn	11 43 54.8	+0.3
SNJE				eS	Sn	11 44 30.8	+1.9
UNIC	Universidad Ca	2.97	102	eP	Pn	11 43 54.3	-0.4
UNIC	Universidad Ca	2.97	102	P	Pn	11 43 55.5	+0.9
MTO3	Montecristo	3.09	94		Pn	11 43 56.4	0.0
MTO3	Montecristo	3.09	94	eP	Pn	11 43 56.3	-0.1
MTO3	Montecristo	3.09	94	P	Pn	11 43 56.2	-0.2
UXUV	UXUV	3.09	330	eP	Pn	11 43 57.2	+1.0
UXUV				eS	Sn	11 44 31.3	-0.8
ESQI	Esquipulas	3.10	91	Pn	Pn	11 43 54.2	-2.3
JAYA	Jayaque - finc	3.15	107	eP	Pn	11 43 57.1	-0.1
JAYA				IAML		11 44 40.0	
	comp=Z,855nm,0.4s						
JAYA	Jayaque - finc	3.15	107	eP	Pn	11 43 57.8	+0.6
JAYA	Jayaque - finc	3.15	107	P	Pn	11 43 57.4	+0.3
JAYA	Jayaque - finc	3.15	107	S	Sn	11 44 31.8	-2.0
PMON	Piamonte	3.26	106	eP	Pn	11 43 59.2	+0.6
PMON	Piamonte	3.26	106	P	Pn	11 43 59.4	+0.8
PMON	Piamonte	3.26	106	S	Sn	11 44 37.7	+1.3
LALI	Alcalda de L	3.33	109	eP	Pn	11 43 59.8	+0.4
LALI	Alcalda de L	3.33	109	P	Pn	11 44 00.2	+0.8
CMIG	Matias Romero	3.33	318		Pn	11 43 59.9	+0.4
CMIG					Sn	11 44 37.7	-0.2
CMIG	Matias Romero	3.33	318	eP	Pn	11 43 59.9	+0.4
CMIG				eS	Sn	11 44 37.7	-0.2
PETF	Flores	3.44	48		Pn	11 43 59.6	-1.4
PETF	Flores	3.44	48	eP	Pn	11 44 00.5	-0.5
PETF				eS	Sn	11 44 35.9	-4.8
PETF	Flores	3.44	48	eP	Pn	11 44 00.7	-0.3
PETF	Flores	3.44	48	i P	Pn	11 44 00.8	-0.3
PAVA	Las Pavas	3.61	104	P	Pn	11 44 04.2	+0.8
PAVA	Las Pavas	3.61	104	S	Sn	11 44 46.4	+1.4
HUIG	Huatulco	3.62	289		Pn	11 44 03.2	-0.3
HUIG					Sn	11 44 40.0	-5.1
HUIG	Huatulco	3.62	289	eP	Pn	11 44 03.2	-0.3
HUIG				eS	Sn	11 44 40.0	-5.1
PQSS	Presa 15 de Se	3.99	104	eP	Pn	11 44 08.8	+0.4
PQSS				IAML		11 45 04.3	
	comp=Z,44nm,0.2s						
NEUV	Arroyo Zacate	4.39	315	eP	Pn	11 44 13.5	-0.4
NEUV				eS	Sn	11 45 04.2	+0.4
SCIG	Sabancuy	4.51	17	eP	Pn	11 44 15.2	-0.3
SCIG				eS	Sn	11 45 02.3	-4.5
PMUV	Sontecomapan	4.62	328	eS	Sn	11 45 05.0	-4.6
PEIG	Puerto Escondi	4.65	288		Pn	11 44 17.4	-0.1
PEIG					Sn	11 45 05.9	-4.3
PEIG	Puerto Escondi	4.65	288	eP	Pn	11 44 17.4	-0.1
PEIG				i S	Sn	11 45 05.9	-4.3
OXIG	Oaxaca	4.71	302		Pn	11 44 19.1	+0.7
OXIG					Sn	11 45 09.2	-2.8
VHO	Vista Hermosa	4.71	302	eP	Pn	11 44 19.1	+0.7
VHO				eS	Sn	11 45 09.2	-2.8
TGUH	Tegucigalpa,Un	5.14	96	Pn	Pn	11 44 21.1	-3.1
YOIG	Yosondua	5.30	295	eP	Pn	11 44 28.6	+2.0
YOIG				i S	Sn	11 45 30.0	+3.4
TOIG	Toxpalan	5.55	309	eP	Pn	11 44 31.1	+1.3
TOIG				eS	Sn	11 45 32.4	+0.1
PNIG	Pinotepa	5.66	289	eP	Pn	11 44 32.2	+0.9
PNIG				eS	Sn	11 45 32.5	-2.5
TXIG	Tlaxiaco	5.67	298	eP	Pn	11 44 34.1	+2.5
TXIG				eS	Sn	11 45 34.0	-1.4
CRIN	San Cristobal	5.67	109	Pn	Pn	11 44 28.3	-3.2
HERN	Volcan Telica	5.90	109	Pn	Pn	11 44 30.7	-3.9
TPIG	Tehuac#an	5.97	310	eP	Pn	11 44 35.8	+0.2
TPIG				eS	Sn	11 45 43.0	+0.3
HLIG	Huajuapan de L	5.97	303	eP	Pn	11 44 38.9	+3.1
HLIG				eS	Sn	11

SAND	**Sanderson**	**17.63 332**		**Pn**	**11 47 11.8 +1.4**
TXAR	**Lajitas Array**	**17.89 327**	P	**Pn**	**11 47 12.9 -0.7**
TXAR	**Lajitas Array**	**17.89 327**	P	**Pn**	**11 47 15.2 +1.6**
	comp=Z,1.5nm,0.9s,baz=148,slow=12,SNR=16				
TX31	**Lajitas Ar. Si**	**17.89 327**		**Pn**	**11 47 15.2 +1.5**
VHRN	**Van Horn**	**19.73 327**	P	**P**	**11 47 33.0 -0.6**
APMT	**Aspermont**	**19.85 341**	P	**P**	**11 47 33.6 -1.0**
MIAR	**Mount Ida**	**19.86 357**	P	**P**	**11 47 34.9 +0.2**
MIAR			IAmb	IAmb	11 47 40.0
	comp=Z,9.1nm,0.8s				
SN07	**Snyder 07**	**19.89 339**	P	**P**	**11 47 33.1 -2.0**
MNTX	**Cornudas Mount**	**20.66 328**	P	**P**	**11 47 42.6 -0.8**
RUSC	**La Rusia**	**21.01 112**	P	**P**	**11 47 49.2 +1.5**
RUSC			IAmb	IAmb	11 48 17.6
	comp=Z,8.7nm,1.3s				
FLOC	**Florencia**	**21.12 126**		**P**	**11 47 49.2 +0.7**
FLOC			IAmb	IAmb	11 47 56.3
	comp=Z,6.7nm,0.8s				
KAN09	**Caldwell North**	**22.88 350**	P	**P**	**11 48 08.2 +1.3**
CRNM	**Carthage**	**23.14 329**	P	**P**	**11 48 09.8 0.0**
BNM	**Barren Site**	**23.24 329**	P	**P**	**11 48 09.1 -1.7**
LENM	**Lemitar**	**23.43 329**	P	**P**	**11 48 12.9 +0.4**
NVAR	**Mina Array Bea**	**32.86 321**	P	**P**	**11 49 38.1 +1.5**
NVAR	**Mina Array Bea**	**32.86 321**	P	**P**	**11 49 38.7 +2.1**
	comp=Z,1.7nm,0.8s,baz=126,slow=6.4,SNR=14				
	comp=Z,1.7nm,0.8s				
J08A	**Circle Bar Ran**	**36.24 327**	P	**P**	**11 50 07.5 +2.0**
PLID	**Pearl Lake**	**36.28 332**	P	**P**	**11 50 07.3 +1.3**
BBB	**Bella Bella**	**46.96 331**	LR	LR	12 15 53.1
	comp=Z,40nm,20.1s,baz=166,slow=42				
YKA	**Yellowknife Ar**	**50.30 347**	P	**P**	**11 51 56.2 -2.2**
	comp=Z,0.3nm,0.7s,baz=164,slow=13,SNR=6.6				
	comp=Z,0.3nm,0.7s				
M29M	**Somme Creek**	**57.64 337**	P	**P**	**11 52 53.6 +1.7**
I30M	**Mount Dempster**	**58.55 340**	P	**P**	**11 52 59.0 +0.8**
I30M			IAmb	IAmb	11 53 07.7
	comp=Z,3.4nm,1.4s				
BCAR	**Beaver Creek A**	**59.26 336**	P	**P**	**11 53 04.1 +1.0**
L27K	**Beaver Creek,**	**59.28 336**	P	**P**	**11 53 05.3 +2.1**
L27K			IAmb	IAmb	11 53 31.0
	comp=Z,2.8nm,1.3s				
F30M	**Barrier River**	**59.88 342**	P	**P**	**11 53 08.3 +1.1**
F30M			IAmb	IAmb	11 53 17.5
	comp=Z,3.8nm,1.5s				
ILAR	**Eielson Array**	**62.06 337**	P	**P**	**11 53 21.9 -0.2**
	comp=Z,0.7nm,0.7s,baz=118,slow=5.9,SNR=8.3				
	comp=Z,0.7nm,0.7s				
BMAR	**Burnt Mountain**	**62.53 340**	P	**P**	**11 53 26.2 +1.0**
TRF	**Thorofare Moun**	**62.85 335**	P	**P**	**11 53 28.7 +1.1**
H24K	**Noodor Dome**	**62.92 338**	P	**P**	**11 53 28.5 +0.6**
H24K			IAmb	IAmb	11 53 29.0
	comp=Z,1.5nm,0.8s				
I23K	**Minto, Yukon-K**	**63.18 337**	P	**P**	**11 53 30.5 +1.1**
I23K			IAmb	IAmb	11 53 30.9
	comp=Z,2.5nm,0.9s				
E25K	**Arctic Village**	**63.21 340**	P	**P**	**11 53 30.6 +0.9**
E25K			IAmb	IAmb	11 53 51.7
	comp=Z,4.2nm,1.5s				
CAST	**Castle Rocks**	**63.59 334**	P	**P**	**11 53 32.8 +0.6**
F24K	**Squaw Lake**	**63.69 339**	P	**P**	**11 53 34.0 +1.1**
F24K			IAmb	IAmb	11 53 57.2
	comp=Z,2.1nm,1.3s				
D25K	**Kavik River**	**64.06 341**	P	**P**	**11 53 36.2 +0.9**
D25K			IAmb	IAmb	11 53 36.8
	comp=Z,2.3nm,0.9s				
L19K	**White Mountain**	**64.37 333**	P	**P**	**11 53 37.6 +0.2**
L19K			IAmb	IAmb	11 54 07.2
	comp=Z,4.3nm,1.2s				
K20K	**Telida**	**64.41 334**	P	**P**	**11 53 37.9 +0.3**
E23K	**Chandalar**	**64.52 340**	P	**P**	**11 53 39.7 +1.3**
E23K			IAmb	IAmb	11 54 17.4
	comp=Z,2.7nm,1.2s				
C24K	**Franklin Bluff**	**64.97 341**	P	**P**	**11 53 42.2 +1.0**
D22K	**Ayikyak River**	**65.89 340**	P	**P**	**11 53 48.4 +1.3**
D22K			IAmb	IAmb	11 53 48.8
	comp=Z,1.2nm,0.8s				
F20K	**Avaraart Lake**	**66.30 338**	P	**P**	**11 53 50.6 +0.9**
F20K			IAmb	IAmb	11 53 51.1
	comp=Z,3.1nm,0.9s				
B22K	**Teshekpuk Lake**	**66.70 341**	P	**P**	**11 53 53.2 +1.0**
E19K	**Redstone River**	**66.98 338**	P	**P**	**11 53 55.4 +1.3**
E19K			IAmb	IAmb	11 54 25.7
	comp=Z,4.7nm,1.4s				
D20K	**Etivluk River**	**67.16 339**	P	**P**	**11 53 56.1 +0.8**
D20K			IAmb	IAmb	11 53 56.7
	comp=Z,3.5nm,0.9s				
B20K	**Meade River**	**67.77 340**	P	**P**	**11 54 00.1 +1.1**

IDC 19 11:49:35.8±421.0, 57°.59N×29°.75E, h0km, Error ellipse: s-maj=162.7km s-min=96.8km az=91.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.16**	**99**	I	I	12 15 50.0	
	0.2nm,0.7s,baz=283,slow=320,SNR=1.1						
I37NO	**I37NO**	**12.53**	**341**	I	I	12 58 10.0	
	baz=146,slow=321,SNR=1.7						
I31KZ	**AKTYUBINSK INF**	**18.02**	**101**	I	I	13 42 30.0	
	baz=302,slow=328,SNR=0.9						
I46RU	**ZALESOVO INFRAS**	**30.47**	**73**	I	I	14 57 20.0	
	baz=297,slow=335,SNR=1.8						
I18DK	**QAANAAQ INFRAS**	**36.50**	**339**	I	I	15 46 50.0	
	baz=55,slow=338,SNR=1.3						

AUST 19 11:59:43.9±0.3, 33°S±2°×13°9E±°, h2km±2km, mb3.6/1, ML2.6/11, Error ellipse: s-maj=7.7km s-min=4.0km az=64.3, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**0.10**	**216**	P	Pg	11 59 45.8	-0.1
HTT				S	Sg	11 59 47.9	+0.6
NAPP	**Napperby**	**0.73**	**283**	P	Pg	11 59 57.4	-0.5
SDAN	**Sedan**	**1.19**	**166**	P	Pg	12 00 05.6	-1.2
SDAN				S	Sg	12 00 21.8	-0.5
WHYH	**Whyalla**	**1.23**	**284**	P	Pg	12 00 06.9	-0.6
YAPP	**Yappala Statio**	**1.58**	**338**	P	Pn	12 00 12.5	-0.5
YAPP				S	Sn	12 00 34.0	-0.1
AUMBR	**Murray Bridge**	**1.80**	**172**	P	Pn	12 00 16.4	+0.4
BBOO	**Buckleboo**	**2.52**	**281**	S	Sn	12 00 58.2	+0.9
STKA	**Stephens Creek**	**2.64**	**57**	P	Pn	12 00 28.1	+0.5
LCRK	**Leigh Creek**	**2.97**	**347**	P	Pn	12 00 31.9	-0.2
LCRK	**Leigh Creek**	**2.97**	**347**	S	Sn	12 01 08.3	+0.1
KELC	**Kelly Hill Cav**	**3.14**	**213**	P	Pn	12 00 34.7	+0.3
ARPS	**Mount Arapiles**	**4.13**	**146**	P	Pn	12 00 48.0	-0.1
MULG	**Mulgathing**	**5.20**	**305**	P	Pn	12 01 02.2	-0.5
	comp=Z,0.1nmcomp=Z,17nm,2.3s						
OOD	**Oodnadatta**	**6.22**	**332**	P	Pn	12 01 16.8	-0.1

RSNC 19 12:02:04.0±0.0, 7°N±1°×7°3W±°, h152km±2km, M2.9, mB4.3, mb3.5, ML2.8, Mw(mB)3.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**186**	P	Pn	12 02 24.3	-0.6
BARC				S	Sn	12 02 39.2	-1.6
BRJC	**Barrancabermej**	**0.60**	**285**	P	Pn	12 02 26.0	-0.1
BRJC				S	Sn	12 02 43.1	+0.2
PAMC	**Pamplona, Colo**	**0.69**	**41**	P	Pn	12 02 27.1	-0.1
PAMC				S	Sn	12 02 44.3	-0.6
RUSC	**La Rusia**	**0.93**	**175**	P	Pn	12 02 28.2	-0.8
RUSC				S	Sn	12 02 46.9	-1.1
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	P	Pn	12 02 30.8	-1.1
PTBC				S	Sn	12 02 52.1	-1.1
TAMC	**Tame, Arauca**	**1.41**	**106**	P	Pn	12 02 32.8	-0.1
TAMC				S	Sn	12 02 54.5	-0.4
OCAC	**Ocana**	**1.42**	**354**	P	Pn	12 02 32.5	-0.6
OCAC				S	Sn	12 02 54.4	-1.0
ZARC	**Zaragoza, Cauc**	**1.81**	**292**	P	Pn	12 02 36.7	-0.4
ZARC				S	Sn	12 03 02.4	-0.2
NORC	**Norcasia**	**2.11**	**234**	P	Pn	12 02 40.4	-0.2
NORC				S	Sn	12 03 08.5	-0.2
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	12 02 42.4	-0.2
CHIC				S	Sn	12 03 11.8	-0.6
ROSC	**El Rosal**	**2.28**	**210**	P	Pn	12 02 44.1	+1.1
ROSC				S	Sn	12 03 14.8	+1.8
CVER	**Cruz Verde, Cu**	**2.46**	**202**	P	Pn	12 02 45.6	+0.4
CVER				S	Sn	12 03 17.3	+0.4
UREC	**San Jos de Ur**	**2.53**	**292**	P	Pn	12 02 44.7	-0.9
UREC				S	Sn	12 03 14.9	-2.8
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P	Pn	12 02 48.3	+0.1
GUY2C				S	Sn	12 03 21.8	-0.5
PTGC	**Puerto Gaitan,**	**2.80**	**159**	P	Pn	12 02 47.4	-1.5
PTGC				S	Sn	12 03 20.9	-2.8
NIZA	**Niza - Manizal**	**2.89**	**233**	P	Pn	12 02 50.7	+0.3
NIZA				S	Sn	12 03 29.7	+3.6
CBOC	**Ciudad Bolivar**	**2.99**	**252**	P	Pn	12 02 51.7	+0.2
CBOC				S	Sn	12 03 28.0	-0.2
DBBC	**Dabeiba**	**3.03**	**274**	P	Pn	12 02 51.5	-0.5
DBBC				S	Sn	12 03 27.6	-1.5
ARGC	**Ariguani, Magd**	**3.20**	**340**	P	Pn	12 02 55.7	+1.6
ARGC				S	Sn	12 03 34.0	+1.1
ANIL	**Santa Ana**	**3.21**	**224**	P	Pn	12 02 55.6	+1.1
ANIL				S	Sn	12 03 35.2	+1.7
SDV	**Santo Domingo**	**3.24**	**50**	P	Pn	12 02 53.7	-1.0
SDV				S	Sn	12 03 31.7	-2.2
PRAC	**Prado**	**3.53**	**209**	P	Pn	12 02 58.1	-0.2
PRAC				S	Sn	12 03 39.8	-0.7
APAC	**Apartado, Choc**	**3.56**	**288**	P	Pn	12 02 57.9	-0.7
APAC				S	Sn	12 03 39.3	-1.6
SJCC	**San Jacinto, C**	**3.65**	**327**	P	Pn	12 02 58.0	-1.9
SJCC				S	Sn	12 03 39.4	-3.9
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	12 03 01.2	0.0
URMC				S	Sn	12 03 44.6	-1.0
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	P	Pn	12 03 04.7	-2.1
CRJC				S	Sn	12 03 52.6	-3.1
YOTC	**Yotoco, Valle**	**4.24**	**229**	P	Pn	12 03 06.8	-0.8
YOTC				S	Sn	12 03 58.5	+1.4
SMRC	**Santa Marta, M**	**4.44**	**346**	P	Pn	12 03 09.5	-0.6
SMRC				S	Sn	12 03 57.8	-3.9
MACC	**Macarena, Meta**	**4.69**	**188**	P	Pn	12 03 11.2	-2.3
MACC				S	Sn	12 04 02.1	-5.6
BETC	**Betania**	**4.70**	**209**	P	Pn	12 03 12.7	-0.9
BETC				S	Sn	12 04 05.5	-2.3
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	12 03 14.7	-2.6
URIC				S	Sn	12 04 10.7	-3.8
GARC	**Garzon, Huila**	**5.16**	**207**	P	Pn	12 03 18.5	-1.3
GARC				S	Sn	12 04 16.1	-2.9
POPC	**Popayan, Colom**	**5.51**	**220**	P	Pn	12 03 24.3	-0.2
	2.6nm,0.5s						
POPC				S	Sn	12 04 27.3	0.0
	2.6nm,0.5s						
FLOC	**Florencia**	**5.77**	**206**	P	Pn	12 03 26.9	-0.8
	5.8nm,0.8s						
FLOC				S	Sn	12 04 32.6	-0.6
	5.8nm,0.8s						

IDC 19 12:05:21.3±373.0, 58°.33N×30°.82E, h0km, Error ellipse: s-maj=150.3km s-min=77.5km az=109.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.81**	**112**	I	I	12 28 00.0	
	0.1nm,0.6s,baz=298,slow=327,SNR=5.1						
I37NO	**I37NO**	**12.03**	**339**	I	I	13 16 10.0	
	baz=149,slow=318,SNR=1.5						
I31KZ	**AKTYUBINSK INF**	**17.63**	**105**	I	I	13 54 30.0	
	baz=305,slow=325,SNR=1.3						
I46RU	**ZALESOVO INFRA**	**29.71**	**75**	I	I	15 07 40.0	
	baz=300,slow=337,SNR=1.4						
I18DK	**QAANAAQ INFRAS**	**36.02**	**339**	I	I	16 04 10.0	
	baz=55,slow=341,SNR=1.0						

TXNET 19 12:12:02.2, 31°.7N±0°.7×104°.3W±1°.0, h7km±2km, ML1.9/6, Error ellipse: s-maj=1.5km s-min=0.9km az=72.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.36**	**39**	P	Pg	12 12 09.4	0.0
TPB11				S	Sg	12 12 14.2	0.0
TPB11	**China Draw**	**0.36**	**39**	P	Pg	12 12 09.4	+0.1
TPB11				S	Sg	12 12 14.3	+0.2
PECS	**Pecos**	**0.47**	**127**	P	Pg	12 12 11.6	+0.4
PECS				S	Sg	12 12 17.6	+0.3
PECS	**Pecos**	**0.47**	**127**	P	Pg	12 12 11.7	+0.5
PECS				S	Sg	12 12 17.9	+0.5
TPB12	**Southwest of T**	**0.53**	**146**	P	Pg	12 12 12.8	+0.4
TPB12				S	Sg	12 12 19.7	+0.4
TPB07	**Mentone**	**0.55**	**97**	S	Sb	12 12 21.4	-0.8
GDL2	**Guadalupe Moun**	**0.55**	**354**	P	Pg	12 12 13.1	+0.2
TPB10	**Southeast of T**	**0.59**	**128**	P	Pb	12 12 14.5	-0.5
TPB10				S	Sg	12 12 22.3	+0.9
CLNB	**Carlsbad**	**0.71**	**30**	P	Pg	12 12 16.4	+0.5
CLNB				S	Sg	12 12 25.7	+0.5
TPB01	**Permian Basin**	**0.83**	**148**	P	Pg	12 12 17.7	-0.6
TPB01				S	Sg	12 12 28.5	-0.6
TPB03	**Saragosa**	**0.88**	**130**	S	Sg	12 12 31.0	+0.5
MNTX	**Cornudas Mount**	**0.92**	**273**	P	Pb	12 12 20.4	-0.2
MNTX	**Cornudas Mount**	**0.92**	**273**	P	Pb	12 12 20.3	-0.3
MNTX				S	Sg	12 12 32.0	+0.1
HTMS	**Hat Mesa**	**1.00**	**34**	P	Pg	12 12 21.2	-0.2
HTMS				S	Sg	12 12 34.7	+0.4
TPB04	**Verhalen**	**1.00**	**117**	S	Sg	12 12 34.7	+0.4
TPB16	**Coyonosa**	**1.04**	**120**	S	Sg	12 12 35.4	-0.2
NM01	**Eunice**	**1.04**	**47**	S	Sg	12 12 35.7	0.0
VHRN	**Van Horn**	**1.04**	**214**	P	Pg	12 12 22.1	-0.1
VHRN				S	Sg	12 12 36.2	+0.4
TPB05	**Hovey Rd**	**1.11**	**131**	P	Pg	12 12 23.1	-0.4
TPB05				S	Sg	12 12 37.7	-0.2
MNHN	**Monahans**	**1.35**	**103**	P	Pn	12 12 27.6	-0.1
MNHN				S	Sn	12 12 46.1	+0.2
ALPN	**Alpine**	**1.39**	**156**	P	Pn	12 12 27.5	-0.8
ALPN				S	Sb	12 12 45.3	-1.4
ALPN	**Alpine**	**1.39**	**156**	P	Pn	12 12 27.4	-0.8
ALPN				S	Sb	12 12 45.5	-1.3
CPRX	**Cap Rock**	**1.42**	**15**	P	Pn	12 12 28.8	+0.1
ODSA	**Odessa**	**1.56**	**72**	S	Sb	12 12 51.4	-0.2
TMB04	**Seminole**	**1.82**	**57**	P	Pb	12 12 35.1	-0.8
TMB04				S	Sb	12 12 59.8	+0.8
TMB02	**Rankin**	**1.99**	**103**	P	Pb	12 12 38.1	-0.7
TMB02				S	Sb	12 13 04.0	+0.2
TMB05	**Klondike**	**2.29**	**64**	S	Sb	12 13 12.6	+0.1
TX31	**Lajitas Ar. Si**	**2.37**	**167**	Pg	Pb	12 12 45.0	-0.3

TAP 19 12:26:03.0, 23°.99N×121°.68E, h50km±1km, ML1.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.07**	**260**	*e*P	Pn	12 26 10.9	+0.2
TWD	**Chiawan**	**0.12**	**319**	*i* P	Pn	12 26 11.2	+0.2
TWD				S	Sn	12 26 16.9	+0.4
ETL	**Fush Village**	**0.18**	**342**	*e*P	Pn	12 26 11.7	+0.4
NACB	**Ninganchiao**	**0.20**	**336**	P	Pn	12 26 11.4	0.0
NACB				*e*S	Sn	12 26 17.1	-0.3
ETLH	**Xiulin Townshi**	**0.28**	**320**	*e*P	Pn	12 26 11.8	-0.3
ETLH				*e*S	Sn	12 26 18.3	-0.3
ESL	**Shilin**	**0.29**	**232**	*i* P	Pn	12 26 11.5	-0.6
ESL				S	Sn	12 26 18.1	-0.4
WHF	**Hehuan Shan**	**0.41**	**292**	*e*P	Pn	12 26 13.7	-0.1
WHF				*i* S	Sn	12 26 21.5	+0.1
OWD	**Renai**	**0.46**	**266**	*i* P	Pn	12 26 14.1	+0.1
OWD				S	Sn	12 26 22.2	+0.3
NNSB	**Datong**	**0.52**	**328**	*e*P	Pn	12 26 14.2	-0.4
NNSB				*e*S	Sn	12 26 22.4	-0.5
TDCB	**Techi**	**0.55**	**299**	P	Pn	12 26 15.2	+0.2
TDCB				*e*S	Sn	12 26 23.8	+0.2
VWDT	**VWDT**	**0.55**	**245**	*e*P	Pn	12 26 15.1	+0.2
VWDT				*i* S	Sn	12 26 24.1	+0.7
HGSD	**Ruisui**	**0.55**	**206**	*i* P	Pn	12 26 15.1	+0.2
HGSD				*e*S	Sn	12 26 25.5	+2.1
TWC	**Suao**	**0.64**	**14**	*e*P	Pn	12 26 16.1	+0.1
TWC				*e*S	Sn	12 26 27.4	+2.1
ENTT	**Nioudou**	**0.66**	**351**	*e*P	Pn	12 26 16.1	-0.2
ENTT				*e*S	Sn	12 26 25.4	-0.4
YULB	**Yu-li**	**0.69**	**211**	*e*P	Pn	12 26 15.7	-1.0
YULB				*e*S	Sn	12 26 25.8	-0.8
SMLT	**Sun Moon Lake**	**0.72**	**262**	*e*P	Pn	12 26 16.9	-0.3
TWF1	**Yuli**	**0.73**	**209**	*e*P	Pn	12 26 17.2	+0.1
YHNB	**Yeheng**	**0.73**	**338**	P	Pn	12 26 16.9	-0.4
YHNB				*e*S	Sn	12 26 27.0	-0.6
FUSB	**Fushanzhiwuyua**	**0.77**	**354**	*e*P	Pn	12 26 18.0	+0.2
FUSB				*e*S	Sn	12 26 28.1	-0.4
FULB	**Fuli**	**0.86**	**204**	*e*P	Pn	12 26 20.1	+1.1

TAP ***19*** *12:26:18.9, 24°.41N×122°.35E, h76km, ML2.6, C*
JMA ***19*** *12:26:19.2±0.1, 24°.3N±0°.9×122°.4E±0°.2, h66km±1km, MV1.9/10, TAIWAN REGION*
ISC 19 12:26:19.5±1.3, 24°.38N±0°.03×122°.39E±0°.02, h68km±6km, n80, σ1°.04/160, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS3	**EOS3**	**0.11**	**214**	P	Pn	12 26 30.1	+0.7
EOS3				S	Sn	12 26 38.3	+1.7
EOS2	**EOS2**	**0.14**	**286**	P	Pn	12 26 30.0	+0.5
EOS2				S	Sn	12 26 38.2	+1.5
EOS4	**EOS4**	**0.27**	**193**	P	Pn	12 26 30.1	+0.3
EOS4				S	Sn	12 26 38.7	+1.4
JYNG	**Yonagunijimaku**	**0.52**	**82**	P	Pn	12 26 32.2	-0.1
JYNG				*e*S	Sn	12 26 41.6	-0.1
ESAO	**Su ao**	**0.53**	**292**	*e*P	Pn	12 26 32.5	0.0
ESAO				*i* S	Sn	12 26 41.7	-0.2
TWC	**Suao**	**0.54**	**295**	*i* P	Pn	12 26 32.0	-0.6
TWC				*i* S	Sn	12 26 41.5	-0.6
EWUT	**Wuta**	**0.56**	**277**	*i* P	Pn	12 26 32.4	-0.3
EWUT				S	Sn	12 26 41.7	-0.7
YOJ	**Yonaguni jima**	**0.58**	**82**	P	Pn	12 26 32.9	0.0
YOJ				*e*S	Sn	12 26 42.5	-0.2
YOJ	**Yonaguni jima**	**0.58**	**82**	P	Pn	12 26 32.7	-0.2
YOJ				S	Sn	12 26 42.9	+0.2
ENA	**Nanau**	**0.59**	**275**	*i* P	Pn	12 26 32.5	-0.6
ENA				*i* S	Sn	12 26 42.7	-0.3
EAHA	**Aohua**	**0.59**	**265**	*i* P	Pn	12 26 32.9	-0.2
EAHA				S	Sn	12 26 43.1	0.0
NDS	**Dongshan**	**0.66**	**293**	*e*P	Pn	12 26 33.0	-0.9
NDS				S	Sn	12 26 43.8	-0.6
ETL	**Fush Village**	**0.73**	**253**	*e*P	Pn	12 26 33.9	-0.8
ETL				S	Sn	12 26 45.2	-0.6
TWE	**Neicheng**	**0.74**	**298**	*i* P	Pn	12 26 34.2	-0.5
TWE				S	Sn	12 26 45.5	-0.4
NACB	**Ninganchiao**	**0.75**	**254**	*i* P	Pn	12 26 34.1	-0.7
NACB				S	Sn	12 26 45.3	-0.9
TIPB	**Shuangxi**	**0.78**	**319**	*i* P	Pn	12 26 34.4	-0.9
TIPB				*i* S	Sn	12 26 45.3	-1.5
TWD	**Chiawan**	**0.78**	**248**	*i* P	Pn	12 26 34.0	-1.2
TWD				*e*S	Sn	12 26 46.4	-0.4
ENTT	**Nioudou**	**0.79**	**289**	*i* P	Pn	12 26 35.3	-0.1
ENTT				S	Sn	12 26 46.7	-0.3
LATG	**Datong**	**0.80**	**281**	*i* P	Pn	12 26 35.2	-0.3
LATG				S	Sn	12 26 47.0	-0.3
HWA	**Hwalien**	**0.82**	**241**	*e*P	Pn	12 26 36.6	+0.9
HWA				S	Sn	12 26 48.5	+1.0
FUSB	**Fushanzhiwuyua**	**0.82**	**298**	*i* P	Pn	12 26 35.5	-0.3
FUSB				S	Sn	12 26 47.8	+0.1
ETLH	**Xiulin Townshi**	**0.84**	**258**	*i* P	Pn	12 26 35.6	-0.5
ETLH				S	Sn	12 26 47.3	-1.0
SXI1	**Grass Mountain**	**0.85**	**327**	*i* P	Pn	12 26 35.3	-0.8
SXI1				*e*S	Sn	12 26 47.0	-1.4
NWLT	**Wulai**	**0.90**	**296**	*i* P	Pn	12 26 36.6	0.0
NWLT				S	Sn	12 26 49.2	-0.2
ETM	**Tongmen**	**0.91**	**243**	P	Pn	12 26 35.2	-1.7
ETM				*i* S	Sn	12 26 48.8	-0.9
NNSB	**Datong**	**0.92**	**273**	*i* P	Pn	12 26 36.6	-0.4
NNSB				S	Sn	12 26 49.1	-0.9
NNS	**Nan Shan**	**0.92**	**274**	P	Pn	12 26 36.8	-0.3
NNS				S	Sn	12 26 50.0	-0.1
SHUL	**Shoufeng**	**0.95**	**232**	*i* P	Pn	12 26 36.8	-0.5
SHUL				*i* S	Sn	12 26 50.8	+0.2
LXIB	**Xiulin Townshi**	**0.96**	**248**	*i* P	Pn	12 26 36.9	-0.6
LXIB				S	Sn	12 26 50.2	-0.7
YHNB	**Yeheng**	**0.96**	**288**	*i* P	Pn	12 26 37.4	-0.2
YHNB				S	Sn	12 26 50.7	-0.2
NSK	**Sanguang**	**0.98**	**288**	*i* P	Pn	12 26 37.4	-0.4
NSK				*i* S	Sn	12 26 50.8	-0.5
TEGC	**Jichi Village**	**1.02**	**229**	*e*P	Pn	12 26 37.9	-0.3
TEGC				S	Sn	12 26 52.6	+0.6
ESL	**Shilin**	**1.04**	**237**	*i* P	Pn	12 26 37.1	-1.3
ESL				*i* S	Sn	12 26 51.4	-1.0
WHF	**Hehuan Shan**	**1.05**	**257**	*i* P	Pn	12 26 38.5	-0.4
WHF				S	Sn	12 26 52.5	-0.9
FUSS	**Fushou**	**1.05**	**263**	*i* P	Pn	12 26 38.6	-0.1
FUSS				S	Sn	12 26 52.8	-0.3
ZUZH	**Zhuzihu**	**1.09**	**316**	P	Pn	12 26 38.8	-1.0
ZUZH				*e*S	Sn	12 26 51.9	-1.9
TWT	**Tachien**	**1.11**	**264**	*i* P	Pn	12 26 39.9	+0.4
TWT				*i* S	Sn	12 26 54.7	+0.3
EGFH	**Guangfu**	**1.13**	**231**	*e*P	Pn	12 26 37.7	-1.8
EGFH				S	Sn	12 26 53.4	-1.0
TDCB	**Techi**	**1.13**	**264**	*i* P	Pn	12 26 40.0	+0.3
TDCB				*i* S	Sn	12 26 54.2	-0.5
WARBT	**Fenglin Townsh**	**1.13**	**234**	*i* P	Pn	12 26 38.9	-0.6
WARBT				S	Sn	12 26 53.2	-1.3
KSHI	**Guanxi Townshi**	**1.17**	**290**	*i* P	Pn	12 26 40.2	+0.1
KSHI				*e*S	Sn	12 26 56.6	+1.1
NFF	**Wufeng Townshi**	**1.18**	**283**	*i* P	Pn	12 26 40.5	+0.1
NFF				S	Sn	12 26 55.7	-0.2
OWD	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTP	**Ta-pu**	**1.98**	**236**	*i* P	**Pn**	**12 26 52.3**	**+1.4**
WTP				*i* S	**Sn**	**12 27 16.6**	**+1.9**
TWK	**Hsinying**	**2.06**	**238**	*i* P	**Pn**	**12 26 53.6**	**+1.6**
TWK				*i* S	**Sn**	**12 27 17.8**	**+1.0**
CHN1	**Nanshi**	**2.08**	**235**	*i* P	**Pn**	**12 26 54.3**	**+2.1**
CHN1				S	**Sn**	**12 27 19.1**	**+2.0**
SGST	**Jiashian**	**2.10**	**232**	*e*P	**Pn**	**12 26 55.4**	**+2.9**
SGST				S	**Sn**	**12 27 19.6**	**+2.0**

*DJA **19** 12:29:16.8±0.2, 12°S±2°×11°6E±°, h10km, M5.0/34, mb4.9/34, mB5.4/5, MLv5.0/22, Mw(mB)4.8/5*
*IDC **19** 12:29:16.8±0.6, 11°.19S×116°.53E, h0km, mb4.5/21, mbtmp4.5/24, ML4.3/3, MS3.2/13, Error ellipse: s-maj=21.3km s-min=14.1km az=58.0*
*NEIC **19** 12:29:18.0±2.3, 11°.55S±0°.07×116°.31E±0°.07, h10km±1km, mb4.9/57, Error ellipse: s-maj=13.2km s-min=10.7km az=227.0*

ISC 19 12:29:17.1±0.4, **11°.58S**±0°.05×**116°.30E**±0°.06, **h10**km, **n168**, σ1**s57**/161, **mb4.8**/52, **MS3.2**/11, **1C, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**3.08**	**339**	P	**Pn**	**12 30 04.9**	**-0.9**
PLAI	**Plampang**	**3.10**	**28**	P	**Pn**	**12 30 04.8**	**-1.3**
PLAI	**Plampang**	**3.10**	**28**	P	**Pn**	**12 30 04.7**	**-1.3**
WBSI	**Waikabubak, Su**	**3.60**	**58**	P	**Pn**	**12 30 11.9**	**-1.1**
SRBI	**Singaraja**	**3.63**	**343**	P	**Pn**	**12 30 13.6**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.74**	**325**		**Pn**	**12 30 13.5**	**-1.5**
JAGI	**Jajag, Banyuwa**	**3.74**	**325**	P	**Pn**	**12 30 13.5**	**-1.5**
JAGI	**Jajag, Banyuwa**	**3.74**	**325**	P	**Pn**	**12 30 13.5**	**-1.5**
ABJI	**Asem Bagus**	**4.27**	**331**	P	**Pn**	**12 30 22.4**	**+0.1**
GMJI	**Gumukmas**	**4.32**	**319**	P	**Pn**	**12 30 21.8**	**-1.2**
WSI	**Waingapu**	**4.36**	**65**	P	**Pn**	**12 30 22.6**	**-0.9**
KMMI	**Kalianget**	**5.05**	**333**	P	**Pn**	**12 30 33.1**	**+0.1**
	101nm,0.6s						
GRJI	**Gresik**	**5.97**	**321**	P	**Pn**	**12 30 45.1**	**-0.6**
	0.9nm138nm,0.9s						
EDFI	**Ende, Flores**	**6.00**	**63**	P	**Pn**	**12 30 44.1**	**-2.1**
	0.7nm36nm,0.5s						
PCJI	**Pacitan**	**6.06**	**303**	P	**Pn**	**12 30 46.5**	**-0.4**
	0.9nm96nm,0.8s						
NGJI	**Ngawi**	**6.35**	**311**	P	**Pn**	**12 30 50.3**	**-0.5**
	0.8nm82nm,0.8s						
MMRI	**Maumere**	**6.54**	**64**		**Pn**	**12 30 53.4**	**0.0**
MMRI	**Maumere**	**6.54**	**64**	P	**Pn**	**12 30 53.5**	**+0.1**
MMRI	**Maumere**	**6.54**	**64**	P	**Pn**	**12 30 52.8**	**-0.6**
	0.7nm75nm,0.6s						
BWJI	**Bawean**	**6.73**	**327**	P	**Pn**	**12 30 55.6**	**-0.5**
UGM	**Wanagama**	**6.76**	**302**		**Pn**	**12 30 57.1**	**+0.6**
UGM	**Wanagama**	**6.76**	**302**	P	**Pn**	**12 30 57.0**	**+0.5**
UGM	**Wanagama**	**6.76**	**302**	P	**Pn**	**12 30 56.5**	**0.0**
	1.1nm162nm,2.2s						
BSSI	**Bau Bau, Buton**	**6.80**	**38**	P	**Pn**	**12 30 57.3**	**+0.2**
	1.2nm133nm,0.7s						
YOGI	**Yogyakarta**	**7.00**	**302**	P	**Pn**	**12 30 59.6**	**-0.2**
	0.7nm151nm,1.7s						
BKSI	**Bulukumba**	**7.27**	**32**	P	**Pn**	**12 31 04.1**	**+0.5**
	0.5nm69nm,0.6s						
SMRI	**Semarang**	**7.33**	**307**	Pn	**Pn**	**12 31 04.1**	**-0.2**
SMRI	**Semarang**	**7.33**	**307**	P	**Pn**	**12 31 03.9**	**-0.4**
	0.3nm58nm,0.7s						
KAPI	**Kappang**	**7.36**	**28**	Pn	**Pn**	**12 31 05.0**	**+0.2**
KAPI	**Kappang**	**7.36**	**28**	Pn	**Pn**	**12 31 00.6**	**-4.1**
	3.5nm,0.3s,baz=209,slow=13,SNR=6.2						
KAPI				Sn	Sn	12 32 17.1	-11
	12nm,0.3s,baz=342,slow=22,SNR=7.9						
KAPI				LR	LR	12 34 18.4	
	comp=Z,190nm,19.2s,baz=198,slow=44						
	13nm,0.3s						
SOEI	**Soe**	**8.04**	**78**		**Pn**	**12 31 14.2**	**0.0**
SOEI	**Soe**	**8.04**	**78**	P	**Pn**	**12 31 15.5**	**+1.3**
SOEI	**Soe**	**8.04**	**78**	P	**Pn**	**12 31 13.9**	**-0.3**
	87nm,0.8s						
BNSI	**Bone**	**8.06**	**28**	P	**Pn**	**12 31 14.9**	**+0.5**
	34nm,0.5s						
SPSI	**Sidrap Palu**	**8.31**	**25**	P	**Pn**	**12 31 16.9**	**-0.9**
CMJI	**Cimerak**	**8.61**	**295**	P	**Pn**	**12 31 21.0**	**-0.9**
	127nm,0.9s						
BBJI	**Bungbulang**	**9.46**	**295**	P	**Pn**	**12 31 34.4**	**+0.8**
LEM	**Lembang**	**9.78**	**298**	Pn	**Pn**	**12 31 40.5**	**+2.3**
	5.9nm,0.3s,baz=144,slow=20,SNR=3.7						
LEM				Sn	**Sn**	**12 33 24.2**	**-4.1**
	2.5nm,0.3s,baz=180,slow=18,SNR=4.0						
	20nm,0.5s						
CNJI	**Cibinong**	**9.99**	**294**	P	**Pn**	**12 31 40.9**	**0.0**
	41nm,1.1s						
MBWA	**Marble Bar**	**10.08**	**161**		**Pn**	**12 31 41.1**	**-0.9**
MBWA	**Marble Bar**	**10.08**	**161**	P	**Pn**	**12 31 40.8**	**-1.3**
PSA00	**Pilbara Seismi**	**10.50**	**162**		**Pn**	**12 31 47.2**	**-0.6**
PSA00	**Pilbara Seismi**	**10.50**	**162**	P	**Pn**	**12 31 46.9**	**-1.0**
XMIS	**Christmas Isla**	**10.51**	**275**	Pn	**Pn**	**12 31 46.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**11.11**	**127**		**Pn**	**12 31 55.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.11**	**127**	Pn	**Pn**	**12 31 54.9**	**-1.3**
	3.0nm,0.3s,baz=284,slow=5.7,SNR=100						
FITZ				Sn	Sn	12 33 51.2	-9.4
	2.8nm,0.3s,baz=358,slow=24,SNR=7.3						
FITZ				LR	LR	12 36 31.4	
	comp=Z,153nm,18.6s,baz=298,slow=39						
FITZ	**Fitzroy Crossi**	**11.11**	**127**	P	**Pn**	**12 31 55.8**	**-0.4**
GIRL	**Giralia**	**11.18**	**190**	Pn	**Pn**	**12 31 57.9**	**+0.8**
GIRL	**Giralia**	**11.18**	**190**	P	**Pn**	**12 31 57.4**	**+0.3**
CGJI	**Cibinong**	**11.57**	**294**	P	**Pn**	**12 32 02.5**	**-0.1**
	2μm97nm,0.8s						
LUWI	**Luwuk**	**12.28**	**32**	P	**Pn**	**12 32 11.6**	**-0.6**
	1μm27nm,0.9s						
KNRA	**Kununurra**	**12.78**	**110**		**Pn**	**12 32 18.1**	**-1.0**
KSM	**Kuching**	**14.27**	**335**	Pn	**Pn**	**12 32 38.7**	**-0.8**
SBUM	**Sibu**	**14.51**	**344**	Pn	**Pn**	**12 32 40.8**	**-2.0**
MTN	**Manton Dam**	**14.55**	**96**		**Pn**	**12 32 43.0**	**-0.3**
MTN	**Manton Dam**	**14.55**	**96**	P	**Pn**	**12 32 42.8**	**-0.5**
MNAI	**Manna**	**15.03**	**297**	P	**Pn**	**12 32 49.3**	**-0.5**
	417nm,1.4s						
MNAI	**Manna**	**15.03**	**297**	P	**Pn**	**12 32 49.3**	**-0.5**
MEEK	**Meekatharra**	**15.14**	**172**	P	**Pn**	**12 32 50.7**	**-0.5**
TNTI	**Ternate**	**16.48**	**43**	Pn	**Pn**	**12 33 06.8**	**-1.8**
MORW	**Morawa**	**17.41**	**181**	Pn	**Pn**	**12 33 20.0**	**-0.2**
MORW	**Morawa**	**17.41**	**181**	P	**Pn**	**12 33 19.4**	**-0.8**
KKM	**Kota Kinabalu**	**17.51**	**360**	Pn	**Pn**	**12 33 20.1**	**-1.5**
KKM				IAmb	IAmb	12 33 23.9	
	comp=Z,136nm,1.5s						
KKM	**Kota Kinabalu**	**17.51**	**360**	P	**Pn**	**12 33 22.3**	**+0.7**
WRKA	**Warakurna**	**17.56**	**141**	P	**Pn**	**12 33 21.9**	**-0.3**
FAKI	**Fak Fak**	**18.00**	**63**		**Pn**	**12 33 26.0**	**-1.6**
MYKOM	**Kota Tinggi**	**18.15**	**316**		**Pn**	**12 33 28.7**	**-0.8**
BLDU	**Ballidu**	**18.95**	**179**	P	**P**	**12 33 39.6**	**+1.1**
WB0	**Warramunga Arr**	**19.22**	**117**	P	**Pn**	**12 33 43.5**	**+1.0**
WRA	**Warramunga Arr**	**19.24**	**118**	P	**P**	**12 33 43.0**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=293,slow=12,SNR=26						
WRA				S	Sn	12 37 00.4	-18
	comp=Z,2.5nm,0.6s,baz=283,slow=21,SNR=6.5						
	comp=Z,5.0nm,0.7s						
WRAB	**Tennant Creek**	**19.24**	**118**	P	**Pn**	**12 33 43.9**	**+1.1**
WB2	**Warramunga Arr**	**19.25**	**118**	P	**Pn**	**12 33 44.4**	**+1.5**
WR8	**Warramunga Arr**	**19.38**	**118**	P	**Pn**	**12 33 44.9**	**+0.5**
WR0	**Warramunga Arr**	**19.42**	**118**	P	**Pn**	**12 33 46.0**	**+1.1**
AS31	**Alice Springs**	**20.61**	**128**	P	Pn	12 33 59.2	+0.1
ASAR	**Alice Springs**	**20.61**	**128**	P	Pn	12 33 59.2	+0.1
ASAR	**Alice Springs**	**20.61**	**128**	P	Pn	12 33 59.9	+0.8
	comp=Z,14nm,0.6s,baz=300,slow=10,SNR=317						
ASAR				S	**S**	**12 37 39.2**	**-8.1**
	comp=Z,3.0nm,0.7s,baz=303,slow=23,SNR=7.4						
ASAR				LR	LR	12 41 37.2	
	comp=Z,54nm,19.0s,baz=275,slow=36						
	comp=Z,14nm,0.6s						
DAV	**Davao City (W)**	**20.70**	**27**	LR	LR	12 42 29.9	
	comp=Z,54nm,20.9s,baz=162,slow=39						
NWAO	**Narrogin (SRO)**	**21.27**	**178**	P	**P**	**12 34 08.3**	**+4.6**
	comp=Z,19nm,0.6s,baz=359,slow=11,SNR=20						
NWAO				S	**S**	**12 37 51.6**	**-8.5**
	comp=Z,8.5nm,0.5s,baz=223,slow=13,SNR=2.0						
NWAO				LR	LR	12 43 51.1	
	comp=Z,154nm,18.0s,baz=309,slow=40						
	comp=Z,19nm,0.6s						
FORT	**Forrest**	**22.00**	**152**	P	**P**	**12 34 13.3**	**+1.8**
RPSI	**Rantau Prapat**	**22.35**	**308**	P	**P**	**12 34 14.4**	**-1.1**
PSI	**Prapat**	**22.42**	**309**	P	**P**	**12 34 17.7**	**+1.3**
	comp=Z,4.1nm,0.5s,baz=174,slow=8.3,SNR=5.0						
PSI				LR	LR	12 44 07.0	
	comp=Z,135nm,18.4s,baz=132,slow=40						
	comp=Z,4.1nm,0.5s						
GSI	**Gunungsitoli**	**22.59**	**303**	P	**P**	**12 34 18.8**	**+0.7**
GSI				IAmb	IAmb	12 34 20.4	
	comp=Z,54nm,1.3s						
KULM	**Kulim**	**22.87**	**316**		**P**	**12 34 20.3**	**-0.7**
DLV	**Lat**	**24.62**	**341**	P	**P**	**12 34 37.9**	**-0.3**
DLV				IAmb	IAmb	12 34 53.1	
	comp=Z,8.4nm,0.8s						
LHMI	**Lhok Sumawe**	**25.48**	**310**	P	**P**	**12 34 45.0**	**-0.8**
SRIT	**Nakonsritamara**	**26.03**	**320**		**P**	**12 34 50.3**	**-0.4**
SRIT				IAmb	IAmb	12 34 56.9	
	comp=Z,30nm,1.4s						
BSI	**Banda Aceh**	**26.91**	**308**	P	**P**	**12 34 58.5**	**-0.3**
BBOO	**Buckleboo**	**27.85**	**142**	P	**P**	**12 35 06.9**	**-0.1**
BBOO				IAmb	IAmb	12 35 29.4	
	comp=Z,22nm,1.2s						
STKA	**Stephens Creek**	**30.85**	**135**	P	**P**	**12 35 36.2**	**+2.6**
	comp=Z,2.1nm,0.7s,baz=304,slow=10,SNR=8.3						
STKA				LR	LR	12 48 55.4	
	comp=Z,78nm,19.1s,baz=239,slow=38						
	comp=Z,2.1nm,0.7s						
CM31	**Chiang Mai Arr**	**34.41**	**330**	P	**P**	**12 36 04.2**	**-0.7**
CM31				IAmb	IAmb	12 36 06.3	
	comp=Z,14nm,1.3s						
CMAR	**Chiang Mai Arr**	**34.41**	**330**		**P**	**12 36 05.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**34.41**	**330**	P	**P**	**12 36 04.7**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=156,slow=6.9,SNR=17						
CMAR				LR	LR	12 51 28.0	
	comp=Z,39nm,19.1s,baz=155,slow=39						
	comp=Z,3.9nm,0.9s						
CHTO	**Chiang Mai**	**34.71**	**330**	P	**P**	**12 36 06.7**	**-0.9**
GUMO	**Guam**	**37.79**	**49**	LR	LR	12 52 58.3	
	comp=Z,9.3nm,18.9s,baz=172,slow=38						
PZH	**PanZhiHua**	**40.41**	**340**	P	**P**	**12 36 55.8**	**0.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
NJ2	**Nanjing**	**43.45**	**3**	*e*P	**P**	**12 37 23.4**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SHL	**Shillong**	**43.92**	**327**		**P**	**12 37 24.4**	**-0.1**
SHL				IAmb	IAmb	12 37 25.1	
	comp=Z,14nm,0.7s						
CD2	**Chengdu**	**43.93**	**344**	*e*P	**P**	**12 37 26.0**	**+1.6**
JNU	**Nakatsue**	**46.57**	**17**	P	**P**	**12 37 44.8**	**-0.6**
LSA	**Lhasa**	**47.66**	**330**	P	**P**	**12 37 54.9**	**+0.4**
LSA				IAmb	IAmb	12 37 56.1	
	comp=Z,8.3nm,0.7s						
KSAR	**Wonju Array Be**	**49.96**	**12**	P	**P**	**12 38 10.7**	**-0.6**
KSRS	**Korea Array**	**49.98**	**12**	P	**P**	**12 38 09.0**	**-2.5**
	comp=Z,2.4nm,0.8s,baz=192,slow=8.1,SNR=9.2						
KSRS				LR	LR	13 03 02.9	
	comp=Z,10.0nm,18.2s,baz=220,slow=41						
	comp=Z,2.4nm,0.8s						
MJAR	**Matsushiro Arr**	**52.12**	**22**	P	**P**	**12 38 24.7**	**-3.0**
	comp=Z,1.9nm,0.8s,baz=196,slow=8.5,SNR=5.3						
MJAR				LR	LR	12 59 30.6	
	comp=Z,21nm,19.4s,baz=188,slow=35						
	comp=Z,1.9nm,0.8s						
HHC	**Hu-ho-hao-te**	**52.34**	**355**	*e*P	**P**	**12 38 33.4**	**+4.0**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
GTA	**Gaotai**	**53.00**	**344**	*e*P	**P**	**12 38 35.3**	**+1.0**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
USA0B	**Ussuriysk Arra**	**57.31**	**13**	P	**P**	**12 39 04.6**	**-0.6**
USA0B				IAmb	IAmb	12 39 11.1	
	comp=Z,26nm,1.5s						
USRK	**Ussuriysk Ar.**	**57.31**	**13**	P	**P**	**12 39 04.4**	**-0.8**
USRK	**Ussuriysk Ar.**	**57.31**	**13**	P	**P**	**12 39 03.1**	**-2.1**
	comp=Z,7.4nm,0.7s,baz=187,slow=7.6,SNR=10						
	comp=Z,7.4nm,0.7s						
SONM	**Songino Array**	**59.80**	**352**	P	**P**	**12 39 21.6**	**-1.0**
SONM	**Songino Array**	**59.80**	**352**	P	**P**	**12 39 20.6**	**-2.1**
	comp=Z,1.6nm,0.7s,baz=170,slow=9.2,SNR=6.8						
	comp=Z,1.6nm,0.7s						
NIL	**Nilore**	**60.83**	**319**	P	**P**	**12 39 29.9**	**0.0**
HEH	**HeiHe**	**62.33**	**8**	*e*P	**P**	**12 39 38.4**	**-1.2**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WUS	**Wushi**	**62.67**	**329**		**P**	**12 39 42.5**	**+0.2**
KSH	**Kashi**	**63.16**	**326**	P	**P**	**12 39 45.8**	**+0.2**
KSH				pmax	pmax		
	comp=Z,18nm,0.8s						
TARG	**Taragay, Kyrgy**	**63.78**	**329**		**P**	**12 39 49.1**	**-0.9**
TARG				IAmb	IAmb	12 40 01.2	
	comp=Z,4.4nm,0.7s						
PRZ	**Przheval'sk**	**64.04**	**330**	P	**P**	**12 39 52.9**	**+1.5**
KBL	**Kabul**	**64.12**	**318**	P	**P**	**12 39 52.0**	**-0.1**
KBL				IAmb	IAmb	12 39 52.5	
	comp=Z,5.4nm,0.6s						
KDJ	**Kajisay**	**64.39**	**329**		**P**	**12 39 54.7**	**+1.0**
KDJ				IAmb	IAmb	12 39 55.5	
	comp=Z,4.7nm,0.7s						
BOOM	**Boomskoye usch**	**65.29**	**328**		**P**	**12 40 00.1**	**+0.6**
BOOM				IAmb	IAmb	12 40 01.1	
	comp=Z,7.8nm,0.8s						
MKAR	**Makanchi Array**	**65.59**	**335**	P	**P**	**12 40 01.4**	**+0.2**
	comp=Z,11nm,0.4s,baz=148,slow=7.5,SNR=119						
	comp=Z,11nm,0.4s						
MAKZ	**Makanchi**	**65.73**	**335**		**P**	**12 40 01.9**	**-0.2**
MAKZ				IAmb	IAmb	12 40 03.0	
	comp=Z,5.8nm,0.6s						
ARSB	**Arslanbob**	**66.06**	**326**		**P**	**12 40 05.4**	**+0.9**
GAR	**Garm**	**66.07**	**322**		**P**	**12 40 04.9**	**+0.3**
GAR				IAmb	IAmb	12 40 07.2	
	comp=Z,9.2nm,0.8s						
AAK	**Ala-Archa**	**66.14**	**327**	P	**P**	**12 40 05.4**	**+0.4**
AAK				IAmb	IAmb	12 40 07.0	
	comp=Z,10nm,1.4s						
BTK	**Batken**	**66.45**	**323**	P	**P**	**12 40 07.5**	**+0.5**
BTK				IAmb	IAmb	12 40 32.2	
	comp=Z,4.3nm,0.7s						
KKAR	**Karatay Array**	**68.61**	**326**	P	**P**	**12 40 19.3**	**-1.2**
KURBB	**Kurchatov Arra**	**70.14**	**335**	P	**P**	**12 40 29.9**	**+0.2**
	comp=Z,6.1nm,0.6s,baz=148,slow=5.3,SNR=67						
	comp=Z,6.1nm,0.6s						
KURK	**Kurchatov**	**70.18**	**336**		**P**	**12 40 30.2**	**+0.3**
ZAA0	**Zalesovo Array**	**70.54**	**341**		**P**	**12 40 31.4**	**-0.7**
ZALV	**Zalesovo Beam**	**70.54**	**341**	P	**P**	**12 40 31.4**	**-0.7**
	comp=Z,11nm,0.6s,baz=145,slow=4.6,SNR=58						
	comp=Z,11nm,0.6s						
PEA0B	**Petropavlovsk-**	**73.50**	**25**	P	**P**	**12 40 50.7**	**+0.8**
PEA0B				IAmb	IAmb	12 40 50.8	
	comp=Z,15nm,1.1s						
PETK	**Petropavlovsk-**	**73.50**	**25**	P	**P**	**12 40 50.7**	**+0.8**
PETK	**Petropavlovsk-**	**73.50**	**25**	P	**P**	**12 40 48.5**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=248,slow=0.7,SNR=12						
	comp=Z,1.3nm,0.5s						
SYO	**Syowa Base**	**74.50**	**201⇑**	*e*P	**P**	**12 40 57.4**	**+1.8**
BVAR	**Borovoye Array**	**75.35**	**333**	P	**P**	**12 41 00.5**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=145,slow=6.8,SNR=13						
	comp=Z,2.2nm,0.7s						
BRVK	**Borovoye**	**75.42**	**333**	P	**P**	**12 41 01.4**	**+0.4**
MA2	**Magadan**	**76.14**	**17**	LR	LR	13 12 52.8	
	comp=Z,10nm,22.0s,baz=227,slow=35						
AB31	**Akbulak array**	**78.17**	**326**	P	**P**	**12 41 17.2**	**+0.6**
AB31				IAmb	IAmb	12 41 18.1	
	comp=Z,5.1nm,0.8s						
ABKAR	**Akbulak array**	**78.17**	**326**		**P**	**12 41 17.1**	**+0.5**
AKTO	**Aktyubinsk**	**79.86**	**326**	P	**P**	**12 41 25.9**	**0.0**
	comp=Z,6.8nm,0.8s,baz=146,slow=4.9,SNR=12						
	comp=Z,6.8nm,0.8s						
ARTI	**Arti**	**82.89**	**332**		**P**	**12 41 41.9**	**+0.1**
ARTI				IAmb	IAmb	12 41 43.2	
	comp=Z,6.1nm,0.5s						
ARTI	**Arti**	**82.89**	**332**	LR	LR	13 22 44.5	
	comp=Z,20nm,18.7s,baz=132,slow=39						
NRIK	**Noril'sk**	**83.19**	**350**	P	**P**	**12 41 42.2**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=156,slow=4.5,SNR=1.6						
	comp=Z,1.2nm,0.4s						
TIXI	**Tiksi**	**83.47**	**4**	P	**P**	**12 41 44.0**	**-0.5**
TIXI				IAmb	IAmb	12 41 44.6	
	comp=Z,13nm,1.4s						
BOSA	**Boshof**	**85.45**	**242**	P	**P**	**12 41 58.0**	**+2.2**
	comp=Z,5.6nm,0.8s,baz=126,slow=2.6,SNR=11						
	comp=Z,5.6nm,0.8s						
KBZ	**Khabaz**	**86.24**	**316**	P	**P**	**12 41 59.1**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=90,slow=5.0,SNR=4.7						
	comp=Z,2.0nm,0.8s						
MMAI	**Mount Meron Ar**	**88.73**	**304**	P	**P**	**12 42 13.6**	**+2.2**
	comp=Z,5.5nm,0.9s,baz=84,slow=7.5,SNR=2.3						
	comp=Z,5.5nm,0.9s						
BRTR	**Keskin Array B**	**91.74**	**310**	P	**P**	**12 42 27.5**	**+2.0**
BRTR	**Keskin Array B**	**91.74**	**310**	P	**P**	**12 42 26.2**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=99,slow=4.5,SNR=5.9						
	comp=Z,2.0nm,0.9s						
TSUM	**Tsumeb**	**94.31**	**250**	P	**P**	**12 42 35.5**	**-2.3**
TSUM				IAmb	IAmb	12 43 02.4	
	comp=Z,3.9nm,1.1s						
H17K	**Granite Mounta**	**97.77**	**25**	P	Pdif	12 42 54.1	+1.8
H17K				IAmb	IAmb	12 43 14.5	
	comp=Z,3.9nm,1.2s						
L18K	**Granite Mounta**	**98.76**	**28**	P	Pdif	12 42 58.0	+1.2
ACHA	**Angle Creek He**	**98.89**	**32**	P	Pdif	12 42 58.5	+1.0
J18K	**Innoko River**	**98.92**	**27**	P	**P**	**12 42 57.5**	**0.0**
J18K				IAmb	IAmb	12 43 21.6	
	comp=Z,3.8nm,1.1s						
D19K	**Kuna River**	**99.06**	**22**	P	**Pdif**	**12 42 59.9**	**+1.8**
D19K				IAmb	IAmb	12 43 22.3	
	comp=Z,6.1nm,1.5s						
TTA	**Tatalina**	**99.16**	**28**	P	**Pdif**	**12 42 59.9**	**+1.2**
TTA				IAmb	IAmb	12 43 05.0	
	comp=Z,2.8nm,1.2s						
E19K	**Redstone River**	**99.25**	**23**	P	**Pdif**	**12 43 01.3**	**+2.4**
E19K				IAmb	IAmb	12 43 25.9	
	comp=Z,4.3nm,1.5s						
D20K	**Etivluk River**	**99.64**	**22**		**Pdif**	**12 43 02.1**	**+1.5**
D20K				IAmb	IAmb	12 43 04.2	
	comp=Z,1.4nm,0.8s						
FINES	**FINESS Array B**	**100.18**	**331**	Pdif	**Pdif**	**12 43 03.3**	**+0.3**
FINES	**FINESS Array B**	**100.18**	**331**	P	**Pdif**	**12 43 03.1**	**0.0**
	comp=Z,2.2nm,1.1s,baz=71,slow=6.4,SNR=1.4						
	comp=Z,2.2nm,1.1s						
ARCES	**ARCESS Array B**	**101.04**	**339**	P	**Pdif**	**12 43 06.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=103,slow=6.8,SNR=5.1						
E23K	**Chandalar**	**102.18**	**23**	Pdif	**Pdif**	**12 43 13.2**	**+1.2**
CCB	**Clear Creek Bu**	**102.90**	**26**	Pdif	**Pdif**	**12 43 16.1**	**+0.9**
SPITS	**Spitsbergen Ar**	**103.30**	**348**	Pdiff	**Pdif**	**12 43 16.2**	**-0.4**
	comp=Z,4.2nm,0.8s,baz=51,slow=4.6,SNR=6.9						
BMAR	**Burnt Mountain**	**104.12**	**23**	Pdif	**Pdif**	**12 43 21.9**	**+1.4**
NC405	**NORSAR Array S**	**107.11**	**331**	Pdif	**Pdif**	**12 43 35.0**	**+1.1**
YKA	**Yellowknife Ar**	**117.61**	**24**	PKP	**PKPdf**	**12 48 03.7**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=301,slow=1.8,SNR=7.1						

*KOLA **19** 12:36:17.9, 67°.65N×34°.29E, h0km, ML2.0, Error ellipse: s-maj=4.5km s-min=1.7km az=120.0, Murmansk region, Kirovsk district*
*HEL **19** 12:36:18.0±0.2, 67°.70N×34°.16E, h0km, ML1.8, Suspected explosion*
*IDC **19** 12:36:22.4±2.9, 67°.63N×33°.31E, h0km, mbtmp2.7/2, ML1.9/2, Error ellipse: s-maj=33.4km s-min=12.3km az=73.0*

ISC 19 12:36:17.4±0.9, **67°.66N**±0°.03×**34°.29E**±0°.04, **h0**km, **n31**, σ1**s30**/54, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.28**	**30**	P	**Pg**	**12 36 22.9**	**+0.2**
LVZ				S	**Sg**	**12 36 26.9**	**+0.6**
LVZ	**Lovozero**	**0.28**	**30**	PG	**Pg**	**12 36 23.1**	**+0.4**
	baz=225						
LVZ				SG	**Sg**	**12 36 23.5**	**-2.8**
APA	**Apatity**	**0.35**	**255**	P	**Pg**	**12 36 23.9**	**-0.2**
APA				S	**Sg**	**12 36 28.8**	**+0.2**
APA0	**Apatity Array**	**0.50**	**264**	P	**Pg**	**12 36 26.1**	**-0.8**
KVDA	**Kovda**	**1.12**	**210**	P	**Pg**	**12 36 38.4**	**-0.4**
KVDA				S	**Sg**	**12 36 52.0**	**-1.3**
TERR	**Teriberka**	**1.58**	**11**	P	**Pn**	**12 36 46.5**	**-0.1**
TERR				S	**Sn**	**12 37 06.8**	**-0.9**
VRF	**Varrio**	**1.79**	**275**	PG	**Pn**	**12 36 49.0**	**-0.5**
	baz=86						
VRF				MSG		12 37 09.8	
	comp=Z,9.6nm,0.2s						
VRF				SG	**Sn**	**12 37 11.5**	**-1.3**
OLKF	**Oulanka, Finla**	**2.34**	**237**	PG	**Pb**	**12 36

PB09	**IPOC Station P**	**1.21 347**	*e*P	**Pn**	**12 43 49.2**	**+0.4**
PB09			IAML		12 44 09.3	
comp=Z,2μm,0.4s						
PB10	**IPOC Station P**	**1.58 250**	*e*P	**Pn**	**12 43 54.1**	**+0.9**
PB10			*i* S	**Sn**	**12 44 14.3**	**+1.0**
PB10			IAML		12 44 23.9	
comp=E,6μm,1.2s						
PB10	**IPOC Station P**	**1.58 250**	*e*P	**Pn**	**12 43 53.5**	**+0.2**
PB01	**IPOC Station P**	**1.99 345**	*e*P	**Pn**	**12 43 59.4**	**+0.7**
PB01			*i* S	**Sn**	**12 44 23.7**	**+0.6**
PB01			IAML		12 44 28.1	
comp=E,2μm,0.3s						
PB01	**IPOC Station P**	**1.99 345**	*e*P	**Pn**	**12 43 58.7**	**0.0**
PB01			IAML		12 44 28.6	
comp=Z,2μm,0.2s						
PB14	**IPOC Station P**	**2.12 219**	*e*P	**Pn**	**12 44 03.4**	**+2.7**
PB14			*i* S	**Sn**	**12 44 30.1**	**+3.6**
PB14			IAML		12 44 36.8	
comp=E,1μm,0.4s						
PB14	**IPOC Station P**	**2.12 219**	*e*P	**Pn**	**12 44 02.1**	**+1.4**
PB14			IAML		12 44 36.5	
comp=Z,2μm,0.8s						
GO02	**Mina Guanaco**	**2.26 195**	*e*P	**Pn**	**12 44 04.5**	**+2.1**
GO02			*i* S	**Sn**	**12 44 29.1**	**-0.7**
GO02			IAML		12 44 37.6	
comp=E,1μm,0.6s						
GO02	**Mina Guanaco**	**2.26 195**	*e*P	**Pn**	**12 44 04.1**	**+1.6**
PATCX	**Punta Patache**	**2.42 332**	*e*P	**Pn**	**12 44 04.0**	**-0.4**
PATCX			*i* S	**Sn**	**12 44 33.9**	**+0.6**
PATCX	**Punta Patache**	**2.42 332**	*e*P	**Pn**	**12 44 03.6**	**-0.9**
PATCX			IAML		12 44 40.0	
comp=Z,627nm,0.2s						
TA01	**Diego Aracena**	**2.66 334**	*e*P	**Pn**	**12 44 06.7**	**-0.9**
TA01			*i* S	**Sn**	**12 44 39.5**	**+0.6**
TA01			IAML		12 44 51.1	
comp=N,827nm,0.6s						
TA01	**Diego Aracena**	**2.66 334**	*e*P	**Pn**	**12 44 06.3**	**-1.2**
TA01			IAML		12 44 45.2	
comp=Z,625nm,0.8s						
PB08	**IPOC Station P**	**2.83 356**	*e*P	**Pn**	**12 44 10.5**	**+0.4**
PB08			*e*S	**Sn**	**12 44 49.6**	**+6.0**
GO01	**Chusmiza**	**3.30 356**	*e*P	**Pn**	**12 44 16.4**	**-0.3**
AC01	**Pan de Azucar**	**3.50 205**	*e*P	**Pn**	**12 44 18.9**	**0.0**
AC01			*e*S	**Sn**	**12 45 01.8**	**+2.5**
AC01			IAML		12 45 12.4	
comp=Z,664nm,0.6s						
AC02	**Maricunga**	**3.85 182**	*e*P	**Pn**	**12 44 26.3**	**+2.2**
AC02			*e*S	Sn	12 45 21.6	+13
GO03	**Copiapo**	**4.75 194**	*e*P	**Pn**	**12 44 36.4**	**+0.5**
GO03			*e*S	**Sn**	**12 45 30.3**	**+0.6**
LPAZ	**La Paz**	**6.70 7**	P	**Pn**	**12 45 04.5**	**+1.5**
comp=Z,4.9nm,0.4s,baz=214,slow=5.4,SNR=22						
CFA	**Coronel Fontan**	**8.62 176**	P	**Pn**	**12 45 27.8**	**-0.8**
comp=Z,1.1nm,0.3s,baz=9.0,slow=17,SNR=9.4						
CFA			S	**Sn**	**12 47 00.4**	**-3.8**
comp=Z,0.8nm,0.3s,baz=91,slow=15,SNR=1.3						
SIV	**San Ignacio**	**10.16 48**	P	**Pn**	**12 45 47.3**	**-2.5**
comp=Z,11nm,0.5s,baz=248,slow=9.9,SNR=58						
SIV			S	Sn	12 47 33.1	-8.9
comp=Z,4.6nm,0.8s,baz=224,slow=15,SNR=4.3						
CPUP	**Villa Florida**	**11.08 110**	P	**Pn**	**12 45 59.5**	**-2.6**
comp=Z,1.1nm,0.7s,baz=286,slow=11,SNR=9.6						
PLCA	**Paso Flores**	**17.76 184**	P	**Pn**	**12 47 28.7**	**+0.4**
comp=Z,1.0nm,0.8s,baz=314,slow=13,SNR=4.4						
QSPA	**South Pole Qui**	**67.22 180**	P	**P**	**12 54 13.3**	**+1.6**
comp=Z,2.3nm,0.5s,baz=201,slow=0.9,SNR=40						
comp=Z,2.3nm,0.5s						
YKA	**Yellowknife Ar**	**92.56 341**	P	**P**	**12 56 27.7**	**-0.3**
comp=Z,0.3nm,0.8s,baz=137,slow=4.2,SNR=6.4						
comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**128.59 207**	PKP	**PKPdf**	**13 02 24.2**	**-0.4**
comp=Z,0.3nm,0.7s,baz=133,slow=1.8,SNR=2.6						
WRA	**Warramunga Arr**	**131.67 210**	PKP	**PKPdf**	**13 02 30.4**	**-0.1**
comp=Z,0.5nm,0.8s,baz=146,slow=1.9,SNR=2.3						
ZALV	**Zalesovo Beam**	**143.29 26**	PKP	**PKPdf**	**13 02 50.0**	**-0.7**
comp=Z,0.6nm,0.5s,baz=328,slow=5.1,SNR=3.7						
MKAR	**Makanchi Array**	**146.83 37**	PKPbc	**PKPdf**	**13 02 57.1**	**0.0**
comp=Z,0.7nm,0.6s,baz=337,slow=2.5,SNR=7.0						

*IDC **19** 12:47:39.9±7.1, 7°.65S×128°.00E, h342km±79km, mb3.0/3, mbtmp3.5/6, Error ellipse: s-maj=104.1km s-min=29.6km az=61.0*

ISC 19 12:47:35.2±1.2, **7°.7S**±0°.1×**128°.0E**±0°.1, **h300**km, **n10**, σ1**^{s}71**/13, **mb3.3**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.26 241**		P	**Pn**	**12 48 42.7**	**-1.8**
DRS	**Darwin Rock St**	**5.50 149**		P	**Pn**	**12 48 57.6**	**-1.0**
MTN	**Manton Dam**	**5.97 150**		P	**Pn**	**12 49 03.0**	**-1.1**
KDU	**Kakadu**	**6.62 139**		P	**Pn**	**12 49 10.1**	**-1.9**
FITZ	**Fitzroy Crossi**	**10.62 192**		P	**P**	**12 50 05.0**	**+1.2**
1.9nm,0.8s,baz=31,slow=11,SNR=12							
FITZ				S	**S**	**12 51 59.5**	**-0.7**
1.5nm,0.3s,baz=177,slow=19,SNR=6.4							
WRA	**Warramunga Arr**	**13.63 154**		P	**Pn**	**12 50 39.2**	**+1.7**
0.8nm,0.9s,baz=331,slow=12,SNR=16							
WRA				S	**S**	**12 53 04.9**	**-3.0**
0.5nm,1.1s,baz=339,slow=21,SNR=1.3							
ASAR	**Alice Springs**	**16.86 161**		P	**Pn**	**12 51 17.4**	**+1.9**
0.2nm,0.8s,baz=336,slow=10,SNR=7.0							
ASAR				S	**S**	**12 54 14.8**	**+1.5**
0.2nm,0.9s,baz=318,slow=16,SNR=1.5							
MKAR	**Makanchi Array**	**67.74 328**		P	**P**	**12 58 01.5**	**+0.6**
0.3nm,0.7s,baz=131,slow=5.9,SNR=1.8							
0.3nm,0.7s							
ZALV	**Zalesovo Beam**	**71.34 335**		P	**P**	**12 58 22.1**	**-0.4**
0.4nm,0.4s,baz=116,slow=6.6,SNR=2.3							
0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**72.08 329**		P	**P**	**12 58 27.5**	**+0.5**
0.3nm,0.5s,baz=128,slow=5.6,SNR=5.2							
0.3nm,0.5s							

*ATH **19** 12:59:19.4, 35°.49N×28°.70E, h4km±8km, ML2.9/2, Manual Solution by A.Andreou First location: 2019/04/19 13:01:23, This location: 2019/04/19 13:50:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 10 km; Longitude uncertainty: 5 km*

*ISK **19** 12:59:20.1, 35°.52N×28°.52E, h8km, ML2.7/16*

*IDC **19** 12:59:21.9±1.4, 35°.37N×28°.64E, h50km±19km, mb3.3/5, mbtmp3.4/8, ML1.7/2, MS3.2/1, Error ellipse: s-maj=23.1km s-min=10.5km az=175.0*

ISC 19 12:59:22.2±0.9, **35°.49N**±0°.05×**28°.60E**±0°.04, **h36**km, **n44**, σ1**^{s}34**/48, **mb3.3**/5, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.82 332**		Pg	**Pn**	**12 59 35.4**	**-1.9**
ARG	**Arkhangelos**	**0.82 332**		P	**Pn**	**12 59 36.0**	**-1.2**
ARG				S	**Sn**	**12 59 47.1**	**-1.2**
AKAS	**Kas**	**1.10 47**		Pn	**Pn**	**12 59 42.4**	**+1.2**
KARP	**Karpathos**	**1.18 273**		Pn	**Pn**	**12 59 41.5**	**-0.6**
KARP	**Karpathos**	**1.18 273**		P	**Pn**	**12 59 43.0**	**+0.9**
KARP				S	**Sn**	**13 00 00.1**	**+3.1**
FETY	**Fethiye**	**1.21 19**		Pn	**Pn**	**12 59 43.4**	**+0.8**
TURN	**Turunc**	**1.32 347**		Pn	**Pn**	**12 59 44.8**	**+0.8**
DALY	**Dalyan (Mula)**	**1.33 2**		Pn	**Pn**	**12 59 45.0**	**+0.9**
DAT	**Datca**	**1.49 326**		Pn	**Pn**	**12 59 46.9**	**+0.4**
CAME	**Cameli-Denizli**	**1.56 21**		Pn	**Pn**	**12 59 48.6**	**+1.1**
ELL	**Elmali**	**1.64 40**		Pn	**Pn**	**12 59 50.3**	**+1.7**
YER	**Yerkesik**	**1.66 351**		Pn	**Pn**	**12 59 49.7**	**+0.8**
BODT	**Bodrum**	**1.89 327**		Pn	**Pn**	**12 59 51.9**	**0.0**
MLSB	**Milas**	**1.92 340**		Pn	**Pn**	**12 59 53.3**	**+0.9**
ZKR	**Zakros**	**1.99 260**		Pn	**Pn**	**12 59 54.0**	**+0.8**
ZKR	**Zakros**	**1.99 260**		P	**Pn**	**12 59 54.9**	**+1.7**
APMY	**Acipayam-Deniz**	**2.06 16**		Pn	**Pn**	**12 59 55.6**	**+1.3**
KORT	**Korkueli**	**2.07 43**		Pn	**Pn**	**12 59 56.3**	**+1.8**
GCAM	**G?zelcaml?**	**2.47 334**		Pn	**Pn**	**13 00 00.9**	**+1.1**
NAZL	**Nazilli-Aydin**	**2.48 354**		Pn	**Pn**	**13 00 01.5**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**2.52 347**		Pn	**Pn**	**13 00 01.7**	**+1.0**
APE	**Apeiranthos**	**2.94 303**		Pn	**Pn**	**13 00 07.7**	**+1.3**
IDI	**Anoyia**	**3.04 267**		P	**Pn**	**13 00 09.0**	**+1.2**
1.1nm,0.3s,baz=114,slow=3.8,SNR=7.4							
IDI				S	**Sn**	**13 00 43.9**	**+0.9**
12nm,0.5s,baz=29,slow=13,SNR=1.9							
13nm,0.7s							
IDI	**Anoyia**	**3.04 267**		P	**Pn**	**13 00 08.7**	**+0.9**
AKMS	**Akamas**	**3.09 98**		P	**Pn**	**13 00 08.3**	**-0.1**
ALFC	**Alefka**	**3.28 95**		P	**Pn**	**13 00 11.1**	**0.0**
NATA	**Nata**	**3.33 101**		P	**Pn**	**13 00 11.7**	**0.0**
IMMV	**Iera Moni Meta**	**3.77 271**		P	**Pn**	**13 00 20.1**	**+2.3**
CSS	**Mathiatis**	**3.91 96**		P	**Pn**	**13 00 18.2**	**-1.5**
ANKY	**Antikythira Is**	**4.33 277**		P	**Pn**	**13 00 26.2**	**+0.7**
VLI	**Veliai**	**4.75 287**		P	**Pn**	**13 00 31.7**	**+0.5**
GUR	**Goura**	**5.59 298**		P	**Pn**	**13 00 44.9**	**+2.0**
ITM	**Ithomi**	**5.65 289**		P	**Pn**	**13 00 45.2**	**+1.7**
KLV	**Kalavryta, Ach**	**5.77 298**		P	**Pn**	**13 00 47.6**	**+2.2**
BRTR	**Keskin Array B**	**5.82 42**		P	**Pn**	**13 00 46.0**	**-0.1**
0.1nm,0.3s,baz=222,slow=12,SNR=2.2							
BRTR				S	**Sn**	**13 01 53.3**	**+1.7**
0.5nm,0.4s,baz=206,slow=26,SNR=4.5							
0.5nm,0.5s							
MMAI	**Mount Meron Ar**	**6.15 112**		P	**Pn**	**13 00 49.0**	**-1.5**
2.0nm,0.5s,baz=301,slow=13,SNR=7.8							
MMAI				S	**Sn**	**13 01 58.8**	**-0.8**
0.4nm,0.2s,baz=140,slow=36,SNR=1.4							
ANX	**Ano Chora**	**6.18 302**		P	**Pn**	**13 00 53.0**	**+2.1**
LKD2	**Lefkada island**	**7.15 300**		P	**Pn**	**13 01 05.1**	**+0.9**
FINES	**FINESS Array B**	**26.02 357**		P	**P**	**13 04 50.3**	**-1.3**
0.8nm,0.6s,baz=138,slow=15,SNR=2.4							
0.8nm,0.6s							
ESDC	**Sonseca Array**	**26.06 289**		P	**P**	**13 04 50.9**	**-1.4**
0.4nm,0.5s,baz=90,slow=9.7,SNR=8.5							
0.4nm,0.5s							
HFS	**Hagfors**	**26.49 343**		P	**P**	**13 04 56.1**	**+0.3**
0.6nm,0.7s,baz=121,slow=11,SNR=1.8							
0.6nm,0.7s							
ARCES	**ARCESS Array B**	**34.15 358**		P	**P**	**13 06 01.9**	**-1.4**
2.0nm,0.9s,baz=163,slow=8.8,SNR=1.9							
2.0nm,0.9s							
KURBB	**Kurchatov Arra**	**38.72 51**		P	**P**	**13 06 42.5**	**-0.1**
0.1nm,0.4s,baz=283,slow=8.5,SNR=1.6							
0.1nm,0.4s							
BORG	**Borgarnes**	**41.63 330**		LR	LR	13 27 45.2	
comp=Z,27nm,18.5s,baz=171,slow=41							

*IDC **19** 13:00:59.0±4.8, 7°.47S×128°.56E, h104km±48km, mb3.7/7, mbtmp4.0/10, Error ellipse: s-maj=45.2km s-min=23.9km az=69.0*

*NEIC **19** 13:01:01.4±1.5, 7°.43S±0°.07×128°.93E±0°.05, h126km±9km, mb4.1/8, Error ellipse: s-maj=10.1km s-min=6.6km az=190.0*

ISC 19 13:01:00.6±0.6, **7°.55S**±0°.05×**128°.88E**±0°.06, **h131**km, **n30**, σ**2^{s}74**/36, **mb3.9**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.44 100**		Pn	**Pn**	**13 01 40.2**	**+0.2**
SAUI				Sn	**Sn**	**13 02 15.7**	**+5.3**
SOEI	**Soe**	**5.05 244**		Pn	**Pn**	**13 02 18.9**	**+4.4**
SOEI				Sn	**Sn**	**13 03 14.7**	**+2.6**
FAKI	**Fak Fak**	**5.70 36**			**Pn**	**13 02 23.2**	**+0.1**
FAKI				Sn	**Sn**	**13 03 24.7**	**-2.8**
MTN	**Manton Dam**	**5.71 157**			**Pn**	**13 02 26.9**	**+3.7**
KNRA	**Kununurra**	**8.08 181**			**Pn**	**13 02 57.9**	**+2.9**
FITZ	**Fitzroy Crossi**	**10.95 196**		Pn	**Pn**	**13 03 34.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**10.95 196**		P	**Pn**	**13 03 33.8**	**+0.2**
3.9nm,0.6s,baz=18,slow=8.2,SNR=31							
FITZ				S	**Sn**	**13 05 29.6**	**-4.8**
12nm,0.6s,baz=46,slow=20,SNR=8.9							
WB0	**Warramunga Arr**	**13.27 157**			**P**	**13 04 05.7**	**-3.3**
WRAB	**Tennant Creek**	**13.41 157**		Pn	**P**	**13 04 07.8**	**-2.7**
WRA	**Warramunga Arr**	**13.41 157**		Pn	**Pn**	**13 04 06.9**	**+1.1**
WRA	**Warramunga Arr**	**13.41 157**		P	**Pn**	**13 04 06.7**	**+0.9**
1.0nm,0.3s,baz=340,slow=11,SNR=34							
WRA				S	**Sn**	**13 06 27.9**	**-6.0**
6.2nm,0.5s,baz=331,slow=23,SNR=12							
WR8	**Warramunga Arr**	**13.48 157**		Pn	**Pn**	**13 04 08.0**	**+1.2**
COEN	**Coen**	**15.42 116**			**P**	**13 04 34.3**	**+1.4**
MBWA	**Marble Bar**	**16.16 212**			**P**	**13 04 42.3**	**+1.3**
MYLDM	**Lahad Datu**	**16.34 320**		Pn	**Pn**	**13 04 39.5**	**-3.1**
MYLDM				IAmb	IAmb	13 04 41.1	
comp=Z,16nm,1.2s							
PSA00	**Pilbara Seismi**	**16.44 211**		Pn	**Pn**	**13 04 43.1**	**-0.6**
PSA00				IAmb	IAmb	13 05 19.8	
comp=Z,15nm,1.1s							
AS31	**Alice Springs**	**16.73 164**			**P**	**13 04 49.3**	**+1.9**
ASAR	**Alice Springs**	**16.74 164**			**P**	**13 04 48.8**	**+1.4**
ASAR	**Alice Springs**	**16.74 164**		P	**P**	**13 04 51.1**	**+3.7**
comp=Z,0.4nm,0.5s,baz=341,slow=9.8,SNR=12							
ASAR				S	**Sn**	**13 07 48.4**	**-5.6**
comp=Z,1.0nm,0.6s,baz=346,slow=26,SNR=5.4							
CMAR	**Chiang Mai Arr**	**39.24 312**		P	**P**	**13 08 15.3**	**-1.2**
comp=Z,0.7nm,0.3s,baz=132,slow=7.9,SNR=4.8							
comp=Z,0.7nm,0.3s							
PETK	**Petropavlovsk-**	**65.20 19**		P	**P**	**13 11 28.9**	**+1.2**
comp=Z,2.2nm,0.9s,baz=201,slow=7.7,SNR=2.0							
comp=Z,2.2nm,0.9s							
MKAR	**Makanchi Array**	**68.08 327**		P	**P**	**13 11 46.5**	**+0.4**
comp=Z,1.5nm,0.4s,baz=121,slow=7.3,SNR=11							
comp=Z,1.5nm,0.4s							
ZALV	**Zalesovo Beam**	**71.59 334**		P	**P**	**13 12 05.8**	**-1.6**
comp=Z,0.5nm,0.4s,baz=108,slow=4.8,SNR=4.3							
comp=Z,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**72.40 329**		P	**P**	**13 12 12.6**	**+0.3**
comp=Z,1.6nm,0.6s,baz=131,slow=4.9,SNR=20							
comp=Z,1.6nm,0.6s							
KURK	**Kurchatov**	**72.41 329**		P	**P**	**13 12 13.3**	**+1.0**
KURK				IAmb	IAmb	13 12 14.2	
comp=Z,3.0nm,0.9s							
BVAR	**Borovoye Array**	**77.94 328**		P	**P**	**13 12 44.6**	**+0.6**
comp=Z,0.4nm,0.5s,baz=118,slow=5.2,SNR=3.8							
comp=Z,0.4nm,0.5s							
AB31	**Akbulak array**	**82.25 322**		P	**P**	**13 13 07.3**	**+0.1**
ABKAR	**Akbulak array**	**82.25 322**		P	**P**	**13 13 07.5**	**+0.3**
QSPA	**South Pole Qui**	**82.43 180**		P	**P**	**13 13 10.6**	**+2.5**
QSPA				IAmb	IAmb	13 13 44.3	
comp=Z,2.5nm,1.2s							
QSPA	**South Pole Qui**	**82.43 180**		P	**P**	**13 13 10.3**	**+2.2**
comp=Z,0.6nm,0.8s,baz=154,slow=2.5,SNR=5.5							
comp=Z,0.6nm,0.8s							

*NEIC **19** 13:03:14.8±2.0, 60°.25N±0°.05×153°.00W±0°.10, h134km±2km, Error ellipse: s-maj=7.5km s-min=6.7km az=207.0*

AEIC 19 13:03:15.9±1.2, **60°.30N**±0°.04×**152°.86W**±0°.09, **h121**km±3km, **ML2.5, ML2.8**/200(NEIC), **Error ellipse: s-maj=6.8km s-min=6.3km az=116.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILSW	**Iliamna Southw**	**0.35 204**		Pn	Pn	13 03 33.2	-0.1
ILSW				Sn	Sn	13 03 47.4	+1.1
ILSW				IAML		13 03 48.8	
comp=E,130nm,0.4s							
ILSW				IAML		13 03 49.1	
comp=N,93nm,0.4s							
P19K	**Oil Pt**	**0.67 196**			Pn	13 03 35.5	+0.3
P19K				Sn	Sn	13 03 50.6	+0.9
P19K				IAML		13 03 51.1	
comp=E,315nm,0.5s							
P19K				IAML		13 03 51.1	
comp=N,400nm,0.5s							
O19K	**Port Alsworth**	**0.73 263**			Pn	13 03 35.6	+0.1
O19K				Sn	Sn	13 03 50.5	+0.1
O19K				IAML		13 03 51.3	
comp=E,249nm,0.4s							
O19K				IAML		13 03 52.1	
comp=N,119nm,0.4s							
HOM	**Homer**	**0.89 136**		Pn	Pn	13 03 36.4	-0.5
N19K	**Bonanza Creek**	**0.95 304**			Pn	13 03 37.7	+0.1
CAPN	**Captain Cook N**	**0.97 60**		Pn	Pn	13 03 39.4	+1.8
BRLK	**Bradley Lake**	**1.13 118**			Pn	13 03 39.0	-0.2
CNPM	**China Poot**	**1.13 133**			Pn	13 03 39.5	+0.2
O18K	**Koktuh Hills**	**1.26 250**		Pn	Pn	13 03 40.5	-0.2
STLK	**Strandline Lak**	**1.30 22**			Pn	13 03 41.3	+0.1
STLK				IAML		13 04 03.6	
comp=E,48nm,0.6s							
SLKM	**Skilak Lake**	**1.33 80**			Pn	13 03 41.0	-0.4
SLKM				IAML		13 04 02.1	
comp=E,207nm,0.2s							
Q19K	**Cape Douglas,**	**1.43 196**			Pn	13 03 42.1	-0.5
Q19K				IAML		13 04 25.7	
comp=E,98nm,1.1s							
Q19K				IAML		13 04 28.7	
comp=N,108nm,1.1s							
P18K	**Big Mountain,**	**1.50 234**		Pn	Pn	13 03 42.5	-0.9
N18K	**Kilae Creek**	**1.55 286**			Pn	13 03 43.8	-0.1
SUA	**Susitna One**	**1.56 41**			Pn	13 03 44.4	+0.3
O22K	**Cooper Landing**	**1.57 82**			Pn	13 03 43.9	-0.2
O22K				IAML		13 04 10.4	
comp=E,178nm,0.5s							
M20K	**Styx River**	**1.59 355**			Pn	13 03 45.1	+0.6
SYI	**Shuyak Island**	**1.71 172**		Pn	Pn	13 03 45.2	-0.6
SYI				IAML		13 04 09.9	
comp=E,114nm,0.3s							
SYI				IAML		13 04 10.5	
comp=N,90nm,0.3s							
SEW	**Seward**	**1.71 95**			Pn	13 03 45.1	-0.6
SEW				IAML		13 04 11.4	
comp=N,40nm,0.7s							
SEW				IAML		13 04 17.5	
comp=E,47nm,0.6s							
RC01	**Rabbit Creek A**	**1.73 61**		Pn	Pn	13 03 45.5	-0.5
RC01				IAML		13 04 10.1	
comp=E,160nm,0.2s							
RC01				IAML		13 04 10.3	
comp=N,123nm,0.3s							
M19K	**Big River Lodg**	**1.77 336**			Pn	13 03 46.7	+0.2
SKT	**Skwentna**	**1.81 20**		Pn	Pn	13 03 47.4	+0.5
SKT				IAML		13 04 13.0	
comp=N,53nm,0.4s							
SKT				IAML		13 04 14.2	
comp=E,58nm,0.5s							
M22K	**Willow**	**1.98 41**		Pn	Pn	13 03 49.2	+0.2
L19K	**White Mountain**	**2.12 334**			Pn	13 03 50.3	-0.5
N17K	**Nushagak Hills**	**2.16 278**		Pn	Pn	13 03 51.1	-0.2
PMR	**Palmer**	**2.24 53**		Pn	Pn	13 03 51.5	-0.7
PMR				IAML		13 04 19.7	
comp=E,64nm,0.2s							
PMR				IAML		13 04 20.1	
comp=N,55nm,0.2s							
GHO	**Glory Hole Cre**	**2.42 51**		Pn	Pn	13 03 53.3	-1.4
KNK	**Knik Glacier**	**2.43 61**		Pn	Pn	13 03 53.7	-1.0
ACHA	**Angle Creek He**	**2.45 212**			Pn	13 03 54.6	-0.4
M17K	**Holitna River**	**2.50 298**		Pn	Pn	13 03 57.1	+1.6
KDAK	**Kodiak Island**	**2.53 177**		Pn	Pn	13 03 56.6	+0.6
KDAK				IAML		13 04 29.2	
comp=N,23nm,0.7s							
KDAK				IAML		13 04 30.6	
comp=N,26nm,0.8s							
PPLA	**Purkeypile**	**2.63 7**		Pn	Pn	13 03 56.4	-1.0
PPLA				IAML		13 04 32.5	
comp=E,32nm,0.8s							
PPLA				IAML		13 04 34.6	
comp=N,18nm,0.8s							
L18K	**Granite Mounta**	**2.67 318**		Pn	Pn	13 03 57.5	-0.3
SML	**Sawmill**	**2.67 54**		Pn	Pn	13 03 56.6	-1.3
SML				IAML		13 04 29.5	
comp=E,42nm,0.6s							
SML				IAML		13 04 30.0	
comp=N,62nm,0.6s							
O16K	**Kokwok River B**	**2.73 257**			Pn	13 03 58.3	-0.2
P23K	**Montague Islan**	**2.75 94**		Pn	Pn	13 03 58.0	-0.8
P23K				IAML		13 04 33.2	
comp=N,50nm,0.3s							
P23K				IAML		13 04 33.7	
comp=E,44nm,0.9s							
P16K	**Nushagak River**	**2.90 246**		Pn	Pn	13 04 01.3	+0.6
P16K				IAML		13 04 34.1	
comp=N,19nm,1.0s							
P16K				IAML		13 04 56.2	
comp=E,16nm,1.1s							
GLI	**Glacier Island**	**2.91 76**		Pn	Pn	13 03 59.8	-1.0
GLI				IAML		13 04 37.4	
comp=E,47nm,1.0s							
GLI				IAML		13 05 02.9	
comp=N,38nm,1.2s							
TTA	**Tatalina**	**3.04 332**			Pn	13 04 01.5	-1.2
OHAK	**Old Harbor**	**3.09 184**		Pn	Pn	13 04 01.2	-2.1
OHAK				IAML		13 04 38.2	
comp=N,10.0nm,0.3s							
OHAK				IAML		13 04 39.0	
comp=E,13nm,1.0s							
SCM	**Sheep Creek Mo**	**3.10 58**		Pn	Pn	13 04 01.9	-1.6
SCM				IAML		13 04 43.0	
comp=N,52nm,0.6s							
K20K	**Telida**	**3.12 350**			Pn	13 04 03.8	+0.1
CAST	**Castle Rocks**	**3.15 6**			Pn	13 04 04.1	-0.1
HIN	**Hinchinbrook I**	**3.16 85**		Pn	Pn	13 04 03.9	-0.4
HIN				IAML		13 05 38.9	
comp=N,28nm,1.2s							
HIN				IAML		13 06 07.0	
comp=E,43nm,1.2s							
FID	**Port Fidalgo**	**3.19 79**		Pn	Pn	13 04 02.9	-1.7
FID				IAML		13 04 50.6	
comp=N,35nm,1.2s							
FID				IAML		13 04 57.4	
comp=E,32nm,1.1s							
TRF	**Thorofare Moun**	**3.39 20**			Pn	13 04 07.1	-0.3
TRF				IAML		13 04 49.5	
comp=E,32nm,0.4s							
KTH	**Kantishna Hill**	**3.39 15**		Pn	Pn	13 04 06.8	-0.5
KTH				IAML		13 04 47.8	
comp=N,20nm,0.7s							
KTH				IAML		13 04 47.8	
comp=E,17nm,0.8s							
L16K	**Owhat River**	**3.52 297**		Pn	Pn	13 04 08.8	-0.1
EYAK	**Cordova Ski Ar**	**3.54 83**		Pn	Pn	13 04 08.6	-0.5
EYAK				IAML		13 04 47.7	
comp=E,

```
      comp=N,14nm,1.1s
N14K                                IAML                 13 06 24.2
      comp=E,18nm,1.1s
M14K  Bethel          4.52 280      Pn     Pn            13 04 20.7 -1.5
M14K                                IAML                 13 06 21.6
      comp=N,15nm,1.1s
M14K                                IAML                 13 07 29.9
      comp=E,12nm,0.9s
BERG  Berg Lake       4.55  85      Pn     Pn            13 04 21.6 -1.1
GLB   Gilahina Butte  4.57  72      Pn     Pn            13 04 21.3 -1.7
GLB                                 IAML                 13 05 15.4
      comp=E,11nm,0.4s
GLB                                 IAML                 13 05 15.7
      comp=N,12nm,0.4s
I20K  Naaghedeneel    4.58 351              Pn           13 04 22.6 -0.4
I20K                                IAML                 13 05 35.0
      comp=N,7.1nm,1.0s
I20K                                IAML                 13 06 06.0
      comp=E,7.7nm,0.9s
K15K  Wolf Creek Mou  4.63 299      Pn     Pn            13 04 23.2 -0.6
K15K                                IAML                 13 05 27.0
      comp=E,3.1nm,0.4s
K15K                                IAML                 13 06 49.9
      comp=N,4.1nm,1.1s
NEA2  Nenana          4.66  21              Pn           13 04 23.6 -0.5
NEA2                                IAML                 13 05 12.9
      comp=E,3.7nm,1.2s
VRDI  Verde Repeater  4.71  75      Pn     Pn            13 04 24.4 -0.6
VRDI                                IAML                 13 05 06.1
      comp=E,5.0nm,1.2s
VRDI                                IAML                 13 05 19.6
      comp=N,16nm,1.2s
J16K  Anvik River     4.74 313      Pn     Pn            13 04 24.8 -0.4
J16K                                IAML                 13 05 11.9
      comp=N,6.5nm,1.1s
J16K                                IAML                 13 05 14.7
      comp=E,4.3nm,0.6s
WRH   Wood River Hil  4.74  26      Pn     Pn            13 04 24.4 -0.7
WRH                                 IAML                 13 05 15.9
      comp=E,4.9nm,0.3s
WRH                                 IAML                 13 05 23.2
      comp=N,3.7nm,0.5s
K24K  Donnelly Dome   4.84  40      Pn     Pn            13 04 27.4 +0.8
I21K  Tanana          4.92   4      Pn     Pn            13 04 27.0 -0.5
L14K  Kuka Creek      4.92 287      Pn     Pn            13 04 28.5 +0.9
L14K                                IAML                 13 06 22.7
      comp=N,8.2nm,1.1s
L14K                                IAML                 13 07 47.3
      comp=E,7.9nm,1.1s
CCB   Clear Creek Bu  4.95  26              Pn           13 04 27.2 -0.9
CCB                                 IAML                 13 05 21.2
      comp=E,4.9nm,1.0s
CCB                                 IAML                 13 05 22.2
      comp=N,4.4nm,0.6s
HDA   Harding Lake    4.96  31              Pn           13 04 27.4 -0.7
WAX   Waxell Ridge    4.97  84      Pn     Pn            13 04 27.6 -0.8
WAX                                 IAML                 13 06 28.4
      comp=E,6.8nm,1.2s
SNH   Sunshine Point  5.00  87      Pn     Pn            13 04 28.9 +0.2
MENT  Mentasta        5.10  55      Pn     Pn            13 04 29.1 -1.0
MENT                                IAML                 13 05 57.0
      comp=E,12nm,0.8s
RIDG  Independent Ri  5.12  44      Pn     Pn            13 04 30.2  0.0
RIDG                                IAML                 13 05 44.5
      comp=N,10nm,0.8s
I23K  Minto, Yukon-K  5.13  17              Pn           13 04 30.4  0.0
I23K                                IAML                 13 05 48.3
      comp=E,2.3nm,1.0s
I23K                                IAML                 13 06 12.8
      comp=N,3.0nm,1.0s
COLA  College         5.14  25      Pn     Pn            13 04 29.8 -0.7
M26K  Nabesna, AK     5.20  62      Pn     Pn            13 04 30.9 -0.5
M26K                                IAML                 13 05 31.4
      comp=E,6.6nm,0.4s
M26K                                IAML                 13 05 31.7
      comp=N,5.5nm,0.9s
M13K  Dall Lake       5.21 276      Pn     Pn            13 04 29.9 -1.6
M13K                                IAML                 13 05 39.6
      comp=E,6.4nm,1.1s
M13K                                IAML                 13 05 43.8
      comp=N,11nm,1.1s
IL31                  5.27  29              Pn           13 04 31.5 -0.8
ILAR  Eielson Array   5.27  29      Pn     Pn            13 04 31.0 -1.4
L26K  Log Cabin Wild  5.29  55      Pn     Pn            13 04 31.6 -1.1
L26K                                IAML                 13 05 48.9
      comp=N,8.9nm,0.6s
L26K                                IAML                 13 05 58.0
      comp=E,10nm,0.5s
DOT   Dot Lake        5.34  47      Pn     Pn            13 04 32.1 -1.1
DOT                                 IAML                 13 05 41.2
      comp=N,7.0nm,1.0s
DOT                                 IAML                 13 05 47.2
      comp=E,9.5nm,1.0s
H21K  Melozitna Rive  5.38   0              Pn           13 04 33.5 -0.3
H18K  Honhosa River   5.49 335      Pn     Pn            13 04 35.3  0.0
H19K  Roundabout Mou  5.50 344      Pn     Pn            13 04 35.3 -0.1
YAH   Yahtse          5.53  85      Pn     Pn            13 04 36.1 +0.1
J25K  Salcha River,   5.55  36              Pn           13 04 35.6 -0.6
SCRK  Sand Creek      5.56  45      Pn     Pn            13 04 35.2 -1.1
J14K  Nanvaranak Lak  5.67 300      Pn     Pn            13 04 37.0 -0.7
H17K  Granite Mounta  5.68 328      Pn     Pn            13 04 35.5 -2.3
M27K  Edge Creek, AK  5.68  64      Pn     Pn            13 04 38.2 +0.2
H23K  Yukon River     5.75  14              Pn           13 04 38.5 -0.3
BCAR  Beaver Creek A  5.96  57      Pn     Pn            13 04 39.6 -2.0
H24K  Noodor Dome     6.00  20      Pn     Pn            13 04 41.6 -0.6
J26L  Joseph Creek    6.04  42      Pn     Pn            13 04 41.6 -1.1
G19K  Purcell Mounta  6.17 344      Pn     Pn            13 04 43.7 -0.7
PRP   Porcupine Dome  6.21  29              Pn           13 04 44.5 -0.6
G21K  Allakaket       6.25 358              Pn           13 04 45.3 -0.2
O28M  Mount Upton     6.27  80              Pn           13 04 45.9 -0.2
G23K  Bananza Creek   6.56  10              Pn           13 04 49.4 -0.3
M29M  Somme Creek     7.24  67              Pn           13 04 58.9 -0.1
E19K  Redstone River  7.44 347      Pn     Pn            13 05 02.0 +0.5
F24K  Squaw Lake      7.57  15              Pn           13 05 03.6 +0.2
E22K  Anaktuvuk Pass  7.88   3              Pn           13 05 08.6 +1.0
E23K  Chandalar       7.92   9      Pn     Pn            13 05 08.4 +0.3
BMAR  Burnt Mountain  8.03  23      Pn     Pn            13 05 08.1 -1.5
M30M  Minto, Yukon    8.03  67      Pn     Pn            13 05 09.6  0.0
E24K  Your Creek      8.04  12      Pn     Pn            13 05 09.4 -0.2
E25K  Arctic Village  8.46  19              Pn           13 05 14.1 -1.3
TOLK  Toolik Lake Re  8.49   8      Pn     Pn            13 05 16.4 +0.6
```

*NEIC **19** 13:22:07.2±0.5, 36°.112N±0°.008×97°.846W±0°.009, h5km±2km, Error ellipse: s-maj=1.3km s-min=1.0km az=151.0*

NEIC 19 13:22:07.1±0.5, 36°.107N±0°.009×97°.85W±0°.01, h5km±1km, mb_Lg2.2/13, ML2.4/39, ML2.5/56, Error ellipse: s-maj=2.7km s-min=1.6km az=55.0, Oklahoma

```
Code  Station Name    Δ°   AZ°  Phase ID                Time    Res
                                Op    ISC               h m s   ISC
CROK  Carrier         0.41 345             Pg           13 22 15.6 +0.5
CROK                                       Sg           13 22 21.4 +0.9
CROK                                IAML                 13 22 25.2
      comp=N,518nm,0.2s
OK029 Liberty Lake    0.45 134             Pg           13 22 16.3 +0.6
OK029                                      Sg           13 22 22.7 +1.1
OK029                               IAML                 13 22 22.8
      comp=N,440nm,0.3s
BCOK  Bluff Creek, N  0.49 156             Pg           13 22 17.0 +0.5
BCOK                                       Sg           13 22 24.0 +1.1
OK004 Okla Sci Mus    0.66 152             Pg           13 22 20.1 +0.3
OK004                                      Sg           13 22 29.4 +1.1
GC02  Grant County #  0.74 360             Pg           13 22 21.5 +0.1
GC02                                       Sg           13 22 31.1 +0.1
OK032 Salt Plains WL  0.75 338      Pg     Pg           13 22 21.6 +0.1
OK032                               Sg     Sg           13 22 32.1 +0.7
OKCSW OKLAHOMA CITY   0.78 154             Pg           13 22 22.1 +0.1
OKCSW                                      Sg           13 22 32.9 +0.8
OKCSW                               IAML                 13 22 36.3
      comp=E,171nm,0.2s
OK048 Pawnee Station  0.80  67             Pg           13 22 22.5 +0.1
OK048                               IAML                 13 22 35.5
      comp=E,132nm,0.1s
OK038 West end E0370  0.81 298             Pg           13 22 22.8 +0.2
OK038                                      Sg           13 22 33.9 +0.8
BLOK  Blackwell       0.83  38             Pg           13 22 23.1  0.0
BLOK                                       Sg           13 22 34.5 +0.6
KAN14 Manchester OK   0.85 354             Pg           13 22 23.4 -0.1
KAN14                                      Sg           13 22 34.2 -0.3
KAN14                               IAML                 13 22 40.8
      comp=E,183nm,0.1s
KAN14                               IAML                 13 22 42.2
      comp=N,169nm,0.1s
OK052 Battle Ridge R  0.86  97             Pg           13 22 23.6  0.0
OK052                                      Sg           13 22 34.7  0.0
OK052                               IAML                 13 22 41.2
      comp=N,118nm,0.2s
FNO   Franklin        0.93 156             Pg           13 22 24.8 -0.1
FNO                                 IAML                 13 22 42.8
      comp=E,137nm,0.5s
QUOK  Quay            0.93  86      Pg     Pg            13 22 24.9  0.0
QUOK                                       Sg           13 22 37.4 +0.3
QUOK                                IAML                 13 22 41.5
      comp=E,133nm,0.1s
QUOK                                IAML                 13 22 43.9
      comp=N,116nm,0.3s
KAN13 South Haven SW  0.95  18             Pg           13 22 25.2 -0.2
KAN13                                      Sg           13 22 37.7 -0.1
KAN13                               IAmb_Lg              13 22 38.4
      comp=Z,32nm,0.9s
KAN13                               IAML                 13 22 45.7
      comp=N,196nm,0.2s
KAN05 Bluff City Nor  1.00 359             Pg           13 22 25.5 -0.8
KAN05                               Sg     Sb           13 22 39.9 -0.5
KAN05                               IAML                 13 22 41.9
      comp=E,190nm,0.2s
KAN05                               IAML                 13 22 44.1
      comp=N,151nm,0.1s
NOKA  Waynoka         1.02 302      Pg     Pg            13 22 26.1 -0.5
KAN10 Anthony SW Sta  1.03 349             Pg           13 22 26.8 -0.1
KAN09 Caldwell North  1.04  10             Pg           13 22 26.9 -0.2
DEOK  Depew           1.13 103             Pg           13 22 28.1 -0.7
DEOK                                IAML                 13 22 48.4
      comp=N,85nm,0.2s
DEOK                                IAML                 13 22 49.2
      comp=E,84nm,0.1s
W35A  Tecumseh        1.24 140             Pg           13 22 30.2 -0.7
W35A                                IAML                 13 22 50.7
      comp=E,122nm,0.3s
W35A                                IAML                 13 22 51.3
      comp=N,84nm,0.3s
ELIS  Ellis County    1.27 269      Pg     Pg            13 22 30.5 -0.9
X34A  Smith Ranch, M  1.50 179             Pn           13 22 34.5 -0.2
WMOK  Wichita Mounta  1.56 209      Pn     Pn            13 22 35.4 -0.2
WMOK  Wichita Mounta  1.56 209             Pn           13 22 35.3 -0.2
TUL3  Leonard         1.68  96             Pn           13 22 37.3 +0.1
TUL3                                IAmb_Lg              13 23 03.7
      comp=Z,16nm,0.9s
SMWD  Samnorwood      2.19 244      Pn     Pn            13 22 44.1  0.0
RLO   Rose Lookout    2.29  88      Pn     Pn            13 22 45.7 +0.1
WTFS  Witchita Falls  2.39 192      Pn     Pn            13 22 48.0 +1.1
CBKS  Cedar Bluff     3.09 332      IAmb_Lg              13 23 44.5
      comp=Z,6.2nm,0.9s
MIAR  Mount Ida       3.83 113      Pn     Pn            13 23 06.5 -0.2
POST  Post            4.27 226      IAmb_Lg              13 24 28.4
      comp=Z,4.0nm,0.8s
X40A  Basin Creek Fa  4.41 110      IAmb_Lg              13 24 38.6
      comp=Z,4.7nm,0.8s
MGMO  Mountain Grove  4.61  75      IAmb_Lg              13 24 30.9
      comp=Z,6.4nm,0.7s
LCAR  Lake Charles    5.43  88      IAmb_Lg              13 24 59.7
      comp=Z,5.6nm,1.2s
```

*NEIC **19** 13:27:20.5±2.0, 7°.14S±0°.09×156°.22E±0°.05, h106km±8km, mb4.5/29, Error ellipse: s-maj=14.5km s-min=4.8km az=201.0*

*IDC **19** 13:27:21.8±1.9, 7°.09S×156°.01E, h110km±17km, mb4.0/13, mbtmp4.4/17, MS3.4/8, Error ellipse: s-maj=17.3km s-min=12.7km az=25.0*

ISC 19 13:27:20.3±0.4, 7°.07S±0°.07×156°.07E±0°.06, h100km, n71, σ1°.20/68, mb4.4/30, Bougainville-Solomon Islands region

```
Code  Station Name    Δ°   AZ°  Phase ID                Time    Res
                                Op    ISC               h m s   ISC
HNR   Honiara         4.50 122             Pn           13 28 24.1 -2.1
HNR   Honiara         4.50 122             P            13 28 26.9 +0.7
      27nm,0.4s,baz=80,slow=1.0,SNR=7.7
HNR                                        S            13 29 21.2 +3.7
      289nm,0.9s,baz=233,slow=21,SNR=2.7
HNR                                 LR     LR           13 30 07.9
      comp=Z,270nm,19.6s,baz=327,slow=37
RABL  Rabaul          4.83 306             Pn           13 28 33.1 +2.4
PMG   Port Moresby    9.12 255             Pn           13 29 31.0 +1.9
PMG   Port Moresby    9.12 255             P            13 29 31.0 +1.9
      72nm,0.7s,baz=63,slow=9.5,SNR=22
PMG                                        S            13 31 11.9 +1.9
      40nm,0.9s,baz=348,slow=16,SNR=4.6
PMG                                 LR     LR           13 32 55.3
      comp=Z,253nm,18.5s,baz=62,slow=37
PATS  Pohnpei         13.99   9      Pn                 13 30 33.2 -1.0
JAY   Jayapura        15.96 286      P                  13 30 59.2 -0.1
      12nm,1.0s,baz=83,slow=22,SNR=2.9
DZM   Mont Dzumac     17.96 147      P                  13 31 24.9 +1.2
      12nm,1.1s,baz=207,slow=16,SNR=1.6
DZM                                 LR     LR           13 37 40.4
      comp=Z,50nm,19.0s,baz=152,slow=34
ARMA  Armidale        23.60 190      P                  13 32 20.1 -2.2
FAKI  Fak Fak         24.08 279      P                  13 32 25.3 -1.4
FAKI                                IAmb   IAmb         13 32 39.5
      comp=Z,12nm,1.1s
WB0   Warramunga Arr  24.53 237             P            13 32 30.6 -0.2
WB0                                 IAmb   IAmb         13 32 31.9
      comp=Z,8.9nm,0.8s
WR8   Warramunga Arr  24.53 236             P            13 32 30.4 -0.4
WR8                                 IAmb   IAmb         13 32 32.2
      comp=Z,12nm,0.8s
WRAB  Tennant Creek   24.64 237             P            13 32 31.0 -0.7
WRAB                                IAmb   IAmb         13 32 33.9
      comp=Z,11nm,0.8s
WRA   Warramunga Arr  24.66 237             P            13 32 30.6 -1.3
WRA   Warramunga Arr  24.66 237             P            13 32 31.5 -0.4
      comp=Z,12nm,0.7s,baz=62,slow=8.8,SNR=4.8
WRA                                 PcP    PcP          13 36 07.0 -0.1
      comp=Z,0.8nm,0.8s,baz=62,slow=2.5,SNR=3.9
WRA                                 LR     LR           13 41 45.5
      comp=Z,144nm,20.4s,baz=4.5,slow=35
      comp=Z,12nm,0.7s
AS31  Alice Springs   26.93 230      P                  13 32 50.4 -2.1
ASAR  Alice Springs   26.93 230      P                  13 32 50.8 -1.7
ASAR  Alice Springs   26.93 230      P                  13 32 51.4 -1.0
      comp=Z,2.0nm,0.9s,baz=59,slow=9.6,SNR=16
ASAR                                PcP    PcP          13 36 13.1 +0.8
      comp=Z,0.6nm,0.7s,baz=58,slow=2.5,SNR=4.5
ASAR                                LR     LR           13 42 21.2
      comp=Z,117nm,18.8s,baz=77,slow=34
      comp=Z,2.0nm,0.9s
H11S3 WAKE ISLAND Hy  27.48  22      T      T            14 01 20.3
      baz=202,slow=76,SNR=1494
H11S2 WAKE ISLAND Hy  27.48  22      T      T            14 01 20.5
      baz=202,slow=76,SNR=1040
H11S1 WAKE ISLAND Hy  27.49  22      T      T            14 01 21.6
      baz=202,slow=76,SNR=641
KNRA  Kununurra       28.07 250      P                  13 33 00.5 -2.2
KNRA                                IAmb   IAmb         13 33 01.3
      comp=Z,9.5nm,1.1s
STKA  Stephens Creek  28.14 207      P                  13 33 00.6 -2.4
STKA                                IAmb   IAmb         13 33 07.2
      comp=Z,13nm,0.9s
STKA  Stephens Creek  28.14 207      LR     LR           13 43 47.1
      comp=Z,120nm,19.1s,baz=18,slow=35
H11N1 WAKE ISLAND Hy  28.67  22      T      T            14 03 00.9
      baz=201,slow=76,SNR=16
H11N3 WAKE ISLAND Hy  28.68  22      T      T            14 03 09.4
      baz=201,slow=76,SNR=20
H11N2 WAKE ISLAND Hy  28.69  22      T      T            14 02 53.6
      baz=201,slow=76,SNR=18
TNTI  Ternate         29.68 284      P                  13 33 16.9 -0.1
TNTI                                IAmb   IAmb         13 33 18.8
      comp=Z,14nm,1.1s
FITZ  Fitzroy Crossi  31.60 247      P                  13 33 32.8 -1.0
FORT  Forrest         35.27 224      P                  13 34 05.2 -0.4
TOLI2 Tolitoli        36.13 282      P                  13 34 12.1 -1.0
TOLI2                               IAmb   IAmb         13 34 14.9
      comp=Z,5.7nm,0.8s
KKM   Kota Kinabalu   41.84 287      P                  13 35 00.6 -0.3
MORW  Morawa          43.58 235      P                  13 35 13.9 -0.8
MORW                                IAmb   IAmb         13 35 14.7
      comp=Z,8.8nm,0.8s
TPUB  Ta-pu           45.94 312      P                  13 35 33.1 -0.3
KSM   Kuching         46.44 279      P                  13 35 37.7 +0.1
KSM                                 IAmb   IAmb         13 35 43.3
      comp=Z,6.9nm,1.0s
JNU   Nakatsue        46.59 331      LR     LR           13 52 43.7
      comp=Z,17nm,18.6s,baz=262,slow=33
DLV   Lat             50.95 292      P                  13 36 12.2  0.0
KSRS  Korea Array     51.51 331      P      P            13 36 16.2 +0.5
      comp=Z,2.1nm,0.7s,baz=147,slow=7.4,SNR=9.3
      comp=Z,2.1nm,0.7s
KSAR  Wonju Array Be  51.52 331      P      P            13 36 15.7 -0.2
CN2   Changchun       57.72 334      eP     P            13 37 01.4 +0.8
CN2                                    eS     S            13 44 53.0 +1.3
CN2                                 pmax   pmax
      comp=Z,10.0nm,0.8s
CN2                                 pmax   pmax
      comp=Z,100nm,4.0s
CN2                                 LR     LR
      comp=N,100nm,11.0s
CN2                                 LR     LR
      comp=E,100nm,11.0s
CN2                                 LR     LR
      comp=Z,100nm,11.1s
PETK  Petropavlovsk-  59.96   1      LR     LR           13 59 33.1
      comp=Z,25nm,21.9s,baz=193,slow=32
CM31  Chiang Mai Arr  61.78 295      P      P            13 37 30.0 +1.1
CMAR  Chiang Mai Arr  61.78 295             P            13 37 29.6 +0.7
CMAR  Chiang Mai Arr  61.78 295             P            13 37 29.4 +0.4
      comp=Z,5.1nm,1.0s,baz=119,slow=5.2,SNR=20
      comp=Z,5.1nm,1.0s
CHTO  Chiang Mai      61.89 296      P      P            13 37 31.1 +1.4
XLT   XiLinHaoTe      62.28 328      eP     P            13 37 32.5 +0.6
XLT                                    pP     pP           13 37 54.4 -2.3
XLT                                 pmax   pmax
      comp=Z,14nm,0.8s
XLT                                 pmax   pmax
      comp=Z,65nm,4.3s
PZH   PanZhiHua       62.33 305      P      P            13 37 33.8 +1.2
PZH                                 pmax   pmax
      comp=Z,10.0nm,0.5s
PZH                                 pmax   pmax
      comp=Z,100nm,4.8s
HHC   Hu-ho-hao-te    62.79 323      eP     P            13 37 36.9 +1.5
HHC                                 pmax   pmax
      comp=Z,11nm,0.8s
HHC                                 pmax   pmax
      comp=Z,48nm,5.9s
ULN   Ulaanbaatar     69.64 327             P            13 38 20.4 +1.3
ULN                                 IAmb   IAmb         13 38 21.3
      comp=Z,7.4nm,0.9s
SONM  Songino Array   69.98 327             P            13 38 22.0 +0.9
SONM                                IAmb   IAmb         13 38 23.1
      comp=Z,8.1nm,0.9s
SONM  Songino Array   69.98 327      P      P            13 38 22.3 +1.1
      comp=Z,7.7nm,0.8s,baz=141,slow=7.0,SNR=26
      comp=Z,7.7nm,0.8s
SHL   Shillong        70.25 300      P      P            13 38 23.4  0.0
SHL                                 IAmb   IAmb         13 38 24.2
      comp=Z,7.4nm,1.2s
VNDA  Vanda           70.48 179      P      P            13 38 24.9 +1.4
      comp=Z,1.3nm,0.9s,baz=8.6,slow=3.4,SNR=2.4
      comp=Z,1.3nm,0.9s
SDPT  Sand Point      71.87  24      P      P            13 38 30.8 -1.5
C18K  Utukok River    81.19  15      P      P            13 39 22.9 -1.7
QSPA  South Pole Qui  82.91 180      P      P            13 39 34.2 +0.4
QSPA                                IAmb   IAmb         13 39 35.3
      comp=Z,2.8nm,0.6s
QSPA  South Pole Qui  82.91 180      P      P            13 39 34.2 +0.4
      comp=Z,2.9nm,0.6s,baz=197,slow=0.8,SNR=34
      comp=Z,2.9nm,0.6s
ILAR  Eielson Array   83.05  21      P      P            13 39 34.7 +0.3
      comp=Z,0.3nm,0.8s,baz=258,slow=6.3,SNR=2.2
      comp=Z,0.3nm,0.8s
MKAR  Makanchi Array  84.17 318             P            13 39 41.4 +0.9
MKAR  Makanchi Array  84.17 318      P      P            13 39 41.1 +0.6
      comp=Z,5.6nm,0.7s,baz=102,slow=5.6,SNR=54
      comp=Z,5.6nm,0.7s
MAKZ  Makanchi        84.38 318             P            13 39 42.1 +0.5
MAKZ                                IAmb   IAmb         13 39 43.0
      comp=Z,8.0nm,0.8s
ZAA0  Zalesovo Array  84.84 326      P      P            13 39 43.8 +0.2
ZALV  Zalesovo Beam   84.84 326             P            13 39 43.5 -0.1
ZALV  Zalesovo Beam   84.84 326      P      P            13 39 43.2 -0.4
      comp=Z,2.3nm,0.5s,baz=122,slow=5.5,SNR=11
      comp=Z,2.3nm,0.5s
KURK  Kurchatov       87.55 322      P      P            13 39 57.0  0.0
KURBB Kurchatov Arra  87.58 322      P      P            13 39 57.0 -0.2
      comp=Z,1.1nm,0.6s,baz=100,slow=4.8,SNR=14
      comp=Z,1.1nm,0.6s
NRIK  Noril'sk        89.16 341      P      P            13 40 04.2  0.0
      comp=Z,1.4nm,0.5s,baz=135,slow=2.9,SNR=4.1
      comp=Z,1.4nm,0.5s
BVAR  Borovoye Array  93.00 323      P      P            13 40 22.0 -0.5
      comp=Z,3.1nm,0.8s,baz=104,slow=6.3,SNR=13
      comp=Z,3.1nm,0.8s
GERES GERESS Array B  127.66 329     PKP    PKPdf        13 46 14.0 -0.2
      comp=Z,0.5nm,0.7s,baz=55,slow=5.2,SNR=3.5
BDFB  Brasilia        147.16 134     PKPbc  PKPbc        13 46 52.9 -0.1
      comp=Z,4.1nm,0.5s,baz=245,slow=1.7,SNR=5.7
TORD  Torodi Ar. Bea  154.07 286     PKPbc  PKPbc        13 47 09.0 -0.5
      comp=Z,159nm,0.3s,baz=66,slow=2.1,SNR=2.2
TORD                                PKPab  PKPab        13 47 22.7 -0.7
      comp=Z,106nm,0.3s,baz=62,slow=3.9,SNR=1.3
```

*OSPL **19** 13:29:19.2±1.2, 18°.00N×70°.65W, h20km±12km, ML2.0*

*SDD **19** 13:29:21.9±1.5, 18°.07N×70°.81W, h23km±76km, MD2.7, ML2.2, MW2.6*

ISC 19 13:29:19.3±1.5, 17°.97N±0°.06×70°.73W±0°.04, h23km±15km, n11, σ1°.52/22, Dominican Republic region

```
Code  Station Name    Δ°   AZ°  Phase ID                Time    Res
                                Op    ISC               h m s   ISC
BANI  BANI            0.55  40      ePg    Pn           13 29 31.2 -0.6
BANI                                   eSg    Sn           13 29 39.7 -0.8
BANI                                IAML                 13 29 41.2
      comp=N,139nm,0.3s
PODR  Polo            0.56 291      ePg    Pb           13 29 30.2 -0.4
PODR                                   eSg    Sb           13 29 37.8 -0.5
PODR                                IAML                 13 30 17.2
      comp=N,79nm,0.8s
LOVI  El Cajuil, Ovi  0.63 255      iP     Pn           13 29 32.2 -0.5
LOVI                                   eS     Sb           13 29 40.8 +0.8
LOVI                                IAML                 13 29 44.1
      comp=Z,72nm,1.6s
LODU1 El Espartillar  0.80 299      iP     Pb           13 29 34.0 -0.6
LODU1                                  eS     Sn           13 29 46.4 -0.1
LODU1                               IAML                 13 29 46.6
      comp=Z,52nm,0.4s
ABDR  Alto Bandera    0.85   7      ePg    Pn           13 29 36.9 +0.7
ABDR                                   eSg    Sb           13 29 45.4 -1.3
ABDR                                IAML                 13 29 46.4
      comp=N,146nm,0.1s
LOBH  Bahia de las A  0.87 263      iP     Pn           13 29 35.9 -0.2
LOBH                                   eS     Sn           13 29 48.5 +0.5
LOBH                                IAML                 13 29 50.8
      comp=Z,51nm,1.2s
SDDR  Presa de Saban  1.14 333      ePg    Pn           13 29 39.5 -0.4
SDDR                                   eSg    Sb           13 29 52.5 -2.3
SDDR                                IAML                 13 29 55.7
      comp=N,20nm,0.4s
SDDR  Presa de Saban  1.14 333      iP     Pn           13 29 39.2 -0.7
SDDR                                   eS     Sb           13 29 52.6 -2.3
SDDR                                IAML                 13 29 54.9
      comp=Z,9.2nm,0.9s
DR08  Loma La Naviza  1.20  34      ePg    Pb           13 29 41.7 +0.3
DR08                                   eSg    Sb           13 29 55.1 -1.4
DR08                                IAML                 13 30 13.5
      comp=N,276nm,0.2s
REDR  Restauracion    1.35 332      ePg    Pb           13 29 46.6 +2.7
REDR                                   eSg    Sb           13 30 04.5 +3.8
REDR                                IAML                 13 30 05.5
      comp=N,31nm,0.2s
HATOM Hato Mayor del  1.52  57      ePg    Pb           13 29 47.2 +0.4
HATOM                                  eSg    Sb           13 30 07.0 +1.2
HATOM                               IAML                 13 30 07.5
      comp=N,19nm,0.4s
```

*UCR **19** 13:36:05.8±1.3, 11°.77N×87°.09W, h62km, MW5.4*

*IDC **19** 13:36:05.0±1.3, 12°.12N×86°.68W, h37km±8km, mb4.2/16, mbtmp4.5/17, ML4.2/2, MS4.0/46, Error ellipse: s-maj=22.5km s-min=10.8km az=61.0*

*CATAC **19** 13:36:06.1±0.3, 12°.N±1°.×87°.1W±1°.0, h25km±2km, M5.3/71, mb5.5/14, mB5.7/13, MLv5.5/71, Mw(mB)5.2/13, MwMwp4.7/2, Mwp5.1/2, Error ellipse: s-maj=3.1km s-min=1.7km az=27.0, confirmed*

*SNET **19** 13:36:07.0±0.7, 11°.82N×87°.13W, h35km±9km, ML5.4*

*NEIC **19** 13:36:08.2±1.7, 11°.92N±0°.05×86°.93W±0°.06, h62km±4km, mb4.9/465, Mww4.9/12, Error ellipse: s-maj=9.1km s-min=5.9km az=59.0*

GCMT ***19*** *13:36:08.1±0.2, 11°.81N±0°.01×87°.13W±0°.02, h33km, MW5.0/108, Moment Tensor Solution. s46, c56; s108, c145; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=3.34±.17; Mθθ=0.30±.10; Mφφ=3.64±.10; Mrθ=2.65±.11; Mrφ=0.37±.09; Mθφ=-1.47±.10; Best double couple: M=4.53100×1016 NP1:φs=208.00000°, δ=41.00000°, λ=-44.00000°. NP2:φs=335.00000°, δ=63.00000°, λ=-121.00000°. Principal axes: T 3.9450, Plg12.0000°, Azm87.0000°; N 1.1750, Plg28.0000°, Azm350.0000°; P -5.1180, Plg59.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***19*** *13:36:08.1, 11°.92N×86°.92W, h40km*

NEIC ***19*** *13:36:08.1, 11°.92N×87°.02W, h40km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 1016Nm; Mrr=2.22; Mθθ=0.22; Mφφ=2.45; Mrθ=1.28; Mrφ=-0.46; Mθφ=-1.74; Fault plane solution: M=3.22000×1016 NP1: φs=188.73000°, δ=27.97000°, λ=-57.18000°. NP2: φs=332.60000°, δ=66.79000°, λ=-106.05000°. Principal axes: T 3.2358, Plg20.0000°, Azm75.0000°; N -0.0396, Plg15.0000°, Azm339.0000°; P -3.1962, Plg65.0000°, Azm215.0000°;*

GCG ***19*** *13:36:11.2±1.8, 11°.97N×87°.42W, h33km±271km, MD5.3, ML4.1, MW4.2*

UPA ***19*** *13:36:12.4±2.1, 11°.75N×86°.53W, h10km±66km, MD5.1, MW5.1*

ISC 19 13:36:07.2±0.5, 11°.87N±0°.03×87°.00W±0°.03, h62km±4km, n924, σ1°.09/834, mb4.9/214, 10C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Time ISC	h m s	Res ISC
COPN	**Copaltepe**	**0.51**	**52**	*eP*	**Pn**	**13 36 18.8**	**-0.6**
COPN	**Copaltepe**	**0.51**	**52**	P	**Pn**	**13 36 18.7**	**-0.6**
BC86	**Nagarote**	**0.58**	**48**	S	**Sn**	**13 36 30.2**	**+0.5**
BC86	**Nagarote**	**0.58**	**48**	P	**Pn**	**13 36 19.9**	**-0.3**
LEVN	**Ruinas Leon Vi**	**0.65**	**35**	P	**Pn**	**13 36 21.1**	**+0.1**
LEVN				S	**Sn**	**13 36 31.8**	**+0.8**
SAPS	**Ciudad Sandino**	**0.66**	**63**	P	**Pn**	**13 36 21.1**	**0.0**
SAPS	**Ciudad Sandino**	**0.66**	**63**	S	**Sn**	**13 36 31.9**	**+0.7**
AMTN	**Mateare**	**0.67**	**57**	P	**Pn**	**13 36 21.6**	**+0.4**
CNGA	**AI SSO del Vol**	**0.69**	**25**	P	**Pn**	**13 36 21.4**	**-0.1**
BC84	**Volcan Momotom**	**0.69**	**41**	P	**Pn**	**13 36 21.5**	**+0.1**
CNGN	**Cerro Negro**	**0.69**	**25**		**Pn**	**13 36 21.4**	**-0.2**
CNGN				Sn	**Sn**	**13 36 33.4**	**+1.3**
CNGN	**Cerro Negro**	**0.69**	**25**	P	**Pn**	**13 36 21.4**	**-0.2**
CNGN	**Cerro Negro**	**0.69**	**25**	S	**Sn**	**13 36 32.5**	**+0.5**
CNGN	**Cerro Negro**	**0.69**	**25**	P	**Pn**	**13 36 21.3**	**-0.2**
MOMN	**Momotombo**	**0.70**	**40**	P	**Pn**	**13 36 21.5**	**-0.1**
MOMN				S	**Sn**	**13 36 32.8**	**+0.6**
ABCN	**Banco Central**	**0.72**	**70**	P	**Pn**	**13 36 22.0**	**+0.1**
APYN	**Apoyeque**	**0.73**	**60**	P	**Pn**	**13 36 21.1**	**-0.9**
APO2	**Apoyeque**	**0.74**	**64**	P	**Pn**	**13 36 22.1**	**0.0**
PLRN	**Geotermica Pol**	**0.74**	**18**	P	**Pn**	**13 36 21.9**	**-0.3**
HERN	**Volcan Telica**	**0.75**	**13**		**Pn**	**13 36 22.0**	**-0.3**
HERN				Sn	**Sn**	**13 36 33.6**	**+0.2**
HERN	**Volcan Telica**	**0.75**	**13**	P	**Pn**	**13 36 22.2**	**-0.2**
HERN	**Volcan Telica**	**0.75**	**13**	S	**Sn**	**13 36 34.0**	**+0.7**
UNAN	**Cigeo UNAN**	**0.75**	**71**	P	**Pn**	**13 36 22.3**	**0.0**
UNAN				S	**Sn**	**13 36 34.3**	**+1.0**
ILCN	**San Idelfonso**	**0.76**	**23**	P	**Pn**	**13 36 22.4**	**0.0**
ENAN	**Enatrel Managu**	**0.76**	**71**	P	**Pn**	**13 36 22.6**	**+0.2**
ENAN	**Enatrel Managu**	**0.76**	**71**	S	**Sn**	**13 36 34.9**	**+1.5**
ALLN	**Telcor Managua**	**0.77**	**68**	P	**Pn**	**13 36 22.5**	**+0.2**
MAFN	**Magfor**	**0.78**	**73**	P	**Pn**	**13 36 22.8**	**+0.2**
MGAN	**Managua**	**0.79**	**70**		**Pn**	**13 36 22.4**	**-0.2**
MGAN	**Managua**	**0.79**	**70**	P	**Pn**	**13 36 22.8**	**+0.1**
MGAN				S	**Sn**	**13 36 35.6**	**+1.6**
MGAN	**Managua**	**0.79**	**70**	*eP*	**Pn**	**13 36 22.8**	**+0.1**
MGAN				*eS*	**Sn**	**13 36 35.5**	**+1.6**
MGAN	**Managua**	**0.79**	**70**	P	**Pn**	**13 36 22.8**	**+0.1**
MGAN				P		13 36 22.9	
POLN	**AI Sur del Vol**	**0.80**	**13**	P	**Pn**	**13 36 22.0**	**-0.8**
POLN				S	**Sn**	**13 36 34.5**	**+0.2**
MAS3	**AI N del Volca**	**0.82**	**79**	P	**Pn**	**13 36 23.0**	**-0.1**
CRIN	**San Cristobal**	**0.83**	**357**		**Pn**	**13 36 22.8**	**-0.4**
CRIN				Sn	**Sn**	**13 36 36.0**	**+1.0**
CRIN	**San Cristobal**	**0.83**	**357**	P	**Pn**	**13 36 23.0**	**-0.2**
CRIN				S	**Sn**	**13 36 35.8**	**+0.8**
CRIN	**San Cristobal**	**0.83**	**357**	*eP*	**Pn**	**13 36 22.5**	**-0.7**
CRIN				*eS*	**Sn**	**13 36 36.2**	**+1.2**
CRIN	**San Cristobal**	**0.83**	**357**	P	**Pn**	**13 36 23.0**	**-0.2**
SABN	**Sabanita**	**0.83**	**84**	P	**Pn**	**13 36 23.0**	**-0.2**
MASN	**Masaya**	**0.84**	**82**	P	**Pn**	**13 36 23.3**	**-0.1**
AERN	**Aeropuerto Man**	**0.86**	**71**	P	**Pn**	**13 36 23.4**	**-0.2**
NANN	**Nandasmo**	**0.86**	**85**	P	**Pn**	**13 36 24.7**	**+1.0**
NANN	**Nandasmo**	**0.86**	**85**	S	**Sn**	**13 36 36.6**	**+0.9**
BC87	**San Francisco**	**0.94**	**48**	P	**Pn**	**13 36 25.1**	**+0.5**
NADN	**Granada**	**0.96**	**97**	*eP*	**Pn**	**13 36 23.3**	**-1.5**
SBEN	**San Benito**	**1.02**	**65**	P	**Pn**	**13 36 26.1**	**+0.5**
SBEN	**San Benito**	**1.02**	**65**	S	**Sn**	**13 36 41.6**	**+2.4**
ARIN	**Rivas**	**1.22**	**110**	P	**Pn**	**13 36 27.3**	**-0.9**
ARIN	**Rivas**	**1.22**	**110**	S	**Sn**	**13 36 44.0**	**+0.1**
CSGN	**Cosiguina Volc**	**1.23**	**334**	*eP*	**Pn**	**13 36 27.7**	**-0.7**
CSGN				*eS*	**Sn**	**13 36 44.3**	**+0.1**
CSGN	**Cosiguina Volc**	**1.23**	**334**	P	**Pn**	**13 36 28.3**	**-0.1**
POTN	**Potosi Cosigui**	**1.23**	**336**	P	**Pn**	**13 36 28.0**	**-0.4**
POTN				S	**Sn**	**13 36 44.6**	**+0.6**
CONN	**Concepcion**	**1.38**	**103**	P	**Pn**	**13 36 29.9**	**-0.5**
MATN	**Matagalpa**	**1.49**	**45**	P	**Pn**	**13 36 31.7**	**-0.2**
MATN	**Matagalpa**	**1.49**	**45**	S	**Sn**	**13 36 52.6**	**+2.2**
LCRUZ	**La Cruz**	**1.56**	**120**	*eP*	**Pn**	**13 36 31.5**	**-1.3**
LCRUZ				*eS*	**Sn**	**13 36 51.1**	**-1.0**
CARN	**Rivas**	**1.60**	**115**	P	**Pn**	**13 36 32.5**	**-0.8**
CARN				S	**Sn**	**13 36 54.0**	**+1.0**
CHOHN	**Orocuina**	**1.61**	**355**	S	**Sn**	**13 36 55.7**	**+2.3**
CHOHN	**Orocuina**	**1.61**	**355**	P	**Pn**	**13 36 33.8**	**+0.3**
CNCH	**Conchagua**	**1.62**	**330**	⇑*iP*	**Pn**	**13 36 33.1**	**-0.6**
CNCH				*eS*	**Sn**	**13 36 52.0**	**-1.6**
CNCH	**Conchagua**	**1.62**	**330**	P	**Pn**	**13 36 33.0**	**-0.6**
CNCH	**Conchagua**	**1.62**	**330**	S	**Sn**	**13 36 54.7**	**+1.1**
LCND	**La Caada**	**1.67**	**329**	*eP*	**Pn**	**13 36 33.7**	**-0.6**
ACON	**Acoyapa**	**1.79**	**87**		**Pn**	**13 36 35.5**	**-0.4**
ACON				Sn	**Sn**	**13 36 59.3**	**+1.7**
ACON	**Acoyapa**	**1.79**	**87**	P	**Pn**	**13 36 35.5**	**-0.4**
ACON				S	**Sn**	**13 36 58.2**	**+0.5**
ACON	**Acoyapa**	**1.79**	**87**	*eP*	**Pn**	**13 36 35.6**	**-0.2**
ACON	**Acoyapa**	**1.79**	**87**	P	**Pn**	**13 36 35.7**	**-0.2**
ACON	**Acoyapa**	**1.79**	**87**	S	**Sn**	**13 37 00.1**	**+2.5**
ELI1	**Hacienda Flor**	**1.87**	**130**	*eP*	**Pn**	**13 36 36.2**	**-0.8**
RCVN	**Varilla2**	**1.88**	**25**	P	**Pn**	**13 36 38.4**	**+1.1**
RCVN	**Varilla2**	**1.88**	**25**	S	**Sn**	**13 37 02.9**	**+2.9**
ALIBA	**Liberia Airpor**	**1.91**	**131**	*eP*	**Pn**	**13 36 37.1**	**-0.5**
PEJA	**Penjamo Buenos**	**1.92**	**120**	*eP*	**Pn**	**13 36 36.4**	**-1.3**
VORI	**VORI**	**1.93**	**123**	*eP*	**Pn**	**13 36 36.6**	**-1.4**
CNRM	**Centro Naciona**	**1.96**	**325**	*eP*	**Pn**	**13 36 38.0**	**-0.2**
CNRM	**Centro Naciona**	**1.96**	**325**	P	**Pn**	**13 36 38.3**	**0.0**
BLLM	**Bellamira**	**1.97**	**322**	‖*iP*	**Pn**	**13 36 37.8**	**-0.7**
LCY	**Lacayo**	**1.99**	**321**	‖*eP*	**Pn**	**13 36 37.9**	**-0.9**
RANC	**El Ranchito**	**2.00**	**321**	‖*eP*	**Pn**	**13 36 38.0**	**-0.9**
RANC	**El Ranchito**	**2.00**	**321**	P	**Pn**	**13 36 38.5**	**-0.3**
DELF	**Filadelfia**	**2.00**	**135**	*eP*	**Pn**	**13 36 37.9**	**-0.9**
PACA	**Pacayal**	**2.05**	**321**	*eP*	**Pn**	**13 36 38.8**	**-0.7**
PACA	**Pacayal**	**2.05**	**321**	P	**Pn**	**13 36 39.1**	**-0.4**
PACA	**Pacayal**	**2.05**	**321**	S	**Sn**	**13 37 04.2**	**+0.1**
YUSH	**Yuscaran**	**2.08**	**4**	P	**Pn**	**13 36 40.9**	**+1.0**
YUSH	**Yuscaran**	**2.08**	**4**	S	**Sn**	**13 37 07.2**	**+2.4**
HORNC	**Hornillas**	**2.13**	**123**	*eP*	**Pn**	**13 36 39.5**	**-1.0**
VMAR	**Armenia, Volca**	**2.13**	**119**	*eP*	**Pn**	**13 36 39.5**	**-1.0**
COLC	**Colonia**	**2.13**	**124**	*eP*	**Pn**	**13 36 39.7**	**-0.9**
BAGA	**Bagaces**	**2.17**	**128**	*eP*	**Pn**	**13 36 40.3**	**-0.7**
CUI	**Cuipilapa**	**2.17**	**124**	*eP*	**Pn**	**13 36 40.3**	**-0.8**
UPAL	**Upala**	**2.18**	**116**	*eP*	**Pn**	**13 36 39.8**	**-1.3**
TECA	**Tecapa**	**2.18**	**318**	⇑*eP*	**Pn**	**13 36 40.2**	**-1.1**
TECA				⇑*eP*		13 36 40.3	
TGUH	**Tegucigalpa,Un**	**2.19**	**353**		**Pn**	**13 36 42.3**	**+0.9**
TGUH				Sn	**Sn**	**13 37 08.9**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.19**	**353**	P	**Pn**	**13 36 42.4**	**+0.9**
TGUH				S	Sn	13 36 58.5	-9.0
TGUH	**Tegucigalpa,Un**	**2.19**	**353**	P	**Pn**	**13 36 42.3**	**+0.9**
TGUH				S	**Sn**	**13 37 09.6**	**+2.1**
CAHU	**Cacacuatique**	**2.23**	**328**	‖*eP*	**Pn**	**13 36 41.9**	**-0.1**
TENO	**El Achiote**	**2.30**	**120**	*eP*	**Pn**	**13 36 42.2**	**-0.7**
NICO	**Nicoya**	**2.30**	**138**	*eP*	**Pn**	**13 36 41.1**	**-1.8**
PQSS	**Presa 15 de Se**	**2.31**	**319**	‖*eP*	**Pn**	**13 36 42.5**	**-0.5**
PQSS	**Presa 15 de Se**	**2.31**	**319**	P	**Pn**	**13 36 42.7**	**-0.3**
CNAS	**Canas**	**2.36**	**127**	*eP*	**Pn**	**13 36 43.3**	**-0.4**
TECO	**Alcaldia de Te**	**2.40**	**314**	‖*eP*	**Pn**	**13 36 42.7**	**-1.5**
TECO	**Alcaldia de Te**	**2.40**	**314**	P	**Pn**	**13 36 43.6**	**-0.6**
CMARA	**Lajas Hojancha**	**2.41**	**140**	*eP*	**Pn**	**13 36 42.8**	**-1.6**
CMARA	**Lajas Hojancha**	**2.41**	**140**	P	**Pn**	**13 36 43.9**	**-0.5**
QUEB	**Quebradon, Cot**	**2.41**	**121**	*eP*	**Pn**	**13 36 43.8**	**-0.5**
TILA	**Tilaran**	**2.43**	**125**	*eP*	**Pn**	**13 36 44.1**	**-0.6**
UESV	**Universidad de**	**2.47**	**315**	P	**Pn**	**13 36 44.6**	**-0.6**
INDI	**Punta indio, G**	**2.48**	**143**	P	**Pn**	**13 36 43.8**	**-1.5**
SCLA	**Alcaldia de Sa**	**2.48**	**317**	‖*eP*	**Pn**	**13 36 44.8**	**-0.5**
SCLA	**Alcaldia de Sa**	**2.48**	**317**	P	**Pn**	**13 36 45.1**	**-0.3**
MARCA	**Marcala la Paz**	**2.49**	**336**	*iP*	**Pn**	**13 36 46.1**	**+0.6**
COEG	**Centro de Oper**	**2.53**	**314**	*eP*	**Pn**	**13 36 44.7**	**-1.3**
COEG	**Centro de Oper**	**2.53**	**314**	P	**Pn**	**13 36 45.0**	**-1.0**
NYURE	**Nandayure**	**2.53**	**137**	*eP*	**Pn**	**13 36 47.3**	**+1.3**
JTS	**Las Juntas de**	**2.55**	**128**		**Pn**	**13 36 45.5**	**-0.7**
JTS	**Las Juntas de**	**2.55**	**128**	Pn	**Pn**	**13 36 44.9**	**-1.4**
JTS	121nm,0.3s,baz=315,slow=17,SNR=166			Sn	**Sn**	**13 37 15.7**	**-0.6**
	148nm,0.3s,baz=314,slow=12,SNR=7.5 387nm,0.4s						
JTS	**Las Juntas de**	**2.55**	**128**	P	**Pn**	**13 36 45.6**	**-0.7**
JTS				S	**Sn**	**13 37 15.3**	**-0.9**
JTS	**Las Juntas de**	**2.55**	**128**	⇑*iP*	**Pn**	**13 36 45.6**	**-0.6**
JUNT	**Juntas**	**2.55**	**128**	*eP*	**Pn**	**13 36 45.6**	**-0.6**
COMHN	**El Horno**	**2.61**	**348**	P	**Pn**	**13 36 47.6**	**+0.3**
PAVA	**Las Pavas**	**2.63**	**314**	‖*eP*	**Pn**	**13 36 46.6**	**-0.8**
PAVA	**Las Pavas**	**2.63**	**314**	P	**Pn**	**13 36 47.1**	**-0.3**
ARE1	**Arenal 1**	**2.64**	**122**	*eP*	**Pn**	**13 36 47.2**	**-0.3**
VARE2	**V. Arenal**	**2.64**	**122**	*eP*	**Pn**	**13 36 47.1**	**-0.5**
LFRS	**El Faro**	**2.66**	**311**	‖*iP*	**Pn**	**13 36 46.5**	**-1.3**
ESPN	**Las Esperanzas**	**2.66**	**83**	Pn	**Pn**	**13 36 48.3**	**+0.6**
ESPN	**Las Esperanzas**	**2.66**	**83**	P	**Pn**	**13 36 47.7**	**-0.1**
ESPN				S	**Sn**	**13 37 14.6**	**-4.3**
ESPN	**Las Esperanzas**	**2.66**	**83**	P	**Pn**	**13 36 48.7**	**+0.9**
ESPN	**Las Esperanzas**	**2.66**	**83**	S	**Sn**	**13 37 21.7**	**+2.8**
PANCS	**Alcalda de**	**2.74**	**309**	P	**Pn**	**13 36 48.5**	**-0.4**
LOMA	**Loma Larga**	**2.75**	**310**	*eP*	**Pn**	**13 36 47.7**	**-1.5**
LOMA	**Loma Larga**	**2.75**	**310**	P	**Pn**	**13 36 48.5**	**-0.7**
SOCE	**Pocosol**	**2.77**	**122**		**Pn**	**13 36 48.5**	**-0.8**
SOCE	**Pocosol**	**2.77**	**122**	P	**Pn**	**13 36 49.0**	**-0.2**
LALI	**Alcalda de L**	**2.78**	**306**	*eP*	**Pn**	**13 36 46.8**	**-2.5**
LALI	**Alcalda de L**	**2.78**	**306**	P	**Pn**	**13 36 48.3**	**-1.0**
UDBS	**Universidad Do**	**2.79**	**311**	P	**Pn**	**13 36 49.6**	**0.0**
COVE	**Coope Vega, Sa**	**2.79**	**114**	P	**Pn**	**13 36 48.3**	**-1.3**
UTEC	**Universidad Te**	**2.81**	**311**	P	**Pn**	**13 36 49.6**	**-0.3**
SEMO	**Seminario San**	**2.83**	**310**	P	**Pn**	**13 36 49.9**	**-0.3**
UEES	**Universidad Ev**	**2.85**	**310**	P	**Pn**	**13 36 49.9**	**-0.5**
ITCA	**Escuela Especi**	**2.85**	**309**	P	**Pn**	**13 36 49.9**	**-0.6**
ITCA	**Escuela Especi**	**2.85**	**309**	S	**Sn**	**13 37 24.6**	**+0.8**
BOQS	**Boqueron**	**2.89**	**310**	*eP*	**Pn**	**13 36 50.2**	**-1.0**
PMON	**Piamonte**	**2.91**	**309**	*eP*	**Pn**	**13 36 49.8**	**-1.4**
PMON	**Piamonte**	**2.91**	**309**	P	**Pn**	**13 36 50.7**	**-0.5**
CBL1	**Cabuya**	**2.94**	**140**	*eP*	**Pn**	**13 36 55.2**	**+3.6**
ARZA	**Esparza**	**2.96**	**129**	*eP*	**Pn**	**13 36 52.9**	**+1.1**
LLGN	**La Laguna**	**2.96**	**320**	P	**Pn**	**13 36 52.4**	**+0.4**
JAYA	**Jayaque - finc**	**2.97**	**307**	*eP*	**Pn**	**13 36 50.9**	**-1.3**
JAYA				*eS*	**Sn**	**13 37 24.0**	**-2.7**
JAYA	**Jayaque - finc**	**2.97**	**307**	P	**Pn**	**13 36 51.4**	**-0.8**
CEDA	**San Andres**	**3.02**	**310**	*eP*	**Pn**	**13 36 51.7**	**-1.1**
CEDA	**San Andres**	**3.02**	**310**	P	**Pn**	**13 36 52.3**	**-0.5**
CEDA	**San Andres**	**3.02**	**310**	S	**Sn**	**13 37 28.3**	**+0.5**
BLUN	**Bluefields**	**3.16**	**87**	P	**Pn**	**13 36 55.1**	**+0.5**
BLUN	**Bluefields**	**3.16**	**87**	P	**Pn**	**13 36 55.5**	**+0.9**
CEVE	**Cerro Verde**	**3.21**	**308**	*eP*	**Pn**	**13 36 54.5**	**-1.0**
CEVE	**Cerro Verde**	**3.21**	**308**	P	**Pn**	**13 36 55.0**	**-0.5**
TCS1	**Tacares**	**3.22**	**124**	P	**Pn**	**13 36 55.6**	**+0.2**
SBLS	**San Blas**	**3.22**	**308**	*eP*	**Pn**	**13 36 55.0**	**-0.6**
UNIC	**Universidad Ca**	**3.25**	**310**	P	**Pn**	**13 36 56.0**	**+0.1**
VBV1	**V. Barva**	**3.34**	**121**	*eP*	**Pn**	**13 36 56.3**	**-1.1**
BELE	**Belen**	**3.34**	**124**	*eP*	**Pn**	**13 36 56.8**	**-0.4**
HDC	**Heredia**	**3.39**	**123**		**Pn**	**13 36 57.8**	**-0.1**
MTO3	**Montecristo**	**3.41**	**318**		**Pn**	**13 36 57.7**	**-0.4**
MTO3	**Montecristo**	**3.41**	**318**	*eP*	**Pn**	**13 36 57.7**	**-0.4**
MTO3	comp=Z,494nm,1.7s			IAML		13 38 00.2	
	comp=Z,494nm,1.7s						
MTO3	**Montecristo**	**3.41**	**318**	P	**Pn**	**13 36 58.1**	**0.0**
MTO3	**Montecristo**	**3.41**	**318**	S	**Sn**	**13 37 38.5**	**+1.1**
SLOZ	**Alcaldia de Sa**	**3.46**	**309**	P	**Pn**	**13 36 58.6**	**0.0**
SLOZ	**Alcaldia de Sa**	**3.46**	**309**	S	**Sn**	**13 37 39.3**	**+0.9**
CENT	**San Jose**	**3.46**	**124**	*eP*	**Pn**	**13 36 59.2**	**+0.5**
ACOS	**Acosta**	**3.47**	**126**	*eP*	**Pn**	**13 36 58.5**	**-0.4**
AMPA	**Desamparados**	**3.49**	**124**	*eP*	**Pn**	**13 37 00.2**	**+1.0**
CORON	**Coronado**	**3.50**	**122**	*eP*	**Pn**	**13 37 00.0**	**+0.6**
ESQI	**Esquipulas**	**3.51**	**320**		**Pn**	**13 36 59.5**	**-0.1**
ESQI	**Esquipulas**	**3.51**	**320**	P	**Pn**	**13 36 59.7**	**+0.2**
CVTG	**V. Turrialba,**	**3.60**	**118**	*eP*	**Pn**	**13 37 00.1**	**-0.6**
PCAYA	**Pacayas**	**3.69**	**121**	*eP*	**Pn**	**13 37 02.6**	**+0.6**
IZABA	**Izabal, Puerto**	**4.13**	**338**	P	**Pn**	**13 37 08.8**	**+0.9**
FG8	**Yepocapa, Chim**	**4.20**	**305**	*eS*	**Sn**	**13 38 02.3**	**+5.4**
OCHAL	**Ojochal**	**4.30**	**130**	P	**Pn**	**13 37 11.5**	**+1.3**
OCHAL	**Ojochal**	**4.30**	**130**	S	**Sn**	**13 37 59.8**	**+0.7**
ESSG	**Sabana Grande**	**4.49**	**304**	*eP*	**Pn**	**13 37 12.5**	**-0.4**
ESSG				*eS*	**Sn**	**13 38 00.1**	**-3.7**
BURE	**Buenos Aires**	**4.49**	**126**	*eP*	**Pn**	**13 37 14.0**	**+1.2**
STG5	**El Palmar, Qui**	**4.93**	**301**	*eP*	**Pn**	**13 37 22.5**	**+3.7**
STG5				*eS*	**Sn**	**13 38 18.5**	**+3.9**
STG0	**El Palmar, Qui**	**4.93**	**301**	*eP*	**Pn**	**13 37 23.3**	**+4.3**
STG0				*eS*	**Sn**	**13 38 18.0**	**+3.1**
STG8	**El Palmar, Qui**	**4.95**	**302**	*eP*	**Pn**	**13 37 23.7**	**+4.4**
STG8				*eS*	**Sn**	**13 38 19.3**	**+3.8**
PIRO	**Carate, Puerto**	**4.99**	**133**	⇑*eP*	**Pn**	**13 37 20.5**	**+0.9**
PIRO				*iS*	**Sn**	**13 38 14.9**	**-1.1**
ALCO	**Alturas Coton,**	**5.02**	**125**	*eP*	**Pn**	**13 37 20.6**	**+0.3**
SOKI	**Kika Raxquin**	**5.19**	**305**	*eP*	**Pn**	**13 37 24.0**	**+1.3**
SOKI	comp=Z,463nm,0.7s			*iS*	**Sn**	**13 38 20.4**	**-1.2**
SAIC	**Isla e San And**	**5.21**	**82**	P	**Pn**	**13 37 23.1**	**+0.4**
	comp=Z,10μmcomp=Z,1μm,0.9s						
CDITO	**Canoas**	**5.22**	**128**	P	**Pn**	**13 37 23.5**	**+0.7**
BRU2	**Volcan**	**5.23**	**125**		**Pn**	**13 37 23.5**	**+0.4**
BRU2	**Volcan**	**5.23**	**125**	*eP*	**Pn**	**13 37 23.6**	**+0.6**
BRU2	**Volcan**	**5.23**	**125**	*iP*	**Pn**	**13 37 24.8**	**+1.7**
BRU2				*iS*	**Sn**	**13 38 18.7**	**-3.4**
BRU2	**Volcan**	**5.23**	**125**	P	**Pn**	**13 37 23.7**	**+0.6**
RTAL	**Retalhuleu**	**5.28**	**301**		**Pn**	**13 37 23.6**	**0.0**
RTAL	**Retalhuleu**	**5.28**	**301**	P	**Pn**	**13 37 23.7**	**0.0**
RTAL	**Retalhuleu**	**5.28**	**301**	S	**Sn**	**13 38 23.5**	**+0.3**
BC3P	**Paso Ancho**	**5.28**	**125**	*eP*	**Pn**	**13 37 25.1**	**+1.2**
BC3P				*iS*	**Sn**	**13 38 20.2**	**-3.3**
LESP3	**La Esperanza,**	**5.39**	**129**	‖*iP*	**Pn**	**13 37 26.8**	**+1.7**
LNBQ3	**Los Naranjos,**	**5.43**	**124**	*iP*	**Pn**	**13 37 27.3**	**+1.4**
PTAR3	**Potrerillos Ar**	**5.44**	**125**	*eP*	**Pn**	**13 37 24.6**	**-1.4**
PTPM	**Petroterminale**	**5.46**	**132**	*eP*	**Pn**	**13 37 26.5**	**+0.5**
LIMO3	**Limones**	**5.54**	**132**	*iP*	**Pn**	**13 37 27.9**	**+0.8**
HUEH	**Huehuetenango**	**5.56**	**309**	P	**Pn**	**13 37 27.1**	**-0.5**
CHGR2	**Aguacate**	**5.60**	**121**	*iP*	**Pn**	**13 37 28.9**	**+0.9**
DVD	**David**	**5.63**	**127**	*eP*	**Pn**	**13 37 29.7**	**+1.3**
LOMA3	**Las Lomas, Chi**	**5.68**	**127**	*eP*	**Pn**	**13 37 31.6**	**+2.5**
PRVC	**Isla de Provid**	**5.70**	**74**		**Pn**	**13 37 28.6**	**-0.8**
PRVC	**Isla de Provid**	**5.70**	**74**	P	**Pn**	**13 37 30.1**	**+0.7**
	comp=Z,6μmcomp=Z,397nm,0.8s						
PRVC	**Isla de Provid**	**5.70**	**74**	*iP*	**Pn**	**13 37 31.0**	**+1.6**
PRVC	**Isla de Provid**	**5.70**	**74**	P	**Pn**	**13 37 31.2**	**+1.8**
PETF	**Flores**	**5.73**	**331**		**Pn**	**13 37 32.1**	**+2.3**
PETF	**Flores**	**5.73**	**331**	*eP*	**Pn**	**13 37 32.1**	**+2.3**
THIG		**5.95**	**301**	*eP*	**Pn**	**13 37 32.8**	**+0.1**
CCIG	**Comitan**	**6.64**	**312**		**Pn**	**13 37 43.8**	**+1.4**
CCIG	**Comitan**	**6.64**	**312**	*iP*	**Pn**	**13 37 44.2**	**+1.8**
CCIG	**Comitan**	**6.64**	**312**	P	**Pn**	**13 37 43.7**	**+1.3**
RNCC	**Cayo Roncador,**	**6.95**	**75**	P	**Pn**	**13 37 46.0**	**-0.5**
	comp=Z,6μmcomp=Z,243nm,0.8s						
GMAL	**Guarumal, Vera**	**7.00**	**125**	P	**Pn**	**13 37 47.9**	**+0.7**
	comp=Z,112nm,1.3s						
GMAL	**Guarumal, Vera**	**7.00**	**125**	*iP*	**Pn**	**13 37 48.4**	**+1.2**
CALO3	**Calobre, Verag**	**7.02**	**120**	*eP*	**Pn**	**13 37 50.4**	**+3.0**
STIA3	**Santiago, Vera**	**7.02**	**122**	*eP*	**Pn**	**13 37 49.2**	**+1.7**
CRIS3	**El Cristo, Coc**	**7.24**	**119**	*eP*	**Pn**	**13 37 51.3**	**+0.8**
BCIP	**Isla Barro Col**	**7.54**	**110**	P	**Pn**	**13 37 52.9**	**-1.7**
	comp=Z,104nm,1.2s						
BCIP	**Isla Barro Col**	**7.54**	**110**	*eP*	**Pn**	**13 37 53.4**	**-1.2**
CACAO	**El Cacao, Vera**	**7.54**	**126**	P	**Pn**	**13 37 57.9**	**+3.3**
CACAO	**El Cacao, Vera**	**7.54**	**126**	*eP*	**Pn**	**13 37 55.4**	**+0.8**
CHIT3	**Chitre**	**7.56**	**120**	*eP*	**Pn**	**13 37 56.9**	**+2.0**
CHOR3	**La Chorrera**	**7.71**	**112**	*eP*	**Pn**	**13 37 58.1**	**+1.3**
AZU	**Azuero**	**7.77**	**121**	P	**Pn**	**13 38 01.1**	**+3.4**
	comp=Z,1μmcomp=Z,79nm,1.2s						
AZU	**Azuero**	**7.77**	**121**	*eP*	**Pn**	**13 37 58.4**	**+0.6**
UPA	**Univ. de Panam**	**7.89**	**111**	*eP*	**Pn**	**13 37 59.2**	**-0.1**
CHPO	**Chepo, Panama**	**8.21**	**108**	*eP*	**Pn**	**13 38 08.3**	**+4.6**
TEIG	**Tepich**	**8.40**	**352**		**Pn**	**13 38 07.2**	**+0.9**
TEIG	**Tepich**	**8.40**	**352**	Pn	**Pn**	**13 38 05.7**	**-0.6**
	baz=186,slow=23,SNR=8.8						
TEIG				Sn	**Sn**	**13 39 34.4**	**-5.2**
	baz=350,slow=24,SNR=1.5						
TEIG	**Tepich**	**8.40**	**352**	P	**Pn**	**13 38 07.3**	**+1.0**
	comp=Z,19μmcomp=Z,180nm,0.9s						
MCJ	**Malvern**	**10.83**	**55**	*iP*	**Pn**	**13 38 44.3**	**+4.7**
APAC	**Apartado, Choc**	**11.00**	**110**	P	**Pn**	**13 38 44.2**	**+2.3**
	comp=Z,2μmcomp=Z,147nm,1.2s						
MTDJ	**Mount Denham**	**11.11**	**54**		**Pn**	**13 38 42.4**	**-1

X48A IAmb IAmb 13 41 24.1
comp=Z,40nm,1.2s
Z38A Mt. Pleasant 22.51 342 IAmb IAmb 13 41 04.6
comp=Z,85nm,1.0s
FW13 Cleburne 22.53 336 P **P** **13 41 01.3 -0.8**
FPAL Fort Paine 22.60 3 P **P** **13 41 02.9 +0.1**
OXF Oxford 22.64 355 IAmb IAmb 13 41 22.1
comp=Z,85nm,1.1s
X51A Calhoun 22.68 5 IAmb IAmb 13 41 16.4
comp=Z,46nm,1.0s
SAND Sanderson 22.83 324 **P** **13 41 05.1 -0.2**
OZNA Ozona 23.03 328 **P** **13 41 06.8 -0.6**
OZNA IAmb IAmb 13 41 12.7
comp=Z,40nm,0.6s
FW06 Azle 23.13 337 P **P** **13 41 08.3 +0.1**
SWET Sewanee 23.26 2 P **P** **13 41 09.8 +0.3**
SWET IAmb IAmb 13 41 14.4
comp=Z,63nm,1.4s
W50A Signal Mountai 23.28 4 P **P** **13 41 10.2 +0.6**
W50A IAmb IAmb 13 41 26.0
comp=Z,35nm,0.8s
W52A Murphy 23.29 6 IAmb IAmb 13 41 34.4
comp=Z,60nm,1.1s
PLPT Palo Pinto 23.29 335 P **P** **13 41 10.5 +0.7**
TXAR Lajitas Array 23.30 321 P **P** **13 41 10.6 +0.6**
comp=Z,63nm,0.6s,baz=140,slow=9.6,SNR=409
TXAR ScP **ScP** **13 48 31.9 +3.2**
comp=Z,1.5nm,0.9s,baz=50,slow=1.9,SNR=5.3
TX31 Lajitas Ar. Si 23.30 321 **P** **13 41 10.5 +0.5**
BG3 Lake Jocassee 23.31 8 IAmb IAmb 13 41 34.8
comp=Z,45nm,0.9s
PAULI Pauline 23.33 11 IAmb IAmb 13 41 36.3
comp=Z,49nm,1.3s
MIAR Mount Ida 23.35 346 **P** **13 41 10.1 -0.2**
MIAR IAmb IAmb 13 41 13.9
comp=Z,30nm,0.7s
X58A Rowland 23.64 16 P **P** **13 41 11.7 -1.2**
ABTX Abilene, Hawle 23.70 333 **P** **13 41 13.8 +0.3**
ABTX IAmb IAmb 13 41 15.2
comp=Z,47nm,0.6s
KMSC Kings Mountain 23.73 12 IAmb IAmb 13 41 41.9
comp=Z,69nm,1.2s
SGCY Sterling City 23.82 329 IAmb IAmb 13 41 16.6
comp=Z,81nm,1.1s
TKL Tuckaleechee C 23.86 7 P **P** **13 41 15.6 +0.6**
TKL Tuckaleechee C 23.86 7 LR LR 13 50 17.5
comp=Z,364nm,21.7s,baz=186,slow=36
ALPN Alpine 24.02 323 IAmb IAmb 13 41 22.4
comp=Z,32nm,0.8s
W57A Gilead 24.04 14 P **P** **13 41 15.6 -0.9**
W57A IAmb IAmb 13 41 43.4
comp=Z,57nm,1.2s
CZSB Cruzeiro do Su 24.11 143 **P** **13 41 17.9 +0.5**
CZSB Cruzeiro do Su 24.11 143 P **P** **13 41 20.3 +2.9**
WVT Waverly 24.16 358 P **P** **13 41 17.0 -0.7**
WTFS Witchita Falls 24.18 336 **P** **13 41 18.5 +0.6**
MNHN Monahans 24.23 326 P **P** **13 41 19.0 +0.5**
LCAR Lake Charles 24.38 352 **P** **13 41 19.2 -0.5**
V55A Taylorsville 24.44 11 P **P** **13 41 19.3 -1.0**
V55A IAmb IAmb 13 41 37.4
comp=Z,31nm,1.0s
SN05 Snyder 5 24.48 331 P **P** **13 41 20.9 +0.2**
SN05 IAmb IAmb 13 41 26.2
comp=Z,35nm,0.7s
APMT Aspermont 24.50 333 IAmb IAmb 13 41 23.1
comp=Z,35nm,0.7s
U49A Red Boiling Sp 24.56 2 IAmb IAmb 13 41 49.7
comp=Z,44nm,1.1s
SN07 Snyder 07 24.66 331 IAmb IAmb 13 41 26.9
comp=Z,26nm,0.6s
ODSA Odessa 24.72 327 **P** **13 41 22.9 0.0**
TZTN Tazewell 24.76 7 P **P** **13 41 23.6 +0.4**
TZTN IAmb IAmb 13 41 48.8
comp=Z,33nm,0.8s
W35A Tecumseh 24.85 340 IAmb IAmb 13 41 52.6
comp=Z,84nm,1.4s
V58A Windy Hill, Pi 24.86 15 IAmb IAmb 13 41 26.1
comp=Z,58nm,0.8s
PECS Pecos 24.88 324 P **P** **13 41 25.0 +0.6**
PECS IAmb IAmb 13 41 31.1
comp=Z,40nm,1.0s
POST Post 24.93 330 IAmb IAmb 13 41 27.0
comp=Z,39nm,0.6s
U54A Nelsons Funny 24.98 10 IAmb IAmb 13 41 53.6
comp=Z,73nm,1.0s
PBMO Poplar Bluff 24.99 353 IAmb IAmb 13 41 28.9
comp=Z,74nm,1.6s
T47A Sharon Grove 25.01 360 IAmb IAmb 13 41 54.2
comp=Z,37nm,0.9s
U56A King 25.09 13 IAmb IAmb 13 41 54.7
comp=Z,46nm,1.1s
HHAR Hobbs 25.10 347 **P** **13 41 25.6 -0.7**
T50A Nancy 25.12 4 IAmb IAmb 13 41 55.2
comp=Z,126nm,1.8s
FNO Franklin 25.12 340 P **P** **13 41 26.5 0.0**
VHRN Van Horn 25.13 321 IAmb IAmb 13 41 31.8
comp=Z,28nm,0.7s
DKNS Dickens 25.15 332 IAmb IAmb 13 41 32.9
comp=Z,50nm,0.7s
WMOK Wichita Mounta 25.16 337 IAmb IAmb 13 41 29.9
comp=Z,52nm,0.8s
TUL3 Leonard 25.22 343 IAmb IAmb 13 41 55.4
comp=Z,50nm,0.8s
DEOK Depew 25.37 342 IAmb IAmb 13 41 28.8
comp=Z,41nm,0.6s
OK029 Liberty Lake 25.63 340 P **P** **13 41 30.4 -0.6**
NNA Nana 25.76 157 LR LR 13 51 11.6
comp=Z,79nm,21.0s,baz=319,slow=35
MNTX Cornudas Mount 26.01 322 P **P** **13 41 34.2 -0.4**
MNTX IAmb IAmb 13 41 37.8
comp=Z,26nm,0.8s
R49A Shelbyville 26.36 3 P **P** **13 41 37.1 -0.6**
R49A IAmb IAmb 13 42 07.5
comp=Z,74nm,1.5s
T35A Sooner Cattle 26.36 343 **P** **13 41 37.7 0.0**
RCRC Randolf Colleg 26.38 14 P **P** **13 41 35.9 -1.9**
T59A Double "B" Far 26.40 17 P **P** **13 41 38.5 +0.5**
T59A IAmb IAmb 13 41 55.8
comp=Z,46nm,1.3s
R50A Paris 26.41 5 P **P** **13 41 37.7 -0.4**
R50A IAmb IAmb 13 42 06.7
comp=Z,35nm,1.0s
CROK Carrier 26.45 340 IAmb IAmb 13 41 39.0
comp=Z,36nm,0.9s
ELIS Ellis County 26.57 337 P **P** **13 41 39.9 +0.2**
OK038 West end E0370 26.69 339 P **P** **13 41 40.4 -0.2**
OK038 IAmb IAmb 13 41 42.6
comp=Z,36nm,0.8s
GC02 Grant County # 26.72 340 P **P** **13 41 39.9 -1.0**
R40A Maddies Statio 26.73 351 **P** **13 41 39.9 -1.1**
OK032 Salt Plains WL 26.80 340 IAmb IAmb 13 42 07.2
comp=Z,49nm,1.1s
NOKA Waynoka 26.90 338 P **P** **13 41 42.4 -0.1**
Q44A Meyer Farm, Va 26.98 357 IAmb IAmb 13 41 47.8
comp=Z,24nm,0.8s
Q51A Peebles 27.24 6 IAmb IAmb 13 42 11.7
comp=Z,45nm,0.9s
Q56A Snyder Ridge, 27.94 13 **P** **13 41 51.6 -0.2**
Q56A IAmb IAmb 13 42 22.9
comp=Z,49nm,1.3s
P52A Corning 27.99 8 IAmb IAmb 13 42 17.6
comp=Z,29nm,0.9s
P38A Dawn 28.24 349 **P** **13 41 53.6 -0.9**
P38A IAmb IAmb 13 41 58.4
comp=Z,22nm,0.6s
RTBA Rita Blanca 28.28 333 IAmb IAmb 13 42 00.7
comp=Z,44nm,1.1s
KSU1 Kansas State U 28.43 344 IAmb IAmb 13 41 56.8
comp=Z,48nm,1.1s
ACSO Alum Creek Sta 28.47 6 IAmb IAmb 13 42 28.1
comp=Z,27nm,0.9s
BNM Barren Site 28.50 324 **P** **13 41 58.0 +0.9**
Y22D IRIS PASSCAL I 28.61 324 P **P** **13 41 59.6 +1.6**
baz=136
P57A Homestead Farm 28.63 15 P **P** **13 41 57.7 -0.3**
P57A IAmb IAmb 13 42 21.5
comp=Z,39nm,1.3s
O53A New Philadelph 28.73 9 IAmb IAmb 13 42 22.9
comp=Z,29nm,0.9s
ANMO Albuquerque 28.98 326 **P** **13 42 01.8 +0.4**
ANMO Albuquerque 28.98 326 LR LR 13 55 32.6
comp=Z,157nm,20.8s,baz=296,slow=40
N49A Columbus Grove 29.04 4 IAmb IAmb 13 42 27.4
comp=Z,27nm,0.7s
CBKS Cedar Bluff 29.13 339 P **P** **13 42 02.7 +0.3**
CBKS IAmb IAmb 13 42 05.8
comp=Z,29nm,0.9s
SSPA Standing Stone 29.76 14 **P** **13 42 07.9 0.0**
SSPA IAmb IAmb 13 42 35.9
comp=Z,44nm,1.4s
TUC Tucson 29.86 317 P **P** **13 42 08.4 -0.6**
TUC IAmb IAmb 13 42 18.5
comp=Z,17nm,1.0s
N35A Tabor 29.86 347 P **P** **13 42 08.1 -0.8**
MACA Manacapuru-AM 30.13 118 **P** **13 42 10.5 -1.0**
L40A Anamosa 30.30 354 IAmb IAmb 13 42 16.9
comp=Z,25nm,0.9s
KSCO Kaye Shedlock' 30.39 335 IAmb IAmb 13 42 19.1
comp=Z,29nm,0.8s
SDCO Great Sand Dun 30.63 330 P **P** **13 42 16.7 +0.6**
SDCO IAmb IAmb 13 42 18.7
comp=Z,12nm,0.7s
ERPA Erie 30.75 10 P **P** **13 42 16.4 -0.2**
ERPA IAmb IAmb 13 42 42.4
comp=Z,34nm,0.8s
X16A Lo Mia Camp, P 31.60 319 IAmb IAmb 13 42 27.6
comp=Z,20nm,0.6s
BINY Binghamton 31.71 16 P **P** **13 42 24.4 -0.7**
MVCO Mesa Verde 31.76 326 IAmb IAmb 13 42 32.4
comp=Z,23nm,0.8s
OGNE Ogallala 31.83 338 **P** **13 42 27.0 +0.6**
I40A Norwalk 32.06 355 IAmb IAmb 13 42 31.9
comp=Z,20nm,0.6s
WUAZ Wupatki 32.26 321 IAmb IAmb 13 42 33.5
comp=Z,20nm,0.8s
ISCO Idaho Springs 32.33 333 P **P** **13 42 31.1 +0.1**
BRIGG Briggsdale 32.41 335 IAmb IAmb 13 42 33.4
comp=Z,27nm,0.9s
PV15 Paradox Valley 32.59 328 IAmb IAmb 13 42 37.8
comp=Z,13nm,0.9s
K30B Basset 32.59 343 **P** **13 42 33.0 0.0**
PV02 Paradox Valley 32.62 327 P **P** **13 42 34.4 +0.9**
PV13 Radium Mtn., P 32.63 327 IAmb IAmb 13 42 35.8
comp=Z,24nm,0.9s
PV07 Paradox Valley 32.75 328 IAmb IAmb 13 42 39.5
comp=Z,24nm,1.0s
ECSD EROS Data Cent 32.82 347 **P** **13 42 33.7 -1.1**
ECSD IAmb IAmb 13 42 38.0
comp=Z,16nm,0.6s
J57A Williamstown 32.84 15 P **P** **13 42 35.2 +0.2**
J57A IAmb IAmb 13 42 36.6
comp=Z,28nm,0.9s
J59A Piesco 33.29 17 IAmb IAmb 13 42 40.7
comp=Z,19nm,0.9s
G40A Rib Lake 33.40 356 IAmb IAmb 13 42 43.6
comp=Z,18nm,1.0s
U15A North Rim 33.42 321 IAmb IAmb 13 42 43.4
comp=Z,8.7nm,0.7s
LPAZ La Paz 33.63 146 P **P** **13 42 43.4 +0.6**
LPAZ La Paz 33.63 146 P **P** **13 42 43.7 +0.8**
comp=Z,2.4nm,0.8s,baz=340,slow=5.8,SNR=8.1
LPAZ PcP **PcP** **13 45 20.9 -1.2**
comp=Z,0.7nm,0.5s,baz=0.0,slow=5.1,SNR=1.6
LPAZ LR LR 13 56 53.4
comp=Z,285nm,19.6s,baz=310,slow=37
comp=Z,2.4nm,0.8s
LPAZ La Paz 33.63 146 P **P** **13 42 43.5 +0.6**
SUSD Miller 34.05 345 **P** **13 42 44.6 -1.0**
BUKO Buck Lake 34.08 10 IAmb IAmb 13 42 46.5
comp=Z,22nm,1.0s
KNB Kanab 34.13 322 P **P** **13 42 48.3 +1.8**
KNB IAmb IAmb 13 42 50.7
comp=Z,18nm,0.8s
LCMT Little Creek M 34.38 321 P **P** **13 42 49.8 +1.1**
MTPU Mount Pierson 34.42 324 P **P** **13 42 50.6 +1.3**
MTPU IAmb IAmb 13 42 56.3
comp=Z,20nm,0.8s
Q16A Castle Valley 34.45 326 IAmb IAmb 13 42 55.7
comp=Z,16nm,0.7s
PB12 IPOC Station P 34.47 151 **P** **13 42 49.6 +0.1**
PB12 **PcP** **13 45 25.0 +1.2**
PFO Pinyon Flats O 34.52 314 P **P** **13 42 50.1 +0.2**
PFO Pinyon Flats O 34.52 314 LR LR 13 58 28.8
comp=Z,355nm,19.3s,baz=134,slow=39
PFO Pinyon Flats O 34.52 314 P **P** **13 42 52.2 +2.3**
PFO PcP **PcP** **13 45 24.6 +0.7**
V12A Nelson 34.61 318 **P** **13 42 51.1 +0.4**
V12A IAmb IAmb 13 42 56.3
comp=Z,9.8nm,0.8s
MDP Montagnes des 34.62 98 LR LR 13 58 13.1
comp=Z,239nm,20.7s,baz=294,slow=39
PB16 IPOC Station P 34.62 150 P **P** **13 42 52.1 +0.7**
MSU Marysvale 34.74 324 **P** **13 42 53.0 +1.1**
TMUT Trail Mountain 34.74 326 P **P** **13 42 52.7 +0.7**
TMUT IAmb IAmb 13 42 55.3
comp=Z,30nm,1.3s
TMUT **PcP** **13 45 25.3 +0.7**
MVU Marysvale 34.76 324 IAmb IAmb 13 42 54.7
comp=Z,9.9nm,0.9s
I63A Otisfield 35.05 21 P **P** **13 42 53.8 -0.3**
K22A Casper 35.05 335 P **P** **13 42 54.9 +0.5**
K22A IAmb IAmb 13 42 56.0
comp=Z,14nm,0.9s
ELS Elsinore Mount 35.23 313 P **P** **13 42 56.3 +0.3**
ELS IAmb IAmb 13 42 59.6
comp=Z,26nm,1.4s
PRN Pahroc Range 35.75 320 P **P** **13 43 00.7 +0.3**
PB11 IPOC Station P 35.77 151 P **P** **13 43 01.9 +1.1**
PB11 **PcP** **13 45 28.5 +0.8**
TRQ Mont Tremblant 35.83 15 P **P** **13 43 00.4 -0.6**
TRQ IAmb IAmb 13 43 05.4
comp=Z,17nm,1.1s
GO01 Chusmiza 35.91 151 P **P** **13 43 03.9 +1.5**
GO01 IAmb IAmb 13 43 05.4
comp=Z,22nm,0.8s
TA02 Huaiquique 36.00 152 P **P** **13 43 02.9 +0.4**
GWY Greenwater Val 36.08 317 P **P** **13 43 04.3 +1.0**
HMBC Humberstone 36.11 152 P **P** **13 43 04.6 +1.0**
HMBC IAmb IAmb 13 43 05.7
comp=Z,11nm,0.9s
HMBC **PcP** **13 45 29.3 +0.7**
EYMN Ely 36.16 355 P **P** **13 43 02.3 -1.4**
EYMN IAmb IAmb 13 43 06.8
comp=Z,10nm,0.9s
TCUT Toone Canyon 36.16 328 P **P** **13 43 04.7 +0.6**
TPNV Topopah Spring 36.24 319 P **P** **13 43 05.9 +1.2**
TPNV IAmb IAmb 13 43 11.8
comp=Z,14nm,0.9s
DUG Dugway, Tooele 36.26 326 P **P** **13 43 06.3 +1.6**
DUG IAmb IAmb 13 43 07.7
comp=Z,12nm,0.8s
S11A Rachel 36.33 320 IAmb IAmb 13 43 11.5
comp=Z,23nm,0.9s
PB08 IPOC Station P 36.34 151 IAmb IAmb 13 43 08.7
comp=Z,8.5nm,0.8s
PB08 **PcP** **13 45 31.0 +1.4**
CCAC Calif City Air 36.43 315 P **P** **13 43 06.4 +0.2**
CCAC IAmb IAmb 13 43 13.6
comp=Z,8.8nm,0.8s
PATCX Punta Patache 36.47 153 P **P** **13 43 07.6 +1.0**
BW06 Boulder Array 36.49 332 P **P** **13 43 06.7 -0.1**
BW06 IAmb IAmb 13 43 07.8
comp=Z,12nm,0.7s
PD31 Pinedale Array 36.49 332 P **P** **13 43 07.0 +0.1**
PD31 IAmb IAmb 13 43 07.8
comp=Z,11nm,0.6s
PDAR Pinedale Array 36.49 332 P **P** **13 43 06.8 0.0**
PDAR Pinedale Array 36.49 332 P **P** **13 43 06.9 +0.1**
comp=Z,11nm,0.6s,baz=128,slow=10,SNR=134
PDAR PcP **PcP** **13 45 28.8 -0.8**
comp=Z,0.6nm,0.7s,baz=194,slow=2.2,SNR=2.1
PDAR ScP **ScP** **13 49 12.6 +1.6**
comp=Z,5.1nm,1.0s,baz=135,slow=6.5,SNR=16
PDAR LR LR 14 01 22.0
comp=Z,83nm,19.9s,baz=120,slow=42
comp=Z,11nm,0.6s
TBO Thunder Bay 36.72 357 P **P** **13 43 07.3 -1.1**
BGU Big Grassy Mou 36.88 326 P **P** **13 43 11.0 +0.9**
BGU IAmb IAmb 13 43 15.4
comp=Z,16nm,1.1s
PB01 IPOC Station P 36.96 152 IAmb IAmb 13 43 13.2
comp=Z,21nm,0.8s
HVU Hansel Valley 37.35 328 IAmb IAmb 13 43 16.7
comp=Z,16nm,0.9s
MDND Maddock 37.39 346 P **P** **13 43 13.7 -0.4**
LOHW Long Hollow 37.63 332 IAmb IAmb 13 43 18.8
comp=Z,13nm,0.8s
TPAW Teton Pass 37.70 331 P **P** **13 43 17.8 +0.7**
SIV San Ignacio 37.74 137 LR LR 13 58 41.8
comp=Z,271nm,20.9s,baz=294,slow=36
MOOW Moose Ponds 37.80 332 P **P** **13 43 18.2 +0.3**
MOOW IAmb IAmb 13 43 19.8
comp=Z,14nm,0.7s
FXWY Fox Creek 37.84 331 P **P** **13 43 18.5 +0.2**
ELK Elko 37.99 324 IAmb IAmb 13 43 21.9
comp=Z,12nm,0.8s
RLMT Red Lodge 38.22 334 IAmb IAmb 13 43 22.4
comp=Z,12nm,0.6s
PB05 IPOC Station P 38.23 154 IAmb IAmb 13 43 41.9
comp=Z,18nm,1.2s
YMP Mirror Lake Pl 38.30 333 P **P** **13 43 21.6 -0.6**
YMP IAmb IAmb 13 43 30.7
comp=Z,10nm,0.6s
LDAQ Lac Daran 38.32 17 P **P** **13 43 21.7 -0.4**
YFT Old Faithful 38.38 332 IAmb IAmb 13 43 27.7
comp=Z,22nm,1.0s
NVAR Mina Array Bea 38.42 319 P **P** **13 43 23.4 +0.1**
NVAR **PcP** **13 45 36.7 +1.1**
NVAR Mina Array Bea 38.42 319 P **P** **13 43 24.7 +1.5**
comp=Z,5.5nm,0.6s,baz=136,slow=7.8,SNR=43
NVAR PcP **PcP** **13 45 36.2 +0.6**
comp=Z,4.7nm,0.7s,baz=136,slow=4.3,SNR=11
NVAR ScP **ScP** **13 49 21.4 +2.9**
comp=Z,2.3nm,0.9s,baz=119,slow=4.2,SNR=7.0
NVAR LR LR 14 01 47.1
comp=Z,214nm,18.9s,baz=136,slow=40
comp=Z,5.5nm,0.6s
YNE Yellowstone No 38.44 334 P **P** **13 43 23.5 +0.1**
YNE IAmb IAmb 13 43 28.9
comp=Z,11nm,0.7s
LHV Little Huntoon 38.45 319 IAmb IAmb 13 43 30.1
comp=Z,17nm,1.0s
YNR Norris Junctio 38.51 333 P **P** **13 43 23.6 -0.3**
YMR Madison River 38.60 332 P **P** **13 43 25.9 +1.2**
YMR IAmb IAmb 13 43 28.8
comp=Z,16nm,0.8s
YHH Holmes Hill 38.65 333 P **P** **13 43 26.1 +1.0**
PB10 IPOC Station P 38.67 155 P **P** **13 43 26.6 +1.4**
PB10 IAmb IAmb 13 43 27.7
comp=Z,25nm,1.0s
RYN Ryan 38.68 319 P **P** **13 43 26.6 +1.3**
PTLB Pontes e Lacer 38.70 134 IAmb IAmb 13 43 25.6
comp=Z,26nm,1.5s
YHB Horse Butte 38.77 332 IAmb IAmb 13 43 28.6
comp=Z,14nm,0.9s
YHL Hebgen Lake 38.84 332 P **P** **13 43 27.6 +0.9**
YHL IAmb IAmb 13 43 30.0
comp=Z,19nm,1.1s
ULM Lac du Bonnet 38.96 351 P **P** **13 43 25.9 -1.3**
ULM Lac du Bonnet 38.96 351 P **P** **13 43 25.6 -1.7**
comp=Z,19nm,0.5s,baz=168,slow=8.8,SNR=26
ULM ScP **S** **13 49 21.1 -0.3**
comp=Z,3.4nm,0.7s,baz=198,slow=6.6,SNR=4.2
ULM LR LR 14 00 50.9
comp=Z,141nm,21.8s,baz=134,slow=38
comp=Z,19nm,0.5s
DGMT Dagmar 39.20 342 P **P** **13 43 29.5 +0.1**
HLID Hailey 39.46 328 IAmb IAmb 13 43 34.6
comp=Z,9.2nm,0.7s
BOZ Bozeman (W) 39.62 333 P **P** **13 43 33.6 +0.5**
BOZ IAmb IAmb 13 43 34.7
comp=Z,13nm,0.6s
PNTR Pine Nut 39.63 319 P **P** **13 43 34.2 +0.8**
PNTR IAmb IAmb 13 43 39.4
comp=Z,10nm,0.8s
PB14 IPOC Station P 39.73 156 P **P** **13 43 34.6 +0.2**
PB14 IAmb IAmb 13 43 36.7
comp=Z,37nm,1.3s
DLMT Dillon 39.88 332 IAmb IAmb 13 43 37.3
comp=Z,13nm,0.8s
MPK Martis Peak 40.02 319 IAmb IAmb 13 43 42.6
comp=Z,14nm,0.8s
GO02 Mina Guanaco 40.54 155 IAmb IAmb 13 43 43.6
comp=Z,38nm,1.1s
EGMT Eagleton 40.76 337 P **P** **13 43 42.8 +0.5**
EGMT IAmb IAmb 13 43 46.9
comp=Z,12nm,0.7s
AC01 Pan de Azucar 41.02 157 IAmb IAmb 13 43 46.5
comp=Z,17nm,1.1s
WVOR Wild Horse Val 41.03 324 P **P** **13 43 45.2 +0.5**
WVOR IAmb IAmb 13 43 50.8
comp=Z,15nm,0.8s
ORV Oroville 41.12 318 P **P** **13 43 46.0 +0.6**
ORV IAmb IAmb 13 43 50.5
comp=Z,42nm,1.9s
PLID Pearl Lake 41.34 329 P **P** **13 43 47.3 -0.1**
PLID IAmb IAmb 13 43 48.2
comp=Z,12nm,0.8s
J08A Circle Bar Ran 41.52 325 P **P** **13 43 49.0 +0.3**
MSO Missoula 41.60 332 P **P** **13 43 49.2 -0.1**
MSO IAmb IAmb 13 43 51.0
comp=Z,30nm,1.6s
BMO Blue Mountains 41.86 327 P **P** **13 43 50.7 -0.7**
AC06 Mina Casimiro 42.21 158 P **P** **13 43 54.7 +0.4**
AC06 IAmb IAmb 13 43 56.4
comp=Z,15nm,0.8s
AC02 Maricunga 42.21 156 IAmb IAmb 13 43 58.0
comp=Z,35nm,1.1s
O02D Mt. Diablo Mer 42.29 318 P **P** **13 43 53.8 -1.2**
I07A Izee 42.55 325 P **P** **13 43 56.9 -0.2**
F10A Beach Ranch, E 42.58 329 P **P** **13 43 57.0 -0.3**
F10A IAmb IAmb 13 43 58.5
comp=Z,16nm,0.7s
YBH Yreka Blue Hor 43.07 320 LR LR 14 04 35.9
comp=Z,272nm,21.7s,baz=150,slow=40
PINE Pine Mountain 43.19 324 P **P** **13 44 02.2 -0.2**
J04A Umpqua Nationa 43.55 322 IAmb IAmb 13 44 09.1
comp=Z,61nm,1.6s
AC05 El Transito 43.58 159 IAmb IAmb 13 44 07.8
comp=Z,23nm,1.0s
LCO Las Campanas 43.59 159 P **P** **13 44 06.5 +0.8**
LCO IAmb IAmb 13 44 07.8
comp=Z,19nm,1.0s
LCO Las Campanas 43.59 159 P **P** **13 44 06.7 +0.9**
HAWA Hanford 44.05 328 P **P** **13 44 08.7 -0.3**
HAWA IAmb IAmb 13 44 10.1
comp=Z,13nm,0.8s
NEW Newport 44.12 331 P **P** **13 44 09.3 -0.4**
NEW Newport 44.12 331 LR LR 14 06 00.0
comp=Z,156nm,18.2s,baz=140,slow=41
D08A Wollman Farm, 44.17 329 P **P** **13 44 10.1 +0.1**
D08A IAmb IAmb 13 44 11.0
comp=Z,21nm,0.8s
WAH2 Wahluke Slope 44.30 328 IAmb IAmb 13 44 11.9
comp=Z,25nm,0.9s
FFC Flin Flon 44.35 348 P **P** **13 44 11.1 -0.2**
FFC IAmb IAmb 13 44 11.8
comp=Z,15nm,0.7s
FFC Flin Flon 44.35 348 P **P** **13 44 10.9 -0.4**
H04A Detroit Lake 44.44 324 P **P** **13 44 12.0 -0.2**
H04A IAmb IAmb 13 44 18.3
comp=Z,13nm,0.7s
GO04 Tololo Observa 44.62 160 IAmb IAmb 13 44 15.4
comp=Z,21nm,1.1s
CO01 Juntas del Tor 44.68 159 P **P** **13 44 15.7 +1.2**
CO06 Fray Jorge 44.81 161 P **P** **13 44 16.4 +1.3**
CO06 IAmb IAmb 13 44 17.1
comp=Z,18nm,0.9s
G04A Mulino 44.92 324 P **P** **13 44 15.2 -0.7**
LTY Liberty 45.20 328 IAmb IAmb 13 44 19.9
comp=Z,22nm,1.4s
CO03 El Pedregal 45.27 160 IAmb IAmb 13 44 20.9
comp=Z,28nm,1.1s
H03N2 Juan Fernandez 45.71 171 T T 14 33 07.3
baz=348
H03N1 Juan Fernandez 45.71 171 T T 14 33 09.5
baz=348
H03N3 Juan Fernandez 45.73 171 T T 14 33 08.6
baz=348
F04D Rainier, OR 45.74 325 P **P** **13 44 22.5 +0.1**
GNW Green Mountain 46.54 327 IAmb IAmb 13 44 29.0
comp=Z,10nm,0.9s
VA01 Torpederas 46.99 162 IAmb IAmb 13 44 33.9
comp=Z,26nm,1.1s
A04D Lummi Island 47.19 328 P **P** **13 44 32.7 -1.0**
BDFB Brasilia 47.29 124 P **P** **13 44 33.0 -2.1**
comp=Z,1.9nm,0.5s,baz=273,slow=9.0,SNR=4.3
BDFB LR LR 14 06 16.4
comp=Z,167nm,19.4s,baz=322,slow=38
comp=Z,1.9nm,0.5s
MT02 Curacav 47.36 162 P **P** **13 44 36.1 +0.9**
MT02 IAmb IAmb 13 44 37.2
comp=Z,29nm,1.2s
PEL Peldehue 47.39 161 P **P** **13 44 36.1 +0.6**
CPUP Villa Florida 47.69 143 P **P** **13 44 37.6 -0.3**
comp=Z,4.6nm,0.6s,baz=335,slow=8.2,SNR=24
CPUP LR LR 14 06 08.9

comp=Z,171nm,19.1s,baz=312,slow=38
comp=Z,4.6nm,0.6s
CPUP Villa Florida 47.69 143 P **P** **13 44 37.4 -0.5**
CPUP pP **pP** **13 44 52.4 -1.4**
CPUP PcP **PcP** **13 46 07.4 +0.9**
MT09 Talagante 47.88 162 P **P** **13 44 39.5 0.0**
MT09 IAmb IAmb 13 44 40.5
comp=Z,13nm,0.8s
MT01 Popeta 47.89 162 P **P** **13 44 39.3 0.0**
MT01 IAmb IAmb 13 45 01.0
comp=Z,12nm,1.1s
LLLB Lilloet 48.00 331 IAmb IAmb 13 44 44.8
comp=Z,15nm,0.8s
BO04 La Punta 48.20 162 IAmb IAmb 13 44 43.5
comp=Z,20nm,1.1s
BO01 Tunca 48.43 162 P **P** **13 44 44.2 +0.7**
ITQB Itaqui 50.63 145 P **P** **13 45 00.4 +0.1**
BBB Bella Bella 52.04 329 LR LR 14 10 04.9
comp=Z,100nm,19.1s,baz=155,slow=39
BLKN Baker Lake 52.75 355 P **P** **13 45 15.2 -0.4**
BLKN IAmb IAmb 13 45 16.4
comp=Z,13nm,1.1s
FRB Frobisher Bay 53.41 10 LR LR 14 09 30.4
comp=Z,276nm,18.3s,baz=199,slow=38
LR05 Currie 53.67 166 P **P** **13 45 23.4 +0.7**
LR05 IAmb IAmb 13 45 43.2
comp=Z,18nm,0.9s
RCBR Riachuelo 53.77 106 LR LR 14 10 39.8
comp=Z,148nm,18.7s,baz=304,slow=39
YKAW1 Yellowknife Wh 54.24 345 IAmb IAmb 13 45 26.6
comp=Z,8.2nm,0.8s
YKA Yellowknife Ar 54.28 345 P **P** **13 45 25.9 -1.0**
comp=Z,5.5nm,0.8s,baz=141,slow=7.5,SNR=111
YKA ScP **ScP** **13 50 24.1 +0.7**
comp=Z,0.4nm,0.4s,baz=165,slow=9.7,SNR=9.5
YKA LR LR 14 10 57.6
comp=Z,124nm,20.4s,baz=189,slow=39
comp=Z,5.5nm,0.8s
YKAW3 Yellowknife Wh 54.34 345 IAmb IAmb 13 45 27.3
comp=Z,9.0nm,0.8s
PLCA Paso Flores 54.51 165 P **P** **13 45 29.4 +0.5**
PLCA IAmb IAmb 13 45 30.5
comp=Z,23nm,1.1s
PLCA Paso Flores 54.51 165 P **P** **13 45 29.5 +0.6**
comp=Z,14nm,0.9s,baz=335,slow=8.3,SNR=32
PLCA LR LR 14 05 09.3
comp=Z,96nm,18.0s,baz=360,slow=32
comp=Z,14nm,0.9s
PLCA Paso Flores 54.51 165 P **P** **13 45 29.4 +0.5**
PLCA pP **pP** **13 45 44.7 -0.3**
PLCA PcP **PcP** **13 46 32.4 +0.8**
TRQA Tornquist 54.92 156 P **P** **13 45 32.0 +0.2**
TOAD Toad River Com 54.95 337 P **P** **13 45 33.6 +1.8**
baz=132
U35K Hyder 55.12 332 P **P** **13 45 33.9 +0.9**
baz=126
V35K Ketchikan 55.53 331 P **P** **13 45 36.8 +0.8**
baz=124
LL01 San Ignacio de 55.62 167 IAmb IAmb 13 45 41.4
comp=Z,27nm,1.4s
LIRD Liard River Hi 55.66 337 P **P** **13 45 36.5 -0.4**
baz=132
T35M Bob Quinn 55.85 333 P **P** **13 45 38.8 +0.5**
baz=126
WRAK Wrangell Islan 56.48 332 P **P** **13 45 42.5 -0.2**
baz=123
LL02 Futaleuf 56.52 167 IAmb IAmb 13 45 45.0
comp=Z,17nm,1.0s
DLBC Dease Lake 56.62 335 P **P** **13 45 43.9 +0.1**
baz=127
U33K Whale Pass 56.68 331 P **P** **13 45 44.2 0.0**
baz=122
TAOE Nuku Hiva Isla 56.70 251 *e*P **P** **13 45 46.6 +1.4**
comp=Z,50nm,25.4s
TAOE *e*S **S** **13 53 34.2 +0.5**
comp=Z,94nm,28.0s
TAOE *e*SS **SS** **13 57 16.1 -6.5**
comp=Z,52nm,27.0s
TAOE *e*LR LR 14 02 18.4
comp=Z,403nm,23.7s
WTLY Watson Lake, Y 57.15 337 IAmb IAmb 13 45 48.1
comp=Z,14nm,1.2s
WTLY Watson Lake, Y 57.15 337 P **P** **13 45 47.3 -0.2**
baz=129
WRGLY Wrigley 57.40 341 IAmb IAmb 13 45 57.0
comp=Z,26nm,1.7s
WRGLY Wrigley 57.40 341 P **P** **13 45 49.1 0.0**
baz=136
AY01 Puyuhuapi 57.52 168 P **P** **13 45 50.0 -0.2**
AY01 IAmb IAmb 13 45 51.6
comp=Z,16nm,0.9s
ILON Igloolik, Nuna 57.55 2 P **P** **13 45 48.6 -1.4**
ILON IAmb IAmb 13 46 05.0
comp=Z,5.4nm,0.7s
R33M Jennings River 57.58 335 P **P** **13 45 50.7 0.0**
baz=126
TGTN Hyland Airport 57.86 338 P **P** **13 45 52.8 +0.3**
baz=130
Q32M Nakina River 57.87 334 P **P** **13 45 52.4 -0.5**
baz=125
S32K Killisnoo 58.08 332 P **P** **13 45 53.9 -0.1**
baz=122
SIT Sitka 58.21 331 P **P** **13 45 55.1 +0.2**
baz=121
RKT Rikitea 58.43 233 *e*LR LR 14 03 08.8
comp=Z,1μm,26.2s
R32K Eaglecrest 58.48 333 P **P** **13 45 57.3 +0.5**
baz=122
COYC Coyhaique 58.74 168 P **P** **13 45 59.0 +0.3**
COYC Coyhaique 58.74 168 P **P** **13 45 59.6 +0.9**
P33M Teslin, Yukon 58.82 335 P **P** **13 46 00.0 +0.7**
baz=125
P32M Atlin 58.84 334 P **P** **13 45 59.7 +0.3**
baz=124
SKAG Skagway 59.46 334 P **P** **13 46 04.7 +1.1**
baz=122
N32M Quiet Lake 59.47 336 P **P** **13 46 04.1 +0.4**
baz=125
WHY Whitehorse 59.92 335 P **P** **13 46 07.3 +0.4**
baz=123
SFJD Kangerlussuaq 60.15 16 LR LR 14 11 31.2
comp=Z,292nm,21.4s,baz=222,slow=36
FARO Faro, Yukon 60.19 337 P **P** **13 46 09.5 +0.8**
baz=125
AY03 Cochrane 60.25 169 P **P** **13 46 09.3 +0.2**
O30N Mendenhall 60.48 335 P **P** **13 46 10.9 +0.2**
O30N Mendenhall 60.48 335 P **P** **13 46 11.2 +0.6**
baz=122
P30M Million Dollar 60.51 334 P **P** **13 46 11.4 +0.6**
baz=121
M31M Drury Creek, Y 60.58 337 P **P** **13 46 11.9 +0.7**
baz=124
P29M Windy Craggy 60.60 333 P **P** **13 46 11.9 +0.5**
baz=120
N31M Braeburn, Yuko 60.73 336 P **P** **13 46 12.8 +0.5**
baz=122
HYT Haines Junctio 61.10 334 P **P** **13 46 15.0 0.0**
baz=120
N30M Aishikik Lake 61.26 335 P **P** **13 46 16.6 +0.7**
baz=121
O29M Mount Kennedy 61.30 334 P **P** **13 46 16.1 -0.2**
baz=119
PNL Peninsula 61.36 333 P **P** **13 46 17.0 +0.4**
baz=118
YUK6 Outpost Mounta 61.53 334 P **P** **13 46 18.2 +0.2**
baz=120
M30M Minto, Yukon 61.72 336 P **P** **13 46 18.6 -0.4**
baz=122
YUK4 Talbot Arm 61.84 335 P **P** **13 46 20.8 +0.7**
baz=120
PINM Pinnacle 61.94 333 P **P** **13 46 21.2 +0.7**
baz=117
C36M Paulatuk 62.08 346 P **P** **13 46 20.5 -0.7**
baz=138
O28M Mount Upton 62.23 334 P **P** **13 46 23.1 +0.4**
baz=118
YUK8 Steele Glacier 62.29 334 P **P** **13 46 23.3 +0.2**
baz=118
M29M Somme Creek 62.32 336 IAmb IAmb 13 46 24.5
comp=Z,7.2nm,0.8s
M29M Somme Creek 62.32 336 P **P** **13 46 23.4 +0.3**
baz=120,SNR=6.1
L29M L29M 62.52 336 IAmb IAmb 13 46 26.0
comp=Z,21nm,1.4s
L29M L29M 62.52 336 P **P** **13 46 24.6 +0.3**
baz=121
J30M Hart River 62.63 338 P **P** **13 46 25.6 +0.4**
baz=123
H31M Peel River 62.64 340 P **P** **13 46 25.7 +0.6**
baz=126
K29M Barlow Dome 62.67 337 P **P** **13 46 25.4 0.0**
baz=122
MESA MESA 62.74 333 P **P** **13 46 26.4 +0.3**
baz=116
YUK3 Moose Creek 62.81 335 P **P** **13 46 26.3 -0.2**
baz=118
RES Resolute Bay 62.95 358 LR LR 14 16 34.7
comp=Z,90nm,18.5s,baz=54,slow=39
I30M Mount Dempster 63.00 339 P **P** **13 46 27.2 -0.4**
I30M IAmb IAmb 13 46 28.8
comp=Z,10nm,1.2s
I30M Mount Dempster 63.00 339 P **P** **13 46 27.4 -0.3**
baz=124,SNR=6.2
J29N Klondike Camp 63.25 338 P **P** **13 46 29.2 -0.1**
baz=121
G31M Satah River 63.28 341 IAmb IAmb 13 46 29.9
comp=Z,7.6nm,0.7s
G31M Satah River 63.28 341 P **P** **13 46 29.1 -0.1**
baz=126
BVCY Beaver Creek 63.28 335 P **P** **13 46 29.5 +0.1**
baz=118
F31M Tsiigehtchic 63.42 342 IAmb IAmb 13 47 01.9
comp=Z,25nm,1.6s
F31M Tsiigehtchic 63.42 342 P **P** **13 46 30.5 +0.4**
baz=127
DAWY Dawson 63.50 337 P **P** **13 46 31.3 +0.5**
baz=120
M27K Edge Creek, AK 63.67 335 P **P** **13 46 32.6 +0.4**
baz=117
EPYK Eagle Plains 63.76 340 P **P** **13 46 32.0 -0.5**
EPYK IAmb IAmb 13 46 34.3
comp=Z,22nm,1.6s
EPYK Eagle Plains 63.76 340 P **P** **13 46 32.9 +0.5**
baz=124
KAIM Kayak Island 63.77 332 P **P** **13 46 33.5 +0.9**
baz=113
INK Inuvik 63.89 343 P **P** **13 46 33.9 +0.7**
baz=128,SNR=9.9
G30M tAoh Zraii Nji 63.94 341 P **P** **13 46 33.7 0.0**
baz=124
BCAR Beaver Creek A 63.96 336 P **P** **13 46 33.4 -0.5**
L27K Beaver Creek, 63.97 336 P **P** **13 46 33.7 -0.3**
L27K IAmb IAmb 13 46 35.2
comp=Z,8.6nm,0.9s
L27K Beaver Creek, 63.97 336 P **P** **13 46 33.9 0.0**
baz=117,SNR=6.6
F30M Barrier River 64.16 341 P **P** **13 46 34.6 -0.5**
F30M IAmb IAmb 13 47 01.8
comp=Z,27nm,1.4s
F30M Barrier River 64.16 341 P **P** **13 46 34.9 -0.2**
baz=125,SNR=8.1
M26K Nabesna, AK 64.16 335 P **P** **13 46 34.7 -0.5**
baz=116
H29M Whitestone 64.24 339 P **P** **13 46 35.3 -0.2**
baz=122
BMRM Bremner River 64.26 333 P **P** **13 46 35.1 -0.8**
baz=114
A36M Sachs Harbour 64.31 348 P **P** **13 46 35.2 -0.7**
baz=138
I28M Miner Creek 64.39 338 P **P** **13 46 36.0 -0.7**
baz=120
G29M Pine Creek 64.49 340 IAmb IAmb 13 47 14.7
comp=Z,22nm,1.4s
G29M Pine Creek 64.49 340 P **P** **13 46 37.1 -0.2**
baz=123,SNR=7.5
N25K Chitina, Valde 64.52 333 P **P** **13 46 37.7 +0.1**
baz=114
K27K Chicken 64.52 336 P **P** **13 46 37.4 0.0**
baz=117
L26K Log Cabin Wild 64.58 335 P **P** **13 46 38.2 +0.3**
baz=116
EYAK Cordova Ski Ar 64.62 332 P **P** **13 46 37.8 -0.3**
baz=112
KLU Klutina 65.05 333 P **P** **13 46 40.8 -0.2**
baz=112
HARP HAARP 65.08 334 P **P** **13 46 41.6 +0.4**
baz=114
I27K Kandik River 65.08 338 P **P** **13 46 41.6 +0.5**
baz=118,SNR=5.8
P23K Montague Islan 65.19 331 P **P** **13 46 41.4 -0.4**
baz=110
SCRK Sand Creek 65.25 336 P **P** **13 46 42.9 +0.6**
SCRK IAmb IAmb 13 47 43.7
comp=Z,26nm,2.0s
SCRK Sand Creek 65.25 336 P **P** **13 46 42.2 -0.1**
baz=115
E29M Blow River 65.26 342 P **P** **13 46 42.5 +0.4**
E29M IAmb IAmb 13 47 29.4
comp=Z,16nm,1.7s
E29M Blow River 65.26 342 P **P** **13 46 42.2 +0.1**
baz=123,SNR=7.0
J26L Joseph Creek 65.31 337 P **P** **13 46 43.2 +0.5**
J26L IAmb IAmb 13 46 44.3
comp=Z,8.3nm,0.9s
J26L Joseph Creek 65.31 337 P **P** **13 46 42.4 -0.3**
baz=116,SNR=8.2
H27K Steamboat Moun 65.35 339 IAmb IAmb 13 46 44.3
comp=Z,12nm,1.0s
H27K Steamboat Moun 65.35 339 P **P** **13 46 43.2 +0.3**
baz=119,SNR=9.6
M24K Tolsona, Glenn 65.40 334 P **P** **13 46 42.9 -0.4**
baz=112
PAX Paxson 65.44 335 P **P** **13 46 43.3 -0.2**
baz=114
RIDG Independent Ri 65.49 336 IAmb IAmb 13 46 45.2
comp=Z,14nm,1.0s
RIDG Independent Ri 65.49 336 P **P** **13 46 44.0 +0.1**
baz=114
I26K Coal Creek Min 65.51 337 P **P** **13 46 43.9 +0.1**
baz=117
G27K Doyon Strip 65.67 339 P **P** **13 46 45.2 +0.2**
baz=119
SCM Sheep Creek Mo 65.80 333 P **P** **13 46 46.0 +0.1**
baz=111
E28M Babbage River 65.88 341 P **P** **13 46 45.8 -0.5**
baz=122,SNR=6.2
K24K Donnelly Dome 65.90 335 IAmb IAmb 13 47 18.7
comp=Z,11nm,0.9s
K24K Donnelly Dome 65.90 335 P **P** **13 46 46.2 -0.3**
baz=114
M23K Glacier View 65.97 333 P **P** **13 46 46.6 -0.3**
baz=111
D28M Stokes Point 66.03 342 P **P** **13 46 47.4 +0.3**
baz=123,SNR=6.3
J25K Salcha River, 66.06 336 P **P** **13 46 47.3 -0.2**
J25K Salcha River, 66.06 336 P **P** **13 46 47.8 +0.3**
baz=114,SNR=5.7
KNK Knik Glacier 66.16 332 P **P** **13 46 49.3 +1.2**
baz=110
SEW Seward 66.19 331 P **P** **13 46 49.0 +0.7**
baz=108
SML Sawmill 66.24 333 P **P** **13 46 49.0 +0.3**
baz=110
E27K Coleen River 66.33 341 P **P** **13 46 49.4 +0.3**
baz=120
G26K Porcupine Rive 66.48 339 P **P** **13 46 50.7 +0.7**
baz=117
PRP Porcupine Dome 66.50 337 P **P** **13 46 50.2 -0.1**
baz=114,SNR=5.2
HDA Harding Lake 66.61 336 P **P** **13 46 51.2 +0.3**
baz=113,SNR=7.1
RC01 Rabbit Creek A 66.64 332 P **P** **13 46 51.7 +0.5**
baz=109
D27M Malcolm River 66.66 342 P **P** **13 46 51.8 +0.6**
baz=120
BRSE Bradley Lake S 66.70 330 P **P** **13 46 52.5 +0.9**
baz=107
IL31 66.72 336 P **P** **13 46 51.0 -0.6**
IL31 IAmb IAmb 13 46 52.6
comp=Z,21nm,1.4s
ILAR Eielson Array 66.72 336 P **P** **13 46 51.0 -0.7**
ILAR Eielson Array 66.72 336 P **P** **13 46 50.8 -0.9**
comp=Z,6.9nm,1.1s,baz=148,slow=4.9,SNR=39
comp=Z,6.9nm,1.1s
H25L Birch Creek 66.92 338 P **P** **13 46 53.2 +0.4**
baz=114,SNR=5.9
F26K Sheenjek River 66.94 340 IAmb IAmb 13 47 35.3
comp=Z,21nm,2.0s
F26K Sheenjek River 66.94 340 P **P** **13 46 53.3 +0.2**
baz=117
BMAR Burnt Mountain 66.97 339 P **P** **13 46 53.4 +0.1**
RND Reindeer 67.02 334 P **P** **13 46 53.5 -0.2**
SUMG Summit 67.04 14 P **P** **13 46 53.5 -0.5**
SUMG IAmb IAmb 13 47 55.6
comp=Z,21nm,1.4s
CCB Clear Creek Bu 67.04 336 IAmb IAmb 13 48 27.5
comp=Z,25nm,2.0s
POKR Poker Plat Res 67.07 336 P **P** **13 46 53.4 -0.4**
baz=112
KDAK Kodiak Island 67.08 328 LR LR 14 18 04.1
comp=Z,97nm,21.0s,baz=315,slow=38
KDAK Kodiak Island 67.08 328 P **P** **13 46 54.2 +0.2**
baz=105
HOM Homer 67.11 330 P **P** **13 46 54.4 +0.3**
baz=106
COLA College 67.14 336 P **P** **13 46 55.1 +0.8**
baz=112
MCK McKinley 67.17 335 IAmb IAmb 13 46 58.1
comp=Z,12nm,1.0s
MCK McKinley 67.17 335 P **P** **13 46 54.6 +0.1**
baz=110
G25K Bearman Lake 67.23 338 P **P** **13 46 54.8 0.0**
baz=114
F25K Christian Rive 67.42 339 P **P** **13 46 56.2 +0.1**
baz=115
H24K Noodor Dome 67.52 337 P **P** **13 46 56.6 -0.1**
H24K Noodor Dome 67.52 337 P **P** **13 46 56.9 +0.1**
baz=112
NEA2 Nenana 67.53 336 P **P** **13 46 55.9 -0.9**
NEA2 Nenana 67.53 336 P **P** **13 46 56.6 -0.1**
baz=111
E25K Arctic Village 67.61 340 P **P** **13 46 57.7 +0.4**
baz=116
SII Sitkinak Islan 67.64 327 P **P** **13 46 57.0 -0.6**
baz=103
TRF Thorofare Moun 67.65 334 P **P** **13 46 57.6 -0.2**
TRF IAmb IAmb 13 47 00.8
comp=Z,9.4nm,1.0s
TRF Thorofare Moun 67.65 334 P **P** **13 46 57.1 -0.6**
baz=109
C27K Jago River 67.69 342 P **P** **13 46 57.7 0.0**
baz=118
G24K Hadweenzic Riv 67.70 338 P **P** **13 46 57.5 -0.3**
baz=113,SNR=6.2
SKT Skwentna 67.73 333 IAmb IAmb 13 47 00.4
comp=Z,36nm,1.7s
SKT Skwentna 67.73 333 P **P** **13 46 58.2 +0.1**
baz=107
I23K Minto, Yukon-K 67.84 336 P **P** **13 46 58.9 +0.3**
baz=111,SNR=8.5
P19K Oil Pt 67.89 330 P **P** **13 46 58.6 -0.5**
baz=105
Q19K Cape Douglas, 67.91 329 P **P** **13 46 59.1 -0.2**
baz=104
BPAW Bear Paw Mtn. 68.15 335 P **P** **13 47 00.0 -0.7**
baz=109,SNR=6.7
H23K Yukon River 68.15 337 IAmb IAmb 13 48 25.8
comp=Z,22nm,1.9s
H23K Yukon River 68.15 337 P **P** **13 47 00.5 -0.1**
baz=111
F24K Squaw Lake 68.17 339 P **P** **13 47 01.0 +0.2**
baz=113
EUNU Eureka 68.19 0 P **P** **13 47 01.0 +0.2**
EUNU IAmb IAmb 13 47 47.1
comp=Z,27nm,1.9s
C26K Camden Bay 68.20 342 P **P** **13 47 01.2 +0.4**
baz=117
CHIR Chirikof Islan 68.28 326 P **P** **13 47 02.1 +0.5**
baz=101
PPLA Purkeypile 68.29 333 P **P** **13 47 02.5 +0.7**
baz=107
PPT2 Papeete2 68.37 246 *e*P **P** **13 47 04.8 +1.9**
comp=Z,50nm,24.0s
PPT2 *e*S **S** **13 55 57.4 -2.6**
comp=Z,65nm,27.2s
PPT2 *e*SS **SS** **14 00 27.3 +2.6**
comp=Z,47nm,23.8s
PPT2 *e*LR LR 14 07 43.8
comp=Z,319nm,25.0s
PPT2 *e*LR LR 14 07 48.1
comp=Z,372nm,23.5s
D25K Kavik River 68.40 341 P **P** **13 47 03.2 +1.0**
baz=115
BBTS Babate 68.40 79 LR LR 14 12 35.0
comp=Z,114nm,20.5s,baz=158,slow=32
CAST Castle Rocks 68.40 334 P **P** **13 47 02.1 -0.2**
baz=107
M20K Styx River 68.43 332 P **P** **13 47 02.1 -0.4**
baz=106
Q18K Katmai Hardscr 68.54 329 P **P** **13 47 03.7 +0.4**
baz=103
O19K Port Alsworth 68.55 330 P **P** **13 47 03.3 +0.1**
baz=104
E24K Your Creek 68.60 339 P **P** **13 47 03.9 +0.4**
baz=112
CHUM Lake Minchumin 68.64 334 P **P** **13 47 04.1 +0.4**
baz=107
G23K Bananza Creek 68.65 338 P **P** **13 47 04.2 +0.4**
baz=110,SNR=6.8
N19K Bonanza Creek 68.78 331 P **P** **13 47 04.4 -0.3**
baz=104
H22K Ishtalitna Cre 68.89 337 P **P** **13 47 05.3 +0.1**
baz=109
COLD Coldfoot 68.89 338 P **P** **13 47 05.5 +0.3**
baz=110,SNR=8.7
I21K Tanana 68.90 336 P **P** **13 47 04.9 -0.3**
baz=108,SNR=5.5
Q17K Contact Creek 68.91 328 P **P** **13 47 04.8 -0.8**
baz=102
O18K Koktuh Hills 68.91 330 P **P** **13 47 04.5 -1.0**
baz=103
L20K Farewell, AK 68.93 333 P **P** **13 47 05.1 -0.5**
baz=105
E23K Chandalar 68.98 339 P **P** **13 47 05.4 -0.5**
baz=111
M19K Big River Lodg 69.01 332 P **P** **13 47 05.9 -0.2**
baz=105
BORG Borgarnes 69.05 25 LR LR 14 15 11.4
comp=Z,120nm,21.1s,baz=207,slow=34
D24K Happy Valley 69.13 340 P **P** **13 47 06.5 -0.2**
baz=113
TOLK Toolik Lake Re 69.18 340 P **P** **13 47 06.8 -0.2**
baz=112
K20K Telida 69.24 334 P **P** **13 47 07.0 -0.5**
baz=105
G22K Bettles 69.27 338 P **P** **13 47 07.5 -0.1**
baz=109
L19K White Mountain 69.29 332 P **P** **13 47 07.6 -0.2**
baz=104
C24K Franklin Bluff 69.31 341 P **P** **13 47 07.7 0.0**
C24K Franklin Bluff 69.31 341 P **P** **13 47 07.7 0.0**
baz=113
H21K Melozitna Rive 69.37 336 P **P** **13 47 08.0 -0.3**
baz=108
P17K Kvichak River 69.38 329 P **P** **13 47 07.7 -0.6**
baz=102
Q16K King Salmon 69.39 328 P **P** **13 47 08.4 0.0**
baz=101
N18K Kilae Creek 69.42 331 P **P** **13 47 07.8 -0.9**
baz=103
J20K Nowinta River 69.50 334 P **P** **13 47 08.7 -0.3**
J20K IAmb IAmb 13 47 09.7
comp=Z,18nm,1.5s
J20K Nowinta River 69.50 334 P **P** **13 47 08.6 -0.4**
baz=106
M18K Stony River 69.57 331 P **P** **13 47 08.8 -0.7**
baz=103
R16K Pilot Point 69.66 327 P **P** **13 47 09.7 -0.4**
baz=100
D23K Nanushuk River 69.68 340 P **P** **13 47 09.7 -0.3**
baz=111
F22K John River 69.71 338 P **P** **13 47 10.2 -0.1**
baz=109
E22K Anaktuvuk Pass 69.78 339 P **P** **13 47 10.7 -0.1**
baz=109
I20K Naaghedeneel 69.80 335 IAmb IAmb 13 47 15.2
comp=Z,30nm,1.4s
I20K Naaghedeneel 69.80 335 P **P** **13 47 10.9 +0.1**
baz=106
O17K Koliganek Bris 69.82 330 P **P** **13 47 10.6 -0.5**
baz=101
G21K Allakaket 69.90 337 IAmb IAmb 13 47 12.8
comp=Z,22nm,1.4s
G21K Allakaket 69.90 337 P **P** **13 47 10.8 -0.7**
baz=107,SNR=11
CHGN Chignik 69.90 326 P **P** **13 47 11.3 -0.3**
baz=99
C23K Itkillik River 69.97 341 P **P** **13 47 11.1 -0.7**
baz=111,SNR=5.4
TTA Tatalina 69.99 333 P **P** **13 47 11.2 -1.0**
baz=104
N17K Nushagak Hills 70.02 330 P **P** **13 47 11.6 -0.7**
baz=102
J19K Poorman 70.08 334 P **P** **13 47 11.6 -1.0**

J19K			IAmb	IAmb	13 47 13.4	
	comp=Z,22nm,1.8s					
J19K	**Poorman**	**70.08 334**	P	**P**	**13 47 12.1**	**-0.4**
	baz=104					
F21K	**Alatna River**	**70.10 338**	P	**P**	**13 47 12.9**	**+0.2**
F21K	**Alatna River**	**70.10 338**	P	**P**	**13 47 12.1**	**-0.6**
	baz=107,SNR=7.6					
P16K	**Nushagak River**	**70.13 329**	P	**P**	**13 47 12.4**	**-0.6**
	baz=100					
L18K	**Granite Mounta**	**70.14 332**	P	**P**	**13 47 12.3**	**-0.7**
	baz=103					
H20K	**Anotleneega Mo**	**70.15 336**	P	**P**	**13 47 12.4**	**-0.6**
	baz=105					
O16K	**Kokwok River B**	**70.29 329**	P	**P**	**13 47 13.1**	**-0.8**
	baz=100					
M17K	**Holitna River**	**70.31 331**	P	**P**	**13 47 14.2**	**+0.1**
	baz=102					
D22K	**Ayikyak River**	**70.33 339**	P	**P**	**13 47 13.9**	**-0.2**
	baz=109					
TBI	**Tubuai**	**70.40 240**	*e*LR	LR	14 08 42.5	
	comp=Z,2μm,24.0s					
J18K	**Innoko River**	**70.42 333**	P	**P**	**13 47 14.3**	**-0.5**
	baz=103					
E21K	**Killik River**	**70.64 339**	P	**P**	**13 47 15.9**	**-0.2**
	baz=107					
N16K	**Nishlik Lake**	**70.78 330**	P	**P**	**13 47 16.4**	**-0.6**
	baz=100					
H19K	**Roundabout Mou**	**70.79 336**	P	**P**	**13 47 16.6**	**-0.3**
	baz=104,SNR=8.8					
L17K	**Donlin**	**70.86 332**	P	**P**	**13 47 17.5**	**+0.1**
	baz=101					
F20K	**Avaraart Lake**	**70.89 337**	P	**P**	**13 47 16.9**	**-0.6**
	baz=105					
SDPT	**Sand Point**	**70.93 325**	P	**P**	**13 47 17.4**	**-0.5**
	baz=97					
M16K	**Timber Creek**	**70.97 331**	P	**P**	**13 47 17.3**	**-0.8**
	baz=100					
K17K	**Iditarod**	**70.97 333**	P	**P**	**13 47 17.8**	**-0.2**
	baz=101					
B22K	**Teshekpuk Lake**	**71.04 341**	P	**P**	**13 47 18.2**	**-0.1**
B22K			IAmb	IAmb	13 47 21.5	
	comp=Z,19nm,1.6s					
B22K	**Teshekpuk Lake**	**71.04 341**	P	**P**	**13 47 18.3**	**0.0**
	baz=108					
C21K	**Knifeblade Rid**	**71.14 340**	P	**P**	**13 47 18.5**	**-0.5**
	baz=107					
G19K	**Purcell Mounta**	**71.20 336**	P	**P**	**13 47 18.8**	**-0.6**
G19K	**Purcell Mounta**	**71.20 336**	P	**P**	**13 47 18.8**	**-0.6**
	baz=104,SNR=5.6					
B21K	**Ikpikpuk River**	**71.21 340**	P	**P**	**13 47 19.1**	**-0.3**
	baz=107					
L16K	**Owhat River**	**71.33 331**	P	**P**	**13 47 19.8**	**-0.4**
	baz=100					
N15K	**Kwethluk River**	**71.38 330**	P	**P**	**13 47 20.3**	**-0.2**
	baz=99					
E20K	**Nigu River**	**71.38 338**	P	**P**	**13 47 20.1**	**-0.5**
	baz=105					
J17K	**VABM Dome**	**71.45 333**	P	**P**	**13 47 20.5**	**-0.5**
	baz=101					
H18K	**Honhosa River**	**71.49 335**	IAmb	IAmb	13 47 25.9	
	comp=Z,17nm,1.4s					
H18K	**Honhosa River**	**71.49 335**	P	**P**	**13 47 21.2**	**0.0**
	baz=102					
E19K	**Redstone River**	**71.56 338**	P	**P**	**13 47 21.9**	**+0.3**
	baz=104					
F19K	**Shaleruckik Mo**	**71.62 337**	P	**P**	**13 47 22.0**	**+0.1**
	baz=103					
D20K	**Etivluk River**	**71.65 339**	P	**P**	**13 47 22.2**	**+0.1**
	baz=105,SNR=8.5					
A22K	**Sinclair Lake**	**71.74 341**	P	**P**	**13 47 22.1**	**-0.4**
	baz=107					
M15K	**Kasigluk River**	**71.75 330**	P	**P**	**13 47 22.9**	**+0.2**
	baz=98					
G18K	**Tagagawik**	**71.77 336**	P	**P**	**13 47 23.1**	**+0.2**
G18K	**Tagagawik**	**71.77 336**	P	**P**	**13 47 22.9**	**+0.1**
	baz=102,SNR=6.1					
H17K	**Granite Mounta**	**72.09 335**	P	**P**	**13 47 25.0**	**+0.2**
	baz=100					
J16K	**Anvik River**	**72.11 333**	P	**P**	**13 47 25.0**	**+0.1**
	baz=99					
D19K	**Kuna River**	**72.13 338**	IAmb	IAmb	13 48 45.6	
	comp=Z,18nm,1.7s					
D19K	**Kuna River**	**72.13 338**	P	**P**	**13 47 25.1**	**+0.1**
	baz=103					
N14K	**Kuskokwak Cree**	**72.13 329**	P	**P**	**13 47 25.3**	**+0.3**
	baz=97					
B20K	**Meade River**	**72.17 340**	P	**P**	**13 47 25.3**	**+0.1**
	baz=105					
I17K	**Unalakleet**	**72.25 334**	P	**P**	**13 47 26.3**	**+0.6**
	baz=100					
L15K	**Ungalak Mounta**	**72.27 331**	P	**P**	**13 47 26.1**	**+0.3**
	baz=98					
F18K	**Selawik**	**72.30 336**	P	**P**	**13 47 25.8**	**-0.1**
	baz=101					
A21K	**Barrow**	**72.34 342**	P	**P**	**13 47 26.6**	**+0.5**
	baz=106					
M14K	**Bethel**	**72.37 330**	IAmb	IAmb	13 47 28.1	
	comp=Z,20nm,0.8s					
M14K	**Bethel**	**72.37 330**	P	**P**	**13 47 26.8**	**+0.3**
	baz=97					
K15K	**Wolf Creek Mou**	**72.38 332**	P	**P**	**13 47 26.9**	**+0.4**
	baz=98					
G17K	**Kiwalik Mounta**	**72.50 335**	P	**P**	**13 47 27.5**	**+0.3**
	baz=100					
FALS	**False Pass**	**72.56 324**	P	**P**	**13 47 27.3**	**-0.4**
	baz=94					
L14K	**Kuka Creek**	**72.80 331**	P	**P**	**13 47 29.0**	**+0.1**
	baz=97					
E18K	**Tukpahlearik C**	**72.83 337**	P	**P**	**13 47 29.7**	**+0.6**
	baz=101					
F17K	**Baldwin Pennin**	**72.91 336**	P	**P**	**13 47 29.7**	**+0.2**
	baz=100					
M13K	**Dall Lake**	**73.02 330**	P	**P**	**13 47 30.7**	**+0.4**
	baz=96					
H16K	**Elim**	**73.03 334**	P	**P**	**13 47 30.6**	**+0.3**
	baz=98					
G16K	**Koyuk River**	**73.19 335**	P	**P**	**13 47 31.3**	**+0.1**
	baz=98					
E17K	**Hotham Inlet**	**73.24 337**	P	**P**	**13 47 31.4**	**-0.1**
	baz=99,SNR=7.0					
C18K	**Utukok River**	**73.27 338**	P	**P**	**13 47 30.9**	**-0.8**
	baz=100,SNR=6.1					
J14K	**Nanvaranak Lak**	**73.37 332**	P	**P**	**13 47 31.8**	**-0.5**
	baz=96					
A19K	**Wainwright**	**73.52 340**	P	**P**	**13 47 33.8**	**+0.7**
	baz=101					
B18K	**Kokolik River**	**73.61 339**	P	**P**	**13 47 34.1**	**+0.4**
	baz=100,SNR=9.9					
K13K	**Kusilvak Mount**	**73.80 331**	P	**P**	**13 47 34.8**	**0.0**
	baz=95					
D17K	**Noatak River**	**73.81 337**	P	**P**	**13 47 35.0**	**+0.2**
	baz=98					
G15K	**Niukluk**	**73.84 334**	P	**P**	**13 47 35.3**	**+0.2**
	baz=97					
F15K	**North Star Dit**	**74.17 335**	P	**P**	**13 47 37.3**	**+0.3**
	baz=96					
UNV	**Unalaska Valle**	**74.32 323**	P	**P**	**13 47 38.2**	**+0.2**
	baz=91					
C16K	**Lisburne Hills**	**74.73 338**	P	**P**	**13 47 40.2**	**0.0**
	baz=96,SNR=6.5					
F14K	**Arctic Creek**	**74.85 335**	P	**P**	**13 47 41.2**	**+0.3**
	baz=95					
JMIC	**Jan Mayen**	**75.10 19**	LR	LR	14 19 11.1	
	comp=Z,74nm,21.9s,baz=254,slow=35					
P08K	**Saint George I**	**76.08 326**	P	**P**	**13 47 48.5**	**+0.3**
	baz=90					
SPIA	**Saint Paul Isl**	**76.46 326**	P	**P**	**13 47 51.3**	**+1.0**
	baz=89					
EKA	**Eskdalemuir Ar**	**76.84 36**	P	**P**	**13 47 51.0**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=262,slow=6.5,SNR=5.0					
	comp=Z,0.4nm,0.5s					
ESDC	**Sonseca Array**	**77.20 52**	P	**P**	**13 47 53.5**	**-1.5**
ESDC	**Sonseca Array**	**77.20 52**	P	**P**	**13 47 53.7**	**-1.2**
	comp=Z,2.3nm,0.9s,baz=283,slow=5.4,SNR=11					
ESDC			LR	LR	14 16 07.1	
	comp=Z,151nm,21.9s,baz=301,slow=31					
	comp=Z,2.3nm,0.9s					
MDT	**Midelt**	**77.33 59**	LR	LR	14 16 55.5	
	comp=Z,137nm,21.4s,baz=341,slow=32					
PMSA	**Palmer Station**	**78.37 170**	LR	LR	14 16 37.2	
	comp=Z,110nm,19.8s,baz=192,slow=31					
HOPE	**Hope Point**	**78.50 152**	P	**P**	**13 48 02.4**	**+0.9**
DBIC	**Dimbokro**	**81.00 85**	LR	LR	14 22 32.1	
	comp=Z,79nm,18.5s,baz=308,slow=35					
SPITS	**Spitsbergen Ar**	**81.18 12**	P	**P**	**13 48 15.0**	**-0.9**
	comp=Z,8.4nm,1.0s,baz=302,slow=1.6,SNR=5.4					
	comp=Z,8.4nm,1.0s					
NB2	**NORSAR Subarra**	**83.66 29**	P	P	13 48 42.5	+13
	comp=Z,4.9nm,1.1s,baz=282,slow=5.6					
NOA	**NORSAR Array B**	**83.66 29**	P	**P**	**13 48 28.4**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=280,slow=5.1,SNR=2.9					
NOA			LR	LR	14 23 01.0	
	comp=Z,94nm,20.7s,baz=275,slow=34					
	comp=Z,0.6nm,0.9s					
HFS	**Hagfors**	**85.07 30**	P	**P**	**13 48 34.5**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=270,slow=1.4,SNR=1.9					
HFS			LR	LR	14 23 20.7	
	comp=Z,83nm,21.4s,baz=286,slow=34					
BILL	**Bilibino**	**85.22 339**	P	**P**	**13 48 36.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**86.11 77**	LR	LR	14 24 46.3	
	comp=Z,95nm,19.3s,baz=278,slow=34					
DAVOX	**Davos/Dischmat**	**86.11 43**	LR	LR	14 21 42.5	
	comp=Z,205nm,21.6s,baz=254,slow=32					
ARCES	**ARCESS Array B**	**86.59 19**	P	**P**	**13 48 41.8**	**-1.8**
	comp=Z,1.3nm,0.8s,baz=270,slow=6.7,SNR=4.1					
ARCES			LR	LR	14 26 28.1	
	comp=Z,50nm,18.8s,baz=298,slow=35					
	comp=Z,1.3nm,0.8s					
GERES	**GERESS Array B**	**88.09 41**	LR	LR	14 22 58.1	
	comp=Z,159nm,21.9s,baz=265,slow=32					
KEST	**Kesra**	**88.24 54**	LR	LR	14 23 12.0	
	comp=Z,101nm,21.2s,baz=341,slow=32					
VRAC	**Vranov**	**89.78 40**	LR	LR	14 27 09.8	
	comp=Z,157nm,18.6s,baz=274,slow=34					
VAE	**Valguarnera**	**91.73 51**	LR	LR	14 23 59.2	
	comp=Z,238nm,21.8s,baz=313,slow=32					
SEY	**Seymchan**	**92.66 337**	LR	LR	14 36 54.2	
	comp=Z,68nm,18.5s,baz=30,slow=39					
TIXI	**Tiksi**	**93.29 349**	LR	LR	14 34 13.6	
	comp=Z,66nm,21.0s,baz=23,slow=38					
BELA	**Belgrano 2**	**94.21 170**	P	**P**	**13 49 18.8**	**-0.1**
AKASG	**Malin Array Be**	**96.74 35**	LR	LR	14 31 24.8	
	comp=Z,134nm,19.6s,baz=250,slow=34					
MSVF	**Nonsavu**	**98.18 254**	LR	LR	14 23 28.6	
	comp=Z,183nm,22.0s,baz=157,slow=29					
NRIK	**Noril'sk**	**98.90 2**	LR	LR	14 35 33.9	
	comp=Z,128nm,21.2s,baz=354,slow=36					
QSPA	**South Pole Qui**	**101.84 180**		**Pdif**	**13 49 54.5**	**+0.9**
QSPA	**South Pole Qui**	**101.84 180**	P	**Pdif**	**13 49 54.7**	**+1.1**
	comp=Z,3.0nm,1.0s,baz=254,slow=1.3,SNR=8.2					
BRTR	**Keskin Array B**	**104.75 43**	PKKPbc	PKKPbc	14 05 50.9	-1.2
	comp=Z,0.8nm,0.7s,baz=160,slow=4.6,SNR=3.7					
DZM	**Mont Dzumac**	**109.58 251**	*e*LR	LR	14 26 46.7	
	comp=Z,144nm,23.0s					
ZALV	**Zalesovo Beam**	**114.07 5**	PKKPbc	PKKPbc	14 05 23.1	+0.5
	comp=Z,1.0nm,0.7s,baz=112,slow=0.8,SNR=4.4					
KURBB	**Kurchatov Arra**	**116.50 10**	PKP	**PKPdf**	**13 54 44.0**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=342,slow=1.8,SNR=1.7					
KURBB			PKKPbc	**PKKPbc**	**14 05 12.2**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=156,slow=1.5,SNR=4.3					
SONM	**Songino Array**	**119.38 350**	PKP	**PKPdf**	**13 54 49.2**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=338,slow=0.6,SNR=2.3					
MKAR	**Makanchi Array**	**120.82 9**	PKP	**PKPdf**	**13 54 52.6**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=2.0,slow=1.6,SNR=1.8					
MKAR			SKP		13 58 24.5	
	comp=Z,0.4nm,0.7s,baz=0.0,slow=1.4,SNR=3.7					
KSRS	**Korea Array**	**120.99 328**	PKP	**PKiKP**	**13 54 53.5**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=11,slow=2.0,SNR=9.3					
KSRS			SKP		13 58 28.1	
	comp=Z,1.4nm,0.7s,baz=11,slow=1.2,SNR=7.0					
WMQ	**Urumqi**	**124.37 5**	*e*PKP	**PKiKP**	**13 55 00.4**	**+0.4**
WMQ			LR	LR		
	comp=Z,170nm,23.9s					
HHC	**Hu-ho-hao-te**	**124.80 343**	*e*P	**PKiKP**	**13 55 03.3**	**+2.3**
GTA	**Gaotai**	**128.59 353**	*e*PKP	**PKiKP**	**13 55 08.8**	**+0.2**
NJ2	**Nanjing**	**129.80 331**	*e*P	**PKPdf**	**13 55 10.3**	**0.0**
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.6s					
STKA	**Stephens Creek**	**131.16 238**	PKP	**PKiKP**	**13 55 13.7**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=96,slow=5.9,SNR=8.5					
ASAR	**Alice Springs**	**139.46 247**	PKhKP	PKPpre	13 55 18.5	
	comp=Z,2.3nm,0.9s,baz=100,slow=2.2,SNR=14					
ASAR			PKP	**PKPdf**	**13 55 28.7**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=107,slow=2.3,SNR=18					
ASAR			SKPbc	**SKiKP**	**13 59 02.8**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=95,slow=2.8,SNR=18					
WRA	**Warramunga Arr**	**139.53 253**	PKhKP	PKPpre	13 55 20.8	
	comp=Z,1.3nm,0.7s,baz=92,slow=3.3,SNR=11					
WRA			PKP	**PKPdf**	**13 55 29.6**	**+0.9**
	comp=Z,7.5nm,0.7s,baz=91,slow=2.2,SNR=29					
WRA			SKPbc	**SKiKP**	**13 59 03.8**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=92,slow=3.2,SNR=15					
PZH	**PanZhiHua**	**140.92 348**	PKP	**PKPdf**	**13 55 31.0**	**-0.3**
FORT	**Forrest**	**142.53 234**	PKPdf	**PKPdf**	**13 55 31.6**	**-2.2**
KNRA	**Kununurra**	**145.09 260**	PKPbc	**PKPdf**	**13 55 38.8**	**+0.1**
SLVN	**Son La**	**145.31 342**	PKPbc	**PKPdf**	**13 55 39.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**147.90 255**		**PKiKP**	**13 55 47.7**	**-0.6**
LUWI	**Luwuk**	**148.56 288**	PKPbc	**PKPbc**	**13 55 48.1**	**-0.2**
CHTO	**Chiang Mai**	**148.95 349**	PKPbc	**PKPbc**	**13 55 47.7**	**-1.5**
CM31	**Chiang Mai Arr**	**149.30 349**	PKPbc	**PKPbc**	**13 55 49.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**149.30 349**	PKP	**PKPdf**	**13 55 45.5**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=303,slow=2.5,SNR=11					
CMAR			PKPbc	**PKPbc**	**13 55 50.6**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=20,slow=2.1,SNR=7.0					
MYLDM	**Lahad Datu**	**149.50 302**	PKPbc	**PKPbc**	**13 55 49.9**	**-0.8**
MMRI	**Maumere**	**151.06 274**	PKPbc	**PKPbc**	**13 55 54.1**	**-0.3**
PSA00	**Pilbara Seismi**	**152.58 246**	PKPbc	**PKiKP**	**13 55 58.0**	**+0.1**

RSNC 19 13:38:25.9±0.0, 7°N±2°×7°3W±°, h142km±2km, M1.8, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.18**	**181**	P	Pn	13 38 45.0	-0.5
BARC				S	Sn	13 39 00.2	-0.1
PAMC	**Pamplona, Colo**	**0.74**	**40**	P	Pn	13 38 48.2	-0.2
PAMC				S	Sn	13 39 05.1	-0.4
RUSC	**La Rusia**	**0.88**	**174**	P	Pn	13 38 49.2	-0.3
RUSC				S	Sn	13 39 07.3	-0.1
PTBC	**PUERTO BERRIO,**	**1.29**	**260**	P	Pn	13 38 52.0	-0.7
PTBC				S	Sn	13 39 12.3	-0.8
PTBC	**PUERTO BERRIO,**	**1.29**	**260**	P	Sn	13 39 12.5	-0.6
ZARC	**Zaragoza, Cauc**	**1.81**	**293**	P	Pn	13 38 59.7	+1.3
ZARC				S	Sn	13 39 24.0	+0.7

*IDC **19** 13:38:20.4±0.8, 26°.12N×129°.37E, h0km, mb3.9/15, mbtmp3.9/17, ML3.5/2, MS3.2/5, Error ellipse: s-maj=29.1km s-min=16.3km az=67.0*
*JMA **19** 13:38:21.9±0.1, 26°.2N±0°.7×129°.5E±0°.4, h45km, MV3.5/24, NEAR MINAMI-DAITOJIMA IS*
*NIED **19** 13:38:21.9, 26°.16N×129°.51E, h45km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=1.13; Mθθ0.81; Mφφ0.33; Mrθ0.03; Mθφ0.50; Mφr0.42; Fault plane solution: M0 1.20000×10^15^ NP1:φs72.00000°, δ41.00000°, λ-67.00000°. NP2:φs223.00000°, δ53.00000°, λ-109.00000°.*

ISC 19 13:38:25.0±0.6, 26°.17N±0°.04×129°.50E±0°.03, h35km, n40, σ2s16/57, mb4.0/15, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.27**	**312**	*i* P	**Pn**	**13 38 43.9**	**-2.3**
JYRO				*e*S	**Sn**	**13 38 59.5**	**-2.5**
JOW	**Kunigami**	**1.28**	**301**	Pn	**Pn**	**13 38 44.1**	**-2.3**
	135nm,0.3s,baz=121,slow=25,SNR=571						
JOW				Sn	**Sn**	**13 38 58.5**	**-3.8**
	107nm,0.3s,baz=133,slow=5.1,SNR=23						
JOW				LR	LR	13 39 24.5	
	comp=Z,654nm,20.4s,baz=177,slow=53						
JOW	**Kunigami**	**1.28**	**301**	*i* P	**Pn**	**13 38 44.1**	**-2.3**
JOW				*e*S	**Sn**	**13 38 59.4**	**-2.9**
JNTH	**Nagotoyohara**	**1.37**	**285**	*i* P	**Pn**	**13 38 45.1**	**-2.5**
JNTH				S	**Sn**	**13 39 01.3**	**-3.3**
JOKE	**Okinoerabujima**	**1.45**	**325**	*i* P	**Pn**	**13 38 46.5**	**-2.2**
JOKE				*e*S	**Sn**	**13 39 04.2**	**-2.2**
JJT3	**Tamagusuku3**	**1.54**	**269**	P	**Pn**	**13 38 48.1**	**-1.9**
JJT3				S	**Sn**	**13 39 07.0**	**-1.8**
JMZ	**Minamidaito 2**	**1.59**	**102**	*i* P	**Pn**	**13 38 47.9**	**-2.8**
JMZ				S	**Sn**	**13 39 06.5**	**-3.5**
JIH	**Iheya**	**1.62**	**302**	*i* P	**Pn**	**13 38 49.2**	**-1.9**
JIH				S	**Sn**	**13 39 08.4**	**-2.3**
JKDJ	**Kitadaitoujima**	**1.63**	**97**	*i* P	**Pn**	**13 38 48.7**	**-2.6**
JKDJ				S	**Sn**	**13 39 08.5**	**-2.6**
JTK	**Tokunoshima**	**1.68**	**343**	*i* P	**Pn**	**13 38 50.0**	**-2.0**
JTK				S	**Sn**	**13 39 10.2**	**-2.0**
JAGN	**Aguni-jima**	**2.06**	**282**	*i* P	**Pn**	**13 38 55.5**	**-1.7**
JAGN				S	**Sn**	**13 39 20.0**	**-1.7**
JAMN	**Amaminishikomi**	**2.08**	**352**	P	**Pn**	**13 38 55.5**	**-2.0**
JAMN				S	**Sn**	**13 39 20.6**	**-1.5**
JZK	**Kikaishima**	**2.17**	**11**	*e*P	**Pn**	**13 38 57.0**	**-1.7**
JAM	**Amami Oshima**	**2.23**	**2**	P	**Pn**	**13 38 57.6**	**-1.9**
JAM				*e*S	**Sn**	**13 39 23.7**	**-2.2**
JKE	**Kume jima 2**	**2.44**	**274**	P	**Pn**	**13 38 59.7**	**-2.7**
JKE				S	**Sn**	**13 39 27.6**	**-3.4**
JTAJ	**Takarajima**	**2.98**	**355**	P	**Pn**	**13 39 07.7**	**-2.1**
JTAJ				S	**Sn**	**13 39 40.8**	**-3.5**
JNN	**Nakanoshima**	**3.67**	**5**	*e*P	**Pn**	**13 39 17.9**	**-1.5**
JNN				*e*S	**Sn**	**13 39 58.3**	**-3.0**
JYAK	**Yakushimahirau**	**4.15**	**12**	P	**Pn**	**13 39 24.0**	**-1.8**
JYAK				S	**Sn**	**13 40 11.4**	**-1.7**
JKC	**Kuchinoerabu**	**4.32**	**8**	*e*P	**Pn**	**13 39 27.4**	**-0.8**
JMTN	**Minamitane**	**4.39**	**16**	*e*P	**Pn**	**13 39 27.9**	**-1.3**
JMTN				*e*S	**Sn**	**13 40 17.0**	**-2.0**
JNU	**Nakatsue**	**7.03**	**10**	Pn	**Pn**	**13 40 05.0**	**-0.5**
	1.4nm,0.3s,baz=218,slow=8.9,SNR=13						
JNU				Sn	**Sn**	**13 41 19.3**	**-4.9**
	baz=299,slow=2.2						
JNU				LR	LR	13 42 59.9	
	comp=Z,77nm,20.4s,baz=228,slow=39						
	7.3nm,0.5s						
KSRS	**Korea Array**	**11.33**	**354**	Pn	**Pn**	**13 41 03.7**	**-0.6**
	0.1nm,0.3s,baz=176,slow=18,SNR=1.8						
KSRS				LR	LR	13 45 41.7	
	comp=Z,69nm,19.6s,baz=165,slow=39						
	0.6nm,0.6s						
GUMO	**Guam**	**19.10**	**128**	LR	LR	13 48 18.5	
	comp=Z,50nm,21.9s,baz=346,slow=31						
SONM	**Songino Array**	**28.23**	**326**	P	**P**	**13 44 16.4**	**+1.7**
	0.4nm,0.4s,baz=154,slow=7.5,SNR=2.6						
	0.4nm,0.4s						
PETK	**Petropavlovsk-**	**34.16**	**30**	P	**P**	**13 45 07.9**	**+1.2**
	1.6nm,0.8s,baz=218,slow=9.1,SNR=1.9						
	1.6nm,0.8s						
PMG	**Port Moresby**	**39.31**	**152**	LR	LR	14 02 29.8	
	comp=Z,43nm,18.0s,baz=134,slow=37						
MKAR	**Makanchi Array**	**42.42**	**312**	P	**P**	**13 46 16.7**	**+0.4**
	0.9nm,0.7s,baz=100,slow=10,SNR=8.9						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**42.98**	**322**	P	**P**	**13 46 20.4**	**-0.3**
	0.7nm,0.6s,baz=119,slow=8.4,SNR=2.5						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**45.68**	**316**	P	**P**	**13 46 41.7**	**-0.6**
	0.5nm,0.6s,baz=104,slow=8.5,SNR=6.6						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**46.08**	**174**	P	**P**	**13 46 45.5**	**-0.2**
	2.1nm,0.9s,baz=351,slow=8.3,SNR=8.2						
	2.1nm,0.9s						
ASAR	**Alice Springs**	**49.73**	**175**	P	**P**	**13 47 14.2**	**+0.2**
	1.0nm,0.8s,baz=3.4,slow=14,SNR=14						
	1.0nm,0.8s						
BVAR	**Borovoye Array**	**51.08**	**318**	P	**P**	**13 47 23.9**	**0.0**
	1.5nm,0.7s,baz=90,slow=8.4,SNR=8.1						
BVAR				LR	LR	14 11 04.5	
	comp=Z,69nm,19.0s,baz=88,slow=38						
	1.5nm,0.7s						
KBZ	**Khabaz**	**70.07**	**310**	P	**P**	**13 49 35.1**	**+1.6**
	2.9nm,0.9s,baz=268,slow=4.6,SNR=5.8						
	2.9nm,0.9s						
FINES	**FINESS Array B**	**73.47**	**331**	P	**P**	**13 49 54.8**	**+1.1**
	2.5nm,0.8s,baz=73,slow=8.6,SNR=6.2						
	2.5nm,0.8s						
AKASG	**Malin Array Be**	**76.31**	**320**	P	**P**	**13 50 11.3**	**+1.0**
	0.9nm,0.6s,baz=55,slow=7.7,SNR=6.2						
	0.9nm,0.6s						
BRTR	**Keskin Array B**	**77.97**	**308**	P	**P**	**13 50 19.5**	**-0.5**
	1.4nm,0.8s,baz=78,slow=4.8,SNR=5.1						
	1.4nm,0.8s						
NB2	**NORSAR Subarra**	**79.86**	**334**	P	**P**	**13 50 29.9**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**79.86**	**334**	P	**P**	**13 50 30.3**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=50,slow=5.4,SNR=8.7						
	comp=Z,1.4nm,0.8s						
GERES	**GERESS Array B**	**85.93**	**323**	P	**P**	**13 51 03.2**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=343,slow=4.2,SNR=3.8						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**92.49**	**39**	P	**P**	**13 51 34.1**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=295,slow=5.6,SNR=2.3						
	comp=Z,0.2nm,0.6s						

*HLW **19** 13:52:32.8, 33°.17N×27°.46E, h28km±11km, Md3.3, Ml2.6*
*AFAD **19** 13:52:38.0, 33°.68N×27°.70E, h15km, ML2.7*

ISC 19 13:52:29.0±1.2, 33°.22N±0°.05×27°.41E±0°.09, h10km, n15, σ2s19/22, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATC	**Matruh**	**1.88**	**185**	P	**Pn**	**13 53 02.4**	**+1.2**
SLUM	**Salum**	**2.54**	**228**	P	**Pn**	**13 53 11.5**	**+1.2**
IZZE	**Mula-Seydike**	**3.54**	**24**	P	**Pn**	**13 53 26.7**	**+2.7**
IZZE				S	**Sn**	**13 54 03.0**	**-2.8**
IZZE				*i* AML	AML	13 54 11.0	
	comp=E,19nm,0.4s						
IZZE				*i* AML	AML	13 55 03.0	
	comp=N,32nm,1.4s						
TURN	**Turunc**	**3.61**	**11**	P	**Pn**

WGK n163,σ0$91/311,9D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUL	**Shoufeng**	**0.10**	**267**	*i* P	**Pb**	**14 01 20.9**	**+0.8**
SHUL				S	**Sb**	**14 01 26.7**	**+2.7**
TEGC	**Jichi Village**	**0.15**	**236**	*i* P	**Pb**	**14 01 21.1**	**+0.7**
TEGC				*e*S	**Sb**	**14 01 26.3**	**+1.7**
HWA	**Hwalien**	**0.20**	**340**	*i* P	**Pb**	**14 01 21.5**	**+0.6**
HWA				S	**Sb**	**14 01 27.3**	**+2.0**
ESL	**Shilin**	**0.22**	**275**	⇓*i*P	**Pn**	**14 01 21.0**	**+0.1**
ESL				S	**Sb**	**14 01 26.3**	**+0.5**
ETM	**Tongmen**	**0.24**	**316**	⇓*i*P	**Pn**	**14 01 21.3**	**0.0**
ETM				S	**Sb**	**14 01 27.0**	**+0.8**
EGFH	**Guangfu**	**0.26**	**242**	*i* P	**Pn**	**14 01 21.5**	**-0.2**
EGFH				S	**Sb**	**14 01 27.8**	**+1.3**
WARBT	**Fenglin Townsh**	**0.28**	**254**	⇓*i*P	**Pn**	**14 01 21.4**	**-0.6**
WARBT				S	**Sn**	**14 01 26.9**	**+0.3**
TWD	**Chiawan**	**0.29**	**346**	*i* P	**Pb**	**14 01 22.0**	**-0.1**
TWD				*i* S	**Sb**	**14 01 28.3**	**+1.1**
LXIB	**Xiulin Townshi**	**0.33**	**313**	⇓*i*P	**Pb**	**14 01 22.0**	**-0.6**
LXIB				S	**Sn**	**14 01 28.1**	**-0.3**
ETL	**Fush Village**	**0.37**	**352**	*i* P	**Pb**	**14 01 22.8**	**-0.2**
ETL				*e*S	**Sb**	**14 01 30.2**	**+1.2**
HGSD	**Ruisui**	**0.38**	**218**	*i* P	**Pb**	**14 01 23.7**	**+0.6**
HGSD				S	**Sn**	**14 01 31.2**	**+1.6**
NACB	**Ninganchiao**	**0.39**	**349**	P	**Pb**	**14 01 22.9**	**-0.4**
NACB	**Ninganchiao**	**0.39**	**349**	S	**Sb**	**14 01 28.8**	**-0.6**
NACB	**Ninganchiao**	**0.39**	**349**	*i* P	**Pb**	**14 01 22.8**	**-0.4**
NACB				S	**Sb**	**14 01 29.6**	**+0.3**
EHYH	**Wanrong**	**0.42**	**226**	*i* P	**Pb**	**14 01 23.1**	**-0.7**
EHYH				*e*S	**Sb**	**14 01 30.4**	**+0.1**
EHY	**Hungye**	**0.43**	**229**	⇓*i*P	**Pb**	**14 01 23.0**	**-0.9**
EHY				S	**Sb**	**14 01 29.8**	**-0.7**
ETLH	**Xiulin Townshi**	**0.45**	**337**	*i* P	**Pb**	**14 01 23.6**	**-0.7**
ETLH				*i* S	**Sb**	**14 01 30.2**	**-0.9**
OWD	**Renai**	**0.48**	**289**	⇓*i*P	**Pb**	**14 01 24.4**	**-0.5**
OWD				*i* S	**Sb**	**14 01 31.4**	**-0.6**
VWDT	**VWDT**	**0.49**	**266**	⇓*i*P	**Pb**	**14 01 24.5**	**-0.3**
VWDT				S	**Sb**	**14 01 31.9**	**-0.1**
WHF	**Hehuan Shan**	**0.51**	**313**	*i* P	**Pb**	**14 01 24.6**	**-0.9**
WHF				*i* S	**Sb**	**14 01 32.4**	**-0.8**
ECBN	**Changbin**	**0.52**	**204**	*i* P	**Pb**	**14 01 25.1**	**-0.1**
ECBN				S	**Sn**	**14 01 34.0**	**+0.9**
YULB	**Yu-li**	**0.53**	**221**	P	**Pn**	**14 01 24.3**	**-1.3**
YULB	**Yu-li**	**0.53**	**221**	S	**Sb**	**14 01 29.8**	**-3.2**
YULB	**Yu-li**	**0.53**	**221**	*i* P	**Pn**	**14 01 24.2**	**-1.3**
YULB				S	**Sb**	**14 01 31.9**	**-1.1**
EAHA	**Aohua**	**0.54**	**6**	*i* P	**Pn**	**14 01 24.8**	**-0.9**
EAHA				S	**Sb**	**14 01 33.5**	**+0.3**
WUSB	**Renai**	**0.55**	**291**	⇓*i*P	**Pn**	**14 01 25.2**	**-0.7**
WUSB				S	**Sb**	**14 01 33.2**	**-0.5**
EYUL	**Yuli**	**0.55**	**217**	*i* P	**Pn**	**14 01 25.0**	**-0.9**
EYUL				S	**Sb**	**14 01 33.3**	**-0.3**
TWF1	**Yuli**	**0.56**	**218**	*i* P	**Pn**	**14 01 24.7**	**-1.2**
TWF1				S	**Sb**	**14 01 32.6**	**-1.2**
FUSS	**Fushou**	**0.60**	**319**	*i* P	**Pn**	**14 01 25.9**	**-0.8**
FUSS				S	**Sb**	**14 01 34.7**	**-0.5**
ENA	**Nanau**	**0.64**	**5**	*i* P	**Pn**	**14 01 26.3**	**-0.7**
ENA				*e*S	**Sn**	**14 01 35.8**	**-0.2**
TWT	**Tachien**	**0.65**	**315**	*i* P	**Pn**	**14 01 27.0**	**-0.3**
TWT				*i* S	**Sn**	**14 01 35.8**	**-0.8**
CHKH	**Chenggong**	**0.65**	**203**	*i* P	**Pn**	**14 01 26.9**	**-0.3**
CHKH				*i* S	**Sn**	**14 01 36.6**	**+0.2**
EWUT	**Wuta**	**0.66**	**8**	*i* P	**Pn**	**14 01 26.6**	**-0.7**
EWUT				S	**Sn**	**14 01 37.2**	**+0.7**
TDCB	**Techi**	**0.66**	**314**	*i* P	**Pn**	**14 01 26.9**	**-0.6**
TDCB				S	**Sn**	**14 01 35.5**	**-1.3**
SSLB	**Suanglung**	**0.66**	**270**	P	**Pn**	**14 01 26.3**	**-1.1**
SSLB	**Suanglung**	**0.66**	**270**	*i* P	**Pn**	**14 01 26.4**	**-1.0**
SSLB				S	**Sn**	**14 01 36.2**	**-0.5**
EOS4	**EOS4**	**0.67**	**61**	P	**Pn**	**14 01 27.0**	**-0.2**
EOS4				S	**Sn**	**14 01 36.9**	**+0.5**
NNSB	**Datong**	**0.69**	**337**	*i* P	**Pn**	**14 01 27.0**	**-0.9**
NNSB				S	**Sn**	**14 01 36.3**	**-1.2**
FULB	**Fuli**	**0.69**	**211**	*i* P	**Pn**	**14 01 27.1**	**-0.7**
FULB				S	**Sb**	**14 01 38.4**	**+1.1**
WPL	**Puli Township**	**0.69**	**288**	*i* P	**Pn**	**14 01 27.1**	**-0.8**
WPL				*e*S	**Sn**	**14 01 36.4**	**-1.0**
NNS	**Nan Shan**	**0.70**	**337**	*i* P	**Pn**	**14 01 27.2**	**-0.9**
NNS				S	**Sn**	**14 01 36.5**	**-1.4**
SMLT	**Sun Moon Lake**	**0.72**	**277**	⇓*i*P	**Pn**	**14 01 26.6**	**-1.7**
SMLT				*i* S	**Sn**	**14 01 36.6**	**-1.5**
DPDB	**Guoxing**	**0.73**	**289**	*i* P	**Pn**	**14 01 27.8**	**-0.5**
DPDB				*e*S	**Sn**	**14 01 37.3**	**-1.1**
WCS	**Beigang Elemen**	**0.75**	**291**	*i* P	**Pn**	**14 01 28.0**	**-0.5**
WCS				*e*S	**Sn**	**14 01 38.0**	**-0.7**
LATG	**Datong**	**0.75**	**350**	*i* P	**Pn**	**14 01 27.7**	**-1.1**
LATG				*e*S	**Sn**	**14 01 39.1**	**+0.1**
TYC	**Yuchr**	**0.76**	**279**	*i* P	**Pn**	**14 01 28.0**	**-0.7**
TYC				*e*S	**Sn**	**14 01 38.5**	**-0.5**
WHYT	**Xinyi Township**	**0.76**	**263**	*i* P	**Pn**	**14 01 28.6**	**-0.2**
WHYT				S	**Sn**	**14 01 39.3**	**+0.1**
EOS3	**EOS3**	**0.77**	**50**	*e*P	**Pn**	**14 01 28.8**	**+0.1**
EOS3				*e*S	**Sb**	**14 01 39.8**	**+0.6**
EHD	**Haiduan**	**0.77**	**214**	*i* P	**Pn**	**14 01 27.2**	**-1.7**
EHD				*e*S	**Sn**	**14 01 39.2**	**-0.2**
ESAO	**Su ao**	**0.79**	**11**	*i* P	**Pn**	**14 01 29.6**	**+0.4**
ESAO				*i* S	**Sn**	**14 01 39.9**	**0.0**
EOS2	**EOS2**	**0.80**	**39**	*e*P	**Pn**	**14 01 29.6**	**+0.4**
ECS	**Chishang**	**0.81**	**211**	*i* P	**Pn**	**14 01 28.5**	**-1.0**
ECS				*e*S	**Sb**	**14 01 41.3**	**+0.6**
WHP	**Taichung City**	**0.82**	**306**	*i* P	**Pn**	**14 01 29.9**	**+0.2**
WHP				S	**Sn**	**14 01 40.9**	**+0.1**
TWC	**Suao**	**0.83**	**11**	*i* P	**Pn**	**14 01 29.4**	**-0.3**
TWC				*i* S	**Sn**	**14 01 41.2**	**+0.4**
NDS	**Dongshan**	**0.84**	**2**	*i* P	**Pn**	**14 01 28.3**	**-1.5**
NDS				S	**Sn**	**14 01 40.8**	**-0.2**
ALS	**Alishan**	**0.85**	**251**	*i* P	**Pn**	**14 01 29.9**	**-0.3**
ALS				*i* S	**Sn**	**14 01 41.5**	**-0.1**
ENTT	**Nioudou**	**0.85**	**353**	*i* P	**Pn**	**14 01 29.2**	**-0.8**
ENTT				S	**Sn**	**14 01 40.3**	**-1.1**
ELDTW	**Lidau**	**0.85**	**225**	*i* P	**Pn**	**14 01 28.8**	**-1.3**
ELDTW				*i* S	**Sn**	**14 01 39.9**	**-1.7**
WJS	**Zhushan**	**0.87**	**272**	*i* P	**Pn**	**14 01 30.5**	**+0.3**
WJS				S	**Sn**	**14 01 42.8**	**+1.0**
EDH	**Donghe**	**0.89**	**203**	*i* P	**Pn**	**14 01 29.4**	**-1.1**
EDH				S	**Sn**	**14 01 42.4**	**+0.2**
WNT	**Mingjian**	**0.91**	**276**	*i* P	**Pn**	**14 01 31.1**	**+0.3**
WNT				*i* S	**Sn**	**14 01 43.9**	**+1.1**
YHNB	**Yeheng**	**0.92**	**343**	P	**Pn**	**14 01 30.2**	**-0.8**
YHNB	**Yeheng**	**0.92**	**343**	S	**Sn**	**14 01 41.7**	**-1.3**
YHNB	**Yeheng**	**0.92**	**343**	*i* P	**Pn**	**14 01 30.4**	**-0.6**
YHNB				S	**Sn**	**14 01 42.0**	**-1.1**
TWE	**Neicheng**	**0.92**	**359**	*i* P	**Pn**	**14 01 30.1**	**-0.9**
TWE				S	**Sn**	**14 01 42.8**	**-0.3**
NSK	**Sanguang**	**0.93**	**342**	*i* P	**Pn**	**14 01 30.5**	**-0.6**
NSK				*i* S	**Sn**	**14 01 42.2**	**-1.1**
FUSB	**Fushanzhiwuyua**	**0.97**	**355**	*i* P	**Pn**	**14 01 30.8**	**-0.8**
FUSB				S	**Sn**	**14 01 43.9**	**-0.4**
NFF	**Wufeng Townshi**	**0.98**	**329**	*i* P	**Pn**	**14 01 32.2**	**+0.3**
NFF				*i* S	**Sn**	**14 01 44.9**	**+0.3**
TCU	**Taichung**	**0.98**	**291**	*i* P	**Pn**	**14 01 32.6**	**+0.8**
TCU				S	**Sn**	**14 01 45.3**	**+0.8**
NWLT	**Wulai**	**0.99**	**351**	*i* P	**Pn**	**14 01 31.3**	**-0.7**
NWLT				*i* S	**Sn**	**14 01 43.9**	**-1.1**
TWQ1	**Liyutan**	**0.99**	**304**	*i* P	**Pn**	**14 01 32.2**	**+0.2**
TWQ1				S	**Sn**	**14 01 45.6**	**+0.7**
LONT	**Longtian**	**1.01**	**210**	*i* P	**Pn**	**14 01 30.3**	**-2.0**
LONT				*e*S	**Sn**	**14 01 46.5**	**+1.1**
WGK	**Gukeng**	**1.03**	**264**	*i* P	**Pn**	**14 01 32.6**	**+0.2**
WGK				S	**Sb**	**14 01 47.3**	**+0.5**
STYH	**Taoyuan**	**1.03**	**233**	*e*P	**Pn**	**14 01 31.1**	**-1.3**
STYH				*e*S	**Sn**	**14 01 44.5**	**-1.3**
NSTT	**Nanjuang**	**1.04**	**324**	*i* P	**Pn**	**14 01 33.1**	**+0.5**
NSTT				*i* S	**Sn**	**14 01 46.5**	**+0.5**
LIOB	**Emei**	**1.04**	**325**	*i* P	**Pn**	**14 01 33.2**	**+0.6**
LIOB				*i* S	**Sn**	**14 01 47.0**	**+1.0**
WCKO	**Fanlu**	**1.04**	**250**	*i* P	**Pn**	**14 01 33.4**	**+0.7**
WCKO				*i* S	**Sb**	**14 01 48.2**	**+0.8**
WDL	**Douliou City**	**1.04**	**266**	*e*P	**Pn**	**14 01 33.3**	**+0.7**
WDL				*e*S	**Sn**	**14 01 47.5**	**+1.4**
WDLH	**Douliu**	**1.05**	**265**	*i* P	**Pn**	**14 01 33.2**	**+0.5**
WDLH				S	**Sn**	**14 01 47.5**	**+1.4**
WCHH	**Zhanghua**	**1.06**	**286**	*i* P	**Pn**	**14 01 33.3**	**+0.4**
WCHH				S	**Sb**	**14 01 48.5**	**+0.7**
WCH1	**Changhua City**	**1.07**	**285**	P	**Pn**	**14 01 33.8**	**+0.8**
WCH1				*e*S	**Sb**	**14 01 49.6**	**+1.5**
EGS		**1.07**	**13**	P	**Pn**	**14 01 33.4**	**+0.4**
EGS				*e*S	**Sn**	**14 01 48.2**	**+1.4**
TPUB	**Ta-pu**	**1.08**	**243**	*i* P	**Pn**	**14 01 33.4**	**+0.3**
TPUB				S	**Sn**	**14 01 47.8**	**+0.8**
KSHI	**Guanxi Townshi**	**1.08**	**335**	*i* P	**Pn**	**14 01 34.0**	**+0.8**
KSHI				*e*S	**Sn**	**14 01 48.6**	**+1.5**
CHN4	**Tsaushan**	**1.09**	**246**	*i* P	**Pn**	**14 01 33.9**	**+0.6**
CHN4				*i* S	**Sb**	**14 01 48.8**	**+0.3**
WDJ	**Dajia District**	**1.10**	**300**	*i* P	**Pn**	**14 01 33.7**	**+0.3**
WDJ				*i* S	**Sn**	**14 01 48.8**	**+1.4**
NMLH	**Miaoli**	**1.10**	**313**	*i* P	**Pn**	**14 01 32.9**	**-0.5**
NMLH				*e*S	**Sb**	**14 01 49.1**	**+0.2**
TWGBT	**Beinan**	**1.11**	**210**	P	**Pn**	**14 01 31.8**	**-1.8**
TWGBT	**Beinan**	**1.11**	**210**	*i* P	**Pn**	**14 01 31.6**	**-2.1**
TWGBT				*e*S	**Sn**	**14 01 48.2**	**+0.4**
TWG	**Pinlang**	**1.12**	**210**	*i* P	**Pn**	**14 01 31.9**	**-1.8**
TWG				*e*S	**Sn**	**14 01 48.6**	**+0.7**
WTP	**Ta-pu**	**1.12**	**241**	*i* P	**Pn**	**14 01 34.1**	**+0.4**
WTP				*i* S	**Sb**	**14 01 49.8**	**+0.3**
CHN2	**Minshiung**	**1.13**	**257**	*i* P	**Pn**	**14 01 34.6**	**+0.8**
CHN2				*i* S	**Sb**	**14 01 50.3**	**+0.5**
LDUT	**Ludao**	**1.13**	**190**	*i* P	**Pn**	**14 01 32.6**	**-1.2**
LDUT				S	**Sn**	**14 01 47.1**	**-1.1**
TTN	**Taitung**	**1.14**	**205**	*e*P	**Pn**	**14 01 34.5**	**+0.5**
TTN				*e*S	**Sn**	**14 01 49.7**	**+1.2**
NHDH	**Xindian Distri**	**1.17**	**353**	*i* P	**Pn**	**14 01 34.6**	**+0.2**
NHDH				*i* S	**Sn**	**14 01 49.6**	**+0.3**
SBCB	**Hsinchu**	**1.18**	**328**	*e*P	**Pn**	**14 01 35.5**	**+1.0**
SBCB				*e*S	**Sb**	**14 01 51.9**	**+0.7**
TIPB	**Shuangxi**	**1.18**	**7**	*i* P	**Pn**	**14 01 35.2**	**+0.6**
TIPB				*e*S	**Sn**	**14 01 50.7**	**+1.1**
WTK	**Tuku**	**1.18**	**265**	*i* P	**Pn**	**14 01 35.0**	**+0.4**
WTK				*i* S	**Sb**	**14 01 52.1**	**+0.8**
CHY	**Chiayi**	**1.19**	**256**	*i* P	**Pn**	**14 01 34.9**	**+0.3**
CHY				*i* S	**Sn**	**14 01 50.5**	**+0.9**
TWA	**Mucha**	**1.19**	**356**	*e*P	**Pn**	**14 01 35.8**	**+1.2**
TWA				S	**Sn**	**14 01 50.4**	**+0.8**
TATO	**Taipei**	**1.19**	**352**	P	**Pn**	**14 01 34.6**	**-0.1**
TATO	**Taipei**	**1.19**	**352**	*i* P	**Pn**	**14 01 34.5**	**-0.1**
TATO				S	**Sn**	**14 01 49.4**	**-0.3**
TWK	**Hsinying**	**1.21**	**245**	*i* P	**Pn**	**14 01 35.5**	**+0.5**
TWK				*i* S	**Sn**	**14 01 51.6**	**+1.4**
CHN1	**Nanshi**	**1.22**	**240**	*i* P	**Pn**	**14 01 35.6**	**+0.5**
CHN1				*i* S	**Sn**	**14 01 52.0**	**+1.6**
SNST	**Tainan City**	**1.22**	**242**	*i* P	**Pn**	**14 01 35.4**	**+0.2**
SNST				*i* S	**Sn**	**14 01 52.1**	**+1.6**
SGST	**Jiashian**	**1.23**	**235**	*i* P	**Pn**	**14 01 35.2**	**0.0**
SGST				*i* S	**Sn**	**14 01 51.5**	**+0.8**
TWB1	**Santiao Chiao**	**1.24**	**13**	*i* P	**Pn**	**14 01 35.5**	**+0.1**
TWB1				*e*S	**Sb**	**14 01 53.8**	**+0.8**
NCUH	**Zhongli**	**1.25**	**339**	P	**Pn**	**14 01 36.3**	**+0.8**
NCUH				S	**Sb**	**14 01 53.2**	**0.0**
NWF	**Wu-fen Shan**	**1.28**	**4**	*e*P	**Pn**	**14 01 37.0**	**+1.0**
NWF				*e*S	**Sn**	**14 01 52.9**	**+0.9**
WFSB	**Wu-fen Shan**	**1.28**	**4**	*e*P	**Pn**	**14 01 36.5**	**+0.6**
WFSB				*e*S	**Sn**	**14 01 53.2**	**+1.3**
WTCT	**Ta-ch'eng**	**1.28**	**273**	*i* P	**Pn**	**14 01 36.3**	**+0.4**
WTCT				*i* S	**Sb**	**14 01 54.1**	**+0.1**
SXI1	**Grass Mountain**	**1.31**	**8**	*i* P	**Pn**	**14 01 36.9**	**+0.5**
SXI1				*e*S	**Sb**	**14 01 55.1**	**+0.2**
TWS1	**Kuangyinshan**	**1.32**	**350**	*i* P	**Pn**	**14 01 35.8**	**-0.7**
TWS1				S	**Sn**	**14 01 53.7**	**+0.7**
JYNG	**Yonagunijimaku**	**1.33**	**60**	*e*P	**Pn**	**14 01 36.5**	**-0.1**
JYNG				S	**Sn**	**14 01 53.2**	**0.0**
WSF	**Szhu**	**1.34**	**264**	*i* P	**Pn**	**14 01 37.0**	**+0.3**
WSF				*i* S	**Sb**	**14 01 55.6**	**-0.2**
YM01	**YM01**	**1.35**	**356**	*i* P	**Pn**	**14 01 36.2**	**-0.7**
YM01				*e*S	**Sn**	**14 01 53.9**	**+0.1**
ICHU	**Yijhu**	**1.35**	**252**	*i* P	**Pn**	**14 01 36.8**	**-0.1**
ICHU				*i* S	**Sn**	**14 01 54.2**	**+0.5**
TNOU	**National Taiwa**	**1.35**	**4**	*e*P	**Pn**	**14 01 37.4**	**+0.5**
TNOU				*e*S	**Sn**	**14 01 53.7**	**0.0**
WSL	**Shuilin Townsh**	**1.35**	**259**	*i* P	**Pn**	**14 01 37.1**	**+0.2**
WSL				*i* S	**Sn**	**14 01 55.2**	**+1.4**
ECL	**Taimali**	**1.36**	**209**	*i* P	**Pn**	**14 01 36.2**	**-0.9**
ECL				*e*S	**Sn**	**14 01 52.3**	**-1.6**
ZUZH	**Zhuzihu**	**1.37**	**355**	*i* P	**Pn**	**14 01 36.3**	**-0.9**
ZUZH				*e*S	**Sn**	**14 01 53.9**	**-0.3**
YOJ	**Yonaguni jima**	**1.39**	**61**	P	**Pn**	**14 01 37.6**	**+0.2**
YOJ	**Yonaguni jima**	**1.39**	**61**	*e*P	**Pn**	**14 01 37.5**	**+0.2**
YOJ				*e*S	**Sn**	**14 01 54.4**	**-0.2**
YOJ	**Yonaguni jima**	**1.39**	**61**	*i* P	**Pn**	**14 01 37.1**	**-0.3**
YOJ				*i* S	**Sn**	**14 01 54.3**	**-0.3**
YM08	**YM08**	**1.39**	**357**	P	**Pn**	**14 01 36.1**	**-1.4**
YM08				*e*S	**Sn**	**14 01 53.9**	**-0.9**
ANP	**Anpu**	**1.40**	**354**	*i* P	**Pn**	**14 01 37.6**	**0.0**
ANP				*e*S	**Sn**	**14 01 53.8**	**-1.1**
CHN3	**Shinhua**	**1.40**	**240**	*e*P	**Pb**	**14 01 39.7**	**-0.2**
CHN3				*i* S	**Sb**	**14 01 57.9**	**+0.5**
SCST	**Cishan**	**1.41**	**231**	*i* P	**Pn**	**14 01 39.4**	**+1.7**
SCST				*i* S	**Sb**	**14 01 58.3**	**+0.5**
CHN8	**Yiju**	**1.42**	**252**	*i* P	**Pn**	**14 01 37.9**	**+0.2**
CHN8				*i* S	**Sn**	**14 01 56.1**	**+0.8**
SSD	**Sandimen**	**1.42**	**223**	*i* P	**Pn**	**14 01 37.9**	**+0.1**
SSD				*i* S	**Sn**	**14 01 57.2**	**+1.9**
SSHA	**Shanhua**	**1.43**	**243**	*e*P	**Pb**	**14 01 40.3**	**-0.2**
SSHA				S	**Sb**	**14 01 58.1**	**-0.3**
TSMG	**Majia**	**1.44**	**221**	*i* P	**Pn**	**14 01 39.4**	**+1.3**
TSMG				*i* S	**Sn**	**14 01 57.9**	**+2.0**
SHHT	**Tainan City**	**1.44**	**238**	*i* P	**Pn**	**14 01 39.7**	**+1.6**
SHHT				S	**Sb**	**14 01 59.0**	**+0.4**
TWY	**Chenhua**	**1.48**	**357**	P	**Pn**	**14 01 38.0**	**-0.7**
TWY				*e*S	**Sn**	**14 01 57.8**	**+1.0**
SCLT	**Jiali**	**1.49**	**246**	*e*P	**Pn**	**14 01 39.6**	**+0.8**
SCLT				*i* S	**Sn**	**14 01 58.6**	**+1.5**
TWM1	**Shoushan**	**1.50**	**230**	*e*P	**Pb**	**14 01 42.0**	**+0.3**
TWM1				*e*S	**Sb**	**14 02 02.4**	**+2.0**
MASBT	**Mashibuluo**	**1.52**	**219**	*e*P	**Pn**	**14 01 39.5**	**+0.3**
MASBT				*e*S	**Sn**	**14 01 59.0**	**+1.2**
TSCK	**Chigu Township**	**1.59**	**247**	*i* P	**Pn**	**14 01 39.8**	**-0.4**
TSCK				*e*S	**Sn**	**14 01 59.6**	**-0.1**
EAST	**Anshuo**	**1.60**	**209**	*i* P	**Pn**	**14 01 40.0**	**-0.3**
EAST				*e*S	**Sn**	**14 01 58.8**	**-1.0**
TAW	**Tawu**	**1.60**	**207**	*e*P	**Pn**	**14 01 40.3**	**+0.1**
TAW				S	**Sn**	**14 01 58.2**	**-1.6**
TAWH	**Dawu Township**	**1.62**	**207**	*i* P	**Pn**	**14 01 40.4**	**-0.2**
TAWH				S	**Sn**	**14 01 59.7**	**-0.6**
SCZT	**Fangliau**	**1.72**	**215**	*i* P	**Pn**	**14 01 43.3**	**+1.4**
SCZT				S	**Sn**	**14 02 05.3**	**+2.6**
LAY	**Lan-yu**	**1.75**	**184**	*i* P	**Pn**	**14 01 40.8**	**-1.6**
LAY				S	**Sn**	**14 02 01.9**	**-1.7**
SLIU	**Shizi**	**1.77**	**207**	*i* P	**Pn**	**14 01 43.0**	**+0.4**
SLIU				*e*S	**Sn**	**14 02 04.5**	**+0.6**
LYUB	**Lan-yu**	**1.79**	**183**	*i* P	**Pn**	**14 01 41.0**	**-1.8**
LYUB				*e*S	**Sn**	**14 02 01.8**	**-2.6**
WDGT	**Dungji**	**1.93**	**254**	*i* P	**Pn**	**14 01 44.2**	**-0.6**
WDGT				*e*S	**Sn**	**14 02 06.6**	**-1.2**
PHUB	**P'eng-hu**	**1.95**	**262**	P	**Pn**	**14 01 44.7**	**-0.4**
PHUB				S	**Sn**	**14 02 07.8**	**-0.6**
IRIF	**Iriomote-Funau**	**1.95**	**74**	P	**Pn**	**14 01 45.5**	**+0.4**
IRIF				*e*S	**Sn**	**14 02 08.7**	**+0.2**
PNG	**Penghu**	**1.96**	**264**	*i* P	**Pn**	**14 01 44.7**	**-0.5**
PNG				*i* S	**Sn**	**14 02 08.3**	**-0.4**
HATJ	**Hateruma jima**	**1.97**	**82**	*e*P	**Pn**	**14 01 45.4**	**0.0**
HATJ				*e*S	**Sn**	**14 02 09.0**	**+0.1**
HEN	**Hengchun**	**1.98**	**206**	P	**Pn**	**14 01 46.4**	**+0.9**
HEN				*e*S	**Sn**	**14 02 10.0**	**+0.9**
TWK1	**Hengchun**	**2.01**	**204**	*i* P	**Pn**	**14 01 46.3**	**+0.3**
TWK1				S	**Sn**	**14 02 10.8**	**+0.9**
TWKBT	**Hengchun**	**2.01**	**204**	*i* P	**Pn**	**14 01 46.2**	**+0.3**
TWKBT				S	**Sn**	**14 02 10.7**	**+0.8**
TSEB	**Hengchuen, Pin**	**2.02**	**201**	*e*P	**Pn**	**14 01 46.8**	**+0.8**
TSEB				*e*S	**Sn**	**14 02 10.8**	**+0.7**
VCHM	**Qimei**	**2.14**	**255**	P	**Pn**	**14 01 47.3**	**-0.5**
VCHM				*e*S	**Sn**	**14 02 12.9**	**-0.3**
JKRS	**Kuro-shima**	**2.18**	**78**	*e*P	**Pn**	**14 01 48.6**	**+0.3**
JKRS				*e*S	**Sn**	**14 02 15.0**	**+0.9**
JIJ	**Ishigaki jima**	**2.33**	**75**	P	**Pn**	**14 01 49.9**	**-0.3**
JIJ				S	**Sn**	**14 02 16.7**	**-1.0**
VWUC	**VWUC**	**2.35**	**301**	*e*P	**Pn**	**14 01 49.2**	**-1.4**
JISG	**Ishigakijimahi**	**2.53**	**71**	P	**Pn**	**14 01 52.7**	**-0.4**
JISG				S	**Sn**	**14 02 21.4**	**-1.4**
PTMZ	**Houxiangcun**	**2.64**	**299**	*e*P	**Pn**	**14 01 53.2**	**-1.4**
JTJ	**Tarama**	**2.89**	**72**	*e*S	**Sn**	**14 02 31.7**	**+0.1**
JMJ2	**Miyako jima3**	**3.46**	**73**	*e*S	**Sn**	**14 02 46.2**	**+0.4**
JOGS	**Gusukube**	**3.54**	**73**	*e*P	**Pn**	**14 02 07.9**	**+0.9**
JOGS				*e*S	**Sn**	**14 02 48.0**	**+0.3**

IDC 19 14:16:54.3±411.0,58°.10N×30°.03E,h0km,Error ellipse: s-maj=160.0km s-min=127.3km az=83.0,Baltic

States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.12**	**107**	I	I	14 42 40.0	
	0.2nm,0.8s,baz=290,slow=314,SNR=2.0						
I37NO	**I37NO**	**12.10**	**340**	I	I	15 24 10.0	
	baz=146,slow=323,SNR=1.4						
I31KZ	**AKTYUBINSK INF**	**17.98**	**103**	I	I	16 03 10.0	
	baz=304,slow=326,SNR=1.9						
I46RU	**ZALESOVO INFRA**	**30.18**	**74**	I	I	17 25 20.0	
	baz=298,slow=333,SNR=2.0						
I18DK	**QAANAAQ INFRAS**	**36.08**	**339**	I	I	18 14 40.0	
	baz=54,slow=334,SNR=1.0						

*JMA **19** 14:25:46.3±0.3,23°.N±1°.×125°.4E±0°.9,h90km,MV2.7/15, NEAR ISHIGAKIJIMA ISLAND*
*IDC **19** 14:25:49.9±3.1,21°.23N×122°.19E,h0km,mb3.4/4, mbtmp3.4/4,Error ellipse: s-maj=270.1km s-min=24.7km az=63.0*

ISC 19 14:25:48.2±2.7,23°.4N±0°.3×125°.4E±0°.2,h85km±50km,n15, σ0$74/21,mb3.3/4,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**1.31**	**359**	P	**Pn**	**14 26 10.6**	**-0.6**
JMJ2				*e*S	**Sn**	**14 26 29.3**	**+0.7**
JOGS	**Gusukube**	**1.33**	**2**	P	**Pn**	**14 26 11.2**	**-0.3**
JOGS				*e*S	**Sn**	**14 26 30.3**	**+1.2**
JTJ	**Tarama**	**1.35**	**334**	*e*S	**Sn**	**14 26 30.0**	**+0.5**
JIRB	**Irabujima**	**1.40**	**353**	*i* P	**Pn**	**14 26 12.0**	**-0.4**
JIRB				*e*S	**Sn**	**14 26 31.8**	**+1.1**
JIJ	**Ishigaki jima**	**1.45**	**310**	P	**Pn**	**14 26 12.1**	**-1.0**
JIJ				S	**Sn**	**14 26 30.9**	**-0.9**
JKRS	**Kuro-shima**	**1.47**	**303**	P	**Pn**	**14 26 12.6**	**-0.7**
JKRS				*e*S	**Sn**	**14 26 32.1**	**-0.3**
JIKM	**Ikemajima**	**1.49**	**356**	*e*P	**Pn**	**14 26 13.1**	**-0.5**
JISG	**Ishigakijimahi**	**1.50**	**321**	P	**Pn**	**14 26 13.4**	**-0.2**
JISG				*e*S	**Sn**	**14 26 33.5**	**+0.6**
IRIF	**Iriomote-Funau**

KDTR S **Sn** **14 38 50.6 -1.1**
KDTR Khodutka, Kamc 1.67 35 *e*P **Pn** **14 38 30.2 -0.2**
KDTR *e*S **Sn** **14 38 50.6 -1.1**
GRL Gorelyy 2.31 24 PN **Pn** **14 38 40.3 +1.5**
GRL S **Sn** **14 39 08.7 +1.9**
GRL Gorelyy 2.31 24 *e*P **Pn** **14 38 40.4 +1.5**
GRL *e*S **Sn** **14 39 08.7 +1.9**
RUS Russkaya 2.33 31 PN **Pn** **14 38 39.1 +0.1**
RUS S **Sn** **14 39 06.3 -0.8**
RUS Russkaya 2.33 31 *e*P **Pn** **14 38 39.1 +0.1**
RUS *e*S **Sn** **14 39 06.4 -0.8**
APC Apacha 2.51 8 PN **Pn** **14 38 43.2 +1.9**
APC Apacha 2.51 8 *e*P **Pn** **14 38 43.2 +1.9**
KRMR Karymshinskiy 2.58 22 PN **Pn** **14 38 43.9 +1.7**
KRMR Karymshinskiy 2.58 22 *e*P **Pn** **14 38 43.9 +1.7**
PEA0B Petropavlovsk- 2.75 15 **Pn** **14 38 46.7 +2.1**
PEA0B Petropavlovsk- 2.75 15 PN **Pn** **14 38 46.7 +2.1**
PETK Petropavlovsk- 2.75 15 P **Pn** **14 38 45.6 +0.9**
comp=N,134nm,0.6s,baz=175,slow=12,SNR=360
PETK LR LR 14 39 52.4
comp=N,141nm,20.6s,baz=196,slow=41
PET Petropavlovsk 2.89 26 **Pn** **14 38 47.2 +0.8**
PET Petropavlovsk 2.89 26 P **Pn** **14 38 47.4 +1.0**
PET Petropavlovsk 2.89 26 S **Sn** **14 39 26.2 +5.9**
PET Petropavlovsk 2.89 26κ *i*PN **Pn** **14 38 47.4 +1.0**
PET *e*S **Sn** **14 39 21.1 +0.8**
PET pmax pmax
comp=Z,215nm,0.5s
PET smax smax
comp=E,749nm,0.5s
PET smax smax
comp=N,1μm,0.7s
PET MLR MLR
comp=Z,200nm,5.0s
PET Petropavlovsk 2.89 26 *e*P **Pn** **14 38 47.5 +1.1**
DALK Dalny 2.92 27 PN **Pn** **14 38 47.5 +0.7**
DALK Dalny 2.92 27 *e*P **Pn** **14 38 47.5 +0.7**
UGLR Uglovaya 3.10 26 PN **Pn** **14 38 51.1 +1.8**
UGLR Uglovaya 3.10 26 *e*P **Pn** **14 38 51.2 +1.8**
KOK Koryaka 3.12 24 PN **Pn** **14 38 51.9 +2.2**
KOK Koryaka 3.12 24 *e*P **Pn** **14 38 51.9 +2.2**
AVH Avacha 3.13 25 PN **Pn** **14 38 51.8 +2.1**
AVH Avacha 3.13 25 *e*P **Pn** **14 38 51.8 +2.1**
KRER Koryakskii 3.17 25 PN **Pn** **14 38 52.5 +2.2**
KRER Koryakskii 3.17 25 *e*P **Pn** **14 38 52.6 +2.2**
SDLR Sedlovina 3.18 26 PN **Pn** **14 38 51.5 +1.1**
SDLR Sedlovina 3.18 26 *e*P **Pn** **14 38 51.6 +1.1**
KRX Arik 3.19 23 PN **Pn** **14 38 52.6 +2.1**
KRX Arik 3.19 23 *e*P **Pn** **14 38 52.6 +2.1**
NLC Nalytchevo 3.23 31 PN **Pn** **14 38 50.3 -0.6**
NLC S **Sn** **14 39 25.7 -2.7**
NLC Nalytchevo 3.23 31 *e*P **Pn** **14 38 50.4 -0.6**
NLC *e*S **Sn** **14 39 25.8 -2.7**
GNL Ganaly 3.36 14 PN **Pn** **14 38 55.0 +2.2**
GNL Ganaly 3.36 14 *e*P **Pn** **14 38 55.1 +2.2**
SPN Mys Shipunski 3.42 38 PN **Pn** **14 38 53.5 0.0**
SPN S **Sn** **14 39 31.3 -1.7**
SPN Mys Shipunski 3.42 38 *e*P **Pn** **14 38 53.5 0.0**
SPN *e*S **Sn** **14 39 31.4 -1.7**
KII Karymskiy 4.01 25 PN **Pn** **14 39 03.4 +1.9**
KII Karymskiy 4.01 25 *e*P **Pn** **14 39 03.4 +1.9**
MKZ Mys Kozlova 5.19 36 PN **Pn** **14 39 16.5 -0.9**
MKZ Mys Kozlova 5.19 36 *e*P **Pn** **14 39 16.5 -0.9**
TUMD Tumrok D 5.30 25 PN **Pn** **14 39 19.1 +0.1**
TUMD Tumrok D 5.30 25 *e*P **Pn** **14 39 19.1 +0.1**
ESO Esso 5.63 12 PN **Pn** **14 39 25.6 +2.1**
ESO Esso 5.63 12 *e*P **Pn** **14 39 25.7 +2.1**
KMNR Kamenistaya 5.76 21 PN **Pn** **14 39 27.1 +1.9**
KMNR Kamenistaya 5.76 21 *e*P **Pn** **14 39 27.2 +1.9**
KPT Kopyto 5.95 20 PN **Pn** **14 39 29.5 +1.7**
KPT Kopyto 5.95 20 *e*P **Pn** **14 39 29.5 +1.7**
KOZ Kozyrevsk 5.96 18 PN **Pn** **14 39 29.4 +1.5**
KOZ Kozyrevsk 5.96 18 *e*P **Pn** **14 39 29.5 +1.5**
KIRR Kirishev 5.96 21 PN **Pn** **14 39 30.3 +2.2**
KIRR Kirishev 5.96 21 *e*P **Pn** **14 39 30.3 +2.2**
BZWR Bezymyannyi-We 6.01 22 PN **Pn** **14 39 30.9 +2.2**
BZWR Bezymyannyi-We 6.01 22 *e*P **Pn** **14 39 31.0 +2.2**
BZGR Bezymyannyi-Gr 6.04 23 PN **Pn** **14 39 31.1 +2.1**
BZGR Bezymyannyi-Gr 6.04 23 *e*P **Pn** **14 39 31.1 +2.1**
ZLN Zelenaya 6.13 23 PN **Pn** **14 39 32.7 +2.4**
ZLN Zelenaya 6.13 23 *e*P **Pn** **14 39 32.7 +2.4**
LGNR Loginova 6.16 22 PN **Pn** **14 39 32.9 +2.0**
LGNR Loginova 6.16 22 *e*P **Pn** **14 39 33.0 +2.0**
KRSR Krestovskiy 6.26 21 PN **Pn** **14 39 33.1 +1.1**
KRSR Krestovskiy 6.26 21 *e*P **Pn** **14 39 33.1 +1.1**
KLY Klyuchi 6.36 21 PN **Pn** **14 39 35.3 +2.0**
KLY Klyuchi 6.36 21 *e*P **Pn** **14 39 35.4 +2.0**
KUR Kuril'sk 7.83 232 *e*PN **Pn** **14 39 55.8 +2.4**
KUR *e*S **Sn** **14 41 19.7 -0.7**
TYV Tymovskoe 8.84 278 *e*PN **Pn** **14 40 10.3 +3.2**
TYV *e*S **Sn** **14 41 48.8 +3.9**
TYV pmax pmax
comp=Z,42nm,1.5s
TYV pmax pmax
comp=Z,100nm,2.1s
TYV smax smax
comp=E,100nm,1.6s
TYV smax smax
comp=N,10.0nm,1.3s
TYV smax smax
comp=E,13nm,1.3s
SHO Shikotan 9.33 229 *e*PN Pn 14 40 09.1 -4.7
SHO pmax pmax
comp=Z,74nm,0.3s
SHO pmax pmax
comp=N,17nm,0.2s
UGL Uglegorsk 9.48 267⇓ *e*PN **Pn** **14 40 19.4 +3.6**
UGL S **Sn** **14 42 04.9 +4.5**
UGL pmax pmax
comp=Z,202nm,0.6s
YUK Yuzh-Kuril'sk 9.69 233 *e*PN **Pn** **14 40 17.7 -1.0**
MA2 Magadan 9.72 342 Pn **Pn** **14 40 16.3 -2.7**
MA2 Magadan 9.72 342 P **Pn** **14 40 17.7 -1.4**
comp=Z,6.7nm,1.0s,baz=147,slow=11,SNR=3.8
MA2 Magadan 9.72 342 *e*PN **Pn** **14 40 20.1 +1.0**
YSS Yuzhno-Sakhali 9.77 254 **Pn** **14 40 21.5 +1.7**
YSS Yuzhno-Sakhali 9.77 254⇑ *e*PN **Pn** **14 40 22.3 +2.6**
YSS *e*S **Sn** **14 42 07.7 +0.2**
YSS pmax pmax
comp=Z,50nm,0.7s
YSS smax smax
comp=N,10.0nm,0.7s
YSS smax smax
comp=E,10.0nm,1.0s
RUSJ Misakicho 9.96 235 *e*PN **Pn** **14 40 21.3 -1.1**
NMR Nemuro--Hokkai 10.24 230 *e*PN Pn 14 40 21.2 -5.0
SHEM Shemya Is, Ala 11.15 71 P **Pn** **14 40 38.3 -0.2**
comp=E,94nm,0.5s,baz=217,slow=3.0,SNR=12
SHEM S **Sn** **14 42 35.3 -5.7**
comp=E,94nm,0.5s,baz=199,slow=22,SNR=15
SHEM LR LR 14 44 48.0
comp=E,42nm,21.4s,baz=270,slow=36
SMY Shemya 11.15 71 **Pn** **14 40 38.8 +0.3**
SMY Shemya 11.15 71 P **Pn** **14 40 40.3 +1.8**
SMY Shemya 11.15 71 PN **Pn** **14 40 38.8 +0.3**
JKA Kamikawa-asahi 11.39 242 **Pn** **14 40 42.1 +0.4**
ASAJ Asahikawa 11.39 242 P **Pn** **14 40 41.9 +0.1**
comp=E,24nm,0.5s,baz=66,slow=12,SNR=65
ASAJ LR LR 14 44 36.2
comp=E,60nm,19.9s,baz=56,slow=35
ASAJ Asahikawa 11.39 242 PN **Pn** **14 40 42.1 +0.3**
JEM Erimo 12.52 233 P Pn 14 40 52.5 -4.3
ERM Erimo 12.52 233 P Pn 14 40 52.4 -4.5
ERM Erimo 12.52 233 *i*PN **Pn** **14 40 54.5 -2.4**
SEY Seymchan 12.72 351 P **Pn** **14 40 58.8 -0.5**
comp=E,1.5nm,0.9s,baz=93,slow=13,SNR=4.5
SEY LR LR 14 46 05.5
comp=E,74nm,19.6s,baz=31,slow=38
TEY Ternei 14.46 256 *e*P **Pn** **14 41 20.2 -1.9**
JTM Tenmabayashi 14.49 234 Pn Pn 14 41 15.2 -7.4
KLR Kul'dur 16.03 275 P **Pn** **14 41 38.8 -3.1**
comp=E,1.2nm,0.4s,baz=218,slow=14,SNR=6.4
KLR LR LR 14 47 38.8
comp=E,73nm,18.3s,baz=29,slow=36
KLR Kul'dur 16.03 275 *e*P **P** **14 41 43.2 -0.3**
KLR pmax pmax
comp=Z,8.0nm,0.6s
JMM Marumori 16.87 228 P **Pn** **14 41 50.1 -2.3**
USRK Ussuriysk Ar. 17.74 259 P **P** **14 42 01.1 -1.4**
comp=Z,6.0nm,0.7s,baz=62,slow=13,SNR=9.3
USRK LR LR 14 48 33.3
comp=Z,58nm,21.2s,baz=358,slow=36
JSD Sado 17.99 233 P **P** **14 42 05.6 +0.4**
ZEA Zeya 18.24 292 *e*P **Pn** **14 42 08.3 -0.5**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
BILL Biiibino 18.28 12c*e*P **Pn** **14 42 09.8 +0.5**
BILL pmax pmax
comp=Z,3.0nm,0.7s
HEH HeiHe 18.55 281 *e*P **Pn** **14 42 11.3 -1.2**
HEH pmax pmax
comp=Z,11nm,0.9s
YAK Yakutsk 18.74 318 **Pn** **14 42 13.9 -0.7**
YAK Yakutsk 18.74 318 P **P** **14 42 11.9 -1.2**
comp=Z,32nm,0.6s,baz=103,slow=4.2,SNR=14
YAK LR LR 14 49 58.8
comp=E,65nm,18.5s,baz=94,slow=39
YAK Yakutsk 18.74 318 *e*P **Pn** **14 42 12.7 -2.0**
YAK *e*S **Sn** **14 45 40.3 -3.7**
YAK pmax pmax
comp=Z,35nm,1.2s
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK pmax pmax
comp=E,15nm,1.5s
YAK smax smax
comp=N,69nm,1.9s
YAK smax smax
comp=E,31nm,1.2s
MDJ Mudanjiang 19.06 263 P **P** **14 42 15.1 -1.7**
MDJ pmax pmax
comp=Z,16nm,0.9s
MAJO Matsushiro 19.17 231 **P** **14 42 17.8 -0.4**
MAJO Matsushiro 19.17 231 P **P** **14 42 18.6 +0.4**
MAJO Matsushiro 19.17 231c *i*P **P** **14 42 18.4 +0.2**
MAJO pmax pmax
comp=Z,23nm,1.1s
MJAR Matsushiro Arr 19.17 231 P **P** **14 42 17.7 -0.5**
comp=Z,12nm,0.8s,baz=24,slow=11,SNR=26
MJAR LR LR 14 49 24.4
comp=Z,72nm,19.2s,baz=44,slow=36
BNX BinXian 19.96 268 ⇓P **P** **14 42 26.0 -0.6**
BNX pmax pmax
comp=Z,13nm,0.6s
JGF Kuroka 20.34 230 P **P** **14 42 31.0 +0.2**
JGF IAmb IAmb 14 42 35.0
comp=Z,22nm,1.0s
JGF Kuroka 20.34 230 P **P** **14 42 31.7 +0.9**
INU Inuyama 20.70 231 **P** **14 42 34.6 -0.1**
INU Inuyama 20.70 231 P **P** **14 42 35.2 +0.5**
CN2 Changchun 22.07 265 *e*P P 14 42 41.1 -8.1
CN2 pmax pmax
comp=Z,10.0nm,1.0s
KSRS Korea Array 24.19 249 P **P** **14 43 10.2 +0.6**
comp=Z,11nm,0.6s,baz=44,slow=9.9,SNR=58
comp=Z,11nm,0.6s
KS19 Wonju Array Si 24.19 249 **P** **14 43 11.1 +1.5**
KSAR Wonju Array Be 24.22 249 P **P** **14 43 10.4 +0.5**
KSAR Wonju Array Be 24.22 249 P **P** **14 43 10.4 +0.5**
TIXI Tiksi 24.68 339c*e*P **P** **14 43 12.8 -0.9**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
JNU Nakatsue 25.61 237 **P** **14 43 23.6 +1.0**
JNU Nakatsue 25.61 237 P **P** **14 43 24.5 +1.8**
C16K Lisburne Hills 25.71 32 **P** **14 43 22.8 -0.4**
C18K Utukok River 27.27 33 P **P** **14 43 38.1 +0.8**
D19K Kuna River 28.30 34 P **P** **14 43 46.0 -0.4**
D20K Etivluk River 28.89 33 P **P** **14 43 52.0 +0.4**
B20K Meade River 29.07 31 P **P** **14 43 54.1 +1.0**
B21K Ikpikpuk River 29.81 32 **P** **14 44 01.2 +1.5**
B22K Teshekpuk Lake 30.39 31 P **P** **14 44 05.8 +1.0**
E22K Anaktuvuk Pass 30.50 35 P **P** **14 44 07.1 +1.2**
NEA2 Nenana 31.31 42 P **P** **14 44 14.8 +1.9**
H11N2 WAKE ISLAND Hy 31.74 161 T T 15 18 03.6
baz=348,slow=76,SNR=166
H11N1 WAKE ISLAND Hy 31.75 161 T T 15 18 04.8
baz=348,slow=76,SNR=189
H11N3 WAKE ISLAND Hy 31.75 161 T T 15 18 02.7
baz=348,slow=76,SNR=181
COLA College 31.83 42 *i*P **P** **14 44 17.9 +0.4**
COLA pmax pmax
comp=Z,5.0nm,0.5s
CCB Clear Creek Bu 31.86 42 **P** **14 44 18.0 +0.3**
JOW Kunigami 31.97 233 P **P** **14 44 21.4 +2.3**
ULN Ulaanbaatar 32.00 285c*e*P **P** **14 44 19.6 +0.3**
ULN pmax pmax
comp=Z,2.0nm,0.8s
HDA Harding Lake 32.23 43 P **P** **14 44 20.8 -0.2**
ILAR Eielson Array 32.25 42 P **P** **14 44 21.8 +0.6**
comp=Z,1.1nm,0.7s,baz=265,slow=4.7,SNR=14
comp=Z,1.1nm,0.7s
HNS HongShan 32.40 263 ⇓P **P** **14 44 23.1 +0.4**
HNS pmax pmax
comp=Z,14nm,0.7s
SONM Songino Array 32.41 285 P **P** **14 44 21.9 -1.1**
comp=Z,1.3nm,0.5s,baz=71,slow=7.9,SNR=5.5
comp=Z,1.3nm,0.5s
HHC Hu-ho-hao-te 32.43 270 *e*P **P** **14 44 24.6 +1.4**
HHC pmax pmax
comp=Z,12nm,0.9s
D25K Kavik River 32.62 34 IAmb IAmb 14 44 30.4
comp=Z,5.8nm,0.7s
H11S1 WAKE ISLAND Hy 32.88 162 T T 15 19 01.0
baz=347,slow=76,SNR=1439
H11S3 WAKE ISLAND Hy 32.90 162 T T 15 18 52.8
baz=347,slow=76,SNR=1489
H11S2 WAKE ISLAND Hy 32.90 162 T T 15 18 53.1
baz=347,slow=76,SNR=1060
FYU Fort Yukon 32.92 39 IAmb IAmb 14 44 52.5
comp=Z,15nm,1.5s
NJ2 Nanjing 33.32 251 *e*P **P** **14 44 32.5 +1.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
K27K Chicken 34.38 43 IAmb IAmb 14 45 18.4
comp=Z,6.7nm,1.0s
L27K Beaver Creek, 34.62 45 IAmb IAmb 14 44 45.1
comp=Z,6.3nm,0.8s
BCAR Beaver Creek A 34.63 45 P **P** **14 44 42.0 0.0**
I28M Miner Creek 35.14 41 IAmb IAmb 14 44 50.3
comp=Z,7.4nm,1.2s
G29M Pine Creek 35.76 38 IAmb IAmb 14 44 54.2
comp=Z,6.8nm,1.0s
L29M L29M 36.27 44 IAmb IAmb 14 45 35.1
comp=Z,11nm,1.2s
F30M Barrier River 36.55 37 IAmb IAmb 14 45 00.8
comp=Z,8.5nm,1.2s
I30M Mount Dempster 36.65 41 IAmb IAmb 14 45 02.2
comp=Z,4.5nm,0.6s
TATO Taipei 37.08 240 P **P** **14 45 05.7 +2.6**
H31M Peel River 37.38 39 IAmb IAmb 14 45 25.6
comp=Z,7.3nm,1.2s
A36M Sachs Harbour 39.51 29 IAmb IAmb 14 45 25.4
comp=Z,5.0nm,0.7s
LZH Lanzhou 40.12 270 *e*P **P** **14 45 26.8 -1.9**
LZH pP pP 14 45 53.8 +2.9
LZH pmax pmax
comp=Z,15nm,1.0s
GTA Gaotai 40.72 277 *e*P **P** **14 45 33.5 -0.1**
GTA pmax pmax
comp=Z,5.0nm,1.0s
ZALV Zalesovo Beam 42.38 304 P **P** **14 45 45.1 -1.6**
comp=Z,1.0nm,0.5s,baz=59,slow=6.3,SNR=6.4
ZALV PcP **PcP** **14 47 37.6 -0.5**
comp=Z,0.5nm,0.4s,baz=64,slow=5.0,SNR=3.6
comp=Z,1.0nm,0.5s
WMQ Urumqi 45.77 290 *e*P **P** **14 46 16.8 +2.7**
WMQ pmax pmax
comp=Z,15nm,0.7s
YKAW3 Yellowknife Wh 46.57 40 **P** **14 46 19.4 -0.5**
YKAW3 IAmb IAmb 14 46 22.3
comp=Z,4.6nm,0.6s
YKA Yellowknife Ar 46.60 40 P **P** **14 46 21.6 +1.4**
comp=Z,3.9nm,0.8s,baz=301,slow=7.9,SNR=44
YKA PcP **PcP** **14 47 53.0 +0.4**
comp=Z,0.5nm,0.7s,baz=303,slow=3.7,SNR=5.3
comp=Z,3.9nm,0.8s
YKAW1 Yellowknife Wh 46.66 40 **P** **14 46 20.2 -0.4**
YKAW1 IAmb IAmb 14 46 22.7
comp=Z,3.6nm,0.8s
KURK Kurchatov 47.27 302 **P** **14 46 24.1 -1.5**
KURK IAmb IAmb 14 46 25.2
comp=Z,4.9nm,0.6s
KURK Kurchatov 47.27 302c*e*P **P** **14 46 24.5 -1.0**
KURK pmax pmax
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 47.32 296c*e*P **P** **14 46 24.7 -1.4**
MKAR Makanchi Array 47.32 296 P **P** **14 46 24.3 -1.8**
comp=Z,1.5nm,0.5s,baz=46,slow=5.8,SNR=11
MKAR pP **pP** **14 46 48.1 -0.7**
comp=Z,1.7nm,0.6s,baz=71,slow=12,SNR=4.9
comp=Z,1.5nm,0.5s
KURBB Kurchatov Arra 47.37 302 P **P** **14 46 24.9 -1.3**
comp=Z,2.5nm,0.4s,baz=64,slow=7.7,SNR=7.9
comp=Z,2.5nm,0.4s
PZH PanZhiHua 47.82 261 P **P** **14 46 30.9 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.9s
KMI Kunming 48.17 259 P **P** **14 46 34.5 +1.4**
KMI pmax pmax
comp=Z,9.0nm,1.8s
BVAR Borovoye Array 50.31 308 P **P** **14 46 47.2 -1.6**
comp=Z,3.8nm,0.6s,baz=57,slow=8.2,SNR=28
BVAR PcP **PcP** **14 48 05.6 -0.5**
comp=Z,0.5nm,0.3s,baz=65,slow=4.8,SNR=1.7
comp=Z,3.8nm,0.6s
BRVK Borovoye 50.34 309 **P** **14 46 47.0 -2.0**
BRVK IAmb IAmb 14 46 48.8
comp=Z,3.6nm,0.8s
BRVK Borovoye 50.34 309c*e*P **P** **14 46 47.6 -1.4**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
NEEM North Greenlan 51.21 7 *i*P **P** **14 46 55.7 +0.1**
BLKN Baker Lake 52.51 32 **P** **14 47 05.4 +0.5**
KULLO Kullorsuaq 53.22 11 *i*P **P** **14 47 09.7 -0.4**
KULLO IAmb IAmb 14 47 10.8
comp=Z,2.8nm,0.5s
ARTI Arti 53.94 317 LR LR 15 13 46.3
comp=Z,26nm,18.9s,baz=56,slow=40
YBH Yreka Blue Hor 54.06 66 **P** **14 47 19.6 +2.8**
YBH IAmb IAmb 14 47 20.5
comp=Z,5.6nm,0.8s
YBH Yreka Blue Hor 54.06 66 LR LR 15 09 08.4
comp=Z,12nm,18.5s,baz=330,slow=34
YBH Yreka Blue Hor 54.06 66 P **P** **14 47 19.6 +2.8**
YBH pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 54.26 296 LR LR 15 11 32.6
comp=Z,53nm,18.6s,baz=48,slow=37
AAK Ala-Archa 54.26 296c*e*P **P** **14 47 17.7 -0.6**
AAK pmax pmax
comp=Z,2.0nm,0.9s
SHL Shillong 54.75 268 P **P** **14 47 22.1 0.0**
SHL pmax pmax
comp=Z,12nm,0.8s
ARCES ARCESS Array B 55.10 341 P **P** **14 47 21.3 -2.5**
comp=Z,2.6nm,0.9s,baz=41,slow=8.2,SNR=7.0
ARCES LR LR 15 14 13.7
comp=Z,25nm,18.4s,baz=63,slow=40
comp=Z,2.6nm,0.9s
BMO Blue Mountains 55.17 60 IAmb IAmb 14 47 27.2
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 55.19 257 P **P** **14 47 26.0 +0.9**
CHTO Chiang Mai 55.19 257 P **P** **14 47 26.0 +0.9**
CHTO pmax pmax
comp=Z,16nm,0.7s
CM31 Chiang Mai Arr 55.45 257 P **P** **14 47 28.0 +1.0**
CMAR Chiang Mai Arr 55.45 257 P **P** **14 47 28.4 +1.3**
comp=Z,11nm,0.8s,baz=43,slow=7.3,SNR=60
J08A Circle Bar Ran 55.47 62 IAmb IAmb 14 47 30.2
comp=Z,12nm,1.3s
PLID Pearl Lake 55.74 59 **P** **14 47 30.5 +1.5**
WVOR Wild Horse Val 55.96 63 P **P** **14 47 33.1 +2.6**
WVOR pmax pmax
comp=Z,14nm,1.3s
SUMG Summit 56.82 5 *i*P **P** **14 47 37.0 +0.5**
SUMG IAmb IAmb 14 47 38.7
comp=Z,3.6nm,0.8s
MFID Camas Ranch 56.91 60 IAmb IAmb 14 47 39.7
comp=Z,3.7nm,0.7s
MPK Martis Peak 57.19 67 IAmb IAmb 14 47 43.1
comp=Z,8.6nm,1.1s
PNTR Pine Nut 57.57 66 **P** **14 47 44.4 +2.3**
HLID Hailey 57.60 59 **P** **14 47 44.6 +2.5**
HLID IAmb IAmb 14 47 44.8
comp=Z,3.6nm,0.8s
BOZ Bozeman (W) 57.77 56 IAmb IAmb 14 47 46.2
comp=Z,6.9nm,0.8s
AB31 Akbulak array 57.81 310 P **P** **14 47 42.0 -1.2**
ABKAR Akbulak array 57.81 310 P **P** **14 47 41.9 -1.4**
WAKR Walker 58.05 67 IAmb IAmb 14 47 48.3
comp=Z,5.0nm,0.6s
YHL Hebgen Lake 58.50 56 **P** **14 47 50.7 +2.1**
RYN Ryan 58.51 66 IAmb IAmb 14 47 51.6
comp=Z,6.4nm,0.9s
NVAR Mina Array Bea 58.77 66 P **P** **14 47 52.2 +1.7**
comp=Z,3.8nm,0.6s,baz=297,slow=7.7,SNR=23
NVAR pP **pP** **14 48 15.2 +1.1**
comp=Z,2.2nm,0.6s,baz=295,slow=7.5,SNR=7.3
comp=Z,3.8nm,0.6s
ELK Elko 58.99 62 IAmb IAmb 14 47 55.1
comp=Z,3.2nm,0.8s
GAR Garm 59.02 295 **P** **14 47 50.5 -1.6**
FXWY Fox Creek 59.39 57 IAmb IAmb 14 47 58.1
comp=Z,5.2nm,0.8s
MOOW Moose Ponds 59.47 57 **P** **14 47 57.8 +2.6**
MOOW IAmb IAmb 14 47 58.6
comp=Z,4.1nm,0.8s
HWUT Hardware Ranch 60.47 59 IAmb IAmb 14 48 05.2
comp=Z,5.2nm,0.8s
DUG Dugway, Tooele 60.73 61 IAmb IAmb 14 48 06.9
comp=Z,6.7nm,1.1s
DUG Dugway, Tooele 60.73 61 P **P** **14 48 05.0 +1.2**
DUG pmax pmax
comp=Z,7.0nm,2.0s
BW06 Boulder Array 60.77 57 P **P** **14 48 05.7 +1.6**
PD31 Pinedale Array 60.77 57 **P** **14 48 06.0 +1.9**
PDAR Pinedale Array 60.77 57 **P** **14 48 05.5 +1.4**
PDAR Pinedale Array 60.77 57 P **P** **14 48 06.0 +1.9**
comp=Z,6.7nm,0.7s,baz=315,slow=2.2,SNR=84
PDAR pP **pP** **14 48 28.5 +0.7**
comp=Z,2.7nm,0.8s,baz=320,slow=3.9,SNR=4.7
comp=Z,6.7nm,0.7s
NIL Nilore 60.90 289 **P** **14 48 05.1 +0.3**
NIL Nilore 60.90 289 P **P** **14 48 05.1 +0.3**
NIL pmax pmax
comp=Z,14nm,0.7s
TPNV Topopah Spring 60.97 66 **P** **14 48 05.5 0.0**
TPNV IAmb IAmb 14 48 08.3
comp=Z,7.2nm,0.9s
TPNV Topopah Spring 60.97 66 P **P** **14 48 05.5 0.0**
TPNV pmax pmax
comp=Z,7.0nm,0.9s
PRN Pahroc Range 61.35 65 IAmb IAmb 14 48 10.6
comp=Z,3.4nm,0.6s
FINES FINESS Array B 61.64 335 P **P** **14 48 07.0 -2.3**
comp=Z,1.1nm,0.8s,baz=35,slow=7.8,SNR=4.4
FINES LR LR 15 17 17.2
comp=Z,24nm,19.5s,baz=226,slow=38
comp=Z,1.1nm,0.8s
GSC Goldstone, Bar 61.77 68 IAmb IAmb 14 48 13.4
comp=Z,5.5nm,0.9s
TMUT Trail Mountain 62.25 61 IAmb IAmb 14 48 17.1
comp=Z,5.3nm,0.7s
Q16A Castle Valley 62.53 61 IAmb IAmb 14 48 18.9
comp=Z,4.4nm,0.8s
P18A Preston Nutter 62.55 60 IAmb IAmb 14 48 19.4
comp=Z,6.5nm,1.1s
LCMT Little Creek M 62.67 64 P **P** **14 48 19.1 +2.3**
LCMT IAmb IAmb 14 48 20.0
comp=Z,6.3nm,0.9s
SRU San Rafael Swe 62.76 61 P **P** **14 48 19.5 +2.1**
SRU San Rafael Swe 62.76 61 P **P** **14 48 19.5 +2.1**
SRU pmax pmax
comp=Z,11nm,0.8s
PFO Pinyon Flats O 63.15 69 LR LR 15 13 56.4
comp=Z,21nm,18.7s,baz=236,slow=34
O20A White River Ci 63.30 59 **P** **14 48 21.6 +0.5**
O20A IAmb IAmb 14 48 23.6
comp=Z,8.4nm,1.1s
OBN Obninsk 63.52 326 *e*P **P** **14 48 24.0 +2.1**
OBN *e* 14 48 59.9
OBN *e* 14 50 42.6
OBN *e*PPP PPP 14 52 10.9
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,28nm,20.0s
U15A North Rim 63.63 64 IAmb IAmb 14 48 26.5
comp=Z,7.2nm,1.2s
PV21 Cone Mtn., Par 64.01 60 P **P** **14 48 27.8 +2.0**
PV21 IAmb IAmb 14 48 28.4
comp=Z,7.6nm,0.8s

PV22 Blue Mesa, Par 64.13 60 P **P** **14 48 28.3 +1.8**
PV22 IAmb IAmb 14 48 29.2
comp=Z,7.2nm,0.8s
WUAZ Wupatki 64.80 64 IAmb IAmb 14 48 34.1
comp=Z,6.7nm,1.1s
ISCO Idaho Springs 64.97 57 IAmb IAmb 14 48 35.2
comp=Z,6.2nm,0.8s
ISCO Idaho Springs 64.97 57 P **P** **14 48 34.4 +2.3**
ISCO pmax pmax
comp=Z,9.0nm,0.8s
MVCO Mesa Verde 65.23 61 P **P** **14 48 35.4 +1.7**
MVCO IAmb IAmb 14 49 00.7
comp=Z,6.9nm,1.1s
NB2 NORSAR Subarra 65.43 342 P **P** **14 48 32.9 -1.4**
comp=Z,0.4nm,0.5s,baz=29,slow=6.5
NOA NORSAR Array B 65.43 342 P **P** **14 48 32.8 -1.6**
comp=Z,0.3nm,0.7s,baz=25,slow=6.4,SNR=4.9
NOA LR LR 15 19 34.1
comp=Z,6.8nm,19.8s,baz=5.0,slow=38
comp=Z,0.3nm,0.7s
X16A Lo Mia Camp, P 65.53 65 IAmb IAmb 14 48 38.8
comp=Z,4.7nm,0.8s
HFS Hagfors 65.75 341 P **P** **14 48 34.8 -1.5**
comp=Z,0.3nm,0.3s,baz=56,slow=5.6,SNR=8.3
comp=Z,0.3nm,0.3s
S22A 4UR Ranch, Cre 65.77 60 IAmb IAmb 14 49 04.4
comp=Z,6.7nm,1.2s
ECSD EROS Data Cent 66.70 49 IAmb IAmb 14 48 44.3
comp=Z,7.7nm,1.0s
T25A Trinidad 67.54 59 P **P** **14 48 49.3 +0.9**
T25A IAmb IAmb 14 48 50.9
comp=Z,4.9nm,0.8s
ANMO Albuquerque 68.00 62 P **P** **14 48 52.7 +1.4**
ANMO PcP **pP** **14 49 15.9 +0.4**
ANMO Albuquerque 68.00 62 P **P** **14 48 53.5 +2.2**
ANMO IAmb IAmb 14 48 54.1
comp=Z,3.4nm,0.8s
ANMO PcP **pP** **14 49 16.4 +0.9**
I37A Lemond, Waseca 68.02 47 P **P** **14 48 52.5 +1.5**
I37A PcP **pP** **14 49 15.2 0.0**
SBM South Baldy 68.30 63 P **P** **14 48 55.4 +2.0**
BNM Barren Site 68.49 62 P **P** **14 48 56.4 +2.0**
RTBA Rita Blanca 68.97 58 P **P** **14 48 58.4 +1.2**
RTBA IAmb IAmb 14 48 59.1
comp=Z,8.8nm,1.1s
AKASG Malin Array Be 69.70 327 P **P** **14 48 59.3 -1.9**
comp=Z,0.4nm,0.4s,baz=34,slow=7.1,SNR=2.3
AKASG LR LR 15 22 36.6
comp=Z,21nm,18.6s,baz=73,slow=38
comp=Z,0.4nm,0.4s
AKBB Malin Array Si 69.70 327 P **P** **14 48 59.6 -1.7**
AKBB Malin Array Si 69.70 327 P **P** **14 48 59.6 -1.7**
AKBB pmax pmax
comp=Z,7.0nm,1.5s
HSIG 69.71 69 P **P** **14 49 03.0 +1.2**
KBZ Khabaz 69.89 315 P **P** **14 49 01.2 -1.4**
comp=Z,1.3nm,0.9s,baz=127,slow=8.8,SNR=3.5
comp=Z,1.3nm,0.9s
KSU1 Kansas State U 70.19 52 P **P** **14 49 03.8 -0.7**
MSTX Muleshoe 70.78 60 P **P** **14 49 08.1 -0.3**
MSTX IAmb IAmb 14 49 10.4
comp=Z,6.7nm,0.9s
MNTX Cornudas Mount 71.00 63 P **P** **14 49 11.3 +1.7**
MNTX IAmb IAmb 14 49 12.3
comp=Z,6.9nm,1.2s
ELIS Ellis County 71.03 56 P **P** **14 49 10.4 +0.7**
ELIS IAmb IAmb 14 49 38.2
comp=Z,8.6nm,0.8s
SMWD Samnorwood 71.31 57 **P** **14 49 13.1 +1.6**
P38A Dawn 71.32 50 P **P** **14 49 11.8 +0.4**
P38A IAmb IAmb 14 49 12.3
comp=Z,7.4nm,0.8s
VLDQ Val d'Or 71.40 35 P **P** **14 49 10.3 -1.4**
VLDQ IAmb IAmb 14 49 51.6
comp=Z,12nm,1.3s
WMOK Wichita Mounta 72.37 57 P **P** **14 49 18.6 +0.8**
WMOK IAmb IAmb 14 49 19.3
comp=Z,6.4nm,0.9s
WMOK Wichita Mounta 72.37 57 P **P** **14 49 18.6 +0.8**
WMOK pmax pmax
comp=Z,6.0nm,0.9s
OK052 Battle Ridge R 72.46 55 P **P** **14 49 17.7 -0.5**
APMT Aspermont 72.72 59 P **P** **14 49 20.4 +0.6**
APMT IAmb IAmb 14 49 21.6
comp=Z,6.2nm,0.7s
WRA Warramunga Arr 72.78 202 P **P** **14 49 20.2 +0.1**
comp=Z,2.1nm,0.5s,baz=18,slow=6.1,SNR=21
WRA pP **pP** **14 49 43.6 -1.0**
comp=Z,0.5nm,0.3s,baz=16,slow=6.2,SNR=7.9
comp=Z,2.1nm,0.5s
R40A Maddies Statio 72.98 50 **P** **14 49 21.5 +0.3**
R40A IAmb IAmb 14 49 22.8
comp=Z,7.4nm,0.7s
EKA Eskdalemuir Ar 73.23 348 P **P** **14 49 21.6 -0.9**
comp=Z,0.8nm,0.5s,baz=19,slow=5.0,SNR=7.7
comp=Z,0.8nm,0.5s
BUR08 Bucovina Ar. S 73.69 328 P **P** **14 49 23.6 -1.8**
BURAR Bucovina Array 73.70 328 P **P** **14 49 23.7 -1.8**
TXAR Lajitas Array 73.74 64 P **P** **14 49 27.6 +1.6**
comp=Z,3.5nm,0.5s,baz=292,slow=4.5,SNR=25
TXAR pP **pP** **14 49 50.4 -0.1**
comp=Z,1.3nm,0.6s,baz=275,slow=6.2,SNR=2.5
TXAR LR LR 15 21 58.5
comp=Z,14nm,18.0s,baz=311,slow=36
comp=Z,3.5nm,0.5s
SAND Sanderson 74.15 62 P **P** **14 49 29.2 +0.9**
O48B Farmland 74.75 44 P **P** **14 49 31.9 +0.4**
O48B IAmb IAmb 14 49 32.0
comp=Z,6.8nm,0.6s
FW14 Alvarado 75.01 57 P **P** **14 49 33.1 -0.1**
JCT Junction City 75.06 60 P **P** **14 49 34.1 +0.6**
JCT IAmb IAmb 14 49 59.0
comp=Z,5.1nm,0.8s
JCT Junction City 75.06 60 P **P** **14 49 34.1 +0.6**
JCT pmax pmax
comp=Z,5.0nm,0.8s
PBMO Poplar Bluff 75.06 50 P **P** **14 49 34.1 +0.7**
PBMO IAmb IAmb 14 49 35.8
comp=Z,11nm,1.2s
D62A Allapoint, All 75.18 30 P **P** **14 49 34.9 +0.9**
MIAR Mount Ida 75.25 53 P **P** **14 49 35.7 +1.2**
MIAR IAmb IAmb 14 49 36.2
comp=Z,7.2nm,0.8s
MIAR Mount Ida 75.25 53 P **P** **14 49 35.7 +1.2**
MIAR pmax pmax
comp=Z,7.0nm,0.8s
MLR Muntele Rosu 75.29 326 LR LR 15 23 58.2
comp=Z,30nm,21.1s,baz=67,slow=37
DRIO Del Rio 75.40 62 P **P** **14 49 36.4 +0.9**
DRIO IAmb IAmb 14 49 38.2
comp=Z,9.1nm,1.1s
PALK Pallekele 75.42 264 **P** **14 49 33.8 -2.0**
PALK Pallekele 75.42 264 P **P** **14 49 33.8 -2.0**
PALK pmax pmax
comp=Z,18nm,1.2s
E62A Clayton Lake 75.44 31 P **P** **14 49 35.5 +0.1**
E62A IAmb IAmb 14 49 59.5
comp=Z,12nm,1.0s
GERES GERESS Array B 76.07 336 P **P** **14 49 37.9 -1.2**
comp=Z,0.2nm,0.4s,baz=53,slow=6.5,SNR=4.0
comp=Z,0.2nm,0.4s
AS31 Alice Springs 76.47 201 P **P** **14 49 42.7 +1.3**
ASAR Alice Springs 76.47 201 P **P** **14 49 42.8 +1.4**
ASAR Alice Springs 76.47 201 P **P** **14 49 42.5 +1.1**
comp=Z,2.6nm,0.6s,baz=14,slow=5.2,SNR=55
ASAR pP **pP** **14 50 05.8 -0.2**
comp=Z,3.2nm,0.6s,baz=15,slow=5.4,SNR=9.8
comp=Z,2.6nm,0.6s
ASAR Alice Springs 76.47 201 P **P** **14 49 42.8 +1.4**
F64A Sherman 76.49 30 P **P** **14 49 42.2 +0.8**
WVT Waverly 76.84 49 P **P** **14 49 44.6 +1.1**
WVT IAmb IAmb 14 50 21.3
comp=Z,12nm,1.3s
WVT Waverly 76.84 49 P **P** **14 49 44.6 +1.1**
WVT pmax pmax
comp=Z,12nm,1.3s
BRTR Keskin Array B 77.20 318 P **P** **14 49 43.7 -2.0**
BRTR Keskin Array B 77.20 318 P **P** **14 49 45.2 -0.4**
comp=Z,0.3nm,0.5s,baz=52,slow=1.0,SNR=4.3
comp=Z,0.3nm,0.5s
UOSS Minazif 77.39 294 P **P** **14 49 46.5 -0.3**
UOSS IAmb IAmb 14 49 46.7
comp=Z,4.2nm,0.6s
T50A Nancy 77.53 46 P **P** **14 49 48.6 +1.2**
KBA Koelnbreinsper 77.79 335 P **P** **14 49 49.5 +0.6**
KBA pmax pmax
comp=Z,8.0nm,0.8s
SWET Sewanee 78.48 48 P **P** **14 49 53.4 +0.6**
SWET IAmb IAmb 14 50 34.5
comp=Z,18nm,1.4s
Y49A Blount Mountai 79.36 49 P **P** **14 49 58.0 +0.5**
Y49A IAmb IAmb 14 50 35.4
comp=Z,11nm,1.2s
R58B Mineral 79.80 41 P **P** **14 50 00.2 +0.4**
R58B IAmb IAmb 14 50 03.1
comp=Z,8.5nm,1.0s
MMAI Mount Meron Ar 82.00 313 P **P** **14 50 10.9 -0.8**
comp=Z,2.6nm,0.5s,baz=36,slow=7.2,SNR=4.6
comp=Z,2.6nm,0.5s
RAYN Ar Rayn 84.58 301 P **P** **14 50 25.0 -0.1**
RAYN Ar Rayn 84.58 301 P **P** **14 50 25.0 -0.1**
RAYN pmax pmax
comp=Z,7.0nm,0.6s
MORW Morawa 86.92 215 P **P** **14 50 36.8 +0.7**
WDD Wied Dalam 87.78 330 P **P** **14 50 39.8 -0.6**
ESDC Sonseca Array 88.63 345 P **P** **14 50 43.7 -0.8**
comp=Z,1.1nm,1.0s,baz=10,slow=4.6,SNR=5.2
ESDC LR LR 15 38 16.2
comp=Z,25nm,18.3s,baz=208,slow=41
comp=Z,1.1nm,1.0s
VNDA Vanda 127.74 179 PKP **PKPdf** **14 56 54.7 0.0**
comp=Z,0.4nm,0.6s,baz=276,slow=3.4,SNR=1.3
SIV San Ignacio 134.23 55 PKP **PKPdf** **14 57 09.3 +0.5**
comp=Z,0.8nm,0.7s,baz=357,slow=5.9,SNR=4.2
H03N2 Juan Fernandez 136.44 89 T T 17 29 31.4
baz=313,slow=76
H03N1 Juan Fernandez 136.46 89 T T 17 29 32.7
baz=313,slow=76
H03N3 Juan Fernandez 136.46 89 T T 17 29 32.1
baz=313
QSPA South Pole Qui 140.19 180 PKhKP PKPpre 14 57 10.2
comp=Z,1.1nm,0.8s,baz=231,slow=0.6,SNR=6.6
CPUP Villa Florida 144.64 60 PKPdf PKPbc 14 57 27.3 +0.8
CPUP Villa Florida 144.64 60 PKP **PKPab** **14 57 27.1 +0.8**
comp=Z,8.2nm,0.7s,baz=321,slow=2.5,SNR=28
CPUP pPKP **pPKPdf** **14 57 51.9 -1.9**
comp=Z,1.9nm,0.9s,baz=32,slow=7.9,SNR=1.8
LR05 Currie 144.95 92 PKPbc **PKPbc** **14 57 27.9 +0.8**
LL01 San Ignacio de 145.83 96 PKPdf **PKPbc** **14 57 30.4 +0.7**
PLCA Paso Flores 146.15 92 PKPdf **PKPbc** **14 57 31.7 +0.9**
PLCA Paso Flores 146.15 92 PKPbc **PKPdf** **14 57 31.1 +1.4**
comp=Z,7.0nm,0.8s,baz=286,slow=3.6,SNR=33
PLCA pPKPbc **pPKPdf** **14 57 56.4 +0.2**
comp=Z,2.1nm,0.8s,baz=12,slow=5.3,SNR=2.6
LL02 Futaleuf 146.60 97 PKPbc **PKPbc** **14 57 33.4 +1.4**
ITQB Itaqui 147.61 63 PKPbc **PKPbc** **14 57 36.0 +0.9**
ITAB Concordia 148.15 54 PKPbc **PKPbc** **14 57 37.4 +0.7**
TRQA Tornquist 150.09 80 PKPbc **PKPbc** **14 57 42.2 +0.9**
TRQA Tornquist 150.09 80 PKIKP **PKPbc** **14 57 42.2 +0.9**
ELIB Princess Elisa 150.12 207 *dP* **PKPbc** **14 57 40.6 +0.1**
ELIB *dp*PKPdf **pPKPdf** **14 58 04.7 +2.9**
PLTB Pedras Altas 150.89 62 PKPdf **PKPdf** **14 57 38.2 +0.6**
PLTB PKPbc **PKiKP** **14 57 44.4 +0.5**
PLTB PKPab **PKPab** **14 57 51.7 +0.7**

GCG 19 14:43:08.2±0.6, 14°.04N×90°.16W, h85km±9km, MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG16	**Alotenango, Sa**	**0.41**	**304**	*eP*	Pn	14 43 25.8	+3.8
JAYA	**Jayaque - finc**	**0.79**	**119**	*eP*	Pn	14 43 25.0	-0.3
JAYA				*eS*	Sn	14 43 38.6	+0.4
STG5	**El Palmar, Qui**	**1.21**	**288**	*eP*	Pn	14 43 34.7	+4.6
STG0	**El Palmar, Qui**	**1.21**	**289**	*eS*	Sn	14 43 55.1	+8.2

*SJA **19** 14:43:32.6±0.8, 32°.85S×70°.05W, h122km±3km, ML3.9, MW3.9*
*GUC **19** 14:43:33.6±0.8, 32°.83S×70°.12W, h112km±3km, ML4.2*
*IDC **19** 14:43:35.2±2.3, 32°.92S×69°.72W, h119km±19km, mb3.6/1, mbtmp3.9/5, Error ellipse: s-maj=51.1km s-min=17.1km az=111.0*

ISC 19 14:43:33.2±0.8, 32°.84S±0°.03×70°.04W±0°.03, h124km±5km, n81, σ1.9/40/138, 5C-15D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.44**	**280**	⇑*iP*	**Pn**	**14 43 51.0**	**-0.5**
VA03				*i* S	**Sn**	**14 44 04.0**	**-1.0**
VA03				IAML		14 44 06.6	
comp=E,17μm,0.2s							
VA03	**San Esteban**	**0.44**	**280**	*eP*	**Pn**	**14 43 50.9**	**-0.5**
VA03				*eS*	**Sn**	**14 44 06.6**	**+1.6**
VA03				IAML		14 44 07.5	
comp=Z,4μm,0.1s							
FCH	**Farellones**	**0.53**	**203**	⇓*iP*	**Pn**	**14 43 51.9**	**-0.3**
FCH				*i* S	**Sn**	**14 44 05.5**	**-1.0**
FCH				IAML		14 44 07.7	
comp=E,6μm,0.2s							
MT04	**Ro Olivares**	**0.57**	**188**	⇓*iP*	**Pn**	**14 43 52.2**	**-0.1**
MT04	**Ro Olivares**	**0.57**	**188**	*eP*	**Pn**	**14 43 52.0**	**-0.3**
MT04				*eS*	Sn	14 44 17.5	+11
MT04				IAML		14 44 18.8	
comp=Z,1000nm,0.2s							
MT10	**Hacienda Santa**	**0.60**	**224**	⇓*iP*	**Pn**	**14 43 52.2**	**-0.2**
MT10				*i* S	**Sn**	**14 44 06.5**	**-0.5**
MT10				IAML		14 44 09.2	
comp=N,14μm,0.5s							
MT08	**Bocatoma Ro**	**0.60**	**178**	⇓*iP*	**Pn**	**14 43 52.3**	**-0.2**
MT08				*i* S	**Sn**	**14 44 06.1**	**-1.1**
MT08	**Bocatoma Ro**	**0.60**	**178**	*eP*	**Pn**	**14 43 52.3**	**-0.2**
MT08				*eS*	**Sn**	**14 44 07.0**	**-0.2**
MT08				IAML		14 44 13.4	
comp=Z,807nm,0.7s							
PEL	**Peldehue**	**0.62**	**241**	*i* P	**Pn**	**14 43 51.4**	**-1.0**
PEL				*i* S	**Sn**	**14 44 06.0**	**-0.9**
PEL				IAML		14 44 06.5	
comp=N,17μm,0.3s							
PEL	**Peldehue**	**0.62**	**241**	*eP*	Pn	14 43 46.6	-5.8
PEL				*eS*	**Sn**	**14 44 06.2**	**-0.7**
MT14	**Cerro Cal¡n**	**0.69**	**217**	⇓*iP*	**Pn**	**14 43 53.0**	**0.0**
MT14				*i* S	**Sn**	**14 44 07.5**	**-0.5**
MT14				IAML		14 44 08.5	
comp=E,12μm,0.4s							
MT16	**CCHEN**	**0.71**	**215**	⇓*iP*	**Pn**	**14 43 53.1**	**0.0**
MT16				*i* S	**Sn**	**14 44 07.6**	**-0.6**
MT16				IAML		14 44 08.6	
comp=N,5μm,0.2s							
MT03	**Universidad Ad**	**0.76**	**211**	⇓*iP*	**Pn**	**14 43 53.5**	**-0.1**
MT03				*i* S	**Sn**	**14 44 08.4**	**-0.6**
MT03	**Universidad Ad**	**0.76**	**211**	*eP*	**Pn**	**14 43 53.5**	**-0.1**
MT03				*eS*	**Sn**	**14 44 09.5**	**+0.5**
MT03				IAML		14 44 12.1	
comp=Z,6μm,0.2s							
MT05	**Renca**	**0.80**	**227**	⇓*iP*	**Pn**	**14 43 53.9**	**0.0**
MT05				*i* S	**Sn**	**14 44 08.7**	**-0.8**
MT05	**Renca**	**0.80**	**227**	*eP*	**Pn**	**14 43 53.1**	**-0.8**
MT05				*eS*	**Sn**	**14 44 09.6**	**+0.1**
MT05				IAML		14 44 11.2	
comp=Z,5μm,0.2s							
ROCH	**El Roble**	**0.83**	**261**	⇑*iP*	**Pn**	**14 43 54.1**	**-0.2**
ROCH				*i* S	**Sn**	**14 44 09.4**	**-0.8**
ROCH				IAML		14 44 10.3	
comp=E,5μm,0.3s							
ROC1	**El Roble**	**0.83**	**260**	*eP*	**Pn**	**14 43 53.7**	**-0.6**
ROC1				*eS*	**Sn**	**14 44 09.6**	**-0.7**
MT15	**Las Vizcachas**	**0.85**	**207**	⇓*iP*	**Pn**	**14 43 54.2**	**0.0**
MT15				*i* S	**Sn**	**14 44 09.6**	**-0.7**
MT15				IAML		14 44 10.6	
comp=E,7μm,0.2s							
MT13	**San Alfonso**	**0.92**	**193**	⇓*iP*	**Pn**	**14 43 55.2**	**+0.2**
MT13				*eS*	**Sn**	**14 44 11.7**	**+0.2**
MT13				IAML		14 44 13.4	
comp=E,5μm,0.3s							
MT13	**San Alfonso**	**0.92**	**193**	*eP*	**Pn**	**14 43 55.2**	**+0.2**
MT13				*eS*	**Sn**	**14 44 12.6**	**+1.1**
MT13				IAML		14 44 13.6	
comp=Z,2μm,0.6s							
ARCO	**CERRO ARCO**	**0.93**	**90**	*eP*	**Pn**	**14 43 54.8**	**-0.3**
ARCO				*eS*	**Sn**	**14 44 11.5**	**-0.2**
ARCO				IAML		14 44 13.0	
comp=Z,1μm,0.3s							
MT12	**Pirque**	**0.99**	**206**	IAML		14 44 14.7	
comp=N,8μm,0.2s							
MT02	**Curacav**	**1.01**	**245**	⇓*iP*	**Pn**	**14 43 55.5**	**-0.2**
MT02				*i* S	**Sn**	**14 44 11.6**	**-1.1**
MT02	**Curacav**	**1.01**	**245**	*eP*	**Pn**	**14 43 54.8**	**-0.9**
MT02				*eS*	**Sn**	**14 44 12.2**	**-0.5**
MT02				IAML		14 44 13.1	
comp=Z,2μm,0.3s							
LMEL	**Las Melosas**	**1.01**	**188**	⇓*iP*	**Pn**	**14 43 56.0**	**+0.1**
LMEL				*i* S	**Sn**	**14 44 13.5**	**+0.4**
LMEL	**Las Melosas**	**1.01**	**188**	*eP*	**Pn**	**14 43 55.3**	**-0.6**
LMEL				*eS*	**Sn**	**14 44 16.3**	**+3.2**
AAGR	**Agrelo**	**1.05**	**104**	*eP*	**Pn**	**14 43 56.2**	**+0.1**
VA06	**Catapilco**	**1.10**	**284**	⇑*iP*	**Pn**	**14 43 56.2**	**-0.3**
VA06				*i* S	**Sn**	**14 44 12.6**	**-1.6**
VA06				IAML		14 44 15.2	
comp=E,4μm,0.5s							
RTLS	**Leoncito**	**1.22**	**31**	*eP*	**Pn**	**14 43 58.6**	**+0.5**
RTLS				*eS*	**Sn**	**14 44 17.9**	**+1.0**
RTLS				IAML		14 44 18.4	
comp=Z,3μm,0.6s							
MT09	**Talagante**	**1.23**	**220**	⇓*iP*	**Pn**	**14 43 57.9**	**-0.1**
MT09				*i* S	**Sn**	**14 44 16.1**	**-0.7**
MT09				IAML		14 44 17.8	
comp=E,10μm,0.2s							
BO04	**La Punta**	**1.24**	**202**	*i* P	**Pn**	**14 43 58.3**	**+0.2**
BO04				*i* S	**Sn**	**14 44 16.8**	**-0.2**
VA01	**Torpederas**	**1.36**	**262**	*eP*	**Pn**	**14 43 59.0**	**-0.4**
VA01				IAML		14 44 22.4	
comp=N,4μm,0.2s							
VA01	**Torpederas**	**1.36**	**262**	*eP*	**Pn**	**14 43 59.4**	**+0.1**
VA01				IAML		14 44 24.1	
comp=Z,1μm,0.1s							
AVIZ	**Vizcacheras**	**1.43**	**117**	*eP*	**Pn**	**14 44 00.3**	**+0.2**
MT01	**Popeta**	**1.44**	**225**	⇓*iP*	**Pn**	**14 43 59.7**	**-0.5**
MT01				IAML		14 44 20.1	
comp=N,5μm,0.2s							
MT01	**Popeta**	**1.44**	**225**	*eP*	**Pn**	**14 43 59.0**	**-1.2**
MT01				*eS*	**Sn**	**14 44 20.0**	**-0.7**
MT01				IAML		14 44 20.7	
comp=Z,2μm,0.1s							
VA05	**Santo Domingo**	**1.55**	**238**	*i* P	**Pn**	**14 44 01.4**	**-0.1**
VA05				IAML		14 44 24.5	
comp=N,4μm,0.2s							
ZON	**Zonda**	**1.73**	**42**	*eP*	**Pn**	**14 44 03.7**	**0.0**
ZON				*eS*	**Sn**	**14 44 26.9**	**0.0**
BO01	**Tunca**	**1.77**	**209**	⇓*iP*	**Pn**	**14 44 03.9**	**-0.3**
BO01				*i* S	**Sn**	**14 44 26.8**	**-1.0**
BO01				IAML		14 44 28.1	
comp=N,849nm,0.4s							
BO01	**Tunca**	**1.77**	**209**	*eP*	**Pn**	**14 44 03.9**	**-0.3**
BO01				*eS*	**Sn**	**14 44 27.9**	**+0.1**
BO01				IAML		14 44 31.2	
comp=Z,534nm,0.3s							
SJA	**San Juan**	**1.81**	**44**	*eP*	**Pn**	**14 44 05.2**	**+0.6**
SJA				*eS*	**Sn**	**14 44 29.5**	**+0.9**
CO02	**Combarbal**	**1.83**	**333**	⇑*iP*	**Pn**	**14 44 05.3**	**+0.4**
CO02				*i* S	**Sn**	**14 44 29.1**	**+0.1**
CO02	**Combarbal**	**1.83**	**333**	*eP*	**Pn**	**14 44 05.4**	**+0.5**
CO02				*eS*	**Sn**	**14 44 29.9**	**+0.8**
CFA	**Coronel Fontan**	**1.96**	**52**	P	**Pn**	**14 44 06.2**	**-0.3**
comp=Z,115nm,0.3s,baz=229,slow=16,SNR=1227							
CFA				S	**Sn**	**14 44 30.5**	**-1.4**
comp=Z,189nm,0.3s,baz=109,slow=13,SNR=31							
CFA	**Coronel Fontan**	**1.96**	**52**	*eP*	**Pn**	**14 44 06.2**	**-0.3**
CFA				*eS*	**Sn**	**14 44 31.5**	**-0.4**
RTLL	**Cerro Villicun**	**2.01**	**42**	*eP*	**Pn**	**14 44 07.2**	**+0.1**
RTLL				*eS*	**Sn**	**14 44 33.1**	**+0.2**
BO02	**Sierra Bellavi**	**2.04**	**197**	*i* P	**Pn**	**14 44 08.1**	**+0.6**
BO02				*i* S	**Sn**	**14 44 34.9**	**+1.3**
BO02				IAML		14 44 36.4	
comp=N,2μm,0.1s							
BO02	**Sierra Bellavi**	**2.04**	**197**	*eP*	**Pn**	**14 44 08.0**	**+0.6**
BO02				*eS*	**Sn**	**14 44 31.0**	**-2.7**
BO02				IAML		14 44 37.2	
comp=Z,856nm,0.1s							
DOCA	**Reserva Natura**	**2.06**	**24**	*eP*	**Pn**	**14 44 08.2**	**+0.3**
DOCA				*eS*	**Sn**	**14 44 35.1**	**+0.6**
DOCA				IAML		14 44 41.3	
comp=Z,294nm,0.8s							
CO03	**El Pedregal**	**2.07**	**344**	*i* P	**Pn**	**14 44 08.8**	**+0.9**
CO03				*i* S	**Sn**	**14 44 35.1**	**+0.8**
CO03				IAML		14 44 37.1	
comp=E,3μm,0.2s							
CO03	**El Pedregal**	**2.07**	**344**	*eP*	**Pn**	**14 44 08.8**	**+0.9**
CO03				*eS*	**Sn**	**14 44 35.8**	**+1.4**
CO03				IAML		14 44 36.8	
comp=Z,1μm,0.1s							
BO03	**Pichilemu**	**2.30**	**224**	*i* P	**Pn**	**14 44 09.7**	**-0.9**
BO03				*eS*	**Sn**	**14 44 36.3**	**-3.0**
ACCO	**Cerro Coronel**	**2.40**	**21**	*eP*	**Pn**	**14 44 14.8**	**+2.6**
ACCO				*eS*	**Sn**	**14 44 45.6**	**+3.6**
CO06	**Fray Jorge**	**2.55**	**327**	⇑*iP*	**Pn**	**14 44 14.2**	**+0.4**
CO06				*i* S	**Sn**	**14 44 44.2**	**-0.9**
CO06				IAML		14 44 47.3	
comp=E,1μm,0.2s							
GO05	**Hualane**	**2.67**	**215**	*i* P	**Pn**	**14 44 14.3**	**-1.1**
AROD	**Rodeo**	**2.71**	**10**	*eP*	**Pn**	**14 44 17.8**	**+1.5**
AROD				*eS*	**Sn**	**14 44 51.0**	**+1.8**
GO04	**Tololo Observa**	**2.74**	**346**	*i* P	**Pn**	**14 44 16.9**	**+0.4**
GO04				*i* S	**Sn**	**14 44 48.2**	**-1.6**
GO04	**Tololo Observa**	**2.74**	**346**	*eP*	**Pn**	**14 44 16.9**	**+0.4**
GO04				*eS*	**Sn**	**14 44 49.4**	**-0.3**
ACDV	**Cuesta del Vie**	**2.78**	**17**	*eP*	**Pn**	**14 44 18.0**	**+1.1**
ACDV				*eS*	**Sn**	**14 44 52.8**	**+2.3**
CO01	**Juntas del Tor**	**2.86**	**359**	*eP*	Pn	14 44 05.8	-12
CO01				*eS*	**Sn**	**14 44 54.1**	**+1.6**
CO01				IAML		14 44 56.0	
comp=Z,226nm,0.3s							
EDS3	**Malargue**	**2.97**	**170**	*eP*	**Pn**	**14 44 20.5**	**+1.1**
EDS3				*eS*	Sn	14 45 11.7	+17
CO05	**La Serena**	**3.09**	**340**	*i* P	**Pn**	**14 44 21.3**	**+0.5**
CO05				*i* S	**Sn**	**14 44 55.5**	**-2.0**
CO05				IAML		14 44 57.2	
comp=E,1μm,0.2s							
AVFE	**Valle Fertil**	**3.10**	**46**	*eP*	**Pn**	**14 44 20.4**	**-0.6**
AVFE				*eS*	**Sn**	**14 44 56.5**	**-1.2**
AVFE				IAML		14 44 56.9	
comp=Z,153nm,0.5s							
ML02	**Panimavida**	**3.13**	**201**	*eP*	**Pn**	**14 44 21.0**	**-0.3**
ML02				*eS*	**Sn**	**14 44 58.2**	**-0.2**
ML02				IAML		14 45 07.7	
comp=Z,187nm,0.5s							
ACHE	**Chepes**	**3.32**	**61**	*eP*	**Pn**	**14 44 23.3**	**-0.7**
ACHE				*eS*	**Sn**	**14 45 01.4**	**-1.8**
AGUA	**GUANDACOL**	**3.60**	**22**	*eP*	**Pn**	**14 44 28.2**	**+0.6**
AGUA				IAML		14 45 26.5	
comp=Z,156nm,0.6s							
LCO	**Las Campanas**	**3.86**	**351**	*eP*	**Pn**	**14 44 31.1**	**-0.1**
LCO				*eS*	**Sn**	**14 45 14.3**	**-1.9**
APLL	**PUNTA DE LOS L**	**3.86**	**52**	*eS*	**Sn**	**14 45 14.5**	**-1.4**
AC05	**El Transito**	**4.00**	**357**	*eS*	**Sn**	**14 45 19.2**	**0.0**
AC05				IAML		14 45 19.9	
comp=Z,176nm,0.2s							
ACLC	**CERRO LA CRUZ**	**4.31**	**39**	*eP*	**Pn**	**14 44 36.1**	**-1.1**
ACLC				IAML		14 45 51.8	
comp=Z,78nm,0.4s							
VCA	**Vinchina**	**4.39**	**22**	*eP*	**Pn**	**14 44 38.5**	**+0.3**
VCA				*eS*	Sn	14 45 10.9	-18
VCA				IAML		14 46 01.4	
comp=Z,110nm,0.5s							
AC04	**Llanos de Chal**	**4.71**	**349**	*eP*	**Pn**	**14 44 42.0**	**-0.3**
AC04				*eS*	**Sn**	**14 45 28.8**	**-7.2**
AC04				IAML		14 45 47.8	
comp=Z,134nm,0.6s							
TCA	**Tanti**	**4.86**	**73**	*eP*	**Pn**	**14 44 43.0**	**-1.4**
TCA				*eS*	**Sn**	**14 45 35.7**	**-4.0**
TCA				IAML		14 45 51.4	
comp=Z,85nm,0.5s							
GO03	**Copiapo**	**5.23**	**358**	*eP*	**Pn**	**14 44 49.2**	**-0.2**
GO03				*eS*	**Sn**	**14 45 45.6**	**-3.1**
PLCA	**Paso Flores**	**7.89**	**183**	P	**Pn**	**14 45 24.9**	**-0.2**
comp=Z,1.4nm,0.5s,baz=358,slow=12,SNR=17							
CPUP	**Villa Florida**	**12.82**	**63

Error ellipse: s-maj=1.0km s-min=0.7km az=37.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.11**	**185**	P	Pg	14 48 34.7	+0.5
TPB03				S	Sg	14 48 36.8	+1.1
TPB04	**Verhalen**	**0.20**	**93**	P	Pg	14 48 35.9	+0.1
TPB04				S	Sg	14 48 39.6	+1.2
PCOS	**Crockett Middl**	**0.21**	**358**	P	Pg	14 48 36.6	+0.5
PCOS				S	Sg	14 48 40.2	+1.4
TPB16	**Coyonosa**	**0.23**	**109**	P	Pg	14 48 36.6	+0.3
TPB16				S	Sg	14 48 40.8	+1.5
TPB10	**Southeast of T**	**0.23**	**292**	P	Pg	14 48 37.1	+0.7
TPB10				S	Sg	14 48 40.8	+1.4
TPB05	**Hovey Rd**	**0.32**	**151**	P	Pg	14 48 39.0	+1.0
TPB05				S	Sb	14 48 44.2	-1.5
TPB01	**Permian Basin**	**0.35**	**223**	P	Pg	14 48 39.3	+0.6
TPB01				S	Sg	14 48 44.6	+1.4
PECS	**Pecos**	**0.36**	**299**	P	Pb	14 48 39.9	-0.9
PECS				S	Sg	14 48 44.9	+1.4
TPB12	**Southwest of T**	**0.39**	**272**	S	Sb	14 48 46.4	-1.4
TPB07	**Mentone**	**0.41**	**340**	S	Sg	14 48 46.5	+1.4
TPB08	**Permian Basin**	**0.59**	**121**	P	Pg	14 48 44.1	+0.8
TPB08				S	Sb	14 48 52.6	-1.1
MNHN	**Monahans**	**0.65**	**77**	S	Sg	14 48 52.2	-0.7
ALPN	**Alpine**	**0.83**	**188**	S	Sg	14 48 58.9	+0.4
ODSA	**Odessa**	**1.23**	**41**	S	Sg	14 49 11.0	-0.3
TMB02	**Rankin**	**1.25**	**90**	S	Sg	14 49 11.7	-0.5
VHRN	**Van Horn**	**1.34**	**253**	P	Pn	14 48 56.9	-0.5
VHRN				S	Sg	14 49 15.0	+0.1
MNTX	**Cornudas Mount**	**1.68**	**288**	P	Pb	14 49 03.4	+0.1
MNTX				S	Sb	14 49 25.4	+0.5
SAND	**Sanderson**	**1.72**	**136**	P	Pn	14 49 02.8	+0.3
SAND				S	Sb	14 49 26.3	+0.3
TX31	**Lajitas Ar. Si**	**1.86**	**184**	P	Pn	14 49 05.5	+0.9
TX31				S	Sb	14 49 30.6	+0.4
OZNA	**Ozona**	**2.06**	**97**	Pg	Pb	14 49 08.8	-1.0
OZNA				Sg	Sb	14 49 36.3	+0.5

*IDC **19** 15:08:04.1±1.4, 35°.42N×77°.32E, h0km, mb3.6/7, mbtmp3.6/12, ML3.0/5, MS3.4/3, Error ellipse: s-maj=34.8km s-min=20.3km az=60.0*

ISC 19 15:08:10.0±1.3, 35°.4N±0°.1×77°.5E±0°.1, h44km, n14, σ1§16/14, mb3.6/6, MS3.6/3, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.58**	**343**	Pn	**Pn**	**15 09 58.3**	**+0.3**
	0.2nm,0.3s,baz=149,slow=12,SNR=2.5						
AAK				Sn	**Sn**	**15 11 25.1**	**+2.4**
	0.1nm,0.3s,baz=176,slow=20,SNR=1.7						
AAK				Lg	Lg	15 11 56.2	
	0.2nm,0.3s,baz=188,slow=19,SNR=1.8						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**11.93**	**16**	Pn	**Pn**	**15 10 58.1**	**+0.7**
	0.3nm,0.3s,baz=199,slow=12,SNR=16						
MKAR				Sn	**Sn**	**15 13 08.0**	**-1.1**
	0.1nm,0.3s,baz=201,slow=23,SNR=10						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**15.22**	**3**	Pn	**Pn**	**15 11 40.5**	**-1.3**
	0.1nm,0.3s,baz=195,slow=10,SNR=4.0						
	1.2nm,0.2s						
BVAR	**Borovoye Array**	**18.31**	**346**	P	**P**	**15 12 19.3**	**-1.0**
	baz=152,slow=12,SNR=5.4						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**19.23**	**13**	P	**P**	**15 12 30.9**	**+0.6**
	0.1nm,0.3s,baz=207,slow=9.1,SNR=1.6						
	0.3nm,0.4s						
AKTO	**Aktyubinsk**	**20.61**	**323**	P	**P**	**15 12 44.4**	**-0.9**
	1.3nm,0.4s,baz=101,slow=10.0,SNR=4.5						
AKTO				LR	LR	15 21 24.1	
	comp=Z,38nm,20.4s,baz=182,slow=39						
	1.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**25.43**	**126**	P	**P**	**15 13 34.8**	**+1.2**
	0.5nm,0.5s,baz=314,slow=10,SNR=6.7						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**41.35**	**325**	P	**P**	**15 15 50.3**	**-0.9**
	0.6nm,0.4s,baz=123,slow=9.4,SNR=8.3						
	0.6nm,0.4s						
ARCES	**ARCESS Array B**	**44.20**	**337**	P	**P**	**15 16 14.1**	**-0.2**
	2.6nm,0.9s,baz=109,slow=7.9,SNR=4.2						
	2.6nm,0.9s						
HFS	**Hagfors**	**47.16**	**322**	P	**P**	**15 16 38.1**	**+0.3**
	1.1nm,0.7s,baz=90,slow=6.1,SNR=5.9						
	1.1nm,0.7s						
NOA	**NORSAR Array B**	**48.40**	**323**	P	**P**	**15 16 46.4**	**-1.0**
	0.4nm,0.6s,baz=91,slow=7.6,SNR=5.4						
	0.4nm,0.6s						
KMBO	**Kilima Mbogo**	**52.25**	**235**	LR	LR	15 42 46.4	
	comp=Z,55nm,18.5s,baz=84,slow=40						
YKA	**Yellowknife Ar**	**81.95**	**6**	P	**P**	**15 20 24.2**	**-0.4**
	0.1nm,0.7s,baz=351,slow=5.5,SNR=4.0						
	0.1nm,0.7s						
DLBC	**Dease Lake**	**83.71**	**14**	LR	LR	16 03 33.4	
	comp=Z,27nm,18.7s,baz=264,slow=40						

*KRSC **19** 15:33:08.2±0.9, 54°.76N×161°.05E, h131km±11km, Mc4.0, Ml4.4, Felt [III] at kordon Kronoki.*
*MOS **19** 15:33:09.0±0.8, 54°.85N×160°.82E, h139km, mb4.3/9, Error ellipse: s-maj=9.5km s-min=3.9km az=81.0*
*NEIC **19** 15:33:10.0±2.1, 54°.8N±0°.1×160°.6E±0°.2, h147km±12km, mb4.3/37, Error ellipse: s-maj=18.8km s-min=10.4km az=145.0*
*IDC **19** 15:33:11.3±1.1, 54°.97N×160°.46E, h136km±10km, mb3.7/27, mbtmp4.1/33, MS2.7/3, Error ellipse: s-maj=11.4km s-min=9.3km az=136.0*

ISC 19 15:33:09.2±0.5, 54°.77N±0°.03×160°.97E±0°.03, h130km±4km, n206, σ1§30/279, mb4.1/56, 10C-5D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.49**	**115**	PN	**Pn**	**15 33 28.3**	**+0.2**
MKZ				S	**Sn**	**15 33 42.0**	**-0.5**
MKZ	**Mys Kozlova**	**0.49**	**115**	*eP*	**Pn**	**15 33 28.4**	**+0.2**
MKZ				*eS*	**Sn**	**15 33 42.0**	**-0.5**
TUMD	**Tumrok D**	**0.55**	**323**	PN	**Pn**	**15 33 27.8**	**-0.7**
TUMD				S	**Sn**	**15 33 41.8**	**-1.4**
TUMD	**Tumrok D**	**0.55**	**323**	*eP*	**Pn**	**15 33 27.9**	**-0.7**
TUMD				*eS*	**Sn**	**15 33 41.8**	**-1.4**
KMNR	**Kamenistaya**	**1.07**	**337**	PN	**Pn**	**15 33 33.6**	**+0.8**
KMNR				S	**Sn**	**15 33 51.5**	**+0.6**
KMNR	**Kamenistaya**	**1.07**	**337**	*eP*	**Pn**	**15 33 33.7**	**+0.8**
KMNR				*eS*	**Sn**	**15 33 51.6**	**+0.6**
KII	**Karymskiy**	**1.15**	**231**	PN	**Pn**	**15 33 34.4**	**+0.8**
KII				S	**Sn**	**15 33 54.1**	**+1.9**
KII	**Karymskiy**	**1.15**	**231**	*eP*	**Pn**	**15 33 34.4**	**+0.8**
KII				*eS*	**Sn**	**15 33 54.1**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**1.19**	**353**	PN	**Pn**	**15 33 34.4**	**+0.5**
BZGR				S	**Sn**	**15 33 53.9**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**1.19**	**353**	*eP*	**Pn**	**15 33 34.5**	**+0.5**
BZGR				*eS*	**Sn**	**15 33 53.9**	**+1.0**
BZWR	**Bezymyannyi-We**	**1.23**	**348**	PN	**Pn**	**15 33 35.1**	**+0.6**
BZWR				S	**Sn**	**15 33 55.0**	**+1.2**
BZWR	**Bezymyannyi-We**	**1.23**	**348**	*eP*	**Pn**	**15 33 35.2**	**+0.6**
BZWR				*eS*	**Sn**	**15 33 55.0**	**+1.2**
KIRR	**Kirishev**	**1.24**	**344**	PN	**Pn**	**15 33 35.1**	**+0.5**
KIRR				S	**Sn**	**15 33 54.9**	**+1.0**
KIRR	**Kirishev**	**1.24**	**344**	*eP*	**Pn**	**15 33 35.1**	**+0.5**
KIRR				*eS*	**Sn**	**15 33 55.0**	**+1.0**
ZLN	**Zelenaya**	**1.26**	**356**	PN	**Pn**	**15 33 35.7**	**+1.1**
ZLN				S	**Sn**	**15 33 55.7**	**+1.6**
ZLN	**Zelenaya**	**1.26**	**356**	*eP*	**Pn**	**15 33 35.8**	**+1.1**
ZLN				*eS*	**Sn**	**15 33 55.8**	**+1.6**
KPT	**Kopyto**	**1.27**	**341**	PN	**Pn**	**15 33 35.2**	**+0.4**
KPT	**Kopyto**	**1.27**	**341**	*eP*	**Pn**	**15 33 35.3**	**+0.4**
LGNR	**Loginova**	**1.33**	**353**	PN	**Pn**	**15 33 36.4**	**+0.8**
LGNR				S	**Sn**	**15 33 57.3**	**+1.5**
LGNR	**Loginova**	**1.33**	**353**	*eP*	**Pn**	**15 33 36.4**	**+0.8**
LGNR				*eS*	**Sn**	**15 33 57.4**	**+1.5**
CIRR	**Tsirk**	**1.36**	**355**	PN	**Pn**	**15 33 36.7**	**+0.9**
CIRR				S	**Sn**	**15 33 57.6**	**+1.5**
CIRR	**Tsirk**	**1.36**	**355**	*eP*	**Pn**	**15 33 36.7**	**+0.9**
CIRR				*eS*	**Sn**	**15 33 57.7**	**+1.5**
KOZ	**Kozyrevsk**	**1.44**	**335**	PN	**Pn**	**15 33 37.2**	**+0.7**
KOZ	**Kozyrevsk**	**1.44**	**335**	*eP*	**Pn**	**15 33 37.3**	**+0.7**
KRSR	**Krestovskiy**	**1.47**	**351**	PN	**Pn**	**15 33 37.5**	**+0.5**
KRSR				S	**Sn**	**15 33 58.9**	**+0.6**
KRSR	**Krestovskiy**	**1.47**	**351**	*eP*	**Pn**	**15 33 37.5**	**+0.5**
KRSR				*eS*	**Sn**	**15 33 58.9**	**+0.6**
KLY	**Klyuchi**	**1.56**	**354**	PN	**Pn**	**15 33 38.6**	**+0.8**
KLY	**Klyuchi**	**1.56**	**354**	*eP*	**Pn**	**15 33 38.6**	**+0.8**
SRDR	**Sredinnyy**	**1.71**	**336**	PN	**Pn**	**15 33 40.1**	**+0.5**
SRDR	**Sredinnyy**	**1.71**	**336**	*eP*	**Pn**	**15 33 40.1**	**+0.5**
ESO	**Esso**	**1.74**	**313**	PN	**Pn**	**15 33 40.5**	**+0.6**
ESO				S	**Sn**	**15 34 04.0**	**+0.4**
ESO	**Esso**	**1.74**	**313**	*eP*	**Pn**	**15 33 40.6**	**+0.6**
ESO				*eS*	**Sn**	**15 34 04.0**	**+0.4**
SPN	**Mys Shipunski**	**1.76**	**199**	PN	**Pn**	**15 33 40.4**	**+0.2**
SPN				S	**Sn**	**15 34 03.1**	**-0.9**
SPN	**Mys Shipunski**	**1.76**	**199**	*eP*	**Pn**	**15 33 40.5**	**+0.2**
SPN				*eS*	**Sn**	**15 34 03.2**	**-0.9**
KBTR	**Krutoberegovo**	**1.79**	**35**	PN	**Pn**	**15 33 41.3**	**+0.8**
KBTR				S	**Sn**	**15 34 03.7**	**-0.8**
KBTR	**Krutoberegovo**	**1.79**	**35**	*eP*	**Pn**	**15 33 41.4**	**+0.8**
KBTR				*eS*	**Sn**	**15 34 03.8**	**-0.8**
KBG	**Krutoberegovo**	**1.79**	**33**	PN	**Pn**	**15 33 41.0**	**+0.5**
KBG				S	**Sn**	**15 34 04.0**	**-0.5**
KBG	**Krutoberegovo**	**1.79**	**33**	*eP*	**Pn**	**15 33 41.1**	**+0.5**
KBG				*eS*	**Sn**	**15 34 04.0**	**-0.5**
BDR	**Baidarnaya**	**1.81**	**4**	*eS*	**Sn**	**15 34 05.8**	**+0.6**
SMKR	**Semkarok**	**1.84**	**9**	PN	**Pn**	**15 33 42.2**	**+1.0**
SMKR				S	**Sn**	**15 34 05.9**	**+0.1**
SMKR	**Semkarok**	**1.84**	**9**	*eP*	**Pn**	**15 33 42.2**	**+1.0**
SMKR				*eS*	**Sn**	**15 34 06.0**	**+0.1**
NLC	**Nalytchevo**	**1.86**	**212**	PN	**Pn**	**15 33 42.1**	**+0.7**
NLC				S	**Sn**	**15 34 06.2**	**+0.1**
NLC	**Nalytchevo**	**1.86**	**212**	*eP*	**Pn**	**15 33 42.2**	**+0.7**
NLC				*eS*	**Sn**	**15 34 06.3**	**+0.1**
SRKR	**Sorokina**	**1.89**	**3**	*eS*	**Sn**	**15 34 08.6**	**+1.7**
SDLR	**Sedlovina**	**1.93**	**220**	PN	**Pn**	**15 33 43.6**	**+1.2**
SDLR				S	**Sn**	**15 34 09.1**	**+1.3**
SDLR	**Sedlovina**	**1.93**	**220**	*eP*	**Pn**	**15 33 43.7**	**+1.2**
SDLR				*eS*	**Sn**	**15 34 09.1**	**+1.3**
KRX	**Arik**	**1.96**	**225**	PN	**Pn**	**15 33 44.5**	**+1.7**
KRX				S	**Sn**	**15 34 08.9**	**+0.4**
KRX	**Arik**	**1.96**	**225**	*eP*	**Pn**	**15 33 44.6**	**+1.7**
KRX				*eS*	**Sn**	**15 34 08.9**	**+0.4**
KRER	**Koryakskii**	**1.96**	**223**	PN	**Pn**	**15 33 44.6**	**+1.7**
KRER				S	**Sn**	**15 34 09.9**	**+1.3**
KRER	**Koryakskii**	**1.96**	**223**	*eP*	**Pn**	**15 33 44.7**	**+1.7**
KRER				*eS*	**Sn**	**15 34 10.0**	**+1.3**
AVH	**Avacha**	**2.00**	**222**	PN	**Pn**	**15 33 44.8**	**+1.7**
AVH				S	**Sn**	**15 34 10.6**	**+1.4**
AVH	**Avacha**	**2.00**	**222**	*eP*	**Pn**	**15 33 44.9**	**+1.7**
AVH				*eS*	**Sn**	**15 34 10.7**	**+1.4**
UGLR	**Uglovaya**	**2.01**	**220**	PN	**Pn**	**15 33 44.7**	**+1.4**
UGLR				S	**Sn**	**15 34 10.9**	**+1.5**
UGLR	**Uglovaya**	**2.01**	**220**	*eP*	**Pn**	**15 33 44.8**	**+1.4**
UGLR				*eS*	**Sn**	**15 34 11.0**	**+1.5**
KOK	**Koryaka**	**2.02**	**224**	PN	**Pn**	**15 33 45.1**	**+1.7**
KOK				S	**Sn**	**15 34 11.4**	**+1.8**
KOK	**Koryaka**	**2.02**	**224**	*eP*	**Pn**	**15 33 45.2**	**+1.7**
KOK				*eS*	**Sn**	**15 34 11.5**	**+1.8**
GNL	**Ganaly**	**2.08**	**240**	PN	**Pn**	**15 33 45.7**	**+1.6**
GNL				S	**Sn**	**15 34 12.0**	**+1.1**
GNL	**Ganaly**	**2.08**	**240**	*eP*	**Pn**	**15 33 45.8**	**+1.6**
GNL				*eS*	**Sn**	**15 34 12.1**	**+1.1**
DALK	**Dalny**	**2.18**	**218**	PN	**Pn**	**15 33 46.3**	**+1.1**
DALK				S	**Sn**	**15 34 13.6**	**+0.7**
DALK	**Dalny**	**2.18**	**218**	*eP*	**Pn**	**15 33 46.3**	**+1.1**
DALK				*eS*	**Sn**	**15 34 13.6**	**+0.7**
INSR	**Institute**	**2.20**	**220**	PN	**Pn**	**15 33 46.9**	**+1.3**
INSR				S	**Sn**	**15 34 14.8**	**+1.3**
INSR	**Institute**	**2.20**	**220**	*eP*	**Pn**	**15 33 47.0**	**+1.3**
INSR				*eS*	**Sn**	**15 34 14.8**	**+1.3**
PET	**Petropavlovsk**	**2.22**	**219**		**Pn**	**15 33 47.0**	**+1.2**
PET	**Petropavlovsk**	**2.22**	**219**	*a iPN*	**Pn**	**15 33 47.0**	**+1.2**
PET				*eS*	**Sn**	**15 34 13.9**	**0.0**
PET				pmax	pmax		
	comp=Z,418nm,0.4s						
PET				smax	smax		
	comp=E,1μm,0.7s						
PET				smax	smax		
	comp=N,1μm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,5.0s						
PET	**Petropavlovsk**	**2.22**	**219**	*eP*	**Pn**	**15 33 46.9**	**+1.2**
PET				*eS*	**Sn**	**15 34 14.6**	**+0.7**
PEA0B	**Petropavlovsk-**	**2.55**	**231**		**Pn**	**15 33 50.1**	**+0.2**
PEA0B	**Petropavlovsk-**	**2.55**	**231**	*c iPN*	**Pn**	**15 33 51.2**	**+1.3**
PETK	**Petropavlovsk-**	**2.55**	**231**		**Pn**	**15 33 49.4**	**-0.5**
PETK	**Petropavlovsk-**	**2.55**	**231**	P	**Pn**	**15 33 51.1**	**+1.2**
	comp=Z,69nm,0.6s,baz=60,slow=9.3,SNR=401						
PETK				S	**Sn**	**15 34 22.4**	**+1.1**
	comp=Z,53nm,0.8s,baz=57,slow=22,SNR=6.6						
KRMR	**Karymshinskiy**	**2.57**	**222**	PN	**Pn**	**15 33 51.3**	**+1.1**
KRMR				S	**Sn**	**15 34 23.0**	**+1.3**
KRMR	**Karymshinskiy**	**2.57**	**222**	*eP*	**Pn**	**15 33 51.3**	**+1.1**
KRMR				*eS*	**Sn**	**15 34 23.0**	**+1.3**
RUS	**Russkaya**	**2.76**	**213**	PN	**Pn**	**15 33 53.1**	**+0.5**
RUS				S	**Sn**	**15 34 24.2**	**-1.8**
RUS	**Russkaya**	**2.76**	**213**	*eP*	**Pn**	**15 33 53.1**	**+0.5**
RUS				*eS*	**Sn**	**15 34 24.2**	**-1.8**
GRL	**Gorelyy**	**2.81**	**219**	PN	**Pn**	**15 33 54.9**	**+1.5**
GRL				S	**Sn**	**15 34 28.0**	**+0.6**
GRL	**Gorelyy**	**2.81**	**219**	*eP*	**Pn**	**15 33 55.0**	**+1.5**
GRL				*eS*	**Sn**	**15 34 28.1**	**+0.6**
APC	**Apacha**	**2.92**	**232**	PN	**Pn**	**15 33 56.2**	**+1.6**
APC				S	**Sn**	**15 34 28.9**	**-0.7**
APC	**Apacha**	**2.92**	**232**	*eP*	**Pn**	**15 33 56.3**	**+1.6**
APC				*eS*	**Sn**	**15 34 29.0**	**-0.7**
BKI	**Bering**	**2.92**	**79**	PN	**Pn**	**15 33 55.3**	**+0.7**
BKI				S	**Sn**	**15 34 28.0**	**-1.6**
BKI	**Bering**	**2.92**	**79**	*eP*	**Pn**	**15 33 55.3**	**+0.7**
BKI				*eS*	**Sn**	**15 34 28.1**	**-1.6**
KDTR	**Khodutka, Kamc**	**3.43**	**211**	PN	**Pn**	**15 34 01.6**	**+0.3**
KDTR				S	**Sn**	**15 34 39.3**	**-2.4**
KDTR	**Khodutka, Kamc**	**3.43**	**211**	*eP*	**Pn**	**15 34 01.6**	**+0.3**
KDTR				*eS*	**Sn**	**15 34 39.3**	**-2.4**
PAU	**Pauzhetka**	**4.15**	**219**	PN	**Pn**	**15 34 12.0**	**+1.3**
PAU	**Pauzhetka**	**4.15**	**219**	*eP*	**Pn**	**15 34 12.1**	**+1.3**
PALN	**Palana**	**4.37**	**353**	PN	**Pn**	**15 34 14.2**	**+0.6**
PALN	**Palana**	**4.37**	**353**	*eP*	**Pn**	**15 34 14.2**	**+0.6**
OSSR	**Ossora**	**4.64**	**13**	PN	**Pn**	**15 34 17.3**	**+0.1**
OSSR				S	**Sn**	**15 35 07.6**	**-2.6**
OSSR	**Ossora**	**4.64**	**13**	*eP*	**Pn**	**15 34 17.3**	**+0.1**
OSSR				*eS*	**Sn**	**15 35 07.6**	**-2.6**
SKR	**Severo-Kuril's**	**5.04**	**218**	*e*PN	**Pn**	**15 34 23.7**	**+1.0**
SKR				*eS*	**Sn**	**15 35 18.7**	**-1.3**
SKR				pmax	pmax		
	comp=Z,79nm,0.5s						
SKR				smax	smax		
	comp=E,179nm,0.6s						
SKR				smax	smax		
	comp=N,66nm,0.5s						
SKR				MLR	MLR		
	comp=Z,400nm,14.0s						
SKR	**Severo-Kuril's**	**5.04**	**218**	*eP*	**Pn**	**15 34 23.8**	**+1.0**
MA2	**Magadan**	**7.34**	**315**		**Pn**	**15 34 53.0**	**-0.6**
MA2	**Magadan**	**7.34**	**315**	P	**Pn**	**15 34 51.9**	**-1.6**
	comp=Z,11nm,0.7s,baz=118,slow=12,SNR=7.7						
MA2				LR	LR	15 37 37.1	
	comp=Z,53nm,19.2s,baz=142,slow=38						
MA2	**Magadan**	**7.34**	**315**	*e*PN	**Pn**	**15 34 50.2**	**-3.3**
SHEM	**Shemya Is, Ala**	**8.05**	**99**	LR	LR	15 38 38.7	
	comp=Z,14nm,19.5s,baz=41,slow=39						
SEY	**Seymchan**	**9.31**	**335**	P	**Pn**	**15 35 19.9**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=152,slow=8.1,SNR=7.1						
BILL	**Bilibino**	**13.55**	**9**	*eP*	**Pn**	**15 36 16.6**	**+0.9**
YSS	**Yuzhno-Sakhali**	**13.88**	**243**	*eP*	**Pn**	**15 36 18.5**	**-1.6**
YSS				*eS*	Sn	15 38 43.1	-10
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ASAJ	**Asahikawa**	**15.96**	**236**	P	**P**	**15 36 47.0**	**-0.1**
	comp=Z,10nm,0.6s,baz=43,slow=4.4,SNR=18						
ERM	**Erimo**	**17.33**	**230**		**P**	**15 36 56.9**	**-5.3**
ERM	**Erimo**	**17.33**	**230**	P	**P**	**15 36 56.9**	**-5.3**
ERM				pmax	pmax		
	comp=Z,90nm,1.4s						
YAK	**Yakutsk**	**17.79**	**307**		**P**	**15 37 05.7**	**-1.4**
YAK				IAmb	IAmb	15 37 08.1	
	comp=Z,20nm,0.8s						
YAK	**Yakutsk**	**17.79**	**307**	P	**P**	**15 37 05.1**	**-1.9**
	comp=Z,14nm,0.6s,baz=37,slow=3.1,SNR=11						
YAK	**Yakutsk**	**17.79**	**307**	*eP*	**P**	**15 37 06.2**	**-0.9**
YAK				*eS*	**S**	**15 40 22.3**	**-2.5**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				smax	smax		
	comp=N,72nm,4.3s						
YAK				smax	smax		
	comp=E,26nm,2.8s						
KLR	**Kul'dur**	**18.74**	**265**	P	**P**	**15 37 17.9**	**+0.2**
	comp=E,1.4nm,0.5s,baz=55,slow=11,SNR=5.2						
KLR	**Kul'dur**	**18.74**	**265**	⇑*iP*	**P**	**15 37 17.5**	**-0.1**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
UNV	**Unalaska Valle**	**18.91**	**79**	P	**P**	**15 37 19.6**	**+0.2**
M13K	**Dall Lake**	**19.76**	**59**	P	**P**	**15 37 29.0**	**+0.5**
HEH	**HeiHe**	**20.79**	**271**	*eP*	**P**	**15 37 40.3**	**+0.6**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
N15K	**Kwethluk River**	**21.39**	**60**	P	**P**	**15 37 48.0**	**+2.0**
N15K				IAmb	IAmb	15 38 15.9	
	comp=Z,19nm,1.2s						
USA0B	**Ussuriysk Arra**	**21.44**	**252**	*e*P	**P**	**15 37 47.4**	**+0.7**
TIXI	**Tiksi**	**21.80**	**333**	P	**P**	**15 37 49.1**	**-1.1**
	comp=Z,6.4nm,0.5s,baz=124,slow=8.1,SNR=27						
	comp=Z,6.4nm,0.5s						
TIXI	**Tiksi**	**21.80**	**333**	⇓*iP*	**P**	**15 37 48.6**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
K17K	**Iditarod**	**22.23**	**53**	P	**P**	**15 37 55.8**	**+1.0**
K17K				IAmb	IAmb	15 38 37.0	
	comp=Z,11nm,1.1s						
M17K	**Holitna River**	**22.64**	**56**	P	**P**	**15 37 59.1**	**+0.3**
M17K				IAmb	IAmb	15 38 03.1	
	comp=Z,12nm,0.9s						
F19K	**Shaleruckik Mo**	**22.95**	**42**		**P**	**15 38 02.4**	**+0.7**
H19K	**Roundabout Mou**	**23.27**	**46**	P	**P**	**15 38 04.8**	**+0.1**
H19K				IAmb	IAmb	15 38 35.0	
	comp=Z,13nm,1.3s						
D20K	**Etivluk River**	**23.81**	**38**		**P**	**15 38 09.7**	**+0.1**
B20K	**Meade River**	**23.98**	**34**		**P**	**15 38 11.6**	**+0.5**
MAJO	**Matsushiro**	**24.01**	**230**	*d iP*	**P**	**15 38 13.2**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s						
MJAR	**Matsushiro Arr**	**24.01**	**230**	P	**P**	**15 38 13.2**	**+1.5**
	comp=Z,8.0nm,0.7s,baz=31,slow=8.3,SNR=21						
	comp=Z,8.0nm,0.7s						
B21K	**Ikpikpuk River**	**24.73**	**36**		**P**	**15 38 18.0**	**+0.2**
B21K				IAmb	IAmb	15 38 49.3	
	comp=Z,6.0nm,0.8s						
CAST	**Castle Rocks**	**25.07**	**51**	P	**P**	**15 38 21.0**	**-0.1**
B22K	**Teshekpuk Lake**	**25.30**	**34**	P	**P**	**15 38 23.7**	**+0.7**
B22K				IAmb	IAmb	15 39 08.3	
	comp=Z,6.5nm,0.8s						
E23K	**Chandalar**	**26.24**	**40**	P	**P**	**15 38 31.2**	**-0.5**
E23K				IAmb	IAmb	15 39 14.6	
	comp=Z,12nm,1.4s						
E24K	**Your Creek**	**26.67**	**40**	P	**P**	**15 38 35.6**	**+0.2**
PWL	**Port Wells**	**27.08**	**56**	P	**P**	**15 38 38.4**	**-0.8**
IL31		**27.29**	**48**	P	**P**	**15 38 42.1**	**+1.3**
IL31				IAmb	IAmb	15 39 17.6	
	comp=Z,7.8nm,1.4s						
ILAR	**Eielson Array**	**27.29**	**48**	P	**P**	**15 38 42.1**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=269,slow=7.4,SNR=18						
	comp=Z,1.4nm,0.8s						
PRP	**Porcupine Dome**	**27.82**	**46**	P	**P**	**15 38 44.6**	**-1.2**
PRP				IAmb	IAmb	15 38 48.5	
	comp=Z,3.6nm,0.8s						
K24K	**Donnelly Dome**	**27.85**	**50**	P	**P**	**15 38 46.5**	**+0.5**
SCRK	**Sand Creek**	**28.62**	**49**	P	**P**	**15 38 52.6**	**-0.3**
SCRK				IAmb	IAmb	15 38 54.0	
	comp=Z,9.1nm,1.4s						
RAGM	**Ragged Mountai**	**28.95**	**57**	P	**P**	**15 38 55.5**	**-0.3**
L27K	**Beaver Creek,**	**29.72**	**51**	P	**P**	**15 39 03.2**	**+0.7**
L27K				IAmb	IAmb	15 39 05.8	
	comp=Z,4.0nm,0.9s						
BCAR	**Beaver Creek A**	**29.73**	**51**	P	**P**	**15 39 04.3**	**+1.6**
L29M	**L29M**	**31.35**	**50**	P	**P**	**15 39 19.0**	**+2.0**

RYN	**Ryan**	**54.44**	**72**	P	**P**	**15 42 25.1**	**+2.2**
RYN				IAmb	IAmb	15 42 27.0	
comp=Z,3.3nm,0.7s							
NVAR	**Mina Array Bea**	**54.71**	**72**	P	**P**	**15 42 24.9**	**0.0**
NVAR	**Mina Array Bea**	**54.71**	**72**	P	**P**	**15 42 28.3**	**+3.5**
comp=Z,2.8nm,0.7s,baz=302,slow=7.2,SNR=19							
comp=Z,2.8nm,0.7s							
LHV	**Little Huntoon**	**54.72**	**72**	P	**P**	**15 42 25.8**	**+1.2**
LHV				IAmb	IAmb	15 42 29.5	
comp=Z,4.0nm,0.9s							
AAK	**Ala-Archa**	**54.81**	**296**	⇓*i*P	**P**	**15 42 25.4**	**0.0**
AAK				*i* *PP	**pP**	**15 42 56.2**	**+0.1**
AAK				pmax	pmax		
comp=Z,2.0nm,0.9s							
HWUT	**Hardware Ranch**	**56.06**	**65**	P	**P**	**15 42 35.5**	**+1.1**
HWUT				IAmb	IAmb	15 42 38.5	
comp=Z,3.8nm,0.8s							
PDAR	**Pinedale Array**	**56.27**	**62**	P	**P**	**15 42 38.8**	**+2.8**
comp=Z,1.0nm,0.6s,baz=334,slow=2.5,SNR=11							
comp=Z,1.0nm,0.6s							
TPNV	**Topopah Spring**	**56.90**	**72**	P	**P**	**15 42 40.1**	**-0.3**
TPNV	**Topopah Spring**	**56.90**	**72**	P	**P**	**15 42 40.1**	**-0.3**
TPNV				pmax	pmax		
comp=Z,2.0nm,1.0s							
ULM	**Lac du Bonnet**	**57.30**	**48**	P	**P**	**15 42 44.8**	**+2.0**
comp=Z,1.9nm,0.4s,baz=331,slow=6.7,SNR=3.0							
comp=Z,1.9nm,0.4s							
FINES	**FINESS Array B**	**58.79**	**337**	P	**P**	**15 42 52.4**	**-0.6**
comp=Z,1.2nm,0.4s,baz=33,slow=7.9,SNR=28							
comp=Z,1.2nm,0.4s							
CMAR	**Chiang Mai Arr**	**59.04**	**258**	P	**P**	**15 42 55.5**	**+0.2**
comp=Z,1.4nm,0.7s,baz=25,slow=6.7,SNR=12							
CMAR				PcP	**PcP**	**15 43 42.4**	**-0.5**
comp=Z,0.7nm,0.5s,baz=12,slow=3.7,SNR=4.2							
comp=Z,1.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**59.04**	**258**	*c i*P	**P**	**15 42 55.7**	**+0.4**
CMAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
OBN	**Obninsk**	**61.38**	**327**	*e*P	**P**	**15 43 10.4**	**-0.3**
OBN				*e*		15 43 53.8	
OBN				*e*PPP	PPP	15 46 54.3	
OBN				pmax	pmax		
comp=Z,4.0nm,1.0s							
NB2	**NORSAR Subarra**	**62.08**	**344**	P	**P**	**15 43 14.4**	**-1.0**
comp=Z,0.5nm,0.5s,baz=20,slow=6.9							
NB2	**NORSAR Subarra**	**62.08**	**344**	P	**P**	**15 43 14.3**	**-1.1**
NOA	**NORSAR Array B**	**62.08**	**344**	P	**P**	**15 43 14.6**	**-0.8**
comp=Z,1.0nm,0.7s,baz=21,slow=6.7,SNR=11							
comp=Z,1.0nm,0.7s							
NORES	**NORESS Array B**	**62.31**	**344**	P	**P**	**15 43 17.4**	**+0.5**
HFS	**Hagfors**	**62.51**	**342**	P	**P**	**15 43 17.6**	**-0.6**
comp=Z,0.8nm,0.5s,baz=48,slow=4.4,SNR=13							
comp=Z,0.8nm,0.5s							
AKASG	**Malin Array Be**	**67.44**	**329**	P	**P**	**15 43 49.3**	**-0.9**
comp=Z,0.9nm,0.5s,baz=30,slow=6.8,SNR=3.7							
comp=Z,0.9nm,0.5s							
EKA	**Eskdalemuir Ar**	**69.49**	**350**	P	**P**	**15 44 03.0**	**+0.1**
comp=Z,2.0nm,0.7s,baz=17,slow=4.7,SNR=9.8							
comp=Z,2.0nm,0.7s							
TXAR	**Lajitas Array**	**69.52**	**68**	P	**P**	**15 44 06.4**	**+2.7**
comp=Z,2.1nm,0.5s,baz=301,slow=4.8,SNR=22							
comp=Z,2.1nm,0.5s							
CLL	**Collm**	**70.97**	**339**	*e*P	**P**	**15 44 11.0**	**-0.9**
CLL				*i* x	x	15 44 14.8	
VYHS	**Vyhne**	**72.29**	**335**	*e*P	**P**	**15 44 20.8**	**+0.9**
VYHS	**Vyhne**	**72.29**	**335**	*e*P	**P**	**15 44 20.8**	**+0.9**
GERES	**GERESS Array B**	**73.15**	**338**	P	**P**	**15 44 25.6**	**+0.5**
comp=Z,0.7nm,0.4s,baz=40,slow=6.4,SNR=8.5							
comp=Z,0.7nm,0.4s							
SOKA	**Soboth**	**74.90**	**336**	*i* P	**P**	**15 44 35.8**	**+0.5**
comp=Z,1.2nm,0.5s							
KBA	**Koelnbreinsper**	**74.90**	**338**	P	**P**	**15 44 36.7**	**+1.3**
KBA	**Koelnbreinsper**	**74.90**	**338**	*i* P	**P**	**15 44 36.6**	**+1.2**
comp=Z,1.7nm,0.3s							
OBKA	**Obir**	**75.17**	**337**	*i* P	**P**	**15 44 37.8**	**+1.0**
comp=Z,1.3nm,0.4s							
FETA	**Feichten**	**75.51**	**339**	*i* P	**P**	**15 44 39.5**	**+0.6**
comp=Z,0.9nm,0.4s							
BRTR	**Keskin Array B**	**75.65**	**321**	P	**P**	**15 44 40.0**	**+0.1**
comp=Z,0.9nm,0.7s,baz=41,slow=6.6,SNR=3.8							
comp=Z,0.9nm,0.7s							
BRTR	**Keskin Array B**	**75.65**	**321**	*c e*P	**P**	**15 44 40.2**	**+0.4**
WRA	**Warramunga Arr**	**77.82**	**206**	P	**P**	**15 44 53.7**	**+1.8**
comp=Z,0.4nm,0.4s,baz=20,slow=6.0,SNR=5.8							
comp=Z,0.4nm,0.4s							
WRA	**Warramunga Arr**	**77.82**	**206**	*i* P	P	15 44 56.7	+4.9
MMAI	**Mount Meron Ar**	**80.86**	**316**	P	**P**	**15 45 07.6**	**-0.9**
comp=Z,2.7nm,0.8s,baz=40,slow=4.7,SNR=1.7							
comp=Z,2.7nm,0.8s							
ASAR	**Alice Springs**	**81.50**	**205**	P	**P**	**15 45 13.7**	**+2.0**
comp=Z,0.5nm,0.6s,baz=18,slow=4.9,SNR=13							
comp=Z,0.5nm,0.6s							
RAYN	**Ar Rayn**	**84.56**	**304**	P	**P**	**15 45 27.1**	**-0.6**
ESDC	**Sonseca Array**	**85.05**	**348**	P	**P**	**15 45 30.3**	**+0.4**
comp=Z,2.7nm,0.8s,baz=357,slow=5.4,SNR=17							
comp=Z,2.7nm,0.8s							
QSPA	**South Pole Qui**	**144.52**	**180**	PKP	**PKPdf**	**15 52 28.2**	**-0.2**
comp=Z,2.7nm,0.5s,baz=269,slow=0.8,SNR=50							

TXNET **19** *15:44:45.8,*31°.7N±0°.7×104°.3W±0°.7,h4km±2km,**ML2.0/7,**
2C-1D,Error ellipse: s-maj=1.2km s-min=1.0km az=47.9,
final,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.37**	**41**	⇑P	Pg	15 44 53.0	-0.1
TPB11				S	Sg	15 44 57.7	-0.2
PECS	**Pecos**	**0.48**	**126**	⇓P	Pg	15 44 55.2	+0.1
PECS				S	Sg	15 45 01.4	0.0
TPB12	**Southwest of T**	**0.54**	**145**	P	Pg	15 44 56.2	0.0
TPB12				S	Sg	15 45 03.3	0.0
GDL2	**Guadalupe Moun**	**0.54**	**356**	P	Pg	15 44 56.7	+0.4
TPB07	**Mentone**	**0.56**	**98**	P	Pg	15 44 57.2	+0.5
TPB07				S	Sg	15 45 04.9	+0.9
TPB10	**Southeast of T**	**0.61**	**127**	P	Pg	15 44 58.0	+0.4
TPB10				S	Sg	15 45 06.0	+0.5
CLNB	**Carlsbad**	**0.71**	**32**	S	Sg	15 45 09.2	+0.4
TPB01	**Permian Basin**	**0.85**	**147**	P	Pg	15 45 01.3	-0.8
TPB03	**Saragosa**	**0.90**	**129**	S	Sg	15 45 14.5	-0.1
MNTX	**Cornudas Mount**	**0.90**	**273**	⇑P	Pg	15 45 03.3	+0.2
MNTX				S	Sg	15 45 15.6	+0.7
HTMS	**Hat Mesa**	**1.00**	**36**	S	Sg	15 45 18.4	+0.3
VHRN	**Van Horn**	**1.04**	**213**	P	Pg	15 45 05.5	-0.2
VHRN				S	Sb	15 45 19.9	-0.5
TPB05	**Hovey Rd**	**1.13**	**130**	S	Sg	15 45 21.2	-0.8
ALPN	**Alpine**	**1.41**	**155**	P	Pn	15 45 10.9	-1.4
ALPN				S	Sg	15 45 29.0	-2.0
CPRX	**Cap Rock**	**1.42**	**16**	P	Pn	15 45 12.4	-0.2
ODSA	**Odessa**	**1.58**	**72**	S	Sn	15 45 34.8	-0.8
TMB04	**Seminole**	**1.83**	**58**	P	Pn	15 45 19.0	+0.8
TMB04				S	Sb	15 45 43.1	-0.2
TMB02	**Rankin**	**2.01**	**103**	P	Pn	15 45 21.6	+1.1
TMB02				S	Sn	15 45 47.1	+0.9
TMB05	**Klondike**	**2.30**	**65**	S	Sb	15 45 56.2	-0.6
TX31	**Lajitas Ar. Si**	**2.38**	**166**	Pg	Pb	15 45 28.6	-0.7

BUL **19** *15:48:32.3±0.9,23°.68S×27°.44E,h10km,MD3.0*
BGSI **19** *15:48:39.4±3.1,23°.36S×27°.09E,h0km±18km,ML2.3*
PRE 19 15:48:32.0±0.9,23°.85S×27°.80E,h0km,ML2.0,
Suspected explosion,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MREMI	**Moremi**	**1.32**	**346**	IAML		15 49 12.9	
comp=N,74nm,0.3s							
LPHEP	**Lephephe**	**1.84**	**285**	*i* P	Pn	15 48 57.8	-7.3
LPHEP				Lg	Lg	15 49 14.6	
LPHEP				IAML		15 49 21.7	
comp=E,72nm,0.6s							
HRAO	**HartRAO**	**2.03**	**183**	*e*P	Pn	15 49 08.7	+1.0
HRAO				*e*S	Sb	15 49 35.3	-0.6
HRAO				IAML		15 49 57.7	
comp=Z,9.3nm,1.1s							
MUSN	**Musina, Limpop**	**2.46**	**51**	*e*P	Pn	15 49 14.1	+0.8
MUSN				*e*S	Sn	15 49 44.8	+0.7
MUSN				IAML		15 49 52.4	
comp=Z,7.0nm,0.3s							
MUSN	**Musina, Limpop**	**2.46**	**51**	*i* P	Pn	15 49 14.1	+0.7
MUSN				*i* S	Sn	15 49 45.2	+1.0
PILG	**Pilgrimsrest,**	**2.86**	**113**	*e*P	Pn	15 49 20.6	+1.4
PILG				*e*S	Sn	15 49 54.4	-0.1
PILG				IAML		15 50 23.0	
comp=Z,6.5nm,0.6s							
KDWAN	**Kaudwane**	**2.92**	**279**	*i* P	Pn	15 49 15.2	-4.5
KDWAN				*i* S	Sn	15 49 42.1	-14
KDWAN				Lg	Lg	15 49 48.7	
KDWAN				IAML		15 50 01.7	
comp=E,31nm,0.5s							
PRYS	**Parys**	**3.09**	**187**	*e*P	Pn	15 49 22.5	+0.3
PRYS				*e*S	Sn	15 50 00.1	+0.2
PRYS				IAML		15 50 18.0	
comp=Z,7.8nm,0.4s							
MOPA	**Mopani**	**3.32**	**85**	*e*P	Pn	15 49 25.2	0.0
MOPA				*e*S	Sn	15 50 05.4	+0.1
MOPA				IAML		15 50 24.6	
comp=Z,13nm,0.3s							
MOPA	**Mopani**	**3.32**	**85**	*i* P	Pn	15 49 27.9	+2.6
MOPA				*i* S	Sb	15 50 09.6	-3.1
MAKGR	**Makgori**	**3.35**	**234**	*i* P	Pn	15 49 28.9	+3.1
MAKGR				*i* S	Sn	15 50 05.7	-0.7
MAKGR				IAML		15 50 14.3	
comp=N,60nm,0.5s							
SOOWA	**Sowa**	**3.58**	**336**	*i* P	Pn	15 49 24.6	-4.4
SOOWA				Lg	Lg	15 50 09.3	
SOOWA				IAML		15 50 22.2	
comp=E,41nm,0.6s							
SKOMA	**Sekoma**	**3.59**	**259**	*i* P	Pn	15 49 30.8	+1.8
SKOMA				IAML		15 50 17.7	
comp=N,17nm,2.1s							
BLWY	**Bulawayo**	**3.77**	**12**	*i* P	Pn	15 49 28.3	-3.2
BLWY				*i* S	Sn	15 50 10.2	-6.5
BOSA	**Boshof**	**5.26**	**205**	*e*P	Pn	15 49 53.3	+1.2
BOSA				*e*S	Sn	15 50 51.5	-2.0
BOSA				IAML		15 51 28.7	
comp=Z,7.0nm,0.6s							
BOSA	**Boshof**	**5.26**	**205**	*i* P	Pn	15 49 50.3	-1.8
BOSA				*i* S	Sn	15 50 48.9	-4.6

TAP **19** *15:55:19.4,24°.09N×121°.51E,h23km,ML3.3,B*
ISC 19 15:55:19.6±0.9,24°.08N±0°.01×121°.55E±0°.02,h23km±3km,
n132,σ0s81/218,8C-8D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.04**	**91**	⇓*i*P	**Pb**	**15 55 23.7**	**+0.1**
TWD				S	**Sb**	**15 55 26.5**	**+0.1**
NACB	**Ninganchiao**	**0.10**	**25**	P	**Pb**	**15 55 23.7**	**-0.4**
NACB	**Ninganchiao**	**0.10**	**25**	S	**Sb**	**15 55 27.2**	**+0.2**
NACB	**Ninganchiao**	**0.10**	**25**	⇓*i*P	**Pb**	**15 55 23.8**	**-0.2**
NACB				*i* S	**Sb**	**15 55 27.0**	**0.0**
ETL	**Fush Village**	**0.10**	**42**	P	**Pb**	**15 55 23.9**	**-0.2**
ETL				S	**Sb**	**15 55 27.3**	**+0.2**
HWA	**Hwalien**	**0.12**	**153**	⇓P	**Pb**	**15 55 24.5**	**+0.4**
HWA				*e*S	**Sb**	**15 55 28.5**	**+1.4**
ETM	**Tongmen**	**0.12**	**203**	⇓*i*P	**Pb**	**15 55 24.1**	**-0.2**
ETM				S	**Sb**	**15 55 27.1**	**-0.2**
LXIB	**Xiulin Townshi**	**0.14**	**244**	⇑*i*P	**Pb**	**15 55 24.1**	**-0.4**
LXIB				*e*S	**Sb**	**15 55 27.4**	**-0.4**
ETLH	**Xiulin Townshi**	**0.14**	**335**	⇑*i*P	**Pb**	**15 55 24.2**	**-0.2**
ETLH				*e*S	**Sb**	**15 55 27.5**	**-0.3**
WHF	**Hehuan Shan**	**0.27**	**284**	⇑P	**Pb**	**15 55 25.8**	**-0.5**
WHF				S	**Sb**	**15 55 30.3**	**-0.6**
ESL	**Shilin**	**0.28**	**201**	⇓P	**Pb**	**15 55 25.6**	**-0.7**
ESL				*e*S	**Sb**	**15 55 30.4**	**-0.4**
EHP	**Heping Village**	**0.29**	**38**	*e*P	**Pb**	**15 55 26.3**	**-0.1**
EHP				*e*S	**Sb**	**15 55 31.6**	**+0.6**
SHUL	**Shoufeng**	**0.29**	**177**	⇓P	**Pb**	**15 55 26.5**	**+0.1**
SHUL				*e*S	**Sb**	**15 55 32.0**	**+1.0**
EAHA	**Aohua**	**0.30**	**35**	*e*P	**Pb**	**15 55 26.4**	**-0.2**
EAHA				*e*S	**Sb**	**15 55 31.6**	**+0.3**
FUSS	**Fushou**	**0.32**	**301**	⇑P	**Pb**	**15 55 26.8**	**-0.2**
FUSS				*e*S	**Sb**	**15 55 31.8**	**-0.3**
OWD	**Renai**	**0.36**	**250**	⇑P	**Pb**	**15 55 27.2**	**-0.4**
OWD				*e*S	**Sb**	**15 55 32.2**	**-0.8**
TEGC	**Jichi Village**	**0.37**	**181**	*e*P	**Pb**	**15 55 27.8**	**+0.2**
TEGC				*e*S	**Sn**	**15 55 35.1**	**-0.9**
NNSB	**Datong**	**0.38**	**337**	⇓P	**Pb**	**15 55 27.5**	**-0.4**
NNSB				*e*S	**Sb**	**15 55 32.7**	**-0.7**
TWT	**Tachien**	**0.38**	**297**	P	**Pb**	**15 55 27.9**	**0.0**
TWT				*e*S	**Sb**	**15 55 33.3**	**-0.3**
ENA	**Nanau**	**0.39**	**27**	⇑*e*P	**Pb**	**15 55 27.6**	**-0.3**
ENA				*e*S	**Sb**	**15 55 33.7**	**+0.1**
WARBT	**Fenglin Townsh**	**0.39**	**202**	*e*P	**Pb**	**15 55 26.9**	**-1.1**
WARBT				*e*S	**Sb**	**15 55 32.7**	**-0.9**
NNS	**Nan Shan**	**0.39**	**336**	*e*P	**Pb**	**15 55 27.7**	**-0.4**
NNS				*e*S	**Sb**	**15 55 33.2**	**-0.6**
TDCB	**Techi**	**0.39**	**296**	⇓P	**Pb**	**15 55 27.9**	**-0.2**
TDCB				*e*S	**Sb**	**15 55 33.2**	**-0.6**
WUSB	**Renai**	**0.40**	**257**	⇑P	**Pb**	**15 55 27.9**	**-0.3**
WUSB				S	**Sb**	**15 55 33.4**	**-0.6**
EWUT	**Wuta**	**0.42**	**30**	*e*P	**Pb**	**15 55 28.0**	**-0.4**
EWUT				*e*S	**Sb**	**15 55 34.2**	**-0.2**
EGFH	**Guangfu**	**0.42**	**195**	*e*P	**Pb**	**15 55 27.8**	**-0.7**
EGFH				*e*S	**Sb**	**15 55 33.9**	**-0.6**
LATG	**Datong**	**0.45**	**358**	*e*P	**Pb**	**15 55 28.7**	**-0.3**
LATG				*e*S	**Sb**	**15 55 35.0**	**-0.5**
VWDT	**VWDT**	**0.49**	**229**	⇑P	**Pb**	**15 55 29.4**	**-0.2**
VWDT				*e*S	**Sb**	**15 55 37.1**	**+0.6**
ENTT	**Nioudou**	**0.56**	**2**	P	**Pb**	**15 55 30.6**	**-0.2**
ENTT				*e*S	**Sb**	**15 55 38.5**	**+0.1**
ESAO	**Su ao**	**0.56**	**29**	*e*P	**Pb**	**15 55 30.6**	**-0.2**
ESAO				*e*S	**Sb**	**15 55 38.0**	**-0.5**
NDS	**Dongshan**	**0.57**	**16**	*e*P	**Pb**	**15 55 30.1**	**-1.0**
NDS				*e*S	**Sb**	**15 55 38.0**	**-0.8**
WCS	**Beigang Elemen**	**0.58**	**268**	*e*P	**Pb**	**15 55 30.9**	**-0.2**
WHP	**Taichung City**	**0.58**	**290**	*e*P	**Pb**	**15 55 30.9**	**-0.3**
WHP				*e*S	**Sb**	**15 55 38.9**	**-0.3**
TWC	**Suao**	**0.59**	**28**	*e*P	**Pb**	**15 55 31.1**	**-0.3**
TWC				*e*S	**Sb**	**15 55 39.4**	**0.0**
HGSD	**Ruisui**	**0.60**	**191**	*e*P	**Pb**	**15 55 30.7**	**-0.8**
HGSD				*e*S	**Sb**	**15 55 40.2**	**+0.8**
YHNB	**Yeheng**	**0.61**	**345**	P	**Pb**	**15 55 31.3**	**-0.4**
YHNB	**Yeheng**	**0.61**	**345**	*e*P	**Pb**	**15 55 31.3**	**-0.4**
YHNB				*e*S	**Sb**	**15 55 39.2**	**-0.6**
EHY	**Hungye**	**0.61**	**200**	*e*P	**Pb**	**15 55 29.8**	**-1.9**
EHYH	**Wanrong**	**0.61**	**198**	*e*P	**Pb**	**15 55 31.3**	**-0.4**
EHYH				*e*S	**Sb**	**15 55 39.8**	**-0.1**
SSLB	**Suanglung**	**0.62**	**242**	P	**Pb**	**15 55 31.2**	**-0.6**
SSLB	**Suanglung**	**0.62**	**242**	*e*P	**Pb**	**15 55 31.2**	**-0.6**
SSLB				*e*S	**Sb**	**15 55 39.5**	**-0.5**
NSK	**Sanguang**	**0.62**	**344**	*e*P	**Pb**	**15 55 31.5**	**-0.4**
NSK				*e*S	**Sb**	**15 55 39.6**	**-0.5**
SMLT	**Sun Moon Lake**	**0.62**	**252**	*e*P	**Pb**	**15 55 30.5**	**-1.5**
SMLT				*e*S	**Sb**	**15 55 39.4**	**-1.0**
TWE	**Neicheng**	**0.65**	**10**	*e*P	**Pb**	**15 55 31.9**	**-0.3**
TWE				*e*S	**Sb**	**15 55 41.0**	**+0.1**
TYC	**Yuchr**	**0.66**	**255**	*e*P	**Pb**	**15 55 31.9**	**-0.5**
TYC				*e*S	**Sb**	**15 55 40.4**	**-0.7**
NFF	**Wufeng Townshi**	**0.67**	**325**	*e*P	**Pb**	**15 55 32.5**	**-0.2**
FUSB	**Fushanzhiwuyua**	**0.68**	**3**	P	**Pb**	**15 55 32.8**	**-0.1**
FUSB				*e*S	**Sb**	**15 55 41.8**	**-0.1**
NWLT	**Wulai**	**0.69**	**357**	*e*P	**Pb**	**15 55 32.9**	**-0.2**
NWLT				*e*S	**Sb**	**15 55 41.7**	**-0.6**
EOS4	**EOS4**	**0.71**	**87**	*e*P	**Pb**	**15 55 33.2**	**+0.2**
EOS4				*e*S	**Sn**	**15 55 44.0**	**+0.2**
EOS2	**EOS2**	**0.71**	**62**	*e*P	**Pn**	**15 55 34.5**	**+0.4**
YULB	**Yu-li**	**0.72**	**198**	P	**Pb**	**15 55 33.0**	**-0.6**
YULB	**Yu-li**	**0.72**	**198**	S	**Sb**	**15 55 43.6**	**+0.6**
YULB	**Yu-li**	**0.72**	**198**	*e*P	**Pb**	**15 55 31.4**	**-2.2**
YULB				*e*S	**Sb**	**15 55 43.0**	**0.0**
EOS3	**EOS3**	**0.73**	**74**	*e*P	**Pn**	**15 55 34.6**	**+0.2**
NSTT	**Nanjuang**	**0.74**	**318**	*e*P	**Pb**	**15 55 34.0**	**+0.2**
NSTT				*e*S	**Sb**	**15 55 43.5**	**0.0**
WHYT	**Xinyi Township**	**0.74**	**239**	*e*P	**Pb**	**15 55 33.8**	**-0.1**
WHYT				*e*S	**Sb**	**15 55 43.9**	**+0.3**
LIOB	**Emei**	**0.74**	**319**	*e*P	**Pb**	**15 55 34.1**	**+0.2**
LIOB				*e*S	**Sb**	**15 55 43.8**	**+0.2**
EYUL	**Yuli**	**0.76**	**196**	*e*P	**Pb**	**15 55 34.0**	**-0.2**
TWF1	**Yuli**	**0.76**	**198**	*e*P	**Pb**	**15 55 34.0**	**-0.2**
TWF1				*e*S	**Sb**	**15 55 44.3**	**+0.1**
ECBN	**Changbin**	**0.77**	**187**	*e*P	**Pb**	**15 55 33.5**	**-0.8**
KSHI	**Guanxi Townshi**	**0.77**	**334**	*e*P	**Pn**	**15 55 35.0**	**-0.1**
KSHI				*e*S	**Sb**	**15 55 44.9**	**+0.5**
NSY	**Sanyi**	**0.79**	**295**	*e*P	**Pb**	**15 55 32.3**	**-2.5**
WJS	**Zhushan**	**0.79**	**251**	*e*P	**Pn**	**15 55 35.3**	**-0.1**
WJS				*e*S	**Sn**	**15 55 46.4**	**-0.1**
TCU	**Taichung**	**0.80**	**275**	*e*S	**Sn**	**15 55 47.6**	**+1.0**
WNT	**Mingjian**	**0.81**	**256**	*e*P	**Pn**	**15 55 35.6**	**-0.1**
WNT				*e*S	**Sn**	**15 55 47.4**	**+0.4**
NMLH	**Miaoli**	**0.83**	**304**	*e*P	**Pn**	**15 55 36.4**	**+0.5**
NMLH				*e*S	**Sn**	**15 55 46.8**	**-0.6**
SBCB	**Hsinchu**	**0.87**	**324**	*e*P	**Pn**	**15 55 37.0**	**+0.4**
NHDH	**Xindian Distri**	**0.88**	**359**	*e*P	**Pn**	**15 55 36.5**	**-0.1**
NHDH				*e*S	**Sn**	**15 55 48.6**	**0.0**
ALS	**Alishan**	**0.89**	**230**	*e*P	**Pb**	**15 55 36.4**	**-0.1**
ALS				*e*S	**Sb**	**15 55 48.3**	**+0.3**
TATO	**Taipei**	**0.89**	**357**	P	**Pn**	**15 55 36.6**	**-0.2**
TATO	**Taipei**	**0.89**	**357**	S	**Sn**	**15 55 49.2**	**+0.2**
CHKH	**Chenggong**	**0.90**	**189**	*e*P	**Pb**	**15 55 35.0**	**-1.5**
CHKH				*e*S	**Sb**	**15 55 47.7**	**-0.3**
TWA	**Mucha**	**0.90**	**2**	*e*P	**Pn**	**15 55 37.8**	**+0.9**
TWA				*e*S	**Sn**	**15 55 49.5**	**+0.3**
WCHH	**Zhanghua**	**0.90**	**270**	*e*P	**Pn**	**15 55 37.0**	**+0.1**
WCHH				*e*S	**Sn**	**15 55 49.7**	**+0.5**
FULB	**Fuli**	**0.91**	**195**	*e*P	**Pb**	**15 55 35.4**	**-1.3**
WCH1	**Changhua City**	**0.91**	**270**	*e*S	**Sn**	**15 55 50.2**	**+0.7**
TIPB	**Shuangxi**	**0.92**	**16**	*e*P	**Pb**	**15 55 36.5**	**-0.4**
TIPB				*e*S	**Sb**	**15 55 48.8**	**-0.1**
NCUH	**Zhongli**	**0.94**	**340**	*e*P	**Pn**	**15 55 38.0**	**+0.5**
NCUH				*e*S	**Sn**	**15 55 51.4**	**+1.1**
TAP	**Taipei**	**0.95**	**358**	*e*S	**Sn**	**15 55 51.1**	**+0.6**
EHD	**Haiduan**	**0.98**	**199**	*e*P	**Pb**	**15 55 37.0**	**-1.0**
WGK	**Gukeng**	**0.98**	**247**	*e*P	**Pn**	**15 55 38.6**	**+0.6**
WGK				*e*S	**Sn**	**15 55 52.2**	**+1.0**
CHKT	**Chengkung**	**0.99**	**190**	*e*P	**Pn**	**15 55 36.1**	**-2.0**
CHKT				*e*S	**Sb**	**15 55 50.1**	**-0.6**
WDLH	**Douliu**	**1.00**	**247**	*e*P	**Pb**	**15 55 38.8**	**+0.5**
WDLH				*e*S	**Sn**	**15 55 52.8**	**+1.1**
TWB1	**Santiao Chiao**	**1.01**	**23**	*e*P	**Pb**	**15 55 38.4**	**0.0**
TWB1				*e*S	**Sn**	**15 55 51.7**	**-0.1**
ELDTW	**Lidau**	**1.01**	**209**	*e*P	**Pn**	**15 55 36.2**	**-2.3**
TWS1	**Kuangyinshan**	**1.02**	**353**	*e*P	**Pn**	**15 55 38.2**	**-0.3**
TWS1				*e*S	**Sn**	**15 55 53.5**	**+1.3**
SXI1	**Grass Mountain**	**1.05**	**16**	*e*P	**Pn**	**15 55 38.9**	**-0.1**
SXI1				*e*S	**Sn**	**15 55 53.0**	**0.0**
YM01	**YM01**	**1.06**	**1**	*e*P	**Pn**	**15 55 39.5**	**+0.1**
YM01				*e*S	**Sn**	**15 55 53.3**	**+0.1**
WCKO	**Fanlu**	**1.07**	**234**	*e*P	**Pn**	**15 55 40.0**	**+0.5**
WCKO				*e*S	**Sn**	**15 55 55.0**	**+1.5**
ZUZH	**Zhuzihu**	**1.08**	**360**	*e*P	**Pb**	**15 55 39.5**	**-0.1**
ZUZH				*e*S	**Sn**	**15 55 54.3**	**+0.7**
NTST	**Danshui**	**1.08**	**355**	*e*P	**Pb**	**15 55 39.8**	**+0.1**
NTST				*e*S	**Sn**	**15 55 55.3**	**+1.6**
ANP	**Anpu**	**1.10**	**359**	*e*P	**Pb**	**15 55 40.0**	**-0.1**
ANP				*e*S	**Sn**	**15 55 55.3**	**+1.1**
YM08	**YM08**	**1.10**	**2**	*e*P	**Pn**	**15 55 39.3**	**-0.4**
YM08				*e*S	**Sb**	**15 55 54.0**	**-0.1**
EDH	**Donghe**	**1.12**	**191**	*e*P	**Pn**	**15 55 38.4**	**-1.6**
WTK	**Tuku**	**1.13**	**250**	*e*P	**Pb**	**15 55 40.7**	**+0.2**
WTK				*e*S	**Sn**	**15 55 56.8**	**+2.0**
CHN4	**Tsaushan**	**1.14**	**230**	*e*P	**Pb**	**15 55 41.4**	**+0.8**
TPUB	**Ta-pu**	**1.14**	**227**	P	**Pb**	**15 55 41.1**	**+0.4**
TPUB	**Ta-pu**	**1.14**	**227**	S	**Sb**	**15 55 56.7**	**+1.5**
TPUB	**Ta-pu**	**1.14**	**227**	*e*P	**Pb**	**15 55 40.8**	**+0.1**
TPUB				*e*S	**Sb**	**15 55 56.5**	**+1.3**
**ST

AAK			⇑S		Sb	17 13 51.6	+0.4
	142nm,0.2s						
AAK	**Ala-Archa**	**0.17 201**	⇑*i*P		**Pg**	**17 13 48.0**	**-0.4**
AAK			⇑*i*S		**Sb**	**17 13 51.6**	**+0.4**
CHMS	**Chumysh**	**0.24 32**	⇑P		**Pg**	**17 13 48.8**	**-0.5**
	58nm,0.2s,SNR=144						
CHMS			⇑S		**Sg**	**17 13 52.7**	**-0.3**
	641nm,0.1s						
CHMS	**Chumysh**	**0.24 32**	⇓P		**Pg**	**17 13 48.8**	**-0.5**
	8.5nm,0.2s						
CHMS			⇓S		**Sg**	**17 13 52.8**	**-0.3**
	234nm,0.3s						
CHMS	**Chumysh**	**0.24 32**	⇓*i*P		**Pg**	**17 13 48.6**	**-0.7**
CHMS			⇓*i*S		**Sg**	**17 13 52.8**	**-0.3**
KBK	**Karagaybulak**	**0.31 117**	⇓P		**Pb**	**17 13 50.5**	**-0.4**
	37nm,0.1s,SNR=90						
KBK			⇑S		**Sg**	**17 13 54.8**	**-0.3**
	272nm,0.2s						
KBK	**Karagaybulak**	**0.31 117**	⇑*i*P		**Pg**	**17 13 49.9**	**-0.6**
KBK			⇑*i*S		**Sb**	**17 13 55.0**	**-0.6**
USP	**Ospenovka**	**0.47 353**	P		**Pg**	**17 13 52.5**	**-0.9**
	120nm,0.1s,SNR=417						
USP			⇑S		**Sg**	**17 13 59.1**	**-0.7**
	175nm,0.2s						
USP	**Ospenovka**	**0.47 353**	⇑*i*P		**Pg**	**17 13 52.3**	**-1.1**
USP			⇑*i*S		**Sg**	**17 13 59.1**	**-0.7**
UCH	**Uchtor**	**0.57 185**	⇓P		**Pg**	**17 13 54.7**	**-0.6**
	3.6nm,0.1s,SNR=16						
UCH			⇓S		**Sg**	**17 14 02.9**	**-0.2**
	59nm,0.4s						
UCH	**Uchtor**	**0.57 185**	⇑*i*P		**Pg**	**17 13 54.4**	**-0.9**
UCH			⇑*i*S		**Sg**	**17 14 02.7**	**-0.4**
EKS2	**Erkin-Say**	**0.61 257**	P		**Pg**	**17 13 55.0**	**-0.8**
	32nm,0.1s,SNR=358						
EKS2			⇓S		**Sg**	**17 14 03.7**	**-0.3**
	13nm,0.1s						
EKS2	**Erkin-Say**	**0.61 257**	⇑*i*P		**Pg**	**17 13 54.7**	**-1.1**
EKS2			⇑*i*S		**Sg**	**17 14 03.2**	**-0.8**
SGDS	**Sogindy**	**0.66 3**	P		**Pg**	**17 13 55.6**	**-1.2**
	56nm,0.1s						
SGDS			S		**Sg**	**17 14 04.5**	**-1.0**
	221nm,0.1s						
TKM2	**Tokmak 2**	**0.76 80**	⇑P		**Pg**	**17 13 57.5**	**-1.2**
	28nm,0.1s,SNR=42						
TKM2			⇑S		**Sg**	**17 14 08.0**	**-0.8**
	76nm,0.1s						
TKM2	**Tokmak 2**	**0.76 80**	⇑P		**Pg**	**17 13 57.0**	**-1.6**
	6.2nm,0.2s						
TKM2			⇓S		**Sg**	**17 14 07.9**	**-0.8**
	20nm,0.2s						
TKM2	**Tokmak 2**	**0.76 80**	⇑*i*P		**Pg**	**17 13 57.4**	**-1.2**
TKM2			⇑*i*S		**Sg**	**17 14 08.0**	**-0.8**
AML	**Almayashu**	**0.93 225**	⇑P		**Pb**	**17 14 00.9**	**-0.8**
	32nm,0.2s,SNR=121						
AML			⇑S		**Sb**	**17 14 13.4**	**-0.5**
	52nm,0.4s						
AML	**Almayashu**	**0.93 225**	⇑*i*P		**Pb**	**17 14 00.5**	**-1.2**
AML			⇑*i*S		**Sb**	**17 14 13.3**	**-0.5**
ARLS	**Aral**	**0.95 192**	⇑*i*P		**Pb**	**17 14 00.9**	**-1.0**
ARLS			⇑*i*S		**Sb**	**17 14 13.9**	**-0.4**
MRKS	**Merke**	**1.00 267**	P		**Pb**	**17 14 01.2**	**-1.4**
	20nm,0.1s						
MRKS			S		**Sb**	**17 14 14.5**	**-0.9**
	65nm,0.4s						
MRKS	**Merke**	**1.00 267**	*e*P		**Pb**	**17 14 01.2**	**-1.4**
MRKS			*e*S		**Sb**	**17 14 14.6**	**-0.9**
MRKS	**Merke**	**1.00 267**	*e*P		**Pb**	**17 14 01.2**	**-1.4**
	20nm,0.1s						
MRKS			*e*S		**Sb**	**17 14 14.6**	**-0.9**
	65nm,0.4s						
KST	**Kastek**	**1.05 76**	P		**Pb**	**17 14 02.7**	**-0.7**
	14nm,0.2s						
KST			S		**Sb**	**17 14 17.1**	**+0.2**
	35nm,0.3s						
KST	**Kastek**	**1.05 76**	*e*P		**Pb**	**17 14 02.7**	**-0.7**
KST			*e*S		**Sb**	**17 14 17.0**	**+0.2**
KST	**Kastek**	**1.05 76**	*e*P		**Pb**	**17 14 02.7**	**-0.7**
	14nm,0.2s						
KST			*e*S		**Sb**	**17 14 17.1**	**+0.2**
	35nm,0.3s						
BOOM	**Boomskoye usch**	**1.05 107**	⇑*i*P		**Pb**	**17 14 02.5**	**-1.0**
BOOM			⇑*i*S		**Sb**	**17 14 16.7**	**-0.3**
ULHL	**Ulahol**	**1.35 114**	⇓P		**Pb**	**17 14 08.3**	**-0.3**
	4.0nm,0.1s,SNR=22						
ULHL			⇑S		**Sg**	**17 14 26.9**	**-0.5**
	22nm,0.1s						
ULHL	**Ulahol**	**1.35 114**	⇓*i*P		**Pn**	**17 14 07.6**	**-0.3**
ULHL			⇓*i*S		**Sb**	**17 14 25.5**	**-0.1**
MTBS	**Maitube**	**1.40 76**	P		**Pn**	**17 14 08.9**	**+0.4**
	7.6nm,0.3s						
MTBS			S		**Sb**	**17 14 27.5**	**+0.6**
	16nm,0.2s						
MTBS	**Maitube**	**1.40 76**	*e*P		**Pn**	**17 14 08.9**	**+0.4**
MTBS			*e*S		**Sb**	**17 14 27.6**	**+0.6**
MTBS	**Maitube**	**1.40 76**	*e*P		**Pn**	**17 14 08.8**	**+0.4**
	7.6nm,0.3s						
MTBS			*e*S		**Sb**	**17 14 27.6**	**+0.6**
	16nm,0.2s						
MNAS	**Manas**	**1.56 259**	⇑*i*P		**Pn**	**17 14 10.8**	**0.0**
MNAS			⇑*i*S		**Sn**	**17 14 31.3**	**+0.6**
KUU	**Kurty**	**1.69 49**	P		**Pn**	**17 14 13.3**	**+0.9**
	8.2nm,0.3s						
KUU			S		**Sb**	**17 14 35.6**	**+0.3**
	56nm,0.4s						
KUU	**Kurty**	**1.69 49**	*e*P		**Pn**	**17 14 13.3**	**+0.9**
KUU			*e*S		**Sb**	**17 14 35.5**	**+0.3**
KUU	**Kurty**	**1.69 49**	*e*P		**Pn**	**17 14 13.3**	**+0.9**
	8.2nm,0.3s						
KUU			*e*S		**Sb**	**17 14 35.6**	**+0.3**
	56nm,0.4s						
NRN	**Naryn**	**1.73 142**	⇑*e*P		**Pn**	**17 14 13.9**	**+0.7**
NRN			⇑*e*S		**Sn**	**17 14 35.6**	**+0.7**
TNSS	**Tian-Shan**	**1.76 81**	P		**Pb**	**17 14 15.5**	**-0.2**
	16nm,0.3s						
TNSS			S		**Sg**	**17 14 38.8**	**-1.7**
	15nm,0.3s						
TNSS	**Tian-Shan**	**1.76 81**	*e*P		**Pb**	**17 14 15.5**	**-0.2**
	16nm,0.3s						
TNSS			*e*S		**Sg**	**17 14 38.8**	**-1.7**
	15nm,0.3s						
KTBS	**Karatobe**	**1.79 59**	P		**Pb**	**17 14 15.4**	**-0.6**
	24nm,0.1s						
KTBS			S		**Sb**	**17 14 38.9**	**+0.7**
	16nm,0.2s						
MDOK	**Medeo**	**1.85 78**	⇑Pn		**Pb**	**17 14 16.4**	**-0.7**
	6.4nm,0.3s						
MDOK			Pg		**Pn**	**17 14 16.6**	**+1.8**
	20nm,0.2s						
MDOK			Lg		Lg	17 14 40.8	
	14nm,0.2s						
MDOK			⇑Sn		**Sg**	**17 14 41.6**	**-1.7**
	5.4nm,0.3s						
ARSB	**Arslanbob**	**1.89 219**	⇑*i*P		**Pn**	**17 14 15.9**	**+0.6**
ARSB			⇑*e*S		**Sn**	**17 14 39.8**	**+1.0**
SALK	**Salom-Alik**	**1.99 197**	⇑*i*P		**Pn**	**17 14 17.3**	**+0.5**
SALK			⇑*i*S		**Sn**	**17 14 42.5**	**+1.1**
KDJ	**Kajisay**	**2.04 108**	⇓*i*P		**Pn**	**17 14 18.1**	**+0.7**
KDJ			⇓*i*S		**Sn**	**17 14 43.7**	**+1.3**
CHKK	**Chushkaly**	**2.05 58**	Pg		**Pb**	**17 14 19.8**	**-0.7**
	4.0nm,0.2s						
CHKK			Lg		Lg	17 14 46.1	
	37nm,0.3s						
CHKK	**Chushkaly**	**2.05 58**	*e*P		**Pb**	**17 14 19.8**	**-0.7**
	4.0nm,0.2s						
CHKK			*e*S		**Sb**	**17 14 46.1**	**+0.4**
	37nm,0.3s						
ARK	**Arkit**	**2.18 244**	⇑*e*P		**Pn**	**17 14 20.0**	**+0.7**
ARK			⇑*e*S		**Sn**	**17 14 46.6**	**+0.7**
ANVS	**Anan'yevo**	**2.27 89**	⇑*i*P		**Pn**	**17 14 21.2**	**+0.6**
ANVS			⇑*i*S		**Sn**	**17 14 49.2**	**+0.9**
TARG	**Taragay, Kyrgy**	**2.62 113**	⇑*i*P		**Pn**	**17 14 26.3**	**+0.7**
TARG			⇑*i*S		**Sn**	**17 14 57.8**	**+0.6**
KURS	**Kuram**	**2.72 74**	*e*P		Pn	17 14 19.8	-6.8
	4.0nm,0.2s						
KURS			*e*S		Sn	17 14 46.1	-13
	37nm,0.3s						
ARXS	**Arharly**	**2.75 58**	Pg		**Pb**	**17 14 32.3**	**-0.3**
	2.0nm,0.4s						
ARXS			Lg		Lg	17 15 07.6	
	17nm,0.5s						
SATY	**Saty**	**2.82 83**	*e*P		**Pb**	**17 14 32.2**	**-1.5**
	2.0nm,0.4s						
SATY			*e*S		**Sb**	**17 15 07.6**	**-0.4**
	17nm,0.5s						
TRKS	**Terek-Say**	**2.85 245**	⇑*i*P		**Pn**	**17 14 29.3**	**+0.7**
TRKS			⇑*i*S		**Sn**	**17 15 03.1**	**+0.6**
KK31	**Karatay Array**	**3.00 277**	Pg		**Pb**	**17 14 38.0**	**+1.3**
	2.6nm,0.5s,baz=95,slow=17,SNR=20						
KK31			Sn		**Sb**	**17 15 12.6**	**-0.4**
	1.2nm,0.3s,baz=97,slow=30,SNR=7.7						
KK31			⇓Lg		Lg	17 15 20.7	
	4.7nm,0.4s,baz=86,slow=25,SNR=11						
KKAR	**Karatay Array**	**3.00 277**	⇑*i*P		**Pn**	**17 14 31.1**	**+0.6**
KKAR			⇑*i*S		**Sn**	**17 15 06.2**	**+0.2**
UZB	**Uzynbulak**	**3.28 82**	Pg		**Pb**	**17 14 42.1**	**+0.6**
	3.7nm,0.2s						
UZB			Lg		Lg	17 15 24.7	
	3.8nm,0.2s						
UZB	**Uzynbulak**	**3.28 82**	*e*P		**Pb**	**17 14 42.1**	**+0.6**
	3.7nm,0.2s						
UZB			*e*S		**Sb**	**17 15 24.7**	**+3.5**
	3.8nm,0.2s						
IUG	**Iuzhnay**	**3.43 261**	Pg		**Pb**	**17 14 45.7**	**+1.7**
	4.2nm,0.2s						
IUG			Lg		Lg	17 15 30.5	
	12nm,0.3s						
BRLS	**Borolday**	**3.49 275**	Pg		**Pb**	**17 14 47.8**	**+2.8**
	0.5nm,0.1s						
BRLS			Lg		Lg	17 15 34.3	
	4.2nm,0.6s						
BRLS	**Borolday**	**3.49 275**	*e*P		**Pb**	**17 14 47.8**	**+2.8**
	0.5nm,0.1s						
BRLS			*e*S		**Sg**	**17 15 34.3**	**-1.6**
	4.2nm,0.6s						
PDGK	**Podgornoye**	**3.64 80**	⇑Pg		**Pb**	**17 14 47.8**	**+0.2**
	1.7nm,0.6s						
PDGK			⇑Lg		Lg	17 15 35.5	
	4.2nm,0.9s						
MK31	**Makanchi Array**	**6.79 51**	⇓Pn		**Pn**	**17 15 23.4**	**+0.9**
	0.4nm,0.4s,baz=232,slow=14,SNR=11						

LJU ***19*** *17:36:20.8, 45°.47N×15°.33E, h6km, ML2.2*
VIE ***19*** *17:36:21.8±0.4, 45°.52N×15°.28E, h5km±2km, mb2.1/13, ml2.3/16, Error ellipse: s-maj=3.0km s-min=1.5km az=160.0 21 km W of Karlovac*
RHSSO ***19*** *17:36:21.6±0.2, 45°.48N×15°.33E, h3km±2km, ML2.5/12*
ROM ***19*** *17:36:22.8±0.7, 45°.51N±0°.07×15°.26E±0°.04, h10km, ML2.8/15, Error ellipse: s-maj=7.6km s-min=3.3km az=2.0*
PRU ***19*** *17:36:28.1, 45°.78N×15°.31E, h10km*
ISC 19 17:36:21.0±0.8, 45°.51N±0°.01×15°.33E±0°.01, h10km±4km, n97, σ1§13/161, 16C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.05**	**261**	⇑*i*Pg	**Pg**	**17 36 23.0**	**0.0**
BOJS				*e*Sg	**Sg**	**17 36 24.2**	**-0.4**
BOJS	**Bojanci**	**0.05**	**261**	⇑*i*Pg	**Pg**	**17 36 23.1**	**0.0**
BOJS				*i* Sg	**Sg**	**17 36 24.2**	**-0.4**
BOJS				IAML		17 36 24.3	
	comp=Z,1μm,0.1s						
OZLJ	**Ozalj**	**0.14**	**44**	*e*Pg	**Pg**	**17 36 24.7**	**+0.4**
OZLJ				Sg	**Sg**	**17 36 27.0**	**+0.4**
CRES	**Cresnjevec Ost**	**0.33**	**16**	⇓*i*Pg	**Pg**	**17 36 27.6**	**0.0**
CRES				*e*Sg	**Sb**	**17 36 33.0**	**-1.2**
CRES	**Cresnjevec Ost**	**0.33**	**16**	⇓*i*Pg	**Pb**	**17 36 27.8**	**-1.1**
CRES				*e*Sg	**Sb**	**17 36 33.3**	**-0.9**
CRES				IAML		17 36 35.8	
	comp=Z,85nm,0.1s						
GBRS	**Gornja Briga**	**0.36**	**273**	⇑*i*Pg	**Pb**	**17 36 28.8**	**-0.8**
GBRS				IAML		17 36 37.2	
	comp=Z,60nm,0.1s						
GCIS	**Gornji Cirnik**	**0.41**	**31**	⇓*i*Pg	**Pb**	**17 36 30.0**	**-0.4**
GCIS				*i* Sg	**Sb**	**17 36 36.6**	**-0.1**
GCIS				IAML		17 36 37.6	
	comp=Z,141nm,0.2s						
LEGS	**Legarje**	**0.44**	**359**	*i* Pg	**Pb**	**17 36 30.0**	**-0.8**
LEGS				*e*Sg	**Sb**	**17 36 36.9**	**-0.5**
VISS	**Visnje**	**0.45**	**311**	⇑*i*Pg	**Pb**	**17 36 30.4**	**-0.6**
VISS				*e*Sg	**Sb**	**17 36 37.2**	**-0.5**
VISS				IAML		17 36 38.6	
	comp=Z,147nm,0.2s						
CESS	**Cesta pri Krsk**	**0.47**	**12**	*i* Pg	**Pb**	**17 36 30.9**	**-0.5**
CESS				*e*Sg	**Sb**	**17 36 38.2**	**-0.2**
CESS				IAML		17 36 39.7	
	comp=Z,59nm,0.1s						
GOLS	**Golise**	**0.54**	**23**	⇓*i*Pg	**Pb**	**17 36 32.5**	**-0.1**
GOLS				Sg	**Sb**	**17 36 40.2**	**-0.2**
GOLS				IAML		17 36 42.5	
	comp=Z,33nm,0.1s						
ZAG	**Zagreb**	**0.56**	**56**	*e*Pg	**Pb**	**17 36 32.7**	**-0.2**
ZAG				Sg	**Sb**	**17 36 40.5**	**-0.4**
PDKS	**Podkum**	**0.59**	**338**	*e*Pg	**Pb**	**17 36 33.5**	**0.0**
PDKS				*e*Sg	**Sb**	**17 36 41.3**	**-0.7**
PDKS				IAML		17 36 47.5	
	comp=Z,85nm,0.2s						
PTJ	**Puntijarka**	**0.60**	**49**	*e*Pg	**Pb**	**17 36 33.5**	**-0.1**
PTJ				Sg	**Sb**	**17 36 41.3**	**-0.8**
RIY	**Rijeka**	**0.62**	**253**	*e*Pg	**Pg**	**17 36 32.8**	**-0.3**
RIY				Sg	**Sg**	**17 36 41.0**	**-0.2**
DOBS	**Dobrina**	**0.65**	**9**	⇓*i*Pg	**Pb**	**17 36 34.5**	**+0.2**
DOBS				IAML		17 36 49.9	
	comp=Z,51nm,0.2s						
KNDS	**Knezji Dol**	**0.66**	**272**	⇑*i*Pg	**Pb**	**17 36 34.0**	**-0.7**
KNDS				IAML		17 36 46.1	
	comp=Z,43nm,0.2s						
PLIT	**Plitvice**	**0.67**	**161**	*e*Pg	**Pg**	**17 36 33.4**	**-0.5**
PLIT				Sg	**Sg**	**17 36 41.7**	**-1.0**
CEY	**Cerknica**	**0.67**	**290**	⇑*i*Pg	**Pb**	**17 36 34.2**	**-0.6**
CEY				*e*Sg	**Sb**	**17 36 43.5**	**-0.6**
CEY	**Cerknica**	**0.67**	**290**	⇑*i*Pg	**Pb**	**17 36 34.3**	**-0.4**
CEY				*e*Sg	**Sb**	**17 36 43.5**	**-0.6**
CEY				IAML		17 36 46.7	
	comp=Z,62nm,0.2s						
VNDS	**Vrh nad Dolski**	**0.73**	**324**	*i* Pg	**Pb**	**17 36 36.0**	**+0.1**
VNDS				*e*Sg	**Sb**	**17 36 46.5**	**+0.6**
VNDS				IAML		17 36 50.8	
	comp=Z,67nm,0.2s						
GBAS	**Gorenja Brezov**	**0.75**	**305**	*i* Pg	**Pb**	**17 36 35.8**	**-0.3**
GBAS				IAML		17 36 49.5	
	comp=Z,26nm,0.1s						
A251A	**Rujevac**	**0.77**	**120**	*e*Pg	**Pg**	**17 36 35.6**	**-0.2**
A251A				Sg	**Sg**	**17 36 44.7**	**-1.1**
LJU	**Ljubljana**	**0.77**	**314**	⇑*i*Pg	**Pb**	**17 36 36.5**	**0.0**
LJU				*i* Sg	**Sb**	**17 36 47.8**	**+0.8**
LJU				IAML		17 36 49.4	
	comp=Z,37nm,0.2s						
LOBO	**Lobor**	**0.83**	**39**	*e*Pg	**Pb**	**17 36 37.7**	**+0.3**
LOBO				Sg	**Sb**	**17 36 49.2**	**+0.6**
RABC	**Rab**	**0.85**	**207**	*e*Pg	**Pg**	**17 36 36.6**	**-0.8**
RABC				Sg	**Sg**	**17 36 48.4**	**-0.1**
SKDS	**Skadanscina**	**0.92**	**273**	⇑*i*Pg	**Pg**	**17 36 38.0**	**-0.7**
SKDS				*e*Sg	**Sb**	**17 36 50.7**	**-0.6**
SKDS	**Skadanscina**	**0.92**	**273**	⇑*i*Pg	**Pg**	**17 36 38.0**	**-0.7**
SKDS				IAML		17 36 56.4	
	comp=Z,25nm,0.1s						
CRNS	**Crni Vrh**	**0.94**	**308**	⇑*i*Pg	**Pb**	**17 36 39.2**	**-0.1**
CRNS				IAML		17 36 55.9	
	comp=Z,24nm,0.1s						
KNYS	**Krupa na Uni**	**0.94**	**131**	⇑*i*Pg	**Pg**	**17 36 38.0**	**-1.1**
KNYS				*e*Sg	**Sg**	**17 36 50.4**	**-0.9**
ZAVS	**Zavodnje**	**0.94**	**347**	*i* Pg	**Pn**	**17 36 39.9**	**-0.4**
ZAVS				IAML		17 36 58.9	
	comp=Z,54nm,0.2s						
GROS	**Grobnik**	**0.96**	**7**	*i* Pg	**Pn**	**17 36 40.2**	**-0.3**
GROS				IAML		17 36 56.9	
	comp=Z,32nm,0.3s						
NVLJ	**Novalja**	**1.00**	**199**	*e*Pg	**Pg**	**17 36 40.0**	**-0.3**
NVLJ				Sg	**Sg**	**17 36 53.2**	**-0.1**
KALN	**Kalnik**	**1.00**	**52**	*e*Pg	**Pn**	**17 36 41.4**	**+0.3**
KALN				Sg	**Sb**	**17 36 54.3**	**+0.6**
MOSL	**Moslavina**	**1.01**	**84**	*e*Pg	**Pb**	**17 36 40.8**	**+0.2**
MOSL				Sg	**Sb**	**17 36 54.0**	**+0.1**
UDBI	**Udbina**	**1.03**	**162**	*e*Pg	**Pg**	**17 36 39.9**	**-0.9**
UDBI				Sg	**Sg**	**17 36 53.2**	**-1.1**
TRI	**Trieste**	**1.11**	**281**	P	**Pg**	**17 36 41.5**	**-0.9**
TRI				S	**Sb**	**17 36 57.2**	**+0.4**
PRIJ	**Prijedor**	**1.12**	**118**	*e*Sg	**Sg**	**17 36 56.9**	**-0.1**
PERS	**Pernice**	**1.13**	**353**	*e*Pg	**Pn**	**17 36 43.4**	**+0.5**
PERS				*i*		17 36 44.5	
PERS				IAML		17 37 01.3	
	comp=Z,24nm,0.2s						
OBKA	**Obir**	**1.13**	**332**	⇑*i*Pg	**Pn**	**17 36 43.1**	**+0.1**
OBKA				*e*Sg	**Sn**	**17 36 59.1**	**+0.5**
OBKA	**Obir**	**1.13**	**332**	*e*Pg	**Pn**	**17 36 43.7**	**+0.7**
	comp=Z,22nm,0.4s,SNR=17						
OBKA				*e*Sg	**Sn**	**17 36 59.3**	**+0.6**
	comp=Z,93nm,0.3s						
VOJS	**Vojsko**	**1.14**	**298**	*e*Pg	**Pb**	**17 36 42.5**	**-0.2**
VOJS				IAML		17 37 02.7	
	comp=Z,19nm,0.1s						
KOGS	**Kog**	**1.14**	**34**	*e*Pg	**Pn**	**17 36 43.7**	**+0.8**
KOGS				IAML		17 37 04.7	
	comp=Z,50nm,0.3s						
SOKA	**Soboth**	**1.18**	**350**	*e*Pg	**Pn**	**17 36 44.3**	**+0.7**
	comp=Z,7.8nm,0.2s,SNR=15						
SOKA				*e*Sg	**Sn**	**17 37 00.0**	**+0.2**
	comp=Z,16nm,0.4s						
A051A	**Mrakovica**	**1.22**	**114**	⇑*i*Pg	**Pg**	**17 36 43.5**	**-1.0**
A051A				*e*Sg	**Sg**	**17 36 59.7**	**-0.7**
GORS	**Gorjuse**	**1.23**	**311**	*e*Pg	**Pn**	**17 36 44.4**	**+0.1**
GORS				*i*		17 36 45.1	
GORS				*e*Sg	**Sn**	**17 37 01.8**	**+0.9**
GORS				IAML		17 37 03.1	
	comp=Z,56nm,0.3s						
VIRC	**Vir**	**1.23**	**189**	*e*Pg	**Pn**	**17 36 44.6**	**+0.4**
VIRC				Sg	**Sg**	**17 37 00.4**	**-0.3**
BRJN	**Brijuni**	**1.27**	**242**	*e*Pg	**Pn**	**17 36 45.3**	**+0.6**
BRJN				Sg	**Sn**	**17 37 02.5**	**+0.8**
SABO	**M.te Sabotino**	**1.29**	**292**	P	**Pn**	**17 36 45.4**	**+0.2**
SABO				S	**Sb**	**17 37 02.5**	**+0.4**
SABO				AML	AML		
	comp=E,69μm,0.2s						
SABO				AML	AML		
	comp=N,81μm,0.9s						
SABO				AML	AML		
	comp=E,1125μm,0.3s						
SABO				AML	AML		
	comp=N,1122μm,0.4s						
SABO				AML	AML		
	comp=E,242μm,0.8s						
SABO				AML	AML		
	comp=N,316μm,0.4s						
SABO				AML	AML		
	comp=E,241μm,0.3s						
SABO				AML	AML		
	comp=N,316μm,0.4s						
SABO				AML	AML		
	comp=E,1128μm,0.3s						
SABO				AML	AML		
	comp=N,1122μm,0.4s						
CADS	**Cadrg**	**1.32**	**303**	*e*Pg	**Pb**	**17 36 45.9**	**0.0**
CADS				*e*Sg	**Sn**	**17 37 04.2**	**+1.0**
CADS				IAML		17 37 07.9	
	comp=Z,74nm,0.3s						
A050A	**Klekovaca**	**1.34**	**140**	⇑*i*Pg	**Pn**	**17 36 45.9**	**+0.1**
A050A				*e*Sg	**Sg**	**17 37 03.3**	**-0.8**
DRE	**Drenchia**	**1.35**	**300**	P	**Pb**	**17 36 46.4**	**+0.1**
BEHE	**Becsehely**	**1.39**	**46**	*e*Pg	**Pg**	**17 36 47.2**	**-0.5**
BEHE				*e*Sg	**Sn**	**17 37 07.2**	**+2.3**
BLY	**Banja Luka**	**1.52**	**119**	*e*Pg	**Pn**	**17 36 48.6**	**+0.4**
BLY				*e*Sg	**Sn**	**17 37 08.7**	**+0.7**
DUGI	**Dugi Otok**	**1.53**	**187**	*e*Pn	**Pg**	**17 36 50.0**	**-0.4**
DUGI				Sn	**Sg**	**17 37 11.4**	**+1.1**
PRED	**Cave del Predi**	**1.54**	**308**	P	**Pb**	**17 36 49.5**	**-0.1**
VINO	**Villanova**	**1.61**	**298**	P	**Pg**	**17 36 50.9**	**-1.0**
VINO				AML	AML		
	comp=E,137μm,1.0s						
VINO				AML	AML		
	comp=N,140μm,1.0s						
VINO				AML	AML		
	comp=E,131μm,0.3s						
VINO				AML	AML		
	comp=N,120μm,0.3s						
VINO				AML	AML		
	comp=E,131μm,1.6s						
MYKA	**Terra Mystica**	**1.62**	**314**	*i* Pg	**Pg**	**17 36 52.1**	**0.0**
	comp=E,4.7nm,0.3s						
MYKA				*e*Sg	**Sg**	**17 37 13.3**	**+0.2**
	comp=E,14nm,0.3s						
ACOM	**Acomizza, Ital**	**1.63**	**310**	P	**Pg**	**17 36 51.5**	**-0.8**
ACOM				AML	AML		
	comp=N,291μm,0.3s						
ACOM				AML	AML		
	comp=N,265μm,0.3s						
ACOM				AML	AML		
	comp=E,332μm,0.8s						
ACOM				AML	AML		
	comp=E,322μm,0.8s						
ACOM				AML	AML		
	comp=N,291μm,0.3s						
ACOM				AML	AML		
	comp=N,265μm,0.3s						
ACOM				AML	AML		
	comp=E,311μm,0.3s						
MORI	**Morici**	**1.67**	**170**	*i* Pn	**Pg**	**17 36 52.5**	**-0.5**
MORI				Sn	**Sg**	**17 37 14.9**	**+0.3**
KIJV	**Kijevo**	**1.69**	**153**	*e*Pn	**Pg**	**17 36 52.7**	**-0.7**
KIJV				Sn	**Sg**	**17 37 15.1**	**-0.2**
GEPF	**Gemona**	**1.71**	**297**	P	**Pg**	**17 36 53.0**	**-0.7**
GEPF				AML	AML		
	comp=N,175μm,0.5s						
GEPF				AML	AML		
	comp=E,140μm,0.5s						
GEPF				AML	AML		
	comp=N,175μm,0.5s						
GEPF				AML	AML		
	comp=N,175μm,1.5s						
GEPF				AML	AML		
	comp=E,140μm,0.5s						
ARSA	**Arzberg**	**1.74**	**4**	⇑*i*Pn	**Pb**	**17 36 52.9**	**-0.2**
ARSA				*e*Sn	**Sg**	**17 37 15.8**	**-1.3**
ARSA	**Arzberg**	**1.74**	**4**	*e*Pn	**Pg**	**17 36 54.2**	**-0.3**
	comp=E,6.7nm,0.4s						
MPRI	**Monte Prat**	**1.79**	**295**	P	**Pg**	**17 36 54.3**	**-1.0**
MPRI				AML	AML		
	comp=N,232μm,1.1s						
MPRI				AML	AML		
	comp=E,240μm,0.6s						
MPRI				AML	AML	

comp=N,2.4nm,0.2s
RICI Ricice 2.40 147 *e*Pn **Pb 17 37 03.5 -0.7**
RICI Sn **Sb 17 37 32.8 -1.0**
MORH Mrgy, Hungar 2.42 72 *e*Pn **Pn 17 37 01.5 +0.9**
MORH *e*Sn **Sn 17 37 32.4 +2.2**
CONA Conrad Observa 2.44 9 *e*Pn **Pn 17 37 01.2 +0.2**
comp=N,1.4nm,0.5s
MOA Molln 2.45 343 *e*Sn **Sn 17 37 32.5 +1.5**
comp=N,0.9nm,0.2s
HVAR Hvar 2.47 161 *e*Pn **Pb 17 37 03.9 -1.6**
HVAR Sn **Sb 17 37 34.6 -1.2**
BIOA Bad Ischl, Aus 2.47 333 Pg **Pg 17 37 08.7 +0.4**
comp=N,2.6nm,0.3s
BIOA *e*Sn **Sb 17 37 34.9 -1.0**
comp=N,4.0nm,0.4s
MAKA Makarska 2.53 151 *e*Pn **Pb 17 37 04.8 -1.7**
MAKA Sn **Sb 17 37 36.3 -1.4**
LESA Schwarzleotal 2.65 317 *e*Pn **Pb 17 37 08.3 -0.2**
comp=N,1.6nm,0.2s
LESA *e*Sn **Sb 17 37 40.3 -0.7**
comp=N,4.3nm,0.4s
LSTV Lastovo 2.97 157 *e*Pn **Pn 17 37 10.5 +2.5**
LSTV Sn **Sn 17 37 45.9 +2.3**
SRO Srobarova 3.09 41 *e*PN **Pn 17 37 11.5 +1.8**
WTTA Wattenberg 3.10 306 *i* Pn **Pb 17 37 13.6 -2.6**
comp=N,1.2nm,0.2s
WTTA *i* Sn **Sb 17 37 50.9 -3.1**
comp=N,1.7nm,0.3s
STON Ston 3.15 146 *e*Pn **Pn 17 37 11.5 +1.0**
STON *e*Sn **Sn 17 37 48.5 +0.5**
MODS Modra-Piesok 3.16 24 *e*PN **Pn 17 37 13.0 +2.3**
MODS *e*PG **Pg 17 37 21.5 0.0**
WATA Walderalm 3.17 306 *i* Pn **Pb 17 37 14.6 -2.9**
comp=N,0.8nm,0.2s
SQTA Sankt Quirin 3.32 302 *i* Pn **Pb 17 37 16.7 -3.3**
comp=N,1.3nm,0.2s
SQTA *i* Sn **Sb 17 37 58.5 -2.0**
comp=N,2.0nm,0.3s
BBLS Lazi&#263i 3.34 118 *e*Pn **Pn 17 37 14.1 +0.8**
CKRC Cesky Krumlov 3.38 349 *e*PG **Pg 17 37 24.3 -1.4**
MOTA Moosalm 3.45 304 *i* Pn **Pn 17 37 17.8 +3.0**
comp=N,1.4nm,0.3s
MOTA *i* Sn **Sn 17 38 00.1 +4.3**
comp=N,2.0nm,0.5s
FETA Feichten 3.53 297 *i* Pn **Pn 17 37 19.1 +3.2**
comp=N,0.9nm,0.3s
FETA *e*Sn **Sn 17 38 01.7 +4.0**
comp=N,3.0nm,0.8s
KRUC Moravsky 3.62 11 *e*PN **Pn 17 37 17.8 +0.7**
KRUC *e*SN **Sn 17 37 57.3 -2.6**
KHC Kasperske Hory 3.81 342 *e*SN **Sn 17 38 04.4 -0.1**
KHC *e*SG **Sg 17 38 20.7 -2.6**
VRAC Vranov 3.89 12 *e*PN **Pn 17 37 21.3 +0.5**
CLL Collm 6.00 346 *e*Sg **Sg 17 39 33.0 -0.5**
comp=Z,7.0nm,1.4s

IDC 19 18:10:53.9±3.0, 27°.72N×142°.26E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=126.8km s-min=33.4km az=75.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**50.13**	**309**	P	P	18 19 50.9	-0.1
	0.1nm,0.4s,baz=101,slow=7.8,SNR=2.2						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**51.72**	**190**	P	P	18 20 03.0	-0.1
	0.3nm,1.0s,baz=2.8,slow=5.1,SNR=2.3						
	0.3nm,1.0s						
KURBB	**Kurchatov Arra**	**52.65**	**314**	P	P	18 20 09.7	-0.1
	0.5nm,0.4s,baz=92,slow=8.1,SNR=13						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**57.63**	**317**	P	P	18 20 45.7	0.0
	0.5nm,0.4s,baz=97,slow=7.4,SNR=4.5						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**77.42**	**334**	P	P	18 22 50.7	0.0
	1.3nm,0.9s,baz=57,slow=5.1,SNR=7.3						
	1.3nm,0.9s						

---

*IDC **19** 18:13:05.0±1.1, 21°.68N×96°.32E, h0km, mb3.6/5, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=40.5km s-min=14.5km az=58.0*
*BKK **19** 18:13:07.3±1.4, 21°.7N±7°.9×9°.6E±°, h6km±6km, M4.0/12, mb3.7/1, Mjma3.6/12, ML4.3/6, MLv4.2/12*
ISC 19 18:13:05.3±1.5, 21°.3N±0°.3×95°.8E±0°.4, h10km, n15, σ1§22/21, mb3.7/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM15	**Chiang Mai Arr**	**4.08**	**133**	Pn	**Pn**	**18 14 08.5**	**+0.6**
CM31	**Chiang Mai Arr**	**4.09**	**133**	Pn	**Pn**	**18 14 08.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**4.09**	**133**	Pn	**Pn**	**18 14 08.8**	**+0.8**
	0.8nm,0.3s,baz=314,slow=13,SNR=19						
CMAR				Pg	**Pg**	**18 14 19.7**	**-4.0**
	1.4nm,0.3s,baz=316,slow=16,SNR=12						
CMAR				Sn	**Sn**	**18 14 57.9**	**+1.9**
	2.6nm,0.3s,baz=326,slow=17,SNR=7.1						
CMAR				Lg	Lg	18 15 12.5	
	6.4nm,0.3s,baz=309,slow=30,SNR=14						
	1.6nm,0.4s						
CM13	**Chiang Mai Arr**	**4.09**	**134**	P	**Pn**	**18 14 07.9**	**-0.1**
CM02	**Chiang Mai Arr**	**4.11**	**133**	Pg	**Pg**	**18 14 24.1**	**0.0**
CM02				Pn	**Pn**	**18 14 08.2**	**-0.1**
CM01	**Chiang Mai Arr**	**4.13**	**133**	Pn	**Pn**	**18 14 09.1**	**+0.6**
CM05	**Chiang Mai Arr**	**4.13**	**134**	Pn	**Pn**	**18 14 08.8**	**+0.2**
CM09	**Chiang Mai Arr**	**4.13**	**133**	Pg	**Pg**	**18 14 22.8**	**-1.8**
CM09				Pn	**Pn**	**18 14 08.7**	**+0.1**
CM09				Sg	**Sg**	**18 15 18.7**	**+0.5**
CM04	**Chiang Mai Arr**	**4.16**	**133**	Pn	**Pn**	**18 14 08.8**	**-0.1**
LAMP	**Lampang**	**4.54**	**127**	Pg	**Pg**	**18 14 31.6**	**-0.8**
LAMP				Pn	**Pn**	**18 14 13.9**	**-0.3**
MKAR	**Makanchi Array**	**27.70**	**340**	P	**P**	**18 18 53.1**	**-0.6**
	0.1nm,0.4s,baz=148,slow=9.7,SNR=4.4						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**32.26**	**339**	P	**P**	**18 19 34.4**	**+0.5**
	0.2nm,0.4s,baz=142,slow=10,SNR=1.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**55.69**	**135**	P	**P**	**18 22 42.6**	**+0.5**
	0.7nm,0.8s,baz=321,slow=7.5,SNR=5.3						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**58.09**	**138**	P	**P**	**18 22 60.0**	**+0.8**
	0.5nm,0.5s,baz=320,slow=6.8,SNR=16						
	0.5nm,0.5s						
ARCES	**ARCESS Array B**	**63.34**	**338**	P	**P**	**18 23 34.1**	**-0.2**
	1.6nm,0.8s,baz=109,slow=7.7,SNR=1.8						
	1.6nm,0.8s						

---

*DJA **19** 18:47:19.6±0.4, 6°S±2°×13°0E±°, h157km±10km, M4.3/13, mB5.1/5, mb4.0/4, MLv4.3/13, Mw(mB)4.5/5*
ISC 19 18:47:18.0±0.9, 6°.14S±0°.05×129°.65E±0°.06, h150km, n26, σ2§46/28, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.62**	**9**	P	Pn	18 47 55.5	+6.6
BNDI	**Bandanaira**	**1.62**	**9**	P	**Pn**	**18 47 47.5**	**-1.4**
SAUI	**Saumlaki**	**2.46**	**138**	P	**Pn**	**18 48 02.3**	**+3.7**
SAUI	**Saumlaki**	**2.46**	**138**	P	**Pn**	**18 48 00.2**	**+1.6**
SAUI				S	**Sn**	**18 48 35.3**	**+5.3**
AAI	**Ambon**	**2.83**	**329**	P	**Pn**	**18 48 04.9**	**+1.6**
MSAI	**Masohi**	**2.86**	**345**	P	**Pn**	**18 48 05.0**	**+1.3**
NLAI	**Namlea**	**3.84**	**318**	P	**Pn**	**18 48 19.3**	**+3.1**
FAKI	**Fak Fak**	**4.12**	**39**	P	**Pn**	**18 48 21.6**	**+1.8**
FAKI				S	**Sn**	**18 49 09.1**	**+1.2**
KMPI	**Kaimana, Papua**	**4.73**	**59**	P	**Pn**	**18 48 29.1**	**+1.2**
KMPI				S	**Sn**	**18 49 23.3**	**+1.0**
SANI	**Sanana**	**5.46**	**318**	P	**Pn**	**18 48 42.0**	**+4.5**
SANI	**Sanana**	**5.46**	**318**	P	**Pn**	**18 48 41.8**	**+4.3**
	0.1nm28nm,0.7s						
SWI	**Sorong**	**5.48**	**17**	P	**Pn**	**18 48 39.3**	**+1.5**
DRS	**Darwin Rock St**	**6.38**	**169**	P	**Pn**	**18 48 49.5**	**-0.2**
DRS	**Darwin Rock St**	**6.38**	**169**	S	**Sn**	**18 49 58.5**	**-3.1**
SOEI	**Soe**	**6.43**	**236**	P	**Pn**	**18 48 52.1**	**+1.6**
SOEI	**Soe**	**6.43**	**236**	S	**Sn**	**18 50 01.9**	**-1.1**
SOEI	**Soe**	**6.43**	**236**	P	**Pn**	**18 48 52.1**	**+1.6**
	0.3nm16nm,1.0s						
RKPI	**Ransiki, Papua**	**6.45**	**45**	P	**Pn**	**18 48 53.0**	**+2.3**
MTN	**Manton Dam**	**6.82**	**168**	P	**Pn**	**18 48 55.1**	**-0.6**
MTN	**Manton Dam**	**6.82**	**168**	S	**Sn**	**18 50 08.2**	**-4.1**
KDU	**Kakadu**	**7.08**	**157**	P	**Pn**	**18 48 58.6**	**-0.5**
COEN	**Coen**	**15.41**	**121**	P	**Pn**	**18 50 47.3**	**-0.3**
QIS	**Mount Isa**	**17.29**	**147**	P	**P**	**18 51 09.2**	**-0.3**
AS01	**Alice Springs**	**17.91**	**167**	P	**P**	**18 51 16.0**	**-0.4**
WRKA	**Warakurna**	**18.84**	**184**	P	**P**	**18 51 25.6**	**-0.9**
OOD	**Oodnadatta**	**22.29**	**166**	P	**P**	**18 52 01.3**	**-1.8**

---

*THE **19** 18:49:42.9, 37°.58N×20°.65E, h5km, ML3.3/17, Error ellipse: s-maj=1.2km s-min=0.5km az=225.0*
*ATH **19** 18:49:43.6, 37°.66N×20°.65E, h10km±2km, ML3.4/26, Manual Solution by A.Andreou First location: 2019/04/19 18:50:38, This location: 2020/08/10 13:11:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*IDC **19** 18:49:43.2±1.8, 37°.81N×20°.67E, h0km, mb3.3/9, mbtmp3.3/13, ML1.1/2, Error ellipse: s-maj=30.7km s-min=22.9km az=21.0*
ISC 19 18:49:43.5±1.1, 37°.66N±0°.03×20°.64E±0°.03, h9km±6km, n71, σ0§84/100, mb3.4/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.16**	**71**	P	**Pg**	**18 49 47.1**	**0.0**
LTHK				S	**Sg**	**18 49 49.6**	**+0.1**
	29μm,0.1s						
LTHK	**Lithakia**	**0.16**	**71**	P	**Pg**	**18 49 47.2**	**+0.2**
LTHK				S	**Sg**	**18 49 49.7**	**+0.1**
RTZL	**Ratzakli, Kefa**	**0.43**	**14**	P	**Pb**	**18 49 52.6**	**-0.7**
RTZL				S	**Sb**	**18 49 59.9**	**0.0**
	4μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.46**	**354**	P	**Pb**	**18 49 53.1**	**-0.7**
PSDA				S	**Sb**	**18 50 00.9**	**+0.2**
	4μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.46**	**354**	P	**Pb**	**18 49 53.4**	**-0.4**
VLS	**Valsamata**	**0.52**	**355**	P	**Pb**	**18 49 54.1**	**-0.8**
VLS				S	**Sb**	**18 50 03.0**	**+0.4**
	3μm,0.1s						
VLS	**Valsamata**	**0.52**	**355**	P	**Pb**	**18 49 54.3**	**-0.6**
SMHA	**Samh**	**0.59**	**0**	P	**Pg**	**18 49 54.5**	**-0.6**
SMHA				S	**Sb**	**18 50 03.5**	**-1.0**
DMLN	**Damoulianata-K**	**0.62**	**340**	P	**Pb**	**18 49 56.3**	**-0.2**
DMLN				S	**Sb**	**18 50 06.8**	**+1.5**
	4μm,0.5s						
DMLN	**Damoulianata-K**	**0.62**	**340**	P	**Pb**	**18 49 56.4**	**-0.1**
VSK1	**VASILIKIADES**	**0.76**	**355**	P	**Pg**	**18 49 58.0**	**-0.1**
VSK1				S	**Sn**	**18 50 11.0**	**-0.9**
	2μm,0.6s						
RLS	**Riolos of Patr**	**0.77**	**58**	P	**Pg**	**18 49 57.9**	**-0.4**
RLS				S	**Sb**	**18 50 09.0**	**-0.5**
	4μm,0.5s						
RLS	**Riolos of Patr**	**0.77**	**58**	P	**Pg**	**18 49 58.1**	**-0.2**
RLS				S	**Sg**	**18 50 08.0**	**-0.4**
FSK	**Fiskardo**	**0.81**	**356**	P	**Pg**	**18 49 58.9**	**-0.2**
FSK				S	**Sn**	**18 50 12.1**	**-1.0**
	2μm,0.6s						
FSK	**Fiskardo**	**0.81**	**356**	P	**Pb**	**18 49 59.2**	**-0.5**
FSK				S	**Sb**	**18 50 10.2**	**-0.5**
AMT	**Artemida-Makis**	**0.86**	**98**	P	**Pb**	**18 50 00.3**	**-0.2**
DRO	**Drossia**	**0.90**	**70**	P	**Pg**	**18 50 00.3**	**-0.5**
DRO				S	**Sb**	**18 50 13.7**	**+0.4**
	4μm,0.5s						
DRO	**Drossia**	**0.90**	**70**	P	**Pg**	**18 50 00.7**	**-0.1**
DRO				S	**Sb**	**18 50 12.9**	**-0.4**
AST1	**Astakos**	**0.95**	**22**	P	**Pb**	**18 50 01.8**	**-0.4**
EVGI	**Lefkada island**	**0.96**	**1**	P	**Pg**	**18 50 01.6**	**-0.5**
EVGI				S	**Sn**	**18 50 17.6**	**+0.6**
	1μm,0.2s						
EVGI	**Lefkada island**	**0.96**	**1**	P	**Pg**	**18 50 01.9**	**-0.2**
EVGI				S	**Sb**	**18 50 14.7**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.06**	**2**	P	**Pg**	**18 50 03.1**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.06**	**2**	P	**Pb**	**18 50 03.7**	**-0.2**
UPR	**University Cam**	**1.10**	**55**	P	**Pb**	**18 50 04.6**	**-0.1**
UPR	**University Cam**	**1.10**	**55**	P	**Pn**	**18 50 05.3**	**+0.2**
ITM	**Ithomi**	**1.13**	**115**	P	**Pg**	**18 50 03.7**	**-1.5**
ITM				S	**Sg**	**18 50 19.7**	**-0.1**
	1μm,0.6s						
ITM	**Ithomi**	**1.13**	**115**	P	**Pb**	**18 50 05.4**	**+0.2**
LKD2	**Lefkada island**	**1.13**	**1**	P	**Pg**	**18 50 04.8**	**-0.5**
LKD2				S	**Sn**	**18 50 23.4**	**+2.2**
	1μm,0.6s						
LKD2	**Lefkada island**	**1.13**	**1**	P	**Pg**	**18 50 05.0**	**-0.3**
TSLK	**Tsoukalades, L**	**1.17**	**0**	P	**Pg**	**18 50 05.6**	**-0.4**
TSLK				S	**Sn**	**18 50 24.2**	**+2.1**
	1μm,0.6s						
TSLK	**Tsoukalades, L**	**1.17**	**0**	P	**Pb**	**18 50 05.8**	**0.0**
TSLK				S	**Sn**	**18 50 21.8**	**-0.2**
PVO	**Paravola**	**1.19**	**36**	P	**Pb**	**18 50 06.0**	**-0.1**
KLV	**Kalavryta, Ach**	**1.25**	**72**	P	**Pg**	**18 50 06.4**	**-1.2**
KLV				S	**Sn**	**18 50 25.1**	**+0.8**
	840nm,0.7s						
KLV	**Kalavryta, Ach**	**1.25**	**72**	P	**Pn**	**18 50 07.3**	**+0.1**
EFP	**Efpalio**	**1.26**	**52**	P	**Pg**	**18 50 06.0**	**-1.7**
EFP				S	**Sn**	**18 50 25.2**	**+0.9**
	1μm,0.5s						
EFP	**Efpalio**	**1.26**	**52**	P	**Pg**	**18 50 07.2**	**-0.5**
ALIK	**Aliki, Aigiali**	**1.31**	**62**	P	**Pn**	**18 50 07.5**	**-0.4**
ALIK				S	**Sn**	**18 50 26.2**	**+0.7**
GUR	**Goura**	**1.38**	**78**	P	**Pn**	**18 50 08.4**	**-0.6**
GUR				S	**Sn**	**18 50 28.2**	**+0.9**
	1μm,0.4s						
GUR	**Goura**	**1.38**	**78**	P	**Pg**	**18 50 09.8**	**-0.1**
GUR				S	**Sn**	**18 50 27.9**	**+0.6**
ANX	**Ano Chora**	**1.38**	**47**	P	**Pn**	**18 50 08.7**	**-0.3**
ANX				S	**Sn**	**18 50 28.8**	**+1.5**
	3μm,0.5s						
ANX	**Ano Chora**	**1.38**	**47**	P	**Pn**	**18 50 09.1**	**+0.2**
EVR	**Evrytania**	**1.56**	**36**	P	**Pg**	**18 50 13.0**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.79**	**40**	P	**Pn**	**18 50 15.1**	**+0.5**
LTK	**Loutraki**	**1.88**	**78**	P	**Pb**	**18 50 17.7**	**-0.3**
IGT	**Igoumenitsa**	**1.89**	**353**	P	**Pb**	**18 50 17.3**	**-0.9**
AGG	**Agios Georgios**	**1.90**	**44**	P	**Pb**	**18 50 17.7**	**-0.7**
AXAR	**Agios Charalam**	**1.94**	**54**	P	**Pn**	**18 50 17.1**	**+0.5**
KRND	**KRANIDI**	**2.01**	**97**	P	**Pb**	**18 50 19.6**	**-0.6**
VLI	**Veliai**	**2.06**	**116**	P	**Pb**	**18 50 20.6**	**-0.4**
LKR	**Lokris**	**2.11**	**61**	P	**Pn**	**18 50 19.5**	**+0.6**
VIL2	**Platees**	**2.15**	**74**	P	**Pb**	**18 50 21.6**	**-1.0**
VIL2				S	**Sn**	**18 50 47.6**	**+1.3**
MET5	**Makryloggos,Me**	**2.16**	**90**	P	**Pb**	**18 50 21.7**	**-1.0**
KEK	**Kerkira**	**2.16**	**342**	P	**Pn**	**18 50 20.5**	**+0.9**
MET4	**Agioi Theodoro**	**2.19**	**90**	P	**Pn**	**18 50 21.1**	**+1.1**
THL	**Klokotos Trika**	**2.19**	**29**	P	**Pn**	**18 50 21.3**	**+1.2**
TYRN	**Tyrnavos**	**2.40**	**31**	P	**Pn**	**18 50 23.7**	**+0.7**
VLY	**Voula,Athens**	**2.51**	**85**	P	**Pn**	**18 50 26.1**	**+1.7**
NEO	**Neokhori**	**2.61**	**50**	P	**Pn**	**18 50 27.3**	**+1.4**
IDI	**Anoyia**	**4.16**	**123**	Pn	**Pn**	**18 50 50.2**	**+3.0**
	0.2nm,0.3s,baz=298,slow=15,SNR=1.2						
IDI				Sn	**Sn**	**18 51 35.2**	**-0.7**
	4.4nm,0.3s,baz=304,slow=20,SNR=11						
	7.4nm,0.8s						
VAE	**Valguarnera**	**4.95**	**270**	Pn	**Pn**	**18 50 60.0**	**+1.9**
	0.9nm,0.3s,baz=221,slow=23,SNR=1.6						
VAE				Sn	**Sn**	**18 51 54.9**	**-0.6**
	1.7nm,0.3s,baz=88,slow=15,SNR=2.0						
	2.3nm,0.3s						
MLR	**Muntele Rosu**	**8.78**	**25**	Pn	**Pn**	**18 51 51.1**	**+0.5**
	0.6nm,0.4s,baz=160,slow=15,SNR=3.6						
AKASG	**Malin Array Be**	**14.41**	**22**	Pn	**Pn**	**18 53 06.7**	**-0.8**
	0.2nm,0.3s,baz=210,slow=7.7,SNR=4.3						
HFS	**Hagfors**	**22.93**	**351**	P	**P**	**18 54 47.4**	**-0.2**
	1.4nm,0.7s,baz=163,slow=11,SNR=11						
	1.4nm,0.7s						
EKA	**Eskdalemuir Ar**	**23.91**	**325**	P	**P**	**18 54 57.4**	**0.0**
	0.9nm,0.8s,baz=133,slow=9.4,SNR=2.6						
	0.9nm,0.8s						
FINES	**FINESS Array B**	**24.05**	**6**	P	**P**	**18 54 57.7**	**-1.0**
	0.6nm,0.6s,baz=186,slow=12,SNR=7.9						
	0.6nm,0.6s						
NOA	**NORSAR Array B**	**24.15**	**349**	P	**P**	**18 54 59.5**	**-0.2**
	0.1nm,0.6s,baz=157,slow=11,SNR=4.3						
	0.1nm,0.6s						
ARCES	**ARCESS Array B**	**32.05**	**3**	P	**P**	**18 56 10.3**	**+0.2**
	2.6nm,0.9s,baz=184,slow=9.0,SNR=2.2						
	2.6nm,0.9s						
BVAR	**Borovoye Array**	**37.38**	**49**	P	**P**	**18 56 56.3**	**-0.1**
	0.3nm,0.6s,baz=262,slow=8.3,SNR=1.4						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**42.46**	**53**	P	**P**	**18 57 37.9**	**-0.7**
	0.1nm,0.5s,baz=281,slow=8.8,SNR=1.5						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**45.49**	**58**	P	**P**	**18 58 03.7**	**+0.7**
	0.2nm,0.4s,baz=268,slow=7.2,SNR=2.1						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**45.97**	**48**	P	**P**	**18 58 05.8**	**-0.8**
	0.4nm,0.4s,baz=268,slow=10,SNR=2.2						
	0.4nm,0.4s						

---

*PRE **19** 18:55:18.4±0.7, 22°.91S×25°.21E, h5km, ML2.4*
*BGSI **19** 18:55:18.2±1.4, 22°.68S×25°.23E, h10km±9km, ML2.6*
ISC 19 18:55:17.5±1.4, 22°.73S±0°.04×25°.18E±0°.04, h23km±15km, n20, σ2§76/38, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDWAN	**Kaudwane**	**0.81**	**216**	*i* P	**Pb**	**18 55 33.6**	**+0.6**
KDWAN				*i* S	**Sn**	**18 55 45.1**	**+0.1**
KHWEE	**KHWEE**	**0.82**	**18**	*i* P	**Pb**	**18 55 31.5**	**-1.6**
KHWEE				IAML		18 55 41.5	
	comp=E,2μm,0.1s						
LPHEP	**Lephephe**	**0.89**	**136**	*i* P	**Pn**	**18 55 35.4**	**+0.7**
LPHEP				*i* S	**Sb**	**18 55 45.6**	**-0.3**
LPHEP				IAML		18 55 49.5	
	comp=E,77nm,0.3s						
SKOMA	**Sekoma**	**2.12**	**213**	*i* P	**Pn**	**18 55 53.0**	**+1.4**
SKOMA				*i* S	**Sn**	**18 56 18.4**	**+1.2**
SKOMA				IAML		18 56 23.1	
	comp=E,67nm,0.1s						
SOOWA	**Sowa**	**2.36**	**24**	*i* P	**Pn**	**18 55 54.7**	**-0.2**
SOOWA				*i* S	**Sn**	**18 56 21.0**	**-2.2**
SOOWA				IAML		18 56 31.4	
	comp=N,95nm,0.1s						
KGCAE	**Kacgae**	**2.75**	**267**	*i* P	**Pn**	**18 56 01.0**	**+0.7**
KGCAE				*i* S	**Sn**	**18 56 34.4**	**+1.6**
KGCAE				IAML		18 56 47.0	
	comp=N,48nm,0.5s						
HRAO	**HartRAO**	**3.89**	**145**	*e*P	**Pn**	**18 56 17.9**	**+1.9**
HRAO				*e*S	**Sn**	**18 57 01.0**	**-0.1**
HRAO				IAML		18 57 24.0	
	comp=Z,11nm,0.4s						
LKGWB	**Lokgwabe**	**3.89**	**248**	*i* P	**Pn**	**18 56 17.2**	**+1.1**
LKGWB				IAML		18 57 06.9	
	comp=E,19nm,0.6s						
BLWY	**Bulawayo**	**4.10**	**52**	*i* P	**Pb**	**18 56 31.8**	**+2.6**
BLWY				*i* S	**Sb**	**18 57 16.9**	**-1.4**
MUSN	**Musina, Limpop**	**4.35**	**85**	*e*P	**Pn**	**18 56 26.5**	**+4.3**
MUSN				*e*S	**Sn**	**18 57 15.3**	**+3.1**
MUSN				IAML		18 57 40.4	
	comp=Z,8.3nm,0.6s						
MUSN	**Musina, Limpop**	**4.35**	**85**	*i* P	**Pb**	**18 56 29.7**	**-3.6**
MUSN				*i* S	**Sn**	**18 57 13.8**	**+1.6**
SWZ	**Schweizer**	**4.44**	**178**	*e*P	**Pn**	**18 56 24.6**	**+1.1**
SWZ				*e*S	**Sn**	**18 57 13.5**	**-1.1**
SWZ				IAML		18 57 35.7	
	comp=Z,10nm,0.3s						
PRYS	**Parys**	**4.62**	**155**	*e*P	**Pn**	**18 56 27.2**	**+1.1**
PRYS				*e*S	**Sn**	**18 57 18.5**	**-0.6**
PRYS				IAML		18 57 51.8	
	comp=Z,9.6nm,0.5s						
PILG	**Pilgrimsrest,**	**5.51**	**115**	*e*P	**Pn**	**18 56 40.2**	**+1.7**
PILG				*e*S	**Sn**	**18 57 41.0**	**-0.3**
PILG				IAML		18 58 00.0	
	comp=Z,3.6nm,0.4s						
MOPA	**Mopani**	**5.78**	**99**	*e*P	**Pn**	**18 56 44.9**	**+3.1**
MOPA				*e*S	**Sn**	**18 57 47.8**	**+0.4**
MOPA				IAML		18 58 27.7	
	comp=Z,18nm,0.4s						
MOPA	**Mopani**	**5.78**	**99**	*i* P	**Pn**	**18 56 46.5**	**+4.6**
MOPA				*i* S	**Sn**	**18 57 43.4**	**-4.0**
BOSA	**Boshof**	**5.86**	**179**	*i* P	**Pn**	**18 56 46.4**	**+3.3**
BOSA				*i* S	**Sn**	**18 57 42.4**	**-7.3**
ALKP	**Alkanpan, Nort**	**7.65**	**199**	*e*P	**Pn**	**18 57 10.0**	**+2.3**
ALKP				*e*S	**Sn**	**18 58 30.4**	**-3.3**
ALKP				IAML		18 59 19.1	
	comp=Z,4.6nm,0.5s						
BRAK	**Brakfontein**	**9.24**	**192**	*e*P	**Pn**	**18 57 31.9**	**+2.4**
BRAK				*e*S	**Sn**	**18 59 08.6**	**-4.2**
BRAK				IAML		19 00 10.2	
	comp=Z,2.6nm,0.9s						
ROOI	**Rooidraai Farm**	**9.84**	**188**	*e*P	**Pn**	**18 57 39.1**	**+1.5**
ROOI				*e*S	**Sn**	**18 59 22.1**	**-5.2**
ROOI				IAML		18 59 29.1	
	comp=Z,1.3nm,0.4s						

---

*ASRS **19** 18:59:37.2±0.2, 53°.8N±0°.9×88°.3E±0°.8, h4km, MLh3.7/26, Error ellipse: s-maj=2.2km s-min=1.6km az=33.6, confirmed*
*IDC **19** 18:59:39.3±1.3, 53°.81N×88°.15E, h0km, mb3.4/2, mbtmp3.7/10, ML3.5/8, Error ellipse: s-maj=15.3km s-min=12.1km az=120.0*
*NNC **19** 18:59:40.9±2.4, 53°.62N×88°.05E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=19.5km s-min=11.1km az=57.0, Suspected Mining explosion.*
ISC 19 18:59:38.4±0.6, 53°.83N±0°.02×88°.15E±0°.02, h0km, n48, σ1§25/88, 7C-20D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIYZ	**Kiyzas, Kuzbas**	**0.36**	**221**	⇓Pg	**Pg**	**18 59 45.7**	**+0.5**
KIYZ				Sg	**Sb**	**18 59 52.4**	**-1.4**
LUZB	**Luzhba, Kemero**	**0.48**	**110**	⇓Pg	**Pg**	**18 59 47.6**	**+0.1**
LUZB				Sg	**Sg**	**18 59 54.1**	**+0.4**
KALT3	**Kaltan 3**	**0.53**	**234**	Pg	**Pg**	**18 59 49.2**	**+0.7**
KALT3				Sg	**Sg**	**18 59 57.1**	**+1.8**
ERU	**Erunakovo, Kuz**	**0.55**	**305**	⇓Pg	**Pg**	**18 59 49.5**	**+0.5**
ERU				Sg	**Sg**	**18

AKAR	**Aktash**	**3.53**	**186**	Pn	**Pn**	**19 00 37.1**	**+2.6**
AKAR				Pg	**Pb**	**19 00 41.5**	**-0.3**
AKAR				Sg	**Sg**	**19 01 31.8**	**+0.1**
KURK	**Kurchatov**	**6.63**	**246**	⇓Pn	**Pn**	**19 01 17.6**	**+0.7**
	6.3nm,0.6s						
KURK				⇓Sn	**Sn**	**19 02 30.4**	**-2.7**
	6.7nm,0.6s						
KURK				⇑Lg	Lg	19 03 07.6	
	25nm,0.7s						
KURBB	**Kurchatov Arra**	**6.72**	**245**	Pn	**Pn**	**19 01 19.8**	**+1.4**
	1.0nm,0.3s,baz=61,slow=14,SNR=115						
KURBB				Sn	**Sn**	**19 02 33.3**	**-2.2**
	0.3nm,0.3s,baz=40,slow=18,SNR=8.3						
KURBB				Lg	Lg	19 03 10.5	
	0.3nm,0.3s,baz=62,slow=32,SNR=4.8						
	7.9nm,0.4s						
KURBB	**Kurchatov Arra**	**6.72**	**245**	⇓Pn	**Pn**	**19 01 19.2**	**+0.8**
	14nm,0.6s						
KURBB				⇓Sn	**Sn**	**19 02 35.6**	**+0.1**
	41nm,0.6s						
KURBB				⇑Lg	Lg	19 03 08.7	
	41nm,0.6s						
MK31	**Makanchi Array**	**7.97**	**210**	⇓Pn	**Pn**	**19 01 37.0**	**+1.5**
	3.6nm,0.6s,baz=30,slow=13,SNR=68						
MK31				⇑Sn	**Sn**	**19 03 06.8**	**+0.4**
	5.0nm,0.5s,baz=31,slow=25,SNR=3.2						
MK31				⇓Lg	Lg	19 03 47.4	
	9.4nm,0.7s,baz=15,slow=31,SNR=4.0						
MKAR	**Makanchi Array**	**7.97**	**210**	Pn	**Pn**	**19 01 37.4**	**+1.9**
	1.4nm,0.3s,baz=30,slow=14,SNR=90						
MKAR				Sn	**Sn**	**19 03 06.9**	**+0.5**
	0.7nm,0.3s,baz=30,slow=26,SNR=9.2						
MKAR				Lg	Lg	19 03 50.0	
	0.5nm,0.3s,baz=34,slow=28,SNR=2.0						
	6.2nm,0.6s						
MAKZ	**Makanchi**	**8.06**	**212**	⇓Pn	**Pn**	**19 01 38.2**	**+1.5**
	3.1nm,0.5s						
MAKZ				⇑Sn	**Sn**	**19 03 06.5**	**-1.9**
	5.8nm,0.6s						
MAKZ				⇓Lg	Lg	19 03 49.3	
	16nm,1.1s						
BVA0	**Borovoye Array**	**10.63**	**273**	Pn	**Pn**	**19 02 12.3**	**+0.5**
	3.0nm,0.7s,baz=73,slow=16,SNR=36						
BVAR	**Borovoye Array**	**10.63**	**273**	Pn	**Pn**	**19 02 12.9**	**+1.0**
	0.2nm,0.3s,baz=74,slow=12,SNR=37						
BVAR				Sn	**Sn**	**19 04 06.2**	**-5.3**
	0.3nm,0.3s,baz=82,slow=25,SNR=12						
	2.5nm,0.4s						
SONM	**Songino Array**	**12.98**	**110**	Pn	**Pn**	**19 02 45.1**	**+1.0**
	0.1nm,0.3s,baz=292,slow=12,SNR=3.2						
SONM				Lg	Lg	19 06 24.2	
	baz=302,slow=27,SNR=1.7						
	0.2nm,0.4s						
AAK	**Ala-Archa**	**14.40**	**224**	Pn	**Pn**	**19 03 02.9**	**-0.6**
	0.5nm,0.3s,baz=140,slow=7.9,SNR=10						
AAK				Lg	Lg	19 07 19.1	
	0.1nm,0.3s,baz=189,slow=19,SNR=4.0						
	1.4nm,0.4s						
NRIK	**Noril'sk**	**15.57**	**359**	Pn	**Pn**	**19 03 19.5**	**+0.6**
	0.1nm,0.3s,baz=186,slow=18,SNR=1.2						
	1.3nm,0.6s						
ARTI	**Arti**	**17.16**	**291**	P	**Pn**	**19 03 39.5**	**+0.2**
	0.2nm,0.3s,baz=98,slow=15,SNR=2.3						
	0.9nm,0.4s						
AKTO	**Aktyubinsk**	**18.73**	**272**	P	**Pn**	**19 04 00.2**	**+1.4**
	0.2nm,0.3s,baz=58,slow=9.5,SNR=2.3						
	0.7nm,0.5s						
ESDC	**Sonseca Array**	**60.31**	**297**	P	**P**	**19 09 49.4**	**+0.6**
	0.6nm,0.7s,baz=42,slow=5.6,SNR=6.8						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**62.65**	**12**	P	**P**	**19 10 03.6**	**-0.5**
	0.1nm,0.5s,baz=330,slow=6.5,SNR=2.8						
	0.1nm,0.5s						

*TAP **19** 19:09:43.8, 24.45N×121.88E, h22km, ML2.4, B*
ISC 19 19:09:44.2±0.9, 24°45N±0°.02×121°88E±0°.03, h19km±2km, n59, σ0s35/82, 3C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.10**	**266**	⇑*iP*	**Pg**	**19 09 48.0**	**0.0**
EWUT				*i* S	**Sg**	**19 09 50.7**	**+0.2**
ESAO	**Su ao**	**0.13**	**344**	*eP*	**Pg**	**19 09 48.4**	**0.0**
ESAO				*i* S	**Sg**	**19 09 51.3**	**+0.2**
ENA	**Nanau**	**0.13**	**259**	⇓*iP*	**Pg**	**19 09 48.3**	**-0.1**
ENA				*i* S	**Sg**	**19 09 51.5**	**+0.3**
TWC	**Suao**	**0.16**	**349**	⇓*iP*	**Pg**	**19 09 48.8**	**0.0**
TWC				*i* S	**Sg**	**19 09 52.0**	**+0.2**
EAHA	**Aohua**	**0.18**	**227**	P	**Pg**	**19 09 48.8**	**-0.2**
EAHA				S	**Sg**	**19 09 51.9**	**-0.4**
NDS	**Dongshan**	**0.24**	**320**	*iP*	**Pb**	**19 09 49.1**	**-0.5**
NDS				S	**Sb**	**19 09 53.1**	**0.0**
EOS2	**EOS2**	**0.32**	**96**	*iP*	**Pb**	**19 09 51.2**	**-0.2**
TWE	**Neicheng**	**0.33**	**324**	⇑*iP*	**Pg**	**19 09 51.4**	**0.0**
TWE				*i* S	**Sg**	**19 09 56.3**	**0.0**
LATG	**Datong**	**0.34**	**284**	⇓*iP*	**Pg**	**19 09 51.6**	**+0.1**
LATG				*i* S	**Sg**	**19 09 56.8**	**+0.3**
ENTT	**Nioudou**	**0.34**	**303**	P	**Pg**	**19 09 51.7**	**+0.1**
ENTT				S	**Sb**	**19 09 57.1**	**+0.1**
ETL	**Fush Village**	**0.38**	**219**	P	**Pg**	**19 09 51.8**	**-0.4**
ETL				S	**Sb**	**19 09 59.4**	**+1.4**
NACB	**Ninganchiao**	**0.38**	**223**	⇓*iP*	**Pg**	**19 09 51.6**	**-0.7**
NACB				S	**Sg**	**19 09 57.6**	**-0.1**
EGS		**0.39**	**7**	P	**Pg**	**19 09 52.3**	**-0.2**
EGS				*i* S	**Sb**	**19 09 58.4**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.41**	**319**	P	**Pg**	**19 09 52.7**	**-0.1**
FUSB				S	**Sg**	**19 09 58.7**	**+0.2**
EOS3	**EOS3**	**0.43**	**113**	P	**Pb**	**19 09 53.0**	**-0.2**
ETLH	**Xiulin Townshi**	**0.44**	**236**	P	**Pg**	**19 09 53.0**	**-0.3**
ETLH				S	**Sb**	**19 10 00.1**	**+0.3**
TWD	**Chiawan**	**0.45**	**215**	P	**Pg**	**19 09 53.1**	**-0.5**
TWD				S	**Sb**	**19 10 00.1**	**0.0**
NNSB	**Datong**	**0.46**	**267**	P	**Pg**	**19 09 53.8**	**+0.1**
NNSB				S	**Sg**	**19 10 00.0**	**0.0**
NNS	**Nan Shan**	**0.47**	**269**	P	**Pg**	**19 09 53.6**	**-0.2**
NNS				S	**Sg**	**19 10 00.5**	**+0.3**
NWLT	**Wulai**	**0.47**	**313**	P	**Pg**	**19 09 53.9**	**0.0**
NWLT				S	**Sg**	**19 10 00.2**	**-0.2**
YHNB	**Yeheng**	**0.51**	**295**	⇑*iP*	**Pb**	**19 09 54.5**	**-0.1**
YHNB				*i* S	**Sg**	**19 10 01.7**	**+0.1**
EOS4	**EOS4**	**0.52**	**130**	*eP*	**Pg**	**19 09 55.1**	**+0.5**
TIPB	**Shuangxi**	**0.52**	**354**	P	**Pb**	**19 09 54.4**	**-0.3**
TIPB				S	**Sg**	**19 10 01.3**	**-0.5**
NSK	**Sanguang**	**0.53**	**295**	P	**Pb**	**19 09 54.8**	**-0.1**
NSK				S	**Sb**	**19 10 01.8**	**-0.4**
HWA	**Hwalien**	**0.54**	**208**	*eP*	**Pb**	**19 09 54.8**	**-0.2**
TWB1	**Santiao Chiao**	**0.56**	**10**	*eS*	**Sb**	**19 10 02.9**	**0.0**
TWA	**Mucha**	**0.59**	**333**	*eP*	**Pn**	**19 09 57.6**	**-0.1**
ETM	**Tongmen**	**0.60**	**216**	*eP*	**Pb**	**19 09 55.7**	**-0.4**
NHDH	**Xindian Distri**	**0.60**	**327**	*eP*	**Pg**	**19 09 56.6**	**+0.3**
LXIB	**Xiulin Townshi**	**0.61**	**225**	P	**Pb**	**19 09 55.8**	**-0.4**
LXIB				S	**Sg**	**19 10 05.4**	**+0.8**
FUSS	**Fushou**	**0.62**	**251**	*eP*	**Pg**	**19 09 56.6**	**0.0**
SXI1	**Grass Mountain**	**0.64**	**359**	P	**Pb**	**19 09 56.5**	**-0.3**
SXI1				S	**Sg**	**19 10 05.6**	**0.0**
WHF	**Hehuan Shan**	**0.64**	**242**	P	**Pb**	**19 09 56.9**	**-0.1**
TWT	**Tachien**	**0.68**	**253**	*eP*	**Pn**	**19 09 58.9**	**-0.1**
TDCB	**Techi**	**0.69**	**253**	*eP*	**Pg**	**19 09 58.1**	**+0.2**
NFF	**Wufeng Townshi**	**0.72**	**285**	*eP*	**Pg**	**19 09 59.0**	**+0.6**
KSHI	**Guanxi Townshi**	**0.72**	**297**	*eP*	**Pn**	**19 09 59.8**	**+0.4**
SHUL	**Shoufeng**	**0.72**	**204**	*eP*	**Pn**	**19 09 59.5**	**+0.1**
YM01	**YM01**	**0.75**	**338**	P	**Pg**	**19 09 59.2**	**+0.3**
ESL	**Shilin**	**0.76**	**213**	*eP*	**Pb**	**19 09 58.3**	**-0.5**
ZUZH	**Zhuzihu**	**0.77**	**337**	*eP*	**Pg**	**19 09 59.5**	**+0.1**
YM08	**YM08**	**0.78**	**340**	*eP*	**Pb**	**19 09 59.4**	**+0.1**
ANP	**Anpu**	**0.80**	**336**	*eP*	**Pb**	**19 09 59.4**	**-0.2**
NTST	**Danshui**	**0.81**	**331**	*eP*	**Pn**	**19 10 00.8**	**+0.1**
LIOB	**Emei**	**0.81**	**284**	*eP*	**Pn**	**19 10 01.1**	**+0.4**
OWD	**Renai**	**0.81**	**233**	*eP*	**Pb**	**19 09 59.8**	**-0.1**
NCUH	**Zhongli**	**0.82**	**309**	*eP*	**Pn**	**19 10 01.1**	**+0.3**
NSTT	**Nanjuang**	**0.82**	**283**	*eP*	**Pn**	**19 10 00.8**	**0.0**
WUSB	**Renai**	**0.84**	**237**	P	**Pg**	**19 10 00.6**	**0.0**
TWY	**Chenhua**	**0.86**	**343**	*eP*	**Pb**	**19 09 59.8**	**-0.8**
WARBT	**Fenglin Townsh**	**0.86**	**212**	*eP*	**Pb**	**19 09 59.8**	**-0.8**
WHP	**Taichung City**	**0.87**	**259**	*eP*	**Pg**	**19 10 01.3**	**0.0**
EGFH	**Guangfu**	**0.89**	**208**	*eP*	**Pb**	**19 10 00.6**	**-0.4**
WCS	**Beigang Elemen**	**0.97**	**246**	*eP*	**Pn**	**19 10 02.7**	**-0.1**
HGSD	**Ruisui**	**1.04**	**204**	*eP*	**Pg**	**19 10 04.8**	**+0.3**
SMLT	**Sun Moon Lake**	**1.06**	**238**	*eP*	**Pg**	**19 10 05.1**	**+0.2**
SSLB	**Suanglung**	**1.08**	**232**	P	**Pn**	**19 10 04.7**	**+0.4**
TYC	**Yuchr**	**1.08**	**240**	*eP*	**Pg**	**19 10 05.0**	**-0.3**
YULB	**Yu-li**	**1.18**	**207**	*eP*	**Pn**	**19 10 05.1**	**-0.7**

JMA 19 19:10:42.8±0.1, 24°4N±0°.4×121°9E±0°.6, h31km, MV2.3/9, TAIWAN REGION, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.97**	**87**	*eP*	Pn	19 11 00.1	-0.1
JYNG				*eS*	Sb	19 11 13.5	-0.1
YOJ	**Yonaguni jima**	**1.03**	**87**	*eS*	Sn	19 11 14.8	+0.3
IRIF	**Iriomote-Funau**	**1.69**	**92**	*eP*	Pn	19 11 10.6	+0.4
IRIF				*eS*	Sn	19 11 29.4	-1.3
JISG	**Ishigakijimahi**	**2.22**	**85**	*eS*	Sn	19 11 44.0	+0.1

*NEIC **19** 19:27:02.4±1.2, 36°982N±0°.009×98°03W±0°.01, h6km±3km, Error ellipse: s-maj=1.6km s-min=1.3km az=95.0*
*NEIC **19** 19:27:02.6±1.4, 36°977N±0°.008×98°04W±0°.01, h6km±2km, Error ellipse: s-maj=1.4km s-min=1.2km az=64.0*
NEIC 19 19:27:02.5±1.0, 36°987N±0°.008×98°04W±0°.01, h5km±1km, mb_Lg2.4/12, ML2.5/42, ML2.3/32, ML2.3/9, Error ellipse: s-maj=2.3km s-min=1.7km az=81.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.07**	**117**	Pg	Pg	19 27 04.4	+0.4
KAN14					Sg	19 27 05.6	+0.5
KAN14				IAML		19 27 05.8	
	comp=E,4μm,0.1s						
KAN10	**Anthony SW Sta**	**0.14**	**341**		Pg	19 27 06.0	+0.6
KAN10					Sg	19 27 08.3	+1.0
KAN05	**Bluff City Nor**	**0.18**	**47**	Pg	Pg	19 27 06.0	0.0
KAN05				Sg	Sg	19 27 09.2	+0.8
KAN05				IAML		19 27 10.0	
	comp=N,1μm,0.2s						
GC02	**Grant County #**	**0.20**	**134**		Pg	19 27 06.7	+0.4
GC02					Sg	19 27 09.6	+0.7
OK032	**Salt Plains WL**	**0.23**	**217**		Pg	19 27 07.3	+0.3
OK032					Sg	19 27 10.5	+0.5
OK032				IAML		19 27 12.5	
	comp=N,1μm,0.2s						
KAN08	**Anthony NE Sta**	**0.24**	**12**		Pg	19 27 07.9	+0.6
KAN08				Sg	Sg	19 27 11.5	+1.0
KAN08				IAML		19 27 11.7	
	comp=E,588nm,0.2s						
KAN01	**Argonia South**	**0.28**	**53**		Pg	19 27 08.3	+0.5
KAN01					Sg	19 27 12.4	+0.8
KAN12	**Harper NE Stat**	**0.31**	**6**		Pg	19 27 09.1	+0.5
KAN12					Sg	19 27 13.6	+1.0
KAN12				IAML		19 27 13.9	
	comp=N,513nm,0.4s						
KAN12				IAML		19 27 13.9	
	comp=E,777nm,0.3s						
KAN09	**Caldwell North**	**0.37**	**66**		Pg	19 27 10.0	+0.4
KAN09					Sg	19 27 15.0	+0.7
KAN09				IAML		19 27 19.9	
	comp=E,399nm,0.3s						
KAN09				IAML		19 27 20.6	
	comp=N,378nm,0.2s						
KAN13	**South Haven SW**	**0.45**	**87**		Pg	19 27 11.4	+0.3
KAN13					Sg	19 27 17.6	+0.6
KAN13				IAML		19 27 19.3	
	comp=E,459nm,0.3s						
KAN13				IAML		19 27 20.0	
	comp=N,372nm,0.2s						
CROK	**Carrier**	**0.48**	**175**		Pg	19 27 11.9	+0.1
CROK					Sg	19 27 18.7	+0.6
CROK				IAML		19 27 23.4	
	comp=N,448nm,0.3s						
BLOK	**Blackwell**	**0.70**	**109**		Pg	19 27 16.0	+0.2
BLOK					Sg	19 27 25.5	+0.7
OK038	**West end E0370**	**0.76**	**228**		Pg	19 27 17.1	0.0
OK038					Sg	19 27 27.3	+0.3
NOKA	**Waynoka**	**0.80**	**244**		Pg	19 27 17.8	0.0
NOKA					Sg	19 27 27.1	-1.1
OK048	**Pawnee Station**	**1.05**	**123**		Pg	19 27 22.1	-0.4
OK048					Sg	19 27 36.0	-0.1
OK048				IAML		19 27 36.1	
	comp=N,125nm,0.1s						
OK048				IAML		19 27 39.8	
	comp=N,108nm,0.4s						
OK051	**E0350 and S346**	**1.08**	**116**		Pg	19 27 22.8	-0.4
OK051					Sg	19 27 37.1	0.0
T35A	**Sooner Cattle**	**1.22**	**93**		Pg	19 27 25.5	-0.4
T35A					Sg	19 27 41.9	+0.1
T35A				IAML		19 27 42.5	
	comp=N,120nm,0.2s						
T35A				IAML		19 27 46.8	
	comp=N,82nm,0.1s						
OK029	**Liberty Lake**	**1.28**	**158**		Pg	19 27 26.1	-0.8
OK029					Sg	19 27 43.2	-0.3
QUOK	**Quay**	**1.34**	**127**		Pn	19 27 27.3	-0.6
OK052	**Battle Ridge R**	**1.40**	**135**		Pn	19 27 28.2	-0.5
OK052					Sg	19 27 47.5	-0.1
ADOK	**Arcadia Dam**	**1.44**	**158**		Pn	19 27 28.9	-0.3
CSTR	**Hydro, Custer**	**1.44**	**202**		Pn	19 27 28.6	-0.7
ELIS	**Ellis County**	**1.44**	**231**		Pn	19 27 28.8	-0.5
R32A	**Long Quarter,**	**1.53**	**340**		Pn	19 27 30.7	+0.2
OKCSW	**OKLAHOMA CITY**	**1.65**	**163**		Pn	19 27 32.2	+0.1
DEOK	**Depew**	**1.69**	**132**		Pn	19 27 32.8	+0.2
DEOK					Sb	19 27 56.0	+0.5
W35A	**Tecumseh**	**2.06**	**152**		Pn	19 27 36.8	-1.0
TUL3	**Leonard**	**2.10**	**120**	Pn	Pn	19 27 38.0	-0.4
TUL3				IAmb_Lg		19 28 12.0	
	comp=Z,23nm,0.9s						
CBKS	**Cedar Bluff**	**2.27**	**324**	Pn	Pn	19 27 40.7	0.0
CBKS				IAmb_Lg		19 28 15.2	
	comp=Z,16nm,1.3s						
WMOK	**Wichita Mounta**	**2.33**	**195**		Pn	19 27 40.4	-1.1
WMOK	**Wichita Mounta**	**2.33**	**195**		Pn	19 27 40.6	-0.8
X34A	**Smith Ranch, M**	**2.39**	**176**	Pn	Pn	19 27 41.0	-1.3
KSU1	**Kansas State U**	**2.39**	**28**	Pn	Pn	19 27 42.2	-0.1
KSU1				IAmb_Lg		19 28 18.6	
	comp=Z,12nm,0.7s						
HHAR	**Hobbs**	**3.37**	**101**	IAmb_Lg		19 28 58.2	
	comp=Z,6.7nm,0.8s						
AMTX	**Amarillo**	**3.63**	**236**	Pn	Pn	19 27 59.4	0.0
RTBA	**Rita Blanca**	**3.82**	**263**	Pn	Pn	19 28 01.9	-0.1
MIAR	**Mount Ida**	**4.37**	**123**	IAmb_Lg		19 29 18.6	
	comp=Z,14nm,1.3s						
R40A	**Maddies Statio**	**4.76**	**72**	IAmb_Lg		19 29 44.2	
	comp=Z,3.8nm,0.8s						
T25A	**Trinidad**	**5.10**	**274**	Pn	Pn	19 28 17.1	-2.7

*NEIC **19** 19:30:50.2±2.0, 7°3S±0°.1×125°73E±0°.10, h438km±15km, mb4.3/6, Error ellipse: s-maj=21.7km s-min=4.6km az=216.0*
*IDC **19** 19:30:52.0±7.4, 7°49S×125°65E, h473km±111km, mb2.6/3, mbtmp3.8/6, Error ellipse: s-maj=77.9km s-min=53.0km az=42.0*
ISC 19 19:30:49.6±0.7, 7°42S±0°.07×125°68E±0°.09, h450km, n32, σ1s46/35, mb3.1/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.71**	**211**	P	**P**	**19 31 55.3**	**+0.5**
SOEI				S	**S**	**19 32 42.2**	**-5.3**
SOEI	**Soe**	**2.71**	**211**	P	**P**	**19 31 55.6**	**+0.8**
MMRI	**Maumere**	**3.61**	**250**	P	**P**	**19 32 01.0**	**-0.5**
MMRI				S	**S**	**19 32 59.2**	**-0.7**
MMRI	**Maumere**	**3.61**	**250**	P	**P**	**19 32 01.8**	**+0.3**
SANI	**Sanana**	**5.34**	**3**	P	**P**	**19 32 16.7**	**-0.8**
DRS	**Darwin Rock St**	**7.16**	**134**	P	**P**	**19 32 36.9**	**+0.8**
MTN	**Manton Dam**	**7.61**	**136**	P	**P**	**19 32 41.9**	**+1.0**
MTN	**Manton Dam**	**7.61**	**136**	P	**P**	**19 32 41.9**	**+1.0**
FAKI	**Fak Fak**	**7.93**	**56**	P	**P**	**19 32 43.3**	**-1.1**
FAKI	**Fak Fak**	**7.93**	**56**	P	**P**	**19 32 44.0**	**-0.4**
KDU	**Kakadu**	**8.50**	**129**	P	**P**	**19 32 50.6**	**+0.1**
KNRA	**Kununurra**	**8.75**	**160**	P	**P**	**19 32 55.2**	**+2.1**
TOLI2	**Tolitoli**	**9.78**	**330**	P	**P**	**19 33 05.5**	**+1.0**
TOLI2	**Tolitoli**	**9.78**	**330**	P	**P**	**19 33 05.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**10.61**	**180**	P	**P**	**19 33 15.7**	**+2.2**
FITZ	**Fitzroy Crossi**	**10.61**	**180**	P	**P**	**19 33 15.3**	**+1.8**
	2.4nm,0.3s,baz=18,slow=10,SNR=32						
FITZ				S	**S**	**19 35 10.9**	**-1.0**
	2.5nm,0.8s,baz=285,slow=16,SNR=2.2						
MYLDM	**Lahad Datu**	**14.42**	**330**	P	**P**	**19 33 52.9**	**-1.8**
WB0	**Warramunga Arr**	**14.91**	**146**	P	**P**	**19 34 00.7**	**+0.8**
WRAB	**Tennant Creek**	**15.02**	**147**	P	**P**	**19 34 02.0**	**+1.0**
WRAB				IAmb	IAmb	19 34 03.5	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**15.02**	**147**	P	**P**	**19 34 00.9**	**-0.2**
WRA	**Warramunga Arr**	**15.02**	**147**	P	**P**	**19 34 01.9**	**+0.8**
	comp=Z,4.4nm,0.4s,baz=325,slow=12,SNR=87						
WR8	**Warramunga Arr**	**15.12**	**146**	P	**P**	**19 34 03.1**	**+1.0**
AS31	**Alice Springs**	**17.98**	**155**		**P**	**19 34 32.8**	**+0.5**
ASAR	**Alice Springs**	**17.98**	**155**	P	**P**	**19 34 32.4**	**+0.1**
ASAR	**Alice Springs**	**17.98**	**155**	P	**P**	**19 34 33.7**	**+1.4**
	comp=Z,2.9nm,0.6s,baz=332,slow=9.4,SNR=70						
COEN	**Coen**	**18.38**	**112**	P	**P**	**19 34 35.9**	**-0.3**
BBOO	**Buckleboo**	**27.04**	**160**	P	**P**	**19 35 56.6**	**+2.4**
BBOO				IAmb	IAmb	19 36 27.3	
	comp=Z,26nm,1.3s						
JGF	**Kuroka**	**44.18**	**14**	P	**P**	**19 38 17.9**	**+0.7**
JGF				IAmb	IAmb	19 38 20.7	
	comp=Z,9.3nm,1.1s						
MKAR	**Makanchi Array**	**66.30**	**329**	P	**P**	**19 40 52.7**	**+0.5**
MKAR	**Makanchi Array**	**66.30**	**329**	P	**P**	**19 40 53.2**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=123,slow=5.3,SNR=2.8						
	comp=Z,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**70.69**	**330**	P	**P**	**19 41 19.8**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=147,slow=5.1,SNR=2.3						
	comp=Z,0.2nm,0.6s						
BVAR	**Borovoye Array**	**76.18**	**329**	P	**P**	**19 41 49.9**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=128,slow=9.3,SNR=2.1						
	comp=Z,0.2nm,0.4s						

*MEX **19** 19:42:59.6±0.8, 13°90N×92°48W, h14km±38km, MD5.1*
*CATAC **19** 19:43:00.7±0.3, 14°N±2°×9°2W±°, h10km, M5.4/29, mb5.7/5, mB5.7/5, MLv5.3/29, Mw(mB)5.2/5, Error ellipse: s-maj=5.0km s-min=3.1km az=43.1, confirmed*
*GCG **19** 19:43:00.7±2.4, 14°07N×92°25W, h22km±10km, MD4.8*
*NEIC **19** 19:43:01.7±2.0, 14°10N±0°.06×92°33W±0°.05, h35km±1km, mb4.8/297, Md5.1/155(MEX), Error ellipse: s-maj=9.4km s-min=7.3km az=189.0*
*GCMT **19** 19:43:03.9±0.3, 13°98N±0°.01×92°34W±0°.02, h32km, MW5.0/88, Moment Tensor Solution. s55,c68; s88,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.57±.14; $M_{\theta\theta}$-2.32±.09; $M_{\phi\phi}$-0.25±.09; $M_{r\theta}$-0.77±.11; $M_{\theta\phi}$2.05±.07; $M_{\phi r}$-1.39±.10; Best double couple: $M_0$3.57100×10^{16} NP1:ϕ_s274.00000°, δ52.00000°, λ48.00000°. NP2: ϕ_s149.00000°, δ54.00000°, λ131.00000°. Principal axes: T 3.5590, Plg58.0000°, Azm121.0000°; N 0.0200, Plg32.0000°, Azm302.0000°; P -3.5830, Plg1.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **19** 19:43:08.1±2.3, 14°23N×91°89W, h97km±19km, mb3.9/17, mbtmp4.3/20, MS3.9/49 Error ellipse: s-maj=20.2km s-min=10.0km az=59.0*
ISC 19 19:42:58.1±0.6, 14°08N±0°.03×92°33W±0°.03, h17km±3km, n776, σ2s05/731, mb4.9/135, MS4.0/47, 6C-5D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.76**	**54**		**Pn**	**19 43 15.2**	**+1.1**
RTAL				Sn	**Sn**	**19 43 26.4**	**+1.2**
RTAL	**Retalhuleu**	**0.76**	**54**	⇓*eP*	**Pn**	**19 43 15.2**	**+1.1**
RTAL				*eS*	**Sn**	**19 43 27.1**	**+1.8**
RTAL	**Retalhuleu**	**0.76**	**54**	P	**Pn**	**19 43 15.3**	**+1.1**
RTAL				S	**Sn**	**19 43 24.9**	**-0.3**
SMCA	**Catarina**	**0.81**	**18**	*eP*	**Pn**	**19 43 15.2**	**+0.4**
THIG		**0.83**	**4**		**Pn**	**19 43 15.7**	**+0.6**
THIG					**Sn**	**19 43 27.9**	**+1.0**
THIG		**0.83**	**4**	⇓*eP*	**Pn**	**19 43 15.7**	**+0.6**
THIG				*eS*	**Sn**	**19 43 27.9**	**+1.0**
THIG		**0.83**	**4**	*eP*	**Pn**	**19 43 15.7**	**+0.6**
THIG				*eS*	**Sn**	**19 43 27.9**	**+1.0**
STG5	**El Palmar, Qui**	**1.01**	**71**	*eP*	**Pb**	**19 43 17.1**	**-0.1**
STG0	**El Palmar, Qui**	**1.02**	**70**	*eP*	**Pb**	**19 43 17.5**	**0.0**
STG8	**El Palmar, Qui**	**1.02**	**68**	*eP*	**Pg**	**19 43 17.7**	**-0.2**
PATR	**El Naranjo**	**1.04**	**5**	⇓*eP*	**Pn**	**19 43 18.3**	**+0.2**
PATR				*eS*	**Sg**	**19 43 32.0**	**0.0**
QUEO	**Labor Ovalle**	**1.12**	**45**	*eP*	**Pg**	**19 43 20.4**	**+0.6**
QUEO				*eS*	**Sn**	**19 43 35.9**	**+1.4**
PAVE	**Pavencul**	**1.12**	**8**	⇓*eP*	**Pg**	**19 43 19.5**	**-0.4**
PAVE				*eS*	**Sg**	**19 43 34.2**	**-0.4**
SOKI	**Kika Raxquin**	**1.16**	**50**	*eP*	**Pg**	**19 43 20.9**	**+0.2**
HUEH	**Huehuetenango

HUIG Huatulco 4.02 295 Pn 19 43 59.1 +0.1
HUIG Sn 19 44 40.9 -4.8
HUIG Huatulco 4.02 295 eP **Pn 19 43 59.1 +0.1**
HUIG eS Sn 19 44 40.9 -4.8
MARCA Marcala la Paz 4.17 88 eP **Pn 19 44 02.7 +1.6**
MARCA Marcala la Paz 4.17 88 P **Pn 19 44 03.6 +2.5**
TUIG Tuzandepetl 4.42 333 eP **Pn 19 44 06.2 +1.7**
TUIG eS Sn 19 44 52.7 -2.9
CNCH Conchagua 4.44 100 P **Pn 19 44 07.8 +2.9**
COMHN El Horno 4.64 85 P **Pn 19 44 10.0 +2.3**
POTN Potosi Cosigui 4.81 102 P **Pn 19 44 12.5 +2.6**
POTN S Sn 19 45 08.3 +3.1
TGUH Tegucigalpa,Un 4.91 90 Pn 19 44 11.9 +0.7
TGUH Tegucigalpa,Un 4.91 90 eP **Pn 19 44 11.6 +0.3**
TGUH Tegucigalpa,Un 4.91 90 P **Pn 19 44 13.9 +2.6**
TGUH S Sn 19 45 11.0 +3.2
NEUV Arroyo Zacate 4.92 318 eP **Pn 19 44 11.8 +0.4**
NEUV eS Sn 19 45 06.3 -1.6
SCIG Sabancuy 4.99 13 eP **Pn 19 44 14.3 +2.1**
SCIG eS Sn 19 45 10.1 +0.6
SCIG Sabancuy 4.99 13 eP **Pn 19 44 14.5 +2.3**
PEIG Puerto Escondi 5.03 293 Pn 19 44 14.0 +1.1
PEIG Sn 19 45 05.9 -4.7
PEIG Puerto Escondi 5.03 293 eP **Pn 19 44 14.0 +1.1**
PEIG eS Sn 19 45 05.9 -4.7
CHOHN Orocuina 5.06 96 S **Sn 19 45 14.7 +3.2**
CHOHN Orocuina 5.06 96 P **Pn 19 44 15.8 +2.5**
OXLC Oaxaca 5.16 306 eP **Pn 19 44 16.4 +1.6**
OXLC eS Sn 19 45 18.2 +4.2
OXIG Oaxaca 5.18 306 Pn 19 44 17.8 +2.7
OXIG Sn 19 45 12.9 -1.8
VHO Vista Hermosa 5.18 306 eP **Pn 19 44 17.8 +2.7**
VHO eS Sn 19 45 12.9 -1.8
PMUV Sontecomapan 5.19 329 eP Pn 19 44 21.1 +6.0
PMUV eS Sn 19 45 09.6 -5.1
CRIN San Cristobal 5.32 104 Pn 19 44 18.7 +1.8
CRIN San Cristobal 5.32 104 P **Pn 19 44 19.6 +2.7**
20µm1µm,0.6s
CRIN San Cristobal 5.32 104 P **Pn 19 44 19.6 +2.7**
CRIN San Cristobal 5.32 104 S **Sn 19 45 21.1 +3.3**
HERN Volcan Telica 5.55 105 Pn 19 44 21.0 +1.0
CNGN Cerro Negro 5.70 105 Pn 19 44 23.0 +0.9
YOIG Yosondua 5.74 299 Pn 19 44 27.1 +4.3
YOIG Sn 19 45 28.4 -0.1
YOIG Yosondua 5.74 299 eP **Pn 19 44 27.1 +4.3**
YOIG eS Sn 19 45 28.4 -0.1
PNIG Pinotepa 6.05 293 Pn 19 44 29.0 +2.1
PNIG Sn 19 45 30.6 -5.2
PNIG Pinotepa 6.05 293 eP **Pn 19 44 29.0 +2.1**
PNIG eS Sn 19 45 30.6 -5.2
TOIG Toxpalan 6.06 312 Pn 19 44 29.6 +2.6
TOIG Sn 19 45 30.5 -5.6
TOIG Toxpalan 6.06 312 eP **Pn 19 44 29.6 +2.6**
TOIG eS Sn 19 45 30.5 -5.6
TXIG Tlaxiaco 6.12 302 Pn 19 44 31.6 +3.6
TXIG Sn 19 45 33.6 -4.2
TXIG Tlaxiaco 6.12 302 eP **Pn 19 44 31.6 +3.6**
TXIG eS Sn 19 45 33.6 -4.2
MGAN Managua 6.23 107 Pn 19 44 30.6 +1.3
MGAN Managua 6.23 107 P **Pn 19 44 32.1 +2.8**
10µm1µm,0.9s
HLIG Huajuapan de L 6.45 306 Pn 19 44 32.4 -0.2
HLIG Sn 19 45 40.5 -5.6
HLIG Huajuapan de L 6.45 306 eP **Pn 19 44 32.4 -0.2**
HLIG eS Sn 19 45 40.5 -5.6
TPIG Tehuac#an 6.48 312 Pn 19 44 37.5 +4.6
TPIG Sn 19 45 45.4 -1.2
TPIG Tehuac#an 6.48 312 eP **Pn 19 44 37.5 +4.6**
TPIG eS Sn 19 45 45.4 -1.2
FTIG Fresnillo de T 6.76 305 Pn 19 44 38.8 +2.1
FTIG Fresnillo de T 6.76 305 eP **Pn 19 44 38.8 +2.1**
JAUV Jalcomulco 6.79 321 eP **Pn 19 44 36.3 -0.7**
JAUV eS Sn 19 45 47.1 -6.9
MGIG Malinaltepec 6.84 298 Pn 19 44 42.3 +4.5
MGIG Sn 19 45 55.4 0.0
MGIG Malinaltepec 6.84 298⇑ eP **Pn 19 44 42.3 +4.5**
MGIG eS Sn 19 45 55.4 0.0
LVIG Laguna Verde 6.84 326 eP **Pn 19 44 37.4 -0.3**
LVIG eS Sn 19 45 47.3 -8.0
POHV Veracruz 6.87 317 Pn 19 44 40.1 +1.5
POHV Sn 19 45 54.5 -2.2
POHV Veracruz 6.87 317 eP **Pn 19 44 40.1 +1.5**
POHV eS Sn 19 45 54.5 -2.2
TLIG Tlapa 6.93 301 Pn 19 44 40.8 +1.7
TLIG Tlapa 6.93 301 eP **Pn 19 44 43.6 +4.6**
TLIG eS Sn 19 45 59.4 +1.7
TLIG Tlapa 6.93 301 S **Sn 19 46 03.7 +6.0**
TLIG Tlapa 6.93 301 P **Pn 19 44 43.7 +4.6**
CRIG Cruz Grande 7.07 293 Pn 19 44 42.6 +1.7
CRIG Sn 19 45 57.6 -3.3
CRIG Cruz Grande 7.07 293 eP **Pn 19 44 42.6 +1.7**
CRIG eS Sn 19 45 57.6 -3.3
TEIG Tepich 7.24 32 Pn 19 44 44.2 +1.0
TEIG Tepich 7.24 32 P **Pn 19 44 46.5 +3.3**
0.4nm,0.7s,baz=236,slow=24,SNR=32
TEIG S **Sn 19 46 03.6 -1.4**
0.3nm,0.6s,baz=330,slow=24,SNR=1.5
TEIG Tepich 7.24 32 eP **Pn 19 44 44.7 +1.5**
TEIG eS Sn 19 46 00.9 -4.1
MYIG Merida 7.28 19 eP **Pn 19 44 45.8 +2.1**
MYIG eS Sb 19 46 19.6 -11
ACON Acoyapa 7.28 106 Pn 19 44 45.0 +1.2
ACON Acoyapa 7.28 106 P **Pn 19 44 47.0 +3.2**
2µm244nm,1.0s
ACON Acoyapa 7.28 106 P **Pn 19 44 46.1 +2.3**
DAIG Los Arroyos 7.64 293 Pn 19 44 51.5 +2.8
DAIG Sn 19 46 12.5 -2.5
DAIG Los Arroyos 7.64 293 eP **Pn 19 44 51.5 +2.8**
DAIG eS Sn 19 46 12.5 -2.5
PBCV Popocatepetl 7.71 310 eP Pn 19 44 57.8 +7.8
PBCV eS Sn 19 46 17.3 +0.1
PBPN Popocatepetl 7.80 310 eP Pn 19 44 58.0 +6.6
PBPN eP Pn 19 44 58.3 +6.9
PBPN eS Sn 19 46 20.0 +0.4
PBPN eS Sn 19 46 21.3 +1.7
PBXN Popocatepetl 7.80 310 eP Pn 19 44 56.5 +5.1
PBXN eP Pn 19 44 57.8 +6.4
PBXN eS Sn 19 46 18.0 -1.6
PBXN eS Sb 19 46 26.6 -20
PPM Popocatepetl 7.81 310 eP Pn 19 44 58.0 +6.5
PPM eS Sn 19 46 27.0 +7.1
PPIG Popocatepetl 7.82 310 Pn 19 44 58.0 +6.5
PPIG Sn 19 46 27.0 +7.0
CXUV Coxquihui 7.88 321⇑ eP **Pn 19 44 52.9 +1.0**
CXUV eS Sn 19 46 15.3 -5.5
INDI Punta indio, G 7.88 121 P **Pn 19 44 54.6 +2.5**
MEIG Mezcala 7.99 300 Pn 19 44 56.1 +2.6
MEIG Sn 19 46 27.1 +3.6
MEIG Mezcala 7.99 300 eP **Pn 19 44 56.1 +2.6**
MEIG eS Sn 19 46 27.1 +3.6
YAIG Yautepec 8.03 307 Pn 19 44 57.8 +3.6
YAIG Sn 19 46 19.1 -5.6
YAIG Yautepec 8.03 307 eP **Pn 19 44 57.8 +3.6**
YAIG eS Sn 19 46 19.1 -5.6
ESPN Las Esperanzas 8.04 103 Pn 19 44 55.8 +1.5
ESPN Las Esperanzas 8.04 103 P **Pn 19 44 56.5 +2.3**
2µm167nm,0.8s
PLIG Platanillo 8.12 303 Pn 19 45 00.8 +5.5
PLIG Platanillo 8.12 303 eP Pn 19 45 00.8 +5.5
JTS Las Juntas de 8.13 117 P **Pn 19 44 59.1 +3.6**
36nm,0.7s,baz=299,slow=19,SNR=10
JTS S **Sn 19 46 29.6 +2.4**
27nm,0.7s,baz=236,slow=14,SNR=0.8
JTS LR LR 19 47 05.6
comp=Z,111nm,21.9s,baz=304,slow=30
MPVM San Francisco 8.18 309 eP Pn 19 45 05.6 +9.2
MPVM eS **Sn 19 46 28.6 0.0**
CAIG El Cayaco 8.20 292 Pn 19 44 59.7 +3.3
CAIG Sn 19 46 21.6 -7.1
CAIG El Cayaco 8.20 292 eP **Pn 19 44 59.7 +3.3**
CAIG eS Sn 19 46 21.6 -7.1
THVM De Xico 8.22 310 eS **Sn 19 46 36.0 +6.3**
XCVM Xochimilco 8.29 309 eS **Sn 19 46 32.6 +1.2**
TLVM San Miguel Top 8.30 309 eP Pn 19 45 05.6 +7.6
TLVM eS Sn 19 46 36.0 +4.4
SOCE Pocosol 8.38 115 Pn 19 45 00.9 +1.9
SOCE Pocosol 8.38 115 P **Pn 19 45 01.5 +2.5**
UNM Universidad Na 8.39 309 eP **Pn 19 45 02.1 +2.9**
UNM eS Sn 19 46 29.8 -3.9
BJVM Benito Juarez 8.41 310 eS **Sn 19 46 36.8 +2.5**

MAVM Malinalco, Edo 8.41 306 Sn 19 46 22.0 -12
MAVM Malinalco, Edo 8.41 306 eP Pn 19 44 51.6 -7.9
MAVM eS Sn 19 46 22.0 -12
AOVM Tlapan 8.46 309 Pn 19 45 06.9 +6.6
AOVM **Sn 19 46 43.3 +7.5**
AOVM Tlapan 8.46 309 eP Pn 19 45 06.9 +6.6
AOVM eS **Sn 19 46 43.3 +7.5**
INVM La Marquesa 8.52 308 eP Pn 19 45 10.2 +9.1
INVM eS **Sn 19 46 30.6 -6.5**
BLUN Bluefields 8.59 103 P **Pn 19 45 06.5 +4.8**
51nm,0.7s
ARIG Puente Sto Nin 8.76 300 Pn 19 45 08.9 +4.8
ARIG **Sn 19 46 41.8 -0.9**
ARIG Puente Sto Nin 8.76 300 eP **Pn 19 45 08.9 +4.8**
ARIG eS **Sn 19 46 41.8 -0.9**
DEIG Demacu 8.91 315 eP Pn 19 45 13.2 +6.9
DEIG eS **Sn 19 46 40.2 -6.3**
DHIG Demacu 8.91 315 Pn 19 45 13.2 +6.9
DHIG **Sn 19 46 40.2 -6.3**
ACIG Acambay 9.30 310 Sn 19 46 49.0 -7.2
ACIG Acambay 9.30 310 eS **Sn 19 46 49.0 -7.2**
CTUV Llano Grande 9.33 323 eP Pn 19 45 18.9 +7.0
CTUV eS **Sn 19 46 59.9 +3.4**
ZIIG Zihuatanejo 9.46 293 Pn 19 45 17.7 +3.9
ZIIG **Sn 19 47 02.0 +2.1**
ZIIG Zihuatanejo 9.46 293 eP **Pn 19 45 17.7 +3.9**
ZIIG eS **Sn 19 47 02.0 +2.1**
MOIG Morelia 10.14 305 Pn 19 45 25.9 +2.6
MOIG Morelia 10.14 305 eP Pn 19 45 29.4 +6.1
MOIG eS **Sn 19 47 22.9 +6.0**
JRQG Juriquilla Cam 10.17 312 Pn 19 45 27.4 +3.8
RPIG Rio Verde 10.64 318 Pn 19 45 37.0 +7.0
RPIG **Sn 19 47 25.8 -3.1**
RPIG Rio Verde 10.64 318 eP Pn 19 45 37.0 +7.0
RPIG eS **Sn 19 47 25.8 -3.1**
PRVC Isla de Provid 10.68 92 Pn **Pn 19 45 32.4 +2.0**
BRU2 Volcan 10.81 118 Pn 19 45 35.4 +3.1
MMIG Aquila 11.38 293 Pn 19 45 43.7 +3.7
MMIG Aquila 11.38 293 eP **Pn 19 45 43.7 +3.7**
MNGA Volcan de Coli 12.07 298 eP Pn 19 45 54.9 +5.3
MNGA eS **Sn 19 48 09.6 +5.6**
INCO Volcan de Coli 12.08 298 eP P 19 45 57.6 -5.1
INCO eS **Sn 19 48 05.4 +0.9**
SOMAC Volcano de Col 12.10 298 eP P 19 45 56.5 -6.4
SOMAC eS **Sn 19 48 08.8 +3.9**
CEGR Campo Tres 12.24 297 eP Pn 19 45 57.6 +5.7
CEGR eS **Sn 19 48 13.6 +5.5**
SOR Soroa 12.38 44 Pn 19 45 55.3 +1.6
GMAL Guarumal, Vera 12.57 119 P **Pn 19 46 05.6 -2.2**
LNIG Linares 12.69 329 eP **Pn 19 46 00.3 +2.4**
LNIG eS **Sn 19 48 17.3 -1.6**
ZAIG Zacatecas 13.00 313 Pn 19 46 04.7 +2.3
HBVL Hebbronville 14.22 336 Pn 19 46 19.9 +1.1
PAYG Puerto Ayora 14.79 172 Pn 19 46 27.6 +0.9
MTDJ Mount Denham 14.80 72 Pn **Pn 19 46 25.9 -0.9**
HKT Hockley 16.13 349 Pn 19 46 45.4 +1.4
MLDN Muldoon 16.23 345 Pn **P 19 46 47.0 -1.4**
CHIV Chivirico 16.31 67 Pn **Pn 19 46 46.9 +0.4**
CHIV IAmb IAmb 19 46 53.1
comp=Z,13nm,0.9s
HNDO Hondo 16.67 338 Pn 19 46 51.4 +0.4
060A Indiantown 17.07 39 Pn **Pn 19 46 55.4 -0.6**
DRIO Del Rio 17.09 335 Pn 19 46 56.1 -0.2
435B Jarrell 17.32 345 P **P 19 46 60.0 -0.5**
346A Big Creek Wild 17.43 8 P **P 19 47 01.1 -0.6**
346A IAmb IAmb 19 47 06.6
comp=Z,49nm,0.8s
JCT Junction City 17.72 338 P 19 47 05.2 +0.2
JCT Junction City 17.72 338 eP **P 19 47 09.3 +4.3**
HPIG 17.86 318 P **P 19 47 07.2 +0.5**
BRDY Brady 18.19 341 P 19 47 10.5 +0.3
SAND Sanderson 18.21 332 P 19 47 11.5 +1.1
TXAR Lajitas Array 18.46 327 Pn 19 47 14.9 +1.5
TXAR Lajitas Array 18.46 327 P **Pn 19 47 17.0 +3.7**
comp=Z,9.8nm,0.9s,baz=154,slow=12,SNR=36
TXAR LR LR 19 55 59.5
comp=Z,36nm,21.6s,baz=114,slow=42
TX31 Lajitas Ar. Si 18.46 327 Pn 19 47 14.9 +1.5
OZNA Ozona 18.62 336 Pn 19 47 16.2 +1.0
GUY2C Guyana, Caldas 18.88 116 P **Pn 19 47 21.8 +2.9**
comp=Z,904nmcomp=Z,89nm,1.4s
Z41A Richland Creek 19.10 359 P **Pn 19 47 21.4 +0.4**
BBAC Balboa, Cauca 19.12 127 P **Pn 19 47 24.4 +2.8**
comp=Z,486nmcomp=Z,38nm,1.1s
FW07 Weatherford 19.20 346 P **Pn 19 47 22.7 +0.5**
POPC Popayan, Colom 19.25 125 P **Pn 19 47 25.3 +2.2**
comp=Z,479nmcomp=Z,36nm,0.9s
ALPN Alpine 19.28 329 Pn 19 47 23.4 +0.1
FW06 Azle 19.41 347 P **Pn 19 47 24.6 -0.1**
FW06 IAmb IAmb 19 47 31.3
comp=Z,25nm,0.7s
Z47A Carrollton 19.43 11 P **P 19 47 24.1 +0.4**
Z47A IAmb IAmb 19 47 38.9
comp=Z,106nm,1.3s
PLPT Palo Pinto 19.43 345 Pn 19 47 24.8 -0.2
LRAL Lakeview Retre 19.49 14 P **Pn 19 47 25.6 0.0**
SGCY Sterling City 19.50 337 Pn 19 47 26.2 +0.3
WLAR White Oak Lake 19.54 358 P **Pn 19 47 25.6 -0.6**
WLAR IAmb IAmb 19 47 31.4
comp=Z,65nm,0.9s
ABTX Abilene, Hawle 19.63 341 P **Pn 19 47 26.7 -0.7**
ORTC Ortega, Tolima 19.65 119 P **Pn 19 47 29.9 +2.2**
comp=Z,632nmcomp=Z,68nm,0.9s
MNHN Monahans 19.67 333 P **Pn 19 47 28.2 +0.3**
MNHN IAmb IAmb 19 47 31.6
comp=Z,54nm,0.8s
LPIG La Paz 19.68 303 P **Pn 19 47 31.4 +3.4**
comp=Z,12nm,0.3s,baz=122,slow=4.6,SNR=2.1
LPIG LR LR 19 55 00.9
comp=Z,347nm,18.9s,baz=80,slow=36
152A Waverly Hall 19.77 19 P **P 19 47 27.7 +0.3**
ROSC El Rosal 19.98 116 P 19 47 30.4 +0.2
ROSC El Rosal 19.98 116 P **Pn 19 47 33.0 +1.0**
comp=Z,66nm,0.9s,baz=23,slow=1.0,SNR=17
ROSC LR LR 19 55 21.0
comp=Z,271nm,20.7s,baz=272,slow=37
PRAC Prado 20.05 119 P Pn 19 47 34.0 +1.4
comp=Z,1µmcomp=Z,80nm,1.4s
SLOR San Lorenzo - 20.10 136 P **P 19 47 32.3 +0.6**
SLOR IAmb IAmb 19 47 47.4
comp=Z,34nm,0.9s
PECS Pecos 20.21 330 P **P 19 47 33.1 +0.7**
ODSA Odessa 20.25 334 P Pn 19 47 33.8 -1.0
ODSA IAmb IAmb 19 47 36.6
comp=Z,38nm,0.9s
SN05 Snyder 5 20.28 339 P **P 19 47 33.7 +0.7**
SN05 IAmb IAmb 19 47 42.1
comp=Z,20nm,0.6s
VHRN Van Horn 20.30 327 P 19 47 34.1 +0.6
X40A Basin Creek Fa 20.33 359 P **P 19 47 33.3 -0.2**
MIAR Mount Ida 20.41 357 P 19 47 35.0 +0.6
MIAR IAmb IAmb 19 47 46.6
comp=Z,61nm,1.1s
APMT Aspermont 20.43 341 Pn 19 47 35.7 -1.1
APMT IAmb IAmb 19 47 38.3
comp=Z,24nm,0.7s
SN07 Snyder 07 20.47 339 P **P 19 47 35.8 +0.7**
OXF Oxford 20.52 7 P **P 19 47 36.1 +0.6**
OXF IAmb IAmb 19 47 54.8
comp=Z,70nm,1.1s
UALR University of 20.61 360 P 19 47 36.5 -0.1
UALR IAmb IAmb 19 47 48.8
comp=Z,40nm,1.0s
RUSC La Rusia 20.61 111 P 19 47 36.7 -0.5
RUSC IAmb IAmb 19 47 49.0
comp=Z,54nm,1.0s
FLOC Florencia 20.64 126 P 19 47 36.9 -0.2
FLOC Florencia 20.64 126 P Pn 19 47 40.1 +0.7
comp=Z,2µmcomp=Z,138nm,1.3s
POST Post 20.67 338 P Pn 19 47 38.4 -1.2
POST IAmb IAmb 19 47 49.5
comp=Z,22nm,0.8s
X48A Hartselle 20.84 12 P **P 19 47 39.5 +0.4**
X48A IAmb IAmb 19 47 58.5
comp=Z,81nm,1.5s
COHC Cochancay 20.93 141 P 19 47 40.7 +0.5
CLNB Carlsbad 20.96 332 P Pn 19 47 42.6 -0.5
DKNS Dickens 21.01 340 P **P 19 47 41.5 +0.5**
HTMS Hat Mesa 21.02 332 P 19 47 43.2 +2.1
X34A Smith Ranch, M 21.03 347 P 19 47 42.7 +1.6
X34A IAmb IAmb 19 47 49.8
comp=Z,34nm,0.9s

CLN7 Carlsbad 7 21.05 332 P **P 19 47 43.0 +1.5**
Y52A Lilburn 21.08 19 P 19 47 43.0 +1.4
MNTX Cornudas Mount 21.23 328 P **P 19 47 44.1 +0.8**
MNTX Cornudas Mount 21.23 328⇑ eP **P 19 47 45.5 +2.1**
FPAL Fort Paine 21.26 15 P **P 19 47 43.9 +0.3**
SC01 Santiago de lo 21.35 73 P **P 19 47 44.4 -0.3**
W35A Tecumseh 21.38 350 P 19 47 44.4 -0.5
WMOK Wichita Mounta 21.38 345 P **P 19 47 45.2 +0.3**
TAMC Tame, Arauca 21.57 109 P **P 19 47 49.9 +2.7**
comp=Z,943nmcomp=Z,120nm,0.8s
FNO Franklin 21.58 349 P **P 19 47 46.2 -0.8**
MACC Macarena, Meta 21.77 121 P **P 19 47 52.5 +3.2**
comp=Z,609nmcomp=Z,53nm,0.8s
SWET Sewanee 21.83 14 P **P 19 47 49.3 -0.4**
SWET IAmb IAmb 19 48 06.8
comp=Z,23nm,0.9s
SDV Santo Domingo 21.87 101 LR LR 19 58 13.4
comp=Z,309nm,19.2s,baz=281,slow=42
LCAR Lake Charles 21.93 3 IAmb IAmb 19 48 07.2
comp=Z,26nm,0.9s
TUL3 Leonard 21.96 352 P 19 47 48.9 -2.2
TUL3 IAmb IAmb 19 48 06.8
comp=Z,31nm,1.0s
W50A Signal Mountai 21.96 16 P **P 19 47 50.1 -1.0**
W50A IAmb IAmb 19 48 10.4
comp=Z,73nm,1.5s
V48A Smith Brothers 22.13 12 P **P 19 47 51.9 -1.1**
V48A IAmb IAmb 19 48 12.4
comp=Z,62nm,1.5s
OK052 Battle Ridge R 22.19 350 IAmb IAmb 19 47 54.8
comp=Z,24nm,0.6s
WVT Waverly 22.33 10 P **P 19 47 54.7 -0.3**
WVT IAmb IAmb 19 48 01.9
comp=Z,40nm,1.6s
U38A Gravette 22.35 356 P 19 47 54.7 -0.6
AMTX Amarillo 22.37 339 IAmb IAmb 19 47 59.4
comp=Z,32nm,0.8s
CPCT Cooper Cave 22.41 17 P **P 19 47 56.2 +0.2**
PAULI Pauline 22.73 23 P **P 19 47 58.3 -1.1**
PAULI IAmb IAmb 19 48 17.0
comp=Z,42nm,1.0s
TKL Tuckaleechee C 22.83 18 P **P 19 48 00.6 +0.2**
comp=Z,8.7nm,0.8s,baz=196,slow=12,SNR=6.8
TKL LR LR 19 58 30.5
comp=Z,479nm,19.7s,baz=198,slow=41
comp=Z,8.7nm,0.8s
T42A Van Buren 22.89 3 P 19 48 00.3 -0.6
U49A Red Boiling Sp 23.10 14 IAmb IAmb 19 48 03.4
comp=Z,30nm,0.9s
T47A Sharon Grove 23.29 11 IAmb IAmb 19 48 22.0
comp=Z,22nm,0.8s
SIUC Southern Illin 23.71 6 IAmb IAmb 19 48 19.5
comp=Z,32nm,0.8s
CCM Cathedral Cave 23.90 2 P **P 19 48 11.1 0.0**
RTBA Rita Blanca 24.14 339 IAmb IAmb 19 48 16.6
comp=Z,32nm,0.9s
BAUV El Baul 24.33 99 P 19 48 15.5 +0.2
BAUV IAmb IAmb 19 48 23.8
comp=Z,29nm,1.1s
ANMO Albuquerque 24.38 331 P 19 48 16.9 +1.2
ANMO Albuquerque 24.38 331 LR LR 19 59 17.0
comp=Z,144nm,21.0s,baz=297,slow=40
ANMO Albuquerque 24.38 331 *e* **P 19 48 18.0 +2.2**
WCI Wyandotte Cave 24.65 11 P **P 19 48 16.3 -1.5**
WCI IAmb IAmb 19 48 18.4
comp=Z,31nm,0.8s
V58A Windy Hill, Pi 24.67 26 IAmb IAmb 19 48 18.1
comp=Z,35nm,1.2s
R32A Long Quarter, 24.90 348 IAmb IAmb 19 48 44.8
comp=Z,22nm,0.8s
R49A Shelbyville 24.94 13 P **P 19 48 19.2 -1.3**
R49A IAmb IAmb 19 48 36.0
comp=Z,21nm,0.9s
ATAH Atahualpa 25.21 146 LR LR 19 57 17.8
comp=Z,312nm,18.3s,baz=300,slow=34
SJG San Juan 25.46 77 LR LR 19 59 10.7
comp=Z,274nm,19.4s,baz=238,slow=38
P46A Rosedale 25.84 9 IAmb IAmb 19 49 06.1
comp=Z,30nm,1.0s
Q51A Peebles 26.09 16 IAmb IAmb 19 49 04.5
comp=Z,26nm,1.0s
SDCO Great Sand Dun 26.32 336 P **P 19 48 34.9 +1.4**
MVCO Mesa Verde 27.18 331 IAmb IAmb 19 48 45.6
comp=Z,25nm,0.8s
PV13 Radium Mtn., P 28.09 332 P **P 19 48 51.0 +1.7**
PV13 IAmb IAmb 19 48 53.4
comp=Z,24nm,1.1s
PV11 David Mesa, Pa 28.23 332 IAmb IAmb 19 49 23.5
comp=Z,30nm,1.1s
PV07 Paradox Valley 28.24 332 IAmb IAmb 19 49 09.0
comp=Z,15nm,0.9s
PV23 Carpenter Ridg 28.42 332 IAmb IAmb 19 49 10.8
comp=Z,32nm,0.9s
W13A Hualapai Mount 28.56 321 P **P 19 48 53.5 +0.1**
CZSB Cruzeiro do Su 29.13 137 eP **P 19 48 58.8 +0.4**
KNB Kanab 29.26 325 P 19 48 59.9 +0.2
KNB IAmb IAmb 19 49 14.3
comp=Z,23nm,1.3s
PFO Pinyon Flats O 29.29 316 LR LR 20 01 19.4
comp=Z,393nm,19.3s,baz=123,slow=37
LCMT Little Creek M 29.49 325 P **P 19 49 02.2 +0.5**
V12A Nelson 29.56 321 IAmb IAmb 19 49 20.9
comp=Z,15nm,1.2s
Q16A Castle Valley 29.82 330 P 19 49 06.3 +1.8
Q16A IAmb IAmb 19 49 23.2
comp=Z,15nm,1.1s
BSUT Blindstream Ca 30.90 332 P 19 49 16.1 +1.8
BSUT IAmb IAmb 19 49 32.7
comp=Z,23nm,1.5s
DUG Dugway, Tooele 31.61 329 P 19 49 21.1 +0.7
TCUT Toone Canyon 31.66 332 IAmb IAmb 19 49 41.8
comp=Z,19nm,0.8s
HWUT Hardware Ranch 32.12 332 IAmb IAmb 19 49 42.6
comp=Z,22nm,1.4s
PDAR Pinedale Array 32.22 336 P **P 19 49 26.8 +1.1**
comp=Z,0.9nm,0.8s,baz=142,slow=7.8,SNR=6.7
PDAR PcP **PcP 19 52 12.9 -1.3**
comp=Z,0.5nm,0.8s,baz=220,slow=5.0,SNR=2.1
PDAR LR LR 20 04 32.6
comp=Z,110nm,21.1s,baz=136,slow=40
comp=Z,0.9nm,0.8s
TEFE Tefe 32.55 120 eP **P 19 49 29.1 +0.5**
HVU Hansel Valley 32.81 331 IAmb IAmb 19 49 44.1
comp=Z,16nm,1.0s
ELK Elko 33.26 327 P 19 49 36.5 +1.6
TPAW Teton Pass 33.38 335 IAmb IAmb 19 50 04.9
comp=Z,15nm,1.1s
NVAR Mina Array Bea 33.41 321 P **P 19 49 37.7 +1.5**
NVAR Mina Array Bea 33.41 321 P **P 19 49 39.8 +3.5**
comp=Z,5.2nm,0.8s,baz=138,slow=9.2,SNR=20
NVAR PcP **PcP 19 52 18.4 +0.8**
comp=Z,0.8nm,0.7s,baz=152,slow=2.4,SNR=2.2
NVAR LR LR 20 04 56.7
comp=Z,446nm,18.8s,baz=160,slow=39
comp=Z,5.2nm,0.8s
LHV Little Huntoon 33.42 321 IAmb IAmb 19 49 55.6
comp=Z,22nm,1.4s
BOAV Boa Vista 33.49 107 eP **P 19 49 37.0 +0.1**
RYN Ryan 33.67 321 IAmb IAmb 19 49 53.5
comp=Z,18nm,1.6s
YNE Yellowstone No 34.29 338 IAmb IAmb 19 50 14.1
comp=Z,12nm,1.4s
YHL Hebgen Lake 34.61 336 IAmb IAmb 19 50 04.8
comp=Z,11nm,1.3s
HLID Hailey 34.96 332 P 19 49 50.8 +1.3
HLID IAmb IAmb 19 50 04.3
comp=Z,14nm,1.2s
MPK Martis Peak 35.00 321 IAmb IAmb 19 50 18.5
comp=Z,24nm,1.5s
MFID Camas Ranch 35.52 330 IAmb IAmb 19 50 13.7
comp=Z,12nm,1.1s
DLMT Dillon 35.59 335 IAmb IAmb 19 50 13.6
comp=Z,12nm,1.1s
ULM Lac du Bonnet 36.19 356 P **P 19 50 01.9 +2.2**
comp=Z,1.8nm,0.7s,baz=129,slow=6.5,SNR=1.9
ULM PcP **PcP 19 52 23.9 -1.1**
comp=Z,2.0nm,0.5s,baz=278,slow=4.0,SNR=1.7
ULM LR LR 20 08 06.8
comp=Z,158nm,20.4s,baz=130,slow=42
comp=Z,1.8nm,0.7s
WVOR Wild Horse Val 36.25 326 IAmb IAmb 19 50 36.2
comp=Z,16nm,1.1s
J08A Circle Bar Ran 36.81 328 P **P 19 50 06.6 +1.3**
PLID Pearl Lake 36.86 332 IAmb IAmb 19 50 23.2
comp=Z,16nm,0.8s
BMO Blue Mountains 37.30 330 IAmb IAmb 19 50 26.3

comp=Z,14nm,1.1s
YBH Yreka Blue Hor 38.11 322 LR LR 20 07 12.2
comp=Z,359nm,18.9s,baz=130,slow=38
L04D Klamath Falls 38.17 323 P **P** **19 50 18.5 +1.6**
L04D IAmb IAmb 19 50 29.6
comp=Z,17nm,1.2s
LPAZ La Paz 38.50 141 P **P** **19 50 20.2 -0.2**
LPAZ La Paz 38.50 141 P **P** **19 50 20.5 +0.1**
comp=Z,1.8nm,0.5s,baz=332,slow=6.5,SNR=10
LPAZ LR LR 20 05 25.8
comp=Z,198nm,21.9s,baz=314,slow=35
comp=Z,1.8nm,0.5s
LPAZ La Paz 38.50 141 *e*P **P** **19 50 20.7 +0.3**
LPAZ La Paz 38.50 141 P **P** **19 50 20.3 -0.1**
LPAZ pP **pP** **19 50 24.6 -1.0**
H04A Detroit Lake 39.67 326 IAmb IAmb 19 50 47.0
comp=Z,33nm,1.2s
NEW Newport 39.79 334 LR LR 20 10 02.8
comp=Z,176nm,18.5s,baz=140,slow=40
PB11 IPOC Station P 40.35 146 **P** **19 50 35.2 -0.1**
PB11 IAmb IAmb 19 50 42.2
comp=Z,23nm,1.1s
GO01 Chusmiza 40.53 145 P **P** **19 50 37.4 +0.2**
GO01 IAmb IAmb 19 50 44.8
comp=Z,15nm,0.9s
ITTB Itaituba 40.66 114 *e*P **P** **19 50 36.9 -0.9**
B08A Colville Reser 40.83 332 **P** **19 50 39.9 +1.0**
LON Longmire 40.86 329 IAmb IAmb 19 50 52.4
comp=Z,12nm,0.9s
PB09 IPOC Station P 42.24 147 IAmb IAmb 19 50 58.4
comp=Z,14nm,1.0s
NPGB Novo Progresso 42.27 117 *e*P **P** **19 50 49.4 -1.6**
SIV San Ignacio 42.98 133 LR LR 20 08 09.7
comp=Z,226nm,18.9s,baz=301,slow=35
PDRB Porto dos Gac 43.55 124 *e*P **P** **19 51 02.5 +1.1**
LLLB Lillooet 43.61 333 **P** **19 51 02.9 +1.4**
LLLB IAmb IAmb 19 51 13.4
comp=Z,20nm,1.3s
CLDB Colider 43.90 123 *e*P **P** **19 51 04.2 -0.1**
PTLB Pontes e Lacer 44.02 131 **P** **19 51 05.5 +0.4**
PTLB Pontes e Lacer 44.02 131 *e*P **P** **19 51 06.0 +0.9**
BBSD Serra de San D 44.11 134 *e*P **P** **19 51 05.7 -0.1**
GO02 Mina Guanaco 44.86 150 IAmb IAmb 19 51 18.8
comp=Z,15nm,1.1s
AC02 Maricunga 46.50 151 IAmb IAmb 19 51 33.0
comp=Z,14nm,1.2s
PRPB Parauapebas 46.74 113 *e*P **P** **19 51 25.1 -1.8**
SALV Santo Antonio 46.89 128 *e*P **P** **19 51 27.1 -0.8**
BBB Bella Bella 47.54 331 LR LR 20 14 56.7
comp=Z,124nm,18.4s,baz=162,slow=40
LCO Las Campanas 47.66 154 **P** **19 51 33.9 -0.1**
LCO IAmb IAmb 19 51 40.8
comp=Z,13nm,1.0s
LCO Las Campanas 47.66 154 P P 19 51 39.9 +5.9
LCO pP sP 19 51 44.3 +2.9
SNDB Serra Nova Dou 48.21 120 *e*P **P** **19 51 37.4 -0.8**
H03N2 Juan Fernandez 48.95 165 T T 20 44 32.4
baz=347,slow=76,SNR=4.4
H03N1 Juan Fernandez 48.95 165 T T 20 44 34.9
baz=347,slow=76,SNR=8.8
H03N3 Juan Fernandez 48.97 165 T T 20 44 25.2
baz=347,slow=76,SNR=6.6
MURT Porto Murtinho 49.21 136 *e*P **P** **19 51 44.7 -1.1**
CO03 El Pedregal 49.27 155 IAmb IAmb 19 51 52.9
comp=Z,12nm,0.9s
AQDB Aquidauana 49.75 133 *e*P **P** **19 51 49.2 -0.7**
ARAG Araguaiana, MT 49.80 125 *e*P **P** **19 51 49.5 -0.9**
SMTB Santa Maria do 49.90 115 *e*P **P** **19 51 50.1 -1.1**
ZON Zonda 50.72 154 IAmb IAmb 19 52 04.3
comp=Z,9.0nm,0.9s
YKAW1 Yellowknife Wh 50.84 347 IAmb IAmb 19 51 58.8
comp=Z,9.5nm,0.6s
YKA Yellowknife Ar 50.88 347 P **P** **19 51 57.9 0.0**
comp=Z,6.1nm,0.8s,baz=152,slow=7.6,SNR=70
YKA PcP **PcP** **19 53 13.7 -0.6**
comp=Z,1.9nm,0.9s,baz=152,slow=6.5,SNR=3.7
YKA LR LR 20 17 03.6
comp=Z,154nm,21.1s,baz=192,slow=40
comp=Z,6.1nm,0.8s
YKAW3 Yellowknife Wh 50.94 347 IAmb IAmb 19 51 59.6
comp=Z,7.7nm,0.7s
TOAD Toad River Com 50.95 339 P **P** **19 52 00.3 +1.7**
baz=137
V35K Ketchikan 51.13 332 P **P** **19 52 01.7 +1.8**
baz=128
T35M Bob Quinn 51.59 335 P **P** **19 52 04.9 +1.6**
baz=130
LIRD Liard River Hi 51.67 339 P **P** **19 52 04.8 +0.9**
baz=136
BO04 La Punta 52.08 157 IAmb IAmb 19 52 13.8
comp=Z,12nm,0.9s
U33K Whale Pass 52.29 332 P **P** **19 52 09.2 +0.7**
baz=127
FRB Frobisher Bay 52.31 13 LR LR 20 16 31.1
comp=Z,322nm,18.2s,baz=214,slow=38
DLBC Dease Lake 52.45 336 LR LR 20 16 56.8
comp=Z,200nm,21.1s,baz=136,slow=39
DLBC Dease Lake 52.45 336 P **P** **19 52 10.4 +0.6**
baz=132
SJPY San Joaquin 52.50 137 *e*P **P** **19 52 09.3 -1.2**
S34M Telegraph Cree 52.55 335 P **P** **19 52 11.4 +0.9**
baz=130
TAOE Nuku Hiva Isla 52.63 247 *e*LR LR 20 07 24.7
comp=Z,108nm,25.5s
CPUP Villa Florida 52.65 140 IAmb IAmb 19 52 16.4
comp=Z,9.4nm,0.9s
CPUP Villa Florida 52.65 140 P **P** **19 52 10.5 -1.1**
comp=Z,4.0nm,0.8s,baz=337,slow=7.8,SNR=12
CPUP PcP **PcP** **19 53 21.3 -0.2**
comp=Z,1.2nm,0.7s,baz=300,slow=2.3,SNR=1.4
CPUP LR LR 20 15 52.8
comp=Z,96nm,18.7s,baz=328,slow=37
comp=Z,4.0nm,0.8s
CPUP Villa Florida 52.65 140 *e*P **P** **19 52 10.7 -0.9**
CPUP Villa Florida 52.65 140 P **P** **19 52 10.4 -1.1**
CPUP pP **pP** **19 52 15.1 -1.9**
BO02 Sierra Bellavi 52.73 158 **P** **19 52 11.8 -0.4**
BO02 IAmb IAmb 19 52 29.4
comp=Z,24nm,1.6s
BDFB Brasilia 52.83 122 IAmb IAmb 19 52 19.0
comp=Z,16nm,1.0s
BDFB Brasilia 52.83 122 P **P** **19 52 12.8 -0.5**
comp=Z,7.8nm,0.9s,baz=293,slow=2.6,SNR=9.1
BDFB LR LR 20 15 04.6
comp=Z,122nm,20.2s,baz=299,slow=36
comp=Z,7.8nm,0.9s
WTLY Watson Lake, Y 53.13 338 IAmb IAmb 19 52 27.5
comp=Z,19nm,1.1s
WTLY Watson Lake, Y 53.13 338 P **P** **19 52 16.5 +1.7**
baz=134
R33M Jennings River 53.45 337 P **P** **19 52 18.8 +1.5**
baz=131
Q32M Nakina River 53.69 336 P **P** **19 52 20.3 +1.2**
baz=129
WRGLY Wrigley 53.73 343 **P** **19 52 18.9 -0.1**
WRGLY Wrigley 53.73 343 P **P** **19 52 20.4 +1.4**
baz=141
S32K Killisnoo 53.74 333 P **P** **19 52 20.6 +1.4**
baz=126
SIT Sitka 53.83 333 P **P** **19 52 21.4 +1.5**
baz=125
SDBA SAO DESIDERIO 53.86 117 *e*P **P** **19 52 19.8 -1.0**
IPMB Ipameri, GO 53.92 125 *e*P **P** **19 52 18.4 -2.8**
TGTN Hyland Airport 53.94 340 P **P** **19 52 22.3 +1.6**
baz=135
R32K Eaglecrest 54.19 334 P **P** **19 52 24.6 +2.1**
baz=126
BI02 San Fabin de 54.23 159 **P** **19 52 23.4 +0.2**
P32M Atlin 54.66 336 P **P** **19 52 27.4 +1.4**
baz=128
P33M Teslin, Yukon 54.70 337 P **P** **19 52 27.9 +1.7**
baz=129
S31K Pelican 54.75 333 P **P** **19 52 27.3 +0.8**
baz=124
LDASE Londrina, Braz 54.88 132 *e*P **P** **19 52 28.4 +0.4**
PTGB Pitanga 55.05 134 *e*P **P** **19 52 27.9 -1.4**
N32M Quiet Lake 55.40 337 P **P** **19 52 33.1 +1.8**
baz=130
ITQB Itaqui 55.48 142 *e*P **P** **19 52 32.0 -0.2**
JANB Januaria 55.62 120 *e*P **P** **19 52 32.7 -0.9**
PMNB Patos De Minas 55.64 124 *e*P **P** **19 52 33.9 +0.2**
MMPY Sheldon Lake, 55.72 339 IAmb IAmb 19 52 46.6
comp=Z,14nm,0.9s
MMPY Sheldon Lake, 55.72 339 P **P** **19 52 35.2 +1.6**
baz=132
RKT Rikitea 55.75 229 *e*LR LR 20 08 52.9
comp=Z,794nm,25.0s
WHY Whitehorse 55.78 336 P **P** **19 52 35.7 +1.6**
baz=127
FARO Faro, Yukon 56.19 338 P **P** **19 52 38.4 +1.5**
baz=130
P30M Million Dollar 56.29 335 P **P** **19 52 39.3 +1.5**
baz=125
O30N Mendenhall 56.32 336 P **P** **19 52 39.2 +1.3**
baz=126
P29M Windy Craggy 56.34 334 P **P** **19 52 39.4 +1.4**
baz=124
M31M Drury Creek, Y 56.55 338 P **P** **19 52 39.9 +0.4**
baz=129
N31M Braeburn, Yuko 56.63 337 P **P** **19 52 40.3 +0.2**
N31M IAmb IAmb 19 52 58.3
comp=Z,11nm,0.8s
N31M Braeburn, Yuko 56.63 337 P **P** **19 52 41.4 +1.3**
baz=127
ITAB Concordia 56.64 137 *e*P **P** **19 52 40.1 -0.4**
HYT Haines Junctio 56.92 335 P **P** **19 52 43.4 +1.1**
baz=125
O29M Mount Kennedy 57.06 335 P **P** **19 52 45.1 +1.8**
baz=123
PNL Peninsula 57.06 334 P **P** **19 52 44.9 +1.7**
baz=122
N30M Aishikik Lake 57.12 336 P **P** **19 52 44.7 +1.1**
baz=126
YUK6 Outpost Mounta 57.33 335 P **P** **19 52 46.6 +1.3**
baz=124
PINM Pinnacle 57.66 334 P **P** **19 52 48.7 +1.3**
baz=121
M30M Minto, Yukon 57.67 337 IAmb IAmb 19 52 60.0
comp=Z,14nm,1.2s
M30M Minto, Yukon 57.67 337 P **P** **19 52 48.6 +1.2**
baz=126
YUK4 Talbot Arm 57.67 336 P **P** **19 52 49.2 +1.5**
baz=124
DIAM Diamantina, MG 57.75 123 *e*P **P** **19 52 48.9 +0.1**
CPSB Cacapava Do Su 57.94 140 *e*P **P** **19 52 50.6 +0.9**
O28M Mount Upton 57.99 335 P **P** **19 52 51.2 +1.2**
baz=122
YUK8 Steele Glacier 58.09 335 P **P** **19 52 51.9 +1.2**
baz=123
PLCA Paso Flores 58.15 161 **P** **19 52 51.5 +0.4**
PLCA IAmb IAmb 19 52 52.7
comp=Z,12nm,1.2s
PLCA Paso Flores 58.15 161 P **P** **19 52 50.6 -0.5**
comp=Z,5.0nm,1.0s,baz=349,slow=5.5,SNR=7.0
PLCA LR LR 20 12 53.0
comp=Z,152nm,18.7s,baz=350,slow=31
comp=Z,5.0nm,1.0s
PLCA Paso Flores 58.15 161 *e*P **P** **19 52 51.9 +0.8**
PLCA Paso Flores 58.15 161 P **P** **19 52 51.9 +0.8**
PLCA pP **pP** **19 52 57.0 +0.5**
M29M Somme Creek 58.22 337 P **P** **19 52 52.5 +1.1**
baz=124
MESA MESA 58.43 333 P **P** **19 52 53.7 +0.7**
baz=120
L29M L29M 58.48 338 **P** **19 52 54.1 +1.1**
L29M IAmb IAmb 19 53 10.4
comp=Z,14nm,1.1s
L29M L29M 58.48 338 P **P** **19 52 54.4 +1.3**
baz=125
YUK3 Moose Creek 58.63 336 P **P** **19 52 54.8 +0.4**
baz=122
K29M Barlow Dome 58.69 338 P **P** **19 52 55.9 +1.3**
baz=126
J30M Hart River 58.71 339 P **P** **19 52 55.4 +0.6**
baz=128
C36M Paulatuk 58.75 347 P **P** **19 52 55.9 +1.1**
baz=143
PLTB Pedras Altas 58.79 141 *e*P **P** **19 52 55.4 -0.3**
H31M Peel River 58.85 341 P **P** **19 52 56.4 +0.8**
baz=131
PARB Paraibuna 58.91 129 *e*P **P** **19 52 56.1 -0.6**
I30M Mount Dempster 59.13 340 IAmb IAmb 19 53 14.7
comp=Z,10nm,0.8s
I30M Mount Dempster 59.13 340 P **P** **19 52 59.1 +1.4**
baz=128
BVCY Beaver Creek 59.13 336 P **P** **19 52 58.6 +1.0**
baz=122
J29N Klondike Camp 59.29 339 P **P** **19 53 00.2 +1.4**
baz=126
RCBR Riachuelo 59.37 106 P **P** **19 52 59.6 -0.4**
RCBR Riachuelo 59.37 106 LR LR 20 20 12.9
comp=Z,49nm,18.5s,baz=264,slow=38
RCBR Riachuelo 59.37 106 *e*P **P** **19 52 60.0 -0.1**
RCBR Riachuelo 59.37 106 P **P** **19 53 00.3 +0.2**
RCBR pP **pP** **19 53 05.0 -0.5**
KAIM Kayak Island 59.40 333 P **P** **19 52 60.0 +0.5**
baz=117
DAWY Dawson 59.49 338 P **P** **19 53 00.5 +0.4**
DAWY IAmb IAmb 19 53 16.6
comp=Z,3.6nm,0.7s
DAWY Dawson 59.49 338 P **P** **19 53 01.4 +1.3**
baz=124
M27K Edge Creek, AK 59.51 336 P **P** **19 53 01.8 +1.4**
M27K Edge Creek, AK 59.51 336 P **P** **19 53 01.7 +1.3**
baz=121
SFJD Kangerlussuaq 59.54 18 LR LR 20 19 25.9
comp=Z,206nm,20.8s,baz=218,slow=37
G31M Satah River 59.56 342 IAmb IAmb 19 53 17.2
comp=Z,9.0nm,0.8s
G31M Satah River 59.56 342 P **P** **19 53 01.4 +0.9**
baz=131
F31M Tsiigehtchic 59.75 343 P **P** **19 53 02.9 +1.1**
baz=132
BCAR Beaver Creek A 59.84 336 **P** **19 53 03.4 +0.8**
CMC01 Camacan, BA 59.85 117 *e*P **P** **19 53 03.0 -0.2**
L27K Beaver Creek, 59.85 336 IAmb IAmb 19 53 20.3
comp=Z,10.0nm,0.8s
L27K Beaver Creek, 59.85 336 P **P** **19 53 03.5 +0.8**
baz=121
I29M Ogilvie Camp, 59.86 340 P **P** **19 53 03.1 +0.5**
baz=126
EPYK Eagle Plains 59.95 341 P **P** **19 53 03.9 +0.6**
baz=128
BMRM Bremner River 59.96 334 P **P** **19 53 03.7 +0.3**
baz=118
M26K Nabesna, AK 59.98 335 P **P** **19 53 04.1 +0.5**
baz=120
SJMB Sao Joao De Ma 60.00 122 *e*P **P** **19 53 04.3 0.0**
GUA01 Guaratinga, BA 60.16 119 *e*P **P** **19 53 05.7 +0.3**
G30M tAoh Zraii Nji 60.19 342 P **P** **19 53 05.1 +0.3**
baz=129
N25K Chitina, Valde 60.26 334 P **P** **19 53 06.6 +1.2**
baz=118
EYAK Cordova Ski Ar 60.27 333 P **P** **19 53 06.2 +0.7**
baz=116
INK Inuvik 60.28 344 LR LR 20 23 38.1
comp=Z,158nm,18.3s,baz=226,slow=40
INK Inuvik 60.28 344 P **P** **19 53 06.1 +0.8**
baz=132,SNR=11
H29M Whitestone 60.39 340 P **P** **19 53 06.9 +0.7**
baz=126
NBAN Anadia - AL 60.40 110 *e*P **P** **19 53 06.4 -0.7**
F30M Barrier River 60.46 342 **P** **19 53 07.0 +0.3**
F30M Barrier River 60.46 342 P **P** **19 53 07.7 +1.1**
baz=130,SNR=5.4
K27K Chicken 60.46 337 P **P** **19 53 08.4 +1.8**
baz=122
I28M Miner Creek 60.47 339 P **P** **19 53 06.9 +0.1**
baz=124
RES Resolute Bay 60.62 359 LR LR 20 22 13.0
comp=Z,124nm,20.7s,baz=186,slow=39
G29M Pine Creek 60.70 341 IAmb IAmb 19 53 25.3
comp=Z,8.9nm,0.9s
G29M Pine Creek 60.70 341 P **P** **19 53 09.1 +0.8**
baz=127
KLU Klutina 60.77 334 P **P** **19 53 09.8 +0.8**
baz=116
P23K Montague Islan 60.78 332 P **P** **19 53 09.8 +0.8**
baz=114
RIB01 Linhares ES 60.95 122 *e*P **P** **19 53 10.7 0.0**
GLI Glacier Island 61.01 333 P **P** **19 53 11.3 +0.8**
baz=115
DOT Dot Lake 61.02 336 IAmb IAmb 19 53 28.2
comp=Z,9.3nm,0.8s
A36M Sachs Harbour 61.11 349 IAmb IAmb 19 53 27.0
comp=Z,9.0nm,0.8s
A36M Sachs Harbour 61.11 349 P **P** **19 53 12.1 +1.2**
baz=143
I27K Kandik River 61.14 339 P **P** **19 53 12.1 +0.8**
baz=123
M24K Tolsona, Glenn 61.15 334 P **P** **19 53 11.3 -0.3**
baz=116
SCRK Sand Creek 61.16 337 P **P** **19 53 12.2 +0.6**
SCRK IAmb IAmb 19 53 24.9
comp=Z,7.6nm,1.2s
SCRK Sand Creek 61.16 337 P **P** **19 53 12.1 +0.6**
baz=120
PAX Paxson 61.26 335 P **P** **19 53 12.4 +0.2**
baz=118
J26L Joseph Creek 61.26 337 P **P** **19 53 12.7 +0.5**
baz=120
RIDG Independent Ri 61.37 336 P **P** **19 53 14.0 +1.1**
RIDG Independent Ri 61.37 336 P **P** **19 53 13.6 +0.6**
baz=119
H27K Steamboat Moun 61.45 340 IAmb IAmb 19 53 31.3
comp=Z,8.7nm,0.9s
H27K Steamboat Moun 61.45 340 P **P** **19 53 13.8 +0.3**
baz=123
SCM Sheep Creek Mo 61.52 334 P **P** **19 53 14.7 +0.6**
baz=115
I26K Coal Creek Min 61.52 338 P **P** **19 53 14.5 +0.6**
baz=121
PWL Port Wells 61.56 333 P **P** **19 53 13.6 -0.7**
baz=114
E29M Blow River 61.57 342 P **P** **19 53 14.3 +0.2**
baz=128,SNR=13
M23K Glacier View 61.67 334 P **P** **19 53 15.0 0.0**
baz=115
K24K Donnelly Dome 61.77 336 P **P** **19 53 16.0 +0.4**
baz=118
SEW Seward 61.77 331 P **P** **19 53 15.7 +0.1**
baz=112
G27K Doyon Strip 61.81 340 IAmb IAmb 19 53 28.3
comp=Z,7.1nm,1.1s
G27K Doyon Strip 61.81 340 P **P** **19 53 16.2 +0.3**
baz=123
KNK Knik Glacier 61.84 333 P **P** **19 53 16.1 -0.1**
baz=114
SML Sawmill 61.94 334 P **P** **19 53 17.2 +0.3**
baz=114
J25K Salcha River, 61.99 337 P **P** **19 53 17.7 +0.6**
J25K IAmb IAmb 19 53 35.1
comp=Z,6.2nm,0.7s
J25K Salcha River, 61.99 337 P **P** **19 53 17.7 +0.6**
baz=118
O22K Cooper Landing 62.04 332 P **P** **19 53 17.2 -0.2**
baz=112
E28M Babbage River 62.18 342 P **P** **19 53 18.7 +0.5**
baz=126,SNR=9.5
PMR Palmer 62.20 333 P **P** **19 53 19.0 +0.5**
baz=113
BRSE Bradley Lake S 62.24 331 P **P** **19 53 18.6 -0.2**
baz=111
RC01 Rabbit Creek A 62.28 332 P **P** **19 53 18.8 -0.2**
baz=112
D28M Stokes Point 62.39 343 P **P** **19 53 20.2 +0.7**
baz=127,SNR=11
KDAK Kodiak Island 62.48 328 LR LR 20 20 08.9
comp=Z,90nm,20.4s,baz=318,slow=36
KDAK Kodiak Island 62.48 328 P **P** **19 53 20.4 0.0**
baz=108
PRP Porcupine Dome 62.49 338 **P** **19 53 20.6 0.0**
PRP IAmb IAmb 19 53 38.2
comp=Z,8.9nm,0.8s
PRP Porcupine Dome 62.49 338 P **P** **19 53 21.2 +0.6**
baz=119,SNR=6.5
HDA Harding Lake 62.50 336 P **P** **19 53 20.8 +0.3**
baz=117
E27K Coleen River 62.56 341 P **P** **19 53 21.4 +0.5**
baz=124,SNR=18
G26K Porcupine Rive 62.60 340 IAmb IAmb 19 53 38.2
comp=Z,11nm,1.1s
G26K Porcupine Rive 62.60 340 P **P** **19 53 21.7 +0.6**
baz=121
ILAR Eielson Array 62.64 337 **P** **19 53 21.5 +0.1**
ILAR Eielson Array 62.64 337 P **P** **19 53 22.0 +0.6**
comp=Z,3.7nm,1.0s,baz=127,slow=4.5,SNR=26
ILAR LR LR 20 22 33.0
comp=Z,253nm,20.9s,baz=97,slow=38
comp=Z,3.7nm,1.0s
Q20K Shuyak Island 62.65 329 P **P** **19 53 22.0 +0.4**
baz=109
OHAK Old Harbor 62.68 328 P **P** **19 53 22.6 +0.9**
baz=107
RND Reindeer 62.83 335 **P** **19 53 23.0 +0.2**
SII Sitkinak Islan 62.96 327 P **P** **19 53 24.1 +0.4**
baz=106
D27M Malcolm River 62.97 343 IAmb IAmb 19 53 41.0
comp=Z,8.0nm,0.8s
D27M Malcolm River 62.97 343 P **P** **19 53 24.1 +0.5**
baz=125,SNR=9.6
MCK McKinley 62.99 335 IAmb IAmb 19 53 41.0
comp=Z,10nm,1.0s
MCK McKinley 62.99 335 P **P** **19 53 24.4 +0.5**
baz=114
POKR Poker Plat Res 63.01 337 P **P** **19 53 24.6 +0.7**
baz=117
CUT Chulitna 63.02 334 P **P** **19 53 24.9 +1.0**
baz=113
COLA College 63.06 337 P **P** **19 53 25.3 +1.1**
baz=116
F26K Sheenjek River 63.10 340 IAmb IAmb 19 53 37.1
comp=Z,8.7nm,1.0s
F26K Sheenjek River 63.10 340 P **P** **19 53 25.5 +1.0**
baz=121,SNR=7.5
BMAR Burnt Mountain 63.11 340 **P** **19 53 24.9 +0.4**
G25K Bearman Lake 63.30 339 P **P** **19 53 26.5 +0.8**
baz=119
STLK Strandline Lak 63.37 332 IAmb IAmb 19 53 43.7
comp=Z,8.8nm,1.0s
Q19K Cape Douglas, 63.37 329 P **P** **19 53 27.1 +0.7**
baz=108
P19K Oil Pt 63.40 330 P **P** **19 53 27.1 +0.5**
baz=108
SKT Skwentna 63.41 333 P **P** **19 53 27.0 +0.4**
baz=111
NEA2 Nenana 63.41 336 P **P** **19 53 26.8 +0.3**
baz=115
SPCR Spurr Chakacha 63.43 332 P **P** **19 53 27.5 +0.6**
baz=110
TRF Thorofare Moun 63.43 335 P **P** **19 53 27.5 +0.5**
baz=113
H24K Noodor Dome 63.50 338 P **P** **19 53 28.2 +1.1**
baz=116,SNR=6.8
F25K Christian Rive 63.55 340 **P** **19 53 28.1 +0.6**
F25K IAmb IAmb 19 53 45.3
comp=Z,8.1nm,0.8s
F25K Christian Rive 63.55 340 P **P** **19 53 28.0 +0.6**
baz=120,SNR=8.3
G24K Hadweenzic Riv 63.75 339 IAmb IAmb 19 53 46.8
comp=Z,13nm,1.1s
G24K Hadweenzic Riv 63.75 339 P **P** **19 53 29.2 +0.5**
baz=117,SNR=5.8
I23K Minto, Yukon-K 63.76 337 P **P** **19 53 29.1 +0.3**
baz=115,SNR=11
E25K Arctic Village 63.79 340 IAmb IAmb 19 53 46.6
comp=Z,8.8nm,0.8s
E25K Arctic Village 63.79 340 P **P** **19 53 30.0 +1.0**
baz=120,SNR=8.9
Q18K Katmai Hardscr 63.97 329 P **P** **19 53 31.1 +0.7**
baz=106
BPAW Bear Paw Mtn. 63.97 335 IAmb IAmb 19 53 47.1
comp=Z,9.4nm,0.9s
BPAW Bear Paw Mtn. 63.97 335 P **P** **19 53 30.5 +0.2**
baz=113
C27K Jago River 63.99 342 P **P** **19 53 31.4 +1.1**
C27K IAmb IAmb 19 53 48.4
comp=Z,12nm,0.9s
C27K Jago River 63.99 342 P **P** **19 53 30.6 +0.3**
baz=122,SNR=12
PPLA Purkeypile 64.02 334 P **P** **19 53 31.0 +0.2**
baz=111
M20K Styx River 64.08 333 IAmb IAmb 19 53 49.3
comp=Z,7.9nm,0.8s
M20K Styx River 64.08 333 P **P** **19 53 31.6 +0.5**
baz=110
O19K Port Alsworth 64.09 331 P **P** **19 53 31.8 +0.8**
baz=108
H23K Yukon River 64.11 337 P **P** **19 53 31.8 +0.6**
baz=115
CAST Castle Rocks 64.17 334 IAmb IAmb 19 53 48.1
comp=Z,12nm,0.9s
CAST Castle Rocks 64.17 334 P **P** **19 53 31.7 +0.1**
baz=111
F24K Squaw Lake 64.27 339 IAmb IAmb 19 53 50.0
comp=Z,6.5nm,1.0s
F24K Squaw Lake 64.27 339 P **P** **19 53 32.8 +0.6**
baz=117
P18K Big Mountain, 64.29 330 P **P** **19 53 32.7 +0.2**
baz=106
Q17K Contact Creek 64.31 328 P **P** **19 53 32.8 +0.1**

baz=105
N19K **Bonanza Creek** 64.35 331 P P 19 53 33.3 +0.3
baz=108
O18K **Koktuh Hills** 64.41 330 P P 19 53 33.3 +0.1
baz=107
CHUM **Lake Minchumin** 64.43 335 P P 19 53 33.6 +0.4
baz=111
C26K **Camden Bay** 64.50 342 P P 19 53 34.2 +0.6
baz=121,SNR=9.2
L20K **Farewell, AK** 64.61 333 P P 19 53 34.8 +0.3
baz=109,SNR=7.0
PPT **Papeete** 64.64 243 LR LR 20 16 51.2
comp=Z,94nm,18.0s,baz=20,slow=31
D25K **Kavik River** 64.64 341 P P 19 53 34.9 +0.3
baz=120,SNR=15
PPT2 **Papeete2** 64.65 243 eS S 20 02 13.3 -1.9
comp=Z,72nm,27.2s
PPT2 **Papeete2** 64.65 243 eLR LR 20 12 53.3
comp=Z,169nm,26.2s
PPT2 eLR LR 20 12 56.4
comp=Z,139nm,27.5s
M19K **Big River Lodg** 64.65 332 P P 19 53 35.2 +0.4
baz=108
G23K **Bananza Creek** 64.66 338 P 19 53 35.4 +0.6
G23K IAmb IAmb 19 53 52.2
comp=Z,6.8nm,0.9s
G23K **Bananza Creek** 64.66 338 P P 19 53 35.2 +0.5
baz=115
E24K **Your Creek** 64.73 340 IAmb IAmb 19 53 52.9
comp=Z,9.8nm,1.1s
E24K **Your Creek** 64.73 340 P P 19 53 35.3 +0.1
baz=117
I21K **Tanana** 64.78 336 IAmb IAmb 19 53 52.4
comp=Z,14nm,1.1s
I21K **Tanana** 64.78 336 P P 19 53 36.4 +0.8
baz=112
H22K **Ishtalitna Cre** 64.83 337 P P 19 53 36.4 +0.6
baz=113,SNR=8.3
P17K **Kvichak River** 64.83 329 P P 19 53 36.7 +0.8
baz=105
COLD **Coldfoot** 64.94 339 IAmb IAmb 19 53 54.6
comp=Z,11nm,1.0s
COLD **Coldfoot** 64.94 339 P P 19 53 37.1 +0.5
baz=115,SNR=6.6
L19K **White Mountain** 64.95 333 P P 19 53 37.1 +0.4
baz=108
N18K **Kilae Creek** 64.97 331 P P 19 53 37.2 +0.3
baz=106
K20K **Telida** 64.98 334 P P 19 53 36.9 0.0
baz=109
E23K **Chandalar** 65.10 340 P P 19 53 38.3 +0.6
baz=116,SNR=13
M18K **Stony River** 65.18 332 P P 19 53 38.7 +0.6
baz=107
H21K **Melozitna Rive** 65.28 337 P P 19 53 38.5 -0.3
H21K IAmb IAmb 19 53 55.3
comp=Z,6.5nm,0.9s
H21K **Melozitna Rive** 65.28 337 P P 19 53 39.2 +0.4
baz=112
G22K **Bettles** 65.28 338 P P 19 53 39.6 +0.9
baz=113
J20K **Nowinta River** 65.29 335 IAmb IAmb 19 53 55.6
comp=Z,16nm,1.2s
J20K **Nowinta River** 65.29 335 P P 19 53 39.6 +0.8
baz=110
O17K **Koliganek Bris** 65.31 330 P P 19 53 40.1 +1.2
baz=105
D24K **Happy Valley** 65.33 341 IAmb IAmb 19 54 00.5
comp=Z,15nm,1.1s
D24K **Happy Valley** 65.33 341 P P 19 53 39.9 +0.9
baz=117
TOLK **Toolik Lake Re** 65.34 340 P P 19 53 39.5 +0.4
baz=116,SNR=5.6
CHNA **Chernabura Isl** 65.53 324 P P 19 53 41.2 +0.6
baz=100
N17K **Nushagak Hills** 65.55 331 IAmb IAmb 19 53 49.4
comp=Z,13nm,1.1s
N17K **Nushagak Hills** 65.55 331 P P 19 53 41.2 +0.6
baz=105
C24K **Franklin Bluff** 65.55 341 P P 19 53 41.3 +0.9
baz=117
I20K **Naaghedeneel** 65.64 335 P P 19 53 41.0 0.0
I20K **Naaghedeneel** 65.64 335 P P 19 53 41.4 +0.4
baz=110
TTA **Tatalina** 65.69 333 IAmb IAmb 19 53 58.0
comp=Z,10nm,0.9s
TTA **Tatalina** 65.69 333 P P 19 53 41.8 +0.3
baz=107
O16K **Kokwok River B** 65.75 329 P P 19 53 42.4 +0.6
baz=104
F22K **John River** 65.76 339 P P 19 53 42.5 +0.7
baz=113,SNR=8.0
L18K **Granite Mounta** 65.78 332 IAmb IAmb 19 54 48.9
comp=Z,14nm,1.3s
L18K **Granite Mounta** 65.78 332 P P 19 53 42.2 +0.2
baz=106
S14K **Fog Glacier** 65.79 326 P P 19 53 42.8 +0.5
baz=101
D23K **Nanushuk River** 65.85 340 IAmb IAmb 19 54 01.1
comp=Z,14nm,1.1s
D23K **Nanushuk River** 65.85 340 P P 19 53 43.0 +0.6
baz=115,SNR=7.6
J19K **Poorman** 65.85 334 P 19 53 41.6 -0.8
J19K IAmb IAmb 19 53 59.0
comp=Z,14nm,1.0s
J19K **Poorman** 65.85 334 P P 19 53 42.3 -0.1
baz=108,SNR=6.5
G21K **Allakaket** 65.86 337 P P 19 53 43.0 +0.5
baz=111
E22K **Anaktuvuk Pass** 65.88 339 P P 19 53 43.3 +0.6
baz=114,SNR=12
M17K **Holitna River** 65.90 331 P P 19 53 42.8 0.0
baz=105
H20K **Anotleneega Mo** 66.03 336 P P 19 53 44.5 +0.9
baz=110
EUNU **Eureka** 66.06 1 P P 19 53 42.6 -1.0
EUNU IAmb IAmb 19 55 45.4
comp=Z,23nm,1.9s
F21K **Alatna River** 66.12 338 P P 19 53 44.7 +0.5
baz=112,SNR=26
SDPT **Sand Point** 66.13 325 P P 19 53 44.7 +0.3
baz=100
J18K **Innoko River** 66.15 334 P P 19 53 43.6 -0.8
J18K IAmb IAmb 19 53 56.2
comp=Z,17nm,1.4s
J18K **Innoko River** 66.15 334 P P 19 53 45.5 +1.1
baz=107
C23K **Itkillik River** 66.20 341 P P 19 53 45.4 +0.9
baz=116,SNR=15
N16K **Nishlik Lake** 66.29 330 P P 19 53 45.9 +0.5
baz=104
D22K **Ayikyak River** 66.47 340 P P 19 53 46.9 +0.4
baz=113,SNR=5.9
L17K **Donlin** 66.48 332 P P 19 53 46.8 +0.2
baz=105
M16K **Timber Creek** 66.51 331 P P 19 53 47.1 +0.3
baz=104
O15K **Ungalikthiuk R** 66.52 329 P P 19 53 46.7 -0.2
baz=102
K17K **Iditarod** 66.64 333 IAmb IAmb 19 54 04.0
comp=Z,10nm,0.9s
K17K **Iditarod** 66.64 333 P P 19 53 47.5 0.0
baz=105
H19K **Roundabout Mou** 66.66 336 P 19 53 47.5 -0.1
H19K **Roundabout Mou** 66.66 336 P P 19 53 47.7 +0.1
baz=108,SNR=7.5
E21K **Killik River** 66.74 339 P P 19 53 48.0 -0.2
baz=112
N15K **Kwethluk River** 66.86 330 P P 19 53 49.6 +0.6
baz=102
F20K **Avaraart Lake** 66.88 338 P P 19 53 49.7 +0.8
baz=109,SNR=15
L16K **Owhat River** 66.92 331 IAmb IAmb 19 54 06.8
comp=Z,12nm,1.0s
L16K **Owhat River** 66.92 331 P P 19 53 49.9 +0.6
baz=104
S12K **Black Hills** 67.08 325 P P 19 53 51.1 +0.7
baz=99
G19K **Purcell Mounta** 67.10 336 IAmb IAmb 19 54 07.6
comp=Z,14nm,1.0s
G19K **Purcell Mounta** 67.10 336 P P 19 53 50.4 -0.1
baz=108,SNR=7.2
TBI **Tubuai** 67.12 237 eLR LR 20 14 04.7
comp=Z,561nm,24.5s
J17K **VABM Dome** 67.15 333 P P 19 53 50.8 0.0
baz=105
O14K **Tigyukauivet M** 67.26 329 P P 19 53 51.2 -0.3
baz=101

M15K **Kasigluk River** 67.27 330 P P 19 53 51.3 -0.2
baz=102
C21K **Knifeblade Rid** 67.28 340 P P 19 53 52.4 +0.9
baz=111,SNR=5.4
B22K **Teshekpuk Lake** 67.28 341 P P 19 53 52.3 +0.8
baz=113,SNR=9.5
H18K **Honhosa River** 67.32 335 P P 19 53 52.9 +1.1
baz=106
B21K **Ikpikpuk River** 67.39 340 IAmb IAmb 19 54 09.4
comp=Z,9.2nm,0.8s
B21K **Ikpikpuk River** 67.39 340 P P 19 53 52.8 +0.6
baz=111,SNR=7.0
E20K **Nigu River** 67.45 339 P P 19 53 53.5 +0.8
baz=109
E19K **Redstone River** 67.56 338 P P 19 53 54.2 +0.9
baz=108
F19K **Shaleruckik Mo** 67.57 337 P P 19 53 54.4 +1.0
baz=107
N14K **Kuskokwak Cree** 67.60 329 P P 19 53 54.1 +0.5
baz=101
G18K **Tagagawik** 67.64 336 IAmb IAmb 19 54 06.6
comp=Z,14nm,1.1s
G18K **Tagagawik** 67.64 336 P P 19 53 54.5 +0.6
baz=106
FALS **False Pass** 67.73 324 P P 19 53 55.5 +0.9
baz=97
D20K **Ettuk River** 67.75 339 P P 19 53 55.1 +0.6
baz=109
J16K **Anvik River** 67.79 333 P 19 53 55.9 +1.0
J16K **Anvik River** 67.79 333 P P 19 53 55.1 +0.2
baz=103,SNR=7.9
L15K **Ungalak Mounta** 67.85 331 P P 19 53 55.8 +0.5
baz=102
M14K **Bethel** 67.89 330 P P 19 53 56.2 +0.8
baz=101
H17K **Granite Mounta** 67.90 335 P P 19 53 56.3 +0.8
baz=104
I17K **Unalakleet** 67.97 334 P P 19 53 56.7 +0.8
baz=103
K15K **Wolf Creek Mou** 68.00 332 P P 19 53 56.7 +0.5
baz=102
A22K **Sinclair Lake** 68.02 342 P P 19 53 57.1 +1.1
baz=112
D19K **Kuna River** 68.20 339 P P 19 53 58.3 +0.9
baz=108
F18K **Selawik** 68.22 337 P P 19 53 58.2 +0.7
baz=105
G17K **Kiwalik Mounta** 68.34 335 P P 19 53 58.3 +0.1
baz=104,SNR=5.1
L14K **Kuka Creek** 68.34 331 P P 19 53 58.7 +0.4
baz=100
B20K **Meade River** 68.35 340 P P 19 53 59.0 +0.8
baz=109
M13K **Dall Lake** 68.50 330 P P 19 53 59.8 +0.5
baz=99
H16K **Elim** 68.80 334 P P 19 54 01.5 +0.4
baz=102
E18K **Tukpahlearik C** 68.80 337 P P 19 54 01.9 +0.8
baz=105
F17K **Baldwin Pennin** 68.80 336 P 19 54 02.5 +1.4
F17K IAmb IAmb 19 54 18.3
comp=Z,8.8nm,1.1s
F17K **Baldwin Pennin** 68.80 336 P P 19 54 01.7 +0.6
baz=104
J14K **Nanvaranak Lak** 69.00 332 P P 19 54 03.5 +1.1
baz=100
G16K **Koyuk River** 69.01 335 P P 19 54 03.4 +1.0
baz=102
E17K **Hotham Inlet** 69.18 337 P P 19 54 04.4 +1.0
baz=103,SNR=11
BORG **Borgarnes** 69.28 26 LR LR 20 25 43.2
comp=Z,84nm,18.1s,baz=284,slow=37
C18K **Utukok River** 69.33 339 IAmb IAmb 19 54 21.5
comp=Z,9.4nm,0.9s
C18K **Utukok River** 69.33 339 P P 19 54 05.2 +0.8
baz=105
K13K **Kusilvak Mount** 69.37 331 P P 19 54 05.7 +0.9
baz=99
UNV **Unalaska Valle** 69.42 322 P P 19 54 05.9 +0.7
baz=94
G15K **Niukluk** 69.62 334 P P 19 54 06.6 +0.4
baz=100
A19K **Wainwright** 69.69 340 P P 19 54 07.6 +1.1
baz=105
B18K **Kokolik River** 69.72 339 P P 19 54 07.5 +0.8
baz=104,SNR=11
D17K **Noatak River** 69.79 337 P P 19 54 08.1 +0.9
baz=102
M11K **Mekoryuk** 69.90 329 P P 19 54 08.4 +0.4
baz=97
F15K **North Star Dit** 70.00 335 IAmb IAmb 19 54 26.5
comp=Z,11nm,1.0s
F15K **North Star Dit** 70.00 335 P P 19 54 09.5 +0.9
baz=100
ANM **Nome** 70.11 334 P P 19 54 10.0 +0.8
baz=99
F14K **Arctic Creek** 70.66 335 P P 19 54 13.5 +1.0
baz=99
C16K **Lisburne Hills** 70.74 338 P 19 54 13.5 +0.5
C16K IAmb IAmb 19 54 25.5
comp=Z,7.7nm,1.1s
C16K **Lisburne Hills** 70.74 338 P P 19 54 13.8 +0.8
baz=100
P08K **Saint George I** 71.33 325 P P 19 54 16.9 +0.1
baz=93
SPIA **Saint Paul Isl** 71.74 326 P P 19 54 19.9 +0.6
baz=92
GAMB **Gambell** 72.78 333 P P 19 54 25.9 +0.6
baz=93
BBTS **Babate** 73.07 79 LR LR 20 21 59.3
comp=Z,138nm,21.8s,baz=156,slow=32
JMIC **Jan Mayen** 74.78 20 LR LR 20 27 22.4
comp=Z,106nm,21.9s,baz=272,slow=36
EKA **Eskdalemuir Ar** 78.09 36 P P 19 54 53.2 -2.8
comp=Z,4.3nm,0.9s,baz=279,slow=5.8,SNR=8.6
comp=Z,4.3nm,0.9s
ESDC **Sonseca Array** 79.92 52 P P 19 55 03.0 -3.5
comp=Z,1.3nm,0.9s,baz=309,slow=6.1,SNR=5.8
ESDC LR LR 20 27 14.4
comp=Z,57nm,19.4s,baz=295,slow=33
comp=Z,1.3nm,0.9s
SPITS **Spitsbergen Ar** 80.08 11 LR LR 20 34 04.2
comp=Z,198nm,18.0s,baz=218,slow=38
SHEM **Shemya Is, Ala** 81.08 322 LR LR 20 29 17.3
comp=Z,18nm,20.6s,baz=110,slow=34
BILL **Bilibino** 81.27 338 P 19 55 12.6 -0.5
PMSA **Palmer Station** 81.50 168 LR LR 20 26 24.7
comp=Z,63nm,18.1s,baz=253,slow=32
NOA **NOSAR Array B** 84.23 28 P P 19 55 27.1 -1.5
comp=Z,0.8nm,0.9s,baz=288,slow=5.2,SNR=5.0
NOA LR LR 20 30 47.6
comp=Z,52nm,21.9s,baz=285,slow=34
comp=Z,0.8nm,0.9s
HFS **Hagfors** 85.69 29 LR LR 20 34 30.1
comp=Z,59nm,18.2s,baz=276,slow=36
DBIC **Dimbokro** 85.97 84 LR LR 20 31 08.2
comp=Z,52nm,21.1s,baz=314,slow=34
ARCES **ARCESS Array B** 86.17 18 P P 19 55 37.7 -0.4
comp=Z,1.9nm,0.8s,baz=262,slow=5.4,SNR=3.7
ARCES LR LR 20 35 43.7
comp=Z,76nm,19.0s,baz=298,slow=37
comp=Z,1.9nm,0.8s
SENIN **Lac Senin/Sane** 86.45 43 P 19 55 38.4 -1.9
SENIN IAmb IAmb 19 55 44.8
comp=Z,6.5nm,1.0s
TUE **Stuetta** 87.77 43 P 19 55 44.7 -2.0
TUE IAmb IAmb 19 55 53.9
comp=Z,3.8nm,0.9s
CLL **Collm** 88.45 37 eP P 19 55 51.0 +1.5
CLL eS S 20 06 36.0 +1.5
SEY **Seymchan** 88.55 336 LR LR 20 39 27.0
comp=Z,44nm,19.6s,baz=34,slow=38
GERES **GERESS Array B** 89.75 39 P P 19 55 53.0 -2.8
comp=Z,0.5nm,0.9s,baz=249,slow=13,SNR=2.3
GERES LR LR 20 35 29.8
comp=Z,44nm,18.9s,baz=297,slow=35
comp=Z,0.5nm,0.9s
TIXI **Tiksi** 90.12 348 P 19 55 56.0 -0.9
TIXI **Tiksi** 90.12 348 LR LR 20 43 25.3
comp=Z,74nm,19.4s,baz=20,slow=40
PETK **Petropavlovsk-** 90.40 325 LR LR 20 36 31.3
comp=Z,28nm,20.2s,baz=78,slow=35
FINES **FINESS Array B** 90.57 25 P P 19 55 57.2 -2.0
comp=Z,1.1nm,0.9s,baz=286,slow=9.3,SNR=1.7
FINES LR LR 20 37 56.2
comp=Z,50nm,18.5s,baz=292,slow=36
comp=Z,1.1nm,0.9s
TORD **Torodi Ar. Bea** 90.67 76 P P 19 55 58.1 -2.5

comp=Z,52nm,0.4s,baz=298,slow=7.7,SNR=1.9
KEST **Kesra** 91.10 53 P P 19 55 59.9 -2.5
comp=Z,6.7nm,0.9s,baz=294,slow=3.6,SNR=3.8
comp=Z,6.7nm,0.9s
VRAC **Vranov** 91.33 38 LR LR 20 36 44.9
comp=Z,53nm,19.9s,baz=298,slow=35
NRIK **Noril'sk** 96.80 0 LR LR 20 44 43.5
comp=Z,132nm,19.4s,baz=7.0,slow=38
YAK **Yakutsk** 97.28 341 LR LR 20 48 28.3
comp=Z,48nm,18.1s,baz=36,slow=40
DZM **Mont Dzumac** 105.40 251 eLR LR 20 31 56.0
comp=Z,82nm,26.5s
KURBB **Kurchatov Arra** 115.08 6 PKP PKPdf 20 01 39.0 +0.6
comp=Z,0.6nm,0.7s,baz=339,slow=2.3,SNR=2.8
SONM **Songino Array** 116.14 346 PKP PKiKP 20 01 39.3 -1.5
comp=Z,0.2nm,0.4s,baz=62,slow=3.7,SNR=1.6
BOSA **Boshof** 120.68 115 PKP PKPdf 20 01 49.2 -0.7
comp=Z,3.4nm,0.8s,baz=218,slow=2.7,SNR=3.3
HHC **Hu-ho-hao-te** 121.03 339 eP PKiKP 20 01 51.9 +1.4
WMQ **Urumqi** 122.39 360 eP PKP PKPdf 20 01 52.9 +0.1
WMQ LR LR
comp=Z,100nm,21.9s
NJ2 **Nanjing** 125.26 327 eP PKiKP 20 01 59.8 +0.9
NJ2 pmax pmax
comp=Z,8.0nm,0.7s
GTA **Gaotai** 125.60 348 ePKP PKPdf 20 01 58.3 -0.9
STKA **Stephens Creek** 127.82 241 PKP PKPdf 20 02 03.4 0.0
comp=Z,2.9nm,1.0s,baz=115,slow=6.2,SNR=4.1
WRA **Warramunga Arr** 135.10 256 PKP PKPdf 20 02 17.1 -0.4
comp=Z,1.2nm,0.9s,baz=91,slow=2.8,SNR=5.4
ASAR **Alice Springs** 135.39 251 PKP PKPdf 20 02 18.4 +0.5
comp=Z,0.9nm,1.0s,baz=105,slow=1.8,SNR=4.8
PZH **PanZhiHua** 137.41 341 PKP PKPdf 20 02 21.1 -0.7
CHTO **Chiang Mai** 145.48 341 PKPdf PKPbc 20 02 34.6 -1.6
CM31 **Chiang Mai Arr** 145.82 341 PKPdf 20 02 35.8 -1.1
CMAR **Chiang Mai Arr** 145.82 341 PKPdf 20 02 35.9 -1.0
CMAR **Chiang Mai Arr** 145.82 341 PKPbc PKPab 20 02 37.6 -0.1
comp=Z,13nm,0.9s,baz=26,slow=2.6,SNR=59
UBPT **Khong Chiam** 145.93 328 PKPdf 20 02 36.7 -0.4

---

*NNC **19** 19:52:38.5±0.6, 44°.69N×77°.98E, h2km±3km, mb4.1,*
mpv4.0, Error ellipse: s-maj=3.6km s-min=3.2km az=159.0
*SOME **19** 19:52:39.8, 44°.68N×77°.85E, h15km*
ISC 19 19:52:38.8±1.1, 44°.63N±0°.02×77°.97E±0°.02, h3km±10km,
n53, σ1.9±64/92, 18C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARXS	**Arharly**	0.43	194	P		Pb		19 52 49.4	+0.3
	2μm,0.1s								
ARXS				S		Sb		19 52 56.3	+0.4
	7μm,0.1s								
TDK	**Taldyqorghan**	0.48	40	eP		Pg		19 52 48.7	+0.7
	394nm,0.1s								
TDK				eS		Sg		19 52 54.9	+0.6
	8μm,0.2s								
CHKK	**Chushkaly**	1.05	223	P		Pg		19 52 59.3	+0.4
	107nm,0.1s								
CHKK				S		Sg		19 53 13.6	+1.0
	2μm,0.3s								
CHKK	**Chushkaly**	1.05	223	eP		Pg		19 52 59.3	+0.4
	107nm,0.1s								
CHKK				eS		Sg		19 53 13.6	+1.0
	2μm,0.3s								
KURS	**Kuram**	1.15	173	P		Pb		19 53 01.5	+0.2
	612nm,0.2s								
KURS				S		Sb		19 53 17.3	+0.6
	398nm,0.3s								
KURS	**Kuram**	1.15	173	eP		Pg		19 52 59.3	-1.5
	107nm,0.1s								
KURS				eS		Sg		19 53 13.6	-2.2
	2μm,0.3s								
KTBS	**Karatobe**	1.31	226	P		Pg		19 53 03.7	-0.1
	66nm,0.2s								
KTBS				S		Sg		19 53 21.0	+0.2
	566nm,0.3s								
KUU	**Kurty**	1.39	238	P		Pn		19 53 04.0	-1.0
	30nm,0.1s								
KUU				S		Sg		19 53 21.4	-1.9
	1μm,0.2s								
KUU	**Kurty**	1.39	238	eP		Pn		19 53 04.0	-1.0
	30nm,0.1s								
KUU				eS		Sg		19 53 21.4	-1.9
	1μm,0.2s								
ZHN	**Zhinishke**	1.50	167	P		Pn		19 53 07.0	+0.3
	125nm,0.1s								
ZHN				S		Sn		19 53 26.6	-0.2
	2μm,0.2s								
ZHN	**Zhinishke**	1.50	167	eP		Pn		19 53 07.0	+0.3
	125nm,0.1s								
ZHN				eS		Sn		19 53 26.6	-0.2
	2μm,0.2s								
KNDC	**Almaty**	1.59	208	⇓P		Pb		19 53 09.0	+0.2
	88nm,0.3s								
KNDC				⇓S		Sg		19 53 31.3	+1.4
	201nm,0.3s								
MDOK	**Medeo**	1.61	205	Pg		Pn		19 53 08.8	+0.6
	112nm,0.3s								
MDOK				P		Pn		19 53 08.9	+0.6
	50nm,0.4s								
MDOK				Lg		Lg		19 53 29.7	
	343nm,0.3s								
MDOK				⇓S		Sb		19 53 30.7	+0.6
	119nm,0.3s								
AAA	**Alma-Ata**	1.61	209	P		Pb		19 53 09.5	+0.3
	255nm,0.2s								
AAA				S		Sg		19 53 31.5	+0.8
	114nm,0.2s								
AAA	**Alma-Ata**	1.61	209	eP		Pb		19 53 09.6	+0.3
	255nm,0.2s								
AAA				eS		Sg		19 53 31.5	+0.8
	114nm,0.2s								
UZB	**Uzynbulak**	1.67	153	P		Pn		19 53 09.8	+0.8
	108nm,0.2s								
UZB				S		Sn		19 53 31.6	+0.7
	256nm,0.2s								
UZB	**Uzynbulak**	1.67	153	eP		Pn		19 53 09.8	+0.8
	108nm,0.2s								
UZB				eS		Sn		19 53 31.6	+0.7
	256nm,0.2s								
PDGK	**Podgornoye**	1.70	139	⇓P		Pn		19 53 09.8	+0.4
	55nm,0.3s								
PDGK				⇑S		Sb		19 53 32.7	+0.1
	346nm,0.5s								
KASK	**Kaskelen**	1.71	215	⇑S		Sg		19 53 34.8	+1.1
	614nm,0.5s								
TNSS	**Tian-Shan**	1.76	205	P		Pb		19 53 12.0	+0.1
	93nm,0.2s								
TNSS				S		Sg		19 53 35.5	+0.2
	186nm,0.4s								
TNSS	**Tian-Shan**	1.76	205	eP		Pb		19 53 12.0	+0.1
	93nm,0.2s								
TNSS				eS		Sg		19 53 35.5	+0.2
	186nm,0.4s								
SHLS	**Shalkode**	1.82	143	P		Pg		19 53 15.2	+1.5
	122nm,0.2s								
SHLS				S		Sg		19 53 40.9	+3.5
	414nm,0.2s								
SHLS	**Shalkode**	1.82	143	eP		Pg		19 53 15.2	+1.5
	122nm,0.2s								
SHLS				eS		Sg		19 53 40.9	+3.5
	414nm,0.2s								
MTBS	**Maitube**	1.87	217	P		Pb		19 53 13.3	-0.3
	43nm,0.2s								
MTBS				S		Sb		19 53 37.3	-0.2
	650nm,0.3s								
MTBS	**Maitube**	1.87	217	eP		Pb		19 53 13.3	-0.3
	43nm,0.2s								
MTBS				eS		Sb		19 53 37.3	-0.2
	650nm,0.3s								
KST	**Kastek**	2.15	223	Pg		Pn		19 53 17.2	+1.5
	12nm,0.2s								
KST				Lg		Lg		19 53 43.9	
	205nm,0.4s								
KST	**Kastek**	2.15	223	eP		Pn		19 53 17.2	+1.5
	12nm,0.2s								
KST				eS		Sn		19 53 43.9	+1.0
	205nm,0.4s								
TKM2	**Tokmak 2**	2.43	226	P		Pn		19 53 20.7	+1.2
	SNR=27								
TKM2	**Tokmak 2**	2.43	226	⇑Pn		Pn		19 53 20.4	+0.9
	2.7nm,0.4s								
TKM2				⇑Pg		Pg		19 53 24.6	-0.7
	12nm,0.3s								
TKM2				⇓Lg		Lg		19 53 57.9	
	55nm,0.3s								
SGDS	**Sogindy**	2.68	245	Pg		Pb		19 53 27.7	+0.2

6.2nm,0.2s
SGDS Lg Lg 19 54 01.9
122nm,0.4s
ULHL Ulahol 2.70 208 P **Pn 19 53 25.4 +2.2**
SNR=58
CHMS Chumysh 2.85 236 P **Pn 19 53 25.8 +0.7**
SNR=6.8
CHMS Chumysh 2.85 236 ⇓Pn **Pn 19 53 25.6 +0.5**
3.0nm,0.5s
CHMS ⇓Pg **Pb 19 53 32.0 +1.7**
12nm,0.3s
CHMS ⇓Lg Lg 19 54 10.5
37nm,0.3s
USP Ospenovka 2.86 243 P **Pn 19 53 25.8 +0.6**
SNR=20
KBK Karagaybulak 2.95 229 P **Pn 19 53 28.0 +1.3**
SNR=14
AAK Ala-Archa 3.22 233 P **Pn 19 53 31.4 +1.1**
SNR=15
AAK Ala-Archa 3.22 233 ⇓Pn **Pn 19 53 31.3 +0.9**
5.1nm,0.5s
AAK ⇑Pg **Pb 19 53 37.9 +1.3**
5.0nm,0.3s
AAK ⇑Lg Lg 19 54 21.8
50nm,0.6s
MAKZ Makanchi 3.55 51 ⇑Pn **Pn 19 53 34.2 -0.5**
4.9nm,0.3s
MAKZ ⇑Lg Lg 19 54 30.6
42nm,0.6s
EKS2 Erkin-Say 3.63 239 P **Pn 19 53 36.9 +1.0**
SNR=16
MK31 Makanchi Array 3.72 53 Pn **Pn 19 53 36.8 -0.3**
4.5nm,0.3s,baz=232,slow=14,SNR=354
MK31 ⇓Lg Lg 19 54 33.3
5.8nm,0.2s,baz=228,slow=30,SNR=10
MRKS Merke 3.93 243 Pg **Pb 19 53 49.5 +0.9**
3.7nm,0.3s
MRKS Lg Lg 19 54 39.4
71nm,0.5s
MRKS Merke 3.93 243 *e*P **Pb 19 53 49.5 +0.9**
3.7nm,0.3s
MRKS *e*S **Sb 19 54 39.4 +2.8**
71nm,0.5s
DZA Taraz 5.12 252 Pg **Pb 19 54 12.2 +3.4**
30nm,0.1s
DZA Lg Lg 19 55 18.4
61nm,0.2s
DZA Taraz 5.12 252 *e*P **Pb 19 54 12.2 +3.4**
30nm,0.1s
DZA *e*S **Sg 19 55 18.4 -4.7**
61nm,0.2s
OTUK Ortayu 5.31 315 ⇑Pn **Pn 19 53 58.2 -0.8**
1.1nm,0.3s
OTUK ⇑Pg **Pb 19 54 15.4 +3.2**
2.3nm,0.3s
OTUK ⇑Sn **Sn 19 54 59.6 -1.1**
16nm,0.3s
OTUK ⇑Lg Lg 19 55 24.8
42nm,0.5s
ZSN Zaisan 5.56 57 Pg **Pg 19 54 21.3 -4.0**
2.6nm,0.3s
ZSN Lg Lg 19 55 33.9
19nm,0.6s
ZSN Zaisan 5.56 57 *e*P **Pg 19 54 21.3 -4.0**
2.6nm,0.3s
ZSN *e*S **Sg 19 55 33.9 -3.5**
19nm,0.6s
KK31 Karatay Array 5.61 257 ⇓Pn **Pn 19 54 03.3 +0.2**
0.3nm,0.2s
KK31 ⇑Pg **Pg 19 54 22.5 -3.7**
2.5nm,0.3s
KK31 ⇑Lg Lg 19 55 38.1
11nm,0.4s
SEM Semipalatinsk 5.98 14 Pg **Pg 19 54 31.8 -1.5**
3.0nm,0.1s
SEM Lg Lg 19 55 51.8
32nm,0.5s
SEM Semipalatinsk 5.98 14 *e*P **Pg 19 54 31.8 -1.5**
3.0nm,0.1s
SEM *e*S **Sg 19 55 51.8 +1.1**
32nm,0.5s
BRLS Borolday 6.10 258 *e*P **Pg 19 54 33.3 -2.3**
1.6nm,0.3s
BRLS *e*S **Sg 19 55 54.4 -0.2**
10nm,0.6s
KURK Kurchatov 6.10 4 ⇑Pn **Pn 19 54 08.6 -1.2**
2.0nm,0.4s
KURK ⇑Pg **Pb 19 54 27.5 +1.9**
2.9nm,0.4s
KURK ⇑Lg Lg 19 55 47.5
56nm,0.9s
BVA0 Borovoye Array 9.77 332 Pn **Pn 19 54 59.1 -1.0**
0.6nm,0.4s,baz=143,slow=12,SNR=7.4
BVA0 ⇑Sn **Sn 19 56 46.4 -3.8**
1.4nm,0.5s,baz=243,slow=68,SNR=4.6
BVA0 ⇓Lg Lg 19 57 45.5
11nm,1.1s,baz=129,slow=30,SNR=4.2

---

*IDC **19** 20:09:15.7±9.9, 55°.84S×27°.75W, h127km±87km, mb3.7/5, mbtmp4.1/5, Error ellipse: s-maj=48.5km s-min=19.1km az=66.0*
ISC 19 20:09:14.9±0.9, 55°.8S±0°.2×27°.8W±0°.3, h121km, n11, σ0s62/10, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**34.42**	**180**	P	**P**	**20 15 50.3**	**0.0**
	1.6nm,0.7s,baz=34,slow=3.1,SNR=19						
	1.6nm,0.7s						
CPUP	**Villa Florida**	**36.42**	**312**	P	**P**	**20 16 07.2**	**-0.4**
	0.8nm,0.5s,baz=154,slow=3.3,SNR=4.4						
	0.8nm,0.5s						
VNDA	**Vanda**	**46.78**	**183**	P	**P**	**20 17 31.7**	**+0.4**
	1.1nm,0.6s,baz=197,slow=4.6,SNR=3.1						
	1.1nm,0.6s						
LPAZ	**La Paz**	**49.98**	**306**	P	**P**	**20 17 57.9**	**+0.6**
	1.9nm,0.5s,baz=127,slow=5.0,SNR=9.5						
	1.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**73.03**	**30**	P	**P**	**20 20 32.1**	**+0.7**
	34nm,0.3s,baz=203,slow=5.2,SNR=1.3						
ASAR	**Alice Springs**	**99.30**	**163**	P	**Pdif**	**20 22 42.9**	**-0.2**
	0.4nm,0.8s,baz=206,slow=5.6,SNR=3.2						
	0.4nm,0.8s						
FINES	**FINESS Array B**	**124.34**	**28**	PKP	**PKPdf**	**20 27 57.0**	**-0.9**
	1.5nm,1.0s,baz=318,slow=2.6,SNR=4.9						
YKA	**Yellowknife Ar**	**135.78**	**318**	PKP	**PKPdf**	**20 28 18.9**	**-0.7**
	0.5nm,0.7s,baz=128,slow=2.3,SNR=8.5						
ZALV	**Zalesovo Beam**	**142.57**	**64**	PKhKP	PKPpre	20 28 27.3	
	0.4nm,0.4s,baz=75,slow=1.6,SNR=2.1						
ILAR	**Eielson Array**	**149.72**	**312**	PKPbc	**PKPbc**	**20 28 48.9**	**+0.1**
	2.7nm,0.7s,baz=132,slow=2.7,SNR=34						
SONM	**Songino Array**	**151.05**	**87**	PKPbc	**PKPbc**	**20 28 52.2**	**-0.5**
	0.9nm,0.6s,baz=214,slow=4.2,SNR=6.3						

---

*IDC **19** 20:23:07.4±1.4, 15°.57N×146°.44E, h0km, mb3.8/7, mbtmp3.8/8, ML3.4/1, Error ellipse: s-maj=42.7km s-min=22.4km az=111.0*
*NEIC **19** 20:23:14.3±1.2, 15°.27N±0°.06×146°.36E±0°.07, h58km±9km, mb3.9/1, Error ellipse: s-maj=12.7km s-min=4.0km az=131.0*
ISC 19 20:23:11.8±0.8, 15°.49N±0°.09×146°.4E±0°.1, h35km, n17, σ1s31/16, mb3.9/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.38**	**218**	Pn	**Pn**	**20 23 48.5**	**+0.1**
GUMO				Sn	**Sn**	**20 24 14.7**	**-1.7**
GUMO	**Guam**	**2.38**	**218**	Pn	**Pn**	**20 23 50.1**	**+1.7**
	7.4nm,0.3s,baz=166,slow=8.1,SNR=6.6						
GUMO				Sn	**Sn**	**20 24 15.7**	**-0.7**
	31nm,0.3s,baz=149,slow=21,SNR=9.2						
	18nm,0.3s						
PATS	**Pohnpei**	**14.52**	**125**	Pn	**Pn**	**20 26 34.8**	**0.0**
H11N1	**WAKE ISLAND Hy**	**20.00**	**75**	T	T	20 48 56.2	
	baz=263,slow=75,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**20.01**	**75**	T	T	20 48 58.9	
	baz=263,slow=75,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**20.02**	**75**	T	T	20 48 57.7	
	baz=263,slow=75,SNR=5.4						
WRA	**Warramunga Arr**	**37.14**	**199**	P	**P**	**20 30 19.7**	**+0.3**
	0.8nm,1.0s,baz=14,slow=7.7,SNR=2.7						
	0.8nm,1.0s						
PETK	**Petropavlovsk-**	**38.59**	**11**	P	**P**	**20 30 29.5**	**-1.7**
	2.4nm,1.1s,baz=213,slow=16,SNR=4.8						
	2.4nm,1.1s						
ZALV	**Zalesovo Beam**	**60.95**	**324**	P	**P**	**20 33 22.7**	**+1.4**
	0.4nm,0.4s,baz=110,slow=11,SNR=2.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**61.16**	**315**	P	**P**	**20 33 24.1**	**+1.2**
MKAR	**Makanchi Array**	**61.16**	**315**	P	**P**	**20 33 24.4**	**+1.6**
	0.4nm,0.4s,baz=92,slow=8.3,SNR=12						
	0.4nm,0.4s						
MAKZ	**Makanchi**	**61.38**	**315**	P	**P**	**20 33 25.7**	**+1.4**
MAKZ				IAmb	IAmb	20 33 27.6	
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**64.14**	**319**	P	**P**	**20 33 43.5**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=98,slow=6.7,SNR=6.7						
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**66.24**	**25**	P	**P**	**20 33 57.2**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=256,slow=5.8,SNR=10						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**69.36**	**321**	P	**P**	**20 34 16.1**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=108,slow=7.3,SNR=7.0						
	comp=Z,0.8nm,0.4s						
ABKAR	**Akbulak array**	**76.13**	**318**	P	**P**	**20 34 55.7**	**-0.4**
FINES	**FINESS Array B**	**90.06**	**335**	P	**P**	**20 36 06.1**	**-1.6**

---

*JMA **19** 20:24:11.9±0.3, 25°.5N×122°.7E±0°.6, h163km±2km, MV2.3/11, NW OFF ISHIGAKIJIMA IS*
*TAP **19** 20:24:12.2, 25°.21N×122°.64E, h153km, ML3.0, D*
ISC 19 20:24:11.6±2.3, 25°.04N±0°.08×122°.67E±0°.04, h164km±13km, n64, σ0s81/104, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.62**	**267**	P	**Pn**	**20 24 34.4**	**-0.7**
JYNG	**Yonagunijimaku**	**0.64**	**157**	P	**Pn**	**20 24 35.4**	**+0.2**
YOJ	**Yonaguni jima**	**0.65**	**152**	P	**Pn**	**20 24 36.0**	**+0.7**
SXI1	**Grass Mountain**	**0.73**	**274**	P	**Pn**	**20 24 35.8**	**0.0**
SXI1				*e*S	**Sn**	**20 24 55.0**	**+0.7**
EOS2	**EOS2**	**0.74**	**213**	P	**Pn**	**20 24 35.9**	**+0.2**
EOS2				S	**Sn**	**20 24 55.1**	**+1.1**
TIPB	**Shuangxi**	**0.77**	**265**	P	**Pn**	**20 24 36.1**	**+0.1**
TIPB				S	**Sn**	**20 24 54.0**	**-0.7**
EOS3	**EOS3**	**0.82**	**203**	P	**Pn**	**20 24 36.7**	**+0.6**
EOS3				S	**Sn**	**20 24 56.3**	**+1.3**
TNOU	**National Taiwa**	**0.82**	**278**	*e*P	**Pn**	**20 24 37.3**	**+1.0**
TWC	**Suao**	**0.86**	**240**	P	**Pn**	**20 24 36.9**	**+0.3**
TWC				*i* S	**Sn**	**20 24 55.0**	**-0.8**
NDS	**Dongshan**	**0.96**	**245**	*e*P	**Pn**	**20 24 38.2**	**+0.9**
NDS				*e*S	**Sn**	**20 24 55.8**	**-1.3**
TWE	**Neicheng**	**0.97**	**251**	*i* P	**Pn**	**20 24 38.6**	**+1.2**
TWE				*i* S	**Sn**	**20 24 56.2**	**-1.0**
EOS4	**EOS4**	**0.97**	**200**	P	**Pn**	**20 24 38.1**	**+1.1**
EOS4				S	**Sn**	**20 24 56.9**	**+0.3**
TWY	**Chenhua**	**1.00**	**284**	*e*P	**Pn**	**20 24 37.0**	**-0.6**
YM01	**YM01**	**1.01**	**276**	P	**Pn**	**20 24 38.2**	**+0.5**
EWUT	**Wuta**	**1.01**	**234**	P	**Pn**	**20 24 37.7**	**+0.1**
EWUT				S	**Sn**	**20 24 57.6**	**0.0**
FUSB	**Fushanzhiwuyua**	**1.02**	**254**	P	**Pn**	**20 24 38.3**	**+0.4**
FUSB				S	**Sn**	**20 24 57.1**	**-1.0**
ENA	**Nanau**	**1.04**	**235**	P	**Pn**	**20 24 39.1**	**+1.1**
ENA				S	**Sn**	**20 24 57.5**	**-0.8**
ENTT	**Nioudou**	**1.08**	**249**	P	**Pn**	**20 24 39.4**	**+1.1**
ENTT				S	**Sn**	**20 24 60.0**	**+1.1**
NWLT	**Wulai**	**1.09**	**256**	*e*P	**Pn**	**20 24 38.7**	**+0.3**
NWLT				*e*S	**Sn**	**20 24 59.2**	**+0.1**
LATG	**Datong**	**1.16**	**245**	P	**Pn**	**20 24 39.7**	**+0.6**
LATG				*e*S	**Sn**	**20 25 00.4**	**+0.2**
IRIF	**Iriomote-Funau**	**1.19**	**126**	P	**Pn**	**20 24 39.5**	**+0.3**
YHNB	**Yeheng**	**1.23**	**253**	*e*P	**Pn**	**20 24 40.0**	**+0.2**
YHNB				*e*S	**Sn**	**20 24 59.6**	**-1.7**
NSK	**Sanguang**	**1.25**	**253**	*e*P	**Pn**	**20 24 40.1**	**+0.2**
NSK				*e*S	**Sn**	**20 25 00.7**	**-0.8**
NACB	**Ninganchiao**	**1.31**	**229**	*e*P	**Pn**	**20 24 40.3**	**0.0**
NACB				*e*S	**Sn**	**20 25 01.3**	**-1.1**
NNSB	**Datong**	**1.32**	**243**	*e*P	**Pn**	**20 24 41.4**	**+0.8**
NNSB				*e*S	**Sn**	**20 25 01.9**	**-0.9**
NNS	**Nan Shan**	**1.32**	**243**	*e*P	**Pn**	**20 24 41.4**	**+0.8**
ETLH	**Xiulin Townshi**	**1.37**	**233**	*e*P	**Pn**	**20 24 41.1**	**+0.1**
ETLH				*e*S	**Sn**	**20 25 02.4**	**-1.1**
TWD	**Chiawan**	**1.37**	**226**	P	**Pn**	**20 24 40.8**	**-0.1**
TWD				*e*S	**Sn**	**20 25 02.2**	**-1.2**
KSHI	**Guanxi Townshi**	**1.39**	**259**	*e*P	**Pn**	**20 24 41.9**	**+0.8**
KSHI				*e*S	**Sn**	**20 25 04.2**	**+0.5**
JKRS	**Kuro-shima**	**1.45**	**123**	P	**Pn**	**20 24 42.3**	**+0.6**
JKRS				S	**Sn**	**20 25 04.6**	**-0.2**
NFF	**Wufeng Townshi**	**1.47**	**254**	*e*P	**Pn**	**20 24 42.2**	**+0.2**
NFF				*e*S	**Sn**	**20 25 04.2**	**-1.0**
JIJ	**Ishigaki jima**	**1.50**	**116**	P	**Pn**	**20 24 42.3**	**+0.2**
ETM	**Tongmen**	**1.52**	**225**	*e*P	**Pn**	**20 24 42.1**	**-0.3**
ETM				*e*S	**Sn**	**20 25 03.8**	**-2.3**
FUSS	**Fushou**	**1.52**	**239**	*e*P	**Pn**	**20 24 43.5**	**+0.9**
FUSS				*e*S	**Sn**	**20 25 06.6**	**0.0**
LXIB	**Xiulin Townshi**	**1.53**	**229**	*e*P	**Pn**	**20 24 42.3**	**-0.4**
JISG	**Ishigakijimahi**	**1.55**	**107**	P	**Pn**	**20 24 42.9**	**+0.2**
JISG				S	**Sn**	**20 25 05.9**	**-0.7**
LIOB	**Emei**	**1.56**	**256**	*e*P	**Pn**	**20 24 43.2**	**+0.4**
LIOB				*e*S	**Sn**	**20 25 05.9**	**-0.8**
WHF	**Hehuan Shan**	**1.56**	**236**	*e*P	**Pn**	**20 24 43.4**	**+0.1**
WHF				*e*S	**Sn**	**20 25 06.5**	**-1.1**
TWT	**Tachien**	**1.57**	**240**	*e*P	**Pn**	**20 24 44.7**	**+1.6**
TWT				*e*S	**Sn**	**20 25 08.1**	**+0.7**
NSTT	**Nanjuang**	**1.57**	**255**	*e*P	**Pn**	**20 24 43.1**	**+0.2**
NSTT				*e*S	**Sn**	**20 25 05.5**	**-1.5**
TDCB	**Techi**	**1.59**	**241**	*e*P	**Pn**	**20 24 44.3**	**+1.1**
TDCB				*e*S	**Sn**	**20 25 07.6**	**0.0**
SHUL	**Shoufeng**	**1.61**	**219**	*e*P	**Pn**	**20 24 42.5**	**-0.7**
SHUL				*e*S	**Sn**	**20 25 07.7**	**0.0**
ESL	**Shilin**	**1.66**	**223**	*e*P	**Pn**	**20 24 43.9**	**0.0**
ESL				*e*S	**Sn**	**20 25 06.8**	**-2.0**
OWD	**Renai**	**1.74**	**232**	*e*P	**Pn**	**20 24 45.8**	**+0.9**
OWD				*e*S	**Sn**	**20 25 09.7**	**-0.7**
WHP	**Taichung City**	**1.75**	**245**	*e*P	**Pn**	**20 24 45.4**	**+0.6**
WHP				*e*S	**Sn**	**20 25 09.8**	**-0.6**
WUSB	**Renai**	**1.76**	**234**	*e*P	**Pn**	**20 24 46.3**	**+1.3**
WUSB				*e*S	**Sn**	**20 25 10.0**	**-0.8**
WARBT	**Fenglin Townsh**	**1.76**	**222**	*e*P	**Pn**	**20 24 44.4**	**-0.5**
WCS	**Beigang Elemen**	**1.88**	**239**	*e*P	**Pn**	**20 24 47.4**	**+1.2**
WCS				*e*S	**Sn**	**20 25 12.3**	**-0.6**
JTJ	**Tarama**	**1.89**	**102**	*e*S	**Sn**	**20 25 12.4**	**-0.5**
HGSD	**Ruisui**	**1.92**	**217**	*e*P	**Pn**	**20 24 46.4**	**-0.2**
EHY	**Hungye**	**1.96**	**219**	*e*P	**Pn**	**20 24 47.0**	**-0.1**
SMLT	**Sun Moon Lake**	**1.98**	**235**	*e*P	**Pn**	**20 24 47.5**	**0.0**
SMLT				*e*S	**Sn**	**20 25 15.9**	**+0.7**
SSLB	**Suanglung**	**2.00**	**232**	*e*P	**Pn**	**20 24 48.7**	**+1.0**
SSLB				*e*S	**Sn**	**20 25 16.0**	**+0.6**
TYC	**Yuchr**	**2.00**	**236**	*e*P	**Pn**	**20 24 48.9**	**+1.3**
TYC				*e*S	**Sn**	**20 25 16.0**	**+0.6**
YULB	**Yu-li**	**2.07**	**218**	*e*P	**Pn**	**20 24 47.9**	**-0.5**
EYUL	**Yuli**	**2.09**	**217**	*e*P	**Pn**	**20 24 49.3**	**+0.7**
TWF1	**Yuli**	**2.10**	**217**	*e*P	**Pn**	**20 24 49.1**	**+0.4**
WHYT	**Xinyi Township**	**2.13**	**232**	*e*P	**Pn**	**20 24 49.9**	**+0.8**
WNT	**Mingjian**	**2.15**	**238**	*e*P	**Pn**	**20 24 49.9**	**+0.6**
ALS	**Alishan**	**2.29**	**229**	*e*P	**Pn**	**20 24 52.0**	**+0.8**
ELDTW	**Lidau**	**2.38**	**220**	*e*P	**Pn**	**20 24 51.9**	**-0.2**
CHN4	**Tsaushan**	**2.54**	**229**	*e*P	**Pn**	**20 24 54.7**	**+0.8**
STYH	**Taoyuan**	**2.54**	**223**	*e*P	**Pn**	**20 24 54.4**	**+0.5**
TPUB	**Ta-pu**	**2.55**	**228**	*e*P	**Pn**	**20 24 54.1**	**+0.1**

---

*IDC **19** 20:52:31.3±1.1, 36°.14N×68°.99E, h0km, mb3.6/10, mbtmp3.6/14, ML3.4/4, MS3.3/2, Error ellipse: s-maj=20.5km s-min=17.8km az=113.0*
*NNC **19** 20:52:36.2±2.4, 36°.21N×68°.80E, h66km±78km, mb4.0, mpv4.1, Error ellipse: s-maj=25.5km s-min=18.7km az=124.0*
ISC 19 20:52:36.6±1.0, 36°.31N±0°.09×68°.85E±0°.10, h35km, n31, σ1s96/37, mb3.5/9, 5C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.90**	**10**	⇑P	**Pn**	**20 54 17.0**	**+1.8**
	1.5nm,0.3s						
KK31				⇓S	**Sn**	**20 55 35.1**	**+2.6**
	8.6nm,0.5s						
AML	**Almayashu**	**6.92**	**31**	P	**Pn**	**20 54 16.8**	**+1.0**
	SNR=51						
UCH	**Uchtor**	**7.36**	**35**	P	**Pn**	**20 54 23.6**	**+1.7**
	SNR=5.9						
EKS2	**Erkin-Say**	**7.39**	**29**	P	**Pn**	**20 54 23.4**	**+1.3**
	SNR=12						
AAK	**Ala-Archa**	**7.67**	**33**	Pn	**Pn**	**20 54 27.2**	**+1.3**
	4.5nm,0.3s,baz=185,slow=5.2,SNR=38						
AAK				Sn	**Sn**	**20 55 54.3**	**+2.6**
	1.7nm,0.3s,baz=145,slow=22,SNR=7.9						
	9.9nm,0.4s						
AAK	**Ala-Archa**	**7.67**	**33**	P	**Pn**	**20 54 27.3**	**+1.3**
	SNR=27						
AAK	**Ala-Archa**	**7.67**	**33**	⇑P	**Pn**	**20 54 27.1**	**+1.1**
	6.5nm,0.5s						
AAK				⇓S	**Sn**	**20 55 55.1**	**+3.3**
	13nm,0.6s						
KBK	**Karagaybulak**	**7.89**	**35**	P	**Pn**	**20 54 30.8**	**+1.7**
	SNR=14						
CHMS	**Chumysh**	**8.08**	**32**	P	**Pn**	**20 54 32.6**	**+1.2**
	SNR=11						
CHMS	**Chumysh**	**8.08**	**32**	⇑P	**Pn**	**20 54 32.3**	**+0.9**
	9.7nm,0.6s						
CHMS				⇓S	**Sn**	**20 56 02.5**	**+1.1**
	16nm,0.7s						
USP	**Ospenovka**	**8.19**	**30**	P	**Pn**	**20 54 33.5**	**+0.5**
	SNR=14						
TKM2	**Tokmak 2**	**8.40**	**36**	P	**Pn**	**20 54 36.2**	**+0.2**
	SNR=20						
TKM2	**Tokmak 2**	**8.40**	**36**	⇑P	**Pn**	**20 54 36.7**	**+0.7**
	5.7nm,0.5s						
TKM2				⇓S	**Sn**	**20 56 12.4**	**+2.7**
	5.3nm,0.5s						
MDOK	**Medeo**	**9.30**	**40**	⇓P	**Pn**	**20 54 48.7**	**+0.3**
	7.7nm,0.6s						
PDGK	**Podgornoye**	**10.76**	**46**	⇓P	**Pn**	**20 55 07.7**	**-0.7**
	2.7nm,0.7s						
AB31	**Akbulak array**	**14.48**	**336**	⇑P	**Pn**	**20 55 56.9**	**-2.0**
MK31	**Makanchi Array**	**14.50**	**40**	P	**P**	**20 56 02.4**	**-3.0**
	1.1nm,0.6s,baz=228,slow=13,SNR=5.3						
MKAR	**Makanchi Array**	**14.50**	**40**	Pn	**Pn**	**20 55 57.6**	**-1.6**
	0.1nm,0.3s,baz=227,slow=14,SNR=9.2						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**15.91**	**23**	Pn	**Pn**	**20 56 14.8**	**-2.9**
	0.2nm,0.3s,baz=210,slow=12,SNR=4.9						
	0.7nm,0.3s						
AKTO	**Aktyubinsk**	**16.14**	**334**	Pn	**P**	**20 56 22.5**	**-1.0**
	0.1nm,0.3s,baz=146,slow=13,SNR=1.8						
BVAR	**Borovoye Array**	**16.75**	**3**	Pn	**Pn**	**20 56 26.8**	**-1.5**
	baz=167,slow=14,SNR=8.0						
BVAR				Sn	**Sn**	**20 59 27.1**	**-5.9**
	baz=173,slow=26,SNR=4.1						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**20.84**	**27**	P	**P**	**20 57 15.1**	**+0.1**
	2.4nm,0.4s,baz=222,slow=12,SNR=11						
	2.4nm,0.4s						
ARTI	**Arti**	**21.29**	**344**	P	**P**	**20 57 20.4**	**+0.4**
	1.5nm,0.7s,baz=54,slow=4.1,SNR=4.0						
	1.5nm,0.7s						
SONM	**Songino Array**	**29.87**	**56**	P	**P**	**20 58 41.9**	**+1.1**
	0.4nm,0.8s,baz=260,slow=8.2,SNR=2.5						
	0.4nm,0.8s						
FINES	**FINESS Array B**	**36.68**	**327**	P	**P**	**20 59 40.4**	**+0.7**
	0.8nm,0.7s,baz=101,slow=7.2,SNR=3.3						
	0.8nm,0.7s						
HFS	**Hagfors**	**42.15**	**322**	P	**P**	**21 00 27.0**	**+1.6**
	0.9nm,0.7s,baz=89,slow=11,SNR=5.5						
HFS				LR	LR	21 21 31.1	
	comp=Z,26nm,18.4s,baz=116,slow=41						
	0.9nm,0.7s						
NOA	**NORSAR Array B**	**43.49**	**323**	P	**P**	**21 00 37.3**	**+1.0**
	0.4nm,0.8s,baz=99,slow=8.0,SNR=3.9						
	0.4nm,0.8s						
ESDC	**Sonseca Array**	**56.01**	**297**	P	**P**	**21 02 13.7**	**+2.0**
	0.5nm,0.8s,baz=65,slow=7.5,SNR=4.5						
ESDC				LR	LR	21 29 54.0	
	comp=Z,38nm,18.1s,baz=144,slow=40						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**75.42**	**15**	P	**P**	**21 04 16.3**	**-0.1**
	0.3nm,0.8s,baz=325,slow=5.4,SNR=2.8						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**83.38**	**120**	P	**P**	**21 05 01.0**	**+0.7**
	0.2nm,0.5s,baz=320,slow=4.9,SNR=7.6						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**85.58**	**124**	P	**P**	**21 05 09.1**	**-2.4**
	0.3nm,0.6s,baz=311,slow=4.5,SNR=4.7						
	0.3nm,0.6s						

---

*IDC **19** 20:53:11.9±4.2, 25°.51N×127°.34E, h0km, mb3.7/7, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=83.1km s-min=28.8km az=159.0*
*JMA **19** 20:53:23.2±0.2, 26°.3N±0°.8×127°.4E±0°.7, h44km±1km, MV3.3/19, NEAR OKINAWAJIMA ISLAND*
ISC 19 20:53:22.5±1.0, 26°.20N±0°.07×127°.40E±0°.04, h52km±7km, n24, σ1s47/34, mb3.6/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.35**	**99**	P	**Pn**	**20 53 33.2**	**+0.9**
JJT3				S	**Sn**	**20 53 40.9**	**+1.6**
JAGN	**Aguni-jima**	**0.41**	**340**	*i* P	**Pn**	**20 53 32.1**	**-0.8**
JAGN				S	**Sn**	**20 53 38.7**	**-1.7**
JKE	**Kume jima 2**	**0.56**	**283**	*i* P	**Pn**	**20 53 34.4**	**-0.3**
JKE				S	**Sn**	**20 53 42.5**	**-0.9**
JNTH	**Nagotoyohara**	**0.64**	**60**	*i* P	**Pn**	**20 53 35.6**	**0.0**
JNTH				S	**Sn**	**20 53 44.3**	**-0.8**
JIH	**Iheya**	**0.97**	**31**	*i* P	**Pn**	**20 53 39.4**	**-0.5**
JIH				S	**Sn**	**20 53 50.6**	**-2.2**
JOW	**Kunigami**	**1.00**	**51**	Pn	**Pn**	**20 53 41.0**	**+0.6**
	110nm,0.3s,baz=288,slow=11,SNR=429						
JOW				Sn	**Sn**	**20 53 53.1**	**-0.4**
	368nm,0.3s,baz=331,slow=27,SNR=47						
JOW				LR	LR	20 54 24.1	
	comp=Z,136nm,19.6s,baz=40,slow=46						
JOW	**Kunigami**	**1.00**	**51**	*i* P	**Pn**	**20 53 40.8**	**+0.4**
JOW				*e*S	**Sn**	**20 53 53.4**	**-0.2**
JYRO	**Yoronjima**	**1.25**	**49**	P	**Pn**	**20 53 43.9**	**+0.3**
JYRO				*e*S	**Sn**	**20 53 59.5**	**+0.2**
JOKE	**Okinoerabujima**	**1.56**	**42**	P	**Pn**	**20 53 47.8**	**-0.1**
JTK	**Tokunoshima**	**2.10**	**41**	P	**Pn**	**20 53 55.3**	**0.0**
JAMN	**Amaminishikomi**	**2.58**	**37**	P	**Pn**	**20 54 01.9**	**+0.1**
JAM	**Amami Oshima**	**2.95**	**41**	P	**Pn**	**20 54 07.5**	**+0.6**
JAM				*e*S	**Sn**	**20 54 38.8**	**-2.2**
JZK	**Kikaishima**	**3.11**	**47**	*e*S	**Sn**	**20 54 44.9**	**-0.2**
JTAJ	**Takarajima**	**3.35**	**28**	P	**Pn**	**20 54 13.1**	**+0.7**
JTAJ				S	**Sn**	**20 54 49.0**	**-1.9**
JMZ	**Minamidaito 2**	**3.46**	**95**	*e*S	**Sn**	**20 54 49.

baz=46,slow=75,SNR=10

*IDC **19** 21:21:27.8±2.6, 25°.60S×179°.06W, h501km±39km, mb3.3/4, mbtmp4.3/6, Error ellipse: s-maj=51.2km s-min=24.5km az=67.0*
*NEIC **19** 21:21:31.0±1.5, 25°.7S±0°.1×179°.6W±0°.1, h481km±15km, mb4.6/27, Error ellipse: s-maj=23.3km s-min=12.2km az=137.0*
ISC 19 21:21:28.5±1.7, **25°.59S**±0°.10×**179°.2W**±0°.2, **h500**km, **n45**, σ0:**90**/44, **mb4.4**/14, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.22**	**342**	P	**P**	**21 23 27.7**	**+0.2**
MSVF	**Nonsavu**	**8.22**	**342**	P	**P**	**21 23 27.5**	**0.0**
9.6nm,0.4s,baz=188,slow=11,SNR=12							
NIUE	**Niue**	**10.78**	**55**	P	P	21 23 59.2	+5.0
MXZ	**Matakaoa Point**	**12.11**	**189**	P	**P**	**21 24 09.3**	**+1.2**
PINNC	**Pines Island,**	**12.52**	**281**	P	**P**	**21 24 11.9**	**-0.8**
TOZ	**Tahuroa Road**	**12.90**	**199**	P	**P**	**21 24 16.9**	**+0.5**
URZ	**Urewera**	**13.00**	**193**	P	**P**	**21 24 16.3**	**-1.2**
9.0nm,0.4s,baz=8.4,slow=5.2,SNR=11							
URZ				S	**S**	**21 26 36.8**	**-0.1**
11nm,0.8s,baz=161,slow=23,SNR=13							
ONTNC	**Ouen Toro**	**13.49**	**281**	P	**P**	**21 24 21.4**	**-1.5**
DZM	**Mont Dzumac**	**13.57**	**282**	P	**P**	**21 24 23.0**	**-0.9**
MRZ	**Mangatainoka R**	**15.63**	**195**	P	**P**	**21 24 43.8**	**-1.4**
MRZ				IAmb	IAmb	21 24 53.4	
comp=Z,28nm,1.4s							
QRZ	**Quartz Range**	**16.67**	**202**	P	**P**	**21 24 55.9**	**-0.1**
TKNZ	**Takaka Hill**	**16.71**	**201**	P	**P**	**21 24 56.1**	**-0.3**
THZ	**Tophouse**	**17.39**	**200**	P	**P**	**21 25 03.0**	**-0.1**
THZ				IAmb	IAmb	21 25 37.5	
comp=Z,33nm,1.3s							
LTZ	**Lake Taylor**	**18.51**	**200**	P	**P**	**21 25 14.8**	**+1.4**
LTZ				IAmb	IAmb	21 25 32.0	
comp=Z,24nm,1.2s							
INZ	**Inchbonnie**	**18.73**	**202**	P	**P**	**21 25 15.6**	**+0.3**
OXZ	**Oxford**	**19.07**	**200**	P	**P**	**21 25 20.4**	**+1.9**
MQZ	**McQueen's Vall**	**19.24**	**198**	P	**P**	**21 25 20.1**	**+0.1**
MQZ				IAmb	IAmb	21 25 22.4	
comp=Z,33nm,1.2s							
RPZ	**Rata Peaks**	**19.74**	**201**	P	**P**	**21 25 25.2**	**+0.6**
FOZ	**Fox Glacier**	**20.00**	**204**	P	**P**	**21 25 29.3**	**+2.3**
LBZ	**Lake Benmore**	**20.62**	**202**	P	**P**	**21 25 32.9**	**+0.3**
ODZ	**Otahua Downs**	**21.06**	**200**	P	**P**	**21 25 38.0**	**+1.5**
ODZ				IAmb	IAmb	21 26 09.9	
comp=Z,21nm,1.4s							
WKZ	**Wanaka**	**21.41**	**203**	P	**P**	**21 25 40.5**	**+0.7**
MLZ	**Mavora Lakes**	**22.20**	**204**	P	**P**	**21 25 49.0**	**+2.0**
MLZ				IAmb	IAmb	21 25 52.3	
comp=Z,29nm,1.2s							
ARMA	**Armidale**	**26.13**	**253**	P	**P**	**21 26 21.9**	**-0.3**
ARMA				IAmb	IAmb	21 26 53.8	
comp=Z,22nm,1.4s							
EIDS	**Eidsvold**	**26.77**	**264**	P	**P**	**21 26 28.1**	**+0.3**
EIDS				IAmb	IAmb	21 26 41.3	
comp=Z,28nm,1.4s							
CAN	**Canberra**	**28.94**	**243**	P	**P**	**21 26 47.6**	**+0.8**
CAN				IAmb	IAmb	21 26 48.9	
comp=Z,16nm,1.4s							
STKA	**Stephens Creek**	**34.77**	**250**	P	**P**	**21 27 37.0**	**+0.4**
STKA				IAmb	IAmb	21 28 17.2	
comp=Z,24nm,1.2s							
STKA	**Stephens Creek**	**34.77**	**250**	P	**P**	**21 27 37.2**	**+0.6**
comp=Z,1.8nm,0.5s,baz=91,slow=12,SNR=17							
comp=Z,1.8nm,0.5s							
COEN	**Coen**	**37.09**	**281**	P	**P**	**21 27 55.7**	**-0.3**
COEN				IAmb	IAmb	21 28 18.9	
comp=Z,31nm,1.5s							
BBOO	**Buckleboo**	**39.45**	**249**	P	**P**	**21 28 14.7**	**-0.4**
BBOO				IAmb	IAmb	21 28 41.3	
comp=Z,30nm,1.4s							
AS31	**Alice Springs**	**42.47**	**262**	P	**P**	**21 28 39.7**	**+0.4**
ASAR	**Alice Springs**	**42.47**	**262**	P	**P**	**21 28 39.4**	**+0.1**
ASAR	**Alice Springs**	**42.47**	**262**	P	**P**	**21 28 39.7**	**+0.4**
comp=Z,2.3nm,0.5s,baz=93,slow=7.6,SNR=56							
comp=Z,2.3nm,0.5s							
WR0	**Warramunga Arr**	**42.82**	**268**	P	**P**	**21 28 42.2**	**+0.1**
WR8	**Warramunga Arr**	**42.86**	**268**	P	**P**	**21 28 42.6**	**+0.2**
WR8				IAmb	IAmb	21 28 52.7	
comp=Z,13nm,1.4s							
WB2	**Warramunga Arr**	**43.00**	**268**	P	**P**	**21 28 43.7**	**+0.2**
WRAB	**Tennant Creek**	**43.00**	**268**	P	**P**	**21 28 43.5**	**0.0**
WRAB				IAmb	IAmb	21 29 07.0	
comp=Z,14nm,1.5s							
WRA	**Warramunga Arr**	**43.01**	**268**	P	**P**	**21 28 43.8**	**+0.3**
WRA	**Warramunga Arr**	**43.01**	**268**	P	**P**	**21 28 43.5**	**-0.1**
comp=Z,5.0nm,0.7s,baz=104,slow=8.0,SNR=39							
comp=Z,5.0nm,0.7s							
WB0	**Warramunga Arr**	**43.01**	**268**	P	**P**	**21 28 43.8**	**+0.2**
FORT	**Forrest**	**46.40**	**251**	P	**P**	**21 29 08.9**	**-0.6**
FORT				IAmb	IAmb	21 29 21.1	
comp=Z,35nm,1.1s							
KNRA	**Kununurra**	**49.39**	**271**	P	**P**	**21 29 33.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**51.41**	**267**	P	**P**	**21 29 48.2**	**+1.3**
VNDA	**Vanda**	**52.76**	**185**	P	**P**	**21 29 54.9**	**-0.8**
comp=Z,2.0nm,1.1s,baz=354,slow=5.5,SNR=2.7							
comp=Z,2.0nm,1.1s							
VTX	**Valle De La Tr**	**82.97**	**50**		pwP	21 34 56.4	+4.0

*SJA **19** 21:37:39.7±0.7, 20°.34S×69°.19W, h99km±2km, ML5.1, MW4.7*
*NEIC **19** 21:37:40, 20°.32S×70°.00W, h80km, Moment Tensor Solution. Duration: 1ŝ1 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.32; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$1.63; $M_{r\theta}$0.05; $M_{\theta\phi}$-1.26; $M_{\phi r}$-0.35; Fault plane solution: $M_0$1.83000×10^{16} NP1: ϕ_s139.38000°, δ41.32000°, λ-110.76000°. NP2: ϕ_s346.16000°, δ51.87000°, λ-72.69000°. Principal axes: T 2.2824, Plg5.0000°, Azm64.0000°; N -0.9020, Plg14.0000°, Azm155.0000°; P -1.3803, Plg75.0000°, Azm313.0000°;*
*NEIC **19** 21:37:40, 20°.32S×69°.10W, h80km*
*NEIC **19** 21:37:40.1±1.5, 20°.30S±0°.03×69°.12W±0°.05, h97km±4km, mb4.9/262, Mww4.8/10, Error ellipse: s-maj=6.8km s-min=4.7km az=94.0*
*IDC **19** 21:37:40.6±0.4, 20°.24S×68°.96W, h100km±3km, mb4.2/19, mbtmp4.6/23, MS3.6/10, Error ellipse: s-maj=13.8km s-min=10.3km az=57.0*
*VAO **19** 21:37:41.8±0.6, 20°.24S×68°.87W, h105km±5km, mb4.7*
*GUC **19** 21:37:41.7±0.8, 20°.34S×69°.13W, h91km±4km, ML4.9*
ISC 19 21:37:39.9±0.3, **20°.31S**±0°.03×**69°.12W**±0°.04, **h97**km±2km, **h98**km:**pP-P**, **n482**, σ1ŝ**10**/539, **mb4.8**/133, **5C-8D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.17**	**348**		**Pn**	**21 37 54.7**	**+0.5**
PB08				Sn	**Sn**	**21 38 05.7**	**+0.9**
PB08	**IPOC Station P**	**0.17**	**348**	*i* P	**Pn**	**21 37 54.8**	**+0.5**
PB08				*i* S	**Sn**	**21 38 05.4**	**+0.6**
PB08				IAML		21 38 06.7	
comp=E,59μm,0.3s							
PB08	**IPOC Station P**	**0.17**	**348**	*e*P	**Pn**	**21 37 54.9**	**+0.7**
PB08				*e*S	**Sn**	**21 38 06.5**	**+1.7**
PB08				IAML		21 38 08.5	
comp=Z,25μm,0.3s							
PX03	**IPOC Station P**	**0.49**	**258**	*e*P	**Pn**	**21 37 54.9**	**-0.6**
PX03				*e*S	**Sn**	**21 38 04.6**	**-2.5**
GO01	**Chusmiza**	**0.64**	**353**	Pn	**Pn**	**21 37 57.5**	**+0.4**
GO01				Sn	**Sn**	**21 38 10.4**	**+0.5**
GO01	**Chusmiza**	**0.64**	**353**	⇓*i* P	**Pn**	**21 37 57.9**	**+0.8**
GO01				*i* S	**Sn**	**21 38 10.8**	**+0.9**
GO01				IAML		21 38 14.2	
comp=E,60μm,0.2s							
GO01	**Chusmiza**	**0.64**	**353**	*e*P	**Pn**	**21 37 58.0**	**+0.9**
GO01				*e*S	**Sn**	**21 38 11.8**	**+1.9**
HMBC	**Humberstone**	**0.72**	**272**	Pn	**Pn**	**21 37 57.8**	**+0.4**
HMBC				Sn	**Sn**	**21 38 11.2**	**+0.7**
HMBC	**Humberstone**	**0.72**	**272**	⇓*i* P	**Pn**	**21 37 57.6**	**+0.2**
HMBC				*i* S	**Sn**	**21 38 10.7**	**+0.1**
HMBC				IAML		21 38 11.9	
comp=E,114μm,0.4s							
HMBC	**Humberstone**	**0.72**	**272**	*e*P	**Pn**	**21 37 57.6**	**+0.2**
HMBC				*e*S	**Sn**	**21 38 10.9**	**+0.3**
HMBC				IAML		21 38 12.8	
comp=Z,53μm,0.4s							
PB11	**IPOC Station P**	**0.74**	**317**	Pn	**Pn**	**21 37 57.7**	**0.0**
PB11				Sn	**Sn**	**21 38 11.1**	**+0.2**
PB11	**IPOC Station P**	**0.74**	**317**	⇓*i* P	**Pn**	**21 37 58.1**	**+0.5**
PB11				*e*S	**Sn**	**21 38 12.0**	**+1.1**
PB11				IAML		21 38 12.8	
comp=E,101μm,0.3s							
PB11	**IPOC Station P**	**0.74**	**317**	*e*P	**Pn**	**21 37 58.3**	**+0.7**
PB11				*e*S	**Sn**	**21 38 12.0**	**+1.1**
PB11				IAML		21 38 14.2	
comp=Z,36μm,0.3s							
PB01	**IPOC Station P**	**0.81**	**205**	Pn	**Pn**	**21 37 58.6**	**+0.3**
PB01				Sn	**Sn**	**21 38 12.5**	**+0.5**
PB01	**IPOC Station P**	**0.81**	**205**	⇓*i* P	**Pn**	**21 37 58.5**	**+0.2**
PB01				*i* S	**Sn**	**21 38 12.2**	**+0.2**
PB01	**IPOC Station P**	**0.81**	**205**	*e*P	**Pn**	**21 37 58.5**	**+0.3**
PB01				*e*S	**Sn**	**21 38 12.0**	**-0.1**
PB01				IAML		21 38 15.6	
comp=Z,61μm,0.2s							
TA02	**Huaiquique**	**0.95**	**272**	Pn	**Pn**	**21 37 60.0**	**+0.4**
TA02				Sn	**Sn**	**21 38 15.4**	**+1.0**
TA02	**Huaiquique**	**0.95**	**272**	⇑*i* P	**Pn**	**21 37 60.0**	**+0.4**
TA02				*e*S	**Sn**	**21 38 14.9**	**+0.5**
TA02	**Huaiquique**	**0.95**	**272**	*e*P	**Pn**	**21 38 00.1**	**+0.4**
TA02				*e*S	**Sn**	**21 38 14.2**	**-0.2**
TA01	**Diego Aracena**	**1.03**	**255**		**Pn**	**21 38 00.5**	**0.0**
TA01				Sn	**Sn**	**21 38 16.0**	**+0.1**
TA01	**Diego Aracena**	**1.03**	**255**	⇑*i* P	**Pn**	**21 38 00.4**	**0.0**
TA01				*e*S	**Sn**	**21 38 15.4**	**-0.6**
TA01				IAML		21 38 18.9	
comp=N,37μm,0.3s							
TA01	**Diego Aracena**	**1.03**	**255**	*e*P	**Pn**	**21 38 00.4**	**0.0**
TA01				*e*S	**Sn**	**21 38 15.1**	**-0.8**
TA01				IAML		21 38 21.9	
comp=Z,24μm,0.5s							
PATCX	**Punta Patache**	**1.10**	**242**	Pn	**Pn**	**21 38 01.6**	**+0.3**
PATCX				Sn	**Sn**	**21 38 18.3**	**+0.9**
PATCX	**Punta Patache**	**1.10**	**242**	*e*P	**Pn**	**21 38 01.5**	**+0.2**
PATCX				*e*S	**Sn**	**21 38 18.7**	**+1.3**
PATCX				IAML		21 38 23.4	
comp=Z,20μm,0.2s							
PB09	**IPOC Station P**	**1.49**	**184**	Pn	**Pn**	**21 38 07.1**	**+1.0**
PB09				Sn	**Sn**	**21 38 27.0**	**+1.1**
PB09	**IPOC Station P**	**1.49**	**184**	⇓*i* P	**Pn**	**21 38 06.8**	**+0.8**
PB09				*i* S	**Sn**	**21 38 26.9**	**+1.0**
PB09				IAML		21 38 28.6	
comp=N,34μm,0.6s							
PB09	**IPOC Station P**	**1.49**	**184**	*e*P	**Pn**	**21 38 06.3**	**+0.3**
PB09				*e*S	**Sn**	**21 38 27.4**	**+1.6**
PB09				IAML		21 38 29.3	
comp=Z,27μm,0.5s							
PX02	**IPOC Station P**	**1.68**	**322**	*i* P	**Pn**	**21 38 08.1**	**-0.2**
PX02				*i* S	**Sn**	**21 38 30.1**	**+0.1**
PB03	**IPOC Station P**	**1.83**	**199**	⇑*i* P	**Pn**	**21 38 10.4**	**0.0**
PB03				*i* S	**Sn**	**21 38 33.1**	**-0.5**
PB03				IAML		21 38 37.8	
comp=E,16μm,0.1s							
PB03				IAML		21 38 40.0	
comp=N,16μm,0.3s							
PB03	**IPOC Station P**	**1.83**	**199**	*e*P	**Pn**	**21 38 10.2**	**-0.2**
PB03				*e*S	**Sn**	**21 38 34.0**	**+0.4**
PB03				IAML		21 38 40.7	
comp=Z,20μm,0.2s							
PB16	**IPOC Station P**	**1.99**	**349**	Pn	**Pn**	**21 38 14.5**	**+1.6**
PB16	**IPOC Station P**	**1.99**	**349**	⇓*i* P	**Pn**	**21 38 15.1**	**+2.2**
PB16				*i* S	**Sn**	**21 38 40.2**	**+2.3**
PB16	**IPOC Station P**	**1.99**	**349**	*e*P	**Pn**	**21 38 14.3**	**+1.5**
PB16				*e*S	**Sn**	**21 38 41.3**	**+3.4**
PB12	**IPOC Station P**	**2.03**	**326**	Pn	**Pn**	**21 38 13.2**	**+0.3**
PB12	**IPOC Station P**	**2.03**	**326**	*e*P	**Pn**	**21 38 13.4**	**+0.5**
PB12				*e*S	**Sn**	**21 38 39.7**	**+1.6**
PB12				IAML		21 38 50.9	
comp=Z,6μm,0.3s							
AP01	**Chacalluta**	**2.25**	**329**	Pn	**Pn**	**21 38 16.4**	**+0.8**
AP01	**Chacalluta**	**2.25**	**329**	*i* P	**Pn**	**21 38 16.3**	**+0.7**
AP01				*i* S	**Sn**	**21 38 43.7**	**+0.8**
AP01	**Chacalluta**	**2.25**	**329**	*e*P	**Pn**	**21 38 16.4**	**+0.8**
AP01				*e*S	**Sn**	**21 38 45.1**	**+2.3**
AP01				IAML		21 38 54.2	
comp=Z,10μm,0.6s							
PB06	**IPOC Station P**	**2.43**	**190**	*e*P	**Pn**	**21 38 17.4**	**-0.7**
PB06				*e*S	**Sn**	**21 38 45.2**	**-2.1**
PB06				IAML		21 38 50.2	
comp=E,16μm,0.3s							
PB06	**IPOC Station P**	**2.43**	**190**	*e*P	**Pn**	**21 38 18.6**	**+0.5**
PB06				*e*S	**Sn**	**21 38 46.2**	**-1.2**
PB06				IAML		21 38 57.5	
comp=Z,14μm,0.6s							
PB18	**Visviri**	**2.72**	**353**	Pn	**Pn**	**21 38 25.9**	**+3.4**
PB18	**Visviri**	**2.72**	**353**	*e*P	**Pn**	**21 38 24.7**	**+2.3**
PB05	**IPOC Station P**	**2.73**	**202**	Pn	**Pn**	**21 38 21.8**	**-0.3**
PB05	**IPOC Station P**	**2.73**	**202**	⇑*i* P	**Pn**	**21 38 20.9**	**-1.2**
PB05				IAML		21 39 03.6	
comp=E,11μm,0.4s							
PB05	**IPOC Station P**	**2.73**	**202**	*e*P	**Pn**	**21 38 21.8**	**-0.3**
PB05				*e*S	**Sn**	**21 39 00.3**	**+5.8**
PB05				IAML		21 39 04.1	
comp=Z,6μm,0.8s							
AF01	**San Pedro de A**	**2.77**	**162**	Pn	**Pn**	**21 38 23.9**	**+1.0**
AF01	**San Pedro de A**	**2.77**	**162**	*e*P	**Pn**	**21 38 24.4**	**+1.6**
AF01	**San Pedro de A**	**2.77**	**162**	*e*P	**Pn**	**21 38 25.1**	**+2.2**
AF01				*e*S	**Sn**	**21 38 57.5**	**+1.7**
AF01				IAML		21 39 57.1	
comp=Z,7μm,0.5s							
PB10	**IPOC Station P**	**3.46**	**202**		**Pn**	**21 38 30.9**	**-0.9**
PB10	**IPOC Station P**	**3.46**	**202**	*e*P	**Pn**	**21 38 30.0**	**-1.8**
PB10				IAML		21 39 31.5	
comp=N,3μm,0.5s							
PB10	**IPOC Station P**	**3.46**	**202**	*e*P	**Pn**	**21 38 30.5**	**-1.2**
PB10				*e*S	Sn	21 39 23.3	+11
PB10				IAML		21 39 26.6	
comp=Z,3μm,0.4s							
YJA	**Yavi**	**3.84**	**120**	*e*P	**Pn**	**21 38 40.5**	**+3.2**
LPAZ	**La Paz**	**4.10**	**13**	Pn	**Pn**	**21 38 41.3**	**+0.2**
LPAZ	**La Paz**	**4.10**	**13**	P	**Pn**	**21 38 44.1**	**+3.1**
comp=Z,332nm,0.5s,baz=188,slow=7.2,SNR=738							
LPAZ				S	**Sn**	**21 39 26.6**	**-1.7**
comp=Z,73nm,0.5s,baz=134,slow=0.8,SNR=1.6							
LPAZ	**La Paz**	**4.10**	**13**	*e*P	**Pn**	**21 38 44.8**	**+3.7**
LPAZ	**La Paz**	**4.10**	**13**	*e*P	**Pn**	**21 38 42.9**	**+1.8**
PB14	**IPOC Station P**	**4.46**	**195**	Pn	**Pn**	**21 38 45.4**	**-0.2**
PB14	**IPOC Station P**	**4.46**	**195**	*e*P	**Pn**	**21 38 43.7**	**-1.9**
PB14				*e*S	Sn	21 39 51.2	+15
PB14				IAML		21 40 00.8	
comp=Z,2μm,0.7s							
GO02	**Mina Guanaco**	**4.85**	**185**	Pn	**Pn**	**21 38 50.0**	**-0.8**
GO02	**Mina Guanaco**	**4.85**	**185**	*e*P	**Pn**	**21 38 49.8**	**-1.1**
GO02				*e*S	**Sn**	**21 39 46.0**	**-0.1**
AC01	**Pan de Azucar**	**5.97**	**193**		**Pn**	**21 39 03.3**	**-2.5**
AC02	**Maricunga**	**6.50**	**180**	Pn	**Pn**	**21 39 12.6**	**-0.8**
AC05	**El Transito**	**8.56**	**187**	Pn	**Pn**	**21 39 37.7**	**-3.4**
BBSD	**Serra de San D**	**8.64**	**70**	*e*P	**Pn**	**21 39 39.9**	**-2.2**
SIV	**San Ignacio**	**8.77**	**62**	P	**Pn**	**21 39 42.1**	**-1.8**
comp=Z,65nm,0.5s,baz=246,slow=12,SNR=276							
SIV				S	**Sn**	**21 41 17.3**	**-3.8**
comp=Z,22nm,0.8s,baz=335,slow=19,SNR=4.2							
LCO	**Las Campanas**	**8.79**	**189**		**Pn**	**21 39 41.8**	**-2.6**
CO01	**Juntas del Tor**	**9.67**	**185**		**Pn**	**21 39 55.8**	**-0.6**
CO05	**La Serena**	**9.76**	**191**		**Pn**	**21 39 57.3**	**0.0**
GO04	**Tololo Observa**	**9.94**	**188**	Pn	**Pn**	**21 39 58.5**	**-1.5**
CO06	**Fray Jorge**	**10.57**	**192**	Pn	**Pn**	**21 40 08.0**	**-0.3**
CO03	**El Pedregal**	**10.59**	**187**	Pn	**Pn**	**21 40 06.0**	**-2.7**
PTLB	**Pontes e Lacer**	**10.66**	**65**	Pn	**Pn**	**21 40 07.4**	**-2.2**
PTLB	**Pontes e Lacer**	**10.66**	**65**	*e*P	**Pn**	**21 40 07.0**	**-2.6**
CO02	**Combarbal**	**10.98**	**188**		**Pn**	**21 40 13.9**	**-0.1**
NNA	**Nana**	**11.11**	**317**	Pn	**Pn**	**21 40 15.2**	**-0.6**
NNA	**Nana**	**11.11**	**317**	P	**Pn**	**21 40 16.5**	**+0.7**
comp=Z,5.0nm,0.5s,baz=141,slow=16,SNR=1.5							
NNA				S	**Sn**	**21 42 12.2**	**-5.9**
comp=Z,7.8nm,0.5s,baz=329,slow=22,SNR=1.5							
ZON	**Zonda**	**11.20**	**178**	Pn	**Pn**	**21 40 16.4**	**-0.5**
CFA	**Coronel Fontan**	**11.28**	**176**	P	Pn	21 40 13.7	-4.4
comp=Z,2.2nm,0.3s,baz=39,slow=22,SNR=12							
CFA				S	Sn	21 42 13.5	-8.6
comp=Z,4.6nm,0.5s,baz=289,slow=22,SNR=1.4							
VA06	**Catapilco**	**12.36**	**189**	Pn	**Pn**	**21 40 31.5**	**-0.8**
CPUP	**Villa Florida**	**12.38**	**121**	Pn	**Pn**	**21 40 31.2**	**-1.4**
CPUP	**Villa Florida**	**12.38**	**121**	P	**Pn**	**21 40 30.7**	**-1.9**
comp=Z,17nm,0.7s,baz=303,slow=12,SNR=65							
CPUP	**Villa Florida**	**12.38**	**121**	*e*P	**Pn**	**21 40 32.0**	**-0.6**
VA03	**San Esteban**	**12.47**	**186**		**Pn**	**21 40 33.6**	**-0.4**
AQDB	**Aquidauana**	**12.59**	**93**	Pn	**Pn**	**21 40 32.5**	**-2.9**
AQDB	**Aquidauana**	**12.59**	**93**	*e*P	**Pn**	**21 40 32.3**	**-3.1**
PEL	**Peldehue**	**12.86**	**186**	Pn	**Pn**	**21 40 37.9**	**-1.2**
SJPY	**San Joaquin**	**12.89**	**114**	*e*P	**Pn**	**21 40 38.3**	**-1.1**
CZSB	**Cruzeiro do Su**	**12.97**	**344**		**Pn**	**21 40 39.6**	**-1.0**
CZSB	**Cruzeiro do Su**	**12.97**	**344**	*e*P	**Pn**	**21 40 42.7**	**+2.0**
MT02	**Curacav**	**13.03**	**188**		**Pn**	**21 40 40.0**	**-1.2**
MT08	**Bocatoma Ro**	**13.11**	**183**		**Pn**	**21 40 43.9**	**+1.4**
MT05	**Renca**	**13.12**	**186**	P	**P**	**21 40 49.2**	**+0.3**
MT16	**CCHEN**	**13.13**	**185**		**Pn**	**21 40 43.3**	**+0.7**
MT03	**Universidad Ad**	**13.20**	**185**		**Pn**	**21 40 42.8**	**-0.7**
MT03				P	**P**	**21 40 51.4**	**+1.6**
MT13	**San Alfonso**	**13.43**	**184**		**Pn**	**21 40 46.2**	**-0.3**
MT13				P	**P**	**21 40 53.5**	**+1.1**
VA05	**Santo Domingo**	**13.48**	**189**		**Pn**	**21 40 47.2**	**+0.1**
SALV	**Santo Antonio**	**13.49**	**73**	*e*P	**Pn**	**21 40 45.3**	**-2.1**
MT09	**Talagante**	**13.52**	**187**		**Pn**	**21 40 47.2**	**-0.6**
MT09					**P**	**21 40 53.6**	**+0.1**
LMEL	**Las Melosas**	**13.52**	**184**		**Pn**	**21 40 47.0**	**-0.8**
LMEL				P	**P**	**21 40 54.8**	**+1.2**
MT01	**Popeta**	**13.64**	**188**		**Pn**	**21 40 48.3**	**-0.9**
MT01				P	**P**	**21 40 56.0**	**+1.4**
BO04	**La Punta**	**13.70**	**185**		**Pn**	**21 40 49.1**	**-0.9**
BO04				P	**P**	**21 40 56.8**	**+1.5**
BO01	**Tunca**	**14.14**	**187**		**Pn**	**21 40 54.9**	**-0.8**
BO01				P	**P**	**21 41 00.6**	**+0.4**
RPRD	**Ribas do Rio P**	**14.46**	**93**	*e*P	**Pn**	**21 40 59.4**	**-0.4**
BO02	**Sierra Bellavi**	**14.51**	**185**		**Pn**	**21 40 59.4**	**-1.1**
BO02				P	**P**	**21 41 05.0**	**+0.6**
PDRB	**Porto dos Gac**	**14.71**	**56**	*e*P	**Pn**	**21 40 60.0**	**-3.1**
C2SB	**Chapadao do Su**	**15.42**	**87**	*e*P	**Pn**	**21 41 10.7**	**-1.4**
ML02	**Panimavida**	**15.53**	**187**		**Pn**	**21 41 11.9**	**-1.5**
H03N1	**Juan Fernandez**	**15.72**	**212**	T	T	21 56 40.1	
baz=34,slow=72,SNR=185							
H03N2	**Juan Fernandez**	**15.73**	**212**	T	T	21 56 45.0	
baz=34,slow=72,SNR=150							
H03N3	**Juan Fernandez**	**15.74**	**212**	T	T	21 56 26.1	
baz=34,slow=72,SNR=122							
ATAH	**Atahualpa**	**15.88**	**324**	P	**Pn**	**21 41 18.9**	**+0.6**
comp=Z,4.2nm,0.7s,baz=281,slow=19,SNR=1.8							
TBTG	**Tabatinga, AM**	**16.04**	**357**	Pn	**Pn**	**21 41 18.6**	**-1.3**
TBTG	**Tabatinga, AM**	**16.04**	**357**	*e*P	**Pn**	**21 41 21.1**	**+1.2**
PTGB	**Pitanga**	**16.36**	**109**	*e*P	**Pn**	**21 41 24.0**	**+0.2**
TBOT	**Tacuaremb**	**16.38**	**136**	*e*P	**Pn**	**21 41 23.9**	**0.0**
BI02	**San Fabin de**	**16.41**	**186**		**Pn**	**21 41 23.4**	**-1.0**
BI05	**Punta Hualpn**	**16.77**	**191**		**Pn**	**21 41 28.3**	**-0.4**
LDASE	**Londrina, Braz**	**16.99**	**104**	*e*P	**Pn**	**21 41 31.7**	**+0.1**
ITAB	**Concordia**	**17.00**	**117**		**Pn**	**21 41 30.2**	**-1.4**
ITAB	**Concordia**	**17.00**	**117**	*e*P	**Pn**	**21 41 31.5**	**-0.1**
ARAG	**Araguaiana, MT**	**17.08**	**77**	*e*P	**Pn**	**21 41 32.3**	**-0.4**
TEFE	**Tefe**	**17.26**	**15**	*e*P	**P**	**21 41 34.5**	**-0.4**
CPSB	**Cacapava Do Su**	**17.36**	**129**	*e*P	**Pn**	**21 41 37.2**	**+1.2**
ITRB	**Iturama**	**17.64**	**91**	*e*P	**P**	**21 41 39.8**	**+0.7**
PLTB	**Pedras Altas**	**17.99**	**132**	*e*P	**P**	**21 41 42.2**	**-0.7**
FRTB	**Fartura**	**18.40**	**103**	*e*P	**P**	**21 41 47.4**	**-0.1**
TRQA	**Tornquist**	**18.74**	**162**		**P**	**21 41 50.3**	**-0.7**
NPGB	**Novo Progresso**	**18.75**	**47**	*e*P	**P**	**21 41 49.7**	**-1.6**
CNLB	**Canela**	**18.83**	**122**	*e*P	**P**	**21 41 52.1**	**0.0**
MACA	**Manacapuru-AM**	**18.92**	**27**		**P**	**21 41 52.1**	**-1.0**
MACA	**Manacapuru-AM**	**18.92**	**27**	*e*P	**P**	**21 41 53.0**	**-0.1**
SNDB	**Serra Nova Dou**	**19.01**	**67**	*e*P	**P**	**21 41 53.5**	**-0.6**
BB19B	**Bebedouro**	**19.28**	**96**	*e*P	**P**	**21 41 56.0**	**-1.1**
LR03	**Panguipulli**	**19.46**	**188**	P	**P**	**21 41 59.0**	**+0.2**
MAJ01	**Sao Joao Batis**	**19.68**	**115**	*e*P	**P**	**21 42 01.1**	**-0.3**
LR04	**Corral**	**19.86**	**190**	P	**P**	**21 42 02.0**	**-1.1**
IPMB	**Ip

comp=Z,12nm,0.8s
CPCT Cooper Cave 57.34 345 P **P 21 47 17.6 -0.2**
TKL Tuckaleechee C 57.37 346 P **P 21 47 17.0 -0.9**
comp=Z,7.7nm,0.8s,baz=144,slow=10,SNR=5.0
TKL LR LR 22 12 53.8
comp=Z,12nm,21.7s,baz=144,slow=37
comp=Z,7.7nm,0.8s
HNDO Hondo 57.45 329 P **P 21 47 18.6 -0.1**
HNDO IAmb IAmb 21 47 20.1
comp=Z,9.6nm,0.8s
SWET Sewanee 57.48 344 P **P 21 47 18.1 -0.7**
V48A Smith Brothers 58.21 343 P **P 21 47 23.1 -0.8**
CLTN Cedars of Leba 58.41 344 P **P 21 47 24.6 -0.7**
CLTN IAmb IAmb 21 47 25.8
comp=Z,10nm,0.7s
JCT Junction City 58.48 329 P **P 21 47 24.9 -1.0**
JCT IAmb IAmb 21 47 27.6
comp=Z,8.5nm,1.0s
BRDY Brady 58.77 330 P **P 21 47 27.8 -0.1**
HPIG 58.82 322 P **P 21 47 28.2 -0.3**
HPIG IAmb IAmb 21 47 30.6
comp=Z,10nm,1.1s
WVT Waverly 58.86 342 P **P 21 47 27.0 -1.4**
WVT Waverly 58.86 342 P **P 21 47 27.4 -0.9**
WVT pP **pP 21 47 52.7 -0.5**
SLBS Sierra La Lagu 59.12 316 P **P 21 47 32.6 +2.1**
SAND Sanderson 59.22 327 P **P 21 47 30.8 -0.3**
SAND IAmb IAmb 21 47 32.6
comp=Z,8.2nm,1.1s
MIAR Mount Ida 59.30 337 P **P 21 47 31.2 -0.2**
OZNA Ozona 59.50 328 P **P 21 47 32.9 -0.1**
OZNA IAmb IAmb 21 47 34.0
comp=Z,14nm,1.3s
TXAR Lajitas Array 59.54 325 P **P 21 47 33.0 -0.4**
TXAR Lajitas Array 59.54 325 P **P 21 47 33.7 +0.3**
comp=Z,1.2nm,0.6s,baz=152,slow=7.5,SNR=20
TXAR sP **sP 21 48 09.3 +0.1**
comp=Z,0.7nm,0.5s,baz=144,slow=6.2,SNR=3.6
comp=Z,1.2nm,0.6s
TX31 Lajitas Ar. Si 59.54 325 P **P 21 47 32.6 -0.8**
LPIG La Paz 59.64 316 P P 21 47 39.1 +5.1
comp=Z,14nm,0.4s,baz=152,slow=7.3,SNR=1.9
Q56A Snyder Ridge, 59.78 351 P **P 21 47 34.2 -0.5**
BELA Belgrano 2 59.95 172 P **P 21 47 35.5 +0.1**
BELA IAmb IAmb 21 47 37.6
comp=Z,14nm,1.3s
R50A Paris 60.00 346 P **P 21 47 35.6 -0.5**
ABTX Abilene, Hawle 60.19 330 P **P 21 47 38.0 +0.4**
ABTX IAmb IAmb 21 47 39.4
comp=Z,8.9nm,0.8s
PBMO Poplar Bluff 60.24 340 P **P 21 47 37.1 -0.7**
ALPN Alpine 60.35 326 P **P 21 47 39.1 +0.2**
ALPN IAmb IAmb 21 47 40.0
comp=Z,19nm,1.6s
WCI Wyandotte Cave 60.42 344 P **P 21 47 37.9 -1.1**
WCI Wyandotte Cave 60.42 344 P **P 21 47 38.2 -0.8**
MCWV Mont Chateau 60.49 350 P **P 21 47 39.2 -0.2**
WTFS Witchita Falls 60.61 332 P **P 21 47 40.2 -0.3**
WTFS IAmb IAmb 21 48 07.2
comp=Z,11nm,0.7s
MNHN Monahans 60.66 327 P **P 21 47 40.2 -0.7**
MNHN IAmb IAmb 21 47 42.3
comp=Z,16nm,1.1s
T42A Van Buren 60.68 340 **P 21 47 40.1 -0.8**
S44A Carbondale 60.72 342 P P 21 47 35.6 -5.6
SIUC Southern Illin 60.73 342 P **P 21 47 40.4 -0.8**
P51A Williamsport 60.89 348 P **P 21 47 41.7 -0.5**
SN05 Snyder 5 60.98 330 P **P 21 47 42.9 -0.1**
SN05 IAmb IAmb 21 47 43.7
comp=Z,9.5nm,0.6s
HHAR Hobbs 60.98 337 P **P 21 47 42.8 -0.1**
HHAR IAmb IAmb 21 47 43.8
comp=Z,17nm,1.2s
APMT Aspermont 60.99 330 P **P 21 47 43.0 -0.1**
APMT IAmb IAmb 21 47 44.3
comp=Z,10nm,0.9s
X34A Smith Ranch, M 61.05 333 P **P 21 47 43.3 -0.1**
X34A IAmb IAmb 21 47 44.7
comp=Z,22nm,1.3s
O54A Avella 61.08 350 P **P 21 47 43.4 -0.1**
SN07 Snyder 07 61.16 330 P **P 21 47 44.0 -0.3**
SN07 IAmb IAmb 21 47 45.1
comp=Z,16nm,1.2s
SSPA Standing Stone 61.17 352 P **P 21 47 44.2 +0.1**
SSPA pP **pP 21 48 10.3 +1.1**
SSPA sP **sP 21 48 23.1 +2.8**
O52A Adamsville 61.27 349 P **P 21 47 44.5 -0.2**
FVM French Village 61.34 341 P **P 21 47 44.6 -0.7**
TUL3 Leonard 61.35 335 P **P 21 47 44.7 -0.8**
TUL3 IAmb IAmb 21 47 46.4
comp=Z,16nm,1.0s
BLO Bloomington 61.37 345 P **P 21 47 44.0 -1.4**
VHRN Van Horn 61.39 325 P **P 21 47 46.0 +0.1**
VHRN IAmb IAmb 21 47 46.9
comp=Z,7.2nm,0.7s
POST Post 61.43 329 P **P 21 47 46.5 +0.4**
POST IAmb IAmb 21 47 47.9
comp=Z,8.1nm,0.8s
ACSO Alum Creek Sta 61.59 348 P **P 21 47 45.8 -1.2**
CCM Cathedral Cave 61.66 340 P **P 21 47 46.4 -1.1**
CCM IAmb IAmb 21 47 48.0
comp=Z,20nm,1.1s
CCM Cathedral Cave 61.66 340 P **P 21 47 47.1 -0.4**
ADOK Arcadia Dam 61.76 334 P **P 21 47 48.2 0.0**
OK052 Battle Ridge R 61.82 335 P **P 21 47 48.5 -0.1**
R40A Maddies Statio 62.21 340 P **P 21 47 50.2 -0.9**
R40A IAmb IAmb 21 47 51.1
comp=Z,12nm,0.7s
MNTX Cornudas Mount 62.31 325 P **P 21 47 51.3 -0.7**
ALLY Alegheny Colle 62.48 351 P **P 21 47 52.5 -0.4**
BINY Binghamton 62.51 354 P **P 21 47 53.6 +0.5**
BINY IAmb IAmb 21 47 54.5
comp=Z,20nm,0.9s
SMWD Samnorwood 62.53 331 P **P 21 47 53.5 +0.1**
SFIN Lafayette 62.65 345 **P 21 47 52.5 -1.6**
CROK Carrier 62.74 334 P **P 21 47 54.9 +0.2**
MSTX Muleshoe 62.78 329 **P 21 47 55.1 0.0**
MSTX IAmb IAmb 21 47 56.6
comp=Z,18nm,1.0s
TRY Troy 62.86 356 P **P 21 47 55.3 0.0**
ERPA Erie 62.92 351 P **P 21 47 55.5 -0.3**
ELIS Ellis County 62.97 333 P **P 21 47 55.3 -1.0**
ELIS IAmb IAmb 21 47 57.5
comp=Z,27nm,1.1s
WVNY West Valley, N 63.01 352 P **P 21 47 56.0 -0.3**
OK038 West end E0370 63.04 333 P **P 21 47 56.3 -0.4**
OK038 IAmb IAmb 21 47 59.8
comp=Z,18nm,0.8s
P40A Paris 63.27 340 P **P 21 47 57.0 -1.1**
P40A IAmb IAmb 21 47 58.5
comp=Z,19nm,0.7s
KAN08 Anthony NE Sta 63.36 334 P **P 21 47 58.6 -0.2**
KAN08 IAmb IAmb 21 49 17.5
comp=Z,11nm,0.8s
HSIG 63.51 319 **P 21 47 60.0 0.0**
P38A Dawn 63.83 339 **P 21 48 01.2 -0.6**
P38A IAmb IAmb 21 48 02.4
comp=Z,18nm,0.9s
K50A Casco 63.99 349 P **P 21 48 01.7 -1.1**
TROLL Troll, Antarti 65.18 161 ⇓P **P 21 48 11.3 +0.8**
comp=Z,484nm,0.7s
WBO Williamsburg 65.23 355 P **P 21 48 10.6 -0.2**
WBO IAmb IAmb 21 48 11.8
comp=Z,17nm,0.7s
L40A Anamosa 65.33 342 P **P 21 48 10.9 -0.7**
L40A IAmb IAmb 21 48 12.5
comp=Z,16nm,0.9s
ANMO Albuquerque 65.40 327 P **P 21 48 11.4 -1.0**
ANMO Albuquerque 65.40 327 P **P 21 48 11.4 -1.0**
ANMO Albuquerque 65.40 327 P **P 21 48 13.1 +0.8**
comp=Z,1.5nm,0.7s,baz=128,slow=12,SNR=3.2
comp=Z,1.5nm,0.7s
JFWS Jewell Farm 65.85 343 **P 21 48 14.2 -0.7**
JFWS IAmb IAmb 21 48 15.4
comp=Z,26nm,1.1s
BUKO Buck Lake 66.10 352 **P 21 48 15.9 -0.5**
BUKO IAmb IAmb 21 48 17.3
comp=Z,18nm,0.8s
I42A Draeger Farm, 66.41 345 P **P 21 48 18.3 -0.1**
I42A IAmb IAmb 21 50 10.9
comp=Z,25nm,1.2s
KSCO Kaye Shedlock' 66.83 332 P **P 21 48 20.6 -0.8**
KSCO IAmb IAmb 21 48 53.3
comp=Z,14nm,0.5s

I40A Norwalk 66.86 343 P **P 21 48 20.2 -1.1**
I40A IAmb IAmb 21 48 22.9
comp=Z,33nm,1.6s
L34A Svendsen Farm, 66.89 338 P **P 21 48 20.6 -1.0**
X18A Snowflake 66.94 324 P **P 21 48 22.0 -0.3**
BGNE Belgrade 67.05 337 P **P 21 48 22.1 -0.5**
SDCO Great Sand Dun 67.12 329 P **P 21 48 24.0 +0.5**
SDCO IAmb IAmb 21 48 25.7
comp=Z,16nm,1.4s
113A Mohawk Valley, 67.87 320 P **P 21 48 28.1 +0.2**
Q24A Divide 67.93 330 P **P 21 48 28.2 -0.3**
MVCO Mesa Verde 68.19 327 P **P 21 48 29.5 -0.6**
MVCO IAmb IAmb 21 48 32.3
comp=Z,40nm,1.9s
Y14A Wickenburg 68.24 322 P **P 21 48 30.6 +0.3**
WUAZ Wupatki 68.46 324 P **P 21 48 31.9 +0.2**
WUAZ IAmb IAmb 21 48 34.7
comp=Z,12nm,0.9s
VLDQ Val d'Or 68.51 354 P **P 21 48 31.8 +0.3**
VLDQ IAmb IAmb 21 48 32.7
comp=Z,14nm,1.1s
ECSD EROS Data Cent 68.54 339 **P 21 48 31.5 -0.4**
ECSD IAmb IAmb 21 48 32.7
comp=Z,22nm,1.4s
COWI Conover 68.54 345 P **P 21 48 31.3 -0.5**
COWI IAmb IAmb 21 48 33.2
comp=Z,15nm,1.1s
DBIC Dimbokro 68.59 74 **P 21 48 31.6 -1.2**
DBIC IAmb IAmb 21 48 34.2
comp=Z,21nm,1.0s
DBIC Dimbokro 68.59 74 P **P 21 48 31.8 -1.0**
comp=Z,8.9nm,0.4s,baz=230,slow=6.7,SNR=19
DBIC pP **PcP 21 48 58.4 +1.1**
comp=Z,7.7nm,0.7s,baz=251,slow=7.7,SNR=3.2
comp=Z,8.9nm,0.4s
DBIC Dimbokro 68.59 74 P **P 21 48 32.0 -0.8**
DBIC pP **PcP 21 48 58.2 +0.9**
DBIC sP **sP 21 49 11.0 +1.0**
K30B Basset 68.69 336 P **P 21 48 32.7 -0.2**
SPMN Marine on St. 68.69 342 P **P 21 48 32.0 -0.8**
SPMN IAmb IAmb 21 48 33.3
comp=Z,17nm,1.2s
GLA Glamis 68.70 320 P **P 21 48 33.9 +0.7**
GLA IAmb IAmb 21 49 08.8
comp=Z,8.2nm,0.8s
ISCO Idaho Springs 68.82 331 P **P 21 48 34.5 +0.4**
BRIGG Briggsdale 68.86 332 P **P 21 48 35.0 +0.9**
BRIGG IAmb IAmb 21 48 37.2
comp=Z,20nm,1.1s
BLYC Blythe 69.00 321 **P 21 48 35.5 +0.5**
PV15 Paradox Valley 69.05 328 P **P 21 48 35.6 +0.1**
PV15 IAmb IAmb 21 48 38.1
comp=Z,18nm,1.2s
PV13 Radium Mtn., P 69.08 327 P **P 21 48 35.3 -0.4**
PV13 IAmb IAmb 21 50 53.9
comp=Z,8.5nm,0.6s
YUH Yuha Desert 69.10 319 P **P 21 48 35.4 -0.2**
YUH IAmb IAmb 21 48 38.6
comp=Z,18nm,1.6s
TAOE Nuku Hiva Isla 69.25 268 *e*LR LR 22 09 45.1
comp=Z,78nm,28.2s
W13A Hualapai Mount 69.58 322 P **P 21 48 39.2 +0.5**
E38A The Farm, Brul 69.62 344 **P 21 48 37.9 -0.5**
U15A North Rim 69.63 324 P **P 21 48 40.1 +1.0**
U15A IAmb IAmb 21 48 41.8
comp=Z,8.5nm,0.7s
TJX Tijuana 69.71 318 P **P 21 48 40.3 +1.0**
QSPA South Pole Qui 69.88 180 P **P 21 48 40.7 +0.6**
QSPA South Pole Qui 69.88 180 P **P 21 48 40.9 +0.8**
comp=Z,5.5nm,0.9s,baz=154,slow=3.5,SNR=23
QSPA pP **pP 21 49 06.5 +0.9**
comp=Z,2.4nm,0.4s,baz=188,slow=5.0,SNR=4.3
comp=Z,5.5nm,0.9s
QSPA South Pole Qui 69.88 180 P **P 21 48 41.2 +1.1**
QSPA PcP **PcP 21 49 01.8 -0.2**
QSPA pP **pP 21 49 08.1 +2.5**
SUSD Miller 69.97 338 P **P 21 48 40.7 0.0**
PFO Pinyon Flats O 70.08 319 P **P 21 48 41.5 -0.3**
PFO Pinyon Flats O 70.08 319 P **P 21 48 42.9 +1.1**
comp=Z,5.4nm,0.8s,baz=144,slow=4.2,SNR=5.1
comp=Z,5.4nm,0.8s
O20A White River Ci 70.32 329 P **P 21 48 43.2 0.0**
KNB Kanab 70.35 324 P **P 21 48 44.4 +1.0**
KNB IAmb IAmb 21 48 46.8
comp=Z,22nm,1.0s
PKCU Pink Cliffs 70.38 325 P **P 21 48 44.0 +0.2**
PKCU IAmb IAmb 21 49 48.7
comp=Z,37nm,2.0s
LCMT Little Creek M 70.58 324 P **P 21 48 44.9 +0.2**
V12A Nelson 70.58 322 P **P 21 48 45.3 +0.6**
EYMN Ely 70.84 344 **P 21 48 45.3 -0.6**
EYMN IAmb IAmb 21 48 46.3
comp=Z,8.7nm,0.8s
Q16A Castle Valley 70.86 326 P **P 21 48 46.5 +0.1**
P18A Preston Nutter 70.92 327 P **P 21 48 47.6 +0.6**
P18A IAmb IAmb 21 48 49.5
comp=Z,8.6nm,0.8s
MSU Marysvale 71.09 326 P **P 21 48 48.8 +0.8**
MVU Marysvale 71.10 325 P **P 21 48 49.3 +1.2**
MVU IAmb IAmb 21 48 50.9
comp=Z,12nm,0.9s
SHPR Sheep Range 71.30 322 P **P 21 48 50.3 +1.1**
RDMU Red Mountain 71.30 329 P **P 21 48 49.4 +0.2**
RDMU IAmb IAmb 21 48 50.6
comp=Z,7.4nm,0.7s
GSC Goldstone, Bar 71.44 320 P **P 21 48 50.9 +0.9**
BSUT Blindstream Ca 71.87 328 **P 21 48 53.6 +0.9**
PRN Pahroc Range 71.87 323 P **P 21 48 52.6 +0.1**
MPU Maple Canyon 71.92 327 P **P 21 48 52.8 -0.1**
MPU IAmb IAmb 21 48 55.4
comp=Z,12nm,1.1s
GWY Greenwater Val 71.96 321 P **P 21 48 53.7 +0.6**
GWY IAmb IAmb 21 48 55.7
comp=Z,9.7nm,0.8s
PSUT Pine Spring 72.01 325 P **P 21 48 53.9 +0.4**
PSUT IAmb IAmb 21 48 56.2
comp=Z,8.7nm,0.8s
CCAC Calif City Air 72.07 320 P **P 21 48 53.9 +0.3**
CCAC IAmb IAmb 21 48 56.4
comp=Z,16nm,0.8s
TPNV Topopah Spring 72.24 322 P **P 21 48 55.1 +0.3**
TPNV IAmb IAmb 21 48 57.5
comp=Z,8.8nm,0.7s
WCT Wildcat Mounta 72.35 322 P **P 21 48 55.5 +0.2**
WCT IAmb IAmb 21 48 58.6
comp=Z,13nm,1.1s
AGMN Agassiz Nation 72.37 342 **P 21 48 54.6 -0.4**
AGMN IAmb IAmb 21 48 55.8
comp=Z,8.6nm,0.8s
E28A Huff 72.43 338 P **P 21 48 55.4 -0.1**
S11A Rachel 72.43 323 P **P 21 48 55.7 -0.2**
S11A IAmb IAmb 21 48 58.1
comp=Z,8.2nm,0.8s
DUG Dugway, Tooele 72.66 326 P **P 21 48 57.3 +0.2**
DUG IAmb IAmb 21 48 59.9
comp=Z,12nm,1.2s
ISA Isabella, Lake 72.69 320 P **P 21 48 57.2 -0.1**
ISA IAmb IAmb 21 49 00.3
comp=Z,12nm,1.0s
BCW Bitter Crk WRg 72.79 319 P **P 21 48 58.4 +0.4**
BCW IAmb IAmb 21 49 01.0
comp=Z,13nm,0.9s
R11B Troy Canyon, C 72.83 323 P **P 21 48 58.8 +0.5**
PD31 Pinedale Array 72.98 330 P **P 21 48 57.3 -1.9**
PDAR Pinedale Array 72.98 330 P **P 21 48 58.4 -0.7**
PDAR Pinedale Array 72.98 330 P **P 21 48 59.8 +0.7**
comp=Z,0.7nm,0.7s,baz=130,slow=6.0,SNR=6.3
comp=Z,0.7nm,0.7s
EPLO Experimental L 73.01 344 **P 21 48 58.2 -0.7**
EPLO IAmb IAmb 21 48 59.5
comp=Z,22nm,1.1s
HWUT Hardware Ranch 73.07 328 **P 21 48 58.9 -0.7**
MDND Maddock 73.15 339 P **P 21 48 59.8 +0.1**
BGU Big Grassy Mou 73.31 327 **P 21 48 59.9 -1.1**
DSP Deep Springs 73.53 321 P **P 21 49 02.3 +0.2**
TBI Tubuai 73.70 251 *e*LR LR 22 11 49.6
comp=Z,328nm,31.8s
AHID Auburn Hatcher 73.72 329 P **P 21 49 02.8 -0.6**
AHID IAmb IAmb 21 49 05.3
comp=Z,16nm,1.2s
HVU Hansel Valley 73.81 327 **P 21 49 04.1 +0.2**
SNOW Snow King Moun 74.08 330 P **P 21 49 04.5 -1.1**
LOHW Long Hollow 74.12 330 P **P 21 49 05.9 +0.1**
ULM Lac du Bonnet 74.12 343 P **P 21 49 05.1 -0.2**

ULM IAmb IAmb 21 49 05.9
comp=Z,8.3nm,0.7s
ULM Lac du Bonnet 74.12 343 P **P 21 49 05.0 -0.3**
comp=Z,7.1nm,0.6s,baz=154,slow=6.8,SNR=7.5
ULM pP **pP 21 49 29.4 -2.0**
comp=Z,4.2nm,0.6s,baz=158,slow=8.7,SNR=3.0
ULM sP **sP 21 49 41.5 -0.7**
comp=Z,4.0nm,0.5s,baz=147,slow=8.0,SNR=3.1
comp=Z,7.1nm,0.6s
TPAW Teton Pass 74.19 330 P **P 21 49 06.7 +0.4**
TPAW IAmb IAmb 21 49 10.4
comp=Z,15nm,1.4s
MOOW Moose Ponds 74.29 330 P **P 21 49 07.2 +0.5**
ELK Elko 74.33 325 P **P 21 49 07.5 +0.4**
ELK Elko 74.33 325 P **P 21 49 07.5 +0.4**
comp=Z,3.0nm,0.9s,baz=124,slow=2.4,SNR=6.4
comp=Z,3.0nm,0.9s
FXWY Fox Creek 74.34 330 P **P 21 49 07.2 +0.2**
NV11 Mina Array Sit 74.35 322 P **P 21 49 07.0 -0.2**
LHV Little Huntoon 74.43 322 P **P 21 49 07.3 -0.1**
LHV IAmb IAmb 21 49 10.6
comp=Z,11nm,1.0s
NVAR Mina Array Bea 74.44 322 **P 21 49 08.0 +0.3**
NVAR Mina Array Bea 74.44 322 P **P 21 49 09.1 +1.3**
comp=Z,3.3nm,0.8s,baz=157,slow=7.2,SNR=15
comp=Z,3.3nm,0.8s
PMPB Monarch Peak 74.47 319 P **P 21 49 07.4 -0.4**
PMPB IAmb IAmb 21 49 11.3
comp=Z,11nm,0.7s
LAO LASA Array 74.63 334 P **P 21 49 08.4 0.0**
LAO IAmb IAmb 21 50 33.1
comp=Z,28nm,1.1s
RLMT Red Lodge 74.67 332 P **P 21 49 09.4 +0.5**
RLMT IAmb IAmb 21 49 11.4
comp=Z,16nm,1.4s
RYN Ryan 74.70 322 P **P 21 49 09.8 +0.7**
H17A Grant Village 74.71 331 P **P 21 49 09.4 +0.2**
BBGB Big Mountain B 74.85 319 P **P 21 49 10.4 +0.4**
BBGB IAmb IAmb 21 49 15.3
comp=Z,20nm,0.9s
YFT Old Faithful 74.87 330 P **P 21 49 10.2 +0.1**
YNE Yellowstone No 74.92 331 **P 21 49 10.4 0.0**
YNE IAmb IAmb 21 49 12.7
comp=Z,20nm,1.1s
YNR Norris Junctio 75.00 331 P **P 21 49 11.0 +0.1**
YNR IAmb IAmb 21 49 49.0
comp=Z,17nm,1.7s
YMR Madison River 75.09 330 P **P 21 49 11.4 0.0**
YMR IAmb IAmb 21 49 14.5
comp=Z,16nm,1.2s
YHH Holmes Hill 75.13 331 P **P 21 49 12.0 +0.3**
YHB Horse Butte 75.27 330 P **P 21 49 12.7 +0.3**
YHB IAmb IAmb 21 49 15.2
comp=Z,9.7nm,1.0s
DGMT Dagmar 75.30 337 P **P 21 49 12.4 +0.2**
DGMT IAmb IAmb 21 49 14.4
comp=Z,18nm,0.9s
YHL Hebgen Lake 75.33 330 P **P 21 49 13.1 +0.2**
CMB Columbia Colle 75.40 320 P **P 21 49 12.9 -0.2**
PPT2 Papeete2 75.40 256 *e*LR LR 22 12 34.8
comp=Z,45nm,29.2s
PNTR Pine Nut 75.63 322 P **P 21 49 14.0 -0.5**
PNTR IAmb IAmb 21 49 17.6
comp=Z,9.5nm,0.9s
PAHR Pah Rah Range 75.92 322 P **P 21 49 17.4 +1.3**
PAHR IAmb IAmb 21 49 19.1
comp=Z,19nm,0.8s
HLID Hailey 75.93 328 **P 21 49 17.6 +1.4**
HLID IAmb IAmb 21 49 19.1
comp=Z,10nm,1.0s
MPK Martis Peak 76.02 322 P **P 21 49 17.7 +0.8**
AFDM Forest Hills D 76.34 321 P **P 21 49 18.9 +0.5**
DLMT Dillon 76.38 330 P **P 21 49 18.8 +0.2**
DLMT IAmb IAmb 21 50 59.1
comp=Z,12nm,0.6s
MFID Camas Ranch 76.54 327 P **P 21 49 20.3 +0.8**
BEKR Beckworth 76.58 322 **P 21 49 20.5 +0.5**
ORV Oroville 77.05 321 P **P 21 49 22.6 +0.3**
ORV IAmb IAmb 21 49 25.2
comp=Z,15nm,1.1s
TORD Torodi Ar. Bea 77.14 71 **P 21 49 22.0 -1.4**
TORD IAmb IAmb 21 49 50.2
comp=Z,22nm,0.9s
TORD Torodi Ar. Bea 77.14 71 P **P 21 49 23.4 +0.1**
comp=Z,65nm,0.3s,baz=263,slow=4.6,SNR=2.1
EGMT Eagleton 77.15 333 P **P 21 49 22.3 -0.4**
SYO Syowa Base 77.68 160 ⇓*e*P **P 21 49 26.7 +1.3**
PLID Pearl Lake 77.82 328 **P 21 49 27.4 +0.7**
PLID IAmb IAmb 21 49 29.0
comp=Z,10nm,0.9s
HATC Hat Creek Radi 77.84 322 P **P 21 49 27.5 +0.7**
HATC IAmb IAmb 21 49 29.1
comp=Z,14nm,0.8s
J08A Circle Bar Ran 77.88 326 P **P 21 49 27.3 +0.3**
VNDA Vanda 77.99 190 P **P 21 49 28.1 +1.1**
VNDA IAmb IAmb 21 49 30.1
comp=Z,27nm,1.9s
VNDA Vanda 77.99 190 P **P 21 49 28.6 +1.6**
comp=Z,2.2nm,0.8s,baz=115,slow=6.7,SNR=6.0
comp=Z,2.2nm,0.8s
MSO Missoula 78.09 330 **P 21 49 29.0 +0.9**
KUQ Kuujjuuaa 78.12 0 P **P 21 49 27.1 -0.6**
KUQ IAmb IAmb 21 49 28.0
comp=Z,7.8nm,0.6s
O02D Mt. Diablo Mer 78.21 321 P **P 21 49 28.8 -0.1**
O02D IAmb IAmb 21 50 23.5
comp=Z,19nm,1.6s
BMO Blue Mountains 78.31 327 **P 21 49 29.9 +0.6**
I07A Izee 78.92 326 **P 21 49 33.6 +0.9**
F10A Beach Ranch, E 79.06 328 P **P 21 49 33.3 -0.1**
F10A IAmb IAmb 21 49 53.6
comp=Z,31nm,2.0s
YBH Yreka Blue Hor 79.15 322 P **P 21 49 34.2 +0.2**
comp=Z,3.2nm,0.6s,baz=100,slow=3.5,SNR=9.3
comp=Z,3.2nm,0.6s
J04A Umpqua Nationa 79.78 324 P **P 21 49 37.7 +0.1**
J04A IAmb IAmb 21 49 39.8
comp=Z,19nm,0.7s
FFC Flin Flon 79.84 341 **P 21 49 37.3 0.0**
L02F Cave Junction 79.89 322 P **P 21 49 38.0 +0.1**
L02F IAmb IAmb 21 49 40.3
comp=Z,15nm,1.0s
I05D Terrebonne, OR 80.08 325 P **P 21 49 39.1 +0.2**
I05D IAmb IAmb 21 49 41.7
comp=Z,20nm,0.7s
TSUM Tsumeb 80.57 107 **P 21 49 41.6 -0.7**
TSUM IAmb IAmb 21 49 45.8
comp=Z,14nm,1.2s
NEW Newport 80.62 330 P **P 21 49 40.4 -1.4**
NEW Newport 80.62 330 P **P 21 49 38.9 -2.8**
comp=Z,1.4nm,0.6s,baz=131,slow=7.4,SNR=3.1
D08A Wollman Farm, 80.65 328 P **P 21 49 40.7 -1.2**
D08A IAmb IAmb 21 49 48.2
comp=Z,8.1nm,0.8s
H04A Detroit Lake 80.76 325 P **P 21 49 42.1 -0.5**
H04A IAmb IAmb 21 49 44.3
comp=Z,10nm,0.8s
I03D Drain, OR 80.77 323 P **P 21 49 42.7 +0.2**
I03D IAmb IAmb 21 50 06.4
comp=Z,48nm,1.6s
WAH2 Wahluke Slope 80.77 328 P **P 21 49 42.5 +0.1**
WAH2 IAmb IAmb 21 49 44.4
comp=Z,7.8nm,0.6s
E07A Sunnyside 80.78 327 P **P 21 49 43.0 +0.5**
HOOD Mount Hood Mea 80.89 325 P **P 21 49 44.0 +0.7**
HOOD IAmb IAmb 21 49 48.9
comp=Z,13nm,0.6s
MXC Moxie City 81.02 327 P **P 21 49 43.7 -0.1**
MXC IAmb IAmb 21 49 46.7
comp=Z,28nm,1.9s
MDT Midelt 81.14 50 LR LR 22 26 18.5
comp=Z,71nm,18.7s,baz=157,slow=36
G04A Mulino 81.26 325 P **P 21 49 45.6 +0.5**
LTY Liberty 81.66 327 P **P 21 49 47.7 +0.4**
LTY IAmb IAmb 21 49 49.4
comp=Z,33nm,1.8s
KOOLE Kule 81.70 111 **P 21 49 48.3 0.0**
KOOLE IAmb IAmb 21 49 50.5
comp=Z,14nm,1.2s
B08A Colville Reser 81.75 329 **P 21 49 47.7 +0.1**
LON Longmire 81.91 326 P **P 21 49 48.2 -0.4**
D05A Enumclaw 82.29 327 P **P 21 49 50.6 +0.1**
D05A IAmb IAmb 21 49 52.3
comp=Z,15nm,0.7s
COI Coimbra 82.54 42 P **P 21 49 51.9 0.0**

GNW	Green Mountain	82.97	327	P	P	21 49 53.2	-0.7
GRTLG	Ghanzi	83.12	110	P	P	21 49 54.8	-0.8
GRTLG				IAmb	IAmb	21 50 23.8	
	comp=Z,46nm,1.9s						
BOSA	Boshof	84.18	118	P	P	21 50 00.4	-0.6
	comp=Z,6.3nm,0.9s,baz=178,slow=2.2,SNR=5.5						
BOSA				pP	pP	21 50 27.8	0.0
	comp=Z,2.7nm,0.5s,baz=254,slow=2.6,SNR=5.1						
BOSA				LR	LR	22 26 42.2	
	comp=Z,109nm,18.2s,baz=180,slow=35						
	comp=Z,6.3nm,0.9s						
TAM	Tamanrasset	84.46	63		P	21 50 01.7	-0.7
TAM					pP	21 50 29.6	+0.3
LLLB	Lillooet	84.49	329		P	21 50 01.4	-0.3
LLLB				IAmb	IAmb	21 50 03.2	
	comp=Z,8.6nm,0.9s						
PAB	San Pablo	84.80	45	P	P	21 50 03.2	-0.4
ESDC	Sonseca Array	85.12	45	P	P	21 50 04.6	-0.6
ESDC				IAmb	IAmb	21 50 06.1	
	comp=Z,24nm,1.6s						
ESDC	Sonseca Array	85.12	45	P	P	21 50 05.0	-0.2
	comp=Z,1.7nm,1.0s,baz=251,slow=5.5,SNR=6.0						
ESDC				pP	pP	21 50 31.9	-0.3
	comp=Z,3.3nm,1.0s,baz=233,slow=5.2,SNR=8.6						
	comp=Z,1.7nm,1.0s						
KDWAN	Kaudwane	85.45	113	P	P	21 50 06.6	-0.8
KDWAN				IAmb	IAmb	21 50 08.7	
	comp=Z,26nm,1.4s						
MAW	Mawson	85.53	163	P	P	21 50 07.4	+0.7
	comp=Z,5.7nm,0.6s,baz=183,slow=3.7,SNR=8.4						
	comp=Z,5.7nm,0.6s						
BLKN	Baker Lake	86.89	349		P	21 50 12.9	-0.3
BLKN				IAmb	IAmb	21 50 13.9	
	comp=Z,28nm,1.6s						
MATP	Matopo	89.83	112	P	P	21 50 30.6	+2.2
	comp=Z,1.2nm,0.7s,baz=258,slow=3.6,SNR=6.7						
ILON	Igloolik, Nuna	89.89	356		P	21 50 27.3	+0.1
ILON				IAmb	IAmb	21 50 28.5	
	comp=Z,7.6nm,0.9s						
YKAW1	Yellowknife Wh	89.95	341		P	21 50 27.8	0.0
YKAW1				IAmb	IAmb	21 50 29.2	
	comp=Z,20nm,0.8s						
YKA	Yellowknife Ar	90.00	341	P	P	21 50 28.4	+0.4
	comp=Z,13nm,0.8s,baz=136,slow=4.6,SNR=209						
YKA				pP	pP	21 50 54.7	0.0
	comp=Z,3.4nm,0.7s,baz=136,slow=4.7,SNR=3.6						
	comp=Z,13nm,0.8s						
YKAW3	Yellowknife Wh	90.05	341		P	21 50 28.1	-0.1
YKAW3				IAmb	IAmb	21 50 29.7	
	comp=Z,17nm,0.8s						
LSZ	Lusaka	91.42	107	LR	LR	22 31 56.5	
	comp=Z,103nm,18.0s,baz=160,slow=36						
KBZ	Khabaz	119.52	51	PKP	PKPdf	21 56 17.8	-0.4
	comp=Z,2.5nm,0.8s,baz=252,slow=3.2,SNR=5.5						
KBZ				pPKP	pPKPdf	21 56 46.4	0.0
	comp=Z,2.4nm,0.8s,baz=50,slow=6.5,SNR=3.6						
STKA	Stephens Creek	120.35	210	PKP	PKPdf	21 56 20.2	-0.1
	comp=Z,1.4nm,0.8s,baz=322,slow=4.7,SNR=3.7						
H11S2	WAKE ISLAND Hyl	27.53	278	T	T	00 16 33.4	
	baz=102,slow=74,SNR=1301						
H11S1	WAKE ISLAND Hyl	27.53	278	T	T	00 16 22.3	
	baz=102,slow=74,SNR=344						
H11S3	WAKE ISLAND Hyl	27.55	278	T	T	00 16 29.7	
	baz=102,slow=74,SNR=322						
H11N3	WAKE ISLAND Hyl	27.58	280	T	T	00 16 29.1	
	baz=103,slow=74,SNR=289						
H11N2	WAKE ISLAND Hyl	27.59	280	T	T	00 16 39.1	
	baz=103,slow=74,SNR=216						
H11N1	WAKE ISLAND Hyl	27.59	280	T	T	00 16 30.4	
	baz=103,slow=74,SNR=227						
NRIK	Noril'sk	128.93	10	PKP	PKiKP	21 56 36.5	+0.3
	comp=Z,0.8nm,0.4s,baz=63,slow=1.4,SNR=1.7						
ASAR	Alice Springs	130.87	208	PKP	PKPdf	21 56 40.4	-0.3
	comp=Z,2.3nm,0.8s,baz=140,slow=2.2,SNR=15						
ASAR				pPKP	pPKPdf	21 57 07.6	-0.7
	comp=Z,0.5nm,0.5s,baz=139,slow=2.0,SNR=2.1						
ASAR				SKP		22 00 05.1	
	comp=Z,0.3nm,0.7s,baz=160,slow=3.0,SNR=1.9						
WRA	Warramunga Arr	133.87	211	PKP	PKPdf	21 56 46.2	-0.2
	comp=Z,2.1nm,0.6s,baz=159,slow=1.7,SNR=20						
BVAR	Borovoye Array	134.92	34	PKP	PKPdf	21 56 48.3	+1.0
	comp=Z,1.5nm,0.7s,baz=274,slow=3.1,SNR=11						
KURBB	Kurchatov Arra	140.44	32	PKhKP	PKPpre	21 56 52.5	
	comp=Z,0.9nm,0.8s,baz=307,slow=4.2,SNR=4.0						
KURBB				PKP	PKPdf	21 56 58.3	+0.8
	comp=Z,1.7nm,0.8s,baz=302,slow=2.3,SNR=11						
KURBB				pPKP	pPKPdf	21 57 26.4	+0.6
	comp=Z,1.6nm,0.8s,baz=300,slow=3.0,SNR=4.3						
ZALV	Zalesovo Beam	140.96	24	PKhKP	PKPpre	21 56 54.6	
	comp=Z,7.1nm,0.8s,baz=315,slow=3.8,SNR=5.0						
ZALV				PKP	PKPdf	21 56 58.6	+0.3
	comp=Z,7.0nm,0.8s,baz=334,slow=1.6,SNR=14						
ZALV				pPKP	pPKPdf	21 57 25.2	-1.4
	comp=Z,2.7nm,0.6s,baz=300,slow=2.1,SNR=4.8						
KSH	Kashi	144.49	50	PKP	PKPbc	21 57 05.0	+1.0
KSH				pPKP	pPKPdf	21 57 32.1	-1.4
MKAR	Makanchi Array	144.78	35	PKP	PKPab	21 57 04.7	+0.2
	comp=Z,8.1nm,0.9s,baz=325,slow=4.1,SNR=57						
MKAR				pPKP	pPKPdf	21 57 32.4	-1.3
	comp=Z,2.4nm,0.6s,baz=349,slow=3.2,SNR=4.1						
HEH	HeiHe	147.37	340	eP	PKPbc	21 57 12.0	-0.1
HEH				pP	pPKPab	21 57 43.5	+2.2
HEH				pmax	pmax		
	comp=Z,11nm,0.8s						
WMQ	Urumqi	149.60	34	ePKPbc	PKPdf	21 57 13.5	-0.1
USRK	Ussuriysk Ar.	150.40	328	PKPbc	PKiKP	21 57 20.9	+0.2
	comp=Z,7.9nm,0.8s,baz=26,slow=0.9,SNR=11						
USRK				pPKPbc	pPKPbc	21 57 47.6	0.0
	comp=Z,4.4nm,0.7s,baz=80,slow=1.0,SNR=4.9						
MJAR	Matsushiro Arr	151.17	310	PKPbc	PKPbc	21 57 22.6	+0.5
	comp=Z,5.4nm,0.8s,baz=94,slow=1.8,SNR=16						
MJAR				pPKPbc	pPKPbc	21 57 49.2	-0.6
	comp=Z,3.5nm,0.9s,baz=145,slow=0.7,SNR=4.2						
BNX	BinXian	151.22	336	⇑P	PKPdf	21 57 15.8	-0.1
BNX				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SONM	Songino Array	152.30	7	PKP	PKPdf	21 57 17.8	+0.1
	comp=Z,1.7nm,0.8s,baz=302,slow=0.9,SNR=12						
SONM				PKPbc	PKPbc	21 57 25.0	+0.5
	comp=Z,6.0nm,0.5s,baz=300,slow=1.3,SNR=40						
SONM				PKPab	PKPab	21 57 35.4	+0.8
	comp=Z,2.6nm,0.7s,baz=310,slow=2.6,SNR=8.0						
SONM				pPKPbc	pPKPbc	21 57 52.4	+0.1
	comp=Z,4.4nm,0.6s,baz=319,slow=1.4,SNR=7.5						
KSRS	Korea Array	157.38	323	PKP	PKPdf	21 57 25.8	+1.0
	comp=Z,0.5nm,0.6s,baz=63,slow=2.0,SNR=4.5						
KSRS				PKPab	PKPab	21 57 57.3	+0.8
	comp=Z,2.2nm,0.6s,baz=54,slow=4.7,SNR=10						
GTA	Gaotai	158.71	24	ePKP	PKPdf	21 57 27.5	+1.0
GTA				pPKP	pPKPdf	21 57 55.8	+1.3
GTA				LR	LR		
	comp=N,80nm,14.2s						
GTA				LR	LR		
	comp=E,150nm,17.1s						
GTA				LR	LR		
	comp=Z,220nm,20.4s						
HHC	Hu-ho-hao-te	159.51	359	eP	PKPdf	21 57 25.8	-1.6
NJ2	Nanjing	166.29	330	eP	PKPdf	21 57 33.3	-0.7
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMAR	Chiang Mai Arr	168.58	97	PKP	PKPdf	21 57 36.0	0.0
	comp=Z,0.4nm,0.3s,baz=43,slow=1.2,SNR=5.3						

*ISK **19** 21:38:15.7, 36°.47N×28°.72E, h10km, ML3.1/33*
*ATH **19** 21:38:16.5, 36°.41N×28°.72E, h8km±2km, ML3.0/7, Manual Solution by M.Kolligri First location: 2019/04/19 21:39:52, This location: 2020/07/03 15:05:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*AFAD **19** 21:38:16.0, 36°.46N×28°.70E, h7km±2km, ML2.9*
*IDC **19** 21:38:21.2±1.2, 36°.26N×28°.83E, h66km±21km, mb3.1/3, mbtmp3.4/8, Error ellipse: s-maj=17.2km s-min=9.9km az=175.0*

ISC 19 21:38:16.3±0.9, **36°.45N**±0°.02×**28°.72E**±0°.02, **h11**km±7km, **n74**, σ0°.99/105, **mb3.2**/3, **1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	Fethiye	0.34	58	Pg	Pg	21 38 22.4	-0.8
FETY				Sg	Sg	21 38 28.2	+0.4
FETY	Fethiye	0.34	58	P	Pb	21 38 24.8	+0.3
FETY				S	Sb	21 38 29.3	-0.7
DALY	Dalyan (Mula)	0.37	352	Pg	Pg	21 38 22.6	-1.0
DALY				Sg	Sg	21 38 28.5	0.0
RODB	Rodos	0.40	270	P	Pg	21 38 24.5	+0.3
IZZE	Mula-Seydike	0.41	92	P	Pg	21 38 24.3	0.0
IZZE				S	Sg	21 38 30.4	+0.7
IZZE				i AML	AML	21 38 36.0	
	comp=Z,2μm,0.2s						
SABU	Mula-Dalaman	0.42	28	P	Pg	21 38 24.3	-0.3
SABU				S	Sg	21 38 30.4	+0.2
TURN	Turunc	0.50	310	Pg	Pg	21 38 25.1	-0.9
TURN				Sg	Sg	21 38 33.1	+0.4
TURN	Turunc	0.50	310	P	Pg	21 38 25.4	-0.6
TURN				S	Sg	21 38 33.1	+0.4
ARG	Arkhangelos	0.53	244	P	Pg	21 38 25.8	-0.9
ARG				S	Sg	21 38 34.8	+1.1
ARG	Arkhangelos	0.53	244	Pg	Pg	21 38 26.0	-0.6
ARG				Sg	Sg	21 38 34.8	+1.1
ARG	Arkhangelos	0.53	244	P	Pg	21 38 26.1	-0.6
ARG				S	Sg	21 38 33.4	-0.3
CAME	Cameli-Denizli	0.68	43	Pg	Pg	21 38 28.7	-0.7
AKAS	Kas	0.75	107	Pg	Pg	21 38 30.6	-0.1
AKAS	Kas	0.75	107	P	Pg	21 38 31.1	+0.4
AKAS				S	Sn	21 38 44.6	+0.2
AKAS				i AML	AML	21 38 48.0	
	comp=Z,513nm,0.5s						
KSL	Kastellorizon	0.76	113	P	Pg	21 38 30.9	0.0
KSL				S	Sn	21 38 44.7	+0.3
KSL	Kastellorizon	0.76	113	P	Pg	21 38 30.9	0.0
KSL				S	Sb	21 38 42.1	+0.3
YER	Yerkesik	0.77	333	Pg	Pg	21 38 30.6	-0.5
KNIK	Mula-Seydike	0.79	60	P	Pg	21 38 31.6	+0.1
KNIK				i AML	AML	21 38 46.0	
	comp=Z,454nm,0.6s						
CAEL	Denizli, Camel	0.82	35	P	Pg	21 38 31.8	-0.5
CAEL				S	Sb	21 38 44.1	+0.2
MULA	Mugla, Merkez-	0.86	338	P	Pg	21 38 33.2	+0.2
MULA				S	Sg	21 38 44.6	+0.3
DAT	Datca	0.96	287	Pg	Pg	21 38 34.4	-0.4
DAT	Datca	0.96	287	P	Pg	21 38 33.8	-1.0
DAT				S	Sb	21 38 48.0	+0.2
DEMR	Demre-Antalya	0.98	102	Pg	Pg	21 38 35.2	+0.1
ELL	Elmali	1.00	72	Pg	Pg	21 38 35.3	-0.2
ELL	Elmali	1.00	72	P	Pg	21 38 34.7	-0.8
ELL				S	Sb	21 38 49.5	+0.5
TAVA	DENIZLI_Tavas	1.02	9	P	Pg	21 38 35.8	-0.2
TAVA				S	Sg	21 38 48.9	-0.5
GOLH	Golhisar	1.03	40	P	Pg	21 38 35.7	-0.5
GOLH				S	Sn	21 38 52.5	+1.1
YAZI	Mula-Dat§a-	1.05	283	P	Pg	21 38 35.8	-0.6
YAZI				S	Sb	21 38 50.3	+0.2
APMY	Acipayam-Deniz	1.12	24	Pn	Pb	21 38 37.2	-0.5
MLSB	Milas	1.13	318	Pn	Pb	21 38 37.6	-0.3
DNIZ	Denizli-Tavas-	1.20	12	P	Pb	21 38 39.0	-0.1
DNIZ				S	Sg	21 38 55.0	0.0
DNIZ				i AML	AML	21 39 00.0	
	comp=Z,284nm,0.2s						
BODT	Bodrum	1.29	299	Pn	Pn	21 38 39.5	-0.7
ESEN	Aydn-Nazilli	1.38	348	P	Pn	21 38 41.8	+0.3
ESEN				S	Sb	21 38 59.6	-0.1
ESEN				i AML	AML	21 39 03.0	
	comp=Z,190nm,0.6s						
AYDN	Tasoluk	1.38	331	P	Pb	21 38 42.3	+0.1
AYDN				S	Sb	21 38 59.7	-0.2
AYDN				i AML	AML	21 39 05.0	
	comp=Z,196nm,0.4s						
KORT	Korkueli	1.42	67	Pn	Pb	21 38 43.0	+0.1
KLNA	Kalymnos	1.49	290	P	Pn	21 38 42.8	-0.2
KLNA				S	Sb	21 39 03.2	+0.2
NAZL	Nazilli-Aydin	1.55	347	Pn	Pn	21 38 43.8	-0.1
DDIM	Aydin, Didim	1.55	311	P	Pn	21 38 43.5	-0.4
DDIM				S	Sg	21 39 07.3	+1.0
DDIM				i AML	AML	21 39 24.0	
	comp=Z,198nm,1.1s						
KARP	Karpathos	1.55	235	P	Pb	21 38 45.2	+0.1
KARP				S	Sb	21 39 05.2	+0.4
KARP	Karpathos	1.55	235	Pn	Pn	21 38 44.5	+0.6
KARP	Karpathos	1.55	235	P	Pb	21 38 44.9	-0.2
KARP				S	Sn	21 39 04.5	+0.3
ANTB	Antalya	1.62	73	Pn	Pn	21 38 45.2	+0.4
AYDB	Zeytinkoy-Aydi	1.63	336	Pn	Pn	21 38 45.1	0.0
GCAM	G?zelcaml?	1.72	317	Pn	Pn	21 38 46.3	+0.1
GCAM	G?zelcaml?	1.72	317	P	Pn	21 38 47.1	+0.9
GCAM				S	Sb	21 39 10.6	+0.9
GCAM				i AML	AML	21 39 12.0	
	comp=Z,150nm,0.3s						
BCK	Bucak	1.80	55	Pn	Pn	21 38 47.6	+0.2
BASM	Basmaki-Afyon	1.81	36	Pn	Pn	21 38 47.4	-0.1
ODEM	Odemis-Izmir	1.89	344	Pn	Pn	21 38 48.9	+0.3
ISP	Isparta	1.99	46	Pn	Pn	21 38 50.3	+0.3
ISP	Isparta	1.99	46	P	Pn	21 38 51.1	+1.1
KULA	Kula-Manisa	2.06	359	Pn	Pn	21 38 51.2	+0.2
GOMA	Golmarmara-Man	2.34	344	Pn	Pn	21 38 55.1	+0.4
BLCB	Balcova	2.35	326	Pn	Pn	21 38 55.5	+0.7
GORD	Gordes-Manisa	2.49	350	Pn	Pn	21 38 57.4	+0.5
AKS	Akhisar	2.53	344	Pn	Pn	21 38 57.8	+0.5
SHUT	Suhut-Afyon	2.55	34	Pn	Pn	21 38 58.2	+0.4
APE	Apeiranthos	2.63	284	⇑P	Pg	21 39 13.4	+6.6
APE	Apeiranthos	2.63	284	P	Pn	21 38 59.4	+0.6
SIMA	Simav-Kutahya	2.64	4	Pn	Pn	21 38 59.3	+0.4
GEDZ	Gediz	2.65	12	Pn	Pn	21 38 59.6	+0.6
ALAN	Alanya-ANTALYA	2.67	87	Pn	Pn	21 39 00.2	+0.9
SEYD	Seydisehir-KON	2.67	68	Pn	Pn	21 39 00.8	+1.4
GAZI	Gazipasa	2.91	93	Pn	Pn	21 39 03.7	+1.1
IDI	Anoyia	3.32	251	P	Pn	21 39 09.4	+1.2
	10nm,0.4s,baz=302,slow=2.4,SNR=18						
IDI				S	Sn	21 39 50.9	+3.1
	34nm,0.7s,baz=311,slow=8.3,SNR=6.8						
IDI	Anoyia	3.32	251	P	Pn	21 39 08.8	+0.5
SIGR	SIGRI	3.57	321	P	Pn	21 39 12.9	+1.3
KNDR	Palaiochora Ch	4.27	255	P	Pn	21 39 24.6	+3.4
BRTR	Keskin Array B	5.07	48	P	Pn	21 39 34.2	+1.8
	1.4nm,0.5s,baz=222,slow=13,SNR=13						
BRTR				S	Sn	21 40 35.2	+4.0
	1.4nm,0.7s,baz=224,slow=22,SNR=3.1						
MMAI	Mount Meron Ar	6.48	120	P	Pn	21 39 51.4	-0.4
	1.6nm,0.4s,baz=300,slow=12,SNR=15						
MMAI				S	Sn	21 41 04.1	-1.7
	0.5nm,0.3s,baz=300,slow=23,SNR=1.5						
ASF	Jabal al Asfar	8.00	120	P	Pn	21 40 13.4	+0.8
	1.1nm,0.5s,baz=120,slow=16,SNR=1.7						
EIL	Elat	8.55	141	P	Pn	21 40 18.4	-1.6
	2.3nm,0.8s,baz=292,slow=1.2,SNR=5.5						
EIL				S	Sn	21 41 52.6	-3.9
	4.0nm,0.7s,baz=333,slow=18,SNR=1.5						
FINES	FINESS Array B	25.07	357	P	P	21 43 41.0	+0.6
	1.6nm,0.9s,baz=176,slow=10.0,SNR=7.4						
	1.6nm,0.9s						
KURBB	Kurchatov Arra	38.05	52	P	P	21 45 32.3	-2.3
	0.2nm,0.8s,baz=275,slow=8.6,SNR=2.4						
	0.2nm,0.8s						
MKAR	Makanchi Array	40.64	58	P	P	21 45 55.4	-1.0
	0.3nm,0.5s,baz=266,slow=9.5,SNR=5.0						
	0.3nm,0.5s						

*IDC **19** 21:42:01.5±2.6, 26°.19N×129°.34E, h0km, mb3.4/6, mbtmp3.4/6, MS2.8/2, Error ellipse: s-maj=151.7km s-min=28.9km az=67.0*
*JMA **19** 21:42:02.9±0.1, 26°.2N±0°.6×129°.5E±0°.4, h45km, MV3.2/23, NEAR OKINAWAJIMA ISLAND*

ISC 19 21:42:04.6±0.8, **26°.24N**±0°.05×**129°.53E**±0°.03, **h30**km, **n26**, σ1°.76/38, **mb3.4/6, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYRO	Yoronjima	1.24	309	i P	Pn	21 42 24.3	-1.6
JYRO				eS	Sn	21 42 39.3	-2.3
JOW	Kunigami	1.27	298	LR	LR	21 43 05.2	
	comp=Z,124nm,19.2s,baz=132,slow=55						
JOW	Kunigami	1.27	298	i P	Pn	21 42 24.8	-1.5
JOW				eS	Sn	21 42 40.8	-1.5
JNTH	Nagotoyohara	1.38	282	P	Pn	21 42 26.1	-1.7
JNTH				S	Sn	21 42 42.5	-2.5
JOKE	Okinoerabujima	1.41	323	P	Pn	21 42 26.9	-1.3
JOKE				S	Sn	21 42 44.0	-1.7
JJT3	Tamagusuku3	1.57	267	P	Pn	21 42 29.3	-1.1
JJT3				eS	Sn	21 42 48.2	-1.5
JMZ	Minamidaito 2	1.58	105	P	Pn	21 42 29.0	-1.5
JMZ				S	Sn	21 42 47.3	-2.7
JIH	Iheya	1.61	300	i P	Pn	21 42 29.8	-1.1
JIH				S	Sn	21 42 49.0	-1.6
JKDJ	Kitadaitoujima	1.62	100	P	Pn	21 42 29.7	-1.3
JKDJ				eS	Sn	21 42 48.5	-2.4
JTK	Tokunoshima	1.62	342	i P	Pn	21 42 30.1	-1.1
JTK				eS	Sn	21 42 49.2	-1.9
JAMN	Amaminishikomi	2.02	351	P	Pn	21 42 35.6	-1.0
JAMN				eS	Sn	21 42 59.4	-1.5
JAGN	Aguni-jima	2.08	280	P	Pn	21 42 36.5	-0.9
JAGN				eS	Sn	21 43 00.4	-1.9
JZK	Kikaishima	2.10	11	P	Pn	21 42 37.6	-0.2
JZK				S	Sn	21 43 02.8	-0.1
JAM	Amami Oshima	2.17	2	eP	Pn	21 42 37.4	-1.2
JAM				eS	Sn	21 43 02.1	-2.3
JKE	Kume jima 2	2.46	273	i P	Pn	21 42 40.9	-1.8
JTAJ	Takarajima	2.92	354	eP	Pn	21 42 48.0	-0.9
JTAJ				eS	Sn	21 43 20.1	-2.9
JYAK	Yakushimahirau	4.08	12	eP	Pn	21 43 03.7	-1.2
JYAK				eS	Sn	21 43 48.3	-3.3
JKC	Kuchinoerabu	4.25	8	eP	Pn	21 43 06.4	-0.8
JHJ	Hachijo jima 2	11.24	50	LR	LR	21 48 37.2	
	comp=Z,14nm,18.1s,baz=132,slow=35						
SONM	Songino Array	28.19	326	P	P	21 47 57.2	+2.6
	0.3nm,0.8s,baz=139,slow=9.0,SNR=2.0						
	0.3nm,0.8s						
MKAR	Makanchi Array	42.40	312	P	P	21 49 56.2	-0.2
	0.2nm,0.6s,baz=108,slow=9.4,SNR=2.3						
	0.2nm,0.6s						
ZALV	Zalesovo Beam	42.95	322	P	P	21 50 02.6	+1.9
	0.3nm,0.3s,baz=102,slow=14,SNR=1.8						
	0.3nm,0.3s						
TIXI	Tiksi	45.45	360	LR	LR	22 09 25.8	
	comp=Z,34nm,18.7s,baz=216,slow=36						
KURBB	Kurchatov Arra	45.65	316	P	P	21 50 22.2	-0.1
	0.2nm,0.4s,baz=102,slow=9.0,SNR=4.4						
	0.2nm,0.4s						
WRA	Warramunga Arr	46.14	174	P	P	21 50 27.8	+1.3
	0.5nm,1.0s,baz=351,slow=7.7,SNR=1.7						
	0.5nm,1.0s						
FINES	FINESS Array B	73.43	331	P	P	21 53 34.4	+0.8
	0.4nm,0.6s,baz=68,slow=5.4,SNR=6.5						
	0.4nm,0.6s						

*NEIC **19** 21:43:56.5±1.7, 39°.31N±0°.01×111°.99W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.5km az=310.0*

UUSS 19 21:43:56.7±1.5, **39°.29N**±0°.01×**111°.95W**±0°.02, **h4**km±4km, **ML2.5**/13, **ML2.7**/94(NEIC), **Error ellipse: s-maj=2.2km s-min=1.9km az=96.0, Utah**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FLU	Fool Peak	0.19	297		Pg	21 44 00.8	+0.3
LEVU	Levan	0.24	27		Sg	21 44 05.7	+1.1
LEVU	Levan	0.24	27		Pg	21 44 01.8	+0.5
WCU	Willow Creek	0.35	198		Pg	21 44 03.9	+0.4
TMUT	Trail Mountain	0.58	90		Pg	21 44 08.7	+0.9
TMUT	Trail Mountain	0.58	90	Sg	Sb	21 44 16.9	-1.3
TMUT				IAML		21 44 17.2	
	comp=N,792nm,0.4s						
TMUT				IAML		21 44 18.9	
	comp=E,982nm,0.6s						
SUU	Santaquin Cany	0.61	12		Pg	21 44 08.7	+0.3
OWUT	Old Woman Plat	0.66	141		Pg	21 44 09.7	+0.3
DBD	Des Bee Dove	0.67	88		Pg	21 44 10.2	+0.6
Q16A	Castle Valley	0.71	121		Pg	21 44 10.6	+0.1
Q16A				IAML		21 44 21.1	
	comp=N,165nm,0.5s						
Q16A				IAML		21 44 21.9	
	comp=E,198nm,0.5s						
MPU	Maple Canyon	0.76	19		Pg	21 44 11.6	+0.3
TCRU	Three Creeks R	0.79	210		Pg	21 44 11.8	+0.1
TCRU	Three Creeks R	0.79	210	IAML		21 44 27.6	
	comp=N,370nm,0.7s						
TCRU				IAML		21 44 27.7	
	comp=E,343nm,0.6s						
MSU	Marysvale	0.80	193		Pg	21 44 12.4	+0.4
MVU	Marysvale	0.81	194		Pg	21 44 12.9	+0.6
MVU	Marysvale	0.81	194	IAML		21 44 25.6	
	comp=N,149nm,0.4s						
EMUT	Emma Park	1.02	59		Pg	21 44 16.7	+0.3
DUG	Dugway, Tooele	1.12	324		Pg	21 44 18.0	-0.2
DUG	Dugway, Tooele	1.12	324	IAML		21 44 35.3	
	comp=N,94nm,0.9s						
DUG				IAML		21 44 37.0	
	comp=N,102nm,0.8s						
SRU	San Rafael Swe	1.13	99		Pg	21 44 18.2	-0.1
SRU	San Rafael Swe	1.13	99	IAML		21 44 33.0	
	comp=E,256nm,0.4s						
SRU				IAML		21 44 34.7	
	comp=N,200nm,0.5s						
FSU	Fish Springs	1.19	291		Pg	21 44 19.4	-0.2
ARGU	Argyle Ridge	1.21	64		Pb	21 44 20.4	0.0
MTPU	Mount Pierson	1.26	188		Pb	21 44 21.2	-0.1
ROA	Roan Cliffs	1.28	73		Pb	21 44 21.6	-0.1
P18A	Preston Nutter	1.36	75		Pn	21 44 22.6	-0.2
P18A				IAML		21 44 43.6	
	comp=E,117nm,0.4s			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=N,5.9nm,4.1s						
ISCO	**Idaho Springs**	**4.93**	**82**	IAML		21 46 01.6	
	comp=N,5.4nm,3.5s						
ISCO				IAML		21 46 44.9	
	comp=N,5.5nm,2.8s						
X18A	**Snowflake**	**5.02**	**161**	IAML		21 46 46.5	
	comp=N,6.9nm,1.4s						
X18A				IAML		21 46 54.2	
	comp=E,6.4nm,1.1s						
RYN	**Ryan**	**5.16**	**265**	IAML		21 46 44.9	
	comp=N,7.0nm,0.8s						

*IDC **19** 22:01:50.3±1.3, 6°.34S×130°.12E, h0km, mb4.1/4, mbtmp4.2/7, ML4.4/3, Error ellipse: s-maj=65.4km s-min=19.4km az=68.0*
*NEIC **19** 22:02:06.5±2.7, 6°.78S±0°.05×129°.70E±0°.09, h160km±10km, mb4.5/9, Error ellipse: s-maj=13.2km s-min=6.1km az=109.0*
ISC 19 22:02:06.1±0.6, **6°.87S**±0°.06×**129°.71E**±0°.08, **h150**km, **n28**, σ1§**87**/31, **mb4.0**/5, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.93**	**125**		**Pn**	**22 02 42.8**	**+2.5**
SAUI				Sn	**Sn**	**22 03 07.5**	**+0.8**
FAKI	**Fak Fak**	**4.67**	**33**		**Pn**	**22 03 15.6**	**+0.4**
FAKI				Sn	**Sn**	**22 04 07.5**	**-1.5**
MTN	**Manton Dam**	**6.10**	**167**		**Pn**	**22 03 35.3**	**+1.2**
SOEI	**Soe**	**6.10**	**242**		**Pn**	**22 03 35.5**	**+1.2**
KNRA	**Kununurra**	**8.80**	**186**		**Pn**	**22 04 09.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.84**	**199**	Pn	**Pn**	**22 04 48.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**11.84**	**199**	Pn	**Pn**	**22 04 49.0**	**-1.3**
	1.6nm,0.3s,baz=23,slow=7.6,SNR=20						
FITZ				Sn	Sn	22 06 52.5	-8.8
	2.2nm,0.3s,baz=100,slow=22,SNR=7.0						
	3.8nm,0.4s						
WB0	**Warramunga Arr**	**13.60**	**161**		**Pn**	**22 05 11.5**	**-1.5**
WRAB	**Tennant Creek**	**13.74**	**161**	Pn	**Pn**	**22 05 13.3**	**-1.5**
WRA	**Warramunga Arr**	**13.75**	**161**		**Pn**	**22 05 12.2**	**-2.6**
WRA	**Warramunga Arr**	**13.75**	**161**	Pn	**Pn**	**22 05 12.6**	**-2.3**
	1.2nm,0.3s,baz=344,slow=13,SNR=39						
WRA				Sn	Sn	22 07 39.6	-7.7
	3.3nm,0.3s,baz=343,slow=24,SNR=11						
	3.5nm,0.6s						
WR8	**Warramunga Arr**	**13.81**	**161**		**Pn**	**22 05 14.4**	**-1.3**
COEN	**Coen**	**14.99**	**119**	P	**P**	**22 05 32.8**	**+0.4**
COEN				IAmb	IAmb	22 05 37.6	
	comp=Z,12nm,1.1s						
JAGI	**Jajag, Banyuwa**	**15.50**	**263**	Pn	**Pn**	**22 05 35.3**	**-1.5**
MBWA	**Marble Bar**	**17.18**	**213**		**P**	**22 05 56.7**	**+0.4**
MBWA				IAmb	IAmb	22 06 21.3	
	comp=Z,43nm,1.3s						
AS31	**Alice Springs**	**17.18**	**167**		**Pn**	**22 05 58.7**	**+1.5**
AS31				IAmb	IAmb	22 05 59.5	
	comp=Z,6.9nm,0.5s						
ASAR	**Alice Springs**	**17.18**	**167**	Pn	**P**	**22 05 58.0**	**+1.6**
ASAR	**Alice Springs**	**17.18**	**167**	P	**Pn**	**22 05 58.8**	**+1.6**
	comp=Z,2.3nm,0.3s,baz=347,slow=11,SNR=194						
ASAR				S	**S**	**22 09 02.8**	**-5.2**
	comp=Z,1.9nm,0.7s,baz=346,slow=20,SNR=6.5						
	comp=Z,11nm,0.6s						
PSA00	**Pilbara Seismi**	**17.45**	**212**	Pn	**P**	**22 06 01.0**	**+1.6**
PSA00				IAmb	IAmb	22 06 10.7	
	comp=Z,25nm,1.3s						
FORT	**Forrest**	**23.84**	**184**	P	**P**	**22 07 06.7**	**+1.3**
FORT				IAmb	IAmb	22 07 30.0	
	comp=Z,47nm,1.2s						
STKA	**Stephens Creek**	**27.24**	**157**	P	**P**	**22 07 36.8**	**+0.6**
STKA	**Stephens Creek**	**27.24**	**157**	P	**P**	**22 07 38.5**	**+2.3**
	comp=Z,1.6nm,0.4s,baz=327,slow=9.3,SNR=4.8						
	comp=Z,1.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**39.43**	**310**	P	**P**	**22 09 22.7**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=136,slow=6.5,SNR=9.2						
	comp=Z,0.7nm,0.4s						
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**22 12 50.0**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=116,slow=7.9,SNR=35						
	comp=Z,1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**72.25**	**329**	P	**P**	**22 13 15.6**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=132,slow=4.9,SNR=12						
	comp=Z,0.8nm,0.6s						
AB31	**Akbulak array**	**82.23**	**322**	P	**P**	**22 14 10.2**	**-0.2**
ABKAR	**Akbulak array**	**82.23**	**322**	P	**P**	**22 14 08.7**	**-1.8**
QSPA	**South Pole Qui**	**83.11**	**180**	P	**P**	**22 14 11.9**	**-3.0**

*IDC **19** 22:12:30.5±0.8, 8°.49S×80°.22W, h0km, mb3.7/9, mbtmp3.7/12, ML3.8/3, MS3.7/14, Error ellipse: s-maj=25.8km s-min=17.0km az=49.0*
*NEIC **19** 22:12:35.9±1.8, 8°.60S±0°.08×80°.1W±0°.1, h34km±7km, mb4.6/18, Error ellipse: s-maj=14.5km s-min=11.5km az=77.0*
*VAO **19** 22:13:31.8±1.8, 8°.46S×75°.65W, h220km±7km, mb3.5*
ISC 19 22:12:36.1±0.6, **8°.49S**±0°.06×**80°.07W**±0°.08, **h39**km, **n73**, σ1§**47**/57, **mb4.5**/18, **MS3.7**/8, **Off coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.14**	**51**	Pn	**Pn**	**22 13 11.0**	**+1.4**
	48nm,0.3s,baz=266,slow=4.2,SNR=50						
ATAH				Sn	**Sn**	**22 13 39.1**	**+4.0**
	65nm,0.3s,baz=146,slow=21,SNR=6.1						
ATAH				LR	LR	22 14 19.3	
	comp=Z,2μm,20.4s,baz=222,slow=48						
	210nm,0.4s						
NNA	**Nana**	**4.71**	**138**		**Pn**	**22 13 44.5**	**-0.2**
NNA	**Nana**	**4.71**	**138**	Pn	**Pn**	**22 13 44.6**	**-0.1**
	2.9nm,0.3s,baz=332,slow=8.9,SNR=9.2						
NNA				Sn	**Sn**	**22 14 41.8**	**+3.7**
	9.3nm,0.3s,baz=120,slow=12,SNR=4.1						
	16nm,0.5s						
COHC	**Cochancay**	**6.04**	**8**		**Pn**	**22 14 03.6**	**+0.6**
CZSB	**Cruzeiro do Su**	**7.33**	**85**		**Pn**	**22 14 20.4**	**-0.3**
CZSB	**Cruzeiro do Su**	**7.33**	**85**	*e*P	**Pn**	**22 14 21.8**	**+1.1**
SLOR	**San Lorenzo -**	**7.87**	**12**		**Pn**	**22 14 27.5**	**-1.0**
OTAV	**Otavalo**	**8.82**	**11**	Pn	**Pn**	**22 14 40.6**	**-1.0**
FLOC	**Florencia**	**10.93**	**24**		**Pn**	**22 15 08.6**	**-1.6**
TBTG	**Tabatinga, AM**	**10.96**	**68**	Pn	**Pn**	**22 15 10.1**	**-0.5**
LPAZ	**La Paz**	**13.99**	**125**	Pn	**Pn**	**22 15 53.0**	**+0.5**
	0.3nm,0.3s,baz=303,slow=8.6,SNR=9.9						
LPAZ				LR	LR	22 21 53.5	
	comp=Z,448nm,21.2s,baz=290,slow=40						
	0.5nm,0.4s						
LPAZ	**La Paz**	**13.99**	**125**	*e*P	**P**	**22 16 00.6**	**+0.8**
PB16	**IPOC Station P**	**14.18**	**135**	P	**P**	**22 15 59.0**	**-2.8**
ROSC	**El Rosal**	**14.43**	**24**	LR	LR	22 22 59.9	
	comp=Z,418nm,18.4s,baz=220,slow=43						
TEFE	**Tefe**	**16.12**	**73**	*e*P	**Pn**	**22 16 15.8**	**-4.2**
JTS	**Las Juntas de**	**19.28**	**345**	LR	LR	22 23 04.3	
	comp=Z,152nm,19.3s,baz=125,slow=33						
SDV	**Santo Domingo**	**19.66**	**29**	LR	LR	22 25 23.5	
	comp=Z,244nm,21.6s,baz=222,slow=39						
MACA	**Manacapuru-AM**	**19.99**	**76**	*e*P	**P**	**22 17 02.8**	**-2.7**
SIV	**San Ignacio**	**19.99**	**114**	P	**P**	**22 17 05.8**	**+0.3**
	1.3nm,0.7s,baz=289,slow=12,SNR=7.7						
SIV				LR	LR	22 25 09.2	
	comp=Z,356nm,18.3s,baz=292,slow=38						
	1.3nm,0.7s						
BBSD	**Serra de San D**	**20.83**	**116**	*e*P	**P**	**22 17 14.3**	**-0.3**
BAUV	**El Baul**	**21.06**	**35**		**P**	**22 17 17.2**	**+0.2**
PTLB	**Pontes e Lacer**	**21.60**	**111**		**P**	**22 17 22.9**	**0.0**
PTLB	**Pontes e Lacer**	**21.60**	**111**	*e*P	**P**	**22 17 23.0**	**+0.1**
PDRB	**Porto dos Gac**	**23.18**	**100**	*e*P	**P**	**22 17 37.0**	**-2.7**
NPGB	**Novo Progresso**	**24.52**	**88**	*e*P	**P**	**22 17 50.2**	**-2.1**
H03N2	**Juan Fernandez**	**24.85**	**178**	T	T	22 43 42.9	
	baz=357,slow=76,SNR=310						
H03N1	**Juan Fernandez**	**24.85**	**178**	T	T	22 44 00.7	
	baz=357,slow=76,SNR=652						
H03N3	**Juan Fernandez**	**24.86**	**178**	T	T	22 43 42.6	
	baz=357,slow=76,SNR=362						
SALV	**Santo Antonio**	**24.92**	**110**	*e*P	**P**	**22 17 57.4**	**+1.6**
CPUP	**Villa Florida**	**27.94**	**132**	P	**P**	**22 18 22.9**	**-0.1**
	0.8nm,0.7s,baz=326,slow=11,SNR=2.9						
CPUP				LR	LR	22 31 45.2	
	comp=Z,166nm,19.0s,baz=322,slow=41						
	0.8nm,0.7s						
RPRD	**Ribas do Rio P**	**28.12**	**118**	*e*P	**P**	**22 18 28.5**	**+3.8**
SNDB	**Serra Nova Dou**	**28.52**	**99**	*e*P	**P**	**22 18 28.0**	**-0.3**
SJG	**San Juan**	**29.79**	**27**	LR	LR	22 31 48.3	
	comp=Z,72nm,20.8s,baz=216,slow=39						
MDP	**Montagnes des**	**30.50**	**65**	LR	LR	22 31 22.2	
	comp=Z,103nm,21.9s,baz=249,slow=37						
BDFB	**Brasilia**	**32.11**	**106**	LR	LR	22 32 56.2	
	comp=Z,316nm,19.4s,baz=274,slow=38						
RCBR	**Riachuelo**	**43.88**	**90**	LR	LR	22 40 06.8	
	comp=Z,89nm,18.1s,baz=256,slow=38						
TXAR	**Lajitas Array**	**43.95**	**330**	P	**P**	**22 20 38.8**	**-0.8**
	0.1nm,0.3s,baz=147,slow=8.5,SNR=1.3						
	0.1nm,0.3s						
TKL	**Tuckaleechee C**	**44.05**	**356**	LR	LR	22 37 51.3	
	comp=Z,47nm,21.2s,baz=181,slow=34						
LCAR	**Lake Charles**	**45.54**	**347**	P	**P**	**22 20 52.6**	**+0.5**
LCAR				IAmb	IAmb	22 21 03.4	
	comp=Z,7.6nm,0.9s						
PDAR	**Pinedale Array**	**57.67**	**335**	P	**P**	**22 22 23.5**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=153,slow=3.2,SNR=2.0						
	comp=Z,0.1nm,0.4s						
EGMT	**Eagleton**	**62.09**	**338**	P	**P**	**22 22 54.3**	**+1.3**
BBTS	**Babate**	**67.06**	**70**	LR	LR	22 52 30.3	
	comp=Z,64nm,18.9s,baz=112,slow=36						
YKA	**Yellowknife Ar**	**75.62**	**344**	P	**P**	**22 24 16.4**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=142,slow=5.6,SNR=9.3						
	comp=Z,0.4nm,0.7s						
DBIC	**Dimbokro**	**76.47**	**81**	P	**P**	**22 24 23.5**	**+0.9**
	comp=Z,4.6nm,0.8s,baz=227,slow=7.3,SNR=4.8						
DBIC				LR	LR	22 56 03.2	
	comp=Z,109nm,20.7s,baz=276,slow=34						
	comp=Z,4.6nm,0.8s						
QSPA	**South Pole Qui**	**81.61**	**180**	P	**P**	**22 24 51.4**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=166,slow=3.4,SNR=4.2						
	comp=Z,2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.98**	**76**	P	**P**	**22 25 02.7**	**-0.4**
H31M	**Peel River**	**84.01**	**340**	P	**P**	**22 25 02.9**	**+0.8**
H31M				IAmb	IAmb	22 25 16.3	
	comp=Z,6.9nm,1.2s						
K29M	**Barlow Dome**	**84.01**	**338**	P	**P**	**22 25 02.2**	**-0.1**
I30M	**Mount Dempster**	**84.36**	**339**	P	**P**	**22 25 05.0**	**+0.9**
I30M				IAmb	IAmb	22 25 05.6	
	comp=Z,2.8nm,0.8s						
G31M	**Satah River**	**84.65**	**341**	P	**P**	**22 25 05.6**	**+0.3**
G31M				IAmb	IAmb	22 25 48.3	
	comp=Z,4.6nm,1.3s						
ESDC	**Sonseca Array**	**84.83**	**49**	P	**P**	**22 25 07.8**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=267,slow=7.2,SNR=4.2						
	comp=Z,0.8nm,0.9s						
A36M	**Sachs Harbour**	**85.56**	**347**	P	**P**	**22 25 09.3**	**-0.4**
A36M				IAmb	IAmb	22 25 09.5	
	comp=Z,3.1nm,0.9s						
H29M	**Whitestone**	**85.60**	**340**	P	**P**	**22 25 11.1**	**+0.9**
H29M				IAmb	IAmb	22 25 40.5	
	comp=Z,7.2nm,1.4s						
I28M	**Miner Creek**	**85.75**	**339**	P	**P**	**22 25 11.7**	**+0.7**
I28M				IAmb	IAmb	22 25 12.8	
	comp=Z,2.9nm,0.8s						
K27K	**Chicken**	**85.83**	**337**	P	**P**	**22 25 12.7**	**+1.4**
K27K				IAmb	IAmb	22 25 15.0	
	comp=Z,3.0nm,1.0s						
G29M	**Pine Creek**	**85.86**	**340**	P	**P**	**22 25 11.9**	**+0.5**
ILAR	**Eielson Array**	**88.03**	**337**	P	**P**	**22 25 21.6**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=141,slow=2.9,SNR=6.4						
	comp=Z,0.6nm,0.9s						
C27K	**Jago River**	**89.06**	**342**	P	**P**	**22 25 27.7**	**+0.9**
C27K				IAmb	IAmb	22 25 38.9	
	comp=Z,2.8nm,0.9s						
I23K	**Minto, Yukon-K**	**89.15**	**337**	P	**P**	**22 25 28.0**	**+0.8**
I23K				IAmb	IAmb	22 25 36.8	
	comp=Z,2.9nm,1.1s						
D25K	**Kavik River**	**89.77**	**341**	P	**P**	**22 25 30.9**	**+0.8**
C24K	**Franklin Bluff**	**90.68**	**341**	P	**P**	**22 25 34.9**	**+0.7**
H11N3	**WAKE ISLAND Hyl**	**14.44**	**288**	T	T	00 35 24.8	
	baz=92,slow=75,SNR=16						
H11N2	**WAKE ISLAND Hyl**	**14.45**	**288**	T	T	00 35 33.2	
	baz=92,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hyl**	**14.45**	**288**	T	T	00 35 29.3	
	baz=92,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hyl**	**14.61**	**286**	T	T	00 35 44.7	
	baz=89,slow=71,SNR=19						
H11S1	**WAKE ISLAND Hyl**	**14.62**	**286**	T	T	00 35 42.4	
	baz=89,slow=71,SNR=9.8						
H11S3	**WAKE ISLAND Hyl**	**14.63**	**286**	T	T	00 35 36.9	
	baz=89,slow=71,SNR=9.5						
ZALV	**Zalesovo Beam**	**133.06**	**12**	PKP	**PKiKP**	**22 31 49.2**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=0.0,slow=1.4,SNR=1.6						
ASAR	**Alice Springs**	**133.92**	**225**	PKP	**PKPdf**	**22 31 49.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=118,slow=1.5,SNR=4.6						
KURBB	**Kurchatov Arra**	**134.40**	**19**	PKP	**PKPdf**	**22 31 50.2**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=329,slow=1.8,SNR=2.3						
WRA	**Warramunga Arr**	**135.89**	**230**	PKP	**PKPdf**	**22 31 53.8**	**0.0**
	comp=Z,0.4nm,0.6s,baz=127,slow=2.0,SNR=2.7						
MKAR	**Makanchi Array**	**138.96**	**18**	PKP	**PKPdf**	**22 31 58.6**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=333,slow=1.3,SNR=1.8						
CMAR	**Chiang Mai Arr**	**170.05**	**5**	PKPab	**PKPab**	**22 33 54.9**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=351,slow=4.2,SNR=5.4						

IDC 19 22:27:36.3±1.7, **19°.74S**×**173°.97W**, **h0**km, **mb3.9**/4, **mbtmp3.9**/4, **Error ellipse: s-maj=51.5km s-min=40.8km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.38**	**256**	P	P	22 36 19.4	-0.9
	2.2nm,0.8s,baz=86,slow=8.2,SNR=15						
	2.2nm,0.8s						
WRA	**Warramunga Arr**	**48.46**	**260**	P	P	22 36 22.1	+1.2
	0.7nm,0.8s,baz=90,slow=7.2,SNR=3.0						
	0.7nm,0.8s						
QSPA	**South Pole Qui**	**70.33**	**180**	P	P	22 38 51.6	0.0
	2.1nm,1.1s,baz=16,slow=20,SNR=2.8						
	2.1nm,1.1s						
ILAR	**Eielson Array**	**86.78**	**11**	P	P	22 40 22.0	+0.1
	0.5nm,0.7s,baz=206,slow=5.2,SNR=4.7						
	0.5nm,0.7s						

*IDC **19** 22:28:04.7±1.7, 27°.86N×56°.44E, h0km, mb3.6/8, mbtmp3.6/8, ML1.3/1, MS3.6/1, Error ellipse: s-maj=34.5km s-min=27.4km az=32.0*
*DSN **19** 22:28:05.5±1.6, 27°.71N×57°.19E, h10km, ML2.9/12, Error ellipse: s-maj=32.6km s-min=15.8km az=117.0*
*OMAN **19** 22:28:08.9±0.1, 27°.64N×56°.57E, h10km, ml3.1/14, Error ellipse: s-maj=3.0km s-min=2.1km az=317.0*
*TEH **19** 22:28:08.4, 27°.76N×56°.55E, h20km±68km*
ISC 19 22:28:08.8±0.8, **27°.76N**±0°.04×**56°.60E**±0°.05, **h28**km, **n60**, σ1§**57**/67, **mb3.5**/8, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.31**	**190**	Pg	**Pb**	**22 28 15.9**	**-0.4**
BNDS	**Bandar-Abbas**	**0.52**	**227**	Pg	**Pb**	**22 28 19.0**	**-0.6**
KHNJ	**Kahnooj**	**0.99**	**79**	Pg	**Pn**	**22 28 27.3**	**+0.3**
SHME	**Shamm**	**1.75**	**194**	P	**Pn**	**22 28 38.9**	**+1.6**
	SNR=14						
SHME				S	**Sn**	**22 29 00.9**	**+2.2**
SHME	**Shamm**	**1.75**	**194**	*e*P	**Pn**	**22 28 38.1**	**+0.8**
	SNR=36						
BANOM	**Banah**	**1.85**	**188**	S	**Sn**	**22 29 02.1**	**+0.9**
BANOM	**Banah**	**1.85**	**188**	*e*P	**Pn**	**22 28 39.4**	**+0.8**
	SNR=64						
BANOM				S	**Sn**	**22 29 04.3**	**+3.1**
NGRK	**Negar Kerman**	**1.88**	**3**	Pn	**Pn**	**22 28 41.0**	**+1.5**
LAR1	**LAR**	**1.98**	**268**	Pn	**Pn**	**22 28 41.3**	**+0.8**
KBAM	**BAM**	**2.13**	**49**	Pn	**Pn**	**22 28 44.9**	**+2.3**
KRBR	**Kerman**	**2.22**	**4**	Pn	**Pn**	**22 28 45.8**	**+1.8**
CHMN	**Cheshme madani**	**2.25**	**21**	Pn	**Pn**	**22 28 46.7**	**+2.2**
UMQ	**Umm Al-Quwin**	**2.38**	**201**	P	**Pn**	**22 28 48.6**	**+2.7**
UMQ				S	**Sn**	**22 29 15.0**	**+0.8**
MSFE	**Esma-Masafi**	**2.42**	**190**	P	**Pn**	**22 28 47.2**	**+0.6**
MDH	**Madha**	**2.46**	**186**	P	**Pn**	**22 28 47.2**	**+0.1**
KHGB	**Koh Gabri**	**2.61**	**358**	Pn	**Pn**	**22 28 51.6**	**+2.2**
KRM1	**Kerman Provinc**	**2.80**	**12**	Pn	**Pn**	**22 28 53.9**	**+2.0**
UOSS	**Minazif**	**2.82**	**187**	Pn	**Pn**	**22 28 53.1**	**+1.0**
UOSS	**Minazif**	**2.82**	**187**	*e*P	**Pn**	**22 28 52.4**	**+0.4**
	SNR=8.0						
NAZ	**Nazwa, Dubai**	**2.88**	**197**	P	**Pn**	**22 28 56.1**	**+3.1**
	SNR=6.0						
NAZ	**Nazwa, Dubai**	**2.88**	**197**	*i* P	**Pn**	**22 28 54.9**	**+2.0**
	SNR=6.0						
ASHO	**Ashiyiah**	**3.10**	**189**	P	**Pn**	**22 28 58.0**	**+2.1**
	SNR=29						
ASHO	**Ashiyiah**	**3.10**	**189**	*i* P	**Pn**	**22 28 56.1**	**+0.1**
	SNR=32						
FAQ	**Al Faqa, Dubai**	**3.13**	**197**	P	**Pn**	**22 28 58.4**	**+2.1**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**3.13**	**197**	*i* P	**Pn**	**22 28 58.2**	**+1.8**
	SNR=10						
ASUD	**Al Ashush, Dub**	**3.32**	**200**	P	**Pn**	**22 29 01.9**	**+3.0**
	SNR=14						
ASUD	**Al Ashush, Dub**	**3.32**	**200**	*i* P	**Pn**	**22 29 00.5**	**+1.6**
	SNR=14						
AJN	**Ajban**	**3.50**	**205**	P	**Pn**	**22 29 04.1**	**+2.8**
	SNR=5.7						
SOHO	**SOHO**	**3.61**	**181**	P	**Pn**	**22 29 00.1**	**-2.7**
ALNE	**Al Ain**	**3.77**	**192**	P	**Pn**	**22 29 06.5**	**+1.5**
	SNR=12						
ALNE	**Al Ain**	**3.77**	**192**	*i* P	**Pn**	**22 29 06.1**	**+1.0**
	SNR=26						
IMEH	**Mehriz**	**4.01**	**335**	Pn	**Pn**	**22 29 09.8**	**+1.2**
CHBR	**Chabahar**	**4.09**	**121**	Pn	**Pn**	**22 29 11.6**	**+2.2**
ARQ	**Araqi**	**4.40**	**181**	P	**Pn**	**22 29 15.0**	**+1.2**
	SNR=43						
ARQ				S	**Sn**	**22 30 06.1**	**+1.9**
SMDO	**Samad**	**4.86**	**164**	P	**Pn**	**22 29 21.6**	**+1.4**
SMDO				S	**Sn**	**22 30 17.1**	**+1.6**
WSAR	**Wadi Sarin**	**4.86**	**157**	Pn	**Pn**	**22 29 21.1**	**+0.9**
	baz=348,slow=24,SNR=16						
WSAR				Sn	**Sn**	**22 30 14.5**	**-1.0**
	baz=357,slow=24,SNR=6.1						
WSAR	**Wadi Sarin**	**4.86**	**157**	P	**Pn**	**22 29 21.0**	**+0.9**
WSAR				S	**Sn**	**22 30 15.9**	**+0.4**
BSY	**Bisya**	**5.02**	**174**	P	**Pn**	**22 29 24.4**	**+2.1**
	SNR=8.1						
IKOO	**Kooshah**	**5.09**	**24**	Pn	**Pn**	**22 29 25.8**	**+2.2**
UMZA	**Um Al Zommool**	**5.19**	**195**	P	**Pn**	**22 29 25.2**	**+0.6**
UMZA				S	**Sn**	**22 30 23.4**	**-0.2**
KLNJ	**Kolanjah**	**5.44**	**308**	Pn	**Pn**	**22 29 29.3**	**+0.9**
IRAM	**Ramesheh**	**5.45**	**319**	Pn	**Pn**	**22 29 29.1**	**+0.7**
MZR	**Muzera**	**5.51**	**211**	P	**Pn**	**22 29 29.8**	**+0.7**
JMDO	**Jabal Madar**	**5.54**	**165**	P	**Pn**	**22 29 30.5**	**+1.1**
	SNR=5.4						
WBK	**Wadi Bani Khal**	**5.56**	**157**	P	**Pn**	**22 29 30.3**	**+0.6**
ANAR	**Anarak**	**5.95**	**336**	Pn	**Pn**	**22 29 35.9**	**+0.7**
KRSH	**Karshahi**	**7.28**	**329**	Pn	**Pn**	**22 29 54.9**	**+1.4**
ISFB	**Sefidab**	**7.56**	**331**	Pn	**Pn**	**22 29 58.2**	**+0.9**
DOK	**Doka**	**9.38**	**195**	P	**Pn**	**22 30 21.6**	**-0.5**
	SNR=11						
DMTO	**DMTO**	**10.11**	**189**	P	**Pn**	**22 30 31.0**	**-1.2**
WHFO	**Wadi Hawf**	**10.13**	**196**	P	**Pn**	**22 30 31.7**	**-0.8**
	SNR=26						
BRTR	**Keskin Array B**	**22.45**	**308**	P	**P**	**22 33 04.3**	**-1.4**
	0.5nm,0.6s,baz=116,slow=11,SNR=2.9						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**27.24**	**18**	P	**P**	**22 33 49.3**	**-1.0**
	0.7nm,0.6s,baz=209,slow=9.4,SNR=3.1						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**27.71**	**40**	P	**P**	**22 33 55.0**	**+0.4**
	0.2nm,0.6s,baz=224,slow=8.4,SNR=2.2						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**28.26**	**30**	P	**P**	**22 33 59.5**	**+0.1**
	0.3nm,0.3s,baz=229,slow=8.3,SNR=1.7						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**33.35**	**31**	P	**P**	**22 34 44.2**	**-0.1**
	1.1nm,0.3s,baz=241,slow=8.9,SNR=5.7						
	1.1nm,0.3s						
FINES	**FINESS Array B**	**39.37**	**337**	P	**P**	**22 35 34.1**	**-1.4**
	0.6nm,0.8s,baz=141,slow=9.3,SNR=3.6						
	0.6nm,0.8s						
HFS	**Hagfors**	**43.45**	**330**	P	**P**	**22 36 07.7**	**-1.3**
	0.7nm,0.5s,baz=118,slow=8.5,SNR=8.3						
	0.7nm,0.5s						
NOA	**NORSAR Array B**	**44.96**	**331**	P	**P**	**22 36 19.4**	**-1.7**
	0.5nm,0.8s,baz=133,slow=8.1,SNR=3.9						
	0.5nm,0.8s						
ESDC	**Sonseca Array**	**50.90**	**300**	LR	LR	23 01 35.4	
	comp=Z,53nm,18.2s,baz=236,slow=40						

*GCMT **19** 22:28:21.0±0.2, 15°.50S±0°.01×177°.16W±0°.01, h15km, MW5.1/127, Moment Tensor Solution. s56,c83; s127,c220; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.30±.11; $M_{\theta\theta}$-3.73±.10; $M_{\phi\phi}$4.03±.10; $M_{r\theta}$-0.40±.31; $M_{\theta\phi}$4.07±.10; $M_{\phi r}$0.41±.30; Best double couple: $M_0$5.65400×10^16^ NP1:ϕ_s68.00000°, δ84.00000°, λ-3.00000°. NP2:ϕ_s158.00000°, δ87.00000°, λ-174.00000°. Principal axes: T 5.7810, Plg2.0000°, Azm293.0000°; N -0.2520, Plg84.0000°, Azm183.0000°; P -5.5260, Plg6.0000°, Azm23.0000°; nsta1 refers to body waves, cut

3.0nm,0.9s
KSRS Korea Array 73.86 317 P **P 22 39 53.1 +0.3**
1.4nm,0.9s,baz=128,slow=6.4,SNR=5.7
1.4nm,0.9s
LEM Lembang 73.94 267 LR LR 23 11 23.0
comp=Z,141nm,20.8s,baz=115,slow=35
QSPA South Pole Qui 74.31 180 P **P 22 39 55.5 +0.3**
5.3nm,1.0s,baz=129,slow=1.0,SNR=6.0
QSPA LR LR 23 07 57.0
comp=Z,182nm,21.7s,baz=54,slow=32
5.3nm,1.0s
USRK Ussuriysk Ar. 75.49 325 P **P 22 40 03.0 +0.9**
1.0nm,0.7s,baz=127,slow=6.1,SNR=4.9
1.0nm,0.7s
NVAR Mina Array Bea 77.07 44 P **P 22 40 11.6 0.0**
1.3nm,0.9s,baz=231,slow=5.2,SNR=4.8
1.3nm,0.9s
ILAR Eielson Array 83.52 13 P **P 22 40 45.1 -0.3**
1.0nm,0.9s,baz=214,slow=6.2,SNR=5.6
1.0nm,0.9s
TXAR Lajitas Array 83.86 57 P **P 22 40 48.1 0.0**
1.1nm,1.0s,baz=223,slow=5.1,SNR=5.4
1.1nm,1.0s
PDAR Pinedale Array 84.99 43 P **P 22 40 54.8 +1.2**
0.4nm,0.8s,baz=238,slow=5.0,SNR=4.6
0.4nm,0.8s
PMSA Palmer Station 85.35 157 LR LR 23 12 13.9
comp=Z,76nm,21.0s,baz=258,slow=31
H03S2 Juan Fernandez 88.06 124 T T 00 18 43.7
baz=250,slow=75,SNR=4.1
H03S1 Juan Fernandez 88.08 125 T T 00 18 48.9
baz=250,slow=75,SNR=4.6
H03S3 Juan Fernandez 88.08 124 T T 00 18 46.3
baz=250,slow=75,SNR=3.8
CMAR Chiang Mai Arr 89.24 289 P **P 22 41 15.2 +0.8**
0.2nm,0.3s,baz=128,slow=2.6,SNR=8.2
CMAR LR LR 23 17 14.8
comp=Z,176nm,21.1s,baz=120,slow=33
0.2nm,0.3s
YKA Yellowknife Ar 91.89 24 P **P 22 41 27.1 +1.4**
0.4nm,1.1s,baz=234,slow=4.7,SNR=1.9
0.4nm,1.1s
PLCA Paso Flores 91.99 133 LR LR 23 14 25.0
comp=Z,113nm,21.2s,baz=238,slow=30
SONM Songino Array 92.66 319 P **P 22 41 30.1 +0.2**
0.2nm,0.5s,baz=127,slow=3.9,SNR=6.0
0.2nm,0.5s
BRDH Bariadhala 96.95 292 LR LR 23 25 03.2
comp=Z,94nm,18.7s,baz=138,slow=35
MORC Moravsky Berou 143.99 344 *e*PKP PKPbc 22 47 51.3 +0.1
BRTR Keskin Array B 144.01 318 PKP **PKPdf 22 47 52.1 -1.8**
1.5nm,0.9s,baz=73,slow=3.0,SNR=4.7
ZVC Zvikov 145.12 347 *e*PKP **PKiKP 22 47 57.6 -1.5**
ZVC AMS AMS 23 50 00.0
100nm,16.4s
KHC Kasperske Hory 145.54 347 *e*PKP **PKPab 22 47 56.3 -0.1**
KHC AMS AMS 23 57 40.0
200nm,20.6s
GERES GERESS Array B 145.79 347 PKPbc **PKPab 22 47 56.6 -0.8**
0.8nm,0.7s,baz=27,slow=3.8,SNR=7.5
MOA Molln 146.60 346 *i* PKP **PKPdf 22 47 57.0 -0.8**
6.1nm,1.3s
KBA Koelnbreinsper 147.53 347 *e*PKP **PKPbc 22 48 00.9 -1.4**
6.0nm,1.1s
RETA Reutte 147.65 350 *i* PKP **PKPdf 22 47 59.5 -0.3**
4.4nm,0.9s
DAVA Damuels 147.99 351 *i* PKiKP **PKPdf 22 47 59.1 -1.3**
12nm,1.6s

---

*DNK **19** 22:37:15.6±0.9, 81°.24N×2°.76W, h36km±11km, ML1.4*
BER 19 22:37:13.6±2.8, 81°.18N×2°.89W, h10km, mb(Pn)2.7,
ML1.4(DNK), **Confirmed Earthquake, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.12**	**288**	*i* P	Pn	22 37 48.0	-0.9
NOR				*i* S	Sn	22 38 10.7	-4.5
NOR				IAML		22 38 30.3	
comp=Z,3.4nm,1.0s							
NOR	**Nord**	**2.12**	**288**	*i* P	Pn	22 37 48.0	-0.9
NOR				*i* S	Sn	22 38 10.7	-4.5
NOR				IAML		22 38 30.3	
comp=Z,3.4nm,1.0s							
KBS	**Kingsbay**	**3.42**	**124**	IAML		22 38 46.2	
comp=Z,3.5nm,0.6s							
KBS				*i* P	Pn	22 38 05.1	-1.6
KBS				*e*P	Pn	22 38 05.9	-0.9
KBS				*e*S	Sn	22 38 41.2	-6.0
KBS				*i* S	Pn	22 38 42.4	+36
KBS	**Kingsbay**	**3.42**	**124**	*i* P	Pn	22 38 05.1	-1.6
KBS				*i* S	Sn	22 38 42.4	-4.9
SPA0	**Spitsbergen Ar**	**4.56**	**121**	*e*P	Pn	22 38 22.8	+0.3
SPA0				*e*S	Sn	22 39 10.4	-5.1
DBG	**Daneborg**	**7.77**	**217**	*i* S	Sn	22 40 24.6	-10
DBG	**Daneborg**	**7.77**	**217**	*i* S	Sn	22 40 24.6	-10

---

*NEIC **19** 23:02:52.4±1.6, 18°.39S±0°.09×177°.66W±0°.09,*
h436km±6km, mb4.9/412, Error ellipse: s-maj=13.3km
s-min=12.4km az=144.0
*IDC **19** 23:02:53.7±0.5, 18°.38S×177°.68W, h453km±4km, mb4.4/25,*
mbtmp5.2/28, Error ellipse: s-maj=10.4km s-min=8.3km
az=165.0
*NOU **19** 23:02:53.6, 18°.43S×177°.69W, h452km, ML5.0/125, Fiji*
Islands Region
*MOS **19** 23:02:53.9±1.0, 18°.31S×177°.72W, h462km, mb5.0/40,*
Error ellipse: s-maj=8.8km s-min=7.8km az=56.7
*GCMT **19** 23:02:56.4±0.5, 18°.52S±0°.05×177°.66W±0°.06,*
h466km±3km, MW5.3/44, Moment Tensor Solution.
s44,c55; Duration: 1s1 Moment tensor: Scale 1017Nm;
Mrr0.05±.05; Mθθ0.29±.08; Mφφ-0.34±.07; Mrθ0.11±.08;
Mθφ0.18±.07; Mφr-1.01±.06; Best double couple:
M0=1.04500×1017 NP1:φs303.00000°, δ10.00000°,
λ36.00000°. NP2:φs177.00000°, δ84.00000°, λ98.00000°.
Principal axes: T 0.8860, Plg50.0000°, Azm95.0000°; N
0.3170, Plg8.0000°, Azm356.0000°; P -1.2040,
Plg39.0000°, Azm260.0000°; nsta1 refers to body waves,
cutoff=40s. Triangular moment-rate function
ISC 19 23:02:53.2±0.3, 18°.47S±0°.04×177°.62W±0°.04,
h451km±3km, h451km:pP-P, n1015, σ1s03/1089, **mb4.9**/313,
69C-53D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.16**	**282**	P	**P**	**23 03 51.0**	**+1.0**
DGTI	**Dogotuki**	**3.32**	**310**	P	**P**	**23 04 03.1**	**+0.3**
FUTU	**Fugatoga**	**4.17**	**353**		**P**	**23 04 09.4**	**-0.5**
FUTU	**Fugatoga**	**4.17**	**353**	P	**P**	**23 04 09.7**	**-0.3**
MSVF	**Nonsavu**	**4.18**	**279**	P	**P**	**23 04 11.8**	**+1.7**
2μm,0.5s,baz=126,slow=7.9,SNR=1998							
MSVF				S	**S**	**23 05 13.3**	**+0.7**
106nm,0.5s,baz=75,slow=20,SNR=0.5							
MSVF	**Nonsavu**	**4.18**	**279**	P	**P**	**23 04 11.2**	**+1.1**
AFI	**Afiamalu**	**7.22**	**52**		**P**	**23 04 36.4**	**-4.0**
AFI	**Afiamalu**	**7.22**	**52**	P	**P**	**23 04 36.4**	**-4.0**
AFI	**Afiamalu**	**7.22**	**52**	P	**P**	**23 04 35.9**	**-4.5**
NIUE	**Niue**	**7.31**	**96**		**P**	**23 04 40.9**	**-0.4**
NIUE	**Niue**	**7.31**	**96**	P	**P**	**23 04 41.2**	**-0.1**
comp=Z,2μm,0.9s							
NIUE	**Niue**	**7.31**	**96**	P	**P**	**23 04 41.1**	**-0.1**
NIUE	**Niue**	**7.31**	**96**	P	**P**	**23 04 41.0**	**-0.2**
NIUE				S	**S**	**23 06 11.2**	**+1.4**
RIZ	**Raoul Island**	**10.73**	**181**	S	**S**	**23 07 16.8**	**-0.8**
GLKZ	**Green Lake**	**10.74**	**181**	P	**P**	**23 05 17.3**	**-1.0**
GLKZ				S	**S**	**23 07 15.9**	**-2.0**
INH	**Isangel**	**12.44**	**263**	P	**P**	**23 05 37.5**	**+0.6**
DVP	**Devils Point**	**13.52**	**271**	P	**P**	**23 05 47.9**	**-0.6**
MARNC	**Mare, Loyalty**	**13.82**	**255**	P	**P**	**23 05 51.6**	**-0.1**
MARNC	**Mare, Loyalty**	**13.82**	**255**	S	**S**	**23 08 18.7**	**-0.5**
PINNC	**Pines Island,**	**14.58**	**251**		**P**	**23 05 59.8**	**-0.1**
PINNC	**Pines Island,**	**14.58**	**251**	P	**P**	**23 06 00.1**	**+0.2**
YATNC	**Mamie plateau,**	**14.96**	**254**	P	**P**	**23 06 03.5**	**-0.5**
OUENC	**Ouen Island, N**	**15.08**	**252**	P	**P**	**23 06 04.9**	**-0.3**
DZM	**Mont Dzumac**	**15.38**	**254**		**P**	**23 06 07.2**	**-1.2**
DZM	**Mont Dzumac**	**15.38**	**254**	*e*P	**P**	**23 06 06.9**	**-1.6**
comp=Z,265nm,1.1s							
DZM				*e*S	**S**	**23 08 47.0**	**-2.8**
comp=Z,119nm,1.6s							
DZM	**Mont Dzumac**	**15.38**	**254**	P	**P**	**23 06 07.4**	**-1.0**
comp=Z,65nm,0.6s,baz=80,slow=20,SNR=33							
DZM				S	**S**	**23 08 49.1**	**-0.7**
DZM	**Mont Dzumac**	**15.38**	**254**	P	**P**	**23 06 07.9**	**-0.6**
ONTNC	**Ouen Toro**	**15.41**	**253**		**P**	**23 06 07.6**	**-1.1**
ONTNC	**Ouen Toro**	**15.41**	**253**	P	**P**	**23 06 08.0**	**-0.7**
NFK	**Norfolk Island**	**16.88**	**229**	P	**P**	**23 06 24.9**	**+0.7**
comp=Z,376nm,1.3s							
RAR	**Rarotonga**	**17.01**	**102**	P	**P**	**23 06 26.9**	**+1.3**
comp=Z,175nm,1.0s,baz=255,slow=9.0,SNR=13							
RAR	**Rarotonga**	**17.01**	**102**	P	**P**	**23 06 26.7**	**+1.1**
KOUNC	**Koumac, New Ca**	**17.18**	**260**	P	**P**	**23 06 26.4**	**-1.1**
LUES	**Luesalemba Tem**	**17.72**	**294**	P	**P**	**23 06 30.9**	**-2.3**
LUES	**Luesalemba Tem**	**17.72**	**294**	S	**S**	**23 09 34.3**	**+0.3**
OUZ	**Omahuta**	**18.41**	**203**	P	**P**	**23 06 41.7**	**+1.9**
KUZ	**Kuaotunu**	**19.12**	**197**	P	**P**	**23 06 47.1**	**+0.7**
MXZ	**Matakaoa Point**	**19.35**	**190**	P	**P**	**23 06 48.9**	**+0.4**
MXZ	**Matakaoa Point**	**19.35**	**190**	P	**P**	**23 06 49.2**	**+0.7**
ETAZ	**East Tamaki Re**	**19.54**	**198**	P	**P**	**23 06 52.2**	**+2.0**
WMGZ	**Waiomatatini S**	**19.59**	**189**	P	**P**	**23 06 52.8**	**+2.2**
MKAZ	**Moumakai**	**19.62**	**197**	P	**P**	**23 06 52.3**	**+1.4**
HAZ	**Te Kaha**	**19.63**	**191**	P	**P**	**23 06 50.7**	**-0.3**
HAZ				S	**S**	**23 10 07.0**	**+2.1**
PKGZ	**Pakihiroa**	**19.69**	**190**	P	**P**	**23 06 53.2**	**+1.6**
RUGZ	**Raukumara Rang**	**19.85**	**191**	P	**P**	**23 06 50.6**	**-2.6**
PUZ	**Puketiti**	**19.86**	**190**	P	**P**	**23 06 51.0**	**-2.2**
TWGZ	**Tauwhareparae**	**20.00**	**190**	P	**P**	**23 06 54.9**	**+0.4**
TOZ	**Tahuroa Road**	**20.11**	**196**		**P**	**23 06 56.7**	**+1.3**
TOZ	**Tahuroa Road**	**20.11**	**196**	P	**P**	**23 06 56.8**	**+1.5**
MWZ	**Matawai**	**20.24**	**191**	P	**P**	**23 06 56.5**	**-0.1**
MWZ				S	**S**	**23 10 12.1**	**-2.8**
URZ	**Urewera**	**20.25**	**192**	P	**P**	**23 06 54.7**	**-1.9**
comp=Z,34nm,0.8s,baz=62,slow=4.3,SNR=17							
URZ				S	**S**	**23 10 11.4**	**-3.5**
comp=Z,16nm,0.9s,baz=182,slow=22,SNR=3.3							
URZ	**Urewera**	**20.25**	**192**	P	**P**	**23 06 55.1**	**-1.5**
URZ				S	**S**	**23 10 12.5**	**-2.4**
RIGZ	**Rimuhau**	**20.56**	**190**	P	**P**	**23 06 59.1**	**-0.5**
RTZ	**Ruatahuna**	**20.61**	**192**		**P**	**23 06 59.7**	**-0.4**
RTZ	**Ruatahuna**	**20.61**	**192**	P	**P**	**23 06 58.7**	**-1.4**
TLZ	**Tolley Road**	**20.67**	**195**	P	**P**	**23 07 02.3**	**+1.7**
SNGZ	**Shannon Statio**	**20.71**	**191**	P	**P**	**23 07 00.7**	**-0.2**
HIZ	**Hauiti**	**21.02**	**197**		**P**	**23 07 04.8**	**+1.1**
BKZ	**Black Stump Fm**	**21.25**	**193**		**P**	**23 07 04.7**	**-1.1**
BKZ	**Black Stump Fm**	**21.25**	**193**	P	**P**	**23 07 06.4**	**+0.6**
BKZ	**Black Stump Fm**	**21.25**	**193**	S	**S**	**23 10 32.6**	**+1.5**
BKZ	**Black Stump Fm**	**21.25**	**193**	P	**P**	**23 07 04.0**	**-1.8**
TMVZ	**Te Maari**	**21.37**	**194**	P	**P**	**23 07 06.0**	**-1.0**
ETVZ	**East Tongariro**	**21.39**	**194**	P	**P**	**23 07 06.2**	**-1.0**
OTVZ	**Oturere**	**21.43**	**194**	P	**P**	**23 07 07.0**	**-0.6**
NGZ	**Ngauruhoe**	**21.45**	**195**	P	**P**	**23 07 09.9**	**+2.1**
VRZ	**Vera Road**	**21.62**	**196**	P	**P**	**23 07 10.8**	**+1.7**
PXZ	**Pawanui**	**22.01**	**191**	P	**P**	**23 07 11.2**	**-1.4**
PXZ				S	**S**	**23 10 37.0**	**-6.0**
NGOA	**Tingoa Renbel**	**22.61**	**285**	P	**P**	**23 07 18.1**	**-0.3**
BFZ	**Birch Farm**	**22.75**	**192**	P	**P**	**23 07 18.1**	**-1.3**
MRZ	**Mangatainoka R**	**22.87**	**193**	P	**P**	**23 07 18.2**	**-2.2**
ALEG	**Aligegeo Malai**	**23.16**	**292**	P	**P**	**23 07 22.5**	**-0.8**
HNR	**Honiara**	**23.53**	**289**	P	**P**	**23 07 25.0**	**-1.6**
HNR	**Honiara**	**23.53**	**289**	P	**P**	**23 07 26.5**	**-0.1**
comp=Z,76nm,0.5s,baz=202,slow=5.6,SNR=7.3							
comp=Z,76nm,0.5s							
HNR	**Honiara**	**23.53**	**289**	P	**P**	**23 07 26.5**	**-0.1**
TCW	**Tory Channel**	**23.70**	**195**	P	**P**	**23 07 27.3**	**-0.6**
SAVO	**Savo Central**	**23.77**	**290**	P	**P**	**23 07 28.5**	**-0.3**
PLWZ	**Palliser**	**23.81**	**193**	P	**P**	**23 07 28.0**	**-0.9**
QRZ	**Quartz Range**	**23.83**	**199**	P	**P**	**23 07 29.0**	**-0.1**
QRZ	**Quartz Range**	**23.83**	**199**	P	**P**	**23 07 28.9**	**-0.2**
NNZ	**Nelson**	**23.95**	**197**	P	**P**	**23 07 28.1**	**-1.9**
TATA	**Tatamba Isabel**	**24.11**	**292**	P	**P**	**23 07 30.5**	**-1.4**
THZ	**Tophouse**	**24.58**	**197**	P	**P**	**23 07 35.5**	**-0.2**
THZ	**Tophouse**	**24.58**	**197**	P	**P**	**23 07 34.6**	**-1.2**
THZ				S	**S**	**23 11 26.6**	**+2.8**
KHZ	**Kahutara**	**25.02**	**196**	P	**P**	**23 07 37.7**	**-1.9**
CTZ	**Chatham Island**	**25.20**	**178**	P	**P**	**23 07 43.8**	**+2.7**
CTZ	**Chatham Island**	**25.20**	**178**	P	**P**	**23 07 43.8**	**+2.7**
GVZ	**Greta Valley S**	**25.67**	**196**	P	**P**	**23 07 43.2**	**-2.1**
LTZ	**Lake Taylor**	**25.70**	**197**	P	**P**	**23 07 43.6**	**-2.1**
INZ	**Inchbonnie**	**25.90**	**199**	P	**P**	**23 07 46.5**	**-0.9**
INZ	**Inchbonnie**	**25.90**	**199**	P	**P**	**23 07 46.2**	**-1.1**
OXZ	**Oxford**	**26.27**	**197**	P	**P**	**23 07 49.9**	**-0.8**
MQZ	**McQueen's Vall**	**26.46**	**196**	P	**P**	**23 07 50.7**	**-1.6**
PAE	**Paea**	**26.66**	**93**	*e*P	**P**	**23 07 54.7**	**+0.3**
comp=Z,103nm,1.1s							
PPT2	**Papeete2**	**26.67**	**93**	*es*S	**sS**	**23 14 16.7**	**-4.9**
comp=Z,335nm,41.2s							
PPT2				*es*S	ScP	23 14 22.2	+21
comp=Z,600nm,26.8s							
PPT	**Papeete**	**26.67**	**92**	P	**P**	**23 07 55.6**	**+1.0**
comp=Z,169nm,0.8s,baz=55,slow=5.2,SNR=9.5							
comp=Z,169nm,0.8s							
PPTF	**Pamatai, Papee**	**26.68**	**93**	P	**P**	**23 07 55.3**	**+0.6**
PPTF	**Pamatai, Papee**	**26.68**	**93**	P	**P**	**23 07 55.4**	**+0.7**
TBI	**Tubuai**	**26.73**	**105**	*es*S	sS	23 14 25.9	+3.7
comp=Z,2μm,32.5s							
RPZ	**Rata Peaks**	**26.91**	**198**	P	**P**	**23 07 57.4**	**+1.0**
TVO	**Taravao**	**26.96**	**93**	*e*P	**P**	**23 07 58.5**	**+1.3**
comp=Z,36nm,0.8s							
FOZ	**Fox Glacier**	**27.14**	**200**	P	**P**	**23 07 58.1**	**-0.2**
TMZ	**Timaru**	**27.54**	**198**	P	**P**	**23 08 01.1**	**-0.8**
LBZ	**Lake Benmore**	**27.79**	**199**	P	**P**	**23 08 04.6**	**+0.6**
JCZ	**Jackson Bay**	**27.96**	**201**	P	**P**	**23 08 04.8**	**-0.9**
GC1S	**Gold Coast 1 S**	**28.15**	**245**	P	**P**	**23 08 08.1**	**+0.7**
WKZ	**Wanaka**	**28.55**	**200**	P	**P**	**23 08 09.6**	**-1.2**
PMOR	**Pomariorio Ree**	**28.66**	**88**	*e*P	**P**	**23 08 12.8**	**+0.8**
comp=Z,474nm,1.1s							
VAH	**Vaihoa**	**28.87**	**88**	*e*P	**P**	**23 08 14.1**	**+0.2**
comp=Z,262nm,0.8s							
MLZ	**Mavora Lakes**	**29.33**	**201**	P	**P**	**23 08 18.5**	**+0.9**
MLZ	**Mavora Lakes**	**29.33**	**201**	P	**P**	**23 08 17.3**	**-0.2**
GD1S	**Gladstone Soft**	**29.56**	**254**	P	**P**	**23 08 20.0**	**+0.2**
DCZ	**Deep Cove**	**29.75**	**202**	P	**P**	**23 08 21.3**	**+0.1**
EIDS	**Eidsvold**	**29.79**	**251**	P	**P**	**23 08 20.9**	**-1.0**
EIDS	**Eidsvold**	**29.79**	**251**	P	**P**	**23 08 20.6**	**-1.2**
comp=Z,127nm,1.0s							
EIDS	**Eidsvold**	**29.79**	**251**	P	**P**	**23 08 21.8**	**0.0**
WHZ	**Wether Hill Ro**	**29.85**	**200**	P	**P**	**23 08 22.9**	**+0.8**
WHZ	**Wether Hill Ro**	**29.85**	**200**	P	**P**	**23 08 22.6**	**+0.6**
RK1H	**Rockhampton Ha**	**30.14**	**255**	P	**P**	**23 08 24.1**	**-0.8**
ARMA	**Armidale**	**30.32**	**241**		**P**	**23 08 26.9**	**+0.4**
ARMA	**Armidale**	**30.32**	**241**	P	**P**	**23 08 26.8**	**+0.4**
comp=Z,228nm,0.6s							
ARMA	**Armidale**	**30.32**	**241**	P	**P**	**23 08 26.9**	**+0.4**
APZ	**The Paps**	**30.66**	**200**	P	**P**	**23 08 29.2**	**0.0**
NTLH	**Newcastle Hard**	**31.02**	**236**	P	**P**	**23 08 32.4**	**0.0**
KWJN	**Gagan, Kwajale**	**31.19**	**331**	P	**P**	**23 08 35.4**	**+1.4**
MGCD	**Mangrove Creek**	**31.59**	**236**	P	**P**	**23 08 36.7**	**-0.7**
comp=Z,103nm,0.8s							
MGCD	**Mangrove Creek**	**31.59**	**236**	P	**P**	**23 08 38.0**	**+0.6**
RIV	**Riverview**	**31.77**	**235**	P	**P**	**23 08 39.1**	**+0.2**
comp=Z,122nm,1.2s							
RIV	**Riverview**	**31.77**	**235**	P	**P**	**23 08 39.3**	**+0.4**
RIV	**Riverview**	**31.77**	**235**	P	**P**	**23 08 37.3**	**-1.6**
RIV				pmax	pmax		
comp=Z,120nm,1.2s							
SYDH	**Sydney Hard Ro**	**32.07**	**235**	P	**P**	**23 08 42.0**	**+0.6**
WOLH	**Wollongong Har**	**32.20**	**234**	P	**P**	**23 08 42.7**	**+0.2**
TV1H	**Townsville Har**	**33.65**	**263**	P	**P**	**23 08 54.0**	**-1.1**
CNB	**Canberra Magne**	**33.69**	**233**	P	**P**	**23 08 55.7**	**+0.4**
comp=Z,244nm,1.1s							
CNB	**Canberra Magne**	**33.69**	**233**	P	**P**	**23 08 55.9**	**+0.6**
CAN	**Canberra**	**33.97**	**234**	P	**P**	**23 08 58.5**	**+0.8**
CAN	**Canberra**	**33.97**	**234**	P	**P**	**23 08 57.7**	**+0.1**
comp=Z,184nm,1.5s							
CAN	**Canberra**	**33.97**	**234**	P	**P**	**23 08 58.0**	**+0.3**
CAN	**Canberra**	**33.97**	**234**	P	**P**	**23 08 58.5**	**+0.8**
CAN				pmax	pmax		
comp=Z,105nm,0.8s							
CAN	**Canberra**	**33.97**	**234**	P	**P**	**23 08 58.0**	**+0.3**
MILA	**Mila**	**34.50**	**231**	P	**P**	**23 09 01.5**	**-0.7**
comp=Z,26nm,1.3s							
PATS	**Pohnpei**	**34.59**	**314**	P	**P**	**23 09 02.6**	**-0.4**
PATS	**Pohnpei**	**34.59**	**314**	P	**P**	**23 09 02.8**	**-0.2**
PMG	**Port Moresby**	**35.29**	**280**	P	**P**	**23 09 08.4**	**-0.7**
PMG	**Port Moresby**	**35.29**	**280**	P	**P**	**23 09 08.5**	**-0.5**
comp=Z,117nm,0.8s,baz=76,slow=6.3,SNR=24							
comp=Z,117nm,0.8s							
PMG	**Port Moresby**	**35.29**	**280**	P	**P**	**23 09 08.8**	**-0.2**
PMG	**Port Moresby**	**35.29**	**280**	P	**P**	**23 09 08.5**	**-0.5**
CMSA	**Cobar Meteorol**	**35.53**	**241**	P	**P**	**23 09 10.7**	**-0.1**
comp=Z,284nm,0.8s							
CMSA	**Cobar Meteorol**	**35.53**	**241**	P	**P**	**23 09 10.8**	**-0.1**
QLP	**Quilpie**	**36.04**	**250**	P	**P**	**23 09 14.2**	**-0.9**
comp=Z,419nm,0.7s							
QLP	**Quilpie**	**36.04**	**250**	P	**P**	**23 09 14.9**	**-0.3**
MTSU	**Mount Surprise**	**36.10**	**264**	P	**P**	**23 09 14.3**	**-1.4**
comp=Z,52nm,0.9s							
MTSU	**Mount Surprise**	**36.10**	**264**	P	**P**	**23 09 15.2**	**-0.5**
GLAD	**Gladstone**	**36.98**	**225**	P	**P**	**23 09 23.0**	**+0.3**
TOO	**Toolangi**	**37.40**	**232**	P	**P**	**23 09 26.2**	**-0.1**
TOO	**Toolangi**	**37.40**	**232**	P	**P**	**23 09 26.7**	**+0.3**
comp=Z,107nm,0.9s							
TOO	**Toolangi**	**37.40**	**232**	P	**P**	**23 09 26.2**	**-0.1**
TOO				pmax	pmax		
comp=Z,72nm,0.8s							
TAOE	**Nuku Hiva Isla**	**37.57**	**80**	P	**P**	**23 09 28.9**	**+0.8**
TAOE	**Nuku Hiva Isla**	**37.57**	**80**	*e*P	**P**	**23 09 28.1**	**0.0**
comp=Z,344nm,1.2s							
TAOE	**Nuku Hiva Isla**	**37.57**	**80**	P	**P**	**23 09 28.7**	**+0.6**
COR0	**Coronation Par**	**37.77**	**225**	P	**P**	**23 09 30.2**	**+1.0**
COEN	**Coen**	**37.86**	**271**	P	**P**	**23 09 29.6**	**-0.8**
COEN	**Coen**	**37.86**	**271**	P	**P**	**23 09 29.2**	**-1.2**
comp=Z,144nm,0.9s							
COEN	**Coen**	**37.86**	**271**	P	**P**	**23 09 29.9**	**-0.5**
MLBS	**Spotswood, Mel**	**37.94**	**232**	P	**P**	**23 09 31.0**	**+0.4**
MANU	**Manus Island**	**38.00**	**291**		**P**	**23 09 31.3**	**-0.3**
MOO	**Moorlands**	**38.20**	**224**	P	**P**	**23 09 31.4**	**-1.3**
comp=Z,58nm,1.6s							
TAU	**Tasmania Unive**	**38.33**	**223**	P	**P**	**23 09 34.0**	**+0.2**
TAU				IAmb	IAmb	23 10 39.5	
comp=Z,32nm,1.1s							
TAU	**Tasmania Unive**	**38.33**	**223**	P	**P**	**23 09 34.0**	**+0.2**
TAU				pmax	pmax		
comp=Z,32nm,1.2s							
TAU	**Tasmania Unive**	**38.33**	**223**	P	**P**	**23 09 33.9**	**+0.2**
TAU				pP	**pP**	**23 10 56.1**	**+0.6**
GEXS	**Deakin Univers**	**38.51**	**231**	P	**P**	**23 09 35.6**	**+0.3**
STKA	**Stephens Creek**	**39.02**	**242**	P	**P**	**23 09 40.0**	**+0.3**
STKA	**Stephens Creek**	**39.02**	**242**	P	**P**	**23 09 39.6**	**0.0**
comp=Z,1μm,0.8s							
STKA	**Stephens Creek**	**39.02**	**242**	P	**P**	**23 09 40.0**	**+0.3**
comp=Z,179nm,0.7s,baz=90,slow=10.0,SNR=305							
comp=Z,179nm,0.7s							
STKA	**Stephens Creek**	**39.02**	**242**	P	**P**	**23 09 39.7**	**0.0**
INKA	**Innaminka**	**39.23**	**249**	P	**P**	**23 09 41.9**	**+0.5**
ARPS	**Mount Arapiles**	**39.93**	**234**	P	**P**	**23 09 46.6**	**-0.3**
comp=Z,265nm,0.8s							
ARPS	**Mount Arapiles**	**39.93**	**234**	P	**P**	**23 09 47.2**	**+0.3**
RKT	**Rikitea**	**40.03**	**104**	*e*P	**P**	**23 09 49.4**	**+1.5**
comp=Z,170nm,0.9s							
QIS	**Mount Isa**	**40.29**	**260**	P	**P**	**23 09 48.0**	**-2.1**
QIS	**Mount Isa**	**40.29**	**260**	P	**P**	**23 09 48.5**	**-1.6**
WAKE	**Wake Island**	**40.57**	**337**	P	**P**	**23 09 52.1**	**-0.1**
WAKE	**Wake Island**	**40.57**	**337**	P	**P**	**23 09 53.0**	**+0.8**
WAKE	**Wake Island**	**40.57**	**337**	P	**P**	**23 09 52.1**	**-0.1**
WAKE				pP	**pP**	**23 11 15.7**	**+0.2**
H11N3	**WAKE ISLAND Hy**	**40.88**	**337**	P	**P**	**23 09 54.7**	**+0.3**
baz=176,slow=11,SNR=8.5							
H11N1	**WAKE ISLAND Hy**	**40.88**	**337**	P	**P**	**23 09 54.6**	**+0.2**
baz=176,slow=11,SNR=9.4							
H11N2	**WAKE ISLAND Hy**	**40.89**	**337**	P	**P**	**23 09 54.9**	**+0.3**
baz=176,slow=11,SNR=5.2							
MGBR	**Mount Gambier**	**41.16**	**233**	P	**P**	**23 09 57.1**	**+0.3**
HTT	**Hallett**	**41.51**	**240**	P	**P**	**23 09 59.5**	**-0.2**
comp=Z,62nm,1.2s							
HTT	**Hallett**	**41.51**	**240**	P	**P**	**23 10 00.2**	**+0.5**
LCRK	**Leigh Creek**	**41.69**	**245**	P	**P**	**23 10 01.3**	**+0.2**
GHSS	**Government Hou**	**42.05**	**238**	P	**P**	**23 10 04.0**	**+0.1**
PTPS	**Port Pirie**	**42.24**	**241**	P	**P**	**23 10 05.8**	**+0.4**
WHYH	**Whyalla**	**42.56**	**241**	P	**P**	**23 10 08.0**	**0.0**
KHU	**Kahuku**	**43.26**	**31**	P	**P**	**23 10 12.7**	**-1.2**
KHU	**Kahuku**	**43.26**	**31**	P	**P**	**23 10 12.7**	**-1.2**
KHU				pmax	pmax		
comp=Z,604nm,1.8s							
OOD	**Oodnadatta**	**43.71**	**249**	P	**P**	**23 10 17.2**	**+0.1**
BBOO	**Buckleboo**	**43.80**	**242**		**P**	**23 10 17.6**	**-0.1**
BBOO	**Buckleboo**	**43.80**	**242**	P	**P**	**23 10 17.3**	**-0.4**
comp=Z,366nm,0.8s							
BBOO	**Buckleboo**	**43.80**	**242**	P	**P**	**23 10 17.4**	**-0.4**
KEKH	**Kekaha**	**43.86**	**24**	P	**P**	**23 10 17.

comp=Z,2μmcomp=Z,178nm,0.6s
SOEI Soe 56.82 270 P 23 11 54.4 +0.3
SOEI Soe 56.82 270 P **P 23 11 54.7 +0.6**
SOEI Soe 56.82 270 P **P 23 11 54.7 +0.6**
comp=Z,4μmcomp=Z,407nm,1.1s
TNTI Ternate 57.32 283 P 23 11 57.1 -0.3
TNTI Ternate 57.32 283 P **P 23 11 57.2 -0.1**
TNTI Ternate 57.32 283 P **P 23 11 57.1 -0.3**
comp=Z,1μmcomp=Z,123nm,1.1s
SANI Sanana 57.58 280 P 23 11 58.8 -0.3
SANI Sanana 57.58 280 P **P 23 11 57.8 -1.3**
comp=Z,2μmcomp=Z,185nm,0.9s
PSAD2 Pilbara Seismi 58.38 256 P **P 23 12 03.4 -1.1**
comp=Z,183nm,0.8s
PSAC2 Pilbara Seismi 58.45 256 P **P 23 12 03.9 -1.1**
comp=Z,233nm,0.8s
PSA00 Pilbara Seismi 58.49 256 P 23 12 04.4 -0.8
PSA00 Pilbara Seismi 58.49 256 P **P 23 12 04.1 -1.2**
PSA00 Pilbara Seismi 58.49 256 P **P 23 12 04.6 -0.7**
MBWA Marble Bar 58.67 256 P 23 12 05.5 -0.9
MBWA Marble Bar 58.67 256 P **P 23 12 05.5 -0.9**
MBWA Marble Bar 58.67 256 P **P 23 12 05.2 -1.2**
MEEK Meekatharra 58.94 250 P **P 23 12 06.9 -1.3**
comp=Z,122nm,0.8s
MEEK Meekatharra 58.94 250 P **P 23 12 07.5 -0.8**
MMRI Maumere 59.06 271 P 23 12 07.9 -1.3
MMRI Maumere 59.06 271 P **P 23 12 08.2 -1.0**
MMRI Maumere 59.06 271 P **P 23 12 08.1 -1.1**
comp=Z,113nm,0.8s
KLBR Kellerberrin 59.25 244 P **P 23 12 09.1 -1.1**
comp=Z,402nm,0.8s
KLBR Kellerberrin 59.25 244 P **P 23 12 10.2 -0.1**
EDFI Ende, Flores 59.54 271 P **P 23 12 11.2 -1.4**
comp=Z,1μmcomp=Z,104nm,0.9s
NWAO Narrogin (SRO) 59.61 242 P **P 23 12 12.5 -0.1**
NWAO IAmb IAmb 23 12 12.7
comp=Z,48nm,0.8s
NWAO Narrogin (SRO) 59.61 242 P **P 23 12 11.6 -1.0**
comp=Z,125nm,1.1s
NWAO Narrogin (SRO) 59.61 242 P **P 23 12 12.5 -0.1**
NWAO pmax pmax
comp=Z,48nm,0.8s
NWAO Narrogin (SRO) 59.61 242 P **P 23 12 12.1 -0.5**
RKGY Rocky Gully 59.74 240 P **P 23 12 13.0 -0.5**
comp=Z,40nm,0.8s
JCJ Chichijima 59.76 318 P **P 23 12 12.7 -0.9**
SBA Scott Base 59.91 184 P 23 12 16.5 +2.8
SBA IAmb IAmb 23 12 17.9
comp=Z,44nm,1.1s
SBA Scott Base 59.91 184 P **P 23 12 16.5 +2.8**
SBA pmax pmax
comp=Z,44nm,1.1s
SBA Scott Base 59.91 184 P **P 23 12 16.6 +2.8**
VNDA Vanda 59.95 185 P 23 12 15.9 +1.8
VNDA Vanda 59.95 185 P **P 23 12 15.8 +1.7**
comp=Z,5.3nm,0.6s,baz=1.2,slow=7.5,SNR=26
comp=Z,5.3nm,0.6s
VNDA Vanda 59.95 185 P **P 23 12 15.9 +1.8**
VNDA pmax pmax
comp=Z,32nm,1.6s
VNDA Vanda 59.95 185 P **P 23 12 15.8 +1.7**
VNDA PcP **PcP 23 12 54.1 -0.8**
BLDU Ballidu 60.22 245 P **P 23 12 15.4 -1.4**
comp=Z,106nm,1.3s
BLDU Ballidu 60.22 245 P **P 23 12 16.0 -0.8**
KMSI Cibinong 60.39 282 P **P 23 12 17.2 -0.9**
comp=Z,311nm,0.8s
MUN Mundaring 60.54 243 P **P 23 12 18.1 -0.7**
comp=Z,111nm,0.9s
MUN Mundaring 60.54 243 P **P 23 12 18.9 +0.1**
WSI Waingapu 60.61 269 P **P 23 12 19.0 -0.6**
comp=Z,396nm,1.4s
LUWI Luwuk 60.94 279 P 23 12 21.1 -0.7
LUWI Luwuk 60.94 279 P **P 23 12 22.3 +0.6**
LUWI Luwuk 60.94 279 P **P 23 12 22.1 +0.4**
comp=Z,2μmcomp=Z,179nm,1.1s
MORW Morawa 60.94 247 P 23 12 20.9 -0.7
MORW IAmb IAmb 23 12 21.2
comp=Z,42nm,0.7s
MORW Morawa 60.94 247 P **P 23 12 20.3 -1.3**
comp=Z,80nm,1.0s
MORW Morawa 60.94 247 P **P 23 12 21.3 -0.3**
WBSI Waikabubak, Su 61.48 269 P **P 23 12 24.2 -1.2**
comp=Z,98nm,1.0s
APSI Ampana 62.03 279 P **P 23 12 29.3 +0.3**
comp=Z,2μmcomp=Z,189nm,1.1s
BNSI Bone 62.34 275 P **P 23 12 30.8 -0.1**
KAPI Kappang 62.48 274*d iP* **P 23 12 30.9 -1.0**
KAPI pmax pmax
comp=Z,24nm,1.1s
SPSI Sidrap Palu 62.79 275 P **P 23 12 32.1 -1.8**
PLAI Plampang 63.24 269 P **P 23 12 36.5 -0.3**
PLAI Plampang 63.24 269 P **P 23 12 35.8 -1.0**
comp=Z,2μmcomp=Z,166nm,0.9s
GIRL Giralia 63.45 253 P **P 23 12 38.7 +0.6**
GIRL Giralia 63.45 253 P **P 23 12 38.3 +0.2**
comp=Z,398nm,0.7s
TOLI2 Tolitoli 63.56 281 P 23 12 38.2 -0.6
TOLI2 Tolitoli 63.56 281 P **P 23 12 38.0 -0.9**
PCI Palu 63.74 278 P **P 23 12 40.9 +0.9**
comp=Z,228nm,0.9s
MPSI Mapaga 64.11 280 P 23 12 41.6 -0.8
comp=Z,88nm,1.0s
CCD Concordia, Ant 64.51 194 P **P 23 12 45.0 +0.6**
JHJ2 Mitsune 65.45 321 P **P 23 12 49.5 -1.0**
CASY Casey 65.94 205 P **P 23 12 53.6 +0.6**
CASY IAmb IAmb 23 12 54.6
comp=Z,26nm,1.1s
CASY Casey 65.94 205 P **P 23 12 53.4 +0.4**
JAGI Jajag, Banyuwa 66.78 269 P **P 23 12 57.6 -1.7**
JAGI Jajag, Banyuwa 66.78 269 P **P 23 12 59.3 +0.1**
JAGI Jajag, Banyuwa 66.78 269 P **P 23 12 57.2 -2.0**
comp=Z,179nm,0.8s
MYLDM Lahad Datu 67.17 284 P 23 13 02.8 +1.1
MYLDM IAmb IAmb 23 13 04.9
comp=Z,45nm,1.1s
MYLDM Lahad Datu 67.17 284 P **P 23 13 01.8 +0.1**
JMM Marumori 68.33 326 P **P 23 13 08.8 +0.5**
JMM IAmb IAmb 23 13 08.9
comp=Z,53nm,1.2s
JGF Kuroka 68.64 322 P **P 23 13 10.0 -0.3**
JGF IAmb IAmb 23 13 10.8
comp=Z,22nm,0.7s
JGF Kuroka 68.64 322 P **P 23 13 10.5 +0.2**
MJAR Matsushiro Arr 68.81 323 P **P 23 13 10.7 -0.5**
comp=Z,37nm,0.8s,baz=157,slow=5.7,SNR=67
comp=Z,37nm,0.8s
MAJO Matsushiro 68.81 323 P 23 13 10.6 -0.6
MAJO IAmb IAmb 23 13 11.6
comp=Z,40nm,0.8s
MAJO Matsushiro 68.81 323 P P 23 13 11.1 -0.1
MAJO Matsushiro 68.81 323*d iP* **P 23 13 10.8 -0.4**
MAJO pmax pmax
comp=Z,41nm,0.8s
MAJO Matsushiro 68.81 323 P **P 23 13 10.6 -0.6**
MJB9 Matsu-Tunnel 68.81 323 P **P 23 13 11.2 0.0**
MJB9 IAmb IAmb 23 13 12.6
comp=Z,38nm,0.8s
JOW Kunigami 69.16 309 P 23 13 13.9 +0.4
JOW Kunigami 69.16 309 P **P 23 13 13.6 +0.1**
JMN Monobe 69.51 318 P 23 13 15.6 +0.1
JMN IAmb IAmb 23 13 17.1
comp=Z,49nm,1.0s
JMN Monobe 69.51 318 P **P 23 13 16.1 +0.5**
KKM Kota Kinabalu 69.61 284 P 23 13 15.7 -1.0
KKM IAmb IAmb 23 13 17.1
comp=Z,52nm,1.0s
NGJI Ngawi 69.64 269 P **P 23 13 17.0 +0.2**
comp=Z,103nm,0.9s
PCJI Pacitan 69.68 268 P **P 23 13 16.8 -0.1**
JSD Sado 69.83 324 P 23 13 17.6 +0.3
JSD IAmb IAmb 23 13 18.3
comp=Z,22nm,0.7s
JSD Sado 69.83 324 P **P 23 13 17.4 +0.1**
UGM Wanagama 70.38 268 P 23 13 20.4 -0.8
ATKA Atka Island 70.44 2 P 23 13 21.0 +0.4
SMRI Semarang 70.70 269 P 23 13 22.6 -0.5
SMRI Semarang 70.70 269 P **P 23 13 23.4 +0.3**
SMRI Semarang 70.70 269 P **P 23 13 23.4 +0.3**
comp=Z,3μmcomp=Z,128nm,0.7s
JNU Nakatsue 71.06 316 P **P 23 13 24.1 -0.7**
JNU IAmb IAmb 23 13 25.4
comp=Z,44nm,1.2s
JNU Nakatsue 71.06 316 P **P 23 13 24.5 -0.3**
QSPA South Pole Qui 71.58 180 P 23 13 28.4 +0.8
QSPA South Pole Qui 71.58 180 P **P 23 13 28.5 +0.9**
comp=Z,36nm,0.8s,baz=252,slow=0.5,SNR=221
comp=Z,36nm,0.8s
QSPA South Pole Qui 71.58 180 P **P 23 13 28.3 +0.8**
QSPA PcP **PcP 23 13 46.0 +2.3**
QSPA pP **pwP 23 15 06.2 -0.8**
YOJ Yonaguni jima 71.88 304 P 23 13 29.3 -0.5
YOJ Yonaguni jima 71.88 304 P **P 23 13 29.3 -0.5**
YOJ pmax pmax
comp=Z,130nm,0.7s
STKI Sintang 71.93 276 P **P 23 13 30.7 +0.4**
comp=Z,88nm,0.9s
SBUM Sibu 72.03 279 P 23 13 30.7 -0.2
SBUM IAmb IAmb 23 13 32.1
comp=Z,32nm,1.2s
SBUM Sibu 72.03 279 P **P 23 13 31.1 +0.2**
JKA Kamikawa-asahi 72.13 331 P **P 23 13 31.8 +1.0**
JKA IAmb IAmb 23 15 47.3
comp=Z,82nm,1.7s
ASAJ Asahikawa 72.13 331 P **P 23 13 31.8 +1.0**
ASAJ pmax pmax
comp=Z,82nm,1.7s
TWGBT Beinan 72.60 302 P **P 23 13 32.4 -1.6**
TWG Pinlang 72.61 302 P **P 23 13 32.3 -1.7**
YULB Yu-li 72.70 303 P **P 23 13 33.5 -1.1**
YULB IAmb IAmb 23 13 34.2
comp=Z,31nm,0.6s
YULB Yu-li 72.70 303 P **P 23 13 34.0 -0.6**
NACB Ninganchiao 72.85 303 P **P 23 13 34.4 -1.1**
NACB Ninganchiao 72.85 303 P **P 23 13 34.8 -0.6**
SSLB Suanglung 73.17 303 P **P 23 13 35.9 -1.4**
SSLB Suanglung 73.17 303 P **P 23 13 36.5 -0.8**
TPUB Ta-pu 73.19 302 P **P 23 13 35.9 -1.6**
TPUB Ta-pu 73.19 302 P **P 23 13 36.5 -1.0**
BBJI Bungbulang 73.23 268 P **P 23 13 37.2 -0.8**
YHNB Yeheng 73.27 304 P 23 13 36.9 -1.1
YHNB Yeheng 73.27 304 P **P 23 13 37.6 -0.3**
TATO Taipei 73.33 304 P **P 23 13 37.8 -0.4**
TATO Taipei 73.33 304 P **P 23 13 37.7 -0.4**
KSM Kuching 73.50 277 P **P 23 13 39.3 -0.1**
KSM Kuching 73.50 277 P **P 23 13 39.6 +0.2**
CNJI Cibinong 73.77 268 P **P 23 13 39.3 -1.7**
comp=Z,76nm,1.1s
YSS Yuzhno-Sakhali 74.26 333 P **P 23 13 43.6 +0.7**
YSS Yuzhno-Sakhali 74.26 333 *eP* **P 23 13 43.1 +0.2**
YSS pmax pmax
comp=Z,20nm,0.9s
SKJI Sukabumi 74.40 268 P **P 23 13 43.6 -1.0**
PEA0B Petropavlovsk- 74.42 345 P **P 23 13 42.8 -1.0**
PEA0B IAmb IAmb 23 13 45.4
comp=Z,14nm,0.8s
PEA0B Petropavlovsk- 74.42 345⇓*iP* **P 23 13 42.4 -1.3**
PETK Petropavlovsk- 74.42 345 P **P 23 13 43.2 -0.5**
PETK Petropavlovsk- 74.42 345 P **P 23 13 42.7 -1.0**
comp=Z,8.3nm,0.8s,baz=126,slow=7.5,SNR=13
comp=Z,8.3nm,0.8s
PETK Petropavlovsk- 74.42 345 P **P 23 13 43.2 -0.5**
CNBA Chernabura Isl 74.61 11 P **P 23 13 43.8 -1.0**
CNBA IAmb IAmb 23 15 01.9
comp=Z,31nm,1.2s
SDPT Sand Point 74.96 10 P **P 23 13 45.0 -1.7**
SDPT IAmb IAmb 23 14 23.6
comp=Z,36nm,1.0s
S12K Black Hills 75.05 9 P **P 23 13 46.2 -1.0**
CGJI Cibinong 75.34 268 P **P 23 13 48.4 -1.4**
KNMB Chin-men Tao 75.55 302 P **P 23 13 50.8 0.0**
KSRS Korea Array 75.62 318 P **P 23 13 51.6 +0.8**
comp=Z,6.5nm,0.7s,baz=129,slow=6.4,SNR=33
KSRS PP **PP 23 16 53.8 +5.5**
comp=Z,2.4nm,0.9s,baz=132,slow=9.3,SNR=5.8
comp=Z,6.5nm,0.7s
MCCM Marconi Confer 76.21 42 P **P 23 13 53.8 -0.3**
SAO San Andreas Ge 76.31 43 P **P 23 13 55.8 +1.0**
SAO IAmb IAmb 23 13 56.6
comp=Z,38nm,0.8s
SAO San Andreas Ge 76.31 43 P **P 23 13 55.8 +1.0**
SAO pmax pmax
comp=Z,38nm,0.9s
PMPB Monarch Peak 76.42 44 P **P 23 13 55.9 +0.4**
PMPB IAmb IAmb 23 13 57.5
comp=Z,27nm,0.8s
INCN Inchon 76.46 317 P **P 23 13 55.0 -0.6**
BCW Bitter Crk WRg 76.63 46 P **P 23 13 57.6 +0.9**
BCW IAmb IAmb 23 13 58.9
comp=Z,44nm,1.1s
KCPM Cahto Peak 76.72 40 P **P 23 13 57.0 -0.1**
KMPM Mount Pierce 76.84 39 P **P 23 13 59.0 +1.3**
MSHR Mys Shultsa 76.90 324*ceP* **P 23 13 58.2 +0.4**
MSHR pmax pmax
comp=Z,49nm,0.8s
KMRM Mail Ridge 76.97 39 P **P 23 13 59.5 +1.2**
PASC Pasadena Art C 77.05 47 P **P 23 13 59.4 +0.5**
PASC IAmb IAmb 23 14 00.3
comp=Z,31nm,0.8s
CBX Cerro Bola 77.14 49 P 23 14 00.2 +0.6
CBX IAmb IAmb 23 14 01.5
comp=Z,39nm,0.8s
JCC Jacoby Creek, 77.14 39 P **P 23 14 00.1 +1.0**
ELS Elsinore Mount 77.30 48 P **P 23 14 00.6 +0.3**
ELS IAmb IAmb 23 14 02.1
comp=Z,30nm,0.8s
TYV Tymovskoe 77.35 335 *eP* **P 23 14 00.8 +0.7**
TYV pmax pmax
comp=Z,19nm,1.2s
TYV pmax pmax
comp=Z,100nm,2.2s
KHMM Horse Mountain 77.36 39 P **P 23 14 01.7 +1.1**
KHMM IAmb IAmb 23 14 03.3
comp=Z,28nm,1.1s
KRPM Rodgers 77.36 39 P **P 23 14 01.3 +0.8**
ESJX Sierra Juarez 77.50 50 P **P 23 14 01.7 +0.1**
ESJX IAmb IAmb 23 14 03.9
comp=Z,46nm,1.1s
O02D Mt. Diablo Mer 77.50 40 P 23 14 02.5 +1.2
O02D IAmb IAmb 23 14 03.6
comp=Z,33nm,0.9s
USA0B Ussuriysk Arra 77.50 325 P **P 23 14 01.9 +0.8**
USA0B Ussuriysk Arra 77.50 325 P **P 23 14 01.9 +0.8**
USA0B pmax pmax
comp=Z,16nm,1.1s
USRK Ussuriysk Ar. 77.50 325 P **P 23 14 02.5 +1.5**
USRK Ussuriysk Ar. 77.50 325 P **P 23 14 02.4 +1.3**
comp=Z,9.4nm,0.8s,baz=121,slow=4.4,SNR=12
comp=Z,9.4nm,0.8s
R16K Pilot Point 77.57 11 P **P 23 14 01.6 +0.5**
ISA Isabella, Lake 77.67 46 P **P 23 14 02.5 +0.2**
ISA IAmb IAmb 23 14 04.2
comp=Z,36nm,0.9s
ISA Isabella, Lake 77.67 46 P **P 23 14 02.5 +0.2**
ISA pmax pmax
comp=Z,36nm,0.9s
CCAC Calif City Air 77.70 46 P **P 23 14 03.2 +0.7**
CCAC IAmb IAmb 23 14 05.5
comp=Z,28nm,0.9s
CMB Columbia Colle 77.74 43 P 23 14 03.0 +0.4
CMB IAmb IAmb 23 14 04.1
comp=Z,27nm,0.8s
CMB Columbia Colle 77.74 43 P **P 23 14 03.0 +0.4**
CMB pmax pmax
comp=Z,27nm,0.9s
SFX San Felipe 77.81 51 P **P 23 14 03.0 0.0**
SFX IAmb IAmb 23 14 04.8
comp=Z,27nm,0.9s
YUH Yuha Desert 77.84 49 P **P 23 14 04.0 +0.8**
YUH IAmb IAmb 23 14 05.2
comp=Z,34nm,0.9s
AFDM Forest Hills D 77.89 42 P **P 23 14 03.7 +0.2**
AFDM IAmb IAmb 23 14 05.4
comp=Z,23nm,1.0s
ORV Oroville 77.92 41 P **P 23 14 03.7 +0.2**
ORV IAmb IAmb 23 14 05.0
comp=Z,20nm,1.0s
ORV Oroville 77.92 41 P **P 23 14 03.7 +0.2**
ORV pmax pmax
comp=Z,20nm,1.0s
PFO Pinyon Flats O 77.96 48 P **P 23 14 04.0 0.0**
PFO IAmb IAmb 23 14 05.9
comp=Z,25nm,1.0s
PFO Pinyon Flats O 77.96 48⇑*iP* **P 23 14 03.8 -0.2**
PFO pmax pmax
comp=Z,29nm,0.9s
SRIG Santa Rosalia 77.99 56 P **P 23 14 03.9 -0.2**
SRIG IAmb IAmb 23 14 06.2
comp=Z,56nm,1.2s
OHAK Old Harbor 78.10 13 P **P 23 14 03.4 -0.6**
OHAK IAmb IAmb 23 14 24.4
comp=Z,21nm,1.2s
SLBS Sierra La Lagu 78.19 60 P **P 23 14 05.9 +0.5**
YBH Yreka Blue Hor 78.49 39 P **P 23 14 07.3 +0.7**
YBH IAmb IAmb 23 14 08.6
comp=Z,20nm,0.9s
YBH Yreka Blue Hor 78.49 39 P **P 23 14 07.2 +0.6**
comp=Z,15nm,0.7s,baz=348,slow=14,SNR=4.5
comp=Z,15nm,0.7s
YBH Yreka Blue Hor 78.49 39 P **P 23 14 07.3 +0.7**
YBH pmax pmax
comp=Z,20nm,0.9s
ACHA Angle Creek He 78.60 12 P **P 23 14 06.3 -0.5**
GSC Goldstone, Bar 78.62 47 P **P 23 14 07.5 0.0**
GSC IAmb IAmb 23 14 09.2
comp=Z,28nm,1.2s
GSC Goldstone, Bar 78.62 47 P **P 23 14 07.5 0.0**
GSC pmax pmax
comp=Z,28nm,1.3s
WAKR Walker 78.62 43 P **P 23 14 08.0 +0.5**
WAKR IAmb IAmb 23 14 09.5
comp=Z,37nm,0.8s
J01E Myrtle Point 78.66 37 P **P 23 14 07.8 +0.4**
J01E IAmb IAmb 23 14 08.9
comp=Z,36nm,1.1s
HATC Hat Creek Radi 78.69 40 P **P 23 14 08.4 +0.7**
HATC IAmb IAmb 23 14 09.6
comp=Z,37nm,0.9s
MPK Martis Peak 78.69 42 P **P 23 14 08.3 +0.2**
KDAK Kodiak Island 78.77 13 P **P 23 14 07.1 -0.5**
KDAK IAmb IAmb 23 16 07.3
comp=Z,70nm,1.6s
KDAK Kodiak Island 78.77 13 P **P 23 14 07.0 -0.6**
comp=Z,6.2nm,0.6s,baz=248,slow=1.5,SNR=11
comp=Z,6.2nm,0.6s
KDAK Kodiak Island 78.77 13 P **P 23 14 07.1 -0.5**
KDAK pmax pmax
comp=Z,70nm,1.6s
BEKR Beckworth 78.81 41 P **P 23 14 09.1 +0.5**
BEKR IAmb IAmb 23 14 10.0
comp=Z,58nm,1.4s
GLA Glamis 78.84 50 P **P 23 14 09.9 +1.2**
GLA Glamis 78.84 50 P **P 23 14 09.9 +1.2**
GLA pmax pmax
comp=Z,50nm,0.9s
PNTR Pine Nut 78.85 42 P **P 23 14 09.3 +0.5**
NJ2 Nanjing 78.88 309⇓*iP* **P 23 14 09.3 +0.5**
NJ2 pmax pmax
comp=Z,32nm,1.0s
DSP Deep Springs 78.95 44 P 23 14 09.8 +0.8
DSP IAmb IAmb 23 14 11.2
comp=Z,44nm,1.1s
L04D Klamath Falls 79.03 38 P **P 23 14 10.2 +0.6**
L04D IAmb IAmb 23 14 11.1
comp=Z,34nm,0.9s
DBO Dodson Butte 79.03 37 P **P 23 14 10.2 +0.7**
MDJ Mudanjiang 79.08 325 P **P 23 14 10.1 +0.5**
MDJ Mudanjiang 79.08 325 P **P 23 14 10.1 +0.5**
MDJ pmax pmax
comp=Z,65nm,0.9s
MDJ Mudanjiang 79.08 325 P **P 23 14 09.9 +0.3**
LHV Little Huntoon 79.08 43 P **P 23 14 10.5 +0.7**
LHV IAmb IAmb 23 14 11.9
comp=Z,50nm,1.1s
PIX Pinacate 79.10 51 P **P 23 14 10.7 +0.7**
PIX IAmb IAmb 23 14 11.9
comp=Z,33nm,1.0s
GRAC Grapevine Rang 79.14 45 P **P 23 14 10.9 +0.7**
GWY Greenwater Val 79.18 46 P 23 14 09.9 -0.6
N14K Kuskokwak Cree 79.19 8 P **P 23 14 09.3 -0.4**
N14K IAmb IAmb 23 16 29.1
comp=Z,18nm,1.0s
BBOR Butler Butte 79.21 38 P **P 23 14 10.6 0.0**
RYN Ryan 79.28 43 P **P 23 14 11.0 0.0**
RYN IAmb IAmb 23 14 12.8
comp=Z,34nm,1.2s
I02E Swisshome, OR 79.30 36 P **P 23 14 11.4 +0.7**
NVAR Mina Array Bea 79.31 43 P **P 23 14 11.6 +0.3**
NVAR Mina Array Bea 79.31 43 P **P 23 14 11.9 +0.6**
comp=Z,26nm,0.8s,baz=225,slow=8.7,SNR=103
NVAR pP **pP 23 15 50.7 +0.8**
comp=Z,4.4nm,1.0s,baz=222,slow=9.8,SNR=4.2
comp=Z,26nm,0.8s
I03D Drain, OR 79.33 37 P **P 23 14 10.9 0.0**
I03D IAmb IAmb 23 14 12.5
comp=Z,27nm,1.2s
PAHR Pah Rah Range 79.34 42 P **P 23 14 11.7 +0.4**
PAHR IAmb IAmb 23 14 13.0
comp=Z,29nm,1.0s
NV11 Mina Array Sit 79.41 43 P **P 23 14 12.1 +0.4**
NV11 IAmb IAmb 23 14 13.5
comp=Z,48nm,1.2s
BLYC Blythe 79.42 49 P 23 14 12.6 +1.0
BLYC IAmb IAmb 23 14 13.8
comp=Z,36nm,0.8s
113A Mohawk Valley, 79.47 50 P **P 23 14 12.8 +0.8**
113A IAmb IAmb 23 14 14.1
comp=Z,33nm,0.8s
WCT Wildcat Mounta 79.53 46 P **P 23 14 12.8 +0.4**
WCT IAmb IAmb 23 14 14.1
comp=Z,29nm,1.4s
N15K Kwethluk River 79.64 9 P **P 23 14 12.3 +0.1**
N15K IAmb IAmb 23 15 25.7
comp=Z,20nm,1.3s
MYKOM Kota Tinggi 79.70 275 P **P 23 14 13.6 0.0**
P18K Big Mountain, 79.72 11 P **P 23 14 11.5 -1.2**
J04A Umpqua Nationa 79.76 38 P **P 23 14 14.1 +0.5**
HSIG 79.79 55 P **P 23 14 14.4 +0.6**
HSIG IAmb IAmb 23 14 15.5
comp=Z,16nm,0.8s
BUCK Buck Mountain 79.84 37 P **P 23 14 14.1 +0.3**
BUCK IAmb IAmb 23 14 15.5
comp=Z,39nm,1.1s
TPNV Topopah Spring 79.87 46 P **P 23 14 14.2 0.0**
TPNV IAmb IAmb 23 14 16.0
comp=Z,20nm,1.1s
TPNV Topopah Spring 79.87 46 P **P 23 14 14.2 0.0**
TPNV pmax pmax
comp=Z,20nm,1.1s
GRNR Gornyy 79.88 332⇓*iP* **P 23 14 14.9 +1.2**
GRNR pmax pmax
comp=Z,20nm,0.8s
M14K Bethel 79.95 8 P **P 23 14 14.1 +0.3**
H04D Lebanon 80.18 36 P **P 23 14 15.2 -0.3**
H04D IAmb IAmb 23 14 17.7
comp=Z,25nm,1.0s
V12A Nelson 80.19 47 P **P 23 14 15.9 0.0**
J05D Fort Rock, OR 80.30 38 P **P 23 14 16.8 +0.5**
SMAI San Martin Ant 80.36 159 P **P 23 14 16.9 +0.8**
SHPR Sheep Range 80.38 46 P **P 23 14 17.3 +0.4**
W13A Hualapai Mount 80.55 48 P **P 23 14 18.6 +0.7**
S11A Rachel 80.58 45 P **P 23 14 17.2 -0.7**
S11A IAmb IAmb 23 14 19.0
comp=Z,39nm,1.1s
H04A Detroit Lake 80.59 37 P **P 23 14 17.3 -0.3**
H04A IAmb IAmb 23 14 18.2
comp=Z,21nm,0.6s
Y14A Wickenburg 80.60 50 P **P 23 14 18.7 +0.7**
Y14A IAmb IAmb 23 14 20.0
comp=Z,26nm,1.0s
M16K Timber Creek 80.63 9 P **P 23 14 17.4 0.0**
M16K IAmb IAmb 23 14 26.6
comp=Z,33nm,1.4s
O19K Port Alsworth 80.64 12 P **P 23 14 16.8 -0.7**
O19K IAmb IAmb 23 14 17.1
comp=Z,13nm,0.7s
ILSW Iliamna Southw 80.67 12 P **P 23 14 16.8 -1.0**
G04A Mulino 80.75 36 P **P 23 14 18.9 +0.5**
G04A IAmb IAmb 23 14 20.9
comp=Z,35nm,0.8s
PINE Pine Mountain 80.77 38 P **P 23 14 18.7 -0.1**
I05D Terrebonne, OR 80.87 37 P **P 23 14 18.7 -0.4**
I05D IAmb IAmb 23 14 20.7
comp=Z,20nm,0.9s
PRN Pahroc Range 80.93 46 P **P 23 14 20.4 +0.7**
PRN IAmb IAmb 23 14 21.9
comp=Z,38nm,1.0s
KLR Kul'dur 80.98 329*ceP* **P 23 14 19.9 +0.4**
KLR pmax pmax
comp=Z,12nm,1.4s
BNX BinXian 80.99 325⇓*P* **P 23 14 19.8 +0.2**
BNX pP **pP 23 15 57.8 -1.6**
BNX S **S 23 23 53.3 +2.6**
BNX pmax pmax

comp=Z,48nm,0.9s
E03A Lebam 80.99 34 P P 23 14 19.8 +0.3
E03A IAmb IAmb 23 14 21.2
comp=Z,46nm,1.1s
F04D Rainier, OR 81.00 35 P P 23 14 19.6 -0.1
F04D IAmb IAmb 23 14 21.1
comp=Z,36nm,0.7s
R11B Troy Canyon, C 81.06 45 P P 23 14 20.1 -0.3
M17K Holitna River 81.22 10 P P 23 14 20.6 +0.1
HOOD Mount Hood Mea 81.28 36 P P 23 14 20.9 -0.5
HOOD IAmb IAmb 23 14 22.6
comp=Z,37nm,1.2s
WVOR Wild Horse Val 81.35 40 P P 23 14 22.0 +0.2
WVOR IAmb IAmb 23 14 23.5
comp=Z,34nm,1.0s
WVOR Wild Horse Val 81.35 40 P P 23 14 22.0 +0.2
WVOR pmax pmax
comp=Z,34nm,1.0s
NLWA Neilton Lookou 81.36 34 P P 23 14 22.0 +0.4
NLWA IAmb IAmb 23 14 24.4
comp=Z,14nm,0.8s
TUC Tucson 81.45 52 P P 23 14 22.9 +0.4
TUC Tucson 81.45 52 P P 23 14 22.9 +0.4
TUC pmax pmax
comp=Z,47nm,0.9s
K15K Wolf Creek Mou 81.50 8 P P 23 14 22.2 +0.4
K15K IAmb IAmb 23 14 30.9
comp=Z,23nm,1.2s
BELA Belgrano 2 81.51 173 P P 23 14 21.3 -0.6
BELA IAmb IAmb 23 14 23.0
comp=Z,35nm,1.2s
WHN Wuhan 81.54 306 P P 23 14 23.8 +1.0
WHN pmax pmax
comp=Z,70nm,1.0s
I07A Izee 81.78 38 P P 23 14 24.3 +0.4
I07A IAmb IAmb 23 14 25.6
comp=Z,28nm,0.9s
G06A Carlson Farm, 81.81 37 P P 23 14 24.0 +0.1
LCMT Little Creek M 81.97 47 P P 23 14 25.8 +0.7
LCMT IAmb IAmb 23 14 27.0
comp=Z,19nm,0.9s
J08A Circle Bar Ran 81.98 39 P P 23 14 25.3 +0.4
J08A IAmb IAmb 23 14 26.6
comp=Z,59nm,1.3s
LON Longmire 82.06 35 P P 23 14 24.9 -0.3
LON Longmire 82.06 35 P P 23 14 24.9 -0.3
LON pmax pmax
comp=Z,8.0nm,0.7s
L18K Granite Mounta 82.12 10 P P 23 14 24.9 -0.2
319A Douglas 82.16 53 P P 23 14 27.6 +1.5
TIA Tai'an 82.18 312 P P 23 14 26.5 +0.5
TIA PcP PcP 23 14 32.8 +2.7
TIA pmax pmax
comp=Z,16nm,1.0s
D05A Enumclaw 82.23 35 P P 23 14 26.6 +0.6
KNB Kanab 82.26 47 P P 23 14 27.4 +0.8
KNB IAmb IAmb 23 14 28.7
comp=Z,24nm,0.8s
KNB Kanab 82.26 47 P P 23 14 27.4 +0.8
KNB pmax pmax
comp=Z,24nm,0.8s
CBB Campbell River 82.30 31 P P 23 14 26.4 +0.1
CBB IAmb IAmb 23 14 27.4
comp=Z,21nm,1.2s
PSUT Pine Spring 82.32 45 P P 23 14 27.0 0.0
PSUT IAmb IAmb 23 14 28.4
comp=Z,17nm,0.7s
U15A North Rim 82.34 48 P P 23 14 28.0 +0.8
K17K Iditarod 82.34 9 P P 23 14 27.0 +0.8
GULI GuiLin 82.44 300 P P 23 14 28.5 +0.9
WUAZ Wupatki 82.55 49 P P 23 14 28.2 +0.1
WUAZ IAmb IAmb 23 14 30.3
comp=Z,28nm,1.1s
ELK Elko 82.56 43 P P 23 14 28.1 0.0
ELK IAmb IAmb 23 14 29.6
comp=Z,18nm,0.8s
ELK Elko 82.56 43 P P 23 14 28.1 0.0
ELK pmax pmax
comp=Z,18nm,0.9s
J16K Anvik River 82.57 8 P P 23 14 27.3 0.0
F07A Phinny Hill Vi 82.60 37 P P 23 14 27.4 -0.4
F07A IAmb IAmb 23 14 29.2
comp=Z,16nm,0.8s
MXC Moxie City 82.79 36 P P 23 14 29.0 +0.1
MXC IAmb IAmb 23 14 30.3
comp=Z,17nm,1.1s
G08A Pilot Rock 82.80 37 P P 23 14 29.5 +0.4
G08A IAmb IAmb 23 14 30.6
comp=Z,41nm,1.2s
A04D Lummi Island 82.80 33 P P 23 14 29.5 +0.7
UBPT Khong Chiam 82.82 289 P P 23 14 28.8 -0.8
UBPT Khong Chiam 82.82 289 P P 23 14 29.7 0.0
PKCU Pink Cliffs 82.83 47 P P 23 14 31.0 +1.3
DUN6 Lazy B Ranch 82.83 52 P P 23 14 30.1 +0.5
TTA Tatalina 82.90 10 P P 23 14 28.2 -0.9
TTA Tatalina 82.90 10 P P 23 14 30.1 +1.0
TTA Tatalina 82.90 10 P P 23 14 28.2 -0.9
TTA pmax pmax
comp=Z,9.0nm,1.2s
LTY Liberty 82.99 35 P P 23 14 29.8 -0.2
LTY IAmb IAmb 23 14 30.9
comp=Z,12nm,0.9s
E07A Sunnyside 83.03 36 P P 23 14 30.4 +0.3
E07A IAmb IAmb 23 14 31.6
comp=Z,27nm,0.9s
HPIG 83.07 59 P P 23 14 31.4 +0.3
HPIG IAmb IAmb 23 14 33.2
comp=Z,49nm,1.3s
X18A Snowflake 83.11 50 P P 23 14 31.9 +0.9
X18A IAmb IAmb 23 14 33.1
comp=Z,13nm,0.7s
HAWA Hanford 83.11 36 P P 23 14 30.8 +0.3
HAWA IAmb IAmb 23 14 31.9
comp=Z,28nm,0.9s
GHO Glory Hole Cre 83.18 13 P P 23 14 29.9 -0.7
GHO IAmb IAmb 23 14 30.0
comp=Z,12nm,0.5s
MTPU Mount Pierson 83.21 46 P P 23 14 32.8 +1.2
MTPU IAmb IAmb 23 14 34.2
comp=Z,29nm,0.8s
J18K Innoko River 83.29 9 P P 23 14 30.2 -0.8
MVU Marysvale 83.42 46 P P 23 14 33.4 +0.9
MVU IAmb IAmb 23 14 34.8
comp=Z,21nm,1.1s
MSU Marysvale 83.44 46 P P 23 14 33.2 +0.6
MSU Marysvale 83.44 46 P P 23 14 33.3 +0.6
BMO Blue Mountains 83.51 38 P P 23 14 32.7 0.0
BMO Blue Mountains 83.51 38 P P 23 14 32.7 0.0
BMO pmax pmax
comp=Z,8.0nm,0.8s
LNOR Lincton Mounta 83.52 37 P P 23 14 32.4 -0.2
MAW Mawson 83.58 200 P P 23 14 33.2 +0.7
MAW Mawson 83.58 200 P P 23 14 32.5 0.0
comp=Z,6.6nm,0.7s,baz=140,slow=6.5,SNR=12
comp=Z,6.6nm,0.7s
MAW Mawson 83.58 200 P P 23 14 33.2 +0.7
MAW pmax pmax
comp=Z,4.0nm,1.2s
SCM Sheep Creek Mo 83.59 14 P P 23 14 31.8 -0.8
SCM IAmb IAmb 23 14 35.9
comp=Z,24nm,1.3s
SCM Sheep Creek Mo 83.59 14 P P 23 14 31.8 -0.8
SCM pmax pmax
comp=Z,24nm,1.3s
MFID Camas Ranch 83.61 40 P P 23 14 33.1 -0.2
MFID IAmb IAmb 23 14 34.8
comp=Z,24nm,1.1s
K20K Telida 83.62 10 P P 23 14 31.4 -1.3
KLU Klutina 83.62 15 P P 23 14 33.1 +0.3
KLU IAmb IAmb 23 15 00.6
comp=Z,21nm,1.5s
WRAK Wrangell Islan 83.72 23 P P 23 14 33.9 +0.7
HEH HeiHe 83.78 328 eP P 23 14 33.9 +0.2
HEH pmax pmax
comp=Z,13nm,1.3s
D08A Wollman Farm, 83.84 36 P P 23 14 33.5 -0.6
D08A IAmb IAmb 23 14 35.5
comp=Z,20nm,0.9s
KULM Kulim 83.85 278 P P 23 14 34.8 -0.1
KULM IAmb IAmb 23 14 35.6
comp=Z,16nm,0.8s
KULM Kulim 83.85 278 P P 23 14 35.1 +0.2
DUG Dugway, Tooele 83.86 44 P P 23 14 34.1 -0.4
DUG Dugway, Tooele 83.86 44 P P 23 14 34.2 -0.4
DUG pmax pmax
comp=Z,12nm,1.4s
J19K Poorman 83.96 10 P P 23 14 34.1 -0.2
ZAIG Zacatecas 83.99 64 P P 23 14 35.9 +0.2
ZAIG IAmb IAmb 23 14 38.5
comp=Z,19nm,0.9s
VRDI Verde Repeater 84.01 16 P P 23 14 34.4 -0.5
VRDI IAmb IAmb 23 14 41.8
comp=Z,30nm,1.7s
CAST Castle Rocks 84.03 11 P P 23 14 32.8 -2.0
N25K Chitina, Valde 84.04 15 P P 23 14 34.2 -0.7
N25K IAmb IAmb 23 14 35.0
comp=Z,9.4nm,0.7s
BGU Big Grassy Mou 84.08 43 P P 23 14 35.4 -0.3
F10A Beach Ranch, E 84.19 38 P P 23 14 35.8 -0.2
F10A IAmb IAmb 23 14 36.9
comp=Z,26nm,0.8s
Q16A Castle Valley 84.33 46 P P 23 14 36.4 -0.6
Q16A IAmb IAmb 23 14 39.3
comp=Z,18nm,1.3s
J20K Nowinta River 84.37 10 P P 23 14 35.9 -0.4
B08A Colville Reser 84.37 35 P P 23 14 36.2 -0.5
B08A IAmb IAmb 23 14 37.3
comp=Z,14nm,0.8s
LLLB Lillooet 84.39 32 P P 23 14 36.3 -0.5
LLLB IAmb IAmb 23 14 37.9
comp=Z,19nm,1.3s
TRF Thorofare Moun 84.40 12 P P 23 14 35.5 -1.3
TRF IAmb IAmb 23 14 46.8
comp=Z,11nm,0.8s
PLID Pearl Lake 84.42 39 P P 23 14 37.0 -0.3
HNS HongShan 84.45 312 ⇑P P 23 14 38.4 +1.0
HNS pmax pmax
comp=Z,27nm,1.1s
EPT El Paso 84.45 54 P P 23 14 37.5 -0.2
EPT IAmb IAmb 23 14 39.9
comp=Z,28nm,1.0s
TMUT Trail Mountain 84.49 46 P P 23 14 38.0 +0.1
TMUT IAmb IAmb 23 14 40.0
comp=Z,46nm,1.4s
SEY Seymchan 84.49 347 ⇓iP P 23 14 35.7 -1.3
SEY pmax pmax
comp=Z,13nm,0.8s
MPU Maple Canyon 84.55 45 P P 23 14 38.2 +0.1
HLID Hailey 84.56 41 P P 23 14 38.2 +0.2
HLID IAmb IAmb 23 14 39.8
comp=Z,10nm,0.8s
RPSI Rantau Prapat 84.64 275 P P 23 14 37.5 -1.4
RPSI IAmb IAmb 23 14 39.1
comp=Z,30nm,0.9s
RND Reindeer 84.65 13 P P 23 14 36.8 -1.1
RND Reindeer 84.65 13 P P 23 14 36.8 -1.1
RND pmax pmax
comp=Z,9.0nm,0.8s
PSI Prapat 84.68 275 P P 23 14 38.2 -1.0
PSI Prapat 84.68 275 P P 23 14 37.5 -1.7
PSI pmax pmax
comp=Z,30nm,0.9s
HVU Hansel Valley 84.68 43 P P 23 14 38.7 +0.1
HVU IAmb IAmb 23 14 40.2
comp=Z,27nm,1.5s
HVU Hansel Valley 84.68 43 P P 23 14 38.7 +0.1
HVU pmax pmax
comp=Z,27nm,1.5s
BJT Baijiatuau 84.71 315 P P 23 14 38.4 -0.2
BJT IAmb IAmb 23 14 40.0
comp=Z,39nm,1.3s
BJT Baijiatuau 84.71 315 P P 23 14 39.0 +0.4
BJT Baijiatuau 84.71 315 P P 23 14 38.4 -0.2
BJT pmax pmax
comp=Z,39nm,1.3s
BJI Beijing 84.71 315 P P 23 14 38.9 +0.3
BJI pmax pmax
comp=Z,11nm,1.1s
BJI pmax pmax
comp=Z,50nm,4.4s
LYN LuoYang 84.76 309 ⇑P P 23 14 40.0 +1.0
LYN pmax pmax
comp=Z,110nm,1.1s
SRU San Rafael Swe 84.86 46 P P 23 14 38.9 -0.7
SRU IAmb IAmb 23 14 41.0
comp=Z,14nm,0.7s
SRU San Rafael Swe 84.86 46 P P 23 14 38.9 -0.7
SRU pmax pmax
comp=Z,14nm,0.7s
SBM South Baldy 84.90 52 P P 23 14 40.8 +0.6
MCK McKinley 84.93 12 P P 23 14 38.4 -0.7
MCK McKinley 84.93 12 P P 23 14 38.4 -0.7
MCK pmax pmax
comp=Z,11nm,1.1s
JRQG Juriquilla Cam 85.03 66 P P 23 14 41.6 +0.7
JRQG IAmb IAmb 23 14 43.2
comp=Z,25nm,1.4s
M26K Nabesna, AK 85.12 15 P P 23 14 40.1 -0.1
LENM Lemitar 85.14 52 P P 23 14 41.4 +0.3
ENH Enshi 85.21 304 P P 23 14 41.4 +0.1
ENH Enshi 85.21 304 P P 23 14 42.3 +1.0
VHRN Van Horn 85.22 56 P P 23 14 42.1 +0.6
VHRN IAmb IAmb 23 14 44.1
comp=Z,40nm,1.1s
TCUT Toone Canyon 85.24 44 P P 23 14 41.1 -0.4
TCUT IAmb IAmb 23 15 06.5
comp=Z,15nm,0.9s
S34M Telegraph Cree 85.27 23 P P 23 14 40.8 -0.1
MNTX Cornudas Mount 85.29 55 P P 23 14 42.3 +0.6
MNTX IAmb IAmb 23 14 44.0
comp=Z,20nm,1.0s
P18A Preston Nutter 85.30 46 P P 23 14 41.7 -0.2
P18A IAmb IAmb 23 14 43.2
comp=Z,32nm,1.9s
HYT Haines Junctio 85.35 18 P P 23 14 41.3 -0.1
HYT IAmb IAmb 23 16 52.6
comp=Z,29nm,1.8s
M27K Edge Creek, AK 85.37 16 P P 23 14 40.9 -0.6
M27K IAmb IAmb 23 14 42.1
comp=Z,14nm,1.1s
HWUT Hardware Ranch 85.38 43 P P 23 14 41.8 -0.3
MVCO Mesa Verde 85.39 48 P P 23 14 42.3 0.0
BNM Barren Site 85.39 52 P P 23 14 42.5 +0.1
BSUT Blindstream Ca 85.39 45 P P 23 14 41.9 -0.5
BSUT IAmb IAmb 23 14 43.8
comp=Z,36nm,1.6s
GSI Gunungsitoli 85.48 273 P P 23 14 42.7 -0.3
GSI Gunungsitoli 85.48 273 P P 23 14 43.1 +0.1
NEW Newport 85.53 36 P P 23 14 41.5 -1.0
NEW Newport 85.53 36 P P 23 14 42.5 +0.1
comp=Z,5.6nm,0.8s,baz=227,slow=5.5,SNR=4.9
comp=Z,5.6nm,0.8s
PV10 Paradox Valley 85.54 47 P P 23 14 42.5 -0.5
PV10 IAmb IAmb 23 14 45.7
comp=Z,23nm,0.8s
TLIG Tlapa 85.56 70 P P 23 14 42.6 -0.7
TLIG IAmb IAmb 23 14 45.4
comp=Z,13nm,0.7s
PV13 Radium Mtn., P 85.59 47 P P 23 14 42.9 -0.4
PV23 Carpenter Ridg 85.60 47 P P 23 14 43.5 +0.2
PV11 David Mesa, Pa 85.62 47 P P 23 14 43.6 +0.2
PV11 IAmb IAmb 23 14 46.4
comp=Z,21nm,1.2s
I21K Tanana 85.66 11 P P 23 14 41.7 -0.9
K24K Donnelly Dome 85.66 14 P P 23 14 41.6 -1.2
K24K IAmb IAmb 23 14 42.9
comp=Z,9.7nm,0.8s
TX31 Lajitas Ar. Si 85.66 57 P P 23 14 44.7 +1.0
TXAR Lajitas Array 85.67 57 P P 23 14 44.7 +1.0
TXAR Lajitas Array 85.67 57 P P 23 14 45.3 +1.7
comp=Z,32nm,0.8s,baz=219,slow=6.2,SNR=265
TXAR PP PP 23 18 09.9 -0.8
comp=Z,1.4nm,1.0s,baz=224,slow=8.8,SNR=4.0
comp=Z,32nm,0.8s
TXAR Lajitas Array 85.67 57 P P 23 14 44.7 +1.0
WRH Wood River Hil 85.75 12 P P 23 14 42.0 -1.1
G19K Purcell Mounta 85.77 8 P P 23 14 43.4 +0.3
RIDG Independent Ri 85.82 14 P P 23 14 42.9 -0.6
PV07 Paradox Valley 85.84 47 P P 23 14 44.0 -0.5
ANMO Albuquerque 85.86 51 P P 23 14 44.0 -0.6
ANMO Albuquerque 85.86 51 P P 23 14 44.2 -0.4
ANMO IAmb IAmb 23 14 46.2
comp=Z,11nm,0.9s
ANMO Albuquerque 85.86 51 P P 23 14 44.2 -0.4
ANMO IAmb IAmb 23 14 46.2
comp=Z,11nm,0.9s
ANMO Albuquerque 85.86 51 ceP P 23 14 45.0 +0.4
ANMO pmax pmax
comp=Z,6.0nm,1.0s
NONG Nongkai 85.89 290 P P 23 14 44.9 +0.1
PV15 Paradox Valley 85.92 47 P P 23 14 44.0 -0.8
SRIT Nakonsritamara 85.92 280 P P 23 14 45.4 +0.3
SRIT Nakonsritamara 85.92 280 P P 23 14 46.0 +1.0
DOT Dot Lake 85.92 14 P P 23 14 42.9 -1.0
HDA Harding Lake 85.94 13 P P 23 14 43.0 -1.0
GYA Guiyang 85.97 299 ⇓P P 23 14 45.4 +0.2
GYA pmax pmax
comp=Z,32nm,0.9s
CCB Clear Creek Bu 85.97 12 P P 23 14 42.7 -1.4
BCAR Beaver Creek A 85.98 16 P P 23 14 43.7 -0.6
ZEA Zeya 86.04 331 eP P 23 14 38.6 -6.1
ZEA pmax pmax
comp=Z,20nm,0.8s
DLBC Dease Lake 86.05 23 P P 23 14 44.4 -0.4
comp=Z,2.6nm,0.8s,baz=212,slow=7.6,SNR=3.6
comp=Z,2.6nm,0.8s
ALPN Alpine 86.11 56 P P 23 14 46.2 +0.4
COLA College 86.16 12 P P 23 14 44.7 -0.3
COLA IAmb IAmb 23 14 53.4
comp=Z,14nm,0.8s
COLA College 86.16 12 P P 23 14 44.7 -0.3
COLA College 86.16 12 P P 23 14 44.7 -0.3
COLA pmax pmax
comp=Z,14nm,0.8s
TIY Taiyuan 86.20 312 eP P 23 14 46.8 +0.8
RDMU Red Mountain 86.20 45 P P 23 14 45.7 -0.5
SCRK Sand Creek 86.22 14 P P 23 14 44.8 -0.7
AHID Auburn Hatcher 86.25 43 P P 23 14 46.0 -0.3
IL31 86.27 13 P P 23 14 43.9 -1.7
ILAR Eielson Array 86.27 13 P P 23 14 43.6 -2.0
ILAR Eielson Array 86.27 13 P P 23 14 44.1 -1.4
comp=Z,1.3nm,0.4s,baz=220,slow=5.6,SNR=48
ILAR pP pP 23 16 27.3 +1.0
comp=Z,2.9nm,1.1s,baz=235,slow=5.1,SNR=3.3
comp=Z,1.3nm,0.4s
PECS Pecos 86.33 55 P P 23 14 46.5 -0.3
PECS IAmb IAmb 23 14 48.7
comp=Z,19nm,1.2s
F19K Shaleruckik Mo 86.33 8 P P 23 14 45.1 -0.7
M29M Somme Creek 86.36 17 P P 23 14 45.9 -0.4
M29M IAmb IAmb 23 14 46.7
comp=Z,28nm,1.9s
AY03 Cochrane 86.39 139 P P 23 14 46.8 0.0
AY03 IAmb IAmb 23 16 29.9
comp=Z,9.5nm,0.6s
SLVN Son La 86.39 294 P P 23 14 46.6 -0.6
SLVN IAmb IAmb 23 14 49.1
comp=Z,14nm,1.1s
SLVN Son La 86.39 294 P P 23 14 47.6 +0.3
R33M Jennings River 86.40 22 P P 23 14 47.1 +0.6
R33M IAmb IAmb 23 16 41.5
comp=Z,27nm,1.9s
J25K Salcha River, 86.45 13 P P 23 14 46.4 -0.1
POKR Poker Plat Res 86.46 12 P P 23 14 45.9 -0.6
MSO Missoula 86.56 38 P P 23 14 47.0 -0.5
E18K Tukpahlearik C 86.56 7 P P 23 14 46.3 -0.6
DLMT Dillon 86.61 40 P P 23 14 48.3 +0.4
DLMT IAmb IAmb 23 14 49.4
comp=Z,19nm,0.8s
G21K Allakaket 86.64 9 P P 23 14 46.9 -0.4
XLT XiLinHaoTe 86.67 318 eP P 23 14 48.3 +0.2
XLT pP pP 23 16 21.4 -8.1
XLT pmax pmax
comp=Z,29nm,1.0s
XLT pmax pmax
comp=Z,86nm,4.9s
CLNB Carlsbad 86.69 55 P P 23 14 48.5 0.0
TPAW Teton Pass 86.70 42 P P 23 14 49.1 +0.6
FXWY Fox Creek 86.72 42 P P 23 14 48.8 +0.2
J26L Joseph Creek 86.76 14 P P 23 14 48.0 0.0
CLN7 Carlsbad 7 86.80 54 P P 23 14 49.4 +0.4
F20K Avaraart Lake 86.81 8 P P 23 14 49.2 +1.2
SNOW Snow King Moun 86.81 42 P P 23 14 49.1 +0.1
SNOW IAmb IAmb 23 14 50.6
comp=Z,13nm,0.8s
S22A 4UR Ranch, Cre 86.81 49 P P 23 14 49.8 +0.6
S22A IAmb IAmb 23 14 50.8
comp=Z,16nm,1.0s
O20A White River Ci 86.90 46 P P 23 14 49.4 0.0
M30M Minto, Yukon 86.94 18 P P 23 14 48.5 -0.3
MOOW Moose Ponds 86.95 42 P P 23 14 49.5 -0.1
HTMS Hat Mesa 86.96 54 P P 23 14 50.0 +0.3
LOHW Long Hollow 86.98 42 P P 23 14 49.1 -0.7
LOHW IAmb IAmb 23 14 51.1
comp=Z,20nm,1.5s
N32M Quiet Lake 86.98 20 P P 23 14 49.0 -0.1
N32M IAmb IAmb 23 14 50.0
comp=Z,17nm,1.4s
L29M L29M 86.99 17 P P 23 14 49.0 0.0
L29M IAmb IAmb 23 14 49.9
comp=Z,25nm,1.6s
E19K Redstone River 86.99 8 P P 23 14 48.4 -0.6
BILL Bilibino 87.07 354 P P 23 14 49.6 +0.3
BILL Bilibino 87.07 354 ⇑iP P 23 14 49.6 +0.3
BILL pmax pmax
comp=Z,4.0nm,0.7s
SAND Sanderson 87.14 57 P P 23 14 51.6 +1.0
SAND IAmb IAmb 23 14 52.4
comp=Z,28nm,0.8s
YHB Horse Butte 87.16 41 P P 23 14 50.7 +0.1
YHB IAmb IAmb 23 14 52.7
comp=Z,24nm,0.9s
MNHN Monahans 87.18 56 P P 23 14 51.2 +0.5
MNHN IAmb IAmb 23 14 52.5
comp=Z,25nm,1.2s
XAN Xi'an 87.20 307 ⇓P P 23 14 51.4 +0.6
XAN pmax pmax
comp=Z,91nm,1.2s
PRP Porcupine Dome 87.20 13 P P 23 14 48.9 -1.3
YHL Hebgen Lake 87.22 41 P P 23 14 51.7 +0.8
YHL IAmb IAmb 23 14 53.1
comp=Z,31nm,0.8s
YFT Old Faithful 87.24 41 P P 23 14 50.5 -0.4
YFT IAmb IAmb 23 14 53.8
comp=Z,13nm,0.8s
PD31 Pinedale Array 87.25 43 P P 23 14 51.5 +0.5
PD31 IAmb IAmb 23 14 51.9
comp=Z,13nm,1.1s
PDAR Pinedale Array 87.25 43 P P 23 14 50.9 -0.2
comp=Z,7.2nm,0.8s,baz=208,slow=2.9,SNR=61
PDAR pP pP 23 16 32.4 +0.4
comp=Z,2.1nm,0.9s,baz=209,slow=2.7,SNR=6.9
PDAR PP PP 23 18 20.8 -2.5
comp=Z,1.1nm,1.0s,baz=251,slow=7.7,SNR=4.0
comp=Z,7.2nm,0.8s
HIA Hailar 87.26 324 P P 23 14 50.8 +0.1
HIA IAmb IAmb 23 14 52.0
comp=Z,23nm,1.4s
HIA Hailar 87.26 324 P P 23 14 50.8 +0.1
HIA pmax pmax
comp=Z,23nm,1.4s
YMR Madison River 87.27 41 P P 23 14 52.0 +1.0
YMR IAmb IAmb 23 14 53.2
comp=Z,21nm,0.8s
H17A Grant Village 87.38 41 P P 23 14 52.4 +0.8
H17A IAmb IAmb 23 14 54.3
comp=Z,17nm,0.9s
YHH Holmes Hill 87.39 41 P P 23 14 52.9 +1.2
DAWY Dawson 87.42 16 P P 23 14 51.0 -0.1
DAWY IAmb IAmb 23 14 56.3
comp=Z,23nm,2.0s
LL06 Loncomilla 87.69 134 P P 23 14 53.5 +0.6
K29M Barlow Dome 87.74 17 P P 23 14 52.5 -0.1
K29M IAmb IAmb 23 15 03.0
comp=Z,25nm,1.9s
SDCO Great Sand Dun 87.76 49 P P 23 14 53.9 +0.2
COLD Coldfoot 87.83 10 P P 23 14 52.8 -0.1
G24K Hadweenzic Riv 87.85 12 P P 23 14 51.8 -1.2
YNE Yellowstone No 88.03 41 P P 23 14 55.2 +0.5
YNE IAmb IAmb 23 14 56.6
comp=Z,27nm,1.2s
J29N Klondike Camp 88.04 16 P P 23 14 53.9 -0.1
J29N IAmb IAmb 23 14 54.8
comp=Z,6.1nm,0.6s
HHC Hu-ho-hao-te 88.20 314 eP P 23 14 55.8 +0.4
HHC pmax pmax
comp=Z,17nm,1.0s
T25A Trinidad 88.29 50 P P 23 14 56.2 +0.2
OZNA Ozona 88.31 57 P P 23 14 56.6 +0.5
OZNA IAmb IAmb 23 14 57.7
comp=Z,27nm,0.9s
E21K Killik River 88.36 9 P P 23 14 54.5 -0.8

E22K Anaktuvuk Pass 88.39 9 P **P** **23 14 54.8 -0.8**
I28M Miner Creek 88.41 15 P **P** **23 14 55.6 -0.2**
F24K Squaw Lake 88.50 11 P **P** **23 14 55.6 -0.4**
J30M Hart River 88.64 17 P **P** **23 14 56.3 -0.5**
MMPY Sheldon Lake, 88.65 20 P **P** **23 14 56.8 -0.1**
MMPY IAmb IAmb 23 15 03.4
comp=Z,22nm,1.7s
ELIB Princess Elisa 88.69 186 *d*P **P** **23 14 57.0 -0.2**
comp=Z,22nm,0.8s
SGCY Sterling City 88.69 56 P **P** **23 14 57.8 0.0**
SGCY IAmb IAmb 23 14 59.4
comp=Z,44nm,1.5s
KMI Kunming 88.75 297 ⇓P **P** **23 14 59.3 +0.8**
KMI Kunming 88.75 297 S **S** **23 25 12.3 +4.9**
KMI Kunming 88.75 297 SS SS 23 31 28.6 +16
KMI Kunming 88.75 297 pmax pmax
comp=Z,29nm,1.3s
SYO Syowa Base 88.77 193⇓*e*P **P** **23 14 57.2 -0.2**
SYO Syowa Base 88.77 193⇑*e*PcP **PcP** **23 14 58.6 0.0**
G26K Porcupine Rive 88.80 13 P **P** **23 14 57.2 -0.2**
POST Post 88.84 55 P **P** **23 14 58.1 -0.4**
POST IAmb IAmb 23 14 59.5
comp=Z,22nm,0.8s
E24K Your Creek 88.88 11 P **P** **23 14 57.7 -0.1**
D22K Ayikyak River 88.95 9 P **P** **23 14 57.7 -0.4**
F25K Christian Rive 88.98 12 P **P** **23 14 58.5 +0.1**
BMAR Burnt Mountain 89.05 12 P **P** **23 14 58.6 0.0**
I30M Mount Dempster 89.13 16 P **P** **23 14 58.8 -0.4**
G27K Doyon Strip 89.14 13 P **P** **23 14 59.9 +0.9**
BTO Baotou 89.15 313 *e*P **P** **23 15 01.4 +1.6**
BTO pP **pP** **23 16 43.1 +1.2**
BTO sP **sP** **23 17 27.5 -0.6**
BTO pmax pmax
comp=Z,21nm,1.0s
BTO pmax pmax
comp=Z,430nm,5.1s
K22A Casper 89.18 44 P **P** **23 15 00.2 +0.2**
K22A IAmb IAmb 23 15 01.1
comp=Z,8.7nm,0.9s
JCT Junction City 89.20 58 P **P** **23 14 59.8 -0.4**
JCT IAmb IAmb 23 15 01.5
comp=Z,16nm,0.8s
JCT Junction City 89.20 58 P **P** **23 14 59.8 -0.4**
JCT pmax pmax
comp=Z,16nm,0.9s
RTBA Rita Blanca 89.23 51 P **P** **23 14 59.9 -0.4**
SN05 Snyder 5 89.25 55 P **P** **23 15 00.0 -0.4**
SN05 IAmb IAmb 23 15 01.4
comp=Z,20nm,0.8s
HNDO Hondo 89.27 59 P **P** **23 15 01.7 +1.1**
D23K Nanushuk River 89.33 9 P **P** **23 15 00.3 +0.5**
SN07 Snyder 07 89.33 55 P **P** **23 15 00.4 -0.3**
SN07 IAmb IAmb 23 15 01.6
comp=Z,11nm,0.8s
AMTX Amarillo 89.41 53 IAmb IAmb 23 15 02.2
comp=Z,28nm,1.2s
H29M Whitestone 89.42 15 P **P** **23 14 60.0 -0.4**
E25K Arctic Village 89.45 11 P **P** **23 14 59.7 -0.8**
DKNS Dickens 89.52 54 P **P** **23 15 00.6 -1.1**
LR05 Currie 89.60 132 P **P** **23 15 02.4 +0.5**
LR03 Panguipulli 89.60 132 P **P** **23 15 02.3 +0.3**
LR03 IAmb IAmb 23 15 04.1
comp=Z,33nm,1.1s
TROLL Troll, Antarti 89.75 180 ⇑P **P** **23 15 02.0 -0.1**
comp=Z,421nm,0.5s
CM31 Chiang Mai Arr 89.78 289 P **P** **23 15 03.5 +0.4**
CM31 IAmb IAmb 23 15 05.0
comp=Z,27nm,0.9s
CMAR Chiang Mai Arr 89.78 289 P **P** **23 15 02.9 -0.2**
CMAR Chiang Mai Arr 89.78 289 P **P** **23 15 03.9 +0.8**
comp=Z,16nm,0.9s,baz=110,slow=2.8,SNR=96
CMAR PP **PP** **23 18 42.6 -0.8**
comp=Z,1.8nm,0.8s,baz=124,slow=6.3,SNR=6.5
comp=Z,16nm,0.9s
CHTO Chiang Mai 89.90 290 P **P** **23 15 02.3 -1.3**
CHTO IAmb IAmb 23 15 05.1
comp=Z,22nm,0.8s
CHTO Chiang Mai 89.90 290 **P** **23 15 02.9 -0.8**
CHTO Chiang Mai 89.90 290 P **P** **23 15 04.4 +0.8**
CHTO Chiang Mai 89.90 290 P **P** **23 15 02.3 -1.3**
CHTO pmax pmax
comp=Z,22nm,0.8s
EPYK Eagle Plains 89.94 15 P **P** **23 15 02.0 -0.8**
EPYK IAmb IAmb 23 15 21.5
comp=Z,16nm,1.4s
APMT Aspermont 90.01 55 P **P** **23 15 03.8 -0.1**
APMT IAmb IAmb 23 15 05.1
comp=Z,25nm,0.9s
G29M Pine Creek 90.06 15 P **P** **23 15 02.9 -0.4**
G29M IAmb IAmb 23 18 43.1
comp=Z,23nm,1.9s
PZH PanZhiHua 90.08 298 P **P** **23 15 04.5 0.0**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,110nm,4.9s
ABTX Abilene, Hawle 90.12 56 P **P** **23 15 04.7 +0.3**
VNA3 Neumayer Olymp 90.13 176 ⇑P **P** **23 15 03.5 -0.3**
comp=Z,29nm,0.6s
BRDY Brady 90.14 57 P **P** **23 15 04.8 +0.3**
BRDY IAmb IAmb 23 15 05.9
comp=Z,21nm,1.1s
C24K Franklin Bluff 90.32 10 P **P** **23 15 03.8 -0.6**
C24K IAmb IAmb 23 16 53.4
comp=Z,28nm,1.9s
PLCA Paso Flores 90.40 133 P **P** **23 15 06.7 +1.0**
PLCA IAmb IAmb 23 15 07.4
comp=Z,6.3nm,0.6s
PLCA Paso Flores 90.40 133 P **P** **23 15 06.9 +1.2**
comp=Z,6.1nm,0.6s,baz=234,slow=5.8,SNR=14
comp=Z,6.1nm,0.6s
G30M tAoh Zraii Nji 90.55 15 P **P** **23 15 04.6 -1.0**
VNA1 Neumayer-Stat 90.80 176 ⇑P **P** **23 15 06.9 +0.1**
comp=Z,26nm,1.1s
G31M Satah River 91.00 16 P **P** **23 15 06.0 -1.5**
G31M IAmb IAmb 23 15 07.6
comp=Z,9.1nm,0.8s
F30M Barrier River 91.15 15 P **P** **23 15 07.7 -0.6**
F30M IAmb IAmb 23 16 21.9
comp=Z,23nm,1.9s
PLPT Palo Pinto 91.23 56 P **P** **23 15 10.4 +0.9**
E29M Blow River 91.27 14 P **P** **23 15 08.8 0.0**
D27M Malcolm River 91.31 12 P **P** **23 15 09.7 +0.6**
F31M Tsiigehtchic 91.52 16 P **P** **23 15 09.6 -0.4**
F31M IAmb IAmb 23 15 10.0
comp=Z,31nm,1.4s
ELIS Ellis County 91.57 53 P **P** **23 15 10.8 -0.2**
BI02 San Fabin de 91.58 129 P **P** **23 15 11.5 +0.2**
FW13 Cleburne 91.77 57 P **P** **23 15 12.3 +0.4**
LZH Lanzhou 91.83 307 *e*P **P** **23 15 13.3 +0.9**
LZH sP sP 23 17 37.1 -3.4
LZH pmax pmax
comp=Z,35nm,1.1s
FW06 Azle 91.89 56 P **P** **23 15 12.8 +0.2**
NOKA Waynoka 92.14 52 P **P** **23 15 13.5 -0.2**
NOKA IAmb IAmb 23 15 14.8
comp=Z,16nm,0.8s
OK038 West end E0370 92.23 52 P **P** **23 15 14.2 +0.1**
OK038 IAmb IAmb 23 15 15.3
comp=Z,20nm,0.9s
INK Inuvik 92.23 15 P **P** **23 15 11.8 -1.4**
comp=Z,2.7nm,0.5s,baz=222,slow=4.1,SNR=25
comp=Z,2.7nm,0.5s
CBKS Cedar Bluff 92.35 50 P **P** **23 15 14.5 -0.1**
CBKS Cedar Bluff 92.35 50 P **P** **23 15 14.5 -0.1**
CBKS pmax pmax
comp=Z,25nm,1.0s
OK032 Salt Plains WL 92.74 52 P **P** **23 15 16.3 -0.1**
R32A Long Quarter, 92.95 51 P **P** **23 15 17.3 -0.1**
DGMT Dagmar 93.14 40 P **P** **23 15 17.7 -0.3**
W35A Tecumseh 93.18 54 P **P** **23 15 18.1 -0.3**
W35A IAmb IAmb 23 15 19.3
comp=Z,11nm,0.7s
KAN09 Caldwell North 93.30 52 P **P** **23 15 19.1 +0.1**
K30B Basset 93.86 46 P **P** **23 15 22.0 +0.6**
CO02 Combarbal 94.03 125 P **P** **23 15 22.9 +0.3**
CO02 IAmb IAmb 23 15 24.5
comp=Z,7.5nm,0.8s
ULN Ulaanbaatar 94.07 319 P **P** **23 15 22.3 -0.1**
ULN IAmb IAmb 23 15 23.2
comp=Z,5.1nm,0.9s
ULN Ulaanbaatar 94.07 319*ce*P **P** **23 15 22.0 -0.4**
ULN pmax pmax
comp=Z,10.0nm,1.4s

SONM Songino Array 94.47 319 P **P** **23 15 23.9 -0.3**
SONM IAmb IAmb 23 15 25.4
comp=Z,16nm,1.8s
SONM Songino Array 94.47 319 P **P** **23 15 23.9 -0.3**
comp=Z,2.1nm,0.9s,baz=127,slow=3.9,SNR=10
SONM PP **PP** **23 19 18.4 -1.0**
comp=Z,1.4nm,0.8s,baz=136,slow=6.4,SNR=3.5
comp=Z,2.1nm,0.9s
YKA Yellowknife Ar 94.53 25 P **P** **23 15 23.0 -0.9**
comp=Z,1.8nm,0.7s,baz=205,slow=8.6,SNR=21
YKA PP **PP** **23 19 19.2 -0.1**
comp=Z,0.1nm,0.7s,baz=237,slow=7.3,SNR=4.2
comp=Z,1.8nm,0.7s
KSU1 Kansas State U 94.73 50 P **P** **23 15 25.4 0.0**
GTA Gaotai 95.97 309 *e*P **P** **23 15 31.8 +0.6**
GTA pmax pmax
comp=Z,5.0nm,0.9s
ECSD EROS Data Cent 96.28 46 P **P** **23 15 31.0 -1.3**
ECSD IAmb IAmb 23 15 33.6
comp=Z,9.5nm,1.2s
A36M Sachs Harbour 96.84 14 P **P** **23 15 32.9 -1.2**
A36M IAmb IAmb 23 17 19.0
comp=Z,5.7nm,1.0s
TIXI Tiksi 96.89 345 P **P** **23 15 33.7 -0.7**
TIXI Tiksi 96.89 345*ce*P **P** **23 15 34.2 -0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 109.14 322 PKiKP **PKiKP** **23 20 29.2 -1.3**
comp=Z,0.2nm,0.4s,baz=132,slow=2.2,SNR=3.6
MKAR Makanchi Array 110.06 314 Pdiff **Pdif** **23 16 33.4 -0.3**
comp=Z,0.4nm,0.7s,baz=90,slow=4.8,SNR=4.1
MKAR PKiKP **PKiKP** **23 20 31.5 -1.1**
comp=Z,0.5nm,0.4s,baz=111,slow=2.4,SNR=6.9
MKAR PKKPbc **PKKPbc** **23 31 35.9 -1.2**
comp=Z,1.1nm,0.7s,baz=281,slow=2.6,SNR=12
KURK Kurchatov 112.75 318 *i* PKIKP **PKiKP** **23 20 37.5 0.0**
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURBB Kurchatov Arra 112.80 318 PKiKP **PKiKP** **23 20 37.4 -0.2**
comp=Z,0.7nm,0.2s,baz=87,slow=1.7,SNR=6.3
KURBB PKKPbc **PKKPbc** **23 31 27.7 -0.5**
comp=Z,0.3nm,0.6s,baz=267,slow=4.2,SNR=5.1
BVAR Borovoye Array 117.75 321 PKP **PKPdf** **23 20 45.8 -1.3**
comp=Z,1.2nm,0.4s,baz=110,slow=2.0,SNR=10
ARTI Arti 123.84 326 PKP **PKPdf** **23 20 57.6 -1.1**
comp=Z,1.1nm,0.4s,baz=1.4,slow=5.6,SNR=4.3
ARTI Arti 123.84 326 *i* PKIKP **PKiKP** **23 20 59.5 +0.5**
ARTI 23 22 49.1
ARTI 23 27 27.4
ARTI SS SS 23 39 05.4 +3.2
LVZ Lovozero 126.53 345 ⇓PKHKP PKPpre 23 20 38.8
ARCES ARCESS Array B 127.00 350 PKP **PKPdf** **23 21 03.8 -0.7**
comp=Z,1.6nm,0.6s,baz=25,slow=1.0,SNR=13
BOSA Boshof 128.23 206 PKP **PKPdf** **23 21 08.4 +0.2**
comp=Z,3.4nm,1.1s,baz=290,slow=3.2,SNR=3.6
BELG Belogornoye 131.18 325 SKPbc **SKPbc** **23 23 55.3 +0.3**
comp=Z,25nm,0.9s,baz=272,slow=4.5,SNR=12
FINES FINESS Array B 133.93 344 PKhKP PKPpre 23 21 11.9
comp=Z,0.7nm,0.5s,baz=46,slow=4.4,SNR=9.0
FINES SKPbc **SKPbc** **23 24 04.5 +0.4**
comp=Z,1.7nm,0.7s,baz=52,slow=3.1,SNR=5.4
OBN Obninsk 135.14 333 PKP **PKPdf** **23 21 20.3 +0.2**
comp=Z,8.4nm,0.5s,baz=18,slow=17,SNR=3.9
OBN Obninsk 135.14 333 *i* PKIKP **PKiKP** **23 21 21.4 -0.3**
OBN *e* 23 23 07.3
OBN *e* 23 24 01.9
OBN *e*PPP PPP 23 27 03.3
OBN pmax pmax
comp=Z,10.0nm,0.8s
NB2 NORSAR Subarra137.02 354 PKP PKPdf 23 21 15.0 -8.5
comp=Z,0.2nm,0.5s,baz=17,slow=2.6
NB2 pPKP **PP** **23 24 14.1 +1.3**
comp=Z,0.8nm,0.8s,baz=360,slow=2.3
NOA NORSAR Array B137.02 354 PKP **PKPdf** **23 21 23.2 -0.3**
comp=Z,0.1nm,0.5s,baz=20,slow=3.3,SNR=4.1
NOA PP **PP** **23 24 12.9 +0.1**
comp=Z,0.4nm,0.6s,baz=8.2,slow=4.1,SNR=3.9
HFS Hagfors 137.60 352 PKhKP PKPpre 23 21 14.1
comp=Z,1.1nm,0.4s,baz=48,slow=2.2,SNR=9.4
KBZ Khabaz 137.73 316 SKPbc **SKPbc** **23 24 16.5 +0.3**
comp=Z,1.4nm,0.8s,baz=35,slow=1.7,SNR=3.6
MNK Minsk 139.07 337 *i* PKIKP **PKiKP** **23 21 31.7 +1.9**
MNK *i* 23 23 19.5
MNK *i* 23 24 28.0
MNK *i* PPP PPP 23 27 36.2
MNK *i* 23 27 57.1
MNK *i* SS SS 23 42 09.8 +4.6
MNK pmax pmax
comp=E,4.0nm,0.6s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 141.41 333 PKhKP PKPpre 23 21 26.2
comp=Z,0.8nm,0.3s,baz=45,slow=4.0,SNR=12
EKA Eskdalemuir Ar 142.96 5 PKhKP PKPpre 23 21 30.5
comp=Z,1.2nm,0.6s,baz=314,slow=2.6,SNR=8.2
EDMD Edmundbyers 143.56 4 *e*P PKPab 23 21 33.0 -0.6
SORM Soroca 143.65 330 ⇑P PKPab 23 21 33.3 -0.8
SORM Soroca 143.65 330 ⇑PKIKP PKPab 23 21 33.3 -0.8
IOMK Kirk Michael 143.88 7 *e*P PKPab 23 21 33.4 -1.4
PURM Purcari 144.01 327 ⇓P **PKPab** **23 21 35.6 0.0**
MILM Milestii Mici 144.28 328 ⇓*i*PKP PKPbc 23 21 35.6 -0.8
comp=Z,50nm,1.2s
MILM Milestii Mici 144.28 328 ⇓P **PKPdf** **23 21 36.9 0.0**
MILM Milestii Mici 144.28 328 ⇓PKIKP **PKPdf** **23 21 36.9 0.0**
DRBR Darabani 144.40 332 ⇓P PKPbc 23 21 36.4 -0.3
HPK Haverah Park 144.45 4 *e*P PKPbc 23 21 35.4 -1.3
WPS Cemaes, Angles 144.73 7 *e*P **PKPdf** **23 21 36.2 -1.2**
WME Myndd Eilian 144.76 7 *e*P **PKPdf** **23 21 35.7 -1.8**
WLF1 Llynfaes 144.85 7 *e*P **PKPdf** **23 21 36.4 -1.3**
LLW Llanuwychllyn 145.37 6 *e*P **PKPdf** **23 21 38.3 -0.3**
FOEL Foel Wylfa 145.38 6 *e*P **PKPdf** **23 21 38.8 +0.1**
OJC Ojcow 145.40 340 *e*PKP **PKPab** **23 21 40.7 0.0**
OJC Ojcow 145.40 340 **PKPdf** **23 21 38.7 -0.1**
OJC Ojcow 145.40 340 PKIKP **PKPdf** **23 21 38.7 -0.1**
IWEX Carrickbyrne, 145.41 10 *e*P **PKPdf** **23 21 38.6 -0.1**
BUR08 Bucovina Ar. S 145.44 332 **PKPbc** **23 21 39.9 -0.2**
TLCR 145.46 326 ⇑P **PKPbc** **23 21 40.2 +0.2**
TLCR 145.46 326 ⇑PKP2 **PKPbc** **23 21 40.2 +0.2**
BURAR Bucovina Array 145.46 332 ⇑P **PKPbc** **23 21 40.6 +0.5**
BURAR Bucovina Array 145.46 332 ⇑PKP2 **PKPbc** **23 21 40.6 +0.5**
VARL Varlezi 145.47 328 ⇓P **PKPab** **23 21 42.0 +0.9**
SCTR Scanteiesti 145.55 328 ⇑P **PKPab** **23 21 42.3 +0.8**
GHRR 145.57 329 ⇑P **PKPab** **23 21 41.6 +0.1**
KOLS Kolonicke sedl 145.62 337 *e*PKP2 **PKPbc** **23 21 40.8 +0.4**
KOLS Kolonicke sedl 145.62 337 *e*PKP **PKPbc** **23 21 40.8 +0.4**
TESR Tescani 145.62 330 ⇓P **PKPbc** **23 21 40.2 -0.3**
CWF Charnwood Fore 145.68 4 *e*P **PKPdf** **23 21 39.3 +0.2**
BR131 Keskin Array S 145.71 315 **PKPdf** **23 21 40.1 +0.3**
BR131 Keskin Array S 145.71 315 PKIKP **PKPdf** **23 21 40.1 +0.3**
BRTR Keskin Array B 145.71 315 **PKPdf** **23 21 39.8 0.0**
BRTR Keskin Array B 145.71 315 PKPbc **PKPbc** **23 21 41.1 0.0**
comp=Z,6.5nm,0.9s,baz=63,slow=3.2,SNR=25
BRTR pPKPbc **pPKPdf** **23 23 28.0 +0.3**
comp=Z,2.0nm,0.9s,baz=60,slow=2.1,SNR=4.4
BRTR Keskin Array B 145.71 315 PKIKP **PKPdf** **23 21 39.8 0.0**
IZVR Izvoarele 145.76 328 ⇑P **PKiKP** **23 21 43.3 -0.5**
HLM1 Long Mynd 145.78 6 *e*P **PKPdf** **23 21 39.7 +0.4**
KIRS Kirsehir-Merke 145.80 314 ⇑P **PKPbc** **23 21 41.5 +0.1**
CFR Carcaliu 145.82 327 ⇑P **PKPab** **23 21 42.7 +0.2**
CFR Carcaliu 145.82 327 ⇑PKP2 **PKPab** **23 21 42.7 +0.2**
KSP Ksiaz 145.86 344 *e*PKP **PKPbc** **23 21 41.3 +0.2**
TPGR Topolog 145.88 326 ⇓P **PKPbc** **23 21 41.8 +0.4**
NIE Niedzica 145.92 339 *e*PKP **PKPbc** **23 21 41.7 +0.4**
ODBI Odobesti 145.96 329 ⇑P **PKPab** **23 21 42.8 -0.2**
VRI Vrincioaia 146.05 329 ⇑P **PKPbc** **23 21 41.9 +0.1**
VRI Vrincioaia 146.05 329 ⇑PKP2 **PKPbc** **23 21 41.9 +0.1**
PLOR Plostina 146.10 329 ⇑P **PKPbc** **23 21 42.0 0.0**
PLOR Plostina 146.10 329 ⇑PKP2 **PKPbc** **23 21 42.0 0.0**
ASF Jabal al Asfar 146.11 300 PKPbc **PKPbc** **23 21 43.0 +0.5**
comp=Z,8.0nm,0.8s,baz=150,slow=0.5,SNR=8.3
RSBS Rosebush, Pemb 146.12 8 *e*P **PKPdf** **23 21 40.4 +0.5**
OSTC Ostas 146.14 344⇑*e*PKP **PKPbc** **23 21 42.2 +0.3**
OSTC *e*pPKP **pPKPdf** **23 23 32.7 +4.8**
OSTC Ostas 146.14 344 *e*PKP2 **PKPbc** **23 21 42.2 +0.3**
BMR Baia Mare 146.15 334 ⇓P **PKPab** **23 21 43.4 -0.3**
BMR Baia Mare 146.15 334 ⇓PKP2 **PKPab** **23 21 43.4 -0.3**
CHVC Chvalec 146.15 344⇑*e*PKP **PKPab** **23 21 43.3 -0.4**
CHVC Chvalec 146.15 344 *e*PKP2 **PKPab** **23 21 43.3 -0.4**
TIRR Tirgusor 146.15 326 ⇑P **PKPab** **23 21 43.6 -0.2**
TIRR Tirgusor 146.15 326 ⇑PKP2 **PKPab** **23 21 43.6 -0.2**
CLL Collm 146.17 348 *i* PKPdf **PKPbc** **23 21 41.9 0.0**
comp=Z,7.0nm,0.6s

CLL *i* PKPbc **PKPab** **23 21 42.6 -1.1**
comp=Z,14nm,0.8s
CLL *i* PKPab **PKiKP** **23 21 44.6 +0.1**
comp=Z,16nm,0.9s
CLL *i* PKPmax 23 21 49.2
comp=Z,19nm,0.8s
CLL *i* x x 23 21 59.9
ANTO Ankara 146.21 316 ⇑P **PKPbc** **23 21 42.1 -0.4**
ANTO Ankara 146.21 316 ⇑PKP2 **PKPbc** **23 21 42.1 -0.4**
UPC Upice 146.24 344⇑*e*PKP **PKPbc** **23 21 42.3 +0.2**
UPC Upice 146.24 344 *e*PKP2 **PKPbc** **23 21 42.3 +0.2**
ARCR ARCALIA 146.24 333 ⇓P **PKPab** **23 21 44.3 +0.1**
HARR Harsova 146.25 326 ⇑P **PKPbc** **23 21 42.9 +0.5**
HARR Harsova 146.25 326 ⇑PKP2 **PKPbc** **23 21 42.9 +0.5**
GRER 146.27 328 ⇑P **PKiKP** **23 21 47.5 +2.6**
STEB Steborice 146.27 342⇑*e*PKP **PKPbc** **23 21 41.8 -0.5**
STEB *e*pPKP pPKPbc 23 23 31.3 +3.1
MCH1 Michaelchurch 146.28 6 *e*P **PKPdf** **23 21 40.9 +0.8**
TLBR Topalu 146.29 326 ⇑P **PKPab** **23 21 43.9 -0.5**
MBAR Mbarara 146.29 239*c* *i* PKP2 **PKPab** **23 21 44.6 -0.9**
MBAR pmax pmax
comp=Z,14nm,1.7s
DPC Dobruska-Polom 146.30 344 *e*PKPAB **PKiKP** **23 21 51.3 +6.4**
DPC *e*pPKP pPKPbc 23 23 32.0 +3.6
DPC Dobruska-Polom 146.30 344 *e*PKP2 **PKiKP** **23 21 51.3 +6.4**
COVR Voineasa-Covas 146.32 329 ⇓P **PKPbc** **23 21 42.7 +0.1**
OZUR 146.34 330 ⇑P **PKPbc** **23 21 43.4 +0.7**
BRG Berggiesshubel 146.39 347 *e*PKP **PKPbc** **23 21 42.7 +0.2**
BRG Amp 23 21 45.9
comp=Z,4.4nm,0.7s
BRG Berggiesshubel 146.39 347 P **PKiKP** **23 21 50.8 +5.8**
BRG Amp 23 21 51.8
comp=Z,8.4nm,0.7s
BRG pPKP pPKPbc 23 23 31.9 +3.4
BRG Amp 23 23 33.0
comp=Z,3.3nm,1.0s
KRLC Kraliky 146.43 343⇑*e*PKP **PKPab** **23 21 44.0 -0.8**
KRLC *e*PKPAB **PKiKP** **23 21 50.7 +5.6**
KRLC Kraliky 146.43 343 *e*PKP2 **PKPab** **23 21 44.0 -0.8**
LANS Liptovska Anna 146.43 340 *e*PKP2 **PKPbc** **23 21 43.4 +0.6**
LANS Liptovska Anna 146.43 340 *e*PKP **PKPbc** **23 21 43.4 +0.6**
MORC Moravsky Berou 146.48 342 *e*PKP **PKPbc** **23 21 43.1 +0.2**
MORC *e* 23 23 31.0
MORC Moravsky Berou 146.48 342 ⇑P **PKPab** **23 21 44.9 -0.2**
MORC Moravsky Berou 146.48 342 ⇑PKP2 **PKPab** **23 21 44.9 -0.2**
PVCC Panska Ves 146.57 346⇑*e*PKP **PKPab** **23 21 44.8 -0.5**
PVCC Panska Ves 146.57 346 *e*PKP2 **PKPab** **23 21 44.8 -0.5**
NEHR Nehoiu 146.57 329 ⇓P **PKPbc** **23 21 44.1 +0.8**
DOPR Dopca 146.62 330 ⇑P **PKPbc** **23 21 44.3 +0.9**
ISR Istrita 146.67 328 ⇓P **PKPbc** **23 21 44.4 +0.8**
ISR Istrita 146.67 328 ⇓PKP2 **PKPbc** **23 21 44.4 +0.8**
MLR Muntele Rosu 146.70 329 ⇑P **PKPbc** **23 21 44.1 +0.3**
MLR Muntele Rosu 146.70 329 ⇑PKP2 **PKPbc** **23 21 44.1 +0.3**
ICOR Ion Corvin 146.71 326 ⇓P **PKiKP** **23 21 45.0 -0.8**
MAUC Maruska 146.76 341⇑*e*PKP **PKPbc** **23 21 43.8 +0.1**
CBBR Cluj-Babes-Bol 146.84 333 ⇑P **PKPbc** **23 21 44.3 +0.3**
CJR Cluj-Napoca 146.86 333 ⇑P **PKPbc** **23 21 44.1 +0.1**
CJR Cluj-Napoca 146.86 333 ⇑PKP2 **PKPbc** **23 21 44.1 +0.1**
LEHL Lehliu 146.98 327 ⇑P **PKiKP** **23 21 46.1 -0.3**
MMAI Mount Meron Ar 147.08 303 PKPbc **PKPbc** **23 21 45.6 +0.5**
comp=Z,11nm,0.7s,baz=72,slow=5.4,SNR=32
PRU Pruhonice 147.08 346⇑*e*PKP **PKPbc** **23 21 44.1 -0.4**
PRU Pruhonice 147.08 346 *e*PKP2 **PKPbc** **23 21 44.1 -0.4**
GOPC GO Pecny, Ondr 147.09 345⇑*e*PKP **PKiKP** **23 21 46.1 -0.4**
GOPC GO Pecny, Ondr 147.09 345 *e*PKP2 **PKiKP** **23 21 46.1 -0.4**
MARR Marisel-Cluj 147.09 333 ⇓P **PKPbc** **23 21 45.0 +0.2**
VOIR 147.17 330 ⇓P **PKPbc** **23 21 45.5 +0.6**
VOIR 147.17 330 ⇓PKP2 **PKPbc** **23 21 45.5 +0.6**
VRAC Vranov 147.17 343 PKPbc **PKPbc** **23 21 44.4 -0.4**
comp=Z,2.9nm,0.6s,baz=315,slow=2.2,SNR=4.5
VRAC pPKPbc **pPKPbc** **23 23 31.1 +0.2**
comp=Z,2.4nm,0.8s,baz=69,slow=4.4,SNR=1.5
VRAC Vranov 147.17 343 *e*PKP **PKPbc** **23 21 44.6 -0.2**
VRAC *e* 23 23 32.5
VRAC Vranov 147.17 343 ⇑P **PKPbc** **23 21 43.3 -1.5**
VRAC Vranov 147.17 343 ⇑PKIKP **PKPbc** **23 21 43.3 -1.5**
DRGR 147.18 334 ⇓P **PKiKP** **23 21 47.1 +0.3**
DRGR 147.18 334 ⇓PKP2 **PKiKP** **23 21 47.1 +0.3**
VYHS Vyhne 147.21 340 *e*PKP2 **PKPbc** **23 21 45.6 +0.7**
VYHS Vyhne 147.21 340 *e*PKP **PKPbc** **23 21 45.6 +0.7**
VYHS *e* 23 23 35.2
JAVC Velka Javorina 147.26 341 *e*PKP **PKPbc** **23 21 45.6 +0.5**
JAVC *e* 23 23 33.2
PSZ Piszkesteto 147.34 338 **PKPbc** **23 21 45.4 +0.1**
PSZ Piszkesteto 147.34 338 ⇓P **PKPbc** **23 21 45.5 +0.1**
PSZ Piszkesteto 147.34 338 ⇓PKP2 **PKPbc** **23 21 45.5 +0.2**
ARR Arges 147.42 330 ⇓P **PKiKP** **23 21 47.2 -0.1**
KRUC Moravsky 147.45 343 *e*PKP **PKPbc** **23 21 44.9 -0.6**
KRUC *e* 23 23 33.7
SMOL Smolenice 147.64 341 *e*PKP2 **PKiKP** **23 21 48.0 +0.4**
UCC Uccle 147.71 358 *d*PKP **PKPbc** **23 21 46.4 +0.4**
LOT Lotru 147.76 331 ⇑P **PKPbc** **23 21 47.3 +0.7**
MEM Membach 147.81 356 *d*PKP **PKiKP** **23 21 48.6 +0.8**
MODS Modra-Piesok 147.81 341 *e*PKP2 **PKiKP** **23 21 47.8 -0.2**
MODS Modra-Piesok 147.81 341 *e*PKP **PKiKP** **23 21 47.8 -0.2**
MODS *e* 23 23 37.8
BTNL Ternell 147.82 356 *d*PKP **PKPbc** **23 21 46.8 +0.4**
HUMR Humele 147.87 329 ⇑P **PKPbc** **23 21 47.0 +0.3**
CSS Mathiatis 148.02 307 **PKPab** **23 21 50.9 -0.9**
BCLA Clavier 148.04 356 *d*PKiKP **PKiKP** **23 21 47.8 -0.5**
BCLA *d*PKP **PKPab** **23 21 50.7 -0.5**
BCLA *d*pPKP **pPKPdf** **23 23 28.8 -2.2**
BHOU Houvegnez 148.06 356 *d*PKiKP **PKiKP** **23 21 48.3 +0.1**
KHC Kasperske Hory 148.11 346⇑*e*PKP **PKPbc** **23 21 46.8 -0.4**
KHC *e*PKPAB **PKPab** **23 21 53.0 +1.4**
KHC *e*x x 23 23 36.5
KHC Kasperske Hory 148.11 346 *e*PKP2 **PKPbc** **23 21 46.8 -0.4**
BMRD Maredsous 148.19 357 *d*PKP **PKPab** **23 21 51.6 -0.2**
CKRC Cesky Krumlov 148.22 345⇑*e*PKP **PKPbc** **23 21 47.1 -0.4**
CKRC *e*pPKP **pPKPab** **23 23 37.1 +1.6**
CKRC Cesky Krumlov 148.22 345 *e*PKP2 **PKPbc** **23 21 47.1 -0.4**
GZR Gura Zlata 148.25 332 ⇓P **PKPbc** **23 21 47.2 -0.5**
GZR Gura Zlata 148.25 332 ⇓PKP2 **PKPbc** **23 21 47.2 -0.5**
SURR Surduc 148.25 333 ⇑P **PKiKP** **23 21 48.3 -0.6**
EIL Elat 148.34 297 PKPbc **PKPbc** **23 21 48.5 +0.2**
comp=Z,7.8nm,0.8s,baz=344,slow=4.0,SNR=5.8
GERES GERESS Array B 148.34 346 PKPbc **PKPbc** **23 21 47.5 -0.5**
comp=Z,3.3nm,0.8s,baz=24,slow=3.3,SNR=23
GERES pPKPbc **pPKPbc** **23 23 35.2 +0.8**
comp=Z,1.5nm,0.8s,baz=9.7,slow=4.4,SNR=2.7
DOU Dourbes 148.40 357 *d*PKP **PKPbc** **23 21 47.4 -0.5**
BZS Buzias 148.57 334 ⇓P **PKPbc** **23 21 48.2 -0.2**
BZS Buzias 148.57 334 ⇓PKP2 **PKPbc** **23 21 48.2 -0.2**
CONA Conrad Observa 148.63 342 *e*PKP **PKPbc** **23 21 48.7 +0.1**
comp=Z,2.1nm,0.6s
CONA *i* PKP **PKPab** **23 21 57.1 +3.3**
comp=Z,6.8nm,0.6s
CONA *i* pPKiKP **pPKPab** **23 23 38.1 +0.9**
comp=Z,9.3nm,1.4s
RONA Rosalia, Austr 148.71 342 *e*PKP **PKPbc** **23 21 48.8 0.0**
comp=Z,2.1nm,0.6s
RONA *i* PKP **PKPab** **23 21 57.2 +3.1**
comp=Z,8.5nm,0.7s
RONA *i* pPKiKP **pPKPab** **23 23 38.2 +0.7**
comp=Z,7.7nm,1.3s
WLF Walferdange 148.74 355 *d*PKP **PKPbc** **23 21 48.7 0.0**
HERR Herculane 148.81 332 ⇑P **PKPbc** **23 21 48.9 -0.1**
BAND Balkesir-Ban 148.94 320 ⇑P **PKPdf** **23 21 44.2 -0.8**
MOA Molln 149.13 344 *i* PKP **PKPbc** **23 21 50.1 +0.3**
comp=Z,1.2nm,0.5s
MOA *i* PKP **PKPab** **23 21 57.5 +1.7**
comp=Z,6.0nm,0.9s
MOA *i* pPKP **pPKPab** **23 23 39.8 +0.6**
comp=Z,6.1nm,1.3s
MORH Mrgy, Hungar 149.24 338 ⇑P **PKPbc** **23 21 49.8 -0.3**
ARSA Arzberg 149.34 342 *i* PKP **PKPbc** **23 21 50.1 -0.2**
comp=Z,0.3nm,0.3s
ARSA *i* PKP **PKPab** **23 21 58.1 +1.4**
comp=Z,2.3nm,0.6s
ARSA *i* pPKiKP **pPKPab** **23 23 39.5 -0.4**
comp=Z,5.1nm,1.1s
BIOA Bad Ischl, Aus 149.44 345 *i* PKPbc **PKPbc** **23 21 50.8 +0.3**
comp=Z,1.9nm,0.7s
BIOA *i* PKP **PKPab** **23 21 58.9 +1.8

SOKA	**Soboth**	**150.00 342**	*i* PKP	**PKPbc**	**23 21 51.8**	**-0.2**	
	comp=Z,2.1nm,0.8s,SNR=4.2						
SOKA			*i* PKP	**PKPab**	**23 21 59.6**	**+0.1**	
	comp=Z,4.6nm,0.7s						
SOKA			*i* pPKiKP	**pPKiKP**	**23 23 40.4**	**+0.4**	
	comp=Z,3.0nm,1.1s						
KBA	**Koelnbreinsper**	**150.08 345**	*i* PKP	**PKPbc**	**23 21 51.4**	**-0.9**	
	comp=Z,1.2nm,0.4s,SNR=5.9						
KBA			*i* PKP	**PKPab**	**23 21 59.7**	**-0.3**	
	comp=Z,4.2nm,0.5s						
KBA			*i* pPKP	**pPKPbc**	**23 23 39.6**	**+0.5**	
	comp=Z,3.8nm,1.3s						
BOVS	**Bovan**	**150.09 331**	⇓P	**PKPbc**	**23 21 51.8**	**-0.4**	
WATA	**Walderalm**	**150.24 347**	*i* PKP	**PKPbc**	**23 21 51.6**	**-1.0**	
	comp=Z,1.5nm,0.4s						
WATA			*i* PKP	**PKPab**	**23 22 00.4**	**-0.2**	
	comp=Z,8.6nm,0.6s						
WATA			*i* pPKiKP	**pPKiKP**	**23 23 41.6**	**+1.1**	
	comp=Z,5.2nm,1.3s						
RETA	**Reutte**	**150.26 349**	*i* PKP	**PKPbc**	**23 21 51.8**	**-0.8**	
	comp=Z,0.9nm,0.4s						
RETA			*i* PKP	**PKPab**	**23 22 00.7**	**+0.2**	
	comp=Z,2.6nm,0.5s						
RETA			*i* pPKP	**pPKPab**	**23 23 43.0**	**-0.6**	
	comp=Z,1.3nm,0.5s						
OBKA	**Obir**	**150.29 343**	*i* PKP	**PKPbc**	**23 21 52.4**	**-0.3**	
	comp=Z,1.3nm,0.7s						
OBKA			*i* PKP	**PKPab**	**23 21 60.0**	**-0.8**	
	comp=Z,3.6nm,0.8s						
OBKA			*i* pPKiKP	**pPKiKP**	**23 23 41.1**	**+0.4**	
	comp=Z,4.3nm,1.8s						
WTTA	**Wattenberg**	**150.30 347**	*i* PKP	**PKPbc**	**23 21 51.9**	**-0.9**	
	comp=Z,3.5nm,0.6s						
WTTA			*i* PKP	**PKPab**	**23 22 00.9**	**0.0**	
	comp=Z,15nm,0.6s						
WTTA			*i* pPKiKP	**pPKiKP**	**23 23 42.0**	**+1.3**	
	comp=Z,6.0nm,1.0s						
MOTA	**Moosalm**	**150.33 348**	*i* PKP	**PKPbc**	**23 21 52.5**	**-0.3**	
	comp=Z,2.7nm,0.7s						
MOTA			*i* PKP	**PKPab**	**23 22 00.8**	**-0.2**	
	comp=Z,9.4nm,0.7s						
MOTA			*i* pPKiKP	**pPKiKP**	**23 23 41.1**	**+0.4**	
	comp=Z,2.9nm,0.6s						
MYKA	**Terra Mystica**	**150.42 344**	*i* PKP	**PKPbc**	**23 21 51.6**	**-1.3**	
	comp=Z,1.9nm,0.4s						
MYKA			*i* PKP	**PKPab**	**23 22 00.4**	**-0.9**	
	comp=Z,12nm,0.7s						
SQTA	**Sankt Quirin**	**150.43 348**	*i* PKP	**PKPbc**	**23 21 52.0**	**-1.0**	
	comp=Z,1.7nm,0.5s						
SQTA			*i* PKP	**PKPab**	**23 22 01.0**	**-0.3**	
	comp=Z,10nm,0.6s						
SQTA			*e*pPKP	**pPKPbc**	**23 23 41.1**	**+1.1**	
	comp=Z,2.5nm,0.7s						
ABTA	**Abfaltersbach**	**150.59 346**	*i* PKP	**PKPbc**	**23 21 52.2**	**-1.2**	
	comp=Z,2.4nm,0.6s						
ABTA			*i* PKP	**PKPab**	**23 22 00.8**	**-1.2**	
	comp=Z,14nm,0.6s,SNR=4.5						
ABTA			*i* pPKP	**pPKPbc**	**23 23 40.9**	**+0.6**	
	comp=Z,3.9nm,1.0s						
DAVA	**Damuels**	**150.61 350**	*i* PKP	**PKPbc**	**23 21 53.1**	**-0.4**	
	comp=Z,1.9nm,0.5s						
DAVA			*i* PKP	**PKPab**	**23 22 01.7**	**-0.4**	
	comp=Z,12nm,0.9s						
DAVA			*e*pPKiKP	**pPKiKP**	**23 23 42.9**	**+1.5**	
	comp=Z,7.1nm,1.0s						
FETA	**Feichten**	**150.71 348**	*i* PKP	**PKPbc**	**23 21 52.5**	**-1.2**	
	comp=Z,4.1nm,1.2s						
FETA			*i* PKP	**PKPab**	**23 22 01.1**	**-1.5**	
	comp=Z,2.9nm,0.7s						
FETA			*i* pPKiKP	**pPKiKP**	**23 23 43.1**	**+1.5**	
	comp=Z,7.1nm,1.1s						
LJU	**Ljubljana**	**150.72 343**	*i* PKPbc	**PKPbc**	**23 21 52.9**	**-0.7**	
LJU			*i*		23 21 54.7		
LJU			*i* PKPab	**PKPab**	**23 22 00.9**	**-1.5**	
LJU			*e*		23 22 12.4		
LJU			*e*		23 23 44.6		
CRNS	**Crni Vrh**	**150.76 343**	*i* PKPbc	**PKPbc**	**23 21 52.4**	**-1.3**	
CRNS			*i*		23 21 54.3		
CRNS			*i*		23 23 44.2		
BOJS	**Bojanci**	**151.00 341**	*i* PKPbc	**PKPbc**	**23 21 53.5**	**-0.7**	
DAVOX	**Davos/Dischmat**	**151.10 349**	PKPbc	**PKPbc**	**23 21 54.2**	**-0.5**	
	comp=Z,3.2nm,0.3s,baz=278,slow=2.6,SNR=25						
DAVOX			pPKPbc	**pPKPbc**	**23 23 42.3**	**+0.7**	
	comp=Z,4.7nm,0.8s,baz=315,slow=1.5,SNR=4.2						
EFP	**Efpalio**	**153.83 323**	P	**PKiKP**	**23 22 00.8**	**+0.1**	
GUR	**Goura**	**153.92 322**	P	**PKiKP**	**23 22 04.0**	**+2.9**	
KLV	**Kalavryta, Ach**	**153.96 323**	P	**PKPbc**	**23 22 00.6**	**-0.4**	
ESDC	**Sonseca Array**	**158.17 13**	PKPab	**PKPab**	**23 22 33.6**	**-0.9**	
	comp=Z,0.9nm,0.9s,baz=341,slow=5.0,SNR=5.5						
DBIC	**Dimbokro**	**166.31 148**	PKP	**PKPdf**	**23 22 06.2**	**-0.5**	
	comp=Z,1.7nm,0.5s,baz=161,slow=4.5,SNR=4.4						
DBIC			PKPab	**PKPab**	**23 23 11.3**	**+0.5**	
	comp=Z,2.9nm,0.8s,baz=233,slow=6.4,SNR=4.0						

WEL 19 23:07:43.4±0.5, 32°S±7°×17°9W±1°5, h114km±23km, M4.2/13, mB4.7/9, ML4.8/16, MLv4.5/13, Mw(mB)3.9/9, Error ellipse: s-maj=21.3km s-min=3.8km az=113.8, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.06**	**21**	P	Pn	23 08 28.3	-2.0
GLKZ				S	Sn	23 09 01.9	-4.6
MXZ	**Matakaoa Point**	**5.79**	**200**	P	Pn	23 09 07.0	+0.1
MXZ				S	Sn	23 10 12.3	+0.3
WMGZ	**Waiomatatini S**	**6.00**	**198**	P	Pn	23 09 11.0	+1.2
WMGZ				S	Sn	23 10 16.3	-0.9
HAZ	**Te Kaha**	**6.13**	**203**	P	Pn	23 09 13.1	+1.6
HAZ				S	Sn	23 10 23.5	+3.3
PKGZ	**Pakihiroa**	**6.14**	**201**	P	Pn	23 09 12.2	+0.5
PKGZ				S	Sn	23 10 23.6	+3.1
PUZ	**Puketiti**	**6.28**	**199**	P	Pn	23 09 17.1	+3.5
PUZ				S	Sn	23 10 22.1	-1.8
RUGZ	**Raukumara Rang**	**6.36**	**203**	P	Pn	23 09 14.1	-0.5
RUGZ				S	Sn	23 10 26.2	+0.2
TWGZ	**Tauwhareparae**	**6.46**	**200**	P	Pn	23 09 19.7	+3.8
TWGZ				S	Sn	23 10 27.2	-1.1
CNGZ	**Carnagh Statio**	**6.68**	**198**	P	Pn	23 09 23.5	+4.5
TKGZ	**Te Karaka**	**6.74**	**200**	P	Pn	23 09 22.0	+2.3
TKGZ				S	Sn	23 10 36.7	+1.8
URZ	**Urewera**	**6.82**	**205**	P	Pn	23 09 22.4	+1.6
URZ				S	Sn	23 10 38.4	+1.6
RAGZ	**Rawiri**	**6.93**	**203**	P	Pn	23 09 25.8	+3.5
RAGZ				S	Sn	23 10 38.7	-1.0
RIGZ	**Rimuhau**	**7.01**	**200**	P	Pn	23 09 26.7	+3.2
RIGZ				S	Sn	23 10 40.3	-1.3
MUGZ	**Murupara**	**7.14**	**206**	P	Pn	23 09 24.5	-0.6
MUGZ				S	Sn	23 10 45.1	+0.5
PRGZ	**Paritu Road**	**7.18**	**198**	P	Pn	23 09 29.6	+3.9
PRGZ				S	Sn	23 10 44.6	-1.1
SNGZ	**Shannon Statio**	**7.21**	**202**	P	Pn	23 09 29.9	+3.8
SNGZ				S	Sn	23 10 46.5	0.0
MHGZ	**Mahia Peninsul**	**7.39**	**198**	P	Pn	23 09 26.9	-1.7
MHGZ				S	Sn	23 10 48.0	-2.8
RAHZ	**Arahi**	**7.42**	**203**	P	Pn	23 09 30.4	+1.5
RAHZ				S	Sn	23 10 52.9	+1.5
MTHZ	**Maungataniwha**	**7.44**	**205**	P	Pn	23 09 32.0	+2.8
MTHZ				S	Sn	23 10 52.7	+0.6
WHHZ	**Waihua**	**7.51**	**202**	P	Pn	23 09 32.6	+2.4
WHHZ				S	Sn	23 10 53.2	-0.6
MRHZ	**Matea Rd**	**7.58**	**207**	S	Sn	23 10 57.5	+2.0
NMHZ	**Naumai**	**7.67**	**204**	S	Sn	23 10 59.1	+1.4
CKHZ	**Cape Kidnapper**	**8.10**	**201**	P	Pn	23 09 38.0	0.0
CKHZ				S	Sn	23 11 05.4	-2.5
KWHZ	**Kaweka Forest**	**8.10**	**205**	P	Pn	23 09 38.1	0.0
KWHZ				S	Sn	23 11 10.1	+2.0
TMVZ	**Te Maari**	**8.11**	**209**	P	Pn	23 09 39.4	+1.1
TMVZ				S	Sn	23 11 08.1	-0.3
ETVZ	**East Tongariro**	**8.12**	**209**	P	Pn	23 09 40.6	+2.1
ETVZ				S	Sn	23 11 13.6	+4.9
OTVZ	**Oturere**	**8.16**	**209**	P	Pn	23 09 38.6	-0.6
OTVZ				S	Sn	23 11 12.6	+2.8
KAHZ	**Kahuranaki**	**8.28**	**201**	P	Pn	23 09 38.7	-1.9
KAHZ				S	Sn	23 11 10.9	-1.6
KRHZ	**Kereru**	**8.31**	**204**	P	Pn	23 09 39.7	-1.3
KRHZ				S	Sn	23 11 12.5	-0.7
PNHZ	**Pukenui**	**8.61**	**204**	P	Pn	23 09 42.8	-2.3
PNHZ				S	Sn	23 11 17.1	-3.4
PRHZ	**Porangahau**	**8.79**	**201**	P	Pn	23 09 44.9	-2.6
HOWZ	**Holdsworth Sta**	**9.73**	**204**	P	Pn	23 09 58.0	-2.1
HOWZ				S	Sn	23 11 42.8	-4.6
OGWZ	**Otaki Gorge**	**9.78**	**206**	P	Pn	23 09 59.6	-1.3
OGWZ				S	Sn	23 11 44.4	-4.3

TMWZ	**Te Maipa**	**9.79**	**202**	P	Pn	23 09 58.0	-3.0
TMWZ				S	Sn	23 11 45.0	-4.0
CTZ	**Chatham Island**	**11.76**	**171**	P	Pn	23 10 29.3	+1.8
CTZ				S	Sn	23 12 26.4	-10

*IDC **19** 23:10:34.1±1.4, 38°.66N×38°.28E, h0km, mb3.3/3, mbtmp3.3/7, ML2.5/3, MS2.4/2, Error ellipse: s-maj=19.6km s-min=16.2km az=144.0*
*ISK **19** 23:10:35.2, 38°.73N×38°.18E, h5km, ML3.7/24*
*TIF **19** 23:10:35.5, 38°.75N×38°.17E, h8km±2km*
*AFAD **19** 23:10:36.0, 38°.74N×38°.15E, h7km±2km, MW3.7*
ISC 19 23:10:36.4±1.0, 38°.74N±0°.02×38°.16E±0°.02, h11km±8km, n46, σ1°22/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.21**	**311**	P	**Pg**	**23 10 40.8**	**-0.1**
HEKM				S	**Sg**	**23 10 44.0**	**-0.1**
ARPR	**Arapgir-MALATY**	**0.38**	**21**	Pg	**Pg**	**23 10 43.9**	**-0.1**
MAYA	**Malatya/Merkez**	**0.47**	**153**	P	**Pg**	**23 10 45.4**	**-0.1**
MAYA				S	**Sb**	**23 10 52.5**	**-1.0**
AKCD	**Akcadag**	**0.48**	**203**	P	**Pg**	**23 10 45.7**	**-0.2**
AKCD				S	**Sb**	**23 10 53.7**	**-0.4**
DARE	**Darende-Malaty**	**0.56**	**252**	Pg	**Pg**	**23 10 46.7**	**-0.6**
KEMA	**Kemaliye**	**0.59**	**26**	P	**Pg**	**23 10 47.5**	**-0.4**
KEMA				S	**Sb**	**23 10 56.6**	**-0.6**
ELZG	**Elazig**	**0.69**	**110**	P	**Pg**	**23 10 49.5**	**-0.3**
ELZG				S	**Sb**	**23 10 59.4**	**-0.7**
CUGUR	**Gurin_SVAS**	**0.69**	**269**	P	**Pg**	**23 10 49.1**	**-0.8**
CUGUR				S	**Sg**	**23 10 59.4**	**+0.4**
CUKAN	**kangal_SIVAS**	**0.79**	**317**	P	**Pg**	**23 10 50.7**	**-1.0**
AZEY	**Adyaman-Merk**	**0.93**	**176**	P	**Pb**	**23 10 54.5**	**-0.1**
NARI	**Adyaman-Kaht**	**0.98**	**151**	P	**Pb**	**23 10 55.2**	**-0.2**
AKCA	**Adyaman/Gf¶l**	**1.02**	**202**	P	**Pg**	**23 10 55.4**	**-0.5**
TNCL	**Tunceli-Merkez**	**1.14**	**70**	P	**Pb**	**23 10 57.2**	**-1.1**
CUZAR	**Zara_SIVAS**	**1.19**	**345**	P	**Pn**	**23 10 59.0**	**-0.1**
CUAYA	**Sivas-Altinyay**	**1.22**	**296**	P	**Pn**	**23 10 58.4**	**-1.1**
CUAYA				S	**Sn**	**23 11 16.5**	**+0.4**
ATAB	**Bozova**	**1.27**	**175**	P	**Pg**	**23 11 01.0**	**+0.1**
URFA	**Urfa**	**1.40**	**158**	Pn	**Pg**	**23 11 02.8**	**-0.5**
SARI	**SarD1z-Kayseri**	**1.41**	**257**	Pn	**Pb**	**23 11 02.9**	**+0.1**
SARI				Sn	**Sg**	**23 11 24.1**	**+2.4**
SUSE	**Susehri**	**1.47**	**1**	P	**Pg**	**23 11 04.2**	**-0.4**
ERZN	**Erzincan**	**1.48**	**55**	Pn	**Pb**	**23 11 03.9**	**-0.1**
ERZN				Sn	**Sg**	**23 11 25.2**	**+1.2**
SVSK	**Karacayir**	**1.48**	**323**	Pn	**Pg**	**23 11 04.4**	**-0.4**
KHMN	**Narli-Kahraman**	**1.56**	**211**	Pn	**Pg**	**23 11 05.6**	**-0.8**
KMRS	**Kahramanmaras**	**1.58**	**219**	Pn	**Pb**	**23 11 05.7**	**0.0**
GAZ	**Gaziantep**	**1.74**	**206**	Pn	**Pb**	**23 11 07.7**	**-0.6**
RSDY	**Resadiye-TOKAT**	**1.77**	**339**	Pn	**Pb**	**23 11 08.7**	**-0.3**
BNN	**Bunyan**	**1.81**	**274**	Pn	**Pb**	**23 11 08.9**	**-0.8**
BNGB	**Bingl**	**1.98**	**82**	Pn	**Pn**	**23 11 10.7**	**+0.7**
YEDI	**Yedisu-Bingol**	**1.98**	**69**	Pn	**Pb**	**23 11 10.9**	**-1.7**
TOKT	**Tokat**	**2.01**	**322**	Pn	**Pb**	**23 11 11.9**	**-1.1**
ESPY	**Espiye-Giresun**	**2.22**	**11**	Pn	**Pb**	**23 11 14.8**	**-1.7**
KOZT	**Kozan**	**2.23**	**236**	Pn	**Pb**	**23 11 14.9**	**-1.8**
BAYT	**Aydıntepe-Bayb**	**2.25**	**42**	Pn	**Pn**	**23 11 15.1**	**+1.3**
KARO	**Karliova-Bingo**	**2.32**	**75**	Pn	**Pn**	**23 11 15.6**	**+0.9**
YOZ	**Yozgat**	**2.38**	**293**	Pn	**Pn**	**23 11 17.2**	**+1.7**
KTUT	**Trabzon**	**2.56**	**28**	Pn	**Pn**	**23 11 19.6**	**+1.8**
VRTB	**Varto-Mus**	**2.60**	**80**	Pn	**Pn**	**23 11 20.1**	**+1.5**
KOZK	**Kozakli-Nevseh**	**2.61**	**281**	Pn	**Pn**	**23 11 20.3**	**+1.7**
YARM	**Yarimca-Ladik(**	**2.82**	**321**	Pn	**Pn**	**23 11 23.5**	**+2.0**
KVT	**Kavak**	**2.85**	**326**	Pn	**Pn**	**23 11 23.9**	**+2.1**
BRTR	**Keskin Array B**	**3.65**	**287**	Pn	**Pn**	**23 11 35.0**	**+2.1**
	0.6nm,0.3s,baz=124,slow=15,SNR=13						
BRTR				Lg	Lg	23 12 33.1	
	2.2nm,0.3s,baz=122,slow=26,SNR=4.2 4.5nm,0.8s						
KBZ	**Khabaz**	**6.13**	**34**	Pn	**Pn**	**23 12 09.1**	**+2.2**
	0.1nm,0.3s,baz=229,slow=17,SNR=1.4						
KBZ				LR	LR	23 14 35.2	
	comp=Z,51nm,21.0s,baz=174,slow=39 1.0nm,0.8s						
MMAI	**Mount Meron Ar**	**6.14**	**202**	Pn	**Pn**	**23 12 07.5**	**+0.4**
	5.9nm,1.1s,baz=278,slow=40,SNR=1.5						
ASF	**Jabal al Asfar**	**6.63**	**189**	Pn	**Pn**	**23 12 10.9**	**-3.0**
	0.2nm,0.3s,baz=65,slow=24,SNR=1.2						
ASF				Lg	Lg	23 14 03.2	
	0.3nm,0.3s,baz=42,slow=21,SNR=3.6						
ASF				LR	LR	23 14 39.6	
	comp=Z,26nm,19.9s,baz=92,slow=37 0.6nm,0.3s						
GERES	**GERESS Array B**	**20.26**	**308**	P	Pn	23 15 13.2	-0.6
	0.5nm,0.7s,baz=125,slow=11,SNR=4.1 0.5nm,0.7s						
FINES	**FINESS Array B**	**23.93**	**346**	P	**P**	**23 15 52.0**	**+1.9**
	0.9nm,0.6s,baz=152,slow=9.2,SNR=5.1 0.9nm,0.6s						
YKA	**Yellowknife Ar**	**76.75**	**347**	P	**P**	**23 22 25.9**	**-1.5**
	0.3nm,0.9s,baz=27,slow=5.7,SNR=5.4 0.3nm,0.9s						

*NCEDC **19** 23:17:33.5±1.9, 40°.39N±0°.07×125°.91W±0°.09, h15km±9km, Error ellipse: s-maj=10.7km s-min=8.3km az=54.0*
NEIC 19 23:17:31.2±1.8, 40°.38N±0°.06×125°.9W±0°.1, h7km±11km, ML3.1/81, ML3.3/8(NCEDC), Error ellipse: s-maj=13.9km s-min=8.5km az=69.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETL	**Petrolia**	**1.19**	**94**		Pg	23 17 53.9	-0.2
PETL					Sb	23 18 10.0	+0.3
KCTM	**Capetown**	**1.20**	**85**		Pn	23 17 54.5	+0.1
KCTM					Sn	23 18 11.7	+0.9
KSMM	**Slide Mountain**	**1.33**	**98**		Pn	23 17 55.6	-0.7
KMPM	**Mount Pierce**	**1.36**	**88**		Pn	23 17 56.0	-0.6
KMPM					Sn	23 18 15.0	+0.1
JCC	**Jacoby Creek,**	**1.49**	**72**		Pn	23 17 57.0	-1.3
JCC				IAML		23 18 16.6	
	comp=E,227nm,0.5s						
JCC	**Jacoby Creek,**	**1.49**	**72**		Sn	23 18 16.1	-1.8
BRIC	**Briceland Vine**	**1.56**	**99**		Pn	23 17 59.3	+0.1
KCRM	**Chalk Rock**	**1.59**	**88**		Pn	23 17 59.9	+0.1
KRPM	**Rodgers**	**1.62**	**61**		Pn	23 17 59.0	-1.2
KMRM	**Mail Ridge**	**1.68**	**95**		Pn	23 18 01.4	+0.3
KHMM	**Horse Mountain**	**1.72**	**73**		Pn	23 18 00.8	-0.8
KHMM				IAML		23 18 23.4	
	comp=E,185nm,0.6s						
KHMM				IAML		23 18 24.4	
	comp=N,181nm,0.7s						
KCPM	**Cahto Peak**	**1.91**	**111**		Pn	23 18 04.2	+0.1
KCPM				IAML		23 18 30.7	
	comp=E,205nm,0.4s						
KCPM				IAML		23 18 33.0	
	comp=N,156nm,0.3s						
KPPM	**Pickett Peak**	**1.94**	**90**		Pn	23 18 05.1	+0.4
KIPM	**Iron Peak**	**1.94**	**106**		Pn	23 18 05.2	+0.6
SIGP	**Signal Peak, C**	**2.04**	**42**		Pn	23 18 04.5	-1.4
KFPM	**Farley Peak**	**2.04**	**110**		Pn	23 18 06.2	+0.3
GTC	**Three Chop Rid**	**2.05**	**118**		Pn	23 18 05.7	-0.4
KHBM	**Hayfork Bally**	**2.06**	**81**		Pn	23 18 05.8	-0.5
KHBM				IAML		23 18 32.5	
	comp=N,106nm,0.8s						
KHBM				IAML		23 18 33.2	
	comp=E,122nm,0.5s						
KOMM	**Orleans Mounta**	**2.06**	**63**		Pn	23 18 05.3	-1.0
KBNM	**Bluenose Ridge**	**2.13**	**102**		Pn	23 18 07.7	+0.4
DCMP	**DeCamp, Califo**	**2.17**	**114**		Pn	23 18 07.6	0.0
KBO	**Bosley Butte**	**2.22**	**34**	Pn	Pn	23 18 07.6	-0.9
KBO				IAML		23 18 41.4	
	comp=E,86nm,1.8s						
KBO				IAML		23 19 09.0	
	comp=N,70nm,2.1s						
LBPM	**Beegum Peak**	**2.31**	**91**		Pn	23 18 09.8	+0.1
O02D	**Mt. Diablo Mer**	**2.39**	**94**		Pn	23 18 11.2	+0.4
O02D	**Mt. Diablo Mer**	**2.39**	**94**		Pn	23 18 11.4	+0.6
O02D				IAML		23 18 42.1	
	comp=N,33nm,0.5s						
O02D				IAML		23 18 45.3	
	comp=E,27nm,0.5s						
L02F	**Cave Junction**	**2.47**	**44**		Pn	23 18 11.6	-0.2
N02D	**Trinity Center**	**2.50**	**75**		Pn	23 18 11.7	-0.6
N02D	**Trinity Center**	**2.50**	**75**	IAML		23 18 47.2	
	comp=N,92nm,0.6s						
N02D				IAML		23 18 48.9	
	comp=E,128nm,0.4s						
GROM	**Round Mountain**	**2.52**	**100**		Pn	23 18 13.2	+0.6
YBH	**Yreka Blue Hor**	**2.76**	**60**		Pn	23 18 16.6	+0.7
O03E	**Paynes Creek**	**3.13**	**90**	IAML		23 19 04.4	
	comp=N,31nm,0.6s						
O03E				IAML		23 19 07.5	
	comp=E,37nm,0.6s						
J01E	**Myrtle Point**	**3.15**	**27**	Pn	Pn	23 18 20.1	-1.0
J01E				IAML		23 18 58.9	
	comp=N,48nm,0.5s						
J01E				IAML		23 18 59.2	
	comp=E,61nm,0.3s						
MCCM	**Marconi Confer**	**3.23**	**133**	Pn	Pn	23 18 21.5	-0.8
MCCM				IAML		23 19 06.0	
	comp=E,46nm,1.4s						
MCCM				IAML		23 19 17.4	
	comp=N,50nm,2.6s						
L04D	**Klamath Falls**	**3.27**	**55**		Pn	23 18 24.9	+2.0
L04D				IAML		23 19 09.3	
	comp=E,30nm,3.7s						
L04D				IAML		23 19 14.1	
	comp=N,30nm,4.0s						
HATC	**Hat Creek Radi**	**3.41**	**81**		Pn	23 18 26.8	+2.0
HATC				IAML		23 19 16.7	
	comp=N,46nm,2.0s						
HATC				IAML		23 19 22.9	
	comp=E,54nm,2.1s						
BBOR	**Butler Butte**	**3.48**	**43**		Pn	23 18 26.9	+1.0
ORV	**Oroville**	**3.48**	**102**		Pn	23 18 26.3	+0.7
I03D	**Drain, OR**	**3.82**	**29**		Pn	23 18 30.2	-0.1
I03D				IAML		23 19 18.5	
	comp=E,20nm,3.8s						
I03D				IAML		23 20 50.5	
	comp=N,21nm,4.8s						
K04D	**Chiloquin, OR**	**3.84**	**53**		Pn	23 18 31.6	+0.9
K04D				IAML		23 19 03.1	
	comp=N,35nm,0.9s						
K04D				IAML		23 19 15.8	
	comp=E,32nm,1.7s						
CMCM	**Mills College**	**3.89**	**131**		Pn	23 18 27.8	-3.5
J04A	**Umpqua Nationa**	**4.02**	**43**		Pn	23 18 34.8	+1.4
I02E	**Swisshome, OR**	**4.03**	**22**	Pn	Pn	23 18 32.3	-0.9
I02E				IAML		23 19 10.3	
	comp=N,35nm,4.4s						
I02E				IAML		23 19 28.7	
	comp=E,36nm,3.1s						
AFDM	**Forest Hills D**	**4.06**	**109**		Pn	23 18 35.7	+2.0
AFDM				IAML		23 19 26.1	
	comp=E,14nm,0.5s						
BUCK	**Buck Mountain**	**4.38**	**29**		Pn	23 18 38.9	+0.7
J05D	**Fort Rock, OR**	**4.54**	**49**		Pn	23 18 41.6	+1.3
J05D				IAML		23 19 52.5	
	comp=N,17nm,4.8s						
J05D				IAML		23 21 06.1	
	comp=E,14nm,4.6s						
MPK	**Martis Peak**	**4.64**	**102**	Pn	Pn	23 18 43.7	+1.7
MPK				IAML		23 19 44.6	
	comp=N,15nm,0.8s						
MPK				IAML		23 19 47.9	
	comp=E,17nm,0.8s						
H04D	**Lebanon**	**4.76**	**28**		Pn	23 18 43.6	+0.4
CMB	**Columbia Colle**	**4.88**	**117**		Pn	23 18 47.9	+2.9
SAO	**San Andreas Ge**	**5.02**	**135**		Pn	23 18 46.3	-0.6
PINE	**Pine Mountain**	**5.02**	**46**		Pn	23 18 48.6	+1.5
PINE				IAML		23 19 28.5	
	comp=E,11nm,4.6s						
PINE				IAML		23 19 50.3	
	comp=N,11nm,4.4s						
PNTR	**Pine Nut**	**5.02**	**103**	Pn	Pn	23 18 49.1	+2.0
PNTR				IAML		23 20 00.0	
	comp=N,9.5nm,1.2s						
PNTR				IAML		23 21 57.4	
	comp=E,11nm,3.6s						
PAHR	**Pah Rah Range**	**5.04**	**96**	Pn	Pn	23 18 47.8	+0.5
PAHR				IAML		23 20 00.5	
	comp=E,6.1nm,3.9s						
HEBO	**Mount Hebo**	**5.08**	**17**	Pn	Pn	23 18 47.8	0.0
H04A	**Detroit Lake**	**5.10**	**31**	IAML		23 19 53.7	
	comp=N,12nm,1.9s						
H04A				IAML		23 19 56.2	
	comp=E,14nm,5.0s						
G03D	**McMinnville, O**	**5.20**	**21**	Pn	Pn	23 18 49.3	0.0
WAKR	**Walker**	**5.34**	**108**		Pn	23 18 53.2	+1.7
WAKR				IAML		23 20 12.6	
	comp=E,6.1nm,3.4s						
WAKR				IAML		23 22 16.3	
	comp=N,5.1nm,4.2s						
BBGB	**Big Mountain B**	**5.38**	**133**	Pn	Pn	23 18 52.6	+0.8
WVOR	**Wild Horse Val**	**5.83**	**67**	Pn	Pn	23 18 58.3	+0.1
RYN	**Ryan**	**5.97**	**105**	Pn	Pn	23 19 02.0	+2.1
I07A	**Izee**	**6.02**	**50**		Pn	23 19 02.9	+2.2
LHV	**Little Huntoon**	**6.12**	**108**	Pn	Pn	23 19 04.2	+2.4
**NVA

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.83**	**202**	P	Pn	23 24 16.0	+0.7
	0.4nm,0.3s,baz=330,slow=3.6,SNR=9.5						
URZ				S	Sn	23 25 41.4	-0.8
	2.9nm,0.3s,baz=242,slow=23,SNR=8.5						
	2.3nm,0.9s						
ASAR	**Alice Springs**	**42.01**	**268**	P	P	23 30 06.7	+0.3
	0.6nm,0.6s,baz=104,slow=7.1,SNR=7.7						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**43.05**	**273**	P	P	23 30 14.4	-0.4
	0.5nm,0.3s,baz=111,slow=8.1,SNR=26						
	0.5nm,0.3s						
QSPA	**South Pole Qui**	**59.10**	**180**	P	P	23 32 14.7	+0.3
	3.1nm,1.3s,baz=48,slow=4.9,SNR=1.9						
	3.1nm,1.3s						
FINES	**FINESS Array B**	**145.33**	**339**	PKPbc	PKPdf	23 41 48.8	-1.3
	1.5nm,0.9s,baz=46,slow=3.2,SNR=5.5						

IDC 19 23:32:06.2±1.3, 30°.14N×140°.95E, h0km, mb3.5/4, mbtmp3.5/6, ML3.1/2, MS2.7/1, Error ellipse: s-maj=45.7km s-min=23.9km az=82.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.79**	**341**	Pn	Pn	23 33 48.4	+1.3
	0.2nm,0.3s,baz=160,slow=13,SNR=4.4						
MJAR				LR	LR	23 36 39.6	
	comp=Z,58nm,19.1s,baz=152,slow=40						
	2.7nm,0.8s						
KSRS	**Korea Array**	**13.05**	**307**	Pn	Pn	23 35 12.3	-0.5
	0.2nm,0.3s,baz=122,slow=15,SNR=5.9						
	1.3nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**25.65**	**108**	T	T	00 05 07.2	
	baz=300,slow=75,SNR=176						
H11N1	**WAKE ISLAND Hy**	**25.66**	**108**	T	T	00 05 07.0	
	baz=300,slow=75,SNR=86						
H11N3	**WAKE ISLAND Hy**	**25.67**	**108**	T	T	00 05 08.0	
	baz=300,slow=75,SNR=148						
H11S3	**WAKE ISLAND Hy**	**26.10**	**110**	T	T	00 05 40.4	
	baz=302,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**26.10**	**110**	T	T	00 05 41.7	
	baz=302,slow=75,SNR=36						
H11S2	**WAKE ISLAND Hy**	**26.11**	**110**	T	T	00 05 41.4	
	baz=302,slow=75,SNR=36						
SONM	**Songino Array**	**31.81**	**314**	P	P	23 38 32.2	-0.3
	0.3nm,0.4s,baz=108,slow=9.3,SNR=2.2						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**50.20**	**188**	P	P	23 41 03.8	0.0
	0.7nm,0.8s,baz=3.5,slow=7.4,SNR=3.7						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**53.92**	**188**	P	P	23 41 31.6	0.0
	0.4nm,0.8s,baz=20,slow=12,SNR=3.1						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**55.59**	**30**	P	P	23 41 42.9	-0.4
	0.6nm,1.0s,baz=265,slow=6.2,SNR=4.3						
	0.6nm,1.0s						

GCG 19 23:53:28.2±0.4, 14°.58N×91°.21W, h92km±4km, MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG8	**El Palmar, Qui**	**0.19**	**225**	*eP*	Pn	23 53 43.1	+1.4
STG8				*eS*	Sn	23 53 55.1	+3.5
STG0	**El Palmar, Qui**	**0.20**	**219**	*eP*	Pn	23 53 42.8	+1.1
STG0				*eS*	Sn	23 53 54.4	+2.8
STG5	**El Palmar, Qui**	**0.22**	**216**	*eP*	Pn	23 53 42.6	+0.9
STG5				*eS*	Sn	23 53 53.9	+2.3

*IDC **19** 23:59:39.4±2.8, 7°.67S×110°.26E, h0km, mb3.6/3, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=158.1km s-min=28.3km az=25.0*
*DJA **19** 23:59:51.7±0.3, 8°.5±5°.×11°.0E±°, h89km±5km, M3.5/13, MLv3.5/13*
ISC 19 23:59:49.1±0.9, 8°.0S±0°.1×109°.63E±0°.04, h100km, n16, σ1°.95/20, mb3.1/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**0.68**	**74**	P	**Pn**	**00 00 07.9**	**+1.5**
YOGI				S	**Sn**	**00 00 22.0**	**+2.7**
UGM	**Wanagama**	**0.89**	**84**	P	**Pn**	**00 00 09.7**	**+1.4**
UGM				S	**Sn**	**00 00 25.4**	**+2.5**
SMRI	**Semarang**	**1.25**	**40**	P	**Pn**	**00 00 12.5**	**+0.2**
SMRI				S	**Sn**	**00 00 30.4**	**+0.5**
PCJI	**Pacitan**	**1.54**	**97**	P	**Pn**	**00 00 16.8**	**+1.0**
NGJI	**Ngawi**	**1.92**	**71**	P	**Pn**	**00 00 22.3**	**+1.7**
LEM	**Lembang**	**2.32**	**300**	Pn	**Pn**	**00 00 25.2**	**-0.8**
	2.6nm,0.3s,baz=286,slow=21,SNR=1.3						
LEM				Sn	**Sn**	**00 00 54.1**	**0.0**
	4.6nm,0.3s,baz=228,slow=24,SNR=3.6						
	13nm,0.5s						
TBJI	**Tambak Boyo**	**2.50**	**62**	P	**Pn**	**00 00 29.6**	**+1.5**
CNJI	**Cibinong**	**2.58**	**286**	P	**Pn**	**00 00 32.0**	**+2.8**
SKJI	**Sukabumi**	**3.21**	**288**	P	**Pn**	**00 00 40.1**	**+2.5**
GMJI	**Gumukmas**	**3.78**	**94**	P	**Pn**	**00 00 46.7**	**+1.4**
CGJI	**Cibinong**	**4.15**	**289**	P	**Pn**	**00 00 52.6**	**+2.4**
JAGI	**Jajag, Banyuwa**	**4.50**	**96**	P	**Pn**	**00 00 57.5**	**+2.5**
FITZ	**Fitzroy Crossi**	**18.52**	**124**	P	**P**	**00 03 55.1**	**-2.7**
	0.1nm,0.3s,baz=311,slow=8.9,SNR=2.4						
	2.1nm,0.8s						
WRA	**Warramunga Arr**	**26.70**	**119**	P	**P**	**00 05 17.4**	**-1.8**
	0.3nm,0.7s,baz=294,slow=11,SNR=8.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**27.99**	**127**	P	**P**	**00 05 29.5**	**-1.2**
	0.2nm,0.4s,baz=303,slow=8.0,SNR=4.8						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**38.04**	**133**	P	**P**	**00 06 57.0**	**-0.9**
	1.4nm,0.4s,baz=313,slow=9.2,SNR=5.4						
	1.4nm,0.4s						

*IDC **20** 00:00:01.3±1.4, 31°.67S×71°.91W, h0km, mb4.1/1, mbtmp3.6/6, ML3.8/5, MS2.7/1, Error ellipse: s-maj=34.9km s-min=28.7km az=154.0*
*SJA **20** 00:00:03.0±0.7, 31°.99S×71°.73W, h16km±1km, ML3.9, MW3.9*
*NEIC **20** 00:00:05.9±1.2, 31°.98S±0°.04×71°.90W±0°.02, h35km±13km, mb4.1/6, ML4.0(GUC), Error ellipse: s-maj=5.4km s-min=2.3km az=184.0*
*GUC **20** 00:00:05.9±0.8, 32°.00S×71°.67W, h40km±3km, ML4.0*
ISC 20 00:00:04.9±1.2, 31°.98S±0°.02×71°.78W±0°.04, h27km±10km, n117, σ1°.71/157, mb4.2/3, 1C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.71**	**145**		**Pn**	**00 00 18.4**	**-0.7**
VA06				Sn	**Sn**	**00 00 27.6**	**-1.6**
VA06	**Catapilco**	**0.71**	**145**	||*iP*	**Pn**	**00 00 18.5**	**-0.7**
VA06				*i* S	**Sn**	**00 00 27.7**	**-1.5**
VA06				IAML		00 00 28.1	
	comp=E,36μm,0.2s						
CO02	**Combarbal**	**1.02**	**41**		**Pn**	**00 00 22.8**	**-0.8**
CO02	**Combarbal**	**1.02**	**41**	*eP*	**Pn**	**00 00 22.7**	**-0.8**
CO02				*eS*	**Sn**	**00 00 36.4**	**-0.6**
CO02				IAML		00 00 42.1	
	comp=Z,2μm,0.1s						
VA01	**Torpederas**	**1.05**	**174**		**Pn**	**00 00 24.3**	**+0.5**
VA01				Sn	**Sb**	**00 00 38.6**	**+0.9**
VA01	**Torpederas**	**1.05**	**174**	*eP*	**Pb**	**00 00 24.7**	**+0.3**
VA01				*i* S	**Sb**	**00 00 38.1**	**+0.4**
VA01				IAML		00 00 41.1	
	comp=E,3μm,0.3s						
VA01	**Torpederas**	**1.05**	**174**	*eP*	**Pn**	**00 00 24.6**	**+0.7**
VA01				*eS*	**Sb**	**00 00 39.1**	**+1.4**
ROCH	**El Roble**	**1.18**	**147**	||*iP*	**Pn**	**00 00 25.7**	**-0.3**
ROCH				*i* S	**Sn**	**00 00 41.2**	**-0.1**
ROC1	**El Roble**	**1.18**	**147**	*eP*	Pn	00 00 20.1	-5.9
ROC1				*eS*	**Sn**	**00 00 41.5**	**+0.2**
VA03	**San Esteban**	**1.30**	**127**		**Pn**	**00 00 27.0**	**-0.4**
VA03	**San Esteban**	**1.30**	**127**	||*iP*	**Pn**	**00 00 26.9**	**-0.5**
VA03				*i* S	**Sn**	**00 00 43.0**	**-0.9**
VA03				IAML		00 00 44.6	
	comp=E,8μm,0.3s						
VA03	**San Esteban**	**1.30**	**127**	*eP*	**Pn**	**00 00 26.9**	**-0.5**
VA03				*eS*	**Sn**	**00 00 43.3**	**-0.6**
VA03				IAML		00 00 44.9	
	comp=Z,2μm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.31**	**5**		**Pn**	**00 00 27.7**	**+0.3**
MT02	**Curacav**	**1.39**	**157**		**Pn**	**00 00 28.7**	**+0.2**
MT02	**Curacav**	**1.39**	**157**	||*iP*	**Pn**	**00 00 28.6**	**+0.1**
MT02				*i* S	**Sn**	**00 00 46.1**	**+0.1**
MT02	**Curacav**	**1.39**	**157**	*eP*	**Pn**	**00 00 28.7**	**+0.2**
MT02				*eS*	**Sb**	**00 00 48.0**	**+0.5**
MT02				IAML		00 00 50.2	
	comp=Z,1μm,0.3s						
CO03	**El Pedregal**	**1.47**	**40**		**Pn**	**00 00 29.8**	**+0.1**
CO03	**El Pedregal**	**1.47**	**40**	*eP*	**Pn**	**00 00 29.8**	**+0.1**
CO03				*eS*	**Sn**	**00 00 48.8**	**+0.7**
CO03				IAML		00 00 49.7	
	comp=Z,2μm,0.3s						
PEL	**Peldehue**	**1.48**	**142**		**Pn**	**00 00 30.1**	**+0.2**
PEL	**Peldehue**	**1.48**	**142**	||*iP*	**Pn**	**00 00 30.1**	**+0.2**
PEL				*i* S	**Sn**	**00 00 48.9**	**+0.5**
PEL				IAML		00 00 51.4	
	comp=E,5μm,0.4s						
PEL	**Peldehue**	**1.48**	**142**	*eP*	**Pn**	**00 00 30.1**	**+0.2**
PEL				*eS*	**Sb**	**00 00 50.1**	**-0.2**
MT05	**Renca**	**1.66**	**148**		**Pn**	**00 00 32.9**	**+0.5**
MT05	**Renca**	**1.66**	**148**	*eP*	**Pn**	**00 00 32.7**	**+0.4**
MT05				*i* S	**Sn**	**00 00 53.6**	**+0.9**
MT05				IAML		00 00 57.2	
	comp=E,4μm,0.3s						
MT05	**Renca**	**1.66**	**148**	*eP*	**Pn**	**00 00 33.0**	**+0.7**
MT05				*eS*	**Sb**	**00 00 55.1**	**-0.2**
MT05				IAML		00 01 01.9	
	comp=Z,1μm,0.5s						
MT10	**Hacienda Santa**	**1.66**	**141**	||*iP*	**Pn**	**00 00 33.0**	**+0.6**
MT10				*i* S	**Sn**	**00 00 53.8**	**+0.9**
MT10				IAML		00 00 55.4	
	comp=E,6μm,0.4s						
VA05	**Santo Domingo**	**1.68**	**175**		**Pn**	**00 00 33.5**	**+1.0**
VA05	**Santo Domingo**	**1.68**	**175**	*eP*	**Pn**	**00 00 33.5**	**+1.0**
VA05				*i* S	**Sn**	**00 00 54.4**	**+1.3**
VA05				IAML		00 01 01.1	
	comp=E,3μm,0.4s						
MT14	**Cerro Calı̣n**	**1.76**	**144**	||*iP*	**Pn**	**00 00 34.6**	**+1.0**
MT14				*i* S	**Sn**	**00 00 56.0**	**+0.8**
MT14				IAML		00 00 59.8	
	comp=E,4μm,0.3s						
MT16	**CCHEN**	**1.79**	**144**		**Pn**	**00 00 35.0**	**+0.9**
MT16	**CCHEN**	**1.79**	**144**	||*iP*	**Pn**	**00 00 35.0**	**+0.9**
MT16				*i* S	**Sn**	**00 00 57.2**	**+1.2**
MT16				IAML		00 00 58.2	
	comp=N,1μm,0.6s						
FCH	**Farellones**	**1.84**	**137**	||*iP*	**Pn**	**00 00 35.6**	**+0.6**
FCH				*i* S	**Sn**	**00 00 58.4**	**+0.8**
FCH				IAML		00 00 59.8	
	comp=E,1μm,0.2s						
MT03	**Universidad Ad**	**1.85**	**145**		**Pn**	**00 00 36.0**	**+1.0**
MT03	**Universidad Ad**	**1.85**	**145**	||*iP*	**Pn**	**00 00 36.0**	**+1.0**
MT03				*i* S	**Sn**	**00 00 58.9**	**+1.4**
MT03				IAML		00 01 00.7	
	comp=E,6μm,0.2s						
MT03	**Universidad Ad**	**1.85**	**145**	*eP*	**Pn**	**00 00 36.0**	**+1.0**
MT03				*eS*	**Sb**	**00 00 59.8**	**-1.1**
MT03				IAML		00 01 05.3	
	comp=Z,1μm,0.5s						
MT09	**Talagante**	**1.91**	**160**		**Pn**	**00 00 37.4**	**+1.5**
MT01	**Popeta**	**1.93**	**167**		**Pn**	**00 00 37.1**	**+1.1**
MT01	**Popeta**	**1.93**	**167**	*eP*	**Pn**	**00 00 37.0**	**+1.1**
MT01				*eS*	**Sb**	**00 01 05.7**	**+2.6**
MT01				IAML		00 01 08.9	
	comp=Z,846nm,0.3s						
MT15	**Las Vizcachas**	**1.94**	**147**	||*iP*	**Pn**	**00 00 37.2**	**+1.1**
MT15				IAML		00 01 03.1	
	comp=E,3μm,0.3s						
MT04	**Ro Olivares**	**1.98**	**136**	*eP*	**Pn**	**00 00 38.0**	**+1.0**
MT04				*eS*	**Sb**	**00 01 03.6**	**-1.2**
MT04				IAML		00 01 05.3	
	comp=Z,777nm,0.2s						
GO04	**Tololo Observa**	**1.99**	**25**		**Pn**	**00 00 37.8**	**+0.8**
GO04	**Tololo Observa**	**1.99**	**25**	*eP*	**Pn**	**00 00 37.5**	**+0.5**
GO04				*eS*	**Sb**	**00 01 04.5**	**-0.5**
MT12	**Pirque**	**2.03**	**150**	*eP*	**Pn**	**00 00 38.4**	**+1.0**
MT12				*i* S	**Sn**	**00 01 03.8**	**+1.8**
MT12				IAML		00 01 13.9	
	comp=E,3μm,0.5s						
MT08	**Bocatoma Ro**	**2.08**	**135**		**Pn**	**00 00 39.7**	**+1.4**
MT08	**Bocatoma Ro**	**2.08**	**135**	||*iP*	**Pn**	**00 00 39.7**	**+1.4**
MT08				IAML		00 01 15.2	
	comp=E,889nm,0.5s						
MT08	**Bocatoma Ro**	**2.08**	**135**	*eP*	**Pn**	**00 00 40.1**	**+1.8**
MT08				*eS*	**Sn**	**00 01 06.2**	**+2.7**
MT08				IAML		00 01 14.7	
	comp=Z,542nm,0.7s						
CO05	**La Serena**	**2.10**	**13**		**Pn**	**00 00 39.4**	**+1.0**
RTLS	**Leoncito**	**2.12**	**86**	*eP*	**Pn**	**00 00 40.9**	**+2.1**
RTLS				*eS*	**Sb**	**00 01 08.8**	**0.0**
RTLS				IAML		00 01 09.1	
	comp=Z,2μm,1.0s						
MT13	**San Alfonso**	**2.16**	**145**		**Pn**	**00 00 40.1**	**+0.8**
MT13	**San Alfonso**	**2.16**	**145**	*eP*	**Pn**	**00 00 40.6**	**+1.3**
MT13				*eS*	**Sn**	**00 01 07.4**	**+2.2**
MT13				IAML		00 01 15.0	
	comp=Z,1μm,0.3s						
BO04	**La Punta**	**2.23**	**154**		**Pn**	**00 00 40.8**	**+0.6**
LMEL	**Las Melosas**	**2.29**	**145**		**Pn**	**00 00 41.8**	**+0.7**
LMEL	**Las Melosas**	**2.29**	**145**	*eP*	**Pn**	**00 00 42.4**	**+1.4**
LMEL				*eS*	**Sn**	**00 01 10.3**	**+1.9**
CO01	**Juntas del Tor**	**2.46**	**36**		**Pn**	**00 00 44.3**	**+0.7**
CO01	**Juntas del Tor**	**2.46**	**36**	*eP*	**Pn**	**00 00 44.9**	**+1.3**
CO01				*eS*	**Sn**	**00 01 15.8**	**+3.0**
CO01				IAML		00 01 17.9	
	comp=Z,517nm,0.7s						
BO01	**Tunca**	**2.48**	**167**		**Pn**	**00 00 44.3**	**+0.8**
BO01	**Tunca**	**2.48**	**167**	*eP*	**Pn**	**00 00 44.7**	**+1.2**
BO01				*eS*	**Sn**	**00 01 13.5**	**+0.7**
BO01				IAML		00 01 24.1	
	comp=Z,465nm,0.4s						
DOCA	**Reserva Natura**	**2.52**	**67**	*eP*	**Pn**	**00 00 47.3**	**+2.9**
DOCA				*eS*	**Sn**	**00 01 16.1**	**+1.7**
DOCA				IAML		00 01 32.3	
	comp=Z,365nm,0.7s						
ARCO	**CERRO ARCO**	**2.55**	**110**	*eP*	**Pn**	**00 00 43.7**	**-1.0**
ARCO				*eS*	Sn	00 01 01.1	-14
ARCO				IAML		00 01 01.2	
	comp=Z,358nm,0.5s						
ZON	**Zonda**	**2.67**	**82**		**Pn**	**00 00 48.4**	**+2.1**
ZON	**Zonda**	**2.67**	**82**	*eP*	**Pn**	**00 00 44.4**	**-1.8**
ZON				*eS*	**Sn**	**00 01 20.4**	**+2.6**
ZON				IAML		00 01 36.2	
	comp=Z,378nm,0.5s						
AROD	**Rodeo**	**2.68**	**48**	*eP*	**Pn**	**00 00 49.4**	**+2.9**
AROD				*eS*	**Sn**	**00 01 19.8**	**+1.5**
ACCO	**Cerro Coronel**	**2.70**	**60**	*eP*	**Pb**	**00 00 52.2**	**-0.6**
ACCO				*eS*	**Sn**	**00 01 23.3**	**+4.4**
AAGR	**Agrelo**	**2.72**	**115**	*eP*	**Pb**	**00 00 51.2**	**-1.8**
AAGR				*eS*	Sn	00 01 07.7	-11
SJA	**San Juan**	**2.78**	**82**	*eP*	Pn	00 00 34.8	-13
SJA				*eS*	Sn	00 01 04.4	-16
SJA				IAML		00 01 09.0	
	comp=Z,505nm,0.7s						
RTLL	**Cerro Villicun**	**2.89**	**78**	*eP*	**Pn**	**00 00 52.2**	**+3.0**
RTLL				*eS*	**Sn**	**00 01 26.0**	**+2.9**
ACDV	**Cuesta del Vie**	**2.91**	**52**	*eP*	**Pb**	**00 00 56.3**	**+0.2**
ACDV				IAML		00 01 34.8	
	comp=Z,165nm,0.7s						
BO02	**Sierra Bellavi**	**2.93**	**164**		**Pn**	**00 00 51.3**	**+1.6**
BO02	**Sierra Bellavi**	**2.93**	**164**	*eP*	**Pn**	**00 00 51.1**	**+1.3**
BO02				*eS*	**Sn**	**00 01 25.1**	**+1.0**
BO02				IAML		00 01 38.6	
	comp=Z,734nm,0.6s						
CFA	**Coronel Fontan**	**3.04**	**84**	Pn	**Pn**	**00 00 53.5**	**+2.3**
	comp=Z,13nm,0.3s,baz=255,slow=8.9,SNR=120						
CFA				Sn	**Sn**	**00 01 30.4**	**+3.6**
	comp=Z,23nm,0.3s,baz=21,slow=12,SNR=9.8						
	comp=Z,43nm,0.2s						
CFA	**Coronel Fontan**	**3.04**	**84**	*eP*	**Pn**	**00 00 53.3**	**+2.1**
CFA				*eS*	**Sb**	**00 01 32.5**	**-2.4**
LCO	**Las Campanas**	**3.10**	**18**		**Pn**	**00 00 52.5**	**+0.2**
LCO	**Las Campanas**	**3.10**	**18**	*eP*	**Pn**	**00 00 52.7**	**+0.4**
LCO				*eS*	**Sn**	**00 01 28.1**	**-0.6**
LCO				IAML		00 01 47.1	
	comp=Z,509nm,0.8s						
AVIZ	**Vizcacheras**	**3.12**	**119**	*eP*	**Pn**	**00 00 53.8**	**+1.3**
AC05	**El Transito**	**3.39**	**23**		**Pn**	**00 00 57.1**	**+0.9**
AC05	**El Transito**	**3.39**	**23**	*eP*	**Pn**	**00 00 57.4**	**+1.2**
AC05				*eS*	**Sn**	**00 01 36.7**	**+1.1**
AC05				IAML		00 01 53.3	
	comp=Z,273nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**3.76**	**50**	*eS*	**Sb**	**00 01 56.6**	**+0.6**
AGUA				IAML		00 02 05.1	
	comp=Z,289nm,0.7s						
ML02	**Panimavida**	**3.79**	**176**		**Pn**	**00 01 03.1**	**+1.6**
AC04	**Llanos de Chal**	**3.81**	**9**		**Pn**	**00 01 02.0**	**+0.2**
AC04	**Llanos de Chal**	**3.81**	**9**	*eP*	**Pn**	**00 01 01.8**	**-0.1**
AC04				*eS*	**Sb**	**00 01 53.2**	**-4.0**
AC04				IAML		00 02 07.9	
	comp=Z,204nm,0.7s						
AVFE	**Valle Fertil**	**3.92**	**72**	*eP*	**Pn**	**00 01 05.2**	**+1.8**
AVFE				*eS*	**Sn**	**00 01 52.1**	**+3.4**
AVFE				IAML		00 02 01.7	
	comp=Z,229nm,0.5s						
ACHE	**Chepes**	**4.44**	**81**	*eP*	**Pn**	**00 01 12.8**	**+2.2**
ACHE				*eS*	**Sb**	**00 02 10.7**	**-4.8**
VCA	**Vinchina**	**4.47**	**45**	*eP*	**Pn**	**00 01 14.2**	**+3.2**
VCA				*eS*	**Sb**	**00 02 17.9**	**+1.6**
VCA				IAML		00 02 20.0	
	comp=Z,332nm,0.4s						
GO03	**Copiapo**	**4.57**	**17**		**Pn**	**00 01 12.4**	**0.0**
GO03	**Copiapo**	**4.57**	**17**	*eP*	Pn	00 01 07.2	-5.2
GO03				*eS*	**Sn**	**00 02 12.7**	**+8.1**
BI02	**San Fabin de**	**4.69**	**175**		**Pn**	**00 01 15.1**	**+1.1**
APLL	**PUNTA DE LOS L**	**4.77**	**72**	*eP*	**Pn**	**00 01 11.4**	**-3.7**
APLL				*eS*	**Sn**	**00 02 13.4**	**+3.9**
AC06	**Mina Casimiro**	**4.77**	**15**		**Pn**	**00 01 15.3**	**+0.3**
ACLC	**CERRO LA CRUZ**	**4.87**	**60**	*eP*	**Pn**	**00 01 18.5**	**+1.8**
ACLC				*eS*	**Sn**	**00 02 16.6**	**+4.4**
ACLC				IAML		00 02 24.4	
	comp=Z,177nm,0.5s						
BI05	**Punta Hualpn**	**4.90**	**193**	Pn	**Pn**	**00 01 16.8**	**0.0**
AC02	**Maricunga**	**5.62**	**25**		**Pn**	**00 01 26.9**	**-0.3**
AC01	**Pan de Azucar**	**5.90**	**10**	Pn	**Pn**	**00 01 30.6**	**-0.1**
H03N1	**Juan Fernandez**	**6.19**	**254**	T	T	00 08 16.0	
	baz=81,slow=72						
H03N3	**Juan Fernandez**	**6.20**	**254**	T	T	00 08 09.6	
	baz=81,slow=72						
H03N2	**Juan Fernandez**	**6.21**	**255**	T	T	00 08 16.1	
	baz=81,slow=72						
H03S3	**Juan Fernandez**	**6.28**	**251**	T	T	00 08 41.7	
	baz=84,slow=74,SNR=8.1						
H03S1	**Juan Fernandez**	**6.28**	**251**	T	T	00 08 15.8	
	baz=84,slow=74,SNR=6.8						
H03S2	**Juan Fernandez**	**6.29**	**251**	T	T	00 08 18.6	
	baz=84,slow=74,SNR=9.0						
PLCA	**Paso Flores**	**8.79**	**174**	Pn	**Pn**	**00 02 13.9**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=306,slow=12,SNR=3.3						
PLCA				LR	LR	00 06 30.9	
	comp=Z,46nm,19.1s,baz=14,slow=43						
	comp=Z,0.6nm,0.4s						
TRQA	**Tornquist**	**10.06**	**130**	Pn	**Pn**	**00 02 28.7**	**+1.1**
ITQB	**Itaqui**	**13.22**	**84**	Pn	**Pn**	**00 03 12.3**	**+1.4**
PB16	**IPOC Station P**	**13.74**	**9**	Pn	**Pn**	**00 03 19.6**	**+1.1**
CPUP	**Villa Florida**	**13.82**	**70**	Pn	**Pn**	**00 03 19.9**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=242,slow=14,SNR=2.2						
CPUP				Sn	**Sn**	**00 05 52.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=199,slow=17,SNR=3.2						
	comp=Z,0.6nm,0.5s						
LPAZ	**La Paz**	**15.97**	**13**	Pn	**Pn**	**00 03 48.4**	**0.0**
LPAZ	**La Paz**	**15.97**	**13**	Pn	**Pn**	**00 03 45.2**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=189,slow=13,SNR=6.1						
	comp=Z,0.9nm,0.8s						
SIV	**San Ignacio**	**18.66**	**34**	P	**P**	**00 04 19.4**	**-1.5**
	baz=213,slow=8.6,SNR=4.7						
	comp=Z,0.4nm,0.5s						
PTLB	**Pontes e Lacer**	**20.09**	**38**	P	**P**	**00 04 34.7**	**-1.8**
PTLB				IAmb	IAmb	00 04 46.9	
	comp=Z,3.3nm,1.3s						
MG01	**Puerto William**	**23.13**	**174**	P	**P**	**00 05 08.5**	**-0.2**
BDFB	**Brasilia**	**27.05**	**59**	P	**P**	**00 05 43.9**	**-1.4**
BDFB				IAmb	IAmb	00 05 53.2	
	comp=Z,7.8nm,1.2s						
BDFB	**Brasilia**	**27.05**	**59**	P	**P**	**00 05 43.4**	**-2.0**
	comp=Z,2.2nm,0.8s,baz=245,slow=11,SNR=4.1						
	comp=Z,2.2nm,0.8s						
BOAV	**Boa Vista**	**35.82**	**19**	P	**P**	**00 07 01.2**	**-1.0**
BOAV				IAmb	IAmb	00 07 12.1	
	comp=Z,5.6nm,1.2s						
TORD	**Torodi Ar. Bea**	**83.31**	**70**	P	**P**	**00 12 29.2**	**-0.5**
TORD				IAmb	IAmb	00 13 03.5	
	comp=Z,2.2nm,1.3s						
H11S2	**WAKE ISLAND Hy**	**26.00**	**270**	T	T	02 38 10.4	
	baz=117,slow=74,SNR=17						
H11S1	**WAKE ISLAND Hy**	**26.01**	**270**	T	T	02 38 06.3	
	baz=117,slow=74,SNR=15						
H11S3	**WAKE ISLAND Hy**	**26.02**	**270**	T	T	02 38 10.8	
	baz=117,slow=74,SNR=11						
BVAR	**Borovoye Array**	**145.63**	**41**	PKPbc	**PKPab**	**00 19 41.0**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=297,slow=3.6,SNR=9.1						
KURBB	**Kurchatov Arra**	**151.23**	**41**	PKPbc	**PKPbc**	**00 19 55.5**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=292,slow=2.8,SNR=9.3						
ZALV	**Zalesovo

comp=Z,7.0nm,0.8s
ASAR Alice Springs 65.14 131 P P 01 00 48.6 +2.8
comp=Z,2.6nm,0.7s,baz=314,slow=6.7,SNR=5.4
comp=Z,2.6nm,0.7s

IDC 20 00:51:25.5±1.7,1.82N×127.79E,h0km,mb3.5/4, mbtmp3.6/5,ML3.3/1,Error ellipse: s-maj=112.0km s-min=20.2km az=71.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.91**	**186**	P	Pn	00 56 00.5	+0.1
	0.1nm,0.3s,baz=207,slow=18,SNR=12						
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**22.56**	**164**	P	P	00 56 26.8	-0.8
	1.4nm,0.7s,baz=340,slow=11,SNR=18						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**26.02**	**167**	P	P	00 57 00.3	-0.3
	0.4nm,0.4s,baz=346,slow=11,SNR=11						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.72**	**325**	P	P	01 01 31.6	-0.5
	0.3nm,0.5s,baz=123,slow=7.3,SNR=4.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**63.91**	**327**	P	P	01 02 00.6	+0.4
	0.4nm,0.6s,baz=131,slow=5.9,SNR=5.6						
	0.4nm,0.6s						

---

*IDC **20** 00:55:33.5±0.5, 1.84S×122.56E, h0km, mb4.4/23, mbtmp4.4/27, ML4.5/5, MS3.4/22, Error ellipse: s-maj=20.7km s-min=11.1km az=80.0*
*MOS **20** 00:55:34.0±1.1, 1.86S×122.62E, h12km, mb5.0/22, Error ellipse: s-maj=11.4km s-min=6.8km az=110.7*
*NEIC **20** 00:55:36.5±1.3, 1.95S±0.02×122.59E±0.06, h10km±1km, mb5.0/19, Error ellipse: s-maj=10.8km s-min=3.0km az=91.0*
*DJA **20** 00:55:37.9±0.3, 2.3S±2.3×12.3E±.3, h12km±2km, M4.9/40, mB5.4/19, mb5.1/40, MLv5.2/29, Mw(mB)4.9/19, MwMwp6.0/1, Mwp6.1/1*
ISC 20 00:55:35.9±0.3,1.95S±0.03×122.63E±0.04,h10km,n220, σ1.9 64/222,mb4.7/79,MS3.4/20,7C-8D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.92**	**9**		**Pb**	**00 55 54.8**	**+0.8**
LUWI				Sg	**Sg**	**00 56 05.8**	**+0.2**
LUWI	**Luwuk**	**0.92**	**9**	P	**Pn**	**00 55 55.1**	**+0.2**
LUWI	**Luwuk**	**0.92**	**9**	P	**Pb**	**00 55 54.9**	**+1.0**
LUWI				S	**Sb**	**00 56 07.8**	**+1.7**
APSI	**Ampana**	**1.42**	**317**	P	**Pn**	**00 56 02.1**	**+0.2**
KDI	**Kendari**	**1.99**	**180**	P	**Pb**	**00 56 11.6**	**-0.7**
KMSI	**Cibinong**	**2.85**	**28**	P	**Pn**	**00 56 22.8**	**+1.3**
PCI	**Palu**	**2.98**	**290**	P	**Pn**	**00 56 24.3**	**+1.0**
TTSI	**Tana Toraja**	**3.01**	**249**	P	**Pn**	**00 56 24.3**	**+0.6**
SANI	**Sanana**	**3.36**	**92**	P	**Pn**	**00 56 28.6**	**0.0**
SANI	**Sanana**	**3.36**	**92**	S	**Sn**	**00 57 09.3**	**+0.7**
SANI	**Sanana**	**3.36**	**92**	P	**Pn**	**00 56 28.5**	**0.0**
SPSI	**Sidrap Palu**	**3.48**	**235**	P	**Pn**	**00 56 31.2**	**+1.0**
BNSI	**Bone**	**3.50**	**226**	P	**Pn**	**00 56 31.3**	**+0.8**
BBSI	**Bau Bau**	**3.51**	**181**	P	**Pn**	**00 56 32.4**	**+1.7**
MPSI	**Mapaga**	**3.55**	**310**	P	**Pn**	**00 56 31.0**	**-0.2**
TOLI2	**Tolitoli**	**3.56**	**329**		**Pn**	**00 56 32.2**	**+1.0**
TOLI2				Pg	**Pg**	**00 56 43.9**	**-0.2**
TOLI2	**Tolitoli**	**3.56**	**329**	P	**Pn**	**00 56 32.6**	**+1.3**
TOLI2	**Tolitoli**	**3.56**	**329**	S	**Sn**	**00 57 16.2**	**+2.8**
KAPI	**Kappang**	**4.18**	**223**		**Pn**	**00 56 41.2**	**+1.4**
KAPI	**Kappang**	**4.18**	**223**	Pn	**Pn**	**00 56 40.9**	**+1.1**
KAPI	21nm,0.3s,baz=16,slow=6.8,SNR=36						
				Sn	**Sn**	**00 57 28.6**	**-0.2**
	15nm,0.3s,baz=42,slow=22,SNR=5.0						
	47nm,0.4s						
KAPI	**Kappang**	**4.18**	**223**	P	**Pn**	**00 56 42.2**	**+2.3**
KAPI	**Kappang**	**4.18**	**223**	*e*P	**Pn**	**00 56 40.5**	**+0.6**
NLAI	**Namlea**	**4.65**	**106**	P	**Pn**	**00 56 48.6**	**+2.3**
BSSI	**Bau Bau, Buton**	**4.68**	**207**	P	**Pn**	**00 56 48.1**	**+1.4**
LBMI	**Labuha**	**5.04**	**75**	P	**Pn**	**00 56 54.6**	**+2.9**
TNTI	**Ternate**	**5.46**	**60**		**Pn**	**00 56 58.5**	**+1.1**
TNTI	**Ternate**	**5.46**	**60**	P	**Pn**	**00 57 00.1**	**+2.7**
TNTI	**Ternate**	**5.46**	**60**	P	**Pn**	**00 56 59.8**	**+2.4**
	1.0nm3μm197nm,0.7s						
SMKI	**Samarinda**	**5.62**	**285**	P	**Pn**	**00 57 00.8**	**+1.2**
BKB	**Balikpapan**	**5.77**	**277**		**Pn**	**00 57 01.9**	**+0.2**
BKB	**Balikpapan**	**5.77**	**277**	P	**Pn**	**00 57 05.6**	**+3.9**
BKB	**Balikpapan**	**5.77**	**277**	P	**Pn**	**00 57 05.4**	**+3.7**
	1.4nm4μm308nm,0.8s						
AAI	**Ambon**	**5.82**	**107**	P	Pn	00 57 07.5	+5.1
	0.8nm2μm244nm,1.0s						
MSAI	**Masohi**	**6.45**	**103**	P	**Pn**	**00 57 14.3**	**+3.3**
	0.7nm194nm,0.8s						
MMRI	**Maumere**	**6.65**	**183**		**Pn**	**00 57 13.9**	**0.0**
MMRI	**Maumere**	**6.65**	**183**	P	**Pn**	**00 57 15.6**	**+1.8**
MMRI	**Maumere**	**6.65**	**183**	P	**Pn**	**00 57 14.4**	**+0.6**
	0.8nm3μm253nm,1.4s						
EDFI	**Ende, Flores**	**6.82**	**188**	P	**Pn**	**00 57 17.1**	**+0.9**
	0.5nm2μm158nm,0.6s						
BNDI	**Bandanaira**	**7.70**	**110**	P	**Pn**	**00 57 30.9**	**+2.6**
	1.1nm245nm,1.0s						
SOEI	**Soe**	**7.92**	**168**		**Pn**	**00 57 33.3**	**+1.9**
SOEI	**Soe**	**7.92**	**168**	P	**Pn**	**00 57 34.1**	**+2.7**
SOEI	**Soe**	**7.92**	**168**	P	**Pn**	**00 57 36.0**	**+4.6**
	3μm342nm,0.8s						
MYLDM	**Lahad Datu**	**8.20**	**330**		**Pn**	**00 57 36.9**	**+1.9**
MYLDM	**Lahad Datu**	**8.20**	**330**	P	**Pn**	**00 57 38.4**	**+3.4**
SWI	**Sorong**	**8.70**	**83**	P	**Pn**	**00 57 43.4**	**+1.5**
	1μm82nm,0.4s						
DAV	**Davao City (W)**	**9.43**	**18**	Pn	**Pn**	**00 57 50.7**	**-1.3**
	25nm,0.3s,baz=234,slow=18,SNR=1.3						
DAV				Sn	**Sn**	**00 59 37.4**	**-0.9**
	baz=27,slow=21						
DAV				LR	LR	01 01 53.7	
	comp=Z,200nm,20.6s,baz=298,slow=41						
	82nm,0.3s						
FAKI	**Fak Fak**	**9.66**	**96**		**Pn**	**00 57 56.1**	**+0.9**
FAKI	**Fak Fak**	**9.66**	**96**	P	**Pn**	**00 57 56.8**	**+1.6**
FAKI	**Fak Fak**	**9.66**	**96**	P	**Pn**	**00 57 56.0**	**+0.8**
	123nm,0.9s						
KMPI	**Kaimana, Papua**	**11.19**	**99**	P	**Pn**	**00 58 18.9**	**+2.7**
SBUM	**Sibu**	**11.29**	**293**		**Pn**	**00 58 18.5**	**+1.1**
SBUM	**Sibu**	**11.29**	**293**	P	**Pn**	**00 58 19.8**	**+2.4**
KSM	**Kuching**	**12.78**	**285**	Pn	**Pn**	**00 58 37.8**	**-0.1**
KSM	**Kuching**	**12.78**	**285**	P	**Pn**	**00 58 40.6**	**+2.8**
MTN	**Manton Dam**	**13.71**	**143**		**Pn**	**00 58 50.6**	**-0.1**
MTN	**Manton Dam**	**13.71**	**143**	P	**Pn**	**00 58 52.7**	**+2.1**
	comp=Z,40nm,1.1s						
MTN	**Manton Dam**	**13.71**	**143**	P	**Pn**	**00 58 52.6**	**+2.0**
KDU	**Kakadu**	**14.45**	**138**	P	**Pn**	**00 59 01.6**	**+0.8**
	comp=Z,25nm,0.9s						
KDU	**Kakadu**	**14.45**	**138**	P	**Pn**	**00 59 02.7**	**+1.9**
KNRA	**Kununurra**	**14.92**	**156**		**Pn**	**00 59 06.2**	**-0.9**
KNRA	**Kununurra**	**14.92**	**156**	P	**Pn**	**00 59 05.3**	**-1.9**
LEM	**Lembang**	**15.72**	**252**	Pn	**Pn**	**00 59 17.0**	**-0.9**
	comp=Z,1.9nm,0.3s,baz=315,slow=22,SNR=1.5						
	comp=Z,1.4nm,0.5s						
TGY	**Tagaytay City**	**16.04**	**354**	Pn	**Pn**	**00 59 19.1**	**-2.7**
	comp=Z,1.4nm,0.3s,baz=161,slow=4.5,SNR=5.2						
SMPI	**Sarmi**	**16.07**	**90**	P	**Pn**	**00 59 24.0**	**+1.7**
	comp=Z,60nm,1.4s						
FITZ	**Fitzroy Crossi**	**16.32**	**170**	P	**Pn**	**00 59 26.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**16.32**	**170**	Pn	**Pn**	**00 59 25.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=7.1,slow=9.8,SNR=6.7						
FITZ				LR	LR	01 06 22.0	
	comp=Z,172nm,19.0s,baz=326,slow=40						
	comp=Z,9.5nm,0.7s						
PPBI	**Pangkal Pinang**	**16.48**	**269**	P	**Pn**	**00 59 27.8**	**+0.3**
GENI	**Genyem**	**17.54**	**92**	P	**P**	**00 59 42.0**	**+0.1**
GENI	**Genyem**	**17.54**	**92**	P	**P**	**00 59 43.7**	**+1.8**
	comp=Z,68nm,0.9s						
MDSI	**Maura Dua**	**18.59**	**262**	P	**Pn**	**00 59 55.6**	**+1.9**
	comp=Z,31nm,1.2s						
LWLI	**Liwa**	**18.78**	**260**	P	**P**	**00 59 56.3**	**+0.6**
MYKOM	**Kota Tinggi**	**19.14**	**281**	P	**P**	**00 59 58.8**	**-0.7**
DLV	**Lat**	**19.70**	**315**	P	**P**	**01 00 05.5**	**-0.3**
WB0	**Warramunga Arr**	**21.12**	**148**	P	**P**	**01 00 21.2**	**+0.1**
WB0				IAmb	IAmb	01 00 25.8	
	comp=Z,92nm,1.0s						
WB9	**Warramunga Arr**	**21.13**	**148**	P	**P**	**01 00 21.2**	**0.0**
WRAB	**Tennant Creek**	**21.23**	**148**	P	**P**	**01 00 22.5**	**+0.2**
WRAB				IAmb	IAmb	01 00 27.0	
	comp=Z,58nm,1.0s						
WRAB	**Tennant Creek**	**21.23**	**148**	*d iP*	**P**	**01 00 22.3**	**0.0**
WRAB				pmax	pmax		
	comp=Z,72nm,1.0s						
WRA	**Warramunga Arr**	**21.23**	**148**	P	**P**	**01 00 20.6**	**-1.7**
WRA	**Warramunga Arr**	**21.23**	**148**	P	**P**	**01 00 21.9**	**-0.4**
	comp=Z,44nm,1.0s,baz=328,slow=9.9,SNR=51						
WRA				LR	LR	01 09 20.6	
	comp=Z,164nm,19.6s,baz=273,slow=39						
	comp=Z,44nm,1.0s						
WRA	**Warramunga Arr**	**21.23**	**148**	*ce*P	**P**	**01 00 22.3**	**0.0**
WRA				pmax	pmax		
	comp=Z,61nm,1.0s						
WR8	**Warramunga Arr**	**21.33**	**148**	P	**P**	**01 00 22.9**	**-0.4**
WR8				IAmb	IAmb	01 00 27.4	
	comp=Z,74nm,0.8s						
PPI	**Padang Panjang**	**22.27**	**274**	P	**P**	**01 00 35.4**	**+1.9**
	comp=Z,35nm,1.0s						
KULM	**Kulim**	**23.10**	**288**	P	**P**	**01 00 41.5**	**-0.8**
KULM	**Kulim**	**23.10**	**288**	P	**P**	**01 00 44.1**	**+1.8**
MNSI	**Mandailing Nat**	**23.20**	**277**	P	**P**	**01 00 43.7**	**+0.4**
	comp=Z,53nm,0.8s						
SISI	**Saibi**	**23.54**	**271**	P	**P**	**01 00 48.0**	**+1.4**
	comp=Z,32nm,0.9s						
COEN	**Coen**	**23.56**	**121**	P	**P**	**01 00 47.5**	**+0.6**
	comp=Z,17nm,1.4s						
WRKA	**Warakurna**	**23.59**	**167**	P	**P**	**01 00 47.7**	**+0.5**
	comp=Z,51nm,1.1s						
WRKA	**Warakurna**	**23.59**	**167**	P	**P**	**01 00 49.4**	**+2.2**
UBPT	**Khong Chiam**	**24.11**	**316**	P	**P**	**01 00 51.6**	**-0.5**
UBPT	**Khong Chiam**	**24.11**	**316**	P	**P**	**01 00 54.6**	**+2.5**
RPSI	**Rantau Prapat**	**24.14**	**281**	P	**P**	**01 00 51.4**	**-1.0**
PSI	**Prapat**	**24.16**	**281**	P	**P**	**01 00 54.6**	**+1.8**
PSI	**Prapat**	**24.16**	**281**	P	**P**	**01 00 51.4**	**-1.4**
PSI				pmax	pmax		
	comp=Z,95nm,1.0s						
AS15	**Alice Springs**	**24.17**	**154**	P	**P**	**01 00 53.4**	**+0.8**
	comp=Z,43nm,0.9s						
AS31	**Alice Springs**	**24.19**	**154**	P	**P**	**01 00 52.5**	**-0.4**
ASAR	**Alice Springs**	**24.19**	**154**	P	**P**	**01 00 53.4**	**+0.5**
	comp=Z,13nm,0.7s,baz=325,slow=7.9,SNR=84						
ASAR				PcP	**PcP**	**01 04 32.9**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=333,slow=2.3,SNR=4.1						
ASAR				LR	LR	01 11 00.5	
	comp=Z,317nm,19.3s,baz=323,slow=38						
	comp=Z,13nm,0.7s						
AS01	**Alice Springs**	**24.21**	**154**	P	**P**	**01 00 54.3**	**+1.2**
QIZ	**Qiongzhong**	**24.34**	**329**	P	**P**	**01 00 55.0**	**+0.8**
QIZ				S	**S**	**01 05 15.4**	**+1.7**
QIZ				pmax	pmax		
	comp=Z,54nm,0.9s						
QIZ	**Qiongzhong**	**24.34**	**329**	P	**P**	**01 00 55.6**	**+1.4**
TSI	**Tuntungan**	**24.65**	**283**	P	**P**	**01 00 59.1**	**+2.0**
	comp=Z,139nm,1.1s						
MANU	**Manus Island**	**24.73**	**91**	P	**P**	**01 00 58.3**	**+0.5**
MANU				IAmb	IAmb	01 01 02.2	
	comp=Z,33nm,1.1s						
QIS	**Mount Isa**	**24.83**	**139**	P	**P**	**01 00 59.1**	**+0.4**
	comp=Z,32nm,0.7s						
QIS	**Mount Isa**	**24.83**	**139**	P	**P**	**01 00 59.4**	**+0.7**
MEEK	**Meekatharra**	**24.85**	**189**	P	**P**	**01 00 59.5**	**+0.7**
	comp=Z,40nm,3.0s						
TPUB	**Ta-pu**	**25.17**	**356**	P	**P**	**01 01 01.1**	**-0.6**
TPUB				IAmb	IAmb	01 01 19.5	
	comp=Z,34nm,0.8s						
TPUB	**Ta-pu**	**25.17**	**356**	P	**P**	**01 01 04.2**	**+2.5**
SRIT	**Nakonsritamara**	**25.23**	**295**	P	**P**	**01 01 05.5**	**+3.2**
GSI	**Gunungsitoli**	**25.25**	**277**	P	**P**	**01 01 02.5**	**0.0**
GSI	**Gunungsitoli**	**25.25**	**277**	P	**P**	**01 01 05.8**	**+3.2**
GSI	**Gunungsitoli**	**25.25**	**277**	P	**P**	**01 01 04.1**	**+1.5**
	comp=Z,2μmcomp=Z,40nm,0.8s						
PMG	**Port Moresby**	**25.49**	**108**	P	**P**	**01 01 04.7**	**-0.1**
PMG				IAmb	IAmb	01 01 08.6	
	comp=Z,44nm,0.9s						
PMG	**Port Moresby**	**25.49**	**108**	P	**P**	**01 01 05.1**	**+0.4**
	comp=Z,36nm,0.8s,baz=315,slow=5.7,SNR=5.4						
PMG	**Port Moresby**	**25.49**	**108**	P	**P**	**01 01 06.3**	**+1.6**
PMG	**Port Moresby**	**25.49**	**108**	P	**P**	**01 01 06.4**	**+1.7**
PMG	**Port Moresby**	**25.49**	**108**	*d iP*	**P**	**01 01 06.0**	**+1.3**
PMG				pmax	pmax		
	comp=Z,48nm,1.0s						
SSLB	**Suanglung**	**25.64**	**356**	P	**P**	**01 01 06.0**	**+0.1**
SSLB				IAmb	IAmb	01 01 09.1	
	comp=Z,33nm,1.1s						
SSLB	**Suanglung**	**25.64**	**356**	P	**P**	**01 01 07.6**	**+1.7**
MTSU	**Mount Surprise**	**26.68**	**128**	P	**P**	**01 01 16.2**	**+0.8**
	comp=Z,7.5nm,0.9s						
NONG	**Nongkai**	**27.63**	**317**	P	**P**	**01 01 26.4**	**+2.4**
OOD	**Oodnadatta**	**28.58**	**155**	P	**P**	**01 01 34.9**	**+2.6**
JOW	**Kunigami**	**29.13**	**10**	LR	LR	01 16 06.7	
	comp=Z,75nm,18.1s,baz=162,slow=42						
SLVN	**Son La**	**29.51**	**323**	P	**P**	**01 01 42.6**	**+1.8**
CMAR	**Chiang Mai Arr**	**30.89**	**312**	P	**P**	**01 01 51.9**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=137,slow=7.2,SNR=16						
CMAR				LR	LR	01 15 18.2	
	comp=Z,84nm,20.4s,baz=130,slow=38						
	comp=Z,2.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.89**	**312**	*i* P	**P**	**01 01 54.2**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INKA	**Innaminka**	**30.96**	**148**	P	**P**	**01 01 56.5**	**+3.1**
CHTO	**Chiang Mai**	**31.12**	**313**	P	**P**	**01 01 54.7**	**-0.2**
CHTO				IAmb	IAmb	01 01 56.7	
	comp=Z,11nm,1.1s						
CHTO	**Chiang Mai**	**31.12**	**313**	P	**P**	**01 01 57.8**	**+2.9**
CHTO	**Chiang Mai**	**31.12**	**313**	P	**P**	**01 01 54.7**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,11nm,1.2s						
QLP	**Quilpie**	**32.10**	**142**	P	**P**	**01 02 04.4**	**+0.9**
	comp=Z,27nm,1.4s						
QLP	**Quilpie**	**32.10**	**142**	P	**P**	**01 02 05.3**	**+1.8**
GYA	**Guiyang**	**32.18**	**332**	⇓*P*	**P**	**01 02 07.6**	**+3.3**
GYA				pmax	pmax		
	comp=Z,14nm,0.5s						
BBOO	**Buckleboo**	**33.19**	**159**	P	**P**	**01 02 13.2**	**+0.2**
	comp=Z,23nm,1.7s						
WHN	**Wuhan**	**33.26**	**347**	P	**P**	**01 02 16.3**	**+2.7**
NJ2	**Nanjing**	**34.01**	**354**	*e*P	**P**	**01 02 22.1**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
JCJ	**Chichijima**	**34.49**	**32**	LR	LR	01 15 07.6	
	comp=Z,16nm,20.9s,baz=208,slow=34						
STKA	**Stephens Creek**	**34.73**	**151**	P	**P**	**01 02 25.7**	**-0.7**
STKA	**Stephens Creek**	**34.73**	**151**	P	**P**	**01 02 26.8**	**+0.5**
	comp=Z,81nm,1.0s						
STKA	**Stephens Creek**	**34.73**	**151**	P	**P**	**01 02 26.9**	**+0.5**
	comp=Z,14nm,1.0s,baz=318,slow=7.6,SNR=12						
STKA				LR	LR	01 17 00.6	
	comp=Z,102nm,21.2s,baz=245,slow=37						
	comp=Z,14nm,1.0s						
STKA	**Stephens Creek**	**34.73**	**151**	P	**P**	**01 02 27.3**	**+0.9**
PZH	**PanZhiHua**	**34.74**	**326**	P	**P**	**01 02 27.8**	**+1.1**
PZH				pmax	pmax		
	comp=Z,20nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,5.7s						
HTT	**Hallett**	**34.84**	**156**	P	**P**	**01 02 28.2**	**+0.8**
	comp=Z,7.4nm,1.2s						
HTT	**Hallett**	**34.84**	**156**	P	**P**	**01 02 30.1**	**+2.7**
CMSA	**Cobar Meteorol**	**36.61**	**146**	P	**P**	**01 02 43.5**	**+0.9**
	comp=Z,20nm,1.1s						
CMSA	**Cobar Meteorol**	**36.61**	**146**	P	**P**	**01 02 43.5**	**+0.9**
LYN	**LuoYang**	**37.54**	**346**	P	**P**	**01 02 51.3**	**+0.9**
LYN				pmax	pmax		
	comp=Z,27nm,0.6s						
XAN	**Xi'an**	**38.05**	**341**	⇑*P*	**P**	**01 02 55.4**	**+0.6**
XAN				pmax	pmax		
	comp=Z,12nm,1.2s						
ARPS	**Mount Arapiles**	**38.92**	**155**	P	**P**	**01 03 03.1**	**+1.1**
	comp=Z,73nm,0.8s						
ARPS	**Mount Arapiles**	**38.92**	**155**	P	**P**	**01 03 03.4**	**+1.4**
KSRS	**Korea Array**	**39.51**	**7**	P	**P**	**01 03 05.8**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=177,slow=10.0,SNR=4.7						
KSRS				LR	LR	01 18 48.8	
	comp=Z,36nm,22.0s,baz=170,slow=35						
	comp=Z,0.8nm,0.5s						
HNS	**HongShan**	**39.84**	**350**	⇑*P*	**P**	**01 03 10.3**	**+0.7**
HNS				pmax	pmax		
	comp=Z,13nm,0.9s						
MJAR	**Matsushiro Arr**	**40.95**	**19**	P	**P**	**01 03 17.3**	**-1.6**
	comp=Z,5.7nm,0.6s,baz=193,slow=9.1,SNR=14						
	comp=Z,5.7nm,0.6s						
CAN	**Canberra**	**41.26**	**147**	P	**P**	**01 03 23.0**	**+1.4**
	comp=Z,21nm,1.4s						
CNB	**Canberra Magne**	**41.46**	**146**	P	**P**	**01 03 24.6**	**+1.4**
	comp=Z,12nm,1.4s						
LZH	**Lanzhou**	**41.70**	**337**	*e*P	**P**	**01 03 28.3**	**+3.0**
LZH				sP	sP	01 03 35.3	+6.0
LZH				pmax	pmax		
	comp=Z,31nm,1.2s						
BJI	**Beijing**	**42.20**	**353**	P	**P**	**01 03 29.3**	**+0.2**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**43.78**	**348**	*e*P	**P**	**01 03 44.6**	**+2.6**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,38nm,5.9s						
XLT	**XiLinHaoTe**	**46.02**	**353**	*e*P	**P**	**01 03 59.8**	**0.0**
XLT				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA	**Gaotai**	**46.19**	**335**	*e*P	**P**	**01 04 03.1**	**+1.9**
GTA				PcP	**PcP**	**01 05 38.3**	**+1.3**
GTA				pmax	pmax		
	comp=Z,18nm,1.0s						
USRK	**Ussuriysk Ar.**	**46.70**	**9**	P	**P**	**01 04 03.8**	**-1.2**
	comp=Z,4.0nm,0.6s,baz=200,slow=6.0,SNR=8.8						
USRK				LR	LR	01 26 38.5	
	comp=Z,25nm,18.0s,baz=177,slow=40						
	comp=Z,4.0nm,0.6s						
MDJ	**Mudanjiang**	**46.78**	**7**	P	**P**	**01 04 07.5**	**+1.9**
MDJ				pmax	pmax		
	comp=Z,11nm,1.0s						
HYB	**Hyderabad**	**47.51**	**296**	*e*P	**P**	**01 04 13.1**	**+1.2**
HIA	**Hailar**	**51.08**	**358**	*e*P	**P**	**01 04 39.7**	**+1.2**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ULN	**Ulaanbaatar**	**51.45**	**347**	*ce*P	**P**	**01 04 41.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM	**Songino Array**	**51.57**	**346**	P	**P**	**01 04 41.5**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=170,slow=8.9,SNR=12						
SONM				PcP	**PcP**	**01 05 55.8**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=158,slow=4.8,SNR=4.4						
SONM				ScP	**ScP**	**01 09 53.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=180,slow=6.8,SNR=1.9						
	comp=Z,2.2nm,0.6s						
KLR	**Kul'dur**	**51.59**	**8**	LR	LR	01 26 02.0	
	comp=Z,32nm,22.0s,baz=215,slow=36						
KLR	**Kul'dur**	**51.59**	**8**	*d iP*	**P**	**01 04 43.9**	**+1.6**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.5s						
HEH	**HeiHe**	**52.16**	**4**	*e*P	**P**	**01 04 45.3**	**-1.3**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WMQ	**Urumqi**	**55.27**	**330**	*e*P	**P**	**01 05 12.3**	**+2.7**
ZEA	**Zeya**	**55.63**	**3**	*e*P	P	01 04 58.6	-13
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MOY	**Mondy**	**56.49**	**344**	*e*P	**P**	**01 05 18.1**	**-0.1**
MOY				pmax	pmax		
	comp=Z,11nm,1.3s						
MK31	**Makanchi Array**	**60.08**	**329**	⇓*iP*	**P**	**01 05 43.0**	**-0.4**
MKAR	**Makanchi Array**	**60.08**	**329**		**P**	**01 05 41.8**	**-1.6**
MKAR	**Makanchi Array**	**60.08**	**329**	P	**P**	**01 05 42.2**	**-1.1**
	comp=Z,2.7nm,0.7s,baz=122,slow=7.6,SNR=29						
MKAR				ScP	**ScP**	**01 10 31.8**	**+1.2**
	comp=Z,0.9nm,1.0s,baz=224,slow=3.3,SNR=3.9						
MKAR				LR	LR	01 33 55.0	
	comp=Z,38nm,19.1s,baz=126,slow=38						
	comp=Z,2.7nm,0.7s						
MAKZ	**Makanchi**	**60.25**	**329**		**P**	**01 05 44.2**	**-0.3**
MAKZ				IAmb	IAmb	01 05 45.4	
	comp=Z,4.1nm,1.0s						
MAKZ	**Makanchi**	**60.25**	**329**	P	**P**	**01 05 44.2**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARLS	**Aral**	**61.70**	**321**	P	**P**	**01 05 55.4**	**+0.7**
AAK	**Ala-Archa**	**62.01**	**322**	*c iP*	**P**	**01 05 56.2**	**-0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PETK	**Petropavlovsk-**	**62.22**	**23**	P	**P**	**01 05 55.0**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=226,slow=8.8,SNR=1.9						
	comp=Z,0.3nm,0.3s						
PETK	**Petropavlovsk-**	**62.22**	**23**	P	**P**	**01 05 55.0**	**-2.7**
ARK	**Arkit**	**63.18**	**320**	P	**P**	**01 06 05.0**	**+0.5**
ZAA0	**Zalesovo Array**	**63.93**	**336**		**P**	**01 06 06.2**	**-2.9**
ZAA0				IAmb	IAmb	01 06 08.9	
	comp=Z,7.7nm,1.0s						
ZALV	**Zalesovo Beam**	**63.93**	**336**		**P**	**01 06 06.8**	**-2.3**
ZALV	**Zalesovo Beam**	**63.93**	**336**	P	**P**	**01 06 05.9**	**-3.2**
	comp=Z,4.9nm,0.8s,baz=130,slow=6.5,SNR=18						
ZALV				LR	LR	01 35 11.8	
	comp=

comp=Z,2.4nm,0.9s
FINES FINESS Array B 94.84 331 P **P 01 08 55.2 -2.7**
comp=Z,0.9nm,0.7s,baz=110,slow=11,SNR=4.8
FINES LR LR 01 55 39.6
comp=Z,30nm,18.2s,baz=102,slow=38
comp=Z,0.9nm,0.7s
FINES FINESS Array B 94.84 331 *i* P **P 01 08 58.2 +0.3**
FINES pmax pmax
comp=Z,1.0nm,0.7s
SPITS Spitsbergen Ar 95.21 349 P **P 01 08 57.0 -2.3**
comp=Z,8.7nm,0.9s,baz=112,slow=6.4,SNR=1.9
comp=Z,8.7nm,0.9s
BOSA Boshof 95.54 241 LR LR 01 49 08.8
comp=Z,55nm,18.1s,baz=181,slow=34
HFS Hagfors 101.04 331 P **Pdif 01 09 23.5 -2.4**
comp=Z,1.0nm,0.9s,baz=106,slow=4.8,SNR=4.7
NOA NORSAR Array B 101.95 332 P **Pdif 01 09 26.6 -3.4**
comp=Z,0.8nm,1.1s,baz=72,slow=4.3,SNR=2.1
TXAR Lajitas Array 128.28 54 PKP **PKPdf 01 14 43.0 -0.6**
comp=Z,0.3nm,1.0s,baz=296,slow=1.5,SNR=1.6
CPUP Villa Florida 151.88 180 PKPbc **PKPbc 01 15 32.2 +0.2**
comp=Z,3.8nm,0.7s,baz=148,slow=0.5,SNR=7.0

---

*NEIC **20** 01:04:09.0±1.8, 5.81S±0.09×154.4E±0.1, h387km±5km, mb4.9/196, Error ellipse: s-maj=15.6km s-min=12.9km az=81.0*
*IDC **20** 01:04:09.4±0.6, 5.84S×154.44E, h398km±6km, mb4.3/22, mbtmp5.0/24, Error ellipse: s-maj=12.2km s-min=8.2km az=94.0*
*DJA **20** 01:04:12.5±1.8, 6.3S±7.1×15.4E±1.4, h421km±15km, M5.2/17, mb4.8/17, mB5.4/6, MLv5.8/1, Mw(mB)4.8/6*
ISC 20 01:04:09.7±0.5,**5.86S**±0.04×**154.41E**±0.06,**h403**km±4km, **h404**km;**pP-P,n643,**σ0**s97**/606,**mb4.8**/138,**16C-21D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.78**	**306**		**P**	**01 05 11.6**	**+0.1**
SAVO	**Savo Central**	**6.28**	**122**	P	P	01 05 49.9	+4.7
MANU	**Manus Island**	**7.98**	**298**		**P**	**01 06 05.2**	**+0.2**
PMG	**Port Moresby**	**8.01**	**243**		**P**	**01 06 06.9**	**+1.7**
PMG	**Port Moresby**	**8.01**	**243**	P	**P**	**01 06 06.6**	**+1.4**
	332nm,0.9s,baz=48,slow=6.6,SNR=64						
PMG				S	**S**	**01 07 38.1**	**-1.1**
	29nm,0.7s,baz=179,slow=23,SNR=0.8						
PMG	**Port Moresby**	**8.01**	**243**	P	**P**	**01 06 07.6**	**+2.4**
PMG	**Port Moresby**	**8.01**	**243**	P	**P**	**01 06 07.7**	**+2.5**
LUES	**Luesalemba Tem**	**12.34**	**114**	P	**P**	**01 06 55.0**	**+1.8**
PATS	**Pohnpei**	**13.20**	**17**	P	**P**	**01 07 02.2**	**-0.3**
PATS	**Pohnpei**	**13.20**	**17**	P	**P**	**01 07 04.3**	**+1.7**
	comp=Z,198nm,1.3s						
COEN	**Coen**	**13.68**	**233**		**P**	**01 07 10.0**	**+2.1**
COEN	**Coen**	**13.68**	**233**	P	**P**	**01 07 10.8**	**+2.9**
	comp=Z,470nm,0.9s						
COEN	**Coen**	**13.68**	**233**	P	**P**	**01 07 10.2**	**+2.3**
GENI	**Genyem**	**14.57**	**282**	P	**P**	**01 07 19.0**	**+1.4**
GENI	**Genyem**	**14.57**	**282**	P	**P**	**01 07 18.5**	**+0.9**
	comp=Z,3μmcomp=Z,242nm,0.8s						
TV1H	**Townsville Har**	**15.25**	**208**	P	**P**	**01 07 26.9**	**+2.0**
MTSU	**Mount Surprise**	**15.69**	**218**	P	**P**	**01 07 32.0**	**+2.4**
	comp=Z,79nm,0.9s						
MTSU	**Mount Surprise**	**15.69**	**218**	P	**P**	**01 07 31.6**	**+2.0**
SMPI	**Sarmi**	**16.13**	**283**	P	**P**	**01 07 34.9**	**+0.5**
	comp=Z,2μmcomp=Z,124nm,0.8s						
VLAKA	**Lakatoro**	**16.32**	**130**	P	**P**	**01 07 39.2**	**+2.8**
RK1H	**Rockhampton Ha**	**17.84**	**192**	P	**P**	**01 07 53.4**	**+1.0**
EIDS	**Eidsvold**	**19.66**	**189**		**P**	**01 08 11.1**	**+0.2**
EIDS	**Eidsvold**	**19.66**	**189**	P	**P**	**01 08 11.0**	**0.0**
	comp=Z,34nm,1.1s						
EIDS	**Eidsvold**	**19.66**	**189**	P	**P**	**01 08 11.6**	**+0.7**
DZM	**Mont Dzumac**	**19.88**	**145**		**P**	**01 08 12.3**	**-0.8**
DZM	**Mont Dzumac**	**19.88**	**145**	P	**P**	**01 08 12.9**	**-0.2**
	comp=Z,47nm,0.7s,baz=328,slow=8.0,SNR=34						
DZM	**Mont Dzumac**	**19.88**	**145**	P	**P**	**01 08 13.7**	**+0.6**
YATNC	**Mamie plateau,**	**20.13**	**144**	P	**P**	**01 08 16.1**	**+0.9**
QIS	**Mount Isa**	**20.50**	**223**	P	**P**	**01 08 19.5**	**+0.8**
	comp=Z,239nm,0.8s						
QIS	**Mount Isa**	**20.50**	**223**	P	**P**	**01 08 19.7**	**+1.0**
KMPI	**Kaimana, Papua**	**20.75**	**275**	P	**P**	**01 08 22.0**	**+1.0**
FAKI	**Fak Fak**	**22.29**	**277**	P	**P**	**01 08 33.7**	**-1.4**
KDU	**Kakadu**	**22.68**	**251**	P	**P**	**01 08 38.5**	**0.0**
	comp=Z,164nm,0.9s						
KDU	**Kakadu**	**22.68**	**251**	P	**P**	**01 08 39.2**	**+0.7**
WB0	**Warramunga Arr**	**23.88**	**233**		**P**	**01 08 49.1**	**-0.2**
WB0				IAmb	IAmb	01 08 50.7	
	comp=Z,82nm,1.2s						
MTN	**Manton Dam**	**23.98**	**252**		**P**	**01 08 50.0**	**-0.3**
WRAB	**Tennant Creek**	**24.00**	**233**		**P**	**01 08 50.7**	**+0.3**
WRAB				IAmb	IAmb	01 08 51.3	
	comp=Z,33nm,0.7s						
WRA	**Warramunga Arr**	**24.02**	**232**	P	**P**	**01 08 50.9**	**+0.4**
	comp=Z,27nm,0.6s,baz=57,slow=9.1,SNR=152						
WRA				PcP	**PcP**	**01 12 20.9**	**+1.1**
	comp=Z,5.1nm,0.8s,baz=61,slow=2.6,SNR=0.9						
WRA				S	**S**	**01 12 35.2**	**-2.6**
	comp=Z,6.6nm,0.9s,baz=48,slow=15,SNR=5.8						
WRA				ScP	**ScP**	**01 15 18.2**	**-1.2**
	comp=Z,3.4nm,0.9s,baz=53,slow=2.8,SNR=7.3						
WRA				PKiKP	**PKiKP**	**01 20 00.7**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=315,slow=1.2,SNR=4.9						
	comp=Z,27nm,0.6s						
DRS	**Darwin Rock St**	**24.10**	**253**	P	**P**	**01 08 51.6**	**+0.2**
ARMA	**Armidale**	**24.57**	**186**	P	**P**	**01 08 56.2**	**+0.7**
INKA	**Innaminka**	**25.35**	**209**	P	**P**	**01 09 02.6**	**+0.3**
AS01	**Alice Springs**	**26.48**	**226**	P	**P**	**01 09 12.5**	**0.0**
AS31	**Alice Springs**	**26.52**	**226**		**P**	**01 09 12.6**	**-0.2**
AS31	**Alice Springs**	**26.52**	**226**	P	**P**	**01 09 12.7**	**-0.1**
	comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**26.52**	**226**	P	**P**	**01 09 12.7**	**-0.2**
	comp=Z,22nm,0.7s,baz=58,slow=8.8,SNR=212						
ASAR				PcP	**PcP**	**01 12 26.1**	**+0.7**
	comp=Z,7.3nm,0.6s,baz=60,slow=2.8,SNR=8.7						
ASAR				S	**S**	**01 13 14.9**	**-2.3**
	comp=Z,14nm,0.7s,baz=54,slow=14,SNR=18						
ASAR				ScP	**ScP**	**01 15 26.6**	**0.0**
	comp=Z,4.2nm,0.8s,baz=62,slow=3.3,SNR=8.4						
	comp=Z,22nm,0.7s						
KNRA	**Kununurra**	**26.99**	**247**		**P**	**01 09 16.6**	**-0.5**
KNRA				IAmb	IAmb	01 09 17.7	
	comp=Z,27nm,0.8s						
KNRA	**Kununurra**	**26.99**	**247**	P	**P**	**01 09 16.9**	**-0.1**
	comp=Z,46nm,0.7s						
OOD	**Oodnadatta**	**28.15**	**217**	P	**P**	**01 09 27.2**	**+0.1**
STKA	**Stephens Creek**	**28.53**	**203**	P	**P**	**01 09 30.4**	**0.0**
STKA				IAmb	IAmb	01 09 30.8	
	comp=Z,101nm,1.4s						
STKA	**Stephens Creek**	**28.53**	**203**	P	**P**	**01 09 29.9**	**-0.5**
	comp=Z,7.0nm,0.8s,baz=12,slow=8.1,SNR=9.6						
STKA				ScP	**ScP**	**01 15 32.6**	**0.0**
	comp=Z,7.8nm,0.9s,baz=38,slow=6.3,SNR=6.2						
	comp=Z,7.0nm,0.8s						
STKA	**Stephens Creek**	**28.53**	**203**	P	**P**	**01 09 30.9**	**+0.5**
SANI	**Sanana**	**28.60**	**276**	P	**P**	**01 09 31.9**	**+0.6**
SANI	**Sanana**	**28.60**	**276**	P	**P**	**01 09 32.2**	**+0.9**
	comp=Z,19nm,0.9s						
LCRK	**Leigh Creek**	**28.82**	**210**	P	**P**	**01 09 33.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**30.60**	**244**	P	**P**	**01 09 48.1**	**-0.6**
	comp=Z,60nm,0.6s,baz=55,slow=8.2,SNR=184						
	comp=Z,60nm,0.6s						
WHYH	**Whyalla**	**31.26**	**208**	P	**P**	**01 09 54.2**	**0.0**
WRKA	**Warakurna**	**31.46**	**230**	P	**P**	**01 09 55.6**	**-0.6**
	comp=Z,66nm,0.8s						
WRKA	**Warakurna**	**31.46**	**230**	P	**P**	**01 09 55.6**	**-0.6**
BBOO	**Buckleboo**	**31.81**	**210**	P	**P**	**01 09 58.7**	**-0.3**
BBOO				IAmb	IAmb	01 09 59.7	
	comp=Z,33nm,0.6s						
BBOO	**Buckleboo**	**31.81**	**210**	P	**P**	**01 09 59.0**	**0.0**
	comp=Z,58nm,0.9s						
BBOO	**Buckleboo**	**31.81**	**210**	P	**P**	**01 09 59.2**	**+0.2**
OUZ	**Omahuta**	**34.16**	**151**	P	**P**	**01 10 20.6**	**+1.6**
TOLI2	**Tolitoli**	**34.29**	**281**	P	**P**	**01 10 18.8**	**-1.7**
JCJ	**Chichijima**	**34.83**	**341**	P	**P**	**01 10 22.2**	**-2.6**
FORT	**Forrest**	**35.03**	**222**	P	**P**	**01 10 26.2**	**-0.3**
FORT	**Forrest**	**35.03**	**222**	P	**P**	**01 10 26.5**	**0.0**
	comp=Z,178nm,0.6s						
FORT	**Forrest**	**35.03**	**222**	P	**P**	**01 10 26.6**	**+0.1**
KUZ	**Kuaotunu**	**36.41**	**151**	P	**P**	**01 10 39.1**	**+1.2**
MBWA	**Marble Bar**	**36.87**	**242**	P	**P**	**01 10 41.4**	**-0.7**
TOZ	**Tahuroa Road**	**37.09**	**152**	P	**P**	**01 10 44.1**	**+0.5**
OMRZ	**Omania**	**37.80**	**151**	P	**P**	**01 10 51.4**	**+1.8**
TWVZ	**Taurewa**	**38.14**	**153**	P	**P**	**01 10 53.5**	**+1.1**
HAZ	**Te Kaha**	**38.22**	**149**	P	**P**	**01 10 53.6**	**+0.6**
URZ	**Urewera**	**38.28**	**151**	P	**P**	**01 10 54.6**	**+1.2**
PKVZ	**Pokaka**	**38.28**	**153**	P	**P**	**01 10 55.1**	**+1.6**
NGZ	**Ngauruhoe**	**38.30**	**153**	P	**P**	**01 10 55.4**	**+1.6**
ETVZ	**East Tongariro**	**38.32**	**153**	P	**P**	**01 10 55.4**	**+1.5**
OTVZ	**Oturere**	**38.32**	**153**	P	**P**	**01 10 55.7**	**+1.8**
SNVZ	**South Ngauruho**	**38.33**	**153**	P	**P**	**01 10 55.8**	**+1.8**
RUGZ	**Raukumara Rang**	**38.33**	**150**	P	**P**	**01 10 54.6**	**+0.6**
MXZ	**Matakaoa Point**	**38.34**	**149**	P	**P**	**01 10 54.7**	**+0.7**
FWVZ	**Far West T-bar**	**38.34**	**153**	P	**P**	**01 10 55.9**	**+1.6**
TRVZ	**Turoa**	**38.38**	**153**	P	**P**	**01 10 56.2**	**+1.7**
WHVZ	**Whangaehu Hut**	**38.38**	**153**	P	**P**	**01 10 56.4**	**+1.9**
QRZ	**Quartz Range**	**38.41**	**158**	P	**P**	**01 10 55.3**	**+0.8**
QRZ	**Quartz Range**	**38.41**	**158**	P	**P**	**01 10 55.9**	**+1.4**
WNVZ	**Wahianoa**	**38.42**	**153**	P	**P**	**01 10 55.8**	**+1.0**
RTZ	**Ruatahuna**	**38.49**	**151**		**P**	**01 10 55.7**	**+0.4**
RTZ				IAmb	IAmb	01 10 56.6	
	comp=Z,43nm,1.0s						
RTZ	**Ruatahuna**	**38.49**	**151**	P	**P**	**01 10 55.7**	**+0.4**
MWZ	**Matawai**	**38.54**	**150**	P	**P**	**01 10 56.8**	**+1.1**
MTHZ	**Maungataniwha**	**38.62**	**151**	P	**P**	**01 10 57.1**	**+0.8**
TWGZ	**Tauwhareparae**	**38.64**	**150**	P	**P**	**01 10 57.5**	**+1.0**
BKZ	**Black Stump Fm**	**38.70**	**152**		**P**	**01 10 56.9**	**-0.1**
BKZ	**Black Stump Fm**	**38.70**	**152**	P	**P**	**01 10 57.2**	**+0.3**
PUZ	**Puketiti**	**38.70**	**149**	P	**P**	**01 10 56.8**	**-0.2**
JMZ	**Minamidaito 2**	**38.71**	**325**	P	**P**	**01 10 58.0**	**+0.9**
KNZ	**Kokohu**	**39.15**	**151**	P	**P**	**01 10 59.8**	**-0.7**
THZ	**Tophouse**	**39.37**	**158**	P	**P**	**01 11 01.9**	**-0.5**
MRZ	**Mangatainoka R**	**39.51**	**154**	P	**P**	**01 11 03.1**	**-0.3**
PXZ	**Pawanui**	**39.56**	**153**	P	**P**	**01 11 04.0**	**+0.1**
KMBL	**Kambalda**	**39.65**	**226**	P	**P**	**01 11 04.2**	**-0.6**
	comp=Z,68nm,1.3s						
KMBL	**Kambalda**	**39.65**	**226**	P	**P**	**01 11 04.8**	**0.0**
INZ	**Inchbonnie**	**39.70**	**160**	P	**P**	**01 11 04.9**	**0.0**
BFZ	**Birch Farm**	**39.81**	**154**	P	**P**	**01 11 05.6**	**-0.3**
MEEK	**Meekatharra**	**39.88**	**235**	P	**P**	**01 11 06.3**	**-0.4**
	comp=Z,54nm,1.0s						
MEEK	**Meekatharra**	**39.88**	**235**	P	**P**	**01 11 06.8**	**+0.1**
FOZ	**Fox Glacier**	**39.91**	**162**	P	**P**	**01 11 07.0**	**+0.4**
LTZ	**Lake Taylor**	**40.03**	**159**	P	**P**	**01 11 07.9**	**+0.2**
JCZ	**Jackson Bay**	**40.10**	**164**	P	**P**	**01 11 09.5**	**+1.1**
KHZ	**Kahutara**	**40.17**	**158**	P	**P**	**01 11 08.6**	**-0.1**
KHZ	**Kahutara**	**40.17**	**158**	P	**P**	**01 11 07.9**	**-0.9**
RPZ	**Rata Peaks**	**40.45**	**161**	P	**P**	**01 11 11.6**	**+0.5**
GVZ	**Greta Valley S**	**40.46**	**159**	P	**P**	**01 11 10.9**	**-0.3**
LBZ	**Lake Benmore**	**40.79**	**163**	P	**P**	**01 11 12.7**	**-1.1**
MQZ	**McQueen's Vall**	**40.98**	**160**	P	**P**	**01 11 15.1**	**-0.1**
TMZ	**Timaru**	**41.04**	**162**	P	**P**	**01 11 14.9**	**-0.9**
MLZ	**Mavora Lakes**	**41.13**	**165**	P	**P**	**01 11 16.5**	**0.0**
ODZ	**Otahua Downs**	**41.53**	**163**	P	**P**	**01 11 19.2**	**-0.5**
WHZ	**Wether Hill Ro**	**41.58**	**166**	P	**P**	**01 11 19.8**	**-0.2**
TUZ	**Tuapeka**	**42.07**	**164**	P	**P**	**01 11 24.0**	**+0.1**
KLBR	**Kellerberrin**	**42.79**	**229**	P	**P**	**01 11 29.0**	**-0.9**
	comp=Z,88nm,0.7s						
KLBR	**Kellerberrin**	**42.79**	**229**	P	**P**	**01 11 29.4**	**-0.6**
MORW	**Morawa**	**42.96**	**233**	P	**P**	**01 11 30.7**	**-0.7**
MORW				IAmb	IAmb	01 11 41.9	
	comp=Z,128nm,1.6s						
MORW	**Morawa**	**42.96**	**233**	P	**P**	**01 11 30.7**	**-0.7**
	comp=Z,32nm,0.7s						
JMN	**Monobe**	**43.91**	**335**		**P**	**01 11 39.3**	**+0.5**
JMN				IAmb	IAmb	01 11 40.6	
	comp=Z,74nm,0.8s						
JMN	**Monobe**	**43.91**	**335**	P	**P**	**01 11 40.3**	**+1.5**
TPUB	**Ta-pu**	**43.91**	**313**	P	**P**	**01 11 38.6**	**-0.4**
INU	**Inuyama**	**44.13**	**339**		**P**	**01 11 40.0**	**-0.4**
INU	**Inuyama**	**44.13**	**339**	P	**P**	**01 11 41.4**	**+1.0**
INU	**Inuyama**	**44.13**	**339**	P	**P**	**01 11 40.9**	**+0.5**
JGF	**Kuroka**	**44.25**	**340**		**P**	**01 11 41.5**	**+0.1**
JGF				IAmb	IAmb	01 13 02.9	
	comp=Z,86nm,1.7s						
JNU	**Nakatsue**	**44.74**	**332**		**P**	**01 11 44.9**	**-0.3**
JNU				IAmb	IAmb	01 11 46.6	
	comp=Z,41nm,0.9s						
JNU	**Nakatsue**	**44.74**	**332**	P	**P**	**01 11 46.3**	**+1.1**
MJAR	**Matsushiro Arr**	**44.82**	**341**	P	**P**	**01 11 45.2**	**-0.6**
	comp=Z,15nm,0.7s,baz=171,slow=8.1,SNR=31						
MJAR				PcP	**PcP**	**01 13 19.8**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=156,slow=3.0,SNR=2.4						
	comp=Z,15nm,0.7s						
MAJO	**Matsushiro**	**44.83**	**341**		**P**	**01 11 45.6**	**-0.2**
MAJO				IAmb	IAmb	01 11 46.1	
	comp=Z,32nm,0.5s						
MAJO	**Matsushiro**	**44.83**	**341**	P	**P**	**01 11 46.0**	**+0.2**
MAJO	**Matsushiro**	**44.83**	**341**	P	**P**	**01 11 45.5**	**-0.4**
JMM	**Marumori**	**45.31**	**345**	P	**P**	**01 11 49.4**	**-0.1**
JMM				IAmb	IAmb	01 12 42.4	
	comp=Z,91nm,1.7s						
CTZ	**Chatham Island**	**45.52**	**151**	P	**P**	**01 11 51.6**	**+0.6**
TJN	**Taejon**	**49.06**	**331**	P	**P**	**01 12 18.0**	**-0.2**
TJN	**Taejon**	**49.06**	**331**	P	**P**	**01 12 19.1**	**+1.0**
KSRS	**Korea Array**	**49.67**	**332**	P	**P**	**01 12 23.1**	**+0.6**
	comp=Z,13nm,0.8s,baz=152,slow=8.5,SNR=45						
	comp=Z,13nm,0.8s						
KSAR	**Wonju Array Be**	**49.67**	**332**	P	**P**	**01 12 22.7**	**0.0**
KS19	**Wonju Array Si**	**49.73**	**332**		**P**	**01 12 22.8**	**-0.3**
INCN	**Inchon**	**50.30**	**331**	P	**P**	**01 12 28.5**	**+1.2**
NJ2	**Nanjing**	**50.67**	**320**	*eP*	**P**	**01 12 31.8**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
JKA	**Kamikawa-asahi**	**50.87**	**349**	P	**P**	**01 12 32.0**	**+0.7**
JKA				IAmb	IAmb	01 12 33.4	
	comp=Z,34nm,0.8s						
YSS	**Yuzhno-Sakhali**	**53.59**	**350**		**P**	**01 12 51.3**	**+0.3**
YSS				IAmb	IAmb	01 12 52.4	
	comp=Z,30nm,0.7s						
YSS	**Yuzhno-Sakhali**	**53.59**	**350**	P	**P**	**01 12 52.1**	**+1.1**
USRK	**Ussuriysk Ar.**	**53.77**	**340**	P	**P**	**01 12 53.4**	**+1.0**
USRK	**Ussuriysk Ar.**	**53.77**	**340**	P	**P**	**01 12 53.1**	**+0.7**
	comp=Z,31nm,0.9s,baz=158,slow=7.6,SNR=39						
	comp=Z,31nm,0.9s						
USA0B	**Ussuriysk Arra**	**53.77**	**340**	IAmb	IAmb	01 12 54.8	
	comp=Z,50nm,1.1s						
KULM	**Kulim**	**54.81**	**281**	P	**P**	**01 12 59.5**	**-0.9**
MDJ	**Mudanjiang**	**54.98**	**339**	P	**P**	**01 13 01.6**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,14nm,0.9s						
NONG	**Nongkai**	**55.88**	**296**	P	**P**	**01 13 08.7**	**+0.9**
CN2	**Changchun**	**55.92**	**335**	*eP*	**P**	**01 13 08.3**	**+0.7**
CN2				*ePP*	**PP**	**01 15 17.8**	**0.0**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,120nm,3.5s						
BNX	**BinXian**	**56.74**	**338**	⇓P	**P**	**01 13 13.4**	**+0.1**
BNX				pmax	pmax		
	comp=Z,43nm,0.8s						
HNS	**HongShan**	**56.75**	**323**	⇓P	**P**	**01 13 14.3**	**+0.8**
HNS				pmax	pmax		
	comp=Z,30nm,1.1s						
BJT	**Baijiatuau**	**57.65**	**326**	P	**P**	**01 13 20.4**	**+0.7**
BJT				PcP	**PcP**	**01 14 07.5**	**-0.1**
BJI	**Beijing**	**57.66**	**326**	P	**P**	**01 13 20.1**	**+0.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
XAN	**Xi'an**	**58.49**	**316**	⇓P	**P**	**01 13 25.6**	**-0.1**
XAN				pmax	pmax		
	comp=Z,18nm,0.7s						
XAN	**Xi'an**	**58.49**	**316**	P	**P**	**01 13 25.5**	**-0.2**
PET	**Petropavlovsk**	**58.77**	**3**	P	**P**	**01 13 26.9**	**-0.1**
PET				IAmb	IAmb	01 13 27.7	
	comp=Z,29nm,0.5s						
PET	**Petropavlovsk**	**58.77**	**3**	P	**P**	**01 13 27.5**	**+0.5**
PET	**Petropavlovsk**	**58.77**	**3**	P	**P**	**01 13 27.3**	**+0.3**
PET				pP	**pP**	**01 14 49.9**	**-1.3**
PEA0B	**Petropavlovsk-**	**58.81**	**2**		**P**	**01 13 28.2**	**+0.8**
PEA0B				IAmb	IAmb	01 13 28.5	
	comp=Z,32nm,0.6s						
PETK	**Petropavlovsk-**	**58.81**	**2**		**P**	**01 13 27.4**	**+0.1**
PETK	**Petropavlovsk-**	**58.81**	**2**	P	**P**	**01 13 27.2**	**-0.1**
	comp=Z,26nm,0.6s,baz=146,slow=7.3,SNR=63						
	comp=Z,26nm,0.6s						
KMI	**Kunming**	**58.90**	**304**	P	**P**	**01 13 30.3**	**+1.4**
KMI				pmax	pmax		
	comp=Z,16nm,0.9s						
CMAR	**Chiang Mai Arr**	**59.78**	**295**		**P**	**01 13 34.9**	**+0.3**
CMAR				PcP	**PcP**	**01 14 16.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**59.78**	**295**	P	**P**	**01 13 35.9**	**+1.3**
	comp=Z,5.9nm,0.7s,baz=118,slow=5.1,SNR=27						
CMAR				PcP	**PcP**	**01 14 16.4**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=92,slow=4.5,SNR=4.8						
	comp=Z,5.9nm,0.7s						
CHTO	**Chiang Mai**	**59.89**	**296**		**P**	**01 13 35.6**	**+0.2**
CHTO	**Chiang Mai**	**59.89**	**296**	P	**P**	**01 13 36.0**	**+0.7**
XLT	**XiLinHaoTe**	**60.39**	**329**	*eP*	**P**	**01 13 39.0**	**+0.7**
XLT				PcP	**PcP**	**01 14 23.3**	**+4.6**
XLT				pP	pwP	01 15 05.8	-0.4
XLT				sP	sP	01 15 50.0	+4.1
XLT				pmax	pmax		
	comp=Z,51nm,0.7s						
XLT				pmax	pmax		
	comp=Z,100nm,4.9s						
HEH	**HeiHe**	**60.57**	**340**	⇓P	**P**	**01 13 39.4**	**+0.1**
HEH				pmax	pmax		
	comp=Z,32nm,0.6s						
HHC	**Hu-ho-hao-te**	**60.84**	**324**	*eP*	**P**	**01 13 42.3**	**+0.9**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
DRV	**Dumont d'Urvil**	**61.52**	**186**	P	**P**	**01 13 45.9**	**+0.6**
BTO	**Baotou**	**61.60**	**323**	*eP*	**P**	**01 13 47.9**	**+1.4**
BTO				pmax	pmax		
	comp=Z,23nm,1.1s						
BTO				pmax	pmax		
	comp=Z,190nm,3.7s						
KIWB	**Kanaga Island**	**62.41**	**19**	P	**P**	**01 13 51.9**	**+0.5**
ADK	**Adak**	**62.59**	**20**	P	**P**	**01 13 52.5**	**0.0**
HIA	**Hailar**	**62.65**	**335**	IAmb	IAmb	01 13 54.6	
	comp=Z,18nm,0.9s						
HIA	**Hailar**	**62.65**	**335**	P	**P**	**01 13 54.0**	**+0.9**
HIA	**Hailar**	**62.65**	**335**	P	**P**	**01 13 53.8**	**+0.7**
LZH	**Lanzhou**	**63.10**	**315**	*eP*	**P**	**01 13 58.3**	**+1.8**
LZH				sP	sP	01 16 04.8	-1.4
LZH				pmax	pmax		
	comp=Z,30nm,1.1s						
MA2	**Magadan**	**65.29**	**358**		**P**	**01 14 09.2**	**-0.6**
MA2	**Magadan**	**65.29**	**358**	P	**P**	**01 14 10.1**	**+0.3**
MA2	**Magadan**	**65.29**	**358**	P	**P**	**01 14 09.7**	**-0.1**
NIKH	**Nikolski High**	**66.33**	**23**	P	**P**	**01 14 15.9**	**-0.6**
CASY	**Casey**	**67.49**	**198**	P	**P**	**01 14 23.5**	**0.0**
CASY				IAmb	IAmb	01 16 29.5	
	comp=Z,55nm,2.0s						
CASY	**Casey**	**67.49**	**198**	P	**P**	**01 14 23.5**	**0.0**
GTA	**Gaotai**	**67.52**	**317**	*eP*	**P**	**01 14 26.0**	**+1.7**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ULN	**Ulaanbaatar**	**67.74**	**328**		**P**	**01 14 26.0**	**+0.5**
ULN				IAmb	IAmb	01 14 27.8	
	comp=Z,28nm,1.2s						
ULN	**Ulaanbaatar**	**67.74**	**328**	P	**P**	**01 14 26.7**	**+1.1**
SONM	**Songino Array**	**68.07**	**327**		**P**	**01 14 28.6**	**+1.0**
SONM				IAmb	IAmb	01 14 29.6	
	comp=Z,21nm,1.0s						
SONM	**Songino Array**	**68.07**	**327**	P	**P**	**01 14 28.6**	**+1.0**
	comp=Z,15nm,0.8s,baz=136,slow=6.3,SNR=65						
	comp=Z,15nm,0.8s						
YAK	**Yakutsk**	**70.33**	**348**	P	**P**	**01 14 40.9**	**+0.1**
YAK	**Yakutsk**	**70.33**	**348**	P	**P**	**01 14 41.6**	**+0.9**
YAK				pP	**pP**	**01 16 06.5**	**-1.6**
S12K	**Black Hills**	**71.05**	**24**	P	**P**	**01 14 44.6**	**-0.6**
	baz=226						
CCD	**Concordia, Ant**	**71.45**	**188**	P	**P**	**01 14 48.2**	**+0.5**
CCD				PcP	**PcP**	**01 15 05.0**	**+0.4**
SDPT	**Sand Point**	**71.47**	**25**	P	**P**	**01 14 46.9**	**-0.7**
	baz=228						
CHNA	**Chernabura Isl**	**71.51**	**26**	P	**P**	**01 14 47.3**	**-0.6**
	baz=229						
VNDA	**Vanda**	**71.73**	**178**		**P**	**01 14 49.7**	**+0.8**
VNDA	**Vanda**	**71.73**	**178**	P	**P**	**01 14 49.8**	**+0.8**
	comp=Z,9.6nm,0.7s,baz=334,slow=6.6,SNR=28						
	comp=Z,9.6nm,0.7s						
VNDA	**Vanda**	**71.73**	**178**	P	**P**	**01 14 49.7**	**+0.8**
VNDA				PcP	**PcP**	**01 15 06.5**	**+1.3**
SBA	**Scott Base**	**72.25**	**177**	P	**P**	**01 14 53.0**	**+1.0**
O14K	**Tigyukauivet M**	**73.82**	**22**	P	**P**

baz=229,SNR=9.7
G15K **Niukluk** 77.01 17 P P 01 15 19.6 +0.5
baz=223,SNR=5.2
P19K **Oil Pt** 77.22 24 P P 01 15 20.2 -0.2
baz=234,SNR=12
K17K **Iditarod** 77.23 20 IAmb IAmb 01 15 22.4
comp=Z,34nm,1.0s
K17K **Iditarod** 77.23 20 P P 01 15 21.3 +0.9
baz=228
I17K **Unalakleet** 77.23 19 P P 01 15 21.6 +1.3
baz=226,SNR=13
H16K **Elim** 77.28 18 P P 01 15 21.2 +0.6
baz=224,SNR=5.0
M18K **Stony River** 77.33 22 P P 01 15 21.8 +0.9
baz=231,SNR=11
F15K **North Star Dit** 77.37 16 P P 01 15 21.9 +0.8
baz=222,SNR=15
N19K **Bonanza Creek** 77.42 23 P P 01 15 21.7 +0.2
baz=232,SNR=5.1
J17K **VABM Dome** 77.42 20 P P 01 15 22.5 +1.2
baz=228,SNR=18
L18K **Granite Mounta** 77.47 21 P P 01 15 22.8 +1.1
baz=230,SNR=23
G16K **Koyuk River** 77.79 17 P P 01 15 24.4 +1.0
baz=224,SNR=25
HOM **Homer** 77.88 25 P P 01 15 23.9 0.0
HOM **Homer** 77.88 25 P P 01 15 24.4 +0.5
baz=235
CNPM **China Poot** 77.97 25 P 01 15 24.9 +0.4
L19K **White Mountain** 78.12 22 P P 01 15 26.1 +0.9
baz=232,SNR=20
M19K **Big River Lodg** 78.12 22 P P 01 15 26.4 +1.1
baz=232,SNR=13
TTA **Tatalina** 78.17 21 P P 01 15 26.1 +0.5
baz=231,SNR=20
H17K **Granite Mounta** 78.20 18 P P 01 15 26.4 +0.8
baz=227,SNR=15
BRLK **Bradley Lake** 78.26 25 IAmb IAmb 01 15 26.9
comp=Z,26nm,0.8s
J18K **Innoko River** 78.27 20 P P 01 15 26.5 +0.5
baz=230,SNR=18
BRSE **Bradley Lake S** 78.31 25 P P 01 15 26.3 0.0
baz=236
G17K **Kiwalik Mounta** 78.37 17 P P 01 15 27.5 +1.0
baz=226,SNR=20
M20K **Styx River** 78.58 23 IAmb IAmb 01 15 29.2
comp=Z,15nm,0.8s
M20K **Styx River** 78.58 23 P P 01 15 28.3 +0.4
baz=234,SNR=11
L20K **Farewell, AK** 78.66 22 P P 01 15 28.9 +0.7
baz=233,SNR=12
H18K **Honhosa River** 78.83 18 IAmb IAmb 01 15 30.2
comp=Z,25nm,1.5s
H18K **Honhosa River** 78.83 18 P P 01 15 29.0 -0.1
baz=228,SNR=6.3
F17K **Baldwin Pennin** 78.86 17 IAmb IAmb 01 15 31.0
comp=Z,21nm,0.8s
F17K **Baldwin Pennin** 78.86 17 P P 01 15 29.8 +0.8
baz=225,SNR=16
J19K **Poorman** 78.98 20 P P 01 15 30.6 +0.8
baz=231,SNR=19
GCSA **Galena City Sc** 79.04 19 P P 01 15 30.6 +0.5
baz=230,SNR=14
SEW **Seward** 79.05 25 IAmb IAmb 01 15 38.1
comp=Z,27nm,0.9s
SEW **Seward** 79.05 25 P P 01 15 30.4 +0.2
baz=237
C16K **Lisburne Hills** 79.12 14 IAmb IAmb 01 15 31.9
comp=Z,51nm,1.9s
C16K **Lisburne Hills** 79.12 14 P P 01 15 30.9 +0.4
baz=221,SNR=9.5
K20K **Telida** 79.13 21 IAmb IAmb 01 15 32.4
comp=Z,22nm,0.9s
K20K **Telida** 79.13 21 P P 01 15 31.3 +0.7
baz=232
TIXI **Tiksi** 79.15 352 P 01 15 30.1 -0.5
E17K **Hotham Inlet** 79.16 16 P P 01 15 31.6 +0.9
baz=224,SNR=47
G18K **Tagagawik** 79.25 18 P P 01 15 31.4 +0.2
baz=228,SNR=23
SKT **Skwentna** 79.25 23 P P 01 15 29.9 -1.4
baz=235
D17K **Noatak River** 79.27 15 P P 01 15 32.0 +0.7
baz=223,SNR=26
SUA **Susitna One** 79.27 24 IAmb IAmb 01 15 31.8
comp=Z,20nm,0.6s
SUA **Susitna One** 79.27 24 P P 01 15 30.9 -0.7
baz=236,SNR=6.6
F18K **Selawik** 79.43 17 P P 01 15 32.4 +0.3
baz=227,SNR=15
RC01 **Rabbit Creek A** 79.47 24 P P 01 15 32.4 0.0
baz=237
PPLA **Purkeypile** 79.54 22 IAmb IAmb 01 15 33.5
comp=Z,36nm,1.6s
PPLA **Purkeypile** 79.54 22 P P 01 15 32.7 -0.3
baz=234
RDOG **Red Dog Mine** 79.57 15 IAmb IAmb 01 15 34.7
comp=Z,30nm,0.8s
RDOG **Red Dog Mine** 79.57 15 P P 01 15 33.8 +0.9
baz=223,SNR=7.9
J20K **Nowinta River** 79.60 20 IAmb IAmb 01 15 34.9
comp=Z,27nm,0.8s
J20K **Nowinta River** 79.60 20 P P 01 15 34.0 +0.9
baz=232,SNR=44
H19K **Roundabout Mou** 79.69 19 P P 01 15 34.2 +0.7
baz=230,SNR=40
E18K **Tukpahlearik C** 79.73 16 P P 01 15 34.4 +0.7
baz=226,SNR=19
I20K **Naaghedeneel** 79.87 20 P P 01 15 35.6 +1.1
baz=232,SNR=16
CAST **Castle Rocks** 79.88 22 P P 01 15 34.2 -0.4
baz=234,SNR=39
G19K **Purcell Mounta** 79.89 18 P P 01 15 35.3 +0.6
baz=229,SNR=30
PWL **Port Wells** 79.92 25 P P 01 15 35.1 +0.2
baz=238,SNR=11
CUT **Chulitna** 79.98 23 P P 01 15 34.1 -1.0
baz=236
PMR **Palmer** 79.99 24 IAmb IAmb 01 15 35.9
comp=Z,17nm,0.9s
PMR **Palmer** 79.99 24 P P 01 15 35.6 +0.4
PMR **Palmer** 79.99 24 P P 01 15 35.0 -0.2
baz=237,SNR=7.9
CHUM **Lake Minchumin** 80.07 21 P P 01 15 35.8 +0.2
baz=234,SNR=27
F19K **Shaleruckik Mo** 80.14 17 IAmb IAmb 01 15 37.1
comp=Z,19nm,0.8s
F19K **Shaleruckik Mo** 80.14 17 P P 01 15 36.2 +0.3
baz=228,SNR=34
KNK **Knik Glacier** 80.16 24 IAmb IAmb 01 15 37.5
comp=Z,51nm,1.4s
KNK **Knik Glacier** 80.16 24 P P 01 15 36.4 +0.2
baz=238
GHO **Glory Hole Cre** 80.17 24 IAmb IAmb 01 15 37.1
comp=Z,21nm,0.8s
H20K **Anotleneega Mo** 80.17 19 P P 01 15 36.8 +0.7
baz=231,SNR=31
KTH **Kantishna Hill** 80.39 22 IAmb IAmb 01 15 37.5
comp=Z,6nm,0.9s
SML **Sawmill** 80.42 24 P P 01 15 37.8 +0.2
baz=238,SNR=14
C18K **Utukok River** 80.44 15 IAmb IAmb 01 15 39.0
comp=Z,27nm,1.3s
C18K **Utukok River** 80.44 15 P P 01 15 37.9 +0.3
baz=225,SNR=20
GLI **Glacier Island** 80.45 25 P P 01 15 37.8 +0.1
baz=239
TRF **Thorofare Moun** 80.56 22 IAmb IAmb 01 15 40.2
comp=Z,16nm,0.7s
TRF **Thorofare Moun** 80.56 22 P P 01 15 37.4 -1.0
baz=236,SNR=14
BPAW **Bear Paw Mtn.** 80.67 21 P P 01 15 38.1 -0.8
baz=235,SNR=8.2
E19K **Redstone River** 80.71 17 P P 01 15 39.9 +0.9
baz=229,SNR=124
B18K **Kokolik River** 80.80 14 P P 01 15 40.0 +0.7
baz=224,SNR=15
SCM **Sheep Creek Mo** 80.84 24 P P 01 15 40.0 +0.2
baz=239,SNR=7.7
F20K **Avaraart Lake** 80.89 18 P P 01 15 40.7 +0.9
baz=230,SNR=30
I21K **Tanana** 80.95 20 P P 01 15 40.9 +0.7
baz=234,SNR=33
H21K **Melozitna Rive** 80.96 20 P P 01 15 40.8 +0.5
baz=233,SNR=14
DIV **Divide** 81.13 25 IAmb IAmb 01 15 42.2
comp=Z,20nm,1.0s
D19K **Kuna River** 81.16 16 P P 01 15 41.8 +0.5
baz=228,SNR=32
MCK **McKinley** 81.22 22 P P 01 15 41.1 -0.6
baz=237,SNR=36
G21K **Allakaket** 81.25 19 P P 01 15 42.2 +0.5
baz=233,SNR=32
KLU **Klutina** 81.25 25 IAmb IAmb 01 15 44.1
comp=Z,33nm,1.0s
KLU **Klutina** 81.25 25 P P 01 15 42.5 +0.5
baz=240,SNR=16
BWN **Browne** 81.27 22 IAmb IAmb 01 15 43.2
comp=Z,27nm,0.8s
M24K **Tolsona, Glenn** 81.45 24 P P 01 15 43.7 +0.7
baz=240,SNR=10
E20K **Nigu River** 81.54 17 P P 01 15 44.1 +0.8
baz=230,SNR=75
BMRM **Bremner River** 81.55 26 IAmb IAmb 01 15 45.5
comp=Z,29nm,1.1s
BMRM **Bremner River** 81.55 26 P P 01 15 43.7 +0.2
baz=242,SNR=5.6
H22K **Ishtalitna Cre** 81.57 20 P P 01 15 44.0 +0.6
baz=235,SNR=18
A19K **Wainwright** 81.58 14 P P 01 15 44.2 +0.8
baz=225,SNR=72
NEA2 **Nenana** 81.64 21 IAmb IAmb 01 15 43.9
comp=Z,24nm,0.9s
NEA2 **Nenana** 81.64 21 P P 01 15 43.0 -0.8
baz=237,SNR=20
F21K **Alatna River** 81.69 18 P P 01 15 44.4 +0.4
baz=232,SNR=22
D20K **Etivluk River** 81.71 16 IAmb IAmb 01 15 46.3
comp=Z,22nm,0.9s
D20K **Etivluk River** 81.71 16 P P 01 15 44.5 +0.4
baz=229,SNR=35
I23K **Minto, Yukon-K** 81.84 21 P P 01 15 44.4 -0.5
baz=237,SNR=11
N25K **Chitina, Valde** 81.86 25 P P 01 15 45.4 +0.3
baz=242,SNR=9.2
WRH **Wood River Hil** 81.93 22 IAmb IAmb 01 15 45.4
comp=Z,18nm,1.0s
HARP **HAARP** 82.01 24 P P 01 15 46.0 +0.2
baz=241
GLB **Gilahina Butte** 82.11 25 IAmb IAmb 01 15 47.7
comp=Z,26nm,0.8s
CCB **Clear Creek Bu** 82.13 22 IAmb IAmb 01 15 46.2
comp=Z,18nm,0.8s
H23K **Yukon River** 82.16 20 IAmb IAmb 01 15 47.8
comp=Z,23nm,0.9s
H23K **Yukon River** 82.16 20 P P 01 15 46.6 +0.2
baz=236
PAX **Paxson** 82.17 24 P P 01 15 46.3 -0.4
baz=240,SNR=5.7
VRDI **Verde Repeater** 82.17 26 IAmb IAmb 01 15 48.1
comp=Z,19nm,0.9s
MKAR **Makanchi Array** 82.17 319 P P 01 15 47.2 +0.3
comp=Z,11nm,0.8s,baz=104,slow=5.6,SNR=107
MKAR PKKPbc **PKKPbc** 01 34 12.4 -2.2
comp=Z,0.5nm,0.7s,baz=259,slow=4.6,SNR=4.2
comp=Z,11nm,0.8s
COLA **College** 82.23 21 P P 01 15 46.0 -0.8
COLA **College** 82.23 21 P P 01 15 47.1 +0.3
F22K **John River** 82.26 18 P P 01 15 47.5 +0.5
baz=234,SNR=27
E21K **Killik River** 82.29 17 IAmb IAmb 01 15 48.6
comp=Z,23nm,0.8s
E21K **Killik River** 82.29 17 P P 01 15 47.6 +0.5
baz=232,SNR=30
HDA **Harding Lake** 82.32 22 IAmb IAmb 01 15 48.3
comp=Z,12nm,0.7s
HDA **Harding Lake** 82.32 22 P P 01 15 46.6 -0.8
baz=239,SNR=8.6
MESA **MESA** 82.36 27 P P 01 15 48.1 +0.3
baz=244
MAKZ **Makanchi** 82.38 319 P P 01 15 48.0 0.0
MAKZ IAmb IAmb 01 15 49.3
comp=Z,18nm,0.8s
B20K **Meade River** 82.42 15 P P 01 15 48.2 +0.5
baz=229,SNR=51
K24K **Donnelly Dome** 82.46 23 P P 01 15 48.2 +0.1
baz=240,SNR=8.1
G23K **Bananza Creek** 82.49 19 P P 01 15 48.8 +0.6
baz=236,SNR=33
C21K **Knifeblade Rid** 82.51 16 P P 01 15 49.0 +0.9
baz=231,SNR=32
POKR **Poker Plat Res** 82.52 21 IAmb IAmb 01 15 48.1
comp=Z,13nm,0.6s
POKR **Poker Plat Res** 82.52 21 P P 01 15 47.4 -0.9
baz=238,SNR=6.1
IL31 82.53 22 IAmb IAmb 01 15 48.1
comp=Z,19nm,0.7s
ILAR **Eielson Array** 82.53 22 P 01 15 47.0 -1.3
ILAR **Eielson Array** 82.53 22 P P 01 15 47.5 -0.9
comp=Z,16nm,0.7s,baz=247,slow=4.9,SNR=174
comp=Z,16nm,0.7s
COLD **Coldfoot** 82.72 19 IAmb IAmb 01 15 51.0
comp=Z,55nm,1.7s
COLD **Coldfoot** 82.72 19 P P 01 15 49.9 +0.6
baz=236,SNR=15
H24K **Noodor Dome** 82.74 21 IAmb IAmb 01 15 50.7
comp=Z,10nm,0.7s
H24K **Noodor Dome** 82.74 21 P P 01 15 48.5 -0.9
baz=238,SNR=15
E22K **Anaktuvuk Pass** 82.75 18 P P 01 15 50.0 +0.5
baz=234,SNR=28
RIDG **Independent Ri** 82.79 23 IAmb IAmb 01 15 50.8
comp=Z,40nm,1.2s
RIDG **Independent Ri** 82.79 23 P P 01 15 49.9 +0.1
baz=241,SNR=19
B21K **Ikpikpuk River** 82.85 16 P P 01 15 50.4 +0.5
baz=231,SNR=28
M26K **Nabesna, AK** 82.90 25 P P 01 15 50.4 0.0
baz=243,SNR=7.0
ZAA0 **Zalesovo Array** 82.92 326 P P 01 15 49.4 -1.1
ZALV **Zalesovo Beam** 82.92 326 P P 01 15 49.8 -0.8
comp=Z,5.6nm,0.5s,baz=112,slow=5.5,SNR=24
ZALV pP **pP** 01 17 20.9 +0.3
comp=Z,2.0nm,0.7s,baz=106,slow=6.3,SNR=5.0
comp=Z,5.6nm,0.5s
D22K **Ayikyak River** 82.93 17 P P 01 15 51.5 +1.1
baz=233,SNR=47
J25K **Salcha River,** 83.02 22 P P 01 15 50.8 -0.2
baz=240,SNR=64
L26K **Log Cabin Wild** 83.04 24 P P 01 15 51.6 +0.5
baz=242,SNR=13
PINM **Pinnacle** 83.09 27 P P 01 15 51.9 +0.5
baz=246
SCRK **Sand Creek** 83.24 23 IAmb IAmb 01 15 53.2
comp=Z,17nm,0.8s
SCRK **Sand Creek** 83.24 23 P P 01 15 52.1 0.0
baz=242,SNR=25
G24K **Hadweenzic Riv** 83.33 20 IAmb IAmb 01 15 53.4
comp=Z,12nm,0.7s
G24K **Hadweenzic Riv** 83.33 20 P P 01 15 52.7 +0.3
baz=238,SNR=16
M27K **Edge Creek, AK** 83.35 25 P P 01 15 53.6 +0.9
baz=244,SNR=24
E23K **Chandalar** 83.38 18 P P 01 15 53.5 +0.8
baz=236,SNR=18
O28M **Mount Upton** 83.40 27 P P 01 15 53.9 +0.7
baz=246,SNR=8.4
PRP **Porcupine Dome** 83.41 21 P P 01 15 53.1 +0.1
baz=240
A21K **Barrow** 83.43 14 P P 01 15 52.9 +0.2
baz=229,SNR=6.3
D23K **Nanushuk River** 83.57 17 P P 01 15 54.8 +1.3
baz=235,SNR=91
B22K **Teshekpuk Lake** 83.62 16 P P 01 15 54.1 +0.4
baz=232,SNR=30
A22K **Sinclair Lake** 83.63 15 P P 01 15 54.1 +0.4
baz=231,SNR=49
F24K **Squaw Lake** 83.63 19 P P 01 15 54.8 +0.8
baz=238,SNR=43
J26L **Joseph Creek** 83.65 23 P P 01 15 54.4 +0.3
baz=242,SNR=21
L27K **Beaver Creek,** 83.68 24 IAmb IAmb 01 15 56.0
comp=Z,13nm,0.8s
L27K **Beaver Creek,** 83.68 24 P P 01 15 55.1 +0.8
baz=244,SNR=12
BCAR **Beaver Creek A** 83.70 24 P 01 15 54.8 +0.4
YUK3 **Moose Creek** 83.70 26 P P 01 15 55.2 +0.6
baz=245,SNR=7.4
TOLK **Toolik Lake Re** 83.72 18 IAmb IAmb 01 15 55.9
comp=Z,22nm,0.8s
TOLK **Toolik Lake Re** 83.72 18 P P 01 15 55.0 +0.6
baz=236,SNR=26
E24K **Your Creek** 83.74 18 P P 01 15 54.8 +0.3
baz=237,SNR=17
BVCY **Beaver Creek** 83.80 25 P P 01 15 55.7 +0.9
baz=245,SNR=8.8
YUK8 **Steele Glacier** 83.80 26 P P 01 15 56.2 +1.0
baz=246,SNR=8.9
G25K **Bearman Lake** 83.83 20 P P 01 15 55.4 +0.5
baz=240,SNR=19
O29M **Mount Kennedy** 83.94 27 P P 01 15 56.6 +0.9
baz=247,SNR=7.2
K27K **Chicken** 84.01 23 P P 01 15 56.9 +1.1
baz=244,SNR=23
FYU **Fort Yukon** 84.03 20 IAmb IAmb 01 15 57.4
comp=Z,15nm,0.7s
P29M **Windy Craggy** 84.07 28 P P 01 15 57.0 +0.7
baz=248
C23K **Itkillik River** 84.09 17 P P 01 15 56.9 +0.8
baz=235,SNR=36
QSPA **South Pole Qui** 84.11 180 P P 01 15 57.1 +0.6
QSPA IAmb IAmb 01 15 57.9
comp=Z,25nm,0.8s
QSPA **South Pole Qui** 84.11 180 P P 01 15 56.9 +0.4
comp=Z,22nm,0.6s,baz=331,slow=0.7,SNR=174
QSPA PKKPbc **PKKPbc** 01 34 07.3 -4.2
comp=Z,2.1nm,1.1s,baz=235,slow=2.4,SNR=5.4
comp=Z,22nm,0.6s
I26K **Coal Creek Min** 84.18 22 P P 01 15 56.7 +0.1
baz=242,SNR=12
D24K **Happy Valley** 84.23 18 P P 01 15 57.6 +0.8
baz=237,SNR=22
YUK6 **Outpost Mounta** 84.29 27 P P 01 15 58.5 +0.9
baz=247,SNR=5.8
YUK4 **Talbot Arm** 84.32 26 P P 01 15 59.2 +1.6
baz=247,SNR=8.3
F25K **Christian Rive** 84.41 19 P P 01 15 58.7 +0.9
baz=240,SNR=23
C24K **Franklin Bluff** 84.58 17 P P 01 15 59.3 +0.8
baz=237
P30M **Million Dollar** 84.62 28 P P 01 16 00.1 +1.1
baz=248
HYT **Haines Junctio** 84.63 27 P P 01 16 00.2 +1.1
baz=248,SNR=14
BMAR **Burnt Mountain** 84.68 20 P 01 16 00.1 +0.9
E25K **Arctic Village** 84.70 19 P P 01 16 00.0 +0.8
baz=240,SNR=13
G26K **Porcupine Rive** 84.72 20 P P 01 16 00.6 +1.3
baz=242,SNR=76
M29M **Somme Creek** 84.83 25 P P 01 16 01.0 +1.0
baz=247,SNR=28
KSH **Kashi** 84.84 310 P P 01 16 02.9 +2.2
KSH S **S** 01 25 59.3 +4.7
KSH pmax pmax
comp=Z,11nm,0.9s
S32K **Killisnoo** 84.86 31 P P 01 16 00.9 +0.8
baz=251
I27K **Kandik River** 84.89 22 P P 01 16 01.0 +0.8
baz=244,SNR=30
F26K **Sheenjek River** 84.96 20 P P 01 16 01.5 +1.0
baz=241,SNR=32
N30M **Aishikik Lake** 85.05 27 P P 01 16 02.0 +0.9
baz=248,SNR=6.9
D25K **Kavik River** 85.06 18 P P 01 16 01.2 +0.2
baz=239,SNR=26
DAWY **Dawson** 85.09 24 P P 01 16 02.1 +0.8
baz=246,SNR=16
U33K **Whale Pass** 85.19 32 P P 01 16 02.5 +0.8
baz=252
H27K **Steamboat Moun** 85.20 21 P P 01 16 02.7 +1.0
baz=244,SNR=41
MAW **Mawson** 85.22 203 P P 01 16 02.8 +1.0
comp=Z,5.1nm,0.5s,baz=115,slow=7.0,SNR=11
comp=Z,5.1nm,0.5s
L29M **L29M** 85.23 25 P P 01 16 03.1 +1.2
baz=247,SNR=29
O30N **Mendenhall** 85.25 27 IAmb IAmb 01 16 03.9
comp=Z,20nm,1.0s
O30N **Mendenhall** 85.25 27 P P 01 16 02.9 +0.8
baz=249,SNR=8.1
G27K **Doyon Strip** 85.41 21 IAmb IAmb 01 16 04.6
comp=Z,13nm,0.8s
G27K **Doyon Strip** 85.41 21 P P 01 16 03.6 +0.9
baz=244,SNR=27
I28M **Miner Creek** 85.45 22 IAmb IAmb 01 16 04.1
comp=Z,16nm,0.6s
I28M **Miner Creek** 85.45 22 P P 01 16 03.4 +0.4
baz=245,SNR=23
KURK **Kurchatov** 85.58 322 P P 01 16 03.3 -0.5
M30M **Minto, Yukon** 85.60 26 P P 01 16 04.7 +0.9
baz=248,SNR=18
KURBB **Kurchatov Arra** 85.62 322 P P 01 16 03.5 -0.5
comp=Z,1.4nm,0.6s,baz=101,slow=4.5,SNR=23
KURBB pP **pP** 01 17 34.8 +0.1
comp=Z,1.0nm,0.8s,baz=108,slow=3.6,SNR=4.8
KURBB PKiKP **PKiKP** 01 21 09.9 -1.0
comp=Z,0.2nm,0.5s,baz=120,slow=2.8,SNR=2.3
KURBB PKKPbc **PKKPbc** 01 34 03.6 -3.1
comp=Z,0.7nm,0.7s,baz=280,slow=3.0,SNR=9.0
comp=Z,1.4nm,0.6s
N31M **Braeburn, Yuko** 85.65 27 P P 01 16 05.1 +1.1
baz=249,SNR=18
J29N **Klondike Camp** 85.72 24 P P 01 16 05.8 +1.4
baz=247,SNR=18
K29M **Barlow Dome** 85.77 24 P P 01 16 05.8 +1.2
baz=248,SNR=65
WHY **Whitehorse** 85.77 28 P P 01 16 05.3 +0.6
baz=250,SNR=5.5
C26K **Camden Bay** 85.80 18 P P 01 16 05.9 +1.4
baz=240,SNR=48
P32M **Atlin** 85.97 29 P P 01 16 06.2 +0.6
baz=251
C27K **Jago River** 86.03 18 P P 01 16 06.7 +1.0
baz=242,SNR=43
I29M **Ogilvie Camp,** 86.04 23 P P 01 16 06.3 +0.5
baz=247,SNR=40
E27K **Coleen River** 86.04 20 P P 01 16 06.8 +1.1
baz=244,SNR=60
H29M **Whitestone** 86.36 22 P P 01 16 07.8 +0.6
baz=247,SNR=6.8
Q32M **Nakina River** 86.48 30 P P 01 16 09.2 +0.9
baz=253
M31M **Drury Creek, Y** 86.51 26 IAmb IAmb 01 16 09.5
comp=Z,19nm,0.9s
M31M **Drury Creek, Y** 86.51 26 P P 01 16 08.6 +0.5
baz=251,SNR=16
J30M **Hart River** 86.52 24 P P 01 16 09.2 +1.0
baz=249,SNR=36
AAK **Ala-Archa** 86.55 313 P P 01 16 08.4 -0.5
P33M **Teslin, Yukon** 86.60 29 P P 01 16 09.0 +0.3
baz=252
D27M **Malcolm River** 86.71 19 IAmb IAmb 01 16 11.1
comp=Z,16nm,0.8s
D27M **Malcolm River** 86.71 19 P P 01 16 10.0 +1.0
baz=244,SNR=29
I30M **Mount Dempster** 86.74 23 IAmb IAmb 01 16 10.8
comp=Z,24nm,0.8s
I30M **Mount Dempster** 86.74 23 P P 01 16 09.8 +0.5
baz=249,SNR=31
G29M **Pine Creek** 86.75 21 P P 01 16 09.8 +0.6
baz=247,SNR=24
S34M **Telegraph Cree** 86.75 31 P P 01 16 10.5 +1.2
baz=254,SNR=12
N32M **Quiet Lake** 86.77 28 P P 01 16 10.2 +0.8
baz=252,SNR=11
E28M **Babbage River** 86.91 20 P P 01 16 10.7 +0.9
baz=246,SNR=23
T35M **Bob Quinn** 86.96 32 IAmb IAmb 01 16 12.5
comp=Z,18nm,1.0s
T35M **Bob Quinn** 86.96 32 P P 01 16 11.2 +0.8
baz=254,SNR=5.3
FARO **Faro, Yukon** 86.98 27 IAmb IAmb 01 16 11.8
comp=Z,23nm,1.1s
FARO **Faro, Yukon** 86.98 27 P P 01 16 10.8 +0.5
baz=252,SNR=10
EPYK **Eagle Plains** 87.03 22 P P 01 16 11.2 +0.7
baz=248,SNR=38
R33M **Jennings River** 87.25 30 P P 01 16 12.7 +0.9
baz=254,SNR=7.1
E29M **Blow River** 87.38 20 P P 01 16 12.2 +0.2
baz=247,SNR=10.0
G30M **tAoh Zraii Nji** 87.44 22 IAmb IAmb 01 16 13.7
comp=Z,23nm,1.1s
G30M **tAoh Zraii Nji** 87.44 22 P P 01 16 12.6 +0.2
baz=249,SNR=14
DLBC **Dease Lake** 87.46 31 P P 01 16 13.9 +1.1
baz=255,SNR=8.2
D28M **Stokes Point** 87.47 19 P P 01 16 13.1 +0.7
baz=246,SNR=28
NRIK **Noril'sk** 87.48 341 P P 01 16 11.8 -0.7
comp=Z,5.2nm,0.9s,baz=116,slow=4.8,SNR=11
comp=Z,5.2nm,0.9s
H31M **Peel River** 87.74 23 IAmb IAmb 01 16 15.2
comp=Z,20nm,1.1s

H31M	Peel River	87.74	23	P	P	01 16 14.2	+0.4
	baz=250,SNR=15						
F30M	Barrier River	87.82	21	IAmb	IAmb	01 16 15.7	
	comp=Z,26nm,1.0s						
F30M	Barrier River	87.82	21	P	P	01 16 14.5	+0.3
	baz=249,SNR=16						
MMPY	Sheldon Lake,	88.03	26	IAmb	IAmb	01 16 17.3	
	comp=Z,1nm,1.5s						
G31M	Satah River	88.14	22	IAmb	IAmb	01 16 17.0	
	comp=Z,28nm,1.1s						
G31M	Satah River	88.14	22	P	P	01 16 16.0	+0.3
	baz=251,SNR=13						
WTLY	Watson Lake, Y	88.50	29	P	P	01 16 17.1	-0.5
WTLY				IAmb	IAmb	01 16 19.5	
	comp=Z,16nm,1.0s						
F31M	Tsiigehtchic	88.50	22	IAmb	IAmb	01 16 18.4	
	comp=Z,26nm,1.5s						
F31M	Tsiigehtchic	88.50	22	P	P	01 16 17.2	-0.1
	baz=251,SNR=5.2						
INK	Inuvik	88.86	21	P	P	01 16 18.8	-0.2
	baz=251,SNR=12						
GAR	Garm	89.07	309	IAmb	IAmb	01 16 22.3	
	comp=Z,19nm,1.4s						
J05D	Fort Rock, OR	89.87	47	P	P	01 16 24.9	+0.4
PNTR	Pine Nut	90.54	51	P	P	01 16 27.9	+0.1
BVAR	Borovoye Array	91.04	323	P	P	01 16 28.4	-1.0
	comp=Z,2.8nm,0.7s,baz=94,slow=5.7,SNR=20						
BVAR				pP	pP	01 18 00.3	-0.9
	comp=Z,1.9nm,0.9s,baz=100,slow=5.0,SNR=3.5						
BVAR				PKiKP	PKiKP	01 21 19.4	-0.5
	comp=Z,0.5nm,0.7s,baz=90,slow=2.9,SNR=3.5						
BVAR				PKKPbc	PKKPbc	01 33 51.9	-1.7
	comp=Z,0.6nm,0.6s,baz=294,slow=1.5,SNR=3.9						
	comp=Z,2.8nm,0.7s						
BRVK	Borovoye	91.11	323		P	01 16 28.7	-1.1
LHV	Little Huntoon	91.30	52	IAmb	IAmb	01 16 33.0	
	comp=Z,11nm,0.9s						
NVAR	Mina Array Bea	91.47	52		P	01 16 32.7	+0.6
NVAR	Mina Array Bea	91.47	52	P	P	01 16 32.9	+0.8
	comp=Z,5.7nm,0.8s,baz=254,slow=6.5,SNR=48						
NVAR				pP	pP	01 18 05.2	+0.7
	comp=Z,1.5nm,0.9s,baz=249,slow=7.4,SNR=6.7						
	comp=Z,5.7nm,0.8s						
C36M	Paulatuk	92.45	21	IAmb	IAmb	01 16 36.1	
	comp=Z,14nm,0.8s						
C36M	Paulatuk	92.45	21	P	P	01 16 35.0	-0.5
	baz=260,SNR=14						
A36M	Sachs Harbour	92.54	18	IAmb	IAmb	01 16 36.6	
	comp=Z,17nm,0.8s						
A36M	Sachs Harbour	92.54	18	P	P	01 16 35.7	-0.3
	baz=259						
NEW	Newport	93.30	42		P	01 16 39.1	-0.9
GLA	Glamis	93.79	57	P	P	01 16 43.7	+1.1
GLA				IAmb	IAmb	01 16 46.0	
	comp=Z,8.7nm,1.0s						
PRN	Pahroc Range	93.94	53	IAmb	IAmb	01 16 45.4	
	comp=Z,14nm,1.6s						
YKA	Yellowknife Ar	95.61	28		P	01 16 49.9	-0.2
YKA	Yellowknife Ar	95.61	28	P	P	01 16 50.1	0.0
	comp=Z,2.8nm,0.8s,baz=270,slow=4.5,SNR=52						
YKA				pP	pP	01 18 22.5	+0.2
	comp=Z,1.0nm,1.0s,baz=270,slow=4.2,SNR=7.0						
YKA				PKKPbc	PKKPdf	01 33 37.8	-3.6
	comp=Z,0.2nm,0.8s,baz=87,slow=2.8,SNR=4.8						
	comp=Z,2.8nm,0.8s						
YKAW3	Yellowknife Wh	95.61	28	IAmb	IAmb	01 16 51.2	
	comp=Z,4.0nm,0.8s						
YKAW1	Yellowknife Wh	95.66	28	IAmb	IAmb	01 16 51.5	
	comp=Z,5.1nm,0.8s						
ELIB	Princess Elisa	96.17	194	dP	P	01 16 52.6	-0.2
	comp=Z,3.7nm,1.0s						
PDAR	Pinedale Array	98.37	48	P	Pdif	01 17 02.5	-0.8
	comp=Z,1.0nm,0.6s,baz=235,slow=2.8,SNR=13						
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	103.23	61	PKKPbc	PKKPbc	01 33 19.3	-0.1
	comp=Z,0.3nm,0.7s,baz=102,slow=5.3,SNR=3.9						
ARCES	ARCESS Array B	108.34	343	PKiKP	PKiKP	01 21 50.4	-0.1
	comp=Z,2.4nm,0.8s,baz=96,slow=1.6,SNR=8.0						
ARCES				PKKPbc	PKKPbc	01 33 01.1	-4.2
	comp=Z,4.4nm,1.0s,baz=224,slow=2.5,SNR=4.1						
FINES	FINESS Array B	112.67	336	PKiKP	PKiKP	01 21 58.6	-0.2
	comp=Z,0.6nm,0.3s,baz=102,slow=2.5,SNR=27						
FINES				PKKPbc	PKKPbc	01 32 47.8	-3.3
	comp=Z,0.5nm,0.5s,baz=180,slow=5.5,SNR=5.2						
AKASG	Malin Array Be	116.28	325	PKP	PKPdf	01 22 05.7	-0.3
	comp=Z,2.0nm,0.5s,baz=50,slow=2.6,SNR=16						
KIEV	Kiev	116.29	325	⇓P	PKPdf	01 22 05.7	-0.4
KIRS	Kirsehir-Merke	117.15	311	⇑P	PKPdf	01 22 07.7	-0.6
BRTR	Keskin Array B	117.20	312	PKP	PKPdf	01 22 08.0	-0.4
	comp=Z,1.4nm,0.6s,baz=146,slow=3.4,SNR=8.9						
BRTR				PKKPbc	PKKPbc	01 32 34.4	-0.7
	comp=Z,0.6nm,0.7s,baz=230,slow=4.4,SNR=4.2						
ANTO	Ankara	117.78	312	⇑P	PKPdf	01 22 08.0	-1.4
SORM	Soroca	117.87	322	⇓P	PKPdf	01 22 08.1	-1.1
PLCA	Paso Flores	117.97	143	PKP	PKPdf	01 22 09.5	-0.3
	comp=Z,2.1nm,0.5s,baz=156,slow=10.0,SNR=5.0						
MILM	Milestii Mici	118.08	321	⇑P	PKPdf	01 22 09.2	-0.4
HFS	Hagfors	118.24	339	PKP	PKPdf	01 22 08.9	-0.7
	comp=Z,1.5nm,0.5s,baz=66,slow=3.6,SNR=22						
NB2	NORSAR Subarra	118.44	341	PKPdf	PKPdf	01 22 08.8	-1.2
	comp=Z,1.8nm,1.0s,baz=44,slow=1.9						
NOA	NORSAR Array B	118.44	341	PKP	PKPdf	01 22 09.7	-0.4
	comp=Z,1.7nm,0.7s,baz=45,slow=1.9,SNR=17						
TLCR		118.76	319	⇑P	PKPdf	01 22 10.8	-0.2
CFR	Carcaliu	119.21	319	⇑P	PKPdf	01 22 11.8	-0.1
TLBR	Topalu	119.52	319	⇑P	PKPdf	01 22 12.1	-0.4
VRI	Vrincioaia	119.83	320	⇑P	PKPdf	01 22 09.9	-3.2
GRER		119.88	320	⇓P	PKiKP	01 22 18.8	+5.5
BURAR	Bucovina Array	120.00	323		PKiKP	01 22 14.6	+1.0
BURAR	Bucovina Array	120.00	323	⇑P	PKiKP	01 22 13.8	+0.2
BOSA	Boshof	120.27	232	PKP	PKPdf	01 22 14.6	-0.1
	comp=Z,1.7nm,0.5s,baz=116,slow=1.0,SNR=7.7						
MLR	Muntele Rosu	120.49	320	⇓P	PKPdf	01 22 14.1	-0.5
DOPR	Dopca	120.63	321	⇑P	PKiKP	01 22 15.1	+0.3
KOLS	Kolonicke sedl	121.09	325	ePKP	PKiKP	01 22 16.1	+0.5
BO02	Sierra Bellavi	121.29	137		PKPdf	01 22 16.4	0.0
ARR	Arges	121.37	321	⇑P	PKiKP	01 22 17.7	+1.4
HUMR	Humele	121.52	320	⇑P	PKPdf	01 22 14.9	-1.5
COPA	Copaceanca	121.53	319	⇓P	PKPdf	01 22 15.3	-1.1
MARR	Marisel-Cluj	121.70	323	⇑P	PKPdf	01 22 15.2	-1.6
SUR	Sutherland	121.77	226	PKP	PKiKP	01 22 17.8	+0.1
	comp=Z,10.0nm,1.1s,baz=194,slow=4.2,SNR=2.3						
VLAD	Vladila	122.12	319	⇓P	PKPdf	01 22 08.1	-9.4
GZR	Gura Zlata	122.52	321	⇓P	PKPdf	01 22 18.1	-0.2
LANS	Liptovska Anna	122.54	327	ePKP	PKiKP	01 22 19.6	+1.1
SURR	Surduc	122.75	322	⇑P	PKPdf	01 22 18.8	+0.1
PSZ	Piszkesteto	122.97	325		PKPdf	01 22 18.9	-0.2
PSZ	Piszkesteto	122.97	325	⇓P	PKPdf	01 22 19.1	0.0
HERR	Herculane	122.99	321	⇑P	PKPdf	01 22 18.6	-0.6
STEB	Steborice	123.01	328	ePKPDF	PKPdf	01 22 19.1	0.0
BZS	Buzias	123.13	322	⇑P	PKPdf	01 22 18.6	-0.8
MORC	Moravsky Berou	123.22	328	ePKIKP	PKiKP	01 22 20.1	+0.3
VYHS	Vyhne	123.25	326	ePKP	PKiKP	01 22 19.8	-0.1
MAUC	Maruska	123.31	327	ePKPDF	PKiKP	01 22 20.6	+0.6
OSTC	Ostas	123.44	329	ePKPDF	PKiKP	01 22 20.6	+0.4
DPC	Dobruska-Polom	123.51	329	ePKPDF	PKiKP	01 22 20.7	+0.3
JAVC	Velka Javorina	123.68	327	ePKIKP	PKiKP	01 22 22.1	+1.3
SRO	Sroba rova	123.92	326	ePKP	PKiKP	01 22 21.5	+0.4
VRAC	Vranov	124.00	328	ePKIKP	PKiKP	01 22 21.5	+0.2
MODS	Modra-Piesok	124.17	327	ePKP	PKiKP	01 22 22.3	+0.6
KRUC	Moravsky	124.25	328	ePKIKP	PKiKP	01 22 22.0	+0.2
PVCC	Panska Ves	124.28	330	ePKPDF	PKiKP	01 22 22.4	+0.6
BRG	Berggiesshubel	124.37	331	ePKP	PKiKP	01 22 22.3	+0.3
BRG				Amp		01 22 23.0	
	comp=Z,6.8nm,1.0s						
LCO	Las Campanas	124.47	131		PKiKP	01 22 23.2	-0.1
CLL	Collm	124.54	332	i PKPdf	PKiKP	01 22 22.2	-0.1
	comp=Z,9.0nm,0.8s						
TREC	Trest	124.58	329	ePKPDF	PKiKP	01 22 22.7	+0.2
MORH	Mrgy, Hungar	124.60	324	⇑P	PKiKP	01 22 22.6	0.0
PRU	Pruhonice	124.64	330	ePKPDF	PKiKP	01 22 22.7	+0.2
RONA	Rosalia, Austr	125.10	327	i PKiKP	PKiKP	01 22 23.7	+0.1
	comp=Z,6.3nm,1.0s						
ZVC	Zvikov	125.16	329	ePKPDF	PKPdf	01 22 23.1	-0.1
CONA	Conrad Observa	125.20	327	i PKiKP	PKiKP	01 22 24.0	+0.1
	comp=Z,2.9nm,0.7s						
CKRC	Cesky Krumlov	125.49	329	ePKPDF	PKiKP	01 22 24.9	+0.6
NKC	Novy Kostel	125.51	331	ePKPDF	PKPdf	01 22 23.9	0.0
LKGWB	Lokgwabe	125.53	235		PKPdf	01 22 24.3	-0.5
KHC	Kasperske Hory	125.67	329	ePKPDF	PKiKP	01 22 24.6	-0.1
GERES	GERESS Array B	125.78	329		PKPdf	01 22 24.7	+0.2
GERES	GERESS Array B	125.78	329	PKP	PKiKP	01 22 24.9	-0.1
	comp=Z,5.4nm,0.7s,baz=64,slow=1.7,SNR=47						
MOA	Molln	126.11	328	i PKP	PKPdf	01 22 25.2	+0.1
	comp=Z,3.3nm,0.9s						
SOKA	Soboth	126.40	326	i PKiKP	PKPdf	01 22 25.8	+0.1
	comp=Z,5.6nm,1.2s,SNR=6.3						
BIOA	Bad Ischl, Aus	126.54	328	i PKP	PKPdf	01 22 25.9	0.0
	comp=Z,1.5nm,0.6s						
OBKA	Obir	126.77	326	i PKP	PKPdf	01 22 26.2	-0.3
	comp=Z,1.1nm,0.5s						
AC02	Maricunga	126.79	130		PKiKP	01 22 28.3	+0.1
KBA	Koelnbreinsper	127.08	327	i PKP	PKPdf	01 22 26.8	-0.4
	comp=Z,2.4nm,0.7s						
MYKA	Terra Mystica	127.19	327	i PKP	PKPdf	01 22 27.3	0.0
	comp=Z,1.2nm,0.4s						
LESA	Schwarzleotal	127.21	328	ePKiKP	PKPdf	01 22 27.5	+0.2
	comp=Z,5.4nm,0.6s,SNR=5.7						
GO02	Mina Guanaco	127.27	128		PKPdf	01 22 28.4	0.0
EKA	Eskdalemuir Ar	127.49	344	PKP	PKPdf	01 22 27.7	+0.3
	comp=Z,1.1nm,0.4s,baz=12,slow=2.7,SNR=15						
ABTA	Abfaltersbach	127.73	328	i PKP	PKPdf	01 22 28.0	-0.4
	comp=Z,5.0nm,0.7s						
WATA	Walderalm	127.84	329	i PKiKP	PKPdf	01 22 28.8	+0.3
	comp=Z,5.9nm,0.8s						
WTTA	Wattenberg	127.86	329	i PKiKP	PKiKP	01 22 29.1	-0.2
	comp=Z,14nm,1.0s,SNR=5.1						
MOTA	Moosalm	128.08	329	i PKP	PKPdf	01 22 29.1	0.0
	comp=Z,9.1nm,0.7s						
SQTA	Sankt Quirin	128.11	329	i PKiKP	PKPdf	01 22 29.2	+0.2
	comp=Z,8.3nm,0.8s,SNR=5.8						
BTNL	Ternell	128.14	335	dPKP	PKiKP	01 22 29.8	+0.3
RETA	Reutte	128.16	329	i PKiKP	PKPdf	01 22 29.4	+0.3
	comp=Z,3.3nm,0.7s						
MEM	Membach	128.17	335	dPKiKP	PKiKP	01 22 29.8	+0.3
FETA	Feichten	128.49	329	i PKiKP	PKiKP	01 22 30.3	-0.2
	comp=Z,7.6nm,0.8s,SNR=5.6						
BCLA	Clavier	128.61	335	dPKiKP	PKPdf	01 22 30.1	+0.4
BGES	Gesves	128.73	335	dPKiKP	PKiKP	01 22 30.5	-0.1
DAVA	Damuels	128.74	330	i PKiKP	PKPdf	01 22 30.7	+0.4
	comp=Z,7.0nm,0.9s						
WLF	Walferdange	128.81	334	dPKP	PKiKP	01 22 31.1	+0.3
BMRD	Maredsous	128.92	335	dPKiKP	PKiKP	01 22 30.8	-0.3
DOU	Dourbes	129.15	335	dPKiKP	PKiKP	01 22 32.0	+0.4
TIP	Timpagrande	129.44	317		PKPdf	01 22 31.3	-0.5
TIP	Timpagrande	129.44	317	⇓P	PKPdf	01 22 32.2	+0.4
TUE	Stuetta	129.56	329		PKPdf	01 22 32.1	+0.1
PB11	IPOC Station P	129.73	122		PKPdf	01 22 32.5	-0.4
PB08	IPOC Station P	129.99	122		PKPdf	01 22 34.1	+0.3
ZCCA	Zocca	130.08	326		PKPdf	01 22 32.8	0.0
GO01	Chusmiza	130.16	122		PKPdf	01 22 34.4	+0.2
CZSB	Cruzeiro do Su	131.10	105		PKPdf	01 22 35.2	-0.3
BNI	Bardonecchia	131.90	329		PKPdf	01 22 36.4	+0.1
LPAZ	La Paz	132.51	118		PKPdf	01 22 38.4	-0.4
LPAZ	La Paz	132.51	118	PKP	PKPdf	01 22 39.1	+0.2
	comp=Z,4.1nm,0.7s,baz=326,slow=0.4,SNR=13						
SDV	Santo Domingo	135.25	83		PKPdf	01 22 42.5	-1.1
CPUP	Villa Florida	135.61	138		PKPdf	01 22 43.4	-0.3
CPUP	Villa Florida	135.61	138	PKP	PKPdf	01 22 44.0	+0.3
	comp=Z,4.7nm,0.7s,baz=240,slow=2.3,SNR=15						
AQDB	Aquidauana	140.50	132		PKPdf	01 22 52.5	-0.3
PTLB	Pontes e Lacer	140.60	123		PKPdf	01 22 52.6	-0.4
ESDC	Sonseca Array	141.10	333	PKP	PKPdf	01 22 54.7	+1.3
	comp=Z,1.0nm,0.7s,baz=348,slow=3.0,SNR=6.9						
ESDC				PP	PP	01 25 53.5	-5.4
	comp=Z,0.5nm,0.8s,baz=20,slow=5.6,SNR=4.2						
MACA	Manacapuru-AM	143.82	103		PKPab	01 22 57.2	-0.1
MESJ	Messejana	144.45	336	ePKP	PKPbc	01 22 58.9	+0.1
BOAV	Boa Vista	144.99	94		PKPdf	01 23 00.6	-0.3
TAM	Tamanrasset	145.60	302		PKPbc	01 23 02.6	-0.4
BDFB	Brasilia	149.19	134	PKPbc	PKPbc	01 23 12.7	+0.1
	comp=Z,15nm,0.7s,baz=259,slow=2.3,SNR=13						
TORD	Torodi Ar. Bea	152.15	287		PKPdf	01 23 11.5	-0.8

UPA ***20*** *01:04:51.2±0.7, 5°.77N×79°.34W, h15km±8km, MW4.0*
RSNC ***20*** *01:04:55.8±0.0, 6°N±8°×7°W±°, h0km±9km, M2.3, ML2.1*

ISC 20 01:04:42.6±1.4, 5°.61N±0°.03×79°.13W±0°.04, h11km±12km, n30, σ2°05/52, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	Pizarro, Choco	1.88	110	P	Pg	01 05 23.7	+5.0
PIZC				S	Sg	01 05 47.6	+4.5
PTAC	Punta Ardita,	2.02	41	P	Pg	01 05 23.8	+2.4
PTAC				S	Sb	01 05 45.0	+0.5
PTAC	Punta Ardita,	2.02	41	eP	Pg	01 05 24.2	+2.9
PTAC				eS	Sg	01 05 47.1	-0.5
MALC	Bahia Malaga	2.39	131	P	Pg	01 05 31.9	+3.4
CACAO	El Cacao, Vera	2.44	315	P	Pb	01 05 25.6	-0.9
CACAO				S	Sn	01 05 52.1	-0.1
CACAO	El Cacao, Vera	2.44	315	eP	Pb	01 05 26.1	-0.4
CACAO				eS	Sn	01 05 52.7	+0.5
AZU	Azuero	2.45	332	P	Pb	01 05 26.7	0.0
AZU				S	Sn	01 05 53.7	+1.2
AZU	Azuero	2.45	332	eP	Pb	01 05 26.9	+0.2
AZU				eS	Sn	01 05 53.9	+1.4
CHIT3	Chitre	2.66	331	eP	Pb	01 05 30.0	-0.3
CHIT3				eS	Sn	01 05 59.3	+1.6
GR1C	Gorgona, Isla	2.76	160	P	Pg	01 05 35.9	+0.3
GR1C				S	Sb	01 06 05.5	-0.3
GMAL	Guarumal, Vera	2.99	316	eP	Pb	01 05 35.0	-1.0
GMAL				eS	Sn	01 06 09.2	+3.4
CBOC	Ciudad Bolivar	3.12	85	P	Pg	01 05 40.8	-1.6
CBOC				S	Sb	01 06 15.7	-0.6
YOTC	Yotoco, Valle	3.21	120	P	Pg	01 05 42.7	-1.6
DBBC	Dabeiba	3.23	64	P	Pg	01 05 42.9	-1.6
DBBC				S	Sb	01 06 20.7	+1.3
UPA	Univ. de Panam	3.38	353	eP	Pb	01 05 40.7	-1.8
UPA				eS	Sn	01 06 17.9	+2.5
APAC	Apartado, Choc	3.41	48	P	Pg	01 05 47.2	-0.8
APAC				S	Sg	01 06 29.7	-2.5
GUY2C	Guyana, Caldas	3.77	96	P	Pg	01 05 53.5	-1.5
GUY2C				S	Sb	01 06 38.6	+3.2
ANIL	Santa Ana	3.88	106	P	Pb	01 05 51.9	+0.6
POPC	Popayan, Colom	3.91	141	P	Pb	01 05 55.6	-2.0
BBAC	Balboa, Cauca	4.03	152	P	Pb	01 05 51.8	-2.0
BBAC				S	Sb	01 06 40.3	-2.3
UREC	San Jos de Ur	4.16	59	P	Pb	01 05 56.5	+0.6
UREC				S	Sb	01 06 44.4	-1.9
UREC	San Jos de Ur	4.16	59	eP	Pb	01 05 55.0	-1.0
UREC				eS	Sb	01 06 44.0	-2.2
ORTC	Ortega, Tolima	4.22	113	P	Pb	01 05 59.3	+2.3
ORTC				S	Sb	01 06 50.4	+2.3
PRAC	Prado	4.63	114	P	Pb	01 06 05.1	+1.1
PRAC				S	Sb	01 06 59.2	-0.6
ZARC	Zaragoza, Cauc	4.64	66	P	Pb	01 06 03.3	-0.8
ZARC				S	Sb	01 06 56.2	-3.9
BETC	Betania	4.69	128	P	Pb	01 06 06.7	+1.7
PTBC	PUERTO BERRIO,	4.74	79	P	Pb	01 06 05.6	-0.2
PTBC				S	Sb	01 06 59.5	-3.5
URMC	La Uribe, Meta	5.29	116	P	Pb	01 06 13.9	-1.3
URMC				S	Sb	01 07 13.6	-5.2
FLOC	Florencia	5.30	139	P	Pb	01 06 13.8	-1.5
CHIC	Chingaza	5.47	100	P	Pb	01 06 19.1	+0.7

RSNC 20 01:17:16.4±0.0, 6°N±1°×7°7W±°, h14km±2km, M2.7, mb4.0, ML2.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	Dabeiba	0.77	31	P	Pg	01 17 29.5	-1.8
DBBC				S	Sg	01 17 40.7	-0.7
CBOC	Ciudad Bolivar	0.77	130	P	Pg	01 17 28.6	-2.9
CBOC				S	Sg	01 17 38.5	-3.2
SOLC	Bahia Solano	0.81	261	P	Pg	01 17 31.9	-0.1
SOLC				S	Sb	01 17 43.1	+0.2
PTAC	Punta Ardita,	1.42	303	P	Pn	01 17 40.0	-1.9
PTAC				S	Sn	01 17 58.3	-2.1
APAC	Apartado, Choc	1.53	1	P	Pn	01 17 42.3	-1.0
APAC				S	Sb	01 18 04.7	+0.8
PIZC	Pizarro, Choco	1.57	208	P	Pn	01 17 44.4	+0.5
PIZC				S	Sn	01 18 04.3	+0.2
GUY2C	Guyana, Caldas	1.68	132	P	Pn	01 17 43.7	-2.1
GUY2C				S	Sn	01 18 05.4	-1.9
NIZA	Niza - Manizal	1.72	139	P	Pn	01 17 45.0	-1.2
NIZA				S	Sn	01 18 07.7	-0.4
UREC	San Jos de Ur	1.75	38	P	Pn	01 17 45.8	-0.6
UREC				S	Sn	01 18 08.2	-0.3
NORC	Norcasia	1.90	114	P	Pn	01 17 47.4	-1.1
NORC				S	Sn	01 18 11.6	-0.8
ZARC	Zaragoza, Cauc	2.07	57	P	Pn	01 17 49.8	-1.0
ZARC				S	Sn	01 18 15.8	-0.6
PTBC	PUERTO BERRIO,	2.15	85	P	Pn	01 17 50.7	-1.2
PTBC				S	Sn	01 18 17.8	-0.5
ANIL	Santa Ana	2.21	147	P	Pn	01 17 51.7	-1.3
ANIL				S	Sn	01 18 21.0	+0.7
YOTC	Yotoco, Valle	2.38	174	P	Pn	01 17 50.6	-4.5
YOTC				S	Sn	01 18 16.0	-8.1
CAPC	Capurgana	2.38	342	P	Pn	01 17 53.1	-1.9
MALC	Bahia Malaga	2.44	197	P	Pn	01 17 54.5	-1.4
MALC				S	Sn	01 18 27.8	+2.3
LCBC	Los crdobas,	2.49	6	P	Pn	01 17 57.0	+0.4
LCBC				S	Sb	01 18 30.5	-1.1
ROSC	El Rosal	2.73	123	P	Pn	01 18 01.1	+0.8
ROSC				S	Sn	01 18 35.5	+2.2
ORTC	Ortega, Tolima	2.79	151	P	Pn	01 18 00.5	-0.2
ORTC				S	Sb	01 18 37.2	-2.9
BRJC	Barrancabermej	2.91	78	P	Pn	01 18 01.0	-1.3
BRJC				S	Sn	01 18 38.9	+1.7
CVER	Cruz Verde, Cu	3.12	126	P	Pn	01 18 08.0	+2.4
CVER				S	Sn	01 18 44.7	+1.8
PRAC	Prado	3.14	147	P	Pn	01 18 06.1	+0.6
PRAC				S	Sb	01 18 48.2	-2.1
CHIC	Chingaza	3.34	121	P	Pn	01 18 09.4	+0.8
CHIC				S	Sb	01 18 55.0	-1.4
BARC	Barichara	3.41	86	P	Pn	01 18 09.3	-0.2
BARC				S	Sn	01 18 50.5	+0.6
RUSC	La Rusia	3.54	97	P	Pn	01 18 11.5	+0.1
RUSC				S	Sn	01 18 52.9	-0.4
OCAC	Ocana	3.76	60	P	Pn	01 18 13.4	-0.8
OCAC				S	Sn	01 18 58.7	+0.3
SJCC	San Jacinto, C	3.79	22	P	Pn	01 18 13.2	-1.3
SJCC				S	Sn	01 18 53.5	-5.4
POPC	Popayan, Colom	3.79	181	P	Pn	01 18 12.0	-2.7
POPC				S	Sn	01 18 52.2	-7.1
URMC	La Uribe, Meta	3.81	144	P	Pn	01 18 14.0	-0.8
BETC	Betania	3.84	162	P	Pn	01 18 15.5	+0.4
BETC				S	Sn	01 18 59.8	-0.3
AZU	Azuero	3.91	292	P	Pn	01 18 14.1	-1.9
AZU				S	Sn	01 18 56.3	-5.4
PAMC	Pamplona, Colo	4.00	76	P	Pn	01 18 17.5	-0.3
PAMC				S	Sn	01 19 05.4	+0.6
BCIP	Isla Barro Col	4.24	311	P	Pn	01 18 17.8	-2.9
BBAC	Balboa, Cauca	4.36	188	P	Pn	01 18 21.3	-1.1
BBAC				S	Sn	01 19 14.9	+1.7
TAMC	Tame, Arauca	4.79	89	P	Pn	01 18 27.9	-0.3
FLOC	Florencia	4.84	169	P	Pn	01 18 26.9	-2.0
MACC	Macarena, Meta	5.01	147	P	Pn	01 18 30.8	-0.5
	8.0nm,0.7s						
CRJC	Cerrejon, Guaj	5.92	38	P	Pn	01 18 42.7	-1.1
CRJC				S	Sn	01 19 44.4	-7.1

NEIC ***20*** *01:22:15.6±1.3, 5°.7S±0°.1×154°.3E±0°.1, h402km±6km, mb4.2/17, Error ellipse: s-maj=20.3km s-min=11.2km az=145.0*
IDC ***20*** *01:22:24.6±15.0, 6°.04S×154°.30E, h537km±202km, mb3.0/5, mbtmp3.9/5, Error ellipse: s-maj=79.4km s-min=56.8km az=92.0*

ISC 20 01:22:14.4±0.8, 5°.9S±0°.1×154°.4E±0°.1, h400km, n26, σ1°29/27, mb4.1/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	2.77	307		Pn	01 23 15.6	-0.3
RABL				Sn	S	01 24 08.8	+3.3
COEN	Coen	13.65	233	P	Pn	01 25 15.2

KMRS	Kahramanmaras	2.10	244	Pn	Pn	01 40 04.0	+0.3
SARI	SarD1z-Kayseri	2.24	270	Pn	Pn	01 40 05.8	0.0
KOZT	Kozan	2.89	251	Pn	Pn	01 40 15.1	+0.5
TAHT	Tahtakopru-Hat	3.21	231	Pn	Pn	01 40 20.1	+1.1

*IDC **20** 01:45:40.0±5.7, 31°.93S×179°.75W, h145km±48km, mb3.7/3, mbtmp4.3/4, Error ellipse: s-maj=40.9km s-min=24.5km az=45.0*
*WEL **20** 01:45:46.7±0.8, 33°.S±6°.×17°.9W±1°.4, h129km±32km, mB5.4/19, ML5.1/17, MLv5.1/19, Mw(mB)4.9/19, Error ellipse: s-maj=19.8km s-min=4.0km az=109.6, confirmed*
*NEIC **20** 01:45:48.6±1.6, 32°.5S±0°.1×179°.7E±0°.2, h189km±11km, mb4.3/6, Error ellipse: s-maj=22.4km s-min=16.0km az=100.0*

ISC 20 01:45:43.8±0.8, **32°.62S**±0°.07×**179°.0W**±0°.1, **h150**km, **n89**, σ2§**24**/108, **mb4.3**/6, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.47	16	P	Pn	01 46 39.1	+1.9
GLKZ				S	Sn	01 47 21.6	+3.1
MXZ	Matakaoa Point	5.40	203		Pn	01 47 04.4	+2.0
MXZ				Sn	Sn	01 48 04.1	+0.1
MXZ	Matakaoa Point	5.40	203	P	Pn	01 47 04.4	+2.0
MXZ				S	Sn	01 48 07.0	+3.1
WMGZ	Waiomatatini S	5.60	202	P	Pn	01 47 07.8	+2.7
WMGZ				S	Sn	01 48 12.2	+3.4
PKGZ	Pakihiroa	5.76	204	P	Pn	01 47 09.1	+1.9
PKGZ				S	Sn	01 48 15.7	+3.3
HAZ	Te Kaha	5.76	206	P	Pn	01 47 08.9	+1.6
HAZ				S	Sn	01 48 13.4	+0.9
PUZ	Puketiti	5.88	202	P	Pn	01 47 10.4	+1.5
PUZ				S	Sn	01 48 17.3	+1.8
RUGZ	Raukumara Rang	5.99	206	P	Pn	01 47 11.2	+0.8
RUGZ				S	Sn	01 48 18.9	+0.8
TWGZ	Tauwhareparae	6.07	203	P	Pn	01 47 13.0	+1.6
TWGZ				S	Sn	01 48 22.7	+2.8
WHRZ	Whale Island	6.18	211	P	Pn	01 47 17.4	+4.6
WHRZ				S	Sn	01 48 24.3	+1.8
CNGZ	Carnagh Statio	6.28	201	P	Pn	01 47 15.8	+1.7
TKGZ	Te Karaka	6.35	203	P	Pn	01 47 15.8	+0.8
TKGZ				S	Sn	01 48 27.2	+0.6
MWZ	Matawai	6.37	206	P	Pn	01 47 15.9	+0.6
MWZ				S	Sn	01 48 26.6	-0.5
WIAZ	Waiheke Island	6.38	228	P	Pn	01 47 17.9	+2.4
URZ	Urewera	6.46	208	P	Pn	01 47 17.3	+0.8
	69nm,0.3s,baz=83,slow=2.4,SNR=5.2						
URZ				S	Sn	01 48 26.6	-2.6
	29nm,0.3s,baz=246,slow=1.7,SNR=3.1						
URZ	Urewera	6.46	208	P	Pn	01 47 16.4	-0.1
URZ				S	Sn	01 48 26.9	-2.4
RAGZ	Rawiri	6.55	206	P	Pn	01 47 21.0	+3.1
RAGZ				S	Sn	01 48 29.4	-2.1
MKAZ	Moumakai	6.57	225	P	Pn	01 47 20.3	+2.4
RIGZ	Rimuhau	6.62	203	P	Pn	01 47 18.7	0.0
RIGZ				S	Sn	01 48 32.3	-0.8
OMRZ	Omania	6.66	213	P	Pn	01 47 22.8	+3.6
OUZ	Omahuta	6.69	245	P	Pn	01 47 18.1	-1.4
TARZ	Mount Tarawera	6.70	212	P	Pn	01 47 23.6	+3.8
PRGZ	Paritu Road	6.78	201	P	Pn	01 47 21.1	+0.3
RRRZ	Republican Roa	6.78	211	P	Pn	01 47 24.7	+3.9
HLRZ	Highlands Stat	6.78	213	P	Pn	01 47 25.1	+4.2
MUGZ	Murupara	6.79	209	P	Pn	01 47 20.4	-0.5
MUGZ				S	Sn	01 48 35.8	-1.2
TOZ	Tahuroa Road	6.81	220		Pn	01 47 22.6	+1.5
RTZ	Ruatahuna	6.82	208		Pn	01 47 20.0	-1.4
RTZ	Ruatahuna	6.82	208	P	Pn	01 47 20.2	-1.2
RTZ				S	Sn	01 48 34.7	-3.3
SNGZ	Shannon Statio	6.83	205	P	Pn	01 47 21.4	-0.1
SNGZ				S	Sn	01 48 37.1	-1.1
HSRZ	Hossack Road	6.88	213	P	Pn	01 47 26.8	+4.6
HRRZ	Handcock Road	6.93	212	P	Pn	01 47 27.0	+4.3
KNZ	Kokohu	6.94	202	P	Pn	01 47 22.0	-0.8
KNZ				S	Sn	01 48 38.9	-1.7
PRRZ	Plateau Road	6.97	211	P	Pn	01 47 26.4	+3.1
MHGZ	Mahia Peninsul	6.99	200	P	Pn	01 47 23.6	+0.1
MHGZ				S	Sn	01 48 41.2	-0.6
ALRZ	Allen Road	7.04	211	P	Pn	01 47 26.8	+2.5
RAHZ	Arahi	7.04	206	P	Pn	01 47 23.7	-0.6
MTHZ	Maungataniwha	7.08	207	P	Pn	01 47 24.3	-0.5
MTHZ				S	Sn	01 48 42.0	-2.2
WPRZ	Whakapapatarin	7.09	213	P	Pn	01 47 28.6	+3.7
WHHZ	Waihua	7.13	204	P	Pn	01 47 25.2	-0.3
WHHZ				S	Sn	01 48 43.6	-1.7
KUTZ	Kaahu Road	7.22	214	P	Pn	01 47 30.4	+3.7
MRHZ	Matea Rd	7.24	210	P	Pn	01 47 29.0	+2.1
MRHZ				S	Sn	01 48 47.9	0.0
WHTZ	Whakaora	7.30	213	P	Pn	01 47 31.7	+3.9
NMHZ	Naumai	7.31	207	P	Pn	01 47 27.5	-0.4
ARHZ	Aropaoanui	7.38	205	P	Pn	01 47 27.5	-1.4
ARHZ				S	Sn	01 48 49.3	-2.0
WATZ	Wairara	7.44	214	P	Pn	01 47 32.6	+3.0
BKZ	Black Stump Fm	7.49	208		Pn	01 47 29.1	-1.1
BKZ	Black Stump Fm	7.49	208	P	Pn	01 47 30.7	+0.4
RATZ	Rangitukua	7.55	213	P	Pn	01 47 33.8	+2.8
RITZ	Rihia Road	7.60	212	P	Pn	01 47 34.3	+2.5
MCHZ	McNeill Hill	7.65	206	P	Pn	01 47 34.3	+1.9
KATZ	Kakaramea	7.67	213	P	Pn	01 47 34.3	+1.5
CKHZ	Cape Kidnapper	7.71	203	P	Pn	01 47 35.5	+2.3
KWHZ	Kaweka Forest	7.74	207	P	Pn	01 47 33.1	-0.5
NTVZ	North Tongarir	7.78	212	P	Pn	01 47 35.4	+1.2
KRVZ	Karewarewa	7.79	213	P	Pn	01 47 36.2	+1.8
ETVZ	East Tongariro	7.79	212	P	Pn	01 47 36.2	+1.8
WTVZ	West Tongariro	7.83	213	P	Pn	01 47 36.7	+1.8
NNVZ	North Ngauruho	7.83	212	P	Pn	01 47 36.9	+1.9
TWVZ	Taurewa	7.87	214	P	Pn	01 47 36.0	+0.6
KAHZ	Kahuranaki	7.90	204	P	Pn	01 47 33.7	-2.0
COVZ	Chateau Observ	7.92	213	P	Pn	01 47 36.6	+0.4
TUVZ	Tukino	7.93	212	P	Pn	01 47 38.0	+1.7
KRHZ	Kereru	7.95	207	P	Pn	01 47 35.4	-1.0
FWVZ	Far West T-bar	7.96	212	P	Pn	01 47 36.2	-0.6
MTVZ	Mangateitei	8.10	212	P	Pn	01 47 39.5	+1.0
BFZ	Birch Farm	8.91	204	Pn	Pn	01 47 45.8	-3.4
MRZ	Mangatainoka R	9.13	207		Pn	01 47 47.9	-4.2
MSWZ	Moikau Station	9.91	206		Pn	01 48 00.1	-2.4
BHW	Baring Head	10.05	207		Pn	01 48 01.3	-3.0
TCW	Tory Channel	10.12	210		Pn	01 48 02.0	-3.3
TKNZ	Takaka Hill	10.58	215		Pn	01 48 08.1	-3.3
KHZ	Kahutara	11.43	209		Pn	01 48 18.8	-3.7
COEN	Coen	39.14	289	P	P	01 52 46.5	-10
COEN				IAmb	IAmb	01 53 15.4	
	comp=Z,11nm,1.1s						
AS31	Alice Springs	42.20	270	P	P	01 53 13.6	-8.4
ASAR	Alice Springs	42.20	270	P	P	01 53 13.4	-8.6
	comp=Z,1.1nm,0.6s,baz=107,slow=7.6,SNR=17						
	comp=Z,1.1nm,0.6s						
WB2	Warramunga Arr	43.38	275	P	P	01 53 22.5	-9.0
WB2				IAmb	IAmb	01 53 39.9	
	comp=Z,15nm,1.4s						
WRA	Warramunga Arr	43.39	275	P	P	01 53 22.7	-8.9
	comp=Z,2.6nm,0.4s,baz=113,slow=7.9,SNR=37						
	comp=Z,2.6nm,0.4s						
WB0	Warramunga Arr	43.43	275	P	P	01 53 23.1	-8.8
WB0				IAmb	IAmb	01 54 01.0	
	comp=Z,19nm,1.5s						
WAKE	Wake Island	53.41	343	P	P	01 54 45.0	-3.0
QSPA	South Pole Qui	57.49	180	P	P	01 55 18.7	+1.7
QSPA				IAmb	IAmb	01 55 25.6	
	comp=Z,2.6nm,1.1s						
QSPA	South Pole Qui	57.49	180	P	P	01 55 18.4	+1.5
	comp=Z,1.3nm,0.6s,baz=340,slow=0.5,SNR=13						
	comp=Z,1.3nm,0.6s						
ARCES	ARCESS Array B	140.56	347	PKhKP	PKPpre	02 04 44.3	
	comp=Z,3.7nm,0.9s,baz=55,slow=2.3,SNR=1.8						
FINES	FINESS Array B	146.91	338	PKPbc	PKPdf	02 05 01.6	-4.0
	comp=Z,2.0nm,0.5s,baz=48,slow=4.8,SNR=23						
NC303	NORSAR Array S	150.60	350	PKPdf	PKPdf	02 05 10.9	-0.7
NB2	NORSAR Subarra	150.80	350	PKP	PKPdf	02 05 12.3	+0.4
	comp=Z,0.3nm,0.5s,baz=17,slow=2.6						
NOA	NORSAR Array B	150.80	350	PKPbc	PKPdf	02 05 12.3	+0.4
	comp=Z,0.4nm,0.5s,baz=18,slow=4.2,SNR=4.1						
HFS	Hagfors	151.23	347	PKPbc	PKPdf	02 05 13.2	+0.7
	comp=Z,0.6nm,0.3s,baz=47,slow=2.5,SNR=17						
HFS				PKPab	PKiKP	02 05 20.7	+1.6
	comp=Z,0.5nm,0.5s,baz=39,slow=5.5,SNR=7.0						
BRTR	Keskin Array B	152.83	294	PKPbc	PKPdf	02 05 16.5	+0.7
	comp=Z,0.9nm,1.1s,baz=137,slow=3.0,SNR=1.9						

*MEX **20** 01:57:51.3±0.4, 14°.19N×92°.24W, h84km±20km, MD3.8*
*GCG **20** 01:57:52.8±1.8, 14°.11N×92°.10W, h24km±13km, MD3.9*

ISC 20 01:57:42.8±2.2, **13°.9N**±0°.1×**92°.46W**±0°.05, **h7**km±12km, **n14**, σ1§**64**/24, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.95	52	eP	Pn	01 58 05.3	+2.7
RTAL				eS	Sb	01 58 13.2	-1.1
THIG		0.99	11	eP	Pn	01 58 06.2	+3.1
THIG				eS	Sn	01 58 17.4	+0.1
STG5	El Palmar, Qui	1.18	67	eP	Pb	01 58 07.1	+1.5
STG0	El Palmar, Qui	1.19	66	eP	Pn	01 58 07.7	+1.6
STG8	El Palmar, Qui	1.19	64	eP	Pn	01 58 07.9	+1.7
STG8				eS	Sg	01 58 19.9	-1.3
PATR	El Naranjo	1.20	11	eP	Pn	01 58 08.5	+2.3
PATR				eS	Sn	01 58 22.0	-0.8
PAVE	Pavencul	1.28	12	eP	Pn	01 58 09.7	+2.3
PAVE				eS	Sn	01 58 24.1	-0.9
PCIG		1.91	338	eP	Pg	01 58 19.5	+0.2
PCIG				eS	Sb	01 58 40.2	-1.7
FG16	Alotenango, Sa	1.92	80	eP	Pn	01 58 14.7	-1.5
CCIG	Comitan	2.35	8	eP	Pg	01 58 27.9	0.0
CCIG				eS	Sb	01 58 52.5	-2.5
CCIG	Comitan	2.35	8	eP	Pg	01 58 28.1	+0.2
TGIG		2.90	347	eP	Pg	01 58 38.3	0.0
TGIG				eS	Sn	01 59 03.5	-1.2
UXUV	UXUV	3.73	334	eP	Pb	01 58 49.0	-0.1
UXUV				eS	Sn	01 59 25.5	+0.3
CMIG	Matias Romero	3.91	324	eP	Pb	01 58 51.5	-0.6
CMIG				eS	Sn	01 59 29.1	-0.5

*TEH **20** 02:07:05.6, 34°.17N×45°.60E, h12km±45km*
*ISN **20** 02:07:08.7±1.3, 34°.14N×45°.56E, h38km±49km, ML2.8*

ISC 20 02:07:06.1±1.1, **34°.20N**±0°.06×**45°.60E**±0°.05, **h10**km, **n9**, σ0§**58**/11, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.27	109	Pg	Pg	02 07 11.4	-0.3
KGS1	Ghasr-e-Shirin	0.30	358	Pg	Pg	02 07 12.7	+0.5
IGHG	Ghaleghazi	0.81	81	Pg	Pb	02 07 22.0	-0.4
IDHR	Dehrash	0.82	52	Pg	Pg	02 07 21.4	-0.6
IBDR	Badra	1.12	166	ePg	Pn	02 07 28.0	+0.1
	baz=343						
IBDR				eSg	Sn	02 07 44.0	+0.6
IBDR				AML	AML	02 07 48.7	
	comp=E,294nm,0.7s						
IBDR				AML	AML	02 07 49.5	
	comp=N,160nm,2.0s						
KCHF	Cheshme Sefid,	1.20	86	Pg	Pn	02 07 28.7	-0.4
ILIN	Lien	1.33	57	Pg	Pg	02 07 32.1	+0.4
IKRK	Kirkuk	1.58	319	ePn	Pg	02 07 36.0	-0.5
IKRK				eSn	Sg	02 07 57.0	0.0
IDOB	Doab	2.18	100	Pn	Pn	02 07 43.7	+1.0

*IDC **20** 02:26:37.5±1.3, 37°.80N×20°.66E, h0km, mb3.5/7, mbtmp3.4/12, ML2.4/2, MS2.7/4, Error ellipse: s-maj=21.2km s-min=21.1km az=176.0*
*THE **20** 02:26:39.1, 37°.62N×20°.70E, h14km, ML3.5/13, Error ellipse: s-maj=1.3km s-min=0.5km az=29.0*
*ATH **20** 02:26:40.1, 37°.71N×20°.71E, h11km±2km, ML3.3/38, Manual Solution by N.Liadopoulou First location: 2019/04/20 02:29:09, This location: 2019/04/20 05:26:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*

ISC 20 02:26:39.0±0.8, **37°.70N**±0°.03×**20°.66E**±0°.03, **h16**km±5km, **n119**, σ1§**28**/142, **mb3.5**/7, **MS3.1**/4, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.14	85	P	Pg	02 26 42.6	-0.2
LTHK				S	Sg	02 26 44.8	-0.5
	70μm,0.2s						
LTHK	Lithakia	0.14	85	P	Pg	02 26 42.6	-0.2
LTHK				S	Sg	02 26 44.8	-0.5
ORTH	Orthonies,Zaky	0.15	10	P	Pb	02 26 44.1	+0.6
ORTH				S	Sg	02 26 46.4	+0.5
KYPS	Kipseli, Zakin	0.17	46	P	Pb	02 26 44.4	+0.5
RTZL	Ratzakli, Kefa	0.39	13	P	Pb	02 26 47.9	+0.4
RTZL				S	Sb	02 26 55.0	+1.8
CLEM	Kyllini,Ilia,G	0.42	63	P	Pg	02 26 47.7	+0.3
CLEM				S	Sg	02 26 53.3	+0.1
PSDA	Pessada-Kefalo	0.42	351	P	Pb	02 26 48.6	+0.6
PSDA				S	Sn	02 26 56.8	-1.1
	6μm,0.2s						
PSDA	Pessada-Kefalo	0.42	351	P	Pb	02 26 48.7	+0.6
VLS	Valsamata	0.48	353	P	Pb	02 26 49.6	+0.5
VLS				S	Sn	02 26 58.2	-1.2
	5μm,0.5s						
VLS	Valsamata	0.48	353	P	Pb	02 26 49.7	+0.6
LCHA	Lechaina	0.53	63	P	Pb	02 26 50.4	+0.4
LXR1	Lixouri, Cepha	0.53	340	P	Pb	02 26 51.1	+1.1
LXR1				S	Sn	02 27 00.0	-0.6
	15μm,0.5s						
SMHA	Samh	0.55	359	P	Pg	02 26 49.8	-0.1
DMLN	Damoulianata-K	0.59	337	P	Pb	02 26 51.5	+0.6
DMLN				S	Sn	02 27 02.0	0.0
	7μm,0.4s						
DMLN	Damoulianata-K	0.59	337	P	Pb	02 26 51.9	+1.0
YRMI	Loutra Irminis	0.68	53	P	Pg	02 26 52.4	+0.2
VSK1	VASILIKIADES	0.71	354	P	Pb	02 26 53.6	+0.5
VSK1				S	Sn	02 27 05.7	+0.5
	5μm,0.4s						
RLS	Riolos of Patr	0.73	60	P	Pg	02 26 53.2	0.0
RLS				S	Sn	02 27 04.5	-1.0
	3μm,0.4s						
RLS	Riolos of Patr	0.73	60	P	Pg	02 26 53.3	0.0
AXS	Araxos	0.75	48	P	Pb	02 26 53.8	+0.1
FSK	Fiskardo	0.76	354	P	Pg	02 26 54.4	+0.5
FSK				S	Sn	02 27 07.5	+1.1
	3μm,0.3s						
FSK	Fiskardo	0.76	354	P	Pg	02 26 54.3	+0.4
ZARO	Zacharo	0.81	105	P	Pb	02 26 54.5	-0.2
AMT	Artemida-Makis	0.85	101	P	Pb	02 26 54.8	-0.5
DRO	Drossia	0.87	73	P	Pb	02 26 55.3	-0.4
DRO				S	Sn	02 27 08.1	-0.8
	3μm,0.6s						
DRO	Drossia	0.87	73	P	Pb	02 26 55.6	-0.1
EVGI	Lefkada island	0.92	360	P	Pb	02 26 57.0	+0.4
EVGI	Lefkada island	0.92	360	P	Pg	02 26 57.2	+0.3
DRAG	Dragano-Lefkad	0.99	356	P	Pn	02 26 59.5	+1.2
PATG	Patra B	1.00	57	P	Pg	02 26 58.7	+0.4
NYDR	Nydri-Lefkada	1.01	2	P	Pb	02 26 58.3	+0.1
NYDR	Nydri-Lefkada	1.01	2	P	Pb	02 26 58.5	+0.3
PATC	Patra C	1.04	56	P	Pn	02 26 59.0	+0.1
UPR	University Cam	1.06	56	P	Pg	02 27 00.1	+0.6
LKD2	Lefkada island	1.09	360	P	Pn	02 27 00.0	+0.3
LKD2	Lefkada island	1.09	360	P	Pg	02 27 00.1	+0.1
TSLK	Tsoukalades, L	1.12	360	P	Pg	02 27 00.8	+0.1
TSLK	Tsoukalades, L	1.12	360	P	Pb	02 27 00.6	+0.5
ITM	Ithomi	1.13	117	P	Pb	02 26 59.0	-1.2
ITM				S	Sb	02 27 14.6	-0.1
	1μm,0.5s						
ITM	Ithomi	1.13	117	P	Pg	02 27 00.6	-0.3
PVO	Paravola	1.14	36	P	Pg	02 27 01.1	+0.1
MTHA	Methoni	1.21	136	P	Pb	02 27 01.6	+0.2
EFP	Efpalio	1.22	53	P	Pn	02 27 01.6	+0.2
EFP				S	Sg	02 27 18.8	+0.3
	1μm,0.7s						
EFP	Efpalio	1.22	53	P	Pn	02 27 01.5	+0.1
KLV	Kalavryta, Ach	1.23	73	P	Pn	02 27 01.4	-0.2
KLV				S	Sb	02 27 17.4	-0.1
	592nm,0.8s						
KLV	Kalavryta, Ach	1.23	73	P	Pn	02 27 01.7	+0.1
SERG	Sergoula	1.31	57	P	Pn	02 27 02.9	+0.2
ANX	Ano Chora	1.33	48	P	Pb	02 27 03.8	+0.1
ANX				S	Sg	02 27 21.6	-0.5
	2μm,0.5s						
ANX	Ano Chora	1.33	48	P	Pb	02 27 03.7	0.0
GUR	Goura	1.35	79	P	Pn	02 27 03.2	-0.1
GUR	Goura	1.35	79	P	Pb	02 27 03.7	-0.3
VLX	Vlachokerasia	1.40	103	P	Pn	02 27 04.0	0.0
EVR	Evrytania	1.51	36	P	Pb	02 27 07.5	+0.8
TETR	Tetrakomo, Epi	1.71	16	P	Pb	02 27 10.3	+0.1
MAKR	Makrakomi, Fth	1.75	41	P	Pb	02 27 10.6	-0.1
IGT	Igoumenitsa	1.85	352	P	Pb	02 27 11.9	-0.6
LTK	Loutraki	1.85	79	P	Pb	02 27 12.2	-0.3
AGG	Agios Georgios	1.86	44	P	Pb	02 27 12.6	0.0
AXAR	Agios Charalam	1.90	55	P	Pb	02 27 12.2	-1.1
JAN	Janina	1.96	4	P	Pb	02 27 13.8	-0.6
KRND	KRANIDI	2.00	98	P	Pb	02 27 13.8	-1.3
VLI	Veliai	2.06	118	P	Pb	02 27 15.2	-0.9
LKR	Lokris	2.07	62	P	Pb	02 27 15.1	-1.1
VIL2	Platees	2.12	75	P	Pn	02 27 15.4	+1.6
KEK	Kerkira	2.12	342	P	Pb	02 27 16.3	-0.8
MET5	Makryloggos,Me	2.14	91	P	Pb	02 27 16.1	-1.3
THL	Klokotos Trika	2.14	29	P	Pb	02 27 16.4	-1.0
MET4	Agioi Theodoro	2.17	91	P	Pn	02 27 16.1	+1.6
TYRN	Tyrnavos	2.35	31	P	Pn	02 27 19.0	+1.9
LRSO	Larissa Observ	2.39	34	P	Pn	02 27 18.9	+1.4
ATH	Athens Observa	2.43	83	P	Pn	02 27 19.3	+1.2
ATHU	Athens Univers	2.48	83	P	Pn	02 27 19.9	+1.1
VLY	Voula,Athens	2.48	85	P	Pn	02 27 19.7	+0.9
PENT	Pentalofos	2.52	8	P	Pn	02 27 20.7	+1.3
NEO	Neokhori	2.57	51	P	Pn	02 27 21.3	+1.2
XOR	Xorichti	2.59	49	P	Pn	02 27 21.4	+1.1
NEST	Nestorio	2.73	6	P	Pb	02 27 25.3	-2.2
OHR	Ohrid	3.41	2	*i* Pn	Pb	02 27 35.7	-3.4
OHR				*e*Sn	Sb	02 28 16.4	-3.9
VAY	Valandovo	3.91	22	*i* Pn	Pn	02 27 41.4	+3.1
VAY				*e*Sn	Sn	02 28 23.3	-0.6
IDI	Anoyia	4.17	124	Pn	Pn	02 27 44.7	+2.7
	16nm,1.0s,baz=56,slow=15,SNR=2.1						
IDI				Sn	Sn	02 28 31.6	+1.1
	3.2nm,0.3s,baz=289,slow=16,SNR=11						
DRME	Dracevica, Mon	4.62	346	*e*Pn	Pn	02 27 49.1	+0.9
PDG	Podgorica	4.85	348	*e*Pn	Pn	02 27 51.0	-0.3
VAE	Valguarnera	4.97	269	Pn	Pn	02 27 54.6	+1.6
	6.0nm,0.5s,baz=96,slow=9.2,SNR=1.8						
VAE				Sn	Sn	02 28 49.5	-0.7
	4.0nm,0.3s,baz=173,slow=8.9,SNR=5.7						
HCY	Herceg Novi	5.03	341	*e*Pn	Pn	02 27 52.3	-1.5
TREB	Trebinje	5.32	341	*e*Pn	Pn	02 27 57.0	-0.7
BRY	Bratogost	5.45	343	*e*Pn	Pn	02 27 59.4	-0.2
SJES	Sjenica	5.58	355	*e*Pn	Pn	02 28 02.9	+1.4
STON	Ston	5.64	337	*e*Pn	Pn	02 28 01.6	-0.6
RUDO	Rudo	6.00	351	*e*Pn	Pn	02 28 08.9	+1.8
BBLS	Lazi&#263i	6.24	352	*e*Pn	Pn	02 28 13.2	+2.8
TEKS	Tekeris	6.90	353	*e*Pn	Pn	02 28 18.7	-0.8
A050A	Klekovaca	7.46	337	*e*Pn	Pn	02 28 27.7	+0.5
BLY	Banja Luka	7.51	341	*e*Pn	Pn	02 28 28.1	+0.2
A051A	Mrakovica	7.83	340	*e*Pn	Pn	02 28 31.3	-1.0
MLR	Muntele Rosu	8.73	25	Pn	Pn	02 28 44.6	-0.1
	0.7nm,0.4s,baz=197,slow=14,SNR=1.6						
BOJS	Bojanci	8.79	334	*e*Pn	Pn	02 28 44.9	-0.4
CRES	Cresnjevec Ost	9.00	336	*e*Pn	Pn	02 28 47.8	-0.5
CEY	Cerknica	9.29	332	*e*Pn	Pn	02 28 51.9	-0.3
SKDS	Skadanscina	9.29	330	*e*Pn	Pn	02 28 52.2	0.0
SOKA	Soboth	9.89	337	*i* Pn	Pn	02 29 00.9	+0.3
	1.1nm,0.4s						
OBKA	Obir	9.90	335	*i* Pn	Pn	02 29 03.6	+2.8
	1.8nm,0.4s						
OBKA				*e*Sn	Sn	02 30 51.7	+0.1
	1.8nm,0.3s						
BRTR	Keskin Array B	10.34	75	Pn	Pn	02 29 08.8	+2.0
	0.1nm,0.3s,baz=260,slow=14,SNR=1.6						
	0.5nm,0.8s						
KBA	Koelnbreinsper	10.82	332	*i* Sn	Sn	02 31 12.5	-1.6
	1.4nm,0.5s						
ABTA	Abfaltersbach	10.87	329	*i* Pn	Pn	02 29 16.3	+2.4
	0.3nm,0.3s						
ABTA				*e*Sn	Sn	02 31 12.6	-2.7
	2.5nm,0.5s						
MOA	Molln	11.18	337	*i* Pn	Pn	02 29 20.8	+2.7
	0.4nm,0.2s						
MOA				*i* Sn	Sn	02 31 18.8	-3.9
	0.9nm,0.4s						
LESA	Schwarzleotal	11.36	331	*i* Pn	Pn	02 29 23.5	+2.9
	0.7nm,0.2s						
LESA				*i* Sn	Sn	02 31 25.4	-1.7
	1.1nm,0.4s						
SQTA	Sankt Quirin	11.79	327	*e*Sn	Sn	02 31 36.5	-1.4
	1.9nm,0.4s						
VRAC	Vranov	11.97	347	LR	LR	02 35 16.9	
	comp=Z,17nm,20.6s,baz=188,slow=44						
GERES	GERESS Array B	12.23	338	Pn	Pn	02 29 33.2	+0.6
	baz=149,slow=14,SNR=1.8						
GERES				Sn	Sn	02 31 42.5	-6.2
	baz=153,slow=25,SNR=2.9						
	0.2nm,0.5s						
HFS	Hagfors	22.89	351	P	P	02 31

PLCA LR LR 02 39 13.5
comp=Z,1μm,20.0s,baz=272,slow=31
comp=Z,0.8nm,0.7s
BO01 Tunca 19.84 88 Pn 02 33 34.6 -0.6
BO01 IAmb IAmb 02 33 46.1
comp=Z,29nm,1.5s
BO02 Sierra Bellavi 19.97 89 P **P 02 33 34.6 -0.5**
MT09 Talagante 20.09 86 P **P 02 33 34.1 -2.5**
MT09 IAmb IAmb 02 33 51.6
comp=Z,34nm,1.4s
BO04 La Punta 20.33 87 P **P 02 33 39.3 +0.3**
BO04 IAmb IAmb 02 33 48.8
comp=Z,27nm,1.3s
LMEL Las Melosas 20.69 87 P **P 02 33 43.7 +0.6**
MT08 Bocatoma Ro 20.97 86 P **P 02 33 46.8 +0.6**
MG05 Puerto Natales 21.35 139 P **P 02 33 50.0 +0.2**
CO05 La Serena 21.38 76 P **P 02 33 48.9 -1.4**
CO05 IAmb IAmb 02 34 22.5
comp=Z,21nm,1.0s
CO03 El Pedregal 21.40 79 P **P 02 33 50.1 -0.6**
GO04 Tololo Observa 21.61 77 P **P 02 33 50.6 -2.4**
GO04 IAmb IAmb 02 34 05.1
comp=Z,35nm,1.3s
LCO Las Campanas 22.22 75 P 02 33 58.4 -1.3
LCO IAmb IAmb 02 34 07.5
comp=Z,21nm,1.1s
CO01 Juntas del Tor 22.24 77 P **P 02 33 58.5 -1.4**
CO01 IAmb IAmb 02 34 12.4
comp=Z,22nm,1.2s
CFA Coronel Fontan 23.02 83 LR LR 02 40 59.9
comp=Z,932nm,20.5s,baz=216,slow=31
AC02 Maricunga 24.53 72 P 02 34 21.6 -1.4
AC02 IAmb IAmb 02 34 36.1
comp=Z,19nm,1.2s
PB14 IPOC Station P 24.84 66 P **P 02 34 24.6 -1.1**
PB14 IAmb IAmb 02 34 29.9
comp=Z,31nm,1.5s
PB16 IPOC Station P 29.63 57 P **P 02 35 07.3 -1.6**
NNA Nana 30.39 38 LR LR 02 44 22.5
comp=Z,722nm,18.5s,baz=216,slow=30
LPAZ La Paz 32.01 56 P 02 35 29.3 -0.7
LPAZ IAmb IAmb 02 35 35.9
comp=Z,7.0nm,0.9s
LPAZ La Paz 32.01 56 P **P 02 35 32.2 +2.3**
comp=Z,6.1nm,1.0s,baz=217,slow=4.4,SNR=12
LPAZ LR LR 02 46 08.9
comp=Z,256nm,18.3s,baz=222,slow=32
comp=Z,6.1nm,1.0s
PMSA Palmer Station 32.86 156 LR LR 02 45 18.7
comp=Z,313nm,21.0s,baz=305,slow=29
CPUP Villa Florida 33.90 82 P **P 02 35 49.5 +3.7**
comp=Z,0.7nm,0.7s,baz=247,slow=5.4,SNR=3.2
CPUP LR LR 02 47 53.7
comp=Z,672nm,18.4s,baz=252,slow=33
comp=Z,0.7nm,0.7s
ATAH Atahualpa 33.99 31 LR LR 02 46 04.6
comp=Z,723nm,20.5s,baz=220,slow=30
CZSB Cruzeiro do Su 36.11 40 P **P 02 36 04.7 -0.2**
CZSB IAmb IAmb 02 36 14.2
comp=Z,5.9nm,1.0s
RKT Rikitea 36.87 282 *e*P **P 02 36 11.0 -0.4**
RKT *e*S **S 02 41 52.9 -3.1**
comp=Z,405nm,27.0s
RKT *e*LR LR 02 46 10.0
comp=Z,7μm,27.5s
SIV San Ignacio 37.06 64 LR LR 02 49 11.4
comp=Z,408nm,20.1s,baz=282,slow=33
COHC Cochancay 37.95 27 P **P 02 36 21.6 +1.1**
AQDB Aquidauana 38.27 75 P **P 02 36 22.8 -0.5**
AQDB IAmb IAmb 02 36 43.3
comp=Z,7.0nm,1.0s
PTLB Pontes e Lacer 38.81 65 P **P 02 36 26.9 -0.9**
PTLB IAmb IAmb 02 36 38.8
comp=Z,10nm,1.4s
ROSC El Rosal 46.52 29 P **P 02 37 30.7 -0.2**
ROSC El Rosal 46.52 29 LR LR 02 54 51.4
comp=Z,494nm,18.1s,baz=229,slow=34
MACA Manacapuru-AM 46.69 51 P **P 02 37 31.0 -0.8**
BDFB Brasilia 47.01 75 P **P 02 37 36.1 +1.6**
comp=Z,1.3nm,0.7s,baz=248,slow=10,SNR=3.3
BDFB LR LR 02 56 12.8
comp=Z,943nm,19.3s,baz=227,slow=35
comp=Z,1.3nm,0.7s
RUSC La Rusia 47.97 30 P **P 02 37 39.3 -3.0**
TBI Tubuai 48.18 271 *e*S **S 02 44 46.4 +3.9**
comp=Z,1μm,26.2s
TBI *e*LR LR 02 51 18.4
comp=Z,5μm,31.0s
TBI *e*LR LR 02 51 22.4
comp=Z,1μm,29.0s
JTS Las Juntas de 48.62 14 P **P 02 37 46.0 -0.7**
JTS IAmb IAmb 02 38 18.2
comp=Z,6.9nm,1.1s
JTS Las Juntas de 48.62 14 LR LR 02 52 53.4
comp=Z,284nm,20.7s,baz=130,slow=30
PPT2 Papeete2 51.34 277 *e*P **P 02 38 05.7 -1.8**
comp=Z,32nm,24.8s
PPT2 *e*S **S 02 45 27.1 +0.2**
comp=Z,307nm,24.8s
PPT2 *e*LR LR 02 52 49.7
comp=Z,1μm,24.0s
PPT2 *e*LR LR 02 52 49.8
comp=Z,947nm,26.0s
PPT Papeete 51.35 277 LR LR 02 54 17.5
comp=Z,508nm,18.3s,baz=124,slow=30
SDV Santo Domingo 51.68 32 LR LR 02 57 44.8
comp=Z,259nm,21.5s,baz=214,slow=34
QSPA South Pole Qui 52.62 180 P P 02 38 23.7 +7.1
comp=Z,2.4nm,0.7s,baz=149,slow=2.7,SNR=12
QSPA LR LR 02 58 16.9
comp=Z,67nm,18.6s,baz=158,slow=33
comp=Z,2.4nm,0.7s
VNDA Vanda 56.31 195 LR LR 02 58 04.8
comp=Z,86nm,19.6s,baz=111,slow=31
TROLL Troll, Antarti 57.05 158 ⇓P P 02 38 55.9 +7.4
comp=Z,421nm,0.8s
MDP Montagnes des 58.12 53 LR LR 03 01 14.0
comp=Z,402nm,21.3s,baz=245,slow=33
SJG San Juan 61.84 32 LR LR 03 04 41.9
comp=Z,105nm,19.1s,baz=149,slow=35
URZ Urewera 66.36 239 LR LR 03 01 46.5
comp=Z,330nm,20.9s,baz=230,slow=29
HNDO Hondo 66.89 356 P **P 02 39 54.4 -0.4**
TX31 Lajitas Ar. Si 67.05 352 P **P 02 39 56.0 0.0**
TXAR Lajitas Array 67.05 352 P **P 02 39 56.7 +0.7**
TXAR Lajitas Array 67.05 352 P **P 02 39 57.3 +1.2**
comp=Z,1.4nm,0.7s,baz=174,slow=8.9,SNR=18
TXAR LR LR 03 04 23.6
comp=Z,44nm,19.1s,baz=114,slow=32
comp=Z,1.4nm,0.7s
OZNA Ozona 68.39 355 P **P 02 40 04.5 +0.1**
SGCY Sterling City 69.37 355 P **P 02 40 09.8 -0.8**
PIX Pinacate 70.87 344 P **P 02 40 18.8 -0.8**
PIX IAmb IAmb 02 40 35.1
comp=Z,6.5nm,1.2s
TUC Tucson 71.04 346 P **P 02 40 21.4 +0.7**
TUC IAmb IAmb 02 40 38.7
comp=Z,3.8nm,0.9s
MSTX Muleshoe 71.55 353 P **P 02 40 24.6 +0.8**
ANMO Albuquerque 72.92 350 P 02 40 33.9 +1.8
ANMO Albuquerque 72.92 350 LR LR 03 08 07.3
comp=Z,55nm,19.1s,baz=345,slow=32
PFO Pinyon Flats O 73.54 342 LR LR 03 06 03.0
comp=Z,83nm,18.7s,baz=213,slow=30
TKL Tuckaleechee C 73.67 10 LR LR 03 09 07.4
comp=Z,66nm,18.2s,baz=148,slow=33
SHPR Sheep Range 76.00 344 P 02 40 51.8 +1.9
MSVF Nonsavu 76.81 258 LR LR 03 09 48.8
comp=Z,155nm,18.4s,baz=48,slow=32
PSUT Pine Spring 77.67 345 IAmb IAmb 02 41 15.3
comp=Z,3.5nm,1.2s
R11B Troy Canyon, C 77.86 344 P **P 02 41 00.1 -0.4**
NVAR Mina Array Bea 78.58 342 P **P 02 41 07.0 +2.5**
comp=Z,1.1nm,0.6s,baz=182,slow=6.0,SNR=8.1
NVAR LR LR 03 09 14.3
comp=Z,62nm,18.5s,baz=241,slow=31
comp=Z,1.1nm,0.6s
ELK Elko 80.08 345 P **P 02 41 13.2 +0.6**
ELK IAmb IAmb 02 41 31.2
comp=Z,4.0nm,1.0s
PD31 Pinedale Array 81.04 349 IAmb IAmb 02 41 35.6
comp=Z,5.5nm,1.1s
PDAR Pinedale Array 81.04 349 P **P 02 41 17.9 +0.2**
PDAR Pinedale Array 81.04 349 P **P 02 41 19.3 +1.6**
comp=Z,1.1nm,0.6s,baz=164,slow=6.1,SNR=15
comp=Z,1.1nm,0.6s

FXWY Fox Creek 82.11 349 IAmb IAmb 02 41 42.0
comp=Z,3.5nm,0.9s
HLID Hailey 82.63 346 IAmb IAmb 02 41 44.9
comp=Z,4.5nm,1.0s
YBH Yreka Blue Hor 82.83 340 LR LR 03 10 25.6
comp=Z,70nm,18.5s,baz=163,slow=30
DZM Mont Dzumac 83.04 248 *e*LR LR 03 07 31.0
comp=Z,436nm,27.2s
DZM Mont Dzumac 83.04 248 LR LR 03 10 06.7
comp=Z,135nm,21.8s,baz=174,slow=30
SUR Sutherland 88.39 131 LR LR 03 15 12.9
comp=Z,116nm,20.0s,baz=212,slow=31
BBTS Babate 90.17 72 LR LR 03 18 28.1
comp=Z,144nm,21.3s,baz=118,slow=33
YKA Yellowknife Ar 100.96 351 P **Pdif 02 42 54.6 +3.1**
comp=Z,0.2nm,0.9s,baz=163,slow=4.1,SNR=2.6
H01W1 Cape Leeuwin H 102.86 204 T T 04 39 18.8
baz=154,slow=76,SNR=16
H01W2 Cape Leeuwin H 102.86 204 T T 04 39 22.2
baz=154,slow=76,SNR=10
H01W3 Cape Leeuwin H 102.87 204 T T 04 39 21.6
baz=154,slow=76,SNR=11
TIXI Tiksi 139.18 340 PKPdf **PKPdf 02 48 29.3 +0.7**
KULM Kulim 144.70 208 PKPdf **PKPab 02 48 38.4 -0.5**
KSRS Korea Array 145.95 283 PKPbc **PKiKP 02 48 46.6 +0.8**
comp=Z,1.2nm,0.8s,baz=131,slow=3.7,SNR=5.9
KBZ Khabaz 147.96 66 PKPbc **PKPab 02 48 50.5 -0.1**
comp=Z,4.4nm,0.9s,baz=264,slow=4.2,SNR=4.2
NRIK Noril'sk 148.17 358 PKPbc **PKiKP 02 48 49.8 +0.4**
comp=Z,2.8nm,0.6s,baz=357,slow=0.9,SNR=7.0
PZH PanZhiHua 161.84 237 PKP **PKPdf 02 49 04.3 -0.1**
KURBB Kurchatov Arra 166.26 17 PKPab **PKPab 02 50 11.1 +2.5**
comp=Z,0.6nm,0.8s,baz=338,slow=4.8,SNR=4.4

---

*IDC **20** 02:34:27.1±1.0, 37°.18S×95°.21W, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=35.7km s-min=25.8km az=106.0*
ISC 20 02:34:28.6±1.0, 37°.2S±0°.2×95°.2W±0°.2, h10km, n14, σ1$11/8, mb4.0/7, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**13.67**	**81**	T	T	02 51 52.0	
baz=250,slow=74							
H03S1	**Juan Fernandez**	**13.68**	**81**	T	T	02 51 58.3	
baz=250,slow=74							
H03S3	**Juan Fernandez**	**13.68**	**81**	T	T	02 51 57.8	
baz=250,slow=74							
H03N2	**Juan Fernandez**	**13.79**	**79**	T	T	02 51 59.7	
baz=249,slow=71,SNR=13							
H03N3	**Juan Fernandez**	**13.80**	**79**	T	T	02 52 02.5	
baz=249,slow=71,SNR=14							
H03N1	**Juan Fernandez**	**13.81**	**79**	T	T	02 52 04.3	
baz=249,slow=71,SNR=12							
LPAZ	**La Paz**	**31.71**	**56**	P	**P**	**02 40 52.6**	**-0.7**
1.0nm,0.9s,baz=213,slow=10,SNR=4.0							
1.0nm,0.9s							
ROSC	**El Rosal**	**46.13**	**30**	P	**P**	**02 42 55.1**	**+1.5**
4.3nm,0.5s,baz=221,slow=1.6,SNR=4.0							
4.3nm,0.5s							
PPT	**Papeete**	**51.38**	**277**	P	**P**	**02 43 33.7**	**0.0**
30nm,0.6s,baz=54,slow=19,SNR=2.5							
QSPA	**South Pole Qui**	**53.02**	**180**	P	**P**	**02 43 45.8**	**+0.4**
0.7nm,0.5s,baz=154,slow=1.3,SNR=9.1							
0.7nm,0.5s							
TXAR	**Lajitas Array**	**66.66**	**352**	P	**P**	**02 45 19.3**	**-0.1**
1.1nm,0.9s,baz=175,slow=9.0,SNR=8.5							
1.1nm,0.9s							
NVAR	**Mina Array Bea**	**78.22**	**342**	P	**P**	**02 46 28.8**	**+0.5**
0.9nm,0.7s,baz=167,slow=5.5,SNR=5.9							
0.9nm,0.7s							
PDAR	**Pinedale Array**	**80.66**	**349**	P	**P**	**02 46 41.1**	**-0.5**
1.1nm,0.8s,baz=174,slow=6.9,SNR=6.9							
1.1nm,0.8s							
NRIK	**Noril'sk**	**147.76**	**358**	PKPbc	**PKPbc**	**02 54 10.8**	**-1.7**
1.7nm,0.5s,baz=307,slow=3.7,SNR=3.9							

---

*BGR **20** 02:40:58.0, 25°.47N×55°.92E, h10km, mb4.2, Hypocentre not reviewed by the ISC*
*IDC **20** 02:41:03.8±0.5, 27°.08N×55°.86E, h0km, mb4.4/26, mbtmp4.4/31, ML4.4/5, MS3.6/32, Error ellipse: s-maj=13.2km s-min=10.9km az=20.0*
*TEH **20** 02:41:04.6, 27°.09N×55°.89E, h12km±29km*
*NEIC **20** 02:41:06.2±1.5, 27°.22N±0°.06×55°.80E±0°.08, h10km±1km, mb4.7/139, Error ellipse: s-maj=12.1km s-min=10.3km az=271.0*
*DSN **20** 02:41:06.8±0.7, 27°.15N×55°.86E, h10km, mb5.1/1, ML4.3/17, Error ellipse: s-maj=8.5km s-min=5.6km az=57.0*
*MOS **20** 02:41:06.3±1.0, 27°.11N×55°.86E, h19km, mb4.8/62, Error ellipse: s-maj=5.7km s-min=3.3km az=119.3*
*THR **20** 02:41:06.0±0.0, 27°.11N×55°.94E, h13km±5km, ML4.5*
*OMAN **20** 02:41:07.2±0.0, 27°.10N×55°.82E, h10km, ml4.4/20, Mwp4.7/9, Error ellipse: s-maj=1.0km s-min=0.8km az=245.0*
*SGS **20** 02:41:07.9, 26°.91N×56°.00E, h10km, Ml4.8*
ISC 20 02:41:05.7±0.7, 27°.20N±0°.02×55°.85E±0°.02, h9km±4km, n790, σ1$23/794, mb4.7/179, MS3.5/33, 42C-26D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.35**	**55**	Pg	**Pb**	**02 41 13.2**	**-1.0**
BNDS	**Bandar-Abbas**	**0.35**	**55**	*e*Pg	**Pg**	**02 41 13.0**	**+0.3**
BNDS				IAML		02 41 27.2	
comp=Z,300nm,1.0s							
IBND	**Bandar-abas**	**0.66**	**68**	Pg	**Pg**	**02 41 18.6**	**+0.1**
SHME	**Shamm**	**1.17**	**167**	P	**Pb**	**02 41 27.9**	**-0.3**
SHME				P	**Pb**	**02 41 27.9**	**-0.3**
SHME				S	**Sn**	**02 41 44.2**	**-0.3**
SHME				S	**Sn**	**02 41 44.2**	**-0.3**
SHME	**Shamm**	**1.17**	**167**	*e*P	**Pb**	**02 41 27.8**	**-0.3**
SHME				S	**Sb**	**02 41 43.7**	**+0.2**
BANOM	**Banah**	**1.33**	**162**	P	**Pb**	**02 41 30.7**	**-0.2**
BANOM				P	**Pb**	**02 41 30.7**	**-0.2**
BANOM				S	**Sn**	**02 41 48.3**	**-0.2**
BANOM				S	**Sn**	**02 41 48.3**	**-0.2**
BANOM	**Banah**	**1.33**	**162**	*e*P	**Pb**	**02 41 30.7**	**-0.2**
SHN=1759							
LAR1	**LAR**	**1.39**	**290**	Pg	**Pg**	**02 41 34.0**	**+1.5**
UMQ	**Umm Al-Quwin**	**1.68**	**186**	P	**Pg**	**02 41 37.5**	**-0.3**
SHN=148							
UMQ				P	**Pg**	**02 41 37.5**	**-0.3**
SHN=148							
UMQ				S	**Sb**	**02 41 58.3**	**+0.4**
SHN=56							
UMQ				S	**Sb**	**02 41 58.3**	**+0.4**
SHN=56							
UMQ	**Umm Al-Quwin**	**1.68**	**186**	*e*P	**Pb**	**02 41 36.7**	**0.0**
SHN=148							
KHNJ	**Kahnooj**	**1.81**	**65**	Pn	**Pb**	**02 41 38.1**	**-0.9**
MASF	**Masafi**	**1.84**	**171**	P	**Pn**	**02 41 38.6**	**+1.0**
SHN=365							
MASF				S	**Sb**	**02 42 02.9**	**+0.1**
MSFE	**Esma-Masafi**	**1.85**	**171**	*e*P	**Pn**	**02 41 38.6**	**+0.9**
SHN=84							
MDH	**Madha**	**1.94**	**168**	P	**Pb**	**02 41 41.1**	**-0.1**
SHN=114							
MDH				P	**Pb**	**02 41 41.1**	**-0.1**
SHN=114							
MDH				S	**Sb**	**02 42 04.7**	**-0.8**
MDH				S	**Sb**	**02 42 04.7**	**-0.8**
MDH	**Madha**	**1.94**	**168**	P	**Pb**	**02 41 41.1**	**-0.1**
SHN=114							
MDH				P	**Pb**	**02 41 41.1**	**-0.1**
SHN=114							
MDH				S	**Sn**	**02 42 04.0**	**+0.7**
MDH				S	**Sn**	**02 42 04.0**	**+0.7**
MDH	**Madha**	**1.94**	**168**	*e*P	**Pn**	**02 41 38.8**	**0.0**
SHN=351							
NAZ	**Nazwa, Dubai**	**2.21**	**184**	P	**Pn**	**02 41 44.0**	**+1.4**
SHN=106							
NAZ	**Nazwa, Dubai**	**2.21**	**184**	*e*P	**Pn**	**02 41 43.8**	**+1.2**
SHN=106							
UOSS	**Minazif**	**2.27**	**172**		**Pn**	**02 41 43.7**	**+0.2**
UOSS				Sn	**Sb**	**02 42 14.3**	**-0.7**
UOSS	**Minazif**	**2.27**	**172**	Pn	**Pn**	**02 41 43.2**	**-0.2**

UOSS	**Minazif**	**2.27**	**172**	P	**Pn**	**02 41 44.0**	**+0.6**
UOSS				S	**Sb**	**02 42 15.4**	**+0.4**
UOSS	**Minazif**	**2.27**	**172**	P	**Pn**	**02 41 44.0**	**+0.6**
UOSS				S	**Sn**	**02 42 11.9**	**+0.3**
UOSS	**Minazif**	**2.27**	**172**	*e*P	**Pn**	**02 41 43.9**	**+0.6**
SHN=85							
HATD	**Hatta, Dubai**	**2.38**	**174**	P	**Pn**	**02 41 46.0**	**+1.0**
SHN=118							
HATD				P	**Pn**	**02 41 46.0**	**+1.0**
SHN=118							
HATD				S	**Sb**	**02 42 16.6**	**-1.7**
HATD				S	**Sb**	**02 42 16.6**	**-1.7**
HATD	**Hatta, Dubai**	**2.38**	**174**	P	**Pn**	**02 41 46.0**	**+1.0**
SHN=118							
HATD				P	**Pn**	**02 41 46.0**	**+1.0**
SHN=118							
HATD				S	**Sn**	**02 42 13.9**	**-0.3**
HATD				S	**Sn**	**02 42 13.9**	**-0.3**
HATD	**Hatta, Dubai**	**2.38**	**174**	*e*P	**Pn**	**02 41 45.7**	**+0.7**
SHN=118							
LMD1	**Lamerd**	**2.40**	**274**	Pn	**Pn**	**02 41 47.1**	**+1.9**
LMD1	**Lamerd**	**2.40**	**274**	*e*Pn	**Pb**	**02 41 47.8**	**-1.3**
LMD1				IAML		02 42 48.2	
comp=Z,9.0nm,1.0s							
JHRM	**Jahrom**	**2.40**	**303**	Pn	**Pn**	**02 41 47.4**	**+2.1**
FAQ	**Al Faqa, Dubai**	**2.46**	**185**	P	**Pn**	**02 41 47.3**	**+1.3**
SHN=46							
FAQ				P	**Pn**	**02 41 47.4**	**+1.3**
SHN=28							
FAQ	**Al Faqa, Dubai**	**2.46**	**185**	*e*P	**Pn**	**02 41 46.7**	**+0.7**
SHN=46							
ASHO	**Ashiyiah**	**2.51**	**176**	P	**Pn**	**02 41 48.0**	**+1.1**
SHN=208							
ASHO				P	**Pn**	**02 41 48.0**	**+1.1**
SHN=208							
ASHO	**Ashiyiah**	**2.51**	**176**	*e*P	**Pn**	**02 41 48.0**	**+1.1**
SHN=208							
NGRK	**Negar Kerman**	**2.56**	**17**	Pn	**Pb**	**02 41 50.5**	**-1.5**
ASUD	**Al Ashush, Dub**	**2.60**	**191**	P	**Pn**	**02 41 50.1**	**+2.0**
SHN=46							
ASUD				P	**Pn**	**02 41 50.1**	**+2.0**
SHN=46							
ASUD	**Al Ashush, Dub**	**2.60**	**191**	P	**Pn**	**02 41 49.7**	**+1.6**
SHN=27							
ASUD	**Al Ashush, Dub**	**2.60**	**191**	*e*P	**Pn**	**02 41 49.9**	**+1.9**
SHN=46							
AJN	**Ajban**	**2.74**	**197**	P	**Pn**	**02 41 51.3**	**+1.4**
SHN=10							
AJN				S	**Sn**	**02 42 21.8**	**-1.3**
AJN	**Ajban**	**2.74**	**197**	P	**Pn**	**02 41 51.3**	**+1.4**
SHN=10							
AJN				S	**Sn**	**02 42 23.5**	**+0.4**
AJN	**Ajban**	**2.74**	**197**	*e*P	**Pn**	**02 41 50.9**	**+1.0**
SHN=10							
GHIR	**Ghir-Karzin**	**2.76**	**294**	*e*PnA		02 41 54.4	
GHIR				IAML		02 43 35.1	
comp=Z,0.4nm,1.0s							
KRBR	**Kerman**	**2.89**	**16**	Pn	**Pb**	**02 41 55.5**	**-2.1**
KRBR	**Kerman**	**2.89**	**16**	*e*PnA		02 41 55.4	
KRBR				*e*Sg	**Sb**	**02 42 30.5**	**-2.7**
KRBR				IAML		02 42 46.4	
comp=Z,3.4nm,1.0s							
KBAM	**BAM**	**3.00**	**49**	Pn	**Pb**	**02 41 56.4**	**-3.1**
CHMN	**Cheshme madani**	**3.04**	**29**	Pn	**Pb**	**02 41 57.2**	**-3.1**
SOHO	**SOHO**	**3.11**	**168**	P	**Pn**	**02 41 54.6**	**-0.5**
SOHO				P	**Pn**	**02 41 54.6**	**-0.5**
SOHO				S	**Sn**	**02 42 29.9**	**-2.5**
SOHO				S	**Sn**	**02 42 29.9**	**-2.5**
SOHO	**SOHO**	**3.11**	**168**	*i* P	**Pn**	**02 41 54.0**	**-1.0**
SHN=25							
ALNE	**Al Ain**	**3.13**	**182**	P	**Pn**	**02 41 56.5**	**+1.1**
SHN=15							
ALNE				S	**Sn**	**02 42 31.6**	**-1.3**
SHN=9.0							
ALNE	**Al Ain**	**3.13**	**182**	*i* P	**Pn**	**02 41 56.2**	**+0.9**
SHN=15							
KHGB	**Koh Gabri**	**3.21**	**10**	Pn	**Pb**	**02 42 00.3**	**-2.8**
JRN	**Qarnain Island**	**3.51**	**231**	P	**Pn**	**02 42 01.6**	**+1.1**
SHN=7.8							
KRM1	**Kerman Provinc**	**3.52**	**20**	Pn	**Pn**	**02 42 04.4**	**+3.5**
ZRDN	**Zarand Kerman**	**3.80**	**9**	Pn	**Pn**	**02 42 07.9**	**+3.1**
SHI	**Shiraz**	**3.82**	**310**	Pn	**Pn**	**02 42 06.9**	**+2.0**
SHI	**Shiraz**	**3.82**	**310**	P	**Pn**	**02 42 07.8**	**+2.9**
HOQ	**Hoqain**	**3.84**	**160**	Pn	**Pn**	**02 42 03.8**	**-1.3**
HOQ	**Hoqain**	**3.84**	**160**	P	**Pn**	**02 42 05.3**	**+0.3**
SHN=9.5							
HOQ				P	**Pn**	**02 42 05.3**	**+0.3**
SHN=9.5							
HOQ				S	**Sn**	**02 42 49.9**	**-0.3**
HOQ				S	**Sn**	**02 42 49.9**	**-0.3**
ARQ	**Araqi**	**3.89**	**171**	P	**Pn**	**02 42 07.1**	**+1.3**
SHN=70							
BIDO	**Bidbid**	**4.20**	**150**	P	**Pn**	**02 42 09.6**	**-0.4**
SHN=7.7							
BIDO				S	**Sn**	**02 42 59.7**	**+0.5**
DSBU	**Dashti - Bushe**	**4.23**	**287**	Pn	**Pn**	**02 42 12.1**	**+1.6**
IMEH	**Mehriz**	**4.31**	**346**	Pn	**Pn**	**02 42 15.2**	**+3.4**
KAZ2	**Kazeron-Fars-I**	**4.40**	**304**	Pn	**Pn**	**02 42 14.9**	**+2.1**
CHBR	**Chabahar**	**4.45**	**110**	Pn	**Pn**	**02 42 13.6**	**+0.1**
CHBR	**Chabahar**	**4.45**	**110**	*e*Pn	**Pn**	**02 42 13.5**	**+0.1**
CHBR				IAML		02 44 11.7	
comp=Z,0.2nm,1.0s							
UMZA	**Um Al Zommool**	**4.51**	**188**	P	**Pn**	**02 42 14.6**	**+0.4**
UMZA				S	**Sn**	**02 43 05.6**	**-1.3**
SHMA	**Al-Shehemyia**	**4.58**	**254**	P	**Pn**	**02 42 16.7**	**+1.5**
SHN=40							
SHMA				S	**Sn**	**02 43 10.1**	**+1.6**
SMDO	**Samad**	**4.58**	**154**	P	**Pn**	**02 42 17.0**	**+1.7**
SHN=24							
SMDO				P	Pb	02 42 17.0	-9.3
SHN=33							
SMDO				S	**Sn**	**02 43 10.3**	**+1.6**
BSY	**Bisya**	**4.60**	**164**	P	**Pn**	**02 42 16.7**	**+1.2**
SHN=30							
WSAR	**Wadi Sarin**	**4.68**	**147**	Pn	**Pn**	**02 42 16.1**	**-0.5**
comp=Z,0.1nm,0.3s,baz=351,slow=24,SNR=55							
WSAR				Sn	**Sn**	**02 43 08.0**	**-3.1**
comp=Z,0.2nm,0.3s,baz=298,slow=24,SNR=7.9							
WSAR	**Wadi Sarin**	**4.68**	**147**	P	**Pn**	**02 42 16.8**	**+0.1**
SHN=38							
WSAR				S	**Sn**	**02 43 08.9**	**-2.2**
MZR	**Muzera**	**4.70**	**208**	P	**Pn**	**02 42 16.8**	**-0.1**
SHN=17							
MZR	**Muzera**	**4.70**	**208**	*i* P	**Pn**	**02 42 16.8**	**-0.1**
SHN=17							
TRNA	**Turayna**	**4.84**	**241**	P	**Pn**	**02 42 19.5**	**+0.7**
SHN=38							
TRNA				S	**Sn**	**02 43 13.3**	**-1.7**
SHN=6.9							
ZHSF	**Zahedan**	**4.96**	**60**	Pn	**Pn**	**02 42 23.1**	**+2.5**
ZHSF	**Zahedan**	**4.96**	**60**	*e*PnA		02 42 22.9	
ZHSF				IAML		02 43 59.5	
comp=Z,0.1nm,1.0s							
NGCH	**Negor - Chabah**	**5.09**	**110**	Pn	**Pn**	**02 42 22.8**	**+0.6**
NGCH	**Negor - Chabah**	**5.09**	**110**	P	**Pn**	**02 42 23.2**	**+1.0**
SHN=17							
SHBH2	**SHBH2**	**5.14**	**234**	P	**Pn**	**02 42 22.4**	**-0.5**
SHBH2	**SHBH2**	**5.14**	**234**	S	**Sn**	**02 43 21.3**	**-1.0**
SMRA	**Abu-Samra**	**5.14**	**243**	P	**Pn**	**02 42 24.1**	**+1.1**
SHN=28							
SMRA				S	**Sn**	**02 43 22.4**	**0.0**
JMDO	**Jabal Madar**	**5.22**	**156**	P	**Pn**	**02 42 25.0**	**+0.8**
SHN=18							
JMDO				P	**Pn**	**02 42 25.0**	**+0.8**
SHN=18							
YZKH	**Yazd**	**5.29**	**348**	*e*PnA		02 42 28.2	
YZKH				IAML		02 44 00.0	
comp=Z,0.3nm,1.0s							
KLNJ	**Kolanjah**	**5.32**	**317**	Pn	**Pn**	**02 42 27.5**	**+1.8**
KLNJ	**Kolanjah**	**5.32**	**317**	*e*Pn	**Pn**	**02 42 27.7**	**+2.0**
KLNJ				IAML		02 44 31.0	
comp=Z,0.5nm,1.0s							
SHBH1	**SHBH1**	**5.33**	**228**	S	**Sn**	**02 43 24.8**	**-2.2**
SHBH1	**SHBH1**	**5.33**	**228**	P	**Pn**	**02 42 24.5**	**-1.0**
WBK	**Wadi Bani Khal**	**5.38**	**148**	Pn	**Pn**	**02 42 25.9**	**-0.3**
WBK	**Wadi Bani Khal**	**5.38**	**148**	P	**Pn**	**02 42 26.0**	**-0.3**
SHN=55							
IRAM	**Ramesheh**	**5.50**	**327**	Pn	**Pn**	**02 42 31.1**	**+3.0**
BTHS		**5.50**	**236**	P	**Pn**	**02 42 28.3**	**+0.4**
BTHS		**5.50**	**236**	S	**Sn**	**02 43 26.9**	**-4.5**
BSRN	**Basiran**	**5.54**	**30**	Pn	**Pn**	**02 42 31.4**	**+2.9**
BSRN	**Basiran**	**5.54**	**30**	*e*Pn	**Pn**	**02 42 30.6**	**+2.0**
BSRN				IAML		02 44 12.8	
comp=Z,0.4nm,1.0s							
HOFOF	**Al Hofuf**	**5.63**	**

HOFOF P Pn 02 42 30.7 +1.0
SRVN Saravan 5.83 87 Pn Pn 02 42 34.2 +1.7
SRVN Saravan 5.83 87 *e*PnA 02 42 34.2
SRVN IAML 02 44 10.2
comp=Z,0.1nm,1.0s
TPRV Parvadeh(Tabas 5.85 7 Pn Pn 02 42 36.1 +3.3
IKOO Kooshah 5.88 27 Pn Pn 02 42 35.6 +2.2
SHOFU Shofu 5.89 249 P Pn 02 42 33.9 +0.6
SHOFU Shofu 5.89 249 S Sn 02 43 39.9 -1.1
BOQSS 5.95 259 P Pn 02 42 35.6 +1.5
BOQSS 5.95 259 S Sn 02 43 42.6 +0.2
JLN Jalan Bani Buh 5.98 146 P Pn 02 42 34.0 -0.5
SNR=35
NHFOF Ain Dar Gosp 6.12 256 P Pn 02 42 37.4 +1.0
NHFOF Ain Dar Gosp 6.12 256 S Sn 02 43 44.6 -2.0
IGAR Gharneh 6.15 328 Pn Pn 02 42 39.5 +2.4
IBRJ Brojen 6.17 321 Pn Pn 02 42 39.7 +2.4
NASN Naʿín 6.17 335 *e*PnA 02 42 40.2
NASN IAML 02 43 52.3
comp=Z,0.1nm,1.0s
ITEG Tejag 6.21 23 Pn Pn 02 42 40.9 +3.1
ANAR Anarak 6.25 343 Pn Pn 02 42 40.8 +2.6
ARIRA AirJ 6.30 263 S Sn 02 43 49.6 -1.4
ARIRA AirJ 6.30 263 P Pn 02 42 40.5 +1.6
IZEF Zefreh 6.45 333 Pn Pn 02 42 43.1 +2.0
MHTO MHTO 6.48 162 P Pn 02 42 41.1 -0.3
SNR=38
MHTO S Sn 02 43 53.3 -2.2
TKDS Koohdasht(Taba 6.49 9 Pn Pn 02 42 44.8 +3.3
TABS Tabas 6.52 9 *e*Pn Pn 02 42 46.6 +4.6
TABS IAML 02 45 02.7
comp=Z,0.2nm,1.0s
IDAH Dahanechah 6.53 31 Pn Pn 02 42 45.3 +3.0
ZNGN Zangian 6.55 320 Pn Pn 02 42 44.8 +2.2
WANAN Al Wanan 6.58 269 P Pn 02 42 43.6 +0.8
NHRD Haradh 6.63 250 P Pn 02 42 44.5 +1.1
NHRD Haradh 6.63 250 S Sn 02 43 57.5 -1.6
JHBN Jahan bin 6.74 319 Pn Pn 02 42 47.4 +2.2
TNSJ Nastanj 6.77 5 Pn Pn 02 42 48.5 +3.0
AFRZ Afriz 6.78 23 Pn Pn 02 42 48.8 +3.2
IPIR Pirpir 6.96 323 Pn Pn 02 42 50.4 +2.3
SMAN Sihmah 7.04 263 P Pn 02 42 52.0 +3.0
IKLH Kolahrood 7.13 330 Pn Pn 02 42 52.8 +2.3
KBD Kabd 7.46 287 P Pn 02 42 56.2 +1.3
KRSH Karshahi 7.47 336 Pn Pn 02 42 58.1 +3.0
SHRT Shahrakht 7.48 30 Pn Pn 02 42 58.3 +3.1
SHRT Shahrakht 7.48 30 *e*PnA 02 42 58.3
SHRT IAML 02 45 23.4
comp=Z,0.1nm,1.0s
QAMS Qamsar 7.56 331 Pn Pn 02 42 58.8 +2.3
TAPT Tabas- Tapeh t 7.74 8 Pn Pn 02 43 01.8 +3.0
ISFB Sefidab 7.78 337 Pn Pn 02 43 02.3 +3.1
GTMR Gotvand 7.86 314 IAML 02 44 46.2
comp=Z,0.2nm,1.0s
KHMZ Khomeyn 8.27 323 *e*Pn Pn 02 43 08.2 +2.2
KHMZ IAML 02 46 42.6
comp=Z,0.0nm,2.6s
DOK Doka 8.69 191 P Pn 02 43 11.1 -0.6
SNR=19
SHRO Shahrood 8.77 1 *e*Pn Pn 02 43 15.4 +2.6
SHRO IAML 02 47 01.1
comp=Z,0.0nm,9.2s
ASAO Ashtian 8.87 327 *e*Pn Pn 02 43 16.6 +2.2
ASAO IAML 02 47 03.9
comp=Z,0.0nm,9.7s
TBJM Torbat-e-JAM 8.91 24 Pn Pn 02 43 18.2 +3.4
HRA Herat 9.03 36 Pn Pn 02 43 18.4 +1.9
DAMV Damavand 9.03 339 *e*Pn Pn 02 43 20.1 +3.5
DAMV IAML 02 47 13.8
comp=Z,0.0nm,3.8s
SBZV Sabzevar 9.28 9 Pn Pn 02 43 23.4 +3.4
SBZV Sabzevar 9.28 9 *e*Pn Pn 02 43 23.7 +3.7
SBZV IAML 02 47 26.9
comp=Z,0.0nm,1.5s
HSAM Samen 9.37 320 Pn Pn 02 43 22.6 +1.4
WHFO Wadi Hawf 9.43 192 P Pn 02 43 20.0 -2.0
SNR=82
DMTO DMTO 9.47 185 P Pn 02 43 21.0 -1.4
SNR=26
IPAY Payeh 9.60 15 Pn Pn 02 43 27.2 +2.8
RBK Rabkut 9.77 189 P Pn 02 43 28.0 +1.5
SNR=14
ISFR Sfrayin 9.99 10 Pn Pn 02 43 33.5 +3.7
QABG Abgarm-Qazvin 10.03 329 Pn Pn 02 43 32.7 +2.4
RAYN Ar Rayn 10.05 251 Pn 02 43 28.3 -2.1
RAYN Ar Rayn 10.05 251 P Pn 02 43 28.3 -2.1
RAYN Ar Rayn 10.05 251 *i* P Pn 02 43 28.6 -1.8
SNR=51
ABTO Aybut 10.08 194 P Pn 02 43 30.0 -0.9
SNR=47
HGHA Hamedan- Ghaye 10.20 326 Pn Pn 02 43 34.6 +2.0
SNGE Sanandaj 10.72 319 IAML 02 47 50.2
comp=Z,0.0nm,5.7s
SRSL SARDASHT 12.62 318 IAML 02 49 06.5
comp=Z,0.0nm,2.5s
KBL Kabul 13.48 54 Pn Pn 02 44 18.7 +1.2
KBL Kabul 13.48 54 P Pn 02 44 19.4 +2.0
KBL S Sn 02 46 52.4 +4.9
KBL Kabul 13.48 54 P Pn 02 44 18.7 +1.2
NAX Nakhchivan 14.74 327 P P 02 44 40.0 -0.7
MNGR Mingechevir, A 15.35 334 P P 02 44 49.9 +2.5
GEVA Gevas 15.43 319 Pn 02 44 43.6 -0.2
GANJ Ganja 15.55 332 P P 02 44 51.9 +2.2
SEKA Sheki 15.69 335 P P 02 44 53.9 +2.7
GNI Garni 15.87 327 Pn P 02 44 52.5 -0.8
comp=Z,1.8nm,0.3s,baz=23,slow=2.5,SNR=6.1
GNI LR LR 02 52 10.2
comp=Z,118nm,20.4s,baz=125,slow=42
comp=Z,9.8nm,0.7s
GNI Garni 15.87 327 *e*P Pn 02 44 50.6 +1.1
SIMJ Simiganj 15.87 41 Pn 02 44 47.7 -1.8
GURO Guroymak-BITLI 16.19 318 Pn 02 44 51.9 -1.8
MARD Mardin 16.24 312 Pn 02 44 52.5 -1.8
NIL Nilore 16.32 63 Pn 02 44 54.1 -1.1
NIL Nilore 16.32 63 P Pn 02 44 54.1 -1.1
NIL pmax pmax
comp=Z,14nm,0.7s
GAR Garm 16.87 42 Pn 02 45 01.2 -1.0
MAK Makhachkala 17.13 339 *e*P Pn 02 45 01.1 -4.2
MAK *e*S Sn 02 48 09.8 -6.1
MAK pmax pmax
comp=Z,118nm,1.4s
MAK MLR MLR
comp=Z,156nm,17.0s
ASF Jabal al Asfar 17.19 291 P Pn 02 45 05.3 -1.0
comp=Z,0.8nm,0.3s,baz=100,slow=7.2,SNR=8.1
ASF S Sn 02 48 06.8 -11
comp=Z,3.1nm,0.7s,baz=347,slow=11,SNR=2.6
ASF LR LR 02 53 41.7
comp=Z,144nm,18.4s,baz=130,slow=44
comp=Z,2.1nm,0.3s
DRK Karamyk 18.07 43 P Pn 02 45 17.2 -0.1
DRK IAmb IAmb 02 45 20.4
comp=Z,54nm,0.6s
DRK Karamyk 18.07 43 P Pn 02 45 17.2 -0.1
DRK pmax pmax
comp=Z,54nm,0.6s
GHAJ Ghor Haditha 18.16 288 P Pn 02 45 17.3 -0.9
EIL Elat 18.55 283 P Pn 02 45 24.1 +1.2
comp=Z,0.5nm,0.3s,baz=73,slow=10,SNR=8.6
EIL LR LR 02 54 12.1
comp=Z,219nm,20.7s,baz=85,slow=42
comp=Z,2.7nm,0.5s
MMAI Mount Meron Ar 18.61 293 P Pn 02 45 24.9 +1.1
comp=Z,1.6nm,0.3s,baz=102,slow=16,SNR=7.5
MMAI LR LR 02 54 57.9
comp=Z,161nm,18.5s,baz=100,slow=45
comp=Z,3.3nm,0.7s
GAZ Gaziantep 18.62 307 P P 02 45 22.9 -0.8
IUG Iuzhnay 18.89 34 *e*P Pn 02 45 27.6 +0.4
BRLS Borolday 19.46 32 *e*P P 02 45 30.2 -2.5
KBZ Khabaz 19.54 331 P Pn 02 45 35.8 +1.0
comp=Z,3.1nm,0.3s,baz=170,slow=4.5,SNR=75
KBZ LR LR 02 54 37.3
comp=Z,82nm,19.3s,baz=148,slow=41
comp=Z,12nm,0.5s
KBZ Khabaz 19.54 331 *d i*P Pn 02 45 36.7 +1.9
SHA1 Shidzhatmaz 19.65 331 *d i*P Pn 02 45 38.4 +2.0
ATD Arta Tunnel 19.81 221 P P 02 45 35.8 -1.0
comp=Z,0.3nm,0.7s,baz=308,slow=16,SNR=4.8
ATD LR LR 02 53 32.4
comp=Z,7.1nm,18.5s,baz=35,slow=38
ATD Arta Tunnel 19.81 221 P P 02 45 33.5 -3.2
KIV Kislovodsk 19.81 331 Pn 02 45 37.5 -0.7
KIV Kislovodsk 19.81 331 P Pn 02 45 38.2 +0.1
KIV Kislovodsk 19.81 331 ⇑P Pn 02 45 38.9 +0.8
KIV Kislovodsk 19.81 331 *e*P Pn 02 45 39.5 +1.3
KIV *e*S Sn 02 49 23.1 +2.2
KIV pmax pmax
comp=Z,50nm,1.0s
KIV MLR MLR
comp=Z,20nm,14.0s
KK31 Karatay Array 19.84 33 P 02 45 36.4 -0.5
KK31 Karatay Array 19.84 33 *e*P P 02 45 36.9 0.0
KKAR Karatay Array 19.84 33 P P 02 45 36.4 -0.5
KKAR Karatay Array 19.84 33 P P 02 45 36.4 -0.5
ARSB Arslanbob 19.92 41 P P 02 45 37.4 -0.6
ARSB IAmb IAmb 02 45 47.1
comp=Z,17nm,0.6s
ARSB Arslanbob 19.92 41 P P 02 45 37.4 -0.6
ARSB pmax pmax
comp=Z,17nm,0.6s
BNN Bunyan 20.36 310 P P 02 45 43.6 +0.9
BNN IAmb IAmb 02 45 57.0
comp=Z,42nm,0.9s
GOF Gofitskoye 20.56 333 *c e*P Pn 02 45 48.9 +2.0
CSS Mathiatis 20.75 297 P P 02 45 45.9 -1.0
KSH Kashi 20.76 49 P P 02 45 41.3 -5.8
KSH pmax pmax
comp=Z,33nm,0.6s
AML Almayashu 20.85 40 P P 02 45 48.5 +0.3
SNR=35
SOC Sochi 20.92 326 *e*P P 02 45 47.1 -1.5
SOC *e*PPP PPP 02 46 13.1
SOC *e*S S 02 49 40.8 -1.0
SOC *e*SS SnSn 02 50 02.5 +0.1
SOC *e*SSS SSS 02 50 17.2
SOC MLR MLR
comp=Z,96nm,13.0s
LABN Labinsk 21.22 329 *e*P P 02 45 50.5 -1.4
LABN *e*S S 02 49 46.9 -0.9
LABN pmax pmax
comp=Z,20nm,1.1s
EKS2 Erkin-Say 21.24 39 P P 02 45 53.5 +1.3
SNR=22
AAK Ala-Archa 21.63 40 P 02 45 57.2 +0.8
AAK IAmb IAmb 02 46 02.4
comp=Z,18nm,0.7s
AAK Ala-Archa 21.63 40 P P 02 45 57.8 +1.4
comp=Z,15nm,0.6s,baz=220,slow=5.4,SNR=39
AAK LR LR 02 56 40.9
comp=Z,67nm,19.5s,baz=246,slow=43
comp=Z,15nm,0.6s
AAK Ala-Archa 21.63 40 P P 02 45 57.8 +1.4
SNR=17
AAK Ala-Archa 21.63 40 *c i*P P 02 45 57.2 +0.8
AAK pmax pmax
comp=Z,10.0nm,0.6s
AAK Ala-Archa 21.63 40 *i* P P 02 45 57.8 +1.4
SNR=31
KIRS Kirsehir-Merke 21.82 309 ⇑P P 02 45 59.3 +0.9
USP Ospenovka 22.04 39 P P 02 46 04.2 +3.6
SNR=7.2
ERBR Yeremizino-Bor 22.16 331 *e*P P 02 46 00.6 -1.3
ERBR *e*S S 02 50 05.5 -0.6
ERBR pmax pmax
comp=Z,5.0nm,0.7s
AB31 Akbulak array 22.25 7 *e*P P 02 46 02.6 -0.2
ABKAR Akbulak array 22.25 7 P 02 46 02.7 -0.1
ABKAR Akbulak array 22.25 7 P P 02 46 02.8 0.0
BR131 Keskin Array S 22.28 310 P P 02 46 03.8 +0.4
BR131 IAmb IAmb 02 46 14.7
comp=Z,21nm,1.0s
BR131 Keskin Array S 22.28 310 P P 02 46 05.1 +1.7
SNR=14
BR131 Keskin Array S 22.28 310 *c i*P P 02 46 04.6 +1.2
BRTR Keskin Array B 22.28 310 P P 02 46 03.5 +0.1
BRTR Keskin Array B 22.28 310 P P 02 46 05.3 +1.9
comp=Z,6.4nm,0.9s,baz=140,slow=9.8,SNR=20
comp=Z,6.4nm,0.9s
BOOM Boomskoye usch 22.38 42 P P 02 46 03.9 -0.6
BOOM Boomskoye usch 22.38 42 P P 02 46 03.9 -0.6
BOOM pmax pmax
comp=Z,12nm,0.7s
ULHL Ulahol 22.42 43 P P 02 46 07.5 +2.6
SNR=5.4
TKM2 Tokmak 2 22.44 41 P P 02 46 07.4 +2.3
SNR=7.6
ANTO Ankara 22.93 309 P P 02 46 10.4 +0.2
ANTO Ankara 22.93 309 ⇓P P 02 46 11.5 +1.3
ANTO Ankara 22.93 309 ⇓P P 02 46 11.5 +1.3
ANTO 02 46 25.4
KDJ Kajisay 22.93 44 P P 02 46 11.5 +1.2
KDJ IAmb IAmb 02 46 15.1
comp=Z,16nm,0.8s
KDJ Kajisay 22.93 44 P P 02 46 11.5 +1.2
KDJ pmax pmax
comp=Z,16nm,0.8s
ANN Anapa 22.94 325 *e*P P 02 46 10.0 -0.2
ANN *e**PP pP 02 46 13.1 +0.4
ANN *e*S S 02 50 21.6 +1.2
ANN pmax pmax
comp=Z,55nm,1.2s
AKTO Aktyubinsk 23.26 4 LR LR 02 57 03.6
comp=Z,322nm,18.3s,baz=168,slow=41
AKTO Aktyubinsk 23.26 4 P P 02 46 13.7 +0.3
WUS Wushi 23.75 48 P P 02 46 17.7 -0.9
ELL Elmali 23.92 300 P P 02 46 21.0 +0.8
ELL Elmali 23.92 300 P P 02 46 21.0 +0.8
ELL pmax pmax
comp=Z,51nm,0.8s
ARXS Arharly 24.51 40 *e*P P 02 46 25.9 +0.3
UZB Uzynbulak 24.62 44 *e*P P 02 46 28.0 +1.4
UZB pmax pmax
comp=Z,12nm,0.6s
OTUK Ortayu 24.63 27 P P 02 46 26.8 +0.3
BELG Belogornoye 25.91 348 LR LR 03 00 12.0
comp=Z,99nm,18.1s,baz=156,slow=44
BELG Belogornoye 25.91 348 *c i*P P 02 46 38.2 +0.2
BELG pmax pmax
comp=Z,3.0nm,0.6s
VRH Novokhopyorsk 26.26 340 P P 02 46 39.6 -1.6
VRH pmax pmax
comp=Z,32nm,1.6s
VORR Voronezh 27.48 337 P P 02 46 54.6 +2.4
VORR pmax pmax
comp=Z,19nm,1.6s
IDI Anoyia 27.59 295 P P 02 46 53.8 +0.4
BRVK Borovoye 27.98 19 P P 02 46 55.5 -1.2
BRVK Borovoye 27.98 19 *c i*P P 02 46 56.9 +0.3
BRVK *i* *PP sP 02 47 01.0 +0.6
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BVA0 Borovoye Array 27.98 19 *i* P P 02 46 56.1 -0.5
BVAR Borovoye Array 27.98 19 P P 02 46 56.6 0.0
comp=Z,5.8nm,0.5s,baz=203,slow=8.0,SNR=29
BVAR PcP PcP 02 50 11.6 0.0
comp=Z,1.1nm,0.4s,baz=242,slow=2.8,SNR=4.2
BVAR LR LR 02 59 36.2
comp=Z,216nm,19.3s,baz=210,slow=40
comp=Z,5.8nm,0.5s
TPGR Topolog 28.13 316 ⇓P P 02 46 59.4 +1.3
LPSR Galich'ya Gora 28.36 338 P P 02 47 04.6 +4.6
LPSR pmax pmax
comp=Z,14nm,1.9s
MAKZ Makanchi 28.39 40 P P 02 47 00.0 -0.4
MAKZ Makanchi 28.39 40 P P 02 47 00.0 -0.4
MAKZ pmax pmax
comp=Z,8.0nm,1.4s
CFR Carcaliu 28.47 316 ⇑P P 02 47 02.6 +1.5
CFR Carcaliu 28.47 316 P P 02 47 02.6 +1.5
MK31 Makanchi Array 28.56 40 *c i*P P 02 47 02.2 +0.2
MKAR Makanchi Array 28.56 40 P P 02 47 01.8 -0.2
MKAR Makanchi Array 28.56 40 P P 02 47 02.2 +0.3
comp=Z,2.0nm,0.6s,baz=224,slow=7.9,SNR=18
MKAR PcP PcP 02 50 11.4 -1.8
comp=Z,0.3nm,0.5s,baz=254,slow=4.1,SNR=1.8
MKAR LR LR 02 59 02.7
comp=Z,87nm,21.1s,baz=234,slow=38
comp=Z,2.0nm,0.6s
RAZG Razgrad 28.77 312 ⇑P P 02 47 04.7 +0.9
KURBB Kurchatov Arra 29.08 30 P P 02 47 06.7 +0.3
comp=Z,1.2nm,0.8s,baz=230,slow=8.5,SNR=13
KURBB LR LR 02 59 57.5
comp=Z,90nm,21.1s,baz=174,slow=39
comp=Z,1.2nm,0.8s
KURK Kurchatov 29.18 30 P P 02 47 07.6 +0.2
KURK Kurchatov 29.18 30 ⇑*i*P P 02 47 07.9 +0.5
KURK pmax pmax
comp=Z,10.0nm,2.5s
ARTI Arti 29.22 3 LR LR 02 59 53.4
comp=Z,112nm,21.1s,baz=189,slow=38
ARTI Arti 29.22 3 *c i*P P 02 47 08.4 +0.7
ARTI 02 47 59.1
ARTI S S 02 52 02.7 +2.4
ARTI SS SnSn 02 53 27.1 +2.0
ARTI pmax pmax
comp=Z,3.0nm,0.9s
VRI Vrincioaia 29.67 317 ⇑P P 02 47 13.5 +1.7
VRI Vrincioaia 29.67 317 P P 02 47 13.5 +1.7
PLOR Plostina 29.71 317 ⇓P P 02 47 13.2 +1.1
PLOR Plostina 29.71 317 P P 02 47 13.2 +1.1
SORM Soroca 29.91 322 ⇑P P 02 47 15.7 +1.8
SORM Soroca 29.91 322 ⇑P P 02 47 15.7 +1.8
MLR Muntele Rosu 29.98 315 P P 02 47 14.3 -0.3
MLR IAmb IAmb 02 47 28.2
comp=Z,8.9nm,1.0s
MLR Muntele Rosu 29.98 315 LR LR 03 02 47.3
comp=Z,122nm,18.3s,baz=119,slow=43
MLR Muntele Rosu 29.98 315 ⇑P P 02 47 16.9 +2.3
MLR Muntele Rosu 29.98 315 P P 02 47 16.9 +2.3
COVR Voineasa-Covas 29.98 316 ⇓P P 02 47 16.2 +1.7
TESR Tescani 30.03 318 ⇑P P 02 47 15.8 +0.8
ITM Ithomi 30.25 298 P P 02 47 15.7 -1.3
ITM IAmb IAmb 02 47 39.2
comp=Z,25nm,1.5s
AGG Agios Georgios 30.29 301 P P 02 47 16.0 -1.4
AGG Agios Georgios 30.29 301 P P 02 47 16.0 -1.4
AGG pmax pmax
comp=Z,2.0nm,1.1s
VOIR 30.51 315 ⇑P P 02 47 21.1 +1.8
VOIR 30.51 315 ⇑P P 02 47 21.1 +1.8
WMQ Urumqi 30.53 49 *e*P P 02 47 21.4 +1.9
WMQ LR LR
comp=Z,270nm,21.9s
DOPR Dopca 30.54 316 ⇓P P 02 47 20.6 +1.1
AKASG Malin Array Be 31.00 326 P P 02 47 22.3 -1.1
AKASG Malin Array Be 31.00 326 P P 02 47 23.0 -0.4
comp=Z,2.9nm,0.5s,baz=134,slow=8.6,SNR=32
comp=Z,2.9nm,0.5s
AKASG Malin Array Be 31.00 326 P P 02 47 23.0 -0.4
AKBB Malin Array Si 31.00 326 P P 02 47 21.8 -1.6
AKBB IAmb IAmb 02 47 29.5
comp=Z,11nm,1.1s
AKBB Malin Array Si 31.00 326 *c i*P P 02 47 23.1 -0.3
AKBB pmax pmax
comp=Z,2.0nm,0.7s
KIEV Kiev 31.00 326 ⇓P P 02 47 23.3 -0.1
OBN Obninsk 31.23 339 P P 02 47 25.2 -0.1
OBN Obninsk 31.23 339 ⇑*e*P P 02 47 26.1 +0.8
OBN *e* 02 47 32.6
OBN *e* 02 48 32.7
OBN *e*S S 02 52 37.2 +5.6
OBN pmax pmax
comp=Z,19nm,0.6s
OBN MLR MLR
comp=Z,50nm,19.0s
MOS Moscow 31.41 340 *e*P P 02 47 29.2 +2.2
BURAR Bucovina Array 31.43 319 P P 02 47 26.2 -1.2
BURAR Bucovina Array 31.43 319 ⇓P P 02 47 28.2 +0.8
BURAR Bucovina Array 31.43 319 P P 02 47 28.2 +0.8
BUR08 Bucovina Ar. S 31.45 319 P P 02 47 27.3 -0.4
HORU Horodok 31.57 322 P P 02 47 29.5 +1.0
KIRV Kirov 31.69 354 LR LR 03 02 41.4
comp=Z,106nm,18.5s,baz=168,slow=41
KIRV Kirov 31.69 354 *c i*P P 02 47 30.3 +0.9
GZR Gura Zlata 31.95 313 ⇓P P 02 47 32.3 +0.3
GZR Gura Zlata 31.95 313 P P 02 47 32.3 +0.3
CJR Cluj-Napoca 31.98 316 ⇑P P 02 47 33.6 +1.4
CJR Cluj-Napoca 31.98 316 P P 02 47 33.6 +1.4
HERR Herculane 31.99 312 ⇑P P 02 47 33.2 +1.0
MARR Marisel-Cluj 32.26 316 ⇑P P 02 47 35.7 +0.9
MDVR Moldovita 32.42 312 ⇑P P 02 47 36.5 +0.4
BZS Buzias 32.79 313 ⇓P P 02 47 39.9 +0.7
BZS Buzias 32.79 313 P P 02 47 39.9 +0.7
KMBO Kilima Mbogo 33.37 215 P P 02 47 45.6 +0.8
PDG Podgorica 33.38 307 P P 02 47 43.6 -0.8
PDG IAmb IAmb 02 47 48.9
comp=Z,16nm,1.3s
KOLS Kolonicke sedl 33.78 319 *e*P P 02 47 49.6 +1.7
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 33.78 319 *e*P P 02 47 49.6 +1.7
MNK Minsk 34.09 331 *i* P P 02 47 50.3 -0.1
comp=E,4.0nm,0.7s
MNK *i* P P 02 47 50.3 -0.1
comp=Z,13nm,0.7s,baz=132
MNK *i* P P 02 47 50.3 -0.1
comp=N,10.0nm,1.0s
MNK *i* PP PnPn 02 49 03.1 -0.8
MNK *i* PPP PPP 02 49 14.9
MNK *i* S S 02 53 16.9 +0.6
MNK *i* SS SnSn 02 55 25.1 +1.6
MNK *i* SSS SSS 02 55 41.1
MNK *i* LQ LQ 02 58 58.6
MNK *i* LR LR 03 01 29.8
MNK *i* LRM MLR 03 03 56.1
comp=E,18nm,16.9s
MNK *i* LRM MLR 03 03 56.1
comp=Z,47nm,17.1s
MNK *i* LRM MLR 03 04 59.0
comp=N,75nm,18.9s
MNK Minsk 34.09 331 *i* P P 02 47 50.3 -0.1
MNK *i* 02 49 03.1
MNK *i* S S 02 53 16.9 +0.6
MNK *i* SS SnSn 02 55 25.0 +1.6
MNK pmax pmax
comp=E,4.0nm,0.7s
MNK pmax pmax
comp=Z,13nm,0.7s
MNK pmax pmax
comp=N,10.0nm,1.0s
MNK MLR MLR
comp=E,18nm,17.0s
MNK MLR MLR
comp=Z,47nm,17.0s
MNK MLR MLR
comp=N,75nm,19.0s
ZAA0 Zalesovo Array 34.17 31 P P 02 47 50.5 -0.7
ZAA0 IAmb IAmb 02 47 56.9
comp=Z,7.0nm,0.5s
ZALV Zalesovo Beam 34.17 31 P P 02 47 50.4 -0.8
ZALV Zalesovo Beam 34.17 31 P P 02 47 51.2 0.0
comp=Z,5.7nm,0.4s,baz=243,slow=9.4,SNR=30
ZALV PcP PcP 02 50 26.9 -1.2
comp=Z,1.6nm,0.5s,baz=250,slow=3.7,SNR=3.6
ZALV LR LR 03 02 56.7
comp=Z,62nm,18.5s,baz=242,slow=38
comp=Z,5.7nm,0.4s
TIP Timpagrande 34.58 300 ⇑P P 02 47 55.6 +0.6
PSZ Piszkesteto 34.78 316 P P 02 47 56.1 -0.5
PSZ Piszkesteto 34.78 316 ⇓P P 02 47 57.1 +0.5
PSZ Piszkesteto 34.78 316 P P 02 47 57.1 +0.5
NACGM Naroch 34.84 331 *e*P P 02 47 57.3 +0.4
comp=Z,3.0nm,0.8s,baz=130
MORH Mrgy, Hungar 34.94 313 ⇓P P 02 47 58.7 +0.8
CUC Castrocucco 35.42 301 P P 02 48 01.6 -0.7
CUC IAmb IAmb 02 48 09.6
comp=Z,9.1nm,0.7s
KLMR Klimovskoe 35.42 346 *e*P P 02 48 02.2 +0.3
KLMR pmax pmax
comp=Z,31nm,1.5s
LANS Liptovska Anna 35.54 318 *e*P P 02 48 04.7 +1.6
LANS pmax pmax
comp=Z,4.0nm,0.5s
LANS Liptovska Anna 35.54 318 *e*P P 02 48 04.7 +1.6
ISAL Salakas 35.56 331 *e*P P 02 48 03.5 +0.4
VYHS Vyhne 35.65 317 *e*P P 02 48 04.5 +0.4
VYHS pmax pmax
comp=Z,2.0nm,0.7s
VYHS Vyhne 35.65 317 *e*P P 02 48 04.5 +0.4
OJC Ojcow 35.80 320 *e*P P 02 48 05.5 +0.2
OJC Ojcow 35.80 320 P P 02 48 05.8 +0.5
OJC pmax pmax
comp=Z,13nm,0.8s
SUW Suwalki 35.95 327 P P 02 48 06.0 -0.4
SUW Suwalki 35.95 327 P P 02 48 06.1 -0.4
PABE Paberze 36.47 330 P P 02 48 10.1 -0.8
PABE Paberze 36.47 330 *e*P P 02 48 11.3 +0.4
JAVC Velka Javorina 36.51 317 *e*P P 02 48 11.7 +0.3
MODS Modra-Piesok 36.57 316 *e*P P 02 48 12.6 +0.7
MODS Modra-Piesok 36.57 316 *e*P P 02 48 12.6 +0.7
OKC Ostrava-Krasne 36.61 318 *e*P P 02 48 12.3 +0.1

OKC Ostrava-Krasne 36.61 318 eP P 02 48 12.3 +0.1
MAUC Maruska 36.61 318 eP P 02 48 12.6 +0.3
VSVD Vaisvydziai 36.78 330 eP P 02 48 14.5 +0.9
STEB Steborice 36.87 318 eP P 02 48 14.2 -0.2
MORC Moravsky Berou 36.94 318 eP P 02 48 14.6 -0.5
MORC Moravsky Berou 36.94 318 ⇓P P 02 48 15.4 +0.3
MORC Moravsky Berou 36.94 318 P P 02 48 15.4 +0.3
RONA Rosalia, Austr 36.95 314 i P P 02 48 15.4 +0.2
comp=Z,2.0nm,0.5s
VSU Vasula 37.27 335c iP P 02 48 16.7 -1.0
VSU pmax pmax
comp=Z,8.0nm,0.5s
VSU Vasula 37.27 335 eP P 02 48 17.1 -0.6
CONA Conrad Observa 37.31 315 i P P 02 48 18.3 0.0
comp=Z,2.9nm,0.9s
ARSA Arzberg 37.31 313 i P P 02 48 18.3 +0.1
comp=Z,1.4nm,0.5s
VRAC Vranov 37.33 317 LR LR 03 06 03.6
comp=Z,80nm,18.1s,baz=136,slow=40
VRAC Vranov 37.33 317 eP P 02 48 18.0 -0.4
VRAC Vranov 37.33 317 ⇓P P 02 48 19.2 +0.8
VRAC Vranov 37.33 317 ⇓P P 02 48 19.2 +0.8
VRAC 02 48 25.9
KRUC Moravsky 37.36 316 eP P 02 48 18.4 -0.2
KRLC Kraliky 37.51 318 eP P 02 48 19.7 -0.2
KRLC Kraliky 37.51 318 eP P 02 48 19.7 -0.2
AQU L'Aquila 37.60 305 P P 02 48 22.2 +1.4
CAMP Campotosto 37.62 305 P P 02 48 21.1 0.0
CAMP IAmb IAmb 02 48 37.0
comp=Z,18nm,1.1s
PBUR Paburge 37.70 329 eP P 02 48 21.9 +0.5
DPC Dobruska-Polom 37.89 318 eP P 02 48 23.1 0.0
DPC AMS AMS 03 04 00.0
comp=Z,100nm,13.6s
DPC Dobruska-Polom 37.89 318 eP P 02 48 23.1 0.0
DPC MLR MLR
comp=Z,100nm,13.6s
NRCA Norcia 37.89 306 P P 02 48 23.0 -0.3
NRCA IAmb IAmb 02 48 48.2
comp=Z,7.5nm,0.8s
TREC Trest 38.00 316 eP P 02 48 23.7 -0.4
TREC Trest 38.00 316 eP P 02 48 23.7 -0.4
OSTC Ostas 38.03 319 eP P 02 48 24.4 +0.1
OSTC Ostas 38.03 319 eP P 02 48 24.4 +0.1
KSP Ksiaz 38.10 319 eP P 02 48 24.9 +0.1
KSP Ksiaz 38.10 319 P P 02 48 24.2 -0.6
UPC Upice 38.13 319 eP P 02 48 25.4 +0.3
UPC Upice 38.13 319 eP P 02 48 25.4 +0.3
CHVC Chvalec 38.14 319 eP P 02 48 25.4 +0.2
CHVC Chvalec 38.14 319 eP P 02 48 25.4 +0.2
ARBE Arbavere 38.23 336 eP P 02 48 26.3 +0.5
MOA Molln 38.30 314 i P P 02 48 26.8 +0.1
comp=Z,3.7nm,0.6s
GTA Gaotai 38.36 60 eP P 02 48 27.8 +0.4
GTA pmax pmax
comp=Z,4.0nm,0.7s
SLIT Slitere, Latvi 38.51 331 eP P 02 48 28.0 -0.1
MTSE Matsula 38.57 334 eP P 02 48 28.6 -0.1
CKRC Cesky Krumlov 38.57 315 eP P 02 48 28.8 -0.1
CKRC Cesky Krumlov 38.57 315 eP P 02 48 28.8 -0.1
BIOA Bad Ischl, Aus 38.66 313 i P P 02 48 29.6 0.0
comp=Z,3.6nm,0.5s
KBA Koelnbreinsper 38.68 312 P P 02 48 29.5 -0.5
KBA Koelnbreinsper 38.68 312 i P P 02 48 30.0 0.0
comp=Z,3.9nm,0.6s
PRU Pruhonice 38.82 317 eP P 02 48 30.8 -0.1
PRU AMS AMS 03 06 10.0
comp=Z,100nm,14.2s
PRU Pruhonice 38.82 317 eP P 02 48 30.8 -0.1
PRU MLR MLR
comp=Z,100nm,14.2s
ZVC Zvikov 38.85 316 eP P 02 48 31.4 +0.2
GEC2 GERESS Array S 38.96 315 P P 02 48 31.5 -0.8
GEC2 GERESS Array S 38.96 315 eP 02 48 31.7
comp=Z,1.6nm,0.6s,baz=109,slow=8.1
GERES GERESS Array B 38.96 315 P P 02 48 31.2 -1.1
GERES GERESS Array B 38.96 315 P P 02 48 31.9 -0.4
comp=Z,2.1nm,0.5s,baz=106,slow=7.3,SNR=58
comp=Z,2.1nm,0.5s
PVCC Panska Ves 39.00 318 eP P 02 48 32.5 +0.1
PVCC Panska Ves 39.00 318 eP P 02 48 32.5 +0.1
KHC Kasperske Hory 39.13 316 eP P 02 48 33.6 0.0
KHC Kasperske Hory 39.13 316ceP P 02 48 33.5 0.0
KHC pmax pmax
comp=Z,9.0nm,0.6s
ABTA Abfaltersbach 39.15 312 i P P 02 48 33.6 -0.2
comp=Z,3.0nm,0.5s
JOF Joensuu 39.19 342 eP P 02 48 34.4 +0.6
LESA Schwarzleotal 39.21 313 i P P 02 48 34.0 -0.4
comp=Z,3.5nm,0.4s,SNR=6.3
RJOB Jochberg 39.22 313 eP 02 48 34.1
comp=Z,2.5nm,0.6s,baz=109,slow=8.1
MEF Metsahovi 39.35 336 eP P 02 48 35.5 +0.3
BRG Berggiesshubel 39.49 318 eP P 02 48 36.7 +0.2
BRG Amp 02 48 38.8
comp=Z,3.7nm,0.6s
BRG Berggiesshubel 39.49 318 P P 02 48 43.7 +7.2
BRG Amp 02 48 44.8
comp=Z,7.7nm,1.1s
BRG Berggiesshubel 39.49 318 eP 02 48 36.7
comp=Z,3.4nm,0.6s,baz=109,slow=8.1
WET Wettzell 39.57 315 eP 02 48 36.5
comp=Z,1.5nm,0.6s,baz=109,slow=8.1
FIA1 FINESS Array S 39.63 338 P P 02 48 36.9 -0.6
FINES FINESS Array B 39.63 338 P P 02 48 36.7 -0.8
FINES FINESS Array B 39.63 338 P P 02 48 37.6 +0.2
comp=Z,9.1nm,0.5s,baz=142,slow=10,SNR=157
FINES LR LR 03 06 26.7
comp=Z,34nm,18.8s,baz=158,slow=38
comp=Z,9.1nm,0.5s
HSKC Hora Svate Kat 39.70 318 eP P 02 48 37.6 -0.7
WTTA Wattenberg 39.85 312 i P P 02 48 39.4 -0.4
comp=Z,7.8nm,0.4s,SNR=13
WATA Walderalm 39.91 312 i P P 02 48 39.6 -0.6
comp=Z,4.8nm,0.5s,SNR=6.3
SQTA Sankt Quirin 40.13 312 i P P 02 48 41.4 -0.6
comp=Z,13nm,0.4s,SNR=28
ROTZ Rotzenmuhle 40.18 316 eP 02 48 42.2
comp=Z,0.6nm,0.6s,baz=109,slow=8.1
CLL Collm 40.20 319 P P 02 48 41.7 -0.7
CLL Collm 40.20 319 P P 02 48 41.7 -0.7
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 40.20 319 i P P 02 48 42.6 +0.2
comp=Z,4.0nm,0.6s
CLL i Pmax 02 48 46.7
comp=Z,19nm,1.6s
CLL ePP PP 02 50 16.0 +1.3
CLL ePPP PPP 02 50 41.0
CLL ePPPP 02 50 51.0
CLL Collm 40.20 319 eP 02 48 42.9
comp=Z,2.9nm,0.6s,baz=109,slow=8.1
MOTA Moosalm 40.23 312 i P P 02 48 41.9 -1.0
comp=Z,6.8nm,0.5s
KEST Kesra 40.26 294 LR LR 03 09 21.8
comp=Z,34nm,18.9s,baz=304,slow=42
FETA Feichten 40.40 312 i P P 02 48 43.9 -0.4
comp=Z,6.7nm,0.4s,SNR=25
RETA Reutte 40.48 312 i P P 02 48 44.0 -0.9
comp=Z,4.5nm,0.5s
CMAR Chiang Mai Arr 40.50 93 P P 02 48 45.4 +0.1
comp=Z,1.1nm,0.3s,baz=277,slow=9.0,SNR=5.0
CMAR PcP PcP 02 50 47.5 -0.4
comp=Z,0.9nm,0.3s,baz=312,slow=2.5,SNR=1.7
CMAR LR LR 03 07 59.6
comp=Z,17nm,18.7s,baz=275,slow=40
comp=Z,1.1nm,0.3s
KEF Keuruu 40.55 338 eP P 02 48 45.6 +0.5
FUORN Ofenpass-Fuorn 40.62 311 P P 02 48 46.2 -0.1
BSD Bornholm Skovb 40.65 325 i P P 02 48 45.1 -1.0
BLEU Blekinge 40.75 327 i P P 02 48 46.4 -0.4
GRF Grafenberg Arr 40.77 316 eP 02 48 46.8
comp=Z,5.2nm,0.6s,baz=109,slow=8.1
PZH PanZhiHua 40.77 80 P P 02 48 48.8 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,6.0s
PGF Pioggiola 40.85 304 eP P 02 48 47.9 -0.1
PGF pmax pmax
comp=Z,23nm,1.2s
RAF Rauma 40.86 335 eP P 02 48 47.6 -0.1
NEUB Neuenburg 40.89 318 eP 02 48 48.4
comp=Z,10nm,0.5s,baz=109,slow=8.1
UBR Ueberruh 40.96 312 eP 02 48 47.8
comp=Z,4.5nm,0.7s,baz=109,slow=8.1
DAVA Damuels 41.02 312 i P P 02 48 48.9 -0.6
comp=Z,25nm,0.4s
TUE Stuetta 41.21 310 P P 02 48 50.5 -0.6
LZH Lanzhou 41.46 65 eP P 02 48 53.4 +0.2
LZH pP sP 02 48 58.8 +1.8
LZH pmax pmax
comp=Z,15nm,1.2s
FLTG Flechtingen 41.58 319 eP 02 48 54.0
baz=109,slow=8.1
DEL Delary 41.78 326 i P P 02 48 54.8 -0.5
UBBA Unterbreizbach 41.84 317 eP 02 48 55.3
comp=Z,2.8nm,0.6s,baz=109,slow=8.1
VAF Ylistaro 41.89 338 eP P 02 48 56.6 +0.5
CLZ Clausthal 41.92 319 eP 02 48 57.2
comp=Z,13nm,0.6s,baz=109,slow=8.1
BJUU Bjuv 42.04 325 i P P 02 48 57.5 +0.1
BFO Black Forest 42.27 313 P P 02 48 59.0 -0.5
BFO Black Forest 42.27 313 P P 02 48 59.0 -0.5
BFO pmax pmax
comp=Z,7.0nm,1.3s
NRDL Niedersach Rie 42.28 319 eP 02 48 59.7
baz=109,slow=8.1
SENIN Lac Senin/Sane 42.59 310 P P 02 49 00.6 -1.7
SENIN IAmb IAmb 02 49 02.6
comp=Z,7.1nm,0.5s
FABU Falkenberg 42.59 326 i P P 02 49 02.1 +0.2
BSEG Bad Segeberg 42.65 321 eP 02 49 02.3
comp=Z,2.4nm,1.1s,baz=109,slow=8.1
LVZ Lovozero 42.69 348 P P 02 49 02.4 -0.2
LVZ IAmb IAmb 02 49 17.1
comp=Z,29nm,1.3s
LVZ Lovozero 42.69 348 P P 02 49 02.4 -0.2
LVZ pmax pmax
comp=Z,29nm,1.3s
MBDF Montbardon 42.72 307 eP P 02 49 03.7 +0.4
MBDF pmax pmax
comp=Z,7.0nm,0.5s
BNI Bardonecchia 42.82 308 P P 02 49 04.2 0.0
LPG La Plagne 42.83 309 eP P 02 49 03.4 -1.0
LPG pmax pmax
comp=Z,4.0nm,0.5s
BORU Boraas 42.84 327 i P P 02 49 04.2 +0.2
LPL La Plagne 42.85 309 eP P 02 49 03.1 -1.4
LPL pmax pmax
comp=Z,3.0nm,0.5s
KASTN Kahler Asten 42.91 317 eP 02 49 04.6
comp=Z,2.9nm,0.6s,baz=109,slow=8.1
CDF Champ du Feu 42.97 313 eP P 02 49 04.1 -1.2
CDF pmax pmax
comp=Z,2.0nm,0.5s
ECH Echery 43.01 313 P P 02 49 04.2 -1.4
ECH Echery 43.01 313 P P 02 49 04.2 -1.4
ECH pmax pmax
comp=Z,4.0nm,0.9s
HINF Hinteralfeld 43.14 312 eP P 02 49 05.5 -1.1
HINF pmax pmax
comp=Z,2.0nm,0.6s
ONAU Onsala 43.15 327 i P P 02 49 06.5 +0.1
CABF La Chapelle 43.45 310 eP P 02 49 08.3 -0.9
CABF pmax pmax
comp=Z,4.0nm,0.5s
HAU Haudompre 43.51 312 eP P 02 49 08.2 -1.3
HAU pmax pmax
comp=Z,3.0nm,0.5s
SSRD Sdr. Stenderup 43.56 323 i P P 02 49 11.0 +1.2
TJOU Tjoern 43.57 327 i P P 02 49 09.3 -0.5
HFS Hagfors 43.61 331 P P 02 49 09.9 -0.2
comp=Z,8.4nm,0.4s,baz=128,slow=9.7,SNR=234
HFS LR LR 03 11 08.0
comp=Z,46nm,20.1s,baz=130,slow=41
comp=Z,8.4nm,0.4s
BUG Bochum--Univer 43.67 317 eP 02 49 10.8
comp=Z,3.1nm,0.7s,baz=109,slow=8.1
WLF Walferdange 43.95 314 dP P 02 49 12.9 -0.2
WLF Walferdange 43.95 314 eP 02 49 11.9
baz=109,slow=8.1
MUD Monsted U'grnd 44.16 325 i P P 02 49 15.5 +0.9
BTNL Ternell 44.16 316 dP P 02 49 15.2 +0.4
SONM Songino Array 44.17 48 P P 02 49 15.3 +0.4
SONM Songino Array 44.17 48 P P 02 49 16.0 +1.0
comp=Z,1.5nm,0.6s,baz=278,slow=9.7,SNR=9.0
SONM LR LR 03 10 03.7
comp=Z,221nm,19.5s,baz=254,slow=39
comp=Z,1.5nm,0.6s
VIVF Saint-Julien-l 44.22 307 eP P 02 49 13.8 -1.5
VIVF pmax pmax
comp=Z,16nm,1.3s
STRU Stroemstad 44.22 329 i P P 02 49 14.5 -0.5
MEM Membach 44.24 316 dP P 02 49 17.0 +1.6
BCLA Clavier 44.64 315 dP P 02 49 19.0 +0.5
BGES Gesves 44.77 315 dP P 02 49 20.1 +0.6
OSL Oslo 44.83 330 eP P 02 49 19.9 0.0
NC602 NORSAR Array S 44.83 331 P P 02 49 19.1 -0.8
NC602 NORSAR Array S 44.83 331 eP P 02 49 19.6 -0.4
NORES NORESS Array B 44.83 331 P P 02 49 19.7 -0.2
GIVF Givet 44.88 315 eP P 02 49 20.8 +0.3
GIVF pmax pmax
comp=Z,13nm,1.1s
SMF Signal de Mont 44.99 310 eP P 02 49 20.2 -1.2
SMF pmax pmax
comp=Z,12nm,0.8s
DOU Dourbes 45.02 315 dP P 02 49 22.6 +1.0
comp=Z,4.7nm,1.0s
LOR Lormes 45.05 311 eP P 02 49 20.7 -1.2
LOR pmax pmax
comp=Z,2.0nm,0.5s
NB2 NORSAR Subarra 45.12 331 P P 02 49 21.4 -0.9
comp=Z,2.9nm,0.5s,baz=114,slow=7.9
NB2 NORSAR Subarra 45.12 331 P P 02 49 21.4 -0.9
baz=114,slow=7.9
NOA NORSAR Array B 45.12 331 P P 02 49 21.7 -0.5
comp=Z,2.4nm,0.5s,baz=132,slow=7.6,SNR=48
NOA LR LR 03 11 41.3
comp=Z,35nm,19.2s,baz=135,slow=41
comp=Z,2.4nm,0.5s
HOMB Homborsund 45.18 327 eP P 02 49 22.5 -0.2
HOMB Homborsund 45.18 327 i P P 02 49 22.4 -0.2
BAIF Baives 45.26 315 eP P 02 49 23.8 +0.3
BAIF pmax pmax
comp=Z,5.0nm,0.5s
SSF Saint Saulge 45.27 310 eP P 02 49 22.1 -1.5
SSF pmax pmax
comp=Z,4.0nm,0.5s
UCC Uccle 45.31 316 dP P 02 49 24.5 +0.7
AVF Avril sur Loir 45.34 310 eP P 02 49 23.4 -0.8
AVF pmax pmax
comp=Z,6.0nm,0.9s
VADS Vadso 45.58 348 eP P 02 49 26.1 +0.4
TAM Tamanrasset 45.59 276 P P 02 49 26.4 -0.2
TAM IAmb IAmb 02 49 33.9
comp=Z,8.1nm,0.6s
TAM Tamanrasset 45.59 276 P P 02 49 26.4 -0.2
TAM pmax pmax
comp=Z,8.0nm,0.6s
BGF Bois d'Agland 45.66 310 eP P 02 49 25.7 -1.0
BGF pmax pmax
comp=Z,6.0nm,0.6s
SNART Snartemo 45.84 327 eP P 02 49 28.1 +0.2
ARCES ARCESS Array B 45.90 346 P P 02 49 29.0 +0.7
comp=Z,2.9nm,0.6s,baz=135,slow=7.6,SNR=26
ARCES LR LR 03 10 22.8
comp=Z,51nm,18.0s,baz=159,slow=38
comp=Z,2.9nm,0.6s
ARCES ARCESS Array B 45.90 346 P P 02 49 29.0 +0.7
KTK1 Kautokeino 46.02 344 eP P 02 49 29.4 +0.2
NRIK Noril'sk 46.05 15 LR LR 03 12 30.8
comp=Z,165nm,18.9s,baz=208,slow=41
CAF Calviac 46.07 307 eP P 02 49 29.3 -0.7
CAF pmax pmax
comp=Z,4.0nm,0.5s
TCF Toulx Ste Croi 46.07 309 eP P 02 49 29.1 -0.9
TCF pmax pmax
comp=Z,4.0nm,0.5s
SKAR Skarslia 46.24 330 eP P 02 49 31.6 +0.4
OPO Ambohidratompo 46.27 191 LR LR 03 06 53.3
comp=Z,102nm,19.0s,baz=198,slow=34
RJF Les Rejaudoux 46.48 308 eP P 02 49 32.8 -0.4
RJF pmax pmax
comp=Z,22nm,1.4s
DOMB Dombas 46.49 332 eP P 02 49 33.1 0.0
NSS Namsos 46.56 336 eP P 02 49 33.4 -0.1
BLS5 Blasjo 46.60 328 eP P 02 49 34.5 +0.5
ODD1 Odda 46.70 328 eP P 02 49 35.6 +0.8
LFF La Frestale 47.01 307 eP P 02 49 36.8 -0.5
LFF pmax pmax
comp=Z,5.0nm,0.6s
KMY Karmoy 47.10 327 eP P 02 49 38.1 +0.3
JETT Jettan, Norway 47.11 344 eP P 02 49 38.4 +0.6
HAMF Hammerfest 47.15 346 eP P 02 49 38.4 +0.3
VAGH Vaagaholmen 47.33 339 eP P 02 49 39.6 +0.1
HHC Hu-ho-hao-te 47.40 58 eP P 02 49 41.6 +1.0
HHC pmax pmax
comp=Z,17nm,0.8s
BER Bergen 47.48 329 eP P 02 49 39.7 -1.0
MFF Saint Martin d 47.72 309 eP P 02 49 42.1 -0.8
LDF La Druitiere 47.86 312 eP P 02 49 42.4 -1.6
LDF pmax pmax
comp=Z,6.0nm,0.4s
ETSF Etsaut 47.90 304 eP P 02 49 44.8 +0.4
ETSF pmax pmax
comp=Z,123nm,2.2s
FLN La Foliniere 48.12 312 eP P 02 49 44.8 -1.1
FLN pmax pmax
comp=Z,15nm,1.0s
GRR Gorron 48.33 312 eP P 02 49 46.0 -1.6
GRR pmax pmax
comp=Z,4.0nm,0.3s
SJPF Ste Jean 48.38 305 eP P 02 49 47.9 -0.2
SJPF pmax pmax
comp=Z,4.0nm,0.4s
WOL Wolverton 48.87 316 eP P 02 49 51.6 0.0
SGMF Saint Gilles 49.45 311 eP P 02 49 55.7 -0.5
SGMF pmax pmax
comp=Z,12nm,1.0s
STRD Stroud 49.51 316 eP P 02 49 55.9 -0.6
STRD IAmb IAmb 02 49 56.9
comp=Z,16nm,0.8s
EDMD Edmundbyers 49.81 320⇑eP P 02 49 58.3 -0.5
QUIF Quistinic 49.85 311 eP P 02 49 57.9 -1.3
QUIF pmax pmax
comp=Z,4.0nm,0.5s
MONM Monmouth 49.91 316⇑eP P 02 49 58.7 -0.9
MONM IAmb IAmb 02 49 59.4
comp=Z,11nm,0.6s
ROSF Rostrenen 49.94 312 eP P 02 49 58.7 -1.2
ROSF pmax pmax
comp=Z,24nm,1.3s
HLM1 Long Mynd 50.03 317 eP P 02 49 59.9 -0.6
HLM1 IAmb IAmb 02 50 00.7
comp=Z,4.7nm,0.6s
MCH1 Michaelchurch 50.04 316⇑eP P 02 50 00.1 -0.5
MCH1 IAmb IAmb 02 50 00.8
comp=Z,16nm,0.6s
FOEL Foel Wylfa 50.27 317⇑eP P 02 50 02.2 -0.1
KESW Keswick, Cumbr 50.43 320 eP P 02 50 03.2 -0.3
DYA Yadsworthy 50.49 314⇑eP P 02 50 03.6 -0.4
DYA IAmb IAmb 02 50 04.4
comp=Z,8.9nm,0.6s
LLW Llanuwychllyn 50.54 317 eP P 02 50 04.0 -0.4
EKA Eskdalemuir Ar 50.57 321 P P 02 50 03.8 -0.7
comp=Z,1.0nm,0.3s,baz=97,slow=7.4,SNR=28
comp=Z,1.0nm,0.3s
ESK Eskdalemuir 50.59 321 eP P 02 50 05.0 +0.3
ESDC Sonseca Array 50.60 300 P P 02 50 05.0 -0.1
comp=Z,1.4nm,0.4s,baz=76,slow=7.0,SNR=39
comp=Z,1.4nm,0.4s
XLT XiLinHaoTe 50.67 54 eP P 02 50 05.3 -0.3
XLT pmax pmax
comp=Z,12nm,0.8s
XLT pmax pmax
comp=Z,110nm,5.4s
SBD Saint Breward 50.98 314 eP P 02 50 07.5 -0.2
WME Myndd Eilian 50.98 318⇑eP P 02 50 07.4 -0.2
WLF1 Llynfaes 51.03 318⇑eP P 02 50 07.6 -0.4
WPS Cemaes, Angles 51.10 318⇑eP P 02 50 08.4 -0.1
WPS IAmb IAmb 02 50 09.5
comp=Z,6.6nm,0.5s
RSBS Rosebush, Pemb 51.12 316 eP P 02 50 08.4 -0.4
NEWG New Galloway 51.15 320 eP P 02 50 08.6 -0.3
INVG Invergeldie, C 51.23 322⇑eP P 02 50 08.8 -0.7
IOMK Kirk Michael 51.23 319⇑eP P 02 50 09.7 +0.2
GAL1 Galloway 51.39 320⇑eP P 02 50 10.5 -0.2
LAWE Loch Awe, Argy 51.95 322 eP P 02 50 14.4 -0.4
LINV Loch Inver, As 52.11 324⇑eP P 02 50 16.1 +0.1
DSB Dublin 52.21 318 P P 02 50 16.5 -0.3
ILTH Belurgan, Co L 52.25 319 P P 02 50 16.2 -0.9
TORD Torodi Ar. Bea 52.35 266 P P 02 50 17.7 -0.7
TORD IAmb IAmb 02 50 26.5
comp=Z,8.9nm,1.4s
TORD Torodi Ar. Bea 52.35 266 P P 02 50 17.5 -1.0
comp=Z,86nm,0.4s,baz=66,slow=7.5,SNR=1.8
IWEX Carrickbyrne, 52.39 317 eP P 02 50 18.7 +0.4
IWEX Carrickbyrne, 52.39 317 P P 02 50 18.6 +0.4
IDGL Inch Island, C 53.01 320 P P 02 50 22.8 0.0
IGLA Glengowla, Co 54.01 318 P P 02 50 29.9 -0.2
SPITS Spitsbergen Ar 54.08 351 P P 02 50 30.7 +0.3
comp=Z,9.3nm,0.7s,baz=133,slow=9.2,SNR=8.6
comp=Z,9.3nm,0.7s
NJ2 Nanjing 54.31 69 eP P 02 50 32.3 -0.3
NJ2 pmax pmax
comp=Z,12nm,0.5s
VAL Valentia 54.52 316 P P 02 50 33.8 0.0
ZEA Zeya 57.69 42 eP P 02 50 57.3 +0.8
TIXI Tiksi 59.09 21 P P 02 51 05.8 -0.2
TIXI IAmb IAmb 02 51 11.1
comp=Z,3.7nm,0.5s
TIXI Tiksi 59.09 21 LR LR 03 19 38.0
comp=Z,78nm,20.0s,baz=202,slow=39
TIXI Tiksi 59.09 21 ⇓iP P 02 51 06.5 +0.5
TIXI pmax pmax
comp=Z,2.0nm,0.5s
KSRS Korea Array 60.43 61 P P 02 51 15.4 -0.3
comp=Z,5.0nm,0.6s,baz=279,slow=6.5,SNR=18
comp=Z,5.0nm,0.6s
KOOLE Kule 60.64 218 P P 02 51 17.6 +0.2
KOOLE IAmb IAmb 02 51 19.7
comp=Z,5.8nm,0.9s
NOR Nord 60.72 351 i P P 02 51 13.9 -3.2
KLR Kul'dur 60.95 47c iP P 02 51 18.5 -0.7
KLR pmax pmax
comp=Z,3.0nm,0.8s
DBIC Dimbokro 60.97 262 P P 02 51 18.9 -0.9
comp=Z,2.2nm,0.5s,baz=35,slow=6.7,SNR=8.7
comp=Z,2.2nm,0.5s
USRK Ussuriysk Ar. 62.01 52 P P 02 51 25.6 -0.8
comp=Z,3.1nm,0.6s,baz=264,slow=6.7,SNR=11
comp=Z,3.1nm,0.6s
BOSA Boshof 62.78 210 P P 02 51 30.6 -1.2
comp=Z,2.0nm,0.6s,baz=22,slow=6.0,SNR=5.2
comp=Z,2.0nm,0.6s
SUMG Summit 65.58 341 P P 02 51 49.7 -0.3
SUMG Summit 65.58 341 P P 02 51 49.7 -0.3
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 65.58 341 i P P 02 51 50.2 +0.3
SUMG IAmb IAmb 02 51 58.5
comp=Z,8.2nm,0.9s
ICESG Greenland Ices 66.81 337 i P P 02 51 58.0 +0.1
NEEM North Greenlan 67.23 347 i P P 02 52 00.6 +0.3
NEEM IAmb IAmb 02 52 03.8
comp=Z,5.3nm,0.5s
YSS Yuzhno-Sakhali 68.64 47 eP P 02 52 08.9 -0.4
YSS pmax pmax
comp=Z,10.0nm,0.7s
SEY Seymchan 69.03 29 eP P 02 52 08.2 -3.2
SEY pmax pmax
comp=Z,8.0nm,1.7s
RES Resolute Bay 76.60 352 LR LR 03 32 04.9
comp=Z,45nm,19.7s,baz=34,slow=40
A21K Barrow 79.15 10 P P 02 53 10.9 +0.5
baz=331
A19K Wainwright 79.35 12 P P 02 53 12.0 +0.5
baz=327
A22K Sinclair Lake 79.68 10 P P 02 53 13.8 +0.5
baz=332
B18K Kokolik River 79.91 13 P P 02 53 15.5 +0.8
baz=326,SNR=21
C16K Lisburne Hills 80.07 14 P P 02 53 14.6 -0.9
C16K Lisburne Hills 80.07 14 P P 02 53 15.2 -0.3
baz=324,SNR=6.2
B20K Meade River 80.21 11 IAmb IAmb 02 53 17.8
comp=Z,7.2nm,0.6s
B20K Meade River 80.21 11 P P 02 53 16.7 +0.4
baz=331
B22K Teshekpuk Lake 80.51 10 P P 02 53 18.3 +0.5
baz=334
C18K Utukok River 80.64 13 P P 02 53 18.6 0.0
baz=327,SNR=18
B21K Ikpikpuk River 80.97 10 IAmb IAmb 02 53 21.8

comp=Z,5.2nm,0.6s
B21K **Ikpikpuk River** 80.97 10 P P 02 53 20.8 +0.5
baz=333
D17K **Noatak River** 81.04 14 P P 02 53 20.6 0.0
baz=326,SNR=10
A36M **Sachs Harbour** 81.08 0 P P 02 53 20.7 -0.1
baz=359,SNR=17
FITZ **Fitzroy Crossi** 81.24 115 P P 02 53 21.0 -1.6
comp=Z,2.3nm,0.7s,baz=334,slow=5.0,SNR=5.5
FITZ LR LR 03 31 47.9
comp=Z,53nm,20.0s,baz=140,slow=38
comp=Z,2.3nm,0.7s
C21K **Knifeblade Rid** 81.36 11 P P 02 53 22.7 +0.2
baz=333
D19K **Kuna River** 81.36 12 P P 02 53 22.6 +0.1
baz=330,SNR=7.1
C23K **Itkillik River** 81.38 9 P P 02 53 23.2 +0.7
baz=336
D20K **Etivluk River** 81.44 11 P P 02 53 22.9 0.0
D20K **Etivluk River** 81.44 11 P P 02 53 22.9 0.0
baz=331
TNA **Tin City** 81.61 17 P P 02 53 23.0 -0.7
baz=322
C24K **Franklin Bluff** 81.74 8 IAmb IAmb 02 53 33.2
comp=Z,7.3nm,1.0s
C24K **Franklin Bluff** 81.74 8 P P 02 53 24.8 +0.4
baz=338
E18K **Tukpahlearik C** 81.79 13 IAmb IAmb 02 53 26.2
comp=Z,5.1nm,0.6s
E18K **Tukpahlearik C** 81.79 13 P P 02 53 24.7 0.0
baz=328,SNR=12
E17K **Hotham Inlet** 81.82 14 P P 02 53 24.6 -0.3
baz=327
E20K **Nigu River** 81.92 12 P P 02 53 25.4 -0.1
baz=332,SNR=6.6
GAMB **Gambell** 81.94 19 P P 02 53 25.8 +0.3
baz=318
D22K **Ayikyak River** 81.94 10 IAmb IAmb 02 53 27.0
comp=Z,6.8nm,0.6s
D22K **Ayikyak River** 81.94 10 P P 02 53 25.9 +0.4
baz=335,SNR=8.8
C26K **Camden Bay** 82.01 7 P P 02 53 26.2 +0.4
baz=342
F14K **Arctic Creek** 82.09 16 P P 02 53 26.8 +0.5
baz=323
E21K **Killik River** 82.13 11 P P 02 53 26.4 -0.2
baz=334,SNR=5.5
D23K **Nanushuk River** 82.17 9 IAmb IAmb 02 53 28.8
comp=Z,4.0nm,0.7s
D23K **Nanushuk River** 82.17 9 P P 02 53 27.2 +0.5
baz=336,SNR=8.2
D24K **Happy Valley** 82.25 9 IAmb IAmb 02 53 28.5
comp=Z,5.1nm,0.6s
D24K **Happy Valley** 82.25 9 P P 02 53 27.6 +0.5
baz=338
F15K **North Star Dit** 82.31 16 IAmb IAmb 02 53 33.4
comp=Z,13nm,1.4s
F15K **North Star Dit** 82.31 16 P P 02 53 27.5 0.0
baz=324
D25K **Kavik River** 82.41 8 IAmb IAmb 02 53 30.0
comp=Z,4.9nm,0.7s
D25K **Kavik River** 82.41 8 P P 02 53 28.5 +0.5
baz=340,SNR=10
C27K **Jago River** 82.42 7 IAmb IAmb 02 53 34.6
comp=Z,4.3nm,0.8s
C27K **Jago River** 82.42 7 P P 02 53 28.4 +0.4
baz=342,SNR=7.3
E19K **Redstone River** 82.43 12 P P 02 53 27.8 -0.3
baz=331,SNR=15
F17K **Baldwin Pennin** 82.48 14 P P 02 53 28.5 +0.2
baz=327
KNRA **Kununurra** 82.53 112 P 02 53 28.7 -0.7
KNRA IAmb IAmb 02 53 29.8
comp=Z,5.1nm,0.8s
TOLK **Toolik Lake Re** 82.62 9 P P 02 53 29.7 +0.5
baz=337,SNR=17
F18K **Selawik** 82.69 14 P P 02 53 29.1 -0.3
baz=329,SNR=9.3
E22K **Anaktuvuk Pass** 82.76 10 P P 02 53 29.8 -0.1
baz=335,SNR=6.1
F19K **Shaleruckik Mo** 82.87 13 IAmb IAmb 02 53 31.3
comp=Z,3.3nm,0.7s
F19K **Shaleruckik Mo** 82.87 13 P P 02 53 29.8 -0.6
baz=330,SNR=7.3
GUMO **Guam** 83.05 78 LR LR 03 32 56.1
comp=Z,63nm,20.0s,baz=91,slow=38
D27M **Malcolm River** 83.06 6 P P 02 53 31.4 0.0
baz=345
F20K **Avaraart Lake** 83.07 12 IAmb IAmb 02 53 32.3
comp=Z,3.1nm,0.7s
F20K **Avaraart Lake** 83.07 12 P P 02 53 31.2 -0.2
baz=332,SNR=9.0
G16K **Koyuk River** 83.12 15 P P 02 53 31.5 -0.2
baz=326
E23K **Chandalar** 83.16 9 IAmb IAmb 02 53 34.0
comp=Z,5.7nm,0.7s
E23K **Chandalar** 83.16 9 P P 02 53 32.4 +0.4
baz=337,SNR=13
D28M **Stokes Point** 83.17 5 P P 02 53 32.3 +0.5
baz=347
F22K **John River** 83.27 10 P P 02 53 33.2 +0.7
baz=335,SNR=21
E24K **Your Creek** 83.30 9 IAmb IAmb 02 53 34.9
comp=Z,4.9nm,0.6s
E24K **Your Creek** 83.30 9 P P 02 53 33.2 +0.5
baz=338,SNR=12
F21K **Alatna River** 83.31 11 IAmb IAmb 02 53 41.8
comp=Z,4.1nm,0.9s
F21K **Alatna River** 83.31 11 P P 02 53 32.7 -0.1
baz=334
G17K **Kiwalik Mounta** 83.41 14 P P 02 53 33.0 -0.2
baz=328
G18K **Tagagawik** 83.51 14 IAmb IAmb 02 53 35.3
comp=Z,5.1nm,1.1s
G18K **Tagagawik** 83.51 14 P P 02 53 33.9 +0.2
baz=330
G19K **Purcell Mounta** 83.61 13 IAmb IAmb 02 53 35.0
comp=Z,4.8nm,0.6s
G19K **Purcell Mounta** 83.61 13 P P 02 53 34.1 -0.1
baz=331,SNR=10
E25K **Arctic Village** 83.64 8 P P 02 53 34.6 +0.2
baz=341,SNR=16
C36M **Paulatuk** 83.74 360 P P 02 53 33.9 -0.8
C36M **Paulatuk** 83.74 360 P P 02 53 33.9 -0.8
baz=0.1,SNR=9.3
H16K **Elim** 83.78 16 P P 02 53 35.1 0.0
baz=326
E28M **Babbage River** 83.81 6 IAmb IAmb 02 53 37.7
comp=Z,2.8nm,0.6s
E28M **Babbage River** 83.81 6 P P 02 53 35.4 +0.2
baz=346,SNR=8.4
COLD **Coldfoot** 83.84 10 IAmb IAmb 02 53 37.8
comp=Z,3.5nm,0.6s
COLD **Coldfoot** 83.84 10 P P 02 53 35.7 +0.3
baz=337,SNR=6.8
F24K **Squaw Lake** 83.91 9 IAmb IAmb 02 53 37.6
comp=Z,4.0nm,0.6s
F24K **Squaw Lake** 83.91 9 P P 02 53 36.3 +0.5
baz=339,SNR=6.8
G22K **Bettles** 83.92 10 P P 02 53 35.9 +0.1
baz=336
G21K **Allakaket** 83.95 11 IAmb IAmb 02 53 36.5
comp=Z,3.3nm,0.6s
G21K **Allakaket** 83.95 11 P P 02 53 35.7 -0.2
baz=334,SNR=6.0
E27K **Coleen River** 84.02 6 P P 02 53 36.6 +0.3
baz=344
H17K **Granite Mounta** 84.06 14 P P 02 53 36.5 0.0
baz=328
F25K **Christian Rive** 84.13 8 P P 02 53 37.2 +0.3
baz=341
E29M **Blow River** 84.16 5 IAmb IAmb 02 53 42.9
comp=Z,4.9nm,1.2s
E29M **Blow River** 84.16 5 P P 02 53 37.1 +0.2
baz=348
H18K **Honhosa River** 84.21 14 P P 02 53 37.2 -0.1
baz=330
F26K **Sheenjek River** 84.22 8 P P 02 53 37.7 +0.4
F26K IAmb IAmb 02 53 39.0
comp=Z,2.4nm,0.6s
F26K **Sheenjek River** 84.22 8 P P 02 53 38.0 +0.7
baz=342,SNR=7.2
H19K **Roundabout Mou** 84.28 13 P P 02 53 37.8 +0.2
baz=332
G23K **Bananza Creek** 84.34 10 IAmb IAmb 02 53 46.1
comp=Z,4.7nm,1.1s
G23K **Bananza Creek** 84.34 10 P P 02 53 38.5 +0.5
baz=337,SNR=6.0

BMAR **Burnt Mountain** 84.42 8 P P 02 53 39.3 +0.9
INK **Inuvik** 84.53 3 P P 02 53 38.4 -0.4
INK **Inuvik** 84.53 3 P P 02 53 38.6 -0.2
baz=352
H20K **Anotleneega Mo** 84.61 12 P P 02 53 39.5 +0.1
baz=333
G24K **Hadweenzic Riv** 84.73 9 P P 02 53 40.8 +0.9
baz=339,SNR=16
H21K **Melozitna Rive** 84.85 12 IAmb IAmb 02 53 46.6
comp=Z,6.0nm,1.1s
H21K **Melozitna Rive** 84.85 12 P P 02 53 40.8 +0.3
baz=335
G25K **Bearman Lake** 84.86 9 P P 02 53 41.3 +0.8
baz=340,SNR=5.6
H22K **Ishtalitna Cre** 84.88 11 P P 02 53 41.4 +0.7
baz=336,SNR=11
G26K **Porcupine Rive** 84.97 8 IAmb IAmb 02 53 43.1
comp=Z,2.4nm,0.6s
G26K **Porcupine Rive** 84.97 8 P P 02 53 41.3 +0.2
baz=343
F30M **Barrier River** 85.08 4 P P 02 53 41.8 +0.1
baz=350,SNR=13
H23K **Yukon River** 85.24 10 P P 02 53 43.1 +0.6
baz=338,SNR=10.0
J16K **Anvik River** 85.31 16 P P 02 53 43.3 +0.4
baz=328
I20K **Naaghedeneel** 85.31 13 P P 02 53 43.2 +0.4
baz=333
G27K **Doyon Strip** 85.35 7 IAmb IAmb 02 53 45.0
comp=Z,4.9nm,0.6s
G27K **Doyon Strip** 85.35 7 P P 02 53 43.8 +0.7
baz=344,SNR=12
F31M **Tsiigehtchic** 85.38 4 P P 02 53 43.2 +0.2
baz=352,SNR=19
I21K **Tanana** 85.43 11 IAmb IAmb 02 53 51.4
comp=Z,9.9nm,1.5s
I21K **Tanana** 85.43 11 P P 02 53 43.8 +0.4
baz=335
H24K **Noodor Dome** 85.48 10 IAmb IAmb 02 53 45.8
comp=Z,2.6nm,0.7s
H24K **Noodor Dome** 85.48 10 P P 02 53 44.2 +0.4
baz=339
J17K **VABM Dome** 85.57 15 P P 02 53 44.3 +0.2
baz=329
G29M **Pine Creek** 85.60 5 IAmb IAmb 02 53 52.1
comp=Z,10nm,1.5s
G29M **Pine Creek** 85.60 5 P P 02 53 44.4 +0.1
baz=348
G30M **tAoh Zraii Nji** 85.67 5 IAmb IAmb 02 53 52.4
comp=Z,5.8nm,0.7s
G30M **tAoh Zraii Nji** 85.67 5 P P 02 53 44.1 -0.6
baz=349,SNR=6.6
J19K **Poorman** 85.80 13 P P 02 53 45.3 -0.1
baz=332
G31M **Satah River** 85.86 4 P P 02 53 45.4 -0.1
baz=351,SNR=12
I23K **Minto, Yukon-K** 85.90 10 IAmb IAmb 02 53 53.7
comp=Z,9.5nm,1.3s
I23K **Minto, Yukon-K** 85.90 10 P P 02 53 45.8 0.0
baz=338
K15K **Wolf Creek Mou** 85.92 17 P P 02 53 46.0 +0.1
baz=327
H27K **Steamboat Moun** 85.92 7 IAmb IAmb 02 53 47.7
comp=Z,5.8nm,0.7s
H27K **Steamboat Moun** 85.92 7 P P 02 53 45.9 0.0
baz=345,SNR=9.8
J20K **Nowinta River** 85.93 13 IAmb IAmb 02 53 47.2
comp=Z,5.0nm,0.6s
J20K **Nowinta River** 85.93 13 P P 02 53 46.2 +0.3
baz=334,SNR=5.6
J18K **Innoko River** 86.04 14 P P 02 53 46.7 +0.2
baz=331
PRP **Porcupine Dome** 86.12 9 P P 02 53 46.9 -0.1
PRP IAmb IAmb 02 53 57.7
comp=Z,5.2nm,1.2s
PRP **Porcupine Dome** 86.12 9 P P 02 53 47.3 +0.3
baz=341
M11K **Mekoryuk** 86.21 19 P P 02 53 47.0 -0.4
baz=323
POKR **Poker Plat Res** 86.23 10 P P 02 53 47.7 +0.3
baz=339
EPYK **Eagle Plains** 86.23 5 P P 02 53 47.0 -0.5
baz=349
H29M **Whitestone** 86.25 6 IAmb IAmb 02 53 55.6
comp=Z,4.1nm,0.9s
H29M **Whitestone** 86.25 6 P P 02 53 47.5 0.0
baz=347,SNR=5.4
COLA **College** 86.39 10 P P 02 53 48.1 -0.1
baz=339
L14K **Kuka Creek** 86.42 18 P P 02 53 48.2 -0.1
baz=326
L15K **Ungalak Mounta** 86.45 17 P P 02 53 49.0 +0.5
baz=327
NEA2 **Nenana** 86.46 10 IAmb IAmb 02 54 02.3
comp=Z,6.4nm,1.4s
NEA2 **Nenana** 86.46 10 P P 02 53 48.3 -0.2
baz=338
I27K **Kandik River** 86.52 7 P P 02 53 48.8 -0.2
baz=344,SNR=5.3
CHUM **Lake Minchumin** 86.55 12 P P 02 53 49.0 0.0
baz=335,SNR=13
BPAW **Bear Paw Mtn.** 86.59 11 P P 02 53 49.0 -0.2
baz=336,SNR=15
I26K **Coal Creek Min** 86.63 8 IAmb IAmb 02 53 50.6
comp=Z,4.3nm,0.6s
I26K **Coal Creek Min** 86.63 8 P P 02 53 49.3 -0.1
baz=343
IL31 86.63 10 IAmb IAmb 02 53 49.8
comp=Z,3.8nm,0.6s
ILAR **Eielson Array** 86.63 10 P P 02 53 48.9 -0.6
comp=Z,2.9nm,0.6s,baz=322,slow=4.5,SNR=69
ILAR LR LR 03 38 32.8
comp=Z,36nm,18.0s,baz=43,slow=40
comp=Z,2.9nm,0.6s
TTA **Tatalina** 86.66 14 P P 02 53 49.4 -0.2
baz=332
K20K **Telida** 86.69 13 IAmb IAmb 02 53 58.1
comp=Z,8.0nm,0.9s
K20K **Telida** 86.69 13 P P 02 53 49.7 0.0
baz=334,SNR=6.1
L17K **Donlin** 86.85 15 P P 02 53 50.5 +0.1
baz=330
I28M **Miner Creek** 86.85 7 P P 02 53 50.4 -0.2
baz=346,SNR=11
L16K **Owhat River** 86.93 16 P P 02 53 51.1 +0.2
baz=329
H31M **Peel River** 86.96 4 P P 02 53 50.8 -0.3
baz=351,SNR=8.9
HDA **Harding Lake** 86.97 10 IAmb IAmb 02 53 51.1
comp=Z,5.2nm,0.6s
HDA **Harding Lake** 86.97 10 P P 02 53 50.2 -0.8
baz=340,SNR=7.3
J25K **Salcha River,** 87.00 9 IAmb IAmb 02 53 56.6
comp=Z,3.5nm,0.8s
J25K **Salcha River,** 87.00 9 P P 02 53 50.8 -0.5
baz=341,SNR=5.3
CAST **Castle Rocks** 87.02 12 P P 02 53 51.0 -0.4
baz=335,SNR=11
I29M **Ogilvie Camp,** 87.09 6 IAmb IAmb 02 53 52.6
comp=Z,4.6nm,0.7s
I29M **Ogilvie Camp,** 87.09 6 P P 02 53 51.4 -0.3
baz=347,SNR=9.2
L18K **Granite Mounta** 87.14 15 P P 02 53 52.0 +0.1
baz=331
MCK **McKinley** 87.28 11 P P 02 53 52.0 -0.7
MCK **McKinley** 87.28 11 P P 02 53 52.0 -0.7
MCK pmax pmax
comp=Z,5.0nm,0.6s
MCK **McKinley** 87.28 11 P P 02 53 52.1 -0.6
baz=338,SNR=5.8
TRF **Thorofare Moun** 87.31 11 IAmb IAmb 02 53 54.6
comp=Z,4.7nm,0.6s
TRF **Thorofare Moun** 87.31 11 P P 02 53 52.4 -0.6
baz=337
J26L **Joseph Creek** 87.35 8 P P 02 53 52.9 -0.2
baz=343,SNR=19
I30M **Mount Dempster** 87.39 5 P P 02 53 52.8 -0.4
baz=349,SNR=11
PPLA **Purkeypile** 87.47 12 P P 02 53 53.0 -0.7
baz=335
M15K **Kasigluk River** 87.49 17 P P 02 53 53.3 -0.3
baz=328
L20K **Farewell, AK** 87.52 13 P P 02 53 53.7 -0.1
baz=334
M16K **Timber Creek** 87.65 16 P P 02 53 54.7 +0.3
baz=330
M17K **Holitna River** 87.69 15 P P 02 53 55.2 +0.6
baz=331

K24K **Donnelly Dome** 87.71 9 P P 02 53 55.2 +0.5
baz=341
SCRK **Sand Creek** 87.80 9 IAmb IAmb 02 54 03.6
comp=Z,5.1nm,1.0s
SCRK **Sand Creek** 87.80 9 P P 02 53 55.3 +0.1
baz=342
N14K **Kuskokwak Cree** 87.88 18 P P 02 53 55.7 +0.2
baz=327
RIDG **Independent Ri** 87.91 9 P P 02 53 55.9 +0.2
baz=342
M19K **Big River Lodg** 87.92 14 P P 02 53 56.1 +0.4
baz=333
K27K **Chicken** 87.99 8 P P 02 53 56.3 +0.3
baz=344
J29N **Klondike Camp** 87.99 6 P P 02 53 56.5 +0.4
baz=348,SNR=5.1
J30M **Hart River** 88.03 5 P P 02 53 56.4 +0.1
baz=349
DOT **Dot Lake** 88.10 9 IAmb IAmb 02 53 56.9
comp=Z,2.8nm,0.7s
M20K **Styx River** 88.21 13 P P 02 53 57.1 0.0
baz=334
DAWY **Dawson** 88.25 7 IAmb IAmb 02 53 57.7
comp=Z,2.6nm,0.6s
DAWY **Dawson** 88.25 7 P P 02 53 57.3 0.0
baz=346
CUT **Chulitna** 88.28 12 P P 02 53 57.3 -0.1
baz=337
SKT **Skwentna** 88.44 13 P P 02 53 57.7 -0.5
baz=336
K29M **Barlow Dome** 88.65 6 P P 02 53 59.3 0.0
baz=348
N19K **Bonanza Creek** 88.88 14 P P 02 54 00.8 +0.4
baz=333
M22K **Willow** 88.91 12 P P 02 54 00.8 +0.5
baz=337
L27K **Beaver Creek,** 88.95 8 P P 02 54 00.9 +0.3
baz=344
SUA **Susitna One** 89.06 12 P P 02 54 01.1 -0.2
baz=337
SML **Sawmill** 89.18 11 P P 02 54 01.8 0.0
baz=339
WB0 **Warramunga Arr** 89.21 113 P P 02 54 01.1 -1.3
PMR **Palmer** 89.24 12 P P 02 54 02.1 +0.2
baz=338
WRA **Warramunga Arr** 89.25 113 P P 02 54 02.0 -0.7
comp=Z,1.0nm,0.8s,baz=314,slow=4.1,SNR=7.1
comp=Z,1.0nm,0.8s
WRA **Warramunga Arr** 89.25 113 P P 02 54 02.0 -0.7
M24K **Tolsona, Glenn** 89.26 10 P P 02 54 02.5 +0.4
baz=341
M23K **Glacier View** 89.30 11 P P 02 54 02.6 +0.4
baz=339
L29M **L29M** 89.32 6 P P 02 54 02.6 +0.3
baz=348
SCM **Sheep Creek Mo** 89.33 11 P P 02 54 02.7 +0.3
baz=340
RC01 **Rabbit Creek A** 89.60 12 P P 02 54 03.5 -0.1
baz=337
CAPN **Captain Cook N** 89.62 13 P P 02 54 04.3 +0.6
baz=336
M27K **Edge Creek, AK** 89.63 8 P P 02 54 04.4 +0.5
baz=344
KLU **Klutina** 89.88 10 P P 02 54 05.6 +0.5
baz=341
M29M **Somme Creek** 89.94 7 P P 02 54 05.9 +0.6
baz=347
YKA **Yellowknife Ar** 90.29 356 P P 02 54 06.8 0.0
comp=Z,0.3nm,0.6s,baz=1.0,slow=5.2,SNR=12
YKA LR LR 03 41 26.2
comp=Z,26nm,19.1s,baz=316,slow=40
comp=Z,0.3nm,0.6s
YKA **Yellowknife Ar** 90.29 356 *i* P P 02 54 07.4 +0.6
ASAR **Alice Springs** 90.71 116 P P 02 54 09.3 -0.1
ASAR **Alice Springs** 90.71 116 P P 02 54 08.7 -0.8
comp=Z,0.5nm,0.6s,baz=303,slow=4.9,SNR=8.9
comp=Z,0.5nm,0.6s
ASAR **Alice Springs** 90.71 116 P P 02 54 09.3 -0.1
N30M **Aishikik Lake** 91.04 6 P P 02 54 10.2 -0.2
baz=349
HYT **Haines Junctio** 91.62 7 P P 02 54 13.8 +0.6
baz=348
O29M **Mount Kennedy** 92.02 7 P P 02 54 15.4 +0.4
baz=347
RCBR **Riachuelo** 94.18 266 LR LR 03 37 36.0
comp=Z,12nm,18.4s,baz=89,slow=36
ELIB **Princess Elisa** 101.41 190 *d*PP PP 02 59 08.9 +1.9
NVAR **Mina Array Bea** 114.48 355 PKP PKPdf 02 59 47.4 +0.6
comp=Z,0.3nm,0.6s,baz=3.1,slow=1.8,SNR=3.6
QSPA **South Pole Qui** 117.04 180 PKP PKPdf 02 59 49.2 -1.2
comp=Z,0.6nm,0.4s,baz=3.8,slow=1.0,SNR=6.7
TXAR **Lajitas Array** 120.46 339 PKP PKPdf 02 59 57.4 -0.9
comp=Z,0.3nm,0.6s,baz=327,slow=0.5,SNR=6.7

NEIC ***20*** *02:47:35.4±2.3,25°.4S±0°.1×176°.8W±0°.2, h35km±2km, mb4.5/12, Error ellipse: s-maj=27.6km s-min=19.8km az=142.0*
IDC ***20*** *02:47:35.7±4.0,25°.60S×176°.81W, h41km±34km, mb3.8/12, mbtmp4.0/14, ML5.4/1, MS3.6/5, Error ellipse: s-maj=23.6km s-min=20.4km az=101.0*
ISC 20 02:47:34.4±0.5, 25°.57S±0°.08×176°.64W±0°.09, h36km, n59, σ1§27/47, mb4.1/15, MS3.8/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NIUE	**Niue**	8.96	45	Pn	Pn	02 49 40.4	-1.0
NIUE				Sn	Sn	02 51 11.5	-10
MSVF	**Nonsavu**	9.23	327	P	Pn	02 49 45.2	+0.1
	1.2nm,0.3s,baz=21,slow=19,SNR=4.0						
MSVF				LR	LR	02 52 55.0	
	comp=Z,191nm,21.7s,baz=61,slow=35						
	2.3nm,0.4s						
AFI	**Afiamalu**	12.47	22	Pn	Pn	02 50 27.0	-2.5
URZ	**Urewera**	13.71	201	P	Pn	02 50 46.1	-0.1
	0.9nm,0.3s,baz=16,slow=15,SNR=1.1						
URZ				S	Sn	02 53 02.1	-15
	3.2nm,0.4s,baz=232,slow=22,SNR=8.7						
DZM	**Mont Dumac**	15.87	279	LR	LR	02 56 14.8	
	comp=Z,82nm,21.1s,baz=134,slow=33						
RAR	**Rarotonga**	16.08	78	P	Pn	02 51 15.0	-2.8
	22nm,1.0s,baz=126,slow=19,SNR=1.5						
RAR				S	Sn	02 53 57.4	-18
	27nm,1.0s,baz=10,slow=20,SNR=1.7						
CTZ	**Chatham Island**	18.12	180	P	Pn	02 51 42.1	-1.1
CTZ				IAmb	IAmb	02 51 48.9	
	comp=Z,68nm,1.4s						
PYZ	**Puysegur Point**	24.50	209	P	P	02 52 48.3	-1.9
EIDS	**Eidsvold**	29.11	263	P	P	02 53 31.8	-0.1
EIDS				IAmb	IAmb	02 54 12.5	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	36.99	250	P	P	02 54 41.1	+0.5
STKA	**Stephens Creek**	36.99	250	P	P	02 54 40.2	-0.4
	comp=Z,2.5nm,0.8s,baz=101,slow=15,SNR=3.5						
	comp=Z,2.5nm,0.8s						
BBOO	**Buckleboo**	41.65	249	P	P	02 55 18.7	-0.7
AS31	**Alice Springs**	44.79	261	P	P	02 55 44.4	-0.6
ASAR	**Alice Springs**	44.80	261	P	P	02 55 44.2	-0.8
	comp=Z,1.4nm,0.4s,baz=92,slow=6.9,SNR=47						
	comp=Z,1.4nm,0.4s						
WB2	**Warramunga Arr**	45.34	267	P	P	02 55 47.6	-1.8
WB2				IAmb	IAmb	02 56 13.4	
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	45.35	267	P	P	02 55 48.7	-0.7
	comp=Z,0.8nm,0.4s,baz=103,slow=7.5,SNR=12						
	comp=Z,0.8nm,0.4s						
WB0	**Warramunga Arr**	45.35	267	P	P	02 55 48.5	-1.0
WB0				IAmb	IAmb	02 55 52.9	
	comp=Z,9.9nm,1.3s						
KNRA	**Kununurra**	51.74	270	P	P	02 56 36.1	-2.5
QSPA	**South Pole Qui**	64.52	180	P	P	02 58 08.6	+1.1
QSPA				IAmb	IAmb	02 58 43.7	
	comp=Z,2.5nm,1.1s						
QSPA	**South Pole Qui**	64.52	180	P	P	02 58 08.1	+0.6
	comp=Z,2.5nm,0.7s,baz=16,slow=1.0,SNR=16						
	comp=Z,2.5nm,0.7s						
TGY	**Tagaytay City**	72.44	296	LR	LR	03 27 41.2	
	comp=Z,118nm,21.1s,baz=20,slow=33						
SHEM	**Shemya Is, Ala**	78.38	354	LR	LR	03 27 47.1	
	comp=Z,38nm,22.0s,baz=278,slow=31						
PEA0B	**Petropavlovsk-**	81.47	345	P	P	02 59 48.1	+0.6
PETK	**Petropavlovsk-**	81.47	345	P	P	02 59 48.3	+0.8
PETK	**Petropavlovsk-**	81.47	345	P	P	02 59 48.1	+0.6
	comp=Z,2.3nm,0.7s,baz=121,slow=5.7,SNR=4.0						
	comp=Z,2.3nm,0.7s						
KSRS	**Korea Array**	81.50	318	P	P	02 59 48.5	+0.5
	comp=Z,0.5nm,0.3s,baz=11,slow=41,SNR=1.5						

comp=Z,0.5nm,0.3s
H03S2 Juan Fernandez 82.12 124 T T 04 30 31.5
baz=243,slow=74,SNR=12
H03S1 Juan Fernandez 82.14 124 T T 04 30 32.3
baz=243,slow=74,SNR=14
H03S3 Juan Fernandez 82.14 124 T T 04 30 31.0
baz=243,slow=74,SNR=17
H03N3 Juan Fernandez 82.29 123 T T 04 30 32.7
baz=249,slow=73,SNR=9.4
H03N2 Juan Fernandez 82.29 123 T T 04 30 38.5
baz=249,slow=73,SNR=12
H03N1 Juan Fernandez 82.31 123 T T 04 30 38.3
baz=249,slow=73,SNR=14
USRK Ussuriysk Ar. 83.84 326 P **P** **03 00 01.0 +0.9**
comp=Z,3.4nm,0.8s,baz=118,slow=3.9,SNR=6.1
comp=Z,3.4nm,0.8s
NVAR Mina Array Bea 83.88 42 P **P** **03 00 01.9 +1.2**
comp=Z,0.6nm,0.7s,baz=248,slow=5.6,SNR=3.6
comp=Z,0.6nm,0.7s
PLCA Paso Flores 84.91 133 P **P** **03 00 07.2 +1.3**
comp=Z,1.2nm,0.9s,baz=235,slow=5.4,SNR=3.1
comp=Z,1.2nm,0.9s
PLCA Paso Flores 84.91 133 PKHKP **P** **03 00 07.2 +1.3**
BI02 San Fabin de 86.40 129 P **P** **03 00 14.3 +0.8**
TXAR Lajitas Array 88.75 57 P **P** **03 00 25.9 +1.3**
comp=Z,0.3nm,0.8s,baz=242,slow=4.4,SNR=4.2
comp=Z,0.3nm,0.8s
MA2 Magadan 88.98 344 LR LR 03 37 21.4
comp=Z,39nm,19.0s,baz=107,slow=34
PDAR Pinedale Array 91.80 43 P **P** **03 00 40.1 +1.3**
comp=Z,0.5nm,0.7s,baz=211,slow=0.9,SNR=4.9
comp=Z,0.5nm,0.7s
ILAR Eielson Array 92.97 12 P **P** **03 00 43.8 +0.5**
comp=Z,0.2nm,0.8s,baz=214,slow=6.3,SNR=2.0
comp=Z,0.2nm,0.8s
FINES FINESS Array B 140.97 343 PKP **PKPdf** **03 06 59.8 -0.3**
comp=Z,1.5nm,0.8s,baz=33,slow=7.3,SNR=3.4
NB2 NORSAR Subarra144.14 353 PKP PKPbc 03 07 04.2 +0.3
comp=Z,0.4nm,0.6s,baz=11,slow=3.5
NOA NORSAR Array B144.14 353 PKP PKPbc 03 07 04.4 +0.5
comp=Z,0.9nm,0.9s,baz=15,slow=2.3,SNR=5.2
HFS Hagfors 144.72 351 PKP **PKPab** **03 07 05.3 -0.3**
comp=Z,2.1nm,0.6s,baz=64,slow=3.4,SNR=18
AKASG Malin Array Be 148.00 328 PKPbc **PKPbc** **03 07 15.4 -0.4**
comp=Z,1.4nm,0.5s,baz=46,slow=4.0,SNR=12
EKA Eskdalemuir Ar 149.88 7 PKPbc **PKiKP** **03 07 21.8 +0.5**
comp=Z,0.7nm,0.8s,baz=1.6,slow=2.9,SNR=1.6
BRTR Keskin Array B 151.02 307 PKPbc **PKPbc** **03 07 22.4 -1.3**
comp=Z,0.8nm,0.6s,baz=58,slow=2.8,SNR=4.8
MMAI Mount Meron Ar 151.17 292 PKPbc **PKiKP** **03 07 25.4 +0.6**
comp=Z,1.5nm,0.6s,baz=82,slow=2.0,SNR=4.4
GERES GERESS Array B 155.40 343 PKPab **PKPab** **03 07 50.1 +0.7**
comp=Z,0.6nm,0.8s,baz=47,slow=4.5,SNR=5.9
CONA Conrad Observa 155.60 339 *i* PKP **PKPab** **03 07 51.1 +0.8**
comp=Z,0.4nm,0.3s
RONA Rosalia, Austr 155.66 338 *i* PKP **PKPab** **03 07 52.8 +2.2**
comp=Z,1.8nm,0.7s
BIOA Bad Ischl, Aus 156.47 342 *i* PKP **PKPab** **03 07 55.9 +1.9**
comp=Z,1.4nm,0.7s
WTTA Wattenberg 157.37 345 *i* PKP **PKPab** **03 07 60.0 +1.9**
comp=Z,2.8nm,0.7s
MYKA Terra Mystica 157.44 341 *i* PKP **PKPab** **03 07 59.5 +1.3**
comp=Z,2.5nm,0.7s
ABTA Abfaltersbach 157.64 343 *e*PKP **PKPab** **03 08 01.0 +1.9**
comp=Z,2.0nm,0.7s
DAVA Damuels 157.72 348 *i* PKP **PKPab** **03 08 00.9 +1.4**
comp=Z,0.9nm,0.5s
MAHO Mahon 165.69 357 PKPdf **PKPdf** **03 07 34.1 -1.3**
TORD Torodi Ar. Bea 167.54 172 PKPab **PKPab** **03 08 43.0 0.0**

NEIC 20 02:48:19.1±0.9,35°.29N±0°.01×97°.79W±0°.01,h5km, ML1.4/21,Error ellipse: s-maj=2.2km s-min=2.0km az=117.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.32**	**96**	Pg	Pb	02 48 27.0	-0.3
FNO				IAML		02 48 36.0	
comp=E,40nm,0.7s							
OK029	**Liberty Lake**	**0.57**	**28**	Pg	Pg	02 48 30.2	+0.1
OK029				Sg	Sg	02 48 38.4	+0.8
OK029				IAML		02 48 41.4	
comp=E,18nm,0.6s							
OK029				IAML		02 48 44.0	
comp=E,19nm,1.0s							
X34A	**Smith Ranch, M**	**0.69**	**183**		Pg	02 48 32.5	+0.2
X34A				IAML		02 48 50.5	
comp=E,26nm,3.6s							
X34A				IAML		02 48 51.7	
comp=N,21nm,3.4s							
W35A	**Tecumseh**	**0.76**	**100**	Pg	Pb	02 48 34.6	-0.2
W35A				IAML		02 48 39.5	
comp=E,18nm,3.7s							
W35A				Sg	Sg	02 48 42.4	-1.3
WMOK	**Wichita Mounta**	**0.98**	**236**	Pg	Pg	02 48 37.9	-0.1
CROK	**Carrier**	**1.22**	**353**	Pg	Pg	02 48 42.4	-0.1
OK051	**E0350 and S346**	**1.44**	**32**		Pn	02 48 45.1	-0.7

*IDC **20** 02:52:46.1±10.0, 6°.42S×128°.44E, h222km±121km, mb3.4/4, mbtmp4.2/7, Error ellipse: s-maj=100.2km s-min=42.8km az=51.0*
*NEIC **20** 02:52:51.3±1.3, 6°.60S±0°.07×128°.52E±0°.08, h288km±10km, mb4.2/7, Error ellipse: s-maj=13.4km s-min=7.3km az=125.0*

ISC 20 02:52:51.6±0.7, 6°.68S±0°.07×128°.59E±0°.09, h300km, n27, σ1§43/31, mb3.8/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.98**	**116**		**Pn**	**02 53 48.1**	**+0.9**
SAUI				Sn	**S**	**02 54 29.3**	**-2.3**
FAKI	**Fak Fak**	**5.22**	**44**		**Pn**	**02 54 10.2**	**-1.6**
SOEI	**Soe**	**5.26**	**234**		**Pn**	**02 54 11.0**	**-1.3**
MTN	**Manton Dam**	**6.62**	**158**		**Pn**	**02 54 28.4**	**0.0**
KNRA	**Kununurra**	**8.94**	**179**		**Pn**	**02 54 57.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**11.71**	**194**		**Pn**	**02 55 30.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**11.71**	**194**	P	**Pn**	**02 55 29.6**	**-1.0**
15nm,0.6s,baz=27,slow=12,SNR=65							
FITZ				S	**S**	**02 57 38.6**	**-2.6**
2.7nm,0.4s,baz=28,slow=15,SNR=2.1							
WB0	**Warramunga Arr**	**14.18**	**157**	P	**P**	**02 56 00.8**	**+1.0**
WRA	**Warramunga Arr**	**14.32**	**158**	P	**Pn**	**02 56 02.6**	**+0.6**
2.6nm,0.6s,baz=333,slow=13,SNR=12							
WRA				S	**S**	**02 58 35.9**	**-2.9**
1.1nm,0.7s,baz=348,slow=22,SNR=3.1							
WB2	**Warramunga Arr**	**14.32**	**158**		**Pn**	**02 56 02.9**	**+0.8**
COEN	**Coen**	**16.06**	**118**	Pn	**Pn**	**02 56 23.3**	**+0.7**
COEN				IAmb	IAmb	02 56 53.2	
comp=Z,14nm,1.1s							
PSA00	**Pilbara Seismi**	**17.05**	**209**	P	**P**	**02 56 31.5**	**+0.3**
AS31	**Alice Springs**	**17.64**	**164**		**P**	**02 56 39.9**	**+2.4**
AS31				IAmb	IAmb	02 56 40.5	
comp=Z,4.4nm,0.5s							
ASAR	**Alice Springs**	**17.64**	**164**	P	**P**	**02 56 39.8**	**+2.2**
ASAR	**Alice Springs**	**17.64**	**164**	P	**P**	**02 56 40.0**	**+2.4**
comp=Z,9.2nm,0.4s,baz=343,slow=11,SNR=99							
ASAR				S	**S**	**02 59 47.6**	**+2.5**
comp=Z,1.3nm,0.8s,baz=347,slow=25,SNR=4.9							
SONM	**Songino Array**	**57.71**	**342**	P	**P**	**03 02 12.1**	**+0.6**
comp=Z,0.6nm,0.6s,baz=169,slow=8.2,SNR=3.2							
comp=Z,0.6nm,0.6s							
MKAR	**Makanchi Array**	**67.20**	**327**	P	**P**	**03 03 15.2**	**+1.3**
MKAR	**Makanchi Array**	**67.20**	**327**	P	**P**	**03 03 14.8**	**+0.9**
comp=Z,0.9nm,0.5s,baz=122,slow=7.7,SNR=8.5							
comp=Z,0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**70.68**	**334**	P	**P**	**03 03 35.2**	**+0.1**
ZALV	**Zalesovo Beam**	**70.68**	**334**	P	**P**	**03 03 35.1**	**0.0**
comp=Z,1.0nm,0.5s,baz=134,slow=5.4,SNR=4.3							
comp=Z,1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**71.51**	**329**	P	**P**	**03 03 40.9**	**+0.8**
comp=Z,1.0nm,0.5s,baz=129,slow=5.1,SNR=13							
comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**71.52**	**329**	P	**P**	**03 03 40.4**	**+0.3**
KURK				IAmb	IAmb	03 04 01.9	
comp=Z,2.6nm,1.1s							
AB31	**Akbulak array**	**81.39**	**322**	P	**P**	**03 04 35.3**	**0.0**
ABKAR	**Akbulak array**	**81.39**	**322**	P	**P**	**03 04 35.5**	**+0.2**
D19K	**Kuna River**	**90.12**	**21**	P	**P**	**03 05 17.4**	**-0.2**
D19K				IAmb	IAmb	03 05 58.2	
comp=Z,4.4nm,1.4s							
D25K	**Kavik River**	**94.44**	**21**	P	**P**	**03 05 37.1**	**-0.4**
D25K				IAmb	IAmb	03 05 48.9	
comp=Z,2.4nm,1.4s							
BMAR	**Burnt Mountain**	**94.90**	**23**	P	**P**	**03 05 38.3**	**-1.3**

DJA 20 02:53:29.4±0.6, 2°.S±4°.×12°.2E±°, h10km, M3.8/6, MLv3.8/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.32**	**5**	P	Pn	02 53 52.7	-1.3
APSI	**Ampana**	**1.32**	**5**	P	Pn	02 53 52.6	-1.4
LUWI	**Luwuk**	**1.71**	**46**	P	Pn	02 53 58.7	-0.6
LUWI				S	Sb	02 54 23.1	+0.5
LUWI	**Luwuk**	**1.71**	**46**	P	Pn	02 53 58.5	-0.8
LUWI				S	Sb	02 54 23.0	+0.4
PCI	**Palu**	**2.16**	**308**	P	Pb	02 54 07.5	-1.1
PCI				S	Sn	02 54 33.1	+0.8
PCI	**Palu**	**2.16**	**308**	P	Pn	02 54 05.6	+0.1
PCI				S	Sn	02 54 33.8	+1.5
SPSI	**Sidrap Palu**	**2.46**	**226**	P	Pb	02 54 12.4	-1.4
SPSI				S	Sb	02 54 44.6	+0.4
BNSI	**Bone**	**2.58**	**214**	P	Pb	02 54 16.4	+0.6
BNSI				S	Sb	02 54 48.0	+0.4
MPSI	**Mapaga**	**3.04**	**327**	P	Pn	02 54 15.9	-1.7
MPSI				S	Sn	02 54 51.9	-2.2
MPSI	**Mapaga**	**3.04**	**327**	P	Pn	02 54 16.0	-1.6

*IDC **20** 03:28:28.6±3.1, 2°.07N×127°.65E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=266.7km s-min=28.1km az=67.0*
*DJA **20** 03:28:41.8±0.3, 2°.N±2°.×12°.7E±°, h46km±19km, M3.9/11, mB5.0/1, mb4.1/3, MLv3.7/11, Mw(mB)4.3/1*

ISC 20 03:28:37.6±1.4, 1°.97N±0°.09×127°.4E±0°.2, h50km, n8, σ2§65/10, mb3.3/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.19**	**183**	P	**Pn**	**03 29 01.3**	**+3.3**
TNTI				S	**Sn**	**03 29 15.5**	**+2.4**
SGSI	**Sangihe**	**2.54**	**312**	P	**Pn**	**03 29 19.0**	**+2.6**
SGSI				S	**Sn**	**03 29 47.3**	**+1.1**
SANI	**Sanana**	**4.24**	**200**	P	**Pn**	**03 29 39.4**	**-0.4**
NLAI	**Namlea**	**5.19**	**184**	P	**Pn**	**03 29 54.8**	**+2.1**
0.1nm11nm,0.5s							
LUWI	**Luwuk**	**5.53**	**237**	P	**Pn**	**03 29 57.6**	**+0.2**
WRA	**Warramunga Arr**	**22.81**	**163**	P	**P**	**03 33 32.7**	**-3.7**
0.4nm,0.3s,baz=342,slow=9.8,SNR=11							
0.4nm,0.3s							
ASAR	**Alice Springs**	**26.25**	**166**	P	**P**	**03 34 06.2**	**-2.1**
0.3nm,0.5s,baz=345,slow=9.2,SNR=6.0							
0.3nm,0.5s							
MKAR	**Makanchi Array**	**59.38**	**326**	P	**P**	**03 38 33.7**	**-1.2**
0.2nm,0.5s,baz=111,slow=7.9,SNR=2.4							
0.2nm,0.5s							

*BJI **20** 03:48:18.6, 10°.21S×161°.77E, h86km, mB5.0/16, mb5.0/40, Ms4.6/8, Ms7 4.3/7*
*MOS **20** 03:48:20.4±0.9, 10°.30S×161°.11E, h86km, mb5.1/30, Error ellipse: s-maj=8.8km s-min=6.5km az=113.7*
*IDC **20** 03:48:20.4±0.5, 10°.33S×161°.27E, h74km±3km, mb4.5/23, mbtmp4.8/26, MS3.7/46, Error ellipse: s-maj=11.7km s-min=9.3km az=49.0*
*NOU **20** 03:48:21.2, 10°.33S×161°.32E, h73km, mb5.1/53, Solomon Islands*
*NEIC **20** 03:48:21.9±1.6, 10°.30S±0°.03×161°.21E±0°.09, h80km±6km, mb5.0/240, Error ellipse: s-maj=12.5km s-min=3.9km az=82.0*
*GCMT **20** 03:48:22.9±0.2, 10°.42S±0°.01×161°.36E±0°.02, h76km±2km, MW5.1/103, Moment Tensor Solution. s41,c51; s103,c138; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.71±.16; Mθθ=0.79±.14; Mϕϕ1.50±.14; Mrθ=2.30±.09; Mθϕ4.27±.12; Mϕr=0.04±.10; Best double couple: M0=5.01600×1016 NP1:ϕs=174.00000°, δ62.00000°, λ=173.00000°. NP2:ϕs=80.00000°, δ83.00000°, λ=28.00000°. Principal axes: T 5.1500, Plg15.0000°, Azm130.0000°; N -0.2680, Plg61.0000°, Azm248.0000°; P -4.8820, Plg24.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 03:48:20.8±0.3, 10°.35S±0°.04×161°.26E±0°.04, h77km±2km, h78km:pP-P,n675, σ1§12/577, mb5.0/188, 9C-20D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.58**	**305**		**Pn**	**03 48 47.1**	**0.0**
HNR				Sn	**Sn**	**03 49 06.0**	**-1.1**
HNR	**Honiara**	**1.58**	**305**	P	**Pn**	**03 48 47.4**	**+0.3**
15μm,0.6s,baz=173,slow=6.4,SNR=397							
HNR				S	**Sn**	**03 49 06.5**	**-0.5**
8μm,0.4s,baz=164,slow=3.9,SNR=4.2							
HNR				LR	LR	03 49 36.0	
comp=Z,7μm,20.6s,baz=106,slow=48							
HNR	**Honiara**	**1.58**	**305**	P	**Pn**	**03 48 47.2**	**+0.1**
NGOA	**Tingoa Renbel**	**1.68**	**224**	P	**Pn**	**03 48 46.9**	**-1.4**
ALEG	**Aligegeo Malai**	**1.68**	**341**	P	**Pn**	**03 48 49.8**	**+1.4**
SAVO	**Savo Central**	**1.86**	**310**	P	**Pn**	**03 48 51.1**	**+0.3**
TATA	**Tatamba Isabel**	**2.42**	**324**	P	**Pn**	**03 48 59.2**	**+0.9**
LUES	**Luesalemba Tem**	**4.59**	**94**	P	**Pn**	**03 49 26.8**	**-0.9**
LUES	**Luesalemba Tem**	**4.59**	**94**	S	**Sn**	**03 50 18.1**	**-1.7**
VLAKA	**Lakatoro**	**8.29**	**134**	P	**Pn**	**03 50 18.8**	**+0.5**
VLAKA	**Lakatoro**	**8.29**	**134**	S	**Sn**	**03 51 49.5**	**-0.8**
KOUNC	**Koumac, New Ca**	**10.55**	**164**	P	**Pn**	**03 50 50.8**	**+1.7**
KOUNC	**Koumac, New Ca**	**10.55**	**164**	S	**Sn**	**03 52 44.7**	**-0.9**
RABL	**Rabaul**	**10.90**	**304**	Pn	**Pn**	**03 50 54.7**	**+0.7**
DZM	**Mont Dzumac**	**12.67**	**158**		**Pn**	**03 51 19.1**	**+1.0**
DZM	**Mont Dzumac**	**12.67**	**158**	*e*Pn	**Pn**	**03 51 18.9**	**+0.8**
176nm,1.2s							
DZM				*e*Sn	**Sn**	**03 53 31.0**	**-6.4**
128nm,1.1s							
DZM				*e*LR	LR	03 54 10.2	
2μm,27.1s							
DZM	**Mont Dzumac**	**12.67**	**158**	P	**Pn**	**03 51 19.8**	**+1.7**
23nm,0.5s,baz=168,slow=21,SNR=88							
DZM				S	**Sn**	**03 53 31.6**	**-5.7**
baz=345,slow=20							
DZM				LR	LR	03 55 48.4	
comp=Z,265nm,19.5s,baz=352,slow=35							
DZM	**Mont Dzumac**	**12.67**	**158**	P	**Pn**	**03 51 20.0**	**+1.9**
ONTNC	**Ouen Toro**	**12.89**	**158**		**Pn**	**03 51 21.4**	**+0.5**
ONTNC	**Ouen Toro**	**12.89**	**158**	P	**Pn**	**03 51 22.4**	**+1.5**
PINNC	**Pines Island,**	**13.55**	**155**	Pn	**Pn**	**03 51 31.0**	**+1.2**
PMG	**Port Moresby**	**13.93**	**273**		**P**	**03 51 37.6**	**-2.7**
PMG	**Port Moresby**	**13.93**	**273**	P	**Pn**	**03 51 36.0**	**+1.3**
3.8nm,0.3s,baz=117,slow=12,SNR=6.6							
PMG				LR	LR	03 56 14.2	
comp=Z,273nm,20.2s,baz=116,slow=34							
PMG	**Port Moresby**	**13.93**	**273**	P	**Pn**	**03 51 36.3**	**+1.6**
PMG	**Port Moresby**	**13.93**	**273**	*ce*P	**Pn**	**03 51 32.2**	**-2.5**
PMG				pmax	pmax		
comp=Z,64nm,1.3s							
TV1H	**Townsville Har**	**16.54**	**236**	P	**P**	**03 52 10.3**	**+1.0**
RK1H	**Rockhampton Ha**	**16.54**	**217**	P	**P**	**03 52 10.0**	**+0.7**
PATS	**Pohnpei**	**17.32**	**350**		**Pn**	**03 52 17.9**	**+0.2**
PATS	**Pohnpei**	**17.32**	**350**	P	**Pn**	**03 52 15.7**	**-2.0**
comp=Z,259nm,0.7s							
PATS	**Pohnpei**	**17.32**	**350**	P	**Pn**	**03 52 18.6**	**+0.9**
EIDS	**Eidsvold**	**17.79**	**212**		**Pn**	**03 52 24.9**	**+1.6**
EIDS	**Eidsvold**	**17.79**	**212**	P	**Pn**	**03 52 25.2**	**+1.9**
comp=Z,39nm,1.1s							
EIDS	**Eidsvold**	**17.79**	**212**	P	**Pn**	**03 52 25.3**	**+2.0**
MSVF	**Nonsavu**	**17.86**	**116**		**Pn**	**03 52 25.6**	**+1.3**
MSVF	**Nonsavu**	**17.86**	**116**	P	**P**	**03 52 24.6**	**+0.7**
comp=Z,7.1nm,0.4s,baz=290,slow=20,SNR=3.7							
MSVF				LR	LR	03 58 25.5	
comp=Z,148nm,21.5s,baz=20,slow=34							
MSVF	**Nonsavu**	**17.86**	**116**	||*i*P	**Pn**	**03 52 26.8**	**+2.5**
MSVF				pmax	pmax		
comp=Z,77nm,1.3s							
COEN	**Coen**	**18.04**	**257**		**Pn**	**03 52 26.2**	**-0.2**
COEN	**Coen**	**18.04**	**257**	P	**Pn**	**03 52 28.2**	**+1.7**
comp=Z,33nm,0.8s							
COEN	**Coen**	**18.04**	**257**	P	**Pn**	**03 52 28.1**	**+1.7**
MTSU	**Mount Surprise**	**18.14**	**243**	P	**Pn**	**03 52 30.7**	**+3.0**
MTSU	**Mount Surprise**	**18.14**	**243**	P	**Pn**	**03 52 29.6**	**+1.9**
JAY	**Jayapura**	**21.84**	**289**	P	**pP**	**03 53 07.1**	**-0.1**
comp=Z,4.4nm,0.3s,baz=139,slow=9.3,SNR=2.0							
JAY				pP	**pP**	**03 53 23.1**	**+0.4**
comp=Z,11nm,0.5s,baz=64,slow=12,SNR=3.4							
JAY				LR	LR	04 01 43.6	
comp=Z,129nm,20.7s,baz=3.0,slow=37							
comp=Z,4.4nm,0.3s							
JAY	**Jayapura**	**21.84**	**289**	P	**P**	**03 53 10.6**	**+3.4**
comp=Z,515nmcomp=Z,28nm,0.9s							
ARMA	**Armidale**	**21.89**	**203**	P	**P**	**03 53 07.9**	**+0.3**
ARMA	**Armidale**	**21.89**	**203**	P	**P**	**03 53 08.1**	**+0.5**
comp=Z,37nm,1.4s							
ARMA	**Armidale**	**21.89**	**203**	P	**P**	**03 53 09.4**	**+1.8**
QLP	**Quilpie**	**22.79**	**223**	P	**P**	**03 53 17.6**	**+0.5**
comp=Z,82nm,0.9s							
QLP	**Quilpie**	**22.79**	**223**	P	**P**	**03 53 19.0**	**+1.9**
QIS	**Mount Isa**	**23.18**	**241**	P	**P**	**03 53 21.5**	**+0.4**
comp=Z,36nm,0.8s							
QIS	**Mount Isa**	**23.18**	**241**	P	**P**	**03 53 22.3**	**+1.2**
SMPI	**Sarmi**	**23.89**	**289**	P	**P**	**03 53 28.2**	**+0.7**
comp=Z,110nm,1.2s							
CMSA	**Cobar Meteorol**	**25.55**	**212**	P	**P**	**03 53 42.6**	**+0.2**
comp=Z,32nm,1.0s							
CMSA	**Cobar Meteorol**	**25.55**	**212**	P	**P**	**03 53 44.3**	**+1.9**
INKA	**Innaminka**	**25.91**	**225**	P	**P**	**03 53 47.0**	**+1.2**
CAN	**Canberra**	**27.25**	**202**	P	**P**	**03 53 58.2**	**+0.4**
CAN	**Canberra**	**27.25**	**202**	P	**P**	**03 53 58.2**	**+0.4**
CAN				pmax	pmax		
comp=Z,15nm,0.9s							
WB0	**Warramunga Arr**	**27.54**	**247**	P	**P**	**03 54 00.5**	**-0.1**
WRAB	**Tennant Creek**	**27.63**	**247**	*c*P	**P**	**03 54 01.2**	**-0.1**
WRAB				*i* *PP	**pwP**	**03 54 21.7**	**-2.4**
WRAB				pmax	pmax		
comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**27.64**	**247**	P	**P**	**03 54 00.6**	**-0.8**
WRA	**Warramunga Arr**	**27.64**	**247**	P	**P**	**03 54 01.5**	**+0.1**
comp=Z,10nm,0.7s,baz=76,slow=9.2,SNR=42							
WRA				pP	**pP**	**03 54 19.7**	**+1.7**
comp=Z,43nm,0.7s,baz=77,slow=9.3,SNR=25							
WRA				ScP	**ScP**	**04 00 50.4**	**-0.8**
comp=Z,2.8nm,1.1s,baz=72,slow=3.4,SNR=4.6							
WRA				LR	LR	04 04 26.5	
comp=Z,205nm,19.1s,baz=26,slow=35							
comp=Z,10nm,0.7s							
STKA	**Stephens Creek**	**28.10**	**217**	P	**P**	**03 54 05.5**	**+0.1**
STKA	**Stephens Creek**	**28.10**	**217**	P	**P**	**03 54 04.9**	**-0.5**
comp=Z,3.9nm,0.7s,baz=45,slow=14,SNR=11							
STKA				LR	LR	04 04 48.8	
comp=Z,470nm,19.7s,baz=36,slow=35							
comp=Z,3.9nm,0.7s							
STKA	**Stephens Creek**	**28.10**	**217**	P	**P**	**03 54 07.2**	**+1.8**
STKA	**Stephens Creek**	**28.10**	**217**	*e*P	**P**	**03 54 04.8**	**-0.6**
GUMO	**Guam**	**28.82**	**325**	LR	LR	04 04 57.5	
comp=Z,200nm,21.7s,baz=115,slow=35							
AS01	**Alice Springs**	**29.21**	**240**	P	**P**	**03 54 15.1**	**-0.2**
AS31	**Alice Springs**	**29.25**	**240**	P	**P**	**03 54 14.7**	**-1.0**
ASAR	**Alice Springs**	**29.25**	**240**	P	**P**	**03 54 14.5**	**-1.2**
ASAR	**Alice Springs**	**29.25**	**240**	P	**P**	**03 54 14.8**	**-0.9**
comp=Z,5.2nm,0.8s,baz=68,slow=9.3,SNR=36							
ASAR				pP	**pP**	**03 54 33.8**	**+1.6**
comp=Z,8.9nm,0.8s,baz=64,slow=10,SNR=10							
ASAR				LR	LR	04 05 00.5	
comp=Z,346nm,21.3s,baz=87,slow=34							
comp=Z,5.2nm,0.8s							
LCRK	**Leigh Creek**	**29.32**	**224**	P	**P**	**03 54 16.8**	**+0.6**
MTN	**Manton Dam**	**29.61**	**262**	P	**P**	**03 54 20.0**	**+1.0**
TOZ	**Tahuroa Road**	**30.12**	**157**	P	**P**	**03 54 23.8**	**+0.6**
TOO	**Toolangi**	**30.60**	**205**	P	**P**	**03 54 27.8**	**+0.4**
TOO	**Toolangi**	**30.60**	**205**	P	**P**	**03 54 28.2**	**+0.8**
comp=Z,7.7nm,0.8s							
TOO	**Toolangi**	**30.60**	**205**	P	**P**	**03 54 27.8**	**+0.4**
TOO				pmax	pmax		
comp=Z,6.0nm,0.9s							
HTT	**Hallett**	**30.80**	**218**	P	**P**	**03 54 29.8**	**+0.5**
comp=Z,9.3nm,2.3s							
HAZ	**Te Kaha**	**31.07**	**154**	P	**P**	**03 54 32.2**	**+0.6**
URZ	**Urewera**	**31.22**	**155**	LR	LR	04 06 10.5	
comp=Z,103nm,19.4s,baz=46,slow=34							
MWZ	**Matawai**	**31.45**	**155**	P	**P**	**03 54 36.1**	**+1.2**
RTZ	**Ruatahuna**	**31.47**	**156**	P	**P**	**03 54 35.3**	**+0.2**
RTZ				IAmb	IAmb	03 54 38.7	
comp=Z,62nm,1.6s							
ARPS	**Mount Arapiles**	**31.62**	**211**	P	**P**	**03 54 37.4**	**+1.0**
comp=Z,23nm,1.2s							
BKZ	**Black Stump Fm**	**31.75**	**157**	P	**P**	**03 54 37.7**	**+0.1**
BKZ				IAmb	IAmb	03 54 40.4	
comp=Z,14nm,0.8s							
BKZ	**Black Stump Fm**	**31.75**	**157**	P	**P**	**03 54 39.2**	**+1.6**
BKZ	**Black Stump Fm**	**31.75**	**157**	P	**P**	**03 54 38.6**	**+1.0**
QRZ	**Quartz Range**	**31.95**	**164**	P	**P**	**03 54 40.8**	**+1.6**
KNRA	**Kununurra**	**32.08**	**257**	P	**P**	**03 54 40.9**	**+0.3**
KNRA	**Kununurra**	**32.08**	**257**	P	**P**	**03 54 40.7**	**0.0**
comp=Z,42nm,0.7s							
BBOO	**Buckleboo**	**32.22**	**222**	P	**P**	**03 54 42.0**	**+0.3**
BBOO	**Buckleboo**	**32.22**	**222**	P	**P**	**03 54 42.0**	**+0.3**
comp=Z,49nm,0.9s							
BBOO	**Buckleboo**	**32.22**	**222**	P	**P**	**03 54 42.3**	**+0.5**
MRNZ	**Matariki Terra**	**32.54**	**164**	P	**P**	**03 54 45.4**	**+1.0**
NNZ	**Nelson**	**32.55**	**163**	P	**P**	**03 54 47.0**	**+2.6**
OGWZ	**Otaki Gorge**	**32.74**	**160**	P	**P**	**03 54 46.6**	**+0.4**
TCW	**Tory Channel**	**32.81**	**162**	P	**P**	**03 54 47.8**	**+1.1**
TUWZ	**Tuamarina**	**32.91**	**162**	P	**P**	**03 54 48.8**	**+1.2**
THZ	**Tophouse**	**32.92**	**164**	P	**P**	**03 54 48.2**	**+0.4**
MSWZ	**Moikau Station**	**33.31**	**161**	P	**P**	**03 54 51.1**	**-0.1**
KHZ	**Kahutara**	**33.70**	**164**	P	**P**	**03 54 54.3**	**-0.2**
LTZ	**Lake Taylor**	**33.71**	**

INU	**Inuyama**	**50.91 334**	P	**P**	**03 57 13.9**	**-0.2**
INU	**Inuyama**	**50.91 334**	P	**P**	**03 57 14.8**	**+0.6**
INU	**Inuyama**	**50.91 334**	P	**P**	**03 57 14.4**	**+0.3**
KIP	**Kipapa**	**50.95 52**	⇓*i*P	**P**	**03 57 15.4**	**+0.6**
KIP			pmax	pmax		
comp=Z,75nm,3.5s						
KIP	**Kipapa**	**50.95 52**	P	**P**	**03 57 15.4**	**+0.6**
JGF	**Kuroka**	**50.98 335**	P	**P**	**03 57 14.5**	**-0.2**
JGF	**Kuroka**	**50.98 335**	P	**P**	**03 57 15.3**	**+0.5**
JMN	**Monobe**	**50.99 330**	P	**P**	**03 57 15.2**	**+0.3**
JMN	**Monobe**	**50.99 330**	P	**P**	**03 57 15.9**	**+1.0**
MJAR	**Matsushiro Arr**	**51.44 336**	P	**P**	**03 57 17.4**	**-0.8**
comp=Z,13nm,0.7s,baz=168,slow=8.4,SNR=38						
MJAR			LR	LR	04 18 32.7	
comp=Z,40nm,20.5s,baz=165,slow=35						
comp=Z,13nm,0.7s						
MAJO	**Matsushiro**	**51.44 336**	P	**P**	**03 57 17.4**	**-0.8**
MAJO	**Matsushiro**	**51.44 336**	P	**P**	**03 57 17.9**	**-0.3**
MAJO	**Matsushiro**	**51.44 336**	P	**P**	**03 57 17.4**	**-0.8**
MAJO			pmax	pmax		
comp=Z,25nm,0.7s						
MAJO	**Matsushiro**	**51.44 336**	P	**P**	**03 57 17.7**	**-0.5**
MJB9	**Matsu-Tunnel**	**51.45 336**	P	**P**	**03 57 18.0**	**-0.2**
YULB	**Yu-li**	**51.51 311**	P	**P**	**03 57 18.6**	**-0.3**
JMM	**Marumori**	**51.65 339**	P	**P**	**03 57 19.7**	**0.0**
JMM	**Marumori**	**51.65 339**	P	**P**	**03 57 21.5**	**+1.8**
TPUB	**Ta-pu**	**51.95 311**	P	**P**	**03 57 21.5**	**-0.8**
SSLB	**Suanglung**	**51.99 311**	P	**P**	**03 57 22.2**	**-0.3**
JNU	**Nakatsue**	**52.03 327**	LR	LR	04 16 04.5	
comp=Z,69nm,21.6s,baz=145,slow=32						
JNU	**Nakatsue**	**52.03 327**	P	**P**	**03 57 23.4**	**+0.7**
ERM	**Erimo**	**54.70 344**	P	**P**	**03 57 43.1**	**+1.1**
ERM			sP	**sP**	**03 58 12.1**	**+2.4**
TJN	**Taejon**	**56.38 327**	P	**P**	**03 57 54.7**	**+0.6**
TJN	**Taejon**	**56.38 327**	P	**P**	**03 57 54.8**	**+0.6**
TJN			pmax	pmax		
comp=Z,190nm,1.0s						
JKA	**Kamikawa-asahi**	**56.80 344**	P	**P**	**03 57 57.6**	**+0.6**
ASAJ	**Asahikawa**	**56.80 344**	LR	LR	04 19 60.0	
comp=Z,238nm,21.9s,baz=148,slow=34						
ASAJ	**Asahikawa**	**56.80 344**	P	**P**	**03 57 57.6**	**+0.6**
ASAJ			pmax	pmax		
comp=Z,40nm,0.9s						
KSRS	**Korea Array**	**56.90 329**	P	**P**	**03 57 58.5**	**+0.7**
comp=Z,14nm,0.9s,baz=145,slow=7.4,SNR=44						
KSRS			LR	LR	04 20 48.8	
comp=Z,58nm,20.2s,baz=135,slow=34						
comp=Z,14nm,0.9s						
KSAR	**Wonju Array Be**	**56.91 328**	P	**P**	**03 57 57.9**	**0.0**
KSAR	**Wonju Array Be**	**56.91 328**	P	**P**	**03 57 57.9**	**0.0**
KS19	**Wonju Array Si**	**56.97 329**	P	**P**	**03 57 58.0**	**-0.3**
INCN	**Inchon**	**57.59 328**	P	**P**	**03 58 03.2**	**+0.4**
INCN	**Inchon**	**57.59 328**	P	**P**	**03 58 03.8**	**+1.0**
INCN	**Inchon**	**57.59 328**	P	**P**	**03 58 03.2**	**+0.4**
INCN			pmax	pmax		
comp=Z,71nm,1.3s						
TAOE	**Nuku Hiva Isla**	**57.72 94**	*e*LR	LR	04 15 07.9	
comp=Z,60nm,25.5s						
DRV	**Dumont d'Urvil**	**58.06 190**	P	**P**	**03 58 05.5**	**-0.1**
NJ2	**Nanjing**	**58.49 318**	*e*P	**P**	**03 58 11.3**	**+2.2**
NJ2			pmax	pmax		
comp=Z,9.0nm,0.5s						
YSS	**Yuzhno-Sakhali**	**59.40 345**	P	**P**	**03 58 15.3**	**+0.3**
YSS	**Yuzhno-Sakhali**	**59.40 345**	P	**P**	**03 58 16.3**	**+1.3**
YSS	**Yuzhno-Sakhali**	**59.40 345**	*e*P	**P**	**03 58 15.5**	**+0.5**
YSS			pmax	pmax		
comp=Z,30nm,1.2s						
USA0B	**Ussuriysk Arra**	**60.44 336**	*d i*P	**P**	**03 58 22.9**	**+0.6**
USRK	**Ussuriysk Ar.**	**60.44 336**	P	**P**	**03 58 23.0**	**+0.7**
comp=Z,45nm,0.8s,baz=150,slow=6.3,SNR=56						
USRK			LR	LR	04 22 21.3	
comp=Z,57nm,21.2s,baz=180,slow=34						
comp=Z,45nm,0.8s						
USRK	**Ussuriysk Ar.**	**60.44 336**	P	**P**	**03 58 23.0**	**+0.7**
SKR	**Severo-Kuril's**	**60.94 356**	⇑*i*P	**P**	**03 58 26.4**	**+0.9**
MDJ	**Mudanjiang**	**61.76 335**	P	**P**	**03 58 31.6**	**+0.4**
MDJ			pmax	pmax		
comp=Z,37nm,0.8s						
MDJ			pmax	pmax		
comp=Z,140nm,5.5s						
MDJ	**Mudanjiang**	**61.76 335**	P	**P**	**03 58 32.0**	**+0.7**
MDJ	**Mudanjiang**	**61.76 335**	P	**P**	**03 58 31.9**	**+0.7**
MDJ			pP	**pwP**	**03 58 53.1**	**+0.2**
RKT	**Rikitea**	**61.96 111**	*e*LR	LR	04 17 04.1	
comp=Z,1µm,33.0s						
KULM	**Kulim**	**62.32 282**	P	**P**	**03 58 35.0**	**-0.7**
KULM			IAmb	IAmb	03 59 00.4	
comp=Z,14nm,1.0s						
CN2	**Changchun**	**62.96 332**	⇓P	**P**	**03 58 39.4**	**+0.2**
CN2			*ep*P	pwP	03 59 00.9	+0.1
CN2			pmax	pmax		
comp=Z,50nm,0.6s						
CN2			pmax	pmax		
comp=Z,110nm,6.0s						
TYV	**Tymovskoe**	**63.07 347**	*e*P	**P**	**03 58 38.4**	**-1.4**
TYV			*e*S	**S**	**04 06 59.0**	**-5.5**
TYV			pmax	pmax		
comp=Z,100nm,3.4s						
TYV			pmax	pmax		
comp=Z,17nm,0.7s						
TYV			smax	smax		
comp=N,200nm,5.4s						
TYV			smax	smax		
comp=E,200nm,5.4s						
PET	**Petropavlovsk**	**63.16 358**	*c i*P	**P**	**03 58 40.7**	**+0.4**
PET			pmax	pmax		
comp=Z,30nm,1.4s						
PEA0B	**Petropavlovsk-**	**63.28 358**	*d i*P	**P**	**03 58 41.3**	**+0.1**
PETK	**Petropavlovsk-**	**63.28 358**		**P**	**03 58 41.2**	**+0.1**
PETK	**Petropavlovsk-**	**63.28 358**	P	**P**	**03 58 41.5**	**+0.4**
comp=Z,11nm,0.8s,baz=180,slow=10,SNR=15						
PETK			pP	**pP**	**03 59 00.9**	**+0.3**
comp=Z,8.0nm,0.8s,baz=153,slow=5.9,SNR=2.7						
PETK			LR	LR	04 22 24.3	
comp=Z,86nm,21.9s,baz=174,slow=32						
comp=Z,11nm,0.8s						
BNX	**BinXian**	**63.59 334**	⇓P	**P**	**03 58 43.1**	**-0.2**
BNX			pmax	pmax		
comp=Z,43nm,0.8s						
SHEM	**Shemya Is, Ala**	**63.79 9**	LR	LR	04 20 13.0	
comp=Z,40nm,21.7s,baz=316,slow=30						
HNS	**HongShan**	**64.47 320**	⇑P	**P**	**03 58 49.9**	**+0.6**
HNS			pP	**pwP**	**03 59 12.1**	**+0.4**
HNS			pmax	pmax		
comp=Z,15nm,1.1s						
KIWB	**Kanaga Island**	**64.69 15**	P	**P**	**03 58 51.8**	**+1.4**
KLR	**Kul'dur**	**64.75 339**	LR	LR	04 24 24.3	
comp=Z,68nm,21.9s,baz=178,slow=33						
KLR	**Kul'dur**	**64.75 339**	*d i*P	**P**	**03 58 51.3**	**+0.4**
KLR			pmax	pmax		
comp=Z,31nm,1.3s						
BJI	**Beijing**	**65.23 323**	P	**P**	**03 58 54.5**	**+0.3**
BJI			pmax	pmax		
comp=Z,3.0nm,0.8s						
BJI			pmax	pmax		
comp=Z,61nm,4.9s						
CASY	**Casey**	**65.47 200**	P	**P**	**03 58 55.0**	**-0.3**
ATKA	**Atka Island**	**65.79 16**	P	**P**	**03 58 58.2**	**+0.7**
XAN	**Xi'an**	**66.44 314**	⇓P	**P**	**03 59 01.6**	**-0.6**
XAN			pmax	pmax		
comp=Z,11nm,0.8s						
XAN	**Xi'an**	**66.44 314**	P	**P**	**03 59 03.0**	**+0.9**
XAN			pP	**pwP**	**03 59 23.8**	**-0.8**
VNDA	**Vanda**	**67.15 180**	P	**P**	**03 59 06.7**	**+0.8**
VNDA			IAmb	IAmb	03 59 07.7	
comp=Z,15nm,0.9s						
VNDA	**Vanda**	**67.15 180**	P	**P**	**03 59 06.7**	**+0.8**
comp=Z,10nm,0.8s,baz=346,slow=6.7,SNR=21						
VNDA			LR	LR	04 23 16.8	
comp=Z,67nm,21.1s,baz=350,slow=31						
comp=Z,10nm,0.8s						
VNDA	**Vanda**	**67.15 180**	P	**P**	**03 59 06.7**	**+0.8**
VNDA			pmax	pmax		
comp=Z,15nm,0.9s						
VNDA	**Vanda**	**67.15 180**	P	**P**	**03 59 06.8**	**+0.8**
HEH	**HeiHe**	**67.19 337**	⇓*i*P	**P**	**03 59 06.4**	**-0.1**
HEH			pmax	pmax		
comp=Z,38nm,0.8s						
XLT	**XiLinHaoTe**	**67.79 326**	*e*P	**P**	**03 59 11.3**	**+0.7**
XLT			pP	pwP	03 59 33.8	+0.6
XLT			PcP	**PcP**	**03 59 37.5**	**+0.7**
XLT			sP	sP	03 59 42.5	+4.3
XLT			pmax	pmax		
comp=Z,42nm,0.8s						
CMAR	**Chiang Mai Arr**	**67.81 295**	P	**P**	**03 59 10.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**67.81 295**	P	**P**	**03 59 11.8**	**+0.7**
comp=Z,1.0nm,0.3s,baz=118,slow=4.7,SNR=14						
CMAR			pP	**pP**	**03 59 29.8**	**-0.9**
comp=Z,3.7nm,0.8s,baz=123,slow=4.9,SNR=4.1						
CMAR			LR	LR	04 30 34.1	
comp=Z,11nm,18.5s,baz=205,slow=37						
comp=Z,1.0nm,0.3s						
CHTO	**Chiang Mai**	**67.93 295**	P	**P**	**03 59 10.6**	**-1.3**
CHTO	**Chiang Mai**	**67.93 295**	P	**P**	**03 59 12.9**	**+1.1**
CHTO	**Chiang Mai**	**67.93 295**	P	**P**	**03 59 10.6**	**-1.3**
CHTO			pmax	pmax		
comp=Z,11nm,1.2s						
CCD	**Concordia, Ant**	**68.09 190**	P	**P**	**03 59 13.0**	**+0.6**
CCD			PcP	**pwP**	**03 59 37.5**	**+0.6**
PZH	**PanZhiHua**	**68.41 304**	P	**P**	**03 59 16.4**	**+1.6**
PZH			pmax	pmax		
comp=Z,10.0nm,0.5s						
PZH			pmax	pmax		
comp=Z,130nm,4.0s						
HHC	**Hu-ho-hao-te**	**68.50 322**	*e*P	**P**	**03 59 17.1**	**+2.0**
HHC			pmax	pmax		
comp=Z,15nm,0.7s						
HHC			pmax	pmax		
comp=Z,51nm,5.9s						
CD2	**Chengdu**	**68.71 309**	*e*P	**P**	**03 59 16.0**	**-0.5**
HIA	**Hailar**	**69.65 332**	P	**P**	**03 59 22.8**	**+0.8**
HIA	**Hailar**	**69.65 332**	*d i*P	**P**	**03 59 22.0**	**0.0**
HIA			pmax	pmax		
comp=Z,25nm,0.7s						
HIA	**Hailar**	**69.65 332**	P	**P**	**03 59 22.4**	**+0.4**
AKUT	**Akutan**	**70.04 20**	P	**P**	**03 59 23.9**	**-0.2**
ZEA	**Zeya**	**70.07 339**	*e*P	**P**	**03 59 25.0**	**+0.7**
ZEA			*e*		03 59 47.4	
ZEA			pmax	pmax		
comp=N,30nm,0.6s						
ZEA			pmax	pmax		
comp=Z,40nm,0.7s						
MA2	**Magadan**	**70.20 354**	P	**P**	**03 59 24.3**	**-0.7**
MA2			IAmb	IAmb	03 59 25.6	
comp=Z,19nm,0.8s						
MA2	**Magadan**	**70.20 354**	*d i*P	**P**	**03 59 24.6**	**-0.4**
MA2			pmax	pmax		
comp=Z,20nm,0.9s						
MA2	**Magadan**	**70.20 354**	P	**P**	**03 59 24.8**	**-0.2**
MA2			pP	**PcP**	**03 59 46.5**	**+0.1**
LZH	**Lanzhou**	**71.06 314**	*e*P	**P**	**03 59 32.9**	**+1.9**
LZH			pP	pwP	03 59 53.4	-0.2
LZH			sP	sP	04 00 02.3	+3.4
LZH			pmax	pmax		
comp=Z,36nm,0.6s						
LZH			LR	LR		
comp=Z,130nm,17.5s						
LZH			LR	LR		
comp=Z,120nm,18.2s						
LZH			LR	LR		
comp=Z,130nm,15.8s						
S12K	**Black Hills**	**72.57 21**	P	**P**	**03 59 39.4**	**-0.1**
S12K	**Black Hills**	**72.57 21**	P	**P**	**03 59 39.3**	**-0.1**
baz=218						
CNBA	**Chernabura Isl**	**72.78 22**	P	**P**	**03 59 40.0**	**-0.6**
CNBA			IAmb	IAmb	04 02 05.0	
comp=Z,42nm,1.6s						
CHNA	**Chernabura Isl**	**72.79 22**	P	**P**	**03 59 40.4**	**-0.2**
baz=221						
SDPT	**Sand Point**	**72.86 22**	P	**P**	**03 59 41.1**	**0.0**
baz=220						
SEY	**Seymchan**	**73.38 356**	LR	LR	04 27 47.2	
comp=Z,63nm,21.9s,baz=200,slow=32						
SEY	**Seymchan**	**73.38 356**	*d i*P	**P**	**03 59 44.2**	**+0.2**
SEY			pmax	pmax		
comp=Z,11nm,0.8s						
ULN	**Ulaanbaatar**	**75.20 326**	P	**P**	**03 59 55.7**	**+0.5**
ULN			IAmb	IAmb	03 59 56.8	
comp=Z,16nm,0.7s						
ULN	**Ulaanbaatar**	**75.20 326**	*d i*P	**P**	**03 59 55.8**	**+0.7**
ULN			pmax	pmax		
comp=Z,16nm,0.7s						
GTA	**Gaotai**	**75.44 315**	*e*P	**P**	**03 59 57.8**	**+1.1**
GTA			pP	pwP	04 00 19.3	-0.1
GTA			pmax	pmax		
comp=Z,7.0nm,0.9s						
SONM	**Songino Array**	**75.55 325**		**P**	**03 59 57.5**	**+0.4**
SONM			IAmb	IAmb	03 59 58.5	
comp=Z,19nm,0.6s						
SONM	**Songino Array**	**75.55 325**	P	**P**	**03 59 57.7**	**+0.6**
comp=Z,16nm,0.6s,baz=142,slow=5.7,SNR=94						
SONM			pP	**pP**	**04 00 16.5**	**-0.5**
comp=Z,8.9nm,0.7s,baz=145,slow=5.9,SNR=5.7						
comp=Z,16nm,0.6s						
O14K	**Tigyukauivet M**	**75.64 19**	P	**P**	**03 59 57.7**	**+0.5**
baz=218						
M13K	**Dall Lake**	**75.93 17**	P	**P**	**04 00 00.0**	**+1.3**
baz=216						
N14K	**Kuskokwak Cree**	**76.04 18**	P	**P**	**04 00 00.1**	**+0.7**
baz=218						
O15K	**Ungalikthiuk R**	**76.04 19**	P	**P**	**04 00 00.1**	**+0.6**
baz=220						
SII	**Sitkinak Islan**	**76.14 24**	P	**P**	**04 00 00.7**	**+0.6**
baz=225						
YAK	**Yakutsk**	**76.25 345**		**P**	**04 00 00.6**	**0.0**
YAK	**Yakutsk**	**76.25 345**	LR	LR	04 34 10.1	
comp=Z,24nm,19.5s,baz=149,slow=36						
YAK	**Yakutsk**	**76.25 345**	*e*P	**P**	**04 00 00.5**	**0.0**
YAK			*e*		04 00 11.6	
YAK			*e**PP	**sP**	**04 00 26.7**	**-2.1**
YAK			*e*		04 02 51.2	
YAK			*e*PPP	PPP	04 04 38.6	
YAK			*e*S	**S**	**04 09 37.2**	**-1.4**
YAK			*e*		04 10 04.7	
YAK			*e**SS	sS	04 10 23.3	+10
YAK			*e*SS	**SS**	**04 14 37.3**	**+3.1**
YAK			*e*SSS	SSS	04 17 53.2	
YAK			pmax	pmax		
comp=Z,89nm,1.0s						
YAK			pmax	pmax		
comp=N,10.0nm,1.2s						
YAK			pmax	pmax		
comp=E,2.0nm,0.4s						
YAK			pmax	pmax		
comp=Z,15nm,0.4s						
YAK			pmax	pmax		
comp=N,45nm,3.3s						
YAK			pmax	pmax		
comp=E,60nm,3.2s						
YAK			smax	smax		
comp=N,72nm,4.7s						
YAK			smax	smax		
comp=E,50nm,4.3s						
SHL	**Shillong**	**76.33 300**	P	**P**	**04 00 00.6**	**-1.5**
SHL			IAmb	IAmb	04 00 26.2	
comp=Z,15nm,0.8s						
SHL	**Shillong**	**76.33 300**	P	**P**	**04 00 00.6**	**-1.5**
SHL			pmax	pmax		
comp=Z,15nm,0.8s						
M14K	**Bethel**	**76.61 18**	P	**P**	**04 00 02.3**	**-0.3**
M14K			IAmb	IAmb	04 00 04.5	
comp=Z,21nm,0.8s						
M14K	**Bethel**	**76.61 18**	P	**P**	**04 00 03.5**	**+0.8**
baz=217,SNR=7.0						
Q17K	**Contact Creek**	**76.72 22**	P	**P**	**04 00 03.3**	**-0.2**
baz=224,SNR=9.2						
N15K	**Kwethluk River**	**76.73 19**	P	**P**	**04 00 04.0**	**+0.7**
N15K			IAmb	IAmb	04 00 05.3	
comp=Z,22nm,0.9s						
N15K	**Kwethluk River**	**76.73 19**	P	**P**	**04 00 03.9**	**+0.6**
baz=219,SNR=5.5						
GAMB	**Gambell**	**76.74 12**	P	**P**	**04 00 03.9**	**+0.6**
baz=207						
Q16K	**King Salmon**	**76.75 21**	P	**P**	**04 00 04.4**	**+0.9**
baz=223,SNR=5.4						
R18K	**Karluk**	**76.75 23**	P	**P**	**04 00 04.1**	**+0.6**
baz=225						
K13K	**Kusilvak Mount**	**76.81 16**	P	**P**	**04 00 04.7**	**+1.0**
baz=214						
L14K	**Kuka Creek**	**76.88 17**	P	**P**	**04 00 05.1**	**+0.9**
baz=216						
O16K	**Kokwok River B**	**76.94 20**	P	**P**	**04 00 04.7**	**+0.2**
baz=221						
M15K	**Kasigluk River**	**76.95 18**	P	**P**	**04 00 05.2**	**+0.6**
baz=218,SNR=5.8						
OHAK	**Old Harbor**	**76.96 23**	P	**P**	**04 00 05.4**	**+0.7**
OHAK	**Old Harbor**	**76.96 23**	P	**P**	**04 00 05.3**	**+0.6**
baz=226						
P17K	**Kvichak River**	**77.20 21**	P	**P**	**04 00 05.6**	**-0.4**
baz=223						
Q18K	**Katmai Hardscr**	**77.32 22**	P	**P**	**04 00 07.0**	**+0.2**
baz=224,SNR=14						
N16K	**Nishlik Lake**	**77.38 19**	P	**P**	**04 00 08.5**	**+1.4**
baz=220,SNR=5.4						
O17K	**Koliganek Bris**	**77.41 20**	P	**P**	**04 00 07.2**	**0.0**
baz=222,SNR=5.0						
L15K	**Ungalak Mounta**	**77.49 17**	P	**P**	**04 00 08.0**	**+0.4**
baz=218						
KDAK	**Kodiak Island**	**77.62 23**	P	**P**	**04 00 08.3**	**0.0**
KDAK	**Kodiak Island**	**77.62 23**	LR	LR	04 30 42.9	
comp=Z,43nm,18.4s,baz=70,slow=33						
KDAK	**Kodiak Island**	**77.62 23**	⇑*i*P	**P**	**04 00 09.4**	**+1.0**
KDAK			pmax	pmax		
comp=Z,30nm,0.9s						
KDAK	**Kodiak Island**	**77.62 23**	P	**P**	**04 00 09.2**	**+0.8**
baz=227						
GOMU	**GeErMu**	**77.70 311**	P	**P**	**04 00 10.8**	**+1.0**
GOMU			pP	pP	04 00 29.9	+0.2
GOMU			sP	sP	04 00 38.1	+0.2
GOMU			pmax	pmax		
comp=Z,250nm,4.9s						
M16K	**Timber Creek**	**77.74 19**	IAmb	IAmb	04 00 11.2	
comp=Z,18nm,0.8s						
M16K	**Timber Creek**	**77.74 19**	P	**P**	**04 00 10.1**	**+1.0**
baz=220,SNR=7.6						
P18K	**Big Mountain,**	**77.78 21**	IAmb	IAmb	04 00 10.2	
comp=Z,28nm,0.9s						
P18K	**Big Mountain,**	**77.78 21**	P	**P**	**04 00 09.1**	**-0.2**
baz=224,SNR=6.3						
J14K	**Nanvaranak Lak**	**77.78 16**	IAmb	IAmb	04 00 11.3	
comp=Z,15nm,0.9s						
J14K	**Nanvaranak Lak**	**77.78 16**	P	**P**	**04 00 10.3**	**+1.2**
baz=216						
N17K	**Nushagak Hills**	**77.94 20**	IAmb	IAmb	04 00 12.3	
comp=Z,16nm,0.8s						
N17K	**Nushagak Hills**	**77.94 20**	P	**P**	**04 00 11.3**	**+1.2**
baz=222,SNR=7.5						
K15K	**Wolf Creek Mou**	**77.97 17**	IAmb	IAmb	04 00 12.4	
comp=Z,26nm,1.1s						
K15K	**Wolf Creek Mou**	**77.97 17**	P	**P**	**04 00 11.3**	**+1.1**
baz=218,SNR=7.0						
Q19K	**Cape Douglas,**	**78.02 22**	P	**P**	**04 00 10.9**	**+0.3**
baz=225						
L16K	**Owhat River**	**78.11 18**	IAmb	IAmb	04 00 12.7	
comp=Z,32nm,1.6s						
L16K	**Owhat River**	**78.11 18**	P	**P**	**04 00 11.7**	**+0.7**
baz=220						
O18K	**Koktuh Hills**	**78.12 21**	P	**P**	**04 00 11.1**	**0.0**
baz=224						
BILL	**Bilibino**	**78.27 2**	P	**P**	**04 00 12.1**	**+0.3**
BILL	**Bilibino**	**78.27 2**	*d i*P	**P**	**04 00 12.1**	**+0.3**
BILL			pmax	pmax		
comp=Z,34nm,0.9s						
N18K	**Kilae Creek**	**78.48 20**	P	**P**	**04 00 14.0**	**+0.9**
baz=223,SNR=6.3						
M17K	**Holitna River**	**78.51 19**	P	**P**	**04 00 14.9**	**+1.6**
baz=222						
ZAK	**Zakamensk**	**78.65 326**	*e*P	**P**	**04 00 13.4**	**-1.0**
ZAK			pmax	pmax		
comp=Z,8.0nm,1.0s						
O19K	**Port Alsworth**	**78.67 21**	P	**P**	**04 00 14.1**	**0.0**
baz=225						
P19K	**Oil Pt**	**78.68 22**	P	**P**	**04 00 14.5**	**+0.2**
baz=226						
L17K	**Donlin**	**78.80 18**	P	**P**	**04 00 16.1**	**+1.3**
baz=221						
ILSW	**Iliamna Southw**	**78.94 21**	IAmb	IAmb	04 00 16.6	
comp=Z,25nm,1.0s						
J16K	**Anvik River**	**79.02 17**	P	**P**	**04 00 17.3**	**+1.3**
baz=218,SNR=12						
N19K	**Bonanza Creek**	**79.06 20**	P	**P**	**04 00 16.6**	**+0.2**
baz=224,SNR=5.7						
TNA	**Tin City**	**79.09 13**	IAmb	IAmb	04 00 17.8	
comp=Z,13nm,0.9s						
TNA	**Tin City**	**79.09 13**	P	**P**	**04 00 16.8**	**+0.5**
baz=211,SNR=6.2						
M18K	**Stony River**	**79.10 19**	P	**P**	**04 00 17.9**	**+1.4**
baz=223,SNR=10						
K17K	**Iditarod**	**79.24 18**	IAmb	IAmb	04 00 19.5	
comp=Z,21nm,1.0s						
K17K	**Iditarod**	**79.24 18**	P	**P**	**04 00 18.4**	**+1.2**
baz=220,SNR=9.5						
HOM	**Homer**	**79.27 22**	P	**P**	**04 00 18.4**	**+1.0**
baz=227						
CNPM	**China Poot**	**79.33 22**	P	**P**	**04 00 18.7**	**+0.8**
L18K	**Granite Mounta**	**79.36 19**	P	**P**	**04 00 19.3**	**+1.4**
baz=222,SNR=20						
F14K	**Arctic Creek**	**79.37 13**	P	**P**	**04 00 18.6**	**+0.7**
baz=212,SNR=6.5						
I17K	**Unalakleet**	**79.47 16**	P	**P**	**04 00 19.9**	**+1.5**
baz=218,SNR=5.0						
J17K	**VABM Dome**	**79.54 17**	P	**P**	**04 00 20.1**	**+1.3**
baz=220,SNR=14						
BRLK	**Bradley Lake**	**79.62 22**	P	**P**	**04 00 19.7**	**+0.3**
BRLK			IAmb	IAmb	04 00 20.9	
comp=Z,25nm,0.9s						
QSPA	**South Pole Qui**	**79.65 180**	P	**P**	**04 00 20.0**	**+0.4**
QSPA			IAmb	IAmb	04 00 21.0	
comp=Z,24nm,0.9s						
QSPA	**South Pole Qui**	**79.65 180**	P	**P**	**04 00 20.0**	**+0.4**
comp=Z,17nm,0.8s,baz=336,slow=0.6,SNR=47						
comp=Z,17nm,0.8s						
H16K	**Elim**	**79.66 15**	P	**P**	**04 00 20.6**	**+1.2**
baz=216						
BRSE	**Bradley Lake S**	**79.66 22**	P	**P**	**04 00 20.5**	**+0.9**
baz=226						
M19K	**Big River Lodg**	**79.87 20**	P	**P**	**04 00 22.1**	**+1.4**
baz=224,SNR=24						
L19K	**White Mountain**	**79.92 19**	P	**P**	**04 00 22.2**	**+1.3**
baz=224,SNR=24						
F15K	**North Star Dit**	**79.95 14**	P	**P**	**04 00 21.8**	**+0.7**
baz=214						
TTA	**Tatalina**	**80.10 18**	P	**P**	**04 00 23.0**	**+1.0**
baz=223,SNR=13						
SPCR	**Spurr Chakacha**	**80.12 21**	P	**P**	**04 00 23.3**	**+1.1**
baz=226						
G16K	**Koyuk River**	**80.24 15**	P	**P**	**04 00 23.5**	**+1.0**
baz=216,SNR=7.5						
M20K	**Styx River**	**80.28 20**	P	**P**	**04 00 24.1**	**+1.1**
baz=226,SNR=7.5						
J18K	**Innoko River**	**80.28 18**	P	**P**	**04 00 23.6**	**+0.7**
baz=222,SNR=9.6						
SLKM	**Skilak Lake**	**80.37 22**	IAmb	IAmb	04 00 24.8	
comp=Z,19nm,0.8s						
SEW	**Seward**	**80.39 23**	P	**P**	**04 00 24.2**	**+0.8**
baz=229						
L20K	**Farewell, AK**	**80.45 19**	P	**P**	**04 00 24.9**	**+1.1**
baz=225						
H17K	**Granite Mounta**	**80.50 16**	P	**P**	**04 00 25.0**	**+1.0**
baz=219,SNR=8.0						
O22K	**Cooper Landing**	**80.53 22**	P	**P**	**04 00 24.7**	**+0.5**
baz=229						
MOY	**Mondy**	**80.55 327**	*e*P	**P**	**04 00 21.7**	**-3.0**
MOY			pmax	pmax		
comp=Z,10.0nm,2.2s						
G17K	**Kiwalik Mounta**	**80.75 15**	P	**P**	**04 00 26.3**	**+1.0**
baz=218,SNR=6.9						
SUA	**Susitna One**	**80.82 21**	IAmb	IAmb	04 00 26.9	
comp=Z,16nm,0.8s						
SUA	**Susitna One**	**80.82 21**	P	**P**	**04 00 26

F17K	Baldwin Pennin	81.35	14	IAmb	IAmb	04 00 30.3
	comp=Z,13nm,0.8s					
F17K	Baldwin Pennin	81.35	14	P	P	04 00 29.4 +0.9
	baz=217,SNR=14					
PMR	Palmer	81.48	22	IAmb	IAmb	04 00 30.7
	comp=Z,14nm,0.9s					
PMR	Palmer	81.48	22	P	P	04 00 30.4 +1.2
PMR	Palmer	81.48	22	P	P	04 00 29.5 +0.3
	baz=229					
G18K	Tagagawik	81.58	16	P	P	04 00 30.1 +0.4
	baz=220,SNR=10.0					
J20K	Nowinta River	81.58	18	IAmb	IAmb	04 00 31.9
	comp=Z,17nm,1.1s					
J20K	Nowinta River	81.58	18	P	P	04 00 30.7 +1.0
	baz=224,SNR=16					
CUT	Chulitna	81.62	21	P	P	04 00 29.8 -0.2
	baz=228					
GHO	Glory Hole Cre	81.67	22	IAmb	IAmb	04 00 31.9
	comp=Z,10nm,0.7s					
CAST	Castle Rocks	81.70	19	P	P	04 00 30.1 -0.3
	baz=226,SNR=33					
E17K	Hotham Inlet	81.73	14	P	P	04 00 31.4 +0.9
	baz=217,SNR=49					
GLI	Glacier Island	81.78	23	P	P	04 00 31.0 +0.1
	baz=231					
F18K	Selawik	81.87	15	P	P	04 00 31.6 +0.4
	baz=219,SNR=16					
H19K	Roundabout Mou	81.90	16	P	P	04 00 32.3 +0.9
	baz=222,SNR=11					
SML	Sawmill	81.91	22	P	P	04 00 32.1 +0.5
	baz=230					
I20K	Naaghedeneel	81.93	18	IAmb	IAmb	04 00 35.1
	comp=Z,21nm,1.1s					
I20K	Naaghedeneel	81.93	18	P	P	04 00 32.8 +1.3
	baz=224,SNR=5.8					
C16K	Lisburne Hills	81.94	12	P	P	04 00 31.9 +0.4
	baz=213					
D17K	Noatak River	81.94	13	P	P	04 00 32.3 +0.7
	baz=215,SNR=13					
CHUM	Lake Minchumin	81.95	19	P	P	04 00 32.1 +0.5
	baz=226,SNR=14					
PALK	Pallekele	82.09	279	P	P	04 00 34.1 +0.6
	comp=Z,7.4nm,0.9s,baz=94,slow=3.1,SNR=5.3					
	comp=Z,7.4nm,0.9s					
EYAK	Cordova Ski Ar	82.10	23	P	P	04 00 34.5 +2.0
	baz=232					
M23K	Glacier View	82.12	22	P	P	04 00 33.0 +0.3
	baz=231					
KTH	Kantishna Hill	82.17	20	IAmb	IAmb	04 00 33.9
	comp=Z,24nm,0.9s					
G19K	Purcell Mounta	82.19	16	P	P	04 00 33.6 +0.7
	baz=221,SNR=18					
KAIM	Kayak Island	82.25	24	P	P	04 00 33.8 +0.4
	baz=234					
RDOG	Red Dog Mine	82.28	13	IAmb	IAmb	04 00 35.1
	comp=Z,21nm,1.0s					
RDOG	Red Dog Mine	82.28	13	P	P	04 00 34.0 +0.7
	baz=216,SNR=6.2					
E18K	Tukpahlearik C	82.29	14	IAmb	IAmb	04 00 35.1
	comp=Z,13nm,0.8s					
E18K	Tukpahlearik C	82.29	14	P	P	04 00 34.2 +0.8
	baz=218,SNR=24					
SCM	Sheep Creek Mo	82.30	22	P	P	04 00 34.3 +0.7
	baz=231					
TRF	Thorofare Moun	82.31	20	IAmb	IAmb	04 00 34.3
	comp=Z,11nm,0.8s					
TRF	Thorofare Moun	82.31	20	P	P	04 00 33.5 -0.3
	baz=228,SNR=7.5					
H20K	Anotleneega Mo	82.32	17	P	P	04 00 34.6 +1.0
	baz=224,SNR=10					
BPAW	Bear Paw Mtn.	82.52	19	P	P	04 00 34.4 -0.3
	baz=227,SNR=6.8					
F19K	Shaleruckik Mo	82.53	15	P	P	04 00 35.0 +0.4
	baz=221,SNR=13					
KLU	Klutina	82.61	23	IAmb	IAmb	04 00 41.1
	comp=Z,16nm,1.0s					
KLU	Klutina	82.61	23	P	P	04 00 36.2 +0.9
	baz=232					
RND	Reindeer	82.77	20	IAmb	IAmb	04 00 37.0
	comp=Z,12nm,0.8s					
RND	Reindeer	82.77	20	P	P	04 00 36.1 0.0
BMRM	Bremner River	82.80	23	IAmb	IAmb	04 00 39.0
	comp=Z,13nm,0.9s					
BMRM	Bremner River	82.80	23	P	P	04 00 36.8 +0.5
	baz=234					
M24K	Tolsona, Glenn	82.89	22	P	P	04 00 37.9 +1.2
	baz=232,SNR=5.8					
I21K	Tanana	82.95	18	P	P	04 00 37.6 +0.7
	baz=226,SNR=17					
MCK	McKinley	82.95	20	P	P	04 00 36.9 -0.1
	baz=229,SNR=26					
H21K	Melozitna Rive	83.04	17	P	P	04 00 38.2 +0.8
	baz=225,SNR=14					
C18K	Utukok River	83.13	13	IAmb	IAmb	04 00 39.1
	comp=Z,14nm,0.8s					
C18K	Utukok River	83.13	13	P	P	04 00 38.2 +0.4
	baz=217,SNR=19					
E19K	Redstone River	83.14	15	IAmb	IAmb	04 00 39.8
	comp=Z,21nm,0.9s					
E19K	Redstone River	83.14	15	P	P	04 00 38.7 +0.8
	baz=221,SNR=33					
N25K	Chitina, Valde	83.18	23	IAmb	IAmb	04 00 41.3
	comp=Z,15nm,0.9s					
N25K	Chitina, Valde	83.18	23	P	P	04 00 39.2 +0.9
	baz=234,SNR=5.5					
F20K	Avaraart Lake	83.23	16	P	P	04 00 39.0 +0.8
	baz=223,SNR=11					
GLB	Gilahina Butte	83.39	23	IAmb	IAmb	04 00 40.9
	comp=Z,15nm,0.8s					
VRDI	Verde Repeater	83.41	24	IAmb	IAmb	04 00 41.1
	comp=Z,14nm,0.9s					
MESA	MESA	83.41	25	P	P	04 00 40.3 +0.7
	baz=236					
G21K	Allakaket	83.45	17	P	P	04 00 40.0 +0.5
	baz=225,SNR=13					
HARP	HAARP	83.45	22	P	P	04 00 40.5 +1.0
	baz=233					
NEA2	Nenana	83.47	19	IAmb	IAmb	04 00 40.7
	comp=Z,17nm,0.8s					
NEA2	Nenana	83.47	19	P	P	04 00 39.2 -0.4
	baz=229,SNR=15					
B18K	Kokolik River	83.58	12	P	P	04 00 40.8 +0.8
	baz=217,SNR=16					
H22K	Ishtalitna Cre	83.63	18	P	P	04 00 41.1 +0.7
	baz=227,SNR=15					
PAX	Paxson	83.68	22	P	P	04 00 40.9 +0.1
	baz=232					
MAW	Mawson	83.69	202	P	P	04 00 40.8 +0.1
	comp=Z,13nm,0.7s,baz=108,slow=7.6,SNR=14					
MAW				LR	LR	04 34 51.3
	comp=Z,71nm,18.5s,baz=84,slow=33					
	comp=Z,13nm,0.7s					
WRH	Wood River Hil	83.72	20	IAmb	IAmb	04 00 41.5
	comp=Z,12nm,0.9s					
D19K	Kuna River	83.72	14	IAmb	IAmb	04 00 42.2
	comp=Z,11nm,0.8s					
D19K	Kuna River	83.72	14	P	P	04 00 41.2 +0.4
	baz=220,SNR=18					
I23K	Minto, Yukon-K	83.75	19	P	P	04 00 40.6 -0.3
	baz=229,SNR=8.4					
F21K	Alatna River	83.96	16	P	P	04 00 42.6 +0.6
	baz=225,SNR=11					
E20K	Nigu River	84.01	15	P	P	04 00 43.1 +0.8
	baz=222,SNR=24					
COLA	College	84.06	19	P	P	04 00 42.2 -0.2
COLA	College	84.06	19	P	P	04 00 43.4 +0.9
COLA	College	84.06	19	*d iP*	P	04 00 42.0 -0.5
COLA				pmax	pmax	
	comp=Z,23nm,0.8s					
COLA	College	84.06	19	P	P	04 00 42.3 -0.2
	baz=230					
HDA	Harding Lake	84.06	20	IAmb	IAmb	04 00 43.7
	comp=Z,19nm,1.0s					
HDA	Harding Lake	84.06	20	P	P	04 00 42.4 -0.2
	baz=231,SNR=14					
PINM	Pinnacle	84.08	25	P	P	04 00 43.1 +0.2
	baz=238					
K24K	Donnelly Dome	84.08	21	IAmb	IAmb	04 00 44.7
	comp=Z,18nm,0.8s					
K24K	Donnelly Dome	84.08	21	P	P	04 00 43.4 +0.6
	baz=232,SNR=7.5					
H23K	Yukon River	84.14	18	IAmb	IAmb	04 00 44.6
	comp=Z,12nm,0.9s					
H23K	Yukon River	84.14	18	P	P	04 00 43.5 +0.5
	baz=228					
D20K	Etivluk River	84.25	14	IAmb	IAmb	04 00 45.1
	comp=Z,15nm,1.0s					
D20K	Etivluk River	84.25	14	P	P	04 00 44.1 +0.6
	baz=222,SNR=18					
M26K	Nabesna, AK	84.26	23	IAmb	IAmb	04 00 46.0
	comp=Z,13nm,0.8s					
M26K	Nabesna, AK	84.26	23	P	P	04 00 44.7 +0.9
	baz=235,SNR=14					
G22K	Bettles	84.30	17	P	P	04 00 44.5 +0.7
	baz=227					
MENT	Mentasta	84.31	22	IAmb	IAmb	04 00 45.8
	comp=Z,8.8nm,0.8s					
ILAR	Eielson Array	84.31	20		P	04 00 43.1 -0.7
ILAR	Eielson Array	84.31	20	P	P	04 00 43.3 -0.5
	comp=Z,9.2nm,1.1s,baz=244,slow=5.0,SNR=86					
ILAR				pP	pP	04 01 03.4 -1.0
	comp=Z,2.3nm,0.8s,baz=246,slow=4.3,SNR=3.2					
ILAR				LR	LR	04 33 07.8
	comp=Z,59nm,19.7s,baz=262,slow=32					
	comp=Z,9.2nm,1.1s					
POKR	Poker Flat Res	84.35	19	P	P	04 00 44.4 +0.4
	baz=230					
RIDG	Independent Ri	84.37	21	IAmb	IAmb	04 00 45.9
	comp=Z,16nm,1.1s					
RIDG	Independent Ri	84.37	21	P	P	04 00 44.7 +0.5
	baz=233,SNR=7.6					
A19K	Wainwright	84.41	12	P	P	04 00 45.0 +0.9
	baz=217,SNR=28					
O28M	Mount Upton	84.47	25	P	P	04 00 46.2 +1.1
	baz=235,SNR=8.1					
L26K	Log Cabin Wild	84.49	22	P	P	04 00 46.0 +1.2
	baz=234,SNR=7.9					
F22K	John River	84.52	16	P	P	04 00 45.5 +0.6
	baz=226,SNR=11					
G23K	Bananza Creek	84.59	17	P	P	04 00 46.2 +1.0
	baz=228,SNR=8.0					
DOT	Dot Lake	84.60	21	IAmb	IAmb	04 00 47.0
	comp=Z,13nm,0.8s					
TIXI	Tiksi	84.62	350	P	P	04 00 44.4 -0.8
TIXI				IAmb	IAmb	04 00 46.4
	comp=Z,10.0nm,0.9s					
TIXI	Tiksi	84.62	350	LR	LR	04 41 21.5
	comp=Z,35nm,18.0s,baz=196,slow=38					
TIXI	Tiksi	84.62	350	*j iP*	P	04 00 44.6 -0.6
TIXI				pmax	pmax	
	comp=Z,14nm,1.0s					
H24K	Noodor Dome	84.67	19	P	P	04 00 46.7 +1.0
	baz=230					
M27K	Edge Creek, AK	84.67	23	P	P	04 00 47.2 +1.3
	baz=236,SNR=12					
E21K	Killik River	84.70	15	P	P	04 00 46.6 +0.8
	baz=224					
J25K	Salcha River,	84.72	20	P	P	04 00 46.4 +0.4
	baz=232,SNR=8.4					
SCRK	Sand Creek	84.82	21	IAmb	IAmb	04 00 48.4
	comp=Z,9.7nm,0.8s					
SCRK	Sand Creek	84.82	21	P	P	04 00 47.3 +0.7
	baz=234,SNR=13					
COLD	Coldfoot	84.88	17	P	P	04 00 47.8 +1.1
	baz=228					
O29M	Mount Kennedy	84.90	26	P	P	04 00 48.2 +1.1
	baz=239					
YUK3	Moose Creek	84.90	24	P	P	04 00 48.3 +1.2
	baz=237,SNR=9.7					
P29M	Windy Craggy	84.92	26	P	P	04 00 48.4 +1.4
	baz=240					
YUK8	Steele Glacier	84.92	25	P	P	04 00 48.7 +1.3
	baz=238,SNR=11					
C21K	Knifeblade Rid	85.02	14	P	P	04 00 48.6 +1.3
	baz=223,SNR=32					
E22K	Anaktuvuk Pass	85.06	16	P	P	04 00 48.3 +0.7
	baz=226,SNR=11					
L27K	Beaver Creek,	85.08	23	IAmb	IAmb	04 00 50.2
	comp=Z,26nm,1.4s					
L27K	Beaver Creek,	85.08	23	P	P	04 00 49.0 +1.2
	baz=236,SNR=11					
BVCY	Beaver Creek	85.09	23	P	P	04 00 49.1 +1.3
	baz=237,SNR=6.7					
B20K	Meade River	85.09	13	IAmb	IAmb	04 00 49.2
	comp=Z,15nm,0.8s					
B20K	Meade River	85.09	13	P	P	04 00 48.3 +0.6
	baz=221,SNR=30					
BCAR	Beaver Creek A	85.10	23		P	04 00 49.0 +1.1
PRP	Porcupine Dome	85.22	20	P	P	04 00 49.9 +1.3
	baz=232					
J26L	Joseph Creek	85.28	21	P	P	04 00 51.5 +2.7
	baz=234					
YUK6	Outpost Mounta	85.32	25	P	P	04 00 50.3 +1.0
	baz=239					
G24K	Hadweenzic Riv	85.35	18	IAmb	IAmb	04 00 52.0
	comp=Z,9.9nm,0.9s					
G24K	Hadweenzic Riv	85.35	18	P	P	04 00 49.9 +0.9
	baz=230,SNR=16					
D22K	Ayikyak River	85.35	15	IAmb	IAmb	04 00 51.2
	comp=Z,14nm,0.8s					
D22K	Ayikyak River	85.35	15	P	P	04 00 50.2 +1.2
	baz=225,SNR=21					
B21K	Ikpikpuk River	85.40	14	IAmb	IAmb	04 00 51.0
	comp=Z,16nm,0.8s					
B21K	Ikpikpuk River	85.40	14	P	P	04 00 50.1 +0.9
	baz=223,SNR=30					
YUK4	Talbot Arm	85.41	25	P	P	04 00 51.8 +2.1
	baz=239,SNR=5.9					
P30M	Million Dollar	85.50	26	P	P	04 00 51.3 +1.3
	baz=240					
WMQ	Urumqi	85.51	316	*eP*	P	04 00 51.8 +1.4
K27K	Chicken	85.54	22	IAmb	IAmb	04 00 53.0
	comp=Z,15nm,1.3s					
K27K	Chicken	85.54	22	P	P	04 00 51.8 +1.8
	baz=236					
E23K	Chandalar	85.61	17	P	P	04 00 51.8 +1.4
	baz=228,SNR=8.1					
HYT	Haines Junctio	85.62	26	P	P	04 00 52.5 +1.8
	baz=240					
F24K	Squaw Lake	85.75	17	IAmb	IAmb	04 00 54.6
	comp=Z,22nm,1.6s					
F24K	Squaw Lake	85.75	17	P	P	04 00 52.4 +1.4
	baz=230,SNR=11					
G25K	Bearman Lake	85.81	18	P	P	04 00 53.5 +2.2
	baz=232,SNR=7.7					
I26K	Coal Creek Min	85.89	20	IAmb	IAmb	04 01 17.7
	comp=Z,20nm,1.6s					
I26K	Coal Creek Min	85.89	20	P	P	04 00 52.6 +0.8
	baz=234					
D23K	Nanushuk River	85.93	16	P	P	04 00 52.9 +1.1
	baz=227,SNR=9.9					
E24K	Your Creek	85.94	17	P	P	04 00 52.8 +0.8
	baz=229,SNR=6.9					
TOLK	Toolik Lake Re	86.01	16	P	P	04 00 53.2 +0.8
	baz=228,SNR=7.4					
M29M	Somme Creek	86.05	24	P	P	04 00 53.8 +1.1
	baz=239,SNR=5.8					
O02D	Mt. Diablo Mer	86.08	48	IAmb	IAmb	04 00 56.1
	comp=Z,12nm,0.8s					
N30M	Aishikik Lake	86.11	25	P	P	04 00 54.0 +1.0
	baz=240					
K02D	Willamette Mer	86.20	46	IAmb	IAmb	04 00 56.7
	comp=Z,11nm,0.9s					
B22K	Teshekpuk Lake	86.21	14	IAmb	IAmb	04 00 54.8
	comp=Z,12nm,0.8s					
B22K	Teshekpuk Lake	86.21	14	P	P	04 00 53.7 +0.5
	baz=225,SNR=17					
HYB	Hyderabad	86.21	288	*eP*	P	04 00 54.0 -0.4
A21K	Barrow	86.21	13	P	P	04 00 53.5 +0.3
	baz=221,SNR=12					
A22K	Sinclair Lake	86.33	13	P	P	04 00 54.1 +0.4
	baz=223					
F25K	Christian Rive	86.47	18	P	P	04 00 55.8 +1.2
	baz=232,SNR=7.8					
L29M	L29M	86.53	23	IAmb	IAmb	04 00 57.5
	comp=Z,22nm,1.1s					
L29M	L29M	86.53	23	P	P	04 00 56.3 +1.3
	baz=239,SNR=11					
C23K	Itkillik River	86.54	15	IAmb	IAmb	04 01 43.4
	comp=Z,13nm,1.2s					
C23K	Itkillik River	86.54	15	P	P	04 00 55.9 +1.0
	baz=227,SNR=9.1					
DAWY	Dawson	86.55	22	P	P	04 00 56.3 +1.2
	baz=238,SNR=14					
D24K	Happy Valley	86.56	16	IAmb	IAmb	04 00 57.7
	comp=Z,10.0nm,1.1s					
D24K	Happy Valley	86.56	16	P	P	04 00 56.1 +1.2
	baz=229					
I27K	Kandik River	86.59	20	P	P	04 00 56.4 +1.1
	baz=236,SNR=11					
YBH	Yreka Blue Hor	86.59	47	LR	LR	04 36 07.5
	comp=Z,16nm,19.4s,baz=262,slow=33					
G26K	Porcupine Rive	86.65	19	IAmb	IAmb	04 00 58.6
	comp=Z,22nm,1.1s					
G26K	Porcupine Rive	86.65	19	P	P	04 00 56.8 +1.4
	baz=234,SNR=27					
N31M	Braeburn, Yuko	86.67	25	IAmb	IAmb	04 00 57.5
	comp=Z,17nm,1.1s					
N31M	Braeburn, Yuko	86.67	25	P	P	04 00 56.9 +1.1
	baz=241					
BMAR	Burnt Mountain	86.69	18		P	04 00 57.0 +1.3
P32M	Atlin	86.70	28	P	P	04 00 56.9 +1.0
	baz=243					
M30M	Minto, Yukon	86.79	24	P	P	04 00 57.4 +1.1
	baz=240,SNR=5.1					
E25K	Arctic Village	86.82	17	P	P	04 00 57.5 +1.3
	baz=232,SNR=8.3					
C24K	Franklin Bluff	86.96	16	IAmb	IAmb	04 00 59.1
	comp=Z,14nm,0.9s					
C24K	Franklin Bluff	86.96	16	P	P	04 00 57.8 +1.0
	baz=229,SNR=17					
H27K	Steamboat Moun	86.98	20	P	P	04 00 58.5 +1.4
	baz=236,SNR=9.7					
F26K	Sheenjek River	86.98	18	P	P	04 00 58.5 +1.4
	baz=234					
L04D	Klamath Falls	87.03	46		P	04 00 59.4 +1.4
L04D				IAmb	IAmb	04 01 00.1
	comp=Z,14nm,0.9s					
I28M	Miner Creek	87.09	21	P	P	04 00 58.5 +0.7
	baz=238,SNR=9.6					
K29M	Barlow Dome	87.14	23	IAmb	IAmb	04 01 00.4
	comp=Z,9.3nm,0.9s					
K29M	Barlow Dome	87.14	23	P	P	04 00 59.2 +1.2
	baz=240,SNR=7.8					
S34M	Telegraph Cree	87.19	30	P	P	04 00 60.0 +1.7
	baz=246					
J29N	Klondike Camp	87.19	22	P	P	04 01 00.0 +1.8
	baz=239,SNR=22					
T35M	Bob Quinn	87.24	31	P	P	04 00 59.4 +0.9
	baz=246					
G27K	Doyon Strip	87.26	19	P	P	04 00 59.7 +1.2
	baz=236,SNR=7.3					
D25K	Kavik River	87.33	16	IAmb	IAmb	04 01 00.3
	comp=Z,8.8nm,0.8s					
D25K	Kavik River	87.33	16	P	P	04 00 59.5 +0.7
	baz=231,SNR=16					
P33M	Teslin, Yukon	87.38	27	P	P	04 01 00.1 +0.9
	baz=244					
M31M	Drury Creek, Y	87.59	25	IAmb	IAmb	04 01 17.4
	comp=Z,24nm,1.9s					
M31M	Drury Creek, Y	87.59	25	P	P	04 01 01.0 +0.9
	baz=243					
I29M	Ogilvie Camp,	87.62	21	P	P	04 01 01.2 +1.0
	baz=239,SNR=5.1					
R33M	Jennings River	87.88	28	P	P	04 01 02.9 +1.3
	baz=246					
DLBC	Dease Lake	87.93	29	LR	LR	04 43 10.1
	comp=Z,30nm,18.0s,baz=204,slow=37					
DLBC	Dease Lake	87.93	29	P	P	04 01 03.0 +1.1
	baz=247					
J30M	Hart River	87.95	23	P	P	04 01 03.1 +1.2
	baz=241					
FARO	Faro, Yukon	88.04	25	P	P	04 01 03.6 +1.3
	baz=244					
H29M	Whitestone	88.05	21	P	P	04 01 03.5 +1.3
	baz=239					
E27K	Coleen River	88.06	18	IAmb	IAmb	04 01 04.7
	comp=Z,9.8nm,0.9s					
E27K	Coleen River	88.06	18	P	P	04 01 03.9 +1.7
	baz=236,SNR=16					
J05D	Fort Rock, OR	88.08	46	IAmb	IAmb	04 01 05.6
	comp=Z,13nm,0.9s					
C26K	Camden Bay	88.11	16	P	P	04 01 04.3 +2.0
	baz=233,SNR=46					
I30M	Mount Dempster	88.25	22	P	P	04 01 04.0 +0.7
	baz=241,SNR=6.9					
C27K	Jago River	88.27	17	IAmb	IAmb	04 01 05.5
	comp=Z,11nm,0.8s					
C27K	Jago River	88.27	17	P	P	04 01 04.4 +1.3
	baz=234,SNR=13					
PINE	Pine Mountain	88.43	45	IAmb	IAmb	04 01 07.3
	comp=Z,8.4nm,0.9s					
PAHR	Pah Rah Range	88.48	49	IAmb	IAmb	04 01 07.3
	comp=Z,8.6nm,1.1s					
ZSN	Zaisan	88.51	319	*eP*	P	04 01 03.9 -0.9
ZSN	Zaisan	88.51	319	*eP*	P	04 01 03.1 -1.7
G29M	Pine Creek	88.53	20	IAmb	IAmb	04 01 06.4
	comp=Z,8.9nm,1.1s					
G29M	Pine Creek	88.53	20	P	P	04 01 06.0 +1.6
	baz=239,SNR=6.0					
EPYK	Eagle Plains	88.70	21	P	P	04 01 06.7 +1.4
	baz=240,SNR=11					
LHV	Little Huntoon	88.78	51	IAmb	IAmb	04 01 08.9
	comp=Z,11nm,1.2s					
D27M	Malcolm River	88.84	18	P	P	04 01 07.1 +1.2
	baz=236,SNR=12					
E28M	Babbage River	88.92	18	IAmb	IAmb	04 01 34.6
	comp=Z,25nm,1.9s					
E28M	Babbage River	88.92	18	P	P	04 01 08.0 +1.7
	baz=236					
NVAR	Mina Array Bea	88.97	51		P	04 01 08.8 +1.3
NVAR	Mina Array Bea	88.97	51	P	P	04 01 09.0 +1.5
	comp=Z,4.3nm,0.9s,baz=237,slow=6.6,SNR=22					
NVAR				pP	pP	04 01 27.3 -1.1
	comp=Z,1.8nm,0.8s,baz=236,slow=7.3,SNR=2.7					
	comp=Z,4.3nm,0.9s					
DSP	Deep Springs	88.98	52	IAmb	IAmb	04 01 09.8
	comp=Z,14nm,1.2s					
MMPY	Sheldon Lake,	89.09	25	P	P	04 01 08.6 +1.4
	baz=245					
NV11	Mina Array Sit	89.09	51	IAmb	IAmb	04 01 10.9
	comp=Z,15nm,1.4s					
G30M	tAoh Zraii Nji	89.17	20	IAmb	IAmb	04 01 11.4
	comp=Z,6.1nm,0.9s					
G30M	tAoh Zraii Nji	89.17	20	P	P	04 01 08.5 +1.0
	baz=241,SNR=7.7					
H31M	Peel River	89.28	22	IAmb	IAmb	04 01 10.0
	comp=Z,6.9nm,0.9s					
H31M	Peel River	89.28	22	P	P	04 01 08.2 +0.2
	baz=243,SNR=5.8					
E29M	Blow River	89.33	19	P	P	04 01 09.1 +0.9
	baz=239					
GRAC	Grapevine Rang	89.36	52	IAmb	IAmb	04 01 11.5
	comp=Z,9.9nm,1.1s					
GSC	Goldstone, Bar	89.42	54	IAmb	IAmb	04 01 11.7
	comp=Z,8.4nm,1.1s					
I07A	Izee	89.50	45	IAmb	IAmb	04 01 13.0
	comp=Z,12nm,1.3s					
YUH	Yuha Desert	89.55	57	IAmb	IAmb	04 01 12.5
	comp=Z,10nm,1.1s					
D28M	Stokes Point	89.55	18	P	P	04 01 09.9 +0.8
	baz=238,SNR=6.7					
F30M	Barrier River	89.63	20	IAmb	IAmb	04 01 36.3
	comp=Z,19nm,1.6s					
F30M	Barrier River	89.63	20	P	P	04 01 10.9 +1.3
	baz=241					
WVOR	Wild Horse Val	89.70	47	IAmb	IAmb	04 01 13.3
	comp=Z,17nm,1.2s					
WVOR	Wild Horse Val	89.70	47	P	P	04 01 11.9 +1.2
WVOR				pmax	pmax	
	comp=Z,15nm,1.2s					
GWY	Greenwater Val	89.72	53	IAmb	IAmb	04 01 12.9
	comp=Z,9.1nm,1.2s					
G31M	Satah River	89.82	21	IAmb	IAmb	04 01 36.3
	comp=Z,22nm,1.7s					
G31M	Satah River	89.82	21	P	P	04 01 11.5 +1.1
	baz=243					
WCT	Wildcat Mounta	89.89	53	IAmb	IAmb	04 01 13.9
	comp=Z,12nm,1.1s					
TGTN	Hyland Airport	89.94	27	P	P	04 01 11.5 +0.3
	baz=248					
MK31	Makanchi Array	90.02	318	*c iP*	P	04 01 11.4 -0.5
MKAR	Makanchi Array	90.02	318		P	04 01 11.1 -0.8
MKAR	Makanchi Array	90.02	318	P	P	04 01 11.5 -0.4
	comp=Z,3.3nm,0.5s,baz=95,slow=5.9,SNR=39					
MKAR				pP	pP	04 01 32.8 +0.4
	comp=Z,1.4nm,0.5s,baz=92,slow=6.6,SNR=4.5					
	comp=Z,3.3nm,0.5s					
G08A	Pilot Rock	90.19	44	IAmb	IAmb	04 01 15.0
	comp=Z,9.8nm,1.4s					
LIRD	Liard River Hi	90.19	29	P	P	04 01 12.6 +0.3
	baz=250					
TPNV	Topopah Spring	90.22	53	IAmb	IAmb	04 01 15.5
	comp=Z,9.9nm,0.9s					
MAKZ	Makanchi	90.23	318		P	04 01 12.5 -0

comp=Z,1.4nm,0.5s,baz=93,slow=3.0,SNR=7.0
ZALV LR LR 04 41 10.5
comp=Z,30nm,21.1s,baz=93,slow=35
comp=Z,1.4nm,0.5s
ZALV Zalesovo Beam 90.44 325 *i* P **P 04 01 10.8 -2.8**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
GLA Glamis 90.53 57 IAmb IAmb 04 01 25.5
comp=Z,9.3nm,0.8s
B08A Colville Reser 90.71 41 IAmb IAmb 04 01 16.5
comp=Z,8.7nm,1.0s
INK Inuvik 90.71 20 LR LR 04 37 53.7
comp=Z,66nm,20.2s,baz=230,slow=33
INK Inuvik 90.71 20 P **P 04 01 15.7 +1.2**
baz=243
S11A Rachel 90.76 52 IAmb IAmb 04 01 17.2
comp=Z,8.1nm,0.8s
V12A Nelson 91.06 54 IAmb IAmb 04 01 19.4
comp=Z,5.3nm,1.0s
SHLS Shalkode 91.09 314 *e*P **P 04 01 14.8 -2.3**
SHLS Shalkode 91.09 314 *e*P **P 04 01 14.9 -2.2**
SYO Syowa Base 91.12 198⇓*e*P **P 04 01 18.0 +1.4**
BMO Blue Mountains 91.22 45 IAmb IAmb 04 01 19.6
comp=Z,13nm,1.4s
C09A Chrisman Ranch 91.26 42 IAmb IAmb 04 01 19.2
comp=Z,12nm,1.2s
UZB Uzynbulak 91.40 313 *e*P **P 04 01 17.4 -1.2**
UZB Uzynbulak 91.40 313 *e*P **P 04 01 17.4 -1.2**
BELA Belgrano 2 91.47 177 **P 04 01 17.4 -0.7**
BELA IAmb IAmb 04 01 18.6
comp=Z,8.8nm,1.1s
ELK Elko 91.80 49 IAmb IAmb 04 01 22.9
comp=Z,7.4nm,1.1s
ELK Elko 91.80 49 P **P 04 01 21.5 +0.9**
SATY Saty 91.82 313 *e*P **P 04 01 19.5 -1.0**
SATY Saty 91.82 313 *e*P **P 04 01 19.6 -1.0**
NEW Newport 92.12 41 IAmb IAmb 04 01 23.2
comp=Z,5.8nm,0.8s
NEW Newport 92.12 41 P **P 04 01 22.7 +1.0**
NEW pmax pmax
comp=Z,7.0nm,1.0s
SEM Semipalatinsk 92.22 321 *e*P **P 04 01 21.4 -0.9**
SEM Semipalatinsk 92.22 321 *e*P **P 04 01 21.5 -0.9**
KDJ Kajisay 92.51 312 P **P 04 01 24.3 +0.5**
WRGLY Wrigley 92.63 26 P **P 04 01 24.8 +1.2**
baz=252
LPIG La Paz 92.75 66 LR LR 04 40 29.8
comp=Z,13nm,18.1s,baz=203,slow=34
MDOK Medeo 92.81 313 *e*P **P 04 01 24.1 -1.0**
MDOK Medeo 92.81 313 *e*P **P 04 01 24.2 -1.0**
TNSS Tian-Shan 92.86 313 *e*P **P 04 01 24.3 -1.4**
TNSS Tian-Shan 92.86 313 *e*P **P 04 01 24.3 -1.4**
AAA Alma-Ata 92.92 313 *e*P **P 04 01 24.5 -1.0**
AAA Alma-Ata 92.92 313 *e*P **P 04 01 24.6 -1.0**
KNB Kanab 92.92 53 P **P 04 01 27.0 +1.2**
KNB IAmb IAmb 04 01 29.4
comp=Z,9.6nm,1.3s
KNB Kanab 92.92 53 P **P 04 01 27.0 +1.2**
KNB pmax pmax
comp=Z,10.0nm,1.3s
KURK Kurchatov 93.31 321 **P 04 01 25.6 -1.4**
KURK Kurchatov 93.31 321 *d i*P **P 04 01 25.4 -1.6**
KURK pmax pmax
comp=Z,4.0nm,0.9s
ELIB Princess Elisa 93.33 192 *d*P **P 04 01 27.0 +0.1**
comp=Z,1.7nm,1.3s
ELIB *d*pP **pP 04 01 48.7 +1.8**
KURBB Kurchatov Arra 93.34 321 P **P 04 01 25.9 -1.2**
comp=Z,2.5nm,0.8s,baz=104,slow=3.3,SNR=30
KURBB pP **pP 04 01 46.0 -1.7**
comp=Z,0.8nm,0.5s,baz=101,slow=3.9,SNR=4.2
KURBB LR LR 04 43 54.0
comp=Z,23nm,21.4s,baz=168,slow=36
comp=Z,2.5nm,0.8s
BOOM Boomskoye usch 93.48 312 P **P 04 01 28.9 +0.6**
NRIK Noril'sk 93.95 340 P **P 04 01 28.0 -1.6**
comp=Z,1.8nm,0.7s,baz=86,slow=1.7,SNR=3.9
NRIK LR LR 04 42 58.8
comp=Z,122nm,21.4s,baz=108,slow=35
comp=Z,1.8nm,0.7s
NRIK Noril'sk 93.95 340⇑*i*P **P 04 01 28.4 -1.1**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
C36M Paulatuk 94.28 20 IAmb IAmb 04 01 32.0
comp=Z,6.9nm,0.9s
C36M Paulatuk 94.28 20 P **P 04 01 31.4 +0.4**
baz=252
A36M Sachs Harbour 94.74 17 IAmb IAmb 04 01 35.4
comp=Z,6.7nm,0.9s
A36M Sachs Harbour 94.74 17 P **P 04 01 33.7 +0.6**
baz=251
YHL Hebgen Lake 95.49 46 IAmb IAmb 04 02 34.9
comp=Z,12nm,1.7s
PDAR Pinedale Array 96.34 48 P **P 04 01 41.4 0.0**
comp=Z,0.9nm,0.7s,baz=194,slow=1.7,SNR=11
PDAR LR LR 04 45 37.2
comp=Z,8.7nm,18.2s,baz=298,slow=36
comp=Z,0.9nm,0.7s
YKA Yellowknife Ar 96.40 28 P **P 04 01 40.5 -0.3**
comp=Z,2.5nm,0.8s,baz=260,slow=4.6,SNR=36
YKA LR LR 04 36 08.6
comp=Z,27nm,21.9s,baz=311,slow=30
comp=Z,2.5nm,0.8s
YKAW3 Yellowknife Wh 96.41 28 IAmb IAmb 04 01 41.1
comp=Z,3.3nm,0.8s
DZA Taraz 96.90 312 *e*P **P 04 01 42.6 -1.1**
DZA Taraz 96.90 312 *e*P **P 04 01 42.6 -1.1**
SNAA Sanae 97.47 185 LR LR 04 42 41.9
comp=Z,45nm,19.0s,baz=107,slow=34
ANMO Albuquerque 97.70 56 LR LR 04 36 26.7
comp=Z,24nm,20.4s,baz=72,slow=30
ANMO Albuquerque 97.70 56 *e*P **P 04 01 45.3 -2.4**
ANMO pmax pmax
comp=Z,6.0nm,4.0s
IUG Iuzhnay 97.76 311 *e*P **P 04 01 46.3 -1.4**
IUG Iuzhnay 97.76 311 *e*P **P 04 01 46.3 -1.4**
BVAR Borovoye Array 98.70 322 P **P 04 01 49.3 -2.2**
comp=Z,1.3nm,0.6s,baz=100,slow=4.5,SNR=7.8
BVAR LR LR 04 45 54.9
comp=Z,47nm,21.2s,baz=79,slow=35
comp=Z,1.3nm,0.6s
BRVK Borovoye 98.77 322⇑*i*P **P 04 01 50.0 -1.8**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
TXAR Lajitas Array 99.38 62 LR LR 04 37 15.2
comp=Z,17nm,21.8s,baz=281,slow=30
ARCES ARCESS Array B 114.52 344 PKP **PKiKP 04 06 50.5 -0.9**
comp=Z,2.7nm,0.9s,baz=108,slow=2.9,SNR=4.3
KBZ Khabaz 117.50 314 *i* PKIKP **PKPdf 04 06 58.2 +0.4**
KIV Kislovodsk 117.60 314 *i* PKIKP **PKPdf 04 06 56.7 -1.5**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,42nm,22.0s
OBN Obninsk 117.89 328 *i* PKIKP **PKiKP 04 06 59.3 +1.0**
FINES FINESS Array B 119.47 337 PKP **PKPdf 04 06 60.0 -1.1**
comp=Z,1.2nm,0.8s,baz=46,slow=5.5,SNR=4.1
FINES FINESS Array B 119.47 337 PKIKP **PKPdf 04 07 00.0 -1.1**
AKASG Malin Array Be 123.83 325 PKP **PKPdf 04 07 08.4 -1.4**
comp=Z,0.5nm,0.4s,baz=45,slow=2.6,SNR=7.0
AKASG Malin Array Be 123.83 325 *i* PKIKP **PKPdf 04 07 09.1 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 124.81 343 pPKP pPKPdf 04 07 32.9 0.0
comp=Z,0.4nm,0.7s,baz=78,slow=2.1,SNR=2.6
CLL Collm 131.62 334 *e*PP PP 04 09 46.0 +1.6
CLL AMS AMS 05 05 00.0
comp=Z,100nm,21.0s
KEST Kesra 144.10 319 PKP **PKPab 04 07 46.2 +0.4**
comp=Z,1.9nm,0.7s,baz=42,slow=3.6,SNR=4.1
ESDC Sonseca Array 147.97 338 PKPbc **PKPbc 04 07 57.0 -0.7**
comp=Z,1.7nm,0.9s,baz=17,slow=3.6,SNR=11
ESDC pPKPbc **pPKPdf 04 08 17.1 +1.0**
comp=Z,0.8nm,0.8s,baz=18,slow=4.0,SNR=2.6
TORD Torodi Ar. Bea 159.80 280 PKPab **PKPab 04 08 50.3 -0.9**
comp=Z,76nm,0.4s,baz=78,slow=2.5,SNR=2.0

*IDC **20** 03:51:30.7±0.8,21°.17S×68°.64W,h93km±6km, mb3.5/4, mbtmp3.9/8, MS3.3/2, Error ellipse: s-maj=21.9km s-min=20.0km az=52.0*
*SJA **20** 03:51:32.3±0.7,21°.19S×68°.78W,h133km±4km, ML4.0, MW3.9*
*NEIC **20** 03:51:33.8±1.8,21°.18S±0°.04×68°.77W±0°.07,h124km±6km, mb4.5/18, Error ellipse: s-maj=10.1km s-min=5.5km*

az=90.0
*GUC **20** 03:51:34.6±0.8,21°.19S×68°.74W,h120km±4km, ML4.1*
*VAO **20** 03:51:35.2±0.7,21°.02S×68°.39W,h114km±6km, mb4.3*
ISC 20 03:51:31.4±0.4,**21°.20S**±0°.03×**68°.64W**±0°.04,**h111**km±4km,
n137,σ2°.23/171,**mb4.5**/11,**11C-3D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.81**	**281**		**Pn**	**03 51 53.5**	**+2.6**
PB01				Sn	**Sn**	**03 52 08.1**	**+2.5**
PB01	**IPOC Station P**	**0.81**	**281**⇓	*i*P	**Pn**	**03 51 53.4**	**+2.6**
PB01				*e*S	**Sn**	**03 52 08.3**	**+2.7**
PB01				IAML		03 52 10.1	
comp=N,6μm,0.2s							
PB01	**IPOC Station P**	**0.81**	**281**	*e*P	**Pn**	**03 51 53.6**	**+2.6**
PB01				*e*S	**Sn**	**03 52 09.1**	**+3.5**
PB01				IAML		03 52 11.1	
comp=Z,3μm,0.1s							
PB09	**IPOC Station P**	**0.82**	**223**		**Pn**	**03 51 54.3**	**+3.2**
PB09				Sn	**Sn**	**03 52 09.8**	**+3.9**
PB09	**IPOC Station P**	**0.82**	**223**⇑	*i*P	**Pn**	**03 51 54.5**	**+3.3**
PB09				*e*S	**Sn**	**03 52 09.7**	**+3.7**
PB09				IAML		03 52 10.7	
comp=N,6μm,0.5s							
PB09	**IPOC Station P**	**0.82**	**223**	*e*P	**Pn**	**03 51 53.8**	**+2.7**
PB09				IAML		03 52 10.7	
comp=Z,4μm,0.6s							
PB08	**IPOC Station P**	**1.16**	**335**		**Pn**	**03 51 57.9**	**+3.1**
PB08				Sn	**Sn**	**03 52 15.7**	**+3.3**
PB08	**IPOC Station P**	**1.16**	**335**⇑	*i*P	**Pn**	**03 51 57.9**	**+3.1**
PB08				*e*S	**Sn**	**03 52 15.7**	**+3.3**
PB08				IAML		03 52 18.9	
comp=E,3μm,0.5s							
PB08	**IPOC Station P**	**1.16**	**335**	*e*P	**Pn**	**03 51 57.2**	**+2.4**
PB08				*e*S	**Sn**	**03 52 16.6**	**+4.2**
PB08				IAML		03 52 19.3	
comp=Z,2μm,0.7s							
PX03	**IPOC Station P**	**1.22**	**310**	*e*P	**Pn**	**03 51 57.0**	**+1.8**
PX03				*e*S	**Sn**	**03 52 15.5**	**+2.4**
PX03				IAML		03 52 17.6	
comp=N,3μm,0.3s							
PB03	**IPOC Station P**	**1.34**	**231**⇑	*i*P	**Pn**	**03 51 59.2**	**+2.6**
PB03				*e*S	**Sn**	**03 52 17.9**	**+2.3**
PB03				IAML		03 52 18.8	
comp=E,6μm,0.3s							
PB03	**IPOC Station P**	**1.34**	**231**	*e*P	**Pn**	**03 51 58.5**	**+1.9**
PB03				IAML		03 52 19.3	
comp=Z,3μm,0.1s							
PATCX	**Punta Patache**	**1.46**	**285**		**Pn**	**03 52 00.3**	**+2.4**
PATCX				Sn	**Sn**	**03 52 19.9**	**+1.8**
PATCX	**Punta Patache**	**1.46**	**285**⇓	*i*P	**Pn**	**03 52 00.3**	**+2.4**
PATCX				*e*S	**Sn**	**03 52 20.1**	**+2.0**
PATCX				IAML		03 52 22.4	
comp=E,8μm,0.3s							
PATCX	**Punta Patache**	**1.46**	**285**	*e*P	**Pn**	**03 51 59.6**	**+1.7**
PATCX				*e*S	**Sn**	**03 52 20.8**	**+2.7**
PATCX				IAML		03 52 21.3	
comp=Z,2μm,0.3s							
HMBC	**Humberstone**	**1.48**	**308**		**Pn**	**03 52 00.0**	**+1.8**
HMBC				Sn	**Sn**	**03 52 20.2**	**+1.6**
HMBC	**Humberstone**	**1.48**	**308**⇑	*i*P	**Pn**	**03 52 00.3**	**+2.0**
HMBC				*e*S	**Sn**	**03 52 20.4**	**+1.8**
HMBC				IAML		03 52 21.4	
comp=N,4μm,0.3s							
HMBC	**Humberstone**	**1.48**	**308**	*e*P	**Pn**	**03 51 59.6**	**+1.3**
HMBC				*e*S	**Sn**	**03 52 20.6**	**+2.0**
HMBC				IAML		03 52 24.3	
comp=Z,2μm,0.6s							
TA01	**Diego Aracena**	**1.57**	**293**		**Pn**	**03 52 01.1**	**+1.9**
TA01	**Diego Aracena**	**1.57**	**293**⇓	*i*P	**Pn**	**03 52 01.1**	**+1.9**
TA01				*e*S	**Sn**	**03 52 21.6**	**+1.4**
TA01				IAML		03 52 22.5	
comp=N,3μm,0.4s							
TA01	**Diego Aracena**	**1.57**	**293**	*e*P	**Pn**	**03 52 00.5**	**+1.4**
TA01				*e*S	**Sn**	**03 52 22.3**	**+2.1**
TA01				IAML		03 52 24.9	
comp=Z,969nm,0.5s							
GO01	**Chusmiza**	**1.61**	**341**		**Pn**	**03 52 02.8**	**+2.7**
GO01	**Chusmiza**	**1.61**	**341**⇑	*i*P	**Pn**	**03 52 02.8**	**+2.7**
GO01				*e*S	**Sn**	**03 52 24.9**	**+3.0**
GO01				IAML		03 52 28.5	
comp=N,2μm,0.2s							
GO01	**Chusmiza**	**1.61**	**341**	*e*P	**Pn**	**03 52 02.8**	**+2.7**
GO01				*e*S	**Sn**	**03 52 26.4**	**+4.6**
TA02	**Huaiquique**	**1.67**	**303**		**Pn**	**03 52 02.2**	**+1.8**
TA02	**Huaiquique**	**1.67**	**303**	*e*P	**Pn**	**03 52 02.4**	**+2.0**
TA02				*e*S	**Sn**	**03 52 23.8**	**+1.4**
TA02				IAML		03 52 26.5	
comp=N,3μm,0.2s							
TA02	**Huaiquique**	**1.67**	**303**	*e*P	**Pn**	**03 52 02.4**	**+2.0**
TA02				*e*S	**Sn**	**03 52 24.7**	**+2.3**
TA02				IAML		03 52 25.7	
comp=Z,1μm,0.1s							
PB11	**IPOC Station P**	**1.72**	**326**		**Pn**	**03 52 03.1**	**+2.0**
PB11	**IPOC Station P**	**1.72**	**326**⇑	*i*P	**Pn**	**03 52 03.1**	**+2.0**
PB11				*e*S	**Sn**	**03 52 25.9**	**+2.2**
PB11				IAML		03 52 27.1	
comp=E,4μm,0.5s							
PB11	**IPOC Station P**	**1.72**	**326**	*e*P	**Pn**	**03 52 03.2**	**+2.0**
PB11				*e*S	**Sn**	**03 52 26.4**	**+2.7**
PB11				IAML		03 52 27.6	
comp=Z,1μm,0.2s							
PB06	**IPOC Station P**	**1.73**	**210**⇑	*i*P	**Pn**	**03 52 04.1**	**+2.8**
PB06				*e*S	**Sn**	**03 52 26.8**	**+2.9**
PB06				IAML		03 52 28.4	
comp=E,3μm,0.6s							
PB06	**IPOC Station P**	**1.73**	**210**	*e*P	**Pn**	**03 52 04.1**	**+2.8**
PB06				*e*S	**Sn**	**03 52 26.9**	**+3.0**
PB06				IAML		03 52 28.3	
comp=Z,2μm,0.2s							
AF01	**San Pedro de A**	**1.79**	**166**		**Pn**	**03 52 06.5**	**+4.4**
AF01	**San Pedro de A**	**1.79**	**166**⇑	*i*P	**Pn**	**03 52 06.6**	**+4.4**
AF01	**San Pedro de A**	**1.79**	**166**	*e*P	**Pn**	**03 52 01.8**	**-0.4**
AF01				*e*S	Sn	03 52 38.3	+13
AF01				IAML		03 52 54.3	
comp=Z,912nm,0.9s							
PB05	**IPOC Station P**	**2.19**	**221**		**Pn**	**03 52 08.5**	**+1.5**
PB05	**IPOC Station P**	**2.19**	**221**⇑	*i*P	**Pn**	**03 52 08.9**	**+1.9**
PB05				IAML		03 52 36.9	
comp=E,893nm,0.3s							
PB05	**IPOC Station P**	**2.19**	**221**	*e*P	**Pn**	**03 52 09.0**	**+1.9**
PB05				*e*S	**Sn**	**03 52 34.9**	**+0.6**
PB05				IAML		03 52 36.0	
comp=Z,642nm,0.6s							
PX02	**IPOC Station P**	**2.66**	**326**⇑	*i*P	**Pn**	**03 52 13.5**	**+0.3**
PB10	**IPOC Station P**	**2.91**	**217**		**Pn**	**03 52 17.5**	**+1.3**
PB10	**IPOC Station P**	**2.91**	**217**	*e*P	**Pn**	**03 52 17.9**	**+1.7**
PB10				IAML		03 52 50.6	
comp=E,406nm,0.5s							
PB10	**IPOC Station P**	**2.91**	**217**	*e*P	**Pn**	**03 52 18.0**	**+1.7**
PB10				*e*S	Sn	03 52 36.5	-14
PB10				IAML		03 52 52.2	
comp=Z,254nm,0.3s							
PB16	**IPOC Station P**	**2.96**	**344**		**Pn**	**03 52 19.8**	**+2.2**
PB16	**IPOC Station P**	**2.96**	**344**⇑	*i*P	**Pn**	**03 52 20.2**	**+2.6**
PB16				IAML		03 52 57.9	
comp=N,496nm,0.6s							
PB16	**IPOC Station P**	**2.96**	**344**	*e*P	**Pn**	**03 52 20.1**	**+2.6**
PB16				IAML		03 53 00.1	
comp=Z,302nm,0.5s							
PB12	**IPOC Station P**	**3.02**	**328**		**Pn**	**03 52 18.4**	**+0.5**
PB12	**IPOC Station P**	**3.02**	**328**	*e*P	**Pn**	**03 52 18.4**	**+0.5**
PB12				*e*S	**Sn**	**03 52 54.4**	**+0.7**
PB12				IAML		03 53 02.1	
comp=Z,349nm,0.4s							
YJA	**Yavi**	**3.06**	**109**	*e*P	Pn	03 52 23.8	+5.1
YJA				*e*S	**Sn**	**03 52 56.8**	**+1.7**
AP01	**Chacalluta**	**3.24**	**330**	Pn	**Pn**	**03 52 23.5**	**+2.9**
AP01	**Chacalluta**	**3.24**	**330**	*e*P	**Pn**	**03 52 21.8**	**+1.1**
AP01				*e*S	Sn	03 52 46.8	-12
AP01				IAML		03 53 05.6	
comp=Z,386nm,0.3s							
PB18	**Visviri**	**3.68**	**347**		**Pn**	**03 52 30.5**	**+3.4**
PB14	**IPOC Station P**	**3.78**	**205**		**Pn**	**03 52 28.7**	**+0.6**
PB14	**IPOC Station P**	**3.78**	**205**	*e*S	**Sn**	**03 53 11.6**	**-0.3**
PB14				IAML		03 53 13.2	
comp=Z,238nm,0.4s							
GO02	**Mina Guanaco**	**4.04**	**192**		**Pn**	**03 52 33.0**	**+1.4**
GO02	**Mina Guanaco**	**4.04**	**192**	*e*P	Pn	03 52 24.2	-7.4
GO02				*e*S	**Sn**	**03 53 19.7**	**+1.5**
SLA	**San Lorenzo**	**4.54**	**141**	*e*P	Pn	03 52 43.0	+4.7
LPAZ	**La Paz**	**4.91**	**6**		**Pn**	**03 52 47.0**	**+3.4**
LPAZ	**La Paz**	**4.91**	**6**	P	**Pn**	**03 52 46.5**	**+2.8**
comp=Z,34nm,0.5s,baz=194,slow=4.8,SNR=263							
LPAZ				S	**Sn**	**03 53 37.6**	**-2.1**
comp=Z,6.5nm,0.5s,baz=201,slow=18,SNR=1.1							
LPAZ	**La Paz**	**4.91**	**6**	*e*P	**Pn**	**03 52 47.1**	**+3.4**
LPAZ	**La Paz**	**4.91**	**6**	*e*P	**Pn**	**03 52 45.3**	**+1.6**
AC01	**Pan de Azucar**	**5.24**	**200**		**Pn**	**03 52 47.7**	**+0.1**
AC01	**Pan de Azucar**	**5.24**	**200**	*e*P	**Pn**	**03 52 47.6**	**+0.1**
AC01				*e*S	**Sn**	**03 53 44.9**	**-1.9**
AC01				IAML		03 53 48.2	
comp=Z,128nm,0.2s							
AC02	**Maricunga**	**5.63**	**184**		**Pn**	**03 52 55.0**	**+1.7**
AC06	**Mina Casimiro**	**6.33**	**194**		**Pn**	**03 53 01.1**	**-1.1**
GO03	**Copiapo**	**6.53**	**193**		**Pn**	**03 53 04.0**	**-1.0**
AC04	**Llanos de Chal**	**7.32**	**197**		**Pn**	**03 53 12.8**	**-2.8**
AC05	**El Transito**	**7.75**	**191**		**Pn**	**03 53 20.6**	**-1.0**
LCO	**Las Campanas**	**8.00**	**193**		**Pn**	**03 53 22.7**	**-2.4**
BBSD	**Serra de San D**	**8.57**	**64**	*e*P	**Pn**	**03 53 30.9**	**-1.8**
BBSD				*e*S	**Sn**	**03 55 02.9**	**-4.9**
CO01	**Juntas del Tor**	**8.84**	**188**		**Pn**	**03 53 35.5**	**-1.0**
SIV	**San Ignacio**	**8.85**	**55**	P	**Pn**	**03 53 36.2**	**-0.4**
comp=Z,16nm,0.3s,baz=246,slow=11,SNR=172							
SIV				S	Sn	03 55 01.9	-13
comp=Z,0.9nm,0.4s,baz=301,slow=17,SNR=1.2							
GO04	**Tololo Observa**	**9.14**	**192**		**Pn**	**03 53 37.9**	**-2.7**
CO03	**El Pedregal**	**9.77**	**190**		**Pn**	**03 53 46.1**	**-2.9**
MURT	**Porto Murtinho**	**10.29**	**95**	*e*P	**Pn**	**03 53 55.7**	**-0.3**
CFA	**Coronel Fontan**	**10.37**	**178**	P	**Pn**	**03 53 55.8**	**-1.3**
comp=Z,2.1nm,0.3s,baz=360,slow=11,SNR=17							
CFA				S	**Sn**	**03 55 44.5**	**-6.8**
comp=Z,2.1nm,0.3s,baz=160,slow=16,SNR=6.9							
PTLB	**Pontes e Lacer**	**10.68**	**59**		**Pn**	**03 54 01.6**	**+0.2**
PTLB	**Pontes e Lacer**	**10.68**	**59**	*e*P	**Pn**	**03 54 02.0**	**+0.6**
CPUP	**Villa Florida**	**11.55**	**118**	Pn	**Pn**	**03 54 13.9**	**+1.0**
CPUP	**Villa Florida**	**11.55**	**118**	P	**Pn**	**03 54 13.5**	**+0.6**
comp=Z,1.0nm,0.6s,baz=310,slow=10,SNR=4.9							
CPUP	**Villa Florida**	**11.55**	**118**	*e*P	**Pn**	**03 54 14.8**	**+1.9**
AQDB	**Aquidauana**	**12.12**	**89**	Pn	**Pn**	**03 54 21.9**	**+1.3**
AQDB	**Aquidauana**	**12.12**	**89**	*e*P	**Pn**	**03 54 21.7**	**+1.1**
SJPY	**San Joaquin**	**12.14**	**111**	*e*P	**Pn**	**03 54 22.0**	**+1.3**
MT13	**San Alfonso**	**12.58**	**186**	Pn	**Pn**	**03 54 23.3**	**-3.2**
BO01	**Tunca**	**13.32**	**189**		**Pn**	**03 54 31.4**	**-4.7**
SALV	**Santo Antonio**	**13.36**	**69**	*e*P	**Pn**	**03 54 38.6**	**+1.9**
CZSB	**Cruzeiro do Su**	**13.96**	**343**		**Pn**	**03 54 41.5**	**-3.0**
CZSB	**Cruzeiro do Su**	**13.96**	**343**	*e*P	**P**	**03 54 47.3**	**-1.7**
RPRD	**Ribas do Rio P**	**13.99**	**90**	*e*P	**Pn**	**03 54 46.8**	**+1.9**
PDRB	**Porto dos Gac**	**14.87**	**52**	*e*P	**Pn**	**03 54 56.9**	**+0.7**
TBOT	**Tacuaremb**	**15.43**	**135**	*e*P	**P**	**03 55 05.3**	**+0.2**
PTGB	**Pitanga**	**15.66**	**106**	*e*P	**P**	**03 55 07.9**	**0.0**
ITAB	**Concordia**	**16.21**	**115**	Pn	**Pn**	**03 55 12.8**	**+0.1**
ITAB	**Concordia**	**16.21**	**115**	*e*P	**P**	**03 55 14.8**	**+1.0**
LDASE	**Londrina, Braz**	**16.36**	**101**	*e*P	**P**	**03 55 15.8**	**+0.2**
CPSB	**Cacapava Do Su**	**16.46**	**127**	*e*P	**P**	**03 55 18.1**	**+1.5**
ARAG	**Araguaiana, MT**	**16.87**	**74**	*e*P	**P**	**03 55 23.1**	**+1.9**
TBTG	**Tabatinga, AM**	**16.96**	**356**	P	**Pn**	**03 55 20.2**	**-1.8**
TBTG	**Tabatinga, AM**	**16.96**	**356**	*e*P	**P**	**03 55 23.2**	**+1.1**
PLTB	**Pedras Altas**	**17.07**	**131**	P	**P**	**03 55 21.7**	**-1.6**
TRQA	**Tornquist**	**17.76**	**163**	P	**Pn**	**03 55 31.5**	**-0.1**
TEFE	**Tefe**	**18.01**	**13**	*e*P	**Pn**	**03 55 34.7**	**-0.1**
SNDB	**Serra Nova Dou**	**18.97**	**64**	*e*P	**Pn**	**03 55 45.3**	**-0.9**
IPMB	**Ipameri, GO**	**19.51**	**84**	*e*P	**P**	**03 55 50.9**	**+0.7**
MACA	**Manacapuru-AM**	**19.53**	**24**	P	**P**	**03 55 49.2**	**-1.2**
MACA	**Manacapuru-AM**	**19.53**	**24**	*e*P	**P**	**03 55 50.0**	**-0.3**
PLCA	**Paso Flores**	**19.54**	**184**	P	**Pn**	**03 55 52.1**	**-0.5**
comp=Z,1.5nm,0.7s,baz=10.0,slow=13,SNR=10							
VAO	**Valinhos**	**20.16**	**99**	P	**P**	**03 55 57.0**	**-0.2**
VAO	**Valinhos**	**20.16**	**99**	*e*P	**P**	**03 55 57.8**	**+0.6**
BDFB	**Brasilia**	**20.33**	**78**	P	**P**	**03 55 59.7**	**+0.6**
BDFB				IAmb	IAmb	03 56 01.5	
comp=Z,27nm,1.5s							
BDFB	**Brasilia**	**20.33**	**78**	P	**P**	**03 55 59.8**	**+0.6**
comp=Z,4.0nm,0.4s,baz=248,slow=10,SNR=25							
comp=Z,4.0nm,0.4s							
ITTB	**Itaituba**	**20.91**	**39**	*e*P	**P**	**03 56 05.4**	**+0.2**
FLOC	**Florencia**	**23.66**	**342**	P	**P**	**03 56 33.8**	**+0.8**
FLOC				IAmb	IAmb	03 56 35.9	
comp=Z,13nm,1.0s							
DIAM	**Diamantina, MG**	**23.67**	**87**	*e*P	**P**	**03 56 34.5**	**+1.3**
SMTB	**Santa Maria do**	**23.71**	**62**	*e*P	**P**	**03 56 34.6**	**+1.2**
MAL2	**Monte Alegre,**	**23.71**	**38**	P	**P**	**03 56 32.9**	**-0.6**
MAL2				IAmb	IAmb	03 56 34.4	
comp=Z,23nm,0.9s							
JANB	**Januaria**	**23.90**	**79**	*e*P	**P**	**03 56 35.5**	**+0.3**
SDBA	**SAO DESIDERIO**	**24.32**	**73**	*e*P	**P**	**03 56 40.4**	**+1.3**
BOAV	**Boa Vista**	**24.76**	**20**	P	**P**	**03 56 43.6**	**+0.6**
BOAV				IAmb	IAmb	03 56 44.9	
comp=Z,9.0nm,0.6s							
BOAV	**Boa Vista**	**24.76**	**20**	*e*P	**P**	**03 56 44.0**	**+1.1**
ROSC	**El Rosal**	**26.47**	**347**	LR	LR	04 07 57.5	
comp=Z,66nm,19.0s,baz=240,slow=37							
RUSC	**La Rusia**	**27.27**	**350**	P	**P**	**03 57 07.0**	**+0.9**
RUSC				IAmb	IAmb	03 57 14.5	
comp=Z,20nm,1.2s							
GUA01	**Guaratinga, BA**	**27.64**	**85**	*e*P	**P**	**03 57 09.8**	**+0.8**
BAUV	**El Baul**	**29.96**	**1**	P	**P**	**03 57 29.3**	**-0.1**
BAUV				IAmb	IAmb	03 58 10.9	
comp=Z,15nm,1.1s							
SDV	**Santo Domingo**	**29.96**	**356**	LR	LR	04 12 54.7	
comp=Z,50nm,18.1s,baz=240,slow=43							
OBIP	**Obispado Ponce**	**39.05**	**3**	P	**P**	**03 58 47.4**	**-0.3**
CELP	**Cerrillos**	**39.09**	**3**	P	**P**	**03 58 47.6**	**-0.3**
SWET	**Sewanee**	**58.46**	**343**	P	**P**	**04 01 15.9**	**+0.1**
SWET				IAmb	IAmb	04 01 43.3	
comp=Z,11nm,1.1s							
WVT	**Waverly**	**59.84**	**342**	P	**P**	**04 01 25.1**	**-0.1**
WVT				IAmb	IAmb	04 01 26.0	
comp=Z,5.2nm,0.9s							
TXAR	**Lajitas Array**	**60.53**	**325**	P	**P**	**04 01 30.9**	**+0.7**
comp=Z,0.3nm,0.9

GUMA			S	Sg	04 04 49.4	+1.2
GUMA			AML	AML		
	comp=E,2660μm,0.3s					
GUMA			AML	AML		
	comp=N,3430μm,0.3s					
GUMA			AML	AML		
	comp=E,5005μm,0.3s					
GUMA			AML	AML		
	comp=N,2935μm,0.2s					
GUMA			AML	AML		
	comp=N,3425μm,0.3s					
GUMA			AML	AML		
	comp=N,2932μm,0.2s					
GUMA			AML	AML		
	comp=E,2664μm,0.3s					
GUMA			AML	AML		
	comp=N,3428μm,0.3s					
GUMA			AML	AML		
	comp=E,5008μm,0.3s					
SAP2	**Sant'Angelo in**	**0.15 91**	P	Pg	04 04 48.2	+1.1
SAP2			S	Sg	04 04 50.9	+1.7
SAP2			AML	AML		
	comp=E,924μm,0.4s					
SAP2			AML	AML		
	comp=N,11400μm,0.4s					
SAP2			AML	AML		
	comp=E,730μm,0.2s					
SAP2			AML	AML		
	comp=N,11394μm,0.4s					
MML1	**Montelago di S**	**0.17 275**	⇑P	Pg	04 04 48.1	+0.6
FEMA	**Monte Fema**	**0.18 219**	P	Pg	04 04 48.3	+0.7
MTCL	**Monte Cavallo**	**0.18 234**	P	Pg	04 04 48.4	+0.7
MTCL			S	Sg	04 04 51.9	+1.7
MC2	**Monte Cornacci**	**0.19 182**	P	Pg	04 04 48.5	+0.6
MC2			S	Sg	04 04 52.2	+1.6
SEF1	**Sefro**	**0.19 284**	P	Pg	04 04 48.5	+0.6
SEF1			S	Sg	04 04 52.4	+1.8
MNTP	**Montappone**	**0.20 79**	P	Pg	04 04 49.2	+1.2
MNTP			AML	AML		
	comp=N,1140μm,0.2s					
MNTP			AML	AML		
	comp=E,1185μm,1.2s					
MNTP			AML	AML		
	comp=N,1141μm,0.1s					
MNTP			AML	AML		
	comp=E,1123μm,0.1s					
MF5	**Montefalcone A**	**0.22 120**	P	Pg	04 04 49.6	+1.2
MF5			AML	AML		
	comp=N,516μm,0.5s					
MF5			AML	AML		
	comp=N,516μm,1.5s					
MF5			AML	AML		
	comp=E,408μm,0.6s					
MF5			AML	AML		
	comp=N,464μm,0.3s					
MF5			AML	AML		
	comp=E,303μm,0.4s					
MMO1	**Montemonaco**	**0.22 155**	P	Pg	04 04 48.9	+0.4
TRE1	**Treia**	**0.23 21**	P	Pg	04 04 48.6	0.0
CESI	**CESI - Serrava**	**0.24 247**	⇑P	Pg	04 04 49.5	+0.8
CESI			S	Sg	04 04 53.9	+1.9
CESI			AML	AML		
	comp=N,700μm,0.5s					
CESI			AML	AML		
	comp=E,514μm,0.4s					
CESI			AML	AML		
	comp=E,514μm,1.6s					
CESI			AML	AML		
	comp=E,482μm,0.2s					
CESI			AML	AML		
	comp=N,631μm,0.1s					
EL6	**Elcito**	**0.24 343**	P	Pg	04 04 49.5	+0.6
EL6			S	Sg	04 04 53.9	+1.8
EL6			AML	AML		
	comp=E,475μm,1.5s					
EL6			AML	AML		
	comp=E,476μm,1.5s					
EL6			AML	AML		
	comp=N,582μm,0.1s					
EL6			AML	AML		
	comp=E,476μm,0.5s					
EL6			AML	AML		
	comp=E,464μm,0.1s					
EL6			AML	AML		
	comp=N,583μm,0.1s					
SNTG	**Esanatoglia**	**0.24 309**	⇑P	Pg	04 04 49.5	+0.6
SNTG			S	Sg	04 04 53.9	+1.6
SNTG			AML	AML		
	comp=N,278μm,0.6s					
SNTG			AML	AML		
	comp=E,266μm,0.1s					
SNTG			AML	AML		
	comp=N,278μm,0.6s					
SNTG			AML	AML		
	comp=E,265μm,0.1s					
SNTG			AML	AML		
	comp=E,282μm,0.1s					
SNTG			AML	AML		
	comp=N,180μm,0.2s					
SNTG			AML	AML		
	comp=N,237μm,0.1s					
NRCA	**Norcia**	**0.27 193**	⇑P	Pg	04 04 49.9	+0.5
NRCA			AML	AML		
	comp=E,572μm,0.2s					
NRCA			AML	AML		
	comp=N,558μm,0.5s					
NRCA			AML	AML		
	comp=N,558μm,1.5s					
NRCA			AML	AML		
	comp=N,475μm,0.1s					
NRCA			AML	AML		
	comp=N,529μm,0.2s					
NRCA			AML	AML		
	comp=E,573μm,0.2s					
NRCA			AML	AML		
	comp=E,572μm,0.2s					
MNTT	**Montottone**	**0.29 97**	P	Pb	04 04 51.2	-0.4
MNTT			AML	AML		
	comp=N,852μm,1.6s					
MNTT			AML	AML		
	comp=E,913μm,0.9s					
MNTT			AML	AML		
	comp=N,852μm,0.4s					
MNTT			AML	AML		
	comp=E,890μm,0.2s					
MNTT			AML	AML		
	comp=N,809μm,0.2s					
MTRA	**Matera**	**0.37 157**	P	Pb	04 04 52.1	-0.8
MTRA			AML	AML		
	comp=E,206μm,0.3s					
MTRA			AML	AML		
	comp=N,162μm,1.3s					
MTRA			AML	AML		
	comp=N,162μm,1.3s					
MTRA			AML	AML		
	comp=N,162μm,0.7s					
MTRA			AML	AML		
	comp=N,175μm,0.3s					
MTRA			AML	AML		
	comp=N,154μm,0.3s					
MTRA			AML	AML		
	comp=E,207μm,0.3s					
MTRA			AML	AML		
	comp=E,235μm,0.3s					
FOSV	**Fossato di Vic**	**0.38 301**	P	Pg	04 04 51.9	+0.5
FOSV			S	Sb	04 04 58.2	-0.9
FOSV			AML	AML		
	comp=E,452μm,0.3s					
FOSV			AML	AML		
	comp=N,416μm,0.4s					
FOSV			AML	AML		
	comp=E,452μm,0.3s					
FOSV			AML	AML		
	comp=E,452μm,0.3s					
FOSV			AML	AML		
	comp=N,415μm,0.4s					
ASSB	**Assisi San Ben**	**0.40 262**	⇑P	Pg	04 04 52.3	+0.5
ASSB			S	Sb	04 04 59.0	-0.8
ASSB			AML	AML		
	comp=E,312μm,1.1s					
ASSB			AML	AML		
	comp=N,575μm,1.2s					
ASSB			AML	AML		
	comp=E,273μm,0.2s					
ASSB			AML	AML		
	comp=N,519μm,0.2s					
ATCC	**AVT- Casa Cast**	**0.42 282**	⇑P	Pg	04 04 52.8	+0.6
ATCC			S	Sb	04 04 59.9	-0.3
ATCC			AML	AML		
	comp=N,526μm,0.3s					
ATCC			AML	AML		
	comp=E,345μm,0.1s					
ATCC			AML	AML		
	comp=E,345μm,0.1s					
ATCC			AML	AML		
	comp=N,406μm,0.4s					
ARVD	**Arcevia**	**0.44 335**	P	Pg	04 04 53.1	+0.5
ARVD			AML	AML		
	comp=E,122μm,0.1s					
ARVD			AML	AML		
	comp=N,94μm,0.8s					
ARVD			AML	AML		
	comp=N,94μm,1.2s					
ARVD			AML	AML		
	comp=N,83μm,0.1s					
ARVD			AML	AML		
	comp=E,122μm,0.1s					
SSFR	**Montelago di S**	**0.45 318**	P	Pg	04 04 53.4	+0.6
SSFR			S	Sb	04 05 01.2	-0.1
SSFR			AML	AML		
	comp=N,628μm,0.7s					
SSFR			AML	AML		
	comp=E,678μm,0.2s					
SSFR			AML	AML		
	comp=N,536μm,0.2s					
SSFR			AML	AML		
	comp=E,678μm,1.8s					
SSFR			AML	AML		
	comp=E,725μm,0.2s					
SSFR			AML	AML		
	comp=N,628μm,1.3s					
SSFR			AML	AML		
	comp=N,537μm,0.2s					
SSFR			AML	AML		
	comp=N,554μm,0.2s					
SSFR			AML	AML		
	comp=E,683μm,0.2s					
SSFR			AML	AML		
	comp=E,678μm,0.2s					
GAVE	**Gavelli**	**0.47 209**	P	Pg	04 04 53.4	+0.3
GAVE			AML	AML		
	comp=E,311μm,1.0s					
GAVE			AML	AML		
	comp=N,295μm,0.3s					
GAVE			AML	AML		
	comp=E,310μm,0.2s					
GAVE			AML	AML		
	comp=N,291μm,0.2s					
GAVE			AML	AML		
	comp=E,331μm,0.2s					
SMA1	**SAN MARTINO**	**0.48 168**	P	Pg	04 04 53.9	+0.6
SMA1			AML	AML		
	comp=E,132μm,1.5s					
SMA1			AML	AML		
	comp=N,170μm,0.6s					
SMA1			AML	AML		
	comp=E,131μm,1.5s					
SMA1			AML	AML		
	comp=N,171μm,0.6s					
SMA1			AML	AML		
	comp=N,171μm,1.4s					
SMA1			AML	AML		
	comp=E,131μm,0.5s					
SMA1			AML	AML		
	comp=E,115μm,0.3s					
SMA1			AML	AML		
	comp=N,144μm,0.2s					
LNSS	**Leonessa**	**0.51 193**	P	Pg	04 04 54.1	+0.2
LNSS			AML	AML		
	comp=N,246μm,0.2s					
LNSS			AML	AML		
	comp=E,162μm,1.0s					
LNSS			AML	AML		
	comp=E,165μm,0.2s					
LNSS			AML	AML		
	comp=N,216μm,0.2s					
LNSS			AML	AML		
	comp=N,246μm,0.2s					
LNSS			AML	AML		
	comp=E,145μm,0.2s					
MURB	**Monte Urbino**	**0.52 289**	P	Pb	04 04 54.8	-0.7
MURB			S	Sb	04 05 03.5	+0.2
MURB			AML	AML		
	comp=E,290μm,0.3s					
MURB			AML	AML		
	comp=N,298μm,0.3s					
MURB			AML	AML		
	comp=E,290μm,1.7s					
MURB			AML	AML		
	comp=E,286μm,0.3s					
MURB			AML	AML		
	comp=N,298μm,0.3s					
MURB			AML	AML		
	comp=N,328μm,0.3s					
MURB			AML	AML		
	comp=E,290μm,0.3s					
FRON	**Frontone**	**0.54 321**	P	Pg	04 04 54.9	+0.4
FRON			AML	AML		
	comp=E,86μm,0.1s					
FRON			AML	AML		
	comp=N,156μm,1.2s					
FRON			AML	AML		
	comp=N,156μm,0.8s					
FRON			AML	AML		
	comp=E,86μm,0.1s					
FRON			AML	AML		
	comp=N,127μm,0.1s					
MOMA	**Monte Martano**	**0.55 238**	P	Pg	04 04 54.9	+0.3
MOMA			S	Sb	04 05 04.1	0.0
MOMA			AML	AML		
	comp=E,138μm,0.4s					
MOMA			AML	AML		
	comp=N,164μm,0.2s					
MOMA			AML	AML		
	comp=N,164μm,1.8s					
MOMA			AML	AML		
	comp=E,138μm,0.4s					
MOMA			AML	AML		
	comp=E,153μm,0.3s					
MOMA			AML	AML		
	comp=N,186μm,0.3s					
MOMA			AML	AML		
	comp=N,164μm,0.2s					
COR1	**Corinaldo**	**0.55 345**	P	Pb	04 04 56.1	+0.1
COR1			AML	AML		
	comp=E,70μm,0.4s					
COR1			AML	AML		
	comp=N,126μm,0.2s					
TERO	**Teramo**	**0.56 148**	P	Pg	04 04 55.3	+0.5
TERO			AML	AML		
	comp=N,127μm,0.8s					
TERO			AML	AML		
	comp=E,84μm,0.3s					
TERO			AML	AML		
	comp=N,87μm,0.2s					
TERO			AML	AML		
	comp=E,84μm,0.3s					
CAMP	**Campotosto**	**0.58 165**	P	Pg	04 04 55.3	0.0
CAMP			AML	AML		
	comp=E,52μm,0.6s					
CAMP			AML	AML		
	comp=N,67μm,0.2s					
CAMP			AML	AML		
	comp=N,67μm,0.2s					
CAMP			AML	AML		
	comp=E,48μm,0.2s					
RM33	**Pellescritta (**	**0.59 179**	P	Pg	04 04 55.7	+0.3
RM33			AML	AML		
	comp=E,104μm,0.2s					
RM33			AML	AML		
	comp=N,70μm,0.2s					
RM33			AML	AML		
	comp=N,70μm,0.2s					
RM33			AML	AML		
	comp=E,104μm,0.2s					
RM33			AML	AML		
	comp=E,104μm,0.2s					
RM33			AML	AML		
	comp=N,169μm,0.8s					
RM33			AML	AML		
	comp=N,70μm,0.2s					
MPAG	**Monte Paganucc**	**0.62 329**	P	Pb	04 04 56.6	-0.6
MPAG			AML	AML		
	comp=E,61μm,1.0s					
MPAG			AML	AML		
	comp=N,54μm,0.4s					
MPAG			AML	AML		
	comp=N,54μm,0.4s					
MPAG			AML	AML		
	comp=E,61μm,1.0s					
MPAG			AML	AML		
	comp=E,322μm,0.9s					
MPAG			AML	AML		
	comp=E,51μm,0.2s					
MPAG			AML	AML		
	comp=N,54μm,0.4s					
PIEI	**Pieia**	**0.65 312**	P	Pg	04 04 56.7	0.0
PIEI			AML	AML		
	comp=E,114μm,0.9s					
PIEI			AML	AML		
	comp=N,92μm,0.2s					
PIEI			AML	AML		
	comp=E,114μm,1.1s					
PIEI			AML	AML		
	comp=N,92μm,0.2s					
PIEI			AML	AML		
	comp=E,92μm,0.1s					
GIGS	**Gran Sasso**	**0.70 157**	P	Pg	04 04 57.5	-0.1
GIGS			AML	AML		
	comp=E,21μm,1.3s					
GIGS			AML	AML		
	comp=N,26μm,0.7s					
GIGS			AML	AML		
	comp=E,21μm,1.3s					
GIGS			AML	AML		
	comp=N,20μm,1.3s					
GIGS			AML	AML		
	comp=N,20μm,0.7s					
GIGS			AML	AML		
	comp=E,18μm,0.3s					
GIGS			AML	AML		
	comp=N,16μm,0.2s					
PE3	**Peglio**	**0.79 320**	P	Pb	04 04 59.9	-0.1
PE3			AML	AML		
	comp=E,123μm,0.5s					
PE3			AML	AML		
	comp=N,203μm,0.3s					

ROM 20 04:05:14.0±0.1, 43°.092N±0°.003×13°.189E±0°.004, h8km, ML2.7/105, 14C-3D, Error ellipse: s-maj=0.3km s-min=0.2km az=54.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CSP1	**Cessapalombo**	**0.01**	**92**	⇓P	Pg	04 05 15.2	-0.3
PF6	**Pievefavera**	**0.06**	**3**	⇓P	Pg	04 05 15.1	-0.7
FDMO	**Fiordimonte**	**0.09**	**233**	⇑P	Pg	04 05 16.7	+0.4
FDMO				S	Sg	04 05 18.8	+1.0
FDMO				AML	AML		
	comp=E,9380μm,0.2s						
FDMO				AML	AML		
	comp=E,9380μm,1.8s						
FDMO				AML	AML		
	comp=N,5545μm,0.7s						
FDMO				AML	AML		
	comp=N,5231μm,0.1s						
FDMO				AML	AML		
	comp=E,9376μm,0.2s						
MDAR	**Monte D'Aria**	**0.11**	**341**	P	Pg	04 05 16.7	+0.2
MDAR				S	Sg	04 05 18.7	+0.5
MDAR				AML	AML		
	comp=E,3825μm,0.6s						
MDAR				AML	AML		
	comp=N,4905μm,0.4s						
MDAR				AML	AML		
	comp=N,3861μm,0.3s						
MDAR				AML	AML		
	comp=E,3682μm,0.5s						
GUMA	**Gualdo di Mace**	**0.11**	**105**	⇑P	Pg	04 05 17.0	+0.5
GUMA				S	Sg	04 05 19.2	+1.0
GUMA				AML	AML		
	comp=E,25550μm,0.3s						
GUMA				AML	AML		
	comp=N,32250μm,0.3s						
GUMA				AML	AML		
	comp=N,33650μm,0.3s						
GUMA				AML	AML		
	comp=E,44800μm,0.3s						
GUMA				AML	AML		
	comp=E,25560μm,0.3s						
GUMA				AML	AML		
	comp=N,32232μm,0.3s						
GUMA				AML	AML		
	comp=E,44812μm,0.3s						
GUMA				AML	AML		
	comp=N,33673μm,0.3s						
SSM1	**San Severino M**	**0.14**	**356**	P	Pg	04 05 17.3	+0.4
SAP2	**Sant'Angelo in**	**0.15**	**88**	P	Pg	04 05 17.9	+0.7
SAP2				S	Sg	04 05 20.8	+1.3
SAP2				AML	AML		
	comp=N,75650μm,0.5s						
SAP2				AML	AML		
	comp=E,7585μm,0.3s						
SAP2				AML	AML		
	comp=N,48898μm,0.2s						
SAP2				AML	AML		
	comp=E,6453μm,0.3s						
MML1	**Montelago di S**	**0.16**	**278**	⇑P	Pg	04 05 18.0	+0.6
MML1				S	Sg	04 05 21.1	+1.5
FEMA	**Monte Fema**	**0.17**	**218**	⇑P	Pg	04 05 18.1	+0.6
FEMA				S	Sg	04 05 21.5	+1.6
MC2	**Monte Cornacci**	**0.18**	**180**	⇑P	Pg	04 05 18.4	+0.7
MC2				S	Sg	04 05 21.7	+1.4
SEF1	**Sefro**	**0.18**	**287**	P	Pg	04 05 18.4	+0.6
SEF1				S	Sg	04 05 22.0	+1.7
MNTP	**Montappone**	**0.21**	**77**	P	Pg	04 05 19.1	+0.9
MNTP				S	Sg	04 05 23.1	+2.0
MNTP				AML	AML		
	comp=E,5505μm,1.3s						
MNTP				AML	AML		
	comp=N,4710μm,0.1s						
MNTP				AML	AML		
	comp=E,5505μm,1.3s						
MNTP				AML	AML		
	comp=N,4710μm,0.1s						
MNTP				AML	AML		
	comp=E,5505μm,0.7s						
MNTP				AML	AML		
	comp=E,5428μm,0.5s						
MNTP				AML	AML		
	comp=N,4709μm,0.1s						
FIU1	**Fiuminata**	**0.21**	**297**	P	Pg	04 05 18.7	+0.4
MMO1	**Montemonaco**	**0.22**	**152**	⇓P	Pg	04 05 18.7	+0.3
MMO1				S	Sg	04 05 22.4	+1.0
MF5	**Montefalcone A**	**0.22**	**117**	⇑P	Pg	04 05 19.3	+0.8
MF5				S	Sg	04 05 23.5	+2.0
MF5				AML	AML		
	comp=E,6750μm,0.4s						
MF5				AML	AML		
	comp=E,6075μm,0.7s						
MF5				AML	AML		
	comp=N,6755μm,0.4s						
MF5				AML	AML		
	comp=E,5148μm,0.6s						
MF5				AML	AML		
	comp=N,6754μm,0.4s						
CESI	**CESI - Serrava**	**0.23**	**247**	⇑P	Pg	04 05 19.2	+0.7
CESI				S	Sg	04 05 23.6	+2.0
CESI				AML	AML		
	comp=N,5530μm,0.3s						
CESI				AML	AML		
	comp=E,4910μm,0.3s						
CESI				AML	AML		
	comp=N,5530μm,1.7s						
CESI				AML	AML		
	comp=N,5529μm,0.3s						
CESI				AML	AML		
	comp=E,4911μm,0.3s						
TRE1	**Treia**	**0.24**	**22**	P	Pg	04 05 19.6	+0.9
SNTG	**Esanatoglia**	**0.24**	**312**	⇑P	Pg	04 05 19.3	+0.4
SNTG				S	Sg	04 05 23.6	+1.4
SNTG				AML	AML		
	comp=N,1215μm,0.5s						
SNTG				AML	AML		
	comp=E,1006μm,1.0s						
SNTG				AML	AML		
	comp=E,1000μm,1.0s						
SNTG				AML	AML		
	comp=N,1100μm,0.5s						

SNTG			AML	AML	
	comp=N,845µm,0.2s				
SNTG			AML	AML	
	comp=E,723µm,0.2s				
SNTG			AML	AML	
	comp=N,994µm,0.2s				
SNTG			AML	AML	
	comp=E,689µm,0.2s				
EL6	**Elcito**	**0.24 345**	P	Pg	04 05 19.3 +0.4
EL6			S	Sg	04 05 23.8 +1.5
EL6			AML	AML	
	comp=E,2175µm,1.1s				
EL6			AML	AML	
	comp=N,2095µm,0.3s				
EL6			AML	AML	
	comp=E,2170µm,1.1s				
EL6			AML	AML	
	comp=N,2100µm,0.3s				
EL6			AML	AML	
	comp=E,2170µm,0.9s				
EL6			AML	AML	
	comp=N,2095µm,0.3s				
EL6			AML	AML	
	comp=E,1882µm,0.3s				
NRCA	**Norcia**	**0.26 192**	⇑P	Pg	04 05 19.7 +0.5
NRCA			S	Sb	04 05 24.3 -1.5
NRCA			AML	AML	
	comp=E,6935µm,0.5s				
NRCA			AML	AML	
	comp=N,6150µm,0.5s				
NRCA			AML	AML	
	comp=N,6690µm,0.5s				
NRCA			AML	AML	
	comp=N,6155µm,0.5s				
NRCA			AML	AML	
	comp=E,6980µm,0.5s				
NRCA			AML	AML	
	comp=N,6412µm,0.1s				
NRCA			AML	AML	
	comp=E,6620µm,0.1s				
NRCA			AML	AML	
	comp=E,6642µm,0.1s				
NRCA			AML	AML	
	comp=N,5938µm,0.1s				
CING	**Cingoli**	**0.28 1**	P	Pg	04 05 20.0 +0.3
MNTT	**Montottone**	**0.30 96**	⇑P	Pb	04 05 21.0 -0.7
MNTT			S	Sb	04 05 26.8 0.0
MNTT			AML	AML	
	comp=E,6375µm,0.3s				
MNTT			AML	AML	
	comp=N,7440µm,0.3s				
MNTT			AML	AML	
	comp=N,7438µm,0.3s				
MNTT			AML	AML	
	comp=E,6377µm,0.3s				
MTRA	**Matera**	**0.37 156**	⇑P	Pg	04 05 21.4 +0.2
MTRA			S	Sb	04 05 27.7 -1.1
MTRA			AML	AML	
	comp=E,1710µm,1.0s				
MTRA			AML	AML	
	comp=N,2030µm,0.4s				
MTRA			AML	AML	
	comp=N,2055µm,0.4s				
MTRA			AML	AML	
	comp=N,2030µm,0.3s				
MTRA			AML	AML	
	comp=E,1655µm,0.8s				
MTRA			AML	AML	
	comp=N,2030µm,1.7s				
MTRA			AML	AML	
	comp=N,2055µm,1.6s				
MTRA			AML	AML	
	comp=E,1583µm,0.2s				
MTRA			AML	AML	
	comp=N,2031µm,0.3s				
MTRA			AML	AML	
	comp=N,2056µm,0.4s				
MTRA			AML	AML	
	comp=E,1609µm,0.2s				
FOSV	**Fossato di Vic**	**0.37 303**	⇑P	Pg	04 05 21.7 +0.4
FOSV			S	Sb	04 05 27.9 -1.0
FOSV			AML	AML	
	comp=E,1900µm,0.3s				
FOSV			AML	AML	
	comp=N,1296µm,0.7s				
FOSV			AML	AML	
	comp=E,1901µm,0.3s				
FOSV			AML	AML	
	comp=N,1196µm,0.3s				
ASSB	**Assisi San Ben**	**0.39 263**	⇑P	Pg	04 05 22.1 +0.5
ASSB			S	Sb	04 05 28.6 -0.9
ASSB			AML	AML	
	comp=E,2155µm,0.3s				
ASSB			AML	AML	
	comp=E,2155µm,1.7s				
ASSB			AML	AML	
	comp=N,2235µm,0.4s				
ASSB			AML	AML	
	comp=N,2103µm,0.2s				
ASSB			AML	AML	
	comp=E,2157µm,0.3s				
OFFI	**Offida**	**0.40 113**	P	Pb	04 05 23.3 0.0
OFFI			AML	AML	
	comp=N,3320µm,0.6s				
OFFI			AML	AML	
	comp=E,1195µm,0.6s				
OFFI			AML	AML	
	comp=N,3320µm,0.6s				
OFFI			AML	AML	
	comp=E,1052µm,0.3s				
CIMA	**Civitanova Mar**	**0.41 59**	P	Pb	04 05 23.1 -0.4
ATCC	**AVT- Casa Cast**	**0.41 283**	⇑P	Pg	04 05 22.6 +0.5
ATCC			S	Sb	04 05 29.8 -0.3
ATCC			AML	AML	
	comp=E,1390µm,0.4s				
ATCC			AML	AML	
	comp=N,2090µm,0.3s				
ATCC			AML	AML	
	comp=N,2090µm,1.7s				
ATCC			AML	AML	
	comp=E,1390µm,1.6s				
ATCC			AML	AML	
	comp=N,2087µm,0.3s				
ATCC			AML	AML	
	comp=E,1147µm,0.2s				
PP3	**Marolino**	**0.42 47**	P	Pb	04 05 23.1 -0.5
ARVD	**Arcevia**	**0.44 336**	P	Pg	04 05 22.9 +0.3
ARVD			S	Sb	04 05 30.6 -0.3
ARVD			AML	AML	
	comp=E,359µm,1.0s				
ARVD			AML	AML	
	comp=N,258µm,1.6s				
ARVD			AML	AML	
	comp=E,320µm,0.2s				
ARVD			AML	AML	
	comp=N,230µm,0.1s				
GAVE	**Gavelli**	**0.46 209**	P	Pg	04 05 23.1 +0.3
GAVE			S	Sb	04 05 30.6 -0.7
GAVE			AML	AML	
	comp=E,3805µm,0.2s				
GAVE			AML	AML	
	comp=N,780µm,0.3s				
GAVE			AML	AML	
	comp=E,3880µm,0.2s				
GAVE			AML	AML	
	comp=N,2730µm,0.2s				
GAVE			AML	AML	
	comp=E,3805µm,0.3s				
GAVE			AML	AML	
	comp=N,780µm,0.3s				
GAVE			AML	AML	
	comp=N,2729µm,0.2s				
GAVE			AML	AML	
	comp=E,3882µm,0.2s				
GAVE			AML	AML	
	comp=E,3804µm,0.2s				
GAVE			AML	AML	
	comp=N,780µm,0.3s				
SSFR	**Montelago di S**	**0.46 319**	P	Pg	04 05 23.1 +0.3
SSFR			S	Sb	04 05 31.2 -0.1
SSFR			AML	AML	
	comp=E,1610µm,0.2s				
SSFR			AML	AML	
	comp=N,1910µm,0.2s				
SSFR			AML	AML	
	comp=E,1695µm,0.2s				
SSFR			AML	AML	
	comp=N,1835µm,0.3s				
SSFR			AML	AML	
	comp=E,1695µm,1.8s				
SSFR			AML	AML	
	comp=N,1910µm,1.8s				
SSFR			AML	AML	
	comp=E,1574µm,0.2s				
SSFR			AML	AML	
	comp=N,1912µm,0.2s				
SSFR			AML	AML	
	comp=E,1697µm,0.2s				
SSFR			AML	AML	
	comp=N,1833µm,0.3s				
SMA1	**SAN MARTINO**	**0.47 167**	P	Pg	04 05 23.4 +0.2
SMA1			S	Sb	04 05 31.2 -0.7
SMA1			AML	AML	
	comp=N,1815µm,0.5s				
SMA1			AML	AML	
	comp=E,1380µm,1.5s				
SMA1			AML	AML	
	comp=N,1521µm,0.2s				
SMA1			AML	AML	
	comp=E,1307µm,0.2s				
ATSC	**Scheggia e Pas**	**0.49 312**	P	Pg	04 05 23.8 +0.2
LNSS	**Leonessa**	**0.50 193**	P	Pg	04 05 24.0 +0.3
LNSS			S	Sb	04 05 32.2 -0.5
LNSS			AML	AML	
	comp=N,2435µm,0.7s				
LNSS			AML	AML	
	comp=E,2030µm,1.0s				
LNSS			AML	AML	
	comp=E,2040µm,1.0s				
LNSS			AML	AML	
	comp=N,2630µm,0.7s				
LNSS			AML	AML	
	comp=N,2430µm,0.7s				
LNSS			AML	AML	
	comp=N,2267µm,0.2s				
LNSS			AML	AML	
	comp=N,2485µm,0.2s				
LNSS			AML	AML	
	comp=E,1861µm,0.2s				
LNSS			AML	AML	
	comp=E,1821µm,0.2s				
MURB	**Monte Urbino**	**0.52 290**	P	Pg	04 05 24.4 +0.4
MURB			S	Sb	04 05 33.3 +0.3
MURB			AML	AML	
	comp=E,1435µm,0.3s				
MURB			AML	AML	
	comp=E,1405µm,0.3s				
MURB			AML	AML	
	comp=N,1315µm,0.3s				
MURB			AML	AML	
	comp=N,1245µm,0.3s				
MURB			AML	AML	
	comp=N,1017µm,1.8s				
MURB			AML	AML	
	comp=N,896µm,0.3s				
MURB			AML	AML	
	comp=E,1436µm,0.3s				
MURB			AML	AML	
	comp=E,1404µm,0.3s				
ATFO	**Monte Foce - G**	**0.53 301**	P	Pg	04 05 24.6 +0.4
ATFO			AML	AML	
	comp=N,350µm,0.4s				
ATFO			AML	AML	
	comp=E,558µm,0.5s				
ATFO			AML	AML	
	comp=E,559µm,0.5s				
ATFO			AML	AML	
	comp=N,350µm,0.4s				
MOMA	**Monte Martano**	**0.54 238**	P	Pg	04 05 24.7 +0.3
MOMA			S	Sb	04 05 33.6 -0.1
MOMA			AML	AML	
	comp=N,1430µm,0.3s				
MOMA			AML	AML	
	comp=E,1020µm,0.3s				
MOMA			AML	AML	
	comp=E,1090µm,0.3s				
MOMA			AML	AML	
	comp=N,1430µm,0.3s				
MOMA			AML	AML	
	comp=N,1515µm,0.3s				
MOMA			AML	AML	
	comp=N,1516µm,0.3s				
MOMA			AML	AML	
	comp=N,1435µm,0.3s				
MOMA			AML	AML	
	comp=E,1092µm,0.3s				
MOMA			AML	AML	
	comp=E,1018µm,0.3s				
FRON	**Frontone**	**0.54 322**	AML	AML	
	comp=E,274µm,0.9s				
FRON			AML	AML	
	comp=N,486µm,0.3s				
AOI	**Ancona**	**0.55 33**	P	Pg	04 05 24.8 +0.2
COR1	**Corinaldo**	**0.56 346**	P	Pb	04 05 25.9 -0.1
COR1			AML	AML	
	comp=E,322µm,1.5s				
COR1			AML	AML	
	comp=N,552µm,1.5s				
COR1			AML	AML	
	comp=N,550µm,1.5s				
COR1			AML	AML	
	comp=N,550µm,0.5s				
TERO	**Teramo**	**0.56 147**	P	Pg	04 05 25.0 +0.2
TERO			S	Sb	04 05 33.8 -0.4
TERO			AML	AML	
	comp=E,699µm,0.8s				
TERO			AML	AML	
	comp=N,956µm,0.5s				
TERO			AML	AML	
	comp=E,1265µm,0.8s				
TERO			AML	AML	
	comp=N,956µm,0.5s				
TERO			AML	AML	
	comp=N,1905µm,0.5s				
TERO			AML	AML	
	comp=N,1243µm,0.4s				
TERO			AML	AML	
	comp=E,676µm,0.3s				
TERO			AML	AML	
	comp=E,1177µm,0.2s				
TERO			AML	AML	
	comp=N,601µm,0.4s				
CAMP	**Campotosto**	**0.58 164**	P	Pg	04 05 24.8 -0.4
CAMP			S	Sb	04 05 34.4 -0.6
CAMP			AML	AML	
	comp=E,571µm,1.2s				
CAMP			AML	AML	
	comp=E,571µm,0.8s				
CAMP			AML	AML	
	comp=N,587µm,0.2s				
CAMP			AML	AML	
	comp=N,587µm,0.2s				
CAMP			AML	AML	
	comp=E,479µm,0.2s				
RM33	**Pellescritta (**	**0.58 178**	P	Pg	04 05 25.4 +0.2
RM33			S	Sb	04 05 35.1 +0.1
RM33			AML	AML	
	comp=E,1295µm,0.6s				
RM33			AML	AML	
	comp=N,970µm,0.5s				
RM33			AML	AML	
	comp=E,1304µm,0.6s				
RM33			AML	AML	
	comp=N,1065µm,1.4s				
RM33			AML	AML	
	comp=N,970µm,1.5s				
RM33			AML	AML	
	comp=E,1258µm,0.2s				
RM33			AML	AML	
	comp=N,944µm,0.2s				
RM33			AML	AML	
	comp=N,943µm,0.2s				
RM33			AML	AML	
	comp=E,1299µm,0.2s				
ARRO	**Arrone**	**0.60 211**	P	Pg	04 05 25.8 +0.3
ARRO			S	Sb	04 05 35.6 +0.2
ARRO			AML	AML	
	comp=E,615µm,0.2s				
ARRO			AML	AML	
	comp=N,574µm,0.2s				
ARRO			AML	AML	
	comp=E,615µm,0.2s				
ARRO			AML	AML	
	comp=N,573µm,0.2s				
ATBU	**Serra di Buran**	**0.60 310**	P	Pg	04 05 26.1 +0.4
ATLO	**AVT- Montelove**	**0.61 292**	P	Pg	04 05 26.0 +0.2
MPAG	**Monte Paganucc**	**0.62 330**	P	Pg	04 05 26.3 +0.3
MPAG			S	Sb	04 05 36.5 +0.3
MPAG			AML	AML	
	comp=N,279µm,0.6s				
MPAG			AML	AML	
	comp=E,218µm,0.9s				
MPAG			AML	AML	
	comp=N,279µm,1.4s				
MPAG			AML	AML	
	comp=E,204µm,0.5s				
MPAG			AML	AML	
	comp=N,416µm,0.5s				
MPAG			AML	AML	
	comp=E,415µm,0.8s				
MPAG			AML	AML	
	comp=N,273µm,0.5s				
ATVO	**AVT- Monte Val**	**0.64 297**	P	Pg	04 05 26.4 0.0
ATVO			S	Sb	04 05 36.9 +0.2
ATVO			AML	AML	
	comp=E,221µm,0.3s				
ATVO			AML	AML	
	comp=N,226µm,0.8s				
PIEI	**Pieia**	**0.65 313**	P	Pg	04 05 26.5 -0.1
PIEI			S	Sb	04 05 37.1 +0.1
PIEI			AML	AML	
	comp=N,316µm,0.2s				
PIEI			AML	AML	
	comp=E,324µm,0.4s				
PIEI			AML	AML	
	comp=E,324µm,0.4s				
PIEI			AML	AML	
	comp=N,316µm,0.2s				
CESX	**Cesi**	**0.66 223**	P	Pg	04 05 26.7 +0.1
CESX			S	Sb	04 05 37.0 -0.1
CESX			AML	AML	
	comp=E,892µm,0.3s				
CESX			AML	AML	
	comp=N,738µm,0.5s				
CESX			AML	AML	
	comp=E,893µm,0.3s				
CESX			AML	AML	
	comp=N,738µm,0.5s				
ATPC	**Poggio Castell**	**0.66 306**	P	Pg	04 05 27.1 +0.4
ATPI	**Pietralunga -**	**0.68 302**	P	Pg	04 05 27.2 +0.2
ATPI			S	Sb	04 05 37.3 -0.4
ATPI			AML	AML	
	comp=E,310µm,0.6s				
ATPI			AML	AML	
	comp=N,234µm,1.1s				
ATPI			AML	AML	
	comp=N,234µm,0.9s				
ATPI			AML	AML	
	comp=E,310µm,1.4s				
ATVA	**AVT- Monte Val**	**0.69 286**	P	Pb	04 05 27.8 -0.5
GIGS	**Gran Sasso**	**0.70 156**	P	Pg	04 05 27.2 -0.2
GIGS			S	Sb	04 05 38.4 0.0
GIGS			AML	AML	
	comp=E,186µm,0.4s				
GIGS			AML	AML	
	comp=N,192µm,0.4s				
GIGS			AML	AML	
	comp=N,166µm,0.2s				
GIGS			AML	AML	
	comp=E,168µm,0.2s				
APEC	**Apecchio**	**0.73 310**	P	Pb	04 05 28.7 -0.3
APEC			AML	AML	
	comp=E,330µm,0.4s				
APEC			AML	AML	
	comp=N,296µm,1.1s				
APEC			AML	AML	
	comp=N,296µm,0.4s				
AQU	**L'Aquila**	**0.75 168**	P	Pg	04 05 28.2 -0.3
BADI	**Badiali**	**0.81 301**	P	Pg	04 05 29.8 +0.3
BADI			AML	AML	
	comp=E,198µm,0.7s				
BADI			AML	AML	
	comp=N,276µm,0.5s				
BADI			AML	AML	
	comp=E,198µm,1.3s				
ATMC	**Monte Cedrone**	**0.81 296**	P	Pb	04 05 30.5 +0.1
MGAB	**Montegabbione**	**0.81 258**	P	Pg	04 05 29.6 +0.1
MGAB			AML	AML	
	comp=E,428µm,0.5s				
MGAB			AML	AML	
	comp=N,412µm,0.5s				
MGAB			AML	AML	
	comp=N,446µm,0.4s				
MGAB			AML	AML	
	comp=E,446µm,0.5s				
MGAB			AML	AML	
	comp=N,446µm,0.4s				
MGAB			AML	AML	
	comp=E,446µm,0.5s				
MGAB			AML	AML	
	comp=E,428µm,0.5s				
MGAB			AML	AML	
	comp=N,412µm,0.5s				
FIAM	**Fiamignano**	**0.82 184**	P	Pg	04 05 29.5 -0.3
FIAM			S	Sb	04 05 42.1 +0.1
FIAM			AML	AML	
	comp=E,168µm,0.3s				
FIAM			AML	AML	
	comp=N,168µm,0.2s				
FIAM			AML	AML	
	comp=E,168µm,0.3s				
FIAM			AML	AML	
	comp=N,317µm,0.2s				
FIAM			AML	AML	
	comp=E,1209µm,1.6s				
FIAM			AML	AML	
	comp=N,169µm,0.2s				
VCEL	**Villa Celiera**	**0.85 145**	P	Pg	04 05 30.4 +0.1
VCEL			AML	AML	
	comp=N,658µm,0.8s				
VCEL			AML	AML	
	comp=E,832µm,0.6s				
FAGN	**Fagnano**	**0.88 160**	P	Pg	04 05 30.8 0.0
FAGN			AML	AML	
	comp=E,752µm,0.4s				
FAGN			AML	AML	
	comp=E,752µm,1.6s				
FAGN			AML	AML	
	comp=N,844µm,0.5s				
FAGN			AML	AML	
	comp=E,751µm,0.4s				
PESA	**Pesaro**	**0.89 343**	P	Pb	04 05 31.9 +0.2
CAFI	**Castiglion Fio**	**0.93 285**	P	Pg	04 05 32.0 +0.3
CAFI			AML	AML	
	comp=E,150µm,0.7s				
CAFI			AML	AML	
	comp=E,150µm,1.3s				
CAFI			AML	AML	
	comp=N,136µm,0.6s				
CAFI			AML	AML	
	comp=E,151µm,0.7s				
CAFI			AML	AML	
	comp=N,137µm,0.6s				
CAFI			AML	AML	
	comp=E,221µm,0.6s				
CPGN	**Carpegna, Ital**	**0.95 319**	P	Pb	04 05 32.8 0.0
T0110	**Collepietro**	**0.97 153**	P	Pg	04 05 31.9 -0.7
T0110			AML	AML	
	comp=E,516µm,0.5s				
T0110			AML	AML	
	comp=N,658µm,0.4s				
T0110			AML	AML	
	comp=N,659µm,0.4s				
SACS	**San Casciano d**	**0.97 256**	P	Pb	04 05 33.3 +0.2
MTCE	**Montecelio**	**1.12 197**	P	Pn	04 05 35.9 -0.1
CERT	**Cerreto**	**1.15 188**	P	Pn	04 05 36.9 +0.4
SF13	**Bagnolo**	**1.18 257**	P	Pg	04 05 36.2 -0.5
BARO	**Barbarano Roma**	**1.19 225**	P	Pn	04 05 37.2 +0.3
INTR	**Introdacqua**	**1.20 154**	P	Pg	04 05 36.8 -0.3
INTR			AML	AML	
	comp=E,313µm,0.8s				
INTR			AML	AML	
	comp=N,470µm,0.7s				
INTR			AML	AML	
	comp=E,205µm,0.7s				
INTR			AML	AML	
	comp=N,457µm,0.7s				
INTR			AML	AML	
	comp=N,469µm,0.7s				
INTR			AML	AML	

comp=N,457μm,0.7s
INTR AML AML
comp=E,205μm,0.7s
INTR AML AML
comp=E,313μm,0.8s
SF14 Selvena 1.21 254 P Pb 04 05 36.6 -0.5
ASQU Asqua 1.24 305 P Pg 04 05 38.1 +0.3
SFI Santa Sofia 1.27 310 P Pn 04 05 36.2 -1.9
POFI Posta Fibreno 1.43 164 P Pb 04 05 40.8 -0.1
LRP Arpino 1.47 168 P Pn 04 05 41.1 +0.2
CERA Filignano 1.61 157 P Pn 04 05 43.1 +0.2
MIDA Miranda 1.65 151 P Pb 04 05 44.8 +0.1
VAGA Valle Agricola 1.85 155 P Pb 04 05 48.3 +0.3
OBKA Obir 3.55 15 *i* Pn Pn 04 06 10.1 +0.6
comp=E,0.7nm,0.3s
OBKA *e*Pg Pg 04 06 21.1 -0.9
comp=E,1.1nm,0.3s
OBKA *i* Sn Sn 04 06 54.1 +2.3
comp=E,5.3nm,0.7s
OBKA *e*Sg Sg 04 07 10.9 +2.9
comp=E,12nm,0.8s
ABTA Abfaltersbach 3.69 353 *i* Pn Pn 04 06 12.5 +1.1
comp=E,2.8nm,0.4s
ABTA *i* Sn Sn 04 06 55.8 +0.7
comp=E,0.9nm,0.4s
SOKA Soboth 3.82 19 Sg Sg 04 07 19.4 +2.9
comp=E,0.7nm,0.3s
KBA Koelnbreinsper 3.99 2 *i* Pn Pn 04 06 17.0 +1.4
comp=E,0.9nm,0.3s
KBA *i* Sn Sn 04 07 02.2 -0.5
comp=E,4.0nm,0.5s
FETA Feichten 4.30 337 *i* Pn Pn 04 06 22.7 +2.8
comp=E,0.6nm,0.4s
WTTA Wattenberg 4.31 346 *i* Pn Pn 04 06 22.5 +2.4
comp=E,1.5nm,0.5s
LESA Schwarzleotal 4.35 355 *i* Pn Pn 04 06 23.1 +2.6
comp=E,0.6nm,0.2s
LESA *i* Sn Sn 04 07 13.2 +1.9
comp=E,2.3nm,0.5s
SQTA Sankt Quirin 4.36 342 *i* Pn Pn 04 06 22.7 +2.0
comp=E,1.3nm,0.3s
SQTA *i* Sn Sn 04 07 14.8 +3.1
comp=E,1.9nm,0.3s
DAVA Damuels 4.80 332 *i* Pn Pn 04 06 27.1 +0.4
comp=E,0.9nm,0.3s
DAVA Sn Sn 04 07 25.5 +2.9
comp=E,1.4nm,0.4s
MOA Molln 4.82 9 *i* Sn Sn 04 07 23.2 +0.4
comp=E,0.4nm,0.2s

---

*JMA **20** 04:09:06.3±0.1,37°.6N±0°.2×141°.4E±0°.5,h78km,MV3.7/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*IDC **20** 04:09:07.4±4.0,37°.51N×141°.39E,h99km±35km,mb3.2/5, mbtmp3.5/6,Error ellipse: s-maj=38.5km s-min=28.9km az=70.0*
ISC 20 04:09:05.4±1.1,37°.54N±0°.05×141°.47E±0°.09,h79km±7km, n25,σ0°53/30,mb3.4/5,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.50**	**292**	⇓*i*P	**Pn**	**04 09 19.4**	**+0.5**
JMST				⇓S	**Sn**	**04 09 29.0**	**-0.1**
JFK	**Kawauchi**	**0.50**	**250**	⇓*i*P	**Pn**	**04 09 19.5**	**+0.4**
JFK				⇓S	**Sn**	**04 09 29.1**	**-0.2**
JMM	**Marumori**	**0.63**	**302**	*e*P	**Pn**	**04 09 20.4**	**+0.2**
JMM				S	**Sn**	**04 09 30.9**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.69**	**231**	⇓*i*P	**Pn**	**04 09 21.4**	**+0.4**
ONAJ				⇓*e*S	**Sn**	**04 09 32.2**	**-0.2**
JOTO	**OTAMA OYAMA**	**0.90**	**272**	P	**Pn**	**04 09 23.6**	**+0.3**
JOTO				S	**Sn**	**04 09 36.0**	**-0.6**
JIO	**Ouri**	**0.92**	**354**	*i* P	**Pn**	**04 09 24.1**	**+0.6**
JIO				*e*S	**Sn**	**04 09 36.7**	**-0.1**
JOU	**Okura**	**1.04**	**323**	P	**Pn**	**04 09 24.9**	**0.0**
JOU				*e*S	**Sn**	**04 09 39.2**	**-0.3**
JYS	**Shiratake**	**1.30**	**302**	P	**Pn**	**04 09 28.4**	**+0.2**
JYS				*e*S	**Sn**	**04 09 45.9**	**+0.7**
JFY	**Yanaizu**	**1.41**	**265**	P	**Pn**	**04 09 29.7**	**+0.2**
JFY				*e*S	**Sn**	**04 09 47.4**	**-0.3**
JMK	**Ichinoseki**	**1.43**	**352**	P	**Pn**	**04 09 30.2**	**+0.5**
JMK				*e*S	**Sn**	**04 09 48.0**	**0.0**
JYK	**Kaneyama**	**1.63**	**328**	P	**Pn**	**04 09 32.7**	**+0.3**
JYK				*e*S	**Sn**	**04 09 52.8**	**0.0**
JNS	**Sasagawa**	**1.73**	**280**	P	**Pn**	**04 09 34.2**	**+0.5**
JYA	**Atsumi**	**1.74**	**308**	P	**Pn**	**04 09 34.6**	**+0.9**
MJAR	**Matsushiro Arr**	**2.79**	**250**	P	**Pn**	**04 09 49.1**	**+1.2**
	2.3nm,0.4s,baz=85,slow=12,SNR=9.5						
MJAR				S	Sn	04 10 10.5	-10
	24nm,0.6s,baz=24,slow=16,SNR=33						
SONM	**Songino Array**	**27.54**	**303**	P	**P**	**04 14 45.3**	**+0.6**
	0.3nm,0.4s,baz=100,slow=6.8,SNR=2.7						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.37**	**122**	T	T	04 45 20.4	
	baz=315,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.38**	**122**	T	T	04 45 20.1	
	baz=315,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**28.39**	**122**	T	T	04 45 22.5	
	baz=315,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**29.10**	**124**	T	T	04 46 23.8	
	baz=317,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**29.10**	**124**	T	T	04 46 17.5	
	baz=317,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.12**	**124**	T	T	04 46 24.9	
	baz=317,slow=76,SNR=7.8						
MKAR	**Makanchi Array**	**43.89**	**302**	P	**P**	**04 17 02.9**	**-1.0**
	0.2nm,0.5s,baz=81,slow=10.0,SNR=2.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**45.73**	**308**	P	**P**	**04 17 17.7**	**-0.7**
	0.7nm,0.7s,baz=82,slow=8.4,SNR=7.6						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**49.05**	**33**	P	**P**	**04 17 44.2**	**+0.2**
	0.3nm,0.8s,baz=283,slow=6.5,SNR=2.9						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**57.56**	**188**	P	**P**	**04 18 46.7**	**-0.1**
	1.1nm,0.5s,baz=5.1,slow=6.8,SNR=3.3						
	1.1nm,0.5s						

---

*NEIC **20** 04:10:56.7±0.7,17°.1S±0°.2×177°.24W±0°.08,h402km±12km, mb4.4/14,Error ellipse: s-maj=29.2km s-min=6.0km az=161.0*
*IDC **20** 04:11:16.6±2.1,17°.91S×178°.30W,h550km±21km,mb3.2/6, mbtmp4.1/8,Error ellipse: s-maj=39.8km s-min=21.1km az=147.0*
ISC 20 04:10:56.8±0.9,17°.1S±0°.2×177°.2W±0°.1,h400km,n28, σ1°22/26,mb4.3/13,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.55**	**261**	Pn	**Pn**	**04 12 14.0**	**-0.3**
MSVF	**Nonsavu**	**4.55**	**261**	P	Pn	04 12 35.1	+21
	24nm,0.7s,baz=131,slow=15,SNR=6.9						
AFI	**Afiamalu**	**6.14**	**60**	Pn	**Pn**	**04 12 30.6**	**-0.5**
NIUE	**Niue**	**7.23**	**107**	Pn	**Pn**	**04 12 43.0**	**0.0**
PINNC	**Pines Island,**	**15.42**	**247**	P	**P**	**04 14 14.8**	**+1.0**
DZM	**Mont Dzumac**	**16.16**	**250**	P	**P**	**04 14 25.6**	**+3.7**
	6.0nm,0.7s,baz=83,slow=12,SNR=1.6						
QRZ	**Quartz Range**	**25.25**	**198**	P	**P**	**04 15 48.9**	**+0.3**
NNZ	**Nelson**	**25.37**	**197**	P	**P**	**04 15 49.0**	**-0.5**
THZ	**Tophouse**	**26.01**	**197**	P	**P**	**04 15 54.7**	**-0.6**
THZ				IAmb	IAmb	04 16 17.9	
	comp=Z,36nm,1.4s						
MLZ	**Mavora Lakes**	**30.75**	**200**	P	**P**	**04 16 36.2**	**-0.6**
MLZ				IAmb	IAmb	04 16 37.4	
	comp=Z,42nm,1.5s						
ARMA	**Armidale**	**31.32**	**239**	P	**P**	**04 16 41.1**	**-1.1**
ARMA				IAmb	IAmb	04 17 06.8	
	comp=Z,28nm,1.4s						
COEN	**Coen**	**38.23**	**269**	P	**P**	**04 17 40.5**	**-0.2**
COEN				IAmb	IAmb	04 17 53.9	
	comp=Z,17nm,1.2s						
TOO	**Toolangi**	**38.55**	**231**	P	**P**	**04 17 41.7**	**-1.3**
STKA	**Stephens Creek**	**40.00**	**241**	P	**P**	**04 17 54.3**	**-0.6**
STKA				IAmb	IAmb	04 17 56.7	
	comp=Z,46nm,1.2s						
STKA	**Stephens Creek**	**40.00**	**241**	P	**P**	**04 17 54.2**	**-0.6**
	comp=Z,3.6nm,0.5s,baz=92,slow=10,SNR=16						
	comp=Z,3.6nm,0.5s						
BBOO	**Buckleboo**	**44.78**	**240**	P	**P**	**04 18 31.4**	**-1.4**
BBOO				IAmb	IAmb	04 18 43.6	
	comp=Z,30nm,1.4s						
WB0	**Warramunga Arr**	**45.85**	**259**	P	**P**	**04 18 40.3**	**-1.0**
WB0				IAmb	IAmb	04 19 23.8	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**45.87**	**259**	P	**P**	**04 18 40.4**	**-1.1**
WRA	**Warramunga Arr**	**45.88**	**259**	P	**P**	**04 18 40.8**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=96,slow=6.7,SNR=43						
WRA				PcP	**PcP**	**04 20 11.6**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=88,slow=3.1,SNR=1.6						
	comp=Z,2.0nm,0.5s						
AS31	**Alice Springs**	**46.09**	**253**	P	**P**	**04 18 42.5**	**-0.8**
AS31				IAmb	IAmb	04 18 43.1	
	comp=Z,4.9nm,0.7s						
ASAR	**Alice Springs**	**46.09**	**253**	P	**P**	**04 18 41.8**	**-1.4**
ASAR	**Alice Springs**	**46.09**	**253**	P	**P**	**04 18 42.5**	**-0.7**
	comp=Z,16nm,0.6s,baz=88,slow=8.4,SNR=228						
	comp=Z,16nm,0.6s						
QSPA	**South Pole Qui**	**72.96**	**180**	P	**P**	**04 21 43.6**	**-0.2**
QSPA	**South Pole Qui**	**72.96**	**180**	P	**P**	**04 21 45.1**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=91,slow=9.1,SNR=1.7						
	comp=Z,0.6nm,0.6s						
TXAR	**Lajitas Array**	**84.61**	**57**	P	P	04 22 59.1	+12
	comp=Z,0.3nm,0.7s,baz=215,slow=5.3,SNR=4.5						
	comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**84.84**	**13**	P	P	04 22 56.8	+10
	comp=Z,0.2nm,0.4s,baz=222,slow=5.5,SNR=5.4						
	comp=Z,0.2nm,0.4s						
BRTR	**Keskin Array B**	**144.98**	**316**	PKP	**PKiKP**	**04 29 52.8**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=59,slow=1.6,SNR=2.9						
MMAI	**Mount Meron Ar**	**146.62**	**305**	PKPbc	**PKiKP**	**04 29 56.6**	**+1.6**
	comp=Z,1.8nm,0.7s,baz=142,slow=1.9,SNR=1.3						

---

*MEX **20** 04:25:57.3±1.1,14°.61N×92°.75W,h71km±20km,MD3.9*
*GCG **20** 04:25:58.4±0.8,14°.55N×92°.54W,h61km±13km,MD3.9*
ISC 20 04:25:50.6±2.0,14°.37N±0°.07×92°.77W±0°.04,h13km±11km, n17,σ2°27/32,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.72**	**43**	*e*P	**Pn**	**04 26 08.9**	**+2.4**
THIG				*e*S	**Sn**	**04 26 18.9**	**+1.5**
SMCA	**Catarina**	**0.83**	**55**	*e*P	**Pn**	**04 26 10.5**	**+2.5**
SMCA				*i* S	**Sn**	**04 26 21.3**	**+1.1**
PATR	**El Naranjo**	**0.90**	**35**	*e*P	**Pn**	**04 26 10.8**	**+1.6**
PATR				*i* S	**Sn**	**04 26 21.8**	**-0.5**
PAVE	**Pavencul**	**1.00**	**35**	*e*P	**Pn**	**04 26 12.3**	**+1.8**
PAVE				*e*S	**Sn**	**04 26 24.2**	**-0.4**
RTAL	**Retalhuleu**	**1.05**	**82**	*e*P	**Pn**	**04 26 15.6**	**+4.5**
RTAL				*e*S	**Sn**	**04 26 27.2**	**+1.5**
STG5	**El Palmar, Qui**	**1.38**	**89**	*e*P	**Pn**	**04 26 16.0**	**+0.4**
STG5				*e*S	**Sb**	**04 26 29.6**	**-4.3**
STG8	**El Palmar, Qui**	**1.38**	**87**	*e*P	**Pn**	**04 26 16.3**	**+0.5**
STG0	**El Palmar, Qui**	**1.39**	**88**	*e*P	**Pn**	**04 26 16.2**	**+0.4**
STG0				*e*S	**Sb**	**04 26 30.3**	**-3.9**
PCIG		**1.39**	**342**	*e*P	**Pn**	**04 26 16.8**	**+1.1**
PCIG				*e*S	**Sb**	**04 26 31.5**	**-2.6**
HUEH	**Huehuetenango**	**1.55**	**52**	*e*P	**Pg**	**04 26 20.4**	**+0.1**
HUEH				*e*S	**Sg**	**04 26 41.0**	**+0.6**
CCIG	**Comitan**	**1.99**	**18**	*e*P	**Pg**	**04 26 28.5**	**-0.3**
CCIG				*e*S	**Sg**	**04 26 52.6**	**-2.1**
CCIG	**Comitan**	**1.99**	**18**	*e*P	**Pb**	**04 26 27.7**	**+0.8**
TGIG		**2.41**	**352**	*e*P	**Pn**	**04 26 32.8**	**+2.9**
TGIG				*e*S	**Sn**	**04 26 59.7**	**+0.4**
CMIG	**Matias Romero**	**3.38**	**323**	*e*P	**Pn**	**04 26 45.6**	**+2.5**
CMIG				*e*S	**Sn**	**04 27 22.3**	**-0.9**
HUIG	**Huatulco**	**3.51**	**294**	*e*P	**Pn**	**04 26 47.4**	**+2.5**
HUIG				*e*S	**Sn**	**04 27 24.4**	**-1.9**
NEUV	**Arroyo Zacate**	**4.42**	**319**	*e*P	**Pn**	**04 27 00.0**	**+2.7**
NEUV				*e*S	**Sn**	**04 27 47.7**	**-1.0**
TOIG	**Toxpalan**	**5.54**	**312**	*e*P	**Pn**	**04 27 16.3**	**+3.4**
TOIG				*e*S	**Sn**	**04 28 14.1**	**-2.5**

---

*IDC **20** 04:42:20.4±0.9,26°.16N×129°.34E,h0km,mb3.6/12, mbtmp3.6/14,ML3.3/2,MS2.7/1,Error ellipse: s-maj=28.3km s-min=17.2km az=57.0*
*JMA **20** 04:42:22.0±0.1,26°.2N±0°.8×129°.6E±0°.5,h44km,MV3.3/18, NEAR OKINAWAJIMA ISLAND*
ISC 20 04:42:20.1±3.5,26°.22N±0°.05×129°.55E±0°.04,h3km±22km, n29,σ1°92/38,mb3.6/12,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.27**	**309**	P	**Pb**	**04 42 43.9**	**-0.8**
JYRO				*e*S	**Sb**	**04 42 59.5**	**-2.0**
JOW	**Kunigami**	**1.30**	**298**	Pn	**Pn**	**04 42 44.5**	**-0.7**
	68nm,0.3s,baz=120,slow=20,SNR=90						
JOW				Sn	**Sb**	**04 42 59.8**	**-2.5**
	87nm,0.3s,baz=104,slow=27,SNR=17						
JOW	**Kunigami**	**1.30**	**298**	*e*P	**Pn**	**04 42 44.5**	**-0.7**
JOW				*e*S	**Sb**	**04 43 00.1**	**-2.2**
JNTH	**Nagotoyohara**	**1.41**	**283**	*e*P	**Pn**	**04 42 45.7**	**-1.0**
JNTH				*e*S	**Sb**	**04 43 02.2**	**-3.1**
JOKE	**Okinoerabujima**	**1.44**	**323**	*e*P	**Pn**	**04 42 46.5**	**-0.6**
JOKE				*e*S	**Sb**	**04 43 04.0**	**-2.3**
JMZ	**Minamidaito 2**	**1.56**	**104**	*e*P	**Pn**	**04 42 47.6**	**-1.1**
JMZ				*e*S	**Sn**	**04 43 04.9**	**-4.5**
JJT3	**Tamagusuku3**	**1.59**	**268**	*e*P	**Pn**	**04 42 49.0**	**-0.2**
JJT3				*e*S	**Sn**	**04 43 08.8**	**-1.5**
JKDJ	**Kitadaitoujima**	**1.59**	**99**	*e*P	**Pn**	**04 42 48.3**	**-1.0**
JKDJ				*e*S	**Sn**	**04 43 07.0**	**-3.3**
JIH	**Iheya**	**1.64**	**300**	*e*P	**Pn**	**04 42 49.4**	**-0.4**
JIH				*e*S	**Sn**	**04 43 08.8**	**-2.6**
JTK	**Tokunoshima**	**1.65**	**341**	*e*P	**Pn**	**04 42 49.5**	**-0.6**
JAMN	**Amaminishikomi**	**2.04**	**351**	*e*P	**Pn**	**04 42 54.7**	**-0.7**
JAGN	**Aguni-jima**	**2.10**	**281**	*e*P	**Pn**	**04 42 56.1**	**-0.1**
JZK	**Kikaishima**	**2.12**	**10**	*e*S	**Sn**	**04 43 21.8**	**-1.6**
JAM	**Amami Oshima**	**2.18**	**1**	*e*S	**Sn**	**04 43 20.1**	**-4.8**
JKE	**Kume jima 2**	**2.49**	**273**	*e*P	**Pn**	**04 43 00.6**	**-0.9**
JNU	**Nakatsue**	**6.97**	**9**	Pn	**Pn**	**04 44 05.6**	**+2.3**
	0.6nm,0.3s,baz=191,slow=10,SNR=2.1						
	2.2nm,0.3s						
KSRS	**Korea Array**	**11.29**	**353**	Pn	**Pn**	**04 45 05.1**	**+2.8**
	0.1nm,0.3s,baz=169,slow=15,SNR=1.6						
KSRS				LR	LR	04 49 05.8	
	comp=Z,38nm,21.0s,baz=190,slow=36						
	0.6nm,0.5s						
SONM	**Songino Array**	**28.22**	**326**	P	**P**	**04 48 15.9**	**+1.6**
	0.6nm,0.8s,baz=119,slow=8.7,SNR=2.2						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**42.43**	**312**	P	**P**	**04 50 16.0**	**-0.2**
	0.2nm,0.7s,baz=94,slow=5.8,SNR=1.5						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**45.68**	**316**	P	**P**	**04 50 41.4**	**-0.8**
	0.2nm,0.4s,baz=101,slow=8.5,SNR=2.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**46.12**	**174**	P	**P**	**04 50 46.3**	**+0.4**
	0.9nm,0.8s,baz=354,slow=8.1,SNR=2.3						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**49.77**	**175**	P	**P**	**04 51 14.7**	**+0.5**
	0.5nm,0.7s,baz=4.1,slow=14,SNR=5.8						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**63.88**	**28**	P	**P**	**04 52 54.6**	**+0.7**
	0.3nm,0.8s,baz=270,slow=8.1,SNR=1.7						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**73.45**	**331**	P	**P**	**04 53 54.1**	**+0.5**
	1.8nm,0.8s,baz=55,slow=4.9,SNR=6.0						
	1.8nm,0.8s						
AKASG	**Malin Array Be**	**76.31**	**320**	P	**P**	**04 54 10.9**	**+0.5**
	0.3nm,0.4s,baz=59,slow=5.8,SNR=2.9						
	0.3nm,0.4s						
BRTR	**Keskin Array B**	**77.97**	**308**	P	**P**	**04 54 21.2**	**+1.0**
	1.0nm,1.0s,baz=51,slow=5.7,SNR=2.9						
	1.0nm,1.0s						
YKA	**Yellowknife Ar**	**78.03**	**25**	P	**P**	**04 54 21.7**	**+1.9**
	0.1nm,0.8s,baz=307,slow=4.9,SNR=1.7						
	0.1nm,0.8s						
HFS	**Hagfors**	**79.38**	**333**	P	**P**	**04 54 27.5**	**+0.3**
	1.0nm,0.8s,baz=67,slow=5.2,SNR=2.0						
	1.0nm,0.8s						
NOA	**NORSAR Array B**	**79.84**	**334**	P	**P**	**04 54 29.7**	**-0.1**
	0.4nm,0.7s,baz=59,slow=5.1,SNR=3.9						
	0.4nm,0.7s						

---

*IDC **20** 04:43:08.1±1.7,26°.08N×129°.23E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=50.4km s-min=23.0km az=57.0*
*JMA **20** 04:43:08.8±0.1,26°.N±1°.×129°.6E±0°.6,h44km,MV3.2/10, NEAR MINAMI-DAITOJIMA IS*
ISC 20 04:43:10.4±0.9,26°.2N±0°.1×129°.58E±0°.06,h30km,n13, σ1°74/17,mb3.6/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.30**	**310**	*e*P	**Pn**	**04 43 31.2**	**-1.4**
JYRO				*e*S	**Sn**	**04 43 47.4**	**-1.6**
JOW	**Kunigami**	**1.33**	**299**	Pn	**Pn**	**04 43 31.6**	**-1.4**
	62nm,0.3s,baz=130,slow=16,SNR=3.9						
JOW				Sn	**Sn**	**04 43 48.1**	**-1.5**
	55nm,0.3s,baz=114,slow=19,SNR=1.9						
JOW	**Kunigami**	**1.33**	**299**	*e*P	**Pn**	**04 43 31.6**	**-1.4**
JOW				*e*S	**Sn**	**04 43 47.7**	**-1.9**
JNTH	**Nagotoyohara**	**1.43**	**283**	*e*P	**Pn**	**04 43 32.8**	**-1.5**
JOKE	**Okinoerabujima**	**1.47**	**323**	*e*P	**Pn**	**04 43 33.9**	**-1.0**
JMZ	**Minamidaito 2**	**1.53**	**104**	*e*P	**Pn**	**04 43 34.6**	**-1.0**
JMZ				*e*S	**Sn**	**04 43 51.9**	**-2.6**
JKDJ	**Kitadaitoujima**	**1.57**	**99**	*e*S	**Sn**	**04 43 53.3**	**-2.1**
JJT3	**Tamagusuku3**	**1.61**	**269**	*e*P	**Pn**	**04 43 35.0**	**-1.8**
JIH	**Iheya**	**1.67**	**301**	*e*P	**Pn**	**04 43 36.5**	**-1.0**
MKAR	**Makanchi Array**	**42.46**	**312**	P	**P**	**04 51 04.0**	**+1.3**
	0.1nm,0.4s,baz=103,slow=9.5,SNR=1.4						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**45.71**	**316**	P	**P**	**04 51 28.9**	**+0.3**
	0.2nm,0.4s,baz=102,slow=8.2,SNR=1.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**46.09**	**174**	P	**P**	**04 51 33.2**	**+1.3**
	1.2nm,1.0s,baz=349,slow=7.9,SNR=1.8						
	1.2nm,1.0s						
FINES	**FINESS Array B**	**73.49**	**331**	P	**P**	**04 54 42.0**	**+2.1**
	1.2nm,0.9s,baz=70,slow=6.9,SNR=1.5						
	1.2nm,0.9s						

---

*NEIC **20** 04:46:35.9±1.1,20°.2S±0°.1×177°.5W±0°.1,h527km±8km, mb4.2/11,Error ellipse: s-maj=24.6km s-min=14.2km az=142.0*
*IDC **20** 04:46:41.5±1.9,20°.16S×178°.05W,h558km±20km, mb3.4/10,mbtmp4.2/12,Error ellipse: s-maj=23.6km s-min=16.3km az=139.0*
ISC 20 04:46:41.3±0.6,20°.2S±0°.1×178°.5W±0°.1,h569km,n81, σ2°13/80,mb4.0/16,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.45**	**302**	P	**P**	**04 48 04.5**	**-3.6**
MSVF	**Nonsavu**	**4.45**	**302**	P	**P**	**04 48 07.7**	**-0.3**
	21nm,0.5s,baz=172,slow=7.1,SNR=8.0						
FUTU	**Fugatoga**	**5.83**	**359**	P	P	04 48 11.8	-7.7
DZM	**Mont Dzumac**	**14.63**	**260**	P	**P**	**04 49 44.7**	**-2.2**
DZM	**Mont Dzumac**	**14.63**	**260**	P	**P**	**04 49 49.9**	**+3.0**
	2.8nm,0.5s,baz=148,slow=18,SNR=7.3						
URZ	**Urewera**	**18.52**	**192**	P	**P**	**04 50 22.6**	**-0.3**
	5.5nm,0.3s,baz=7.6,slow=2.5,SNR=14						
RTZ	**Ruatahuna**	**18.89**	**192**	P	**P**	**04 50 24.6**	**-1.8**
BBOO	**Buckleboo**	**42.69**	**243**	P	**P**	**04 53 49.8**	**+0.8**
BBOO				IAmb	IAmb	04 53 52.5	
	comp=Z,26nm,1.5s						
AS31	**Alice Springs**	**44.59**	**256**	P	**P**	**04 54 04.1**	**+0.3**
ASAR	**Alice Springs**	**44.59**	**256**	P	**P**	**04 54 04.0**	**+0.1**
ASAR	**Alice Springs**	**44.59**	**256**	P	**P**	**04 54 04.5**	**+0.7**
	comp=Z,5.7nm,0.7s,baz=94,slow=7.6,SNR=54						
ASAR				PcP	**PcP**	**04 55 35.4**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=109,slow=3.8,SNR=6.3						
	comp=Z,5.7nm,0.7s						
WB0	**Warramunga Arr**	**44.61**	**262**	P	**P**	**04 54 04.2**	**+0.1**
WB0				IAmb	IAmb	04 54 04.9	
	comp=Z,6.9nm,0.5s						
WRA	**Warramunga Arr**	**44.64**	**262**	P	**P**	**04 54 04.4**	**+0.1**
WRA	**Warramunga Arr**	**44.64**	**262**	P	**P**	**04 54 04.2**	**0.0**
	comp=Z,2.9nm,0.3s,baz=97,slow=7.7,SNR=31						
WRA				PcP	**PcP**	**04 55 35.6**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=101,slow=4.0,SNR=3.1						
	comp=Z,2.9nm,0.3s						
KNRA	**Kununurra**	**50.67**	**266**	P	**P**	**04 54 49.3**	**0.0**
KNRA				IAmb	IAmb	04 55 10.9	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.06**	**262**	P	**P**	**04 55 06.1**	**-0.4**
QSPA	**South Pole Qui**	**69.90**	**180**	P	**P**	**04 56 53.7**	**-1.8**
QSPA				IAmb	IAmb	04 57 31.9	
	comp=Z,3.3nm,1.2s						
QSPA	**South Pole Qui**	**69.90**	**180**	P	**P**	**04 56 57.5**	**+2.0**
	comp=Z,1.2nm,1.0s,baz=67,slow=1.4,SNR=2.1						
	comp=Z,1.2nm,1.0s						
PETK	**Petropavlovsk-**	**75.95**	**345**	P	**P**	**04 57 30.9**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=183,slow=7.1,SNR=2.4						
	comp=Z,1.9nm,0.7s						
NVAR	**Mina Array Bea**	**80.79**	**43**	P	**P**	**04 57 57.5**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=244,slow=7.0,SNR=6.0						
	comp=Z,0.7nm,0.8s						
K15K	**Wolf Creek Mou**	**83.22**	**8**	P	**P**	**04 58 09.3**	**+1.3**
K15K				IAmb	IAmb	04 58 49.9	
	comp=Z,14nm,1.5s						
GHO	**Glory Hole Cre**	**84.91**	**13**	P	**P**	**04 58 13.5**	**-3.0**
GHO				IAmb	IAmb	04 58 17.7	
	comp=Z,11nm,1.2s						
BMO	**Blue Mountains**	**85.06**	**39**	P	**P**	**04 58 14.1**	**-3.5**
BMO				IAmb	IAmb	04 58 43.4	
	comp=Z,2.8nm,1.3s						
TXAR	**Lajitas Array**	**86.89**	**57**	P	**P**	**04 58 28.8**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=216,slow=6.9,SNR=14						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**88.00**	**13**	P	**P**	**04 58 30.8**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=216,slow=4.9

CONA	Conrad Observa	150.12 341	*i* PKP	PKiKP	05 05 29.9	+0.9
	comp=Z,1.6nm,0.4s					
RONA	Rosalia, Austr	150.18 340	*i* PKP	PKiKP	05 05 29.9	+0.8
	comp=Z,3.4nm,0.5s					
MOA	Molln	150.65 343	*i* PKP	PKiKP	05 05 30.5	+0.5
	comp=Z,0.7nm,0.4s					
BIOA	Bad Ischl, Aus	150.96 344	*i* PKP	PKPbc	05 05 30.9	+0.6
	comp=Z,1.5nm,0.4s					
LESA	Schwarzleotal	151.46 345	*i* PKP	PKiKP	05 05 32.3	+0.6
	comp=Z,1.1nm,0.4s					
SOKA	Soboth	151.49 341	*i* PKP	PKPbc	05 05 32.0	+0.4
	comp=Z,0.7nm,0.5s					
KBA	Koelnbreinsper	151.60 344	*i* PKP	PKPbc	05 05 32.5	+0.5
	comp=Z,1.0nm,0.5s					
WATA	Walderalm	151.80 346	*i* PKP	PKPbc	05 05 32.6	+0.3
	comp=Z,2.8nm,0.4s					
SQTA	Sankt Quirin	151.99 347	*i* PKP	PKiKP	05 05 33.5	+0.6
	comp=Z,2.3nm,0.9s					
ABTA	Abfaltersbach	152.13 344	*i* PKP	PKPbc	05 05 33.4	+0.4
	comp=Z,1.5nm,0.5s					

IDC 20 04:48:35.3±0.8, 15°.42S×177°.33W, h0km, mb3.9/9, mbtmp3.9/9, MS3.7/32, Error ellipse: s-maj=38.2km s-min=19.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.99	242	LR	LR	04 51 32.3	
	comp=Z,511nm,18.2s,baz=23,slow=35						
DZM	Mont Dzumac	16.72	244	LR	LR	04 57 19.5	
	comp=Z,160nm,18.6s,baz=4.0,slow=31						
HNR	Honiara	22.96	282	LR	LR	05 01 16.9	
	comp=Z,925nm,19.9s,baz=118,slow=33						
URZ	Urewera	23.28	191	LR	LR	05 01 15.5	
	comp=Z,222nm,19.6s,baz=127,slow=33						
PPT	Papeete	26.69	98	LR	LR	05 02 08.2	
	comp=Z,158nm,20.2s,baz=276,slow=30						
PMG	Port Moresby	35.16	276	LR	LR	05 07 53.4	
	comp=Z,143nm,21.4s,baz=36,slow=33						
STKA	Stephens Creek	40.76	239	P	P	04 56 19.2	+0.9
	9.0nm,0.9s,baz=72,slow=7.3,SNR=8.1						
STKA				LR	LR	05 11 29.2	
	comp=Z,78nm,20.5s,baz=181,slow=34						
	9.0nm,0.9s						
WRA	Warramunga Arr	46.15	257	P	P	04 57 00.8	-1.2
	0.9nm,0.9s,baz=119,slow=8.4,SNR=2.0						
	0.9nm,0.9s						
ASAR	Alice Springs	46.50	252	P	P	04 57 03.9	-0.9
	2.7nm,0.7s,baz=83,slow=8.4,SNR=18						
ASAR				LR	LR	05 15 03.7	
	comp=Z,168nm,18.8s,baz=101,slow=34						
	2.7nm,0.7s						
GUMO	Guam	47.21	306	LR	LR	05 15 10.3	
	comp=Z,34nm,20.4s,baz=82,slow=34						
JCJ	Chichijima	57.70	317	LR	LR	05 18 00.6	
	comp=Z,65nm,20.4s,baz=91,slow=31						
MJAR	Matsushiro Arr	66.56	322	LR	LR	05 23 24.0	
	comp=Z,18nm,20.5s,baz=146,slow=31						
JNU	Nakatsue	69.09	315	LR	LR	05 24 42.2	
	comp=Z,45nm,19.9s,baz=130,slow=31						
ASAJ	Asahikawa	69.61	330	LR	LR	05 24 15.2	
	comp=Z,58nm,20.1s,baz=126,slow=31						
PETK	Petropavlovsk-	71.56	344	LR	LR	05 27 39.3	
	comp=Z,32nm,19.0s,baz=148,slow=33						
KSRS	Korea Array	73.56	317	P	P	05 00 11.4	+1.2
	0.8nm,0.8s,baz=137,slow=7.9,SNR=4.9						
KSRS				LR	LR	05 27 09.0	
	comp=Z,26nm,21.4s,baz=130,slow=31						
	0.8nm,0.8s						
QSPA	South Pole Qui	74.62	180	P	P	05 00 16.5	+0.2
	1.8nm,0.8s,baz=322,slow=1.4,SNR=6.2						
	1.8nm,0.8s						
PFO	Pinyon Flats O	75.75	49	LR	LR	05 26 15.9	
	comp=Z,74nm,20.0s,baz=228,slow=30						
KDAK	Kodiak Island	75.75	13	LR	LR	05 27 36.6	
	comp=Z,55nm,20.0s,baz=39,slow=31						
NVAR	Mina Array Bea	76.92	44	P	P	05 00 29.2	-0.8
	1.1nm,0.8s,baz=250,slow=7.7,SNR=7.3						
	1.1nm,0.8s						
KLR	Kul'dur	78.52	329	LR	LR	05 30 45.6	
	comp=Z,41nm,19.6s,baz=179,slow=32						
MA2	Magadan	79.09	344	LR	LR	05 30 34.6	
	comp=Z,32nm,21.6s,baz=163,slow=32						
BBB	Bella Bella	79.65	28	LR	LR	05 27 07.4	
	comp=Z,54nm,20.1s,baz=215,slow=29						
ELK	Elko	80.14	43	LR	LR	05 28 40.7	
	comp=Z,38nm,21.2s,baz=269,slow=30						
SEY	Seymchan	81.60	347	LR	LR	05 30 04.6	
	comp=Z,28nm,21.8s,baz=296,slow=30						
DLBC	Dease Lake	83.15	23	LR	LR	05 33 01.6	
	comp=Z,91nm,18.3s,baz=284,slow=32						
ILAR	Eielson Array	83.24	13	P	P	05 01 03.1	-0.1
	0.5nm,0.7s,baz=213,slow=5.2,SNR=5.7						
ILAR				LR	LR	05 31 25.6	
	comp=Z,32nm,19.6s,baz=264,slow=31						
	0.5nm,0.7s						
ANMO	Albuquerque	83.75	51	LR	LR	05 30 03.2	
	comp=Z,38nm,19.0s,baz=54,slow=30						
TXAR	Lajitas Array	83.79	57	P	P	05 01 07.7	+0.7
	0.5nm,0.9s,baz=270,slow=3.8,SNR=4.5						
	0.5nm,0.9s						
PDAR	Pinedale Array	84.84	43	P	P	05 01 12.3	+0.1
	0.5nm,0.9s,baz=126,slow=2.6,SNR=5.6						
PDAR				LR	LR	05 31 30.7	
	comp=Z,22nm,19.8s,baz=262,slow=30						
	0.5nm,0.9s						
CMAR	Chiang Mai Arr	89.03	289	LR	LR	05 38 55.8	
	comp=Z,23nm,20.1s,baz=130,slow=34						
YKA	Yellowknife Ar	91.65	24	LR	LR	05 36 42.3	
	comp=Z,82nm,19.1s,baz=286,slow=32						
PLCA	Paso Flores	92.28	133	LR	LR	05 40 00.7	
	comp=Z,26nm,18.1s,baz=194,slow=33						
JTS	Las Juntas de	94.95	81	LR	LR	05 34 39.0	
	comp=Z,26nm,21.3s,baz=328,slow=29						
ULM	Lac du Bonnet	96.35	40	LR	LR	05 39 44.2	
	comp=Z,37nm,19.0s,baz=77,slow=32						
ATAH	Atahualpa	96.67	99	LR	LR	05 36 27.3	
	comp=Z,68nm,20.2s,baz=239,slow=30						
BRTR	Keskin Array B	143.70	318	PKP	PKPbc	05 08 11.0	+0.7
	1.3nm,0.8s,baz=29,slow=2.8,SNR=5.3						
GERES	GERESS Array B	145.46	347	PKPbc	PKPbc	05 08 14.8	-0.6
	0.5nm,0.7s,baz=357,slow=2.7,SNR=5.0						

LDO 20 05:07:15.1±1.6, 40°.312N±0°.009×75°.98W±0°.02, h5km±1km, Error ellipse: s-maj=2.5km s-min=2.2km az=313.0

NEIC 20 05:07:15.0±1.2, 40°.360N±0°.008×76°.07W±0°.01, h5km±1km, ML1.5/10, ML0.9/5(LDO), Error ellipse: s-maj=2.8km s-min=2.1km az=160.0, Pennsylvania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVL	Millersville	0.42	211	Pg	Pg	05 07 23.0	0.0
MVL				Sg	Sg	05 07 28.1	-0.4
WUPA	West Chester U	0.56	140	Pg	Pg	05 07 25.3	-0.4
LUPA	Lehigh Univers	0.59	66	Pg	Pg	05 07 24.8	-1.4
LUPA				Sg	Sg	05 07 33.1	-0.8
LUPA				IAML		05 07 40.4	
	comp=E,21nm,1.4s						
LUPA				IAML		05 07 42.5	
	comp=N,24nm,2.9s						
N58A	Sunbury	0.69	315	Pg	Pg	05 07 26.1	-2.1
N58A				IAML		05 07 43.5	
	comp=N,21nm,3.6s						
SDMD	Soldier's Deli	1.12	212	Pg	Pg	05 07 35.5	-0.9
SDMD				IAML		05 08 04.8	
	comp=E,11nm,3.1s						
SDMD				IAML		05 08 14.0	
	comp=N,9.0nm,3.3s						
BRNJ	Basking Ridge	1.19	74	Pg	Pg	05 07 36.9	-1.0
KSPA	Keystone Colle	1.22	11	Pg	Pg	05 07 36.9	-1.4
ODNJ	Ogdensburg	1.33	57	Pg	Pn	05 07 38.7	-1.5
SSPA	Standing Stone	1.41	282	Pg	Pn	05 07 39.0	-2.3
SSPA					Sb	05 07 59.0	-1.1
TRNY	Table Rock, Ra	1.61	60	Pg	Pn	05 07 43.1	-1.0
PAL	Palisades	1.77	68	Pn	Pn	05 07 45.7	-0.5
KSCT	Kent School, K	2.39	54	Pn	Pn	05 07 54.1	-0.6

NEIC 20 05:21:22.6±1.3, 37°.22N±0°.02×104°.32W±0°.03, h6km±3km, ML1.3/10, Error ellipse: s-maj=3.4km s-min=2.3km az=70.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	Trinidad	0.11	224	Pg	Pg	05 21 26.1	+1.1
T25A				Sg	Sg	05 21 27.9	+1.2
SDCO	Great Sand Dun	1.08	300	Pg	Pg	05 21 42.9	-0.4
SDCO				Sg	Sg	05 21 56.4	-1.0
SDCO				IAML		05 21 57.0	
	6.6nm,0.2s						
SDCO				IAML		05 21 57.2	
	6.7nm,0.2s						
RTBA	Rita Blanca	1.49	121		Pn	05 21 49.6	-0.3
Q24A	Divide	1.86	340	Pn	Pb	05 21 57.1	-0.2
ISCO	Idaho Springs	2.77	339	Pn	Pn	05 22 07.5	-0.3
ANMO	Albuquerque	2.85	218	Pn	Pn	05 22 09.1	+0.3

IDC 20 05:36:25.9±2.6, 17°.71N×62°.02W, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=99.4km s-min=28.7km az=68.0

TRN 20 05:36:36.8, 17°.62N×62°.38W, h68km, MD3.9, North-east of St. Kitts.

ISC 20 05:36:37.0±0.9, 17°.66N±0°.06×62°.38W±0°.06, h78km±7km, n24, σ0°81/34, mb3.5/4, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	Saint Kitts	0.47	227	*e*P	Pn	05 36 50.8	+0.4
SKI				*e*S	Sn	05 36 59.6	-0.5
ANWB	Willy Bob	0.56	89	*e*P	Pn	05 36 51.4	+0.3
ANWB				*e*S	Sn	05 37 02.0	+0.4
ANBD	Bethesda, Anti	0.84	136	*e*P	Pn	05 36 54.7	+0.6
ANBD				*e*S	Sn	05 37 07.4	+0.7
MBFL	Flemmings, Mon	0.92	170	*e*P	Pn	05 36 55.3	+0.3
MBFL				*e*S	Sn	05 37 08.5	+0.2
MBWH		0.93	169	*e*P	Pn	05 36 55.4	+0.3
MBWH				*e*S	Sn	05 37 08.7	+0.1
MLYT	Lee's Yard	0.95	169	*e*P	Pn	05 36 55.3	0.0
MLYT				*e*S	Sn	05 37 08.8	-0.1
TBG	Guadaloupe-3	1.93	159	*e*P	Pn	05 37 08.8	+0.9
TBG				*e*S	Sn	05 37 31.6	+0.2
MAGL	Barre de l'ile	2.00	148	*e*P	Pn	05 37 09.9	+1.1
MAGL				*e*S	Sn	05 37 33.8	+0.8
DWS	Wesley	2.31	154	*e*P	Pn	05 37 13.6	+0.5
DWS				*e*S	Sn	05 37 40.7	0.0
DSLB	Salisbury	2.39	157	*e*P	Pn	05 37 15.0	+0.8
DSLB				*e*S	Sn	05 37 42.7	+0.2
MDN	Morne-Daniel	2.51	158	*e*P	Pn	05 37 16.3	+0.6
MDN				*e*S	Sn	05 37 46.1	+0.7
DRTD	Roseau, Domini	2.53	158	*e*P	Pn	05 37 16.6	+0.5
DRTD				*e*S	Sn	05 37 46.1	+0.1
SVN	Savane Anatole	3.03	157	*e*P	Pn	05 37 25.2	+2.4
BIM	Bigot	3.36	158	*e*P	Pn	05 37 28.4	+1.0
SJG	San Juan	3.62	278	*e*P	Pn	05 37 31.4	+0.6
SJG				*e*S	Sn	05 38 13.7	+1.3
SLBI	Saint Lucia, B	3.86	159	*e*P	Pn	05 37 34.6	+0.6
AOPR	Arecibo Observ	4.22	280	*e*P	Pn	05 37 39.8	+0.8
SIV	San Ignacio	33.46	178	P	P	05 43 07.2	-1.7
	0.7nm,0.5s,baz=360,slow=8.4,SNR=5.6						
	0.7nm,0.5s						
TXAR	Lajitas Array	39.42	295	P	P	05 43 60.0	+0.2
	0.2nm,0.5s,baz=94,slow=8.2,SNR=5.4						
	0.2nm,0.5s						
PDAR	Pinedale Array	47.06	312	P	P	05 45 01.7	+0.4
	0.5nm,0.5s,baz=116,slow=8.6,SNR=7.5						
	0.5nm,0.5s						
H10N3	ASCENSION HYDR	53.65	114	T	T	06 43 16.1	
	baz=300						
H10N2	ASCENSION HYDR	53.65	114	T	T	06 43 16.5	
	baz=300						
H10N1	ASCENSION HYDR	53.67	114	T	T	06 43 17.4	
	baz=300						
YKA	Yellowknife Ar	57.44	334	P	P	05 46 16.8	-0.8
	0.1nm,0.8s,baz=108,slow=8.7,SNR=3.1						
	0.1nm,0.8s						

JSN 20 05:52:29.4±1.1, 18°.64N×75°.81W, h0km±15km, MD3.7

SSNC 20 05:52:31.7±0.9, 18°.82N×76°.03W, h59km±18km, MD2.7, ML2.9

ISC 20 05:52:28.7±1.3, 18°.80N±0°.06×75°.89W±0°.05, h33km±14km, n13, σ1°13/21, 1C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	Stony Hill	1.13	231	*e*P	Pb	05 52 48.8	-0.9
STH				*e*S	Sn	05 53 02.5	-0.2
STH				IAML		05 53 05.5	
	comp=E,19μm,0.1s						
STH				IAML		05 53 05.5	
	comp=N,27μm,0.1s						
STH	Stony Hill	1.13	231	↑*i*P	Pb	05 52 49.9	+0.1
MARVS	Santiago de Cu	1.20	360	*e*P	Pb	05 52 51.4	+0.4
RCC	Rio Carpintero	1.21	9	*e*P	Pb	05 52 51.7	+0.6
CHIV	Chivirico	1.27	337	*e*P	Pb	05 52 51.7	-0.5
GTBY	Guantanamo Bay	1.34	33	*e*P	Pb	05 52 54.6	+1.2
GTBY				*e*S	Sb	05 53 11.0	+0.8
LMGC	Las Mercedes	1.64	320	*i* P	Pn	05 52 55.8	+0.5
LMGC				*e*S	Sn	05 53 13.6	-1.7
LMGC				IAML		05 53 14.2	
	comp=E,59nm,0.1s						
LMGC				IAML		05 53 14.3	
	comp=N,85nm,0.1s						
MTDJ	Mount Denham	1.66	250	*e*P	Pb	05 52 59.0	+0.2
MTDJ				*e*S	Sb	05 53 20.2	+0.8
PINC	Pinares de May	1.68	3	*e*P	Pb	05 52 58.0	-1.1
PINC				*e*S	Sn	05 53 17.1	+0.8
QMBU	Quimbuelo	1.73	36	*e*P	Pb	05 52 59.3	-0.6
QMBU				*e*S	Sn	05 53 19.0	+1.5
QMBU				IAML		05 53 23.9	
	comp=E,38nm,0.2s						
QMBU				IAML		05 53 24.3	
	comp=N,32nm,0.2s						
PILO	Pilon	1.81	308	*e*P	Pn	05 52 57.8	+0.2
NMDO	Nuevo Mundo	1.95	26	*e*P	Pn	05 53 00.6	+1.1
NMDO				*e*S	Sn	05 53 21.6	-1.3
NMDO				IAML		05 53 32.3	
	comp=E,44nm,0.2s						
NMDO				IAML		05 53 33.4	
	comp=N,12nm,0.3s						
MASC	Masc	2.08	49	*e*P	Pb	05 53 04.9	-1.0
MASC				*e*S	Sb	05 53 29.0	-2.3
MASC				IAML		05 53 35.1	
	comp=E,8.6nm,0.3s						
MASC				IAML		05 53 35.4	
	comp=N,9.4nm,0.2s						

IDC 20 06:06:42.6±0.7, 15°.31S×173°.37W, h0km, mb4.0/12, mbtmp4.1/13, ML3.1/1, MS3.4/20, Error ellipse: s-maj=29.2km s-min=16.5km az=135.0

NEIC 20 06:06:45.0±1.3, 15°.32S±0°.06×173°.21W±0°.04, h10km±1km, mb4.5/38, Error ellipse: s-maj=11.8km s-min=2.9km az=207.0

ISC 20 06:06:44.4±0.5, 15°.36S±0°.08×173°.23W±0°.07, h10km, n81, σ0°77/64, mb4.4/33, MS3.5/19, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.02	44		Pn	06 07 17.9	-0.6
FUTU	Fugatoga	4.84	282	Pn	Pn	06 07 58.0	+0.6
NIUE	Niue	4.86	140		Pn	06 07 58.1	+0.5
MSVF	Nonsavu	8.69	253	LR	LR	06 11 49.4	
	comp=Z,191nm,21.6s,baz=89,slow=36						
RAR	Rarotonga	14.04	116	Pn	Pn	06 10 04.0	+0.6
	1.0nm,0.3s,baz=298,slow=17,SNR=1.4						
	14nm,0.8s						
PINNC	Pines Island,	19.63	246	P	P	06 11 12.3	-1.0
DZM	Mont Dzumac	20.36	248	*e*LR	LR	06 16 14.9	
	230nm,28.4s						
DZM	Mont Dzumac	20.36	248	P	P	06 11 18.7	-2.6
	9.7nm,1.1s,baz=90,slow=16,SNR=1.6						
DZM				LR	LR	06 18 02.2	
	comp=Z,142nm,20.4s,baz=352,slow=34						
	9.7nm,1.1s						
PPT	Papeete	22.79	99	LR	LR	06 20 00.4	
	comp=Z,30nm,18.4s,baz=326,slow=35						
PPT2	Papeete2	22.79	99	*e*LR	LR	06 17 03.9	
	80nm,26.2s						
URZ	Urewera	24.35	199	P	P	06 12 02.6	+0.1
	9.7nm,0.6s,baz=14,slow=10,SNR=17						
URZ				LR	LR	06 19 58.2	
	comp=Z,93nm,21.4s,baz=124,slow=33						
	9.7nm,0.6s						
TOZ	Tahuroa Road	24.41	202	P	P	06 12 03.8	+0.7
TOZ				IAmb	IAmb	06 12 07.7	
	comp=Z,12nm,0.9s						
RTZ	Ruatahuna	24.72	199	P	P	06 12 06.5	+0.6
RTZ				IAmb	IAmb	06 12 22.8	
	comp=Z,29nm,1.5s						
BFZ	Birch Farm	26.84	198	P	P	06 12 24.6	-0.4
TAOE	Nuku Hiva Isla	32.96	83	*e*LR	LR	06 21 39.6	
	comp=Z,85nm,28.2s						
STKA	Stephens Creek	44.20	240	P	P	06 14 52.3	-1.5
	comp=Z,2.1nm,0.8s,baz=60,slow=8.1,SNR=3.5						
	comp=Z,2.1nm,0.8s						
WB0	Warramunga Arr	49.97	257	P	P	06 15 37.9	-1.2
WB0				IAmb	IAmb	06 15 38.5	
	comp=Z,5.5nm,1.1s						
WRA	Warramunga Arr	50.01	257	P	P	06 15 39.2	-0.2
WRA	Warramunga Arr	50.01	257	P	P	06 15 38.5	-1.0
	comp=Z,0.9nm,0.8s,baz=95,slow=6.7,SNR=2.8						
	comp=Z,0.9nm,0.8s						
AS31	Alice Springs	50.28	252	P	P	06 15 40.4	-1.1
ASAR	Alice Springs	50.28	252	P	P	06 15 40.1	-1.3
ASAR	Alice Springs	50.28	252	P	P	06 15 40.4	-1.0
	comp=Z,1.7nm,0.7s,baz=85,slow=8.0,SNR=29						
ASAR				LR	LR	06 35 31.7	
	comp=Z,48nm,21.9s,baz=112,slow=34						
	comp=Z,1.7nm,0.7s						
FORT	Forrest	55.58	243	P	P	06 16 19.5	-0.9
VA02	Isla de Pascua	60.06	113	P	P	06 16 50.3	-1.6
NWAO	Narrogin (SRO)	64.78	241	LR	LR	06 43 48.3	
	comp=Z,75nm,18.2s,baz=311,slow=34						
JHJ	Hachijo jima 2	65.85	318	LR	LR	06 42 47.5	
	comp=Z,11nm,20.3s,baz=9.0,slow=33						
SHEM	Shemya Is, Ala	68.69	352	LR	LR	06 43 18.4	
	comp=Z,20nm,18.9s,baz=4.0,slow=32						
MJAR	Matsushiro Arr	69.02	320	LR	LR	06 40 19.0	
	comp=Z,14nm,21.1s,baz=159,slow=29						
PETK	Petropavlovsk-	72.64	342	P	P	06 18 12.5	+0.5
	comp=Z,2.5nm,0.8s,baz=178,slow=6.3,SNR=3.1						
	comp=Z,2.5nm,0.8s						
LPIG	La Paz	72.88	58	LR	LR	06 40 36.8	
	comp=Z,44nm,20.4s,baz=225,slow=28						
YBH	Yreka Blue Hor	73.47	37	LR	LR	06 43 21.7	
	comp=Z,43nm,19.5s,baz=214,slow=30						
NVAR	Mina Array Bea	74.19	42	P	P	06 18 21.9	+0.2
	comp=Z,1.1nm,0.7s,baz=231,slow=8.9,SNR=8.8						
NVAR				LR	LR	06 42 55.6	
	comp=Z,44nm,21.9s,baz=156,slow=29						
	comp=Z,1.1nm,0.7s						
NV11	Mina Array Sit	74.29	42		P	06 18 22.3	+0.1
WCT	Wildcat Mounta	74.38	44	P	P	06 18 22.8	+0.1
QSPA	South Pole Qui	74.68	180	P	P	06 18 24.6	+0.6
QSPA				IAmb	IAmb	06 18 41.5	
	comp=Z,5.5nm,1.2s						
QSPA	South Pole Qui	74.68	180	P	P	06 18 24.7	+0.6
	comp=Z,3.3nm,1.0s,baz=14,slow=2.4,SNR=5.5						
	comp=Z,3.3nm,1.0s						
KDAK	Kodiak Island	74.85	11	LR	LR	06 42 28.0	
	comp=Z,31nm,20.9s,baz=31,slow=29						
V12A	Nelson	75.02	46	P	P	06 18 26.9	+0.4
J05D	Fort Rock, OR	75.29	37		P	06 18 27.9	0.0
Y14A	Wickenburg	75.41	48		P	06 18 28.7	0.0
Y14A				IAmb	IAmb	06 18 30.1	
	comp=Z,3.3nm,0.9s						
PINE	Pine Mountain	75.77	36		P	06 18 31.6	+0.9
ELK	Elko	77.45	41		P	06 18 39.1	-1.2
ELK	Elko	77.45	41	LR	LR	06 45 50.7	
	comp=Z,33nm,20.0s,baz=246,slow=30						
G08A	Pilot Rock	77.81	36	P	P	06 18 42.0	0.0
G08A				IAmb	IAmb	06 18 43.7	
	comp=Z,9.1nm,1.3s						
MTPU	Mount Pierson	78.04	45	P	P	06 18 44.2	+0.3
MVU	Marysvale	78.26	45	P	P	06 18 45.2	+0.3
MVU				IAmb	IAmb	06 18 47.2	
	comp=Z,3.6nm,1.0s						
MSU	Marysvale	78.28	45	P	P	06 18 45.3	+0.3
L18K	Granite Mounta	78.42	8	P	P	06 18 45.6	+0.7
L18K				IAmb	IAmb	06 19 19.6	
	comp=Z,6.8nm,1.2s						
K17K	Iditarod	78.70	7	P	P	06 18 47.1	+0.6
K17K				IAmb	IAmb	06 19 01.8	
	comp=Z,10nm,1.4s						
J16K	Anvik River	79.01	6	P	P	06 18 48.9	+0.8
J16K				IAmb	IAmb	06 19 11.3	
	comp=Z,8.9nm,1.4s						
HLID	Hailey	79.49	39	P	P	06 18 51.7	+0.2
HLID				IAmb	IAmb	06 18 53.4	
	comp=Z,5.8nm,1.0s						
J18K	Innoko River	79.62	7	P	P	06 18 51.9	+0.4
NJ2	Nanjing	80.27	307	*e*P	P	06 18 57.0	+1.3
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PV10	Paradox Valley	80.37	46	P	P	06 18 56.5	0.0
TX31	Lajitas Ar. Si	80.45	56	P	P	06 18 57.2	+0.3
TX31				IAmb	IAmb	06 18 59.1	
	comp=Z,6.5nm,1.4s						
TXAR	Lajitas Array	80.45	56	P	P	06 18 57.0	+0.1
TXAR	Lajitas Array	80.45	56	P	P	06 18 57.5	+0.6
	comp=Z,1.0nm,1.0s,baz=218,slow=5.9,SNR=8.0						
TXAR				LR	LR	06 47 33.3	
	comp=Z,17nm,18.7s,baz=193,slow=30						
	comp=Z,1.0nm,1.0s						
TRF	Thorofare Moun	80.56	10	P	P	06 18 55.8	-1.0
TRF				IAmb	IAmb	06 19 09.4	
	comp=Z,8.2nm,1.4s						
J20K	Nowinta River	80.64	8	P	P	06 18 57.3	+0.4
J20K				IAmb	IAmb	06 19 12.9	
	comp=Z,6.0nm,1.4s						
ANMO	Albuquerque	80.65	50	LR	LR	06 45 55.5	
	comp=Z,27nm,20.9s,baz=38,slow=29						
H19K	Roundabout Mou	81.64	7	P	P	06 19 02.6	+0.4
H19K				IAmb	IAmb	06 19 34.9	
	comp=Z,6.3nm,1.5s						
CCB	Clear Creek Bu	82.09	11	P	P	06 19 04.3	-0.3
CCB				IAmb	IAmb	06 19 45.6	
	comp=Z,6.7nm,1.4s						
PDAR	Pinedale Array	82.13	42	P	P	06 19 05.8	+0.1
	comp=Z,1.2nm,0.9s,baz=204,slow=2.9,SNR=8.0						
PDAR				LR	LR	06 48 40.4	
	comp=Z,19nm,19.6s,baz=243,slow=31						
	comp=Z,1.2nm,0.9s						
YMR	Madison River	82.19	40	P	P	06 19 05.7	-0.2
ILAR	Eielson Array	82.38	11	P	P	06 19 05.6	-0.6
	comp=Z,0.5nm,0.7s,baz=229,slow=6.7,SNR=8.5						
ILAR				LR	LR	06 48 52.0	
	comp=Z,14nm,19.1s,baz=196,slow=31						
	comp=Z,0.5nm,0.7s						
F19K	Shaleruckih Mo	82.75	6	P	P	06 19 08.2	+0.2
E19

06:38:00, This location: 2019/04/20 10:23:18 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 4 km
*GII **20** 06:36:36.2±0.0, 35.255N±0.002×28.848E±0.001, h1km, Mws3.7, confirmed*
*HLW **20** 06:36:38.6, 35.16N×28.62E, h23km±12km, Ml3.4*
ISC 20 06:36:35.3±1.2, 35.48N±0.03×28.55E±0.03, h26km±10km, n141, σ1§57/153, mb3.6/9, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.81**	**335**	P		**Pb**	**06 36 49.2**	**-1.7**
ARG	**Arkhangelos**	**0.81**	**335**	Pg		**Pb**	**06 36 49.6**	**-1.3**
ARG	**Arkhangelos**	**0.81**	**335**	P		**Pb**	**06 36 49.4**	**-1.4**
KSL	**Kastellorizon**	**1.08**	**51**	P		**Pb**	**06 36 56.4**	**+1.1**
KSL	**Kastellorizon**	**1.08**	**51**	P		**Pb**	**06 36 56.3**	**+1.0**
IZZE	**Mula-Seydike**	**1.10**	**30**	P		**Pb**	**06 36 56.5**	**+0.8**
IZZE				S		**Sb**	**06 37 06.1**	**-3.7**
IZZE				*i* AML		AML	06 37 29.0	
	comp=E,669nm,1.1s							
IZZE				*i* AML		AML	06 37 32.0	
	comp=N,752nm,0.7s							
KARP	**Karpathos**	**1.14**	**274**	P		**Pn**	**06 36 55.2**	**-0.3**
KARP	**Karpathos**	**1.14**	**274**	Pn		**Pb**	**06 36 56.9**	**+0.6**
KARP				Sn		**Sn**	**06 37 12.5**	**+2.2**
KARP	**Karpathos**	**1.14**	**274**	P		**Pn**	**06 36 55.0**	**-0.6**
AKAS	**Kas**	**1.14**	**48**	Pn		**Pb**	**06 36 56.9**	**+0.4**
AKAS				Sn		**Sb**	**06 37 12.7**	**+1.7**
AKAS	**Kas**	**1.14**	**48**	P		**Pb**	**06 36 57.9**	**+1.4**
AKAS				S		**Sn**	**06 37 09.4**	**-1.1**
AKAS				*i* AML		AML	06 37 34.0	
	comp=N,832nm,0.7s							
AKAS				*i* AML		AML	06 37 38.0	
	comp=E,502nm,1.2s							
FETY	**Fethiye**	**1.23**	**20**	Pn		**Pb**	**06 36 58.1**	**+0.1**
FETY	**Fethiye**	**1.23**	**20**	P		**Pb**	**06 36 59.3**	**+1.3**
TURN	**Turunc**	**1.32**	**349**	Pn		**Pb**	**06 36 59.4**	**0.0**
TURN	**Turunc**	**1.32**	**349**	P		**Pb**	**06 36 59.6**	**+0.2**
DALY	**Dalyan (Mula)**	**1.34**	**4**	Pn		**Pb**	**06 37 00.1**	**+0.3**
SABU	**Mula-Dalaman**	**1.39**	**14**	P		**Pb**	**06 37 00.4**	**-0.1**
SABU				S		**Sb**	**06 37 21.2**	**+3.4**
SABU				*i* AML		AML	06 37 31.0	
	comp=E,565nm,0.8s							
SABU				*i* AML		AML	06 37 33.0	
	comp=N,512nm,0.8s							
DAT	**Datca**	**1.48**	**328**	Pn		**Pb**	**06 37 01.6**	**-0.6**
YAZI	**Mula-Dat§a-**	**1.50**	**324**	P		**Pb**	**06 37 02.1**	**-0.3**
YAZI				*i* AML		AML	06 37 32.0	
	comp=N,368nm,0.7s							
YAZI				*i* AML		AML	06 37 39.0	
	comp=E,300nm,0.7s							
CAME	**Cameli-Denizli**	**1.59**	**22**	Pn		**Pb**	**06 37 03.4**	**-0.6**
KNIK	**Mula-Seydike**	**1.60**	**31**	P		**Pb**	**06 37 04.1**	**-0.1**
KNIK				S		**Sb**	**06 37 23.5**	**-0.6**
KNIK				*i* AML		AML	06 37 43.0	
	comp=E,177nm,1.0s							
KNIK				*i* AML		AML	06 37 44.0	
	comp=N,238nm,1.0s							
YER	**Yerkesik**	**1.67**	**353**	Pn		**Pb**	**06 37 04.4**	**-1.0**
ELL	**Elmali**	**1.68**	**41**	Pn		**Pb**	**06 37 04.9**	**-0.7**
AKUM	**Antalya-Kumluc**	**1.68**	**59**	P		**Pb**	**06 37 04.9**	**-0.6**
AKUM				S		**Sn**	**06 37 20.1**	**-3.6**
AKUM				*i* AML		AML	06 38 03.0	
	comp=N,94nm,0.9s							
AKUM				*i* AML		AML	06 38 04.0	
	comp=E,102nm,0.9s							
CAEL	**Denizli, Camel**	**1.76**	**21**	P		**Pb**	**06 37 07.2**	**+0.2**
MULA	**Mugla, Merkez-**	**1.79**	**354**	P		**Pb**	**06 37 10.6**	**+3.1**
BDRM	**Kayabasi**	**1.82**	**331**	P		**Pb**	**06 37 09.7**	**+1.8**
DNZT	**Denizli-Tavas-**	**1.84**	**12**	P		**Pb**	**06 37 08.0**	**-0.3**
DNZT				S		**Sn**	**06 37 24.6**	**-3.1**
DNZT				*i* AML		AML	06 37 48.0	
	comp=N,137nm,1.0s							
DNZT				*i* AML		AML	06 37 58.0	
	comp=E,154nm,1.0s							
BODT	**Bodrum**	**1.87**	**328**	Pn		**Pn**	**06 37 06.9**	**+1.2**
MLSB	**Milas**	**1.92**	**341**	Pn		**Pb**	**06 37 08.2**	**-1.5**
GOLH	**Golhisar**	**1.94**	**25**	P		**Pb**	**06 37 09.7**	**-0.3**
ZKR	**Zakros**	**1.94**	**260**	Pn		**Pb**	**06 37 08.5**	**-1.5**
TAVA	**DENIZLI_Tavas**	**2.01**	**8**	P		**Pb**	**06 37 09.7**	**-1.5**
APMY	**Acipayam-Deniz**	**2.08**	**17**	Pn		**Pb**	**06 37 10.7**	**-1.7**
KORT	**Korkueli**	**2.11**	**43**	P		**Pb**	**06 37 12.0**	**-0.9**
KORT				S		**Sn**	**06 37 31.3**	**-3.0**
KORT				*i* AML		AML	06 37 43.0	
	comp=E,169nm,0.6s							
KORT				*i* AML		AML	06 38 07.0	
	comp=N,130nm,1.2s							
DNIZ	**Denizli-Tavas-**	**2.18**	**10**	P		**Pb**	**06 37 12.2**	**-1.9**
AYDN	**Tasoluk**	**2.25**	**346**	P		**Pn**	**06 37 12.8**	**+2.0**
ESEN	**Aydn-Nazilli**	**2.32**	**356**	P		**Pb**	**06 37 15.6**	**-0.9**
INCE	**Denizli-Bozkur**	**2.38**	**26**	P		**Pb**	**06 37 15.3**	**-2.1**
BUCA	**Burdur, Bucak-**	**2.46**	**41**	P		**Pn**	**06 37 15.9**	**+2.1**
BUCA				S		**Sn**	**06 37 38.1**	**-4.9**
BUCA				*i* AML		AML	06 38 06.0	
	comp=E,86nm,0.6s							
BUCA				*i* AML		AML	06 38 21.0	
	comp=N,66nm,1.3s							
GCAM	**G?zelcaml?**	**2.46**	**335**	Pn		**Pn**	**06 37 15.6**	**+1.9**
NAZL	**Nazilli-Aydin**	**2.49**	**355**	Pn		**Pn**	**06 37 16.3**	**+2.1**
AYDB	**Zeytinkoy-Aydi**	**2.52**	**348**	Pn		**Pn**	**06 37 16.5**	**+1.8**
BRDR	**BURDUR-Merkez**	**2.53**	**28**	P		**Pb**	**06 37 17.9**	**-2.2**
ODEM	**Odemis-Izmir**	**2.82**	**352**	Pn		**Pn**	**06 37 20.6**	**+1.9**
APE	**Apeiranthos**	**2.91**	**304**	Pn		**Pn**	**06 37 21.2**	**+1.3**
APE	**Apeiranthos**	**2.91**	**304**	P		**Pb**	**06 37 24.0**	**-2.5**
APE	**Apeiranthos**	**2.91**	**304**	P		**Pn**	**06 37 21.3**	**+1.3**
PASA	**Karahalli, USA**	**2.96**	**14**	P		**Pn**	**06 37 22.6**	**+1.9**
IDI	**Anoyia**	**3.00**	**267**	Pn		**Pn**	**06 37 23.8**	**+2.7**
IDI	**Anoyia**	**3.00**	**267**	Pn		**Pn**	**06 37 22.8**	**+1.7**
	15nm,0.4s,baz=72,slow=16,SNR=22							
IDI	**Anoyia**	**3.00**	**267**	P		**Pn**	**06 37 22.8**	**+1.7**
BLCB	**Balcova**	**3.15**	**338**	Pn		**Pn**	**06 37 25.3**	**+2.2**
SEDI	**Konya, Seydise**	**3.25**	**52**	P		**Pn**	**06 37 26.0**	**+1.3**
SEDI				S		**Sn**	**06 38 01.1**	**-1.5**
SEDI				*i* AML		AML	06 38 13.0	
	comp=N,86nm,0.6s							
SEDI				*i* AML		AML	06 38 21.0	
	comp=E,67nm,0.5s							
GVD	**Gavdhos**	**3.71**	**261**	Pn		**Pn**	**06 37 34.0**	**+3.1**
GVD	**Gavdhos**	**3.71**	**261**	P		**Pn**	**06 37 32.5**	**+1.6**
IMMV	**Iera Moni Meta**	**3.73**	**271**	Pn		**Pn**	**06 37 34.0**	**+2.9**
CSS	**Mathiatis**	**3.95**	**96**	P		**Pn**	**06 37 34.2**	**+0.1**
CSS	**Mathiatis**	**3.95**	**96**	S		**Sn**	**06 38 19.3**	**-0.3**
KNDR	**Palaiochora Ch**	**3.98**	**268**	Pn		**Pn**	**06 37 38.6**	**+4.0**
MATC	**Matruh**	**4.26**	**195**	P		**Pn**	**06 37 37.3**	**-1.2**
ANKY	**Antikythira Is**	**4.29**	**277**	P		**Pn**	**06 37 40.4**	**+1.5**
ANKY	**Antikythira Is**	**4.29**	**277**	P		**Pn**	**06 37 41.0**	**+2.1**
VLI	**Veliai**	**4.71**	**287**	P		**Pn**	**06 37 46.1**	**+1.5**
VLI	**Veliai**	**4.71**	**287**	P		**Pn**	**06 37 46.0**	**+1.3**
SLUM	**Salum**	**4.85**	**216**	P		**Pn**	**06 37 47.1**	**+0.5**
LTK	**Loutraki**	**5.15**	**301**	P		**Pn**	**06 37 52.4**	**+1.7**
ITM	**Ithomi**	**5.61**	**290**	P		**Pn**	**06 37 58.7**	**+1.7**
KLV	**Kalavryta, Ach**	**5.74**	**298**	P		**Pn**	**06 37 59.7**	**+0.9**
BRTR	**Keskin Array B**	**5.86**	**42**	Pn		**Pn**	**06 38 02.5**	**+1.9**
	0.3nm,0.3s,baz=232,slow=14,SNR=8.2							
	0.7nm,0.3s							
HNTI	**Hanita**	**5.98**	**112**	P		**Pn**	**06 38 02.0**	**-0.1**
HNTI	**Hanita**	**5.98**	**112**	S		**Sn**	**06 39 08.5**	**-1.2**
DRO	**Drossia**	**6.02**	**296**	P		**Pn**	**06 38 04.3**	**+1.6**
OFRI	**`Ofer**	**6.05**	**116**	P		**Pn**	**06 38 02.8**	**-0.3**
OFRI	**`Ofer**	**6.05**	**116**	S		**Sn**	**06 39 10.0**	**-1.6**
HNAT	**Natroun**	**6.08**	**163**	P		**Pn**	**06 38 02.8**	**-0.7**
ANX	**Ano Chora**	**6.15**	**302**	P		**Pn**	**06 38 05.9**	**+1.4**
MMA0B	**Mount Meron ar**	**6.18**	**111**	P		**Pn**	**06 38 04.3**	**-0.7**
MMA0B	**Mount Meron ar**	**6.18**	**111**	S		**Sn**	**06 39 13.7**	**-1.1**
MMAI	**Mount Meron Ar**	**6.18**	**111**	Pn		**Pn**	**06 38 04.0**	**-0.9**
	5.4nm,0.3s,baz=298,slow=13,SNR=24							
	5.6nm,0.4s							
NATI	**Neve Ativ**	**6.34**	**108**	P		**Pn**	**06 38 07.2**	**+0.2**
NATI	**Neve Ativ**	**6.34**	**108**	S		**Sn**	**06 39 17.3**	**-1.3**
RYAN	**Fayoum**	**6.54**	**167**	P		**Pn**	**06 38 08.3**	**-1.5**
HMDT	**Nahal Hemdat**	**6.63**	**117**	P		**Pn**	**06 38 11.2**	**+0.1**
HMDT	**Nahal Hemdat**	**6.63**	**117**	S		**Sn**	**06 39 24.8**	**-1.0**
KZIT	**Kziot**	**6.69**	**131**	P		**Pn**	**06 38 11.6**	**-0.3**
KZIT	**Kziot**	**6.69**	**131**	S		**Sn**	**06 39 25.0**	**-2.3**
YTIR	**Yattir**	**6.85**	**125**	P		**Pn**	**06 38 14.1**	**-0.1**
YTIR	**Yattir**	**6.85**	**125**	S		**Sn**	**06 39 29.4**	**-2.0**
DSI	**Dead Sea**	**6.91**	**122**	P		**Pn**	**06 38 14.5**	**-0.3**
DSI	**Dead Sea**	**6.91**	**122**	S		**Sn**	**06 39 31.0**	**-1.5**
MSBI	**Mazada**	**7.04**	**124**	P		**Pn**	**06 38 16.4**	**-0.3**
MSBI	**Mazada**	**7.04**	**124**	S		**Sn**	**06 39 33.9**	**-1.9**
GHAJ	**Ghor Haditha**	**7.19**	**123**	P		**Pn**	**06 38 19.3**	**+0.6**
GHAJ	**Ghor Haditha**	**7.19**	**123**	S		**Sn**	**06 39 37.7**	**-1.8**
NBNS	**Bani Suef**	**7.22**	**160**	P		**Pn**	**06 38 18.5**	**-0.7**
ZFRI	**Zfri**	**7.42**	**130**	P		**Pn**	**06 38 21.8**	**-0.1**
ZFRI	**Zfri**	**7.42**	**130**	S		**Sn**	**06 39 43.3**	**-1.8**
PRNI	**Paran**	**7.45**	**131**	P		**Pn**	**06 38 21.8**	**-0.6**
PRNI	**Paran**	**7.45**	**131**	S		**Sn**	**06 39 43.7**	**-2.3**
KRMI	**Paran Flat**	**7.45**	**134**	P		**Pn**	**06 38 22.6**	**+0.3**
KRMI	**Paran Flat**	**7.45**	**134**	S		**Sn**	**06 39 44.2**	**-1.9**
ASF	**Jabal al Asfar**	**7.69**	**113**	Pn		**Pn**	**06 38 25.1**	**-0.5**
	0.9nm,0.3s,baz=312,slow=10,SNR=3.7							
	2.1nm,0.5s							
HRFI	**Mount Harif**	**7.70**	**133**	P		**Pn**	**06 38 25.3**	**-0.4**
HRFI	**Mount Harif**	**7.70**	**133**	S		**Sn**	**06 39 50.0**	**-2.1**
MBRI	**Mt Berech**	**7.80**	**135**	P		**Pn**	**06 38 27.0**	**-0.2**
MBRI	**Mt Berech**	**7.80**	**135**	S		**Sn**	**06 39 53.3**	**-1.4**
EIL	**Elat**	**7.92**	**135**	Pn		**Pn**	**06 38 28.0**	**-0.7**
	3.2nm,0.3s,baz=281,slow=4.4,SNR=23							
	8.1nm,0.4s							
EIL	**Elat**	**7.92**	**135**	P		**Pn**	**06 38 28.5**	**-0.2**
EIL	**Elat**	**7.92**	**135**	S		**Sn**	**06 39 55.4**	**-2.0**
HFRF	**Wahat Farafira**	**8.30**	**181**	P		**Pn**	**06 38 33.0**	**-1.0**
HHRG	**Al Ghardaqah**	**9.28**	**151**	P		**Pn**	**06 38 47.2**	**-0.2**
MLR	**Muntele Rosu**	**10.20**	**350**	Pn		**Pn**	**06 38 59.9**	**-0.1**
	0.2nm,0.3s,baz=72,slow=17,SNR=1.5							
	1.5nm,0.8s							
VAE	**Valguarnera**	**11.56**	**284**	Pn		**Pn**	**06 39 18.1**	**-0.5**
	5.8nm,0.3s,baz=120,slow=20,SNR=2.1							
SOKA	**Soboth**	**15.11**	**322**	*e*P		**Pn**	**06 40 09.2**	**+2.2**
	4.7nm,1.5s							
OBKA	**Obir**	**15.25**	**321**	*e*P		**P**	**06 40 11.7**	**-1.8**
	3.2nm,1.0s							
JAVC	**Velka Javorina**	**15.59**	**332**	*e*PN		**P**	**06 40 16.8**	**-0.5**
KEST	**Kesra**	**15.63**	**277**	Pn		**P**	**06 40 18.1**	**+0.3**
	0.4nm,0.3s,baz=111,slow=5.4,SNR=5.3							
KBA	**Koelnbreinsper**	**16.25**	**320**	*e*P		**Pn**	**06 40 23.1**	**+1.3**
	2.0nm,0.6s							
KRUC	**Moravsky**	**16.26**	**330**	*e*PN		**P**	**06 40 24.8**	**+0.3**
VRAC	**Vranov**	**16.37**	**331**	Pn		**Pn**	**06 40 24.1**	**+0.9**
	0.6nm,0.3s,baz=138,slow=5.8,SNR=5.0							
	1.7nm,0.4s							
VRAC	**Vranov**	**16.37**	**331**	*e*PN		**P**	**06 40 26.3**	**+0.4**
BIOA	**Bad Ischl, Aus**	**16.50**	**322**	*e*P		**P**	**06 40 27.7**	**+0.4**
	2.6nm,0.6s							
LESA	**Schwarzleotal**	**16.82**	**320**	*e*Pn		**Pn**	**06 40 28.5**	**-0.3**
	2.7nm,0.7s							
GERES	**GERESS Array B**	**17.27**	**325**	P		**P**	**06 40 35.6**	**-0.2**
	baz=142,slow=11,SNR=9.4							
	1.6nm,0.8s							
WATA	**Walderalm**	**17.35**	**318**	*i* Pn		**Pn**	**06 40 32.9**	**-2.7**
	2.5nm,0.9s							
SQTA	**Sankt Quirin**	**17.48**	**317**	*e*P		**Pn**	**06 40 37.0**	**-0.2**
	2.8nm,0.9s							
FETA	**Feichten**	**17.63**	**316**	*i* Pn		**Pn**	**06 40 39.5**	**+0.3**
	5.7nm,0.9s							
RETA	**Reutte**	**17.88**	**318**	*e*Pn		**Pn**	**06 40 38.4**	**-3.8**
	1.9nm,0.5s							
DAVOX	**Davos/Dischmat**	**17.99**	**315**	P		**P**	**06 40 45.1**	**+1.1**
	0.2nm,0.3s,baz=172,slow=19,SNR=4.2							
	1.3nm,0.5s							
DAVA	**Damuels**	**18.26**	**316**	*e*Pn		**Pn**	**06 40 45.4**	**-1.5**
	4.5nm,1.2s							
CLL	**Collm**	**19.38**	**330**	*i* P		**P**	**06 40 59.0**	**+0.1**
	comp=Z,9.0nm,1.4s							
CLL				*ex*		x	06 41 11.0	
ESDC	**Sonseca Array**	**26.03**	**289**	P		**P**	**06 42 06.1**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=83,slow=9.6,SNR=24							
	comp=Z,1.8nm,0.6s							
FINES	**FINESS Array B**	**26.04**	**357**	P		**P**	**06 42 05.7**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=156,slow=12,SNR=13							
FINES				PcP		**PcP**	**06 45 34.4**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=180,slow=1.4,SNR=3.7							
	comp=Z,1.7nm,0.6s							
HFS	**Hagfors**	**26.48**	**343**	P		**P**	**06 42 10.1**	**0.0**
	comp=Z,0.9nm,0.6s,baz=139,slow=11,SNR=8.7							
	comp=Z,0.9nm,0.6s							
NOA	**NORSAR Array B**	**27.88**	**342**	P		**P**	**06 42 23.8**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=151,slow=11,SNR=1.4							
	comp=Z,0.3nm,0.7s							
ARCES	**ARCESS Array B**	**34.16**	**358**	P		**P**	**06 43 17.4**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=170,slow=7.4,SNR=8.3							
	comp=Z,1.9nm,0.8s							
KURBB	**Kurchatov Arra**	**38.77**	**51**	P		**P**	**06 43 58.6**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=274,slow=8.9,SNR=10							
	comp=Z,0.9nm,0.5s							
MKAR	**Makanchi Array**	**41.28**	**57**	P		**P**	**06 44 19.6**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=282,slow=6.1,SNR=4.9							
	comp=Z,0.3nm,0.5s							
SONM	**Songino Array**	**57.13**	**52**	P		**P**	**06 46 20.7**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=312,slow=8.9,SNR=2.1							
	comp=Z,0.3nm,0.4s							
YKA	**Yellowknife Ar**	**77.97**	**343**	P		**P**	**06 48 30.2**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=108,slow=3.5,SNR=7.4							
	comp=Z,0.1nm,0.5s							

---

*GCMT **20** 06:52:07.2±0.6, 35.35S±0.06×179.71E±0.05, h513km±5km, MW5.3/58, Moment Tensor Solution. s58,c76; Duration: 1s1 Moment tensor: Scale 1017Nm; Mw0.18±.05; Mθθ-0.49±.08; Mφφ0.31±.07; Mrθ-0.45±.08; Mrφ-0.49±.06; Mφr-0.70±.07; Best double couple: M0 1.04400×1017 NP1:φs109.00000°, δ35.00000°, λ169.00000°. NP2: φs208.00000°, δ84.00000°, λ55.00000°. Principal axes: T 0.9520, Plg41.0000°, Azm86.0000°; N 0.1840, Plg34.0000°, Azm213.0000°; P -1.1360, Plg30.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*NOU **20** 06:52:08.7, 25.60S×179.80E, h530km, mb4.9/80, South of Fiji Islands*
*NEIC **20** 06:52:08.2±1.4, 25.56S±0.10×179.6E±0.1, h505km±6km, mb4.9/70, Error ellipse: s-maj=15.1km s-min=13.6km az=68.0*
*IDC **20** 06:52:10.3±0.5, 25.54S×179.44E, h524km±4km, mb4.3/18, mbtmp5.1/21, Error ellipse: s-maj=9.9km s-min=8.2km az=107.0*
ISC 20 06:52:09.7±0.3, 25.61S±0.04×179.54E±0.05, h525km±3km, h525km:pP-P, n723, σ1§35/759, mb4.9/92, 44C-22D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.26**	**149**	P		**P**	**06 53 32.5**	**+0.8**
GLKZ	**Green Lake**	**4.28**	**149**	P		**P**	**06 53 32.3**	**+0.4**
GLKZ				S		**S**	**06 54 43.2**	**+4.2**
MSVF	**Nonsavu**	**7.96**	**350**	P		**P**	**06 54 04.3**	**-2.3**
MSVF	**Nonsavu**	**7.96**	**350**	P		**P**	**06 54 04.8**	**-1.8**
	73nm,0.6s,baz=175,slow=12,SNR=27							
MSVF				S		**S**	**06 55 40.3**	**-1.9**
	54nm,1.0s,baz=149,slow=23,SNR=4.2							
MSVF	**Nonsavu**	**7.96**	**350**	P		**P**	**06 54 05.3**	**-1.3**
OUZ	**Omahuta**	**10.86**	**207**	P		**P**	**06 54 38.2**	**+2.1**
OUZ	**Omahuta**	**10.86**	**207**	P		**P**	**06 54 38.8**	**+2.7**
GRZ	**Great Barrier**	**11.17**	**197**	P		**P**	**06 54 41.0**	**+1.8**
WCZ	**Waipu Caves**	**11.22**	**202**	P		**P**	**06 54 42.5**	**+2.7**
INH	**Isangel**	**11.24**	**300**	P		**P**	**06 54 43.1**	**+2.8**
MARNC	**Mare, Loyalty**	**11.33**	**289**	P		**P**	**06 54 42.6**	**+1.4**
MARNC	**Mare, Loyalty**	**11.33**	**289**	S		**S**	**06 56 48.4**	**+2.4**
PINNC	**Pines Island,**	**11.44**	**283**			**P**	**06 54 44.0**	**+1.6**
KUZ	**Kuaotunu**	**11.57**	**195**	P		**P**	**06 54 44.5**	**+1.0**
KUZ	**Kuaotunu**	**11.57**	**195**	P		**P**	**06 54 45.1**	**+1.6**
ABAZ	**Army Bay**	**11.67**	**199**	P		**P**	**06 54 46.9**	**+2.4**
NIUE	**Niue**	**11.71**	**58**	P		**P**	06 54 51.0	+5.7
NIUE				S		**S**	**06 56 56.0**	**+2.7**
WIAZ	**Waiheke Island**	**11.76**	**198**	P		**P**	**06 54 47.4**	**+1.8**
RVAZ	**Riverhead Bore**	**11.90**	**200**	P		**P**	**06 54 49.0**	**+2.0**
HBAZ	**Herne Bay Bore**	**11.93**	**199**	P		**P**	**06 54 48.2**	**+1.0**
EPAZ	**Eden Park BICE**	**11.95**	**199**	P		**P**	**06 54 48.1**	**+0.7**
MXZ	**Matakaoa Point**	**11.96**	**185**	P		**P**	**06 54 46.0**	**-1.6**
MXZ	**Matakaoa Point**	**11.96**	**185**	P		**P**	**06 54 46.4**	**-1.1**
MXZ	**Matakaoa Point**	**11.96**	**185**	P		**P**	**06 54 46.4**	**-1.1**
MXZ				S		**S**	**06 56 53.1**	**-4.5**
ETAZ	**East Tamaki Re**	**11.97**	**198**	P		**P**	**06 54 50.0**	**+2.3**
OUENC	**Ouen Island, N**	**12.04**	**283**	P		**P**	**06 54 50.6**	**+2.0**
MKAZ	**Moumakai**	**12.05**	**197**	P		**P**	**06 54 50.3**	**+1.8**
WTAZ	**Waiatarua**	**12.05**	**199**	P		**P**	**06 54 50.7**	**+2.1**
KBAZ	**Karaka Road Bo**	**12.11**	**198**	P		**P**	**06 54 51.1**	**+1.9**
AWAZ	**Awhitu Peninsu**	**12.16**	**199**	P		**P**	**06 54 51.4**	**+1.8**
HAZ	**Te Kaha**	**12.20**	**187**	P		**P**	**06 54 48.0**	**-2.1**
HAZ				S		**S**	**06 57 05.1**	**+2.9**
WMGZ	**Waiomatatini S**	**12.21**	**184**	P		**P**	**06 54 49.6**	**-0.6**
WMGZ				S		**S**	**06 56 56.6**	**-5.8**
PKGZ	**Pakihiroa**	**12.28**	**185**	P		**P**	**06 54 51.2**	**+0.3**
PKGZ				S		**S**	**06 56 59.4**	**-4.5**
TGRZ	**Tauranga**	**12.40**	**192**	P		**P**	**06 54 53.5**	**+1.4**
ONTNC	**Ouen Toro**	**12.41**	**283**	P		**P**	**06 54 50.6**	**-1.9**
RUGZ	**Raukumara Rang**	**12.42**	**187**	P		**P**	**06 54 51.9**	**-0.6**
RUGZ				S		**S**	**06 57 04.4**	**-2.2**
PUZ	**Puketiti**	**12.47**	**185**	P		**P**	**06 54 51.6**	**-1.3**
PUZ				S		**S**	**06 57 02.4**	**-5.0**
DZM	**Mont Dzumac**	**12.49**	**284**	P		**P**	**06 54 53.3**	**-0.2**
DZM	**Mont Dzumac**	**12.49**	**284**	P		**P**	**06 54 54.9**	**+1.4**
	105nm,0.7s,baz=94,slow=14,SNR=44							
DZM				S		**S**	**06 57 07.7**	**-0.8**
	6.2nm,0.6s,baz=72,slow=18,SNR=3.7							
DZM	**Mont Dzumac**	**12.49**	**284**	P		**P**	**06 54 55.2**	**+1.7**
TOZ	**Tahuroa Road**	**12.56**	**195**	P		**P**	**06 54 55.1**	**+1.3**
TWGZ	**Tauwhareparae**	**12.60**	**186**	P		**P**	**06 54 53.2**	**-1.1**
TWGZ				S		**S**	**06 57 05.0**	**-4.9**
KARZ	**Kaharoa**	**12.68**	**192**	P		**P**	**06 54 56.7**	**+1.6**
OMRZ	**Omania**	**12.74**	**191**	P		**P**	**06 54 57.3**	**+1.5**
NGRZ	**Ngongotaha**	**12.77**	**192**	P		**P**	**06 54 57.8**	**+1.7**
URZ	**Urewera**	**12.78**	**189**	P		**P**	**06 54 53.6**	**-2.5**
	49nm,0.5s,baz=346,slow=3.1,SNR=75							
URZ				S		**S**	**06 57 07.0**	**-6.2**
	29nm,0.3s,baz=115,slow=19,SNR=6.1							
URZ	**Urewera**	**12.78**	**189**	P		**P**	**06 54 54.5**	**-1.6**
URZ	**Urewera**	**12.78**	**189**	P		**P**	**06 54 52.8**	**-3.3**
URZ				S		S	06 57 02.9	-10
MWZ	**Matawai**	**12.80**	**187**	P		**P**	**06 54 53.7**	**-2.7**
MWZ				S		**S**	**06 57 08.2**	**-5.5**
UTU	**Utuhina**	**12.84**	**192**	P		**P**	**06 54 58.6**	**+1.8**
TKGZ	**Te Karaka**	**12.87**	**186**	P		**P**	**06 54 56.8**	**-0.2**
TKGZ				S		**S**	**06 57 10.7**	**-4.3**
CNGZ	**Carnagh Statio**	**12.88**	**185**	P		**P**	**06 54 56.6**	**-0.6**
CNGZ				S		**S**	**06 57 13.2**	**-2.1**
RRRZ	**Republican Roa**	**12.95**	**191**	P		**P**	**06 55 00.0**	**+2.1**
RAGZ	**Rawiri**	**12.97**	**187**	P		**P**	**06 54 54.7**	**-3.5**
RAGZ				S		**S**	**06 57 16.7**	**-0.4**
HRRZ	**Handcock Road**	**13.03**	**191**	P		**P**	**06 54 59.3**	**+0.5**
MUGZ	**Murupara**	**13.04**	**190**	P		**P**	**06 54 56.5**	**-2.3**
MUGZ				S		**S**	**06 57 13.8**	**-4.5**
PRRZ	**Plateau Road**	**13.12**	**191**	P		**P**	**06 54 59.2**	**-0.5**
TLZ	**Tolley Road**	**13.12**	**194**	P		**P**	**06 55 00.9**	**+1.1**
RIGZ	**Rimuhau**	**13.14**	**186**	P		**P**	**06 54 58.6**	**-1.4**
RIGZ				S		**S**	06 57 11.1	-9.2
RTZ	**Ruatahuna**	**13.14**	**189**			**P**	**06 54 58.6**	**-1.5**
RTZ	**Ruatahuna**	**13.14**	**189**	P

QLP	Quilpie	31.66	260	P	P	06 57 50.3	+0.4
	comp=Z,68nm,0.9s						
QLP	Quilpie	31.66	260	P	P	06 57 50.7	+0.8
MTSU	Mount Surprise	33.45	276	P	P	06 58 06.1	+0.8
	comp=Z,107nm,0.8s						
MTSU	Mount Surprise	33.45	276	P	P	06 58 06.2	+1.0
STKA	Stephens Creek	33.73	250	P	P	06 58 07.9	+0.5
STKA				IAmb	IAmb	06 58 08.7	
	comp=Z,41nm,0.7s						
STKA	Stephens Creek	33.73	250	P	P	06 58 08.1	+0.7
STKA	Stephens Creek	33.73	250	P	P	06 58 08.3	+0.9
	comp=Z,6.9nm,0.5s,baz=94,slow=11,SNR=21						
STKA				PcP	PcP	07 00 33.2	+1.5
	comp=Z,1.5nm,0.5s,baz=106,slow=7.4,SNR=4.5						
STKA				ScS	ScS	07 07 30.7	+0.8
	comp=Z,2.7nm,0.8s,baz=212,slow=12,SNR=7.4						
	comp=Z,6.9nm,0.5s						
STKA	Stephens Creek	33.73	250	P	P	06 58 08.3	+0.9
ARPS	Mount Arapiles	33.92	242	P	P	06 58 09.6	+0.7
INKA	Innaminka	34.64	258	P	P	06 58 16.6	+1.6
PMG	Port Moresby	34.70	292	P	P	06 58 15.6	-0.1
PMG	Port Moresby	34.70	292	P	P	06 58 15.5	-0.1
COEN	Coen	36.02	282		P	06 58 26.8	+0.1
COEN	Coen	36.02	282	P	P	06 58 27.1	+0.4
	comp=Z,80nm,1.2s						
COEN	Coen	36.02	282	P	P	06 58 27.4	+0.7
HTT	Hallett	36.02	248	P	P	06 58 26.8	+0.3
	comp=Z,8.5nm,1.7s						
HTT	Hallett	36.02	248	P	P	06 58 27.4	+0.9
LCRK	Leigh Creek	36.65	253	P	P	06 58 32.5	+0.8
QIS	Mount Isa	36.98	269	P	P	06 58 34.3	-0.3
	comp=Z,36nm,1.1s						
QIS	Mount Isa	36.98	269	P	P	06 58 34.9	+0.3
BBOO	Buckleboo	38.42	249	P	P	06 58 46.0	-0.2
BBOO	Buckleboo	38.42	249	P	P	06 58 45.5	-0.6
	comp=Z,38nm,2.1s						
BBOO	Buckleboo	38.42	249	P	P	06 58 46.1	0.0
MANU	Manus Island	38.84	302		P	06 58 48.6	-1.1
MANU				IAmb	IAmb	06 58 50.3	
	comp=Z,45nm,0.9s						
OOD	Oodnadatta	39.09	257	P	P	06 58 52.8	+1.2
AS01	Alice Springs	41.33	263	P	P	06 59 10.0	+0.3
AS31	Alice Springs	41.37	263		P	06 59 10.1	0.0
AS31	Alice Springs	41.37	263	P	P	06 59 10.2	+0.2
	comp=Z,21nm,1.1s						
ASAR	Alice Springs	41.37	263	P	P	06 59 10.2	+0.2
	comp=Z,39nm,0.7s,baz=92,slow=7.2,SNR=723						
ASAR				PcP	PcP	07 00 55.9	-0.1
	comp=Z,5.8nm,0.8s,baz=110,slow=3.4,SNR=5.6						
ASAR				ScP	ScP	07 03 56.5	+0.6
	comp=Z,3.3nm,0.9s,baz=112,slow=4.0,SNR=7.7						
ASAR				S	S	07 04 47.0	+0.1
	comp=Z,2.5nm,0.8s,baz=98,slow=14,SNR=10						
ASAR				ScS	ScS	07 08 14.4	-0.1
	comp=Z,1.1nm,1.0s,baz=99,slow=7.9,SNR=5.1						
	comp=Z,39nm,0.7s						
TAOE	Nuku Hiva Isla	41.74	74	P	P	06 59 12.5	-0.6
TAOE	Nuku Hiva Isla	41.74	74	P	P	06 59 13.4	+0.2
WR8	Warramunga Arr	41.76	268	P	P	06 59 12.7	-0.4
WR8				IAmb	IAmb	06 59 13.7	
	comp=Z,40nm,0.8s						
WRA	Warramunga Arr	41.91	268		P	06 59 13.7	-0.6
WRA	Warramunga Arr	41.91	268	P	P	06 59 13.9	-0.4
	comp=Z,43nm,0.6s,baz=104,slow=8.0,SNR=161						
WRA				PcP	PcP	07 00 57.5	-0.2
	comp=Z,1.9nm,0.8s,baz=103,slow=4.3,SNR=6.3						
WRA				ScP	ScP	07 03 58.6	+0.6
	comp=Z,6.5nm,1.0s,baz=107,slow=4.3,SNR=8.6						
WRA				S	S	07 04 52.1	-2.5
	comp=Z,1.8nm,0.9s,baz=103,slow=14,SNR=7.0						
	comp=Z,43nm,0.6s						
WB0	Warramunga Arr	41.91	268		P	06 59 13.6	-0.7
GENI	Genyem	44.23	295	P	P	06 59 32.4	-0.1
	comp=Z,106nm,0.9s						
FORT	Forrest	45.35	251		P	06 59 40.0	-0.8
FORT	Forrest	45.35	251	P	P	06 59 40.1	-0.7
	comp=Z,84nm,0.7s						
FORT	Forrest	45.35	251	P	P	06 59 40.9	+0.1
SMPI	Sarmi	45.77	294	P	P	06 59 43.8	-0.5
KDU	Kakadu	46.06	277	P	P	06 59 45.7	-0.7
	comp=Z,72nm,0.8s						
KDU	Kakadu	46.06	277	P	P	06 59 45.9	-0.5
WRKA	Warakurna	46.08	259	P	P	06 59 46.4	-0.2
	comp=Z,78nm,1.5s						
WRKA	Warakurna	46.08	259	P	P	06 59 46.5	-0.2
MTN	Manton Dam	47.20	276		P	06 59 54.2	-0.9
DRS	Darwin Rock St	47.57	277	P	P	06 59 57.1	-0.8
DRV	Dumont d'Urvil	47.80	200	P	P	06 59 59.0	+0.2
SRPI	Serui, Papua	47.88	292	P	P	07 00 00.1	-0.2
	comp=Z,118nm,0.7s						
KNRA	Kununurra	48.29	271		P	07 00 03.2	-0.1
KNRA	Kununurra	48.29	271	P	P	07 00 03.3	+0.1
	comp=Z,167nm,0.8s						
FAKI	Fak Fak	50.70	288	P	P	07 00 21.1	0.0
MLH	Mauna Loa	51.03	31	P	P	07 00 23.7	+0.1
GUMO	Guam	51.57	315	P	P	07 00 26.6	-0.6
GUMO	Guam	51.57	315	P	P	07 00 26.0	-1.2
GUMO				PcP	PcP	07 01 32.5	+0.2
SWI	Sorong	52.61	290	P	P	07 00 34.7	-0.2
VNDA	Vanda	52.65	185		P	07 00 35.1	+1.0
VNDA	Vanda	52.65	185	P	P	07 00 35.6	+1.5
	comp=Z,9.1nm,0.6s,baz=6.9,slow=8.5,SNR=48						
VNDA				ScP	ScP	07 04 43.5	+1.2
	comp=Z,3.3nm,0.7s,baz=354,slow=4.6,SNR=6.8						
	comp=Z,9.1nm,0.6s						
VNDA	Vanda	52.65	185	P	P	07 00 35.6	+1.5
VNDA				PcP	PcP	07 01 36.9	+1.6
VNDA				pP	pwP	07 02 17.0	-1.2
VNDA				ScP	ScP	07 04 43.6	+1.4
SBA	Scott Base	52.65	183	P	P	07 00 35.8	+1.7
SBA				IAmb	IAmb	07 00 37.9	
	comp=Z,68nm,1.1s						
SBA	Scott Base	52.65	183	P	P	07 00 36.7	+2.6
KLBR	Kellerberrin	53.96	248	P	P	07 00 43.7	-0.6
	comp=Z,114nm,0.8s						
KLBR	Kellerberrin	53.96	248	P	P	07 00 43.8	-0.5
NWAO	Narrogin (SRO)	54.16	247	P	P	07 00 45.5	-0.2
MEEK	Meekatharra	54.24	255	P	P	07 00 46.1	-0.2
PSA00	Pilbara Seismi	54.47	261	P	P	07 00 46.9	-1.1
	comp=Z,20nm,0.5s						
PSA00	Pilbara Seismi	54.47	261	P	P	07 00 47.6	-0.3
SOEI	Soe	54.60	276		P	07 00 49.6	+0.6
SOEI				IAmb	IAmb	07 00 59.8	
	comp=Z,94nm,1.0s						
SOEI	Soe	54.60	276	P	P	07 00 50.2	+1.1
MBWA	Marble Bar	54.69	261	P	P	07 00 48.2	-1.3
MBWA	Marble Bar	54.69	261	P	P	07 00 49.0	-0.5
	comp=Z,35nm,0.9s						
MBWA	Marble Bar	54.69	261	P	P	07 00 49.1	-0.4
MBWA	Marble Bar	54.69	261	P	P	07 00 48.9	-0.6
MBWA				pP	pP	07 02 29.9	-0.1
BLDU	Ballidu	55.02	249	P	P	07 00 51.5	-0.2
MORW	Morawa	55.91	251	P	P	07 00 57.7	-0.3
SANI	Sanana	56.55	286	P	P	07 01 02.1	-0.4
MMRI	Maumere	56.88	277	P	P	07 01 04.5	-0.3
MMRI				IAmb	IAmb	07 01 04.9	
	comp=Z,75nm,1.0s						
CCD	Concordia, Ant	56.97	195	P	P	07 01 05.5	+0.5
CCD				PcP	PcP	07 01 53.0	+0.2
CCD				pP	pwP	07 02 52.0	+0.4
CCD				ScP	ScP	07 05 02.5	+0.6
CASY	Casey	58.40	206		P	07 01 14.4	+0.2
CASY	Casey	58.40	206	P	P	07 01 14.3	+0.1
GIRL	Giralia	59.14	258	P	P	07 01 20.7	+0.7
LUWI	Luwuk	59.84	285	P	P	07 01 24.9	+0.1
KAPI	Kappang	60.67	279	P	P	07 01 29.9	-0.4
KAPI	Kappang	60.67	279	P	P	07 01 29.9	-0.4
PLAI	Plampang	60.81	274	P	P	07 01 31.1	-0.1
TOLI2	Tolitoli	62.62	286	P	P	07 01 43.9	+0.9
JCJ	Chichijima	63.58	323	P	P	07 01 48.0	-0.9
JCJ	Chichijima	63.58	323	P	P	07 01 48.2	-0.7
JAGI	Jajag, Banyuwa	64.22	273		P	07 01 52.5	-0.8
JAGI	Jajag, Banyuwa	64.22	273	P	P	07 01 53.1	-0.2
QSPA	South Pole Qui	64.48	180		P	07 01 55.6	+1.4
QSPA	South Pole Qui	64.48	180	P	P	07 01 55.7	+1.4
	comp=Z,59nm,0.6s,baz=342,slow=0.5,SNR=498						
QSPA				pP	pwP	07 03 43.1	-0.2
	comp=Z,11nm,1.0s,baz=6.4,slow=1.6,SNR=3.4						
	comp=Z,59nm,0.6s						
QSPA	South Pole Qui	64.48	180	P	P	07 01 55.6	+1.4
QSPA				pP	pwP	07 03 44.8	+1.5
SBUM	Sibu	70.76	282		P	07 02 33.3	-0.1
LEM	Lembang	70.80	272	P	P	07 02 34.0	+0.1
	comp=Z,73nm,0.6s,baz=140,slow=23,SNR=9.4						
	comp=Z,73nm,0.6s						
JOW	Kunigami	71.84	313	P	P	07 02 39.1	-0.3
JGF	Kuroka	72.78	325	P	P	07 02 43.8	-0.9
JGF				IAmb	IAmb	07 02 45.3	
	comp=Z,28nm,0.8s						
JGF	Kuroka	72.78	325	P	P	07 02 44.7	0.0
JMM	Marumori	72.87	329	P	P	07 02 44.1	-1.0
MJAR	Matsushiro Arr	73.08	326	P	P	07 02 45.9	-0.5
	comp=Z,51nm,0.9s,baz=158,slow=5.5,SNR=72						
	comp=Z,51nm,0.9s						
MAJO	Matsushiro	73.08	326		P	07 02 45.9	-0.4
MAJO	Matsushiro	73.08	326	P	P	07 02 46.6	+0.2
MJB9	Matsu-Tunnel	73.08	326		P	07 02 46.8	+0.4
JMN	Monobe	73.25	322	P	P	07 02 47.2	-0.2
JMN				IAmb	IAmb	07 02 48.7	
	comp=Z,44nm,1.2s						
JMN	Monobe	73.25	322	P	P	07 02 47.4	0.0
YOJ	Yonaguni jima	73.94	308	P	P	07 02 51.1	-0.4
JNU	Nakatsue	74.54	319	P	P	07 02 54.2	-0.5
JNU				IAmb	IAmb	07 02 55.4	
	comp=Z,27nm,0.8s						
JNU	Nakatsue	74.54	319	P	P	07 02 54.1	-0.6
BELA	Belgrano 2	74.79	173		P	07 02 55.3	-0.2
BELA				IAmb	IAmb	07 02 56.3	
	comp=Z,37nm,0.6s						
TPUB	Ta-pu	74.96	305		P	07 02 55.0	-2.3
TPUB				IAmb	IAmb	07 02 56.3	
	comp=Z,37nm,0.7s						
TPUB	Ta-pu	74.96	305	P	P	07 02 56.5	-0.8
SSLB	Suanglung	75.01	306		P	07 02 56.0	-1.6
SSLB				IAmb	IAmb	07 02 57.0	
	comp=Z,27nm,0.7s						
SSLB	Suanglung	75.01	306	P	P	07 02 56.6	-1.0
MAW	Mawson	76.01	201	P	P	07 03 03.0	+0.6
	comp=Z,6.0nm,1.1s						
MAW	Mawson	76.01	201	P	P	07 03 03.3	+1.0
	comp=Z,13nm,0.5s,baz=132,slow=5.9,SNR=19						
	comp=Z,13nm,0.5s						
JKA	Kamikawa-asahi	77.20	334	P	P	07 03 10.1	+0.9
JKA				IAmb	IAmb	07 03 11.8	
	comp=Z,44nm,1.1s						
ATKA	Atka Island	77.67	4	P	P	07 03 10.8	-0.7
MYKOM	Kota Tinggi	77.90	278	P	P	07 03 13.7	0.0
MYKOM				IAmb	IAmb	07 03 14.8	
	comp=Z,37nm,0.9s						
NIKH	Nikolski High	78.90	7	P	P	07 03 17.3	-0.8
NIKH	Nikolski High	78.90	7	P	P	07 03 16.4	-1.7
NIKH	Nikolski High	78.90	7	P	P	07 03 17.5	-0.6
	baz=191						
KSRS	Korea Array	79.30	321	P	P	07 03 21.3	+0.8
	comp=Z,24nm,0.7s,baz=136,slow=5.7,SNR=98						
	comp=Z,24nm,0.7s						
KSAR	Wonju Array Be	79.31	321		P	07 03 21.1	+0.5
YSS	Yuzhno-Sakhali	79.51	335	P	P	07 03 22.0	+0.5
YSS				IAmb	IAmb	07 03 23.2	
	comp=Z,30nm,0.6s						
MG05	Puerto Natales	80.61	143	P	P	07 03 27.5	+0.1
MG05				IAmb	IAmb	07 03 29.2	
	comp=Z,48nm,0.9s						
PEA0B	Petropavlovsk-	80.66	347		P	07 03 27.6	+0.2
PEA0B				IAmb	IAmb	07 03 28.4	
	comp=Z,41nm,0.9s						
PETK	Petropavlovsk-	80.66	347		P	07 03 26.6	-0.7
PETK	Petropavlovsk-	80.66	347	P	P	07 03 27.2	-0.2
	comp=Z,26nm,0.7s,baz=112,slow=7.3,SNR=47						
	comp=Z,26nm,0.7s						
SYO	Syowa Base	81.26	194	⇑eP	P	07 03 30.3	0.0
SYO	Syowa Base	81.26	194	ePcP	PcP	07 03 33.8	-1.0
ELIB	Princess Elisa	81.32	187	dP	P	07 03 31.0	+0.2
	comp=Z,33nm,0.7s						
ELIB				dpP	pwP	07 05 27.5	+0.1
NJ2	Nanjing	81.47	312	eP	P	07 03 33.0	+1.0
NJ2				pmax	pmax		
	comp=Z,21nm,0.7s						
USA0B	Ussuriysk Arra	81.98	328	P	P	07 03 34.8	+0.5
USA0B				IAmb	IAmb	07 03 36.3	
	comp=Z,66nm,1.4s						
USRK	Ussuriysk Ar.	81.98	328		P	07 03 34.0	-0.3
USRK	Ussuriysk Ar.	81.98	328	P	P	07 03 34.9	+0.5
	comp=Z,14nm,0.7s,baz=156,slow=4.4,SNR=23						
	comp=Z,14nm,0.7s						
CHNA	Chernabura Isl	82.10	12	P	P	07 03 33.3	-1.3
CHNA	Chernabura Isl	82.10	12	P	P	07 03 34.0	-0.7
	baz=199						
SDPT	Sand Point	82.43	11	P	P	07 03 35.2	-1.1
SDPT	Sand Point	82.43	11	P	P	07 03 35.9	-0.4
	baz=198						
S12K	Black Hills	82.50	10	P	P	07 03 36.1	-0.6
	baz=197						
TROLL	Troll, Antarti	82.62	181	⇑P	P	07 03 37.8	+0.4
	comp=Z,3μm,0.4s						
PSI	Prapat	82.75	277	P	P	07 03 38.5	-0.7
	comp=Z,12nm,0.7s,baz=80,slow=2.0,SNR=11						
	comp=Z,12nm,0.7s						
SPIA	Saint Paul Isl	82.91	6	P	P	07 03 38.1	-0.6
	baz=189						
VNA3	Neumayer Olymp	83.19	177	⇑P	P	07 03 39.9	-0.3
	comp=Z,80nm,0.7s						
MDJ	Mudanjiang	83.46	327		P	07 03 42.2	+0.4
MDJ				IAmb	IAmb	07 03 43.7	
	comp=Z,27nm,1.0s						
MDJ	Mudanjiang	83.46	327	P	P	07 03 42.8	+1.0
MDJ				pmax	pmax		
	comp=Z,32nm,1.1s						
S14K	Fog Glacier	83.48	12	P	P	07 03 41.3	-0.4
	baz=199						
WHN	Wuhan	83.72	308	⇓P	P	07 03 44.0	+0.6
WHN				pmax	pmax		
	comp=Z,86nm,1.1s						
VNA1	Neumayer--Stat	83.85	177	⇑P	P	07 03 43.4	0.0
	comp=Z,26nm,0.9s						
COYC	Coyhaique	83.91	138		P	07 03 45.1	+0.9
COYC				IAmb	IAmb	07 03 46.8	
	comp=Z,28nm,0.7s						
AY01	Puyuhuapi	84.14	137		P	07 03 46.1	+0.8
CN2	Changchun	85.02	324	eP	P	07 03 49.6	+0.1
CN2				esP	sP	07 06 41.4	+5.8
CN2				pmax	pmax		
	comp=Z,60nm,1.0s						
CN2				pmax	pmax		
	comp=Z,210nm,4.5s						
TIA	Tai'an	85.11	314	P	P	07 03 51.0	+0.9
TIA				pmax	pmax		
	comp=Z,71nm,0.9s						
LL02	Futaleuf	85.27	136		P	07 03 51.8	+0.8
LL02				IAmb	IAmb	07 03 53.2	
	comp=Z,31nm,0.8s						
BNX	BinXian	85.34	326	⇑P	P	07 03 51.3	+0.3
BNX				pmax	pmax		
	comp=Z,18nm,0.8s						
OHAK	Old Harbor	85.63	14	P	P	07 03 49.9	-2.2
OHAK	Old Harbor	85.63	14	P	P	07 03 52.2	+0.1
	baz=204						
R18K	Karluk	85.69	14	P	P	07 03 52.7	+0.4
	baz=203						
HSIG		86.03	55	P	P	07 03 54.9	+0.2
O14K	Tigyukauivet M	86.03	10	P	P	07 03 52.6	-1.3
	baz=197						
Q17K	Contact Creek	86.04	13	P	P	07 03 53.2	-1.0
	baz=202,SNR=9.2						
NVAR	Mina Array Bea	86.27	44	P	P	07 03 56.1	+0.2
	comp=Z,0.4nm,0.6s,baz=217,slow=7.6,SNR=4.6						
NVAR				pP	pP	07 05 51.6	+0.7
	comp=Z,1.5nm,1.1s,baz=226,slow=9.2,SNR=4.0						
Q16K	King Salmon	86.28	12	P	P	07 03 54.9	-0.2
	baz=201						
KDAK	Kodiak Island	86.30	15	P	P	07 03 55.5	+0.3
	comp=Z,7.5nm,1.0s,baz=185,slow=1.9,SNR=4.1						
	comp=Z,7.5nm,1.0s						
M11K	Mekoryuk	86.48	7	P	P	07 03 56.0	0.0
	baz=193						
Q18K	Katmai Hardscr	86.57	13	P	P	07 03 56.0	-0.7
	baz=203,SNR=7.9						
P17K	Kvichak River	86.80	12	P	P	07 03 57.1	-0.4
	baz=202						
M13K	Dall Lake	86.85	8	P	P	07 03 58.3	+0.5
	baz=195						
O16K	Kokwok River B	86.87	11	P	P	07 03 58.4	+0.5
	baz=200						
N15K	Kwethluk River	87.09	10	P	P	07 03 59.5	+0.6
N15K				IAmb	IAmb	07 04 00.5	
	comp=Z,25nm,0.8s						
N15K	Kwethluk River	87.09	10	P	P	07 03 59.4	+0.4
	baz=198						
Q19K	Cape Douglas,	87.11	14	P	P	07 03 58.2	-0.9
	baz=204						
P18K	Big Mountain,	87.22	13	P	P	07 03 58.7	-0.9
	baz=203						
O17K	Koliganek Bris	87.22	12	P	P	07 04 00.1	+0.6
	baz=201						
LYN	LuoYang	87.27	310	P	P	07 04 01.4	+1.0
LYN				pmax	pmax		
	comp=Z,63nm,1.0s						
M14K	Bethel	87.36	9	P	P	07 03 60.0	-0.2
	baz=197						
PLCA	Paso Flores	87.37	134	P	P	07 04 02.5	+1.4
	comp=Z,8.5nm,1.0s,baz=239,slow=4.9,SNR=26						
PLCA				pP	pwP	07 05 57.8	-1.1
	comp=Z,1.2nm,0.8s,baz=212,slow=4.2,SNR=3.9						
	comp=Z,8.5nm,1.0s						
HNS	HongShan	87.38	314	⇓P	P	07 04 02.1	+1.3
HNS				pmax	pmax		
	comp=Z,45nm,1.0s						
M15K	Kasigluk River	87.50	10	P	P	07 04 01.2	+0.4
	baz=198						
N16K	Nishlik Lake	87.59	11	P	P	07 04 01.4	0.0
	baz=200						
O18K	Koktuh Hills	87.65	12	P	P	07 04 00.8	-0.8
	baz=203						
L14K	Kuka Creek	87.83	8	P	P	07 04 01.7	-0.6
	baz=196						
P19K	Oil Pt	87.86	13	P	P	07 04 02.4	-0.2
	baz=204						
N17K	Nushagak Hills	87.91	11	P	P	07 04 03.1	+0.3
	baz=201						
BJT	Baijiatuau	87.97	317		P	07 04 03.6	0.0
BJT				IAmb	IAmb	07 04 05.4	
	comp=Z,22nm,1.0s						
EFI	East Falkland	87.98	148	P	P	07 04 04.4	+0.8
BJI	Beijing	87.98	317	P	P	07 04 04.4	+0.8
BJI				pmax	pmax		
	comp=Z,11nm,0.9s						
M16K	Timber Creek	88.08	10	P	P	07 04 04.0	+0.5
M16K	Timber Creek	88.08	10	P	P	07 04 03.6	+0.1
	baz=199						
O19K	Port Alsworth	88.14	13	P	P	07 04 03.4	-0.4
	baz=203,SNR=8.0						
K13K	Kusilvak Mount	88.16	7	P	P	07 04 04.0	+0.1
	baz=194						
ILSW	Iliamna Southw	88.19	13	P	P	07 04 04.5	+0.3
ILSW				IAmb	IAmb	07 04 05.0	
	comp=Z,30nm,0.9s						
N18K	Kilae Creek	88.29	12	P	P	07 04 04.1	-0.4
	baz=202						
L15K	Ungalak Mounta	88.32	9	P	P	07 04 05.0	+0.3
	baz=197						
BRSE	Bradley Lake S	88.49	15	P	P	07 04 05.5	0.0
	baz=207						
HEH	HeiHe	88.50	330	⇓P	P	07 04 05.9	+0.1
HEH				pP	pwP	07 06 05.8	+0.1
HEH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
L16K	Owhat River	88.65	10	P	P	07 04 06.8	+0.7
	baz=199						
N19K	Bonanza Creek	88.68	12	P	P	07 04 06.2	-0.3
	baz=203						
M17K	Holitna River	88.69	11	P	P	07 04 06.9	+0.5
M17K	Holitna River	88.69	11	P	P	07 04 06.7	+0.3
	baz=201						
K15K	Wolf Creek Mou	88.91	9	P	P	07 04 07.7	+0.3
	baz=197						
BI02	San Fabin de	89.02	131	P	P	07 04 09.2	+0.3
BI02				IAmb	IAmb	07 04 10.8	
	comp=Z,21nm,1.0s						
TIY	Taiyuan	89.05	313	eP	P	07 04 10.0	+1.3
M18K	Stony River	89.05	12	P	P	07 04 08.7	+0.6
	baz=202,SNR=5.2						
SEW	Seward	89.11	15	P	P	07 04 07.8	-0.5
	baz=208						
L17K	Donlin	89.23	10	P	P	07 04 09.4	+0.5
	baz=200						
GAMB	Gambell	89.35	4	P	P	07 04 09.6	+0.2
	baz=188						
XAN	Xi'an	89.47	308	⇓P	P	07 04 11.8	+1.0
XAN				pmax	pmax		
	comp=Z,57nm,0.9s						
SPCR	Spurr Chakacha	89.49	13	P	P	07 04 09.6	-0.6
	baz=205						
L18K	Granite Mounta	89.58	11	P	P	07 04 10.1	-0.4
	baz=201						
KMI	Kunming	89.69	298	P	P	07 04 14.0	+1.8
KMI				pmax	pmax		
	comp=Z,27nm,0.5s						
M19K	Big River Lodg	89.70	12	P	P	07 04 11.1	0.0
	baz=203						
CMAR	Chiang Mai Arr	89.73	291	P	P	07 04 13.8	+1.5
	comp=Z,8.6nm,0.9s,baz=139,slow=3.4,SNR=42						
CMAR				pP	pP	07 06 07.5	+0.7
	comp=Z,1.1nm,0.2s,baz=124,slow=3.2,SNR=3.3						
	comp=Z,8.6nm,0.9s						
K17K	Iditarod	89.78	10	P	P	07 04 11.4	0.0
K17K	Iditarod	89.78	10	P	P	07 04 11.3	-0.2
	baz=200						
L19K	White Mountain	89.87	12	P	P	07 04 11.7	-0.2
	baz=203,SNR=13						
J16K	Anvik River	89.98	9	P	P	07 04 12.1	-0.3
	baz=198						
SUA	Susitna One	90.03	14	P	P	07 04 13.0	+0.2
	baz=207						
J17K	VABM Dome	90.31	9	P	P	07 04 13.9	+0.1
	baz=199,SNR=5.9						
XLT	XiLinHaoTe	90.31	320	eP	P	07 04 15.3	+0.8
XLT				pP	pwP	07 06 12.3	-2.6
XLT				sP	sP	07 07 02.9	+1.2
XLT				pmax	pmax		
	comp=Z,18nm,1.1s						
L20K	Farewell, AK	90.32	12	P	P	07 04 13.9	-0.1
	baz=204						
SKT	Skwentna	90.33	13	P	P	07 04 13.9	-0.1
	baz=206						
BO02	Sierra Bellavi	90.34	129	P	P	07 04 15.3	+0.3
BO02				IAmb	IAmb	07 04 16.7	
	comp=Z,16nm,0.8s						
GLI	Glacier Island	90.35	16	P	P	07 04 13.5	-0.6
	baz=210						
TTA	Tatalina	90.36	11	P	P	07 04 13.8	-0.4
	baz=202,SNR=6.0						
EYAK	Cordova Ski Ar	90.40	16	P	P	07 04 13.5	-0.8
	baz=211						
M22K	Willow	90.43	14	P	P

J19K	Poorman	91.42	11	P		P	07 04 18.6	-0.3
	baz=202							
F14K	Arctic Creek	91.44	6	P		P	07 04 18.8	-0.3
	baz=193							
CAST	Castle Rocks	91.52	12	P		P	07 04 18.8	-0.7
	baz=205							
N25K	Chitina, Valde	91.60	16	P		P	07 04 19.2	-0.8
	baz=212							
H17K	Granite Mounta	91.65	9	P		P	07 04 19.3	-0.8
	baz=198							
TXAR	Lajitas Array	91.69	58	P		P	07 04 22.0	+0.8
	comp=Z,1.8nm,0.8s,baz=214,slow=6.6,SNR=24							
	comp=Z,1.8nm,0.8s							
G16K	Koyuk River	91.78	7	P		P	07 04 20.0	-0.6
	baz=196							
F15K	North Star Dit	91.84	6	P		P	07 04 20.2	-0.6
	baz=194							
J20K	Nowinta River	91.84	11	P		P	07 04 20.6	-0.3
J20K				IAmb		IAmb	07 04 21.9	
	comp=Z,22nm,1.6s							
J20K	Nowinta River	91.84	11	P		P	07 04 20.2	-0.7
	baz=204							
CHUM	Lake Minchumin	91.90	12	P		P	07 04 19.5	-1.7
	baz=205							
R32K	Eaglecrest	91.91	22	P		P	07 04 21.3	-0.1
	baz=220							
P29M	Windy Craggy	91.91	20	P		P	07 04 21.3	-0.1
	baz=218							
TRF	Thorofare Moun	91.91	13	P		P	07 04 20.1	-1.4
	baz=207							
GCSA	Galena City Sc	91.91	10	P		P	07 04 20.3	-0.8
	baz=201							
CO02	Combarbal	92.07	126	P		P	07 04 23.1	0.0
H18K	Honhosa River	92.08	9	P		P	07 04 21.1	-0.9
	baz=200							
O28M	Mount Upton	92.09	19	P		P	07 04 21.7	-0.8
	baz=216							
G17K	Kiwalik Mounta	92.09	8	P		P	07 04 21.3	-0.8
	baz=198							
HARP	HAARP	92.14	16	P		P	07 04 21.6	-0.8
	baz=211							
I20K	Naaghedeneel	92.35	11	P		P	07 04 21.6	-1.6
	baz=203							
BPAW	Bear Paw Mtn.	92.35	12	P		P	07 04 22.3	-1.0
	baz=206							
PAX	Paxson	92.55	15	P		P	07 04 23.8	-0.5
	baz=211							
YUK8	Steele Glacier	92.63	18	P		P	07 04 24.0	-0.9
	baz=216							
M26K	Nabesna, AK	92.68	16	P		P	07 04 24.2	-0.6
	baz=213							
H19K	Roundabout Mou	92.71	10	P		P	07 04 24.2	-0.6
H19K				IAmb		IAmb	07 04 25.9	
	comp=Z,17nm,1.6s							
H19K	Roundabout Mou	92.71	10	P		P	07 04 24.5	-0.3
	baz=202							
G18K	Tagagawik	92.73	9	P		P	07 04 24.7	-0.4
	baz=200							
YUK3	Moose Creek	92.83	18	P		P	07 04 24.9	-0.9
	baz=216							
F17K	Baldwin Pennin	92.92	8			P	07 04 25.9	+0.1
F17K				IAmb		IAmb	07 04 26.7	
	comp=Z,12nm,0.9s							
F17K	Baldwin Pennin	92.92	8	P		P	07 04 25.5	-0.3
	baz=197,SNR=12							
H20K	Anotleneega Mo	92.93	10	P		P	07 04 25.6	-0.3
	baz=203							
M27K	Edge Creek, AK	92.93	17	P		P	07 04 26.2	+0.1
M27K				IAmb		IAmb	07 04 28.0	
	comp=Z,19nm,1.6s							
M27K	Edge Creek, AK	92.93	17	P		P	07 04 25.5	-0.7
	baz=214							
L26K	Log Cabin Wild	93.11	16	P		P	07 04 26.2	-0.6
	baz=213							
I21K	Tanana	93.14	12	P		P	07 04 26.4	-0.5
I21K	Tanana	93.14	12	P		P	07 04 26.5	-0.4
	baz=206							
P32M	Atlin	93.18	22	P		P	07 04 26.7	-0.5
	baz=221							
G19K	Purcell Mounta	93.19	9	P		P	07 04 26.7	-0.4
	baz=201							
K24K	Donnelly Dome	93.19	15	P		P	07 04 26.7	-0.5
	baz=211							
BVCY	Beaver Creek	93.25	17	P		P	07 04 26.9	-0.5
	baz=215							
F18K	Selawik	93.27	8	P		P	07 04 26.7	-0.6
	baz=199							
RIDG	Independent Ri	93.36	15	P		P	07 04 27.3	-0.6
	baz=212							
H21K	Melozitna Rive	93.43	11	P		P	07 04 27.7	-0.5
	baz=205							
HDA	Harding Lake	93.46	14	P		P	07 04 27.2	-1.1
	baz=210							
E17K	Hotham Inlet	93.47	7	P		P	07 04 27.9	-0.4
	baz=197,SNR=19							
L27K	Beaver Creek,	93.53	17	P		P	07 04 28.3	-0.4
	baz=214							
COLA	College	93.67	13	P		P	07 04 28.8	-0.5
	baz=209							
F19K	Shaleruckik Mo	93.74	9			P	07 04 29.2	-0.3
F19K	Shaleruckik Mo	93.74	9	P		P	07 04 29.1	-0.5
	baz=200,SNR=6.2							
SCRK	Sand Creek	93.76	15	P		P	07 04 29.4	-0.5
	baz=212							
ILAR	Eielson Array	93.79	14	P		P	07 04 28.8	-1.0
	comp=Z,1.4nm,0.6s,baz=229,slow=5.1,SNR=14							
ILAR				pP		pP	07 06 24.6	-0.9
	comp=Z,1.0nm,0.8s,baz=233,slow=5.4,SNR=4.3							
	comp=Z,1.4nm,0.6s							
BILL	Bilibino	93.89	355	P		P	07 04 30.1	-0.1
D17K	Noatak River	93.93	7	P		P	07 04 30.0	-0.3
	baz=196,SNR=10							
M29M	Somme Creek	93.93	18	P		P	07 04 30.6	-0.1
	baz=217							
E18K	Tukpahlearik C	93.94	8			P	07 04 30.1	-0.3
E18K				IAmb		IAmb	07 04 31.4	
	comp=Z,8.3nm,0.9s							
E18K	Tukpahlearik C	93.94	8	P		P	07 04 30.0	-0.5
	baz=198,SNR=11							
P33M	Teslin, Yukon	93.94	22	P		P	07 04 30.3	-0.5
	baz=222							
N31M	Braeburn, Yuko	93.97	20	P		P	07 04 31.1	+0.3
	baz=220							
J25K	Salcha River,	93.98	14	P		P	07 04 30.7	-0.1
	baz=211							
G21K	Allakaket	94.09	10	P		P	07 04 30.7	-0.5
	baz=204							
LZH	Lanzhou	94.10	308	*e*P		P	07 04 33.3	+1.1
LZH				pmax		pmax		
	comp=Z,16nm,1.4s							
PDAR	Pinedale Array	94.20	44	P		P	07 04 34.7	+2.1
	comp=Z,0.1nm,0.3s,baz=257,slow=4.8,SNR=2.6							
PDAR				pP		pP	07 06 31.3	+2.5
	comp=Z,0.7nm,0.9s,baz=174,slow=2.8,SNR=4.2							
F20K	Avaraart Lake	94.24	9	P		P	07 04 31.4	-0.4
	baz=202							
K27K	Chicken	94.27	16	P		P	07 04 31.8	-0.3
	baz=214							
C16K	Lisburne Hills	94.27	6	P		P	07 04 31.6	-0.3
	baz=194,SNR=5.2							
RDOG	Red Dog Mine	94.29	7	P		P	07 04 32.0	-0.1
	baz=196							
J26L	Joseph Creek	94.30	15			P	07 04 32.3	0.0
J26L				IAmb		IAmb	07 04 33.4	
	comp=Z,7.1nm,0.9s							
J26L	Joseph Creek	94.30	15	P		P	07 04 31.7	-0.6
	baz=213							
E19K	Redstone River	94.40	9	P		P	07 04 32.2	-0.4
	baz=201,SNR=9.8							
M30M	Minto, Yukon	94.51	19	P		P	07 04 33.4	+0.2
M30M				IAmb		IAmb	07 04 37.6	
	comp=Z,18nm,1.9s							
M30M	Minto, Yukon	94.51	19	P		P	07 04 32.9	-0.4
	baz=219							
L29M	L29M	94.55	18	P		P	07 04 33.0	-0.4
	baz=218							
PRP	Porcupine Dome	94.72	14	P		P	07 04 33.9	-0.3
	baz=211							
F21K	Alatna River	94.74	10	P		P	07 04 33.5	-0.7
	baz=204							
G22K	Bettles	94.80	11	P		P	07 04 34.0	-0.3
	baz=206							
DAWY	Dawson	94.98	17	P		P	07 04 34.6	-0.7
	baz=216							
C18K	Utukok River	95.05	7	P		P	07 04 34.7	-0.8
	baz=197,SNR=5.5							
I26K	Coal Creek Min	95.08	15	P		P	07 04 35.3	-0.4
	baz=213							
F22K	John River	95.22	11	P		P	07 04 36.0	-0.3
	baz=205							
WTLY	Watson Lake, Y	95.26	23	P		P	07 04 36.5	-0.2
	baz=225							
D19K	Kuna River	95.26	8	P		P	07 04 36.2	-0.3
	baz=200,SNR=5.5							
E20K	Nigu River	95.30	9	P		P	07 04 36.0	-0.7
	baz=202,SNR=8.9							
COLD	Coldfoot	95.30	11	P		P	07 04 36.4	-0.3
	baz=207							
K29M	Barlow Dome	95.30	18	P		P	07 04 36.3	-0.6
	baz=218							
J29N	Klondike Camp	95.60	17	P		P	07 04 37.8	-0.3
	baz=218							
D20K	Etivluk River	95.66	9	P		P	07 04 37.7	-0.6
	baz=202							
B18K	Kokolik River	95.67	7	P		P	07 04 38.0	-0.2
	baz=197,SNR=6.2							
TOAD	Toad River Com	95.72	25	P		P	07 04 37.7	-1.0
	baz=228							
E21K	Killik River	95.79	10	P		P	07 04 38.3	-0.5
	baz=204							
I28M	Miner Creek	95.96	16	P		P	07 04 39.4	-0.4
	baz=216							
F24K	Squaw Lake	95.98	12	P		P	07 04 39.4	-0.4
	baz=209							
E23K	Chandalar	96.15	11	P		P	07 04 40.4	-0.2
	baz=208							
J30M	Hart River	96.20	18	P		P	07 04 40.5	-0.5
	baz=219							
H27K	Steamboat Moun	96.22	15	P		P	07 04 40.7	-0.2
	baz=215							
I29M	Ogilvie Camp,	96.30	16	P		P	07 04 40.0	-1.2
	baz=218							
G26K	Porcupine Rive	96.32	14	P		P	07 04 40.0	-1.2
	baz=213							
C21K	Knifeblade Rid	96.33	9	P		P	07 04 40.4	-0.9
	baz=203							
E24K	Your Creek	96.36	12	P		P	07 04 41.4	-0.1
	baz=209							
D22K	Ayikyak River	96.38	10			P	07 04 41.6	+0.1
D22K				IAmb		IAmb	07 07 14.8	
	comp=Z,22nm,2.0s							
D22K	Ayikyak River	96.38	10	P		P	07 04 41.0	-0.5
	baz=205							
F25K	Christian Rive	96.48	13	P		P	07 04 41.3	-0.8
	baz=211							
A19K	Wainwright	96.55	7	P		P	07 04 41.8	-0.3
	baz=198,SNR=5.3							
G27K	Doyon Strip	96.67	14	P		P	07 04 42.5	-0.4
	baz=215							
TOLK	Toolik Lake Re	96.67	11	P		P	07 04 42.9	+0.1
	baz=208							
I30M	Mount Dempster	96.69	17	P		P	07 04 42.4	-0.7
	baz=219							
D23K	Nanushuk River	96.78	10	P		P	07 04 42.9	-0.3
	baz=207							
B21K	Ikpikpuk River	96.78	9	P		P	07 04 43.2	0.0
	baz=203							
B20K	Meade River	96.81	8	P		P	07 04 43.0	-0.4
	baz=201							
F26K	Sheenjek River	96.87	13	P		P	07 04 43.6	-0.2
	baz=213							
E25K	Arctic Village	96.95	12	P		P	07 04 43.8	-0.3
	baz=211							
H29M	Whitestone	96.97	16	P		P	07 04 43.5	-0.6
	baz=218							
D24K	Happy Valley	97.25	11	P		Pdif	07 04 45.2	-0.2
	baz=208							
EPYK	Eagle Plains	97.50	16	P		Pdif	07 04 46.1	-0.5
	baz=219							
C23K	Itkillik River	97.57	10	P		P	07 04 47.0	+0.3
C23K	Itkillik River	97.57	10	P		Pdif	07 04 46.6	-0.2
	baz=207							
G29M	Pine Creek	97.60	16	P		Pdif	07 04 46.6	-0.4
	baz=218							
B22K	Teshekpuk Lake	97.61	9	P		Pdif	07 04 46.8	-0.1
	baz=204							
C24K	Franklin Bluff	97.78	11	P		P	07 04 48.0	+0.4
	baz=209							
E27K	Coleen River	97.82	14	P		Pdif	07 04 47.4	-0.6
	baz=215							
D25K	Kavik River	97.83	12	P		Pdif	07 04 47.7	-0.3
	baz=211							
A22K	Sinclair Lake	98.01	8	P		Pdif	07 04 47.9	-0.7
	baz=203							
G30M	tAoh Zraii Nji	98.10	16	P		Pdif	07 04 48.8	-0.5
	baz=220							
A21K	Barrow	98.10	8	P		P	07 04 49.1	0.0
	baz=202							
SONM	Songino Array	98.13	319	P		Pdif	07 04 49.3	-0.6
	comp=Z,1.7nm,0.9s,baz=141,slow=4.9,SNR=5.9							
SONM				pP		pwP	07 06 48.4	-2.6
	comp=Z,0.6nm,0.6s,baz=128,slow=2.4,SNR=3.1							
SONM				PP		PP	07 08 54.4	-3.9
	comp=Z,0.6nm,0.4s,baz=132,slow=8.0,SNR=5.1							
	comp=Z,1.7nm,0.9s							
GTA	Gaotai	98.46	310	*e*P		P	07 04 52.9	+1.2
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
G31M	Satah River	98.55	17	P		P	07 04 51.2	0.0
	baz=221							
C27K	Jago River	98.59	12	P		Pdif	07 04 51.2	-0.2
	baz=213							
E28M	Babbage River	98.61	14	P		Pdif	07 04 50.9	-0.5
	baz=217							
C26K	Camden Bay	98.61	12	P		Pdif	07 04 51.4	0.0
	baz=212							
F30M	Barrier River	98.69	16	P		Pdif	07 04 51.8	0.0
	baz=220							
E29M	Blow River	98.80	15	P		Pdif	07 04 52.1	-0.2
	baz=218							
D27M	Malcolm River	98.82	13	P		Pdif	07 04 52.4	0.0
	baz=216							
F31M	Tsiigehtchic	99.08	17	P		Pdif	07 04 53.4	-0.1
	baz=222							
D28M	Stokes Point	99.36	14	P		Pdif	07 04 54.4	-0.3
	baz=218							
INK	Inuvik	99.78	16	P		Pdif	07 04 56.1	-0.5
	baz=222							
YKA	Yellowknife Ar	102.08	26	PKKPbc		PKKPbc	07 21 08.3	-1.9
	comp=Z,0.1nm,0.6s,baz=38,slow=3.0,SNR=4.8							
C36M	Paulatuk	102.98	18	P		Pdif	07 05 10.7	-0.2
	baz=230							
A36M	Sachs Harbour	104.38	15	P		Pdif	07 05 17.1	+0.1
	baz=230							
ZSN	Zaisan	111.45	313	*e*PKiKP		PKiKP	07 09 43.8	-0.1
MKAR	Makanchi Array	113.00	312	Pdiff		Pdif	07 05 59.2	+3.2
	comp=Z,0.9nm,0.5s,baz=90,slow=7.0,SNR=10							
MKAR				PKiKP		PKiKP	07 09 45.6	-1.3
	comp=Z,1.0nm,0.6s,baz=83,slow=2.9,SNR=6.8							
MKAR				PP		PP	07 10 44.0	-2.2
	comp=Z,1.4nm,0.9s,baz=102,slow=8.8,SNR=4.7							
MKAR				SKP			07 12 32.6	
	comp=Z,1.4nm,0.7s,baz=74,slow=1.3,SNR=7.1							
MKAR				PKKPbc		PKKPbc	07 20 35.5	-0.4
	comp=Z,1.4nm,0.7s,baz=286,slow=4.0,SNR=8.8							
MKAR				PKKPab		PKKPab	07 20 44.8	+1.3
	comp=Z,0.9nm,0.8s,baz=318,slow=1.6,SNR=4.1							
ZALV	Zalesovo Beam	113.00	320	PKiKP		PKiKP	07 09 45.3	-1.3
	comp=Z,0.7nm,0.4s,baz=123,slow=5.3,SNR=4.0							
ZALV				PP		PP	07 10 46.2	+0.2
	comp=Z,1.0nm,0.6s,baz=106,slow=11,SNR=4.1							
ZALV				SKP			07 12 32.3	
	comp=Z,0.6nm,0.4s,baz=197,slow=4.6,SNR=4.0							
SHLS	Shalkode	114.12	308	*e*PKiKP		PKPdf	07 09 48.3	-1.0
UZB	Uzynbulak	114.43	308	*e*PKP		PKPdf	07 09 49.5	-0.5
SATY	Saty	114.85	308	*e*PKP		PKPdf	07 09 50.4	-0.4
TDK	Taldyqorghan	115.26	310	*e*PKP		PKPdf	07 09 51.2	-0.1
MDOK	Medeo	115.85	307	*e*PKP		PKPdf	07 09 52.1	-0.5
TNSS	Tian-Shan	115.89	307	*e*PKP		PKPdf	07 09 52.5	-0.6
KURBB	Kurchatov Arra	116.19	316	PKP		PKPdf	07 09 51.9	-0.9
	comp=Z,3.2nm,0.8s,baz=103,slow=1.9,SNR=24							
KURBB				PP		PP	07 11 04.3	-3.9
	comp=Z,2.1nm,0.8s,baz=97,slow=7.0,SNR=12							
KURBB				SKP			07 12 39.0	
	comp=Z,2.0nm,0.8s,baz=104,slow=2.1,SNR=9.2							
KURBB				PKKPbc		PKKPbc	07 20 24.4	-0.7
	comp=Z,1.3nm,0.8s,baz=281,slow=4.4,SNR=11							
KURBB				SKKPbc		SKKPbc	07 23 19.8	-2.5
	comp=Z,0.1nm,0.5s,baz=283,slow=3.6,SNR=4.4							
KUU	Kurty	116.50	308	*e*PKP		PKPdf	07 09 53.5	-0.2
SGDS	Sogindy	117.64	307	*e*PKP		PKPdf	07 09 55.6	-0.4
BDFB	Brasilia	118.15	126	PKKPab		PKKPab	07 20 24.4	+0.2
	comp=Z,3.1nm,0.7s,baz=70,slow=2.9,SNR=8.1							
BRZS	Berezniki	119.83	315	*e*PKP		PKPdf	07 09 59.8	-0.1
DZA	Taraz	119.93	306	*e*PKP		PKPdf	07 10 00.0	-0.4
IUG	Iuzhnay	120.78	305	*e*PKP		PKPdf	07 10 01.6	-0.6
BRLS	Borolday	121.03	306	*e*PKP		PKPdf	07 10 02.3	-0.2
BVAR	Borovoye Array	121.44	318	PKP		PKPdf	07 10 02.5	-0.4
	comp=Z,6.3nm,0.4s,baz=122,slow=1.4,SNR=33							
BVAR				PP		PP	07 11 42.6	-1.2
	comp=Z,1.4nm,0.9s,baz=92,slow=3.6,SNR=4.1							
BVAR				SKP			07 12 48.7	
	comp=Z,2.5nm,0.7s,baz=98,slow=3.0,SNR=5.4							
BVAR				PKKPbc		PKKPab	07 20 06.3	+0.1
	comp=Z,0.7nm,0.6s,baz=289,slow=4.5,SNR=4.4							
SPITS	Spitsbergen Ar	126.79	356	PKP		PKPdf	07 10 12.5	0.0
	comp=Z,3.5nm,0.5s,baz=98,slow=5.1,SNR=15							
BSY	Bisya	127.67	280	P		SKPbc	07 12 48.9	
HOQ	Hoqain	127.79	281	P		SKPbc	07 12 48.5	
ARQ	Araqi	128.43	280	P		SKPbc	07 12 51.2	
SOHO	SOHO	128.62	281	P		SKPbc	07 12 51.5	
MDH	Madha	129.10	283	P		SKPbc	07 12 53.6	+2.9
UOSS	Minazif	129.11	282	P		SKPbc	07 12 52.8	+2.2
HATD	Hatta, Dubai	129.14	282	P		SKPbc	07 12 53.6	+2.8
	SNR=5.1							
ASHO	Ashiyiah	129.17	282	P		SKPbc	07 12 53.6	+2.7
	SNR=5.2							
DOK	Doka	129.24	274	P		SKPbc	07 12 53.6	+2.3
BANOM	Banah	129.25	283	P		SKPbc	07 12 54.1	+3.0
MASF	Masafi	129.25	283	P		SKPbc	07 12 54.2	+3.1
	SNR=6.9							
ALNE	Al Ain	129.29	281	P		SKPbc	07 12 53.7	+2.4
	SNR=5.1							
WHFO	Wadi Hawf	129.34	273	P		SKPbc	07 12 54.0	+2.3
SHME	Shamm	129.41	284	P		SKPbc	07 12 54.9	+3.2
ABTO	Aybut	129.59	272	P		SKPbc	07 12 55.3	+2.6
NAZ	Nazwa, Dubai	129.59	282	P		SKPbc	07 12 55.0	+2.6
	SNR=8.6							
FAQ	Al Faqa, Dubai	129.60	282	P		SKPbc	07 12 54.5	+2.0
	SNR=5.8							
UMQ	Umm Al-Quwin	129.72	283	P		SKPbc	07 12 56.1	+3.3
ASUD	Al Ashush, Dub	129.81	282	P		SKPbc	07 12 55.7	+2.5
	SNR=5.5							
AJN	Ajban	130.09	281	P		SKPbc	07 12 56.8	+2.6
MZR	Muzera	131.06	279	P		SKPbc	07 13 00.1	+2.3
	SNR=5.4							
ARCES	ARCESS Array B	133.47	348	PKhKP		PKPpre	07 10 15.2	
	comp=Z,1.4nm,0.5s,baz=3.5,slow=1.5,SNR=20							
ARCES				PKP		PKPdf	07 10 24.9	-0.4
	comp=Z,2.9nm,0.5s,baz=80,slow=3.0,SNR=16							
ARCES				SKPab		SKPab	07 13 06.1	-1.5
	comp=Z,22nm,0.8s,baz=32,slow=3.4,SNR=23							
FINES	FINESS Array B	139.92	341	PKhKP		PKPpre	07 10 29.6	
	comp=Z,3.6nm,0.5s,baz=40,slow=3.8,SNR=31							
FINES				PKP		PKiKP	07 10 39.5	-0.5
	comp=Z,2.3nm,0.5s,baz=76,slow=1.9,SNR=12							
FINES				SKPbc		SKiKP	07 13 25.2	-1.0
	comp=Z,24nm,0.7s,baz=64,slow=4.4,SNR=41							
NC204	NORSAR Array S	143.54	351			PKPab	07 10 41.8	-0.7
NB2	NORSAR Subarra	143.70	350	PKP		PKPab	07 10 42.1	-1.0
	comp=Z,22nm,0.8s,baz=16,slow=3.2							
NB2				pPKP		sPKPdf	07 13 34.2	-4.0
	comp=Z,0.8nm,0.7s,baz=13,slow=2.5							
NB2	NORSAR Subarra	143.70	350	PKP		PKPab	07 10 42.1	-1.0
	baz=17,slow=3.4							
NOA	NORSAR Array B	143.70	350	PKP		PKPab	07 10 42.4	-0.7
	comp=Z,40nm,0.8s,baz=22,slow=3.8,SNR=242							
NOA				SKPbc		SKPbc	07 13 33.6	+0.3
	comp=Z,3.0nm,0.9s,baz=15,slow=4.1,SNR=4.6							
NAO01	NORSAR Array S	143.93	351			PKPbc	07 10 42.9	-0.9
NC602	NORSAR Array S	143.94	350			PKPbc	07 10 42.8	-1.0
HFS	Hagfors	144.13	348	PKP		PKPbc	07 10 43.7	-0.8
	comp=Z,41nm,0.4s,baz=45,slow=2.4,SNR=487							
HFS				SKPbc		SKiKP	07 13 35.0	0.0
	comp=Z,4.0nm,0.9s,baz=77,slow=3.2,SNR=4.4							
HFS				SKKPbc		SKKPab	07 21 41.5	+0.2
	comp=Z,2.4nm,0.8s,baz=160,slow=4.6,SNR=7.3							
MNK	Minsk	144.36	332	*i* PKP		PKPbc	07 10 45.0	-0.3
MNK				*i* PKP		PKPbc	07 10 45.0	-0.3
MNK				*i* PKP		PKPbc	07 10 45.0	-0.3
	comp=Z,83nm,1.0s,baz=48							
MNK				*i* pPKP		pPKPdf	07 12 47.4	-1.0
MNK				*i* PP		PP	07 14 07.3	-0.3
MNK				*i* SKS		SKSdf	07 17 04.8	+0.1
MNK				*i* PPP		PPP	07 17 24.8	
MNK				*i* SKKS		SKKSdf	07 26 17.0	-1.5
MNK				*i* SS		SS	07 32 11.9	+0.6
MNK				*i* SSS		SSS	07 37 46.5	
MNK				*i* LRM		MLR	08 17 37.4	
	comp=N,184nm,22.6s							
MNK				*i* LRM		MLR	08 17 46.6	
	comp=Z,19nm,16.6s							
MNK				*i* LRM		MLR	08 18 32.6	
	comp=E,199nm,24.2s							
NACGM	Naroch	144.55	333	*e*PKiKP		PKPdf	07 10 45.7	-0.1
PABE	Paberze	145.21	336			PKPdf	07 10 46.6	-0.2
KONO	Kongsberg	145.27	351			PKPdf	07 10 46.7	-0.2
STRU	Stroemstad	145.61	349	*i* P		PKPbc	07 10 48.3	-0.6
AKASG	Malin Array Be	146.16	326	PKPbc		PKPbc	07 10 50.1	-0.7
	comp=E,11nm,0.4s,baz=44,slow=4.1,SNR=62							
AKASG				pPKP		pPKPdf	07 12 52.3	+0.7
	comp=E,2.8nm,0.7s,baz=44,slow=3.8,SNR=3.5							
AKASG				SKPbc		SKiKP	07 13 40.4	+0.9
	comp=E,6.8nm,0.7s,baz=48,slow=2.7,SNR=8.9							
KIEV	Kiev	146.17	326			PKPdf	07 10 49.5	+0.8
KIEV	Kiev	146.17	326	⇑P		PKPbc	07 10 50.4	-0.4
TJOU	Tjoern	146.48	348	*i* P		PKPbc	07 10 50.6	-0.8
BORU	Boraas	146.64	347	*i* P		PKPbc	07 10 50.9	-0.9
HOMB	Homborsund	146.75	351	*i* P		PKPbc	07 10 52.0	-0.1
SNART	Snartemo	146.85	353	*i* P		PKPbc	07 10 52.3	-0.1
ONAU	Onsala	147.03	348	*i* P		PKPbc	07 10 52.0	-0.8
BLEU	Blekinge	147.14	343	*i* P		PKPbc	07 10 52.2	-1.0
LEWI	Lewis, Hebride	147.17	6	*e*P		PKPbc	07 10 53.0	-0.2

MARR	Marisel-Cluj	151.83	324	⇑P	PKiKP	07 11 05.1 -0.1
LANS	Liptovska Anna	151.84	332	*e*PKP	PKiKP	07 11 06.1 +1.1
LANS				*e*		07 11 15.8
STEB	Steborice	151.91	335	⇑*e*PKP	PKiKP	07 11 05.1 0.0
STEB				*e*PKPAB	PKPab	07 11 16.1 -0.5
OSTC	Ostas	151.98	337	⇑*e*PKP	PKiKP	07 11 05.8 +0.5
CHVC	Chvalec	152.01	337	⇑*e*PKP	PKiKP	07 11 05.3 0.0
WPS	Cemaes, Angles	152.08	5	*e*P	PKPbc	07 11 04.1 -1.0
UPC	Upice	152.09	337	⇑*e*PKP	PKiKP	07 11 05.5 0.0
WME	Myndd Eilian	152.10	5	*e*P	PKPbc	07 11 04.3 -0.9
DPC	Dobruska-Polom	152.12	337	⇑*e*PKP	PKPbc	07 11 05.1 -0.3
MORC	Moravsky Berou	152.13	335	*e*PKP	PKPbc	07 11 05.4 0.0
MORC	Moravsky Berou	152.13	335	⇑P	PKPbc	07 11 05.3 -0.2
KRLC	Kraliky	152.18	336	⇑*e*PKP	PKiKP	07 11 05.8 +0.1
KRLC				*e*PKPAB	PKPab	07 11 18.0 +0.2
WLF1	Llynfaes	152.20	5	*e*P	PKPbc	07 11 04.4 -0.9
MAUC	Maruska	152.35	334	⇑*e*PKP	PKiKP	07 11 06.6 +0.5
CLL	Collm	152.35	342	*e*PKPdf	PKPdf	07 10 59.0 +0.6
CLL				⇓*i*PKPbc	PKPbc	07 11 05.8 0.0
	comp=Z,19nm,0.7s					
CLL				⇑*i*PKPab	PKPab	07 11 18.3 -0.1
	comp=Z,24nm,0.7s					
CLL				*e*pPKPab	pPKPab	07 13 12.0 -3.2
PVCC	Panska Ves	152.56	339	⇑*e*PKP	PKiKP	07 11 06.7 +0.3
VYHS	Vyhne	152.61	331	*e*PKP	PKiKP	07 11 06.7 +0.1
VYHS				*e*		07 11 20.0
VYHS				*e*		07 13 17.0
FOEL	Foel Wylfa	152.68	4	*e*P	PKPbc	07 11 06.0 -0.5
JAVC	Velka Javorina	152.81	333	*e*PKP	PKiKP	07 11 07.5 +0.8
GZR	Gura Zlata	152.83	323	⇑P	PKPbc	07 11 07.0 -0.1
SIRR	Siria	152.86	325	⇑P	PKiKP	07 11 07.2 0.0
VRAC	Vranov	152.87	335	*e*PKP	PKPbc	07 11 06.4 -0.6
PRU	Pruhonice	153.04	338	⇑*e*PKP	PKPbc	07 11 07.3 0.0
HLM1	Long Mynd	153.07	3	*e*P	PKPbc	07 11 06.7 -0.7
KRUC	Moravsky	153.15	335	*e*PKP	PKPbc	07 11 07.4 -0.2
HERR	Herculane	153.35	322	⇑P	PKiKP	07 11 08.2 0.0
MODS	Modra-Piesok	153.35	333	*e*PKP	PKiKP	07 11 08.9 +0.7
MODS				*e*		07 11 23.3
ZVC	Zvikov	153.62	338	*e*PKPAB	PKPab	07 11 24.6 +0.7
MDVR	Moldovita	153.80	323	⇑P	PKiKP	07 11 09.3 +0.1
KHC	Kasperske Hory	154.09	339	⇑*e*PKP	PKPbc	07 11 09.4 -0.3
KHC				*e*PKPAB	PKPab	07 11 26.3 +0.3
CKRC	Cesky Krumlov	154.11	337	⇑*e*PKP	PKiKP	07 11 09.8 +0.1
CONA	Conrad Observa	154.28	334	*i*PKP	PKPab	07 11 27.5 +0.6
	comp=Z,6.0nm,0.7s					
RONA	Rosalia, Austr	154.29	333	*i*PKP	PKPab	07 11 27.4 +0.6
	comp=Z,4.5nm,0.7s					
GERES	GERESS Array B	154.30	338	PKPbc	PKiKP	07 11 10.1 -0.1
	comp=Z,1.8nm,0.8s,baz=22,slow=1.4,SNR=7.4					
GERES				PKPab	PKPab	07 11 26.9 0.0
	comp=Z,1.8nm,0.7s,baz=32,slow=4.3,SNR=8.3					
GERES				pPKPbc	pPKPbc	07 13 14.8 +2.4
	comp=Z,0.8nm,0.7s,baz=64,slow=3.1,SNR=2.8					
MORH	Mrgy, Hungar	154.40	328	⇑P	PKiKP	07 11 09.6 -0.7
MEM	Membach	154.55	350	*d*PKP	PKPab	07 11 28.7 +0.9
BTNL	Ternell	154.56	350	*d*PKP	PKPab	07 11 27.7 -0.1
UCC	Uccle	154.58	353	*d*PKP	PKPab	07 11 27.5 -0.4
BHOU	Houvegnez	154.80	350	*d*PKP	PKPab	07 11 28.7 -0.2
BCLA	Clavier	154.84	351	*d*PKP	PKPab	07 11 28.3 -0.7
BGES	Gesves	154.90	352	*d*PKP	PKPab	07 11 28.5 -0.8
MOA	Molln	154.95	336	*i*PKP	PKPab	07 11 30.1 +0.4
	comp=Z,5.4nm,1.1s					
ARSA	Arzberg	154.96	334	*i*PKP	PKPab	07 11 29.4 -0.3
	comp=Z,2.8nm,0.8s					
BMRD	Maredsous	155.02	352	*d*PKP	PKPab	07 11 29.4 -0.4
DOU	Dourbes	155.25	352	*d*PKP	PKPab	07 11 30.2 -0.6
BIOA	Bad Ischl, Aus	155.31	337	*i*PKP	PKPab	07 11 31.5 +0.3
	comp=Z,12nm,1.1s					
WLF	Walferdange	155.44	350	*d*PKP	PKPab	07 11 31.9 +0.3
SOKA	Soboth	155.62	334	*i*PKP	PKPab	07 11 32.4 -0.3
	comp=Z,5.7nm,1.0s					
LESA	Schwarzleotal	155.87	338	*i*PKP	PKPab	07 11 34.0 +0.3
	comp=Z,5.9nm,0.9s					
KBA	Koelnbreinsper	155.94	336	*i*PKP	PKPab	07 11 33.7 -0.4
	comp=Z,3.7nm,0.9s					
OBKA	Obir	155.96	334	*i*PKP	PKPab	07 11 33.5 -0.6
	comp=Z,2.6nm,0.6s					
LIT	Litokhoron	156.00	313		PKPab	07 11 33.4 -1.1
MYKA	Terra Mystica	156.21	335	*i*PKP	PKPab	07 11 34.5 -0.7
	comp=Z,4.5nm,0.6s					
WATA	Walderalm	156.31	339	*i*PKP	PKPab	07 11 36.0 +0.3
	comp=Z,9.9nm,1.1s					
WTTA	Wattenberg	156.36	339	*i*PKP	PKPab	07 11 36.3 +0.3
	comp=Z,10nm,0.7s					
RETA	Reutte	156.43	341	*i*PKP	PKPab	07 11 36.5 +0.4
	comp=Z,18nm,1.0s,SNR=8.4					
MOTA	Moosalm	156.45	340	*i*PKP	PKPab	07 11 36.5 +0.2
	comp=Z,12nm,0.9s					
ABTA	Abfaltersbach	156.51	337	*e*PKP	PKPab	07 11 35.6 -0.9
	comp=Z,6.6nm,0.7s					
SQTA	Sankt Quirin	156.53	340	*i*PKP	PKPab	07 11 37.0 +0.3
	comp=Z,11nm,1.0s,SNR=5.0					
PDG	Podgorica	156.68	321	⇑P	PKPab	07 11 37.9 +0.6
FETA	Feichten	156.86	340	*i*PKP	PKPab	07 11 38.3 +0.2
	comp=Z,9.6nm,1.0s,SNR=5.0					
STAL	STALIGIAL	156.86	336		PKPab	07 11 36.5 -1.5
DAVA	Damuels	156.87	342	*i*PKP	PKPab	07 11 38.4 +0.2
	comp=Z,13nm,0.6s,SNR=8.4					
DBIC	Dimbokro	160.70	167	PKPab	PKPab	07 11 56.1 +0.8
	comp=Z,10nm,0.9s,baz=168,slow=3.4,SNR=9.8					
ESDC	Sonseca Array	165.67	11	PKPab	PKPab	07 12 16.5 -0.2
	comp=Z,3.7nm,0.8s,baz=336,slow=4.0,SNR=19					

DJA 20 07:04:16.3±0.3, 9°S±4°×11°7E±°, h46km±8km, M3.9/12, mb3.7/1, MLv4.0/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.63	340	P	Pn	07 04 29.5	+0.5
TWSI				S	Sn	07 04 40.8	+2.8
PLAI	Plampang	0.83	53	P	Pn	07 04 31.4	-0.3
PLAI				S	Sn	07 04 43.7	+0.8
DNP	Denpasar	1.98	289	P	Pn	07 04 47.3	0.0
DNP				S	Sn	07 05 12.3	+1.4
SRBI	Singaraja	2.24	303	P	Pn	07 04 51.2	+0.3
SRBI				S	Sn	07 05 19.0	+1.7
WBSI	Waikabubak, Su	2.28	98	P	Pn	07 04 53.1	+1.6
WBSI				S	Sn	07 05 19.5	+1.0
JAGI	Jajag, Banyuwa	3.04	286	P	Pn	07 05 00.7	-1.2
JAGI				S	Sn	07 05 35.8	-1.2
GMJI	Gumukmas	3.76	286	P	Pn	07 05 10.9	-0.9
GMJI				S	Sn	07 05 54.8	-0.1
KMMI	Kalianget	3.84	306	P	Pn	07 05 13.4	+0.5
EDFI	Ende, Flores	4.57	83	P	Pn	07 05 22.2	-0.9
EDFI				S	Sn	07 06 15.4	+0.4
BSSI	Bau Bau, Buton	4.62	47	P	Pn	07 05 24.2	+0.6
BSSI				S	Sn	07 06 15.1	-0.9
BKSI	Bulukumba	4.98	37	P	Pn	07 05 29.3	+0.7
BKSI				S	Sn	07 06 26.3	+1.3

NEIC 20 07:10:24.5±0.9, 37°23N±0°.01×104°32W±0°.03, h5km±4km, ML1.2/10, Error ellipse: s-maj=3.4km s-min=1.7km az=63.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	Trinidad	0.12	218	Pg	Pg	07 10 27.9	+0.9
T25A				Sg	Sg	07 10 29.6	+0.9
SDCO	Great Sand Dun	1.07	299	Pg	Pg	07 10 44.9	-0.1
SDCO				Sg	Sg	07 10 58.1	-0.9
SDCO				IAML		07 10 58.7	
	4.9nm,0.2s						
SDCO				IAML		07 10 59.0	
	4.9nm,0.2s						
RTBA	Rita Blanca	1.50	121		Pb	07 10 52.4	-0.3
Q24A	Divide	1.85	340	Pn	Pb	07 10 58.6	-0.3
ISCO	Idaho Springs	2.76	339	Pn	Pn	07 11 08.2	-1.4

SSNC 20 07:17:11.9±1.0, 19°.71N×77°.23W, h7km±11km, MD3.0, ML2.8, MW3.0
OSPL 20 07:17:11.1±2.0, 19°.60N×77°.27W, h0km±237km, ML2.7
JSN 20 07:17:12.6±2.0, 19°.67N×77°.24W, h25km±56km, MD3.8
ISC 20 07:17:07.6±1.4, 19°70N±0°.04×77°22W±0°.04, h10km±11km, n19, σ0°92/33, 2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PILO	Pilon	0.27	320	*e*P	Pn	07 17 17.1	-0.7
PILO				*e*S	Sb	07 17 20.6	+1.3
CHIV	Chivirico	0.81	70	*e*P	Pn	07 17 26.3	+1.1
CHIV				*e*S	Sb	07 17 35.6	+0.8
CHIV				IAML		07 17 41.2	
	comp=E,227nm,0.2s						
CHIV				IAML		07 17 41.2	
	comp=N,231nm,0.1s						
MARVS	Santiago de Cu	1.28	76	*e*P	Pg	07 17 32.8	+0.6
MARVS				*e*S	Sb	07 17 47.9	-0.5
MARVS				IAML		07 17 56.3	
	comp=N,284nm,0.2s						
MARVS				IAML		07 17 56.8	
	comp=E,118nm,0.4s						
RCC	Rio Carpintero	1.47	78	*e*P	Pg	07 17 35.8	0.0
RCC				*e*S	Sn	07 17 53.3	-0.2
RCC				IAML		07 18 00.3	
	comp=N,92nm,0.4s						
RCC				IAML		07 18 00.7	
	comp=E,41nm,0.3s						
MTDJ	Mount Denham	1.50	191	*e*P	Pg	07 17 36.4	0.0
MTDJ				IAML		07 17 54.9	
	comp=E,216nm,0.3s						
MTDJ				IAML		07 17 56.6	
	comp=E,104nm,0.1s						
MTDJ	Mount Denham	1.50	191	⇓*i*P	Pg	07 17 36.5	0.0
MTDJ	Mount Denham	1.50	191	*i*P	Pg	07 17 36.5	0.0
MTDJ				*e*S	Sn	07 17 53.9	-0.5
MTDJ				IAML		07 18 00.2	
	comp=Z,79nm,0.2s						
PINC	Pinares de May	1.56	60	*e*P	Pg	07 17 38.0	+0.5
PINC				*e*S	Sg	07 17 57.6	-0.1
PINC				IAML		07 18 06.2	
	comp=N,190nm,0.4s						
PINC				IAML		07 18 06.6	
	comp=E,165nm,0.3s						
HLGC	Holguin	1.61	43	*e*P	Pg	07 17 38.4	-0.1
HLGC				*e*S	Sb	07 17 58.9	+1.0
STH	Stony Hill	1.66	166	*e*P	Pb	07 17 38.6	+0.2
STH				*e*S	Sn	07 17 56.7	-1.7
STH	Stony Hill	1.66	166	⇓*i*P	Pb	07 17 38.7	+0.2
HOJ	Hope	1.75	165	*i*P	Pb	07 17 40.4	+0.6
GTBY	Guantanamo Bay	2.00	83	*e*P	Pb	07 17 43.9	-0.2
GTBY				*e*S	Sb	07 18 08.6	-0.6
GTBY	Guantanamo Bay	2.00	83	*i*P	Pb	07 17 44.3	+0.2
GTBY	Guantanamo Bay	2.00	83	*i*P	Pb	07 17 44.1	-0.1
GTBY				*e*S	Sb	07 18 09.4	+0.2
GTBY				IAML		07 18 19.7	
	comp=Z,86nm,0.2s						
NMDO	Nuevo Mundo	2.27	68	*e*P	Pg	07 17 50.3	-0.9
NMDO				*e*S	Sb	07 18 18.3	+1.3
QMBU	Quimbuelo	2.32	77	*e*P	Pn	07 17 47.0	+1.0
QMBU				*e*S	Sn	07 18 13.8	-0.8
QMBU				IAML		07 18 27.4	
	comp=N,87nm,0.6s						
QMBU				IAML		07 18 27.8	
	comp=E,72nm,0.3s						
MASC	Masc	2.85	80	*e*P	Pb	07 17 56.8	-1.9
MASC				*e*S	Sn	07 18 29.3	+1.5
MASC	Masc	2.85	80	*i*P	Pb	07 17 57.3	-1.4
MASC				*e*S	Sb	07 18 32.3	-1.4

IDC 20 07:22:02.3±2.8, 19°.48S×177°.67W, h557km±25km, mb3.2/4, mbtmp4.1/5, Error ellipse: s-maj=45.3km s-min=35.7km az=2.0
ISC 20 07:22:01.5±2.0, 19°5S±0°.3×177°6W±0°.3, h550km, n6, σ0°66/7, mb3.6/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.51	292	P	P	07 23 28.0	+0.6
	21nm,0.5s,baz=129,slow=13,SNR=8.7						
WRA	Warramunga Arr	45.15	261	P	P	07 29 28.8	-0.9
	1.4nm,0.5s,baz=97,slow=7.6,SNR=34						
	1.4nm,0.5s						
ASAR	Alice Springs	45.15	256	P	P	07 29 29.1	-0.5
	4.8nm,0.8s,baz=91,slow=7.9,SNR=44						
ASAR				PcP	PcP	07 30 58.3	-0.1
	0.5nm,0.6s,baz=98,slow=4.4,SNR=3.0						
	4.8nm,0.8s						
FITZ	Fitzroy Crossi	53.57	262	P	P	07 30 31.8	+0.1
	2.2nm,1.0s,baz=100,slow=6.1,SNR=6.4						
	2.2nm,1.0s						
QSPA	South Pole Qui	70.56	180	P	P	07 32 21.5	+0.3
	0.8nm,0.7s,baz=34,slow=3.6,SNR=2.1						
	0.8nm,0.7s						
GERES	GERESS Array B	149.35	345	PKPbc	PKPbc	07 40 48.2	-0.5
	0.1nm,0.3s,baz=35,slow=3.6,SNR=3.6						

IDC 20 07:40:06.0±1.8, 8°.11S×73°.86W, h165km±18km, mb3.4/8, mbtmp3.9/12, Error ellipse: s-maj=20.4km s-min=11.7km az=50.0
NEIC 20 07:40:07.2±2.0, 8°.07S±0°.08×73°.87W±0°.08, h183km±8km, mb4.1/13, Error ellipse: s-maj=11.7km s-min=10.9km az=173.0
VAO 20 07:40:08.3±1.0, 8°.14S×73°.86W, h188km±4km, mbR3.7
ISC 20 07:40:05.7±0.5, 8°14S±0°.06×73°90W±0°.06, h166km, n56, σ1°46/57, mb4.0/11, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	Cruzeiro do Su	1.25	71		Pn	07 40 39.1	+4.9
CZSB	Cruzeiro do Su	1.25	71	*e*P	Pn	07 40 39.2	+5.0
CZSB				*e*S	Sn	07 41 02.8	+6.8
ATAH	Atahualpa	4.56	282	P	Pn	07 41 16.1	+2.0
	62nm,0.3s,baz=69,slow=3.0,SNR=259						
ATAH				S	Sn	07 42 09.0	+1.6
	100nm,0.4s,baz=116,slow=14,SNR=5.4						
NNA	Nana	4.80	217		Pn	07 41 19.9	+3.1
NNA	Nana	4.80	217	P	Pn	07 41 19.4	+2.6
	5.2nm,0.3s,baz=56,slow=5.9,SNR=8.5						
NNA				S	Sn	07 42 12.4	-0.1
	31nm,0.3s,baz=328,slow=20,SNR=16						
COHC	Cochancay	7.76	316		Pn	07 41 57.4	+1.6
SLOR	San Lorenzo -	8.67	328	Pn	Pn	07 42 08.5	+0.1
OTAV	Otavalo	9.48	331	Pn	Pn	07 42 19.4	+0.4
FLOC	Florencia	9.81	350		Pn	07 42 22.5	-0.6
LPAZ	La Paz	9.87	146		Pn	07 42 24.2	-0.1
LPAZ	La Paz	9.87	146	P	Pn	07 42 24.7	+0.4
	2.5nm,0.5s,baz=336,slow=8.3,SNR=23						
LPAZ	La Paz	9.87	146	*e*P	Pn	07 42 24.5	+0.1
PB16	IPOC Station P	11.00	158		Pn	07 42 40.0	+0.9
PB11	IPOC Station P	12.26	161	Pn	Pn	07 42 54.1	-1.0
PB08	IPOC Station P	12.79	159	Pn	Pn	07 43 02.4	+0.4
PB01	IPOC Station P	13.52	162	Pn	Pn	07 43 11.5	+0.4
MACA	Manacapuru-AM	14.05	70		Pn	07 43 16.7	-0.9
MACA	Manacapuru-AM	14.05	70	*e*P	Pn	07 43 16.9	-0.7
PB09	IPOC Station P	14.30	162	Pn	P	07 43 21.2	-2.0
SIV	San Ignacio	14.77	123	P	P	07 43 27.6	-0.8
	3.7nm,0.5s,baz=296,slow=9.2,SNR=32						
BBSD	Serra de San D	15.77	126	*e*P	P	07 43 39.7	+0.2
PTLB	Pontes e Lacer	16.17	118		P	07 43 43.4	-0.4
PTLB				IAmb	IAmb	07 44 02.4	
	comp=Z,9.1nm,1.2s						
PTLB	Pontes e Lacer	16.17	118	*e*P	P	07 43 44.8	+1.0
PDRB	Porto dos Gac	17.26	103	*e*P	Pn	07 43 56.8	-0.2
NPGB	Novo Progresso	18.41	88	*e*P	Pn	07 44 09.7	-0.9
AC02	Maricunga	19.14	167	P	Pn	07 44 17.2	-2.2
SMRC	Santa Marta, M	19.18	359	P	P	07 44 14.5	-2.3
SALV	Santo Antonio	19.39	115	*e*P	Pn	07 44 20.2	-1.9
AQDB	Aquidauana	21.45	127	P	P	07 44 39.8	-1.3
AQDB				IAmb	IAmb	07 44 53.8	
	comp=Z,8.0nm,1.5s						
CO06	Fray Jorge	22.52	175	P	P	07 44 52.7	+1.1
SNDB	Serra Nova Dou	22.58	102	*e*P	P	07 44 53.0	+0.6
ARAG	Araguaiana, MT	22.87	111	*e*P	P	07 44 56.3	+1.3
CPUP	Villa Florida	23.99	141	P	P	07 45 03.9	-1.2
CPUP				IAmb	IAmb	07 45 21.0	
	comp=Z,4.3nm,1.3s						
CPUP	Villa Florida	23.99	141	P	P	07 45 04.4	-0.7
	comp=Z,0.5nm,0.4s,baz=321,slow=6.8,SNR=5.3						
	comp=Z,0.5nm,0.4s						
MT09	Talagante	25.66	174	P	P	07 45 20.3	+0.1
MT09				IAmb	IAmb	07 45 27.2	
	comp=Z,6.4nm,1.4s						
BO04	La Punta	25.91	174	P	P	07 45 22.3	-0.1
BO04				IAmb	IAmb	07 45 24.8	
	comp=Z,13nm,1.4s						
BDFB	Brasilia	26.39	109	P	P	07 45 27.5	+0.5
	comp=Z,2.5nm,0.7s,baz=269,slow=13,SNR=4.6						
	comp=Z,2.5nm,0.7s						
LR05	Currie	32.00	177	P	P	07 46 16.8	+0.6
PLCA	Paso Flores	32.59	175	P	P	07 46 22.1	+0.6
PLCA				IAmb	IAmb	07 46 25.1	
	comp=Z,9.7nm,1.5s						
PLCA	Paso Flores	32.59	175	P	P	07 46 23.0	+1.5
	comp=Z,1.8nm,0.4s,baz=351,slow=10,SNR=27						
	comp=Z,1.8nm,0.4s						
TXAR	Lajitas Array	47.01	324	P	P	07 48 20.0	-0.5
TXAR	Lajitas Array	47.01	324	P	P	07 48 21.5	+1.0
	comp=Z,0.2nm,0.4s,baz=148,slow=7.9,SNR=5.8						
	comp=Z,0.2nm,0.4s						
TX31	Lajitas Ar. Si	47.01	324	P	P	07 48 20.6	0.0
PDAR	Pinedale Array	60.18	330	PcP	PcP	07 50 39.8	-0.4
	comp=Z,0.2nm,0.4s,baz=138,slow=3.4,SNR=4.7						
DBIC	Dimbokro	70.40	80	P	P	07 51 02.4	0.0
	comp=Z,1.9nm,0.4s,baz=234,slow=4.6,SNR=4.9						
	comp=Z,1.9nm,0.4s						
YKA	Yellowknife Ar	77.06	342	P	P	07 51 39.4	-0.7
	comp=Z,0.1nm,0.6s,baz=101,slow=5.7,SNR=4.5						
	comp=Z,0.1nm,0.6s						
TORD	Torodi Ar. Bea	77.99	75	P	P	07 51 45.1	-1.2
TORD	Torodi Ar. Bea	77.99	75	P	P	07 51 45.4	-0.9
	comp=Z,157nm,0.3s,baz=272,slow=5.1,SNR=1.4						
QSPA	South Pole Qui	81.97	180	P	P	07 52 07.2	+0.4
QSPA				IAmb	IAmb	07 52 09.3	
	comp=Z,8.2nm,1.4s						
QSPA	South Pole Qui	81.97	180	P	P	07 52 08.0	+1.2
	comp=Z,2.8nm,1.0s,baz=127,slow=1.6,SNR=8.1						
	comp=Z,2.8nm,1.0s						
ILAR	Eielson Array	90.17	336	P	P	07 52 46.5	-0.3
	comp=Z,0.1nm,0.4s,baz=136,slow=3.6,SNR=4.5						
	comp=Z,0.1nm,0.4s						
ZALV	Zalesovo Beam	131.21	17	PKP	PKiKP	07 58 59.6	+0.8
	comp=Z,0.4nm,0.4s,baz=46,slow=4.3,SNR=3.9						
KURBB	Kurchatov Arra	131.87	23	PKP	PKiKP	07 58 59.7	-0.5
	comp=Z,0.2nm,0.4s,baz=338,slow=2.2,SNR=2.5						
ASAR	Alice Springs	138.32	220	PKP	PKPdf	07 59 11.7	-0.5
	comp=Z,0.3nm,0.6s,baz=122,slow=1.8,SNR=4.4						
WRA	Warramunga Arr	140.61	225	PKiKP	PKPpre	07 59 09.1	
	comp=Z,0.3nm,0.3s,baz=133,slow=2.7,SNR=8.2						
WRA				PKP	PKPdf	07 59 16.2	-0.2
	comp=Z,0.6nm,0.4s,baz=124,slow=2.0,SNR=9.0						
KSRS	Korea Array	144.75	329	PKP	PKPdf	07 59 22.1	-1.1
	comp=Z,0.8nm,0.5s,baz=32,slow=5.2,SNR=2.8						

PRE 20 07:42:32.1±0.8, 17°.82S×27°.07E, h5km, ML3.0
BGSI 20 07:42:35.5±2.5, 17°.33S×27°.44E, h90km±836km, ML3.7
BUL 20 07:42:38.2±1.2, 17°.63S×27°.84E, h21km±13km, MD3.6
ISC 20 07:42:31.5±1.0, 17°85S±0°.05×27°21E±0°.05, h10km, n32, σ3°35/54, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLWY	Bulawayo	2.63	150	*i*P	Pb	07 43 19.1	+0.2
BLWY				*i*S	Sn	07 43 48.3	+1.9
LSZ	Lusaka	2.73	20	*e*P	Pn	07 43 17.9	+2.3
LSZ				*e*S	Sn	07 43 50.6	+1.9
LSZ				IAML		07 43 51.5	
	comp=Z,463nm,0.3s						
LSZ	Lusaka	2.73	20	*i*P	Pn	07 43 16.0	+0.4
LSZ				*i*S	Sn	07 43 43.1	-5.7
SOOWA	Sowa	2.85	199	*i*P	Pb	07 43 24.2	+1.6
SOOWA				*i*S	Sg	07 44 00.9	-2.4
SOOWA				IAML		07 44 14.3	
	comp=N,768nm,0.6s						
PHDHD	Phuduhudu	3.44	227	*i*P	Pb	07 43 32.1	-0.5
PHDHD				*i*S	Sb	07 44 16.3	+1.8
PHDHD				IAML		07 44 31.8	
	comp=E,820nm,0.5s						
KHWEE	KHWEE	4.40	202	*i*P	Pb	07 43 45.4	-3.6
KHWEE				*i*S	Sb	07 44 37.6	-4.6
KHWEE				IAML		07 45 05.5	
	comp=N,505nm,0.3s						
MREMI	Moremi	4.70	177	*i*P	Pn	07 43 46.8	+4.2
MREMI				*i*S	Sn	07 44 43.1	+5.8
MREMI				IAML		07 45 13.5	
	comp=N,471nm,0.3s						
MUSN	Musina, Limpop	5.07	151	*e*P	Pn	07 43 51.6	+3.9
MUSN				*e*S	Sn	07 44 48.5	+2.2
MUSN				IAML		07 45 20.0	
	comp=Z,39nm,0.7s						
MUSN	Musina, Limpop	5.07	151	*i*P	Pn	07 43 52.3	+4.6
MUSN				*i*S	Sn	07 44 45.7	-0.6
LPHEP	Lephephe	5.63	193	*i*P	Pn	07 44 01.5	+6.1
LPHEP				IAML		07 45 37.4	
	comp=E,62nm,1.4s						
QNGWA	Qangwa	5.96	253	*i*P	Pn	07 44 03.6	+3.6
QNGWA				*i*S	Sn	07 45 07.1	-1.3
QNGWA				IAML		07 45 49.5	
	comp=N,75nm,0.6s						
KDWAN	Kaudwane	5.99	203	*i*P	Pn	07 44 06.7	+6.2
KDWAN				*i*S	Sn	07 45 12.4	+3.1
KDWAN				IAML		07 45 51.9	
	comp=E,91nm,0.9s						
LEPH	Lephalale, Lim	6.00	175	*e*P	Pn	07 44 03.9	+3.4
LEPH				*e*S	Sn	07 45 10.8	+1.4
LEPH				IAML		07 45 48.2	
	comp=Z,35nm,0.4s						
GRTLG	Ghanzi	6.64	237	*i*P	Pn	07 44 13.9	+4.6
GRTLG				*i*S	Sn	07 45 25.8	+0.6
GRTLG				IAML		07 46 13.4	
	comp=N,

*NEIC **20** 07:45:26.3±1.2, 7°.56N±0°.09×94°.3E±0°.1, h10km±1km, mb4.6/21, Error ellipse: s-maj=22.0km s-min=10.9km az=233.0*
*NDI **20** 07:45:28.8±0.5, 7°.53N×94°.41E, h10km, ML4.4, MW4.5, mb4.6(NEIC)*
*DJA **20** 07:45:34.0±0.4, 7°N±5°×9°5E±°, h101km±8km, M4.3/7, mb4.4/7, mB5.0/2, MLv4.3/7, Mw(mB)4.4/2*
ISC 20 07:45:26.0±0.4, 7°.55N±0°.05×94°.26E±0°.06, h10km, n78, σ1§17/74, mb4.3/32, MS3.3/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.63**	**212**	*eP*	**Pb**	**07 45 39.9**	**+0.8**
CMBY				*eS*	**Sb**	**07 45 48.8**	**+0.9**
CMBY				IAML		07 45 50.5	
	comp=N,20μm,0.2s						
CMBY				IAML		07 45 52.6	
	comp=E,20μm,0.3s						
BSI	**Banda Aceh**	**2.28**	**153**	P	**Pn**	**07 46 04.7**	**+0.9**
LHMI	**Lhok Sumawe**	**3.53**	**131**	Pn	**Pn**	**07 46 21.0**	**+0.1**
LHMI	**Lhok Sumawe**	**3.53**	**131**	P	**Pn**	**07 46 21.2**	**+0.3**
MLSI	**Meulaboh, Aceh**	**3.90**	**147**	P	**Pn**	**07 46 29.3**	**+3.3**
PBA	**Port Blair**	**4.35**	**340**	Pn	**Pn**	**07 46 32.4**	**+0.2**
PBA	**Port Blair**	**4.35**	**340**	*eP*	**Pn**	**07 46 36.3**	**+4.1**
PBA				*eS*	**Sn**	**07 47 25.0**	**+2.0**
PBA				IAML		07 47 44.1	
	comp=E,2μm,0.0s						
SRIT	**Nakonsritamara**	**5.39**	**79**		**Pn**	**07 46 46.8**	**+0.3**
DGPR	**DIGLIPUR**	**5.75**	**347**	*eP*	**Pn**	**07 46 54.8**	**+3.4**
DGPR				*eS*	**Sn**	**07 47 57.3**	**-0.1**
DGPR				IAML		07 48 37.5	
	comp=N,670nm,0.1s						
DGPR				IAML		07 48 37.5	
	comp=E,610nm,0.1s						
PSI	**Prapat**	**6.62**	**135**	Pn	**Pn**	**07 47 04.3**	**+0.8**
	comp=E,2.6nm,0.3s,baz=297,slow=7.0,SNR=7.9						
PSI				Sn	**Sn**	**07 48 20.3**	**+1.1**
	comp=E,0.6nm,0.3s,baz=237,slow=20,SNR=1.7						
PSI				LR	LR	07 50 21.5	
	comp=E,185nm,19.2s,baz=256,slow=44						
	comp=E,4.8nm,0.3s						
RPSI	**Rantau Prapat**	**6.69**	**136**		**Pn**	**07 47 04.1**	**-0.4**
RPSI	**Rantau Prapat**	**6.69**	**136**		**Pn**	**07 47 04.3**	**-0.1**
KULM	**Kulim**	**6.73**	**109**		**Pn**	**07 47 03.5**	**-1.5**
CMAR	**Chiang Mai Arr**	**11.76**	**22**	Pn	**Pn**	**07 48 14.2**	**+0.2**
	comp=E,0.9nm,0.3s,baz=215,slow=16,SNR=6.3						
CMAR				Sn	**Sn**	**07 50 27.5**	**+2.0**
	comp=E,0.3nm,0.3s,baz=225,slow=16,SNR=1.0						
CMAR				LR	LR	07 52 50.3	
	comp=E,130nm,18.8s,baz=200,slow=38						
	comp=E,1.4nm,0.3s						
UBPT	**Khong Chiam**	**13.40**	**54**	Pn	**Pn**	**07 48 35.9**	**-0.5**
PALK	**Pallekele**	**13.45**	**270**	Pn	**Pn**	**07 48 35.5**	**-1.7**
	comp=E,0.3nm,0.3s,baz=6.9,slow=17,SNR=1.2						
PALK				Sn	Sn	07 50 55.8	-11
	comp=E,0.4nm,0.3s,baz=134,slow=14,SNR=1.8						
PALK				LR	LR	07 53 25.2	
	comp=E,147nm,19.1s,baz=90,slow=36						
	comp=E,0.9nm,0.3s						
SHL	**Shillong**	**18.06**	**353**	Pn	**Pn**	**07 49 35.4**	**-2.0**
SHL				IAmb	IAmb	07 49 41.5	
	comp=Z,16nm,0.3s						
QIZ	**Qiongzhong**	**18.96**	**51**	P	**P**	**07 49 46.8**	**-0.8**
QIZ				S	**Sn**	**07 53 19.6**	**-1.1**
QIZ				LR	LR		
	comp=N,490nm,10.5s						
QIZ				LR	LR		
	comp=E,330nm,12.8s						
QIZ				LR	LR		
	comp=Z,200nm,12.5s						
LEM	**Lembang**	**19.53**	**137**	LR	LR	07 57 50.9	
	comp=Z,158nm,20.6s,baz=134,slow=38						
PZH	**PanZhiHua**	**20.15**	**20**	P	**P**	**07 50 03.3**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,3.8s						
JAGI	**Jajag, Banyuwa**	**25.42**	**128**	P	**P**	**07 50 53.2**	**-0.9**
H08S3	**Diego Garcia H**	**26.43**	**236**	T	T	08 17 45.5	
	baz=55,slow=75,SNR=81						
H08S2	**Diego Garcia H**	**26.44**	**236**	T	T	08 17 36.5	
	baz=55,slow=75,SNR=98						
H08S1	**Diego Carcia H**	**26.45**	**236**	T	T	08 17 51.8	
	baz=55,slow=75,SNR=82						
LZH	**Lanzhou**	**29.73**	**16**	*eP*	**P**	**07 51 32.8**	**+0.1**
LZH				sP	pwP	07 51 39.8	+2.2
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
SSLB	**Suanglung**	**30.26**	**55**	P	**P**	**07 51 36.5**	**-1.0**
SSLB				IAmb	IAmb	07 52 12.3	
	comp=Z,11nm,1.1s						
NIL	**Nilore**	**32.43**	**326**	P	**P**	**07 51 56.1**	**-0.4**
NJ2	**Nanjing**	**33.44**	**40**	*eP*	**P**	**07 52 06.0**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**36.57**	**22**	*eP*	**P**	**07 52 33.6**	**+1.3**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WMQ	**Urumqi**	**36.59**	**352**	*eP*	**P**	**07 52 34.1**	**+1.8**
DRK	**Karamyk**	**37.65**	**331**	P	**P**	**07 52 41.8**	**+0.1**
BJI	**Beijing**	**37.84**	**28**	P	**P**	**07 52 42.6**	**-0.3**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GAR	**Garm**	**38.02**	**329**	P	**P**	**07 52 44.0**	**-0.6**
GAR				IAmb	IAmb	07 52 53.1	
	comp=Z,9.1nm,1.1s						
SIMJ	**Simiganj**	**38.44**	**328**	P	**P**	**07 52 47.3**	**-0.9**
BTK	**Batken**	**38.58**	**331**	P	**P**	**07 52 49.7**	**+0.4**
ARSB	**Arslanbob**	**38.59**	**334**	P	**P**	**07 52 49.0**	**-0.4**
ARSB				IAmb	IAmb	07 52 55.6	
	comp=Z,4.7nm,0.6s						
AAK	**Ala-Archa**	**39.05**	**337**	LR	LR	08 10 19.2	
	comp=Z,60nm,21.4s,baz=222,slow=38						
MKAR	**Makanchi Array**	**40.43**	**347**		**P**	**07 53 03.8**	**-0.7**
MKAR	**Makanchi Array**	**40.43**	**347**	P	**P**	**07 53 04.4**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=169,slow=7.8,SNR=18						
	comp=Z,1.9nm,0.6s						
KKAR	**Karatay Array**	**41.11**	**333**	P	**P**	**07 53 09.8**	**-0.4**
SONM	**Songino Array**	**41.45**	**12**	P	**P**	**07 53 12.7**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=206,slow=9.5,SNR=2.0						
SONM				LR	LR	08 11 25.1	
	comp=Z,45nm,21.0s,baz=252,slow=38						
	comp=Z,0.2nm,0.4s						
KSRS	**Korea Array**	**42.63**	**41**	LR	LR	08 13 02.4	
	comp=Z,41nm,19.2s,baz=215,slow=39						
KURBB	**Kurchatov Arra**	**44.89**	**346**	P	**P**	**07 53 40.6**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=172,slow=7.0,SNR=28						
KURBB				LR	LR	08 15 02.4	
	comp=Z,26nm,19.6s,baz=180,slow=40						
	comp=Z,1.5nm,0.4s						
KURK	**Kurchatov**	**44.95**	**346**		**P**	**07 53 41.0**	**-0.1**
KURK				IAmb	IAmb	07 53 44.4	
	comp=Z,3.0nm,0.7s						
ZAA0	**Zalesovo Array**	**46.89**	**352**		**P**	**07 53 56.4**	**0.0**
ZAA0				IAmb	IAmb	07 54 04.5	
	comp=Z,4.1nm,0.9s						
ZALV	**Zalesovo Beam**	**46.89**	**352**		**P**	**07 53 56.4**	**-0.1**
ZALV	**Zalesovo Beam**	**46.89**	**352**	P	**P**	**07 53 56.7**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=186,slow=8.0,SNR=8.0						
ZALV				LR	LR	08 15 16.9	
	comp=Z,20nm,19.3s,baz=197,slow=38						
	comp=Z,1.5nm,0.4s						
WRA	**Warramunga Arr**	**47.98**	**125**	P	**P**	**07 54 06.5**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=304,slow=8.6,SNR=2.5						
	comp=Z,0.3nm,0.4s						
RAYN	**Ar Rayn**	**49.33**	**294**	P	**P**	**07 54 16.3**	**+0.4**
RAYN				IAmb	IAmb	07 54 17.9	
	comp=Z,5.6nm,0.6s						
BVAR	**Borovoye Array**	**49.33**	**341**	P	**P**	**07 54 14.7**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=134,slow=11,SNR=4.3						
	comp=Z,2.1nm,0.8s						
ASAR	**Alice Springs**	**49.62**	**130**	P	**P**	**07 54 17.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=302,slow=7.8,SNR=4.4						
	comp=Z,0.3nm,0.6s						
AB31	**Akbulak array**	**50.57**	**331**	P	**P**	**07 54 24.7**	**-0.2**
ABKAR	**Akbulak array**	**50.57**	**331**	P	**P**	**07 54 24.6**	**-0.2**
ARTI	**Arti**	**56.27**	**337**	P	**P**	**07 55 06.0**	**-0.6**
ARTI				IAmb	IAmb	07 55 14.7	
	comp=Z,7.9nm,1.1s						
ARTI	**Arti**	**56.27**	**337**	P	**P**	**07 55 06.3**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=158,slow=5.1,SNR=3.6						
ARTI				LR	LR	08 21 20.7	
	comp=Z,43nm,18.9s,baz=59,slow=38						
	comp=Z,2.0nm,0.5s						
BELG	**Belogornoye**	**58.65**	**329**	P	**P**	**07 55 22.8**	**-0.6**
	comp=Z,8.1nm,0.6s,baz=96,slow=3.3,SNR=4.0						
	comp=Z,8.1nm,0.6s						
BRTR	**Keskin Array B**	**62.73**	**311**	P	**P**	**07 55 50.0**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=106,slow=7.9,SNR=5.0						
	comp=Z,1.1nm,0.6s						
H04N2	**CROZET ISLANDS**	**65.51**	**211**	T	T	09 06 50.5	
	baz=46,slow=75,SNR=17						
H04N1	**CROZET ISLANDS**	**65.52**	**211**	T	T	09 06 51.3	
	baz=46,slow=75,SNR=33						
H04N3	**CROZET ISLANDS**	**65.53**	**211**	T	T	09 06 49.8	
	baz=46,slow=75,SNR=24						
BURAR	**Bucovina Array**	**70.37**	**318**	P	**P**	**07 56 39.7**	**-0.7**
FIA1	**FINESS Array S**	**73.05**	**332**	P	**P**	**07 56 54.8**	**-1.3**
FINES	**FINESS Array B**	**73.05**	**332**	P	**P**	**07 56 55.0**	**-1.1**
FINES	**FINESS Array B**	**73.05**	**332**	P	**P**	**07 56 55.4**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=93,slow=7.6,SNR=9.9						
	comp=Z,1.9nm,0.6s						
ARCES	**ARCESS Array B**	**75.61**	**340**	P	**P**	**07 57 11.1**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=84,slow=10,SNR=1.6						
ARCES				LR	LR	08 32 56.1	
	comp=Z,36nm,18.5s,baz=30,slow=38						
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**78.15**	**318**	P	**P**	**07 57 25.2**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=76,slow=5.6,SNR=6.8						
	comp=Z,1.2nm,0.7s						
PRED	**Cave del Predi**	**78.16**	**316**	P	**P**	**07 57 25.1**	**-0.7**
PRED				IAmb	IAmb	07 57 26.3	
	comp=Z,3.9nm,1.0s						
HFS	**Hagfors**	**78.80**	**330**	P	**P**	**07 57 28.5**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=93,slow=5.9,SNR=10						
	comp=Z,1.8nm,0.7s						
NC405	**NORSAR Array S**	**79.83**	**331**	P	**P**	**07 57 33.5**	**-1.1**
NC405				IAmb	IAmb	07 57 39.9	
	comp=Z,13nm,1.4s						
NC602	**NORSAR Array S**	**79.90**	**330**	P	**P**	**07 57 33.4**	**-1.5**
NC602				IAmb	IAmb	07 57 38.0	
	comp=Z,8.1nm,1.2s						
NB2	**NORSAR Subarra**	**80.07**	**331**	P	**P**	**07 57 34.8**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=96,slow=5.1						
NOA	**NORSAR Array B**	**80.07**	**331**	P	**P**	**07 57 35.1**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=92,slow=5.6,SNR=5.7						
NOA				LR	LR	08 35 28.8	
	comp=Z,15nm,20.7s,baz=145,slow=38						
	comp=Z,0.7nm,0.7s						
SPITS	**Spitsbergen Ar**	**80.18**	**348**	P	**P**	**07 57 35.9**	**-0.3**
	comp=Z,8.1nm,0.9s,baz=121,slow=15,SNR=2.0						
	comp=Z,8.1nm,0.9s						
SUR	**Sutherland**	**80.25**	**235**	LR	LR	08 30 10.2	
	comp=Z,34nm,18.4s,baz=82,slow=34						
DAVOX	**Davos/Dischmat**	**80.71**	**316**	P	**P**	**07 57 38.3**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=111,slow=11,SNR=4.0						
	comp=Z,1.6nm,0.7s						
EKA	**Eskdalemuir Ar**	**88.06**	**325**	P	**P**	**07 58 16.3**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=90,slow=5.8,SNR=5.1						
	comp=Z,0.8nm,0.7s						
ESDC	**Sonseca Array**	**91.52**	**310**	P	**P**	**07 58 33.4**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=80,slow=3.9,SNR=2.1						
	comp=Z,0.6nm,0.9s						
TXAR	**Lajitas Array**	**139.47**	**24**	PKP	**PKPdf**	**08 04 55.0**	**+0.3**
	comp=Z,0.6nm,1.1s,baz=353,slow=3.0,SNR=1.8						

*HVO **20** 07:48:48.9±1.0, 19°.42N±0°.01×155°.28W±0°.01, h-0km±2km, ML2.0/13, ML1.5/15(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=210.0*
NEIC 20 07:48:49.8±1.0, 19°.42N±0°.01×155°.282W±0°.008, h2km±1km, Error ellipse: s-maj=1.9km s-min=0.9km az=202.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.01**	**259**		Pg	07 48 49.6	-0.9
SBLHI	**Steaming Bluff**	**0.01**	**74**		Pg	07 48 49.9	-0.6
HATHI	**Halema'uma'u T**	**0.02**	**90**		Pg	07 48 49.9	-0.6
WRMHI	**West Rim**	**0.02**	**226**		Pg	07 48 50.9	+0.3
BYL	**Byron's Ledge**	**0.02**	**117**		Pg	07 48 49.9	-0.7
KKO	**Keanakako'i**	**0.03**	**148**		Pg	07 48 51.0	+0.4
RIM	**Rim**	**0.03**	**164**		Pg	07 48 50.2	-0.4
SDHHI	**Sand Hill**	**0.04**	**198**		Pg	07 48 51.3	+0.6
PUH	**Pauahi**	**0.08**	**128**		Pg	07 48 51.5	+0.1
PUH	**Pauahi**	**0.08**	**128**		Sg	07 48 53.7	+1.2
PUH	**Pauahi**	**0.08**	**128**	IAML		07 48 51.9	
	comp=N,98nm,1.6s						
PUH				IAML		07 48 52.5	
	comp=E,150nm,0.9s						
KNHH	**Kane Nui o Ham**	**0.12**	**112**		Pg	07 48 51.9	-0.2
MLH	**Mauna Loa**	**0.12**	**306**	IAML		07 48 51.9	
	comp=E,141nm,3.5s						
MLH				IAML		07 48 53.6	
	comp=N,145nm,2.1s						
MLH	**Mauna Loa**	**0.12**	**306**		Pg	07 48 52.7	+0.5
STCH	**Steam Cracks**	**0.15**	**104**		Pg	07 48 52.8	0.0
STCH				IAML		07 48 54.3	
	comp=N,106nm,2.2s						
STCH				IAML		07 48 55.6	
	comp=E,126nm,2.4s						
HMH	**Humu'ula Sheep**	**0.26**	**313**		Pg	07 48 54.7	-0.2
HMH				IAML		07 48 57.5	
	comp=N,85nm,2.5s						
HMH				IAML		07 49 00.1	
	comp=E,176nm,2.9s						
MWH	**Mokuaweoweo**	**0.30**	**282**		Pg	07 48 55.7	-0.1
MWH				IAML		07 48 56.4	
	comp=N,227nm,1.6s						
KHU	**Kahuku**	**0.36**	**241**		Pg	07 48 57.2	+0.4
KHU	**Kahuku**	**0.36**	**241**	IAML		07 49 01.0	
	comp=N,218nm,3.4s						
KHU				IAML		07 49 01.9	
	comp=E,210nm,2.6s						
ALEP	**Alea Permanent**	**0.36**	**289**		Pg	07 48 56.7	-0.1
ALEP					Sg	07 49 02.4	+0.8

IDC 20 07:59:57.8±2.1, 7°.00S×128°.94E, h0km, mb3.5/1, mbtmp3.3/3, ML3.3/2, MS3.6/1, Error ellipse: s-maj=118.1km s-min=32.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.90**	**158**	Pn	Pn	08 03 16.1	-0.1
	0.2nm,0.3s,baz=337,slow=14,SNR=8.0						
WRA				Sn	Sn	08 05 36.8	-15
	0.6nm,0.3s,baz=334,slow=21,SNR=7.8						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.25**	**164**	Pn	Pn	08 04 00.4	+0.1
	0.1nm,0.3s,baz=337,slow=10.0,SNR=8.2						
ASAR				Sn	Sn	08 07 00.5	-13
	0.2nm,0.3s,baz=313,slow=16,SNR=5.8						
	0.4nm,0.6s						
PSI	**Prapat**	**31.50**	**287**	LR	LR	08 19 26.9	
	comp=Z,107nm,18.6s,baz=215,slow=37						
MKAR	**Makanchi Array**	**67.65**	**327**	P	P	08 10 56.7	0.0
	0.2nm,0.4s,baz=112,slow=7.6,SNR=5.3						
	0.2nm,0.4s						

KRSC 20 08:05:19.3±2.0, 50°.37N×160°.01E, h46km±41km, Ml3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.89**	**321**	*eP*	Pn	08 05 51.8	+2.8
KDTR				*eS*	Sn	08 06 13.5	+1.9
RUS	**Russkaya**	**2.27**	**336**	*eP*	Pn	08 05 57.0	+2.7
RUS				*eS*	Sn	08 06 22.7	+1.7
MTVR	**Mutnovka**	**2.41**	**332**	*eP*	Pn	08 05 59.3	+3.0
MTVR				*eS*	Sn	08 06 27.2	+2.7
GRL	**Gorelyy**	**2.50**	**332**	*eP*	Pn	08 06 01.4	+3.8
SKR	**Severo-Kuril's**	**2.50**	**279**	*eP*	Pn	08 06 00.3	+2.9
SKR				*eS*	Sn	08 06 28.2	+1.5
KRMR	**Karymshinskiy**	**2.73**	**335**	*eS*	Sn	08 06 35.4	+3.1
PET	**Petropavlovsk**	**2.79**	**343**	*eP*	Pn	08 06 04.4	+3.0
UGLR	**Uglovaya**	**2.94**	**346**	*eP*	Pn	08 06 07.2	+3.7
SDLR	**Sedlovina**	**3.00**	**347**	*eP*	Pn	08 06 07.7	+3.4
AVH	**Avacha**	**3.01**	**345**	*eP*	Pn	08 06 08.4	+4.0
KOK	**Koryaka**	**3.05**	**344**	*eP*	Pn	08 06 09.0	+3.9
KRX	**Arik**	**3.11**	**345**	*eP*	Pn	08 06 09.5	+3.6
GNL	**Ganaly**	**3.57**	**340**	*eP*	Pn	08 06 17.1	+5.0
MKZ	**Mys Kozlova**	**4.33**	**13**	*eP*	Pn	08 06 25.3	+2.9
KBTR	**Krutoberegovo**	**6.09**	**15**	*eP*	Pn	08 06 50.3	+3.7

*IDC **20** 08:10:21.1±1.0, 70°.07N×24°.66E, h0km, mbtmp3.3/4, ML2.6/4, Error ellipse: s-maj=9.2km s-min=6.1km az=58.0*
*NAO **20** 08:10:21.3±0.7, 70°.05N×24°.73E, h6km±8km, ML3.1*
*UPP **20** 08:10:23.2±2.2, 69°.91N×24°.54E, h0km, ML2.3*
*BER **20** 08:10:23.7±2.7, 70°.06N×24°.78E, h10km, ML2.5, ML3.1(NAO), Confirmed Earthquake*
*HEL **20** 08:10:23.1±0.1, 70°.05N×24°.80E, h20km±1km, ML2.5, ML2.3(UPP), ML2.5(BER), Confirmed Earthquake*
ISC 20 08:10:22.1±1.0, 70°.05N±0°.03×24°.84E±0°.02, h14km±8km, n88, σ1§52/129, 1C-1D, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARA0	**ARCESS Array S**	**0.57**	**156**	Pg	**Pg**	**08 10 33.6**	**+0.4**
	baz=331,slow=16						
ARA0				Lg	Lg	08 10 41.0	
	baz=330,slow=28						
ARA0	**ARCESS Array S**	**0.57**	**156**	*eP*	**Pg**	**08 10 33.6**	**+0.4**
ARA0				Sg	**Sg**	**08 10 41.0**	**+0.2**
	baz=330,slow=28						
ARA0				IAML		08 10 41.7	
	comp=Z,401nm,0.1s						
ARA0	**ARCESS Array S**	**0.57**	**156**	*eP*	**Pg**	**08 10 33.6**	**+0.4**
ARA0				*eS*	**Sg**	**08 10 40.9**	**+0.1**
ARCES	**ARCESS Array B**	**0.57**	**156**	Pg	**Pg**	**08 10 33.5**	**+0.3**
	comp=Z,6.1nm,0.3s,baz=334,slow=16,SNR=339						
ARCES				Lg	Lg	08 10 40.8	
	comp=Z,64nm,0.3s,baz=333,slow=28,SNR=134						
HAMF	**Hammerfest**	**0.71**	**327**	Pg	**Pg**	**08 10 35.4**	**-0.5**
HAMF				Lg	Lg	08 10 44.0	
HAMF	**Hammerfest**	**0.71**	**327**	*eP*	**Pg**	**08 10 35.3**	**-0.5**
HAMF				*eS*	**Sg**	**08 10 43.9**	**-1.3**
HAMF				IAML		08 10 45.1	
	comp=Z,237nm,0.2s						
HAMF	**Hammerfest**	**0.71**	**327**	*eP*	**Pg**	**08 10 35.4**	**-0.5**
HAMF				*eS*	**Sg**	**08 10 43.9**	**-1.3**
KEV	**Kevo**	**0.81**	**111**	Pg	**Pg**	**08 10 37.6**	**-0.1**
KEV				Lg	Lg	08 10 48.3	
KEV	**Kevo**	**0.81**	**111**	⇓*iP*	**Pg**	**08 10 37.6**	**-0.1**
KEV				*eS*	**Sg**	**08 10 48.7**	**+0.5**
KEV	**Kevo**	**0.81**	**111**	*eP*	**Pg**	**08 10 37.6**	**-0.1**
KEV				*eS*	**Sg**	**08 10 48.7**	**+0.5**
KMNF	**Kaamanen**	**1.18**	**139**	*eP*	**Pb**	**08 10 44.2**	**0.0**
KMNF				*eS*	**Sb**	**08 10 59.3**	**-0.1**
KMNF	**Kaamanen**	**1.18**	**139**	*eP*	**Pb**	**08 10 44.2**	**0.0**
KMNF				*eS*	**Sb**	**08 10 59.3**	**-0.1**
KTK1	**Kautokeino**	**1.19**	**209**	Pg	**Pb**	**08 10 43.6**	**-0.7**
KTK1				Lg	Lg	08 10 58.5	
KTK1	**Kautokeino**	**1.19**	**209**	⇑*iP*	**Pb**	**08 10 43.6**	**-0.7**
KTK1				*eS*	**Sb**	**08 10 58.4**	**-1.2**
KTK1				IAML		08 10 59.4	
	comp=Z,61nm,0.2s						
KTK1	**Kautokeino**	**1.19**	**209**	*eP*	**Pb**	**08 10 43.6**	**-0.7**
KTK1				*eS*	**Sb**	**08 10 58.7**	**-0.9**
VADS	**Vadso**	**1.55**	**85**	Pn	**Pn**	**08 10 50.5**	**+1.2**
VADS				Lg	Lg	08 11 10.5	
VADS	**Vadso**	**1.55**	**85**	*eP*	**Pn**	**08 10 50.4**	**+1.2**
VADS				*eS*	**Sn**	**08 11 10.2**	**+1.1**
VADS				IAML		08 11 11.0	
	comp=Z,33nm,0.3s						
JETT	**Jettan, Norway**	**1.62**	**254**	Pn	**Pn**	**08 10 50.7**	**+0.5**
JETT				Lg	Lg	08 11 11.4	
JETT	**Jettan, Norway**	**1.62**	**254**	*eP*	**Pn**	**08 10 51.4**	**+1.1**
JETT				*eS*	**Sn**	**08 11 11.5**	**+0.6**
JETT				IAML		08 11 13.9	
	comp=Z,235nm,0.2s						
JETT	**Jettan, Norway**	**1.62**	**254**	*eP*	**Pn**	**08 10 51.4**	**+1.1**
JETT				*eS*	**Sn**	**08 11 11.5**	**+0.6**
JETT				IAML		08 11 13.9	
	comp=Z,235nm,0.2s						
HEF	**Hetta**	**1.71**	**195**	Pn	**Pn**	**08 10 51.7**	**+0.3**
HEF				Pg	**Pb**	**08 10 52.4**	**-0.8**
HEF				Lg	Lg	08 11 14.3	
HEF	**Hetta**	**1.71**	**195**	*eP*	**Pn**	**08 10 51.7**	**+0.3**
HEF				*eS*	**Sn**	**08 11 13.5**	**+0.5**
HEF				MSG		08 11 15.9	
	comp=Z,40nm,0.1s						
HEF	**Hetta**	**1.71**	**195**	*eP*	**Pn**	**08 10 51.7**	**+0.3**
HEF				*eS*	**Sn**	**08 11 13.5**	**+0.5**
HEF				MSG		08 11 15.9	
	comp=Z,40nm,0.1s						
KIF	**Kilpisjarvi**	**1.77**	**235**	Pn	**Pn**	**08 10 52.5**	**+0.3**
KIF				Lg	Lg	08 11 15.4	
KIF	**Kilpisjarvi**	**1.77**	**235**	*eP*	**Pn**	**08 10 53.1**	**+0.9**
KIF				*eS*	**Sn**	**08 11 14.9**	**+0.4**
KIF				MSG		08 11 16.6	
	comp=Z,113nm,0.2s						
KIF	**Kilpisjarvi**	**1.77**	**235**	*eP*	**Pn**	**08 10 53.1**	**+0.9**
KIF				*eS*	**Sn**	**08 11 14.9**	**+0.4**
KIF				MSG		08 11 16.6	
	comp=Z,113nm,0.2s						
RAJF	**Raja-Jooseppi**	**2.01**	**140**	*e*PB	**Pn**	**08 10 57.7**	**+2.1**
RAJF				*e*SB	**Sn**	**08 11 22.8**	**+2.3**
RAJF	**Raja-Jooseppi**	**2.01**	**140**	*e*PB	**Pn**	**08 10 57.7**	**+2.1**
RAJF				*e*SB	**Sn**	**08 11 22.8**	**+2.3**
TRO	**Tromso**	**2.09**	**261**	Pn	**Pn**	**08 10 57.8**	**+1.2**
TRO				Pg	**Pb**	**08 10 59.7**	**-0.1**
TRO				Lg	Lg	08 11 25.0	
TRO	**Tromso**	**2.09**	**261**	*eP*	**Pn**	**08 10 57.9**	**+1.2**
TRO				*eS*	**Sn**	**08 11 25

STEI	Steigen	4.06 243	eP	Pn	08 11 23.5	-0.1
STEI	Steigen	4.06 243	eP	Pn	08 11 23.5	-0.1
KALU	Kalix	4.25 188	P	Pn	08 11 27.0	+0.7
KALU	Kalix	4.25 188	eP	Pn	08 11 27.0	+0.7
FAUS	Fauske	4.39 237	eP	Pn	08 11 29.5	+1.2
FAUS			eSg	Sb	08 12 36.8	+5.2
FAUS	Fauske	4.39 237	eP	Pn	08 11 29.5	+1.2
FAUS			e		08 12 36.8	
SJUU	Sjulsmark	4.73 197	P	Pn	08 11 32.4	-0.5
SJUU	Sjulsmark	4.73 197	eP	Pn	08 11 32.4	-0.5
OUL	Oulu	5.01 175	Pn	Pn	08 11 36.5	-0.2
OUL			Sn	Sn	08 12 31.5	-2.8
OUL	Oulu	5.01 175	Pn	Pn	08 11 36.5	-0.2
OUL			Sn	Sn	08 12 31.5	-2.8
OUL	Oulu	5.01 175	eP	Pn	08 11 36.5	-0.2
OUL			eS	Sn	08 12 31.5	-2.8
LILU	Lilltraesk	5.15 204	P	Pn	08 11 38.1	-0.6
LILU	Lilltraesk	5.15 204	eP	Pn	08 11 38.1	-0.6
MOR8	Moi Rana	5.50 230	eP	Pn	08 11 40.1	-3.5
MOR8	Moi Rana	5.50 230	eP	Pn	08 11 40.1	-3.5
KONS	Konsvik	5.62 236	Pn	Pn	08 11 46.0	+0.8
KONS			Sn	Sn	08 12 48.2	-1.2
BURU	Burvik	5.65 195	P	Pn	08 11 45.1	-0.5
BURU	Burvik	5.65 195	eP	Pn	08 11 45.1	-0.5
ODEU	Stanfors	5.89 198	P	Pn	08 11 48.2	-0.7
ODEU	Stanfors	5.89 198	eP	Pn	08 11 48.2	-0.7
SPA0	Spitsbergen Ar	8.48 348	Pn	Pn	08 12 23.3	-1.0
	baz=150,slow=22					
SPA0			Sn	Sn	08 13 51.8	-7.7
	baz=154,slow=28					
SPITS	Spitsbergen Ar	8.48 348	Pn	Pn	08 12 22.9	-1.3
	baz=148,slow=17					
	comp=Z,17nm,1.1s					
FIA0	FINESS Array S	8.66 176	Pn	Pn	08 12 25.9	-0.9
	baz=7.1,slow=12					
FIA0			Sn	Sn	08 13 59.8	-4.3
	baz=357,slow=22					
FINES	FINESS Array B	8.66 176	Pn	Pn	08 12 26.2	-0.6
	comp=Z,0.1nm,0.3s,baz=4.1,slow=12,SNR=6.1					
FINES			Sn	Sn	08 13 59.4	-4.8
	comp=Z,0.3nm,0.3s,baz=0.0,slow=24,SNR=5.8					
FINES			Lg	Lg	08 14 48.4	
	comp=Z,0.7nm,0.3s,baz=9.2,slow=25,SNR=7.5					
	comp=Z,0.5nm,0.6s					
NB2	NORSAR Subarra	10.63 218	Pn	Pn	08 12 51.6	-2.2
	baz=27,slow=14					
NOA	NORSAR Array B	10.63 218	Pn	Pn	08 12 51.6	-2.2
	baz=23,slow=13,SNR=7.9					
NOA			Lg	Lg	08 15 49.4	
	baz=52,slow=5.6,SNR=4.1					
	comp=Z,0.3nm,0.8s					
NRA0	NORESS Array S	10.84 217	Pn	Pn	08 12 54.5	-2.1
	baz=22,slow=14					
HFS	Hagfors	10.98 211	Pn	Pn	08 12 56.2	-2.5
	baz=29,slow=22					
HFS	Hagfors	10.98 211	Pn	Pn	08 12 56.1	-2.5
	comp=Z,0.1nm,0.3s,baz=13,slow=13,SNR=1.8					
	comp=Z,0.4nm,0.4s					

*IDC **20** 08:41:49.9±1.4, 26°.20N×129°.41E, h0km, mb3.4/4, mbtmp3.5/5, ML3.5/1, MS2.3/1, Error ellipse: s-maj=73.6km s-min=23.8km az=77.0*
*JMA **20** 08:41:51.1±0.1, 26°.2N±0°.6×129°.5E±0°.4, h45km, MV3.2/21, NEAR MINAMI-DAITOJIMA IS*
ISC 20 08:41:48.9±1.8, 26°.20N±0°.04×129°.51E±0°.03, h5km±11km, n22, σ1s80/35, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	Yoronjima	1.26	311	P	Pg	08 42 13.1	+0.1
JYRO				eS	Sg	08 42 28.4	-1.0
JOW	Kunigami	1.27	300	P	Pn	08 42 13.4	0.0
JOW				eS	Sg	08 42 29.5	-0.3
JNTH	Nagotoyohara	1.37	284	eP	Pn	08 42 14.4	-0.3
JNTH				eS	Sb	08 42 30.6	-2.3
JOKE	Okinoerabujima	1.43	324	eP	Pn	08 42 15.8	+0.2
JOKE				eS	Sb	08 42 33.6	-1.1
JJT3	Tamagusuku3	1.55	269	eP	Pn	08 42 17.3	+0.2
JJT3				eS	Sn	08 42 36.5	-1.2
JMZ	Minamidaito 2	1.59	103	P	Pn	08 42 17.1	-0.6
JMZ				S	Sn	08 42 35.2	-3.4
JIH	Iheya	1.61	302	P	Pn	08 42 18.4	+0.4
JIH				eS	Sn	08 42 37.6	-1.6
JKDJ	Kitadaitoujima	1.63	98	P	Pn	08 42 18.1	-0.2
JKDJ				eS	Sn	08 42 37.3	-2.3
JTK	Tokunoshima	1.66	343	P	Pn	08 42 19.1	+0.4
JTK				eS	Sn	08 42 38.8	-1.6
JAMN	Amaminishikomi	2.06	352	eP	Pn	08 42 24.7	+0.5
JAMN				eS	Sn	08 42 49.1	-1.2
JAGN	Aguni-jima	2.07	281	P	Pn	08 42 24.8	+0.5
JAGN				S	Sn	08 42 48.9	-1.6
JZK	Kikaishima	2.15	11	S	Sn	08 42 52.9	+0.3
JAM	Amami Oshima	2.21	2	eP	Pn	08 42 26.7	+0.5
JAM				eS	Sn	08 42 52.2	-1.7
JKE	Kume jima 2	2.45	274	eP	Pn	08 42 29.1	-0.4
JKE				eS	Sn	08 42 56.8	-3.0
JTAJ	Takarajima	2.96	355	eS	Sn	08 43 10.0	-2.4
JYAK	Yakushimahirau	4.12	12	eP	Pn	08 42 53.4	+0.8
JNU	Nakatsue	7.01	9	Pn	Pn	08 43 33.7	+1.5
	0.7nm,0.3s,baz=185,slow=12,SNR=6.4						
JNU				Sn	Sn	08 44 46.5	-5.8
	baz=24,slow=15						
	3.0nm,0.4s						
KSRS	Korea Array	11.31	354	LR	LR	08 49 11.3	
	comp=Z,16nm,19.8s,baz=215,slow=39						
MKAR	Makanchi Array	42.41	312	P	P	08 49 45.4	+1.0
	0.2nm,0.4s,baz=90,slow=7.2,SNR=2.5						
	0.2nm,0.4s						
WRA	Warramunga Arr	46.10	174	P	P	08 50 14.9	+0.7
	0.5nm,0.6s,baz=355,slow=8.0,SNR=2.8						
	0.5nm,0.6s						
ASAR	Alice Springs	49.75	175	P	P	08 50 45.0	+2.5
	0.4nm,0.9s,baz=352,slow=7.2,SNR=6.7						
	0.4nm,0.9s						
FINES	FINESS Array B	73.45	331	P	P	08 53 23.8	+1.7
	0.5nm,0.7s,baz=75,slow=8.1,SNR=3.7						
	0.5nm,0.7s						

*IDC **20** 08:43:06.6±2.4, 4°.11N×95°.66E, h0km, mb3.7/4, mbtmp3.8/6, ML3.9/2, MS3.2/3, Error ellipse: s-maj=70.7km s-min=21.8km az=58.0*
*DJA **20** 08:43:11.3±0.4, 4°N±3°×9°6E±°, h29km±3km, M4.1/7, MLv4.1/7*
*BKK **20** 08:43:16.5±0.9, 5°N±4°×9°7E±°, h10km, M3.8/5, Mjma3.6/5, ML4.0/4, MLv3.9/5*
ISC 20 08:43:12.7±0.9, 4°.33N±0°.06×96°.33E±0°.07, h28km±6km, n18, σ1s73/16, mb3.8/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	0.10	130	P	Pb	08 43 17.4	-0.4
MLSI				S	Sb	08 43 22.0	+0.7
LHMI	Lhok Sumawe	1.08	35	P	Pn	08 43 29.8	-2.2
LHMI				S	Sb	08 43 46.6	-0.1
BSI	Banda Aceh	1.54	318	P	Pn	08 43 38.6	+0.2
BSI				S	Sb	08 43 59.0	-0.9
TSI	Tuntungan	2.38	110	P	Pn	08 43 48.9	-1.0
PSI	Prapat	3.01	120	Pn	Pb	08 44 04.0	-1.6
	7.6nm,0.3s,baz=316,slow=12,SNR=19						
PSI				Sn	Sb	08 44 45.1	+3.1
	7.7nm,0.3s,baz=312,slow=22,SNR=3.9						
	15nm,0.3s						
GSI	Gunungsitoli	3.26	157	P	Pn	08 43 59.2	-2.7
RNTT	Ranong	5.46	23	P	Pn	08 44 31.1	-1.1
CMAR	Chiang Mai Arr	14.27	10	Pn	Pn	08 46 34.2	+1.2
	0.2nm,0.3s,baz=191,slow=12,SNR=4.5						
	0.9nm,0.3s						
PALK	Pallekele	15.81	281	LR	LR	08 52 03.5	
	comp=Z,75nm,18.6s,baz=116,slow=35						
H08S2	Diego Garcia H	26.59	243	T	T	09 16 05.5	
	baz=68,slow=74,SNR=2.6						
H08S3	Diego Garcia H	26.59	244	T	T	09 16 05.9	
	baz=68,slow=74,SNR=3.2						
H08S1	Diego Carcia H	26.61	244	T	T	09 16 11.3	
	baz=68						
FITZ	Fitzroy Crossi	36.50	128	LR	LR	09 05 28.7	
	comp=Z,56nm,19.6s,baz=188,slow=36						
KSRS	Korea Array	43.83	37	LR	LR	09 10 54.5	
	comp=Z,18nm,18.5s,baz=200,slow=38						
SONM	Songino Array	44.20	10	P	P	08 51 20.5	+1.1
	0.4nm,0.4s,baz=188,slow=9.6,SNR=2.2						
	0.4nm,0.4s						
WRA	Warramunga Arr	44.47	124	P	P	08 51 23.3	+1.5
	1.8nm,0.7s,baz=300,slow=9.2,SNR=12						
	1.8nm,0.7s						
ASAR	Alice Springs	46.00	129	P	P	08 51 35.0	+1.1
	0.6nm,0.4s,baz=302,slow=7.4,SNR=19						
	0.6nm,0.4s						
ZALV	Zalesovo Beam	50.35	351	P	P	08 52 05.7	-1.3
	0.3nm,0.3s,baz=153,slow=9.7,SNR=2.4						
	0.3nm,0.3s						

TXNET 20 08:54:44.4, 30°.9N±0°.8×103°.5W±0°.7, h4km±1km, ML1.9/12, Error ellipse: s-maj=1.3km s-min=1.0km az=179.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB05	Hovey Rd	0.12	69	P	Pg	08 54 47.1	+0.2
TPB05				S	Sg	08 54 49.2	+0.6
TPB03	Saragosa	0.21	347	P	Pg	08 54 49.5	+0.9
TPB03				S	Sg	08 54 52.7	+1.2
TPB01	Permian Basin	0.28	284	P	Pb	08 54 51.1	-1.1
TPB01				S	Sg	08 54 55.3	+1.6
TPB16	Coyonosa	0.30	36	P	Pb	08 54 51.6	-0.9
TPB16				S	Sg	08 54 56.1	+1.7
TPB04	Verhalen	0.35	28	P	Pb	08 54 52.4	-0.9
TPB04				S	Sg	08 54 57.3	+1.5
TPB08	Permian Basin	0.47	88	P	Pb	08 54 54.8	-0.6
TPB08				S	Sb	08 55 01.5	-1.3
TPB10	Southeast of T	0.48	328	P	Pb	08 54 54.6	-0.9
TPB10				S	Sg	08 55 01.3	+1.4
ALPN	Alpine	0.52	197	P	Pg	08 54 55.3	+0.8
ALPN				S	Sg	08 55 02.3	+1.0
PCOS	Crockett Middl	0.53	355	S	Sb	08 55 04.5	0.0
TPB12	Southwest of T	0.54	308	P	Pg	08 54 55.7	+0.8
TPB12				S	Sg	08 55 03.2	+1.2
PECS	Pecos	0.60	325	P	Pg	08 54 56.6	+0.5
PECS				S	Sg	08 55 05.2	+1.2
TPB07	Mentone	0.72	346	S	Sb	08 55 09.5	-0.5
MNHN	Monahans	0.76	52	P	Pb	08 54 59.8	-0.4
MNHN				S	Sg	08 55 09.1	+0.3
TMB02	Rankin	1.26	75	P	Pn	08 55 08.9	0.0
TMB02				S	Sg	08 55 24.8	-0.2
VHRN	Van Horn	1.32	267	P	Pb	08 55 09.8	0.0
VHRN				S	Sn	08 55 27.7	-0.1
CLNB	Carlsbad	1.43	346	P	Pg	08 55 11.9	0.0
ODSA	Odessa	1.46	32	P	Pn	08 55 11.2	-0.5
ODSA				S	Sg	08 55 31.8	+0.3
SAND	Sanderson	1.47	128	P	Pg	08 55 12.9	+0.2
SAND				S	Sg	08 55 32.6	+0.8
GDL2	Guadalupe Moun	1.53	330	P	Pg	08 55 13.8	0.0
TX31	Lajitas Ar. Si	1.55	187	P	Pb	08 55 13.7	0.0
TX31				S	Sg	08 55 34.7	+0.5
CLN7	Carlsbad 7	1.56	349	P	Pb	08 55 14.1	+0.1
HTMS	Hat Mesa	1.60	355	P	Pb	08 55 14.1	-0.5
HTMS				S	Sg	08 55 38.4	+2.6
MNTX	Cornudas Mount	1.84	297	P	Pb	08 55 18.1	-0.6
MNTX				Pg	Pg	08 55 18.9	-0.8
MNTX				S	Sg	08 55 42.9	-0.7
TMB04	Seminole	1.93	25	P	Pb	08 55 19.3	-0.9
TMB04				S	Sb	08 55 45.5	+0.8
OZNA	Ozona	2.00	88	P	Pb	08 55 21.4	-0.1
OZNA				S	Sg	08 55 48.0	-0.8
SGCY	Sterling City	2.25	62	P	Pb	08 55 24.2	-1.4
SGCY				Pg	Pn	08 55 24.2	+1.8
SGCY				S	Sb	08 55 53.8	0.0

IDC 20 09:14:14.6±18.0, 18°.30N×108°.20W, h0km, mb3.0/2, mbtmp3.1/3, ML3.5/1, MS2.7/3, Error ellipse: s-maj=261.7km s-min=86.5km az=163.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06S1	SOCORRO T	2.65	280	T	T	09 17 27.5	
	SNR=10.0						
LPIG	La Paz	6.10	342	LR	LR	09 17 07.8	
	comp=Z,43nm,18.4s,baz=176,slow=28						
TXAR	Lajitas Array	11.74	20	Pn	Pn	09 17 04.5	+1.0
	0.1nm,0.3s,baz=198,slow=15,SNR=7.5						
	0.5nm,0.7s						
NVAR	Mina Array Bea	21.91	338	P	P	09 19 09.7	+0.1
	0.6nm,0.8s,baz=156,slow=11,SNR=5.8						
NVAR				LR	LR	09 27 41.9	
	comp=Z,30nm,18.2s,baz=178,slow=37						
	0.6nm,0.8s						
PDAR	Pinedale Array	24.41	358	P	P	09 19 35.1	0.0
	0.2nm,0.6s,baz=175,slow=8.5,SNR=3.5						
	0.2nm,0.6s						
TKL	Tuckaleechee C	27.68	46	LR	LR	09 32 07.8	
	comp=Z,16nm,18.0s,baz=138,slow=39						
H03N2	Juan Fernandez	58.55	151	T	T	10 29 06.5	
	baz=329,slow=77,SNR=8.9						
H03N1	Juan Fernandez	58.56	151	T	T	10 29 07.8	
	baz=329,slow=77,SNR=15						
H03N3	Juan Fernandez	58.56	151	T	T	10 29 06.5	
	baz=329,slow=77,SNR=8.5						

*IDC **20** 09:17:36.7±1.0, 67°.28N×21°.05E, h0km, mbtmp2.8/4, ML1.8/4, Error ellipse: s-maj=20.1km s-min=6.9km az=118.0*
ISC 20 09:17:37.2±1.1, 67°.26N±0°.07×20°.7E±0°.1, h10km, n6, σ1s75/7, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEF	Hetta	1.61	43	eP	Pg	09 18 07.5	-0.6
KIF	Kilpisjarvi	1.76	1	eP	Pg	09 18 10.9	0.0
ARCES	ARCESS Array B	2.90	36	Pn	Pn	09 18 23.9	+0.6
	0.1nm,0.3s,baz=215,slow=13,SNR=8.8						
ARCES				Lg	Lg	09 19 03.4	
	0.5nm,0.3s,baz=217,slow=24,SNR=8.6						
	7.0nm,1.2s						
FINES	FINESS Array B	6.28	156	Pn	Pn	09 19 11.2	+1.4
	0.1nm,0.3s,baz=344,slow=15,SNR=5.5						
FINES				Lg	Lg	09 20 51.5	
	0.2nm,0.3s,baz=340,slow=28,SNR=5.1						
	0.7nm,0.7s						
NOA	NORSAR Array B	7.49	218	Pn	Pn	09 19 28.7	+2.4
	baz=25,slow=14,SNR=1.9						
NOA				Lg	Lg	09 21 32.5	
	baz=43,slow=18,SNR=4.1						
	0.3nm,0.8s						
HFS	Hagfors	7.79	207	Pn	Pn	09 19 29.1	-1.5
	0.1nm,0.3s,baz=20,slow=12,SNR=5.3						
HFS				Sn	Sn	09 20 57.3	-1.4
	0.2nm,0.3s,baz=20,slow=22,SNR=5.5						
HFS				Lg	Lg	09 21 41.2	
	0.1nm,0.3s,baz=17,slow=26,SNR=1.8						
	1.5nm,0.8s						

IDC 20 09:33:46.0±15.0, 53°.89S×159°.76E, h0km, mb3.6/4, mbtmp3.7/4, MS3.4/3, Error ellipse: s-maj=713.8km s-min=22.6km az=70.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	19.64	44	LR	LR	09 45 23.7	
	comp=Z,117nm,19.7s,baz=310,slow=36						
VNDA	Vanda	23.75	179	P	P	09 38 58.8	-0.6
	1.1nm,0.7s,baz=348,slow=9.6,SNR=5.3						
	1.1nm,0.7s						
ASAR	Alice Springs	35.89	317	P	P	09 40 47.5	-0.2
	0.4nm,0.6s,baz=151,slow=8.1,SNR=5.9						
	0.4nm,0.6s						
QSPA	South Pole Qui	36.23	180	P	P	09 40 50.7	+0.3
	3.4nm,0.8s,baz=6.2,slow=1.7,SNR=11						
	3.4nm,0.8s						
H01W1	Cape Leeuwin H	36.93	282	T	T	10 19 28.0	
	baz=134,slow=75,SNR=894						
H01W2	Cape Leeuwin H	36.94	282	T	T	10 19 29.6	
	baz=134,slow=75,SNR=771						
H01W3	Cape Leeuwin H	36.95	282	T	T	10 19 29.4	
	baz=134,slow=75,SNR=889						
WRA	Warramunga Arr	39.08	320	P	P	09 41 14.8	0.0
	0.4nm,0.7s,baz=151,slow=8.2,SNR=1.8						
	0.4nm,0.7s						
HNR	Honiara	44.33	0	LR	LR	09 56 23.7	
	comp=Z,47nm,18.3s,baz=212,slow=31						
PPT	Papeete	53.15	67	LR	LR	10 01 46.2	
	comp=Z,26nm,20.2s,baz=165,slow=32						
H03S2	Juan Fernandez	79.01	134	T	T	11 13 53.5	
	baz=209,slow=74,SNR=721						
H03S1	Juan Fernandez	79.01	134	T	T	11 13 54.8	
	baz=209,slow=74,SNR=650						
H03S3	Juan Fernandez	79.03	134	T	T	11 13 54.3	
	baz=209,slow=74,SNR=724						
H03N3	Juan Fernandez	79.34	133	T	T	11 14 18.8	
	baz=217,slow=76,SNR=292						
H03N2	Juan Fernandez	79.35	133	T	T	11 14 18.0	
	baz=217,slow=76,SNR=297						
H03N1	Juan Fernandez	79.36	133	T	T	11 14 17.6	
	baz=217,slow=76,SNR=206						

*IDC **20** 09:34:47.6±2.8, 0°.60S×127°.81E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=254.3km s-min=27.9km az=67.0*
*DJA **20** 09:34:58.3±0.5, 2°S±5°×12°7E±°, h10km, M3.2/5, MLv3.2/5*
ISC 20 09:34:57.5±1.3, 1°.61S±0°.08×126°.7E±0°.1, h10km, n6, σ2s13/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	0.86	240	P	Pg	09 35 13.1	-1.0
SANI				S	Sb	09 35 27.5	+1.3
NLAI	Namlea	1.66	167	P	Pn	09 35 28.5	+1.9
TNTI	Ternate	2.45	15	P	Pn	09 35 38.8	+1.2
WRA	Warramunga Arr	19.68	158	P	P	09 39 25.2	-1.7
	0.6nm,0.7s,baz=342,slow=10,SNR=2.2						
	0.6nm,0.7s						
ASAR	Alice Springs	23.00	163	P	P	09 40 00.9	-1.7
	0.9nm,0.9s,baz=342,slow=11,SNR=7.8						
	0.9nm,0.9s						
MKAR	Makanchi Array	61.97	327	P	P	09 45 07.7	-10
	0.4nm,0.5s,baz=116,slow=8.2,SNR=4.2						
	0.4nm,0.5s						

IDC 20 09:36:13.7±45.0, 17°.44S×179°.89W, h556km±151km, mb3.2/3, mbtmp4.2/3, Error ellipse: s-maj=944.0km s-min=106.2km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.99	261	P	P	09 37 24.0	0.0
	31nm,0.7s,baz=122,slow=9.6,SNR=12						
STKA	Stephens Creek	37.63	240	P	P	09 42 41.8	0.0
	1.0nm,0.4s,baz=96,slow=10,SNR=7.1						
	1.0nm,0.4s						
WRA	Warramunga Arr	43.33	259	P	P	09 43 26.9	-0.5
	0.4nm,0.2s,baz=96,slow=7.5,SNR=21						
	0.4nm,0.2s						
ASAR	Alice Springs	43.56	254	P	P	09 43 29.1	0.0
	4.9nm,0.4s,baz=89,slow=7.5,SNR=121						
	4.9nm,0.4s						

*JMA **20** 09:41:02.6±0.1, 24°.7N±0°.5×122°.0E±0°.4, h23km, MV2.6/11, TAIWAN REGION*
*TAP **20** 09:41:02.3, 24°.70N×121°.98E, h7km, ML3.1, C*
ISC 20 09:41:01.6±1.0, 24°.70N±0°.01×122°.08E±0°.02, h6km±8km, n137, σ1s00/262, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.20	317	P	Pg	09 41 06.1	+0.4
EGS				i S	Sg	09 41 08.5	+0.1
TWC	Suao	0.23	248	i P	Pg	09 41 05.8	-0.3
TWC				i S	Sg	09 41 08.0	-1.2
ESAO	Su ao	0.25	241	i P	Pg	09 41 06.4	-0.1
ESAO				i S	Sg	09 41 08.8	-1.0
NTC	Toucheng	0.28	305	eP	Pg	09 41 07.5	+0.4
NTC				S	Sg	09 41 10.9	0.0
EOS2	EOS2	0.31	154	i P	Pb	09 41 09.6	+0.1
EOS2				eS	Sb	09 41 15.4	+0.7
ILA	Ilan	0.31	283	i P	Pg	09 41 07.7	0.0
ILA				S	Sg	09 41 11.7	-0.2
TWB1	Santiao Chiao	0.32	345	P	Pg	09 41 08.8	+0.9
TWB1				S	Sg	09 41 12.8	+0.6
NDS	Dongshan	0.34	260	eP	Pg	09 41 06.9	-1.4
NDS				S	Sg	09 41 11.3	-1.5
TIPB	Shuangxi	0.36	320	P	Pg	09 41 09.0	+0.3
TIPB				S	Sg	09 41 13.3	-0.2
EWUT	Wuta	0.37	228	P	Pg	09 41 09.0	+0.1
EWUT				eS	Sg	09 41 12.7	-1.1
TWE	Neicheng	0.38	274	i P	Pg	09 41 08.5	-0.5
TWE				eS	Sg	09 41 14.7	+0.7
ENA	Nanau	0.41	230	eP	Pg	09 41 09.4	-0.1
ENA				S	Sg	09 41 13.8	-1.2
SXI1	Grass Mountain	0.44	335	i P	Pg	09 41 11.0	+0.8
SXI1				S	Sg	09 41 18.1	+2.1
FUSB	Fushanzhiwuyua	0.46	278	i P	Pg	09 41 10.1	-0.4
FUSB				eS	Sg	09 41 17.0	+0.6
EOS3	EOS3	0.46	152	eP	Pb	09 41 12.3	+0.3
EOS3				S	Sb	09 41 19.7	+0.6
NWF	Wu-fen Shan	0.46	324	i P	Pg	09 41 11.2	+0.5
NWF				eS	Sg	09 41 18.2	+1.4
WFSB	Wu-fen Shan	0.46	324	eP	Pg	09 41 11.4	+0.8
WFSB				i S	Sg	09 41 17.2	+0.5
ENTT	Nioudou	0.47	263	i P	Pg	09 41 10.1	-0.7
ENTT				S	Sg	09 41 16.6	-0.4
EAHA	Aohua	0.48	221	i P	Pg	09 41 10.9	0.0
EAHA				i S	Sg	09 41 17.1	0.0
EHP	Heping Village	0.49	219	eP	Pg	09 41 11.6	+0.4
EHP				S	Sg	09 41 17.1	-0.5
LATG	Datong	0.53	253	P	Pg	09 41 11.5	-0.4
LATG				S	Sg	09 41 18.4	-0.4
TNOU	National Taiwa	0.53	328	eP	Pb	09 41 13.6	+0.2
TNOU				S	Sg	09 41 19.8	+0.9
NWLT	Wulai	0.54	279	P	Pg	09 41 11.7	-0.3
NWLT				eS	Sg	09 41 18.5	-0.4
TWA	Mucha	0.54	302	eP	Pb	09 41 13.4	-0.1
TWA				eS	Sg	09 41 19.5	+0.6
NHDH	Xindian Distri	0.57	298	eP	Pg	09 41 13.1	+0.4
NHDH				eS	Sg	09 41 19.7	-0.5
NHY	Taipei	0.58	306	eP	Pb	09 41 15.6	+1.4
NHY				S	Sg	09 41 20.6	+0.2
TATO	Taipei	0.61	297	P	Pg	09 41 14.1	+0.7
TATO	Taipei	0.61	297	S	Sg	09 41 20.7	-0.6
EOS4	EOS4	0.61	159	P	Pb	09 41 14.6	+0.1
EOS4				eS	Sb	09 41 23.4	+0.2
TAP	Taipei	0.63	303	P	Pg	09 41 14.9	+1.2
TAP				eS	Sg	09 41 21.9	0.0
YHNB	Yeheng	0.64	268	P	Pg	09 41 14.0	-0.1
YHNB	Yeheng	0.64	268	S	Sg	09 41 21.8	-0.7
YHNB	Yeheng	0.64	268	eP	Pg	09 41 14.3	+0.3
YHNB				eS	Sg	09 41 21.6	-0.8
YM01	YM01	0.65	314	eP	Pg	09 41 14.9	+0.7
YM01				S	Sg	09 41 22.4	-0.2
NSK	Sanguang	0.66	268	eP	Pg	09 41 14.2	-0.2
NSK				S	Sg	09 41 21.9	-1.1
YM08	YM08	0.67

YOJ	Yonaguni jima	0.88 105	P	Pn	09 41 20.4	-0.1
YOJ			eS	Sn	09 41 32.7	-0.9
NFF	Wufeng Townshi	0.88 266	P	Pg	09 41 18.1	-0.5
NFF			eS	Sg	09 41 31.2	+1.2
FUSS	Fushou	0.89 240	eP	Pg	09 41 18.6	-0.1
FUSS			S	Sg	09 41 29.4	-0.7
ETM	Tongmen	0.90 217	P	Pg	09 41 18.2	-0.8
ETM			eS	Sg	09 41 29.4	-1.3
LXIB	Xiulin Townshi	0.91 222	eP	Pg	09 41 18.5	-0.6
LXIB			eS	Sg	09 41 30.6	-0.3
WHF	Hehuan Shan	0.93 234	eP	Pg	09 41 19.2	-0.3
WHF			S	Sg	09 41 31.3	-0.2
PCYT	Pengchaiyu	0.93 359	eP	Pb	09 41 20.4	+0.2
PCYT			eS	Sb	09 41 33.0	+0.1
TWT	Tachien	0.94 242	eP	Pg	09 41 20.3	+0.6
TWT			eS	Sg	09 41 32.2	+0.4
TDCB	Techi	0.95 243	eP	Pg	09 41 19.5	-0.4
TDCB			S	Sg	09 41 30.8	-1.5
LIOB	Emei	0.97 267	eP	Pg	09 41 20.7	+0.4
LIOB			S	Sg	09 41 32.9	-0.1
NSTT	Nanjuang	0.99 267	eP	Pb	09 41 21.5	+0.3
NSTT			eS	Sn	09 41 36.2	-0.2
SBCB	Hsinchu	1.00 276	eP	Pn	09 41 22.5	+0.2
SBCB			S	Sb	09 41 35.6	+0.7
HSN	Hsinchu	1.02 276	eP	Pg	09 41 21.7	+0.5
HSN			S	Sg	09 41 34.6	+0.2
SHUL	Shoufeng	1.02 208	eP	Pb	09 41 22.0	+0.3
SHUL			eS	Sn	09 41 38.5	+1.4
ESL	Shilin	1.06 214	eP	Pg	09 41 21.2	-0.8
ESL			S	Sg	09 41 34.3	-1.4
OWD	Renai	1.11 228	eP	Pg	09 41 22.3	-0.7
OWD			eS	Sg	09 41 35.6	-1.7
WHP	Taichung City	1.12 248	i P	Pg	09 41 23.0	-0.1
WHP			eS	Sg	09 41 36.0	-1.6
WUSB	Renai	1.12 232	i P	Pg	09 41 22.8	-0.5
WUSB			eS	Sg	09 41 37.9	0.0
WARBT	Fenglin Townsh	1.16 213	eP	Pg	09 41 23.0	-0.9
WARBT			eS	Sg	09 41 39.2	+0.2
EGFH	Guangfu	1.18 211	eP	Pn	09 41 26.3	+1.6
EGFH			eS	Sb	09 41 40.2	0.0
NMLH	Miaoli	1.19 263	eP	Pn	09 41 25.4	+0.5
NMLH			eS	Sn	09 41 42.0	+0.7
NSY	Sanyi	1.24 257	eP	Pg	09 41 23.4	-2.0
NSY			eS	Sg	09 41 40.3	-1.1
TWQ1	Liyutan	1.24 254	eP	Pn	09 41 26.8	+1.2
TWQ1			eS	Sn	09 41 45.1	+2.4
WCS	Beigang Elemen	1.24 240	eP	Pg	09 41 25.2	-0.3
WCS			eS	Sg	09 41 40.7	-0.9
VWDT	VWDT	1.27 223	P	Pn	09 41 25.7	-0.3
VWDT			i S	Sg	09 41 41.4	-1.2
HGSD	Ruisui	1.34 207	eP	Pg	09 41 28.4	+0.9
HGSD			eS	Sn	09 41 49.4	+4.3
SMLT	Sun Moon Lake	1.35 233	eP	Pn	09 41 26.7	-0.5
SMLT			i S	Sg	09 41 43.9	-1.1
WDJ	Dajia District	1.36 256	eP	Pg	09 41 28.5	+0.8
WDJ			eS	Sn	09 41 47.3	+1.7
TYC	Yuchr	1.37 235	eP	Pg	09 41 28.1	+0.2
TYC			eS	Sb	09 41 43.1	-2.3
SSLB	Suanglung	1.37 229	P	Pn	09 41 27.4	0.0
SSLB	Suanglung	1.37 229	i P	Pn	09 41 27.3	-0.1
SSLB			eS	Sb	09 41 44.6	-0.9
EHY	Hungye	1.37 211	eP	Pn	09 41 27.7	+0.3
EHY			eS	Sb	09 41 45.4	-0.2
TCU	Taichung	1.39 247	eP	Pg	09 41 30.4	+2.0
TCU			eS	Sg	09 41 47.7	+1.2
YULB	Yu-li	1.48 209	P	Pg	09 41 29.5	-0.1
YULB	Yu-li	1.48 209	S	Sg	09 41 49.6	+0.3
YULB	Yu-li	1.48 209	eP	Pn	09 41 29.2	+0.3
YULB			eS	Sg	09 41 49.2	-0.1
ECBN	Changbin	1.49 203	P	Pb	09 41 29.6	-0.1
ECBN			S	Sg	09 41 51.5	+1.9
WHYT	Xinyi Township	1.50 229	eP	Pg	09 41 30.5	+0.1
WHYT			eS	Sg	09 41 51.8	+1.9
WJS	Zhushan	1.51 235	P	Pg	09 41 31.8	+1.1
WJS			eS	Sg	09 41 52.0	+1.7
EYUL	Yuli	1.51 208	eP	Pg	09 41 31.8	+1.1
EYUL			eS	Sg	09 41 52.0	+1.7
WNT	Mingjian	1.51 238	eP	Pg	09 41 32.3	+1.6
WNT			S	Sg	09 41 52.1	+1.8
TWF1	Yuli	1.52 208	P	Pn	09 41 29.1	-0.3
TWF1			eS	Sg	09 41 52.1	+1.7
WCHH	Zhanghua	1.52 247	eP	Pg	09 41 31.3	+0.5
IRIF	Iriomote-Funau	1.54 103	P	Pn	09 41 28.5	-1.2
IRIF			eS	Sn	09 41 49.6	-0.4
CHKH	Chenggong	1.62 203	eP	Pb	09 41 31.9	-0.1
CHKH			eS	Sg	09 41 55.6	+1.8
FULB	Fuli	1.66 206	P	Pn	09 41 31.4	+0.1
FULB			eS	Sg	09 41 57.3	+2.4
ALS	Alishan	1.66 225	P	Pb	09 41 33.0	+0.2
ALS			eS	Sg	09 41 58.2	+3.2
CHKT	Chengkung	1.72 203	eP	Pn	09 41 32.2	+0.1
CHKT			eS	Sg	09 41 56.9	0.0
WDLH	Douliu	1.73 235	P	Pb	09 41 34.1	+0.2
WDLH			eS	Sg	09 41 57.3	0.0
RLNB	Erlin	1.77 243	eP	Pn	09 41 31.7	-1.1
RLNB			eS	Sn	09 41 53.8	-1.7
ELDTW	Lidau	1.79 213	eP	Pn	09 41 32.0	-1.2
ELDTW			eS	Sn	09 41 55.5	-0.8
JKRS	Kuro-shima	1.81 104	P	Pn	09 41 33.8	+0.3
JKRS			S	Sn	09 41 56.0	-0.8
WCKO	Fanlu	1.84 228	eP	Pg	09 41 36.9	-0.1
WCKO			S	Sg	09 42 00.7	-0.2
EDH	Donghe	1.86 203	i P	Pn	09 41 34.6	+0.5
EDH			eS	Sn	09 41 57.8	0.0
CHN4	Tsaushan	1.91 226	i P	Pb	09 41 37.2	+0.2
CHN4			eS	Sg	09 42 04.0	+0.9
TPUB	Ta-pu	1.92 224	P	Pb	09 41 37.4	-0.2
TPUB			eS	Sg	09 42 03.4	-0.1
CHY	Chiayi	1.93 232	i P	Pb	09 41 37.1	-0.2
CHY			S	Sb	09 42 02.7	+1.1
STYH	Taoyuan	1.93 219	eP	Pn	09 41 35.2	+0.1
STYH			eS	Sn	09 42 00.1	+0.4
STYT	Tauyuan	1.95 219	eP	Pn	09 41 36.3	+0.9
STYT			i S	Sb	09 42 02.7	+0.4
WTP	Ta-pu	1.97 223	P	Pb	09 41 38.2	+0.2
WTP			eS	Sg	09 42 05.2	+0.1
JISG	Ishigakijimahi	2.03 93	eS	Sb	09 42 03.1	-1.4
TWK	Hsinying	2.04 226	P	Pb	09 41 39.2	+0.1
TWK			eS	Sg	09 42 07.1	0.0
WSL	Shuilin Townsh	2.06 236	P	Pb	09 41 39.0	-0.5
WSL			eS	Sb	09 42 05.4	0.0
CHN1	Nanshi	2.07 224	eP	Pb	09 41 39.8	+0.2
CHN1			eS	Sg	09 42 07.8	-0.4
TWGBT	Beinan	2.08 206	P	Pn	09 41 37.3	+0.1
TWGBT			S	Sn	09 42 03.7	+0.2
SGST	Jiashian	2.11 221	eP	Pn	09 41 39.0	+1.5
SGST			eS	Sn	09 42 02.3	-1.9
ICHU	Yijhu	2.12 232	eP	Pb	09 41 40.2	-0.2
ICHU			S	Sb	09 42 08.7	+1.7
ECL	Taimali	2.33 207	eP	Pn	09 41 40.9	+0.4
ECL			eS	Sn	09 42 10.2	+0.7
SSD	Sandimen	2.35 215	eP	Pb	09 41 44.0	-0.5
SSD			S	Sb	09 42 13.7	-0.1
TSMG	Majia	2.38 214	P	Pb	09 41 44.0	-0.9
TSMG			eS	Sn	09 42 12.7	+1.9
TSCK	Chigu Township	2.39 230	eP	Pn	09 41 42.7	+1.3
TSCK			eS	Sn	09 42 12.5	+1.5
MATB	Ma-tsu	2.42 307	eP	Pn	09 41 41.9	+0.2
MATB			eS	Sn	09 42 08.7	-3.0
MASBT	Mashibuluo	2.46 213	eP	Pb	09 41 46.0	-0.4
MASBT			eS	Sb	09 42 17.7	+0.7
EAST	Anshuo	2.57 206	i P	Pn	09 41 44.3	+0.5
EAST			S	Sn	09 42 16.1	+0.7
PNG	Penghu	2.57 245	P	Pn	09 41 44.5	+0.7
PNG			S	Sn	09 42 15.7	+0.3
PHUB	P'eng-hu	2.58 243	eP	Pn	09 41 43.4	-0.5
PHUB			eS	Sn	09 42 14.7	-1.0
WDGT	Dungji	2.64 238	P	Pn	09 41 45.7	+0.9
WDGT			eS	Sn	09 42 17.7	+0.6
PTMZ	Houxiangcun	2.71 278	P	Pn	09 41 45.9	+0.1
PTMZ			eS	Sn	09 42 16.3	-2.7
LYUB	Lan-yu	2.72 190	P	Pn	09 41 46.2	+0.3
LYUB			eS	Sn	09 42 19.4	+0.2
XPSS	Dashiqiu	2.80 323	P	Pn	09 41 47.6	+0.5
XPSS			eS	Sn	09 42 17.8	-3.5
VCHM	Qimei	2.84 239	eP	Pn	09 41 48.1	+0.5
VCHM			eS	Sn	09 42 22.4	+0.2
KNMB	Chin-men Tao	3.37 267	eP	Pn	09 41 54.8	0.0
KNMB			eS	Sn	09 42 32.6	-2.6
AXDP	Jialang	3.74 274	eP	Pn	09 41 59.7	-0.3
AXDP			eS	Sn	09 42 41.4	-3.0
ZPLA	Ao Xicun	4.03 260	eP	Pn	09 42 03.6	-0.3
ZPLA			eS	Sn	09 42 49.0	-2.3

NEIC 20 09:56:29.5±2.5, 37°.66N±0°.02×105°.32W±0°.03, h6km±6km, ML1.9/20, Error ellipse: s-maj=3.6km s-min=2.8km az=95.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	Great Sand Dun	0.17	300	Pg	Pg	09 56 31.4	-1.6
SDCO				Sg	Sg	09 56 33.1	-2.3
SDCO				IAML		09 56 34.1	
	335nm,0.1s						
T25A	Trinidad	0.89	126		Pb	09 56 47.9	+0.3
T25A				Sg	Sb	09 57 00.9	+1.2
T25A				IAML		09 57 01.3	
	comp=N,38nm,0.2s						
T25A				IAML		09 57 01.5	
	comp=E,26nm,0.2s						
Q24A	Divide	1.31	6		Pg	09 56 53.8	-0.8
Q24A				IAML		09 57 11.8	
	comp=N,24nm,0.2s						
ISCO	Idaho Springs	2.15	354	Pn	Pn	09 57 07.6	+1.4
ISCO				IAML		09 57 39.5	
	comp=N,7.5nm,4.2s						
ISCO				IAML		09 58 19.2	
	comp=N,8.4nm,4.5s						
RTBA	Rita Blanca	2.40	120	Pn	Pb	09 57 11.8	-1.4
KSCO	Kaye Shedlock'	2.51	57	Pn	Pn	09 57 12.9	+2.0
MVCO	Mesa Verde	2.57	261	Pn	Pn	09 57 13.3	+1.4
PV15	Paradox Valley	2.59	286	Pn	Pn	09 57 13.3	+1.1
PV01	Paradox Valley	2.62	281	Pn	Pn	09 57 13.4	+0.8
PV02	Paradox Valley	2.76	282	Pn	Pn	09 57 14.9	+0.4
PV13	Radium Mtn., P	2.81	281	Pn	Pn	09 57 16.5	+1.2
ANMO	Albuquerque	2.86	199	Pn	Pn	09 57 16.9	+1.0
ANMO	Albuquerque	2.86	199	Pn	Pn	09 57 16.6	+0.6
ANMO				IAML		09 59 02.1	
	comp=N,2.8nm,4.8s						
ANMO				IAML		09 59 04.3	
	comp=N,2.7nm,4.1s						
PV21	Cone Mtn., Par	3.02	288	Pn	Pn	09 57 17.4	-0.7

*IDC **20** 10:10:34.2±3.3, 4°.11S×101°.49E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=152.1km s-min=20.0km az=52.0*
*DJA **20** 10:10:45.5±0.7, 4°.S±3°.×10°.2E±°, h25km±6km, M4.4/13, mb4.5/5, MLv4.4/13*

ISC 20 10:10:41.4±1.1, 3°.7S±0°.1×101°.7E±0°.1, h35km, n23, σ1§71/19, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	0.91	86	P	Pn	10 10 59.1	+1.3
KSI				S	Sn	10 11 09.4	-0.4
MNAI	Manna	1.42	117	P	Pn	10 11 05.9	+1.1
MNAI				S	Sn	10 11 21.3	-1.1
MDSI	Maura Dua	2.61	107	P	Pn	10 11 22.9	+1.8
MDSI				S	Sn	10 11 51.7	+0.2
LWLI	Liwa	2.70	119	P	Pn	10 11 24.8	+2.3
LWLI				S	Sn	10 11 54.2	+0.1
KASI	Kota Agung	3.33	123	P	Pn	10 11 33.1	+2.0
SISI	Saibi	3.51	312	P	Pn	10 11 41.6	+8.1
SISI				S	Sn	10 12 25.2	+11
CGJI	Cibinong	4.93	126	P	Pn	10 11 55.4	+2.4
PBSI	Pulau Batu	4.98	317	P	Pn	10 12 01.0	+7.3
CNJI	Cibinong	6.49	124	P	Pn	10 12 16.9	+2.3
	0.1nm31nm,1.2s						
H08S2	Diego Garcia H	29.30	261	T	T	10 46 37.1	
	baz=84,slow=76,SNR=6.6						
H08S3	Diego Garcia H	29.31	261	T	T	10 46 37.4	
	baz=84,slow=76,SNR=6.3						
H08S1	Diego Garcia H	29.32	261	T	T	10 46 38.2	
	baz=84,slow=76,SNR=9.7						
WRA	Warramunga Arr	35.69	120	P	P	10 17 33.4	-3.4
	0.3nm,0.3s,baz=303,slow=9.1,SNR=6.1						
	0.3nm,0.3s						
ASAR	Alice Springs	36.90	125	P	P	10 17 44.9	-2.2
	0.6nm,0.3s,baz=296,slow=7.5,SNR=13						
	0.6nm,0.3s						
SONM	Songino Array	51.50	4	P	P	10 19 44.9	+1.2
	0.5nm,0.5s,baz=190,slow=9.6,SNR=4.3						
	0.5nm,0.5s						
MKAR	Makanchi Array	53.13	343	P	P	10 19 56.2	+0.6
	0.3nm,0.4s,baz=157,slow=8.9,SNR=6.9						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	57.66	343	P	P	10 20 28.2	-0.1
	0.4nm,0.7s,baz=151,slow=7.5,SNR=3.1						
	0.4nm,0.7s						
ZALV	Zalesovo Beam	59.16	348	P	P	10 20 38.8	+0.2
	0.5nm,0.3s,baz=180,slow=4.3,SNR=2.3						
	0.5nm,0.3s						
H04N2	CROZET ISLANDS	60.45	218	T	T	11 25 56.5	
	baz=62,slow=75,SNR=26						
H04N1	CROZET ISLANDS	60.46	218	T	T	11 25 56.9	
	baz=62,slow=75,SNR=26						
H04N3	CROZET ISLANDS	60.47	218	T	T	11 25 56.3	
	baz=62,slow=75,SNR=19						
BVAR	Borovoye Array	62.36	339	P	P	10 21 00.3	-0.1
	0.4nm,0.5s,baz=134,slow=6.2,SNR=2.4						
	0.4nm,0.5s						
TXAR	Lajitas Array	144.97	41	PKPbc	PKPab	10 30 14.2	-0.9
	0.5nm,0.8s,baz=258,slow=1.3,SNR=6.1						

NEIC 20 10:24:16.9±0.7, 37°.75N±0°.02×105°.35W±0°.03, h5km±2km, ML1.3/12, Error ellipse: s-maj=5.3km s-min=2.8km az=239.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	Great Sand Dun	0.12	268	Pg	Pg	10 24 20.1	+0.6
SDCO				Sg	Sg	10 24 22.0	+0.7
T25A	Trinidad	0.97	129	Pg	Pn	10 24 37.6	+0.3
T25A				IAML		10 24 45.5	
	comp=E,6.8nm,4.3s						
Q24A	Divide	1.22	7	Pg	Pg	10 24 40.1	-0.3
Q24A				Sg	Sn	10 24 59.4	+1.3
Q24A				IAML		10 25 06.0	
	comp=E,5.6nm,4.3s						

*GII **20** 10:32:34.4±0.0, 35°.332N±0°.002×28°.606E±0°.001, h0km, Mws3.0, confirmed*
*ISK **20** 10:32:35.5, 35°.29N×28°.58E, h9km, ML2.8/16*
*AFAD **20** 10:32:37.1, 35°.42N×28°.39E, h26km±3km, ML2.7*
*ATH **20** 10:32:39.9, 35°.64N×28°.61E, h36km±4km, ML2.9/7, Manual Solution by N.Liadopoulou First location: 2019/04/20 10:34:13, This location: 2019/04/20 10:52:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 10 km; Longitude uncertainty: 4 km*

ISC 20 10:32:36.5±1.5, 35°.35N±0°.04×28°.55E±0°.03, h17km±11km, n70, σ1§52/76, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.93	338	Pg	Pn	10 32 55.3	+0.4
ARG				Sg	Sn	10 33 09.2	+1.3
ARG	Arkhangelos	0.93	338	P	Pg	10 32 54.2	-0.4
KARP	Karpathos	1.15	280	Pn	Pn	10 32 58.6	+0.7
KARP				Sn	Sn	10 33 15.7	+2.3
KARP	Karpathos	1.15	280	P	Pn	10 32 59.9	+2.0
KSL	Kastellorizon	1.16	46	P	Pb	10 32 57.2	-0.9
IZZE	Mula-Seydike	1.22	27	P	Pg	10 32 59.6	-0.4
AKAS	Kas	1.23	44	Pn	Pg	10 32 59.7	-0.6
AKAS				Sn	Sn	10 33 17.7	+2.3
AKAS	Kas	1.23	44	P	Pg	10 33 00.7	+0.4
FETY	Fethiye	1.35	18	Pn	Pb	10 33 01.9	+0.4
TURN	Turunc	1.45	350	Pn	Pb	10 33 03.7	+0.7
TURN	Turunc	1.45	350	P	Pb	10 33 03.6	+0.7
DALY	Dalyan (Mula)	1.47	3	Pn	Pb	10 33 03.9	+0.5
SABU	Mula-Dalaman	1.51	13	P	Pg	10 33 06.0	+0.5
SABU				S	Sb	10 33 24.8	+1.8
SABU				i AML	AML	10 33 36.0	
	comp=N,114nm,0.7s						
SABU				i AML	AML	10 33 37.0	
	comp=E,118nm,1.4s						
DAT	Datca	1.59	330	Pn	Pb	10 33 05.4	-0.1
YAZI	Mula-Dat§a-	1.60	327	P	Pn	10 33 05.2	+1.2
YAZI				S	Sn	10 33 24.5	+0.2
CAME	Cameli-Denizli	1.70	21	Pn	Pb	10 33 07.2	-0.3
KNIK	Mula-Seydike	1.71	29	P	Pn	10 33 06.3	+0.7
ELL	Elmali	1.78	38	Pn	Pn	10 33 07.7	+1.1
ELL	Elmali	1.78	38	P	Pn	10 33 04.8	-1.8
YER	Yerkesik	1.80	353	Pn	Pn	10 33 08.1	+1.3
ZKR	Zakros	1.93	264	P	Pg	10 33 12.4	-1.1
BDRM	Kayabasi	1.93	333	P	Pb	10 33 11.1	-0.2
BDRM				S	Sn	10 33 33.1	+0.5
BDRM				i AML	AML	10 33 42.0	
	comp=E,55nm,0.8s						
DNZT	Denizli-Tavas-	1.96	11	P	Pn	10 33 11.0	+1.8
BODT	Bodrum	1.98	330	Pn	Pn	10 33 11.1	+1.8
MLSB	Milas	2.04	342	Pn	Pn	10 33 12.0	+1.8
GOLH	Golhisar	2.05	23	P	Pb	10 33 12.7	-0.8
TAVA	DENIZLI_Tavas	2.13	8	P	Pn	10 33 12.9	+1.5
KORT	Korkueli	2.20	41	Pn	Pn	10 33 13.6	+1.2
APMY	Acipayam-Deniz	2.20	16	Pn	Pn	10 33 13.9	+1.5
DNIZ	Denizli-Tavas-	2.31	10	P	Pn	10 33 14.9	+1.0
AYDN	Tasoluk	2.37	347	P	Pn	10 33 15.7	+1.0
ESEN	Aydn-Nazilli	2.45	356	P	Pb	10 33 19.2	-0.9
NAZL	Nazilli-Aydin	2.62	355	Pn	Pn	10 33 19.6	+1.5
BRDR	BURDUR-Merkez	2.64	27	P	Pb	10 33 22.2	-1.2
AYDB	Zeytinkoy-Aydi	2.65	349	Pn	Pn	10 33 20.4	+1.8
KIRA	zmir-Kiraz	2.85	358	P	Pn	10 33 22.3	+1.1
APE	Apeiranthos	2.99	306	P	Pn	10 33 18.8	-4.3
APE	Apeiranthos	2.99	306	S	Sn	10 33 52.0	-6.7
APE	Apeiranthos	2.99	306	P	Pn	10 33 22.7	-0.5
IDI	Anoyia	3.00	270	P	Pn	10 33 25.8	+2.5
AKMS	Akamas	3.12	95	P	Pn	10 33 26.5	+1.6
ALFC	Alefka	3.32	92	P	Pn	10 33 29.3	+1.6
NATA	Nata	3.34	99	P	Pn	10 33 29.4	+1.3
TROD	Troodos	3.56	95	P	Pn	10 33 32.1	+1.0
IMMV	Iera Moni Meta	3.74	273	P	Pn	10 33 35.8	+2.4
ASGA	Asgata	3.89	97	P	Pn	10 33 36.9	+1.3
CSS	Mathiatis	3.93	94	P	Pn	10 33 35.3	-0.9
CSS	Mathiatis	3.93	94	S	Sn	10 34 22.8	+0.9
CSS	Mathiatis	3.93	94	P	Pn	10 33 37.5	+1.3
MVOU	Mavrovouni	4.17	93	P	Pn	10 33 40.0	+0.6
ANKY	Antikythira Is	4.31	278	P	Pn	10 33 42.8	+1.5
SIGR	SIGRI	4.42	332	P	Pn	10 33 40.4	-2.4
VLI	Veliai	4.75	288	P	Pn	10 33 47.7	+0.3
NATI	Neve Ativ	6.30	107	P	Pn	10 34 08.7	0.0
NATI	Neve Ativ	6.30	107	S	Sn	10 35 21.6	+1.4
KZIT	Kziot	6.61	130	P	Pn	10 34 13.0	+0.2
KZIT	Kziot	6.61	130	S	Sn	10 35 28.7	+0.9
DSI	Dead Sea	6.84	122	P	Pn	10 34 15.5	-0.5
DSI	Dead Sea	6.84	122	S	Sn	10 35 35.0	+1.5
MSBI	Mazada	6.97	123	P	Pn	10 34 17.8	0.0
MSBI	Mazada	6.97	123	S	Sn	10 35 37.7	+0.9
GHAJ	Ghor Haditha	7.12	123	P	Pn	10 34 20.1	+0.2
KRMI	Paran Flat	7.36	133	P	Pn	10 34 23.2	-0.1
KRMI	Paran Flat	7.36	133	S	Sn	10 35 47.7	+1.2
PRNI	Paran	7.37	131	P	Pn	10 34 22.8	-0.5
PRNI	Paran	7.37	131	S	Sn	10 35 47.7	+1.1
MBRI	Mt Berech	7.71	134	P	Pn	10 34 28.5	+0.3
MBRI	Mt Berech	7.71	134	S	Sn	10 35 55.8	+0.7
EIL	Elat	7.83	135	P	Pn	10 34 29.3	-0.3
EIL	Elat	7.83	135	S	Sn	10 35 58.5	+0.7

*IDC **20** 10:49:33.6±2.0, 11°.89N×126°.23E, h0km, mb4.1/6, mbtmp4.1/6, MS3.4/2, Error ellipse: s-maj=183.0km s-min=28.5km az=67.0*

ISC 20 10:49:41.4±2.0, 11°.6N±0°.5×12°.6E±°, h53km, n14, σ0§68/6, mb4.3/6, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.53	181	LR	LR	10 53 11.6	
	comp=Z,142nm,18.2s,baz=345,slow=45						
ASAR	Alice Springs	36.00	167	P	P	10 56 37.6	+0.1
	0.4nm,0.9s,baz=348,slow=9.0,SNR=2.5						
	0.4nm,0.9s						
H11S3	WAKE ISLAND Hy	40.17	75	T	T	11 40 23.3	
	baz=274,SNR=3.8						
H11S1	WAKE ISLAND Hy	40.18	75	T	T	11 40 31.4	
	baz=274						
H11S2	WAKE ISLAND Hy	40.18	75	T	T	11 40 19.7	
	baz=274						
H11N1	WAKE ISLAND Hy	40.45	73	T	T	11 40 37.8	
	baz=265,slow=74,SNR=19						
H11N2	WAKE ISLAND Hy	40.46	73	T	T	11 40 40.2	
	baz=265,slow=74,SNR=12						
H11N3	WAKE ISLAND Hy	40.47	73	T	T	11 40 40.4	
	baz=265,slow=74,SNR=16						
MKAR	Makanchi Array	50.57	322	P	P	10 58 34.9	+0.2
	2.8nm,0.8s,baz=120,slow=8.1,SNR=21						
	2.8nm,0.8s						
KURBB	Kurchatov Arra	54.60	325	P	P	10 59 05.2	+0.8
	4.2nm,0.8s,baz=126,slow=7.1,SNR=32						
	4.2nm,0.8s						
BVAR	Borovoye Array	60.19	325	P	P	10 59 44.0	+0.2
	1.4nm,0.6s,baz=111,slow=8.3,SNR=9.3						
	1.4nm,0.6s						
KVAR	Kislovodsk Arr	76.96	313	LR	LR	11 39 42.9	
	comp=Z,64nm,19.7s,baz=272,slow=39						
ARCES	ARCESS Array B	82.70	340	P	P	11 01 59.2	+0.1
	2.3nm,0.9s,baz=78,slow=5.8,SNR=3.9						
	2.3nm,0.9s						
FINES	FINESS Array B	84.40	332	P	P	11 02 07.1	-0.8
	3.8nm,1.0s,baz=53,slow=5.4,SNR=4.5						
	3.8nm,1.0s						

*IDC **20** 10:56:15.1±4.6, 6°.48S×146°.84E, h75km±40km, mb3.5/4, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=44.9km s-min=28.2km az=117.0*

ISC 20 10:56:12.2±1.4, 6°.3S±0°.1×146°.7E±0°.3, h50km, n6, σ1§63/7, mb3.8/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.14	171	P	Pn	10 57 01.3	+2.1
	27nm,0.3s,baz=355,slow=5.9,SNR=25						
PMG				S	Sn	10 57 33.9	-1.5
	79nm,0.3s,baz=16,slow=13,SNR=26						
WRA	Warramunga Arr

EWUT			*i* S	Sg	10 56 42.8	-1.4
SXI1	**Grass Mountain**	0.40 338	⇑*i* P	Pb	10 56 40.6	-0.6
SXI1			*e*S	Sb	10 56 47.5	+0.1
ENA	**Nanau**	0.40 223	*i* P	Pg	10 56 39.0	-0.9
ENA			*i* S	Sg	10 56 43.7	-1.7
FUSB	**Fushanzhiwuyua**	0.41 275	⇑*i* P	Pg	10 56 39.8	-0.4
FUSB			*e*S	Sg	10 56 45.7	0.0
NWF	**Wu-fen Shan**	0.42 325	*i* P	Pb	10 56 40.9	-0.6
NWF			*e*S	Sb	10 56 48.0	0.0
WFSB	**Wu-fen Shan**	0.42 325	P	Pb	10 56 40.7	-0.8
WFSB			*e*S	Sb	10 56 47.4	-0.6
ENTT	**Nioudou**	0.44 259	*i* P	Pg	10 56 39.9	-0.8
ENTT			S	Sg	10 56 45.9	-0.7
EAHA	**Aohua**	0.48 215	*i* P	Pg	10 56 40.8	-0.6
EAHA			S	Sg	10 56 47.2	-0.6
TNOU	**National Taiwa**	0.49 330	*i* P	Pb	10 56 43.3	+0.6
TNOU			S	Sb	10 56 50.5	+0.5
TWA	**Mucha**	0.49 301	*i* P	Pb	10 56 42.8	+0.1
TWA			*i* S	Sb	10 56 49.4	-0.5
NWLT	**Wulai**	0.49 276	*i* P	Pg	10 56 41.2	-0.5
NWLT			S	Sg	10 56 47.4	-0.8
EOS3	**EOS3**	0.50 150	*e*P	Pg	10 56 42.1	+0.3
EOS3			*e*S	Sg	10 56 49.6	+1.1
LATG	**Datong**	0.51 248	*i* P	Pg	10 56 41.1	-0.8
LATG			S	Sg	10 56 48.3	-0.4
NHDH	**Xindian Distri**	0.53 297	*i* P	Pb	10 56 42.8	-0.6
NHDH			*i* S	Sb	10 56 50.1	-1.0
TATO	**Taipei**	0.56 296	P	Pb	10 56 43.4	-0.6
TATO	**Taipei**	0.56 296	S	Sg	10 56 50.1	-0.3
TAP	**Taipei**	0.58 303	P	Pb	10 56 44.1	-0.1
TAP			*e*S	Sb	10 56 51.3	-1.2
YM01	**YM01**	0.60 314	*i* P	Pb	10 56 44.5	-0.2
YM01			*e*S	Sb	10 56 52.7	-0.5
YHNB	**Yeheng**	0.61 265	P	Pg	10 56 43.1	-0.8
YHNB	**Yeheng**	0.61 265	S	Sg	10 56 51.0	-0.9
YHNB	**Yeheng**	0.61 265	*i* P	Pg	10 56 43.1	-0.8
YHNB			S	Sg	10 56 51.3	-0.6
YM08	**YM08**	0.62 318	*i* P	Pb	10 56 44.6	-0.4
YM08			*e*S	Sb	10 56 55.2	+1.6
NSK	**Sanguang**	0.62 266	*i* P	Pg	10 56 43.3	-0.9
NSK			*i* S	Sg	10 56 51.2	-1.2
ZUZH	**Zhuzihu**	0.63 314	*i* P	Pb	10 56 45.0	-0.2
ZUZH			*e*S	Sb	10 56 53.8	-0.2
EOS4	**EOS4**	0.65 157	*i* P	Pg	10 56 44.3	-0.3
EOS4			S	Sb	10 56 55.6	+1.3
ANP	**Anpu**	0.66 314	*e*P	Pb	10 56 45.4	-0.3
ANP			*e*S	Sb	10 56 54.6	-0.4
NNSB	**Datong**	0.67 244	*i* P	Pg	10 56 44.3	-0.8
NNSB			*e*S	Sg	10 56 54.5	+0.6
NNS	**Nan Shan**	0.67 245	*i* P	Pg	10 56 44.3	-0.8
NNS			S	Sg	10 56 53.7	-0.3
TWS1	**Kuangyinshan**	0.68 303	*i* P	Pb	10 56 45.2	-0.8
TWS1			S	Sb	10 56 56.7	+1.3
TWY	**Chenhua**	0.68 324	*i* P	Pb	10 56 45.1	-0.9
TWY			*e*S	Sb	10 56 56.4	+1.0
ETL	**Fush Village**	0.68 214	*i* P	Pg	10 56 44.1	-1.2
ETL			*e*S	Sg	10 56 53.4	-0.7
NACB	**Ninganchiao**	0.68 217	P	Pg	10 56 44.0	-1.3
NACB	**Ninganchiao**	0.68 217	S	Sg	10 56 52.6	-1.6
NACB	**Ninganchiao**	0.68 217	*i* P	Pg	10 56 44.0	-1.3
NACB			S	Sg	10 56 52.8	-1.5
NTST	**Danshui**	0.69 309	*i* P	Pb	10 56 46.5	+0.2
NTST			S	Sb	10 56 56.1	+0.3
ETLH	**Xiulin Townshi**	0.73 225	*i* P	Pg	10 56 45.0	-1.1
ETLH			S	Sg	10 56 54.8	-0.9
TWD	**Chiawan**	0.76 212	*i* P	Pg	10 56 45.5	-1.3
TWD			*i* S	Sg	10 56 54.9	-1.8
KSHI	**Guanxi Townshi**	0.79 274	*i* P	Pb	10 56 47.7	-0.2
KSHI			*e*S	Sb	10 56 57.8	-0.9
NCUH	**Zhongli**	0.82 287	*i* P	Pb	10 56 49.0	+0.7
NCUH			*i* S	Sn	10 57 01.8	+0.1
HWA	**Hwalien**	0.84 208	P	Pg	10 56 48.0	-0.3
HWA			*e*S	Sg	10 57 00.6	+1.2
NFF	**Wufeng Townshi**	0.85 264	*i* P	Pg	10 56 48.3	-0.1
NFF			*e*S	Sg	10 56 58.9	-0.5
JYNG	**Yonagunijimaku**	0.87 108	P	Pg	10 56 48.9	+0.2
JYNG			S	Sg	10 57 00.7	+0.6
FUSS	**Fushou**	0.87 237	*i* P	Pg	10 56 47.4	-1.5
FUSS			S	Sg	10 56 59.6	-0.6
PCYT	**Pengchaiyu**	0.90 2	*i* P	Pb	10 56 49.9	+0.1
PCYT			*e*S	Sb	10 57 02.4	+0.6
LXIB	**Xiulin Townshi**	0.91 219	*i* P	Pg	10 56 47.9	-1.6
LXIB			S	Sg	10 57 00.4	-1.0
ETM	**Tongmen**	0.91 214	*i* P	Pg	10 56 48.2	-1.4
ETM			S	Sg	10 56 59.3	-2.0
WHF	**Hehuan Shan**	0.92 231	*i* P	Pg	10 56 48.8	-0.9
WHF			*i* S	Sg	10 57 01.2	-0.5
TWT	**Tachien**	0.92 239	*i* P	Pg	10 56 49.9	+0.1
TWT			S	Sb	10 57 03.0	+0.4
YOJ	**Yonaguni jima**	0.92 106	P	Pg	10 56 49.6	-0.2
YOJ	**Yonaguni jima**	0.92 106	S	Sg	10 57 02.5	+0.8
YOJ	**Yonaguni jima**	0.92 106	P	Pg	10 56 50.0	+0.3
YOJ			S	Sg	10 57 02.0	+0.2
YOJ	**Yonaguni jima**	0.92 106	*i* P	Pg	10 56 49.2	-0.5
YOJ			*i* S	Sg	10 57 01.9	+0.2
TDCB	**Techi**	0.93 240	*i* P	Pg	10 56 49.1	-1.0
TDCB			S	Sg	10 57 01.4	-0.8
LIOB	**Emei**	0.94 265	*i* P	Pn	10 56 51.2	-0.1
LIOB			S	Sb	10 57 04.2	+1.3
NSTT	**Nanjuang**	0.95 265	*i* P	Pb	10 56 51.1	+0.5
NSTT			S	Sb	10 57 04.0	+0.7
SBCB	**Hsinchu**	0.96 274	*i* P	Pn	10 56 51.9	+0.3
SBCB			S	Sn	10 57 05.7	+0.3
HSN	**Hsinchu**	0.98 275	*i* P	Pb	10 56 53.1	-0.1
HSN			S	Sb	10 57 03.7	-0.3
SHUL	**Shoufeng**	1.03 205	*i* P	Pg	10 56 51.4	-0.5
SHUL			*e*S	Sg	10 57 05.7	+0.4
ESL	**Shilin**	1.06 212	*i* P	Pg	10 56 50.6	-1.9
ESL			S	Sg	10 57 05.5	-0.8
WHP	**Taichung City**	1.09 246	*i* P	Pg	10 56 52.6	-0.5
WHP			*e*S	Sg	10 57 06.0	-1.3
OWD	**Renai**	1.10 226	*i* P	Pg	10 56 52.3	-1.0
OWD			S	Sg	10 57 05.5	-2.1
WUSB	**Renai**	1.12 229	*i* P	Pg	10 56 52.2	-1.3
WUSB			S	Sg	10 57 07.0	-1.1
NMLH	**Miaoli**	1.15 261	*i* P	Pn	10 56 55.5	+1.3
NMLH			S	Sn	10 57 10.9	+0.8
WARBT	**Fenglin Townsh**	1.17 211	*i* P	Pg	10 56 52.7	-1.8
WARBT			*e*S	Sg	10 57 07.7	-2.0
NSY	**Sanyi**	1.21 255	*e*P	Pg	10 56 53.7	-1.6
NSY			*e*S	Sg	10 57 10.1	-0.8
TWQ1	**Liyutan**	1.22 252	*i* P	Pn	10 56 55.9	+0.8
TWQ1			*e*S	Sg	10 57 10.9	-0.3
WCS	**Beigang Elemen**	1.23 237	*i* P	Pg	10 56 55.3	-0.3
WCS			*e*S	Sg	10 57 10.2	-1.4
VWDT	**VWDT**	1.27 221	*i* P	Pg	10 56 54.9	-1.5
VWDT			*e*S	Sg	10 57 12.9	0.0
WDJ	**Dajia District**	1.33 254	*e*P	Pb	10 56 57.4	+0.3
WDJ			*e*S	Sn	10 57 15.1	+0.7
SMLT	**Sun Moon Lake**	1.34 231	*i* P	Pn	10 56 56.4	-0.5
SMLT			*e*S	Sg	10 57 14.5	-0.7
HGSD	**Ruisui**	1.35 205	*i* P	Pn	10 56 57.1	+0.1
HGSD			*e*S	Sg	10 57 15.3	-0.3
TYC	**Yuchr**	1.36 233	*i* P	Pn	10 56 57.3	+0.3
TYC			*e*S	Sg	10 57 15.5	-0.2
SSLB	**Suanglung**	1.36 227	P	Pn	10 56 56.8	-0.4
SSLB	**Suanglung**	1.36 227	*i* P	Pn	10 56 56.6	-0.6
SSLB			S	Sg	10 57 13.4	-2.6
TCU	**Taichung**	1.37 245	P	Pb	10 56 59.8	+2.0
TCU			*e*S	Sn	10 57 18.1	+2.6
EHY	**Hungye**	1.38 209	*i* P	Pn	10 56 56.4	-1.0
EHY			S	Sg	10 57 15.4	-1.1
YULB	**Yu-li**	1.49 207	P	Pn	10 56 59.1	+0.2
YULB	**Yu-li**	1.49 207	*i* P	Pn	10 56 58.9	0.0
YULB			S	Sn	10 57 19.3	+0.8
WHYT	**Xinyi Township**	1.49 227	*i* P	Pb	10 57 00.2	+0.3
WHYT			*e*S	Sn	10 57 18.2	-0.4
WNT	**Mingjian**	1.50 236	*e*P	Pg	10 57 01.8	+0.9
WNT			*e*S	Sg	10 57 21.8	+1.5
WJS	**Zhushan**	1.50 233	*i* P	Pg	10 57 01.0	+0.2
WJS			S	Sg	10 57 20.5	+0.2
EYUL	**Yuli**	1.52 206	P	Pn	10 56 59.5	+0.1
EYUL			*e*S	Sn	10 57 18.7	-0.5
TWF1	**Yuli**	1.53 207	*i* P	Pn	10 56 58.4	-1.0
TWF1			*e*S	Sn	10 57 20.6	+1.2
IRIF	**Iriomote-Funau**	1.59 104	*e*P	Pn	10 56 58.9	-1.3
IRIF			*e*S	Sn	10 57 19.0	-1.7
CHKH	**Chenggong**	1.64 201	*i* P	Pn	10 57 00.7	-0.2
CHKH			*e*S	Sn	10 57 22.8	+0.8
ALS	**Alishan**	1.66 223	*i* P	Pn	10 57 02.4	+1.0
ALS			S	Sn	10 57 24.3	+1.4
FULB	**Fuli**	1.67 204	*i* P	Pn	10 57 01.6	+0.2
FULB			*e*S	Sn	10 57 23.1	+0.3
WGK	**Gukeng**	1.70 233	*e*P	Pn	10 57 03.2	+1.5
WGK			*e*S	Sg	10 57 28.0	+1.2
WDLH	**Douliu**	1.72 233	*e*P	Pg	10 57 04.9	-0.1
WDLH			S	Sg	10 57 27.9	+0.6
ELDTW	**Lidau**	1.79 212	*i* P	Pn	10 57 03.2	+0.1
ELDTW			S	Sn	10 57 27.7	+1.6
WCKO	**Fanlu**	1.83 226	*i* P	Pb	10 57 06.7	+1.0
WCKO			*i* S	Sg	10 57 31.1	0.0
JKRS	**Kuro-shima**	1.86 105	P	Pn	10 57 03.4	-0.5
JKRS			*e*S	Sn	10 57 25.9	-1.5
EDH	**Donghe**	1.87 201	P	Pn	10 57 03.7	-0.4
EDH			S	Sn	10 57 27.5	-0.3
CHN4	**Tsaushan**	1.91 224	*i* P	Pb	10 57 07.3	+0.4
CHN4			*i* S	Sb	10 57 32.5	+1.7
TPUB	**Ta-pu**	1.92 223	*i* P	Pb	10 57 07.2	+0.1
TPUB			S	Sg	10 57 33.4	-0.4
STYH	**Taoyuan**	1.93 217	*i* P	Pn	10 57 05.5	+0.5
STYH			S	Sn	10 57 31.3	+1.9
JIJ	**Ishigaki jima**	1.95 100	*e*S	Sn	10 57 26.9	-2.8
WTP	**Ta-pu**	1.97 222	*i* P	Pb	10 57 07.8	-0.2
WTP			S	Sb	10 57 33.9	+1.3
LONT	**Longtian**	2.00 205	*i* P	Pn	10 57 05.1	-0.7
LONT			*e*S	Sn	10 57 31.7	+0.9
TWK	**Hsinying**	2.03 225	*i* P	Pb	10 57 08.9	-0.1
TWK			*i* S	Sb	10 57 36.5	+2.1
WSL	**Shuilin Townsh**	2.04 235	P	Pn	10 57 07.8	+1.2
WSL			S	Sb	10 57 36.4	+1.7
SNST	**Tainan City**	2.06 224	*i* P	Pb	10 57 09.4	-0.1
SNST			*i* S	Sg	10 57 37.7	-0.6
CHN1	**Nanshi**	2.07 222	*i* P	Pb	10 57 10.6	+0.9
CHN1			S	Sb	10 57 37.5	+2.1
TWG	**Pinlang**	2.09 205	P	Pn	10 57 07.3	+0.1
TWG			*e*S	Sn	10 57 33.5	+0.2
TWGBT	**Beinan**	2.09 205	P	Pn	10 57 08.0	+0.8
TWGBT			*e*S	Sn	10 57 33.5	+0.2
LDUT	**Ludao**	2.11 195	P	Pn	10 57 06.2	-1.2
LDUT			*e*S	Sn	10 57 32.3	-1.4
ECL	**Taimali**	2.34 205	*e*P	Pn	10 57 10.7	+0.1
ECL			*e*S	Sn	10 57 38.6	-0.8
SSD	**Sandimen**	2.36 214	P	Pn	10 57 13.0	+2.2
SSD			*e*S	Sb	10 57 44.5	+0.8
MATB	**Ma-tsu**	2.37 307	P	Pn	10 57 10.5	-0.4
MATB			*e*S	Sn	10 57 39.1	-1.0
TSCK	**Chigu Township**	2.38 229	*e*P	Pb	10 57 14.3	-0.7
TSCK			*e*S	Sb	10 57 44.2	-0.3
MASBT	**Mashibuluo**	2.47 212	*i* P	Pn	10 57 15.0	+2.7
MASBT			*e*S	Sb	10 57 46.9	-0.1
PNG	**Penghu**	2.55 244	*e*P	Pn	10 57 15.1	+1.7
PNG			*e*S	Sn	10 57 46.2	+1.7
PHUB	**P'eng-hu**	2.56 242	P	Pn	10 57 14.0	+0.4
PHUB			*e*S	Sn	10 57 45.7	+1.0
EAST	**Anshuo**	2.58 205	P	Pn	10 57 15.4	+1.5
EAST			*e*S	Sn	10 57 44.8	-0.5
WDGT	**Dungji**	2.62 237	*i* P	Pn	10 57 15.4	+1.0
WDGT			*e*S	Sn	10 57 49.2	+2.9
XPSS	**Dashiqiu**	2.76 323	*e*P	Pn	10 57 16.2	-0.1
XPSS			*e*S	Sn	10 57 49.3	-0.3

IDC 20 10:58:57.8±428.0, 49°.00N×51°.16E, h0km, Error ellipse: s-maj=170.3km s-min=98.4km az=62.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**4.67**	**70**	I	I	11 28 30.0	
	0.1nm,0.6s,baz=257,slow=320,SNR=1.2						
I43RU	**DUBNA INFRASONI**	**1.42**	**318**	I	I	12 06 20.0	
	baz=126,slow=330,SNR=1.5						
I46RU	**ZALESOVO INFRA**	**21.40**	**64**	I	I	13 08 10.0	
	baz=262,slow=327,SNR=1.8						

RSNC 20 11:10:05.2±0.0, 5°.N±1°.×7°.4W±°, h151km±3km, M2.6, mb3.6, ML2.4, MLv2.9, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	**Chingaza**	**0.65**	**182**	P	Pn	11 10 27.5	-0.5
CHIC				S	Sn	11 10 44.3	-1.1
ROSC	**El Rosal**	**0.75**	**234**	P	Pn	11 10 29.1	+0.5
ROSC				S	Sn	11 10 47.8	+1.4
CVER	**Cruz Verde, Cu**	**0.84**	**206**	P	Pn	11 10 29.5	+0.1
CVER				S	Sn	11 10 47.5	-0.2
RUSC	**La Rusia**	**0.87**	**46**	P	Pn	11 10 29.8	+0.2
RUSC				S	Sn	11 10 48.2	0.0
NORC	**Norcasia**	**1.19**	**284**	P	Pn	11 10 31.2	-0.6
NORC				S	Sn	11 10 50.8	-1.3
BARC	**Barichara**	**1.41**	**22**	P	Pn	11 10 33.7	-0.5
BARC				S	Sn	11 10 55.1	-1.2
PTBC	**PUERTO BERRIO,**	**1.46**	**329**	P	Pn	11 10 33.3	-1.1
PTBC				S	Sn	11 10 55.3	-1.5
GUY2C	**Guyana, Caldas**	**1.65**	**268**	P	Pn	11 10 36.1	-0.8
GUY2C				S	Sn	11 11 00.1	-1.1
BRJC	**Barrancabermej**	**1.68**	**359**	P	Pn	11 10 37.2	+0.4
BRJC				S	Sn	11 11 01.1	0.0
NIZA	**Niza - Manizal**	**1.77**	**263**	P	Pn	11 10 38.9	+0.9
NIZA				S	Sn	11 11 04.2	+1.0
ANIL	**Santa Ana**	**1.86**	**245**	P	Pn	11 10 38.4	-0.7
ANIL				S	Sn	11 11 04.0	-1.1
PTGC	**Puerto Gaitan,**	**1.90**	**124**	P	Pn	11 10 38.7	-0.6
PTGC				S	Sn	11 11 03.9	-1.6
PRAC	**Prado**	**1.95**	**217**	P	Pn	11 10 39.2	-0.7
PRAC				S	Sn	11 11 05.6	-0.9
URMC	**La Uribe, Meta**	**2.13**	**198**	P	Pn	11 10 41.7	-0.3
URMC				S	Sn	11 11 10.1	-0.2
TAMC	**Tame, Arauca**	**2.23**	**59**	P	Pn	11 10 43.4	+0.3
TAMC				S	Sn	11 11 12.1	-0.2
PAMC	**Pamplona, Colo**	**2.28**	**26**	P	Pn	11 10 44.6	+0.4
PAMC				S	Sn	11 11 14.8	+0.6
CBOC	**Ciudad Bolivar**	**2.36**	**284**	P	Pn	11 10 44.4	-0.5
CBOC				S	Sn	11 11 13.9	-1.5
ZARC	**Zaragoza, Cauc**	**2.48**	**333**	P	Pn	11 10 44.0	-2.1
ZARC				S	Sn	11 11 15.6	-2.1
OCAC	**Ocana**	**2.96**	**7**	P	Pn	11 10 51.9	-0.4
OCAC				S	Sn	11 11 29.2	+0.4
DBBC	**Dabeiba**	**3.03**	**305**	P	Pn	11 10 52.2	-0.8
DBBC				S	Sn	11 11 28.7	-1.3
SJCC	**San Jacinto, C**	**4.81**	**342**	P	Pn	11 11 13.0	-3.3
SJCC				S	Sn	11 12 00.1	-12
CRJC	**Cerrejon, Guaj**	**5.76**	**8**	P	Pn	11 11 27.2	-1.7
CRJC				S	Sn	11 12 28.5	-5.8

TXNET 20 11:13:03.7, 31°.6N±0°.7×104°.6W±0°.6, h3km±1km, ML2.0/9, Error ellipse: s-maj=1.0km s-min=0.8km az=16.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.55**	**57**	P	Pg	11 13 14.1	-0.1
TPB11				S	Sg	11 13 21.4	+0.1
GDL2	**Guadalupe Moun**	**0.59**	**17**	P	Pg	11 13 15.0	0.0
PECS	**Pecos**	**0.66**	**114**	P	Pg	11 13 16.5	+0.2
PECS				S	Sg	11 13 25.4	+0.5
TPB12	**Southwest of T**	**0.67**	**129**	P	Pg	11 13 16.7	+0.1
TPB12				S	Sg	11 13 25.8	+0.5
MNTX	**Cornudas Mount**	**0.69**	**275**	P	Pg	11 13 17.1	+0.1
MNTX				S	Sg	11 13 26.6	+0.7
TPB07	**Mentone**	**0.77**	**94**	S	Sb	11 13 29.8	-1.0
TPB10	**Southeast of T**	**0.78**	**117**	P	Pg	11 13 29.0	+0.3
TPB10				S	Sg	11 13 29.7	+0.9
CLNB	**Carlsbad**	**0.86**	**43**	P	Pg	11 13 20.1	0.0
VHRN	**Van Horn**	**0.92**	**203**	P	Pg	11 13 21.3	0.0
VHRN				S	Sg	11 13 34.0	+0.8
TPB01	**Permian Basin**	**0.97**	**135**	P	Pg	11 13 21.8	-0.4
TPB01				S	Sg	11 13 35.1	+0.3
CLN7	**Carlsbad 7**	**1.01**	**40**	P	Pg	11 13 22.7	-0.4
TPB03	**Saragosa**	**1.06**	**121**	P	Pg	11 13 24.0	0.0
TPB03				S	Sg	11 13 38.0	+0.2
HTMS	**Hat Mesa**	**1.15**	**43**	S	Sn	11 13 42.5	-0.6
TPB06	**Permian Basin**	**1.16**	**89**	S	Sb	11 13 42.0	+0.3
TPB04	**Verhalen**	**1.20**	**112**	S	Sg	11 13 42.5	+0.3
TPB16	**Coyonosa**	**1.24**	**114**	S	Sb	11 13 44.1	0.0
TPB05	**Hovey Rd**	**1.28**	**123**	S	Sg	11 13 44.8	-0.2
ALPN	**Alpine**	**1.49**	**147**	P	Pn	11 13 30.9	-0.6
ALPN				S	Sb	11 13 50.6	-0.9
CPRX	**Cap Rock**	**1.51**	**23**	P	Pn	11 13 31.6	-0.2
MNHN	**Monahans**	**1.57**	**100**	P	Pb	11 13 33.0	-0.5
MNHN				S	Sb	11 13 54.0	+0.2
TMB04	**Seminole**	**2.02**	**60**	P	Pb	11 13 40.0	-1.2
TMB04				S	Sb	11 14 07.4	+0.6

*BER **20** 11:13:51.7±0.7, 67°.28N×31°.04E, h0km, ML1.6, Suspected explosion*
*HEL **20** 11:13:54.9±0.1, 67°.55N×30°.26E, h0km, ML1.7, Suspected explosion*
*IDC **20** 11:13:54.5±2.7, 67°.43N×29°.96E, h0km, mbtmp2.5/2, ML1.7/2, Error ellipse: s-maj=44.2km s-min=11.5km az=83.0.*
*KOLA **20** 11:13:55.4, 67°.58N×30°.57E, h0km, ML2.2, Error ellipse: s-maj=4.2km s-min=2.1km az=40.0, Kovdor City, Mines*

ISC 20 11:13:53.6±0.8, 67°.55N±0°.02×30°.45E±0°.03, h0km, n41, σ1§06/59, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.38**	**302**	PG	**Pg**	**11 14 00.5**	**-0.3**
VRF				SG	**Sg**	**11 14 05.4**	**-0.3**
APA0	**Apatity Array**	**0.98**	**86**	P	**Pg**	**11 14 11.8**	**-0.6**
APA0				S	**Sg**	**11 14 23.6**	**-1.4**
RAJF	**Raja-Jooseppi**	**1.23**	**320**	PG	**Pg**	**11 14 16.1**	**-1.1**
RAJF				SG	**Sg**	**11 14 31.8**	**-1.3**
KVDA	**Kovda**	**1.28**	**131**	P	**Pg**	**11 14 17.4**	**-0.7**
KVDA				S	**Sg**	**11 14 34.6**	**-0.1**
OLKF	**Oulanka, Finla**	**1.30**	**199**	PG	**Pg**	**11 14 18.1**	**-0.5**
OLKF				MSG		11 14 33.5	
	comp=Z,9.4nm,0.2s						
OLKF				SN	**Sn**	**11 14 38.1**	**+1.0**
KU6	**Riekki**	**1.55**	**188**	PG	**Pn**	**11 14 22.2**	**-0.2**
KU6				MSG		11 14 41.0	
	comp=Z,4.3nm,0.2s						
KU6				SN	**Sn**	**11 14 43.1**	**0.0**
LVZ	**Lovozero**	**1.64**	**76**	S	**Sn**	**11 14 45.0**	**-0.5**
LVZ	**Lovozero**	**1.64**	**76**	PG	**Pg**	**11 14 25.7**	**+0.7**
LVZ				SN	**Sg**	**11 14 47.0**	**+0.8**
MSF	**Maaselka**	**1.74**	**199**	PG	**Pn**	**11 14 25.6**	**+0.6**
MSF				SN	**Sb**	**11 14 48.9**	**+0.2**
RNF	**Rovaniemi**	**1.98**	**243**	PG	**Pn**	**11 14 29.2**	**+0.9**
KU1	**Kurvinen**	**2.03**	**190**	PG	**Pb**	**11 14 30.9**	**-0.3**
KU2	**Taivalkoski**	**2.05**	**207**	PG	**Pb**	**11 14 30.8**	**-0.8**
RANF	**Ranua**	**2.12**	**225**	PG	**Pn**	**11 14 31.2**	**+1.0**
	baz=44						
RANF				SG	**Sb**	**11 14 60.0**	**+0.4**
KLF	**Kolari**	**2.52**	**266**	PB	**Pn**	**11 14 36.3**	**+0.5**
	baz=81						
KLF				MSG		11 15 07.5	
	comp=Z,3.0nm,0.2s						
KLF				SG	**Sb**	**11 15 12.0**	**+0.7**
KEV	**Kevo**	**2.55**	**332**	*e*P	**Pn**	**11 14 37.2**	**+1.1**
KEV				*e*S	**Sb**	**11 15 10.8**	**-1.2**
KEV	**Kevo**	**2.55**	**332**	PB	**Pn**	**11 14 37.2**	**+1.1**
KEV				MSG		11 15 09.3	
	comp=Z,5.3nm,0.2s						
KEV				SG	**Sn**	**11 15 10.7**	**+2.9**
VADS	**Vadso**	**2.61**	**352**	P	**Pn**	**11 14 37.4**	**+0.4**
VADS				S	**Sn**	**11 15 09.4**	**0.0**
VADS	**Vadso**	**2.61**	**352**	*e*P	**Pn**	**11 14 37.5**	**+0.4**
VADS				IAML		11 15 15.3	
	comp=Z,5.7nm,0.6s						
ARA0	**ARCESS Array S**	**2.70**	**320**	*e*P	**Pn**	**11 14 39.1**	**+0.9**
ARA0				*e*S	**Sn**	**11 15 14.4**	**+2.9**
ARA0				IAML		11 15 18.2	
	comp=Z,3.9nm,0.1s						
ARA0	**ARCESS Array S**	**2.70**	**320**	PB	**Pn**	**11 14 39.3**	**+1.1**
ARA0				SG	**Sb**	**11 15 15.5**	**-0.8**
ARCES	**ARCESS Array B**	**2.70**	**320**	Pn	**Pn**	**11 14 38.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=135,slow=15,SNR=32						
ARCES				Sn	**Sn**	**11 15 11.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=139,slow=22,SNR=13						
	comp=Z,3.6nm,1.1s						
ARCES	**ARCESS Array B**	**2.70**	**320**	P	**Pn**	**11 14 39.3**	**+1.1**
ARCES				S	**Sn**	**11 15 13.2**	**+1.7**
HEF	**Hetta**	**2.70**	**292**	*e*P	**Pn**	**11 14 39.6**	**+1.4**
HEF	**Hetta**	**2.70**	**292**	PB	**Pn**	**11 14 39.7**	**+1.4**
	baz=103						
HEF				MSG		11 15 12.6	
	comp=Z,3.5nm,0.2s						
HEF				SG	**Sb**	**11 15 15.0**	**-1.3**
TOF	**Tornio**	**2.84**	**241**	PN	**Pn**	**11 14 40.2**	**+0.1**
TOF				MSG

SCHLR ⇓S **Sn** **11 23 08.0 -0.9**
NEGRR Negrea 1.02 92 ⇓P **Pn** **11 22 50.9 +0.4**
NEGRR ⇓S **Sn** **11 23 09.2 -0.1**
VARL Varlezi 1.04 72 ⇑P **Pn** **11 22 51.6 +0.9**
VARL ⇑S **Sn** **11 23 09.0 -0.7**
BIR Birlad 1.08 50 ⇑P **Pn** **11 22 51.6 +0.6**
BIR ⇓S **Sn** **11 23 09.8 -0.5**
SCTR Scanteiesti 1.10 85 ⇑S **Sn** **11 23 10.5 -0.1**
LEHL Lehliu 1.15 166 ⇑P **Pn** **11 22 52.5 +0.8**
LEHL ⇑S **Sn** **11 23 11.3 -0.1**
GISR Galati 1.15 97 ⇑S **Sn** **11 23 11.2 -0.2**
INCR INCERC-Sediu C 1.16 189 ⇓S **Sn** **11 23 11.4 -0.2**
AMRR Amara 1.17 146 ⇑S **Sn** **11 23 11.5 -0.2**
CIOR Ciorogarla 1.20 199 ⇓S **Sn** **11 23 12.2 -0.1**
BUC1 Bucharest 1.27 193 ⇓S **Sn** **11 23 13.0 -0.5**
CFR Carcaliu 1.27 108 ⇓P **Pn** **11 22 53.2 +0.4**
CFR ⇑S **Sn** **11 23 13.4 0.0**
ARR Arges 1.28 261 ⇑P **Pn** **11 22 53.7 +0.6**
ARR ⇓S **Sn** **11 23 13.3 -0.5**
HARR Harsova 1.39 130 ⇑P **Pn** **11 22 54.2 +0.1**
SGRR Singureni 1.40 193 ⇑P **Pn** **11 22 54.3 +0.1**
SGRR ⇑S **Sn** **11 23 14.9 -1.0**
CICN Ciocanesti 1.45 163 ⇓P **Pn** **11 22 55.2 +0.4**
CICN ⇑S **Sn** **11 23 16.4 -0.4**
HUMR Humele 1.48 225 ⇓P **Pn** **11 22 55.2 +0.2**
HUMR ⇓S **Sn** **11 23 16.9 -0.2**
TNR Turnu Rosu 1.51 273 ⇑P **Pn** **11 22 55.9 +0.5**
TNR ⇑S **Sn** **11 23 17.2 -0.7**
TLBR Topalu 1.55 132 ⇑P **Pn** **11 22 56.4 +0.6**
TLBR ⇑S **Sn** **11 23 17.9 -0.7**
TPGR Topolog 1.58 117 ⇓P **Pn** **11 22 56.5 +0.3**
COPA Copaceanca 1.69 211 ⇑S **Sn** **11 23 20.6 -0.7**
CVDA Cernavoda 1.70 137 ⇓S **Sn** **11 23 20.8 -0.6**
TLCR 1.73 103 ⇑P **Pn** **11 22 58.8 +1.1**
TLCR ⇓S **Sn** **11 23 21.4 -0.7**
ICOR Ion Corvin 1.77 146 ⇑S **Sn** **11 23 22.0 -0.8**
TIRR Tirgusor 1.80 128 ⇑S **Sn** **11 23 22.3 -1.3**
MFTR Murfatlar 2.00 134 ⇑S **Sn** **11 23 26.8 -0.8**
RAZG Razgrad 2.02 178 ⇓P **Pn** **11 23 01.7 +0.5**
RAZG ⇑S **Sn** **11 23 27.1 -1.0**
ZIMR 2.07 202 ⇑S **Sn** **11 23 28.3 -0.9**
MILM Milestii Mici 2.12 50 ⇓*i*P **Pn** **11 23 03.1 +0.8**
50nm,0.1s
MILM *e*S **Sn** **11 23 28.6 -1.6**
140nm,0.1s
MILM dur 11 23 29.6
KIS Kishinev 2.18 49 ⇓*i*P **Pn** **11 23 03.9 +1.0**
20nm,0.1s
KIS *i* S **Sn** **11 23 29.9 -1.5**
140nm,0.3s
KIS dur 11 23 30.0
PSN Preselentsi 2.30 147 *i* P **Pn** **11 23 05.1 +0.7**
PSN *i* S **Sn** **11 23 33.5 -0.5**
NEF NEVSHA 2.40 165 *i* P **Pn** **11 23 06.4 +0.7**
NEF *i* S **Sn** **11 23 35.3 -1.0**
SRE Strehaia 2.46 249 ⇑P **Pn** **11 23 07.1 +0.6**
SRE ⇑S **Sn** **11 23 37.0 -0.6**
PRD Provadia 2.53 163 *i* P **Pn** **11 23 08.1 +0.9**
GZR Gura Zlata 2.58 267 ⇑P **Pn** **11 23 08.8 +0.9**
GZR ⇓S **Sn** **11 23 41.1 +0.9**
AVR AVREN 2.62 160 *i* P **Pn** **11 23 09.8 +1.2**
VALD Valchedram 2.86 229 P **Pn** **11 23 11.8 +0.5**
SORM Soroca 2.87 27 ⇑P **Pn** **11 23 11.9 +0.4**
HERR Herculane 2.92 257 ⇓P **Pn** **11 23 12.1 -0.1**
MPEP Malo Peshtene 2.95 222 *i* P **Pn** **11 23 12.9 +0.4**
MDVR Moldovita 3.43 258 ⇓P **Pn** **11 23 18.9 +0.2**

---

*NOU **20** 11:22:01.6, 17.′00S×176.′41W, h0km, mb4.7/14, Fiji Islands Region*
*IDC **20** 11:23:55.3±1.7, 24.′28S×179.′96W, h497km±18km, mb3.4/9, mbtmp4.4/12, Error ellipse: s-maj=19.8km s-min=15.0km az=96.0*
*NEIC **20** 11:23:55.9±1.3, 24.′2S±0.′1×179.′7W±0.′1, h523km±14km, mb4.4/25, Error ellipse: s-maj=20.9km s-min=19.6km az=198.0*

ISC 20 11:23:55.7±0.5, 24.′38S±0.′06×179.′89W±0.′07, h505km, n91, σ1974/109, mb4.3/21, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.16**	**161**	P	**P**	**11 25 26.2**	**+2.0**
GLKZ	**Green Lake**	**5.17**	**161**	P	**P**	**11 25 24.8**	**+0.4**
GLKZ				S	**S**	**11 26 32.4**	**-4.5**
MSVF	**Nonsavu**	**6.88**	**343**	P	**P**	**11 25 41.0**	**-0.1**
MSVF	**Nonsavu**	**6.88**	**343**	P	**P**	**11 25 39.8**	**-1.3**
34nm,0.5s,baz=164,slow=9.2,SNR=22							
NIUE	**Niue**	**10.65**	**62**	P	**P**	**11 26 18.6**	**-1.5**
NIUE	**Niue**	**10.65**	**62**	P	**P**	**11 26 16.6**	**-3.4**
NIUE				S	**S**	**11 28 23.8**	**+5.0**
PINNC	**Pines Island,**	**11.76**	**276**	P	**P**	**11 26 33.3**	**+1.7**
OUZ	**Omahuta**	**12.19**	**206**	P	**P**	**11 26 38.6**	**+2.5**
OUZ	**Omahuta**	**12.19**	**206**	P	**P**	**11 26 38.6**	**+2.5**
DZM	**Mont Dzumac**	**12.78**	**278**	P	**P**	**11 26 43.8**	**+1.3**
DZM	**Mont Dzumac**	**12.78**	**278**	P	**P**	**11 26 42.6**	**0.0**
9.1nm,0.7s,baz=75,slow=17,SNR=5.4							
KUZ	**Kuaotunu**	**12.89**	**196**	P	**P**	**11 26 44.5**	**+1.1**
KUZ	**Kuaotunu**	**12.89**	**196**	P	**P**	**11 26 44.5**	**+1.1**
MXZ	**Matakaoa Point**	**13.23**	**186**	P	**P**	**11 26 47.7**	**+0.7**
MXZ	**Matakaoa Point**	**13.23**	**186**	P	**P**	**11 26 48.5**	**+1.4**
MXZ				S	**S**	**11 29 06.3**	**-2.1**
ETAZ	**East Tamaki Re**	**13.30**	**198**	P	**P**	**11 26 48.5**	**+0.7**
MKAZ	**Moumakai**	**13.38**	**197**	P	**P**	**11 26 49.6**	**+1.1**
WMGZ	**Waiomatatini S**	**13.48**	**186**	P	**P**	**11 26 47.1**	**-2.5**
HAZ	**Te Kaha**	**13.49**	**188**	P	**P**	**11 26 49.4**	**-0.3**
HAZ				P	**S**	**11 29 16.6**	**+3.4**
AWAZ	**Awhitu Peninsu**	**13.49**	**199**	P	**P**	**11 26 50.1**	**+0.4**
PKGZ	**Pakihiroa**	**13.56**	**187**	P	**P**	**11 26 48.7**	**-1.9**
PKGZ				S	**S**	**11 29 16.7**	**+2.0**
RUGZ	**Raukumara Rang**	**13.71**	**188**	P	**P**	**11 26 50.7**	**-1.5**
RUGZ				S	**S**	**11 29 17.7**	**+0.1**
PUZ	**Puketiti**	**13.74**	**186**	P	**P**	**11 26 50.5**	**-1.9**
PUZ				S	**S**	**11 29 18.6**	**+0.4**
TWGZ	**Tauwhareparae**	**13.88**	**187**	P	**P**	**11 26 55.6**	**+1.7**
TWGZ				S	**S**	**11 29 22.6**	**+1.8**
TOZ	**Tahuroa Road**	**13.88**	**195**	P	**P**	**11 26 55.0**	**+1.1**
TOZ	**Tahuroa Road**	**13.88**	**195**	P	**P**	**11 26 58.0**	**+4.2**
OMRZ	**Omania**	**14.05**	**192**	P	**P**	**11 26 59.5**	**+3.7**
URZ	**Urewera**	**14.07**	**190**	P	**P**	**11 26 55.5**	**-0.3**
11nm,0.3s,baz=20,slow=2.7,SNR=25							
URZ				S	**S**	**11 29 23.0**	**-1.5**
17nm,0.7s,baz=307,slow=23,SNR=14							
URZ	**Urewera**	**14.07**	**190**	P	**P**	**11 26 55.9**	**0.0**
URZ	**Urewera**	**14.07**	**190**	P	**P**	**11 26 52.4**	**-3.4**
URZ				S	**S**	**11 29 21.1**	**-3.4**
MWZ	**Matawai**	**14.09**	**188**	P	**P**	**11 26 52.4**	**-3.6**
MWZ				S	**S**	**11 29 26.7**	**+1.8**
CNGZ	**Carnagh Statio**	**14.16**	**186**	P	**P**	**11 26 56.3**	**-0.4**
CNGZ				S	**S**	**11 29 27.1**	**+1.0**
MUGZ	**Murupara**	**14.34**	**191**	P	**P**	**11 26 56.7**	**-2.0**
MUGZ				S	**S**	**11 29 28.2**	**-1.5**
RIGZ	**Rimuhau**	**14.43**	**187**	P	**P**	**11 27 01.7**	**+2.1**
RIGZ				S	**S**	**11 29 29.7**	**-1.7**
TLZ	**Tolley Road**	**14.45**	**195**	P	**P**	**11 27 03.5**	**+3.6**
SNGZ	**Shannon Statio**	**14.55**	**189**	P	**P**	**11 27 01.5**	**+0.6**
SNGZ				S	**S**	**11 29 29.5**	**-4.3**
MRHZ	**Matea Rd**	**14.75**	**191**	P	**P**	**11 27 03.4**	**+0.4**
MRHZ				S	**S**	**11 29 33.9**	**-3.7**
HIZ	**Hauiti**	**14.79**	**196**	P	**P**	**11 27 06.1**	**+2.7**
MHGZ	**Mahia Peninsul**	**14.85**	**187**	P	**P**	**11 27 02.8**	**-1.3**
BKZ	**Black Stump Fm**	**15.06**	**191**	P	**P**	**11 27 06.0**	**-0.3**
TMVZ	**Te Maari**	**15.16**	**193**	P	**P**	**11 27 07.7**	**+0.3**
TMVZ				S	**S**	**11 29 45.5**	**-0.1**
NGZ	**Ngauruhoe**	**15.24**	**193**	P	**P**	**11 27 07.7**	**-0.6**
SNVZ	**South Ngauruho**	**15.24**	**193**	P	**P**	**11 27 08.8**	**+0.5**
TUVZ	**Tukino**	**15.32**	**193**	P	**P**	**11 27 09.0**	**-0.1**
TUVZ				S	**S**	**11 29 46.1**	**-2.5**
WAZ	**Wanganui**	**15.93**	**195**	P	**P**	**11 27 16.0**	**+0.7**
BFZ	**Birch Farm**	**16.58**	**190**	P	**P**	**11 27 20.9**	**-1.1**
BFZ	**Birch Farm**	**16.58**	**190**	P	**P**	**11 27 20.6**	**-1.4**
SNZO	**South Karori**	**17.48**	**194**	P	**P**	**11 27 30.4**	**-0.4**
QRZ	**Quartz Range**	**17.59**	**199**	P	**P**	**11 27 31.2**	**-0.6**
KHZ	**Kahutara**	**18.80**	**195**	P	**P**	**11 27 42.0**	**-0.8**
RPZ	**Rata Peaks**	**20.67**	**199**	P	**P**	**11 27 59.8**	**-0.1**
10nm,0.5s,baz=49,slow=1.2,SNR=10							
10nm,0.5s							
RPZ	**Rata Peaks**	**20.67**	**199**	P	**P**	**11 28 01.2**	**+1.3**
JCZ	**Jackson Bay**	**21.73**	**202**	P	**P**	**11 28 11.1**	**+1.5**
ODZ	**Otahua Downs**	**22.01**	**198**	P	**P**	**11 28 13.0**	**+1.0**
ARMA	**Armidale**	**25.95**	**250**	P	**P**	**11 28 48.4**	**+1.0**
ARMA				IAmb	IAmb	11 29 01.3	
comp=Z,9.4nm,1.1s							
EIDS	**Eidsvold**	**26.34**	**262**	P	**P**	**11 28 50.9**	**+0.1**
EIDS				IAmb	IAmb	11 29 14.2	
comp=Z,21nm,1.2s							
CAN	**Canberra**	**29.00**	**241**	P	**P**	**11 29 15.1**	**+1.1**
TOO	**Toolangi**	**32.28**	**238**	P	**P**	**11 29 42.2**	**0.0**
STKA	**Stephens Creek**	**34.64**	**249**	P	**P**	**11 30 02.8**	**+0.5**
STKA	**Stephens Creek**	**34.64**	**249**	P	**P**	**11 30 02.8**	**+0.5**
comp=Z,1.7nm,0.5s,baz=99,slow=12,SNR=7.6							
comp=Z,1.7nm,0.5s							
PMG	**Port Moresby**	**34.75**	**290**	P	**P**	**11 30 01.4**	**-1.9**
PMG				IAmb	IAmb	11 30 16.8	
comp=Z,21nm,1.4s							
COEN	**Coen**	**36.29**	**280**	P	**P**	**11 30 15.9**	**-0.3**
COEN				IAmb	IAmb	11 30 39.5	
comp=Z,11nm,1.1s							
BBOO	**Buckleboo**	**39.35**	**247**	P	**P**	**11 30 40.6**	**-0.5**
AS31	**Alice Springs**	**42.06**	**261**	P	**P**	**11 31 02.6**	**-0.2**
ASAR	**Alice Springs**	**42.06**	**261**	P	**P**	**11 31 02.1**	**-0.8**
ASAR	**Alice Springs**	**42.06**	**261**	P	**P**	**11 31 02.5**	**-0.3**
comp=Z,1.3nm,0.4s,baz=93,slow=6.6,SNR=32							
ASAR				ScP	**ScP**	**11 35 49.6**	**+1.2**
comp=Z,0.5nm,0.6s,baz=114,slow=4.7,SNR=5.9							
comp=Z,1.3nm,0.4s							
WR0	**Warramunga Arr**	**42.29**	**267**	P	**P**	**11 31 03.7**	**-0.9**
WR0				IAmb	IAmb	11 31 07.5	
comp=Z,12nm,1.4s							
WR8	**Warramunga Arr**	**42.33**	**267**	P	**P**	**11 31 04.1**	**-0.8**
WR8				IAmb	IAmb	11 31 27.1	
comp=Z,16nm,1.4s							
WB2	**Warramunga Arr**	**42.47**	**267**	P	**P**	**11 31 05.4**	**-0.7**
WB2				IAmb	IAmb	11 31 07.3	
comp=Z,8.8nm,1.2s							
WRAB	**Tennant Creek**	**42.47**	**267**	P	**P**	**11 31 05.2**	**-0.9**
WRAB				IAmb	IAmb	11 31 06.3	
comp=Z,15nm,1.4s							
WB0	**Warramunga Arr**	**42.47**	**267**	P	**P**	**11 31 05.4**	**-0.7**
WB0				IAmb	IAmb	11 31 05.9	
comp=Z,6.0nm,0.5s							
WRA	**Warramunga Arr**	**42.48**	**267**	P	**P**	**11 31 05.6**	**-0.6**
WRA	**Warramunga Arr**	**42.48**	**267**	P	**P**	**11 31 05.4**	**-0.7**
comp=Z,3.5nm,0.3s,baz=98,slow=8.4,SNR=105							
comp=Z,3.5nm,0.3s							
FORT	**Forrest**	**46.24**	**250**	P	**P**	**11 31 34.5**	**-0.6**
MTN	**Manton Dam**	**47.59**	**275**	P	**P**	**11 31 44.4**	**-1.2**
MTN				IAmb	IAmb	11 32 06.7	
comp=Z,20nm,1.4s							
KNRA	**Kununurra**	**48.79**	**270**	P	**P**	**11 31 54.2**	**-0.2**
KNRA				IAmb	IAmb	11 31 54.8	
comp=Z,7.4nm,0.5s							
FITZ	**Fitzroy Crossi**	**50.90**	**266**	P	**P**	**11 32 09.9**	**0.0**
VNDA	**Vanda**	**53.92**	**185**	P	**P**	**11 32 32.4**	**+1.7**
VNDA	**Vanda**	**53.92**	**185**	P	**P**	**11 32 32.0**	**+1.4**
comp=Z,1.1nm,0.6s,baz=9.1,slow=8.0,SNR=7.4							
comp=Z,1.1nm,0.6s							
PSA00	**Pilbara Seismi**	**55.18**	**260**	P	**P**	**11 32 39.5**	**-1.0**
PSA00				IAmb	IAmb	11 32 58.5	
comp=Z,44nm,1.5s							
MORW	**Morawa**	**56.81**	**250**	P	**P**	**11 32 51.0**	**-0.7**
MORW				IAmb	IAmb	11 33 19.3	
comp=Z,38nm,1.4s							
QSPA	**South Pole Qui**	**65.71**	**180**	P	**P**	**11 33 51.0**	**+1.4**
QSPA	**South Pole Qui**	**65.71**	**180**	P	**P**	**11 33 50.8**	**+1.1**
comp=Z,9.5nm,0.7s,baz=38,slow=4.3,SNR=3.9							
comp=Z,9.5nm,0.7s							
BELA	**Belgrano 2**	**75.95**	**173**	P	**P**	**11 34 50.0**	**+0.2**
MAW	**Mawson**	**77.34**	**200**	P	**P**	**11 34 56.7**	**-0.7**
PETK	**Petropavlovsk-**	**79.58**	**346**	P	**P**	**11 35 09.0**	**-0.5**
comp=Z,3.8nm,1.0s,baz=124,slow=6.0,SNR=7.1							
comp=Z,3.8nm,1.0s							
TROLL	**Troll, Antarti**	**83.86**	**181**	⇑P	**P**	**11 35 31.7**	**+0.2**
comp=Z,252nm,0.4s							
TXAR	**Lajitas Array**	**90.60**	**58**	P	**P**	**11 36 05.3**	**+1.3**
comp=Z,0.5nm,0.7s,baz=199,slow=6.2,SNR=6.4							
comp=Z,0.5nm,0.7s							
ILAR	**Eielson Array**	**92.47**	**14**	P	**P**	**11 36 10.5**	**-1.2**
comp=Z,0.3nm,0.7s,baz=229,slow=5.8,SNR=4.5							
comp=Z,0.3nm,0.7s							
HFS	**Hagfors**	**143.03**	**349**	PKhKP	PKPpre	11 42 27.5	
comp=Z,1.0nm,0.5s,baz=66,slow=3.6,SNR=15							
AKASG	**Malin Array Be**	**145.42**	**327**	PKPbc	**PKPdf**	**11 42 35.4**	**-0.1**
comp=Z,0.7nm,0.5s,baz=45,slow=3.6,SNR=4.6							

---

*NEIC **20** 11:25:02.3±0.8, 19.′35N±0.′01×155.′024W±0.′009, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=337.0*

HVO 20 11:25:01.9±1.1, 19.′35N±0.′02×155.′04W±0.′01, h2km±8km, ML2.6/33, ML2.6/36(NEIC), Error ellipse: s-maj=2.5km s-min=1.4km az=144.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.07**	**301**		Pg	11 25 06.0	+2.6
NPOC	**North of Pu'u**	**0.08**	**303**		Pg	11 25 06.2	+2.6
JOKA	**Jonika Flow**	**0.09**	**19**		Pg	11 25 04.2	+0.4
JOKA				IAML		11 25 06.7	
comp=E,3μm,0.6s							
STCH	**Steam Cracks**	**0.09**	**295**		Pg	11 25 04.5	+0.7
STCH				IAML		11 25 06.8	
comp=E,3μm,0.3s							
STCH				IAML		11 25 07.0	
comp=N,4μm,0.2s							
KNHH	**Kane Nui o Ham**	**0.13**	**285**		Pg	11 25 05.2	+0.6
PUH	**Pauahi**	**0.17**	**279**		Pg	11 25 05.8	+0.5
BYL	**Byron's Ledge**	**0.22**	**287**		Pg	11 25 06.6	+0.4
KKO	**Keanakako'i**	**0.22**	**283**		Pg	11 25 06.8	+0.5
KKO					Sg	11 25 10.1	+0.9
HATHI	**Halema'uma'u T**	**0.23**	**290**		Pg	11 25 06.7	+0.4
RIM	**Rim**	**0.23**	**282**		Pg	11 25 06.8	+0.4
RIM					Sg	11 25 10.4	+1.0
SBLHI	**Steaming Bluff**	**0.23**	**290**		Pg	11 25 06.8	+0.4
SBLHI					Sg	11 25 11.1	+1.5
UWB	**Uwekahuna Bluf**	**0.24**	**289**		Pg	11 25 07.4	+0.8
UWB					Sg	11 25 11.5	+1.7
SDHHI	**Sand Hill**	**0.25**	**280**		Pg	11 25 07.6	+0.9
SDHHI					Sg	11 25 11.9	+1.9
UWE	**Uwekahuna**	**0.25**	**287**		Pg	11 25 07.6	+0.8
UWE				IAML		11 25 13.1	
comp=E,1μm,0.3s							
UWE				IAML		11 25 15.5	
comp=N,1μm,0.5s							
RSD	**Rainshed**	**0.26**	**297**		Pn	11 25 12.8	-0.1
WRMHI	**West Rim**	**0.26**	**283**		Pg	11 25 07.4	+0.5
WRMHI					Sb	11 25 12.7	-1.6
HLP	**Hilina Pali**	**0.26**	**259**	Pg	Pg	11 25 07.7	+0.7
HLP				IAML		11 25 13.3	
comp=E,985nm,0.2s							
HLP				IAML		11 25 13.3	
comp=N,1μm,0.2s							
HTC	**Hot Caves**	**0.36**	**252**		Pg	11 25 09.8	+1.0
MLH	**Mauna Loa**	**0.36**	**294**		Pg	11 25 09.5	+0.6
MLH					Sg	11 25 15.3	+1.7
HMH	**Humu'ula Sheep**	**0.49**	**301**		Pg	11 25 12.0	+0.6
MWH	**Mokuaweoweo**	**0.55**	**285**		Pg	11 25 12.3	-0.2
MWH					Sg	11 25 20.8	+1.2
MWH				IAML		11 25 26.8	
comp=N,533nm,0.4s							
KHU	**Kahuku**	**0.56**	**260**	Pg	Pg	11 25 12.4	-0.3
KHU				IAML		11 25 19.0	
comp=E,397nm,3.4s							
KHU				IAML		11 25 30.5	
comp=N,341nm,2.6s							
ALEP	**Alea Permanent**	**0.61**	**289**		Pg	11 25 13.2	-0.4
ALEP					Sg	11 25 22.3	+0.8
POHA	**Pohakuloa**	**0.62**	**311**		Pg	11 25 13.4	-0.5
POHA				IAML		11 25 31.4	
comp=N,411nm,0.4s							
POHA	**Pohakuloa**	**0.62**	**311**		Sg	11 25 21.9	-0.1
HUH	**Hualalai**	**0.83**	**294**	Pg	Pg	11 25 16.6	-1.2

IDC 20 11:28:04.0±422.0, 48.′68N×50.′06E, h0km, Error ellipse: s-maj=143.9km s-min=110.9km az=49.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.47**	**69**	I	I	12 01 10.0	
0.1nm,0.6s,baz=256,slow=319,SNR=1.5							
I43RU	**DUBNA INFRASONI**	**1.19**	**321**	I	I	12 35 00.0	
baz=130,slow=328,SNR=2.2							
I46RU	**ZALESOVO INFRA**	**22.20**	**63**	I	I	13 41 40.0	
baz=263,slow=327,SNR=0.7							

IDC 20 12:41:32.7±9.2, 18.′94N×108.′51W, h0km, mb3.2/3, mbtmp3.1/4, ML2.8/1, MS2.6/1, Error ellipse: s-maj=159.2km s-min=77.5km az=152.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**5.40**	**342**	LR	LR	12 44 08.9	
comp=Z,54nm,19.7s,baz=196,slow=29							
TXAR	**Lajitas Array**	**11.25**	**22**	Pn	Pn	12 44 15.9	+1.1
baz=214,slow=10,SNR=1.5							
0.1nm,0.6s							
NVAR	**Mina Array Bea**	**21.21**	**338**	P	P	12 46 20.3	+0.1
0.8nm,0.8s,baz=160,slow=13,SNR=5.2							
0.8nm,0.8s							
YKA	**Yellowknife Ar**	**43.72**	**356**	P	P	12 49 39.5	+0.1
0.2nm,0.7s,baz=176,slow=7.9,SNR=4.8							
0.2nm,0.7s							
ILAR	**Eielson Array**	**52.45**	**340**	P	P	12 50 46.5	-0.4
0.3nm,0.7s,baz=142,slow=5.5,SNR=4.5							
0.3nm,0.7s							
H03N2	**Juan Fernandez**	**59.24**	**151**	T	T	13 56 49.9	
baz=329,slow=77,SNR=9.0							
H03N1	**Juan Fernandez**	**59.26**	**151**	T	T	13 56 52.8	
baz=329,slow=77,SNR=12							
H03N3	**Juan Fernandez**	**59.26**	**151**	T	T	13 56 52.0	
baz=329,slow=77,SNR=12							

---

*IDC **20** 12:45:19.0±2.4, 5.′08S×144.′79E, h75km±23km, mb3.6/8, mbtmp4.0/11, MS3.2/6, Error ellipse: s-maj=18.3km s-min=15.6km az=78.0*
*NEIC **20** 12:45:21.0±1.4, 5.′06S±0.′08×144.′81E±0.′07, h82km±10km, mb4.2/18, Error ellipse: s-maj=11.4km s-min=9.6km az=184.0*

ISC 20 12:45:20.1±0.6, 5.′05S±0.′07×144.′74E±0.′07, h82km, n54, σ1921/51, mb4.1/14, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.97**	**41**		**Pn**	**12 46 18.7**	**0.0**
JAY	**Jayapura**	**4.75**	**302**	P	**Pn**	**12 46 30.2**	**+0.9**
9.3nm,0.4s,baz=219,slow=9.1,SNR=12							
PMG	**Port Moresby**	**4.95**	**151**		**Pn**	**12 46 31.3**	**-0.8**
PMG	**Port Moresby**	**4.95**	**151**	P	**Pn**	**12 46 30.6**	**-1.5**
51nm,0.4s,baz=33,slow=4.9,SNR=37							
PMG				S	**Sn**	**12 47 26.0**	**-2.1**
19nm,0.3s,baz=314,slow=22,SNR=1.5							
PMG				LR	LR	12 48 28.5	
comp=Z,62nm,19.7s,baz=310,slow=39							
PMG	**Port Moresby**	**4.95**	**151**	P	**Pn**	**12 46 31.3**	**-0.8**
PMG	**Port Moresby**	**4.95**	**151**	P	**Pn**	**12 46 31.4**	**-0.8**
COEN	**Coen**	**8.99**	**190**		**Pn**	**12 47 28.8**	**+1.5**
COEN	**Coen**	**8.99**	**190**	P	**Pn**	**12 47 28.3**	**+1.1**
MTSU	**Mount Surprise**	**13.02**	**182**	P	**Pn**	**12 48 23.1**	**+1.2**
KDU	**Kakadu**	**14.29**	**237**	P	**Pn**	**12 48 37.0**	**-1.7**
TATA	**Tatamba Isabel**	**15.32**	**103**	P	**Pn**	**12 48 52.0**	**+0.1**
MTN	**Manton Dam**	**15.51**	**239**	Pn	**Pn**	**12 48 54.0**	**-0.2**
WB0	**Warramunga Arr**	**17.77**	**214**	P	**P**	**12 49 22.7**	**+0.8**
WB0				IAmb	IAmb	12 49 37.9	
comp=Z,26nm,1.2s							
WR8	**Warramunga Arr**	**17.86**	**213**	P	**P**	**12 49 24.0**	**+1.0**
WR8				IAmb	IAmb	12 49 38.3	
comp=Z,14nm,0.8s							
WRAB	**Tennant Creek**	**17.92**	**213**	P	**P**	**12 49 24.5**	**+0.9**
WRAB				IAmb	IAmb	12 49 39.0	
comp=Z,14nm,0.9s							
WRA	**Warramunga Arr**	**17.94**	**213**	P	**P**	**12 49 24.2**	**+0.4**
WRA	**Warramunga Arr**	**17.94**	**213**	P	**P**	**12 49 23.6**	**-0.2**
comp=Z,7.5nm,0.8s,baz=39,slow=12,SNR=45							
WRA				S	**Sn**	**12 52 42.7**	**-1.4**
comp=Z,3.1nm,1.2s,baz=31,slow=19,SNR=4.9							
GUMO	**Guam**	**18.51**	**0**	LR	LR	12 56 18.5	
comp=Z,37nm,18.7s,baz=145,slow=36							
KNRA	**Kununurra**	**18.92**	**235**	P	**Pn**	**12 49 36.1**	**+0.1**
KNRA				IAmb	IAmb	12 49 51.3	
comp=Z,11nm,0.7s							
EIDS	**Eidsvold**	**21.11**	**164**	P	**P**	**12 49 58.2**	**+0.1**
EIDS				IAmb	IAmb	12 50 20.8	
comp=Z,35nm,1.5s							
EIDS	**Eidsvold**	**21.11**	**164**	P	**P**	**12 50 01.8**	**+3.6**
AS01	**Alice Springs**	**21.23**	**208**	P	**P**	**12 50 00.0**	**+0.4**
AS31	**Alice Springs**	**21.25**	**208**	P	**P**	**12 50 00.2**	**+0.4**
ASAR	**Alice Springs**	**21.26**	**208**	P	**P**	**12 49 59.7**	**-0.2**
ASAR	**Alice Springs**	**21.26**	**208**	P	**P**	**12 50 00.1**	**+0.2**
comp=Z,2.4nm,0.6s,baz=32,slow=13,SNR=49							
comp=Z,2.4nm,0.6s							
FITZ	**Fitzroy Crossi**	**22.73**	**234**	P	**P**	**12 50 15.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**22.73**	**234**	P	**P**	**12 50 15.2**	**-0.4**
comp=Z,5.1nm,0.7s,baz=45,slow=12,SNR=20							
comp=Z,5.1nm,0.7s							
FITZ	**Fitzroy Crossi**	**22.73**	**234**	P	**P**	**12 50 14.7**	**-0.9**
OOD	**Oodnadatta**	**24.21**	**200**	P	**P**	**12 50 31.1**	**+1.9**
TOLI2	**Tolitoli**	**24.70**	**284**	P	**P**	**12 50 30.1**	**-3.7**
WRKA	**War

*SKHL **20** 13:05:00.7±0.3,42°.60N×142°.80E,h39km±4km,mb4.7/3*
ISC 20 13:04:58.8±1.2,42°.62N±0°.03×142°.74E±0°.02,h12km±7km, n50,σ1§49/61,mb3.5/10,13D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSHD	**Hidakashinhida**	**0.29**	**223**	⇓*i*P	**Pn**	**13 05 06.9**	**-1.9**
JSHD				⇓S	**Sb**	**13 05 13.2**	**+2.5**
JBT2	**Biratori 2**	**0.32**	**299**	⇓*i*P	**Pg**	**13 05 05.4**	**+0.1**
JBT2				⇓S	**Sg**	**13 05 09.6**	**0.0**
JNBK	**Urakawa-nobuka**	**0.34**	**178**	*i*P	**Pn**	**13 05 08.1**	**-1.5**
JNBK				*e*S	**Sb**	**13 05 14.5**	**+2.3**
JCH	**Churui**	**0.46**	**91**	⇓*i*P	**Pn**	**13 05 10.1**	**-1.1**
JCH				⇓S	**Sb**	**13 05 17.8**	**+2.2**
JFR	**Furan**	**0.55**	**349**	*i*P	**Pg**	**13 05 09.0**	**-0.6**
JFR				S	**Sg**	**13 05 16.3**	**-0.6**
JIAM	**Iburiatsuma**	**0.60**	**270**	⇓P	**Pn**	**13 05 12.4**	**-0.8**
JEM	**Erimo**	**0.68**	**153**	*i*P	**Pn**	**13 05 14.0**	**-0.2**
JOB	**Onbets**	**0.85**	**71**	*i*P	**Pn**	**13 05 16.3**	**-0.3**
JOB				S	**Sn**	**13 05 30.3**	**+1.2**
JAB	**Ashibetsu**	**0.96**	**337**	*i*P	**Pg**	**13 05 16.8**	**-0.5**
JEW	**Eniwo**	**0.97**	**283**	⇓*i*P	**Pn**	**13 05 17.5**	**-0.7**
JEW				⇓S	**Sn**	**13 05 31.5**	**-0.5**
JAR	**Ashorobuto**	**1.01**	**48**	⇓*i*P	**Pg**	**13 05 18.1**	**-0.3**
JAR				⇓S	**Sb**	**13 05 32.1**	**+0.6**
JISS	**Ishikarishitsu**	**1.17**	**304**	⇓*i*P	**Pn**	**13 05 20.3**	**-0.6**
JISS				⇓S	**Sb**	**13 05 36.0**	**0.0**
JKA	**Kamikawa-asahi**	**1.50**	**356**	*e*P	**Pn**	**13 05 25.4**	**-0.1**
ASAJ	**Asahikawa**	**1.50**	**356**	Pn	**Pn**	**13 05 25.4**	**0.0**
	146nm,0.3s,baz=206,slow=19,SNR=350						
ASAJ				Sn	**Sn**	**13 05 45.7**	**+0.8**
	43nm,0.3s,baz=31,slow=14,SNR=16						
AKK	**Akkeshi**	**1.60**	**75**	*e*P	**Pn**	**13 05 25.5**	**-1.3**
NMR	**Nemuro--Hokkai**	**2.32**	**70**	*e*PN	**Pn**	**13 05 36.0**	**-0.7**
NMR				*e*S	**Sn**	**13 06 02.3**	**-2.8**
NMR	**Nemuro--Hokkai**	**2.32**	**70**	*e*P	**Pn**	**13 05 35.7**	**-1.0**
NMR				*e*S	**Sn**	**13 06 03.3**	**-1.8**
RUSJ	**Misakicho**	**2.35**	**50**	PN	**Pn**	**13 05 37.9**	**+0.7**
RUSJ				*e*S	**Sg**	**13 06 12.6**	**-1.9**
YUK	**Yuzh-Kuril'sk**	**2.68**	**57**	*e*PN	**Pn**	**13 05 42.6**	**+0.9**
YUK				*e*S	**Sn**	**13 06 16.0**	**+1.9**
YUK				pmax	pmax		
	comp=Z,151nm,0.2s						
YUK				pmax	pmax		
	comp=E,21nm,0.1s						
YUK				smax	smax		
	comp=N,318nm,0.4s						
YUK				smax	smax		
	comp=E,94nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.68**	**57**	*e*P	**Pn**	**13 05 42.0**	**+0.3**
YUK				AMB	AMB	13 05 43.1	
	comp=E,100nm,0.2s						
YUK				*e*S	**Sn**	**13 06 14.5**	**+0.4**
YUK				A	A	13 06 16.9	
	comp=E,320nm,0.3s						
YUK				A	A	13 06 16.9	
	comp=E,160nm,0.3s						
SHO	**Shikotan**	**3.24**	**66**	*e*PN	**Pn**	**13 05 49.3**	**-0.1**
SHO				pmax	pmax		
	comp=N,4.0nm,0.1s						
SHO				pmax	pmax		
	comp=E,2.0nm,0.1s						
SHO				pmax	pmax		
	comp=Z,21nm,0.1s						
SHO	**Shikotan**	**3.24**	**66**	*e*P	**Pn**	**13 05 49.5**	**+0.1**
SHO				AMB	AMB	13 05 50.9	
	comp=Z,30nm,0.3s						
SHO				*e*S	**Sn**	**13 06 26.0**	**-1.8**
SHO				A	A	13 06 27.2	
	comp=Z,90nm,0.3s						
SHO				A	A	13 06 27.2	
	comp=Z,200nm,0.3s						
YSS	**Yuzhno-Sakhali**	**4.33**	**0**	*e*PN	**Pn**	**13 06 05.1**	**+0.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS				MLR	MLR		
	comp=N,100nm,14.0s						
YSS				MLR	MLR		
	comp=E,200nm,14.0s						
YSS	**Yuzhno-Sakhali**	**4.33**	**0**	*e*P	**Pn**	**13 06 06.0**	**+1.6**
YSS				*e*S	**Sn**	**13 06 52.4**	**-2.3**
KUR	**Kuril'sk**	**4.53**	**53**	*e*PN	**Pn**	**13 06 10.7**	**+3.6**
KUR				*e*S	**Sn**	**13 07 03.8**	**+4.1**
KUR				pmax	pmax		
	comp=Z,46nm,0.5s						
KUR	**Kuril'sk**	**4.53**	**53**	*e*P	**Pn**	**13 06 08.1**	**+1.0**
KUR				AMB	AMB	13 06 11.1	
	comp=Z,90nm,0.6s						
KUR				*e*S	**Sn**	**13 06 58.5**	**-1.2**
KUR				A	A	13 07 03.0	
	comp=Z,40nm,0.3s						
KUR				A	A	13 07 03.0	
	comp=Z,30nm,0.3s						
MJAR	**Matsushiro Arr**	**7.01**	**211**	Pn	**Pn**	**13 06 40.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=19,slow=14,SNR=7.6						
	comp=Z,3.2nm,0.8s						
KLR	**Kul'dur**	**10.11**	**315**	LR	LR	13 11 31.3	
	comp=Z,54nm,19.0s,baz=136,slow=39						
KSRS	**Korea Array**	**12.47**	**250**	Pn	**Pn**	**13 07 58.2**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=60,slow=14,SNR=2.1						
	comp=Z,0.6nm,0.8s						
SEY	**Seymchan**	**21.12**	**12**	P	**P**	**13 09 40.9**	**-2.2**
	comp=Z,0.9nm,0.6s,baz=205,slow=11,SNR=3.5						
	comp=Z,0.9nm,0.6s						
SEY	**Seymchan**	**21.12**	**12**	*e*P	**P**	**13 09 45.8**	**+2.8**
SEY				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SEY	**Seymchan**	**21.12**	**12**	*e*P	**P**	**13 09 45.8**	**+2.8**
SONM	**Songino Array**	**25.95**	**294**	P	**P**	**13 10 29.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=90,slow=4.4,SNR=4.5						
	comp=Z,0.2nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**30.59**	**131**	T	T	13 42 55.5	
	baz=324,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**30.60**	**131**	T	T	13 42 45.1	
	baz=324,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**30.61**	**131**	T	T	13 42 49.6	
	baz=324,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**31.47**	**132**	T	T	13 43 58.7	
	baz=326,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**31.48**	**132**	T	T	13 43 52.1	
	baz=326,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**31.49**	**132**	T	T	13 44 00.4	
	baz=326,slow=76,SNR=21						
ZALV	**Zalesovo Beam**	**39.11**	**307**	P	**P**	**13 12 25.7**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=76,slow=12,SNR=2.8						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**42.24**	**297**	P	**P**	**13 12 50.5**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=81,slow=7.9,SNR=4.3						
	comp=Z,0.8nm,0.9s						
KURK	**Kurchatov**	**43.48**	**304**	P	**P**	**13 13 01.5**	**-0.1**
KURK	**Kurchatov**	**43.48**	**304**	*e*P	**P**	**13 13 01.5**	**-0.1**
KURBB	**Kurchatov Arra**	**43.56**	**304**	P	**P**	**13 13 01.4**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=76,slow=8.8,SNR=4.2						
	comp=Z,1.2nm,0.7s						
ILAR	**Eielson Array**	**44.29**	**35**	P	**P**	**13 13 07.0**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=264,slow=5.8,SNR=7.4						
	comp=Z,0.3nm,0.6s						
ARTI	**Arti**	**53.05**	**316**	LR	LR	13 37 09.8	
	comp=Z,29nm,18.1s,baz=20,slow=36						
WRA	**Warramunga Arr**	**62.73**	**189**	P	**P**	**13 15 23.2**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=5.7,slow=6.8,SNR=10.0						
	comp=Z,0.9nm,0.8s						
FINES	**FINESS Array B**	**64.37**	**332**	P	**P**	**13 15 33.8**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=66,slow=6.5,SNR=3.6						
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**66.46**	**189**	P	**P**	**13 15 48.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=9.9,slow=7.8,SNR=9.3						
	comp=Z,0.5nm,0.7s						
TXAR	**Lajitas Array**	**85.94**	**53**	P	**P**	**13 17 37.9**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=305,slow=4.4,SNR=3.6						
	comp=Z,0.2nm,0.7s						

NNC 20 13:15:23.9±1.1,50°.87N×73°.68E,h0km,mb3.7,mpv3.5, 5C-5D,Error ellipse: s-maj=9.9km s-min=7.8km az=40.0, Suspected Mining explosion.,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.97**	**318**	⇑Pg	Pb	13 16 18.5	+0.9
	1.2nm,0.3s,baz=133,slow=14,SNR=6.8						
BVA0				⇑Lg	Lg	13 16 56.2	
	20nm,0.8s,baz=124,slow=28,SNR=15						
KURBB	**Kurchatov Arra**	**3.09**	**93**	⇑Pg	Pb	13 16 21.3	+1.6
	5.6nm,0.4s						
KURBB				⇓Lg	Lg	13 17 00.2	
	109nm,0.8s						
KURK	**Kurchatov**	**3.14**	**91**	⇑Pg	Pb	13 16 22.0	+1.5
	5.5nm,0.7s						
KURK				⇑Lg	Lg	13 17 02.1	
	52nm,0.9s						
MK31	**Makanchi Array**	**6.99**	**122**	⇓Lg	Lg	13 19 01.9	
	9.9nm,0.8s,baz=322,slow=27,SNR=4.5						
KUU	**Kurty**	**7.21**	**164**	Pg	Pb	13 17 35.2	+5.5
	1.0nm,0.1s						
KUU				Lg	Lg	13 19 08.9	
	15nm,0.5s						
ARXS	**Arharly**	**7.22**	**156**	Pg	Pb	13 17 33.8	+3.7
	0.7nm,0.4s						
ARXS				Lg	Lg	13 19 07.6	
	9.8nm,1.0s						
MTBS	**Maitube**	**7.96**	**165**	Pg	Pg	13 17 50.5	-5.9
	0.9nm,0.2s						
MTBS				Lg	Lg	13 19 34.9	
	9.7nm,0.7s						
KST	**Kastek**	**7.98**	**168**	Pg	Pg	13 17 50.6	-6.0
	5.4nm,0.4s						
KST				Lg	Lg	13 19 35.3	
	10nm,0.9s						
MDOK	**Medeo**	**8.04**	**162**	Pg	Pg	13 17 53.0	-4.9
	1.4nm,0.5s						
MDOK				Lg	Lg	13 19 39.1	
	6.0nm,0.8s						
TKM2	**Tokmak 2**	**8.05**	**170**	⇓Lg	Lg	13 19 35.8	
	13nm,1.0s						
KK31	**Karatay Array**	**8.06**	**197**	⇓Lg	Lg	13 19 42.2	
	6.0nm,0.8s,baz=13,slow=28,SNR=4.7						
PDGK	**Podgornoye**	**8.52**	**150**	⇓Lg	Lg	13 19 59.7	
	8.3nm,0.8s						

*JMA **20** 13:28:23.8±0.4,45°.N±2°.×14°.8E±°,h153km,MV3.6/28, NEAR ETOROFU ISLAND*
*SKHL **20** 13:28:25.5±0.4,44°.80N×147°.50E,h135km±3km,mb4.8/3, msha5.5/3*
*IDC **20** 13:28:27.7±2.9,45°.67N×146°.99E,h141km±37km,mb3.3/7, mbtmp3.7/9,Error ellipse: s-maj=110.0km s-min=23.0km az=155.0*
ISC 20 13:28:22.2±1.0,44°.6N±0°.1×147°.81E±0°.10,h156km±7km, n25,σ1§28/38,mb3.3/7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.61**	**3**	*i*P	**Pn**	**13 28 45.3**	**+0.6**
KUR				AMB	AMB	13 28 45.4	
	200nm,0.4s						
KUR				*i*S	**Sn**	**13 28 59.9**	**-2.1**
KUR				A	A	13 29 03.3	
	350nm,0.3s						
KUR				A	A	13 29 03.3	
	240nm,0.3s						
SHO	**Shikotan**	**1.04**	**223**	*i*P	**Pn**	**13 28 49.2**	**+1.4**
SHO				AMB	AMB	13 28 49.2	
	540nm,0.2s						
SHO				*e*S	**Sn**	**13 29 07.0**	**-0.3**
SHO				A	A	13 29 07.5	
	1μm,0.3s						
SHO				A	A	13 29 07.5	
	1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.52**	**248**	*e*P	**Pn**	**13 28 53.4**	**+1.1**
YUK				*e*S	**Sn**	**13 29 15.3**	**-0.2**
YUK				A	A	13 29 16.2	
	500nm,0.3s						
YUK				A	A	13 29 16.2	
	190nm,0.3s						
NEM2	**Nemuro 2**	**1.96**	**231**	P	**Pn**	**13 28 57.7**	**+0.6**
NEM2				S	**Sn**	**13 29 22.5**	**-1.5**
NMR	**Nemuro--Hokkai**	**1.96**	**231**	*i*P	**Pn**	**13 28 58.0**	**+0.8**
NMR				*i*S	**Sn**	**13 29 22.7**	**-1.4**
NMR				A	A	13 29 24.1	
	240nm,0.2s						
NMR				A	A	13 29 24.1	
	330nm,0.2s						
JRA	**Rausu**	**2.05**	**251**	P	**Pn**	**13 28 59.0**	**+0.8**
JNSB	**Nemuroshibetsu**	**2.19**	**248**	*e*P	**Pn**	**13 29 01.1**	**+1.3**
JNSB				*e*S	**Sn**	**13 29 31.2**	**+2.3**
JNK	**Nakash**	**2.46**	**246**	P	**Pn**	**13 29 04.2**	**+1.2**
JNK				*e*S	**Sn**	**13 29 35.0**	**+0.4**
JKHN	**Kushirohamanak**	**2.46**	**232**	P	**Pn**	**13 29 03.9**	**+0.8**
JKHN				S	**Sn**	**13 29 33.5**	**-1.1**
AKK	**Akkeshi**	**2.69**	**234**	*e*P	**Pn**	**13 29 06.7**	**+0.9**
AKK				*e*S	**Sn**	**13 29 38.0**	**-1.6**
JAK	**Akkeshi**	**2.79**	**235**	P	**Pn**	**13 29 07.7**	**+0.7**
JAK				S	**Sn**	**13 29 40.2**	**-1.5**
JTKR	**Abashiri--Toko**	**2.88**	**258**	P	**Pn**	**13 29 08.6**	**+0.4**
JTKR				*e*S	**Sn**	**13 29 43.6**	**-0.2**
JAR	**Ashorobuto**	**3.21**	**247**	*i*P	**Pn**	**13 29 14.1**	**+1.7**
JAR				S	**Sn**	**13 29 52.2**	**+0.9**
JKK2	**Kamakawa 2**	**3.72**	**260**	*e*P	**Pn**	**13 29 19.7**	**+0.8**
ASAJ	**Asahikawa**	**3.78**	**264**	P	**Pn**	**13 29 20.7**	**+1.1**
	11nm,0.3s,baz=25,slow=3.8,SNR=51						
JCH	**Churui**	**3.81**	**240**	*i*P	**Pn**	**13 29 20.7**	**+0.6**
JCH				S	**Sn**	**13 30 02.8**	**-2.2**
JNBK	**Urakawa-nobuka**	**4.37**	**239**	P	**Pn**	**13 29 27.2**	**-0.2**
PETK	**Petropavlovsk-**	**10.69**	**34**	P	**Pn**	**13 30 50.5**	**-0.4**
	2.3nm,1.0s,baz=206,slow=11,SNR=1.5						
ILAR	**Eielson Array**	**40.50**	**37**	P	**P**	**13 35 48.4**	**+3.1**
	0.2nm,0.7s,baz=264,slow=6.1,SNR=2.1						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**44.61**	**297**	P	**P**	**13 36 18.1**	**-0.6**
	0.5nm,0.7s,baz=76,slow=9.0,SNR=4.8						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**45.52**	**303**	P	**P**	**13 36 24.7**	**-1.1**
	0.2nm,0.4s,baz=72,slow=8.3,SNR=3.2						
	0.2nm,0.4s						
ARCES	**ARCESS Array B**	**58.59**	**340**	P	**P**	**13 38 00.5**	**-1.5**
	5.4nm,1.1s,baz=49,slow=7.3,SNR=7.1						
	5.4nm,1.1s						
FINES	**FINESS Array B**	**64.31**	**333**	P	**P**	**13 38 39.7**	**-0.7**
	1.2nm,0.7s,baz=38,slow=9.6,SNR=4.8						
	1.2nm,0.7s						
NOA	**NORSAR Array B**	**68.95**	**339**	P	**P**	**13 39 09.8**	**-0.1**
	0.2nm,0.4s,baz=40,slow=7.5,SNR=5.7						
	0.2nm,0.4s						
HFS	**Hagfors**	**69.06**	**337**	P	**P**	**13 39 10.0**	**-0.6**
	0.5nm,0.4s,baz=51,slow=5.9,SNR=9.5						
	0.5nm,0.4s						

TAP 20 13:33:34.5,23°.98N×121°.59E,h10km±1km,ML0.8,1C-2D, B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.02**	**112**	⇑*i*P	Pg	13 33 36.8	+0.5
HWA				S	Sg	13 33 38.5	+1.0
ETM	**Tongmen**	**0.09**	**259**	⇓P	Pg	13 33 37.9	+0.8
ETM				S	Sg	13 33 39.6	+0.8
TWD	**Chiawan**	**0.10**	**4**	⇓*e*P	Pg	13 33 36.7	-0.4
TWD				S	Sg	13 33 39.9	+1.0
LXIB	**Xiulin Townshi**	**0.17**	**283**	P	Pg	13 33 39.0	+0.8
LXIB				S	Sg	13 33 42.4	+1.6
NACB	**Ninganchiao**	**0.19**	**2**	P	Pb	13 33 39.6	-0.5
NACB				S	Sg	13 33 42.7	+1.4
SHUL	**Shoufeng**	**0.20**	**187**	P	Pb	13 33 39.5	-0.7
SHUL				S	Sg	13 33 43.2	+1.8
ESL	**Shilin**	**0.22**	**220**	P	Pb	13 33 39.9	-0.7
ESL				*e*S	Sg	13 33 42.6	+0.5
ETLH	**Xiulin Townshi**	**0.24**	**336**	P	Pb	13 33 40.6	-0.6
ETLH				S	Sg	13 33 44.5	+1.5
WARBT	**Fenglin Townsh**	**0.32**	**215**	*e*P	Pg	13 33 41.1	+0.1
WARBT				*e*S	Sg	13 33 45.5	+0.2
FUSS	**Fushou**	**0.41**	**310**	P	Pb	13 33 44.1	+0.1

JMA 20 13:34:26.2±0.2,25°.N×3°.×123°.0E±0°.7,h135km±2km, MV2.0/14,NW OFF ISHIGAKIJIMA IS,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.28**	**177**	*e*P	Pn	13 34 45.0	+0.1
YOJ				*e*S	Sn	13 34 59.2	+0.2
JYNG	**Yonagunijimaku**	**0.30**	**189**	P	Pn	13 34 45.1	+0.2
JYNG				*e*S	Sn	13 34 59.3	+0.2
IRIF	**Iriomote-Funau**	**0.79**	**121**	*e*P	Pn	13 34 48.0	+0.3
IRIF				*e*S	Sn	13 35 03.9	-0.1
HATJ	**Hateruma jima**	**1.01**	**133**	*e*S	Sn	13 35 07.9	+0.5
JKRS	**Kuro-shima**	**1.05**	**119**	P	Pn	13 34 50.8	+0.7
JKRS				S	Sn	13 35 08.3	+0.2
JIJ	**Ishigaki jima**	**1.11**	**110**	P	Pn	13 34 50.7	+0.1
JIJ				S	Sn	13 35 08.0	-1.1
JISG	**Ishigakijimahi**	**1.21**	**97**	P	Pn	13 34 51.4	-0.1
JISG				S	Sn	13 35 09.7	-1.0
JTJ	**Tarama**	**1.56**	**94**	*e*P	Pn	13 34 55.4	+0.2
JTJ				*e*S	Sn	13 35 16.5	-0.9
JMJ2	**Miyako jima3**	**2.12**	**90**	P	Pn	13 35 02.5	+0.6

NEIC 20 13:36:43.0±1.4,37°.25N±0°.02×104°.29W±0°.03,h6km±3km, ML1.5/10,Error ellipse: s-maj=3.9km s-min=2.1km az=73.0,Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.15**	**223**	Pg	Pg	13 36 46.9	+0.7
T25A				Sg	Sg	13 36 48.6	+0.4
SDCO	**Great Sand Dun**	**1.09**	**298**	Pg	Pg	13 37 03.9	0.0
SDCO				Sg	Sg	13 37 17.5	-0.5
SDCO				IAML		13 37 17.8	
	8.8nm,0.3s						
SDCO				IAML		13 37 18.1	
	8.7nm,0.2s						
Q24A	**Divide**	**1.84**	**339**	Pn	Pn	13 37 15.7	+0.3
KSCO	**Kaye Shedlock'**	**2.19**	**36**	Pn	Pn	13 37 20.8	+0.7

*IDC **20** 13:48:10.3±0.8,1°.61N×127°.10E,h0km,mb4.0/9, mbtmp4.0/10,ML3.9/1,Error ellipse: s-maj=70.4km s-min=14.2km az=72.0*
*DJA **20** 13:48:15.2±1.1,2°.N±3°.×12°.7E±°,h18km±10km,M4.1/15, mB5.0/1,mb4.2/7,MLv4.1/15,Mw(mB)4.3/1*
ISC 20 13:48:12.5±0.8,1.75N±0°.06×127°.26E±0°.08,h10km,n23, σ1§49/25,mb4.1/9,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.98**	**174**	P	**Pg**	**13 48 32.5**	**+1.1**
TNTI	**Ternate**	**0.98**	**174**	P	**Pg**	**13 48 32.5**	**+1.1**
TNTI				S	**Sg**	**13 48 44.0**	**-0.1**
SGSI	**Sangihe**	**2.58**	**318**	P	**Pn**	**13 48 56.2**	**+1.7**
KMSI	**Cibinong**	**3.48**	**250**	P	**Pn**	**13 49 07.0**	**+0.2**
KMSI				S	**Sn**	**13 49 48.5**	**+0.4**
SANI	**Sanana**	**3.98**	**199**	P	**Pn**	**13 49 13.4**	**-0.3**
SANI	**Sanana**	**3.98**	**199**	P	**Pn**	**13 49 12.9**	**-0.8**
NLAI	**Namlea**	**4.96**	**182**	P	**Pn**	**13 49 28.1**	**+1.0**
LUWI	**Luwuk**	**5.27**	**238**	P	**Pn**	**13 49 32.6**	**+1.1**
MRSI	**Marisa**	**5.46**	**257**	P	**Pn**	**13 49 36.3**	**+2.2**
	0.1nm27nm,0.5s						
APSI	**Ampana**	**6.20**	**245**	P	**Pn**	**13 49 45.6**	**+1.4**
	0.2nm35nm,0.8s						
TOLI2	**Tolitoli**	**6.51**	**264**	P	**Pn**	**13 49 48.9**	**+0.5**
FAKI	**Fak Fak**	**6.81**	**133**	P	**Pn**	**13 49 56.3**	**+3.7**
FAKI	**Fak Fak**	**6.81**	**133**	P	**Pn**	**13 49 55.0**	**+2.4**
	0.1nm11nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.79**	**185**	P	**P**	**13 52 41.4**	**-1.8**
	0.3nm,0.3s,baz=25,slow=10.0,SNR=8.5						
	2.2nm,0.9s						
WRA	**Warramunga Arr**	**22.65**	**162**	P	**P**	**13 53 12.0**	**-2.1**
	1.3nm,0.5s,baz=342,slow=10.0,SNR=25						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**26.08**	**166**	P	**P**	**13 53 44.7**	**-1.9**
	0.4nm,0.3s,baz=348,slow=13,SNR=40						
	0.4nm,0.3s						
KSRS	**Korea Array**	**35.53**	**1**	P	**P**	**13 55 10.3**	**+0.6**
	0.6nm,0.5s,baz=184,slow=10,SNR=6.8						
	0.6nm,0.5s						
STKA	**Stephens Creek**	**36.10**	**159**	P	**P**	**13 55 13.8**	**-0.9**
	1.1nm,0.3s,baz=335,slow=8.8,SNR=4.9						
	1.1nm,0.3s						
SONM	**Songino Array**	**49.33**	**342**	P	**P**	**13 57 02.3**	**+0.2**
	1.7nm,0.5s,baz=163,slow=9.5,SNR=9.7						
	1.7nm,0.5s						
MKAR	**Makanchi Array**	**59.48**	**326**	P	**P**	**13 58 15.6**	**-0.2**
	3.1nm,0.5s,baz=121,slow=8.5,SNR=51						
	3.1nm,0.5s						
ZALV	**Zalesovo Beam**	**62.58**	**333**	P	**P**	**13 58 35.8**	**-1.0**
	0.6nm,0.5s,baz=152,slow=6.3,SNR=3.0						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**63.68**	**328**	P	**P**	**13 58 44.0**	**-0.1**
	4.8nm,0.5s,baz=127,slow=6.1,SNR=47						
	4.8nm,0.5s						
BVAR	**Borovoye Array**	**69.26**	**327**	P	**P**	**13 59 18.8**	**-1.1**
	1.2nm,0.8s,baz=120,slow=8.8,SNR=5.9						
	1.2nm,0.8s						

*IDC **20** 13:56:19.5±1.2,20°.09S×178°.24W,h609km±13km, mb3.8/24,mbtmp4.7/26,Error ellipse: s-maj=13.8km s-min=10.8km az=107.0*
*NEIC **20** 13:56:19.3±1.6,20°.1S±0°.1×178°.1W±0°.1,h617km±9km, mb4.8/34,Error ellipse: s-maj=17.0km s-min=15.0km az=139.0*
*NOU **20** 13:56:19.5,20°.10S×178°.09W,h622km,mb4.8/71,Fiji Islands Region*
ISC 20 13:56:18.1±0.3,20°.13S±0°.06×178°.09W±0°.05,h600km, n550,σ1§16/578,mb4.7/61,27C-24D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.00**	**340**	P	**P**	**13 57 36.2**	**+3.7**
LKBA	**Tubou, Lakemba**	**2.00**	**340**	S	**S**	**13 58 38.1**	**+5.3**
DGTI	**Dogotuki**	**4.33**	**331**	P	**P**	**13 57 48.5**	**+2.5**
DGTI	**Dogotuki**	**4.33**	**331**	S	**S**	**13 59 02.1**	**+4.5**
MSVF	**Nonsavu**	**4.36**	**302**	P	**P**	**13 57 48.6**	**+2.3**
	142nm,0.4s,baz=153,slow=3.4,SNR=107						
MSVF	**Nonsavu**	**4.36**	**302**	P	**P**	**13 57 49.1**	**+2.8**
FUTU	**Fugatoga**	**5.79**	**360**	P	**P**	**13 57 59.5**	**+1.9**
NIUE	**Niue**	**7.77**	**84**	P	**P**	**13 58 17.2**	**+1.9**
NIUE	**Niue**	**7.77**	**84**	P	**P**	**13 58 17.9**	**+2.7**
AFI	**Afiamalu**	**8.64**	**45**		**S**	**14 00 03.7**	**-3.0**
AFI	**Afiamalu**	**8.64**	**45**	P	**P**	**13 58 24.0**	**+0.3**
AFI	**Afiamalu**	**8

comp=Z,16nm,0.5s
TV1H Townsville Har 33.03 265 P P 14 02 05.7 0.0
CMSA Cobar Meteorol 34.38 243 P P 14 02 17.5 +0.7
QLP Quilpie 35.09 252 P P 14 02 23.5 +0.7
PMG Port Moresby 35.18 283 P 14 02 22.1 -1.5
PMG Port Moresby 35.18 283 P P 14 02 23.6 -0.1
PMG Port Moresby 35.18 283 P P 14 02 23.7 0.0
PMG Port Moresby 35.18 283 P P 14 02 23.4 -0.3
PATS Pohnpei 35.45 317 P P 14 02 25.1 -0.8
MTSU Mount Surprise 35.52 267 P P 14 02 27.0 +0.5
TOO Toolangi 36.05 233 P 14 02 30.7 +0.1
TAU Tasmania Unive 36.83 224 P P 14 02 37.4 +0.5
TAU IAmb IAmb 14 04 10.3
comp=Z,49nm,1.2s
COEN Coen 37.47 273 P 14 02 42.3 -0.2
COEN IAmb IAmb 14 02 43.6
comp=Z,42nm,1.0s
COEN Coen 37.47 273 P P 14 02 42.8 +0.3
STKA Stephens Creek 37.88 244 P 14 02 45.7 +0.2
STKA Stephens Creek 37.88 244 P P 14 02 46.2 +0.6
comp=Z,23nm,0.9s,baz=89,slow=9.9,SNR=27
comp=Z,23nm,0.9s
STKA Stephens Creek 37.88 244 P P 14 02 46.3 +0.8
MANU Manus Island 38.22 294 P 14 02 48.6 0.0
MANU IAmb IAmb 14 02 49.9
comp=Z,15nm,0.8s
INKA Innaminka 38.24 250 P P 14 02 49.6 +1.1
ARPS Mount Arapiles 38.62 236 P P 14 02 51.4 -0.1
QIS Mount Isa 39.59 262 P P 14 02 59.3 -0.2
HTT Hallett 40.33 242 P P 14 03 06.4 +1.2
LCRK Leigh Creek 40.60 246 P P 14 03 08.2 +0.8
BBOO Buckleboo 42.64 243 P P 14 03 22.9 -0.5
BBOO Buckleboo 42.64 243 P P 14 03 23.6 +0.2
OOD Oodnadatta 42.72 251 P P 14 03 24.8 +0.7
WR8 Warramunga Arr 44.42 262 P P 14 03 36.2 -1.1
WR8 IAmb IAmb 14 03 37.9
comp=Z,40nm,1.1s
AS01 Alice Springs 44.48 256 P P 14 03 37.6 -0.2
AS31 Alice Springs 44.52 256 P P 14 03 37.6 -0.5
AS31 IAmb IAmb 14 03 39.1
comp=Z,26nm,1.2s
ASAR Alice Springs 44.52 256 pP 14 05 15.8 -7.3
ASAR Alice Springs 44.52 256 P P 14 03 37.8 -0.3
comp=Z,45nm,0.8s,baz=91,slow=8.0,SNR=565
ASAR PcP **PcP 14 05 07.7 -0.3**
comp=Z,3.6nm,0.7s,baz=104,slow=3.8,SNR=5.3
ASAR ScP **ScP 14 08 04.4 +0.7**
comp=Z,1.6nm,0.7s,baz=109,slow=4.0,SNR=6.9
ASAR S **S 14 09 26.4 -4.9**
comp=Z,3.4nm,0.9s,baz=91,slow=16,SNR=14
comp=Z,45nm,0.8s
WB0 Warramunga Arr 44.55 262 P P 14 03 37.1 -1.2
WB0 IAmb IAmb 14 03 38.2
comp=Z,44nm,0.9s
WRAB Tennant Creek 44.56 262 P P 14 03 37.3 -1.1
WRAB IAmb IAmb 14 03 38.3
comp=Z,38nm,1.0s
WRA Warramunga Arr 44.57 262 P P 14 03 36.7 -1.8
WRA Warramunga Arr 44.57 262 P P 14 03 37.5 -0.9
comp=Z,21nm,0.5s,baz=98,slow=8.2,SNR=346
WRA S **S 14 09 27.4 -4.6**
comp=Z,4.2nm,1.0s,baz=94,slow=14,SNR=10
comp=Z,21nm,0.5s
KDU Kakadu 47.86 271 P P 14 04 03.1 -0.2
MTN Manton Dam 49.07 270 P P 14 04 10.9 -1.4
MTN Manton Dam 49.07 270 P P 14 04 11.9 -0.4
FORT Forrest 49.36 246 P P 14 04 12.5 -1.7
FORT IAmb IAmb 14 04 14.3
comp=Z,34nm,0.7s
FORT Forrest 49.36 246 P P 14 04 14.3 +0.1
DRS Darwin Rock St 49.40 271 P P 14 04 14.0 -0.7
WRKA Warakurna 49.48 254 P P 14 04 14.9 -0.4
KNRA Kununurra 50.60 266 P P 14 04 22.4 -1.0
KNRA IAmb IAmb 14 04 23.7
comp=Z,24nm,0.8s
FAKI Fak Fak 51.33 283 P P 14 04 27.9 -0.9
FAKI Fak Fak 51.33 283 P P 14 04 28.8 +0.1
FITZ Fitzroy Crossi 52.99 262 P P 14 04 40.1 -0.4
FITZ Fitzroy Crossi 52.99 262 P P 14 04 40.1 -0.4
comp=Z,15nm,0.5s,baz=106,slow=4.4,SNR=98
comp=Z,15nm,0.5s
FITZ Fitzroy Crossi 52.99 262 P P 14 04 40.1 -0.4
SWI Sorong 53.07 285 P P 14 04 40.4 -0.7
DRV Dumont d'Urvil 53.68 199 P P 14 04 45.4 +0.9
SOEI Soe 56.40 272 P P 14 05 04.4 -0.1
SOEI Soe 56.40 272 P P 14 05 05.1 +0.6
TNTI Ternate 57.28 285 P P 14 05 09.2 -1.1
TNTI IAmb IAmb 14 05 11.0
comp=Z,35nm,0.9s
TNTI Ternate 57.28 285 P P 14 05 09.9 -0.4
comp=Z,44nm,0.9s
SANI Sanana 57.43 281 P P 14 05 10.1 -1.2
comp=Z,37nm,0.9s
PSA00 Pilbara Seismi 57.67 257 P P 14 05 11.1 -1.8
PSA00 PcP **PcP 14 05 56.7 -0.8**
PSA00 Pilbara Seismi 57.67 257 P P 14 05 11.7 -1.2
PSA00 IAmb IAmb 14 05 12.9
comp=Z,39nm,0.8s
PSA00 Pilbara Seismi 57.67 257 P P 14 05 12.3 -0.6
MBWA Marble Bar 57.85 257 P P 14 05 12.7 -1.5
MBWA **PcP 14 05 56.1 -2.1**
MBWA Marble Bar 57.85 257 P P 14 05 13.5 -0.6
MBWA Marble Bar 57.85 257 P P 14 05 13.0 -1.2
MEEK Meekatharra 57.96 251 P P 14 05 14.4 -0.4
KLBR Kellerberrin 58.14 245 P P 14 05 14.9 -1.0
SBA Scott Base 58.24 184 P P 14 05 17.5 +1.8
SBA IAmb IAmb 14 07 05.6
comp=Z,96nm,1.6s
VNDA Vanda 58.27 185 P P 14 05 16.0 0.0
VNDA Vanda 58.27 185 P P 14 05 16.3 +0.3
comp=Z,2.2nm,0.7s,baz=22,slow=5.4,SNR=14
comp=Z,2.2nm,0.7s
VNDA Vanda 58.27 185 P P 14 05 18.0 +2.0
NWAO Narrogin (SRO) 58.46 243 P P 14 05 17.0 -1.0
NWAO IAmb IAmb 14 07 11.5
comp=Z,115nm,1.6s
BLDU Ballidu 59.13 246 P P 14 05 22.2 -0.3
EDFI Ende, Flores 59.13 272 P P 14 05 21.6 -1.3
comp=Z,47nm,0.9s
MUN Mundaring 59.41 244 P P 14 05 24.3 -0.1
MORW Morawa 59.89 247 P P 14 05 27.2 -0.4
JCJ Chichijima 60.70 319 P P 14 05 32.5 -0.4
LUWI Luwuk 60.78 280 IAmb IAmb 14 05 34.7
comp=Z,42nm,0.8s
LUWI Luwuk 60.78 280 P P 14 05 33.4 -0.3
comp=Z,1µmcomp=Z,65nm,0.8s
APSI Ampana 61.87 280 P P 14 05 40.5 -0.3
comp=Z,27nm,0.6s
GIRL Giralia 62.57 254 P P 14 05 44.9 -0.3
PLAI Plampang 62.78 270 P P 14 05 46.1 -0.6
CCD Concordia, Ant 62.80 194 P P 14 05 47.4 +1.1
TOLI2 Tolitoli 63.44 282 P P 14 05 50.0 -0.9
TOLI2 Tolitoli 63.44 282 P P 14 05 50.9 0.0
PCI Palu 63.55 279 P P 14 05 51.7 +0.1
comp=Z,2µmcomp=Z,88nm,1.0s
MPSI Mapaga 63.96 281 P P 14 05 53.1 -1.1
MYLDM Lahad Datu 67.15 285 P P 14 06 14.4 +0.4
MJAR Matsushiro Arr 69.86 324 P P 14 06 29.3 -0.5
comp=Z,7.8nm,0.7s,baz=154,slow=5.7,SNR=19
comp=Z,7.8nm,0.7s
MAJO Matsushiro 69.86 324 P P 14 06 28.6 -1.3
MAJO Matsushiro 69.86 324 P P 14 06 29.3 -0.6
MAJO Matsushiro 69.86 324 P P 14 06 29.6 -0.3
MAJO PcP **PcP 14 06 47.7 +0.2**
MJB9 Matsu-Tunnel 69.86 324 P P 14 06 30.1 +0.2
UGM Wanagama 69.89 269 P P 14 06 30.1 -0.4
QSPA South Pole Qui 69.94 180 P P 14 06 31.7 +1.7
comp=Z,8.6nm,0.6s,baz=321,slow=0.5,SNR=85
comp=Z,8.6nm,0.6s
QSPA South Pole Qui 69.94 180 P P 14 06 31.6 +1.5
QSPA pP **pwP 14 08 35.2 +1.5**
ADK Adak 71.71 1 P P 14 06 40.0 -0.2
SBUM Sibu 71.86 280 P P 14 06 40.8 -1.2
NIKH Nikolski High 73.23 6 P P 14 06 48.2 -0.8
baz=189
KSM Kuching 73.28 278 P P 14 06 49.3 -0.9
ASAJ Asahikawa 73.36 332 P P 14 06 51.5 +1.5
comp=Z,19nm,0.8s,baz=213,slow=5.9,SNR=24
comp=Z,19nm,0.8s
SSLB Suanglung 73.70 303 P P 14 06 51.5 -0.9
TPUB Ta-pu 73.70 303 P P 14 06 49.9 -2.5
TPUB Ta-pu 73.70 303 P P 14 06 51.5 -0.9
YSS Yuzhno-Sakhali 75.52 333 P P 14 07 02.0 0.0
FALS False Pass 75.73 9 P P 14 07 02.2 -0.7
baz=194
PETK Petropavlovsk- 75.89 345 P P 14 07 02.6 -1.3
PETK Petropavlovsk- 75.89 345 P P 14 07 03.1 -0.7
comp=Z,8.8nm,0.7s,baz=135,slow=5.0,SNR=26
comp=Z,8.8nm,0.7s
CHNA Chernabura Isl 76.31 11 P P 14 07 05.8 -0.3
baz=198
KSRS Korea Array 76.55 319 P P 14 07 08.5 +0.7
comp=Z,2.9nm,0.7s,baz=127,slow=6.1,SNR=20
comp=Z,2.9nm,0.7s
KSAR Wonju Array Be 76.57 319 P P 14 07 08.0 0.0
SDPT Sand Point 76.66 10 P P 14 07 07.5 -0.5
baz=197
S12K Black Hills 76.75 9 P P 14 07 08.2 -0.3
baz=196
S14K Fog Glacier 77.71 10 P P 14 07 13.4 -0.4
baz=198
CHIR Chirikof Islan 78.01 13 P P 14 07 14.7 -0.6
CHIR Chirikof Islan 78.01 13 P P 14 07 13.8 -1.5
baz=202
USRK Ussuriysk Ar. 78.61 326 P P 14 07 19.3 +0.6
comp=Z,9.7nm,0.8s,baz=134,slow=3.7,SNR=14
comp=Z,9.7nm,0.8s
SII Sitkinak Islan 79.00 13 P P 14 07 20.0 -0.6
baz=203
NJ2 Nanjing 79.58 310 *e*P **P 14 07 25.0 +0.8**
NJ2 pmax pmax
comp=Z,15nm,0.5s
OHAK Old Harbor 79.81 13 P P 14 07 25.0 +0.3
OHAK Old Harbor 79.81 13 P P 14 07 23.9 -0.9
baz=204
R18K Karluk 79.88 13 P P 14 07 24.8 -0.3
baz=202
YBH Yreka Blue Hor 80.05 39 P P 14 07 28.4 +1.8
comp=Z,2.3nm,0.8s,baz=162,slow=1.9,SNR=6.0
comp=Z,2.3nm,0.8s
MDJ Mudanjiang 80.16 325 P P 14 07 28.3 +1.4
MDJ pmax pmax
comp=Z,14nm,0.9s
Q17K Contact Creek 80.24 12 P P 14 07 27.1 0.0
baz=201
O14K Tigyukauivet M 80.29 9 P P 14 07 27.3 +0.1
baz=196
O15K Ungalikthiuk R 80.43 9 P P 14 07 27.7 -0.3
baz=197
KDAK Kodiak Island 80.47 14 P P 14 07 27.9 -0.3
baz=204
Q16K King Salmon 80.49 11 P P 14 07 28.1 -0.2
baz=200
P16K Nushagak River 80.59 10 P P 14 07 28.5 -0.3
baz=199
Q18K Katmai Hardscr 80.77 12 P P 14 07 29.4 -0.5
baz=202,SNR=6.1
NVAR Mina Array Bea 80.81 43 P P 14 07 32.9 +2.1
comp=Z,1.1nm,0.8s,baz=226,slow=8.6,SNR=6.0
comp=Z,1.1nm,0.8s
N14K Kuskokwak Cree 80.88 8 P P 14 07 30.2 0.0
baz=196
P17K Kvichak River 81.01 11 P P 14 07 30.5 -0.4
baz=200,SNR=5.7
O16K Kokwok River B 81.10 10 P P 14 07 31.1 -0.3
baz=199
M13K Dall Lake 81.14 7 P P 14 07 31.4 -0.1
baz=194
Q20K Shuyak Island 81.27 13 P P 14 07 32.7 +0.4
baz=204
Q19K Cape Douglas, 81.30 13 P P 14 07 32.2 -0.3
baz=203
N15K Kwethluk River 81.34 9 P P 14 07 33.0 +0.3
baz=197
P18K Big Mountain, 81.42 12 P P 14 07 32.8 -0.3
baz=202
O17K Koliganek Bris 81.44 11 P P 14 07 32.7 -0.4
baz=200
M14K Bethel 81.64 8 P P 14 07 33.4 -0.7
baz=195
M15K Kasigluk River 81.76 9 P P 14 07 34.1 -0.7
baz=196,SNR=6.5
N16K Nishlik Lake 81.83 10 P P 14 07 34.6 -0.5
baz=198,SNR=6.6
O18K Koktuh Hills 81.86 11 P P 14 07 34.9 -0.4
O18K Koktuh Hills 81.86 11 P P 14 07 35.2 -0.1
baz=202
CN2 Changchun 81.95 322 *e*P **P 14 07 36.5 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,60nm,3.5s
P19K Oil Pt 82.05 12 P P 14 07 35.9 -0.4
baz=204
BNX BinXian 82.07 325 ⇑P **P 14 07 37.0 +0.3**
BNX pmax pmax
comp=Z,13nm,0.6s
L14K Kuka Creek 82.12 7 P P 14 07 37.1 +0.6
baz=195
N17K Nushagak Hills 82.14 10 P P 14 07 36.9 +0.2
baz=200
KLR Kul'dur 82.16 329 P P 14 07 38.0 +1.0
comp=Z,3.2nm,0.8s,baz=100,slow=3.8,SNR=11
comp=Z,3.2nm,0.8s
M16K Timber Creek 82.32 9 P P 14 07 38.1 +0.5
M16K Timber Creek 82.32 9 P P 14 07 37.8 +0.2
baz=198
O19K Port Alsworth 82.34 12 P P 14 07 37.2 -0.5
baz=202
K13K Kusilvak Mount 82.48 6 P P 14 07 37.1 -1.2
baz=193
N18K Kilae Creek 82.50 11 P P 14 07 37.7 -0.9
baz=201
L15K Ungalak Mounta 82.60 8 P P 14 07 39.2 +0.2
baz=196,SNR=5.7
BRSE Bradley Lake S 82.66 14 P P 14 07 39.5 +0.1
baz=206
N19K Bonanza Creek 82.88 11 P P 14 07 40.3 -0.2
baz=202
L16K Owhat River 82.91 9 P P 14 07 40.8 +0.3
baz=198
M17K Holitna River 82.92 10 P P 14 07 41.7 +1.1
baz=200
K15K Wolf Creek Mou 83.19 8 P P 14 07 42.6 +0.8
baz=196
M18K Stony River 83.27 11 P P 14 07 42.3 -0.1
baz=201
SEW Seward 83.28 14 P P 14 07 43.4 +1.1
baz=207
J14K Nanvaranak Lak 83.39 7 P P 14 07 43.5 +0.7
baz=194
MA2 Magadan 83.40 345 P P 14 07 42.8 -0.2
comp=Z,4.4nm,0.8s,baz=140,slow=6.2,SNR=6.3
comp=Z,4.4nm,0.8s
L17K Donlin 83.48 9 P P 14 07 44.0 +0.6
baz=199
CAPN Captain Cook N 83.50 13 P P 14 07 44.0 +0.6
baz=205
KULM Kulim 83.63 278 P P 14 07 45.0 -0.2
P23K Montague Islan 83.66 15 P P 14 07 44.7 +0.4
baz=209
SPCR Spurr Chakacha 83.68 12 P P 14 07 44.8 +0.4
baz=204
GAMB Gambell 83.77 3 P P 14 07 45.2 +0.5
baz=186
L18K Granite Mounta 83.81 10 P P 14 07 45.3 +0.3
baz=200
M19K Big River Lodg 83.91 11 P P 14 07 45.2 -0.4
baz=202
K17K Iditarod 84.04 9 P P 14 07 46.3 +0.3
baz=199
L19K White Mountain 84.09 11 P P 14 07 46.1 -0.3
L19K White Mountain 84.09 11 P P 14 07 46.4 0.0
baz=202
RC01 Rabbit Creek A 84.09 13 P P 14 07 47.3 +0.9
baz=207
M20K Styx River 84.12 12 P P 14 07 47.0 +0.3
baz=204
PWL Port Wells 84.20 14 P P 14 07 46.2 -0.8
baz=208
SUA Susitna One 84.22 13 P P 14 07 47.4 +0.3
baz=206
J16K Anvik River 84.26 8 P P 14 07 47.2 0.0
baz=196
RPSI Rantau Prapat 84.34 275 P P 14 07 47.7 -1.1
KAIM Kayak Island 84.36 16 P P 14 07 47.4 -0.3
baz=212
GLI Glacier Island 84.51 15 P P 14 07 48.3 -0.2
baz=209
SKT Skwentna 84.52 12 P P 14 07 48.2 -0.3
baz=205
L20K Farewell, AK 84.54 11 P P 14 07 48.2 -0.4
baz=203
EYAK Cordova Ski Ar 84.55 15 P P 14 07 48.2 -0.4
baz=210
J17K VABM Dome 84.57 8 P P 14 07 48.8 +0.1
baz=198
TTA Tatalina 84.59 10 P P 14 07 48.8 -0.1
baz=201
M22K Willow 84.61 13 P P 14 07 48.6 -0.2
baz=206
KNK Knik Glacier 84.67 14 P P 14 07 49.0 -0.2
baz=208
PMR Palmer 84.68 13 P P 14 07 49.3 +0.1
baz=207
SIT Sitka 84.81 22 P P 14 07 49.9 0.0
baz=220
BGLC Bering Glacier 84.82 17 P P 14 07 49.4 -0.5
baz=213
I17K Unalakleet 84.83 8 P P 14 07 49.8 -0.1
baz=196
V35K Ketchikan 84.89 25 P P 14 07 50.5 +0.1
baz=223
U33K Whale Pass 84.89 23 P P 14 07 50.0 -0.3
baz=222
HEH HeiHe 84.95 328 *e*P **P 14 07 50.0 -0.8**
HEH pmax pmax
comp=Z,8.0nm,1.1s
J18K Innoko River 84.98 9 P P 14 07 50.2 -0.5
baz=200
ANM Nome 84.99 5 P P 14 07 50.1 -0.6
baz=192
SML Sawmill 85.04 14 P P 14 07 50.0 -1.1
baz=208
GSI Gunungsitoli 85.12 273 P P 14 07 53.0 +0.5
CUT Chulitna 85.16 13 P P 14 07 51.2 -0.4
baz=206
M23K Glacier View 85.17 14 P P 14 07 50.9 -0.7
baz=208
BMRM Bremner River 85.20 16 P P 14 07 51.4 -0.4
baz=211
S31K Pelican 85.20 21 P P 14 07 51.5 -0.3
baz=219
HNS HongShan 85.23 313 ⇑P **P 14 07 53.3 +0.8**
HNS pmax pmax
comp=Z,11nm,0.8s
PPLA Purkeypile 85.23 12 P P 14 07 51.8 -0.3
baz=204
MESA MESA 85.24 17 P P 14 07 52.3 +0.1
baz=214
SCM Sheep Creek Mo 85.29 14 P P 14 07 52.3 0.0
baz=209
K20K Telida 85.32 11 P P 14 07 51.9 -0.4
baz=203
KLU Klutina 85.33 15 P P 14 07 51.9 -0.6
baz=210
H16K Elim 85.38 7 P P 14 07 52.7 +0.2
baz=195
S32K Killisnoo 85.39 22 P P 14 07 53.0 +0.3
baz=220
WRAK Wrangell Islan 85.41 24 P P 14 07 52.7 -0.1
baz=222
LYN LuoYang 85.45 309 P P 14 07 53.6 0.0
LYN pmax pmax
comp=Z,30nm,0.9s
G15K Niukluk 85.53 6 P P 14 07 53.5 +0.2
baz=193
PNL Peninsula 85.55 19 P P 14 07 53.2 -0.3
baz=216
BJI Beijing 85.57 315 P P 14 07 54.3 +0.3
BJI pmax pmax
comp=Z,4.0nm,0.7s
PINM Pinnacle 85.65 18 P P 14 07 53.3 -0.7
baz=215
J19K Poorman 85.65 10 P P 14 07 53.9 +0.1
baz=201
CAST Castle Rocks 85.73 11 P P 14 07 53.4 -0.9
baz=204
N25K Chitina, Valde 85.75 15 P P 14 07 54.1 -0.4
baz=211
F10A Beach Ranch, E 85.76 38 P P 14 07 55.2 +0.2
TNA Tin City 85.77 4 P P 14 07 53.7 -0.7
baz=190
M24K Tolsona, Glenn 85.80 14 P P 14 07 53.6 -1.1
baz=210
F14K Arctic Creek 85.80 5 P P 14 07 53.7 -0.8
baz=191
H17K Granite Mounta 85.94 8 P P 14 07 54.4 -0.9
baz=197
SEY Seymchan 85.99 347 P P 14 07 55.6 +0.2
comp=Z,8.6nm,0.7s,baz=143,slow=5.9,SNR=40
comp=Z,8.6nm,0.7s
R32K Eaglecrest 86.02 21 P P 14 07 55.3 -0.5
baz=220
J20K Nowinta River 86.06 10 P P 14 07 55.3 -0.5
baz=202
G16K Koyuk River 86.10 7 P P 14 07 55.9 0.0
baz=195
TRF Thorofare Moun 86.10 12 P P 14 07 55.7 -0.6
TRF Thorofare Moun 86.10 12 P P 14 07 55.2 -1.0
baz=206,SNR=6.0
CHUM Lake Minchumin 86.11 11 P P 14 07 54.9 -1.1
baz=204
GCSA Galena City Sc 86.17 9 P P 14 07 55.2 -1.0
baz=200
F15K North Star Dit 86.18 6 P P 14 07 56.0 -0.3
baz=193
O28M Mount Upton 86.22 18 P P 14 07 56.4 -0.6
baz=215
HARP HAARP 86.29 15 P P 14 07 57.1 +0.2
baz=211
O29M Mount Kennedy 86.31 19 P P 14 07 57.3 +0.1
baz=217
H18K Honhosa River 86.35 8 P P 14 07 57.2 0.0
baz=198
G17K Kiwalik Mounta 86.39 7 P P 14 07 56.9 -0.4
baz=196
BPAW Bear Paw Mtn. 86.56 12 P P 14 07 57.3 -0.8
baz=205
I20K Naaghedeneel 86.58 10 P P 14 07 57.8 -0.4
baz=202
T35M Bob Quinn 86.61 24 P P 14 07 58.1 -0.5
baz=224
MCK McKinley 86.63 13 P P 14 07 58.0 -0.5
baz=207,SNR=6.6
P30M Million Dollar 86.66 19 P P 14 07 58.1 -0.6
baz=218
SKAG Skagway 86.66 20 P P 14 07 58.5 -0.2
baz=220
PAX Paxson 86.71 14 P P 14 07 58.8 -0.3
baz=210
YUK8 Steele Glacier 86.76 17 P P 14 07 58.5 -1.0
baz=216
M26K Nabesna, AK 86.83 16 P P 14 07 58.5 -1.0
baz=213
YUK6 Outpost Mounta 86.89 18 P P 14 07 59.3 -0.7
baz=217
TXAR Lajitas Array 86.93 57 P P 14 08 02.9 +2.1
comp=Z,0.5nm,0.8s,baz=215,slow=7.3,SNR=4.0
comp=Z,0.5nm,0.8s
S34M Telegraph Cree 86.96 23 P P 14 08 00.6 +0.5
baz=223
H19K Roundabout Mou 86.97 9 P P 14 08 00.4 +0.4
baz=200
YUK3 Moose Creek 86.97 17 P P 14 08 00.6 +0.2
baz=215
ELIB Princess Elisa 87.00 187 *d*P **P 14 08 00.7 +0.2**
G18K Tagagawik 87.02 8 P P 14 08 00.6 +0.4
baz=198
HYT Haines Junctio 87.05 19 P P 14 08 00.1 -0.6
baz=218
M27K Edge Creek, AK 87.07 16 P P 14 08 00.4 -0.4
baz=214
YUK4 Talbot Arm 87.13 18 P P 14 08 01.9 +0.8
baz=217
H20K Anotleneega Mo 87.17 9 P P 14 08 00.9 -0.1
baz=202,SNR=5.4
F17K Baldwin Pennin 87.23 7 P P 14 08 01.9 +0.7
baz=196
L26K Log Cabin Wild 87.27 15 P P 14 08 02.0 +0.5
baz=212
P32M Atlin 87.29 21 P P 14 08 00.9 -0.9
baz=221
Q32M Nakina River 87.32 22 P P 14 08 01.1 -1.0
baz=222
I21K Tanana 87.36 11 P P 14 08 01.7 -0.2
baz=204,SNR=7.1
K24K Donnelly Dome 87.36 14 P P 14 08 01.6 -0.4
baz=210
NEA2 Nenana 87.37 12 P P 14 08 01.4 -0.6

	baz=207						
BVCY	Beaver Creek	87.39	16	P	P	14 08 02.6	+0.4
	baz=215						
O30N	Mendenhall	87.44	19	P	P	14 08 02.0	-0.4
	baz=219						
G19K	Purcell Mounta	87.46	8	P	P	14 08 02.0	-0.3
	baz=200						
RIDG	Independent Ri	87.52	14	P	P	14 08 02.3	-0.5
	baz=211						
F18K	Selawik	87.57	7	P	P	14 08 02.4	-0.4
	baz=197						
XLT	XiLinHaoTe	87.60	319	eP	P	14 08 02.8	-0.9
XLT				pP	pP	14 10 10.0	-1.9
XLT				sP	sP	14 11 14.3	+2.8
XLT				PP	PP	14 11 39.4	-1.3
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,75nm,4.3s						
DOT	Dot Lake	87.62	14	P	P	14 08 02.4	-0.8
HDA	Harding Lake	87.64	13	P	P	14 08 03.2	0.0
	baz=209,SNR=8.6						
H21K	Melozitna Rive	87.66	10	P	P	14 08 03.0	-0.2
	baz=204,SNR=7.1						
L27K	Beaver Creek,	87.67	16	P	P	14 08 03.6	+0.1
	baz=214						
N30M	Aishikik Lake	87.67	18	P	P	14 08 04.0	+0.5
	baz=218						
WHY	Whitehorse	87.73	20	P	P	14 08 03.5	-0.4
	baz=220						
DLBC	Dease Lake	87.74	23	P	P	14 08 04.4	+0.5
	baz=224						
E17K	Hotham Inlet	87.79	6	P	P	14 08 04.5	+0.6
	baz=195						
I23K	Minto, Yukon-K	87.81	12	P	P	14 08 04.0	0.0
	baz=207						
XAN	Xi'an	87.84	307	⇑P	P	14 08 05.9	+1.0
XAN				pmax	pmax		
	comp=Z,31nm,0.8s						
COLA	College	87.86	12	P	P	14 08 03.6	-0.5
COLA	College	87.86	12	P	P	14 08 03.7	-0.5
COLA	College	87.86	12	P	P	14 08 03.4	-0.8
	baz=208						
SCRK	Sand Creek	87.92	14	P	P	14 08 04.1	-0.6
	baz=212						
ILAR	Eielson Array	87.97	13	P	P	14 08 04.0	-0.8
ILAR	Eielson Array	87.97	13	P	P	14 08 04.3	-0.4
	comp=Z,4.8nm,0.9s,baz=220,slow=5.6,SNR=39						
	comp=Z,4.8nm,0.9s						
F19K	Shaleruckik Mo	88.02	8	P	P	14 08 04.3	-0.6
	baz=199,SNR=5.2						
P33M	Teslin, Yukon	88.06	21	P	P	14 08 04.9	-0.5
	baz=222						
M29M	Somme Creek	88.06	17	P	P	14 08 05.7	+0.3
	baz=217,SNR=7.3						
N31M	Braeburn, Yuko	88.09	19	P	P	14 08 06.0	+0.6
	baz=219						
R33M	Jennings River	88.09	22	P	P	14 08 04.8	-0.8
	baz=224						
TROLL	Troll, Antarti	88.10	180	⇑P	P	14 08 05.8	+0.1
	comp=Z,117nm,0.5s						
H22K	Ishtalitna Cre	88.11	11	P	P	14 08 05.3	-0.2
	baz=205,SNR=12						
J25K	Salcha River,	88.16	13	P	P	14 08 05.6	-0.1
	baz=210						
POKR	Poker Plat Res	88.16	12	P	P	14 08 05.3	-0.4
	baz=209						
E18K	Tukpahlearik C	88.25	7	P	P	14 08 06.3	+0.4
	baz=196,SNR=5.0						
D17K	Noatak River	88.27	6	P	P	14 08 06.4	+0.4
	baz=194						
G21K	Allakaket	88.33	10	P	P	14 08 06.9	+0.4
	baz=203,SNR=7.6						
H23K	Yukon River	88.38	11	P	P	14 08 06.8	+0.2
	baz=207						
K27K	Chicken	88.42	15	P	P	14 08 06.9	0.0
	baz=214						
J26L	Joseph Creek	88.47	14	P	P	14 08 07.6	+0.4
	baz=212,SNR=10						
F20K	Avaraart Lake	88.50	9	P	P	14 08 07.4	+0.3
	baz=201						
C16K	Lisburne Hills	88.64	5	P	P	14 08 08.3	+0.5
	baz=192						
M30M	Minto, Yukon	88.64	18	P	P	14 08 08.0	0.0
	baz=218,SNR=7.4						
BILL	Biibiino	88.66	354	P	P	14 08 06.9	-1.0
N32M	Quiet Lake	88.68	20	P	P	14 08 08.1	-0.1
	baz=222						
E19K	Redstone River	88.68	8	P	P	14 08 07.6	-0.5
	baz=200,SNR=10.0						
L29M	L29M	88.69	17	P	P	14 08 08.5	+0.3
	baz=217,SNR=8.5						
H24K	Noodor Dome	88.71	12	P	P	14 08 08.2	0.0
	baz=208						
PDAR	Pinedale Array	88.75	43	P	P	14 08 10.4	+1.2
	comp=Z,0.6nm,0.6s,baz=219,slow=4.0,SNR=8.3						
	comp=Z,0.6nm,0.6s						
PRP	Porcupine Dome	88.91	13	P	P	14 08 08.7	-0.6
	baz=210						
F21K	Alatna River	88.99	9	P	P	14 08 09.7	+0.2
	baz=203						
G22K	Bettles	89.03	10	P	P	14 08 09.5	-0.1
	baz=205						
HHC	Hu-ho-hao-te	89.03	314	eP	P	14 08 12.8	+2.4
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
M31M	Drury Creek, Y	89.06	19	P	P	14 08 09.8	-0.1
	baz=220						
G23K	Bananza Creek	89.09	11	P	P	14 08 09.5	-0.4
	baz=206						
KMI	Kunming	89.10	297	P	P	14 08 12.4	+1.2
KMI				pmax	pmax		
	comp=Z,21nm,0.7s						
DAWY	Dawson	89.12	16	P	P	14 08 09.7	-0.5
	baz=216,SNR=6.7						
I26K	Coal Creek Min	89.24	14	P	P	14 08 09.9	-0.8
	baz=213						
C18K	Utukok River	89.37	6	P	P	14 08 10.8	-0.4
	baz=196						
FARO	Faro, Yukon	89.40	19	P	P	14 08 11.3	-0.2
	baz=221						
K29M	Barlow Dome	89.44	17	P	P	14 08 11.5	-0.3
	baz=218,SNR=6.3						
F22K	John River	89.46	10	P	P	14 08 11.1	-0.5
	baz=204						
COLD	Coldfoot	89.53	10	P	P	14 08 11.5	-0.4
	baz=206,SNR=7.9						
G24K	Hadweenzic Riv	89.55	12	P	P	14 08 11.3	-0.8
	baz=209						
D19K	Kuna River	89.56	7	P	P	14 08 11.5	-0.6
	baz=199,SNR=6.5						
E20K	Nigu River	89.57	8	P	P	14 08 11.9	-0.3
	baz=200,SNR=12						
PLCA	Paso Flores	89.59	134	P	P	14 08 14.7	+1.5
	comp=Z,1.1nm,0.6s,baz=255,slow=5.3,SNR=5.7						
	comp=Z,1.1nm,0.6s						
J29N	Klondike Camp	89.74	16	P	P	14 08 12.4	-0.7
	baz=217						
TOAD	Toad River Com	89.84	24	P	P	14 08 13.2	-0.4
	baz=228						
I27K	Kandik River	89.84	14	P	P	14 08 13.0	-0.5
	baz=214						
CMAR	Chiang Mai Arr	89.91	290	P	P	14 08 15.5	+0.7
CMAR	Chiang Mai Arr	89.91	290	P	P	14 08 15.9	+1.1
	comp=Z,6.6nm,0.9s,baz=122,slow=3.0,SNR=43						
	comp=Z,6.6nm,0.9s						
D20K	Etivluk River	89.95	8	P	P	14 08 13.5	-0.4
	baz=200,SNR=6.4						
B18K	Kokolik River	90.00	6	P	P	14 08 14.4	+0.3
	baz=195,SNR=6.1						
CHTO	Chiang Mai	90.04	290	P	P	14 08 15.0	-0.4
CHTO	Chiang Mai	90.04	290	P	P	14 08 16.0	+0.6
E21K	Killik River	90.05	9	P	P	14 08 14.0	-0.3
	baz=203						
E22K	Anaktuvuk Pass	90.09	10	P	P	14 08 14.3	-0.2
	baz=205,SNR=5.1						
I28M	Miner Creek	90.11	15	P	P	14 08 14.6	-0.2
	baz=216						
F24K	Squaw Lake	90.19	11	P	P	14 08 15.4	+0.3
	baz=208						
J30M	Hart River	90.34	17	P	P	14 08 15.8	-0.1
	baz=219						
E23K	Chandalar	90.37	10	P	P	14 08 15.4	-0.5
	baz=207						
H27K	Steamboat Moun	90.39	14	P	P	14 08 16.5	+0.5
	baz=214						
I29M	Ogilvie Camp,	90.45	16	P	P	14 08 15.9	-0.4
	baz=217						
PZH	PanZhiHua	90.46	298	P	P	14 08 17.5	+0.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,4.5s						
G26K	Porcupine Rive	90.50	13	P	P	14 08 16.5	+0.1
	baz=212,SNR=7.1						
E24K	Your Creek	90.58	11	P	P	14 08 17.2	+0.3
	baz=208						
C21K	Knifeblade Rid	90.60	8	P	P	14 08 17.0	+0.2
	baz=202,SNR=6.2						
D22K	Ayikyak River	90.64	9	P	P	14 08 17.5	+0.5
	baz=204						
F25K	Christian Rive	90.68	12	P	P	14 08 17.9	+0.5
	baz=210						
I30M	Mount Dempster	90.83	16	P	P	14 08 18.2	0.0
	baz=219						
G27K	Doyon Strip	90.84	14	P	P	14 08 18.5	+0.4
	baz=214						
A19K	Wainwright	90.89	6	P	P	14 08 18.8	+0.7
	baz=196						
TOLK	Toolik Lake Re	90.91	10	P	P	14 08 18.6	+0.3
	baz=207						
D23K	Nanushuk River	91.02	10	P	P	14 08 18.8	0.0
	baz=206						
B21K	Ikpikpuk River	91.06	8	P	P	14 08 19.1	+0.2
	baz=202						
F26K	Sheenjek River	91.06	12	P	P	14 08 19.1	+0.1
	baz=212						
B20K	Meade River	91.11	7	P	P	14 08 19.8	+0.7
	baz=200						
H29M	Whitestone	91.12	15	P	P	14 08 19.4	+0.1
	baz=217						
E25K	Arctic Village	91.15	12	P	P	14 08 19.8	+0.3
	baz=210						
D24K	Happy Valley	91.49	10	P	P	14 08 20.6	-0.3
	baz=207						
EPYK	Eagle Plains	91.65	15	P	P	14 08 22.0	+0.2
	baz=218						
YAK	Yakutsk	91.73	338	P	P	14 08 22.5	+0.3
	comp=Z,6.5nm,0.3s,baz=126,slow=4.5,SNR=4.4						
	comp=Z,6.5nm,0.3s						
G29M	Pine Creek	91.76	15	P	P	14 08 22.2	-0.1
	baz=217						
C23K	Itkillik River	91.82	9	P	P	14 08 22.4	-0.1
	baz=206						
H31M	Peel River	91.83	17	P	P	14 08 22.9	+0.3
	baz=221						
B22K	Teshekpuk Lake	91.88	8	P	P	14 08 22.9	+0.2
	baz=203						
E27K	Coleen River	92.00	13	P	P	14 08 23.6	+0.3
	baz=214						
C24K	Franklin Bluff	92.01	10	P	P	14 08 23.6	+0.3
	baz=208						
D25K	Kavik River	92.05	11	P	P	14 08 23.2	-0.4
	baz=210						
G30M	tAoh Zraii Nji	92.25	15	P	P	14 08 23.7	-0.8
	baz=219						
A22K	Sinclair Lake	92.30	7	P	P	14 08 24.0	-0.6
	baz=202						
A21K	Barrow	92.41	7	P	P	14 08 24.8	-0.3
	baz=200						
LZH	Lanzhou	92.47	308	eP	P	14 08 28.9	+2.4
LZH				pP	pP	14 10 34.8	-1.5
LZH				pmax	pmax		
	comp=Z,12nm,1.3s						
G31M	Satah River	92.70	16	P	P	14 08 26.0	-0.5
	baz=221						
E28M	Babbage River	92.78	13	P	P	14 08 26.6	-0.3
	baz=216						
C27K	Jago River	92.80	11	P	P	14 08 27.7	+0.7
	baz=212						
C26K	Camden Bay	92.83	11	P	P	14 08 27.8	+0.8
	baz=211						
F30M	Barrier River	92.85	15	P	P	14 08 27.1	-0.1
	baz=219						
E29M	Blow River	92.97	14	P	P	14 08 27.8	0.0
	baz=217						
D27M	Malcolm River	93.01	12	P	P	14 08 27.6	-0.4
	baz=215						
F31M	Tsiigehtchic	93.23	16	P	P	14 08 28.5	-0.4
	baz=221						
D28M	Stokes Point	93.54	13	P	P	14 08 30.1	-0.2
	baz=217						
INK	Inuvik	93.94	15	P	P	14 08 31.4	-0.7
	baz=221						
HERN	Volcan Telica	95.42	79	P	P	14 08 39.0	-1.2
SONM	Songino Array	95.42	319	P	P	14 08 39.7	+0.2
	comp=Z,0.4nm,0.5s,baz=110,slow=5.3,SNR=2.3						
	comp=Z,0.4nm,0.5s						
YKA	Yellowknife Ar	96.21	25	P	P	14 08 42.5	0.0
	comp=Z,0.3nm,0.7s,baz=246,slow=4.5,SNR=5.9						
	comp=Z,0.3nm,0.7s						
A36M	Sachs Harbour	98.54	15	P	Pdif	14 08 52.2	-0.5
	baz=229						
ZALV	Zalesovo Beam	110.15	321	PKiKP	PKiKP	14 13 40.5	-1.8
	comp=Z,1.0nm,0.6s,baz=157,slow=1.1,SNR=5.6						
MKAR	Makanchi Array	110.88	314	PKiKP	PKiKP	14 13 42.4	-1.6
	comp=Z,1.2nm,0.6s,baz=88,slow=0.6,SNR=17						
KURBB	Kurchatov Arra	113.71	317	PKiKP	PKiKP	14 13 47.7	-1.5
	comp=Z,1.7nm,0.7s,baz=97,slow=1.8,SNR=16						
BVAR	Borovoye Array	118.74	320	PKP	PKPdf	14 13 57.9	-1.0
	comp=Z,3.9nm,0.7s,baz=106,slow=1.4,SNR=18						
ARCES	ARCESS Array B	128.54	350	PKP	PKPdf	14 14 16.0	-1.2
	comp=Z,4.3nm,1.0s,baz=331,slow=1.5,SNR=7.0						
FINES	FINESS Array B	135.39	344	PKP	PKPdf	14 14 27.8	-2.4
	comp=Z,1.7nm,0.6s,baz=60,slow=4.6,SNR=7.3						
FINES				SKPbc	SKPbc	14 17 05.6	-0.2
	comp=Z,1.2nm,0.7s,baz=117,slow=2.1,SNR=4.2						
NB2	NORSAR Subarra	138.60	353	PKP	PKPdf	14 14 26.0	-10
	comp=Z,0.6nm,0.8s,baz=16,slow=3.2						
NOA	NORSAR Array B	138.60	353	PKhKP	PKPpre	14 14 26.6	
	comp=Z,0.8nm,0.7s,baz=15,slow=4.7,SNR=6.2						
NOA				PKP	PKPdf	14 14 37.2	+1.0
	comp=Z,0.4nm,0.8s,baz=13,slow=4.1,SNR=3.3						
HFS	Hagfors	139.16	351	PKhKP	PKPpre	14 14 28.4	
	comp=Z,2.4nm,0.6s,baz=46,slow=4.3,SNR=23						
STRU	Stroemstad	140.56	352	i P	PKPdf	14 14 33.3	-6.4
HOMB	Homborsund	141.60	354	i P	PKPdf	14 14 37.2	-4.4
BORU	Boraas	141.71	351	i P	PKPdf	14 14 36.4	-5.4
ONAU	Onsala	142.05	351	i P	PKPdf	14 14 37.7	-4.7
FABU	Falkenberg	142.31	350	i P	PKPdf	14 14 38.7	-4.2
BLEU	Blekinge	142.41	347	i P	PKPdf	14 14 39.1	-3.9
DEL	Delary	142.63	349	i P	PKPdf	14 14 40.1	-3.4
AKASG	Malin Array Be	142.65	331	PKhKP	PKPpre	14 14 40.0	
	comp=Z,12nm,0.6s,baz=44,slow=4.3,SNR=86						
AKASG				SKPbc	SKPbc	14 17 24.8	-1.1
	comp=Z,0.2nm,0.2s,baz=50,slow=1.4,SNR=4.3						
KIEV	Kiev	142.66	331	⇓P	PKPdf	14 14 39.7	-4.0
DRUM	Mains of Drumt	143.12	4	eP	PKPab	14 14 41.6	-0.7
MUD	Monsted U'grnd	143.32	353	i P	PKPab	14 14 43.0	-0.1
INVG	Invergeldie, C	143.48	6	eP	PKPab	14 14 43.6	-0.2
LAWE	Loch Awe, Argy	143.51	7	eP	PKPab	14 14 43.7	-0.1
BSD	Bornholm Skovb	143.71	347	i P	PKPbc	14 14 44.0	-0.6
CLGH	Cloghs, Cushen	144.57	8	eP	PKPdf	14 14 46.2	-0.7
EKA	Eskdalemuir Ar	144.64	5	PKP	PKPdf	14 14 47.1	0.0
	comp=Z,5.6nm,0.8s,baz=347,slow=3.1,SNR=23						
EKA				SKPbc	SKPbc	14 17 30.8	+0.4
	comp=Z,0.2nm,0.5s,baz=350,slow=3.9,SNR=3.5						
ESK	Eskdalemuir	144.65	5	eP	PKPdf	14 14 46.6	-0.4
SORM	Soroca	144.84	329	⇓P	PKPdf	14 14 47.7	+0.1
GAL1	Galloway	144.95	7	eP	PKPdf	14 14 47.6	0.0
PURM	Purcari	145.13	326	⇓P	PKPdf	14 14 47.5	-0.6
EDMD	Edmundbyers	145.23	4	eP	PKPdf	14 14 48.7	+0.6
MILM	Milestii Mici	145.43	327	⇓P	PKPdf	14 14 48.0	-0.6
IOMK	Kirk Michael	145.56	7	eP	PKPdf	14 14 49.7	+1.1
WME	Myndd Eilian	146.44	7	eP	PKPdf	14 14 52.3	+2.2
BRTR	Keskin Array B	146.52	313	PKPbc	PKPdf	14 14 52.9	+2.0
	comp=Z,5.2nm,0.7s,baz=140,slow=4.9,SNR=20						
WLF1	Llynfaes	146.54	7	eP	PKPdf	14 14 51.9	+1.6
KIRS	Kirsehir-Merke	146.59	312	⇓P	PKPdf	14 14 52.8	+1.8
BURAR	Bucovina Array	146.69	331	⇑P	PKPbc	14 14 54.1	+0.4
OJC	Ojcow	146.78	339	ePKPbc	PKPbc	14 14 53.5	-0.2
TESR	Tescani	146.80	328	⇓P	PKPdf	14 14 53.2	+2.2
CFR	Carcaliu	146.93	325	⇑P	PKPbc	14 14 54.0	-0.2
KOLS	Kolonicke sedl	146.94	335	ePKP	PKPbc	14 14 54.6	+0.4
KOLS				e		14 14 57.9	
STHS	Stebnicka Huta	146.94	337	ePKP	PKPab	14 14 58.1	+0.5
TPGR	Topolog	146.98	324	⇓P	PKPbc	14 14 54.5	0.0
ONER	Baraj Valea Uz	147.05	328	⇑P	PKPbc	14 14 55.9	+1.4
LLW	Llanuwychllyn	147.05	6	eP	PKPbc	14 14 54.0	-0.4
FOEL	Foel Wylfa	147.06	6	eP	PKPdf	14 14 53.6	+2.3
VRI	Vrincioaia	147.21	327	⇑P	PKPbc	14 14 54.9	-0.1
PLOR	Plostina	147.26	327	⇓P	PKiKP	14 14 57.2	+0.4
NIE	Niedzica	147.28	338	ePKPbc	PKPbc	14 14 55.5	+0.4
KSP	Ksiaz	147.31	343	ePKPbc	PKPbc	14 14 55.4	+0.4
COVR	Voineasa-Covas	147.49	328	⇑P	PKPdf	14 14 54.9	+2.7
MMAI	Mount Meron Ar	147.55	300	PKPbc	PKPbc	14 14 56.9	+0.5
	comp=Z,10nm,0.6s,baz=76,slow=4.8,SNR=14						
MMAI				PKPab	PKPab	14 15 00.9	+0.2
	comp=Z,6.6nm,0.6s,baz=107,slow=2.9,SNR=6.3						
OSTC	Ostas	147.59	343	⇑ePKP	PKPbc	14 14 56.4	+0.6
CLL	Collm	147.68	347	⇓iPKPbc	PKPbc	14 14 56.1	+0.1
	comp=Z,26nm,0.9s						
CLL				⇑iPKPab	PKPab	14 15 00.1	-0.4
	comp=Z,10.0nm,0.8s						
CLL				epPKPab	pPKPab	14 17 15.0	+1.8
CLL				ePP	PP	14 18 31.0	+2.3
STEB	Steborice	147.69	341	⇑ePKP	PKPbc	14 14 56.1	0.0
STEB				ePKPAB	PKPab	14 15 01.0	+0.4
DPC	Dobruska-Polom	147.75	343	⇑ePKP	PKPbc	14 14 56.5	+0.2
DOPR	Dopca	147.81	329	⇑P	PKPbc	14 14 57.2	+0.7
KRLC	Kraliky	147.86	342	⇑ePKP	PKPbc	14 14 56.8	+0.2
KRLC				ePKPAB	PKPab	14 15 02.0	+0.7
MLR	Muntele Rosu	147.86	327	⇓P	PKPbc	14 14 56.8	0.0
BRG	Berggiesshubel	147.88	346	i PKP	PKPbc	14 14 57.0	+0.5
BRG				Amp		14 14 57.3	
	comp=Z,8.8nm,0.7s						
BRG	Berggiesshubel	147.88	346	P	PKPab	14 15 01.4	+0.1
BRG				Amp		14 15 02.0	
	comp=Z,6.4nm,0.7s						
MORC	Moravsky Berou	147.90	341	ePKP	PKPbc	14 14 56.7	0.0
MORC	Moravsky Berou	147.90	341	⇓P	PKPbc	14 14 58.4	+1.7
PVCC	Panska Ves	148.05	345	⇑ePKP	PKPbc	14 14 57.3	+0.4
MAUC	Maruska	148.17	340	⇑ePKP	PKPbc	14 14 57.8	+0.5
VOIR		148.35	328	⇑P	PKPbc	14 14 57.9	0.0
PRU	Pruhonice	148.55	344	⇑ePKP	PKPbc	14 14 58.4	+0.2
PRU				ePKPAB	PKPab	14 15 04.2	+0.1
VYHS	Vyhne	148.58	338	ePKP	PKPbc	14 14 58.7	+0.3
VYHS				e		14 15 04.9	
VRAC	Vranov	148.60	341	ePKP	PKPbc	14 14 58.3	-0.1
VRAC	Vranov	148.60	341	⇓P	PKPbc	14 14 59.3	+0.9
ARR	Arges	148.60	328	⇑P	PKPbc	14 14 58.7	+0.1
JAVC	Velka Javorina	148.66	340	ePKP	PKPbc	14 14 59.8	+1.2
PSZ	Piszkesteto	148.68	336	⇑P	PKPbc	14 14 59.9	+1.2
KRUC	Moravsky	148.88	341	ePKP	PKPbc	14 14 59.0	0.0
ZVC	Zvikov	149.15	344	⇑ePKP	PKPbc	14 15 00.3	+0.6
ZVC				ePKPAB	PKPab	14 15 06.7	+0.1
MODS	Modra-Piesok	149.21	340	ePKP	PKPbc	14 15 00.9	+1.0
SIRR	Siria	149.30	333	⇑P	PKiKP	14 15 02.3	+1.4
MEM	Membach	149.41	355	dPKiKP	PKPbc	14 14 59.9	-0.3
BTNL	Ternell	149.42	355	dPKiKP	PKPbc	14 15 00.4	0.0
BSTI	Sart Tilman	149.47	355	dPKiKP	PKPbc	14 15 00.5	+0.1
GZR	Gura Zlata	149.47	330	⇑P	PKPbc	14 14 59.5	-1.2
SURR	Surduc	149.50	332	⇑P	PKPbc	14 14 59.9	-0.7
KHC	Kasperske Hory	149.58	345	⇑ePKP	PKPbc	14 15 01.0	+0.2
KHC				ePKPAB	PKPab	14 15 08.9	+0.4
BCLA	Clavier	149.65	356	dPKP	PKPab	14 15 08.3	-0.3
CKRC	Cesky Krumlov	149.68	344	⇑ePKP	PKPbc	14 15 01.0	0.0
BMRD	Maredsous	149.80	356	dPKiKP	PKPbc	14 15 00.9	-0.3
GERES	GERESS Array B	149.82	344	PKP	PKPdf	14 14 55.2	-0.7
	comp=Z,5.1nm,0.8s,baz=19,slow=4.5,SNR=3.8						
GERES				PKPbc	PKPbc	14 15 01.3	-0.2
	comp=Z,4.2nm,0.8s,baz=45,slow=2.1,SNR=29						
GERES				PKPab	PKPab	14 15 09.1	-0.4
	comp=Z,1.4nm,0.7s,baz=35,slow=4.9,SNR=4.8						
BZS	Buzias	149.83	332	⇓P	PKPbc	14 15 01.3	-0.1
DOU	Dourbes	150.02	357	dPKiKP	PKPbc	14 15 01.9	+0.2
DOU				dPKP	PKPab	14 15 09.0	-1.2
HERR	Herculane	150.03	330	⇓P	PKPbc	14 15 01.7	-0.2
CONA	Conrad Observa	150.05	341	i PKiKP	PKPbc	14 15 02.2	+0.2
	comp=Z,6.4nm,0.6s,SNR=7.5						
CONA				ePKP	PKPab	14 15 11.5	+1.0
	comp=Z,5.9nm,1.3s						
RONA	Rosalia, Austr	150.12	340	i PKiKP	PKPbc	14 15 02.2	+0.1
	comp=Z,9.2nm,0.6s,SNR=7.5						
WLF	Walferdange	150.33	354	dPKP	PKPbc	14 15 03.4	+0.9
MDVR	Moldovita	150.43	331	⇓P	PKPbc	14 15 03.2	+0.3
MOA	Molln	150.58	343	ePKiKP	PKPbc	14 15 02.9	-0.3
	comp=Z,2.6nm,0.6s						
MOA				ePKP	PKPab	14 15 12.7	0.0
	comp=Z,5.8nm,1.2s						
BIOA	Bad Ischl, Aus	150.90	344	ePKiKP	PKPbc	14 15 03.6	-0.3
	comp=Z,2.9nm,0.5s						
BIOA				ePKP	PKPab	14 15 14.6	+0.5
	comp=Z,7.1nm,0.7s						
LESA	Schwarzleotal	151.39	345	ePKiKP	PKPbc	14 15 04.5	-0.5
	comp=Z,2.3nm,0.5s						
LESA				ePKP	PKPab	14 15 16.8	+0.6
	comp=Z,6.1nm,0.9s						
SOKA	Soboth	151.42	341	ePKiKP	PKPbc	14 15 04.5	-0.6
	comp=Z,3.6nm,0.8s						
SOKA				ePKP	PKPab	14 15 16.4	+0.1
	comp=Z,5.7nm,1.1s						
PERS	Pernice	151.43	341	ePKPbc	PKPbc	14 15 04.3	-0.9
KBA	Koelnbreinsper	151.54	343	ePKP	PKPbc	14 15 04.4	-1.1
	comp=Z,5.9nm,1.2s						
KBA				ePKP	PKPab	14 15 17.9	+0.9
	comp=Z,3.2nm,0.5s						
OBKA	Obir	151.72	341	ePKiKP	PKPbc	14 15 05.3	-0.5
	comp=Z,1.9nm,0.7s						
OBKA				ePKP	PKPab	14 15 17.2	-0.4
	comp=Z,4.2nm,1.1s						
WATA	Walderalm	151.74	346	ePKiKP	PKPbc	14 15 05.3	-0.6
	comp=Z,1.6nm,0.3s						
WATA				i PKP	PKPab	14 15 17.8	0.0
	comp=Z,2.1nm,0.4s						
RETA	Reutte	151.77	347	i PKiKP	PKPbc	14 15 05.

UWFH	University of	0.69 327		Pb	14 32 06.3	-1.3
RATT	Rattlesnake La	0.70 141		Pb	14 32 06.8	-0.8
B04A	Port Angeles	0.71 278		Pb	14 32 06.5	-1.4
B04A				Sb	14 32 16.3	-1.1
VGZ	Gonzales	0.73 308		Pb	14 32 06.4	-1.9
MCW	Mount Constitu	0.76 341		Pb	14 32 07.9	-0.8
A04D	Lummi Island	0.77 347		Pb	14 32 08.1	-0.8
A04D	Lummi Island	0.77 347	IAML		14 32 23.8	
	comp=N,65nm,1.1s					
A04D			IAML		14 32 30.4	
	comp=E,62nm,1.0s					
STW	Striped Peak	0.84 283		Pn	14 32 08.5	-1.4
D05A	Enumclaw	0.84 158		Pn	14 32 09.4	-0.6
GPW	Glacier Peak	0.89 80		Pn	14 32 10.3	-0.6
MBW	Mount Baker	0.90 24		Pn	14 32 10.4	-0.5
SNB	Saturna Island	0.94 330		Pn	14 32 10.7	-0.7
B011	North Saanich	0.95 316		Pn	14 32 10.2	-1.3
B011				Sn	14 32 22.7	-1.4
PGC	Sidney	0.95 316		Pn	14 32 10.3	-1.2
PGC				Sn	14 32 22.8	-1.3
PGC	Sidney	0.95 316	IAML		14 32 23.1	
	comp=N,50nm,0.2s					
SHUK	Shuksan-Mt. Ba	1.02 30		Pb	14 32 13.0	-0.3
WRW	Wenatchee Ridg	1.06 95		Pn	14 32 12.8	-0.3
P403	Sandy Floe Qua	1.14 275		Pb	14 32 15.9	+0.8
LON	Longmire	1.29 160		Pn	14 32 15.9	-0.3
LON			IAML		14 32 34.7	
	comp=N,14nm,0.1s					
LON			IAML		14 32 34.8	
	comp=E,18nm,0.1s					
LTY	Liberty	1.40 120		Pn	14 32 18.4	+0.7
CLRS	Cowichan Lake	1.41 308	Pn	Pn	14 32 16.9	-0.8
CLRS			IAML		14 32 34.4	
	comp=N,25nm,3.2s					
CLRS			IAML		14 32 54.5	
	comp=E,20nm,3.0s					
ETW	Entiat	1.48 103		Pn	14 32 19.8	+0.9
EBG	Ellensburg	1.66 129		Pb	14 32 23.9	-0.1
STD	Studebaker Rid	1.74 175		Pn	14 32 23.5	+1.1
SEPW	September Lobe	1.78 174		Pb	14 32 24.6	-1.4
AWST	Adams West	1.88 165		Pn	14 32 26.0	+1.6
F07A	Phinny Hill Vi	2.70 139		Pb	14 32 42.9	+1.2

*HEL **20** 14:34:13.5±0.2, 67°.63N×33°.69E, h0km, ML2.0, Explosion*
*KOLA **20** 14:34:13.8, 67°.65N×33°.77E, h0km, ML2.2, Error ellipse: s-maj=2.8km s-min=1.7km az=130.0, Khibiny, mines Kirovsk, Yukspor*
*IDC **20** 14:34:15.2±1.8, 67°.71N×33°.57E, h0km, mbtmp3.4/5, ML2.4/5, Error ellipse: s-maj=19.6km s-min=9.7km az=81.0*

ISC 20 14:34:12.4±0.8, 67°.60N±0°.03×33°.80E±0°.03, h0km, n38, σ1§28/62, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.15	260	P	Pg	14 34 16.5	+1.1
APA0	Apatity Array	0.31	272	P	Pg	14 34 18.8	+0.5
APA0				S	Sg	14 34 22.9	+0.5
LVZ	Lovozero	0.44	46	P	Pg	14 34 21.4	+0.5
LVZ				S	Sg	14 34 27.1	+0.4
LVZ	Lovozero	0.44	46	PG	Pg	14 34 21.8	+0.8
LVZ				SG	Sg	14 34 27.2	+0.5
KVDA	Kovda	0.98	202	P	Pb	14 34 32.2	0.0
KVDA				S	Sb	14 34 45.5	-0.1
VRF	Varrio	1.61	277	PG	Pn	14 34 41.7	-0.4
VRF				MSG		14 35 00.4	
	comp=Z,18nm,0.2s						
VRF				SN	Sn	14 35 02.0	-1.5
TERR	Teriberka	1.68	16	P	Pn	14 34 43.0	-0.1
TERR				S	Sn	14 35 04.0	-1.3
OLKF	Oulanka, Finla	2.15	236	PG	Pb	14 34 52.1	-0.1
OLKF				MSG		14 35 17.0	
	comp=Z,7.3nm,0.2s						
KU6	Riekki	2.21	226	PG	Pb	14 34 52.5	-0.7
	baz=42						
KU6				MSG		14 35 18.8	
	comp=Z,6.1nm,0.2s						
KU6				SG	Sg	14 35 22.7	-0.6
RAJF	Raja-Jooseppi	2.25	296	PB	Pn	14 34 51.1	+0.3
RAJF				SG	Sn	14 35 19.7	+0.5
MSF	Maaselka	2.54	230	PB	Pb	14 34 57.3	-1.4
MSF				SG	Sg	14 35 33.3	-0.5
KU1	Kurvinen	2.65	222	PG	Pb	14 35 00.6	-0.1
KU2	Taivalkoski	2.92	232	PB	Pb	14 35 03.8	-1.5
VADS	Vadso	3.00	330	P	Pn	14 35 01.4	+0.2
VADS				S	Sn	14 35 36.6	-1.2
VADS	Vadso	3.00	330	eP	Pn	14 35 01.4	+0.2
RANF	Ranua	3.20	243	PN	Pn	14 35 05.5	+1.6
RANF				SG	Sb	14 35 51.1	+1.6
RNF	Rovaniemi	3.20	256	PN	Pn	14 35 05.1	+1.1
	baz=69						
RNF				SN	Sn	14 35 43.9	+1.1
KEV	Kevo	3.30	314	eP	Pn	14 35 06.2	+1.0
KEV	Kevo	3.30	314	PN	Pn	14 35 05.9	+0.7
KEV				SN	Sn	14 35 45.2	+0.2
ARA0	ARCESS Array S	3.61	306	PN	Pn	14 35 09.9	+0.3
	baz=120						
ARA0				SN	Sn	14 35 52.0	-0.9
ARCES	ARCESS Array B	3.62	306	Pn	Pn	14 35 09.9	+0.3
	comp=Z,1.2nm,0.3s,baz=122,slow=14,SNR=229						
ARCES				Pg	Pb	14 35 17.9	+0.7
	comp=Z,1.2nm,0.3s,baz=122,slow=15,SNR=21						
ARCES				Sn	Sn	14 35 51.1	-1.9
	comp=Z,0.8nm,0.3s,baz=122,slow=28,SNR=10.0						
ARCES				Lg	Lg	14 36 03.5	
	comp=Z,1.2nm,0.3s,baz=116,slow=30,SNR=10						
	comp=Z,2.9nm,0.3s						
ARCES	ARCESS Array B	3.62	306	P	Pn	14 35 09.8	+0.1
ARCES				S	Sn	14 35 52.0	-0.9
RMF	Romuvaara	3.75	207	PN	Pn	14 35 12.7	+1.3
RMF				SN	Sn	14 35 56.8	+0.7
KLF	Kolari	3.81	269	PN	Pn	14 35 12.7	+0.4
KLF				SN	Sn	14 35 57.1	-0.7
HEF	Hetta	3.90	287	PN	Pn	14 35 13.6	0.0
	baz=94						
HEF				SN	Sn	14 35 59.5	-0.5
TOF	Tornio	4.04	252	PG	Pb	14 35 24.3	-0.1
OUL	Oulu	4.06	235	PB	Pb	14 35 22.6	-2.1
KTK1	Kautokeino	4.17	295	PN	Pn	14 35 17.9	+0.6
KTK1				SG	Sb	14 36 21.7	+4.2
PAJU	Pajala	4.18	267	PN	Pn	14 35 17.4	0.0
PAJU				SN	Sn	14 36 06.8	-0.1
KALU	Kalix	4.50	252	PN	Pn	14 35 22.0	+0.4
OBF4	Vikkela, Lumij	4.50	236	PN	Pn	14 35 23.2	+1.5
LANU	Lannavaara	4.50	281	PN	Pn	14 35 21.3	-0.5
ERTU	Ertsjaerv	4.66	262	PN	Pn	14 35 24.0	+0.1
ERTU				SN	Sn	14 36 18.1	-0.6
FINES	FINESS Array B	7.01	212	Pn	Pn	14 35 57.0	+0.8
	comp=Z,0.1nm,0.3s,baz=31,slow=11,SNR=4.1						
FINES				Sn	Sn	14 37 17.0	+0.5
	comp=Z,0.1nm,0.3s,baz=21,slow=18,SNR=3.4						
FINES				Lg	Lg	14 37 49.1	
	comp=Z,0.3nm,0.3s,baz=33,slow=25,SNR=12						
	comp=Z,0.4nm,0.4s						
FAUS	Fauske	7.11	277	S	Sn	14 37 14.5	-4.3
HFS	Hagfors	11.54	239	Pn	Pn	14 36 56.4	-1.9
	comp=Z,0.1nm,0.3s,baz=45,slow=17,SNR=2.6						
	comp=Z,2.1nm,0.9s						
SPITS	Spitsbergen Ar	11.71	342	Pn	Pn	14 36 57.0	-3.5
	baz=137,slow=16						
	comp=Z,3.8nm,0.8s						
NOA	NORSAR Array B	11.74	247	Pn	Pn	14 36 59.1	-1.8
	baz=44,slow=10,SNR=1.2						
NOA				Lg	Lg	14 40 19.8	
	baz=41,slow=25,SNR=4.1						
	comp=Z,0.3nm,0.7s						

*NNC **20** 14:35:10.4±0.4, 43°.12N×78°.44E, h0km, mb2.3, mpv2.7, Error ellipse: s-maj=3.5km s-min=2.8km az=178.0*
*SOME **20** 14:35:11.1, 43°.13N×78°.47E, h15km*
*KRNET **20** 14:35:12.7±0.1, 42°.50N×78°.97E, h35km, mb2.4*

ISC 20 14:35:11.2±0.9, 43°.16N±0°.03×78°.45E±0°.02, h6km±4km, n23, σ1§42/46, 14C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	Zhinishke	0.01	298	P	Pg	14 35 12.5	+0.1
	64nm,0.1s						
ZHN				S	Sg	14 35 13.6	+0.3
	2μm,0.2s						
ZHN	Zhinishke	0.01	298	eP	Pg	14 35 12.5	+0.1
	64nm,0.1s						
ZHN				eS	Sg	14 35 13.6	+0.3
	2μm,0.1s						
SATY	Saty	0.11	198	P	Pg	14 35 12.6	-0.9
	14nm,0.1s						
SATY				S	Sg	14 35 14.1	-1.1
	1μm,0.1s						
KURS	Kuram	0.39	328	P	Pg	14 35 19.1	+0.4
	1.7nm,0.1s						
KURS				S	Sg	14 35 25.1	+1.3
	12nm,0.3s						
UZB	Uzynbulak	0.42	92	P	Pg	14 35 18.9	-0.4
	11nm,0.0s						
UZB				S	Sg	14 35 24.5	-0.3
	36nm,0.1s						
UZB	Uzynbulak	0.42	92	eP	Pg	14 35 18.9	-0.4
	11nm,0.1s						
UZB				eS	Sg	14 35 24.5	-0.3
	38nm,0.1s						
PRZ	Przheval'sk	0.68	183	⇑eP	Pg	14 35 24.2	0.0
PRZ				⇑eS	Sg	14 35 32.6	-0.5
ANVS	Anan'yevo	0.69	237	⇑eP	Pn	14 35 31.5	+3.8
ANVS				⇑eS	Sn	14 35 45.4	+6.5
PDGK	Podgornoye	0.78	77	⇓P	Pg	14 35 25.4	-0.7
	1.3nm,0.2s						
PDGK				⇑S	Sg	14 35 35.8	-0.4
	0.8nm,0.2s						
MDOK	Medeo	1.03	271	⇑P	Pg	14 35 29.3	-1.6
	0.4nm,0.2s						
MDOK				Pg	Pb	14 35 29.8	-1.7
	3.4nm,0.1s						
MDOK				⇑S	Sg	14 35 42.9	-1.3
	0.8nm,0.3s						
MDOK				Lg	Lg	14 35 43.5	
	2.4nm,0.1s						
TNSS	Tian-Shan	1.11	264	P	Pg	14 35 31.5	-1.0
	2.3nm,0.1s						
TNSS				S	Sg	14 35 46.4	-0.5
	5.6nm,0.2s						
TNSS	Tian-Shan	1.11	264	eP	Pg	14 35 31.4	-1.0
	2.3nm,0.1s						
TNSS				eS	Sg	14 35 46.4	-0.5
	5.6nm,0.2s						
ARXS	Arharly	1.15	337	P	Pg	14 35 33.0	-0.2
	2.2nm,0.1s						
ARXS				S	Sb	14 35 48.8	+0.1
	2.9nm,0.2s						
CHKK	Chushkaly	1.27	304	P	Pn	14 35 34.4	-1.2
	0.8nm,0.2s						
CHKK				S	Sg	14 35 51.6	-0.5
	7.9nm,0.2s						
CHKK	Chushkaly	1.27	304	eP	Pn	14 35 34.4	-1.2
	0.8nm,0.2s						
CHKK				eS	Sg	14 35 51.6	-0.5
	7.9nm,0.2s						
KDJ	Kajisay	1.39	223	⇓iP	Pn	14 35 36.8	-0.6
KDJ				⇓iS	Sb	14 35 54.0	-1.9
KTBS	Karatobe	1.40	294	P	Pn	14 35 37.1	-0.3
	1.8nm,0.2s						
KTBS				S	Sb	14 35 55.9	-0.1
	3.7nm,0.2s						
KUU	Kurty	1.70	296	P	Pn	14 35 41.6	+0.1
	2.2nm,0.2s						
KUU				S	Sn	14 36 04.3	+0.6
	7.4nm,0.2s						
KUU	Kurty	1.70	296	eP	Pn	14 35 41.6	+0.1
	2.2nm,0.2s						
KUU				eS	Sn	14 36 04.3	+0.6
	7.4nm,0.2s						
ULHL	Ulahol	1.87	241	⇑iP	Pb	14 35 44.9	-1.0
ULHL				⇑iS	Sb	14 36 08.7	-0.9
BOOM	Boomskoye usch	1.97	251	⇑eP	Pg	14 35 48.7	-0.2
BOOM				⇑eS	Sg	14 36 14.7	+0.3
TKM2	Tokmak 2	2.11	264	⇓Pg	Pn	14 35 46.2	-1.0
	0.4nm,0.3s						
TKM2				⇑Lg	Lg	14 36 18.7	
	1.7nm,0.3s						
TKM2	Tokmak 2	2.11	264	⇑iP	Pb	14 35 50.1	+0.1
TKM2				⇑iS	Sb	14 36 17.6	+1.1

*NEIC **20** 14:41:49.2±1.3, 31°.34N±0°.02×115°.68W±0°.03, h10km±2km, mb4.5/54, Mww4.5/20, Md4.9/22(MEX), ML4.7/274(PAS), Error ellipse: s-maj=3.7km s-min=3.5km az=152.0*
*CATAC **20** 14:41:49.5±0.5, 31°.1N±3°.×11°.6W±°., h5km±2km, M5.0/10, MLv5.0/10, Error ellipse: s-maj=7.7km s-min=3.7km az=31.8, confirmed*
*MEX **20** 14:41:51.5±0.4, 31°.25N×115°.57W, h20km±121km, MD4.9*
*NEIC **20** 14:41:51.3, 31°.36N×115°.68W, h24km*
*NEIC **20** 14:41:51.3, 31°.16N×116°.00W, h24km, Moment Tensor Solution. Duration: 0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.42; $M_{\theta\theta}$-6.73; $M_{\phi\phi}$7.15; $M_{r\theta}$-0.75; $M_{r\phi}$-1.71; $M_{\theta\phi}$3.35; Fault plane solution: $M_0$7.80000×10^{15} NP1:φs40.15000°, δ73.03000°, λ12.49000°. NP2:φs306.45000°, δ78.06000°, λ162.64000°. Principal axes: T 8.6457, Plg21.0000°, Azm263.0000°; N -1.6898, Plg69.0000°, Azm93.0000°; P -6.9560, Plg3.0000°, Azm354.0000°;*
*PAS **20** 14:41:51.1±1.7, 31°.29N±0°.09×115°.8W±0°.4, h14km±6km Error ellipse: s-maj=47.8km s-min=10.4km az=100.0*
*ECX **20** 14:41:51.4±0.5, 31°.29N×115°.72W, h12km±2km, MD4.5, ML4.7, Fault plane solution: NP1:φs114.00000°, δ34.00000°, λ118.00000°.*
*IDC **20** 14:41:53.5±1.4, 31°.60N×115°.43W, h0km, mb4.0/6, mbtmp4.1/15, ML3.8/9, MS3.7/44, Error ellipse: s-maj=23.7km s-min=9.2km az=45.0*

ISC 20 14:41:50.6±0.8, 31°.29N±0°.02×115°.77W±0°.02, h11km±5km, n230, σ1§51/209, mb4.4/14, MS3.8/36, 12C-55D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTX	Valle De La Tr	0.11	354	Pg	Pb	14 41 54.1	-0.6
VTX	Valle De La Tr	0.11	354		Sg	14 41 56.5	+1.0
VTX	Valle De La Tr	0.11	354	⇑eP	Pb	14 41 54.2	-0.6
VTX				eS	Sg	14 41 56.5	+1.0
VTX				IAmb	IAmb	14 41 56.6	
	comp=Z,38μm,0.3s						
VTX				IAML		14 41 56.7	
	comp=N,112μm,0.1s						
VTX				⇑e		14 41 56.7	
VTX				IAML		14 41 57.2	
	comp=E,117μm,0.1s						
VTX				e		14 41 57.2	
VTX	Valle De La Tr	0.11	354	P	Pb	14 41 54.3	-0.5
VTX				S	Sg	14 41 56.4	+1.0
SPIG	San Pedro Mart	0.35	132	eP	Pg	14 41 57.7	-0.1
SPIG				eS	Sg	14 42 02.4	-0.2
SPIG	San Pedro Mart	0.35	132	eP	Pg	14 41 57.7	-0.1
SPIG				eS	Sg	14 42 02.6	0.0
SJX	San Joaquin	0.50	341	⇓iP	Pn	14 42 04.5	+0.7
SJX				eS	Sn	14 42 14.1	+1.6
SQX	San Quintin	0.71	187	⇓iP	Pg	14 42 04.3	-0.1
SQX				eS	Sg	14 42 14.1	+0.3
SQX				⇑e		14 42 14.6	
SQX				IAML		14 42 14.9	
	comp=N,90μm,0.3s						
ALAMX	Rancho Alamar	0.72	4	⇓eP	Pg	14 42 04.3	-0.3
ALAMX				⇑e		14 42 16.5	
ALAMX				IAML		14 42 16.5	
	comp=E,44μm,0.3s						
ALAMX				⇑e		14 42 17.1	
ALAMX				IAML		14 42 17.1	
	comp=N,77μm,0.4s						
ESJX	Sierra Juarez	0.73	348		Pg	14 42 04.3	-0.5
ESJX	Sierra Juarez	0.73	348		Sg	14 42 14.3	-0.2
ESJX	Sierra Juarez	0.73	348	P	Pg	14 42 04.5	-0.3
SFX	San Felipe	0.83	107		Pg	14 42 05.7	-0.9
SFX	San Felipe	0.83	107		Sg	14 42 16.2	-1.2
SFX	San Felipe	0.83	107	⇑iP	Pg	14 42 05.8	-0.9
SFX				eS	Sg	14 42 16.0	-1.4
SFX				IAML		14 42 17.4	
	comp=N,55μm,0.3s						
SFX				IAML		14 42 19.2	
	comp=E,33μm,0.5s						
SFX	San Felipe	0.83	107	P	Pg	14 42 05.9	-0.7
CNAEN	Presa Emilio L	0.93	311	eP	Pg	14 42 07.5	-1.1
CNAEN				eS	Sg	14 42 20.2	-0.5
PBX	Punta Banda	0.93	299	⇑eP	Pg	14 42 08.4	-0.2
PBX				eS	Sb	14 42 21.8	+0.5
RHX	Rio Hardy	0.94	26	⇓eP	Pg	14 42 07.5	-1.3
CCX	Cicese	0.96	307		Pb	14 42 08.7	-0.5
CCX	Cicese	0.96	307		Sg	14 42 21.9	+0.3
CCX	Cicese	0.96	307	⇓eP	Pb	14 42 08.7	-0.5
CCX				eS	Sg	14 42 21.8	+0.2
CCX				⇑e		14 42 22.8	
CCX				IAML		14 42 22.8	
	comp=E,24μm,0.4s						
CCX				⇓e		14 42 23.2	
CCX				IAML		14 42 23.2	
	comp=N,19μm,0.3s						
CCX	Cicese	0.96	307	P	Pb	14 42 08.9	-0.4
EDOMX	El Doctor, EDO	1.10	52	⇓eP	Pn	14 42 12.1	0.0
RITX	Riito Sonora	1.12	38	⇓eP	Pb	14 42 10.5	-1.5
GUVIX	Guadalupe Vict	1.17	30		Pb	14 42 11.1	-1.9
GUVIX					Sn	14 42 28.9	-0.1
GUVIX	Guadalupe Vict	1.17	30	⇓eP	Pb	14 42 11.3	-1.6
GUVIX	Guadalupe Vict	1.17	30	P	Pb	14 42 11.4	-1.6
GUVIX	Guadalupe Vict	1.17	30	S	Sn	14 42 28.9	-0.1
CPBX	Cerro Prieto	1.20	19		Pn	14 42 11.8	-1.6
CPBX	Cerro Prieto	1.20	19		Sn	14 42 29.8	+0.2
CPBX	Cerro Prieto	1.20	19	⇓eP	Pn	14 42 11.8	-1.6
CPBX	Cerro Prieto	1.20	19	P	Pn	14 42 11.8	-1.6
MBIG	Mexicali	1.22	23	eP	Pg	14 42 14.4	+0.3
MBIG				iS	Sn	14 42 29.2	-0.9
MBIG	Mexicali	1.22	23	⇓eP	Pn	14 42 12.3	-1.3
JARAX	Ej. Heriberto	1.26	7	⇓eP	Pn	14 42 12.7	-1.5
CBX	Cerro Bola	1.27	324		Pn	14 42 13.7	-0.9
CBX	Cerro Bola	1.27	324	⇓eP	Pn	14 42 13.7	-0.9
CBX				eS	Sb	14 42 31.3	0.0
CBX				IAML		14 42 34.0	
	comp=N,18μm,0.7s						
CBX				⇓e		14 42 34.0	
CBX				⇑e		14 42 38.6	
CBX				IAML		14 42 38.6	
	comp=E,16μm,0.8s						
CBX	Cerro Bola	1.27	324	P	Pn	14 42 13.6	-0.9
CBX	Cerro Bola	1.27	324	S	Sb	14 42 30.5	-0.8
FRM1	Rumorosa	1.29	350	⇓eP	Pn	14 42 14.1	-0.6
FRM1				eS	Sb	14 42 30.6	-0.9
PESCX	Ej. Pescaderos	1.33	31		Pn	14 42 13.6	-1.7
PESCX					Sb	14 42 29.8	-3.0
PESCX	Ej. Pescaderos	1.33	31	⇓iP	Pn	14 42 13.6	-1.7
POTX	Potabilizadora	1.33	10	⇓eP	Pg	14 42 15.9	-0.3
POTX				eS	Sg	14 42 34.2	+0.6
RMX	La Rumorosa	1.34	349		Pn	14 42 14.0	-1.5
RMX					Sb	14 42 30.5	-2.6
RMX	La Rumorosa	1.34	349	⇓eP	Pn	14 42 13.9	-1.5
RMX				IAML		14 42 15.1	
	comp=N,5μm,0.2s						
RMX				IAML		14 42 32.4	
	comp=E,5μm,0.3s						
ZC06	Zona comercial	1.35	14	⇓eP	Pg	14 42 16.3	-0.2
ZC06				eS	Sg	14 42 34.3	+0.2
ZC01	Zona Comercial	1.35	7	⇓eP	Pn	14 42 14.3	-1.2
ZC01				eS	Sg	14 42 34.2	+0.1
SGL	Mount Signal	1.36	2		Pn	14 42 14.3	-1.3
SGL					Sb	14 42 33.5	0.0
CEA0	Mexicali	1.36	4	eP	Pb	14 42 15.9	-0.3
CEA0				⇓eP	Pg	14 42 16.1	-0.7
YUH	Yuha Desert	1.36	355		Pn	14 42 14.7	-1.0
YUH	Yuha Desert	1.36	355		Sn	14 42 32.2	-1.5
YUH2	Yuha Desert	1.36	355	⇓eP	Pn	14 42 14.7	-1.0
YUH2				IAML		14 42 34.7	
	comp=E,4μm,0.2s						
BDSO	Brigada del So	1.37	13	eP	Pn	14 42 14.1	-1.6
UABX	UABC, Campus M	1.37	12		Pn	14 42 14.6	-1.1
UABX					Sg	14 42 34.9	+0.1
UABX	UABC, Campus M	1.37	12	⇓eP	Pn	14 42 14.6	-1.1
UABX	UABC, Campus M	1.37	12	P	Pn	14 42 14.7	-1.1
UABX	UABC, Campus M	1.37	12	S	Sg	14 42 35.1	+0.3
POT2	Potabilizadora	1.38	14	⇓eP	Pg	14 42 16.6	-0.5
POT2				⇓eP	Pb	14 42 17.1	+0.7
POT2				eS	Sg	14 42 35.2	+0.2
TJIG	Tijuana	1.38	326	eP	Pn	14 42 15.3	-0.6
TJIG				eS	Sn	14 42 33.3	-0.9
TJIG	Tijuana	1.38	326	⇓eP	Pn	14 42 15.3	-0.6
TJIG				eS	Sn	14 42 33.4	-0.7
TJIG				IAML		14 42 34.6	
	comp=E,7μm,0.1s						
TJIG				⇑e		14 42 34.6	
PLMO	Planta Morelos	1.38	27	⇓eP	Pg	14 42 20.3	+3.1
PLMO				eS	Sg	14 42 42.1	+6.9
IKP	In-Ko-Pah, Jac	1.39	348		Pn	14 42 15.6	-0.5
IKP					Sn	14 42 33.3	-1.3
IKP	In-Ko-Pah, Jac	1.39	348	⇓iP	Pn	14 42 15.6	-0.5
ICBC	Inst. de Cultu	1.40	10	⇓eP	Pg	14 42 17.2	-0.2
ICBC				eS	Sg	14 42 36.1	+0.5
HDFA	Hospital de la	1.42	13	⇓eP	Pn	14 42 15.8	-0.5
YUCAX	Ej. Yucatjn	1.44	23	⇓eP	Pn	14 42 15.5	-1.1
CNA27	Comision Nacio	1.45	33	⇓eP	Pb	14 42 16.8	-0.8
TKX	Tecate	1.46	331		Pn	14 42 16.7	-0.4
TKX	Tecate	1.46	331	eP	Pn	14 42 16.8	-0.4
TKX	Tecate	1.46	331	P	Pn	14 42 16.6	-0.4
TKX	Tecate	1.46	331	S	Sn	14 42 35.6	-0.7
WESC	Westside Schoo	1.47	1	⇓eP	Pn	14 42 16.1	-1.0
CNATJ	Tijuana	1.51	320	⇓eP	Pn	14 42 17.9	+0.3
CNATJ	Tijuana	1.51	320	eS	Sn	14 42 37.2	-0.1
CNATK	Presa El Carri	1.54	321	⇓eP	Pn	14 42 15.0	-3.0
CNATK	Presa El Carri	1.54	321	eS	Sn	14 42 33.7	-4.3
DREC	Desert Rsrch C	1.54	10	⇓eP	Pn	14 42 17.1	-1.0
DRETJ	Distrito Refor	1.55	320	⇓eP	Pb	14 42 18.8	-0.6
DRETJ				eS	Sb	14 42 39.0	-0.1
AGUTJ	Tijuana	1.58	319	⇓eP	Pb	14 42 19.4	-0.6
AGUTJ				eS	Sb	14 42 39.9	-0.2
BAR	Barrett	1.59	331	⇓eP	Pn	14 42 18.5	-0.2
BAR				IAML		14 42 41.0	
	comp=E,6μm,0.2s						
EMSC	East Mesa	1.59	25	⇓eP	Pn	14 42 17.3	-1.5
HGTTJ	Hospital Gral.	1.62	320	⇓eP	Pn	14 42 16.4	-2.8
TJX	Tijuana	1.64	319		Pn	14 42 19.6	+0.2
TJX	Tijuana	1.64	319	⇓eP	Pb	14 42 20.4	-0.5
TJX				eS	Sb	14 42 42.0	+0.5
TJX	Tijuana	1.64	319	⇓eP	Pn	14 42 19.6	+0.2
TJX	Tijuana	1.64	319	P	Pb	14 42 20.3	-0.5
TJX	Tijuana	1.64	319	S	Sb	14 42 41.4	-0.1
CNALG	Represo Algodo	1.64	32	⇓eP	Pn	14 42 18.2	-1.2
OLP	Otay Lakes Par	1.65	324	eP	Pn	14 42 19.4	-0.1
PLATJ	Playas de Tiju	1.67	317	eP	Pb	14 42 20.9	-0.6
PLATJ				eS	Sb	14 42 42.5	-0.1
CORX

TUC eS **Sn** **14 43 47.5 -0.5**
V12A Nelson 4.50 10 Pn **14 42 59.2 +0.4**
HSIG 4.75 117 Pn **14 43 01.9 -0.3**
HSIG 4.75 117 eP **Pn** **14 43 01.3 -0.9**
HSIG eS **Sn** **14 43 58.3 +1.0**
BCW Bitter Crk WRg 4.76 321 Pn **14 43 03.9 +1.5**
SRIG Santa Rosalia 5.01 141 Pn **14 43 07.6 +1.8**
SRIG Santa Rosalia 5.01 141 eP **Pn** **14 43 07.0 +1.2**
SRIG eS **Sn** **14 44 03.4 -0.4**
NZIG Nacozari, Sono 5.42 98⇓eP **Pn** **14 43 09.1 -2.5**
NZIG *i* S Sn 14 44 01.9 -12
GUYB Guaymas 5.44 127 eP Pn 14 43 04.1 -7.6
GUYB eS **Sn** **14 44 12.6 -1.7**
319A Douglas 5.55 87 Pn **14 43 12.9 -0.5**
CGIG 6.76 96 eP **Pn** **14 43 30.4 +0.3**
CGIG eS **Sn** **14 44 49.1 +1.9**
NVAR Mina Array Bea 7.42 344 Pn **Pn** **14 43 41.8 +2.6**
comp=N,0.4nm,0.3s,baz=169,slow=14,SNR=12
NVAR Lg Lg 14 45 43.8
baz=165,slow=31
comp=N,2.7nm,0.8s
ANMO Albuquerque 8.62 62 Pn **14 43 56.8 +1.2**
ANMO Albuquerque 8.62 62 Pn **Pn** **14 43 55.4 -0.2**
comp=N,0.4nm,0.3s,baz=31,slow=10,SNR=16
ANMO Lg Lg 14 46 18.0
comp=N,0.1nm,0.3s,baz=149,slow=23,SNR=4.1
ANMO LR LR 14 47 22.6
comp=N,553nm,19.2s,baz=48,slow=40
comp=N,0.7nm,0.3s
ANMO Albuquerque 8.62 62 eP **Pn** **14 43 56.2 +0.6**
LPIG La Paz 8.64 145 Pn Pn 14 44 02.0 +6.4
comp=N,2.5nm,0.3s,baz=208,slow=3.7,SNR=4.8
LPIG LR LR 14 46 55.4
comp=N,237nm,19.5s,baz=336,slow=34
comp=N,21nm,0.6s
MNTX Cornudas Mount 8.88 85 eP **Pn** **14 43 59.0 0.0**
SLBS Sierra La Lagu 9.17 144 Pn **14 44 05.4 +2.4**
SLBS Sierra La Lagu 9.17 144 eP **Pn** **14 44 06.1 +3.1**
SLBS eS **Sn** **14 45 48.0 +1.7**
VHRN Van Horn 9.27 90 Pn **14 44 04.6 +0.2**
ELK Elko 9.45 2 Pn **Pn** **14 44 08.2 +1.3**
comp=N,0.2nm,0.3s,baz=180,slow=10,SNR=18
ELK Lg Lg 14 46 45.3
comp=N,0.1nm,0.3s,baz=66,slow=10,SNR=1.6
ELK LR LR 14 47 23.2
comp=N,201nm,21.7s,baz=211,slow=36
comp=N,10nm,1.0s
BSUT Blindstream Ca 10.08 22 Pn **14 44 18.3 +2.5**
ALPN Alpine 10.47 92 Pn **14 44 22.9 +2.1**
TXAR Lajitas Array 10.64 97 Pn **14 44 25.4 +2.2**
TXAR Lajitas Array 10.64 97 Pn **Pn** **14 44 25.0 +1.9**
comp=N,0.6nm,0.3s,baz=272,slow=12,SNR=41
TXAR Lg Lg 14 47 24.4
comp=N,0.3nm,0.3s,baz=281,slow=34,SNR=3.2
TXAR LR LR 14 48 44.6
comp=N,244nm,19.0s,baz=269,slow=40
comp=N,10nm,0.7s
HWUT Hardware Ranch 10.84 17 Pn **14 44 28.6 +2.7**
YBH Yreka Blue Hor 11.82 334 Pn **Pn** **14 44 41.9 +2.6**
comp=N,0.1nm,0.3s,baz=171,slow=7.1,SNR=6.5
YBH LR LR 14 48 53.5
comp=N,195nm,18.3s,baz=262,slow=36
comp=N,6.4nm,1.0s
PDAR Pinedale Array 12.48 22 Pn **14 44 48.6 +0.2**
PDAR Pinedale Array 12.48 22 Pn **Pn** **14 44 49.8 +1.4**
comp=N,0.1nm,0.3s,baz=199,slow=13,SNR=34
PDAR LR LR 14 49 40.9
comp=N,455nm,20.1s,baz=200,slow=39
comp=N,5.3nm,0.9s
J05D Fort Rock, OR 12.74 342 Pn **14 44 51.0 -0.9**
WMOK Wichita Mounta 14.66 72 P **P** **14 45 23.7 -0.7**
HAWA Hanford 15.36 350 Pn **14 45 25.8 -1.6**
X34A Smith Ranch, M 15.42 73 Pn **14 45 22.4 -5.7**
E07A Sunnyside 15.57 349 IAmb IAmb 14 45 38.6
comp=Z,28nm,1.4s
MSO Missoula 15.59 5 P **P** **14 45 34.5 -0.2**
WHTX Lake Whitney, 15.62 83 IAmb IAmb 14 45 44.2
comp=Z,28nm,0.8s
KAN14 Manchester OK 15.79 64 IAmb IAmb 14 45 39.4
comp=Z,40nm,1.0s
Z35A Perchaven, San 15.79 78 IAmb IAmb 14 45 55.6
comp=Z,24nm,0.8s
W35A Tecumseh 16.27 71 P **P** **14 45 44.2 +1.9**
W35A IAmb IAmb 14 45 58.0
comp=Z,50nm,1.0s
E03A Lebam 16.39 341 IAmb IAmb 14 45 48.6
comp=Z,55nm,1.0s
OK052 Battle Ridge R 16.48 68 IAmb IAmb 14 45 47.5
comp=Z,44nm,1.0s
OK051 E0350 and S346 16.55 67 IAmb IAmb 14 45 59.2
comp=Z,33nm,1.2s
QUOK Quay 16.59 68 IAmb IAmb 14 46 04.8
comp=Z,41nm,1.2s
NEW Newport 16.99 357 Pn **14 45 44.9 -3.3**
NEW Newport 16.99 357 Pn **P** **14 45 51.0 +0.8**
comp=Z,0.1nm,0.3s,baz=173,slow=14,SNR=9.0
NEW LR LR 14 52 38.1
comp=Z,221nm,18.4s,baz=182,slow=39
comp=Z,7.6nm,0.8s
LAO LASA Array 17.06 23 IAmb IAmb 14 45 55.5
comp=Z,42nm,1.1s
HKT Hockley 17.22 89 Pn **14 45 48.5 -2.5**
TUL3 Leonard 17.27 69 IAmb IAmb 14 45 57.4
comp=Z,32nm,1.0s
EGMT Eagleton 17.34 14 IAmb IAmb 14 45 57.9
comp=Z,50nm,1.4s
KSU1 Kansas State U 17.48 58 IAmb IAmb 14 46 12.3
comp=Z,34nm,1.0s
MIAR Mount Ida 18.91 74 IAmb IAmb 14 46 33.2
comp=Z,26nm,1.2s
DGMT Dagmar 19.29 24 IAmb IAmb 14 46 20.3
comp=Z,22nm,1.1s
F33A 5 Mile Ranch, 20.97 41 IAmb IAmb 14 46 44.8
comp=Z,23nm,1.2s
T42A Van Buren 21.18 68 P **P** **14 46 35.9 -0.2**
T42A IAmb IAmb 14 46 44.0
comp=Z,14nm,0.8s
PBMO Poplar Bluff 21.68 68 IAmb IAmb 14 46 50.0
comp=Z,21nm,1.1s
BBB Bella Bella 22.76 340 LR LR 14 56 33.1
comp=Z,309nm,18.1s,baz=170,slow=39
ULM Lac du Bonnet 24.07 32 P **P** **14 47 03.6 -2.3**
ULM IAmb IAmb 14 47 13.7
comp=Z,21nm,1.2s
ULM Lac du Bonnet 24.07 32 P **P** **14 47 06.2 +0.2**
comp=Z,6.5nm,0.9s,baz=227,slow=11,SNR=4.7
ULM LR LR 14 56 49.0
comp=Z,209nm,18.8s,baz=220,slow=38
comp=Z,6.5nm,0.9s
E38A The Farm, Brul 24.13 44 P **P** **14 47 04.9 -1.6**
E38A IAmb IAmb 14 47 15.2
comp=Z,11nm,0.8s
COWI Conover 25.36 47 P **P** **14 47 18.6 +0.9**
FPAL Fort Paine 25.48 75 IAmb IAmb 14 47 28.3
comp=Z,10.0nm,0.9s
TKL Tuckaleechee C 26.98 72 LR LR 14 57 40.1
comp=Z,118nm,18.4s,baz=262,slow=36
DLBC Dease Lake 28.84 344 LR LR 15 00 20.3
comp=Z,321nm,18.3s,baz=139,slow=39
YKA Yellowknife Ar 31.23 1 P **P** **14 48 10.8 +0.9**
comp=Z,1.0nm,1.0s,baz=181,slow=8.6,SNR=13
YKA LR LR 15 03 05.1
comp=Z,129nm,18.4s,baz=156,slow=41
comp=Z,1.0nm,1.0s
BLKN Baker Lake 35.30 15 P **P** **14 48 46.1 +0.9**
BLKN IAmb IAmb 14 48 58.1
comp=Z,5.4nm,0.9s
JTS Las Juntas de 35.38 119 LR LR 15 03 29.8
comp=Z,124nm,20.1s,baz=295,slow=37
I28M Miner Creek 37.26 344 P **P** **14 49 02.1 -0.1**
INK Inuvik 38.48 350 LR LR 15 05 26.9
comp=Z,146nm,20.1s,baz=222,slow=37
ILAR Eielson Array 38.65 339 P **P** **14 49 15.8 +2.0**
comp=Z,0.6nm,0.7s,baz=151,slow=7.4,SNR=10
ILAR LR LR 15 05 33.3
comp=Z,55nm,20.6s,baz=52,slow=37
comp=Z,0.6nm,0.7s
N18K Kilae Creek 39.46 330 P **P** **14 49 16.7 -4.0**
CAST Castle Rocks 39.48 335 P **P** **14 49 19.4 -1.5**
A36M Sachs Harbour 41.08 356 P **14 49 34.6 +0.8**
A36M IAmb IAmb 14 49 43.7
comp=Z,7.4nm,0.8s
J19K Poorman 41.10 335 P **14 49 31.7 -2.5**
M14K Bethel 42.16 328 P **P** **14 49 40.9 -2.0**
M14K IAmb IAmb 14 49 57.6
comp=Z,9.4nm,0.9s

E19K Redstone River 43.60 338 P **14 49 54.0 -0.5**
K13K Kusilvak Mount 43.81 329 P **P** **14 49 54.7 -1.6**
FRB Frobisher Bay 43.83 28 LR LR 15 07 58.4
comp=Z,161nm,18.9s,baz=255,slow=36
TAOE Nuku Hiva Isla 46.24 214 eLR LR 15 03 05.7
comp=Z,136nm,24.5s
SJG San Juan 46.59 94 LR LR 15 14 49.5
comp=Z,18nm,18.1s,baz=36,slow=43
SDV Santo Domingo 47.46 108 LR LR 15 12 09.2
comp=Z,56nm,20.0s,baz=268,slow=38
SFJD Kangerlussuaq 51.93 27 LR LR 15 13 34.6
comp=Z,207nm,18.5s,baz=256,slow=37
RKT Rikitea 57.14 201 eLR LR 15 08 19.0
comp=Z,574nm,28.2s
PPT Papeete 58.43 219 LR LR 15 12 55.2
comp=Z,55nm,18.5s,baz=6.5,slow=32
PPT2 Papeete2 58.45 219 eLR LR 15 08 50.0
comp=Z,107nm,25.5s
PPT2 eLR LR 15 08 55.4
comp=Z,157nm,25.8s
TBI Tubuai 63.19 215 eLR LR 15 11 04.4
comp=Z,302nm,24.0s
SEY Seymchan 63.45 329 LR LR 15 19 26.2
comp=Z,44nm,18.3s,baz=92,slow=36
BORG Borgarnes 64.00 28 LR LR 15 20 33.3
comp=Z,89nm,18.3s,baz=328,slow=36
MDP Montagnes des 64.46 100 LR LR 15 22 25.8
comp=Z,25nm,21.3s,baz=181,slow=38
LPAZ La Paz 65.80 129 LR LR 15 19 12.1
comp=Z,48nm,18.1s,baz=274,slow=34
JMIC Jan Mayen 66.11 20 LR LR 15 21 50.2
comp=Z,130nm,18.8s,baz=250,slow=36
RAR Rarotonga 67.13 225 LR LR 15 15 35.1
comp=Z,85nm,20.7s,baz=125,slow=30
SPITS Spitsbergen Ar 67.22 10 LR LR 15 22 56.0
comp=Z,122nm,18.6s,baz=318,slow=37
TIXI Tiksi 68.04 342 LR LR 15 27 17.1
comp=Z,35nm,18.6s,baz=262,slow=40
H11N3 WAKE ISLAND Hy 69.49 281 T T 16 09 12.4
baz=64,slow=74,SNR=9.2
H11N2 WAKE ISLAND Hy 69.50 281 T T 16 09 15.1
baz=64,slow=74,SNR=9.4
H11N1 WAKE ISLAND Hy 69.51 281 T T 16 09 14.0
baz=64,slow=74,SNR=12
H11S1 WAKE ISLAND Hy 70.22 280 T T 16 09 46.5
baz=62,slow=74,SNR=3.4
H11S2 WAKE ISLAND Hy 70.22 280 T T 16 09 59.4
baz=62,slow=74,SNR=7.4
H11S3 WAKE ISLAND Hy 70.23 280 T T 16 10 00.3
baz=62,slow=74,SNR=2.8
ARCES ARCESS Array B 75.59 13 LR LR 15 27 42.7
comp=Z,63nm,21.8s,baz=312,slow=37
NOA NORSAR Array B 78.42 23 LR LR 15 28 08.4
comp=Z,58nm,19.5s,baz=300,slow=36
HFS Hagfors 79.92 23 P **P** **14 54 03.4 +4.1**
comp=Z,1.0nm,0.7s,baz=350,slow=3.5,SNR=3.5
HFS LR LR 15 30 40.6
comp=Z,64nm,18.9s,baz=336,slow=37
comp=Z,1.0nm,0.7s
FINES FINESS Array B 82.55 17 P **P** **14 54 17.6 +4.3**
comp=Z,2.8nm,0.9s,baz=348,slow=14,SNR=4.8
FINES LR LR 15 31 45.8
comp=Z,83nm,18.2s,baz=333,slow=36
comp=Z,2.8nm,0.9s
DAVOX Davos/Dischmat 88.14 34 LR LR 15 33 47.3
comp=Z,33nm,18.2s,baz=257,slow=36
MDT Midelt 88.94 52 LR LR 15 34 13.1
comp=Z,45nm,18.3s,baz=343,slow=36
VRAC Vranov 89.25 29 LR LR 15 35 48.1
comp=Z,41nm,19.3s,baz=314,slow=36
KIRV Kirov 89.62 8 LR LR 15 37 24.4
comp=Z,47nm,20.3s,baz=336,slow=37
BBTS Babate 90.17 72 LR LR 15 33 08.1
comp=Z,31nm,18.2s,baz=200,slow=34
GUMO Guam 90.84 286 LR LR 15 28 02.5
comp=Z,19nm,21.1s,baz=80,slow=30
DZM Mont Dzumac 91.44 245 eLR LR 15 24 18.8
comp=Z,52nm,25.0s
ARTI Arti 92.53 3 LR LR 15 40 30.2
comp=Z,47nm,20.5s,baz=348,slow=38
AKASG Malin Array Be 92.70 21 LR LR 15 37 35.7
comp=Z,54nm,18.6s,baz=338,slow=36
BELG Belogorsk Array 95.42 10 LR LR 15 39 58.3
comp=Z,40nm,19.5s,baz=34,slow=37
BVAR Borovoye Array 95.87 356 P P 14 55 22.3 +5.1
comp=Z,0.9nm,0.9s,baz=5.7,slow=6.0,SNR=3.5
BVAR LR LR 15 43 46.0
comp=Z,26nm,19.3s,baz=14,slow=39
comp=Z,0.9nm,0.9s
HHC Hu-ho-hao-te 95.94 326 eP **P** **14 55 17.1 -0.8**
HHC pmax pmax
comp=Z,13nm,0.6s
MLR Muntele Rosu 96.05 26 LR LR 15 39 33.6
comp=Z,48nm,20.2s,baz=332,slow=36

HVO ***20*** *15:10:40.9±0.8, 19°.423N±0'.009×155°.272W±0'.009, h0km±2km, ML2.4/29, ML2.2/28(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=212.0*
NEIC 20 15:10:41.7±1.0, 19°.407N±0'.009×155°.29W±0'.01, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.6km az=253.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.01**	**264**		Pg	15 10 43.4	+0.6
OBL	**Observatory Le**	**0.01**	**41**		Pg	15 10 42.0	-0.8
UWE	**Uwekahuna**	**0.01**	**2**		Sg	15 10 42.6	-1.0
UWE	**Uwekahuna**	**0.01**	**2**	Pg	Pg	15 10 41.8	-1.0
RIM	**Rim**	**0.02**	**122**		Pg	15 10 43.1	+0.3
UWB	**Uwekahuna Bluf**	**0.02**	**40**		Pg	15 10 41.2	-1.6
KKO	**Keanakako'i**	**0.03**	**110**		Pg	15 10 42.1	-0.7
SBLHI	**Steaming Bluff**	**0.03**	**51**		Pg	15 10 41.8	-1.1
BYL	**Byron's Ledge**	**0.03**	**81**		Pg	15 10 41.8	-1.1
HATHI	**Halema'uma'u T**	**0.04**	**63**		Sg	15 10 42.2	-1.6
HATHI	**Halema'uma'u T**	**0.04**	**63**		Pg	15 10 41.6	-1.3
RSD	**Rainshed**	**0.06**	**15**		Pg	15 10 43.7	+0.5
HLP	**Hilina Pali**	**0.11**	**187**		Pg	15 10 44.5	+0.5
HLP	**Hilina Pali**	**0.11**	**187**	IAML		15 10 47.6	
	comp=N,1μm,0.8s						
HLP				IAML		15 10 47.6	
	comp=E,741nm,0.9s						
KNHH	**Kane Nui o Ham**	**0.12**	**103**		Pg	15 10 43.9	-0.3
MLH	**Mauna Loa**	**0.12**	**315**		Pg	15 10 44.6	+0.3
MLH	**Mauna Loa**	**0.12**	**315**	IAML		15 10 45.5	
	comp=N,380nm,0.4s						
MLH				IAML		15 10 47.6	
	comp=E,749nm,0.8s						
STCH	**Steam Cracks**	**0.16**	**98**		Pg	15 10 44.5	-0.4
STCH					Sg	15 10 47.4	+0.4
STCH	**Steam Cracks**	**0.16**	**98**	IAML		15 10 47.9	
	comp=N,356nm,0.5s						
STCH				IAML		15 10 48.2	
	comp=E,991nm,0.9s						
NPOC	**North of Pu'u**	**0.17**	**95**		Pg	15 10 44.7	-0.4
NPOC					Sg	15 10 47.7	+0.2
JCUZ	**Jacuzzi**	**0.18**	**97**		Pg	15 10 45.0	-0.3
HTC	**Hot Caves**	**0.20**	**210**		Pg	15 10 46.1	+0.6
HMH	**Humu'ula Sheep**	**0.26**	**317**		Pg	15 10 47.0	+0.1
HMH	**Humu'ula Sheep**	**0.26**	**317**	IAML		15 10 54.7	
	comp=N,267nm,0.8s						
HMH				IAML		15 10 55.2	
	comp=E,306nm,1.0s						
JOKA	**Jonika Flow**	**0.27**	**84**		Pg	15 10 46.3	-0.7
JOKA	**Jonika Flow**	**0.27**	**84**	IAML		15 10 53.8	
	comp=N,465nm,0.8s						
JOKA				IAML		15 10 54.2	
	comp=E,182nm,0.8s						
MWH	**Mokuaweoweo**	**0.30**	**285**		Pg	15 10 47.6	0.0
MWH	**Mokuaweoweo**	**0.30**	**285**	IAML		15 10 51.7	
	comp=N,425nm,0.8s						
MWH				IAML		15 10 57.7	
	comp=E,840nm,0.7s						
KHU	**Kahuku**	**0.34**	**242**		Pg	15 10 48.5	+0.1
KHU				IAML		15 10 59.9	
	comp=N,178nm,0.8s						
KHU				IAML		15 11 00.0	
	comp=E,325nm,3.0s						
ALEP	**Alea Permanent**	**0.36**	**292**		Pg	15 10 48.6	-0.1
POHA	**Pohakuloa**	**0.41**	**327**		Pg	15 10 49.9	+0.1
POHA	**Pohakuloa**	**0.41**	**327**	IAML		15 11 03.5	
	comp=E,343nm,0.8s						
HUH	**Hualalai**	**0.58**	**298**		Pg	15 10 52.8	0.0
CPH	**Captain Cook**	**0.59**	**278**		Pg	15 10 52.8	-0.3

JMA ***20*** *15:27:23.0±0.3, 28°.N±1°×14°.0E±°, h493km±4km, MV4.7/28, W OFF OGASAWARA*
NEIC ***20*** *15:27:24.0±1.8, 28°.5N±0'.1×139°.4E±0°.1, h474km±9km, mb4.3/130, Error ellipse: s-maj=18.4km s-min=14.1km az=114.0*
MOS ***20*** *15:27:23.1±0.8, 28°.46N×139°.28E, h481km, mb4.5/30, Error ellipse: s-maj=9.8km s-min=4.9km az=111.4*
IDC ***20*** *15:27:24.3±0.8, 28°.49N×139°.38E, h482km±8km, mb3.7/26, mbtmp4.6/35, Error ellipse: s-maj=11.0km s-min=7.4km az=85.0*
ISC 20 15:27:23.8±0.4, 28°.47N±0'.04×139°.41E±0'.05, h476km±4km, h475km:pP-P, n591, σ1°.17/590, mb4.4/129, 17C-5D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.81**	**118**	P	**P**	**15 28 31.4**	**-0.2**
CBIJ				S	**S**	**15 29 24.8**	**-1.8**
JCJ	**Chichijima**	**2.82**	**118**		**P**	**15 28 31.2**	**-0.4**
JCJ	**Chichijima**	**2.82**	**118**	P	**P**	**15 28 31.0**	**-0.6**
	364nm,0.3s,baz=336,slow=1.8,SNR=192						
JCJ				S	**S**	**15 29 23.6**	**-3.0**
	2μm,0.4s,baz=325,slow=22,SNR=18						
JCJ	**Chichijima**	**2.82**	**118**	P	**P**	**15 28 31.8**	**+0.2**
JCJ	**Chichijima**	**2.82**	**118**	S	**S**	**15 29 25.6**	**-1.0**
JHH2	**Haha-jima-NKT2**	**3.06**	**126**	P	**P**	**15 28 33.6**	**+0.2**
JHH2				S	**S**	**15 29 29.0**	**-0.8**
JHCJ	**Hachijojimakas**	**4.60**	**4**	*e*P	**P**	**15 28 46.5**	**+0.8**
JHCJ				*e*S	**S**	**15 29 49.7**	**-2.8**
JHJ2	**Mitsune**	**4.64**	**4**		**P**	**15 28 47.1**	**+1.0**
JHJ2	**Mitsune**	**4.64**	**4**	P	**P**	**15 28 47.0**	**+1.0**
JHJ2	**Mitsune**	**4.64**	**4**	P	**P**	**15 28 46.9**	**+0.9**
JHJ2				*e*S	**S**	**15 29 51.6**	**-1.5**
JHJ	**Hachijo jima 2**	**4.64**	**4**	P	**P**	**15 28 46.2**	**+0.1**
	185nm,0.4s,baz=309,slow=22,SNR=24						
JHJ				S	**S**	**15 29 51.4**	**-1.9**
	358nm,0.3s,baz=59,slow=23,SNR=11						
TTO1	**TONANKAI O.B.S**	**5.61**	**337**	*e*P	P	15 28 58.7	+3.9
JTNC	**Tanabenakahech**	**6.25**	**330**	P	**P**	**15 29 03.4**	**+2.0**
JTNC				*e*S	**S**	**15 30 22.9**	**+1.6**
JSG	**Sagara**	**6.27**	**351**	P	**P**	**15 29 03.2**	**+1.5**
JSG	**Sagara**	**6.27**	**351**	P	**P**	**15 29 03.4**	**+1.7**
BSO1	**Boso 1**	**6.31**	**12**	P	**P**	**15 29 02.4**	**+0.9**
BSO1				*e*S	**S**	**15 30 20.1**	**-1.4**
JIE	**Ise**	**6.34**	**339**	*e*P	**P**	**15 29 05.1**	**+2.7**
JOD2	**Odawara 2**	**6.78**	**358**	P	**P**	**15 29 06.5**	**-0.3**
JOD2				S	**S**	**15 30 27.6**	**-3.6**
JMN	**Monobe**	**7.07**	**319**		**P**	**15 29 10.3**	**+0.5**
JMN	**Monobe**	**7.07**	**319**	P	**P**	**15 29 12.4**	**+2.6**
INU	**Inuyama**	**7.15**	**344**		**P**	**15 29 12.1**	**+1.5**
INU	**Inuyama**	**7.15**	**344**	P	**P**	**15 29 12.1**	**+1.5**
JTO	**Tosashimizu**	**7.18**	**309**	P	**P**	**15 29 13.5**	**+2.6**
JGF	**Kuroka**	**7.32**	**347**		**P**	**15 29 13.3**	**+0.9**
JGF	**Kuroka**	**7.32**	**347**	P	**P**	**15 29 13.3**	**+0.9**
JRY	**Ryogami san**	**7.54**	**357**	P	**P**	**15 29 14.7**	**0.0**
JRY				S	**S**	**15 30 42.2**	**-3.4**
MJAR	**Matsushiro Arr**	**8.11**	**353**	P	**P**	**15 29 20.0**	**-0.6**
	27nm,0.4s,baz=164,slow=11,SNR=117						
MJAR				S	**S**	**15 30 55.1**	**-1.6**
	6.3nm,0.5s,baz=143,slow=13,SNR=5.2						
MAJO	**Matsushiro**	**8.11**	**353**		**P**	**15 29 20.4**	**-0.3**
MAJO	**Matsushiro**	**8.11**	**353**	P	**P**	**15 29 20.4**	**-0.3**
MAJO	**Matsushiro**	**8.11**	**353**	*i* P	**P**	**15 29 20.0**	**-0.7**
MJB9	**Matsu-Tunnel**	**8.12**	**353**		**P**	**15 29 21.2**	**+0.5**
JHS	**Saijyo**	**8.43**	**322**	P	**P**	**15 29 26.1**	**+2.0**
JNU	**Nakatsue**	**8.68**	**304**	P	**P**	**15 29 27.7**	**+0.9**
	6.4nm,0.4s,baz=40,slow=3.7,SNR=29						
JNU				S	**S**	**15 31 08.9**	**+1.1**
	13nm,1.0s,baz=48,slow=23,SNR=6.0						
JNU	**Nakatsue**	**8.68**	**304**	P	**P**	**15 29 29.3**	**+2.5**
JSJ	**Shimokoshiki**	**8.98**	**293**	P	**P**	**15 29 31.8**	**+1.7**
JAMN	**Amaminishikomi**	**9.02**	**271**	P	**P**	**15 29 33.0**	**+2.6**
JMM	**Marumori**	**9.44**	**7**	P	**P**	**15 29 35.7**	**+0.9**
JSD	**Sado**	**9.59**	**355**		**P**	**15 29 35.6**	**-0.7**
JSD	**Sado**	**9.59**	**355**	P	**P**	**15 29 35.8**	**-0.6**
JOW	**Kunigami**	**10.01**	**263**		**P**	**15 29 40.6**	**-0.5**
JOW	**Kunigami**	**10.01**	**263**	P	**P**	**15 29 42.6**	**+1.6**
	47nm,0.4s,baz=91,slow=10,SNR=19						
JOW	**Kunigami**	**10.01**	**263**	P	**P**	**15 29 43.3**	**+2.3**
JOW	**Kunigami**	**10.01**	**263**	P	**P**	**15 29 43.4**	**+2.3**
JTU	**Tsushima**	**10.46**	**308**	P	**P**	**15 29 48.1**	**+2.4**
JMK	**Ichinoseki**	**10.56**	**8**	P	**P**	**15 29 47.8**	**+1.0**
JTM	**Tenmabayashi**	**12.36**	**6**		**P**	**15 30 07.2**	**+1.1**
JTM	**Tenmabayashi**	**12.36**	**6**	P	**P**	**15 30 07.2**	**+1.1**
TJN	**Taejon**	**12.86**	**311**		**P**	**15 30 10.0**	**-1.6**
TJN	**Taejon**	**12.86**	**311**	P	**P**	**15 30 11.7**	**+0.2**
TJN	**Taejon**	**12.86**	**311**	*i* P	**P**	**15 30 10.3**	**-1.2**
JOT	**Ohata**	**12.95**	**6**	P	**P**	**15 30 13.5**	**+1.1**
KSRS	**Korea Array**	**13.15**	**316**	P	**P**	**15 30 14.6**	**0.0**
	3.3nm,0.5s,baz=128,slow=10.0,SNR=29						
KSRS				S	**S**	**15 32 35.4**	**-0.2**
	1.7nm,0.9s,baz=290,slow=31,SNR=4.1						
KSRS				ScP	**ScP**	**15 37 54.4**	**-0.2**
	1.1nm,0.7s,baz=171,slow=1.2,SNR=6.1						
KS19	**Wonju Array Si**	**13.22**	**316**	P	**P**	**15 30 14.7**	**-0.6**
JOSM	**Okushiri--Mats**	**13.58**	**0**	P	**P**	**15 30 20.1**	**+1.0**
ERM	**Erimo**	**13.85**	**12**		**P**	**15 30 17.8**	**-4.3**
ERM	**Erimo**	**13.85**	**12**	P	**P**	**15 30 23.2**	**+1.2**
ERM	**Erimo**	**13.85**	**12**	*i* P	**P**	**15 30 23.0**	**+1.0**
JEM	**Erimo**	**13.85**	**12**	P	**P**	**15 30 23.8**	**+1.8**
INCN	**Inchon**	**13.98**	**313**	P	**P**	**15 30 22.5**	**-1.0**
YOJ	**Yonaguni jima**	**15.22**	**259**		**P**	**15 30 34.1**	**-2.6**
YOJ	**Yonaguni jima**	**15.22**	**259**	P	**P**	**15 30 36.4**	**-0.3**
YOJ	**Yonaguni jima**	**15.22**	**259**	P	**P**	**15 30 34.1**	**-2.6**
YOJ				pmax	pmax		
	comp=Z,39nm,0.7s						
MSHR	**Mys Shultsa**	**15.59**	**337**	*ce*P	**P**	**15 30 40.9**	**+0.6**
MSHR				pmax	pmax		
	comp=Z,33nm,0.7s						
GUMO	**Guam**	**15.66**	**160**	P	**P**	**15 30 42.9**	**+1.4**
	comp=Z,83nm,0.8s,baz=324,slow=8.5,SNR=6.3						
GUMO	**Guam**	**15.66**	**160**	P	**P**	**15 30 40.9**	**-0.6**
ASAJ	**Asahikawa**	**15.82**	**8**	P	**P**	**15 30 43.8**	**+1.0**
	comp=Z,20nm,0.7s,baz=229,slow=11,SNR=36						
ASAJ	**Asahikawa**	**15.82**	**8**	P	**P**	**15 30 43.2**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,21nm,0.8s						
JKA	**Kamikawa-asahi**	**15.82**	**8**		**P**	**15 30 43.2**	**+0.4**
NACB	**Ninganchiao**	**16.53**	**259**	P	**P**	**15 30 48.3**	**-2.4**
YHNB	**Yeheng**	**16.57**	**261**	P	**P**	**15 30 49.5**	**-1.6**
TEY	**Ternei**	**16.68**	**353**⇑	*e*P	**P**	**15 30 50.1**	**-1.8**
TEY				pmax	pmax		
	comp=Z,50nm,0.7s						
TEY				pmax	pmax		
	comp=N,30nm,0.7s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.7s						
USA0B	**Ussuriysk Arra**	**16.78**	**341**	*i* P	**P**	**15 30 52.7**	**-0.3**
USRK	**Ussuriysk Ar.**	**16.78**	**341**		**P**	**15 30 53.0**	**0.0**
USRK	**Ussuriysk Ar.**	**16.78**	**341**	P	**P**	**15 30 53.1**	**+0.1**
	comp=E,39nm,0.5s,baz=150,slow=9.2,SNR=73						
YULB	**Yu-li**	**17.05**	**257**	P	**P**	**15 30 54.9**	**-1.2**
SSLB	**Suanglung**	**17.21**	**259**		**P**	**15 30 56.7**	**-1.0**
SSLB	**Suanglung**	**17.21**	**259**	P	**P**	**15 30 57.7**	**0.0**
TWGBT	**Beinan**	**17.45**	**255**	P	**P**	**15 30 59.3**	**-0.8**
TPUB	**Ta-pu**	**17.66**	**257**		**P**	**15 31 01.3**	**-0.9**
TPUB	**Ta-pu**	**17.66**	**257**	P	**P**	**15 31 01.7**	**-0.5**
SNY	**Shenyang**	**18.54**	**320**	⇓P	**P**	**15 31 10.4**	**+0.2**
SNY				pmax	pmax		
	comp=Z,23nm,0.5s						
YSS	**Yuzhno-Sakhali**	**18.64**	**7**		**P**	**15 31 11.3**	**+0.3**
YSS	**Yuzhno-Sakhali**	**18.64**	**7**	P	**P**	**15 31 12.1**	**+1.1**
YSS	**Yuzhno-Sakhali**	**18.64**	**7**	*e*P	**P**	**15 31 11.6**	**+0.6**
YSS				pmax	pmax		
	comp=Z,40nm,0.5s						
KNMB	**Chin-men Tao**	**19.23**	**263**		**P**	**15 31 17.0**	**+0.2**
BNX	**BinXian**	**19.68**	**334**	⇑P	**P**	**15 31 21.6**	**+1.0**
BNX				S	**S**

KLR	**Kul'dur**	**21.55**	**346**	*e*P	**P**	**15 31 34.6**	**-2.9**
KLR				pmax	pmax		
comp=Z,15nm,0.8s							
WHN	**Wuhan**	**21.90**	**282**	⇓P	**P**	**15 31 41.4**	**+0.5**
WHN				pmax	pmax		
comp=Z,200nm,0.5s							
GRNR	**Gornyy**	**22.39**	**355**	⇓*i*P	**P**	**15 31 45.7**	**+0.6**
GRNR				pmax	pmax		
comp=Z,8.0nm,0.9s							
TYV	**Tymovskoe**	**22.50**	**5**	*e*P	**P**	**15 31 47.3**	**+1.2**
TYV				pmax	pmax		
comp=Z,28nm,0.8s							
TYV				pmax	pmax		
comp=Z,100nm,4.1s							
HNS	**HongShan**	**22.51**	**300**	⇑P	**P**	**15 31 46.3**	**-0.1**
HNS				pmax	pmax		
comp=Z,21nm,0.6s							
HEH	**HeiHe**	**23.59**	**341**	*e*P	**P**	**15 31 56.4**	**+0.6**
HEH				S	**S**	**15 35 35.3**	**-0.1**
HEH				ScP	**ScP**	**15 38 15.9**	**-1.4**
HEH				pmax	pmax		
comp=Z,16nm,0.9s							
LYN	**LuoYang**	**23.72**	**292**	P	**P**	**15 31 56.6**	**-0.6**
LYN				pmax	pmax		
comp=Z,37nm,0.8s							
LYN				pmax	pmax		
comp=Z,200nm,5.7s							
HHC	**Hu-ho-hao-te**	**25.90**	**306**	*e*P	**P**	**15 32 16.8**	**+0.1**
HHC				pmax	pmax		
comp=Z,23nm,0.7s							
ENH	**Enshi**	**26.11**	**281**		**P**	**15 32 18.3**	**-0.3**
ENH	**Enshi**	**26.11**	**281**	P	**P**	**15 32 18.4**	**-0.1**
XAN	**Xi'an**	**26.59**	**290**	⇓P	**P**	**15 32 22.8**	**0.0**
XAN				pmax	pmax		
comp=Z,71nm,0.5s							
ZEA	**Zeya**	**26.78**	**344**	*e*P	**P**	**15 32 24.7**	**+0.6**
ZEA				*e*		15 42 18.4	
ZEA				pmax	pmax		
comp=N,10.0nm,0.6s							
ZEA				pmax	pmax		
comp=Z,30nm,0.6s							
PETK	**Petropavlovsk-**	**28.08**	**24**	P	**P**	**15 32 36.8**	**+1.3**
comp=Z,2.5nm,0.6s,baz=191,slow=3.8,SNR=20							
comp=Z,2.5nm,0.6s							
PET	**Petropavlovsk**	**28.35**	**25**	P	**P**	**15 32 38.9**	**+1.0**
PET	**Petropavlovsk**	**28.35**	**25**	*ce*P	**P**	**15 32 40.0**	**+2.1**
PET				pmax	pmax		
comp=Z,20nm,1.3s							
MYLDM	**Lahad Datu**	**30.50**	**224**	P	**P**	**15 32 58.8**	**+1.7**
MYLDM				IAmb	IAmb	15 33 00.9	
comp=Z,16nm,0.8s							
MYLDM	**Lahad Datu**	**30.50**	**224**	P	**P**	**15 32 59.6**	**+2.5**
LZH	**Lanzhou**	**30.88**	**293**	*e*P	**P**	**15 33 00.5**	**+0.1**
LZH				pP	sP	15 34 57.8	-19
LZH				pmax	pmax		
comp=Z,88nm,1.2s							
ULN	**Ulaanbaatar**	**31.64**	**317**		**P**	**15 33 06.3**	**-0.4**
ULN				IAmb	IAmb	15 33 08.1	
comp=Z,12nm,0.8s							
ULN	**Ulaanbaatar**	**31.64**	**317**	*ce*P	**P**	**15 33 07.3**	**+0.6**
ULN				pmax	pmax		
comp=Z,15nm,1.0s							
FAKI	**Fak Fak**	**31.96**	**194**	P	**P**	**15 33 10.6**	**+0.9**
SONM	**Songino Array**	**32.02**	**316**	P	**P**	**15 33 10.1**	**+0.1**
SONM				IAmb	IAmb	15 33 10.7	
comp=Z,7.5nm,0.5s							
SONM	**Songino Array**	**32.02**	**316**	P	**P**	**15 33 10.3**	**+0.3**
comp=Z,6.1nm,0.5s,baz=127,slow=8.6,SNR=47							
SONM				PcP	**PcP**	**15 35 44.7**	**-1.1**
comp=Z,0.9nm,0.4s,baz=140,slow=3.7,SNR=5.1							
SONM				ScP	**ScP**	**15 38 42.3**	**-1.5**
comp=Z,1.7nm,0.7s,baz=148,slow=4.8,SNR=6.8							
comp=Z,6.1nm,0.5s							
MA2	**Magadan**	**32.06**	**11**		**P**	**15 33 10.6**	**+0.7**
MA2	**Magadan**	**32.06**	**11**	*ce*P	**P**	**15 33 10.8**	**+0.9**
MA2				pmax	pmax		
comp=Z,26nm,0.7s							
MA2	**Magadan**	**32.06**	**11**	P	**P**	**15 33 09.8**	**-0.1**
comp=Z,40nm,0.9s							
KMI	**Kunming**	**32.82**	**273**	⇓P	**P**	**15 33 17.8**	**+0.6**
KMI				pmax	pmax		
comp=Z,30nm,1.0s							
SANI	**Sanana**	**32.97**	**205**	P	**P**	**15 33 17.8**	**-0.5**
SANI	**Sanana**	**32.97**	**205**	P	**P**	**15 33 17.0**	**-1.3**
comp=Z,15nm,0.9s							
PZH	**PanZhiHua**	**33.38**	**276**	P	**P**	**15 33 22.0**	**+0.1**
PZH				pmax	pmax		
comp=Z,30nm,0.8s							
PZH				pmax	pmax		
comp=Z,50nm,4.1s							
APSI	**Ampana**	**33.81**	**213**	P	**P**	**15 33 25.0**	**-0.5**
comp=Z,18nm,0.9s							
UBPT	**Khong Chiam**	**33.99**	**255**	P	**P**	**15 33 27.9**	**+0.9**
YAK	**Yakutsk**	**34.17**	**352**	*e*P	**P**	**15 33 27.6**	**-0.2**
YAK				*e**PP	**pP**	**15 34 50.2**	**-0.9**
YAK				*e*		15 35 05.6	
YAK				*e*		15 35 50.5	
YAK				*e*S	**S**	**15 38 20.1**	**+0.8**
YAK				*e**SS	**sS**	**15 40 55.9**	**+3.2**
YAK				*e*SS	**SS**	**15 41 16.7**	**+3.0**
YAK				*e*		15 42 48.9	
YAK				pmax	pmax		
comp=Z,34nm,1.1s							
YAK				pmax	pmax		
comp=N,12nm,1.8s							
YAK				pmax	pmax		
comp=E,3.0nm,0.9s							
YAK				pmax	pmax		
comp=Z,96nm,4.9s							
YAK				pmax	pmax		
comp=N,109nm,5.2s							
YAK				pmax	pmax		
comp=E,84nm,7.8s							
YAK				smax	smax		
comp=N,98nm,3.6s							
YAK				smax	smax		
comp=E,30nm,4.1s							
GTA	**Gaotai**	**34.37**	**299**	*e*P	**P**	**15 33 30.4**	**+0.4**
GTA				S	**S**	**15 38 20.4**	**-2.8**
GTA				pmax	pmax		
comp=Z,30nm,0.7s							
ZAK	**Zakamensk**	**34.96**	**319**	*e*P	**P**	**15 33 33.8**	**-1.0**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.1s							
SEY	**Seymchan**	**35.49**	**10**	*ce*P	**P**	**15 33 40.1**	**+1.2**
SEY				pmax	pmax		
comp=Z,20nm,1.6s							
SBUM	**Sibu**	**36.63**	**230**		**P**	**15 33 47.6**	**-1.4**
NAYO	**Nakonayok**	**37.98**	**256**	P	**P**	**15 34 00.7**	**+0.5**
CHTO	**Chiang Mai**	**38.14**	**264**	P	**P**	**15 34 01.3**	**-0.1**
CHTO				IAmb	IAmb	15 34 02.4	
comp=Z,15nm,0.9s							
GOMU	**GeErMu**	**38.19**	**293**	P	**P**	**15 34 02.3**	**+0.2**
GOMU				pP	pP	15 34 22.6	-64
GOMU				PcP	**PcP**	**15 36 05.4**	**+0.7**
GOMU				pmax	pmax		
comp=Z,87nm,0.8s							
CMAR	**Chiang Mai Arr**	**38.28**	**264**	P	**P**	**15 34 01.0**	**-1.6**
CMAR					**PcP**	**15 36 05.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**38.28**	**264**	P	**P**	**15 34 02.8**	**+0.2**
comp=Z,3.6nm,0.8s,baz=50,slow=9.6,SNR=29							
CMAR				PcP	**PcP**	**15 36 05.4**	**+0.6**
comp=Z,1.2nm,0.6s,baz=87,slow=1.1,SNR=8.2							
comp=Z,3.6nm,0.8s							
PMG	**Port Moresby**	**38.39**	**168**	P	**P**	**15 34 04.6**	**+1.1**
MTN	**Manton Dam**	**41.84**	**192**	P	**P**	**15 34 31.7**	**+0.5**
SHL	**Shillong**	**42.23**	**278**	IAmb	IAmb	15 34 35.0	
comp=Z,16nm,0.7s							
SHL	**Shillong**	**42.23**	**278**	P	**P**	**15 34 34.2**	**-0.3**
SHL				pmax	pmax		
comp=Z,23nm,1.0s							
COEN	**Coen**	**42.34**	**175**	P	**P**	**15 34 36.6**	**+1.5**
PLAI	**Plampang**	**42.56**	**213**	P	**P**	**15 34 36.3**	**-0.6**
BILL	**Bilibino**	**42.71**	**15**	P	**P**	**15 34 38.1**	**+0.8**
BILL	**Bilibino**	**42.71**	**15**	*ce*P	**P**	**15 34 38.3**	**+0.9**
BILL				pmax	pmax		
comp=Z,34nm,0.7s							
KULM	**Kulim**	**43.36**	**245**	P	**P**	**15 34 43.1**	**-0.2**
KULM	**Kulim**	**43.36**	**245**	P	**P**	**15 34 43.8**	**+0.5**
TIXI	**Tiksi**	**43.62**	**355**	P	**P**	**15 34 44.1**	**-0.3**
TIXI				IAmb	IAmb	15 34 44.9	
comp=Z,8.5nm,0.8s							
TIXI	**Tiksi**	**43.62**	**355**	*ce*P	**P**	**15 34 44.2**	**-0.2**
TIXI				pmax	pmax		
comp=Z,9.0nm,0.8s							
WMQ	**Urumqi**	**43.77**	**305**	*e*P	**P**	**15 34 47.6**	**+1.4**
WMQ				pP	pwP	15 36 17.8	-1.9
WMQ				PcP	**PcP**	**15 36 23.4**	**+0.7**
WMQ				pmax	pmax		
comp=Z,24nm,0.9s							
NIKH	**Nikolski High**	**44.98**	**42**	P	**P**	**15 34 55.8**	**+0.5**
baz=258							
SPIA	**Saint Paul Isl**	**45.27**	**36**	P	**P**	**15 34 57.6**	**+0.1**
baz=253							
P08K	**Saint George I**	**45.47**	**37**	P	**P**	**15 34 59.1**	**+0.1**
baz=254							
PSI	**Prapat**	**46.22**	**244**	P	**P**	**15 35 05.9**	**+0.3**
PSI				pmax	pmax		
comp=Z,17nm,0.7s							
RPSI	**Rantau Prapat**	**46.29**	**244**	P	**P**	**15 35 05.9**	**0.0**
LEM	**Lembang**	**46.60**	**226**	P	**P**	**15 35 08.7**	**+0.3**
comp=Z,58nm,0.7s,baz=313,slow=21,SNR=7.6							
comp=Z,58nm,0.7s							
ZALV	**Zalesovo Beam**	**46.84**	**319**	P	**P**	**15 35 08.0**	**-1.5**
ZALV				PcP	**PcP**	**15 36 32.8**	**-0.4**
ZALV	**Zalesovo Beam**	**46.84**	**319**	P	**P**	**15 35 08.5**	**-1.0**
comp=Z,1.8nm,0.4s,baz=104,slow=7.8,SNR=9.5							
ZALV				PcP	**PcP**	**15 36 32.5**	**-0.7**
comp=Z,2.6nm,0.4s,baz=125,slow=3.3,SNR=10							
ZALV				ScP	**ScP**	**15 39 38.3**	**-2.7**
comp=Z,1.7nm,0.7s,baz=207,slow=2.9,SNR=4.5							
comp=Z,1.8nm,0.4s							
ZALV	**Zalesovo Beam**	**46.84**	**319**	*i*P	**P**	**15 35 09.1**	**-0.4**
ZALV				pmax	pmax		
comp=Z,2.0nm,0.4s							
GAMB	**Gambell**	**47.00**	**27**	P	**P**	**15 35 10.8**	**+0.3**
baz=245							
MK31	**Makanchi Array**	**47.70**	**309**	*i*P	**P**	**15 35 15.7**	**-0.5**
MK31				pmax	pmax		
comp=Z,6.0nm,0.6s							
MKAR	**Makanchi Array**	**47.70**	**309**	P	**P**	**15 35 15.6**	**-0.6**
MKAR	**Makanchi Array**	**47.70**	**309**	P	**P**	**15 35 16.1**	**-0.1**
comp=Z,8.6nm,0.7s,baz=92,slow=9.2,SNR=88							
MKAR				PcP	**PcP**	**15 36 36.1**	**-0.4**
comp=Z,3.1nm,0.6s,baz=83,slow=6.5,SNR=11							
MKAR				ScP	**ScP**	**15 39 43.4**	**-1.5**
comp=Z,2.1nm,0.7s,baz=83,slow=5.7,SNR=8.7							
comp=Z,8.6nm,0.7s							
MAKZ	**Makanchi**	**47.92**	**309**		**P**	**15 35 16.3**	**-1.5**
MAKZ				IAmb	IAmb	15 35 18.2	
comp=Z,7.3nm,0.5s							
MAKZ	**Makanchi**	**47.92**	**309**	P	**P**	**15 35 17.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**48.17**	**198**	P	**P**	**15 35 20.1**	**+0.2**
comp=Z,6.8nm,0.6s,baz=14,slow=7.1,SNR=9.4							
comp=Z,6.8nm,0.6s							
FITZ	**Fitzroy Crossi**	**48.17**	**198**	P	**P**	**15 35 20.3**	**+0.3**
WB0	**Warramunga Arr**	**48.20**	**186**	P	**P**	**15 35 18.6**	**-1.6**
WB0				IAmb	IAmb	15 35 20.8	
comp=Z,11nm,0.5s							
GSI	**Gunungsitoli**	**48.20**	**243**	P	**P**	**15 35 19.2**	**-1.1**
GSI	**Gunungsitoli**	**48.20**	**243**	P	**P**	**15 35 20.7**	**+0.3**
WRAB	**Tennant Creek**	**48.37**	**186**	P	**P**	**15 35 21.0**	**-0.5**
WRAB				IAmb	IAmb	15 35 22.1	
comp=Z,19nm,1.4s							
WRAB	**Tennant Creek**	**48.37**	**186**	*i*P	**P**	**15 35 21.1**	**-0.3**
WRAB				pmax	pmax		
comp=Z,17nm,1.4s							
WRA	**Warramunga Arr**	**48.38**	**186**		**P**	**15 35 20.6**	**-0.9**
WRA	**Warramunga Arr**	**48.38**	**186**	P	**P**	**15 35 21.6**	**0.0**
comp=Z,6.8nm,0.3s,baz=1.8,slow=7.7,SNR=78							
WRA				PcP	**PcP**	**15 36 39.1**	**-0.1**
comp=Z,1.4nm,0.5s,baz=359,slow=3.8,SNR=5.6							
comp=Z,6.8nm,0.3s							
QIS	**Mount Isa**	**48.74**	**180**	P	**P**	**15 35 24.4**	**+0.2**
TNA	**Tin City**	**49.20**	**26**	P	**P**	**15 35 27.4**	**+0.3**
baz=246							
S12K	**Black Hills**	**49.38**	**40**	P	**P**	**15 35 29.0**	**+0.5**
baz=262							
K13K	**Kusilvak Mount**	**49.38**	**31**	P	**P**	**15 35 28.8**	**+0.4**
baz=254							
M13K	**Dall Lake**	**49.60**	**33**	P	**P**	**15 35 30.8**	**+0.7**
baz=256							
F14K	**Arctic Creek**	**49.79**	**26**	P	**P**	**15 35 32.3**	**+0.9**
baz=249,SNR=7.0							
ANM	**Nome**	**49.86**	**28**	P	**P**	**15 35 32.7**	**+0.8**
baz=251							
J14K	**Nanvaranak Lak**	**50.10**	**30**	P	**P**	**15 35 34.6**	**+1.0**
baz=254							
WUS	**Wushi**	**50.10**	**301**	IAmb	IAmb	15 35 35.8	
comp=Z,26nm,1.4s							
L14K	**Kuka Creek**	**50.13**	**32**	P	**P**	**15 35 35.4**	**+1.4**
baz=256							
KURK	**Kurchatov**	**50.27**	**314**	P	**P**	**15 35 34.5**	**-0.6**
KURK				IAmb	IAmb	15 35 36.3	
comp=Z,15nm,0.9s							
KURK	**Kurchatov**	**50.27**	**314**	*ce*P	**P**	**15 35 35.0**	**-0.1**
KURK				pmax	pmax		
comp=Z,20nm,1.0s							
N14K	**Kuskokwak Cree**	**50.30**	**34**	P	**P**	**15 35 36.4**	**+1.1**
baz=258							
KURBB	**Kurchatov Arra**	**50.32**	**314**	P	**P**	**15 35 35.2**	**-0.3**
comp=Z,9.3nm,0.5s,baz=91,slow=6.9,SNR=112							
KURBB				PcP	**PcP**	**15 36 44.4**	**-1.6**
comp=Z,1.4nm,0.7s,baz=95,slow=4.7,SNR=4.8							
comp=Z,9.3nm,0.5s							
KURBB	**Kurchatov Arra**	**50.32**	**314**	P	**P**	**15 35 34.6**	**-0.9**
M14K	**Bethel**	**50.34**	**33**	P	**P**	**15 35 36.7**	**+1.2**
baz=258							
O14K	**Tigyukauivet M**	**50.39**	**35**	P	**P**	**15 35 36.6**	**+0.8**
baz=260							
F15K	**North Star Dit**	**50.53**	**26**	IAmb	IAmb	15 35 39.5	
comp=Z,14nm,1.1s							
F15K	**North Star Dit**	**50.53**	**26**	P	**P**	**15 35 37.6**	**+0.7**
baz=251,SNR=7.5							
G15K	**Niukluk**	**50.54**	**27**	P	**P**	**15 35 37.8**	**+0.9**
baz=252							
PRZ	**Przheval'sk**	**50.60**	**303**	IAmb	IAmb	15 35 40.0	
comp=Z,26nm,0.9s							
CHNA	**Chernabura Isl**	**50.67**	**41**	P	**P**	**15 35 38.7**	**+0.7**
CHNA	**Chernabura Isl**	**50.67**	**41**	P	**P**	**15 35 38.5**	**+0.5**
baz=265							
L15K	**Ungalak Mounta**	**50.77**	**32**	P	**P**	**15 35 39.7**	**+1.0**
baz=257							
ARXS	**Arharly**	**50.89**	**305**	*e*P	**P**	**15 35 39.9**	**0.0**
K15K	**Wolf Creek Mou**	**50.89**	**31**	P	**P**	**15 35 40.5**	**+1.0**
baz=257							
M15K	**Kasigluk River**	**50.94**	**33**	P	**P**	**15 35 41.0**	**+1.1**
baz=259							
O15K	**Ungalikthiuk R**	**51.10**	**35**	P	**P**	**15 35 42.2**	**+1.1**
baz=261							
N15K	**Kwethluk River**	**51.14**	**34**	IAmb	IAmb	15 35 43.8	
comp=Z,13nm,0.7s							
N15K	**Kwethluk River**	**51.14**	**34**	P	**P**	**15 35 42.3**	**+1.0**
baz=260							
C16K	**Lisburne Hills**	**51.17**	**23**	P	**P**	**15 35 42.4**	**+1.0**
baz=248,SNR=8.3							
H16K	**Elim**	**51.17**	**28**	P	**P**	**15 35 42.6**	**+1.1**
baz=254							
MDOK	**Medeo**	**51.53**	**304**	P	**P**	**15 35 44.8**	**+0.1**
J16K	**Anvik River**	**51.53**	**30**	P	**P**	**15 35 44.9**	**+0.7**
baz=257							
I17K	**Unalakleet**	**51.63**	**29**	P	**P**	**15 35 45.2**	**+0.3**
baz=256							
L16K	**Owhat River**	**51.72**	**32**	P	**P**	**15 35 46.3**	**+0.8**
baz=259							
D17K	**Noatak River**	**51.77**	**24**	P	**P**	**15 35 46.7**	**+0.9**
baz=251,SNR=14							
M16K	**Timber Creek**	**51.84**	**33**	IAmb	IAmb	15 35 49.3	
comp=Z,10.0nm,0.9s							
M16K	**Timber Creek**	**51.84**	**33**	P	**P**	**15 35 47.4**	**+1.0**
baz=260							
N16K	**Nishlik Lake**	**51.84**	**34**	P	**P**	**15 35 47.9**	**+1.4**
baz=261,SNR=8.0							
RDOG	**Red Dog Mine**	**51.95**	**24**	P	**P**	**15 35 48.3**	**+1.1**
baz=251							
E17K	**Hotham Inlet**	**52.04**	**25**	P	**P**	**15 35 49.0**	**+1.2**
baz=253,SNR=6.2							
O16K	**Kokwok River B**	**52.04**	**35**	P	**P**	**15 35 48.8**	**+0.9**
baz=262							
G17K	**Kiwalik Mounta**	**52.05**	**27**	P	**P**	**15 35 49.1**	**+1.1**
baz=255,SNR=10							
F17K	**Baldwin Pennin**	**52.07**	**26**	IAmb	IAmb	15 35 50.4	
comp=Z,14nm,0.8s							
F17K	**Baldwin Pennin**	**52.07**	**26**	P	**P**	**15 35 49.1**	**+1.1**
baz=254,SNR=9.8							
AS01	**Alice Springs**	**52.10**	**186**	P	**P**	**15 35 49.0**	**+0.1**
AS31	**Alice Springs**	**52.10**	**186**	P	**P**	**15 35 48.9**	**0.0**
ASAR	**Alice Springs**	**52.11**	**186**	P	**P**	**15 35 49.0**	**+0.1**
comp=Z,4.0nm,0.7s,baz=2.7,slow=6.6,SNR=156							
ASAR				PcP	**PcP**	**15 36 53.5**	**+0.4**
comp=Z,1.8nm,0.8s,baz=9.1,slow=4.0,SNR=7.9							
ASAR				S	**S**	**15 42 34.1**	**-2.6**
comp=Z,1.1nm,0.9s,baz=15,slow=17,SNR=5.0							
comp=Z,4.0nm,0.7s							
ULHL	**Ulahol**	**52.21**	**303**	P	P	15 36 13.3	+24
SNR=6.8							
H17K	**Granite Mounta**	**52.21**	**28**	P	**P**	**15 35 50.3**	**+1.2**
baz=256,SNR=5.1							
J17K	**VABM Dome**	**52.23**	**30**	IAmb	IAmb	15 35 52.0	
comp=Z,9.7nm,0.8s							
J17K	**VABM Dome**	**52.23**	**30**	P	**P**	**15 35 50.6**	**+1.4**
baz=258,SNR=5.7							
L17K	**Donlin**	**52.34**	**32**	P	**P**	**15 35 51.2**	**+1.1**
baz=260							
BOOM	**Boomskoye usch**	**52.41**	**303**	P	**P**	**15 35 50.4**	**-0.7**
K17K	**Iditarod**	**52.44**	**31**	IAmb	IAmb	15 35 53.6	
comp=Z,16nm,0.8s							
K17K	**Iditarod**	**52.44**	**31**	P	**P**	**15 35 51.9**	**+1.2**
baz=260,SNR=5.9							
O17K	**Koliganek Bris**	**52.57**	**35**	P	**P**	**15 35 52.7**	**+1.0**
baz=263							
E18K	**Tukpahlearik C**	**52.59**	**25**	P	**P**	**15 35 53.0**	**+1.2**
baz=254,SNR=7.5							
TKM2	**Tokmak 2**	**52.61**	**304**	P	**P**	**15 35 53.4**	**+0.8**
SNR=12							
TKM2	**Tokmak 2**	**52.61**	**304**	*i*P	**P**	**15 35 52.8**	**+0.2**
TKM2				pmax	pmax		
comp=Z,6.0nm,0.5s							
N17K	**Nushagak Hills**	**52.62**	**34**	P	**P**	**15 35 53.5**	**+1.4**
baz=262							
M17K	**Holitna River**	**52.62**	**33**	IAmb	IAmb	15 35 55.1	
comp=Z,20nm,1.1s							
M17K	**Holitna River**	**52.62**	**33**	P	**P**	**15 35 53.6**	**+1.5**
baz=261,SNR=6.8							
F18K	**Selawik**	**52.73**	**26**	P	**P**	**15 35 54.0**	**+1.3**
baz=255,SNR=11							
C18K	**Utukok River**	**52.74**	**23**	P	**P**	**15 35 53.8**	**+0.8**
baz=252							
B18K	**Kokolik River**	**52.76**	**22**	P	**P**	**15 35 54.2**	**+1.3**
baz=251,SNR=12							
KSH	**Kashi**	**52.76**	**300**	P	**P**	**15 35 57.4**	**+3.7**
KSH				pmax	pmax		
comp=Z,26nm,0.6s							
P17K	**Kvichak River**	**52.83**	**36**	P	**P**	**15 35 54.4**	**+0.8**
baz=264							
MBWA	**Marble Bar**	**52.87**	**203**	P	**P**	**15 35 54.8**	**+0.4**
H18K	**Honhosa River**	**52.90**	**28**	P	**P**	**15 35 55.3**	**+1.2**
baz=258,SNR=5.8							
G18K	**Tagagawik**	**52.95**	**27**	P	**P**	**15 35 55.5**	**+1.1**
baz=257,SNR=9.4							
CHIR	**Chirikof Islan**	**53.01**	**40**	P	**P**	**15 35 56.0**	**+1.1**
Q17K	**Contact Creek**	**53.03**	**37**	P	**P**	**15 35 55.9**	**+0.7**
baz=265							
L18K	**Granite Mounta**	**53.10**	**32**	P	**P**	**15 35 56.7**	**+1.2**
baz=261							
KBK	**Karagaybulak**	**53.12**	**304**	P	**P**	**15 35 56.9**	**+0.7**
SNR=12							
PSA00	**Pilbara Seismi**	**53.22**	**203**	P	**P**	**15 35 57.3**	**+0.4**
A19K	**Wainwright**	**53.27**	**21**	P	**P**	**15 35 58.0**	**+1.4**
baz=251,SNR=13							
N18K	**Kilae Creek**	**53.27**	**34**	P	**P**	**15 35 57.7**	**+0.9**
baz=263							
J18K	**Innoko River**	**53.29**	**30**	P	**P**	**15 35 57.7**	**+0.9**
baz=260							
USP	**Ospenovka**	**53.37**	**304**	P	**P**	**15 35 58.1**	**+0.2**
SNR=7.1							
M18K	**Stony River**	**53.41**	**33**	P	**P**	**15 35 58.7**	**+1.0**
baz=263							
AAK	**Ala-Archa**	**53.45**	**304**	P	**P**	**15 35 58.8**	**+0.1**
AAK				IAmb	IAmb	15 35 59.2	
comp=Z,7.4nm,0.5s							
AAK				PcP	**PcP**	**15 36 58.2**	**-0.1**
AAK	**Ala-Archa**	**53.45**	**304**	P	**P**	**15 35 59.0**	**+0.4**
SNR=12							
AAK	**Ala-Archa**	**53.45**	**304**	*ce*P	**P**	**15 35 59.0**	**+0.4**
AAK				pmax	pmax		
comp=Z,4.0nm,0.7s							
AAK	**Ala-Archa**	**53.45**	**304**	*i*P	**P**	**15 35 58.7**	**+0.1**
SNR=15							
P18K	**Big Mountain,**	**53.47**	**35**	P	**P**	**15 35 59.2**	**+1.0**
baz=265							
TTA	**Tatalina**	**53.52**	**31**	P	**P**	**15 35 59.5**	**+0.9**
baz=262							
Q18K	**Katmai Hardscr**	**53.52**	**36**	P	**P**	**15 35 58.7**	**0.0**
baz=266							
O18K	**Koktuh Hills**	**53.52**	**35**	P	**P**	**15 35 59.6**	**+1.0**
baz=265							
G19K	**Purcell Mounta**	**53.63**	**27**	P	**P**	**15 35 60.0**	**+0.8**
baz=258							
R18K	**Karluk**	**53.74**	**38**	P	**P**	**15 36 01.3**	**+1.2**
baz=267							
H19K	**Roundabout Mou**	**53.77**	**28**	IAmb	IAmb	15 36 02.5	
comp=Z,9.2nm,0.8s							
H19K	**Roundabout Mou**	**53.77**	**28**	P	**P**	**15 36 01.4**	**+1.3**
baz=259,SNR=8.8							
D19K	**Kuna River**	**53.78**	**24**	IAmb	IAmb	15 36 02.2	
comp=Z,7.3nm,0.8s							
D19K	**Kuna River**	**53.78**	**24**	P	**P**	**15 36 01.5**	**+1.2**
baz=256,SNR=9.9							
SII	**Sitkinak Islan**	**53.84**	**39**	P	**P**	**15 36 02.1**	**+1.2**
J19K	**Poorman**	**53.85**	**30**	P	**P**	**15 36 02.0**	**+1.2**
baz=261,SNR=5.8							
E19K	**Redstone River**	**53.86**	**25**	IAmb	IAmb	15 36 03.0	
comp=Z,11nm,0.7s							
E19K	**Redstone River**	**53.86**	**25**	P	**P**	**15 36 02.0**	**+1.2**
baz=257,SNR=20							
L19K	**White Mountain**	**53.95**	**32**		**P**	**15 36 02.0**	**+0.5**
L19K	**White Mountain**	**53.95**	**32**	P	**P**	**15 36 02.9**	**+1.4**
baz=263							
EKS2	**Erkin-Say**	**53.97**	**304**	P	**P**	**15 36 02.6**	**+0.4**
SNR=13							
N19K	**Bonanza Creek**	**53.98**	**34**	P	**P**	**15 36 03.1**	**+1.3**
baz=264							
O19K	**Port Alsworth**	**54.00**	**34**	P	**P**	**15 36 02.7**	**+0.8**
baz=265							
BRZS	**Berezniki**	**54.08**	**313**	*e*P	**P**	**15 36 02.5**	**-0.2**
AML	**Almayashu**	**54.10**	**303**	P	**P**	**15 36 04.5**	**+1.0**
SNR=16							
M19K

F21K	Alatna River	55.24	26	P	P	15 36 11.4 +0.8
	baz=261					
PPLA	Purkeypile	55.25	31	P	P	15 36 11.9 +1.0
	baz=265					
E21K	Killik River	55.27	24	P	P	15 36 11.5 +0.7
	baz=260					
B21K	Ikpikpuk River	55.27	23	IAmb	IAmb	15 36 12.9
	comp=Z,12nm,0.8s					
B21K	Ikpikpuk River	55.27	23	P	P	15 36 12.1 +1.4
	baz=258,SNR=18					
H21K	Melozitna Rive	55.28	28	P	P	15 36 12.6 +1.7
	baz=263,SNR=8.4					
CHUM	Lake Minchumin	55.29	30	P	P	15 36 12.4 +1.5
	baz=264					
CAST	Castle Rocks	55.34	31	P	P	15 36 12.8 +1.4
	baz=265					
BVA0	Borovoye Array	55.36	317	*i* P	P	15 36 11.2 -0.5
BVAR	Borovoye Array	55.36	317	P	P	15 36 11.7 0.0
	comp=Z,18nm,0.8s,baz=93,slow=7.9,SNR=76					
BVAR				PcP	PcP	15 37 04.9 -0.3
	comp=Z,3.1nm,0.6s,baz=86,slow=4.9,SNR=5.6					
BVAR				S	S	15 43 17.2 -1.9
	comp=Z,1.0nm,0.8s,baz=91,slow=10,SNR=5.5					
	comp=Z,18nm,0.8s					
BRVK	Borovoye	55.43	317		P	15 36 11.1 -1.0
BRVK				IAmb	IAmb	15 36 13.0
	comp=Z,14nm,0.8s					
BRVK	Borovoye	55.43	317	*ce*P	P	15 36 12.3 +0.2
BRVK				pmax	pmax	
	comp=Z,19nm,1.0s					
A22K	Sinclair Lake	55.45	21	P	P	15 36 13.5 +1.5
	baz=257,SNR=35					
SKT	Skwentna	55.48	32	P	P	15 36 13.7 +1.3
	baz=266					
I21K	Tanana	55.57	28	P	P	15 36 14.2 +1.3
	baz=264,SNR=7.8					
BRSE	Bradley Lake S	55.77	35	P	P	15 36 15.5 +1.1
	baz=269					
F22K	John River	55.78	26	P	P	15 36 15.7 +1.3
	baz=262					
D22K	Ayikyak River	55.81	24	IAmb	IAmb	15 36 16.9
	comp=Z,7.7nm,0.8s					
D22K	Ayikyak River	55.81	24	P	P	15 36 15.9 +1.4
	baz=261,SNR=11					
B22K	Teshekpuk Lake	55.82	22	P	P	15 36 15.6 +1.1
	baz=259,SNR=6.0					
SUA	Susitna One	55.83	33	P	P	15 36 15.3 +0.4
	baz=267					
BPAW	Bear Paw Mtn.	55.89	30	IAmb	IAmb	15 36 17.3
	comp=Z,7.4nm,0.6s					
BPAW	Bear Paw Mtn.	55.89	30	P	P	15 36 16.6 +1.4
	baz=265,SNR=7.5					
H22K	Ishtalitna Cre	55.90	28	P	P	15 36 16.1 +0.9
	baz=264,SNR=6.0					
INKA	Innaminka	55.91	179	P	P	15 36 16.4 +0.7
G22K	Bettles	55.96	26	P	P	15 36 16.8 +1.2
	baz=263,SNR=9.9					
E22K	Anaktuvuk Pass	56.01	25	IAmb	IAmb	15 36 18.3
	comp=Z,14nm,1.4s					
E22K	Anaktuvuk Pass	56.01	25	P	P	15 36 17.1 +1.1
	baz=262,SNR=6.3					
NIL	Nilore	56.05	293		P	15 36 17.1 +0.2
NIL	Nilore	56.05	293	P	P	15 36 17.1 +0.2
NIL				pmax	pmax	
	comp=Z,26nm,0.7s					
OOD	Oodnadatta	56.06	184	P	P	15 36 17.0 +0.2
CUT	Chulitna	56.10	32	P	P	15 36 17.3 +0.7
	baz=267					
M22K	Willow	56.14	33	P	P	15 36 17.7 +0.8
	baz=268					
TRF	Thorofare Moun	56.15	31	P	P	15 36 18.0 +0.8
	baz=266					
KK31	Karatay Array	56.28	305	*i* P	P	15 36 18.2 -0.1
KKAR	Karatay Array	56.28	305		P	15 36 18.4 +0.1
KKAR	Karatay Array	56.28	305	IAmb	IAmb	15 36 19.3
	comp=Z,29nm,0.7s					
KKAR	Karatay Array	56.28	305	P	P	15 36 18.4 +0.1
RC01	Rabbit Creek A	56.30	33	P	P	15 36 18.5 +0.4
	baz=269					
SEW	Seward	56.43	35	P	P	15 36 19.5 +0.6
	baz=270					
COLD	Coldfoot	56.51	26	P	P	15 36 20.5 +1.1
	baz=264					
G23K	Bananza Creek	56.52	27	P	P	15 36 21.0 +1.4
	baz=265,SNR=7.3					
D23K	Nanushuk River	56.53	24	IAmb	IAmb	15 36 22.1
	comp=Z,11nm,0.7s					
D23K	Nanushuk River	56.53	24	P	P	15 36 20.7 +1.1
	baz=262,SNR=17					
BTK	Batken	56.59	301	IAmb	IAmb	15 36 21.8
	comp=Z,8.0nm,0.7s					
PMR	Palmer	56.61	33	P	P	15 36 21.0 +0.8
	baz=269					
H23K	Yukon River	56.64	28	P	P	15 36 21.5 +1.2
	baz=266					
I23K	Minto, Yukon-K	56.67	29	P	P	15 36 21.8 +1.3
	baz=266					
C23K	Itkillik River	56.68	23	IAmb	IAmb	15 36 22.7
	comp=Z,15nm,0.8s					
C23K	Itkillik River	56.68	23	P	P	15 36 21.9 +1.4
	baz=262,SNR=16					
NEA2	Nenana	56.76	29	P	P	15 36 22.3 +1.2
	baz=267,SNR=8.5					
MCK	McKinley	56.77	30	IAmb	IAmb	15 36 22.7
	comp=Z,20nm,0.9s					
MCK	McKinley	56.77	30	P	P	15 36 21.6 +0.3
	baz=268,SNR=10					
BRLS	Borolday	56.79	305	*eP*	P	15 36 23.1 +1.3
IUG	Iuzhnay	56.79	304	*eP*	P	15 36 22.5 +0.5
RND	Reindeer	56.79	31	IAmb	IAmb	15 36 22.6
	comp=Z,14nm,0.6s					
RND	Reindeer	56.79	31	P	P	15 36 21.8 +0.3
E23K	Chandalar	56.82	25	P	P	15 36 22.4 +0.8
	baz=264,SNR=6.5					
TOLK	Toolik Lake Re	56.90	24	P	P	15 36 23.2 +1.1
	baz=264					
KNK	Knik Glacier	56.93	33	P	P	15 36 23.1 +0.7
	baz=270					
PWL	Port Wells	56.98	34	P	P	15 36 23.2 +0.4
	baz=270					
SML	Sawmill	56.99	33	IAmb	IAmb	15 36 24.7
	comp=Z,12nm,0.8s					
SML	Sawmill	56.99	33	P	P	15 36 23.4 +0.5
	baz=269					
D24K	Happy Valley	57.22	24	P	P	15 36 25.5 +1.2
	baz=264					
E24K	Your Creek	57.24	25	P	P	15 36 25.9 +1.4
	baz=265,SNR=9.3					
M23K	Glacier View	57.28	33	P	P	15 36 25.6 +0.8
	baz=270					
COLA	College	57.29	29	*i* P	P	15 36 24.6 -0.2
COLA				pmax	pmax	
	comp=Z,7.0nm,0.7s					
COLA	College	57.29	29	P	P	15 36 25.7 +0.9
	baz=268					
C24K	Franklin Bluff	57.32	23	P	P	15 36 26.1 +1.2
	baz=264					
H24K	Noodor Dome	57.32	28	P	P	15 36 26.4 +1.3
	baz=267,SNR=7.8					
F24K	Squaw Lake	57.42	26	IAmb	IAmb	15 36 28.1
	comp=Z,6.1nm,0.6s					
F24K	Squaw Lake	57.42	26	P	P	15 36 27.1 +1.4
	baz=266,SNR=13					
P23K	Montague Islan	57.45	35	P	P	15 36 26.9 +0.9
	baz=271					
SCM	Sheep Creek Mo	57.47	33	P	P	15 36 26.9 +0.7
	baz=270					
POKR	Poker Plat Res	57.48	29	P	P	15 36 27.1 +1.0
	baz=268					
G24K	Hadweenzic Riv	57.53	27	IAmb	IAmb	15 36 29.0
	comp=Z,11nm,1.1s					
G24K	Hadweenzic Riv	57.53	27	P	P	15 36 27.5 +1.1
	baz=267,SNR=5.8					
GLI	Glacier Island	57.59	34	P	P	15 36 26.7 -0.2
	baz=271					
HDA	Harding Lake	57.67	30	P	P	15 36 27.2 -0.2
	baz=269,SNR=9.3					
ILAR	Eielson Array	57.70	29		P	15 36 26.6 -1.1
ILAR	Eielson Array	57.70	29	P	P	15 36 27.2 -0.4
	comp=Z,2.8nm,0.7s,baz=247,slow=5.7,SNR=36					
ILAR				pP	pP	15 38 01.4 -0.9
	comp=Z,0.4nm,0.8s,baz=277,slow=5.8,SNR=2.7					
	comp=Z,2.8nm,0.7s					
M24K	Tolsona, Glenn	58.01	32	P	P	15 36 30.3 +0.4
	baz=271					
G25K	Bearman Lake	58.08	27	P	P	15 36 31.0 +0.9
	baz=268					
D25K	Kavik River	58.10	24	P	P	15 36 31.6 +1.2
	baz=266,SNR=17					
KLU	Klutina	58.15	33	P	P	15 36 31.3 +0.5
	baz=272					
K24K	Donnelly Dome	58.17	30	P	P	15 36 31.5 +0.6
	baz=270					
EYAK	Cordova Ski Ar	58.26	34	P	P	15 36 31.9 +0.5
	baz=272					
F25K	Christian Rive	58.29	26	P	P	15 36 33.0 +1.3
	baz=268,SNR=9.0					
PRP	Porcupine Dome	58.29	28		P	15 36 31.3 -0.5
PRP	Porcupine Dome	58.29	28	P	P	15 36 32.0 +0.2
	baz=270					
PAX	Paxson	58.32	31	P	P	15 36 32.6 +0.6
	baz=271					
E25K	Arctic Village	58.34	25	IAmb	IAmb	15 36 34.7
	comp=Z,7.5nm,0.8s					
E25K	Arctic Village	58.34	25	P	P	15 36 32.6 +0.7
	baz=268,SNR=10					
J25K	Salcha River,	58.35	29	P	P	15 36 32.6 +0.5
	baz=270					
HARP	HAARP	58.48	32	P	P	15 36 34.2 +1.2
	baz=272,SNR=6.7					
RIDG	Independent Ri	58.59	30	IAmb	IAmb	15 36 35.2
	comp=Z,7.2nm,0.8s					
RIDG	Independent Ri	58.59	30	P	P	15 36 34.1 +0.4
	baz=271,SNR=6.1					
LCRK	Leigh Creek	58.60	181	P	P	15 36 35.0 +0.9
C26K	Camden Bay	58.65	23	P	P	15 36 35.5 +1.5
	baz=267,SNR=9.3					
N25K	Chitina, Valde	58.77	33	P	P	15 36 36.1 +1.1
	baz=273					
BMRM	Bremner River	58.80	34	P	P	15 36 36.5 +1.2
	baz=273					
F26K	Sheenjek River	58.86	26	IAmb	IAmb	15 36 37.9
	comp=Z,5.0nm,0.6s					
F26K	Sheenjek River	58.86	26	P	P	15 36 37.0 +1.5
	baz=269,SNR=10					
SCRK	Sand Creek	58.96	30	IAmb	IAmb	15 36 37.6
	comp=Z,10nm,0.7s					
SCRK	Sand Creek	58.96	30	P	P	15 36 36.7 +0.3
	baz=272,SNR=15					
G26K	Porcupine Rive	59.00	27	P	P	15 36 37.7 +1.4
	baz=270					
C27K	Jago River	59.06	23	P	P	15 36 38.1 +1.3
	baz=269,SNR=21					
MENT	Mentasta	59.12	31	P	P	15 36 39.0 +1.6
J26L	Joseph Creek	59.13	29	IAmb	IAmb	15 36 38.8
	comp=Z,13nm,0.8s					
J26L	Joseph Creek	59.13	29	P	P	15 36 37.8 +0.3
	baz=272,SNR=18					
KBL	Kabul	59.21	295		P	15 36 36.8 -1.9
KBL				IAmb	IAmb	15 36 39.5
	comp=Z,13nm,0.9s					
KBL	Kabul	59.21	295	P	P	15 36 36.8 -1.9
KBL				pmax	pmax	
	comp=Z,13nm,0.9s					
I26K	Coal Creek Min	59.28	28	P	P	15 36 38.3 -0.1
	baz=272					
L26K	Log Cabin Wild	59.29	31	P	P	15 36 39.3 +0.9
	baz=273,SNR=11					
M26K	Nabesna, AK	59.49	32	P	P	15 36 40.8 +0.9
	baz=274					
K27K	Chicken	59.80	30	P	P	15 36 43.1 +1.3
	baz=274					
E27K	Coleen River	59.82	25	P	P	15 36 43.2 +1.3
	baz=272,SNR=7.6					
G27K	Doyon Strip	59.84	27	P	P	15 36 43.4 +1.3
	baz=272					
FORT	Forrest	59.91	191	P	P	15 36 43.4 +0.5
I27K	Kandik River	59.91	28	P	P	15 36 43.7 +1.1
	baz=273					
H27K	Steamboat Moun	59.92	27	P	P	15 36 44.0 +1.4
	baz=273,SNR=6.8					
L27K	Beaver Creek,	59.98	31	P	P	15 36 44.3 +1.3
	baz=274					
M27K	Edge Creek, AK	60.01	32	P	P	15 36 44.5 +1.1
	baz=275					
D27M	Malcolm River	60.03	24	IAmb	IAmb	15 36 45.7
	comp=Z,8.0nm,0.9s					
D27M	Malcolm River	60.03	24	P	P	15 36 44.3 +1.0
	baz=272,SNR=13					
STKA	Stephens Creek	60.05	178	P	P	15 36 43.5 -0.3
	comp=Z,3.3nm,0.8s,baz=352,slow=7.6,SNR=6.9					
	comp=Z,3.3nm,0.8s					
BVCY	Beaver Creek	60.48	32	P	P	15 36 47.5 +1.1
	baz=276					
E28M	Babbage River	60.57	25	IAmb	IAmb	15 36 49.3
	comp=Z,10nm,0.8s					
E28M	Babbage River	60.57	25	P	P	15 36 47.9 +1.0
	baz=273,SNR=16					
I28M	Miner Creek	60.62	28	IAmb	IAmb	15 36 49.4
	comp=Z,6.9nm,0.8s					
I28M	Miner Creek	60.62	28	P	P	15 36 48.2 +0.8
	baz=275,SNR=8.8					
SVE	Sverdlovsk	60.63	322	*eP*	P	15 36 47.4 -0.1
SVE				pmax	pmax	
	comp=Z,14nm,0.8s					
YUK3	Moose Creek	60.73	32	P	P	15 36 49.3 +1.0
	baz=276					
D28M	Stokes Point	60.81	24	P	P	15 36 49.6 +1.1
	baz=274,SNR=6.9					
O28M	Mount Upton	60.97	34	P	P	15 36 50.6 +0.6
	baz=277					
DAWY	Dawson	60.98	30	P	P	15 36 50.7 +1.0
	baz=276					
PINM	Pinnacle	61.02	34	P	P	15 36 51.2 +1.1
	baz=277					
YUK8	Steele Glacier	61.12	33	P	P	15 36 51.6 +0.7
	baz=277					
E29M	Blow River	61.19	25	P	P	15 36 52.1 +1.2
	baz=275,SNR=8.8					
H29M	Whitestone	61.20	27	P	P	15 36 52.4 +1.4
	baz=276					
G29M	Pine Creek	61.27	26	IAmb	IAmb	15 36 54.0
	comp=Z,17nm,1.0s					
G29M	Pine Creek	61.27	26	P	P	15 36 53.1 +1.6
	baz=276,SNR=9.1					
I29M	Ogilvie Camp,	61.31	28	P	P	15 36 53.1 +1.3
	baz=276,SNR=5.4					
J29N	Klondike Camp	61.45	29	P	P	15 36 54.1 +1.3
	baz=277,SNR=6.8					
M29M	Somme Creek	61.58	32		P	15 36 53.5 -0.3
M29M				IAmb	IAmb	15 36 56.3
	comp=Z,8.9nm,0.8s					
M29M	Somme Creek	61.58	32	P	P	15 36 55.3 +1.6
	baz=278,SNR=6.8					
YUK4	Talbot Arm	61.64	33	P	P	15 36 55.3 +0.9
	baz=278					
L29M	L29M	61.65	31	IAmb	IAmb	15 36 56.8
	comp=Z,9.5nm,0.8s					
L29M	L29M	61.65	31	P	P	15 36 55.6 +1.4
	baz=277,SNR=7.6					
K29M	Barlow Dome	61.82	30		P	15 36 55.9 +0.5
K29M				IAmb	IAmb	15 36 57.5
	comp=Z,6.8nm,0.8s					
K29M	Barlow Dome	61.82	30	P	P	15 36 56.5 +1.2
	baz=278,SNR=6.1					
O29M	Mount Kennedy	61.83	34	P	P	15 36 56.7 +1.2
	baz=279					
YUK6	Outpost Mounta	61.84	33	P	P	15 36 56.2 +0.5
	baz=278					
EPYK	Eagle Plains	61.84	27	P	P	15 36 56.5 +1.2
	baz=277,SNR=15					
ARTI	Arti	61.93	321		P	15 36 54.8 -1.2
ARTI	Arti	61.93	321	*c i* P	P	15 36 55.7 -0.3
ARTI						15 37 29.6
ARTI				*PP	pP	15 38 30.3 -1.9
ARTI				S	S	15 44 42.7 +0.4
ARTI				SS	SS	15 48 51.9 -2.7
ARTI				pmax	pmax	
	comp=Z,11nm,0.7s					
G30M	tAoh Zraii Nji	61.97	26	IAmb	IAmb	15 36 57.9
	comp=Z,12nm,1.3s					
G30M	tAoh Zraii Nji	61.97	26	P	P	15 36 56.8 +0.7
	baz=277,SNR=6.9					
F30M	Barrier River	62.06	26	IAmb	IAmb	15 36 58.7
	comp=Z,7.9nm,0.6s					
F30M	Barrier River	62.06	26	P	P	15 36 57.5 +0.9
	baz=277,SNR=7.8					
I30M	Mount Dempster	62.13	28	P	P	15 36 58.5 +1.1
	baz=278,SNR=6.3					
J30M	Hart River	62.24	29	P	P	15 36 59.1 +1.1
	baz=278					
HYT	Haines Junctio	62.27	33	P	P	15 36 58.4 +0.1
HYT				IAmb	IAmb	15 37 00.9
	comp=Z,9.7nm,1.0s					
HYT	Haines Junctio	62.27	33	P	P	15 36 59.6 +1.3
	baz=279					
M30M	Minto, Yukon	62.33	31	P	P	15 36 60.0 +1.4
	baz=279					
P29M	Windy Craggy	62.35	35	P	P	15 37 00.1 +1.4
	baz=280					
N30M	Aishikik Lake	62.37	33	P	P	15 36 59.9 +1.1
	baz=279					
AB31	Akbulak array	62.37	313	*i* P	P	15 36 58.5 -0.5
ABKAR	Akbulak array	62.37	313		P	15 36 58.3 -0.7
P30M	Million Dollar	62.65	34	P	P	15 37 02.3 +1.5
	baz=280					
G31M	Satah River	62.73	26	P	P	15 37 01.5 +0.5
	baz=279					
INK	Inuvik	62.81	25	P	P	15 37 02.0 +0.5
	baz=279					
F31M	Tsiigehtchic	62.86	26	P	P	15 37 02.6 +0.8
	baz=279					
H31M	Peel River	62.88	28	IAmb	IAmb	15 37 03.8
	comp=Z,7.3nm,0.7s					
H31M	Peel River	62.88	28	P	P	15 37 02.9 +0.8
	baz=279,SNR=7.3					
O30N	Mendenhall	62.96	33	P	P	15 37 03.7 +1.0
	baz=280					
N31M	Braeburn, Yuko	62.98	32	P	P	15 37 03.6 +0.8
	baz=280					
AKTO	Aktyubinsk	63.33	315	P	P	15 37 04.4 -0.8
M31M	Drury Creek, Y	63.50	32	P	P	15 37 07.2 +1.1
	baz=281,SNR=5.2					
WHY	Whitehorse	63.57	33	P	P	15 37 07.7 +1.0
	baz=281					
FARO	Faro, Yukon	63.97	31	P	P	15 37 10.0 +0.8
	baz=282					
R32K	Eaglecrest	64.25	36	P	P	15 37 11.9 +0.9
	baz=283					
N32M	Quiet Lake	64.32	33	P	P	15 37 12.4 +0.9
	baz=283					
P32M	Atlin	64.36	34	P	P	15 37 12.6 +0.9
	baz=283					
P33M	Teslin, Yukon	64.66	34	P	P	15 37 14.4 +0.8
	baz=283					
MMPY	Sheldon Lake,	64.83	31	P	P	15 37 15.5 +0.8
	baz=284					
A36M	Sachs Harbour	64.84	20	IAmb	IAmb	15 37 16.6
	comp=Z,10nm,0.9s					
A36M	Sachs Harbour	64.84	20	P	P	15 37 15.3 +0.9
	baz=284,SNR=5.7					
Q32M	Nakina River	65.23	35	P	P	15 37 18.2 +0.7
	baz=284					
R33M	Jennings River	65.77	34	P	P	15 37 21.7 +1.0
	baz=285					
C36M	Paulatuk	65.93	23	IAmb	IAmb	15 37 22.4
	comp=Z,9.0nm,1.0s					
C36M	Paulatuk	65.93	23	P	P	15 37 21.7 +0.4
	baz=287,SNR=11					
KIRV	Kirov	66.17	325	*i* P	P	15 37 22.5 -0.5
TGTN	Hyland Airport	66.47	31	P	P	15 37 26.0 +1.0
	baz=286,SNR=7.3					
DLBC	Dease Lake	66.50	35	P	P	15 37 26.1 +0.9
	baz=286					
V35K	Ketchikan	66.54	39	P	P	15 37 26.4 +1.1
	baz=286					
WTLY	Watson Lake, Y	66.63	33	P	P	15 37 27.1 +1.1
	baz=287					
T35M	Bob Quinn	66.80	37	P	P	15 37 28.3 +1.2
	baz=287					
WRGLY	Wrigley	68.08	29	P	P	15 37 35.7 +1.0
	baz=290					
TOAD	Toad River Com	68.75	34	P	P	15 37 39.8 +0.8
	baz=290					
BELG	Belogornoye	69.03	319	*i* P	P	15 37 40.3 -0.4
BELG				pmax	pmax	
	comp=Z,3.0nm,0.8s					
ARCES	ARCESS Array B	71.43	340	P	P	15 37 54.5 -0.2
	comp=Z,1.6nm,0.5s,baz=72,slow=7.9,SNR=14					
	comp=Z,1.6nm,0.5s					
YKA	Yellowknife Ar	72.09	28	P	P	15 37 58.9 +0.2
	comp=Z,2.2nm,0.8s,baz=297,slow=5.8,SNR=34					
	comp=Z,2.2nm,0.8s					
BANOM	Banah	72.46	290	P	P	15 38 02.0 +0.4
SHME	Shamm	72.54	291	*i* P	P	15 38 02.9 +0.8
	SNR=13					
UOSS	Minazif	72.93	289	P	P	15 38 04.3 0.0
SOHO	SOHO	72.99	289	*i* P	P	15 38 04.7 +0.1
	SNR=13					
HATD	Hatta, Dubai	73.04	289	*i* P	P	15 38 05.4 +0.5
	SNR=7.3					
ASHO	Ashiyiah	73.16	289	P	P	15 38 05.8 +0.1
NAZ	Nazwa, Dubai	73.37	290	P	P	15 38 07.4 +0.6
FAQ	Al Faqa, Dubai	73.52	289	P	P	15 38 07.6 0.0
ALNE	Al Ain	73.67	289	*i* P	P	15 38 08.8 +0.2
	SNR=7.0					
ASUD	Al Ashush, Dub	73.79	289	P	P	15 38 09.8 +0.6
OBN	Obninsk	73.99	324	‖*ep*	P	15 38 09.5 -0.2
OBN				*e*		15 41 01.8
OBN				pmax	pmax	
	comp=Z,7.0nm,0.5s					
KBZ	Khabaz	75.27	312	P	P	15 38 17.6 +0.4
	comp=Z,14nm,0.7s,baz=89,slow=4.2,SNR=34					
	comp=Z,14nm,0.7s					
KBZ	Khabaz	75.27	312	*ce*P	P	15 38 17.1 -0.1
KBZ				pmax	pmax	
	comp=Z,17nm,0.8s					
KIV	Kislovodsk	75.31	312	*e*P	P	15 38 18.8 +1.2
KIV				pmax	pmax	
	comp=Z,14nm,1.1s					
KIV	Kislovodsk	75.31	312	P	P	15 38 18.6 +1.0
SHA1	Shidzhatmaz	75.42	312	*i* P	P	15 38 17.5 -0.9
GNI	Garni	75.54	308	*i* P	P	15 38 20.2 +1.2
GNI				pmax	pmax	
	comp=Z,18nm,1.8s					
FINES	FINESS Array B	75.62	333	P	P	15 38 18.4 -0.4
	comp=Z,6.5nm,0.5s,baz=70,slow=5.1,SNR=126					
	comp=Z,6.5nm,0.5s					
FINES	FINESS Array B	75.62	333	*i* P	P	15 38 18.3 -0.5
FINES				pmax	pmax	
	comp=Z,7.0nm,0.4s					
BKZ	Black Stump Fm	75.66	151	P	P	15 38 20.1 +0.8
MZR	Muzera	76.00	289	*i* P	P	15 38 21.4 -0.3
	SNR=9.7					
VSU	Vasula	76.99	330	*ce*P	P	15 38 24.7 -1.7
VSU				pmax	pmax	
	comp=Z,14nm,1.3s					
MNK	Minsk	78.65	326	*i* P	P	15 38 35.0 -0.5
MNK				*i* *PP	pP	15 40 17.0 -0.7
MNK				*i*		15 41 41.3
MNK				*i* S	S	15 47 54.0 +1.2
MNK				*i* SS	SS	15 53 11.3 +2.6
MNK				*i* SSS	SSS	15 56 41.1
MNK				pmax	pmax	
	comp=Z,6.0nm,0.9s					
MNK				MLR	MLR	
	comp=Z,17nm,13.0s					
MNK				MLR	MLR	
	comp=N,31nm,16.0s					
MNK				MLR	MLR	
	comp=E,37nm,19.0s					
AK03	Malin Array Si	80.03	323	P	P	15 38 41.0 -1.9
AKASG	Malin Array Be	80.05	323	P	P	15 38 42.2 -0.7
	comp=E,2.5nm,0.5s,baz=54,slow=5.1,SNR=25					
	comp=E,2.5nm,0.5s					
AKBB	Malin Array Si	80.05	323	IAmb	IAmb	15 38 43.1
	comp=Z,7.1nm,0.7s					
AKBB	Malin Array Si	80.05	323	*i* P	P	15 38 41.9 -1.1
AKBB				pmax	pmax	
	comp=Z,6.0nm,0.6s					
AKBB	Malin Array Si	80.05	323	P	P	15 38 41.1 -1.9
AK01	Malin Array Si	80.06	323	P	P	15 38 41.2 -1.9
KIEV	Kiev	80.06	323		P	15 38 41.7 -1.3
KIEV				IAmb	IAmb	15 38 43.1
	comp=Z,6.5nm,0.6s					
KIEV	Kiev	80.06	323	P	P	15 38 41.7 -1.3
KIEV				pmax	pmax	
	comp=Z,7.0nm,0.6s					
KIEV	Kiev	80.06	323	P	P	15 38 42.4 -0.7
KIEV	Kiev	80.06	323	P	P	15 38 41.1 -2.0
	comp=Z,43nm,0.9s					
AK09	Malin Array Si	80.06	323	P	P	15 38 41.2 -1.9
AK04	Malin Array Si	80.07	323	P	P	15 38 41.8 -1.3
AK08	Malin Array Si	80.07	323	P	P	15 38 41.6 -1.5
AK02	Malin Array Si	80.08	323	P	P	15 38 41.6 -1.6
AK10	Malin Array Si	80.09	323	P	P	15 38 41.5 -1.7
AK11	Malin Array Si	80.09	323	P	P	15 38 41.3 -1.9
AK22	Malin Array Si	80.10	323	P	P	15 38 41.8 -1.4
AK05	Malin Array Si	80.10	323	P	P	15 38 41.8 -1.5
AK15	Malin Array Si	80.10	323	P	P	15 38 41.6 -1.7
AK21	Malin Array Si	80.10	323	P	P	15 38 41.4 -1.9
AK12	Malin Array Si

AK18	Malin Array Si	80.12 323	P	P	15 38 41.7	-1.7
AK16	Malin Array Si	80.13 323	P	P	15 38 42.1	-1.3
AK20	Malin Array Si	80.14 323	P	P	15 38 42.0	-1.5
AK17	Malin Array Si	80.14 323	P	P	15 38 42.0	-1.5
AK14	Malin Array Si	80.15 323	P	P	15 38 41.9	-1.6
AK19	Malin Array Si	80.15 323	P	P	15 38 41.9	-1.6
HFS	Hagfors	81.18 336	P	P	15 38 47.8	-0.9
	comp=Z,3.2nm,0.5s,baz=90,slow=3.4,SNR=33					
	comp=Z,3.2nm,0.5s					
NC405	NORSAR Array S	81.19 337		P	15 38 48.0	-0.8
NC405			IAmb	IAmb	15 38 48.5	
	comp=Z,8.6nm,0.7s					
LUBAR	Lubar, Ukraine	81.26 323	P	P	15 38 47.2	-2.2
RNPP9	Sopachiv	81.39 324	P	P	15 38 48.2	-1.8
NB2	NORSAR Subarra	81.41 337	P	P	15 38 48.8	-1.2
	comp=Z,2.7nm,0.6s,baz=48,slow=4.6					
NB2	NORSAR Subarra	81.41 337	P	P	15 38 48.9	-1.1
NOA	NORSAR Array B	81.41 337	P	P	15 38 49.0	-0.9
	comp=Z,3.1nm,0.6s,baz=47,slow=4.9,SNR=15					
	comp=Z,3.1nm,0.6s					
RNPP5	Staryi Chortor	81.50 324	P	P	15 38 48.7	-1.8
NORES	NORESS Array B	81.52 337	P	P	15 38 53.2	+2.8
NVAR	Mina Array Bea	81.58 51	P	P	15 38 52.2	+0.7
	comp=Z,1.0nm,0.6s,baz=299,slow=6.4,SNR=6.3					
NVAR			pP	pP	15 40 34.0	-0.7
	comp=Z,0.4nm,0.5s,baz=287,slow=6.0,SNR=2.5					
	comp=Z,1.0nm,0.6s					
NDNU	Novodnistrovsk	82.22 322	P	P	15 38 53.2	-1.1
BNN	Bunyan	82.24 310		P	15 38 55.5	+0.7
RAYN	Ar Rayn	82.35 292		P	15 38 55.9	+0.4
RAYN	Ar Rayn	82.35 292	P	P	15 38 55.9	+0.4
RAYN			pmax	pmax		
	comp=Z,22nm,0.7s					
RAYN	Ar Rayn	82.35 292	*i* P	P	15 38 56.0	+0.5
	SNR=26					
HORU	Horodok	82.38 322	P	P	15 38 53.8	-1.3
HORU	Horodok	82.38 322	P	P	15 38 53.8	-1.3
ELK	Elko	82.46 48	P	P	15 38 55.5	-0.5
KMPD	K-Podol'skiy	82.73 322	P	P	15 38 54.9	-2.0
KMPD			P	P	15 38 54.9	-2.0
BRTR	Keskin Array B	83.26 312	P	P	15 38 59.5	-0.5
	comp=Z,1.9nm,0.5s,baz=118,slow=3.9,SNR=14					
	comp=Z,1.9nm,0.5s					
BR104	Keskin Array S	83.27 312	P	P	15 38 57.8	-2.2
	comp=Z,3.6nm,0.9s					
BR106	Keskin Array S	83.27 312	P	P	15 38 57.8	-2.2
	comp=Z,3.3nm,0.8s					
BR105	Keskin Array S	83.28 312	P	P	15 38 57.8	-2.2
	comp=Z,4.8nm,0.8s					
STNU	Starunia	83.70 323	P	P	15 38 59.8	-2.0
PDAR	Pinedale Array	84.94 44	P	P	15 39 08.6	+0.2
	comp=Z,0.4nm,0.8s,baz=302,slow=2.8,SNR=4.6					
	comp=Z,0.4nm,0.8s					
VYHS	Vyhne	86.78 325	*e*P	P	15 39 16.6	-0.2
VYHS	Vyhne	86.78 325	*e*P	P	15 39 16.5	-0.2
MODS	Modra-Piesok	87.64 326	*e*P	P	15 39 23.6	+2.8
MODS	Modra-Piesok	87.64 326	*e*P	P	15 39 23.6	+2.8
GERES	GERESS Array B	89.05 328	P	P	15 39 26.1	-1.4
	comp=Z,1.0nm,0.7s,baz=36,slow=5.4,SNR=7.7					
	comp=Z,1.0nm,0.7s					
EKA	Eskdalemuir Ar	90.59 340	P	P	15 39 33.4	-0.9
	comp=Z,0.3nm,0.5s,baz=40,slow=3.3,SNR=4.1					
	comp=Z,0.3nm,0.5s					
FUORN	Ofenpass-Fuorn	92.26 328	IAmb	IAmb	15 39 48.2	
	comp=Z,3.7nm,0.9s					
QSPA	South Pole Qui	118.24 180	PKP	PKPdf	15 45 15.3	-0.2
	comp=Z,2.3nm,0.9s,baz=310,slow=0.6,SNR=9.9					
BOSA	Boshof	122.86 253	PKP	PKPdf	15 45 23.9	-1.7
	comp=Z,3.3nm,1.0s,baz=332,slow=2.5,SNR=5.2					
BOSA	Boshof	122.86 253	PKIKP	PKPdf	15 45 24.0	-1.7
LPAZ	La Paz	151.87 70	PKPbc	PKiKP	15 46 26.1	+0.2
	comp=Z,1.1nm,0.6s,baz=333,slow=2.9,SNR=7.6					
PLCA	Paso Flores	152.61 124	PKPbc	PKiKP	15 46 26.2	+0.2
	comp=Z,2.6nm,0.6s,baz=250,slow=2.3,SNR=21					

*IDC **20** 15:30:18.7±0.9, 33°.84N×141°.52E, h0km, mb3.9/13, mbtmp3.9/16, ML3.7/3, MS3.2/10, Error ellipse: s-maj=22.9km s-min=16.5km az=98.0*
*NEIC **20** 15:30:19.4±1.6, 33°.84N±0°.06×141°.7E±0°.1, h10km±1km, mb4.3/7, Error ellipse: s-maj=19.0km s-min=3.9km az=119.0*
*NIED **20** 15:30:23.1, 33°.90N×141°.43E, h21km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr7.53; Mθθ0.11; Mφφ-7.65; Mrθ-1.95; Mθφ0.80; Mφr4.41; Fault plane solution: M0 9.03000×10^14^ NP1: φs184.00000°, δ30.00000°, λ107.00000°. NP2: φs345.00000°, δ61.00000°, λ81.00000°.*
*JMA **20** 15:30:23.1±0.4, 33°.9N±0°.5×14°.7E±°, h21km, MV4.0/13, E OFF HACHIJOJIMA ISLAND*
ISC 20 15:30:21.1±0.6, 33°.79N±0°.05×141°.59E±0°.06, h24km, n50, σ1§46/47, mb3.9/18, MS3.2/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.63	246	Pn	Pn	15 30 47.7	-0.6
JHJ2	Mitsune	1.63	246	P	Pb	15 30 50.1	-0.3
JHJ	Hachijo jima 2	1.65	247	Pn	Pb	15 30 50.1	-0.8
	100nm,0.3s,baz=353,slow=23,SNR=6.5						
JHJ				LR	LR	15 30 58.5	
	comp=Z,78nm,20.3s,baz=118,slow=25						
JHJ				Sn	Sb	15 31 10.3	-1.0
	164nm,0.3s,baz=80,slow=22,SNR=2.1						
JMKN	Mikurajimanish	1.67	274	P	Pb	15 30 49.9	-1.2
JMYK	Miyake Tsubota	1.72	279	P	Pb	15 30 50.1	-1.8
JKUC	kamogawauchiur	1.78	320	P	Pb	15 30 51.2	-1.9
JIM2	Oshima 3	2.01	298	P	Pn	15 30 54.1	+0.5
JIM2				S	Sn	15 31 17.6	-0.4
JIZS	Izushimoda	2.43	293	*e*P	Pb	15 31 00.8	-3.2
JOD2	Odawara 2	2.53	306	P	Pn	15 31 01.1	+0.4
JOD2				*e*S	Sn	15 31 30.4	-0.5
JSG	Sagara	2.96	288	Pn	Pn	15 31 08.1	+1.6
MJAR	Matsushiro Arr	3.90	316	Pn	Pn	15 31 20.5	+1.0
	1.3nm,0.3s,baz=229,slow=3.2,SNR=8.2						
MJAR				Sn	Sn	15 32 07.8	+3.3
	0.9nm,0.3s,baz=149,slow=17,SNR=2.2						
	9.1nm,0.5s						
MAJO	Matsushiro	3.90	316	Pn	Pn	15 31 20.6	+1.1
INU	Inuyama	4.08	294	Pn	Pn	15 31 22.9	+0.9
JMM	Marumori	4.12	351	Pn	Pn	15 31 21.1	-1.4
JSD	Sado	5.02	328	Pn	Pn	15 31 34.3	-0.6
JCJ	Chichijima	6.70	175	Pn	Pn	15 31 57.8	-0.1
	5.9nm,0.3s,baz=291,slow=22,SNR=1.0						
JCJ				Sn	Sn	15 33 09.2	-4.2
	9.6nm,0.3s,baz=282,slow=21,SNR=2.0						
	21nm,0.3s						
ERM	Erimo	8.30	8	Pn	Pn	15 32 17.1	-2.8
JNU	Nakatsue	8.98	269	LR	LR	15 35 59.9	
	comp=Z,111nm,19.3s,baz=66,slow=38						
ASAJ	Asahikawa	10.34	4	Pn	Pn	15 32 48.1	+0.3
	0.9nm,0.3s,baz=212,slow=17,SNR=2.3						
	3.1nm,0.4s						
JKA	Kamikawa-asahi	10.34	4	Pn	Pn	15 32 47.2	-0.6
KSRS	Korea Array	11.71	292	LR	LR	15 37 42.9	
	comp=Z,89nm,18.4s,baz=110,slow=38						
USRK	Ussuriysk Ar.	12.79	327	LR	LR	15 38 27.0	
	comp=Z,77nm,20.6s,baz=146,slow=38						
JOW	Kunigami	13.43	242	LR	LR	15 38 55.4	
	comp=Z,100nm,18.5s,baz=188,slow=39						
GUMO	Guam	20.33	171	LR	LR	15 43 30.9	
	comp=Z,22nm,18.5s,baz=46,slow=39						
SONM	Songino Array	29.82	309	P	P	15 36 25.0	-1.3
	0.8nm,0.6s,baz=110,slow=8.3,SNR=3.1						
SONM				LR	LR	15 47 49.6	
	comp=Z,50nm,18.9s,baz=60,slow=35						
	0.8nm,0.6s						
DAV	Davao City (W)	30.44	213	LR	LR	15 48 46.9	
	comp=Z,20nm,19.3s,baz=337,slow=36						
KIWB	Kanaga Island	34.66	46	P	P	15 37 08.7	+0.2
CMAR	Chiang Mai Arr	40.92	259	P	P	15 38 01.5	-0.2
	0.5nm,0.5s,baz=46,slow=7.5,SNR=6.0						
	0.5nm,0.5s						
MKAR	Makanchi Array	46.02	305		P	15 38 41.4	-1.2
MKAR	Makanchi Array	46.02	305	P	P	15 38 43.8	+1.2
	0.9nm,0.6s,baz=93,slow=9.2,SNR=4.7						
	0.9nm,0.6s						
MAKZ	Makanchi	46.24	305	P	P	15 38 43.0	-1.3
C18K	Utukok River	47.13	25	P	P	15 38 50.9	-0.1
C18K				IAmb	IAmb	15 38 54.5	
	comp=Z,1.6nm,0.9s						
MTN	Manton Dam	47.44	194	P	P	15 38 53.7	-0.2
MTN				IAmb	IAmb	15 38 55.7	
	comp=Z,3.3nm,0.7s						
KURBB	Kurchatov Arra	48.16	310	P	P	15 39 00.0	+0.9
	comp=Z,1.7nm,0.5s,baz=84,slow=7.7,SNR=7.6						
	comp=Z,1.7nm,0.5s						
J19K	Poorman	48.33	32	P	P	15 39 00.3	0.0
J19K				IAmb	IAmb	15 39 06.8	
	comp=Z,2.0nm,1.1s						
KDAK	Kodiak Island	49.45	40	LR	LR	16 01 26.8	
	comp=Z,24nm,18.1s,baz=45,slow=38						
ILAR	Eielson Array	52.17	31	P	P	15 39 31.1	+1.8
	comp=Z,1.4nm,0.8s,baz=262,slow=6.1,SNR=8.6						
	comp=Z,1.4nm,0.8s						
BVAR	Borovoye Array	52.89	314	P	P	15 39 36.1	+1.2
	comp=Z,0.7nm,0.5s,baz=79,slow=7.7,SNR=4.0						
	comp=Z,0.7nm,0.5s						
WRA	Warramunga Arr	53.88	188	P	P	15 39 43.1	+0.7
	comp=Z,0.8nm,0.6s,baz=3.2,slow=7.5,SNR=4.7						
	comp=Z,0.8nm,0.6s						
KKAR	Karatay Array	54.92	302	P	P	15 39 50.7	+0.8
ASAR	Alice Springs	57.61	188	P	P	15 40 11.8	+2.6
	comp=Z,0.6nm,0.6s,baz=4.5,slow=7.1,SNR=6.4						
	comp=Z,0.6nm,0.6s						
ARTI	Arti	59.01	320	P	P	15 40 17.3	-1.3
AB31	Akbulak array	60.17	312		P	15 40 26.5	-0.2
AB31				IAmb	IAmb	15 40 28.0	
	comp=Z,1.8nm,0.6s						
ABKAR	Akbulak array	60.17	312		P	15 40 26.4	-0.3
ABKAR				IAmb	IAmb	15 40 28.0	
	comp=Z,1.8nm,0.6s						
BBB	Bella Bella	64.30	43	LR	LR	16 02 37.6	
	comp=Z,60nm,21.4s,baz=82,slow=30						
YKA	Yellowknife Ar	66.54	29	P	P	15 41 10.5	+1.8
	comp=Z,0.3nm,0.8s,baz=299,slow=6.4,SNR=4.4						
	comp=Z,0.3nm,0.8s						
FINES	FINESS Array B	71.75	333	P	P	15 41 41.9	+0.9
	comp=Z,1.4nm,0.7s,baz=54,slow=9.7,SNR=4.3						
	comp=Z,1.4nm,0.7s						
AKASG	Malin Array Be	76.95	323	P	P	15 42 12.0	+0.6
	comp=Z,1.2nm,0.5s,baz=49,slow=6.1,SNR=7.4						
	comp=Z,1.2nm,0.5s						
HFS	Hagfors	77.10	336	P	P	15 42 12.5	+0.4
	comp=Z,0.6nm,0.5s,baz=29,slow=3.4,SNR=4.7						
HFS				LR	LR	16 19 37.0	
	comp=Z,35nm,19.1s,baz=35,slow=38						
	comp=Z,0.6nm,0.5s						
NOA	NORSAR Array B	77.23	338	P	P	15 42 13.7	+0.9
	comp=Z,0.3nm,0.5s,baz=41,slow=5.7,SNR=2.1						
	comp=Z,0.3nm,0.5s						

*IDC **20** 15:36:39.3±3.2, 10°.63S×117°.24E, h0km, mb4.1/5, mbtmp4.0/7, ML3.6/2, Error ellipse: s-maj=229.4km s-min=19.3km az=48.0*
ISC 20 15:36:42.4±2.7, 11°.1S±0°.8×117°.1E±0°.9, h35km, n7, σ1§43/8, mb4.3/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.81	131	Pn	Pn	15 39 16.4	+1.6
	0.4nm,0.3s,baz=283,slow=6.5,SNR=15						
FITZ				Sn	Sn	15 41 12.8	-1.9
	0.2nm,0.3s,baz=336,slow=24,SNR=2.2						
	0.9nm,0.3s						
WRA	Warramunga Arr	18.79	120	P	Pn	15 41 01.4	+1.7
	0.2nm,0.3s,baz=294,slow=13,SNR=8.0						
	0.7nm,0.5s						
ASAR	Alice Springs	20.32	130	P	Pn	15 41 20.8	+3.0
	2.0nm,0.6s,baz=300,slow=10,SNR=27						
ASAR				S	S	15 45 00.7	-0.9
	0.8nm,1.0s,baz=305,slow=25,SNR=5.0						
	2.0nm,0.6s						
CMAR	Chiang Mai Arr	34.39	328	P	P	15 43 25.9	-0.6
	0.3nm,0.3s,baz=156,slow=7.0,SNR=4.0						
	0.3nm,0.3s						
MKAR	Makanchi Array	65.49	334	P	P	15 47 22.1	+0.1
	1.6nm,0.4s,baz=148,slow=7.6,SNR=34						
	1.6nm,0.4s						
KURBB	Kurchatov Arra	70.03	335	P	P	15 47 50.4	-0.1
	1.0nm,0.2s,baz=149,slow=5.3,SNR=5.1						
	1.0nm,0.2s						
ZALV	Zalesovo Beam	70.34	340	P	P	15 47 52.2	-0.1
	1.4nm,0.6s,baz=140,slow=4.8,SNR=6.8						
	1.4nm,0.6s						

IDC 20 16:00:52.2±6.0, 6°.04S×147°.69E, h0km, mb3.6/2, mbtmp3.7/4, ML3.7/1, MS2.7/1, Error ellipse: s-maj=87.3km s-min=61.8km az=68.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.38	189	Pn	Pn	16 01 47.9	+1.5
	20nm,0.3s,baz=13,slow=6.3,SNR=32						
PMG				Sn	Sn	16 02 26.8	-0.4
	11nm,0.3s,baz=338,slow=19,SNR=7.3						
WRA	Warramunga Arr	18.95	222	P	P	16 05 15.4	+0.2
	0.3nm,0.3s,baz=46,slow=12,SNR=11						
	0.8nm,0.5s						
GUMO	Guam	19.70	352	LR	LR	16 11 08.1	
	comp=Z,25nm,22.0s,baz=78,slow=31						
ASAR	Alice Springs	21.98	216	P	P	16 05 48.1	+0.1
	0.6nm,0.4s,baz=42,slow=10,SNR=53						
	0.6nm,0.4s						
STKA	Stephens Creek	26.33	192	P	P	16 06 29.1	-0.8
	1.8nm,0.8s,baz=0.0,slow=11,SNR=1.9						
	1.8nm,0.8s						

*IDC **20** 16:13:45.4±1.5, 17°.58S×178°.94W, h557km±16km, mb3.2/11, mbtmp4.0/12, Error ellipse: s-maj=19.2km s-min=14.6km az=110.0*
ISC 20 16:13:43.8±0.7, 17°.5S±0°.2×178°.8W±0°.2, h539km, n15, σ1§42/17, mb3.5/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.98	265	P	P	16 15 01.7	+3.8
	78nm,0.7s,baz=45,slow=19,SNR=29						
URZ	Urewera	20.98	189	P	P	16 17 47.1	-1.9
	3.8nm,0.3s,baz=1.5,slow=3.0,SNR=15						
	3.8nm,0.3s						
WRA	Warramunga Arr	44.31	259	P	P	16 21 05.3	-0.9
	0.8nm,0.7s,baz=97,slow=7.6,SNR=13						
WRA				PcP	PcP	16 22 37.4	-1.3
	0.3nm,0.8s,baz=101,slow=5.8,SNR=1.7						
	0.8nm,0.7s						
ASAR	Alice Springs	44.51	254	P	P	16 21 07.5	-0.3
	2.9nm,0.4s,baz=92,slow=7.5,SNR=135						
ASAR				PcP	PcP	16 22 39.3	-0.2
	0.3nm,0.4s,baz=99,slow=3.5,SNR=5.2						
	2.9nm,0.4s						
MJAR	Matsushiro Arr	67.35	324	P	P	16 23 44.8	-0.6
	1.5nm,0.7s,baz=165,slow=5.8,SNR=5.5						
	1.5nm,0.7s						
QSPA	South Pole Qui	72.54	180	P	P	16 24 16.6	+0.6
	1.0nm,0.5s,baz=97,slow=8.1,SNR=16						
	1.0nm,0.5s						
PETK	Petropavlovsk-	73.19	345	P	P	16 24 19.2	-0.4
	3.0nm,0.9s,baz=171,slow=6.4,SNR=5.6						
	3.0nm,0.9s						
NVAR	Mina Array Bea	79.42	44	P	P	16 24 55.2	+0.7
	0.7nm,0.6s,baz=232,slow=5.5,SNR=4.3						
	0.7nm,0.6s						
ILAR	Eielson Array	85.59	13	P	P	16 25 23.7	-1.0
	0.8nm,0.7s,baz=221,slow=5.3,SNR=8.0						
	0.8nm,0.7s						
TXAR	Lajitas Array	86.12	58	P	P	16 25 29.8	+1.5
	0.6nm,0.7s,baz=227,slow=5.6,SNR=8.7						
	0.6nm,0.7s						
PDAR	Pinedale Array	87.34	44	P	P	16 25 34.4	+0.5
	0.5nm,0.5s,baz=216,slow=3.4,SNR=7.6						
	0.5nm,0.5s						
YKA	Yellowknife Ar	94.14	25	P	P	16 26 04.0	-0.4
	0.3nm,0.7s,baz=235,slow=4.4,SNR=5.8						
	0.3nm,0.7s						
BRTR	Keskin Array B	144.22	315	PKP	PKPdf	16 32 18.3	-0.5
	0.7nm,0.5s,baz=78,slow=1.8,SNR=6.8						
MMAI	Mount Meron Ar	145.59	303	PKPbc	PKPab	16 32 23.1	-1.1
	2.8nm,0.6s,baz=76,slow=3.6,SNR=2.7						
GERES	GERESS Array B	147.12	345	PKPbc	PKPbc	16 32 26.1	-0.4
	1.8nm,0.7s,baz=13,slow=2.7,SNR=12						

*SOME **20** 16:17:45.9, 50°.57N×83°.18E, h5km*
*NNC **20** 16:17:50.3±7.8, 50°.23N×83°.15E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=82.2km s-min=39.8km az=45.0, Suspected Mining explosion.*
ISC 20 16:17:44.0±5.0, 50°.8N±0°.3×83°.4E±0°.2, h0km, n6, σ0§63/8, 5C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	Semipalatinsk	2.06	260	*e*P	Pb	16 18 21.8	-0.6
	7.1nm,0.1s						
SEM				*e*S	Sn	16 18 46.9	+0.4
	72nm,0.1s						
KURK	Kurchatov	3.05	270	⇓Pn	Pb	16 18 39.4	+0.2
	1.1nm,0.3s						
KURK				⇑Lg	Lg	16 19 16.4	
	14nm,0.6s						
KURBB	Kurchatov Arra	3.11	269	⇓Pn	Pb	16 18 39.4	-0.9
	3.2nm,0.4s						
KURBB				⇑Lg	Lg	16 19 19.2	
	13nm,0.3s						
ZSN	Zaisan	3.48	164	*e*P	Pb	16 18 46.2	-0.3
	2.8nm,0.4s						
ZSN				*e*S	Sb	16 19 29.1	-0.3
	11nm,0.3s						
MK31	Makanchi Array	4.08	191	⇑Pn	Pn	16 18 48.2	+0.6
	0.1nm,0.2s,baz=17,slow=16,SNR=7.5						
MK31				⇓Lg	Lg	16 19 37.2	
	0.8nm,0.2s,baz=17,slow=29,SNR=6.3						
MAKZ	Makanchi	4.11	194	⇑Pn	Pn	16 18 48.4	+0.4
	1.0nm,0.6s						
MAKZ				⇑Lg	Lg	16 19 38.2	
	2.7nm,0.5s						

*IDC **20** 16:41:41.4±6.4, 42°.59N×149°.70E, h0km, mb4.0/5, mbtmp3.8/7, ML3.2/2, Error ellipse: s-maj=162.6km s-min=37.3km az=173.0*
*MOS **20** 16:42:06.6±0.9, 44°.34N×148°.07E, h72km, mb4.3/1, Error ellipse: s-maj=24.0km s-min=15.0km az=176.0*
*SKHL **20** 16:42:07.7±0.1, 44°.40N×148°.00E, h110km±4km, mb4.8/3, msha5.6/3*
*JMA **20** 16:42:09.4±0.3, 44°N±2°×14°8E±°, h98km, MV3.4/27, SE OFF ETOROFU*
ISC 20 16:42:05.9±1.7, 44°.19N±0°.09×148°.3E±0°.1, h97km±9km, n32, σ1§16/51, mb3.9/5, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.08	344	*d i* PN	Pn	16 42 27.5	+0.6
KUR				*e*S	Sn	16 42 42.4	-0.3
KUR				pmax	pmax		
	comp=E,235nm,0.3s						
KUR				pmax	pmax		
	comp=Z,942nm,0.3s						
KUR				pmax	pmax		
	comp=N,186nm,0.2s						
KUR				smax	smax		
	comp=N,1μm,0.4s						
KUR				smax	smax		
	comp=E,798nm,0.2s						
KUR	Kuril'sk	1.08	344	*i* P	Pn	16 42 27.6	+0.6
KUR				AMB	AMB	16 42 28.0	
	comp=E,730nm,0.2s						
KUR				*e*S	Sn	16 42 42.5	-0.3
KUR				A	A	16 42 42.8	
	comp=E,1μm,0.3s						
KUR				A	A	16 42 42.8	
	comp=E,100nm,0.3s						
SHO	Shikotan	1.10	254	*d i* PN	Pn	16 42 28.2	+1.2
SHO				*i* S	Sn	16 42 41.9	-1.1
SHO				pmax	pmax		
	comp=Z,101nm,0.3s						
SHO				pmax	pmax		
	comp=E,42nm,0.4s						
SHO				pmax	pmax		
	comp=N,43nm,0.2s						
SHO				smax	smax		
	comp=E,1μm,0.2s						
SHO				smax	smax		
	comp=N,951nm,0.4s						
SHO	Shikotan	1.10	254	*i* P	Pn	16 42 28.3	+1.2
SHO				AMB	AMB	16 42 28.4	
	comp=N,200nm,0.3s						
SHO				*i* S	Sn	16 42 42.2	-0.8
SHO				A	A	16 42 42.8	
	comp=N,1μm,0.3s						
SHO				A	A	16 42 42.8	
	comp=N,1μm,0.3s						
YUK	Yuzh-Kuril'sk	1.75	266	*e*PN	Pn	16 42 35.7	+0.7
YUK				*e*S	Sn	16 42 55.7	-1.5
YUK				pmax	pmax		
	comp=Z,138nm,0.2s						
YUK				pmax	pmax		
	comp=N,38nm,0.1s						
YUK				pmax	pmax		
	comp=E,47nm,0.1s						
YUK				smax	smax		
	comp=N,467nm,0.2s						
YUK				smax	smax		
	comp=E,640nm,0.2s						
YUK	Yuzh-Kuril'sk	1.75	266	*e*P	Pn	16 42 35.5	+0.5
YUK				*e*S	Sn	16 42 55.9	-1.3
YUK				A	A	16 42 58.0	
	comp=E,310nm,0.2s						
YUK				A	A	16 42 58.0	
	comp=E,560nm,0.2s						
NEM2	Nemuro 2	2.02	247	P	Pn	16 42 39.3	+0.8
NEM2				*e*S	Sn	16 43 01.7	-1.7
NMR	Nemuro--Hokkai	2.02	247	*e*PN	Pn	16 42 39.4	+0.9
NMR				*e*S	Sn	16 43 02.3	-1.2
NMR	Nemuro--Hokkai	2.02	247	*e*P	Pn	16 42 39.5	+0.9
NMR				*e*S	Sn	16 43 02.4	-1.1
RUSJ	Misakicho	2.19	269	*e*PN	Pn	16 42 42.6	+1.9
RUSJ				*e*S	Sn	16 43 09.0	+1.7
JRA	Rausu	2.29	265	P	Pn	16 42 44.0	+1.9
JRA				S	Sn	16 43 10.0	+0.2
JNSB	Nemuroshibetsu	2.40	261	*e*P	Pn	16 42 45.3	+1.8
JNSB				S	Sn	16 43 12.3	-0.1
JKHN	Kushirohamanak	2.52	245	*e*P	Pn	16 42 46.9	+1.8
JKHN				S	Sn	16 43 14.2	-1.0
JNK	Nakash	2.65	258	S	Sn	16 43 18.1	-0.1
AKK	Akkeshi	2.76	246	*e*P	Pn	16 42 49.5	+1.2
AKK				*e*S	Sn	16 43 20.3	-0.6
JAK	Akkeshi	2.87	247	*e*P	Pn	16 42 50.6	+1.0
JAK				S	Sn	16 43 22.1	-1.3
JTKR	Abashiri--Toko	3.16	268	P	Pn	16 42 55.0	+1.4
JTKR				*e*S	Sn	16 43 30.5	+0.1
JAR	Ashorobuto	3.39	256	P	Pn	16 42 58.7	+2.0
JAR				S	Sn	16 43 36.3	+0.2
JOB	Onbets	3.48	250	*e*P	Pn	16 42 59.6	+1.7
JOB				S	Sn	16 43 37.4	-0.8
JMP	Maruseppu	3.55	269	P	Pn	16 43 00.3	+1.4
JCH	Churui	3.92	248	P	Pn	16 43 04.8	+1.0
JCH				S	Sn	16 43 46.5	-2.2
JKA	Kamikawa-asahi	4.09	271	*e*P	Pn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB03	**IPOC Station P**	**0.55**	**172**	⇓*iP*	**Pb**	**16 51 59.1**	**+0.4**
PB03				*i* S	**Sn**	**16 52 07.8**	**+0.7**
PB03				IAML		16 52 08.2	
	comp=E,3μm,0.2s						
PB03	**IPOC Station P**	**0.55**	**172**	*eP*	**Pb**	**16 51 59.1**	**+0.4**
PB03				*eS*	**Sn**	**16 52 08.2**	**+1.2**
PB03				IAML		16 52 09.4	
	comp=Z,2μm,0.2s						
PB01	**IPOC Station P**	**0.56**	**35**	⇑*iP*	**Pb**	**16 51 58.5**	**-0.3**
PB01				*i* S	**Sb**	**16 52 07.1**	**+0.5**
PB01				IAML		16 52 07.9	
	comp=N,7μm,0.2s						
PB01	**IPOC Station P**	**0.56**	**35**	*eP*	**Pb**	**16 51 58.4**	**-0.3**
PB01				*eS*	**Sb**	**16 52 07.2**	**+0.5**
PB01				IAML		16 52 07.8	
	comp=Z,5μm,0.2s						
PB09	**IPOC Station P**	**0.62**	**118**	⇑*iP*	**Pn**	**16 51 59.9**	**0.0**
PB09				*i* S	**Sb**	**16 52 09.0**	**+0.4**
PB09				IAML		16 52 10.0	
	comp=N,6μm,0.4s						
PB09	**IPOC Station P**	**0.62**	**118**	*eP*	**Pn**	**16 51 59.2**	**-0.7**
PB09				IAML		16 52 11.2	
	comp=Z,3μm,0.3s						
TA01	**Diego Aracena**	**0.98**	**341**	⇓*iP*	**Pn**	**16 52 04.0**	**-0.7**
TA01				*i* S	**Sn**	**16 52 17.2**	**-0.2**
TA01				IAML		16 52 20.0	
	comp=E,1μm,0.2s						
TA01	**Diego Aracena**	**0.98**	**341**	*eP*	**Pn**	**16 52 03.3**	**-1.4**
TA01				*eS*	**Sn**	**16 52 16.4**	**-1.1**
TA01				IAML		16 52 19.5	
	comp=Z,723nm,0.5s						
HMBC	**Humberstone**	**1.22**	**358**	⇓*iP*	**Pn**	**16 52 07.9**	**-0.2**
HMBC				*i* S	**Sn**	**16 52 23.3**	**-0.2**
HMBC				IAML		16 52 25.0	
	comp=N,2μm,0.3s						
HMBC	**Humberstone**	**1.22**	**358**	*eP*	**Pn**	**16 52 07.3**	**-0.7**
HMBC				*eS*	**Sb**	**16 52 24.5**	**-0.7**
HMBC				IAML		16 52 25.8	
	comp=Z,2μm,0.4s						
PB06	**IPOC Station P**	**1.23**	**169**	⇓*iP*	**Pn**	**16 52 07.7**	**-0.5**
PB06				*i* S	**Sn**	**16 52 23.7**	**0.0**
PB06				IAML		16 52 27.9	
	comp=N,792nm,0.5s						
PB06	**IPOC Station P**	**1.23**	**169**	*eP*	**Pn**	**16 52 07.6**	**-0.6**
PB06				*eS*	**Sn**	**16 52 21.0**	**-2.7**
PB06				IAML		16 52 28.4	
	comp=Z,598nm,0.4s						
TA02	**Huaiquique**	**1.25**	**347**	*eP*	**Pn**	**16 52 08.1**	**-0.4**
TA02				*i* S	**Sn**	**16 52 24.8**	**+0.6**
TA02	**Huaiquique**	**1.25**	**347**	*eP*	**Pn**	**16 52 08.3**	**-0.1**
TA02				IAML		16 52 27.8	
	comp=Z,2μm,0.1s						
PB05	**IPOC Station P**	**1.39**	**194**	*eP*	**Pn**	**16 52 10.3**	**-0.1**
PB05				*i* S	**Sn**	**16 52 28.7**	**+1.0**
PB05				IAML		16 52 32.3	
	comp=N,917nm,0.6s						
PB05	**IPOC Station P**	**1.39**	**194**	*eP*	**Pn**	**16 52 09.7**	**-0.7**
PB05				*eS*	Sn	16 52 17.6	-10
PB05				IAML		16 52 31.1	
	comp=Z,588nm,1.1s						
PB08	**IPOC Station P**	**1.49**	**25**	⇓*iP*	**Pn**	**16 52 12.0**	**-0.1**
PB08				*i* S	**Sn**	**16 52 30.4**	**-0.2**
PB08				IAML		16 52 31.6	
	comp=E,1μm,0.3s						
PB08	**IPOC Station P**	**1.49**	**25**	*eP*	**Pn**	**16 52 11.3**	**-0.8**
PB08				*eS*	**Sn**	**16 52 30.8**	**+0.1**
PB08				IAML		16 52 31.0	
	comp=Z,692nm,0.4s						
PB11	**IPOC Station P**	**1.74**	**5**	*eP*	**Pn**	**16 52 14.8**	**-0.4**
PB11				*i* S	**Sn**	**16 52 36.3**	**0.0**
PB11				IAML		16 52 41.8	
	comp=N,896nm,0.3s						
PB11	**IPOC Station P**	**1.74**	**5**	*eP*	**Pn**	**16 52 14.4**	**-0.8**
PB11				*eS*	**Sn**	**16 52 37.2**	**+0.9**
PB11				IAML		16 52 40.3	
	comp=Z,681nm,0.4s						
GO01	**Chusmiza**	**1.92**	**18**	*eP*	**Pn**	**16 52 18.1**	**+0.1**
GO01				*i* S	**Sn**	**16 52 41.5**	**+0.3**
GO01	**Chusmiza**	**1.92**	**18**	*eP*	**Pn**	**16 52 18.4**	**+0.4**
GO01				*eS*	**Sn**	**16 52 43.3**	**+2.1**
AF01	**San Pedro de A**	**2.11**	**134**	*eP*	**Pb**	**16 52 23.8**	**-1.1**
AF01				IAML		16 53 13.2	
	comp=Z,555nm,0.5s						
PB10	**IPOC Station P**	**2.11**	**198**	*eP*	**Pn**	**16 52 20.8**	**+0.6**
PB10				*eS*	Sn	16 52 35.7	-10
PB10				IAML		16 52 54.7	
	comp=Z,161nm,0.6s						
PB12	**IPOC Station P**	**2.91**	**351**	*eP*	**Pn**	**16 52 30.5**	**-0.8**
PB12				*eS*	**Sb**	**16 53 18.4**	**+4.7**
PB12				IAML		16 53 21.1	
	comp=Z,169nm,0.3s						
AP01	**Chacalluta**	**3.15**	**351**	*eP*	**Pn**	**16 52 34.6**	**+0.1**
AP01				*eS*	**Sb**	**16 53 19.1**	**-1.3**
AP01				IAML		16 53 25.4	
	comp=Z,197nm,0.5s						
PB14	**IPOC Station P**	**3.16**	**189**	*eP*	**Pn**	**16 52 33.8**	**-1.1**
PB14				*eS*	Sn	16 52 54.0	-18
PB14				IAML		16 53 28.7	
	comp=Z,92nm,0.4s						
PB16	**IPOC Station P**	**3.16**	**6**	*eS*	**Sb**	**16 53 21.0**	**-0.4**
PB16				IAML		16 53 28.8	
	comp=Z,116nm,0.5s						
GO02	**Mina Guanaco**	**3.65**	**177**	*eP*	**Pn**	**16 52 41.8**	**+0.1**
AC01	**Pan de Azucar**	**4.68**	**188**	*eP*	**Pn**	**16 52 56.5**	**+0.9**
AC01				*eS*	**Sb**	**16 54 01.9**	**-2.5**
AC01				IAML		16 54 10.5	
	comp=Z,50nm,0.6s						
AC02	**Maricunga**	**5.35**	**173**	*eP*	Pn	16 53 00.8	-4.4
AC02				*eS*	**Sn**	**16 54 09.3**	**+3.3**
AC02				IAML		16 54 33.4	
	comp=Z,38nm,1.2s						

*NIED **20** 16:54:37.9, 32°.91N×138°.10E, h344km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^15^Nm; Mrr0.26; Mθθ0.11; Mφφ-0.37; Mrθ0.10; Mφφ-0.61; Mφr-0.79; Fault plane solution: M0 1.05000×10^15^ NP1:φs 75.00000°, δ38.00000°, λ166.00000°. NP2:φs 176.00000°, δ81.00000°, λ53.00000°.*
*JMA **20** 16:54:37.9±0.2, 33°N±2°×13°8E±°, h344km, MV3.5/29, FAR S OFF TOKAI DISTRICT*
*IDC **20** 16:54:39.7±0.6, 32°.91N×138°.01E, h327km±5km, mb3.2/21, mbtmp3.9/27, Error ellipse: s-maj=12.1km s-min=10.7km az=35.0*

ISC 20 16:54:38.9±0.7, 32°.88N±0°.06×138°.09E±0°.05, h325km±6km, n48, σ1§73/60, mb3.5/21, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**1.22**	**338**	P	**Pn**	**16 55 24.1**	**+1.5**
TTO2	**TONANKAI O.B.S**	**1.24**	**314**	P	**Pn**	**16 55 24.5**	**+1.9**
TTO1	**TONANKAI O.B.S**	**1.32**	**305**	P	**Pn**	**16 55 24.7**	**+1.5**
TTO5	**TONANKAI O.B.S**	**1.41**	**347**	P	**Pn**	**16 55 25.2**	**+1.4**
JHJ	**Hachijo jima 2**	**1.44**	**80**	P	**Pn**	**16 55 25.1**	**+0.9**
	39nm,0.3s,baz=233,slow=20,SNR=14						
JHJ				S	**S**	**16 56 03.1**	**+2.7**
	53nm,0.3s,baz=246,slow=19,SNR=7.0						
JHJ2	**Mitsune**	**1.47**	**80**	P	**Pn**	**16 55 25.6**	**+1.3**
JHJ2				S	**S**	**16 56 03.1**	**+2.5**
JIE	**Ise**	**1.90**	**323**	P	**Pn**	**16 55 27.9**	**+0.8**
JIE				*eS*	**S**	**16 56 05.7**	**0.0**
JTNC	**Tanabenakahech**	**2.28**	**295**	P	**Pn**	**16 55 30.5**	**+0.5**
JTNC				*eS*	**S**	**16 56 09.9**	**-1.2**
JWY	**Kouya**	**2.48**	**303**	P	**Pn**	**16 55 32.8**	**+1.0**
JWY				S	**S**	**16 56 13.8**	**-0.4**
JOD2	**Odawara 2**	**2.52**	**19**	P	**Pn**	**16 55 32.8**	**+0.7**
JYTA	**Yamagatataniai**	**2.94**	**338**	P	**Pn**	**16 55 36.2**	**+0.5**
BSO1	**Boso 1**	**2.99**	**53**	P	**Pn**	**16 55 34.6**	**-1.0**
JAI	**Aioi**	**3.18**	**288**	P	**Pn**	**16 55 38.7**	**+0.6**
JRY	**Ryogami san**	**3.20**	**12**	P	**Pn**	**16 55 39.5**	**+1.2**
JRY				*eS*	**S**	**16 56 26.6**	**+0.5**
JWT	**Wachi**	**3.28**	**318**	P	**Pn**	**16 55 39.6**	**+0.6**
JWT				S	**S**	**16 56 26.4**	**-0.9**
JMN	**Monobe**	**3.63**	**285**	P	**Pn**	**16 55 43.1**	**+0.5**
MJAR	**Matsushiro Arr**	**3.66**	**1**	P	**Pn**	**16 55 42.9**	**0.0**
	9.1nm,0.6s,baz=176,slow=11,SNR=45						
MJAR				S	**S**	**16 56 33.5**	**-0.8**
	4.6nm,0.8s,baz=172,slow=12,SNR=3.3						
MAT	**Matsushiro**	**3.66**	**1**	P	**Pn**	**16 55 43.2**	**+0.4**
MAT				*eS*	**S**	**16 56 32.8**	**-1.4**
JAG	**Ashikaga**	**3.71**	**17**	P	**Pn**	**16 55 42.6**	**-0.8**
JTO	**Tosashimizu**	**4.45**	**271**	P	**Pn**	**16 55 51.9**	**+0.5**
JNU	**Nakatsue**	**6.07**	**274**	P	**Pn**	**16 56 10.1**	**+0.4**
	3.6nm,0.8s,baz=86,slow=6.4,SNR=4.6						
JCJ	**Chichijima**	**6.76**	**147**	P	**Pn**	**16 56 15.2**	**-2.8**
	18nm,0.3s,baz=316,slow=19,SNR=24						
JCJ				S	**S**	**16 57 31.8**	**-6.6**
	32nm,0.3s,baz=329,slow=19,SNR=10						
KSRS	**Korea Array**	**9.49**	**302**	P	**Pn**	**16 56 51.8**	**+1.1**
	12nm,0.8s,baz=112,slow=13,SNR=65						
KSRS				S	**S**	**16 58 35.8**	**-2.5**
	2.4nm,0.7s,baz=121,slow=38,SNR=1.6						
ASAJ	**Asahikawa**	**11.76**	**16**	P	**P**	**16 57 19.0**	**+0.2**
	0.9nm,0.4s,baz=194,slow=8.3,SNR=5.6						
ASAJ				S	**S**	**16 59 22.4**	**-6.8**
	1.7nm,0.6s,baz=229,slow=20,SNR=1.7						
USRK	**Ussuriysk Ar.**	**12.27**	**339**	P	**Pn**	**16 57 23.6**	**-0.4**
	14nm,0.7s,baz=168,slow=5.9,SNR=46						
KLR	**Kul'dur**	**17.01**	**346**	P	**P**	**16 58 15.4**	**-0.9**
	1.4nm,0.5s,baz=158,slow=11,SNR=7.1						
PETK	**Petropavlovsk-**	**24.64**	**29**	P	**P**	**16 59 31.4**	**+0.8**
	0.9nm,0.9s,baz=224,slow=12,SNR=1.1						
	0.9nm,0.9s						
SONM	**Songino Array**	**28.16**	**311**	P	**P**	**17 00 03.2**	**+1.1**
	3.3nm,0.7s,baz=119,slow=8.5,SNR=16						
	3.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**37.87**	**257**	P	**P**	**17 01 26.5**	**+0.8**
	0.5nm,0.8s,baz=60,slow=8.5,SNR=5.3						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**42.84**	**316**	P	**P**	**17 02 04.8**	**-0.8**
	0.8nm,0.4s,baz=79,slow=7.5,SNR=5.5						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**44.15**	**305**	P	**P**	**17 02 16.4**	**+0.3**
	0.9nm,0.3s,baz=86,slow=9.4,SNR=12						
	0.9nm,0.3s						
KURBB	**Kurchatov Arra**	**46.53**	**311**	P	**P**	**17 02 34.6**	**+0.1**
	3.0nm,0.5s,baz=89,slow=8.4,SNR=33						
	3.0nm,0.5s						
WRA	**Warramunga Arr**	**52.64**	**184**	P	**P**	**17 03 21.3**	**+0.7**
	0.2nm,0.3s,baz=2.6,slow=7.3,SNR=3.2						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**54.46**	**31**	P	**P**	**17 03 32.9**	**-0.2**
	0.7nm,0.7s,baz=270,slow=6.7,SNR=6.5						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**56.37**	**185**	P	**P**	**17 03 46.7**	**-0.4**
	0.5nm,0.7s,baz=9.7,slow=7.7,SNR=6.6						
	0.5nm,0.7s						
INK	**Inuvik**	**59.31**	**26**	P	**P**	**17 04 07.7**	**+0.9**
	0.4nm,0.5s,baz=280,slow=5.9,SNR=4.3						
	0.4nm,0.5s						
ARCES	**ARCESS Array B**	**66.92**	**339**	P	**P**	**17 04 57.3**	**+0.8**
	5.7nm,1.1s,baz=61,slow=5.9,SNR=3.7						
	5.7nm,1.1s						
YKA	**Yellowknife Ar**	**68.76**	**28**	P	**P**	**17 05 09.1**	**+1.2**
	0.3nm,0.6s,baz=298,slow=6.5,SNR=6.9						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**71.20**	**332**	P	**P**	**17 05 22.8**	**+0.2**
	1.2nm,0.9s,baz=58,slow=5.6,SNR=5.7						
	1.2nm,0.9s						
KBZ	**Khabaz**	**71.52**	**310**	P	**P**	**17 05 26.0**	**+1.1**
	1.5nm,0.8s,baz=66,slow=10,SNR=3.7						
	1.5nm,0.8s						
AKASG	**Malin Array Be**	**75.88**	**322**	P	**P**	**17 05 49.7**	**-0.3**
	0.4nm,0.4s,baz=52,slow=5.9,SNR=2.6						
	0.4nm,0.4s						
HFS	**Hagfors**	**76.72**	**335**	P	**P**	**17 05 53.7**	**-0.7**
	1.5nm,0.8s,baz=1.1,slow=7.2,SNR=5.6						
	1.5nm,0.8s						
NOA	**NORSAR Array B**	**76.93**	**336**	P	**P**	**17 05 54.7**	**-1.0**
	0.2nm,0.5s,baz=43,slow=5.6,SNR=1.8						
	0.2nm,0.5s						
BRTR	**Keskin Array B**	**79.52**	**311**	P	**P**	**17 06 10.9**	**+0.6**
	1.4nm,1.0s,baz=72,slow=4.7,SNR=4.0						
	1.4nm,1.0s						
NVAR	**Mina Array Bea**	**79.69**	**51**	P	**P**	**17 06 12.7**	**+1.4**
	0.4nm,0.5s,baz=309,slow=5.7,SNR=2.4						
	0.4nm,0.5s						
PDAR	**Pinedale Array**	**82.54**	**43**	P	**P**	**17 06 28.5**	**+2.3**
	0.2nm,0.5s,baz=326,slow=4.4,SNR=4.3						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**94.84**	**51**	P	**P**	**17 07 25.8**	**+1.2**
	0.4nm,0.6s,baz=306,slow=3.8,SNR=6.1						
	0.4nm,0.6s						
PLCA	**Paso Flores**	**155.84**	**117**	PKP	**PKPdf**	**17 13 52.0**	**-2.2**
	0.9nm,0.8s,baz=270,slow=9.1,SNR=2.9						

*DSN **20** 16:56:58.6±1.9, 26°.78N×52°.57E, h10km, ML2.8/6, Error ellipse: s-maj=32.9km s-min=13.2km az=177.0*
*TEH **20** 16:57:00.3, 27°.65N×53°.31E, h6km±922km*
*OMAN **20** 16:57:15.3±0.1, 26°.57N×53°.72E, h10km, ml2.7/15, Error ellipse: s-maj=1.4km s-min=0.5km az=356.0*

ISC 20 16:56:58.0±0.9, 27°.15N±0°.04×53°.35E±0°.03, h10km, n42, σ2§06/47, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.25**	**319**	Pg	**Pn**	**16 57 07.1**	**-0.7**
LAR1	**LAR**	**1.05**	**60**	Pg	**Pn**	**16 57 19.8**	**+1.0**
QIR1	**Qir**	**1.35**	**348**	Pg	Pn	16 57 18.1	-4.8
JHRM	**Jahrom**	**1.36**	**8**	Pg	Pn	16 57 18.1	-5.1
DSBU	**Dashti - Bushe**	**2.21**	**304**	Pn	**Pb**	**16 57 37.6**	**-0.5**
JRN	**Qarnain Island**	**2.25**	**192**	P	Pg	16 57 46.9	+5.9
JRN				S	**Sg**	**16 58 09.9**	**-0.2**
AHBU	**AHRAM**	**2.49**	**314**	Pn	**Pn**	**16 57 39.6**	**+1.0**
SHMA	**Al-Shemeyia**	**2.50**	**239**	P	Pg	16 57 56.8	+11
BNDS	**Bandar-Abbas**	**2.52**	**84**	Pn	**Pg**	**16 57 46.2**	**-0.1**
SHI	**Shiraz**	**2.59**	**344**	Pn	**Pn**	**16 57 38.6**	**-1.5**
SHME	**Shamm**	**2.73**	**113**	P	**Pg**	**16 57 52.1**	**+1.8**
SHME				S	**Sb**	**16 58 20.7**	**+0.3**
SHME	**Shamm**	**2.73**	**113**	P	**Pg**	**16 57 50.7**	**+0.4**
KAZ2	**Kazeron-Fars-I**	**2.87**	**329**	Pn	**Pn**	**16 57 44.1**	**+0.2**
BANOM	**Banah**	**2.91**	**114**	P	**Pg**	**16 57 53.8**	**0.0**
BANOM				S	**Sb**	**16 58 24.0**	**-1.7**
BANOM	**Banah**	**2.91**	**114**	P	**Pg**	**16 57 52.3**	**-1.5**
BANOM				S	**Sg**	**16 58 34.5**	**+3.0**
ASUD	**Al Ashush, Dub**	**3.08**	**144**	P	**Pb**	**16 57 52.3**	**-0.6**
ASUD				S	**Sn**	**16 58 22.6**	**-1.0**
TRNA	**Turayna**	**3.08**	**219**	P	Pg	16 58 02.7	+5.6
TRNA				S	**Sg**	**16 58 37.2**	**+0.2**
MASF	**Masafi**	**3.08**	**124**	P	**Pg**	**16 57 59.0**	**+1.9**
MSFE	**Esma-Masafi**	**3.09**	**125**	P	**Pb**	**16 57 52.3**	**-0.7**
MDH	**Madha**	**3.23**	**124**	P	**Pg**	**16 57 58.3**	**-1.5**
MDH				S	**Sb**	**16 58 30.5**	**-4.2**
MDH	**Madha**	**3.23**	**124**	P	**Pb**	**16 57 55.7**	**+0.3**
SMRA	**Abu-Samra**	**3.30**	**224**	P	**Pg**	**16 58 04.7**	**+3.4**
SMRA				S	**Sg**	**16 58 42.8**	**-1.3**
UOSS	**Minazif**	**3.38**	**130**	P	**Pb**	**16 57 59.3**	**+1.4**
UOSS				S	**Sn**	**16 58 32.6**	**+1.6**
UOSS	**Minazif**	**3.38**	**130**	P	**Pb**	**16 57 56.9**	**-1.1**
HATD	**Hatta, Dubai**	**3.41**	**132**	P	**Pb**	**16 57 58.3**	**-0.2**
HATD				S	**Sn**	**16 58 33.0**	**+1.3**
HATD	**Hatta, Dubai**	**3.41**	**132**	P	**Pb**	**16 57 55.7**	**-2.8**
MZWR	**Madinat Zayed**	**3.41**	**172**	P	**Pg**	**16 58 02.8**	**-0.6**
ASHO	**Ashiyiah**	**3.46**	**135**	P	**Pb**	**16 57 56.8**	**-2.6**
ASHO	**Ashiyiah**	**3.46**	**135**	P	**Pb**	**16 57 58.0**	**-1.4**
ALNE	**Al Ain**	**3.77**	**144**	P	**Pg**	**16 58 07.2**	**-3.0**
KRBR	**Kerman**	**4.12**	**46**	Pn	**Pn**	**16 58 02.2**	**+1.0**
SOHO	**SOHO**	**4.16**	**136**	P	**Pb**	**16 58 11.1**	**-0.1**
KHGB	**Koh Gabri**	**4.22**	**40**	Pn	**Pn**	**16 58 03.0**	**+0.4**
IMEH	**Mehriz**	**4.37**	**14**	Pn	**Pn**	**16 58 03.6**	**-1.0**
UMZA	**Um Al Zommool**	**4.71**	**159**	P	**Pb**	**16 58 19.8**	**-0.9**
IRAM	**Ramesheh**	**4.72**	**350**	Pn	**Pn**	**16 58 07.7**	**-1.8**
KBAM	**BAM**	**4.92**	**65**	Pn	**Pn**	**16 58 15.9**	**+3.8**
HOQ	**Hoqain**	**5.04**	**134**	P	**Pb**	**16 58 23.1**	**-3.3**
HOQ				S	**Sn**	**16 59 16.8**	**+4.7**
BSY	**Bisya**	**5.61**	**141**	P	**Pb**	**16 58 31.6**	**-4.4**
SMDO	**Samad**	**5.89**	**133**	P	Pb	16 58 33.7	-7.2
SMDO				S	**Sn**	**16 59 33.6**	**+0.4**
MHTO	**MHTO**	**7.45**	**145**	P	Pn	16 58 55.0	+8.3
ABTO	**Aybut**	**9.75**	**180**	P	Pn	16 59 27.6	+9.2
ABTO				S	**Sn**	**17 01 12.5**	**+4.4**

*KRNET **20** 16:58:01.9±0.1, 41°.45N×78°.62E, h16km, mb3.1*
*NNC **20** 16:58:03.9±1.3, 41°.47N×78°.55E, h0km, mb3.5, mpv3.5, Error ellipse: s-maj=8.7km s-min=5.4km az=162.0*
*SOME **20** 16:58:03.6, 41°.40N×78°.52E, h25km*

ISC 20 16:58:05.7±1.4, 41°.52N±0°.06×78°.47E±0°.04, h10km, n49, σ1§48/81, 28C-24D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.96**	**357**	⇑*iP*	**Pg**	**16 58 22.0**	**-2.2**
PRZ				⇑*iS*	**Sg**	**16 58 36.7**	**-0.1**
KDJ	**Kajisay**	**1.14**	**303**	⇑*iP*	**Pb**	**16 58 25.8**	**-1.8**
KDJ				⇑*iS*	**Sn**	**16 58 43.1**	**-0.6**
ANVS	**Anan'yevo**	**1.40**	**335**	⇑*iP*	**Pn**	**16 58 30.2**	**-1.2**
ANVS				⇑*iS*	**Sg**	**16 58 50.8**	**+0.2**
SATY	**Saty**	**1.54**	**358**	P	**Pb**	**16 58 33.8**	**-0.5**
	20nm,0.1s						
SATY				S	**Sg**	**16 58 55.3**	**+0.2**
	57nm,0.1s						
ZHN	**Zhinishke**	**1.65**	**359**	P	**Pb**	**16 58 35.3**	**-0.9**
	30nm,0.2s						
ZHN				S	**Sg**	**16 58 57.7**	**-0.9**
	62nm,0.2s						
ZHN	**Zhinishke**	**1.65**	**359**	*eP*	**Pb**	**16 58 35.3**	**-0.9**
	30nm,0.2s						
ZHN				*eS*	**Sg**	**16 58 57.7**	**-0.9**
	62nm,0.2s						
UZB	**Uzynbulak**	**1.67**	**14**	P	**Pn**	**16 58 35.0**	**-0.2**
	18nm,0.1s						
UZB				S	**Sb**	**16 58 57.2**	**-0.7**
	34nm,0.2s						
UZB	**Uzynbulak**	**1.67**	**14**	*eP*	**Pn**	**16 58 35.0**	**-0.2**
	18nm,0.1s						
UZB				*eS*	**Sb**	**16 58 57.1**	**-0.7**
	34nm,0.2s						
SHLS	**Shalkode**	**1.79**	**24**	Pg	**Pg**	**16 58 39.9**	**-0.1**
	22nm,0.1s						
SHLS				Lg	Lg	16 59 05.6	
	68nm,0.2s						
SHLS	**Shalkode**	**1.79**	**24**	*eP*	**Pg**	**16 58 39.9**	**-0.1**
	22nm,0.1s						
SHLS				*eS*	**Sg**	**16 59 05.5**	**+2.3**
	68nm,0.2s						
ULHL	**Ulahol**	**1.82**	**294**	⇑*iP*	**Pb**	**16 58 37.9**	**-1.2**
ULHL				⇑*iS*	**Sg**	**16 59 04.2**	**+0.1**
NRN	**Naryn**	**1.86**	**268**	⇑*eP*	**Pn**	**16 58 38.1**	**+0.2**
NRN				⇑*eS*	**Sg**	**16 59 05.0**	**-0.5**
TNSS	**Tian-Shan**	**1.89**	**324**	Pg	**Pb**	**16 58 40.5**	**0.0**
	15nm,0.2s						
TNSS				Lg	Lg	16 59 06.9	
	48nm,0.3s						
TNSS	**Tian-Shan**	**1.89**	**324**	*eP*	**Pb**	**16 58 40.0**	**-0.5**
	14nm,0.2s						
TNSS				*eS*	**Sg**	**16 59 05.8**	**-0.7**
	57nm,0.2s						
MDOK	**Medeo**	**1.95**	**328**	⇑Pg	**Pb**	**16 58 40.6**	**-0.8**
	4.2nm,0.4s						
MDOK				Pg	**Pg**	**16 58 40.9**	**-2.2**
	9.2nm,0.2s						
MDOK				Lg	Lg	16 59 07.9	
	59nm,0.4s						
MDOK				Lg	Lg	16 59 08.2	
	40nm,0.6s						
PDGK	**Podgornoye**	**1.96**	**22**	⇓Pg	**Pn**	**16 58 39.0**	**-0.1**
	8.4nm,0.2s						
PDGK				⇑Lg	Lg	16 59 06.4	
	16nm,0.4s						
KURS	**Kuram**	**1.98**	**354**	Pg	**Pg**	**16 58 42.4**	**-1.2**
	6.3nm,0.2s						
KURS				Lg	Lg	16 59 09.9	
	16nm,0.4s						
KNDC	**Almaty**	**2.03**	**327**	⇑Pn	**Pb**	**16 58 41.9**	**-0.8**
	13nm,0.3s						
KNDC				⇑Sn	**Sg**	**16 59 11.4**	**+0.5**
	102nm,0.7s						
AAA	**Alma-Ata**	**2.04**	**326**	Pg	**Pb**	**16 58 43.1**	**+0.2**
	38nm,0.1s						
AAA				Lg	Lg	16 59 11.8	
	130nm,0.6s						
AAA	**Alma-Ata**	**2.04**	**326**	*eP*	**Pb**	**16 58 42.3**	**-0.6**
	40nm,0.2s						
AAA				*eS*	**Sb**	**16 59 09.8**	**+1.3**
	104nm,0.5s						
BOOM	**Boomskoye usch**	**2.12**	**298**	⇓*iP*	**Pb**	**16 58 42.4**	**-1.9**
BOOM				⇓*iS*	**Sb**	**16 59 11.8**	**+1.0**
MTBS	**Maitube**	**2.21**	**317**	Pg	**Pb**	**16 58 45.5**	**-0.2**
	7.2nm,0.4s						
MTBS				Lg	Lg	16 59 16.3	
	51nm,0.3s						
MTBS	**Maitube**	**2.21**	**317**	*eP*	**Pb**	**16 58 44.9**	**-0.9**
	6.4nm,0.2s						
MTBS				*eS*	**Sb**	**16 59 14.0**	**+0.8**
	82nm,0.3s						
KST	**Kastek**	**2.40**	**310**	Pg	**Pb**	**16 58 49.1**	**0.0**
	7.8nm,0.2s						
KST				Lg	Lg	16 59 22.1	
	30nm,0.5s						
KST	**Kastek**	**2.40**	**310**	*eP*	**Pb**	**16 58 48.3**	**-0.8**
	7.8nm,0.2s						
KST				*eS*	**Sb**	**16 59 19.8**	**+1.0**
	36nm,0.3s						
TKM2	**Tokmak 2**	**2.55**	**304**	⇑Pg	**Pb**	**16 58 50.6**	**-1.1**
	4.1nm,0.3s						
TKM2				⇑Lg	Lg	16 59 26.8	
	24nm,0

*SJA **20** 17:29:00.4±0.7, 31°.43S×71°.91W, h13km±2km, ML3.7, MW3.6*

*GUC **20** 17:29:03.9±0.6, 31°.49S×71°.70W, h32km±5km, ML3.8*

ISC 20 17:29:02.6±1.4, **31°.47S**±0°.02×**71°.76W**±0°.05, **h11**km±10km, **n45**, σ1§**35**/79, **2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.70**	**68**	⇓*i*P	**Pg**	**17 29 16.7**	**+0.4**
CO02	**Combarbal**	**0.70**	**68**	*e*P	**Pg**	**17 29 16.6**	**+0.3**
CO02				IAML		17 29 29.3	
	comp=Z,3μm,0.3s						
CO06	**Fray Jorge**	**0.81**	**8**	*e*P	**Pn**	**17 29 19.1**	**-0.7**
CO06				*i* S	**Sg**	**17 29 29.8**	**+1.1**
CO06				IAML		17 29 32.8	
	comp=N,4μm,0.3s						
CO03	**El Pedregal**	**1.12**	**56**	⇓*i*P	**Pn**	**17 29 23.0**	**-1.2**
CO03				*i* S	**Sb**	**17 29 37.4**	**-1.1**
CO03	**El Pedregal**	**1.12**	**56**	*e*P	**Pn**	**17 29 23.0**	**-1.2**
CO03				*e*S	**Sg**	**17 29 40.0**	**+1.4**
CO03				IAML		17 29 41.9	
	comp=Z,994nm,0.5s						
GO04	**Tololo Observa**	**1.54**	**33**	⇑*i*P	**Pn**	**17 29 30.2**	**+0.1**
GO04				*i* S	**Sn**	**17 29 50.0**	**-0.3**
GO04	**Tololo Observa**	**1.54**	**33**	*e*P	**Pn**	**17 29 30.2**	**+0.1**
GO04				*e*S	**Sb**	**17 29 51.1**	**+0.4**
VA01	**Torpederas**	**1.55**	**176**	*e*P	**Pb**	**17 29 30.5**	**-0.7**
ROCH	**El Roble**	**1.62**	**157**	*e*P	**Pb**	**17 29 31.9**	**-0.8**
ROCH				*i* S	**Sn**	**17 29 50.9**	**-1.4**
ROCH				IAML		17 29 57.4	
	comp=N,978nm,0.3s						
ROC1	**El Roble**	**1.62**	**157**	*e*P	**Pb**	**17 29 31.9**	**-0.8**
ROC1				*e*S	**Sb**	**17 29 53.7**	**+0.4**
VA03	**San Esteban**	**1.65**	**142**	*e*P	**Pb**	**17 29 32.5**	**-0.4**
VA03				*i* S	**Sb**	**17 29 53.1**	**-0.6**
VA03	**San Esteban**	**1.65**	**142**	*e*P	**Pb**	**17 29 32.4**	**-0.6**
VA03				*e*S	**Sb**	**17 29 54.4**	**+0.7**
VA03				IAML		17 29 55.9	
	comp=Z,1μm,0.2s						
MT02	**Curacav**	**1.86**	**164**	*e*P	**Pn**	**17 29 34.5**	**+0.2**
MT02	**Curacav**	**1.86**	**164**	*e*P	**Pn**	**17 29 34.6**	**+0.3**
MT02				*e*S	**Sg**	**17 30 01.3**	**-1.0**
MT02				IAML		17 30 07.0	
	comp=Z,341nm,0.3s						
PEL	**Peldehue**	**1.90**	**152**	*e*P	**Pb**	**17 29 36.2**	**-1.0**
PEL				*e*S	**Sb**	**17 30 01.6**	**+0.7**
CO01	**Juntas del Tor**	**2.07**	**44**	*e*P	**Pn**	**17 29 38.5**	**+1.1**
CO01				*e*S	**Sb**	**17 30 05.3**	**-0.8**
CO01				IAML		17 30 06.3	
	comp=Z,366nm,0.5s						
MT10	**Hacienda Santa**	**2.07**	**150**	*e*P	**Pn**	**17 29 38.5**	**+1.1**
MT10				*i* S	**Sn**	**17 30 02.9**	**-0.3**
MT10				IAML		17 30 08.0	
	comp=N,2μm,0.1s						
MT05	**Renca**	**2.10**	**156**	*e*P	**Pn**	**17 29 38.2**	**+0.6**
MT05				*i* S	**Sn**	**17 30 04.1**	**+0.2**
MT05				IAML		17 30 20.0	
	comp=E,1μm,0.2s						
MT05	**Renca**	**2.10**	**156**	*e*P	**Pn**	**17 29 38.8**	**+1.1**
MT05				*e*S	Sn	17 29 50.2	-14
MT05				IAML		17 30 15.7	
	comp=Z,319nm,0.6s						
RTLS	**Leoncito**	**2.13**	**99**	*e*P	**Pb**	**17 29 40.7**	**-0.6**
RTLS				*e*S	**Sn**	**17 30 03.5**	**-1.4**
RTLS				IAML		17 30 15.6	
	comp=Z,778nm,0.8s						
FCH	**Farellones**	**2.23**	**146**	*e*P	**Pn**	**17 29 40.9**	**+1.2**
FCH				*i* S	**Sb**	**17 30 08.9**	**-1.8**
FCH				IAML		17 30 12.5	
	comp=E,784nm,0.1s						
MT03	**Universidad Ad**	**2.27**	**153**	*e*P	**Pn**	**17 29 41.3**	**+1.1**
MT03	**Universidad Ad**	**2.27**	**153**	*e*P	**Pn**	**17 29 41.4**	**+1.3**
MT03				*e*S	**Sb**	**17 30 11.8**	**0.0**
MT03				IAML		17 30 19.4	
	comp=Z,558nm,0.2s						
DOCA	**Reserva Natura**	**2.35**	**78**	*e*P	**Pb**	**17 29 44.0**	**-1.2**
DOCA				*e*S	**Sb**	**17 30 15.2**	**+0.8**
DOCA				IAML		17 30 21.6	
	comp=Z,260nm,0.8s						
AROD	**Rodeo**	**2.36**	**57**	*e*P	**Pb**	**17 29 44.4**	**-0.9**
AROD				*e*S	**Sb**	**17 30 15.1**	**+0.5**
MT04	**Ro Olivares**	**2.37**	**145**	⇑*e*P	**Pb**	**17 29 43.4**	**-1.9**
MT04				*i* S	**Sn**	**17 30 11.6**	**+0.9**
MT04				IAML		17 30 22.4	
	comp=N,743nm,0.1s						
MT04	**Ro Olivares**	**2.37**	**145**	*e*P	**Pb**	**17 29 43.5**	**-1.9**
MT04				*e*S	**Sb**	**17 30 14.2**	**-0.4**
MT04				IAML		17 30 26.9	
	comp=Z,250nm,0.9s						
MT01	**Popeta**	**2.42**	**170**	*e*P	**Pn**	**17 29 42.8**	**+0.7**
MT01				*i* S	**Sn**	**17 30 12.2**	**+0.4**
MT01				IAML		17 30 22.5	
	comp=E,622nm,0.8s						
MT01	**Popeta**	**2.42**	**170**	*e*P	**Pn**	**17 29 43.0**	**+0.9**
MT01				*e*S	**Sn**	**17 30 13.0**	**+1.3**
MT01				IAML		17 30 22.6	
	comp=Z,174nm,0.3s						
MT08	**Bocatoma Ro**	**2.46**	**144**	*e*P	**Pb**	**17 29 45.2**	**-1.6**
MT08	**Bocatoma Ro**	**2.46**	**144**	*e*P	**Pb**	**17 29 45.4**	**-1.5**
MT08				*e*S	**Sb**	**17 30 17.8**	**+0.5**
MT08				IAML		17 30 28.8	
	comp=Z,300nm,0.5s						
ACCO	**Cerro Coronel**	**2.48**	**70**	*e*P	**Pb**	**17 29 48.0**	**+0.7**
ACCO				*e*S	**Sg**	**17 30 21.7**	**-0.5**
MT13	**San Alfonso**	**2.58**	**152**	*e*P	**Pn**	**17 29 46.1**	**+1.7**
MT13				*i* S	**Sn**	**17 30 17.2**	**+1.4**
MT13				IAML		17 30 26.2	
	comp=E,537nm,0.5s						
MT13	**San Alfonso**	**2.58**	**152**	*e*P	**Pn**	**17 29 46.0**	**+1.7**
MT13				*e*S	**Sb**	**17 30 20.0**	**-0.7**
MT13				IAML		17 30 28.3	
	comp=Z,391nm,0.4s						
ACDV	**Cuesta del Vie**	**2.62**	**61**	*e*P	**Pn**	**17 29 44.4**	**-0.6**
ACDV				*e*S	**Sb**	**17 30 24.7**	**+2.9**
ACDV				IAML		17 30 31.8	
	comp=Z,162nm,1.2s						
LCO	**Las Campanas**	**2.62**	**21**	*e*P	**Pn**	**17 29 45.2**	**+0.1**
LCO				*e*S	**Sn**	**17 30 14.8**	**-2.2**
LCO				IAML		17 30 33.6	
	comp=Z,396nm,0.6s						
ZON	**Zonda**	**2.63**	**92**	*e*P	**Pb**	**17 29 48.3**	**-1.5**
ZON				*e*S	**Sb**	**17 30 20.9**	**-1.2**
ZON				IAML		17 30 37.3	
	comp=Z,170nm,0.4s						
LMEL	**Las Melosas**	**2.71**	**151**	*e*P	**Pn**	**17 29 46.7**	**+0.5**
LMEL				*i* S	**Sn**	**17 30 20.3**	**+1.3**
LMEL				IAML		17 30 28.9	
	comp=E,426nm,0.5s						
LMEL	**Las Melosas**	**2.71**	**151**	*e*P	**Pn**	**17 29 42.9**	**-3.2**
LMEL				*e*S	**Sb**	**17 30 22.4**	**-1.9**
SJA	**San Juan**	**2.73**	**92**	*e*P	**Pn**	**17 29 45.3**	**-1.1**
SJA				*e*S	**Sb**	**17 30 28.3**	**+3.2**
SJA				IAML		17 30 36.5	
	comp=Z,305nm,1.8s						
ARCO	**CERRO ARCO**	**2.76**	**120**	*e*P	**Pn**	**17 29 47.8**	**+0.9**
ARCO				IAML		17 30 35.8	
	comp=Z,202nm,0.3s						
BO02	**Sierra Bellavi**	**3.41**	**166**	*e*S	**Sn**	**17 30 38.3**	**+2.1**
BO02				IAML		17 30 51.7	
	comp=Z,179nm,0.6s						
AGUA	**GUANDACOL**	**3.45**	**56**	IAML		17 30 50.9	
	comp=Z,216nm,0.4s						
AGUA				*e*S	**Sg**	**17 30 51.0**	**-2.4**
VCA	**Vinchina**	**4.12**	**49**	*e*P	**Pn**	**17 30 09.5**	**+4.0**
APLL	**PUNTA DE LOS L**	**4.62**	**78**	*e*P	**Pn**	**17 30 14.1**	**+1.7**
APLL				*e*P	**Pn**	**17 30 14.1**	**+1.7**

*IDC **20** 17:58:16.7±1.9, 4°.05S×124°.95E, h0km, mb3.5/2, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=212.1km s-min=28.5km az=62.0*

*DJA **20** 17:58:20.8±1.7, 4°.5±2°.×12°.4E±°, h29km±19km, M4.1/19, mB4.8/5, mb4.3/10, MLv4.0/19, Mw(mB)4.1/5*

ISC 20 17:58:21.3±1.0, **4°.43S**±0°.07×**124°.03E**±0°.08, **h35**km, **n20**, σ1§**03**/20, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**1.80**	**234**	P	**Pn**	**17 58 49.8**	**0.0**
SANI	**Sanana**	**3.06**	**40**	P	**Pn**	**17 59 05.9**	**-1.3**
NLAI	**Namlea**	**3.28**	**69**	P	**Pn**	**17 59 11.1**	**+0.9**
LUWI	**Luwuk**	**3.59**	**339**	P	**Pn**	**17 59 14.1**	**-0.4**
BNSI	**Bone**	**3.91**	**270**	P	**Pn**	**17 59 18.6**	**-0.3**
BSSI	**Bau Bau, Buton**	**3.92**	**244**	P	**Pn**	**17 59 18.3**	**-0.7**
AAI	**Ambon**	**4.22**	**80**	P	**Pn**	**17 59 23.3**	**+0.2**
APSI	**Ampana**	**4.23**	**326**	P	**Pn**	**17 59 22.8**	**-0.4**
SPSI	**Sidrap Palu**	**4.28**	**276**	P	**Pn**	**17 59 24.8**	**+0.9**
EDFI	**Ende, Flores**	**4.88**	**208**	P	**Pn**	**17 59 32.5**	**+0.1**
KMSI	**Cibinong**	**4.97**	**359**	P	**Pn**	**17 59 33.3**	**-0.1**
MRSI	**Marisa**	**5.30**	**337**	P	**Pn**	**17 59 37.5**	**-0.5**
	0.2nm1μm39nm,0.6s						
TNTI	**Ternate**	**6.15**	**33**	P	**Pn**	**17 59 50.0**	**+0.4**
	0.1nm844nm19nm,1.0s						
MPSI	**Mapaga**	**6.28**	**319**	P	**Pn**	**17 59 51.0**	**-0.5**
	0.1nm693nm12nm,0.9s						
WBSI	**Waikabubak, Su**	**6.93**	**221**	P	**Pn**	**18 00 00.0**	**-0.5**
	0.2nm33nm,1.0s						
SWI	**Sorong**	**8.04**	**64**	P	**Pn**	**18 00 15.8**	**+0.1**
	8.7nm,0.7s						
FAKI	**Fak Fak**	**8.34**	**80**	P	**Pn**	**18 00 19.6**	**-0.1**
	21nm,1.2s						
WRA	**Warramunga Arr**	**18.40**	**148**	P	**P**	**18 02 30.5**	**-3.1**
	0.4nm,0.3s,baz=322,slow=13,SNR=8.0						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**21.37**	**154**	P	**P**	**18 03 06.5**	**+0.7**
	3.0nm,0.9s,baz=333,slow=12,SNR=31						
	3.0nm,0.9s						
MKAR	**Makanchi Array**	**62.91**	**329**	P	**P**	**18 08 45.7**	**+1.6**
	0.3nm,0.7s,baz=123,slow=5.3,SNR=2.6						
	0.3nm,0.7s						

IDC 20 18:09:59.0±17.0, **0°.25N×104°.28W, h0**km, **mb3.4**/3, **mbtmp3.4**/3, **Error ellipse: s-maj=522.6km s-min=138.2km az=125.0, Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**28.93**	**1**	P	P	18 15 59.7	-0.4
	0.1nm,0.4s,baz=173,slow=12,SNR=1.8						
	0.1nm,0.4s						
YKA	**Yellowknife Ar**	**62.58**	**355**	P	P	18 20 25.3	+0.7
	0.6nm,1.0s,baz=168,slow=6.2,SNR=7.9						
	0.6nm,1.0s						
ILAR	**Eielson Array**	**71.38**	**342**	P	P	18 21 20.1	-0.5
	0.7nm,0.8s,baz=133,slow=6.6,SNR=6.2						
	0.7nm,0.8s						
H11N3	**WAKE ISLAND Hy**	**88.80**	**290**	T	T	20 00 46.4	
	baz=96,slow=75,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**88.81**	**290**	T	T	20 00 47.4	
	baz=96,slow=75,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**88.81**	**290**	T	T	20 00 45.0	
	baz=96,slow=75,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**88.99**	**288**	T	T	20 00 57.4	
	baz=93,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**88.99**	**288**	T	T	20 00 53.2	
	baz=93,slow=74,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**89.00**	**288**	T	T	20 00 55.8	
	baz=93,slow=74,SNR=6.9						

*GCMT **20** 18:18:52.0±0.5, 4°.56S±0°.02×105°.80W±0°.02, h20km±1km, MW4.8/82, Moment Tensor Solution. s10,c10; s82,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.20±.11; $M_{\theta\theta}$0.20±.09; $M_{\phi\phi}$0.00±.10; $M_{r\theta}$0.19±.17; $M_{\theta\phi}$1.88±.08; $M_{r\phi}$0.14±.18; Best double couple: $M_0$1.89500×10^{16} NP1:ϕ_s1.00000°, δ85.00000°, λ176.00000°. NP2: ϕ_s92.00000°, δ86.00000°, λ5.00000°. Principal axes: T 2.0090, Plg6.0000°, Azm317.0000°; N -0.2280, Plg84.0000°, Azm128.0000°; P -1.7810, Plg1.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 20 18:18:44.6±14.0, **4°.95S×104°.73W, h0**km, **mb3.4**/3, **mbtmp3.4**/3, **MS3.9**/26 **Error ellipse: s-maj=473.8km s-min=196.7km az=117.0, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**24.84**	**52**	LR	LR	18 31 42.3	
	comp=Z,562nm,21.3s,baz=304,slow=31						
ATAH	**Atahualpa**	**26.27**	**96**	LR	LR	18 32 42.8	
	comp=Z,125nm,18.9s,baz=262,slow=32						
LPIG	**La Paz**	**29.38**	**350**	LR	LR	18 33 21.7	
	comp=Z,277nm,20.9s,baz=176,slow=30						
ROSC	**El Rosal**	**31.89**	**73**	LR	LR	18 36 03.2	
	comp=Z,199nm,20.9s,baz=250,slow=33						
TXAR	**Lajitas Array**	**34.10**	**2**	LR	LR	18 36 52.6	
	comp=Z,96nm,19.8s,baz=185,slow=32						
SDV	**Santo Domingo**	**36.66**	**68**	LR	LR	18 38 51.2	
	comp=Z,230nm,19.8s,baz=255,slow=33						
LPAZ	**La Paz**	**37.62**	**110**	LR	LR	18 38 47.5	
	comp=Z,67nm,19.9s,baz=256,slow=32						
ANMO	**Albuquerque**	**39.71**	**358**	LR	LR	18 39 58.6	
	comp=Z,79nm,20.5s,baz=350,slow=32						
PFO	**Pinyon Flats O**	**39.92**	**345**	LR	LR	18 38 37.0	
	comp=Z,283nm,20.7s,baz=186,slow=30						
SIV	**San Ignacio**	**44.21**	**108**	LR	LR	18 43 35.0	
	comp=Z,170nm,20.3s,baz=292,slow=34						
SJG	**San Juan**	**44.41**	**58**	LR	LR	18 42 15.1	
	comp=Z,101nm,21.0s,baz=203,slow=32						
TKL	**Tuckaleechee C**	**44.93**	**24**	LR	LR	18 46 03.7	
	comp=Z,50nm,18.8s,baz=344,slow=36						
NVAR	**Mina Array Bea**	**44.96**	**345**	LR	LR	18 42 00.6	
	comp=Z,113nm,18.1s,baz=187,slow=31						
PPT	**Papeete**	**45.61**	**250**	LR	LR	18 40 54.1	
	comp=Z,151nm,18.0s,baz=75,slow=29						
ELK	**Elko**	**46.48**	**349**	LR	LR	18 43 47.4	
	comp=Z,195nm,18.4s,baz=159,slow=32						
PLCA	**Paso Flores**	**46.99**	**144**	LR	LR	18 42 43.4	
	comp=Z,265nm,18.7s,baz=296,slow=31						
PDAR	**Pinedale Array**	**47.69**	**35**	P	P	18 27 23.2	-0.1
	0.1nm,0.4s,baz=184,slow=5.5,SNR=4.1						
PDAR				LR	LR	18 44 54.4	
	comp=Z,78nm,19.0s,baz=180,slow=33						
	0.1nm,0.4s						
YBH	**Yreka Blue Hor**	**49.27**	**342**	LR	LR	18 43 33.8	
	comp=Z,133nm,21.0s,baz=168,slow=30						
CPUP	**Villa Florida**	**49.98**	**120**	LR	LR	18 46 23.6	
	comp=Z,102nm,18.2s,baz=261,slow=33						
MDP	**Montagnes des**	**52.97**	**80**	LR	LR	18 49 06.9	
	comp=Z,100nm,19.3s,baz=246,slow=34						
NEW	**Newport**	**54.09**	**350**	LR	LR	18 48 01.7	
	comp=Z,167nm,19.3s,baz=175,slow=32						
ULM	**Lac du Bonnet**	**55.51**	**7**	LR	LR	18 50 33.4	
	comp=Z,131nm,18.9s,baz=170,slow=34						
RAR	**Rarotonga**	**55.71**	**248**	LR	LR	18 45 05.3	
	comp=Z,117nm,21.8s,baz=132,slow=28						
BBB	**Bella Bella**	**60.30**	**344**	LR	LR	18 51 22.8	
	comp=Z,63nm,18.9s,baz=166,slow=32						
DLBC	**Deep Lake**	**66.36**	**346**	LR	LR	18 55 03.4	
	comp=Z,60nm,20.0s,baz=106,slow=33						
YKA	**Yellowknife Ar**	**67.67**	**355**	P	P	18 29 43.9	+0.5
	0.4nm,0.8s,baz=165,slow=6.3,SNR=7.8						
YKA				LR	LR	18 57 00.1	
	comp=Z,92nm,18.4s,baz=327,slow=34						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**76.16**	**343**	P	P	18 30 33.6	-0.7
	0.3nm,0.7s,baz=146,slow=6.3,SNR=4.2						
	0.3nm,0.7s						
H11N3	**WAKE ISLAND Hy**	**90.11**	**290**	T	T	20 10 04.2	
	baz=96,slow=75,SNR=42						
H11N2	**WAKE ISLAND Hy**	**90.12**	**290**	T	T	20 10 05.2	
	baz=96,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy**	**90.13**	**290**	T	T	20 10 05.4	
	baz=96,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**90.19**	**288**	T	T	20 10 08.4	
	baz=94,slow=74,SNR=56						
H11S1	**WAKE ISLAND Hy**	**90.20**	**288**	T	T	20 10 10.2	
	baz=94,slow=74,SNR=31						
H11S3	**WAKE ISLAND Hy**	**90.21**	**288**	T	T	20 10 14.0	
	baz=94,slow=74,SNR=29						

*NEIC **20** 18:19:11.3±2.2, 6°.95S±0°.06×146°.76E±0°.08, h52km±8km, mb4.3/20, Error ellipse: s-maj=12.0km s-min=9.2km az=87.0*

*IDC **20** 18:19:12.9±2.1, 6°.99S×146°.70E, h71km±20km, mb3.4/11, mbtmp3.8/14, MS3.1/1, Error ellipse: s-maj=28.3km s-min=15.0km az=76.0*

ISC 20 18:19:10.6±0.5, **6°.94S**±0°.05×**146°.66E**±0°.07, **h50**km, **n52**, σ1§**38**/55, **mb4.0**/15, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.50**	**169**		**Pn**	**18 19 50.1**	**+1.2**
PMG				Sn	**Sn**	**18 20 18.7**	**+0.5**
PMG	**Port Moresby**	**2.50**	**169**	P	**Pn**	**18 19 50.7**	**+1.8**
	53nm,0.3s,baz=356,slow=6.4,SNR=76						
PMG				S	**Sn**	**18 20 20.1**	**+1.9**
	395nm,0.8s,baz=352,slow=8.8,SNR=5.2						
PMG	**Port Moresby**	**2.50**	**169**	P	**Pn**	**18 19 51.0**	**+2.0**
PMG	**Port Moresby**	**2.50**	**169**	P	**Pn**	**18 19 50.9**	**+2.0**
MANU	**Manus Island**	**4.91**	**8**		**Pn**	**18 20 22.3**	**+0.3**
RABL	**Rabaul**	**6.12**	**64**		**Pn**	**18 20 37.7**	**-0.8**
JAY	**Jayapura**	**7.38**	**306**	P	**Pn**	**18 20 57.7**	**+1.8**
	4.6nm,0.7s,baz=153,slow=6.8,SNR=1.6						
JAY				LR	LR	18 24 19.2	
	comp=Z,140nm,19.1s,baz=333,slow=41						
COEN	**Coen**	**7.77**	**206**		**Pn**	**18 21 01.6**	**+0.3**
COEN				Sn	**Sn**	**18 22 25.8**	**-2.1**
COEN	**Coen**	**7.77**	**206**	P	**Pn**	**18 21 01.9**	**+0.7**
MTSU	**Mount Surprise**	**11.36**	**191**	P	**Pn**	**18 21 52.2**	**+1.8**
NGOA	**Tingoa Renbel**	**14.00**	**110**	P	**P**	**18 22 34.0**	**+1.0**
KDU	**Kakadu**	**15.10**	**247**	P	**Pn**	**18 22 40.6**	**-0.3**
QIS	**Mount Isa**	**15.17**	**206**	P	**Pn**	**18 22 44.1**	**+2.3**
MTN	**Manton Dam**	**16.38**	**248**		**Pn**	**18 22 57.1**	**-0.2**
MTN				IAmb	IAmb	18 23 13.7	
	comp=Z,8.4nm,0.8s						
MTN	**Manton Dam**	**16.38**	**248**	P	**Pn**	**18 22 57.6**	**+0.3**
WB0	**Warramunga Arr**	**17.45**	**222**	P	**Pn**	**18 23 10.6**	**-0.1**
WRAB	**Tennant Creek**	**17.60**	**222**	P	**Pn**	**18 23 12.0**	**-0.4**
WRA	**Warramunga Arr**	**17.61**	**222**	P	**Pn**	**18 23 13.2**	**+0.6**
	comp=Z,3.2nm,1.0s,baz=45,slow=12,SNR=10						
EIDS	**Eidsvold**	**18.81**	**168**	P	**P**	**18 23 25.0**	**-1.2**
EIDS				IAmb	IAmb	18 24 06.0	
	comp=Z,24nm,1.2s						
KNRA	**Kununurra**	**19.57**	**242**	P	**P**	**18 23 33.3**	**-1.2**
KNRA				IAmb	IAmb	18 23 45.0	
	comp=Z,20nm,1.4s						
QLP	**Quilpie**	**19.68**	**186**	P	**Pn**	**18 23 39.1**	**+1.7**
AS01	**Alice Springs**	**20.63**	**215**	P	**P**	**18 23 47.8**	**+1.7**
AS31	**Alice Springs**	**20.66**	**215**	P	**P**	**18 23 46.5**	**+0.1**
ASAR	**Alice Springs**	**20.66**	**215**	P	**P**	**18 23 46.7**	**+0.3**
ASAR	**Alice Springs**	**20.66**	**215**	P	**P**	**18 23 47.6**	**+1.2**
	comp=Z,4.0nm,0.7s,baz=49,slow=9.3,SNR=34						
	comp=Z,4.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.30**	**240**	P	**P**	**18 24 12.7**	**-1.7**
ARMA	**Armidale**	**23.82**	**169**	P	**P**	**18 24 18.0**	**-1.3**
ARMA				IAmb	IAmb	18 24 25.9	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**25.26**	**190**	P	**P**	**18 24 29.4**	**-2.8**
STKA	**Stephens Creek**	**25.26**	**190**	P	**P**	**18 24 32.8**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=18,slow=12,SNR=3.1						
	comp=Z,1.2nm,0.5s						
RTZ	**Ruatahuna**	**41.76**	**144**	P	**P**	**18 26 53.6**	**-1.7**
BKZ	**Black Stump Fm**	**41.84**	**145**	P	**P**	**18 26 54.2**	**-1.6**
BKZ				IAmb	IAmb	18 27 28.5	
	comp=Z,20nm,1.3s						
MRZ	**Mangatainoka R**	**42.36**	**147**	P	**P**	**18 27 00.1**	**+0.2**
BFZ	**Birch Farm**	**42.74**	**146**	P	**P**	**18 27 03.1**	**0.0**
MJAR	**Matsushiro Arr**	**43.97**	**350**	P	**P**	**18 27 13.5**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=183,slow=8.2,SNR=2.1						
	comp=Z,0.5nm,0.6s						
KULM	**Kulim**	**47.50**	**284**	P	**P**	**18 27 40.2**	**-1.0**
CM31	**Chiang Mai Arr**	**53.40**	**299**	P	**P**	**18 28 26.5**	**+0.8**
CM31				IAmb	IAmb	18 28 33.7	
	comp=Z,2.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**53.40**	**299**	P	**P**	**18 28 26.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**53.40**	**299**	P	**P**	**18 28 26.1**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=122,slow=5.6,SNR=12						
	comp=Z,1.2nm,0.5s						
CHTO	**Chiang Mai**	**53.54**	**299**	P	**P**	**18 28 27.1**	**+0.3**
CHTO				IAmb	IAmb	18 28 32.2	
	comp=Z,4.7nm,1.2s						
PBA	**Port Blair**	**56.72**	**289**	P	**P**	**18 28 50.6**	**+0.9**
PETK	**Petropavlovsk-**	**60.54**	**8**	P	**P**	**18 29 17.3**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=188,slow=8.8,SNR=5.2						
	comp=Z,1.1nm,0.8s						
SONM	**Songino Array**	**65.05**	**331**	P	**P**	**18 29 47.4**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=125,slow=4.0,SNR=1.3						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**78.00**	**321**	P	**P**	**18 31 04.8**	**+1.0**
MKAR	**Makanchi Array**	**78.00**	**321**	P	**P**	**18 31 05.6**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=113,slow=5.7,SNR=4.4						
	comp=Z,0.3nm,0.6s						
MAKZ	**Makanchi**	**78.20**	**321**	P	**P**	**18 31 05.7**	**+0.8**
MAKZ				IAmb	IAmb	18 31 11.6	
	comp=Z,1.9nm,1.1s						
KURBB	**Kurchatov Arra**	**81.77**	**323**	P	**P**	**18 31 22.9**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=135,slow=5.7,SNR=1.3						
	comp=Z,0.1nm,0.3s						
QSPA	**South Pole Qui**	**83.04**	**180**	P	**P**	**18 31 30.4**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=328,slow=1.2,SNR=11						
	comp=Z,1.2nm,0.7s						
ILAR	**Eielson Array**	**86.47**	**23**	P	**P**	**18 31 45.9**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=250,slow=4.4,SNR=5.5						
	comp=Z,0.3nm,0.6s						
BVAR	**Bor

YOJ			*i* S		**Sb**	**18 23 13.5**	**+0.3**
NSK	**Sanguang**	**0.82 258**	*e*P		**Pn**	**18 23 03.5**	**-0.4**
NNSB	**Datong**	**0.88 242**	*e*P		**Pg**	**18 23 04.3**	**0.0**
NNSB			*e*S		**Sg**	**18 23 16.7**	**+0.8**
NNS	**Nan Shan**	**0.89 243**	*e*P		**Pg**	**18 23 04.3**	**0.0**
ETL	**Fush Village**	**0.89 219**	*e*P		**Pb**	**18 23 04.0**	**-0.1**
NACB	**Ninganchiao**	**0.89 221**	P		**Pb**	**18 23 04.1**	**0.0**
NACB	**Ninganchiao**	**0.89 221**	S		**Sb**	**18 23 14.9**	**-0.8**
NACB	**Ninganchiao**	**0.89 221**	*e*P		**Pb**	**18 23 04.1**	**0.0**
NACB			*i* S		**Sb**	**18 23 15.5**	**-0.3**
ETLH	**Xiulin Townshi**	**0.94 227**	*e*P		**Pb**	**18 23 05.2**	**+0.2**
ETLH			*i* S		**Sb**	**18 23 17.0**	**-0.2**
TWD	**Chiawan**	**0.96 217**	*e*P		**Pb**	**18 23 05.0**	**-0.3**
NFF	**Wufeng Townshi**	**1.04 258**	*e*P		**Pg**	**18 23 08.2**	**+1.0**
FUSS	**Fushou**	**1.09 237**	*e*P		**Pg**	**18 23 08.3**	**+0.2**
FUSS			*i* S		**Sg**	**18 23 22.5**	**+0.1**
LXIB	**Xiulin Townshi**	**1.12 222**	*e*P		**Pn**	**18 23 08.2**	**+0.1**
LXIB			*i* S		**Sn**	**18 23 23.6**	**+0.4**
LIOB	**Emei**	**1.13 260**	*e*P		**Pg**	**18 23 10.3**	**+1.5**
WHF	**Hehuan Shan**	**1.13 232**	*e*P		**Pg**	**18 23 09.0**	**0.0**
WHF			*i* S		**Sg**	**18 23 23.9**	**+0.1**
TWT	**Tachien**	**1.14 239**	*e*P		**Pg**	**18 23 09.7**	**+0.7**
NSTT	**Nanjuang**	**1.15 259**	*e*P		**Pg**	**18 23 09.8**	**+0.7**
TDCB	**Techi**	**1.15 239**	*e*P		**Pg**	**18 23 10.0**	**+0.7**
TDCB			*i* S		**Sg**	**18 23 24.7**	**+0.4**
SHUL	**Shoufeng**	**1.23 210**	*e*P		**Pg**	**18 23 11.7**	**+1.0**
ESL	**Shilin**	**1.27 216**	*e*P		**Pg**	**18 23 11.1**	**-0.4**
WHP	**Taichung City**	**1.31 244**	*e*P		**Pg**	**18 23 13.5**	**+1.3**
WHP			*e*S		**Sg**	**18 23 30.6**	**+1.3**
OWD	**Renai**	**1.32 227**	*i* P		**Pg**	**18 23 12.2**	**-0.2**
WUSB	**Renai**	**1.33 230**	*e*P		**Pg**	**18 23 12.7**	**-0.1**
WUSB			*e*S		**Sg**	**18 23 30.0**	**-0.1**
WARBT	**Fenglin Townsh**	**1.37 215**	*e*P		**Pn**	**18 23 11.3**	**-0.1**
SSLB	**Suanglung**	**1.58 228**	P		**Pg**	**18 23 16.8**	**-0.6**
SSLB	**Suanglung**	**1.58 228**	S		**Sg**	**18 23 37.9**	**-0.1**
SSLB	**Suanglung**	**1.58 228**	P		**Pg**	**18 23 16.9**	**-0.5**
TPUB	**Ta-pu**	**2.13 224**	P		**Pb**	**18 23 25.8**	**+0.6**

*IDC **20** 18:28:26.4±19.0, 26°.00N×53°.05E, h0km, mb3.3/4, mbtmp3.3/4, MS2.9/1, Error ellipse: s-maj=370.6km s-min=42.9km az=2.0*
*TEH **20** 18:28:40.3, 27°.61N×53°.30E, h8km±39km*
*SGS **20** 18:28:43.5, 27°.71N×53°.31E, h14km, Ml3.7*
ISC 20 18:28:41.5±0.8, 27°.63N±0°.05×53°.30E±0°.04, h16km, n23, σ1§53/24, mb3.4/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.31**	**203**	Pg	**Pg**	**18 28 46.5**	**-1.7**
QIR1	**Qir**	**0.87**	**345**	Pg	**Pb**	**18 28 57.3**	**-1.0**
JHRM	**Jahrom**	**0.91**	**16**	Pg	**Pb**	**18 28 58.5**	**-0.4**
LAR1	**LAR**	**0.95**	**87**	Pg	**Pb**	**18 28 59.1**	**-0.6**
DSBU	**Dashti - Bushe**	**1.95**	**292**	Pn	**Pb**	**18 29 17.0**	**+0.4**
SHI	**Shiraz**	**2.12**	**341**	Pn	**Pb**	**18 29 18.9**	**-0.8**
AHBU	**AHRAM**	**2.15**	**305**	Pn	**Pb**	**18 29 19.1**	**-1.1**
BNDS	**Bandar-Abbas**	**2.56**	**94**	Pn	**Pn**	**18 29 24.1**	**+1.6**
KRBR	**Kerman**	**3.84**	**52**	Pn	**Pn**	**18 29 41.7**	**+1.5**
KHGB	**Koh Gabri**	**3.90**	**45**	Pn	**Pn**	**18 29 42.2**	**+1.2**
IMEH	**Mehriz**	**3.92**	**17**	Pn	**Pn**	**18 29 43.1**	**+1.8**
ARIRA	**AirJ**	**4.18**	**252**	P	**Pn**	**18 29 45.8**	**+1.1**
BTHS		**4.20**	**212**	P	**Pn**	**18 29 46.5**	**+1.6**
IRAM	**Ramesheh**	**4.24**	**349**	Pn	**Pn**	**18 29 47.3**	**+1.6**
KBAM	**BAM**	**4.78**	**71**	Pn	**Pn**	**18 29 55.1**	**+2.2**
NHRD	**Haradh**	**4.82**	**234**	S	**Sn**	**18 30 48.0**	**-0.9**
NHRD				P	**Pn**	**18 29 54.7**	**+1.2**
SMAN	**Sihmah**	**4.89**	**254**	P	**Pn**	**18 29 56.8**	**+2.3**
SMAN				S	**Sn**	**18 30 53.4**	**+2.6**
ANAR	**Anarak**	**5.55**	**4**	Pn	**Pn**	**18 30 04.2**	**+0.5**
BRTR	**Keskin Array B**	**20.28**	**312**	P	**P**	**18 33 14.7**	**-1.9**
	0.4nm,0.7s,baz=142,slow=8.6,SNR=1.7 0.4nm,0.7s						
BVAR	**Borovoye Array**	**28.37**	**22**	P	**P**	**18 34 36.2**	**+1.5**
	0.7nm,0.8s,baz=208,slow=8.1,SNR=4.5 0.7nm,0.8s						
MKAR	**Makanchi Array**	**29.73**	**42**	P	**P**	**18 34 46.7**	**-0.3**
	0.2nm,0.5s,baz=231,slow=9.1,SNR=2.6 0.2nm,0.5s						
VRAC	**Vranov**	**35.48**	**318**	LR	LR	18 56 36.5	
	comp=Z,16nm,19.0s,baz=232,slow=46						
FINES	**FINESS Array B**	**38.40**	**339**	P	**P**	**18 36 00.8**	**-1.0**
	0.3nm,0.4s,baz=143,slow=7.8,SNR=5.9 0.3nm,0.4s						

*NNC **20** 18:38:19.0±6.3, 37°.06N×70°.36E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=61.7km s-min=39.2km az=150.0*
*IDC **20** 18:38:18.1±8.6, 36°.66N×70°.83E, h89km±60km, mb3.6/1, mbtmp3.6/7, ML3.3/6, Error ellipse: s-maj=77.5km s-min=48.5km az=161.0*
ISC 20 18:38:13.4±2.5, 36°.4N±0°.2×70°.6E±0°.1, h50km, n17, σ1§43/19, 5C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.18**	**22**	P	**Pn**	**18 39 43.5**	**+1.1**
	SNR=10.0						
KK31	**Karatay Array**	**6.65**	**360**	P	**Pn**	**18 39 50.5**	**+1.9**
	2.5nm,0.2s,baz=181,slow=11,SNR=125						
KK31				⇑S	**Sn**	**18 41 02.2**	**-0.8**
	1.4nm,0.2s,baz=179,slow=17,SNR=12						
EKS2	**Erkin-Say**	**6.69**	**21**	P	**Pn**	**18 39 51.2**	**+2.1**
	SNR=12						
AAK	**Ala-Archa**	**6.89**	**25**	P	**Pn**	**18 39 53.2**	**+1.2**
	2.4nm,0.3s,baz=169,slow=5.8,SNR=24						
AAK				S	**Sn**	**18 41 07.6**	**-1.5**
	2.7nm,0.4s,baz=149,slow=22,SNR=9.0 4.8nm,0.3s						
AAK	**Ala-Archa**	**6.89**	**25**	P	**Pn**	**18 39 53.4**	**+1.4**
	SNR=10.0						
AAK	**Ala-Archa**	**6.89**	**25**	⇑P	**Pn**	**18 39 53.0**	**+1.0**
	2.4nm,0.3s						
AAK				S	**Sn**	**18 41 08.0**	**-1.2**
	5.1nm,0.5s						
CHMS	**Chumysh**	**7.30**	**25**	P	**Pn**	**18 39 58.6**	**+1.2**
	SNR=5.8						
TKM2	**Tokmak 2**	**7.55**	**29**	P	Pn	18 40 07.6	+6.7
	SNR=5.3						
TKM2	**Tokmak 2**	**7.55**	**29**	⇑P	Pn	18 40 07.2	+6.3
	4.2nm,0.5s						
TKM2				⇑S	**Sn**	**18 41 27.7**	**+2.5**
	4.1nm,0.9s						
MKAR	**Makanchi Array**	**13.55**	**37**	P	**Pn**	**18 41 22.7**	**-0.1**
	0.1nm,0.3s,baz=228,slow=12,SNR=5.8 0.2nm,0.5s						
AB31	**Akbulak array**	**14.97**	**332**	⇑P	**Pn**	**18 41 40.6**	**-1.0**
	0.5nm,0.3s,baz=155,slow=12,SNR=49						
KURBB	**Kurchatov Arra**	**15.29**	**20**	P	**Pn**	**18 41 45.1**	**-0.7**
	baz=206,slow=11,SNR=5.3 0.6nm,0.7s						
BVAR	**Borovoye Array**	**16.58**	**360**	P	**Pn**	**18 42 01.3**	**-0.9**
	baz=164,slow=11,SNR=2.2 0.2nm,0.4s						
AKTO	**Aktyubinsk**	**16.66**	**331**	P	**Pn**	**18 42 04.0**	**+0.8**
	0.4nm,0.3s,baz=143,slow=10,SNR=10 3.5nm,0.9s						
AKTO	**Aktyubinsk**	**16.66**	**331**	⇓P	**P**	**18 42 05.0**	**+0.1**
	2.8nm,0.8s						
ZALV	**Zalesovo Beam**	**20.12**	**25**	P	**P**	**18 42 40.9**	**-1.9**
	0.6nm,0.3s,baz=219,slow=10,SNR=12 2.2nm,0.4s						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**18 45 51.8**	**+0.2**
	1.6nm,0.8s,baz=110,slow=8.7,SNR=6.6 1.6nm,0.8s						

*NEIC **20** 18:59:17.9±1.0, 19°.33N±0°.08×64°.41W±0°.04, h35km±2km, ML2.9/24, Md3.6/6(RSPR), Error ellipse: s-maj=14.7km s-min=3.1km az=334.0*
*RSPR **20** 18:59:19.7, 19°.32N×64°.46W, h46km±15km, MD3.6/6*
ISC 20 18:59:18.1±2.3, 19°.3N±0°.2×64°.42W±0°.08, h35km, n34, σ0§77/34, 3C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**1.80**	**135**	Pn	**Pn**	**18 59 46.5**	**-0.2**
SMRT				IAML		19 00 16.0	
	comp=N,127nm,0.2s						
GCPR	**Guaynabo City**	**1.88**	**238**		**Sn**	**19 00 09.9**	**-0.2**
GCPR	**Guaynabo City**	**1.88**	**238**		**Pn**	**18 59 47.0**	**-0.7**
GCPR	**Guaynabo City**	**1.88**	**238**	⇓*e*P	**Pn**	**18 59 47.5**	**-0.2**
GCPR	**Guaynabo City**	**1.88**	**238**	*e*S	**Sn**	**19 00 09.9**	**-0.2**
PDPR	**Patillas Dam,**	**2.00**	**230**		**Pn**	**18 59 49.0**	**-0.5**
PDPR	**Patillas Dam,**	**2.00**	**230**	⇑*e*P	**Pn**	**18 59 50.0**	**+0.5**
PDPR	**Patillas Dam,**	**2.00**	**230**	*e*S	**Sn**	**19 00 13.3**	**0.0**
SJG	**San Juan**	**2.04**	**234**	Pn	**Pn**	**18 59 49.6**	**-0.3**
SJG				IAML		19 00 06.8	
	comp=N,47nm,0.3s						
IGPR	**InterUniversit**	**2.10**	**230**		**Sn**	**19 00 17.4**	**+1.8**
IGPR	**InterUniversit**	**2.10**	**230**		**Pn**	**18 59 49.6**	**-1.2**
IGPR				IAML		19 00 22.8	
	comp=E,97nm,0.3s						
IGPR				IAML		19 00 30.3	
	comp=N,77nm,0.3s						
IGPR	**InterUniversit**	**2.10**	**230**	⇑*e*P	**Pn**	**18 59 51.1**	**+0.3**
IGPR	**InterUniversit**	**2.10**	**230**	*e*S	**Sn**	**19 00 17.4**	**+1.8**
EMPR	**Esperanza - Ma**	**2.17**	**247**		**Pn**	**18 59 51.5**	**-0.3**
EMPR				IAML		19 00 32.5	
	comp=E,128nm,1.2s						
EMPR	**Esperanza - Ma**	**2.17**	**247**	⇓*e*P	**Pn**	**18 59 52.4**	**+0.6**
CELP	**Cerrillos**	**2.40**	**239**		**Sn**	**19 00 22.8**	**-0.3**
CELP	**Cerrillos**	**2.40**	**239**		**Pn**	**18 59 54.8**	**-0.1**
CELP				IAML		19 00 27.5	
	comp=N,36nm,1.1s						
CELP	**Cerrillos**	**2.40**	**239**	⇓*e*P	**Pn**	**18 59 55.0**	**+0.1**
CELP	**Cerrillos**	**2.40**	**239**	*e*S	**Sn**	**19 00 22.8**	**-0.3**
AOPR	**Arecibo Observ**	**2.42**	**247**		**Sn**	**19 00 22.4**	**-1.3**
AOPR	**Arecibo Observ**	**2.42**	**247**		**Pn**	**18 59 54.8**	**-0.5**
AOPR				IAML		19 00 47.8	
	comp=N,62nm,0.9s						
AOPR				IAML		19 00 49.0	
	comp=E,96nm,0.4s						
AOPR	**Arecibo Observ**	**2.42**	**247**	⇑*e*P	**Pn**	**18 59 55.3**	**0.0**
AOPR	**Arecibo Observ**	**2.42**	**247**	*e*S	**Sn**	**19 00 22.4**	**-1.3**
UUPR	**Utuado, UPR, P**	**2.43**	**244**		**Pn**	**18 59 55.1**	**-0.2**
OBIP	**Obispado Ponce**	**2.44**	**239**	Pn	**Pn**	**18 59 53.8**	**-1.7**
OBIP				IAML		19 00 27.8	
	comp=N,39nm,1.9s						
OBIP				IAML		19 00 29.7	
	comp=E,35nm,0.5s						
AGPR	**Aguadilla, PR**	**2.69**	**252**	Pn	**Pn**	**18 59 58.6**	**-0.3**
MLPR	**Magueyes Islan**	**2.83**	**242**	⇓*e*P	**Pn**	**19 00 01.5**	**+0.6**
MLPR	**Magueyes Islan**	**2.83**	**242**	*e*S	**Sn**	**19 00 34.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.87**	**243**		**Sn**	**19 00 34.9**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.87**	**243**		**Pn**	**19 00 00.4**	**-1.0**
CRPR				IAML		19 00 53.2	
	comp=E,43nm,2.4s						
CRPR				IAML		19 01 35.2	
	comp=N,45nm,2.1s						
CRPR	**Cabo Rojo, PR**	**2.87**	**243**	⇓*e*P	**Pn**	**19 00 01.9**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.87**	**243**	*e*S	**Sn**	**19 00 34.9**	**+0.2**
DR12	**Loma Pena Alta**	**4.72**	**264**		**Pn**	**19 00 27.5**	**+0.5**
SDDR	**Presa de Saban**	**6.50**	**268**	Pn	**Pn**	**19 00 51.8**	**+0.4**

AUST 20 19:08:33.3±1.1, 38°S±12°×14°0E±°, h10km, mb4.0/1, ML2.6/3, Error ellipse: s-maj=27.3km s-min=8.5km az=23.2, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPS	**Mount Arapiles**	**1.89**	**46**	P	Pn	19 09 05.0	-0.5
ARPS	**Mount Arapiles**	**1.89**	**46**	S	Sn	19 09 26.7	-2.7
AUMBR	**Murray Bridge**	**3.03**	**347**	P	Pn	19 09 21.1	-0.2
KELC	**Kelly Hill Cav**	**3.34**	**308**	P	Pn	19 09 25.4	-0.2
SDAN	**Sedan**	**3.64**	**349**	P	Pn	19 09 29.7	+0.1
GVL	**Greenvale**	**3.79**	**84**	P	Pn	19 09 31.7	-0.1
TOO	**Toolangi**	**4.26**	**85**	P	Pn	19 09 38.5	+0.2
HTT	**Hallett**	**4.76**	**348**	P	Pn	19 09 45.7	+0.6
BBOO	**Buckleboo**	**6.24**	**326**	P	Pn	19 10 05.2	-0.2
	comp=Z,25nm,1.7s,comp=Z,0.1nm						
YAPP	**Yappala Statio**	**6.39**	**346**	P	Pn	19 10 10.4	+2.9

*MOS **20** 19:09:43.4±1.0, 29°.90N×130°.39E, h51km, mb4.5/25, Error ellipse: s-maj=9.3km s-min=5.1km az=93.6*
*NIED **20** 19:09:45.7, 29°.99N×130°.42E, h48km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}1.79; $M_{\theta\theta}$-1.64; $M_{\phi\phi}$-0.15; $M_{r\theta}$2.21; $M_{\theta\phi}$-1.63; $M_{\phi r}$-0.04; Fault plane solution: $M_0$3.23000×10^15^ NP1: ϕ_s208.00000°, δ33.00000°, λ40.00000°. NP2: ϕ_s83.00000°, δ70.00000°, λ116.00000°.*
*JMA **20** 19:09:45.7±0.1, 30°.0N±0°.4×130°.4E±0°.5, h48km, MD4.2/33, MV4.2/33, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt I J1 at NEAR AMAMI-OSHIMA ISLAND.
*NEIC **20** 19:09:46.3±1.9, 29°.90N±0°.06×130°.43E±0°.09, h61km±7km, mb4.6/56, Error ellipse: s-maj=11.8km s-min=8.4km az=102.0*
*IDC **20** 19:09:46.6±1.1, 29°.96N×130°.37E, h66km±9km, mb3.7/24, mbtmp4.1/33, MS3.3/32, Error ellipse: s-maj=13.9km s-min=7.8km az=110.0*
*BJI **20** 19:09:46.6, 29°.83N×130°.38E, h73km, mB4.5/9, mb4.2/37, Ms3.6/7, Ms7 3.5/7*
ISC 20 19:09:45.9±0.5, 29°.92N±0°.03×130°.48E±0°.04, h60km±4km, n464, σ1§11/466, mb4.3/74, 14C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**0.32**	**5**	*i* P	**Pn**	**19 09 54.1**	**-2.1**
JYAK				*e*S	**Sn**	**19 10 00.1**	**-3.6**
JYAK	**Yakushimahirau**	**0.32**	**5**	A	A	19 09 54.1	
	comp=N,45nm,0.7s,comp=E,27nm,0.6s						
JNN	**Nakanoshima**	**0.53**	**262**	*i* P	**Pn**	**19 09 56.7**	**-1.5**
JNN				S	**Sn**	**19 10 05.4**	**-1.8**
JNN	**Nakanoshima**	**0.53**	**262**	A	A	19 09 56.7	
	comp=N,82nm,0.8s,comp=E,64nm,1.0s						
JKC	**Kuchinoerabu**	**0.59**	**336**	*i* P	**Pn**	**19 09 57.1**	**-1.9**
JKC	**Kuchinoerabu**	**0.59**	**336**	A	A	19 09 57.1	
	comp=N,7.0nm,0.8s,comp=E,7.0nm,1.5s						
JMTN	**Minamitane**	**0.60**	**38**	*i* P	**Pn**	**19 09 58.1**	**-0.9**
JMTN				*e*S	**Sn**	**19 10 07.2**	**-1.5**
JMTN	**Minamitane**	**0.60**	**38**	A	A	19 09 58.1	
	comp=N,18nm,0.8s,comp=E,19nm,0.5s						
JTN	**Tanegashima 3**	**0.85**	**31**	*i* P	**Pn**	**19 10 01.2**	**-0.9**
JTN	**Tanegashima 3**	**0.85**	**31**	A	A	19 10 01.2	
	comp=N,23nm,1.7s,comp=E,10.0nm,1.3s						
JTSR	**Tashiro 2**	**1.30**	**17**	*i* P	**Pn**	**19 10 07.1**	**-0.9**
JTSR				*e*S	**Sn**	**19 10 22.6**	**-1.9**
JTSR	**Tashiro 2**	**1.30**	**17**	A	A	19 10 07.1	
	comp=N,24nm,0.5s,comp=E,14nm,0.4s						
JTAJ	**Takarajima**	**1.35**	**236**	P	**Pn**	**19 10 08.1**	**-0.4**
JTAJ				*e*S	**Sn**	**19 10 25.3**	**-0.2**
JSU	**Suzuyama**	**1.58**	**359**	*i* P	**Pn**	**19 10 10.7**	**-1.1**
JSU	**Suzuyama**	**1.58**	**359**	A	A	19 10 10.7	
	comp=N,4.0nm,0.2s,comp=E,6.0nm,0.2s						
JZK	**Kikaishima**	**1.66**	**196**	P	**Pn**	**19 10 14.4**	**+1.6**
JAM	**Amami Oshima**	**1.69**	**207**	*e*P	**Pn**	**19 10 12.9**	**-0.2**
JNAR	**Kushima--Naru**	**1.74**	**23**	A	A	19 10 13.7	
	comp=N,5.0nm,0.8s,comp=E,6.0nm,1.4s						
JNKG	**Nichinankitago**	**1.90**	**24**	A	A	19 10 15.9	
	comp=N,5.0nm,1.4s,comp=E,5.0nm,2.6s						
JAMN	**Amaminishikomi**	**2.02**	**215**	P	**Pn**	**19 10 17.4**	**-0.3**
JTZ	**Takazaki**	**2.04**	**15**	A	A	19 10 17.9	
	comp=N,3.0nm,2.8s,comp=E,3.0nm,1.0s						
JTK	**Tokunoshima**	**2.51**	**213**	P	**Pn**	**19 10 24.5**	**+0.1**
JOKE	**Okinoerabujima**	**3.05**	**214**	P	**Pn**	**19 10 32.8**	**+1.0**
JOKE				*e*S	**Sn**	**19 11 08.6**	**+1.5**
JNU	**Nakatsue**	**3.21**	**6**		**Pn**	**19 10 34.6**	**+0.6**
JNU				Sn	**Sn**	**19 11 13.3**	**+2.3**
JNU	**Nakatsue**	**3.21**	**6**	P	**Pn**	**19 10 34.5**	**+0.6**
	comp=E,159nm,0.4s,baz=172,slow=7.0,SNR=414						
JNU				S	**Sn**	**19 11 12.1**	**+1.1**
	comp=E,252nm,0.7s,baz=232,slow=23,SNR=7.7						
JNU	**Nakatsue**	**3.21**	**6**	P	**Pn**	**19 10 34.8**	**+0.8**
JYRO	**Yoronjima**	**3.39**	**212**	P	**Pn**	**19 10 37.2**	**+0.8**
JYRO				*e*S	**Sn**	**19 11 15.2**	**-0.2**
JOW	**Kunigami**	**3.64**	**213**		**Pn**	**19 10 40.0**	**+0.3**
JOW	**Kunigami**	**3.64**	**213**	P	**Pn**	**19 10 40.3**	**+0.5**
	comp=E,28nm,0.4s,baz=21,slow=8.6,SNR=12						
JOW				S	**Sn**	**19 11 22.0**	**+0.6**
	comp=E,42nm,0.3s,baz=217,slow=27,SNR=6.5						
JOW	**Kunigami**	**3.64**	**213**	P	**Pn**	**19 10 40.3**	**+0.5**
JOW	**Kunigami**	**3.64**	**213**	*e*S	**Sn**	**19 11 23.3**	**+1.8**
JKDJ	**Kitadaitoujima**	**4.02**	**169**	P	**Pn**	**19 10 44.7**	**-0.3**
JKDJ				*e*S	**Sn**	**19 11 28.1**	**-2.7**
JMZ	**Minamidaito 2**	**4.14**	**171**	Pn	**Pn**	**19 10 46.4**	**-0.2**
JMZ	**Minamidaito 2**	**4.14**	**171**	P	**Pn**	**19 10 46.7**	**+0.1**
JMZ	**Minamidaito 2**	**4.14**	**171**	P	**Pn**	**19 10 46.2**	**-0.4**
JMZ				*e*S	**Sn**	**19 11 30.1**	**-3.6**
JTU	**Tsushima**	**4.68**	**349**	P	**Pn**	**19 10 54.2**	**+0.2**
JMN	**Monobe**	**4.78**	**36**		**Pn**	**19 10 55.7**	**+0.4**
JMN	**Monobe**	**4.78**	**36**	P	**Pn**	**19 10 55.8**	**+0.4**
TJN	**Taejon**	**6.95**	**339**		**Pn**	**19 11 25.0**	**0.0**
TJN	**Taejon**	**6.95**	**339**	P	**Pn**	**19 11 26.3**	**+1.3**
TJN	**Taejon**	**6.95**	**339**	*i* P	**Pn**	**19 11 26.9**	**+1.9**
INU	**Inuyama**	**7.73**	**44**		**Pn**	**19 11 36.9**	**+1.2**
INU	**Inuyama**	**7.73**	**44**	P	**Pn**	**19 11 37.4**	**+1.7**
KSAR	**Wonju Array Be**	**7.81**	**345**		**Pn**	**19 11 37.9**	**+1.1**
KSAR	**Wonju Array Be**	**7.81**	**345**	P	**Pn**	**19 11 37.9**	**+1.1**
KSRS	**Korea Array**	**7.81**	**345**	P	**Pn**	**19 11 37.4**	**+0.6**
	comp=E,3.2nm,0.5s,baz=171,slow=14,SNR=25						
KSRS				LR	LR	19 14 44.9	
	comp=E,204nm,20.4s,baz=150,slow=38						
KS19	**Wonju Array Si**	**7.87**	**345**		**Pn**	**19 11 36.9**	**-0.8**
JSG	**Sagara**	**8.06**	**52**	Pn	**Pn**	**19 11 41.1**	**+0.8**
JSG	**Sagara**	**8.06**	**52**	P	**Pn**	**19 11 42.0**	**+1.6**
JGF	**Kuroka**	**8.10**	**44**		**Pn**	**19 11 41.6**	**+0.7**
JGF	**Kuroka**	**8.10**	**44**	P	**Pn**	**19 11 41.9**	**+1.0**
INCN	**Inchon**	**8.19**	**338**	Pn	**Pn**	**19 11 43.5**	**+1.4**
INCN	**Inchon**	**8.19**	**338**	P	**Pn**	**19 11 43.5**	**+1.4**
JHJ	**Hachijo jima 2**	**8.56**	**66**	P	**Pn**	**19 11 48.8**	**+1.6**
	comp=E,43nm,0.3s,baz=100,slow=21,SNR=5.1						
JHJ				LR	LR	19 15 00.5	
	comp=E,100nm,21.0s,baz=274,slow=36						
JHJ2	**Mitsune**	**8.59**	**66**	Pn	**Pn**	**19 11 47.5**	**0.0**
JHJ2	**Mitsune**	**8.59**	**66**	P	**Pn**	**19 11 49.3**	**+1.8**
YOJ	**Yonaguni jima**	**8.59**	**232**	P	**Pn**	**19 11 48.2**	**+0.7**
YOJ				pmax	pmax		
	comp=Z,44nm,1.3s						
MAJO	**Matsushiro**	**9.25**	**42**		**Pn**	**19 11 57.1**	**+0.6**
MAJO	**Matsushiro**	**9.25**	**42**	P	**Pn**	**19 11 58.0**	**+1.5**
MAJO	**Matsushiro**	**9.25**	**42**	*i* P	**Pn**	**19 11 57.5**	**+1.0**
MJAR	**Matsushiro Arr**	**9.25**	**42**	P	**Pn**	**19 11 57.3**	**+0.8**
	comp=Z,2.2nm,0.5s,baz=237,slow=15,SNR=21						
MJB9	**Matsu-Tunnel**	**9.25**	**42**		**Pn**	**19 11 58.2**	**+1.6**
NACB	**Ninganchiao**	**9.77**	**236**	Pn	**Pn**	**19 12 02.5**	**-1.2**
NJ2	**Nanjing**	**10.20**	**285**	*e*P	**Pn**	**19 12 09.4**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
JCJ	**Chichijima**	**10.68**	**102**	P	**Pn**	**19 12 16.9**	**+0.8**
	comp=Z,38nm,0.7s,baz=281,slow=20,SNR=6.9						
JCJ				LR	LR	19 16 06.3	
	comp=Z,52nm,20.4s,baz=298,slow=35						
JCJ	**Chichijima**	**10.68**	**102**	P	**Pn**	**19 12 18.8**	**+2.7**
JTM	**Tenmabayashi**	**13.85**	**36**	Pn	**Pn**	**19 13 00.2**	**+1.0**
USA0B	**Ussuriysk Arra**	**14.30**	**4**	*i* P	**Pn**	**19 13 06.0**	**+0.8**
USRK	**Ussuriysk Ar.**	**14.30**	**4**	P	**Pn**	**19 13 04.2**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=187,slow=8.7,SNR=8.1						
USRK				LR	LR	19 18 55.9	
	comp=Z,59nm,18.8s,baz=140,slow=38						
HNS	**HongShan**	**15.09**	**304**	⇑P	**P**	**19 13 18.8**	**-0.6**
HNS				pmax	pmax		
	comp=Z,16nm,0.7s						
BJT	**Baijiatuau**	**15.44**	**315**	Pn	**Pn**	**19 13 19.5**	**-0.5**
BJT	**Baijiatuau**	**15.44**	**315**	P	**Pn**	**19 13 19.5**	**-0.5**
BJT				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ERM	**Erimo**	**15.82**	**37**	*ce*P	**Pn**	**19 13 26.5**	**+1.7**
ERM				pmax	pmax		
	comp=Z,36nm,1.7s						
BNX	**BinXian**	**15.98**	**352**	⇑P	**P**	**19 13 31.0**	**+1.8**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.5s						
ASAJ	**Asahikawa**	**17.13**	**31**	P	**Pn**	**19 13 40.1**	**-1.0**
	comp=Z,4.3nm,0.5s,baz=232,slow=10,SNR=10						
ASAJ				LR	LR	19 20 18.9	
	comp=Z,73nm,21.3s,baz=194,slow=37						
JKA	**Kamikawa-asahi**	**17.13**	**31**		**Pn**	**19 13 39.7**	**-1.4**
TGY	**Tagaytay City**	**18.04**	**211**	LR	LR	19 20 53.1	
	comp=Z,19nm,21.3s,baz=137,slow=37		

MA2	**Magadan**	**32.69**	**19**	*ce*P	**P**	**19 16 13.9 +1.7**
MA2				pmax	pmax	
comp=Z,3.0nm,0.7s						
SEY	**Seymchan**	**35.93**	**17**	LR	LR	19 30 58.5
comp=Z,53nm,21.7s,baz=202,slow=35						
SEY	**Seymchan**	**35.93**	**17**	*ce*P	**P**	**19 16 41.7 +1.6**
SEY				pmax	pmax	
comp=Z,3.0nm,1.0s						
KAPI	**Kappang**	**36.23**	**198**	LR	LR	19 32 07.6
comp=Z,40nm,20.8s,baz=224,slow=37						
WMQ	**Urumqi**	**36.52**	**304**	*e*P	**P**	**19 16 47.6 +2.0**
SHEM	**Shemya Is, Ala**	**39.09**	**42**	LR	LR	19 35 25.8
comp=Z,10nm,19.8s,baz=266,slow=39						
ZALV	**Zalesovo Beam**	**40.63**	**320**	P	**P**	**19 17 19.0 -0.8**
ZALV				PcP	**PcP**	**19 19 20.1 -0.5**
ZALV	**Zalesovo Beam**	**40.63**	**320**	P	**P**	**19 17 19.9 +0.1**
comp=Z,0.5nm,0.3s,baz=101,slow=7.7,SNR=3.7						
ZALV				PcP	**PcP**	**19 19 20.2 -0.4**
comp=Z,1.4nm,0.7s,baz=116,slow=3.4,SNR=7.2						
comp=Z,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**40.63**	**320**	*i* P	**P**	**19 17 20.2 +0.4**
ZALV				pmax	pmax	
comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**40.69**	**308**	P	**P**	**19 17 20.2 -0.2**
MK31				PcP	**PcP**	**19 19 21.1 0.0**
MK31	**Makanchi Array**	**40.69**	**308**	*ce*P	**P**	**19 17 21.3 +0.9**
MKAR	**Makanchi Array**	**40.69**	**308**		**P**	**19 17 20.0 -0.4**
MKAR				PcP	**PcP**	**19 19 21.1 0.0**
MKAR	**Makanchi Array**	**40.69**	**308**	P	**P**	**19 17 20.4 0.0**
comp=Z,1.9nm,0.6s,baz=95,slow=10,SNR=27						
MKAR				PcP	**PcP**	**19 19 20.7 -0.3**
comp=Z,1.1nm,0.6s,baz=66,slow=3.0,SNR=8.1						
comp=Z,1.9nm,0.6s						
MKAR	**Makanchi Array**	**40.69**	**308**	*i* P	**P**	**19 17 21.2 +0.8**
MKAR				pmax	pmax	
comp=Z,2.0nm,0.6s						
MAKZ	**Makanchi**	**40.90**	**308**	P	**P**	**19 17 21.8 -0.4**
MAKZ	**Makanchi**	**40.90**	**308**	P	**P**	**19 17 21.8 -0.4**
MAKZ				pmax	pmax	
comp=Z,2.0nm,0.6s						
TIXI	**Tiksi**	**41.79**	**359**		**P**	**19 17 27.9 -1.1**
TIXI	**Tiksi**	**41.79**	**359**	LR	LR	19 35 53.1
comp=Z,36nm,19.2s,baz=196,slow=38						
TIXI	**Tiksi**	**41.79**	**359**	*ce*P	**P**	**19 17 28.4 -0.6**
TIXI				pmax	pmax	
comp=Z,7.0nm,1.7s						
PMG	**Port Moresby**	**42.27**	**155**	LR	LR	19 32 22.6
comp=Z,46nm,20.8s,baz=76,slow=32						
MTN	**Manton Dam**	**42.52**	**179**	P	**P**	**19 17 35.6 0.0**
MTN				IAmb	IAmb	19 17 39.5
comp=Z,24nm,1.5s						
BILL	**Bilibino**	**43.56**	**19**	P	**P**	**19 17 43.5 0.0**
BILL	**Bilibino**	**43.56**	**19**	*ce*P	**P**	**19 17 44.8 +1.4**
BILL				pmax	pmax	
comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**43.62**	**314**	P	**P**	**19 17 43.6 -0.6**
KURK	**Kurchatov**	**43.62**	**314**	*ce*P	**P**	**19 17 45.1 +1.0**
KURK				pmax	pmax	
comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**43.66**	**313**	P	**P**	**19 17 44.5 0.0**
comp=Z,1.7nm,0.5s,baz=96,slow=8.7,SNR=24						
KURBB				PcP	**PcP**	**19 19 30.0 -0.8**
comp=Z,0.9nm,0.7s,baz=100,slow=3.4,SNR=6.2						
KURBB				LR	LR	19 36 59.6
comp=Z,73nm,20.7s,baz=185,slow=38						
comp=Z,1.7nm,0.5s						
KNRA	**Kununurra**	**45.36**	**182**	P	**P**	**19 17 59.4 +1.1**
NRIK	**Noril'sk**	**46.40**	**341**	LR	LR	19 39 02.5
comp=Z,37nm,19.8s,baz=146,slow=38						
NRIK	**Noril'sk**	**46.40**	**341**	*ce*P	**P**	**19 18 04.4 -1.6**
NRIK				pmax	pmax	
comp=Z,6.0nm,1.5s						
FITZ	**Fitzroy Crossi**	**47.97**	**186**	P	**P**	**19 18 18.2 -0.5**
SPIA	**Saint Paul Isl**	**48.87**	**38**	P	**P**	**19 18 26.4 +1.2**
baz=262						
BVAR	**Borovoye Array**	**48.93**	**316**	P	**P**	**19 18 25.1 -0.8**
comp=Z,3.2nm,0.6s,baz=95,slow=9.3,SNR=24						
BVAR				PcP	**PcP**	**19 19 49.0 -0.3**
comp=Z,2.0nm,0.6s,baz=114,slow=3.4,SNR=6.5						
comp=Z,3.2nm,0.6s						
KK31	**Karatay Array**	**48.99**	**303**		**P**	**19 18 25.6 -0.9**
KK31				IAmb	IAmb	19 18 28.6
comp=Z,3.9nm,1.0s						
KK31	**Karatay Array**	**48.99**	**303**	P	**P**	**19 18 25.6 -0.9**
KK31				pmax	pmax	
comp=Z,4.0nm,1.0s						
KKAR	**Karatay Array**	**48.99**	**303**		**P**	**19 18 25.9 -0.6**
KKAR	**Karatay Array**	**48.99**	**303**	P	**P**	**19 18 25.9 -0.6**
BRVK	**Borovoye**	**48.99**	**316**		**P**	**19 18 26.2 -0.1**
BRVK				IAmb	IAmb	19 18 27.5
comp=Z,4.1nm,0.6s						
BRVK	**Borovoye**	**48.99**	**316**	*ce*P	**P**	**19 18 27.3 +1.0**
BRVK				pmax	pmax	
comp=Z,3.0nm,0.7s						
P08K	**Saint George I**	**49.18**	**39**	P	**P**	**19 18 28.7 +1.1**
baz=263						
NIKH	**Nikolski High**	**49.28**	**44**	P	**P**	**19 18 28.7 +0.3**
baz=267						
GAMB	**Gambell**	**49.46**	**30**	P	**P**	**19 18 29.9 +0.2**
baz=255						
WRA	**Warramunga Arr**	**49.71**	**175**	P	**P**	**19 18 32.5 +0.4**
comp=Z,0.7nm,0.7s,baz=353,slow=7.6,SNR=3.6						
comp=Z,0.7nm,0.7s						
M11K	**Mekoryuk**	**51.37**	**35**	P	**P**	**19 18 44.0 -0.1**
baz=263						
TNA	**Tin City**	**51.46**	**28**		**P**	**19 18 43.9 -0.8**
TNA				IAmb	IAmb	19 18 47.4
comp=Z,8.2nm,1.0s						
TNA	**Tin City**	**51.46**	**28**	P	**P**	**19 18 45.5 +0.8**
baz=258						
F14K	**Arctic Creek**	**52.09**	**28**	P	**P**	**19 18 50.5 +1.1**
baz=259,SNR=6.8						
K13K	**Kusilvak Mount**	**52.29**	**33**	P	**P**	**19 18 51.3 +0.4**
baz=264						
ANM	**Nome**	**52.33**	**29**	P	**P**	**19 18 52.4 +1.1**
ANM				IAmb	IAmb	19 18 56.5
comp=Z,11nm,1.3s						
ANM	**Nome**	**52.33**	**29**	P	**P**	**19 18 52.4 +1.1**
ANM				pmax	pmax	
comp=Z,11nm,1.3s						
ANM	**Nome**	**52.33**	**29**	P	**P**	**19 18 52.2 +0.9**
baz=261						
M13K	**Dall Lake**	**52.78**	**35**	P	**P**	**19 18 55.3 +0.7**
baz=266						
F15K	**North Star Dit**	**52.82**	**28**	P	**P**	**19 18 56.1 +1.3**
F15K				IAmb	IAmb	19 18 57.6
comp=Z,12nm,1.3s						
F15K	**North Star Dit**	**52.82**	**28**	P	**P**	**19 18 56.0 +1.1**
baz=261						
J14K	**Nanvaranak Lak**	**52.89**	**32**	P	**P**	**19 18 56.0 +0.6**
baz=264						
G15K	**Niukluk**	**52.96**	**29**	P	**P**	**19 18 56.5 +0.6**
baz=262						
C16K	**Lisburne Hills**	**53.03**	**25**	P	**P**	**19 18 56.9 +0.6**
C16K				IAmb	IAmb	19 18 58.1
comp=Z,4.4nm,0.9s						
C16K	**Lisburne Hills**	**53.03**	**25**	P	**P**	**19 18 57.6 +1.2**
baz=258,SNR=6.4						
L14K	**Kuka Creek**	**53.17**	**34**	P	**P**	**19 18 58.0 +0.6**
baz=266						
S12K	**Black Hills**	**53.31**	**41**	P	**P**	**19 18 58.7 +0.1**
baz=270						
ASAR	**Alice Springs**	**53.38**	**176**	P	**P**	**19 18 59.7 +0.2**
comp=Z,0.2nm,0.6s,baz=351,slow=7.7,SNR=6.2						
comp=Z,0.2nm,0.6s						
M14K	**Bethel**	**53.49**	**34**	P	**P**	**19 18 59.9 +0.1**
baz=267						
N14K	**Kuskokwak Cree**	**53.58**	**35**	P	**P**	**19 19 00.9 +0.4**
baz=268						
H16K	**Elim**	**53.68**	**30**	P	**P**	**19 19 00.9 -0.2**
baz=264						
G16K	**Koyuk River**	**53.72**	**29**	P	**P**	**19 19 01.9 +0.5**
baz=263						
D17K	**Noatak River**	**53.76**	**26**	P	**P**	**19 19 02.8 +1.1**
baz=261,SNR=5.3						
L15K	**Ungalak Mounta**	**53.77**	**33**	P	**P**	**19 19 02.0 +0.2**
baz=267						
O14K	**Tigyukauivet M**	**53.77**	**36**	P	**P**	**19 19 03.2 +1.3**
baz=269						
K15K	**Wolf Creek Mou**	**53.79**	**32**	P	**P**	**19 19 02.6 +0.6**
baz=266						
M15K	**Kasigluk River**	**54.11**	**34**	P	**P**	**19 19 05.1 +0.8**
baz=268						
E17K	**Hotham Inlet**	**54.15**	**27**	P	**P**	**19 19 05.5 +0.9**
baz=262						
SDPT	**Sand Point**	**54.22**	**41**	P	**P**	**19 19 05.4 +0.1**
baz=272						
J16K	**Anvik River**	**54.28**	**31**	P	**P**	**19 19 06.4 +0.9**
baz=266						
I17K	**Unalakleet**	**54.28**	**31**	P	**P**	**19 19 06.2 +0.7**
baz=266						
F17K	**Baldwin Pennin**	**54.30**	**27**	P	**P**	**19 19 07.1 +1.5**
F17K				IAmb	IAmb	19 19 08.3
comp=Z,6.1nm,0.8s						
F17K	**Baldwin Pennin**	**54.30**	**27**	P	**P**	**19 19 07.0 +1.4**
baz=263						
N15K	**Kwethluk River**	**54.39**	**35**	P	**P**	**19 19 07.4 +0.9**
baz=269						
G17K	**Kiwalik Mounta**	**54.44**	**29**	P	**P**	**19 19 07.0 +0.3**
baz=265						
B18K	**Kokolik River**	**54.50**	**24**	P	**P**	**19 19 07.4 +0.4**
baz=261,SNR=7.3						
O15K	**Ungalikthiuk R**	**54.51**	**36**	P	**P**	**19 19 08.0 +0.7**
baz=270						
C18K	**Utukok River**	**54.61**	**25**		**P**	**19 19 08.6 +0.6**
C18K				IAmb	IAmb	19 19 09.7
comp=Z,4.1nm,0.8s						
C18K	**Utukok River**	**54.61**	**25**	P	**P**	**19 19 08.4 +0.5**
baz=262,SNR=5.8						
E18K	**Tukpahlearik C**	**54.67**	**26**	P	**P**	**19 19 09.1 +0.8**
baz=263						
H17K	**Granite Mounta**	**54.70**	**29**	P	**P**	**19 19 09.5 +0.9**
baz=266						
S14K	**Fog Glacier**	**54.71**	**40**	P	**P**	**19 19 09.1 +0.2**
baz=272						
L16K	**Owhat River**	**54.73**	**33**	P	**P**	**19 19 09.1 +0.3**
baz=268						
CHNA	**Chernabura Isl**	**54.75**	**42**	P	**P**	**19 19 08.5 -0.6**
baz=273						
A19K	**Wainwright**	**54.89**	**23**	P	**P**	**19 19 09.9 +0.1**
baz=261						
F18K	**Selawik**	**54.95**	**27**	P	**P**	**19 19 10.1 -0.2**
baz=265						
M16K	**Timber Creek**	**54.96**	**34**	P	**P**	**19 19 10.7 +0.1**
baz=269						
J17K	**VABM Dome**	**54.97**	**31**	P	**P**	**19 19 10.0 -0.6**
baz=268						
N16K	**Nishlik Lake**	**55.05**	**35**	P	**P**	**19 19 10.9 -0.3**
baz=270						
L17K	**Donlin**	**55.30**	**33**	P	**P**	**19 19 13.1 +0.1**
baz=269						
G18K	**Tagagawik**	**55.30**	**28**	P	**P**	**19 19 12.8 -0.1**
baz=266						
K17K	**Iditarod**	**55.30**	**32**	P	**P**	**19 19 13.1 +0.2**
baz=269						
H18K	**Honhosa River**	**55.37**	**29**	P	**P**	**19 19 13.3 -0.1**
baz=267						
O16K	**Kokwok River B**	**55.40**	**36**	P	**P**	**19 19 13.5 -0.2**
baz=271						
P16K	**Nushagak River**	**55.46**	**37**	P	**P**	**19 19 14.4 +0.3**
baz=272						
AB31	**Akbulak array**	**55.63**	**312**		**P**	**19 19 15.8 +0.2**
AB31				IAmb	IAmb	19 19 16.6
comp=Z,3.9nm,1.3s						
ABKAR	**Akbulak array**	**55.63**	**312**		**P**	**19 19 16.0 +0.4**
ABKAR				IAmb	IAmb	19 19 16.6
comp=Z,3.9nm,1.3s						
ABKAR	**Akbulak array**	**55.63**	**312**	P	**P**	**19 19 15.9 +0.4**
M17K	**Holitna River**	**55.70**	**34**	P	**P**	**19 19 15.7 -0.2**
baz=270						
D19K	**Kuna River**	**55.71**	**25**	P	**P**	**19 19 16.0 +0.1**
baz=265						
F19K	**Shaleruckik Mo**	**55.71**	**27**	P	**P**	**19 19 16.2 +0.4**
baz=266						
N17K	**Nushagak Hills**	**55.83**	**35**	P	**P**	**19 19 16.6 -0.2**
baz=271						
ARTI	**Arti**	**55.88**	**320**	P	**P**	**19 19 16.6 -0.6**
ARTI	**Arti**	**55.88**	**320**	LR	LR	19 45 45.4
comp=Z,73nm,18.3s,baz=66,slow=39						
ARTI	**Arti**	**55.88**	**320**	*d i* P	**P**	**19 19 15.4 -1.8**
ARTI						19 20 11.3
ARTI				S	**S**	**19 26 55.8 -4.3**
ARTI				SS	**SS**	**19 30 39.0 -7.1**
ARTI				pmax	pmax	
comp=Z,2.0nm,0.6s						
O17K	**Koliganek Bris**	**55.90**	**36**	P	**P**	**19 19 16.7 -0.6**
baz=272						
G19K	**Purcell Mounta**	**55.95**	**28**	P	**P**	**19 19 17.9 +0.3**
baz=267						
E19K	**Redstone River**	**55.96**	**26**	P	**P**	**19 19 17.8 +0.2**
baz=266						
GCSA	**Galena City Sc**	**55.99**	**30**	P	**P**	**19 19 18.8 +1.0**
baz=269						
J18K	**Innoko River**	**56.04**	**31**	P	**P**	**19 19 19.5 +1.3**
baz=270						
L18K	**Granite Mounta**	**56.05**	**33**	P	**P**	**19 19 19.1 +0.7**
baz=270						
B20K	**Meade River**	**56.19**	**23**	P	**P**	**19 19 20.3 +1.1**
baz=265,SNR=6.2						
H19K	**Roundabout Mou**	**56.19**	**29**	P	**P**	**19 19 19.0 -0.2**
baz=268,SNR=8.5						
D20K	**Etivluk River**	**56.28**	**25**	P	**P**	**19 19 19.2 -0.7**
baz=266						
TTA	**Tatalina**	**56.36**	**32**	P	**P**	**19 19 21.7 +1.1**
TTA				IAmb	IAmb	19 19 23.1
comp=Z,6.1nm,1.2s						
TTA	**Tatalina**	**56.36**	**32**	P	**P**	**19 19 21.7 +1.1**
TTA				pmax	pmax	
comp=Z,6.0nm,1.2s						
TTA	**Tatalina**	**56.36**	**32**	P	**P**	**19 19 19.8 -0.9**
baz=271						
E20K	**Nigu River**	**56.41**	**25**	P	**P**	**19 19 21.6 +0.7**
baz=267						
N18K	**Kilae Creek**	**56.47**	**35**	P	**P**	**19 19 20.6 -0.8**
baz=272						
M18K	**Stony River**	**56.47**	**34**	P	**P**	**19 19 20.0 -1.3**
baz=272						
A21K	**Barrow**	**56.49**	**22**	P	**P**	**19 19 20.1 -1.2**
baz=264						
J19K	**Poorman**	**56.53**	**31**	P	**P**	**19 19 21.3 -0.4**
baz=270,SNR=7.9						
F20K	**Avaraart Lake**	**56.53**	**27**	P	**P**	**19 19 21.8 +0.2**
baz=268						
AKTO	**Aktyubinsk**	**56.71**	**313**	LR	LR	19 45 38.1
comp=Z,98nm,19.0s,baz=224,slow=38						
H20K	**Anotleneega Mo**	**56.84**	**29**	P	**P**	**19 19 24.1 +0.1**
baz=270						
O18K	**Koktuh Hills**	**56.85**	**35**	P	**P**	**19 19 23.9 -0.2**
baz=273						
P18K	**Big Mountain,**	**56.86**	**36**	P	**P**	**19 19 24.1 -0.1**
baz=274						
L19K	**White Mountain**	**56.91**	**33**	P	**P**	**19 19 24.2 -0.3**
baz=272						
CHIR	**Chirikof Islan**	**56.94**	**40**	P	**P**	**19 19 25.0 +0.3**
baz=276						
C21K	**Knifeblade Rid**	**56.96**	**24**	P	**P**	**19 19 25.6 +0.8**
baz=268						
A22K	**Sinclair Lake**	**57.00**	**22**	P	**P**	**19 19 26.1 +1.2**
baz=266,SNR=7.2						
I20K	**Naaghedeneel**	**57.02**	**30**	P	**P**	**19 19 24.7 -0.4**
baz=271						
Q18K	**Katmai Hardscr**	**57.03**	**37**	P	**P**	**19 19 24.8 -0.7**
baz=274						
B21K	**Ikpikpuk River**	**57.04**	**24**		**P**	**19 19 26.4 +1.1**
B21K				IAmb	IAmb	19 19 27.4
comp=Z,6.5nm,0.9s						
B21K	**Ikpikpuk River**	**57.04**	**24**	P	**P**	**19 19 25.5 +0.2**
baz=268,SNR=7.7						
M19K	**Big River Lodg**	**57.14**	**33**	P	**P**	**19 19 26.0 -0.1**
baz=273						
N19K	**Bonanza Creek**	**57.15**	**34**	P	**P**	**19 19 26.1 -0.2**
baz=273						
J20K	**Nowinta River**	**57.17**	**30**	P	**P**	**19 19 26.5 +0.3**
baz=271,SNR=11						
K20K	**Telida**	**57.23**	**31**		**P**	**19 19 28.6 +1.9**
K20K	**Telida**	**57.23**	**31**	P	**P**	**19 19 27.2 +0.5**
baz=272,SNR=5.9						
E21K	**Killik River**	**57.23**	**25**	P	**P**	**19 19 27.3 +0.6**
baz=269						
L20K	**Farewell, AK**	**57.35**	**32**	P	**P**	**19 19 27.5 -0.1**
baz=273						
G21K	**Allakaket**	**57.40**	**27**	P	**P**	**19 19 27.1 -0.8**
baz=270						
F21K	**Alatna River**	**57.41**	**27**	P	**P**	**19 19 26.8 -1.1**
baz=270						
R18K	**Karluk**	**57.41**	**38**	P	**P**	**19 19 28.1 +0.1**
baz=275						
B22K	**Teshekpuk Lake**	**57.48**	**23**	P	**P**	**19 19 28.5 +0.2**
baz=268						
SII	**Sitkinak Islan**	**57.66**	**39**	P	**P**	**19 19 30.5 +0.6**
baz=276						
H21K	**Melozitna Rive**	**57.70**	**29**	P	**P**	**19 19 31.0 +1.0**
baz=272						
D22K	**Ayikyak River**	**57.71**	**25**	P	**P**	**19 19 30.9 +0.9**
baz=270,SNR=9.1						
Q19K	**Cape Douglas,**	**57.71**	**37**	P	**P**	**19 19 30.6 +0.4**
baz=275						
M20K	**Styx River**	**57.74**	**33**	P	**P**	**19 19 30.2 -0.2**
baz=274						
P19K	**Oil Pt**	**57.86**	**36**	P	**P**	**19 19 30.6 -0.6**
baz=275						
F22K	**John River**	**57.91**	**26**	P	**P**	**19 19 32.0 +0.6**
baz=271,SNR=15						
CHUM	**Lake Minchumin**	**57.99**	**31**	P	**P**	**19 19 32.9 +0.9**
baz=273,SNR=7.4						
E22K	**Anaktuvuk Pass**	**58.04**	**26**	P	**P**	**19 19 33.2 +0.8**
baz=271,SNR=7.4						
I21K	**Tanana**	**58.07**	**29**	P	**P**	**19 19 32.6 +0.1**
baz=273,SNR=5.1						
OHAK	**Old Harbor**	**58.08**	**38**	P	**P**	**19 19 33.2 +0.5**
baz=277						
PPLA	**Purkeypile**	**58.11**	**32**	P	**P**	**19 19 34.6 +1.6**
PPLA	**Purkeypile**	**58.11**	**32**	P	**P**	**19 19 33.2 +0.2**
baz=274						
CAST	**Castle Rocks**	**58.12**	**31**		**P**	**19 19 34.4 +1.4**
CAST				IAmb	IAmb	19 19 35.7
comp=Z,4.8nm,0.7s						
CAST	**Castle Rocks**	**58.12**	**31**	P	**P**	**19 19 33.8 +0.8**
baz=274,SNR=6.4						
G22K	**Bettles**	**58.19**	**27**	P	**P**	**19 19 33.9 +0.6**
baz=272						
SPCR	**Spurr Chakacha**	**58.23**	**34**	P	**P**	**19 19 34.4 +0.6**
baz=275						
H22K	**Ishtalitna Cre**	**58.28**	**28**	P	**P**	**19 19 34.1 +0.1**
baz=273,SNR=7.7						
STLK	**Strandline Lak**	**58.38**	**33**	P	**P**	**19 19 35.9 +1.0**
STLK				IAmb	IAmb	19 19 37.0
comp=Z,2.9nm,0.8s						
KDAK	**Kodiak Island**	**58.39**	**38**	P	**P**	**19 19 34.9 +0.1**
baz=277						
Q20K	**Shuyak Island**	**58.39**	**37**	P	**P**	**19 19 34.5 -0.4**
baz=276						
D23K	**Nanushuk River**	**58.44**	**25**	P	**P**	**19 19 36.1 +1.0**
baz=272						
C23K	**Itkillik River**	**58.44**	**24**	P	**P**	**19 19 35.1 0.0**
baz=271						
SKT	**Skwentna**	**58.48**	**33**	P	**P**	**19 19 36.1 +0.6**
SKT				IAmb	IAmb	19 19 37.8
comp=Z,6.0nm,1.0s						
SKT	**Skwentna**	**58.48**	**33**	P	**P**	**19 19 35.6 0.0**
baz=275						
BPAW	**Bear Paw Mtn.**	**58.56**	**30**	P	**P**	**19 19 35.8 -0.2**
baz=274						
HOM	**Homer**	**58.66**	**36**	P	**P**	**19 19 37.2 +0.5**
baz=276						
COLD	**Coldfoot**	**58.69**	**27**	P	**P**	**19 19 37.2 +0.3**
baz=273						
G23K	**Bananza Creek**	**58.78**	**27**	P	**P**	**19 19 38.2 +0.6**
baz=274						
TOLK	**Toolik Lake Re**	**58.85**	**25**	P	**P**	**19 19 39.6 +1.5**
baz=273						
E23K	**Chandalar**	**58.86**	**26**	P	**P**	**19 19 39.4 +1.2**
baz=273,SNR=7.3						
SUA	**Susitna One**	**58.91**	**33**	P	**P**	**19 19 39.3 +0.7**
SUA	**Susitna One**	**58.91**	**33**	P	**P**	**19 19 39.1 +0.5**
baz=276						
TRF	**Thorofare Moun**	**58.92**	**31**	P	**P**	**19 19 39.3 +0.6**
baz=275						
H23K	**Yukon River**	**59.04**	**28**	P	**P**	**19 19 40.3 +1.0**
baz=274,SNR=5.7						
D24K	**Happy Valley**	**59.10**	**24**	P	**P**	**19 19 39.8 +0.1**
baz=273						
BRSE	**Bradley Lake S**	**59.11**	**35**	P	**P**	**19 19 39.3 -0.6**
baz=277						
C24K	**Franklin Bluff**	**59.11**	**24**	P	**P**	**19 19 40.1 +0.5**
baz=273						
M22K	**Willow**	**59.17**	**33**	P	**P**	**19 19 40.8 +0.6**
baz=276						
I23K	**Minto, Yukon-K**	**59.17**	**29**	P	**P**	**19 19 40.8 +0.6**
baz=275						
E24K	**Your Creek**	**59.29**	**26**	P	**P**	**19 19 42.0 +0.9**
baz=274,SNR=7.5						
NEA2	**Nenana**	**59.35**	**30**	P	**P**	**19 19 42.7 +1.2**
NEA2	**Nenana**	**59.35**	**30**	P	**P**	**19 19 42.9 +1.4**
baz=276,SNR=7.8						
RC01	**Rabbit Creek A**	**59.43**	**34**	P	**P**	**19 19 42.9 +0.8**
baz=277						
MCK	**McKinley**	**59.50**	**31**		**P**	**19 19 43.0 +0.5**
MCK	**McKinley**	**59.50**	**31**	P	**P**	**19 19 43.0 +0.5**
MCK				pmax	pmax	
comp=Z,8.0nm,1.0s						
MCK	**McKinley**	**59.50**	**31**	P	**P**	**19 19 43.6 +1.1**
baz=276						
O22K	**Cooper Landing**	**59.52**	**34**	P	**P**	**19 19 43.3 +0.7**
baz=278						
F24K	**Squaw Lake**	**59.56**	**26**	P	**P**	**19 19 43.7 +0.8**
baz=275,SNR=5.5						
RND	**Reindeer**	**59.57**	**31**		**P**	**19 19 43.8 +0.7**
RND	**Reindeer**	**59.57**	**31**	P	**P**	**19 19 43.8 +0.7**
RND				pmax	pmax	
comp=Z,11nm,0.8s						
PMR	**Palmer**	**59.66**	**33**	P	**P**	**19 19 44.0 +0.4**
baz=277						
SEW	**Seward**	**59.70**	**35**	P	**P**	**19 19 44.0 +0.1**
baz=278						
H24K	**Noodor Dome**	**59.72**	**28**	P	**P**	**19 19 45.0 +0.9**
baz=276						
G24K	**Hadweenzic Riv**	**59.80**	**27**	P	**P**	**19 19 44.7 +0.2**
baz=276						
COLA	**College**	**59.84**	**29**	*i* P	**P**	**19 19 45.3 +0.5**
COLA				pmax	pmax	
comp=Z,16nm,2.1s						
COLA	**College**	**59.84**	**29**	P	**P**	**19 19 44.7 -0.1**
baz=277						
D25K	**Kavik River**	**59.95**	**24**	P	**P**	**19 19 45.9 +0.3**
baz=275,SNR=5.8						
POKR	**Poker Plat Res**	**59.99**	**29**	P	**P**	**19 19 46.0 +0.2**
baz=277						
KNK	**Knik Glacier**	**60.00**	**33**	P	**P**	**19 19 46.8 +0.8**
baz=278						
SML	**Sawmill**	**60.01**	**33**	P	**P**	**19 19 47.0 +0.9**
baz=278						
PWL	**Port Wells**	**60.14**	**34**	P	**P**	**19 19 46.8 -0.2**
baz=278						
ILAR	**Eielson Array**	**60.26**	**29**	P	**P**	**19 19 48.1 +0.4**
ILAR	**Eielson Array**	**60.26**	**29**	P	**P**	**19 19 48.0 +0.3**
comp=Z,0.8nm,0.7s,baz=268,slow=5.7,SNR=13						
ILAR				LR	LR	19 46 49.1
comp=Z,20nm,18.6s,baz=120,slow=37						
comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**60.26**	**29**	P	**P**	**19 19 48.1 +0.4**
HDA	**Harding Lake**	**60.28**	**30**	P	**P**	**19 19 48.4 +0.5**
baz=278						
M23K	**Glacier View**	**60.30**	**33**	P	**P**	**19 19 48.6 +0.6**
baz=278						
G25K	**Bearman Lake**	**60.33**	**27**	P	**P**	**19 19 49.1 +1.0**
baz=277						
E25K	**Arctic Village**	**60.37**	**25**	P	**P**	**19 19 49.4 +0.9**
baz=277						
C26K	**Camden Bay**	**60.40**	**23**	P	**P**	**19 19 49.6 +1.0**
baz=276						
F25K	**Christian Rive**	**60.41**	**26**	P	**P**	**19 19 49.6 +0.9**
baz=277,SNR=5.3						
SCM	**Sheep Creek Mo**	**60.48**	**33**	P	**P**	**19 19 50.0

EYAK Cordova Ski Ar 61.45 34 P **P 19 19 56.0 +0.2**
baz=281
SCRK Sand Creek 61.63 30 P **P 19 19 57.2 0.0**
baz=280
J26L Joseph Creek 61.72 29 P **P 19 19 57.3 -0.4**
baz=280
I26K Coal Creek Min 61.74 28 P **P 19 19 58.1 +0.4**
baz=280
N25K Chitina, Valde 61.80 33 P **P 19 19 58.9 +0.7**
baz=281
E27K Coleen River 61.83 25 P **P 19 19 58.8 +0.5**
baz=280
D27M Malcolm River 61.87 24 P **P 19 19 58.6 0.0**
baz=280
BMRM Bremner River 61.92 33 P **P 19 19 59.7 +0.7**
baz=282
G27K Doyon Strip 62.06 27 P **P 19 20 00.4 +0.5**
baz=281
L26K Log Cabin Wild 62.09 31 P **P 19 20 00.7 +0.6**
baz=282
KAIM Kayak Island 62.22 35 P **P 19 20 01.5 +0.5**
baz=282
H27K Steamboat Moun 62.23 27 P **P 19 20 01.6 +0.6**
baz=281
I27K Kandik River 62.32 28 P **P 19 20 02.2 +0.6**
baz=282
M26K Nabesna, AK 62.38 32 P **P 19 20 02.6 +0.5**
baz=282
K27K Chicken 62.45 30 P **P 19 20 03.2 +0.8**
baz=282
E28M Babbage River 62.50 24 P **P 19 20 03.1 +0.3**
baz=282
D28M Stokes Point 62.63 24 P **P 19 20 04.3 +0.7**
baz=282
BELG Belogornoye 62.72 317 LR LR 19 49 14.1
comp=Z,44nm,20.6s,baz=350,slow=38
BGLC Bering Glacier 62.74 34 P **P 19 20 05.2 +0.8**
baz=283
L27K Beaver Creek, 62.76 31 P **P 19 20 05.3 +0.7**
baz=283
M27K Edge Creek, AK 62.90 32 P **P 19 20 05.9 +0.3**
baz=283
I28M Miner Creek 63.03 28 P **P 19 20 07.1 +0.6**
baz=283,SNR=6.0
E29M Blow River 63.14 25 P **P 19 20 08.6 +1.7**
baz=284
MESA MESA 63.37 34 P **P 19 20 10.2 +1.2**
baz=284
G29M Pine Creek 63.44 26 P **P 19 20 09.5 +0.5**
baz=284
H29M Whitestone 63.48 27 P **P 19 20 09.6 +0.3**
baz=284
DAWY Dawson 63.59 29 P **P 19 20 11.2 +1.1**
baz=284
YUK3 Moose Creek 63.68 32 P **P 19 20 11.8 +0.9**
baz=284
I29M Ogilvie Camp, 63.72 28 P **P 19 20 12.1 +1.2**
baz=285
J29N Klondike Camp 63.99 29 P **P 19 20 13.7 +1.0**
baz=285,SNR=6.2
O28M Mount Upton 64.06 33 P **P 19 20 13.4 -0.2**
baz=285
EPYK Eagle Plains 64.08 27 P **P 19 20 13.3 0.0**
baz=286,SNR=6.5
F30M Barrier River 64.11 25 P **P 19 20 14.1 +0.8**
baz=286
G30M tAoh Zraii Nji 64.11 26 P **P 19 20 14.2 +0.7**
baz=286
YUK8 Steele Glacier 64.13 32 P **P 19 20 13.9 0.0**
baz=285
L29M L29M 64.38 30 P **P 19 20 16.0 +0.7**
baz=286
M29M Somme Creek 64.42 31 P **P 19 20 17.3 +1.7**
baz=286
K29M Barlow Dome 64.44 29 P **P 19 20 16.7 +0.9**
baz=286
I30M Mount Dempster 64.53 28 P **P 19 20 17.1 +0.7**
baz=286
YUK4 Talbot Arm 64.63 32 P **P 19 20 18.1 +0.9**
baz=286
INK Inuvik 64.72 24 P **P 19 20 18.7 +1.3**
baz=287
J30M Hart River 64.74 28 P **P 19 20 18.3 +0.6**
baz=287
PNL Peninsula 64.75 34 P **P 19 20 18.4 +0.7**
baz=286
G31M Satah River 64.86 26 P **P 19 20 19.2 +0.9**
baz=287
YUK6 Outpost Mounta 64.88 33 P **P 19 20 18.3 -0.5**
baz=287
F31M Tsilgehtchic 64.91 25 P **P 19 20 18.5 0.0**
baz=288
O29M Mount Kennedy 64.96 33 P **P 19 20 19.3 0.0**
baz=287
H31M Peel River 65.17 27 P **P 19 20 21.1 +0.7**
baz=288
HYT Haines Junctio 65.32 33 P **P 19 20 22.1 +0.5**
baz=287
N30M Aishikik Lake 65.32 32 P **P 19 20 22.4 +0.9**
baz=287
P29M Windy Craggy 65.56 34 P **P 19 20 24.0 +1.0**
baz=288
SPB2 Spitsbergen Ar 65.64 348 P **P 19 20 22.3 -0.9**
SPITS Spitsbergen Ar 65.64 348 P **P 19 20 21.6 -1.6**
comp=Z,3.0nm,0.6s,baz=93,slow=9.2,SNR=10.0
comp=Z,3.0nm,0.6s
SPITS Spitsbergen Ar 65.64 348 P **P 19 20 22.1 -1.1**
P30M Million Dollar 65.79 33 P **P 19 20 24.1 -0.3**
baz=288
N31M Braeburn, Yuko 65.91 32 P **P 19 20 25.4 +0.2**
baz=288
O30N Mendenhall 65.99 32 P **P 19 20 26.1 +0.3**
baz=288
A36M Sachs Harbour 66.11 19 **P 19 20 26.9 +0.7**
A36M IAmb IAmb 19 20 28.0
comp=Z,7.4nm,0.7s
A36M Sachs Harbour 66.11 19 P **P 19 20 27.0 +0.8**
baz=293
M31M Drury Creek, Y 66.30 31 P **P 19 20 27.9 +0.2**
baz=289
WHY Whitehorse 66.59 32 P **P 19 20 29.6 -0.1**
baz=290
FARO Faro, Yukon 66.75 30 P **P 19 20 31.0 +0.3**
baz=290
S31K Pelican 66.84 35 P **P 19 20 31.6 +0.4**
baz=290
N32M Quiet Lake 67.25 32 P **P 19 20 34.3 +0.5**
baz=291
ARCES ARCESS Array B 67.31 338 P **P 19 20 31.6 -2.4**
comp=Z,2.1nm,0.8s,baz=58,slow=5.5,SNR=1.9
ARCES LR LR 19 54 26.4
comp=Z,60nm,18.9s,baz=48,slow=40
comp=Z,2.1nm,0.8s
MMPY Sheldon Lake, 67.52 30 P **P 19 20 35.9 +0.4**
baz=292
R32K Eaglecrest 67.59 35 P **P 19 20 36.3 +0.4**
baz=291
SIT Sitka 67.61 36 P **P 19 20 36.3 +0.3**
baz=291
S32K Killisnoo 67.84 36 P **P 19 20 37.9 +0.4**
baz=291
OBN Obninsk 68.15 322 *e*P **P 19 20 38.7 -0.7**
OBN pmax pmax
comp=Z,4.0nm,0.7s
KBZ Khabaz 68.38 309 P **P 19 20 40.8 -0.3**
comp=Z,2.9nm,1.0s,baz=97,slow=3.1,SNR=6.4
comp=Z,2.9nm,1.0s
EUNU Eureka 68.41 6 P **P 19 20 40.3 -0.5**
EUNU IAmb IAmb 19 20 42.0
comp=Z,4.8nm,0.8s
Q32M Nakina River 68.43 34 P **P 19 20 42.0 +0.6**
baz=292
R33M Jennings River 68.88 33 P **P 19 20 44.6 +0.5**
baz=293
U33K Whale Pass 69.09 37 P **P 19 20 45.9 +0.6**
baz=293
TGTN Hyland Airport 69.24 30 P **P 19 20 47.0 +0.8**
baz=294
S34M Telegraph Cree 69.39 34 P **P 19 20 47.2 +0.1**
baz=294
DLBC Dease Lake 69.71 34 P **P 19 20 48.1 -1.1**
baz=294
V35K Ketchikan 70.19 37 P **P 19 20 51.8 -0.2**
baz=294
FIA1 FINESS Array S 70.64 330 P **P 19 20 53.3 -1.4**
FINES FINESS Array B 70.64 330 P **P 19 20 53.4 -1.3**
comp=Z,1.0nm,0.4s,baz=64,slow=5.7,SNR=21
FINES LR LR 19 53 19.6
comp=Z,48nm,18.7s,baz=56,slow=37
comp=Z,1.0nm,0.4s
FINES FINESS Array B 70.64 330 *i* P **P 19 20 54.2 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.4s
RES Resolute Bay 71.56 12 LR LR 19 55 31.1
comp=Z,14nm,18.3s,baz=20,slow=38
RES Resolute Bay 71.56 12 P **P 19 21 01.0 +0.9**
RES pmax pmax
comp=Z,7.0nm,1.3s
TOAD Toad River Com 71.79 32 P **P 19 21 01.7 0.0**
baz=298
AKASG Malin Array Be 74.02 320 P **P 19 21 14.0 -1.1**
comp=Z,0.6nm,0.4s,baz=73,slow=13,SNR=4.5
AKASG LR LR 19 56 24.8
comp=Z,40nm,19.0s,baz=85,slow=38
comp=Z,0.6nm,0.4s
AKBB Malin Array Si 74.02 320 P **P 19 21 14.0 -1.1**
AKBB Malin Array Si 74.02 320 *ce*P **P 19 21 13.9 -1.1**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
KIEV Kiev 74.03 320 P **P 19 21 14.0 -1.1**
KIEV Kiev 74.03 320 P **P 19 21 14.0 -1.1**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 74.35 26 P **P 19 21 17.6 +0.8**
comp=Z,0.9nm,0.7s,baz=307,slow=5.5,SNR=21
comp=Z,0.9nm,0.7s
BRTR Keskin Array B 76.34 308 P **P 19 21 28.6 -0.2**
comp=Z,1.1nm,0.9s,baz=77,slow=7.7,SNR=4.2
comp=Z,1.1nm,0.9s
HFS Hagfors 76.48 333 P **P 19 21 27.4 -1.6**
comp=Z,2.1nm,0.6s,baz=45,slow=2.3,SNR=11
HFS LR LR 19 58 48.2
comp=Z,33nm,18.0s,baz=34,slow=38
comp=Z,2.1nm,0.6s
NC405 NORSAR Array S 76.64 334 P **P 19 21 28.9 -1.1**
NC405 IAmb IAmb 19 21 29.2
comp=Z,7.1nm,0.8s
NB2 NORSAR Subarra 76.88 334 P **P 19 21 30.0 -1.3**
comp=Z,0.4nm,0.5s,baz=42,slow=6.2
NB2 NORSAR Subarra 76.88 334 P **P 19 21 29.8 -1.5**
NOA NORSAR Array B 76.88 334 P **P 19 21 29.6 -1.7**
comp=Z,1.7nm,0.5s,baz=49,slow=5.5,SNR=14
NOA LR LR 20 00 12.5
comp=Z,16nm,18.9s,baz=260,slow=39
comp=Z,1.7nm,0.5s
NORES NORESS Array B 76.95 334 P **P 19 21 34.4 +2.7**
SUMG Summit 77.50 357 P **P 19 21 34.9 -0.1**
SUMG IAmb IAmb 19 21 37.8
comp=Z,7.2nm,1.2s
SUMG Summit 77.50 357 P **P 19 21 34.9 -0.1**
SUMG pmax pmax
comp=Z,7.0nm,1.2s
BUR08 Bucovina Ar. S 77.82 318 P **P 19 21 36.9 -0.1**
BUR08 IAmb IAmb 19 21 41.9
comp=Z,3.1nm,0.9s
BURAR Bucovina Array 77.83 318 P **P 19 21 36.9 0.0**
ILON Igloolik, Nuna 78.23 11 **P 19 21 38.7 0.0**
STHS Stebnicka Huta 79.10 321 *e*P **P 19 21 44.2 +0.3**
STHS Stebnicka Huta 79.10 321 *e*P **P 19 21 44.2 +0.3**
BLKN Baker Lake 79.27 19 **P 19 21 44.2 -0.2**
BLKN IAmb IAmb 19 21 45.7
comp=Z,7.0nm,1.3s
VYHS Vyhne 80.93 321 *e*P **P 19 21 55.9 +2.2**
VYHS pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 80.93 321 *e*P **P 19 21 55.9 +2.2**
VRAC Vranov 81.65 323 LR LR 20 01 01.1
comp=Z,27nm,18.0s,baz=70,slow=38
CLL Collm 82.25 326 *i* P **P 19 22 00.0 -0.6**
comp=Z,3.0nm,0.6s
SFJD Kangerlussuaq 83.39 0 LR LR 19 59 08.1
comp=Z,23nm,18.7s,baz=357,slow=36
GERES GERESS Array B 83.44 324 P **P 19 22 06.5 -0.5**
comp=Z,0.6nm,0.7s,baz=56,slow=5.0,SNR=6.5
comp=Z,0.6nm,0.7s
J08A Circle Bar Ran 83.57 43 **P 19 22 09.5 +1.7**
J08A IAmb IAmb 19 22 10.8
comp=Z,6.6nm,0.7s
EKA Eskdalemuir Ar 86.28 336 P **P 19 22 19.8 -1.1**
comp=Z,0.8nm,0.4s,baz=40,slow=4.2,SNR=13
comp=Z,0.8nm,0.4s
NVAR Mina Array Bea 86.54 47 P **P 19 22 22.8 0.0**
comp=Z,1.4nm,0.7s,baz=300,slow=3.2,SNR=8.9
comp=Z,1.4nm,0.7s
DAVOX Davos/Dischmat 86.74 324 P **P 19 22 22.9 -0.7**
comp=Z,1.1nm,0.5s,baz=129,slow=0.8,SNR=6.4
DAVOX LR LR 20 05 51.1
comp=Z,43nm,18.5s,baz=257,slow=39
comp=Z,1.1nm,0.5s
ELK Elko 87.06 44 P **P 19 22 25.8 +0.4**
ELK pmax pmax
comp=Z,4.0nm,0.6s
TUE Stuetta 87.22 324 P **P 19 22 25.1 -0.9**
TUE IAmb IAmb 19 22 28.5
comp=Z,2.0nm,0.8s
FDMO Fiordimonte 87.44 319 **P 19 22 26.5 -0.4**
PD31 Pinedale Array 89.06 40 P **P 19 22 35.5 +0.7**
PD31 IAmb IAmb 19 22 38.4
comp=Z,1.2nm,0.8s
PDAR Pinedale Array 89.06 40 P **P 19 22 35.8 +0.9**
comp=Z,0.9nm,0.8s,baz=5.7,slow=0.9,SNR=9.1
comp=Z,0.9nm,0.8s
DSB Dublin 89.08 336 P **P 19 22 34.4 0.0**
DSB IAmb IAmb 19 23 12.9
comp=Z,4.9nm,1.0s
ULM Lac du Bonnet 90.24 28 **P 19 22 40.3 +0.4**
ULM Lac du Bonnet 90.24 28 P **P 19 22 40.7 +0.8**
comp=Z,7.9nm,0.7s,baz=317,slow=3.8,SNR=9.6
ULM LR LR 20 05 11.4
comp=Z,17nm,20.4s,baz=348,slow=37
EPLO Experimental L 91.55 27 **P 19 22 46.5 +0.5**
DBIC Dimbokro 123.78 303 PKP **PKPdf 19 28 37.8 0.0**
comp=Z,2.4nm,0.6s,baz=110,slow=3.5,SNR=2.1

IDC 20 19:09:45.3±56.0, 23°.96S×175°.43W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=1038.0km s-min=179.3km az=89.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.58**	**248**	P	P	19 17 09.6	-0.5
	1.5nm,0.5s,baz=97,slow=11,SNR=4.5						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**46.14**	**260**	P	P	19 18 11.7	-0.2
	1.3nm,0.4s,baz=91,slow=7.4,SNR=103						
	1.3nm,0.4s						
WRA	**Warramunga Arr**	**46.57**	**265**	P	P	19 18 15.4	+0.2
	2.2nm,0.4s,baz=104,slow=8.1,SNR=47						
	2.2nm,0.4s						

---

*NSSP **20** 19:39:36.8, 38°.62N×43°.30E, h10km, Ms3.6*
*ISK **20** 19:39:36.7, 38°.64N×43°.18E, h2km, ML3.6/17*
*AFAD **20** 19:39:37.8, 38°.58N×43°.19E, h7km±4km, MW3.6*
*IDC **20** 19:39:37.0±1.3, 38°.69N×43°.23E, h0km, mb3.8/8, mbtmp3.7/10, ML2.1/2, MS2.8/2, Error ellipse: s-maj=24.7km s-min=14.3km az=175.0*
*TEH **20** 19:39:37.8, 38°.69N×43°.20E, h14km±32km*
ISC 20 19:39:38.8±0.9, 38°.66N±0°.02×43°.21E±0°.02, h13km±6km, n84, σ1§49/111, mb3.8/16, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**116**	Pg	**Pg**	**19 39 42.3**	**-0.4**
VANB				Sg	**Sb**	**19 39 45.9**	**-1.0**
VANB	**Van**	**0.16**	**116**	Pg	**Pg**	**19 39 42.2**	**-0.4**
ERCV	**ERCIS-VAN**	**0.37**	**16**	Pg	**Pg**	**19 39 44.8**	**-1.5**
ERCV				Sg	**Sg**	**19 39 51.7**	**+0.3**
ERCV	**ERCIS-VAN**	**0.37**	**16**	Pg	**Pg**	**19 39 44.6**	**-1.7**
ADCV	**BITLIS_Adilcev**	**0.40**	**291**	P	**Pg**	**19 39 46.2**	**-0.8**
ADCV				*i* AML	AML	19 39 53.0	
	comp=E,3μm,0.7s						
ADCV				S	**Sg**	**19 39 53.4**	**+1.0**
ADCV				*i* AML	AML	19 39 54.0	
	comp=N,5μm,0.4s						
ADCV	**BITLIS_Adilcev**	**0.40**	**291**	Pg	**Pg**	**19 39 46.1**	**-0.8**
OZAP	**Van, Ozalp-Mer**	**0.61**	**90**	P	**Pg**	**19 39 49.9**	**-1.0**
OZAP				S	**Sn**	**19 40 03.9**	**+0.6**
OZAP				*i* AML	AML	19 40 05.0	
	comp=N,1μm,0.7s						
OZAP				*i* AML	AML	19 40 08.0	
	comp=E,2μm,0.8s						
MLAZ	**Malazgirt-MUS**	**0.70**	**313**	Pg	**Pg**	**19 39 51.2**	**-1.2**
MLAZ	**Malazgirt-MUS**	**0.70**	**313**	Pg	**Pg**	**19 39 51.2**	**-1.2**
PERV	**Siirt/Pervari-**	**0.89**	**216**	P	**Pg**	**19 39 54.7**	**-1.2**
PERV				*i* AML	AML	19 40 17.0	
	comp=N,2μm,0.5s						
PERV				*i* AML	AML	19 40 17.0	
	comp=E,2μm,0.4s						
BLIS	**Bitlis-Merkez**	**0.89**	**254**	P	**Pg**	**19 39 54.3**	**-1.7**
BLIS				S	**Sg**	**19 40 06.4**	**-1.3**
BLIS				*i* AML	AML	19 40 10.0	
	comp=N,2μm,0.3s						
BLIS				*i* AML	AML	19 40 11.0	
	comp=E,2μm,0.3s						
BLIS	**Bitlis-Merkez**	**0.89**	**254**	Pg	**Pg**	**19 39 54.3**	**-1.7**
GURO	**Guroymak-BITLI**	**0.93**	**263**	Pg	**Pg**	**19 39 54.6**	**-2.2**
GURO				Sg	**Sg**	**19 40 08.1**	**-0.8**
GURO	**Guroymak-BITLI**	**0.93**	**263**	Pg	**Pg**	**19 39 54.5**	**-2.2**
KOTA	**Agri, Merkez-K**	**1.14**	**360**	P	**Pb**	**19 39 58.8**	**-1.6**
KOTA				S	**Sn**	**19 40 19.1**	**+3.0**
KOTA				*i* AML	AML	19 40 21.0	
	comp=N,631nm,0.6s						
KOTA				*i* AML	AML	19 40 21.0	
	comp=E,546nm,0.7s						
SRTM	**Siirt_Merkez**	**1.21**	**237**	P	**Pn**	**19 40 01.2**	**-0.3**
SRTM				S	**Sg**	**19 40 20.3**	**+2.3**
SRTM				*i* AML	AML	19 40 21.0	
	comp=N,1μm,1.0s						
SRTM				*i* AML	AML	19 40 22.0	
	comp=E,948nm,1.0s						
SRTM	**Siirt_Merkez**	**1.21**	**237**	Pg	**Pn**	**19 40 01.2**	**-0.3**
MUSM	**Mu-Merkez**	**1.33**	**273**	P	**Pn**	**19 40 01.5**	**-1.7**
MUSM				S	**Sn**	**19 40 21.2**	**+0.4**
MUSM				*i* AML	AML	19 40 22.0	
	comp=N,300nm,0.6s						
MUSM				*i* AML	AML	19 40 22.0	
	comp=E,226nm,0.5s						
MUSM	**Mu-Merkez**	**1.33**	**273**	Pg	**Pn**	**19 40 01.5**	**-1.7**
MAKU	**Maku**	**1.34**	**59**	Pg	**Pn**	**19 40 02.8**	**-0.6**
YOVA	**Hakkari_Yksek**	**1.37**	**141**	P	**Pn**	**19 40 02.7**	**-1.2**
YOVA				S	**Sg**	**19 40 26.2**	**+3.1**
YOVA				*i* AML	AML	19 40 27.0	
	comp=N,272nm,0.5s						
YOVA				*i* AML	AML	19 40 27.0	
	comp=E,577nm,0.6s						
IGDI	**IGDIR**	**1.38**	**29**	P	**Pn**	**19 40 03.4**	**-0.5**
IGDI				S	**Sg**	**19 40 26.6**	**+3.3**
IGDI				*i* AML	AML	19 40 27.0	
	comp=N,318nm,0.7s						
IGDI				*i* AML	AML	19 40 28.0	
	comp=E,434nm,0.7s						
CUKT	**Cukurca**	**1.45**	**167**	Pn	**Pn**	**19 40 04.4**	**-0.4**
CUKT				Sn	**Sg**	**19 40 24.8**	**-0.7**
CUKT	**Cukurca**	**1.45**	**167**	P	**Pn**	**19 40 04.7**	**-0.2**
CUKT				S	**Sg**	**19 40 30.7**	**+5.2**
CUKT				*i* AML	AML	19 40 31.0	
	comp=N,2μm,0.9s						
CUKT				*i* AML	AML	19 40 36.0	
	comp=E,2μm,0.7s						
CUKT	**Cukurca**	**1.45**	**167**	Pg	**Pn**	**19 40 04.3**	**-0.5**
VRTB	**Varto-Mus**	**1.45**	**290**	Pn	**Pn**	**19 40 04.6**	**-0.3**
VRTB	**Varto-Mus**	**1.45**	**290**	P	**Pn**	**19 40 04.4**	**-0.5**
VRTB				S	**Sg**	**19 40 27.7**	**+2.1**
VRTB				*i* AML	AML	19 40 33.0	
	comp=E,798nm,0.8s						
VRTB				*i* AML	AML	19 40 39.0	
	comp=N,859nm,1.0s						
VRTB	**Varto-Mus**	**1.45**	**290**	Pg	**Pn**	**19 40 04.4**	**-0.5**
VNNZ	**Vanand**	**1.51**	**18**	*e*P	**Pb**	**19 40 06.3**	**-0.5**
VNNZ				*e*S	**Sg**	**19 40 28.2**	**+0.6**
TASB	**TASBURUN-IGDIR**	**1.54**	**31**	Pn	**Pb**	**19 40 06.8**	**-0.5**
TASB	**TASBURUN-IGDIR**	**1.54**	**31**	Pg	**Pb**	**19 40 06.7**	**-0.5**
METS	**Metsamor**	**1.63**	**24**	*e*P	**Pb**	**19 40 08.6**	**-0.2**
METS				*e*S	**Sg**	**19 40 32.0**	**+0.7**
KOPR	**Koprukoy-ERZUR**	**1.69**	**322**	Pn	**Pn**	**19 40 08.5**	**+0.3**
SLHN	**Bingol, Solhan**	**1.73**	**280**	P	**Pn**	**19 40 09.6**	**+0.9**
SLHN				S	**Sg**	**19 40 34.3**	**-0.2**
SLHN				*i* AML	AML	19 40 42.0	
	comp=N,332nm,0.6s						
SLHN				*i* AML	AML	19 40 45.0	
	comp=E,252nm,0.8s						
ARUZ	**Aruch**	**1.76**	**23**	*e*P	**Pb**	**19 40 10.1**	**-0.8**
ARUZ				*e*S	**Sg**	**19 40 34.7**	**-0.6**
KARO	**Karliova-Bingo**	**1.80**	**292**	Pn	**Pn**	**19 40 10.0**	**+0.3**
ERZM	**Erzurum**	**1.89**	**312**	P	**Pb**	**19 40 12.7**	**-0.6**
ERZM				S	**Sg**	**19 40 43.8**	**+4.1**
GNI	**Garni**	**1.90**	**38**	Pn	**Pn**	**19 40 11.8**	**+0.7**
GNI	**Garni**	**1.90**	**38⇑**	*i*P	**Pb**	**19 40 12.0**	**-1.4**
GNI			⇑	*i*S	**Sg**	**19 40 38.3**	**-1.7**
GNI	**Garni**	**1.90**	**38**	Pn	**Pn**	**19 40 11.9**	**+0.8**
	11nm,0.3s,baz=284,slow=4.3,SNR=33						
GNI				Sn	**Sn**	**19 40 31.9**	**-3.1**
	17nm,0.3s,baz=183,slow=10,SNR=7.8						
AMBZ	**Amberd**	**1.90**	**25**	*e*P	**Pn**	**19 40 12.1**	**+0.9**
AMBZ				*e*S	**Sb**	**19 40 38.1**	**+0.7**
ISHB	**Shabestar**	**1.93**	**101**	Pn	**Pn**	**19 40 11.2**	**-0.3**
IMRD	**Marand**	**1.95**	**88**	Pn	**Pn**	**19 40 12.1**	**+0.2**
ETEKE	**Tekederesi - E**	**1.96**	**306**	P	**Pb**	**19 40 13.6**	**-0.9**
ETEKE				S	**Sg**	**19 40 44.6**	**+2.6**
ETEKE				*i* AML	AML	19 40 47.0	
	comp=N,309nm,0.4s						
ETEKE				*i* AML	AML	19 40 51.0	
	comp=E,425nm,0.7s						
KARS	**Kars**	**1.96**	**357**	Pn	**Pn**	**19 40 12.6**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.01**	**341**	Pn	**Pn**	**19 40 12.9**	**+0.3**
VAYK	**Vayk**	**2.01**	**58**	*i* P	**Pb**	**19 40 13.8**	**-1.5**
VAYK				*i* S	**Sb**	**19 40 40.0**	**-0.2**
YEDI	**Yedisu-Bingol**	**2.21**	**291**	Pn	**Pn**	**19 40 15.9**	**+0.5**
KMOZ	**Kamo**	**2.23**	**15**	*e*P	**Pn**	**19 40 16.9**	**+1.3**
KMOZ				*e*S	**Sb**	**19 40 46.3**	**-0.3**
IAZR	**Azarshahr**	**2.40**	**113**	Pn	**Pn**	**19 40 19.6**	**+1.6**
AYRK	**Ayrk**	**2.47**	**53**	*e*P	**Pb**	**19 40 23.5**	**+0.3**
AYRK				*e*S	**Sg**	**19 40 57.9**	**-0.3**
SRTK	**Saratovka**	**2.55**	**19**	*e*P	**Pn**	**19 40 21.7**	**+1.7**
SRTK				*e*S	**Sb**	**19 40 54.5**	**-1.2**
EGVZ	**Egvard**	**2.66**	**77**	*e*P	**Pn**	**19 40 22.6**	**+1.1**
EGVZ				*e*S	**Sb**	**19 40 56.3**	**-2.7**
LSVT	**Lusahovit**	**2.72**	**34**	*e*P	**Pb**	**19 40 25.7**	**-1.7**
LSVT				*e*S	**Sb**	**19 41 01.4**	**+0.7**
MAHB	**Mahabad**	**2.74**	**133**	Pn	**Pn**	**19 40 24.8**	**+2.2**
ERZN	**Erzincan**	**2.86**	**290**	Pn	**Pn**	**19 40 25.1**	**+0.8**
BAYT	**Aydıntepe-Bayb**	**2.93**	**307**	Pn	**Pn**	**19 40 26.2**	**+0.9**
IHRS	**Heris**	**3.03**	**95**	Pn	**Pn**	**19 40 27.6**	**+1.0**
BCA	**Borcka**	**3.03**	**337**	Pn	**Pn**	**19 40 27.6**	**+1.1**
CHOM	**Cayeli-Rize**	**3.07**	**323**	Pn	**Pn**	**19 40 28.2**	**+1.1**
GRMI	**Germi**	**3.67**	**86**	Pn	**Pn**	**19 40 36.4**	**+1.1**
IDHR	**Dehrash**	**4.71**	**146**	Pn	**Pn**	**19 40 52.0**	**+2.3**
KBZ	**Khabaz**	**5.07**	**357**	Pn	**Pn**	**19 40 56.4**	**+2.0**
	baz=162,slow=4.2,SNR=1.7						
KBZ				LR	LR	19 42 27.8	
	comp=Z,32nm,18.1s,baz=174,slow=34						
	0.7nm,0.7s						
SNQR	**Sonqor, Kerman**	**5.20**	**136**	Pn	**Pn**	**19 40 58.4**	**+1.9**
BRTR	**Keskin Array B**	**7.51**	**281**	Pn	**Pn**	**19 41 30.8**	**+2.7**
	0.1nm,0.3s,baz=85,slow=15,SNR=1.7						
ASF	**Jabal al Asfar**	**8.27**	**220**	Pn	Pn	19 41 43.8	+5.2
	0.3nm,0.3s,baz=215,slow=13,SNR=3.5						
AKTO	**Aktyubinsk**	**15.77**	**37**	Pn	**Pn**	**19 43 18.9**	**-1.6**
	1.4nm,0.8s,baz=220,slow=9.2,SNR=5.0						
RONA	**Rosalia, Austr**	**21.51**	**304**	*i* pP	**P**	**19 44 29.1**	**+1.7**
	3.6nm,1.2s						
CONA	**Conrad Observa**	**21.85**	**304**	*e*P	**P**	**19 44 33.0**	**+1.9**
	1.5nm,0.9s						
BVAR	**Borovoye Array**	**23.58**	**44**	P	**P**	**19 44 49.3**	**+0.3**
	1.2nm,0.9s,baz=243,slow=6.5,SNR=5.5						
	1.2nm,0.9s						
ABTA	**Abfaltersbach**	**23.84**	**300**	*i* pP	**P**	**19 44 53.5**	**+1.8**
	2.9nm,1.2s						
LESA	**Schwarzleotal**	**23.84**	**301**	*i* pP	**P**	**19 44 53.3**	**+1.6**
	2.8nm,1.0s						
WTTA	**Wattenberg**	**24.52**	**301**	*e*pP	**P**	**19 44 59.9**	**+1.8**
	3.2nm,0.8s						
WATA	**Walderalm**	**24.57**	**301**	*e*pP	**P**	**19 45 00.1**	**+1.6**
	4.7nm,1.2s						
SQTA	**Sankt Quirin**	**24.80**	**301**	*e*P	**P**	**19 45 01.5**	**+1.0**
	3.0nm,1.3s						
MOTA	**Moosalm**	**24.89**	**301**	*i* P	**P**	**19 45 02.4**	**+1.1**
	5.1nm,0.9s						
FINES	**FINESS Array B**	**25.16**	**341**	P	**P**	**19 45 03.7**	**+0.3**
	3.6nm,1.2s,baz=146,slow=32,SNR=1.5						
	3.6nm,1.2s						
KURBB	**Kurchatov Arra**	**27.56**	**53**	P	**P**	**19 45 25.4**	**+0.2**
	0.8nm,0.8s,baz=265,slow=8.7,SNR=6.8						
	0.8nm,0.8s						
HFS	**Hagfors**	**28.40**	**329**	P	**P**	**19 45 32.5**	**-0.2**
	2.0nm,0.9s,baz=118,slow=12,SNR=5.0						

2.0nm,0.9s
MKAR Makanchi Array 29.59 61 P P 19 45 43.3 -0.1
0.4nm,0.7s,baz=272,slow=5.9,SNR=4.8
0.4nm,0.7s
EKA Eskdalemuir Ar 34.99 314 P P 19 46 30.2 -0.3
1.4nm,0.7s,baz=106,slow=8.5,SNR=8.3
1.4nm,0.7s
CMAR Chiang Mai Arr 52.11 96 P P 19 48 48.9 +0.1
1.4nm,0.8s,baz=299,slow=8.4,SNR=8.9
1.4nm,0.8s
KSRS Korea Array 64.27 62 P P 19 50 13.6 -0.1
0.7nm,0.7s,baz=293,slow=6.8,SNR=4.6
0.7nm,0.7s
MJAR Matsushiro Arr 71.71 58 LR LR 20 25 14.9
comp=Z,19nm,18.4s,baz=294,slow=38

TAP 20 20:00:42.8,24.′09N×121.′47E,h6km,ML1.7,1D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LXIB	**Xiulin Townshi**	**0.09**	**217**	P	Pg	20 00 45.5	+0.6
LXIB				eS	Sg	20 00 47.0	+0.5
TWD	**Chiawan**	**0.11**	**97**	i P	Pg	20 00 46.1	+0.9
TWD				S	Sg	20 00 48.0	+1.2
ETLH	**Xiulin Townshi**	**0.11**	**4**	P	Pg	20 00 45.8	+0.5
ETLH				eS	Sg	20 00 47.5	+0.6
ETM	**Tongmen**	**0.13**	**172**	i P	Pg	20 00 46.2	+0.7
ETM				eS	Sg	20 00 48.0	+0.7
NACB	**Ninganchiao**	**0.14**	**54**	P	Pg	20 00 46.0	+0.4
NACB	**Ninganchiao**	**0.14**	**54**	eP	Pg	20 00 46.3	+0.6
NACB				S	Sg	20 00 48.5	+1.0
ETL	**Fush Village**	**0.15**	**65**	P	Pg	20 00 46.5	+0.7
ETL				S	Sg	20 00 49.1	+1.1
HWA	**Hwalien**	**0.17**	**134**	eP	Pg	20 00 47.7	+1.5
HWA				i S	Sg	20 00 50.6	+2.2
WHF	**Hehuan Shan**	**0.20**	**285**	i P	Pg	20 00 47.5	+0.6
WHF				S	Sg	20 00 50.2	+0.6
FUSS	**Fushou**	**0.26**	**306**	i P	Pg	20 00 49.0	+1.0
FUSS				S	Sg	20 00 52.6	+1.1
ESL	**Shilin**	**0.28**	**188**	eP	Pg	20 00 48.8	+0.5
ESL				eS	Sg	20 00 52.2	+0.2
OWD	**Renai**	**0.31**	**243**	i P	Pg	20 00 49.2	+0.4
OWD				S	Sg	20 00 53.1	+0.2
TWT	**Tachien**	**0.32**	**300**	P	Pb	20 00 50.4	-0.6
TWT				i S	Sg	20 00 54.7	+1.5
SHUL	**Shoufeng**	**0.32**	**165**	P	Pb	20 00 50.3	-0.6
SHUL				S	Sb	20 00 55.0	-1.3
TDCB	**Techi**	**0.33**	**299**	P	Pb	20 00 50.3	-0.9
TDCB				S	Sg	20 00 54.9	+1.2
WUSB	**Renai**	**0.34**	**253**	eP	Pg	20 00 50.4	+0.9
WUSB				S	Sg	20 00 54.4	+0.4
NNSB	**Datong**	**0.34**	**346**	eP	Pb	20 00 50.5	-0.9
NNSB				eS	Sg	20 00 54.6	+0.5
NNS	**Nan Shan**	**0.36**	**345**	P	Pb	20 00 51.0	-0.6
NNS				S	Sg	20 00 55.6	+1.0
WARBT	**Fenglin Townsh**	**0.38**	**192**	P	Pg	20 00 55.2	+0.3
WARBT				S	Sg	20 00 55.6	+0.3
ENA	**Nanau**	**0.41**	**36**	eP	Pg	20 00 51.3	+0.5
ENA				eS	Sg	20 00 56.6	+0.4
LATG	**Datong**	**0.44**	**6**	i P	Pg	20 00 52.2	+0.8
LATG				eS	Sg	20 00 57.3	+0.1
EWUT	**Wuta**	**0.45**	**38**	eP	Pg	20 00 52.0	+0.6
EWUT				eS	Sg	20 00 57.3	0.0
WPL	**Puli Township**	**0.48**	**260**	P	Pb	20 00 53.1	-0.6
WPL				S	Sg	20 00 59.6	+1.3
DPDB	**Guoxing**	**0.50**	**263**	eP	Pb	20 00 53.8	-0.3
DPDB				eS	Sb	20 01 01.0	-0.8
WCS	**Beigang Elemen**	**0.52**	**266**	eP	Pb	20 00 53.9	-0.4
WCS				eS	Sb	20 01 02.0	0.0
WHP	**Taichung City**	**0.52**	**291**	eP	Pb	20 00 54.2	-0.1
WHP				S	Sb	20 01 01.2	-0.9
ENTT	**Nioudou**	**0.55**	**9**	P	Pb	20 00 54.3	-0.6
ENTT				eS	Sg	20 01 01.4	+0.8
SSLB	**Suanglung**	**0.56**	**237**	P	Pg	20 00 54.1	+0.4
SSLB	**Suanglung**	**0.56**	**237**	i P	Pg	20 00 54.2	+0.5
SSLB				eS	Sg	20 01 00.7	-0.3
SMLT	**Sun Moon Lake**	**0.57**	**248**	eP	Pg	20 00 53.8	+0.1
SMLT				S	Sg	20 01 01.8	+0.6
YHNB	**Yeheng**	**0.58**	**351**	P	Pb	20 00 55.8	+0.4
YHNB	**Yeheng**	**0.58**	**351**	eP	Pb	20 00 56.0	+0.5
YHNB				i S	Sg	20 01 02.4	+0.8
NDS	**Dongshan**	**0.58**	**22**	P	Pg	20 00 54.7	+0.7
NDS				eS	Sg	20 01 00.9	-0.7
ESAO	**Su ao**	**0.59**	**35**	eP	Pb	20 00 55.3	-0.2
ESAO				S	Sg	20 01 01.8	+0.1
NSK	**Sanguang**	**0.59**	**350**	i P	Pb	20 00 55.2	-0.4
NSK				S	Sb	20 01 03.3	-1.0
TYC	**Yuchr**	**0.59**	**252**	P	Pb	20 00 55.0	-0.7
TYC				S	Sg	20 01 02.0	0.0
HGSD	**Ruisui**	**0.60**	**184**	P	Pb	20 00 55.4	-0.3
HGSD				S	Sb	20 01 04.3	-0.1
EHY	**Hungye**	**0.60**	**193**	||P	Pg	20 00 54.2	-0.2
EHY				i S	Sg	20 01 02.8	+0.5
TWC	**Suao**	**0.62**	**34**	eP	Pg	20 00 55.3	+0.6
TWC				eS	Sg	20 01 02.9	+0.1
NFF	**Wufeng Townshi**	**0.63**	**329**	i P	Pb	20 00 55.8	-0.4
NFF				S	Sb	20 01 04.6	-0.7
TWE	**Neicheng**	**0.65**	**16**	eP	Pb	20 00 56.7	+0.1
TWE				i S	Sb	20 01 05.1	-0.8
FUSB	**Fushanzhiwuyua**	**0.67**	**9**	eP	Pb	20 00 56.9	-0.1
FUSB				eS	Sg	20 01 04.6	+0.2
NWLT	**Wulai**	**0.68**	**2**	eP	Pb	20 00 57.3	+0.2
NWLT				eS	Sg	20 01 05.2	+0.4
NSTT	**Nanjuang**	**0.69**	**321**	P	Pb	20 00 57.0	-0.2
NSTT				S	Sb	20 01 06.7	-0.2
WHYT	**Xinyi Township**	**0.69**	**235**	P	Pb	20 00 57.0	-0.3
WHYT				S	Sb	20 01 06.3	-0.8
YULB	**Yu-li**	**0.72**	**193**	P	Pb	20 00 57.3	-0.4
YULB	**Yu-li**	**0.72**	**193**	eP	Pg	20 00 57.0	+0.4
YULB				S	Sg	20 01 06.3	+0.4
TWF1	**Yuli**	**0.76**	**192**	P	Pg	20 00 57.7	+0.4
TWF1				S	Sg	20 01 08.0	+0.8
EYUL	**Yuli**	**0.76**	**191**	P	Pg	20 00 57.5	+0.2
EYUL				eS	Sb	20 01 08.5	-0.4
TWA	**Mucha**	**0.89**	**6**	i P	Pb	20 01 00.3	-0.3
TWA				eS	Sb	20 01 13.3	+0.5
FULB	**Fuli**	**0.91**	**191**	eP	Pb	20 01 01.2	+0.2
FULB				eS	Sn	20 01 14.9	-0.6
TIPB	**Shuangxi**	**0.93**	**20**	P	Pg	20 01 00.5	-0.2
TIPB				i S	Sg	20 01 13.1	+0.3
ELDTW	**Lidau**	**0.99**	**205**	P	Pg	20 01 02.1	+0.2
ELDTW				S	Sg	20 01 14.8	0.0
TWB1	**Santiao Chiao**	**1.02**	**27**	P	Pb	20 01 02.9	-0.1
TWB1				S	Sg	20 01 16.2	+0.4
WCKO	**Fanlu**	**1.03**	**231**	eP	Pn	20 01 04.2	+0.4
WCKO				S	Sn	20 01 19.0	+0.5
YM01	**YM01**	**1.05**	**5**	P	Pb	20 01 03.6	+0.1
YM01				eS	Sb	20 01 18.0	+0.5
SXI1	**Grass Mountain**	**1.06**	**20**	eP	Pg	20 01 03.1	-0.1
SXI1				eS	Sb	20 01 18.6	+0.8
ZUZH	**Zhuzihu**	**1.06**	**3**	P	Pb	20 01 03.7	0.0
ZUZH				eS	Sg	20 01 17.4	+0.2
ANP	**Anpu**	**1.09**	**2**	P	Pb	20 01 04.0	-0.1
ANP				eS	Sn	20 01 19.6	-0.6
CHN4	**Tsaushan**	**1.09**	**228**	P	Pn	20 01 05.0	+0.3
CHN4				S	Sn	20 01 21.1	+1.0
TPUB	**Ta-pu**	**1.11**	**225**	P	Pn	20 01 04.8	-0.1
TPUB	**Ta-pu**	**1.11**	**225**	eP	Pb	20 01 04.5	+0.2
TPUB				i S	Sn	20 01 20.8	+0.4
STYH	**Taoyuan**	**1.12**	**215**	eP	Pg	20 01 03.2	-1.1
STYH				eS	Sb	20 01 19.9	+0.5
TWK	**Hsinying**	**1.22**	**228**	eP	Pn	20 01 07.7	+1.2
TWK				i S	Sn	20 01 24.7	+1.3
CHN1	**Nanshi**	**1.25**	**224**	P	Pn	20 01 07.9	+1.0
CHN1				eS	Sn	20 01 26.6	+2.5
SGST	**Jiashian**	**1.30**	**219**	eP	Pn	20 01 07.5	0.0
SGST				S	Sn	20 01 26.8	+1.6

*RSNC **20** 20:03:11.0±0.0, 7.°N±1.°×7.°3W±.°, h149km±1km, M3.1, mb3.8, mB5.1, ML2.9, Mw(mB)4.4*
*IDC **20** 20:03:13.9±6.3, 6.°78N×75.°11W, h158km±106km, mb3.0/1, mbtmp3.5/2, Error ellipse: s-maj=389.1km s-min=35.0km az=86.0*
ISC 20 20:03:09.3±0.9, 6.°85N±0.°03×73.°12W±0.°04, h155km±6km, n39, σ1§21/75, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**194**	P	Pn	20 03 31.0	+0.3
BARC				S	Sn	20 03 46.1	-0.9
BRJC	**Barrancabermej**	**0.63**	**282**	P	Pn	20 03 32.6	+0.6
BRJC				S	Sn	20 03 49.8	+0.5
PAMC	**Pamplona, Colo**	**0.64**	**40**	P	Pn	20 03 33.7	+1.1
PAMC				S	Sn	20 03 50.6	+0.2
RUSC	**La Rusia**	**0.95**	**178**	P	Pn	20 03 34.9	+0.1
RUSC				S	Sn	20 03 53.3	-0.9
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	P	Pn	20 03 37.6	-0.3
PTBC				S	Sn	20 03 58.8	-1.0
TAMC	**Tame, Arauca**	**1.38**	**107**	P	Pn	20 03 39.3	+1.2
TAMC				S	Sn	20 04 01.0	+0.8
OCAC	**Ocana**	**1.40**	**352**	P	Pn	20 03 39.7	+1.2
OCAC				S	Sn	20 04 01.0	+0.1
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	P	Pn	20 03 43.5	+0.5
ZARC				S	Sn	20 04 08.8	-0.1
NORC	**Norcasia**	**2.16**	**234**	P	Pn	20 03 47.3	+0.6
NORC				S	Sn	20 04 14.6	-0.8
CHIC	**Chingaza**	**2.28**	**196**	P	Pn	20 03 49.2	+0.6
CHIC				S	Sn	20 04 18.8	0.0
ROSC	**El Rosal**	**2.32**	**211**	P	Pn	20 03 51.0	+2.0
	49nm,0.3s,baz=120,slow=20,SNR=90						
ROSC				S	Sn	20 04 19.5	0.0
	133nm,0.3s,baz=104,slow=20,SNR=12						
CVER	**Cruz Verde, Cu**	**2.50**	**202**	P	Pn	20 03 52.4	+1.2
CVER				S	Sn	20 04 24.0	+0.6
UREC	**San Jos de Ur**	**2.56**	**291**	P	Pn	20 03 51.6	+0.2
UREC				S	Sn	20 04 21.7	-2.3
GUY2C	**Guyana, Caldas**	**2.75**	**234**	P	Pn	20 03 55.1	+0.8
GUY2C				S	Sn	20 04 30.9	+1.9
PTGC	**Puerto Gaitan,**	**2.81**	**160**	P	Pn	20 03 54.2	-0.3
PTGC				S	Sn	20 04 27.5	-2.0
CBOC	**Ciudad Bolivar**	**3.04**	**251**	P	Pn	20 03 58.8	+1.3
CBOC				S	Sn	20 04 34.8	0.0
DBBC	**Dabeiba**	**3.07**	**273**	P	Pn	20 03 58.3	+0.4
DBBC				S	Sn	20 04 34.6	-0.9
SDV	**Santo Domingo**	**3.19**	**50**	P	Pn	20 04 00.3	+0.8
SDV				S	Sn	20 04 37.8	-0.6
ARGC	**Ariguani, Magd**	**3.19**	**340**	P	Pn	20 04 01.6	+2.2
ARGC				S	Sn	20 04 39.6	+1.4
ANIL	**Santa Ana**	**3.26**	**224**	P	Pn	20 04 03.2	+2.7
ANIL				S	Sn	20 04 43.3	+3.1
PRAC	**Prado**	**3.57**	**210**	P	Pn	20 04 04.8	+0.5
PRAC				S	Sn	20 04 47.2	+0.2
APAC	**Apartado, Choc**	**3.59**	**287**	P	Pn	20 04 04.8	+0.4
APAC				S	Sn	20 04 46.8	-0.4
ORTC	**Ortega, Tolima**	**3.60**	**216**	P	Pn	20 04 05.3	+0.6
ORTC				S	Sn	20 04 48.4	+0.7
SJCC	**San Jacinto, C**	**3.65**	**326**	P	Pn	20 04 05.2	-0.1
SJCC				S	Sn	20 04 46.4	-2.4
URMC	**La Uribe, Meta**	**3.79**	**199**	P	Pn	20 04 07.9	+0.8
URMC				S	Sn	20 04 52.3	+0.3
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	P	Pn	20 04 12.4	+0.6
CRJC				S	Sn	20 04 58.5	-2.1
YOTC	**Yotoco, Valle**	**4.29**	**229**	P	Pn	20 04 13.9	+0.3
YOTC				S	Sn	20 05 03.7	0.0
GUVC	**San Jose del G**	**4.30**	**173**	P	Pn	20 04 13.8	+0.1
GUVC				S	Sn	20 05 03.9	0.0
SMRC	**Santa Marta, M**	**4.43**	**346**	P	Pn	20 04 16.2	+0.9
SMRC				S	Sn	20 05 04.4	-2.4
MACC	**Macarena, Meta**	**4.72**	**189**	P	Pn	20 04 18.3	-1.0
MACC				S	Sn	20 05 10.6	-3.3
BETC	**Betania**	**4.74**	**209**	P	Pn	20 04 19.0	-0.5
BETC				S	Sn	20 05 11.9	-2.4
URIC	**Uribia, Colomb**	**4.95**	**13**	P	Pn	20 04 21.5	-0.7
URIC				S	Sn	20 05 18.8	-0.4
MALC	**Bahia Malaga**	**5.05**	**236**	P	Pn	20 04 25.1	+1.5
MALC				S	Sn	20 05 20.7	-0.8
GARC	**Garzon, Huila**	**5.20**	**207**	P	Pn	20 04 25.2	-0.5
GARC				S	Sn	20 05 24.3	-1.1
FLOC	**Florencia**	**5.81**	**206**	P	Pn	20 04 34.3	+0.7
	9.8nm,1.0s						
FLOC				S	Sn	20 05 38.7	-0.9
	9.8nm,1.0s						
BBAC	**Balboa, Cauca**	**6.32**	**221**	P	Pn	20 04 41.7	+1.2
BBAC				S	Sn	20 05 51.1	-0.9
YKA	**Yellowknife Ar**	**63.24**	**340**	P	P	20 13 21.2	+0.3
	0.3nm,0.6s,baz=135,slow=6.6,SNR=8.7						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	20 22 39.5	-0.7
	0.5nm,1.0s,baz=107,slow=3.4,SNR=2.5						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	20 22 42.6	-0.6
	0.4nm,0.9s,baz=107,slow=2.6,SNR=5.0						

*ISN **20** 20:19:02.8±2.2, 34.°24N×45.°61E, h25km, ML2.5*
TEH 20 20:19:02.2, 34.°17N×45.°60E, h10km, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.26**	**101**	Pg	Pg	20 19 07.5	0.0
GLG1				Sg	Sg	20 19 12.3	+1.2
KGS1	**Ghasr-e-Shirin**	**0.34**	**358**	Pg	Pg	20 19 09.5	+0.5
IDHR	**Dehrash**	**0.84**	**50**	Pg	Pg	20 19 18.2	-0.2
IKRK	**Kirkuk**	**1.61**	**320**	ePg	Pn	20 19 29.5	-1.2
	baz=138						
IKRK				eSg	Sb	20 19 53.0	+0.5
IKRK				AML	AML	20 20 04.4	
	comp=N,6.4nm,0.8s						

*THE **20** 20:20:46.3, 37.°37N×20.°82E, h0km±3km, ML2.7/8, Error ellipse: s-maj=4.3km s-min=0.8km az=207.0*
*ATH **20** 20:20:48.1, 37.°43N×20.°90E, h16km±1km, ML2.5/10, Manual Solution by D.Makaris First location: 2019/04/20 20:21:51, This location: 2020/09/28 16:00:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 20 20:20:47.2±1.4, 37.°40N±0.°05×20.°86E±0.°04, h11km±9km, n30, σ0§62/49, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.27**	**352**	P	**Pg**	20 20 52.5	-0.1
KRI1				S	**Sg**	20 20 56.5	+0.2
	2μm,0.4s						
LTHK	**Lithakia**	**0.31**	**356**	P	**Pg**	20 20 53.2	-0.3
LTHK				S	**Sg**	20 20 58.2	+0.5
	2μm,0.3s						
LTHK	**Lithakia**	**0.31**	**356**	P	**Pg**	20 20 53.2	-0.3
LTHK				S	**Sg**	20 20 58.5	+0.8
CLEM	**Kyllini,Ilia,G**	**0.54**	**24**	P	**Pg**	20 20 57.8	+0.2
CLEM				S	**Sg**	20 21 04.7	0.0
RTZL	**Ratzakli, Kefa**	**0.68**	**354**	P	**Pg**	20 20 59.3	-1.1
RTZL				S	**Sg**	20 21 10.0	+0.7
PSDA	**Pessada-Kefalo**	**0.75**	**343**	P	**Pg**	20 21 00.5	-1.1
PSDA				S	**Sb**	20 21 12.5	+0.1
	2μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.75**	**343**	P	**Pb**	20 21 02.5	+0.4
PSDA				S	**Sg**	20 21 12.0	+0.6
VLS	**Valsamata**	**0.81**	**345**	P	**Pg**	20 21 01.7	-1.1
VLS				S	**Sb**	20 21 14.0	-0.1
	658nm,0.2s						
RLS	**Riolos of Patr**	**0.81**	**36**	P	**Pg**	20 21 02.5	-0.4
RLS				S	**Sb**	20 21 15.4	+1.1
	168nm,0.5s						
RLS	**Riolos of Patr**	**0.81**	**36**	P	**Pg**	20 21 03.1	+0.2
RLS				S	**Sg**	20 21 13.1	-0.5
DRO	**Drossia**	**0.87**	**50**	P	**Pg**	20 21 03.5	-0.5
DRO				S	**Sb**	20 21 16.5	+0.5
	472nm,0.4s						
ITM	**Ithomi**	**0.88**	**104**	P	**Pg**	20 21 03.9	-0.2
ITM	**Ithomi**	**0.88**	**104**	P	**Pg**	20 21 04.1	0.0
ITM				S	**Sb**	20 21 16.3	+0.2
DMLN	**Damoulianata-K**	**0.92**	**335**	P	**Pg**	20 21 03.9	-1.1
DMLN				S	**Sb**	20 21 18.3	+0.8
	760nm,0.3s						
FSK	**Fiskardo**	**1.08**	**347**	P	**Pg**	20 21 06.3	-1.7
FSK				S	**Sn**	20 21 23.6	+0.3
	198nm,0.5s						
FSK	**Fiskardo**	**1.08**	**347**	P	**Pg**	20 21 07.8	-0.2
FSK				S	**Sg**	20 21 21.8	-0.4
KLV	**Kalavryta, Ach**	**1.21**	**57**	P	**Pb**	20 21 09.8	-0.3
KLV				S	**Sg**	20 21 25.1	-1.1
VLX	**Vlachokerasia**	**1.21**	**91**	P	**Pb**	20 21 10.0	-0.1
EVGI	**Lefkada island**	**1.23**	**352**	P	**Pg**	20 21 11.3	+0.4
EVGI				S	**Sb**	20 21 25.5	-0.8
GUR	**Goura**	**1.29**	**65**	P	**Pn**	20 21 10.6	-0.6
GUR	**Goura**	**1.29**	**65**	P	**Pn**	20 21 11.1	-0.2
GUR				S	**Sb**	20 21 28.3	+0.2
EFP	**Efpalio**	**1.32**	**39**	P	**Pb**	20 21 12.1	+0.2
EFP	**Efpalio**	**1.32**	**39**	P	**Pn**	20 21 11.3	-0.2
EFP				S	**Sb**	20 21 27.8	-0.9
NYDR	**Nydri-Lefkada**	**1.32**	**354**	P	**Pg**	20 21 12.5	0.0
SERG	**Sergoula**	**1.39**	**43**	P	**Pn**	20 21 12.8	+0.4
LKD2	**Lefkada island**	**1.40**	**353**	P	**Pn**	20 21 12.8	+0.2
LKD2	**Lefkada island**	**1.40**	**353**	P	**Pn**	20 21 12.8	+0.2
ANX	**Ano Chora**	**1.46**	**35**	P	**Pn**	20 21 14.1	+0.6
VLI	**Veliai**	**1.79**	**112**	P	**Pn**	20 21 18.4	+0.4
LKR	**Lokris**	**2.10**	**53**	P	**Pn**	20 21 22.0	-0.3

NEIC 20 20:30:01.5±0.2, 37.°24N±0.°02×104.°31W±0.°01, h2km±2km, ML1.2/10, Error ellipse: s-maj=2.4km s-min=1.0km az=166.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.13**	**220**	Pg	Pg	20 30 05.3	+1.2
T25A				Sg	Sg	20 30 07.0	+1.3
SDCO	**Great Sand Dun**	**1.08**	**298**	Pg	Pg	20 30 22.2	+0.1
SDCO				IAML		20 30 36.1	
	5.9nm,0.6s						
SDCO				IAML		20 30 36.3	
	5.1nm,0.2s						
RTBA	**Rita Blanca**	**1.49**	**122**		Pn	20 30 29.5	+0.1
KSCO	**Kaye Shedlock'**	**2.21**	**36**	Pn	Pn	20 30 40.7	+1.3

*BGR **20** 20:43:20.1, 47.°39N×147.°59E, h33km, mb4.4, Hypocentre not reviewed by the ISC*
*NIED **20** 20:43:55.2, 46.°61N×145.°98E, h404km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr=1.14; Mθθ=0.42; Mφφ=0.73; Mrθ=0.43; Mφθ=0.92; Mφr=1.36; Fault plane solution: M0=1.97000×1015 NP1: φs=243.00000°, δ=26.00000°, λ=52.00000°. NP2: φs=22.00000°, δ=70.00000°, λ=107.00000°.*
*JMA **20** 20:43:55.2±0.4, 47.°N±2.°×.14.°6E±.°, h404km, MV3.6/42, SOUTHERN SEA OF OKHOTSK*
*MOS **20** 20:43:55.6±1.0, 46.°89N×145.°75E, h378km, mb4.4/46, Error ellipse: s-maj=7.7km s-min=4.5km az=107.6*
*IDC **20** 20:43:56.6±1.0, 47.°06N×145.°68E, h368km±10km, mb3.6/27, mbtmp4.4/34, Error ellipse: s-maj=10.6km s-min=8.8km az=153.0*
*NEIC **20** 20:43:56.7±1.6, 46.°96N±0.°09×145.°7E±0.°1, h373km±6km, mb4.2/95, Error ellipse: s-maj=14.2km s-min=11.9km az=117.0*
*SKHL **20** 20:43:56.0±0.6, 46.°80N×145.°90E, h372km±5km, mb5.0/8, msha5.1/8*
ISC 20 20:43:56.1±0.5, 46.°76N±0.°04×145.°78E±0.°04, h377km±4km, n640, σ1§31/687, mb4.3/139, 31C-26D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzhno-Sakhali**	**2.08**	**277**		**Pn**	**20 44 51.5**	**+1.3**
YSS				Sn	**S**	**20 45 34.0**	**-0.1**
YSS	**Yuzhno-Sakhali**	**2.08**	**277**	ePN	**Pn**	**20 44 51.6**	**+1.3**
YSS				eS	**S**	**20 45 33.6**	**-0.5**
YSS				pmax	pmax		
	comp=Z,270nm,0.4s						
YSS				smax	smax		
	comp=N,210nm,0.9s						
YSS				smax	smax		
	comp=E,360nm,1.1s						
YSS	**Yuzhno-Sakhali**	**2.08**	**277**	eP	**Pn**	**20 44 51.6**	**+1.3**
YSS				AMB	AMB	20 44 51.9	
YSS				eS	**S**	**20 45 35.2**	**+1.1**
YSS				A	A	20 45 35.6	
	comp=E,320nm,0.8s						
YSS				A	A	20 45 35.6	
	comp=E,60nm,0.8s						
KUR	**Kuril'sk**	**2.11**	**136**	ePN	**Pn**	**20 44 51.6**	**+1.0**
KUR				S	**S**	**20 45 40.4**	**+5.9**
KUR				pmax	pmax		
	comp=Z,120nm,0.7s						
KUR				smax	smax		
	comp=N,30nm,0.4s						
KUR				smax	smax		
	comp=E,64nm,0.4s						
KUR	**Kuril'sk**	**2.11**	**136**	eP	**Pn**	**20 44 51.4**	**+0.8**
KUR				AMB	AMB	20 44 52.1	
	comp=E,230nm,0.6s						
KUR				eS	**S**	**20 45 35.0**	**+0.5**
KUR				A	A	20 45 36.5	
	comp=E,130nm,0.8s						
KUR				A	A	20 45 36.5	
	comp=E,70nm,0.8s						
KHLM	**Kholmsk**	**2.57**	**278**	eP	**Pn**	**20 44 55.3**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**2.72**	**179**	eP	**Pn**	**20 44 56.5**	**+1.3**
YUK				AMB	AMB	20 44 59.6	
	comp=E,280nm,0.8s						
YUK				eS	**S**	**20 45 43.8**	**+0.9**
YUK				A	A	20 45 47.6	
	comp=E,400nm,0.6s						
YUK				A	A	20 45 47.6	
	comp=E,600nm,0.6s						
JRA	**Rausu**	**2.86**	**190**	P	**Pn**	**20 44 57.2**	**+0.9**
JRA				eS	**S**	**20 45 46.7**	**+1.8**
JSE	**Soyaes**	**2.87**	**232**	P	**Pn**	**20 44 57.9**	**+1.6**
JSE				S	**S**	**20 45 45.9**	**+1.0**
SHO	**Shikotan**	**2.98**	**165**	ePN	**Pn**	**20 44 56.4**	**-0.9**
SHO				eS	**S**	**20 45 44.0**	**-2.8**
SHO				smax	smax		
	comp=E,230nm,0.3s						
SHO				smax	smax		
	comp=N,572nm,0.5s						
SHO	**Shikotan**	**2.98**	**165**	eP	**Pn**	**20 44 56.5**	**-0.9**
SHO				AMB	AMB	20 44 57.3	
	comp=N,100nm,0.4s						
SHO				eS	**S**	**20 45 44.3**	**-2.5**
SHO				A	A	20 45 45.6	
	comp=N,700nm,0.4s						
SHO				A	A	20 45 45.6	
	comp=N,250nm,0.4s						
JWK2	**Keihoku**	**3.06**	**243**	P	**Pn**	**20 45 00.1**	**+2.1**
JWK2				S	**S**	**20 45 51.1**	**+3.2**
JTKR	**Abashiri--Toko**	**3.08**	**206**	P	**Pn**	**20 44 59.4**	**+1.2**
JTKR				eS	**S**	**20 45 49.4**	**+1.0**
JMP	**Maruseppu**

TYV A A 20 46 14.0
comp=E,20nm,0.7s
TYV A A 20 46 14.0
comp=E,10.0nm,0.7s
JBT2 Biratori 2 4.66 213 *e*P **Pn 20 45 14.1 +0.6**
JBT2 *e*S **S 20 46 15.2 -0.9**
JNBK Urakawa-nobuka 4.97 207 P **Pn 20 45 16.0 -0.6**
JNBK *e*S **S 20 46 17.0 -5.0**
JEW Eniwo 4.98 220 *e*P **Pn 20 45 18.3 +1.5**
ERM Erimo 5.10 203 **Pn 20 45 18.9 +0.8**
ERM Erimo 5.10 203 *ce*PN **Pn 20 45 19.2 +1.2**
ERM pmax pmax
comp=Z,261nm,0.6s
JOT Ohata 6.36 214 *e*P **Pn 20 45 31.1 -0.8**
JOT S **S 20 46 44.8 -5.1**
JOSM Okushiri--Mats 6.50 226 *e*P **Pn 20 45 34.1 +0.7**
JTM Tenmabayashi 6.87 211 **Pn 20 45 36.6 -1.1**
JSI2 Shiura 2 6.89 216 P **Pn 20 45 37.5 -0.4**
JSI2 *e*S **S 20 46 55.4 -5.5**
JANG Nango 7.09 207 P **Pn 20 45 39.3 -0.9**
JANG *e*S **S 20 46 59.9 -5.2**
GRNR Gornyy 7.37 306 ⇑ *i* PN **P 20 45 43.3 -0.9**
GRNR pmax pmax
comp=E,10.0nm,1.0s
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR Gornyy 7.37 306 *e*P **P 20 45 43.3 -0.9**
JIW Iwasaki 7.45 216 P **Pn 20 45 44.5 +0.3**
JIW *e*S **S 20 47 08.3 -4.3**
JOM Ohasama 7.98 206 P **Pn 20 45 50.2 -0.3**
JOM *e*S **S 20 47 20.1 -4.0**
JMK Ichinoseki 8.49 205 P **Pn 20 45 56.8 +0.5**
JMK *e*S **S 20 47 32.6 -2.2**
JYK Kaneyama 8.79 209 *e*P **Pn 20 46 00.6 +0.8**
JYK *e*S **S 20 47 38.8 -2.5**
JMM Marumori 9.62 204 P **Pn 20 46 10.8 +1.2**
KLR Kul'dur 9.73 290 P **P 20 46 11.8 +0.6**
comp=Z,8.8nm,0.7s,baz=100,slow=12,SNR=35
KLR Kul'dur 9.73 290 *i* PN **P 20 46 11.9 +0.7**
KLR Kul'dur 9.73 290 *e*P **P 20 46 11.9 +0.7**
PEA0B Petropavlovsk- 9.97 46 **Pn 20 46 12.7 -0.7**
PEA0B Petropavlovsk- 9.97 46 *ce*PN **P 20 46 15.1 +1.3**
PETK Petropavlovsk- 9.97 46 **Pn 20 46 12.2 -1.2**
PETK Petropavlovsk- 9.97 46 P **Pn 20 46 12.5 -0.9**
comp=Z,1.8nm,0.5s,baz=224,slow=8.2,SNR=12
USA0B Ussuriysk Arra 10.02 260 **Pn 20 46 14.3 +0.1**
USA0B Ussuriysk Arra 10.02 260 *i* PN **Pn 20 46 13.4 -0.8**
USRK Ussuriysk Ar. 10.02 260 **P 20 46 14.5 0.0**
USRK Ussuriysk Ar. 10.02 260 P **P 20 46 14.3 -0.1**
comp=Z,3.5nm,0.5s,baz=70,slow=12,SNR=12
USRK Ussuriysk Ar. 10.02 260 PN **P 20 46 14.5 0.0**
MDJ Mudanjiang 11.53 265 **Pn 20 46 31.5 -0.3**
MDJ Mudanjiang 11.53 265 P **Pn 20 46 31.6 -0.3**
MDJ S **S 20 48 38.8 -0.5**
MDJ pmax pmax
comp=Z,9.0nm,1.6s
MAJO Matsushiro 11.66 212 *i* PN **Pn 20 46 35.1 +1.5**
MJAR Matsushiro Arr 11.66 212 P **Pn 20 46 35.8 +2.2**
comp=Z,2.3nm,0.6s,baz=22,slow=10.0,SNR=14
JRY Ryogami san 11.90 208 P **Pn 20 46 38.5 +2.1**
HEH HeiHe 12.67 293 *e*P **Pn 20 46 43.8 -1.3**
HEH pmax pmax
comp=Z,15nm,0.6s
JGF Kuroka 12.81 213 P **Pn 20 46 47.7 +0.7**
INU Inuyama 13.16 213 P **Pn 20 46 51.9 +0.8**
MA2 Magadan 13.18 11 P **P 20 46 48.2 -1.0**
MA2 Magadan 13.18 11 P **P 20 46 47.4 -1.8**
comp=Z,6.6nm,0.8s,baz=205,slow=10,SNR=6.4
MA2 Magadan 13.18 11 *i* PN **P 20 46 48.3 -0.9**
ZEA Zeya 13.74 307 *e*P **P 20 46 55.3 -0.1**
KSRS Korea Array 16.16 241 P **Pn 20 47 24.4 -1.0**
comp=Z,6.2nm,0.6s,baz=46,slow=10,SNR=42
KS19 Wonju Array Si 16.16 242 P **P 20 47 23.9 +1.9**
KS19 IAmb IAmb 20 47 25.6
comp=Z,5.3nm,0.6s
KSAR Wonju Array Be 16.19 241 P **P 20 47 23.6 +1.4**
KSAR Wonju Array Be 16.19 241 P **P 20 47 23.6 +1.4**
SEY Seymchan 16.63 11 P **P 20 47 27.1 +0.4**
comp=Z,5.1nm,0.3s,baz=184,slow=9.6,SNR=44
SEY Seymchan 16.63 11 *ce*P **P 20 47 27.3 +0.6**
SEY pmax pmax
comp=Z,10.0nm,1.0s
SEY Seymchan 16.63 11 *e*P **P 20 47 27.3 +0.6**
INCN Inchon 16.92 244 P **P 20 47 31.7 +1.5**
INCN IAmb IAmb 20 47 33.2
comp=Z,14nm,0.8s
INCN Inchon 16.92 244 P **P 20 47 31.7 +1.5**
INCN pmax pmax
comp=Z,14nm,0.8s
HIA Hailar 17.57 288 **P 20 47 34.9 -2.0**
HIA IAmb IAmb 20 47 37.2
comp=Z,10nm,0.7s
HIA Hailar 17.57 288 P **P 20 47 34.9 -2.0**
HIA pmax pmax
comp=Z,11nm,0.7s
YAK Yakutsk 17.86 335 **P 20 47 37.2 -2.5**
YAK Yakutsk 17.86 335 P **P 20 47 37.8 -1.9**
comp=Z,45nm,0.3s,baz=127,slow=5.3,SNR=42
YAK S **S 20 50 41.1 -3.9**
comp=Z,7.0nm,0.5s,baz=156,slow=22,SNR=8.3
YAK Yakutsk 17.86 335 *e*P **P 20 47 37.4 -2.3**
YAK *e*S **S 20 50 42.8 -2.2**
YAK pmax pmax
comp=Z,37nm,1.1s
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,21nm,1.5s
YAK smax smax
comp=N,130nm,2.2s
YAK smax smax
comp=E,55nm,2.1s
XLT XiLinHaoTe 21.02 273 *e*P **P 20 48 12.3 +1.0**
XLT sP sP 20 49 58.6 +2.1
XLT pmax pmax
comp=Z,36nm,0.6s
XLT pmax pmax
comp=Z,73nm,4.9s
BOD Bodaibo 22.15 312 *e*P **P 20 48 19.6 -1.7**
BOD pmax pmax
comp=Z,10.0nm,0.9s
BJT Baijiatuau 22.46 263 P **P 20 48 25.4 +1.1**
BJT IAmb IAmb 20 48 28.5
comp=Z,11nm,0.8s
BJT Baijiatuau 22.46 263 P **P 20 48 25.5 +1.1**
BJT pmax pmax
comp=Z,11nm,0.8s
HHC Hu-ho-hao-te 25.25 269 *e*P **P 20 48 51.3 +1.7**
HHC pmax pmax
comp=Z,41nm,0.7s
ULN Ulaanbaatar 26.10 287 **P 20 48 57.0 -0.1**
ULN IAmb IAmb 20 49 01.8
comp=Z,17nm,1.1s
ULN Ulaanbaatar 26.10 287 *ce*P **P 20 48 57.4 +0.3**
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 26.10 287 *e*P **P 20 48 57.4 +0.3**
TIXI Tiksi 26.22 348 P **P 20 48 55.5 -2.1**
TIXI Tiksi 26.22 348 P **P 20 48 55.3 -2.3**
comp=Z,0.9nm,0.3s,baz=161,slow=5.9,SNR=11
TIXI PcP **PcP 20 52 12.9 +0.4**
comp=Z,2.8nm,0.3s,baz=120,slow=4.1,SNR=2.3
TIXI ScP **ScP 20 55 16.3 +0.6**
comp=Z,0.9nm,0.2s,baz=79,slow=4.4,SNR=6.1
comp=Z,0.9nm,0.3s
TIXI Tiksi 26.22 348 *ce*P **P 20 48 55.9 -1.7**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 26.54 287 **P 20 49 00.8 -0.2**
SONM IAmb IAmb 20 49 06.1
comp=Z,6.5nm,0.9s
SONM Songino Array 26.54 287 P **P 20 49 00.6 -0.3**
comp=Z,2.5nm,0.4s,baz=70,slow=8.6,SNR=23
SONM PcP **PcP 20 52 15.1 +1.0**
comp=Z,0.4nm,0.6s,baz=96,slow=2.9,SNR=2.8
SONM ScP **ScP 20 55 18.4 +1.1**
comp=Z,0.6nm,0.7s,baz=90,slow=4.5,SNR=4.0
comp=Z,2.5nm,0.4s
SONM Songino Array 26.54 287 P **P 20 49 00.8 -0.2**
SONM pmax pmax
comp=Z,7.0nm,0.9s
SPIA Saint Paul Isl 28.54 52 P **P 20 49 19.2 +0.9**
baz=268
GAMB Gambell 28.87 38 P **P 20 49 21.2 +0.1**
baz=255
P08K Saint George I 28.91 54 P **P 20 49 21.7 +0.2**
baz=270
M11K Mekoryuk 30.83 46 P **P 20 49 37.2 -1.1**
baz=266
TNA Tin City 30.91 36 P **P 20 49 38.3 -0.6**
baz=256
F14K Arctic Creek 31.54 36 P **P 20 49 42.9 -1.4**
baz=258
K13K Kusilvak Mount 31.71 43 P **P 20 49 45.5 -0.5**
K13K Kusilvak Mount 31.71 43 P **P 20 49 45.5 -0.5**
baz=265
M13K Dall Lake 32.25 46 P **P 20 49 51.1 +0.6**
M13K Dall Lake 32.25 46 P **P 20 49 50.4 -0.1**
baz=269
F15K North Star Dit 32.27 36 P **P 20 49 49.5 -1.2**
baz=259
J14K Nanvaranak Lak 32.30 42 P **P 20 49 49.8 -1.2**
baz=265
L14K Kuka Creek 32.61 44 P **P 20 49 53.0 -0.7**
baz=268
C16K Lisburne Hills 32.62 31 P **P 20 49 52.0 -1.6**
C16K Lisburne Hills 32.62 31 P **P 20 49 52.6 -1.0**
baz=254
LZH Lanzhou 32.85 266 *e*P **P 20 49 59.3 +3.1**
LZH pmax pmax
comp=Z,12nm,1.0s
M14K Bethel 32.94 46 P **P 20 49 56.7 +0.2**
M14K IAmb IAmb 20 50 36.1
comp=Z,10nm,1.1s
M14K Bethel 32.94 46 P **P 20 49 55.9 -0.6**
baz=269
H16K Elim 33.10 38 P **P 20 49 56.3 -1.5**
baz=263
S12K Black Hills 33.14 55 P **P 20 49 57.6 -0.6**
baz=277
G16K Koyuk River 33.16 37 P **P 20 49 57.3 -0.9**
G16K Koyuk River 33.16 37 P **P 20 49 57.5 -0.8**
baz=262
L15K Ungalak Mounta 33.20 44 P **P 20 49 58.1 -0.6**
baz=268
K15K Wolf Creek Mou 33.20 43 P **P 20 49 57.6 -1.1**
baz=267
D17K Noatak River 33.30 33 P **P 20 49 58.2 -1.2**
baz=258
O14K Tigyukauivet M 33.30 48 P **P 20 49 58.8 -0.8**
baz=272
M15K Kasigluk River 33.57 46 P **P 20 50 01.0 -0.9**
baz=271
E17K Hotham Inlet 33.65 34 P **P 20 50 01.4 -1.1**
baz=260
J16K Anvik River 33.69 41 P **P 20 50 02.0 -0.8**
baz=267
I17K Unalakleet 33.69 40 P **P 20 50 02.1 -0.7**
baz=266
F17K Baldwin Pennin 33.76 35 P **P 20 50 02.4 -1.0**
baz=261
N15K Kwethluk River 33.87 47 P **P 20 50 04.1 -0.3**
baz=272
G17K Kiwalik Mounta 33.88 37 P **P 20 50 03.8 -0.6**
baz=263
GTA Gaotai 33.96 274 *e*P **P 20 50 07.4 +1.7**
GTA ScP **ScP 20 55 44.3 +2.4**
GTA pmax pmax
comp=Z,20nm,0.6s
O15K Ungalikthiuk R 34.05 48 P **P 20 50 05.2 -0.7**
baz=274
SDPT Sand Point 34.08 55 P **P 20 50 06.0 -0.3**
baz=279
H17K Granite Mounta 34.12 38 P **P 20 50 05.8 -0.8**
baz=265
B18K Kokolik River 34.14 30 P **P 20 50 05.7 -1.0**
baz=256
L16K Owhat River 34.16 44 P **P 20 50 06.3 -0.5**
baz=270
E18K Tukpahlearik C 34.18 34 P **P 20 50 05.4 -1.6**
baz=260
C18K Utukok River 34.19 31 P **P 20 50 05.6 -1.6**
baz=258
J17K VABM Dome 34.38 41 P **P 20 50 07.8 -1.0**
baz=268
M16K Timber Creek 34.41 45 P **P 20 50 08.5 -0.5**
baz=272
F18K Selawik 34.42 35 P **P 20 50 08.1 -0.9**
baz=263
S14K Fog Glacier 34.46 54 P **P 20 50 09.2 -0.5**
baz=278
N16K Nishlik Lake 34.52 46 P **P 20 50 09.8 -0.2**
baz=273
A19K Wainwright 34.59 29 P **P 20 50 08.8 -1.6**
baz=256
L17K Donlin 34.71 43 P **P 20 50 10.7 -0.9**
baz=270
K17K Iditarod 34.72 42 P **P 20 50 11.0 -0.6**
baz=270
G18K Tagagawik 34.74 36 P **P 20 50 11.2 -0.6**
G18K IAmb IAmb 20 50 11.8
comp=Z,3.5nm,0.5s
G18K Tagagawik 34.74 36 P **P 20 50 11.0 -0.8**
baz=265,SNR=5.2
H18K Honhosa River 34.80 38 P **P 20 50 11.5 -0.7**
baz=266
M17K Holitna River 35.14 44 P **P 20 50 14.5 -0.7**
baz=272
F19K Shaleruckik Mo 35.19 35 P **P 20 50 14.1 -1.4**
baz=264
D19K Kuna River 35.28 32 P **P 20 50 14.6 -1.7**
baz=262
O17K Koliganek Bris 35.40 47 P **P 20 50 16.0 -1.3**
baz=275
J18K Innoko River 35.44 41 P **P 20 50 17.0 -0.8**
baz=270
L18K Granite Mounta 35.47 43 P **P 20 50 17.5 -0.5**
baz=272
E19K Redstone River 35.47 34 P **P 20 50 16.7 -1.2**
baz=264
H19K Roundabout Mou 35.62 37 P **P 20 50 18.4 -0.8**
baz=267,SNR=5.5
TTA Tatalina 35.77 42 P **P 20 50 20.2 -0.4**
TTA Tatalina 35.77 42 P **P 20 50 20.2 -0.4**
TTA pmax pmax
comp=Z,4.0nm,1.3s
TTA Tatalina 35.77 42 P **P 20 50 19.8 -0.7**
baz=271
P17K Kvichak River 35.78 48 P **P 20 50 20.1 -0.5**
baz=276
D20K Etivluk River 35.85 32 P **P 20 50 20.1 -1.0**
baz=263
B20K Meade River 35.86 30 P **P 20 50 20.0 -1.1**
baz=260
M18K Stony River 35.91 44 P **P 20 50 21.1 -0.6**
baz=274
N18K Kilae Creek 35.93 46 P **P 20 50 21.3 -0.6**
baz=275
J19K Poorman 35.93 40 P **P 20 50 21.4 -0.5**
baz=270
E20K Nigu River 35.95 33 P **P 20 50 21.3 -0.7**
baz=264
F20K Avaraart Lake 36.01 35 P **P 20 50 21.8 -0.7**
baz=266
NRIK Noril'sk 36.16 329 *ce*P **P 20 50 23.7 +0.1**
NRIK pmax pmax
comp=Z,2.0nm,0.5s
Q17K Contact Creek 36.18 50 P **P 20 50 23.1 -1.0**
baz=278
H20K Anotleneega Mo 36.27 37 P **P 20 50 23.5 -1.2**
baz=269,SNR=5.2
L19K White Mountain 36.33 43 P **P 20 50 23.6 -1.6**
baz=273
O18K Koktuh Hills 36.34 47 P **P 20 50 24.6 -0.8**
baz=276
P18K Big Mountain, 36.38 48 P **P 20 50 24.7 -1.0**
baz=277
I20K Naaghedeneel 36.43 39 P **P 20 50 24.4 -1.6**
baz=270
C21K Knifeblade Rid 36.57 31 P **P 20 50 26.1 -1.0**
baz=264
J20K Nowinta River 36.58 40 P **P 20 50 26.4 -0.8**
baz=271
Q18K Katmai Hardscr 36.58 49 P **P 20 50 27.0 -0.5**
baz=278
N19K Bonanza Creek 36.60 45 P **P 20 50 26.7 -0.9**
baz=276
K20K Telida 36.64 41 P **P 20 50 26.9 -0.8**
baz=272
B21K Ikpikpuk River 36.68 30 **P 20 50 27.1 -0.9**
B21K Ikpikpuk River 36.68 30 P **P 20 50 27.0 -1.0**
baz=264,SNR=5.3
CHIR Chirikof Islan 36.71 54 P **P 20 50 28.1 -0.4**
baz=281
A22K Sinclair Lake 36.75 28 P **P 20 50 27.5 -1.0**
baz=261
L20K Farewell, AK 36.77 42 P **P 20 50 28.2 -0.7**
baz=274
E21K Killik River 36.79 32 P **P 20 50 28.0 -1.0**
baz=266
G21K Allakaket 36.86 36 P **P 20 50 28.4 -1.2**
baz=269
F21K Alatna River 36.90 34 P **P 20 50 29.5 -0.4**
baz=268
H21K Melozitna Rive 37.14 37 P **P 20 50 31.6 -0.3**
baz=270
M20K Styx River 37.16 43 P **P 20 50 31.1 -1.1**
baz=275
B22K Teshekpuk Lake 37.17 29 P **P 20 50 31.3 -0.7**
baz=264
Q19K Cape Douglas, 37.25 48 P **P 20 50 32.2 -0.8**
baz=279
D22K Ayikyak River 37.30 32 P **P 20 50 31.3 -1.8**
baz=266
P19K Oil Pt 37.36 47 P **P 20 50 32.8 -1.0**
baz=278
SII Sitkinak Islan 37.36 52 P **P 20 50 32.8 -1.1**
baz=282
F22K John River 37.41 34 P **P 20 50 32.7 -1.4**
baz=269,SNR=6.6
I21K Tanana 37.49 38 P **P 20 50 33.9 -0.9**
baz=272
PPLA Purkeypile 37.52 42 P **P 20 50 35.7 +0.5**
PPLA IAmb IAmb 20 51 07.7
comp=Z,14nm,1.5s
PPLA Purkeypile 37.52 42 P **P 20 50 33.3 -1.9**
baz=275
CAST Castle Rocks 37.53 41 P **P 20 50 35.4 +0.3**
CAST Castle Rocks 37.53 41 P **P 20 50 34.0 -1.2**
baz=274
E22K Anaktuvuk Pass 37.57 33 P **P 20 50 34.8 -0.7**
baz=268
G22K Bettles 37.66 35 P **P 20 50 35.3 -0.9**
baz=270
H22K Ishtalitna Cre 37.73 37 P **P 20 50 35.8 -0.9**
baz=272
SKT Skwentna 37.90 43 P **P 20 50 37.2 -1.1**
baz=276
BPAW Bear Paw Mtn. 37.97 40 P **P 20 50 38.6 -0.2**
BPAW Bear Paw Mtn. 37.97 40 P **P 20 50 38.0 -0.8**
baz=274
KDAK Kodiak Island 37.99 50 P **P 20 50 38.4 -0.6**
KDAK IAmb IAmb 20 51 14.4
comp=Z,23nm,1.3s
KDAK Kodiak Island 37.99 50 P **P 20 50 38.4 -0.6**
KDAK pmax pmax
comp=Z,23nm,1.3s
D23K Nanushuk River 38.02 32 P **P 20 50 37.9 -1.3**
baz=268
C23K Itkillik River 38.09 30 P **P 20 50 38.6 -1.0**
baz=267
COLD Coldfoot 38.18 34 P **P 20 50 39.5 -1.0**
baz=271
G23K Bananza Creek 38.25 35 P **P 20 50 39.6 -1.6**
baz=272
TRF Thorofare Moun 38.33 41 P **P 20 50 41.9 -0.1**
TRF Thorofare Moun 38.33 41 P **P 20 50 40.8 -1.1**
baz=276
SUA Susitna One 38.34 44 P **P 20 50 41.3 -0.7**
SUA IAmb IAmb 20 51 02.7
comp=Z,16nm,1.4s
SUA Susitna One 38.34 44 P **P 20 50 40.9 -1.1**
baz=278
E23K Chandalar 38.40 33 P **P 20 50 41.8 -0.5**
baz=270
TOLK Toolik Lake Re 38.42 32 P **P 20 50 41.7 -0.8**
baz=270
ZAA0 Zalesovo Array 38.46 304 P **P 20 50 42.0 -1.0**
ZALV Zalesovo Beam 38.46 304 P **P 20 50 41.8 -1.2**
comp=Z,1.5nm,0.3s,baz=63,slow=6.9,SNR=12
ZALV PcP **PcP 20 52 47.8 +0.8**
comp=Z,0.9nm,0.4s,baz=81,slow=2.3,SNR=6.6
comp=Z,1.5nm,0.3s
ZALV Zalesovo Beam 38.46 304 P **P 20 50 42.1 -0.9**
H23K Yukon River 38.48 37 P **P 20 50 42.2 -0.8**
baz=273
I23K Minto, Yukon-K 38.60 38 P **P 20 50 42.9 -1.0**
baz=274
D24K Happy Valley 38.69 31 P **P 20 50 42.8 -1.8**
baz=270
C24K Franklin Bluff 38.75 30 P **P 20 50 43.0 -2.1**
baz=269
NEA2 Nenana 38.76 39 P **P 20 50 45.0 -0.3**
NEA2 Nenana 38.76 39 P **P 20 50 43.7 -1.6**
baz=275
E24K Your Creek 38.82 33 P **P 20 50 44.4 -1.4**
baz=271,SNR=5.1
MCK McKinley 38.90 40 P **P 20 50 46.4 -0.1**
MCK McKinley 38.90 40 P **P 20 50 46.4 -0.1**
MCK pmax pmax
comp=Z,7.0nm,1.4s
MCK McKinley 38.90 40 P **P 20 50 45.1 -1.4**
baz=276
GOMU GeErMu 38.99 273 P **P 20 50 48.9 +0.9**
GOMU pP pP 20 51 07.8 -52
GOMU pmax pmax
comp=Z,34nm,0.8s
F24K Squaw Lake 39.06 34 P **P 20 50 45.8 -2.0**
baz=273,SNR=6.6
PMR Palmer 39.08 43 P **P 20 50 46.7 -1.2**
baz=279
H24K Noodor Dome 39.16 37 P **P 20 50 46.9 -1.7**
baz=275
SEW Seward 39.17 46 P **P 20 50 47.8 -0.9**
baz=280
G24K Hadweenzic Riv 39.27 35 P **P 20 50 48.4 -1.0**
baz=274
POKR Poker Flat Res 39.41 38 P **P 20 50 49.4 -1.2**
baz=276
SML Sawmill 39.43 43 P **P 20 50 49.4 -1.4**
baz=279
KNK Knik Glacier 39.43 44 P **P 20 50 50.0 -0.8**
baz=280
D25K Kavik River 39.57 31 P **P 20 50 50.5 -1.4**
baz=272,SNR=5.8
PWL Port Wells 39.58 45 P **P 20 50 51.4 -0.6**
baz=280
IL31 39.68 38 **P 20 50 51.9 -0.8**
ILAR Eielson Array 39.68 38 P **P 20 50 51.9 -0.9**
ILAR Eielson Array 39.68 38 P **P 20 50 52.2 -0.5**
comp=Z,1.7nm,0.6s,baz=272,slow=7.9,SNR=26
comp=Z,1.7nm,0.6s
HDA Harding Lake 39.70 39 P **P 20 50 52.0 -0.9**
baz=277
M23K Glacier View 39.72 43 P **P 20 50 52.0 -1.1**
baz=280
G25K Bearman Lake 39.81 35 P **P 20 50 52.5 -1.2**
baz=275
SCM Sheep Creek Mo 39.90 43 P **P 20 50 54.7 0.0**
SCM IAmb IAmb 20 51 13.1
comp=Z,32nm,1.4s
SCM Sheep Creek Mo 39.90 43 P **P 20 50 54.7 0.0**
SCM pmax pmax
comp=Z,32nm,1.4s
SCM Sheep Creek Mo 39.90 43 P **P 20 50 53.2 -1.5**
baz=280
E25K Arctic Village 39.91 33 P **P 20 50 53.3 -1.4**
baz=274
F25K Christian Rive 39.92 34 P **P 20 50 53.2 -1.5**
baz=274
H25L Birch Creek 39.96 36 P **P 20 50 53.6 -1.4**
baz=276
C26K Camden Bay 40.06 30 P **P 20 50 54.7 -1.1**
baz=272
PZH PanZhiHua 40.07 255 P **P 20 50 58.0 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
PRP Porcupine Dome 40.16 37 P **P 20 50 56.4 -0.5**
PRP Porcupine Dome 40.16 37 P **P 20 50 55.8 -1.1**
baz=277
GLI Glacier Island 40.17 44 P **P 20 50 54.4 -2.5**
baz=281
P23K Montague Islan 40.20 46 P **P 20 50 55.1 -2.0**
baz=282
K24K Donnelly Dome 40.29 40 P **P 20 50 56.7 -1.1**
baz=279
BMAR Burnt Mountain 40.34 34 P **P 20 50 57.8 -0.3**

J25K Salcha River, 40.35 38 P **P 20 50 56.9 -1.3**
baz=278
M24K Tolsona, Glenn 40.38 42 P **P 20 50 57.1 -1.5**
baz=281
F26K Sheenjek River 40.48 34 P **P 20 50 57.9 -1.4**
baz=276
C27K Jago River 40.49 31 P **P 20 50 58.7 -0.6**
baz=274,SNR=6.7
PAX Paxson 40.56 41 P **P 20 50 59.2 -0.9**
baz=280
KLU Klutina 40.62 43 P **P 20 50 58.6 -1.9**
baz=282
G26K Porcupine Rive 40.70 35 P **P 20 50 59.1 -1.9**
baz=277
RIDG Independent Ri 40.70 40 P **P 20 50 59.6 -1.5**
baz=280
HARP HAARP 40.80 42 P **P 20 51 00.2 -1.7**
baz=281
SCRK Sand Creek 41.04 39 P **P 20 51 02.8 -1.2**
SCRK Sand Creek 41.04 39 P **P 20 51 02.3 -1.7**
baz=280
J26L Joseph Creek 41.13 38 P **P 20 51 03.3 -1.3**
baz=280
I26K Coal Creek Min 41.18 37 P **P 20 51 03.7 -1.2**
baz=279
N25K Chitina, Valde 41.21 43 P **P 20 51 03.8 -1.5**
baz=282
BMRM Bremner River 41.35 44 P **P 20 51 05.6 -0.8**
baz=283
E27K Coleen River 41.39 33 P **P 20 51 05.4 -1.2**
baz=277
D27M Malcolm River 41.49 31 P **P 20 51 05.9 -1.5**
baz=277
G27K Doyon Strip 41.55 35 P **P 20 51 07.0 -1.0**
baz=279
H27K Steamboat Moun 41.69 36 P **P 20 51 07.7 -1.4**
baz=280
I27K Kandik River 41.76 37 P **P 20 51 07.4 -2.2**
baz=280
M26K Nabesna, AK 41.78 41 P **P 20 51 08.0 -1.8**
baz=283
K27K Chicken 41.86 39 P **P 20 51 08.9 -1.5**
baz=282
E28M Babbage River 42.09 32 P **P 20 51 10.9 -1.2**
baz=279
L27K Beaver Creek, 42.17 40 P **P 20 51 11.8 -1.1**
baz=283
BCAR Beaver Creek A 42.19 40 P **P 20 51 13.4 +0.3**
D28M Stokes Point 42.27 31 P **P 20 51 12.3 -1.2**
baz=279
M27K Edge Creek, AK 42.30 41 P **P 20 51 12.3 -1.8**
baz=284
MK31 Makanchi Array 42.40 294*ce*P **P 20 51 14.9 0.0**
MKAR Makanchi Array 42.40 294 **P 20 51 15.0 0.0**
MKAR Makanchi Array 42.40 294 P **P 20 51 14.9 -0.1**
comp=Z,5.4nm,0.4s,baz=71,slow=7.7,SNR=135
MKAR PcP **PcP 20 53 00.8 +0.7**
comp=Z,0.5nm,0.5s,baz=62,slow=4.1,SNR=3.9
MKAR ScP **ScP 20 56 14.8 +0.8**
comp=Z,0.5nm,0.7s,baz=57,slow=2.8,SNR=4.5
comp=Z,5.4nm,0.4s
I28M Miner Creek 42.48 37 P **P 20 51 13.8 -1.6**
baz=282
MAKZ Makanchi 42.59 294 **P 20 51 16.2 -0.2**
MAKZ IAmb IAmb 20 51 17.5
comp=Z,9.6nm,0.5s
MAKZ Makanchi 42.59 294 P **P 20 51 16.2 -0.2**
MAKZ pmax pmax
comp=Z,10.0nm,0.5s
E29M Blow River 42.72 32 P **P 20 51 15.8 -1.3**
baz=280
MESA MESA 42.81 44 P **P 20 51 16.3 -1.9**
baz=286
G29M Pine Creek 42.95 34 P **P 20 51 17.7 -1.3**
baz=282
H29M Whitestone 42.95 35 P **P 20 51 18.0 -1.0**
baz=282
DAWY Dawson 43.01 38 P **P 20 51 19.0 -0.6**
baz=284
YUK3 Moose Creek 43.09 42 P **P 20 51 19.6 -0.8**
baz=285
KURK Kurchatov 43.10 301 **P 20 51 20.0 -0.4**
KURK IAmb IAmb 20 51 20.6
comp=Z,11nm,0.6s
KURK Kurchatov 43.10 301 P **P 20 51 20.6 +0.2**
KURK 20 53 03.3
KURK Kurchatov 43.10 301 *e*P **P 20 51 20.0 -0.4**
I29M Ogilvie Camp, 43.16 36 P **P 20 51 19.7 -1.0**
baz=283
KURBB Kurchatov Arra 43.18 301 P **P 20 51 20.6 -0.5**
comp=Z,11nm,0.6s,baz=74,slow=8.3,SNR=116
KURBB PcP **PcP 20 53 03.3 +0.7**
comp=Z,2.4nm,0.7s,baz=74,slow=3.2,SNR=10
KURBB ScP **ScP 20 56 17.5 +0.5**
comp=Z,0.4nm,0.7s,baz=66,slow=3.6,SNR=3.4
comp=Z,11nm,0.6s
O28M Mount Upton 43.49 43 P **P 20 51 22.4 -1.3**
baz=286
YUK8 Steele Glacier 43.55 42 P **P 20 51 22.9 -1.2**
baz=286
EPYK Eagle Plains 43.57 35 P **P 20 51 23.1 -0.9**
baz=283
G30M tAoh Zraii Nji 43.63 34 P **P 20 51 23.0 -1.3**
baz=283
F30M Barrier River 43.65 33 P **P 20 51 23.4 -1.1**
baz=283,SNR=6.0
L29M L29M 43.79 40 P **P 20 51 25.0 -0.8**
baz=286
M29M Somme Creek 43.82 41 P **P 20 51 24.9 -1.2**
baz=286
K29M Barlow Dome 43.86 38 P **P 20 51 24.9 -1.5**
baz=285
I30M Mount Dempster 43.98 36 P **P 20 51 26.3 -1.1**
baz=285
YUK4 Talbot Arm 44.05 42 P **P 20 51 26.3 -1.7**
baz=287
YUK6 Outpost Mounta 44.30 43 P **P 20 51 28.7 -1.3**
baz=288
INK Inuvik 44.32 32 P **P 20 51 29.0 -0.7**
baz=284
G31M Satah River 44.39 34 P **P 20 51 29.6 -0.7**
baz=285
O29M Mount Kennedy 44.39 44 P **P 20 51 29.3 -1.2**
baz=288
F31M Tsiigehtchic 44.45 33 P **P 20 51 29.0 -1.7**
baz=285
H31M Peel River 44.65 35 P **P 20 51 30.8 -1.7**
baz=286
HYT Haines Junctio 44.73 43 P **P 20 51 34.6 +1.4**
HYT IAmb IAmb 20 51 36.7
comp=Z,14nm,1.4s
HYT Haines Junctio 44.73 43 P **P 20 51 31.8 -1.5**
baz=286
P29M Windy Craggy 45.00 44 P **P 20 51 34.5 -0.7**
baz=289
P30M Million Dollar 45.21 43 P **P 20 51 36.2 -0.7**
baz=290
LSA Lhasa 45.23 268 **P 20 51 39.3 +1.3**
LSA IAmb IAmb 20 51 41.0
comp=Z,7.0nm,0.7s
LSA Lhasa 45.23 268 P **P 20 51 40.4 +2.4**
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 45.23 268 P **P 20 51 39.3 +1.3**
LSA pmax pmax
comp=Z,7.0nm,0.7s
O30N Mendenhall 45.41 42 P **P 20 51 38.2 -0.1**
baz=290
WHY Whitehorse 46.00 42 P **P 20 51 41.7 -1.4**
baz=290
A36M Sachs Harbour 46.06 26 P **P 20 51 42.2 -1.0**
baz=288
S31K Pelican 46.32 46 P **P 20 51 46.0 +0.6**
baz=292
BVAR Borovoye Array 46.88 307 P **P 20 51 49.3 -0.5**
comp=Z,2.3nm,0.3s,baz=80,slow=4.6,SNR=28
BVAR PcP **PcP 20 53 15.9 +0.4**
comp=Z,1.6nm,0.6s,baz=64,slow=3.4,SNR=4.6
comp=Z,2.3nm,0.3s
BRVK Borovoye 46.93 307 P **P 20 51 49.4 -0.7**
BRVK IAmb IAmb 20 51 50.6
comp=Z,9.1nm,0.7s
BRVK Borovoye 46.93 307*ce*P **P 20 51 50.4 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 46.93 307 *e*P **P 20 51 50.4 +0.3**
WUS Wushi 46.93 289 **P 20 51 51.2 +0.7**
WUS IAmb IAmb 20 51 52.4
comp=Z,13nm,0.7s
P32M Atlin 46.93 43 P **P 20 51 50.2 +0.1**
baz=292
P33M Teslin, Yukon 47.12 42 P **P 20 51 50.8 -0.8**
baz=292
CHTO Chiang Mai 47.29 250 **P 20 51 54.9 +1.6**
CHTO IAmb IAmb 20 51 55.9
comp=Z,5.5nm,0.7s
CHTO Chiang Mai 47.29 250 P **P 20 51 54.9 +1.6**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
C36M Paulatuk 47.29 29 P **P 20 51 52.1 -0.5**
baz=291
SHL Shillong 47.34 263 **P 20 51 54.5 +0.6**
SHL IAmb IAmb 20 51 55.3
comp=Z,11nm,1.0s
SHL Shillong 47.34 263 P **P 20 51 54.5 +0.6**
SHL pmax pmax
comp=Z,11nm,1.0s
CMAR Chiang Mai Arr 47.55 250 P **P 20 51 56.7 +1.4**
CMAR Chiang Mai Arr 47.55 250 P **P 20 51 57.3 +2.0**
comp=Z,1.4nm,0.7s,baz=29,slow=7.1,SNR=11
comp=Z,1.4nm,0.7s
KDJ Kajisay 47.78 291 P **P 20 51 57.4 +0.4**
KDJ Kajisay 47.78 291 P **P 20 51 57.4 +0.4**
KDJ pmax pmax
comp=Z,35nm,1.4s
BOOM Boomskoye usch 48.40 292 P **P 20 52 02.7 +1.0**
BOOM IAmb IAmb 20 52 04.4
comp=Z,16nm,0.9s
BOOM Boomskoye usch 48.40 292 P **P 20 52 02.7 +1.0**
BOOM pmax pmax
comp=Z,16nm,0.9s
AAK Ala-Archa 49.24 293 P **P 20 52 08.3 +0.3**
AAK Ala-Archa 49.24 293 P **P 20 52 08.3 +0.3**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 49.24 293 *e*P **P 20 52 08.3 +0.3**
KSH Kashi 49.92 288 P P 20 52 17.9 +4.8
KSH pmax pmax
comp=Z,8.0nm,0.7s
EUNU Eureka 50.07 10 **P 20 52 12.7 -0.8**
EUNU IAmb IAmb 20 52 13.6
comp=Z,5.8nm,0.7s
SVE Sverdlovsk 50.31 315 *e*P **P 20 52 15.3 -0.2**
SVE pmax pmax
comp=Z,21nm,0.6s
ARSB Arslanbob 50.89 292 **P 20 52 20.8 +0.6**
ARSB IAmb IAmb 20 52 22.3
comp=Z,14nm,0.9s
ARSB Arslanbob 50.89 292 P **P 20 52 20.8 +0.6**
ARSB pmax pmax
comp=Z,14nm,0.9s
KK31 Karatay Array 51.50 295 **P 20 52 24.4 -0.1**
KK31 IAmb IAmb 20 52 25.4
comp=Z,6.3nm,0.6s
KK31 Karatay Array 51.50 295 P **P 20 52 24.4 -0.1**
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 51.50 295 **P 20 52 24.6 +0.1**
KKAR Karatay Array 51.50 295 P **P 20 52 24.6 +0.1**
ARTI Arti 51.62 315 **P 20 52 24.1 -1.0**
ARTI Arti 51.62 315*d i*P **P 20 52 24.4 -0.7**
ARTI 20 53 32.6
ARTI *PP **pP 20 53 41.2 -0.9**
ARTI 20 54 24.7
ARTI SS **SKiKP 21 02 59.0 -9.2**
ARTI pmax pmax
comp=Z,12nm,0.5s
SPB2 Spitsbergen Ar 51.64 348 P **P 20 52 23.1 -1.9**
SPITS Spitsbergen Ar 51.64 348 P **P 20 52 23.3 -1.7**
comp=Z,7.3nm,0.9s,baz=57,slow=10,SNR=24
comp=Z,7.3nm,0.9s
SPITS Spitsbergen Ar 51.64 348 P **P 20 52 23.6 -1.4**
KBS Kingsbay 51.66 350 *e*P P 20 52 18.1 -7.0
RES Resolute Bay 52.37 17 P **P 20 52 29.7 -0.6**
RES pmax pmax
comp=Z,19nm,1.4s
BTK Batken 52.96 292 **P 20 52 35.1 -0.1**
BTK IAmb IAmb 20 52 37.1
comp=Z,10nm,0.8s
BTK Batken 52.96 292 P **P 20 52 35.1 -0.1**
BTK pmax pmax
comp=Z,10.0nm,0.9s
YKA Yellowknife Ar 53.86 35 P **P 20 52 40.8 -0.4**
comp=Z,0.8nm,0.6s,baz=307,slow=7.0,SNR=24
YKA PcP **PcP 20 53 41.7 +0.5**
comp=Z,0.3nm,0.7s,baz=311,slow=3.3,SNR=5.1
comp=Z,0.8nm,0.6s
GAR Garm 53.87 291 **P 20 52 42.2 +0.4**
AB31 Akbulak array 54.46 307 **P 20 52 45.2 -0.5**
AB31 IAmb IAmb 20 52 46.2
comp=Z,8.7nm,0.7s
ABKAR Akbulak array 54.46 307 **P 20 52 45.1 -0.6**
ABKAR Akbulak array 54.46 307 **P 20 52 45.1 -0.6**
ABKAR IAmb IAmb 20 52 46.2
comp=Z,8.8nm,0.7s
KIRV Kirov 54.64 320*ce*P **P 20 52 46.6 -0.2**
SIMJ Simiganj 54.90 291 **P 20 52 49.3 +0.1**
DZET Dzherino 54.94 292 P **P 20 52 49.9 +0.5**
DZET pmax pmax
comp=Z,13nm,0.9s
NIL Nilore 55.06 284 **P 20 52 51.3 +1.0**
NIL Nilore 55.06 284 P **P 20 52 51.3 +1.0**
NIL pmax pmax
comp=Z,21nm,0.8s
KEV Kevo 55.56 338 P **P 20 52 51.9 -1.2**
KEV Kevo 55.56 338 P **P 20 52 51.9 -1.2**
KEV pmax pmax
comp=Z,25nm,1.3s
NEEM North Greenlan 55.62 4 *i* P **P 20 52 52.3 -1.6**
NEEM IAmb IAmb 20 52 53.3
comp=Z,7.9nm,0.5s
ARCES ARCESS Array B 56.09 339 P **P 20 52 55.2 -1.7**
comp=Z,1.1nm,0.3s,baz=46,slow=7.4,SNR=27
comp=Z,1.1nm,0.3s
KBL Kabul 57.31 287 **P 20 53 05.5 -0.7**
KBL IAmb IAmb 20 53 07.2
comp=Z,14nm,0.9s
KBL Kabul 57.31 287 P **P 20 53 05.5 -0.7**
KBL pmax pmax
comp=Z,14nm,0.9s
KULLO Kullorsuaq 57.97 7 *i* P **P 20 53 08.1 -1.8**
KULLO IAmb IAmb 20 53 09.0
comp=Z,6.9nm,0.5s
JOF Joensuu 58.98 331 *e*P **P 20 53 15.8 -1.0**
UPNV Upernavik 59.78 7 *i* P **P 20 53 20.4 -1.7**
UPNV IAmb IAmb 20 53 21.3
comp=Z,8.2nm,0.5s
FAUS Fauske 60.20 340 *e*P **P 20 53 24.4 -0.6**
SUMG Summit 60.93 1 **P 20 53 30.1 -0.3**
SUMG Summit 60.93 1 P **P 20 53 30.1 -0.3**
SUMG pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 60.93 1 *i* P **P 20 53 29.9 -0.5**
SUMG IAmb IAmb 20 53 31.0
comp=Z,12nm,0.5s
MOR8 Moi Rana 61.38 340 *e*P **P 20 53 30.9 -2.0**
KEF Keuruu 61.61 333 *e*P **P 20 53 32.7 -1.8**
VAF Ylistaro 61.63 334 *e*P **P 20 53 34.1 -0.5**
LEIR Leirfjorden 61.74 340 *e*P **P 20 53 34.4 -0.9**
FIA1 FINESS Array S 61.76 332 P **P 20 53 34.3 -1.1**
FINES FINESS Array B 61.76 332 **P 20 53 34.5 -1.0**
FINES FINESS Array B 61.76 332 P **P 20 53 34.3 -1.1**
comp=Z,16nm,0.5s,baz=41,slow=7.5,SNR=221
comp=Z,16nm,0.5s
FINES FINESS Array B 61.76 332 P **P 20 53 34.5 -1.0**
HRA Herat 61.82 291 P **P 20 53 37.2 +0.6**
HRA IAmb IAmb 20 53 38.3
comp=Z,7.5nm,1.1s
PINE Pine Mountain 61.82 55 P **P 20 53 38.1 +1.7**
PINE IAmb IAmb 20 53 39.9
comp=Z,4.9nm,0.8s
OBN Obninsk 62.33 322⇓*i*P **P 20 53 38.1 -1.2**
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN Obninsk 62.33 322 *e*P **P 20 53 38.8 -0.5**
OBN Obninsk 62.33 322 P **P 20 53 37.3 -2.0**
comp=Z,11nm,0.7s
O02D Mt. Diablo Mer 63.03 59 P **P 20 53 45.1 +0.8**
MEF Metsahovi 63.23 331 *e*P **P 20 53 44.4 -0.7**
ARBE Arbavere 63.28 330 *e*P **P 20 53 44.8 -0.6**
RAF Rauma 63.45 333 *e*P **P 20 53 45.5 -1.0**
VSU Vasula 63.75 329 *e*P **P 20 53 47.3 -1.1**
ICESG Greenland Ices 64.40 2 *i* P **P 20 53 52.4 -0.6**
ICESG IAmb IAmb 20 53 54.0
comp=Z,14nm,0.8s
MTSE Matsula 64.56 331 *e*P **P 20 53 53.5 -0.2**
BOZ Bozeman (W) 65.68 49 P **P 20 54 02.3 +1.0**
BOZ IAmb IAmb 20 54 03.2
comp=Z,2.1nm,0.6s
BOZ Bozeman (W) 65.68 49 P **P 20 54 02.3 +1.0**
BOZ pmax pmax
comp=Z,2.0nm,0.6s
DOMB Dombas 66.13 339 *e*P **P 20 54 03.2 -0.5**
MNK Minsk 66.28 326 *i* P **P 20 54 04.8 +0.1**
MNK *i* *PP **pP 20 55 27.5 +1.2**
MNK *i* 20 56 36.5
MNK *i* PPP PPP 20 58 18.5
MNK *i* S **S 21 02 25.1 +2.3**
MNK *i* SS **SS 21 06 51.7 +5.4**
MNK pmax pmax
comp=N,13nm,1.1s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK pmax pmax
comp=E,13nm,1.0s
MNK MLR MLR
comp=Z,17nm,15.0s
MNK MLR MLR
comp=N,21nm,16.0s
MNK MLR MLR
comp=E,22nm,15.0s
NB2 NORSAR Subarra 66.45 338 P **P 20 54 04.7 -1.0**
comp=Z,5.6nm,0.5s,baz=31,slow=6.5
NB2 NORSAR Subarra 66.45 338 P **P 20 54 01.2 -4.5**
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 66.45 338 P **P 20 54 04.7 -1.0**
baz=31,slow=6.5
NOA NORSAR Array B 66.45 338 P **P 20 54 04.9 -0.8**
comp=Z,6.8nm,0.6s,baz=32,slow=6.6,SNR=100
comp=Z,6.8nm,0.6s
HFS Hagfors 66.55 336 P **P 20 54 05.3 -0.9**
comp=Z,16nm,0.5s,baz=52,slow=5.8,SNR=163
comp=Z,16nm,0.5s
NORES NORESS Array B 66.62 337 P **P 20 54 05.8 -0.9**
NC602 NORSAR Array S 66.62 337 *e*P **P 20 54 05.7 -1.0**
VSVD Vaisvydziai 66.63 329 *e*P **P 20 54 06.3 -0.5**
NVAR Mina Array Bea 66.81 58 P **P 20 54 10.2 +1.7**
comp=Z,0.9nm,0.7s,baz=300,slow=8.0,SNR=4.4
comp=Z,0.9nm,0.7s
YNE Yellowstone No 66.92 48 P **P 20 54 10.4 +1.2**
PABE Paberze 66.98 328 P **P 20 54 08.3 -0.8**
WB0 Warramunga Arr 67.00 192 P **P 20 54 11.0 +1.4**
WB0 IAmb IAmb 20 54 23.6
comp=Z,10.0nm,1.5s
ELK Elko 67.01 55 P **P 20 54 10.9 +1.1**
ELK Elko 67.01 55 P **P 20 54 10.9 +1.1**
ELK pmax pmax
comp=Z,1.0nm,0.9s
KIV Kislovodsk 67.06 310 **P 20 54 10.1 +0.2**
KIV Kislovodsk 67.06 310⇑P **P 20 54 11.1 +1.3**
KIV Kislovodsk 67.06 310⇑*e*P **P 20 54 11.2 +1.3**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV Kislovodsk 67.06 310 *e*P **P 20 54 11.1 +1.3**
KBZ Khabaz 67.10 310 P **P 20 54 10.9 +1.0**
comp=Z,10nm,0.8s,baz=64,slow=4.4,SNR=25
comp=Z,10nm,0.8s
KBZ Khabaz 67.10 310*ce*P **P 20 54 11.4 +1.4**
KBZ pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 67.10 310 *e*P **P 20 54 11.4 +1.4**
WR8 Warramunga Arr 67.18 192 P **P 20 54 11.9 +1.3**
WR8 IAmb IAmb 20 54 44.8
comp=Z,8.8nm,1.4s
WRA Warramunga Arr 67.19 192 P **P 20 54 12.3 +1.6**
comp=Z,0.6nm,0.7s,baz=7.3,slow=6.6,SNR=4.7
comp=Z,0.6nm,0.7s
RLMT Red Lodge 67.22 48 P **P 20 54 12.1 +1.1**
SKAR Skarslia 67.50 339 *e*P **P 20 54 12.3 0.0**
HYA Hoyanger 67.58 340 *e*P **P 20 54 12.5 -0.1**
KONO Kongsberg 68.06 338 P **P 20 54 14.3 -1.3**
KONO IAmb IAmb 20 54 56.5
comp=Z,9.3nm,1.2s
KONO Kongsberg 68.06 338 P **P 20 54 14.3 -1.3**
KONO pmax pmax
comp=Z,9.0nm,1.3s
ASK Askoy 68.42 340 *e*P **P 20 54 17.7 -0.1**
R11B Troy Canyon, C 68.44 57 P **P 20 54 19.9 +1.2**
AK03 Malin Array Si 68.58 322 P **P 20 54 17.2 -1.8**
AK23 Malin Array Si 68.59 322 P **P 20 54 18.0 -1.0**
AKASG Malin Array Be 68.59 322 P **P 20 54 18.2 -0.9**
AKASG IAmb IAmb 20 54 20.0
comp=Z,6.8nm,1.4s
AKASG Malin Array Be 68.59 322 P **P 20 54 18.2 -0.9**
comp=Z,6.3nm,0.4s,baz=38,slow=6.3,SNR=39
comp=Z,6.3nm,0.4s
AKASG Malin Array Be 68.59 322 P **P 20 54 18.2 -0.9**
AKASG pmax pmax
comp=Z,7.0nm,1.4s
AKBB Malin Array Si 68.59 322*ce*P **P 20 54 18.7 -0.4**
AKBB pmax pmax
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 68.59 322 P **P 20 54 18.0 -1.1**
AK04 Malin Array Si 68.60 322 P **P 20 54 17.8 -1.3**
AK01 Malin Array Si 68.61 322 P **P 20 54 17.9 -1.2**
KIEV Kiev 68.61 322 **P 20 54 18.0 -1.1**
KIEV Kiev 68.61 322⇓P **P 20 54 18.5 -0.7**
KIEV Kiev 68.61 322⇓P **P 20 54 18.5 -0.7**
KIEV Kiev 68.61 322 P **P 20 54 18.0 -1.1**
comp=Z,55nm,0.8s
AK21 Malin Array Si 68.61 322 P **P 20 54 17.9 -1.3**
AK22 Malin Array Si 68.61 322 P **P 20 54 17.9 -1.3**
AK08 Malin Array Si 68.63 322 P **P 20 54 18.0 -1.3**
AK09 Malin Array Si 68.63 322 P **P 20 54 18.0 -1.3**
AK02 Malin Array Si 68.64 322 P **P 20 54 18.0 -1.3**
AK11 Malin Array Si 68.64 322 P **P 20 54 18.0 -1.3**
AK15 Malin Array Si 68.64 322 P **P 20 54 18.1 -1.3**
AK18 Malin Array Si 68.64 322 P **P 20 54 18.1 -1.3**
AK20 Malin Array Si 68.65 322 P **P 20 54 18.1 -1.3**
AK10 Malin Array Si 68.66 322 P **P 20 54 18.2 -1.3**
AK05 Malin Array Si 68.66 322 P **P 20 54 18.2 -1.3**
AK12 Malin Array Si 68.67 322 P **P 20 54 18.2 -1.3**
AK16 Malin Array Si 68.67 322 P **P 20 54 18.2 -1.3**
AK19 Malin Array Si 68.67 322 P **P 20 54 18.2 -1.3**
AK17 Malin Array Si 68.68 322 P **P 20 54 18.3 -1.3**
AK06 Malin Array Si 68.69 322 P **P 20 54 18.4 -1.3**
AK14 Malin Array Si 68.70 322 P **P 20 54 18.4 -1.3**
PD31 Pinedale Array 68.71 50 P **P 20 54 20.9 +0.7**
PDAR Pinedale Array 68.71 50 P **P 20 54 21.1 +0.7**
comp=Z,1.1nm,0.5s,baz=21,slow=0.9,SNR=20
comp=Z,1.1nm,0.5s
AK07 Malin Array Si 68.72 322 P **P 20 54 18.5 -1.3**
AK13 Malin Array Si 68.73 322 P **P 20 54 18.6 -1.3**
BLS5 Blasjo 69.05 339 *e*P **P 20 54 21.8 +0.1**
MI28 Mi28,Pidlybu 69.07 323 P **P 20 54 20.7 -1.3**
RNPP9 Sopachiv 69.42 325 P **P 20 54 23.4 -0.7**
RNPP8 Varash 69.49 325 P **P 20 54 22.7 -1.8**
RNPP5 Staryi Chortor 69.56 324 P **P 20 54 22.9 -2.0**
ULM Lac du Bonnet 69.69 37 P **P 20 54 25.8 +0.1**
comp=Z,2.9nm,0.5s,baz=307,slow=6.6,SNR=4.0
comp=Z,2.9nm,0.5s
LUBAR Lubar, Ukraine 69.80 323 P **P 20 54 24.6 -1.8**
BSD Bornholm Skovb 70.37 333 *i* P **P 20 54 29.2 -0.5**
BSD IAmb IAmb 20 54 29.9
comp=Z,11nm,0.6s
COP Copenhagen 70.66 334 *i* P **P 20 54 31.7 +0.2**
ASAR Alice Springs 70.91 192 P **P 20 54 35.7 +2.4**
comp=Z,0.3nm,0.7s,baz=5.6,slow=5.5,SNR=4.4
comp=Z,0.3nm,0.7s
SORM Soroca 70.91 321⇑P **P 20 54 31.7 -1.4**
SORM Soroca 70.91 321⇑P **P 20 54 31.7 -1.4**
MUD Monsted U'grnd 70.94 336 *i* P **P 20 54 33.1 +0.1**
MUD IAmb IAmb 20 54 33.8
comp=Z,2.8nm,0.5s
GURO Guroymak-BITLI 71.18 306 **P 20 54 35.6 +0.6**
GURO IAmb IAmb 20 54 37.5
comp=Z,5.4nm,1.0s
MILM Milestii Mici 71.64 320⇑P **P 20 54 36.7 -0.7**
MILM Milestii Mici 71.64 320⇑P **P 20 54 36.7 -0.7**
UOSS Minazif 71.99 287 **P 20 54 40.0 +0.1**
UOSS IAmb IAmb 20 54 40.8
comp=Z,3.8nm,0.7s
BUR08 Bucovina Ar. S 72.63 322 **P 20 54 43.4 0.0**
BURAR Bucovina Array 72.65 322⇑P **P 20 54 43.5 0.0**
BURAR Bucovina Array 72.65 322⇑P **P 20 54 43.5 0.0**
OJC Ojcow 72.72 327 **P 20 54 43.4 -0.3**

OJC Ojcow 72.72 327 P P 20 54 43.4 -0.3
BSEG Bad Segeberg 72.79 334 *e*P 20 54 43.7
comp=Z,4.0nm,0.8s,baz=29,slow=5.7
KOLS Kolonicke sedl 72.81 325 *e*P **P 20 54 44.7 +0.4**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 72.81 325 *e*P **P 20 54 44.7 +0.4**
TESR Tescani 72.90 321 ⇓P **P 20 54 45.1 +0.2**
PANC Panciu 73.18 320 ⇓P **P 20 54 47.9 +1.5**
CFR Carcaliu 73.28 319 ⇓P **P 20 54 43.9 -3.1**
CFR Carcaliu 73.28 319 ⇓P **P 20 54 43.9 -3.1**
ODBI Odobesti 73.31 320 ⇓P **P 20 54 48.8 +1.6**
VRI Vrincioaia 73.37 320 ⇑P **P 20 54 48.2 +0.6**
VRI Vrincioaia 73.37 320 ⇑P **P 20 54 48.2 +0.6**
TPGR Topolog 73.40 319 ⇓P **P 20 54 48.8 +1.0**
OZUR 73.60 321 ⇓P **P 20 54 51.3 +2.4**
STEB Steborice 73.70 328 *e*P **P 20 54 50.0 +0.6**
LANS Liptovska Anna 73.72 327 *e*P **P 20 54 50.9 +1.3**
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 73.72 327 *e*P **P 20 54 50.9 +1.3**
CHVC Chvalec 73.77 329 *e*P **P 20 54 50.1 +0.2**
CHVC Chvalec 73.77 329 *e*P **P 20 54 50.1 +0.2**
UPC Upice 73.86 329 *e*P **P 20 54 50.7 +0.4**
UPC Upice 73.86 329 *e*P **P 20 54 50.7 +0.4**
DPC Dobruska-Polom 73.88 329 *e*P **P 20 54 50.5 0.0**
DPC Dobruska-Polom 73.88 329 *e*P **P 20 54 50.5 0.0**
FLTG Flechtingen 73.90 333 *e*P 20 54 50.2
comp=Z,4.1nm,0.8s,baz=29,slow=5.7
MORC Moravsky Berou 73.92 328 P 20 54 51.1 +0.3
MORC IAmb IAmb 20 54 52.1
comp=Z,6.5nm,0.8s
MORC Moravsky Berou 73.92 328 *e*P **P 20 54 50.7 0.0**
MORC Moravsky Berou 73.92 328 ⇑P **P 20 54 52.2 +1.5**
MORC Moravsky Berou 73.92 328 ⇑P **P 20 54 52.2 +1.5**
KRLC Kraliky 73.94 329 *e*P **P 20 54 51.1 +0.2**
KRLC Kraliky 73.94 329 *e*P **P 20 54 51.1 +0.2**
MLR Muntele Rosu 74.00 321 P **P 20 54 51.9 +0.5**
MLR IAmb IAmb 20 54 53.4
comp=Z,5.7nm,0.8s
MLR Muntele Rosu 74.00 321 ⇓P **P 20 54 52.4 +1.0**
MLR Muntele Rosu 74.00 321 ⇓P **P 20 54 52.4 +1.0**
ISR Istrita 74.03 320 ⇓P **P 20 54 53.0 +1.5**
ISR Istrita 74.03 320 ⇓P **P 20 54 53.0 +1.5**
NRDL Niedersach Rie 74.10 334 *e*P 20 54 51.2
comp=Z,3.0nm,0.7s,baz=29,slow=5.7
CLL Collm 74.20 331 P 20 54 51.8 -0.4
CLL IAmb IAmb 20 54 52.7
comp=Z,7.0nm,0.8s
CLL Collm 74.20 331 P **P 20 54 51.8 -0.4**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 74.20 331 ⇓*i*P **P 20 54 51.8 -0.4**
comp=Z,7.0nm,0.6s
CLL Collm 74.21 331 *e*P 20 54 51.9
comp=Z,5.4nm,0.8s,baz=29,slow=5.7
PVCC Panska Ves 74.34 330 *e*P **P 20 54 53.5 +0.5**
PVCC Panska Ves 74.34 330 *e*P **P 20 54 53.5 +0.5**
DRGR 74.34 323 ⇓P **P 20 54 54.2 +1.0**
DRGR 74.34 323 ⇓P **P 20 54 54.2 +1.0**
ECSD EROS Data Cent 74.38 42 P **P 20 54 53.2 -0.3**
ECSD IAmb IAmb 20 54 54.8
comp=Z,2.0nm,0.6s
VOIR 74.44 321 ⇓P **P 20 54 54.7 +0.9**
VOIR 74.44 321 ⇓P **P 20 54 54.7 +0.9**
VYHS Vyhne 74.49 327 *e*P **P 20 54 54.9 +0.9**
VYHS pmax pmax
comp=Z,7.0nm,1.3s
VYHS Vyhne 74.49 327 *e*P **P 20 54 54.9 +0.9**
CLZ Clausthal 74.59 333 *e*P 20 54 54.2
comp=Z,4.2nm,0.8s,baz=29,slow=5.7
JAVC Velka Javorina 74.63 327 *e*P **P 20 54 55.7 +0.9**
VRAC Vranov 74.65 328 *e*P **P 20 54 55.1 +0.2**
VRAC Vranov 74.65 328 ⇑P **P 20 54 56.4 +1.5**
VRAC Vranov 74.65 328 ⇑P **P 20 54 56.4 +1.5**
KDZE Karadeniz Ereo 74.68 315 ⇓P P 20 54 42.9 -12
BRTR Keskin Array B 74.79 312 P **P 20 54 55.7 -0.2**
comp=Z,2.0nm,0.7s,baz=71,slow=4.9,SNR=10
comp=Z,2.0nm,0.7s
PRU Pruhonice 74.81 330 *e*P **P 20 54 55.8 +0.1**
PRU Pruhonice 74.81 330 *e*P **P 20 54 55.8 +0.1**
KRUC Moravsky 74.93 328 *e*P **P 20 54 56.4 0.0**
EKA Eskdalemuir Ar 74.96 342 P **P 20 54 56.0 -0.4**
comp=Z,0.8nm,0.3s,baz=17,slow=4.7,SNR=24
comp=Z,0.8nm,0.3s
EKB Eskdalemuir 74.97 342 P **P 20 54 56.3 -0.2**
GTTG Gottingen 74.97 333 *e*P 20 54 56.3
comp=Z,4.1nm,0.9s,baz=29,slow=5.7
ESK Eskdalemuir 74.99 342 P **P 20 54 55.8 -0.8**
ESK IAmb IAmb 20 55 08.8
comp=Z,9.1nm,1.4s
ESK Eskdalemuir 74.99 342 P **P 20 54 55.8 -0.8**
ESK pmax pmax
comp=Z,9.0nm,1.4s
SMOL Smolenice 75.01 327 *e*P **P 20 54 57.9 +1.0**
TANN Tannenbergstha 75.15 331 *e*P 20 54 57.6
baz=29,slow=5.7
SIRR Siria 75.20 324 ⇑P **P 20 54 59.5 +1.5**
ZVC Zvikov 75.39 330 *e*P **P 20 54 59.5 +0.5**
COPA Copaceanca 75.39 320 ⇓P **P 20 54 58.7 -0.4**
SURR Surduc 75.42 323 ⇓P **P 20 55 01.2 +2.0**
GZR Gura Zlata 75.44 322 ⇑P **P 20 54 59.3 -0.1**
GZR Gura Zlata 75.44 322 ⇑P **P 20 54 59.3 -0.1**
UBBA Unterbreizbach 75.59 333 *e*P 20 54 59.8
comp=Z,2.0nm,0.6s,baz=29,slow=5.7
MANZ Manzenberg 75.63 331 *e*P 20 55 00.4
comp=Z,0.3nm,0.9s,baz=29,slow=5.7
BZS Buzias 75.74 323 ⇓P **P 20 55 01.8 +0.8**
BZS Buzias 75.74 323 ⇓P **P 20 55 01.8 +0.8**
ROTZ Rotzenmuhle 75.79 331 *e*P 20 55 01.4
comp=Z,0.3nm,0.9s,baz=29,slow=5.7
KHC Kasperske Hory 75.87 330 *e*P **P 20 55 02.3 +0.5**
KHC Kasperske Hory 75.87 330 *ce*P **P 20 55 02.4 +0.6**
KHC pmax pmax
comp=Z,18nm,1.3s
CKRC Cesky Krumlov 75.88 329 *e*P **P 20 55 01.4 -0.4**
CKRC Cesky Krumlov 75.88 329 *e*P **P 20 55 01.4 -0.4**
BUG Bochum--Univer 75.88 335 *e*P 20 55 01.2
comp=Z,5.2nm,0.9s,baz=29,slow=5.7
GEC2 GERESS Array S 76.07 330 P **P 20 55 02.7 -0.2**
GERES GERESS Array B 76.07 330 P **P 20 55 02.8 -0.2**
comp=Z,1.8nm,0.6s,baz=32,slow=5.6,SNR=18
comp=Z,1.8nm,0.6s
GEC2 GERESS Array S 76.07 330 *e*P 20 55 03.0
comp=Z,1.5nm,0.8s,baz=29,slow=5.7
CONA Conrad Observa 76.07 328 *i*P **P 20 55 04.1 +1.2**
comp=Z,3.5nm,0.8s,SNR=5.6
WET Wettzell 76.10 330 *e*P 20 55 03.3
comp=Z,4.0nm,0.9s,baz=29,slow=5.7
RONA Rosalia, Austr 76.10 328 *i*P **P 20 55 04.5 +1.3**
comp=Z,4.4nm,0.9s
GRF Grafenberg Arr 76.18 332 *e*P 20 55 03.6
comp=Z,6.1nm,0.8s,baz=29,slow=5.7
MORH Mrgy, Hungar 76.45 325 ⇓P **P 20 55 04.6 -0.3**
TNS Taunus Mts 76.60 333 *e*P 20 55 05.8
comp=Z,3.7nm,0.8s,baz=29,slow=5.7
MOA Molln 76.72 329 *i*P **P 20 55 06.1 -0.4**
comp=Z,1.9nm,0.8s
ARSA Arzberg 76.77 328 *i*P **P 20 55 07.6 +0.8**
comp=Z,0.9nm,0.5s
BIOA Bad Ischl, Aus 77.07 329 *i*P **P 20 55 09.2 +0.7**
comp=Z,6.2nm,1.3s
RJOB Jochberg 77.33 330 *e*P 20 55 10.4
comp=Z,1.9nm,0.8s,baz=29,slow=5.7
SOKA Soboth 77.43 328 *i*P **P 20 55 11.2 +0.7**
comp=Z,3.0nm,0.9s,SNR=4.4
GROS Grobnik 77.44 327 *e*P **P 20 55 10.3 -0.3**
FUR Furstenfeldbru 77.48 331 *e*P 20 55 11.2
comp=Z,7.0nm,0.9s,baz=29,slow=5.7
LESA Schwarzleotal 77.64 329 *i*P **P 20 55 11.6 0.0**
comp=Z,3.1nm,0.5s
KBA Koelnbreinsper 77.70 329 *i*PcP **P 20 55 13.1 +1.0**
comp=Z,3.3nm,0.5s
OBKA Obir 77.75 328 *i*P **P 20 55 12.7 +0.4**
comp=Z,1.3nm,0.6s
ISP Isparta 77.81 313 *e*P P 20 54 56.8 -16
GCIS Gornji Cirnik 77.89 327 *i*P **P 20 55 12.9 -0.1**
MYKA Terra Mystica 77.98 328 *i*PcP **P 20 55 14.3 +0.9**
comp=Z,2.6nm,1.0s
BAIF Baives 77.99 336 *e*P **P 20 55 13.2 -0.2**
BAIF pmax pmax
comp=Z,7.0nm,1.2s
WATA Walderalm 78.09 330 *e*P **P 20 55 14.0 -0.2**
comp=Z,4.6nm,0.6s,SNR=5.1
WTTA Wattenberg 78.14 330 *i*P **P 20 55 14.3 -0.2**
comp=Z,5.7nm,0.6s,SNR=7.9
PRED Cave del Predi 78.16 328 P 20 55 14.1 -0.5
PRED IAmb IAmb 20 55 14.7
comp=Z,3.9nm,1.1s
RETA Reutte 78.24 331 *i*PcP **P 20 55 15.6 +0.7**
comp=Z,5.6nm,0.9s
MOTA Moosalm 78.25 330 *i*P **P 20 55 15.2 +0.1**
comp=Z,8.2nm,0.8s
VLDQ Val d'Or 78.27 28 P 20 55 14.0 -0.9
ABTA Abfaltersbach 78.28 329 *i*PcP **P 20 55 16.0 +0.9**
comp=Z,3.6nm,1.1s
BFO Black Forest 78.30 333 *e*P 20 55 15.7
comp=Z,3.8nm,1.0s,baz=29,slow=5.7
SQTA Sankt Quirin 78.32 330 *i*P **P 20 55 15.0 -0.4**
comp=Z,5.2nm,0.8s
CDF Champ du Feu 78.56 333 *e*P **P 20 55 16.4 -0.2**
CDF pmax pmax
comp=Z,9.0nm,1.0s
FETA Feichten 78.66 330 *i*PcP **P 20 55 17.9 +0.6**
comp=Z,4.0nm,1.0s
DAVA Damuels 78.71 331 *i*PcP **P 20 55 18.0 +0.4**
comp=Z,4.0nm,0.6s
ECH Echery 78.77 333 P 20 55 17.5 -0.2
ECH IAmb IAmb 20 55 18.4
comp=Z,6.4nm,1.1s
ECH Echery 78.77 333 P **P 20 55 17.5 -0.2**
MMAI Mount Meron Ar 78.89 307 P **P 20 55 19.8 +1.1**
comp=Z,2.5nm,0.4s,baz=46,slow=6.0,SNR=13
comp=Z,2.5nm,0.4s
FUORN Ofenpass-Fuorn 79.16 331 P 20 55 20.0 -0.1
FUORN IAmb IAmb 20 55 21.6
comp=Z,4.9nm,1.1s
FLN La Foliniere 80.44 338 *e*P **P 20 55 26.0 -0.5**
FLN pmax pmax
comp=Z,80nm,1.8s
LOR Lormes 80.61 335 *e*P **P 20 55 27.0 -0.5**
GRR Gorron 80.88 338 *e*P **P 20 55 28.7 -0.1**
GRR pmax pmax
comp=Z,7.0nm,0.6s
SMF Signal de Mont 81.18 335 *e*P **P 20 55 30.3 -0.1**
SMF pmax pmax
comp=Z,7.0nm,1.0s
AVF Avril sur Loir 81.19 335 *e*P **P 20 55 30.3 -0.2**
AVF pmax pmax
comp=Z,5.0nm,0.9s
LPL La Plagne 81.30 332 *e*P **P 20 55 30.0 -1.4**
LPL pmax pmax
comp=Z,7.0nm,1.1s
LPG La Plagne 81.31 332 *e*P **P 20 55 31.6 +0.1**
LPG pmax pmax
comp=Z,3.0nm,0.8s
NRCA Norcia 81.42 327 P 20 55 32.4 +0.5
SGMF Saint Gilles 81.43 339 *e*P **P 20 55 32.0 +0.3**
SGMF pmax pmax
comp=Z,7.0nm,0.9s
ROSF Rostrenen 81.52 340 *e*P **P 20 55 31.7 -0.5**
ROSF pmax pmax
comp=Z,27nm,1.4s
D62A Allapoint, All 81.70 23 P **P 20 55 33.3 +0.2**
BNI Bardonecchia 81.73 332 P **P 20 55 34.0 +0.5**
BNI IAmb IAmb 20 55 44.6
comp=Z,6.5nm,1.4s
BNI Bardonecchia 81.73 332 P **P 20 55 34.0 +0.5**
BNI pmax pmax
comp=Z,7.0nm,1.5s
TX31 Lajitas Ar. Si 81.77 56 P 20 55 35.2 +1.3
TXAR Lajitas Array 81.77 56 P **P 20 55 35.1 +1.2**
TXAR Lajitas Array 81.77 56 P **P 20 55 35.3 +1.3**
comp=Z,0.7nm,0.5s,baz=290,slow=3.9,SNR=14
comp=Z,0.7nm,0.5s
QUIF Quistinic 81.89 339 *e*P **P 20 55 33.6 -0.5**
QUIF pmax pmax
comp=Z,14nm,1.1s
MBDF Montbardon 81.99 332 *e*P **P 20 55 34.6 -0.3**
MBDF pmax pmax
comp=Z,14nm,1.5s
ORIF Oris-en-Rattie 82.10 332 *e*P **P 20 55 35.5 +0.1**
ORIF pmax pmax
comp=Z,4.0nm,0.7s
VIVF Saint-Julien-l 82.54 333 *e*P **P 20 55 37.8 +0.3**
VIVF pmax pmax
comp=Z,32nm,1.9s
TIP Timpagrande 83.08 323 P **P 20 55 40.2 -0.2**
TIP IAmb IAmb 20 55 52.2
comp=Z,9.6nm,1.5s
CAF Calviac 83.26 335 *e*P **P 20 55 42.2 +1.0**
CAF pmax pmax
comp=Z,6.0nm,1.2s
LFF La Frestale 83.63 336 *e*P **P 20 55 43.5 +0.5**
LFF pmax pmax
comp=Z,11nm,1.2s
ETSF Etsaut 85.87 336 *e*P **P 20 55 55.0 +0.8**
ETSF pmax pmax
comp=Z,61nm,1.8s
ESDC Sonseca Array 89.80 337 P **P 20 56 12.2 -0.5**
comp=Z,0.5nm,0.6s,baz=26,slow=4.5,SNR=5.4
comp=Z,0.5nm,0.6s
BDFB Brasilia 146.91 25 PKPbc **PKPbc 21 02 55.3 +0.3**
comp=Z,1.6nm,0.5s,baz=0.0,slow=2.0,SNR=3.7
CFA Coronel Fontan 149.88 72 PKPbc **PKPbc 21 03 02.2 +0.1**
comp=Z,0.7nm,0.5s,baz=320,slow=4.0,SNR=3.6
BO02 Sierra Bellavi 150.11 80 PKPbc **PKiKP 21 03 03.4 +0.1**
BI02 San Fabin de 150.80 83 PKPbc **PKiKP 21 03 04.9 +0.2**
PLCA Paso Flores 153.24 90 PKPbc **PKiKP 21 03 10.5 +1.0**
comp=Z,1.1nm,1.0s,baz=256,slow=4.2,SNR=3.4

*AEIC **20** 20:49:22.7±1.8, 50.°37N±0.°04×179.°0W±0.°1, h25km±6km,*
Error ellipse: s-maj=11.9km s-min=5.3km az=108.0
*NEIC **20** 20:49:23.7±2.2, 50.°43N±0.°04×178.°99W±0.°05, h30km±6km,*
mb3.7/14, ML3.6(AEIC), Error ellipse: s-maj=5.2km
s-min=4.4km az=204.0
*IDC **20** 20:49:23.3±4.1, 51.°14N×179.°36W, h0km, mb3.8/6,*
mbtmp3.8/6, MS3.0/2, Error ellipse: s-maj=103.5km
s-min=39.1km az=14.0
ISC 20 20:49:24.2±1.1, 50.°4N±0.°1×179.°04W±0.°07, h35km, n41,
σ1§22/43, mb3.9/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	1.39	7		**Pn**	20 49 46.6	-0.4
GALAA					**Sn**	20 50 05.1	+1.0
GANE	**Gareloi Northe**	1.44	6		**Pn**	20 49 47.2	-0.6
GANO	**Gareloi North**	1.44	6		**Pn**	20 49 46.9	-0.9
TASE	**Tanaga Southea**	1.58	23		**Pn**	20 49 49.2	-0.5
TAFP	**Tanaga Falls P**	1.65	23		**Pn**	20 49 50.1	-0.6
TAFP					**Sn**	20 50 12.4	+1.7
KIWB	**Kanaga Island**	1.89	38	Pn	**Pn**	20 49 53.1	-0.8
KIWB					**Sn**	20 50 16.8	+0.4
KICM	**Kanaga Island**	1.92	36		**Pn**	20 49 54.2	-0.1
KIRH	**Kanaga Island**	1.95	38		**Pn**	20 49 54.3	-0.4
ADK	**Adak**	2.11	44	Pn	**Pn**	20 49 55.9	-1.0
GSCK	**Great Sitkin C**	2.43	47		**Pn**	20 50 01.0	-0.4
GSCK					**Sn**	20 50 30.3	+0.5
GSTR	**Great Sitkin T**	2.53	46		**Pn**	20 50 02.4	-0.4
ATKA	**Atka Island**	3.54	57		**Pn**	20 50 14.8	-1.8
ATKA				Sn	**Sn**	20 50 54.9	-2.2
LVA	**Lava Point**	8.82	60	Pn	**Pn**	20 51 29.1	0.0
L14K	**Kuka Creek**	14.26	33	Pn	**Pn**	20 52 44.9	+1.6
PEA0B	**Petropavlovsk-**	14.65	290	Pn	**Pn**	20 52 47.5	-1.2
PETK	**Petropavlovsk-**	14.65	290	Pn	**Pn**	20 52 47.5	-1.2
K15K	**Wolf Creek Mou**	15.31	32	Pn	**Pn**	20 52 58.7	+1.4
M16K	**Timber Creek**	15.46	39	Pn	**Pn**	20 53 00.8	+1.4
M16K				IAmb	IAmb	20 53 28.3	
comp=Z,7.9nm,1.2s
KDAK Kodiak Island 17.11 54 LR LR 21 00 36.8
comp=Z,30nm,18.5s,baz=63,slow=40
N19K Bonanza Creek 17.25 43 Pn 20 53 21.5 -0.6
N19K IAmb IAmb 20 53 46.6
comp=Z,7.7nm,1.2s
L19K White Mountain 17.74 39 Pn 20 53 27.1 -1.0
CNPM China Poot 18.27 49 P **P 20 53 33.6 -0.9**
BILL Bilibino 19.13 343 P **P 20 53 43.4 -0.5**
BILL IAmb IAmb 20 53 45.0
comp=Z,2.7nm,0.6s
C16K Lisburne Hills 19.16 16 P **P 20 53 44.0 -0.2**
CAST Castle Rocks 19.47 38 P **Pn 20 53 48.5 -0.5**
CAST IAmb IAmb 20 54 08.6
comp=Z,4.7nm,1.2s
BPAW Bear Paw Mtn. 20.23 37 P Pn 20 53 56.6 -1.4
C18K Utukok River 20.27 19 P **P 20 53 55.7 -0.7**
C18K IAmb IAmb 20 53 57.1
comp=Z,3.2nm,0.9s
G21K Allakaket 20.71 29 P **P 20 54 00.5 -0.6**
G21K IAmb IAmb 20 54 15.2
comp=Z,3.7nm,1.1s
D19K Kuna River 20.83 22 P **P 20 54 00.8 -1.6**
D19K IAmb IAmb 20 54 05.7
comp=Z,4.7nm,1.2s
D20K Etivluk River 21.36 22 P **P 20 54 07.7 -0.4**
D20K IAmb IAmb 20 54 08.9
comp=Z,4.4nm,1.0s
PDAR Pinedale Array 46.76 71 P **P 20 57 54.1 +4.0**
comp=Z,0.3nm,0.6s,baz=308,slow=7.9,SNR=3.1
comp=Z,0.3nm,0.6s
SPITS Spitsbergen Ar 51.35 356 P **P 20 58 23.4 -1.1**
comp=Z,8.1nm,0.9s,baz=27,slow=6.8,SNR=10
comp=Z,8.1nm,0.9s
ARCES ARCESS Array B 59.04 350 P **P 20 59 19.2 -0.7**
comp=Z,2.0nm,0.8s,baz=16,slow=7.6,SNR=5.4
comp=Z,2.0nm,0.8s
KURK Kurchatov 59.60 314 P **P 20 59 25.8 +1.8**
KURBB Kurchatov Arra 59.70 314 P **P 20 59 24.7 -0.1**
comp=Z,0.6nm,0.6s,baz=43,slow=6.7,SNR=8.0
comp=Z,0.6nm,0.6s
FINES FINESS Array B 66.72 347 P **P 21 00 10.4 -0.7**
FINES FINESS Array B 66.72 347 P **P 21 00 10.1 -0.9**
comp=Z,0.9nm,0.8s,baz=1.4,slow=6.6,SNR=3.7
comp=Z,0.9nm,0.8s
NOA NORSAR Array B 68.62 355 P **P 21 00 21.9 -1.2**
comp=Z,0.4nm,0.7s,baz=5.1,slow=6.5,SNR=2.6
comp=Z,0.4nm,0.7s
ABKAR Akbulak array 68.64 323 P **P 21 00 22.9 -0.5**
KKAR Karatay Array 68.94 313 P **P 21 00 27.4 +1.9**
VRAC Vranov 79.78 350 LR LR 21 40 40.8
comp=Z,12nm,18.0s,baz=143,slow=39

*IDC **20** 20:54:30.8±2.4, 37.°66N×32.°12E, h0km, mb3.4/3,*
mbtmp3.3/5, ML2.9/2, Error ellipse: s-maj=41.6km
s-min=21.1km az=87.0
*ISK **20** 20:54:31.7, 37.°54N×32.°08E, h5km, ML3.3/62*
*AFAD **20** 20:54:31.3, 37.°54N×32.°07E, h7km±3km, ML2.8*
ISC 20 20:54:32.0±1.0, 37.°56N±0.°02×32.°09E±0.°02, h7km±8km,
n78, σ1§19/92, mb3.5/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEYD	**Seydisehir-KON**	**0.25**	**234**	Pg	**Pg**	**20 54 36.8**	**-0.2**
SEYD				Sg	**Sg**	**20 54 40.4**	**0.0**
SEDI	**Konya, Seydise**	**0.29**	**249**	P	**Pg**	**20 54 37.5**	**-0.2**
SEDI				S	**Sg**	**20 54 41.6**	**+0.1**
SEDI				*i* AML	AML	20 54 42.0	
comp=E,4μm,0.7s
SEDI *i* AML AML 20 54 44.0
comp=N,4μm,0.4s
KONT Konya--Tatoy 0.44 29 Pg **Pg 20 54 40.4 -0.2**
KONT Konya--Tatoy 0.44 29 P **Pg 20 54 40.5 -0.2**
KONT S **Sg 20 54 47.6 +1.2**
KONT *i* AML AML 20 54 48.0
comp=N,2μm,0.3s
KONT *i* AML AML 20 54 48.0
comp=E,2μm,0.3s
DOGA KONYA_Doganhis 0.64 329 P **Pg 20 54 43.6 -0.9**
DOGA S **Sg 20 54 52.8 -0.1**
DOGA *i* AML AML 20 54 55.0
comp=N,651nm,0.5s
DOGA *i* AML AML 20 54 55.0
comp=E,683nm,0.6s
HDMB Hadim 0.67 152 Pg **Pg 20 54 44.1 -0.8**
KKBE Karaman, Kazim 0.75 116 P **Pg 20 54 45.9 -0.6**
KKBE S **Sg 20 54 56.6 +0.3**
KKBE *i* AML AML 20 54 59.0
comp=N,276nm,0.4s
KKBE *i* AML AML 20 55 01.0
comp=E,270nm,0.3s
MNVG Manavgat-Antal 0.93 216 Pg **Pb 20 54 49.6 -0.9**
MNVG Sg **Sb 20 55 02.9 -0.2**
ALIN Konya, Altinte 0.97 40 P **Pg 20 54 49.9 -0.7**
ALIN S **Sb 20 55 04.6 +0.3**
ALIN *i* AML AML 20 55 06.0
comp=N,211nm,0.7s
ALIN *i* AML AML 20 55 06.0
comp=E,271nm,0.6s
ALAN Alanya-ANTALYA 1.00 183 Pg **Pb 20 54 50.9 -0.7**
ALAN Sg **Sb 20 55 04.9 -0.1**
KRMN Karaman 1.01 112 Pg **Pb 20 54 51.4 -0.5**
BCK Bucak 1.20 266 Pn **Pn 20 54 54.8 -0.5**
UCKU Afyonkarahisar 1.20 334 P **Pg 20 54 53.7 -1.3**
UCKU S **Sn 20 55 13.0 +1.1**
UCKU *i* AML AML 20 55 15.0
comp=N,258nm,0.7s
UCKU *i* AML AML 20 55 16.0
comp=E,204nm,0.7s
CHBY Cihanbeyli 1.20 31 Pn **Pn 20 54 55.6 +0.2**
CBEY Konya-Cihanbey 1.26 25 P **Pn 20 54 56.0 -0.1**
CBEY S **Sn 20 55 13.2 -0.2**
CBEY *i* AML AML 20 55 19.0
comp=E,417nm,0.5s
CBEY *i* AML AML 20 55 21.0
comp=N,435nm,0.5s
ISP Isparta 1.27 283 Pn **Pn 20 54 56.2 -0.2**
SULT Sultanhani-AKS 1.30 60 Pn **Pb 20 54 57.6 +0.8**
ANTB Antalya 1.32 241 Pn **Pg 20 54 57.4 +0.1**
YESY Yesilyurt 1.33 80 Pn **Pg 20 54 57.9 +0.4**
KIZT Kizilcal 1.33 353 Pn **Pg 20 54 58.2 +0.6**
AFYN Afyon-Dinar-K 1.45 300 P **Pg 20 54 58.9 -0.8**
AFYN S **Sg 20 55 21.9 +3.4**
AFYN *i* AML AML 20 55 25.0
comp=E,214nm,0.6s
AFYN *i* AML AML 20 55 26.0
comp=N,288nm,1.0s
KURO Afyon-Bolvadin 1.49 323 P **Pn 20 54 59.0 -0.3**
KURO *i* AML AML 20 55 23.0
comp=N,133nm,0.8s
KURO *i* AML AML 20 55 23.0
comp=E,82nm,0.9s
BERE Bereket-Mersin 1.51 143 Pn **Pb 20 54 59.8 -0.6**
TEVE Tevekalti-Mers 1.56 136 Pn **Pb 20 55 00.6 -0.6**
SHUT Suhut-Afyon 1.57 310 Pn **Pb 20 55 00.5 -1.0**
BOZY Bozyazi-Mersin 1.61 154 Pn **Pb 20 55 01.4 -0.7**
BRDR BURDUR-Merkez 1.62 276 P **Pb 20 55 01.4 -0.8**
BRDR S **Sg 20 55 27.5 +3.5**
BRDR *i* AML AML 20 55 31.0
comp=E,70nm,0.7s
BRDR *i* AML AML 20 55 34.0
comp=N,44nm,0.4s
TEKE Tekeli-Mersin 1.63 150 Pn **Pb 20 55 01.6 -0.8**
KULU Kulu 1.65 25 Pn **Pb 20 55 01.9 -0.9**
BASM Basmaki-Afyon 1.66 283 Pn **Pb 20 55 02.6 -0.4**
KEBE Keben-Mersin 1.71 130 Pn **Pb 20 55 02.7 -1.0**
SERE Sereflikochisa 1.81 39 Pn **Pb 20 55 04.4 -1.1**
AKKU Akkuyu-Mersin 1.82 140 Pn **Pb 20 55 04.4 -1.2**
AKK1 Akkuyu-Mersin 1.83 140 Pn **Pb 20 55 04.6 -1.1**
IKL Isikli 1.83 135 Pn **Pb 20 55 04.8 -1.0**
YESI Yesilovacik-Me 1.84 137 Pn **Pb 20 55 05.1 -0.9**
GULA Gulagac 1.87 64 Pn **Pb 20 55 05.3 -1.2**
KARG Kargicak-Mersi 1.87 136 Pn **Pb 20 55 05.1 -1.4**
TISA Tisan-Mersin 1.89 137 Pn **Pb 20 55 05.5 -1.2**
SILI Silifke-Mersin 1.89 128 Pn **Pb 20 55 05.5 -1.3**
ELL Elmali 1.92 246 Pn **Pb 20 55 05.9 -1.6**
SVRH Sivrihisar-ESK 1.94 347 Pn **Pb 20 55 06.4 -1.4**
CIFT Cifteler, Eski 1.98 336 Pn **Pn 20 55 06.2 +0.2**
AFSR Afar-Bala (An 2.04 22 Pn **Pb 20 55 07.9 -1.5**
MERS Mersin 2.06 109 Pn **Pb 20 55 08.1 -1.6**
KAMT Kaman 2.21 35 Pn **Pb 20 55 10.0 +0.7**
APMY Acipayam-Deniz 2.22 269 Pn **Pb 20 55 10.7 -1.8**
CMRD Camardi-Nigde 2.30 86 Pn **Pb 20 55 11.9 -2.1**
CAME Cameli-Denizli 2.31 255 Pn **Pb 20 55 11.8 -2.3**
KARA Karaisali 2.38 96 Pn **Pn 20 55 12.6 +1.2**
BRTR Keskin Array B 2.48 29 Pn **Pn 20 55 12.6 -0.4**
0.6nm,0.3s,baz=211,slow=12,SNR=16
BRTR Sn **Sn 20 55 43.0 -0.6**
1.2nm,0.3s,baz=208,slow=25,SNR=5.2
2.4nm,0.5s
BR131 Keskin Array S 2.48 29 Pn **Pn 20 55 13.9 +0.9**
LEF Lefka 2.52 165 Pn **Pn 20 55 13.9 +0.6**
FETY Fethiye 2.58 250 Pn **Pn 20 55 15.2 +1.0**
GEDZ Gediz 2.58 306 Pn **Pn 20 55 15.4 +1.1**
EREN Erenkoy 2.62 140 Pn **Pn 20 55 15.9 +1.1**
KOZK Kozakli-Nevseh 2.74 52 Pn **Pn 20 55 18.1 +1.6**
CSS Mathiatis 2.77 159 Pn **Pn 20 55 17.9 +1.0**
TVSB Tavsanli 2.80 313 Pn **Pn 20 55 18.4 +1.1**
DALY Dalyan (Mula) 2.84 256 Pn **Pn 20 55 19.3 +1.5**
KULA Kula-Manisa 2.87 290 Pn **Pn 20 55 19.3 +1.0**
SIMA Simav-Kutahya 2.88 303 Pn **Pn 20 55 19.8 +1.3**

CEYT	Ceyhan	2.97	99	Pn	Pn	20 55 21.0	+1.5
KOZT	Kozan	2.97	90	Pn	Pn	20 55 21.0	+1.4
YER	Yerkesik	3.06	263	Pn	Pn	20 55 22.5	+1.6
GULT	Gulveren	3.12	337	Pn	Pn	20 55 23.6	+1.8
BNN	Bunyan	3.23	65	Pn	Pn	20 55 24.7	+1.5
YOZ	Yozgat	3.27	50	Pn	Pn	20 55 24.2	+0.3
CORM	Corum	3.28	36	Pn	Pn	20 55 25.5	+1.5
AYDB	Zeytinkoy-Aydi	3.35	278	Pn	Pn	20 55 25.9	+0.9
GORD	Gordes-Manisa	3.37	295	Pn	Pn	20 55 26.6	+1.5
ADVT	Abdulvahap	3.41	328	Pn	Pn	20 55 27.9	+2.3
MLSB	Milas	3.45	267	Pn	Pn	20 55 27.7	+1.6
DAT	Datca	3.70	258	Pn	Pn	20 55 31.6	+1.9
MMAI	Mount Meron Ar	5.28	148	Pn	Pn	20 55 52.0	+0.7
	1.9nm,0.3s,baz=338,slow=12,SNR=8.6						
MMAI				Sn	Sn	20 56 53.6	+1.1
	0.9nm,0.3s,baz=326,slow=33,SNR=1.7						
	1.1nm,0.3s						
FINES	FINESS Array B	24.21	353	P	P	20 59 47.4	-1.5
	1.0nm,0.8s,baz=153,slow=9.4,SNR=2.1						
	1.0nm,0.8s						
KURBB	Kurchatov Arra	35.24	53	P	P	21 01 26.6	-0.3
	0.5nm,0.7s,baz=270,slow=8.9,SNR=5.1						
	0.5nm,0.7s						
MKAR	Makanchi Array	37.76	60	P	P	21 01 48.3	-0.3
	0.2nm,0.5s,baz=270,slow=6.6,SNR=2.9						
	0.2nm,0.5s						

KRSC 20 21:01:19.4±1.6, 56°.20N×164°.33E, h52km±21km, MI3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.84	271	eP	Pn	21 01 35.2	+0.1
KBTR				eS	Sn	21 01 45.1	-1.5
KBG	Krutoberegovo	0.91	274	eP	Pn	21 01 36.2	+0.2
BKI	Bering	1.37	136	eP	Pn	21 01 44.0	+1.9
BKI				eS	Sn	21 02 01.2	+2.2
ZLN	Zelenaya	1.98	266	eP	Pn	21 01 54.3	+3.7
ZLN				eS	Sn	21 02 17.2	+2.9
CIRR	Tsirk	2.01	269	eP	Pn	21 01 54.7	+3.7
CIRR				eS	Sn	21 02 18.4	+3.5
BZGR	Bezymyannyi-Gr	2.05	264	eP	Pn	21 01 55.5	+3.9
BZGR				eS	Sn	21 02 19.1	+3.0
KLY	Klyuchi	2.06	275	eP	Pn	21 01 52.5	+1.1
KLY				eS	Sn	21 02 16.9	+1.0
KRSR	Krestovskiy	2.10	272	eP	Pn	21 01 55.6	+3.3
BZWR	Bezymyannyi-We	2.16	265	eP	Pn	21 01 56.9	+3.8
BZMR	Bezymyannaya	2.17	264	eP	Pn	21 01 57.5	+4.2
MKZ	Mys Kozlova	2.22	223	eP	Pn	21 01 55.9	+2.2
MKZ				eS	Sn	21 02 21.4	+1.5
KIRR	Kirishev	2.25	265	eP	Pn	21 01 58.0	+3.7
KIRR				eS	Sn	21 02 25.8	+4.9
KPT	Kopyto	2.31	266	eP	Pn	21 01 58.9	+3.8
KMNR	Kamenistaya	2.34	261	eP	Pn	21 01 59.8	+4.2
TUMD	Tumrok D	2.44	247	eP	Pn	21 01 59.4	+2.6
TUMD				eS	Sn	21 02 28.6	+3.2
OSSR	Ossora	3.13	348	eP	Pn	21 02 06.6	+0.4
OSSR				eS	Sn	21 02 44.2	+1.9
KII	Karymskiy	3.54	234	eP	Pn	21 02 16.8	+4.9
KII				eS	Sn	21 02 54.4	+1.7
NLC	Nalytchevo	4.19	226	eS	Sn	21 03 09.9	+1.5
SDLR	Sedlovina	4.31	229	eP	Pn	21 02 26.4	+4.0
KRX	Arik	4.35	231	eP	Pn	21 02 27.6	+4.5
KRX				eS	Sn	21 03 16.5	+4.0
AVH	Avacha	4.38	230	eP	Pn	21 02 27.6	+4.2
UGLR	Uglovaya	4.38	229	eP	Pn	21 02 27.5	+4.0
KOK	Koryaka	4.40	231	eP	Pn	21 02 28.0	+4.3
GNL	Ganaly	4.46	238	eP	Pn	21 02 28.9	+4.3
KRMR	Karymshinskiy	4.95	229	eP	Pn	21 02 35.8	+4.7
KRMR				eS	Sn	21 03 31.0	+4.1
RUS	Russkaya	5.08	224	eP	Pn	21 02 36.7	+3.7
GRL	Gorelyy	5.17	228	eP	Pn	21 02 39.0	+4.7
MTVR	Mutnovka	5.18	227	eP	Pn	21 02 38.8	+4.4
KDTR	Khodutka, Kamc	5.74	223	eP	Pn	21 02 44.3	+2.4
KDTR				eS	Sn	21 03 46.1	-0.4

*IDC **20** 21:04:53.6±0.8, 35°.34N×77°.20E, h0km, mb3.7/14, mbtmp3.7/19, ML3.2/5, MS2.9/7, Error ellipse: s-maj=20.9km s-min=14.2km az=50.0*

ISC 20 21:04:59.5±0.6, 35°.44N±0°.07×77°.24E±0°.09, h35km, n28, σ1s01/29, mb3.6/13, MS2.9/6, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	7.50	344	Pn	Pn	21 06 49.6	+3.2
	0.5nm,0.3s,baz=161,slow=12,SNR=7.0						
AAK				Lg	Lg	21 08 46.1	
	0.4nm,0.3s,baz=162,slow=6.4,SNR=2.0						
AAK				LR	LR	21 09 44.5	
	comp=Z,26nm,21.5s,baz=164,slow=38						
	1.0nm,0.4s						
PYUN	Piuthan	8.80	145	Pn	Pn	21 07 05.9	+1.5
	baz=52,slow=0.0						
PYUN				Sn	Sn	21 08 45.1	+2.6
	32nm,0.7s,baz=52,slow=0.0						
DMN	Daman	10.29	137	Sn	Sn	21 09 19.4	+0.2
	baz=60,slow=0.0						
PKIN	Phulchoki	10.48	136	Pn	Pn	21 07 27.8	+0.3
	baz=61,slow=0.0						
PKIN				Sn	Sn	21 09 23.9	+0.1
	baz=61,slow=0.0						
PKI	Pulchoki	10.49	136	Pn	Pn	21 07 27.6	-0.1
	baz=61,slow=0.0						
PKI				Sn	Sn	21 09 24.1	-0.1
	29nm,1.2s,baz=61,slow=0.0						
MKAR	Makanchi Array	11.96	17	Pn	Pn	21 07 48.3	+0.9
	0.5nm,0.3s,baz=199,slow=12,SNR=19						
MKAR				Sn	Sn	21 09 59.1	-0.5
	0.1nm,0.3s,baz=201,slow=23,SNR=11						
	1.1nm,0.4s						
KURBB	Kurchatov Arra	15.20	3	Pn	Pn	21 08 31.4	0.0
	baz=193,slow=10,SNR=10						
KURBB				Lg	Lg	21 12 56.4	
	baz=188,slow=26,SNR=4.6						
	0.4nm,0.7s						
BVAR	Borovoye Array	18.24	347	P	Pn	21 09 09.8	+0.2
	baz=159,slow=12,SNR=10						
	2.1nm,0.7s						
ZALV	Zalesovo Beam	19.25	14	P	Pn	21 09 22.1	+0.2
	0.3nm,0.3s,baz=208,slow=8.7,SNR=4.5						
	0.7nm,0.5s						
AKTO	Aktyubinsk	20.47	323	P	P	21 09 34.5	+0.6
	2.1nm,0.6s,baz=127,slow=11,SNR=6.1						
AKTO				LR	LR	21 18 02.4	
	comp=Z,53nm,20.4s,baz=150,slow=38						
	2.1nm,0.6s						
SONM	Songino Array	24.91	51	P	P	21 10 19.5	+0.3
	1.5nm,0.8s,baz=253,slow=9.0,SNR=9.3						
	1.5nm,0.8s						
CMAR	Chiang Mai Arr	25.61	126	P	P	21 10 25.2	-0.4
	1.0nm,0.6s,baz=314,slow=9.3,SNR=9.3						
CMAR				LR	LR	21 22 13.3	
	comp=Z,22nm,20.3s,baz=285,slow=41						
	1.0nm,0.6s						
GNI	Garni	26.02	290	LR	LR	21 22 12.6	
	comp=Z,24nm,18.4s,baz=120,slow=40						
KBZ	Khabaz	27.57	298	LR	LR	21 24 03.9	
	comp=Z,31nm,18.7s,baz=150,slow=42						
KIRV	Kirov	29.54	330	LR	LR	21 23 34.6	
	comp=Z,50nm,19.5s,baz=257,slow=38						
BRTR	Keskin Array B	34.56	290	P	P	21 11 44.6	-0.2
	0.7nm,0.8s,baz=107,slow=9.2,SNR=2.5						
	0.7nm,0.8s						
FINES	FINESS Array B	41.21	325	P	P	21 12 40.6	+0.1
	1.3nm,0.5s,baz=103,slow=8.1,SNR=15						
	1.3nm,0.5s						
ARCES	ARCESS Array B	44.09	337	P	P	21 13 03.5	-0.3
	1.6nm,0.8s,baz=110,slow=8.0,SNR=4.9						
	1.6nm,0.8s						
HFS	Hagfors	47.01	322	P	P	21 13 26.9	-0.1
	1.5nm,0.6s,baz=87,slow=11,SNR=6.9						
	1.5nm,0.6s						
NB2	NORSAR Subarra	48.26	323	P	P	21 13 37.6	+0.9
	comp=Z,0.6nm,0.5s,baz=90,slow=7.9						
NOA	NORSAR Array B	48.26	323	P	P	21 13 36.2	-0.5
	comp=Z,0.6nm,0.6s,baz=90,slow=7.7,SNR=5.6						
NOA				LR	LR	21 34 39.9	
	comp=Z,16nm,19.7s,baz=105,slow=37						
	comp=Z,0.6nm,0.6s						
MJAR	Matsushiro Arr	48.60	70	P	P	21 13 39.6	-0.1
	comp=Z,1.0nm,0.9s,baz=289,slow=8.9,SNR=3.1						
	comp=Z,1.0nm,0.9s						
EKA	Eskdalemuir Ar	56.52	318	P	P	21 14 37.1	-0.8
	comp=Z,0.4nm,0.6s,baz=72,slow=7.1,SNR=5.2						
	comp=Z,0.4nm,0.6s						
TORD	Torodi Ar. Bea	70.79	273	P	P	21 16 11.2	-1.5
	comp=Z,90nm,0.3s,baz=44,slow=6.0,SNR=2.4						
ILAR	Eielson Array	74.31	18	P	P	21 16 31.9	-1.0
	comp=Z,0.2nm,0.6s,baz=320,slow=5.1,SNR=2.2						
	comp=Z,0.2nm,0.6s						
WRA	Warramunga Arr	77.20	126	P	P	21 16 49.4	-0.6
	comp=Z,0.5nm,0.7s,baz=319,slow=5.6,SNR=2.1						
	comp=Z,0.5nm,0.7s						
ASAR	Alice Springs	79.57	129	P	P	21 17 02.3	-0.8
	comp=Z,0.3nm,0.6s,baz=321,slow=5.3,SNR=7.3						
	comp=Z,0.3nm,0.6s						
YKA	Yellowknife Ar	81.94	6	P	P	21 17 14.6	-0.5
	comp=Z,0.3nm,0.7s,baz=354,slow=5.1,SNR=8.2						
	comp=Z,0.3nm,0.7s						

*ISK **20** 21:16:44.6, 35°.48N×31°.11E, h103km±2km, ML3.0/17*
*NIC **20** 21:16:46.5, 35°.61N×31°.36E, h10km±2km, Ml2.5/4*
*AFAD **20** 21:16:50.1, 35°.66N×31°.51E, h7km±6km, ML2.2*

ISC 20 21:16:46.4±1.9, 35°.51N±0°.04×31°.29E±0°.04, h7km±14km, n31, σ1s51/45, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	Akamas	0.99	120	P	Pb	21 17 05.3	-0.5
AKMS				S	Sg	21 17 19.8	+1.6
AKMS				AML	AML	21 17 24.5	
	0.8nm,0.5s						
AKMS				AML	AML	21 17 24.9	
	1.0nm,0.4s						
AKUM	Antalya-Kumluc	1.11	317	P	Pb	21 17 07.7	-0.3
AKUM				S	Sn	21 17 29.3	+5.3
ALFC	Alefka	1.13	108	P	Pb	21 17 07.8	-0.4
ALFC				S	Sb	21 17 23.4	+0.3
ALFC				AML	AML	21 17 29.7	
	0.4nm,0.2s						
ALFC				AML	AML	21 17 29.8	
	0.5nm,0.2s						
ALAN	Alanya-ANTALYA	1.20	30	Pn	Pb	21 17 09.3	-0.2
ALAN				Sn	Sg	21 17 27.7	+2.6
NATA	Nata	1.28	125	P	Pn	21 17 09.4	-1.3
NATA				S	Sg	21 17 29.3	+1.8
NATA				AML	AML	21 17 39.1	
	1.1nm,0.8s						
NATA				AML	AML	21 17 40.3	
	0.8nm,0.9s						
LEF	Lefka	1.37	106	Pn	Pn	21 17 11.3	-0.6
LEF				Sn	Sg	21 17 31.5	+1.2
LEF	Lefka	1.37	106	P	Pn	21 17 12.3	+0.4
LEF				S	Sg	21 17 31.8	+1.5
TROD	Troodos	1.41	113	P	Pn	21 17 11.5	-1.2
TROD				S	Sb	21 17 32.2	+0.8
TROD				AML	AML	21 17 44.3	
	0.2nm,0.5s						
TROD				AML	AML	21 17 47.5	
	0.2nm,0.4s						
TEKE	Tekeli-Mersin	1.61	67	Pn	Pn	21 17 15.0	-0.2
TEKE				Sn	Sg	21 17 37.7	-0.4
CSS	Mathiatis	1.76	108	Pn	Pn	21 17 16.6	-0.7
CSS				Sn	Sn	21 17 40.0	0.0
CSS	Mathiatis	1.76	108	P	Pn	21 17 16.8	-0.5
ASGA	Asgata	1.76	114	P	Pn	21 17 16.3	-1.0
ASGA				S	Sn	21 17 39.7	-0.2
BERE	Bereket-Mersin	1.78	62	Pn	Pn	21 17 17.4	-0.3
SEYD	Seydisehir-KON	1.94	13	Pn	Pn	21 17 18.3	-1.6
AKKU	Akkuyu-Mersin	1.95	70	Pn	Pn	21 17 19.7	-0.2
GULN	MERSIN_Gulnar	1.95	69	P	Pb	21 17 21.3	-0.9
GULN				S	Sg	21 17 47.8	-1.2
GULN				*i* AML	AML	21 17 55.0	
	comp=E,19nm,0.7s						
GULN				*i* AML	AML	21 18 01.0	
	comp=N,14nm,0.5s						
SEDI	Konya, Seydise	1.97	11	P	Pb	21 17 22.7	+0.1
SEDI				S	Sg	21 17 49.4	-0.3
SEDI				*i* AML	AML	21 18 00.0	
	comp=E,42nm,0.9s						
SEDI				*i* AML	AML	21 18 01.0	
	comp=N,22nm,0.6s						
MVOU	Mavrovouni	1.98	104	P	Pn	21 17 19.7	-0.6
IKL	Isikli	2.08	69	Pn	Pn	21 17 21.5	-0.1
KARG	Kargicak-Mersi	2.08	70	Pn	Pn	21 17 21.3	-0.4
KKBE	Karaman, Kazim	2.16	38	P	Pb	21 17 25.8	-0.1
KKBE				S	Sg	21 17 56.5	+0.6
KKBE				*i* AML	AML	21 18 03.0	
	comp=E,30nm,0.7s						
KKBE				*i* AML	AML	21 18 05.0	
	comp=N,17nm,0.7s						
KEBE	Keben-Mersin	2.17	64	Pn	Pn	21 17 22.5	-0.6
KRMN	Karaman	2.30	43	Pn	Pn	21 17 23.8	-1.0
KONT	Konya--Tatoy	2.58	19	Pn	Pn	21 17 27.0	-1.5
DOGA	KONYA_Doganhis	2.60	7	P	Pb	21 17 34.2	+0.7
DOGA				*i* AML	AML	21 18 09.0	
	comp=N,18nm,1.5s						
DOGA				*i* AML	AML	21 18 22.0	
	comp=E,14nm,0.7s						
YER	Yerkesik	2.92	305	Pn	Pn	21 17 29.4	-3.9
MERS	Mersin	2.94	62	Pn	Pn	21 17 32.9	-0.7
YESY	Yesilyurt	3.00	40	Pn	Pn	21 17 33.5	-1.0
GULE	Gulek	3.32	57	P	Pb	21 17 42.2	-3.5
GULE				*i* AML	AML	21 18 20.0	
	comp=N,18nm,1.2s						
GULE				*i* AML	AML	21 19 04.0	
	comp=E,22nm,1.3s						
KARA	Karaisali	3.50	59	Pn	Pn	21 17 40.0	-1.3
CMRD	Camardi-Nigde	3.67	53	Pn	Pn	21 17 42.3	-1.4

*IDC **20** 21:26:48.5±1.7, 34°.94N×137°.57E, h0km, mb3.3/3, mbtmp3.3/3, MS3.9/1, Error ellipse: s-maj=36.1km s-min=15.2km az=113.0*
*JMA **20** 21:26:52.7±0.1, 35°.9N±0°.4×140°.0E±0°.6, h99km±1km, MV2.8/38, NORTHERN CHIBA PREF*

ISC 20 21:26:52.5±1.0, 35°.85N±0°.05×139°.98E±0°.06, h100km, n16, σ0s64/22, mb3.4/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.42	25	P	Pn	21 27 07.8	+0.1
JYT				S	Sn	21 27 19.0	-0.1
JAG	Ashikaga	0.72	324	P	Pn	21 27 10.2	+0.1
JRY	Ryogami san	0.89	281	P	Pn	21 27 12.5	+0.7
JRY				eS	Sn	21 27 28.0	+1.7
JOD2	Odawara 2	0.93	231	*i* P	Pn	21 27 12.1	-0.1
JOD2				eS	Sn	21 27 26.8	-0.2
JKT	Katashina	1.09	328	*i* P	Pn	21 27 13.9	-0.1
JKT				S	Sn	21 27 30.7	+0.5
BSO3	Boso 3	1.13	157	eP	Pn	21 27 14.8	+0.7
JIM2	Oshima 3	1.21	202	P	Pn	21 27 15.0	-0.3
JIM2				eS	Sn	21 27 32.5	-0.1
JYN	Shimob	1.22	254	*i* P	Pn	21 27 15.6	+0.2
JYN				S	Sn	21 27 33.4	+0.6
BSO1	Boso 1	1.45	145	eP	Pn	21 27 17.8	+0.3
MJAR	Matsushiro Arr	1.59	296	Pg	Pn	21 27 19.4	-0.5
	0.4nm,0.3s,baz=196,slow=18,SNR=22						
MJAR				Lg	Lg	21 27 41.6	
	0.6nm,0.3s,baz=170,slow=31,SNR=5.0						
MAT	Matsushiro	1.59	296	P	Pn	21 27 20.3	+0.4
JOTO	OTAMA OYAMA	1.73	9	eP	Pn	21 27 21.8	+0.1
JOTO				eS	Sn	21 27 44.5	+0.6
MKAR	Makanchi Array	43.78	303	P	P	21 34 47.2	-0.9
	0.2nm,0.6s,baz=91,slow=10,SNR=2.0						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	45.83	309	P	P	21 35 03.2	-1.1
	0.3nm,0.5s,baz=86,slow=7.7,SNR=2.8						
	0.3nm,0.5s						
LEM	Lembang	52.22	222	LR	LR	22 00 21.2	
	comp=Z,119nm,18.4s,baz=331,slow=40						
WRA	Warramunga Arr	55.74	186	P	P	21 36 19.4	+0.5
	0.3nm,0.8s,baz=1.7,slow=7.5,SNR=1.8						
	0.3nm,0.8s						

*IDC **20** 21:40:46.8±0.7, 1°.46N×128°.14E, h0km, mb4.0/12, mbtmp4.0/13, ML3.8/1, Error ellipse: s-maj=49.1km s-min=13.4km az=71.0*
*NEIC **20** 21:40:57.1±1.6, 1°.37N±0°.10×128°.27E±0°.06, h79km±8km, mb4.3/24, Error ellipse: s-maj=14.4km s-min=8.3km az=181.0*
*DJA **20** 21:40:58.5±0.3, 1°.N±3°×12°.8E±°, h74km±7km, M4.2/13, mB4.4/1, mb4.3/6, MLv4.2/13, Mw(mB)3.6/1*

ISC 20 21:40:57.4±1.1, 1°.34N±0°.07×128°.22E±0°.07, h88km±10km, n66, σ0s89/68, mb4.2/25, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.02	236		Pn	21 41 17.0	-0.2
TNTI				Sn	Sn	21 41 31.9	-0.2
TNTI	Ternate	1.02	236	P	Pn	21 41 17.2	0.0
TNTI				S	Sn	21 41 32.7	+0.6
SGSI	Sangihe	3.56	311	P	Pn	21 41 51.1	+0.6
SWI	Sorong	3.75	126	P	Pn	21 41 53.7	+0.7
SANI	Sanana	4.04	214	P	Pn	21 41 56.4	-0.6
KMSI	Cibinong	4.31	260	P	Pn	21 42 01.4	+0.8
NLAI	Namlea	4.69	194	P	Pn	21 42 07.3	+1.5
MSAI	Masohi	4.71	171	P	Pn	21 42 08.6	+2.5
FAKI	Fak Fak	5.84	136	Pn	Pn	21 42 21.9	+0.4
FAKI				Sn	Sn	21 43 25.6	-1.6
FAKI	Fak Fak	5.84	136	P	Pn	21 42 21.7	+0.1
	0.1nm36nm,0.8s						
LUWI	Luwuk	5.94	247	Pn	Pn	21 42 23.6	+0.7
LUWI	Luwuk	5.94	247	P	Pn	21 42 24.2	+1.3
	53nm,1.2s						
APSI	Ampana	6.94	251	P	Pn	21 42 37.0	+0.4
TOLI2	Tolitoli	7.44	268	Pn	Pn	21 42 44.0	+0.6
MPSI	Mapaga	8.38	263	P	Pn	21 42 57.3	+1.1
MTN	Manton Dam	14.39	168	Pn	Pn	21 44 16.0	-0.9
KNRA	Kununurra	16.92	178		Pn	21 44 48.3	-0.5
KSM	Kuching	17.91	271		P	21 44 59.9	-0.4
KSM				IAmb	IAmb	21 45 03.7	
	comp=Z,14nm,0.6s						
FITZ	Fitzroy Crossi	19.48	187	P	P	21 45 17.7	+0.2
FITZ	Fitzroy Crossi	19.48	187	P	P	21 45 18.1	+0.5
	comp=Z,0.2nm,0.3s,baz=23,slow=14,SNR=3.2						
	comp=Z,2.4nm,0.7s						
WB0	Warramunga Arr	21.84	164		P	21 45 43.6	+0.8
WB0				IAmb	IAmb	21 45 46.0	
	comp=Z,9.7nm,1.2s						
WRA	Warramunga Arr	21.99	164	P	P	21 45 44.3	-0.2
WRA	Warramunga Arr	21.99	164	P	P	21 45 45.3	+0.8
	comp=Z,3.8nm,0.7s,baz=342,slow=9.1,SNR=24						
WRA				PcP	PcP	21 49 40.3	+0.3
	comp=Z,0.9nm,1.1s,baz=327,slow=2.0,SNR=1.9						
	comp=Z,3.8nm,0.7s						
MYKOM	Kota Tinggi	24.37	271	P	P	21 46 08.4	+0.8
MYKOM				IAmb	IAmb	21 46 10.2	
	comp=Z,8.5nm,0.8s						
AS31	Alice Springs	25.46	168	P	P	21 46 17.9	+0.4
ASAR	Alice Springs	25.47	168	P	P	21 46 17.1	-0.3
ASAR	Alice Springs	25.47	168	P	P	21 46 18.1	+0.6
	comp=Z,0.7nm,0.5s,baz=348,slow=9.4,SNR=19						
ASAR				PcP	PcP	21 49 47.6	+0.1
	comp=Z,0.3nm,0.5s,baz=351,slow=2.8,SNR=5.0						
	comp=Z,0.7nm,0.5s						
RPSI	Rantau Prapat	29.31	273	P	P	21 46 51.7	-0.3
RPSI				IAmb	IAmb	21 46 53.6	
	comp=Z,9.7nm,0.7s						
GSI	Gunungsitoli	30.64	270	P	P	21 47 02.1	-1.6
FORT	Forrest	31.94	180	P	P	21 47 15.1	+0.1
CMAR	Chiang Mai Arr	33.38	302	P	P	21 47 26.6	-1.1
	comp=Z,0.2nm,0.3s,baz=125,slow=8.4,SNR=1.8						
	comp=Z,0.2nm,0.3s						
BBOO	Buckleboo	34.77	168	P	P	21 47 39.2	-0.3
STKA	Stephens Creek	35.39	160	P	P	21 47 45.5	+0.6
STKA	Stephens Creek	35.39	160	P	P	21 47 46.0	+1.1
	comp=Z,1.9nm,0.4s,baz=340,slow=11,SNR=8.6						
	comp=Z,1.9nm,0.4s						
PZH	PanZhiHua	35.69	317	P	P	21 47 50.3	+2.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,3.5s						
MJAR	Matsushiro Arr	36.22	14	P	P	21 47 51.3	-0.7
	comp=Z,0.5nm,0.5s,baz=179,slow=9.4,SNR=2.5						
	comp=Z,0.5nm,0.5s						
H11S3	WAKE ISLAND Hy	41.40	63	T	T	22 32 57.2	
	baz=250						
H11S2	WAKE ISLAND Hy	41.41	63	T	T	22 32 58.9	
	baz=250						
H11S1	WAKE ISLAND Hy	41.41	63	T	T	22 32 59.0	
	baz=250						
H11N1	WAKE ISLAND Hy	42.00	62	T	T	22 33 08.9	
	baz=247,slow=76,SNR=3.7						
H11N2	WAKE ISLAND Hy	42.01	62	T	T	22 33 20.3	
	baz=247,slow=76,SNR=4.0						
H11N3	WAKE ISLAND Hy	42.02	62	T	T	22 33 09.9	
	baz=247,slow=76,SNR=3.5						
HHC	Hu-ho-hao-te	42.12	341	eP	P	21 48 44.0	+2.8
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SHL	Shillong	42.49	308	P	P	21 48 44.9	+0.3
SHL				IAmb	IAmb	21 48 45.9	
	comp=Z,4.7nm,0.7s						
SONM	Songino Array	50.02	341	P	P	21 49 43.4	+0.3
	comp=Z,0.7nm,0.8s,baz=153,slow=8.0,SNR=6.7						
SONM				PcP	PcP	21 51 02.3	+0.4
	comp=Z,0.7nm,0.8s,baz=151,slow=3.3,SNR=4.4						
	comp=Z,0.7nm,0.8s						
MKAR	Makanchi Array	60.35	325		P	21 50 57.5	+0.2
MKAR				PcP	PcP	21 51 41.3	-0.3
MKAR	Makanchi Array	60.35	325	P	P	21 50 57.4	0.0
	comp=Z,3.2nm,0.6s,baz=121,slow=8.5,SNR=52						
MKAR				PcP	PcP	21 51 41.0	-0.6
	comp=Z,0.8nm,0.6s,baz=123,slow=5.0,SNR=4.8						
	comp=Z,3.2nm,0.6s						
MAKZ	Makanchi	60.54	325		P	21 50 58.6	0.0
MAKZ				IAmb	IAmb	21 50 59.4	
	comp=Z,3.4nm,0.7s						
ZALV	Zalesovo Beam	63.38	333	P	P	21 51 16.5	-0.9
	comp=Z,0.5nm,0.4s,baz=135,slow=7.0,SNR=2.8						
	comp=Z,0.5nm,0.4s						
KURBB	Kurchatov Arra	64.54	327	P	P	21 51 24.8	-0.3
	comp=Z,5.0nm,0.6s,baz=127,slow=6.0,SNR=46						
	comp=Z,5.0nm,0.6s						
KURK	Kurchatov	64.54	328		P	21 51 24.7	-0.4
GAR	Garm	64.63	313		P	21

HWA				*e*S	Sb	21 48 48.5	-1.2
WHF	**Hehuan Shan**	**0.24**	**279**	*i* P	Pb	21 48 45.8	-0.2
WHF				*e*S	Sb	21 48 50.1	-0.4
EAHA	**Aohua**	**0.29**	**41**	P	Pb	21 48 46.0	0.0
EAHA				*i* S	Sb	21 48 50.7	+0.2
FUSS	**Fushou**	**0.30**	**299**	*i* P	Pb	21 48 46.5	+0.3
FUSS				*e*S	Sb	21 48 51.6	+0.6
ESL	**Shilin**	**0.30**	**197**	P	Pb	21 48 45.7	-0.3
SHUL	**Shoufeng**	**0.32**	**174**	*e*P	Pb	21 48 46.6	+0.3
SHUL				S	Sb	21 48 52.3	+1.3
NNSB	**Datong**	**0.35**	**338**	P	Pb	21 48 47.0	+0.2
NNSB				*e*S	Sb	21 48 52.4	+0.5
TWT	**Tachien**	**0.35**	**295**	P	Pb	21 48 47.6	+0.7
OWD	**Renai**	**0.35**	**245**	*e*P	Pb	21 48 47.2	+0.2
OWD				*i* S	Sb	21 48 52.5	+0.3
NNS	**Nan Shan**	**0.36**	**337**	*e*P	Pb	21 48 47.3	+0.3
NNS				*e*S	Sb	21 48 52.9	+0.5
TDCB	**Techi**	**0.37**	**294**	P	Pb	21 48 47.6	+0.5
ENA	**Nanau**	**0.38**	**31**	*e*P	Pb	21 48 47.4	+0.2
ENA				S	Sb	21 48 53.0	+0.4
WUSB	**Renai**	**0.39**	**253**	P	Pb	21 48 47.9	+0.4
WUSB				*e*S	Sb	21 48 53.5	+0.4
WARBT	**Fenglin Townsh**	**0.41**	**199**	*e*P	Pb	21 48 47.1	-0.6
WARBT				*e*S	Sb	21 48 53.0	-0.4
EWUT	**Wuta**	**0.41**	**34**	P	Pb	21 48 47.9	+0.1
EWUT				*e*S	Sb	21 48 53.8	+0.3
LATG	**Datong**	**0.43**	**360**	P	Pb	21 48 48.3	+0.1
LATG				*e*S	Sb	21 48 54.2	0.0
ENTT	**Nioudou**	**0.53**	**4**	*e*P	Pb	21 48 50.3	+0.2
ENTT				*e*S	Sb	21 48 57.7	+0.3
ESAO	**Su ao**	**0.55**	**32**	*e*P	Pb	21 48 50.4	0.0
ESAO				*e*S	Sb	21 48 57.6	-0.2
NDS	**Dongshan**	**0.55**	**18**	*e*P	Pb	21 48 49.9	-0.5
NDS				*e*S	Sb	21 48 57.3	-0.6
WHP	**Taichung City**	**0.56**	**288**	*e*P	Pb	21 48 51.1	+0.5
WHP				*e*S	Sb	21 48 58.7	+0.5
WCS	**Beigang Elemen**	**0.56**	**265**	*e*P	Pb	21 48 50.8	+0.2
YHNB	**Yeheng**	**0.58**	**346**	P	Pb	21 48 51.0	+0.1
YHNB	**Yeheng**	**0.58**	**346**	S	Sb	21 48 59.1	+0.3
YHNB	**Yeheng**	**0.58**	**346**	P	Pb	21 48 50.9	0.0
YHNB				*e*S	Sb	21 48 58.9	+0.1
TWC	**Suao**	**0.58**	**30**	*i* P	Pb	21 48 51.1	+0.2
TWC				S	Sb	21 48 58.9	+0.1
NSK	**Sanguang**	**0.59**	**345**	P	Pb	21 48 51.2	+0.1
NSK				S	Sb	21 48 59.2	+0.1
SSLB	**Suanglung**	**0.61**	**239**	P	Pb	21 48 51.6	+0.1
SSLB	**Suanglung**	**0.61**	**239**	S	Sb	21 49 00.3	+0.6
SSLB	**Suanglung**	**0.61**	**239**	*e*P	Pb	21 48 51.6	+0.1
SMLT	**Sun Moon Lake**	**0.62**	**249**	*e*P	Pb	21 48 50.9	-0.6
SMLT				*e*S	Sb	21 48 59.9	0.0
HGSD	**Ruisui**	**0.62**	**189**	*e*P	Pb	21 48 51.6	+0.1
EHY	**Hungye**	**0.62**	**198**	P	Pb	21 48 51.2	-0.4
TWE	**Neicheng**	**0.63**	**12**	*e*P	Pb	21 48 52.2	+0.6
TWE				S	Sb	21 49 00.6	+0.6
EHYH	**Wanrong**	**0.63**	**195**	*e*P	Pb	21 48 51.8	0.0
NFF	**Wufeng Townshi**	**0.64**	**325**	*e*P	Pb	21 48 52.5	+0.5
TYC	**Yuchr**	**0.65**	**252**	P	Pb	21 48 52.3	+0.4
FUSB	**Fushanzhiwuyua**	**0.65**	**5**	*e*P	Pb	21 48 52.2	+0.1
FUSB				*e*S	Sb	21 49 01.1	+0.1
NWLT	**Wulai**	**0.67**	**358**	*e*P	Pb	21 48 52.5	+0.1
NWLT				*e*S	Sb	21 49 00.9	-0.4
NSTT	**Nanjuang**	**0.71**	**318**	*e*P	Pn	21 48 53.7	-0.4
LIOB	**Emei**	**0.71**	**319**	*e*P	Pn	21 48 54.1	-0.1
EOS2	**EOS2**	**0.71**	**64**	*e*P	Pn	21 48 53.9	-0.2
EOS4	**EOS4**	**0.72**	**89**	*e*P	Pn	21 48 53.6	-0.4
WHYT	**Xinyi Township**	**0.74**	**237**	P	Pn	21 48 54.2	-0.4
WHYT				*e*S	Sn	21 49 04.5	-0.7
YULB	**Yu-li**	**0.74**	**197**	P	Pn	21 48 53.2	-0.3
YULB	**Yu-li**	**0.74**	**197**	*e*P	Pn	21 48 52.0	-1.5
KSHI	**Guanxi Townshi**	**0.74**	**334**	*e*P	Pn	21 48 54.4	-0.2
EOS3	**EOS3**	**0.74**	**76**	*e*P	Pn	21 48 54.4	-0.1
NSY	**Sanyi**	**0.77**	**294**	*e*P	Pb	21 48 52.2	-1.7
EYUL	**Yuli**	**0.78**	**194**	*e*P	Pb	21 48 54.5	+0.4
TWF1	**Yuli**	**0.78**	**196**	*e*P	Pb	21 48 54.4	+0.2
WJS	**Zhushan**	**0.78**	**249**	*e*P	Pn	21 48 55.8	+0.6
WJS				*e*S	Sn	21 49 06.9	+0.7
NMLH	**Miaoli**	**0.80**	**303**	*e*P	Pn	21 48 56.2	+0.8
WNT	**Mingjian**	**0.80**	**254**	*e*P	Pn	21 48 55.4	0.0
EGS		**0.82**	**26**	*e*P	Pn	21 48 55.7	+0.1
ALS	**Alishan**	**0.89**	**228**	*e*P	Pn	21 48 56.6	-0.3
TIPB	**Shuangxi**	**0.91**	**17**	*e*P	Pn	21 48 56.7	-0.1
TIPB				*e*S	Sb	21 49 08.5	+0.5
NCUH	**Zhongli**	**0.91**	**340**	*e*P	Pn	21 48 58.1	+1.2
NCUH				*e*S	Sn	21 49 11.5	+2.0
FULB	**Fuli**	**0.93**	**193**	*e*P	Pn	21 48 57.0	-0.1
TWB1	**Santiao Chiao**	**0.99**	**25**	*e*P	Pn	21 48 58.5	+0.5
WDLH	**Douliu**	**1.00**	**246**	*e*P	Pn	21 48 58.6	+0.5
ELDTW	**Lidau**	**1.02**	**207**	*e*P	Pb	21 48 58.0	-0.4
YM01	**YM01**	**1.04**	**2**	*e*P	Pn	21 48 59.5	+0.8
ZUZH	**Zhuzihu**	**1.05**	**1**	*e*P	Pn	21 48 59.3	+0.4
CHN4	**Tsaushan**	**1.14**	**229**	*e*P	Pb	21 49 01.1	+0.8
TPUB	**Ta-pu**	**1.15**	**226**	P	Pb	21 49 02.2	+1.7
TPUB	**Ta-pu**	**1.15**	**226**	*e*P	Pb	21 49 01.4	+0.9
TPUB				*e*S	Sn	21 49 17.6	+2.3
STYH	**Taoyuan**	**1.16**	**217**	*e*P	Pn	21 48 59.8	-0.5
WTP	**Ta-pu**	**1.20**	**225**	*e*P	Pb	21 49 01.9	+0.5
TWK	**Hsinying**	**1.27**	**229**	*e*P	Pb	21 49 02.9	+0.4
CHN1	**Nanshi**	**1.30**	**225**	*e*P	Pb	21 49 03.5	+0.5
WSL	**Shuilin Townsh**	**1.32**	**244**	*e*P	Pb	21 49 04.0	+0.6
WSL				*e*S	Sb	21 49 23.2	+3.2
SGST	**Jiashian**	**1.34**	**221**	*e*P	Pb	21 49 03.4	-0.3

*KOLA **20** 21:48:54.7, 67°.67N×33°.74E, h0km, ML1.5, Error ellipse: s-maj=2.8km s-min=1.6km az=130.0, Khibiny, mines Kirovsk, Yukspor*

HEL 20 21:48:54.8±0.1, 67°.65N×33°.73E, h0km, ML1.4, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.14**	**238**	P	Pg	21 48 57.5	-0.1
APA				S	Sg	21 48 59.9	+0.5
APA0	**Apatity Array**	**0.28**	**262**	P	Pg	21 48 59.7	-0.5
APA0				S	Sg	21 49 03.7	-0.2
LVZ	**Lovozero**	**0.43**	**54**	S	Sg	21 49 08.1	-0.7
LVZ	**Lovozero**	**0.43**	**54**	PG	Pg	21 49 02.5	-0.5
LVZ				SG	Sg	21 49 08.2	-0.5
KVDA	**Kovda**	**1.01**	**200**	S	Sg	21 49 26.6	-0.6
VRF	**Varrio**	**1.57**	**276**	PG	Pn	21 49 22.8	-1.1
VRF				MSG		21 49 42.0	
	comp=Z,4.1nm,0.2s						
VRF				SG	Sn	21 49 42.4	-2.6
TERR	**Teriberka**	**1.65**	**17**	S	Sn	21 49 44.0	-2.7
OLKF	**Oulanka, Finla**	**2.16**	**234**	PG	Pb	21 49 33.4	-1.3
OLKF				MSG		21 49 58.8	
	comp=Z,1.2nm,0.2s						
OLKF				SG	Sb	21 50 02.1	+0.1
RAJF	**Raja-Jooseppi**	**2.20**	**295**	PB	Pn	21 49 33.0	+0.4
RAJF				SB	Sn	21 50 00.4	0.0
KU6	**Riekki**	**2.22**	**225**	PG	Pb	21 49 34.4	-1.4
KU6				MSG		21 50 00.6	
	comp=Z,1.2nm,0.2s						
KU6				SG	Sb	21 50 04.1	+0.2
MSF	**Maaselka**	**2.55**	**229**	PG	Pb	21 49 40.0	-1.3
MSF				SG	Sb	21 50 14.3	+1.2
KU2	**Taivalkoski**	**2.93**	**231**	SG	Sb	21 50 25.4	+1.4
VADS	**Vadso**	**2.95**	**330**	S	Sn	21 50 19.1	+0.3
RNF	**Rovaniemi**	**3.19**	**255**	PN	Pn	21 49 45.7	-0.4
RNF				SB	Sn	21 50 27.7	+3.0
RANF	**Ranua**	**3.19**	**242**	SG	Sb	21 50 32.0	+0.3
KEV	**Kevo**	**3.24**	**314**	PN	Pn	21 49 47.0	+0.2
KEV				SN	Sn	21 50 24.6	-1.4
ARA0	**ARCESS Array S**	**3.56**	**306**	PN	Pn	21 49 50.5	-0.7
	bmz=122						
ARA0				SN	Sn	21 50 32.3	-1.7
ARCES	**ARCESS Array B**	**3.56**	**306**	P	Pn	21 49 50.2	-1.0
ARCES				S	Sn	21 50 31.4	-2.6
KLF	**Kolari**	**3.79**	**268**	SB	Sb	21 50 48.6	-0.1
HEF	**Hetta**	**3.86**	**286**	PG	Pb	21 50 04.4	+0.8
HEF				SN	Sn	21 50 40.1	-1.2
TOF	**Tornio**	**4.03**	**251**	PG	Pb	21 50 08.4	+1.8
TOF				SN	Sn	21 50 45.3	-0.1
PAJU	**Pajala**	**4.16**	**266**	PG	Pb	21 50 10.8	+2.1
PAJU				SN	Sn	21 50 47.9	-0.7

*IDC **20** 21:58:11.8±2.8, 16°.97S×179°.16W, h552km±18km, mb3.4/5, mbtmp4.3/6, Error ellipse: s-maj=104.8km s-min=24.3km az=141.0*

ISC 20 21:58:11.0±3.2, 16°.9S±0°.8×179°.1W±0°.7, h550km, n9, σ0°.64/9, mb4.0/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.86**	**254**	P	**P**	**21 59 25.9**	**+0.6**
	18nm,0.6s,baz=122,slow=13,SNR=6.6						
STKA	**Stephens Creek**	**38.55**	**240**	P	**P**	**22 04 46.8**	**-0.3**
	2.9nm,0.5s,baz=91,slow=13,SNR=11						
	2.9nm,0.5s						
WRA	**Warramunga Arr**	**44.19**	**259**	P	**P**	**22 05 31.0**	**-0.9**
	1.9nm,0.4s,baz=97,slow=7.9,SNR=6.9						
	1.9nm,0.4s						
ASAR	**Alice Springs**	**44.45**	**253**	P	**P**	**22 05 33.6**	**-0.2**
	18nm,0.5s,baz=91,slow=7.7,SNR=192						
ASAR				PcP	**PcP**	**22 07 04.9**	**-0.6**
	0.5nm,0.5s,baz=102,slow=3.8,SNR=2.1						
	18nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.57**	**260**	P	**P**	**22 06 34.1**	**+0.1**
	2.0nm,0.4s,baz=83,slow=8.1,SNR=2.6						
	2.0nm,0.4s						
ILAR	**Eielson Array**	**85.09**	**13**	P	**P**	**22 09 48.3**	**-0.3**
	0.4nm,0.8s,baz=209,slow=5.2,SNR=2.6						
	0.4nm,0.8s						
BRTR	**Keskin Array B**	**143.65**	**315**	PKP	PKPab	22 16 43.4	+0.6
	0.2nm,0.3s,baz=29,slow=1.8,SNR=4.4						
MMAI	**Mount Meron Ar**	**145.08**	**304**	PKPbc	**PKPbc**	**22 16 48.3**	**+0.8**
	5.6nm,1.0s,baz=60,slow=5.8,SNR=4.0						
GERES	**GERESS Array B**	**146.51**	**345**	PKPbc	**PKPbc**	**22 16 51.0**	**0.0**
	0.6nm,0.7s,baz=22,slow=4.9,SNR=6.2						

IDC 20 21:58:53.7±1.9, 6°.98S×128°.98E, h0km, mb4.0/2, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=94.7km s-min=25.4km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.52**	**196**	Pn	Pn	22 01 40.4	+0.9
	0.7nm,0.3s,baz=18,slow=13,SNR=24						
FITZ				Sn	Sn	22 03 38.2	-11
	0.9nm,0.3s,baz=127,slow=20,SNR=3.1						
	3.4nm,0.5s						
WRA	**Warramunga Arr**	**13.89**	**159**	Pn	Pn	22 02 11.3	-0.7
	0.7nm,0.3s,baz=336,slow=12,SNR=31						
WRA				Sn	Sn	22 04 31.4	-16
	1.2nm,0.3s,baz=332,slow=23,SNR=11						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**17.25**	**165**	P	Pn	22 02 56.0	-0.3
	0.4nm,0.3s,baz=337,slow=11,SNR=28						
ASAR				S	Sn	22 05 54.5	-14
	0.4nm,0.4s,baz=346,slow=26,SNR=4.8						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	22 09 52.7	0.0
	0.3nm,0.4s,baz=117,slow=5.4,SNR=12						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**71.97**	**329**	P	P	22 10 19.2	+0.1
	0.8nm,0.3s,baz=128,slow=5.1,SNR=3.1						
	0.8nm,0.3s						

HEL 20 22:05:46.9±0.3, 67°.16N×20°.55E, h0km, ML1.3, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALU	**Saltoluokta**	**0.82**	**286**	*e*P	Pg	22 06 03.0	+0.4
ERTU	**Ertsjaerv**	**0.89**	**133**	PG	Pg	22 06 02.6	-1.3
PAJU	**Pajala**	**1.01**	**97**	PG	Pg	22 06 04.8	-1.4
PAJU				SB	Sg	22 06 18.9	-0.5
LANU	**Lannavaara**	**1.05**	**31**	PG	Pg	22 06 05.5	-1.4
	baz=217						
KLF	**Kolari**	**1.33**	**85**	PG	Pg	22 06 11.0	-1.4
KLF				MSG		22 06 27.1	
	comp=Z,1.5nm,0.2s						
KLF				SB	Sg	22 06 28.4	-1.2
HEF	**Hetta**	**1.72**	**42**	*e*P	Pn	22 06 16.9	-1.2
HEF	**Hetta**	**1.72**	**42**	PG	Pn	22 06 17.7	-0.4
	baz=221						
HEF				MSG		22 06 38.2	
	comp=Z,1.3nm,0.2s						
HEF				SN	Sn	22 06 39.9	-0.8
KALU	**Kalix**	**1.73**	**138**	PG	Pn	22 06 18.1	0.0
KALU				SN	Sg	22 06 43.0	+0.7
KIF	**Kilpisjarvi**	**1.85**	**3**	PG	Pb	22 06 20.9	-0.7
KIF				MSG		22 06 43.1	
	comp=Z,2.5nm,0.2s						
KIF				SG	Sg	22 06 46.5	+0.1
TOF	**Tornio**	**1.86**	**124**	PG	Pn	22 06 20.5	+0.6
TOF				MSG		22 06 42.4	
	comp=Z,1.2nm,0.2s						
TOF				SG	Sb	22 06 45.4	0.0
KTK1	**Kautokeino**	**2.12**	**27**	PG	Pb	22 06 25.3	-0.8
ARA0	**ARCESS Array S**	**3.01**	**35**	SN	Sn	22 07 08.5	-4.0

*MOS **20** 22:12:13.8±0.9, 54°.83N×164°.76E, h45km, mb5.0/62, Error ellipse: s-maj=4.9km s-min=3.9km az=96.7*
*BJI **20** 22:12:15.0, 54°.80N×164°.70E, h10km, mB4.9/16, mb4.6/59, Ms4.5/30, Ms7 4.2/30*
*IDC **20** 22:12:15.9±0.5, 55°.00N×164°.54E, h0km, mb4.4/32, mbtmp4.4/37, ML4.0/5, MS3.6/22, Error ellipse: s-maj=12.5km s-min=8.5km az=172.0*
*KRSC **20** 22:12:15.2±1.6, 54°.76N×164°.70E, h47km±33km, Mc4.8, Ml4.6*
*NEIC **20** 22:12:16.3±1.0, 54°.85N±0°.07×164°.7E±0°.1, h10km±1km, mb4.8/166, Error ellipse: s-maj=12.8km s-min=10.2km az=160.0*
*BGR **20** 22:12:29.7, 55°.70N×161°.70E, h33km, mb4.4, Hypocentre not reviewed by the ISC*

ISC 20 22:12:16.9±0.5, 54°.77N±0°.04×164°.82E±0°.03, h16km±2km, h16km:pP-P, n786, σ1°.26/841, mb4.8/192, MS4.0/34, 37C-17D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.79**	**56**	PN	**Pb**	**22 12 32.7**	**+0.5**
BKI				S	**Sb**	**22 12 44.1**	**+1.4**
BKI	**Bering**	**0.79**	**56**	*e*P	**Pb**	**22 12 32.7**	**+0.5**
BKI				*e*S	**Sb**	**22 12 44.1**	**+1.4**
MKZ	**Mys Kozlova**	**1.81**	**264**	PN	**Pn**	**22 12 45.6**	**-1.7**
MKZ				S	**Sn**	**22 13 06.1**	**-3.9**
MKZ	**Mys Kozlova**	**1.81**	**264**	*e*P	**Pn**	**22 12 45.7**	**-1.7**
MKZ				*e*S	**Sn**	**22 13 06.2**	**-3.9**
KBTR	**Krutoberegovo**	**1.83**	**322**	PN	**Pn**	**22 12 44.3**	**-3.4**
KBTR				S	**Sn**	**22 13 05.0**	**-5.6**
KBTR	**Krutoberegovo**	**1.83**	**322**	*e*P	**Pn**	**22 12 44.4**	**-3.4**
KBTR				*e*S	**Sn**	**22 13 05.1**	**-5.6**
KBG	**Krutoberegovo**	**1.91**	**322**	PN	**Pn**	**22 12 45.4**	**-3.3**
KBG				S	**Sn**	**22 13 07.2**	**-5.3**
KBG	**Krutoberegovo**	**1.91**	**322**	*e*P	**Pn**	**22 12 45.5**	**-3.3**
KBG				*e*S	**Sn**	**22 13 07.3**	**-5.3**
TUMD	**Tumrok D**	**2.59**	**281**	PN	**Pn**	**22 12 56.2**	**-1.9**
TUMD	**Tumrok D**	**2.59**	**281**	*e*P	**Pn**	**22 12 56.2**	**-1.9**
TUMD				*e*S	**Sn**	**22 13 25.5**	**-3.7**
ZLN	**Zelenaya**	**2.61**	**300**	PN	**Pn**	**22 12 58.2**	**-0.3**
ZLN	**Zelenaya**	**2.61**	**300**	*e*P	**Pn**	**22 12 58.2**	**-0.3**
SMKR	**Semkarok**	**2.63**	**315**	PN	**Pn**	**22 12 58.1**	**-0.6**
SMKR				S	**Sn**	**22 13 28.9**	**-1.3**
SMKR	**Semkarok**	**2.63**	**315**	*e*P	**Pn**	**22 12 58.2**	**-0.6**
SMKR				*e*S	**Sn**	**22 13 29.0**	**-1.3**
BZGR	**Bezymyannyi-Gr**	**2.63**	**298**	PN	**Pn**	**22 12 58.4**	**-0.4**
BZGR				S	**Sn**	**22 13 29.5**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**2.63**	**298**	*e*P	**Pn**	**22 12 58.5**	**-0.4**
BZGR				*e*S	**Sn**	**22 13 29.5**	**-0.9**
CIRR	**Tsirk**	**2.68**	**302**	PN	**Pn**	**22 12 58.9**	**-0.6**
CIRR	**Tsirk**	**2.68**	**302**	*e*P	**Pn**	**22 12 59.0**	**-0.6**
LGNR	**Loginova**	**2.70**	**301**	PN	**Pn**	**22 12 59.6**	**-0.2**
LGNR				S	**Sn**	**22 13 31.1**	**-1.2**
LGNR	**Loginova**	**2.70**	**301**	*e*P	**Pn**	**22 12 59.7**	**-0.2**
LGNR				*e*S	**Sn**	**22 13 31.2**	**-1.2**
BZMR	**Bezymyannaya**	**2.73**	**297**	PN	**Pn**	**22 12 59.9**	**-0.3**
BZMR	**Bezymyannaya**	**2.73**	**297**	*e*P	**Pn**	**22 12 60.0**	**-0.3**
BZWR	**Bezymyannyi-We**	**2.74**	**298**	PN	**Pn**	**22 13 00.2**	**-0.2**
BZWR				S	**Sn**	**22 13 32.4**	**-0.8**
BZWR	**Bezymyannyi-We**	**2.74**	**298**	*e*P	**Pn**	**22 13 00.3**	**-0.2**
BZWR				*e*S	**Sn**	**22 13 32.5**	**-0.8**
KMNR	**Kamenistaya**	**2.80**	**292**	PN	**Pn**	**22 13 00.6**	**-0.5**
KMNR				S	**Sn**	**22 13 34.3**	**-0.3**
KMNR	**Kamenistaya**	**2.80**	**292**	*e*P	**Pn**	**22 13 00.7**	**-0.5**
KMNR				*e*S	**Sn**	**22 13 34.4**	**-0.3**
KIRR	**Kirishev**	**2.82**	**297**	PN	**Pn**	**22 13 01.3**	**-0.1**
KIRR				S	**Sn**	**22 13 34.0**	**-1.1**
KIRR	**Kirishev**	**2.82**	**297**	*e*P	**Pn**	**22 13 01.3**	**-0.1**
KIRR				*e*S	**Sn**	**22 13 34.1**	**-1.1**
KRSR	**Krestovskiy**	**2.82**	**303**	PN	**Pn**	**22 13 00.2**	**-1.2**
KRSR				S	**Sn**	**22 13 32.6**	**-2.5**
KRSR	**Krestovskiy**	**2.82**	**303**	*e*P	**Pn**	**22 13 00.2**	**-1.2**
KRSR				*e*S	**Sn**	**22 13 32.6**	**-2.5**
KLY	**Klyuchi**	**2.83**	**305**	*e*S	**Sn**	**22 13 31.4**	**-3.7**
KPT	**Kopyto**	**2.88**	**296**	PN	**Pn**	**22 13 02.4**	**+0.1**
KPT	**Kopyto**	**2.88**	**296**	*e*P	**Pn**	**22 13 02.4**	**+0.1**
KOZ	**Kozyrevsk**	**3.10**	**297**	PN	**Pn**	**22 13 05.4**	**+0.3**
KOZ				S	**Sn**	**22 13 42.0**	**+0.1**
KOZ	**Kozyrevsk**	**3.10**	**297**	*e*P	**Pn**	**22 13 05.5**	**+0.3**
KOZ				*e*S	**Sn**	**22 13 42.1**	**+0.1**
KII	**Karymskiy**	**3.23**	**259**	PN	**Pn**	**22 13 06.5**	**-0.4**
KII	**Karymskiy**	**3.23**	**259**	*e*P	**Pn**	**22 13 06.5**	**-0.4**
SRDR	**Sredinnyy**	**3.29**	**300**	PN	**Pn**	**22 13 08.7**	**+0.9**
SRDR				S	**Sn**	**22 13 45.6**	**-0.9**
SRDR	**Sredinnyy**	**3.29**	**300**	*e*P	**Pn**	**22 13 08.7**	**+0.9**
SRDR				*e*S	**Sn**	**22 13 45.7**	**-0.9**
SPN	**Mys Shipunski**	**3.30**	**241**	*e*S	**Sn**	**22 13 41.5**	**-5.2**
ESO	**Esso**	**3.68**	**291**	PN	**Pn**	**22 13 12.3**	**-0.8**
ESO	**Esso**	**3.68**	**291**	*e*P	**Pn**	**22 13 12.3**	**-0.8**
ESO				*e*S	**Sn**	**22 13 53.6**	**-2.6**
SDLR	**Sedlovina**	**3.81**	**249**	PN	**Pn**	**22 13 14.2**	**-0.8**
SDLR	**Sedlovina**	**3.81**	**249**	*e*P	**Pn**	**22 13 14.3**	**-0.8**
SDLR				*e*S	**Sn**	**22 13 57.0**	**-2.5**
KRER	**Koryakskii**	**3.87**	**250**	PN	**Pn**	**22 13 15.8**	**-0.1**
KRER	**Koryakskii**	**3.87**	**250**	*e*P	**Pn**	**22 13 15.9**	**-0.1**
KRER				*e*S	**Sn**	**22 13 58.2**	**-2.9**
UGLR	**Uglovaya**	**3.87**	**249**	PN	**Pn**	**22 13 15.4**	**-0.4**
UGLR	**Uglovaya**	**3.87**	**249**	*e*P	**Pn**	**22 13 15.4**	**-0.4**
UGLR				*e*S	**Sn**	**22 13 58.1**	**-3.0**
AVH	**Avacha**	**3.90**	**250**	PN	**Pn**	**22 13 15.9**	**-0.2**
AVH	**Avacha**	**3.90**	**250**	*e*P	**Pn**	**22 13 15.9**	**-0.2**
AVH				*e*S	**Sn**	**22 13 59.7**	**-1.8**
KRX	**Arik**	**3.91**	**251**	PN	**Pn**	**22 13 15.9**	**-0.4**
KRX	**Arik**	**3.91**	**251**	*e*P	**Pn**	**22 13 16.0**	**-0.4**
KRX				*e*S	**Sn**	**22 13 59.1**	**-2.8**
KOK	**Koryaka**	**3.94**	**250**	PN	**Pn**	**22 13 16.5**	**-0.2**
KOK	**Koryaka**	**3.94**	**250**	*e*P	**Pn**	**22 13 16.6**	**-0.2**
KOK				*e*S	**Sn**	**22 13 59.1**	**-3.6**
DALK	**Dalny**	**3.99**	**247**	PN	**Pn**	**22 13 16.5**	**-0.9**
DALK	**Dalny**	**3.99**	**247**	*e*P	**Pn**	**22 13 16.5**	**-0.9**
DALK				*e*S	**Sn**	**22 13 59.5**	**-4.3**
PET	**Petropavlovsk**	**4.05**	**247**		**Pn**	**22 13 17.5**	**-0.6**
PET	**Petropavlovsk**	**4.05**	**247**	*e*PN	**Pn**	**22 13 17.8**	**-0.3**
PET				pmax	pmax		
	comp=Z,100nm,6.7s						
PET				pmax	pmax		
	comp=Z,400nm,4.3s						
PET				pmax	pmax		
	comp=Z,129nm,0.9s						
PET				MLR	MLR		
	comp=Z,1μm,10.0s						
PET				MLR	MLR		
	comp=Z,2μm,9.0s						
PET	**Petropavlovsk**	**4.05**	**247**	*e*P	**Pn**	**22 13 17.6**	**-0.6**
PET				*e*S	**Sn**	**22 14 01.9**	**-3.3**
GNL	**Ganaly**	**4.18**	**258**	PN	**Pn**	**22 13 20.3**	**+0.2**
GNL	**Ganaly**	**4.18**	**258**	*e*P	**Pn**	**22 13 20.3**	**+0.2**
KRMR	**Karymshinskiy**	**4.42**	**247**	PN	**Pn**	**22 13 23.2**	**0.0**
KRMR	**Karymshinskiy**	**4.42**	**247**	*e*P	**Pn**	**22 13 23.3**	**0.0**
KRMR				*e*S	**Sn**	**22 14 11.0**	**-3.4**
RUS	**Russkaya**	**4.43**	**241**	PN	**Pn**	**22 13 23.3**	**0.0**
RUS	**Russkaya**	**4.43**	**241**	*e*P	**Pn**	**22 13 23.4**	**0.0**
PEA0B	**Petropavlovsk-**	**4.53**	**251**		**Pn**	**22 13 24.2**	**-0.6**
PEA0B	**Petropavlovsk-**	**4.53**	**251**	*c*ePN	**Pn**	**22 13 25.5**	**+0.7**
PETK	**Petropavlovsk-**	**4.53**	**251**		**Pn**	**22 13 23.7**	**-1.1**
PETK	**Petropavlovsk-**	**4.53**	**251**	Pn	**Pn**	**22 13 24.1**	**-0.7**
	comp=Z,5.6

ANM	Nome	17.78	45	P	Pn	22 16 23.5	+0.1
	baz=251						
M13K	Dall Lake	17.84	59	P	Pn	22 16 24.4	+0.2
	baz=266						
JKA	Kamikawa-asahi	17.88	243		Pn	22 16 22.8	-2.0
ASAJ	Asahikawa	17.88	243	P	Pn	22 16 24.6	-0.1
	comp=Z,0.4nm,0.3s,baz=55,slow=12,SNR=17						
ASAJ				LR	LR	22 23 14.7	
	comp=Z,289nm,18.1s,baz=34,slow=37						
	comp=Z,27nm,0.9s						
ASAJ	Asahikawa	17.88	243	P	Pn	22 16 22.8	-1.9
ASAJ				pmax	pmax		
	comp=Z,31nm,0.9s						
J14K	Nanvaranak Lak	18.07	51	P	Pn	22 16 26.7	-0.2
J14K	Nanvaranak Lak	18.07	51	P	P	22 16 27.7	+0.4
	baz=258						
FALS	False Pass	18.22	77	P	Pn	22 16 28.9	0.0
	baz=283						
L14K	Kuka Creek	18.25	56	P	Pn	22 16 29.3	+0.2
L14K	Kuka Creek	18.25	56	P	Pn	22 16 29.4	+0.2
	baz=264						
G15K	Niukluk	18.46	44	P	Pn	22 16 31.8	+0.1
	baz=251						
F15K	North Star Dit	18.47	42	P	P	22 16 31.4	-0.3
F15K	North Star Dit	18.47	42	P	Pn	22 16 32.0	+0.2
	baz=248,SNR=9.2						
M14K	Bethel	18.55	58	P	Pn	22 16 33.6	+0.8
M14K	Bethel	18.55	58	P	P	22 16 32.8	+0.2
	baz=266						
N14K	Kuskokwak Cree	18.65	60	P	P	22 16 33.8	+0.2
	baz=269						
S12K	Black Hills	18.81	74	P	Pn	22 16 36.5	+0.5
S12K	Black Hills	18.81	74	P	P	22 16 35.1	-0.4
	baz=281						
L15K	Ungalak Mounta	18.86	55	P	Pn	22 16 36.6	0.0
	baz=264						
O14K	Tigyukauivet M	18.86	62	P	P	22 16 36.4	+0.3
	baz=271						
K15K	Wolf Creek Mou	18.92	53	P	Pn	22 16 38.0	+0.7
K15K	Wolf Creek Mou	18.92	53	P	Pn	22 16 37.2	-0.1
	baz=262						
H16K	Elim	19.09	46	P	P	22 16 38.3	-0.1
	baz=254						
ERM	Erimo	19.13	237	P	P	22 16 35.7	-3.4
ERM	Erimo	19.13	237	*i* P	P	22 16 38.4	-0.7
M15K	Kasigluk River	19.17	58	P	P	22 16 39.4	0.0
	baz=267						
G16K	Koyuk River	19.26	43	P	P	22 16 40.5	+0.2
	baz=252						
C16K	Lisburne Hills	19.34	34	P	Pn	22 16 41.8	-0.5
	baz=240,SNR=26						
N15K	Kwethluk River	19.45	60	P	P	22 16 42.4	-0.2
	baz=269,SNR=8.2						
J16K	Anvik River	19.49	50	P	P	22 16 43.1	+0.1
	baz=260						
I17K	Unalakleet	19.57	48	P	P	22 16 43.9	+0.2
	baz=258						
YAK	Yakutsk	19.58	306		P	22 16 42.1	-1.8
YAK				IAmb	IAmb	22 16 45.8	
	comp=Z,54nm,0.8s						
YAK	Yakutsk	19.58	306	P	P	22 16 42.3	-1.6
	comp=Z,1.1nm,0.3s,baz=90,slow=1.0,SNR=28						
YAK				S	S	22 20 17.6	-6.6
	comp=Z,3.4nm,0.3s,baz=78,slow=20,SNR=1.1						
YAK				LR	LR	22 24 20.9	
	comp=Z,185nm,19.2s,baz=99,slow=38						
	comp=Z,50nm,0.9s						
YAK	Yakutsk	19.58	306	*e*P	P	22 16 42.8	-1.1
YAK				*e*S	S	22 20 23.0	-1.2
YAK				pmax	pmax		
	comp=Z,62nm,1.0s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,46nm,1.9s						
YAK				smax	smax		
	comp=N,106nm,5.7s						
YAK				smax	smax		
	comp=E,78nm,5.2s						
YAK				MLR	MLR		
	comp=Z,228nm,24.0s						
YAK				MLR	MLR		
	comp=N,151nm,27.0s						
YAK				MLR	MLR		
	comp=E,171nm,24.0s						
O15K	Ungalikthiuk R	19.61	63		P	22 16 44.7	+0.5
O15K	Ungalikthiuk R	19.61	63	P	Pn	22 16 45.2	-0.4
	baz=272,SNR=6.1						
SDPT	Sand Point	19.76	74	P	P	22 16 46.3	+0.4
	baz=283						
L16K	Owhat River	19.82	55	P	P	22 16 46.9	+0.5
	baz=266						
D17K	Noatak River	19.83	37	P	P	22 16 46.8	+0.2
	baz=245,SNR=8.8						
G17K	Kiwalik Mounta	19.97	44	P	P	22 16 48.9	+0.7
	baz=254,SNR=13						
F17K	Baldwin Pennin	20.02	41	P	Pn	22 16 49.8	-0.7
	baz=251,SNR=10						
M16K	Timber Creek	20.03	57	P	Pn	22 16 50.2	-0.3
	baz=268,SNR=19						
E17K	Hotham Inlet	20.03	39	P	P	22 16 49.4	+0.6
	baz=248,SNR=9.5						
RDOG	Red Dog Mine	20.04	36	P	P	22 16 48.8	-0.1
RDOG	Red Dog Mine	20.04	36	P	Pn	22 16 49.9	-0.8
	baz=244						
S14K	Fog Glacier	20.08	71	P	P	22 16 50.0	+0.5
	baz=281						
N16K	Nishlik Lake	20.11	59	P	P	22 16 50.0	+0.3
	baz=270						
H17K	Granite Mounta	20.13	46	P	P	22 16 50.8	+0.9
	baz=256,SNR=17						
J17K	VABM Dome	20.19	50	P	P	22 16 50.8	+0.2
	baz=262,SNR=10						
CHNA	Chernabura Isl	20.38	75	P	P	22 16 53.2	+0.6
	baz=284						
CNBA	Chernabura Isl	20.39	75	P	P	22 16 52.5	-0.2
L17K	Donlin	20.41	54	P	Pn	22 16 54.1	-0.9
	baz=266,SNR=11						
K17K	Iditarod	20.46	52	P	P	22 16 54.5	+1.1
	baz=264,SNR=18						
O16K	Kokwok River B	20.47	61	P	P	22 16 54.1	+0.5
	baz=273						
TEY	Ternei	20.49	253	*e*P	Pn	22 16 56.0	-0.1
P16K	Nushagak River	20.56	63	P	P	22 16 55.0	+0.5
	baz=274						
E18K	Tukpahlearik C	20.60	39	P	P	22 16 55.7	+0.8
E18K	Tukpahlearik C	20.60	39	P	P	22 16 55.2	+0.3
	baz=249						
F18K	Selawik	20.68	41	P	P	22 16 56.1	+0.3
	baz=252,SNR=8.2						
CHGN	Chignik	20.70	71	P	P	22 16 56.8	+0.7
	baz=281						
M17K	Holitna River	20.78	56	P	P	22 16 57.4	+0.5
	baz=268,SNR=12						
H18K	Honhosa River	20.82	45	P	P	22 16 57.8	+0.4
	baz=258						
C18K	Utukok River	20.87	35	P	P	22 16 58.5	+0.5
	baz=245,SNR=28						
N17K	Nushagak Hills	20.90	59	P	P	22 16 58.7	+0.5
	baz=271						
O17K	Koliganek Bris	20.97	61	P	P	22 16 59.5	+0.5
	baz=273,SNR=9.0						
KLR	Kul'dur	20.97	268	P	P	22 16 59.9	+0.8
	comp=E,7.9nm,1.1s,baz=60,slow=10,SNR=15						
KLR				S	S	22 20 47.8	-4.2
	comp=E,0.3nm,0.2s,baz=18,slow=20,SNR=1.0						
KLR				LR	LR	22 25 55.9	
	comp=E,189nm,18.9s,baz=42,slow=39						
	comp=E,7.9nm,1.1s						
KLR	Kul'dur	20.97	268	*e*P	P	22 16 58.5	-0.6
KLR				pmax	pmax		
	comp=Z,12nm,1.2s						
B18K	Kokolik River	20.99	33	P	P	22 16 60.0	+0.9
	baz=243						
JTM	Tenmabayashi	21.09	238	P	P	22 16 59.2	-1.1
JTM				IAmb	IAmb	22 17 06.7	
	comp=Z,87nm,1.9s						
L18K	Granite Mounta	21.17	54	P	P	22 17 01.4	+0.3
	baz=267,SNR=8.6						
J18K	Innoko River	21.25	50	P	P	22 17 02.6	+0.5
J18K				IAmb	IAmb	22 17 04.7	
	comp=Z,33nm,1.1s						
J18K	Innoko River	21.25	50	P	P	22 17 02.9	+0.9
	baz=264,SNR=25						
Q16K	King Salmon	21.28	64	P	P	22 17 02.9	+0.6
	baz=276						
P17K	Kvichak River	21.34	62	P	P	22 17 03.5	+0.5
	baz=275,SNR=5.8						
GCSA	Galena City Sc	21.36	47	P	P	22 17 03.7	+0.6
	baz=260						
F19K	Shaleruckik Mo	21.46	41	P	P	22 17 05.3	+1.1
	baz=254						
TTA	Tatalina	21.52	52	P	P	22 17 05.9	+0.9
	baz=266,SNR=8.0						
N18K	Kilae Creek	21.53	58	P	P	22 17 05.5	+0.5
	baz=272,SNR=9.3						
M18K	Stony River	21.55	56	P	P	22 17 05.4	+0.2
	baz=270						
A19K	Wainwright	21.61	31	P	P	22 17 06.2	+0.5
	baz=242						
H19K	Roundabout Mou	21.68	45	P	P	22 17 07.1	+0.6
	baz=259						
Q17K	Contact Creek	21.73	65	P	P	22 17 07.8	+0.4
	baz=278,SNR=5.3						
J19K	Poorman	21.80	49	P	P	22 17 08.4	+0.6
	baz=264,SNR=14						
ZEA	Zeya	21.81	283	*e*P	P	22 17 07.4	-0.6
ZEA				MLR	MLR		
	comp=E,100nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,12.0s						
E19K	Redstone River	21.84	40	P	P	22 17 08.6	+0.3
	baz=253						
D19K	Kuna River	21.86	37	P	P	22 17 08.7	+0.2
D19K	Kuna River	21.86	37	P	P	22 17 08.7	+0.2
	baz=250						
O18K	Koktuh Hills	21.91	60	P	P	22 17 08.8	-0.4
	baz=274						
P18K	Big Mountain,	21.94	62	P	P	22 17 10.0	+0.5
P18K	Big Mountain,	21.94	62	P	P	22 17 08.9	-0.6
	baz=275						
L19K	White Mountain	22.02	54	P	P	22 17 10.4	+0.1
	baz=269,SNR=10						
ACHA	Angle Creek He	22.04	65	P	P	22 17 10.8	+0.2
Q18K	Katmai Hardscr	22.14	63	P	P	22 17 11.4	-0.3
	baz=277,SNR=6.2						
N19K	Bonanza Creek	22.22	58	P	P	22 17 12.2	-0.2
	baz=272						
M19K	Big River Lodg	22.24	55	P	P	22 17 12.4	-0.3
	baz=270,SNR=11						
F20K	Avaraart Lake	22.30	41	P	P	22 17 12.7	-0.5
	baz=256						
H20K	Anotleneega Mo	22.32	45	P	P	22 17 13.1	-0.3
	baz=261,SNR=5.8						
CHIR	Chirikof Islan	22.34	71	P	P	22 17 13.2	-0.5
	baz=284						
I20K	Naaghedeneel	22.39	47	P	P	22 17 13.6	-0.5
	baz=263,SNR=6.2						
K20K	Telida	22.43	51		P	22 17 14.8	+0.1
K20K				IAmb	IAmb	22 17 17.6	
	comp=Z,42nm,1.4s						
K20K	Telida	22.43	51	P	P	22 17 14.6	0.0
	baz=267						
D20K	Etivluk River	22.45	37	P	P	22 17 14.5	-0.3
D20K	Etivluk River	22.45	37	P	P	22 17 14.5	-0.3
	baz=251						
E20K	Nigu River	22.46	38	P	P	22 17 14.7	-0.2
	baz=253						
J20K	Nowinta River	22.46	49	P	P	22 17 15.1	+0.1
	baz=265,SNR=34						
L20K	Farewell, AK	22.48	53	P	P	22 17 15.0	-0.3
	baz=269						
R18K	Karluk	22.60	66	P	P	22 17 15.9	-0.5
	baz=280						
B20K	Meade River	22.73	33	P	P	22 17 17.5	-0.3
	baz=247,SNR=26						
Q19K	Cape Douglas,	22.81	63	P	P	22 17 19.1	+0.3
Q19K				IAmb	IAmb	22 17 21.4	
	comp=Z,51nm,1.4s						
Q19K	Cape Douglas,	22.81	63	P	P	22 17 17.3	-1.4
	baz=278						
TIXI	Tiksi	22.83	331	P	P	22 17 18.1	-0.7
TIXI				IAmb	IAmb	22 17 20.7	
	comp=Z,49nm,1.5s						
TIXI	Tiksi	22.83	331	LR	LR	22 26 03.8	
	comp=Z,64nm,19.6s,baz=195,slow=37						
TIXI	Tiksi	22.83	331	*ce*P	P	22 17 18.3	-0.5
TIXI				pmax	pmax		
	comp=Z,30nm,1.3s						
M20K	Styx River	22.84	55	P	P	22 17 18.9	-0.1
	baz=271,SNR=7.8						
P19K	Oil Pt	22.93	61	P	P	22 17 19.2	-0.8
	baz=276						
SII	Sitkinak Islan	22.95	69	P	P	22 17 19.7	-0.4
	baz=283						
HEH	HeiHe	23.02	274	*e*P	P	22 17 17.1	-3.8
HEH				sP	sP	22 17 25.9	+0.3
HEH				S	S	22 21 29.5	-1.3
HEH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HEH				LR	LR		
	comp=Z,220nm,11.6s						
HEH				LR	LR		
	comp=Z,390nm,12.5s						
HEH				LR	LR		
	comp=Z,480nm,11.7s						
G21K	Allakaket	23.05	43	P	P	22 17 20.7	-0.4
	baz=260						
F21K	Alatna River	23.19	41	P	P	22 17 22.6	0.0
	baz=258						
H21K	Melozitna Rive	23.20	45	P	P	22 17 22.8	+0.2
	baz=262,SNR=14						
C21K	Kniefelade Rid	23.22	36	P	P	22 17 23.0	+0.2
	baz=252,SNR=31						
CHUM	Lake Minchumin	23.24	50	P	P	22 17 23.5	+0.5
	baz=267,SNR=17						
PPLA	Purkeypile	23.27	52	P	P	22 17 23.8	+0.2
PPLA				IAmb	IAmb	22 17 27.1	
	comp=Z,67nm,1.5s						
PPLA	Purkeypile	23.27	52	P	P	22 17 23.6	0.0
	baz=270,SNR=9.5						
OHAK	Old Harbor	23.29	67	P	P	22 17 23.2	-0.3
OHAK				IAmb	IAmb	22 17 25.0	
	comp=Z,42nm,1.3s						
OHAK	Old Harbor	23.29	67	P	P	22 17 22.3	-1.3
	baz=282						
E21K	Killik River	23.30	38	P	P	22 17 23.5	-0.2
	baz=255						
CAST	Castle Rocks	23.33	51	P	P	22 17 23.7	-0.3
CAST				IAmb	IAmb	22 17 26.4	
	comp=Z,59nm,1.6s						
CAST	Castle Rocks	23.33	51	P	P	22 17 24.7	+0.8
	baz=268,SNR=16						
B21K	Ikpikpuk River	23.42	35	P	P	22 17 24.8	-0.1
	baz=251,SNR=55						
A21K	Barrow	23.43	30	P	P	22 17 24.6	-0.3
	baz=245						
I21K	Tanana	23.48	46	P	P	22 17 25.5	0.0
	baz=264						
Q20K	Shuyak Island	23.50	63	P	P	22 17 25.3	-0.4
	baz=279						
JMM	Marumori	23.51	234	P	P	22 17 26.3	+0.4
KDAK	Kodiak Island	23.55	65	P	P	22 17 25.8	-0.3
KDAK				IAmb	IAmb	22 17 34.8	
	comp=Z,26nm,1.1s						
KDAK	Kodiak Island	23.55	65	LR	LR	22 26 19.4	
	comp=Z,190nm,21.3s,baz=104,slow=36						
KDAK	Kodiak Island	23.55	65	P	P	22 17 25.8	-0.3
KDAK				pmax	pmax		
	comp=Z,26nm,1.2s						
KDAK	Kodiak Island	23.55	65	P	P	22 17 26.0	-0.1
	baz=281						
SKT	Skwentna	23.59	55	P	P	22 17 26.8	+0.3
SKT				IAmb	IAmb	22 17 39.8	
	comp=Z,43nm,1.6s						
SKT	Skwentna	23.59	55	P	P	22 17 26.3	-0.2
	baz=272,SNR=5.9						
USRK	Ussuriysk Ar.	23.59	257	P	P	22 17 28.6	+1.8
	comp=Z,1.8nm,0.8s,baz=54,slow=7.3,SNR=3.3						
USRK				LR	LR	22 27 06.2	
	comp=Z,127nm,18.5s,baz=46,slow=38						
	comp=Z,1.8nm,0.8s						
HOM	Homer	23.73	60	P	P	22 17 27.6	-0.3
	baz=277						
F22K	John River	23.74	41	P	P	22 17 28.0	0.0
	baz=259,SNR=5.6						
A22K	Sinclair Lake	23.79	32	P	P	22 17 27.9	-0.4
	baz=248,SNR=24						
H22K	Ishtalitna Cre	23.81	45	P	P	22 17 29.0	+0.3
	baz=263,SNR=20						
BPAW	Bear Paw Mtn.	23.84	49	P	P	22 17 29.1	+0.1
	baz=268,SNR=15						
CAPN	Captain Cook N	23.85	58	P	P	22 17 28.8	-0.2
	baz=275						
KTH	Kantishna Hill	23.85	51	P	P	22 17 29.5	+0.4
KTH				IAmb	IAmb	22 17 32.0	
	comp=Z,41nm,1.3s						
D22K	Ayikyak River	23.87	37	P	P	22 17 29.3	+0.1
	baz=255,SNR=11						
G22K	Bettles	23.90	42	P	P	22 17 29.2	-0.3
	baz=261						
CNPM	China Poot	23.95	61		P	22 17 30.0	-0.1
CNPM				IAmb	IAmb	22 17 33.0	
	comp=Z,49nm,1.2s						
SUA	Susitna One	23.99	56	P	P	22 17 29.7	-0.9
	baz=274,SNR=11						
E22K	Anaktuvuk Pass	24.01	39	P	P	22 17 30.4	-0.1
	baz=258,SNR=17						
B22K	Teshekpuk Lake	24.04	34	P	P	22 17 30.5	-0.3
	baz=251,SNR=49						
TRF	Thorofare Moun	24.13	51		P	22 17 32.4	+0.5
TRF	Thorofare Moun	24.13	51	P	P	22 17 31.4	-0.5
	baz=270,SNR=24						
CUT	Chulitna	24.16	53	P	P	22 17 31.6	-0.4
	baz=272						
BRSE	Bradley Lake S	24.17	60	P	P	22 17 32.1	0.0
	baz=278						
M22K	Willow	24.27	55	P	P	22 17 32.7	-0.3
	baz=274						
G23K	Bananza Creek	24.45	43	P	P	22 17 34.7	0.0
	baz=263,SNR=6.1						
COLD	Coldfoot	24.45	42	P	P	22 17 34.3	-0.3
	baz=262,SNR=24						
RC01	Rabbit Creek A	24.51	57	P	P	22 17 35.3	+0.1
	baz=276						
H23K	Yukon River	24.55	45	P	P	22 17 35.9	+0.4
	baz=265						
O22K	Cooper Landing	24.58	58	P	P	22 17 35.4	-0.4
	baz=277						
I23K	Minto, Yukon-K	24.59	47	P	P	22 17 36.2	+0.4
	baz=267,SNR=57						
JSD	Sado	24.59	238	P	P	22 17 36.1	0.0
JSD				IAmb	IAmb	22 17 46.9	
	comp=Z,12nm,0.8s						
D23K	Nanushuk River	24.59	37	P	P	22 17 36.2	+0.3
	baz=257,SNR=6.9						
NEA2	Nenana	24.69	48	P	P	22 17 36.7	0.0
NEA2				IAmb	IAmb	22 17 38.8	
	comp=Z,44nm,1.2s						
NEA2	Nenana	24.69	48	P	P	22 17 37.0	+0.3
	baz=268,SNR=23						
MDJ	Mudanjiang	24.70	260	P	P	22 17 36.9	-0.1
MDJ	Mudanjiang	24.70	260	P	P	22 17 37.8	+0.8
MDJ				S	S	22 22 03.1	+5.1
MDJ				SS	SnSn	22 22 52.3	+8.2
MDJ				pmax	pmax		
	comp=Z,12nm,0.8s						
MDJ				LR	LR		
	comp=Z,240nm,13.4s						
MDJ				LR	LR		
	comp=Z,250nm,14.1s						
MDJ				LR	LR		
	comp=Z,390nm,18.2s						
MCK	McKinley	24.74	50	P	P	22 17 37.2	-0.1
MCK	McKinley	24.74	50	P	P	22 17 37.4	+0.1
	baz=270,SNR=26						
PMR	Palmer	24.75	55	P	P	22 17 37.3	0.0
	baz=275						
SEW	Seward	24.77	59	P	P	22 17 36.9	-0.5
SEW	Seward	24.77	59	P	P	22 17 37.0	-0.4
	baz=278						
RND	Reindeer	24.78	51	P	P	22 17 37.1	-0.6
E23K	Chandalar	24.80	40	P	P	22 17 38.1	+0.3
	baz=260,SNR=44						
C23K	Itkillik River	24.82	35		P	22 17 37.3	-0.6
C23K				IAmb	IAmb	22 17 40.4	
	comp=Z,19nm,0.9s						
C23K	Itkillik River	24.82	35	P	P	22 17 37.7	-0.2
	baz=256,SNR=23						
TOLK	Toolik Lake Re	24.92	38		P	22 17 38.8	-0.1
TOLK				IAmb	IAmb	22 17 40.9	
	comp=Z,34nm,1.2s						
TOLK	Toolik Lake Re	24.92	38	P	P	22 17 38.0	-0.9
	baz=259,SNR=25						
KNK	Knik Glacier	25.09	56	P	P	22 17 39.2	-1.2
	baz=276						
SML	Sawmill	25.11	55	P	P	22 17 39.3	-1.4
	baz=275,SNR=7.1						
PWL	Port Wells	25.21	57	P	P	22 17 41.1	-0.4
	baz=277,SNR=5.5						
COLA	College	25.22	47	P	P	22 17 41.0	-0.4
COLA				IAmb	IAmb	22 17 44.5	
	comp=Z,24nm,0.8s						
COLA	College	25.22	47	*i* P	P	22 17 39.7	-1.8
COLA				pmax	pmax		
	comp=Z,23nm,0.8s						
COLA	College	25.22	47	P	P	22 17 40.5	-0.9
	baz=269						
E24K	Your Creek	25.22	40	P	P	22 17 41.7	+0.1
	baz=262,SNR=64						
CCB	Clear Creek Bu	25.23	48		P	22 17 41.7	+0.1
H24K	Noodor Dome	25.24	45	P	P	22 17 41.7	-0.1
	baz=267,SNR=15						
D24K	Happy Valley	25.29	37		P	22 17 41.9	-0.2
D24K				IAmb	IAmb	22 17 45.8	
	comp=Z,16nm,0.7s						
D24K	Happy Valley	25.29	37	P	P	22 17 41.9	-0.2
	baz=259,SNR=28						
BNX	BinXian	25.30	265	⇑P	P	22 17 43.0	+0.5
BNX				pP	sP	22 17 45.0	-2.2
BNX				sP	pP	22 17 46.6	+0.8
BNX				S	S	22 22 09.5	+1.9
BNX				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BNX				LR	LR		
	comp=Z,190nm,12.5s						
BNX				LR	LR		
	comp=Z,230nm,12.2s						
BNX				LR	LR		
	comp=Z,320nm,13.6s						
F24K	Squaw Lake	25.38	41		P	22 17 42.4	-0.6
F24K				IAmb	IAmb	22 17 46.1	
	comp=Z,37nm,1.8s						
F24K	Squaw Lake	25.38	41	P	P	22 17 42.4	-0.6
	baz=263,SNR=15						
POKR	Poker Plat Res	25.40	47	P	P	22 17 43.1	-0.1
POKR				IAmb	IAmb	22 17 46.2	
	comp=Z,20nm,1.1s						
POKR	Poker Plat Res	25.40	47	P	P	22 17 42.7	-0.5
	baz=269,SNR=6.6						
M23K	Glacier View	25.40	55	P	P	22 17 42.2	-1.0
	baz=276						
C24K	Franklin Bluff	25.44	36	P	P	22 17 43.1	-0.4
C24K				IAmb	IAmb	22 17 45.4	
	comp=Z,42nm,1.3s						
C24K	Franklin Bluff	25.44	36	P	P	22 17 42.5	-1.0
	baz=258						
G24K	Hadweenzic Riv	25.46	43	P	P	22 17 43.1	-0.6
	baz=266,SNR=38						
SCM	Sheep Creek Mo	25.58	55	P	P	22 17 44.5	-0.5
	baz=276						
HDA	Harding Lake	25.60	49	P	P	22 17 44.6	-0.4
	baz=271						
ILAR	Eielson Array	25.63	48		P	22 17 44.9	-0.4
ILAR	Eielson Array	25.63	48	P	P	22 17 44.7	-0.5
	comp=Z,30nm,1.0s,baz=270,slow=9.3,SNR=99						
ILAR				PcP	PcP	22 21 15.0	-0.4
	comp=Z,0.2nm,0.7s,baz=316,slow=2.5,SNR=1.9						
ILAR				LR	LR	22 28 46.6	
	comp=Z,116nm,18.4s,baz=252,slow=39						
	comp=Z,30nm,1.0s						
MJB9	Matsu-Tunnel	25.80	236	P	P	22 17 46.9	-0.1
MJB9				IAmb	IAmb	22 18 06.3	
	comp=Z,29nm,1.0s						
MAJO	Matsushiro	25.80	236	P	P	22 17 46.3	-0.8
MAJO				IAmb	IAmb	22 18 05.8	
	comp=Z,31nm,1.0s						
MAJO	Matsushiro	25.80	236	P	P	22 17 46.3	-0.8
MAJO				pmax	pmax		
	comp=Z,31nm,1.0s						
MJAR	Matsushiro Arr	25.80	236	P	P	22 17 48.9	+1.8
	comp=Z,4.8nm,0.8s,baz=22,slow=8.3,SNR=12						
MJAR				LR	LR	22 28 53.8	
	comp=Z,105nm,20.3s,baz=58,slow=39						
	comp=Z,4.8nm,0.8s						
P23K	Montague Islan	25.80	59	P	P	22 17 46.0	-0.8
	baz=280						
GLI	Glacier Island	25.81	57	P	P	22 17 45.9	-1.0
	baz=278						
G25K	Bearman Lake	26.01	43	P	P	22 17 47.7	-0.9
	baz=267						

H25L	Birch Creek	26.10	44	P	P	22 17 48.4	-1.1
	baz=268						
M24K	Tolsona, Glenn	26.10	54	P	P	22 17 48.7	-0.9
	baz=276						
K24K	Donnelly Dome	26.14	50	P	P	22 17 49.7	-0.2
	baz=273,SNR=5.6						
D25K	Kavik River	26.17	37	P	P	22 17 49.8	-0.4
	baz=261,SNR=29						
PRP	Porcupine Dome	26.20	46		P	22 17 50.3	-0.4
PRP				IAmb	IAmb	22 17 52.0	
	comp=Z,30nm,1.0s						
PRP	Porcupine Dome	26.20	46	P	P	22 17 50.4	-0.2
	baz=270,SNR=19						
F25K	Christian Rive	26.24	41	P	P	22 17 51.1	+0.2
	baz=266,SNR=9.9						
J25K	Salcha River,	26.28	48	P	P	22 17 50.5	-0.8
	baz=272,SNR=11						
KLU	Klutina	26.29	55	P	P	22 17 51.5	+0.2
KLU				IAmb	IAmb	22 18 27.9	
	comp=Z,28nm,1.3s						
KLU	Klutina	26.29	55	P	P	22 17 50.5	-0.9
	baz=278						
E25K	Arctic Village	26.32	40	P	P	22 17 51.1	-0.4
	baz=264,SNR=17						
PAX	Paxson	26.34	52		P	22 17 52.1	+0.3
PAX				IAmb	IAmb	22 17 59.2	
	comp=Z,16nm,1.1s						
PAX	Paxson	26.34	52	P	P	22 17 52.1	+0.3
PAX				pmax	pmax		
	comp=Z,16nm,1.1s						
PAX	Paxson	26.34	52	P	P	22 17 51.1	-0.7
	baz=275,SNR=7.2						
EYAK	Cordova Ski Ar	26.52	57	P	P	22 17 53.0	-0.3
	baz=280						
HARP	HAARP	26.54	53	P	P	22 17 52.8	-0.7
	baz=276						
RIDG	Independent Ri	26.56	50		P	22 17 52.9	-0.9
RIDG				IAmb	IAmb	22 18 03.0	
	comp=Z,31nm,1.3s						
RIDG	Independent Ri	26.56	50	P	P	22 17 53.5	-0.2
	baz=274,SNR=8.1						
BMAR	Burnt Mountain	26.64	42		P	22 17 54.4	-0.1
C26K	Camden Bay	26.77	36	P	P	22 17 55.5	0.0
	baz=262,SNR=15						
F26K	Sheenjek River	26.82	41	P	P	22 17 55.0	-1.0
	baz=267,SNR=10						
N25K	Chitina, Valde	26.90	55	P	P	22 17 55.5	-1.4
	baz=278						
SCRK	Sand Creek	26.92	49		P	22 17 56.3	-0.7
SCRK				IAmb	IAmb	22 17 57.4	
	comp=Z,20nm,1.1s						
SCRK	Sand Creek	26.92	49	P	P	22 17 56.4	-0.6
	baz=274,SNR=22						
G26K	Porcupine Rive	26.93	43	P	P	22 17 56.7	-0.3
	baz=269,SNR=20						
JGF	Kuroka	26.96	236	P	P	22 17 56.9	-0.7
JGF				IAmb	IAmb	22 18 07.0	
	comp=Z,50nm,1.8s						
BMRM	Bremner River	27.00	56	P	P	22 17 57.4	-0.3
	baz=280						
J26L	Joseph Creek	27.07	48	P	P	22 17 57.7	-0.7
	baz=274						
C27K	Jago River	27.15	37	P	P	22 17 59.1	+0.2
	baz=263,SNR=29						
I26K	Coal Creek Min	27.20	46	P	P	22 17 59.0	-0.5
	baz=272						
KAIM	Kayak Island	27.29	58	P	P	22 17 59.9	-0.4
	baz=282						
L26K	Log Cabin Wild	27.29	51	P	P	22 18 00.4	0.0
	baz=277						
INU	Inuyama	27.33	236	P	P	22 18 00.6	-0.2
INU				IAmb	IAmb	22 18 20.1	
	comp=Z,13nm,0.8s						
M26K	Nabesna, AK	27.54	53	P	P	22 18 03.4	+0.9
M26K				IAmb	IAmb	22 18 15.2	
	comp=Z,17nm,1.2s						
M26K	Nabesna, AK	27.54	53	P	P	22 18 02.5	0.0
	baz=278						
CN2	Changchun	27.57	263	*e*P	P	22 18 02.1	-0.8
CN2				*e*S	S	22 22 40.0	-3.5
CN2				*e*SS	SnSn	22 23 56.8	+2.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,60nm,4.5s						
CN2				LR	LR		
	comp=Z,210nm,12.0s						
CN2				LR	LR		
	comp=Z,260nm,12.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
K27K	Chicken	27.75	49	P	P	22 18 04.0	-0.4
	baz=276						
G27K	Doyon Strip	27.77	43	P	P	22 18 04.3	-0.3
	baz=271,SNR=10						
E27K	Coleen River	27.80	40	P	P	22 18 04.8	0.0
	baz=268,SNR=7.4						
BOD	Bodaibo	27.82	297	*e*P	P	22 18 04.3	-0.8
BOD				pmax	pmax		
	comp=Z,20nm,1.1s						
I27K	Kandik River	27.83	46	P	P	22 18 04.1	-1.0
	baz=273						
H27K	Steamboat Moun	27.84	44	P	P	22 18 05.0	-0.2
	baz=272,SNR=18						
L27K	Beaver Creek,	27.98	51	P	P	22 18 07.2	+0.7
	baz=278,SNR=22						
BCAR	Beaver Creek A	28.00	51		P	22 18 07.3	+0.6
M27K	Edge Creek, AK	28.06	53	P	P	22 18 07.4	+0.1
	baz=279,SNR=6.2						
D27M	Malcolm River	28.08	38	P	P	22 18 07.5	+0.1
	baz=267,SNR=15						
MESA	MESA	28.44	57	P	P	22 18 09.6	-1.2
	baz=283						
BVCY	Beaver Creek	28.52	52	P	P	22 18 11.0	-0.2
	baz=280						
I28M	Miner Creek	28.54	46	P	P	22 18 11.3	-0.2
	baz=275,SNR=9.3						
E28M	Babbage River	28.58	39		P	22 18 11.7	0.0
E28M	Babbage River	28.58	39	P	P	22 18 11.8	+0.1
	baz=269,SNR=6.7						
YUK3	Moose Creek	28.82	54	P	P	22 18 13.7	-0.5
	baz=281						
D28M	Stokes Point	28.88	38	P	P	22 18 14.2	-0.1
	baz=269						
DAWY	Dawson	28.92	49		P	22 18 15.1	+0.2
DAWY	Dawson	28.92	49	P	P	22 18 15.1	+0.2
	baz=278,SNR=6.6						
H29M	Whitestone	29.11	44	P	P	22 18 16.9	+0.4
	baz=275,SNR=7.8						
O28M	Mount Upton	29.16	56	P	P	22 18 17.0	-0.2
	baz=283						
E29M	Blow River	29.18	40	P	P	22 18 16.9	-0.2
	baz=271,SNR=8.1						
G29M	Pine Creek	29.20	43	P	P	22 18 17.3	0.0
	baz=274,SNR=19						
I29M	Ogilvie Camp,	29.22	46	P	P	22 18 17.5	0.0
	baz=276,SNR=7.0						
YUK8	Steele Glacier	29.24	54	P	P	22 18 17.6	-0.4
	baz=282						
PINM	Pinnacle	29.29	57	P	P	22 18 18.1	-0.1
	baz=284						
J29N	Klondike Camp	29.38	48	P	P	22 18 18.7	-0.2
	baz=278						
M29M	Somme Creek	29.61	52	P	P	22 18 20.6	-0.5
	baz=281						
L29M	L29M	29.63	51	P	P	22 18 20.9	-0.3
	baz=280,SNR=15						
YUK4	Talbot Arm	29.76	54	P	P	22 18 22.9	+0.4
	baz=283						
EPYK	Eagle Plains	29.76	44	P	P	22 18 22.5	+0.2
	baz=276,SNR=9.0						
K29M	Barlow Dome	29.77	49	P	P	22 18 22.6	+0.1
	baz=280						
PNL	Peninsula	29.81	58	P	P	22 18 23.2	+0.4
	baz=286						
G30M	tAoh Zraii Nji	29.90	43	P	P	22 18 23.7	+0.2
	baz=275						
YUK6	Outpost Mounta	29.98	55	P	P	22 18 24.7	+0.2
	baz=284						
F30M	Barrier River	30.02	41	P	P	22 18 24.4	-0.1
	baz=275,SNR=6.0						
I30M	Mount Dempster	30.05	46	P	P	22 18 24.9	0.0
	baz=278,SNR=13						
O29M	Mount Kennedy	30.05	56	P	P	22 18 24.2	-0.8
	baz=285						
J30M	Hart River	30.16	47	P	P	22 18 25.2	-0.7
	baz=279						
HYT	Haines Junctio	30.42	55		P	22 18 28.5	+0.3
HYT				IAmb	IAmb	22 18 32.1	
	comp=Z,9.2nm,0.9s						
HYT	Haines Junctio	30.42	55	P	P	22 18 27.4	-0.9
	baz=285						
KS19	Wonju Array Si	30.42	251	P	P	22 18 27.8	-0.5
KS19				IAmb	IAmb	22 18 40.1	
	comp=Z,18nm,1.1s						
KSRS	Korea Array	30.43	251	P	P	22 18 30.6	+2.3
	comp=Z,5.5nm,0.8s,baz=42,slow=9.3,SNR=24						
KSRS				LR	LR	22 30 41.7	
	comp=Z,114nm,18.8s,baz=45,slow=36						
	comp=Z,5.5nm,0.8s						
KSAR	Wonju Array Be	30.46	251		P	22 18 28.4	-0.2
KSAR	Wonju Array Be	30.46	251	P	P	22 18 28.4	-0.2
N30M	Aishikik Lake	30.46	54	P	P	22 18 28.4	-0.1
	baz=284						
P29M	Windy Craggy	30.63	57	P	P	22 18 29.9	-0.1
	baz=287						
G31M	Satah River	30.67	42		P	22 18 29.9	-0.3
G31M				IAmb	IAmb	22 18 31.5	
	comp=Z,19nm,1.3s						
G31M	Satah River	30.67	42	P	P	22 18 30.1	-0.1
	baz=277,SNR=6.0						
H31M	Peel River	30.80	45	P	P	22 18 31.0	-0.4
	baz=279						
INK	Inuvik	30.80	40	P	P	22 18 32.0	+0.6
	comp=Z,5.4nm,0.6s,baz=268,slow=6.1,SNR=26						
INK				LR	LR	22 33 07.6	
	comp=Z,66nm,18.0s,baz=217,slow=41						
	comp=Z,5.4nm,0.6s						
INK	Inuvik	30.80	40	P	P	22 18 32.0	+0.6
INK	Inuvik	30.80	40	P	P	22 18 31.4	0.0
	baz=275,SNR=7.7						
F31M	Tsiigehtchic	30.81	41	P	P	22 18 31.2	-0.3
	baz=277,SNR=7.7						
P30M	Million Dollar	30.87	56	P	P	22 18 31.8	-0.4
	baz=286						
N31M	Braeburn, Yuko	31.06	53	P	P	22 18 33.2	-0.6
	baz=285						
O30N	Mendenhall	31.11	55	P	P	22 18 33.8	-0.4
	baz=286						
M31M	Drury Creek, Y	31.51	52	P	P	22 18 37.8	0.0
	baz=285,SNR=12						
TJN	Taejon	31.52	250		P	22 18 37.8	-0.2
TJN	Taejon	31.52	250	P	P	22 18 37.8	-0.2
TJN				pmax	pmax		
	comp=Z,91nm,1.2s						
WHY	Whitehorse	31.71	54	P	P	22 18 40.1	+0.5
WHY	Whitehorse	31.71	54	P	P	22 18 40.0	+0.5
	baz=287						
SKAG	Skagway	31.86	57	P	P	22 18 40.4	-0.3
	baz=288						
S31K	Pelican	31.91	60	P	P	22 18 41.4	+0.3
	baz=290						
FARO	Faro, Yukon	31.98	51	P	P	22 18 41.9	+0.1
	baz=285						
JNU	Nakatsue	32.16	242	LR	LR	22 31 32.4	
	comp=Z,52nm,20.8s,baz=28,slow=36						
JCJ	Chichijima	32.22	220	LR	LR	22 30 05.9	
	comp=Z,50nm,21.3s,baz=114,slow=33						
N32M	Quiet Lake	32.40	53	P	P	22 18 45.0	-0.6
	baz=287						
P32M	Atlin	32.59	56	P	P	22 18 47.4	+0.1
	baz=289						
R32K	Eaglecrest	32.65	59	P	P	22 18 47.5	-0.3
	baz=291						
SIT	Sitka	32.69	61	P	P	22 18 47.3	-0.7
	baz=292						
MMPY	Sheldon Lake,	32.81	50		P	22 18 50.1	+1.0
MMPY				IAmb	IAmb	22 18 51.8	
	comp=Z,14nm,1.1s						
MMPY	Sheldon Lake,	32.81	50	P	P	22 18 48.9	-0.2
	baz=286,SNR=8.2						
P33M	Teslin, Yukon	32.82	55	P	P	22 18 50.2	+0.9
	baz=289,SNR=5.5						
S32K	Killisnoo	32.91	60	P	P	22 18 50.1	+0.1
	baz=292						
XLT	XiLinHaoTe	32.93	271	*e*P	P	22 18 48.6	-1.8
XLT				pP	sP	22 18 53.8	-1.4
XLT				sP	pwP	22 18 56.4	-3.2
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				LR	LR		
	comp=Z,20nm,12.8s						
XLT				LR	LR		
	comp=Z,130nm,10.2s						
XLT				LR	LR		
	comp=Z,290nm,12.8s						
A36M	Sachs Harbour	33.23	32		P	22 18 52.1	-0.5
A36M				IAmb	IAmb	22 19 02.9	
	comp=Z,8.4nm,0.9s						
A36M	Sachs Harbour	33.23	32	P	P	22 18 52.7	+0.1
	baz=277,SNR=6.7						
Q32M	Nakina River	33.51	57	P	P	22 18 55.2	-0.2
	baz=291						
R33M	Jennings River	33.98	56	P	P	22 18 59.2	-0.3
	baz=291,SNR=6.3						
C36M	Paulatuk	34.05	37	P	P	22 18 59.9	+0.2
	baz=282,SNR=18						
WRAK	Wrangell Islan	34.45	61	P	P	22 19 03.6	+0.3
	baz=294						
TGTN	Hyland Airport	34.48	51	P	P	22 19 04.0	+0.3
	baz=290						
WTLY	Watson Lake, Y	34.74	54	P	P	22 19 06.1	+0.2
	baz=291						
DLBC	Dease Lake	34.79	57	P	P	22 19 08.2	+1.8
	comp=Z,4.9nm,0.5s,baz=299,slow=8.2,SNR=21						
DLBC				LR	LR	22 36 00.1	
	comp=Z,85nm,18.1s,baz=260,slow=41						
	comp=Z,4.9nm,0.5s						
DLBC	Dease Lake	34.79	57	P	P	22 19 06.7	+0.3
	baz=293,SNR=6.7						
H11N2	WAKE ISLAND Hy	35.02	177	T	T	22 57 38.5	
	baz=359,slow=76,SNR=1098						
H11N3	WAKE ISLAND Hy	35.03	177	T	T	22 57 37.4	
	baz=359,slow=76,SNR=730						
H11N1	WAKE ISLAND Hy	35.04	177	T	T	22 57 39.8	
	baz=359,slow=76,SNR=683						
T35M	Bob Quinn	35.27	59	P	P	22 19 09.8	-0.7
	baz=295						
V35K	Ketchikan	35.29	62	P	P	22 19 10.9	+0.3
	baz=296						
ULN	Ulaanbaatar	35.84	283	P	P	22 19 14.6	-1.1
ULN	Ulaanbaatar	35.84	283	*ce*P	P	22 19 15.1	-0.6
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
WRGLY	Wrigley	36.00	47	P	P	22 19 17.0	+0.3
	baz=291						
NRIK	Noril'sk	36.17	324		P	22 19 17.4	-0.6
NRIK				IAmb	IAmb	22 19 20.5	
	comp=Z,9.9nm,1.1s						
NRIK	Noril'sk	36.17	324	P	P	22 19 17.9	-0.1
	comp=Z,7.1nm,1.0s,baz=85,slow=7.8,SNR=8.5						
NRIK				LR	LR	22 34 29.0	
	comp=Z,76nm,19.3s,baz=74,slow=37						
	comp=Z,7.1nm,1.0s						
NRIK	Noril'sk	36.17	324	*ce*P	P	22 19 16.9	-1.1
NRIK				pmax	pmax		
	comp=Z,12nm,1.1s						
H11S1	WAKE ISLAND Hy	36.23	177	T	T	22 59 08.9	
	baz=359,slow=76,SNR=16						
SONM	Songino Array	36.23	284	P	P	22 19 18.8	-0.2
SONM	Songino Array	36.23	284	P	P	22 19 19.9	+0.9
	comp=Z,2.0nm,0.5s,baz=58,slow=8.1,SNR=19						
SONM				PcP	PcP	22 21 45.1	+1.3
	comp=Z,0.8nm,0.6s,baz=88,slow=1.8,SNR=3.5						
SONM				LR	LR	22 34 54.6	
	comp=Z,181nm,19.4s,baz=64,slow=38						
	comp=Z,2.0nm,0.5s						
SONM	Songino Array	36.23	284	P	P	22 19 18.8	-0.2
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
H11S3	WAKE ISLAND Hy	36.24	177	T	T	22 59 08.1	
	baz=359,slow=76,SNR=13						
H11S2	WAKE ISLAND Hy	36.25	177	T	T	22 59 07.5	
	baz=359,slow=76,SNR=12						
GRNB	Grenville Isla	36.83	64	P	P	22 19 23.9	+0.1
GRNB				IAmb	IAmb	22 19 28.9	
	comp=Z,27nm,1.5s						
TOAD	Toad River Com	36.91	54	P	P	22 19 25.2	+0.6
	baz=295,SNR=13						
HHC	Hu-ho-hao-te	37.44	271	*e*P	P	22 19 28.5	-0.8
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,55nm,5.9s						
HHC				LR	LR		
	comp=Z,170nm,13.5s						
HHC				LR	LR		
	comp=Z,210nm,12.9s						
HHC				LR	LR		
	comp=Z,260nm,13.0s						
HNS	HongShan	37.93	264	⇓P	P	22 19 37.5	+4.2
HNS				pmax	pmax		
	comp=Z,11nm,1.0s						
HNS				LR	LR		
	comp=Z,240nm,12.4s						
HNS				LR	LR		
	comp=Z,130nm,12.2s						
HNS				LR	LR		
	comp=Z,230nm,11.6s						
BTO	Baotou	38.49	272	*e*P	P	22 19 41.0	+2.8
BTO				pP	pwP	22 19 45.8	-1.6
BTO				sP	sP	22 19 48.0	+5.0
BTO				PP	PnPn	22 21 11.9	+3.9
BTO				pmax	pmax		
	comp=Z,24nm,0.9s						
BTO				pmax	pmax		
	comp=Z,170nm,4.7s						
BTO				LR	LR		
	comp=Z,350nm,17.1s						
BTO				LR	LR		
	comp=Z,490nm,17.8s						
BTO				LR	LR		
	comp=Z,400nm,21.6s						
NJ2	Nanjing	39.43	254	*e*P	P	22 19 44.8	-1.2
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
EUNU	Eureka	39.62	15	P	P	22 19 47.2	+0.1
EUNU				IAmb	IAmb	22 19 50.5	
	comp=Z,14nm,0.7s						
YKAW3	Yellowknife Wh	39.98	45		P	22 19 50.6	+0.4
YKAW3				IAmb	IAmb	22 19 51.3	
	comp=Z,5.1nm,0.7s						
YKA	Yellowknife Ar	40.01	45	P	P	22 19 50.8	+0.4
	comp=Z,2.5nm,0.6s,baz=298,slow=8.3,SNR=41						
	comp=Z,2.5nm,0.6s						
RES	Resolute Bay	40.69	24	P	P	22 19 56.3	+0.4
RES				pmax	pmax		
	comp=Z,11nm,1.2s						
LYN	LuoYang	41.22	263	P	P	22 20 03.8	+3.0
LYN				sP	pwP	22 20 10.3	+0.3
LYN				pmax	pmax		
	comp=Z,34nm,0.5s						
LYN				LR	LR		
	comp=Z,200nm,14.4s						
LYN				LR	LR		
	comp=Z,160nm,8.6s						
LYN				LR	LR		
	comp=Z,270nm,12.4s						
WHN	Wuhan	43.09	257	⇓P	P	22 20 18.8	+2.7
WHN				sP	pwP	22 20 24.3	-1.0
WHN				pmax	pmax		
	comp=Z,56nm,1.0s						
WHN				LR	LR		
	comp=Z,620nm,10.5s						
WHN				LR	LR		
	comp=Z,520nm,10.8s						
WHN				LR	LR		
	comp=Z,620nm,16.6s						
XAN	Xi'an	43.63	265	⇓P	P	22 20 22.8	+2.4
XAN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
XAN				LR	LR		
	comp=Z,170nm,17.9s						
XAN				LR	LR		
	comp=Z,310nm,15.1s						
XAN				LR	LR		
	comp=Z,350nm,15.8s						
ZALV	Zalesovo Beam	44.20	303	P	P	22 20 23.1	-1.6
ZALV	Zalesovo Beam	44.20	303	P	P	22 20 25.9	+1.2
	comp=Z,1.3nm,0.7s,baz=60,slow=7.2,SNR=5.6						
ZALV				PcP	PcP	22 22 09.8	+0.6
	comp=Z,1.4nm,0.6s,baz=33,slow=1.1,SNR=5.9						
	comp=Z,1.3nm,0.7s						
ZALV	Zalesovo Beam	44.20	303	*i* P	P	22 20 25.8	+1.0
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LZH	Lanzhou	45.12	272	*e*P	P	22 20 35.0	+2.5
LZH				sP	pwP	22 20 42.8	+1.0
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				LR	LR		
	comp=Z,180nm,14.8s						
LZH				LR	LR		
	comp=Z,220nm,15.5s						
LZH				LR	LR		
	comp=Z,460nm,14.4s						
GTA	Gaotai	45.17	278	*e*P	P	22 20 34.3	+1.5
GTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GTA				LR	LR		
	comp=Z,160nm,12.7s						
GTA				LR	LR		
	comp=Z,190nm,12.0s						
GTA				LR	LR		
	comp=Z,350nm,13.1s						
B08A	Colville Reser	45.43	65		P	22 20 35.4	+0.7
SPITS	Spitsbergen Ar	45.91	351	P	P	22 20 37.0	-1.1
	comp=Z,20nm,1.0s,baz=32,slow=14,SNR=5.5						
	comp=Z,20nm,1.0s						
SPITS	Spitsbergen Ar	45.91	351	P	P	22 20 37.0	-1.1
SPB2	Spitsbergen Ar	45.92	351	P	P	22 20 37.6	-0.5
ENH	Enshi	46.06	261		P	22 20 40.0	+0.1
BLKN	Baker Lake	46.10	37		P	22 20 39.2	-0.5
NEEM	North Greenlan	46.16	10	*i* P	P	22 20 39.1	-1.3
NEEM				IAmb	IAmb	22 20 40.2	
	comp=Z,19nm,1.1s						
NEW	Newport	46.64	64	LR	LR	22 38 35.6	
	comp=Z,106nm,20.0s,baz=292,slow=34						
NEW	Newport	46.64	64	P	P	22 20 44.3	+0.1
ILON	Igloolik, Nuna	47.10	26		P	22 20 46.2	-1.2
ILON				IAmb	IAmb	22 20 47.6	
	comp=Z,7.9nm,1.1s						
J05D	Fort Rock, OR	47.63	72		P	22 20 53.1	+0.9
J05D				IAmb	IAmb	22 20 55.9	
	comp=Z,19nm,1.5s						
KULLO	Kullorsuaq	47.92	14	*i* P	P	22 20 52.9	-0.8
KULLO				IAmb	IAmb	22 20 56.0	
	comp=Z,16nm,0.8s						
WMQ	Urumqi	49.02	291	*e*P	P	22 21 03.8	+1.1
WMQ				sP	pwP	22 21 13.1	+1.0
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
WMQ				LR	LR		
	comp=Z,310nm,17.9s						
KURK	Kurchatov	49.19	303		P	22 21 03.1	-0.7
KURK	Kurchatov	49.19	303	*ce*P	P	22 21 03.9	+0.1
KURK				pmax	pmax		
	comp=Z,30nm,1.3s						
PLID	Pearl Lake	49.28	67		P	22 21 06.0	+1.1
KURBB	Kurchatov Arra	49.30	303	P	P	22 21 04.4	-0.2
	comp=Z,5.8nm,0.5s,baz=55,slow=7.7,SNR=48						
KURBB				PcP	PcP	22 22 27.4	+0.2
	comp=Z,0.5nm,0.5s,baz=48,slow=3.4,SNR=1.5						
	comp=Z,5.8nm,0.5s						
FFC	Flin Flon	49.82	49	P	P	22 21 09.0	+0.4
FFC	Flin Flon	49.82	49	P	P	22 21 09.0	+0.4
FFC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MK31	Makanchi Array	49.91	297	*ce*P	P	22 21 09.1	-0.4
MKAR	Makanchi Array	49.91	297		P	22 21 08.2	-1.3
MKAR	Makanchi Array	49.91	297	P	P	22 21 08.8	-0.6
	comp=Z,4.4nm,0.6s,baz=54,slow=6.3,SNR=38						
MKAR				PcP	PcP	22 22 31.1	+1.5
	comp=Z,0.6nm,0.7s,baz=51,slow=5.5,SNR=1.4						
MKAR				LR	LR	22 43 13.8	
	comp=Z,196nm,20.1s,baz=30,slow=37						
	comp=Z,4.4nm,0.6s						
MAKZ	Makanchi	50.07	297		P	22 21 09.2	-1.4
MAKZ	Makanchi	50.07	297	P	P	22 21 09.2	-1.4
MAKZ				pmax	pmax		
	comp=Z,36nm,1.5s						
GOMU	GeErMu	50.25	279	P	P	22 21 12.1	-0.4
GOMU				S	S	22 28 22.8	-1.6
GOMU				pmax	pmax		
	comp=Z,21nm,1.2s						
GOMU				pmax	pmax		
	comp=Z,180nm,4.5s						
GOMU				LR	LR		
	comp=Z,300nm,12.5s						
GOMU				LR	LR		

comp=Z,340nm,12.9s
GOMU LR LR
comp=Z,560nm,12.9s
HLID Hailey 51.15 67 P 22 21 19.7 +0.7
BVAR Borovoye Array 51.50 310 P **P 22 21 20.9 -0.4**
comp=Z,6.0nm,0.7s,baz=54,slow=8.1,SNR=28
BVAR PcP **PcP 22 22 35.8 +0.5**
comp=Z,2.2nm,0.6s,baz=60,slow=3.8,SNR=4.1
BVAR LR LR 22 45 34.8
comp=Z,58nm,18.4s,baz=8.2,slow=39
comp=Z,6.0nm,0.7s
BRVK Borovoye 51.53 310 **P 22 21 20.9 -0.6**
BRVK IAmb IAmb 22 21 24.1
comp=Z,8.2nm,0.8s
BRVK Borovoye 51.53 310 *ce*P **P 22 21 21.8 +0.3**
BRVK pmax pmax
comp=Z,31nm,2.5s
SUMG Summit 51.91 9 **P 22 21 24.1 -0.5**
SUMG IAmb IAmb 22 21 25.8
comp=Z,15nm,1.1s
SUMG Summit 51.91 9 P **P 22 21 24.1 -0.5**
SUMG pmax pmax
comp=Z,15nm,1.1s
SUMG Summit 51.91 9 *i* P **P 22 21 24.0 -0.5**
SUMG IAmb IAmb 22 21 24.7
comp=Z,15nm,1.4s
ARCES ARCESS Array B 52.52 343 P **P 22 21 29.4 +0.7**
comp=Z,2.1nm,0.7s,baz=25,slow=6.9,SNR=7.7
ARCES PcP **PcP 22 22 40.7 +1.9**
comp=Z,4.7nm,0.9s,baz=16,slow=1.9,SNR=2.2
comp=Z,2.1nm,0.7s
NVAR Mina Array Bea 52.56 74 P **P 22 21 30.2 +0.5**
NVAR Mina Array Bea 52.56 74 P **P 22 21 31.8 +2.1**
comp=Z,2.3nm,0.9s,baz=316,slow=6.8,SNR=7.6
comp=Z,2.3nm,0.9s
H17A Grant Village 52.60 64 P **P 22 21 31.0 +1.0**
NV11 Mina Array Sit 52.65 74 **P 22 21 30.9 +0.7**
SVE Sverdlovsk 52.93 318 *e*P **P 22 21 32.8 +0.9**
SVE pmax pmax
comp=Z,20nm,1.9s
PZH PanZhiHua 53.36 265 P **P 22 21 38.8 +3.2**
PZH pmax pmax
comp=Z,20nm,1.5s
PZH pmax pmax
comp=Z,290nm,3.5s
MZP Montezuma Peak 53.59 74 P **P 22 21 37.8 +0.4**
KMI Kunming 53.84 263 P **P 22 21 40.8 +1.6**
KMI pmax pmax
comp=Z,15nm,1.4s
ARTI Arti 54.11 319 **P 22 21 40.0 -0.6**
ARTI Arti 54.11 319 *c i* P **P 22 21 40.2 -0.3**
ARTI 22 22 38.9
ARTI S **S 22 29 20.1 +4.0**
ARTI SS **SS 22 32 59.4 +2.5**
ARTI pmax pmax
comp=Z,20nm,1.6s
R11B Troy Canyon, C 54.13 73 **P 22 21 42.1 +1.0**
PD31 Pinedale Array 54.27 65 **P 22 21 42.4 +0.2**
PD31 IAmb IAmb 22 21 52.7
comp=Z,10nm,1.2s
PDAR Pinedale Array 54.27 65 **P 22 21 42.8 +0.7**
PDAR Pinedale Array 54.27 65 P **P 22 21 42.7 +0.6**
comp=Z,2.3nm,0.8s,baz=312,slow=6.7,SNR=12
comp=Z,2.3nm,0.8s
DUG Dugway, Tooele 54.34 69 **P 22 21 43.3 +0.7**
DUG IAmb IAmb 22 21 45.0
comp=Z,11nm,1.4s
DUG Dugway, Tooele 54.34 69 P **P 22 21 43.3 +0.7**
DUG pmax pmax
comp=Z,11nm,1.5s
TPNV Topopah Spring 54.76 74 P **P 22 21 46.6 +0.9**
TPNV IAmb IAmb 22 21 48.9
comp=Z,12nm,1.1s
TPNV Topopah Spring 54.76 74 P **P 22 21 46.6 +0.9**
TPNV pmax pmax
comp=Z,12nm,1.2s
FRB Frobisher Bay 54.81 26 P **P 22 21 44.6 -0.8**
FRB pmax pmax
comp=Z,14nm,0.8s
PRN Pahroc Range 55.10 73 **P 22 21 49.2 +1.1**
PRN IAmb IAmb 22 22 00.3
comp=Z,18nm,1.4s
ICESG Greenland Ices 55.15 10 *i* P **P 22 21 48.0 -0.3**
ICESG IAmb IAmb 22 21 48.5
comp=Z,11nm,1.0s
WUS Wushi 55.37 294 P **P 22 21 49.2 -0.8**
WUS IAmb IAmb 22 21 53.5
comp=Z,15nm,1.0s
GSC Goldstone, Bar 55.64 76 P **P 22 21 52.8 +0.8**
GSC IAmb IAmb 22 21 55.0
comp=Z,17nm,1.4s
GSC Goldstone, Bar 55.64 76 P **P 22 21 52.8 +0.8**
GSC pmax pmax
comp=Z,17nm,1.4s
KIRV Kirov 55.66 325 *ce*P **P 22 21 52.4 +0.8**
SFJD Kangerlussuaq 55.67 16 P **P 22 21 50.8 -0.8**
SFJD Kangerlussuaq 55.67 16 P **P 22 21 50.8 -0.8**
SFJD pmax pmax
comp=Z,28nm,1.5s
MVU Marysvale 55.87 70 P **P 22 21 54.5 +0.6**
SLVN Son La 56.13 259 P **P 22 21 56.1 +0.5**
SLVN IAmb IAmb 22 22 42.0
comp=Z,29nm,1.8s
BOOM Boomskoye usch 56.16 297 P **P 22 21 55.9 +0.2**
BOOM Boomskoye usch 56.16 297 P **P 22 21 55.9 +0.2**
BOOM pmax pmax
comp=Z,44nm,1.2s
FRU1 Bishkek 56.60 298 P **P 22 21 58.3 -0.5**
FRU1 Bishkek 56.60 298 P **P 22 21 58.3 -0.5**
FRU1 pmax pmax
comp=Z,14nm,0.8s
KNB Kanab 56.61 72 P **P 22 21 60.0 +0.9**
KNB IAmb IAmb 22 22 02.6
comp=Z,19nm,1.6s
KNB Kanab 56.61 72 P **P 22 22 00.0 +0.9**
KNB pmax pmax
comp=Z,19nm,1.6s
AAK Ala-Archa 56.80 298 P **P 22 21 60.0 -0.3**
AAK IAmb IAmb 22 22 03.1
comp=Z,9.7nm,0.9s
AAK Ala-Archa 56.80 298 P **P 22 22 00.0 -0.3**
AAK pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 56.85 332 *e*P **P 22 21 58.4 -1.7**
KLMR pmax pmax
comp=Z,28nm,1.4s
LSA Lhasa 57.08 276 P **P 22 22 02.8 0.0**
LSA pmax pmax
comp=Z,11nm,1.1s
JOF Joensuu 57.17 337 *e*P **P 22 22 02.0 -0.4**
U15A North Rim 57.33 72 **P 22 22 04.6 +0.3**
U15A IAmb IAmb 22 22 07.6
comp=Z,7.6nm,1.2s
KSH Kashi 58.30 295 P **P 22 22 14.6 +3.8**
KSH sP pwP 22 22 24.0 +3.8
KSH pmax pmax
comp=Z,9.0nm,1.4s
ISCO Idaho Springs 58.46 65 P **P 22 22 13.2 +1.0**
ISCO IAmb IAmb 22 22 15.7
comp=Z,14nm,1.4s
ISCO Idaho Springs 58.46 65 P **P 22 22 13.2 +1.0**
ISCO pmax pmax
comp=Z,14nm,1.5s
KK31 Karatay Array 58.46 301 P **P 22 22 11.1 -0.7**
KK31 IAmb IAmb 22 22 14.2
comp=Z,8.7nm,0.8s
KK31 Karatay Array 58.46 301 P **P 22 22 11.1 -0.7**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 58.46 301 P **P 22 22 11.1 -0.7**
KKAR Karatay Array 58.46 301 P **P 22 22 11.1 -0.7**
ARSB Arslanbob 58.52 298 P **P 22 22 12.4 0.0**
ARSB IAmb IAmb 22 22 31.5
comp=Z,8.9nm,0.9s
ARSB Arslanbob 58.52 298 P **P 22 22 12.4 0.0**
ARSB pmax pmax
comp=Z,9.0nm,0.9s
AB31 Akbulak array 58.78 312 **P 22 22 13.6 -0.3**
ABKAR Akbulak array 58.78 312 **P 22 22 13.3 -0.6**
ABKAR Akbulak array 58.78 312 **P 22 22 13.6 -0.3**
ABKAR IAmb IAmb 22 22 24.3
comp=Z,21nm,1.4s
VAF Ylistaro 58.87 341 *e*P **P 22 22 14.7 +0.4**
KEF Keuruu 59.23 339 *e*P **P 22 22 17.0 +0.2**
EYMN Ely 59.25 49 P **P 22 22 17.4 +0.2**
EYMN IAmb IAmb 22 22 20.7
comp=Z,5.0nm,0.8s
FIA1 FINESS Array S 59.63 338 **P 22 22 18.9 -0.7**
FINES FINESS Array B 59.64 338 **P 22 22 19.0 -0.5**
FINES FINESS Array B 59.64 338 P **P 22 22 18.7 -0.9**
comp=Z,6.6nm,0.9s,baz=26,slow=7.8,SNR=20
comp=Z,6.6nm,0.9s
SHL Shillong 59.78 272 P **P 22 22 20.6 -0.7**
SHL Shillong 59.78 272 P **P 22 22 20.6 -0.7**
SHL pmax pmax
comp=Z,11nm,0.5s
BTK Batken 60.57 298 **P 22 22 26.1 -0.3**
BTK Batken 60.57 298 P **P 22 22 26.1 -0.3**
BTK pmax pmax
comp=Z,14nm,0.7s
RAF Rauma 60.90 340 *e*P **P 22 22 28.5 +0.3**
CHTO Chiang Mai 60.95 261 **P 22 22 29.1 -0.1**
CHTO IAmb IAmb 22 22 41.5
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 60.95 261 P **P 22 22 29.1 -0.1**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
MEF Metsahovi 61.10 339 *e*P **P 22 22 30.0 +0.4**
TUC Tucson 61.22 74 P **P 22 22 35.0 +4.1**
TUC pmax pmax
comp=Z,2.0nm,1.8s
CMAR Chiang Mai Arr 61.23 261 **P 22 22 31.4 +0.3**
CMAR Chiang Mai Arr 61.23 261 P **P 22 22 32.7 +1.6**
comp=Z,2.6nm,0.7s,baz=38,slow=6.1,SNR=12
comp=Z,2.6nm,0.7s
CMAR Chiang Mai Arr 61.23 261 P **P 22 22 31.4 +0.3**
ARBE Arbavere 61.47 337 *e*P **P 22 22 30.6 -1.5**
ANMO Albuquerque 61.62 69 *ce*P **P 22 22 33.6 -0.2**
ANMO pmax pmax
comp=Z,1.0nm,1.3s
GAR Garm 61.62 298 **P 22 22 33.1 -0.5**
MOS Moscow 61.70 329 *e*P **P 22 22 29.1 -4.6**
VSU Vasula 62.18 337 *ce*P **P 22 22 36.7 -0.2**
VSU pmax pmax
comp=Z,10.0nm,0.6s
VSU Vasula 62.18 337 *e*P **P 22 22 35.7 -1.2**
NC204 NORSAR Array S 62.49 346 **P 22 22 38.5 -0.5**
SIMJ Simiganj 62.54 299 **P 22 22 38.7 -1.2**
SIMJ IAmb IAmb 22 22 42.2
comp=Z,8.6nm,0.9s
OBN Obninsk 62.55 329 ⇑*e*P **P 22 22 39.7 +0.3**
OBN *e* 22 24 55.6
OBN pmax pmax
comp=Z,14nm,1.0s
OBN MLR MLR
comp=Z,71nm,15.0s
MTSE Matsula 62.60 338 *e*P **P 22 22 40.0 +0.3**
NB2 NORSAR Subarra 62.65 346 P **P 22 22 39.4 -0.7**
comp=Z,17nm,1.2s,baz=18,slow=6.9
NOA NORSAR Array B 62.65 346 P **P 22 22 39.7 -0.4**
comp=Z,4.1nm,0.9s,baz=16,slow=6.7,SNR=14
comp=Z,4.1nm,0.9s
NORES NORESS Array B 62.90 346 P **P 22 22 43.3 +1.6**
HFS Hagfors 63.15 344 P **P 22 22 42.6 -0.7**
comp=Z,3.2nm,0.6s,baz=20,slow=4.6,SNR=19
comp=Z,3.2nm,0.6s
LPSR Galich'ya Gora 63.98 327 *e*P **P 22 22 47.2 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
NIL Nilore 64.13 292 **P 22 22 50.0 -0.3**
NIL Nilore 64.13 292 P **P 22 22 50.0 -0.3**
NIL pmax pmax
comp=Z,17nm,1.1s
VRH Novokhopyorsk 64.25 324 *e*P **P 22 22 47.1 -3.6**
VRH pmax pmax
comp=Z,20nm,2.5s
MNTX Cornudas Mount 64.66 71 P **P 22 22 54.5 +0.7**
MNTX IAmb IAmb 22 22 56.8
comp=Z,12nm,1.2s
VORR Voronezh 64.68 326 *e*P **P 22 22 53.5 -0.1**
VORR pmax pmax
comp=Z,13nm,1.6s
VLDQ Val d'Or 64.89 41 P **P 22 22 53.0 -1.9**
VSR Storozhevoye 65.09 326 *e*P **P 22 22 54.0 -2.2**
VSR pmax pmax
comp=Z,7.0nm,1.0s
NACGM Naroch 65.38 335 ⇑*i*P **P 22 22 58.3 +0.3**
comp=Z,8.0nm,1.0s,baz=25
MNK Minsk 65.47 334 *i* P **P 22 22 57.1 -1.5**
comp=E,10.0nm,1.0s
MNK *i* P **P 22 22 57.1 -1.5**
comp=N,10.0nm,0.8s
MNK *i* P **P 22 22 57.1 -1.5**
comp=Z,23nm,0.8s,baz=26
MNK *i* PP **PP 22 25 21.3 -0.8**
MNK *i* PPP PPP 22 26 54.1
MNK *i* S **S 22 31 42.3 0.0**
MNK *i* SS **SS 22 35 58.6 +3.9**
MNK *i* SSS SSS 22 39 03.2
MNK *i* LQ LQ 22 46 55.0
MNK *i* LR LR 22 51 51.1
MNK *i* LRM MLR 22 54 28.1
comp=Z,70nm,14.2s
MNK *i* LRM MLR 22 54 31.0
comp=N,103nm,13.3s
MNK *i* LRM MLR 22 54 40.7
comp=E,44nm,19.2s
MNK Minsk 65.47 334 *i* P **P 22 22 57.1 -1.5**
MNK *i* 22 25 21.2
MNK *i* PPP PPP 22 26 54.0
MNK *i* S **S 22 31 42.2 -0.1**
MNK *i* SS **SS 22 35 58.5 +3.8**
MNK pmax pmax
comp=E,10.0nm,1.0s
MNK pmax pmax
comp=Z,23nm,0.8s
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK MLR MLR
comp=Z,70nm,14.0s
MNK MLR MLR
comp=N,103nm,13.0s
MNK MLR MLR
comp=E,44nm,19.0s
PABE Paberze 65.50 337 **P 22 22 58.8 0.0**
PABE Paberze 65.50 337 *e*P **P 22 22 59.1 +0.3**
VHRN Van Horn 65.58 71 **P 22 23 00.6 +0.7**
VHRN IAmb IAmb 22 23 02.7
comp=Z,12nm,1.3s
KBL Kabul 65.68 296 **P 22 22 58.6 -2.0**
KBL IAmb IAmb 22 23 01.8
comp=Z,6.3nm,0.7s
KBL Kabul 65.68 296 P **P 22 22 58.6 -2.0**
KBL pmax pmax
comp=Z,6.0nm,0.7s
WMOK Wichita Mounta 65.85 64 P **P 22 23 02.0 +0.6**
HHAR Hobbs 67.11 59 P **P 22 23 09.1 -0.3**
SBUM Sibu 67.28 239 P **P 22 23 10.4 -0.4**
TX31 Lajitas Ar. Si 67.42 71 **P 22 23 12.5 +0.9**
TX31 IAmb IAmb 22 23 14.2
comp=Z,14nm,1.3s
TXAR Lajitas Array 67.42 71 **P 22 23 12.8 +1.1**
TXAR Lajitas Array 67.42 71 P **P 22 23 13.3 +1.6**
comp=Z,4.4nm,0.6s,baz=319,slow=6.4,SNR=40
comp=Z,4.4nm,0.6s
TXAR Lajitas Array 67.42 71 P **P 22 23 12.8 +1.1**
AKASG Malin Array Be 68.54 331 P **P 22 23 17.6 -0.6**
comp=Z,3.4nm,0.6s,baz=28,slow=6.7,SNR=18
comp=Z,3.4nm,0.6s
AKASG Malin Array Be 68.54 331 *ce*P **P 22 23 17.7 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 68.54 331 **P 22 23 17.5 -0.7**
AKBB IAmb IAmb 22 23 18.8
comp=Z,12nm,1.1s
AKBB Malin Array Si 68.54 331 P **P 22 23 17.5 -0.7**
AKBB pmax pmax
comp=Z,12nm,1.2s
KIEV Kiev 68.55 331 **P 22 23 17.6 -0.7**
KIEV IAmb IAmb 22 23 18.8
comp=Z,11nm,1.1s
KIEV Kiev 68.55 331 ⇑P **P 22 23 17.9 -0.4**
KIEV Kiev 68.55 331 ⇑P **P 22 23 17.9 -0.4**
JCT Junction City 68.62 67 P **P 22 23 19.5 +0.4**
JCT IAmb IAmb 22 23 21.0
comp=Z,11nm,1.1s
JCT Junction City 68.62 67 P **P 22 23 19.5 +0.4**
JCT pmax pmax
comp=Z,11nm,1.1s
MIAR Mount Ida 68.66 60 **P 22 23 19.4 +0.2**
MIAR Mount Ida 68.66 60 P **P 22 23 19.4 +0.2**
MIAR pmax pmax
comp=Z,17nm,1.4s
GOF Gofitskoye 68.98 320 *ce*P **P 22 23 21.0 -0.1**
DRIO Del Rio 69.01 69 **P 22 23 21.7 +0.2**
DRIO IAmb IAmb 22 23 23.2
comp=Z,7.2nm,1.0s
HRA Herat 69.28 300 P **P 22 23 22.7 -0.7**
HRA IAmb IAmb 22 23 33.9
comp=Z,7.3nm,1.1s
O52A Adamsville 69.69 49 P **P 22 23 25.5 -0.1**
EKA Eskdalemuir Ar 69.81 353 P **P 22 23 26.2 +0.2**
comp=Z,3.0nm,0.9s,baz=15,slow=5.9,SNR=8.4
comp=Z,3.0nm,0.9s
KIV Kislovodsk 70.05 319 *e*P **P 22 23 26.5 -1.3**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 70.17 319 P **P 22 23 28.6 +0.2**
comp=Z,3.4nm,0.8s,baz=37,slow=8.9,SNR=9.0
comp=Z,3.4nm,0.8s
KBZ Khabaz 70.17 319 *ce*P **P 22 23 27.8 -0.6**
KBZ pmax pmax
comp=Z,8.0nm,1.1s
WVT Waverly 70.21 55 P **P 22 23 29.5 +0.7**
WVT Waverly 70.21 55 P **P 22 23 29.5 +0.7**
WVT pmax pmax
comp=Z,21nm,1.4s
HORU Horodok 70.66 333 P **P 22 23 30.9 -0.4**
CLTN Cedars of Leba 70.95 54 **P 22 23 33.9 +0.6**
CLTN IAmb IAmb 22 23 36.7
comp=Z,7.7nm,0.8s
SORM Soroca 71.11 331 ⇑P **P 22 23 33.5 -0.5**
SORM Soroca 71.11 331 ⇑P **P 22 23 33.5 -0.5**
OJC Ojcow 71.36 337 *e*P **P 22 23 36.0 +0.5**
OJC Ojcow 71.36 337 **P 22 23 35.2 -0.4**
OJC Ojcow 71.36 337 P **P 22 23 35.2 -0.4**
KSP Ksiaz 71.52 340 *e*P **P 22 23 36.9 +0.3**
KSP Ksiaz 71.52 340 P **P 22 23 36.8 +0.3**
CLZ Clausthal 71.64 344 *e*P 22 23 37.6
comp=Z,8.3nm,1.1s,baz=17,slow=6.0
CLL Collm 71.70 342 **P 22 23 37.1 -0.5**
CLL IAmb IAmb 22 23 38.6
comp=Z,8.6nm,1.1s
CLL Collm 71.70 342 P **P 22 23 37.1 -0.5**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 71.70 342 *i* P **P 22 23 37.2 -0.5**
comp=Z,10.0nm,1.1s
CLL *ex* x 22 23 46.0
CLL Collm 71.71 342 *e*P 22 23 37.8
comp=Z,4.8nm,0.9s,baz=17,slow=6.0
STHS Stebnicka Huta 71.77 336 *e*P **P 22 23 38.5 +0.4**
STHS Stebnicka Huta 71.77 336 *e*P **P 22 23 38.5 +0.4**
CHVC Chvalec 71.81 340 *e*P **P 22 23 38.8 +0.5**
CHVC *ep*P **pwP 22 23 47.2 -0.7**
CHVC Chvalec 71.81 340 *e*P **P 22 23 38.8 +0.5**
SWET Sewanee 71.85 54 P **P 22 23 38.5 -0.3**
UPC Upice 71.89 340 *e*P **P 22 23 39.5 +0.7**
UPC Upice 71.89 340 *e*P **P 22 23 39.5 +0.7**
BRG Berggiesshubel 71.95 341 *e*P **P 22 23 39.4 +0.3**
BRG Amp 22 23 40.4
comp=Z,4.1nm,1.0s
BRG Berggiesshubel 71.95 341 P **P 22 23 39.1 0.0**
BRG pmax pmax
comp=Z,5.0nm,2.0s
BRG Berggiesshubel 71.95 341 *e*P 22 23 39.2
comp=Z,3.3nm,1.0s,baz=17,slow=6.0
KOLS Kolonicke sedl 71.98 335 *e*P **P 22 23 39.9 +0.6**
KOLS pmax pmax
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 71.98 335 *e*P **P 22 23 39.9 +0.6**
DPC Dobruska-Polom 71.98 339 *e*P **P 22 23 40.2 +0.8**
DPC Dobruska-Polom 71.98 339 *e*P **P 22 23 40.2 +0.8**
STEB Steborice 72.07 338 *e*P **P 22 23 40.4 +0.5**
STEB *ep*P **pwP 22 23 48.5 -1.0**
OKC Ostrava-Krasne 72.08 338 P **P 22 23 40.8 +0.9**
OKC pmax pmax
comp=Z,7.0nm,1.2s
KRLC Kraliky 72.15 339 *e*P **P 22 23 41.0 +0.6**
KRLC Kraliky 72.15 339 *e*P **P 22 23 41.0 +0.6**
MORC Moravsky Berou 72.27 338 **P 22 23 41.1 0.0**
MORC IAmb IAmb 22 23 43.0
comp=Z,11nm,1.2s
MORC Moravsky Berou 72.27 338 *e*P **P 22 23 41.7 +0.6**
MORC Moravsky Berou 72.27 338 ⇓P **P 22 23 41.8 +0.6**
MORC Moravsky Berou 72.27 338 P **P 22 23 41.1 0.0**
MORC pmax pmax
comp=Z,11nm,1.2s
BUR08 Bucovina Ar. S 72.42 333 **P 22 23 41.8 -0.4**
LANS Liptovska Anna 72.44 337 *e*P **P 22 23 43.8 +1.7**
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 72.44 337 *e*P **P 22 23 43.8 +1.7**
BURAR Bucovina Array 72.44 333 **P 22 23 42.0 -0.2**
BURAR Bucovina Array 72.44 333 ⇑P **P 22 23 43.2 +0.9**
BURAR Bucovina Array 72.44 333 ⇑P **P 22 23 43.2 +0.9**
GNI Garni 72.49 316 P **P 22 23 42.4 -0.3**
GNI Garni 72.49 316 *ce*P **P 22 23 44.4 +1.7**
GNI pmax pmax
comp=Z,10.0nm,1.3s
FPAL Fort Paine 72.55 55 P **P 22 23 43.3 +0.3**
FPAL IAmb IAmb 22 23 53.3
comp=Z,12nm,1.1s
MOX Moxa 72.59 342 *e*P 22 23 43.5
comp=Z,2.7nm,0.8s,baz=17,slow=6.0
TANN Tannenbergstha 72.66 342 *e*P 22 23 43.4
comp=Z,1.9nm,0.9s,baz=17,slow=6.0
PRU Pruhonice 72.68 340 *e*P **P 22 23 44.1 +0.6**
PRU Pruhonice 72.68 340 *e*P **P 22 23 44.1 +0.6**
VRAC Vranov 72.91 339 *e*P **P 22 23 45.6 +0.7**
VRAC Vranov 72.91 339 ⇓P **P 22 23 45.5 +0.6**
VRAC Vranov 72.91 339 ⇓P **P 22 23 45.5 +0.6**
TESR Tescani 73.07 331 ⇑P **P 22 23 47.2 +1.3**
JAVC Velka Javorina 73.11 338 *e*P **P 22 23 47.8 +1.7**
MANZ Manzenberg 73.14 342 *e*P 22 23 46.6
comp=Z,0.8nm,1.0s,baz=17,slow=6.0
KRUC Moravsky 73.19 339 *e*P **P 22 23 47.1 +0.6**
VYHS Vyhne 73.19 337 *e*P **P 22 23 47.6 +1.0**
VYHS pmax pmax
comp=Z,13nm,1.7s
VYHS Vyhne 73.19 337 *e*P **P 22 23 47.6 +1.0**
GHRR 73.27 331 ⇑P **P 22 23 47.4 +0.5**
ZVC Zvikov 73.27 340 *e*P **P 22 23 47.4 +0.4**
ROTZ Rotzenmuhle 73.33 342 *e*P 22 23 47.8
comp=Z,0.7nm,1.0s,baz=17,slow=6.0
MEM Membach 73.50 346 *d*P **P 22 23 48.0 -0.3**
comp=Z,7.0nm,1.0s
GRA1 Grafenberg Arr 73.58 342 P **P 22 23 48.8 0.0**
GRA1 IAmb IAmb 22 23 50.6
comp=Z,13nm,1.1s
GRF Grafenberg Arr 73.58 342 P **P 22 23 48.8 0.0**
GRF pmax pmax
comp=Z,13nm,1.1s
GRFO Grafenberg 73.58 342 P **P 22 23 48.8 0.0**
GRFO IAmb IAmb 22 23 50.6
comp=Z,12nm,1.1s
GRFO Grafenberg 73.58 342 P **P 22 23 48.8 0.0**
GRFO pmax pmax
comp=Z,12nm,1.1s
GRF Grafenberg Arr 73.58 342 *e*P 22 23 49.2
comp=Z,7.4nm,1.0s,baz=17,slow=6.0
TUDR 73.61 330 ⇑P **P 22 23 48.9 -0.2**
PETR Petresti 73.62 331 ⇑P **P 22 23 45.5 -3.6**
MODS Modra-Piesok 73.65 338 *e*P **P 22 23 51.1 +1.8**
MODS pmax pmax
comp=Z,22nm,1.4s
MODS Modra-Piesok 73.65 338 *e*P **P 22 23 51.1 +1.8**
KHC Kasperske Hory 73.68 341 *e*P **P 22 23 50.1 +0.6**
KHC *ep*P **pwP 22 23 58.3 -0.8**
KHC Kasperske Hory 73.68 341 *e*P **P 22 23 50.1 +0.6**
OZUR 73.69 332 ⇑P P 22 23 27.9 -22
CJR Cluj-Napoca 73.70 333 ⇓P **P 22 23 49.2 -0.5**
CJR Cluj-Napoca 73.70 333 ⇓P **P 22 23 49.2 -0.5**
COVR Voineasa-Covas 73.80 331 ⇓P **P 22 23 52.6 +2.3**
WET Wettzell 73.81 341 *e*P 22 23 50.2
comp=Z,5.8nm,1.0s,baz=17,slow=6.0
CKRC Cesky Krumlov 73.84 340 *ep*P pP 22 23 59.0 +5.0
CKRC Cesky Krumlov 73.84 340 *e*P P 22 23 59.0 +8.6
GEC2 GERESS Array S 73.93 341 **P 22 23 50.7 -0.3**
GERES GERESS Array B 73.93 341 **P 22 23 50.6 -0.3**
GERES GERESS Array B 73.93 341 P **P 22 23 51.5 +0.5**
comp=Z,1.7nm,0.7s,baz=19,slow=5.7,SNR=18
comp=Z,1.7nm,0.7s
GERES GERESS Array B 73.93 341 P **P 22 23 50.7 -0.3**

GEC2	GERESS Array S	73.94 341	*e*P			22 23 51.1
	comp=Z,4.1nm,1.0s,baz=17,slow=6.0					
BMRD	Maredsous	73.97 347	*d*P		P	22 23 51.3 +0.2
PSI	Prapat	73.99 252	P		P	22 23 51.7 -0.1
PSI			pmax	pmax		
	comp=Z,11nm,1.1s					
RPSI	Rantau Prapat	74.07 251	P		P	22 23 51.7 -0.4
RPSI			IAmb	IAmb		22 23 55.3
	comp=Z,11nm,1.1s					
MLR	Muntele Rosu	74.20 331			P	22 23 52.0 -0.7
MLR	Muntele Rosu	74.20 331	⇑P		P	22 23 52.3 -0.4
MLR	Muntele Rosu	74.20 331	P		P	22 23 52.0 -0.7
MLR			pmax	pmax		
	comp=Z,34nm,1.8s					
CONA	Conrad Observa	74.38 339	*i* pP		P	22 23 55.1 +1.5
	comp=Z,5.2nm,1.0s					
VOIR		74.50 332	⇑P		P	22 23 54.2 -0.1
VOIR		74.50 332	⇑P		P	22 23 54.2 -0.1
RONA	Rosalia, Austr	74.50 339	*i* P		P	22 23 54.7 +0.4
	comp=Z,4.3nm,1.2s					
SIRR	Siria	74.61 334	⇑P		P	22 23 55.7 +0.8
ARR	Arges	74.67 332	⇑P		P	22 23 55.7 +0.3
MOA	Molln	74.78 340	*i* pP		P	22 23 56.8 +1.0
	comp=Z,6.9nm,1.3s					
SURR	Surduc	74.97 334	⇑P		P	22 23 57.7 +0.7
BIOA	Bad Ischl, Aus	75.05 340	*i* pP		P	22 23 58.9 +1.5
	comp=Z,1.8nm,0.7s					
ARSA	Arzberg	75.09 339	*e*P		P	22 23 57.9 +0.2
	comp=Z,4.7nm,1.1s					
GZR	Gura Zlata	75.14 333	⇓P		P	22 23 59.9 +1.9
GZR	Gura Zlata	75.14 333	⇓P		P	22 23 59.9 +1.9
RJOB	Jochberg	75.17 341	*e*P			22 23 58.7
	comp=Z,5.1nm,0.8s,baz=17,slow=6.0					
BZS	Buzias	75.23 334	⇓P		P	22 23 57.7 -0.8
BFO	Black Forest	75.38 344	P		P	22 24 01.6 +2.3
BFO			pmax	pmax		
	comp=Z,6.0nm,1.2s					
MORH	Mrgy, Hungar	75.39 336	⇓P		P	22 23 59.4 0.0
LESA	Schwarzleotal	75.49 341	*i* pP		P	22 24 01.2 +1.1
	comp=Z,5.5nm,1.2s					
ECH	Echery	75.67 345	P		P	22 24 03.1 +2.1
ECH			pmax	pmax		
	comp=Z,35nm,1.6s					
KBA	Koelnbreinsper	75.70 340	P		P	22 24 02.0 +0.7
KBA	Koelnbreinsper	75.70 340	*i* pP		P	22 24 03.1 +1.8
	comp=Z,15nm,0.9s,SNR=13					
HERR	Herculane	75.71 333	⇑P		P	22 24 01.4 +0.1
UBR	Ueberruh	75.71 343	*e*P			22 24 01.9
	comp=Z,3.4nm,0.9s,baz=17,slow=6.0					
SOKA	Soboth	75.74 339	*i* pP		P	22 24 02.7 +1.2
	comp=Z,7.6nm,1.5s					
WATA	Walderalm	75.78 342	*i* pP		P	22 24 02.8 +1.0
	comp=Z,7.9nm,1.0s					
RETA	Reutte	75.78 342	*i* pP		P	22 24 02.5 +0.8
	comp=Z,4.6nm,1.2s					
WTTA	Wattenberg	75.84 342	*e*pP		P	22 24 03.5 +1.3
	comp=Z,8.0nm,1.1s,SNR=6.6					
MOTA	Moosalm	75.86 342	*i* P		P	22 24 02.1 -0.1
	comp=Z,12nm,1.6s					
SQTA	Sankt Quirin	75.96 342	*i* pP		P	22 24 04.0 +1.2
	comp=Z,13nm,1.1s,SNR=6.4					
OBKA	Obir	76.00 339	*i* pP		P	22 24 04.4 +1.4
	comp=Z,15nm,1.0s,SNR=7.0					
MYKA	Terra Mystica	76.07 340	*e*pP		P	22 24 04.5 +1.2
	comp=Z,4.9nm,1.0s					
DAVA	Damuels	76.13 343	*i* pP		P	22 24 04.3 +0.5
	comp=Z,6.4nm,1.3s					
ABTA	Abfaltersbach	76.17 341	*e*pP		P	22 24 04.9 +1.0
	comp=Z,11nm,1.1s,SNR=6.1					
FETA	Feichten	76.24 342	*i* P		P	22 24 04.5 +0.1
	comp=Z,8.8nm,1.0s,SNR=5.8					
PRED	Cave del Predi	76.26 340			P	22 24 04.2 -0.2
PRED			IAmb	IAmb		22 24 07.5
	comp=Z,6.3nm,0.9s					
FUORN	Ofenpass-Fuorn	76.71 342			P	22 24 07.2 -0.1
FUORN			IAmb	IAmb		22 24 18.5
	comp=Z,17nm,1.6s					
CTI	Castel Tesino	77.01 341			P	22 24 08.6 -0.1
CTI	Castel Tesino	77.01 341	P		P	22 24 08.6 -0.1
CTI			pmax	pmax		
	comp=Z,5.0nm,0.9s					
TUE	Stuetta	77.01 343			P	22 24 08.6 -0.3
BRTR	Keskin Array B	77.02 323			P	22 24 08.3 -0.6
BRTR	Keskin Array B	77.02 323	P		P	22 24 08.9 0.0
	comp=Z,1.6nm,0.8s,baz=35,slow=5.3,SNR=7.0					
	comp=Z,1.6nm,0.8s					
BRTR	Keskin Array B	77.02 323	*ce*P		P	22 24 09.0 0.0
BRTR			pmax	pmax		
	comp=Z,2.0nm,0.8s					
TEOL	Teolo	77.67 341	P		P	22 24 12.3 0.0
WB0	Warramunga Arr	78.67 209	P		P	22 24 18.5 +0.5
WR8	Warramunga Arr	78.82 209	P		P	22 24 18.9 +0.1
WR8			IAmb	IAmb		22 26 48.0
	comp=Z,14nm,1.5s					
BNI	Bardonecchia	78.83 344	P		P	22 24 19.1 +0.2
BNI			IAmb	IAmb		22 24 44.5
	comp=Z,18nm,1.5s					
BNI	Bardonecchia	78.83 344	P		P	22 24 19.1 +0.2
BNI			pmax	pmax		
	comp=Z,18nm,1.5s					
WRA	Warramunga Arr	78.85 209	P		P	22 24 19.3 +0.3
WRA	Warramunga Arr	78.85 209	P		P	22 24 19.8 +0.8
	comp=Z,2.3nm,0.8s,baz=19,slow=5.7,SNR=8.9					
	comp=Z,2.3nm,0.8s					
WRA	Warramunga Arr	78.85 209	*i* P		P	22 24 19.6 +0.6
WRA			pmax	pmax		
	comp=Z,2.0nm,0.7s					
OSSC	Osservatorio P	79.52 341	P		P	22 24 22.9 +0.4
OSSC			IAmb	IAmb		22 24 24.0
	comp=Z,14nm,1.2s					
FDMO	Fiordimonte	79.62 339			P	22 24 23.3 +0.2
FDMO			IAmb	IAmb		22 24 25.4
	comp=Z,16nm,1.2s					
PPT2	Papeete2	81.84 136	*e*LR		LR	22 50 07.6
	comp=Z,70nm,24.2s					
MMAI	Mount Meron Ar	82.36 319	P		P	22 24 38.6 +0.7
	comp=Z,10nm,1.1s,baz=29,slow=10,SNR=2.2					
	comp=Z,10nm,1.1s					
ASAR	Alice Springs	82.51 208	P		P	22 24 39.4 +0.9
ASAR	Alice Springs	82.51 208	P		P	22 24 40.0 +1.5
	comp=Z,4.0nm,0.8s,baz=16,slow=5.7,SNR=28					
	comp=Z,4.0nm,0.8s					
ASAR	Alice Springs	82.51 208	P		P	22 24 39.4 +0.9
ESDC	Sonseca Array	85.43 351			P	22 24 53.4 -0.1
ESDC	Sonseca Array	85.43 351	P		P	22 24 53.7 +0.2
	comp=Z,4.8nm,1.0s,baz=10,slow=4.5,SNR=17					
	comp=Z,4.8nm,1.0s					
PAB	San Pablo	85.59 352	P		P	22 24 54.2 -0.2
PAB	San Pablo	85.59 352	P		P	22 24 54.2 -0.2
PAB			pmax	pmax		
	comp=Z,50nm,1.9s					
RAYN	Ar Rayn	86.39 307	P		P	22 24 58.1 -0.4
RAYN			pmax	pmax		
	comp=Z,8.0nm,1.3s					
PLCA	Paso Flores	141.26 92	PKP		PKiKP	22 31 47.9 -0.9
	comp=Z,1.2nm,0.8s,baz=252,slow=3.2,SNR=4.0					
QSPA	South Pole Qui	144.52 180	PKhKP		PKPpre	22 31 49.4
	comp=Z,5.0nm,0.8s,baz=15,slow=2.5,SNR=25					
ELIB	Princess Elisa	156.31 209	*d*PKP		PKPab	22 32 36.5 -1.2

IDC ***20*** *22:32:43.4±1.5, 54°.34N×161°.94W, h0km, mb3.8/9, mbtmp3.7/12, ML3.4/3, MS4.0/3, Error ellipse: s-maj=34.4km s-min=25.4km az=168.0*

NEIC ***20*** *22:32:49.1±1.2, 54°.25N±0°.07×161°.29W±0°.07, h42km±10km, mb3.9/9, ML3.8/28, MS.3.7(AEIC), Error ellipse: s-maj=9.9km s-min=5.7km az=166.0*

AEIC ***20*** *22:32:49.4±1.4, 54°.32N±0°.05×161°.34W±0°.04, h26km±5km, Error ellipse: s-maj=7.9km s-min=2.9km az=182.0*

ISC 20 22:32:49.9±1.4, 54°.34N±0°.09×161°.31W±0°.05, h44km±11km, n105, σ0°.89/104, mb3.9/12, MS4.1/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS4A	Pavlof South-4	1.06 343			Pn	22 33 07.8	-0.6
PS4A					Sn	22 33 21.4	-0.5
CNBA	Chernabura Isl	1.11	63		Pn	22 33 08.8	-0.3
CNBA					Sn	22 33 22.0	-1.2
PS1A	Pavlof South-1	1.12 347			Pn	22 33 08.9	-0.2
PS1A					Sn	22 33 24.1	+0.8
SDPT	Sand Point	1.12	25		Pn	22 33 09.2	0.0
SDPT					Sn	22 33 23.7	+0.3
FALS	False Pass	1.33 294			Pn	22 33 11.3	-0.7
FALS					Sn	22 33 26.9	-1.6
S12K	Black Hills	1.44 343			Pn	22 33 13.8	+0.3
S12K					Sn	22 33 32.2	+1.0
S12K				IAML		22 33 35.3	
	comp=N,3μm,0.4s						
ISLZ	Isanotski Laza	1.45 287			Pn	22 33 13.3	-0.4
ISLZ					Sn	22 33 31.9	+0.3
ISNN	Isanotski Nort	1.52 290			Pn	22 33 15.2	+0.6
VNFG	Fog Glacier, M	2.20	26		Pn	22 33 25.2	+1.3
CHGN	Chignik	2.57	39		Pn	22 33 29.9	+0.9
CHGN				IAML		22 34 08.3	
	comp=E,332nm,0.7s						
CHGN				IAML		22 34 08.6	
	comp=N,293nm,0.6s						
AKUT	Akutan	2.63 267			Pn	22 33 28.9	-0.8
LVA	Lava Point	2.78 268		Pn	Pn	22 33 31.7	-0.2
LVA				IAML		22 34 22.7	
	comp=N,331nm,0.9s						
CHIR	Chirikof Islan	3.59	63	Pn	Pn	22 33 42.8	-0.2
CHIR				IAML		22 34 49.1	
	comp=E,136nm,0.8s						
CHIR				IAML		22 34 56.0	
	comp=N,95nm,1.1s						
SII	Sitkinak Islan	4.63	58	Pn	Pn	22 33 57.0	-0.3
SII				IAML		22 35 27.0	
	comp=N,143nm,0.6s						
SII				IAML		22 35 27.6	
	comp=E,122nm,1.4s						
O15K	Ungalikthiuk R	4.92	9		Pn	22 34 01.2	0.0
O15K				IAML		22 35 25.3	
	comp=N,38nm,0.7s						
O15K				IAML		22 35 27.9	
	comp=E,43nm,1.1s						
O14K	Tigyukauivet M	4.93	0		Pn	22 34 01.8	+0.4
O14K				IAML		22 35 35.6	
	comp=N,47nm,0.8s						
O14K				IAML		22 35 37.3	
	comp=E,47nm,1.2s						
P16K	Nushagak River	5.05	20	Pn	Pn	22 34 03.8	+0.8
P16K				IAML		22 35 36.5	
	comp=N,107nm,0.9s						
P16K				IAML		22 35 36.9	
	comp=E,127nm,1.0s						
ACHA	Angle Creek He	5.12	38		Pn	22 34 05.1	+1.0
OHAK	Old Harbor	5.37	54	Pn	Pn	22 34 07.2	-0.2
O16K	Kokwok River B	5.56	17		Pn	22 34 10.0	+0.1
N14K	Kuskokwak Cree	5.61	358		Pn	22 34 11.0	+0.3
N15K	Kwethluk River	5.89	6		Pn	22 34 14.9	+0.4
KDAK	Kodiak Island	5.99	51	Pn	Pn	22 34 15.7	-0.1
	comp=E,0.5nm,0.3s,baz=306,slow=1.3,SNR=18						
KDAK				Sn	Sn	22 35 21.2	-1.8
	comp=E,0.2nm,0.3s,baz=198,slow=20,SNR=1.4						
KDAK				Lg	Lg	22 35 45.2	
	comp=E,2.2nm,0.3s,baz=210,slow=20,SNR=8.0						
	comp=E,2.1nm,0.3s						
P18K	Big Mountain,	6.07	31		Pn	22 34 16.2	-0.8
M13K	Dall Lake	6.19	351		Pn	22 34 19.4	+0.8
Q19K	Cape Douglas,	6.25	39		Pn	22 34 20.0	+0.5
M14K	Bethel	6.44	357		Pn	22 34 22.3	+0.3
O18K	Koktuh Hills	6.45	29		Pn	22 34 23.9	+1.6
N17K	Nushagak Hills	6.59	18		Pn	22 34 24.7	+0.5
M11K	Mekoryuk	6.62	338	Pn	Pn	22 34 24.7	+0.3
M16K	Timber Creek	6.82	10		Pn	22 34 28.0	+0.6
O19K	Port Alsworth	6.99	30		Pn	22 34 29.8	+0.2
N18K	Kilae Creek	7.00	22	Pn	Pn	22 34 30.8	+1.0
L14K	Kuka Creek	7.06	355		Pn	22 34 30.8	+0.2
ILSW	Iliamna Southw	7.19	35		Pn	22 34 33.7	+1.2
M17K	Holitna River	7.38	15		Pn	22 34 35.5	+0.5
N19K	Bonanza Creek	7.46	27		Pn	22 34 37.8	+1.7
CNPM	China Poort	7.57	43	Pn	Pn	22 34 38.1	+0.5
K13K	Kusilvak Mount	7.82	348		Pn	22 34 41.3	+0.3
K15K	Wolf Creek Mou	7.98	359		Pn	22 34 43.6	+0.4
L18K	Granite Mounta	8.27	15		Pn	22 34 47.7	+0.5
STLK	Strandline Lak	8.77	31		Pn	22 34 55.5	+1.5
J16K	Anvik River	8.98	2	Pn	Pn	22 34 56.8	-0.1
TTA	Tatalina	9.05	16		Pn	22 34 58.0	+0.1
SUA	Susitna One	9.08	34	Pn	Pn	22 34 58.4	0.0
PWL	Port Wells	9.54	42	Pn	Pn	22 35 04.3	-0.3
ADK	Adak	9.57	261	Pn	Pn	22 35 05.2	+0.3
K20K	Telida	9.79	20		Pn	22 35 08.2	+0.3
KNK	Knik Glacier	9.84	39	Pn	Pn	22 35 08.5	-0.2
HIN	Hinchinbrook I	10.03	47	Pn	Pn	22 35 11.0	-0.2
J19K	Poorman	10.11	14		Pn	22 35 12.4	+0.1
ANM	Nome	10.46	350	Pn	Pn	22 35 16.2	-0.9
J20K	Nowinta River	10.52	17		Pn	22 35 18.2	+0.3
KLU	Klutina	10.86	43		Pn	22 35 21.9	-0.7
G16K	Koyuk River	11.11	358	Pn	Pn	22 35 25.4	-0.5
H19K	Roundabout Mou	11.48	10		Pn	22 35 31.4	+0.4
F15K	North Star Dit	11.53	353		Pn	22 35 32.0	+0.4
G18K	Tagagawik	11.67	5		Pn	22 35 34.3	+0.7
TNA	Tin City	11.73	346		Pn	22 35 34.6	+0.3
RIDG	Independent Ri	12.63	35		Pn	22 35 45.5	-1.3
ILAR	Eielson Array	12.72	29	Pn	Pn	22 35 44.9	-3.1
	comp=E,0.1nm,0.3s,baz=223,slow=14,SNR=5.2						
	comp=E,0.3nm,0.5s						
G21K	Allakaket	12.80	14		Pn	22 35 48.5	-0.5
BCAR	Beaver Creek A	13.34	41	Pn	Pn	22 35 55.5	-0.9
F21K	Alatna River	13.46	13		Pn	22 35 58.9	+0.8
J26L	Joseph Creek	13.56	34		Pn	22 35 57.2	-2.3
O29M	Mount Kennedy	13.62	55	Pn	Pn	22 36 00.7	+0.4
P29M	Windy Craggy	13.86	58	Pn	Pn	22 36 02.5	-1.1
C16K	Lisburne Hills	14.12	354		Pn	22 36 06.2	-0.6
M29M	Somme Creek	14.40	47		Pn	22 36 10.2	-0.7
D20K	Etivluk River	14.59	7		Pn	22 36 14.5	+1.2
E24K	Your Creek	15.05	19		Pn	22 36 20.4	+1.1
TOLK	Toolik Lake Re	15.36	16		Pn	22 36 23.4	0.0
TOLK				IAmb	IAmb	22 36 29.0	
	comp=Z,3.5nm,0.7s						
BMAR	Burnt Mountain	15.37	25	Pn	Pn	22 36 23.6	+0.1
B20K	Meade River	15.84	5	Pn	Pn	22 36 30.2	+0.7
B20K				IAmb	IAmb	22 36 33.6	
	comp=Z,8.0nm,1.2s						
C24K	Franklin Bluff	16.47	16		Pn	22 36 36.8	-0.6
INK	Inuvik	19.07	32	P	P	22 37 07.9	-0.3
	comp=Z,0.2nm,0.3s,baz=237,slow=11,SNR=7.2						
	comp=Z,1.5nm,0.7s						
A36M	Sachs Harbour	23.42	27	P	P	22 37 52.7	-1.8
A36M				IAmb	IAmb	22 37 56.4	
	comp=Z,2.8nm,0.8s						
YKA	Yellowknife Ar	25.26	52	P	P	22 38 12.5	+1.0
YKA	Yellowknife Ar	25.26	52	P	P	22 38 13.2	+1.7
	comp=Z,0.1nm,0.6s,baz=270,slow=10,SNR=7.3						
	comp=Z,0.1nm,0.6s						
BLKN	Baker Lake	33.26	46	P	P	22 39 23.0	+0.5
BLKN				IAmb	IAmb	22 39 51.2	
	comp=Z,3.6nm,1.4s						
H11N2	WAKE ISLAND Hy	42.19	228	T	T	23 25 38.0	
	baz=27						
H11N3	WAKE ISLAND Hy	42.20	228	T	T	23 25 34.5	
	baz=27						
H11N1	WAKE ISLAND Hy	42.21	228	T	T	23 25 35.8	
	baz=27						
H11S1	WAKE ISLAND Hy	43.36	227	T	T	23 27 01.2	
	baz=27,slow=74,SNR=14						
H11S2	WAKE ISLAND Hy	43.37	227	T	T	23 27 03.1	
	baz=27,slow=74,SNR=5.0						
H11S3	WAKE ISLAND Hy	43.38	227	T	T	23 26 59.1	
	baz=27						
TXAR	Lajitas Array	48.03	97	P	P	22 41 27.9	+3.2
	comp=Z,0.2nm,0.9s,baz=324,slow=8.2,SNR=2.2						
	comp=Z,0.2nm,0.9s						
ARCES	ARCESS Array B	56.34	357	LR	LR	23 09 32.9	
	comp=Z,116nm,19.2s,baz=61,slow=39						
FIA1	FINESS Array S	64.42	356	P	P	22 43 20.4	-0.5
FINES	FINESS Array B	64.42	356	P	P	22 43 20.3	-0.6
FINES	FINESS Array B	64.42	356	P	P	22 43 20.6	-0.3
	comp=Z,0.9nm,0.6s,baz=8.9,slow=9.8,SNR=6.3						
	comp=Z,0.9nm,0.6s						
BVAR	Borovoye Array	64.74	328	P	P	22 43 22.3	-0.9
	comp=Z,2.2nm,0.6s,baz=32,slow=8.9,SNR=16						
	comp=Z,2.2nm,0.6s						
NOA	NORSAR Array B	64.82	4	P	P	22 43 22.8	-0.8
	comp=Z,0.6nm,0.7s,baz=357,slow=6.7,SNR=3.3						
	comp=Z,0.6nm,0.7s						
HFS	Hagfors	65.81	3	P	P	22 43 29.7	-0.3
	comp=Z,1.3nm,0.3s,baz=11,slow=3.8,SNR=24						
	comp=Z,1.3nm,0.3s						
EKA	Eskdalemuir Ar	69.23	13	P	P	22 43 51.5	-0.2
	comp=Z,0.9nm,0.8s,baz=359,slow=5.6,SNR=5.1						
	comp=Z,0.9nm,0.8s						
AB31	Akbulak array	71.10 333		P	P	22 44 03.2	0.0
AB31				IAmb	IAmb	22 44 04.0	
	comp=Z,1.7nm,0.7s						
ABKAR	Akbulak array	71.10 333	P		P	22 44 03.3	+0.1
ABKAR	Akbulak array	71.10 333	P		P	22 44 03.5	+0.4
ABKAR				IAmb	IAmb	22 44 04.1	
	comp=Z,1.8nm,0.7s						
KKAR	Karatay Array	73.33 323	P		P	22 44 16.0	-0.7
MSVF	Nonsavu	73.92 200	LR		LR	23 13 33.6	
	comp=Z,130nm,18.6s,baz=153,slow=33						
AKASG	Malin Array Be	74.96 353	P		P	22 44 25.5	-0.5
	comp=Z,1.0nm,0.5s,baz=7.1,slow=5.9,SNR=4.4						
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	77.11 3	P		P	22 44 39.2	+0.8
	comp=Z,0.4nm,0.6s,baz=359,slow=4.7,SNR=5.5						
	comp=Z,0.4nm,0.6s						
IDI	Anoyia	90.58 355	LR		LR	23 27 21.8	
	comp=Z,70nm,21.6s,baz=44,slow=36						
QSPA	South Pole Qui	144.11 180	PKP		PKPdf	22 52 18.1	-1.1
	comp=Z,0.9nm,0.8s,baz=82,slow=0.4,SNR=6.5						
BOSA	Boshof	153.86 347	PKP		PKPdf	22 52 35.7	-0.4
	comp=Z,0.9nm,0.3s,baz=334,slow=2.4,SNR=6.8						

KRSC ***20*** *22:34:37.7±1.5, 54°.75N×164°.74E, h53km±30km, Mc5.8, Ml5.2, Felt [II] at Nikolskoe.*

BJI ***20*** *22:34:37.0, 54°.90N×164°.70E, h10km, mB5.1/59, mb5.0/82, Ms5.2/86, Ms7 5.1/83*

IDC ***20*** *22:34:38.2±0.4, 54°.97N×164°.54E, h0km, mb5.0/37, mbtmp5.0/42, ML4.8/5, MS4.4/63, Error ellipse: s-maj=8.5km s-min=6.3km az=176.0*

NEIC ***20*** *22:34:39.6, 54°.47N×165°.00E, h12km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^16 Nm; Mrr=6.81; Mθθ=0.47; Mφφ=6.33; Mrθ=-4.82; Mθφ=-0.53; Mφr=1.16; Fault plane solution: M0=7.94000×10^16 NP1:φs=14.41000°, δ=41.85000°, λ=-51.47000°. NP2:φs=147.51000°, δ=58.54000°, λ=-119.15000°. Principal axes: T 6.6385, Plg=9.0000°, Azm=258.0000°; N 2.6108, Plg=25.0000°, Azm=164.0000°; P -9.2493, Plg=64.0000°, Azm=7.0000°;*

NEIC ***20*** *22:34:39.3±1.2, 54°.86N±0°.06×164°.66E±0°.07, h10km±1km, mb5.2/234, Mww5.2/68 Error ellipse: s-maj=12.2km s-min=2.7km az=145.0*

NEIC ***20*** *22:34:39.6, 54°.87N×164°.64E, h12km*

MOS ***20*** *22:34:40.3±0.8, 54°.81N×164°.72E, h54km, mb5.3/107, MS4.7/25, Error ellipse: s-maj=4.4km s-min=3.7km az=101.8*

GCMT ***20*** *22:34:41.3±0.1, 54°.76N±0°.01×164°.66E±0°.01, h12km, MW5.2/147, Moment Tensor Solution. s87,c140; s147,c271; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.70±.01; Mθθ=0.03±.01; Mφφ=0.67±.01; Mrθ=-0.22±.03; Mθφ=-0.03±.01; Mφr=0.24±.02; Best double couple: M0=0.76000×10^17 NP1:φs=11.00000°, δ=37.00000°, λ=-67.00000°. NP2:φs=163.00000°, δ=57.00000°, λ=-106.00000°. Principal axes: T 0.7200, Plg=10.0000°, Azm=264.0000°; N 0.0810, Plg=13.0000°, Azm=172.0000°; P -0.8000, Plg=73.0000°, Azm=31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***20*** *22:34:49.9, 55°.91N×165°.14E, h33km, mb5.0, Hypocentre not reviewed by the ISC*

ISC 20 22:34:39.4±0.5, 54°.81N±0°.03×164°.72E±0°.03, h12km±2km, n1237, σ1°.23/1337, mb5.2/290, MS4.8/117, 68C-42D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.83	61	PN	Pg	22 34 55.4	0.0
BKI				S	Sg	22 35 06.8	+0.6
BKI	Bering	0.83	61	*e*P	Pg	22 34 55.4	0.0
BKI				*e*S	Sg	22 35 06.8	+0.6
MKZ	Mys Kozlova	1.75	263	PN	Pn	22 35 08.5	-1.0
MKZ				S	Sn	22 35 28.9	-2.8
MKZ	Mys Kozlova	1.75	263	*e*P	Pn	22 35 08.5	-1.0
MKZ				*e*S	Sn	22 35 28.9	-2.8
KBTR	Krutoberegovo	1.77	323	PN	Pn	22 35 07.1	-2.7
KBTR				S	Sn	22 35 28.4	-3.9
KBTR	Krutoberegovo	1.77	323	*e*P	Pn	22 35 07.1	-2.7
KBTR				*e*S	Sn	22 35 28.4	-3.9
KBG	Krutoberegovo	1.85	323	PN	Pn	22 35 08.2	-2.6
KBG				S	Sn	22 35 29.8	-4.4
KBG	Krutoberegovo	1.85	323	*e*P	Pn	22 35 08.3	-2.6
KBG				*e*S	Sn	22 35 29.8	-4.4
TUMD	Tumrok D	2.52	281	PN	Pn	22 35 19.0	-1.1
TUMD				S	Sn	22 35 49.5	-1.2
TUMD	Tumrok D	2.52	281	*e*P	Pn	22 35 19.1	-1.1
TUMD				*e*S	Sn	22 35 49.6	-1.2
ZLN	Zelenaya	2.54	300	PN	Pn	22 35 21.2	+0.7
ZLN	Zelenaya	2.54	300	*e*P	Pn	22 35 21.2	+0.7
SMKR	Semkarok	2.56	315	PN	Pn	22 35 21.0	+0.3
SMKR				S	Sn	22 35 52.0	+0.2
SMKR	Semkarok	2.56	315	*e*P	Pn	22 35 21.1	+0.3
SMKR				*e*S	Sn	22 35 52.1	+0.2
BZGR	Bezymyannyi-Gr	2.56	298	PN	Pn	22 35 21.3	+0.5
BZGR				S	Sn	22 35 52.7	+0.8
BZGR	Bezymyannyi-Gr	2.56	298	*e*P	Pn	22 35 21.4	+0.5
BZGR				*e*S	Sn	22 35 52.8	+0.8
CIRR	Tsirk	2.61	302	PN	Pn	22 35 21.8	+0.3
CIRR	Tsirk	2.61	302	*e*P	Pn	22 35 21.9	+0.3
LGNR	Loginova	2.63	301	PN	Pn	22 35 22.5	+0.6
LGNR				S	Sn	22 35 54.3	+0.5
LGNR	Loginova	2.63	301	*e*P	Pn	22 35 22.5	+0.6
LGNR				*e*S	Sn	22 35 54.3	+0.5
BDR	Baidarnaya	2.66	313	*e*S	Sn	22 35 56.0	+1.8
BZWR	Bezymyannyi-We	2.67	297	PN	Pn	22 35 23.1	+0.7
BZWR				S	Sn	22 35 55.4	+0.7
BZWR	Bezymyannyi-We	2.67	297	*e*P	Pn	22 35 23.1	+0.7
BZWR				*e*S	Sn	22 35 55.5	+0.7
KMNR	Kamenistaya	2.73	292	PN	Pn	22 35 25.5	+2.4
KMNR	Kamenistaya	2.73	292

KOK eS Sn 22 36 23.0 -1.7
DALK Dalny 3.95 246 PN Pn 22 35 39.1 -0.6
DALK Dalny 3.95 246 eP Pn 22 35 39.1 -0.6
DALK eS Sn 22 36 22.3 -3.5
PET Petropavlovsk 4.00 246 Pn 22 35 39.7 -0.8
PET Petropavlovsk 4.00 246 P Pn 22 35 40.3 -0.2
PET Petropavlovsk 4.00 246 ePN Pn 22 35 40.0 -0.5
PET pmax pmax
comp=Z,2µm,8.7s
PET pmax pmax
comp=Z,435nm,0.7s
PET pmax pmax
comp=Z,2µm,10.5s
PET MLR MLR
comp=Z,10µm,12.0s
PET MLR MLR
comp=Z,13µm,11.0s
PET Petropavlovsk 4.00 246 eP Pn 22 35 40.3 -0.2
PET eS Sn 22 36 24.3 -3.0
GNL Ganaly 4.13 257 PN Pn 22 35 43.0 +0.7
GNL Ganaly 4.13 257 eP Pn 22 35 43.0 +0.7
KRMR Karymshinskiy 4.38 246 PN Pn 22 35 45.4 -0.1
KRMR Karymshinskiy 4.38 246 eP Pn 22 35 45.5 -0.1
KRMR eS Sn 22 36 32.6 -3.8
RUS Russkaya 4.39 240 PN Pn 22 35 45.3 -0.5
RUS Russkaya 4.39 240 eP Pn 22 35 45.3 -0.5
RUS eS Sn 22 36 32.1 -4.7
PEA0B Petropavlovsk- 4.48 251 Pn 22 35 47.2 +0.1
PEA0B Petropavlovsk- 4.48 251 cePN Pn 22 35 47.8 +0.7
PETK Petropavlovsk- 4.48 251 Pn Pn 22 35 46.7 -0.4
comp=Z,30nm,0.3s,baz=63,slow=8.9,SNR=358
PETK Sn Sn 22 36 37.6 -1.5
comp=Z,17nm,0.3s,baz=68,slow=34,SNR=2.3
PETK LR LR 22 37 04.0
comp=Z,2µm,21.8s,baz=36,slow=33
comp=Z,74nm,0.4s
MTVR Mutnovka 4.53 242 PN Pn 22 35 47.9 0.0
MTVR Mutnovka 4.53 242 eP Pn 22 35 47.9 0.0
OSSR Ossora 4.55 349 PN Pn 22 35 46.8 -1.1
OSSR Ossora 4.55 349 eP Pn 22 35 46.9 -1.1
OSSR eS Sn 22 36 35.9 -4.7
GRL Gorelyy 4.55 243 PN Pn 22 35 48.7 +0.6
GRL Gorelyy 4.55 243 eP Pn 22 35 48.8 +0.6
APC Apacha 4.85 250 PN Pn 22 35 53.1 +1.0
APC Apacha 4.85 250 eP Pn 22 35 53.2 +1.0
APC eS Sn 22 36 46.5 -1.7
KDTR Khodutka, Kamc 4.99 236 PN Pn 22 35 53.0 -0.9
KDTR Khodutka, Kamc 4.99 236 eP Pn 22 35 53.0 -0.9
KDTR eS Sn 22 36 46.2 -5.2
PALN Palana 5.02 331 PN Pn 22 35 55.7 +1.3
PALN Palana 5.02 331 eP Pn 22 35 55.8 +1.3
TILK Tilichiki 5.71 7 PN Pn 22 36 03.5 -0.3
TILK Tilichiki 5.71 7 eP Pn 22 36 03.6 -0.3
PAU Pauzhetka 5.81 238 PN Pn 22 36 05.0 -0.3
PAU Pauzhetka 5.81 238 eP Pn 22 36 05.0 -0.3
SHEM Shemya Is, Ala 5.94 107 Pn Pn 22 36 08.3 +1.3
comp=Z,16nm,0.3s,baz=297,slow=6.8,SNR=11
SHEM Sn Sn 22 37 09.7 -5.2
comp=Z,16nm,0.3s,baz=294,slow=20,SNR=11
SHEM LR LR 22 38 23.2
comp=Z,9µm,21.2s,baz=304,slow=37
comp=Z,30nm,0.3s
SMY Shemya 5.94 107 Pn Pn 22 36 08.0 +0.9
SMY Shemya 5.94 107 PN Pn 22 36 08.0 +0.9
SKR Severo-Kuril's 6.66 235⇑ iPN Pn 22 36 18.2 +1.3
SKR pmax pmax
comp=Z,438nm,0.7s
SKR MLR MLR
comp=Z,4µm,17.0s
SKR Severo-Kuril's 6.66 235 eP Pn 22 36 17.4 +0.5
KMSK Kamenskaya 7.72 5 PN Pn 22 36 31.9 +0.4
KMSK Kamenskaya 7.72 5 eP Pn 22 36 31.9 +0.4
MA2 Magadan 8.95 308 Pn 22 36 48.3 0.0
MA2 Magadan 8.95 308 Pn Pn 22 36 49.1 +0.8
comp=Z,1.1nm,0.3s,baz=116,slow=11,SNR=20
MA2 Lg Lg 22 39 16.9
comp=Z,0.3nm,0.3s,baz=150,slow=20,SNR=1.6
MA2 LR LR 22 40 36.8
comp=Z,3µm,19.4s,baz=110,slow=41
comp=Z,18nm,0.7s
MA2 Magadan 8.95 308 i PN Pn 22 36 49.4 +1.1
SEY Seymchan 10.33 327 Pn Pn 22 37 06.8 -0.4
comp=Z,0.3nm,0.3s,baz=128,slow=17,SNR=13
SEY Lg Lg 22 39 59.1
comp=Z,0.6nm,0.3s,baz=138,slow=16,SNR=3.7
SEY Seymchan 10.33 327 ePN Pn 22 37 11.1 +3.9
SEY pmax pmax
comp=Z,22nm,1.0s
ADK Adak 11.49 97 Pn Pn 22 37 24.2 +1.1
ADK Adak 11.49 97 PN Pn 22 37 24.2 +1.1
ATKA Atka Island 12.81 93 Pn 22 37 43.2 +2.1
ATKA Atka Island 12.81 93 P Pn 22 37 44.4 +3.3
OKH Okha 12.82 273c iPN Pn 22 37 40.3 -0.9
OKH pmax pmax
comp=Z,500nm,9.5s
OKH MLR MLR
comp=N,3µm,15.0s
OKH MLR MLR
comp=E,3µm,14.0s
OKH MLR MLR
comp=Z,2µm,11.0s
BILL Bilibino 13.30 3 Pn 22 37 47.8 +0.1
BILL Bilibino 13.30 3 i PN Pn 22 37 49.5 +1.7
TYV Tymovskoe 13.89 263 P Pn 22 37 56.8 +1.0
TYV Tymovskoe 13.89 263 eP Pn 22 37 56.9 +1.0
SPIA Saint Paul Isl 14.18 70 P Pn 22 38 00.3 +0.5
comp=Z,271
P08K Saint George I 14.59 72 P Pn 22 38 06.2 +0.8
comp=Z,274
GAMB Gambell 14.94 44 Pn 22 38 10.9 +0.9
GAMB Gambell 14.94 44 P Pn 22 38 10.3 +0.3
comp=Z,244
UGL Uglegorsk 15.07 257deP Pn 22 38 12.6 +0.7
UGL pmax pmax
comp=Z,2µm,10.3s
NIKH Nikolski High 15.66 86 P Pn 22 38 20.2 +0.6
comp=Z,288
YSS Yuzhno-Sakhali 15.88 249 Pn 22 38 21.3 -1.2
YSS Yuzhno-Sakhali 15.88 249 eP Pn 22 38 23.7 +1.1
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,700nm,9.7s
M11K Mekoryuk 16.47 58 P Pn 22 38 30.5 +0.5
comp=Z,263
AKUT Akutan 17.11 80 Pn 22 38 38.7 +0.6
AKUT IAmb IAmb 22 38 46.1
comp=Z,194nm,1.2s
TNA Tin City 17.18 40 Pn 22 38 39.5 +0.6
TNA Tin City 17.18 40 P Pn 22 38 39.7 +0.8
comp=Z,244,SNR=17
K13K Kusilvak Mount 17.44 54 P Pn 22 38 42.6 +0.5
K13K Kusilvak Mount 17.44 54 P Pn 22 38 43.4 +1.2
comp=Z,260,SNR=6.7
GRNR Gornyy 17.52 268⇑ iP Pn 22 38 43.7 +0.4
GRNR pmax pmax
comp=Z,10.0nm,0.8s
F14K Arctic Creek 17.75 42 P Pn 22 38 47.7 +1.7
comp=Z,247
ANM Nome 17.80 45 P P 22 38 48.4 +1.0
comp=Z,251,SNR=6.2
JKA Kamikawa-asahi 17.84 242 Pn 22 38 46.1 -1.2
ASAJ Asahikawa 17.84 242 P Pn 22 38 46.9 -0.3
comp=Z,2.5nm,0.3s,baz=58,slow=5.1,SNR=51
ASAJ LR LR 22 45 29.6
comp=Z,3µm,18.9s,baz=54,slow=36
comp=Z,58nm,0.7s
ASAJ Asahikawa 17.84 242 P Pn 22 38 46.1 -1.1
ASAJ pmax pmax
comp=Z,87nm,1.0s
M13K Dall Lake 17.88 59 P Pn 22 38 48.6 +1.1
M13K Dall Lake 17.88 59 P P 22 38 49.6 +1.4
comp=Z,266
J14K Nanvaranak Lak 18.10 51 Pn 22 38 50.7 +0.4
J14K Nanvaranak Lak 18.10 51 P Pn 22 38 51.2 +1.0
comp=Z,259,SNR=13
FALS False Pass 18.28 77 P Pn 22 38 53.9 +1.3
comp=Z,283
L14K Kuka Creek 18.29 56 P P 22 38 54.1 +1.4
comp=Z,264,SNR=14
G15K Niukluk 18.48 44 P P 22 38 56.1 +1.3
comp=Z,252,SNR=20
F15K North Star Dit 18.49 42 P P 22 38 56.3 +1.4
comp=Z,249,SNR=34
M14K Bethel 18.59 58 P P 22 38 56.7 +0.7
M14K Bethel 18.59 58 P Pn 22 38 57.6 +1.3
comp=Z,266,SNR=31
N14K Kuskokwak Cree 18.69 60 P P 22 38 57.9 +0.7
comp=Z,269
S12K Black Hills 18.86 74 P P 22 38 59.8 +0.7
comp=Z,281,SNR=7.7
L15K Ungalak Mounta 18.89 55 P P 22 39 00.3 +0.9
comp=Z,264
O14K Tigyukauivet M 18.90 63 P P 22 39 00.9 +1.4
comp=Z,272,SNR=6.1
K15K Wolf Creek Mou 18.95 53 P P 22 39 01.2 +1.2
comp=Z,262,SNR=12
JEM Erimo 19.10 237 P P 22 39 00.0 -1.7
ERM Erimo 19.10 237 P 22 38 59.2 -2.5
ERM IAmb IAmb 22 39 14.1
comp=Z,141nm,1.4s
ERM Erimo 19.10 237 P P 22 38 58.5 -3.2
ERM Erimo 19.10 237 i P P 22 38 58.9 -2.8
H16K Elim 19.11 46 P P 22 39 02.4 +0.6
comp=Z,255,SNR=17
M15K Kasigluk River 19.21 58 P P 22 39 03.4 +0.5
comp=Z,268,SNR=24
G16K Koyuk River 19.28 44 P P 22 39 03.5 -0.1
comp=Z,253,SNR=20
C16K Lisburne Hills 19.35 34 P P 22 39 03.8 -0.5
comp=Z,241,SNR=77
N15K Kwethluk River 19.49 60 P P 22 39 06.9 +1.0
comp=Z,270,SNR=19
YAK Yakutsk 19.52 306 P 22 39 04.0 -2.2
YAK IAmb IAmb 22 39 08.0
comp=Z,162nm,0.7s
YAK Yakutsk 19.52 306 P P 22 39 04.6 -1.6
comp=Z,9.9nm,0.3s,baz=90,slow=6.9,SNR=28
YAK S Sn 22 42 38.3 -7.8
comp=Z,11nm,0.5s,baz=114,slow=1.6,SNR=7.7
YAK LR LR 22 46 44.8
comp=Z,1µm,19.4s,baz=100,slow=38
comp=Z,149nm,0.7s
YAK Yakutsk 19.52 306 eP P 22 39 04.9 -1.3
YAK eS Sn 22 42 41.3 -4.7
YAK pmax pmax
comp=Z,116nm,0.9s
YAK pmax pmax
comp=N,13nm,1.5s
YAK pmax pmax
comp=E,65nm,1.4s
YAK smax smax
comp=N,884nm,4.6s
YAK smax smax
comp=E,704nm,4.3s
YAK MLR MLR
comp=Z,2µm,25.0s
YAK MLR MLR
comp=N,1µm,24.0s
YAK MLR MLR
comp=E,1µm,16.0s
J16K Anvik River 19.52 50 P P 22 39 06.8 +0.5
comp=Z,261,SNR=17
I17K Unalakleet 19.59 49 P P 22 39 08.2 +1.2
comp=Z,259,SNR=9.5
O15K Ungalikthiuk R 19.65 63 P P 22 39 08.5 +0.9
comp=Z,273,SNR=20
SDPT Sand Point 19.81 74 P P 22 39 10.8 +1.3
SDPT Sand Point 19.81 74 P P 22 39 10.0 +0.5
comp=Z,283
D17K Noatak River 19.84 37 P P 22 39 10.3 +0.6
comp=Z,246,SNR=28
L16K Owhat River 19.85 55 P P 22 39 09.7 -0.1
L16K Owhat River 19.85 55 P P 22 39 10.9 +1.1
comp=Z,266,SNR=7.1
G17K Kiwalik Mounta 19.99 44 P P 22 39 12.2 +0.8
comp=Z,254,SNR=48
F17K Baldwin Pennin 20.04 41 P P 22 39 12.4 +0.6
comp=Z,251,SNR=30
E17K Hotham Inlet 20.05 39 P P 22 39 12.8 +0.9
comp=Z,249,SNR=82
RDOG Red Dog Mine 20.05 36 P P 22 39 11.9 -0.2
RDOG Red Dog Mine 20.05 36 P P 22 39 12.4 +0.4
comp=Z,245
M16K Timber Creek 20.07 57 P P 22 39 13.6 +1.4
comp=Z,268,SNR=34
S14K Fog Glacier 20.13 71 P P 22 39 13.9 +0.8
comp=Z,281,SNR=6.8
N16K Nishlik Lake 20.15 59 P P 22 39 14.0 +0.8
comp=Z,270,SNR=16
H17K Granite Mounta 20.15 46 P P 22 39 14.4 +1.3
comp=Z,257,SNR=60
J17K VABM Dome 20.22 50 P P 22 39 15.5 +1.6
comp=Z,262,SNR=37
CHNA Chernabura Isl 20.43 75 P P 22 39 15.8 -0.4
CHNA Chernabura Isl 20.43 75 P P 22 39 14.6 -1.6
comp=Z,285
CNBA Chernabura Isl 20.44 75 P P 22 39 15.1 -1.1
L17K Donlin 20.44 54 P P 22 39 17.6 +1.3
comp=Z,266,SNR=34
TEY Ternei 20.44 253 eP P 22 39 16.4 0.0
K17K Iditarod 20.49 52 P P 22 39 17.3 +0.5
comp=Z,264,SNR=36
O16K Kokwok River B 20.51 61 P P 22 39 17.4 +0.4
comp=Z,273,SNR=7.4
P16K Nushagak River 20.60 63 P P 22 39 18.3 +0.4
comp=Z,275
E18K Tukpahlearik C 20.61 39 P P 22 39 18.4 +0.3
E18K Tukpahlearik C 20.61 39 P P 22 39 18.9 +0.7
comp=Z,250
F18K Selawik 20.70 41 P P 22 39 19.6 +0.6
comp=Z,253,SNR=43
CHGN Chignik 20.75 71 P P 22 39 20.7 +1.0
comp=Z,282
M17K Holitna River 20.81 56 P P 22 39 21.3 +1.0
comp=Z,269,SNR=77
H18K Honhosa River 20.84 46 P P 22 39 21.1 +0.5
comp=Z,258
C18K Utukok River 20.88 35 P 22 39 20.7 -0.3
C18K IAmb IAmb 22 39 25.9
comp=Z,66nm,0.8s
C18K Utukok River 20.88 35 P P 22 39 20.9 -0.2
comp=Z,246,SNR=98
G18K Tagagawik 20.89 43 P P 22 39 21.6 +0.4
comp=Z,256,SNR=38
KLR Kul'dur 20.91 268 P P 22 39 21.9 +0.4
comp=Z,15nm,1.0s,baz=62,slow=13,SNR=18
KLR S S 22 43 14.3 +0.2
comp=Z,1.0nm,0.8s,baz=162,slow=20,SNR=5.8
KLR LR LR 22 47 39.4
comp=Z,2µm,21.1s,baz=66,slow=38
comp=Z,15nm,1.0s
KLR Kul'dur 20.91 268 eP P 22 39 20.9 -0.5
KLR pmax pmax
comp=Z,22nm,1.2s
N17K Nushagak Hills 20.93 59 P P 22 39 21.1 -0.5
comp=Z,271,SNR=31
R16K Pilot Point 20.99 67 P P 22 39 22.6 +0.4
comp=Z,279
B18K Kokolik River 21.00 33 P P 22 39 22.1 -0.1
comp=Z,243,SNR=102
O17K Koliganek Bris 21.01 61 P P 22 39 22.5 +0.1
comp=Z,273,SNR=18
JTM Tenmabayashi 21.05 238 P 22 39 19.6 -3.4
JTM Tenmabayashi 21.05 238 P P 22 39 21.4 -1.6
L18K Granite Mounta 21.20 54 P P 22 39 24.7 +0.3
comp=Z,267,SNR=21
J18K Innoko River 21.28 50 P P 22 39 26.0 +0.7
comp=Z,264,SNR=90
Q16K King Salmon 21.32 64 P P 22 39 26.3 +0.5
comp=Z,277,SNR=10
P17K Kvichak River 21.38 62 P P 22 39 26.8 +0.3
comp=Z,275,SNR=15
GCSA Galena City Sc 21.38 47 P P 22 39 26.3 -0.1
comp=Z,261,SNR=9.8
F19K Shaleruckik Mo 21.48 41 P P 22 39 27.2 -0.3
comp=Z,254
TTA Tatalina 21.55 52 P 22 39 28.3 -0.1
TTA IAmb IAmb 22 39 40.8
comp=Z,172nm,1.8s
TTA Tatalina 21.55 52 P P 22 39 28.3 -0.1
TTA pmax pmax
comp=Z,172nm,1.8s
TTA Tatalina 21.55 52 P P 22 39 28.7 +0.4
comp=Z,266,SNR=27
N18K Kilae Creek 21.57 58 P P 22 39 28.4 0.0
comp=Z,272,SNR=39
G19K Purcell Mounta 21.57 43 P 22 39 28.7 +0.2
G19K IAmb IAmb 22 39 32.5
comp=Z,67nm,1.0s
G19K Purcell Mounta 21.57 43 P P 22 39 28.5 +0.1
comp=Z,257,SNR=49
M18K Stony River 21.59 56 P P 22 39 29.3 +0.7
comp=Z,270,SNR=13
A19K Wainwright 21.61 31 P P 22 39 28.9 +0.2
comp=Z,242,SNR=124
H19K Roundabout Mou 21.70 45 P P 22 39 30.1 +0.4
comp=Z,259,SNR=76
ZEA Zeya 21.74 283 eP P 22 39 29.7 -0.6
ZEA eS S 22 43 20.7 -10
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA smax smax
comp=N,400nm,3.5s
ZEA MLR MLR
comp=E,1µm,12.0s
ZEA MLR MLR
comp=Z,2µm,13.0s
Q17K Contact Creek 21.78 65 P P 22 39 30.1 -0.7
comp=Z,278,SNR=42
J19K Poorman 21.82 49 P P 22 39 31.2 +0.1
comp=Z,264,SNR=69
E19K Redstone River 21.86 40 P P 22 39 31.3 -0.2
comp=Z,254
D19K Kuna River 21.87 37 P P 22 39 31.6 -0.1
D19K Kuna River 21.87 37 P P 22 39 30.9 -0.7
comp=Z,250
O18K Koktuh Hills 21.95 60 P P 22 39 32.5 -0.1
comp=Z,275,SNR=20
P18K Big Mountain, 21.98 62 P P 22 39 32.7 -0.2
comp=Z,276,SNR=20
L19K White Mountain 22.05 54 P P 22 39 33.0 -0.7
comp=Z,269,SNR=21
Q18K Katmai Hardscr 22.18 64 P P 22 39 34.4 -0.8
comp=Z,278,SNR=15
N19K Bonanza Creek 22.25 58 P P 22 39 35.4 -0.5
comp=Z,273,SNR=32
M19K Big River Lodg 22.27 55 P P 22 39 36.5 +0.5
comp=Z,270,SNR=20
F20K Avaraart Lake 22.32 41 P P 22 39 36.2 -0.1
comp=Z,256,SNR=58
H20K Anotleneega Mo 22.34 45 P P 22 39 36.8 +0.1
comp=Z,261,SNR=35
O19K Port Alsworth 22.37 59 P P 22 39 37.0 0.0
O19K Port Alsworth 22.37 59 P P 22 39 37.3 +0.3
comp=Z,274,SNR=8.0
CHIR Chirikof Islan 22.39 71 P P 22 39 38.1 +0.9
CHIR Chirikof Islan 22.39 71 P P 22 39 36.9 -0.3
comp=Z,284
I20K Naaghedeneel 22.41 47 P P 22 39 37.8 +0.4
comp=Z,263,SNR=27
K20K Telida 22.46 51 P P 22 39 37.6 -0.4
comp=Z,267,SNR=25
D20K Etivluk River 22.46 37 P P 22 39 36.9 -1.1
comp=Z,251
E20K Nigu River 22.47 38 P P 22 39 37.2 -0.9
comp=Z,253
J20K Nowinta River 22.49 49 P P 22 39 37.6 -0.6
comp=Z,265,SNR=105
L20K Farewell, AK 22.52 53 P P 22 39 38.2 -0.4
comp=Z,269,SNR=11
R18K Karluk 22.64 66 P P 22 39 37.2 -2.8
comp=Z,281
B20K Meade River 22.74 33 P 22 39 39.8 -1.0
B20K IAmb IAmb 22 39 43.5
comp=Z,103nm,0.9s
B20K Meade River 22.74 33 P P 22 39 40.2 -0.7
comp=Z,248,SNR=129
TIXI Tiksi 22.78 331 P 22 39 40.6 -0.6
TIXI IAmb IAmb 22 39 44.1
comp=Z,60nm,0.8s
TIXI Tiksi 22.78 331 LR LR 22 48 26.4
comp=Z,521nm,19.8s,baz=144,slow=37
TIXI Tiksi 22.78 331ceP P 22 39 41.1 -0.1
TIXI pmax pmax
comp=Z,58nm,0.7s
Q19K Cape Douglas, 22.85 63 P P 22 39 41.7 -0.5
comp=Z,278,SNR=15
M20K Styx River 22.87 55 P P 22 39 42.3 -0.1
comp=Z,271,SNR=23
HEH HeiHe 22.96 274 eP P 22 39 39.4 -3.9
HEH PP PnPn 22 40 09.3 +1.5
HEH S S 22 43 45.6 -7.4
HEH pmax pmax
comp=Z,32nm,1.0s
HEH pmax pmax
comp=Z,300nm,6.4s
HEH LR LR
comp=Z,3µm,12.4s
HEH LR LR
comp=Z,2µm,11.2s
HEH LR LR
comp=Z,4µm,11.9s
P19K Oil Pt 22.97 61 P P 22 39 44.1 +0.7
comp=Z,277,SNR=10.0
SII Sitkinak Islan 22.99 69 P P 22 39 45.3 +1.6
SII Sitkinak Islan 22.99 69 P P 22 39 42.0 -1.6
comp=Z,283
G21K Allakaket 23.07 43 P P 22 39 44.6 +0.2
comp=Z,260
F21K Alatna River 23.21 41 P P 22 39 45.6 -0.2
comp=Z,258,SNR=56
H21K Melozitna Rive 23.22 45 P P 22 39 44.8 -1.1
comp=Z,263,SNR=67
C21K Knifeblade Rid 23.23 36 P P 22 39 45.7 -0.3
comp=Z,253,SNR=82
CHUM Lake Minchumin 23.27 50 P P 22 39 46.6 +0.2
comp=Z,267,SNR=38
PPLA Purkeypile 23.30 52 P P 22 39 47.3 +0.4
comp=Z,270,SNR=13
E21K Killik River 23.31 38 P P 22 39 46.1 -0.8
comp=Z,255,SNR=30
OHAK Old Harbor 23.33 67 P 22 39 45.5 -1.5
OHAK IAmb IAmb 22 39 50.8
comp=Z,63nm,1.0s
OHAK Old Harbor 23.33 67 P P 22 39 45.8 -1.2
OHAK Old Harbor 23.33 67 P P 22 39 45.0 -2.1
comp=Z,282,SNR=10
SPCR Spurr Chakacha 23.34 57 P P 22 39 47.5 +0.3
comp=Z,274,SNR=17
CAST Castle Rocks 23.36 51 P P 22 39 47.5 +0.2
comp=Z,269,SNR=50
A21K Barrow 23.43 30 P P 22 39 46.8 -1.1
comp=Z,246,SNR=25
B21K Ikpikpuk River 23.43 35 P P 22 39 47.5 -0.5
comp=Z,252,SNR=193
JMM Marumori 23.48 234 P P 22 39 48.7 +0.1
JMM IAmb IAmb 22 40 14.4
comp=Z,150nm,1.3s
I21K Tanana 23.51 47 P P 22 39 48.6 -0.2
comp=Z,265
Q20K Shuyak Island 23.54 63 P P 22 39 47.7 -1.4
comp=Z,280,SNR=13
USA0B Ussuriysk Arra 23.54 257 P P 22 39 48.5 -0.8
USA0B Ussuriysk Arra 23.54 257 i P P 22 39 49.3 0.0
USRK Ussuriysk Ar. 23.54 257 P P 22 39 48.8 -0.5
USRK Ussuriysk Ar. 23.54 257 P P 22 39 49.3 +0.1
comp=Z,8.6nm,0.8s,baz=52,slow=9.3,SNR=9.9
USRK S S 22 44 01.7 -1.1
comp=Z,1.4nm,0.8s,baz=25,slow=18,SNR=1.9
USRK LR LR 22 48 60.0
comp=Z,2µm,21.1s,baz=58,slow=37
USRK Ussuriysk Ar. 23.54 257 P P 22 39 48.8 -0.5
KDAK Kodiak Island 23.59 65 P 22 39 48.6 -1.0
KDAK IAmb IAmb 22 39 51.5
comp=Z,44nm,0.7s
KDAK Kodiak Island 23.59 65 P P 22 39 48.5 -1.1
comp=Z,33nm,0.5s,baz=223,slow=0.7,SNR=40
KDAK LR LR 22 48 53.0
comp=Z,1µm,20.2s,baz=105,slow=36
comp=Z,33nm,0.5s
KDAK Kodiak Island 23.59 65 i P P 22 39 47.7 -1.9
KDAK pmax pmax
comp=Z,47nm,0.6s
KDAK Kodiak Island 23.59 65 P P 22 39 47.3 -2.3
comp=Z,281
SKT Skwentna 23.62 55 P 22 39 49.8 -0.2
SKT IAmb IAmb 22 39 52.3
comp=Z,46nm,1.0s
SKT Skwentna 23.62 55 P P 22 39 49.6 -0.3
comp=Z,273,SNR=20
F22K John River 23.76 41 P P 22 39 51.0 -0.2
comp=Z,259,SNR=41
HOM Homer 23.77 60 P P 22 39 50.4 -0.9
comp=Z,278
A22K Sinclair Lake 23.80 32 P P 22 39 50.7 -0.8
comp=Z,248,SNR=135
H22K Ishtalitna Cre 23.83 45 P P 22 39 52.0 0.0
comp=Z,264,SNR=47

BPAW	**Bear Paw Mtn.**	23.86	49	P		**P**	22 39 51.7	-0.6
	baz=268,SNR=34							
D22K	**Ayikyak River**	23.88	37	P		**P**	22 39 52.0	-0.4
	baz=256,SNR=37							
CAPN	**Captain Cook N**	23.89	58	P		**P**	22 39 51.1	-1.3
	baz=276							
G22K	**Bettles**	23.92	42	P		**P**	22 39 51.8	-0.9
	baz=261							
E22K	**Anaktuvuk Pass**	24.02	39	P		**P**	22 39 53.4	-0.4
	baz=258,SNR=132							
SUA	**Susitna One**	24.02	56	P		**P**	22 39 53.3	-0.7
	baz=274,SNR=35							
B22K	**Teshekpuk Lake**	24.05	34			**P**	22 39 53.0	-0.9
B22K	**Teshekpuk Lake**	24.05	34	P		**P**	22 39 53.1	-0.8
	baz=252,SNR=137							
TRF	**Thorofare Moun**	24.16	51	P		**P**	22 39 55.1	-0.1
	baz=270,SNR=82							
CUT	**Chulitna**	24.20	53	P		**P**	22 39 54.8	-0.5
	baz=273,SNR=17							
BRSE	**Bradley Lake S**	24.21	60	P		**P**	22 39 54.8	-0.8
	baz=278,SNR=7.8							
M22K	**Willow**	24.30	55	P		**P**	22 39 55.9	-0.4
	baz=274,SNR=7.2							
COLD	**Coldfoot**	24.47	42			**P**	22 39 57.2	-0.7
COLD	**Coldfoot**	24.47	42	P		**P**	22 39 57.1	-0.7
	baz=262,SNR=152							
G23K	**Bananza Creek**	24.47	43	P		**P**	22 39 57.2	-0.7
	baz=263,SNR=34							
RC01	**Rabbit Creek A**	24.54	57	P		**P**	22 39 57.7	-0.8
RC01	**Rabbit Creek A**	24.54	57	P		**P**	22 39 57.2	-1.4
	baz=276							
JSD	**Sado**	24.55	238			**P**	22 39 59.4	+0.6
JSD					IAmb	IAmb	22 40 13.4	
	comp=Z,46nm,1.1s							
H23K	**Yukon River**	24.57	45	P		**P**	22 39 58.6	-0.2
	baz=266							
D23K	**Nanushuk River**	24.61	38	P		**P**	22 39 58.7	-0.3
	baz=258,SNR=27							
I23K	**Minto, Yukon-K**	24.61	47	P		**P**	22 39 58.9	-0.1
	baz=267,SNR=94							
O22K	**Cooper Landing**	24.62	58	P		**P**	22 39 58.6	-0.6
	baz=277							
MDJ	**Mudanjiang**	24.65	260	P		**P**	22 39 58.9	-0.7
MDJ					IAmb	IAmb	22 40 09.2	
	comp=Z,62nm,1.4s							
MDJ	**Mudanjiang**	24.65	260	P		**P**	22 39 59.4	-0.2
MDJ				S		**S**	22 44 20.4	-0.1
MDJ				pmax		pmax		
	comp=Z,32nm,1.2s							
MDJ				pmax		pmax		
	comp=Z,550nm,6.5s							
MDJ				LR		LR		
	comp=Z,2µm,18.6s							
MDJ				LR		LR		
	comp=Z,2µm,18.5s							
MDJ				LR		LR		
	comp=Z,3µm,17.5s							
NEA2	**Nenana**	24.71	48	P		**P**	22 39 59.7	-0.3
	baz=269,SNR=157							
MCK	**McKinley**	24.77	50	P		**P**	22 39 59.5	-1.1
	baz=271,SNR=40							
PMR	**Palmer**	24.79	55	P		**P**	22 39 58.7	-2.0
	baz=275							
SEW	**Seward**	24.80	59	P		**P**	22 39 59.2	-1.6
	baz=278,SNR=11							
RND	**Reindeer**	24.81	51			**P**	22 39 59.7	-1.3
RND	**Reindeer**	24.81	51	P		**P**	22 39 59.7	-1.3
RND				pmax		pmax		
	comp=Z,95nm,0.9s							
E23K	**Chandalar**	24.82	40	P		**P**	22 40 00.9	-0.2
	baz=261,SNR=176							
C23K	**Itkillik River**	24.83	35	P		**P**	22 40 00.1	-0.9
	baz=256,SNR=54							
TOLK	**Toolik Lake Re**	24.94	38			**P**	22 40 01.6	-0.5
TOLK					IAmb	IAmb	22 40 27.2	
	comp=Z,64nm,1.0s							
TOLK	**Toolik Lake Re**	24.94	38	P		**P**	22 40 01.6	-0.5
	baz=260,SNR=75							
KNK	**Knik Glacier**	25.12	56	P		**P**	22 40 02.9	-0.9
	baz=276,SNR=18							
WRH	**Wood River Hil**	25.13	48			**P**	22 40 03.4	-0.5
SML	**Sawmill**	25.14	55			**P**	22 40 03.2	-0.8
SML					IAmb	IAmb	22 40 15.8	
	comp=Z,69nm,0.9s							
SML	**Sawmill**	25.14	55	P		**P**	22 40 03.3	-0.7
	baz=276,SNR=17							
COLA	**College**	25.24	48	P		**P**	22 40 04.3	-0.4
COLA	**College**	25.24	48	*i* P		**P**	22 40 04.2	-0.5
COLA				pmax		pmax		
	comp=Z,87nm,0.8s							
COLA	**College**	25.24	48	P		**P**	22 40 04.0	-0.7
	baz=269							
E24K	**Your Creek**	25.24	40	P		**P**	22 40 04.5	-0.3
	baz=262,SNR=184							
BNX	**BinXian**	25.24	264	⇑P		**P**	22 40 04.6	-0.4
BNX				sP		**sP**	22 40 09.1	+0.7
BNX				PcP		**PcP**	22 43 36.8	-1.1
BNX				S		**S**	22 44 30.5	+0.4
BNX				sS		**sS**	22 44 35.0	+1.0
BNX				pmax		pmax		
	comp=Z,27nm,1.0s							
BNX				pmax		pmax		
	comp=Z,370nm,7.3s							
BNX				LR		LR		
	comp=Z,2µm,14.6s							
BNX				LR		LR		
	comp=Z,2µm,13.6s							
BNX				LR		LR		
	comp=Z,3µm,12.5s							
PWL	**Port Wells**	25.25	57	P		**P**	22 40 03.6	-1.3
PWL	**Port Wells**	25.25	57	P		**P**	22 40 03.5	-1.4
	baz=278,SNR=32							
H24K	**Noodor Dome**	25.26	45	P		**P**	22 40 05.0	0.0
	baz=267,SNR=36							
D24K	**Happy Valley**	25.30	37	P		**P**	22 40 04.2	-1.0
	baz=259							
F24K	**Squaw Lake**	25.39	41	P		**P**	22 40 05.4	-0.8
	baz=264,SNR=64							
POKR	**Poker Plat Res**	25.42	47	P		**P**	22 40 06.2	-0.3
	baz=269,SNR=17							
M23K	**Glacier View**	25.43	55	P		**P**	22 40 05.8	-0.8
	baz=276,SNR=27							
C24K	**Franklin Bluff**	25.45	36	P		**P**	22 40 05.3	-1.3
C24K					IAmb	IAmb	22 40 08.5	
	comp=Z,61nm,0.8s							
C24K	**Franklin Bluff**	25.45	36	P		**P**	22 40 05.6	-1.0
	baz=258,SNR=55							
G24K	**Hadweenzic Riv**	25.48	43	P		**P**	22 40 06.6	-0.3
	baz=266,SNR=104							
SCM	**Sheep Creek Mo**	25.62	55	P		**P**	22 40 07.8	-0.5
SCM	**Sheep Creek Mo**	25.62	55	P		**P**	22 40 07.8	-0.5
SCM				pmax		pmax		
	comp=Z,126nm,0.8s							
SCM	**Sheep Creek Mo**	25.62	55	P		**P**	22 40 07.9	-0.4
	baz=276,SNR=32							
HDA	**Harding Lake**	25.63	49	P		**P**	22 40 07.2	-1.1
	baz=271,SNR=72							
ILAR	**Eielson Array**	25.65	48	P		**P**	22 40 07.6	-1.0
	comp=Z,80nm,0.8s,baz=271,slow=9.0,SNR=423							
ILAR				PcP		**PcP**	22 43 37.7	-0.8
	comp=Z,1.8nm,0.9s,baz=270,slow=2.7,SNR=3.5							
ILAR				LR		LR	22 51 17.8	
	comp=Z,1µm,18.1s,baz=257,slow=39							
	comp=Z,80nm,0.8s							
MJB9	**Matsu-Tunnel**	25.76	236			**P**	22 40 10.8	+1.0
MJB9					IAmb	IAmb	22 40 27.3	
	comp=Z,57nm,0.8s							
MAJO	**Matsushiro**	25.76	236			**P**	22 40 10.6	+0.8
MAJO					IAmb	IAmb	22 40 26.3	
	comp=Z,59nm,0.8s							
MAJO	**Matsushiro**	25.76	236	P		**P**	22 40 10.1	+0.3
MAJO	**Matsushiro**	25.76	236	*i* P		**P**	22 40 10.9	+1.1
MAJO				pmax		pmax		
	comp=Z,88nm,1.2s							
MJAR	**Matsushiro Arr**	25.76	236	P		**P**	22 40 11.5	+1.7
	comp=Z,25nm,0.8s,baz=30,slow=8.4,SNR=68							
MJAR				PcP		**PcP**	22 43 38.1	-1.2
	comp=Z,1.8nm,0.8s,baz=32,slow=1.0,SNR=2.7							
MJAR				S		**S**	22 44 45.9	+7.4
	comp=Z,0.9nm,0.8s,baz=16,slow=9.1,SNR=1.6							
MJAR				LR		LR	22 51 17.9	
	comp=Z,895nm,19.7s,baz=58,slow=39							
	comp=Z,25nm,0.8s							
P23K	**Montague Islan**	25.83	59	P		**P**	22 40 09.2	-1.0
	baz=280							
GLI	**Glacier Island**	25.85	57	P		**P**	22 40 09.5	-0.8
	baz=278,SNR=5.5							
G25K	**Bearman Lake**	26.03	43	P		**P**	22 40 12.1	+0.2
	baz=267,SNR=19							
H25L	**Birch Creek**	26.12	44	P		**P**	22 40 12.4	-0.3
	baz=268							
M24K	**Tolsona, Glenn**	26.13	54	P		**P**	22 40 13.3	+0.4
	baz=277,SNR=19							
K24K	**Donnelly Dome**	26.17	50	P		**P**	22 40 12.5	-0.7
	baz=273,SNR=22							
D25K	**Kavik River**	26.19	37	P		**P**	22 40 12.7	-0.7
	baz=262,SNR=201							
PRP	**Porcupine Dome**	26.23	46	P		**P**	22 40 13.7	-0.2
	baz=270,SNR=213							
F25K	**Christian Rive**	26.26	41	P		**P**	22 40 14.2	+0.1
	baz=266,SNR=79							
J25K	**Salcha River,**	26.31	48	P		**P**	22 40 12.9	-1.6
	baz=272,SNR=24							
KLU	**Klutina**	26.32	55	P		**P**	22 40 15.1	+0.3
	baz=278,SNR=16							
E25K	**Arctic Village**	26.33	40	P		**P**	22 40 13.8	-0.9
	baz=265,SNR=57							
PAX	**Paxson**	26.37	52			**P**	22 40 14.5	-0.6
PAX					IAmb	IAmb	22 40 21.0	
	comp=Z,29nm,0.8s							
PAX	**Paxson**	26.37	52	P		**P**	22 40 14.5	-0.6
PAX				pmax		pmax		
	comp=Z,29nm,0.8s							
PAX	**Paxson**	26.37	52	P		**P**	22 40 15.1	-0.1
	baz=275,SNR=8.0							
EYAK	**Cordova Ski Ar**	26.55	57	P		**P**	22 40 17.8	+1.1
EYAK	**Cordova Ski Ar**	26.55	57	P		**P**	22 40 16.4	-0.3
	baz=280							
HARP	**HAARP**	26.57	53	P		**P**	22 40 17.0	+0.2
	baz=277,SNR=7.7							
RIDG	**Independent Ri**	26.58	50			**P**	22 40 15.4	-1.6
RIDG					IAmb	IAmb	22 40 18.1	
	comp=Z,63nm,1.0s							
RIDG	**Independent Ri**	26.58	50	P		**P**	22 40 15.7	-1.3
	baz=274,SNR=29							
BMAR	**Burnt Mountain**	26.66	42			**P**	22 40 17.5	-0.2
C26K	**Camden Bay**	26.78	36	P		**P**	22 40 18.7	0.0
	baz=262,SNR=136							
F26K	**Sheenjek River**	26.84	41	P		**P**	22 40 19.4	+0.1
	baz=267,SNR=34							
JGF	**Kuroka**	26.93	236			**P**	22 40 19.6	-0.7
N25K	**Chitina, Valde**	26.93	55	P		**P**	22 40 19.2	-1.1
	baz=279,SNR=9.3							
SCRK	**Sand Creek**	26.95	49	P		**P**	22 40 19.1	-1.3
	baz=275,SNR=64							
G26K	**Porcupine Rive**	26.95	43	P		**P**	22 40 20.5	+0.3
	baz=269,SNR=93							
BMRM	**Bremner River**	27.03	56	P		**P**	22 40 20.3	-0.8
	baz=280,SNR=13							
J26L	**Joseph Creek**	27.09	48	P		**P**	22 40 20.0	-1.7
	baz=274,SNR=14							
C27K	**Jago River**	27.16	37	P		**P**	22 40 21.5	-0.5
C27K					IAmb	IAmb	22 40 24.2	
	comp=Z,82nm,0.9s							
C27K	**Jago River**	27.16	37	P		**P**	22 40 21.8	-0.3
	baz=264,SNR=151							
MENT	**Mentasta**	27.16	52	P		**P**	22 40 23.4	+1.1
I26K	**Coal Creek Min**	27.22	46	P		**P**	22 40 22.2	-0.5
	baz=273							
INU	**Inuyama**	27.30	236			**P**	22 40 23.9	+0.3
INU					IAmb	IAmb	22 40 43.0	
	comp=Z,34nm,0.9s							
KAIM	**Kayak Island**	27.32	58	P		**P**	22 40 23.7	+0.1
	baz=282							
L26K	**Log Cabin Wild**	27.32	51	P		**P**	22 40 23.1	-0.6
	baz=277							
GLB	**Gilahina Butte**	27.33	55			**P**	22 40 23.6	-0.2
GLB					IAmb	IAmb	22 40 34.4	
	comp=Z,59nm,1.4s							
CN2	**Changchun**	27.51	263	*e*P		**P**	22 40 25.1	-0.4
CN2				*e*S		**S**	22 45 03.1	-2.8
CN2				*e*SS		**SnSn**	22 46 20.0	+4.0
CN2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CN2				pmax		pmax		
	comp=Z,230nm,4.0s							
CN2				LR		LR		
	comp=Z,830nm,13.0s							
CN2				LR		LR		
	comp=Z,2µm,13.0s							
CN2				LR		LR		
	comp=Z,3µm,13.0s							
M26K	**Nabesna, AK**	27.57	53	P		**P**	22 40 24.8	-1.1
	baz=278,SNR=17							
BOD	**Bodaibo**	27.75	297	*e*P		**P**	22 40 25.7	-1.8
BOD				pmax		pmax		
	comp=Z,25nm,1.2s							
K27K	**Chicken**	27.78	49	P		**P**	22 40 27.6	-0.1
	baz=276							
G27K	**Doyon Strip**	27.79	43	P		**P**	22 40 27.6	-0.2
	baz=271,SNR=28							
E27K	**Coleen River**	27.82	40	P		**P**	22 40 28.0	-0.1
	baz=268,SNR=31							
BGLC	**Bering Glacier**	27.84	58	P		**P**	22 40 28.4	+0.2
	baz=282							
I27K	**Kandik River**	27.85	46	P		**P**	22 40 27.1	-1.3
	baz=273,SNR=15							
H27K	**Steamboat Moun**	27.86	44	P		**P**	22 40 28.8	+0.3
	baz=272,SNR=47							
L27K	**Beaver Creek,**	28.01	51	P		**P**	22 40 29.5	-0.3
	baz=278,SNR=88							
BCAR	**Beaver Creek A**	28.02	51			**P**	22 40 29.9	0.0
M27K	**Edge Creek, AK**	28.09	53	P		**P**	22 40 29.8	-0.8
	baz=279,SNR=23							
D27M	**Malcolm River**	28.09	38	P		**P**	22 40 29.7	-0.9
	baz=267,SNR=90							
MESA	**MESA**	28.48	57	P		**P**	22 40 33.5	-0.6
	baz=283							
YAH	**Yahtse**	28.53	57	P		**P**	22 40 34.6	-0.1
YAH					IAmb	IAmb	22 40 37.4	
	comp=Z,51nm,0.8s							
BVCY	**Beaver Creek**	28.55	52	P		**P**	22 40 34.5	0.0
	baz=280,SNR=9.5							
I28M	**Miner Creek**	28.56	46	P		**P**	22 40 34.1	-0.6
	baz=275,SNR=30							
E28M	**Babbage River**	28.59	39	P		**P**	22 40 34.8	-0.1
	baz=270,SNR=21							
YUK3	**Moose Creek**	28.85	54	P		**P**	22 40 37.2	-0.3
	baz=281,SNR=11							
D28M	**Stokes Point**	28.89	38	P		**P**	22 40 37.4	-0.1
	baz=269,SNR=23							
DAWY	**Dawson**	28.95	49			**P**	22 40 37.7	-0.5
DAWY					IAmb	IAmb	22 40 42.0	
	comp=Z,32nm,1.0s							
DAWY	**Dawson**	28.95	49	P		**P**	22 40 37.6	-0.6
	baz=278,SNR=37							
H29M	**Whitestone**	29.14	44	P		**P**	22 40 40.1	+0.4
	baz=275,SNR=39							
O28M	**Mount Upton**	29.19	56	P		**P**	22 40 40.6	0.0
	baz=283,SNR=15							
E29M	**Blow River**	29.20	40	P		**P**	22 40 40.5	+0.2
	baz=272,SNR=21							
G29M	**Pine Creek**	29.22	43	P		**P**	22 40 41.3	+0.8
	baz=274,SNR=79							
I29M	**Ogilvie Camp,**	29.25	46	P		**P**	22 40 40.8	0.0
	baz=277,SNR=23							
YUK8	**Steele Glacier**	29.28	54	P		**P**	22 40 41.6	+0.3
	baz=283,SNR=6.4							
PINM	**Pinnacle**	29.32	57	P		**P**	22 40 41.5	-0.1
	baz=284,SNR=6.1							
J29N	**Klondike Camp**	29.40	48	P		**P**	22 40 42.7	+0.5
	baz=278							
M29M	**Somme Creek**	29.64	52	P		**P**	22 40 45.0	+0.7
	baz=282,SNR=29							
BCPM	**Bancas Point**	29.66	57	P		**P**	22 40 44.2	-0.3
L29M	**L29M**	29.66	51	P		**P**	22 40 44.5	0.0
	baz=281,SNR=70							
EPYK	**Eagle Plains**	29.78	44	P		**P**	22 40 45.7	+0.2
	baz=276,SNR=32							
YUK4	**Talbot Arm**	29.79	54	P		**P**	22 40 45.2	-0.6
	baz=283,SNR=9.8							
K29M	**Barlow Dome**	29.80	49	P		**P**	22 40 45.7	-0.1
	baz=280,SNR=30							
SNY	**Shenyang**	29.82	261	⇑P		**P**	22 40 47.6	+1.6
SNY				S		**S**	22 45 44.1	+1.9
SNY				pmax		pmax		
	comp=Z,15nm,0.8s							
SNY				pmax		pmax		
	comp=Z,130nm,4.8s							
SNY				LR		LR		
	comp=Z,1µm,16.3s							
SNY				LR		LR		
	comp=Z,650nm,18.8s							
SNY				LR		LR		
	comp=Z,2µm,18.2s							
PNL	**Peninsula**	29.85	58	P		**P**	22 40 46.0	-0.1
PNL	**Peninsula**	29.85	58	P		**P**	22 40 45.1	-1.1
	baz=286							
G30M	**tAoh Zraii Nji**	29.92	43	P		**P**	22 40 46.6	-0.2
	baz=276,SNR=26							
YUK6	**Outpost Mounta**	30.02	55	P		**P**	22 40 47.5	-0.4
	baz=284,SNR=5.2							
F30M	**Barrier River**	30.03	41	P		**P**	22 40 47.3	-0.4
	baz=275,SNR=29							
I30M	**Mount Dempster**	30.07	46	P		**P**	22 40 47.6	-0.5
	baz=278,SNR=105							
O29M	**Mount Kennedy**	30.08	56	P		**P**	22 40 47.6	-0.7
	baz=285,SNR=7.4							
J30M	**Hart River**	30.19	47	P		**P**	22 40 48.4	-0.8
	baz=280,SNR=7.9							
KS19	**Wonju Array Si**	30.38	251			**P**	22 40 51.8	+0.8
KSRS	**Korea Array**	30.38	250	P		**P**	22 40 53.1	+2.1
	comp=Z,27nm,0.9s,baz=42,slow=9.0,SNR=105							
KSRS				S		**S**	22 45 49.3	-1.7
	comp=Z,0.2nm,0.3s,baz=28,slow=32,SNR=1.2							
KSRS				LR		LR	22 53 05.9	
	comp=Z,977nm,18.9s,baz=55,slow=36							
	comp=Z,27nm,0.9s							
KSAR	**Wonju Array Be**	30.41	251			**P**	22 40 52.4	+1.1
KSAR	**Wonju Array Be**	30.41	251	P		**P**	22 40 52.4	+1.1
HYT	**Haines Junctio**	30.45	55			**P**	22 40 51.6	0.0
HYT					IAmb	IAmb	22 40 54.0	
	comp=Z,36nm,0.9s							
HYT	**Haines Junctio**	30.45	55	P		**P**	22 40 51.8	+0.1
	baz=285,SNR=17							
N30M	**Aishikik Lake**	30.49	54	P		**P**	22 40 51.5	-0.4
	baz=284,SNR=6.8							
P29M	**Windy Craggy**	30.67	57	P		**P**	22 40 52.7	-0.7
	baz=287							
G31M	**Satah River**	30.69	43	P		**P**	22 40 52.5	-0.9
	baz=277,SNR=16							
H31M	**Peel River**	30.82	45	P		**P**	22 40 54.7	0.0
	baz=279,SNR=21							
INK	**Inuvik**	30.82	40	P		**P**	22 40 54.6	+0.1
	comp=Z,32nm,0.8s,baz=282,slow=7.7,SNR=114							
INK				PcP		**PcP**	22 43 51.2	0.0
	comp=Z,3.0nm,0.9s,baz=277,slow=4.0,SNR=2.5							
INK				LR		LR	22 53 46.1	
	comp=Z,497nm,21.7s,baz=248,slow=37							
	comp=Z,32nm,0.8s							
INK	**Inuvik**	30.82	40	P		**P**	22 40 54.7	+0.1
	baz=276,SNR=50							
F31M	**Tsiigehtchic**	30.83	41	P		**P**	22 40 54.1	-0.6
	baz=277,SNR=30							
P30M	**Million Dollar**	30.90	56	P		**P**	22 40 55.5	0.0
	baz=287							
INCN	**Inchon**	31.07	252	P		**P**	22 40 57.4	+0.3
INCN					IAmb	IAmb	22 41 01.7	
	comp=Z,33nm,1.1s							
INCN	**Inchon**	31.07	252	P		**P**	22 40 57.4	+0.3
INCN				pmax		pmax		
	comp=Z,33nm,1.2s							
N31M	**Braeburn, Yuko**	31.09	53	P		**P**	22 40 57.0	-0.1
	baz=285							
O30N	**Mendenhall**	31.14	55	P		**P**	22 40 56.6	-0.9
	baz=286,SNR=11							
TJN	**Taejon**	31.47	250			**P**	22 41 00.8	+0.2
TJN	**Taejon**	31.47	250	*i* P		**P**	22 41 02.3	+1.7
M31M	**Drury Creek, Y**	31.54	52	P		**P**	22 41 01.1	+0.1
	baz=285,SNR=54							
WHY	**Whitehorse**	31.74	54			**P**	22 41 02.8	-0.1
WHY					IAmb	IAmb	22 41 05.7	
	comp=Z,35nm,0.8s							
WHY	**Whitehorse**	31.74	54	P		**P**	22 41 03.0	+0.1
	baz=287,SNR=13							
SKAG	**Skagway**	31.89	57	P		**P**	22 41 03.8	-0.3
	baz=289							
S31K	**Pelican**	31.94	60	P		**P**	22 41 04.2	-0.3
	baz=290							
FARO	**Faro, Yukon**	32.01	51	P		**P**	22 41 05.0	-0.2
	baz=286,SNR=17							
JNU	**Nakatsue**	32.12	242			**P**	22 41 06.0	-0.3
JNU	**Nakatsue**	32.12	242	P		**P**	22 41 08.3	+1.9
	comp=Z,6.2nm,0.6s,baz=50,slow=9.4,SNR=9.4							
JNU				LR		LR	22 53 56.4	
	comp=Z,485nm,21.0s,baz=38,slow=36							
	comp=Z,6.2nm,0.6s							
JCJ	**Chichijima**	32.21	220	P		**P**	22 41 09.3	+2.1
	comp=Z,100nm,0.9s,baz=353,slow=21,SNR=13							
JCJ				LR		LR	22 52 29.9	
	comp=Z,334nm,21.5s,baz=22,slow=33							
	comp=Z,100nm,0.9s							
JCJ	**Chichijima**	32.21	220	P		**P**	22 41 07.6	+0.4
N32M	**Quiet Lake**	32.44	53	P		**P**	22 41 08.5	-0.4
	baz=287							
P32M	**Atlin**	32.63	56	P		**P**	22 41 10.1	-0.5
	baz=289							
R32K	**Eaglecrest**	32.69	59	P		**P**	22 41 10.8	-0.3
	baz=291,SNR=12							
SIT	**Sitka**	32.73	61	P		**P**	22 41 10.7	-0.7
	baz=292							
JIS	**Juneau Island**	32.75	59	P		**P**	22 41 13.1	+1.5
MMPY	**Sheldon Lake,**	32.83	50	P		**P**	22 41 13.5	+1.1
	baz=286,SNR=37							
P33M	**Teslin, Yukon**	32.85	55	P		**P**	22 41 13.7	+1.0
	baz=289,SNR=11							
XLT	**XiLinHaoTe**	32.86	271	*e*P		**P**	22 41 12.0	-0.9
XLT				pP		pP	22 41 16.3	+1.0
XLT				PP		**PnPn**	22 42 20.1	-1.3
XLT				S		**S**	22 46 29.3	-0.7
XLT				pmax		pmax		
	comp=Z,10.0nm,0.9s							
XLT				pmax		pmax		
	comp=Z,130nm,4.5s							
XLT				LR		LR		
	comp=Z,180nm,12.3s							
XLT				LR		LR		
	comp=Z,1µm,12.3s							
XLT				LR		LR		
	comp=Z,2µm,12.8s							
DL2	**Dalian**	32.87	259	P		**P**	22 41 12.5	-0.4
DL2				PP		**PP**	22 42 25.5	-1.6
DL2				S		**S**	22 46 25.6	-4.4
DL2				pmax		pmax		
	comp=Z,38nm,1.2s							
DL2				pmax		pmax		
	comp=Z,160nm,5.3s							
DL2				LR		LR		
	comp=Z,480nm,10.2s							
DL2				LR		LR		
	comp=Z,2µm,12.7s							
DL2				LR		LR		
	comp=Z,2µm,18.6s							
S32K	**Killisnoo**	32.95	60	P		**P**	22 41 13.3	0.0
	baz=292							
A36M	**Sachs Harbour**	33.24	32			**P**	22 41 15.4	-0.3
A36M					IAmb

H11N3 WAKE ISLAND Hy 35.07 176 T T 23 20 03.3
baz=359,slow=76,SNR=298
H11N1 WAKE ISLAND Hy 35.07 176 T T 23 20 04.6
baz=359,slow=76,SNR=348
BJI Beijing 35.24 266 P **P** **22 41 33.4 0.0**
BJI S **S** **22 47 03.6 -2.9**
BJI LR LR
comp=Z,980nm,16.1s
BJI LR LR
comp=Z,960nm,17.2s
BJI LR LR
comp=Z,1μm,14.7s
BJT Baijiatuau 35.26 266 P **P** **22 41 33.5 -0.1**
BJT Baijiatuau 35.26 266 P **P** **22 41 33.5 -0.1**
BJT pmax pmax
comp=Z,11nm,1.3s
T35M Bob Quinn 35.30 59 P **P** **22 41 35.4 +1.6**
baz=295,SNR=16
V35K Ketchikan 35.33 62 P **P** **22 41 35.7 +1.7**
baz=296
ULN Ulaanbaatar 35.77 283 **P** **22 41 37.5 -0.6**
ULN Ulaanbaatar 35.77 283 P **P** **22 41 37.6 -0.6**
ULN pmax pmax
comp=Z,24nm,1.6s
WRGLY Wrigley 36.03 47 P **P** **22 41 41.0 +1.1**
baz=291,SNR=19
NRIK Noril'sk 36.10 324 **P** **22 41 40.1 -0.4**
NRIK IAmb IAmb 22 41 51.9
comp=Z,29nm,1.1s
NRIK Noril'sk 36.10 324 P **P** **22 41 40.8 +0.3**
comp=Z,14nm,1.0s,baz=69,slow=8.6,SNR=12
NRIK S **S** **22 47 20.1 +0.8**
comp=Z,0.8nm,0.4s,baz=162,slow=13,SNR=1.4
NRIK LR LR 22 56 52.2
comp=Z,636nm,18.8s,baz=76,slow=37
comp=Z,14nm,1.0s
NRIK Noril'sk 36.10 324⇑ *e*P **P** **22 41 40.8 +0.3**
NRIK pmax pmax
comp=Z,33nm,1.4s
SONM Songino Array 36.16 284 **P** **22 41 41.6 +0.1**
SONM Songino Array 36.16 284 P **P** **22 41 41.7 +0.2**
comp=Z,7.9nm,0.7s,baz=61,slow=7.5,SNR=56
SONM PcP **PcP** **22 44 07.5 +0.8**
comp=Z,3.1nm,0.7s,baz=57,slow=1.5,SNR=5.7
SONM S **S** **22 47 25.5 +4.7**
comp=Z,0.3nm,0.6s,baz=69,slow=7.9,SNR=1.8
SONM LR LR 22 57 17.9
comp=Z,2μm,19.4s,baz=60,slow=38
comp=Z,7.9nm,0.7s
SONM Songino Array 36.16 284 P **P** **22 41 41.6 +0.1**
SONM pmax pmax
comp=Z,8.0nm,0.7s
H11S1 WAKE ISLAND Hy 36.26 177 T T 23 21 36.3
baz=359,slow=76,SNR=47
H11S3 WAKE ISLAND Hy 36.27 177 T T 23 21 31.0
baz=359,slow=76,SNR=11
H11S2 WAKE ISLAND Hy 36.28 177 T T 23 21 33.8
baz=359,slow=76,SNR=51
LIRD Liard River Hi 36.30 54 P **P** **22 41 43.9 +1.5**
baz=294
ZAK Zakamensk 36.53 289 *e*P **P** **22 41 44.0 -0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
GRNB Grenville Isla 36.87 64 P **P** **22 41 47.3 +0.1**
TOAD Toad River Com 36.94 54 P **P** **22 41 49.5 +1.6**
baz=295,SNR=18
KOTAN Kotaneelee Air 36.95 52 P **P** **22 41 49.1 +1.2**
baz=294
MOY Mondy 37.10 292 *e*P **P** **22 41 49.8 +0.4**
MOY pmax pmax
comp=Z,21nm,1.8s
TIA Tai'an 37.31 260 P **P** **22 41 50.9 -0.3**
TIA PP **PnPn** **22 43 19.0 +2.3**
TIA S **S** **22 47 32.3 -6.1**
TIA pmax pmax
comp=Z,14nm,0.9s
TIA LR LR
comp=Z,1μm,19.6s
TIA LR LR
comp=Z,1μm,18.6s
TIA LR LR
comp=Z,2μm,15.7s
HHC Hu-ho-hao-te 37.38 271 *e*P **P** **22 41 51.6 -0.3**
HHC S **S** **22 47 41.1 +1.6**
HHC sS sS 22 47 51.3 +7.8
HHC SS **SnSn** **22 50 12.5 -3.3**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,150nm,5.9s
HHC LR LR
comp=Z,2μm,13.3s
HHC LR LR
comp=Z,2μm,12.7s
HHC LR LR
comp=Z,2μm,14.0s
HNS HongShan 37.87 264 ⇓P **P** **22 41 58.1 +2.2**
HNS PP **PnPn** **22 43 29.3 +5.9**
HNS S **S** **22 47 43.3 -3.4**
HNS pmax pmax
comp=Z,33nm,1.0s
HNS LR LR
comp=Z,820nm,13.6s
HNS LR LR
comp=Z,2μm,14.2s
HNS LR LR
comp=Z,2μm,13.1s
BTO Baotou 38.43 272 *e*P **P** **22 41 59.9 -0.8**
BTO pP **sP** **22 42 04.6 +0.4**
BTO sP **pwP** **22 42 07.0 -2.0**
BTO PP **PnPn** **22 43 30.8 +0.5**
BTO S **S** **22 47 54.3 -1.1**
BTO SS **SnSn** **22 50 32.8 -8.4**
BTO pmax pmax
comp=Z,17nm,1.1s
BTO pmax pmax
comp=Z,470nm,9.1s
BTO LR LR
comp=Z,3μm,13.5s
BTO LR LR
comp=Z,3μm,16.7s
BTO LR LR
comp=Z,3μm,21.2s
JOW Kunigami 38.53 238 LR LR 23 00 42.7
comp=Z,377nm,18.9s,baz=329,slow=41
BBB Bella Bella 38.67 65 LR LR 22 56 16.9
comp=Z,845nm,20.5s,baz=311,slow=34
SSE Sheshan 38.82 250 P **P** **22 42 03.9 0.0**
SSE S **S** **22 48 01.8 +0.6**
SSE pmax pmax
comp=Z,7.0nm,0.9s
SSE pmax pmax
comp=Z,140nm,3.9s
SSE LR LR
comp=Z,270nm,12.2s
SSE LR LR
comp=Z,420nm,12.4s
NJ2 Nanjing 39.38 254 *e*P **P** **22 42 08.3 -0.3**
NJ2 sP **pwP** **22 42 15.1 -1.8**
NJ2 S **S** **22 48 08.8 -0.8**
NJ2 pmax pmax
comp=Z,36nm,0.8s
NJ2 pmax pmax
comp=Z,330nm,4.7s
NJ2 LR LR
comp=Z,1μm,15.6s
NJ2 LR LR
comp=Z,850nm,14.7s
NJ2 LR LR
comp=Z,2μm,15.2s
EUNU Eureka 39.61 15 P **P** **22 42 09.9 -0.2**
EUNU IAmb IAmb 22 42 11.9
comp=Z,68nm,0.8s
YKA Yellowknife Ar 40.03 45 P **P** **22 42 13.7 -0.1**
comp=Z,22nm,0.8s,baz=298,slow=8.1,SNR=206
YKA PcP **PcP** **22 44 18.5 +0.2**
comp=Z,1.3nm,0.8s,baz=326,slow=2.6,SNR=3.1
YKA LR LR 23 00 01.3
comp=Z,720nm,18.2s,baz=292,slow=38
comp=Z,22nm,0.8s
YKA Yellowknife Ar 40.03 45 *i* P **P** **22 42 13.6 -0.1**
YKA pmax pmax
comp=Z,24nm,0.8s
RES Resolute Bay 40.68 24 LR LR 23 01 09.5
comp=Z,108nm,18.3s,baz=0.5,slow=39
RES Resolute Bay 40.68 24 P **P** **22 42 18.6 -0.3**
RES pmax pmax
comp=Z,33nm,0.9s
LYN LuoYang 41.16 263 P **P** **22 42 25.0 +1.6**
LYN S **S** **22 48 39.3 +3.1**
LYN pmax pmax
comp=Z,71nm,1.4s
LYN pmax pmax
comp=Z,360nm,6.3s
LYN LR LR
comp=Z,1μm,16.1s
LYN LR LR
comp=Z,2μm,18.5s
LYN LR LR
comp=Z,1μm,16.8s
LLLB Lillooet 42.79 64 P **P** **22 42 36.9 +0.3**
WHN Wuhan 43.04 257 ⇓P **P** **22 42 40.4 +1.7**
WHN sP **pwP** **22 42 46.5 -0.5**
WHN S **S** **22 49 04.0 0.0**
WHN pmax pmax
comp=Z,77nm,0.8s
WHN pmax pmax
comp=Z,920nm,3.2s
WHN LR LR
comp=Z,2μm,11.7s
WHN LR LR
comp=Z,3μm,11.9s
WHN LR LR
comp=Z,4μm,13.0s
XAN Xi'an 43.57 265 ⇓P **P** **22 42 42.6 -0.4**
XAN pP sP 22 42 46.8 +0.3
XAN S **S** **22 49 12.6 +0.8**
XAN pmax pmax
comp=Z,10.0nm,1.1s
XAN LR LR
comp=Z,1μm,20.6s
XAN LR LR
comp=Z,3μm,15.1s
XAN LR LR
comp=Z,3μm,16.5s
GUMO Guam 43.96 208 LR LR 23 00 03.2
comp=Z,156nm,18.7s,baz=25,slow=35
ZAA0 Zalesovo Array 44.14 303 P **P** **22 42 46.1 -1.1**
ZALV Zalesovo Beam 44.14 303 P **P** **22 42 45.7 -1.6**
ZALV Zalesovo Beam 44.14 303 P **P** **22 42 46.3 -1.0**
comp=Z,3.5nm,0.7s,baz=56,slow=6.9,SNR=15
ZALV PcP **PP** **22 44 31.9 +2.1**
comp=Z,5.8nm,0.7s,baz=38,slow=3.8,SNR=9.5
ZALV S **S** **22 49 18.8 -0.7**
comp=Z,0.3nm,0.4s,baz=65,slow=21,SNR=1.5
ZALV LR LR 23 02 58.5
comp=Z,984nm,18.0s,baz=57,slow=39
comp=Z,3.5nm,0.7s
ZALV Zalesovo Beam 44.14 303 *i* P **P** **22 42 46.4 -0.9**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
LZH Lanzhou 45.06 271 P **P** **22 42 56.8 +1.7**
LZH sP pwP 22 43 04.9 +1.5
LZH S **S** **22 49 35.8 +2.1**
LZH pmax pmax
comp=Z,39nm,1.0s
LZH LR LR
comp=Z,2μm,12.4s
LZH LR LR
comp=Z,2μm,12.4s
LZH LR LR
comp=Z,3μm,14.1s
QZH Quanzhou 45.07 248 P P 22 42 51.6 -3.5
QZH S **S** **22 49 35.5 +1.8**
QZH pmax pmax
comp=Z,570nm,4.5s
QZH LR LR
comp=Z,320nm,14.4s
QZH LR LR
comp=Z,870nm,13.1s
QZH LR LR
comp=Z,740nm,12.7s
GTA Gaotai 45.10 278 *e*P **P** **22 42 56.4 +1.0**
GTA sP pwP 22 43 05.3 +1.6
GTA S **S** **22 49 35.1 +0.9**
GTA ScS **ScS** **22 52 50.4 -1.7**
GTA pmax pmax
comp=Z,33nm,0.9s
GTA LR LR
comp=Z,1μm,14.2s
GTA LR LR
comp=Z,730nm,15.3s
GTA LR LR
comp=Z,1μm,15.6s
TPUB Ta-pu 45.33 244 P **P** **22 42 57.2 0.0**
TPUB IAmb IAmb 22 43 02.1
comp=Z,29nm,1.0s
B08A Colville Reser 45.47 65 P **P** **22 42 58.2 +0.1**
B08A IAmb IAmb 22 43 00.4
comp=Z,23nm,1.0s
TWG Pinlang 45.49 243 P **P** **22 42 58.2 -0.2**
TWG IAmb IAmb 22 43 17.7
comp=Z,24nm,1.0s
CNSH ChangSha 45.64 256 P **P** **22 43 00.6 +1.1**
CNSH S **S** **22 49 41.0 -0.8**
CNSH pmax pmax
comp=Z,24nm,0.8s
CNSH LR LR
comp=Z,640nm,14.5s
CNSH LR LR
comp=Z,900nm,14.6s
CNSH LR LR
comp=Z,860nm,13.3s
SPITS Spitsbergen Ar 45.88 351 P **P** **22 43 00.7 -0.2**
comp=Z,28nm,0.8s,baz=24,slow=22,SNR=34
SPITS PcP **PcP** **22 44 38.4 +0.7**
comp=Z,18nm,1.0s,baz=333,slow=2.3,SNR=2.2
comp=Z,28nm,0.8s
SPB2 Spitsbergen Ar 45.88 351 P **P** **22 43 00.9 0.0**
ENH Enshi 46.01 261 P **P** **22 43 02.7 +0.2**
BLKN Baker Lake 46.12 37 P **P** **22 43 02.3 -0.6**
HOOD Mount Hood Mea 46.13 70 P **P** **22 43 03.7 +0.2**
HOOD IAmb IAmb 22 43 08.3
comp=Z,18nm,0.8s
NEEM North Greenlan 46.14 10 *i* P **P** **22 43 02.9 -0.4**
NEEM IAmb IAmb 22 43 04.3
comp=Z,57nm,0.9s
MLH Mauna Loa 46.41 123 P **P** **22 43 06.2 +0.2**
PUH Pauahi 46.59 123 P **P** **22 43 08.0 +0.8**
HAWA Hanford 46.60 67 P **P** **22 43 06.9 0.0**
NEW Newport 46.69 64 P **P** **22 43 07.8 +0.2**
NEW Newport 46.69 64 LR LR 23 00 38.2
comp=Z,940nm,21.5s,baz=302,slow=33
NEW Newport 46.69 64 P **P** **22 43 07.8 +0.2**
NEW pmax pmax
comp=Z,13nm,1.0s
ILON Igloolik, Nuna 47.10 26 P **P** **22 43 09.8 -0.7**
ILON IAmb IAmb 22 43 11.7
comp=Z,23nm,0.9s
E09A Wood Farm, Sta 47.26 66 P **P** **22 43 11.9 -0.2**
E09A IAmb IAmb 22 43 14.1
comp=Z,18nm,0.9s
YBH Yreka Blue Hor 47.89 74 P **P** **22 43 18.0 +0.8**
YBH IAmb IAmb 22 43 20.5
comp=Z,37nm,1.6s
YBH Yreka Blue Hor 47.89 74 LR LR 22 59 18.5
comp=Z,520nm,21.6s,baz=324,slow=31
YBH Yreka Blue Hor 47.89 74 P **P** **22 43 18.0 +0.8**
YBH pmax pmax
comp=Z,37nm,1.6s
KULLO Kullorsuaq 47.90 14 *i* P **P** **22 43 16.1 -0.6**
KULLO IAmb IAmb 22 43 17.8
comp=Z,81nm,0.9s
ZSN Zaisan 48.08 296 *e*P **P** **22 43 18.4 -0.1**
ZSN *e*S **S** **22 50 17.8 +1.4**
ZSN pmax pmax
comp=Z,17nm,0.9s
ZSN Zaisan 48.08 296 *e*P **P** **22 43 18.5 -0.1**
comp=Z,17nm,0.9s
ZSN *e*S **S** **22 50 17.9 +1.4**
BMO Blue Mountains 48.78 68 P **P** **22 43 24.0 0.0**
BMO Blue Mountains 48.78 68 P **P** **22 43 24.0 0.0**
BMO pmax pmax
comp=Z,13nm,1.2s
CD2 Chengdu 48.83 267 P **P** **22 43 24.8 +0.3**
CD2 S **S** **22 50 28.0 +0.6**
CD2 pmax pmax
comp=Z,80nm,1.1s
CD2 pmax pmax
comp=Z,340nm,6.3s
CD2 LR LR
comp=Z,1μm,19.6s
CD2 LR LR
comp=Z,1μm,16.7s
WMQ Urumqi 48.95 291 *e*P **P** **22 43 26.5 +1.2**
WMQ PP **PP** **22 45 20.8 +2.4**
WMQ S **S** **22 50 29.6 +0.7**
WMQ pmax pmax
comp=Z,51nm,1.1s
WMQ pmax pmax
comp=Z,330nm,4.3s
WMQ LR LR
comp=Z,2μm,17.1s
WMQ LR LR
comp=Z,2μm,17.1s
WMQ LR LR
comp=Z,2μm,24.7s
KURK Kurchatov 49.12 303 P **P** **22 43 26.2 -0.1**
KURK Kurchatov 49.12 303 *ce*P **P** **22 43 26.3 -0.1**
KURK pmax pmax
comp=Z,105nm,1.3s
KURBB Kurchatov Arra 49.23 303 P **P** **22 43 27.2 0.0**
comp=Z,29nm,0.8s,baz=54,slow=7.8,SNR=88
KURBB PcP **PcP** **22 44 50.2 +0.2**
comp=Z,3.1nm,0.7s,baz=50,slow=4.2,SNR=1.8
KURBB LR LR 23 06 00.3
comp=Z,2μm,18.2s,baz=10,slow=38
comp=Z,29nm,0.8s
MSO Missoula 49.26 64 P **P** **22 43 27.3 -0.3**
PLID Pearl Lake 49.33 67 P **P** **22 43 27.9 -0.5**
UPNV Upernavik 49.61 15 *i* P **P** **22 43 29.0 -0.8**
UPNV IAmb IAmb 22 43 30.6
comp=Z,38nm,0.9s
MK31 Makanchi Array 49.84 297 *ce*P **P** **22 43 31.5 -0.5**
MKAR Makanchi Array 49.84 297 P **P** **22 43 31.5 -0.5**
MKAR Makanchi Array 49.84 297 P **P** **22 43 31.7 -0.3**
comp=Z,15nm,0.7s,baz=48,slow=4.9,SNR=159
MKAR PcP **PcP** **22 44 52.3 -0.1**
comp=Z,3.0nm,0.7s,baz=48,slow=3.3,SNR=1.8
MKAR S **S** **22 50 38.0 -3.3**
comp=Z,0.5nm,0.8s,baz=50,slow=16,SNR=3.5
MKAR LR LR 23 05 37.7
comp=Z,2μm,19.7s,baz=26,slow=37
comp=Z,15nm,0.7s
MKAR Makanchi Array 49.84 297 P **P** **22 43 31.5 -0.5**
FFC Flin Flon 49.85 49 P **P** **22 43 32.1 +0.2**
FFC IAmb IAmb 22 43 33.6
comp=Z,16nm,0.8s
FFC Flin Flon 49.85 49 P **P** **22 43 32.1 +0.2**
FFC pmax pmax
comp=Z,16nm,0.9s
MAKZ Makanchi 50.00 297 P **P** **22 43 32.0 -1.2**
MAKZ IAmb IAmb 22 43 36.4
comp=Z,45nm,1.1s
MAKZ Makanchi 50.00 297 P **P** **22 43 32.0 -1.2**
MAKZ pmax pmax
comp=Z,45nm,1.1s
GOMU GeErMu 50.18 279 P **P** **22 43 34.8 -0.3**
GOMU PcP **PcP** **22 44 53.9 -0.4**
GOMU S **S** **22 50 45.8 -1.1**
GOMU pmax pmax
comp=Z,54nm,1.0s
GOMU pmax pmax
comp=Z,330nm,4.7s
GOMU LR LR
comp=Z,3μm,12.8s
GOMU LR LR
comp=Z,3μm,12.2s
GOMU LR LR
comp=Z,5μm,12.5s
BEKR Beckworth 50.47 74 P **P** **22 43 37.5 +0.5**
GYA Guiyang 50.51 260 ⇑P **P** **22 43 38.8 +1.4**
GYA S **S** **22 50 50.4 -0.7**
GYA SS **SS** **22 54 24.4 -0.4**
GYA pmax pmax
comp=Z,28nm,1.5s
GYA pmax pmax
comp=Z,440nm,6.8s
GYA LR LR
comp=Z,440nm,22.2s
GYA LR LR
comp=Z,600nm,26.6s
GYA LR LR
comp=Z,1μm,26.2s
EGMT Eagleton 50.61 60 P **P** **22 43 37.8 -0.1**
EGMT IAmb IAmb 22 43 39.5
comp=Z,21nm,0.9s
PAHR Pah Rah Range 51.12 74 P **P** **22 43 42.0 +0.1**
DBG Daneborg 51.13 2 *i* P **P** **22 43 40.2 -1.0**
DBG IAmb IAmb 22 43 42.0
comp=Z,16nm,0.8s
NUUG Nuugaatsiaq 51.14 15 *i* P **P** **22 43 41.4 0.0**
BVAR Borovoye Array 51.44 310 P **P** **22 43 43.8 -0.1**
comp=Z,23nm,0.7s,baz=54,slow=8.4,SNR=75
BVAR PcP **PcP** **22 44 58.2 +0.1**
comp=Z,7.5nm,0.6s,baz=33,slow=3.0,SNR=5.0
BVAR S **S** **22 51 03.1 0.0**
comp=Z,0.3nm,0.6s,baz=50,slow=13,SNR=1.7
BVAR LR LR 23 06 01.0
comp=Z,682nm,21.3s,baz=44,slow=37
comp=Z,23nm,0.7s
BRVK Borovoye 51.46 310 P **P** **22 43 43.8 -0.3**
BRVK IAmb IAmb 22 43 45.2
comp=Z,18nm,0.7s
BRVK Borovoye 51.46 310 *ce*P **P** **22 43 44.5 +0.4**
BRVK pmax pmax
comp=Z,53nm,1.7s
SUMG Summit 51.89 9 P **P** **22 43 47.0 -0.5**
SUMG IAmb IAmb 22 43 49.2
comp=Z,34nm,0.9s
SUMG Summit 51.89 9 P **P** **22 43 47.0 -0.5**
SUMG pmax pmax
comp=Z,34nm,0.9s
SUMG Summit 51.89 9 *i* P **P** **22 43 46.0 -1.5**
SUMG IAmb IAmb 22 43 49.0
comp=Z,34nm,0.9s
KEV Kevo 52.03 343 P **P** **22 43 47.4 -0.6**
KEV IAmb IAmb 22 44 55.1
comp=Z,52nm,1.4s
KEV Kevo 52.03 343 P **P** **22 43 47.4 -0.6**
KEV pmax pmax
comp=Z,52nm,1.4s
LVZ Lovozero 52.14 338 P **P** **22 43 48.0 -1.0**
LVZ IAmb IAmb 22 43 49.2
comp=Z,18nm,0.8s
LVZ Lovozero 52.14 338 *ce*P **P** **22 43 49.5 +0.5**
LVZ pmax pmax
comp=Z,43nm,1.7s
YHH Holmes Hill 52.23 64 P **P** **22 43 50.5 +0.2**
BRZS Berezniki 52.45 306 *e*P **P** **22 43 51.2 -0.3**
BRZS Berezniki 52.45 306 *e*P **P** **22 43 51.2 -0.3**
ARA0 ARCESS Array S 52.48 343 *e*P **P** **22 43 50.8 -0.6**
ARCES ARCESS Array B 52.48 343 P **P** **22 43 50.7 -0.7**
comp=Z,15nm,0.8s,baz=24,slow=6.7,SNR=19
ARCES PcP **PcP** **22 45 01.9 +0.2**
comp=Z,6.2nm,0.7s,baz=26,slow=3.5,SNR=5.1
comp=Z,15nm,0.8s
NVAR Mina Array Bea 52.62 74 P **P** **22 43 54.1 +0.9**
NVAR Mina Array Bea 52.62 74 P **P** **22 43 54.3 +1.2**
comp=Z,14nm,0.9s,baz=309,slow=7.3,SNR=39
NVAR PcP **PcP** **22 45 01.7 -1.4**
comp=Z,2.2nm,0.8s,baz=313,slow=5.9,SNR=1.4
NVAR LR LR 23 04 21.0
comp=Z,446nm,20.1s,baz=338,slow=34
comp=Z,14nm,0.9s
APA Apatity 52.68 339 ⇓*i*P **P** **22 43 51.0 -1.9**
APA *i* 22 45 01.9
APA *i* 22 45 52.0
APA pmax pmax
comp=Z,8.0nm,0.9s
ELK Elko 52.69 70 P **P** **22 43 54.5 +0.8**
ELK Elko 52.69 70 LR LR 23 03 00.7
comp=Z,520nm,21.9s,baz=286,slow=32
ELK Elko 52.69 70 P **P** **22 43 54.5 +0.8**
ELK pmax pmax
comp=Z,7.0nm,0.9s
SVE Sverdlovsk 52.87 318 *ce*P **P** **22 43 55.1 +0.6**
SVE *e*S **S** **22 51 24.9 +2.3**
SVE pmax pmax
comp=Z,29nm,0.9s
SVE MLR MLR
comp=Z,919nm,18.0s
MOOW Moose Ponds 53.00 65 P **P** **22 43 56.4 +0.4**
TDK Taldyqorghan 53.05 298 *e*P **P** **22 43 56.1 0.0**
TDK pmax pmax
comp=Z,17nm,0.6s
TDK Taldyqorghan 53.05 298 *e*P **P** **22 43 56.1 0.0**
comp=Z,17nm,0.6s

JETT	**Jettan, Norway**	**53.26**	**345**	*e*P	**P**	**22 43 56.9 -0.3**
LAO	**LASA Array**	**53.28**	**59**	P	**P**	**22 43 58.2 +0.4**
LAO				IAmb	IAmb	22 44 00.4
	comp=Z,36nm,0.9s					
HVU	**Hansel Valley**	**53.30**	**68**	P	**P**	**22 43 58.5 +0.4**
HVU	**Hansel Valley**	**53.30**	**68**	P	**P**	**22 43 58.5 +0.4**
HVU				pmax	pmax	
	comp=Z,12nm,1.0s					
PZH	**PanZhiHua**	**53.30**	**265**	P	**P**	**22 43 59.3 +1.1**
PZH				S	**S**	**22 51 30.6 +1.1**
PZH				ScS	**ScS**	**22 53 48.3 +0.7**
PZH				pmax	pmax	
	comp=Z,30nm,1.3s					
PZH				pmax	pmax	
	comp=Z,290nm,3.5s					
PZH				LR	LR	
	comp=Z,550nm,17.1s					
PZH				LR	LR	
	comp=Z,750nm,16.1s					
PZH				LR	LR	
	comp=Z,630nm,14.2s					
KTK1	**Kautokeino**	**53.31**	**344**	*e*P	**P**	**22 43 57.1 -0.5**
TRO	**Tromso**	**53.41**	**346**	*e*P	**P**	**22 43 57.8 -0.4**
ILULI	**Ilulissat**	**53.55**	**15**	P	**P**	**22 43 58.3 -1.0**
ILULI				IAmb	IAmb	22 43 60.0
	comp=Z,25nm,0.8s					
ILULI	**Ilulissat**	**53.55**	**15**	P	**P**	**22 43 58.3 -1.0**
ILULI				pmax	pmax	
	comp=Z,25nm,0.8s					
ILULI	**Ilulissat**	**53.55**	**15**	*i* P	**P**	**22 43 58.3 -1.0**
ILULI				IAmb	IAmb	22 43 59.7
	comp=Z,26nm,0.8s					
KMI	**Kunming**	**53.78**	**263**	⇓P	**P**	**22 44 03.0 +1.1**
KMI				sP	pwP	22 44 12.0 +1.7
KMI				S	**S**	**22 51 35.5 -0.8**
KMI				SS	**SKiKP**	**22 55 15.5 +0.1**
KMI				pmax	pmax	
	comp=Z,31nm,1.8s					
KMI				pmax	pmax	
	comp=Z,420nm,3.4s					
KMI				LR	LR	
	comp=Z,940nm,18.6s					
KMI				LR	LR	
	comp=Z,850nm,18.2s					
KMI				LR	LR	
	comp=Z,860nm,19.7s					
SHLS	**Shalkode**	**53.79**	**295**	*e*P	**P**	**22 43 59.9 -1.7**
SHLS				pmax	pmax	
	comp=Z,19nm,0.8s					
SHLS	**Shalkode**	**53.79**	**295**	*e*P	**P**	**22 43 60.0 -1.7**
	comp=Z,19nm,0.8s					
ARXS	**Arharly**	**53.90**	**297**	*e*P	**P**	**22 44 02.1 -0.3**
UZB	**Uzynbulak**	**54.03**	**296**	*e*P	**P**	**22 44 03.2 -0.2**
UZB				*e*S	**S**	**22 51 40.2 +1.2**
UZB	**Uzynbulak**	**54.03**	**296**	*e*P	**P**	**22 44 03.2 -0.2**
UZB				*e*S	**S**	**22 51 40.2 +1.2**
ARTI	**Arti**	**54.05**	**319**	P	**P**	**22 44 03.1 0.0**
ARTI				IAmb	IAmb	22 44 14.0
	comp=Z,44nm,1.0s					
ARTI	**Arti**	**54.05**	**319**	LR	LR	23 09 37.8
	comp=Z,801nm,18.8s,baz=46,slow=39					
ARTI	**Arti**	**54.05**	**319**⇑	*e*P	**P**	**22 44 03.6 +0.5**
ARTI				pmax	pmax	
	comp=Z,80nm,1.7s					
PD31	**Pinedale Array**	**54.31**	**65**	P	**P**	**22 44 05.5 0.0**
PD31				IAmb	IAmb	22 44 08.1
	comp=Z,18nm,1.1s					
PDAR	**Pinedale Array**	**54.31**	**65**	P	**P**	**22 44 05.7 +0.1**
	comp=Z,11nm,0.9s,baz=320,slow=7.3,SNR=69					
	comp=Z,11nm,0.9s					
ZHN	**Zhinishke**	**54.32**	**296**	*e*P	**P**	**22 44 05.3 -0.1**
ZHN				pmax	pmax	
	comp=Z,15nm,0.9s					
ZHN	**Zhinishke**	**54.32**	**296**	*e*P	**P**	**22 44 05.4 -0.1**
	comp=Z,15nm,0.9s					
DUG	**Dugway, Tooele**	**54.39**	**69**	P	**P**	**22 44 07.2 +1.2**
DUG				pmax	pmax	
	comp=Z,24nm,1.0s					
SATY	**Saty**	**54.41**	**296**	*e*P	**P**	**22 44 06.2 +0.1**
SATY				*e*S	**S**	**22 51 45.5 +1.4**
SATY	**Saty**	**54.41**	**296**	*e*P	**P**	**22 44 06.2 +0.1**
SATY				*e*S	**S**	**22 51 45.6 +1.4**
BCW	**Bitter Crk WRg**	**54.48**	**78**	P	**P**	**22 44 07.4 +0.7**
BCW				IAmb	IAmb	22 44 19.0
	comp=Z,27nm,1.1s					
QIZ	**Qiongzhong**	**54.59**	**252**	P	**P**	**22 44 10.8 +3.2**
QIZ				S	**S**	**22 51 54.4 +7.6**
QIZ				ScS	**ScS**	**22 53 53.3 -3.3**
QIZ				pmax	pmax	
	comp=Z,500nm,4.1s					
QIZ				LR	LR	
	comp=Z,860nm,10.2s					
QIZ				LR	LR	
	comp=Z,570nm,13.5s					
QIZ				LR	LR	
	comp=Z,1μm,13.1s					
MDOK	**Medeo**	**55.04**	**297**	*e*P	**P**	**22 44 10.5 -0.2**
MDOK	**Medeo**	**55.04**	**297**	*e*P	**P**	**22 44 10.6 -0.2**
AAA	**Alma-Ata**	**55.08**	**297**	*e*P	**P**	**22 44 11.0 +0.1**
AAA				pmax	pmax	
	comp=Z,28nm,0.8s					
AAA	**Alma-Ata**	**55.08**	**297**	*e*P	**P**	**22 44 11.1 +0.1**
	comp=Z,28nm,0.8s					
ICESG	**Greenland Ices**	**55.13**	**10**	*i* P	**P**	**22 44 10.6 -0.6**
ICESG				IAmb	IAmb	22 44 12.6
	comp=Z,51nm,1.1s					
TNSS	**Tian-Shan**	**55.18**	**297**	*e*P	**P**	**22 44 11.7 -0.4**
TNSS	**Tian-Shan**	**55.18**	**297**	*e*P	**P**	**22 44 11.7 -0.4**
BSUT	**Blindstream Ca**	**55.25**	**67**	P	**P**	**22 44 13.4 +0.8**
BSUT				IAmb	IAmb	22 44 40.4
	comp=Z,25nm,1.2s					
WUS	**Wushi**	**55.30**	**294**	P	**P**	**22 44 11.9 -0.7**
WUS				IAmb	IAmb	22 44 17.4
	comp=Z,44nm,1.1s					
KIRV	**Kirov**	**55.60**	**325**	LR	LR	23 09 20.8
	comp=Z,372nm,19.6s,baz=41,slow=38					
KIRV	**Kirov**	**55.60**	**325**	*ce*P	**P**	**22 44 14.7 +0.4**
ULM	**Lac du Bonnet**	**55.64**	**50**	P	**P**	**22 44 14.7 0.0**
ULM				IAmb	IAmb	22 44 16.7
	comp=Z,22nm,0.9s					
ULM	**Lac du Bonnet**	**55.64**	**50**	P	**P**	**22 44 15.2 +0.5**
	comp=Z,16nm,0.8s,baz=317,slow=8.6,SNR=16					
ULM				LR	LR	23 08 56.8
	comp=Z,626nm,19.7s,baz=322,slow=37					
	comp=Z,16nm,0.8s					
ULM	**Lac du Bonnet**	**55.64**	**50**	P	**P**	**22 44 14.7 0.0**
ULM				pmax	pmax	
	comp=Z,22nm,1.0s					
SFJD	**Kangerlussuaq**	**55.66**	**16**	LR	LR	23 10 16.0
	comp=Z,103nm,19.4s,baz=328,slow=38					
SFJD	**Kangerlussuaq**	**55.66**	**16**	*i* P	**P**	**22 44 12.9 -1.7**
SFJD				IAmb	IAmb	22 44 14.3
	comp=Z,14nm,1.0s					
TARG	**Taragay, Kyrgy**	**55.67**	**295**	P	**P**	**22 44 15.7 +0.1**
TARG				IAmb	IAmb	22 44 39.1
	comp=Z,16nm,1.0s					
TARG	**Taragay, Kyrgy**	**55.67**	**295**	P	**P**	**22 44 15.7 +0.1**
TARG				pmax	pmax	
	comp=Z,16nm,1.0s					
GSC	**Goldstone, Bar**	**55.69**	**76**	P	**P**	**22 44 16.1 +0.7**
GSC				IAmb	IAmb	22 44 18.4
	comp=Z,22nm,0.9s					
GSC	**Goldstone, Bar**	**55.69**	**76**	P	**P**	**22 44 16.1 +0.7**
GSC				pmax	pmax	
	comp=Z,23nm,0.9s					
KDJ	**Kajisay**	**55.71**	**296**	P	**P**	**22 44 15.4 -0.2**
KDJ				IAmb	IAmb	22 44 26.3
	comp=Z,31nm,1.0s					
KDJ	**Kajisay**	**55.71**	**296**	P	**P**	**22 44 15.4 -0.2**
KDJ				pmax	pmax	
	comp=Z,31nm,1.0s					
MVU	**Marysvale**	**55.92**	**70**	P	**P**	**22 44 18.4 +1.2**
TKM2	**Tokmak 2**	**55.96**	**298**	P	**P**	**22 44 17.9 +0.4**
	SNR=14					
FAUS	**Fauske**	**56.01**	**346**	*e*P	**P**	**22 44 17.1 0.0**
SGDS	**Sogindy**	**56.07**	**299**	*e*P	**P**	**22 44 18.0 0.0**
SGDS	**Sogindy**	**56.07**	**299**	*e*P	**P**	**22 44 18.1 0.0**
SLVN	**Son La**	**56.07**	**259**	P	**P**	**22 44 19.0 +0.7**
SLVN				IAmb	IAmb	22 44 25.2
	comp=Z,34nm,1.2s					
BOOM	**Boomskoye usch**	**56.09**	**297**	P	**P**	**22 44 18.6 +0.3**
BOOM				IAmb	IAmb	22 44 39.4
	comp=Z,40nm,1.1s					
BOOM	**Boomskoye usch**	**56.09**	**297**	P	**P**	**22 44 18.6 +0.3**
BOOM				pmax	pmax	
	comp=Z,40nm,1.1s					
USP	**Ospenovka**	**56.27**	**299**	P	**P**	**22 44 19.9 +0.4**
	SNR=22					
TNCH	**TengChong**	**56.29**	**266**	P	**P**	**22 44 22.0 +2.1**
TNCH				pP	sP	22 44 25.1 +1.7
TNCH				S	**S**	**22 52 09.5 -0.3**
TNCH				sS	sS	22 52 14.6 +0.7
TNCH				SS	**SS**	**22 55 55.9 -0.3**
TNCH				pmax	pmax	
	comp=Z,41nm,2.3s					
TNCH				pmax	pmax	
	comp=Z,430nm,4.6s					
TNCH				LR	LR	
	comp=Z,840nm,13.8s					
TNCH				LR	LR	
	comp=Z,680nm,13.1s					
TNCH				LR	LR	
	comp=Z,1μm,13.7s					
CHMS	**Chumysh**	**56.34**	**298**	P	**P**	**22 44 20.3 +0.4**
	SNR=12					
KBK	**Karagaybulak**	**56.48**	**298**	P	**P**	**22 44 21.9 +0.7**
	SNR=6.2					
FRU1	**Bishkek**	**56.53**	**298**	P	**P**	**22 44 21.6 +0.2**
FRU1	**Bishkek**	**56.53**	**298**	P	**P**	**22 44 21.6 +0.2**
FRU1				pmax	pmax	
	comp=Z,53nm,0.9s					
AAK	**Ala-Archa**	**56.73**	**298**	P	**P**	**22 44 22.7 -0.1**
AAK	**Ala-Archa**	**56.73**	**298**	LR	LR	23 09 44.9
	comp=Z,1μm,18.3s,baz=40,slow=37					
AAK	**Ala-Archa**	**56.73**	**298**	P	**P**	**22 44 23.2 +0.3**
	SNR=24					
AAK	**Ala-Archa**	**56.73**	**298**	P	**P**	**22 44 22.7 -0.1**
AAK				pmax	pmax	
	comp=Z,45nm,1.1s					
KLMR	**Klimovskoe**	**56.80**	**331**	*e*P	P	22 44 18.6 -4.2
KLMR				*e*		22 45 18.3
KLMR				*e*		22 46 27.1
KLMR				S	**S**	**22 52 08.4 -6.8**
KLMR				pmax	pmax	
	comp=Z,73nm,1.2s					
KLMR				MLR	MLR	
	comp=Z,570nm,14.0s					
DAV	**Davao City (W)**	**56.95**	**228**	LR	LR	23 07 51.0
	comp=Z,183nm,21.8s,baz=316,slow=35					
EPLO	**Experimental L**	**57.01**	**49**	P	**P**	**22 44 24.5 -0.1**
LSA	**Lhasa**	**57.02**	**276**	P	**P**	**22 44 25.6 +0.3**
LSA				IAmb	IAmb	22 44 37.7
	comp=Z,29nm,1.0s					
LSA	**Lhasa**	**57.02**	**276**	P	**P**	**22 44 27.3 +1.9**
LSA				pmax	pmax	
	comp=Z,9.0nm,0.7s					
LSA				LR	LR	
	comp=Z,650nm,12.9s					
LSA				LR	LR	
	comp=Z,900nm,13.3s					
LSA	**Lhasa**	**57.02**	**276**	P	**P**	**22 44 25.7 +0.3**
LSA				pmax	pmax	
	comp=Z,29nm,1.0s					
AGMN	**Agassiz Nation**	**57.07**	**52**	P	**P**	**22 44 24.7 -0.2**
AGMN				IAmb	IAmb	22 44 26.9
	comp=Z,17nm,0.9s					
EKS2	**Erkin-Say**	**57.08**	**299**	P	**P**	**22 44 25.8 +0.5**
	SNR=24					
PFO	**Pinyon Flats O**	**57.12**	**77**	P	**P**	**22 44 25.7 0.0**
PFO	**Pinyon Flats O**	**57.12**	**77**	LR	LR	23 05 08.1
	comp=Z,703nm,20.8s,baz=258,slow=32					
PFO	**Pinyon Flats O**	**57.12**	**77**	P	**P**	**22 44 25.7 0.0**
PFO				pmax	pmax	
	comp=Z,12nm,1.1s					
JOF	**Joensuu**	**57.12**	**337**	*e*P	**P**	**22 44 24.8 -0.3**
MOR8	**Moi Rana**	**57.26**	**346**	*e*P	**P**	**22 44 24.5 -1.6**
U15A	**North Rim**	**57.38**	**72**	P	**P**	**22 44 28.4 +0.7**
AML	**Almayashu**	**57.50**	**298**	P	**P**	**22 44 29.2 +0.5**
	SNR=19					
CBX	**Cerro Bola**	**57.96**	**78**	P	**P**	**22 44 32.0 +0.4**
CBX				IAmb	IAmb	22 44 34.5
	comp=Z,28nm,1.0s					
BLYC	**Blythe**	**58.10**	**76**	P	**P**	**22 44 33.3 +0.8**
BLYC				IAmb	IAmb	22 44 45.2
	comp=Z,25nm,1.4s					
DZA	**Taraz**	**58.14**	**300**	*e*P	**P**	**22 44 32.5 -0.1**
DZA	**Taraz**	**58.14**	**300**	*e*P	**P**	**22 44 32.5 -0.1**
KSH	**Kashi**	**58.23**	**295**	P	**P**	**22 44 37.4 +4.0**
KSH				sP	pwP	22 44 46.6 +4.8
KSH				S	**S**	**22 52 42.5 +7.6**
KSH				pmax	pmax	
	comp=Z,31nm,1.2s					
KSH				pmax	pmax	
	comp=Z,270nm,6.5s					
KSH				LR	LR	
	comp=Z,940nm,20.2s					
KSH				LR	LR	
	comp=Z,2μm,19.9s					
KSH				LR	LR	
	comp=Z,1μm,18.4s					
KK31	**Karatay Array**	**58.40**	**301**	P	**P**	**22 44 34.1 -0.3**
KK31	**Karatay Array**	**58.40**	**301**	P	**P**	**22 44 34.1 -0.3**
KK31				pmax	pmax	
	comp=Z,35nm,0.9s					
KKAR	**Karatay Array**	**58.40**	**301**	P	**P**	**22 44 34.0 -0.4**
KKAR	**Karatay Array**	**58.40**	**301**	P	**P**	**22 44 34.0 -0.4**
ARSB	**Arslanbob**	**58.46**	**298**	P	**P**	**22 44 35.0 0.0**
ARSB				IAmb	IAmb	22 44 39.4
	comp=Z,17nm,0.7s					
ARSB	**Arslanbob**	**58.46**	**298**	P	**P**	**22 44 35.0 0.0**
ARSB				pmax	pmax	
	comp=Z,17nm,0.7s					
ISCO	**Idaho Springs**	**58.51**	**65**	P	**P**	**22 44 36.5 +1.0**
ISCO	**Idaho Springs**	**58.51**	**65**	P	**P**	**22 44 36.6 +1.0**
ISCO				pmax	pmax	
	comp=Z,15nm,1.2s					
AKTO	**Aktyubinsk**	**58.64**	**314**	LR	LR	23 12 13.3
	comp=Z,633nm,18.4s,baz=38,slow=39					
ANGG	**Ammassalik, Gr**	**58.70**	**11**	*i* P	**P**	**22 44 34.5 -1.7**
ANGG				IAmb	IAmb	22 44 36.7
	comp=Z,13nm,0.8s					
AB31	**Akbulak array**	**58.72**	**312**	P	**P**	**22 44 36.4 -0.1**
ABKAR	**Akbulak array**	**58.72**	**312**	P	**P**	**22 44 36.5 -0.1**
ABKAR	**Akbulak array**	**58.72**	**312**	P	**P**	**22 44 36.4 -0.1**
BRLS	**Borolday**	**58.78**	**301**	*e*P	**P**	**22 44 38.6 +1.5**
BRLS	**Borolday**	**58.78**	**301**	*e*P	**P**	**22 44 38.7 +1.6**
VAF	**Ylistaro**	**58.82**	**341**	*e*P	**P**	**22 44 37.1 +0.1**
MVCO	**Mesa Verde**	**58.87**	**69**	P	**P**	**22 44 38.4 +0.3**
MVCO				IAmb	IAmb	22 45 02.7
	comp=Z,21nm,1.4s					
NSS	**Namsos**	**59.16**	**347**	*e*P	**P**	**22 44 38.1 -1.2**
KEF	**Keuruu**	**59.18**	**339**	*e*P	**P**	**22 44 39.3 -0.3**
IUG	**Iuzhnay**	**59.34**	**301**	*e*P	**P**	**22 44 40.9 -0.2**
IUG				*e*S	**S**	**22 52 50.4 +1.2**
IUG				pmax	pmax	
	comp=Z,18nm,0.9s					
IUG	**Iuzhnay**	**59.34**	**301**	*e*P	**P**	**22 44 41.0 -0.2**
	comp=Z,18nm,0.9s					
IUG				*e*S	**S**	**22 52 50.5 +1.2**
FIA1	**FINESS Array S**	**59.58**	**338**	P	**P**	**22 44 42.0 -0.3**
FINES	**FINESS Array B**	**59.59**	**338**	P	**P**	**22 44 41.9 -0.4**
	comp=Z,30nm,0.7s,baz=28,slow=6.5,SNR=84					
	comp=Z,30nm,0.7s					
RABL	**Rabaul**	**59.71**	**195**	P	**P**	**22 44 42.9 -0.8**
SHL	**Shillong**	**59.72**	**272**	P	**P**	**22 44 43.2 -0.8**
SHL				IAmb	IAmb	22 44 56.2
	comp=Z,19nm,0.8s					
SHL	**Shillong**	**59.72**	**272**	P	**P**	**22 44 43.2 -0.8**
SHL				pmax	pmax	
	comp=Z,19nm,0.8s					
UBPT	**Khong Chiam**	**60.05**	**253**	P	**P**	**22 44 46.0 -0.1**
UBPT				IAmb	IAmb	22 44 51.8
	comp=Z,23nm,1.2s					
SDCO	**Great Sand Dun**	**60.08**	**66**	P	**P**	**22 44 46.4 -0.1**
JAY	**Jayapura**	**60.48**	**208**	LR	LR	23 11 28.5
	comp=Z,42nm,18.9s,baz=356,slow=36					
BTK	**Batken**	**60.50**	**298**	P	**P**	**22 44 48.8 -0.3**
BTK	**Batken**	**60.50**	**298**	P	**P**	**22 44 48.8 -0.3**
BTK				pmax	pmax	
	comp=Z,41nm,1.0s					
RAF	**Rauma**	**60.85**	**340**	*e*P	**P**	**22 44 50.6 -0.3**
CHTO	**Chiang Mai**	**60.90**	**261**	P	**P**	**22 44 52.4 +0.5**
CHTO	**Chiang Mai**	**60.90**	**261**	P	**P**	**22 44 52.4 +0.5**
CHTO				pmax	pmax	
	comp=Z,78nm,1.8s					
MEF	**Metsahovi**	**61.05**	**339**	*e*P	**P**	**22 44 51.9 -0.5**
BELG	**Belogornoye**	**61.13**	**321**	LR	LR	23 13 53.5
	comp=Z,442nm,18.4s,baz=59,slow=39					
BELG	**Belogornoye**	**61.13**	**321**	*i* P	**P**	**22 44 52.9 -0.1**
BELG				pmax	pmax	
	comp=Z,6.0nm,0.8s					
CM31	**Chiang Mai Arr**	**61.18**	**261**	P	**P**	**22 44 54.8 +1.0**
CM31				IAmb	IAmb	22 44 59.3
	comp=Z,15nm,0.9s					
CMAR	**Chiang Mai Arr**	**61.18**	**261**	P	**P**	**22 44 54.4 +0.6**
CMAR	**Chiang Mai Arr**	**61.18**	**261**	P	**P**	**22 44 54.9 +1.0**
	comp=Z,9.4nm,0.8s,baz=37,slow=6.5,SNR=38					
CMAR				S	**S**	**22 53 15.2 +2.1**
	comp=Z,2.6nm,0.3s,baz=45,slow=20,SNR=4.4					
CMAR				LR	LR	23 13 48.5
	comp=Z,627nm,19.0s,baz=35,slow=38					
	comp=Z,9.4nm,0.8s					
CMAR	**Chiang Mai Arr**	**61.18**	**261**	P	**P**	**22 44 54.4 +0.6**
TUC	**Tucson**	**61.27**	**74**	P	**P**	**22 44 55.0 +0.7**
TUC	**Tucson**	**61.27**	**74**	P	**P**	**22 44 55.1 +0.7**
TUC				pmax	pmax	
	comp=Z,10.0nm,1.0s					
ARBE	**Arbavere**	**61.41**	**337**	*e*P	**P**	**22 44 54.9 +0.1**
IVI	**Ivigtut**	**61.44**	**17**	P	**P**	**22 44 54.4 -0.6**
GAR	**Garm**	**61.55**	**298**	P	**P**	**22 44 55.9 -0.3**
MOL	**Molde**	**61.60**	**348**	*e*P	**P**	**22 44 56.6 +0.6**
MOS	**Moscow**	**61.64**	**329**	*e*P	**P**	**22 44 55.1 -1.3**
MOS				*e*		22 45 05.4
MOS				pmax	pmax	
	comp=Z,38nm,0.7s					
ANMO	**Albuquerque**	**61.66**	**69**	P	**P**	**22 44 57.8 +0.7**
ANMO				IAmb	IAmb	22 45 00.1
	comp=Z,11nm,0.9s					
ANMO	**Albuquerque**	**61.66**	**69**	LR	LR	23 08 58.2
	comp=Z,342nm,21.8s,baz=134,slow=33					
ANMO	**Albuquerque**	**61.66**	**69**	*ce*P	**P**	**22 44 57.1 -0.1**
ANMO				pmax	pmax	
	comp=Z,5.0nm,0.8s					
COWI	**Conover**	**61.73**	**49**	P	**P**	**22 44 56.6 -0.6**
COWI				IAmb	IAmb	22 44 58.6
	comp=Z,15nm,0.9s					
MYLDM	**Lahad Datu**	**61.83**	**235**	P	**P**	**22 44 58.4 +0.2**
MYLDM				IAmb	IAmb	22 45 36.7
	comp=Z,14nm,0.9s					
DOMB	**Dombas**	**61.93**	**347**	*e*P	**P**	**22 44 58.1 -0.3**
NRS	**Narsarsuaq**	**61.94**	**16**	*i* P	**P**	**22 44 56.8 -1.5**
NRS				IAmb	IAmb	22 44 57.8
	comp=Z,21nm,0.9s					
AKN	**Aaknes**	**62.05**	**348**	*e*P	**P**	**22 44 59.8 +0.6**
BRDH	**Bariadhala**	**62.08**	**270**	LR	LR	23 16 43.1
	comp=Z,750nm,19.2s,baz=27,slow=41					
VSU	**Vasula**	**62.12**	**337**	*ce*P	**P**	**22 44 59.0 -0.6**
VSU				pmax	pmax	
	comp=Z,56nm,0.7s					
VSU	**Vasula**	**62.12**	**337**	*e*P	**P**	**22 44 58.9 -0.6**
NC204	**NORSAR Array S**	**62.44**	**346**	P	**P**	**22 45 01.3 -0.5**
SIMJ	**Simiganj**	**62.47**	**299**	P	**P**	**22 45 01.7 -0.8**
OBN	**Obninsk**	**62.49**	**329**	P	**P**	**22 45 01.6 -0.5**
OBN	**Obninsk**	**62.49**	**329**	LR	LR	23 14 33.2
	comp=Z,323nm,18.2s,baz=341,slow=38					
OBN	**Obninsk**	**62.49**	**329**	*d* P	**P**	**22 45 01.8 -0.3**
OBN				*i*		22 45 11.9
OBN				*e*		22 45 41.3
OBN				*e*		22 47 19.6
OBN				*e*S	**S**	**22 53 29.1 +0.4**
OBN				*e*SS	**SS**	**22 57 33.2 +1.6**
OBN				pmax	pmax	
	comp=Z,63nm,1.7s					
OBN				MLR	MLR	
	comp=Z,273nm,16.0s					
MTSE	**Matsula**	**62.54**	**338**	*e*P	**P**	**22 45 02.9 +0.5**
NB2	**NORSAR Subarra**	**62.61**	**346**	P	**P**	**22 45 02.3 -0.6**
	comp=Z,27nm,0.8s,baz=18,slow=6.9					
NB2				PCP	**PcP**	**22 45 41.8 +0.1**
	comp=Z,1.7nm,0.7s,baz=25,slow=4.4					
NB2	**NORSAR Subarra**	**62.61**	**346**	P	**P**	**22 45 02.8 -0.1**
NB2				pmax	pmax	
	comp=Z,7.0nm,0.7s					
NB2	**NORSAR Subarra**	**62.61**	**346**	P	**P**	**22 45 02.3 -0.6**
	baz=18,slow=6.9					
NOA	**NORSAR Array B**	**62.61**	**346**	P	**P**	**22 45 02.3 -0.6**
	comp=Z,20nm,0.7s,baz=16,slow=6.7,SNR=134					
	comp=Z,20nm,0.7s					
NC602	**NORSAR Array S**	**62.85**	**346**	*e*P	**P**	**22 45 03.9 -0.6**
NORES	**NORESS Array B**	**62.85**	**346**	P	**P**	**22 45 03.6 -0.9**
NORES				pmax	pmax	
	comp=Z,1.0nm,0.7s					
HFS	**Hagfors**	**63.10**	**344**	P	**P**	**22 45 05.6 -0.6**
	comp=Z,27nm,0.7s,baz=19,slow=1.8,SNR=56					
	comp=Z,27nm,0.7s					
SKAR	**Skarslia**	**63.34**	**347**	*e*P	**P**	**22 45 08.1 +0.3**
E46A	**Sault Ste Mari**	**63.59**	**46**	P	**P**	**22 45 08.6 -1.0**
E46A				IAmb	IAmb	22 45 09.8
	comp=Z,17nm,0.8s					
HSIG		**63.67**	**77**	P	**P**	**22 45 10.8 +0.4**
HSIG				IAmb	IAmb	22 45 13.1
	comp=Z,14nm,1.1s					
SLIT	**Slitere, Latvi**	**63.87**	**339**	*e*P	**P**	**22 45 11.2 0.0**
ASK	**Askoy**	**63.91**	**349**	*e*P	**P**	**22 45 11.1 -0.4**
LPSR	**Galich'ya Gora**	**63.92**	**327**	*e*P	**P**	**22 45 10.0 -1.6**
LPSR				pmax	pmax	
	comp=Z,20nm,0.7s					
BER	**Bergen**	**63.99**	**349**	*e*P	**P**	**22 45 12.2 +0.3**
NIL	**Nilore**	**64.06**	**292**	P	**P**	**22 45 13.0 0.0**
NIL	**Nilore**	**64.06**	**292**	P	**P**	**22 45 13.0 0.0**
NIL				pmax	pmax	
	comp=Z,36nm,1.0s					
KONO	**Kongsberg**	**64.17**	**346**	P	**P**	**22 45 13.2 0.0**
KONO				IAmb	IAmb	22 45 14.8
	comp=Z,18nm,0.8s					
KONO	**Kongsberg**	**64.17**	**346**	*ce*P	**P**	**22 45 13.8 +0.6**
KONO				pmax	pmax	
	comp=Z,16nm,0.7s					
KONO	**Kongsberg**	**64.17**	**346**	*e*P	**P**	**22 45 13.3 +0.1**
VRH	**Novokhopyorsk**	**64.19**	**324**	*e*P	**P**	**22 45 11.3 -2.1**
VRH				pmax	pmax	
	comp=Z,20nm,0.6s					
VRH				MLR	MLR	
	comp=Z,540nm,13.0s					
ODD1	**Odda**	**64.30**	**348**	*e*P	**P**	**22 45 14.5 +0.4**
TOLI2	**Tolitoli**	**64.37**	**230**	P	**P**	**22 45 15.1 0.0**
TOLI2				IAmb	IAmb	22 45 18.6
	comp=Z,15nm,0.8s					
VORR	**Voronezh**	**64.62**	**326**	*e*P	**P**	**22 45 14.4 -1.9**
VORR				pmax	pmax	
	comp=Z,6.0nm,0.8s					
BLS5	**Blasjo**	**64.80**	**348**	*e*P	**P**	**22 45 17.2 -0.1**
ISAL	**Salakas**	**64.88**	**335**	*e*P	**P**	**22 45 17.1 -0.8**
VLDQ	**Val d'Or**	**64.91**	**41**	P	**P**	**22 45 15.8 -2.4**
CLN7	**Carlsbad 7**	**65.02**	**69**	P	**P**	**22 45 19.7 +0.4**
VSVD	**Vaisvydziai**	**65.02**	**337**	*e*P	**P**	**22 45 19.2 +0.4**
VSR	**Storozhevoye**	**65.03**	**326**	*e*P	**P**	**22 45 16.7 -2.2**
VSR				pmax	pmax	
	comp=Z,30nm,2.1s					
VSR				MLR	MLR	
	comp=Z,450nm,14.0s					
KMY	**Karmoy**	**65.15**	**349**	*e*P	**P**	**22 45 19.8 +0.3**
VORD	**Divnogorie**	**65.20**	**325**	*i* P	**P**	**22 45 18.2 -1.8**
VORD				pmax	pmax	
	comp=Z,6.0nm,0.9s					
MNK	**Minsk**	**65.42**	**334**	*i* P	**P**	**22 45 20.8 -0.6**
MNK				*i*		22 47 44.5
MNK				*i* PPP	PPP	22 49 18.1
MNK				*i* S	**S**	**22 54 07.3 +2.2**
MNK				*i* SS	**SS**	**22 58 22.3 +5.1**
MNK				pmax	pmax	
	comp=Z,72nm,0.8s					
MNK				pmax	pmax	
	comp=N,10.0nm,0.8s					
MNK				pmax	pmax	
	comp=E,34nm,0.9s					
MNK				MLR	MLR	
	comp=N,245nm,15.0s					
MNK				MLR	MLR

PMG pmax pmax
comp=Z,13nm,1.0s
POST Post 65.75 67 P **P 22 45 24.1 +0.1**
SNART Snartemo 65.76 347 *e*P **P 22 45 23.9 +0.4**
WMOK Wichita Mounta 65.89 64 P **P 22 45 24.6 -0.1**
WMOK IAmb IAmb 22 45 26.9
comp=Z,26nm,0.9s
WMOK Wichita Mounta 65.89 64 P **P 22 45 24.7 -0.1**
WMOK pmax pmax
comp=Z,26nm,0.9s
ODSA Odessa 65.92 68 P **P 22 45 25.1 0.0**
ODSA IAmb IAmb 22 45 27.3
comp=Z,23nm,0.9s
W35A Tecumseh 66.55 62 P **P 22 45 28.9 -0.1**
W35A IAmb IAmb 22 45 30.7
comp=Z,21nm,1.1s
BIGH Upper Bighouse 66.68 354 *e*P **P 22 45 29.1 -0.3**
GOET G??ttrup 66.75 346 *i* P **P 22 45 30.7 +0.8**
GOET IAmb IAmb 22 45 31.9
comp=Z,62nm,0.9s
SUW Suwalki 67.00 336 *e*P **P 22 45 31.2 -0.4**
SUW *e*L L 23 19 03.4
comp=Z,815nm,16.0s
SUW Suwalki 67.00 336 P **P 22 45 30.8 -0.8**
SUW Suwalki 67.00 336 P **P 22 45 30.8 -0.8**
SUW Suwalki 67.00 336 *e*P **P 22 45 31.2 -0.4**
CCM Cathedral Cave 67.07 56 P **P 22 45 30.6 -1.6**
CCM IAmb IAmb 22 45 33.6
comp=Z,28nm,0.9s
CCM Cathedral Cave 67.07 56 P **P 22 45 30.6 -1.6**
CCM pmax pmax
comp=Z,28nm,1.0s
SLM Saint Louis 67.09 55 P **P 22 45 32.0 -0.4**
SLM Saint Louis 67.09 55 P **P 22 45 32.0 -0.4**
SLM pmax pmax
comp=Z,60nm,1.1s
HHAR Hobbs 67.15 59 P **P 22 45 31.8 -1.0**
HHAR IAmb IAmb 22 45 34.3
comp=Z,24nm,1.0s
SBUM Sibu 67.25 239 P **P 22 45 34.1 +0.5**
ICQ Pointe Anglais 67.29 34 P **P 22 45 32.8 -0.7**
ICQ IAmb IAmb 22 45 34.4
comp=Z,19nm,0.9s
MUD Monsted U'grnd 67.32 346 *i* P **P 22 45 33.3 -0.2**
MUD IAmb IAmb 22 45 35.7
comp=Z,13nm,0.6s
TX31 Lajitas Ar. Si 67.47 71 P **P 22 45 35.4 +0.4**
TXAR Lajitas Array 67.47 71 P **P 22 45 35.3 +0.2**
TXAR Lajitas Array 67.47 71 P **P 22 45 35.7 +0.6**
comp=Z,27nm,0.8s,baz=322,slow=5.8,SNR=275
comp=Z,27nm,0.8s
TXAR Lajitas Array 67.47 71 P **P 22 45 35.3 +0.2**
MCD Coleburn Disti 67.54 353 *e*P **P 22 45 34.4 -0.6**
MCD IAmb IAmb 22 45 36.5
comp=Z,31nm,0.7s
COP Copenhagen 67.56 343 *i* P **P 22 45 35.9 +0.9**
COP IAmb IAmb 22 45 36.6
comp=Z,41nm,0.9s
BSD Bornholm Skovb 67.67 342 *i* P **P 22 45 35.3 -0.5**
BSD IAmb IAmb 22 45 37.0
comp=Z,12nm,0.9s
LPIG La Paz 67.82 79 LR LR 23 09 46.4
comp=Z,196nm,20.1s,baz=314,slow=31
LMQ La Malbaie 67.97 37 P **P 22 45 37.0 -0.8**
SSRD Sdr. Stenderup 68.20 345 *i* P **P 22 45 39.9 +0.8**
SSRD IAmb IAmb 22 45 41.0
comp=Z,34nm,0.9s
HPIG 68.23 74 P **P 22 45 39.9 -0.2**
HPIG IAmb IAmb 22 45 42.4
comp=Z,11nm,0.9s
AKASG Malin Array Be 68.49 331 P **P 22 45 40.3 -0.7**
AKASG IAmb IAmb 22 45 52.4
comp=Z,15nm,1.2s
AKASG Malin Array Be 68.49 331 P **P 22 45 40.4 -0.7**
comp=Z,14nm,0.7s,baz=29,slow=6.2,SNR=42
AKASG S **S 22 54 43.4 +1.2**
comp=Z,0.9nm,0.4s,baz=39,slow=11,SNR=4.2
comp=Z,14nm,0.7s
AKASG Malin Array Be 68.49 331 P **P 22 45 40.3 -0.7**
AKASG pmax pmax
comp=Z,15nm,1.3s
AKBB Malin Array Si 68.49 331 P **P 22 45 40.1 -0.9**
AKBB Malin Array Si 68.49 331 *ce*P **P 22 45 40.3 -0.7**
AKBB pmax pmax
comp=Z,23nm,0.9s
KIEV Kiev 68.50 331 ⇑P **P 22 45 40.2 -0.8**
KIEV Kiev 68.50 331 P **P 22 45 40.2 -0.8**
KIEV Kiev 68.50 331 *i* P **P 22 45 40.6 -0.5**
SNR=10
RGN Rugen 68.50 343 *e*P 22 45 42.0
comp=Z,51nm,0.8s,baz=15,slow=6.0
MNTQ Montreal, Queb 68.53 40 P **P 22 45 40.1 -1.3**
MIAR Mount Ida 68.70 60 P **P 22 45 42.3 -0.3**
INVG Invergeldie, C 68.75 353 *e*P **P 22 45 42.5 0.0**
SRIT Nakonsritamara 68.78 254 P **P 22 45 42.7 -0.5**
SRIT IAmb IAmb 22 45 55.2
comp=Z,12nm,0.8s
GOF Gofitskoye 68.92 320 *ce*P **P 22 45 42.5 -1.3**
MAK Makhachkala 68.94 316 *e*P P 22 45 39.4 -4.5
MAK *e* 22 48 12.4
MAK *e*PPP PPP 22 49 53.2
MAK *e*S **S 22 54 41.0 -6.8**
MAK *e*SS **SS 22 59 06.7 -5.6**
MAK pmax pmax
comp=Z,125nm,1.5s
MAK MLR MLR
comp=Z,848nm,18.0s
GKP Gorka Klasztor 68.98 340 *e*P **P 22 45 44.0 0.0**
GKP *e*L L 23 19 35.6
comp=Z,411nm,15.9s
GKP Gorka Klasztor 68.98 340 *e*P **P 22 45 44.1 +0.1**
LAWE Loch Awe, Argy 69.00 354 *e*P **P 22 45 44.4 +0.3**
LAWE IAmb IAmb 22 45 45.9
comp=Z,14nm,0.8s
KSM Kuching 69.04 241 P **P 22 45 45.2 +0.3**
KSM IAmb IAmb 22 45 58.3
comp=Z,13nm,0.9s
R9F13 Warsaw-Wawer 69.13 337 *e*P **P 22 45 45.5 +0.6**
ESY Stoneypath 69.15 352 *e*P **P 22 45 44.3 -0.8**
ALLY Alegheny Colle 69.17 47 P **P 22 45 45.0 -0.4**
HRA Herat 69.21 300 P **P 22 45 45.9 -0.2**
HRA IAmb IAmb 22 45 57.1
comp=Z,29nm,1.2s
PGBU Glenifferbraes 69.39 354 *e*P **P 22 45 45.2 -1.3**
PGBU IAmb IAmb 22 45 48.2
comp=Z,73nm,0.8s
BEL Belsk 69.57 337 *e*P **P 22 45 48.4 +0.8**
BEL *e*L L 23 19 07.2
comp=Z,404nm,18.9s
BSEG Bad Segeberg 69.58 344 *e*P 22 45 48.0
comp=Z,18nm,0.9s,baz=15,slow=6.0
EKA Eskdalemuir Ar 69.77 353 P **P 22 45 48.8 -0.1**
comp=Z,17nm,0.8s,baz=6.9,slow=6.2,SNR=66
comp=Z,17nm,0.8s
EKB Eskdalemuir 69.78 353 P **P 22 45 49.0 +0.1**
EKB IAmb IAmb 22 45 50.7
comp=Z,23nm,0.8s
ESK Eskdalemuir 69.79 353 P **P 22 45 49.1 +0.1**
ESK IAmb IAmb 22 45 50.8
comp=Z,22nm,0.8s
ESK Eskdalemuir 69.79 353 *e*P **P 22 45 48.2 -0.8**
ESK IAmb IAmb 22 45 50.6
comp=Z,23nm,0.8s
ESK Eskdalemuir 69.79 353 P **P 22 45 49.1 +0.1**
ESK pmax pmax
comp=Z,23nm,0.8s
KVAR Kislovodsk Arr 69.98 319 LR LR 23 19 30.8
comp=Z,305nm,20.9s,baz=278,slow=39
KIV Kislovodsk 69.99 319 P **P 22 45 49.7 -0.9**
KIV IAmb IAmb 22 46 03.8
comp=Z,12nm,0.7s
KIV Kislovodsk 69.99 319 ⇑P **P 22 45 49.7 -0.9**
KIV Kislovodsk 69.99 319 *e*P **P 22 45 49.3 -1.2**
KIV *e*S **S 22 55 00.6 +0.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,385nm,18.0s
KIV Kislovodsk 69.99 319 *i* P **P 22 45 49.3 -1.2**
SNR=6.0
NCK Nalchik 70.03 318 *i* P **P 22 45 50.1 -0.6**
NCK pmax pmax
comp=Z,16nm,0.7s
NEWG New Galloway 70.06 353 *e*P **P 22 45 50.3 -0.4**
NEWG IAmb IAmb 22 45 52.0
comp=Z,16nm,0.8s
KBZ Khabaz 70.10 319 P **P 22 45 51.7 +0.6**
comp=Z,10nm,0.8s,baz=35,slow=4.6,SNR=32
KBZ S **S 22 55 06.1 +4.6**
comp=Z,0.6nm,0.6s,baz=47,slow=19,SNR=1.6
KBZ LR LR 23 21 08.2
comp=Z,519nm,18.2s,baz=30,slow=40
comp=Z,10nm,0.8s
KBZ Khabaz 70.10 319 *ce*P **P 22 45 51.6 +0.6**
KBZ pmax pmax
comp=Z,15nm,0.9s
EDMD Edmundbyers 70.18 352 *e*P **P 22 45 51.2 -0.2**
SHA1 Shidzhatmaz 70.19 319 *i* P **P 22 45 51.5 -0.4**
IDGL Inch Island, C 70.30 355 P **P 22 45 52.6 +0.5**
GAL1 Galloway 70.35 354 *e*P **P 22 45 52.2 -0.2**
GAL1 IAmb IAmb 22 45 53.7
comp=Z,22nm,0.9s
NATX Nacogdoches 70.36 63 P **P 22 45 52.6 -0.2**
KESW Keswick, Cumbr 70.51 353 *e*P **P 22 45 52.8 -0.6**
KESW IAmb IAmb 22 45 55.2
comp=Z,34nm,0.8s
SEKA Sheki 70.53 315 P **P 22 45 51.9 -2.0**
HORU Horodok 70.60 332 P **P 22 45 53.5 -0.6**
OXF Oxford 70.79 57 P **P 22 45 55.3 -0.1**
OXF Oxford 70.79 57 P **P 22 45 55.3 -0.1**
OXF pmax pmax
comp=Z,53nm,0.9s
COEN Coen 70.89 202 P **P 22 45 56.5 +0.4**
KULM Kulim 70.93 251 P **P 22 45 56.9 +0.4**
IOMK Kirk Michael 70.94 353 *e*P **P 22 45 55.0 -1.0**
IOMK IAmb IAmb 22 45 57.4
comp=Z,7.4nm,0.8s
MNGR Mingechevir, A 70.94 315 P **P 22 45 54.7 -1.6**
SSPA Standing Stone 70.96 46 P **P 22 45 55.3 -1.1**
SSPA IAmb IAmb 22 46 06.4
comp=Z,39nm,1.2s
FLTG Flechtingen 70.98 343 *e*P 22 45 56.6
comp=Z,7.2nm,0.9s,baz=15,slow=6.0
NRDL Niedersach Rie 71.01 344 *e*P 22 45 56.7
comp=Z,7.4nm,0.8s,baz=15,slow=6.0
SORM Soroca 71.05 331 ⇑P **P 22 45 56.5 -0.3**
SORM Soroca 71.05 331 P **P 22 45 56.4 -0.3**
WIM Isle of Man 71.06 353 *e*P **P 22 45 57.0 +0.2**
ANN Anapa 71.16 323 *e*P **P 22 45 55.5 -2.0**
ANN *e*S **S 22 55 12.5 -1.3**
ANN pmax pmax
comp=Z,36nm,0.9s
HKT Hockley 71.18 65 P **P 22 45 58.1 +0.3**
HKT Hockley 71.18 65 P **P 22 45 58.1 +0.3**
HKT pmax pmax
comp=Z,10.0nm,0.9s
ASSE Asse, Remlinge 71.27 343 *e*P 22 45 58.1
comp=Z,7.6nm,0.9s,baz=15,slow=6.0
GGN Saint George 71.28 36 P **P 22 45 57.5 -0.7**
ILTH Belurgan, Co L 71.28 354 P **P 22 45 58.2 +0.1**
OJC Ojcow 71.31 337 *e*P **P 22 45 58.9 +0.6**
OJC Ojcow 71.31 337 P **P 22 45 58.6 +0.3**
OJC Ojcow 71.31 337 P **P 22 45 58.7 +0.3**
GANJ Ganja 71.36 315 P **P 22 45 57.2 -1.7**
SOC Sochi 71.41 321 *e*P **P 22 46 00.6 +1.6**
SOC *e* 22 48 34.8
SOC *e*PPP PPP 22 50 18.9
SOC *e*S **S 22 55 15.0 -1.7**
SOC *e*SSS SSS 23 03 03.8
KSP Ksiaz 71.47 340 *e*P **P 22 45 59.6 +0.3**
KSP *e*L L 23 22 01.0
comp=Z,385nm,17.5s
KSP Ksiaz 71.47 340 P **P 22 45 59.4 +0.1**
TRLG Trialeti 71.50 317 P **P 22 46 00.3 +0.4**
IBBN Ibbenburen 71.55 345 *e*P 22 45 59.8
comp=Z,21nm,0.8s,baz=15,slow=6.0
LBWR Ladybower, Pea 71.58 351 *e*P **P 22 45 59.3 -0.6**
LBWR IAmb IAmb 22 46 01.4
comp=Z,27nm,0.9s
CLZ Clausthal 71.60 344 *e*P 22 46 00.1
comp=Z,16nm,0.8s,baz=15,slow=6.0
CLL Collm 71.66 342 P **P 22 45 59.7 -0.7**
CLL IAmb IAmb 22 46 11.8
comp=Z,40nm,1.4s
CLL Collm 71.66 342 P **P 22 45 59.7 -0.7**
CLL pmax pmax
comp=Z,40nm,1.4s
CLL Collm 71.66 342 *e*P 22 46 00.7
comp=Z,11nm,0.9s,baz=15,slow=6.0
STHS Stebnicka Huta 71.72 336 *e*P **P 22 46 01.3 +0.4**
STHS pmax pmax
comp=Z,20nm,0.9s
STHS Stebnicka Huta 71.72 336 *e*P **P 22 46 01.3 +0.4**
OSTC Ostas 71.75 339 *e*P **P 22 46 01.4 +0.3**
OSTC AMS AMS 23 21 40.0
comp=Z,400nm,17.6s
OSTC Ostas 71.75 339 *e*P **P 22 46 01.4 +0.3**
OSTC MLR MLR
comp=Z,400nm,17.6s
CHVC Chvalec 71.76 340 *e*P **P 22 46 01.4 +0.3**
CHVC AMS AMS 23 21 50.0
comp=Z,400nm,15.8s
CHVC Chvalec 71.76 340 *e*P **P 22 46 01.4 +0.3**
CHVC MLR MLR
comp=Z,400nm,15.8s
WME Myndd Eilian 71.78 353 *e*P **P 22 46 00.3 -0.8**
KSV Kosov 71.78 333 P **P 22 46 01.0 -0.3**
WPS Cemaes, Angles 71.79 353 *e*P **P 22 46 00.1 -1.1**
WPS IAmb IAmb 22 46 02.1
comp=Z,9.4nm,0.8s
UPC Upice 71.84 340 *e*P **P 22 46 02.2 +0.6**
UPC AMS AMS 23 21 50.0
comp=Z,400nm,13.3s
UPC Upice 71.84 340 *e*P **P 22 46 02.2 +0.6**
UPC MLR MLR
comp=Z,400nm,13.3s
WLF1 Llynfaes 71.89 353 *e*P **P 22 46 00.5 -1.2**
WLF1 IAmb IAmb 22 46 02.8
comp=Z,16nm,0.8s
BRG Berggiesshubel 71.90 341 *e*P **P 22 46 02.0 +0.1**
BRG Amp 22 46 02.6
comp=Z,11nm,0.9s
BRG Berggiesshubel 71.90 341 *e*P 22 46 02.2
comp=Z,7.3nm,0.7s,baz=15,slow=6.0
KOLS Kolonicke sedl 71.92 335 *e*P **P 22 46 02.8 +0.7**
KOLS pmax pmax
comp=Z,15nm,0.7s
KOLS Kolonicke sedl 71.92 335 *e*P **P 22 46 02.8 +0.7**
DPC Dobruska-Polom 71.93 339 *e*P **P 22 46 02.9 +0.8**
DPC AMS AMS 23 23 20.0
comp=Z,400nm,14.8s
DPC Dobruska-Polom 71.93 339 *e*P **P 22 46 02.9 +0.8**
DPC MLR MLR
comp=Z,400nm,14.8s
NIE Niedzica 71.94 336 *e*P **P 22 46 03.1 +0.8**
NIE *e*L L 23 22 22.3
comp=Z,282nm,15.3s
GTTG Gottingen 71.95 344 *e*P 22 46 02.2
comp=Z,5.4nm,0.7s,baz=15,slow=6.0
LKRN Lenkeran, Azer 71.96 312 P **P 22 46 01.0 -1.4**
NEUB Neuenburg 71.97 342 *e*P 22 46 02.5
comp=Z,14nm,0.7s,baz=15,slow=6.0
STEB Steborice 72.02 338 *e*P **P 22 46 03.1 +0.5**
MILM Milestii Mici 72.02 330 ⇓*i*P **P 22 46 02.0 -0.6**
comp=Z,160nm,2.5s
MILM Milestii Mici 72.02 330 *e*PcP P 22 46 11.0 +8.3
MILM *e*S **S 22 55 19.0 -4.7**
MILM LQM 23 16 32.0
comp=Z,450nm,16.0s
MILM LRM MLR 23 25 46.0
comp=Z,300nm,14.5s
MILM Milestii Mici 72.02 330 ⇓P **P 22 46 02.1 -0.6**
MILM Milestii Mici 72.02 330 P **P 22 46 02.1 -0.6**
WACR West Acre 72.03 350 *e*P **P 22 46 01.9 -0.6**
WACR IAmb IAmb 22 46 04.1
comp=Z,48nm,0.9s
OKC Ostrava-Krasne 72.03 338 *e*P **P 22 46 03.1 +0.4**
OKC AMS AMS 23 22 20.0
comp=Z,300nm,15.2s
OKC Ostrava-Krasne 72.03 338 *e*P **P 22 46 03.1 +0.4**
OKC MLR MLR
comp=Z,300nm,15.2s
IGLA Glengowla, Co 72.03 356 P **P 22 46 01.8 -0.8**
PURM Purcari 72.06 329 ⇑P **P 22 46 02.8 -0.1**
DSB Dublin 72.06 354 P **P 22 46 02.9 +0.1**
DSB IAmb IAmb 22 46 04.7
comp=Z,26nm,0.7s
DSB Dublin 72.06 354 P **P 22 46 02.6 -0.2**
KRLC Kraliky 72.09 339 *e*P **P 22 46 03.9 +0.8**
KRLC AMS AMS 23 22 20.0
comp=Z,300nm,15.1s
KRLC Kraliky 72.09 339 *e*P **P 22 46 03.9 +0.8**
KRLC MLR MLR
comp=Z,300nm,15.1s
PVCC Panska Ves 72.11 340 *e*P **P 22 46 03.4 +0.3**
PVCC AMS AMS 23 25 30.0
comp=Z,400nm,12.1s
PVCC Panska Ves 72.11 340 *e*P **P 22 46 03.4 +0.3**
PVCC MLR MLR
comp=Z,400nm,12.1s
MYKOM Kota Tinggi 72.12 247 P **P 22 46 04.2 +0.5**
SIM Simferopol' 72.15 325 P P 22 45 55.4 -8.1
SIM S S 22 55 17.0 -8.2
RICC Richard 72.18 341 *e*P **P 22 46 04.0 +0.4**
CWF Charnwood Fore 72.20 351 *e*P **P 22 46 03.5 -0.1**
FOEL Foel Wylfa 72.20 352 *e*P **P 22 46 03.8 +0.1**
FOEL IAmb IAmb 22 46 05.3
comp=Z,22nm,0.9s
MORC Moravsky Berou 72.22 338 P **P 22 46 03.9 0.0**
MORC IAmb IAmb 22 46 06.3
comp=Z,16nm,0.8s
MORC Moravsky Berou 72.22 338 *e*P **P 22 46 04.3 +0.4**
MORC Moravsky Berou 72.22 338 ⇓P **P 22 46 04.8 +0.9**
MORC Moravsky Berou 72.22 338 P **P 22 46 03.9 0.0**
MORC pmax pmax
comp=Z,16nm,0.8s
HSKC Hora Svate Kat 72.25 341 AMS AMS 23 26 40.0
comp=Z,400nm,15.8s
BUR08 Bucovina Ar. S 72.37 333 P **P 22 46 04.7 -0.2**
BUR08 IAmb IAmb 22 46 06.7
comp=Z,14nm,0.8s
LANS Liptovska Anna 72.38 337 *e*P **P 22 46 06.2 +1.3**
LANS pmax pmax
comp=Z,15nm,0.7s
LANS Liptovska Anna 72.38 337 *e*P **P 22 46 06.2 +1.3**
BURAR Bucovina Array 72.39 333 ⇑P **P 22 46 04.9 -0.2**
BURAR Bucovina Array 72.39 333 P **P 22 46 04.8 -0.2**
GNI Garni 72.42 316 P **P 22 46 05.8 +0.4**
GNI IAmb IAmb 22 46 19.4
comp=Z,34nm,1.1s
GNI Garni 72.42 316 P **P 22 46 05.8 +0.4**
GNI pmax pmax
comp=Z,34nm,1.1s
GNI Garni 72.42 316 P **P 22 46 06.7 +1.3**
BUG Bochum--Univer 72.47 345 *e*P 22 46 05.6
comp=Z,13nm,0.8s,baz=15,slow=6.0
TKL Tuckaleechee C 72.52 53 P **P 22 46 05.7 -0.2**
TKL IAmb IAmb 22 47 07.7
comp=Z,56nm,1.6s
TKL Tuckaleechee C 72.52 53 LR LR 23 18 59.9
comp=Z,861nm,19.8s,baz=332,slow=37
TKL Tuckaleechee C 72.52 53 P **P 22 46 05.7 -0.2**
TKL pmax pmax
comp=Z,56nm,1.7s
KASTN Kahler Asten 72.53 345 *e*P 22 46 05.9
comp=Z,4.3nm,0.7s,baz=15,slow=6.0
MOX Moxa 72.54 342 *e*P 22 46 06.1
comp=Z,13nm,0.9s,baz=15,slow=6.0
MAUC Maruska 72.54 338 *e*P **P 22 46 06.8 +1.0**
MAUC AMS AMS 23 22 50.0
comp=Z,600nm,14.6s
HLM1 Long Mynd 72.55 352 *e*P **P 22 46 05.3 -0.4**
PRA Prague 72.57 340 *e*P **P 22 46 06.6 +0.7**
PRA AMS AMS 23 22 20.0
comp=Z,600nm,17.2s
PRA Prague 72.57 340 *e*P **P 22 46 06.6 +0.7**
PRA MLR MLR
comp=Z,600nm,17.2s
TANN Tannenbergstha 72.61 342 *e*P 22 46 06.7
comp=Z,5.2nm,0.7s,baz=15,slow=6.0
PRU Pruhonice 72.63 340 *e*P **P 22 46 06.4 +0.1**
PRU AMS AMS 23 22 10.0
comp=Z,500nm,14.0s
PRU Pruhonice 72.63 340 *e*P **P 22 46 06.4 +0.1**
PRU MLR MLR
comp=Z,500nm,14.0s
UBBA Unterbreizbach 72.65 344 *e*P 22 46 06.5
comp=Z,4.9nm,0.7s,baz=15,slow=6.0
GOPC GO Pecny, Ondr 72.65 340 AMS AMS 23 22 10.0
comp=Z,400nm,13.2s
BLA Blacksburg 72.74 49 P **P 22 46 06.9 -0.3**
BLA Blacksburg 72.74 49 P **P 22 46 06.9 -0.3**
BLA pmax pmax
comp=Z,37nm,0.9s
KECS Kecovo 72.77 336 *e*P **P 22 46 08.2 +1.0**
KECS Kecovo 72.77 336 *e*P **P 22 46 08.2 +1.0**
BMR Baia Mare 72.78 334 ⇑P **P 22 46 08.0 +0.8**
BMR Baia Mare 72.78 334 P **P 22 46 08.0 +0.8**
NKC Novy Kostel 72.79 342 *e*P **P 22 46 07.6 +0.4**
NKC AMS AMS 23 25 00.0
comp=Z,400nm,15.6s
NKC Novy Kostel 72.79 342 *e*P **P 22 46 07.6 +0.4**
NKC MLR MLR
comp=Z,400nm,15.6s
VRAC Vranov 72.86 339 *e*P **P 22 46 08.3 +0.6**
VRAC Vranov 72.86 339 ⇑P **P 22 46 08.9 +1.2**
VRAC Vranov 72.86 339 P **P 22 46 08.8 +1.2**
NAX Nakhchivan 72.95 315 P **P 22 46 06.8 -1.6**
IWEX Carrickbyrne, 72.95 355 P **P 22 46 08.5 +0.4**
TESR Tescani 73.01 331 ⇓P **P 22 46 08.7 +0.1**
JAVC Velka Javorina 73.06 338 *e*P **P 22 46 10.4 +1.5**
MCH1 Michaelchurch 73.08 352 *e*P **P 22 46 08.9 0.0**
MCH1 IAmb IAmb 22 46 10.3
comp=Z,30nm,0.8s
MANZ Manzenberg 73.09 342 *e*P 22 46 09.4
comp=Z,2.1nm,0.8s,baz=15,slow=6.0
TREC Trest 73.10 340 *e*P **P 22 46 09.7 +0.6**
TREC Trest 73.10 340 *e*P **P 22 46 09.7 +0.6**
ARCR ARCALIA 73.11 333 ⇑P **P 22 46 10.4 +1.2**
MTN Manton Dam 73.12 214 P **P 22 46 08.9 -0.6**
KRUC Moravsky 73.14 339 *e*P **P 22 46 10.0 +0.7**
VYHS Vyhne 73.14 337 *e*P **P 22 46 10.0 +0.6**
VYHS pmax pmax
comp=Z,23nm,1.5s
VYHS Vyhne 73.14 337 *e*P **P 22 46 10.0 +0.6**
GHRR 73.21 330 ⇑P **P 22 46 10.2 +0.5**
VLDR Vladesti 73.21 330 ⇑P **P 22 46 10.0 +0.2**
MONM Monmouth 73.22 352 *e*P **P 22 46 09.7 +0.1**
MONM IAmb IAmb 22 46 11.3
comp=Z,48nm,0.8s
ZVC Zvikov 73.22 340 *e*P **P 22 46 10.3 +0.5**
ZVC AMS AMS 23 22 30.0
comp=Z,500nm,14.9s
STRD Stroud 73.23 352 *e*P **P 22 46 09.8 +0.1**
STRD IAmb IAmb 22 46 11.3
comp=Z,32nm,0.9s
VARL Varlezi 73.23 330 ⇓P **P 22 46 10.3 +0.5**
ZAIG Zacatecas 73.23 74 P **P 22 46 11.1 +0.4**
ZAIG IAmb IAmb 22 46 13.4
comp=Z,14nm,0.9s
ONER Baraj Valea Uz 73.24 331 ⇑P **P 22 46 09.8 -0.2**
RSBS Rosebush, Pemb 73.25 353 *e*P **P 22 46 08.9 -1.0**
RSBS IAmb IAmb 22 46 11.3
comp=Z,7.1nm,0.9s
ROTZ Rotzenmuhle 73.28 342 *e*P 22 46 10.5
comp=Z,2.9nm,0.8s,baz=15,slow=6.0
COSR Cosmesti PH 73.42 330 ⇑P **P 22 46 12.2 +1.2**
SMOL Smolenice 73.44 338 *e*P **P 22 46 12.8 +1.7**
SMOL pmax pmax
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 73.44 336 P **P 22 46 11.9 +0.7**
PSZ IAmb IAmb 22 46 13.9
comp=Z,17nm,1.0s
PSZ Piszkesteto 73.44 336 ⇑P **P 22 46 12.0 +0.7**
PSZ Piszkesteto 73.44 336 P **P 22 46 11.9 +0.7**
PSZ pmax pmax
comp=Z,17nm,1.0s
PSZ Piszkesteto 73.44 336 *e*P **P 22 46 13.0 +1.8**
PANC Panciu 73.45 331 ⇑P **P 22 46 11.8 +0.6**
SWN1 Swindon 73.46 351 *e*P **P 22 46 11.5 +0.4**
MEM Membach 73.46 346 *d*P **P 22 46 10.8 -0.4**
comp=Z,20nm,0.9s
BTNL Ternell 73.46 346 *d*P **P 22 46 11.1 -0.2**
comp=Z,20nm,0.9s
TNS Taunus Mts 73.47 344 *e*P 22 46 11.7
comp=Z,8.6nm,0.8s,baz=15,slow=6.0
UCC Uccle 73.49 347 *d*P **P 22 46 10.9 -0.4**
GRF Grafenberg Arr 73.53 342 *e*P 22 46 11.9
comp=Z,24nm,0.8s,baz=15,slow=6.0
GRFO Grafenberg 73.53 342 P **P 22 46 11.9 +0.3**
GRFO IAmb IAmb 22 46 14.0
comp=Z,30nm,0.8s
GRFO Grafenberg 73.53 342 P **P 22 46 11.9 +0.3**

GRFO pmax pmax
comp=Z,30nm,0.8s
VAL Valentia 73.54 357 P **P 22 46 12.7 +1.1**
BSTI Sart Tilman 73.54 346 *d*P **P 22 46 12.0 +0.4**
ODBI Odobesti 73.58 331 ⇑P **P 22 46 13.4 +1.4**
VRI Vrincioaia 73.58 331 ⇑P **P 22 46 12.4 +0.4**
VRI Vrincioaia 73.58 331 P **P 22 46 12.4 +0.4**
TLCR 73.59 329 ⇑P **P 22 46 13.0 +1.0**
TLCR 73.59 329 P **P 22 46 12.8 +0.8**
MODS Modra-Piesok 73.60 338 *e*P **P 22 46 13.4 +1.3**
MODS pmax pmax
comp=Z,41nm,1.0s
MODS Modra-Piesok 73.60 338 *e*P **P 22 46 13.4 +1.3**
CBBR Cluj-Babes-Bol 73.61 333 ⇓P **P 22 46 12.8 +0.7**
PLOR Plostina 73.61 331 ⇑P **P 22 46 12.7 +0.5**
PLOR Plostina 73.61 331 P **P 22 46 12.7 +0.5**
OZUR 73.63 332 ⇑P **P 22 46 12.4 +0.1**
KHC Kasperske Hory 73.64 341 *e*P **P 22 46 12.9 +0.6**
KHC AMS AMS 23 22 50.0
comp=Z,500nm,11.0s
KHC Kasperske Hory 73.64 341 *e*P **P 22 46 12.9 +0.6**
KHC MLR MLR
comp=Z,500nm,11.0s
CJR Cluj-Napoca 73.65 333 ⇑P **P 22 46 13.4 +1.0**
CJR Cluj-Napoca 73.65 333 P **P 22 46 13.4 +1.0**
BHOU Houvegnez 73.71 346 *d*P **P 22 46 12.6 0.0**
comp=Z,9.1nm,0.8s
BCLA Clavier 73.74 346 *d*P **P 22 46 13.9 +1.1**
COVR Voineasa-Covas 73.74 331 ⇑P **P 22 46 14.1 +1.1**
WET Wettzell 73.76 341 *e*P 22 46 13.6
comp=Z,14nm,0.8s,baz=15,slow=6.0
HYB Hyderabad 73.77 277 *e*P **P 22 46 13.2 -0.3**
CKRC Cesky Krumlov 73.79 340 *e*P **P 22 46 13.8 +0.6**
CKRC AMS AMS 23 24 20.0
comp=Z,400nm,16.0s
CKRC Cesky Krumlov 73.79 340 *e*P **P 22 46 13.8 +0.6**
CKRC MLR MLR
comp=Z,400nm,16.0s
CFR Carcaliu 73.80 330 ⇑P **P 22 46 13.5 +0.3**
CFR Carcaliu 73.80 330 P **P 22 46 13.5 +0.3**
BGES Gesves 73.80 347 *d*P **P 22 46 13.0 -0.2**
MARR Marisel-Cluj 73.81 334 ⇑P **P 22 46 13.0 -0.4**
DOPR Dopca 73.86 332 ⇑P **P 22 46 14.8 +1.1**
BISRR Bisoca 73.87 331 ⇑P **P 22 46 14.2 +0.4**
GEC2 GERESS Array S 73.89 341 P **P 22 46 13.7 -0.1**
GEC2 IAmb IAmb 22 46 15.9
comp=Z,16nm,0.8s
GERES GERESS Array B 73.89 341 P **P 22 46 13.8 -0.1**
GERES GERESS Array B 73.89 341 P **P 22 46 14.0 +0.2**
comp=Z,12nm,0.7s,baz=22,slow=4.8,SNR=127
GERES LR LR 23 22 19.9
comp=Z,330nm,18.4s,baz=40,slow=39
comp=Z,12nm,0.7s
GERES GERESS Array B 73.89 341 P **P 22 46 13.8 -0.1**
GEC2 GERESS Array S 73.89 341 *e*P 22 46 14.3
comp=Z,12nm,0.8s,baz=15,slow=6.0
SRO Srobarova 73.90 337 *e*P **P 22 46 15.2 +1.4**
SRO pmax pmax
comp=Z,65nm,2.4s
SRO Srobarova 73.90 337 *e*P **P 22 46 15.2 +1.4**
BMRD Maredsous 73.93 347 *d*P **P 22 46 14.1 +0.2**
comp=Z,6.2nm,0.8s
PSI Prapat 73.94 251 LR LR 23 21 55.9
comp=Z,142nm,18.2s,baz=12,slow=38
PSI Prapat 73.94 251 P **P 22 46 14.5 -0.1**
PSI pmax pmax
comp=Z,9.0nm,0.9s
TPGR Topolog 74.01 329 ⇓P **P 22 46 14.9 +0.3**
RPSI Rantau Prapat 74.03 251 P **P 22 46 14.5 -0.4**
BUD Budapest 74.05 337 P **P 22 46 15.7 +1.0**
MLR Muntele Rosu 74.14 331 P **P 22 46 15.2 -0.2**
MLR IAmb IAmb 22 46 18.3
comp=Z,19nm,0.7s
MLR Muntele Rosu 74.14 331 ⇓P **P 22 46 16.6 +1.2**
MLR Muntele Rosu 74.14 331 P **P 22 46 15.2 -0.2**
MLR pmax pmax
comp=Z,19nm,0.7s
DOU Dourbes 74.15 347 *d*P **P 22 46 14.1 -1.1**
comp=Z,4.5nm,1.0s
HTL Hartland 74.19 353 *e*P **P 22 46 15.0 -0.3**
HTL IAmb IAmb 22 46 16.9
comp=Z,20nm,0.8s
HARR Harsova 74.31 330 ⇑P **P 22 46 16.2 -0.1**
HARR Harsova 74.31 330 P **P 22 46 16.1 -0.1**
CONA Conrad Observa 74.33 339 *i* pP **P 22 46 17.5 +1.1**
comp=Z,16nm,1.0s,SNR=15
WLF Walferdange 74.36 346 *d*P **P 22 46 16.1 -0.3**
WLF Walferdange 74.36 346 *e*P 22 46 17.2
baz=15,slow=6.0
SOP Sopron 74.41 338 P **P 22 46 17.9 +1.1**
VOIR 74.44 332 ⇑P **P 22 46 18.3 +1.1**
VOIR 74.44 332 P **P 22 46 18.2 +1.1**
RONA Rosalia, Austr 74.45 338 *i* pP **P 22 46 18.4 +1.3**
comp=Z,12nm,1.0s,SNR=8.1
AMRR Amara 74.55 330 ⇑P **P 22 46 17.6 -0.1**
AMRR Amara 74.55 330 P **P 22 46 17.5 -0.1**
SIRR Siria 74.56 334 ⇑P **P 22 46 18.6 +0.9**
ARR Arges 74.62 332 ⇑P **P 22 46 19.3 +1.2**
DYA Yadsworthy 74.70 353 *e*P **P 22 46 18.0 -0.4**
DYA IAmb IAmb 22 46 19.7
comp=Z,29nm,0.8s
MOA Molln 74.73 340 *i* pP **P 22 46 19.2 +0.6**
comp=Z,8.2nm,0.9s,SNR=6.7
STU Stuttgart 74.76 343 P **P 22 46 18.7 -0.1**
STU Stuttgart 74.76 343 P **P 22 46 20.4 +1.6**
STU pmax pmax
comp=Z,12nm,0.9s
STU Stuttgart 74.76 343 *e*P **P 22 46 19.1 +0.3**
STU Stuttgart 74.76 343 *e*P 22 46 19.3
comp=Z,18nm,0.8s,baz=15,slow=6.0
LOT Lotru 74.77 333 ⇓P **P 22 46 19.0 -0.1**
ICOR Ion Corvin 74.87 329 ⇓P **P 22 46 20.1 +0.6**
GURO Guroymak-BITLI 74.88 317 P **P 22 46 19.7 -0.1**
SURR Surduc 74.92 334 ⇑P **P 22 46 20.3 +0.5**
FUR Furstenfeldbru 74.99 342 *e*P 22 46 20.5
comp=Z,12nm,0.7s,baz=15,slow=6.0
BIOA Bad Ischl, Aus 75.00 340 *i* pP **P 22 46 20.7 +0.5**
comp=Z,6.6nm,0.9s
ARSA Arzberg 75.04 339 *i* pP **P 22 46 21.5 +1.0**
comp=Z,14nm,0.9s,SNR=13
GZR Gura Zlata 75.09 333 ⇑P **P 22 46 20.5 -0.3**
GZR Gura Zlata 75.09 333 P **P 22 46 20.5 -0.3**
RJOB Jochberg 75.12 341 *e*P 22 46 21.5
comp=Z,40nm,0.8s,baz=15,slow=6.0
BZS Buzias 75.18 334 ⇑P **P 22 46 20.8 -0.5**
BZS Buzias 75.18 334 P **P 22 46 20.7 -0.5**
BFO Black Forest 75.33 344 P **P 22 46 21.9 -0.2**
BFO IAmb IAmb 22 46 23.8
comp=Z,16nm,0.8s
BFO Black Forest 75.33 344 P **P 22 46 21.9 -0.2**
BFO pmax pmax
comp=Z,16nm,0.8s
BFO Black Forest 75.33 344 *e*P 22 46 22.7
comp=Z,10nm,0.8s,baz=15,slow=6.0
MORH Mrgy, Hungar 75.33 336 ⇑P **P 22 46 22.5 +0.4**
LESA Schwarzleotal 75.44 341 *i* pP **P 22 46 23.6 +0.7**
comp=Z,12nm,0.7s,SNR=11
ECH Echery 75.62 345 P **P 22 46 23.5 -0.3**
ECH IAmb IAmb 22 46 34.8
comp=Z,22nm,1.4s
ECH Echery 75.62 345 P **P 22 46 23.5 -0.3**
ECH pmax pmax
comp=Z,22nm,1.4s
KBA Koelnbreinsper 75.65 340 P **P 22 46 25.3 +1.1**
KBA Koelnbreinsper 75.65 340 *i* pP **P 22 46 25.5 +1.4**
comp=Z,32nm,0.8s,SNR=33
HERR Herculane 75.66 333 ⇑P **P 22 46 23.6 -0.4**
UBR Ueberruh 75.67 343 *e*P 22 46 24.5
comp=Z,11nm,0.8s,baz=15,slow=6.0
SOKA Soboth 75.69 339 *i* pP **P 22 46 25.0 +0.7**
comp=Z,12nm,0.8s,SNR=12
PERS Pernice 75.71 339 *e*P **P 22 46 24.9 +0.6**
WATA Walderalm 75.73 342 *i* pP **P 22 46 25.3 +0.7**
comp=Z,13nm,0.7s,SNR=5.9
RETA Reutte 75.74 342 *i* pP **P 22 46 24.9 +0.4**
comp=Z,8.4nm,0.8s,SNR=8.3
WTTA Wattenberg 75.79 341 *i* pP **P 22 46 25.8 +0.8**
comp=Z,19nm,0.7s,SNR=12
GROS Grobnik 75.80 339 *i* P **P 22 46 25.4 +0.5**
MOTA Moosalm 75.81 342 *i* pP **P 22 46 25.5 +0.5**
comp=Z,19nm,0.7s
SQTA Sankt Quirin 75.91 342 *i* pP **P 22 46 26.3 +0.7**
comp=Z,25nm,0.7s,SNR=28
GSI Gunungsitoli 75.92 252 P **P 22 46 26.3 +0.4**

MDVR Moldovita 75.93 334 ⇑P **P 22 46 25.8 +0.1**
OBKA Obir 75.95 339 ⇓*i*P **P 22 46 26.3 +0.5**
OBKA Obir 75.95 339 *i* pP **P 22 46 26.7 +0.9**
comp=Z,46nm,0.8s,SNR=28
MYKA Terra Mystica 76.02 340 *i* pP **P 22 46 26.6 +0.4**
comp=Z,9.5nm,0.7s,SNR=9.0
FRGS Fruska Gora 76.05 335 ⇓*i*P **P 22 46 26.1 -0.2**
PUNG Punghina 76.08 333 ⇑P **P 22 46 26.3 -0.2**
DAVA Damuels 76.08 343 *e*P **P 22 46 26.1 -0.5**
comp=Z,6.9nm,0.9s
ABTA Abfaltersbach 76.12 341 *i* pP **P 22 46 27.4 +0.6**
comp=Z,19nm,0.8s,SNR=30
FETA Feichten 76.19 342 *i* pP **P 22 46 28.1 +0.9**
comp=Z,28nm,0.9s,SNR=17
PRED Cave del Predi 76.21 340 P **P 22 46 27.2 -0.1**
CRES Cresnjevec Ost 76.41 338 ⇓*i*P **P 22 46 28.6 +0.3**
STAL STALIGIAL 76.56 340 P **P 22 46 29.2 +0.1**
KNRA Kunundurra 76.56 216 P **P 22 46 29.3 0.0**
KNRA IAmb IAmb 22 47 50.9
comp=Z,34nm,1.6s
DZM Mont Dzumac 76.58 178 *e*LR LR 23 10 02.1
comp=Z,133nm,21.8s
FUORN Ofenpass-Fuorn 76.66 342 P **P 22 46 30.1 +0.1**
FUORN IAmb IAmb 22 46 34.1
comp=Z,19nm,0.8s
TEKS Tekeris 76.69 335 *e*P **P 22 46 29.4 -0.6**
CEY Cerknica 76.71 339 ⇓*i*P **P 22 46 29.7 -0.4**
BOJS Bojanci 76.76 338 *e*P **P 22 46 30.5 +0.2**
A051A Mrakovica 76.87 337 *e*P **P 22 46 30.6 -0.4**
BNN Bunyan 76.96 321 P **P 22 46 31.5 -0.2**
BNN IAmb IAmb 22 46 32.6
comp=Z,32nm,0.9s
BR131 Keskin Array S 76.96 323 P **P 22 46 30.8 -0.9**
BR131 Keskin Array S 76.96 323 P **P 22 46 30.8 -0.9**
BR131 pmax pmax
comp=Z,11nm,1.1s
BRTR Keskin Array B 76.96 323 P **P 22 46 30.6 -1.1**
BRTR Keskin Array B 76.96 323 P **P 22 46 31.6 -0.1**
comp=Z,3.3nm,0.7s,baz=53,slow=3.5,SNR=20
comp=Z,3.3nm,0.7s
BRTR Keskin Array B 76.96 323 *i* P **P 22 46 31.7 0.0**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
TUE Stuetta 76.96 343 P **P 22 46 31.8 +0.1**
TUE IAmb IAmb 22 46 37.0
comp=Z,13nm,0.8s
SKDS Skadanscina 76.98 339 ⇓*i*P **P 22 46 31.1 -0.5**
SKDS Skadanscina 76.98 339 *e*P **P 22 46 31.4 -0.2**
BOVS Bovan 77.00 333 ⇓P **P 22 46 31.7 0.0**
BLY Banja Luka 77.06 337 *e*P **P 22 46 30.6 -1.4**
ANTO Ankara 77.12 324 P **P 22 46 32.1 -0.4**
ANTO IAmb IAmb 22 46 44.6
comp=Z,51nm,1.6s
ANTO Ankara 77.12 324 ⇓P **P 22 46 33.0 +0.5**
ANTO Ankara 77.12 324 P **P 22 46 32.1 -0.4**
ANTO pmax pmax
comp=Z,51nm,1.6s
HAPS Han Pijesak,Bl 77.27 335 *e*P **P 22 46 33.6 +0.3**
BBLS Lazi&#263i 77.37 335 *e*P **P 22 46 33.2 -0.6**
SENIN Lac Senin/Sane 77.41 344 P **P 22 46 33.6 -0.6**
A050A Klekovaca 77.46 337 *e*P **P 22 46 34.5 +0.2**
LEM Lembang 77.53 239 LR LR 23 23 30.8
comp=Z,73nm,19.2s,baz=282,slow=38
RUDO Rudo 77.61 335 *e*P **P 22 46 34.7 -0.4**
SJES Sjenica 77.79 334 ⇓*i*P **P 22 46 36.2 -0.1**
PLE Pljevlja 77.87 335 ⇑*i*P **P 22 46 36.9 +0.2**
UPM Unac-Piva 78.11 335 *e*P **P 22 46 37.6 -0.5**
UPM Unac-Piva 78.11 335 ⇑*i*P **P 22 46 37.8 -0.3**
IVA Berane 78.18 334 ⇑*i*P **P 22 46 38.1 -0.3**
TAOE Nuku Hiva Isla 78.32 124 *e*LR LR 23 10 46.9
comp=Z,435nm,32.0s
BRY Bratogost 78.48 335 *e*P **P 22 46 38.9 -1.2**
BRY Bratogost 78.48 335 ⇑*i*P **P 22 46 39.7 -0.4**
NKME Niksic 78.51 335 ⇑*i*P **P 22 46 39.8 -0.4**
WB0 Warramunga Arr 78.67 209 P **P 22 46 41.2 +0.1**
WB0 IAmb IAmb 22 46 51.3
comp=Z,22nm,1.1s
STON Ston 78.71 336 *e*P **P 22 46 40.0 -1.2**
PDG Podgorica 78.75 335 P **P 22 46 41.2 -0.2**
PDG IAmb IAmb 22 46 43.0
comp=Z,33nm,0.9s
PDG Podgorica 78.75 335 ⇓*i*P **P 22 46 41.0 -0.4**
PDG Podgorica 78.75 335 ⇑P **P 22 46 40.8 -0.6**
PDG Podgorica 78.75 335 ⇓*i*P **P 22 46 41.2 -0.2**
BNI Bardonecchia 78.78 344 P **P 22 46 43.9 +2.2**
BNI pmax pmax
comp=Z,89nm,0.9s
WRAB Tennant Creek 78.84 209 P **P 22 46 41.8 -0.2**
WRAB Tennant Creek 78.84 209 P **P 22 46 41.8 -0.2**
WRAB pmax pmax
comp=Z,19nm,1.2s
WRA Warramunga Arr 78.85 209 P **P 22 46 41.5 -0.5**
WRA Warramunga Arr 78.85 209 P **P 22 46 42.4 +0.4**
comp=Z,7.7nm,0.7s,baz=16,slow=5.9,SNR=36
WRA LR LR 23 18 29.9
comp=Z,42nm,21.1s,baz=357,slow=33
comp=Z,7.7nm,0.7s
SSB Saint Sauveur 78.88 346 P **P 22 46 43.3 +1.1**
SSB pmax pmax
comp=Z,16nm,0.8s
HCY Herceg Novi 78.92 335 ⇓*i*P **P 22 46 43.0 +0.6**
VAY Valandovo 78.93 332 *i* P **P 22 46 43.2 +0.8**
BUM Brajici-Budva 78.97 335 ⇓*i*P **P 22 46 42.5 -0.2**
DRME Dracevica, Mon 79.00 335 *e*P **P 22 46 42.3 -0.5**
SHME Shamm 79.03 300 P **P 22 46 42.6 -0.6**
BANOM Banah 79.06 300 *i* P **P 22 46 43.2 -0.2**
SNR=5.4
FDMO Fiordimonte 79.58 339 P **P 22 46 46.4 +0.4**
FDMO IAmb IAmb 22 46 56.6
comp=Z,31nm,0.9s
OHR Ohrid 79.60 333 *i* P **P 22 46 46.5 +0.3**
FITZ Fitzroy Crossi 79.88 218 P **P 22 46 48.3 +0.6**
FITZ Fitzroy Crossi 79.88 218 LR LR 23 21 02.1
comp=Z,58nm,19.5s,baz=359,slow=35
UOSS Minazif 79.92 299 P **P 22 46 46.9 -1.2**
UOSS Minazif 79.92 299 P **P 22 46 46.9 -1.2**
HATD Hatta, Dubai 80.05 299 *i* P **P 22 46 48.0 -0.8**
SNR=7.0
AQU L'Aquila 80.16 339 P **P 22 46 51.4 +2.2**
AQU pmax pmax
comp=Z,32nm,0.8s
ASHO Ashiyiah 80.20 299 P **P 22 46 48.7 -0.9**
SOHO SOHO 80.42 298 *i* P **P 22 46 49.9 -0.8**
SNR=6.2
ASUD Al Ashush, Dub 80.62 300 P **P 22 46 51.4 -0.4**
PALK Pallekele 80.65 269 LR LR 23 27 35.9
comp=Z,223nm,19.9s,baz=32,slow=39
EIDS Eidsvold 80.70 192 P **P 22 46 52.7 +0.7**
AJN Ajban 80.85 300 P **P 22 46 52.0 -1.1**
ALNE Al Ain 80.88 299 *i* P **P 22 46 52.6 -0.7**
SNR=7.6
RAR Rarotonga 81.58 147 LR LR 23 18 17.1
comp=Z,63nm,20.1s,baz=259,slow=32
PPT Papeete 81.89 136 LR LR 23 22 00.7
comp=Z,132nm,18.7s,baz=1.5,slow=35
PPT2 Papeete2 81.91 136 *e*LR LR 23 12 26.5
comp=Z,311nm,24.8s
PPT2 *e*LR LR 23 12 32.6
comp=Z,415nm,24.2s
MMAI Mount Meron Ar 82.30 319 P **P 22 47 00.9 +0.2**
comp=Z,6.5nm,0.7s,baz=35,slow=5.3,SNR=6.6
comp=Z,6.5nm,0.7s
TIP Timpagrande 82.44 335 P **P 22 47 01.6 +0.2**
TIP IAmb IAmb 22 47 03.8
comp=Z,16nm,0.9s
TIP Timpagrande 82.44 335 ⇑P **P 22 47 02.2 +0.9**
AS31 Alice Springs 82.50 208 P **P 22 47 02.1 +0.5**
AS31 Alice Springs 82.50 208 P **P 22 47 01.6 0.0**
comp=Z,4.8nm,0.8s
ASAR Alice Springs 82.50 208 P **P 22 47 02.4 +0.8**
ASAR Alice Springs 82.50 208 P **P 22 47 02.5 +0.9**
comp=Z,10nm,0.7s,baz=16,slow=5.0,SNR=114
comp=Z,10nm,0.7s
MZR Muzera 82.90 300 *i* P **P 22 47 03.2 -0.8**
SNR=16
QLP Quilpie 82.95 198 P **P 22 47 01.6 -2.2**
MTE Manteigas 84.94 354 P **P 22 47 14.4 +0.3**
MTE Manteigas 84.94 354 *e*P **P 22 47 15.4 +1.3**
ESBB Sonseca Array 85.39 351 P **P 22 47 16.8 +0.4**
ESBB IAmb IAmb 22 47 18.7
comp=Z,25nm,0.9s
ESDC Sonseca Array 85.39 351 P **P 22 47 16.5 +0.1**
ESDC Sonseca Array 85.39 351 P **P 22 47 16.6 +0.1**
comp=Z,20nm,0.8s,baz=8.2,slow=4.9,SNR=108

comp=Z,20nm,0.8s
PAB San Pablo 85.55 352 P **P 22 47 17.3 +0.1**
PAB IAmb IAmb 22 47 19.5
comp=Z,15nm,0.8s
PAB San Pablo 85.55 352 P **P 22 47 17.3 +0.1**
PAB pmax pmax
comp=Z,15nm,0.9s
RAYN Ar Rayn 86.32 307 P **P 22 47 20.6 -0.6**
RAYN IAmb IAmb 22 47 22.2
comp=Z,8.4nm,0.7s
RAYN Ar Rayn 86.32 307 P **P 22 47 20.6 -0.6**
RAYN pmax pmax
comp=Z,8.0nm,0.7s
RAYN Ar Rayn 86.32 307 *i* P **P 22 47 20.7 -0.5**
SNR=17
TBI Tubuai 87.16 139 *e*LR LR 23 14 59.9
comp=Z,873nm,28.0s
TBI *e*LR LR 23 15 03.7
comp=Z,1μm,26.8s
KEST Kesra 87.37 340 P **P 22 47 25.9 -0.4**
comp=Z,3.8nm,0.7s,baz=21,slow=12,SNR=2.0
KEST LR LR 23 30 48.0
comp=Z,112nm,18.6s,baz=23,slow=39
comp=Z,3.8nm,0.7s
STKA Stephens Creek 88.60 200 P **P 22 47 32.1 +0.4**
STKA Stephens Creek 88.60 200 P **P 22 47 32.0 +0.4**
comp=Z,60nm,1.9s
STKA Stephens Creek 88.60 200 P **P 22 47 32.3 +0.7**
comp=Z,5.0nm,0.7s,baz=346,slow=7.7,SNR=8.1
STKA LR LR 23 31 08.1
comp=Z,73nm,18.0s,baz=17,slow=38
comp=Z,5.0nm,0.7s
STKA Stephens Creek 88.60 200 P **P 22 47 32.1 +0.4**
STKA pmax pmax
comp=Z,48nm,1.0s
RKT Rikitea 93.11 127 *e*LR LR 23 17 40.8
comp=Z,683nm,24.2s
URZ Urewera 93.31 170 LR LR 23 24 06.6
comp=Z,60nm,20.3s,baz=89,slow=32
NWAO Narrogin (SRO) 96.43 219 LR LR 23 35 51.4
comp=Z,27nm,18.9s,baz=296,slow=38
DBIC Dimbokro 118.13 348 PKP **PKPdf 22 53 26.2 -0.2**
comp=Z,6.0nm,0.9s,baz=327,slow=1.9,SNR=4.7
LPAZ La Paz 124.27 68 PKP **PKPdf 22 53 38.8 +0.1**
comp=Z,2.6nm,0.8s,baz=346,slow=4.2,SNR=9.2
PB09 IPOC Station P 128.14 73 **PKPdf 22 53 45.8 +0.4**
RCBR Riachuelo 128.41 27 PKPdf **PKPdf 22 53 46.1 0.0**
RCBR Riachuelo 128.41 27 PKIKP **PKPdf 22 53 46.1 0.0**
VNDA Vanda 132.07 181 PKP **PKPdf 22 53 51.4 +0.4**
comp=Z,1.0nm,0.8s,baz=358,slow=3.2,SNR=3.7
BDFB Brasilia 133.45 46 PKP **PKPdf 22 53 56.0 +0.4**
comp=Z,1.6nm,0.5s,baz=350,slow=6.1,SNR=4.5
BDFB Brasilia 133.45 46 PKIKP **PKPdf 22 53 56.0 +0.4**
LPHEP Lephephe 136.24 299 PKPdf **PKPdf 22 54 01.2 +0.6**
CPUP Villa Florida 138.21 64 PKP **PKPdf 22 54 03.4 -0.6**
comp=Z,1.0nm,0.7s,baz=346,slow=1.5,SNR=3.3
BOSA Boshof 140.83 295 PKP **PKPdf 22 54 09.0 +0.1**
comp=Z,2.5nm,0.7s,baz=29,slow=4.8,SNR=4.3
BOSA Boshof 140.83 295 PKIKP **PKPdf 22 54 09.0 +0.1**
PLCA Paso Flores 141.32 92 PKhKP PKPpre 22 54 03.8
comp=Z,2.2nm,0.9s,baz=301,slow=5.9,SNR=5.8
PLCA PKP **PKPdf 22 54 09.6 +0.2**
comp=Z,5.5nm,0.8s,baz=315,slow=2.3,SNR=9.0
LL02 Futaleuf 142.13 96 **PKPdf 22 54 10.8 +0.3**
TRQA Tornquist 144.49 81 **PKPab 22 54 14.2 +1.0**
TRQA Tornquist 144.49 81 PKIKP **PKPab 22 54 14.3 +1.0**
PLTB Pedras Altas 144.49 65 **PKPab 22 54 13.3 -0.2**
QSPA South Pole Qui 144.56 180 PKPdf **PKPab 22 54 12.0 -0.7**
QSPA South Pole Qui 144.56 180 PKP **PKPab 22 54 12.3 -0.4**
comp=Z,20nm,0.7s,baz=9.9,slow=1.3,SNR=93
SUR Sutherland 146.14 297 PKPbc **PKPbc 22 54 20.4 +1.2**
SYO Syowa Base 151.72 218 ⇓*es*PKPdf **PKPbc 22 54 32.2 +0.2**
SYO Syowa Base 151.72 218 ⇑*e*PKPbc **PKPbc 22 54 33.4 +1.4**
ELIB Princess Elisa 156.31 209 *d*PKPdf **PKPdf 22 54 33.6 +1.3**
ELIB *d*PKP **PKPab 22 55 01.4 +0.7**

KRSC ***20*** *22:37:55.9±1.4, 54°.79N×164°.66E, h60km±27km, Ml4.1*
IDC ***20*** *22:37:55.4±1.5, 55°.02N×164°.55E, h0km, mb3.8/8, mbtmp3.8/9, ML2.8/1, MS4.0/3, Error ellipse: s-maj=46.9km s-min=20.0km az=157.0*
MOS ***20*** *22:37:57.4±0.6, 54°.76N×164°.74E, h42km, mb3.7/1, Error ellipse: s-maj=7.5km s-min=7.0km az=147.8*
ISC 20 22:37:57.3±1.7, 54°.80N±0°.04×164°.69E±0°.06, h20km±15km, n78, σ1.9±38/97, mb3.9/8, MS4.1/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.84**	**61**	PN	**Pb**	**22 38 13.2**	**0.0**
BKI				S	**Sb**	**22 38 24.1**	**0.0**
BKI	**Bering**	**0.84**	**61**	*e*P	**Pb**	**22 38 13.2**	**0.0**
BKI				*e*S	**Sb**	**22 38 24.1**	**0.0**
MKZ	**Mys Kozlova**	**1.73**	**263**	PN	**Pn**	**22 38 25.5**	**-0.7**
MKZ				S	**Sn**	**22 38 45.1**	**-2.6**
MKZ	**Mys Kozlova**	**1.73**	**263**	*e*P	**Pn**	**22 38 25.6**	**-0.7**
MKZ				*e*S	**Sn**	**22 38 45.2**	**-2.6**
KBTR	**Krutoberegovo**	**1.77**	**324**	PN	**Pn**	**22 38 25.6**	**-1.1**
KBTR				S	**Sn**	**22 38 45.3**	**-3.4**
KBTR	**Krutoberegovo**	**1.77**	**324**	*e*P	**Pn**	**22 38 25.6**	**-1.1**
KBTR				*e*S	**Sn**	**22 38 45.3**	**-3.4**
KBG	**Krutoberegovo**	**1.85**	**323**	*e*S	**Sn**	**22 38 48.2**	**-2.3**
TUMD	**Tumrok D**	**2.50**	**281**	PN	**Pn**	**22 38 36.6**	**-0.3**
TUMD	**Tumrok D**	**2.50**	**281**	*e*P	**Pn**	**22 38 36.6**	**-0.3**
ZLN	**Zelenaya**	**2.53**	**300**	PN	**Pn**	**22 38 38.6**	**+1.3**
ZLN	**Zelenaya**	**2.53**	**300**	*e*P	**Pn**	**22 38 38.6**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**2.55**	**298**	*e*S	**Sn**	**22 39 08.2**	**+0.1**
SMKR	**Semkarok**	**2.56**	**316**	PN	**Pn**	**22 38 39.0**	**+1.4**
SMKR				S	**Sn**	**22 39 09.3**	**+1.2**
SMKR	**Semkarok**	**2.56**	**316**	*e*P	**Pn**	**22 38 39.0**	**+1.4**
SMKR				*e*S	**Sn**	**22 39 09.3**	**+1.2**
LGNR	**Loginova**	**2.62**	**301**	PN	**Pn**	**22 38 39.9**	**+1.3**
LGNR	**Loginova**	**2.62**	**301**	*e*P	**Pn**	**22 38 40.0**	**+1.3**
BDR	**Baidarnaya**	**2.65**	**313**	*e*S	**Sn**	**22 39 10.4**	**-0.1**
BZMR	**Bezymyannaya**	**2.65**	**297**	PN	**Pn**	**22 38 39.8**	**+0.8**
BZMR	**Bezymyannaya**	**2.65**	**297**	*e*P	**Pn**	**22 38 39.8**	**+0.8**
BZWR	**Bezymyannyi-We**	**2.66**	**298**	PN	**Pn**	**22 38 39.7**	**+0.5**
BZWR	**Bezymyannyi-We**	**2.66**	**298**	*e*P	**Pn**	**22 38 39.8**	**+0.5**
KIRR	**Kirishev**	**2.74**	**297**	PN	**Pn**	**22 38 40.7**	**+0.5**
KIRR				S	**Sn**	**22 39 11.0**	**-1.7**
KIRR	**Kirishev**	**2.74**	**297**	*e*P	**Pn**	**22 38 40.7**	**+0.5**
KIRR				*e*S	**Sn**	**22 39 11.1**	**-1.7**
KRSR	**Krestovskiy**	**2.74**	**303**	PN	**Pn**	**22 38 40.7**	**+0.5**
KRSR				S	**Sn**	**22 39 11.1**	**-1.7**
KRSR	**Krestovskiy**	**2.74**	**303**	*e*P	**Pn**	**22 38 40.8**	**+0.5**
KRSR				*e*S	**Sn**	**22 39 11.1**	**-1.7**
KLY	**Klyuchi**	**2.75**	**305**	PN	**Pn**	**22 38 39.0**	**-1.2**
KLY				S	**Sn**	**22 39 10.1**	**-2.7**
KLY	**Klyuchi**	**2.75**	**305**	*e*P	**Pn**	**22 38 39.0**	**-1.2**
KLY				*e*S	**Sn**	**22 39 10.1**	**-2.7**
KPT	**Kopyto**	**2.81**	**297**	PN	**Pn**	**22 38 42.4**	**+1.3**
KPT	**Kopyto**	**2.81**	**297**	*e*P	**Pn**	**22 38 42.4**	**+1.3**
KOZ	**Kozyrevsk**	**3.02**	**297**	PN	**Pn**	**22 38 45.2**	**+1.3**
KOZ				S	**Sn**	**22 39 20.2**	**+0.7**
KOZ	**Kozyrevsk**	**3.02**	**297**	*e*P	**Pn**	**22 38 45.3**	**+1.3**
KOZ				*e*S	**Sn**	**22 39 20.2**	**+0.7**
SPN	**Mys Shipunski**	**3.24**	**240**	PN	**Pn**	**22 38 46.2**	**-0.7**
SPN	**Mys Shipunski**	**3.24**	**240**	*e*P	**Pn**	**22 38 46.2**	**-0.7**
NLC	**Nalytchevo**	**3.55**	**245**	PN	**Pn**	**22 38 50.9**	**-0.3**
NLC	**Nalytchevo**	**3.55**	**245**	*e*P	**Pn**	**22 38 51.0**	**-0.3**
ESO	**Esso**	**3.60**	**291**	PN	**Pn**	**22 38 52.0**	**+0.1**
ESO	**Esso**	**3.60**	**291**	*e*P	**Pn**	**22 38 52.0**	**+0.1**
SDLR	**Sedlovina**	**3.75**	**248**	PN	**Pn**	**22 38 55.0**	**+1.0**
SDLR	**Sedlovina**	**3.75**	**248**	*e*P	**Pn**	**22 38 55.0**	**+1.0**
UGLR	**Uglovaya**	**3.81**	**248**	PN	**Pn**	**22 38 56.0**	**+1.1**
UGLR	**Uglovaya**	**3.81**	**248**	*e*P	**Pn**	**22 38 56.0**	**+1.1**
AVH	**Avacha**	**3.83**	**249**	PN	**Pn**	**22 38 56.1**	**+1.0**
AVH	**Avacha**	**3.83**	**249**	*e*P	**Pn**	**22 38 56.1**	**+1.0**
KRX	**Arik**	**3.84**	**250**	PN	**Pn**	**22 38 56.3**	**+1.0**
KRX	**Arik**	**3.84**	**250**	*e*P	**Pn**	**22 38 56.3**	**+1.0**
KOK	**Koryaka**	**3.87**	**250**	PN	**Pn**	**22 38 56.5**	**+0.8**
KOK	**Koryaka**	**3.87**	**250**	*e*P	**Pn**	**22 38 56.6**	**+0.8**
DALK	**Dalny**	**3.93**	**246**	PN	**Pn**	**22 38 56.8**	**+0.4**
DALK	**Dalny**	**3.93**	**246**	*e*P	**Pn**	**22 38 56.9**	**+0.4**
PET	**Petropavlovsk**	**3.99**	**246**	PN	**Pn**	**22 38 57.8**	**+0.6**
PET	**Petropavlovsk**	**3.99**	**246**	*e*P	**Pn**	**22 38 57.9**	**+0.6**
PET				*e*S	**Sn**	**22 39 41.4**	**-1.9**
GNL	**Ganaly**	**4.11**	**257**	PN	**Pn**	**22 39 00.1**	**+1.1**
GNL	**Ganaly**	**4.11**	**257**	*e*P	**Pn**	**22 39 00.1**	**+1.1**
KRMR	**Karymshinskiy**	**4.36**	**246**	PN	**Pn**	**22 39 03.0**

RUS	**Russkaya**	**4.37**	**240**	*e*P	**Pn**	**22 39 02.9**	**+0.4**
RUS				*e*S	**Sn**	**22 39 50.3**	**-2.5**
PEA0B	**Petropavlovsk-**	**4.46**	**251**	PN	**Pn**	**22 39 04.7**	**+0.9**
PETK	**Petropavlovsk-**	**4.46**	**251**	Pn	**Pn**	**22 39 04.1**	**+0.3**
	2.4nm,0.3s,baz=66,slow=17,SNR=0.8						
PETK				Sn	**Sn**	**22 39 57.2**	**+2.2**
	0.6nm,0.3s,baz=87,slow=20,SNR=1.8						
	19nm,0.7s						
MTVR	**Mutnovka**	**4.51**	**242**	PN	**Pn**	**22 39 04.7**	**+0.1**
MTVR	**Mutnovka**	**4.51**	**242**	*e*P	**Pn**	**22 39 04.7**	**+0.1**
MTVR				*e*S	**Sn**	**22 39 51.9**	**-4.6**
OSSR	**Ossora**	**4.55**	**349**	PN	**Pn**	**22 39 04.9**	**0.0**
OSSR	**Ossora**	**4.55**	**349**	*e*P	**Pn**	**22 39 05.0**	**0.0**
OSSR				*e*S	**Sn**	**22 39 54.0**	**-3.2**
APC	**Apacha**	**4.84**	**250**	PN	**Pn**	**22 39 10.2**	**+1.4**
APC	**Apacha**	**4.84**	**250**	*e*P	**Pn**	**22 39 10.3**	**+1.4**
KDTR	**Khodutka, Kamc**	**4.97**	**236**	PN	**Pn**	**22 39 09.9**	**-0.7**
KDTR	**Khodutka, Kamc**	**4.97**	**236**	*e*P	**Pn**	**22 39 10.0**	**-0.7**
ILAR	**Eielson Array**	**25.67**	**48**	P	**P**	**22 43 24.9**	**-0.5**
	3.1nm,1.0s,baz=270,slow=8.6,SNR=3.6						
	3.1nm,1.0s						
KSRS	**Korea Array**	**30.36**	**250**	P	**P**	**22 44 09.5**	**+2.0**
	1.0nm,0.6s,baz=43,slow=8.8,SNR=2.9						
	1.0nm,0.6s						
YKA	**Yellowknife Ar**	**40.05**	**45**	P	**P**	**22 45 31.1**	**+0.5**
	0.4nm,0.6s,baz=265,slow=3.7,SNR=1.4						
	0.4nm,0.6s						
KURK	**Kurchatov**	**49.11**	**303**	P	**P**	**22 46 41.9**	**-1.1**
KURBB	**Kurchatov Arra**	**49.22**	**303**	P	**P**	**22 46 41.9**	**-1.9**
	0.3nm,0.4s,baz=56,slow=7.2,SNR=0.9						
	0.3nm,0.4s						
PDAR	**Pinedale Array**	**54.33**	**65**	LR	LR	23 09 18.8	
	comp=Z,126nm,18.3s,baz=338,slow=35						
NOA	**NORSAR Array B**	**62.61**	**346**	P	**P**	**22 48 19.8**	**+0.3**
	0.7nm,0.7s,baz=18,slow=6.7,SNR=1.7						
NOA				LR	LR	23 17 52.2	
	comp=Z,164nm,19.1s,baz=25,slow=38						
	0.7nm,0.7s						
HFS	**Hagfors**	**63.10**	**344**	P	**P**	**22 48 22.9**	**+0.1**
	1.1nm,0.7s,baz=35,slow=5.3,SNR=1.7						
	1.1nm,0.7s						
TXAR	**Lajitas Array**	**67.49**	**71**	P	**P**	**22 48 53.1**	**+1.3**
	0.8nm,0.5s,baz=320,slow=6.9,SNR=4.3						
	0.8nm,0.5s						
GERES	**GERESS Array B**	**73.89**	**341**	P	**P**	**22 49 31.0**	**+0.6**
	0.4nm,0.6s,baz=34,slow=7.2,SNR=1.9						
	0.4nm,0.6s						
MDT	**Midelt**	**92.26**	**351**	LR	LR	23 35 32.4	
	comp=Z,57nm,18.1s,baz=33,slow=38						

IDC 20 22:44:37.3±2.0, 54°.84N×164°.67E, h0km, mb3.3/3, mbtmp3.2/4, Error ellipse: s-maj=75.2km s-min=24.4km az=163.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.46**	**250**	Pn	Pn	22 45 46.4	+0.3
	1.0nm,0.6s,baz=67,slow=17,SNR=1.6						
PETK				Sn	Sn	22 46 38.9	+0.1
	0.2nm,0.3s,baz=77,slow=21,SNR=1.2						
ILAR	**Eielson Array**	**25.65**	**48**	P	P	22 50 08.0	-0.2
	0.4nm,0.7s,baz=268,slow=8.8,SNR=4.6						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**49.18**	**303**	P	P	22 53 26.6	0.0
	0.1nm,0.4s,baz=61,slow=7.6,SNR=1.6						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**67.49**	**71**	P	P	22 55 35.1	+0.1
	0.8nm,1.1s,baz=326,slow=11,SNR=3.6						
	0.8nm,1.1s						

*KRSC **20** 22:46:35.2±1.5, 54°.81N×164°.72E, h59km±27km, Ml4.4*
*IDC **20** 22:46:35.0±0.5, 54°.97N×164°.76E, h0km, mb4.4/29, mbtmp4.4/33, ML4.5/3, MS3.8/1, Error ellipse: s-maj=12.8km s-min=9.2km az=169.0*
*MOS **20** 22:46:35.2±0.9, 54°.87N×164°.70E, h56km, mb4.9/58, Error ellipse: s-maj=5.3km s-min=4.1km az=92.9*
*NEIC **20** 22:46:36.3±0.9, 54°.87N±0°.10×164°.7E±0°.1, h10km±1km, mb4.8/110, Error ellipse: s-maj=19.5km s-min=2.9km az=149.0*
*BJI **20** 22:46:37.4, 55°.03N×163°.98E, h10km, mB5.0/7, mb4.7/49, Ms4.9/7, Ms7 4.7/7*
*BGR **20** 22:46:45.2, 55°.85N×167°.48E, h33km, mb4.6, Hypocentre not reviewed by the ISC*

ISC 20 22:46:37.5±0.4, 54°.81N±0°.04×164°.77E±0°.04, h19km±4km, n642, σ1°16/693, mb4.7/154, 10C-7D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.80**	**60**	PN	**Pb**	**22 46 51.9**	**-0.8**
BKI				S	**Sg**	**22 47 03.5**	**-0.2**
BKI	**Bering**	**0.80**	**60**	*e*P	**Pb**	**22 46 52.0**	**-0.8**
BKI				*e*S	**Sg**	**22 47 03.6**	**-0.2**
MKZ	**Mys Kozlova**	**1.78**	**263**	PN	**Pn**	**22 47 05.7**	**-1.5**
MKZ				S	**Sn**	**22 47 26.0**	**-3.3**
MKZ	**Mys Kozlova**	**1.78**	**263**	*e*P	**Pn**	**22 47 05.7**	**-1.5**
MKZ				*e*S	**Sn**	**22 47 26.0**	**-3.3**
KBTR	**Krutoberegovo**	**1.79**	**322**	PN	**Pn**	**22 47 04.2**	**-3.1**
KBTR				S	**Sn**	**22 47 25.0**	**-4.4**
KBTR	**Krutoberegovo**	**1.79**	**322**	*e*P	**Pn**	**22 47 04.3**	**-3.1**
KBTR				*e*S	**Sn**	**22 47 25.1**	**-4.4**
KBG	**Krutoberegovo**	**1.86**	**322**	PN	**Pn**	**22 47 05.2**	**-3.1**
KBG				S	**Sn**	**22 47 27.7**	**-3.6**
KBG	**Krutoberegovo**	**1.86**	**322**	*e*P	**Pn**	**22 47 05.3**	**-3.1**
KBG				*e*S	**Sn**	**22 47 27.8**	**-3.6**
BZGR	**Bezymyannyi-Gr**	**2.59**	**298**	PN	**Pn**	**22 47 17.5**	**-0.9**
BZGR				S	**Sn**	**22 47 48.4**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**2.59**	**298**	*e*P	**Pn**	**22 47 17.6**	**-0.9**
BZGR				*e*S	**Sn**	**22 47 48.4**	**-0.9**
CIRR	**Tsirk**	**2.64**	**301**	PN	**Pn**	**22 47 18.7**	**-0.4**
CIRR				S	**Sn**	**22 47 49.6**	**-1.0**
CIRR	**Tsirk**	**2.64**	**301**	*e*P	**Pn**	**22 47 18.8**	**-0.4**
CIRR				*e*S	**Sn**	**22 47 49.7**	**-1.0**
LGNR	**Loginova**	**2.65**	**300**	PN	**Pn**	**22 47 19.0**	**-0.4**
LGNR				S	**Sn**	**22 47 50.0**	**-1.1**
LGNR	**Loginova**	**2.65**	**300**	*e*P	**Pn**	**22 47 19.0**	**-0.4**
LGNR				*e*S	**Sn**	**22 47 50.1**	**-1.1**
BZMR	**Bezymyannaya**	**2.69**	**297**	PN	**Pn**	**22 47 19.6**	**-0.3**
BZMR				S	**Sn**	**22 47 50.4**	**-1.5**
BZMR	**Bezymyannaya**	**2.69**	**297**	*e*P	**Pn**	**22 47 19.6**	**-0.3**
BZMR				*e*S	**Sn**	**22 47 50.4**	**-1.5**
BZWR	**Bezymyannyi-We**	**2.70**	**297**	PN	**Pn**	**22 47 19.7**	**-0.3**
BZWR				S	**Sn**	**22 47 51.5**	**-0.7**
BZWR	**Bezymyannyi-We**	**2.70**	**297**	*e*P	**Pn**	**22 47 19.7**	**-0.3**
BZWR				*e*S	**Sn**	**22 47 51.5**	**-0.7**
KMNR	**Kamenistaya**	**2.76**	**292**	PN	**Pn**	**22 47 20.3**	**-0.4**
KMNR				S	**Sn**	**22 47 52.8**	**-0.8**
KMNR	**Kamenistaya**	**2.76**	**292**	*e*P	**Pn**	**22 47 20.4**	**-0.4**
KMNR				*e*S	**Sn**	**22 47 52.9**	**-0.8**
KIRR	**Kirishev**	**2.77**	**296**	PN	**Pn**	**22 47 20.9**	**-0.1**
KIRR				S	**Sn**	**22 47 53.9**	**-0.1**
KIRR	**Kirishev**	**2.77**	**296**	*e*P	**Pn**	**22 47 20.9**	**-0.1**
KIRR				*e*S	**Sn**	**22 47 53.9**	**-0.1**
KRSR	**Krestovskiy**	**2.78**	**302**	PN	**Pn**	**22 47 19.7**	**-1.2**
KRSR				S	**Sn**	**22 47 52.3**	**-1.6**
KRSR	**Krestovskiy**	**2.78**	**302**	*e*P	**Pn**	**22 47 19.8**	**-1.2**
KRSR				*e*S	**Sn**	**22 47 52.4**	**-1.6**
KLY	**Klyuchi**	**2.78**	**304**	PN	**Pn**	**22 47 17.7**	**-3.2**
KLY				S	**Sn**	**22 47 49.3**	**-4.6**
KLY	**Klyuchi**	**2.78**	**304**	*e*P	**Pn**	**22 47 17.8**	**-3.2**
KLY				*e*S	**Sn**	**22 47 49.3**	**-4.6**
KPT	**Kopyto**	**2.84**	**296**	PN	**Pn**	**22 47 22.0**	**+0.1**
KPT				S	**Sn**	**22 47 54.3**	**-1.2**
KPT	**Kopyto**	**2.84**	**296**	*e*P	**Pn**	**22 47 22.0**	**+0.1**
KPT				*e*S	**Sn**	**22 47 54.4**	**-1.2**
KOZ	**Kozyrevsk**	**3.06**	**296**	PN	**Pn**	**22 47 25.1**	**+0.4**
KOZ				S	**Sn**	**22 47 59.9**	**-0.9**
KOZ	**Kozyrevsk**	**3.06**	**296**	*e*P	**Pn**	**22 47 25.2**	**+0.4**
KOZ				*e*S	**Sn**	**22 47 60.0**	**-0.9**
KII	**Karymskiy**	**3.20**	**258**	*e*S	**Sn**	**22 48 00.2**	**-4.3**
NLC	**Nalytchevo**	**3.60**	**245**	PN	**Pn**	**22 47 31.3**	**-0.9**
NLC	**Nalytchevo**	**3.60**	**245**	*e*P	**Pn**	**22 47 31.3**	**-0.9**
NLC				*e*S	**Sn**	**22 48 10.0**	**-4.0**
ESO	**Esso**	**3.64**	**290**	PN	**Pn**	**22 47 32.1**	**-0.7**
ESO				S	**Sn**	**22 48 13.3**	**-1.8**
ESO	**Esso**	**3.64**	**290**	*e*P	**Pn**	**22 47 32.1**	**-0.7**
ESO				*e*S	**Sn**	**22 48 13.4**	**-1.8**
SDLR	**Sedlovina**	**3.79**	**249**	PN	**Pn**	**22 47 34.9**	**-0.1**
SDLR	**Sedlovina**	**3.79**	**249**	*e*P	**Pn**	**22 47 34.9**	**-0.1**
SDLR				*e*S	**Sn**	**22 48 16.2**	**-3.0**
KRER	**Koryakskii**	**3.86**	**249**	PN	**Pn**	**22 47 36.5**	**+0.6**
KRER	**Koryakskii**	**3.86**	**249**	*e*P	**Pn**	**22 47 36.6**	**+0.6**
KRER				*e*S	**Sn**	**22 48 18.4**	**-2.3**
AVH	**Avacha**	**3.88**	**249**	PN	**Pn**	**22 47 36.5**	**+0.4**
AVH	**Avacha**	**3.88**	**249**	*e*P	**Pn**	**22 47 36.6**	**+0.4**
AVH				*e*S	**Sn**	**22 48 18.9**	**-2.3**
KRX	**Arik**	**3.89**	**251**	PN	**Pn**	**22 47 35.9**	**-0.4**
KRX	**Arik**	**3.89**	**251**	*e*P	**Pn**	**22 47 35.9**	**-0.4**
KRX				*e*S	**Sn**	**22 48 19.2**	**-2.3**
KOK	**Koryaka**	**3.92**	**250**	PN	**Pn**	**22 47 36.5**	**-0.2**
KOK	**Koryaka**	**3.92**	**250**	*e*P	**Pn**	**22 47 36.5**	**-0.2**
KOK				*e*S	**Sn**	**22 48 18.5**	**-3.7**
DALK	**Dalny**	**3.98**	**246**	PN	**Pn**	**22 47 37.5**	**+0.1**
DALK	**Dalny**	**3.98**	**246**	*e*P	**Pn**	**22 47 37.6**	**+0.1**
DALK				*e*S	**Sn**	**22 48 20.2**	**-3.2**
PET	**Petropavlovsk**	**4.04**	**246**		**Pn**	**22 47 37.5**	**-0.7**
PET	**Petropavlovsk**	**4.04**	**246**	*e*PN	**Pn**	**22 47 38.7**	**+0.5**
PET				pmax	pmax		
	comp=Z,62nm,1.0s						
PET	**Petropavlovsk**	**4.04**	**246**	*e*P	**Pn**	**22 47 38.6**	**+0.4**
PET				*e*S	**Sn**	**22 48 21.7**	**-3.2**
GNL	**Ganaly**	**4.16**	**257**	PN	**Pn**	**22 47 40.3**	**+0.4**
GNL	**Ganaly**	**4.16**	**257**	*e*P	**Pn**	**22 47 40.4**	**+0.4**
GNL				*e*S	**Sn**	**22 48 26.9**	**-1.2**
KRMR	**Karymshinskiy**	**4.41**	**246**	PN	**Pn**	**22 47 43.6**	**+0.3**
KRMR	**Karymshinskiy**	**4.41**	**246**	*e*P	**Pn**	**22 47 43.6**	**+0.3**
KRMR				*e*S	**Sn**	**22 48 31.1**	**-2.9**
RUS	**Russkaya**	**4.42**	**240**	PN	**Pn**	**22 47 42.5**	**-0.9**
RUS	**Russkaya**	**4.42**	**240**	*e*P	**Pn**	**22 47 42.5**	**-0.9**
RUS				*e*S	**Sn**	**22 48 30.5**	**-3.9**
PEA0B	**Petropavlovsk-**	**4.51**	**251**		**Pn**	**22 47 44.9**	**+0.1**
PEA0B	**Petropavlovsk-**	**4.51**	**251**	*i* PN	**Pn**	**22 47 43.8**	**-0.9**
PETK	**Petropavlovsk-**	**4.51**	**251**		**Pn**	**22 47 44.7**	**0.0**
PETK	**Petropavlovsk-**	**4.51**	**251**	Pn	**Pn**	**22 47 45.1**	**+0.4**
	comp=Z,14nm,0.5s,baz=65,slow=15,SNR=35						
PETK				Sn	**Sn**	**22 48 35.2**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=76,slow=40,SNR=3.7						
PETK	**Petropavlovsk-**	**4.51**	**251**	PN	**Pn**	**22 47 44.7**	**0.0**
OSSR	**Ossora**	**4.55**	**349**	PN	**Pn**	**22 47 43.5**	**-1.7**
OSSR	**Ossora**	**4.55**	**349**	*e*P	**Pn**	**22 47 43.5**	**-1.7**
OSSR				*e*S	**Sn**	**22 48 34.3**	**-3.2**
MTVR	**Mutnovka**	**4.56**	**242**	PN	**Pn**	**22 47 45.3**	**-0.2**
MTVR	**Mutnovka**	**4.56**	**242**	*e*P	**Pn**	**22 47 45.3**	**-0.2**
MTVR				*e*S	**Sn**	**22 48 33.7**	**-4.3**
GRL	**Gorelyy**	**4.58**	**243**	PN	**Pn**	**22 47 45.9**	**+0.1**
GRL	**Gorelyy**	**4.58**	**243**	*e*P	**Pn**	**22 47 46.0**	**+0.1**
GRL				*e*S	**Sn**	**22 48 34.9**	**-3.6**
APC	**Apacha**	**4.88**	**250**	PN	**Pn**	**22 47 50.4**	**+0.6**
APC	**Apacha**	**4.88**	**250**	*e*P	**Pn**	**22 47 50.4**	**+0.6**
APC				*e*S	**Sn**	**22 48 45.5**	**-0.3**
KDTR	**Khodutka, Kamc**	**5.01**	**236**	PN	**Pn**	**22 47 50.4**	**-1.2**
KDTR	**Khodutka, Kamc**	**5.01**	**236**	*e*P	**Pn**	**22 47 50.4**	**-1.2**
KDTR				*e*S	**Sn**	**22 48 45.4**	**-3.6**
PAU	**Pauzhetka**	**5.84**	**238**	PN	**Pn**	**22 48 03.7**	**+0.7**
PAU	**Pauzhetka**	**5.84**	**238**	*e*P	**Pn**	**22 48 03.8**	**+0.7**
SHEM	**Shemya Is, Ala**	**5.91**	**107**	Sn	**Sn**	**22 49 07.5**	**-3.5**
	comp=Z,2.4nm,0.3s,baz=277,slow=19,SNR=3.5						
SKR	**Severo-Kuril's**	**6.68**	**235**	PN	**Pn**	**22 48 14.9**	**+0.4**
SKR	**Severo-Kuril's**	**6.68**	**235**	*e*P	**Pn**	**22 48 15.0**	**+0.4**
KMSK	**Kamenskaya**	**7.72**	**5**	PN	**Pn**	**22 48 28.9**	**+0.3**
KMSK	**Kamenskaya**	**7.72**	**5**	*e*P	**Pn**	**22 48 28.9**	**+0.3**
MA2	**Magadan**	**8.97**	**308**	Pn	**Pn**	**22 48 47.8**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=114,slow=20,SNR=1.9						
	comp=Z,1.8nm,0.3s						
MA2	**Magadan**	**8.97**	**308**	*i* PN	**Pn**	**22 48 45.5**	**-0.4**
SEY	**Seymchan**	**10.35**	**327**	Pn	**Pn**	**22 49 08.5**	**+3.9**
	comp=Z,0.1nm,0.3s,baz=142,slow=19,SNR=4.3						
SEY	**Seymchan**	**10.35**	**327**	*i* PN	**Pn**	**22 49 05.2**	**+0.5**
BILL	**Bilibino**	**13.29**	**2**		**Pn**	**22 49 44.9**	**0.0**
BILL	**Bilibino**	**13.29**	**2**	*ce*PN	**Pn**	**22 49 44.5**	**-0.4**
BILL				pmax	pmax		
	comp=Z,13nm,2.5s						
SPIA	**Saint Paul Isl**	**14.15**	**70**	P	**Pn**	**22 49 59.0**	**+2.4**
	baz=271						
P08K	**Saint George I**	**14.56**	**72**	P	**Pn**	**22 50 04.7**	**+2.5**
	baz=274						
GAMB	**Gambell**	**14.91**	**44**		**Pn**	**22 50 06.5**	**-0.4**
GAMB	**Gambell**	**14.91**	**44**	P	**Pn**	**22 50 08.4**	**+1.5**
	baz=244,SNR=6.4						
TNA	**Tin City**	**17.16**	**40**		**Pn**	**22 50 35.0**	**-0.8**
TNA	**Tin City**	**17.16**	**40**	P	**P**	**22 50 37.6**	**+0.3**
	baz=244,SNR=6.1						
K13K	**Kusilvak Mount**	**17.41**	**54**	Pn	**Pn**	**22 50 38.6**	**-0.5**
K13K	**Kusilvak Mount**	**17.41**	**54**	P	**P**	**22 50 40.3**	**+0.1**
	baz=260						
F14K	**Arctic Creek**	**17.73**	**41**	P	**P**	**22 50 44.4**	**+0.7**
	baz=247						
ANM	**Nome**	**17.77**	**45**	P	**P**	**22 50 44.4**	**+0.2**
	baz=251						
M13K	**Dall Lake**	**17.85**	**59**	P	**P**	**22 50 45.3**	**+0.3**
	baz=266						
JKA	**Kamikawa-asahi**	**17.87**	**242**		**Pn**	**22 50 43.6**	**-1.2**
ASAJ	**Asahikawa**	**17.87**	**242**	P	**Pn**	**22 50 44.2**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=42,slow=14,SNR=5.4						
	comp=Z,9.5nm,1.0s						
ASAJ	**Asahikawa**	**17.87**	**242**	P	**Pn**	**22 50 43.6**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,39nm,1.6s						
J14K	**Nanvaranak Lak**	**18.07**	**51**	P	**P**	**22 50 47.5**	**0.0**
	baz=259						
L14K	**Kuka Creek**	**18.26**	**56**		**Pn**	**22 50 48.9**	**-0.5**
L14K	**Kuka Creek**	**18.26**	**56**	P	**P**	**22 50 50.4**	**+0.9**
	baz=264						
G15K	**Niukluk**	**18.45**	**44**	P	**Pn**	**22 50 52.1**	**+0.3**
	baz=252						
F15K	**North Star Dit**	**18.46**	**42**	P	**Pn**	**22 50 52.9**	**+1.0**
	baz=249,SNR=7.9						
M14K	**Bethel**	**18.56**	**58**		**P**	**22 50 52.9**	**+0.1**
M14K	**Bethel**	**18.56**	**58**	P	**Pn**	**22 50 53.6**	**+0.5**
	baz=266						
N14K	**Kuskokwak Cree**	**18.66**	**60**	P	**Pn**	**22 50 54.4**	**+0.1**
	baz=269						
S12K	**Black Hills**	**18.83**	**74**	P	**Pn**	**22 50 56.3**	**-0.1**
S12K	**Black Hills**	**18.83**	**74**	P	**Pn**	**22 50 56.9**	**+0.5**
	baz=281						
L15K	**Ungalak Mounta**	**18.87**	**55**	P	**Pn**	**22 50 56.9**	**+0.1**
	baz=264						
O14K	**Tigyukauivet M**	**18.87**	**63**	P	**Pn**	**22 50 56.7**	**-0.2**
	baz=272						
K15K	**Wolf Creek Mou**	**18.92**	**53**	P	**P**	**22 50 57.1**	**+0.3**
K15K	**Wolf Creek Mou**	**18.92**	**53**	P	**Pn**	**22 50 57.4**	**-0.1**
	baz=262						
H16K	**Elim**	**19.09**	**46**	P	**P**	**22 50 58.8**	**+0.2**
	baz=255						
ERM	**Erimo**	**19.13**	**237**	P	**P**	**22 50 57.3**	**-1.9**
ERM	**Erimo**	**19.13**	**237**	*i* P	**P**	**22 50 57.7**	**-1.5**
M15K	**Kasigluk River**	**19.18**	**58**	P	**P**	**22 50 59.9**	**+0.2**
	baz=268						
G16K	**Koyuk River**	**19.25**	**44**	P	**P**	**22 51 00.5**	**+0.1**
	baz=253						
C16K	**Lisburne Hills**	**19.32**	**34**	P	**P**	**22 51 01.1**	**-0.1**
	baz=241,SNR=16						
N15K	**Kwethluk River**	**19.46**	**60**		**Pn**	**22 51 03.5**	**-0.6**
N15K	**Kwethluk River**	**19.46**	**60**	P	**Pn**	**22 51 03.4**	**-0.6**
	baz=270						
J16K	**Anvik River**	**19.50**	**50**		**P**	**22 51 03.5**	**+0.4**
J16K	**Anvik River**	**19.50**	**50**	P	**P**	**22 51 03.3**	**+0.2**
	baz=261						
YAK	**Yakutsk**	**19.54**	**306**	P	**P**	**22 51 02.3**	**-1.2**
	comp=Z,6.0nm,0.3s,baz=108,slow=12,SNR=10.0						
YAK				S	**S**	**22 54 42.2**	**-0.9**
	comp=Z,10nm,0.4s,baz=270,slow=7.1,SNR=1.8						
YAK				LR	LR	22 58 29.0	
	comp=Z,243nm,18.5s,baz=67,slow=37						
	comp=Z,17nm,0.5s						
YAK	**Yakutsk**	**19.54**	**306**	*e*P	**P**	**22 51 01.3**	**-2.2**
YAK				pmax	pmax		
	comp=Z,42nm,2.0s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,12nm,1.2s						
I17K	**Unalakleet**	**19.57**	**49**	P	**P**	**22 51 03.9**	**0.0**
	baz=259						
O15K	**Ungalikthiuk R**	**19.62**	**63**	P	**P**	**22 51 04.6**	**+0.2**
	baz=273						
SDPT	**Sand Point**	**19.78**	**74**	P	**Pn**	**22 51 07.7**	**-0.1**
	baz=283						
D17K	**Noatak River**	**19.82**	**37**	P	**P**	**22 51 06.8**	**+0.2**
	baz=246,SNR=7.2						
L16K	**Owhat River**	**19.82**	**55**		**P**	**22 51 07.3**	**+0.7**
L16K	**Owhat River**	**19.82**	**55**	P	**Pn**	**22 51 07.6**	**-0.7**
	baz=266						
G17K	**Kiwalik Mounta**	**19.97**	**44**	P	**P**	**22 51 08.6**	**+0.4**
	baz=254,SNR=11						
F17K	**Baldwin Pennin**	**20.02**	**41**	P	**P**	**22 51 09.3**	**+0.6**
	baz=251,SNR=9.0						
E17K	**Hotham Inlet**	**20.02**	**39**	P	**P**	**22 51 09.6**	**+0.8**
	baz=249,SNR=14						
RDOG	**Red Dog Mine**	**20.03**	**36**	P	**P**	**22 51 08.7**	**-0.3**
RDOG	**Red Dog Mine**	**20.03**	**36**	P	**P**	**22 51 08.9**	**0.0**
	baz=245						
M16K	**Timber Creek**	**20.04**	**57**	P	**P**	**22 51 09.6**	**+0.6**
	baz=269,SNR=11						
S14K	**Fog Glacier**	**20.10**	**71**	P	**P**	**22 51 10.7**	**+0.9**
	baz=281						
N16K	**Nishlik Lake**	**20.12**	**59**	P	Pn	22 51 11.4	-0.5
	baz=270,SNR=7.9						
H17K	**Granite Mounta**	**20.12**	**46**	P	Pn	22 51 11.2	-0.7
	baz=257,SNR=16						
J17K	**VABM Dome**	**20.19**	**50**	P	**P**	**22 51 11.3**	**+0.6**
	baz=262,SNR=12						
CHNA	**Chernabura Isl**	**20.40**	**75**	P	**P**	**22 51 13.6**	**+0.7**
	baz=285						
L17K	**Donlin**	**20.41**	**54**	P	**P**	**22 51 13.7**	**+0.7**
	baz=266,SNR=7.7						
K17K	**Iditarod**	**20.46**	**52**	P	Pn	22 51 15.1	-0.6
	baz=265,SNR=18						
O16K	**Kokwok River B**	**20.48**	**61**	P	**P**	**22 51 14.4**	**+0.6**
	baz=273						
P16K	**Nushagak River**	**20.57**	**63**	P	Pn	22 51 16.0	-1.1
	baz=275						
E18K	**Tukpahlearik C**	**20.59**	**39**	P	**P**	**22 51 15.7**	**+0.7**
	baz=250,SNR=7.4						
F18K	**Selawik**	**20.68**	**41**	P	**P**	**22 51 16.6**	**+0.7**
	baz=253,SNR=10						
M17K	**Holitna River**	**20.78**	**56**		**P**	**22 51 17.6**	**+0.5**
M17K	**Holitna River**	**20.78**	**56**	P	**P**	**22 51 18.1**	**+1.0**
	baz=269,SNR=10						
H18K	**Honhosa River**	**20.81**	**46**	P	**P**	**22 51 18.4**	**+0.9**
	baz=258						
C18K	**Utukok River**	**20.86**	**35**	P	**P**	**22 51 17.9**	**-0.1**
	baz=246,SNR=23						
G18K	**Tagagawik**	**20.87**	**43**	P	**P**	**22 51 19.0**	**+1.0**
	baz=256,SNR=13						
N17K	**Nushagak Hills**	**20.90**	**59**	P	**P**	**22 51 18.8**	**+0.4**
	baz=271,SNR=5.7						
KLR	**Kul'dur**	**20.94**	**268**	P	**P**	**22 51 20.1**	**+1.2**
	comp=E,4.4nm,1.1s,baz=65,slow=12,SNR=7.8						
	comp=E,4.4nm,1.1s						
KLR	**Kul'dur**	**20.94**	**268**	*e*P	**P**	**22 51 16.8**	**-2.1**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
B18K	**Kokolik River**	**20.98**	**33**	P	**P**	**22 51 20.0**	**+0.9**
	baz=243,SNR=20						
O17K	**Koliganek Bris**	**20.98**	**61**	P	**P**	**22 51 19.4**	**+0.2**
	baz=274,SNR=5.7						
L18K	**Granite Mounta**	**21.17**	**54**	P	**P**	**22 51 22.0**	**+0.8**
	baz=268,SNR=7.0						
J18K	**Innoko River**	**21.25**	**50**		**P**	**22 51 21.8**	**-0.3**
J18K				IAmb	IAmb	22 51 24.6	
	comp=Z,34nm,1.1s						
J18K	**Innoko River**	**21.25**	**50**	P	**P**	**22 51 23.3**	**+1.1**
	baz=264,SNR=21						
Q16K	**King Salmon**	**21.29**	**64**	P	**P**	**22 51 24.0**	**+1.4**
	baz=277						
P17K	**Kvichak River**	**21.35**	**62**	P	**P**	**22 51 24.4**	**+1.2**
	baz=276,SNR=5.2						
GCSA	**Galena City Sc**	**21.36**	**47**	P	**P**	**22 51 24.0**	**+0.8**
	baz=261						
F19K	**Shaleruckik Mo**	**21.46**	**41**		**P**	**22 51 24.2**	**-0.1**
F19K				IAmb	IAmb	22 51 28.2	
	comp=Z,33nm,1.2s						
F19K	**Shaleruckik Mo**	**21.46**	**41**	P	**P**	**22 51 25.0**	**+0.7**
	baz=254,SNR=23						
TTA	**Tatalina**	**21.52**	**52**	P	**P**	**22 51 25.7**	**

comp=Z,17nm,0.9s
CAST Castle Rocks 23.33 51 P P 22 51 43.1 -1.0
baz=269,SNR=9.3
B21K Ikpikpuk River 23.41 35 P P 22 51 43.4 -1.5
baz=252,SNR=49
I21K Tanana 23.48 47 P P 22 51 44.4 -1.1
baz=265
Q20K Shuyak Island 23.51 63 P P 22 51 44.8 -1.1
baz=280
KDAK Kodiak Island 23.56 65 P P 22 51 45.5 -0.9
KDAK IAmb IAmb 22 51 52.5
comp=Z,36nm,1.4s
KDAK Kodiak Island 23.56 65 P P 22 51 45.5 -0.9
KDAK pmax pmax
comp=Z,36nm,1.4s
KDAK Kodiak Island 23.56 65 P P 22 51 44.7 -1.7
baz=281
USRK Ussuriysk Ar. 23.57 257 P P 22 51 48.5 +1.9
comp=Z,1.6nm,0.7s,baz=41,slow=12,SNR=2.4
comp=Z,1.6nm,0.7s
SKT Skwentna 23.59 55 P P 22 51 45.5 -1.2
baz=273
F22K John River 23.74 41 P P 22 51 46.9 -1.2
baz=259,SNR=17
A22K Sinclair Lake 23.78 32 P P 22 51 47.0 -1.4
baz=248,SNR=31
H22K Ishtalitna Cre 23.81 45 P P 22 51 47.9 -0.8
baz=264,SNR=22
BPAW Bear Paw Mtn. 23.84 49 P 22 51 49.0 -0.1
BPAW IAmb IAmb 22 51 51.0
comp=Z,35nm,1.2s
BPAW Bear Paw Mtn. 23.84 49 P P 22 51 47.9 -1.1
baz=268,SNR=14
CAPN Captain Cook N 23.86 58 P P 22 51 48.4 -0.8
baz=276
D22K Ayikyak River 23.86 37 P 22 51 48.8 -0.4
D22K Ayikyak River 23.86 37 P P 22 51 47.9 -1.3
baz=256,SNR=15
G22K Bettles 23.89 42 P P 22 51 48.4 -1.1
baz=261
CNPM China Point 23.96 61 P 22 51 49.4 -0.9
CNPM IAmb IAmb 22 51 53.0
comp=Z,47nm,1.2s
SUA Susitna One 24.00 56 P 22 51 50.6 -0.1
SUA IAmb IAmb 22 51 51.7
comp=Z,22nm,0.9s
SUA Susitna One 24.00 56 P P 22 51 49.5 -1.2
baz=274,SNR=6.3
E22K Anaktuvuk Pass 24.00 39 P P 22 51 49.2 -1.3
baz=258,SNR=21
B22K Teshekpuk Lake 24.03 34 P P 22 51 49.3 -1.4
baz=252,SNR=44
TRF Thorofare Moun 24.14 51 P 22 51 51.5 -0.6
TRF Thorofare Moun 24.14 51 P P 22 51 50.7 -1.3
baz=270,SNR=8.6
BRSE Bradley Lake S 24.18 60 P P 22 51 51.4 -0.9
baz=278
COLD Coldfoot 24.44 42 P 22 51 54.0 -0.7
COLD IAmb IAmb 22 51 56.5
comp=Z,32nm,1.0s
COLD Coldfoot 24.44 42 P P 22 51 53.9 -0.7
baz=262,SNR=30
G23K Bananza Creek 24.45 43 P P 22 51 54.2 -0.5
baz=263,SNR=7.3
H23K Yukon River 24.55 45 P P 22 51 55.4 -0.3
baz=266
I23K Minto, Yukon-K 24.58 47 P P 22 51 55.6 -0.3
baz=267,SNR=35
JSD Sado 24.58 238 P P 22 51 55.9 -0.2
JSD IAmb IAmb 22 51 59.4
comp=Z,23nm,1.4s
D23K Nanushuk River 24.58 38 P P 22 51 55.4 -0.5
baz=258,SNR=7.1
NEA2 Nenana 24.69 48 P P 22 51 56.3 -0.5
NEA2 Nenana 24.69 48 P P 22 51 56.1 -0.8
baz=269,SNR=25
MCK McKinley 24.74 50 P P 22 51 56.7 -0.6
baz=271,SNR=14
SEW Seward 24.77 59 P P 22 51 56.7 -0.9
baz=278
RND Reindeer 24.78 51 P P 22 51 56.5 -1.3
E23K Chandalar 24.79 40 P P 22 51 57.1 -0.7
baz=261,SNR=40
C23K Itkillik River 24.81 35 P P 22 51 57.5 -0.3
baz=256,SNR=11
TOLK Toolik Lake Re 24.91 38 P 22 51 58.3 -0.6
TOLK IAmb IAmb 22 52 00.4
comp=Z,18nm,0.9s
TOLK Toolik Lake Re 24.91 38 P P 22 51 58.3 -0.6
baz=260,SNR=19
KNK Knik Glacier 25.09 56 P P 22 52 00.6 0.0
baz=276
SML Sawmill 25.12 55 P P 22 52 00.8 0.0
baz=276,SNR=5.5
COLA College 25.21 48 *i* P P 22 52 00.7 -0.8
COLA pmax pmax
comp=Z,26nm,0.8s
E24K Your Creek 25.22 40 P P 22 52 01.0 -0.7
baz=262,SNR=72
PWL Port Wells 25.22 57 P P 22 52 00.5 -1.2
PWL Port Wells 25.22 57 P P 22 52 01.8 +0.1
baz=278
H24K Noodor Dome 25.23 45 P P 22 52 01.1 -0.7
baz=267,SNR=12
BNX BinXian 25.27 265 ⇑P P 22 52 01.4 -0.9
BNX pmax pmax
comp=Z,7.0nm,0.4s
D24K Happy Valley 25.27 37 P P 22 52 01.7 -0.4
D24K IAmb IAmb 22 52 02.8
comp=Z,32nm,1.4s
D24K Happy Valley 25.27 37 P P 22 52 01.5 -0.6
baz=259
F24K Squaw Lake 25.37 41 P P 22 52 02.6 -0.4
baz=264,SNR=9.3
POKR Poker Plat Res 25.39 47 P P 22 52 02.5 -0.8
baz=269
M23K Glacier View 25.40 55 P P 22 52 03.1 -0.3
baz=276
C24K Franklin Bluff 25.43 36 P P 22 52 02.8 -0.6
baz=258,SNR=25
G24K Hadweenzic Riv 25.45 43 P P 22 52 03.4 -0.4
baz=266,SNR=25
SCM Sheep Creek Mo 25.59 55 P P 22 52 04.8 -0.3
SCM IAmb IAmb 22 52 07.4
comp=Z,31nm,0.9s
SCM Sheep Creek Mo 25.59 55 P P 22 52 04.8 -0.3
SCM pmax pmax
comp=Z,31nm,0.9s
SCM Sheep Creek Mo 25.59 55 P P 22 52 04.6 -0.5
baz=276,SNR=5.6
HDA Harding Lake 25.60 49 P P 22 52 05.2 +0.1
baz=271,SNR=5.9
ILAR Eielson Array 25.63 48 P P 22 52 04.6 -0.7
comp=Z,17nm,0.9s,baz=272,slow=8.8,SNR=126
ILAR S S 22 56 32.0 -0.2
comp=Z,0.1nm,0.6s,baz=283,slow=23,SNR=1.6
comp=Z,17nm,0.9s
MJB9 Matsu-Tunnel 25.79 236 P 22 52 07.7 +0.6
MJB9 IAmb IAmb 22 52 25.6
comp=Z,26nm,1.1s
MAJO Matsushiro 25.79 236 P 22 52 06.8 -0.3
MAJO IAmb IAmb 22 52 24.6
comp=Z,27nm,1.1s
MAJO Matsushiro 25.79 236 *i* P P 22 52 06.5 -0.6
MAJO pmax pmax
comp=Z,18nm,1.0s
MJAR Matsushiro Arr 25.79 236 P P 22 52 08.4 +1.3
comp=Z,6.0nm,0.9s,baz=26,slow=7.9,SNR=18
comp=Z,6.0nm,0.9s
GLI Glacier Island 25.82 57 P P 22 52 07.4 +0.3
baz=278
G25K Bearman Lake 26.00 43 P P 22 52 08.3 -0.3
baz=267,SNR=6.4
H25L Birch Creek 26.09 44 P P 22 52 09.2 -0.3
baz=268
M24K Tolsona, Glenn 26.10 54 P P 22 52 09.5 -0.2
baz=277
K24K Donnelly Dome 26.14 50 P P 22 52 09.2 -0.8
baz=274
D25K Kavik River 26.16 37 P P 22 52 09.4 -0.9
baz=262,SNR=33
PRP Porcupine Dome 26.20 46 P P 22 52 10.1 -0.6
baz=270,SNR=34
F25K Christian Rive 26.23 41 P P 22 52 10.3 -0.6
baz=266,SNR=12
J25K Salcha River, 26.28 48 P P 22 52 10.1 -1.3
baz=272,SNR=9.7

KLU Klutina 26.30 55 P P 22 52 11.2 -0.3
baz=278
E25K Arctic Village 26.31 40 P P 22 52 10.4 -1.2
baz=265,SNR=16
PAX Paxson 26.34 52 P P 22 52 11.1 -0.8
baz=275
EYAK Cordova Ski Ar 26.52 57 P P 22 52 13.5 +0.1
baz=280
HARP HAARP 26.54 53 P P 22 52 13.9 +0.3
baz=277
RIDG Independent Ri 26.56 50 P P 22 52 12.9 -0.9
baz=274,SNR=8.6
BMAR Burnt Mountain 26.63 42 P 22 52 14.4 -0.1
C26K Camden Bay 26.76 36 P P 22 52 14.7 -0.8
baz=262,SNR=15
F26K Sheenjek River 26.81 41 P P 22 52 14.0 -2.1
baz=267,SNR=10
N25K Chitina, Valde 26.91 55 P P 22 52 15.6 -1.5
baz=279
SCRK Sand Creek 26.92 49 P P 22 52 15.4 -1.7
baz=275,SNR=14
G26K Porcupine Rive 26.92 43 P P 22 52 15.6 -1.4
baz=269,SNR=18
BMRM Bremner River 27.00 56 P P 22 52 16.4 -1.5
baz=280
J26L Joseph Creek 27.07 48 P P 22 52 17.3 -1.1
baz=274
C27K Jago River 27.14 37 P P 22 52 17.5 -1.4
baz=264,SNR=30
I26K Coal Creek Min 27.20 46 P P 22 52 18.2 -1.3
baz=273
M26K Nabesna, AK 27.54 53 P P 22 52 21.8 -0.8
baz=278
CN2 Changchun 27.54 263 *e*P P 22 52 21.8 -1.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
K27K Chicken 27.75 49 P P 22 52 24.0 -0.5
baz=276
G27K Doyon Strip 27.76 43 P P 22 52 24.0 -0.6
baz=271,SNR=11
E27K Coleen River 27.80 40 P P 22 52 24.1 -0.8
baz=269,SNR=5.3
I27K Kandik River 27.82 46 P P 22 52 23.9 -1.3
baz=274
H27K Steamboat Moun 27.83 44 P P 22 52 24.5 -0.7
baz=272,SNR=19
L27K Beaver Creek, 27.98 51 P P 22 52 25.6 -1.0
baz=278,SNR=18
BCAR Beaver Creek A 28.00 51 P 22 52 26.8 0.0
M27K Edge Creek, AK 28.06 53 P P 22 52 26.3 -1.2
baz=279,SNR=7.8
D27M Malcolm River 28.07 38 P P 22 52 26.1 -1.3
baz=267,SNR=16
BVCY Beaver Creek 28.52 52 P P 22 52 29.6 -1.7
baz=280
I28M Miner Creek 28.53 46 P P 22 52 30.3 -1.2
baz=275,SNR=8.3
E28M Babbage River 28.57 39 P P 22 52 30.5 -1.2
baz=270,SNR=8.3
YUK3 Moose Creek 28.82 54 P P 22 52 32.8 -1.5
baz=282
D28M Stokes Point 28.87 38 P P 22 52 32.7 -1.6
baz=269
DAWY Dawson 28.92 49 P 22 52 34.6 -0.4
DAWY Dawson 28.92 49 P P 22 52 33.9 -1.0
baz=278,SNR=6.5
H29M Whitestone 29.11 44 P P 22 52 35.4 -1.2
baz=275,SNR=5.9
O28M Mount Upton 29.16 56 P P 22 52 36.0 -1.4
baz=283
E29M Blow River 29.17 40 P P 22 52 36.3 -0.7
baz=272,SNR=8.2
G29M Pine Creek 29.19 43 P P 22 52 35.8 -1.5
baz=274,SNR=14
I29M Ogilvie Camp, 29.22 46 P P 22 52 36.2 -1.4
baz=277,SNR=5.3
PINM Pinnacle 29.29 57 P P 22 52 37.0 -1.3
baz=285
J29N Klondike Camp 29.37 48 P P 22 52 38.3 -0.7
baz=278
M29M Somme Creek 29.61 52 P P 22 52 40.8 -0.4
baz=282
L29M L29M 29.63 51 P P 22 52 40.9 -0.3
baz=281,SNR=13
EPYK Eagle Plains 29.76 44 P P 22 52 42.6 +0.2
EPYK Eagle Plains 29.76 44 P P 22 52 41.1 -1.2
baz=276,SNR=11
YUK4 Talbot Arm 29.76 54 P P 22 52 42.0 -0.6
baz=283
K29M Barlow Dome 29.77 49 P P 22 52 41.6 -1.0
baz=280,SNR=6.4
G30M tAoh Zraii Nji 29.89 43 P P 22 52 42.0 -1.6
baz=276,SNR=6.8
YUK6 Outpost Mounta 29.99 55 P P 22 52 43.0 -1.6
baz=284
F30M Barrier River 30.01 41 P P 22 52 43.0 -1.5
baz=275,SNR=6.5
I30M Mount Dempster 30.04 46 P P 22 52 43.9 -1.1
baz=278,SNR=22
O29M Mount Kennedy 30.05 56 P P 22 52 44.1 -1.0
baz=285
J30M Hart River 30.16 47 P P 22 52 44.9 -1.1
baz=280
KS19 Wonju Array Si 30.41 251 P P 22 52 48.5 +0.2
KS19 IAmb IAmb 22 52 51.2
comp=Z,22nm,1.2s
KSRS Korea Array 30.41 251 P P 22 52 50.3 +2.0
comp=Z,6.4nm,1.0s,baz=42,slow=9.4,SNR=23
comp=Z,6.4nm,1.0s
HYT Haines Junctio 30.43 55 P 22 52 48.5 +0.1
HYT IAmb IAmb 22 52 49.9
comp=Z,12nm,1.0s
HYT Haines Junctio 30.43 55 P P 22 52 47.9 -0.5
baz=285,SNR=5.6
KSAR Wonju Array Be 30.44 251 P P 22 52 48.9 +0.3
KSAR Wonju Array Be 30.44 251 P P 22 52 48.9 +0.3
N30M Aishikik Lake 30.46 54 P P 22 52 48.0 -0.7
baz=284
P29M Windy Craggy 30.64 57 P P 22 52 49.8 -0.4
baz=287
G31M Satah River 30.66 43 P P 22 52 49.9 -0.4
baz=277,SNR=6.0
H31M Peel River 30.79 45 P P 22 52 51.5 0.0
baz=279,SNR=7.1
INK Inuvik 30.80 40 P P 22 52 51.6 +0.2
INK pmax pmax
comp=Z,8.0nm,1.3s
INK Inuvik 30.80 40 P P 22 52 51.3 -0.1
baz=276,SNR=9.5
F31M Tsiigehtchic 30.81 41 P P 22 52 51.5 +0.1
baz=277,SNR=10
P30M Million Dollar 30.88 56 P P 22 52 52.0 -0.3
baz=287
N31M Braeburn, Yuko 31.06 53 P P 22 52 53.9 0.0
baz=285
O30N Mendenhall 31.11 55 P P 22 52 54.6 +0.2
baz=286
M31M Drury Creek, Y 31.52 52 P P 22 52 58.2 +0.3
baz=285,SNR=8.0
WHY Whitehorse 31.71 55 P P 22 52 59.8 +0.1
baz=287
S31K Pelican 31.91 60 P P 22 53 01.5 +0.2
baz=290
FARO Faro, Yukon 31.98 51 P P 22 53 01.3 -0.6
baz=286
N32M Quiet Lake 32.41 53 P P 22 53 05.3 -0.4
baz=288
P32M Atlin 32.60 56 P P 22 53 06.7 -0.7
baz=289
SIT Sitka 32.70 61 P P 22 53 07.9 -0.3
baz=292
MMPY Sheldon Lake, 32.81 50 P P 22 53 09.2 0.0
baz=286,SNR=8.6
P33M Teslin, Yukon 32.82 55 P P 22 53 09.0 -0.5
baz=289
S32K Killisnoo 32.92 60 P P 22 53 09.7 -0.5
baz=292
A36M Sachs Harbour 33.22 32 P 22 53 12.1 -0.5
A36M IAmb IAmb 22 53 13.5
comp=Z,7.7nm,0.9s
A36M Sachs Harbour 33.22 32 P P 22 53 12.4 -0.2
baz=277,SNR=6.4
Q32M Nakina River 33.51 57 P P 22 53 15.8 +0.2
baz=291
R33M Jennings River 33.98 56 P P 22 53 19.9 +0.4
baz=291,SNR=5.3
C36M Paulatuk 34.03 37 P P 22 53 19.8 +0.1
baz=282,SNR=23

U33K Whale Pass 34.19 62 P P 22 53 22.1 +0.9
baz=295
WRAK Wrangell Islan 34.46 61 P P 22 53 24.5 +1.0
baz=295
S34M Telegraph Cree 34.46 58 P P 22 53 24.0 +0.4
baz=293
TGTN Hyland Airport 34.48 51 P P 22 53 24.7 +0.9
baz=290
WTLY Watson Lake, Y 34.74 54 P P 22 53 27.0 +0.9
baz=292
DLBC Dease Lake 34.79 57 P P 22 53 27.0 +0.4
baz=293
H11N2 WAKE ISLAND Hy 35.06 177 T T 23 31 55.5
baz=359,slow=76,SNR=84
H11N3 WAKE ISLAND Hy 35.07 176 T T 23 31 56.5
baz=359,slow=76,SNR=72
H11N1 WAKE ISLAND Hy 35.08 177 T T 23 31 56.8
baz=359,slow=76,SNR=80
T35M Bob Quinn 35.27 59 P P 22 53 31.4 +0.7
baz=295
V35K Ketchikan 35.30 62 P P 22 53 31.2 +0.4
baz=296
ULN Ulaanbaatar 35.80 283 *ce*P P 22 53 35.1 -0.3
ULN pmax pmax
comp=Z,4.0nm,1.3s
WRGLY Wrigley 36.00 47 P P 22 53 37.2 +0.4
baz=291
NRIK Noril'sk 36.12 324 P 22 53 37.1 -0.5
NRIK IAmb IAmb 22 53 38.5
comp=Z,13nm,1.2s
NRIK Noril'sk 36.12 324 P P 22 53 37.2 -0.5
comp=Z,5.3nm,1.0s,baz=78,slow=11,SNR=9.2
comp=Z,5.3nm,1.0s
NRIK Noril'sk 36.12 324 *ce*P P 22 53 37.0 -0.7
NRIK pmax pmax
comp=Z,18nm,1.5s
SONM Songino Array 36.19 284 P P 22 53 38.5 -0.2
SONM Songino Array 36.19 284 P P 22 53 39.4 +0.6
comp=Z,2.3nm,0.7s,baz=62,slow=8.4,SNR=17
SONM PcP PcP 22 56 03.9 +0.2
comp=Z,0.5nm,0.6s,baz=57,slow=1.5,SNR=3.9
comp=Z,2.3nm,0.7s
SONM Songino Array 36.19 284 P P 22 53 38.5 -0.2
SONM pmax pmax
comp=Z,2.0nm,0.8s
H11S1 WAKE ISLAND Hy 36.27 177 T T 23 33 22.2
baz=359,slow=76,SNR=16
H11S3 WAKE ISLAND Hy 36.28 177 T T 23 33 23.7
baz=359,slow=76,SNR=10
H11S2 WAKE ISLAND Hy 36.28 177 T T 23 33 27.4
baz=359,slow=76,SNR=14
TOAD Toad River Com 36.91 54 P P 22 53 45.5 +0.8
baz=295
KOTAN Kotaneelee Air 36.93 52 P P 22 53 45.6 +0.9
baz=294
HHC Hu-ho-hao-te 37.41 271 *e*P P 22 53 48.5 -0.7
HHC pmax pmax
comp=Z,14nm,0.8s
HNS HongShan 37.90 264 ⇓P P 22 53 54.5 +1.4
HNS pmax pmax
comp=Z,12nm,1.0s
NJ2 Nanjing 39.41 254 *e*P P 22 54 05.0 -0.9
NJ2 pmax pmax
comp=Z,11nm,0.6s
EUNU Eureka 39.60 15 P 22 54 07.0 0.0
EUNU IAmb IAmb 22 54 08.0
comp=Z,13nm,0.8s
YKA Yellowknife Ar 40.01 45 P P 22 54 10.6 +0.1
comp=Z,4.2nm,0.8s,baz=298,slow=8.1,SNR=46
YKA PcP PcP 22 56 14.6 -0.5
comp=Z,0.4nm,0.9s,baz=308,slow=3.1,SNR=2.7
comp=Z,4.2nm,0.8s
RES Resolute Bay 40.67 24 P P 22 54 15.6 -0.2
RES pmax pmax
comp=Z,7.0nm,1.8s
LYN LuoYang 41.19 263 P P 22 54 22.3 +1.7
LYN pmax pmax
comp=Z,38nm,1.0s
LYN LR LR
comp=Z,440nm,10.3s
LYN LR LR
comp=Z,600nm,13.1s
LYN LR LR
comp=Z,410nm,10.0s
WHN Wuhan 43.07 257 P P 22 54 37.3 +1.3
WHN pmax pmax
comp=Z,62nm,1.2s
XAN Xi'an 43.60 265 ⇑P P 22 54 40.4 +0.1
XAN pmax pmax
comp=Z,9.0nm,1.4s
ZALV Zalesovo Beam 44.16 303 P P 22 54 42.4 -2.0
comp=Z,0.5nm,0.6s,baz=56,slow=8.8,SNR=1.9
LZH Lanzhou 45.09 271 *e*P P 22 54 54.3 +2.0
LZH pP sP 22 54 59.9 +1.5
LZH pmax pmax
comp=Z,33nm,0.8s
GTA Gaotai 45.13 278 *e*P P 22 54 53.8 +1.2
GTA pmax pmax
comp=Z,16nm,1.3s
B08A Colville Reser 45.44 65 P 22 54 54.8 0.0
SPITS Spitsbergen Ar 45.87 351 P P 22 54 58.0 +0.1
comp=Z,17nm,1.0s,baz=8.1,slow=12,SNR=5.3
comp=Z,17nm,1.0s
SPITS Spitsbergen Ar 45.87 351 P P 22 54 58.0 +0.1
ENH Enshi 46.04 261 P P 22 54 59.7 0.0
BLKN Baker Lake 46.09 37 P 22 54 59.1 -0.5
NEW Newport 46.66 64 P P 22 55 04.2 -0.2
ILON Igloolik, Nuna 47.08 26 P 22 55 06.8 -0.6
ILON IAmb IAmb 22 55 07.7
comp=Z,5.3nm,0.9s
CD2 Chengdu 48.86 267 P P 22 55 23.0 +1.3
CD2 pmax pmax
comp=Z,30nm,0.4s
WMQ Urumqi 48.98 291 *e*P P 22 55 23.5 +1.0
WMQ pmax pmax
comp=Z,37nm,0.9s
KURK Kurchatov 49.15 303 P 22 55 23.0 -0.5
KURK Kurchatov 49.15 303 *ce*P P 22 55 23.3 -0.3
KURK pmax pmax
comp=Z,26nm,1.3s
KURBB Kurchatov Arra 49.25 303 P P 22 55 23.8 -0.6
comp=Z,5.6nm,0.5s,baz=53,slow=7.6,SNR=54
KURBB PcP PcP 22 56 47.1 0.0
comp=Z,0.9nm,0.8s,baz=49,slow=6.4,SNR=1.3
comp=Z,5.6nm,0.5s
FFC Flin Flon 49.82 49 P P 22 55 28.5 -0.2
FFC Flin Flon 49.82 49 P P 22 55 28.5 -0.2
FFC pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 49.87 297 *i* P P 22 55 27.5 -1.7
MKAR Makanchi Array 49.87 297 P 22 55 28.6 -0.6
MKAR Makanchi Array 49.87 297 P P 22 55 28.2 -1.0
comp=Z,3.2nm,0.7s,baz=49,slow=6.4,SNR=42
MKAR PcP PcP 22 56 49.8 +0.3
comp=Z,0.8nm,0.8s,baz=48,slow=4.3,SNR=1.5
comp=Z,3.2nm,0.7s
MAKZ Makanchi 50.02 297 P P 22 55 29.4 -1.0
MAKZ IAmb IAmb 22 55 31.1
comp=Z,21nm,1.4s
MAKZ Makanchi 50.02 297 P P 22 55 29.4 -1.0
MAKZ pmax pmax
comp=Z,21nm,1.4s
GOMU GeErMu 50.21 279 P P 22 55 30.6 -1.7
GOMU pmax pmax
comp=Z,20nm,1.0s
GYA Guiyang 50.54 260 ⇓P P 22 55 36.3 +1.7
GYA pmax pmax
comp=Z,22nm,1.6s
BVAR Borovoye Array 51.45 310 P P 22 55 40.7 -0.4
comp=Z,5.5nm,0.6s,baz=49,slow=8.6,SNR=23
BVAR PcP PcP 22 56 55.2 0.0
comp=Z,1.6nm,0.6s,baz=62,slow=4.9,SNR=2.1
comp=Z,5.5nm,0.6s
BRVK Borovoye 51.48 310 P P 22 55 40.9 -0.3
BRVK IAmb IAmb 22 55 42.1
comp=Z,10nm,0.9s
BRVK Borovoye 51.48 310 *ce*P P 22 55 41.4 +0.2
BRVK pmax pmax
comp=Z,22nm,1.7s
SUMG Summit 51.88 9 P P 22 55 43.6 -0.8
SUMG IAmb IAmb 22 55 45.1
comp=Z,20nm,1.2s
SUMG Summit 51.88 9 P P 22 55 43.6 -0.8
SUMG pmax pmax
comp=Z,21nm,1.2s
YHH Holmes Hill 52.20 64 P P 22 55 46.9 -0.2
ARCES ARCESS Array B 52.48 343 P P 22 55 47.4 -1.0

comp=Z,4.9nm,1.0s,baz=30,slow=7.1,SNR=5.8
comp=Z,4.9nm,1.0s
NVAR Mina Array Bea 52.59 74 P **P 22 55 50.0 +0.1**
NVAR Mina Array Bea 52.59 74 P **P 22 55 51.0 +1.1**
comp=Z,2.4nm,0.9s,baz=313,slow=7.6,SNR=10.0
comp=Z,2.4nm,0.9s
APA Apatity 52.69 339 ↓↓ *i* P **P 22 55 46.4 -3.6**
APA pmax pmax
comp=Z,4.0nm,0.9s
RLMT Red Lodge 52.79 62 P **P 22 55 51.9 +0.6**
RLMT IAmb IAmb 22 55 53.8
comp=Z,14nm,1.1s
SVE Sverdlovsk 52.88 318 *e*P **P 22 55 52.0 +0.4**
SVE pmax pmax
comp=Z,22nm,1.5s
PZH PanZhiHua 53.33 265 P **P 22 55 56.3 +0.9**
PZH pmax pmax
comp=Z,10.0nm,1.6s
PZH pmax pmax
comp=Z,100nm,4.9s
KMI Kunming 53.81 263 P **P 22 56 00.4 +1.3**
KMI pmax pmax
comp=Z,10.0nm,0.9s
ARTI Arti 54.06 319 P **P 22 55 59.9 -0.4**
ARTI Arti 54.06 319 *c i*P **P 22 56 00.4 +0.1**
ARTI 22 57 04.1
ARTI S **S 23 03 35.3 +0.1**
ARTI SS **SS 23 07 16.5 +0.6**
ARTI pmax pmax
comp=Z,27nm,1.6s
PD31 Pinedale Array 54.28 65 **P 22 56 02.4 +0.1**
PDAR Pinedale Array 54.28 65 **P 22 56 02.5 +0.1**
PDAR Pinedale Array 54.28 65 P **P 22 56 03.1 +0.8**
comp=Z,3.1nm,1.0s,baz=313,slow=8.0,SNR=16
comp=Z,3.1nm,1.0s
DUG Dugway, Tooele 54.36 69 P **P 22 56 03.6 +0.8**
DUG pmax pmax
comp=Z,5.0nm,1.8s
PSUT Pine Spring 54.97 71 P **P 22 56 07.8 +0.4**
PSUT IAmb IAmb 22 56 09.6
comp=Z,7.9nm,1.3s
GWY Greenwater Val 55.10 75 **P 22 56 08.8 +0.5**
GWY IAmb IAmb 22 56 11.0
comp=Z,13nm,1.2s
WUS Wushi 55.32 294 P **P 22 56 09.8 0.0**
WUS IAmb IAmb 22 56 10.7
comp=Z,11nm,1.0s
ULM Lac du Bonnet 55.61 50 P **P 22 56 10.9 -0.6**
comp=Z,3.8nm,0.8s,baz=316,slow=12,SNR=3.5
comp=Z,3.8nm,0.8s
SLVN Son La 56.10 259 **P 22 56 16.1 +0.5**
BOOM Boomskoye usch 56.12 297 P **P 22 56 15.4 -0.1**
BOOM Boomskoye usch 56.12 297 P **P 22 56 15.4 -0.1**
BOOM pmax pmax
comp=Z,32nm,1.1s
FRU1 Bishkek 56.56 298 P **P 22 56 18.4 -0.1**
FRU1 IAmb IAmb 22 56 19.8
comp=Z,17nm,1.1s
FRU1 Bishkek 56.56 298 P **P 22 56 18.4 -0.1**
FRU1 pmax pmax
comp=Z,17nm,1.1s
KNB Kanab 56.63 72 P **P 22 56 20.0 +0.8**
KNB IAmb IAmb 22 56 22.0
comp=Z,11nm,1.3s
KNB Kanab 56.63 72 P **P 22 56 20.0 +0.8**
KNB pmax pmax
comp=Z,11nm,1.3s
AAK Ala-Archa 56.75 298 P **P 22 56 19.7 -0.3**
AAK IAmb IAmb 22 56 21.0
comp=Z,12nm,1.1s
AAK Ala-Archa 56.75 298 P **P 22 56 19.7 -0.3**
AAK pmax pmax
comp=Z,12nm,1.1s
KLMR Klimovskoe 56.81 331 *e*P P 22 56 14.7 -5.2
KLMR pmax pmax
comp=Z,24nm,1.1s
O20A White River Ci 56.85 66 **P 22 56 21.1 +0.3**
O20A IAmb IAmb 22 56 22.6
comp=Z,10nm,1.1s
LSA Lhasa 57.04 276 P **P 22 56 23.2 +0.7**
LSA Lhasa 57.04 276 P **P 22 56 23.3 +0.7**
LSA pmax pmax
comp=Z,40nm,2.0s
JOF Joensuu 57.13 337 *e*P **P 22 56 21.3 -0.8**
KSH Kashi 58.25 295 P **P 22 56 34.8 +4.2**
KSH sP pwP 22 56 41.4 +0.1
KSH pmax pmax
comp=Z,11nm,1.5s
KK31 Karatay Array 58.42 301 **P 22 56 30.8 -0.7**
KK31 IAmb IAmb 22 56 32.2
comp=Z,14nm,1.2s
KK31 Karatay Array 58.42 301 P **P 22 56 30.8 -0.7**
KK31 pmax pmax
comp=Z,14nm,1.2s
KKAR Karatay Array 58.42 301 **P 22 56 30.7 -0.9**
KKAR Karatay Array 58.42 301 P **P 22 56 30.7 -0.9**
ISCO Idaho Springs 58.48 65 P **P 22 56 33.0 +0.6**
ISCO IAmb IAmb 22 56 35.0
comp=Z,19nm,1.6s
ISCO Idaho Springs 58.48 65 P **P 22 56 33.0 +0.6**
ISCO pmax pmax
comp=Z,19nm,1.6s
ARSB Arslanbob 58.48 298 P **P 22 56 32.2 0.0**
ARSB IAmb IAmb 22 56 33.3
comp=Z,6.5nm,0.9s
ARSB Arslanbob 58.48 298 P **P 22 56 32.2 0.0**
ARSB pmax pmax
comp=Z,7.0nm,0.9s
ABKAR Akbulak array 58.74 312 **P 22 56 33.1 -0.5**
ABKAR Akbulak array 58.74 312 **P 22 56 33.3 -0.3**
ABKAR IAmb IAmb 22 56 35.6
comp=Z,38nm,1.9s
VAF Ylistaro 58.83 341 *e*P **P 22 56 34.2 +0.2**
KEF Keuruu 59.19 339 *e*P **P 22 56 35.6 -1.0**
FIA1 FINESS Array S 59.59 338 P **P 22 56 39.0 -0.4**
FINES FINESS Array B 59.59 338 P **P 22 56 38.8 -0.5**
FINES FINESS Array B 59.59 338 P **P 22 56 39.0 -0.3**
comp=Z,7.2nm,0.9s,baz=29,slow=6.9,SNR=17
comp=Z,7.2nm,0.9s
FINES FINESS Array B 59.59 338 P **P 22 56 38.8 -0.5**
SHL Shillong 59.75 272 P **P 22 56 39.6 -1.6**
SHL Shillong 59.75 272 P **P 22 56 39.6 -1.6**
SHL pmax pmax
comp=Z,25nm,1.6s
UBPT Khong Chiam 60.08 253 P **P 22 56 42.9 -0.4**
BTK Batken 60.52 298 **P 22 56 45.6 -0.6**
BTK IAmb IAmb 22 56 47.0
comp=Z,10nm,0.8s
BTK Batken 60.52 298 P **P 22 56 45.6 -0.6**
BTK pmax pmax
comp=Z,10.0nm,0.9s
RAF Rauma 60.85 340 *e*P **P 22 56 48.0 0.0**
CHTO Chiang Mai 60.93 261 **P 22 56 48.9 -0.2**
CHTO IAmb IAmb 22 56 51.0
comp=Z,6.9nm,1.0s
CHTO Chiang Mai 60.93 261 P **P 22 56 48.9 -0.2**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
MEF Metsahovi 61.06 339 *e*P **P 22 56 49.5 +0.1**
BELG Belogornoye 61.15 321 *i* P **P 22 56 49.0 -1.1**
BELG pmax pmax
comp=Z,4.0nm,1.0s
CMAR Chiang Mai Arr 61.21 261 P **P 22 56 51.4 +0.4**
CMAR Chiang Mai Arr 61.21 261 P **P 22 56 52.2 +1.1**
comp=Z,1.4nm,0.3s,baz=36,slow=7.0,SNR=16
comp=Z,1.4nm,0.3s
CMAR Chiang Mai Arr 61.21 261 P **P 22 56 51.4 +0.4**
TUC Tucson 61.24 74 P **P 22 56 53.7 +2.5**
TUC pmax pmax
comp=Z,1.0nm,1.3s
ARBE Arbavere 61.42 337 *e*P **P 22 56 50.7 -1.2**
GAR Garm 61.57 298 **P 22 56 52.8 -0.6**
ANMO Albuquerque 61.63 69 *i* P **P 22 56 54.2 +0.3**
ANMO pmax pmax
comp=Z,2.0nm,1.2s
MOS Moscow 61.65 329 *e*P **P 22 56 52.1 -1.4**
MOS pmax pmax
comp=Z,27nm,0.9s
VSU Vasula 62.13 337 *e*P **P 22 56 56.4 -0.3**
SIMJ Simiganj 62.50 299 **P 22 56 59.0 -0.7**
SIMJ IAmb IAmb 22 57 00.1
comp=Z,7.5nm,0.9s
OBN Obninsk 62.50 329 P **P 22 56 58.8 -0.4**
OBN Obninsk 62.50 329 ↑↑ *e*P **P 22 56 59.1 0.0**
OBN pmax pmax
comp=Z,14nm,0.9s
MTSE Matsula 62.55 338 *e*P **P 22 56 59.7 +0.3**
NB2 NORSAR Subarra 62.61 346 P **P 22 56 59.2 -0.7**
comp=Z,5.8nm,0.8s,baz=18,slow=6.9
NB2 NORSAR Subarra 62.61 346 P **P 22 56 59.5 -0.4**
NOA NORSAR Array B 62.61 346 P **P 22 56 59.5 -0.4**
comp=Z,4.8nm,0.9s,baz=17,slow=6.7,SNR=14
comp=Z,4.8nm,0.9s
HFS Hagfors 63.10 344 P **P 22 57 02.4 -0.7**
comp=Z,3.0nm,0.6s,baz=17,slow=6.8,SNR=18
comp=Z,3.0nm,0.6s
LPSR Galich'ya Gora 63.93 327 *e*P **P 22 57 06.3 -2.4**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
NIL Nilore 64.09 292 P **P 22 57 09.7 -0.4**
NIL Nilore 64.09 292 P **P 22 57 09.7 -0.4**
NIL pmax pmax
comp=Z,22nm,1.4s
VRH Novokhopyorsk 64.20 324 *e*P **P 22 57 08.0 -2.5**
VRH pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 65.04 326 *e*P **P 22 57 12.6 -3.4**
VSR pmax pmax
comp=Z,8.0nm,1.0s
NACGM Naroch 65.34 335 *e*P **P 22 57 17.8 0.0**
comp=Z,6.0nm,0.9s,baz=25
MNK Minsk 65.42 334 *i* P **P 22 57 17.8 -0.6**
MNK *i* 22 59 40.0
MNK *i* PPP PPP 23 01 13.9
MNK *i* S **S 23 06 03.1 +1.7**
MNK *i* SS **SS 23 10 18.1 +4.4**
MNK pmax pmax
comp=Z,22nm,0.9s
MNK pmax pmax
comp=N,9.0nm,1.0s
MNK pmax pmax
comp=E,17nm,1.1s
MNK MLR MLR
comp=E,212nm,16.0s
MNK MLR MLR
comp=Z,128nm,16.0s
MNK MLR MLR
comp=N,343nm,20.0s
PABE Paberze 65.46 337 **P 22 57 18.0 -0.6**
PABE Paberze 65.46 337 *e*P **P 22 57 18.8 +0.3**
KBL Kabul 65.64 296 **P 22 57 18.7 -1.7**
KBL IAmb IAmb 22 57 19.7
comp=Z,6.5nm,0.8s
KBL Kabul 65.64 296 P **P 22 57 18.7 -1.7**
KBL pmax pmax
comp=Z,7.0nm,0.8s
WMOK Wichita Mounta 65.86 64 P **P 22 57 21.5 -0.1**
APMT Aspermont 66.25 66 **P 22 57 24.2 +0.1**
SUW Suwalki 67.01 337 *e*P **P 22 57 28.6 0.0**
CCM Cathedral Cave 67.04 56 P **P 22 57 29.1 +0.1**
CCM pmax pmax
comp=Z,14nm,1.2s
TX31 Lajitas Ar. Si 67.44 71 **P 22 57 32.1 +0.2**
TX31 IAmb IAmb 22 57 33.6
comp=Z,7.0nm,0.8s
TXAR Lajitas Array 67.44 71 **P 22 57 32.0 +0.2**
TXAR Lajitas Array 67.44 71 P **P 22 57 32.8 +1.0**
comp=Z,4.6nm,0.7s,baz=319,slow=6.5,SNR=49
comp=Z,4.6nm,0.7s
TXAR Lajitas Array 67.44 71 P **P 22 57 32.0 +0.2**
AKASG Malin Array Be 68.50 331 P **P 22 57 37.3 -0.7**
comp=Z,3.6nm,0.6s,baz=29,slow=6.2,SNR=16
comp=Z,3.6nm,0.6s
AKASG Malin Array Be 68.50 331 *i* P **P 22 57 37.5 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 68.50 331 *i* P **P 22 57 36.3 -1.7**
AKBB pmax pmax
comp=Z,13nm,1.3s
KIEV Kiev 68.51 331 P **P 22 57 37.3 -0.8**
JCT Junction City 68.64 67 **P 22 57 39.3 0.0**
JCT IAmb IAmb 22 57 41.0
comp=Z,9.1nm,1.1s
JCT Junction City 68.64 67 P **P 22 57 39.3 0.0**
JCT pmax pmax
comp=Z,9.0nm,1.1s
HRA Herat 69.23 300 P **P 22 57 42.8 -0.4**
HRA IAmb IAmb 22 57 44.3
comp=Z,5.8nm,0.9s
BSEG Bad Segeberg 69.59 344 P **P 22 57 44.8 +0.1**
BSEG pmax pmax
comp=Z,8.0nm,1.2s
EKA Eskdalemuir Ar 69.77 353 P **P 22 57 45.9 0.0**
comp=Z,2.0nm,0.8s,baz=14,slow=6.0,SNR=8.9
comp=Z,2.0nm,0.8s
KBZ Khabaz 70.12 319 P **P 22 57 48.4 +0.2**
comp=Z,4.4nm,1.0s,baz=37,slow=5.1,SNR=9.8
comp=Z,4.4nm,1.0s
KBZ Khabaz 70.12 319 *i* P **P 22 57 47.6 -0.5**
KBZ pmax pmax
comp=Z,18nm,2.3s
WVT Waverly 70.21 55 **P 22 57 48.6 -0.2**
WVT IAmb IAmb 22 57 49.8
comp=Z,11nm,0.9s
WVT Waverly 70.21 55 P **P 22 57 48.6 -0.2**
WVT pmax pmax
comp=Z,11nm,1.0s
SORM Soroca 71.06 331 P **P 22 57 53.4 -0.4**
HKT Hockley 71.15 65 P **P 22 57 55.8 +1.2**
HKT pmax pmax
comp=Z,16nm,1.5s
OJC Ojcow 71.31 337 **P 22 57 55.8 +0.4**
OJC Ojcow 71.31 337 P **P 22 57 55.8 +0.4**
KSP Ksiaz 71.47 340 P **P 22 57 56.5 +0.2**
KSP pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 71.66 342 P **P 22 57 57.0 -0.3**
CLL IAmb IAmb 22 57 58.1
comp=Z,11nm,1.3s
CLL Collm 71.66 342 P **P 22 57 57.1 -0.3**
CLL pmax pmax
comp=Z,11nm,1.3s
CLL Collm 71.66 342 ↓↓ *i*P **P 22 57 57.1 -0.3**
comp=Z,12nm,1.3s
CLL *ex* x 22 58 01.0
CLL *ex* x 22 58 05.0
CLL *e*PcP **PcP 22 58 16.0 -0.5**
CLL *e*PP **PP 23 00 39.0 +3.2**
STHS Stebnicka Huta 71.73 336 *e*P **P 22 57 56.8 -1.1**
STHS Stebnicka Huta 71.73 336 *e*P **P 22 57 56.8 -1.1**
CHVC Chvalec 71.76 340 *e*P **P 22 57 58.8 +0.7**
CHVC Chvalec 71.76 340 *e*P **P 22 57 58.8 +0.7**
SWET Sewanee 71.85 54 P **P 22 57 58.3 -0.6**
BRG Berggiesshubel 71.90 341 *e*P **P 22 57 59.1 +0.2**
BRG Amp 22 58 00.6
comp=Z,7.2nm,1.3s
BRG Berggiesshubel 71.90 341 P **P 22 57 56.4 -2.5**
BRG pmax pmax
comp=Z,5.0nm,1.3s
KOLS Kolonicke sedl 71.93 335 *e*P **P 22 57 59.6 +0.5**
KOLS Kolonicke sedl 71.93 335 *e*P **P 22 57 59.6 +0.5**
DPC Dobruska-Polom 71.93 339 *e*P **P 22 57 59.9 +0.8**
DPC Dobruska-Polom 71.93 339 *e*P **P 22 57 59.9 +0.8**
STEB Steborice 72.03 338 *e*P **P 22 58 00.6 +1.0**
KRLC Kraliky 72.10 339 *e*P **P 22 58 00.8 +0.7**
KRLC Kraliky 72.10 339 *e*P **P 22 58 00.8 +0.7**
MORC Moravsky Berou 72.22 338 **P 22 58 01.2 +0.3**
MORC IAmb IAmb 22 58 02.5
comp=Z,9.7nm,1.1s
MORC Moravsky Berou 72.22 338 *e*P **P 22 58 01.5 +0.6**
MORC Moravsky Berou 72.22 338 P **P 22 58 01.2 +0.3**
MORC pmax pmax
comp=Z,10.0nm,1.1s
BUR08 Bucovina Ar. S 72.38 333 **P 22 58 01.8 -0.1**
LANS Liptovska Anna 72.39 337 *e*P **P 22 58 03.6 +1.7**
LANS pmax pmax
comp=Z,6.0nm,1.2s
LANS Liptovska Anna 72.39 337 *e*P **P 22 58 03.5 +1.7**
BURAR Bucovina Array 72.40 333 P **P 22 58 02.0 -0.1**
MOX Moxa 72.54 342 P **P 22 58 02.7 0.0**
MOX pmax pmax
comp=Z,5.0nm,1.1s
MAUC Maruska 72.55 338 *e*P **P 22 58 03.7 +0.9**
PRU Pruhonice 72.63 340 *e*P **P 22 58 04.0 +0.7**
PRU Pruhonice 72.63 340 *e*P **P 22 58 04.0 +0.7**
VRAC Vranov 72.87 339 *e*P **P 22 58 05.6 +0.9**
VRAC Vranov 72.87 339 P **P 22 58 05.8 +1.1**
VRAC pmax pmax
comp=Z,9.0nm,1.1s
JAVC Velka Javorina 73.06 338 *e*P **P 22 58 07.4 +1.5**
KRUC Moravsky 73.14 339 *e*P **P 22 58 07.1 +0.8**
KRUC Moravsky 73.14 339 P **P 22 58 07.4 +1.1**
KRUC pmax pmax
comp=Z,10.0nm,1.8s
VYHS Vyhne 73.15 337 *e*P **P 22 58 07.3 +0.9**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 73.15 337 *e*P **P 22 58 07.3 +0.9**
ZVC Zvikov 73.23 340 *e*P **P 22 58 07.5 +0.7**
MEM Membach 73.46 346 *d*P **P 22 58 08.5 +0.4**
comp=Z,6.8nm,1.0s
BTNL Ternell 73.46 346 *d*P **P 22 58 08.7 +0.5**
GRF Grafenberg Arr 73.53 342 *e*P 22 58 09.8
comp=Z,4.4nm,0.8s,baz=13,slow=5.2
MODS Modra-Piesok 73.61 338 *e*P **P 22 58 10.6 +1.5**
MODS pmax pmax
comp=Z,17nm,1.2s
MODS Modra-Piesok 73.61 338 *e*P **P 22 58 10.6 +1.5**
KHC Kasperske Hory 73.64 341 *e*P **P 22 58 09.7 +0.4**
KHC *ex* x 22 58 18.7
KHC Kasperske Hory 73.64 341 *e*P **P 22 58 09.7 +0.4**
KHC *e* 22 58 18.7
WET Wettzell 73.76 341 P **P 22 58 11.0 +1.0**
WET pmax pmax
comp=Z,9.0nm,1.1s
CKRC Cesky Krumlov 73.80 340 *e*P **P 22 58 10.7 +0.5**
CKRC Cesky Krumlov 73.80 340 *e*P **P 22 58 10.7 +0.5**
GEC2 GERESS Array S 73.89 341 **P 22 58 10.9 0.0**
GERES GERESS Array B 73.89 341 **P 22 58 10.6 -0.2**
GERES GERESS Array B 73.89 341 P **P 22 58 10.8 0.0**
comp=Z,2.7nm,0.9s,baz=22,slow=4.8,SNR=22
comp=Z,2.7nm,0.9s
MLR Muntele Rosu 74.15 331 P **P 22 58 12.5 +0.1**
MLR IAmb IAmb 22 58 14.5
comp=Z,6.1nm,0.8s
MLR Muntele Rosu 74.15 331 P **P 22 58 12.5 +0.1**
MLR pmax pmax
comp=Z,6.0nm,0.8s
CONA Conrad Observa 74.33 339 *i* pP **P 22 58 14.4 +1.0**
comp=Z,5.6nm,1.0s,SNR=5.8
RONA Rosalia, Austr 74.46 338 *i* pP **P 22 58 15.6 +1.5**
comp=Z,9.5nm,1.7s
MOA Molln 74.73 340 *i* pP **P 22 58 16.4 +0.8**
comp=Z,3.8nm,1.1s
BIOA Bad Ischl, Aus 75.01 340 *i* pP **P 22 58 18.0 +0.8**
comp=Z,4.8nm,1.2s
ARSA Arzberg 75.05 339 *i* pP **P 22 58 18.8 +1.3**
comp=Z,4.5nm,1.2s
LESA Schwarzleotal 75.45 341 *i* pP **P 22 58 20.8 +0.9**
comp=Z,5.2nm,1.1s
KBA Koelnbreinsper 75.65 340 *i* pP **P 22 58 22.7 +1.6**
comp=Z,18nm,1.2s,SNR=10
SOKA Soboth 75.69 339 *i* pP **P 22 58 22.3 +1.1**
comp=Z,5.0nm,1.3s
RETA Reutte 75.74 342 *i* pP **P 22 58 22.2 +0.7**
comp=Z,4.9nm,1.2s
WATA Walderalm 75.74 342 *i* pP **P 22 58 22.5 +0.9**
comp=Z,9.9nm,1.2s
WTTA Wattenberg 75.80 341 *i* pP **P 22 58 23.1 +1.1**
comp=Z,14nm,1.4s,SNR=6.2
MOTA Moosalm 75.82 342 *i* pP **P 22 58 22.7 +0.6**
comp=Z,11nm,1.3s
SQTA Sankt Quirin 75.92 342 *i* pP **P 22 58 23.6 +1.0**
comp=Z,12nm,1.1s,SNR=6.4
OBKA Obir 75.95 339 *i* pP **P 22 58 23.6 +0.8**
comp=Z,17nm,1.1s,SNR=7.3
MYKA Terra Mystica 76.02 340 *i* pP **P 22 58 23.8 +0.7**
comp=Z,4.8nm,1.1s
DAVA Damuels 76.09 343 *i* pP **P 22 58 23.9 +0.3**
comp=Z,4.5nm,1.2s
ABTA Abfaltersbach 76.13 341 *i* pP **P 22 58 24.6 +0.8**
comp=Z,12nm,1.1s,SNR=6.2
FETA Feichten 76.19 342 *i* pP **P 22 58 25.2 +1.0**
comp=Z,9.2nm,1.0s,SNR=5.7
PRED Cave del Predi 76.22 340 **P 22 58 24.1 -0.2**
PRED IAmb IAmb 22 58 25.3
comp=Z,6.6nm,0.9s
FUORN Ofenpass-Fuorn 76.67 342 P **P 22 58 27.6 +0.6**
FUORN IAmb IAmb 22 58 28.9
comp=Z,6.7nm,1.2s
CTI Castel Tesino 76.97 341 P **P 22 58 28.2 -0.3**
CTI IAmb IAmb 22 58 29.2
comp=Z,8.1nm,1.2s
CTI Castel Tesino 76.97 341 P **P 22 58 28.2 -0.3**
CTI pmax pmax
comp=Z,8.0nm,1.2s
BRTR Keskin Array B 76.97 323 P **P 22 58 28.4 -0.4**
BRTR Keskin Array B 76.97 323 P **P 22 58 28.8 +0.1**
comp=Z,1.8nm,0.9s,baz=13,slow=3.1,SNR=6.6
comp=Z,1.8nm,0.9s
BRTR Keskin Array B 76.97 323 P **P 22 58 28.4 -0.4**
TEOL Teolo 77.62 341 P **P 22 58 32.0 -0.1**
WB0 Warramunga Arr 78.69 209 P **P 22 58 38.2 +0.1**
WB0 IAmb IAmb 23 01 15.8
comp=Z,25nm,1.8s
ZCCA Zocca 78.73 341 P **P 22 58 39.5 +1.2**
WB2 Warramunga Arr 78.86 209 P **P 22 58 38.2 -0.9**
WRA Warramunga Arr 78.87 209 P **P 22 58 39.5 +0.4**
comp=Z,2.5nm,0.9s,baz=20,slow=5.8,SNR=11
comp=Z,2.5nm,0.9s
WRA Warramunga Arr 78.87 209 *i* P **P 22 58 40.0 +0.9**
WRA pmax pmax
comp=Z,2.0nm,0.9s
FDMO Fiordimonte 79.58 339 **P 22 58 43.3 +0.3**
FDMO IAmb IAmb 22 58 45.0
comp=Z,18nm,1.2s
CAMP Campotosto 79.99 339 P **P 22 58 45.8 +0.5**
CAMP IAmb IAmb 22 58 47.2
comp=Z,16nm,1.1s
AS31 Alice Springs 82.52 208 **P 22 58 58.8 +0.1**
ASAR Alice Springs 82.53 208 **P 22 58 59.0 +0.3**
ASAR Alice Springs 82.53 208 P **P 22 58 59.7 +1.1**
comp=Z,5.3nm,1.0s,baz=17,slow=5.3,SNR=24
comp=Z,5.3nm,1.0s
ASAR Alice Springs 82.53 208 P **P 22 58 59.0 +0.3**
ESDC Sonseca Array 85.39 351 **P 22 59 13.7 +0.3**
ESDC Sonseca Array 85.39 351 P **P 22 59 13.8 +0.4**
comp=Z,4.9nm,1.0s,baz=4.4,slow=5.1,SNR=19
comp=Z,4.9nm,1.0s
RAYN Ar Rayn 86.34 307 P **P 22 59 17.8 -0.5**
RAYN IAmb IAmb 22 59 18.4
comp=Z,3.4nm,0.8s
RAYN Ar Rayn 86.34 307 P **P 22 59 17.8 -0.5**
RAYN pmax pmax
comp=Z,3.0nm,0.8s
VNDA Vanda 132.08 181 PKP **PKiKP 23 05 48.6 -0.3**
comp=Z,0.9nm,0.9s,baz=47,slow=0.8,SNR=1.9
QSPA South Pole Qui 144.56 180 PKP **PKPab 23 06 09.1 -0.5**
comp=Z,7.6nm,1.0s,baz=351,slow=2.3,SNR=20
ELIB Princess Elisa 156.33 209 *d*PKP **PKPab 23 06 58.3 +0.5**

GCG 20 22:56:47.0±0.3, 14°.73N×91°.68W, h84km±2km, MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.41**	**288**	*i* S	Sn	22 57 11.1	+0.7
STG8	**El Palmar, Qui**	**0.42**	**132**	*e*P	Pn	22 56 59.9	-1.0
STG8				*e*S	Sn	22 57 09.9	-1.2
STG0	**El Palmar, Qui**	**0.44**	**133**	*e*P	Pn	22 56 59.7	-1.2
STG0				*i* S	Sn	22 57 09.6	-1.6
STG5	**El Palmar, Qui**	**0.46**	**136**	*i* P	Pn	22 56 59.4	-1.5
STG5				*i* S	Sn	22 57 09.1	-2.2

---

*IDC **20** 23:21:14.8±1.0, 8°.20S×116°.58E, h0km, mb3.7/8, mbtmp3.7/10, ML3.5/2, Error ellipse: s-maj=24.3km s-min=16.4km az=57.0*

ISC 20 23:21:19.8±1.0, 8°.28S±0°.08×116°.7E±0°.1, h35km, n10, σ1°.35/12, mb3.9/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.44**	**43**	Pn	**Pn**	**23 22 24.9**	**+0.2**
	2.1nm,0.3s,baz=241,slow=18,SNR=7.6						
KAPI				Sn	**Sn**	**23 23 15.0**	**-0.2**
	5.4nm,0.3s,baz=194,slow=19,SNR=11						
KAPI				Lg	Lg	23 23 36.9	
	3.5nm,0.3s,baz=270,slow=20,SNR=6.0						
	5.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**13.07**	**139**	Pn	**Pn**	**23 24 23.1**	**-0.1**
	0.2nm,0.3s,baz=315,slow=10.0,SNR=5.6						
FITZ				Sn	**Sn**	**23 26 44.6**	**-2.8**
	0.2nm,0.3s,baz=218,slow=19,SNR=5.6						
	1.2nm,0.6s						

WRA Warramunga Arr 20.64 126 P **P 23 25 57.9 +1.3**
1.6nm,0.5s,baz=300,slow=12,SNR=28
1.6nm,0.5s
ASAR Alice Springs 22.49 135 P **P 23 26 17.0 +0.5**
0.8nm,0.6s,baz=308,slow=9.4,SNR=19
0.8nm,0.6s
CMAR Chiang Mai Arr 31.82 327 P **P 23 27 41.0 -0.5**
0.5nm,0.3s,baz=147,slow=8.4,SNR=1.1
0.5nm,0.3s
STKA Stephens Creek 32.97 139 P **P 23 27 53.4 +1.9**
1.4nm,0.7s,baz=302,slow=10,SNR=1.4
1.4nm,0.7s
SONM Songino Array 56.61 352 P **P 23 30 59.7 +0.4**
0.8nm,0.7s,baz=179,slow=5.8,SNR=6.1
0.8nm,0.7s
MKAR Makanchi Array 62.80 334 P **P 23 31 40.7 -1.2**
0.9nm,0.8s,baz=144,slow=8.2,SNR=7.5
0.9nm,0.8s
KURBB Kurchatov Arra 67.33 335 P **P 23 32 10.9 -0.2**
0.1nm,0.4s,baz=149,slow=6.2,SNR=1.8
0.1nm,0.4s
ZALV Zalesovo Beam 67.58 340 P **P 23 32 11.7 -1.0**
0.8nm,0.5s,baz=149,slow=5.9,SNR=4.0
0.8nm,0.5s

*SJA **20** 23:23:43.1±0.8,30°.88S×71°.45W,h32km±2km,ML4.0, MW4.1*
*GUC **20** 23:23:44.1±0.8,30°.91S×71°.31W,h51km±2km,ML4.2*
*NEIC **20** 23:23:45.2±1.9,30°.94S±0°.04×71°.44W±0°.06,h50km±5km, mb4.3/6,Error ellipse: s-maj=7.8km s-min=5.0km az=74.0*
*IDC **20** 23:23:45.0±3.1,30°.82S×71°.55W,h57km±26km,mb3.7/5, mbtmp3.9/10,ML3.8/5,MS3.0/1,Error ellipse: s-maj=22.4km s-min=19.4km az=109.0*
ISC 20 23:23:44.5±0.6,30°.89S±0°.03×71°.46W±0°.04,h49km±5km, n127,σ1§76/152,mb4.2/7,15C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.27**	**325**		**Pn**	**23 23 54.8**	**+1.5**
CO06				Sn	**Sn**	**23 24 01.8**	**+2.3**
CO06	**Fray Jorge**	**0.27**	**325⇑**	*eP*	**Pn**	**23 23 54.7**	**+1.5**
CO06				*eS*	**Sn**	**23 24 02.2**	**+2.7**
CO06				IAML		23 24 02.5	
	comp=E,13μm,0.2s						
CO02	**Combarbal**	**0.50**	**128**		**Pn**	**23 23 55.8**	**-0.1**
CO02				Sn	**Sn**	**23 24 03.5**	**-0.5**
CO02	**Combarbal**	**0.50**	**128⇓**	*eP*	**Pn**	**23 23 55.7**	**-0.2**
CO02				*eS*	**Sn**	**23 24 03.3**	**-0.7**
CO02	**Combarbal**	**0.50**	**128**	*eP*	**Pn**	**23 23 54.8**	**-1.1**
CO03	**El Pedregal**	**0.67**	**86**		**Pn**	**23 23 57.5**	**-0.4**
CO03				Sn	**Sn**	**23 24 06.7**	**-0.8**
CO03	**El Pedregal**	**0.67**	**86⇓**	*eP*	**Pn**	**23 23 57.4**	**-0.4**
CO03				*eS*	**Sn**	**23 24 06.6**	**-0.8**
CO03				IAML		23 24 07.0	
	comp=E,40μm,0.1s						
CO03	**El Pedregal**	**0.67**	**86**	*eP*	**Pn**	**23 23 56.5**	**-1.3**
CO03				*eS*	**Sn**	**23 24 06.7**	**-0.8**
CO03				IAML		23 24 06.7	
	comp=Z,7μm,0.2s						
GO04	**Tololo Observa**	**0.92**	**39**		**Pn**	**23 24 02.0**	**+0.6**
GO04				Sn	**Sn**	**23 24 14.0**	**+0.4**
GO04	**Tololo Observa**	**0.92**	**39**	*eP*	**Pn**	**23 24 01.8**	**+0.4**
GO04				*eS*	**Sn**	**23 24 14.4**	**+0.8**
GO04				IAML		23 24 17.6	
	comp=N,31μm,0.4s						
GO04	**Tololo Observa**	**0.92**	**39**	*eP*	**Pn**	**23 24 00.9**	**-0.4**
CO05	**La Serena**	**0.99**	**11**		**Pn**	**23 24 03.2**	**+1.2**
CO05				Sn	**Sn**	**23 24 16.1**	**+1.1**
CO05	**La Serena**	**0.99**	**11⇑**	*eP*	**Pn**	**23 24 03.1**	**+1.0**
CO05				*eS*	**Sn**	**23 24 16.7**	**+1.8**
CO01	**Juntas del Tor**	**1.49**	**53**		**Pn**	**23 24 10.2**	**+1.1**
CO01	**Juntas del Tor**	**1.49**	**53⇓**	*eP*	**Pn**	**23 24 10.2**	**+1.1**
CO01				*eS*	**Sn**	**23 24 28.9**	**+1.4**
CO01				IAML		23 24 29.3	
	comp=N,5μm,0.4s						
CO01	**Juntas del Tor**	**1.49**	**53**	*eP*	**Pn**	**23 24 09.5**	**+0.4**
CO01				*eS*	**Sn**	**23 24 29.2**	**+1.6**
CO01				IAML		23 24 29.4	
	comp=Z,1μm,0.3s						
VA06	**Catapilco**	**1.67**	**175**		**Pn**	**23 24 12.0**	**+0.7**
VA06	**Catapilco**	**1.67**	**175⇑**	*eP*	**Pn**	**23 24 12.1**	**+0.7**
VA06				*eS*	**Sn**	**23 24 33.0**	**+1.4**
VA06				IAML		23 24 37.5	
	comp=N,4μm,0.5s						
AROD	**Rodeo**	**1.86**	**68**	*eP*	**Pn**	**23 24 16.7**	**+2.4**
LCO	**Las Campanas**	**1.99**	**20**		**Pn**	**23 24 17.2**	**+1.3**
LCO	**Las Campanas**	**1.99**	**20**	*eP*	**Pn**	**23 24 17.2**	**+1.3**
LCO				*eS*	**Sn**	**23 24 41.4**	**+1.6**
LCO	**Las Campanas**	**1.99**	**20**	*eP*	**Pn**	**23 24 16.7**	**+0.8**
LCO				IAML		23 24 51.1	
	comp=Z,2μm,0.3s						
VA03	**San Esteban**	**2.02**	**158**		**Pn**	**23 24 17.0**	**+0.8**
VA03	**San Esteban**	**2.02**	**158⇑**	*eP*	**Pn**	**23 24 17.1**	**+0.9**
VA03				*eS*	**Sn**	**23 24 42.4**	**+2.0**
VA03				IAML		23 24 44.7	
	comp=E,4μm,0.2s						
VA03	**San Esteban**	**2.02**	**158**	*eP*	**Pn**	**23 24 16.5**	**+0.3**
VA03				IAML		23 24 48.6	
	comp=Z,1μm,0.3s						
DOCA	**Reserva Natura**	**2.04**	**92**	*eP*	**Pn**	**23 24 16.1**	**-0.6**
DOCA				*eS*	**Sn**	**23 24 46.6**	**+5.3**
DOCA				IAML		23 24 48.6	
	comp=Z,571nm,0.7s						
RTLS	**Leoncito**	**2.06**	**117**	*eP*	**Pn**	**23 24 19.1**	**+2.2**
RTLS				IAML		23 24 50.9	
	comp=Z,1μm,0.4s						
ACCO	**Cerro Coronel**	**2.08**	**82**	*eP*	**Pn**	**23 24 16.3**	**-1.0**
ROCH	**El Roble**	**2.11**	**170⇑**	*eP*	**Pn**	**23 24 18.3**	**+0.8**
ROCH				IAML		23 24 52.2	
	comp=N,1μm,0.7s						
ROC1	**El Roble**	**2.11**	**170**	*eP*	**Pn**	**23 24 18.3**	**+0.7**
ROC1				*eS*	**Sn**	**23 24 47.9**	**+5.1**
VA01	**Torpederas**	**2.13**	**184**		**Pn**	**23 24 17.8**	**+0.2**
VA01	**Torpederas**	**2.13**	**184⇑**	*eP*	**Pn**	**23 24 17.9**	**+0.2**
VA01				IAML		23 24 50.1	
	comp=E,1μm,0.5s						
VA01	**Torpederas**	**2.13**	**184**	*eP*	**Pn**	**23 24 17.2**	**-0.4**
VA01				IAML		23 24 51.9	
	comp=Z,490nm,0.6s						
ACDV	**Cuesta del Vie**	**2.14**	**71**	*eP*	**Pn**	**23 24 20.9**	**+3.0**
ACDV				IAML		23 24 50.7	
	comp=Z,503nm,0.4s						
AC05	**El Transito**	**2.29**	**27**		**Pn**	**23 24 21.8**	**+1.8**
AC05	**El Transito**	**2.29**	**27⇑**	*eP*	**Pn**	**23 24 21.9**	**+1.8**
AC05				IAML		23 24 58.8	
	comp=N,2μm,0.4s						
AC05	**El Transito**	**2.29**	**27**	*eP*	**Pn**	**23 24 21.9**	**+1.8**
AC05				*eS*	**Sn**	**23 24 51.5**	**+4.5**
AC05				IAML		23 24 55.6	
	comp=Z,572nm,0.8s						
PEL	**Peldehue**	**2.34**	**164**		**Pn**	**23 24 21.3**	**+0.8**
PEL	**Peldehue**	**2.34**	**164⇑**	*eP*	**Pn**	**23 24 21.6**	**+1.0**
PEL				IAML		23 25 07.2	
	comp=N,1μm,0.7s						
PEL	**Peldehue**	**2.34**	**164**	*eP*	**Pn**	**23 24 21.8**	**+1.2**
PEL				*eS*	Sn	23 24 36.5	-12
PEL				*eS*		23 24 54.0	
MT02	**Curacav**	**2.38**	**173**		**Pn**	**23 24 21.4**	**+0.4**
MT02	**Curacav**	**2.38**	**173⇑**	*eP*	**Pn**	**23 24 21.3**	**+0.4**
MT02				*eS*	**Sn**	**23 24 53.1**	**+4.2**
MT02				IAML		23 24 59.9	
	comp=E,778nm,0.4s						
MT02	**Curacav**	**2.38**	**173**	*eP*	**Pn**	**23 24 20.6**	**-0.5**
MT02				IAML		23 25 03.3	
	comp=Z,540nm,0.2s						
ZON	**Zonda**	**2.47**	**106**		**Pn**	**23 24 24.3**	**+2.0**
ZON	**Zonda**	**2.47**	**106**	*eP*	**Pn**	**23 24 24.1**	**+1.8**
ZON				*eS*	**Sn**	**23 24 58.4**	**+7.1**
ZON				IAML		23 25 14.0	
	comp=Z,575nm,0.7s						
MT10	**Hacienda Santa**	**2.50**	**162⇑**	*eP*	**Pn**	**23 24 24.0**	**+1.2**
MT10				IAML		23 25 00.1	
	comp=E,3μm,0.2s						
SJA	**San Juan**	**2.56**	**105**	*eP*	**Pn**	**23 24 20.9**	**-2.7**
SJA				IAML		23 24 43.5	
	comp=Z,660nm,0.5s						
SJA				*eS*	Sn	23 24 43.5	-10
MT05	**Renca**	**2.57**	**166**		**Pn**	**23 24 24.5**	**+0.9**
MT05	**Renca**	**2.57**	**166**	*eP*	**Pn**	**23 24 24.7**	**+1.0**
MT05				*eS*	**Sn**	**23 24 54.5**	**+0.8**
MT05				IAML		23 25 08.4	
	comp=Z,673nm,0.2s						
RTLL	**Cerro Villicun**	**2.60**	**100**	*eP*	**Pn**	**23 24 20.6**	**-3.5**
RTLL				*eS*	Sn	23 25 05.7	+11
MT14	**Cerro Cal¡n**	**2.62**	**163⇑**	*eP*	**Pn**	**23 24 25.7**	**+1.3**
MT14				IAML		23 25 11.1	
	comp=E,2μm,0.2s						
FCH	**Farellones**	**2.62**	**158⇑**	*eP*	**Pn**	**23 24 26.2**	**+1.5**
FCH				IAML		23 25 06.4	
	comp=N,1μm,0.2s						
MT16	**CCHEN**	**2.65**	**163**		**Pn**	**23 24 26.1**	**+1.3**
AC04	**Llanos de Chal**	**2.70**	**7**		**Pn**	**23 24 26.7**	**+1.2**
AC04	**Llanos de Chal**	**2.70**	**7**	*eP*	**Pn**	**23 24 27.1**	**+1.6**
AC04				*eS*	**Sn**	**23 24 57.5**	**+0.7**
AC04				IAML		23 25 11.2	
	comp=Z,453nm,0.3s						
MT03	**Universidad Ad**	**2.72**	**163**		**Pn**	**23 24 26.9**	**+1.1**
MT03	**Universidad Ad**	**2.72**	**163**	*eP*	**Pn**	**23 24 27.3**	**+1.6**
MT03				*eS*	**Sn**	**23 25 02.0**	**+4.6**
MT03				IAML		23 25 09.4	
	comp=Z,775nm,0.5s						
MT04	**Ro Olivares**	**2.75**	**156**	*eP*	**Pn**	**23 24 28.6**	**+2.3**
MT04				*eS*	**Sn**	**23 25 01.5**	**+3.1**
MT04				IAML		23 25 09.0	
	comp=Z,714nm,0.6s						
VA05	**Santo Domingo**	**2.76**	**183**		**Pn**	**23 24 26.0**	**-0.2**
MT08	**Bocatoma Ro**	**2.82**	**155**	*eP*	**Pn**	**23 24 25.5**	**-1.8**
MT08				*eS*	**Sn**	**23 25 02.7**	**+2.4**
MT08				IAML		23 25 10.5	
	comp=Z,456nm,0.7s						
CFA	**Coronel Fontan**	**2.85**	**105**	P	**Pn**	**23 24 29.5**	**+1.9**
	comp=Z,26nm,0.3s,baz=288,slow=15,SNR=334						
CFA				S	**Sn**	**23 25 04.6**	**+4.0**
	comp=Z,272nm,0.4s,baz=192,slow=20,SNR=9.9						
	comp=Z,97nm,0.5s						
CFA	**Coronel Fontan**	**2.85**	**105**	*eP*	**Pn**	**23 24 29.5**	**+1.9**
CFA				*eS*	**Sn**	**23 25 05.8**	**+5.2**
ARCO	**CERRO ARCO**	**2.90**	**133**	*eP*	**Pn**	**23 24 31.9**	**+3.6**
ARCO				IAML		23 25 15.7	
	comp=Z,577nm,1.1s						
MT09	**Talagante**	**2.90**	**172**		**Pn**	**23 24 29.2**	**+0.8**
MT09	**Talagante**	**2.90**	**172⇑**	*eP*	**Pn**	**23 24 29.3**	**+0.8**
MT09				*eS*	**Sn**	**23 25 04.1**	**+2.0**
MT12	**Pirque**	**2.94**	**165⇑**	*eP*	**Pn**	**23 24 29.7**	**+1.0**
MT12				IAML		23 25 19.6	
	comp=E,2μm,0.4s						
MT01	**Popeta**	**2.97**	**177**		**Pn**	**23 24 29.5**	**+0.3**
MT13	**San Alfonso**	**3.01**	**161**		**Pn**	**23 24 31.0**	**+1.1**
MT13	**San Alfonso**	**3.01**	**161⇓**	*eP*	**Pn**	**23 24 31.9**	**+2.1**
MT13				IAML		23 25 13.2	
	comp=E,830nm,0.3s						
LMEL	**Las Melosas**	**3.13**	**160**		**Pn**	**23 24 33.2**	**+1.6**
LMEL	**Las Melosas**	**3.13**	**160**	*eP*	**Pn**	**23 24 33.7**	**+2.1**
BO04	**La Punta**	**3.17**	**167**		**Pn**	**23 24 32.5**	**+0.6**
BO04	**La Punta**	**3.17**	**167⇑**	*eP*	**Pn**	**23 24 32.9**	**+0.9**
BO04				IAML		23 25 21.6	
	comp=E,742nm,0.7s						
GO03	**Copiapo**	**3.46**	**18**		**Pn**	**23 24 37.5**	**+1.6**
BO01	**Tunca**	**3.50**	**175**		**Pn**	**23 24 36.3**	**-0.1**
AC06	**Mina Casimiro**	**3.65**	**16**		**Pn**	**23 24 39.9**	**+1.3**
BO02	**Sierra Bellavi**	**3.93**	**172**		**Pn**	**23 24 42.8**	**+0.4**
AC02	**Maricunga**	**4.53**	**27**		**Pn**	**23 24 52.7**	**+1.7**
AC02	**Maricunga**	**4.53**	**27**	*eS*	**Sn**	**23 25 45.2**	**+2.6**
AC02				IAML		23 26 08.0	
	comp=Z,230nm,0.8s						
AC01	**Pan de Azucar**	**4.79**	**9**		**Pn**	**23 24 53.4**	**-0.8**
ML02	**Panimavida**	**4.86**	**180**		**Pn**	**23 24 54.4**	**-0.7**
BI02	**San Fabin de**	**5.76**	**179**		**Pn**	**23 25 07.5**	**+0.1**
GO02	**Mina Guanaco**	**5.94**	**17**		**Pn**	**23 25 09.8**	**-0.4**
BI05	**Punta Hualpn**	**6.01**	**193**		**Pn**	**23 25 09.3**	**-1.6**
PB14	**IPOC Station P**	**6.31**	**9**		**Pn**	**23 25 14.8**	**-0.5**
H03N1	**Juan Fernandez**	**6.81**	**246**	P	**Pn**	**23 25 22.2**	**+0.6**
	baz=116,slow=19,SNR=183						
H03N1				T	T	23 32 17.1	
	baz=77,slow=72,SNR=1147						
VA04	**Juan Fernndez**	**6.82**	**244**		**Pn**	**23 25 21.8**	**-0.1**
H03N3	**Juan Fernandez**	**6.82**	**246**	P	**Pn**	**23 25 22.2**	**+0.4**
	baz=116,slow=19,SNR=82						
H03N3				T	T	23 32 14.1	
	baz=77,slow=72,SNR=906						
H03N2	**Juan Fernandez**	**6.83**	**246**	P	**Pn**	**23 25 22.5**	**+0.8**
	baz=116,slow=19,SNR=62						
H03N2				T	T	23 32 15.4	
	baz=77,slow=72,SNR=902						
H03S3	**Juan Fernandez**	**6.95**	**243**	P	**Pn**	**23 25 22.9**	**-0.6**
	baz=61,slow=74,SNR=6.5						
H03S1	**Juan Fernandez**	**6.95**	**243**	P	**Pn**	**23 25 22.6**	**-0.9**
H03S2	**Juan Fernandez**	**6.96**	**243**	P	**Pn**	**23 25 22.7**	**-1.0**
	baz=239,slow=74,SNR=6.9						
PB09	**IPOC Station P**	**9.27**	**13**	Pn	**Pn**	**23 25 56.4**	**+0.6**
LR05	**Currie**	**9.33**	**183**		**Pn**	**23 25 55.3**	**-1.0**
PLCA	**Paso Flores**	**9.85**	**176**	Pn	**Pn**	**23 26 02.6**	**-0.8**
PLCA	**Paso Flores**	**9.85**	**176**	P	**Pn**	**23 26 03.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=352,slow=15,SNR=3.6						
PLCA				LR	LR	23 29 54.5	
	comp=Z,82nm,18.6s,baz=202,slow=37						
	comp=Z,0.8nm,0.7s						
TRQA	**Tornquist**	**10.59**	**135**		**Pn**	**23 26 12.7**	**-0.9**
ITQB	**Itaqui**	**12.88**	**88**	Pn	**Pn**	**23 26 41.9**	**-3.0**
CPUP	**Villa Florida**	**13.22**	**73**	Pn	**Pn**	**23 26 46.9**	**-2.6**
CPUP	**Villa Florida**	**13.22**	**73**	P	**Pn**	**23 26 48.8**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=248,slow=11,SNR=4.9						
CPUP				S	**Sn**	**23 29 16.9**	**+1.9**
	comp=Z,6.5nm,0.8s,baz=249,slow=8.6,SNR=3.4						
	comp=Z,0.9nm,0.5s						
LPAZ	**La Paz**	**14.85**	**13**	Pn	**Pn**	**23 27 11.5**	**-0.6**
LPAZ	**La Paz**	**14.85**	**13**	P	**Pn**	**23 27 12.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=189,slow=6.9,SNR=6.2						
	comp=Z,1.2nm,0.6s						
ITAB	**Concordia**	**17.29**	**83**		**Pn**	**23 27 42.3**	**-0.1**
SIV	**San Ignacio**	**17.61**	**35**	P	**Pn**	**23 27 46.7**	**+0.2**
	baz=211,slow=14,SNR=15						
	comp=Z,2.8nm,0.7s						
CZSB	**Cruzeiro do Su**	**23.07**	**357**	P	**P**	**23 28 46.5**	**+0.5**
CZSB				IAmb	IAmb	23 29 03.7	
	comp=Z,16nm,1.1s						
BDFB	**Brasilia**	**26.27**	**60**	P	**P**	**23 29 15.1**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=243,slow=4.5,SNR=5.7						
	comp=Z,2.3nm,0.5s						
QSPA	**South Pole Qui**	**59.34**	**180**	P	**P**	**23 33 41.4**	**+0.1**
QSPA				IAmb	IAmb	23 34 01.9	
	comp=Z,1.9nm,1.1s						
QSPA	**South Pole Qui**	**59.34**	**180**	P	**P**	**23 33 41.8**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=135,slow=2.9,SNR=9.5						
	comp=Z,1.2nm,0.6s						
TXAR	**Lajitas Array**	**67.29**	**330**	P	**P**	**23 34 35.2**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=149,slow=6.9,SNR=2.5						
	comp=Z,0.2nm,0.6s						
DBIC	**Dimbokro**	**73.73**	**72**	P	**P**	**23 35 13.1**	**-0.6**
DBIC				IAmb	IAmb	23 35 14.0	
	comp=Z,4.4nm,0.8s						
DBIC	**Dimbokro**	**73.73**	**72**	P	**P**	**23 35 13.6**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=248,slow=5.4,SNR=4.2						
	comp=Z,2.4nm,0.6s						
BOSA	**Boshof**	**81.08**	**118**	P	**P**	**23 35 53.9**	**-1.0**
NVAR	**Mina Array Bea**	**81.63**	**325**	P	**P**	**23 35 55.3**	**-2.2**
	comp=Z,0.5nm,0.6s,baz=177,slow=1.1,SNR=2.4						
	comp=Z,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**82.69**	**70**	P	**P**	**23 36 03.1**	**-0.1**
TORD				IAmb	IAmb	23 36 03.9	
	comp=Z,1.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**82.69**	**70**	P	**P**	**23 36 03.0**	**-0.3**
	comp=Z,36nm,0.2s,baz=241,slow=4.5,SNR=1.2						
ASAR	**Alice Springs**	**120.55**	**207**	PKP	**PKPdf**	**23 42 30.6**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=127,slow=2.5,SNR=1.7						
WRA	**Warramunga Arr**	**123.70**	**209**	PKP	**PKPdf**	**23 42 36.7**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=151,slow=1.7,SNR=9.2						
H11S2	**WAKE ISLAND Hyl**	**26.25**	**271**	T	T	02 01 31.0	
	baz=116,slow=75,SNR=48						
H11S1	**WAKE ISLAND Hyl**	**26.27**	**271**	T	T	02 01 33.0	
	baz=116,slow=75,SNR=58						
H11S3	**WAKE ISLAND Hyl**	**26.27**	**271**	T	T	02 01 34.9	
	baz=116,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hyl**	**26.59**	**273**	T	T	02 02 01.9	
	baz=116,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hyl**	**26.60**	**273**	T	T	02 01 59.4	
	baz=116,slow=75,SNR=4.9						
H11N2	**WAKE ISLAND Hyl**	**26.61**	**273**	T	T	02 01 59.9	
	baz=116,slow=75,SNR=14						
BVAR	**Boroyoye Array**	**144.64**	**40**	PKP	**PKPdf**	**23 43 14.7**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=294,slow=3.4,SNR=9.1						
KURBB	**Kurchatov Arra**	**150.23**	**40**	PKPbc	**PKPbc**	**23 43 28.6**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=343,slow=2.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**151.32**	**30**	PKPbc	**PKPbc**	**23 43 31.9**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=289,slow=3.6,SNR=6.9						
MKAR	**Makanchi Array**	**154.28**	**44**	PKPbc	**PKPbc**	**23 43 39.0**	**0.0**
	comp=Z,0.2nm,0.8s,baz=245,slow=2.7,SNR=1.9						
MKAR				PKPab	**sPKPdf**	**23 43 51.7**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=290,slow=2.8,SNR=5.5						

*ISK **20** 23:24:00.2,36°.83N×23°.05E,h3km,ML3.4/11*
*IDC **20** 23:24:00.1±0.8,36°.87N×23°.24E,h0km,mb3.5/10, mbtmp3.5/17,ML2.2/4,Error ellipse: s-maj=18.1km s-min=13.2km az=30.0*
*ATH **20** 23:24:01.8,36°.74N×22°.97E,h13km±1km,ML3.4/18, Manual Solution by P.Lantzourakis First location: 2019/04/20 23:25:06, This location: 2021/03/24 00:18:44 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **20** 23:24:02.1,36°.73N×22°.88E,h10km±1km,ML3.3/6,Error ellipse: s-maj=1.5km s-min=0.8km az=64.0*
ISC 20 23:24:01.8±0.7,36°.76N±0°.02×23°.04E±0°.02,h15km±4km, n104,σ1§19/124,mb3.5/10,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNVA	**Monemvasia**	**0.07**	**179**	P	**Pg**	**23 24 06.3**	**+1.4**
MNVA				S	**Sg**	**23 24 07.8**	**+1.0**
VLI	**Veliai**	**0.09**	**241**	P	**Pg**	**23 24 04.7**	**-0.3**
VLI				S	**Sg**	**23 24 06.2**	**-0.9**
	191μm,0.2s						
VLI	**Veliai**	**0.09**	**241**	P	**Pg**	**23 24 04.7**	**-0.3**
VLI				S	**Sg**	**23 24 05.9**	**-1.2**
KRND	**KRANIDI**	**0.63**	**8**	P	**Pb**	**23 24 14.9**	**+0.4**
KRND				S	**Sb**	**23 24 24.2**	**+1.1**
	3μm,0.3s						
KRND	**KRANIDI**	**0.63**	**8**	P	**Pb**	**23 24 14.9**	**+0.4**
KRND				S	**Sb**	**23 24 23.1**	**0.0**
VLX	**Vlachokerasia**	**0.80**	**319**	P	**Pg**	**23 24 16.4**	**-1.1**
VLX				S	**Sg**	**23 24 26.1**	**-1.9**
MET5	**Makryloggos,Me**	**0.90**	**17**	P	**Pn**	**23 24 19.9**	**0.0**
MET5				S	**Sn**	**23 24 32.9**	**+0.2**
MET4	**Agioi Theodoro**	**0.91**	**19**	P	**Pn**	**23 24 20.4**	**+0.3**
MET4				S	**Sn**	**23 24 32.9**	**0.0**
ANKY	**Antikythira Is**	**0.92**	**166**	P	**Pn**	**23 24 20.0**	**-0.2**
ANKY				S	**Sg**	**23 24 31.9**	**+0.2**
	3μm,0.3s						
ANKY	**Antikythira Is**	**0.92**	**166**	P	**Pn**	**23 24 19.9**	**-0.2**
ANKY				S	**Sb**	**23 24 31.4**	**-0.1**
ITM	**Ithomi**	**0.98**	**296**	P	**Pb**	**23 24 19.3**	**-1.3**
ITM				S	**Sb**	**23 24 30.5**	**-2.8**
	1μm,0.4s						
ITM	**Ithomi**	**0.98**	**296**	Pg	**Pb**	**23 24 19.3**	**-1.3**
ITM	**Ithomi**	**0.98**	**296**	P	**Pb**	**23 24 19.3**	**-1.3**
MTHA	**Methoni**	**1.07**	**274**	P	**Pb**	**23 24 21.3**	**-0.7**
MTHA				S	**Sb**	**23 24 35.0**	**-0.8**
VLY	**Voula,Athens**	**1.25**	**29**	P	**Pb**	**23 24 25.2**	**+0.1**
VLY				S	**Sg**	**23 24 43.0**	**+0.9**
LVRA	**Laurium**	**1.25**	**40**	P	**Pb**	**23 24 25.2**	**+0.1**
LTK	**Loutraki**	**1.26**	**358**	P	**Pb**	**23 24 25.6**	**+0.3**
LTK				S	**Sn**	**23 24 41.9**	**+0.2**
KIAA	**Kiato**	**1.27**	**350**	P	**Pg**	**23 24 26.3**	**0.0**
KIAA				S	**Sn**	**23 24 42.4**	**+0.6**
GUR	**Goura**	**1.30**	**335**	P	**Pn**	**23 24 25.2**	**-0.3**
GUR	**Goura**	**1.30**	**335**	P	**Pn**	**23 24 25.2**	**-0.3**
GUR				S	**Sb**	**23 24 41.5**	**-1.0**
AMT	**Artemida-Makis**	**1.31**	**306**	P	**Pn**	**23 24 25.4**	**-0.3**
AMT				S	**Sb**	**23 24 42.2**	**-0.6**
ZARO	**Zacharo**	**1.32**	**304**	P	**Pn**	**23 24 25.6**	**-0.2**
ATH	**Athens Observa**	**1.32**	**24**	P	**Pg**	**23 24 27.2**	**-0.1**
ATH				S	**Sg**	**23 24 44.9**	**+0.2**
NOAC	**Athens-Thissio**	**1.33**	**24**	P	**Pg**	**23 24 27.3**	**-0.1**
ELFA	**Athens-Elefsin**	**1.34**	**17**	P	**Pg**	**23 24 28.2**	**+0.5**
ATHU	**Athens Univers**	**1.34**	**26**	P	**Pb**	**23 24 27.0**	**+0.2**
ATHP	**Athens-Neo Psi**	**1.37**	**25**	P	**Pg**	**23 24 27.8**	**-0.4**
VILL	**Villia**	**1.42**	**9**	P	**Pb**	**23 24 27.9**	**-0.1**
ACHAR	**Athens-Acharne**	**1.43**	**23**	P	**Pb**	**23 24 28.2**	**+0.1**
PTL	**Penteli**	**1.45**	**27**	P	**Pb**	**23 24 28.6**	**+0.1**
PTL	**Penteli**	**1.45**	**27**	P	**Pb**	**23 24 28.7**	**+0.3**
VIL2	**Platees**	**1.46**	**7**	P	**Pn**	**23 24 27.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.46**	**331**	P	**Pn**	**23 24 27.9**	**+0.2**
KLV	**Kalavryta, Ach**	**1.46**	**331**	P	**Pn**	**23 24 28.0**	**+0.3**
CHAN	**Chania**	**1.48**	**146**	P	**Pb**	**23 24 28.6**	**-0.5**
CHAN				S	**Sg**	**23 24 49.2**	**-0.5**
	555nm,0.4s						
CHAN	**Chania**

ESDC Sonseca Array 21.38 286 P **P 23 28 52.4 +3.6**
1.2nm,0.6s,baz=88,slow=9.4,SNR=12
1.2nm,0.6s
HFS Hagfors 24.15 349 P **P 23 29 16.0 -1.0**
1.0nm,0.6s,baz=161,slow=9.2,SNR=6.6
1.0nm,0.6s
FINES FINESS Array B 24.78 3 P **P 23 29 21.7 -1.0**
1.0nm,0.8s,baz=164,slow=16,SNR=3.3
FINES PcP **PcP 23 32 58.8 0.0**
2.2nm,1.1s,baz=180,slow=2.8,SNR=3.4
1.0nm,0.8s
NOA NORSAR Array B 25.43 347 P **P 23 29 28.8 +0.1**
0.3nm,0.8s,baz=154,slow=10,SNR=3.8
0.3nm,0.8s
EKA Eskdalemuir Ar 25.74 324 P **P 23 29 32.7 +1.2**
1.3nm,0.5s,baz=126,slow=9.6,SNR=13
1.3nm,0.5s
TORD Torodi Ar. Bea 30.31 225 P **P 23 30 13.3 +0.6**
53nm,0.3s,baz=30,slow=9.7,SNR=1.7
BVAR Borovoye Array 36.53 48 P **P 23 31 03.5 -3.1**
0.3nm,0.6s,baz=248,slow=7.6,SNR=1.9
0.3nm,0.6s
KURBB Kurchatov Arra 41.48 52 P **P 23 31 46.8 -1.2**
0.3nm,0.5s,baz=276,slow=8.6,SNR=4.3
0.3nm,0.5s
MKAR Makanchi Array 44.35 58 P **P 23 32 10.7 -0.7**
0.3nm,0.3s,baz=280,slow=8.7,SNR=16
MKAR PcP **PcP 23 33 55.7 +0.4**
0.1nm,0.5s,baz=273,slow=2.6,SNR=1.6
0.3nm,0.3s
ZALV Zalesovo Beam 45.16 47 P **P 23 32 16.7 -1.0**
0.6nm,0.3s,baz=267,slow=7.9,SNR=3.7
0.6nm,0.3s
YKA Yellowknife Ar 75.39 341 P **P 23 35 44.2 -0.2**
0.2nm,0.7s,baz=26,slow=5.3,SNR=4.1
0.2nm,0.7s

---

*KRSC **20** 23:45:41.5±1.9, 54°.82N×164°.66E, h50km±32km, Ml3.9*
*IDC **20** 23:45:41.8±1.2, 54°.98N×164°.75E, h0km, mb3.6/10, mbtmp3.6/11, ML2.7/1, Error ellipse: s-maj=37.6km s-min=17.6km az=161.0*
ISC 20 23:45:43.6±1.9, 54°.84N±0°.04×164°.71E±0°.06, h17km±13km, n54, σ1§90/80, mb3.6/10, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.81**	**63**	*eP*	**Pg**	**23 45 59.0**	**-0.5**
BKI				*eS*	**Sb**	**23 46 10.2**	**+0.3**
KBTR	**Krutoberegovo**	**1.74**	**323**	*eP*	**Pn**	**23 46 10.6**	**-2.4**
KBTR				*eS*	**Sn**	**23 46 30.5**	**-4.3**
MKZ	**Mys Kozlova**	**1.75**	**262**	*eP*	**Pn**	**23 46 11.9**	**-1.3**
MKZ				*eS*	**Sn**	**23 46 31.9**	**-3.1**
KBG	**Krutoberegovo**	**1.82**	**322**	*eS*	**Sn**	**23 46 32.2**	**-4.4**
TUMD	**Tumrok D**	**2.51**	**280**	*eP*	**Pn**	**23 46 22.1**	**-1.4**
TUMD				*eS*	**Sn**	**23 46 50.3**	**-3.4**
ZLN	**Zelenaya**	**2.52**	**300**	*eP*	**Pn**	**23 46 24.0**	**+0.2**
ZLN				*eS*	**Sn**	**23 46 53.0**	**-1.1**
SMKR	**Semkarok**	**2.53**	**315**	*eP*	**Pn**	**23 46 23.7**	**-0.3**
SMKR				*eS*	**Sn**	**23 46 54.5**	**0.0**
BZGR	**Bezymyannyi-Gr**	**2.54**	**297**	*eP*	**Pn**	**23 46 23.8**	**-0.3**
BZGR				*eS*	**Sn**	**23 46 54.7**	**0.0**
CIRR	**Tsirk**	**2.59**	**301**	*eP*	**Pn**	**23 46 24.5**	**-0.3**
CIRR				*eS*	**Sn**	**23 46 54.9**	**-1.0**
BDR	**Baidarnaya**	**2.63**	**313**	*eS*	**Sn**	**23 46 54.1**	**-2.7**
BZMR	**Bezymyannaya**	**2.65**	**296**	*eP*	**Pn**	**23 46 25.7**	**+0.2**
BZMR				*eS*	**Sn**	**23 46 56.8**	**-0.5**
BZWR	**Bezymyannyi-We**	**2.65**	**297**	*eP*	**Pn**	**23 46 25.8**	**0.0**
BZWR				*eS*	**Sn**	**23 46 57.6**	**0.0**
SRKR	**Sorokina**	**2.71**	**314**	*eS*	**Sn**	**23 46 57.8**	**-0.9**
KMNR	**Kamenistaya**	**2.72**	**292**	*eP*	**Pn**	**23 46 26.4**	**-0.1**
KMNR				*eS*	**Sn**	**23 46 59.3**	**+0.3**
KIRR	**Kirishev**	**2.73**	**296**	*eP*	**Pn**	**23 46 27.4**	**+0.6**
KIRR				*eS*	**Sn**	**23 46 58.9**	**-0.4**
KRSR	**Krestovskiy**	**2.73**	**302**	*eP*	**Pn**	**23 46 26.3**	**-0.4**
KRSR				*eS*	**Sn**	**23 46 58.5**	**-0.8**
KLY	**Klyuchi**	**2.74**	**304**	*eP*	**Pn**	**23 46 24.3**	**-2.3**
KLY				*eS*	**Sn**	**23 46 56.6**	**-2.7**
KPT	**Kopyto**	**2.80**	**296**	*eP*	**Pn**	**23 46 28.3**	**+0.7**
KPT				*eS*	**Sn**	**23 47 01.5**	**+0.6**
KOZ	**Kozyrevsk**	**3.01**	**296**	*eP*	**Pn**	**23 46 31.4**	**+0.9**
KOZ				*eS*	**Sn**	**23 47 06.6**	**+0.4**
SPN	**Mys Shipunski**	**3.27**	**240**	*eP*	**Pn**	**23 46 34.6**	**+0.6**
SPN				*eS*	**Sn**	**23 47 10.1**	**-2.4**
NLC	**Nalytchevo**	**3.58**	**244**	*eP*	**Pn**	**23 46 38.6**	**+0.4**
NLC				*eS*	**Sn**	**23 47 16.5**	**-3.5**
ESO	**Esso**	**3.60**	**290**	*eP*	**Pn**	**23 46 38.1**	**-0.4**
ESO				*eS*	**Sn**	**23 47 18.4**	**-2.2**
SDLR	**Sedlovina**	**3.77**	**248**	*eP*	**Pn**	**23 46 40.6**	**-0.4**
SDLR				*eS*	**Sn**	**23 47 22.6**	**-2.4**
UGLR	**Uglovaya**	**3.84**	**247**	*eP*	**Pn**	**23 46 41.3**	**-0.6**
UGLR				*eS*	**Sn**	**23 47 23.4**	**-3.1**
AVH	**Avacha**	**3.86**	**248**	*eP*	**Pn**	**23 46 42.6**	**+0.5**
AVH				*eS*	**Sn**	**23 47 24.6**	**-2.4**
KRX	**Arik**	**3.86**	**250**	*eP*	**Pn**	**23 46 42.7**	**+0.4**
KRX				*eS*	**Sn**	**23 47 24.9**	**-2.4**
KOK	**Koryaka**	**3.90**	**249**	*eP*	**Pn**	**23 46 43.0**	**+0.2**
KOK				*eS*	**Sn**	**23 47 23.9**	**-4.3**
DALK	**Dalny**	**3.96**	**245**	*eP*	**Pn**	**23 46 43.3**	**-0.1**
DALK				*eS*	**Sn**	**23 47 26.6**	**-2.8**
GNL	**Ganaly**	**4.13**	**257**	*eP*	**Pn**	**23 46 46.6**	**+0.6**
KRMR	**Karymshinskiy**	**4.39**	**245**	*eP*	**Pn**	**23 46 49.5**	**+0.2**
KRMR				*eS*	**Sn**	**23 47 36.4**	**-3.5**
RUS	**Russkaya**	**4.41**	**239**	*eP*	**Pn**	**23 46 50.1**	**+0.5**
RUS				*eS*	**Sn**	**23 47 39.0**	**-1.4**
PETK	**Petropavlovsk-**	**4.49**	**250**	Pn	**Pn**	**23 46 50.2**	**-0.5**
	1.9nm,0.3s,baz=71,slow=16,SNR=58						
PETK				Sn	**Sn**	**23 47 41.9**	**-0.6**
	0.9nm,0.3s,baz=70,slow=42,SNR=5.1						
	4.2nm,0.5s						
OSSR	**Ossora**	**4.51**	**349**	*eP*	**Pn**	**23 46 50.6**	**-0.5**
OSSR				*eS*	**Sn**	**23 47 38.8**	**-4.2**
MTVR	**Mutnovka**	**4.54**	**241**	*eP*	**Pn**	**23 46 51.8**	**+0.1**
MTVR				*eS*	**Sn**	**23 47 40.0**	**-4.1**
GRL	**Gorelyy**	**4.56**	**243**	*eP*	**Pn**	**23 46 52.5**	**+0.6**
GRL				*eS*	**Sn**	**23 47 41.6**	**-2.9**
APC	**Apacha**	**4.86**	**250**	*eP*	**Pn**	**23 46 57.4**	**+1.5**
KDTR	**Khodutka, Kamc**	**5.00**	**235**	*eP*	**Pn**	**23 46 56.6**	**-1.2**
KDTR				*eS*	**Sn**	**23 47 50.2**	**-4.8**
ILAR	**Eielson Array 25.63 48**			P	**P**	**23 51 11.2**	**-0.6**
	1.1nm,0.6s,baz=270,slow=9.0,SNR=16						
	1.1nm,0.6s						
MJAR	**Matsushiro Arr 25.78 236**			P	**P**	**23 51 16.5**	**+3.2**
	0.5nm,0.4s,baz=30,slow=6.6,SNR=2.6						
	0.5nm,0.4s						
H11N2	**WAKE ISLAND Hy 35.09 176**			T	T	00 31 02.8	
	baz=359,slow=76,SNR=56						
H11N3	**WAKE ISLAND Hy 35.10 176**			T	T	00 31 03.9	
	baz=359,slow=76,SNR=37						
H11N1	**WAKE ISLAND Hy 35.10 176**			T	T	00 31 04.2	
	baz=359,slow=76,SNR=47						
SONM	**Songino Array 36.15 284**			P	**P**	**23 52 45.6**	**+0.8**
	0.2nm,0.6s,baz=47,slow=6.3,SNR=1.5						
	0.2nm,0.6s						
H11S1	**WAKE ISLAND Hy 36.30 177**			T	T	00 32 30.1	
	baz=358						
H11S3	**WAKE ISLAND Hy 36.31 177**			T	T	00 32 39.1	
	baz=358						
H11S2	**WAKE ISLAND Hy 36.31 177**			T	T	00 32 35.4	
	baz=358						
YKA	**Yellowknife Ar 40.01 45**			P	**P**	**23 53 16.5**	**-0.4**
	0.3nm,0.6s,baz=298,slow=8.2,SNR=9.0						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra 49.20 303**			P	**P**	**23 54 29.9**	**-0.5**
	0.5nm,0.7s,baz=57,slow=7.9,SNR=4.5						
	0.5nm,0.7s						
MKAR	**Makanchi Array 49.83 297**			P	**P**	**23 54 35.9**	**+0.6**
	0.3nm,0.7s,baz=67,slow=7.7,SNR=5.5						
	0.3nm,0.7s						
FINES	**FINESS Array B 59.55 338**			P	**P**	**23 55 45.7**	**+0.3**
	1.5nm,0.9s,baz=12,slow=14,SNR=2.1						
	1.5nm,0.9s						
TXAR	**Lajitas Array 67.46 71**			P	**P**	**23 56 39.4**	**+1.0**
	0.5nm,0.6s,baz=318,slow=6.7,SNR=7.7						
	0.5nm,0.6s						
EKA	**Eskdalemuir Ar 69.74 353**			P	**P**	**23 56 52.5**	**+0.5**
	0.4nm,0.7s,baz=6.3,slow=6.3,SNR=1.9						
	0.4nm,0.7s						
ESDC	**Sonseca Array 85.36 351**			P	**P**	**23 58 20.7**	**+1.1**
	0.4nm,0.7s,baz=23,slow=3.7,SNR=2.2						
	0.4nm,0.7s						
QSPA	**South Pole Qui 144.59 180**			PKP	**PKPab**	**00 05 16.1**	**-0.2**
	1.6nm,1.0s,baz=346,slow=4.1,SNR=3.7						

CATAC 21 00:10:50.6±0.5, 13°N±3°×8°W±°, h12km±3km, M2.2/7, MLv2.2/7, Error ellipse: s-maj=6.3km s-min=2.9km az=34.3, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.10**	**100**	P	Pb	00 10 55.2	+0.5
CRIN				S	Sg	00 10 58.3	+2.6
PKGN	**Cerro Pekin**	**0.18**	**106**	P	Pb	00 10 55.9	0.0
PKGN				S	Sg	00 10 59.4	+2.0
POTN	**Potosi Cosigui**	**0.44**	**309**	S	Sb	00 11 07.3	+0.2
CSGN	**Cosiguina Volc**	**0.47**	**303**	P	Pb	00 11 01.1	+0.2
CSGN				S	Sb	00 11 07.8	-0.1
CNGA	**Al SSO del Vol**	**0.49**	**117**	S	Sb	00 11 09.0	+0.4
CNGN	**Cerro Negro**	**0.50**	**116**	P	Pb	00 11 01.2	-0.2
CNGN	**Cerro Negro**	**0.50**	**116**	S	Sb	00 11 08.3	-0.3
MACN	**El Madrono**	**0.53**	**118**	P	Pb	00 11 01.9	-0.1
MOMN	**Momotombo**	**0.68**	**117**	P	Pb	00 11 04.3	-0.1
MOMN				S	Sb	00 11 14.1	+0.4
CHOHN	**Orocuina**	**0.76**	**360**	P	Pg	00 11 05.5	+0.2
CHOHN	**Orocuina**	**0.76**	**360**	S	Sb	00 11 16.0	-0.2
COPN	**Copaltepe**	**0.77**	**134**	P	Pg	00 11 05.5	-0.1

IDC 21 00:25:07.7±2.0, 35°.52N×77°.20E, h0km, mb3.6/3, mbtmp3.6/4, ML3.3/1, MS3.0/2, Error ellipse: s-maj=42.1km s-min=27.4km az=60.0, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array 11.90 17**			Pn	Pn	00 28 00.2	+1.7
	0.2nm,0.3s,baz=199,slow=13,SNR=8.5						
MKAR				Sn	Sn	00 30 10.8	-1.2
	0.1nm,0.3s,baz=199,slow=22,SNR=10						
	0.4nm,0.4s						
SONM	**Songino Array 24.88 51**			P	P	00 30 32.5	+0.3
	0.2nm,0.3s,baz=253,slow=9.3,SNR=4.1						
	0.2nm,0.3s						
CMAR	**Chiang Mai Arr 25.68 126**			P	P	00 30 39.2	-0.1
	0.6nm,0.3s,baz=314,slow=8.8,SNR=4.9						
	0.6nm,0.3s						
KSRS	**Korea Array 40.43 72**			LR	LR	00 50 15.3	
	comp=Z,14nm,21.1s,baz=35,slow=37						
FINES	**FINESS Array B 41.13 325**			P	P	00 32 53.0	-0.1
	0.6nm,0.6s,baz=110,slow=9.1,SNR=7.1						
	0.6nm,0.6s						
SEY	**Seymchan 52.43 34**			LR	LR	00 56 39.4	
	comp=Z,25nm,19.2s,baz=290,slow=36						

---

*IDC **21** 00:28:17.9±0.5, 36°.10N×137°.25E, h244km±5km, mb3.3/20, mbtmp3.9/24, Error ellipse: s-maj=15.1km s-min=9.9km az=63.0*
*JMA **21** 00:28:17.8±0.2, 36°.1N±0°.8×13°.7E±°, h245km±1km, MV3.3/36, NORTHERN GIFU PREF*
ISC 21 00:28:17.8±0.6, 36°.17N±0°.05×137°.32E±0°.06, h240km±5km, n54, σ1§18/65, mb3.5/20, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.05**	**354**	P	**Pn**	**00 28 49.5**	**+0.7**
JGN				S	**S**	**00 29 13.3**	**0.0**
JGF	**Kuroka**	**0.57**	**177**	P	**Pn**	**00 28 49.8**	**-0.1**
JGF	**Kuroka**	**0.57**	**177**	S	**S**	**00 29 14.7**	**-0.4**
JYTA	**Yamagatataniai**	**0.75**	**220**	*i* P	**Pn**	**00 28 50.7**	**+0.2**
JYTA				S	**S**	**00 29 15.0**	**-1.2**
MAJO	**Matsushiro**	**0.80**	**63**	P	**Pn**	**00 28 51.4**	**+0.7**
MAT	**Matsushiro**	**0.80**	**63**	*i* P	**Pn**	**00 28 51.7**	**+0.9**
MAT				S	**S**	**00 29 17.6**	**+1.0**
MJAR	**Matsushiro Arr 0.81 63**			P	**Pn**	**00 28 51.8**	**+1.1**
	128nm,0.4s,baz=238,slow=6.3,SNR=620						
MJAR				S	**S**	**00 29 18.7**	**+2.1**
	9.3nm,0.5s,baz=240,slow=8.3,SNR=1.5						
JKG	**Kaga**	**0.81**	**278**	*i* P	**Pn**	**00 28 51.7**	**+1.0**
JKG				S	**S**	**00 29 17.9**	**+1.4**
INU	**Inuyama**	**0.86**	**197**	P	**Pn**	**00 28 50.9**	**-0.2**
INU	**Inuyama**	**0.86**	**197**	S	**S**	**00 29 16.5**	**-0.6**
JYN	**Shimob**	**1.20**	**124**	P	**Pn**	**00 28 52.9**	**-0.2**
JSZ	**Suzu**	**1.27**	**1**	*e*P	**Pn**	**00 28 54.4**	**+1.0**
JSZ				S	**S**	**00 29 22.3**	**+0.8**
JRY	**Ryogami san**	**1.29**	**97**	*i* P	**Pn**	**00 28 54.0**	**+0.3**
JOD2	**Odawara 2**	**1.70**	**122**	*i* P	**Pn**	**00 28 57.3**	**+0.4**
JAG	**Ashikaga**	**1.74**	**81**	*i* P	**Pn**	**00 28 56.9**	**-0.2**
JWT	**Wachi**	**1.80**	**241**	*i* P	**Pn**	**00 28 57.8**	**+0.2**
JIE	**Ise**	**1.85**	**196**	*i* P	**Pn**	**00 28 58.5**	**+0.4**
JIE				S	**S**	**00 29 29.2**	**-0.5**
JSD	**Sado**	**2.00**	**22**	P	**Pn**	**00 29 00.7**	**+1.3**
JSD				*e*S	**S**	**00 29 34.6**	**+2.4**
JNS	**Sasagawa**	**2.29**	**44**	P	**Pn**	**00 29 03.1**	**+1.0**
JWY	**Kouya**	**2.41**	**216**	*i* P	**Pn**	**00 29 03.8**	**+0.2**
JWY				S	**S**	**00 29 38.7**	**-0.8**
JTNC	**Tanabenakahech**	**2.74**	**211**	P	**Pn**	**00 29 06.6**	**-0.3**
JTNC				*e*S	**S**	**00 29 44.2**	**-1.3**
JHJ	**Hachijo jima 2 3.66 146**			P	**Pn**	**00 29 17.2**	**+0.1**
	22nm,0.3s,baz=117,slow=22,SNR=6.3						
JHJ				S	**S**	**00 30 05.3**	**+1.2**
	57nm,0.2s,baz=103,slow=22,SNR=5.2						
JMN	**Monobe**	**3.73**	**230**	P	**Pn**	**00 29 17.6**	**-0.5**
JTM	**Tenmabayashi**	**5.46**	**31**	P	**Pn**	**00 29 39.2**	**+0.3**
JNU	**Nakatsue**	**6.12**	**242**	P	**Pn**	**00 29 47.2**	**-0.1**
	10.0nm,0.7s,baz=46,slow=2.6,SNR=12						
JNU	**Nakatsue**	**6.12**	**242**	P	**Pn**	**00 29 47.2**	**-0.1**
ERM	**Erimo**	**7.39**	**36**	P	**Pn**	**00 30 01.3**	**-1.8**
JEM	**Erimo**	**7.39**	**36**	P	**Pn**	**00 30 01.3**	**-1.8**
KSRS	**Korea Array 7.65 282**			P	**Pn**	**00 30 07.0**	**+0.6**
	0.5nm,0.4s,baz=104,slow=13,SNR=2.2						
ASAJ	**Asahikawa 8.90 25**			P	**Pn**	**00 30 20.6**	**-1.7**
	4.9nm,0.3s,baz=232,slow=11,SNR=19						
ASAJ				S	**S**	**00 31 56.7**	**-6.1**
	5.1nm,0.6s,baz=34,slow=27,SNR=6.3						
USRK	**Ussuriysk Ar. 8.99 335**			P	**Pn**	**00 30 25.3**	**+1.8**
	7.2nm,0.5s,baz=145,slow=12,SNR=21						
JCJ	**Chichijima 9.95 154**			P	Pn	00 30 28.8	-7.1
	42nm,0.6s,baz=358,slow=21,SNR=13						
JCJ				S	S	00 32 12.9	-15
	40nm,0.5s,baz=260,slow=22,SNR=8.8						
KLR	**Kul'dur 13.67 344**			P	**Pn**	**00 31 21.1**	**-0.9**
	8.2nm,0.5s,baz=159,slow=10,SNR=40						
SONM	**Songino Array 25.59 307**			P	**P**	**00 33 24.3**	**-0.7**
	0.4nm,0.4s,baz=111,slow=10,SNR=4.5						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam 40.08 313**			P	**P**	**00 35 29.6**	**0.0**
	1.2nm,0.3s,baz=97,slow=8.9,SNR=8.0						
	1.2nm,0.3s						
MKAR	**Makanchi Array 41.79 302**			P	**P**	**00 35 43.5**	**-0.2**
	1.2nm,0.5s,baz=84,slow=7.7,SNR=21						
	1.2nm,0.5s						
NRIK	**Noril'sk 42.70 336**			P	**P**	**00 35 51.1**	**+0.4**
	0.9nm,0.4s,baz=106,slow=4.7,SNR=4.8						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra 43.94 308**			P	**P**	**00 36 00.3**	**-0.5**
	4.8nm,0.8s,baz=85,slow=7.9,SNR=48						
	4.8nm,0.8s						
BVAR	**Borovoye Array 48.71 312**			P	**P**	**00 36 37.8**	**0.0**
	1.2nm,0.4s,baz=90,slow=8.9,SNR=6.8						
	1.2nm,0.4s						
ILAR	**Eielson Array 51.97 32**			P	**P**	**00 37 02.5**	**+0.5**
	0.4nm,0.6s,baz=264,slow=5.3,SNR=7.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr 55.88 183**			P	**P**	**00 37 29.4**	**-1.3**
	0.4nm,0.3s,baz=1.5,slow=7.2,SNR=4.6						
	0.4nm,0.3s						
ASAR	**Alice Springs 59.60 184**			P	**P**	**00 37 55.8**	**-0.7**
	0.2nm,0.4s,baz=353,slow=5.2,SNR=7.6						
	0.2nm,0.4s						
ARCES	**ARCESS Array B 63.62 339**			P	**P**	**00 38 22.9**	**+0.3**
	2.3nm,0.9s,baz=59,slow=7.3,SNR=6.2						
	2.3nm,0.9s						
FINES	**FINESS Array B 68.01 331**			P	**P**	**00 38 50.7**	**0.0**
	0.6nm,0.4s,baz=64,slow=6.4,SNR=15						
	0.6nm,0.4s						
KBZ	**Khabaz 68.93 309**			P	**P**	**00 38 56.9**	**+0.2**
	1.2nm,0.8s,baz=107,slow=6.6,SNR=3.6						
	1.2nm,0.8s						
AKASG	**Malin Array Be 72.92 321**			P	**P**	**00 39 20.4**	**-0.1**
	0.2nm,0.3s,baz=56,slow=5.7,SNR=7.5						
	0.2nm,0.3s						
HFS	**Hagfors 73.47 334**			P	**P**	**00 39 23.5**	**-0.1**
	0.7nm,0.5s,baz=51,slow=5.5,SNR=7.3						
	0.7nm,0.5s						
NB2	**NORSAR Subarra 73.66 336**			P	**P**	**00 39 24.7**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=43,slow=5.6						
NOA	**NORSAR Array B 73.66 336**			P	**P**	**00 39 24.5**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=55,slow=7.5,SNR=4.2						
	comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B 76.91 310**			P	**P**	**00 39 43.7**	**0.0**
	comp=Z,0.7nm,0.7s,baz=56,slow=6.1,SNR=3.7						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array 80.58 43**			P	**P**	**00 40 04.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=312,slow=4.8,SNR=2.7						
	comp=Z,0.1nm,0.3s						
GERES	**GERESS Array B 81.65 326**			P	**P**	**00 40 09.4**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=32,slow=5.3,SNR=3.8						
	comp=Z,0.2nm,0.6s						
EKA	**Eskdalemuir Ar 82.78 338**			P	**P**	**00 40 14.7**	**0.0**
	comp=Z,0.3nm,0.4s,baz=32,slow=4.6,SNR=7.5						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array 93.22 50**			P	**P**	**00 41 06.4**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=275,slow=2.5,SNR=5.7						
	comp=Z,0.4nm,0.6s						

---

*KRSC **21** 00:50:28.0±1.6, 54°.78N×164°.68E, h48km±32km, Mc4.2, Ml4.3*
*IDC **21** 00:50:27.7±0.7, 54°.88N×164°.68E, h0km, mb3.9/26, mbtmp4.0/28, ML3.5/2, MS3.0/11, Error ellipse: s-maj=19.3km s-min=12.3km az=149.0*
*NEIC **21** 00:50:28.4±1.4, 54°.8N±0°.1×164°.7E±0°.2, h10km±2km, mb4.2/42, Error ellipse: s-maj=23.9km s-min=14.8km az=143.0*
*MOS **21** 00:50:32.2±1.1, 54°.84N×164°.64E, h51km, mb4.4/11, Error ellipse: s-maj=12.3km s-min=8.4km az=78.6*
ISC 21 00:50:30.2±0.6, 54°.79N±0°.04×164°.78E±0°.04, h35km±8km, n379, σ1§15/315, mb4.1/64, MS3.1/7, 5C, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering 0.80 58**			*e*P	**Pn**	**00 50 45.4**	**+0.4**
BKI				*e*S	**Sn**	**00 50 56.6**	**+0.9**
MKZ	**Mys Kozlova 1.79 264**			*e*P	**Pn**	**00 50 58.4**	**-0.2**
MKZ				*e*S	**Sn**	**00 51 19.4**	**-0.6**
KBTR	**Krutoberegovo 1.81 323**			*e*P	**Pn**	**00 50 56.9**	**-2.0**
KBTR				*e*S	**Sn**	**00 51 17.1**	**-3.4**
KBG	**Krutoberegovo 1.89 322**			*e*P	**Pn**	**00 50 58.1**	**-1.8**
KBG				*e*S	**Sn**	**00 51 19.3**	**-3.1**
TUMD	**Tumrok D 2.56 281**			*e*P	**Pn**	**00 51 08.7**	**-0.5**
TUMD				*e*S	**Sn**	**00 51 38.1**	**-1.0**
ZLN	**Zelenaya 2.58 300**			*e*P	**Pn**	**00 51 10.7**	**+1.1**
ZLN				*e*S	**Sn**	**00 51 40.7**	**+0.9**
SMKR	**Semkarok 2.60 315**			*e*P	**Pn**	**00 51 10.4**	**+0.6**
SMKR				*e*S	**Sn**	**00 51 40.3**	**+0.2**
BZGR	**Bezymyannyi-Gr 2.60 298**			*e*P	**Pn**	**00 51 10.5**	**+0.6**
BZGR				*e*S	**Sn**	**00 51 40.8**	**+0.5**
CIRR	**Tsirk 2.66 302**			*e*P	**Pn**	**00 51 11.8**	**+1.2**
LGNR	**Loginova 2.67 301**			*e*P	**Pn**	**00 51 11.8**	**+0.8**
LGNR				*e*S	**Sn**	**00 51 42.2**	**+0.1**
BZWR	**Bezymyannyi-We 2.71 297**			*e*P	**Pn**	**00 51 12.7**	**+1.2**
BZWR				*e*S	**Sn**	**00 51 45.1**	**+2.0**
KMNR	**Kamenistaya 2.77 292**			*e*P	**Pn**	**00 51 13.3**	**+1.1**
KMNR				*e*S	**Sn**	**00 51 46.7**	**+2.1**
KIRR	**Kirishev 2.79 297**			*e*P	**Pn**	**00 51 13.5**	**+1.1**
KIRR				*e*S	**Sn**	**00 51 47.4**	**+2.5**
KRSR	**Krestovskiy 2.79 303**			*e*P	**Pn**	**00 51 12.6**	**+0.1**
KRSR				*e*S	**Sn**	**00 51 45.2**	**+0.2**
KLY	**Klyuchi 2.80 305**			*e*P	**Pn**	**00 51 11.6**	**-0.8**
KLY				*e*S	**Sn**	**00 51 43.4**	**-1.5**
KPT	**Kopyto 2.86 296**			*e*P	**Pn**	**00 51 15.1**	**+1.8**
KPT				*e*S	**Sn**	**00 51 48.2**	**+1.7**
KOZ	**Kozyrevsk 3.07 296**			*e*P	**Pn**	**00 51 18.1**	**+1.8**
KOZ				*e*S	**Sn**	**00 51 54.8**	**+3.0**
KII	**Karymskiy 3.21 259**			*e*P	**Pn**	**00 51 19.1**	**+1.0**
SRDR	**Sredinnyy 3.26 300**			*e*S	**Sn**	**00 51 58.5**	**+2.1**
SPN	**Mys Shipunski 3.28 241**			*e*P	**Pn**	**00 51 19.7**	**+0.6**
SPN				*e*S	**Sn**	**00 51 55.3**	**-1.6**
NLC	**Nalytchevo 3.60 245**			*e*P	**Pn**	**00 51 23.5**	**+0.1**
ESO	**Esso 3.65 291**			*e*P	**Pn**	**00 51 24.6**	**+0.3**
ESO				*e*S	**Sn**	**00 52 05.2**	**-0.9**
SDLR	**Sedlovina 3.79 249**			*e*P	**Pn**	**00 51 27.0**	**+0.7**
SDLR				*e*S	**Sn**	**00 52 08.9**	**-0.8**
KRER	**Koryakskii 3.86 250**			*e*P	**Pn**	**00 51 28.6**	**+1.4**
KRER				*e*S	**Sn**	**00 52 10.4**	**-0.9**
UGLR	**Uglovaya 3.86 248**			*e*P	**Pn**	**00 51 27.9**	**+0.8**
UGLR				*e*S	**Sn**	**00 52 10.6**	**-0.6**
AVH	**Avacha 3.88 249**			*e*P

ERM	Erimo	19.12	237	P	Pn	00 54 49.3	-1.7
ERM				pmax	pmax		
	comp=Z,37nm,1.4s						
M15K	Kasigluk River	19.18	58	P	Pn	00 54 51.1	-0.5
	baz=268						
G16K	Koyuk River	19.27	44	P	Pn	00 54 51.0	-1.5
	baz=252						
C16K	Lisburne Hills	19.34	34		Pn	00 54 54.3	+0.9
C16K	Lisburne Hills	19.34	34	P	Pn	00 54 52.3	-1.1
	baz=241,SNR=7.1						
N15K	Kwethluk River	19.46	60	P	Pn	00 54 57.1	+2.1
N15K				IAmb	IAmb	00 55 00.9	
	comp=Z,18nm,1.3s						
N15K	Kwethluk River	19.46	60	P	Pn	00 54 54.5	-0.5
	baz=270						
J16K	Anvik River	19.50	50	P	Pn	00 54 54.3	-1.1
	baz=260						
YAK	Yakutsk	19.56	306	LR	LR	01 02 53.2	
	comp=Z,32nm,18.9s,baz=153,slow=38						
YAK	Yakutsk	19.56	306	*i* P	Pn	00 54 54.7	-1.3
I17K	Unalakleet	19.57	48	P	Pn	00 54 55.2	-1.1
	baz=258						
O15K	Ungalikthiuk R	19.62	63	P	Pn	00 54 55.3	-1.5
	baz=272						
SDPT	Sand Point	19.78	74	P	Pn	00 54 57.7	-1.1
	baz=283						
L16K	Owhat River	19.83	55	P	Pn	00 54 58.8	-0.5
	baz=266						
D17K	Noatak River	19.83	37	P	Pn	00 54 58.2	-1.0
	baz=245						
G17K	Kiwalik Mounta	19.98	44	P	Pn	00 55 00.1	-0.9
	baz=254						
F17K	Baldwin Pennin	20.03	41	P	Pn	00 55 00.5	-1.1
	baz=251						
E17K	Hotham Inlet	20.04	39	P	Pn	00 55 00.7	-1.0
	baz=248						
M16K	Timber Creek	20.04	57	P	Pn	00 55 00.7	-1.1
	baz=268						
RDOG	Red Dog Mine	20.05	36	P	Pn	00 55 00.9	-0.9
	baz=245						
S14K	Fog Glacier	20.10	71	P	Pn	00 55 01.4	-1.2
	baz=281						
N16K	Nishlik Lake	20.12	59	P	Pn	00 55 02.0	-0.8
	baz=270						
H17K	Granite Mounta	20.14	46	P	Pn	00 55 01.9	-0.9
	baz=256						
J17K	VABM Dome	20.20	50	P	Pn	00 55 02.9	-0.8
	baz=262						
CHNA	Chernabura Isl	20.40	75	P	Pn	00 55 05.1	-0.9
	baz=285						
L17K	Donlin	20.42	54	P	Pn	00 55 05.8	-0.4
	baz=266						
K17K	Iditarod	20.47	52	P	Pn	00 55 05.7	-1.0
	baz=264						
O16K	Kokwok River B	20.48	61	P	Pn	00 55 05.9	-1.1
	baz=273						
E18K	Tukpahlearik C	20.60	39	P	Pn	00 55 07.8	-0.5
	baz=249						
F18K	Selawik	20.69	41	P	Pn	00 55 08.4	-0.9
	baz=252						
M17K	Holitna River	20.79	56	P	Pn	00 55 09.3	-1.2
	baz=268						
H18K	Honhosa River	20.82	45	P	Pn	00 55 09.4	-1.5
	baz=258,SNR=5.3						
C18K	Utukok River	20.87	35		Pn	00 55 10.7	-0.8
C18K	Utukok River	20.87	35	P	Pn	00 55 10.3	-1.2
	baz=245						
G18K	Tagagawik	20.88	43	P	Pn	00 55 10.7	-0.9
	baz=256						
KLR	Kul'dur	20.95	268	P	Pn	00 55 11.1	-1.4
	comp=Z,0.3nm,0.5s,baz=123,slow=15,SNR=1.3						
KLR				LR	LR	01 04 02.1	
	comp=Z,51nm,19.8s,baz=301,slow=39						
O17K	Koliganek Bris	20.98	61	P	P	00 55 11.3	+1.2
	baz=273						
B18K	Kokolik River	20.99	33	P	P	00 55 11.4	+1.4
	baz=243,SNR=6.5						
JTM	Tenmabayashi	21.07	238	P	P	00 55 11.3	+0.1
JTM				IAmb	IAmb	00 55 35.0	
	comp=Z,18nm,1.2s						
L18K	Granite Mounta	21.18	54	P	P	00 55 13.1	+1.0
	baz=267						
J18K	Innoko River	21.26	50	P	P	00 55 14.5	+1.5
	baz=264,SNR=5.2						
P17K	Kvichak River	21.36	62	P	P	00 55 14.1	+0.1
	baz=275						
GCSA	Galena City Sc	21.37	47	P	P	00 55 14.9	+0.8
	baz=260						
F19K	Shaleruckik Mo	21.47	41	P	P	00 55 16.0	+0.8
	baz=254						
TTA	Tatalina	21.53	52	P	P	00 55 18.1	+2.1
TTA	Tatalina	21.53	52	P	P	00 55 18.1	+2.1
TTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TTA	Tatalina	21.53	52	P	P	00 55 16.5	+0.5
	baz=266						
N18K	Kilae Creek	21.54	58	P	P	00 55 17.0	+0.9
	baz=272						
G19K	Purcell Mounta	21.56	43	P	P	00 55 16.9	+0.7
	baz=257						
M18K	Stony River	21.57	56	P	P	00 55 16.7	+0.5
	baz=270						
A19K	Wainwright	21.61	31	P	P	00 55 18.0	+1.4
	baz=242,SNR=11						
H19K	Roundabout Mou	21.69	45	P	P	00 55 18.5	+1.0
	baz=259						
Q17K	Contact Creek	21.75	65	P	P	00 55 19.2	+0.7
	baz=278						
J19K	Poorman	21.80	49	P	P	00 55 20.1	+1.3
	baz=264,SNR=6.3						
E19K	Redstone River	21.85	40	P	P	00 55 20.7	+1.4
	baz=253,SNR=8.6						
D19K	Kuna River	21.86	37	P	P	00 55 21.1	+1.6
D19K	Kuna River	21.86	37	P	P	00 55 20.3	+0.8
	baz=250						
O18K	Koktuh Hills	21.93	60	P	P	00 55 20.7	+0.5
	baz=274						
P18K	Big Mountain,	21.96	62	P	P	00 55 20.5	-0.1
	baz=276						
L19K	White Mountain	22.03	54	P	P	00 55 21.3	-0.1
	baz=269						
Q18K	Katmai Hardscr	22.16	64	P	P	00 55 23.0	+0.2
	baz=278						
N19K	Bonanza Creek	22.23	58	P	P	00 55 23.1	-0.4
	baz=273						
M19K	Big River Lodg	22.25	55	P	P	00 55 23.9	+0.3
	baz=270						
F20K	Avaraart Lake	22.30	41	P	P	00 55 24.9	+0.7
	baz=256						
H20K	Anotleneega Mo	22.32	45	P	P	00 55 25.2	+0.8
	baz=261						
CHIR	Chirikof Islan	22.35	71	P	P	00 55 25.1	+0.3
	baz=284						
I20K	Naaghedeneel	22.39	47	P	P	00 55 25.9	+0.8
	baz=263						
K20K	Telida	22.44	51	P	P	00 55 26.3	+0.6
	baz=267						
D20K	Etivluk River	22.45	37	P	P	00 55 27.1	+1.3
D20K				IAmb	IAmb	00 55 29.0	
	comp=Z,13nm,1.4s						
D20K	Etivluk River	22.45	37	P	P	00 55 26.9	+1.1
	baz=251,SNR=6.8						
E20K	Nigu River	22.46	38	P	P	00 55 26.8	+0.8
	baz=253						
J20K	Nowinta River	22.47	49	P	P	00 55 26.8	+0.9
	baz=265,SNR=6.7						
L20K	Farewell, AK	22.49	53	P	P	00 55 26.7	+0.4
	baz=269						
B20K	Meade River	22.73	33	P	P	00 55 29.6	+1.0
B20K				IAmb	IAmb	00 55 32.5	
	comp=Z,13nm,1.2s						
B20K	Meade River	22.73	33	P	P	00 55 29.1	+0.4
	baz=248,SNR=13						
TIXI	Tiksi	22.81	331		P	00 55 30.1	+0.6
TIXI	Tiksi	22.81	331	*ce* P	P	00 55 30.8	+1.3
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
Q19K	Cape Douglas,	22.82	63	P	P	00 55 30.5	+0.8
	baz=278						
M20K	Styx River	22.85	55	P	P	00 55 31.0	+1.0
	baz=271						
P19K	Oil Pt	22.94	61	P	P	00 55 31.7	+0.7
	baz=276						
SII	Sitkinak Islan	22.96	69	P	P	00 55 32.4	+1.1
	baz=283						
G21K	Allakaket	23.05	43	P	P	00 55 33.1	+1.0
	baz=260						
F21K	Alatna River	23.20	41	P	P	00 55 34.7	+1.2
	baz=258						
H21K	Melozitna Rive	23.20	45	P	P	00 55 35.0	+1.4
	baz=262						
C21K	Knifeblade Rid	23.22	36	P	P	00 55 34.8	+1.1
	baz=252,SNR=7.0						
CHUM	Lake Minchumin	23.25	50	P	P	00 55 34.9	+0.9
	baz=267						
PPLA	Purkeypile	23.28	52	P	P	00 55 35.5	+1.0
PPLA	Purkeypile	23.28	52	P	P	00 55 35.6	+1.0
	baz=270						
E21K	Killik River	23.30	38	P	P	00 55 35.3	+0.7
	baz=255						
CAST	Castle Rocks	23.34	51		P	00 55 36.7	+1.8
CAST	Castle Rocks	23.34	51	P	P	00 55 36.1	+1.1
	baz=268						
B21K	Ikpikpuk River	23.42	35	P	P	00 55 36.4	+0.8
	baz=252,SNR=12						
STLK	Strandline Lak	23.48	56	P	P	00 55 38.9	+2.5
I21K	Tanana	23.49	47	P	P	00 55 36.8	+0.4
	baz=264						
Q20K	Shuyak Island	23.51	63	P	P	00 55 37.0	+0.4
	baz=279						
KDAK	Kodiak Island	23.56	65	P	P	00 55 38.4	+1.3
KDAK	Kodiak Island	23.56	65	P	P	00 55 38.4	+1.3
KDAK				pmax	pmax		
	comp=Z,39nm,1.5s						
KDAK	Kodiak Island	23.56	65	P	P	00 55 37.6	+0.5
	baz=281						
USRK	Ussuiysk Ar.	23.57	257	LR	LR	01 04 47.6	
	comp=Z,40nm,20.2s,baz=223,slow=36						
SKT	Skwentna	23.60	55	P	P	00 55 38.0	+0.5
	baz=272						
HOM	Homer	23.74	60	P	P	00 55 39.7	+0.8
	baz=278						
F22K	John River	23.75	41	P	P	00 55 39.8	+0.9
	baz=259						
A22K	Sinclair Lake	23.79	32	P	P	00 55 40.6	+1.4
	baz=262,SNR=9.0						
H22K	Ishtalitna Cre	23.82	45	P	P	00 55 40.8	+1.3
	baz=263,SNR=8.3						
BPAW	Bear Paw Mtn.	23.84	49	P	P	00 55 41.0	+1.2
	baz=268						
D22K	Ayikyak River	23.87	37	P	P	00 55 40.9	+0.9
D22K	Ayikyak River	23.87	37	P	P	00 55 41.2	+1.2
	baz=255						
G22K	Bettles	23.90	42	P	P	00 55 41.4	+1.1
	baz=261						
SUA	Susitna One	24.00	56	P	P	00 55 42.3	+0.9
	baz=274						
E22K	Anaktuvuk Pass	24.01	39	P	P	00 55 43.0	+1.7
E22K				IAmb	IAmb	00 55 48.2	
	comp=Z,9.7nm,1.3s						
E22K	Anaktuvuk Pass	24.01	39	P	P	00 55 42.3	+0.9
	baz=258						
B22K	Teshekpuk Lake	24.04	34	P	P	00 55 42.1	+0.6
	baz=251,SNR=14						
TRF	Thorofare Moun	24.14	51	IAmb	IAmb	00 55 46.6	
	comp=Z,8.6nm,0.9s						
TRF	Thorofare Moun	24.14	51	P	P	00 55 44.0	+1.3
	baz=270						
COLD	Coldfoot	24.45	42	P	P	00 55 47.0	+1.6
COLD				IAmb	IAmb	00 55 48.9	
	comp=Z,6.9nm,1.0s						
COLD	Coldfoot	24.45	42	P	P	00 55 46.7	+1.4
	baz=262,SNR=7.2						
G23K	Bananza Creek	24.45	43	P	P	00 55 46.5	+1.1
	baz=263						
RC01	Rabbit Creek A	24.52	57	P	P	00 55 47.6	+1.7
	baz=276						
H23K	Yukon River	24.56	45	P	P	00 55 47.6	+1.2
	baz=265,SNR=8.3						
I23K	Minto, Yukon-K	24.59	47	P	P	00 55 47.5	+1.0
	baz=267,SNR=15						
D23K	Nanushuk River	24.59	37	P	P	00 55 47.6	+1.0
	baz=257						
NEA2	Nenana	24.69	48	P	P	00 55 48.5	+0.9
	baz=269,SNR=8.9						
MCK	McKinley	24.75	50	P	P	00 55 49.2	+1.1
	baz=271						
RND	Reindeer	24.79	51	P	P	00 55 49.8	+1.3
RND				IAmb	IAmb	00 55 51.9	
	comp=Z,7.7nm,1.0s						
RND	Reindeer	24.79	51	P	P	00 55 49.8	+1.3
RND				pmax	pmax		
	comp=Z,8.0nm,1.0s						
E23K	Chandalar	24.80	40	P	P	00 55 49.4	+0.7
	baz=260,SNR=9.4						
C23K	Itkillik River	24.82	35	P	P	00 55 49.8	+1.2
C23K				IAmb	IAmb	00 55 52.2	
	comp=Z,4.8nm,0.9s						
C23K	Itkillik River	24.82	35	P	P	00 55 49.7	+1.2
	baz=256						
TOLK	Toolik Lake Re	24.92	38	P	P	00 55 51.1	+1.4
TOLK				IAmb	IAmb	00 55 53.3	
	comp=Z,3.6nm,0.8s						
TOLK	Toolik Lake Re	24.92	38	P	P	00 55 50.8	+1.1
	baz=259,SNR=6.3						
KNK	Knik Glacier	25.10	56	P	P	00 55 52.4	+1.1
	baz=276						
SML	Sawmill	25.12	55	P	P	00 55 52.6	+1.1
	baz=275						
COLA	College	25.22	47	*i* P	P	00 55 52.7	+0.4
COLA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PWL	Port Wells	25.23	57	P	P	00 55 53.3	+0.9
PWL	Port Wells	25.23	57	P	P	00 55 53.5	+1.1
	baz=277						
E24K	Your Creek	25.23	40	P	P	00 55 53.0	+0.6
	baz=262,SNR=12						
CCB	Clear Creek Bu	25.24	48	P	P	00 55 54.4	+2.0
H24K	Noodor Dome	25.24	45	P	P	00 55 53.9	+1.3
	baz=267						
D24K	Happy Valley	25.29	37	P	P	00 55 54.5	+1.7
	baz=259						
F24K	Squaw Lake	25.38	41	P	P	00 55 55.2	+1.5
	baz=263						
POKR	Poker Plat Res	25.40	47	P	P	00 55 54.7	+0.7
	baz=269						
M23K	Glacier View	25.41	55	P	P	00 55 55.2	+1.1
	baz=276						
C24K	Franklin Bluff	25.44	36	P	P	00 55 55.5	+1.2
	baz=258						
G24K	Hadweenzic Riv	25.46	43	P	P	00 55 55.8	+1.3
	baz=266,SNR=5.7						
SCM	Sheep Creek Mo	25.59	55	P	P	00 55 57.7	+1.9
SCM	Sheep Creek Mo	25.59	55	P	P	00 55 57.7	+1.9
SCM				pmax	pmax		
	comp=Z,12nm,1.0s						
SCM	Sheep Creek Mo	25.59	55	P	P	00 55 56.7	+0.9
	baz=276						
HDA	Harding Lake	25.61	49	P	P	00 55 57.2	+1.3
HDA				IAmb	IAmb	00 55 58.7	
	comp=Z,4.1nm,0.8s						
HDA	Harding Lake	25.61	49	P	P	00 55 57.0	+1.1
	baz=271						
ILAR	Eielson Array	25.64	48	P	P	00 55 56.9	+0.8
ILAR	Eielson Array	25.64	48	P	P	00 55 57.8	+1.7
	comp=Z,4.3nm,0.8s,baz=261,slow=8.7,SNR=51						
	comp=Z,4.3nm,0.8s						
MJAR	Matsushiro Arr	25.79	236	P	P	00 55 59.4	+1.7
	comp=Z,0.6nm,0.5s,baz=39,slow=8.5,SNR=7.8						
	comp=Z,0.6nm,0.5s						
P23K	Montague Islan	25.81	59	P	P	00 55 58.5	+0.9
	baz=280						
GLI	Glacier Island	25.82	57	P	P	00 55 58.1	+0.3
	baz=278						
G25K	Bearman Lake	26.01	43	P	P	00 56 00.3	+0.8
	baz=267						
H25L	Birch Creek	26.10	44	P	P	00 56 00.8	+0.6
	baz=268						
M24K	Tolsona, Glenn	26.11	54	P	P	00 56 01.4	+1.0
	baz=276						
K24K	Donnelly Dome	26.15	50	P	P	00 56 01.7	+1.0
	baz=273						
D25K	Kavik River	26.18	37	P	P	00 56 02.2	+1.3
D25K				IAmb	IAmb	00 56 03.6	
	comp=Z,3.8nm,0.6s						
D25K	Kavik River	26.18	37	P	P	00 56 01.7	+0.8
	baz=261,SNR=8.2						
PRP	Porcupine Dome	26.21	46	P	P	00 56 02.5	+1.1
	baz=270,SNR=7.0						
F25K	Christian Rive	26.25	41	P	P	00 56 02.9	+1.3
	baz=266						
J25K	Salcha River,	26.29	48	P	P	00 56 03.1	+1.0
	baz=272						
KLU	Klutina	26.30	55	P	P	00 56 03.2	+1.0
	baz=278						
E25K	Arctic Village	26.32	40	P	P	00 56 04.2	+2.0
E25K				IAmb	IAmb	00 56 05.5	
	comp=Z,4.7nm,1.1s						
E25K	Arctic Village	26.32	40	P	P	00 56 03.0	+0.8
	baz=265						
PAX	Paxson	26.34	52	P	P	00 56 03.0	+0.4
	baz=275						
EYAK	Cordova Ski Ar	26.53	57	P	P	00 56 05.2	+1.1
	baz=280						
HARP	HAARP	26.55	53	P	P	00 56 04.6	+0.3
	baz=276						
RIDG	Independent Ri	26.56	50	P	P	00 56 05.3	+0.8
	baz=274						
BMAR	Burnt Mountain	26.64	42	P	P	00 56 07.5	+2.3
C26K	Camden Bay	26.77	36	P	P	00 56 07.2	+1.0
	baz=262						
F26K	Sheenjek River	26.82	41	P	P	00 56 08.0	+1.2
	baz=267						
N25K	Chitina, Valde	26.91	55	P	P	00 56 08.7	+1.0
	baz=278						
SCRK	Sand Creek	26.93	49	P	P	00 56 08.7	+0.8
	baz=274						
G26K	Porcupine Rive	26.93	43	P	P	00 56 09.6	+1.9
G26K				IAmb	IAmb	00 56 11.3	
	comp=Z,5.4nm,1.1s						
G26K	Porcupine Rive	26.93	43	P	P	00 56 09.4	+1.7
	baz=269						
BMRM	Bremner River	27.01	56	P	P	00 56 09.6	+1.0
	baz=280						
J26L	Joseph Creek	27.07	48	P	P	00 56 10.7	+1.5
	baz=274						
C27K	Jago River	27.15	37	P	P	00 56 11.1	+1.5
C27K				IAmb	IAmb	00 56 13.0	
	comp=Z,5.6nm,1.1s						
C27K	Jago River	27.15	37	P	P	00 56 11.0	+1.4
	baz=263,SNR=5.9						
I26K	Coal Creek Min	27.21	46	P	P	00 56 11.1	+0.9
	baz=272						
KAIM	Kayak Island	27.30	58	P	P	00 56 12.1	+1.1
	baz=282						
M26K	Nabesna, AK	27.55	53	P	P	00 56 14.6	+1.2
	baz=278						
K27K	Chicken	27.76	49	P	P	00 56 16.4	+1.2
	baz=276						
G27K	Doyon Strip	27.77	43	P	P	00 56 16.5	+1.2
	baz=271						
E27K	Colleen River	27.81	40	P	P	00 56 17.3	+1.6
	baz=268						
I27K	Kandik River	27.83	46	P	P	00 56 16.6	+0.7
	baz=273						
H27K	Steamboat Moun	27.84	44	P	P	00 56 17.2	+1.3
	baz=272						
L27K	Beaver Creek,	27.99	51	P	P	00 56 19.0	+1.7
L27K				IAmb	IAmb	00 56 21.1	
	comp=Z,5.4nm,0.9s						
L27K	Beaver Creek,	27.99	51	P	P	00 56 18.6	+1.3
	baz=278						
BCAR	Beaver Creek A	28.00	51	P	P	00 56 19.6	+2.1
M27K	Edge Creek, AK	28.07	53	P	P	00 56 19.2	+1.1
	baz=279						
D27M	Malcolm River	28.08	38	P	P	00 56 19.2	+1.2
D27M				IAmb	IAmb	00 56 20.9	
	comp=Z,3.1nm,0.8s						
D27M	Malcolm River	28.08	38	P	P	00 56 19.6	+1.5
	baz=267,SNR=6.6						
MESA	MESA	28.45	57	P	P	00 56 21.9	+0.2
	baz=283						
BVCY	Beaver Creek	28.52	52	P	P	00 56 22.8	+0.7
	baz=280						
I28M	Miner Creek	28.54	46	P	P	00 56 22.9	+0.7
	baz=275						
E28M	Babbage River	28.58	39	P	P	00 56 23.5	+1.1
	baz=269						
YUK3	Moose Creek	28.83	54	P	P	00 56 24.9	0.0
	baz=281						
D28M	Stokes Point	28.88	38	P	P	00 56 25.7	+0.7
	baz=269						
DAWY	Dawson	28.93	49	P	P	00 56 26.7	+1.1
	baz=278						
H29M	Whitestone	29.12	44	P	P	00 56 28.3	+1.0
	baz=275						
O28M	Mount Upton	29.17	56	P	P	00 56 28.3	+0.2
	baz=283						
E29M	Blow River	29.18	40	P	P	00 56 28.5	+0.7
	baz=271						
G29M	Pine Creek	29.20	43	P	P	00 56 28.6	+0.6
	baz=274,SNR=6.4						
I29M	Ogilvie Camp,	29.23	46	P	P	00 56 28.9	+0.7
	baz=276						
YUK8	Steele Glacier	29.25	54	P	P	00 56 29.0	+0.1
	baz=282						
PINM	Pinnacle	29.30	57	P	P	00 56 28.8	-0.2
	baz=284						
M29M	Somme Creek	29.62	52	P	P	00 56 32.1	+0.3
	baz=281						
L29M	L29M	29.64	51	P	P	00 56 34.3	+2.4
L29M	L29M	29.64	51	P	P	00 56 32.2	+0.3
	baz=280						
YUK4	Talbot Arm	29.77	54	P	P	00 56 33.9	+0.6
	baz=283						
K29M	Barlow Dome	29.78	49	P	P	00 56 33.3	+0.1
	baz=280						
PNL	Peninsula	29.82	58	P	P	00 56 33.7	+0.1
	baz=286						
G30M	tAoh Zraii Nji	29.91	43	P	P	00 56 34.3	+0.1
	baz=275						
YUK6	Outpost Mounta	30.00	55	P	P	00 56 34.6	-0.8
	baz=284						
F30M	Barrier River	30.02	41	P	P	00 56 35.8	+0.6
	baz=275						
I30M	Mount Dempster	30.05	46	P	P	00 56 35.8	+0.2
	baz=278						
O29M	Mount Kennedy	30.05	56	P	P	00 56 35.9	+0.1
	baz=285						
J30M	Hart River	30.17	47	P	P	00 56 36.3	-0.4
	baz=279						
KSRS	Korea Array	30.41	251	P	P	00 56 41.9	+2.9
	comp=Z,1.2nm,0.6s,baz=41,slow=9.0,SNR=8.7						
KSRS				LR	LR	01 08 45.5	
	comp=Z,10nm,19.6s,baz=275,slow=36						
	comp=Z,1.2nm,0.6s						
HYT	Haines Junctio	30.43	55	P	P	00 56 38.4	-0.7
	baz=285						
N30M	Aishikik Lake	30.47	54	P	P	00 56 39.1	-0.2
	baz=284						
P29M	Windy Craggy	30.64	57	P	P	00 56 41.4	+0.6
	baz=287						
G31M	Satah River	30.68	42	P	P	00 56 41.7	+0.7
	baz=277						
H31M	Peel River	30.80	45	P	P	00 56 42.6	+0.4
	baz=279						
INK	Inuvik	30.81	40	P	P	00 56 43.1	+0.9
	baz=275						
F31M	Tsiigehtchic	30.82	41	P	P	00 56 42.3	+0.1
	baz=277						
P30M	Million Dollar	30.88	56	P	P	00 56 43.2	+0.2
	baz=286						
O30N	Mendenhall	31.11	55	P	P	00 56 45.7	+0.7
	baz=286						
M31M	Drury Creek, Y	31.52	52	P	P	00 56 49.1	+0.6
	baz=285						
WHY	Whitehorse	31.72	54	P	P	00 56 50.5	+0.1
	baz=287						
SKAG	Skagway	31.87	57	P	P	00 56 52.6	+1.1
	baz=288						
FARO	Faro, Yukon	31.99	51	P	P	00 56 53.3	+0.6
	baz=285						
N32M	Quiet Lake	32.41	53	P	P	00 56 56.4	0.0
	baz=287						
SIT	Sitka	32.70	61	P	P	00 56 59.5	+0.7
	baz=292						
MMPY	Sheldon Lake,	32.81	50	P	P	00 57 00.0	+0.1
	baz=286						
S32K	Killisnoo	32.92	60	P	P	00 57 01.9	+1.1
	baz=292						
A36M	Sachs Harbour	33.23	32	P	P	00 57 04.5	+1.2
	baz=277						
Q32M	Nakina River	33.52	57	P	P	00 57 06.3	0.0
	baz=291						
C36M	Paulatuk	34.05	37	P	P	00 57 12.3	+1.8
C36M	Paulatuk	34.05	37	P	P	00 57 12.1	+1.7
	baz=282,SNR=5.6						
U33K	Whale Pass	34.19	62	P	P	00 57 12.7	+0.9
	baz=294						
WRAK	Wrangell Islan	34.46	61	P	P	00 57 15.0	+0.8
	baz=294						
S34M	Telegraph Cree	34.47	58	P	P	00 57 15.3	+1.1
	baz=293						

TGTN	Hyland Airport	34.49	51	P	P	00 57 14.5	0.0
	baz=290						
DLBC	Dease Lake	34.80	57	P	P	00 57 17.7	+0.5
	baz=293						
H11N2	WAKE ISLAND Hy	35.04	177	T	T	01 35 54.3	
	baz=359,slow=76,SNR=144						
H11N3	WAKE ISLAND Hy	35.05	177	T	T	01 35 53.3	
	baz=359,slow=76,SNR=106						
H11N1	WAKE ISLAND Hy	35.05	177	T	T	01 35 47.7	
	baz=359,slow=76,SNR=89						
T35M	Bob Quinn	35.28	59	P	P	00 57 21.7	+0.4
	baz=295						
V35K	Ketchikan	35.30	62	P	P	00 57 21.8	+0.4
	baz=296						
WRGLY	Wrigley	36.01	47	P	P	00 57 28.4	+1.0
	baz=291						
NRIK	Noril'sk	36.14	324	P	P	00 57 30.0	+1.5
	comp=Z,0.9nm,0.8s,baz=110,slow=7.1,SNR=2.4						
	comp=Z,0.9nm,0.8s						
NRIK	Noril'sk	36.14	324	*ce*P	P	00 57 31.4	+2.9
NRIK				pmax	pmax		
	comp=Z,7.0nm,2.0s						
SONM	Songino Array	36.20	284	P	P	00 57 31.3	+1.9
	comp=Z,0.4nm,0.5s,baz=68,slow=8.9,SNR=3.7						
SONM				LR	LR	01 14 16.3	
	comp=Z,45nm,18.2s,baz=86,slow=40						
	comp=Z,0.4nm,0.5s						
H11S1	WAKE ISLAND Hy	36.24	177	T	T	01 37 18.1	
	baz=359,slow=74,SNR=4.9						
H11S3	WAKE ISLAND Hy	36.26	177	T	T	01 37 18.9	
	baz=359						
H11S2	WAKE ISLAND Hy	36.26	177	T	T	01 37 19.3	
	baz=359,slow=74,SNR=2.9						
TIA	Tai'an	37.35	260	P	P	00 57 50.1	+11
TIA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
HHC	Hu-ho-hao-te	37.42	271	*e*P	P	00 57 40.9	+1.1
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,90nm,5.0s						
YKA	Yellowknife Ar	40.01	45	P	P	00 58 03.1	+1.9
	comp=Z,1.1nm,0.7s,baz=298,slow=8.2,SNR=27						
	comp=Z,1.1nm,0.7s						
XAN	Xi'an	43.60	265	P	P	00 58 29.4	-1.5
XAN				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZALV	Zalesovo Beam	44.18	303	P	P	00 58 37.9	+2.8
	comp=Z,0.2nm,0.3s,baz=61,slow=8.1,SNR=1.3						
	comp=Z,0.2nm,0.3s						
LZH	Lanzhou	45.09	272	*e*P	P	00 58 45.1	+2.2
LZH				pP	pP	00 58 50.1	-1.8
LZH				pmax	pmax		
	comp=Z,30nm,0.7s						
BLKN	Baker Lake	46.10	37	P	P	00 58 52.0	+1.7
NEW	Newport	46.66	64	LR	LR	01 19 57.5	
	comp=Z,20nm,18.0s,baz=204,slow=38						
KURK	Kurchatov	49.16	303	P	P	00 59 15.6	+1.3
KURK				IAmb	IAmb	00 59 17.1	
	comp=Z,2.4nm,0.7s						
KURK	Kurchatov	49.16	303	*ce*P	P	00 59 17.3	+3.1
KURK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KURBB	Kurchatov Arra	49.27	303	P	P	00 59 16.9	+1.9
	comp=Z,1.2nm,0.5s,baz=56,slow=7.7,SNR=14						
	comp=Z,1.2nm,0.5s						
MK31	Makanchi Array	49.89	297	*ce*P	P	00 59 22.5	+2.7
MKAR	Makanchi Array	49.89	297	P	P	00 59 21.4	+1.5
MKAR	Makanchi Array	49.89	297	P	P	00 59 21.8	+1.9
	comp=Z,0.7nm,0.6s,baz=56,slow=6.4,SNR=9.2						
	comp=Z,0.7nm,0.6s						
BVAR	Borovoye Array	51.47	310	P	P	00 59 33.5	+1.8
	comp=Z,0.7nm,0.4s,baz=46,slow=8.1,SNR=6.7						
	comp=Z,0.7nm,0.4s						
ARCES	ARCESS Array B	52.50	343	P	P	00 59 40.9	+1.8
	comp=Z,5.5nm,1.1s,baz=32,slow=7.1,SNR=3.9						
	comp=Z,5.5nm,1.1s						
PZH	PanZhiHua	53.34	265	P	P	00 59 48.8	+2.8
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
ARTI	Arti	54.09	319	*c i*P	P	00 59 53.1	+2.2
ARTI						01 01 55.3	
ARTI				S	S	01 07 31.7	+7.2
ARTI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PDAR	Pinedale Array	54.28	65	P	P	00 59 55.6	+2.8
	comp=Z,0.3nm,0.6s,baz=339,slow=3.8,SNR=4.2						
	comp=Z,0.3nm,0.6s						
KKAR	Karatay Array	58.44	301	P	P	01 00 23.7	+1.5
KKAR	Karatay Array	58.44	301	P	P	01 00 23.8	+1.6
KKAR				IAmb	IAmb	01 00 41.5	
	comp=Z,2.0nm,1.1s						
KKAR	Karatay Array	58.44	301	P	P	01 00 23.8	+1.6
KKAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ABKAR	Abkulak array	58.76	312	P	P	01 00 26.1	+1.9
ABKAR	Abkulak array	58.76	312	P	P	01 00 26.3	+2.1
ABKAR				IAmb	IAmb	01 00 28.1	
	comp=Z,3.4nm,1.3s						
FIA1	FINESS Array S	59.61	338	P	P	01 00 31.4	+1.4
FINES	FINESS Array B	59.61	338	P	P	01 00 31.4	+1.4
FINES	FINESS Array B	59.61	338	P	P	01 00 31.9	+1.9
	comp=Z,3.2nm,0.8s,baz=22,slow=8.5,SNR=10						
	comp=Z,3.2nm,0.8s						
CMAR	Chiang Mai Arr	61.21	261	P	P	01 00 43.8	+2.3
	comp=Z,1.2nm,0.3s,baz=38,slow=6.1,SNR=1.1						
CMAR				LR	LR	01 31 04.5	
	comp=Z,18nm,18.6s,baz=190,slow=40						
	comp=Z,1.2nm,0.3s						
NB2	NORSAR Subarra	62.63	346	P	P	01 00 52.4	+1.9
	comp=Z,0.6nm,0.5s,baz=18,slow=6.9						
NOA	NORSAR Array B	62.63	346	P	P	01 00 52.5	+2.0
	comp=Z,1.1nm,0.6s,baz=18,slow=6.7,SNR=6.4						
	comp=Z,1.1nm,0.6s						
HFS	Hagfors	63.13	344	P	P	01 00 55.3	+1.5
	comp=Z,1.4nm,0.5s,baz=28,slow=6.1,SNR=14						
	comp=Z,1.4nm,0.5s						
TXAR	Lajitas Array	67.44	71	P	P	01 01 26.1	+3.8
	comp=Z,1.0nm,0.6s,baz=297,slow=5.0,SNR=18						
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	68.52	331	P	P	01 01 30.1	+1.5
	comp=Z,0.6nm,0.5s,baz=28,slow=6.6,SNR=2.4						
AKASG				LR	LR	01 32 39.5	
	comp=Z,13nm,18.6s,baz=203,slow=37						
	comp=Z,0.6nm,0.5s						
EKA	Eskdalemuir Ar	69.79	353	P	P	01 01 38.8	+2.4
	comp=Z,0.9nm,0.8s,baz=8.7,slow=6.2,SNR=4.1						
	comp=Z,0.9nm,0.8s						
KBZ	Khabaz	70.14	319	P	P	01 01 41.1	+2.4
	comp=Z,1.6nm,0.9s,baz=312,slow=9.9,SNR=2.7						
	comp=Z,1.6nm,0.9s						
CLL	Collm	71.68	342	*i* P	P	01 01 50.2	+2.3
	comp=Z,4.0nm,1.0s						
VRAC	Vranov	72.89	339	P	P	01 01 57.7	+2.4
	comp=Z,1.5nm,0.9s,baz=42,slow=9.9,SNR=4.2						
	comp=Z,1.5nm,0.9s						
GERES	GERESS Array B	73.91	341	P	P	01 02 03.9	+2.5
	comp=Z,0.6nm,0.6s,baz=28,slow=6.0,SNR=8.4						
	comp=Z,0.6nm,0.6s						
KBA	Koelnbreinsper	75.67	340	*ep*P	pP	01 02 15.3	-5.8
	comp=Z,4.0nm,1.0s						
WTTA	Wattenberg	75.82	341	*i* pP	pP	01 02 15.7	-6.3
	comp=Z,0.8nm,0.4s						
MOTA	Moosalm	75.84	342	*i* pP	pP	01 02 15.3	-6.8
	comp=Z,0.5nm,0.4s						
SQTA	Sankt Quirin	75.94	342	*i* pP	pP	01 02 16.3	-6.3
	comp=Z,0.4nm,0.3s						
OBKA	Obir	75.98	339	*ep*P	pP	01 02 16.7	-6.1
	comp=Z,1.8nm,0.7s						
ABTA	Abfaltersbach	76.15	341	*ep*P	pP	01 02 17.0	-6.8
	comp=Z,1.5nm,0.8s						
DAVOX	Davos/Dischmat	76.60	343	P	P	01 02 19.7	+2.7
	comp=Z,1.8nm,0.9s,baz=353,slow=9.8,SNR=4.2						
	comp=Z,1.8nm,0.9s						
CTI	Castel Tesino	76.99	341	P	P	01 02 21.2	+2.2
CTI				IAmb	IAmb	01 02 21.9	
	comp=Z,2.3nm,0.8s						
CTI	Castel Tesino	76.99	341	P	P	01 02 21.2	+2.1
CTI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	Warramunga Arr	78.85	209	P	P	01 02 32.7	+3.3
	comp=Z,0.7nm,0.8s,baz=18,slow=5.3,SNR=4.2						
	comp=Z,0.7nm,0.8s						
ASAR	Alice Springs	82.51	208	P	P	01 02 51.9	+2.9
	comp=Z,4.4nm,1.0s,baz=22,slow=6.4,SNR=7.6						
	comp=Z,1.4nm,1.0s						
ESDC	Sonseca Array	85.41	351	P	P	01 03 06.5	+2.7
	comp=Z,1.9nm,1.0s,baz=0.7,slow=5.2,SNR=6.8						
	comp=Z,1.9nm,1.0s						

*NEIC **21** 00:53:56.1±0.3, 19°.36N±0°.06×154°.80W±0°.08, h46km±5km, Error ellipse: s-maj=13.3km s-min=6.1km az=124.0*

HVO 21 00:53:56.5±1.0, **19°.30N**±0°.07×**154°.70W**±0°.08, **h41**km±5km, **ML2.9/1, ML2.5**/31(NEIC), **Error ellipse: s-maj=12.6km s-min=7.1km az=132.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	Jonika Flow	0.32	294		Pn	00 54 04.0	-1.0
JOKA				Sn	Sn	00 54 09.2	-1.8
JCUZ	Jacuzzi	0.39	282		Pn	00 54 04.9	-1.0
JCUZ					Sn	00 54 11.1	-1.4
NPOC	North of Pu'u	0.40	283		Pn	00 54 05.0	-1.1
STCH	Steam Cracks	0.41	281		Pn	00 54 05.0	-1.2
STCH					Sn	00 54 11.4	-1.6
KNHH	Kane Nui o Ham	0.45	280		Pn	00 54 05.4	-1.3
PUH	Pauahi	0.49	278		Pn	00 54 05.9	-1.4
PUH					Sn	00 54 12.5	-2.4
PUH				IAML		00 54 22.6	
	comp=E,167nm,3.3s						
PUH				IAML		00 54 23.2	
	comp=N,232nm,2.0s						
BYL	Byron's Ledge	0.54	282		Pn	00 54 06.4	-1.6
BYL				Sn	Sn	00 54 14.1	-1.9
BYL				IAML		00 54 22.6	
	comp=E,227nm,2.4s						
HATHI	Halema'uma'u T	0.54	283		Pn	00 54 06.4	-1.6
HATHI				Sn	Sn	00 54 13.6	-2.5
HATHI				IAML		00 54 27.4	
	comp=N,230nm,3.0s						
HATHI				IAML		00 54 30.8	
	comp=E,174nm,1.7s						
KKO	Keanakako'i	0.54	280		Pn	00 54 06.5	-1.5
RIM	Rim	0.55	280		Pn	00 54 06.6	-1.5
SBLHI	Steaming Bluff	0.55	283		Pn	00 54 06.5	-1.6
UWB	Uwekahuna Bluf	0.56	283		Pn	00 54 06.6	-1.6
SDHHI	Sand Hill	0.57	279		Pn	00 54 06.8	-1.6
SDHHI					Sn	00 54 14.8	-1.9
RSD	Rainshed	0.57	286		Sn	00 54 14.4	-2.3
UWE	Uwekahuna	0.57	282		Pn	00 54 06.8	-1.6
UWE				IAML		00 54 24.5	
	comp=E,295nm,3.2s						
UWE				IAML		00 54 24.6	
	comp=N,332nm,2.4s						
HLP	Hilina Pali	0.57	269		Pn	00 54 07.1	-1.2
HLP					Sn	00 54 15.0	-1.7
WRMHI	West Rim	0.57	280		Pn	00 54 06.8	-1.6
HTC	Hot Caves	0.66	264		Pn	00 54 08.3	-1.2
MLH	Mauna Loa	0.67	286		Pn	00 54 08.2	-1.6
MLH				IAML		00 54 16.1	
	comp=E,148nm,3.8s						
MLH					Sn	00 54 16.9	-2.5
MLH				IAML		00 54 33.8	
	comp=N,305nm,3.9s						
HMH	Humu'ula Sheep	0.80	292		Pn	00 54 09.9	-1.6
HMH				IAML		00 54 38.2	
	comp=N,168nm,3.8s						
KHU	Kahuku	0.87	266		Pn	00 54 10.6	-1.9
KHU				IAML		00 54 30.0	
	comp=E,231nm,3.2s						
POHA	Pohakuloa	0.91	300		Pn	00 54 10.9	-2.1
POHA	Pohakuloa	0.91	300	IAML		00 54 33.5	
	comp=E,140nm,4.0s						
POHA				IAML		00 54 34.7	
	comp=E,130nm,4.1s						
ALEP	Alea Permanent	0.92	285		Pn	00 54 11.4	-2.0

*JMA **21** 00:57:26.6±0.2, 45°.N±2°.×14°.4E±°, h267km, MV2.6/22, NE OFF HOKKAIDO*

*SKHL **21** 00:57:28.5±0.6, 44°.80N×144°.20E, h214km±4km, mb4.3/6, msha4.8/4*

ISC 21 00:57:25.5±3.2, **44°.77N**±0°.08×**144°.28E**±0°.08, **h266**km±24km, **n15**, σ1§**42**/23, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTKR	Abashiri--Toko	0.84	199	P	Pn	00 58 03.1	+1.6
JTKR				S	S	00 58 30.5	+0.7
JMP	Maruseppu	1.01	221	P	Pn	00 58 03.5	+1.2
JRA	Rausu	1.03	144	*e*P	Pn	00 58 04.5	+2.1
JSE	Soyaes	1.22	279	P	Pn	00 58 04.0	+0.7
YUK	Yuzh-Kuril'sk	1.35	122	*e*P	Pn	00 58 04.4	+0.1
YUK				AMB	AMB	00 58 05.7	
	50nm,0.2s						
YUK				*e*S	S	00 58 32.9	-2.0
YUK				A	A	00 58 33.4	
	90nm,0.3s						
YUK				A	A	00 58 33.4	
	80nm,0.3s						
ASAJ	Asahikawa	1.37	242	P	Pn	00 58 05.8	+1.4
JKK2	Kamakawa 2	1.42	231	P	Pn	00 58 06.2	+1.5
NMR	Nemuro--Hokkai	1.75	143	*e*P	Pn	00 58 07.7	+0.5
NEM2	Nemuro 2	1.76	143	P	Pn	00 58 07.9	+0.6
NEM2				S	S	00 58 39.0	-1.4
JWK2	Keihoku	1.77	289	P	Pn	00 58 08.2	+1.0
AKK	Akkeshi	1.80	167	*e*P	Pn	00 58 08.3	+0.7
AKK				*e*S	S	00 58 39.1	-1.9
JAK	Akkeshi	1.80	170	P	Pn	00 58 08.6	+0.9
JAK				S	S	00 58 40.2	-0.8
SHO	Shikotan	2.04	115	*e*P	Pn	00 58 11.1	+1.5
SHO				AMB	AMB	00 58 11.8	
	20nm,0.3s						
SHO				*e*S	S	00 58 44.5	0.0
SHO				A	A	00 58 44.6	
	40nm,0.3s						
SHO				A	A	00 58 44.6	
	30nm,0.3s						
JCH	Churui	2.26	197	P	Pn	00 58 12.2	+0.6
JCH				S	S	00 58 45.7	-2.4
YSS	Yuzhno-Sakhali	2.43	335	*e*P	Pn	00 58 13.5	+0.4
YSS				AMB	AMB	00 58 13.6	
	20nm,0.5s						
YSS				*e*S	S	00 58 49.2	-1.7
YSS				A	A	00 58 52.4	
	30nm,0.3s						
YSS				A	A	00 58 52.4	
	20nm,0.3s						

*SOME **21** 01:00:52.2, 41°.85N×84°.25E, h0km*

NNC 21 01:01:07.2±1.3, **42°.29N**×**83°.89E, h0**km, **mb3.4, mpv3.0, 12C-4D, Error ellipse: s-maj=12.6km s-min=6.6km az=140.0, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	3.38	286	*e*P	Pn	01 01 58.0	-3.3
SHLS	9.7nm,0.4s						
				*e*S	Sb	01 02 46.5	-3.1
	94nm,0.4s						
PDGK	Podgornoye	3.40	289	⇑Pn	Pn	01 02 01.3	-0.3
PDGK	5.5nm,0.6s						
				⇑Lg	Lg	01 02 53.9	
	31nm,0.5s						
UZB	Uzynbulak	3.69	285	*e*P	Pn	01 02 07.8	+2.2
UZB	3.9nm,0.2s						
				*e*S	Sg	01 03 03.4	-2.3
	35nm,0.4s						
MK31	Makanchi Array	4.64	346	⇑Pn	Pn	01 02 18.4	-0.2
MK31	0.1nm,0.3s,baz=179,slow=14,SNR=16						
				Pg	Pb	01 02 32.1	+2.6
MK31	1.0nm,0.3s,baz=156,slow=17,SNR=21						
				⇑Lg	Lg	01 03 32.9	
	26nm,0.7s,baz=164,slow=30,SNR=8.7						
MAKZ	Makanchi	4.72	344	⇑Pn	Pn	01 02 19.2	-0.5
MAKZ	0.2nm,0.3s						
				⇓Pg	Pb	01 02 33.9	+3.1
	1.7nm,0.3s						
MAKZ				⇑Lg	Lg	01 03 36.7	
	15nm,0.9s						
TDK	Taldyqorghan	4.82	306	*e*P	Pb	01 02 30.7	-1.7
TDK	12nm,0.2s						
				*e*S	Sg	01 03 43.4	+1.6
	37nm,0.5s						
MDOK	Medeo	5.12	282	Pn	Pn	01 02 25.5	+0.3
MDOK	1.5nm,0.5s						
				Lg	Lg	01 03 48.7	
	6.7nm,0.5s						
ZSN	Zaisan	5.20	7	*e*P	Pb	01 02 36.4	-2.6
	1.7nm,0.3s						
ZSN				*e*S	Sg	01 03 53.4	-0.9
	15nm,0.6s						
TKM2	Tokmak 2	6.16	279	⇑Pn	Pn	01 02 39.7	+0.2
	2.0nm,0.3s						
TKM2				⇑Sn	Sn	01 03 52.6	+1.9
	5.5nm,0.8s						
TKM2				⇓Lg	Lg	01 04 24.0	
	5.0nm,0.6s						
AAK	Ala-Archa	6.96	276	⇑Pn	Pn	01 02 49.8	-0.7
	0.4nm,0.4s						
AAK				⇓Lg	Lg	01 04 49.0	
	4.2nm,0.8s						
KURBB	Kurchatov Arra	9.12	338	⇑Pn	Pn	01 03 20.0	+0.1
	1.1nm,0.8s						
KURBB				⇓Lg	Lg	01 05 59.3	
	5.4nm,0.7s						
KURK	Kurchatov	9.17	339	⇑Pn	Pn	01 03 22.3	+1.6
	0.7nm,0.7s						
KURK				⇑Lg	Lg	01 06 01.3	
	5.4nm,0.8s						

*NEIC **21** 01:10:06.7±1.6, 7°.33S±0°.08×123°.93E±0°.09, h558km±6km, mb4.6/140, Error ellipse: s-maj=13.4km s-min=11.8km az=67.0*

*DJA **21** 01:10:06.1±0.1, 7°.S±2°.×12°.4E±°, h575km±3km, M4.6/48, mb5.0/48, mB5.1/31, MLv5.2/23, Mw(mB)4.5/31*

*IDC **21** 01:10:07.8±0.8, 7°.33S×124°.03E, h574km±9km, mb4.0/24, mbtmp5.0/30, Error ellipse: s-maj=11.4km s-min=5.9km az=66.0*

ISC 21 01:10:06.7±0.4, **7°.37S**±0°.04×**123°.97E**±0°.04, **h563**km±5km, **n684**, σ1§**00**/689, **mb4.6**/113, **2C-6D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	2.13	234	P	P	01 11 17.7	-0.5
MMRI				S	S	01 12 13.7	-2.6
MMRI	Maumere	2.13	234	P	P	01 11 18.4	+0.2
MMRI	Maumere	2.13	234	S	S	01 12 15.3	-1.0
MMRI	Maumere	2.13	234	P	P	01 11 18.1	-0.1
MMRI	Maumere	2.13	234	P	P	01 11 18.1	-0.1
BBSI	Bau Bau	2.33	323	P	P	01 11 21.1	+1.9
SOEI	Soe	2.39	173	P	P	01 11 20.7	+1.1
SOEI				S	S	01 12 16.9	-2.0
SOEI	Soe	2.39	173	P	P	01 11 20.8	+1.2
SOEI	Soe	2.39	173	S	S	01 12 18.8	-0.1
SOEI	Soe	2.39	173	P	P	01 11 20.6	+1.1
SOEI	Soe	2.39	173	S	S	01 12 18.6	-0.3
SOEI	Soe	2.39	173	P	P	01 11 20.5	+0.9
EDFI	Ende, Flores	2.65	239	P	P	01 11 20.4	-0.5
BSSI	Bau Bau, Buton	3.67	289	P	P	01 11 28.4	+1.2
WSI	Waingapu	4.29	238	P	P	01 11 30.9	-0.8
KAPI	Kappang	4.80	299	P	P	01 11 37.3	+1.5
KAPI	Kappang	4.80	299	P	P	01 11 38.1	+2.4
	440nm,0.6s,baz=135,slow=4.6,SNR=188						
KAPI				S	S	01 12 51.8	+3.5
	87nm,1.0s,baz=51,slow=23,SNR=20						
KAPI	Kappang	4.80	299	P	P	01 11 36.6	+0.8
KAPI	Kappang	4.80	299	S	S	01 12 51.0	+2.6
KAPI	Kappang	4.80	299	P	P	01 11 34.3	-1.5
BNSI	Bone	4.85	307	P	P	01 11 37.8	+1.7
WBSI	Waikabubak, Su	5.06	243	P	P	01 11 37.0	-0.9
NLAI	Namlea	5.15	37	P	P	01 11 39.7	+1.1
SPSI	Sidrap Palu	5.38	309	P	P	01 11 41.6	+1.0
	0.5nm2μm136nm,0.7s						
AAI	Ambon	5.57	49	P	P	01 11 42.5	+0.3
	1.8nm2μm181nm,1.0s						
SANI	Sanana	5.65	21	P	P	01 11 44.0	+1.0
SANI	Sanana	5.65	21	S	S	01 13 02.2	+0.7
SANI	Sanana	5.65	21	P	P	01 11 43.0	0.0
SANI	Sanana	5.65	21	P	P	01 11 43.6	+0.6
	1.1nm3μm326nm,0.9s						
PLAI	Plampang	6.30	256	P	P	01 11 48.1	-0.7
PLAI	Plampang	6.30	256	P	P	01 11 47.7	-1.1
PLAI	Plampang	6.30	256	S	S	01 13 10.3	-1.9
PLAI	Plampang	6.30	256	P	P	01 11 47.6	-1.2
MSAI	Masohi	6.35	51	P	P	01 11 51.2	+2.0
	0.8nm3μm88nm,0.6s						
LUWI	Luwuk	6.40	349	P	P	01 11 50.0	+0.4
LUWI	Luwuk	6.40	349	P	P	01 11 51.2	+1.5
LUWI	Luwuk	6.40	349	S	S	01 13 14.9	+1.1
LUWI	Luwuk	6.40	349	P	P	01 11 50.3	+0.6
BNDI	Bandanaira	6.54	65	P	P	01 11 52.4	+1.4
BNDI	Bandanaira	6.54	65	P	P	01 11 50.5	-0.5
APSI	Ampana	6.82	340	P	P	01 11 55.2	+1.6
	0.7nm145nm,0.8s						
TWSI	Taliwang, Sumb	7.15	259	P	P	01 11 55.7	-1.0
	1.7nm4μm508nm,0.6s						
SAUI	Saumlaki	7.29	95	P	P	01 11 57.4	-0.6
SAUI	Saumlaki	7.29	95	P	P	01 11 58.4	+0.4
SAUI	Saumlaki	7.29	95	P	P	01 11 57.3	-0.7
PCI	Palu	7.63	327	P	P	01 12 03.5	+2.2
	1.9nm7μm607nm,1.0s						
KMSI	Cibinong	7.89	0	P	P	01 12 05.0	+1.2
	5μm596nm,0.7s						
MRSI	Marisa	8.05	345	P	P	01 12 05.4	0.0
	2μm226nm,0.8s						
DRS	Darwin Rock St	8.48	127	P	P	01 12 10.3	+0.8
DRS	Darwin Rock St	8.48	127	S	S	01 13 49.9	-0.4
DRS	Darwin Rock St	8.48	127	P	P	01 12 10.6	+1.1
MPSI	Mapaga	8.67	332	P	P	01 12 12.6	+1.1
SRBI	Singaraja	8.71	265	P	P	01 12 11.4	-0.5
	191nm,0.8s						
DNP	Denpasar	8.78	261	P	P	01 12 12.5	0.0
MTN	Manton Dam	8.90	128	P	P	01 12 14.0	+0.2
MTN	Manton Dam	8.90	128	P	P	01 12 14.0	+0.2
	comp=Z,377nm,0.5s						
MTN	Manton Dam	8.90	128	P	P	01 12 13.9	+0.2
MTN	Manton Dam	8.90	128	S	S	01 13 57.2	-0.9
MTN	Manton Dam	8.90	128	P	P	01 12 14.1	+0.3
MTN	Manton Dam	8.90	128	S	S	01 13 57.9	-0.2
TOLI2	Tolitoli	9.01	339		P	01 12 14.5	-0.4
TOLI2	Tolitoli	9.01	339	P	P	01 12 15.1	+0.2
TOLI2	Tolitoli	9.01	339	P	P	01 12 14.9	0.0
TOLI2	Tolitoli	9.01	339	S	S	01 13 58.8	-1.2
BKB	Balikpapan	9.30	310	P	P	01 12 17.4	-0.4
FAKI	Fak Fak	9.35	62	P	P	01 12 16.9	-1.5
FAKI	Fak Fak	9.35	62	P	P	01 12 17.7	-0.7
FAKI	Fak Fak	9.35	62	P	P	01 12 17.1	-1.3
FAKI	Fak Fak	9.35	62	P	P	01 12 17.2	-1.2
	comp=Z,6μmcomp=Z,786nm,0.8s						
KNRA	Kununurra	9.50	151		P	01 12 20.5	+0.7
KNRA	Kununurra	9.50	151	P	P	01 12 20.2	+0.4
	comp=Z,290nm,0.7s						
SMKI	Samarinda	9.63	315	P	P	01 12 23.3	+2.1
	comp=Z,204nm,0.9s						
SWI	Sorong

PSA00	Pilbara Seismi	14.67 195	P	P	01 13 13.4	+0.8
PSA00	Pilbara Seismi	14.67 195	P	P	01 13 13.7	+1.0
	comp=Z,77nm,0.6s					
PSA00	Pilbara Seismi	14.67 195	P	P	01 13 13.9	+1.2
PSA00	Pilbara Seismi	14.67 195	P	P	01 13 13.0	+0.3
SBUM	Sibu	15.25 309	P	P	01 13 18.1	-0.5
SBUM			IAmb	IAmb	01 13 20.4	
	comp=Z,40nm,1.3s					
SBUM	Sibu	15.25 309	P	P	01 13 19.2	+0.6
SBUM	Sibu	15.25 309	S	S	01 15 59.6	+3.6
SBUM	Sibu	15.25 309	P	P	01 13 19.1	+0.5
CMJI	Cimerak	15.40 267	P	P	01 13 16.5	-3.5
	comp=Z,304nm,0.7s					
SMPI	Sarmi	15.62 71	P	P	01 13 21.7	-0.6
	comp=Z,3µmcomp=Z,277nm,1.4s					
WB0	Warramunga Arr	15.94 142	P	P	01 13 25.0	-0.3
WRA	Warramunga Arr	16.04 142	P	P	01 13 25.4	-0.8
WRA	Warramunga Arr	16.04 142	P	P	01 13 25.6	-0.6
	comp=Z,64nm,0.6s,baz=322,slow=8.3,SNR=342					
WRA			S	S	01 16 08.6	-0.3
	comp=Z,23nm,0.9s,baz=319,slow=19,SNR=19					
WRAB	Tennant Creek	16.04 142		P	01 13 26.1	0.0
WR8	Warramunga Arr	16.15 142	P	P	01 13 27.3	+0.1
BBJI	Bungbulang	16.19 269	P	P	01 13 26.4	-1.3
BBJI	Bungbulang	16.19 269	P	P	01 13 26.7	-1.0
KSM	Kuching	16.22 302	P	P	01 13 28.0	0.0
KSM	Kuching	16.22 302	P	P	01 13 29.2	+1.3
LEM	Lembang	16.24 271	P	P	01 13 28.0	-0.3
	comp=Z,161nm,0.6s,baz=48,slow=8.1,SNR=12					
LEM			S	S	01 16 13.9	+1.3
	comp=Z,26nm,0.6s,baz=338,slow=23,SNR=6.0					
LEM	Lembang	16.24 271	P	P	01 13 27.1	-1.2
	comp=Z,200nm,0.8s					
CNJI	Cibinong	16.71 269	P	P	01 13 30.9	-1.4
	comp=Z,2µmcomp=Z,263nm,1.2s					
GENI	Genyem	16.81 74	P	P	01 13 35.0	+1.7
GENI	Genyem	16.81 74	S	S	01 16 23.4	+1.7
GENI	Genyem	16.81 74	P	P	01 13 33.8	+0.5
GENI	Genyem	16.81 74	P	P	01 13 32.5	-0.8
	comp=Z,356nm,0.9s					
TPI	Tanjungpandan	16.89 285	P	P	01 13 33.9	-0.1
	comp=Z,1µmcomp=Z,124nm,1.0s					
SKJI	Sukabumi	17.29 270	P	P	01 13 36.0	-1.6
JAY	Jayapura	17.35 75	P	P	01 13 38.1	-0.1
JAY	Jayapura	17.35 75	P	P	01 13 38.1	-0.1
	comp=Z,92nm,0.7s,baz=216,slow=5.8,SNR=47					
JAY	Jayapura	17.35 75	P	P	01 13 37.0	-1.2
	comp=Z,950nmcomp=Z,91nm,0.7s					
GIRL	Giralia	17.85 211	P	P	01 13 44.3	+1.7
GIRL	Giralia	17.85 211	P	P	01 13 44.1	+1.5
WRKA	Warakurna	18.05 167	P	P	01 13 45.5	+1.0
	comp=Z,43nm,0.6s					
WRKA	Warakurna	18.05 167	P	P	01 13 45.9	+1.4
WRKA	Warakurna	18.05 167	S	S	01 16 42.0	+0.4
WRKA	Warakurna	18.05 167	P	P	01 13 46.3	+1.8
CGJI	Cibinong	18.16 271	P	P	01 13 42.9	-2.7
	comp=Z,3µmcomp=Z,115nm,0.6s					
PPBI	Pangkal Pinang	18.51 285	P	P	01 13 49.1	+0.3
AS31	Alice Springs	18.80 151		P	01 13 52.3	+0.9
AS31	Alice Springs	18.80 151	P	P	01 13 51.9	+0.5
	comp=Z,24nm,0.4s					
ASAR	Alice Springs	18.80 151	P	P	01 13 52.1	+0.8
	comp=Z,32nm,0.4s,baz=321,slow=7.9,SNR=386					
ASAR			S	S	01 16 53.0	-0.9
	comp=Z,17nm,0.9s,baz=327,slow=15,SNR=13					
ASAR			PcP	PcP	01 17 49.5	-0.4
	comp=Z,4.5nm,0.4s,baz=345,slow=1.1,SNR=6.3					
ASAR			ScP	ScP	01 20 31.6	-1.2
	comp=Z,4.0nm,0.5s,baz=333,slow=2.3,SNR=6.6					
AS01	Alice Springs	18.82 151	P	P	01 13 52.6	+1.0
AS01	Alice Springs	18.82 151	P	P	01 13 52.5	+1.0
MEEK	Meekatharra	19.83 194	P	P	01 14 00.8	+0.2
	comp=Z,51nm,0.8s					
MEEK	Meekatharra	19.83 194	P	P	01 14 01.6	+0.9
MEEK	Meekatharra	19.83 194	P	P	01 14 01.3	+0.6
MDSI	Maura Dua	19.89 277	P	P	01 14 00.2	-1.2
COEN	Coen	19.96 111	P	P	01 14 01.9	-0.1
COEN	Coen	19.96 111	P	P	01 14 01.7	-0.3
	comp=Z,92nm,0.9s					
COEN	Coen	19.96 111	P	P	01 14 02.3	+0.3
COEN	Coen	19.96 111	P	P	01 14 02.1	+0.1
QIS	Mount Isa	20.02 132	P	P	01 14 02.3	-0.2
	comp=Z,87nm,0.7s					
QIS	Mount Isa	20.02 132	P	P	01 14 02.8	+0.3
QIS	Mount Isa	20.02 132	P	P	01 14 02.9	+0.4
MNAI	Manna	21.12 277	P	P	01 14 12.1	-0.4
MTSU	Mount Surprise	22.52 120	P	P	01 14 25.3	+0.4
	comp=Z,21nm,0.7s					
MTSU	Mount Surprise	22.52 120	P	P	01 14 26.3	+1.4
MTSU	Mount Surprise	22.52 120	P	P	01 14 25.7	+0.8
MORW	Morawa	22.84 198	P	P	01 14 28.2	+0.5
MORW	Morawa	22.84 198	P	P	01 14 27.9	+0.2
	comp=Z,28nm,0.8s					
MORW	Morawa	22.84 198	P	P	01 14 28.0	+0.3
PMG	Port Moresby	23.02 97	P	P	01 14 29.6	+0.1
PMG			IAmb	IAmb	01 14 31.1	
	comp=Z,22nm,0.8s					
PMG	Port Moresby	23.02 97	P	P	01 14 29.8	+0.3
	comp=Z,17nm,0.6s,baz=145,slow=2.4,SNR=8.5					
	comp=Z,17nm,0.6s					
PMG	Port Moresby	23.02 97	P	P	01 14 30.0	+0.5
PMG	Port Moresby	23.02 97	P	P	01 14 30.2	+0.7
OOD	Oodnadatta	23.15 153	P	P	01 14 31.7	+1.3
OOD	Oodnadatta	23.15 153	P	P	01 14 31.5	+1.1
FORT	Forrest	23.60 171	P	P	01 14 35.2	+0.8
FORT	Forrest	23.60 171	P	P	01 14 35.0	+0.6
MANU	Manus Island	23.90 78		P	01 14 38.3	+1.0
KMBL	Kambalda	23.96 184	P	P	01 14 37.5	-0.1
	comp=Z,29nm,0.9s					
KMBL	Kambalda	23.96 184	P	P	01 14 38.2	+0.7
BLDU	Ballidu	24.11 195	P	P	01 14 38.8	-0.1
	comp=Z,43nm,0.7s					
BLDU	Ballidu	24.11 195	P	P	01 14 39.7	+0.8
BLDU	Ballidu	24.11 195	P	P	01 14 39.2	+0.3
KLBR	Kellerberrin	24.79 193	P	P	01 14 44.9	0.0
	comp=Z,34nm,0.7s					
KLBR	Kellerberrin	24.79 193	P	P	01 14 45.7	+0.8
TV1H	Townsville Har	25.12 120	P	P	01 14 49.0	+1.1
MUN	Mundaring	25.53 195	P	P	01 14 51.7	+0.2
INKA	Innaminka	25.75 144	P	P	01 14 54.4	+1.0
INKA	Innaminka	25.75 144	P	P	01 14 54.3	+0.9
NWAO	Narrogin (SRO)	26.19 193	P	P	01 14 57.9	+0.7
NWAO	Narrogin (SRO)	26.19 193	P	P	01 14 57.9	+0.7
KULM	Kulim	26.45 298		P	01 14 59.8	0.0
KULM			IAmb	IAmb	01 15 01.3	
	comp=Z,8.2nm,0.7s					
LCRK	Leigh Creek	26.56 152	P	P	01 15 02.3	+1.8
LCRK	Leigh Creek	26.56 152	P	P	01 15 01.9	+1.4
QLP	Quilpie	27.13 137	P	P	01 15 06.9	+1.3
	comp=Z,174nm,0.5s					
QLP	Quilpie	27.13 137	P	P	01 15 07.3	+1.7
QLP	Quilpie	27.13 137	P	P	01 15 07.4	+1.8
BBOO	Buckleboo	27.69 158	P	P	01 15 11.4	+0.9
BBOO	Buckleboo	27.69 158	P	P	01 15 10.7	+0.3
	comp=Z,43nm,0.6s					
BBOO	Buckleboo	27.69 158	P	P	01 15 11.0	+0.6
WHYH	Whyalla	28.49 156	P	P	01 15 18.5	+1.2
SRIT	Nakonsritamara	29.01 303	P	P	01 15 23.2	+1.1
HTT	Hallett	29.40 154	P	P	01 15 26.4	+1.1
	comp=Z,21nm,0.5s					
HTT	Hallett	29.40 154	P	P	01 15 26.7	+1.4
HTT	Hallett	29.40 154	P	P	01 15 26.5	+1.2
STKA	Stephens Creek	29.40 148		P	01 15 26.4	+1.1
STKA	Stephens Creek	29.40 148	P	P	01 15 25.9	+0.6
	comp=Z,252nm,0.6s					
STKA	Stephens Creek	29.40 148	P	P	01 15 26.4	+1.1
	comp=Z,40nm,0.5s,baz=326,slow=10,SNR=86					
STKA			PcP	PcP	01 18 12.3	-0.8
	comp=Z,5.8nm,0.5s,baz=331,slow=6.3,SNR=3.0					
STKA			S	S	01 19 40.7	+0.6
	comp=Z,9.0nm,0.8s,baz=61,slow=23,SNR=7.7					
	comp=Z,40nm,0.5s					
STKA	Stephens Creek	29.40 148	P	P	01 15 26.5	+1.2
STKA	Stephens Creek	29.40 148	P	P	01 15 26.3	+1.1
RK1H	Rockhampton Ha	30.04 125	P	P	01 15 30.8	-0.1
TPUB	Ta-pu	30.66 354	P	P	01 15 35.2	-0.9
TPUB	Ta-pu	30.66 354	P	P	01 15 35.8	-0.4
YULB	Yu-li	30.68 355	P	P	01 15 34.1	-2.3
YULB	Yu-li	30.68 355	P	P	01 15 35.7	-0.7
CMSA	Cobar Meteorol	31.45 143	P	P	01 15 43.8	+1.0
	comp=Z,56nm,0.6s					
CMSA	Cobar Meteorol	31.45 143	P	P	01 15 44.5	+1.7
CMSA	Cobar Meteorol	31.45 143	P	P	01 15 44.6	+1.7
EIDS	Eidsvold	31.46 128	P	P	01 15 43.3	+0.3

ARPS	Mount Arapiles	33.49 153	P	P	01 16 01.3	+1.3
	comp=Z,81nm,0.5s					
ARPS	Mount Arapiles	33.49 153	P	P	01 16 01.8	+1.7
ARPS	Mount Arapiles	33.49 153	P	P	01 16 01.0	+0.9
ARMA	Armidale	34.60 135	P	P	01 16 11.6	+1.9
ARMA			IAmb	IAmb	01 16 12.6	
	comp=Z,8.5nm,0.6s					
ARMA	Armidale	34.60 135	P	P	01 16 11.1	+1.5
TATA	Tatamba Isabel	35.50 94	P	P	01 16 16.8	-0.4
SAVO	Savo Central	35.50 95	P	P	01 16 17.3	+0.1
SAVO	Savo Central	35.50 95	P	P	01 16 16.8	-0.4
CM31	Chiang Mai Arr	35.62 316	P	P	01 16 18.4	+0.3
CMAR	Chiang Mai Arr	35.62 316	P	P	01 16 18.2	+0.2
CMAR	Chiang Mai Arr	35.62 316	P	P	01 16 18.7	+0.7
	comp=Z,2.6nm,0.7s,baz=144,slow=6.4,SNR=14					
CMAR			PcP	PcP	01 18 31.1	+0.1
	comp=Z,4.8nm,0.7s,baz=177,slow=2.9,SNR=17					
CMAR			S	S	01 21 17.1	+2.2
	comp=Z,0.5nm,0.3s,baz=134,slow=16,SNR=1.0					
	comp=Z,2.6nm,0.7s					
HNR	Honiara	35.64 96	P	P	01 16 18.1	-0.2
HNR	Honiara	35.64 96	P	P	01 16 19.7	+1.4
TOO	Toolangi	35.85 150	P	P	01 16 22.1	+2.3
CHTO	Chiang Mai	35.86 317	P	P	01 16 19.0	-1.1
CHTO	Chiang Mai	35.86 317	P	P	01 16 21.9	+1.8
CAN	Canberra	36.07 144	P	P	01 16 23.7	+2.1
CAN			IAmb	IAmb	01 16 25.2	
	comp=Z,14nm,0.7s					
CAN	Canberra	36.07 144	P	P	01 16 18.4	-3.3
CAN	Canberra	36.07 144	P	P	01 16 23.7	+2.1
CAN	Canberra	36.07 144	P	P	01 16 22.3	+0.6
CNB	Canberra Magne	36.28 144	P	P	01 16 24.8	+1.4
ALEG	Aligegeo Malai	36.38 95	P	P	01 16 24.6	+0.2
ALEG	Aligegeo Malai	36.38 95	P	P	01 16 24.0	-0.4
GYA	Guiyang	37.59 334 ⇓P		P	01 16 37.1	+2.8
GYA			pmax	pmax		
	comp=Z,22nm,0.8s					
JCJ	Chichijima	38.54 27	P	P	01 16 41.5	-0.3
WHN	Wuhan	38.81 347 ⇑P		P	01 16 45.0	+1.1
WHN			pmax	pmax		
	comp=Z,42nm,0.6s					
NJ2	Nanjing	39.50 353 *e*P		P	01 16 51.3	+1.8
NJ2			pmax	pmax		
	comp=Z,13nm,0.6s					
PZH	PanZhiHua	39.99 328	P	P	01 16 55.3	+1.7
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,100nm,4.5s					
JNU	Nakatsue	40.80 9		P	01 16 59.6	-0.3
JNU	Nakatsue	40.80 9	P	P	01 16 59.7	-0.2
JMN	Monobe	41.94 12	P	P	01 17 09.4	+0.5
JMN			IAmb	IAmb	01 17 11.0	
	comp=Z,13nm,0.8s					
JMN	Monobe	41.94 12	P	P	01 17 09.2	+0.3
CD2	Chengdu	42.70 334	P	P	01 17 14.6	-0.3
CD2			pmax	pmax		
	comp=Z,30nm,0.7s					
LYN	LuoYang	43.09 346	P	P	01 17 17.8	0.0
LYN			pmax	pmax		
	comp=Z,26nm,0.9s					
DZM	Mont Dzumac	43.43 114	P	P	01 17 21.5	+0.7
DZM			IAmb	IAmb	01 17 53.7	
	comp=Z,37nm,1.3s					
DZM	Mont Dzumac	43.43 114	P	P	01 17 22.0	+1.2
XAN	Xi'an	43.58 342 ⇓P		P	01 17 20.8	-0.9
XAN			PcP	PcP	01 18 56.6	0.0
XAN			pmax	pmax		
	comp=Z,45nm,0.6s					
TJN	Taejon	43.63 4		P	01 17 22.3	+0.3
TJN	Taejon	43.63 4	P	P	01 17 22.7	+0.8
TIA	Tai'an	43.82 352	P	P	01 17 22.5	-1.0
TIA			pmax	pmax		
	comp=Z,8.0nm,0.7s					
INU	Inuyama	44.23 15		P	01 17 26.4	-0.2
INU			IAmb	IAmb	01 17 27.6	
	comp=Z,7.6nm,0.4s					
INU	Inuyama	44.23 15	P	P	01 17 26.7	+0.1
JGF	Kuroka	44.56 16	P	P	01 17 29.1	-0.2
JGF	Kuroka	44.56 16	P	P	01 17 29.8	+0.6
KSAR	Wonju Array Be	44.73 4	P	P	01 17 31.2	+0.8
KSRS	Korea Array	44.74 4	P	P	01 17 30.7	+0.2
KSRS	Korea Array	44.74 4	P	P	01 17 30.7	+0.2
	comp=Z,6.6nm,0.6s,baz=180,slow=8.8,SNR=39					
KSRS			PcP	PcP	01 19 00.9	+0.5
	comp=Z,3.3nm,0.7s,baz=193,slow=3.2,SNR=12					
	comp=Z,6.6nm,0.6s					
HNS	HongShan	45.37 350 ⇑P		P	01 17 35.0	-0.3
HNS			PcP	PcP	01 19 03.8	+1.1
HNS			pmax	pmax		
	comp=Z,18nm,0.7s					
MJAR	Matsushiro Arr	45.68 16	P	P	01 17 37.0	-0.7
	comp=Z,12nm,0.8s,baz=191,slow=8.5,SNR=47					
MJAR			PcP	PcP	01 19 04.0	+0.2
	comp=Z,1.4nm,0.7s,baz=198,slow=3.8,SNR=4.6					
	comp=Z,12nm,0.8s					
MAJO	Matsushiro	45.68 16		P	01 17 37.0	-0.7
MAJO			IAmb	IAmb	01 17 38.1	
	comp=Z,13nm,0.7s					
MAJO	Matsushiro	45.68 16	P	P	01 17 38.1	+0.4
MJB9	Matsu-Tunnel	45.68 16	P	P	01 17 38.0	+0.3
MJB9			IAmb	IAmb	01 17 39.1	
	comp=Z,12nm,0.7s					
JSD	Sado	47.09 15	P	P	01 17 48.4	0.0
JSD			IAmb	IAmb	01 17 49.4	
	comp=Z,8.5nm,0.6s					
LZH	Lanzhou	47.19 338 *e*P		P	01 17 49.8	+0.5
LZH			sP	sP	01 20 27.8	-6.8
LZH			pmax	pmax		
	comp=Z,50nm,1.0s					
JMM	Marumori	47.66 18	P	P	01 17 52.9	+0.3
JMM	Marumori	47.66 18	P	P	01 17 53.0	+0.4
BJT	Baijiatuau	47.70 352	P	P	01 17 53.7	+0.9
BJI	Beijing	47.72 352	P	P	01 17 52.1	-0.9
BJI			PcP	PcP	01 19 12.0	+0.9
BJI			pmax	pmax		
	comp=Z,6.0nm,0.7s					
BJI			pmax	pmax		
	comp=Z,37nm,4.0s					
HHC	Hu-ho-hao-te	49.32 348 *e*P		P	01 18 07.6	+2.6
HHC			pmax	pmax		
	comp=Z,17nm,0.7s					
HHC			pmax	pmax		
	comp=Z,71nm,4.3s					
JTM	Tenmabayashi	50.44 17	P	P	01 18 12.9	-0.1
JTM			IAmb	IAmb	01 18 14.2	
	comp=Z,18nm,0.9s					
XLT	XiLinHaoTe	51.53 353 *e*P		P	01 18 20.4	-0.6
XLT			pmax	pmax		
	comp=Z,14nm,0.7s					
GTA	Gaotai	51.65 336	P	P	01 18 23.5	+1.5
GTA			pmax	pmax		
	comp=Z,8.0nm,1.0s					
USA0B	Ussuriysk Arra	51.84 7	P	P	01 18 23.1	0.0
USA0B			IAmb	IAmb	01 18 24.2	
	comp=Z,17nm,0.7s					
USRK	Ussuriysk Ar.	51.84 7		P	01 18 22.9	-0.2
USRK	Ussuriysk Ar.	51.84 7	P	P	01 18 23.1	+0.1
	comp=Z,14nm,0.5s,baz=189,slow=7.2,SNR=38					
	comp=Z,14nm,0.5s					
MDJ	Mudanjiang	51.99 5	IAmb	IAmb	01 18 25.7	
	comp=Z,22nm,0.9s					
MDJ	Mudanjiang	51.99 5	P	P	01 18 25.0	+0.8
MDJ			pmax	pmax		
	comp=Z,31nm,1.0s					
MDJ	Mudanjiang	51.99 5	P	P	01 18 25.4	+1.2
ERM	Erimo	52.18 18	P	P	01 18 26.2	+0.6
ERM			IAmb	IAmb	01 19 03.7	
	comp=Z,36nm,1.4s					
MLZ	Mavora Lakes	53.69 142	P	P	01 18 35.5	-0.9
WHZ	Wether Hill Ro	53.86 143	P	P	01 18 37.8	+0.2
JKA	Kamikawa-asahi	53.94 17	P	P	01 18 38.3	+0.2
QRZ	Quartz Range	54.47 136	P	P	01 18 43.3	+1.4
QRZ			IAmb	IAmb	01 19 14.0	
	comp=Z,66nm,1.3s					
QRZ	Quartz Range	54.47 136	P	P	01 18 42.8	+0.9
QRZ	Quartz Range	54.47 136	P	P	01 18 44.0	+2.1
RPZ	Rata Peaks	54.73 139	P	P	01 18 44.6	+0.9
RPZ	Rata Peaks	54.73 139	P	P	01 18 44.8	+1.1
MRNZ	Matariki Terra	54.86 136	P	P	01 18 45.5	+0.9
THZ	Tophouse	55.11 137	P	P	01 18 47.6	+1.2
THZ			IAmb	IAmb	01 19 17.9	
	comp=Z,58nm,1.5s					
THZ	Tophouse	55.11 137	P	P	01 18 47.7	+1.2

TUWZ	Tuamarina	55.69 136	P	P	01 18 51.4	+1.1
KHZ	Kahutara	55.81 137	P	P	01 18 52.1	+0.9
TCW	Tory Channel	55.83 135	P	P	01 18 52.3	+0.9
NGZ	Ngauruhoe	56.03 133	P	P	01 18 55.1	+2.1
OTVZ	Oturere	56.07 133	P	P	01 18 55.0	+1.7
MRZ	Mangatainoka R	56.54 134	P	P	01 18 56.5	+0.2
MSWZ	Moikau Station	56.59 135	P	P	01 18 56.5	-0.1
BKZ	Black Stump Fm	56.68 132	P	P	01 18 58.0	+0.7
DVHZ	Dannevirke	56.83 134	P	P	01 18 58.7	+0.4
MTHZ	Maungataniwha	56.83 132	P	P	01 18 59.0	+0.7
URZ	Urewera	56.84 131	P	P	01 18 59.0	+0.6
URZ	Urewera	56.84 131	P	P	01 18 58.5	+0.1
NMHZ	Naumai	56.89 132	P	P	01 19 00.3	+1.6
ULN	Ulaanbaatar	56.99 346		P	01 18 59.3	-0.1
BFZ	Birch Farm	57.02 134	P	P	01 18 60.0	+0.4
BFZ			IAmb	IAmb	01 19 12.6	
	comp=Z,30nm,1.2s					
BFZ	Birch Farm	57.02 134	P	P	01 19 00.7	+1.1
SONM	Songino Array	57.12 346	P	P	01 19 00.4	+0.2
SONM	Songino Array	57.12 346	P	P	01 19 00.1	-0.1
	comp=Z,5.3nm,0.6s,baz=169,slow=8.2,SNR=35					
SONM			PcP	PcP	01 19 46.8	-0.2
	comp=Z,1.2nm,0.5s,baz=162,slow=5.1,SNR=4.1					
	comp=Z,5.3nm,0.6s					
RUGZ	Raukumara Rang	57.17 131	P	P	01 19 00.4	-0.4
MWZ	Matawai	57.17 131	P	P	01 19 01.5	+0.7
HAZ	Te Kaha	57.19 130	P	P	01 19 01.6	+0.8
PKGZ	Pakihiroa	57.45 130	P	P	01 19 03.9	+1.3
HEH	HeiHe	57.46 3 *e*P		P	01 19 02.0	-0.3
HEH			pmax	pmax		
	comp=Z,40nm,0.9s					
TWGZ	Tauwhareparae	57.47 131	P	P	01 19 04.8	+2.1
MXZ	Matakaoa Point	57.53 130	P	P	01 19 04.0	+0.9
CASY	Casey	59.55 186		P	01 19 16.8	+0.7
NIL	Nilore	63.03 314	P	P	01 19 38.6	-0.9
NIL			IAmb	IAmb	01 19 40.0	
	comp=Z,21nm,0.6s					
KSH	Kashi	64.36 320	P	P	01 19 48.3	+0.3
KSH			pmax	pmax		
	comp=Z,17nm,0.8s					
MKAR	Makanchi Array	65.39 330		P	01 19 54.1	-0.1
MKAR	Makanchi Array	65.39 330	P	P	01 19 54.1	-0.1
	comp=Z,13nm,0.6s,baz=131,slow=7.6,SNR=141					
MKAR			PcP	PcP	01 20 20.5	-0.2
	comp=Z,3.5nm,0.7s,baz=131,slow=5.6,SNR=7.5					
MKAR			S	S	01 27 53.8	-1.1
	comp=Z,0.1nm,0.3s,baz=129,slow=13,SNR=2.2					
	comp=Z,13nm,0.6s					
MAKZ	Makanchi	65.56 330		P	01 19 54.8	-0.4
KBL	Kabul	66.51 313		P	01 20 01.2	-0.5
KBL			IAmb	IAmb	01 20 02.9	
	comp=Z,18nm,0.8s					
TKM2	Tokmak 2	66.58 323	P	P	01 20 01.8	0.0
	SNR=6.2					
PEA0B	Petropavlovsk-	66.69 21	P	P	01 20 02.5	+0.4
PEA0B			IAmb	IAmb	01 20 03.7	
	comp=Z,15nm,0.6s					
PETK	Petropavlovsk-	66.69 21		P	01 20 01.8	-0.3
PETK	Petropavlovsk-	66.69 21	P	P	01 20 01.7	-0.3
	comp=Z,9.0nm,0.6s,baz=216,slow=2.7,SNR=59					
PETK			PcP	PcP	01 20 25.6	-0.3
	comp=Z,2.1nm,0.5s,baz=214,slow=4.1,SNR=5.3					
	comp=Z,9.0nm,0.6s					
AAK	Ala-Archa	67.07 322	P	P	01 20 05.3	+0.4
	SNR=12					
ARSB	Arslanbob	67.27 321	IAmb	IAmb	01 20 07.2	
	comp=Z,20nm,0.7s					
AML	Almayashu	67.27 322	P	P	01 20 06.7	+0.3
	SNR=14					
USP	Ospenovka	67.43 323	P	P	01 20 06.9	0.0
	SNR=10.0					
EKS2	Erkin-Say	67.52 322	P	P	01 20 08.0	+0.4
	SNR=8.6					
GAR	Garm	67.78 317		P	01 20 08.9	-0.4
SIMJ	Simiganj	68.50 316	P	P	01 20 12.0	-1.6
SIMJ			IAmb	IAmb	01 20 14.2	
	comp=Z,15nm,1.1s					
YAK	Yakutsk	69.33 3	P	P	01 20 18.1	+0.2
ZAA0	Zalesovo Array	69.40 337		P	01 20 17.1	-1.4
ZAA0			IAmb	IAmb	01 20 18.6	
	comp=Z,19nm,0.8s					
ZALV	Zalesovo Beam	69.40 337		P	01 20 17.2	-1.2
ZALV	Zalesovo Beam	69.40 337	P	P	01 20 17.4	-1.0
	comp=Z,18nm,0.8s,baz=131,slow=4.5,SNR=61					
	comp=Z,18nm,0.8s					
KK31	Karatay Array	69.77 321		P	01 20 20.5	-0.5
KKAR	Karatay Array	69.77 321	P	P	01 20 20.6	-0.4
KURBB	Kurchatov Arra	69.81 331	P	P	01 20 20.7	-0.3
	comp=Z,9.6nm,0.9s,baz=139,slow=5.0,SNR=100					
	comp=Z,9.6nm,0.9s					
KURK	Kurchatov	69.83 331		P	01 20 20.8	-0.3
KURK			IAmb	IAmb	01 20 22.1	
	comp=Z,17nm,0.8s					
MA2	Magadan	70.07 14		P	01 20 22.8	+0.4
MA2			IAmb	IAmb	01 20 24.0	
	comp=Z,20nm,0.8s					
MAW	Mawson	72.46 201	P	P	01 20 36.7	+0.5
MAW	Mawson	72.46 201	P	P	01 20 36.9	+0.7
	comp=Z,3.7nm,0.4s,baz=64,slow=6.2,SNR=16					
	comp=Z,3.7nm,0.4s					
VNDA	Vanda	72.86 172		P	01 20 39.0	+0.6
VNDA	Vanda	72.86 172	P	P	01 20 39.0	+0.6
	comp=Z,5.2nm,0.6s,baz=321,slow=8.1,SNR=12					
	comp=Z,5.2nm,0.6s					
UOSS	Minazif	73.31 299		P	01 20 41.2	-0.7
UOSS	Minazif	73.31 299 *i* P		P	01 20 41.8	-0.2
	SNR=6.3					
HATD	Hatta, Dubai	73.34 299 *i* P		P	01 20 42.6	+0.5
	SNR=6.9					
ASHO	Ashiyiah	73.36 298 *i* P		P	01 20 42.3	0.0
	SNR=12					
ALNE	Al Ain	73.46 298 *i* P		P	01 20 43.4	+0.6
	SNR=5.6					
MSFE	Esma-Masafi	73.47 299	P	P	01 20 43.2	+0.3
BANOM	Banah	73.51 300 *i* P		P	01 20 43.5	+0.5
	SNR=8.4					

ELIB	Princess Elisa	86.33	198	dP		P	01 21 50.1	+0.8
	comp=Z,16nm,0.9s							
M11K	Mekoryuk	86.60	28	P		P	01 21 50.8	+0.3
	baz=249							
KMBO	Kilima Mbogo	86.61	269	P		P	01 21 51.1	-0.8
S12K	Black Hills	87.13	33	P		P	01 21 52.2	-0.9
	baz=253							
TNA	Tin City	87.82	23	P		P	01 21 56.2	+0.1
	baz=247							
K13K	Kusilvak Mount	87.84	27	P		P	01 21 56.3	0.0
	baz=250							
KARS	Kars	87.89	311	P		P	01 21 56.9	-0.3
M13K	Dall Lake	87.94	28	P		P	01 21 55.3	-1.5
	baz=251							
CHNA	Chernabura Isl	88.24	34	P		P	01 21 56.2	-2.1
	baz=255							
GURO	Guroymak-BITLI	88.28	309	P		P	01 21 59.3	+0.2
GURO				IAmb	IAmb		01 22 00.7	
	comp=Z,9.3nm,1.1s							
F14K	Arctic Creek	88.40	23	P		P	01 21 58.4	-0.4
	baz=248							
ANM	Nome	88.45	24	P		P	01 21 56.2	-2.9
	baz=249							
L14K	Kuka Creek	88.54	28	P		P	01 21 57.6	-2.0
	baz=252							
N14K	Kuskokwak Cree	88.58	29	P		P	01 22 00.7	+1.0
N14K				IAmb	IAmb		01 22 05.9	
	comp=Z,14nm,1.1s							
N14K	Kuskokwak Cree	88.58	29	P		P	01 21 57.7	-2.0
	baz=253							
O14K	Tigyukauivet M	88.59	30	P		P	01 22 00.5	+0.7
O14K				IAmb	IAmb		01 22 00.7	
	comp=Z,12nm,0.9s							
O14K	Tigyukauivet M	88.59	30	P		P	01 21 58.5	-1.3
	baz=253							
KBZ	Khabaz	88.64	314	P		P	01 22 00.6	+0.2
	comp=Z,6.3nm,0.9s,baz=144,slow=2.8,SNR=17							
	comp=Z,6.3nm,0.9s							
M14K	Bethel	88.70	28	P		P	01 22 01.9	+1.7
M14K				IAmb	IAmb		01 22 04.9	
	comp=Z,10nm,1.1s							
M14K	Bethel	88.70	28	P		P	01 22 00.7	+0.5
	baz=252							
G15K	Niukluk	89.14	24	P		P	01 22 02.8	+0.5
	baz=251							
F15K	North Star Dit	89.14	23	P		P	01 22 02.3	0.0
F15K				IAmb	IAmb		01 22 03.0	
	comp=Z,9.7nm,1.4s							
F15K	North Star Dit	89.14	23	P		P	01 22 02.1	-0.2
	baz=250							
L15K	Ungalak Mounta	89.19	27	P		P	01 22 02.0	-0.5
	baz=253							
O15K	Ungalikthiuk R	89.28	30	P		P	01 22 03.8	+0.8
O15K				IAmb	IAmb		01 22 32.9	
	comp=Z,9.9nm,1.1s							
O15K	Ungalikthiuk R	89.28	30	P		P	01 22 03.7	+0.6
	baz=254							
M15K	Kasigluk River	89.28	28	P		P	01 22 03.2	+0.2
	baz=254							
K15K	Wolf Creek Mou	89.35	27	P		P	01 22 02.3	-1.0
	baz=253							
N15K	Kwethluk River	89.42	29	P		P	01 22 02.6	-1.1
	baz=254							
H16K	Elim	89.75	24	P		P	01 22 04.2	-1.0
	baz=252							
C16K	Lisburne Hills	89.78	21	P		P	01 22 04.8	-0.4
	baz=249							
G16K	Koyuk River	89.94	24	P		P	01 22 05.6	-0.4
G16K	Koyuk River	89.94	24	P		P	01 22 03.3	-2.7
	baz=252							
J16K	Anvik River	90.05	26	P		P	01 22 04.8	-1.8
	baz=254							
L16K	Owhat River	90.12	28	P		P	01 22 07.4	+0.5
L16K				IAmb	IAmb		01 22 20.7	
	comp=Z,8.8nm,1.4s							
L16K	Owhat River	90.12	28	P		P	01 22 06.8	-0.1
	baz=255							
N16K	Nishlik Lake	90.13	29	P		P	01 22 06.6	-0.4
	baz=255							
P16K	Nushagak River	90.16	30	P		P	01 22 05.7	-1.3
	baz=256							
I17K	Unalakleet	90.18	25	P		P	01 22 05.1	-2.0
	baz=254							
M16K	Timber Creek	90.18	28	P		P	01 22 05.9	-1.3
	baz=255							
O16K	Kokwok River B	90.24	30	P		P	01 22 06.9	-0.6
	baz=256							
D17K	Noatak River	90.39	21	P		P	01 22 06.6	-1.4
	baz=252,SNR=10							
RDOG	Red Dog Mine	90.56	21	P		P	01 22 07.4	-1.4
	baz=252							
G17K	Kiwalik Mounta	90.65	24	P		P	01 22 08.5	-0.8
	baz=254,SNR=5.5							
E17K	Hotham Inlet	90.66	22	P		P	01 22 07.6	-1.7
	baz=253,SNR=9.1							
CHIR	Chirikof Islan	90.68	34	P		P	01 22 09.1	-0.5
	baz=258							
F17K	Baldwin Pennin	90.69	23	P		P	01 22 09.5	+0.1
F17K				IAmb	IAmb		01 22 10.4	
	comp=Z,12nm,1.4s							
F17K	Baldwin Pennin	90.69	23	P		P	01 22 08.4	-0.9
	baz=253							
J17K	VABM Dome	90.74	26	P		P	01 22 10.4	+0.7
J17K				IAmb	IAmb		01 22 12.4	
	comp=Z,5.3nm,1.1s							
J17K	VABM Dome	90.74	26	P		P	01 22 08.4	-1.3
	baz=255							
L17K	Donlin	90.77	27	P		P	01 22 09.3	-0.6
	baz=256							
O17K	Koliganek Bris	90.78	30	P		P	01 22 08.8	-1.1
	baz=257							
H17K	Granite Mounta	90.80	24	P		P	01 22 08.9	-1.0
	baz=254							
N17K	Nushagak Hills	90.91	29	P		P	01 22 10.6	+0.1
	baz=257							
K17K	Iditarod	90.91	27	P		P	01 22 09.2	-1.3
	baz=256							
P17K	Kvichak River	90.97	30	P		P	01 22 09.0	-1.9
	baz=257							
M17K	Holitna River	90.99	28	P		P	01 22 10.0	-0.9
	baz=256							
Q17K	Contact Creek	91.05	31	P		P	01 22 09.6	-1.8
	baz=258							
E18K	Tukpahlearik C	91.21	22			PcP	01 22 12.3	-0.1
E18K				IAmb	IAmb		01 22 13.2	
	comp=Z,9.8nm,1.2s							
E18K	Tukpahlearik C	91.21	22	P		P	01 22 11.1	-0.7
	baz=254,SNR=6.5							
F18K	Selawik	91.35	23	P		P	01 22 11.2	-1.2
	baz=255							
C18K	Utukok River	91.35	21	P		P	01 22 11.7	-0.8
C18K	Utukok River	91.35	21	P		P	01 22 11.2	-1.3
	baz=253							
B18K	Kokolik River	91.35	20	P		P	01 22 12.2	-0.2
	baz=253							
H18K	Honhosa River	91.49	24	P		P	01 22 12.8	-0.3
	baz=256							
L18K	Granite Mounta	91.52	27	P		P	01 22 13.9	+0.5
L18K				IAmb	IAmb		01 22 14.4	
	comp=Z,9.4nm,1.4s							
L18K	Granite Mounta	91.52	27	P		P	01 22 13.0	-0.4
	baz=257							
G18K	Tagagawik	91.55	24	P		P	01 22 13.0	-0.4
G18K	Tagagawik	91.55	24	P		P	01 22 13.4	-0.1
	baz=256							
N18K	Kilae Creek	91.56	29	P		P	01 22 12.9	-0.7
	baz=258							
Q18K	Katmai Hardscr	91.58	31	P		P	01 22 13.0	-0.9
	baz=258							
SII	Sitkinak Islan	91.61	33	P		P	01 22 13.6	-0.3
	baz=259							
P18K	Big Mountain,	91.62	30	P		P	01 22 13.9	0.0
	baz=258							
O18K	Koktuh Hills	91.72	30	P		P	01 22 13.9	-0.5
	baz=258							
M18K	Stony River	91.77	28	P		P	01 22 13.3	-1.1
	baz=258							
J18K	Innoko River	91.79	26	P		P	01 22 13.7	-0.9
	baz=257							
A19K	Wainwright	91.84	19	P		P	01 22 13.7	-0.9
	baz=253,SNR=6.7							
TTA	Tatalina	91.98	27	P		P	01 22 14.9	-0.7
TTA	Tatalina	91.98	27	P		P	01 22 14.8	-0.7
	baz=258							
GCSA	Galena City Sc	92.00	25	P		P	01 22 13.9	-1.5
	baz=257							
F19K	Shaleruckik Mo	92.13	23	P		P	01 22 15.7	-0.3
	baz=256							
OHAK	Old Harbor	92.22	33	P		P	01 22 15.1	-1.6
OHAK	Old Harbor	92.22	33	P		P	01 22 15.9	-0.7
	baz=260							
G19K	Purcell Mounta	92.23	24	P		P	01 22 15.5	-1.1
	baz=257,SNR=7.1							
N19K	Bonanza Creek	92.27	29	P		P	01 22 15.6	-1.3
	baz=259							
GRHM	Grahamstown, E	92.31	236	P		P	01 22 18.6	+0.8
Q19K	Cape Douglas,	92.33	31	P		P	01 22 15.7	-1.5
	baz=260							
H19K	Roundabout Mou	92.35	24	P		P	01 22 16.9	-0.2
H19K				IAmb	IAmb		01 22 17.9	
	comp=Z,5.3nm,0.9s							
H19K	Roundabout Mou	92.35	24	P		P	01 22 17.3	+0.2
	baz=258,SNR=5.2							
L19K	White Mountain	92.36	28	P		P	01 22 15.3	-1.9
	baz=259							
J19K	Poorman	92.38	26	P		P	01 22 14.7	-2.6
	baz=258							
D19K	Kuna River	92.40	21	IAmb	IAmb		01 22 17.9	
	comp=Z,7.7nm,0.9s							
D19K	Kuna River	92.40	21	P		P	01 22 16.0	-1.3
	baz=256,SNR=6.1							
E19K	Redstone River	92.48	22	IAmb	IAmb		01 22 18.9	
	comp=Z,7.3nm,0.9s							
E19K	Redstone River	92.48	22	P		P	01 22 15.6	-2.0
	baz=257,SNR=12							
M19K	Big River Lodg	92.52	28	P		P	01 22 16.3	-1.7
	baz=259							
P19K	Oil Pt	92.67	30	P		P	01 22 17.7	-1.0
	baz=260							
KDAK	Kodiak Island	92.69	32	P		P	01 22 17.8	-1.0
	baz=261							
MMAI	Mount Meron Ar	92.77	303	P		P	01 22 20.0	+0.2
MMAI	Mount Meron Ar	92.77	303	P		P	01 22 20.0	+0.2
	comp=Z,3.7nm,0.8s,baz=88,slow=5.0,SNR=1.9							
	comp=Z,3.7nm,0.8s							
L20K	Farewell, AK	92.86	27	P		P	01 22 18.3	-1.2
	baz=260							
K20K	Telida	92.93	27	P		P	01 22 19.4	-0.5
	baz=260							
F20K	Avaraart Lake	92.96	23	IAmb	IAmb		01 22 20.7	
	comp=Z,5.0nm,1.1s							
F20K	Avaraart Lake	92.96	23	P		P	01 22 19.3	-0.6
	baz=258,SNR=5.3							
D20K	Etivluk River	92.98	21	IAmb	IAmb		01 22 20.7	
	comp=Z,5.3nm,0.9s							
D20K	Etivluk River	92.98	21	P		P	01 22 18.9	-1.1
	baz=258,SNR=7.1							
H20K	Anotleneega Mo	92.99	24	P		P	01 22 19.6	-0.4
	baz=259							
I20K	Naaghedeneel	93.02	25	P		P	01 22 20.0	-0.1
	baz=259							
E20K	Nigu River	93.04	22	P		P	01 22 19.9	-0.3
	baz=258,SNR=11							
J20K	Nowinta River	93.05	26	P		P	01 22 19.9	-0.4
J20K				IAmb	IAmb		01 22 38.7	
	comp=Z,6.2nm,1.4s							
J20K	Nowinta River	93.05	26	P		P	01 22 20.2	-0.2
	baz=260							
B20K	Meade River	93.08	20	P		P	01 22 20.0	-0.3
B20K	Meade River	93.08	20	P		P	01 22 20.3	0.0
	baz=257							
M20K	Styx River	93.10	28	P		P	01 22 20.2	-0.5
M20K				IAmb	IAmb		01 22 39.4	
	comp=Z,9.4nm,1.4s							
M20K	Styx River	93.10	28	P		P	01 22 19.9	-0.8
	baz=260							
A21K	Barrow	93.55	18	P		P	01 22 21.0	-1.5
	baz=258							
LSZ	Lusaka	93.62	254	P		P	01 22 24.3	+0.2
LSZ				IAmb	IAmb		01 22 25.0	
	comp=Z,3.5nm,0.7s							
PPLA	Purkeypile	93.70	27	P		P	01 22 23.2	-0.4
PPLA	Purkeypile	93.70	27	P		P	01 22 23.1	-0.4
	baz=261							
C21K	Knifeblade Rid	93.72	21	P		P	01 22 22.5	-0.8
	baz=259							
G21K	Allakaket	93.73	23	P		P	01 22 22.5	-0.9
	baz=260							
CHUM	Lake Minchumin	93.79	26	P		P	01 22 23.3	-0.4
	baz=261							
CAST	Castle Rocks	93.82	27	P		P	01 22 23.9	-0.1
CAST	Castle Rocks	93.82	27	P		P	01 22 22.2	-1.7
	baz=261							
F21K	Alatna River	93.86	23	P		P	01 22 22.3	-1.7
	baz=260							
SKT	Skwentna	93.86	28	P		P	01 22 24.3	+0.2
	baz=262							
H21K	Melozitna River	93.87	24	P		P	01 22 23.6	-0.5
	baz=261							
B21K	Ikpikpuk River	93.87	20	IAmb	IAmb		01 22 24.7	
	comp=Z,11nm,1.4s							
B21K	Ikpikpuk River	93.87	20	P		P	01 22 22.6	-1.3
	baz=259,SNR=6.1							
CAPN	Captain Cook N	93.87	29	P		P	01 22 23.4	-0.7
	baz=262							
E21K	Killik River	93.88	22	P		P	01 22 23.7	-0.4
	baz=260							
BRSE	Bradley Lake S	93.93	30	P		P	01 22 24.6	+0.1
	baz=262							
A22K	Sinclair Lake	94.01	19	P		P	01 22 24.0	-0.5
	baz=259							
BOSA	Boshof	94.10	241	P		P	01 22 26.1	-0.1
BOSA	Boshof	94.10	241	P		P	01 22 26.2	0.0
	comp=Z,2.1nm,0.6s,baz=92,slow=5.6,SNR=6.8							
	comp=Z,2.1nm,0.6s							
I21K	Tanana	94.13	25	P		P	01 22 24.1	-1.2
	baz=262							
SUA	Susitna One	94.16	29	P		P	01 22 23.6	-2.0
SUA				IAmb	IAmb		01 23 07.3	
	comp=Z,7.2nm,1.1s							
SUA	Susitna One	94.16	29	P		P	01 22 24.9	-0.7
	baz=262							
SLKM	Skilak Lake	94.29	30	P		P	01 22 24.4	-1.8
B22K	Teshekpuk Lake	94.40	20	IAmb	IAmb		01 22 26.9	
	comp=Z,6.7nm,1.1s							
B22K	Teshekpuk Lake	94.40	20	P		P	01 22 25.0	-1.3
	baz=261,SNR=5.4							
F22K	John River	94.40	23	P		P	01 22 27.0	+0.5
	baz=262							
BPAW	Bear Paw Mtn.	94.40	26	P		P	01 22 25.3	-1.3
	baz=262							
D22K	Ayikyak River	94.42	21	P		P	01 22 26.1	-0.4
	baz=261							
H22K	Ishtalitna Cre	94.48	24	P		P	01 22 26.4	-0.5
	baz=262							
M22K	Willow	94.50	28	P		P	01 22 26.2	-0.7
	baz=263							
LPHEP	Lephephe	94.50	246	P		P	01 22 27.7	-0.3
G22K	Bettles	94.57	23	P		P	01 22 26.5	-0.7
	baz=262							
RC01	Rabbit Creek A	94.60	29	P		P	01 22 28.1	+0.7
	baz=263							
SEW	Seward	94.62	30	P		P	01 22 26.2	-1.3
	baz=263							
E22K	Anaktuvuk Pass	94.63	22	P		P	01 22 27.8	+0.3
E22K				IAmb	IAmb		01 22 28.4	
	comp=Z,5.4nm,0.9s							
E22K	Anaktuvuk Pass	94.63	22	P		P	01 22 28.2	+0.7
	baz=262,SNR=7.5							
TRF	Thorofare Moun	94.63	27	P		P	01 22 28.0	+0.2
	baz=263							
BRTR	Keskin Array B	94.91	309	P		P	01 22 28.6	-0.9
BRTR	Keskin Array B	94.91	309	P		P	01 22 28.4	-1.2
	comp=Z,0.9nm,0.7s,baz=103,slow=3.7,SNR=6.0							
	comp=Z,0.9nm,0.7s							
PMR	Palmer	94.94	29	P		P	01 22 29.2	+0.2
	baz=264							
COLD	Coldfoot	95.12	23	P		P	01 22 29.6	-0.1
COLD				IAmb	IAmb		01 22 31.1	
	comp=Z,7.3nm,1.2s							
COLD	Coldfoot	95.12	23	P		P	01 22 30.2	+0.5
	baz=263							
G23K	Bananza Creek	95.13	23	P		P	01 22 30.2	+0.4
G23K				IAmb	IAmb		01 22 30.8	
	comp=Z,3.3nm,0.9s							
G23K	Bananza Creek	95.13	23	P		P	01 22 30.5	+0.7
	baz=263							
D23K	Nanushuk River	95.15	21	P		P	01 22 30.3	+0.5
D23K				IAmb	IAmb		01 22 31.2	
	comp=Z,7.3nm,1.1s							
D23K	Nanushuk River	95.15	21	P		P	01 22 30.1	+0.3
	baz=263,SNR=5.9							
H23K	Yukon River	95.22	24	P		P	01 22 29.6	-0.7
H23K				IAmb	IAmb		01 22 30.9	
	comp=Z,2.6nm,0.8s							
H23K	Yukon River	95.22	24	P		P	01 22 29.7	-0.5
	baz=264							
I23K	Minto, Yukon-K	95.23	25	P		P	01 22 29.4	-0.7
	baz=264							
KNK	Knik Glacier	95.25	29	P		P	01 22 29.8	-0.6
	baz=264							
PWL	Port Wells	95.25	29	P		P	01 22 29.6	-0.9
	baz=264							
MCK	McKinley	95.26	27	P		P	01 22 29.3	-1.1
	baz=264							
RND	Reindeer	95.27	27	P		P	01 22 28.2	-2.3
C23K	Itkillik River	95.28	20	P		P	01 22 30.4	0.0
C23K				IAmb	IAmb		01 22 31.1	
	comp=Z,4.5nm,0.8s							
C23K	Itkillik River	95.28	20	P		P	01 22 30.9	+0.6
	baz=263							
NEA2	Nenana	95.29	26	P		P	01 22 30.5	-0.1
	baz=264							
SML	Sawmill	95.35	28	P		P	01 22 31.7	+0.8
	baz=264							
E23K	Chandalar	95.44	22	P		P	01 22 30.9	-0.3
	baz=264							
TOLK	Toolik Lake Re	95.51	22	P		P	01 22 30.9	-0.7
TOLK	Toolik Lake Re	95.51	22	P		P	01 22 32.2	+0.7
	baz=264							
KDWAN	Kaudwane	95.58	246	P		P	01 22 32.9	0.0
M23K	Glacier View	95.63	29	P		P	01 22 32.2	+0.1
	baz=265							
P23K	Montague Islan	95.63	30	P		P	01 22 32.7	+0.6
	baz=265							
SCM	Sheep Creek Mo	95.82	28	P		P	01 22 33.8	+0.7
	baz=265							
D24K	Happy Valley	95.83	21	P		P	01 22 32.9	0.0
	baz=265							
COLA	College	95.84	25	P		P	01 22 33.6	+0.7
	baz=265							
GLI	Glacier Island	95.86	29	P		P	01 22 33.0	-0.2
	baz=266							
E24K	Your Creek	95.86	22	P		P	01 22 33.2	+0.2
	baz=265							
H24K	Noodor Dome	95.91	24	P		P	01 22 33.2	-0.1
H24K				IAmb	IAmb		01 22 34.1	
	comp=Z,6.1nm,1.1s							
H24K	Noodor Dome	95.91	24	P		P	01 22 33.7	+0.4
	baz=265							
C24K	Franklin Bluff	95.93	20	P		P	01 22 33.8	+0.6
	baz=265							
POKR	Poker Plat Res	96.03	25	P		P	01 22 33.0	-0.8
	baz=266							
F24K	Squaw Lake	96.04	23	P		P	01 22 34.2	+0.3
F24K				IAmb	IAmb		01 22 35.1	
	comp=Z,6.3nm,1.2s							
F24K	Squaw Lake	96.04	23	P		P	01 22 34.5	+0.6
	baz=265							
G24K	Hadweenzic Riv	96.14	24	P		P	01 22 33.7	-0.6
	baz=266							
HDA	Harding Lake	96.19	26	P		P	01 22 34.2	-0.4
	baz=266							
ILAR	Eielson Array	96.24	26	P		P	01 22 32.9	-1.9
	comp=Z,0.8nm,0.9s,baz=252,slow=4.7,SNR=7.2							
	comp=Z,0.8nm,0.9s							
M24K	Tolsona, Glenn	96.39	28	P		P	01 22 35.3	-0.3
	baz=266							
KLU	Klutina	96.47	29	P		P	01 22 35.9	-0.1
	baz=267							
EYAK	Cordova Ski Ar	96.50	30	P		P	01 22 35.1	-0.9
	baz=267							
K24K	Donnelly Dome	96.67	27	P		P	01 22 36.6	-0.2
	baz=267							
G25K	Bearman Lake	96.69	24	P		P	01 22 36.2	-0.5
	baz=267							
D25K	Kavik River	96.72	21	P		P	01 22 36.0	-0.8
	baz=267							
PAX	Paxson	96.76	27	P		P	01 22 35.8	-1.5
	baz=267							
PRP	Porcupine Dome	96.86	25	P		P	01 22 36.4	-1.3
	baz=267							
HARP	HAARP	96.88	28	P		P	01 22 37.7	0.0
	baz=267							
J25K	Salcha River,	96.88	26	P		P	01 22 35.6	-2.2
	baz=267							
F25K	Christian Rive	96.91	23	P		P	01 22 37.6	-0.2
	baz=268							
E25K	Arctic Village	96.95	22	P		P	01 22 38.3	+0.4
	baz=268							
RIDG	Independent Ri	97.08	27	P		P	01 22 39.1	+0.5
	baz=268							
BMRM	Bremner River	97.08	29	P		P	01 22 38.9	+0.2
	baz=268							
N25K	Chitina, Valde	97.11	29	P		Pdif	01 22 38.3	-0.6
	baz=268							
KAIM	Kayak Island	97.13	30	P		Pdif	01 22 37.9	-1.0
	baz=268							
C26K	Camden Bay	97.25	20	P		P	01 22 39.6	+0.5
	baz=268							
BMAR	Burnt Mountain	97.31	23	P		P	01 22 39.9	+0.3
SCRK	Sand Creek	97.47	26	P		P	01 22 40.8	+0.4
	baz=269							
F26K	Sheenjek River	97.48	23	P		P	01 22 40.4	+0.1
	baz=269							
G26K	Porcupine Rive	97.61	23	P		P	01 22 41.0	+0.1
	baz=269							
J26L	Joseph Creek	97.66	26	Pdif	Pdif		01 22 40.8	-0.5
J26L				IAmb	IAmb		01 22 41.5	
	comp=Z,2.0nm,0.7s							
J26L	Joseph Creek	97.66	26	P		Pdif	01 22 41.2	-0.1
	baz=269							
C27K	Jago River	97.66	21	Pdif	Pdif		01 22 41.0	0.0
C27K				IAmb	IAmb		01 22 41.9	
	comp=Z,1.5nm,0.7s							
C27K	Jago River	97.66	21	P		P	01 22 41.2	+0.1
	baz=270							
I26K	Coal Creek Min	97.84	25	P		P	01 22 42.3	+0.3
	baz=270							
M26K	Nabesna, AK	97.88	28	P		P	01 22 42.7	+0.4
	baz=269							
K27K	Chicken	98.31	26	P		P	01 22 44.3	+0.2
	baz=270							
MESA	MESA	98.37	30	P		P	01 22 44.8	+0.1
	baz=270							
M27K	Edge Creek, AK	98.41	28	P		P	01 22 44.7	0.0
	baz=270							
L27K	Beaver Creek,	98.42	27	Pdif	P		01 22 45.0	+0.4
L27K				IAmb	IAmb		01 23 15.1	
	comp=Z,2.9nm,1.4s							
L27K	Beaver Creek,	98.42	27	P		P	01 22 45.1	+0.4
	baz=270							
E27K	Coleen River	98.44	22	Pdif	P		01 22 45.1	+0.5
E27K				IAmb	IAmb		01 22 45.5	
	comp=Z,2.2nm,0.8s							
E27K	Coleen River	98.44	22	P		P	01 22 45.1	+0.5
	baz=271							
BCAR	Beaver Creek A	98.44	27	Pdif	P		01 22 45.2	+0.5
G27K	Doyon Strip	98.45	24	P		P	01 22 45.4	+0.7
	baz=271							
I27K	Kandik River	98.49	25	P		Pdif	01 22 44.6	-0.3
	baz=271							
H27K	Steamboat Moun	98.51	24	Pdif	P		01 22 45.4	+0.4
H27K				IAmb	IAmb		01 22 47.8	
	comp=Z,4.4nm,1.4s							
H27K	Steamboat Moun	98.51	24	P		P	01 22 45.4	+0.4
	baz=271							
D27M	Malcolm River	98.64	21	P		P	01 22 46.5	+1.0
	baz=272							
AKASG	Malin Array Be	98.66	320	P		Pdif	01 22 44.2	-1.6
	comp=Z,1.5nm,0.6s,baz=77,slow=4.6,SNR=7.2							
	comp=Z,1.5nm,0.6s							
BVCY	Beaver Creek	98.88	28	P		Pdif	01 22 46.6	-0.1
	baz=271							
YUK3	Moose Creek	99.08	29	P		Pdif	01 22 48.4	+0.7
	baz=271							
GRTLG	Ghanzi	99.09	247	Pdif	Pdif		01 22 48.5	-0.2
E28M	Babbage River	99.19	22	Pdif	Pdif		01 22 48.5	+0.6
E28M		

YUK8	Steele Glacier	99.43	29	P		Pdif	01 22 49.0	-0.4
	baz=272							
DAWY	Dawson	99.49	26	P		Pdif	01 22 47.8	-1.6
	baz=273							
PNL	Peninsula	99.67	31	P		Pdif	01 22 50.3	+0.1
	baz=272							
H29M	Whitestone	99.79	24	P		Pdif	01 22 50.4	-0.2
	baz=274							
E29M	Blow River	99.81	22	P		Pdif	01 22 49.7	-0.9
	baz=275							
ARCES	ARCESS Array B	99.82	339	P		Pdif	01 22 50.6	-0.1
	comp=Z,2.4nm,0.8s,baz=101,slow=6.3,SNR=8.4							
	comp=Z,2.4nm,0.8s							
G29M	Pine Creek	99.88	23	P		Pdif	01 22 51.2	+0.2
	baz=274							
YUK4	Talbot Arm	99.97	29	P		Pdif	01 22 50.6	-1.1
	baz=273							
M29M	Somme Creek	99.99	28	P		Pdif	01 22 50.8	-0.9
	baz=273							
O29M	Mount Kennedy	100.05	30	P		Pdif	01 22 51.3	-0.8
	baz=273							
L29M	L29M	100.10	27	P		Pdif	01 22 51.2	-0.9
	baz=274							
YUK6	Outpost Mounta	100.12	29	P		Pdif	01 22 51.8	-0.6
	baz=273							
FINES	FINESS Array B	100.21	331	Pdif		Pdif	01 22 51.8	-0.7
FINES	FINESS Array B	100.21	331	P		Pdif	01 22 50.8	-1.7
	comp=Z,1.1nm,0.9s,baz=90,slow=3.8,SNR=5.9							
FINES				PKiKP		PKiKP	01 27 15.6	-0.5
	comp=Z,0.7nm,0.5s,baz=88,slow=3.5,SNR=6.9							
K29M	Barlow Dome	100.33	26	P		Pdif	01 22 52.5	-0.7
	baz=274							
EPYK	Eagle Plains	100.44	24	P		Pdif	01 22 53.2	-0.3
	baz=276							
P29M	Windy Craggy	100.51	31	P		Pdif	01 22 54.0	+0.1
	baz=273							
HYT	Haines Junctio	100.55	30	P		Pdif	01 22 52.5	-1.8
	baz=274							
G30M	tAoh Zraii Nji	100.58	23	P		Pdif	01 22 54.3	+0.2
	baz=276							
F30M	Barrier River	100.67	23	Pdif		Pdif	01 22 54.5	0.0
F30M	Barrier River	100.67	23	P		Pdif	01 22 54.7	+0.3
	baz=277							
I30M	Mount Dempster	100.70	25	P		Pdif	01 22 54.1	-0.7
	baz=276							
N30M	Aishikik Lake	100.70	29	P		Pdif	01 22 53.9	-0.9
	baz=274							
SPITS	Spitsbergen Ar	100.75	348	P		Pdif	01 22 53.5	-1.1
	comp=Z,14nm,1.1s,baz=74,slow=5.3,SNR=4.7							
J30M	Hart River	100.78	26	P		Pdif	01 22 53.2	-1.9
	baz=276							
P30M	Million Dollar	100.87	30	P		Pdif	01 22 54.9	-0.7
	baz=274							
O30N	Mendenhall	101.25	30	P		Pdif	01 22 56.5	-0.7
	baz=275							
INK	Inuvik	101.42	22	P		Pdif	01 22 57.3	-0.4
	baz=279							
F31M	Tsiigehtchic	101.48	23	P		Pdif	01 22 56.6	-1.4
	baz=278							
WHY	Whitehorse	101.85	30	P		Pdif	01 22 59.4	-0.6
	baz=276							
C36M	Paulatuk	104.52	20	P		Pdif	01 23 09.7	-1.7
	baz=288							
DLBC	Dease Lake	104.61	32	P		Pdif	01 23 11.1	-1.1
	baz=280							
T35M	Bob Quinn	104.73	33	P		Pdif	01 23 10.7	-2.1
	baz=279							
HFS	Hagfors	106.40	331	Pdiff		Pdif	01 23 18.3	-1.8
	comp=Z,0.4nm,0.4s,baz=82,slow=4.3,SNR=6.3							
SOKA	Soboth	108.30	317	*i* PKiKP		PKiKP	01 27 31.0	-0.6
	comp=Z,0.4nm,0.4s							
OBKA	Obir	108.66	317	*e*PKiKP		PKiKP	01 27 32.8	+0.4
	comp=Z,0.8nm,0.6s							
GERES	GERESS Array B	108.82	319	PKiKP		PKiKP	01 27 32.2	-0.4
	comp=Z,0.5nm,0.5s,baz=66,slow=2.2,SNR=12							
WTTA	Wattenberg	110.49	318	*i* PKiKP		PKiKP	01 27 35.3	-0.5
	comp=Z,1.3nm,0.4s							
WATA	Walderalm	110.51	318	*i* PKiKP		PKiKP	01 27 35.4	-0.5
	comp=Z,0.4nm,0.3s							
YKA	Yellowknife Ar	110.67	25	PKiKP		PKiKP	01 27 34.6	-0.9
	comp=Z,0.3nm,0.4s,baz=291,slow=1.7,SNR=19							
SQTA	Sankt Quirin	110.78	318	*i* PKiKP		PKiKP	01 27 36.3	0.0
	comp=Z,0.2nm,0.2s							
MOTA	Moosalm	110.83	318	*i* PKiKP		PKiKP	01 27 36.1	-0.4
	comp=Z,0.7nm,0.5s							
FETA	Feichten	111.14	318	*i* PKiKP		PKiKP	01 27 37.1	0.0
	comp=Z,0.3nm,0.3s							
MEM	Membach	113.24	322	*d*PP		PP	01 28 41.2	-0.4
BMRD	Maredsous	114.09	322	*d*PP		PP	01 28 46.8	-0.8
DOU	Dourbes	114.26	322	*d*PKiKP		PKiKP	01 27 43.0	+0.3
NVAR	Mina Array Bea	116.18	51	PKP		PKiKP	01 27 48.2	+1.1
	comp=Z,0.8nm,0.5s,baz=270,slow=1.6,SNR=5.4							
EKA	Eskdalemuir Ar	116.53	329	PKP		PKPdf	01 27 46.5	-0.5
	comp=Z,0.3nm,0.4s,baz=72,slow=2.2,SNR=9.5							
V12A	Nelson	119.46	53			PKPdf	01 27 52.1	-1.3
PDAR	Pinedale Array	121.35	44	PKP		PKPdf	01 27 57.0	0.0
	comp=Z,1.4nm,0.8s,baz=163,slow=0.8,SNR=12							
TORD	Torodi Ar. Bea	123.01	281			PKPdf	01 28 00.3	-0.3
TORD	Torodi Ar. Bea	123.01	281	PKP		PKPdf	01 28 00.2	-0.3
	comp=Z,32nm,0.3s,baz=58,slow=2.0,SNR=1.1							
ESDC	Sonseca Array	123.48	313	PKP		PKiKP	01 28 01.1	-0.1
	comp=Z,1.7nm,0.9s,baz=64,slow=2.3,SNR=7.8							
ULM	Lac du Bonnet	125.91	31	PKP		PKPdf	01 28 03.9	-1.3
	comp=Z,3.3nm,0.7s,baz=319,slow=0.6,SNR=3.1							
DBIC	Dimbokro	129.23	273	PKP		PKPdf	01 28 12.4	-0.1
	comp=Z,3.2nm,0.5s,baz=100,slow=2.0,SNR=7.2							
TXAR	Lajitas Array	130.21	58	PKP		PKPdf	01 28 13.9	-0.2
	comp=Z,0.8nm,0.7s,baz=280,slow=1.8,SNR=11							
PLCA	Paso Flores	130.30	166	PKP		PKPdf	01 28 14.2	+0.3
	comp=Z,1.5nm,0.7s,baz=69,slow=3.5,SNR=4.1							
AC05	El Transito	141.47	160			PKPdf	01 28 30.6	-4.4
ITQB	Itaqui	143.17	179			PKPbc	01 28 36.5	+0.5
GOGA	Godfrey	143.72	41			PKPab	01 28 37.5	-0.1
T59A	Double "B" Far	144.61	30			PKPdf	01 28 39.8	-0.2
CPUP	Villa Florida	146.48	178	PKPbc		PKPdf	01 28 44.5	+0.9
	comp=Z,22nm,0.9s,baz=183,slow=2.4,SNR=48							
LPAZ	La Paz	153.62	153	PKP		PKPdf	01 28 54.4	-1.2
	comp=Z,1.7nm,0.9s,baz=163,slow=2.2,SNR=6.2							
LPAZ				PKPbc		PKPbc	01 29 03.5	-0.5
	comp=Z,2.1nm,0.5s,baz=150,slow=4.7,SNR=15							
LPAZ				PKPab		PKPab	01 29 20.6	+1.3
	comp=Z,6.4nm,0.6s,baz=184,slow=2.6,SNR=16							
BDFB	Brasília	155.80	199	PKP		PKPdf	01 28 57.2	-0.8
	comp=Z,1.6nm,0.6s,baz=239,slow=2.6,SNR=4.5							
BDFB				PKPab		PKPab	01 29 28.2	+0.3
	comp=Z,5.6nm,0.9s,baz=129,slow=5.1,SNR=8.4							

NEIC ***21*** *01:25:31.0±1.0, 18°.814N±0°.006×155°.14W±0°.02, h10km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=274.0*

HVO 21 01:25:32.4±1.4, 18°.84N±0°.03×155°.20W±0°.03, h9km±9km, ML2.5/18, **ML2.6**/36(NEIC), **Error ellipse: s-maj=5.7km s-min=0.9km az=141.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.42**	**306**	Pg	Pg	01 25 40.7	+0.2
HPO				Sg	Sg	01 25 46.5	+0.5
HTC	**Hot Caves**	**0.44**	**335**		Pg	01 25 40.9	0.0
HTC					Sb	01 25 48.0	-1.1
HLP	**Hilina Pali**	**0.47**	**347**		Pg	01 25 41.5	0.0
HLP	**Hilina Pali**	**0.47**	**347**	Sg	Sg	01 25 48.4	+0.8
HLP				IAML		01 25 55.5	
	comp=E,2μm,0.6s						
HLP				IAML		01 25 55.9	
	comp=N,1μm,0.7s						
PUH	**Pauahi**	**0.53**	**358**		Pg	01 25 41.3	-1.4
PUH				Sg	Sg	01 25 48.2	-1.5
PUH				IAML		01 25 57.6	
	comp=N,340nm,1.0s						
KNHH	**Kane Nui o Ham**	**0.54**	**3**		Pg	01 25 42.5	-0.3
STCH	**Steam Cracks**	**0.55**	**7**		Pg	01 25 42.2	-0.8
JCUZ	**Jacuzzi**	**0.55**	**10**		Pg	01 25 42.3	-0.7
JCUZ					Sg	01 25 50.0	-0.3
SDHHI	**Sand Hill**	**0.55**	**351**		Pg	01 25 42.3	-0.8
SDHHI					Sg	01 25 50.1	-0.4
NPOC	**North of Pu'u**	**0.56**	**9**		Pg	01 25 42.3	-0.9
NPOC					Sg	01 25 49.5	-1.0
RIM	**Rim**	**0.56**	**353**		Pg	01 25 42.5	-0.7
RIM					Sg	01 25 50.2	-0.3
KKO	**Keanakako'i**	**0.56**	**353**		Pg	01 25 42.3	-0.9
KKO					Sg	01 25 51.5	+0.9
KHU	**Kahuku**	**0.56**	**316**		Pg	01 25 42.3	-1.1
KHU	**Kahuku**	**0.56**	**316**	IAML		01 25 59.1	
	comp=N,338nm,2.4s						
WRMHI	**West Rim**	**0.57**	**350**		Pg	01 25 42.5	-1.0
WRMHI					Sg	01 25 50.1	-0.9
BYL	**Byron's Ledge**	**0.57**	**354**	Pg	Pg	01 25 43.1	-0.4
BYL				IAML		01 25 53.8	
	comp=N,284nm,1.4s						
BYL				IAML		01 26 03.6	
	comp=E,343nm,0.5s						
HATHI	**Halema'uma'u T**	**0.58**	**354**		Pg	01 25 42.6	-1.1
HATHI				IAML		01 25 52.9	
	comp=N,377nm,0.4s						
HATHI				IAML		01 26 03.1	
	comp=E,297nm,0.9s						
UWE	**Uwekahuna**	**0.58**	**351**		Pg	01 25 42.6	-1.1
UWB	**Uwekahuna Bluf**	**0.59**	**353**		Pg	01 25 42.9	-0.8
UWB					Sg	01 25 50.7	-0.8
SBLHI	**Steaming Bluff**	**0.59**	**354**		Pg	01 25 42.9	-0.9
JOKA	**Jonika Flow**	**0.62**	**17**		Pg	01 25 42.2	-2.1
JOKA				IAML		01 25 58.1	
	comp=N,307nm,1.0s						
JOKA	**Jonika Flow**	**0.62**	**17**		Sg	01 25 52.6	+0.1
RSD	**Rainshed**	**0.62**	**353**		Pg	01 25 44.6	+0.1
MLH	**Mauna Loa**	**0.67**	**345**		Pg	01 25 44.1	-1.3
MLH				IAML		01 25 58.3	
	comp=E,279nm,0.5s						
MLH	**Mauna Loa**	**0.67**	**345**		Sg	01 25 52.6	-1.7
MWH	**Mokuaweoweo**	**0.74**	**330**	Pg	Pg	01 25 46.6	-0.2
MWH				IAML		01 26 01.7	
	comp=E,293nm,1.8s						
MLOA	**Mauna Loa Obse**	**0.78**	**333**		Pg	01 25 45.6	-1.8
MLOA					Sg	01 25 56.9	-0.8
HMH	**Humu'ula Sheep**	**0.81**	**341**		Pg	01 25 46.2	-1.8
HMH	**Humu'ula Sheep**	**0.81**	**341**	Sg	Sg	01 25 56.1	-2.4
HMH				IAML		01 26 01.7	
	comp=E,236nm,2.2s						
HMH				IAML		01 26 09.1	
	comp=N,219nm,3.2s						
ALEP	**Alea Permanent**	**0.81**	**329**		Pg	01 25 45.8	-2.3
ALEP					Sg	01 25 55.6	-3.2
POHA	**Pohakuloa**	**0.96**	**341**		Pg	01 25 48.0	-3.0
POHA	**Pohakuloa**	**0.96**	**341**	IAML		01 25 55.2	
	comp=N,145nm,4.8s						
POHA				IAML		01 26 02.6	
	comp=N,166nm,3.9s						
HPAH	**Hawaii Prepara**	**1.27**	**338**		Pn	01 25 52.1	-4.3
HPAH					Sb	01 26 06.7	-6.5
HPAH	**Hawaii Prepara**	**1.27**	**338**	IAML		01 26 06.8	
	comp=N,120nm,0.2s						

IDC ***21*** *01:29:52.1±1.5, 6°.27S×143°.00E, h0km, mb3.8/3, mbtmp3.8/7, ML3.6/2, Error ellipse: s-maj=32.1km s-min=19.2km az=95.0*

ISC 21 01:29:56.6±0.9, 6°.30S±0°.08×143°.09E±0°.10, h35km, **n7, σ19**°**60/10, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.45**	**328**	Pn	**Pn**	**01 31 00.3**	**-1.4**
	1.7nm,0.3s,baz=189,slow=15,SNR=6.2						
JAY				Sn	**Sn**	**01 31 54.0**	**+1.6**
	1.0nm,0.3s,baz=313,slow=23,SNR=3.9						
	2.0nm,0.3s						
PMG	**Port Moresby**	**5.08**	**128**	Pn	**Pn**	**01 31 10.2**	**0.0**
	6.1nm,0.4s,baz=181,slow=14,SNR=2.5						
PMG				Sn	**Sn**	**01 32 08.0**	**+0.3**
	2.0nm,0.3s,baz=145,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**16.00**	**211**	Pn	**Pn**	**01 33 36.6**	**-2.7**
	0.4nm,0.3s,baz=31,slow=13,SNR=9.3						
WRA				Sn	**Sn**	**01 36 37.6**	**+2.0**
	0.1nm,0.3s,baz=28,slow=24,SNR=2.9						
WRA				Lg	Lg	01 38 19.4	
	0.1nm,0.3s,baz=36,slow=30,SNR=4.6						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**19.39**	**206**	P	**P**	**01 34 21.0**	**+1.2**
	6.6nm,0.7s,baz=29,slow=12,SNR=58						
ASAR				Lg	Lg	01 40 08.3	
	baz=25,slow=29,SNR=4.1						
FITZ	**Fitzroy Crossi**	**20.67**	**234**	P	**P**	**01 34 33.2**	**-0.4**
	1.9nm,0.7s,baz=52,slow=13,SNR=6.7						
FITZ				Lg	Lg	01 40 46.4	
	baz=68,slow=6.6,SNR=2.3						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**75.29**	**322**	P	**P**	**01 41 36.3**	**+0.1**
	0.3nm,0.5s,baz=103,slow=7.1,SNR=4.3						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**84.74**	**325**	P	**P**	**01 42 27.9**	**+0.8**
	1.5nm,0.6s,baz=116,slow=3.4,SNR=7.3						
	1.5nm,0.6s						

IDC ***21*** *01:38:54.6±0.9, 54°.98N×164°.68E, h0km, mb3.7/17, mbtmp3.7/18, ML3.0/1, MS2.8/4, Error ellipse: s-maj=25.3km s-min=14.7km az=157.0*

KRSC ***21*** *01:38:54.6±1.5, 54°.77N×164°.72E, h50km±32km, Mc3.7, Ml4.1*

NEIC ***21*** *01:38:55.3±1.7, 54°.8N±0°.2×164°.7E±0°.2, h10km±2km, mb4.0/73, Error ellipse: s-maj=36.9km s-min=15.2km az=157.0*

MOS ***21*** *01:38:58.4±1.1, 54°.88N×164°.53E, h46km, mb4.4/4, Error ellipse: s-maj=18.3km s-min=11.5km az=55.7*

ISC 21 01:38:53.9±4.2, 54°.81N±0°.04×164°.75E±0°.04, h2km±27km, **n373, σ0**°**96/374, mb4.0/54, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.81**	**60**	*e*P	**Pn**	**01 39 11.9**	**-0.4**
BKI				*e*S	**Sb**	**01 39 23.2**	**+1.3**
MKZ	**Mys Kozlova**	**1.77**	**263**	*e*P	**Pn**	**01 39 25.0**	**-0.6**
MKZ				*e*S	**Sn**	**01 39 46.6**	**-2.1**
KBTR	**Krutoberegovo**	**1.78**	**323**	*e*P	**Pn**	**01 39 23.3**	**-2.4**
KBTR				*e*S	**Sn**	**01 39 43.5**	**-5.3**
KBG	**Krutoberegovo**	**1.86**	**322**	*e*S	**Sn**	**01 39 46.3**	**-4.4**
TUMD	**Tumrok D**	**2.54**	**281**	*e*P	**Pn**	**01 39 35.3**	**-0.8**
TUMD				*e*S	**Sn**	**01 40 05.5**	**-2.0**
ZLN	**Zelenaya**	**2.55**	**300**	*e*P	**Pn**	**01 39 37.5**	**+1.1**
ZLN				*e*S	**Sn**	**01 40 07.9**	**-0.2**
SMKR	**Semkarok**	**2.57**	**315**	*e*P	**Pn**	**01 39 37.1**	**+0.6**
SMKR				*e*S	**Sn**	**01 40 07.9**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**2.58**	**298**	*e*P	**Pn**	**01 39 37.5**	**+0.8**
BZGR				*e*S	**Sn**	**01 40 08.4**	**-0.2**
CIRR	**Tsirk**	**2.63**	**301**	*e*P	**Pn**	**01 39 38.3**	**+0.8**
CIRR				*e*S	**Sn**	**01 40 10.2**	**+0.2**
LGNR	**Loginova**	**2.64**	**300**	*e*P	**Pn**	**01 39 38.6**	**+0.9**
LGNR				*e*S	**Sn**	**01 40 09.7**	**-0.8**
BDR	**Baidarnaya**	**2.67**	**313**	*e*S	**Sn**	**01 40 10.3**	**-0.6**
BZWR	**Bezymyannyi-We**	**2.69**	**297**	*e*P	**Pn**	**01 39 39.3**	**+1.0**
KMNR	**Kamenistaya**	**2.75**	**292**	*e*P	**Pn**	**01 39 40.0**	**+0.9**
KMNR				*e*S	**Sn**	**01 40 13.5**	**+0.5**
KIRR	**Kirishev**	**2.76**	**296**	*e*P	**Pn**	**01 39 40.4**	**+1.1**
KIRR				*e*S	**Sn**	**01 40 13.2**	**-0.1**
KRSR	**Krestovskiy**	**2.77**	**302**	*e*P	**Pn**	**01 39 39.2**	**-0.1**
KRSR				*e*S	**Sn**	**01 40 12.2**	**-1.1**
KLY	**Klyuchi**	**2.77**	**305**	*e*P	**Pn**	**01 39 38.1**	**-1.1**
KLY				*e*S	**Sn**	**01 40 09.7**	**-3.6**
KPT	**Kopyto**	**2.83**	**296**	*e*P	**Pn**	**01 39 41.4**	**+1.2**
KPT				*e*S	**Sn**	**01 40 16.4**	**+1.5**
KOZ	**Kozyrevsk**	**3.05**	**296**	*e*P	**Pn**	**01 39 44.8**	**+1.7**
KOZ				*e*S	**Sn**	**01 40 21.5**	**+1.4**
KII	**Karymskiy**	**3.19**	**258**	*e*P	**Pn**	**01 39 45.8**	**+0.6**
SRDR	**Sredinnyy**	**3.23**	**300**	*e*S	**Sn**	**01 40 25.1**	**+0.4**
NLC	**Nalytchevo**	**3.59**	**245**	*e*S	**Sn**	**01 40 30.9**	**-2.5**
ESO	**Esso**	**3.63**	**290**	*e*P	**Pn**	**01 39 51.3**	**+0.2**
ESO				*e*S	**Sn**	**01 40 32.5**	**-2.0**
SDLR	**Sedlovina**	**3.79**	**248**	*e*P	**Pn**	**01 39 53.8**	**+0.4**
SDLR				*e*S	**Sn**	**01 40 35.6**	**-2.9**
UGLR	**Uglovaya**	**3.85**	**248**	*e*P	**Pn**	**01 39 54.8**	**+0.6**
UGLR				*e*S	**Sn**	**01 40 37.3**	**-2.7**
AVH	**Avacha**	**3.87**	**249**	*e*P	**Pn**	**01 39 55.4**	**+1.0**
AVH				*e*S	**Sn**	**01 40 38.6**	**-1.9**
KRX	**Arik**	**3.88**	**250**	*e*P	**Pn**	**01 39 55.3**	**+0.7**
KRX				*e*S	**Sn**	**01 40 37.8**	**-2.9**
KOK	**Koryaka**	**3.91**	**250**	*e*P	**Pn**	**01 39 55.8**	**+0.7**
DALK	**Dalny**	**3.97**	**246**	*e*P	**Pn**	**01 39 56.0**	**+0.3**
DALK				*e*S	**Sn**	**01 40 39.5**	**-3.3**
PET	**Petropavlovsk**	**4.03**	**246**		**Pn**	**01 39 56.4**	**-0.1**
PET	**Petropavlovsk**	**4.03**	**246**	*e*PN	**Pn**	**01 39 56.5**	**0.0**
PET				pmax	pmax		
	comp=Z,20nm,0.6s						
PET	**Petropavlovsk**	**4.03**	**246**	*e*P	**Pn**	**01 39 57.3**	**+0.7**
PET				*e*S	**Sn**	**01 40 41.3**	**-2.9**
GNL	**Ganaly**	**4.15**	**257**	*e*P	**Pn**	**01 39 59.8**	**+1.5**
KRMR	**Karymshinskiy**	**4.40**	**246**	*e*P	**Pn**	**01 40 02.6**	**+1.0**
KRMR				*e*S	**Sn**	**01 40 50.0**	**-3.3**
RUS	**Russkaya**	**4.41**	**240**	*e*P	**Pn**	**01 40 02.1**	**+0.2**
PEA0B	**Petropavlovsk-**	**4.50**	**251**		**Pn**	**01 40 03.5**	**+0.4**
PEA0B	**Petropavlovsk-**	**4.50**	**251**	PN	**Pn**	**01 40 03.5**	**+0.4**
PETK	**Petropavlovsk-**	**4.50**	**251**		**Pn**	**01 40 03.2**	**+0.1**
PETK	**Petropavlovsk-**	**4.50**	**251**	Pn	**Pn**	**01 40 03.4**	**+0.3**
	comp=Z,3.5nm,0.3s,baz=62,slow=15,SNR=95						
PETK				Sn	**Sn**	**01 40 54.7**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=63,slow=29,SNR=6.9						
PETK				LR	LR	01 42 00.7	
	comp=Z,96nm,20.1s,baz=72,slow=41						
	comp=Z,6.0nm,0.4s						
OSSR	**Ossora**	**4.54**	**349**	*e*P	**Pn**	**01 40 03.2**	**-0.4**
MTVR	**Mutnovka**	**4.55**	**242**	*e*P	**Pn**	**01 40 04.5**	**+0.6**
GRL	**Gorelyy**	**4.57**	**243**	*e*P	**Pn**	**01 40 05.2**	**+1.0**
APC	**Apacha**	**4.88**	**250**	*e*P	**Pn**	**01 40 09.9**	**+1.7**
KDTR	**Khodutka, Kamc**	**5.01**	**236**	*e*P	**Pn**	**01 40 09.9**	**-0.1**
SHEM	**Shemya Is, Ala**	**5.92**	**107**	LR	LR	01 42 28.7	
	comp=Z,56nm,21.6s,baz=27,slow=36						
MA2	**Magadan**	**8.96**	**308**	LR	LR	01 44 40.4	
	comp=Z,34nm,18.9s,baz=99,slow=39						
SPIA	**Saint Paul Isl**	**14.16**	**70**	P	**Pn**	**01 42 14.9**	**-0.4**
	baz=271						
P08K	**Saint George I**	**14.57**	**72**	P	**Pn**	**01 42 20.3**	**-0.5**
	baz=274						
GAMB	**Gambell**	**14.92**	**44**	P	**Pn**	**01 42 25.4**	**-0.1**
	baz=244						
NIKH	**Nikolski High**	**15.64**	**86**	P	**Pn**	**01 42 34.3**	**-0.8**
	baz=287						
M11K	**Mekoryuk**	**16.45**	**58**	P	**Pn**	**01 42 44.8**	**-0.7**
	baz=263						
AKUT	**Akutan**	**17.09**	**80**	Pn	**Pn**	**01 42 53.7**	**+0.1**
TNA	**Tin City**	**17.16**	**40**	P	**Pn**	**01 42 54.0**	**-0.5**
	baz=244						
K13K	**Kusilvak Mount**	**17.42**	**54**	P	**Pn**	**01 42 57.4**	**-0.4**
	baz=260						
F14K	**Arctic Creek**	**17.73**	**42**	P	**Pn**	**01 43 01.3**	**-0.3**
	baz=247						
ANM	**Nome**	**17.78**	**45**	P	**Pn**	**01 43 01.4**	**-0.8**
	baz=251						
M13K	**Dall Lake**	**17.86**	**59**	P	**Pn**	**01 43 02.2**	**-1.0**
	baz=266						
J14K	**Nanvaranak Lak**	**18.08**	**51**	P	**Pn**	**01 43 05.4**	**-0.5**
	baz=258						
L14K	**Kuka Creek**	**18.27**	**56**	P	**Pn**	**01 43 06.4**	**-1.8**
	baz=264						
G15K	**Niukluk**	**18.46**	**44**	P	**P**	**01 43 09.8**	**-0.7**
	baz=251						
F15K	**North Star Dit**	**18.47**	**42**	P	**P**	**01 43 09.6**	**-1.1**
	baz=248						
M14K	**Bethel**	**18.57**	**58**	P	**P**	**01 43 10.4**	**-1.3**
	baz=266						
N14K	**Kuskokwak Cree**	**18.67**	**60**	P	**P**	**01 43 12.3**	**-0.5**
	baz=269						
S12K	**Black Hills**	**18.84**	**74**	P	**P**	**01 43 14.0**	**-0.8**
	baz=281						
L15K	**Ungalak Mounta**	**18.87**	**55**	P	**P**	**01 43 14.5**	**-0.6**
	baz=264						
O14K	**Tigyukauivet M**	**18.88**	**63**	P	**P**	**01 43 14.3**	**-0.9**
	baz=271						
K15K	**Wolf Creek Mou**	**18.93**	**53**	P	**P**	**01 43 14.9**	**-0.8**
	baz=262						
H16K	**Elim**	**19.09**	**46**	P	**P**	**01 43 16.6**	**-0.9**
	baz=254						
ERM	**Erimo**	**19.12**	**237**	P	**P**	**01 43 15.5**	**-2.4**
ERM	**Erimo**	**19.12**	**237**	P	**P**	**01 43 15.5**	**-2.4**
ERM				pmax	pmax		
	comp=Z,30nm,1.3s						
M15K	**Kasigluk River**	**19.19**	**58**	P	**P**	**01 43 17.4**	**-1.1**
	baz=268						
G16K	**Koyuk River**	**19.26**	**44**	P	**Pn**	**01 43 20.6**	**+0.4**
G16K	**Koyuk River**	**19.26**	**44**	P	**P**	**01 43 18.9**	**-0.4**
	baz=252						
C16K	**Lisburne Hills**	**19.33**	**34**		**Pn**	**01 43 21.0**	**0.0**
C16K	**Lisburne Hills**	**19.33**	**34**	P	**P**	**01 43 19.7**	**-0.3**
	baz=241						
N15K	**Kwethluk River**	**19.47**	**60**	P	**Pn**	**01 43 23.5**	**+0.7**
N15K				IAmb	IAmb	01 43 27.3	
	comp=Z,19nm,1.5s						
N15K	**Kwethluk River**	**19.47**	**60**	P	**P**	**01 43 20.6**	**-1.0**
	baz=270						
J16K	**Anvik River**	**19.50**	**50**	P	**P**	**01 43 21.7**	**-0.3**
	baz=260						
I17K	**Unalakleet**	**19.57**	**49**	P	**P**	**01 43 22.4**	**-0.3**
	baz=258						
O15K	**Ungalikthiuk R**	**19.62**	**63**	P	**P**	**01 43 22.8**	**-0.6**
	baz=273						
SDPT	**

TTA	Tatalina	21.53	52	P	P	01 43 45.5	+1.4
TTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TTA	Tatalina	21.53	52	P	P	01 43 44.1	0.0
	baz=266						
N18K	Kilae Creek	21.55	58	P	P	01 43 43.9	-0.3
N18K	Kilae Creek	21.55	58	P	P	01 43 44.3	+0.1
	baz=272						
G19K	Purcell Mounta	21.56	43	P	P	01 43 46.5	+2.3
G19K				IAmb	IAmb	01 44 16.9	
	comp=Z,8.0nm,1.5s						
G19K	Purcell Mounta	21.56	43	P	P	01 43 44.2	-0.1
	baz=257						
M18K	Stony River	21.57	56	P	P	01 43 44.4	+0.1
	baz=270						
A19K	Wainwright	21.59	31	P	P	01 43 45.2	+0.7
	baz=242						
H19K	Roundabout Mou	21.68	45	P	P	01 43 44.4	-1.2
H19K	Roundabout Mou	21.68	45	P	P	01 43 45.8	+0.3
	baz=259						
Q17K	Contact Creek	21.75	65	P	P	01 43 46.3	-0.3
	baz=278						
J19K	Poorman	21.80	49		P	01 43 46.3	-0.6
J19K				IAmb	IAmb	01 43 50.5	
	comp=Z,8.1nm,1.2s						
J19K	Poorman	21.80	49	P	P	01 43 46.8	-0.1
	baz=264						
E19K	Redstone River	21.84	40		P	01 43 48.0	+0.7
E19K	Redstone River	21.84	40	P	P	01 43 47.7	+0.4
	baz=253,SNR=7.3						
D19K	Kuna River	21.85	37	P	P	01 43 47.8	+0.3
D19K	Kuna River	21.85	37	P	P	01 43 47.5	+0.1
	baz=250						
O18K	Koktuh Hills	21.93	60	P	P	01 43 48.3	0.0
	baz=274						
P18K	Big Mountain,	21.96	62	P	P	01 43 48.8	+0.2
	baz=276						
L19K	White Mountain	22.03	54	P	P	01 43 50.6	+1.2
L19K				IAmb	IAmb	01 44 09.9	
	comp=Z,7.8nm,1.4s						
L19K	White Mountain	22.03	54	P	P	01 43 49.7	+0.2
	baz=269						
Q18K	Katmai Hardscr	22.16	64	P	P	01 43 50.9	+0.1
	baz=278						
N19K	Bonanza Creek	22.23	58	P	P	01 43 52.7	+1.0
N19K	Bonanza Creek	22.23	58	P	P	01 43 51.0	-0.6
	baz=273						
M19K	Big River Lodg	22.25	55	P	P	01 43 51.9	+0.2
M19K				IAmb	IAmb	01 44 17.3	
	comp=Z,10.0nm,1.5s						
M19K	Big River Lodg	22.25	55	P	P	01 43 51.3	-0.5
	baz=270						
F20K	Avaraart Lake	22.30	41	P	P	01 43 53.0	+0.9
F20K	Avaraart Lake	22.30	41	P	P	01 43 51.8	-0.3
	baz=256						
H20K	Anotleneega Mo	22.32	45	P	P	01 43 51.9	-0.5
	baz=261						
O19K	Port Alsworth	22.35	59	P	P	01 43 52.9	+0.1
	baz=274						
CHIR	Chirikof Islan	22.36	71	P	P	01 43 52.4	-0.6
	baz=284						
I20K	Naaghedeneel	22.39	47	P	P	01 43 52.6	-0.6
	baz=263						
K20K	Telida	22.44	51	P	P	01 43 53.5	-0.2
	baz=267						
D20K	Etivluk River	22.45	37	P	P	01 43 54.1	+0.3
D20K				IAmb	IAmb	01 44 13.8	
	comp=Z,8.2nm,1.5s						
D20K	Etivluk River	22.45	37	P	P	01 43 53.6	-0.2
	baz=251						
E20K	Nigu River	22.45	38	P	P	01 43 52.8	-1.1
	baz=253						
J20K	Nowinta River	22.46	49	P	P	01 43 54.6	+0.7
J20K				IAmb	IAmb	01 43 57.3	
	comp=Z,4.2nm,0.8s						
J20K	Nowinta River	22.46	49	P	P	01 43 53.3	-0.6
	baz=265						
L20K	Farewell, AK	22.49	53	P	P	01 43 53.2	-1.2
	baz=269						
R18K	Karluk	22.62	66	P	P	01 43 54.7	-1.0
	baz=280						
B20K	Meade River	22.72	33	IAmb	IAmb	01 43 58.4	
	comp=Z,4.5nm,0.8s						
B20K	Meade River	22.72	33	P	P	01 43 56.2	-0.5
	baz=248						
TIXI	Tiksi	22.78	331	P	P	01 43 56.8	-0.4
TIXI	Tiksi	22.78	331	P	P	01 43 56.8	-0.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
Q19K	Cape Douglas,	22.83	63	P	P	01 43 57.3	-0.6
	baz=278						
M20K	Styx River	22.85	55	P	P	01 43 57.0	-1.1
	baz=271						
P19K	Oil Pt	22.95	61	P	P	01 43 58.6	-0.6
	baz=276						
ILSW	Iliamna Southw	22.96	60	P	P	01 43 56.8	-2.5
ILSW				IAmb	IAmb	01 44 19.0	
	comp=Z,9.1nm,1.2s						
G21K	Allakaket	23.05	43	P	P	01 44 01.4	+1.3
G21K	Allakaket	23.05	43	P	P	01 43 58.9	-1.2
	baz=260						
F21K	Alatna River	23.19	41	P	P	01 44 01.9	+0.3
F21K				IAmb	IAmb	01 44 34.5	
	comp=Z,6.4nm,1.5s						
F21K	Alatna River	23.19	41	P	P	01 44 00.8	-0.8
	baz=258						
H21K	Melozitna Rive	23.20	45	P	P	01 44 02.4	+0.7
H21K				IAmb	IAmb	01 44 04.1	
	comp=Z,4.9nm,1.1s						
H21K	Melozitna Rive	23.20	45	P	P	01 44 01.2	-0.5
	baz=262						
C21K	Knifeblade Rid	23.21	36	P	P	01 44 01.3	-0.5
	baz=252						
CHUM	Lake Minchumin	23.25	50	P	P	01 44 01.8	-0.3
	baz=267						
PPLA	Purkeypile	23.28	52	P	P	01 44 02.8	+0.1
PPLA				IAmb	IAmb	01 44 44.3	
	comp=Z,8.3nm,1.2s						
PPLA	Purkeypile	23.28	52	P	P	01 44 01.7	-1.0
	baz=270						
E21K	Killik River	23.29	38	P	P	01 44 02.1	-0.5
	baz=255						
OHAK	Old Harbor	23.31	67	P	P	01 44 02.0	-0.8
	baz=282						
CAST	Castle Rocks	23.34	51	P	P	01 44 03.8	+0.8
CAST				IAmb	IAmb	01 44 13.1	
	comp=Z,7.3nm,1.5s						
CAST	Castle Rocks	23.34	51	P	P	01 44 02.7	-0.4
	baz=268						
A21K	Barrow	23.41	30	P	P	01 44 03.2	-0.5
	baz=245						
B21K	Ikpikpuk River	23.41	35		P	01 44 03.8	0.0
B21K				IAmb	IAmb	01 44 05.7	
	comp=Z,5.0nm,0.8s						
B21K	Ikpikpuk River	23.41	35	P	P	01 44 03.3	-0.5
	baz=252,SNR=10						
I21K	Tanana	23.49	47	P	P	01 44 04.9	+0.3
	baz=264						
Q20K	Shuyak Island	23.52	63	P	P	01 44 05.3	+0.3
	baz=279						
KDAK	Kodiak Island	23.57	65	P	P	01 44 05.4	0.0
KDAK	Kodiak Island	23.57	65	P	P	01 44 05.4	0.0
KDAK				pmax	pmax		
	comp=Z,32nm,1.3s						
KDAK	Kodiak Island	23.57	65	P	P	01 44 05.4	0.0
	baz=281						
SKT	Skwentna	23.60	55	P	P	01 44 05.8	+0.1
	baz=272						
F22K	John River	23.74	41	P	P	01 44 06.8	-0.2
	baz=259						
A22K	Sinclair Lake	23.78	32	P	P	01 44 06.9	-0.5
	baz=248						
H22K	Ishtalitna Cre	23.81	45	P	P	01 44 07.5	-0.3
	baz=264,SNR=7.9						
BPAW	Bear Paw Mtn.	23.84	49	P	P	01 44 08.3	+0.2
BPAW				IAmb	IAmb	01 44 40.6	
	comp=Z,5.4nm,1.3s						
BPAW	Bear Paw Mtn.	23.84	49	P	P	01 44 07.3	-0.8
	baz=268						
D22K	Ayikyak River	23.86	37	P	P	01 44 08.0	-0.3
	baz=255						
CAPN	Captain Cook N	23.86	58	P	P	01 44 07.8	-0.5
	baz=275						
G22K	Bettles	23.90	42	P	P	01 44 08.4	-0.2
	baz=261						
E22K	Anaktuvuk Pass	24.00	39	IAmb	IAmb	01 44 10.2	
	comp=Z,3.5nm,1.0s						
E22K	Anaktuvuk Pass	24.00	39	P	P	01 44 09.3	-0.3
	baz=258						
SUA	Susitna One	24.00	56	P	P	01 44 09.5	-0.3
	baz=274						
B22K	Teshekpuk Lake	24.04	34		P	01 44 09.5	-0.3
B22K	Teshekpuk Lake	24.04	34	P	P	01 44 09.4	-0.4
	baz=251,SNR=9.5						
TRF	Thorofare Moun	24.14	51	P	P	01 44 11.3	+0.2
TRF	Thorofare Moun	24.14	51	P	P	01 44 10.3	-0.8
	baz=270						
BRSE	Bradley Lake S	24.19	60	P	P	01 44 10.8	-0.6
	baz=278						
M22K	Willow	24.28	55	P	P	01 44 11.8	-0.4
	baz=274						
COLD	Coldfoot	24.45	42	P	P	01 44 13.1	-0.6
	baz=262						
G23K	Bananza Creek	24.45	43	P	P	01 44 13.0	-0.7
	baz=263						
RC01	Rabbit Creek A	24.52	57	P	P	01 44 14.3	-0.1
	baz=276						
H23K	Yukon River	24.56	45	IAmb	IAmb	01 44 17.1	
	comp=Z,5.7nm,1.1s						
H23K	Yukon River	24.56	45	P	P	01 44 14.2	-0.5
	baz=265						
D23K	Nanushuk River	24.59	38	P	P	01 44 15.5	+0.6
D23K				IAmb	IAmb	01 44 54.2	
	comp=Z,5.7nm,1.5s						
D23K	Nanushuk River	24.59	38	P	P	01 44 14.6	-0.3
	baz=257						
I23K	Minto, Yukon-K	24.59	47	P	P	01 44 15.3	+0.4
	baz=267,SNR=9.3						
O22K	Cooper Landing	24.60	58	P	P	01 44 15.0	-0.1
	baz=277						
NEA2	Nenana	24.69	48	P	P	01 44 15.5	-0.4
	baz=269,SNR=6.3						
MCK	McKinley	24.75	50	P	P	01 44 15.9	-0.5
	baz=271						
PMR	Palmer	24.76	55	P	P	01 44 16.2	-0.4
	baz=275						
E23K	Chandalar	24.80	40	P	P	01 44 16.7	-0.3
	baz=260,SNR=7.1						
C23K	Itkillik River	24.81	35	P	P	01 44 16.8	-0.2
C23K				IAmb	IAmb	01 44 19.2	
	comp=Z,3.8nm,1.1s						
C23K	Itkillik River	24.81	35	P	P	01 44 16.7	-0.2
	baz=256						
TOLK	Toolik Lake Re	24.92	38	P	P	01 44 18.8	+0.9
TOLK				IAmb	IAmb	01 44 19.9	
	comp=Z,3.0nm,0.8s						
TOLK	Toolik Lake Re	24.92	38	P	P	01 44 18.4	+0.5
	baz=259						
KNK	Knik Glacier	25.10	56	P	P	01 44 19.8	+0.2
	baz=276						
SML	Sawmill	25.12	55	P	P	01 44 20.3	+0.5
SML	Sawmill	25.12	55	P	P	01 44 19.9	0.0
	baz=275						
COLA	College	25.22	48	P	P	01 44 20.9	+0.3
	baz=269						
E24K	Your Creek	25.22	40	IAmb	IAmb	01 44 23.7	
	comp=Z,5.3nm,1.1s						
E24K	Your Creek	25.22	40	P	P	01 44 20.3	-0.4
	baz=262,SNR=6.7						
PWL	Port Wells	25.23	57	P	P	01 44 20.7	-0.1
	baz=277						
CCB	Clear Creek Bu	25.24	48		P	01 44 21.0	+0.2
H24K	Noodor Dome	25.24	45	P	P	01 44 21.0	+0.1
H24K				IAmb	IAmb	01 44 25.2	
	comp=Z,6.8nm,1.5s						
H24K	Noodor Dome	25.24	45	P	P	01 44 20.7	-0.1
	baz=267						
D24K	Happy Valley	25.28	37	IAmb	IAmb	01 44 23.6	
	comp=Z,3.0nm,0.6s						
D24K	Happy Valley	25.28	37	P	P	01 44 21.0	-0.1
	baz=259						
F24K	Squaw Lake	25.38	41	P	P	01 44 22.5	+0.5
F24K	Squaw Lake	25.38	41	P	P	01 44 21.6	-0.4
	baz=264						
POKR	Poker Plat Res	25.40	47	P	P	01 44 21.7	-0.6
	baz=269						
M23K	Glacier View	25.41	55	P	P	01 44 21.7	-0.8
	baz=276						
C24K	Franklin Bluff	25.43	36	IAmb	IAmb	01 44 24.4	
	comp=Z,4.2nm,0.8s						
C24K	Franklin Bluff	25.43	36	P	P	01 44 22.2	-0.3
	baz=258						
G24K	Hadweenzic Riv	25.46	43	IAmb	IAmb	01 44 24.4	
	comp=Z,3.4nm,0.8s						
G24K	Hadweenzic Riv	25.46	43	P	P	01 44 22.5	-0.3
	baz=266						
SCM	Sheep Creek Mo	25.59	55	P	P	01 44 24.6	+0.4
SCM	Sheep Creek Mo	25.59	55	P	P	01 44 24.6	+0.4
SCM				pmax	pmax		
	comp=Z,27nm,1.4s						
SCM	Sheep Creek Mo	25.59	55	P	P	01 44 23.3	-0.8
	baz=276						
HDA	Harding Lake	25.61	49	P	P	01 44 24.4	+0.2
HDA				IAmb	IAmb	01 44 24.5	
	comp=Z,4.8nm,1.0s						
HDA	Harding Lake	25.61	49	P	P	01 44 23.5	-0.7
	baz=271						
IL31		25.63	48		P	01 44 24.3	-0.1
IL31				IAmb	IAmb	01 44 27.4	
	comp=Z,4.4nm,0.8s						
ILAR	Eielson Array	25.63	48	P	P	01 44 24.6	+0.2
ILAR	Eielson Array	25.63	48	P	P	01 44 24.4	0.0
	comp=Z,3.1nm,0.8s,baz=260,slow=8.6,SNR=32						
	comp=Z,3.1nm,0.8s						
ILAR	Eielson Array	25.63	48	P	P	01 44 24.6	+0.2
MJAR	Matsushiro Arr	25.79	236	P	P	01 44 27.5	+1.5
	comp=Z,0.5nm,0.5s,baz=37,slow=9.8,SNR=5.5						
	comp=Z,0.5nm,0.5s						
P23K	Montague Islan	25.81	59	P	P	01 44 25.0	-1.1
	baz=280						
GLI	Glacier Island	25.82	57	P	P	01 44 25.0	-1.2
	baz=278						
G25K	Bearman Lake	26.01	43	P	P	01 44 27.0	-0.8
	baz=267						
M24K	Tolsona, Glenn	26.11	54	P	P	01 44 28.2	-0.6
	baz=276						
K24K	Donnelly Dome	26.14	50	P	P	01 44 28.3	-0.8
	baz=273						
D25K	Kavik River	26.17	37	P	P	01 44 29.0	-0.2
D25K				IAmb	IAmb	01 44 30.1	
	comp=Z,2.6nm,0.6s						
D25K	Kavik River	26.17	37	P	P	01 44 28.7	-0.6
	baz=261,SNR=5.9						
PRP	Porcupine Dome	26.21	46		P	01 44 29.7	-0.1
PRP	Porcupine Dome	26.21	46	P	P	01 44 29.3	-0.4
	baz=270,SNR=5.4						
F25K	Christian Rive	26.24	41	P	P	01 44 30.6	+0.7
F25K				IAmb	IAmb	01 44 34.6	
	comp=Z,2.7nm,0.9s						
F25K	Christian Rive	26.24	41	P	P	01 44 29.8	-0.2
	baz=266						
J25K	Salcha River,	26.29	48	P	P	01 44 29.6	-0.8
J25K				IAmb	IAmb	01 44 45.0	
	comp=Z,6.4nm,1.4s						
J25K	Salcha River,	26.29	48	P	P	01 44 30.2	-0.2
	baz=272						
KLU	Klutina	26.30	55	P	P	01 44 30.4	-0.2
	baz=278						
E25K	Arctic Village	26.31	40	P	P	01 44 30.4	-0.1
	baz=265						
PAX	Paxson	26.34	52	P	P	01 44 30.7	-0.3
	baz=275						
EYAK	Cordova Ski Ar	26.53	57	P	P	01 44 31.9	-0.6
	baz=280						
HARP	HAARP	26.55	53	P	P	01 44 32.0	-0.7
	baz=276						
RIDG	Independent Ri	26.56	50	P	P	01 44 31.9	-1.1
	baz=274						
C26K	Camden Bay	26.76	36	P	P	01 44 34.2	-0.4
	baz=262						
F26K	Sheenjek River	26.82	41	P	P	01 44 34.7	-0.4
	baz=267						
N25K	Chitina, Valde	26.91	55	P	P	01 44 35.6	-0.6
	baz=278						
SCRK	Sand Creek	26.93	49	P	P	01 44 35.1	-1.2
	baz=274						
G26K	Porcupine Rive	26.93	43	P	P	01 44 35.7	-0.3
	baz=269						
BMRM	Bremner River	27.01	56	P	P	01 44 35.9	-1.1
	baz=280						
J26L	Joseph Creek	27.07	48	P	P	01 44 36.4	-1.1
	baz=274						
C27K	Jago River	27.14	37	P	P	01 44 37.1	-0.9
	baz=263						
K27K	Chicken	27.76	49	IAmb	IAmb	01 44 44.7	
	comp=Z,4.2nm,0.9s						
K27K	Chicken	27.76	49	P	P	01 44 42.8	-0.8
	baz=276						
E27K	Coleen River	27.80	40	P	P	01 44 43.6	-0.3
	baz=268						
BGLC	Bering Glacier	27.82	58	P	P	01 44 42.0	-2.0
	baz=282						
I27K	Kandik River	27.83	46	P	P	01 44 43.1	-1.2
	baz=273						
H27K	Steamboat Moun	27.84	44	P	P	01 44 43.1	-1.2
	baz=272						
L27K	Beaver Creek,	27.98	51	P	P	01 44 46.0	+0.4
L27K	Beaver Creek,	27.98	51	P	P	01 44 44.8	-0.9
	baz=278						
BCAR	Beaver Creek A	28.00	51	P	P	01 44 46.2	+0.3
D27M	Malcolm River	28.07	38	P	P	01 44 45.6	-0.8
	baz=267						
MESA	MESA	28.45	57	P	P	01 44 49.2	-0.9
	baz=283						
I28M	Miner Creek	28.54	46	P	P	01 44 49.8	-0.8
	baz=275						
E28M	Babbage River	28.57	39	P	P	01 44 50.1	-0.7
	baz=270						
YUK3	Moose Creek	28.83	54	P	P	01 44 52.0	-1.3
	baz=281						
D28M	Stokes Point	28.87	38	P	P	01 44 52.6	-0.8
	baz=269						
DAWY	Dawson	28.93	49	P	P	01 44 52.9	-1.1
	baz=278						
H29M	Whitestone	29.11	44	P	P	01 44 54.8	-0.8
	baz=275						
O28M	Mount Upton	29.17	56	P	P	01 44 55.5	-1.0
	baz=283						
E29M	Blow River	29.18	40	P	P	01 44 55.2	-1.0
	baz=271						
G29M	Pine Creek	29.20	43	P	P	01 44 55.8	-0.6
	baz=274						
YUK8	Steele Glacier	29.25	55	P	P	01 44 55.8	-1.4
	baz=283						
PINM	Pinnacle	29.30	57	P	P	01 44 56.1	-1.3
	baz=284						
J29N	Klondike Camp	29.38	48	P	P	01 44 57.4	-0.7
	baz=278						
M29M	Somme Creek	29.62	52	P	P	01 44 59.3	-0.9
	baz=282						
L29M	L29M	29.64	51	P	P	01 44 59.6	-0.7
	baz=281						
EPYK	Eagle Plains	29.76	44	P	P	01 45 00.5	-0.9
	baz=276						
YUK4	Talbot Arm	29.77	54	P	P	01 45 01.2	-0.5
	baz=283						
K29M	Barlow Dome	29.78	49	P	P	01 45 01.0	-0.7
	baz=280						
PNL	Peninsula	29.83	58	P	P	01 45 01.2	-0.8
	baz=286						
G30M	tAoh Zraii Nji	29.90	43	P	P	01 45 02.0	-0.7
	baz=275						
YUK6	Outpost Mounta	30.00	55	P	P	01 45 02.6	-1.2
	baz=284						
F30M	Barrier River	30.01	41	P	P	01 45 02.5	-1.1
	baz=275						
I30M	Mount Dempster	30.05	46	P	P	01 45 03.1	-0.9
	baz=278						
O29M	Mount Kennedy	30.06	56	P	P	01 45 03.0	-1.2
	baz=285						
J30M	Hart River	30.17	47	P	P	01 45 05.2	+0.1
	baz=279						
KSRS	Korea Array	30.40	251	P	P	01 45 08.5	+1.3
	comp=Z,0.6nm,0.7s,baz=44,slow=8.8,SNR=5.2						
	comp=Z,0.6nm,0.7s						
HYT	Haines Junctio	30.43	55	P	P	01 45 07.5	+0.1
	baz=285						
N30M	Aishikik Lake	30.47	54	P	P	01 45 07.9	+0.1
	baz=284						
G31M	Satah River	30.67	43	P	P	01 45 09.3	0.0
	baz=277						
H31M	Peel River	30.80	45	P	P	01 45 10.3	-0.2
	baz=279						
INK	Inuvik	30.80	40	P	P	01 45 10.3	-0.1
	baz=275						
F31M	Tsiigehtchic	30.81	41	P	P	01 45 10.9	+0.3
	baz=277						
P30M	Million Dollar	30.88	56	P	P	01 45 11.3	-0.1
	baz=286						
O30N	Mendenhall	31.12	55	P	P	01 45 12.6	-0.8
	baz=286						
M31M	Drury Creek, Y	31.52	52	P	P	01 45 16.5	-0.4
	baz=285						
WHY	Whitehorse	31.72	55	P	P	01 45 18.8	0.0
	baz=287						
S31K	Pelican	31.92	60	P	P	01 45 21.1	+0.7
	baz=290						
N32M	Quiet Lake	32.41	53	P	P	01 45 24.5	-0.3
	baz=287						
P32M	Atlin	32.60	56	P	P	01 45 26.3	-0.2
	baz=289						
R32K	Eaglecrest	32.66	59	P	P	01 45 26.6	-0.4
	baz=291						
SIT	Sitka	32.70	61	P	P	01 45 27.1	-0.2
	baz=292						
MMPY	Sheldon Lake,	32.81	50	P	P	01 45 27.6	-0.8
	baz=286						
P33M	Teslin, Yukon	32.83	55	P	P	01 45 27.9	-0.6
	baz=289						
S32K	Killisnoo	32.93	60	P	P	01 45 29.0	-0.2
	baz=292						
A36M	Sachs Harbour	33.22	32	P	P	01 45 31.3	-0.3
	baz=277						
C36M	Paulatuk	34.04	37	P	P	01 45 38.5	-0.3
C36M	Paulatuk	34.04	37	P	P	01 45 38.1	-0.7
	baz=282						
U33K	Whale Pass	34.20	62	P	P	01 45 40.0	-0.3
	baz=294						
WRAK	Wrangell Islan	34.47	61	P	P	01 45 41.7	-0.9
	baz=294						
S34M	Telegraph Cree	34.47	58	P	P	01 45 42.3	-0.3
	baz=293						
TGTN	Hyland Airport	34.49	51	P	P	01 45 42.6	-0.3
	baz=290						
WTLY	Watson Lake, Y	34.75	54	P	P	01 45 44.6	-0.5
	baz=291						
DLBC	Dease Lake	34.80	57	P	P	01 45 45.5	-0.1
	baz=293						
H11N2	WAKE ISLAND Hy	35.06	176	T	T	02 24 12.7	
	baz=359,slow=76,SNR=124						
H11N3	WAKE ISLAND Hy	35.07	176	T	T	02 24 14.4	
	baz=359,slow=76,SNR=86						
H11N1	WAKE ISLAND Hy	35.08	176	T	T	02 24 15.7	
	baz=359,slow=76,SNR=95						
V35K	Ketchikan	35.30	62	P	P	01 45 50.0	+0.1
	baz=296						
U35K	Hyder	35.85	61	P	P	01 45 56.0	+1.4
SONM	Songino Array	36.18	284	P	P	01 45 58.1	+0.5
	comp=Z,0.4nm,0.5s,baz=68,slow=9.4,SNR=2.5						
	comp=Z,0.4nm,0.5s						
H11S1	WAKE ISLAND Hy	36.27	177	T	T	02 25 46.9	
	baz=359,slow=76,SNR=3.1						
H11S3	WAKE ISLAND Hy	36.28	177	T	T	02 25 49.5	
	baz=359,slow=76,SNR=2.4						
H11S2	WAKE ISLAND Hy	36.29	177	T	T	02 25 52.2	
	baz=359,slow=76,SNR=2.9						
TOAD	Toad River Com	36.92	54	P	P	01 46 04.1	+0.3
	baz=295						
HHC	Hu-ho-hao-te	37.40	271	eP	P	01 46 06.4	-1.7
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,58nm,4.4s						
YKA	Yellowknife Ar	40.01	45	P	P	01 46 28.8	-0.8
	comp=Z,0.9nm,0.7s,baz=291,slow=7.9,SNR=25						
	comp=Z,0.9nm,0.7s						
LZH	Lanzhou	45.08	271	eP	P	01 47 12.6	+1.3
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
KURK	Kurchatov	49.13	303	P	P	01 47 43.4	+0.8
KURBB	Kurchatov Arra	49.24	303	P	P	01 47 43.4	0.0
	comp=Z,0.9nm,0.5s,baz=57,slow=7.9,SNR=11						
	comp=Z,0.9nm,0.5s						
MKAR	Makanchi Array	49.86	297	P	P	01 47 47.8	-0.4
	comp=Z,0.5nm,0.7s,baz=50,slow=8.0,SNR=5.8						
	comp=Z,0.5nm,0.7s						
BVAR	Borovoye Array	51.45	310	P	P	01 47 59.8	-0.3
	comp=Z,0.7nm,0.5s,baz=55,slow=8.2,SNR=4.8						
	comp=Z,0.7nm,0.5s						
ARTI	Arti	54.06	319	LR	LR	02 14 34.0	
	comp=Z,20nm,18.4s,baz=78,slow=40						
PDAR	Pinedale Array	54.29	65	P	P	01 48 21.8	+0.3

comp=Z,0.2nm,0.6s,baz=330,slow=8.3,SNR=2.6
comp=Z,0.2nm,0.6s
FINES FINESS Array B 59.59 338 P P 01 48 58.5 0.0
comp=Z,1.0nm,0.6s,baz=29,slow=6.6,SNR=7.1
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 62.60 346 P P 01 49 18.9 -0.1
comp=Z,0.4nm,0.5s,baz=18,slow=6.9
NOA NORSAR Array B 62.60 346 P P 01 49 19.0 -0.1
comp=Z,1.0nm,0.7s,baz=18,slow=7.0,SNR=4.6
comp=Z,1.0nm,0.7s
HFS Hagfors 63.10 344 P P 01 49 21.8 -0.5
comp=Z,0.7nm,0.5s,baz=23,slow=6.5,SNR=9.8
comp=Z,0.7nm,0.5s
TXAR Lajitas Array 67.45 71 P P 01 49 52.6 +1.5
comp=Z,0.7nm,0.6s,baz=304,slow=4.5,SNR=13
comp=Z,0.7nm,0.6s
AKASG Malin Array Be 68.49 331 P P 01 49 56.9 -0.3
comp=Z,0.5nm,0.4s,baz=29,slow=6.3,SNR=2.9
comp=Z,0.5nm,0.4s
GERES GERESS Array B 73.88 341 P P 01 50 30.5 +0.5
comp=Z,0.5nm,0.7s,baz=35,slow=4.9,SNR=5.7
comp=Z,0.5nm,0.7s
ASAR Alice Springs 82.52 208 P P 01 51 19.7 +1.8
comp=Z,0.5nm,0.8s,baz=15,slow=5.5,SNR=3.6
comp=Z,0.5nm,0.8s
ESDC Sonseca Array 85.39 351 P P 01 51 33.6 +1.1
comp=Z,0.7nm,0.8s,baz=2.2,slow=4.0,SNR=5.2
comp=Z,0.7nm,0.8s

---

*NEIC **21** 01:58:52.1±1.6, 19°.421N±0°.010×155°.27W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.6km az=66.0*
HVO 21 01:58:51.5±1.1, 19°.424N±0°.006×155°.276W±0°.006, h0km±2km, ML2.9/17, ML2.1/27(NEIC), Error ellipse: s-maj=1.0km s-min=0.6km az=141.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna Bluf**	**0.00**	**284**		Pg	01 58 52.3	+0.5
SBLHI	**Steaming Bluff**	**0.01**	**70**		Pg	01 58 52.6	+0.7
OBL	**Observatory Le**	**0.01**	**229**		Pg	01 58 52.6	+0.7
HATHI	**Halema'uma'u T**	**0.01**	**95**		Pg	01 58 52.3	+0.4
HATHI				Sg	Sg	01 58 52.8	+0.7
UWE	**Uwekahuna**	**0.02**	**259**		Pg	01 58 52.4	+0.4
UWE				Sg	Sg	01 58 52.5	+0.2
BYL	**Byron's Ledge**	**0.02**	**129**		Pg	01 58 52.4	+0.4
BYL				Sg	Sg	01 58 52.9	+0.6
KKO	**Keanakako'i**	**0.03**	**160**		Pg	01 58 54.0	+1.9
RIM	**Rim**	**0.03**	**176**		Pg	01 58 53.9	+1.8
WRMHI	**West Rim**	**0.03**	**232**		Pg	01 58 52.8	+0.7
SDHHI	**Sand Hill**	**0.04**	**206**		Pg	01 58 53.1	+0.8
PUH	**Pauahi**	**0.08**	**131**		Pg	01 58 54.1	+1.1
PUH				Sg	Sg	01 58 55.8	+1.7
KNHH	**Kane Nui o Ham**	**0.11**	**114**		Pg	01 58 54.7	+1.1
MLH	**Mauna Loa**	**0.12**	**304**		Pg	01 58 55.3	+1.3
MLH				Sg	Sg	01 58 58.2	+2.6
MLH				IAML		01 58 58.4	
	comp=N,827nm,0.3s						
HLP	**Hilina Pali**	**0.13**	**193**		Pg	01 58 54.8	+0.7
HLP				IAML		01 58 57.6	
	comp=N,611nm,0.8s						
HLP				Sg	Sg	01 58 58.1	+2.4
HLP				IAML		01 58 58.3	
	comp=E,789nm,0.4s						
STCH	**Steam Cracks**	**0.15**	**105**		Pg	01 58 55.3	+0.9
STCH	**Steam Cracks**	**0.15**	**105**	IAML		01 58 58.3	
	comp=E,548nm,0.5s						
STCH				IAML		01 58 58.8	
	comp=N,632nm,0.3s						
NPOC	**North of Pu'u**	**0.16**	**101**		Pg	01 58 55.5	+0.9
JCUZ	**Jacuzzi**	**0.17**	**104**		Pg	01 58 56.2	+1.4
HTC	**Hot Caves**	**0.22**	**212**		Pg	01 58 56.6	+0.9
JOKA	**Jonika Flow**	**0.26**	**88**		Pg	01 58 56.9	+0.5
JOKA	**Jonika Flow**	**0.26**	**88**	IAML		01 59 04.3	
	comp=N,376nm,1.3s						
JOKA				IAML		01 59 04.4	
	comp=E,182nm,0.9s						
HMH	**Humu'ula Sheep**	**0.26**	**312**		Pg	01 58 57.8	+1.2
HMH				IAML		01 59 06.2	
	comp=N,446nm,0.4s						
HMH				IAML		01 59 06.2	
	comp=E,405nm,0.5s						
MWH	**Mokuaweoweo**	**0.31**	**281**		Pg	01 58 57.9	+0.5
MWH				IAML		01 59 06.2	
	comp=N,292nm,0.3s						
POHA	**Pohakuloa**	**0.41**	**324**		Pg	01 58 59.9	+0.5
POHA				IAML		01 59 14.2	
	comp=N,309nm,0.6s						
POHA				IAML		01 59 14.3	
	comp=N,237nm,0.4s						
HUH	**Hualalai**	**0.59**	**296**		Pb	01 59 04.1	-0.7
HPAH	**Hawaii Prepara**	**0.72**	**327**	Pg	Pg	01 59 05.0	-0.4

---

*MOS **21** 02:00:35.1±1.0, 40°.12N×52°.60E, h10km, mb4.1/5, Error ellipse: s-maj=12.7km s-min=6.1km az=38.5*
*THR **21** 02:00:43.9±1.0, 40°.25N×52°.18E, h10km, mb4.3*
*NEIC **21** 02:00:45.9±0.9, 40°.5N±0°.1×52°.2E±0°.1, h61km±7km, mb4.2/16, Error ellipse: s-maj=19.0km s-min=11.5km az=164.0*
*AZER **21** 02:00:45.4, 40°.11N×52°.08E, h56km, mb4.8, ml4.2*
*TEH **21** 02:00:45.9, 40°.06N×52°.14E, h55km*
*IDC **21** 02:00:46.2±1.2, 40°.49N×52°.13E, h57km±9km, mb3.5/11, mbtmp3.9/23, MS2.9/1, Error ellipse: s-maj=21.8km s-min=8.9km az=172.0*
*NNC **21** 02:00:49.0±5.0, 40°.79N×52°.98E, h0km, mb3.8, Error ellipse: s-maj=43.8km s-min=28.7km az=60.0*
*DRS **21** 02:00:48.0, 40°.30N×51°.68E, h5km*
ISC 21 02:00:44.6±0.6, 40°.23N±0°.04×52°.28E±0°.04, h64km±7km, n189, σ1°89/261, mb3.9/20, 17C-8D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.64**	**277**	Pn	**Pn**	**02 01 14.8**	**+3.6**
GALA				Sn	**Sn**	**02 01 34.3**	**+3.0**
NDR	**Nardaran**	**1.79**	**282**	Pg	**Pn**	**02 01 15.0**	**+1.8**
NDR	**Nardaran**	**1.79**	**282**	Pn	**Pn**	**02 01 16.2**	**+3.0**
NDR				Sn	**Sn**	**02 01 37.4**	**+2.4**
GOBA	**Gobu**	**1.96**	**276**	Pn	**Pn**	**02 01 18.7**	**+3.2**
GOBA				Sn	**Sn**	**02 01 39.7**	**+0.7**
ALIB	**&Aumlli-Bayram**	**2.53**	**265**	Pn	**Pn**	**02 01 25.9**	**+2.7**
ALIB	**&Aumlli-Bayram**	**2.53**	**265**	Pn	**Pn**	**02 01 26.0**	**+2.7**
ALIB				Sn	**Sn**	**02 01 53.1**	**+0.1**
GBS	**Qobustan**	**2.57**	**278**	Pn	**Pn**	**02 01 26.0**	**+2.1**
GBS	**Qobustan**	**2.57**	**278**	Pn	**Pn**	**02 01 26.1**	**+2.1**
GBS				Sn	**Sn**	**02 01 56.8**	**+2.7**
ATGJ	**Altiaghaj**	**2.63**	**285**	Pn	**Pn**	**02 01 25.8**	**+1.1**
ATGJ				Sn	**Sn**	**02 01 56.8**	**+1.2**
SIZA	**Siyzn**	**2.71**	**289**	Pn	**Pn**	**02 01 27.6**	**+1.7**
SIZA				Sn	**Sn**	**02 01 58.5**	**+1.0**
PQL	**Pirkuli**	**2.87**	**282**	Pn	**Pn**	**02 01 29.1**	**+1.0**
PQL				Sn	**Sn**	**02 02 01.8**	**+0.2**
SAAT	**Saatly**	**2.99**	**264**	Pn	**Pn**	**02 01 31.9**	**+2.4**
SAAT				Sn	**Sn**	**02 02 06.4**	**+2.3**
QUBA	**Quba, Azerbaij**	**3.09**	**293**	Pn	**Pn**	**02 01 32.4**	**+1.4**
QUBA				Sn	**Sn**	**02 02 06.8**	**+0.1**
LKRN	**Lenkeran, Azer**	**3.11**	**242**	Pn	**Pn**	**02 01 31.3**	**+0.1**
LKRN				Sn	**Sn**	**02 02 04.8**	**-2.3**
KDMR	**Kurdemir**	**3.14**	**274**	Pn	**Pn**	**02 01 32.2**	**+0.6**
KDMR				Sn	**Sn**	**02 02 07.9**	**0.0**
GLBA	**Clilabad**	**3.16**	**253**	Pn	**Pn**	**02 01 32.1**	**+0.3**
GLBA				Sn	**Sn**	**02 02 06.9**	**-1.4**
ASTR	**Astara**	**3.18**	**240**	Pn	**Pn**	**02 01 32.0**	**-0.1**
ASTR				Sn	**Sn**	**02 02 06.6**	**-2.3**
IML	**Ismayilli**	**3.18**	**282**	Pn	**Pn**	**02 01 32.6**	**+0.4**
IML				Sn	**Sn**	**02 02 08.2**	**-0.7**
GAS1	**Astara - Iran**	**3.24**	**237**	Pn	**Pn**	**02 01 32.4**	**-0.6**
XNQ	**Khinaliq**	**3.29**	**288**	Pn	**Pn**	**02 01 34.3**	**+0.5**
XNQ				Sn	**Sn**	**02 02 10.7**	**-1.1**
QSAR	**Qusar**	**3.31**	**294**	Pn	**Pn**	**02 01 35.0**	**+1.0**
QSAR				Sn	**Sn**	**02 02 11.8**	**-0.3**
YRD	**Yardimli**	**3.39**	**249**	Pn	**Pn**	**02 01 34.5**	**-0.7**
YRD				Sn	**Sn**	**02 02 10.8**	**-3.5**
KSMR	**Kasumkent**	**3.44**	**295**	*e*Pn	**Pn**	**02 01 36.9**	**+1.1**
	38nm,0.3s						
KSMR				*e*Sn	**Sn**	**02 02 14.8**	**-0.5**
	380nm,0.2s						
LRK	**Lerik**	**3.44**	**244**	Pn	**Pn**	**02 01 35.5**	**-0.4**
LRK				Sn	**Sn**	**02 02 12.2**	**-3.4**
QBL	**Gabala**	**3.46**	**283**	Pn	**Pn**	**02 01 36.1**	**0.0**
QBL				Sn	**Sn**	**02 02 14.0**	**-1.8**
ZRD	**Zardab**	**3.52**	**272**	Pn	**Pn**	**02 01 37.4**	**+0.6**
ZRD				Sn	**Sn**	**02 02 17.1**	**-0.1**
BLQ	**Beylaqan**	**3.67**	**264**	Pn	**Pn**	**02 01 38.5**	**-0.3**
BLQ				Sn	**Sn**	**02 02 18.3**	**-2.5**
AKT	**Akhty**	**3.67**	**291**	*e*Pn	**Pn**	**02 01 38.9**	**-0.1**
	23nm,0.2s						
AKT				*e*Sn	**Sn**	**02 02 18.8**	**-2.3**
	276nm,0.2s						
GRMI	**Germi**	**3.68**	**249**	Pn	**Pn**	**02 01 38.8**	**-0.4**
GRMI	**Germi**	**3.68**	**249**	*e*Pn	**Pn**	**02 01 38.8**	**-0.4**
GRMI				IAML		02 02 21.3	
	comp=Z,470nm,1.0s						
QRD	**Qoradiz**	**3.90**	**260**	Pn	**Pn**	**02 01 42.0**	**0.0**
QRD				Sn	**Sn**	**02 02 23.5**	**-2.9**
BRDA	**Brd**	**3.91**	**272**	Pn	**Pn**	**02 01 42.9**	**+0.8**
BRDA				Sn	**Sn**	**02 02 26.1**	**-0.6**
IGLO	**Ghaloghah**	**3.91**	**161**	Pn	**Pn**	**02 01 43.7**	**+1.3**
MRVT	**Maraveh tapeh**	**3.92**	**130**	*e*Pn	**Pn**	**02 01 44.7**	**+2.3**
MRVT				IAML		02 01 45.3	
	comp=Z,110nm,1.0s						
AGDM	**Agdam**	**3.97**	**270**	Pn	**Pn**	**02 01 42.6**	**-0.3**
AGDM				Sn	**Sn**	**02 02 26.6**	**-1.6**
SEKA	**Sheki**	**3.99**	**286**	Pn	**Pn**	**02 01 43.5**	**+0.2**
SEKA				Sn	**Sn**	**02 02 26.8**	**-2.0**
MNGR	**Mingechevir, A**	**4.00**	**279**	Pn	**Pn**	**02 01 44.0**	**+0.6**
MNGR				Sn	**Sn**	**02 02 28.1**	**-0.9**
URKR	**Urkarakh**	**4.01**	**300**	*e*Pn	**Pn**	**02 01 44.6**	**+1.0**
	comp=Z,40nm,0.2s						
URKR				*e*Sn	**Sn**	**02 02 28.8**	**-0.5**
	comp=Z,225nm,0.2s						
SGKR	**Sergokala**	**4.13**	**304**	*e*Pn	**Pn**	**02 01 46.2**	**+1.0**
	comp=Z,17nm,0.1s						
SGKR				*e*Sn	**Sn**	**02 02 31.6**	**-0.7**
	comp=Z,138nm,0.3s						
IALA	**Alasht**	**4.16**	**174**	Pn	**Pn**	**02 01 47.0**	**+1.2**
IGZV	**Ghazvin**	**4.17**	**204**	Pn	**Pn**	**02 01 46.0**	**+0.1**
KMKR	**Kumukh**	**4.35**	**298**	*e*Pn	**Pn**	**02 01 49.1**	**+0.7**
	comp=Z,20nm,0.4s						
KMKR				*e*Sn	**Sn**	**02 02 36.9**	**-1.0**
	comp=Z,256nm,0.5s						
CHTH	**Charan**	**4.41**	**192**	*e*Pn	**Pn**	**02 01 50.7**	**+1.5**
CHTH				IAML		02 02 46.3	
	comp=Z,120nm,1.0s						
THKV	**Tehran--Karaj**	**4.45**	**195**	*e*Pn	**Pn**	**02 01 51.3**	**+1.6**
THKV				IAML		02 02 42.9	
	comp=Z,490nm,1.0s						
MAK	**Makhachkala**	**4.50**	**309**	⇑*i*P	**Pn**	**02 01 51.0**	**+0.7**
MAK				*e*S	**Sn**	**02 02 39.8**	**-1.5**
MAK				pmax	pmax		
	comp=Z,47nm,0.2s						
MAK				smax	smax		
	comp=N,157nm,0.7s						
MAK				smax	smax		
	comp=N,143nm,0.6s						
MAK				MLR	MLR		
	comp=Z,21nm,6.0s						
ZKTA	**Zakatala**	**4.51**	**290**	Pn	**Pn**	**02 01 51.0**	**+0.5**
ZKTA				Sn	**Sn**	**02 02 40.3**	**-1.3**
ZNJK	**Zanjan**	**4.54**	**220**	*e*Pn	**Pn**	**02 01 50.3**	**-0.7**
ZNJK				IAML		02 02 41.7	
	comp=Z,660nm,1.0s						
GNBR	**Gunib**	**4.55**	**300**	*e*Pn	**Pn**	**02 01 52.9**	**+1.9**
	comp=Z,26nm,0.5s						
GNBR				*e*Sn	**Sn**	**02 02 42.8**	**+0.2**
	comp=Z,190nm,0.6s						
GANJ	**Ganja**	**4.57**	**277**	Pn	**Pn**	**02 01 50.4**	**-0.8**
GANJ				Sn	**Sn**	**02 02 39.7**	**-3.3**
VSHL	**Vashlovani**	**4.58**	**285**	P	**Pn**	**02 01 51.9**	**+0.5**
VSHL				S	**Sn**	**02 02 42.3**	**-1.0**
DAMV	**Damavand**	**4.60**	**183**	*e*Pn	**Pn**	**02 01 54.3**	**+2.5**
DAMV				IAML		02 02 47.8	
	comp=Z,120nm,1.0s						
ARKR	**Arakani**	**4.63**	**303**	*e*Pn	**Pn**	**02 01 53.5**	**+1.5**
	comp=Z,9.0nm,0.5s						
ARKR				*e*Sn	**Sn**	**02 02 44.2**	**-0.3**
	comp=Z,38nm,0.4s						
IDMV	**Damavand**	**4.65**	**183**	Pn	**Pn**	**02 01 54.3**	**+1.7**
KANR	**Karaman**	**4.66**	**311**	*e*Pn	**Pn**	**02 01 54.2**	**+1.9**
	comp=Z,92nm,0.4s						
KANR				*e*Sn	**Sn**	**02 02 45.7**	**+0.8**
	comp=Z,78nm,0.7s						
BUJR	**Buynaksk**	**4.67**	**305**	*e*Pn	**Pn**	**02 01 53.9**	**+1.3**
	comp=Z,13nm,0.3s						
BUJR				*e*Sn	**Sn**	**02 02 45.2**	**-0.3**
	comp=Z,110nm,0.4s						
BJRD	**Bojnurd**	**4.72**	**121**	*e*PnA		02 01 55.6	
BJRD				IAML		02 01 56.3	
	comp=Z,54nm,1.0s						
XNZR	**Khunzakh**	**4.79**	**301**	*e*Pn	**Pn**	**02 01 55.7**	**+1.3**
	comp=Z,13nm,0.2s						
XNZR				*e*Sn	**Sn**	**02 02 48.0**	**-0.6**
	comp=Z,38nm,0.3s						
KRNR	**Karanay**	**4.80**	**305**	*e*Pn	**Pn**	**02 01 55.8**	**+1.4**
	comp=Z,14nm,0.2s						
KRNR				*e*Sn	**Sn**	**02 02 48.0**	**-0.7**
	comp=Z,53nm,0.4s						
UNCR	**Uncukul**	**4.81**	**303**	*e*Pn	**Pn**	**02 01 55.8**	**+1.3**
	comp=Z,16nm,0.4s						
UNCR				*e*Sn	**Sn**	**02 02 48.5**	**-0.5**
	comp=Z,59nm,0.7s						
DBC	**Dubki**	**4.95**	**306**	*e*Pn	**Pn**	**02 01 57.2**	**+0.8**
	comp=Z,17nm,0.6s						
DBC				*e*Sn	**Sn**	**02 02 50.9**	**-1.4**
	comp=Z,97nm,0.8s						
QABG	**Abgarm-Qazvin**	**4.99**	**206**	Pn	**Pn**	**02 01 57.7**	**+0.5**
GDB	**GEDABAY**	**5.00**	**278**	Pn	**Pn**	**02 01 56.2**	**-1.1**
GDB				Sn	**Sn**	**02 02 49.8**	**-4.1**
ORD	**Ordubad**	**5.03**	**257**	Pn	**Pn**	**02 01 58.0**	**+0.4**
ORD				Sn	**Sn**	**02 02 51.4**	**-3.0**
DLMR	**Dylym**	**5.10**	**306**	*e*Pn	**Pn**	**02 01 59.9**	**+1.4**
	comp=Z,32nm,0.5s						
DLMR				*e*Sn	**Sn**	**02 02 55.9**	**-0.1**
	comp=Z,210nm,0.3s						
BTLR	**Botlikh**	**5.16**	**300**	*e*Pn	**Pn**	**02 02 00.5**	**+1.1**
	comp=Z,8.0nm,0.2s						
BTLR				*e*Sn	**Sn**	**02 02 57.1**	**-0.5**
	comp=Z,50nm,0.2s						
ITBZ	**Tabriz**	**5.17**	**249**	Pn	**Pn**	**02 01 59.5**	**0.0**
IVRN	**Varamin**	**5.24**	**185**	Pn	**Pn**	**02 02 02.4**	**+1.9**
SBZ	**Shahbuz**	**5.25**	**263**	Pn	**Pn**	**02 02 01.5**	**+0.9**
SBZ				Sn	**Sn**	**02 02 55.7**	**-4.1**
QZX	**Qazax, Azerbai**	**5.32**	**281**	Pn	**Pn**	**02 02 00.8**	**-0.7**
QZX				Sn	**Sn**	**02 02 58.6**	**-2.9**
NAX	**Nakhchivan**	**5.34**	**261**	Pn	**Pn**	**02 02 02.3**	**+0.5**
NAX				Sn	**Sn**	**02 02 58.1**	**-3.9**
DGRG	**David-gareji**	**5.38**	**285**	P	**Pn**	**02 02 02.4**	**+0.1**
DGRG				S	**Sn**	**02 03 01.2**	**-1.8**
DGRG	**David-gareji**	**5.38**	**285**	P	**Pn**	**02 02 02.4**	**+0.1**
DGRG				S	**Sn**	**02 03 01.2**	**-1.8**
HGHA	**Hamedan- Ghaye**	**5.45**	**211**	Pn	**Pn**	**02 02 04.3**	**+0.8**
IQOM	**Qom**	**5.46**	**191**	Pn	**Pn**	**02 02 05.5**	**+1.8**
SBZV	**Sabzevar**	**5.68**	**131**	Pn	**Pn**	**02 02 09.2**	**+2.6**
SBZV	**Sabzevar**	**5.68**	**131**	*e*Pn	**Pn**	**02 02 09.8**	**+3.2**
SBZV				IAML		02 03 18.1	
	comp=Z,19nm,1.0s						
GROC	**Groznyy**	**5.69**	**304**	*e*Pn	**Pn**	**02 02 07.7**	**+1.2**
	comp=Z,12nm,0.2s						
GROC				*e*Sn	**Sn**	**02 03 10.1**	**-0.4**
	comp=Z,42nm,0.4s						
IEMG	**Emamgholi**	**5.71**	**117**	Pn	**Pn**	**02 02 08.9**	**+1.8**
HYR	**Heyderabad**	**5.73**	**267**	Pn	**Pn**	**02 02 08.3**	**+1.1**
GNI	**Garni**	**5.78**	**272**		**Pn**	**02 02 08.9**	**+1.1**
GNI	**Garni**	**5.78**	**272**	P	**Pn**	**02 02 08.0**	**+0.2**
	comp=Z,7.7nm,0.6s,baz=5.3,slow=1.5,SNR=8.1						
GNI				S	**Sn**	**02 03 12.0**	**-0.9**
	comp=Z,13nm,0.5s,baz=324,slow=17,SNR=4.7						
BTNK	**Botanikuri**	**5.85**	**287**	P	**Pn**	**02 02 07.7**	**-1.0**
BTNK				S	**Sn**	**02 03 10.7**	**-3.7**
ISFB	**Sefidab**	**5.87**	**180**	Pn	**Pn**	**02 02 10.8**	**+1.7**
TBLG	**Delisi**	**5.91**	**287**	P	**Pn**	**02 02 08.8**	**-0.6**
TBLG				S	**Sn**	**02 03 11.1**	**-4.6**
TBLG	**Delisi**	**5.91**	**287**	P	**Pn**	**02 02 08.8**	**-0.6**
TBLG				S	**Sn**	**02 03 11.1**	**-4.6**
CHRG	**Chargali**	**5.93**	**293**	P	**Pn**	**02 02 09.7**	**-0.1**
CHRG				S	**Sn**	**02 03 13.7**	**-2.7**
HAGD	**Aghdareh**	**5.95**	**206**	Pn	**Pn**	**02 02 11.6**	**+1.3**
IAKL	**Akhelmad**	**6.24**	**123**	Pn	**Pn**	**02 02 16.7**	**+2.4**
MTEO	**Meteo**	**6.32**	**295**	P	**Pn**	**02 02 17.8**	**+2.3**
MTEO				S	**Sn**	**02 03 25.3**	**-1.1**
MTEO	**Meteo**	**6.32**	**295**	P	**Pn**	**02 02 17.8**	**+2.3**
MTEO				S	**Sn**	**02 03 25.3**	**-1.1**
TRLG	**Trialeti**	**6.34**	**285**	P	**Pn**	**02 02 14.9**	**-0.6**
TRLG				S	**Sn**	**02 03 20.5**	**-6.1**
TRLG	**Trialeti**	**6.34**	**285**	P	**Pn**	**02 02 14.9**	**-0.6**
TAPT	**Tabas- Tapeh t**	**6.59**	**142**	Pn	**Pn**	**02 02 21.9**	**+2.9**
SRSL	**SARDASHT**	**6.72**	**236**	*e*Pn	**Pn**	**02 02 22.8**	**+2.0**
SRSL				IAML		02 02 25.1	
	comp=Z,14nm,1.0s						
GARIG	**Gari**	**7.04**	**293**	P	**Pn**	**02 02 26.1**	**+1.1**
TNSJ	**Nastanj**	**7.14**	**150**	Pn	**Pn**	**02 02 29.3**	**+2.8**
NCK	**Nalchik**	**7.26**	**300**	*i* P	**Pn**	**02 02 25.2**	**-2.8**
TKB	**Tkibuli**	**7.31**	**290**	P	**Pn**	**02 02 28.2**	**-0.5**
TKB	**Tkibuli**	**7.31**	**290**	P	**Pn**	**02 02 28.2**	**-0.5**
IGHG	**Ghaleghazi**	**7.44**	**220**	Pn	**Pn**	**02 02 31.1**	**+0.3**
TKDS	**Koohdasht(Taba**	**7.65**	**148**	Pn	**Pn**	**02 02 35.8**	**+2.3**
KBZ	**Khabaz**	**7.82**	**300**	P	**Pn**	**02 02 34.2**	**-1.4**
	comp=Z,2.1nm,0.2s,baz=102,slow=5.7,SNR=40						
KBZ				S	Sn	02 03 52.6	-10
	comp=Z,3.2nm,0.3s,baz=294,slow=22,SNR=6.7						
SHA1	**Shidzhatmaz**	**7.98**	**299**	*i* P	**Pn**	**02 02 37.1**	**-1.0**
TPRV	**Parvadeh(Tabas**	**8.01**	**152**	Pn	**Pn**	**02 02 40.9**	**+2.5**
KVAR	**Kislovodsk Arr**	**8.04**	**301**	P	**Pn**	**02 02 37.9**	**-0.9**
	comp=Z,2.0nm,0.4s,baz=288,slow=22,SNR=2.4						
KVAR				S	**Sn**	**02 04 00.5**	**-7.8**
	comp=Z,5.6nm,0.3s,baz=192,slow=18,SNR=4.9						
KIV	**Kislovodsk**	**8.05**	**301**		**Pn**	**02 02 37.7**	**-1.1**
KIV	**Kislovodsk**	**8.05**	**301**	*e*P	**Pn**	**02 02 37.3**	**-1.6**
KIV				*e*S	**Sn**	**02 04 07.5**	**-0.9**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GOF	**Gofitskoye**	**8.35**	**308**	*ce*P	**Pn**	**02 02 42.1**	**-0.7**
ITEG	**Tejag**	**8.97**	**143**	Pn	**Pn**	**02 02 54.8**	**+3.2**
AB31	**Akbulak array**	**10.54**	**29**		**Pn**	**02 03 11.0**	**-1.7**
AB31	**Akbulak array**	**10.54**	**29**	Pn	**Pn**	**02 03 11.2**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=208,slow=12,SNR=42						
AB31				⇓Sn	**Sn**	**02 05 04.9**	**-4.1**
	comp=Z,2.4nm,0.3s,baz=214,slow=24,SNR=17						
ABKAR	**Akbulak array**	**10.54**	**29**		**Pn**	**02 03 11.2**	**-1.5**
ABKAR	**Akbulak array**	**10.54**	**29**		**Pn**	**02 03 11.3**	**-1.5**
AKTO	**Aktyubinsk**	**10.97**	**20**	P	**Pn**	**02 03 18.0**	**-0.6**
	comp=Z,4.1nm,0.3s,baz=208,slow=8.6,SNR=15						
AKTO				S	**Sn**	**02 05 14.6**	**-5.0**
	comp=Z,13nm,0.4s,baz=65,slow=21,SNR=20						
AKTO	**Aktyubinsk**	**10.97**	**20**	⇑Pn	**Pn**	**02 03 17.5**	**-1.1**
	comp=Z,1.8nm,0.4s						
AKTO				⇑Sn	**Sn**	**02 05 12.2**	**-7.4**
	comp=Z,19nm,0.7s						
BELG	**Belogornoye**	**12.58**	**347**	P	**Pn**	**02 03 39.5**	**-1.1**
	comp=Z,3.0nm,0.3s,baz=278,slow=12,SNR=2.1						
BELG				S	Sn	02 05 48.0	-11
	comp=Z,19nm,0.6s,baz=329,slow=10,SNR=7.7						
KK31	**Karatay Array**	**13.93**	**72**	⇓Pn	**Pn**	**02 03 58.1**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=267,slow=15,SNR=8.5						
KK31				⇓Sn	**Sn**	**02 06 27.2**	**-4.5**
	comp=Z,1.4nm,0.5s,baz=279,slow=22,SNR=2.9						
KK31	**Karatay Array**	**13.93**	**72**	P	**Pn**	**02 03 58.1**	**-0.7**
KKAR	**Karatay Array**	**13.93**	**72**	Pn	**Pn**	**02 03 58.6**	**-0.2**
KKAR	**Karatay Array**	**13.93**	**72**	Pn	**Pn**	**02 03 58.2**	**-0.6**
KKAR	**Karatay Array**	**13.93**	**72**	P	**Pn**	**02 03 58.6**	**-0.2**
BRTR	**Keskin Array B**	**14.31**	**274**	P	**Pn**	**02 04 03.6**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=94,slow=12,SNR=3.3						
ASF	**Jabal al Asfar**	**14.78**	**242**	P	**Pn**	**02 04 11.5**	**+1.4**
	comp=Z,3.0nm,0.9s,baz=164,slow=1.3,SNR=4.4						
ARTI	**Arti**	**16.66**	**12**	P	**Pn**	**02 04 31.6**	**-2.1**
ARTI	**Arti**	**16.66**	**12**	P	**Pn**	**02 04 32.3**	**-1.4**
	comp=Z,3.8nm,0.4s,baz=200,slow=7.4,SNR=11						
ARTI				S	**Sn**	**02 07 29.9**	**-7.9**
	comp=Z,2.3nm,0.5s,baz=58,slow=22,SNR=4.2						
ARTI	**Arti**	**16.66**	**12**	*d i P*	**Pn**	**02 04 32.0**	**-1.7**
ARTI				S	**Sn**	**02 07 35.7**	**-2.1**
ARTI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AAK	**Ala-Archa**	**16.82**	**75**		**P**	**02 04 39.1**	**+1.9**
AAK	**Ala-Archa**	**16.82**	**75**	P	**P**	**02 04 38.7**	**+1.5**
	comp=Z,0.9nm,0.4s,baz=258,slow=11,SNR=5.2						
AAK	**Ala-Archa**	**16.82**	**75**	P	**P**	**02 04 39.1**	**+1.9**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**17.75**	**38**	*ce*P	**P**	**02 04 48.9**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BVA0	**Borovoye

KEST	Kesra	33.90	276	LR	LR	02 22 03.2	
	comp=Z,18nm,20.0s,baz=312,slow=38						
EKA	Eskdalemuir Ar	39.10	312	P	P	02 08 05.1	-0.2
	comp=Z,0.3nm,0.4s,baz=100,slow=8.4,SNR=10						
EKA				pP	pP	02 08 21.5	+0.4
	comp=Z,0.5nm,0.4s,baz=98,slow=8.8,SNR=4.0						
	comp=Z,0.3nm,0.4s						
ZEA	Zeya	50.55	48	eP	P	02 09 34.6	-1.7
KSRS	Korea Array	57.27	66	P	P	02 10 26.4	+0.9
	comp=Z,1.0nm,0.5s,baz=288,slow=6.4,SNR=5.9						
	comp=Z,1.0nm,0.5s						
C18K	Utukok River	68.61	13	P	P	02 11 41.0	+0.6
C36M	Paulatuk	70.71	359	P	P	02 11 52.5	-0.6
C36M				IAmb	IAmb	02 12 02.2	
	comp=Z,3.2nm,1.4s						
F21K	Alatna River	71.09	10	P	P	02 11 56.0	+0.4
F30M	Barrier River	72.31	3	P	P	02 12 03.3	+0.4
F30M				IAmb	IAmb	02 12 23.3	
	comp=Z,6.5nm,1.5s						
G31M	Satah River	73.06	3	P	P	02 12 07.5	+0.2
G31M				IAmb	IAmb	02 12 08.2	
	comp=Z,6.0nm,1.4s						
H31M	Peel River	74.17	3	P	P	02 12 13.0	-1.0
H31M				IAmb	IAmb	02 12 53.8	
	comp=Z,5.8nm,1.4s						
I28M	Miner Creek	74.23	5	P	P	02 12 14.9	+0.6
SKT	Skwentna	76.33	11	P	P	02 12 26.4	0.0
SKT				IAmb	IAmb	02 13 00.1	
	comp=Z,7.3nm,1.2s						
BCAR	Beaver Creek A	76.44	7	P	P	02 12 27.7	+0.7
SCM	Sheep Creek Mo	77.05	9	P	P	02 12 30.9	+0.4
SCM	Sheep Creek Mo	77.05	9	P	P	02 12 30.9	+0.4
SCM				pmax	pmax		
	comp=Z,26nm,1.4s						

MEX ***21*** *02:03:27.6±1.2, 15°.98N×95°.16W, h66km±21km, MD4.2*
GCG ***21*** *02:03:28.4±2.7, 15°.69N×94°.96W, h16km±999km, MD4.7*
ISC 21 02:03:22.1±1.1, 15°.99N±0°.03×95°.02W±0°.02, h9km±9km, n46, σ2s22/84, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.07	258	eP	Pb	02 03 43.3	+0.5
HUIG				eS	Sg	02 03 56.2	-0.4
HUIG	Huatulco	1.07	258	i P	Pg	02 03 43.1	+0.4
HUIG				i S	Sg	02 03 56.0	-0.6
CMIG	Matias Romero	1.10	7	eP	Pn	02 03 44.0	+0.3
CMIG				eS	Sb	02 03 57.7	-0.1
PANG	Puerto Angel	1.43	257	eP	Pb	02 03 49.9	+0.8
PANG				eS	Sb	02 04 07.7	+0.3
UXUV	UXUV	1.56	32	eP	Pg	02 03 53.0	+0.9
UXUV				eS	Sg	02 04 13.0	+0.6
PCIG		1.76	99	eP	Pg	02 03 56.3	+0.4
PCIG				eS	Sg	02 04 19.0	+0.2
NEUV	Arroyo Zacate	1.86	337	eP	Pn	02 03 54.9	+0.6
NEUV				eS	Sn	02 04 17.7	-0.3
OXLC	Oaxaca	1.93	304	eP	Pg	02 03 58.3	-0.9
OXLC				eS	Sb	02 04 22.2	+0.2
OXBJ	Oaxaca	1.95	303	eP	Pb	02 03 57.1	-0.8
OXBJ				eS	Sn	02 04 20.4	0.0
VHO	Vista Hermosa	1.96	303	eP	Pb	02 03 57.4	-0.7
VHO				eS	Sn	02 04 20.9	+0.3
TGIG		1.98	67	eP	Pg	02 04 00.2	0.0
TGIG				eS	Sg	02 04 26.5	+0.5
TGBT	Tuxtla Gutierr	2.01	67	eS	Sg	02 04 25.9	-0.9
PEIG	Puerto Escondi	2.04	270	eP	Pn	02 03 57.0	+0.3
PEIG				eS	Sn	02 04 18.8	-3.5
PMUV	Sontecomapan	2.54	358	eS	Sn	02 04 30.1	-4.6
YOIG	Yosondua	2.57	290	eP	Pb	02 04 08.7	+0.1
YOIG				eS	Sn	02 04 37.6	+1.9
CCIG	Comitan	2.79	84	eP	Pb	02 04 13.1	+0.9
CCIG				eS	Sb	02 04 46.8	+0.2
CCIG	Comitan	2.79	84	i P	Pb	02 04 13.1	+0.9
CCIG				i S	Sb	02 04 46.7	+0.2
PATR	El Naranjo	2.83	108	eP	Pb	02 04 12.0	-0.9
PATR				eS	Sn	02 04 44.9	+2.9
PAVE	Pavencul	2.86	106	eP	Pb	02 04 13.1	-0.3
PAVE				eS	Sb	02 04 47.4	-1.1
TOIG	Toxpalan	2.86	317	eP	Pb	02 04 12.1	-1.4
TOIG				eS	Sn	02 04 43.3	+0.6
THIG		2.87	112	eS	Sn	02 04 44.1	+1.3
TXIG	Tlaxiaco	2.92	296	eP	Pb	02 04 12.0	-2.4
TXIG				eS	Sn	02 04 41.2	-3.0
PNIG	Pinotepa	3.01	278	eP	Pn	02 04 10.7	+0.7
PNIG				eS	Sn	02 04 46.2	0.0
HLIG	Huajuapan de L	3.23	305	eP	Pn	02 04 16.6	+3.4
HLIG				eS	Sn	02 04 51.9	0.0
TPIG	Tehuac#an	3.29	318	eP	Pb	02 04 19.0	-1.8
TPIG				eS	Sn	02 04 54.4	+1.1
RTAL	Retalhuleu	3.53	114	eP	Pb	02 04 25.0	+0.2
RTAL				eS	Sn	02 05 01.6	+2.6
FTIG	Fresnillo de T	3.53	303	eP	Pb	02 04 22.8	-2.1
FTIG				eS	Sn	02 05 01.6	+2.4
MGIG	Malinaltepec	3.67	290	eP	Pn	02 04 19.8	+0.5
MGIG				eS	Sn	02 05 02.9	+0.1
TLIG	Tlapa	3.74	295	eP	Pn	02 04 24.4	+4.3
TLIG				eS	Sn	02 05 06.1	+1.8
POHV	Veracruz	3.74	325	eP	Pn	02 04 24.2	+3.7
POHV				eS	Sn	02 05 07.0	+2.0
JAUV	Jalcomulco	3.76	333	eP	Pn	02 04 20.0	-0.3
JAUV				eS	Sn	02 05 02.6	-2.2
STG8	El Palmar, Qui	3.86	113	i P	Pn	02 04 20.7	-1.2
STG8				i S	Sn	02 05 02.3	-5.3
STG0	El Palmar, Qui	3.88	113	i P	Pn	02 04 21.8	-0.3
STG0				i S	Sn	02 05 02.7	-5.2
STG5	El Palmar, Qui	3.88	114	i P	Pn	02 04 20.9	-1.2
STG5				i S	Sn	02 05 02.7	-5.2
CRIG	Cruz Grande	4.01	281	eP	Pn	02 04 24.3	+0.5
CRIG				eS	Sn	02 05 07.7	-3.2
PBXN	Popocatepetl	4.58	311	eP	Pn	02 04 31.8	-0.3
PBXN				eP		02 04 36.6	
PBXN				eS	Sn	02 05 19.8	-5.9
PBXN				eS		02 05 24.4	
PBPN	Popocatepetl	4.58	312	eP	Pn	02 04 34.0	+1.9
PBPN				eS	Sn	02 05 22.6	-3.2
PPM	Popocatepetl	4.60	312	eP	Pb	02 04 40.9	-2.4
PPM				eS	Sn	02 05 29.8	+3.6
YAIG	Yautepec	4.80	307	eP	Pb	02 04 41.5	-5.1
YAIG				eS	Sn	02 05 31.1	+0.5
MEIG	Mezcala	4.80	294	eP	Pn	02 04 33.6	-1.1
MEIG				eS	Sn	02 05 33.0	+2.4
CXUV	Coxquihui	4.82	330	eP	Pn	02 04 37.9	+3.0
CXUV				eS	Sn	02 05 33.3	+2.3
PLIG	Platanillo	4.90	300	eP	Pn	02 04 39.7	+3.6
PLIG				eS	Sn	02 05 31.8	-1.2
PETF	Flores	5.03	79	eP	Pb	02 04 44.5	-5.9
PETF				eS	Sn	02 05 40.3	+4.2
CAIG	El Cayaco	5.14	283	eS	Sn	02 05 43.5	+4.7
ARIG	Puente Sto Nin	5.58	295	eP	Pn	02 04 50.6	+5.3
ARIG				eS	Sn	02 05 49.2	-0.3
DEIG	Demacu	5.74	319	eP	Pb	02 04 57.1	-5.4
DEIG				eS	Sn	02 05 53.6	-0.2

NEIC ***21*** *02:29:44.8±0.7, 19°.29N±0°.07×65°.53W±0°.08, h10km±2km, ML2.9/26, Md3.5/14(RSPR), Error ellipse: s-maj=13.0km s-min=10.8km az=61.0*
RSPR ***21*** *02:29:46.5, 19°.35N×65°.47W, h62km±10km, MD3.5/14*
ISC 21 02:29:42.1±2.1, 19°.36N±0°.09×65°.40W±0°.05, h13km±11km, n52, σ0s81/56, 8C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	Guaynabo City	1.23	212		Pg	02 30 05.2	-0.6
GCPR					Sn	02 30 22.2	+0.6
GCPR	Guaynabo City	1.23	212	⇑eP	Pg	02 30 05.1	-0.6
GCPR	Guaynabo City	1.23	212	eS	Sn	02 30 22.2	+0.6
ECPR	Experimental S	1.38	222	⇓eP	Pn	02 30 08.0	+0.8
ECPR	Experimental S	1.38	222	eS	Sb	02 30 25.8	+0.4
EMPR	Esperanza - Ma	1.38	231		Pb	02 30 08.1	+0.2
EMPR					Sb	02 30 24.9	-0.6
EMPR				IAML		02 30 36.6	
	comp=N,390nm,0.8s						
EMPR				IAML		02 30 44.1	
	comp=E,360nm,1.0s						
EMPR	Esperanza - Ma	1.38	231	⇑eP	Pb	02 30 08.2	+0.3
EMPR	Esperanza - Ma	1.38	231	eS	Sb	02 30 24.2	-1.2
SJG	San Juan	1.43	210		Pb	02 30 09.0	+0.4
SJG				IAML		02 30 41.6	
	comp=E,147nm,0.7s						
SJG	San Juan	1.43	210	⇓eP	Pb	02 30 08.9	+0.2
PDPR	Patillas Dam,	1.46	204		Pb	02 30 09.6	+0.5
PDPR	Patillas Dam,	1.46	204	⇑eP	Pn	02 30 08.8	+0.6
IGPR	InterUniversit	1.54	206		Pb	02 30 10.9	+0.4
IGPR				IAML		02 30 34.4	
	comp=N,191nm,0.4s						
IGPR				IAML		02 30 46.2	
	comp=E,188nm,0.8s						
IGPR	InterUniversit	1.54	206		Sn	02 30 28.7	-0.5
IGPR	InterUniversit	1.54	206	⇓eP	Pb	02 30 10.9	+0.4
IGPR	InterUniversit	1.54	206	eS	Sn	02 30 28.7	-0.5
AOPR	Arecibo Observ	1.63	232		Pn	02 30 11.3	+0.7
AOPR					Sn	02 30 31.1	-0.4
AOPR	Arecibo Observ	1.63	232	⇓eP	Pn	02 30 11.3	+0.7
AOPR	Arecibo Observ	1.63	232	eS	Sn	02 30 31.1	-0.4
AOPR	Arecibo Observ	1.63	232	eP	Pg	02 30 14.0	+0.5
AOPR				eS	Sg	02 30 34.1	-0.5
UUPR	Utuado, UPR, P	1.66	229		Pn	02 30 12.1	+1.0
UUPR	Utuado, UPR, P	1.66	229		Sn	02 30 31.6	-0.7
UUPR	Utuado, UPR, P	1.66	229	⇑eP	Pn	02 30 12.3	+1.2
UUPR	Utuado, UPR, P	1.66	229	eS	Sn	02 30 31.6	-0.7
CELP	Cerrillos	1.69	221		Pn	02 30 12.6	+1.1
CELP				IAML		02 30 38.1	
	comp=N,109nm,0.8s						
CELP	Cerrillos	1.69	221		Sn	02 30 32.9	-0.2
CELP	Cerrillos	1.69	221	⇑eP	Pn	02 30 12.5	+0.9
CELP	Cerrillos	1.69	221	eS	Sn	02 30 32.9	-0.2
OBIP	Obispado Ponce	1.74	221		Pn	02 30 12.2	+0.5
OBIP					Sn	02 30 33.5	-0.6
OBIP	Obispado Ponce	1.74	221	IAML		02 30 51.1	
	comp=N,105nm,1.2s						
OBIP				IAML		02 30 53.4	
	comp=E,120nm,0.8s						
OBIP	Obispado Ponce	1.74	221	⇑eP	Pn	02 30 12.6	+0.5
OBIP	Obispado Ponce	1.74	221	eS	Sn	02 30 33.5	-0.6
AGPR	Aguadilla, PR	1.85	242		Pn	02 30 14.6	+1.0
AGPR					Sn	02 30 36.2	-0.6
AGPR	Aguadilla, PR	1.85	242	IAML		02 30 43.8	
	comp=E,178nm,1.3s						
AGPR				IAML		02 30 53.9	
	comp=N,146nm,1.1s						
AGPR	Aguadilla, PR	1.85	242	⇓eP	Pn	02 30 14.6	+1.0
AGPR	Aguadilla, PR	1.85	242	eS	Sn	02 30 36.2	-0.6
PRSN	Puerto Rico Se	2.00	236		Pn	02 30 16.9	+1.2
PRSN				IAML		02 30 53.9	
	comp=N,222nm,0.7s						
PRSN				IAML		02 30 54.3	
	comp=E,175nm,0.3s						
PRSN	Puerto Rico Se	2.00	236	⇑eP	Pn	02 30 16.9	+1.2
MLPR	Magueyes Islan	2.08	229	⇓eP	Pn	02 30 18.2	+1.3
MLPR	Magueyes Islan	2.08	229	eS	Sn	02 30 42.5	-0.1
CRPR	Cabo Rojo, PR	2.10	231		Pn	02 30 18.5	+1.3
CRPR					Sn	02 30 42.1	-1.1
CRPR	Cabo Rojo, PR	2.10	231	IAML		02 31 06.0	
	comp=N,78nm,1.0s						
CRPR				IAML		02 31 17.0	
	comp=E,81nm,1.4s						
CRPR	Cabo Rojo, PR	2.10	231	⇓eP	Pn	02 30 18.5	+1.3
CRPR	Cabo Rojo, PR	2.10	231	eS	Sn	02 30 42.1	-1.1
PCDR	Punta Cana, DR	2.94	254		Pn	02 30 29.8	+1.1
PCDR	Punta Cana, DR	2.94	254		Sn	02 31 02.7	-1.2
PCDR	Punta Cana, DR	2.94	254	⇑eP	Pn	02 30 29.9	+1.2
PCDR	Punta Cana, DR	2.94	254	eS	Sn	02 31 02.7	-1.2
DR12	Loma Pena Alta	3.81	262	Pn	Pn	02 30 40.7	+0.1
ANBD	Bethesda, Anti	4.15	123	eP	Pn	02 30 44.9	-0.4
ANBD	Bethesda, Anti	4.15	123	eS	Sn	02 31 33.1	-0.5
SDDR	Presa de Saban	5.58	267		Pn	02 31 05.8	+0.8

KRSC 21 02:31:47.3±1.1, 54°.95N×164°.77E, h42km±24km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.73	70	eP	Pn	02 32 01.3	+0.1
BKI				eS	Sn	02 32 11.0	-0.2
KBTR	Krutoberegovo	1.68	319	eP	Pn	02 32 14.5	+0.4
KBTR				eS	Sn	02 32 33.9	-0.5
MKZ	Mys Kozlova	1.81	258	eP	Pn	02 32 18.8	+2.9
MKZ				eS	Sn	02 32 40.1	+2.5
BZGR	Bezymyannyi-Gr	2.52	295	eP	Pn	02 32 29.9	+4.0
TUMD	Tumrok D	2.53	277	eP	Pn	02 32 28.9	+3.0
BZMR	Bezymyannaya	2.63	294	eP	Pn	02 32 30.8	+3.4
BZWR	Bezymyannyi-We	2.64	294	eP	Pn	02 32 31.5	+4.0
KRSR	Krestovskiy	2.70	300	eP	Pn	02 32 31.8	+3.5
KLY	Klyuchi	2.70	302	eP	Pn	02 32 30.3	+2.1
KMNR	Kamenistaya	2.71	289	eP	Pn	02 32 32.8	+4.4
KIRR	Kirishev	2.71	293	eP	Pn	02 32 32.6	+4.1
KPT	Kopyto	2.78	293	eP	Pn	02 32 33.2	+3.8
KII	Karymskiy	3.24	256	eP	Pn	02 32 40.3	+4.7
SPN	Mys Shipunski	3.36	238	eS	Sn	02 33 18.6	+2.7
NLC	Nalytchevo	3.66	243	eS	Sn	02 33 26.4	+3.1
SDLR	Sedlovina	3.85	247	eP	Pn	02 32 48.6	+4.5
UGLR	Uglovaya	3.92	246	eP	Pn	02 32 49.3	+4.3
AVH	Avacha	3.94	247	eP	Pn	02 32 50.6	+5.3
AVH				eS	Sn	02 33 34.3	+4.2
KRX	Arik	3.94	249	eP	Pn	02 32 50.1	+4.8
KRX				eS	Sn	02 33 33.3	+3.0
KOK	Koryaka	3.98	248	eP	Pn	02 32 50.9	+5.1
DALK	Dalny	4.04	244	eS	Sn	02 33 35.3	+2.7
GNL	Ganaly	4.19	255	eP	Pn	02 32 53.7	+4.9
KRMR	Karymshinskiy	4.47	244	eP	Pn	02 32 57.5	+5.1
RUS	Russkaya	4.50	238	eP	Pn	02 32 57.1	+4.2
MTVR	Mutnovka	4.63	240	eP	Pn	02 32 58.9	+4.0
GRL	Gorelyy	4.65	242	eP	Pn	02 33 00.7	+5.7
KDTR	Khodutka, Kamc	5.10	235	eP	Pn	02 33 04.7	+3.7

IDC ***21*** *02:48:35.8±1.2, 34°.03N×135°.16E, h0km, mb3.6/3, mbtmp3.4/6, ML2.8/3, MS2.2/1, Error ellipse: s-maj=22.6km s-min=13.8km az=149.0*
NIED ***21*** *02:48:37.3, 34°.21N×135°.14E, h7km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; M_{rr}1.45; $M_{\theta\theta}$0.23; $M_{\phi\phi}$-1.68; $M_{r\theta}$-0.31; $M_{\phi r}$0.57; $M_{\phi r}$0.05; Fault plane solution: $M_0$1.69000×10^14 NP1:ϕ_s1.00000°, δ46.00000°, λ69.00000°. NP2:ϕ_s210.00000°, δ47.00000°, λ111.00000°.*
JMA ***21*** *02:48:37.3±0.0, 34°.2N±0°.1×135°.1E±0°.2, h7km, MV3.4/20, NW WAKAYAMA PREF*
JMA Felt II J1 at NW WAKAYAMA PREF .
ISC 21 02:48:36.6±1.2, 34°.16N±0°.04×135°.14E±0°.02, h5km±10km, n22, σ1s07/32, mb3.6/3, 15D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	Minabe	0.36	149	⇓P	Pb	02 48 45.5	0.0
JWM				⇓S	Sb	02 48 50.8	-0.6
JAWN	Awajishima-nag	0.38	330	⇓iP	Pg	02 48 44.2	+0.2
JAWN				⇓eS	Sg	02 48 48.4	-0.6
JWY	Kouya	0.38	81	⇓P	Pg	02 48 44.4	+0.4
JWY				⇓S	Sg	02 48 49.9	+0.9
JTNC	Tanabenakahech	0.52	130	⇓iP	Pb	02 48 48.4	+0.2
JTNC				⇓eS	Sb	02 48 55.3	-0.7
JHE	Heguri	0.67	42	⇓P	Pg	02 48 49.6	+0.1
JHE				⇓S	Sg	02 48 58.0	-0.2
JAI	Aioi	0.68	238	⇓iP	Pb	02 48 50.5	-0.3
JAI				⇓S	Sb	02 49 00.2	-0.3
JKS	Kasai	0.86	344	⇓iP	Pg	02 48 52.8	-0.3
JKS				⇓S	Sg	02 49 03.6	-0.6
JKN2	Miekihoku	0.95	85	⇓iP	Pb	02 48 55.0	-0.4
JJS	Sakaide	1.02	283	P	Pg	02 48 55.7	-0.4
JMN	Monobe	1.13	248	P	Pn	02 48 59.1	0.0
INU	Inuyama	1.95	52	P	Pb	02 49 12.1	-0.6
JGF	Kuroka	2.33	51	P	Pn	02 49 17.5	+1.9
MAJO	Matsushiro	3.46	46	P	Pn	02 49 32.7	+1.5
MJAR	Matsushiro Arr	3.46	46	Pn	Pn	02 49 32.5	+1.3
	0.1nm,0.3s,baz=227,slow=14,SNR=4.6						
MJAR				Pg	Pg	02 49 41.0	-1.9
	0.5nm,0.3s,baz=222,slow=20,SNR=25						
MJAR				Lg	Lg	02 50 27.6	
	0.1nm,0.3s,baz=227,slow=27,SNR=6.1 1.4nm,0.5s						
JNU	Nakatsue	3.70	255	Pn	Pn	02 49 36.0	+1.5
	2.0nm,0.3s,baz=146,slow=6.8,SNR=24						
JNU				Pg	Pb	02 49 43.0	+0.5
	3.5nm,0.3s,baz=17,slow=6.4,SNR=14						
JNU				Lg	Lg	02 50 31.8	
	2.5nm,0.3s,baz=229,slow=13,SNR=5.2 4.2nm,0.3s						
JNU	Nakatsue	3.70	255	P	Pn	02 49 35.7	+1.2
JHJ2	Mitsune	4.04	104	P	Pn	02 49 40.6	+1.5
JTU	Tsushima	4.76	276	P	Pn	02 49 51.0	+2.0
KSRS	Korea Array	6.72	301	Pn	Pn	02 50 18.1	+2.2
	0.3nm,0.3s,baz=118,slow=14,SNR=6.9						
KSRS				Sn	Sn	02 51 33.2	+0.4
	0.2nm,0.3s,baz=121,slow=24,SNR=6.2						
KSRS				LR	LR	02 52 46.0	
	comp=Z,18nm,20.0s,baz=140,slow=37 1.5nm,0.4s						
SONM	Songino Array	25.46	311	P	P	02 54 05.7	0.0
	0.3nm,0.4s,baz=118,slow=9.8,SNR=3.6 0.3nm,0.4s						
WRA	Warramunga Arr	53.80	181	P	P	02 57 59.2	-1.1
	1.2nm,1.0s,baz=356,slow=7.3,SNR=4.6 1.2nm,1.0s						
ASAR	Alice Springs	57.51	181	P	P	02 58 26.1	-0.9
	0.5nm,0.9s,baz=5.2,slow=6.8,SNR=4.5 0.5nm,0.9s						

TXNET 21 02:54:15.9, 31°.3N±0°.6×103°.5W±0°.6, h5km±1km, ML1.8/10, Error ellipse: s-maj=1.0km s-min=0.8km az=60.5, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	Crockett Middl	0.14	352	P	Pg	02 54 19.3	+0.6
PCOS				S	Sg	02 54 21.3	+0.7
TPB03	Saragosa	0.19	186	P	Pg	02 54 20.2	+0.6
TPB03				S	Sg	02 54 23.5	+1.3
TPB04	Verhalen	0.21	115	P	Pg	02 54 21.3	+1.3
TPB04				S	Sg	02 54 25.0	+2.2
TPB10	Southeast of T	0.23	272	P	Pg	02 54 21.3	+1.0
TPB10				S	Sg	02 54 25.4	+2.0
TPB16	Coyonosa	0.25	126	P	Pb	02 54 22.3	-0.6
TPB16				S	Sb	02 54 26.5	-1.1
PECS	Pecos	0.34	287	P	Pg	02 54 23.1	+0.6
PECS				S	Sg	02 54 28.4	+1.5
TPB07	Mentone	0.34	333	S	Sb	02 54 28.8	-1.4
TPB05	Hovey Rd	0.38	158	P	Pb	02 54 24.2	-0.9
TPB05				S	Sb	02 54 30.3	-1.0
TPB12	Southwest of T	0.41	262	P	Pg	02 54 24.3	+0.6
TPB12				S	Sg	02 54 30.4	+1.3
TPB01	Permian Basin	0.41	217	P	Pg	02 54 24.5	+0.6
TPB01				S	Sg	02 54 30.6	+1.3
TPB06	Permian Basin	0.44	32	P	Pb	02 54 25.9	-0.2
TPB06				S	Sb	02 54 34.1	+1.0
MNHN	Monahans	0.63	84	P	Pg	02 54 28.4	+0.5
MNHN				S	Sb	02 54 37.7	-0.7
TPB08	Permian Basin	0.63	127	P	Pg	02 54 28.3	+0.4
TPB08				S	Sb	02 54 38.2	-0.3
TPB11	China Draw	0.81	325	S	Sg	02 54 42.7	+0.8
ALPN	Alpine	0.91	188	P	Pg	02 54 33.3	+0.1
ALPN				S	Sb	02 54 46.0	-0.5
CLNB	Carlsbad	1.04	342	S	Sb	02 54 50.5	+0.1
NM01	Eunice	1.08	4	S	Sn	02 54 53.0	-0.1
ODSA	Odessa	1.16	43	P	Pg	02 54 37.9	-0.3
ODSA				S	Sb	02 54 54.1	+0.2
HTMS	Hat Mesa	1.20	354	S	Sn	02 54 57.2	+1.1
TMB02	Rankin	1.25	93	S	Sb	02 54 56.8	+0.4
VHRN	Van Horn	1.37	250	P	Pn	02 54 41.4	-0.3
VHRN				S	Sg	02 55 00.2	+0.2
TMB04	Seminole	1.59	32	P	Pb	02 54 45.9	+0.1
TMB04				S	Sg	02 55 08.3	+1.2
MNTX	Cornudas Mount	1.67	285	P	Pb	02 54 47.1	0.0
MNTX				S	Sg	02 55 10.3	+0.7
SAND	Sanderson	1.77	138	Pg	Pg	02 54 49.3	-0.4
SAND				S	Sg	02 55 13.1	+0.5
TX31	Lajitas Ar. Si	1.94	185	Pg	Pb	02 54 50.8	-0.9
TX31				S	Sb	02 55 17.1	+0.9
SGCY	Sterling City	2.12	72	Pg	Pb	02 54 53.8	-0.9
SGCY				S	Sb	02 55 21.9	+0.6

IDC ***21*** *02:55:21.7±0.8, 1°.51S×122°.48E, h0km, mb3.8/9, mbtmp3.9/10, ML4.2/2, MS3.2/7, Error ellipse: s-maj=34.1km s-min=15.4km az=71.0*
DJA ***21*** *02:55:25.8±0.2, 2°.S±2°.×12°.3E±°, h10km, M4.7/22, mb5.0/10, mB5.2/7, MLv4.8/22, Mw(mB)4.5/7*
NEIC ***21*** *02:55:25.4±2.4, 1°.85S±0°.03×122°.62E±0°.06, h10km±1km, mb4.3/7, Error ellipse: s-maj=11.6km s-min=3.2km az=295.0*
ISC 21 02:55:27.2±0.6, 1°.73S±0°.05×122°.55E±0°.07, h35km, n52, σ1s65/48, mb3.9/14, MS3.0/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.71	18		Pn	02 55 41.0	+0.2
LUWI				Sg	Sn	02 55 52.4	+1.7
LUWI	Luwuk	0.71	18	P	Pn	02 55 40.6	-0.3
APSI	Ampana	1.21	312	P	Pn	02 55 48.6	+0.9
MRSI	Marisa	2.27	344	P	Pn	02 56 03.6	+1.3
KMSI	Cibinong	2.70	32	P	Pn	02 56 11.7	+3.6
PCI	Palu	2.83	287	P	Pn	02 56 13.7	+3.7
TOLI2	Tolitoli	3.33	328		Pn	02 56 19.4	+2.6
MPSI	Mapaga	3.35	308	P	Pn	02 56 18.2	+1.1
SANI	Sanana	3.45	95	P	Pn	02 56 16.5	-2.0
SPSI	Sidrap Palu	3.56	231	P	Pn	02 56 20.4	+0.4
BNSI	Bone	3.61	222	P	Pn	02 56 20.4	-0.3
BBSI	Bau Bau	3.74	180	P	Pn	02 56 22.3	-0.2
KAPI	Kappang	4.30	220		Pn	02 56 30.1	-0.1

MJAR			LR	LR	03 17 24.2		
	comp=Z,18nm,21.6s,baz=178,slow=33						
	comp=Z,1.3nm,0.7s						
GTA	**Gaotai**	**45.95 335**	*e*P	**P**	**03 03 50.5**	**+3.5**	
GTA			pmax	pmax			
	comp=Z,4.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**46.49 9**	P	**P**	**03 03 49.5**	**-1.6**	
	comp=Z,1.0nm,0.6s,baz=199,slow=8.7,SNR=1.8						
	comp=Z,1.0nm,0.6s						
ASAJ	**Asahikawa**	**49.04 19**	LR	LR	03 21 35.1		
	comp=Z,10nm,21.8s,baz=112,slow=32						
JKA	**Kamikawa-asahi**	**49.04 19**	P	**P**	**03 04 11.4**	**+0.6**	
SONM	**Songino Array**	**51.34 346**	P	**P**	**03 04 25.8**	**-2.5**	
	comp=Z,0.4nm,0.7s,baz=160,slow=8.4,SNR=1.3						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**59.84 329**	P	**P**	**03 05 30.0**	**+0.6**	
MKAR	**Makanchi Array**	**59.84 329**	P	**P**	**03 05 27.8**	**-1.6**	
	comp=Z,0.3nm,0.4s,baz=135,slow=7.1,SNR=5.7						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.23 331**	P	**P**	**03 05 57.0**	**-1.6**	
	comp=Z,0.8nm,0.8s,baz=128,slow=5.7,SNR=5.7						
	comp=Z,0.8nm,0.8s						
QSPA	**South Pole Qui**	**88.22 180**	P	**P**	**03 08 15.2**	**+0.5**	
QSPA			IAmb	IAmb	03 08 25.4		
	comp=Z,4.1nm,1.2s						
LSZ	**Lusaka**	**93.76 255**	LR	LR	03 48 19.9		
	comp=Z,78nm,18.3s,baz=154,slow=34						

*SDD **21** 03:02:28.0±0.8, 18°.43N×73°.09W, h9km±86km, MD3.0, ML2.6, MW2.7*
*OSPL **21** 03:02:29.1±2.3, 18°.38N×73°.08W, h0km±11km, ML2.3*
*SSNC **21** 03:02:32.0±2.5, 18°.28N×72°.95W, h7km±16km, MD3.4, ML2.3*

ISC 21 03:02:27.5±1.5, 18°.39N±0°.07×73°.08W±0°.04, h19km±3km, n21, σ1§11/37, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**0.75**	**79**	*e*P	**Pg**	**03 02 42.5**	**+0.3**
PAPH				*e*S	**Sb**	**03 02 50.9**	**-1.0**
PAPH				IAML		03 02 51.8	
	comp=N,608nm,0.2s						
PAPH				IAML		03 02 52.1	
	comp=E,307nm,0.3s						
PAPH	**Port-au-Prince**	**0.75**	**79**	*i* P	**Pg**	**03 02 42.5**	**+0.3**
PAPH				*e*S	**Sb**	**03 02 51.4**	**-0.5**
JIDR	**Jimani**	**1.17**	**85**	*e*Pg	**Pn**	**03 02 49.3**	**+0.5**
JIDR				*e*Sg	**Sn**	**03 03 04.8**	**+0.5**
JIDR				IAML		03 03 10.1	
	comp=N,89nm,1.6s						
LOBH	**Bahia de las A**	**1.46**	**111**	*i* P	**Pb**	**03 02 54.4**	**+0.3**
LOBH				*e*S	**Sb**	**03 03 13.1**	**+0.7**
LOBH				IAML		03 03 16.1	
	comp=Z,74nm,0.6s						
LONE3	**El Aguacate, B**	**1.55**	**82**	*i* P	**Pb**	**03 02 55.4**	**-0.4**
LONE3				*e*S	**Sb**	**03 03 16.4**	**+1.3**
LONE3				IAML		03 03 20.9	
	comp=Z,24nm,0.7s						
PODR	**Polo**	**1.72**	**97**	*e*Pg	**Pb**	**03 02 59.5**	**+0.9**
PODR				IAML		03 03 27.4	
	comp=N,63nm,0.7s						
PODR	**Polo**	**1.72**	**97**	*i* P	**Pb**	**03 02 59.1**	**+0.5**
PODR				*e*S	**Sg**	**03 03 22.7**	**-0.4**
LOVI	**El Cajuil, Ovi**	**1.73**	**109**	*i* P	**Pb**	**03 02 58.9**	**+0.2**
LOVI				*e*S	**Sb**	**03 03 20.4**	**+0.4**
LOVI				IAML		03 03 25.3	
	comp=Z,89nm,0.8s						
REDR	**Restauracion**	**1.77**	**64**	*e*Pg	**Pn**	**03 02 56.0**	**-1.2**
REDR				*e*Sg	**Sn**	**03 03 16.8**	**-2.5**
REDR				IAML		03 03 20.0	
	comp=N,62nm,0.2s						
SDDR	**Presa de Saban**	**1.80**	**70**	*e*P	**Pb**	**03 02 59.9**	**0.0**
SDDR				*e*S	**Sb**	**03 03 22.5**	**+0.5**
SDDR	**Presa de Saban**	**1.80**	**70**	*e*Pg	**Pb**	**03 03 00.2**	**+0.4**
SDDR				IAML		03 03 44.1	
	comp=N,34nm,2.5s						
SDDR	**Presa de Saban**	**1.80**	**70**	*i* P	**Pb**	**03 03 00.1**	**+0.2**
SDDR				*e*S	**Sb**	**03 03 22.9**	**+0.8**
SDDR				IAML		03 03 30.1	
	comp=Z,16nm,0.6s						
LOBA2	**Hotel Casa Bon**	**1.91**	**99**	*e*Pg	**Pb**	**03 03 02.4**	**+0.6**
MASC	**Masc**	**2.09**	**329**	*e*P	**Pb**	**03 03 05.5**	**+0.7**
MASC				*e*S	**Sb**	**03 03 32.4**	**+2.0**
MASC				IAML		03 03 33.5	
	comp=E,13nm,0.5s						
MASC				IAML		03 03 36.1	
	comp=N,7.9nm,0.7s						
ABDR	**Alto Bandera**	**2.36**	**79**	*e*Pg	**Pb**	**03 03 09.8**	**+0.1**
ABDR				IAML		03 03 43.6	
	comp=N,43nm,1.8s						
QMBU	**Quimbuelo**	**2.44**	**318**	*e*P	**Pb**	**03 03 11.5**	**+0.8**
QMBU				*e*S	**Sb**	**03 03 40.9**	**+0.4**
QMBU				IAML		03 03 45.6	
	comp=E,12nm,0.3s						
QMBU				IAML		03 03 47.3	
	comp=N,6.5nm,0.2s						
QMBU	**Quimbuelo**	**2.44**	**318**	*e*Pg	**Pb**	**03 03 11.2**	**+0.4**
QMBU				IAML		03 03 54.7	
	comp=N,17nm,3.1s						
QMBU				IAML		03 03 54.8	
	comp=N,17nm,3.1s						
GTBY	**Guantanamo Bay**	**2.46**	**309**	*e*P	**Pb**	**03 03 12.4**	**+1.3**
GTBY				*e*S	**Sb**	**03 03 43.4**	**+2.3**
GTBY				*e*Sg	**Sg**	**03 03 47.3**	**+0.7**
GTBY				IAML		03 03 49.1	
	comp=N,8.6nm,0.3s						
GTBY				IAML		03 03 50.9	
	comp=N,12nm,0.4s						
LUDR	**Luperon**	**2.51**	**53**	*e*Pg	**Pb**	**03 03 12.9**	**+1.0**
LUDR				IAML		03 03 59.0	
	comp=N,180nm,1.6s						
RCC	**Rio Carpintero**	**2.95**	**303**	*e*P	**Pb**	**03 03 19.3**	**-0.1**
RCC				*e*S	**Sb**	**03 03 54.2**	**-0.9**
RCC				IAML		03 04 04.0	
	comp=E,4.8nm,0.5s						
RCC				IAML		03 04 09.8	
	comp=N,9.3nm,0.3s						
PINC	**Pinares de May**	**3.31**	**310**	*e*P	**Pb**	**03 03 24.1**	**-1.4**
PINC				*e*S	**Sb**	**03 04 02.5**	**-3.0**
PINC				IAML		03 04 14.5	
	comp=N,3.0nm,0.2s						
PINC				IAML		03 04 14.6	
	comp=E,4.1nm,0.2s						

IGQ 21 03:05:19.0±1.3, 1°.N±5°.×8°.4W±1°.0, h14km, MLv3.8/27, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	**Isla de la Pla**	**3.80**	**123**	P	Pn	03 06 15.1	-2.1
ISPT				S	Sn	03 07 02.4	+0.7
PPLP	**Puerto Lpez**	**4.20**	**124**	P	Pn	03 06 21.2	-1.6
SALI	**Salinas**	**4.42**	**132**	P	Pn	03 06 24.6	-1.2
PAC1	**Pacto, Paraso**	**5.50**	**96**	P	Pn	03 06 37.9	-2.8
MONB	**Balzapamba Mon**	**5.68**	**117**	P	Pn	03 06 43.5	+0.4
GGPT	**Toaza - Volcan**	**5.74**	**100**	P	Pn	03 06 42.9	-1.3
PINO	**Pino**	**5.74**	**100**	P	Pn	03 06 43.0	-1.4
TERV	**Terraza Guagua**	**5.75**	**100**	P	Pn	03 06 43.2	-1.2
JUA2	**San Juan 2**	**5.75**	**100**	P	Pn	03 06 43.0	-1.5
PULU	**Pululahua**	**5.82**	**98**	P	Pn	03 06 43.8	-1.5
JSCH	**Cashca Tororas**	**5.85**	**115**	P	Pn	03 06 45.4	-0.4
CHSH	**Refugio Sur-Vo**	**5.86**	**113**	P	Pn	03 06 45.9	-0.2
CUIC	**Cuicocha-Domo**	**5.93**	**95**	P	Pn	03 06 45.0	-1.8
PORT	**Chimborazo Vol**	**5.94**	**112**	P	Pn	03 06 47.0	-0.1
TAMH	**Tambohuasha Ch**	**5.96**	**113**	P	Pn	03 06 47.5	+0.1
SLOR	**San Lorenzo -**	**5.97**	**105**	P	Pn	03 06 47.2	-0.2
BNAS	**Cotopaxi Volca**	**5.97**	**104**	P	Pn	03 06 48.0	+0.5
COHC	**Cochancay**	**5.97**	**123**	P	Pn	03 06 46.5	-0.6
PITA	**Cotopaxi Volc**	**5.99**	**103**	P	Pn	03 06 47.2	-0.6
BMOR	**Cotopaxi Volca**	**6.00**	**105**	P	Pn	03 06 47.7	-0.4
BREF	**Cotopaxi Volca**	**6.01**	**104**	P	Pn	03 06 48.4	+0.2
URCU	**Urcuqui**	**6.02**	**93**	P	Pn	03 06 47.2	-0.9
ARNL	**Arenillas**	**6.03**	**136**	P	Pn	03 06 47.1	-0.8
BVC2	**Cotopaxi Volca**	**6.03**	**104**	P	Pn	03 06 49.0	+0.6
VC1	**Cotopaxi 1**	**6.04**	**104**	P	Pn	03 06 49.9	+1.4
BTAM	**Cotopaxi Volca**	**6.05**	**104**	P	Pn	03 06 48.5	-0.2
VCES	**Cotopaxi**	**6.08**	**105**	P	Pn	03 06 49.2	+0.1
IMBA	**Imbabura, San**	**6.09**	**95**	P	Pn	03 06 48.9	-0.2
YAHU	**Yahuarcocha**	**6.21**	**94**	P	Pn	03 06 50.9	+0.2
ANTS	**Antisana-Sarah**	**6.23**	**102**	P	Pn	03 06 51.1	0.0
ANGU	**Angureal**	**6.30**	**97**	P	Pn	03 06 51.5	-0.7
CAYR	**Refugio Cayamb**	**6.31**	**97**	P	Pn	03 06 52.5	+0.2
CHL1	**Volcɲn Chiles**	**6.32**	**90**	P	Pn	03 06 51.5	-0.8
TULM	**Tulcn-Chalpat**	**6.48**	**91**	P	Pn	03 06 55.0	+0.5
BOSC	**San Juan Bosco**	**6.98**	**124**	P	Pn	03 07 03.4	+2.3
ZUMB	**Zumba**	**7.61**	**138**	P	Pn	03 07 10.5	+0.7

*NEIC **21** 03:39:01.1±1.2, 60°.49N±0°.03×150°.85W±0°.05, h55km±4km, Error ellipse: s-maj=4.1km s-min=3.7km az=188.0*

AEIC 21 03:39:01.9±1.2, 60°.49N±0°.02×150°.86W±0°.04, h35km±7km, ML2.9, MLJ3.1/178(NEIC), Error ellipse: s-maj=3.3km s-min=2.9km az=136.0, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.31**	**333**		Pb	03 39 11.2	+1.3
CAPN				IAML		03 39 20.5	
	comp=E,2μm,0.3s						
CAPN				IAML		03 39 20.6	
	comp=N,2μm,0.8s						
SLKM	**Skilak Lake**	**0.32**	**87**		Pn	03 39 10.1	0.0
SLKM	**Skilak Lake**	**0.32**	**87**		Sb	03 39 16.7	+1.1
O22K	**Cooper Landing**	**0.56**	**91**		Pn	03 39 13.1	-0.3
O22K	**Cooper Landing**	**0.56**	**91**		Sb	03 39 22.4	+0.8
FIS	**Fire Island**	**0.73**	**25**	Pn	Pn	03 39 15.4	-0.3
FIS				IAML		03 39 28.0	
	comp=E,1μm,0.8s						
FIS				IAML		03 39 29.0	
	comp=N,761nm,0.5s						
BRLK	**Bradley Lake**	**0.73**	**181**		Pn	03 39 15.4	-0.4
BRLK				IAML		03 39 27.6	
	comp=N,1μm,0.1s						
BRSE	**Bradley Lake S**	**0.76**	**175**		Pn	03 39 15.5	-0.6
BRSE					Sn	03 39 26.3	0.0
RDT	**Redoubt**	**0.77**	**277**		Pn	03 39 15.1	-1.3
RDT					Sn	03 39 26.3	-0.4
SEW	**Seward**	**0.80**	**118**		Pn	03 39 16.2	-0.5
SEW				IAML		03 39 30.4	
	comp=N,797nm,0.3s						
SEW				IAML		03 39 31.7	
	comp=E,1μm,0.3s						
SEW	**Seward**	**0.80**	**118**		Sn	03 39 27.1	-0.3
RC01	**Rabbit Creek A**	**0.81**	**42**		Pn	03 39 16.4	-0.6
RC01	**Rabbit Creek A**	**0.81**	**42**		Sn	03 39 27.4	-0.4
HOM	**Homer**	**0.92**	**205**		Pn	03 39 18.3	0.0
HOM	**Homer**	**0.92**	**205**		Sb	03 39 31.4	-0.1
RED	**Redoubt Volcan**	**0.95**	**266**		Sn	03 39 30.4	-0.8
RDJH	**Redoubt Jeurge**	**0.96**	**277**		Sn	03 39 30.9	-0.8
SUA	**Susitna One**	**0.98**	**3**		Pn	03 39 18.3	-1.0
RDWB	**Redoubt West**	**0.98**	**271**		Sn	03 39 31.1	-0.9
CNPM	**China Poot**	**0.99**	**191**		Pn	03 39 18.5	-0.8
CNPM				IAML		03 39 35.6	
	comp=E,518nm,0.4s						
CNPM				IAML		03 39 35.8	
	comp=N,492nm,0.3s						
CNPM	**China Poot**	**0.99**	**191**		Sb	03 39 32.7	-0.6
SPBG	**Spurr Blockage**	**1.07**	**317**		Pn	03 39 19.3	-1.2
STLK	**Strandline Lak**	**1.12**	**335**		Pn	03 39 20.6	-0.5
STLK				IAML		03 39 35.7	
	comp=E,394nm,0.5s						
STLK				IAML		03 39 37.6	
	comp=N,447nm,0.5s						
STLK	**Strandline Lak**	**1.12**	**335**		Sn	03 39 35.1	-0.2
ILSW	**Iliamna Southw**	**1.25**	**247**		Pn	03 39 21.9	-1.1
ILSW				IAML		03 39 40.5	
	comp=E,236nm,0.6s						
ILSW				IAML		03 39 41.0	
	comp=N,204nm,0.6s						
PWL	**Port Wells**	**1.30**	**72**		Pn	03 39 22.6	-1.0
M22K	**Willow**	**1.32**	**16**		Pn	03 39 23.6	-0.2
M22K				IAML		03 39 44.4	
	comp=E,473nm,0.6s						
M22K				IAML		03 39 45.3	
	comp=N,396nm,0.4s						
PMR	**Palmer**	**1.39**	**37**		Pn	03 39 24.2	-0.6
PMR				IAML		03 39 44.7	
	comp=E,291nm,0.5s						
PMR				IAML		03 39 44.8	
	comp=N,230nm,0.2s						
P19K	**Oil Pt**	**1.46**	**236**		Pn	03 39 25.2	-0.5
KNK	**Knik Glacier**	**1.49**	**51**		Pn	03 39 25.6	-0.7
SKT	**Skwentna**	**1.53**	**348**		Pn	03 39 26.5	-0.3
SKT				IAML		03 39 47.9	
	comp=N,301nm,0.4s						
SKT				IAML		03 39 48.7	
	comp=E,302nm,0.4s						
O19K	**Port Alsworth**	**1.75**	**262**		Pn	03 39 29.1	-0.6
M20K	**Styx River**	**1.78**	**323**	IAML		03 39 54.4	
	comp=N,113nm,0.6s						
P23K	**Montague Islan**	**1.79**	**105**		Pn	03 39 29.1	-1.2
P23K				IAML		03 40 02.7	
	comp=E,239nm,0.7s						
P23K				IAML		03 40 04.6	
	comp=N,172nm,0.6s						
SML	**Sawmill**	**1.80**	**42**		Pn	03 39 30.3	-0.2
SML				IAML		03 39 56.8	
	comp=N,195nm,0.9s						
SML				IAML		03 39 59.1	
	comp=E,179nm,0.6s						
N19K	**Bonanza Creek**	**1.81**	**282**		Pn	03 39 29.9	-0.8
N19K				IAML		03 39 53.2	
	comp=N,185nm,0.7s						
N19K				IAML		03 39 53.9	
	comp=E,176nm,0.3s						
GLI	**Glacier Island**	**1.89**	**77**		Pn	03 39 29.6	-2.1
GLI				IAML		03 40 04.5	
	comp=N,197nm,0.5s						
GLI				IAML		03 40 08.6	
	comp=E,191nm,0.9s						
CUT	**Chulitna**	**1.94**	**8**		Pn	03 39 31.8	-0.6
CUT				IAML		03 40 01.0	
	comp=N,188nm,0.4s						
SYI	**Shuyak Island**	**2.04**	**203**		Pn	03 39 33.9	+0.2
SYI				IAML		03 40 04.6	
	comp=N,96nm,0.6s						
SYI				IAML		03 40 04.7	
	comp=E,103nm,0.4s						
Q19K	**Cape Douglas,**	**2.11**	**223**		Pn	03 39 35.1	+0.4
HIN	**Hinchinbrook I**	**2.16**	**91**		Pn	03 39 33.7	-1.8
HIN				IAML		03 40 16.5	
	comp=E,122nm,1.1s						
HIN				IAML		03 40 19.8	
	comp=N,116nm,0.8s						
FID	**Port Fidalgo**	**2.18**	**81**		Pn	03 39 33.3	-2.3
FID				IAML		03 40 00.1	
	comp=N,115nm,0.4s						
FID				IAML		03 40 14.5	
	comp=E,136nm,0.6s						
SCM	**Sheep Creek Mo**	**2.18**	**50**		Pn	03 39 35.6	-0.1
SCM				IAML		03 40 11.4	
	comp=N,168nm,0.7s						
SCM				IAML		03 40 12.4	
	comp=E,187nm,0.6s						
M19K	**Big River Lodg**	**2.22**	**311**		Pn	03 39 36.0	-0.2
O18K	**Koktuh Hills**	**2.27**	**255**		Pn	03 39 36.0	-0.9
O18K				IAML		03 40 15.9	
	comp=N,64nm,0.8s						
P18K	**Big Mountain,**	**2.46**	**245**		Pn	03 39 38.6	-0.9
L20K	**Farewell, AK**	**2.46**	**325**		Pn	03 39 39.3	-0.3
N18K	**Kilae Creek**	**2.49**	**277**		Pn	03 39 39.1	-0.8
N18K				IAML		03 40 08.8	
	comp=N,68nm,0.7s						
N18K				IAML		03 40 09.2	
	comp=E,72nm,0.5s						
PPLA	**Purkeypile**	**2.50**	**346**		Pn	03 39 40.0	-0.1
PPLA				IAML		03 40 13.7	
	comp=E,68nm,1.5s						
PPLA				IAML		03 40 13.9	
	comp=N,52nm,0.9s						
EYAK	**Cordova Ski Ar**	**2.53**	**86**		Pn	03 39 38.8	-1.6
EYAK				IAML		03 40 28.4	
	comp=E,56nm,1.5s						
EYAK				IAML		03 40 32.7	
	comp=N,57nm,0.8s						
L19K	**White Mountain**	**2.56**	**313**		Pn	03 39 41.0	0.0
L19K				IAML		03 40 13.0	
	comp=E,69nm,0.5s						
L19K				IAML		03 40 25.9	
	comp=N,58nm,0.7s						
DIV	**Divide**	**2.58**	**73**		Pn	03 39 39.6	-1.5
DIV				IAML		03 40 11.8	
	comp=N,75nm,0.3s						
KLU	**Klutina**	**2.61**	**65**		Pn	03 39 40.5	-1.1
KLU				IAML		03 40 12.4	
	comp=E,102nm,0.3s						
M18K	**Stony River**	**2.62**	**295**		Pn	03 39 40.6	-1.0
KAHG	**Katmai Hook Gl**	**2.75**	**225**		Pn	03 39 44.7	+1.2
M24K	**Tolsona, Glenn**	**2.78**	**52**		Pn	03 39 43.6	-0.3
KDAK	**Kodiak Island**	**2.86**	**199**	Pn	Pn	03 39 44.0	-1.0
KDAK				IAML		03 40 29.7	
	comp=E,45nm,1.5s						
TRF	**Thorofare Moun**	**2.98**	**5**		Pn	03 39 47.5	+0.7
TRF				IAML		03 40 32.3	
	comp=E,38nm,0.5s						
TRF				IAML		03 40 34.1	
	comp=N,56nm,0.6s						
CAST	**Castle Rocks**	**2.99**	**349**		Pn	03 39 46.5	-0.4
KTH	**Kantishna Hill**	**3.07**	**359**		Pn	03 39 48.0	-0.1
KTH				IAML		03 40 27.6	
	comp=E,41nm,0.9s						
KTH				IAML		03 40 29.9	
	comp=N,62nm,0.7s						
RND	**Reindeer**	**3.08**	**17**		Pn	03 39 48.0	0.0
RND				IAML		03 40 39.0	
	comp=E,31nm,0.8s						
BMRM	**Bremner River**	**3.11**	**78**	IAML		03 40 42.6	
	comp=E,78nm,0.8s						
N17K	**Nushagak Hills**	**3.13**	**273**	IAML		03 40 24.3	
	comp=E,62nm,0.4s						
N17K				IAML		03 40 24.9	
	comp=N,56nm,0.3s						
N25K	**Chitina, Valde**	**3.24**	**67**	IAML		03 40 27.4	
	comp=E,56nm,0.4s						
N25K				IAML		03 40 39.1	
	comp=N,47nm,0.8s						
MCK	**McKinley**	**3.38**	**15**	IAML		03 40 47.6	
	comp=N,31nm,0.7s						
MCK				IAML		03 40 47.7	
	comp=E,31nm,0.8s						
GLB	**Gilahina Butte**	**3.57**	**71**	IAML		03 40 46.6	
	comp=N,35nm,0.8s						
GLB				IAML		03 40 47.8	
	comp=E,28nm,1.0s						
PAX	**Paxson**	**3.57**	**44**	IAML		03 40 51.2	
	comp=E,30nm,0.7s						
BPAW	**Bear Paw Mtn.**	**3.62**	**359**	IAML		03 40 40.9	
	comp=E,21nm,0.4s						
VRDI	**Verde Repeater**	**3.70**	**75**	IAML		03 40 38.1	
	comp=N,26nm,0.3s						
O16K	**Kokwok River B**	**3.74**	**259**	IAML		03 40 57.8	
	comp=N,26nm,0.8s						
WAX	**Waxell Ridge**	**3.96**	**87**	IAML		03 40 43.1	
	comp=E,39nm,0.8s						
J20K	**Nowinta River**	**4.00**	**339**	IAML		03 40 59.5	
	comp=N,16nm,0.5s						
J20K				IAML		03 41 10.1	
	comp=E,17nm,1.2s						
M16K	**Timber Creek**	**4.01**	**281**	IAML		03 41 07.2	
	comp=E,15nm,1.2s						
M16K				IAML		03 41 10.4	
	comp=N,21nm,1.3s						
K17K	**Iditarod**	**4.20**	**305**	IAML		03 40 51.2	
	comp=E,26nm,0.7s						
K17K				IAML		03 41 27.6	
	comp=N,16nm,1.1s						
M26K	**Nabesna, AK**	**4.23**	**60**	IAML		03 41 22.5	
	comp=N,13nm,1.4s						
RIDG	**Independent Ri**	**4.31**	**38**	IAML		03 41 09.2	
	comp=E,30nm,0.6s						
RIDG				IAML		03 41 12.0	
	comp=N,22nm,0.7s						
HDA	**Harding Lake**	**4.33**	**23**	IAML		03 41 15.5	
	comp=E,23nm,1.2s						
HDA				IAML		03 41 16.4	
	comp=N,19nm,0.7s						
L16K	**Owhat River**	**4.36**	**290**	IAML		03 41 23.8	
	comp=N,14nm,1.0s						
N15K	**Kwethluk River**	**4.60**	**270**	IAML		03 41 01.4	
	comp=E,20nm,0.5s						
N15K				IAML		03 41 02.4	
	comp=N,25nm,0.5s						
O15K	**Ungalikthiuk R**	**4.71**	**258**	IAML		03 41 34.4	
	comp=N,11nm,1.1s						
O15K				IAML		03 41 40.2	
	comp=E,13nm,1.4s						
I21K	**Tanana**	**4.73**	**354**	IAML		03 41 44.3	
	comp=E,8.8nm,1.2s						
SCRK	**Sand Creek**	**4.75**	**40**	IAML		03 41 27.8	
	comp=E,11nm,0.8s						
SCRK				IAML		03 41 29.7	
	comp=N,12nm,1.3s						
J17K	**VABM Dome**	**4.85**	**310**	IAML		03 41 39.7	
	comp=E,11nm,0.9s						
J25K	**Salcha River,**	**4.85**	**29**	IAML		03 41 18.8	
	comp=E,21nm,0.6s						
J25K				IAML		03 41 20.1	
	comp=N,13nm,1.0s						

*IDC **21** 03:44:08.5±8.2, 20°.21S×178°.76W, h611km±87km, mb2.8/4, mbtmp3.8/4, Error ellipse: s-maj=116.6km s-min=38.2km az=149.0*

ISC 21 03:44:13.1±1.9, 20°.0S±0°.7×179°.0W±0°.4, h665km, n7, σ1§02/7, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.73**	**256**	P	**P**	**03 51 22.9**	**-0.2**
	1.6nm,0.6s,baz=98,slow=7.8,SNR=30						
ASAR				PcP	**PcP**	**03 52 55.0**	**+0.6**
	0.4nm,0.6s,baz=99,slow=4.1,SNR=6.1						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**43.76**	**262**	P	**P**	**03 51 23.2**	**-0.1**
	0.8nm,0.5s,baz=98,slow=7.6,SNR=8.6						
	0.8nm,0.5s						
TXAR	**Lajitas Array**	**87.58**	**58**	P	**P**	**03 55 53.2**	**-0.1**
	0.3nm,0.9s,baz=262,slow=3.2,SNR=2.1						
	0.3nm,0.9s						
ILAR	**Eielson Array**	**88.08**	**13**	P	**P**	**03 55 54.6**	**0.0**
	0.3nm,0.6s,baz=222,slow=6.1,SNR=5.1						
	0.3nm,0.6s						
HFS	**Hagfors**	**138.94**	**350**	PKhKP	PKPpre	04 02 20.4	
	0.6nm,0.5s,baz=22,slow=5.1,SNR=5.8						
AKASG	**Malin Array Be**	**142.17**	**331**	PKP	**PKPdf**	**04 02 30.2**	**-1.4**
	1.2nm,0.4s,baz=48,slow=3.5,SNR=16						
GERES	**GERESS Array B**	**149.51**	**343**	PKPbc	**PKiKP**	**04 02 51.5**	**+1.3**
	0.4nm,0.5s,baz=48,slow=2.0,SNR=6.1						

*IDC **21** 03:50:52.9±0.7, 17°.19S×176°.95W, h0km, mb4.2/16, mbtmp4.2/18, ML4.8/2, MS4.3/49, Error ellipse: s-maj=24.4km s-min=16.1km az=136.0*
*NEIC **21** 03:50:56.8±2.7, 16°.57S±0°.09×177°.1W±0°.1, h10km±1km, mb5.0/62, Error ellipse: s-maj=20.4km s-min=13.6km az=112.0*
*GCMT **21** 03:50:58.8±0.1, 17°.02S±0°.01×176°.84W±0°.01, h14km, MW5.2/131, Moment Tensor Solution. s83,c124; s131,c226; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.62±.11; $M_{\theta\theta}$-6.24±.11; $M_{\phi\phi}$6.87±.12; $M_{r\theta}$-0.04±.23; $M_{\theta\phi}$1.08±.09; $M_{\phi r}$1.13±.23; Best double couple: $M_0$6.72600×10^{16} NP1:ϕ_s50.00000°, δ83.00000°, λ5.00000°. NP2:ϕ_s319.00000°,

DZM LR LR 03 59 57.2
comp=Z,4µm,21.2s,baz=82,slow=33
10nm,1.0s
RAR Rarotonga 16.87 108 LR LR 03 59 43.1
comp=Z,2µm,19.9s,baz=282,slow=32
URZ Urewera 21.93 192 P P 03 55 45.3 -4.1
11nm,0.8s,baz=68,slow=3.7,SNR=9.3
URZ LR LR 04 03 29.1
comp=Z,2µm,18.2s,baz=114,slow=35
11nm,0.8s
HNR Honiara 23.59 285 LR LR 04 03 57.4
comp=Z,2µm,19.7s,baz=124,slow=33
PPT2 Papeete2 26.22 96 *e*P **P 03 56 31.2 +0.1**
95nm,23.0s
PPT2 *e*S **S 04 00 59.2 -4.4**
329nm,26.2s
PPT2 *e*LR LR 04 02 57.2
3µm,24.2s
PPT Papeete 26.22 96 LR LR 04 04 00.7
comp=Z,789nm,20.2s,baz=269,slow=30
TBI Tubuai 26.65 109 *e*P **P 03 56 33.0 -1.8**
449nm,27.8s
TBI *e*S **S 04 01 14.9 +4.8**
7µm,29.8s
TBI *e*LR LR 04 03 14.1
10µm,24.5s
TBI *e*LR LR 04 03 16.7
2µm,21.2s
PMG Port Moresby 35.61 277 LR LR 04 11 37.7
comp=Z,639nm,18.6s,baz=92,slow=35
TAOE Nuku Hiva Isla 36.77 82 *e*P P 03 57 57.3 -6.6
46nm,30.7s
TAOE *e*S **S 04 03 44.4 -3.8**
184nm,27.1s
TAOE *e*LR LR 04 07 44.8
1µm,25.7s
TOO Toolangi 38.85 230 **P 03 58 22.2 +1.0**
RKT Rikitea 39.90 106 *e*S **S 04 04 31.3 -4.0**
513nm,27.5s
RKT *e*LR LR 04 09 20.3
7µm,23.8s
STKA Stephens Creek 40.29 240 **P 03 58 33.1 -0.2**
STKA Stephens Creek 40.29 240 P P 03 58 29.6 -3.7
7.4nm,1.1s,baz=74,slow=6.7,SNR=5.9
STKA LR LR 04 14 35.8
comp=Z,356nm,18.9s,baz=74,slow=35
7.4nm,1.1s
JAY Jayapura 43.91 284 LR LR 04 17 37.0
comp=Z,415nm,18.0s,baz=208,slow=36
WRA Warramunga Arr 46.13 258 **P 03 59 20.2 -0.4**
WRA Warramunga Arr 46.13 258 P **P 03 59 18.8 -1.9**
5.0nm,1.2s,baz=93,slow=8.1,SNR=5.2
WRA LR LR 04 17 32.8
comp=Z,1µm,19.4s,baz=100,slow=35
5.0nm,1.2s
AS31 Alice Springs 46.35 253 **P 03 59 20.8 -1.7**
ASAR Alice Springs 46.35 253 P **P 03 59 20.8 -1.6**
16nm,0.9s,baz=88,slow=7.5,SNR=49
16nm,0.9s
FITZ Fitzroy Crossi 54.51 260 P **P 04 00 23.9 -0.2**
7.0nm,1.0s,baz=112,slow=5.4,SNR=3.8
FITZ LR LR 04 22 23.3
comp=Z,1µm,19.7s,baz=102,slow=35
7.0nm,1.0s
SOEI Soe 57.40 269 P **P 04 00 44.6 -0.5**
NWAO Narrogin (SRO) 60.87 241 LR LR 04 26 10.3
comp=Z,320nm,19.6s,baz=80,slow=35
DAV Davao City (W) 61.52 288 LR LR 04 27 03.7
comp=Z,132nm,18.2s,baz=190,slow=35
VNDA Vanda 61.60 185 LR LR 04 23 19.7
comp=Z,210nm,21.2s,baz=22,slow=32
KAPI Kappang 62.95 273 LR LR 04 26 48.8
comp=Z,224nm,21.1s,baz=84,slow=34
JHJ Hachijo jima 2 64.59 321 LR LR 04 25 22.3
comp=Z,59nm,20.7s,baz=197,slow=32
MJAR Matsushiro Arr 67.87 322 P **P 04 01 54.5 +0.1**
2.4nm,0.9s,baz=155,slow=6.1,SNR=10.0
MJAR LR LR 04 26 13.5
comp=Z,90nm,20.6s,baz=136,slow=31
2.4nm,0.9s
JNU Nakatsue 70.31 315 LR LR 04 28 06.9
comp=Z,73nm,21.5s,baz=123,slow=32
ASAJ Asahikawa 71.01 330 LR LR 04 28 57.5
comp=Z,215nm,20.6s,baz=202,slow=32
PEA0B Petropavlovsk- 73.02 344 P **P 04 02 23.0 -2.5**
PEA0B IAmb IAmb 04 03 02.3
comp=Z,22nm,1.2s
PETK Petropavlovsk- 73.02 344 P **P 04 02 24.1 -1.4**
PETK Petropavlovsk- 73.02 344 P **P 04 02 26.8 +1.2**
comp=Z,2.7nm,0.9s,baz=148,slow=8.7,SNR=4.3
comp=Z,2.7nm,0.9s
QSPA South Pole Qui 73.19 180 **P 04 02 25.0 -1.7**
QSPA IAmb IAmb 04 02 31.1
comp=Z,13nm,1.1s
QSPA South Pole Qui 73.19 180 P P 04 02 23.5 -3.2
comp=Z,3.5nm,1.0s,baz=39,slow=2.8,SNR=9.5
QSPA LR LR 04 30 17.2
comp=Z,43nm,21.4s,baz=36,slow=32
comp=Z,3.5nm,1.0s
P08K Saint George I 73.44 4 P **P 04 02 25.9 -2.0**
baz=188
KSM Kuching 73.87 277 P **P 04 02 32.7 +1.3**
KSM IAmb IAmb 04 02 35.0
comp=Z,22nm,1.5s
SPIA Saint Paul Isl 73.97 4 P **P 04 02 28.7 -2.2**
baz=187
LEM Lembang 74.08 268 LR LR 04 36 05.1
comp=Z,156nm,19.5s,baz=156,slow=37
S14K Fog Glacier 74.33 10 P **P 04 02 31.5 -1.8**
baz=198
KSRS Korea Array 74.81 317 P **P 04 02 38.5 +2.2**
comp=Z,0.3nm,0.3s,baz=134,slow=5.2,SNR=5.4
KSRS LR LR 04 31 00.0
comp=Z,42nm,21.4s,baz=105,slow=32
comp=Z,0.3nm,0.3s
KSAR Wonju Array Be 74.83 317 P **P 04 02 37.7 +1.3**
PFO Pinyon Flats O 76.47 48 P **P 04 02 50.4 +4.3**
PFO IAmb IAmb 04 02 59.7
comp=Z,29nm,2.0s
PFO Pinyon Flats O 76.47 48 LR LR 04 27 52.0
comp=Z,189nm,21.1s,baz=233,slow=29
USRK Ussuriysk Ar. 76.51 325 P **P 04 02 46.2 +0.2**
USRK Ussuriysk Ar. 76.51 325 LR LR 04 32 12.5
comp=Z,141nm,19.2s,baz=126,slow=32
LPIG La Paz 76.77 60 LR LR 04 28 12.9
comp=Z,282nm,19.9s,baz=205,slow=29
YBH Yreka Blue Hor 76.88 39 LR LR 04 28 45.5
comp=Z,217nm,21.8s,baz=210,slow=30
P16K Nushagak River 77.21 10 P **P 04 02 49.8 +0.3**
baz=199
DSP Deep Springs 77.40 44 P 04 02 56.8 +5.7
DSP IAmb IAmb 04 03 06.0
comp=Z,16nm,1.6s
N14K Kuskokwak Cree 77.52 8 P **P 04 02 51.5 +0.2**
baz=195
GWY Greenwater Val 77.66 46 P **P 04 02 55.6 +2.8**
O16K Kokwok River B 77.73 10 P **P 04 02 52.3 -0.1**
baz=199
NVAR Mina Array Bea 77.75 43 **P 04 02 54.0 +0.6**
NVAR Mina Array Bea 77.75 43 P **P 04 02 52.9 -0.5**
comp=Z,0.4nm,0.5s,baz=213,slow=11,SNR=4.3
NVAR LR LR 04 31 58.1
comp=Z,106nm,19.9s,baz=216,slow=32
comp=Z,0.4nm,0.5s
Q20K Shuyak Island 77.88 13 P **P 04 02 53.5 +0.2**
baz=204
N15K Kwethluk River 77.97 9 P **P 04 02 53.3 -0.5**
baz=197
WCT Wildcat Mounta 78.00 46 P **P 04 02 54.9 +0.3**
113A Mohawk Valley, 78.01 50 **P 04 02 54.5 -0.1**
113A IAmb IAmb 04 03 01.6
comp=Z,15nm,1.5s
P18K Big Mountain, 78.03 11 P **P 04 02 54.0 -0.2**
baz=202
O17K Koliganek Bris 78.06 10 P **P 04 02 54.3 0.0**
baz=200
M14K Bethel 78.28 7 P **P 04 02 56.0 +0.5**
baz=195
M15K Kasigluk River 78.40 8 P **P 04 02 56.9 +0.8**
baz=196
N16K Nishlik Lake 78.46 9 P **P 04 02 56.9 +0.4**
baz=198
O18K Koktuh Hills 78.47 11 P **P 04 02 57.0 +0.5**
baz=202
P19K Oil Pt 78.66 12 P **P 04 02 58.5 +0.9**
baz=203
N17K Nushagak Hills 78.76 10 P **P 04 02 59.8 +1.6**
baz=200

L14K Kuka Creek 78.77 7 P **P 04 02 59.4 +1.3**
baz=194
M16K Timber Creek 78.95 9 P **P 04 02 57.8 -1.5**
M16K IAmb IAmb 04 03 06.4
comp=Z,21nm,1.2s
M16K Timber Creek 78.95 9 P **P 04 02 59.4 +0.2**
baz=198
N18K Kilae Creek 79.12 10 P **P 04 03 00.7 +0.6**
baz=201
K13K Kusilvak Mount 79.14 6 P **P 04 03 01.1 +0.9**
baz=192
L15K Ungalak Mounta 79.24 7 P **P 04 03 01.7 +1.0**
baz=195
BRSE Bradley Lake S 79.26 13 P **P 04 03 02.1 +1.1**
baz=206
N19K Bonanza Creek 79.50 11 P **P 04 03 02.6 +0.3**
baz=202
L16K Owhat River 79.54 8 P **P 04 03 02.7 +0.4**
baz=197
M17K Holitna River 79.55 9 P **P 04 03 03.3 +0.9**
baz=199
K15K Wolf Creek Mou 79.83 7 **P 04 03 03.4 -0.5**
K15K IAmb IAmb 04 03 11.2
comp=Z,40nm,1.5s
K15K Wolf Creek Mou 79.83 7 P **P 04 03 05.7 +1.7**
baz=195
SEW Seward 79.88 14 P **P 04 03 05.3 +1.1**
baz=207
KLR Kul'dur 79.89 329 LR LR 04 33 06.8
comp=Z,184nm,20.9s,baz=152,slow=32
M18K Stony River 79.89 10 P **P 04 03 05.2 +0.9**
baz=201
TUC Tucson 80.02 52 **P 04 03 03.5 -2.3**
J14K Nanvaranak Lak 80.05 6 P **P 04 03 07.2 +2.1**
baz=193
L17K Donlin 80.11 9 P **P 04 03 07.3 +1.8**
baz=198
P23K Montague Islan 80.26 15 P **P 04 03 08.2 +1.9**
baz=209
L18K Granite Mounta 80.44 10 P **P 04 03 09.0 +1.8**
baz=200
GAMB Gambell 80.48 2 P **P 04 03 09.0 +1.6**
baz=185
M19K Big River Lodg 80.53 11 P **P 04 03 09.7 +1.9**
baz=202
MA2 Magadan 80.55 344 LR LR 04 35 50.2
comp=Z,164nm,19.4s,baz=128,slow=33
K17K Iditarod 80.67 9 P **P 04 03 10.1 +1.7**
baz=198
L19K White Mountain 80.71 10 P **P 04 03 09.3 +0.6**
baz=202
M20K Styx River 80.74 11 P **P 04 03 09.7 +0.7**
baz=203
BBB Bella Bella 80.77 28 LR LR 04 30 00.1
comp=Z,138nm,21.3s,baz=217,slow=29
PWL Port Wells 80.80 14 P **P 04 03 10.4 +1.1**
baz=208
SUA Susitna One 80.82 12 P **P 04 03 11.5 +2.0**
baz=206
U15A North Rim 80.84 48 **P 04 03 10.8 +0.4**
J16K Anvik River 80.91 7 P **P 04 03 11.8 +2.1**
baz=196
GLI Glacier Island 81.11 14 P **P 04 03 12.8 +1.9**
baz=209
SKT Skwentna 81.13 12 P **P 04 03 13.0 +2.0**
baz=205
L20K Farewell, AK 81.15 11 P **P 04 03 12.5 +1.4**
baz=203
J17K VABM Dome 81.21 8 P **P 04 03 13.3 +2.0**
baz=198
TTA Tatalina 81.22 10 IAmb IAmb 04 03 18.3
comp=Z,20nm,1.4s
TTA Tatalina 81.22 10 P **P 04 03 13.1 +1.6**
baz=200
J18K Innko River 81.61 9 IAmb IAmb 04 03 20.2
comp=Z,12nm,1.1s
S31K Pelican 81.80 21 P **P 04 03 17.0 +2.4**
baz=219
PPLA Purkeypile 81.85 11 P **P 04 03 16.3 +1.4**
baz=204
SCM Sheep Creek Mo 81.89 14 P **P 04 03 16.5 +1.4**
baz=209
KLU Klutina 81.92 14 P **P 04 03 16.9 +1.7**
baz=210
K20K Telida 81.94 10 P **P 04 03 16.6 +1.4**
baz=202
S32K Killisnoo 81.99 22 P **P 04 03 17.8 +2.2**
baz=221
H16K Elim 82.03 6 P **P 04 03 17.4 +1.8**
baz=194
PNL Peninsula 82.15 18 P **P 04 03 18.3 +1.8**
baz=216
G15K Niukluk 82.20 6 P **P 04 03 18.4 +1.9**
baz=193
J19K Poorman 82.28 9 P **P 04 03 18.0 +1.0**
baz=201
CAST Castle Rocks 82.34 11 P **P 04 03 18.7 +1.3**
baz=204
N25K Chitina, Valde 82.34 15 P **P 04 03 19.3 +1.8**
baz=211
TNA Tin City 82.46 4 IAmb IAmb 04 03 24.7
comp=Z,23nm,1.2s
TNA Tin City 82.46 4 P **P 04 03 19.9 +2.1**
baz=189,SNR=5.4
F14K Arctic Creek 82.48 4 P **P 04 03 19.8 +1.8**
baz=190,SNR=6.2
H17K Granite Mounta 82.58 7 P **P 04 03 20.6 +2.0**
baz=197
P29M Windy Craggy 82.63 19 P **P 04 03 20.9 +1.9**
baz=218
J20K Nowinta River 82.69 10 IAmb IAmb 04 03 28.8
comp=Z,29nm,1.6s
J20K Nowinta River 82.69 10 P **P 04 03 20.8 +1.7**
baz=202
TRF Thorofare Moun 82.71 12 P **P 04 03 19.3 -0.1**
baz=206
CHUM Lake Minchumin 82.73 11 P **P 04 03 20.6 +1.3**
baz=204
G16K Koyuk River 82.75 6 P **P 04 03 20.9 +1.5**
baz=194
PLID Pearl Lake 82.81 39 P **P 04 03 23.7 +3.2**
PLID IAmb IAmb 04 03 36.3
comp=Z,19nm,2.0s
O28M Mount Upton 82.82 17 P **P 04 03 22.2 +1.9**
baz=216
F15K North Star Dit 82.85 5 P P 04 03 14.3 -5.6
F15K IAmb IAmb 04 03 29.0
comp=Z,15nm,1.5s
F15K North Star Dit 82.85 5 P **P 04 03 21.8 +1.9**
baz=192
HARP HAARP 82.89 14 P **P 04 03 22.7 +2.4**
baz=211
HLID Hailey 82.97 41 **P 04 03 19.5 -1.8**
HLID IAmb IAmb 04 03 37.2
comp=Z,26nm,1.9s
H18K Honhosa River 82.99 8 P **P 04 03 23.0 +2.4**
baz=198
G17K Kiwalik Mounta 83.04 7 P **P 04 03 22.9 +2.0**
baz=196,SNR=8.3
SEY Seymchan 83.06 346 LR LR 04 34 01.8
comp=Z,276nm,21.8s,baz=154,slow=31
I20K Naaghedeneel 83.21 10 P **P 04 03 23.8 +2.0**
baz=202
MCK McKinley 83.24 12 P **P 04 03 23.5 +1.5**
baz=207
P30M Million Dollar 83.26 19 P **P 04 03 23.7 +1.4**
baz=219
PAX Paxson 83.31 14 P **P 04 03 23.4 +0.9**
baz=210
YUK8 Steele Glacier 83.36 17 P **P 04 03 23.8 +0.8**
baz=216
M26K Nabesna, AK 83.42 15 P **P 04 03 24.5 +1.5**
baz=213
YUK6 Outpost Mounta 83.48 18 P **P 04 03 25.0 +1.4**
baz=217
YUK3 Moose Creek 83.56 17 P **P 04 03 24.5 +0.6**
baz=215
H19K Roundabout Mou 83.60 8 P **P 04 03 26.4 +2.6**
baz=200,SNR=6.2
HYT Haines Junctio 83.64 18 P **P 04 03 26.3 +2.0**
baz=218
G18K Tagagawik 83.66 7 P **P 04 03 25.7 +1.6**
G18K IAmb IAmb 04 03 30.3
comp=Z,12nm,1.3s
G18K Tagagawik 83.66 7 P **P 04 03 27.0 +2.9**
baz=198,SNR=5.7
M27K Edge Creek, AK 83.67 16 P **P 04 03 27.4 +2.9**
baz=214

H20K Anotleneega Mo 83.80 9 P **P 04 03 26.3 +1.5**
baz=202
VHRN Van Horn 83.84 55 IAmb IAmb 04 03 32.6
comp=Z,12nm,1.2s
BSUT Blindstream Ca 83.85 45 **P 04 03 23.9 -2.2**
BSUT IAmb IAmb 04 03 36.9
comp=Z,19nm,1.7s
F17K Baldwin Pennin 83.89 6 IAmb IAmb 04 03 31.9
comp=Z,21nm,1.4s
F17K Baldwin Pennin 83.89 6 P **P 04 03 26.9 +1.7**
baz=195,SNR=5.6
NEW Newport 83.89 36 LR LR 04 33 48.8
comp=Z,147nm,20.6s,baz=234,slow=31
MNTX Cornudas Mount 83.89 54 IAmb IAmb 04 03 33.3
comp=Z,17nm,1.6s
P32M Atlin 83.90 21 P **P 04 03 28.1 +2.6**
baz=222
Q32M Nakina River 83.92 22 P **P 04 03 28.7 +2.8**
baz=223
K24K Donnelly Dome 83.97 13 P **P 04 03 26.5 +0.7**
baz=210
I21K Tanana 83.98 10 P **P 04 03 27.7 +1.9**
baz=204
NEA2 Nenana 83.98 12 P **P 04 03 27.6 +1.8**
baz=207
O30N Mendenhall 84.03 19 P **P 04 03 29.3 +3.1**
baz=219
PV13 Radium Mtn., P 84.09 47 IAmb IAmb 04 03 42.4
comp=Z,22nm,1.6s
G19K Purcell Mounta 84.10 8 P **P 04 03 28.6 +2.2**
baz=199,SNR=5.8
RIDG Independent Ri 84.12 14 P **P 04 03 28.8 +2.3**
baz=211
F18K Selawik 84.22 7 P **P 04 03 29.6 +2.7**
baz=197
DOT Dot Lake 84.22 14 IAmb IAmb 04 03 35.4
comp=Z,12nm,1.2s
HDA Harding Lake 84.25 13 IAmb IAmb 04 03 37.1
comp=Z,12nm,1.1s
H21K Melozitna Rive 84.28 10 P **P 04 03 29.9 +2.6**
baz=203,SNR=9.4
TXAR Lajitas Array 84.32 57 **P 04 03 28.3 -0.2**
TXAR Lajitas Array 84.32 57 P **P 04 03 28.4 0.0**
comp=Z,1.3nm,1.1s,baz=238,slow=4.3,SNR=7.4
TXAR LR LR 04 32 32.1
comp=Z,85nm,20.7s,baz=240,slow=30
comp=Z,1.3nm,1.1s
DLBC Dease Lake 84.35 23 LR LR 04 33 08.7
comp=Z,478nm,21.8s,baz=246,slow=30
ANMO Albuquerque 84.41 51 **P 04 03 27.9 -1.0**
ANMO IAmb IAmb 04 03 35.8
comp=Z,15nm,1.6s
ANMO Albuquerque 84.41 51 LR LR 04 34 44.1
comp=Z,133nm,18.2s,baz=48,slow=31
I23K Minto, Yukon-K 84.42 11 **P 04 03 23.7 -4.3**
I23K IAmb IAmb 04 03 36.7
comp=Z,20nm,1.3s
I23K Minto, Yukon-K 84.42 11 P **P 04 03 30.4 +2.5**
baz=207
E17K Hotham Inlet 84.45 6 P **P 04 03 31.1 +3.0**
baz=195,SNR=7.2
COLA College 84.47 12 P **P 04 03 27.6 -0.6**
SCRK Sand Creek 84.52 14 P **P 04 03 31.4 +2.7**
baz=212
IL31 84.58 12 **P 04 03 27.1 -1.6**
ILAR Eielson Array 84.58 12 **P 04 03 27.6 -1.2**
ILAR Eielson Array 84.58 12 P **P 04 03 27.9 -0.9**
comp=Z,7.1nm,1.2s,baz=229,slow=4.4,SNR=11
ILAR LR LR 04 33 42.4
comp=Z,284nm,21.8s,baz=230,slow=30
comp=Z,7.1nm,1.2s
M29M Somme Creek 84.66 17 P **P 04 03 32.4 +3.0**
baz=217
P33M Teslin, Yukon 84.66 20 P **P 04 03 32.5 +3.0**
baz=222
F19K Shaleruckik Mo 84.67 8 P **P 04 03 32.2 +3.1**
baz=199
R33M Jennings River 84.70 22 P **P 04 03 33.3 +3.6**
baz=224
H22K Ishtalitna Cre 84.73 10 P **P 04 03 32.3 +2.7**
baz=205,SNR=8.4
J25K Salcha River, 84.76 13 IAmb IAmb 04 03 38.8
comp=Z,19nm,1.3s
J25K Salcha River, 84.76 13 P **P 04 03 32.6 +2.8**
baz=210,SNR=7.2
POKR Poker Plat Res 84.77 12 P **P 04 03 32.2 +2.4**
baz=208
E18K Tukpahlearik C 84.90 6 P **P 04 03 33.4 +3.1**
baz=196,SNR=5.8
D17K Noatak River 84.93 5 P **P 04 03 34.3 +3.8**
baz=194,SNR=6.5
G21K Allakaket 84.96 9 P **P 04 03 33.5 +2.7**
baz=203,SNR=6.5
H23K Yukon River 85.00 11 IAmb IAmb 04 03 36.3
comp=Z,12nm,1.5s
H23K Yukon River 85.00 11 P **P 04 03 33.4 +2.5**
baz=206
K27K Chicken 85.02 15 P **P 04 03 33.7 +2.7**
baz=214
J26L Joseph Creek 85.07 14 P **P 04 03 34.4 +3.0**
baz=212,SNR=5.3
PSI Prapat 85.12 274 LR LR 04 43 31.6
comp=Z,221nm,19.0s,baz=124,slow=37
F20K Avaraart Lake 85.14 8 P **P 04 03 34.0 +2.4**
baz=201
N32M Quiet Lake 85.28 20 P **P 04 03 35.4 +2.9**
baz=222
L29M L29M 85.28 17 P **P 04 03 34.8 +2.3**
baz=217
MAW Mawson 85.29 199 LR LR 04 39 56.2
comp=Z,244nm,18.1s,baz=104,slow=35
C16K Lisburne Hills 85.32 4 P **P 04 03 35.6 +3.2**
baz=191,SNR=5.9
S22A 4UR Ranch, Cre 85.33 48 IAmb IAmb 04 03 40.1
comp=Z,12nm,1.3s
E19K Redstone River 85.33 8 P **P 04 03 34.8 +2.2**
baz=199
PRP Porcupine Dome 85.51 13 IAmb IAmb 04 03 39.4
comp=Z,22nm,1.4s
PRP Porcupine Dome 85.51 13 P **P 04 03 36.9 +3.2**
baz=210,SNR=6.4
BILL Bilibino 85.53 354 **P 04 03 33.3 -0.2**
BILL IAmb IAmb 04 03 42.3
comp=Z,10nm,0.9s
F21K Alatna River 85.62 9 P **P 04 03 37.2 +3.2**
baz=203,SNR=6.1
PDAR Pinedale Array 85.69 43 P **P 04 03 34.8 -0.4**
comp=Z,0.4nm,0.9s,baz=199,slow=3.1,SNR=6.6
PDAR LR LR 04 36 14.9
comp=Z,42nm,18.3s,baz=236,slow=32
comp=Z,0.4nm,0.9s
G23K Bananza Creek 85.71 10 P **P 04 03 36.4 +1.9**
baz=206
DAWY Dawson 85.72 16 P **P 04 03 37.4 +2.8**
baz=216
I26K Coal Creek Min 85.84 14 P **P 04 03 38.3 +3.2**
baz=212
C18K Utukok River 86.03 6 P **P 04 03 38.9 +2.8**
baz=195
K29M Barlow Dome 86.04 16 P **P 04 03 38.7 +2.4**
baz=218
F22K John River 86.08 9 P **P 04 03 39.2 +2.9**
baz=204
COLD Coldfoot 86.15 10 P **P 04 03 39.5 +3.0**
baz=206
G24K Hadweenzic Riv 86.16 11 P **P 04 03 40.8 +4.1**
baz=208
E20K Nigu River 86.22 8 P **P 04 03 41.0 +4.0**
baz=200
I27K Kandik River 86.45 14 P **P 04 03 42.2 +4.0**
baz=214
G25K Bearman Lake 86.48 12 P **P 04 03 41.5 +3.3**
baz=210
D20K Etivluk River 86.59 7 P **P 04 03 43.0 +4.2**
baz=200
B18K Kokolik River 86.67 5 P **P 04 03 43.4 +4.3**
baz=195
I28M Miner Creek 86.71 15 P **P 04 03 43.1 +3.5**
baz=216
E22K Anaktuvuk Pass 86.72 9 P **P 04 03 43.0 +3.6**
baz=204,SNR=9.1
F24K Squaw Lake 86.81 11 P **P 04 03 44.2 +4.3**
baz=208
J30M Hart River 86.94 16 P **P 04 03 44.1 +3.4**
baz=219
MMPY Sheldon Lake, 86.94 19 P **P 04 03 45.0 +4.3**
baz=224
H27K Steamboat Moun 86.99 14 P **P 04 03 44.7 +3.9**

baz=214
E23K Chandalar 87.00 10 P **P 04 03 43.2 +2.4**
baz=206
G26K Porcupine Rive 87.11 12 P **P 04 03 44.3 +3.0**
baz=212,SNR=6.9
E24K Your Creek 87.20 10 P P 04 03 47.9 +6.1
baz=207
C21K Knifeblade Rid 87.24 8 P P 04 03 47.1 +5.2
baz=201
D22K Ayikyak River 87.27 9 P **P 04 03 46.6 +4.5**
baz=203
F25K Christian Rive 87.29 12 P **P 04 03 46.5 +4.2**
baz=210
BMAR Burnt Mountain 87.36 12 P **P 04 03 43.5 +0.9**
I30M Mount Dempster 87.43 16 P **P 04 03 47.1 +4.0**
baz=219
G27K Doyon Strip 87.44 13 P **P 04 03 47.1 +4.1**
baz=214
TOLK Toolik Lake Re 87.53 10 P **P 04 03 46.5 +3.2**
baz=206
D23K Nanushuk River 87.65 9 P **P 04 03 47.3 +3.4**
baz=205
B21K Ikpikpuk River 87.70 8 P **P 04 03 47.5 +3.4**
baz=202
H29M Whitestone 87.72 15 P **P 04 03 47.5 +3.2**
baz=217
B20K Meade River 87.76 7 P **P 04 03 46.7 +2.3**
baz=199
E25K Arctic Village 87.77 11 P **P 04 03 47.6 +3.1**
baz=210
G29M Pine Creek 88.36 14 P **P 04 03 50.5 +3.2**
baz=217
C23K Itkillik River 88.45 9 P **P 04 03 50.6 +3.0**
baz=205
B22K Teshekpuk Lake 88.52 8 P **P 04 03 51.7 +3.7**
baz=203
C24K Franklin Bluff 88.64 10 P **P 04 03 52.5 +4.0**
baz=207
A22K Sinclair Lake 88.95 7 P **P 04 03 53.6 +3.7**
baz=201
YAK Yakutsk 89.10 338 LR LR 04 38 55.2
comp=Z,66nm,21.1s,baz=120,slow=32
G31M Satah River 89.30 16 P **P 04 03 55.9 +4.3**
baz=221
C27K Jago River 89.41 11 P **P 04 03 56.0 +3.9**
baz=212
C26K Camden Bay 89.44 11 P **P 04 03 56.2 +3.9**
baz=211
E29M Blow River 89.57 14 P P 04 03 57.8 +4.8
baz=217
CMAR Chiang Mai Arr 89.78 289 P **P 04 03 53.5 -1.6**
comp=Z,0.9nm,0.3s,baz=99,slow=2.2,SNR=6.0
comp=Z,0.9nm,0.3s
F31M Tsiigehtchic 89.82 15 P P 04 03 58.9 +4.8
baz=221
SYO Syowa Base 90.46 192⇓*e*sP sP 04 04 03.6 +2.7
PLCA Paso Flores 91.09 133 LR LR 04 39 27.4
comp=Z,110nm,18.1s,baz=237,slow=32
SNAA Sanae 91.60 178 LR LR 04 43 13.0
comp=Z,132nm,19.0s,baz=187,slow=34
YKA Yellowknife Ar 92.83 24 P **P 04 04 06.8 -1.4**
comp=Z,0.2nm,0.8s,baz=248,slow=4.7,SNR=5.5
YKA LR LR 04 38 25.9
comp=Z,241nm,21.6s,baz=234,slow=31
comp=Z,0.2nm,0.8s
SONM Songino Array 93.63 319 P **P 04 04 11.6 -0.8**
comp=Z,0.1nm,0.3s,baz=141,slow=5.5,SNR=2.2
SONM LR LR 04 41 34.7
comp=Z,66nm,21.7s,baz=84,slow=32
comp=Z,0.1nm,0.3s
C36M Paulatuk 93.72 16 P **P 04 04 16.6 +4.5**
baz=230
JTS Las Juntas de 94.89 81 LR LR 04 36 00.6
comp=Z,168nm,21.1s,baz=276,slow=28
A36M Sachs Harbour 95.14 14 P **P 04 04 22.6 +4.0**
baz=229
TIXI Tiksi 95.48 345 P **P 04 04 18.4 -1.8**
TIXI Tiksi 95.48 345 LR LR 04 41 47.6
comp=Z,272nm,21.7s,baz=178,slow=32
ATAH Atahualpa 96.14 99 LR LR 04 37 08.8
comp=Z,398nm,21.4s,baz=244,slow=29
ULM Lac du Bonnet 97.26 40 LR LR 04 42 31.4
comp=Z,183nm,19.9s,baz=261,slow=32
BRDH Bariadhala 97.53 291 LR LR 04 44 52.4
comp=Z,86nm,21.9s,baz=132,slow=33
BNN Bunyan 143.91 314 PKPdf 04 10 31.4 -0.4
CLL Collm 144.71 349 *e*PKPdf **PKPdf 04 10 33.0 +0.3**
CLL *i* (PKiKP) 04 10 39.3
comp=Z,16nm,1.8s
CLL *i* x x 04 10 44.6
OSTC Ostas 144.74 345 AMS AMS 05 06 10.0
comp=Z,200nm,19.0s
CHVC Chvalec 144.75 346 *e*PKP **PKPab 04 10 31.1 -0.5**
CHVC AMS AMS 05 06 20.0
comp=Z,200nm,24.4s
ONER Baraj Valea Uz 144.75 332⇓P **PKPdf 04 10 33.1 +0.1**
CFR Carcaliu 144.76 329⇑P **PKiKP 04 10 37.0 +0.3**
UPC Upice 144.83 346 AMS AMS 05 06 50.0
comp=Z,200nm,19.8s
TPGR Topolog 144.84 328⇑P **PKPdf 04 10 35.3 +2.1**
OKC Ostrava-Krasne 144.89 343 AMS AMS 05 09 30.0
comp=Z,200nm,22.4s
DPC Dobruska-Polom 144.90 345 *e*PKP PKPbc 04 10 32.9 +0.6
DPC AMS AMS 05 07 00.0
comp=Z,200nm,26.6s
BMR Baia Mare 144.94 336⇑P **PKPdf 04 10 35.5 +2.3**
BRG Berggiesshubel 144.94 348 *e*P **PKiKP 04 10 36.6 -0.3**
BRG Amp 04 10 40.8
comp=Z,4.6nm,1.1s
VRI Vrincioaia 144.94 331⇑P **PKiKP 04 10 38.0 +0.9**
BR131 Keskin Array S 144.96 317 PKPab 04 10 32.6 -0.3
BRTR Keskin Array B 144.96 317 PKPdf 04 10 33.8 +0.1
BRTR Keskin Array B 144.96 317 PKPbc PKPbc 04 10 33.5 +0.6
comp=Z,15nm,1.0s,baz=76,slow=3.0,SNR=14
PLOR Plostina 144.99 331⇑P **PKiKP 04 10 36.7 -0.5**
KRLC Kraliky 145.04 344 *e*PKP **PKPdf 04 10 33.6 +0.2**
KRLC AMS AMS 05 07 20.0
comp=Z,100nm,20.3s
LANS Liptovska Anna 145.11 341 *e*PKP **PKPdf 04 10 35.5 +2.0**
MORC Moravsky Berou 145.11 343 *e*PKP **PKPdf 04 10 34.7 +1.2**
MORC Moravsky Berou 145.11 343⇑P **PKiKP 04 10 36.1 -1.3**
PVCC Panska Ves 145.14 347 *e*PKP **PKiKP 04 10 38.8 +1.5**
PVCC AMS AMS 05 05 20.0
comp=Z,200nm,25.5s
BISRR Bisoca 145.19 330⇑P **PKiKP 04 10 38.3 +0.6**
COVR Voineasa-Covas 145.20 331⇑P **PKiKP 04 10 39.5 +1.8**
OZUR 145.21 332⇑P **PKiKP 04 10 36.7 -0.9**
HARR Harsova 145.21 328⇓P **PKiKP 04 10 36.6 -1.0**
TLBR Topalu 145.25 328⇑P **PKiKP 04 10 39.5 +1.8**
HSKC Hora Svate Kat 145.30 348 AMS AMS 05 05 40.0
comp=Z,200nm,6.9s
ANTO Ankara 145.43 318⇓P **PKiKP 04 10 42.4 +4.0**
DOPR Dopca 145.48 332⇑P **PKiKP 04 10 37.7 -0.5**
LODK Lodwar 145.52 251 PKPdf 04 10 35.2 -0.1
ISR Istrita 145.58 330⇑P **PKiKP 04 10 40.2 +1.7**
MLR Muntele Rosu 145.59 331 PKPbc 04 10 34.3 -0.4
MLR Muntele Rosu 145.59 331⇑P **PKPdf 04 10 35.4 +0.9**
PRA Prague 145.60 347 AMS AMS 05 05 40.0
comp=Z,300nm,37.3s
PRU Pruhonice 145.66 347 *e*PKP **PKiKP 04 10 37.0 -1.4**
PRU AMS AMS 05 05 50.0
comp=Z,300nm,23.0s
CJR Cluj-Napoca 145.67 335⇑P **PKPbc 04 10 30.7 -4.1**
GOPC GO Pecny, Ondr 145.67 346 AMS AMS 05 06 10.0
comp=Z,200nm,22.8s
NKC Novy Kostel 145.84 349 AMS AMS 05 04 20.0
comp=Z,300nm,25.3s
VYHS Vyhne 145.88 341 *e*PKP **PKPab 04 10 37.2 +1.4**
MARR Marisel-Cluj 145.90 335⇑P **PKPdf 04 10 35.2 +0.2**
JAVC Velka Javorina 145.91 343 *e*PKP **PKPab 04 10 36.6 +0.6**
VOIR 146.04 332⇓P **PKiKP 04 10 42.4 +2.9**
KRUC Moravsky 146.07 344 *e*PKP **PKPab 04 10 37.2 +0.7**
TREC Trest 146.09 345 AMS AMS 05 06 30.0
comp=Z,300nm,32.6s
ZVC Zvikov 146.25 347 AMS AMS 05 06 10.0
comp=Z,300nm,30.9s
ARR Arges 146.28 332⇑P **PKPab 04 10 38.1 +0.6**
MODS Modra-Piesok 146.46 343 *e*PKP **PKiKP 04 10 43.0 +2.9**
KHC Kasperske Hory 146.67 347 *e*PKP **PKPab 04 10 39.6 +0.7**
KHC AMS AMS 05 06 10.0
comp=Z,200nm,17.7s
CKRC Cesky Krumlov 146.81 346 *e*PKP **PKPab 04 10 39.5 +0.1**
CKRC AMS AMS 05 06 40.0
comp=Z,300nm,32.5s
GERES GERESS Array B 146.92 347 PKPdf 04 10 37.9 +1.2
GERES GERESS Array B 146.92 347 PKPbc **PKPab 04 10 39.9 -0.1**
comp=Z,2.7nm,1.1s,baz=5.7,slow=1.0,SNR=9.6
SURR Surduc 147.05 335⇑P **PKiKP 04 10 41.4 0.0**
GZR Gura Zlata 147.07 334⇑P **PKPab 04 10 41.2 +0.7**
CONA Conrad Observa 147.25 344 *e*PKP **PKPbc 04 10 40.1 +0.6**
comp=Z,5.2nm,1.6s
RONA Rosalia, Austr 147.34 343 *e*PKP **PKPbc 04 10 40.2 +0.5**
comp=Z,4.3nm,1.2s
BZS Buzias 147.36 335⇑P **PKPbc 04 10 39.3 -0.4**
HERR Herculane 147.63 334⇓P **PKPab 04 10 42.5 -0.2**
MOA Molln 147.73 346 *i* PKP **PKPbc 04 10 41.3 +0.5**
comp=Z,4.7nm,1.7s
MORH Mrgy, Hungar 147.95 339⇑P **PKPbc 04 10 42.5 +1.2**
ARSA Arzberg 147.97 344 *e*PKP **PKPbc 04 10 41.1 -0.3**
comp=Z,2.0nm,1.3s
BIOA Bad Ischl, Aus 148.02 346 *e*PKP **PKPbc 04 10 41.1 -0.4**
comp=Z,1.1nm,0.6s
BFO Black Forest 148.31 353 PKPbc 04 10 41.6 -0.7
LESA Schwarzleotal 148.48 347 *e*PKP **PKiKP 04 10 45.5 +1.0**
comp=Z,6.3nm,1.3s
SOKA Soboth 148.63 344 *e*PKP **PKiKP 04 10 44.9 +0.2**
comp=Z,2.2nm,1.0s
KBA Koelnbreinsper 148.67 346 *e*PKP **PKiKP 04 10 45.3 +0.4**
comp=Z,4.5nm,1.0s
RETA Reutte 148.79 350 *e*PKP **PKPbc 04 10 44.4 +0.8**
comp=Z,7.0nm,1.3s
WATA Walderalm 148.79 349 *e*PKP **PKiKP 04 10 45.2 +0.1**
comp=Z,5.5nm,1.2s
WTTA Wattenberg 148.84 349 *e*PKP **PKPdf 04 10 42.2 +2.2**
comp=Z,1.0nm,0.5s
MOTA Moosalm 148.87 349 *e*PKP **PKPbc 04 10 45.0 +1.1**
comp=Z,3.4nm,1.1s
OBKA Obir 148.91 344 *e*PKP **PKiKP 04 10 45.3 0.0**
comp=Z,3.9nm,1.7s
SQTA Sankt Quirin 148.97 349 *e*PKP **PKiKP 04 10 46.0 +0.6**
comp=Z,3.0nm,1.2s
DAVA Damuels 149.12 351 *e*PKP **PKPbc 04 10 45.1 +0.5**
comp=Z,13nm,1.2s
ABTA Abfaltersbach 149.16 347 *e*PKP **PKPbc 04 10 45.5 +0.9**
comp=Z,3.3nm,1.0s
FETA Feichten 149.24 350 *e*PKP **PKPbc 04 10 45.8 +0.9**
comp=Z,4.7nm,1.2s
FUORN Ofenpass-Fuorn 149.71 350 PKPbc 04 10 45.8 -0.4
APE Apeiranthos 151.68 320⇑P **PKPdf 04 10 46.3 +1.7**

*IDC **21** 03:54:00.3±0.7, 10°.01N×122°.39E, h0km, mb3.9/12, mbtmp3.9/13, ML4.6/1, MS3.6/5, Error ellipse: s-maj=34.1km s-min=15.1km az=72.0*
*NEIC **21** 03:54:03.0±2.0, 10°.02N±0°.07×122°.3E±0°.1, h10km±1km, mb4.5/13, Error ellipse: s-maj=24.2km s-min=11.6km az=79.0*

ISC 21 03:54:04.6±0.5, 10°.02N±0°.07×122°.4E±0°.1, h27km, n37, σ0°.78/35, mb4.0/19, MS3.5/3, Panay

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**4.30**	**341**	Pn	**Pn**	**03 55 09.0**	**+0.7**
	32nm,0.3s,baz=164,slow=15,SNR=1.2						
TGY				Sn	**Sn**	**03 55 56.5**	**-1.2**
	28nm,0.3s,baz=299,slow=19,SNR=1.3						
TGY				LR	LR	03 57 09.9	
	comp=Z,475nm,19.4s,baz=170,slow=44						
	75nm,0.3s						
DAV	**Davao City (W)**	**4.31**	**132**	LR	LR	03 57 11.2	
	comp=Z,559nm,20.1s,baz=344,slow=44						
MYLDM	**Lahad Datu**	**6.15**	**219**		**Pn**	**03 55 34.2**	**+0.4**
TOLI2	**Tolitoli**	**8.99**	**190**	Pn	**Pn**	**03 56 11.2**	**-1.5**
TNTI	**Ternate**	**10.44**	**151**	Pn	**Pn**	**03 56 32.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**24.19**	**293**	P	**P**	**03 59 19.4**	**+0.3**
	1.1nm,0.3s,baz=109,slow=9.4,SNR=8.9						
CMAR				LR	LR	04 08 38.7	
	comp=Z,30nm,18.5s,baz=175,slow=36						
	1.1nm,0.3s						
KNRA	**Kununurra**	**26.30**	**166**	P	**P**	**03 59 39.0**	**+0.9**
WB0	**Warramunga Arr**	**31.88**	**158**	P	**P**	**04 00 27.4**	**-0.4**
WB0				IAmb	IAmb	04 00 34.2	
	comp=Z,6.9nm,1.1s						
WRA	**Warramunga Arr**	**32.02**	**158**	P	**P**	**04 00 27.8**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=330,slow=11,SNR=4.5						
	comp=Z,0.8nm,0.6s						
USRK	**Ussuriysk Ar.**	**35.06**	**12**	P	**P**	**04 00 55.8**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=208,slow=7.8,SNR=4.4						
	comp=Z,1.2nm,0.6s						
AS31	**Alice Springs**	**35.32**	**162**	P	**P**	**04 00 58.1**	**+0.3**
ASAR	**Alice Springs**	**35.32**	**162**	P	**P**	**04 00 57.9**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=339,slow=7.0,SNR=9.4						
	comp=Z,0.9nm,0.6s						
KLR	**Kul'dur**	**39.87**	**10**	P	**P**	**04 01 36.4**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=203,slow=1.4,SNR=8.0						
	comp=Z,2.1nm,0.7s						
SONM	**Songino Array**	**40.03**	**343**	P	**P**	**04 01 37.6**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=164,slow=9.5,SNR=4.4						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**49.96**	**325**	P	**P**	**04 02 55.4**	**-1.0**
MKAR	**Makanchi Array**	**49.96**	**325**	P	**P**	**04 02 55.8**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=132,slow=8.0,SNR=8.1						
	comp=Z,0.8nm,0.7s						
AAK	**Ala-Archa**	**52.84**	**317**	LR	LR	04 27 24.2	
	comp=Z,44nm,19.6s,baz=96,slow=38						
KURBB	**Kurchatov Arra**	**54.15**	**327**	P	**P**	**04 03 27.1**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=134,slow=6.7,SNR=8.0						
	comp=Z,0.9nm,0.7s						
KURK	**Kurchatov**	**54.15**	**327**	P	**P**	**04 03 27.0**	**-0.4**
KURK				IAmb	IAmb	04 03 33.6	
	comp=Z,3.9nm,1.1s						
KKAR	**Karatay Array**	**55.73**	**316**	P	**P**	**04 03 39.6**	**+0.6**
ABKAR	**Abkulak array**	**64.58**	**320**	P	**P**	**04 04 39.0**	**-0.6**
F15K	**North Star Dit**	**73.94**	**24**	P	**P**	**04 05 37.8**	**+0.5**
C16K	**Lisburne Hills**	**74.22**	**22**	P	**P**	**04 05 39.4**	**+0.7**
C16K				IAmb	IAmb	04 05 46.0	
	comp=Z,8.1nm,1.5s						
D19K	**Kuna River**	**76.89**	**22**		**P**	**04 05 55.2**	**+1.1**
D19K				IAmb	IAmb	04 05 55.6	
	comp=Z,3.8nm,0.7s						
E19K	**Redstone River**	**77.13**	**23**	P	**P**	**04 05 56.5**	**+1.1**
E19K				IAmb	IAmb	04 06 02.2	
	comp=Z,4.0nm,1.1s						
D20K	**Etivluk River**	**77.47**	**22**		**P**	**04 05 58.4**	**+1.1**
D20K				IAmb	IAmb	04 06 05.4	
	comp=Z,4.8nm,0.9s						
B22K	**Teshekpuk Lake**	**78.68**	**20**	P	**P**	**04 06 04.5**	**+0.6**
D25K	**Kavik River**	**81.15**	**21**	P	**P**	**04 06 18.4**	**+1.0**
ILAR	**Eielson Array**	**81.33**	**26**	P	**P**	**04 06 17.4**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=266,slow=5.3,SNR=3.9						
	comp=Z,0.5nm,0.8s						
FINES	**FINESS Array B**	**84.28**	**331**	P	**P**	**04 06 32.8**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=94,slow=7.6,SNR=7.9						
	comp=Z,0.7nm,0.5s						
G29M	**Pine Creek**	**84.61**	**23**		**P**	**04 06 36.3**	**+0.9**
A36M	**Sachs Harbour**	**87.28**	**17**	P	**P**	**04 06 47.9**	**-0.6**
A36M				IAmb	IAmb	04 06 49.9	
	comp=Z,2.5nm,0.7s						
VNDA	**Vanda**	**90.19**	**172**	P	**P**	**04 07 01.9**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=238,slow=3.2,SNR=6.7						
	comp=Z,0.4nm,0.3s						
RES	**Resolute Bay**	**92.39**	**9**	LR	LR	04 53 05.7	
	comp=Z,166nm,18.2s,baz=218,slow=38						
YKA	**Yellowknife Ar**	**95.52**	**23**	P	**P**	**04 07 26.1**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=309,slow=3.1,SNR=3.0						
	comp=Z,0.2nm,0.8s						
PLCA	**Paso Flores**	**147.34**	**162**	PKPbc	**PKPbc**	**04 13 46.6**	**+0.4**
	comp=Z,2.4nm,1.0s,baz=238,slow=2.0,SNR=10						
BI02	**San Fabin de**	**150.73**	**157**		**PKPbc**	**04 13 55.5**	**+0.5**

*MOS **21** 04:02:39.0±0.9, 39°.01N×140°.46E, h126km, mb4.5/19, Error ellipse: s-maj=8.4km s-min=5.4km az=92.5*
*BJI **21** 04:02:41.5, 39°.09N×140°.37E, h145km, mB4.5/12, mb4.7/51*
*IDC **21** 04:02:42.1±0.9, 39°.16N×140°.47E, h135km±8km, mb3.9/27, mbtmp4.3/35, MS3.0/1, Error ellipse: s-maj=10.5km s-min=7.3km az=108.0*
*NIED **21** 04:02:43.4, 39°.16N×140°.49E, h148km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.30; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$1.46; $M_{r\theta}$-0.61; $M_{\theta\phi}$0.20; $M_{\phi r}$2.71; Fault plane solution: $M_0$3.11000×10^{15} NP1:ϕ_s25.00000°, δ16.00000°, λ-55.00000°. NP2:ϕ_s169.00000°, δ77.00000°, λ-99.00000°.*
*JMA **21** 04:02:43.4±0.1, 39°.2N±0°.5×140°.5E±0°.6, h148km±1km, MD4.2/40, MV4.2/40, SOUTHERN AKITA PREF*
*NEIC **21** 04:02:43.8±1.8, 39°.21N±0°.06×140°.5E±0°.1, h139km±7km, mb4.5/210, Error ellipse: s-maj=12.5km s-min=8.0km az=119.0*

ISC 21 04:02:42.7±0.5, 39°.16N±0°.04×140°.55E±0°.05, h144km±4km, n559, σ1°.50/494, mb4.5/152, 13C-18D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JRG	**Rokugo**	**0.24**	**15**	*i* P	**Pn**	**04 03 03.8**	**+1.5**
JRG				S	**Sn**	**04 03 19.1**	**+1.8**
JRG	**Rokugo**	**0.24**	**15**	A	A	04 03 03.8	
	comp=N,43nm,0.5s,comp=E,43nm,0.9s						
JYK	**Kaneyama**	**0.28**	**212**	⇓P	**Pn**	**04 03 03.6**	**+1.1**
JYK				⇓*e*S	**Sn**	**04 03 18.8**	**+1.4**
JYK	**Kaneyama**	**0.28**	**212**	A	A	04 03 03.6	
	comp=N,6.0nm,2.4s,comp=E,18nm,3.0s						
JYW	**Yuwa**	**0.46**	**325**	A	A	04 03 04.3	
	comp=N,43nm,0.9s,comp=E,69nm,0.7s						
JYYZ	**Yamagatayuza**	**0.50**	**253**	A	A	04 03 04.4	
	comp=N,17nm,1.2s,comp=E,20nm,2.4s						
JMK	**Ichinoseki**	**0.56**	**112**	*i* P	**Pn**	**04 03 05.1**	**+1.5**
JMK	**Ichinoseki**	**0.56**	**112**	A	A	04 03 05.1	
	comp=N,6.0nm,1.6s,comp=E,9.0nm,1.2s						
JOFO	**Osakifurukawao**	**0.62**	**153**	A	A	04 03 05.4	
	comp=N,20nm,2.0s,comp=E,43nm,2.2s						
JOM	**Ohasama**	**0.66**	**61**	*i* P	**Pn**	**04 03 05.9**	**+1.7**
JOM				S	**Sn**	**04 03 22.7**	**+2.0**
JOM	**Ohasama**	**0.66**	**61**	A	A	04 03 05.9	
	comp=N,10.0nm,0.6s,comp=E,10.0nm,1.2s						
JSZI	**Iwateshizukuis**	**0.66**	**28**	A	A	04 03 05.7	
	comp=N,12nm,0.6s,comp=E,17nm,2.8s						
JOU	**Okura**	**0.80**	**174**	⇓*i*P	**Pn**	**04 03 06.7**	**+1.4**
JOU				⇓S	**Sn**	**04 03 24.5**	**+2.1**
JOU	**Okura**	**0.80**	**174**	A	A	04 03 06.7	
	comp=N,9.0nm,1.2s,comp=E,31nm,1.1s						
JKMT	**Kesennumamotoy**	**0.80**	**116**	A	A	04 03 06.8	
	comp=N,7.0nm,1.1s,comp=E,4.0nm,2.6s						
JYA	**Atsumi**	**0.86**	**229**	⇓*i*P	**Pn**	**04 03 06.6**	**+0.8**
JYA				⇓S	**Sn**	**04 03 24.0**	**+0.7**
JYA	**Atsumi**	**0.86**	**229**	A	A	04 03 06.6	
	comp=N,11nm,0.8s,comp=E,11nm,1.0s						
OFUJ	**Ofunato**	**0.87**	**95**	A	A	04 03 07.4	
	comp=N,4.0nm,0.9s,comp=E,5.0nm,1.4s						
JIO	**Ouri**	**0.94**	**138**	⇓*i*P	**Pn**	**04 03 07.3**	**+1.0**
JIO				⇓S	**Sn**	**04 03 25.3**	**+0.9**
JYS	**Shiratake**	**1.01**	**202**	⇓*i*P	**Pn**	**04 03 08.0**	**+1.0**
JYS				⇓*e*S	**Sn**	**04 03 27.9**	**+2.3**
JYS	**Shiratake**	**1.01**	**202**	A	A	04 03 08.0	
	comp=N,9.0nm,3.3s,comp=E,8.0nm,1.9s						
JAH	**Hinai**	**1.03**	**4**	*i* P	**Pn**	**04 03 08.7**	**+1.6**
JAH				S	**Sn**	**04 03 27.6**	**+1.8**
JAH	**Hinai**	**1.03**	**4**	A	A	04 03 08.7	
	comp=N,12nm,0.8s,comp=E,9.0nm,2.2s						
JNTW	**Noshirotokiwa**	**1.15**	**345**	A	A	04 03 09.4	
	comp=N,9.0nm,3.1s,comp=E,12nm,1.5s						
JAW	**Awa shima**	**1.24**	**236**	⇓*i*P	**Pn**	**04 03 09.7**	**+0.7**
JYAR	**Yonezawaarcadi**	**1.29**	**194**	A	A	04 03 10.6	
	comp=N,9.0nm,1.0s,comp=E,23nm,1.2s						
JMM	**Marumori**	**1.31**	**172**		**Pn**	**04 03 10.7**	**+0.9**
JMM	**Marumori**	**1.31**	**172**	P	**Pn**	**04 03 10.7**	**+0.9**
JMM	**Marumori**	**1.31**	**172**	S	**Sn**	**04 03 31.3**	**+0.9**
JMM	**Marumori**	**1.31**	**172**	A	A	04 03 11.0	
	comp=N,6.0nm,0.8s,comp=E,11nm,1.0s						
JOG3	**Oga3**	**1.36**	**304**	A	A	04 03 07.5	
	comp=N,9.0nm,0.5s,comp=E,14nm,3.5s						
JKEN	**Kujiedanarisaw**	**1.37**	**40**	A	A	04 03 12.0	
	comp=N,14nm,0.4s,comp=E,15nm,1.4s						
JANG	**Nango**	**1.42**	**31**	*i* P	**Pn**	**04 03 12.5**	**+1.6**
JANG				*e*S	**Sn**	**04 03 33.8**	**+1.2**
JANG	**Nango**	**1.42**	**31**	A	A	04 03 12.5	
	comp=N,7.0nm,0.7s,comp=E,8.0nm,1.4s						
JIW	**Iwasaki**	**1.49**	**344**	A	A	04 03 12.8	
	comp=N,4.0nm,2.6s,comp=E,7.0nm,1.3s						
JHHS	**Hirosakihykuz**	**1.50**	**354**	A	A	04 03 13.0	
	comp=N,7.0nm,2.3s,comp=E,7.0nm,5.4s						
JOTO	**OTAMA OYAMA**	**1.61**	**186**	P	**Pn**	**04 03 14.0**	**+1.0**
JOTO				*e*S	**Sn**	**04 03 37.8**	**+1.6**
JNS	**Sasagawa**	**1.65**	**216**	⇓P	**Pn**	**04 03 14.2**	**+0.7**
JTM	**Tenmabayashi**	**1.67**	**14**		**Pn**	**04 03 13.7**	**0.0**
JTM	**Tenmabayashi**	**1.67**	**14**	P	**Pn**	**04 03 15.0**	**+1.4**
JTM	**Tenmabayashi**	**1.67**	**14**	S	**Sn**	**04 03 38.7**	**+1.3**
ONAJ	**Iwakimizuishiy**	**2.07**	**174**	A	A	04 03 19.4	
	comp=N,4.0nm,0.4s,comp=E,6.0nm,0.4s						
JSD	**Sado**	**2.12**	**239**		**Pn**	**04 03 18.9**	**+0.2**
JSD	**Sado**	**2.12**	**239**	P	**Pn**	**04 03 19.0**	**+0.2**
JSD	**Sado**	**2.12**	**239**	⇓*i*P	**Pn**	**04 03 19.1**	**+0.3**
MJB9	**Matsu-Tunnel**	**3.20**	**216**		**Pn**	**04 03 34.1**	**+1.7**
MAJO	**Matsushiro**	**3.21**	**216**		**Pn**	**04 03 33.2**	**+0.7**
MAJO	**Matsushiro**	**3.21**	**216**	P	**Pn**	**04 03 33.4**	**+1.0**
MAJO	**Matsushiro**	**3.21**	**216**	P	**Pn**	**04 03 33.2**	**+0.7**
MJAR	**Matsushiro Arr**	**3.21**	**216**	P	**Pn**	**04 03 31.7**	**-0.8**
	comp=E,22nm,0.7s,baz=34,slow=11,SNR=115						
MJAR				S	**Sn**	**04 04 10.9**	**0.0**
	comp=E,13nm,0.6s,baz=9.3,slow=24,SNR=6.0						
MJAR				LR	LR	04 04 53.2	
	comp=E,73nm,21.3s,baz=44,slow=42						
ERM	**Erimo**	**3.47**	**34**		**Pn**	**04 03 36.2**	**+0.4**
ERM	**Erimo**	**3.47**	**34**	P	**Pn**	**04 03 36.7**	**+0.9**
ERM	**Erimo**	**3.47**	**34**	P	**Pn**	**04 03 36.2**	**+0.4**
JEM	**Erimo**	**3.47**	**34**	P	**Pn**	**04 03 36.6**	**+0.8**
JGF	**Kuroka**	**4.37**	**217**		**Pn**	**04 03 48.4**	**+0.7**
JGF	**Kuroka**	**4.37**	**217**	P	**Pn**	**04 03 48.8**	**+1.1**
JGF	**Kuroka**	**4.37**	**217**	S	**Sn**	**04 04 38.2**	**0.0**
INU	**Inuyama**	**4.74**	**218**		**Pn**	**04 03 53.0**	**+0.6**
INU	**Inuyama**	**4.74**	**218**	P	**Pn**	**04 03 53.6**	**+1.2**
ASAJ	**Asahikawa**	**5.18**	**17**	P	**Pn**	**04 03 58.0**	**-0.3**
	comp=E,11nm,0.3s,baz=208,slow=15,SNR=56						
ASAJ				S	**Sn**	**04 04 54.8**	**-2.5**
	comp=E,45nm,0.5s,baz=88,slow=31,SNR=3.7						
JKA	**Kamikawa-asahi**	**5.18**	**17**		**Pn**	**04 03 57.8**	**-0.5**
NMR	**Nemuro--Hokkai**	**5.74**	**41**	⇑*i*P	**Pn**	**04 04 04.0**	**-1.6**
NMR				*i* S	**Sn**	**04 05 04.2**	**-6.3**
JHJ	**Hachijo jima 2**	**6.06**	**186**	P	**Pn**	**04 04 08.4**	**-1.7**
	comp=E,44nm,0.5s,baz=133,slow=23,SNR=13						
JHJ				S	**Sn**	**04 05 13.7**	**-4.8**
	comp=E,64nm,0.3s,baz=238,slow=22,SNR=9.0						
RUSJ	**Misakicho**	**6.06**	**34**	⇓*i*P	**Pn**	**04 04 09.7**	**-0.3**
RUSJ				*i* S	**Sn**	**04 05 16.7**	**-1.7**
JHJ2	**Mitsune**	**6.07**	**186**	Pn	**Pn**	**04 04 12.3**	**+2.1**
YUK	**Yuzh-Kuril'sk**	**6.29**	**38**	*e*P	**Pn**	**04 04 12.8**	**-0.2**
YUK				*i* S	**Sn**	**04 05 18.9**	**-4.8**
YUK				pmax	pmax		
	comp=E,49nm,0.2s						
YUK				pmax	pmax		
	comp=Z,202nm,0.2s						
YUK				smax	smax		
	comp=E,700nm,0.6s						
YUK				smax	smax		
	comp=N,2μm,0.7s					

comp=N,4.7nm,0.5s,baz=124,slow=13,SNR=9.7
USRK Ussuriysk Ar. 8.14 311 P Pn 04 04 38.0 +0.1
USA0B Ussuriysk Arra 8.15 311 Pn Pn 04 04 38.2 +0.3
USA0B Ussuriysk Arra 8.15 311 P Pn 04 04 38.2 +0.3
MDJ Mudanjiang 9.82 307 P Pn 04 05 00.3 +0.1
MDJ pmax pmax
comp=N,14nm,1.2s
JNU Nakatsue 9.87 235 Pn Pn 04 05 00.5 -0.5
JNU Nakatsue 9.87 235 P Pn 04 05 00.3 -0.8
comp=N,11nm,0.8s,baz=40,slow=8.7,SNR=10
JNU Nakatsue 9.87 235 P Pn 04 05 01.3 +0.3
KSRS Korea Array 10.07 264 P Pn 04 05 03.5 0.0
comp=N,7.0nm,0.9s,baz=84,slow=12,SNR=23
TJN Taejon 10.80 259 P Pn 04 05 14.0 +0.7
BNX BinXian 11.72 308 ⇑P Pn 04 05 24.9 -0.4
BNX pmax pmax
comp=N,8.0nm,0.9s
KLR Kul'dur 11.87 331 P Pn 04 05 26.4 -0.8
comp=N,1.5nm,0.5s,baz=159,slow=14,SNR=7.8
JCJ Chichijima 12.11 173 P Pn 04 05 26.6 -3.9
comp=N,38nm,0.7s,baz=2.4,slow=21,SNR=7.9
JCJ S Sn 04 07 32.9 -11
comp=N,24nm,0.4s,baz=283,slow=23,SNR=5.3
CN2 Changchun 12.23 297 *e*P **Pn 04 05 32.3 +0.3**
CN2 pmax pmax
comp=N,10.0nm,0.7s
HEH HeiHe 14.47 324 *e*P **Pn 04 05 58.6 -1.9**
OKH Okha 14.48 6*de*P Pn 04 05 50.0 -11
DL2 Dalian 14.71 275 P Pn 04 06 03.1 -0.5
DL2 pmax pmax
comp=N,50nm,0.9s
ZEA Zeya 17.18 332 *e*P **P 04 06 32.6 -0.4**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
PEA0B Petropavlovsk- 18.26 35*ce*P **P 04 06 43.4 -1.5**
PETK Petropavlovsk- 18.26 35 P P 04 06 45.3 +0.4
PETK Petropavlovsk- 18.26 35 P P 04 06 45.5 +0.6
comp=Z,3.6nm,0.8s,baz=232,slow=6.9,SNR=6.7
PETK LR LR 04 13 49.0
comp=Z,51nm,19.5s,baz=129,slow=36
TIA Tai'an 18.76 268 P P 04 06 49.6 -1.0
TIA pmax pmax
comp=Z,20nm,0.6s
BJI Beijing 18.79 280 P P 04 06 49.8 -1.0
BJI pmax pmax
comp=Z,5.0nm,0.5s
BJI pmax pmax
comp=Z,36nm,4.3s
XLT XiLinHaoTe 18.90 292 *e*P **P 04 06 50.1 -1.9**
XLT PcS **PcS 04 14 45.8 -3.1**
XLT pmax pmax
comp=Z,18nm,0.8s
XLT pmax pmax
comp=Z,100nm,5.0s
NJ2 Nanjing 18.99 255 *e*P **P 04 06 51.9 -1.1**
NJ2 pmax pmax
comp=Z,26nm,0.8s
HNS HongShan 20.35 273 ⇓P **P 04 07 05.3 -2.3**
HNS pmax pmax
comp=Z,11nm,1.3s
MA2 Magadan 21.44 14 P P 04 07 19.5 +0.4
MA2 Magadan 21.44 14 P P 04 07 19.4 +0.3
comp=Z,22nm,0.6s,baz=201,slow=9.2,SNR=33
comp=Z,22nm,0.6s
MA2 Magadan 21.44 14 P P 04 07 19.5 +0.4
MA2 pmax pmax
comp=Z,29nm,0.7s
YHNB Yeheng 21.70 234 P P 04 07 20.4 -1.8
YHNB IAmb IAmb 04 07 48.5
comp=Z,30nm,1.3s
HHC Hu-ho-hao-te 22.23 284 *e*P **P 04 07 25.5 -2.1**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,69nm,4.4s
YULB Yu-li 22.68 232 P P 04 07 29.7 -2.3
WHN Wuhan 23.10 256 P P 04 07 35.6 -0.1
TPUB Ta-pu 23.16 233 P P 04 07 34.6 -1.9
TPUB IAmb IAmb 04 07 39.2
comp=Z,14nm,0.7s
BTO Baotou 23.42 283 *e*P **P 04 07 38.4 -0.3**
BTO pP **pP 04 08 07.1 +0.7**
BTO PP **PnPn 04 08 17.3 +2.4**
BTO sP **sP 04 08 23.9 -0.4**
BTO pmax pmax
comp=Z,21nm,0.9s
BTO pmax pmax
comp=Z,71nm,5.5s
SEY Seymchan 24.86 13 P P 04 07 51.8 +0.5
comp=Z,1.7nm,0.3s,baz=205,slow=14,SNR=2.2
comp=Z,1.7nm,0.3s
SEY Seymchan 24.86 13*ce*P **P 04 07 53.7 +2.3**
SEY pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 25.64 301 P P 04 07 58.5 -0.3
ULN Ulaanbaatar 25.64 301*ce*P **P 04 07 59.3 +0.5**
ULN pmax pmax
comp=Z,10.0nm,1.3s
XAN Xi'an 25.82 268 ⇑P **P 04 07 59.5 -1.0**
XAN pmax pmax
comp=Z,30nm,0.7s
SONM Songino Array 26.07 301 P P 04 08 01.9 -0.9
SONM Songino Array 26.07 301 P P 04 08 01.8 -0.9
comp=Z,1.4nm,0.5s,baz=92,slow=9.1,SNR=10.0
SONM ScP **ScP 04 14 52.6 -0.1**
comp=Z,0.9nm,1.0s,baz=131,slow=4.0,SNR=4.6
comp=Z,1.4nm,0.5s
ENH Enshi 26.93 260 P 04 08 08.5 -1.9
ZAK Zakamensk 28.45 306 *e*P **P 04 08 22.6 -1.3**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
LZH Lanzhou 29.11 276 *e*P **P 04 08 33.3 +3.4**
LZH sP sP 04 09 16.4 -0.4
LZH pmax pmax
comp=Z,31nm,1.0s
GTA Gaotai 31.34 284 *e*P **P 04 08 48.3 -1.2**
GTA pmax pmax
comp=Z,2.0nm,1.5s
PZH PanZhiHua 34.71 260 P P 04 09 20.6 +1.7
PZH pmax pmax
comp=Z,7.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.3s
SPIA Saint Paul Isl 36.47 44 P P 04 09 34.9 +1.5
baz=262
NIKH Nikolski High 36.93 51 P P 04 09 37.9 +0.6
baz=269
GAMB Gambell 37.28 33 P P 04 09 41.3 +1.2
baz=252
M11K Mekoryuk 39.02 39 P P 04 09 55.0 +0.3
baz=262
WMQ Urumqi 39.31 294 *e*P **P 04 09 59.4 +1.9**
WMQ pmax pmax
comp=Z,21nm,0.7s
TNA Tin City 39.36 31 P P 04 09 59.1 +1.6
TNA IAmb IAmb 04 10 00.2
comp=Z,6.1nm,0.9s
TNA Tin City 39.36 31 P P 04 09 58.4 +0.9
baz=254
F14K Arctic Creek 39.98 31 P P 04 10 03.4 +0.7
baz=256
K13K Kusilvak Mount 39.99 37 P P 04 10 04.8 +2.0
K13K Kusilvak Mount 39.99 37 P P 04 10 03.9 +1.1
baz=261
ZAA0 Zalesovo Array 40.00 311 P P 04 10 03.0 +0.1
ZALV Zalesovo Beam 40.00 311 P 04 10 02.9 -0.1
ZALV Zalesovo Beam 40.00 311 P P 04 10 03.1 +0.2
comp=Z,9.9nm,0.5s,baz=76,slow=7.8,SNR=40
comp=Z,9.9nm,0.5s
ANM Nome 40.16 33 P P 04 10 06.7 +2.6
ANM IAmb IAmb 04 10 07.5
comp=Z,10nm,0.8s
ANM Nome 40.16 33 P P 04 10 06.7 +2.6
ANM pmax pmax
comp=Z,10.0nm,0.8s
ANM Nome 40.16 33 P P 04 10 06.2 +2.1
baz=258
M13K Dall Lake 40.43 39 P P 04 10 07.5 +1.1
M13K IAmb IAmb 04 10 10.5
comp=Z,8.1nm,0.8s
M13K Dall Lake 40.43 39 P P 04 10 08.0 +1.6
baz=264
J14K Nanvaranak Lak 40.62 36 P P 04 10 09.7 +1.7
J14K IAmb IAmb 04 10 50.8
comp=Z,12nm,1.2s
J14K Nanvaranak Lak 40.62 36 P P 04 10 08.8 +0.9
baz=262
F15K North Star Dit 40.71 31 P P 04 10 09.8 +1.2
baz=257
G15K Niukluk 40.81 32 P P 04 10 10.1 +0.6
baz=258,SNR=6.4
L14K Kuka Creek 40.85 38 P P 04 10 10.9 +1.1
baz=264
S12K Black Hills 40.92 47 P P 04 10 11.5 +1.0
baz=271
C16K Lisburne Hills 41.11 27 P P 04 10 12.4 +0.5
baz=253,SNR=8.3
M14K Bethel 41.14 39 P P 04 10 14.1 +1.9
M14K IAmb IAmb 04 10 15.5
comp=Z,14nm,0.8s
M14K Bethel 41.14 39 P P 04 10 13.3 +1.1
baz=265
N14K Kuskokwak Cree 41.22 40 P P 04 10 13.8 +1.0
baz=266
O14K Tigyukauivet M 41.40 41 P P 04 10 15.4 +1.1
baz=268
CMAR Chiang Mai Arr 41.44 252 P P 04 10 15.5 +0.3
comp=Z,2.3nm,0.6s,baz=46,slow=7.2,SNR=9.6
CMAR ScP **ScP 04 15 47.5 +0.7**
comp=Z,0.9nm,0.3s,baz=70,slow=3.5,SNR=4.5
comp=Z,2.3nm,0.6s
L15K Ungalak Mounta 41.45 38 P P 04 10 15.8 +1.1
baz=265
K15K Wolf Creek Mou 41.49 37 P P 04 10 16.1 +0.9
K15K IAmb IAmb 04 10 18.5
comp=Z,7.8nm,0.9s
K15K Wolf Creek Mou 41.49 37 P P 04 10 16.4 +1.3
baz=264
H16K Elim 41.50 33 P P 04 10 16.0 +0.9
baz=261
G16K Koyuk River 41.58 32 P P 04 10 17.2 +1.4
baz=260
M15K Kasigluk River 41.76 39 P P 04 10 18.3 +1.1
baz=267
D17K Noatak River 41.78 28 P P 04 10 19.0 +1.6
baz=256,SNR=7.5
J16K Anvik River 42.03 35 P P 04 10 20.5 +1.0
baz=264
N15K Kwethluk River 42.03 40 P P 04 10 21.9 +2.4
N15K IAmb IAmb 04 10 22.3
comp=Z,6.8nm,0.6s
N15K Kwethluk River 42.03 40 P P 04 10 21.0 +1.5
baz=268
I17K Unalakleet 42.06 34 P P 04 10 20.9 +1.3
baz=263
E17K Hotham Inlet 42.12 30 P P 04 10 22.0 +1.9
baz=258,SNR=15
O15K Ungalikthiuk R 42.13 41 P P 04 10 22.4 +2.0
O15K IAmb IAmb 04 10 23.7
comp=Z,11nm,0.8s
O15K Ungalikthiuk R 42.13 41 P P 04 10 21.7 +1.4
baz=269
F17K Baldwin Pennin 42.22 31 P P 04 10 23.2 +2.3
F17K IAmb IAmb 04 10 23.9
comp=Z,9.8nm,0.7s
F17K Baldwin Pennin 42.22 31 P P 04 10 22.3 +1.4
baz=260,SNR=9.7
G17K Kiwalik Mounta 42.30 32 P P 04 10 23.3 +1.7
baz=261,SNR=8.7
S14K Fog Glacier 42.31 46 P P 04 10 22.9 +1.0
baz=272
CHNA Chenabura Isl 42.37 48 P P 04 10 23.3 +1.0
baz=274
L16K Owhat River 42.41 38 P P 04 10 24.6 +2.0
L16K Owhat River 42.41 38 P P 04 10 24.0 +1.5
baz=266
MK31 Makanchi Array 42.44 300*ce*P **P 04 10 22.9 -0.1**
MKAR Makanchi Array 42.44 300 P 04 10 23.2 +0.2
MKAR Makanchi Array 42.44 300 P P 04 10 22.9 -0.1
comp=Z,18nm,0.7s,baz=86,slow=9.7,SNR=152
comp=Z,18nm,0.7s
MKAR Makanchi Array 42.44 300 P P 04 10 23.2 +0.2
H17K Granite Mounta 42.53 33 P P 04 10 26.0 +2.5
H17K Granite Mounta 42.53 33 P P 04 10 25.2 +1.7
baz=263
M16K Timber Creek 42.62 39 P P 04 10 26.6 +2.3
M16K IAmb IAmb 04 10 27.7
comp=Z,14nm,1.4s
M16K Timber Creek 42.62 39 P P 04 10 25.0 +0.7
baz=268
B18K Kokolik River 42.64 26 P P 04 10 25.5 +1.2
baz=256,SNR=7.4
MAKZ Makanchi 42.65 300 P 04 10 24.6 -0.1
MAKZ Makanchi 42.65 300 ⇑P P 04 10 25.0 +0.3
E18K Tukpahlearik C 42.65 29 P P 04 10 26.6 +2.2
E18K IAmb IAmb 04 10 28.1
comp=Z,5.4nm,0.7s
E18K Tukpahlearik C 42.65 29 P P 04 10 26.2 +1.8
baz=259,SNR=12
C18K Utukok River 42.69 27 IAmb IAmb 04 10 26.8
comp=Z,6.8nm,0.7s
C18K Utukok River 42.69 27 P P 04 10 25.8 +1.0
baz=257,SNR=9.9
N16K Nishlik Lake 42.70 40 P P 04 10 26.1 +1.2
baz=268,SNR=5.7
J17K VABM Dome 42.72 35 IAmb IAmb 04 10 28.5
comp=Z,7.6nm,0.9s
J17K VABM Dome 42.72 35 P P 04 10 26.6 +1.6
baz=265
SHL Shillong 42.80 266 P 04 10 25.2 -1.2
SHL IAmb IAmb 04 10 28.5
comp=Z,18nm,1.1s
SHL Shillong 42.80 266 P P 04 10 25.2 -1.2
SHL pmax pmax
comp=Z,18nm,1.1s
F18K Selawik 42.88 30 P P 04 10 27.7 +1.5
baz=261,SNR=13
L17K Donlin 42.99 37 P P 04 10 28.6 +1.4
baz=267
K17K Iditarod 43.02 36 P P 04 10 30.3 +2.9
K17K IAmb IAmb 04 10 31.0
comp=Z,9.8nm,0.9s
K17K Iditarod 43.02 36 P P 04 10 29.5 +2.0
baz=266
O16K Kokwok River B 43.02 41 P P 04 10 29.2 +1.7
O16K IAmb IAmb 04 10 30.4
comp=Z,6.6nm,0.8s
O16K Kokwok River B 43.02 41 P P 04 10 29.3 +1.8
baz=270
P16K Nushagak River 43.08 42 P P 04 10 29.4 +1.5
baz=271
A19K Wawwright 43.10 25 P P 04 10 29.3 +1.4
baz=256
G18K Tagagawik 43.18 32 P P 04 10 30.4 +1.8
baz=263,SNR=24
H18K Honhosa River 43.21 33 P P 04 10 31.0 +2.0
H18K IAmb IAmb 04 10 31.4
comp=Z,7.1nm,0.7s
H18K Honhosa River 43.21 33 P P 04 10 30.5 +1.5
baz=264,SNR=7.5
M17K Holitna River 43.37 38 P P 04 10 31.1 +0.8
baz=269
N17K Nushagak Hills 43.48 40 P P 04 10 32.8 +1.6
N17K Nushagak Hills 43.48 40 P P 04 10 32.1 +0.9
baz=270
O17K Koliganek Bris 43.53 41 P P 04 10 32.1 +0.6
baz=271
F19K Shaleruckik Mo 43.65 30 IAmb IAmb 04 10 34.8
comp=Z,6.6nm,0.7s
F19K Shaleruckik Mo 43.65 30 P P 04 10 34.3 +1.9
baz=263,SNR=14
L18K Granite Mounta 43.75 37 P P 04 10 35.3 +2.0
baz=268
D19K Kuna River 43.77 28 IAmb IAmb 04 10 35.9
comp=Z,9.1nm,0.7s
D19K Kuna River 43.77 28 P P 04 10 34.3 +0.9
baz=261,SNR=13
Q16K King Salmon 43.78 42 P P 04 10 34.8 +1.3
baz=272
J18K Innoko River 43.79 35 P P 04 10 35.7 +2.1
J18K Innoko River 43.79 35 P P 04 10 34.4 +0.8
baz=267
GCSA Galena City Sc 43.80 33 P P 04 10 35.0 +1.4
baz=266
G19K Purcell Mounta 43.84 31 P P 04 10 35.2 +1.3
G19K IAmb IAmb 04 10 36.4
comp=Z,10.0nm,0.8s
G19K Purcell Mounta 43.84 31 P P 04 10 34.7 +0.7
baz=264,SNR=13
P17K Kvichak River 43.88 41 P P 04 10 34.3 0.0
baz=272
E19K Redstone River 43.94 29 P P 04 10 36.8 +2.1
E19K IAmb IAmb 04 10 37.6
comp=Z,12nm,0.7s
E19K Redstone River 43.94 29 P P 04 10 36.2 +1.4
baz=262,SNR=20
H19K Roundabout Mou 44.04 32 P 04 10 37.6 +2.0
H19K Roundabout Mou 44.04 32 P P 04 10 36.8 +1.2
baz=265,SNR=15
TTA Tatalina 44.08 36 P P 04 10 38.4 +2.3
TTA Tatalina 44.08 36 P P 04 10 38.4 +2.3
TTA pmax pmax
comp=Z,6.0nm,1.2s
TTA Tatalina 44.08 36 P P 04 10 37.2 +1.1
baz=268
KURK Kurchatov 44.10 306 P P 04 10 36.5 +0.2
KURK Kurchatov 44.10 306 P P 04 10 36.5 +0.2
KURK pmax pmax
comp=Z,51nm,0.6s
N18K Kilae Creek 44.12 39 P P 04 10 38.8 +2.5
N18K IAmb IAmb 04 10 39.4
comp=Z,6.7nm,0.7s
N18K Kilae Creek 44.12 39 P P 04 10 37.6 +1.3
baz=271
M18K Stony River 44.15 38 P P 04 10 37.5 +1.0
baz=270
KURBB Kurchatov Arra 44.18 306 P P 04 10 36.7 -0.1
comp=Z,43nm,0.5s,baz=82,slow=8.3,SNR=305
Q17K Contact Creek 44.20 43 P P 04 10 37.4 +0.3
baz=273
J19K Poorman 44.30 35 IAmb IAmb 04 10 40.4
comp=Z,8.5nm,1.0s
J19K Poorman 44.30 35 P P 04 10 38.7 +1.1
baz=268,SNR=7.1
D20K Etivluk River 44.35 28 IAmb IAmb 04 10 40.6
comp=Z,12nm,0.8s
D20K Etivluk River 44.35 28 P P 04 10 39.0 +1.0
baz=262,SNR=16
B20K Meade River 44.36 26 P P 04 10 38.9 +0.9
baz=260,SNR=30
E20K Nigu River 44.44 28 P P 04 10 39.9 +1.1
baz=263,SNR=19
F20K Avaraart Lake 44.48 30 P P 04 10 39.8 +0.9
baz=264,SNR=5.7
O18K Koktuh Hills 44.48 40 P P 04 10 40.2 +1.1
baz=272
P18K Big Mountain, 44.49 41 P P 04 10 41.2 +2.0
P18K Big Mountain, 44.49 41 P P 04 10 40.7 +1.4
baz=273
CHIR Chirikof Islan 44.54 46 P P 04 10 40.9 +1.3
baz=276
L19K White Mountain 44.61 37 P P 04 10 42.3 +2.1
L19K White Mountain 44.61 37 P P 04 10 41.3 +1.2
baz=270
Q18K Katmai Hardscr 44.64 42 P P 04 10 41.4 +0.9
baz=274
H20K Anotleneega Mo 44.69 32 P P 04 10 42.4 +1.6
baz=267,SNR=5.1
A21K Barrow 44.78 24 P P 04 10 42.4 +1.1
baz=259,SNR=5.4
N19K Bonanza Creek 44.81 39 P P 04 10 42.2 +0.4
baz=272
I20K Naaghedeneel 44.83 33 P P 04 10 43.1 +1.3
baz=268
M19K Big River Lodg 44.83 38 P P 04 10 43.1 +1.2
baz=271
O19K Port Alsworth 44.91 40 P P 04 10 44.3 +1.8
baz=273
J20K Nowinta River 44.95 34 P P 04 10 44.7 +1.9
J20K IAmb IAmb 04 10 45.9
comp=Z,11nm,1.1s
J20K Nowinta River 44.95 34 P P 04 10 44.9 +2.1
baz=269,SNR=7.2
K20K Telida 44.97 35 IAmb IAmb 04 10 46.2
comp=Z,6.5nm,0.8s
K20K Telida 44.97 35 P P 04 10 44.4 +1.4
baz=270,SNR=7.2
C21K Knifeblade Rid 45.06 27 P P 04 10 45.3 +1.7
baz=263,SNR=12
L20K Farewell, AK 45.06 37 P P 04 10 44.7 +0.9
baz=271
B21K Ikpikpuk River 45.18 27 P P 04 10 45.5 +1.0
baz=263,SNR=25
A22K Sinclair Lake 45.25 25 P P 04 10 45.9 +0.8
baz=261,SNR=18
SII Sitkinak Islan 45.26 45 P P 04 10 46.6 +1.2
baz=276
E21K Killik River 45.28 28 IAmb IAmb 04 10 47.8
comp=Z,9.5nm,0.8s
E21K Killik River 45.28 28 P P 04 10 45.9 +0.5
baz=265
G21K Allakaket 45.31 31 IAmb IAmb 04 10 48.6
comp=Z,12nm,1.0s
G21K Allakaket 45.31 31 P P 04 10 47.6 +1.9
baz=267,SNR=10
Q19K Cape Douglas, 45.33 42 P P 04 10 47.1 +1.1
Q19K Cape Douglas, 45.33 42 P P 04 10 46.9 +0.9
baz=274
F21K Alatna River 45.36 30 P P 04 10 47.9 +1.9
F21K Alatna River 45.36 30 P P 04 10 47.3 +1.2
baz=266,SNR=8.2
M20K Styx River 45.43 38 P P 04 10 48.0 +1.3
baz=272
P19K Oil Pt 45.49 41 P P 04 10 48.0 +0.8
baz=274
H21K Melozitna Rive 45.56 32 P P 04 10 49.4 +1.7
H21K Melozitna Rive 45.56 32 P P 04 10 49.3 +1.7
baz=269
B22K Teshekpuk Lake 45.67 26 IAmb IAmb 04 10 50.8
comp=Z,8.2nm,0.7s
B22K Teshekpuk Lake 45.67 26 P P 04 10 49.4 +1.1
baz=263,SNR=9.9
OHAK Old Harbor 45.68 44 P P 04 10 49.4 +0.8
OHAK Old Harbor 45.68 44 P P 04 10 48.8 +0.2
baz=276
CHUM Lake Minchumin 45.76 35 P P 04 10 50.1 +1.0
baz=271,SNR=5.1
D22K Ayikyak River 45.79 28 P P 04 10 50.7 +1.3
baz=266,SNR=23
PPLA Purkeypile 45.83 36 P P 04 10 52.1 +2.2
PPLA IAmb IAmb 04 10 53.0
comp=Z,8.0nm,0.7s
PPLA Purkeypile 45.83 36 P P 04 10 50.9 +1.0
baz=272
CAST Castle Rocks 45.87 35 IAmb IAmb 04 10 53.2
comp=Z,8.8nm,0.9s
CAST Castle Rocks 45.87 35 P P 04 10 51.3 +1.2
baz=271,SNR=7.2
F22K John River 45.88 30 P P 04 10 51.2 +1.1
baz=267,SNR=14
SPCR Spurr Chakacha 45.90 38 P P 04 10 52.4 +2.0
baz=273
I21K Tanana 45.90 33 P P 04 10 51.7 +1.5
baz=270
KDAK Kodiak Island 45.99 43 P P 04 10 52.5 +1.5
baz=276
Q20K Shuyak Island 46.01 42 P P 04 10 52.7 +1.6
baz=276
E22K Anaktuvuk Pass 46.05 29 P P 04 10 53.1 +1.6
baz=267,SNR=20
STLK Strandline Lak 46.06 38 P P 04 10 53.7 +2.1
G22K Bettles 46.12 30 P P 04 10 53.5 +1.5
baz=268
H22K Ishtalitna Cre 46.16 32 P P 04 10 54.1 +1.8
baz=270,SNR=6.7
SKT Skwentna 46.18 37 P P 04 10 54.4 +1.9
baz=273
BPAW Bear Paw Mtn. 46.34 34 P P 04 10 55.5 +1.7
BPAW Bear Paw Mtn. 46.34 34 P P 04 10 55.0 +1.2
baz=272
KTH Kantishna Hill 46.38 35 IAmb IAmb 04 10 57.2
comp=Z,13nm,0.9s
D23K Nanushuk River 46.51 28 IAmb IAmb 04 10 58.2
comp=Z,16nm,1.4s
D23K Nanushuk River 46.51 28 P P 04 10 56.6 +1.6
baz=267,SNR=6.8
SUA Susitna One 46.58 38 P P 04 10 57.8 +2.0
baz=274
C23K Itkillik River 46.59 26 P P 04 10 57.1 +1.6
C23K IAmb IAmb 04 10 58.4
comp=Z,16nm,1.0s
C23K Itkillik River 46.59 26 P P 04 10 57.5 +1.9
baz=267,SNR=12
COLD Coldfoot 46.64 30 P P 04 10 58.1 +2.1
COLD Coldfoot 46.64 30 P P 04 10 57.6 +1.6
baz=269,SNR=7.3
TRF Thorofare Moun 46.67 35 P P 04 10 57.7 +1.2
baz=273
G23K Bananza Creek 46.71 31 P P 04 10 58.2 +1.6
G23K IAmb IAmb 04 10 59.4

comp=Z,7.4nm,0.8s
G23K Bananza Creek 46.71 31 P **P 04 10 58.2 +1.6**
baz=270,SNR=12
BRSE Bradley Lake S 46.74 40 P **P 04 10 57.8 +0.9**
baz=276
M22K Willow 46.86 38 P **P 04 10 58.9 +1.2**
baz=275
E23K Chandalar 46.88 29 P **P 04 10 59.3 +1.3**
baz=269,SNR=19
TARG Taragay, Kyrgy 46.88 294 IAmb IAmb 04 11 00.2
comp=Z,13nm,1.1s
TOLK Toolik Lake Re 46.91 28 P **P 04 10 59.9 +1.8**
TOLK Toolik Lake Re 46.91 28 P **P 04 10 59.3 +1.2**
baz=269,SNR=6.6
H23K Yukon River 46.91 32 IAmb IAmb 04 11 01.6
comp=Z,11nm,0.8s
H23K Yukon River 46.91 32 P **P 04 10 59.5 +1.3**
baz=271
I23K Minto, Yukon-K 47.01 33 P **P 04 11 00.0 +1.2**
baz=272
NEA2 Nenana 47.15 34 P **P 04 11 02.2 +2.1**
NEA2 IAmb IAmb 04 11 02.4
comp=Z,6.1nm,0.6s
NEA2 Nenana 47.15 34 P **P 04 11 00.8 +0.8**
baz=273,SNR=8.1
D24K Happy Valley 47.19 27 P **P 04 11 01.4 +1.2**
baz=269
C24K Franklin Bluff 47.25 27 P **P 04 11 01.8 +1.1**
baz=268
MCK McKinley 47.26 35 P **P 04 11 02.5 +1.6**
MCK IAmb IAmb 04 11 03.2
comp=Z,8.4nm,0.8s
MCK McKinley 47.26 35 P **P 04 11 02.5 +1.6**
MCK pmax pmax
comp=Z,8.0nm,0.8s
MCK McKinley 47.26 35 P **P 04 11 01.8 +0.9**
baz=274,SNR=6.1
E24K Your Creek 47.30 29 IAmb IAmb 04 11 04.2
comp=Z,8.1nm,0.7s
E24K Your Creek 47.30 29 P **P 04 11 02.8 +1.6**
baz=270,SNR=13
RND Reindeer 47.32 35 IAmb IAmb 04 11 03.4
comp=Z,8.7nm,0.7s
PMR Palmer 47.34 38 P **P 04 11 02.3 +0.8**
PMR IAmb IAmb 04 11 03.3
comp=Z,6.7nm,0.7s
PMR Palmer 47.34 38 P **P 04 11 02.3 +0.8**
PMR pmax pmax
comp=Z,7.0nm,0.7s
PMR Palmer 47.34 38 P **P 04 11 02.1 +0.6**
baz=276
SEW Seward 47.35 40 P **P 04 11 02.6 +1.1**
SEW Seward 47.35 40 P **P 04 11 02.8 +1.3**
baz=277
GHO Glory Hole Cre 47.43 37 P **P 04 11 03.2 +0.9**
F24K Squaw Lake 47.53 30 P **P 04 11 04.0 +1.0**
baz=271,SNR=8.1
H24K Noodor Dome 47.60 32 P **P 04 11 05.7 +2.2**
H24K IAmb IAmb 04 11 06.9
comp=Z,7.9nm,0.8s
H24K Noodor Dome 47.60 32 P **P 04 11 05.0 +1.5**
baz=273,SNR=8.6
COLA College 47.66 33 ⇓P **P 04 11 05.7 +1.8**
COLA College 47.66 33 P **P 04 11 05.6 +1.7**
baz=274
KNK Knik Glacier 47.68 38 P **P 04 11 05.8 +1.6**
baz=276
SML Sawmill 47.70 37 IAmb IAmb 04 11 07.3
comp=Z,11nm,0.8s
SML Sawmill 47.70 37 P **P 04 11 05.1 +0.7**
baz=276
G24K Hadweenzic Riv 47.72 31 IAmb IAmb 04 11 07.8
comp=Z,14nm,1.1s
G24K Hadweenzic Riv 47.72 31 P **P 04 11 07.0 +2.6**
baz=272,SNR=9.9
PWL Port Wells 47.81 39 P **P 04 11 06.9 +1.8**
baz=277
POKR Poker Plat Res 47.82 33 P **P 04 11 07.2 +2.0**
baz=274,SNR=7.8
M23K Glacier View 47.99 37 P **P 04 11 07.6 +1.1**
baz=277
D25K Kavik River 48.06 27 IAmb IAmb 04 11 09.5
comp=Z,6.8nm,0.7s
D25K Kavik River 48.06 27 P **P 04 11 08.5 +1.5**
baz=271,SNR=15
ILAR Eielson Array 48.08 33 **P 04 11 07.7 +0.6**
ILAR Eielson Array 48.08 33 P **P 04 11 08.2 +1.0**
comp=Z,6.9nm,0.7s,baz=268,slow=5.8,SNR=96
comp=Z,6.9nm,0.7s
HDA Harding Lake 48.08 34 P **P 04 11 08.4 +1.2**
baz=275,SNR=7.8
SCM Sheep Creek Mo 48.17 37 P **P 04 11 09.6 +1.6**
SCM IAmb IAmb 04 11 12.4
comp=Z,16nm,1.1s
SCM Sheep Creek Mo 48.17 37 P **P 04 11 09.6 +1.6**
SCM pmax pmax
comp=Z,16nm,1.1s
SCM Sheep Creek Mo 48.17 37 P **P 04 11 09.4 +1.4**
baz=277
G25K Bearman Lake 48.26 31 P **P 04 11 11.4 +2.9**
baz=274,SNR=7.5
P23K Montague Islan 48.38 40 P **P 04 11 11.6 +2.1**
baz=278
F25K Christian Rive 48.39 29 IAmb IAmb 04 11 13.2
comp=Z,5.1nm,0.8s
F25K Christian Rive 48.39 29 P **P 04 11 11.4 +1.8**
baz=273,SNR=8.5
E25K Arctic Village 48.39 29 IAmb IAmb 04 11 13.0
comp=Z,6.9nm,1.1s
E25K Arctic Village 48.39 29 P **P 04 11 11.4 +1.8**
baz=273,SNR=7.3
GLI Glacier Island 48.41 39 P **P 04 11 11.4 +1.7**
baz=278
C26K Camden Bay 48.56 26 P **P 04 11 12.5 +1.8**
baz=272,SNR=8.6
PRP Porcupine Dome 48.59 32 P **P 04 11 12.5 +1.3**
PRP IAmb IAmb 04 11 14.5
comp=Z,10nm,0.8s
PRP Porcupine Dome 48.59 32 P **P 04 11 12.8 +1.6**
baz=275,SNR=13
BVAR Borovoye Array 48.65 311 P **P 04 11 11.8 0.0**
comp=Z,3.3nm,0.5s,baz=69,slow=8.4,SNR=14
comp=Z,3.3nm,0.5s
K24K Donnelly Dome 48.65 35 P **P 04 11 12.7 +1.0**
baz=276
M24K Tolsona, Glenn 48.68 37 P **P 04 11 13.7 +1.8**
M24K Tolsona, Glenn 48.68 37 P **P 04 11 13.2 +1.4**
baz=278
BRVK Borovoye 48.71 311 **P 04 11 12.5 +0.3**
BRVK Borovoye 48.71 311 *ce*P **P 04 11 12.6 +0.5**
BRVK pmax pmax
comp=Z,14nm,2.5s
J25K Salcha River, 48.74 33 P **P 04 11 12.9 +0.6**
baz=276
BMAR Burnt Mountain 48.81 30 **P 04 11 15.6 +2.8**
KLU Klutina 48.88 38 P **P 04 11 15.2 +1.8**
KLU IAmb IAmb 04 11 15.7
comp=Z,5.3nm,0.6s
KLU Klutina 48.88 38 P **P 04 11 14.6 +1.1**
baz=278
PAX Paxson 48.89 36 P **P 04 11 14.9 +1.4**
baz=278
AAK Ala-Archa 48.91 297 P **P 04 11 13.5 -0.4**
AAK Ala-Archa 48.91 297 P **P 04 11 13.6 -0.4**
comp=Z,2.6nm,0.4s,baz=137,slow=5.9,SNR=9.7
comp=Z,2.6nm,0.4s
KSH Kashi 48.95 292 P **P 04 11 18.4 +4.1**
KSH pmax pmax
comp=Z,13nm,0.8s
F26K Sheenjek River 48.96 29 P **P 04 11 16.3 +2.4**
baz=274,SNR=26
C27K Jago River 48.99 27 IAmb IAmb 04 11 16.6
comp=Z,5.9nm,0.6s
C27K Jago River 48.99 27 P **P 04 11 15.8 +1.7**
baz=273,SNR=11
RIDG Independent Ri 49.07 35 P **P 04 11 15.9 +1.1**
RIDG IAmb IAmb 04 11 17.2
comp=Z,7.6nm,0.9s
RIDG Independent Ri 49.07 35 P **P 04 11 15.8 +0.9**
baz=277,SNR=5.6
EYAK Cordova Ski Ar 49.11 39 P **P 04 11 16.5 +1.5**
baz=279
HARP HAARP 49.11 36 P **P 04 11 16.3 +1.2**
baz=278
G26K Porcupine Rive 49.16 30 IAmb IAmb 04 11 19.1
comp=Z,8.7nm,1.0s
G26K Porcupine Rive 49.16 30 P **P 04 11 17.7 +2.4**
baz=276,SNR=8.8
SCRK Sand Creek 49.42 34 P **P 04 11 18.7 +1.2**
baz=278,SNR=16
N25K Chitina, Valde 49.49 37 P **P 04 11 19.1 +1.0**
baz=279
J26L Joseph Creek 49.53 33 P **P 04 11 19.1 +0.7**
baz=278
BMRM Bremner River 49.59 38 P **P 04 11 19.9 +1.0**
baz=280
I26K Coal Creek Min 49.60 32 P **P 04 11 19.8 +1.1**
baz=278
MENT Mentasta 49.69 36 IAmb IAmb 04 11 22.6
comp=Z,8.1nm,0.7s
L26K Log Cabin Wild 49.84 35 P **P 04 11 21.9 +1.3**
baz=279
E27K Coleen River 49.87 29 IAmb IAmb 04 11 24.1
comp=Z,7.5nm,1.1s
E27K Coleen River 49.87 29 P **P 04 11 22.0 +1.2**
baz=276,SNR=7.0
KAIM Kayak Island 49.87 40 P **P 04 11 21.2 +0.3**
baz=281
D27M Malcolm River 49.99 27 P **P 04 11 22.9 +1.2**
baz=276,SNR=5.1
G27K Doyon Strip 50.01 30 P **P 04 11 23.2 +1.4**
baz=278
M26K Nabesna, AK 50.10 36 P **P 04 11 24.7 +2.0**
baz=280
H27K Steamboat Moun 50.14 31 IAmb IAmb 04 11 26.4
comp=Z,5.5nm,0.8s
H27K Steamboat Moun 50.14 31 P **P 04 11 24.5 +1.7**
baz=278,SNR=8.4
I27K Kandik River 50.20 32 P **P 04 11 25.2 +1.9**
baz=278
K27K Chicken 50.24 34 IAmb IAmb 04 11 26.4
comp=Z,6.8nm,0.9s
K27K Chicken 50.24 34 P **P 04 11 24.9 +1.3**
baz=279
BGLC Bering Glacier 50.39 39 P **P 04 11 26.0 +1.3**
baz=282
L27K Beaver Creek, 50.52 35 IAmb IAmb 04 11 28.9
comp=Z,8.6nm,0.8s
L27K Beaver Creek, 50.52 35 P **P 04 11 27.4 +1.7**
baz=280,SNR=8.6
BCAR Beaver Creek A 50.54 35 **P 04 11 28.1 +2.2**
E28M Babbage River 50.58 28 P **P 04 11 27.4 +1.4**
baz=278,SNR=7.6
M27K Edge Creek, AK 50.62 36 IAmb IAmb 04 11 29.7
comp=Z,14nm,1.1s
M27K Edge Creek, AK 50.62 36 P **P 04 11 28.0 +1.3**
baz=281
D28M Stokes Point 50.76 27 P **P 04 11 28.8 +1.4**
baz=278,SNR=6.2
I28M Miner Creek 50.91 32 IAmb IAmb 04 11 31.8
comp=Z,8.6nm,0.7s
I28M Miner Creek 50.91 32 P **P 04 11 30.3 +1.6**
baz=280,SNR=13
MESA MESA 51.03 39 P **P 04 11 31.5 +1.6**
baz=283
BVCY Beaver Creek 51.08 36 P **P 04 11 31.5 +1.6**
baz=282
E29M Blow River 51.21 28 IAmb IAmb 04 11 34.1
comp=Z,7.7nm,0.8s
E29M Blow River 51.21 28 P **P 04 11 32.4 +1.6**
baz=280,SNR=13
YUK3 Moose Creek 51.40 37 P **P 04 11 33.9 +1.4**
baz=283
DAWY Dawson 51.40 34 P **P 04 11 34.2 +1.9**
baz=282
H29M Whitestone 51.41 31 IAmb IAmb 04 11 35.5
comp=Z,7.8nm,0.9s
H29M Whitestone 51.41 31 P **P 04 11 34.0 +1.7**
baz=281,SNR=6.1
G29M Pine Creek 51.41 30 IAmb IAmb 04 11 36.0
comp=Z,10nm,0.9s
G29M Pine Creek 51.41 30 P **P 04 11 34.2 +1.8**
baz=281,SNR=10
KKAR Karatay Array 51.49 298 **P 04 11 33.1 -0.2**
KKAR Karatay Array 51.49 298 IAmb IAmb 04 11 34.0
comp=Z,6.9nm,1.2s
KKAR Karatay Array 51.49 298 P **P 04 11 33.1 -0.2**
I29M Ogilvie Camp, 51.60 32 IAmb IAmb 04 11 36.6
comp=Z,11nm,1.0s
I29M Ogilvie Camp, 51.60 32 P **P 04 11 35.5 +1.8**
baz=282,SNR=9.9
O28M Mount Upton 51.75 38 P **P 04 11 36.9 +1.6**
baz=284
J29N Klondike Camp 51.82 33 P **P 04 11 37.0 +1.5**
baz=282
YUK8 Steele Glacier 51.83 37 P **P 04 11 36.1 +0.3**
baz=284
PINM Pinnacle 51.88 39 P **P 04 11 37.2 +1.2**
baz=284
EPYK Eagle Plains 52.03 30 P **P 04 11 38.1 +1.2**
baz=282,SNR=20
G30M tAoh Zraii Nji 52.10 30 P **P 04 11 38.6 +1.2**
baz=282,SNR=8.4
F30M Barrier River 52.13 29 P **P 04 11 39.8 +2.2**
F30M Barrier River 52.13 29 P **P 04 11 39.4 +1.8**
baz=282,SNR=12
L29M L29M 52.16 35 IAmb IAmb 04 11 41.7
comp=Z,8.9nm,0.8s
L29M L29M 52.16 35 P **P 04 11 39.1 +1.2**
baz=283,SNR=7.8
M29M Somme Creek 52.16 36 IAmb IAmb 04 11 41.5
comp=Z,5.3nm,0.8s
M29M Somme Creek 52.16 36 P **P 04 11 40.1 +2.0**
baz=284
K29M Barlow Dome 52.25 34 P **P 04 11 40.5 +1.8**
baz=283,SNR=9.8
YUK4 Talbot Arm 52.34 37 P **P 04 11 40.5 +1.0**
baz=284
PNL Peninsula 52.40 39 P **P 04 11 41.3 +1.5**
baz=285
I30M Mount Dempster 52.42 32 P **P 04 11 41.5 +1.5**
baz=283,SNR=41
YUK6 Outpost Mounta 52.58 37 P **P 04 11 43.2 +1.9**
baz=285
J30M Hart River 52.59 33 IAmb IAmb 04 11 44.1
comp=Z,3.8nm,0.6s
J30M Hart River 52.59 33 P **P 04 11 43.2 +2.0**
baz=284
O29M Mount Kennedy 52.64 38 P **P 04 11 43.3 +1.7**
baz=285
INK Inuvik 52.81 28 P **P 04 11 43.7 +1.2**
baz=283,SNR=9.6
G31M Satah River 52.86 30 P **P 04 11 43.6 +0.7**
baz=284,SNR=10
F31M Tsiigehtchic 52.94 29 P **P 04 11 45.1 +1.6**
baz=284,SNR=9.1
HYT Haines Junctio 53.01 37 P **P 04 11 45.9 +1.6**
baz=286,SNR=5.6
N30M Aishikik Lake 53.04 37 P **P 04 11 46.4 +2.0**
baz=286
H31M Peel River 53.10 31 P **P 04 11 47.0 +2.1**
baz=284,SNR=25
SVE Sverdlovsk 53.11 317 *e*P **P 04 11 45.8 +0.8**
SVE pmax pmax
comp=Z,15nm,0.9s
P29M Windy Craggy 53.23 39 P **P 04 11 47.3 +1.5**
baz=286
NIL Nilore 53.33 286 **P 04 11 47.5 +0.5**
NIL Nilore 53.33 286 P **P 04 11 47.5 +0.5**
NIL pmax pmax
comp=Z,17nm,0.8s
P30M Million Dollar 53.47 38 P **P 04 11 49.6 +2.0**
baz=287
N31M Braeburn, Yuko 53.63 36 P **P 04 11 50.8 +2.0**
baz=286
O30N Mendenhall 53.69 37 P **P 04 11 50.8 +1.5**
baz=287
M31M Drury Creek, Y 54.06 35 IAmb IAmb 04 11 54.8
comp=Z,6.2nm,0.9s
M31M Drury Creek, Y 54.06 35 P **P 04 11 53.8 +2.0**
baz=287
SIMJ Simiganj 54.27 294 **P 04 11 53.2 -0.7**
WHY Whitehorse 54.29 37 P **P 04 11 55.3 +1.7**
baz=288
ARTI Arti 54.43 317 **P 04 11 54.2 -0.4**
ARTI Arti 54.43 317 P **P 04 11 54.7 +0.1**
comp=Z,16nm,0.5s,baz=97,slow=3.4,SNR=21
comp=Z,16nm,0.5s
ARTI Arti 54.43 317 *c i*P **P 04 11 54.6 0.0**
ARTI pmax pmax
comp=Z,12nm,0.6s
SKAG Skagway 54.45 39 P **P 04 11 56.7 +2.1**
baz=288
S31K Pelican 54.47 41 P **P 04 11 55.7 +0.9**
baz=289
FARO Faro, Yukon 54.52 35 IAmb IAmb 04 11 58.1
comp=Z,8.1nm,1.0s
FARO Faro, Yukon 54.52 35 P **P 04 11 56.8 +1.6**
baz=288,SNR=6.5
A36M Sachs Harbour 54.55 22 P **P 04 11 56.8 +1.6**
baz=288,SNR=15
N32M Quiet Lake 54.98 36 P **P 04 12 00.2 +1.7**
baz=289
P32M Attlin 55.19 38 P **P 04 12 01.2 +1.2**
baz=289
R32K Eaglecrest 55.23 40 P **P 04 12 02.2 +1.9**
baz=290
MMPY Sheldon Lake, 55.31 34 IAmb IAmb 04 12 04.1
comp=Z,5.9nm,0.6s
MMPY Sheldon Lake, 55.31 34 P **P 04 12 02.4 +1.5**
baz=289,SNR=6.0
P33M Teslin, Yukon 55.41 37 P **P 04 12 03.3 +1.7**
P33M IAmb IAmb 04 12 04.9
comp=Z,7.7nm,1.0s
P33M Teslin, Yukon 55.41 37 P **P 04 12 03.1 +1.5**
baz=290
S32K Killisnoo 55.48 41 P **P 04 12 03.4 +1.4**
baz=290
C36M Paulatuk 55.79 25 P **P 04 12 05.5 +1.4**
baz=291,SNR=12
ABKAR Akbulak array 56.06 309 **P 04 12 06.0 -0.4**
ABKAR Akbulak array 56.06 309 IAmb IAmb 04 12 06.9
comp=Z,8.5nm,0.6s
Q32M Nakina River 56.10 39 P **P 04 12 08.1 +1.3**
baz=291
R33M Jennings River 56.57 38 P **P 04 12 11.5 +1.5**
baz=292
AKTO Aktyubinsk 56.76 311 P **P 04 12 11.2 -0.2**
comp=Z,3.3nm,0.6s,baz=66,slow=12,SNR=9.2
comp=Z,3.3nm,0.6s
TGTN Hyland Airport 57.02 35 P **P 04 12 14.7 +1.7**
baz=292,SNR=7.4
WTLY Watson Lake, Y 57.32 37 IAmb IAmb 04 12 18.2
comp=Z,5.4nm,0.9s
WTLY Watson Lake, Y 57.32 37 P **P 04 12 16.8 +1.7**
baz=293
DLBC Dease Lake 57.38 39 P **P 04 12 17.7 +2.0**
baz=293
T35M Bob Quinn 57.84 40 P **P 04 12 20.6 +1.8**
baz=294
KIRV Kirov 58.15 322 *ce*P **P 04 12 21.6 +0.8**
U35K Hyder 58.39 41 P **P 04 12 24.9 +2.4**
baz=294
WRGLY Wrigley 58.40 32 IAmb IAmb 04 12 25.4
comp=Z,5.3nm,0.7s
WRGLY Wrigley 58.40 32 P **P 04 12 24.7 +2.2**
baz=295
FITZ Fitzroy Crossi 58.64 197 P **P 04 12 24.7 0.0**
comp=Z,1.6nm,0.8s,baz=6.6,slow=8.4,SNR=1.6
comp=Z,1.6nm,0.8s
LIRD Liard River Hi 58.85 37 P **P 04 12 27.7 +2.0**
baz=295
WRA Warramunga Arr 59.08 187 P **P 04 12 27.3 -0.4**
comp=Z,0.7nm,0.3s,baz=4.8,slow=7.2,SNR=15
comp=Z,0.7nm,0.3s
KOTAN Kotaneelee Air 59.48 35 P **P 04 12 31.8 +1.7**
baz=296
TOAD Toad River Com 59.50 37 P **P 04 12 31.5 +1.3**
baz=296
ARCES ARCESS Array B 61.77 339 P **P 04 12 45.6 +0.2**
comp=Z,2.4nm,0.9s,baz=40,slow=6.2,SNR=9.0
comp=Z,2.4nm,0.9s
BELG Belogornoye 61.79 316 *i* P **P 04 12 44.8 -1.0**
BELG pmax pmax
comp=Z,1.0nm,0.8s
YKAW3 Yellowknife Wh 62.28 30 IAmb IAmb 04 12 50.7
comp=Z,3.8nm,0.8s
YKA Yellowknife Ar 62.32 30 P **P 04 12 49.9 +0.8**
comp=Z,1.8nm,0.7s,baz=307,slow=6.6,SNR=46
comp=Z,1.8nm,0.7s
YKAW1 Yellowknife Wh 62.37 30 IAmb IAmb 04 12 51.5
comp=Z,5.8nm,1.1s
ASAR Alice Springs 62.81 187 P **P 04 12 53.0 +0.2**
comp=Z,0.5nm,0.3s,baz=1.6,slow=6.8,SNR=13
comp=Z,0.5nm,0.3s
LLLB Lillooet 65.20 44 IAmb IAmb 04 13 10.9
comp=Z,7.6nm,0.9s
FINES FINESS Array B 66.62 332 P **P 04 13 17.2 +0.1**
comp=Z,0.8nm,0.5s,baz=40,slow=9.5,SNR=13
comp=Z,0.8nm,0.5s
ILON Igloolik, Nuna 67.38 15 P **P 04 13 21.6 -0.1**
ILON IAmb IAmb 04 13 22.6
comp=Z,5.6nm,1.0s
BLKN Baker Lake 67.70 23 **P 04 13 24.4 +0.5**
BLKN IAmb IAmb 04 13 25.2
comp=Z,5.5nm,0.8s
B08A Colville Reser 67.82 45 IAmb IAmb 04 13 27.5
comp=Z,5.1nm,1.0s
C09A Chrisman Ranch 68.72 45 IAmb IAmb 04 13 33.1
comp=Z,8.3nm,0.8s
KIV Kislovodsk 69.01 310 *e*P **P 04 13 33.1 +0.6**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 69.01 310 P **P 04 13 33.1 +0.8**
comp=Z,1.8nm,0.6s,baz=36,slow=9.5,SNR=5.9
comp=Z,1.8nm,0.6s
NEW Newport 69.08 44 IAmb IAmb 04 13 35.4
comp=Z,6.9nm,0.9s
PINE Pine Mountain 69.49 50 **P 04 13 38.2 +2.6**
MNK Minsk 70.36 325 *i* P **P 04 13 38.8 -1.6**
MNK *i* 04 13 59.5
MNK *i* *PP **pP 04 14 13.0 -2.5**
MNK *i* 04 16 14.2
MNK *i* PPP PPP 04 18 03.6
MNK *i* S **S 04 22 39.6 -1.3**
MNK *i* 04 23 28.0
MNK *i* SS **SS 04 27 13.4 0.0**
MNK pmax pmax
comp=E,9.0nm,0.7s
MNK pmax pmax
comp=Z,4.0nm,0.6s
MNK pmax pmax
comp=N,5.0nm,0.8s
MNK MLR MLR
comp=Z,28nm,17.0s
MNK MLR MLR
comp=N,141nm,23.0s
MNK MLR MLR
comp=E,136nm,21.0s
BMO Blue Mountains 70.99 47 IAmb IAmb 04 13 46.8
comp=Z,3.7nm,0.7s
J08A Circle Bar Ran 71.20 49 IAmb IAmb 04 13 49.1
comp=Z,12nm,1.3s
HFS Hagfors 71.87 335 P **P 04 13 49.8 +0.3**
comp=Z,1.2nm,0.3s,baz=41,slow=7.6,SNR=40
comp=Z,1.2nm,0.3s
NB2 NORSAR Subarra 71.97 337 P **P 04 13 50.1 0.0**
comp=Z,0.3nm,0.5s,baz=40,slow=6.2
NOA NORSAR Array B 71.97 337 P **P 04 13 49.8 -0.3**
comp=Z,0.5nm,0.5s,baz=40,slow=6.1,SNR=7.5
comp=Z,0.5nm,0.5s
AKASG Malin Array Be 72.20 322 P **P 04 13 51.3 -0.3**
comp=Z,1.8nm,0.4s,baz=46,slow=6.5,SNR=22
comp=Z,1.8nm,0.4s
FFC Flin Flon 72.29 33 **P 04 13 53.0 +1.0**
FFC Flin Flon 72.29 33 P **P 04 13 53.0 +1.0**
FFC pmax pmax
comp=Z,4.0nm,0.8s
MFID Camas Ranch 72.70 48 P **P 04 13 55.6 +0.7**
PAHR Pah Rah Range 72.82 53 P **P 04 13 56.9 +1.3**
PAHR IAmb IAmb 04 13 59.0
comp=Z,8.8nm,1.1s
EGMT Eagleton 73.12 41 IAmb IAmb 04 13 59.6
comp=Z,11nm,1.1s
LHV Little Huntoon 74.24 53 IAmb IAmb 04 14 07.4
comp=Z,11nm,1.2s
NVAR Mina Array Bea 74.26 53 P **P 04 14 06.3 +2.1**
comp=Z,3.8nm,0.8s,baz=295,slow=6.1,SNR=20
comp=Z,3.8nm,0.8s
YHL Hebgen Lake 74.41 45 IAmb IAmb 04 14 07.9
comp=Z,7.5nm,0.8s
YHB Horse Butte 74.47 45 IAmb IAmb 04 14 08.1
comp=Z,7.4nm,0.8s
YMR Madison River 74.65 45 IAmb IAmb 04 14 09.2
comp=Z,6.5nm,0.7s
H17A Grant Village 75.04 45 IAmb IAmb 04 14 13.1
comp=Z,10nm,0.8s
RLMT Red Lodge 75.27 43 IAmb IAmb 04 14 12.2
comp=Z,4.3nm,0.6s
BUR08 Bucovina Ar. S 76.22 321 **P 04 14 15.5 +0.5**
S11A Rachel 76.33 53 IAmb IAmb 04 14 18.3
comp=Z,9.6nm,0.8s
TPNV Topopah Spring 76.45 53 IAmb IAmb 04 14 19.5

comp=Z,7.5nm,0.9s
DUG Dugway, Tooele 76.48 49 IAmb IAmb 04 14 19.7
comp=Z,8.0nm,1.1s
PDAR Pinedale Array 76.66 45 P **P 04 14 18.9 +1.1**
PDAR Pinedale Array 76.66 45 P **P 04 14 19.0 +1.1**
comp=Z,2.4nm,0.6s,baz=269,slow=1.4,SNR=36
comp=Z,2.4nm,0.6s
GWY Greenwater Val 76.67 54 IAmb IAmb 04 14 20.5
comp=Z,5.1nm,0.7s
BRTR Keskin Array B 76.94 311 P **P 04 14 19.4 0.0**
comp=Z,0.6nm,0.4s,baz=115,slow=4.1,SNR=11
comp=Z,0.6nm,0.4s
ULM Lac du Bonnet 78.10 33 P **P 04 14 25.4 +0.1**
comp=Z,4.3nm,0.8s,baz=321,slow=6.9,SNR=4.0
comp=Z,4.3nm,0.8s
SRU San Rafael Swe 78.52 49 IAmb IAmb 04 14 30.6
comp=Z,7.0nm,0.9s
U15A North Rim 79.23 52 IAmb IAmb 04 14 35.5
comp=Z,7.1nm,1.1s
EPLO Experimental L 79.44 32 IAmb IAmb 04 14 33.6
comp=Z,9.5nm,1.1s
PV20 West Nyswonger 79.94 48 IAmb IAmb 04 14 38.6
comp=Z,10nm,0.8s
PV18 Skein Mesa, Pa 80.04 48 IAmb IAmb 04 14 39.1
comp=Z,6.8nm,0.8s
GERES GERESS Array B 80.55 328 P **P 04 14 38.3 -0.5**
comp=Z,0.2nm,0.6s,baz=34,slow=5.6,SNR=2.5
comp=Z,0.2nm,0.6s
EKA Eskdalemuir Ar 80.90 340 P **P 04 14 39.9 -0.5**
comp=Z,0.1nm,0.3s,baz=24,slow=5.5,SNR=3.4
ANMO Albuquerque 83.73 50 *e*P **P 04 14 58.2 +2.4**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
TXAR Lajitas Array 89.35 52 P **P 04 15 24.6 +1.5**
comp=Z,1.5nm,0.7s,baz=299,slow=3.1,SNR=23
comp=Z,1.5nm,0.7s
QSPA South Pole Qui 128.90 180 PKP **PKPdf 04 21 30.3 -1.8**
comp=Z,0.4nm,0.6s,baz=331,slow=1.9,SNR=1.3
ELIB Princess Elisa 135.11 203 *d*PKPdf **PKiKP 04 21 46.8 +1.5**
LPAZ La Paz 146.13 56 PKPbc **PKPab 04 22 07.7 -0.1**
comp=Z,1.7nm,0.5s,baz=355,slow=1.8,SNR=16

*KRSC **21** 04:09:55.1±1.9,50°.46N×160°.11E,h62km±41km,Ml4.0*
*IDC **21** 04:09:55.5±1.9,50°.63N×160°.17E,h0km,mb3.5/6,*
mbtmp3.4/7,ML2.2/1,Error ellipse: s-maj=48.0km
s-min=22.9km az=10.0
ISC 21 04:09:57.5±1.9,50°.41N±0°.10×160°.15E±0°.08,h35km,n28,
σ1§13/29,mb3.5/6,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.91**	**318**	*e*P	**Pn**	**04 10 26.8**	**-0.7**
KDTR				*e*S	**Sn**	**04 10 49.1**	**-1.1**
RUS	**Russkaya**	**2.27**	**334**	*e*P	**Pn**	**04 10 31.6**	**-0.7**
RUS				*e*S	**Sn**	**04 10 58.0**	**-1.0**
PAU	**Pauzhetka**	**2.36**	**298**	*e*P	**Pn**	**04 10 33.5**	**-0.1**
PAU				*e*S	**Sn**	**04 11 00.9**	**-0.4**
MTVR	**Mutnovka**	**2.41**	**330**	*e*P	**Pn**	**04 10 34.1**	**-0.3**
MTVR				*e*S	**Sn**	**04 11 02.0**	**-0.7**
GRL	**Gorelyy**	**2.50**	**330**	*e*P	**Pn**	**04 10 36.2**	**+0.4**
GRL				*e*S	**Sn**	**04 11 05.6**	**+0.6**
SKR	**Severo-Kuril's**	**2.58**	**278**	*e*P	**Pn**	**04 10 36.2**	**-0.5**
SKR				*e*S	**Sn**	**04 11 05.0**	**-1.9**
SPN	**Mys Shipunski**	**2.69**	**358**	*e*S	**Sn**	**04 11 07.8**	**-1.7**
KRMR	**Karymshinskiy**	**2.73**	**333**	*e*P	**Pn**	**04 10 38.9**	**+0.3**
KRMR				*e*S	**Sn**	**04 11 10.8**	**+0.5**
DALK	**Dalny**	**2.76**	**342**	*e*P	**Pn**	**04 10 38.7**	**-0.4**
DALK				*e*S	**Sn**	**04 11 10.1**	**-1.1**
PET	**Petropavlovsk**	**2.77**	**341**	*e*P	**Pn**	**04 10 39.1**	**-0.3**
PET				*e*S	**Sn**	**04 11 10.2**	**-1.3**
UGLR	**Uglovaya**	**2.92**	**344**	*e*P	Pn	04 10 41.8	+0.4
SDLR	**Sedlovina**	**2.97**	**345**	*e*P	Pn	04 10 42.6	+0.4
AVH	**Avacha**	**2.99**	**344**	*e*P	Pn	04 10 43.7	+1.4
AVH				*e*S	**Sn**	**04 11 18.9**	**+2.0**
KOK	**Koryaka**	**3.03**	**343**	*e*P	Pn	04 10 43.7	+0.7
KRX	**Arik**	**3.09**	**343**	*e*P	Pn	04 10 44.5	+0.6
PETK	**Petropavlovsk-**	**3.10**	**332**	Pn	**Pn**	**04 10 43.8**	**-0.1**
	1.9nm,0.3s,baz=144,slow=16,SNR=45						
PETK				Sn	**Sn**	**04 11 19.8**	**+0.2**
	3.8nm,0.3s,baz=271,slow=14,SNR=12						
	8.1nm,0.6s						
APC	**Apacha**	**3.13**	**325**	*e*P	**Pn**	**04 10 44.7**	**+0.5**
APC				*e*S	**Sn**	**04 11 20.7**	**+0.4**
GNL	**Ganaly**	**3.56**	**338**	*e*P	Pn	04 10 51.2	+1.0
GNL				*e*S	**Sn**	**04 11 32.7**	**+1.7**
KII	**Karymskiy**	**3.65**	**354**	*e*P	Pn	04 10 52.5	+1.0
MKZ	**Mys Kozlova**	**4.26**	**13**	*e*P	**Pn**	**04 10 59.6**	**-0.1**
MKZ				*e*S	**Sn**	**04 11 46.4**	**-1.7**
TUMD	**Tumrok D**	**4.80**	**2**	*e*S	**Sn**	**04 11 58.9**	**-2.6**
KBTR	**Krutoberegovo**	**6.02**	**14**	*e*P	Pn	04 11 24.2	+0.3
ILAR	**Eielson Array**	**30.73**	**42**	P	P	04 16 10.6	+1.7
	0.1nm,0.5s,baz=252,slow=8.1,SNR=4.7						
	0.1nm,0.5s						
YKA	**Yellowknife Ar**	**45.15**	**41**	P	**P**	**04 18 11.4**	**+1.4**
	0.2nm,0.8s,baz=298,slow=8.6,SNR=3.1						
	0.2nm,0.8s						
KURBB	**Kurchatov Arra**	**49.32**	**304**	P	P	04 18 44.8	+2.1
	0.5nm,0.3s,baz=66,slow=7.3,SNR=2.9						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**49.39**	**298**	P	P	04 18 45.9	+2.5
	0.2nm,0.4s,baz=67,slow=6.8,SNR=4.0						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**52.11**	**310**	P	P	04 19 05.8	+2.1
	0.5nm,0.5s,baz=60,slow=8.5,SNR=2.5						
	0.5nm,0.5s						
TXAR	**Lajitas Array**	**71.67**	**66**	P	P	04 21 18.8	+3.1
	0.3nm,0.5s,baz=303,slow=5.1,SNR=8.4						
	0.3nm,0.5s						

*NEIC **21** 04:12:27.6±2.2,19°.1S±0°.1×177°.17W±0°.10,h361km±6km,*
mb4.2/15,Error ellipse: s-maj=19.2km s-min=12.0km
az=160.0
*IDC **21** 04:12:29.8±2.2,19°.22S×177°.42W,h376km±22km,*
mb3.4/12,mbtmp4.1/15,Error ellipse: s-maj=20.5km
s-min=15.3km az=133.0
ISC 21 04:12:27.4±0.5,19°.1S±0°.1×177°.28W±0°.09,h350km,n54,
σ1§37/52,mb3.9/18,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.64**	**287**		**Pn**	**04 13 45.8**	**+2.5**
MSVF	**Nonsavu**	**4.64**	**287**	P	**Pn**	**04 13 46.3**	**+3.0**
	14nm,0.7s,baz=117,slow=6.6,SNR=5.5						
NIUE	**Niue**	**6.95**	**91**		**Pn**	**04 14 09.1**	**-0.2**
AFI	**Afiamalu**	**7.40**	**46**		**Pn**	**04 14 12.2**	**-2.4**
DZM	**Mont Dzumac**	**15.52**	**256**	P	**P**	**04 15 49.5**	**+1.7**
DZM	**Mont Dzumac**	**15.52**	**256**	P	**P**	**04 15 47.5**	**-0.3**
	19nm,0.9s,baz=99,slow=18,SNR=4.6						
URZ	**Urewera**	**19.68**	**193**	P	**P**	**04 16 30.5**	**-1.5**
	8.7nm,0.3s,baz=350,slow=3.2,SNR=23						
RTZ	**Ruatahuna**	**20.05**	**193**	P	**P**	**04 16 34.7**	**-1.1**
RTZ				IAmb	IAmb	04 17 11.4	
	comp=Z,11nm,1.1s						
MSWZ	**Moikau Station**	**23.12**	**194**	P	**P**	**04 17 03.1**	**-0.5**
ARMA	**Armidale**	**30.29**	**242**	P	**P**	**04 18 08.0**	**+0.4**
ARMA				IAmb	IAmb	04 18 24.8	
	comp=Z,17nm,1.4s						
TOO	**Toolangi**	**37.26**	**233**	P	**P**	**04 19 06.0**	**-0.9**
STKA	**Stephens Creek**	**39.01**	**243**	P	**P**	**04 19 21.0**	**-0.4**
STKA				IAmb	IAmb	04 19 25.0	
	comp=Z,19nm,1.1s						
STKA	**Stephens Creek**	**39.01**	**243**	P	**P**	**04 19 20.6**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=87,slow=12,SNR=8.9						
	comp=Z,1.6nm,0.4s						
BBOO	**Buckleboo**	**43.77**	**242**	P	**P**	**04 19 59.2**	**-0.6**
WR8	**Warramunga Arr**	**45.33**	**261**	P	**P**	**04 20 09.8**	**-2.3**
WR8				IAmb	IAmb	04 20 27.8	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**45.45**	**261**	P	**P**	**04 20 11.2**	**-1.8**
WRA	**Warramunga Arr**	**45.48**	**261**	P	**P**	**04 20 11.7**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=97,slow=7.2,SNR=6.6						
	comp=Z,0.8nm,0.6s						
AS31	**Alice Springs**	**45.51**	**255**	P	**P**	**04 20 12.8**	**-0.7**
ASAR	**Alice Springs**	**45.51**	**255**	P	**P**	**04 20 12.2**	**-1.3**
ASAR	**Alice Springs**	**45.51**	**255**	P	**P**	**04 20 12.6**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=90,slow=8.4,SNR=32						
	comp=Z,3.8nm,0.7s						
FORT	**Forrest**	**50.47**	**246**	P	**P**	**04 20 49.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**53.89**	**261**	P	**P**	**04 21 15.6**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=90,slow=7.1,SNR=1.2						
	comp=Z,1.7nm,0.5s						
MJAR	**Matsushiro Arr**	**69.52**	**323**	P	**P**	**04 22 58.2**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=128,slow=6.5,SNR=2.1						
	comp=Z,0.7nm,0.5s						
QSPA	**South Pole Qui**	**70.94**	**180**	P	**P**	**04 23 08.0**	**+0.7**
QSPA				IAmb	IAmb	04 23 42.5	
	comp=Z,6.0nm,1.4s						
QSPA	**South Pole Qui**	**70.94**	**180**	P	**P**	**04 23 07.6**	**+0.2**
	comp=Z,0.9nm,1.1s,baz=36,slow=11,SNR=1.3						
	comp=Z,0.9nm,1.1s						
SSLB	**Suanglung**	**73.79**	**303**	P	**P**	**04 23 22.8**	**-1.8**
SSLB				IAmb	IAmb	04 23 39.4	
	comp=Z,7.5nm,0.8s						
NVAR	**Mina Array Bea**	**79.56**	**43**	P	**P**	**04 23 57.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=212,slow=9.4,SNR=6.7						
	comp=Z,1.1nm,0.7s						
TRF	**Thorofare Moun**	**84.97**	**12**	P	**P**	**04 24 22.8**	**-0.9**
TRF				IAmb	IAmb	04 24 23.3	
	comp=Z,2.7nm,0.8s						
TX31	**Lajitas Ar. Si**	**85.75**	**57**	P	**P**	**04 24 31.0**	**+2.8**
TX31				IAmb	IAmb	04 24 31.7	
	comp=Z,3.9nm,1.1s						
TXAR	**Lajitas Array**	**85.75**	**57**		**P**	**04 24 30.5**	**+2.3**
TXAR	**Lajitas Array**	**85.75**	**57**	P	**P**	**04 24 30.6**	**+2.4**
	comp=Z,1.9nm,0.8s,baz=216,slow=6.8,SNR=21						
	comp=Z,1.9nm,0.8s						
BCAR	**Beaver Creek A**	**86.53**	**15**	P	**P**	**04 24 30.3**	**-0.8**
ILAR	**Eielson Array**	**86.83**	**13**	P	**P**	**04 24 31.6**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=217,slow=5.1,SNR=14						
	comp=Z,0.4nm,0.4s						
PDAR	**Pinedale Array**	**87.50**	**43**	P	**P**	**04 24 35.9**	**-0.5**
PDAR	**Pinedale Array**	**87.50**	**43**	P	**P**	**04 24 37.3**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=195,slow=2.9,SNR=3.8						
	comp=Z,0.4nm,0.7s						
YHL	**Hebgen Lake**	**87.50**	**41**	P	**P**	**04 24 38.6**	**+2.1**
YHL				IAmb	IAmb	04 24 39.5	
	comp=Z,2.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.30**	**289**	P	**P**	**04 24 50.5**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=115,slow=3.6,SNR=5.6						
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	**94.99**	**24**	P	**P**	**04 25 10.2**	**0.0**
	comp=Z,0.4nm,0.9s,baz=240,slow=3.8,SNR=5.7						
	comp=Z,0.4nm,0.9s						
AKASG	**Malin Array Be**	**142.13**	**332**	PKhKP	PKPpre	04 31 12.4	
	comp=Z,0.3nm,0.5s,baz=48,slow=1.4,SNR=4.1						
EKA	**Eskdalemuir Ar**	**143.58**	**6**	PKP	PKPab	04 31 17.6	-0.5
	comp=Z,0.4nm,0.6s,baz=346,slow=1.8,SNR=2.4						
BUR08	**Bucovina Ar. S**	**146.17**	**332**	PKPab	**PKPbc**	**04 31 27.2**	**+0.2**
BURAR	**Bucovina Array**	**146.18**	**332**	PKPab	**PKPab**	**04 31 28.2**	**-0.3**
BRTR	**Keskin Array B**	**146.39**	**314**	PKPbc	**PKPdf**	**04 31 26.8**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=58,slow=1.8,SNR=2.1						
GERES	**GERESS Array B**	**149.05**	**346**	PKPbc	**PKPdf**	**04 31 32.4**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=355,slow=1.6,SNR=5.6						
CONA	**Conrad Observa**	**149.34**	**343**	*e*PKP	**PKPbc**	**04 31 35.2**	**-0.1**
	comp=Z,2.0nm,1.2s						
RONA	**Rosalia, Austr**	**149.42**	**342**	*i* PKP	**PKPbc**	**04 31 35.7**	**+0.3**
	comp=Z,1.9nm,0.8s						
MOA	**Molln**	**149.84**	**344**	*e*PKP	**PKPbc**	**04 31 36.0**	**-0.5**
	comp=Z,1.0nm,0.6s						
ARSA	**Arzberg**	**150.05**	**342**	*e*PKP	**PKPbc**	**04 31 35.8**	**-1.2**
	comp=Z,0.8nm,0.8s						
LESA	**Schwarzleotal**	**150.62**	**346**	*i* PKP	**PKPbc**	**04 31 37.6**	**-0.8**
	comp=Z,0.2nm,0.1s						
KBA	**Koelnbreinsper**	**150.79**	**345**	*i* PKP	**PKPbc**	**04 31 37.6**	**-1.4**
	comp=Z,0.9nm,0.5s						
WATA	**Walderalm**	**150.94**	**348**	*i* PKP	**PKPbc**	**04 31 38.2**	**-1.0**
	comp=Z,1.0nm,0.5s						
WTTA	**Wattenberg**	**151.00**	**347**	*i* PKP	**PKPbc**	**04 31 38.8**	**-0.6**
	comp=Z,2.2nm,0.5s						
MOTA	**Moosalm**	**151.03**	**348**	*i* PKP	**PKPbc**	**04 31 38.6**	**-0.9**
	comp=Z,0.2nm,0.2s						
ABTA	**Abfaltersbach**	**151.30**	**346**	*i* PKP	**PKPbc**	**04 31 38.9**	**-1.1**
	comp=Z,1.6nm,0.5s						

*NEIC **21** 04:12:53.0±2.3,9°.49S±0°.03×109°.54E±0°.07,h10km±1km,*
mb4.8/14,Error ellipse: s-maj=11.8km s-min=5.4km
az=100.0
*DJA **21** 04:12:59.2±0.8,9°.S±8°.×11°.0E±°,h49km±7km,M4.5/16,*
mB5.4/1,mb4.8/7,MLv4.3/16,Mw(mB)4.8/1
*IDC **21** 04:13:01.4±1.9,9°.12S×109°.75E,h64km±16km,mb4.0/21,*
mbtmp4.3/24,MS3.9/8,Error ellipse: s-maj=19.1km
s-min=10.4km az=50.0
ISC 21 04:12:57.1±0.5,9°.51S±0°.07×109°.51E±0°.06,h35km,n81,
σ1§81/73,mb4.6/38,MS4.1/10,1C-2D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**1.86**	**25**	P	**Pn**	**04 13 24.8**	**-1.6**
UGM	**Wanagama**	**1.88**	**32**		**Pn**	**04 13 24.4**	**-2.3**
UGM	**Wanagama**	**1.88**	**32**	P	**Pn**	**04 13 25.3**	**-1.5**
CMJI	**Cimerak**	**2.02**	**328**	P	**Pn**	**04 13 27.3**	**-1.3**
PCJI	**Pacitan**	**2.10**	**52**	P	**Pn**	**04 13 28.8**	**-1.0**
SMRI	**Semarang**	**2.62**	**21**		**Pn**	**04 13 37.4**	**+0.5**
SMRI	**Semarang**	**2.62**	**21**	P	**Pn**	**04 13 37.4**	**+0.5**
NGJI	**Ngawi**	**2.88**	**42**	P	**Pn**	**04 13 43.3**	**+2.8**
CNJI	**Cibinong**	**3.22**	**313**	P	**Pn**	**04 13 44.2**	**-1.0**
LEM	**Lembang**	**3.26**	**325**	P	**Pn**	**04 13 49.3**	**+3.3**
	137nm,0.7s,baz=17,slow=7.0,SNR=14						
LEM				S	**Sn**	**04 14 24.6**	**+0.9**
	273nm,0.9s,baz=221,slow=2.2,SNR=5.2						
LEM				LR	LR	04 15 33.8	
	comp=Z,763nm,18.1s,baz=162,slow=49						
LEM	**Lembang**	**3.26**	**325**	P	**Pn**	**04 13 49.2**	**+3.3**
XMIS	**Christmas Isla**	**3.92**	**255**	Pn	**Pn**	**04 13 54.9**	**0.0**
GMJI	**Gumukmas**	**4.08**	**73**	P	**Pn**	**04 13 58.5**	**+1.5**
JAGI	**Jajag, Banyuwa**	**4.70**	**78**		**Pn**	**04 14 05.2**	**-0.4**
JAGI	**Jajag, Banyuwa**	**4.70**	**78**	P	**Pn**	**04 14 06.1**	**+0.5**
CGJI	**Cibinong**	**4.75**	**307**	P	Pn	04 14 14.5	+8.2
SRBI	**Singaraja**	**5.81**	**76**	P	**Pn**	**04 14 24.2**	**+3.4**
	0.4nm61nm,0.7s						
TWSI	**Taliwang, Sumb**	**7.32**	**85**	P	**Pn**	**04 14 42.8**	**+1.2**
	51nm,0.8s						
KAPI	**Kappang**	**11.10**	**67**	P	**Pn**	**04 15 33.2**	**-0.2**
	6.9nm,0.3s,baz=263,slow=14,SNR=3.8						
MBWA	**Marble Bar**	**15.19**	**141**	Pn	**Pn**	**04 16 26.0**	**-3.2**
TOLI2	**Tolitoli**	**15.41**	**47**	P	**P**	**04 16 34.2**	**-2.0**
PSA00	**Pilbara Seismi**	**15.57**	**142**	Pn	**Pn**	**04 16 32.6**	**-1.5**
PSA00				IAmb	IAmb	04 16 33.6	
	comp=Z,43nm,1.4s						
PSA00	**Pilbara Seismi**	**15.57**	**142**	Pn	**Pn**	**04 16 31.4**	**-2.7**
FITZ	**Fitzroy Crossi**	**17.82**	**120**	P	**Pn**	**04 17 03.4**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=311,slow=12,SNR=6.5						
FITZ				S	Sn	04 20 07.6	-13
	comp=Z,2.2nm,0.5s,baz=94,slow=16,SNR=7.5						
WRA	**Warramunga Arr**	**26.12**	**116**	P	**P**	**04 18 27.7**	**-0.3**
WRA	**Warramunga Arr**	**26.12**	**116**	P	**P**	**04 18 28.9**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=288,slow=11,SNR=6.8						
	comp=Z,1.7nm,0.8s						
ASAR	**Alice Springs**	**27.22**	**124**	P	**P**	**04 18 39.5**	**+1.5**
	comp=Z,0.8nm,0.9s,baz=298,slow=8.8,SNR=7.6						
	comp=Z,0.8nm,0.9s						
QIZ	**Qiongzhong**	**28.36**	**1**	P	**P**	**04 18 48.6**	**+0.5**
QIZ				S	**S**	**04 23 37.4**	**+4.7**
QIZ				LR	LR		
	comp=N,190nm,14.2s						
QIZ				LR	LR		
	comp=E,220nm,16.3s						
QIZ				LR	LR		
	comp=Z,270nm,21.8s						
CMAR	**Chiang Mai Arr**	**29.69**	**339**	P	**P**	**04 18 58.1**	**-1.7**
	comp=Z,1.5nm,0.4s,baz=172,slow=8.2,SNR=16						
	comp=Z,1.5nm,0.4s						
GYA	**Guiyang**	**35.86**	**356**	⇓P	**P**	**04 19 55.3**	**+1.4**
GYA				pmax	pmax		
	comp=Z,16nm,0.8s						
PZH	**PanZhiHua**	**36.59**	**348**	P	**P**	**04 20 02.6**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,5.2s						
H08S2	**Diego Garcia H**	**36.64**	**270**	T	T	04 58 48.5	
	baz=95,slow=75,SNR=7.3						
H08S3	**Diego Garcia H**	**36.65**	**270**	T	T	04 58 55.7	
	baz=95,slow=75,SNR=9.6						
H08S1	**Diego Carcia H**	**36.66**	**270**	T	T	04 58 50.0	
	baz=95,slow=75,SNR=8.7						
STKA	**Stephens Creek**	**37.12**	**132**	P	**P**	**04 20 07.4**	**+2.9**
	comp=Z,3.3nm,0.9s,baz=283,slow=6.9,SNR=3.8						
	comp=Z,3.3nm,0.9s						
WHN	**Wuhan**	**40.10**	**6**	⇑P	P	04 20 34.1	+4.7
NJ2	**Nanjing**	**42.28**	**12**	*e*P	**P**	**04 20 48.3**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
XAN	**Xi'an**	**43.32**	**359**	P	**P**	**04 20 55.0**	**-0.8**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
LZH	**Lanzhou**	**45.67**	**354**	*e*P	**P**	**04 21 16.4**	**+1.7**
LZH				sP	sP	04 21 24.9	-3.5
LZH				pmax	pmax		
	comp=Z,16nm,0.8s						
TIA	**Tai'an**	**46.04**	**9**	P	**P**	**04 21 15.3**	**-2.1**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA	**Gaotai**	**49.50**	**350**	*e*P	**P**	**04 21 45.3**	**+0.9**
GTA				pP	pP	04 21 49.4	-4.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSRS	**Korea Array**	**49.80**	**19**	P	**P**	**04 21 45.3**	**-1.2**
	comp=Z,4.7nm,0.8s,baz=198,slow=8.8,SNR=17						
	comp=Z,4.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**50.15**	**2**	*e*P	**P**	**04 21 50.3**	**+1.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,52nm,5.0s						
HHC				LR	LR		
	comp=N,65nm,16.1s						
HHC				LR	LR		
	comp=E,180nm,16.0s						
HHC				LR	LR		
	comp=Z,140nm,16.8s						
MJAR	**Matsushiro Arr**	**53.17**	**29**	P	**P**	**04 22 09.0**	**-2.7**
	comp=Z,3.1nm,0.8s,baz=202,slow=7.9,SNR=11						
	comp=Z,3.1nm,0.8s						
NIL	**Nilore**	**55.05**	**323**	P	**P**	**04 22 24.3**	**-1.3**
WMQ	**Urumqi**	**56.66**	**341**	*e*P	**P**	**04 22 39.3**	**+2.3**
SONM	**Songino Array**	**57.16**	**358**	P	**P**	**04 22 38.8**	**-1.7**
	comp=Z,1.9nm,0.8s,baz=174,slow=8.4,SNR=6.7						
	comp=Z,1.9nm,0.8s						
ULN	**Ulaanbaatar**	**57.17**	**358**		**P**	**04 22 38.3**	**-2.2**
ULN				IAmb	IAmb	04 22 41.1	
	comp=Z,3.3nm,0.8s						
USA0B	**Ussuriysk Arra**	**57.21**	**19**	P	**P**	**04 22 38.9**	**-1.9**
USA0B				IAmb	IAmb	04 22 40.5	
	comp=Z,12nm,0.9s						
USRK	**Ussuriysk Ar.**	**57.21**	**19**	P	**P**	**04 22 39.3**	**-1.4**
	comp=Z,8.9nm,0.8s,baz=210,slow=5.1,SNR=13						
	comp=Z,8.9nm,0.8s						
BNX	**BinXian**	**57.30**	**15**	⇓P	**P**	**04 22 39.6**	**-1.8**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WUS	**Wushi**	**57.66**	**333**		**P**	**04 22 43.5**	**-0.6**
WUS				IAmb	IAmb	04 22 44.5	
	comp=Z,13nm,0.7s						
KSH	**Kashi**	**57.86**	**330**	P	**P**	**04 22 44.0**	**-1.6**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSH				LR	LR		
	comp=N,620nm,17.2s						
KSH				LR	LR		
	comp=E,280nm,20.6s						
MKAR	**Makanchi Array**	**61.09**	**339**		**P**	**04 23 06.5**	**-1.2**
MKAR	**Makanchi Array**	**61.09**	**339**	P	**P**	**04 23 06.8**	**-0.9**
	comp=E,2.0nm,0.5s,baz=148,slow=7.5,SNR=24						
MKAR				LR	LR	04 52 19.5	
	comp=E,44nm,19.8s,baz=80,slow=39						
	comp=E,2.0nm,0.5s						
ASAJ	**Asahikawa**	**61.23**	**27**	P	**P**	**04 23 06.1**	**-2.4**
	comp=E,3.1nm,0.8s,baz=241,slow=20,SNR=3.6						
	comp=E,3.1nm,0.8s						
HEH	**HeiHe**	**61.53**	**13**	*e*P	**P**	**04 23 08.8**	**-1.7**
HEH				pmax	pmax		
	comp=Z,20nm,0.8s						
KLR	**Kul'dur**	**61.67**	**16**	P	**P**	**04 23 09.5**	**-1.9**
	comp=Z,7.9nm,0.7s,baz=226,slow=4.6,SNR=24						
	comp=Z,7.9nm,0.7s						
KURBB	**Kurchatov Arra**	**65.66**	**339**	P	**P**	**04 23 37.2**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=155,slow=5.2,SNR=25						
	comp=Z,3.3nm,0.7s						
KURK	**Kurchatov**	**65.71**	**339**		**P**	**04 23 36.8**	**-1.2**
KURK				IAmb	IAmb	04 23 38.2	
	comp=Z,6.5nm,0.8s						
ZALV	**Zalesovo Beam**	**66.59**	**344**		**P**	**04 23 41.7**	**-1.9**
ZALV	**Zalesovo Beam**	**66.59**	**344**	P	**P**	**04 23 42.2**	**-1.4**
	comp=Z,4.5nm,0.8s,baz=151,slow=5.1,SNR=14						
	comp=Z,4.5nm,0.8s						
BVAR	**Borovoye Array**	**70.65**	**336**	P	**P**	**04 24 08.2**	**-0.8**
	comp=Z,3.9nm,0.9s,baz=140,slow=7.8,SNR=16						
	comp=Z,3.9nm,0.9s						
AB31	**Akbulak array**	**72.84**	**329**		**P**	**04 24 21.6**	**-0.6**
AB31				IAmb	IAmb	04 24 23.2	
	comp=Z,8.2nm,0.8s						
ABKAR	**Akbulak array**	**72.84**	**329**		**P**	**04 24 21.5**	**-0.7**
VNDA	**Vanda**	**73.06**	**170**	P	**P**	**04 24 26.1**	**+3.0**
	comp=Z,1.0nm,0.9s,baz=300,slow=5.6,SNR=4.4						
	comp=Z,1.0nm,0.9s						

TAOE	Nuku Hiva Isla	37.30	82	*e*LR	LR	04 33 55.1	
	273nm,28.5s						
RKT	Rikitea	40.24	105	*e*LR	LR	04 35 31.7	
	864nm,23.0s						
JAY	Jayapura	43.56	285	LR	LR	04 43 39.1	
	comp=Z,111nm,18.0s,baz=338,slow=36						
WRA	Warramunga Arr	45.57	259	LR	LR	04 43 33.2	
	comp=Z,183nm,19.9s,baz=48,slow=34						
ASAR	Alice Springs	45.77	254	P	P	04 25 32.3	-0.5
	3.8nm,0.8s,baz=85,slow=8.1,SNR=24						
ASAR				LR	LR	04 44 05.4	
	3.8nm,0.8s						
FITZ	Fitzroy Crossi	53.96	260	LR	LR	04 48 33.2	
	comp=Z,301nm,18.7s,baz=102,slow=35						
VNDA	Vanda	61.11	185	LR	LR	04 51 19.7	
	comp=Z,48nm,18.2s,baz=293,slow=34						
KAPI	Kappang	62.50	273	LR	LR	04 53 37.0	
	comp=Z,78nm,18.5s,baz=76,slow=35						
MJAR	Matsushiro Arr	67.94	323	P	P	04 28 06.3	+0.2
	2.5nm,1.0s,baz=131,slow=5.4,SNR=5.5						
	2.5nm,1.0s						
SHEM	Shemya Is, Ala	70.12	355	LR	LR	04 54 58.4	
	comp=Z,45nm,18.7s,baz=108,slow=32						
ASAJ	Asahikawa	71.17	331	LR	LR	04 57 12.8	
	comp=Z,38nm,18.6s,baz=163,slow=34						
QSPA	South Pole Qui	72.74	180	P	P	04 28 35.0	+0.4
	2.1nm,0.7s,baz=54,slow=0.9,SNR=11						
	2.1nm,0.7s						
PETK	Petropavlovsk-	73.33	345	P	P	04 28 39.5	+1.6
	2.9nm,0.9s,baz=114,slow=5.4,SNR=3.6						
	2.9nm,0.9s						
LPIG	La Paz	77.41	60	LR	LR	04 54 11.4	
	comp=Z,75nm,18.5s,baz=192,slow=29						
KDAK	Kodiak Island	77.63	13	LR	LR	04 56 55.7	
	comp=Z,57nm,20.2s,baz=65,slow=31						
KLR	Kul'dur	80.03	329	LR	LR	04 59 37.8	
	comp=Z,34nm,20.1s,baz=318,slow=32						
TXAR	Lajitas Array	84.97	57	P	P	04 29 40.9	+0.1
	2.0nm,1.2s,baz=209,slow=2.3,SNR=6.0						
	2.0nm,1.2s						
ILAR	Eielson Array	85.12	13	P	P	04 29 40.3	-0.3
	3.0nm,1.0s,baz=222,slow=5.3,SNR=13						
	3.0nm,1.0s						
ATAH	Atahualpa	96.54	100	LR	LR	05 03 08.6	
	comp=Z,73nm,21.9s,baz=356,slow=29						
BRTR	Keskin Array B	144.95	316	PKPbc	PKiKP	04 36 43.5	-0.1
	4.0nm,0.9s,baz=117,slow=4.4,SNR=10.0						
GERES	GERESS Array B	147.25	346	PKPbc	PKPab	04 36 49.7	+0.8
	0.6nm,0.9s,baz=298,slow=2.1,SNR=3.9						
CONA	Conrad Observa	147.55	343	*e*PKP	PKPab	04 36 52.4	+2.2
	6.6nm,1.7s						
RONA	Rosalia, Austr	147.64	342	*e*PKP	PKPab	04 36 52.4	+1.9
	1.6nm,1.2s						
MOA	Molln	148.04	345	*e*PKP	PKPab	04 36 53.1	+1.0
	3.0nm,1.1s						
SOKA	Soboth	148.92	343	*e*PKP	PKPab	04 36 54.3	-1.6
	2.4nm,1.4s						
MOTA	Moosalm	149.22	349	*e*PKP	PKPab	04 36 54.7	-2.4
	4.2nm,1.5s						
SQTA	Sankt Quirin	149.32	348	*e*PKP	PKPab	04 36 54.8	-2.7
	1.4nm,0.8s						
DAVA	Damuels	149.49	350	*e*PKP	PKPab	04 36 54.2	-4.0
	4.2nm,1.1s						
ABTA	Abfaltersbach	149.49	346	*e*PKP	PKPab	04 36 54.9	-3.3
	2.1nm,0.9s						

*IDC **21** 04:22:45.6±0.8, 6°.34S×143°.16E, h0km, mb4.2/10, mbtmp4.2/14, ML3.8/2, Error ellipse: s-maj=26.3km s-min=15.0km az=81.0*
*NEIC **21** 04:22:48.0±2.6, 6°.30S±0°.10×143°.01E±0°.10, h10km±1km, mb4.3/14, Error ellipse: s-maj=18.7km s-min=13.9km az=44.0*
ISC 21 04:22:47.6±0.6, 6°.43S±0°.06×142°.99E±0°.07, h10km, n35, σ1§48/40, mb4.3/13, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	4.51	330	Pn	Pn	04 23 57.2	+1.1
	2.3nm,0.3s,baz=204,slow=12,SNR=9.1						
JAY				Sn	Sn	04 24 50.0	+1.4
	7.2nm,0.3s,baz=292,slow=24,SNR=6.8						
	7.0nm,0.4s						
PMG	Port Moresby	5.08	126		Pn	04 24 04.7	+0.8
PMG				Sn	Sn	04 25 02.6	0.0
PMG	Port Moresby	5.08	126	Pn	Pn	04 24 03.9	0.0
	18nm,0.4s,baz=8.2,slow=2.6,SNR=11						
PMG				Sn	Sn	04 25 02.3	-0.4
	3.8nm,0.3s,baz=236,slow=22,SNR=9.9						
COEN	Coen	7.48	179		Pn	04 24 40.2	+3.3
FAKI	Fak Fak	11.26	288	Pn	Pn	04 25 27.5	-1.2
MTN	Manton Dam	13.31	241		Pn	04 25 56.6	-0.1
WB0	Warramunga Arr	15.67	211		Pn	04 26 29.2	+0.6
WR8	Warramunga Arr	15.77	211		Pn	04 26 30.1	+0.2
WR8				IAmb	IAmb	04 26 44.7	
	comp=Z,16nm,1.1s						
WRA	Warramunga Arr	15.84	211	Pn	Pn	04 26 31.6	+0.6
	comp=Z,0.6nm,0.3s,baz=31,slow=13,SNR=12						
WRA				Sn	Sn	04 29 19.2	-7.5
	comp=Z,0.3nm,0.3s,baz=40,slow=24,SNR=5.0						
WRA				Lg	Lg	04 31 12.0	
	comp=Z,0.3nm,0.3s,baz=26,slow=26,SNR=5.5						
	comp=Z,3.0nm,0.8s						
KNRA	Kununurra	16.70	235		Pn	04 26 40.9	-1.0
KNRA				IAmb	IAmb	04 26 47.1	
	comp=Z,18nm,0.7s						
AS31	Alice Springs	19.23	206	P	Pn	04 27 16.1	+3.0
AS31				IAmb	IAmb	04 27 17.5	
	comp=Z,6.9nm,0.6s						
ASAR	Alice Springs	19.23	206	P	Pn	04 27 14.8	+1.6
	comp=Z,24nm,0.7s,baz=27,slow=13,SNR=119						
ASAR				S	Sn	04 30 46.3	-2.7
	comp=Z,1.1nm,0.8s,baz=21,slow=27,SNR=2.9						
ASAR				Lg	Lg	04 32 47.0	
	baz=25,slow=25						
FITZ	Fitzroy Crossi	20.51	234	P	P	04 27 28.2	+2.0
FITZ	Fitzroy Crossi	20.51	234	P	P	04 27 27.9	+1.8
	comp=Z,3.3nm,0.5s,baz=55,slow=12,SNR=20						
FITZ				S	S	04 31 10.7	-5.2
	comp=Z,2.9nm,0.7s,baz=178,slow=12,SNR=3.7						
FITZ				Lg	Lg	04 33 34.8	
	comp=Z,0.3nm,0.3s,baz=3.1,slow=22,SNR=3.0						
	comp=Z,3.3nm,0.5s						
TOLI2	Tolitoli	23.40	288	P	P	04 27 57.9	+1.0
TOLI2				IAmb	IAmb	04 27 59.0	
	comp=Z,8.1nm,0.9s						
STKA	Stephens Creek	25.35	183	P	P	04 28 15.6	+0.7
STKA	Stephens Creek	25.35	183	P	P	04 28 14.6	-0.3
	comp=Z,2.6nm,0.8s,baz=315,slow=10,SNR=3.4						
	comp=Z,2.6nm,0.8s						
KSRS	Korea Array	45.87	343	P	P	04 31 09.8	-0.3
	comp=Z,0.5nm,0.5s,baz=166,slow=8.8,SNR=4.3						
	comp=Z,0.5nm,0.5s						
MK31	Makanchi Array	75.33	322	P	P	04 34 31.2	0.0
MKAR	Makanchi Array	75.33	322	P	P	04 34 30.8	-0.4
MKAR	Makanchi Array	75.33	322	P	P	04 34 31.4	+0.2
	comp=Z,2.1nm,0.7s,baz=102,slow=7.5,SNR=18						
	comp=Z,2.1nm,0.7s						
ZALV	Zalesovo Beam	77.29	329	P	P	04 34 40.9	-1.2
	comp=Z,0.5nm,0.3s,baz=45,slow=2.3,SNR=4.2						
	comp=Z,0.5nm,0.3s						
KURBB	Kurchatov Arra	79.21	324	P	P	04 34 52.2	-0.7
	comp=Z,1.8nm,0.9s,baz=118,slow=4.9,SNR=12						
	comp=Z,1.8nm,0.9s						
F17K	Baldwin Pennin	82.94	20	P	P	04 35 11.9	-0.5
F17K				IAmb	IAmb	04 35 37.8	
	comp=Z,3.2nm,1.1s						
QSPA	South Pole Qui	83.54	180	P	P	04 35 15.0	-0.8
QSPA				IAmb	IAmb	04 35 25.5	
	comp=Z,3.4nm,1.1s						
QSPA	South Pole Qui	83.54	180	P	P	04 35 15.6	-0.2
	comp=Z,1.7nm,0.6s,baz=248,slow=0.9,SNR=19						
	comp=Z,1.7nm,0.6s						
NRIK	Noril'sk	84.49	343	P	P	04 35 19.4	-0.8
	comp=Z,3.0nm,0.5s,baz=130,slow=6.3,SNR=3.7						
	comp=Z,3.0nm,0.5s						
BVAR	Borovoye Array	84.79	325	P	P	04 35 22.4	+0.2
	comp=Z,7.0nm,0.7s,baz=113,slow=6.9,SNR=35						
	comp=Z,7.0nm,0.7s						
E19K	Redstone River	84.83	20	P	P	04 35 21.8	-0.2
E19K				IAmb	IAmb	04 35 23.3	
	comp=Z,2.6nm,1.1s						
D20K	Etivluk River	85.66	19	P	P	04 35 27.0	+0.7
D20K				IAmb	IAmb	04 35 27.6	
	comp=Z,1.9nm,0.9s						
H23K	Yukon River	86.82	22	P	P	04 35 31.8	-0.3
B22K	Teshekpuk Lake	87.43	18	P	P	04 35 34.6	-0.2
ILAR	Eielson Array	87.46	24	P	P	04 35 33.5	-1.7
	comp=Z,0.8nm,0.7s,baz=260,slow=5.0,SNR=9.1						
	comp=Z,0.8nm,0.7s						
ABKAR	Abkulak array	90.30	319	P	P	04 35 47.5	-1.3
DBIC	Dimbokro	148.06	272	PKPbc	PKPbc	04 42 34.6	0.0
	comp=Z,4.4nm,1.0s,baz=153,slow=4.5,SNR=4.0						

*IDC **21** 04:49:20.6±2.3, 5°.32N×125°.85E, h90km±34km, mb3.3/5, mbtmp3.6/5, Error ellipse: s-maj=122.9km s-min=15.8km az=71.0*
*DJA **21** 04:49:20.6±2.2, 5°.N±23°.×12°.6E±1°.1, h100km±28km, M4.0/5, MLv4.0/5*
ISC 21 04:49:22.0±1.3, 5°.48N±0°.06×126°.0E±0°.3, h116km, n7, σ1§19/9, mb3.7/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.64	344	P	Pn	04 49 49.6	-1.2
	145nm,0.3s,baz=262,slow=2.9,SNR=1.9						
DAV				S	Sn	04 50 11.8	-1.0
	108nm,0.4s,baz=306,slow=19,SNR=1.5						
SGSI	Sangihe	1.85	196	P	Pn	04 49 52.6	-0.9
SGSI				S	Sn	04 50 16.7	-0.8
FITZ	Fitzroy Crossi	23.43	181	P	P	04 54 21.3	+0.3
	2.9nm,0.7s,baz=14,slow=11,SNR=14						
	2.9nm,0.7s						
WRA	Warramunga Arr	26.55	162	P	P	04 54 48.9	-0.4
	0.4nm,0.5s,baz=338,slow=10,SNR=5.8						
	0.4nm,0.5s						
ASAR	Alice Springs	29.97	165	P	P	04 55 19.6	-0.1
	0.1nm,0.3s,baz=344,slow=9.6,SNR=1.5						
	0.1nm,0.3s						
MKAR	Makanchi Array	55.73	325	P	P	04 58 48.2	+1.6
	0.6nm,0.3s,baz=116,slow=7.5,SNR=14						
	0.6nm,0.3s						
KURBB	Kurchatov Arra	59.90	327	P	P	04 59 17.0	+1.4
	0.3nm,0.4s,baz=133,slow=5.5,SNR=5.3						
	0.3nm,0.4s						

*IDC **21** 05:09:51.1±0.6, 16°.96S×177°.00W, h0km, mb4.1/18, mbtmp4.1/19, ML5.4/1, MS4.6/43, Error ellipse: s-maj=22.0km s-min=15.6km az=130.0*
*NEIC **21** 05:09:54.7±2.2, 16°.61S±0°.08×177°.2W±0°.1, h12km±5km, mb4.9/103, Error ellipse: s-maj=18.4km s-min=11.1km az=107.0*
*GCMT **21** 05:09:56.7±0.1, 17°.01S±0°.01×176°.85W±0°.01, h15km, MW5.3/146, Moment Tensor Solution. s107,c173; s146,c278; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.06±.01; $M_{\theta\theta}$=1.15±.01; $M_{\phi\phi}$=1.21±.02; $M_{r\theta}$=0.03±.03; $M_{\theta\phi}$=0.21±.01; $M_{\phi r}$=0.19±.03; Best double couple: M_0=1.21200×10^{17} NP1:ϕ_s=320.00000°, δ=84.00000°, λ=175.00000°. NP2:ϕ_s=50.00000°, δ=85.00000°, λ=6.00000°. Principal axes: T 1.2560, Plg=8.0000°, Azm=275.0000°; N -0.0830, Plg=82.0000°, Azm=89.0000°; P -1.1690, Plg=1.0000°, Azm=185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 05:09:53.4±0.4, 16°.86S±0°.07×177°.06W±0°.05, h10km, n422, σ1§10/347, mb4.8/71, MS4.8/60, 6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	Fugatoga	2.73	338		Pn	05 10 34.3	-3.1
MSVF	Nonsavu	4.75	259	Pn	Pn	05 11 04.7	-0.6
	5.3nm,0.3s,baz=72,slow=24,SNR=7.0						
MSVF				Sn	Sn	05 11 56.3	-4.2
	6.4nm,0.3s,baz=209,slow=18,SNR=4.6						
MSVF				LR	LR	05 12 53.2	
	comp=Z,34μm,18.4s,baz=81,slow=38						
	3.5nm,0.3s						
DZM	Mont Dzumac	16.39	249	*e*P	Pn	05 13 42.3	-1.6
	379nm,29.2s						
DZM				*e*S	Sn	05 16 48.7	+2.7
	13μm,29.6s						
DZM				*e*LR	LR	05 17 34.6	
	8μm,25.7s						
DZM	Mont Dzumac	16.39	249	LR	LR	05 18 55.7	
	comp=Z,6μm,21.1s,baz=82,slow=33						
RAR	Rarotonga	16.91	108	LR	LR	05 18 42.3	
	comp=Z,3μm,20.3s,baz=290,slow=32						
URZ	Urewera	21.93	192	P	P	05 14 44.8	-2.2
	24nm,1.0s,baz=97,slow=2.8,SNR=8.8						
URZ				LR	LR	05 22 27.9	
	comp=Z,4μm,18.6s,baz=114,slow=35						
	24nm,1.0s						
HNR	Honiara	23.56	285	LR	LR	05 22 55.1	
	comp=Z,3μm,19.8s,baz=113,slow=33						
PPT2	Papeete2	26.25	96	*e*P	P	05 15 29.6	+0.5
	176nm,24.8s						
PPT2				*e*S	S	05 19 57.9	-3.9
	563nm,26.2s						
PPT2				*e*LR	LR	05 21 56.5	
	4μm,24.2s						
PPT2				*e*LR	LR	05 22 04.6	
	2μm,21.0s						
PPT	Papeete	26.25	96	LR	LR	05 22 59.8	
	comp=Z,1μm,20.2s,baz=256,slow=30						
TBI	Tubuai	26.68	109	*e*P	P	05 15 36.8	+4.0
	646nm,27.5s						
TBI				*e*S	S	05 20 08.4	+0.1
	13μm,30.0s						
TBI				*e*LR	LR	05 22 13.3	
	16μm,24.5s						
TBI				*e*LR	LR	05 22 16.7	
	3μm,21.2s						
EIDS	Eidsvold	30.84	249	P	P	05 16 10.2	+0.3
EIDS				IAmb	IAmb	05 16 15.4	
	comp=Z,24nm,1.3s						
RABL	Rabaul	32.70	289	P	P	05 16 25.3	-1.2
CAN	Canberra	35.36	232	P	P	05 16 51.1	+1.8
CAN				IAmb	IAmb	05 17 05.1	
	comp=Z,24nm,1.4s						
PMG	Port Moresby	35.58	277	P	P	05 16 50.9	-0.5
PMG				IAmb	IAmb	05 17 12.8	
	comp=Z,17nm,1.1s						
PMG	Port Moresby	35.58	277	LR	LR	05 30 36.0	
	comp=Z,995nm,18.7s,baz=108,slow=35						
TAOE	Nuku Hiva Isla	36.80	82	*e*P	P	05 17 02.1	+0.1
	comp=Z,63nm,23.4s						
TAOE				*e*S	S	05 22 36.3	-10
	comp=Z,312nm,27.2s						
TAOE				*e*LR	LR	05 26 52.3	
	comp=Z,2μm,25.7s						
RKT	Rikitea	39.94	106	*e*S	S	05 23 36.6	+3.1
	comp=Z,1μm,25.5s						
RKT				*e*SS	SS	05 26 25.3	-4.9
	comp=Z,3μm,41.0s						
RKT				*e*LR	LR	05 28 19.1	
	comp=Z,11μm,23.8s						
STKA	Stephens Creek	40.26	240	P	P	05 17 30.5	-0.3
	comp=Z,4.1nm,1.0s,baz=126,slow=5.2,SNR=4.0						
STKA				LR	LR	05 33 34.2	
	comp=Z,532nm,18.9s,baz=71,slow=35						
	comp=Z,4.1nm,1.0s						
JAY	Jayapura	43.88	284	LR	LR	05 35 50.9	
	comp=Z,405nm,18.0s,baz=26,slow=36						
WR8	Warramunga Arr	45.95	258	P	P	05 18 17.4	+0.4
WB0	Warramunga Arr	46.06	259	P	P	05 18 18.2	+0.4
WRA	Warramunga Arr	46.10	258	P	P	05 18 17.4	-0.8
WRA	Warramunga Arr	46.10	258	P	P	05 18 18.0	-0.2
	comp=Z,3.9nm,1.2s,baz=95,slow=6.3,SNR=4.9						
WRA				LR	LR	05 36 21.3	
	comp=Z,2μm,19.9s,baz=104,slow=34						
	comp=Z,3.9nm,1.2s						
AS31	Alice Springs	46.32	253		P	05 18 18.8	-1.1
ASAR	Alice Springs	46.32	253	P	P	05 18 18.4	-1.5
ASAR	Alice Springs	46.32	253	P	P	05 18 18.9	-1.0
	comp=Z,11nm,0.9s,baz=89,slow=7.8,SNR=30						
ASAR				LR	LR	05 37 02.6	
	comp=Z,3μm,18.9s,baz=99,slow=35						
	comp=Z,11nm,0.9s						
FITZ	Fitzroy Crossi	54.48	260	LR	LR	05 41 21.5	
	comp=Z,2μm,19.9s,baz=104,slow=35						
NWAO	Narrogin (SRO)	60.84	241	LR	LR	05 45 08.7	
	comp=Z,612nm,18.9s,baz=90,slow=35						
VNDA	Vanda	61.60	185	P	P	05 20 13.1	+2.4
VNDA	Vanda	61.60	185	P	P	05 20 09.9	-0.8
	comp=Z,1.2nm,1.1s,baz=8.3,slow=6.4,SNR=2.3						
VNDA				LR	LR	05 42 18.9	
	comp=Z,306nm,21.6s,baz=24,slow=32						
	comp=Z,1.2nm,1.1s						
KAPI	Kappang	62.92	273	LR	LR	05 45 24.9	
	comp=Z,280nm,21.9s,baz=96,slow=34						
MJAR	Matsushiro Arr	67.85	322	P	P	05 20 52.2	+0.2
	comp=Z,2.0nm,1.0s,baz=153,slow=6.3,SNR=4.5						
MJAR				LR	LR	05 45 00.1	
	comp=Z,137nm,21.3s,baz=132,slow=31						
	comp=Z,2.0nm,1.0s						
JOW	Kunigami	68.56	308	LR	LR	05 49 58.9	
	comp=Z,74nm,18.1s,baz=135,slow=35						
SHEM	Shemya Is, Ala	69.72	354	LR	LR	05 44 55.8	
	comp=Z,588nm,21.5s,baz=156,slow=30						
NIKH	Nikolski High	69.90	5	P	P	05 21 03.5	-0.8
	baz=188						
JNU	Nakatsue	70.29	315	LR	LR	05 45 49.7	
	comp=Z,75nm,21.4s,baz=120,slow=31						
ASAJ	Asahikawa	70.99	330	LR	LR	05 47 55.5	
	comp=Z,402nm,20.1s,baz=148,slow=32						
CHNA	Chernabura Isl	72.94	10	P	P	05 21 22.0	-0.6
	baz=198						
PETK	Petropavlovsk-	73.01	344		P	05 21 23.1	-0.1
PETK	Petropavlovsk-	73.01	344	P	P	05 21 22.8	-0.4
	comp=Z,6.0nm,1.0s,baz=105,slow=11,SNR=6.2						
PETK				LR	LR	05 49 24.7	
	comp=Z,385nm,19.5s,baz=151,slow=32						
	comp=Z,6.0nm,1.0s						
QSPA	South Pole Qui	73.19	180		P	05 21 23.7	-0.7
QSPA				IAmb	IAmb	05 21 31.3	
	comp=Z,11nm,1.1s						
QSPA	South Pole Qui	73.19	180	P	P	05 21 22.9	-1.5
	comp=Z,3.2nm,0.7s,baz=88,slow=1.8,SNR=14						
QSPA				LR	LR	05 49 14.2	
	comp=Z,153nm,21.3s,baz=38,slow=32						
	comp=Z,3.2nm,0.7s						
SDPT	Sand Point	73.29	10	P	P	05 21 24.0	-0.8
	baz=197						
S12K	Black Hills	73.38	9	P	P	05 21 24.6	-0.7
	baz=195						
LEM	Lembang	74.04	268	LR	LR	05 54 23.1	
	comp=Z,307nm,20.1s,baz=166,slow=36						
S14K	Fog Glacier	74.33	10	P	P	05 21 30.0	-1.0
	baz=198						
KSRS	Korea Array	74.79	317	P	P	05 21 35.1	+1.2
	comp=Z,0.3nm,0.6s,baz=123,slow=5.7,SNR=4.4						
KSRS				LR	LR	05 48 44.4	
	comp=Z,106nm,22.0s,baz=110,slow=31						
	comp=Z,0.3nm,0.6s						
SII	Sitkinak Islan	75.61	13	P	P	05 21 37.8	-0.5
	baz=203						
OHAK	Old Harbor	76.42	13	P	P	05 21 42.3	-0.5
	baz=204						
PFO	Pinyon Flats O	76.50	48	LR	LR	05 49 10.8	
	comp=Z,282nm,18.1s,baz=239,slow=31						
LPIG	La Paz	76.80	60	LR	LR	05 47 01.0	
	comp=Z,429nm,21.0s,baz=216,slow=29						
Q17K	Contact Creek	76.86	11	P	P	05 21 44.3	-1.1
	baz=201						
YBH	Yreka Blue Hor	76.90	39	LR	LR	05 47 44.0	
	comp=Z,421nm,21.6s,baz=235,slow=30						
O14K	Tigyukauivet M	76.93	8	P	P	05 21 44.3	-1.3
	baz=196						
O15K	Ungalikthiuk R	77.06	9	P	P	05 21 45.3	-1.1
	baz=197						
KDAK	Kodiak Island	77.08	13	LR	LR	05 48 42.7	
	comp=Z,678nm,21.6s,baz=57,slow=30						
Q16K	King Salmon	77.11	11	P	P	05 21 45.9	-0.7
	baz=200						
P16K	Nushagak River	77.21	10	P	P	05 21 45.8	-1.4
	baz=199						
Q18K	Katmai Hardscr	77.39	12	P	P	05 21 47.2	-1.3
	baz=202						
N14K	Kuskokwak Cree	77.52	8	P	P	05 21 47.8	-1.2
	baz=195						
P17K	Kvichak River	77.64	11	P	P	05 21 48.7	-1.0
	baz=200						
O16K	Kokwok River B	77.73	10	P	P	05 21 49.7	-0.4
	baz=199						
NVAR	Mina Array Bea	77.78	43	P	P	05 21 51.6	+0.4
	comp=Z,1.3nm,0.8s,baz=225,slow=9.7,SNR=5.5						
NVAR				LR	LR	05 50 56.4	
	comp=Z,232nm,19.5s,baz=268,slow=32						
	comp=Z,1.3nm,0.8s						
M13K	Dall Lake	77.79	7	P	P	05 21 49.6	-0.9
	baz=194						
Q20K	Shuyak Island	77.88	13	P	P	05 21 50.5	-0.5
	baz=204						
Q19K	Cape Douglas,	77.92	12	P	P	05 21 50.6	-0.7
	baz=203						
N15K	Kwethluk River	77.98	9	P	P	05 21 50.9	-0.7
	baz=197						
P18K	Big Mountain,	78.04	11		P	05 21 51.3	-0.6
P18K	Big Mountain,	78.04	11	P	P	05 21 51.6	-0.4
	baz=202						
O17K	Koliganek Bris	78.07	10	P	P	05 21 51.5	-0.5
	baz=200						
NJ2	Nanjing	78.28	309	*e*P	P	05 21 54.5	+0.6
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
M14K	Bethel	78.29	8	P	P	05 21 53.1	-0.1
	baz=195						
M15K	Kasigluk River	78.40	8	P	P	05 21 54.0	+0.1
	baz=196						
N16K	Nishlik Lake	78.47	9	P	P	05 21 54.4	+0.1
	baz=198						
O18K	Koktuh Hills	78.48	11	P	P	05 21 54.2	-0.1
	baz=202						
P19K	Oil Pt	78.67	12	P	P	05 21 55.2	-0.3
	baz=203						
N17K	Nushagak Hills	78.77	10	P	P	05 21 54.8	-1.1
	baz=200						
L14K	Kuka Creek	78.78	7	P	P	05 21 55.9	0.0
	baz=194						
O19K	Port Alsworth	78.96	11	P	P	05 21 56.9	-0.1
	baz=202						
M16K	Timber Creek	78.96	9	P	P	05 21 57.3	+0.3
	baz=198						
HOM	Homer	79.00	13	P	P	05 21 56.6	-0.5
	baz=205						
N18K	Kilae Creek	79.13	10	P	P	05 21 57.3	-0.6
	baz=201						
K13K	Kusilvak Mount	79.14	6	P	P	05 21 57.5	-0.5
	baz=192						
L15K	Ungalak Mounta	79.25	7	P	P	05 21 58.4	-0.1
	baz=195						
BRSE	Bradley Lake S	79.27	13	P	P	05 21 58.6	-0.1
	baz=206						
N19K	Bonanza Creek	79.50	11	P	P	05 22 00.0	0.0
	baz=202						
L16K	Owhat River	79.55	8	P	P	05 22 00.1	0.0
	baz=197						
M17K	Holitna River	79.55	9	P	P	05 22 00.1	-0.1
	baz=199						
K15K	Wolf Creek Mou	79.84	7	P	P	05 22 02.2	+0.4
	baz=195						
SEW	Seward	79.89	14	P	P	05 22 01.8	-0.2
	baz=207						
M18K

PWL	Port Wells	80.81	14	P	P	05 22 06.1	-0.9
	baz=208						
SUA	Susitna One	80.83	12	P	P	05 22 06.2	-1.1
	baz=206						
J16K	Anvik River	80.91	7	P	P	05 22 07.4	0.0
	baz=196						
KAIM	Kayak Island	80.96	16	P	P	05 22 07.8	0.0
	baz=212						
ELK	Elko	81.01	43	P	P	05 22 08.7	-0.2
	comp=Z,1.0nm,0.8s,baz=244,slow=6.5,SNR=4.2						
ELK				LR	LR	05 53 14.3	
	comp=Z,125nm,18.1s,baz=253,slow=32						
	comp=Z,1.0nm,0.8s						
GLI	Glacier Island	81.12	14	P	P	05 22 08.6	0.0
	baz=209						
SKT	Skwentna	81.14	12	P	P	05 22 09.1	+0.3
	baz=205						
EYAK	Cordova Ski Ar	81.16	15	P	P	05 22 08.1	-0.6
	baz=210						
L20K	Farewell, AK	81.16	11	P	P	05 22 09.4	+0.5
	baz=203						
J17K	VABM Dome	81.22	8	P	P	05 22 08.5	-0.6
	baz=198						
M22K	Willow	81.22	13	P	P	05 22 09.6	+0.5
	baz=206						
TTA	Tatalina	81.22	10		P	05 22 08.1	-1.1
TTA				IAmb	IAmb	05 22 20.8	
	comp=Z,13nm,1.4s						
TTA	Tatalina	81.22	10	P	P	05 22 08.9	-0.4
	baz=200						
KNK	Knik Glacier	81.28	13	P	P	05 22 09.2	-0.3
	baz=208						
PMR	Palmer	81.29	13	P	P	05 22 09.5	0.0
	baz=207						
BGLC	Bering Glacier	81.43	16	P	P	05 22 09.3	-1.0
	baz=213						
SIT	Sitka	81.43	22	P	P	05 22 09.7	-0.6
	baz=220						
I17K	Unalakleet	81.48	7	P	P	05 22 09.7	-0.8
	baz=196						
U33K	Whale Pass	81.52	23	P	P	05 22 10.3	-0.5
	baz=222						
V35K	Ketchikan	81.52	24	P	P	05 22 10.5	-0.3
	baz=224						
J18K	Innoko River	81.62	9	P	P	05 22 11.4	+0.2
	baz=200						
SML	Sawmill	81.65	13	P	P	05 22 10.5	-1.0
	baz=208						
ANM	Nome	81.66	5	P	P	05 22 10.4	-1.1
	baz=191						
M23K	Glacier View	81.78	14	P	P	05 22 12.1	-0.1
	baz=208						
BMRM	Bremner River	81.80	15	P	P	05 22 11.7	-0.7
	baz=211						
S31K	Pelican	81.81	21	P	P	05 22 10.9	-1.4
	baz=219						
MESA	MESA	81.84	17	P	P	05 22 11.7	-1.1
	baz=214						
PPLA	Purkeypile	81.85	11	P	P	05 22 11.3	-1.4
	baz=204						
SCM	Sheep Creek Mo	81.90	14	P	P	05 22 12.5	-0.4
	baz=209						
KLU	Klutina	81.93	15	P	P	05 22 12.0	-1.0
	baz=210						
K20K	Telida	81.94	10	IAmb	IAmb	05 22 16.7	
	comp=Z,12nm,1.2s						
K20K	Telida	81.94	10	P	P	05 22 12.1	-0.9
	baz=202						
S32K	Killisnoo	82.01	22	P	P	05 22 12.7	-0.7
	baz=221						
H16K	Elim	82.03	6	P	P	05 22 12.6	-0.8
	baz=194						
WRAK	Wrangell Islan	82.04	23	P	P	05 22 12.9	-0.7
	baz=223						
PNL	Peninsula	82.16	18	P	P	05 22 13.5	-0.7
	baz=216						
G15K	Niukluk	82.20	6	P	P	05 22 14.0	-0.3
	baz=193						
PINM	Pinnacle	82.26	18	P	P	05 22 14.4	-0.3
	baz=216						
J19K	Poorman	82.28	9	P	P	05 22 14.7	0.0
	baz=201						
CAST	Castle Rocks	82.35	11	P	P	05 22 14.9	-0.2
	baz=204						
N25K	Chitina, Valde	82.35	15	P	P	05 22 14.9	-0.4
	baz=211						
M24K	Tolsona, Glenn	82.41	14	P	P	05 22 15.5	0.0
	baz=210						
TNA	Tin City	82.46	4	IAmb	IAmb	05 22 24.3	
	comp=Z,13nm,1.0s						
TNA	Tin City	82.46	4	P	P	05 22 16.2	+0.7
	baz=189,SNR=9.1						
F14K	Arctic Creek	82.48	4	P	P	05 22 16.1	+0.4
	baz=190						
H17K	Granite Mounta	82.59	7	P	P	05 22 16.8	+0.5
	baz=197						
P29M	Windy Craggy	82.64	19	P	P	05 22 16.5	-0.2
	baz=218						
J20K	Nowinta River	82.69	10	IAmb	IAmb	05 22 28.1	
	comp=Z,17nm,1.5s						
J20K	Nowinta River	82.69	10	P	P	05 22 16.6	-0.3
	baz=202						
HEH	HeiHe	82.71	328	eP	P	05 22 21.0	+3.8
HEH				LR	LR		
	comp=N,220nm,21.4s						
HEH				LR	LR		
	comp=E,320nm,21.6s						
HEH				LR	LR		
	comp=Z,570nm,23.8s						
TRF	Thorofare Moun	82.72	12	P	P	05 22 16.7	-0.5
	baz=206						
CHUM	Lake Minchumin	82.73	11	P	P	05 22 16.9	-0.1
	baz=204						
G16K	Koyuk River	82.76	6	P	P	05 22 17.0	-0.1
	baz=194						
GCSA	Galena City Sc	82.81	9	P	P	05 22 17.7	+0.3
	baz=200						
O28M	Mount Upton	82.83	17	P	P	05 22 17.5	-0.5
	baz=216						
F15K	North Star Dit	82.85	5	P	P	05 22 17.7	0.0
	baz=192						
HARP	HAARP	82.90	14	P	P	05 22 17.7	-0.3
	baz=211						
O29M	Mount Kennedy	82.92	18	P	P	05 22 17.8	-0.4
	baz=217						
RND	Reindeer	82.97	12		P	05 22 18.2	-0.2
RND				IAmb	IAmb	05 22 28.9	
	comp=Z,9.2nm,1.0s						
H18K	Honhosa River	82.99	8	P	P	05 22 16.6	-1.8
	baz=198						
HLID	Hailey	83.00	41		P	05 22 18.9	-0.3
G17K	Kiwalik Mounta	83.05	7	P	P	05 22 17.9	-0.7
	baz=196						
SEY	Seymchan	83.06	346	LR	LR	05 53 32.7	
	comp=Z,457nm,21.5s,baz=148,slow=32						
BPAW	Bear Paw Mtn.	83.18	11	P	P	05 22 18.6	-0.8
	baz=205						
I20K	Naaghedeneel	83.22	10	P	P	05 22 18.8	-0.7
	baz=202						
MCK	McKinley	83.24	12	IAmb	IAmb	05 22 25.9	
	comp=Z,11nm,1.2s						
MCK	McKinley	83.24	12	P	P	05 22 19.0	-0.8
	baz=207						
T35M	Bob Quinn	83.24	24	P	P	05 22 19.6	-0.3
	baz=225						
P30M	Million Dollar	83.27	19	P	P	05 22 19.4	-0.6
	baz=219						
SKAG	Skagway	83.27	20	P	P	05 22 19.5	-0.5
	baz=220						
PAX	Paxson	83.32	14	P	P	05 22 19.5	-0.7
	baz=210						
SRU	San Rafael Swe	83.36	46	IAmb	IAmb	05 22 33.8	
	comp=Z,12nm,1.5s						
YUK8	Steele Glacier	83.37	17	P	P	05 22 20.0	-0.7
	baz=216						
M26K	Nabesna, AK	83.43	15	P	P	05 22 20.2	-0.6
	baz=213						
YUK6	Outpost Mounta	83.49	18	P	P	05 22 20.7	-0.7
	baz=217						
YUK3	Moose Creek	83.58	17	P	P	05 22 21.1	-0.7
	baz=215						
S34M	Telegraph Cree	83.58	23	P	P	05 22 21.5	0.0
	baz=224						
H19K	Roundabout Mou	83.61	8	P	P	05 22 21.3	-0.2
	baz=200,SNR=6.3						
HYT	Haines Junctio	83.66	18	P	P	05 22 22.0	-0.1
	baz=218						
G18K	Tagagawik	83.66	7	IAmb	IAmb	05 22 29.9	
	comp=Z,8.2nm,1.2s						
G18K	Tagagawik	83.66	7	P	P	05 22 21.8	-0.1
	baz=198						
M27K	Edge Creek, AK	83.68	16	P	P	05 22 22.1	-0.1
	baz=214						
Y22D	IRIS PASSCAL I	83.72	52	P	P	05 22 22.1	-0.9
	baz=245						
YUK4	Talbot Arm	83.73	18	P	P	05 22 22.6	+0.1
	baz=217						
H20K	Anotleneega Mo	83.80	9	P	P	05 22 22.5	-0.1
	baz=202						
L26K	Log Cabin Wild	83.87	15	P	P	05 22 22.8	-0.2
	baz=212						
PV05	Paradox Valley	83.88	47	IAmb	IAmb	05 22 35.2	
	comp=Z,15nm,1.4s						
F17K	Baldwin Pennin	83.89	6	P	P	05 22 23.4	+0.4
	baz=195,SNR=6.3						
P32M	Atlin	83.91	21	P	P	05 22 23.1	-0.2
	baz=222						
NEW	Newport	83.91	36	LR	LR	05 52 48.1	
	comp=Z,269nm,20.6s,baz=233,slow=31						
Q32M	Nakina River	83.94	22	P	P	05 22 23.1	-0.5
	baz=223						
BJI	Beijing	83.95	315	P	P	05 22 26.1	+2.2
BJI	Beijing	83.95	315	S	S	05 32 52.3	+4.3
BJI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,56nm,5.5s						
BJI				LR	LR		
	comp=N,43nm,17.0s						
BJI				LR	LR		
	comp=E,70nm,22.1s						
BJI				LR	LR		
	comp=Z,88nm,19.0s						
K24K	Donnelly Dome	83.97	13	P	P	05 22 23.2	-0.3
	baz=210						
I21K	Tanana	83.98	10	IAmb	IAmb	05 22 43.3	
	comp=Z,14nm,1.4s						
I21K	Tanana	83.98	10	P	P	05 22 23.4	0.0
	baz=204						
NEA2	Nenana	83.99	12	IAmb	IAmb	05 22 27.7	
	comp=Z,7.5nm,1.2s						
NEA2	Nenana	83.99	12	P	P	05 22 23.5	-0.1
	baz=207						
O30N	Mendenhall	84.04	19	P	P	05 22 24.2	+0.2
	baz=219						
G19K	Purcell Mounta	84.10	8	IAmb	IAmb	05 22 32.5	
	comp=Z,9.1nm,1.1s						
G19K	Purcell Mounta	84.10	8	P	P	05 22 23.1	-1.0
	baz=199,SNR=9.4						
RIDG	Independent Ri	84.13	14	P	P	05 22 23.9	-0.5
	baz=211						
PV02	Paradox Valley	84.20	47	IAmb	IAmb	05 22 38.6	
	comp=Z,11nm,1.2s						
F18K	Selawik	84.22	7	P	P	05 22 23.7	-0.9
	baz=197						
DOT	Dot Lake	84.23	14	IAmb	IAmb	05 22 34.6	
	comp=Z,13nm,1.4s						
HDA	Harding Lake	84.25	13	IAmb	IAmb	05 22 27.4	
	comp=Z,12nm,1.2s						
HDA	Harding Lake	84.25	13	P	P	05 22 24.1	-0.7
	baz=209						
PMSA	Palmer Station	84.26	157	LR	LR	05 51 46.6	
	comp=Z,118nm,19.8s,baz=266,slow=30						
L27K	Beaver Creek,	84.28	15	P	P	05 22 24.7	-0.5
	baz=214						
N30M	Aishikik Lake	84.28	18	P	P	05 22 24.6	-0.6
	baz=218						
PV01	Paradox Valley	84.28	48	IAmb	IAmb	05 22 31.1	
	comp=Z,8.4nm,1.4s						
H21K	Melozitna Rive	84.28	10	P	P	05 22 24.6	-0.4
	baz=203						
WHY	Whitehorse	84.34	19	P	P	05 22 25.0	-0.6
	baz=220						
TX31	Lajitas Ar. Si	84.35	57	P	P	05 22 27.1	+0.8
TXAR	Lajitas Array	84.35	57	P	P	05 22 26.5	+0.2
	comp=Z,1.2nm,1.0s,baz=222,slow=1.7,SNR=7.3						
	comp=Z,1.2nm,1.0s						
DLBC	Dease Lake	84.37	23	LR	LR	05 52 17.7	
	comp=Z,927nm,21.6s,baz=242,slow=30						
DLBC	Dease Lake	84.37	23	P	P	05 22 25.6	-0.1
	baz=225						
I23K	Minto, Yukon-K	84.43	11	P	P	05 22 25.8	+0.1
	baz=207						
ANMO	Albuquerque	84.44	51		P	05 22 27.2	+0.4
ANMO				IAmb	IAmb	05 22 40.0	
	comp=Z,8.3nm,1.4s						
ANMO	Albuquerque	84.44	51		P	05 22 27.4	+0.7
ANMO				IAmb	IAmb	05 22 40.1	
	comp=Z,7.5nm,1.3s						
ANMO	Albuquerque	84.44	51	P	P	05 22 25.9	-0.9
	comp=Z,1.3nm,0.9s,baz=8.0,slow=5.2,SNR=4.6						
ANMO				LR	LR	05 54 11.8	
	comp=Z,257nm,18.9s,baz=49,slow=32						
	comp=Z,1.3nm,0.9s						
E17K	Hotham Inlet	84.45	6	P	P	05 22 25.1	-0.8
	baz=195,SNR=6.0						
COLA	College	84.48	12	P	P	05 22 25.2	-0.8
COLA	College	84.48	12	P	P	05 22 25.5	-0.5
	baz=208						
SCRK	Sand Creek	84.53	14	P	P	05 22 25.7	-0.8
	baz=212						
IL31		84.58	12	IAmb	IAmb	05 22 29.2	
	comp=Z,10nm,1.1s						
ILAR	Eielson Array	84.58	12		P	05 22 25.3	-1.3
ILAR	Eielson Array	84.58	12	P	P	05 22 26.1	-0.5
	comp=Z,7.8nm,1.1s,baz=226,slow=5.7,SNR=23						
	comp=Z,7.8nm,1.1s						
F19K	Shaleruckik Mo	84.67	8	IAmb	IAmb	05 22 37.3	
	comp=Z,10nm,1.3s						
F19K	Shaleruckik Mo	84.67	8	P	P	05 22 26.9	-0.1
	baz=199,SNR=7.3						
M29M	Somme Creek	84.67	17	P	P	05 22 27.0	-0.2
	baz=217						
P33M	Teslin, Yukon	84.67	20	P	P	05 22 27.1	-0.1
	baz=222						
N31M	Braeburn, Yuko	84.70	19	P	P	05 22 27.1	-0.1
	baz=220						
R33M	Jennings River	84.71	22	P	P	05 22 27.4	-0.1
	baz=224						
H22K	Ishtalitna Cre	84.74	10	P	P	05 22 27.4	0.0
	baz=205,SNR=12						
J25K	Salcha River,	84.77	13	IAmb	IAmb	05 22 38.1	
	comp=Z,9.4nm,1.1s						
J25K	Salcha River,	84.77	13	P	P	05 22 26.4	-1.2
	baz=210,SNR=6.6						
POKR	Poker Plat Res	84.78	12	IAmb	IAmb	05 22 29.5	
	comp=Z,8.9nm,0.8s						
POKR	Poker Plat Res	84.78	12	P	P	05 22 26.5	-1.0
	baz=209						
E18K	Tukpahlearik C	84.91	6	IAmb	IAmb	05 22 32.3	
	comp=Z,8.8nm,1.1s						
E18K	Tukpahlearik C	84.91	6	P	P	05 22 27.5	-0.7
	baz=196,SNR=9.0						
D17K	Noatak River	84.94	5	P	P	05 22 27.9	-0.3
	baz=194,SNR=6.3						
G21K	Alakaket	84.97	9	P	P	05 22 28.6	+0.1
	baz=203,SNR=5.7						
H23K	Yukon River	85.00	11	P	P	05 22 28.6	-0.1
	baz=206						
K27K	Chicken	85.03	15	IAmb	IAmb	05 22 46.2	
	comp=Z,16nm,1.4s						
K27K	Chicken	85.03	15	P	P	05 22 28.2	-0.6
	baz=214						
DLMT	Dillon	85.03	40	IAmb	IAmb	05 22 32.8	
	comp=Z,6.9nm,1.1s						
J26L	Joseph Creek	85.08	14	P	P	05 22 28.1	-1.1
	baz=212,SNR=8.5						
F20K	Avaraart Lake	85.14	8	IAmb	IAmb	05 22 38.9	
	comp=Z,10.0nm,1.4s						
F20K	Avaraart Lake	85.14	8	P	P	05 22 28.4	-0.8
	baz=201						
MAW	Mawson	85.28	199	LR	LR	05 58 45.6	
	comp=Z,496nm,18.4s,baz=104,slow=34						
N32M	Quiet Lake	85.29	20	P	P	05 22 29.6	-0.6
	baz=222						
L29M	L29M	85.30	17	P	P	05 22 29.9	-0.4
	baz=217						
RDOG	Red Dog Mine	85.30	5	P	P	05 22 29.9	-0.2
	baz=194						
C16K	Lisburne Hills	85.32	4	P	P	05 22 30.1	-0.1
	baz=191						
H24K	Noodor Dome	85.33	12	P	P	05 22 30.4	+0.1
	baz=208						
E19K	Redstone River	85.33	8	IAmb	IAmb	05 22 41.3	
	comp=Z,10nm,1.3s						
E19K	Redstone River	85.33	8	P	P	05 22 29.8	-0.4
	baz=199						
S22A	4UR Ranch, Cre	85.35	48	IAmb	IAmb	05 22 45.4	
	comp=Z,7.8nm,1.2s						
PRP	Porcupine Dome	85.52	13		P	05 22 30.9	-0.5
PRP				IAmb	IAmb	05 22 34.2	
	comp=Z,9.4nm,1.1s						
PRP	Porcupine Dome	85.52	13	P	P	05 22 31.4	0.0
	baz=210,SNR=7.8						
BILL	Bilibino	85.53	354		P	05 22 31.1	-0.1
BILL				IAmb	IAmb	05 22 39.9	
	comp=Z,11nm,1.0s						
YHB	Horse Butte	85.60	41	IAmb	IAmb	05 22 39.2	
	comp=Z,7.4nm,1.0s						
F21K	Alatna River	85.63	9	IAmb	IAmb	05 22 42.8	
	comp=Z,7.9nm,1.2s						
F21K	Alatna River	85.63	9	P	P	05 22 32.0	+0.2
	baz=203						
YHL	Hebgen Lake	85.65	41	IAmb	IAmb	05 22 37.3	
	comp=Z,8.6nm,1.2s						
G22K	Bettles	85.66	10	P	P	05 22 31.8	-0.1
	baz=205						
M31M	Drury Creek, Y	85.67	19	P	P	05 22 31.5	-0.6
	baz=221						
PDAR	Pinedale Array	85.71	43	P	P	05 22 32.1	-0.9
	comp=Z,0.6nm,0.9s,baz=258,slow=4.4,SNR=4.5						
PDAR				LR	LR	05 55 42.2	
	comp=Z,85nm,18.4s,baz=236,slow=32						
	comp=Z,0.6nm,0.9s						
G23K	Bananza Creek	85.72	10	IAmb	IAmb	05 22 43.3	
	comp=Z,8.2nm,1.2s						
G23K	Bananza Creek	85.72	10	P	P	05 22 32.7	+0.4
	baz=206						
DAWY	Dawson	85.73	16	P	P	05 22 32.8	+0.4
	baz=216						
I26K	Coal Creek Min	85.85	14	IAmb	IAmb	05 22 44.0	
	comp=Z,13nm,1.2s						
I26K	Coal Creek Min	85.85	14	P	P	05 22 32.4	-0.5
	baz=213						
WTLY	Watson Lake, Y	86.00	22	P	P	05 22 33.5	-0.3
	baz=226						
FARO	Faro, Yukon	86.01	19	P	P	05 22 33.8	0.0
	baz=222						
C18K	Utukok River	86.04	6	P	P	05 22 33.8	0.0
	baz=195						
K29M	Barlow Dome	86.05	16	P	P	05 22 33.9	-0.1
	baz=218						
F22K	John River	86.09	9	P	P	05 22 33.7	-0.4
	baz=204						
COLD	Coldfoot	86.15	10	IAmb	IAmb	05 22 45.1	
	comp=Z,11nm,1.5s						
COLD	Coldfoot	86.15	10	P	P	05 22 34.1	-0.2
	baz=206						
G24K	Hadweenzic Riv	86.17	11	P	P	05 22 34.7	+0.2
	baz=208						
D19K	Kuna River	86.21	7	P	P	05 22 33.6	-1.1
	baz=198						
E20K	Nigu River	86.22	8	P	P	05 22 34.2	-0.5
	baz=200						
J29N	Klondike Camp	86.35	16	IAmb	IAmb	05 22 36.9	
	comp=Z,11nm,1.3s						
J29N	Klondike Camp	86.35	16	P	P	05 22 35.2	-0.3
	baz=217						
I27K	Kandik River	86.45	14	P	P	05 22 35.0	-1.0
	baz=214						
TOAD	Toad River Com	86.48	24	P	P	05 22 36.1	0.0
	baz=229						
G25K	Bearman Lake	86.49	12	P	P	05 22 36.0	+0.1
	baz=210						
LIRD	Liard River Hi	86.52	23	P	P	05 22 36.3	0.0
	baz=228						
D20K	Etivluk River	86.60	7	IAmb	IAmb	05 22 45.4	
	comp=Z,7.4nm,1.1s						
D20K	Etivluk River	86.60	7	P	P	05 22 36.2	-0.4
	baz=200						
B18K	Kokolik River	86.67	5	P	P	05 22 35.8	-1.0
	baz=195						
E21K	Killik River	86.69	8	P	P	05 22 37.1	+0.1
	baz=202						
E22K	Anaktuvuk Pass	86.72	9	P	P	05 22 37.3	+0.2
	baz=204						
I28M	Miner Creek	86.72	15	P	P	05 22 37.1	-0.2
	baz=216						
F24K	Squaw Lake	86.82	11	P	P	05 22 37.5	-0.2
	baz=208						
DRIO	Del Rio	86.85	58	IAmb	IAmb	05 22 48.1	
	comp=Z,7.4nm,1.1s						
J30M	Hart River	86.95	16	P	P	05 22 38.2	-0.3
	baz=219						
MMPY	Sheldon Lake,	86.95	19	P	P	05 22 38.3	-0.2
	baz=224						
H27K	Steamboat Moun	87.00	14	IAmb	IAmb	05 22 48.8	
	comp=Z,12nm,1.4s						
H27K	Steamboat Moun	87.00	14	P	P	05 22 39.4	+0.9
	baz=214						
E23K	Chandalar	87.00	10	P	P	05 22 39.1	+0.5
	baz=206						
G26K	Porcupine Rive	87.12	12	IAmb	IAmb	05 22 53.5	
	comp=Z,11nm,1.2s						
G26K	Porcupine Rive	87.12	12	P	P	05 22 40.4	+1.4
	baz=212,SNR=5.4						
TGTN	Hyland Airport	87.17	21	P	P	05 22 40.3	+0.8
	baz=226						
E24K	Your Creek	87.21	10	P	P	05 22 39.9	+0.4
	baz=207						
C21K	Knifeblade Rid	87.25	8	P	P	05 22 39.2	-0.5
	baz=202						
D22K	Ayikyak River	87.28	9	P	P	05 22 38.7	-1.2
	baz=204						
F25K	Christian Rive	87.30	12	P	P	05 22 40.1	0.0
	baz=210						
I30M	Mount Dempster	87.44	16	IAmb	IAmb	05 22 51.4	
	comp=Z,10nm,1.4s						
I30M	Mount Dempster	87.44	16	P	P	05 22 39.9	-1.0
	baz=219						
G27K	Doyon Strip	87.45	13	P	P	05 22 40.1	-0.6
	baz=214						
HHC	Hu-ho-hao-te	87.47	314	eP	P	05 22 42.9	+1.4
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,43nm,4.2s						
HHC				LR	LR		
	comp=N,120nm,19.1s						
HHC				LR	LR		
	comp=E,160nm,19.1s						
HHC				LR	LR		
	comp=Z,210nm,19.1s						
TOLK	Toolik Lake Re	87.53	10	P	P	05 22 40.7	-0.4
	baz=206						
A19K	Wainwright	87.56	5	P	P	05 22 40.4	-0.7
	baz=196						
D23K	Nanushuk River	87.65	9	IAmb	IAmb	05 22 45.0	
	comp=Z,7.7nm,1.3s						
D23K	Nanushuk River	87.65	9	P	P	05 22 40.9	-0.7
	baz=205						
F26K	Sheenjek River	87.68	12	P	P	05 22 41.3	-0.5
	baz=212						
B21K	Ikpikpuk River	87.70	8	P	P	05 22 41.3	-0.5
	baz=202						
H29M	Whitestone	87.73	15	P	P	05 22 41.9	-0.1
	baz=217						
B20K	Meade River	87.76	7	P	P	05 22 41.3	-0.8
	baz=199						
KOTAN	Kotaneelee Air	87.77	24	P	P	05 22 41.5	-0.8
	baz=230						
E25K	Arctic Village	87.77	11	P	P	05 22 41.4	-0.9
	baz=210						
D24K	Happy Valley	88.12	10	P	P	05 22 43.0	-0.8
	baz=207						
EPYK	Eagle Plains	88.25	15	P	P	05 22 43.8	-0.8
	baz=218						
G29M	Pine Creek	88.37	14	P	P	05 22 44.1	-1.0
	baz=217						
H31M	Peel River	88.43	16	P	P	05 22 44.7	-0.7
	baz=221						
C23K	Itkillik River	88.45	9	P	P	05 22 44.5	-0.9
	baz=205						
B22K	Teshekpuk Lake	88.53	8	P	P	05 22 45.7	0.0
	baz=203						
E27K	Coleen River	88.61	13	P	P	05 22 45.9	-0.3
	baz=214						
C24K	Franklin Bluff	88.64	10	IAmb	IAmb	05 22 49.9	
	comp=Z,9.5nm,1.2s						
C24K	Franklin Bluff	88.64	10	P	P	05 22 45.9	-0.3
	baz=207						
D25K	Kavik River	88.68	10	P	P	05 22 45.8	-0.8
	baz=209						
G30M	tAoh Zraii Nji	88.86	15	P	P	05 22 46.7	-0.8

baz=219
A22K Sinclair Lake 88.95 7 P **P 05 22 46.7 -1.0**
baz=201
A21K Barrow 89.07 6 P **P 05 22 47.2 -1.0**
baz=200
G31M Satah River 89.30 16 P **P 05 22 48.2 -1.2**
baz=221
E28M Babbage River 89.39 13 P **P 05 22 49.4 -0.5**
baz=216
C27K Jago River 89.42 11 P **P 05 22 49.4 -0.5**
baz=212
C26K Camden Bay 89.45 11 P **P 05 22 49.5 -0.6**
baz=211
F30M Barrier River 89.46 15 P **P 05 22 49.6 -0.6**
baz=219
E29M Blow River 89.58 14 P **P 05 22 50.0 -0.7**
baz=217
D27M Malcolm River 89.62 12 P **P 05 22 50.3 -0.7**
baz=214
CMAR Chiang Mai Arr 89.75 289 P **P 05 22 51.3 -1.4**
comp=Z,0.6nm,0.3s,baz=99,slow=5.5,SNR=2.5
comp=Z,0.6nm,0.3s
PZH PanZhiHua 89.81 298 P **P 05 22 53.5 +0.6**
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,6.3s
F31M Tsiigehtchic 89.83 15 IAmb IAmb 05 23 03.3
comp=Z,9.3nm,1.2s
F31M Tsiigehtchic 89.83 15 P **P 05 22 51.5 -0.3**
baz=221
WRGLY Wrigley 89.98 21 P **P 05 22 52.0 -0.7**
baz=231
D28M Stokes Point 90.15 13 P **P 05 22 52.4 -0.9**
baz=217
ELIB Princess Elisa 90.34 186 *d*P **P 05 22 53.6 -1.0**
comp=Z,2.7nm,1.5s
INK Inuvik 90.54 15 P **P 05 22 54.7 -0.5**
baz=221
YKA Yellowknife Ar 92.85 24 P **P 05 23 05.6 -0.4**
comp=Z,0.3nm,0.9s,baz=261,slow=4.3,SNR=3.9
comp=Z,0.3nm,0.9s
SONM Songino Array 93.61 319 P **P 05 23 09.3 -0.7**
comp=Z,0.2nm,0.4s,baz=147,slow=6.4,SNR=1.7
SONM LR LR 06 00 32.9
comp=Z,115nm,21.9s,baz=83,slow=32
comp=Z,0.2nm,0.4s
C36M Paulatuk 93.72 16 IAmb IAmb 05 23 20.0
comp=Z,7.4nm,1.3s
C36M Paulatuk 93.72 16 P **P 05 23 09.2 -0.7**
baz=230
JTS Las Juntas de 94.92 81 LR LR 05 54 59.7
comp=Z,314nm,21.6s,baz=236,slow=28
A36M Sachs Harbour 95.15 14 **P 05 23 15.9 -0.4**
A36M Sachs Harbour 95.15 14 P **P 05 23 15.3 -1.1**
baz=229
TIXI Tiksi 95.47 345 LR LR 06 00 56.7
comp=Z,499nm,21.9s,baz=156,slow=32
ATAH Atahualpa 96.18 99 LR LR 05 56 07.8
comp=Z,683nm,21.6s,baz=240,slow=29
LPAZ La Paz 102.59 111 P **Pdif 05 23 49.6 -2.3**
comp=Z,0.6nm,0.6s,baz=198,slow=3.2,SNR=2.5
M65A Busby, Falmout 113.17 52 P **PKiKP 05 28 29.9 -1.4**
baz=268
CLL Collm 144.70 349 *e*PKPdf **PKPdf 05 29 32.0 +1.6**
comp=Z,13nm,1.6s
CLL *ep*PKiKP **pPKiKP 05 29 38.0 +1.1**
CLL AMS AMS 06 31 00.0
comp=Z,200nm,21.2s
OSTC Ostas 144.73 345 AMS AMS 06 25 10.0
comp=Z,300nm,18.6s
CHVC Chvalec 144.74 345 *e*PKP **PKiKP 05 29 36.4 +2.1**
CHVC AMS AMS 06 25 20.0
comp=Z,400nm,31.4s
UPC Upice 144.82 345 AMS AMS 06 25 30.0
comp=Z,300nm,21.5s
OKC Ostrava-Krasne 144.88 343 AMS AMS 06 31 30.0
comp=Z,300nm,20.4s
DPC Dobruska-Polom 144.90 345 *e*PKP PKPbc 05 29 30.9 +0.9
DPC AMS AMS 06 25 50.0
comp=Z,300nm,22.1s
BRTR Keskin Array B 144.93 317 PKPbc 05 29 30.9 +0.4
BRTR Keskin Array B 144.93 317 PKPbc **PKPab 05 29 30.4 -0.2**
comp=Z,5.6nm,0.9s,baz=97,slow=2.8,SNR=14
BRG Berggiesshubel 144.94 348 *e*PKP **PKiKP 05 29 39.8 +5.1**
BRG Amp 05 29 40.9
comp=Z,3.2nm,1.1s
KRLC Kraliky 145.03 344 *e*PKP PKPbc 05 29 31.1 +0.7
KRLC AMS AMS 06 27 10.0
comp=Z,400nm,29.8s
LANS Liptovska Anna 145.10 341 *e*PKP **PKiKP 05 29 35.1 0.0**
MORC Moravsky Berou 145.10 343 *e*PKP **PKPab 05 29 27.7 -3.0**
PVCC Panska Ves 145.13 347 AMS AMS 06 24 10.0
comp=Z,500nm,31.6s
HSKC Hora Svate Kat 145.29 348 AMS AMS 06 23 50.0
comp=Z,300nm,19.6s
PRA Prague 145.59 347 AMS AMS 06 24 30.0
comp=Z,400nm,22.9s
PRU Pruhonice 145.65 347 *e*PKP **PKPdf 05 29 33.0 +0.9**
PRU AMS AMS 06 25 00.0
comp=Z,400nm,22.5s
GOPC GO Pecny, Ondr 145.66 346 AMS AMS 06 25 00.0
comp=Z,400nm,24.9s
VRAC Vranov 145.78 344 *e*PKP **PKPdf 05 29 32.5 +0.1**
NKC Novy Kostel 145.84 349 AMS AMS 06 23 30.0
comp=Z,500nm,30.8s
VYHS Vyhne 145.87 341 *e*PKP **PKPdf 05 29 33.0 +0.5**
VYHS *e* 05 29 40.1
JAVC Velka Javorina 145.90 343 *e*PKP **PKPdf 05 29 32.4 -0.2**
KRUC Moravsky 146.06 344 *e*PKP **PKPdf 05 29 33.1 +0.3**
TREC Trest 146.08 345 AMS AMS 06 26 20.0
comp=Z,400nm,23.9s
UCC Uccle 146.12 358 *d*PKP **PKPdf 05 29 33.6 +0.8**
MEM Membach 146.24 356 *d*PKP **PKPab 05 29 36.1 +1.3**
ZVC Zvikov 146.24 347 *e*PKP **PKPbc 05 29 34.4 +0.2**
ZVC AMS AMS 06 24 50.0
comp=Z,600nm,36.2s
BTNL Ternell 146.26 356 *d*PKP **PKPbc 05 29 34.5 +0.3**
MODS Modra-Piesok 146.45 343 *e*PKP **PKiKP 05 29 43.8 +6.0**
KHC Kasperske Hory 146.67 347 *e*PKP **PKPbc 05 29 36.0 +0.5**
KHC AMS AMS 06 24 40.0
comp=Z,300nm,20.5s
CKRC Cesky Krumlov 146.80 346 *e*PKP **PKPbc 05 29 36.7 +0.8**
CKRC AMS AMS 06 25 20.0
comp=Z,400nm,29.0s
DOU Dourbes 146.82 358 *d*PKiKP **PKPab 05 29 37.6 +0.6**
GERES GERESS Array B 146.91 347 PKPdf **PKPdf 05 29 33.2 -1.2**
GERES GERESS Array B 146.91 347 PKPbc **PKPdf 05 29 32.8 -1.6**
comp=Z,1.2nm,1.0s,baz=329,slow=4.7,SNR=7.1
WLF Walferdange 147.17 356 *d*PKP **PKPbc 05 29 37.7 +0.8**
CONA Conrad Observa 147.25 344 *e*PKP **PKPdf 05 29 36.7 +1.7**
comp=Z,3.3nm,1.1s
RONA Rosalia, Austr 147.34 343 *e*PKP **PKPdf 05 29 36.2 +1.2**
comp=Z,0.9nm,0.5s
MOA Molln 147.72 346 *e*PKP **PKPdf 05 29 37.0 +1.3**
comp=Z,2.4nm,1.3s
ARSA Arzberg 147.96 344 *e*PKP **PKPdf 05 29 36.3 +0.2**
comp=Z,0.3nm,0.4s
LESA Schwarzleotal 148.48 347 *e*PKP **PKPbc 05 29 40.0 -0.5**
comp=Z,3.8nm,1.3s
SOKA Soboth 148.62 344 *e*PKP **PKPdf 05 29 39.5 +2.3**
comp=Z,2.1nm,1.1s
KBA Koelnbreinsper 148.66 346 *e*PKP **PKPdf 05 29 36.1 -1.4**
comp=Z,2.1nm,0.9s
RETA Reutte 148.78 350 *e*PKP **PKPbc 05 29 40.8 -0.6**
comp=Z,3.6nm,1.4s
WATA Walderalm 148.78 349 *e*PKP **PKPdf 05 29 39.9 +2.3**
comp=Z,2.6nm,1.0s
WTTA Wattenberg 148.84 349 *e*PKP **PKPbc 05 29 40.6 -1.0**
comp=Z,3.7nm,1.0s
MOTA Moosalm 148.86 349 *e*PKP **PKPdf 05 29 38.5 +0.7**
comp=Z,6.9nm,2.0s
OBKA Obir 148.90 344 *e*PKP **PKPdf 05 29 37.3 -0.5**
comp=Z,6.3nm,2.3s
SQTA Sankt Quirin 148.96 349 *e*PKP **PKPdf 05 29 40.5 +2.7**
comp=Z,5.4nm,1.3s
DAVA Damuels 149.12 351 *e*PKP **PKPbc 05 29 41.9 -0.4**
comp=Z,3.2nm,0.9s
ABTA Abfaltersbach 149.16 347 *e*PKP **PKPdf 05 29 38.0 -0.2**
comp=Z,6.5nm,1.3s
FETA Feichten 149.24 350 *e*PKP **PKPdf 05 29 41.2 +2.8**
comp=Z,4.3nm,1.1s
PDG Podgorica 150.94 335 PKPdf **PKPdf 05 29 40.0 -0.9**
BNI Bardonecchia 151.72 354 PKPdf **PKPdf 05 29 39.4 -2.9**

IDC 21 05:12:10.2±5.2, 16°.93S×176°.94W, h0km, mb4.1/2, mbtmp4.1/3, ML5.0/1, Error ellipse: s-maj=225.2km s-min=37.4km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.85**	**260**	Pn	Pn	05 13 24.4	-0.2
	2.1nm,0.3s,baz=213,slow=20,SNR=1.3						
MSVF				Sn	Sn	05 14 18.0	-3.5
	1.3nm,0.3s,baz=336,slow=24,SNR=1.3						
	35nm,1.1s						
ASAR	**Alice Springs**	**46.41**	**253**	P	P	05 20 38.5	-0.5
	3.7nm,0.8s,baz=86,slow=8.4,SNR=4.1						
	3.7nm,0.8s						
ILAR	**Eielson Array**	**84.63**	**12**	P	P	05 24 44.5	-0.8
	1.0nm,1.0s,baz=205,slow=4.6,SNR=4.1						
	1.0nm,1.0s						
BRTR	**Keskin Array B**	**145.06**	**317**	PKPbc	PKPdf	05 31 50.0	-0.2
	4.2nm,1.0s,baz=60,slow=3.0,SNR=5.0						

IDC 21 05:17:48.9±4.2, 17°.21S×176°.89W, h0km, mb4.3/2, mbtmp4.1/3, ML5.0/1, Error ellipse: s-maj=180.1km s-min=34.4km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.85**	**263**	Pn	Pn	05 19 03.5	+0.2
	2.2nm,0.3s,baz=244,slow=23,SNR=1.9						
MSVF				Sn	Sn	05 19 55.2	-5.1
	2.7nm,0.3s,baz=268,slow=22,SNR=5.5						
	3.4nm,0.3s						
ASAR	**Alice Springs**	**46.37**	**254**	P	P	05 26 16.8	-0.5
	5.5nm,0.9s,baz=85,slow=8.4,SNR=21						
	5.5nm,0.9s						
ILAR	**Eielson Array**	**84.89**	**12**	P	P	05 30 24.6	-0.6
	1.7nm,1.1s,baz=204,slow=5.1,SNR=6.8						
	1.7nm,1.1s						
BRTR	**Keskin Array B**	**145.30**	**317**	PKPbc	PKPdf	05 37 29.3	+0.1
	2.2nm,0.9s,baz=73,slow=4.8,SNR=6.3						

---

*IDC **21** 05:23:03.7±1.9, 2°.49N×126°.79E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=184.0km s-min=22.1km az=67.0*
*DJA **21** 05:23:11.5±1.3, 2°.N±3°.×12°.6E±°, h30km±13km, M3.7/7, mb3.6/1, MLv3.7/7*
ISC 21 05:23:11.5±1.2, 2°.02N±0°.07×126°.0E±0°.2, h50km, n7, σ1°08/8, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.73**	**343**	P	**Pn**	**05 23 39.2**	**0.0**
SGSI				S	**Sn**	**05 24 01.0**	**+0.9**
KMSI	**Cibinong**	**2.50**	**235**	P	**Pn**	**05 23 49.8**	**+0.1**
SANI	**Sanana**	**4.04**	**181**	P	**Pn**	**05 24 10.8**	**-0.1**
WRA	**Warramunga Arr**	**23.30**	**160**	P	**P**	**05 28 14.9**	**-0.3**
	0.4nm,0.4s,baz=341,slow=11,SNR=6.5						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**26.66**	**164**	P	**P**	**05 28 47.7**	**+1.8**
	0.3nm,0.6s,baz=346,slow=11,SNR=4.7						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**58.56**	**326**	P	**P**	**05 33 02.5**	**-0.7**
	0.4nm,0.5s,baz=120,slow=8.3,SNR=6.6						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**62.80**	**328**	P	**P**	**05 33 30.8**	**-1.1**
	0.5nm,0.6s,baz=125,slow=5.9,SNR=5.6						
	0.5nm,0.6s						

KRSC 21 05:23:21.2±1.1, 51°.32N×158°.39E, h42km±14km, Ml3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.52**	**338**	*e*P	Pn	05 23 33.5	+1.2
KDTR				*e*S	Sn	05 23 41.0	+0.9
PAU	**Pauzhetka**	**1.00**	**279**	*e*P	Pn	05 23 40.3	+1.6
PAU				*e*S	Sn	05 23 52.6	+1.0
RUS	**Russkaya**	**1.11**	**4**	*e*P	Pn	05 23 41.2	+1.0
RUS				*e*S	Sn	05 23 54.2	-0.2
MTVR	**Mutnovka**	**1.17**	**354**	*e*P	Pn	05 23 42.7	+1.5
MTVR				*e*S	Sn	05 23 57.0	+1.0
GRL	**Gorelyy**	**1.25**	**351**	*e*P	Pn	05 23 44.3	+2.1
GRL				*e*S	Sn	05 23 59.7	+1.9
KRMR	**Karymshinskiy**	**1.52**	**354**	*e*P	Pn	05 23 48.2	+2.4
KRMR				*e*S	Sn	05 24 06.6	+2.3
SKR	**Severo-Kuril's**	**1.57**	**247**	*e*P	Pn	05 23 48.2	+1.7
SKR				*e*S	Sn	05 24 07.2	+1.5
PET	**Petropavlovsk**	**1.71**	**5**	*e*P	Pn	05 23 50.2	+1.8
DALK	**Dalny**	**1.72**	**7**	*e*P	Pn	05 23 50.5	+1.8
DALK				*e*S	Sn	05 24 10.4	+1.0
APC	**Apacha**	**1.77**	**335**	*e*P	Pn	05 23 52.0	+2.7
UGLR	**Uglovaya**	**1.91**	**8**	*e*P	Pn	05 23 53.8	+2.5
AVH	**Avacha**	**1.96**	**6**	*e*P	Pn	05 23 55.3	+3.4
AVH				*e*S	Sn	05 24 19.0	+3.7
KOK	**Koryaka**	**1.98**	**4**	*e*P	Pn	05 23 55.2	+3.0
SDLR	**Sedlovina**	**1.98**	**9**	*e*P	Pn	05 23 53.9	+1.6
SPN	**Mys Shipunski**	**2.04**	**29**	*e*S	Sn	05 24 18.7	+1.5
KRX	**Arik**	**2.04**	**4**	*e*P	Pn	05 23 55.8	+2.6
GNL	**Ganaly**	**2.39**	**354**	*e*P	Pn	05 24 00.6	+2.7
KBTR	**Krutoberegovo**	**5.55**	**26**	*e*P	Pn	05 24 44.9	+3.8

---

*TRN **21** 05:25:22.4, 10°.89N×62°.22W, h54km, MD3.2, North of the Paria peninsula.*
*FUNV **21** 05:25:22.5, 10°.81N×62°.19W, h34km, MW3.4*
ISC 21 05:25:20.9±1.5, 10°.85N±0°.05×62°.29W±0°.06, h64km±26km, n19, σ1°17/35, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.76**	**103**	*e*P	**Pn**	**05 25 36.7**	**+0.5**
PSMG				*e*S	**Sn**	**05 25 46.6**	**-0.7**
PSKH	**Kent House, Po**	**0.77**	**103**	*e*P	**Pn**	**05 25 36.8**	**+0.6**
PSKH				*e*S	**Sn**	**05 25 47.0**	**-0.5**
TRN	**Trinidad (W)**	**0.89**	**103**	*e*P	**Pn**	**05 25 37.7**	**0.0**
TRN				*e*S	**Sn**	**05 25 48.7**	**-1.5**
TBH	**Brigand Hill**	**1.25**	**107**	*e*P	**Pn**	**05 25 43.2**	**+0.8**
TBH				*e*S	**Sn**	**05 25 59.2**	**+0.7**
GRFF	**Grenada Fort F**	**1.31**	**24**	*e*P	**Pn**	**05 25 43.3**	**+0.1**
GRFF				*e*S	**Sn**	**05 25 59.0**	**-0.8**
GRGR	**Grenville**	**1.42**	**26**	*e*P	**Pn**	**05 25 45.1**	**+0.6**
GRGR				*e*S	**Sn**	**05 26 02.5**	**+0.1**
GRW	**Mount Saint Ca**	**1.44**	**25**	*e*P	**Pn**	**05 25 45.5**	**+0.6**
GRW				*e*S	**Sn**	**05 26 03.1**	**+0.1**
TPR	**Prospect**	**1.52**	**77**	*e*P	**Pn**	**05 25 46.2**	**+0.2**
TPR				*e*S	**Sn**	**05 26 04.6**	**-0.3**
GRSS	**Sisters**	**1.58**	**25**	*e*P	**Pn**	**05 25 47.6**	**+0.8**
GRSS				*e*S	**Sn**	**05 26 07.0**	**+0.6**
GCMP	**Grenada, Carri**	**1.83**	**27**	*e*P	**Pn**	**05 25 50.0**	**-0.1**
GCMP				*e*S	**Sn**	**05 26 11.4**	**-0.9**
PCRV	**Puerto La Cruz**	**2.41**	**254**	*e*P	**Pn**	**05 25 58.8**	**+0.9**
PCRV				*e*S	**Sn**	**05 26 26.4**	**+0.1**
SVOC	**Richmond Hill,**	**2.52**	**24**	*e*P	**Pn**	**05 26 00.9**	**+1.5**
SVOC				*e*S	**Sn**	**05 26 27.3**	**-1.6**
SVT	**Saint Vincent**	**2.52**	**24**	*e*P	**Pn**	**05 26 00.5**	**+1.0**
SVT				*e*S	**Sn**	**05 26 28.2**	**-0.9**
SVB	**Belmont**	**2.61**	**23**	*e*P	**Pn**	**05 26 02.3**	**+1.5**
SVB				*e*S	**Sn**	**05 26 29.7**	**-1.7**
SLBI	**Saint Lucia, B**	**3.40**	**22**	*e*P	**Pn**	**05 26 12.5**	**+1.0**
SLBI				*e*S	**Sn**	**05 26 48.7**	**-2.0**
TACV	**Tcata**	**4.71**	**262**	*e*P	**Pn**	**05 26 30.9**	**+1.4**
BENV	**Beln**	**5.30**	**261**	*e*P	**Pn**	**05 26 39.0**	**+1.4**
BENV				*e*S	**Sn**	**05 27 36.2**	**-1.2**
CACV	**CAICARA DEL OR**	**5.32**	**232**	*e*P	Pn	05 26 33.5	-4.3
CACV				*e*S	Sn	05 27 25.9	-12
BAUV	**El Baul**	**5.98**	**252**	*e*P	**Pn**	**05 26 47.4**	**+0.7**
BAUV				*e*S	**Sn**	**05 27 50.6**	**-3.3**

---

*JMA **21** 05:37:35.1±0.3, 43°.2N±0°.9×14°.7E±°, h42km±4km, MV4.1/37, E OFF HOKKAIDO*
*NIED **21** 05:37:35.1, 43°.17N×147°.07E, h42km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; M_{rr}-0.45; $M_{\theta\theta}$1.26; $M_{r\theta}$-0.81; $M_{r\phi}$0.20; $M_{\theta\phi}$-0.15; $M_{\theta r}$-0.01; Fault plane solution: $M_0$1.06000×10^16^ NP1: ϕ_s139.00000°, δ84.00000°, λ4.00000°. NP2:ϕ_s49.00000°, δ86.00000°, λ174.00000°.*
*MOS **21** 05:37:35.1±1.1, 43°.17N×147°.05E, h43km, mb4.4/4 Error ellipse: s-maj=11.0km s-min=7.4km az=88.4*
*SKHL **21** 05:37:37.2±0.1, 43°.20N×147°.00E, h55km±4km, mb5.3/3*
*NEIC **21** 05:37:37.6±1.4, 43°.05N±0°.10×147°.0E±0°.2, h60km±7km, mb4.2/28, Error ellipse: s-maj=17.1km s-min=12.8km az=124.0*
*IDC **21** 05:37:39.3±2.4, 43°.17N×146°.93E, h60km±21km, mb3.4/15, mbtmp3.7/18, ML3.4/3, MS4.1/3, Error ellipse: s-maj=17.5km s-min=15.5km az=155.0*
ISC 21 05:37:35.2±1.6, 43°.17N±0°.05×146°.99E±0°.05, h28km±10km, n122, σ1°43/135, mb4.1/32, MS4.4/3, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.71**	**351**	*c i*PN	**Pn**	**05 37 49.8**	**+0.4**
SHO				*e*S	**Sn**	**05 37 59.2**	**-0.3**
SHO				pmax	pmax		
	comp=Z,4μm,0.3s						
SHO				pmax	pmax		
	comp=N,2μm,0.4s						
SHO				pmax	pmax		
	comp=E,650nm,0.3s						
SHO				smax	smax		
	comp=N,8μm,0.4s						
SHO				smax	smax		
	comp=E,10μm,0.4s						
SHO	**Shikotan**	**0.71**	**351**	*i* P	**Pn**	**05 37 49.8**	**+0.4**
SHO				AMB	AMB	05 37 50.0	
	comp=E,4μm,0.4s						
SHO				*e*S	**Sn**	**05 37 59.2**	**-0.3**
SHO				A	A	05 37 59.6	
	comp=E,7μm,0.4s						
SHO				A	A	05 37 59.6	
	comp=E,10μm,0.4s						
NEM2	**Nemuro 2**	**0.93**	**283**	*i* P	**Pb**	**05 37 52.9**	**+0.2**
NEM2				S	**Sb**	**05 38 05.9**	**+1.2**
NMR	**Nemuro--Hokkai**	**0.94**	**283**	‖*i*PN	**Pb**	**05 37 53.0**	**+0.1**
NMR				*i* S	**Sb**	**05 38 05.6**	**+0.6**
NMR	**Nemuro--Hokkai**	**0.94**	**283**	*i* P	**Pb**	**05 37 53.2**	**+0.3**
NMR				*i* S	**Sn**	**05 38 05.3**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**1.19**	**317**	*c i*PN	**Pn**	**05 37 56.3**	**+0.3**
YUK				*i* S	**Sn**	**05 38 11.2**	**-0.1**
YUK				pmax	pmax		
	comp=Z,3μm,0.3s						
YUK				pmax	pmax		
	comp=N,427nm,0.2s						
YUK				pmax	pmax		
	comp=E,840nm,0.2s						
YUK				smax	smax		
	comp=E,6μm,0.4s						
YUK				smax	smax		
	comp=N,11μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.19**	**317**	*i* P	**Pb**	**05 37 56.7**	**-0.4**
YUK				AMB	AMB	05 37 56.8	
	comp=N,2μm,0.4s						
YUK				*i* S	**Sn**	**05 38 11.3**	**-0.1**
JKHN	**Kushirohamanak**	**1.34**	**267**	P	**Pb**	**05 37 59.4**	**-0.3**
JRA	**Rausu**	**1.56**	**300**	P	**Pn**	**05 38 02.1**	**+1.0**
JRA				S	**Sn**	**05 38 20.8**	**+0.4**
JNSB	**Nemuroshibetsu**	**1.57**	**293**	P	**Pn**	**05 38 01.9**	**+0.7**
JNSB				S	**Sn**	**05 38 21.8**	**+1.2**
RUSJ	**Misakicho**	**1.57**	**307**	*e*PN	**Pn**	**05 38 02.4**	**+1.1**
RUSJ				*e*S	**Sb**	**05 38 23.1**	**0.0**
AKK	**Akkeshi**	**1.58**	**265**	*e*P	**Pn**	**05 38 02.3**	**+0.9**
AKK				*e*S	**Sn**	**05 38 21.5**	**+0.6**
JAK	**Akkeshi**	**1.69**	**265**	P	**Pn**	**05 38 03.8**	**+0.9**
JAK				S	**Sn**	**05 38 24.4**	**+0.9**
JNK	**Nakash**	**1.71**	**285**	*i* P	**Pn**	**05 38 03.7**	**+0.5**
JNK				S	**Sn**	**05 38 23.7**	**-0.4**
KUR	**Kuril'sk**	**2.16**	**17**	*e*PN	**Pn**	**05 38 09.0**	**-0.3**
KUR				*e*S	**Sn**	**05 38 35.0**	**-0.2**
KUR				pmax	pmax		
	comp=E,64nm,0.4s						
KUR				pmax	pmax		
	comp=Z,204nm,0.4s						
KUR				smax	smax		
	comp=N,803nm,0.2s						
KUR				smax	smax		
	comp=E,609nm,0.3s						
KUR	**Kuril'sk**	**2.16**	**17**	*e*P	**Pn**	**05 38 10.4**	**+1.1**
KUR				AMB	AMB	05 38 11.9	
	comp=E,200nm,0.3s						
KUR				*e*S	**Sn**	**05 38 34.5**	**-0.7**
KUR				A	A	05 38 36.3	
	comp=E,500nm,0.3s						
KUR				A	A	05 38 36.3	
	comp=E,500nm,0.3s						
JOB	**Onbets**	**2.33**	**265**	*e*P	**Pn**	**05 38 12.6**	**+1.0**
JAR	**Ashorobuto**	**2.36**	**274**	P	**Pn**	**05 38 13.5**	**+1.4**
JAR				*e*S	**Sn**	**05 38 41.6**	**+1.6**
JTKR	**Abashiri--Toko**	**2.38**	**291**	*i* P	**Pn**	**05 38 14.1**	**+1.8**
JTKR				*e*S	**Sb**	**05 38 43.8**	**-2.4**
JCH	**Churui**	**2.72**	**260**	P	**Pn**	**05 38 18.9**	**+1.8**
JCH				*e*S	**Sn**	**05 38 50.1**	**+1.1**
JMP	**Maruseppu**	**2.77**	**289**	P	**Pn**	**05 38 19.7**	**+2.0**
ERM	**Erimo**	**3.06**	**249**		**Pn**	**05 38 23.1**	**+1.5**
ERM	**Erimo**	**3.06**	**249**	*i* PN	**Pn**	**05 38 24.2**	**+2.6**
JEM	**Erimo**	**3.06**	**249**	*i* P	**Pn**	**05 38 24.1**	**+2.5**
JKK2	**Kamakawa 2**	**3.17**	**284**	P	**Pn**	**05 38 26.5**	**+3.4**
JFR	**Furan**	**3.22**	**271**	P	**Pn**	**05 38 25.8**	**+1.9**
JNBK	**Urakawa-nobuka**	**3.25**	**256**	P	**Pn**	**05 38 25.4**	**+1.2**
JKA	**Kamikawa-asahi**	**3.32**	**288**		**Pn**	**05 38 27.9**	**+2.5**
JKA	**Kamikawa-asahi**	**3.32**	**288**	*e*P	**Pn**	**05 38 28.6**	**+3.2**
ASAJ	**Asahikawa**	**3.33**	**288**	P	**Pn**	**05 38 28.6**	**+3.2**
	comp=E,7.0nm,0.3s,baz=92,slow=15,SNR=38						
ASAJ				S	**Sn**	**05 39 08.0**	**+4.0**
	comp=E,41nm,0.5s,baz=263,slow=28,SNR=4.4						
	comp=E,19nm,0.4s						
YSS	**Yuzhno-Sakhali**	**4.83**	**323**	Pn	**Pn**	**05 38 49.0**	**+3.0**
YSS	**Yuzhno-Sakhali**	**4.83**	**323**	*e*PN	**Pn**	**05 38 47.5**	**+1.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS	**Yuzhno-Sakhali**	**4.83**	**323**	*e*P	**Pn**	**05 38 47.5**	**+1.5**
YSS				AMB	AMB	05 38 49.2	
	comp=Z,10.0nm,0.4s						
YSS				*e*S	**Sn**	**05 39 39.3**	**-1.7**
YSS				A	A	05 39 39.6	
	comp=Z,20nm,0.5s						
YSS				A	A	05 39 39.6	
	comp=Z,10.0nm,0.5s						
JTM	**Tenmabayashi**	**5.01**	**244**		**Pn**	**05 38 49.7**	**+1.2**
JMM	**Marumori**	**7.09**	**224**		**Pn**	**05 39 16.7**	**-0.4**
TYV	**Tymovskoe**	**8.25**	**340**	*i* P	**Pn**	**05 39 35.8**	**+2.9**
JSD	**Sado**	**8.38**	**235**	Pn	**Pn**	**05 39 34.0**	**-0.8**
MJA0	**Matsu Arr-Jizo**	**9.43**	**228**	*e*PN	**Pn**	**05 39 50.6**	**+1.4**
MJAR	**Matsushiro Arr**	**9.45**	**228**	P	**Pn**	**05 39 50.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=6.4						
MJAR				S	**Sn**	**05 41 35.5**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=312,slow=15,SNR=4.2						
	comp=Z,1.1nm,0.4s						
MJB9	**Matsu-Tunnel**	**9.45**	**229**	Pn	**Pn**	**05 39 49.1**	**-0.4**
MAJO	**Matsushiro**	**9.45**	**228**	Pn	**Pn**	**05 39 48.3**	**-1.2**
MAJO	**Matsushiro**	**9.45**	**228**	PN	**Pn**	**05 39 48.3**	**-1.2**
JGF	**Kuroka**	**10.61**	**228**	Pn	**Pn**	**05 40 04.8**	**-0.6**
PAU	**Pauzhetka**	**10.64**	**35**	*e*P	**Pn**	**05 40 07.6**	**+2.0**
PEA0B	**Petropavlovsk-**	**12.24**	**32**	Pn	**Pn**	**05 40 27.8**	**+0.3**
PEA0B	**Petropavlovsk-**	**12.24**	**32**	PN	**Pn**	**05 40 27.8**	**+0.3**
PETK	**Petropavlovsk-**	**12.24**	**32**	Pn	**Pn**	**05 40 27.8**	**+0.3**
PETK	**Petropavlovsk-**	**12.24**	**32**	P	**Pn**	**05 40 29.2**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=220,slow=11,SNR=7.8						
	comp=Z,1.2nm,0.6s						
PET	**Petropavlovsk**	**12.55**	**34**	*i* PN	**Pn**	**05 40 31.9**	**+0.1**
PET	**Petropavlovsk**	**12.55**	**34**	*e*P	**Pn**	**05 40 31.9**	**+0.1**
INCN	**Inchon**	**16.52**	**257**		**Pn**

comp=Z,2.3nm,0.5s
TIXI Tiksi 29.91 349 P **P** **05 43 39.7 -0.5**
TIXI pmax pmax
comp=Z,2.0nm,0.5s
M13K Dall Lake 34.22 42 P **P** **05 44 18.0 -0.1**
L16K Owhat River 36.24 40 P **P** **05 44 35.4 -0.2**
L16K IAmb IAmb 05 44 39.8
comp=Z,4.4nm,1.1s
F17K Baldwin Pennin 36.27 32 P **P** **05 44 36.5 +0.8**
F17K IAmb IAmb 05 44 39.1
comp=Z,3.9nm,1.1s
E18K Tukpahlearik C 36.76 31 P **P** **05 44 38.5 -1.4**
E18K IAmb IAmb 05 44 55.0
comp=Z,4.8nm,1.4s
C18K Utukok River 36.87 29 P **P** **05 44 41.2 +0.3**
H18K Honhosa River 37.18 35 P **P** **05 44 42.8 -0.7**
H18K IAmb IAmb 05 44 48.2
comp=Z,6.9nm,1.4s
G18K Tagagawik 37.19 34 P **P** **05 44 43.9 +0.3**
G18K IAmb IAmb 05 44 58.4
comp=Z,3.5nm,1.1s
L18K Granite Mounta 37.60 40 P **P** **05 44 45.4 -1.7**
F19K Shaleruckik Mo 37.71 32 P **P** **05 44 46.9 -1.0**
F19K IAmb IAmb 05 45 07.1
comp=Z,4.3nm,1.4s
H19K Roundabout Mou 38.03 34 P **P** **05 44 49.7 -0.9**
D20K Etivluk River 38.51 29 P **P** **05 44 55.0 +0.3**
B20K Meade River 38.62 27 P **P** **05 44 55.5 +0.1**
B20K IAmb IAmb 05 45 19.5
comp=Z,5.0nm,1.4s
J20K Nowinta River 38.88 37 P **P** **05 44 58.0 +0.2**
J20K IAmb IAmb 05 45 16.0
comp=Z,7.3nm,1.4s
G21K Allakaket 39.34 33 P **P** **05 45 02.0 +0.3**
G21K IAmb IAmb 05 45 17.8
comp=Z,5.7nm,1.1s
B22K Teshekpuk Lake 39.93 27 P **P** **05 45 06.5 0.0**
C23K Itkillik River 40.80 28 P **P** **05 45 13.8 +0.1**
ILAR Eielson Array 42.03 36 P **P** **05 45 24.4 +0.6**
comp=Z,0.3nm,0.6s,baz=268,slow=8.1,SNR=5.8
comp=Z,0.3nm,0.6s
K27K Chicken 44.17 37 P **P** **05 45 40.8 -0.4**
K27K IAmb IAmb 05 45 58.1
comp=Z,5.3nm,1.1s
MKAR Makanchi Array 44.75 298 P **P** **05 45 45.2 -0.9**
comp=Z,0.6nm,0.5s,baz=70,slow=7.9,SNR=5.1
comp=Z,0.6nm,0.5s
MKAR Makanchi Array 44.75 298 *e*P **P** **05 45 45.6 -0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 44.75 298 *e*P **P** **05 45 45.6 -0.5**
KURK Kurchatov 45.76 304 *i* P **P** **05 45 56.8 +2.9**
KURK pmax pmax
comp=Z,1.0nm,0.9s
KURK Kurchatov 45.76 304 *e*P **P** **05 45 56.8 +2.9**
KURBB Kurchatov Arra 45.84 304 P **P** **05 45 54.4 -0.2**
comp=Z,0.3nm,0.3s,baz=74,slow=8.1,SNR=5.8
comp=Z,0.3nm,0.3s
BOOM Boomskoye usch 50.62 295 P **P** **05 46 28.4 -3.4**
BOOM IAmb IAmb 05 46 37.4
comp=Z,2.3nm,0.8s
BOOM Boomskoye usch 50.62 295 P **P** **05 46 28.4 -3.4**
BOOM pmax pmax
comp=Z,2.0nm,0.8s
EUNU Eureka 53.45 10 P **P** **05 46 51.9 -0.3**
KKAR Karatay Array 53.88 298 P **P** **05 46 54.0 -1.8**
KKAR Karatay Array 53.88 298 P **P** **05 46 54.0 -1.8**
YKA Yellowknife Ar 56.35 33 P **P** **05 47 13.7 +0.4**
comp=Z,0.2nm,0.6s,baz=300,slow=6.6,SNR=5.2
comp=Z,0.2nm,0.6s
AB31 Akbulak array 57.34 309 P **P** **05 47 20.1 -0.4**
ABKAR Akbulak array 57.34 309 P **P** **05 47 20.2 -0.3**
ARCES ARCESS Array B 59.75 340 LR LR 06 18 04.8
comp=Z,281nm,21.2s,baz=12,slow=41
BLKN Baker Lake 62.04 26 P **P** **05 47 52.2 -0.4**
BLKN IAmb IAmb 05 48 13.0
comp=Z,1.4nm,0.8s
WRA Warramunga Arr 63.87 193 P **P** **05 48 05.6 +0.4**
comp=Z,0.6nm,0.7s,baz=11,slow=6.7,SNR=2.4
comp=Z,0.6nm,0.7s
JMIC Jan Mayen 64.80 351 LR LR 06 17 39.7
comp=Z,247nm,21.8s,baz=56,slow=37
FIA1 FINESS Array S 65.34 333 P **P** **05 48 14.3 -0.1**
FINES FINESS Array B 65.34 333 P **P** **05 48 14.1 -0.3**
FINES FINESS Array B 65.34 333 P **P** **05 48 14.4 0.0**
comp=Z,2.6nm,1.0s,baz=28,slow=8.6,SNR=5.2
comp=Z,2.6nm,1.0s
FINES FINESS Array B 65.34 333 *e*P **P** **05 48 14.9 +0.5**
FINES pmax pmax
comp=Z,3.0nm,1.0s
OBN Obninsk 65.72 324 *i* P **P** **05 48 17.8 +0.9**
OBN pmax pmax
comp=Z,2.0nm,0.7s
OBN Obninsk 65.72 324 *e*P **P** **05 48 17.8 +0.9**
ASAR Alice Springs 67.58 193 P **P** **05 48 29.8 +0.6**
comp=Z,0.4nm,1.0s,baz=8.5,slow=6.5,SNR=1.7
comp=Z,0.4nm,1.0s
NVAR Mina Array Bea 67.99 58 P **P** **05 48 32.9 +0.8**
comp=Z,0.6nm,0.5s,baz=304,slow=7.9,SNR=4.1
comp=Z,0.6nm,0.5s
NC405 NORSAR Array S 69.91 339 P **P** **05 48 42.8 -0.5**
KIV Kislovodsk 70.06 312 *e*P **P** **05 48 44.7 +0.1**
NB201 NORSAR Array S 70.07 339 P **P** **05 48 44.0 -0.3**
KBZ Khabaz 70.10 312 *i* P **P** **05 48 45.3 +0.6**
KBZ pmax pmax
comp=Z,3.0nm,1.3s
KBZ Khabaz 70.10 312 *e*P **P** **05 48 45.3 +0.6**
NB2 NORSAR Subarra 70.10 339 P **P** **05 48 44.0 -0.5**
comp=Z,0.8nm,0.5s,baz=32,slow=6.5
NOA NORSAR Array B 70.10 339 P **P** **05 48 44.5 -0.1**
comp=Z,0.4nm,0.6s,baz=32,slow=6.6,SNR=6.3
NOA LR LR 06 25 10.1
comp=Z,63nm,19.6s,baz=10.0,slow=41
comp=Z,0.4nm,0.6s
HFS Hagfors 70.18 337 P **P** **05 48 44.6 -0.3**
comp=Z,0.8nm,0.5s,baz=29,slow=5.7,SNR=10.0
comp=Z,0.8nm,0.5s
SHA1 Shidzhatmaz 70.22 312 *i* P **P** **05 48 46.0 +0.2**
PDAR Pinedale Array 70.38 49 P **P** **05 48 47.4 +0.6**
comp=Z,0.2nm,0.4s,baz=318,slow=6.7,SNR=2.0
comp=Z,0.2nm,0.4s
AKASG Malin Array Be 71.98 324 P **P** **05 48 56.3 +0.3**
comp=Z,0.1nm,0.3s,baz=43,slow=6.3,SNR=2.3
comp=Z,0.1nm,0.3s
EKA Eskdalemuir Ar 78.65 343 P **P** **05 49 33.5 -0.8**
comp=Z,0.2nm,0.5s,baz=14,slow=5.1,SNR=4.5
comp=Z,0.2nm,0.5s
TXAR Lajitas Array 83.07 56 P **P** **05 49 59.6 +1.2**
comp=Z,0.7nm,0.4s,baz=294,slow=3.5,SNR=24
comp=Z,0.7nm,0.4s
BDFB Brasilia 149.71 30 PKPbc **PKiKP** **05 57 23.4 -0.4**
comp=Z,1.0nm,0.5s,baz=315,slow=4.3,SNR=3.3
PLCA Paso Flores 152.12 98 PKPbc **PKiKP** **05 57 28.2 +0.2**
comp=Z,0.4nm,0.6s,baz=288,slow=3.2,SNR=1.3

IDC ***21*** *05:53:09.9±0.7,37°.28S×176°.62E,h213km±4km,mb4.2/8, mbtmp4.7/9, Error ellipse: s-maj=23.0km s-min=12.2km az=49.0*
NEIC ***21*** *05:53:12.2±1.5,37°.69S±0°.05×176°.44E±0°.09,h227km±6km, mb4.6/25, Error ellipse: s-maj=10.6km s-min=7.3km az=71.0*
NOU ***21*** *05:53:12.7,37°.77S×176°.19E,h211km,mb4.9/44, North Island, New Zealand*
WEL ***21*** *05:53:13.2±0.6,38°S±3°×17°6E±°,h211km±4km,M4.4/90, ML3.8/6,MLv4.4/90, Error ellipse: s-maj=4.8km s-min=3.6km az=48.3,confirmed*
WEL ***21*** *05:53:14.9,37°.59S×176°.45E,h266km,ML4.8,Mw4.6, Moment Tensor Solution. s8 Moment tensor: Scale 10^{16} Nm; M_{rr}0.54; $M_{\theta\theta}$0.21; $M_{\phi\phi}$-0.75; $M_{r\theta}$-0.28; $M_{\theta\phi}$-0.77; $M_{\phi r}$0.20; Fault plane solution: $M_0$1.06000×10^{16} NP1: ϕ_s352.00000°,δ63.00000°,λ33.00000°. NP2: ϕ_s246.00000°,δ61.00000°,λ149.00000°. Principal axes: T -1.1810, Plg41.0000°, Azm210.0000°; N 0.9378, Plg49.0000°, Azm27.0000°; P 0.2431, Plg1.0000°, Azm119.0000°; Stations used: KUZ HAZ MKAZ MXZ PUZ BKZ KNZ WCZ OBLIQUE-REVERSE FAULTING*
ISC 21 05:53:12.7±0.6,**37°72S**±0°.05×**176°32E**±0°.05,**h226**km±4km, **n295,**σ1$**61**/312,**mb4.7**/25,**2C,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.05**	**257**	P	**Pn**	**05 53 41.3**	**-0.7**
KARZ	**Kaharoa**	**0.31**	**191**	P	**Pn**	**05 53 42.1**	**-0.2**
OMRZ	**Omania**	**0.39**	**174**	P	**Pn**	**05 53 42.4**	**-0.1**
NGRZ	**Ngongotaha**	**0.40**	**195**	P	**Pn**	**05 53 42.3**	**-0.2**
UTU	**Utuhina**	**0.47**	**192**	P	**Pn**	**05 53 43.0**	**+0.3**
HLRZ	**Highlands Stat**	**0.53**	**177**	P	**Pn**	**05 53 43.4**	**+0.4**
WHRZ	**Whale Island**	**0.54**	**105**	P	**Pn**	**05 53 43.1**	**+0.2**
TARZ	**Mount Tarawera**	**0.54**	**164**	P	**Pn**	**05 53 43.1**	**+0.1**
HSRZ	**Hossack Road**	**0.59**	**186**	P	**Pn**	**05 53 43.6**	**+0.5**
RRRZ	**Republican Roa**	**0.64**	**166**	P	**Pn**	**05 53 43.2**	**-0.1**
TOZ	**Tahuroa Road**	**0.65**	**269**		**Pn**	**05 53 43.0**	**-0.3**
TOZ				Sn	**S**	**05 54 07.5**	**+0.3**
TOZ	**Tahuroa Road**	**0.65**	**269**	P	**Pn**	**05 53 43.0**	**-0.3**
GRRZ	**Galatos Road**	**0.65**	**195**	P	**Pn**	**05 53 43.8**	**+0.4**
HRRZ	**Handcock Road**	**0.67**	**182**	P	**Pn**	**05 53 43.7**	**+0.2**
WSRZ	**White Island S**	**0.71**	**74**	P	**Pn**	**05 53 41.9**	**-1.8**
WIZ	**White Island**	**0.72**	**75**	P	**Pn**	**05 53 42.3**	**-1.3**
PRRZ	**Plateau Road**	**0.78**	**176**	P	**Pn**	**05 53 43.9**	**0.0**
WPRZ	**Whakapapatarin**	**0.81**	**189**	P	**Pn**	**05 53 44.4**	**+0.3**
URZ	**Urewera**	**0.83**	**131**	P	**Pn**	**05 53 43.1**	**-1.1**
	1μm,0.3s,baz=342,slow=3.6,SNR=1912						
URZ				S	**S**	**05 54 06.1**	**-2.7**
	4μm,0.4s,baz=107,slow=20,SNR=38						
URZ	**Urewera**	**0.83**	**131**	P	**Pn**	**05 53 43.0**	**-1.1**
URZ	**Urewera**	**0.83**	**131**	P	**Pn**	**05 53 43.2**	**-0.9**
URZ				S	**S**	**05 54 06.2**	**-2.5**
ALRZ	**Allen Road**	**0.84**	**179**	P	**Pn**	**05 53 44.5**	**+0.2**
KUTZ	**Kaahu Road**	**0.86**	**207**	P	**Pn**	**05 53 44.8**	**+0.4**
TLZ	**Tolley Road**	**0.87**	**225**	P	**Pn**	**05 53 44.9**	**+0.4**
WHTZ	**Whakaora**	**0.99**	**197**	P	**Pn**	**05 53 45.9**	**+0.7**
RTZ	**Ruatahuna**	**1.04**	**150**		**Pn**	**05 53 45.0**	**-0.4**
RTZ				Sn	**S**	**05 54 09.4**	**-1.8**
RTZ	**Ruatahuna**	**1.04**	**150**	P	**Pn**	**05 53 45.1**	**-0.4**
RTZ				S	**S**	**05 54 09.4**	**-1.8**
KUZ	**Kuaotunu**	**1.08**	**334**	P	**Pn**	**05 53 44.2**	**-1.5**
KUZ	**Kuaotunu**	**1.08**	**334**	S	**S**	**05 54 09.1**	**-2.3**
KUZ	**Kuaotunu**	**1.08**	**334**	P	**Pn**	**05 53 44.2**	**-1.5**
WATZ	**Wairara**	**1.09**	**205**	P	**Pn**	**05 53 46.4**	**+0.7**
RUGZ	**Raukumara Rang**	**1.10**	**103**	P	**Pn**	**05 53 44.0**	**-1.9**
RUGZ				S	**S**	**05 54 07.2**	**-4.7**
MKAZ	**Moumakai**	**1.11**	**303**	P	**Pn**	**05 53 45.2**	**-0.7**
MKAZ				S	**S**	**05 54 09.9**	**-1.7**
MRHZ	**Matea Rd**	**1.12**	**176**	P	**Pn**	**05 53 45.9**	**-0.1**
MRHZ				S	**S**	**05 54 10.6**	**-1.4**
MWZ	**Matawai**	**1.14**	**123**	P	**Pn**	**05 53 45.1**	**-0.9**
MWZ				S	**S**	**05 54 09.7**	**-2.4**
HAZ	**Te Kaha**	**1.16**	**92**	P	**Pn**	**05 53 44.5**	**-1.7**
HAZ				S	**S**	**05 54 08.7**	**-3.6**
RAGZ	**Rawiri**	**1.16**	**132**	P	**Pn**	**05 53 45.9**	**-0.4**
RAGZ				S	**S**	**05 54 11.4**	**-1.2**
HATZ	**Hinemaiaia**	**1.18**	**189**	P	**Pn**	**05 53 46.5**	**+0.1**
MTHZ	**Maungataniwha**	**1.20**	**160**	P	**Pn**	**05 53 46.4**	**-0.1**
RATZ	**Rangitukua**	**1.23**	**200**	P	**Pn**	**05 53 47.2**	**+0.5**
KBAZ	**Karaka Road Bo**	**1.30**	**298**	P	**Pn**	**05 53 46.7**	**-0.5**
RITZ	**Rihia Road**	**1.31**	**196**	P	**Pn**	**05 53 48.0**	**+0.7**
WIAZ	**Waiheke Island**	**1.32**	**314**	P	**Pn**	**05 53 46.3**	**-1.0**
SNGZ	**Shannon Statio**	**1.33**	**143**	P	**Pn**	**05 53 47.6**	**+0.2**
SNGZ				S	**S**	**05 54 13.3**	**-1.3**
RAHZ	**Arahi**	**1.34**	**154**	P	**Pn**	**05 53 48.0**	**+0.6**
ETAZ	**East Tamaki Re**	**1.35**	**304**	P	**Pn**	**05 53 46.8**	**-0.7**
KATZ	**Kakaramea**	**1.35**	**201**	P	**Pn**	**05 53 48.2**	**+0.5**
TWGZ	**Tauwhareparae**	**1.39**	**110**	P	**Pn**	**05 53 47.5**	**-0.4**
TWGZ				S	**S**	**05 54 13.4**	**-1.9**
HIZ	**Hauiti**	**1.40**	**235**		**Pn**	**05 53 48.1**	**+0.2**
HIZ	**Hauiti**	**1.40**	**235**	P	**Pn**	**05 53 47.7**	**-0.2**
HIZ	**Hauiti**	**1.40**	**235**	P	**Pn**	**05 53 48.5**	**+0.6**
PKGZ	**Pakihiroa**	**1.40**	**97**	P	**Pn**	**05 53 47.2**	**-0.7**
PKGZ				S	**S**	**05 54 12.7**	**-2.8**
TKGZ	**Te Karaka**	**1.40**	**121**	P	**Pn**	**05 53 46.4**	**-1.6**
TKGZ				S	**S**	**05 54 12.4**	**-3.1**
NMHZ	**Naumai**	**1.43**	**165**	P	**Pn**	**05 53 49.0**	**+0.8**
BKZ	**Black Stump Fm**	**1.45**	**175**		**Pn**	**05 53 48.1**	**-0.3**
BKZ				Sn	**S**	**05 54 14.9**	**-1.4**
BKZ	**Black Stump Fm**	**1.45**	**175**	P	**Pn**	**05 53 47.9**	**-0.5**
BKZ	**Black Stump Fm**	**1.45**	**175**	S	**S**	**05 54 13.5**	**-2.9**
BKZ	**Black Stump Fm**	**1.45**	**175**	P	**Pn**	**05 53 48.3**	**-0.1**
NTVZ	**North Tongarir**	**1.47**	**200**	P	**Pn**	**05 53 49.0**	**+0.4**
KRVZ	**Karewarewa**	**1.47**	**201**	P	**Pn**	**05 53 48.9**	**+0.3**
TMVZ	**Te Maari**	**1.48**	**199**	P	**Pn**	**05 53 48.9**	**+0.3**
TMVZ				S	**S**	**05 54 17.0**	**+0.1**
MBAZ	**Motutapu North**	**1.48**	**309**	P	**Pn**	**05 53 47.8**	**-0.8**
AWAZ	**Awhitu Peninsu**	**1.49**	**296**	P	**Pn**	**05 53 47.9**	**-0.7**
ETVZ	**East Tongariro**	**1.49**	**199**	P	**Pn**	**05 53 48.4**	**+0.3**
RIGZ	**Rimuhau**	**1.50**	**131**	P	**Pn**	**05 53 49.0**	**+0.2**
RIGZ				S	**S**	**05 54 15.9**	**-1.1**
WTVZ	**West Tongariro**	**1.51**	**202**	P	**Pn**	**05 53 49.4**	**+0.5**
EPAZ	**Eden Park BICE**	**1.51**	**303**	P	**Pn**	**05 53 48.0**	**-0.9**
NNVZ	**North Ngauruho**	**1.52**	**201**	P	**Pn**	**05 53 49.5**	**+0.5**
TWVZ	**Taurewa**	**1.52**	**207**	P	**Pn**	**05 53 49.6**	**+0.6**
OTVZ	**Oturere**	**1.53**	**199**	P	**Pn**	**05 53 49.7**	**+0.6**
WHHZ	**Waihua**	**1.54**	**152**	P	**Pn**	**05 53 49.4**	**+0.5**
HBAZ	**Herne Bay Bore**	**1.54**	**304**	P	**Pn**	**05 53 48.1**	**-0.9**
SNVZ	**South Ngauruho**	**1.56**	**200**	P	**Pn**	**05 53 49.8**	**+0.4**
NGZ	**Ngauruhoe**	**1.56**	**201**	P	**Pn**	**05 53 50.2**	**+0.8**
PUZ	**Puketiti**	**1.57**	**104**	P	**Pn**	**05 53 48.4**	**-1.0**
MXZ	**Matakaoa Point**	**1.58**	**85**		**Pn**	**05 53 48.1**	**-1.3**
MXZ	**Matakaoa Point**	**1.58**	**85**	P	**Pn**	**05 53 48.1**	**-1.3**
MXZ	**Matakaoa Point**	**1.58**	**85**	P	**Pn**	**05 53 48.3**	**-1.1**
WTAZ	**Waiatarua**	**1.60**	**299**	P	**Pn**	**05 53 49.0**	**-0.6**
COVZ	**Chateau Observ**	**1.60**	**202**	P	**Pn**	**05 53 50.0**	**+0.4**
GRZ	**Great Barrier**	**1.62**	**335**	P	**Pn**	**05 53 48.1**	**-1.6**
ABAZ	**Army Bay**	**1.63**	**313**	P	**Pn**	**05 53 49.1**	**-0.7**
ARHZ	**Aropaoanui**	**1.63**	**161**	P	**Pn**	**05 53 50.4**	**+0.6**
TUVZ	**Tukino**	**1.63**	**198**	P	**Pn**	**05 53 50.4**	**+0.5**
FWVZ	**Far West T-bar**	**1.65**	**201**	P	**Pn**	**05 53 50.4**	**+0.2**
MAVZ	**Matarangi**	**1.66**	**201**	P	**Pn**	**05 53 50.9**	**+0.6**
WMGZ	**Waiomatatini S**	**1.66**	**94**	P	**Pn**	**05 53 49.3**	**-0.7**
WHVZ	**Whangaehu Hut**	**1.66**	**200**	P	**Pn**	**05 53 50.7**	**+0.4**
CNGZ	**Carnagh Statio**	**1.67**	**118**	P	**Pn**	**05 53 50.4**	**+0.3**
KNZ	**Kokohu**	**1.68**	**141**	P	**Pn**	**05 53 50.2**	**0.0**
RVAZ	**Riverhead Bore**	**1.68**	**304**	P	**Pn**	**05 53 49.3**	**-1.0**
TRVZ	**Turoa**	**1.69**	**201**	P	**Pn**	**05 53 51.2**	**+0.6**
WNVZ	**Wahianoa**	**1.70**	**199**	P	**Pn**	**05 53 50.9**	**+0.3**
KWHZ	**Kaweka Forest**	**1.71**	**177**	P	**Pn**	**05 53 50.8**	**+0.3**
PRGZ	**Paritu Road**	**1.72**	**135**	P	**Pn**	**05 53 50.4**	**-0.2**
MOVZ	**Moawhango**	**1.74**	**195**	P	**Pn**	**05 53 50.7**	**-0.1**
PKVZ	**Pokaka**	**1.75**	**206**	P	**Pn**	**05 53 51.5**	**+0.6**
MCHZ	**McNeill Hill**	**1.75**	**170**	P	**Pn**	**05 53 51.6**	**+0.8**
MTVZ	**Mangateitei**	**1.79**	**202**	P	**Pn**	**05 53 51.8**	**+0.5**
VRZ	**Vera Road**	**1.86**	**221**	P	**Pn**	**05 53 53.0**	**+1.1**
MHGZ	**Mahia Peninsul**	**1.90**	**139**	P	**Pn**	**05 53 52.4**	**+0.2**
KRHZ	**Kereru**	**1.92**	**179**	P	**Pn**	**05 53 52.6**	**+0.2**
CKHZ	**Cape Kidnapper**	**2.03**	**163**	P	**Pn**	**05 53 53.8**	**+0.5**
KAHZ	**Kahuranaki**	**2.12**	**168**	P	**Pn**	**05 53 54.8**	**+0.5**
PNHZ	**Pukenui**	**2.19**	**182**	P	**Pn**	**05 53 55.0**	**0.0**
DREZ	**Durham Road**	**2.22**	**228**	P	**Pn**	**05 53 56.9**	**+1.7**
WAZ	**Wanganui**	**2.29**	**207**	P	**Pn**	**05 53 56.2**	**+0.3**
LREZ	**Lake Rotokare**	**2.30**	**220**	P	**Pn**	**05 53 57.3**	**+1.2**
NEZ	**North Egmont**	**2.33**	**228**	P	**Pn**	**05 53 58.3**	**+1.8**
WPHZ	**Waipukurau**	**2.34**	**178**	P	**Pn**	**05 53 56.5**	**0.0**
PREZ	**Palmer Road**	**2.35**	**226**	P	**Pn**	**05 53 58.0**	**+1.4**
PXZ	**Pawanui**	**2.35**	**170**	P	**Pn**	**05 53 56.6**	**0.0**
TSZ	**Takapari Road**	**2.35**	**187**	P	**Pn**	**05 53 56.7**	**0.0**
WCZ	**Waipu Caves**	**2.38**	**318**	P	**Pn**	**05 53 55.9**	**-1.1**
KHEZ	**Kahui Hut**	**2.40**	**228**	P	**Pn**	**05 53 58.7**	**+1.5**
NBEZ	**Newall Road No**	**2.47**	**230**	P	**Pn**	**05 53 59.4**	**+1.5**
NMEZ	**Nama Road**	**2.56**	**228**	P	**Pn**	**05 53 59.9**	**+1.2**
PRHZ	**Porangahau**	**2.56**	**175**	P	**Pn**	**05 53 57.1**	**-1.7**
DVHZ	**Dannevirke**	**2.58**	**183**	P	**Pn**	**05 53 58.6**	**-0.4**
OHWZ	**Ohakea**	**2.60**	**197**	P	**Pn**	**05 53 59.7**	**+0.4**
POWZ	**Post Office Ro**	**2.70**	**189**	P	**Pn**	**05 54 00.1**	**-0.3**
ANWZ	**Angora Road**	**2.74**	**178**	P	**Pn**	**05 54 00.7**	**-0.1**
PRWZ	**Pori Road**	**2.84**	**185**	P	**Pn**	**05 54 01.8**	**-0.2**
BFZ	**Birch Farm**	**2.96**	**181**		**Pn**	**05 54 03.0**	**-0.2**
BFZ	**Birch Farm**	**2.96**	**181**	P	**Pn**	**05 54 02.7**	**-0.5**
BFZ	**Birch Farm**	**2.96**	**181**	P	**S**	**05 54 42.2**	**-0.7**
BFZ	**Birch Farm**	**2.96**	**181**	P	**Pn**	**05 54 02.6**	**-0.5**
MRZ	**Mangatainoka R**	**2.99**	**191**		**Pn**	**05 54 03.1**	**-0.4**
MRZ	**Mangatainoka R**	**2.99**	**191**	P	**Pn**	**05 54 02.9**	**-0.7**
TIWZ	**Tintock**	**3.07**	**186**	P	**Pn**	**05 54 03.9**	**-0.6**
CPWZ	**Castlepoint**	**3.19**	**182**	P	**Pn**	**05 54 05.7**	**-0.1**
OGWZ	**Otaki Gorge**	**3.22**	**196**	P	**Pn**	**05 54 05.4**	**-0.7**
HOWZ	**Holdsworth Sta**	**3.24**	**191**	P	**Pn**	**05 54 05.4**	**-1.0**
OUZ	**Omahuta**	**3.32**	**318**	P	**Pn**	**05 54 05.3**	**-2.1**
OUZ	**Omahuta**	**3.32**	**318**	S	**S**	**05 54 48.9**	**-1.4**
OUZ	**Omahuta**	**3.32**	**318**	P	**Pn**	**05 54 05.9**	**-1.5**
KIW	**Kapiti Island**	**3.32**	**199**	P	**Pn**	**05 54 06.2**	**-1.2**
TMWZ	**Te Maipa**	**3.40**	**185**	P	**Pn**	**05 54 07.3**	**-1.0**
MTW	**Mount Morrison**	**3.49**	**190**	P	**Pn**	**05 54 08.1**	**-1.3**
CAW	**Cannon Point**	**3.52**	**196**	P	**Pn**	**05 54 08.5**	**-1.2**
DUWZ	**D'Urville Isla**	**3.60**	**210**	P	**Pn**	**05 54 09.1**	**-1.5**
TRWZ	**Traveller**	**3.71**	**187**	P	**Pn**	**05 54 10.7**	**-1.2**
PAWZ	**Paruwai Farm**	**3.72**	**190**	P	**Pn**	**05 54 10.7**	**-1.4**
WEL	**Wellington**	**3.76**	**198**	P	**Pn**	**05 54 11.2**	**-1.2**
MSWZ	**Moikau Station**	**3.78**	**192**		**Pn**	**05 54 11.6**	**-1.2**
MSWZ	**Moikau Station**	**3.78**	**192**	P	**Pn**	**05 54 11.2**	**-1.6**
SNZO	**South Karori**	**3.80**	**199**		**Pn**	**05 54 11.3**	**-1.5**
SNZO	**South Karori**	**3.80**	**199**	P	**Pn**	**05 54 11.1**	**-1.8**
SNZO	**South Karori**	**3.80**	**199**	S	**S**	**05 54 57.0**	**-3.4**
TCW	**Tory Channel**	**3.83**	**204**		**Pn**	**05 54 11.8**	**-1.5**
TCW	**Tory Channel**	**3.83**	**204**	P	**Pn**	**05 54 11.8**	**-1.5**
BHW	**Baring Head**	**3.85**	**196**		**Pn**	**05 54 12.0**	**-1.6**
BHW	**Baring Head**	**3.85**	**196**	P	**Pn**	**05 54 12.0**	**-1.6**
PLWZ	**Palliser**	**3.93**	**192**		**Pn**	**05 54 12.8**	**-1.8**
PLWZ	**Palliser**	**3.93**	**192**	P	**Pn**	**05 54 13.0**	**-1.6**
TUWZ	**Tuamarina**	**4.14**	**206**		**Pn**	**05 54 16.3**	**-0.7**
TUWZ	**Tuamarina**	**4.14**	**206**	P	**Pn**	**05 54 14.9**	**-2.1**
TUWZ	**Tuamarina**	**4.14**	**206**	P	**Pn**	**05 54 14.9**	**-2.1**
NNZ	**Nelson**	**4.17**	**212**		**Pn**	**05 54 16.1**	**-1.3**
TKNZ	**Takaka Hill**	**4.21**	**217**		**Pn**	**05 54 16.0**	**-2.0**
TKNZ	**Takaka Hill**	**4.21**	**217**	P	**Pn**	**05 54 15.8**	**-2.1**
QRZ	**Quartz Range**	**4.28**	**222**		**Pn**	**05 54 17.2**	**-1.5**
QRZ	**Quartz Range**	**4.28**	**222**	P	**Pn**	**05 54 16.8**	**-1.9**
QRZ	**Quartz Range**	**4.28**	**222**	S	**S**	**05 55 08.1**	**-2.7**
CMWZ	**Cape Campbell**	**4.34**	**201**		**Pn**	**05 54 19.3**	**-0.2**
CMWZ	**Cape Campbell**	**4.34**	**201**	P	**Pn**	**05 54 18.7**	**-0.8**
BSWZ	**Blackbirch Sta**	**4.41**	**205**		**Pn**	**05 54 18.9**	**-1.5**
MRNZ	**Matariki Terra**	**4.59**	**216**		**Pn**	**05 54 20.4**	**-2.2**
MRNZ	**Matariki Terra**	**4.59**	**216**	P	**Pn**	**05 54 20.4**	**-2.2**
THZ	**Tophouse**	**4.82**	**212**		**Pn**	**05 54 23.8**	**-1.7**
KHZ	**Kahutara**	**5.15**	**204**		**Pn**	**05 54 27.9**	**-1.7**
KHZ	**Kahutara**	**5.15**	**204**	P	**Pn**	**05 54 28.1**	**-1.4**
DSZ	**Denniston Nort**	**5.32**	**219**		**Pn**	**05 54 29.2**	**-2.5**
DSZ	**Denniston Nort**	**5.32**	**219**	P	**Pn**	**05 54 29.0**	**-2.7**
GVZ	**Greta Valley S**	**5.81**	**205**		**Pn**	**05 54 35.9**	**-2.0**
GVZ	**Greta Valley S**	**5.81**	**205**	P	**Pn**	**05 54 35.9**	**-2.0**
LTZ	**Lake Taylor**	**5.93**	**210**		**Pn**	**05 54 37.0**	**-2.4**
LTZ	**Lake Taylor**	**5.93**	**210**	P	**Pn**	**05 54 36.8**	**-2.6**
AMCZ	**Amberley**	**6.13**	**206**		**Pn**	**05 54 39.6**	**-2.2**
AMCZ	**Amberley**	**6.13**	**206**	P	**Pn**	**05 54 39.6**	**-2.2**
INZ	**Inchbonnie**	**6.24**	**215**		**Pn**	**05 54 41.1**	**-2.1**
INZ	**Inchbonnie**	**6.24**	**215**	P	**Pn**	**05 54 40.5**	**-2.7**
OXZ	**Oxford**	**6.48**	**209**		**Pn**	**05 54 43.3**	**-3.0**
OXZ	**Oxford**	**6.48**	**209**	P	**Pn**	**05 54 43.1**	**-3.2**
OKCZ	**Okains Bay**	**6.49**	**201**	P	**Pn**	**05 54 44.2**	**-2.3**
MQZ	**McQueen's Vall**	**6.60**	**204**		**Pn**	**05 54 44.9**	**-2.9**
MQZ	**McQueen's Vall**	**6.60**	**204**	P	**Pn**	**05 54 44.7**	**-3.1**
AKCZ	**Akaroa Harbour**	**6.67**	**202**	P	**Pn**	**05 54 46.2**	**-2.6**
RACZ	**Rakaia**	**6.79**	**207**	P	**Pn**	**05 54 47.2**	**-3.1**
WVZ	**Waitaha Valley**	**6.84**	**217**	P	**Pn**	**05 54 48.4**	**-2.5**
MHCZ	**Mount Hutt**	**6.84**	**210**	P	**Pn**	**05 54 48.1**	**-2.9**
WACZ	**Wakanui South**	**7.08**	**207**	P	**Pn**	**05 54 51.2**	**-2.9**
RPZ	**Rata Peaks**	**7.20**	**212**		**Pn**	**05 54 52.8**	**-2.8**
RPZ	**Rata Peaks**	**7.20**	**212**	P	**Pn**	**05 54 53.0**	**-2.6**
	91nm,0.3s,baz=30,slow=2.0,SNR=39						
RPZ				S	S	05 56 08.8	-9.0
	251nm,0.4s,baz=170,slow=1.0,SNR=16						
RPZ	**Rata

MTN	**Manton Dam**	**47.18 289**		**P**		**06 01 22.2 -0.7**
MTN			IAmb	IAmb	06 01 22.4	
comp=Z,13nm,0.5s						
KNRA	**Kununurra**	**47.23 284**		**P**		**06 01 22.8 -0.4**
KLBR	**Kellerberrin**	**47.89 259**	P	**P**		**06 01 27.7 -0.5**
MUN	**Mundaring**	**48.94 258**	P	**P**		**06 01 35.9 -0.2**
MEEK	**Meekatharra**	**49.39 265**	P	**P**		**06 01 39.1 -0.6**
MBWA	**Marble Bar**	**51.23 272**	P	**P**		**06 01 52.0 -1.5**
QSPA	**South Pole Qui**	**52.41 180**	P	**P**		**06 02 03.4 +1.7**
QSPA	**South Pole Qui**	**52.41 180**	P	**P**		**06 02 03.9 +2.2**
comp=Z,19nm,0.6s,baz=311,slow=0.4,SNR=126						
comp=Z,19nm,0.6s						
GIRL	**Giralia**	**54.82 267**	P	**P**		**06 02 18.9 -0.6**
BELA	**Belgrano 2**	**63.15 173**	P	**P**		**06 03 16.5 +0.7**
BELA			IAmb	IAmb	06 03 17.2	
comp=Z,23nm,1.1s						
TROLL	**Troll, Antarti**	**70.48 182**	⇑P	**P**		**06 04 02.2 -0.1**
comp=Z,515nm,0.7s						
VNA3	**Neumayer Olymp**	**71.26 178**	⇑P	**P**		**06 04 06.6 -0.2**
comp=Z,33nm,0.6s						
PLCA	**Paso Flores**	**80.83 135**	P	**P**		**06 05 02.5 +1.1**
comp=Z,1.3nm,0.5s,baz=239,slow=5.1,SNR=19						
comp=Z,1.3nm,0.5s						
BI02	**San Fabin de**	**83.16 132**	P	**P**		**06 05 14.7 +1.1**
KSRS	**Korea Array**	**87.13 323**	P	**P**		**06 05 32.1 -0.6**
comp=Z,0.9nm,0.5s,baz=125,slow=6.3,SNR=5.7						
comp=Z,0.9nm,0.5s						
NJ2	**Nanjing**	**87.68 314**	*e*P	**P**		**06 05 37.1 +1.6**
NJ2			pmax	pmax		
comp=Z,9.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**91.56 292**	P	**P**		**06 05 53.7 -0.3**
comp=Z,2.3nm,0.3s,baz=146,slow=2.8,SNR=7.3						
comp=Z,2.3nm,0.3s						
PZH	**PanZhiHua**	**94.67 300**	P	**P**		**06 06 09.8 +1.6**
PZH			pmax	pmax		
comp=Z,10.0nm,0.7s						
PZH			pmax	pmax		
comp=Z,110nm,5.1s						
HHC	**Hu-ho-hao-te**	**98.07 316**	*e*P	Pdif	06 06 24.3 +1.0	
HHC			pmax	pmax		
comp=Z,25nm,0.7s						
HHC			pmax	pmax		
comp=Z,100nm,4.8s						
LZH	**Lanzhou**	**99.43 308**	*e*P	**Pdif**		**06 06 33.4 +3.9**
LZH			pmax	pmax		
comp=Z,16nm,1.3s						
KURBB	**Kurchatov Arra**	**122.55 312**	PKP	**PKPdf**		**06 11 37.9 -2.6**
comp=Z,0.6nm,0.4s,baz=117,slow=1.9,SNR=7.5						
BVAR	**Borovoye Array**	**128.10 312**	PKP	**PKPdf**		**06 11 49.0 -2.0**
comp=Z,0.5nm,0.4s,baz=126,slow=4.4,SNR=3.8						
ARCES	**ARCESS Array B**	**144.47 343**	PKP	**PKPab**		**06 12 18.0 -1.9**
comp=Z,0.8nm,0.4s,baz=62,slow=2.4,SNR=21						
KBZ	**Khabaz**	**144.57 295**	PKP	**PKPab**		**06 12 17.7 -3.2**
comp=Z,2.7nm,0.9s,baz=187,slow=4.7,SNR=5.2						
DBIC	**Dimbokro**	**149.07 178**	PKPbc	**PKPbc**		**06 12 32.8 -1.7**
comp=Z,2.1nm,0.6s,baz=141,slow=1.7,SNR=7.2						
FINES	**FINESS Array B**	**149.89 332**	PKPbc	**PKPdf**		**06 12 32.0 +2.1**
comp=Z,1.6nm,0.5s,baz=36,slow=4.0,SNR=17						
BRTR	**Keskin Array B**	**150.95 286**	PKPbc	**PKPdf**		**06 12 34.9 +2.3**
comp=Z,1.2nm,0.8s,baz=104,slow=3.3,SNR=5.5						

WEL 21 05:53:45.3±4.4, 41°S±15°×17°3E±1°1, h185km±41km, M2.0/7, MLv2.0/7, Error ellipse: s-maj=19.7km s-min=13.8km az=162.5, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRNZ	**Matariki Terra**	**0.23**	**123**	P	Pn	05 54 10.5	+0.7
TKNZ	**Takaka Hill**	**0.42**	**56**	P	Pn	05 54 11.0	+0.6
QRZ	**Quartz Range**	**0.45**	**3**	P	Pn	05 54 11.3	+0.8
THZ	**Tophouse**	**0.58**	**148**	P	Pn	05 54 11.8	+0.8
NNZ	**Nelson**	**0.67**	**86**	P	Pn	05 54 11.6	+0.2
DSZ	**Denniston Nort**	**0.70**	**228**	P	Pn	05 54 12.5	+0.8
KHLK	**Kaihoka Lakes**	**0.72**	**7**	P	Pn	05 54 12.4	+0.7
HAVS	**Havelock**	**0.97**	**90**	P	Pn	05 54 13.6	+0.4
BSWZ	**Blackbirch Sta**	**1.12**	**114**	P	Pn	05 54 14.5	+0.1
KEKS	**Kekerengu Vall**	**1.30**	**122**	P	Pn	05 54 15.8	-0.1
WDFS	**Ward Fire Stat**	**1.35**	**115**	P	Pn	05 54 16.5	+0.2
CMWZ	**Cape Campbell**	**1.37**	**111**	P	Pn	05 54 16.6	+0.1
KHZ	**Kahutara**	**1.38**	**146**	P	Pn	05 54 16.5	0.0
WTMC	**Te Mara Farm W**	**1.41**	**163**	P	Pn	05 54 17.2	+0.5
LTZ	**Lake Taylor**	**1.52**	**186**	P	Pn	05 54 18.1	+0.3
INZ	**Inchbonnie**	**1.65**	**208**	P	Pn	05 54 19.2	+0.2
GVZ	**Greta Valley S**	**1.74**	**167**	P	Pn	05 54 19.8	-0.2
AMCZ	**Amberley**	**1.91**	**177**	P	Pn	05 54 21.5	-0.1

IDC 21 06:19:59.7±29.0, 14°70N×120°11E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=590.7km s-min=436.5km az=116.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.16**	**157**	P	P	06 27 12.1	-0.5
0.8nm,0.6s,baz=337,slow=9.0,SNR=7.9							
0.8nm,0.6s							
ASAR	**Alice Springs**	**40.44**	**160**	P	P	06 27 40.4	+0.2
0.7nm,0.4s,baz=335,slow=9.2,SNR=22							
0.7nm,0.4s							
STKA	**Stephens Creek**	**50.69**	**156**	P	P	06 29 00.9	-0.2
1.5nm,0.3s,baz=309,slow=6.5,SNR=4.1							
1.5nm,0.3s							

*MOS **21** 06:31:34.5±0.9, 51°59N×178°34W, h51km, mb5.3/58, MS4.5/17, Error ellipse: s-maj=7.4km s-min=4.4km az=106.0*

*IDC **21** 06:31:34.8±1.6, 51°57N×178°31W, h41km±12km, mb4.7/32, mbtmp5.0/37, ML5.0/4, MS4.0/75, Error ellipse: s-maj=12.8km s-min=8.4km az=163.0*

*AEIC **21** 06:31:34.2±4.9, 51°25N±0°06×178°18W±0°09, h13km±4km, Error ellipse: s-maj=9.2km s-min=6.4km az=136.0*

*GCMT **21** 06:31:36.0±0.2, 51°37N±0°02×178°23W±0°02, h44km, MW5.0/107, Moment Tensor Solution. s72,c90; s107,c148; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.61±.15; $M_{\theta\theta}$-3.30±.10; $M_{\phi\phi}$-0.30±.10; $M_{r\theta}$1.42±.09; $M_{\theta\phi}$-1.39±.07; $M_{\phi r}$1.49±.07; Best double couple: $M_0$4.26300×10^{16} NP1:ϕ_s261.00000°, δ33.00000°, λ111.00000°. NP2:ϕ_s57.00000°, δ59.00000°, λ77.00000°. Principal axes: T 4.2300, Plg72.0000°, Azm295.0000°; N 0.0670, Plg11.0000°, Azm63.0000°; P -4.2960, Plg14.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **21** 06:31:36.3, 51°48N×178°34W, h46km*

*NEIC **21** 06:31:36.3, 50°78N×178°34W, h46km, Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^{16}Nm; M_{rr}2.88; $M_{\theta\theta}$-3.20; $M_{\phi\phi}$0.32; $M_{r\theta}$0.55; $M_{\theta\phi}$-1.09; $M_{\phi r}$1.22; Fault plane solution: $M_0$3.50000×10^{16} NP1: ϕ_s273.97000°, δ41.05000°, λ121.23000°. NP2: ϕ_s55.17000°, δ55.84000°, λ65.70000°. Principal axes: T 3.3698, Plg68.0000°, Azm273.0000°; N 0.2614, Plg20.0000°, Azm69.0000°; P -3.6313, Plg8.0000°, Azm162.0000°;*

*NEIC **21** 06:31:36±2.2, 51°46N±0°09×178°31W±0°08, h53km±4km, mb5.3/778, Mww5.0/26, ML5.1(AEIC) Error ellipse: s-maj=13.0km s-min=7.4km az=174.0*

*BJI **21** 06:31:37.5, 51°69N×178°82W, h70km, mB5.2/28, mb5.5/82, Ms4.6/46, Ms7 4.3/49*

*BGR **21** 06:31:38.2, 52°58N×179°82W, h33km, mb4.8, Hypocentre not reviewed by the ISC*

ISC 21 06:31:36.3±0.3, 51°46N±0°05×178°28W±0°03, h57km±2km, h57km:pP-P, n1362, σ1s14/1096, mb5.3/476, MS4.2/111, 95C-68D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.40**	**22**		**Pn**	**06 31 46.3**	**-0.8**
GALAA	**Gareloi Lava P**	**0.43**	**314**		**Pn**	**06 31 46.8**	**-0.6**
GAEA	**Gareloi East**	**0.43**	**318**		**Pn**	**06 31 46.6**	**-0.7**
TAPA	**Tanaga Point A**	**0.46**	**39**		**Pn**	**06 31 46.7**	**-0.9**
KIMD	**Kanaga Island**	**0.72**	**65**		**Pn**	**06 31 49.5**	**-1.1**
KIMD					**Sn**	**06 32 00.1**	**-0.8**
KIWB	**Kanaga Island**	**0.80**	**60**		**Pn**	**06 31 50.6**	**-1.1**
GSCK	**Great Sitkin C**	**1.43**	**67**		**Pn**	**06 31 59.8**	**-0.1**
GSMY	**Great Sitkin M**	**1.50**	**66**		**Pn**	**06 32 00.9**	**0.0**
GSMY					**Sn**	**06 32 21.8**	**+2.4**
GSTR	**Great Sitkin T**	**1.52**	**65**		**Pn**	**06 32 01.2**	**+0.1**
ATKA	**Atka Island**	**2.64**	**72**		**Sn**	**06 32 47.6**	**+0.4**
ATKA	**Atka Island**	**2.64**	**72**		**Pn**	**06 32 16.0**	**-0.3**
ATKA	**Atka Island**	**2.64**	**72**	P	**Pn**	**06 32 16.1**	**-0.3**
ATKA	**Atka Island**	**2.64**	**72**	S	**Sn**	**06 32 48.8**	**+1.6**
SHEM	**Shemya Is, Ala**	**4.87**	**288**	P	**Pn**	**06 32 46.1**	**-0.8**
26nm,0.3s,baz=75,slow=4.4,SNR=29							
SHEM				S	**Sn**	**06 33 40.5**	**-1.3**
520nm,0.9s,baz=68,slow=24,SNR=5.7							
303nm,0.6s							
SMY	**Shemya**	**4.87**	**288**		**Sn**	**06 33 48.9**	**+7.1**
SMY	**Shemya**	**4.87**	**288**		**Pn**	**06 32 46.7**	**-0.2**
SMY	**Shemya**	**4.87**	**288**	P	**Pn**	**06 32 46.7**	**-0.2**
SMY	**Shemya**	**4.87**	**288**	S	**Sn**	**06 33 43.3**	**+1.5**
SMY	**Shemya**	**4.87**	**288**	P	**Pn**	**06 32 46.7**	**-0.2**
SMY						06 33 48.9	
NIKH	**Nikolski High**	**5.99**	**72**		**Sn**	**06 34 12.3**	**+3.0**
NIKH	**Nikolski High**	**5.99**	**72**		**Pn**	**06 33 03.4**	**+1.2**
NIKH	**Nikolski High**	**5.99**	**72**	P	**Pn**	**06 33 04.1**	**+1.9**
NIKH	**Nikolski High**	**5.99**	**72**	S	**Sn**	**06 34 11.3**	**+2.0**
NIKH	**Nikolski High**	**5.99**	**72**	P	**Pn**	**06 33 02.9**	**+0.7**
baz=260,SNR=11							
P08K	**Saint George I**	**7.27**	**42**		**Pn**	**06 33 20.6**	**+0.8**
P08K	**Saint George I**	**7.27**	**42**	P	**Pn**	**06 33 21.2**	**+1.5**
baz=229							
SPIA	**Saint Paul Isl**	**7.40**	**36**		**Pn**	**06 33 23.2**	**+1.6**
SPIA	**Saint Paul Isl**	**7.40**	**36**	P	**Pn**	**06 33 24.2**	**+2.7**
SPIA	**Saint Paul Isl**	**7.40**	**36**	P	**Pn**	**06 33 24.0**	**+2.5**
baz=223,SNR=34							
LVA	**Lava Point**	**7.90**	**65**		**Pn**	**06 33 31.3**	**+3.0**
AKUT	**Akutan**	**8.04**	**66**		**Pn**	**06 33 33.0**	**+2.8**
AKUT	**Akutan**	**8.04**	**66**	P	**Pn**	**06 33 31.7**	**+1.5**
FALS	**False Pass**	**9.55**	**63**		**Pn**	**06 33 52.7**	**+1.8**
FALS	**False Pass**	**9.55**	**63**	P	**Pn**	**06 33 52.6**	**+1.7**
FALS	**False Pass**	**9.55**	**63**	P	**Pn**	**06 33 53.4**	**+2.5**
baz=256,SNR=7.9							
S12K	**Black Hills**	**10.53**	**60**		**Pn**	**06 34 06.2**	**+1.9**
S12K	**Black Hills**	**10.53**	**60**	P	**Pn**	**06 34 06.4**	**+2.1**
baz=253							
M11K	**Mekoryuk**	**11.20**	**32**		**Pn**	**06 34 16.5**	**+3.2**
M11K	**Mekoryuk**	**11.20**	**32**	P	**Pn**	**06 34 16.6**	**+3.2**
baz=222,SNR=7.2							
SDPT	**Sand Point**	**11.31**	**63**		**Pn**	**06 34 15.3**	**+0.4**
SDPT	**Sand Point**	**11.31**	**63**	P	**Pn**	**06 34 15.7**	**+0.8**
SDPT	**Sand Point**	**11.31**	**63**	P	**Pn**	**06 34 14.6**	**-0.3**
baz=257,SNR=8.6							
CNBA	**Chernabura Isl**	**11.71**	**66**		**Pn**	**06 34 19.3**	**-1.1**
CHNA	**Chernabura Isl**	**11.71**	**66**	P	**Pn**	**06 34 21.1**	**+0.7**
CHNA	**Chernabura Isl**	**11.71**	**66**	P	**Pn**	**06 34 19.4**	**-1.0**
baz=261,SNR=9.8							
S14K	**Fog Glacier**	**12.04**	**59**	P	**Pn**	**06 34 25.0**	**-0.1**
baz=254							
M13K	**Dall Lake**	**12.23**	**37**		**Pn**	**06 34 31.4**	**+3.8**
M13K	**Dall Lake**	**12.23**	**37**	P	**Pn**	**06 34 30.8**	**+3.3**
baz=230,SNR=14							
O14K	**Tigyukauivet M**	**12.40**	**44**		**Pn**	**06 34 33.5**	**+3.7**
O14K	**Tigyukauivet M**	**12.40**	**44**	P	**Pn**	**06 34 33.0**	**+3.2**
baz=239,SNR=8.1							
N14K	**Kuskokwak Cree**	**12.59**	**41**		**Pn**	**06 34 34.9**	**+2.5**
N14K	**Kuskokwak Cree**	**12.59**	**41**	P	**Pn**	**06 34 35.2**	**+2.8**
baz=235,SNR=31							
GAMB	**Gambell**	**12.83**	**13**		**Pn**	**06 34 38.2**	**+2.6**
GAMB	**Gambell**	**12.83**	**13**	P	**Pn**	**06 34 37.8**	**+2.3**
baz=199,SNR=43							
K13K	**Kusilvak Mount**	**12.85**	**30**		**Pn**	**06 34 38.3**	**+2.3**
K13K	**Kusilvak Mount**	**12.85**	**30**	P	**Pn**	**06 34 38.3**	**+2.3**
baz=222,SNR=14							
M14K	**Bethel**	**12.98**	**38**		**Pn**	**06 34 40.8**	**+3.1**
M14K	**Bethel**	**12.98**	**38**	P	**Pn**	**06 34 40.6**	**+2.9**
baz=232,SNR=18							
O15K	**Ungalikthiuk R**	**13.01**	**46**		**Pn**	**06 34 40.4**	**+2.3**
O15K	**Ungalikthiuk R**	**13.01**	**46**	P	**Pn**	**06 34 40.3**	**+2.2**
baz=242,SNR=18							
L14K	**Kuka Creek**	**13.10**	**35**	P	**Pn**	**06 34 41.9**	**+2.7**
baz=228							
N15K	**Kwethluk River**	**13.39**	**42**	P	**Pn**	**06 34 46.1**	**+2.8**
baz=238,SNR=29							
M15K	**Kasigluk River**	**13.45**	**40**	P	**Pn**	**06 34 47.5**	**+3.5**
baz=234,SNR=32							
L15K	**Ungalak Mounta**	**13.75**	**35**	P	**Pn**	**06 34 50.5**	**+2.4**
baz=230,SNR=45							
P16K	**Nushagak River**	**13.79**	**49**		**Pn**	**06 34 52.0**	**+3.3**
P16K	**Nushagak River**	**13.79**	**49**	P	**Pn**	**06 34 50.1**	**+1.4**
baz=246							
J14K	**Nanvaranak Lak**	**13.81**	**29**		**Pn**	**06 34 51.7**	**+2.8**
J14K	**Nanvaranak Lak**	**13.81**	**29**	P	**Pn**	**06 34 50.7**	**+1.9**
baz=222,SNR=20							
O16K	**Kokwok River B**	**13.98**	**47**		**Pn**	**06 34 53.5**	**+2.2**
O16K	**Kokwok River B**	**13.98**	**47**	P	**Pn**	**06 34 54.1**	**+2.8**
baz=243,SNR=16							
CHIR	**Chirikof Islan**	**14.10**	**63**	Pn	**Pn**	**06 34 49.6**	**-3.3**
N16K	**Nishlik Lake**	**14.12**	**43**	P	**P**	**06 34 57.6**	**-1.5**
baz=239,SNR=46							
K15K	**Wolf Creek Mou**	**14.14**	**33**		**P**	**06 34 56.8**	**-2.5**
K15K	**Wolf Creek Mou**	**14.14**	**33**	P	**P**	**06 34 57.1**	**-2.2**
baz=228,SNR=121							
PET	**Petropavlovsk**	**14.21**	**285**	*e*P	**P**	**06 34 57.3**	**-2.8**
PET				*e*S	**Sn**	**06 37 29.6**	**-0.6**
PET				pmax	pmax		
comp=Z,200nm,13.9s							
PET				pmax	pmax		
comp=Z,300nm,12.3s							
PET				pmax	pmax		
comp=Z,33nm,0.8s							
PET				MLR	MLR		
comp=Z,400nm,16.0s							
PET				MLR	MLR		
comp=Z,500nm,15.0s							
Q16K	**King Salmon**	**14.29**	**51**	P	**P**	**06 34 58.3**	**-2.6**
baz=249,SNR=19							
M16K	**Timber Creek**	**14.33**	**41**		**Pn**	**06 34 57.8**	**+2.0**
M16K	**Timber Creek**	**14.33**	**41**	P	**Pn**	**06 34 57.8**	**+2.0**
baz=237,SNR=28							
O17K	**Koliganek Bris**	**14.52**	**47**	P	**Pn**	**06 35 00.2**	**+1.9**
baz=244							
L16K	**Owhat River**	**14.52**	**38**		**Pn**	**06 35 00.9**	**+2.6**
L16K	**Owhat River**	**14.52**	**38**	P	**Pn**	**06 35 00.6**	**+2.3**
baz=234,SNR=48							
Q17K	**Contact Creek**	**14.53**	**53**	P	**Pn**	**06 34 59.1**	**+0.4**
baz=252,SNR=44							
P17K	**Kvichak River**	**14.59**	**49**	P	**Pn**	**06 35 01.3**	**+2.1**
baz=248,SNR=27							
ANM	**Nome**	**14.76**	**22**	P	**Pn**	**06 35 02.8**	**+1.3**
baz=213							
PEA0B	**Petropavlovsk-**	**14.78**	**286**		**Pn**	**06 35 02.0**	**+0.3**
PEA0B	**Petropavlovsk-**	**14.78**	**286**	*ce*P	**Pn**	**06 35 03.5**	**+1.7**
PETK	**Petropavlovsk-**	**14.78**	**286**		**Pn**	**06 35 02.6**	**+0.8**
PETK	**Petropavlovsk-**	**14.78**	**286**	P	**Pn**	**06 35 01.6**	**-0.2**
comp=Z,7.0nm,0.8s,baz=79,slow=12,SNR=24							
PETK				S	**Sn**	**06 37 43.7**	**-0.4**
comp=Z,3.6nm,0.8s,baz=99,slow=18,SNR=1.6							
PETK				PcP	**PcP**	**06 40 09.5**	**+0.2**
comp=Z,4.1nm,1.0s,baz=68,slow=3.1,SNR=2.9							
PETK				LR	LR	06 40 29.2	
comp=Z,1μm,21.7s,baz=91,slow=36							
ACHA	**Angle Creek He**	**14.80**	**54**		**Pn**	**06 35 01.8**	**-0.2**
N17K	**Nushagak Hills**	**14.82**	**44**		**P**	**06 35 05.2**	**-1.7**
N17K	**Nushagak Hills**	**14.82**	**44**	P	**Pn**	**06 35 04.0**	**+1.8**
baz=242,SNR=45							
SII	**Sitkinak Islan**	**15.02**	**61**		**Pn**	**06 35 05.8**	**+1.0**
SII				IAmb	IAmb	06 35 09.2	
comp=Z,105nm,0.9s							
SII	**Sitkinak Islan**	**15.02**	**61**	P	**P**	**06 35 07.2**	**-1.8**
SII	**Sitkinak Islan**	**15.02**	**61**	P	**Pn**	**06 35 06.3**	**+1.5**
baz=260							
R18K	**Karluk**	**15.08**	**57**	P	**Pn**	**06 35 05.3**	**-0.2**
baz=256							
Q18K	**Katmai Hardscr**	**15.09**	**52**	P	**Pn**	**06 35 07.2**	**+1.3**
baz=252,SNR=32							
TNA	**Tin City**	**15.10**	**17**		**Pn**	**06 35 06.6**	**+0.8**
TNA	**Tin City**	**15.10**	**17**	P	**Pn**	**06 35 07.1**	**+1.3**
baz=206,SNR=23							
J16K	**Anvik River**	**15.13**	**32**		**Pn**	**06 35 07.8**	**+1.5**
J16K				IAmb	IAmb	06 35 14.1	
comp=Z,111nm,0.8s							
J16K	**Anvik River**	**15.13**	**32**	P	**P**	**06 35 08.7**	**-1.6**
baz=227,SNR=62							
M17K	**Holitna River**	**15.15**	**41**		**Pn**	**06 35 07.6**	**+1.0**
M17K				IAmb	IAmb	06 35 13.9	
comp=Z,161nm,1.1s							
M17K	**Holitna River**	**15.15**	**41**	P	**Pn**	**06 35 08.0**	**+1.4**
baz=238,SNR=68							
L17K	**Donlin**	**15.22**	**38**	P	**Pn**	**06 35 09.4**	**+2.0**
baz=235,SNR=25							
P18K	**Big Mountain,**	**15.24**	**50**		**Pn**	**06 35 08.4**	**+0.8**
P18K	**Big Mountain,**	**15.24**	**50**	P	**Pn**	**06 35 08.8**	**+1.2**
baz=249,SNR=21							
F14K	**Arctic Creek**	**15.33**	**19**	P	**P**	**06 35 10.8**	**-1.7**
baz=209,SNR=30							
O18K	**Koktuh Hills**	**15.42**	**48**		**Pn**	**06 35 11.6**	**+1.6**
O18K	**Koktuh Hills**	**15.42**	**48**	P	**P**	**06 35 12.0**	**-1.6**
baz=247,SNR=15							
G15K	**Niukluk**	**15.44**	**23**	P	**P**	**06 35 12.3**	**-1.4**
baz=215,SNR=71							
N18K	**Kilae Creek**	**15.46**	**45**		**Pn**	**06 35 11.4**	**+0.9**
N18K	**Kilae Creek**	**15.46**	**45**	P	**Pn**	**06 35 11.9**	**+1.4**
baz=243,SNR=26							
I17K	**Unalakleet**	**15.52**	**30**	P	**P**	**06 35 13.5**	**-1.1**
baz=225							
K17K	**Iditarod**	**15.56**	**36**		**P**	**06 35 14.1**	**-0.9**
K17K	**Iditarod**	**15.56**	**36**	P	**P**	**06 35 13.7**	**-1.4**
baz=233,SNR=31							
OHAK	**Old Harbor**	**15.62**	**59**	P	**Pn**	**06 35 13.2**	**+0.7**
OHAK	**Old Harbor**	**15.62**	**59**	P	**Pn**	**06 35 12.4**	**-0.1**
baz=259,SNR=16							
H16K	**Elim**	**15.63**	**26**	P	**P**	**06 35 14.2**	**-1.5**
baz=220,SNR=21							
J17K	**VABM Dome**	**15.72**	**33**	IAmb	IAmb	06 35 22.1	
comp=Z,170nm,1.1s							
J17K	**VABM Dome**	**15.72**	**33**	P	**P**	**06 35 15.8**	**-0.9**
baz=230,SNR=84							
Q19K	**Cape Douglas,**	**15.86**	**52**		**Pn**	**06 35 15.2**	**-0.4**
Q19K				IAmb	IAmb	06 35 22.0	
comp=Z,91nm,0.5s							
M18K	**Stony River**	**15.87**	**42**	P	**P**	**06 35 17.6**	**-0.8**
baz=241,SNR=28							
F15K	**North Star Dit**	**15.89**	**21**	P	**Pn**	**06 35 16.9**	**+0.9**
baz=213,SNR=73							
L18K	**Granite Mounta**	**15.89**	**39**	P	**Pn**	**06 35 17.3**	**+1.3**
baz=237							
O19K	**Port Alsworth**	**15.96**	**48**	P	**Pn**	**06 35 17.2**	**+0.3**
baz=248							
KDAK	**Kodiak Island**	**16.10**	**57**		**Pn**	**06 35 16.0**	**-2.7**
KDAK	**Kodiak Island**	**16.10**	**57**	P	**Pn**	**06 35 15.9**	**-2.7**
comp=Z,8.7nm,0.3s,baz=24,slow=2.1,SNR=48							
KDAK				S	**Sn**	**06 38 13.5**	**-2.5**
comp=Z,8.9nm,0.4s,baz=161,slow=20,SNR=5.8							
comp=Z,50nm,0.4s							
KDAK	**Kodiak Island**	**16.10**	**57**	P	**Pn**	**06 35 17.9**	**-0.7**
baz=258							
N19K	**Bonanza Creek**	**16.14**	**45**	IAmb	IAmb	06 35 25.0	
comp=Z,118nm,0.9s							
N19K	**Bonanza Creek**	**16.14**	**45**	P	**Pn**	**06 35 20.1**	**+0.9**
baz=245,SNR=39							
G16K	**Koyuk River**	**16.19**	**24**	P	**P**	**06 35 20.9**	**-1.0**
baz=218,SNR=38							
P19K	**Oil Pt**	**16.28**	**50**		**P**	**06 35 22.5**	**-0.6**
P19K	**Oil Pt**	**16.28**	**50**	P	**Pn**	**06 35 21.3**	**+0.3**
baz=251,SNR=5.4							
Q20K	**Shuyak Island**	**16.39**	**54**	P	**Pn**	**06 35 23.0**	**+0.7**
baz=256							
SYI	**Shuyak Island**	**16.39**	**54**		**Pn**	**06 35 21.2**	**-1.1**
H17K	**Granite Mounta**	**16.52**	**28**	P	**P**	**06 35 25.4**	**-0.2**
baz=224,SNR=61							
TTA	**Tatalina**	**16.55**	**37**		**P**	**06 35 25.4**	**-0.6**
TTA	**Tatalina**	**16.55**	**37**	P	**P**	**06 35 26.3**	**+0.3**
TTA	**Tatalina**	**16.55**	**37**	P	**P**	**06 35 25.4**	**-0.6**
TTA				pmax	pmax		
comp=Z,90nm,1.0s							
TTA	**Tatalina**	**16.55**	**37**	P	**P**	**06 35 25.8**	**-0.2**
baz=236,SNR=74							
J18K	**Innoko River**	**16.59**	**35**	P	**P**	**06 35 26.5**	**0.0**
baz=234,SNR=23							
L19K	**White Mountain**	**16.61**	**41**	IAmb	IAmb	06 35 31.5	
comp=Z,128nm,0.8s							
L19K	**White Mountain**	**16.61**	**41**	P	**P**	**06 35 26.7**	**0.0**
baz=240,SNR=103							
M19K	**Big River Lodg**	**16.67**	**42**	P	**P**	**06 35 27.7**	**+0.4**
baz=242,SNR=48							
G17K	**Kiwalik Mounta**	**16.72**	**26**	P	**P**	**06 35 28.5**	**+0.7**
baz=221,SNR=42							
HOM	**Homer**	**17.05**	**51**	P	**P**	**06 35 32.0**	**+0.5**
baz=253							
H18K	**Honhosa River**	**17.13**	**29**	P	**P**	**06 35 33.7**	**+1.3**
baz=226,SNR=55							
L20K	**Farewell, AK**	**17.15**	**41**	P	**P**	**06 35 33.4**	**+0.7**
baz=241,SNR=31							
M20K	**Styx River**	**17.19**	**43**	P	**P**	**06 35 34.8**	**+1.6**
baz=244,SNR=44							
CNPM	**China Poot**	**17.21**	**52**		**Pn**	**06 35 32.4**	**-0.1**
CNPM				IAmb	IAmb	06 35 38.0	
comp=Z,221nm,1.7s							
F17K	**Baldwin Pennin**	**17.29**	**23**	P	**P**	**06 35 36.0**	**+1.9**
baz=218,SNR=46							
J19K	**Poorman**	**17.30**	**35**	P	**P**	**06 35 35.8**	**+1.6**
baz=234,SNR=75							
SPCR	**Sp

comp=Z,243nm,0.8s
PWL Port Wells 18.98 49 P P 06 35 53.4 +0.7
baz=254
TRF Thorofare Moun 19.06 40 IAmb IAmb 06 36 02.4
comp=Z,153nm,0.8s
TRF Thorofare Moun 19.06 40 P P 06 35 54.2 +0.5
baz=244,SNR=49
BPAW Bear Paw Mtn. 19.08 38 IAmb IAmb 06 35 59.2
comp=Z,73nm,0.7s
BPAW Bear Paw Mtn. 19.08 38 P Pn 06 35 55.3 +0.1
baz=241,SNR=67
KNK Knik Glacier 19.08 47 P Pn 06 35 54.9 -0.3
baz=252,SNR=14
C18K Utukok River 19.10 19 P Pn 06 35 55.8 +0.4
baz=214,SNR=98
E19K Redstone River 19.10 25 P Pn 06 35 56.0 +0.7
baz=223,SNR=128
MA2 Magadan 19.16 307 P 06 35 54.6 -0.1
MA2 Magadan 19.16 307 P P 06 35 55.0 +0.3
comp=Z,0.9nm,0.3s,baz=84,slow=9.3,SNR=18
MA2 PcP **PcP 06 40 16.3 +0.2**
comp=Z,3.0nm,0.7s,baz=99,slow=2.4,SNR=4.6
MA2 LR LR 06 42 50.9
comp=Z,893nm,20.1s,baz=104,slow=35
comp=Z,11nm,0.6s
MA2 Magadan 19.16 307 P Pn 06 35 56.2 +0.1
P23K Montague Islan 19.21 52 P P 06 35 54.9 -0.4
baz=257
F20K Avaraart Lake 19.22 27 P Pn 06 35 57.2 +0.4
baz=227,SNR=50
H21K Melozitna Rive 19.25 33 IAmb IAmb 06 36 01.1
comp=Z,97nm,0.9s
H21K Melozitna Rive 19.25 33 P Pn 06 35 57.5 +0.4
baz=235,SNR=110
SML Sawmill 19.27 46 P P 06 35 56.0 +0.1
baz=251,SNR=7.1
I21K Tanana 19.27 35 P Pn 06 35 57.6 +0.3
baz=237,SNR=88
SEY Seymchan 19.40 318 P P 06 35 57.4 +0.1
comp=Z,1.3nm,0.3s,baz=116,slow=12,SNR=32
SEY PcP **PcP 06 40 16.9 +0.5**
comp=Z,7.8nm,0.6s,baz=130,slow=3.0,SNR=5.7
SEY LR LR 06 43 12.2
comp=Z,1μm,19.1s,baz=122,slow=36
SEY ScP **ScP 06 43 49.4 +2.2**
comp=Z,4.9nm,0.8s,baz=88,slow=3.4,SNR=6.2
comp=Z,23nm,0.7s
M23K Glacier View 19.53 46 P P 06 35 59.3 +0.5
baz=252,SNR=29
G21K Allakaket 19.54 30 IAmb IAmb 06 36 02.1
comp=Z,188nm,0.9s
G21K Allakaket 19.54 30 P Pn 06 36 00.7 +0.2
baz=232,SNR=299
GLI Glacier Island 19.57 49 IAmb IAmb 06 36 04.0
comp=Z,56nm,0.6s
GLI Glacier Island 19.57 49 P P 06 35 59.0 -0.2
baz=255
B18K Kokolik River 19.58 17 P Pn 06 36 00.6 -0.4
baz=212,SNR=105
RND Reindeer 19.62 41 P 06 35 59.6 -0.2
RND IAmb IAmb 06 36 03.2
comp=Z,87nm,0.6s
RND Reindeer 19.62 41 P P 06 35 59.6 -0.2
RND pmax pmax
comp=Z,87nm,0.6s
D19K Kuna River 19.66 22 IAmb IAmb 06 36 06.8
comp=Z,154nm,0.9s
D19K Kuna River 19.66 22 P Pn 06 36 01.5 -0.4
baz=220,SNR=185
BWN Browne 19.71 39 IAmb IAmb 06 36 07.5
comp=Z,130nm,0.8s
MCK McKinley 19.73 40 P 06 36 00.0 -0.8
MCK McKinley 19.73 40 P P 06 36 00.0 -0.8
MCK pmax pmax
comp=Z,52nm,0.7s
MCK McKinley 19.73 40 P P 06 36 00.4 -0.4
baz=245,SNR=30
SCM Sheep Creek Mo 19.73 46 P P 06 35 59.8 -1.1
SCM IAmb IAmb 06 36 05.8
comp=Z,66nm,0.8s
SCM Sheep Creek Mo 19.73 46 P P 06 35 59.8 -1.1
SCM pmax pmax
comp=Z,66nm,0.8s
SCM Sheep Creek Mo 19.73 46 P P 06 36 00.2 -0.7
baz=252,SNR=6.6
FID Port Fidalgo 19.83 50 IAmb IAmb 06 36 06.2
comp=Z,85nm,0.8s
H22K Ishtalitna Cre 19.87 33 P Pn 06 36 04.4 -0.1
baz=236,SNR=53
E20K Nigu River 19.95 24 P Pn 06 36 05.0 -0.4
baz=224,SNR=119
F21K Alatna River 20.00 29 IAmb IAmb 06 36 08.3
comp=Z,74nm,0.7s
F21K Alatna River 20.00 29 P Pn 06 36 05.7 -0.3
baz=230,SNR=143
NEA2 Nenana 20.05 38 IAmb IAmb 06 36 11.8
comp=Z,103nm,0.8s
NEA2 Nenana 20.05 38 P P 06 36 04.5 +0.2
baz=243,SNR=97
D20K Etivluk River 20.18 23 IAmb IAmb 06 36 08.4
comp=Z,210nm,0.9s
D20K Etivluk River 20.18 23 P Pn 06 36 07.5 -0.7
baz=222,SNR=289
I23K Minto, Yukon-K 20.20 36 IAmb IAmb 06 36 12.2
comp=Z,84nm,0.8s
I23K Minto, Yukon-K 20.20 36 P P 06 36 06.5 +0.5
baz=241,SNR=97
KLU Klutina 20.27 48 IAmb IAmb 06 36 14.8
comp=Z,70nm,0.8s
KLU Klutina 20.27 48 P P 06 36 06.5 -0.4
baz=255,SNR=19
M24K Tolsona, Glenn 20.33 46 IAmb IAmb 06 36 25.9
comp=Z,95nm,0.7s
M24K Tolsona, Glenn 20.33 46 P P 06 36 07.1 -0.4
baz=253
G22K Bettles 20.42 31 P P 06 36 09.4 +1.1
baz=234
A19K Wainwright 20.43 17 P P 06 36 09.7 +1.3
baz=212,SNR=103
H23K Yukon River 20.47 34 P P 06 36 10.2 +1.2
baz=239,SNR=66
F22K John River 20.57 29 P P 06 36 11.0 +1.1
baz=232
COLA College 20.64 38 P P 06 36 11.4 +0.7
COLA IAmb IAmb 06 36 28.4
comp=Z,100nm,0.8s
COLA College 20.64 38 P Pn 06 36 12.5 -1.0
COLA College 20.64 38 P P 06 36 11.4 +0.7
COLA pmax pmax
comp=Z,100nm,0.8s
COLA College 20.64 38 P P 06 36 11.7 +1.0
baz=244
E21K Killik River 20.67 26 P P 06 36 12.0 +1.0
baz=227
BMRM Bremner River 20.77 50 IAmb IAmb 06 36 27.2
comp=Z,84nm,0.9s
BMRM Bremner River 20.77 50 P P 06 36 12.4 +0.2
baz=258,SNR=10
G23K Bananza Creek 20.78 32 P 06 36 13.0 +0.7
G23K Bananza Creek 20.78 32 P P 06 36 12.0 -0.2
baz=237,SNR=104
HDA Harding Lake 20.80 39 P P 06 36 11.7 -0.8
baz=246,SNR=27
HARP HAARP 20.87 46 P P 06 36 13.1 -0.1
baz=254
PAX Paxson 20.90 44 IAmb IAmb 06 36 28.8
comp=Z,80nm,0.9s
PAX Paxson 20.90 44 P P 06 36 13.2 -0.4
baz=252,SNR=22
POKR Poker Plat Res 20.91 37 P P 06 36 13.3 -0.3
baz=244,SNR=15
N25K Chitina, Valde 20.92 48 IAmb IAmb 06 36 19.9
comp=Z,63nm,0.7s
N25K Chitina, Valde 20.92 48 P P 06 36 13.7 -0.2
baz=256,SNR=20
C21K Knifeblade Rid 20.96 24 P P 06 36 14.3 +0.2
baz=224,SNR=96
ILAR Eielson Array 20.97 39 P 06 36 12.7 -1.6
ILAR Eielson Array 20.97 39 P P 06 36 13.1 -1.3
comp=Z,11nm,0.6s,baz=240,slow=10,SNR=44
ILAR S **S 06 40 05.7 +1.2**
comp=Z,0.9nm,0.7s,baz=323,slow=34,SNR=4.2
ILAR PcP **PcP 06 40 18.9 -0.5**
comp=Z,8.1nm,0.6s,baz=283,slow=3.1,SNR=25
ILAR ScP **ScP 06 43 53.2 +2.4**
comp=Z,1.8nm,0.6s,baz=280,slow=3.2,SNR=12
ILAR LR LR 06 45 25.1
comp=Z,626nm,19.2s,baz=226,slow=40
comp=Z,11nm,0.6s
COLD Coldfoot 21.01 31 P P 06 36 15.8 +1.1
baz=235,SNR=57
K24K Donnelly Dome 21.05 42 IAmb IAmb 06 36 31.3
comp=Z,91nm,0.8s
K24K Donnelly Dome 21.05 42 P P 06 36 15.0 -0.1
baz=249,SNR=24
B20K Meade River 21.05 20 IAmb IAmb 06 36 19.2
comp=Z,110nm,0.9s
B20K Meade River 21.05 20 P P 06 36 16.1 +1.1
baz=219,SNR=135
E22K Anaktuvuk Pass 21.07 28 P P 06 36 15.8 +0.4
baz=231,SNR=50
H24K Noodor Dome 21.08 35 IAmb IAmb 06 36 20.1
comp=Z,53nm,0.7s
H24K Noodor Dome 21.08 35 P P 06 36 16.1 +0.7
baz=242,SNR=72
GLB Gilahina Butte 21.25 49 IAmb IAmb 06 36 22.9
comp=Z,61nm,0.6s
BGLC Bering Glacier 21.26 52 P P 06 36 17.1 -0.2
baz=262
D22K Ayikyak River 21.31 26 P P 06 36 18.8 +0.8
baz=228,SNR=100
B21K Ikpikpuk River 21.34 23 IAmb IAmb 06 36 30.8
comp=Z,114nm,1.1s
B21K Ikpikpuk River 21.34 23 P P 06 36 18.8 +0.7
baz=224
RIDG Independent Ri 21.41 42 P 06 36 18.5 -0.7
RIDG IAmb IAmb 06 36 39.8
comp=Z,48nm,0.6s
RIDG Independent Ri 21.41 42 P P 06 36 18.4 -0.7
baz=251,SNR=20
J25K Salcha River, 21.51 40 P P 06 36 19.1 -1.0
baz=248,SNR=27
G24K Hadweenzic Riv 21.64 34 IAmb IAmb 06 36 26.1
comp=Z,111nm,0.9s
G24K Hadweenzic Riv 21.64 34 P P 06 36 21.7 +0.2
baz=240,SNR=89
MENT Mentasta 21.66 45 P P 06 36 24.0 +2.3
E23K Chandalar 21.68 29 P P 06 36 21.9 -0.1
baz=234,SNR=34
DOT Dot Lake 21.72 43 IAmb IAmb 06 36 24.8
comp=Z,55nm,0.6s
PRP Porcupine Dome 21.81 37 P 06 36 23.6 +0.2
PRP Porcupine Dome 21.81 37 P P 06 36 23.2 -0.1
baz=246,SNR=21
M26K Nabesna, AK 21.84 46 P P 06 36 23.2 -0.5
baz=256,SNR=19
L26K Log Cabin Wild 21.84 45 IAmb IAmb 06 36 33.8
comp=Z,82nm,0.9s
L26K Log Cabin Wild 21.84 45 P P 06 36 24.1 +0.4
baz=254,SNR=44
SCRK Sand Creek 21.85 42 P 06 36 22.9 -0.9
SCRK Sand Creek 21.85 42 P P 06 36 22.9 -0.9
baz=251,SNR=40
D23K Nanushuk River 21.92 27 P 06 36 24.8 +0.4
D23K IAmb IAmb 06 36 28.8
comp=Z,88nm,0.8s
D23K Nanushuk River 21.92 27 P P 06 36 25.0 +0.6
baz=231,SNR=112
F24K Squaw Lake 21.92 31 IAmb IAmb 06 36 28.6
comp=Z,65nm,0.7s
F24K Squaw Lake 21.92 31 P P 06 36 25.6 +1.2
baz=238,SNR=130
MESA MESA 21.93 52 P P 06 36 24.8 0.0
baz=263
E24K Your Creek 22.04 30 P P 06 36 26.0 +0.3
baz=236,SNR=80
TOLK Toolik Lake Re 22.04 28 IAmb IAmb 06 36 29.4
comp=Z,97nm,1.2s
TOLK Toolik Lake Re 22.04 28 P P 06 36 25.9 +0.2
baz=233,SNR=66
B22K Teshekpuk Lake 22.14 22 P P 06 36 26.4 -0.4
baz=224,SNR=45
G25K Bearman Lake 22.15 34 P P 06 36 27.0 +0.1
baz=242,SNR=19
A21K Barrow 22.20 18 P P 06 36 27.0 -0.3
baz=218,SNR=33
J26L Joseph Creek 22.20 41 IAmb IAmb 06 36 32.4
comp=Z,38nm,0.6s
J26L Joseph Creek 22.20 41 P P 06 36 26.0 -1.5
baz=251,SNR=60
A22K Sinclair Lake 22.29 20 P P 06 36 28.5 +0.2
baz=221,SNR=102
M27K Edge Creek, AK 22.34 47 IAmb IAmb 06 36 31.3
comp=Z,63nm,0.8s
M27K Edge Creek, AK 22.34 47 P P 06 36 29.5 +0.3
baz=258,SNR=32
FYU Fort Yukon 22.37 35 IAmb IAmb 06 36 33.1
comp=Z,64nm,0.7s
C23K Itkillik River 22.50 25 IAmb IAmb 06 36 32.9
comp=Z,110nm,0.8s
C23K Itkillik River 22.50 25 P P 06 36 30.8 +0.2
baz=229,SNR=125
L27K Beaver Creek, 22.52 45 P P 06 36 30.4 -0.6
baz=256,SNR=21
BCAR Beaver Creek A 22.54 45 P 06 36 30.6 -0.6
D24K Happy Valley 22.56 27 P P 06 36 31.1 -0.2
baz=233
I26K Coal Creek Min 22.64 39 P P 06 36 31.6 -0.6
baz=249
K27K Chicken 22.67 42 P P 06 36 32.1 -0.3
baz=254
F25K Christian Rive 22.70 32 P P 06 36 32.8 -0.1
baz=241,SNR=84
PINM Pinnacle 22.77 53 P P 06 36 33.3 -0.3
baz=265
BVCY Beaver Creek 22.81 47 P P 06 36 33.9 -0.1
baz=259,SNR=14
O28M Mount Upton 22.87 51 P P 06 36 33.6 -1.3
baz=263
YUK3 Moose Creek 22.88 49 P P 06 36 33.0 -1.9
baz=261,SNR=15
C24K Franklin Bluff 22.94 26 P P 06 36 34.9 -0.4
baz=232
BMAR Burnt Mountain 22.98 33 P 06 36 35.4 -0.3
E25K Arctic Village 22.99 31 P P 06 36 35.6 -0.2
baz=240,SNR=55
G26K Porcupine Rive 23.05 35 IAmb IAmb 06 36 40.0
comp=Z,99nm,0.7s
G26K Porcupine Rive 23.05 35 P P 06 36 35.6 -0.7
baz=245,SNR=171
YUK8 Steele Glacier 23.14 50 P P 06 36 36.6 -0.9
baz=262,SNR=13
PNL Peninsula 23.16 54 P P 06 36 36.7 -0.8
baz=267
F26K Sheenjek River 23.26 33 P P 06 36 38.0 -0.4
baz=243,SNR=61
I27K Kandik River 23.35 39 P P 06 36 38.2 -1.1
baz=250,SNR=18
D25K Kavik River 23.38 28 P P 06 36 38.7 -0.8
baz=236,SNR=88
H27K Steamboat Moun 23.60 37 P P 06 36 39.6 -2.0
baz=249,SNR=5.8
O29M Mount Kennedy 23.62 53 P P 06 36 40.4 -1.6
baz=266
YUK4 Talbot Arm 23.68 50 P P 06 36 42.1 -0.5
baz=263,SNR=16
G27K Doyon Strip 23.76 36 P P 06 36 42.4 -0.8
baz=248,SNR=16
YUK6 Outpost Mounta 23.78 51 P P 06 36 42.6 -0.9
baz=265
DAWY Dawson 23.82 43 P 06 36 42.8 -0.8
DAWY Dawson 23.82 43 P P 06 36 43.1 -0.6
baz=257,SNR=27
M29M Somme Creek 23.92 47 P 06 36 43.7 -1.0
M29M Somme Creek 23.92 47 P P 06 36 43.8 -0.9
baz=261,SNR=35
I28M Miner Creek 23.96 40 IAmb IAmb 06 36 48.9
comp=Z,68nm,0.8s
I28M Miner Creek 23.96 40 P P 06 36 44.5 -0.5
baz=253,SNR=74
P29M Windy Craggy 24.00 54 P P 06 36 44.3 -1.1
baz=268
C26K Camden Bay 24.13 28 P P 06 36 46.5 +0.1
baz=237,SNR=176
L29M L29M 24.18 46 P P 06 36 46.2 -0.8
baz=260,SNR=29
HYT Haines Junctio 24.19 51 P 06 36 46.3 -0.8
HYT Haines Junctio 24.19 51 P P 06 36 47.2 0.0
baz=266
TYV Tymovskoe 24.31 284 *e*P **P 06 36 49.1 +0.9**
TYV *e*S **S 06 41 04.2 +1.1**
TYV pmax pmax
comp=Z,38nm,0.7s
TYV pmax pmax
comp=Z,400nm,4.5s
TYV smax smax
comp=N,300nm,5.9s
TYV smax smax
comp=E,200nm,5.9s
TYV MLR MLR
comp=Z,900nm,18.0s
C27K Jago River 24.33 29 P P 06 36 47.6 -0.7
C27K Jago River 24.33 29 P P 06 36 47.9 -0.4
baz=240,SNR=36
E27K Coleen River 24.34 33 IAmb IAmb 06 36 53.2
comp=Z,36nm,0.7s
E27K Coleen River 24.34 33 P P 06 36 47.3 -1.0
baz=245,SNR=67
J29N Klondike Camp 24.41 42 P P 06 36 48.8 -0.2
baz=257
P30M Million Dollar 24.41 53 P P 06 36 48.7 -0.5
baz=268
N30M Aishikik Lake 24.44 50 P P 06 36 48.0 -1.4
baz=265,SNR=7.1
K29M Barlow Dome 24.58 44 IAmb IAmb 06 36 54.2
comp=Z,59nm,0.7s
K29M Barlow Dome 24.58 44 P P 06 36 49.9 -0.8
baz=259,SNR=79
H29M Whitestone 24.81 38 P P 06 36 51.7 -0.9
baz=253,SNR=5.4
S31K Pelican 24.81 58 P P 06 36 51.9 -0.7
baz=273
O30N Mendenhall 24.87 52 P P 06 36 52.5 -0.8
baz=267
D27M Malcolm River 25.00 31 P P 06 36 54.9 +0.4
baz=244,SNR=40
YUK Yuzh-Kuril'sk 25.03 267 *i*P **P 06 36 55.5 +0.7**
YUK pmax pmax
comp=Z,6.0nm,1.0s
N31M Braeburn, Yuko 25.07 50 P P 06 36 54.2 -0.8
baz=266
G29M Pine Creek 25.15 37 P P 06 36 55.1 -0.5
baz=252,SNR=16
E28M Babbage River 25.21 33 IAmb IAmb 06 37 02.2
comp=Z,35nm,0.6s
E28M Babbage River 25.21 33 P P 06 36 56.9 +0.7
baz=247,SNR=69
SKAG Skagway 25.23 55 P P 06 36 55.7 -0.7
baz=271
J30M Hart River 25.23 43 P P 06 36 55.6 -1.0
baz=259,SNR=20
UGL Uglegorsk 25.25 280 *e*P **P 06 36 56.8 +0.1**
UGL *e*S **S 06 41 23.5 +5.5**
UGL pmax pmax
comp=Z,200nm,0.9s
I30M Mount Dempster 25.35 41 IAmb IAmb 06 36 58.6
comp=Z,38nm,0.7s
I30M Mount Dempster 25.35 41 P P 06 36 56.5 -1.1
baz=257,SNR=47
SIT Sitka 25.37 60 P P 06 36 55.9 -1.8
baz=276
WHY Whitehorse 25.46 52 P 06 36 58.3 -0.4
WHY Whitehorse 25.46 52 P P 06 36 58.1 -0.6
baz=269
EPYK Eagle Plains 25.49 38 P P 06 36 57.8 -1.0
baz=255,SNR=11
YSS Yuzhno-Sakhali 25.64 275 P 06 37 00.2 0.0
YSS IAmb IAmb 06 37 02.2
comp=Z,126nm,0.8s
YSS Yuzhno-Sakhali 25.64 275 P **P 06 37 01.3 +1.0**
YSS Yuzhno-Sakhali 25.64 275*oe*P **P 06 37 01.2 +1.0**
YSS *e*S **S 06 41 20.3 -3.9**
YSS pmax pmax
comp=Z,130nm,0.9s
YSS pmax pmax
comp=Z,300nm,3.5s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=N,400nm,17.0s
YSS MLR MLR
comp=E,300nm,16.0s
E29M Blow River 25.68 34 P P 06 37 00.8 +0.3
baz=249
S32K Killisnoo 25.73 59 P P 06 37 01.4 +0.5
baz=276
D28M Stokes Point 25.76 31 P P 06 37 01.0 -0.1
baz=246,SNR=20
M31M Drury Creek, Y 25.78 48 P P 06 37 00.6 -0.8
baz=266
G30M tAoh Zraii Nji 25.85 37 P P 06 37 00.4 -1.6
baz=254
P32M Atlin 26.05 54 P P 06 37 02.7 -1.2
baz=272
F30M Barrier River 26.19 36 P P 06 37 03.7 -1.4
baz=253,SNR=9.2
FARO Faro, Yukon 26.27 48 P P 06 37 04.1 -1.7
baz=267
H31M Peel River 26.30 40 P P 06 37 05.2 -0.9
baz=258,SNR=19
N32M Quiet Lake 26.35 51 P P 06 37 05.1 -1.5
baz=269
P33M Teslin, Yukon 26.49 53 P P 06 37 06.3 -1.6
baz=271
G31M Satah River 26.57 38 P P 06 37 07.0 -1.5
baz=256
U33K Whale Pass 26.70 62 P P 06 37 07.9 -1.8
baz=279
Q32M Nakina River 26.82 56 P P 06 37 09.8 -1.3
baz=274
F31M Tsiigehtchic 26.90 37 P P 06 37 10.3 -1.1
baz=256,SNR=14
ASAJ Asahikawa 27.03 270 LR LR 06 46 13.1
comp=E,238nm,21.9s,baz=87,slow=32
WRAK Wrangell Islan 27.08 61 P P 06 37 12.1 -1.0
baz=279
INK Inuvik 27.20 35 LR LR 06 49 12.7
comp=E,391nm,19.4s,baz=236,slow=39
INK Inuvik 27.20 35 P P 06 37 13.1 -1.0
baz=254,SNR=22
MMPY Sheldon Lake, 27.26 48 P P 06 37 14.1 -0.7
baz=268,SNR=13
R33M Jennings River 27.46 55 P P 06 37 16.1 -0.6
baz=274
S34M Telegraph Cree 27.52 58 P P 06 37 15.9 -1.2
baz=277
V35K Ketchikan 27.68 63 P P 06 37 18.0 -0.5
baz=282
ERM Erimo 27.78 265 P 06 37 19.6 +0.1
ERM IAmb IAmb 06 37 21.2
comp=Z,54nm,0.9s
ERM Erimo 27.78 265 P **P 06 37 19.9 +0.4**
ERM Erimo 27.78 265*ce*P **P 06 37 19.8 +0.3**
ERM pmax pmax
comp=Z,69nm,1.0s
JEM Erimo 27.78 265 P P 06 37 20.2 +0.7
DLBC Dease Lake 28.04 57 LR LR 06 47 43.5
comp=Z,319nm,21.6s,baz=280,slow=35
DLBC Dease Lake 28.04 57 P P 06 37 20.8 -1.0
baz=277
GRNR Gornyy 28.10 287⇑*i*P P 06 37 12.9 -9.5
GRNR pmax pmax
comp=N,7.0nm,0.7s
GRNR pmax pmax
comp=Z,8.0nm,1.1s
GRNR MLR MLR
comp=N,180nm,15.0s
GRNR MLR MLR
comp=E,210nm,15.0s
GRNR MLR MLR
comp=Z,250nm,17.0s
T35M Bob Quinn 28.13 60 P P 06 37 20.6 -2.0
baz=280
U35K Hyder 28.44 62 P P 06 37 23.1 -2.2
baz=282
WTLY Watson Lake, Y 28.50 53 IAmb IAmb 06 37 23.4
comp=Z,32nm,0.3s
YAK Yakutsk 29.61 311 *i*P **P 06 37 36.5 +0.9**
YAK pmax pmax
comp=Z,13nm,0.9s
TEY Ternei 30.33 276⇑*e*P **P 06 37 40.9 -1.2**
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=E,30nm,0.8s
TEY pmax pmax
comp=Z,50nm,0.8s
TOAD Toad River Com 30.46 55 P P 06 37 41.2 -2.0
baz=280
BBB Bella Bella 30.52 69 LR LR 06 49 43.1
comp=Z,151nm,18.3s,baz=282,slow=36
TIXI Tiksi 30.72 330 P 06 37 44.5 -0.8
TIXI Tiksi 30.72 330 LR LR 06 50 56.1
comp=Z,572nm,19.4s,baz=137,slow=38

TIXI Tiksi 30.72 330 *ce*P **P 06 37 44.8 -0.5**
TIXI pmax pmax
comp=Z,10.0nm,0.8s
TIXI Tiksi 30.72 330 P **P 06 37 47.4 +2.1**
TIXI PcP **PcP 06 40 41.0 -0.5**
C36M Paulatuk 30.77 34 P **P 06 37 45.8 0.0**
baz=263,SNR=8.5
WRGLY Wrigley 30.82 46 **P 06 37 46.0 -0.2**
WRGLY IAmb IAmb 06 37 47.9
comp=Z,26nm,0.8s
WRGLY Wrigley 30.82 46 P **P 06 37 45.6 -0.7**
baz=274,SNR=18
A36M Sachs Harbour 30.85 29 IAmb IAmb 06 37 49.6
comp=Z,63nm,0.8s
A36M Sachs Harbour 30.85 29 P **P 06 37 46.8 +0.4**
baz=257,SNR=93
KOTAN Kotaneelee Air 30.86 52 P **P 06 37 47.4 +0.8**
baz=278
HOLB Holberg 31.04 71 IAmb IAmb 06 37 50.8
comp=Z,42nm,0.7s
KLR Kul'dur 31.47 286 LR LR 06 50 27.5
comp=Z,514nm,21.2s,baz=56,slow=36
KLR Kul'dur 31.47 286 *ce*P **P 06 37 51.6 -0.6**
KLR pmax pmax
comp=Z,80nm,1.3s
JMM Marumori 31.69 261 IAmb IAmb 06 37 55.2
comp=Z,67nm,0.9s
JMM Marumori 31.69 261 P **P 06 37 53.9 -0.3**
ZEA Zeya 32.48 296 *e*P **P 06 37 59.4 -1.6**
ZEA *e* 06 38 18.6
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=Z,200nm,23.0s
CBB Campbell River 32.91 71 IAmb IAmb 06 38 08.8
comp=Z,26nm,0.9s
JSD Sado 33.15 263 IAmb IAmb 06 38 08.2
comp=Z,36nm,0.9s
JSD Sado 33.15 263 P **P 06 38 06.9 -0.1**
USA0B Ussuriysk Arra 33.61 277 **P 06 38 10.1 -0.8**
USA0B IAmb IAmb 06 38 11.2
comp=Z,39nm,0.7s
USA0B Ussuriysk Arra 33.61 277 *i* P **P 06 38 10.2 -0.7**
USRK Ussuriysk Ar. 33.61 277 P **P 06 38 10.0 -0.9**
USRK Ussuriysk Ar. 33.61 277 P **P 06 38 10.2 -0.7**
comp=Z,47nm,0.7s,baz=59,slow=7.7,SNR=65
USRK PcP **PcP 06 40 50.7 +0.8**
comp=Z,5.9nm,0.8s,baz=52,slow=2.5,SNR=5.4
USRK LR LR 06 53 25.9
comp=Z,182nm,18.9s,baz=40,slow=39
comp=Z,47nm,0.7s
HEH HeiHe 33.65 290 *e*P **P 06 38 09.3 -1.8**
HEH PcP **PcP 06 40 49.8 -0.1**
HEH pmax pmax
comp=Z,52nm,0.8s
HEH LR LR
comp=Z,210nm,16.9s
HEH LR LR
comp=Z,250nm,18.6s
HEH LR LR
comp=Z,370nm,15.6s
H11N2 WAKE ISLAND Hy 33.75 206 T T 07 14 01.3
baz=17,slow=76,SNR=8423
H11N3 WAKE ISLAND Hy 33.76 206 T T 07 14 05.3
baz=17,slow=76,SNR=8980
H11N1 WAKE ISLAND Hy 33.77 206 T T 07 14 02.4
baz=17,slow=76,SNR=6166
KIP Kipapa 33.89 145 P **P 06 38 14.6 +1.1**
KIP PcP **PcP 06 40 50.7 -0.3**
MJAR Matsushiro Arr 34.12 261 P **P 06 38 15.8 +0.4**
comp=Z,27nm,0.8s,baz=50,slow=7.2,SNR=111
MJAR PcP **PcP 06 40 51.9 +0.4**
comp=Z,7.3nm,0.8s,baz=56,slow=2.4,SNR=9.9
MJAR LR LR 06 50 27.3
comp=Z,314nm,21.3s,baz=56,slow=33
comp=Z,27nm,0.8s
MAJO Matsushiro 34.12 261 **P 06 38 15.7 +0.2**
MAJO Matsushiro 34.12 261 P **P 06 38 15.9 +0.5**
MAJO Matsushiro 34.12 261 P **P 06 38 15.7 +0.2**
MAJO pmax pmax
comp=Z,81nm,1.0s
MAJO Matsushiro 34.12 261 P **P 06 38 16.0 +0.5**
MAJO PcP **PcP 06 40 51.9 +0.4**
CLRS Cowichan Lake 34.14 73 IAmb IAmb 06 38 18.3
comp=Z,52nm,0.9s
PGC Sidney 34.62 73 IAmb IAmb 06 38 22.2
comp=Z,24nm,1.0s
LLLB Lillooet 34.73 69 IAmb IAmb 06 38 23.0
comp=Z,25nm,0.9s
MDJ Mudanjiang 34.88 280 P **P 06 38 20.8 -1.1**
MDJ pmax pmax
comp=Z,42nm,1.0s
MDJ LR LR
comp=Z,170nm,17.5s
MDJ LR LR
comp=Z,240nm,24.4s
MDJ LR LR
comp=Z,260nm,22.0s
MDJ Mudanjiang 34.88 280 P **P 06 38 22.1 +0.2**
YKAW3 Yellowknife Wh 34.92 46 IAmb IAmb 06 38 23.4
comp=Z,18nm,0.8s
NLWA Neilton Lookou 34.94 75 IAmb IAmb 06 38 35.4
comp=Z,37nm,1.0s
YKA Yellowknife Ar 34.94 47 P **P 06 38 21.8 -0.4**
comp=Z,11nm,0.8s,baz=285,slow=8.2,SNR=119
YKA PcP **PcP 06 40 54.0 +0.7**
comp=Z,11nm,0.8s,baz=288,slow=2.8,SNR=28
YKA ScP **ScP 06 44 33.8 +0.1**
comp=Z,1.9nm,1.0s,baz=287,slow=3.3,SNR=8.3
YKA LR LR 06 55 21.6
comp=Z,301nm,18.5s,baz=270,slow=41
comp=Z,11nm,0.8s
H11S1 WAKE ISLAND Hy 34.97 205 T T 07 15 34.9
baz=17,slow=76
MSHR Mys Shultsa 34.97 276 *ce*P **P 06 38 22.9 +0.2**
MSHR pmax pmax
comp=Z,168nm,0.7s
H11S2 WAKE ISLAND Hy 34.98 205 T T 07 15 33.9
baz=17,slow=76,SNR=6818
H11S3 WAKE ISLAND Hy 34.98 205 T T 07 15 36.1
baz=17,slow=76
YKAW1 Yellowknife Wh 34.99 47 IAmb IAmb 06 38 24.0
comp=Z,15nm,0.7s
JGF Kuroka 35.25 261 P **P 06 38 26.2 +0.9**
JHJ2 Mitsune 35.42 255 P **P 06 38 27.0 +0.4**
JHJ Hachijo jima 2 35.44 255 LR LR 06 50 41.8
comp=Z,170nm,20.5s,baz=51,slow=32
GNW Green Mountain 35.48 74 IAmb IAmb 06 38 48.0
comp=Z,49nm,0.8s
E03A Lebam 35.52 76 IAmb IAmb 06 38 48.5
comp=Z,60nm,1.0s
INU Inuyama 35.63 261 IAmb IAmb 06 38 31.1
comp=Z,25nm,0.9s
INU Inuyama 35.63 261 P **P 06 38 28.6 +0.2**
INU Inuyama 35.63 261 P **P 06 38 28.2 -0.2**
INU PcP **PcP 06 40 56.2 +0.3**
BNX BinXian 35.66 283 ⇑P **P 06 38 27.0 -1.6**
BNX pmax pmax
comp=Z,70nm,0.9s
LON Longmire 36.48 75 IAmb IAmb 06 38 56.3
comp=Z,27nm,0.8s
COR Corvallis 36.65 79 P **P 06 38 39.3 +2.3**
COR pP **sP 06 38 54.9 -3.1**
LTY Liberty 36.92 73 IAmb IAmb 06 38 59.0
comp=Z,30nm,0.8s
H04D Lebanon 37.02 78 IAmb IAmb 06 39 01.5
comp=Z,57nm,0.9s
I03D Drain, OR 37.08 80 IAmb IAmb 06 39 04.8
comp=Z,22nm,0.8s
MXC Moxie City 37.48 74 IAmb IAmb 06 38 47.1
comp=Z,56nm,1.4s
E07A Sunnyside 37.75 74 IAmb IAmb 06 39 06.2
comp=Z,32nm,0.7s
L02F Cave Junction 37.80 82 IAmb IAmb 06 38 49.6
comp=Z,22nm,0.7s
CN2 Changchun 37.85 281 ⇑P **P 06 38 46.3 -0.9**
CN2 *ep*P sP 06 39 06.3 -2.1
CN2 *eS* **S 06 44 30.5 -3.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,5.0s
BBOR Butler Butte 37.93 81 IAmb IAmb 06 39 09.8
comp=Z,50nm,1.0s
G06A Carlson Farm, 37.94 76 IAmb IAmb 06 39 00.3
comp=Z,50nm,1.6s
I05D Terrebonne, OR 37.98 78 IAmb IAmb 06 39 09.3
comp=Z,58nm,1.0s
D08A Wollman Farm, 38.06 73 IAmb IAmb 06 39 00.6
comp=Z,42nm,0.8s
BOD Bodaibo 38.19 307 *e*P **P 06 38 47.6 -2.3**
BOD pmax pmax
comp=Z,18nm,1.4s
E08A Dider Farm, El 38.26 73 IAmb IAmb 06 39 10.6
comp=Z,34nm,0.8s
JCJ Chichijima 38.41 246 LR LR 06 52 32.6
comp=Z,132nm,20.4s,baz=39,slow=33
JCJ Chichijima 38.41 246 P **P 06 38 53.2 +1.1**
PINE Pine Mountain 38.51 78 IAmb IAmb 06 39 06.6
comp=Z,76nm,1.4s
L04D Klamath Falls 38.52 81 **P 06 38 54.3 +1.2**
L04D IAmb IAmb 06 38 55.7
comp=Z,25nm,0.8s
YPT Yellepit 38.54 74 IAmb IAmb 06 39 13.1
comp=Z,56nm,0.8s
YBH Yreka Blue Hor 38.54 82 **P 06 38 54.8 +1.6**
YBH IAmb IAmb 06 39 14.5
comp=Z,20nm,0.9s
YBH Yreka Blue Hor 38.54 82 LR LR 06 51 54.4
comp=Z,195nm,19.4s,baz=306,slow=32
YBH Yreka Blue Hor 38.54 82 P **P 06 38 54.8 +1.6**
YBH pmax pmax
comp=Z,20nm,0.9s
NEW Newport 38.55 70 **P 06 38 53.5 +0.4**
NEW Newport 38.55 70 LR LR 06 52 37.0
comp=Z,190nm,20.8s,baz=298,slow=33
NEW Newport 38.55 70 P **P 06 38 53.5 +0.4**
NEW pmax pmax
comp=Z,67nm,0.7s
HIA Hailar 38.56 292 P **P 06 38 52.7 -0.4**
HIA Hailar 38.56 292 *c i*P **P 06 38 52.1 -1.0**
HIA pmax pmax
comp=Z,19nm,0.7s
HIA Hailar 38.56 292 P **P 06 38 52.4 -0.8**
HIA PcP **PcP 06 41 04.7 +0.1**
J05D Fort Rock, OR 38.60 79 IAmb IAmb 06 39 15.4
comp=Z,54nm,1.1s
JMN Monobe 38.64 262 IAmb IAmb 06 38 56.2
comp=Z,58nm,1.1s
JMN Monobe 38.64 262 P **P 06 38 55.5 +1.5**
K04D Chiloquin, OR 38.64 80 IAmb IAmb 06 38 56.8
comp=Z,52nm,0.7s
E09A Wood Farm, Sta 38.80 73 IAmb IAmb 06 39 06.8
comp=Z,38nm,0.9s
LNOR Lincton Mounta 39.04 74 IAmb IAmb 06 39 09.2
comp=Z,57nm,1.6s
I07A Izee 39.23 77 IAmb IAmb 06 39 19.7
comp=Z,48nm,0.8s
O02D Mt. Diablo Mer 39.38 84 **P 06 39 02.2 +2.0**
O02D IAmb IAmb 06 39 03.2
comp=Z,24nm,0.8s
RES Resolute Bay 39.53 25 LR LR 06 57 47.2
comp=Z,305nm,20.9s,baz=242,slow=40
F10A Beach Ranch, E 39.62 73 IAmb IAmb 06 39 24.9
comp=Z,22nm,0.9s
HATC Hat Creek Radi 39.84 83 IAmb IAmb 06 39 06.6
comp=Z,57nm,0.7s
KSRS Korea Array 39.96 271 P **P 06 39 05.8 +0.8**
comp=Z,42nm,0.8s,baz=57,slow=8.2,SNR=215
KSRS PcP **PcP 06 41 10.2 +1.1**
comp=Z,3.4nm,0.9s,baz=62,slow=3.8,SNR=4.9
KSRS LR LR 06 54 44.9
comp=Z,77nm,21.9s,baz=55,slow=35
comp=Z,42nm,0.8s
KS19 Wonju Array Si 39.97 271 P **P 06 39 05.3 +0.3**
KS19 IAmb IAmb 06 39 06.8
comp=Z,48nm,0.8s
KSAR Wonju Array Be 39.99 271 **P 06 39 05.9 +0.7**
KSAR Wonju Array Be 39.99 271 P **P 06 39 05.9 +0.7**
BMO Blue Mountains 40.16 75 **P 06 39 07.8 +1.2**
BMO IAmb IAmb 06 39 26.3
comp=Z,21nm,0.8s
BMO Blue Mountains 40.16 75 P **P 06 39 07.8 +1.2**
BMO pmax pmax
comp=Z,21nm,0.8s
J08A Circle Bar Ran 40.25 77 IAmb IAmb 06 39 27.6
comp=Z,32nm,0.9s
WVOR Wild Horse Val 40.66 79 IAmb IAmb 06 39 13.2
comp=Z,36nm,0.8s
INCN Inchon 40.75 272 **P 06 39 11.8 +0.3**
INCN Inchon 40.75 272 P **P 06 39 12.3 +0.8**
INCN Inchon 40.75 272 P **P 06 39 11.8 +0.3**
INCN pmax pmax
comp=Z,93nm,0.8s
PLID Pearl Lake 40.82 74 **P 06 39 12.3 +0.1**
JNU Nakatsue 40.91 264 **P 06 39 12.8 0.0**
JNU IAmb IAmb 06 39 14.6
comp=Z,84nm,1.0s
JNU Nakatsue 40.91 264 LR LR 06 54 54.4
comp=Z,280nm,21.9s,baz=58,slow=34
JNU Nakatsue 40.91 264 P **P 06 39 13.7 +0.9**
TJN Taejon 40.98 270 **P 06 39 13.2 -0.2**
TJN Taejon 40.98 270 P **P 06 39 14.3 +0.9**
TJN Taejon 40.98 270 *c i*P **P 06 39 13.3 -0.1**
MSO Missoula 41.13 70 **P 06 39 14.7 +0.1**
MSO IAmb IAmb 06 39 15.9
comp=Z,48nm,0.9s
MPK Martis Peak 41.62 83 IAmb IAmb 06 39 40.1
comp=Z,71nm,1.3s
PNTR Pine Nut 42.01 83 IAmb IAmb 06 39 26.1
comp=Z,43nm,0.6s
BLKN Baker Lake 42.37 40 **P 06 39 23.1 -1.2**
HLID Hailey 42.60 75 IAmb IAmb 06 39 47.0
comp=Z,35nm,0.9s
DL2 Dalian 43.00 277 P **P 06 39 28.3 -1.5**
DL2 S **S 06 45 50.6 -0.3**
DL2 pmax pmax
comp=Z,63nm,1.0s
DL2 pmax pmax
comp=Z,120nm,4.9s
DL2 LR LR
comp=Z,160nm,16.2s
DL2 LR LR
comp=Z,160nm,15.2s
DL2 LR LR
comp=Z,390nm,23.2s
NVAR Mina Array Bea 43.22 83 P **P 06 39 32.6 +0.8**
NVAR Mina Array Bea 43.22 83 P **P 06 39 33.0 +1.1**
comp=Z,11nm,0.8s,baz=288,slow=7.7,SNR=41
NVAR PcP **PcP 06 41 21.2 +1.0**
comp=Z,3.7nm,0.7s,baz=271,slow=3.4,SNR=4.0
NVAR ScP **ScP 06 45 09.9 +3.6**
comp=Z,1.8nm,0.8s,baz=307,slow=5.4,SNR=4.0
NVAR LR LR 06 54 23.7
comp=Z,142nm,21.9s,baz=320,slow=32
comp=Z,11nm,0.8s
XLT XiLinHaoTe 43.48 287 *e*P **P 06 39 34.3 +0.6**
XLT PcP **PcP 06 41 22.3 +1.5**
XLT pmax pmax
comp=Z,80nm,0.9s
XLT LR LR
comp=Z,300nm,21.3s
XLT LR LR
comp=Z,400nm,21.4s
ELK Elko 43.72 78 IAmb IAmb 06 39 37.9
comp=Z,26nm,0.8s
YHL Hebgen Lake 43.82 71 IAmb IAmb 06 39 38.3
comp=Z,65nm,1.0s
FFC Flin Flon 43.83 54 **P 06 39 35.6 -0.6**
FFC Flin Flon 43.83 54 P **P 06 39 35.6 -0.6**
FFC pmax pmax
comp=Z,4.0nm,0.7s
FFC Flin Flon 43.83 54 P **P 06 39 35.6 -0.6**
FFC PcP **PcP 06 41 21.9 +0.2**
YHB Horse Butte 43.87 71 IAmb IAmb 06 39 38.6
comp=Z,72nm,0.9s
YMR Madison River 44.05 71 IAmb IAmb 06 39 40.1
comp=Z,62nm,0.9s
YNM Yellowstone No 44.17 71 IAmb IAmb 06 39 53.1
comp=Z,45nm,1.1s
YNR Norris Junctio 44.19 71 IAmb IAmb 06 39 41.8
comp=Z,60nm,0.9s
YFT Old Faithful 44.25 71 IAmb IAmb 06 39 43.1
comp=Z,46nm,0.9s
YNE Yellowstone No 44.42 70 IAmb IAmb 06 39 42.8
comp=Z,36nm,0.8s
H17A Grant Village 44.43 71 IAmb IAmb 06 39 55.0
comp=Z,73nm,1.0s
YMP Mirror Lake Pl 44.49 71 IAmb IAmb 06 39 43.8
comp=Z,29nm,0.8s
NRIK Noril'sk 44.50 330 **P 06 39 41.0 -0.5**
NRIK Noril'sk 44.50 330 P **P 06 39 41.4 -0.1**
comp=Z,7.5nm,0.8s,baz=74,slow=9.0,SNR=14
NRIK PP **PcP 06 41 24.0 +0.3**
comp=Z,14nm,0.8s,baz=64,slow=3.6,SNR=8.8
NRIK LR LR 06 58 21.9
comp=Z,230nm,21.5s,baz=54,slow=36
comp=Z,7.5nm,0.8s
HVU Hansel Valley 44.61 76 IAmb IAmb 06 40 03.2
comp=Z,37nm,0.7s
TPAW Teton Pass 44.72 73 IAmb IAmb 06 39 46.2
comp=Z,51nm,1.6s
AHID Auburn Hatcher 45.05 74 IAmb IAmb 06 39 58.3
comp=Z,26nm,1.0s
ILON Igloolik, Nuna 45.20 30 **P 06 39 46.2 -0.8**
ILON IAmb IAmb 06 41 26.6
comp=Z,22nm,0.7s
S11A Rachel 45.29 82 IAmb IAmb 06 40 02.4
comp=Z,28nm,0.9s
TPNV Topopah Spring 45.41 83 IAmb IAmb 06 39 51.2
comp=Z,33nm,0.8s
HWUT Hardware Ranch 45.45 75 IAmb IAmb 06 40 01.6
comp=Z,31nm,1.1s
DUG Dugway, Tooele 45.53 78 IAmb IAmb 06 39 52.3
comp=Z,51nm,0.9s
BJI Beijing 45.67 282 P **P 06 39 50.9 -0.2**
BJI pmax pmax
comp=Z,15nm,0.9s
BJI pmax pmax
comp=Z,80nm,4.5s
BJI LR LR
comp=Z,83nm,16.2s
BJI LR LR
comp=Z,92nm,17.3s
BJI LR LR
comp=Z,130nm,16.0s
LAO LASA Array 45.69 66 IAmb IAmb 06 39 52.8
comp=Z,50nm,1.0s
BJT Baijiatuau 45.69 282 P **P 06 39 51.8 +0.5**
BJT Baijiatuau 45.69 282 P **P 06 39 51.6 +0.4**
TCUT Toone Canyon 45.83 76 IAmb IAmb 06 40 12.9
comp=Z,37nm,0.8s
DGMT Dagmar 45.85 63 IAmb IAmb 06 41 30.3
comp=Z,37nm,0.8s
PRN Pahroc Range 45.87 82 IAmb IAmb 06 39 55.0
comp=Z,47nm,0.9s
PSUT Pine Spring 45.91 80 IAmb IAmb 06 40 00.3
comp=Z,25nm,0.8s
BW06 Boulder Array 45.97 73 IAmb IAmb 06 39 55.4
comp=Z,46nm,0.8s
PD31 Pinedale Array 45.97 73 IAmb IAmb 06 39 55.4
comp=Z,46nm,0.8s
PDAR Pinedale Array 45.97 73 P **P 06 39 54.3 +0.6**
PDAR Pinedale Array 45.97 73 P **P 06 39 54.1 +0.4**
comp=Z,25nm,0.6s,baz=315,slow=3.6,SNR=251
PDAR LR LR 06 56 53.3
comp=Z,117nm,21.7s,baz=298,slow=33
comp=Z,25nm,0.6s
GSC Goldstone, Bar 46.12 86 IAmb IAmb 06 40 15.5
comp=Z,21nm,0.8s
MPU Maple Canyon 46.36 77 IAmb IAmb 06 39 58.6
comp=Z,20nm,0.8s
SHPR Sheep Range 46.37 83 **P 06 39 56.6 -0.2**
ULN Ulaanbaatar 46.52 296 **P 06 39 57.8 0.0**
ULN IAmb IAmb 06 41 32.5
comp=Z,20nm,0.8s
ULN Ulaanbaatar 46.52 296 *ce*P **P 06 39 58.5 +0.7**
ULN pmax pmax
comp=Z,15nm,1.0s
BSUT Blindstream Ca 46.57 76 IAmb IAmb 06 40 18.6
comp=Z,23nm,0.9s
TCRU Three Creeks R 46.73 79 IAmb IAmb 06 40 02.0
comp=Z,30nm,0.8s
SONM Songino Array 46.90 297 P **P 06 40 00.8 0.0**
SONM IAmb IAmb 06 41 33.9
comp=Z,20nm,0.9s
SONM Songino Array 46.90 297 P **P 06 40 00.7 -0.1**
comp=Z,8.9nm,0.8s,baz=58,slow=8.4,SNR=37
SONM PcP **PcP 06 41 33.1 +0.5**
comp=Z,19nm,0.9s,baz=76,slow=2.7,SNR=17
SONM ScP **ScP 06 45 22.5 +1.4**
comp=Z,1.7nm,0.8s,baz=64,slow=3.4,SNR=4.3
SONM LR LR 07 00 39.7
comp=Z,528nm,19.9s,baz=76,slow=37
comp=Z,8.9nm,0.8s
JOW Kunigami 46.91 259 LR LR 07 00 06.9
comp=Z,46nm,19.3s,baz=176,slow=36
MVU Marysvale 46.94 79 IAmb IAmb 06 40 03.5
comp=Z,26nm,0.8s
TMUT Trail Mountain 47.06 77 IAmb IAmb 06 40 05.9
comp=Z,54nm,0.8s
V12A Nelson 47.06 84 **P 06 40 02.8 +0.7**
V12A IAmb IAmb 06 40 23.1
comp=Z,63nm,1.9s
ZAK Zakamensk 47.19 301 *e*P **P 06 40 02.3 -0.7**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
LCMT Little Creek M 47.24 81 IAmb IAmb 06 40 05.7
comp=Z,24nm,0.9s
MTPU Mount Pierson 47.24 79 IAmb IAmb 06 40 06.2
comp=Z,25nm,0.9s
NEEM North Greenlan 47.27 14 *i* P **P 06 40 02.5 -1.1**
NEEM IAmb IAmb 06 40 05.9
comp=Z,36nm,0.8s
Q16A Castle Valley 47.32 78 IAmb IAmb 06 40 06.3
comp=Z,31nm,0.8s
PFO Pinyon Flats O 47.44 87 P **P 06 40 05.0 -0.2**
PFO Pinyon Flats O 47.44 87 LR LR 06 55 38.1
comp=Z,168nm,22.0s,baz=236,slow=30
PFO Pinyon Flats O 47.44 87 P **P 06 40 05.0 -0.2**
PFO pmax pmax
comp=Z,28nm,1.8s
PFO Pinyon Flats O 47.44 87 P **P 06 40 05.5 +0.3**
PFO pP **pP 06 40 21.1 +1.3**
PFO PcP **PcP 06 41 35.3 +0.6**
P18A Preston Nutter 47.44 76 IAmb IAmb 06 40 25.9
comp=Z,36nm,0.9s
TIA Tai'an 47.48 278 P **P 06 40 05.3 0.0**
TIA pmax pmax
comp=Z,83nm,0.8s
KNB Kanab 47.49 81 **P 06 40 07.1 +1.5**
KNB IAmb IAmb 06 40 07.9
comp=Z,21nm,0.8s
KNB Kanab 47.49 81 P **P 06 40 07.1 +1.5**
KNB pmax pmax
comp=Z,21nm,0.8s
SRU San Rafael Swe 47.59 77 IAmb IAmb 06 40 09.5
comp=Z,48nm,0.9s
K22A Casper 47.84 71 IAmb IAmb 06 40 09.1
comp=Z,46nm,0.9s
HHC Hu-ho-hao-te 47.98 286 *e*P **P 06 40 09.8 +0.5**
HHC pP pP 06 40 23.8 -0.4
HHC S **S 06 46 58.3 -4.5**
HHC pmax pmax
comp=Z,48nm,0.9s
HHC pmax pmax
comp=Z,190nm,4.5s
HHC LR LR
comp=Z,170nm,17.6s
HHC LR LR
comp=Z,250nm,16.0s
HHC LR LR
comp=Z,440nm,17.6s
GUMO Guam 48.02 232 LR LR 06 56 16.9
comp=Z,52nm,21.8s,baz=60,slow=31
GUMO Guam 48.02 232 P **P 06 40 07.3 -2.3**
CBX Cerro Bola 48.17 89 IAmb IAmb 06 40 22.6
comp=Z,54nm,1.5s
U15A North Rim 48.20 81 IAmb IAmb 06 40 13.3
comp=Z,39nm,0.9s
HNS HongShan 48.21 280 ⇑P **P 06 40 11.6 +0.7**
HNS S **S 06 47 07.3 +1.4**
HNS pmax pmax
comp=Z,92nm,1.0s
HNS LR LR
comp=Z,180nm,20.6s
HNS LR LR
comp=Z,250nm,13.7s
BLYC Blythe 48.55 86 IAmb IAmb 06 40 33.6
comp=Z,20nm,0.9s
GLA Glamis 48.83 86 IAmb IAmb 06 40 17.2
comp=Z,20nm,0.8s
ESJX Sierra Juarez 48.83 88 IAmb IAmb 06 40 36.3
comp=Z,68nm,2.0s
PV21 Cone Mtn., Par 48.88 77 IAmb IAmb 06 40 21.5
comp=Z,33nm,0.7s
PV14 Lion Creek, Pa 48.97 77 IAmb IAmb 06 40 36.2
comp=Z,44nm,0.8s
PV19 Morning Glory 49.03 77 IAmb IAmb 06 40 18.8
comp=Z,46nm,0.8s

BTO	**Baotou**	**49.05**	**287**	⇑*i*P	**P**	**06 40 18.8**	**+1.3**
BTO				pP	**sP**	**06 40 37.4**	**-1.6**
BTO				sP	pP	06 40 46.4	+14
BTO				PP	**PP**	**06 42 13.3**	**+2.1**
BTO				S	**S**	**06 47 18.6**	**+0.6**
BTO				sS	**sS**	**06 47 47.9**	**+4.8**
BTO				SS	**SS**	**06 50 41.9**	**-7.2**
BTO				pmax	pmax		
	comp=Z,610nm,0.9s						
BTO				pmax	pmax		
	comp=Z,860nm,4.3s						
BTO				LR	LR		
	comp=Z,450nm,16.6s						
BTO				LR	LR		
	comp=Z,580nm,23.1s						
BTO				LR	LR		
	comp=Z,760nm,22.7s						
PV16	**Nyswonger Mesa**	**49.07**	**77**	IAmb	IAmb	06 40 19.2	
	comp=Z,48nm,0.8s						
PV05	**Paradox Valley**	**49.11**	**77**	IAmb	IAmb	06 40 20.4	
	comp=Z,36nm,0.8s						
NJ2	**Nanjing**	**49.13**	**272**	⇑P	**P**	**06 40 17.6**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,39nm,1.0s						
PV07	**Paradox Valley**	**49.16**	**77**	IAmb	IAmb	06 40 21.1	
	comp=Z,33nm,0.8s						
PV15	**Paradox Valley**	**49.32**	**77**	IAmb	IAmb	06 40 21.0	
	comp=Z,38nm,0.8s						
WUAZ	**Wupatki**	**49.35**	**82**		**P**	**06 40 19.7**	**-0.2**
WUAZ				IAmb	IAmb	06 40 21.8	
	comp=Z,29nm,0.8s						
ULM	**Lac du Bonnet**	**49.36**	**57**	P	**P**	**06 40 18.2**	**-1.4**
ULM	**Lac du Bonnet**	**49.36**	**57**	P	**P**	**06 40 18.8**	**-0.8**
	comp=Z,5.2nm,0.7s,baz=308,slow=9.8,SNR=5.3						
ULM				LR	LR	07 02 56.0	
	comp=Z,131nm,18.1s,baz=289,slow=38						
	comp=Z,5.2nm,0.7s						
ULM	**Lac du Bonnet**	**49.36**	**57**	*i* P	**P**	**06 40 19.3**	**-0.3**
TIY	**Taiyuan**	**49.41**	**282**	*eP*	**P**	**06 40 21.3**	**+1.1**
TIY				S	**S**	**06 47 22.5**	**-0.4**
TIY				pmax	pmax		
	comp=Z,53nm,0.5s						
TIY				LR	LR		
	comp=Z,150nm,25.4s						
TIY				LR	LR		
	comp=Z,150nm,30.2s						
TIY				LR	LR		
	comp=Z,170nm,28.2s						
MVCO	**Mesa Verde**	**50.03**	**78**	IAmb	IAmb	06 40 27.2	
	comp=Z,42nm,1.2s						
ISCO	**Idaho Springs**	**50.13**	**73**	IAmb	IAmb	06 40 38.7	
	comp=Z,36nm,1.2s						
SPITS	**Spitsbergen Ar**	**50.31**	**356**	P	**P**	**06 40 25.8**	**-0.6**
	comp=Z,35nm,0.8s,baz=51,slow=6.6,SNR=42						
SPITS				PcP	**PcP**	**06 41 44.1**	**-0.2**
	comp=Z,26nm,0.8s,baz=79,slow=2.2,SNR=3.0						
SPITS				LR	LR	07 03 18.5	
	comp=Z,125nm,18.4s,baz=336,slow=38						
	comp=Z,35nm,0.8s						
SPB2	**Spitsbergen Ar**	**50.31**	**356**	P	**P**	**06 40 26.2**	**-0.3**
AGMN	**Agassiz Nation**	**50.52**	**59**	IAmb	IAmb	06 40 28.5	
	comp=Z,24nm,1.2s						
S22A	**4UR Ranch, Cre**	**50.70**	**76**	IAmb	IAmb	06 40 32.6	
	comp=Z,24nm,0.9s						
EPLO	**Experimental L**	**50.83**	**57**		**P**	**06 40 29.3**	**-1.4**
EPLO				IAmb	IAmb	06 40 31.1	
	comp=Z,18nm,0.7s						
X18A	**Snowflake**	**50.88**	**81**	IAmb	IAmb	06 40 33.5	
	comp=Z,23nm,0.8s						
Q24A	**Divide**	**50.94**	**74**	IAmb	IAmb	06 40 51.6	
	comp=Z,14nm,0.8s						
LYN	**LuoYang**	**51.44**	**279**	⇑*i*P	**P**	**06 40 35.8**	**+0.3**
LYN				pP	pP	06 40 52.0	+1.4
LYN				pmax	pmax		
	comp=Z,140nm,0.7s						
LYN				LR	LR		
	comp=Z,300nm,19.2s						
LYN				LR	LR		
	comp=Z,140nm,16.5s						
LYN				LR	LR		
	comp=Z,230nm,18.6s						
SDCO	**Great Sand Dun**	**51.51**	**75**	IAmb	IAmb	06 40 56.7	
	comp=Z,27nm,0.9s						
F33A	**5 Mile Ranch,**	**51.77**	**62**	IAmb	IAmb	06 41 51.9	
	comp=Z,12nm,0.8s						
TUC	**Tucson**	**51.85**	**84**	P	**P**	**06 40 39.4**	**+0.7**
TUC				IAmb	IAmb	06 40 40.2	
	comp=Z,16nm,0.8s						
TUC	**Tucson**	**51.85**	**84**	P	**P**	**06 40 39.4**	**+0.7**
TUC				pmax	pmax		
	comp=Z,16nm,0.8s						
TUC	**Tucson**	**51.85**	**84**	P	**P**	**06 40 39.3**	**+0.7**
TUC				PcP	**PcP**	**06 41 50.8**	**-0.1**
YOJ	**Yonaguni jima**	**51.88**	**262**	P	**P**	**06 40 36.8**	**-2.0**
YOJ	**Yonaguni jima**	**51.88**	**262**	P	**P**	**06 40 39.2**	**+0.4**
YOJ	**Yonaguni jima**	**51.88**	**262**	P	**P**	**06 40 36.8**	**-2.0**
YOJ				pmax	pmax		
	comp=Z,63nm,1.0s						
T25A	**Trinidad**	**52.56**	**75**	IAmb	IAmb	06 41 05.1	
	comp=Z,60nm,1.0s						
DUN6	**Lazy B Ranch**	**52.73**	**83**	IAmb	IAmb	06 40 47.1	
	comp=Z,49nm,1.3s						
ANMO	**Albuquerque**	**52.76**	**79**	P	**P**	**06 40 45.8**	**+0.3**
ANMO	**Albuquerque**	**52.76**	**79**	LR	LR	07 00 32.9	
	comp=Z,131nm,21.8s,baz=120,slow=33						
ANMO	**Albuquerque**	**52.76**	**79**	P	**P**	**06 40 45.8**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,12nm,0.9s						
ANMO	**Albuquerque**	**52.76**	**79**	P	**P**	**06 40 45.8**	**+0.3**
ANMO				PcP	**PcP**	**06 41 54.6**	**+0.2**
FRB	**Frobisher Bay**	**52.78**	**32**	LR	LR	07 06 28.4	
	comp=Z,362nm,18.4s,baz=311,slow=40						
ECSD	**EROS Data Cent**	**52.90**	**64**	IAmb	IAmb	06 41 55.6	
	comp=Z,19nm,0.9s						
NACB	**Ninganchiao**	**52.97**	**263**	IAmb	IAmb	06 40 47.0	
	comp=Z,38nm,1.0s						
WHN	**Wuhan**	**52.98**	**274**	⇑P	**P**	**06 40 46.8**	**-0.1**
WHN				pmax	pmax		
	comp=Z,280nm,0.8s						
EYMN	**Ely**	**53.05**	**57**	IAmb	IAmb	06 40 48.3	
	comp=Z,15nm,0.9s						
Y22D	**IRIS PASSCAL I**	**53.05**	**80**	IAmb	IAmb	06 40 50.0	
	comp=Z,39nm,0.8s						
Y22D	**IRIS PASSCAL I**	**53.05**	**80**	P	**P**	**06 40 48.6**	**+1.0**
	baz=312						
SUMG	**Summit**	**53.14**	**14**	IAmb	IAmb	06 41 17.5	
	comp=Z,70nm,1.7s						
SUMG	**Summit**	**53.14**	**14**	*i* P	**P**	**06 40 47.0**	**-1.0**
SUMG				IAmb	IAmb	06 40 50.4	
	comp=Z,11nm,0.6s						
CRNM	**Carthage**	**53.25**	**80**	P	**P**	**06 40 49.1**	**0.0**
319A	**Douglas**	**53.42**	**84**	IAmb	IAmb	06 41 11.1	
	comp=Z,17nm,0.9s						
SSLB	**Suanglung**	**53.65**	**263**	P	**P**	**06 40 52.3**	**+0.3**
TBO	**Thunder Bay**	**53.69**	**55**	IAmb	IAmb	06 40 52.7	
	comp=Z,19nm,1.0s						
YULB	**Yu-li**	**53.72**	**262**	IAmb	IAmb	06 41 01.5	
	comp=Z,48nm,1.2s						
YULB	**Yu-li**	**53.72**	**262**	P	**P**	**06 40 52.9**	**+0.4**
E38A	**The Farm, Brul**	**53.86**	**58**	IAmb	IAmb	06 40 53.3	
	comp=Z,26nm,0.7s						
XAN	**Xi'an**	**53.96**	**281**	⇑P	**P**	**06 40 53.8**	**-0.4**
XAN				pP	pP	06 41 07.0	-2.4
XAN				pmax	pmax		
	comp=Z,110nm,0.9s						
XAN				pmax	pmax		
	comp=Z,230nm,4.7s						
XAN				LR	LR		
	comp=Z,270nm,15.1s						
XAN				LR	LR		
	comp=Z,230nm,16.5s						
XAN				LR	LR		
	comp=Z,290nm,14.4s						
XAN	**Xi'an**	**53.96**	**281**	P	**P**	**06 40 53.8**	**-0.4**
RTBA	**Rita Blanca**	**54.03**	**75**	IAmb	IAmb	06 40 56.0	
	comp=Z,30nm,0.8s						
L34A	**Svendsen Farm,**	**54.16**	**66**	P	**P**	**06 40 55.1**	**-0.4**
TPUB	**Ta-pu**	**54.21**	**263**	P	**P**	**06 40 55.9**	**-0.1**
ZALV	**Zalesovo Beam**	**54.21**	**314**	P	**P**	**06 40 54.7**	**-0.9**
ZALV	**Zalesovo Beam**	**54.21**	**314**	P	**P**	**06 40 54.5**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=39,slow=8.4,SNR=7.7						
ZALV				PcP	**PcP**	**06 41 59.4**	**+0.1**
	comp=Z,22nm,0.7s,baz=32,slow=4.3,SNR=35						
ZALV				LR	LR	07 05 11.3	
	comp=Z,197nm,20.4s,baz=62,slow=37						
	comp=Z,1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**54.21**	**314**	P	**P**	**06 40 54.7**	**-0.9**
CBKS	**Cedar Bluff**	**54.26**	**71**	P	**P**	**06 40 56.8**	**+0.5**
CBKS	**Cedar Bluff**	**54.26**	**71**	P	**P**	**06 40 56.8**	**+0.5**
CBKS				pmax	pmax		
	comp=Z,124nm,0.9s						
QZH	**Quanzhou**	**54.28**	**266**	P	**P**	**06 40 56.6**	**+0.1**
QZH				pmax	pmax		
	comp=Z,70nm,1.3s						
I37A	**Lemond, Waseca**	**54.51**	**62**	IAmb	IAmb	06 40 58.7	
	comp=Z,31nm,0.8s						
EPT	**El Paso**	**54.87**	**82**	IAmb	IAmb	06 41 02.3	
	comp=Z,49nm,0.8s						
G40A	**Rib Lake**	**55.44**	**59**	IAmb	IAmb	06 42 05.6	
	comp=Z,18nm,0.8s						
SFJD	**Kangerlussuaq**	**55.45**	**22**	LR	LR	07 08 22.0	
	comp=Z,118nm,19.4s,baz=310,slow=40						
COWI	**Conover**	**55.47**	**58**	IAmb	IAmb	06 41 05.2	
	comp=Z,16nm,0.7s						
CNSH	**ChangSha**	**55.51**	**273**	P	**P**	**06 41 05.0**	**-0.3**
CNSH				pmax	pmax		
	comp=Z,40nm,0.7s						
MNTX	**Cornudas Mount**	**55.61**	**81**	IAmb	IAmb	06 41 07.8	
	comp=Z,30nm,0.8s						
MSTX	**Muleshoe**	**55.66**	**77**	IAmb	IAmb	06 41 08.4	
	comp=Z,32nm,0.7s						
LZH	**Lanzhou**	**55.67**	**286**	⇑P	**P**	**06 41 07.6**	**+0.9**
LZH				pP	pP	06 41 22.4	+0.5
LZH				sP	sP	06 41 31.9	+3.5
LZH				PcP	**PcP**	**06 42 06.3**	**+0.8**
LZH				sS	sS	06 49 13.3	-0.5
LZH				pmax	pmax		
	comp=Z,220nm,1.0s						
LZH				LR	LR		
	comp=Z,340nm,18.2s						
LZH				LR	LR		
	comp=Z,400nm,18.2s						
LZH				LR	LR		
	comp=Z,560nm,18.5s						
GTA	**Gaotai**	**55.84**	**292**	P	**P**	**06 41 07.6**	**-0.2**
GTA				pmax	pmax		
	comp=Z,100nm,1.2s						
GTA				pmax	pmax		
	comp=Z,220nm,4.5s						
GTA				LR	LR		
	comp=Z,210nm,19.6s						
GTA				LR	LR		
	comp=Z,210nm,18.5s						
GTA				LR	LR		
	comp=Z,390nm,19.3s						
I40A	**Norwalk**	**56.12**	**60**	IAmb	IAmb	06 41 10.0	
	comp=Z,16nm,0.7s						
NOKA	**Waynoka**	**56.18**	**72**	IAmb	IAmb	06 41 21.2	
	comp=Z,58nm,1.1s						
ENH	**Enshi**	**56.19**	**277**		**P**	**06 41 09.3**	**-1.0**
ENH				IAmb	IAmb	06 41 10.5	
	comp=Z,42nm,0.8s						
ENH	**Enshi**	**56.19**	**277**	P	**P**	**06 41 09.4**	**-0.9**
ENH	**Enshi**	**56.19**	**277**	P	**P**	**06 41 09.7**	**-0.6**
ENH				pP	**pP**	**06 41 25.8**	**+0.4**
ENH				PcP	**PcP**	**06 42 07.5**	**+0.1**
F42A	**Maple Grove Fa**	**56.22**	**57**	IAmb	IAmb	06 41 11.1	
	comp=Z,33nm,0.6s						
VHRN	**Van Horn**	**56.49**	**81**	IAmb	IAmb	06 41 14.1	
	comp=Z,21nm,0.8s						
OK032	**Salt Plains WL**	**56.50**	**71**	IAmb	IAmb	06 41 15.4	
	comp=Z,28nm,0.7s						
KUQ	**Kuujjuuaa**	**56.75**	**37**	IAmb	IAmb	06 42 09.6	
	comp=Z,33nm,0.8s						
JFWS	**Jewell Farm**	**56.97**	**61**	IAmb	IAmb	06 41 15.8	
	comp=Z,22nm,0.7s						
DKNS	**Dickens**	**57.00**	**76**	IAmb	IAmb	06 41 18.9	
	comp=Z,32nm,0.9s						
L40A	**Anamosa**	**57.00**	**62**	IAmb	IAmb	06 41 17.6	
	comp=Z,17nm,0.7s						
I42A	**Draeger Farm,**	**57.04**	**59**	IAmb	IAmb	06 41 16.6	
	comp=Z,14nm,0.7s						
POST	**Post**	**57.06**	**77**	IAmb	IAmb	06 41 19.4	
	comp=Z,43nm,0.9s						
ODSA	**Odessa**	**57.07**	**78**	IAmb	IAmb	06 41 17.2	
	comp=Z,30nm,0.8s						
H43A	**Windswept, Lux**	**57.27**	**58**	IAmb	IAmb	06 41 18.2	
	comp=Z,30nm,0.7s						
SN07	**Snyder 07**	**57.41**	**76**	IAmb	IAmb	06 41 21.7	
	comp=Z,24nm,1.0s						
T35A	**Sooner Cattle**	**57.42**	**70**	IAmb	IAmb	06 41 19.4	
	comp=Z,59nm,1.1s						
WMOK	**Wichita Mounta**	**57.56**	**74**	IAmb	IAmb	06 41 21.2	
	comp=Z,22nm,0.8s						
SN05	**Snyder 5**	**57.56**	**77**	IAmb	IAmb	06 41 20.7	
	comp=Z,18nm,0.7s						
ALPN	**Alpine**	**57.61**	**81**	IAmb	IAmb	06 41 21.2	
	comp=Z,17nm,0.8s						
JMIC	**Jan Mayen**	**57.64**	**4**	LR	LR	07 05 39.9	
	comp=Z,78nm,20.5s,baz=43,slow=36						
APMT	**Aspermont**	**57.72**	**76**	IAmb	IAmb	06 41 23.3	
	comp=Z,39nm,0.8s						
QUOK	**Quay**	**57.81**	**71**	IAmb	IAmb	06 41 32.5	
	comp=Z,31nm,0.9s						
L42A	**Oliver, Polo**	**57.90**	**62**	IAmb	IAmb	06 41 21.9	
	comp=Z,35nm,1.2s						
LPIG	**La Paz**	**57.91**	**91**	LR	LR	07 01 42.7	
	comp=Z,40nm,20.9s,baz=290,slow=31						
ARCES	**ARCESS Array B**	**58.06**	**350**	P	**P**	**06 41 21.9**	**-1.0**
	comp=Z,6.0nm,0.4s,baz=25,slow=7.5,SNR=64						
ARCES				PcP	**PcP**	**06 42 13.6**	**-0.5**
	comp=Z,16nm,0.7s,baz=15,slow=5.1,SNR=11						
	comp=Z,6.0nm,0.4s						
N41A	**Harden Midland**	**58.11**	**63**	IAmb	IAmb	06 41 24.0	
	comp=Z,38nm,1.0s						
X34A	**Smith Ranch, M**	**58.22**	**73**	IAmb	IAmb	06 41 44.4	
	comp=Z,34nm,1.2s						
TX31	**Lajitas Ar. Si**	**58.32**	**82**	IAmb	IAmb	06 41 26.4	
	comp=Z,15nm,0.8s						
TXAR	**Lajitas Array**	**58.32**	**82**	P	**P**	**06 41 25.6**	**+0.2**
TXAR	**Lajitas Array**	**58.32**	**82**	P	**P**	**06 41 25.4**	**0.0**
	comp=Z,13nm,0.7s,baz=301,slow=4.9,SNR=169						
TXAR				LR	LR	07 06 56.0	
	comp=Z,39nm,18.0s,baz=320,slow=36						
	comp=Z,13nm,0.7s						
TXAR	**Lajitas Array**	**58.32**	**82**	P	**P**	**06 41 25.6**	**+0.2**
W35A	**Tecumseh**	**58.41**	**72**	P	**P**	**06 41 26.3**	**+0.5**
WTFS	**Witchita Falls**	**58.41**	**74**	IAmb	IAmb	06 41 45.1	
	comp=Z,32nm,0.8s						
LVZ	**Lovozero**	**58.44**	**346**	P	**P**	**06 41 24.6**	**-1.0**
LVZ				IAmb	IAmb	06 41 26.5	
	comp=Z,26nm,0.9s						
LVZ	**Lovozero**	**58.44**	**346**	*ce*P	**P**	**06 41 25.3**	**-0.2**
LVZ				pmax	pmax		
	comp=Z,22nm,0.7s						
ZSN	**Zaisan**	**58.51**	**308**	*eP*	**P**	**06 41 26.1**	**-0.2**
ZSN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZSN	**Zaisan**	**58.51**	**308**	*eP*	**P**	**06 41 26.2**	**-0.2**
	comp=Z,8.9nm,0.7s						
SZP	**Santa**	**58.62**	**258**	P	**P**	**06 41 27.9**	**+0.5**
L44A	**Lake County Fo**	**58.74**	**60**	IAmb	IAmb	06 41 29.0	
	comp=Z,42nm,0.9s						
OZNA	**Ozona**	**58.77**	**78**	IAmb	IAmb	06 41 29.0	
	comp=Z,21nm,0.7s						
RLO	**Rose Lookout**	**58.81**	**70**	IAmb	IAmb	06 41 29.1	
	comp=Z,44nm,1.0s						
APA	**Apatity**	**58.93**	**346**	*i* P	P	06 41 22.6	-6.3
APA				MLR	MLR		
	comp=Z,400nm,21.0s						
U38A	**Gravette**	**59.00**	**69**	IAmb	IAmb	06 41 30.1	
	comp=Z,37nm,0.8s						
KURK	**Kurchatov**	**59.20**	**314**	P	**P**	**06 41 29.8**	**-1.2**
KURK				IAmb	IAmb	06 42 20.0	
	comp=Z,15nm,0.7s						
KURK	**Kurchatov**	**59.20**	**314**	*ce*P	**P**	**06 41 30.0**	**-1.0**
KURK				pmax	pmax		
	comp=Z,13nm,0.9s						
CD2	**Chengdu**	**59.28**	**282**	⇑P	**P**	**06 41 32.0**	**+0.1**
CD2				pmax	pmax		
	comp=Z,70nm,0.6s						
CD2				LR	LR		
	comp=Z,210nm,14.6s						
CD2				LR	LR		
	comp=Z,220nm,19.7s						
KURBB	**Kurchatov Arra**	**59.30**	**314**	P	**P**	**06 41 30.0**	**-1.7**
	comp=Z,6.7nm,0.5s,baz=42,slow=6.7,SNR=46						
KURBB				PcP	**PcP**	**06 42 18.9**	**-0.3**
	comp=Z,14nm,0.9s,baz=45,slow=3.4,SNR=16						
KURBB				LR	LR	07 09 10.6	
	comp=Z,317nm,18.1s,baz=163,slow=38						
	comp=Z,6.7nm,0.5s						
KURBB	**Kurchatov Arra**	**59.30**	**314**	P	**P**	**06 41 29.7**	**-2.0**
HHAR	**Hobbs**	**59.37**	**69**	IAmb	IAmb	06 41 32.5	
	comp=Z,34nm,0.9s						
Z35A	**Perchaven, San**	**59.44**	**74**	IAmb	IAmb	06 41 34.9	
	comp=Z,34nm,0.9s						
FW06	**Azle**	**59.51**	**74**	IAmb	IAmb	06 41 53.3	
	comp=Z,34nm,0.7s						
WMQ	**Urumqi**	**59.57**	**303**	*eP*	**P**	**06 41 36.3**	**+2.5**
WMQ				LR	LR		
	comp=Z,330nm,23.5s						
J47A	**Sunmer**	**59.67**	**58**	IAmb	IAmb	06 41 35.8	
	comp=Z,35nm,0.8s						
CCM	**Cathedral Cave**	**59.70**	**66**	P	**P**	**06 41 34.0**	**-0.7**
CCM				IAmb	IAmb	06 41 34.5	
	comp=Z,22nm,0.7s						
CCM	**Cathedral Cave**	**59.70**	**66**	P	**P**	**06 41 34.0**	**-0.7**
CCM				pmax	pmax		
	comp=Z,22nm,0.7s						
CCM	**Cathedral Cave**	**59.70**	**66**	P	**P**	**06 41 33.5**	**-1.2**
CCM				sP	**sP**	**06 41 57.5**	**+1.2**
CCM				PcP	**PcP**	**06 42 21.3**	**+0.2**
BRDY	**Brady**	**59.81**	**77**	IAmb	IAmb	06 41 38.5	
	comp=Z,30nm,1.2s						
JCT	**Junction City**	**59.89**	**78**	IAmb	IAmb	06 41 39.9	
	comp=Z,44nm,1.2s						
VLDQ	**Val d'Or**	**59.98**	**49**	IAmb	IAmb	06 41 35.3	
	comp=Z,9.2nm,0.7s						
FW14	**Alvarado**	**60.13**	**75**	IAmb	IAmb	06 41 39.9	
	comp=Z,35nm,0.8s						
DRIO	**Del Rio**	**60.13**	**79**	IAmb	IAmb	06 41 37.8	
	comp=Z,17nm,0.7s						
I49A	**Point Hope**	**60.23**	**56**	IAmb	IAmb	06 42 24.7	
	comp=Z,25nm,0.7s						
MK31	**Makanchi Array**	**60.24**	**309**	*ce*P	**P**	**06 41 36.6**	**-1.7**
MKAR	**Makanchi Array**	**60.24**	**309**	P	**P**	**06 41 36.4**	**-1.9**
MKAR	**Makanchi Array**	**60.24**	**309**	P	**P**	**06 41 36.0**	**-2.2**
	comp=Z,12nm,0.8s,baz=59,slow=7.2,SNR=34						
MKAR				PcP	**PcP**	**06 42 23.1**	**0.0**
	comp=Z,3.2nm,0.6s,baz=31,slow=3.8,SNR=4.0						
MKAR				LR	LR	07 07 34.0	
	comp=Z,187nm,21.8s,baz=34,slow=36						
	comp=Z,12nm,0.8s						
WHTX	**Lake Whitney,**	**60.26**	**75**	P	**P**	**06 41 39.2**	**+0.6**
WHTX				IAmb	IAmb	06 41 39.9	
	comp=Z,46nm,1.0s						
MAKZ	**Makanchi**	**60.38**	**309**	P	**P**	**06 41 38.2**	**-1.0**
MAKZ	**Makanchi**	**60.38**	**309**	P	**P**	**06 41 38.2**	**-1.0**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
T42A	**Van Buren**	**60.50**	**67**	IAmb	IAmb	06 41 39.5	
	comp=Z,22nm,0.7s						
TREL	**Terrell**	**60.56**	**74**	IAmb	IAmb	06 42 03.2	
	comp=Z,29nm,1.0s						
GYA	**Guiyang**	**60.64**	**276**	⇓P	**P**	**06 41 41.4**	**0.0**
GYA				pP	pP	06 41 57.5	+0.8
GYA				S	**S**	**06 49 52.9**	**-0.6**
GYA				pmax	pmax		
	comp=Z,43nm,1.0s						
GYA				pmax	pmax		
	comp=Z,70nm,3.1s						
GYA				LR	LR		
	comp=Z,210nm,3.8s						
GYA				LR	LR		
	comp=Z,170nm,3.8s						
GYA				LR	LR		
	comp=Z,56nm,5.0s						
MANU	**Manus Island**	**60.76**	**220**	IAmb	IAmb	06 41 42.9	
	comp=Z,21nm,0.9s						
BUKO	**Buck Lake**	**60.92**	**53**	IAmb	IAmb	06 42 27.2	
	comp=Z,18nm,0.9s						
GOMU	**GeErMu**	**60.92**	**292**	P	**P**	**06 41 43.0**	**-0.5**
GOMU				S	**S**	**06 49 54.6**	**-2.8**
GOMU				pmax	pmax		
	comp=Z,77nm,0.9s						
GOMU				LR	LR		
	comp=Z,480nm,16.2s						
GOMU				LR	LR		
	comp=Z,290nm,16.7s						
GOMU				LR	LR		
	comp=Z,690nm,16.6s						
435B	**Jarrell**	**61.03**	**76**	IAmb	IAmb	06 41 47.1	
	comp=Z,47nm,1.2s						
BVAR	**Borovoye Array**	**61.03**	**320**	P	**P**	**06 41 43.1**	**-0.4**
	comp=Z,12nm,0.4s,baz=50,slow=6.7,SNR=40						
BVAR				PcP	**PcP**	**06 42 26.1**	**-0.2**
	comp=Z,6.2nm,0.4s,baz=47,slow=3.6,SNR=9.8						
BVAR				LR	LR	07 10 44.3	
	comp=Z,385nm,19.1s,baz=44,slow=39						
	comp=Z,12nm,0.4s						
BRVK	**Borovoye**	**61.05**	**320**	P	**P**	**06 41 43.5**	**-0.2**
BRVK				IAmb	IAmb	06 42 26.9	
	comp=Z,14nm,0.9s						
BRVK	**Borovoye**	**61.05**	**320**	*i* P	**P**	**06 41 44.2**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRVK	**Borovoye**	**61.05**	**320**	P	**P**	**06 41 43.7**	**+0.1**
BRVK				PcP	**PcP**	**06 42 26.1**	**-0.2**
PBMO	**Poplar Bluff**	**61.06**	**66**	P	**P**	**06 41 43.4**	**-0.6**
CGM3	**Cape Girardeau**	**61.13**	**66**	IAmb	IAmb	06 41 44.4	
	comp=Z,12nm,0.7s						
LCAR	**Lake Charles**	**61.13**	**68**	IAmb	IAmb	06 41 44.3	
	comp=Z,32nm,1.0s						
K50A	**Casco**	**61.15**	**57**	IAmb	IAmb	06 41 45.5	
	comp=Z,20nm,0.5s						
237A	**Washetta, Mont**	**61.24**	**74**	IAmb	IAmb	06 41 46.9	
	comp=Z,36nm,0.8s						
X40A	**Basin Creek Fa**	**61.26**	**70**	IAmb	IAmb	06 41 56.4	
	comp=Z,29nm,0.9s						
UALR	**University of**	**61.35**	**69**	IAmb	IAmb	06 41 48.1	
	comp=Z,42nm,1.2s						
M50A	**Fremont**	**61.90**	**58**	IAmb	IAmb	06 41 50.7	
	comp=Z,22nm,0.8s						
O49A	**Covington**	**62.06**	**60**	IAmb	IAmb	06 41 51.1	
	comp=Z,36nm,1.1s						
BRZS	**Berezniki**	**62.35**	**316**	*eP*	**P**	**06 41 51.9**	**-0.5**
BRZS	**Berezniki**	**62.35**	**316**	*eP*	**P**	**06 41 52.0**	**-0.5**
WCI	**Wyandotte Cave**	**62.37**	**63**	P	**P**	**06 41 52.9**	**+0.1**
WCI	**Wyandotte Cave**	**62.37**	**63**	P	**P**	**06 41 52.9**	**+0.1**
WCI				pmax	pmax		
	comp=Z,81nm,0.9s						
WCI	**Wyandotte Cave**	**62.37**	**63**	P	**P**	**06 41 52.7**	**-0.1**
N51A	**Ashland**	**62.59**	**58**	IAmb	IAmb	06 42 05.8	
	comp=Z,31nm,0.8s						
ALEG	**Aligegeo Malai**	**62.66**	**204**	P	**P**	**06 41 55.5**	**+0.7**
HKT	**Hockley**	**62.68**	**76**	P	**P**	**06 41 55.5**	**+0.6**
HKT				IAmb	IAmb	06 41 57.3	
	comp=Z,16nm,0

comp=Z,18nm,0.6s
J55A Hilton 63.27 54 IAmb IAmb 06 42 36.9
comp=Z,29nm,1.0s
TDK Taldyqorghan 63.41 309 *e*P **P 06 41 59.2 -0.4**
TDK Taldyqorghan 63.41 309 *e*P **P 06 41 59.2 -0.4**
WVNY West Valley, N 63.49 55 IAmb IAmb 06 42 37.8
comp=Z,18nm,0.8s
HNR Honiara 63.50 204 LR LR 07 03 37.9
comp=Z,105nm,21.8s,baz=98,slow=30
JOF Joensuu 63.60 345 *e*P **P 06 41 59.8 -0.7**
MMNY Mt. Morris Dam 63.61 54 IAmb IAmb 06 42 01.8
comp=Z,19nm,0.8s
KIRV Kirov 63.64 334 LR LR 07 11 49.5
comp=Z,485nm,21.5s,baz=20,slow=38
KIRV Kirov 63.64 334 *ce*P **P 06 42 00.8 0.0**
P52A Corning 63.64 59 IAmb IAmb 06 42 12.5
comp=Z,88nm,1.8s
PZH PanZhiHua 63.65 280 P **P 06 42 01.8 +0.2**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,100nm,5.1s
O53A New Philadelph 63.69 58 IAmb IAmb 06 42 38.5
comp=Z,36nm,0.8s
441A DeRidder 63.70 73 IAmb IAmb 06 42 06.7
comp=Z,51nm,1.1s
ZAIG Zacatecas 63.72 86 P **P 06 42 02.2 -0.1**
DAV Davao City (W) 63.81 247 LR LR 07 05 59.2
comp=Z,166nm,20.0s,baz=355,slow=32
KLMR Klimovskoe 64.00 341 *e*P **P 06 42 01.6 -1.6**
KLMR *e**PP **pP 06 42 16.4 -2.2**
KLMR *e**SP **sP 06 42 23.0 -2.0**
KLMR *e* 06 42 35.6
KLMR *e* 06 44 23.2
KLMR pmax pmax
comp=Z,21nm,1.3s
KLMR MLR MLR
comp=Z,353nm,15.0s
KMI Kunming 64.04 278 ⇑P **P 06 42 04.4 +0.1**
KMI pmax pmax
comp=Z,29nm,0.9s
KMI pmax pmax
comp=Z,110nm,3.0s
JAY Jayapura 64.05 227 LR LR 07 03 12.8
comp=Z,148nm,21.9s,baz=326,slow=30
Q52A Bidwell 64.06 60 IAmb IAmb 06 42 04.7
comp=Z,22nm,0.8s
PDGK Podgornoye 64.11 308 P **P 06 42 03.2 -1.1**
P53A Whipple 64.15 59 IAmb IAmb 06 42 06.2
comp=Z,59nm,1.5s
O54A Avella 64.18 57 IAmb IAmb 06 42 40.6
comp=Z,34nm,0.7s
VBMS Vicksburg 64.24 70 IAmb IAmb 06 42 17.5
comp=Z,51nm,0.9s
SHLS Shalkode 64.25 307 *e*P **P 06 42 03.3 -2.0**
SHLS pmax pmax
comp=Z,10.0nm,0.9s
SHLS Shalkode 64.25 307 *e*P **P 06 42 03.3 -2.0**
comp=Z,10nm,0.9s
S51A Beattyville 64.29 61 IAmb IAmb 06 42 06.4
comp=Z,35nm,0.8s
UZB Uzynbulak 64.47 308 *e*P **P 06 42 06.3 -0.5**
UZB Uzynbulak 64.47 308 *e*P **P 06 42 06.4 -0.4**
D62A Allapoint, All 64.61 46 IAmb IAmb 06 42 41.9
comp=Z,18nm,0.9s
VAF Ylistaro 64.65 350 *e*P **P 06 42 06.4 -0.9**
ZHN Zhinishke 64.75 308 *e*P **P 06 42 08.1 -0.4**
ZHN pmax pmax
comp=Z,10.0nm,0.8s
ZHN Zhinishke 64.75 308 *e*P **P 06 42 08.1 -0.4**
comp=Z,9.6nm,0.8s
SATY Saty 64.84 308 *e*P **P 06 42 08.6 -0.5**
SATY pmax pmax
comp=Z,7.0nm,0.9s
SATY Saty 64.84 308 *e*P **P 06 42 08.7 -0.5**
comp=Z,6.8nm,0.9s
BINY Binghamton 64.97 53 IAmb IAmb 06 42 11.7
comp=Z,19nm,0.7s
TZTN Tazewell 65.10 62 IAmb IAmb 06 42 12.2
comp=Z,54nm,0.9s
SSPA Standing Stone 65.15 56 P **P 06 42 10.4 -0.6**
SSPA PcP **PcP 06 42 43.5 +0.2**
KUU Kurty 65.23 310 *e*P **P 06 42 11.3 -0.2**
KUU Kurty 65.23 310 *e*P **P 06 42 11.4 -0.2**
KEF Keuruu 65.23 348 *e*P **P 06 42 10.2 -1.0**
S54A Dingess, Beckl 65.41 60 IAmb IAmb 06 42 14.1
comp=Z,40nm,1.0s
MDOK Medeo 65.43 309 *e*P **P 06 42 12.4 -0.6**
MDOK Medeo 65.43 309 *e*P **P 06 42 12.5 -0.6**
L59A Walton 65.44 53 IAmb IAmb 06 43 19.4
comp=Z,65nm,1.6s
346A Big Creek Wild 65.45 70 IAmb IAmb 06 42 24.8
comp=Z,36nm,1.0s
AAA Alma-Ata 65.46 309 *e*P **P 06 42 12.8 -0.3**
AAA Alma-Ata 65.46 309 *e*P **P 06 42 12.8 -0.3**
H62A Milan 65.54 49 IAmb IAmb 06 42 15.9
comp=Z,25nm,0.8s
TNSS Tian-Shan 65.57 309 *e*P **P 06 42 13.3 -0.9**
TNSS Tian-Shan 65.57 309 *e*P **P 06 42 13.4 -0.9**
TKL Tuckaleechee C 65.62 63 LR LR 07 12 37.8
comp=Z,155nm,18.4s,baz=334,slow=38
LRAL Lakeview Retre 65.70 67 P **P 06 42 13.9 -0.8**
LRAL IAmb IAmb 06 42 15.1
comp=Z,46nm,0.8s
FIA1 FINESS Array S 65.77 347 P **P 06 42 13.5 -1.1**
FIA1 IAmb IAmb 06 42 45.5
comp=Z,40nm,0.9s
FINES FINESS Array B 65.77 347 **P 06 42 13.8 -0.9**
FINES FINESS Array B 65.77 347 P **P 06 42 13.4 -1.2**
comp=Z,15nm,0.8s,baz=23,slow=7.7,SNR=57
comp=Z,15nm,0.8s
FINES FINESS Array B 65.77 347 P **P 06 42 13.8 -0.9**
WUS Wushi 65.81 306 IAmb IAmb 06 42 18.3
comp=Z,16nm,0.9s
U54A Nelsons Funny 66.07 61 IAmb IAmb 06 42 18.6
comp=Z,55nm,1.0s
SLVN Son La 66.09 275 IAmb IAmb 06 42 18.4
comp=Z,13nm,0.8s
SLVN Son La 66.09 275 P **P 06 42 17.7 +0.3**
TKM2 Tokmak 2 66.31 310 P **P 06 42 19.2 +0.5**
SGDS Sogindy 66.38 311 *e*P **P 06 42 18.7 -0.2**
SGDS Sogindy 66.38 311 *e*P **P 06 42 18.8 -0.2**
LUPA Lehigh Univers 66.46 54 IAmb IAmb 06 42 20.9
comp=Z,26nm,0.9s
TNCH TengChong 66.71 281 P **P 06 42 22.3 +0.8**
TNCH pmax pmax
comp=Z,340nm,2.4s
RAF Rauma 66.72 350 *e*P **P 06 42 20.0 -0.7**
V55A Taylorsville 66.89 61 IAmb IAmb 06 42 23.6
comp=Z,47nm,1.0s
U56A King 66.98 60 IAmb IAmb 06 42 24.6
comp=Z,43nm,1.2s
AAK Ala-Archa 67.06 310 P **P 06 42 22.9 -0.6**
AAK IAmb IAmb 06 42 26.2
comp=Z,10nm,0.6s
AAK Ala-Archa 67.06 310 LR LR 07 14 41.1
comp=Z,197nm,18.9s,baz=14,slow=39
AAK Ala-Archa 67.06 310 *ce*P **P 06 42 23.0 -0.4**
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 67.06 310 P **P 06 42 24.0 +0.5**
AAK pP **pP 06 42 40.4 +1.3**
AAK PcP **PcP 06 42 51.4 +0.1**
T57A Hurt 67.11 59 IAmb IAmb 06 42 26.2
comp=Z,18nm,0.9s
MEF Metsahovi 67.18 348 *e*P **P 06 42 22.9 -0.8**
152A Waverly Hall 67.27 66 IAmb IAmb 06 42 25.0
comp=Z,54nm,0.9s
PAULI Pauline 67.32 62 IAmb IAmb 06 42 26.1
comp=Z,59nm,1.0s
NC204 NORSAR Array S 67.38 355 IAmb IAmb 06 42 26.1
comp=Z,12nm,0.6s
NC303 NORSAR Array S 67.40 355 IAmb IAmb 06 42 52.9
comp=Z,19nm,0.9s
NC405 NORSAR Array S 67.49 355 IAmb IAmb 06 42 53.0
comp=Z,16nm,0.8s
PMG Port Moresby 67.56 217 LR LR 07 06 23.7
comp=Z,126nm,20.8s,baz=14,slow=31
NB201 NORSAR Array S 67.58 355 IAmb IAmb 06 42 27.1
comp=Z,39nm,1.4s
NB2 NORSAR Subarra 67.59 355 P **P 06 42 25.5 -0.8**
comp=Z,4.9nm,0.6s,baz=5.9,slow=6.5
NOA NORSAR Array B 67.59 355 P **P 06 42 25.8 -0.6**
comp=Z,3.7nm,0.5s,baz=12,slow=6.7,SNR=55
comp=Z,3.7nm,0.5s
ARBE Arbavere 67.72 347 *e*P **P 06 42 26.7 -0.3**

LSA Lhasa 67.72 290 P **P 06 42 29.4 +1.2**
LSA Lhasa 67.72 290 P **P 06 42 29.9 +1.7**
AKTO Aktyubinsk 67.80 325 LR LR 07 15 26.0
comp=Z,302nm,18.4s,baz=36,slow=39
JSC Jenkinsville 68.03 62 P **P 06 42 29.3 -0.1**
JSC Jenkinsville 68.03 62 P **P 06 42 29.3 -0.1**
JSC pmax pmax
comp=Z,68nm,0.7s
AB31 Akbulak array 68.07 323 P **P 06 42 28.5 -1.0**
AB31 Akbulak array 68.07 323 P **P 06 42 28.3 -1.2**
ABKAR Akbulak array 68.07 323 P **P 06 42 28.6 -0.9**
M65A Busby, Falmout 68.07 50 P **P 06 42 29.2 -0.4**
baz=320
W57A Gilead 68.08 61 IAmb IAmb 06 42 30.7
comp=Z,36nm,1.0s
V58A Windy Hill, Pi 68.08 60 IAmb IAmb 06 42 31.4
comp=Z,25nm,0.9s
BIRD Birdtown, Kers 68.20 62 IAmb IAmb 06 42 31.7
comp=Z,38nm,0.8s
HFS Hagfors 68.34 354 P **P 06 42 29.8 -1.2**
comp=Z,8.1nm,0.4s,baz=28,slow=3.5,SNR=105
comp=Z,8.1nm,0.4s
DZA Taraz 68.35 312 *e*P **P 06 42 31.1 -0.3**
DZA Taraz 68.35 312 *e*P **P 06 42 31.2 -0.2**
TAOE Nuku Hiva Isla 68.47 139 *e*S S 06 51 18.9 -11
comp=Z,71nm,28.1s
TAOE *e*SS SS 06 55 39.9 -15
comp=Z,68nm,29.9s
TAOE *e*LR LR 07 03 10.7
comp=Z,500nm,23.7s
FAKI Fak Fak 68.50 235 P **P 06 42 31.8 -0.7**
FAKI IAmb IAmb 06 42 33.2
comp=Z,36nm,0.8s
VSU Vasula 68.55 346 *ce*P **P 06 42 30.7 -1.6**
VSU pmax pmax
comp=Z,50nm,1.0s
VSU Vasula 68.55 346 *e*P **P 06 42 30.9 -1.4**
KK31 Karatay Array 68.57 313 P **P 06 42 31.6 -1.1**
KK31 Karatay Array 68.57 313 P **P 06 42 31.6 -1.1**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 68.57 313 P **P 06 42 31.6 -1.1**
KKAR Karatay Array 68.57 313 P **P 06 42 31.6 -1.1**
Y57A Sumter 68.71 62 IAmb IAmb 06 42 34.9
comp=Z,53nm,0.8s
KSH Kashi 68.71 307 P **P 06 42 36.3 +2.5**
KSH PcP **PcP 06 43 00.0 +1.7**
KSH pmax pmax
comp=Z,25nm,1.0s
MTSE Matsula 68.71 348 *e*P **P 06 42 33.0 -0.3**
X58A Rowland 68.88 61 IAmb IAmb 06 42 36.5
comp=Z,31nm,0.7s
BRLS Borolday 68.93 313 *e*P **P 06 42 36.4 +1.4**
BRLS Borolday 68.93 313 *e*P **P 06 42 36.5 +1.4**
NONG Nongkai 69.00 273 P **P 06 42 36.3 +0.6**
KONO Kongsberg 69.06 356 P **P 06 42 35.4 -0.1**
KONO Kongsberg 69.06 356 *ce*P **P 06 42 35.8 +0.4**
KONO pmax pmax
comp=Z,42nm,2.5s
KONO Kongsberg 69.06 356 P **P 06 42 35.2 -0.2**
KONO PcP **PcP 06 42 58.6 -0.6**
MOS Moscow 69.09 339 *e*P **P 06 42 33.7 -2.0**
MOS *e*S **S 06 51 35.4 -0.9**
MOS pmax pmax
comp=Z,40nm,0.8s
MYLDM Lahad Datu 69.47 252 IAmb IAmb 06 42 41.1
comp=Z,44nm,1.0s
MYLDM Lahad Datu 69.47 252 P **P 06 42 39.4 +0.8**
BELG Belogornoye 69.53 332 LR LR 07 15 56.2
comp=Z,322nm,19.9s,baz=31,slow=38
BELG Belogornoye 69.53 332 *i* P **P 06 42 38.1 -0.3**
BELG pmax pmax
comp=Z,6.0nm,1.0s
IUG Iuzhnay 69.53 312 *e*P **P 06 42 38.5 -0.3**
IUG pmax pmax
comp=Z,14nm,1.0s
IUG Iuzhnay 69.53 312 *e*P **P 06 42 38.5 -0.3**
comp=Z,14nm,1.0s
STRU Stroemstad 69.59 355 *i* P **P 06 42 38.9 +0.1**
UBPT Khong Chiam 69.65 269 P **P 06 42 40.0 +0.3**
OBN Obninsk 69.91 340 P **P 06 42 40.2 -0.5**
OBN Obninsk 69.91 340 LR LR 07 17 44.4
comp=Z,177nm,18.2s,baz=26,slow=40
OBN Obninsk 69.91 340 ⇓P **P 06 42 40.3 -0.4**
OBN Obninsk 69.91 340 ⇓P **P 06 42 40.3 -0.4**
OBN Obninsk 69.91 340 P **P 06 42 40.0 -0.7**
OBN PcP **PcP 06 43 02.6 -0.2**
SLIT Sliitere, Latvi 69.97 348 *e*P **P 06 42 40.8 -0.2**
SNART Snartemo 70.47 357 *i* P **P 06 42 45.0 +0.9**
HOMB Homborsund 70.49 356 *i* P **P 06 42 44.1 -0.1**
TJOU Tjoern 70.56 354 *i* P **P 06 42 44.8 +0.1**
BORU Boraas 70.89 354 *i* P **P 06 42 46.6 -0.1**
CHTO Chiang Mai 71.06 277 P **P 06 42 47.8 -0.5**
CHTO Chiang Mai 71.06 277 P **P 06 42 48.9 +0.6**
CHTO Chiang Mai 71.06 277 P **P 06 42 47.8 -0.5**
CHTO pmax pmax
comp=Z,15nm,0.9s
CHTO Chiang Mai 71.06 277 P **P 06 42 48.0 -0.4**
CHTO PcP **PcP 06 43 08.2 -0.1**
ONAU Onsala 71.18 354 *i* P **P 06 42 47.8 -0.6**
MCD Coleburn Disti 71.24 3 *e*P **P 06 42 48.4 -0.4**
MCD IAmb IAmb 06 42 49.8
comp=Z,22nm,1.0s
CM31 Chiang Mai Arr 71.33 276 IAmb IAmb 06 42 51.1
comp=Z,26nm,1.1s
CMAR Chiang Mai Arr 71.33 276 P **P 06 42 49.9 -0.1**
CMAR Chiang Mai Arr 71.33 276 P **P 06 42 50.0 +0.1**
comp=Z,16nm,0.8s,baz=26,slow=6.9,SNR=44
CMAR LR LR 07 18 09.6
comp=Z,60nm,18.3s,baz=65,slow=39
comp=Z,16nm,0.8s
VSVD Vaisvydziai 71.35 347 *e*P **P 06 42 49.4 -0.1**
TOLI2 Tolitoli 71.41 247 IAmb IAmb 06 42 50.4
comp=Z,22nm,0.9s
TOLI2 Tolitoli 71.41 247 P **P 06 42 49.4 -1.0**
FABU Falkenberg 71.52 354 *i* P **P 06 42 50.2 -0.3**
PBUR Paburge 71.58 348 *e*P **P 06 42 50.2 -0.7**
LPSR Galich'ya Gora 71.68 337 *e*P **P 06 42 50.6 -0.9**
LPSR pmax pmax
comp=Z,20nm,1.5s
PABE Paberze 71.81 347 IAmb IAmb 06 42 53.1
comp=Z,36nm,0.6s
PABE Paberze 71.81 347 *e*P **P 06 42 51.8 -0.5**
GAR Garm 71.88 310 IAmb IAmb 06 42 55.3
comp=Z,26nm,0.5s
DEL Delary 71.96 353 *i* P **P 06 42 52.7 -0.5**
NACGM Naroch 71.96 345 *e*P **P 06 42 52.8 -0.4**
comp=Z,11nm,0.8s,baz=16
BLEU Blekinge 71.97 352 *i* P **P 06 42 52.3 -0.9**
MNK Minsk 72.17 344 *i* P **P 06 42 53.4 -1.1**
MNK *i* P **P 06 42 53.4 -1.1**
comp=E,12nm,0.7s
MNK *i* P **P 06 42 53.4 -1.1**
comp=N,9.0nm,0.7s
MNK *i* pP **pP 06 43 09.8 -0.4**
MNK *i* PP **PP 06 45 34.3 -0.3**
MNK *i* PPP PPP 06 47 18.5
MNK *i* S **S 06 52 12.2 +0.1**
MNK *i* sS **sS 06 52 40.6 +3.3**
MNK *i* SS **SS 06 56 51.9 +2.8**
MNK *i* SSS SSS 07 00 12.2
MNK *i* LQ LQ 07 09 50.1
MNK *i* LR LR 07 16 06.2
MNK *i* LRM MLR 07 17 14.7
comp=E,150nm,22.2s
MNK *i* LRM MLR 07 17 14.7
comp=N,90nm,19.2s
MNK *i* LRM MLR 07 17 14.7
comp=Z,202nm,21.5s
MNK Minsk 72.17 344 *i* P **P 06 42 53.3 -1.1**
MNK *i* *PP **pP 06 43 09.8 -0.4**
MNK *i* 06 45 34.3
MNK *i* PPP PPP 06 47 18.5
MNK *i* S **S 06 52 12.1 +0.1**
MNK *i* *SS **sS 06 52 40.5 +3.3**
MNK *i* 06 52 54.2
MNK *i* SS **SS 06 56 51.8 +2.8**
MNK pmax pmax
comp=Z,42nm,0.7s
MNK pmax pmax
comp=E,12nm,0.7s
MNK pmax pmax
comp=N,9.0nm,0.7s

MNK MLR MLR
comp=Z,202nm,22.0s
MNK MLR MLR
comp=E,150nm,22.0s
MNK MLR MLR
comp=N,90nm,19.0s
VRH Novokhopyorsk 72.25 335 *e*P **P 06 42 53.9 -1.0**
VRH pmax pmax
comp=Z,25nm,0.6s
MUD Monsted U'grnd 72.27 356 *e*P **P 06 42 55.1 +0.1**
INVG Invergeldie, C 72.37 3 *e*P **P 06 42 55.0 -0.6**
VORR Voronezh 72.46 337 *e*P **P 06 42 55.4 -0.8**
VORR pmax pmax
comp=Z,25nm,0.4s
LAWE Loch Awe, Argy 72.48 4 *e*P **P 06 42 55.9 -0.3**
LAWE IAmb IAmb 06 42 57.6
comp=Z,25nm,0.6s
BRDH Bariadhala 72.65 285 LR LR 07 18 06.4
comp=Z,109nm,18.4s,baz=69,slow=38
SIMJ Simiganj 72.77 311 P **P 06 42 57.5 -1.0**
VSR Storozhevoye 72.89 336 *e*P **P 06 42 56.5 -2.3**
VSR pmax pmax
comp=Z,10.0nm,0.6s
ESY Stoneypath 72.92 3 *e*P **P 06 42 58.4 -0.5**
NAYO Nakonayok 72.97 272 P **P 06 43 00.0 +0.2**
VORD Divnogorie 73.09 336 *e*P **P 06 42 58.2 -1.8**
VORD pmax pmax
comp=Z,30nm,0.4s
PPT2 Papeete2 73.20 151 *e*S S 06 52 13.4 -11
comp=Z,110nm,31.2s
PPT2 *e*SS SS 06 56 55.6 -12
comp=Z,82nm,25.8s
PPT2 *e*LR LR 07 05 13.1
comp=Z,286nm,29.0s
PPT2 *e*LR LR 07 05 20.3
comp=Z,408nm,28.2s
BSD Bornholm Skovb 73.22 352 *i* P **P 06 43 00.0 -0.7**
COEN Coen 73.26 219 IAmb IAmb 06 43 02.1
comp=Z,20nm,0.9s
COEN Coen 73.26 219 P **P 06 43 01.2 -0.2**
comp=Z,24nm,1.3s
COEN Coen 73.26 219 P **P 06 43 01.9 +0.6**
SUW Suwalki 73.37 347 *e*P **P 06 43 00.4 -1.1**
EKA Eskdalemuir Ar 73.49 3 P **P 06 43 01.9 -0.4**
comp=Z,5.0nm,0.5s,baz=358,slow=4.7,SNR=74
comp=Z,5.0nm,0.5s
ESK Eskdalemuir 73.51 3 P **P 06 43 02.3 -0.1**
ESK Eskdalemuir 73.51 3 *e*P **P 06 43 01.9 -0.5**
ESK IAmb IAmb 06 43 03.9
comp=Z,6.3nm,0.7s
ESK Eskdalemuir 73.51 3 P **P 06 43 02.3 -0.1**
ESK pmax pmax
comp=Z,30nm,1.6s
IDGL Inch Island, C 73.55 6 *e*P **P 06 43 03.1 +0.4**
RGN Rugen 73.92 353 IAmb IAmb 06 43 06.5
comp=Z,40nm,0.7s
RGN Rugen 73.92 353 *e*P 06 43 04.9
comp=Z,31nm,0.7s,baz=6.9,slow=5.6
EDMD Edmundbyers 74.03 2 *e*P **P 06 43 04.8 -0.7**
RAR Rarotonga 74.16 162 LR LR 07 08 11.7
comp=Z,343nm,20.2s,baz=336,slow=30
DZM Mont Dzumac 74.44 195 *e*S **SKiKP 06 52 29.7 +0.5**
comp=Z,112nm,25.1s
DZM Mont Dzumac 74.44 195 *e*LR LR 07 05 54.0
comp=Z,358nm,25.6s
IOMK Kirk Michael 74.52 4 *e*P **P 06 43 08.0 -0.3**
IOMK IAmb IAmb 06 43 09.6
comp=Z,10nm,1.1s
NIL Nilore 74.64 305 P **P 06 43 09.4 0.0**
NIL IAmb IAmb 06 43 13.1
comp=Z,41nm,1.4s
NIL Nilore 74.64 305 P **P 06 43 09.4 0.0**
NIL pmax pmax
comp=Z,41nm,1.4s
BSEG Bad Segeberg 74.73 355 *e*P 06 43 09.4
comp=Z,17nm,0.8s,baz=6.9,slow=5.6
SBUM Sibu 75.41 255 P **P 06 43 13.8 -0.1**
SBUM Sibu 75.41 255 P **P 06 43 15.2 +1.3**
DSB Dublin 75.44 5 IAmb IAmb 06 43 15.5
comp=Z,18nm,0.9s
DSB Dublin 75.44 5 *e*P **P 06 43 13.3 -0.3**
AK23 Malin Array Si 75.53 342 P **P 06 43 13.3 -0.8**
AKASG Malin Array Be 75.57 342 P **P 06 43 13.4 -1.0**
AKASG IAmb IAmb 06 43 15.4
comp=Z,17nm,0.8s
AKASG Malin Array Be 75.57 342 P **P 06 43 13.4 -1.0**
comp=Z,8.1nm,0.4s,baz=21,slow=6.0,SNR=49
AKASG LR LR 07 19 49.8
comp=Z,108nm,20.5s,baz=35,slow=38
comp=Z,8.1nm,0.4s
AKBB Malin Array Si 75.57 342 IAmb IAmb 06 43 15.5
comp=Z,24nm,0.6s
AKBB Malin Array Si 75.57 342 *ce*P **P 06 43 13.6 -0.8**
AKBB Malin Array Si 75.57 342 P **P 06 43 13.5 -0.8**
KIEV Kiev 75.58 342 P **P 06 43 13.4 -1.0**
KIEV IAmb IAmb 06 43 15.5
comp=Z,22nm,0.6s
KIEV Kiev 75.58 342 ⇓P **P 06 43 13.9 -0.5**
KIEV Kiev 75.58 342 ⇓P **P 06 43 13.9 -0.5**
SOR Soroa 75.67 72 IAmb IAmb 06 43 28.3
comp=Z,46nm,1.0s
RUE Ruedersdorf 75.93 352 *e*P 06 43 16.1
comp=Z,14nm,0.8s,baz=6.9,slow=5.6
FOEL Foel Wylfa 75.94 3 *e*P **P 06 43 16.0 -0.5**
FOEL IAmb IAmb 06 43 18.1
comp=Z,7.8nm,0.6s
LLW Llanuwychllyn 75.96 3 *e*P **P 06 43 15.9 -0.7**
KBL Kabul 76.04 308 P **P 06 43 16.6 -1.0**
KBL Kabul 76.04 308 P **P 06 43 16.6 -1.0**
KBL pmax pmax
comp=Z,14nm,0.8s
NRDL Niedersach Rie 76.18 355 *e*P 06 43 17.5
comp=Z,9.0nm,0.7s,baz=6.9,slow=5.6
FLTG Flechtingen 76.27 354 *e*P 06 43 17.7
comp=Z,10nm,0.7s,baz=6.9,slow=5.6
HLM1 Long Mynd 76.32 3 *e*P **P 06 43 18.1 -0.5**
HLM1 IAmb IAmb 06 43 24.4
comp=Z,7.4nm,1.0s
IBBN Ibbenburen 76.48 356 *e*P 06 43 19.6
comp=Z,25nm,0.9s,baz=6.9,slow=5.6
ASSE Asse, Remlinge 76.51 354 *e*P 06 43 19.1
comp=Z,1.3nm,0.7s,baz=6.9,slow=5.6
MTSU Mount Surprise 76.63 216 P **P 06 43 21.1 +0.4**
comp=Z,14nm,0.8s
MTSU Mount Surprise 76.63 216 P **P 06 43 21.2 +0.4**
KDU Kakadu 76.81 229 P **P 06 43 21.1 -0.7**
comp=Z,38nm,0.9s
KDU Kakadu 76.81 229 P **P 06 43 22.0 +0.2**
CLZ Clausthal 76.81 354 *e*P 06 43 21.0
comp=Z,15nm,0.8s,baz=6.9,slow=5.6
KAPI Kappang 76.99 244 LR LR 07 14 48.8
comp=Z,34nm,19.9s,baz=74,slow=34
GTTG Gottingen 77.13 355 *e*P 06 43 22.9
comp=Z,11nm,0.8s,baz=6.9,slow=5.6
CLL Collm 77.16 353 *i* P **P 06 43 22.3 -1.1**
comp=Z,10.0nm,1.0s
CLL *i* PcP **PcP 06 43 33.0 -1.0**
comp=Z,10.0nm,1.1s
CLL AMS AMS 07 21 00.0
comp=Z,200nm,19.9s
CLL Collm 77.16 353 *e*P 06 43 22.8
comp=Z,7.3nm,0.8s,baz=6.9,slow=5.6
KSM Kuching 77.33 256 IAmb IAmb 06 43 26.2
comp=Z,36nm,1.1s
KSM Kuching 77.33 256 P **P 06 43 25.3 +0.4**
DRS Darwin Rock St 77.34 231 P **P 06 43 25.1 +0.3**
NEUB Neuenburg 77.35 354 *e*P 06 43 24.2
comp=Z,16nm,0.9s,baz=6.9,slow=5.6
BUG Bochum--Univer 77.36 356 *e*P 06 43 24.6
comp=Z,4.1nm,0.8s,baz=6.9,slow=5.6
BRG Berggiesshubel 77.51 352 *e*P **P 06 43 24.5 -0.9**
BRG Amp 06 43 26.2
comp=Z,7.9nm,0.8s
BRG Berggiesshubel 77.51 352 P P 06 43 32.2 +6.8
BRG Amp 06 43 35.5
comp=Z,3.3nm,0.8s
BRG Berggiesshubel 77.52 352 *e*P 06 43 25.1
comp=Z,6.3nm,0.8s,baz=6.9,slow=5.6
OJC Ojcow 77.53 348 *e*P **P 06 43 25.1 -0.5**
KASTN Kahler Asten 77.55 356 *e*P 06 43 25.4
comp=Z,5.3nm,0.9s,baz=6.9,slow=5.6
MTN Manton Dam 77.58 230 P **P 06 43 25.9 -0.3**
MTN IAmb IAmb 06 43 26.7
comp=Z,46nm,0.8s
MTN Manton Dam 77.58 230 P **P 06 43 25.8 -0.3**
comp=Z,64nm,0.8s

MTN Manton Dam 77.58 230 P **P 06 43 26.4 +0.3**
ERBR Yeremizino-Bor 77.59 333 *e*P **P 06 43 25.7 -0.2**
ERBR pmax pmax
comp=Z,40nm,0.7s
ERBR MLR MLR
comp=Z,545nm,18.0s
CHVC Chvalec 77.60 351 *i* P **P 06 43 25.7 -0.2**
CHVC AMS AMS 07 17 40.0
comp=Z,200nm,18.6s
CHVC Chvalec 77.60 351 *i* P **P 06 43 25.7 -0.2**
CHVC MLR MLR
comp=Z,200nm,18.6s
OSTC Ostas 77.61 351⇓*i*P **P 06 43 26.6 +0.6**
OSTC AMS AMS 07 15 40.0
comp=Z,200nm,20.8s
OSTC Ostas 77.61 351 *i* P **P 06 43 26.6 +0.6**
OSTC MLR MLR
comp=Z,200nm,20.8s
UPC Upice 77.68 351⇓*i*P **P 06 43 26.6 +0.3**
UPC AMS AMS 07 15 30.0
comp=Z,200nm,19.6s
UPC Upice 77.68 351⇓*i*P **P 06 43 26.6 +0.3**
UPC MLR MLR
comp=Z,200nm,19.6s
PVCC Panska Ves 77.80 352⇓*i*P **P 06 43 27.0 0.0**
PVCC AMS AMS 07 20 10.0
comp=Z,300nm,6.8s
PVCC Panska Ves 77.80 352 *i* P **P 06 43 27.0 0.0**
PVCC MLR MLR
comp=Z,300nm,6.8s
DPC Dobruska-Polom 77.81 350⇓*i*P **P 06 43 27.0 -0.1**
DPC AMS AMS 07 19 50.0
comp=Z,200nm,24.0s
DPC Dobruska-Polom 77.81 350⇓*i*P **P 06 43 27.0 -0.1**
DPC MLR MLR
comp=Z,200nm,24.0s
HSKC Hora Svate Kat 77.82 352⇓*i*P **P 06 43 26.8 -0.3**
HSKC AMS AMS 07 21 50.0
comp=Z,200nm,24.9s
RICC Richard 77.83 352⇓*i*P **P 06 43 27.7 +0.6**
UBBA Unterbreizbach 77.85 355 *e*P 06 43 26.9
comp=Z,2.6nm,0.8s,baz=6.9,slow=5.6
MAK Makhachkala 77.91 327 *e*P **P 06 43 27.3 -0.4**
MAK *e**PP **pP 06 43 44.1 +0.5**
MAK *e**SP **sP 06 43 50.9 +0.9**
MAK *e* 06 46 21.6
MAK *e*PPP PPP 06 48 10.4
MAK *e*S **S 06 53 18.0 +1.9**
MAK *e**SS **ScS 06 53 45.1 +3.2**
MAK *e*SS **SS 06 58 19.9 +3.4**
MAK pmax pmax
comp=Z,20nm,0.3s
MOX Moxa 77.92 354 *e*P 06 43 27.3
comp=Z,8.3nm,0.9s,baz=6.9,slow=5.6
NDNU Novodnistrovsk 77.93 343 P **P 06 43 27.1 -0.7**
KRLC Kraliky 78.03 350⇓*i*P **P 06 43 28.7 +0.4**
KRLC AMS AMS 07 20 10.0
comp=Z,200nm,22.2s
KRLC Kraliky 78.03 350⇓*i*P **P 06 43 28.7 +0.4**
KRLC MLR MLR
comp=Z,200nm,22.2s
TANN Tannenbergstha 78.09 353 *e*P 06 43 28.2
comp=Z,6.9nm,1.2s,baz=6.9,slow=5.6
UCC Uccle 78.09 358 *d*P **P 06 43 28.2 -0.3**
OKC Ostrava-Krasne 78.11 349⇓*i*P **P 06 43 29.2 +0.5**
OKC AMS AMS 07 19 20.0
comp=Z,200nm,16.7s
OKC Ostrava-Krasne 78.11 349⇓*i*P **P 06 43 29.2 +0.5**
OKC MLR MLR
comp=Z,200nm,16.7s
STHS Stebnicka Huta 78.13 347 *e*P **P 06 43 29.4 +0.6**
STHS pmax pmax
comp=Z,25nm,1.4s
STHS Stebnicka Huta 78.13 347 *e*P **P 06 43 29.4 +0.6**
SORM Soroca 78.19 342⇑P **P 06 43 28.7 -0.5**
SORM Soroca 78.19 342 P **P 06 43 28.7 -0.5**
MTO3 Montecristo 78.22 82 IAmb IAmb 06 43 32.1
comp=Z,12nm,0.7s
MEM Membach 78.24 357 *d*P **P 06 43 29.3 -0.1**
comp=Z,12nm,0.9s
MORC Moravsky Berou 78.24 350 *e*P **P 06 43 28.7 -0.8**
MORC Moravsky Berou 78.24 350⇓P **P 06 43 29.2 -0.3**
MORC Moravsky Berou 78.24 350 P **P 06 43 29.2 -0.3**
BTNL Ternell 78.26 357 *d*P **P 06 43 29.9 +0.4**
comp=Z,12nm,0.9s
PRA Prague 78.27 352⇓*i*P **P 06 43 30.0 +0.4**
PRA Prague 78.27 352⇓*i*P **P 06 43 30.0 +0.4**
NKC Novy Kostel 78.27 353⇓*i*P **P 06 43 29.5 -0.1**
NKC AMS AMS 07 21 50.0
comp=Z,200nm,15.9s
NKC Novy Kostel 78.27 353⇓*i*P **P 06 43 29.5 -0.1**
NKC MLR MLR
comp=Z,200nm,15.9s
BSTI Sart Tilman 78.28 357 *d*P **P 06 43 29.5 -0.1**
PRU Pruhonice 78.34 352⇓*e*P **P 06 43 29.7 -0.3**
PRU AMS AMS 07 13 50.0
comp=Z,200nm,17.8s
PRU Pruhonice 78.34 352 *e*P **P 06 43 29.7 -0.3**
PRU MLR MLR
comp=Z,200nm,17.8s
GOPC GO Pecny, Ondr 78.39 351⇓*i*P **P 06 43 30.5 +0.2**
GOPC AMS AMS 07 18 10.0
comp=Z,200nm,10.3s
GOPC GO Pecny, Ondr 78.39 351⇓*i*P **P 06 43 30.5 +0.2**
GOPC MLR MLR
comp=Z,200nm,10.3s
SRIT Nakonsritamara 78.42 269 IAmb IAmb 06 43 32.1
comp=Z,31nm,1.0s
SRIT Nakonsritamara 78.42 269 P **P 06 43 31.6 +0.7**
SOEI Soe 78.44 238 IAmb IAmb 06 44 10.6
comp=Z,32nm,1.0s
BCLA Clavier 78.45 358 *d*P **P 06 43 29.9 -0.7**
comp=Z,9.2nm,0.9s
KOLS Kolonicke sedl 78.45 346 *e*P **P 06 43 30.8 +0.2**
KOLS pmax pmax
comp=Z,16nm,0.7s
KOLS Kolonicke sedl 78.45 346 *e*P **P 06 43 30.8 +0.2**
TNS Taunus Mts 78.53 356 *e*P 06 43 30.8
comp=Z,12nm,0.8s,baz=6.9,slow=5.6
MANZ Manzenberg 78.54 353 *e*P 06 43 30.8
comp=Z,1.1nm,0.8s,baz=6.9,slow=5.6
KIV Kislovodsk 78.55 331 P **P 06 43 31.1 -0.3**
KIV IAmb IAmb 06 43 32.8
comp=Z,36nm,1.0s
KIV Kislovodsk 78.55 331⇑P **P 06 43 30.8 -0.6**
KIV Kislovodsk 78.55 331⇑P **P 06 43 30.8 -0.6**
BMRD Maredsous 78.58 358 *d*P **P 06 43 30.9 -0.4**
comp=Z,14nm,0.9s
LANS Liptovska Anna 78.62 348 *e*P **P 06 43 32.7 +1.1**
LANS pmax pmax
comp=Z,11nm,0.9s
LANS Liptovska Anna 78.62 348 *e*P **P 06 43 32.7 +1.1**
TBI Tubuai 78.68 153 *e*LR LR 07 07 44.5
comp=Z,2μm,30.5s
TBI *e*LR LR 07 07 58.4
comp=Z,842nm,28.2s
KBZ Khabaz 78.69 331 P **P 06 43 32.2 +0.2**
comp=Z,13nm,0.8s,baz=79,slow=2.9,SNR=36
KBZ LR LR 07 23 20.1
comp=Z,310nm,20.3s,baz=18,slow=40
comp=Z,13nm,0.8s
KBZ Khabaz 78.69 331 *ce*P **P 06 43 32.5 +0.5**
KBZ pmax pmax
comp=Z,15nm,0.9s
ROTZ Rotzenmuhle 78.75 353 *e*P 06 43 32.0
comp=Z,1.3nm,0.9s,baz=6.9,slow=5.6
SHA1 Shidzhatmaz 78.76 331 *i* P **P 06 43 32.8 +0.1**
DOU Dourbes 78.79 358 *d*P **P 06 43 32.1 -0.3**
comp=Z,7.5nm,1.0s
DOU *d*pP **pP 06 43 47.2 -1.1**
VRAC Vranov 78.81 350 LR LR 07 17 34.8
comp=Z,86nm,21.8s,baz=11,slow=35
VRAC Vranov 78.81 350 *e*P **P 06 43 32.2 -0.4**
VRAC Vranov 78.81 350⇑P **P 06 43 32.5 -0.1**
VRAC Vranov 78.81 350⇑P **P 06 43 32.5 -0.1**
GRA1 Grafenberg Arr 78.90 354 IAmb IAmb 06 43 35.1
comp=Z,25nm,0.9s
GRFO Grafenberg 78.90 354 P **P 06 43 33.1 0.0**
GRFO IAmb IAmb 06 43 35.0
comp=Z,23nm,0.9s
GRFO Grafenberg 78.90 354 P **P 06 43 33.1 0.0**
GRFO pmax pmax
comp=Z,23nm,0.9s
GRF Grafenberg Arr 78.90 354 *e*P 06 43 32.8
comp=Z,17nm,0.8s,baz=6.9,slow=5.6

ZVC Zvikov 78.91 352⇓*i*P **P 06 43 32.9 -0.3**
TREC Trest 78.93 351⇓*i*P **P 06 43 33.1 -0.2**
TREC AMS AMS 07 18 40.0
comp=Z,300nm,21.0s
TREC Trest 78.93 351 *i* P **P 06 43 33.1 -0.2**
TREC MLR MLR
comp=Z,300nm,21.0s
KRUC Moravsky 79.07 350 *e*P **P 06 43 33.4 -0.6**
JAVC Velka Javorina 79.13 349 *e*P **P 06 43 34.9 +0.5**
KECS Kecovo 79.14 347 *e*P **P 06 43 35.2 +0.8**
KECS pmax pmax
comp=Z,17nm,0.8s
KECS Kecovo 79.14 347 *e*P **P 06 43 35.2 +0.8**
WLF Walferdange 79.18 357 *d*P **P 06 43 33.7 -0.9**
comp=Z,8.6nm,0.8s
WLF *d*PcP **PcP 06 43 42.9 +0.1**
WLF Walferdange 79.18 357 *e*P 06 43 35.2
comp=Z,7.9nm,0.8s,baz=6.9,slow=5.6
KIS Kishinev 79.19 341⇑*i*P **P 06 43 34.0 -0.7**
comp=Z,50nm,0.9s
KIS Kishinev 79.19 341 *c i*P **P 06 43 34.0 -0.7**
KIS pmax pmax
comp=Z,50nm,0.9s
BUR08 Bucovina Ar. S 79.24 344 IAmb IAmb 06 43 36.5
comp=Z,15nm,0.7s
BURAR Bucovina Array 79.26 344⇑P **P 06 43 35.2 0.0**
BURAR Bucovina Array 79.26 344⇑P **P 06 43 35.2 0.0**
MILM Milestii Mici 79.27 341⇑*i*P **P 06 43 34.0 -1.1**
comp=Z,14nm,1.0s
MILM Milestii Mici 79.27 341 *i* PP PP 06 46 36.0 +1.5
MILM *e*L L 07 13 50.0
MILM LRM MLR 07 23 30.0
comp=Z,300nm,19.0s
MILM Milestii Mici 79.27 341⇑P **P 06 43 34.6 -0.4**
MILM Milestii Mici 79.27 341 *c i*P **P 06 43 34.0 -1.1**
MILM *i* 06 46 36.0
MILM pmax pmax
comp=Z,14nm,1.0s
MILM MLR MLR
comp=Z,300nm,14.0s
KHC Kasperske Hory 79.27 352⇓*e*P **P 06 43 35.2 +0.1**
KHC AMS AMS 07 20 20.0
comp=Z,200nm,22.3s
KHC Kasperske Hory 79.27 352 *ce*P **P 06 43 35.3 +0.1**
KHC pmax pmax
comp=Z,26nm,0.8s
WET Wettzell 79.32 353 *e*P 06 43 35.3
baz=6.9,slow=5.6
PRAR RASCA 79.33 343⇑P **P 06 43 34.8 -0.7**
VYHS Vyhne 79.35 349 *e*P **P 06 43 35.4 -0.2**
VYHS pmax pmax
comp=Z,12nm,1.2s
VYHS Vyhne 79.35 349 *e*P **P 06 43 35.4 -0.2**
CKRC Cesky Krumlov 79.52 352 *e*P **P 06 43 36.0 -0.5**
CKRC AMS AMS 07 20 50.0
comp=Z,200nm,24.8s
CKRC Cesky Krumlov 79.52 352 *e*P **P 06 43 36.0 -0.5**
CKRC MLR MLR
comp=Z,200nm,24.8s
GERES GERESS Array B 79.55 352 P **P 06 43 36.2 -0.5**
comp=Z,6.0nm,0.6s,baz=26,slow=5.4,SNR=72
GERES PKKPbc **PKKPbc 07 02 22.4 -0.1**
comp=Z,0.4nm,0.6s,baz=208,slow=2.3,SNR=4.9
GERES LR LR 07 23 41.5
comp=Z,70nm,18.2s,baz=26,slow=39
comp=Z,6.0nm,0.6s
GEC2 GERESS Array S 79.55 352 *e*P 06 43 36.5
comp=Z,6.0nm,0.7s,baz=6.9,slow=5.6
MODS Modra-Piesok 79.65 350 *e*P **P 06 43 38.2 +1.0**
MODS pmax pmax
comp=Z,25nm,0.9s
MODS Modra-Piesok 79.65 350 *e*P **P 06 43 38.2 +1.0**
TGUH Tegucigalpa,Un 79.77 80 IAmb IAmb 06 43 41.5
comp=Z,54nm,0.9s
PSZ Piszkesteto 79.78 348⇓P **P 06 43 38.7 +0.7**
PSZ Piszkesteto 79.78 348 P **P 06 43 40.3 +2.3**
PSZ Piszkesteto 79.78 348 *e*P **P 06 43 38.4 +0.5**
ARCR ARCALIA 79.92 345⇑P **P 06 43 39.4 +0.7**
STU Stuttgart 79.94 355 *e*P **P 06 43 39.0 +0.2**
STU Stuttgart 79.94 355 *e*P 06 43 38.8
baz=6.9,slow=5.6
TESR Tescani 80.07 343⇑P **P 06 43 39.4 -0.1**
SRO Srobarova 80.08 349 *e*P **P 06 43 40.8 +1.3**
SRO pmax pmax
comp=Z,10.0nm,0.8s
SRO Srobarova 80.08 349 *e*P **P 06 43 40.8 +1.3**
CONA Conrad Observa 80.25 350 *i* P **P 06 43 40.3 -0.2**
comp=Z,8.0nm,0.6s,SNR=11
ONER Baraj Valea Uz 80.29 343⇑P **P 06 43 41.2 +0.5**
GHRR 80.36 342⇑P **P 06 43 41.8 +0.7**
CJR Cluj-Napoca 80.41 345⇓P **P 06 43 41.8 +0.4**
CJR Cluj-Napoca 80.41 345⇓P **P 06 43 41.8 +0.4**
FUR Furstenfeldbru 80.41 354 *e*P 06 43 41.4
baz=6.9,slow=5.6
BFO Black Forest 80.42 356 P **P 06 43 40.9 -0.5**
BFO Black Forest 80.42 356 P **P 06 43 40.9 -0.5**
BFO pmax pmax
comp=Z,7.0nm,0.7s
BFO Black Forest 80.43 356 *e*P 06 43 41.8
baz=6.9,slow=5.6
RONA Rosalia, Austr 80.43 350 *i* P **P 06 43 41.4 0.0**
comp=Z,5.2nm,0.6s,SNR=7.8
TGMR Targu Mures 80.43 344⇓P **P 06 43 42.1 +0.7**
VLDR Vladesti 80.44 342⇓P **P 06 43 41.6 +0.1**
DRGR 80.47 346⇓P **P 06 43 41.9 +0.2**
DRGR 80.47 346 P **P 06 43 41.9 +0.2**
MOA Molln 80.48 351 *i* P **P 06 43 41.2 -0.5**
comp=Z,4.3nm,0.7s
MARR Marisel-Cluj 80.52 345⇓P **P 06 43 41.9 -0.1**
SCTR Scanteiesti 80.62 342⇓P **P 06 43 42.4 0.0**
OZUR 80.63 343⇓P **P 06 43 42.9 +0.4**
QIS Mount Isa 80.65 220 P **P 06 43 41.3 -1.4**
comp=Z,8.0nm,1.7s
QIS Mount Isa 80.65 220 P **P 06 43 41.8 -1.0**
VRI Vrincioaia 80.68 343⇑P **P 06 43 42.7 -0.1**
VRI Vrincioaia 80.68 343⇑P **P 06 43 42.7 -0.1**
BIOA Bad Ischl, Aus 80.70 352 *i* P **P 06 43 42.4 -0.5**
comp=Z,5.6nm,0.5s,SNR=9.4
PLOR Plostina 80.71 343⇑P **P 06 43 43.1 +0.1**
PLOR Plostina 80.71 343 P **P 06 43 43.1 +0.1**
ODBI Odobesti 80.72 342⇓P **P 06 43 43.8 +0.8**
RJOB Jochberg 80.72 352 *e*P 06 43 43.0
baz=6.9,slow=5.6
IZVR Izvoarele 80.79 342⇓P **P 06 43 42.7 -0.6**
COVR Voineasa-Covas 80.80 343⇓P **P 06 43 44.2 +0.8**
DOPR Dopca 80.83 344⇑P **P 06 43 44.3 +0.8**
CLF Chambon-Foret 80.89 360 IAmb IAmb 06 43 45.4
comp=Z,109nm,1.6s
TLCR 80.92 341⇓P **P 06 43 43.8 -0.3**
TLCR 80.92 341 P **P 06 43 45.2 +1.2**
ARSA Arzberg 80.95 351 *e*P **P 06 43 44.1 -0.1**
comp=Z,3.4nm,0.5s,SNR=8.4
UBR Ueberruh 80.97 354 *e*P 06 43 44.6
baz=6.9,slow=5.6
BISRR Bisoca 80.99 343⇑P **P 06 43 45.2 +0.6**
BISRR Bisoca 80.99 343 P **P 06 43 45.0 +0.5**
comp=Z,3μcomp=Z,42nm,0.7s
LESA Schwarzleotal 81.04 352 *i* P **P 06 43 45.0 +0.2**
comp=Z,7.3nm,0.5s,SNR=5.9
MYKOM Kota Tinggi 81.05 262 P **P 06 43 46.1 +0.9**
CFR Carcaliu 81.07 341⇑P **P 06 43 44.8 0.0**
CFR Carcaliu 81.07 341 P **P 06 43 44.8 0.0**
GRER 81.10 342⇑P **P 06 43 45.9 +0.9**
RETA Reutte 81.12 354 *i* P **P 06 43 44.7 -0.5**
comp=Z,5.4nm,0.9s
KNRA Kununurra 81.17 231 IAmb IAmb 06 43 46.4
comp=Z,21nm,0.9s
KNRA Kununurra 81.17 231 P **P 06 43 45.2 -0.4**
comp=Z,31nm,1.7s
NEHR Nehoiu 81.18 343⇓P **P 06 43 46.3 +0.8**
MLR Muntele Rosu 81.19 343 IAmb IAmb 06 43 48.0
comp=Z,48nm,1.3s
MLR Muntele Rosu 81.19 343 LR LR 07 25 11.6
comp=Z,168nm,18.8s,baz=37,slow=40
MLR Muntele Rosu 81.19 343⇑P **P 06 43 46.6 +1.0**
MLR Muntele Rosu 81.19 343 P **P 06 43 46.6 +1.0**
MLR Muntele Rosu 81.19 343 P **P 06 43 45.8 +0.2**
comp=Z,29nm,1.1s
WATA Walderalm 81.22 353 *i* P **P 06 43 45.3 -0.4**
comp=Z,23nm,1.0s,SNR=10.0
MOTA Moosalm 81.24 354 *i* P **P 06 43 45.4 -0.5**
comp=Z,6.2nm,0.6s
WTTA Wattenberg 81.28 353 *i* P **P 06 43 45.9 -0.3**
comp=Z,26nm,0.8s,SNR=13
TPGR Topolog 81.32 341⇑P **P 06 43 45.7 -0.5**

TNR Turnu Rosu 81.33 344⇓P **P 06 43 47.1 +0.9**
TNR Turnu Rosu 81.33 344 P **P 06 43 47.1 +0.9**
KBA Koelnbreinsper 81.33 352 *i* P **P 06 43 46.6 +0.2**
comp=Z,23nm,0.6s,SNR=59
GNI Garni 81.34 328 P **P 06 43 47.3 +0.6**
GNI Garni 81.34 328 LR LR 07 24 57.9
comp=Z,186nm,18.8s,baz=25,slow=39
GNI Garni 81.34 328 *ce*P **P 06 43 47.9 +1.3**
GNI pmax pmax
comp=Z,22nm,1.3s
GNI Garni 81.34 328 P **P 06 43 47.2 +0.6**
comp=Z,20nm,1.1s
SQTA Sankt Quirin 81.36 353 *i* P **P 06 43 46.6 +0.1**
comp=Z,12nm,0.6s,SNR=13
DAVA Damuels 81.38 354 *i* P **P 06 43 47.4 +0.8**
comp=Z,0.8nm,0.3s
VOIR 81.40 344⇑P **P 06 43 47.3 +0.6**
VOIR 81.40 344 P **P 06 43 47.3 +0.6**
VOIR 81.40 344 P **P 06 43 47.1 +0.4**
comp=Z,447nmcomp=Z,24nm,1.3s
ISR Istrita 81.43 343⇓P **P 06 43 46.6 -0.3**
ISR Istrita 81.43 343⇓P **P 06 43 46.6 -0.3**
ISR Istrita 81.43 343 P **P 06 43 47.6 +0.7**
comp=Z,41nm,1.2s
ARR Arges 81.54 344⇑P **P 06 43 48.0 +0.6**
SOKA Soboth 81.57 351 *i* P **P 06 43 47.3 -0.3**
comp=Z,12nm,0.5s,SNR=30
SURR Surduc 81.57 346⇑P **P 06 43 47.6 +0.1**
HARR Harsova 81.58 341⇑P **P 06 43 47.5 0.0**
HARR Harsova 81.58 341 P **P 06 43 47.9 +0.4**
FETA Feichten 81.59 354 *i* P **P 06 43 47.6 -0.2**
comp=Z,6.3nm,0.6s,SNR=11
PERS Pernice 81.60 351 *i* P **P 06 43 47.5 -0.3**
LOT Lotru 81.61 345⇑P **P 06 43 47.8 0.0**
MORH Mrgy, Hungar 81.61 348⇓P **P 06 43 47.2 -0.5**
MORH Mrgy, Hungar 81.61 348 P **P 06 43 47.5 -0.2**
comp=Z,6.0nm,1.2s
TLBR Topalu 81.69 341⇑P **P 06 43 48.2 +0.1**
TIRR Tirgusor 81.70 341⇑P **P 06 43 48.2 0.0**
TIRR Tirgusor 81.70 341 P **P 06 43 48.2 0.0**
CHIV Chivirico 81.72 68 IAmb IAmb 06 43 50.1
comp=Z,31nm,0.7s
ABTA Abfaltersbach 81.73 353 *i* P **P 06 43 47.9 -0.6**
comp=Z,11nm,0.8s,SNR=18
OBKA Obir 81.78 351 *e*P **P 06 43 48.3 -0.4**
OBKA Obir 81.78 351 *i* P **P 06 43 48.4 -0.4**
comp=Z,6.7nm,0.4s,SNR=13
BZS Buzias 81.79 346⇑P **P 06 43 48.4 -0.2**
BZS Buzias 81.79 346⇑P **P 06 43 48.4 -0.2**
GZR Gura Zlata 81.82 345⇑P **P 06 43 48.9 -0.1**
GZR Gura Zlata 81.82 345⇑P **P 06 43 48.9 -0.1**
PRED Cave del Predi 81.94 352 IAmb IAmb 06 43 52.3
comp=Z,42nm,1.2s
NMDO Nuevo Mundo 82.09 67 IAmb IAmb 06 43 52.1
comp=Z,27nm,0.8s
WB0 Warramunga Arr 82.12 224 P **P 06 43 49.7 -0.9**
WB0 IAmb IAmb 06 43 50.8
comp=Z,16nm,1.0s
TUE Stuetta 82.22 355 P **P 06 43 51.4 +0.2**
TUE IAmb IAmb 06 43 52.5
comp=Z,14nm,0.8s
TUE Stuetta 82.22 355 P **P 06 43 51.8 +0.6**
comp=Z,70nm,0.7s
HUMR Humele 82.29 343⇑P **P 06 43 50.5 -0.8**
WRA Warramunga Arr 82.30 224 P **P 06 43 50.8 -0.8**
WRA Warramunga Arr 82.30 224 P **P 06 43 50.7 -0.8**
comp=Z,7.7nm,0.8s,baz=36,slow=6.0,SNR=37
WRA PKKPbc **PKKPbc 07 02 18.3 +0.9**
comp=Z,0.3nm,0.6s,baz=225,slow=2.4,SNR=5.7
WRA LR LR 07 18 15.8
comp=Z,79nm,19.0s,baz=178,slow=34
comp=Z,7.7nm,0.8s
WRA Warramunga Arr 82.30 224 P **P 06 43 50.8 -0.8**
WRA pmax pmax
comp=Z,1.0nm,1.2s
CRES Cresnjevec Ost 82.37 350⇑*i*P **P 06 43 49.8 -1.9**
SGRR Singureni 82.41 343⇓P **P 06 43 51.8 -0.1**
SRE Strehaia 82.47 345⇓P **P 06 43 52.6 +0.4**
SRE Strehaia 82.47 345⇓P **P 06 43 52.6 +0.4**
FRGS Fruska Gora 82.50 347⇑*i*P **P 06 43 51.8 -0.6**
CEY Cerknica 82.56 351⇑*i*P **P 06 43 51.7 -1.0**
CEY Cerknica 82.56 351 *i* P **P 06 43 51.8 -1.0**
MDVR Moldovita 82.59 346⇑P **P 06 43 52.3 -0.6**
ACON Acoyapa 82.67 80 IAmb IAmb 06 43 55.2
comp=Z,15nm,0.8s
LHMI Lhok Sumawe 82.68 269 P **P 06 43 54.9 +1.2**
BOJS Bojanci 82.71 350⇑*i*P **P 06 43 52.9 -0.6**
BOJS Bojanci 82.71 350 *i* P **P 06 43 52.9 -0.6**
SKDS Skadanscina 82.79 351⇑*i*P **P 06 43 51.4 -2.5**
PUNG Punghina 82.88 345⇑P **P 06 43 53.7 -0.7**
VLAD Vladila 82.91 344⇑P **P 06 43 53.7 -0.8**
A051A Mrakovica 83.01 349⇑*i*P **P 06 43 53.7 -1.4**
ESPN Las Esperanzas 83.03 79 IAmb IAmb 06 43 57.2
comp=Z,49nm,0.9s
TEKS Tekeris 83.13 347⇑*i*P **P 06 43 54.5 -1.2**
BLY Banja Luka 83.24 349⇑*i*P **P 06 43 55.4 -0.8**
PSI Prapat 83.33 266 LR LR 07 24 33.9
comp=Z,66nm,18.1s,baz=20,slow=38
PSI Prapat 83.33 266 P **P 06 43 58.1 +0.9**
RKT Rikitea 83.42 141 *e*LR LR 07 10 05.3
comp=Z,2μm,25.5s
A050A Klekovaca 83.58 349⇑*i*P **P 06 43 56.9 -1.2**
HAPS Han Pijesak,Bl 83.67 348⇑*i*P **P 06 43 58.4 -0.2**
BOVS Bovan 83.71 346⇓P **P 06 43 58.7 +0.1**
BNI Bardonecchia 83.77 356 IAmb IAmb 06 44 02.3
comp=Z,19nm,0.9s
BBLS Lazi&#263i 83.82 347⇑*i*P **P 06 43 59.5 +0.2**
RUDO Rudo 84.07 347 *e*P **P 06 44 00.0 -0.5**
JTS Las Juntas de 84.10 81 LR LR 07 23 30.9
comp=Z,32nm,18.6s,baz=310,slow=37
ZCCA Zocca 84.23 353 IAmb IAmb 06 44 06.4
comp=Z,35nm,0.7s
SJES Sjenica 84.33 347⇑*i*P **P 06 44 01.6 -0.4**
MSSA Maissana 84.36 354 IAmb IAmb 06 44 03.3
comp=Z,22nm,0.8s
QLP Quilpie 84.42 213 P **P 06 44 02.9 +0.7**
comp=Z,60nm,0.9s
QLP Quilpie 84.42 213 P **P 06 44 02.9 +0.7**
HYB Hyderabad 84.49 291 *e*P **P 06 44 02.7 -0.4**
HYB IVmB_BB 06 44 03.0
comp=Z,920nm,0.7s
HYB *e*pP **pP 06 44 18.0 -1.2**
HYB *e*SKSac **SKSac 06 54 21.3 -0.8**
HYB *e*SKKSac **SKKSac 06 54 27.1 -0.7**
HYB *e*SS **SS 06 59 58.7 +2.6**
UPM Unac-Piva 84.54 347 *e*P **P 06 44 02.2 -0.9**
FITZ Fitzroy Crossi 84.77 232 P **P 06 44 04.4 +0.2**
FITZ Fitzroy Crossi 84.77 232 P **P 06 44 04.4 +0.2**
comp=Z,11nm,0.9s
FITZ Fitzroy Crossi 84.77 232 P **P 06 44 04.8 +0.6**
BRY Bratogost 84.89 348⇑*i*P **P 06 44 03.9 -0.9**
BR106 Keskin Array S 85.00 336 P **P 06 44 05.2 -0.2**
comp=Z,161nmcomp=Z,24nm,0.9s
BR131 Keskin Array S 85.00 336 IAmb IAmb 06 44 06.1
comp=Z,26nm,0.8s
BRTR Keskin Array B 85.00 336 P **P 06 44 04.9 -0.5**
BRTR Keskin Array B 85.00 336 P **P 06 44 05.2 -0.3**
comp=Z,19nm,0.8s,baz=50,slow=2.4,SNR=78
BRTR LR LR 07 27 15.7
comp=Z,85nm,19.4s,baz=350,slow=39
comp=Z,19nm,0.8s
BR105 Keskin Array S 85.02 336 P **P 06 44 05.4 -0.1**
comp=Z,202nmcomp=Z,30nm,0.9s
STON Ston 85.02 348⇑*i*P **P 06 44 04.1 -1.2**
ANTO Ankara 85.08 337 P **P 06 44 05.5 -0.2**
ANTO IAmb IAmb 06 44 07.0
comp=Z,29nm,0.9s
ANTO Ankara 85.08 337⇓P **P 06 44 06.3 +0.5**
ANTO Ankara 85.08 337⇓P **P 06 44 06.3 +0.5**
ANTO Ankara 85.08 337 P **P 06 44 06.0 +0.2**
comp=Z,17nm,1.1s
TREB Trebinje 85.09 348 *e*P **P 06 44 04.5 -1.2**
PDG Podgorica 85.25 347⇑*i*P **P 06 44 05.7 -0.7**
PDG Podgorica 85.25 347⇓P **P 06 44 05.8 -0.6**
GSI Gunungsitoli 85.33 266 P **P 06 44 08.2 +1.0**
HCY Herceg Novi 85.34 348 *e*P **P 06 44 05.0 -1.9**
FDMO Fiordimonte 85.36 352 IAmb IAmb 06 44 08.4
comp=Z,43nm,1.1s
RDO Rodhopi 85.46 342 IAmb IAmb 06 44 09.3
comp=Z,23nm,0.9s
KIRS Kirsehir-Merke 85.49 335⇑P **P 06 44 07.6 -0.2**
DRME Dracevica, Mon 85.50 347 *e*P P 06 44 01.9 -5.8
BORA Eskisehir 85.63 338 IAmb IAmb 06 44 09.2
comp=Z,29nm,0.7s

ARMA	Armidale	85.73	206	IAmb	IAmb	06 44 11.0
	comp=Z,17nm,0.8s					
ARMA	Armidale	85.73	206	P	P	06 44 10.2 +1.4
	comp=Z,29nm,0.8s					
ARMA	Armidale	85.73	206	P	P	06 44 10.4 +1.6
AS01	Alice Springs	85.75	223	P	P	06 44 09.4 +0.4
AS31	Alice Springs	85.77	223	P	P	06 44 08.7 -0.4
AS31	Alice Springs	85.77	223	P	P	06 44 08.7 -0.4
	comp=Z,5.9nm,0.8s					
ASAR	Alice Springs	85.77	223	P	P	06 44 09.1 -0.1
	comp=Z,16nm,0.8s,baz=25,slow=5.6,SNR=140					
ASAR			PKiKP	PKiKP		06 49 17.1 -1.1
	comp=Z,0.5nm,0.7s,baz=49,slow=1.1,SNR=4.3					
ASAR			PKKPbc	PKKPbc		07 02 10.7 +1.2
	comp=Z,0.3nm,0.5s,baz=208,slow=1.3,SNR=5.9					
ASAR			LR	LR		07 18 27.4
	comp=Z,62nm,20.5s,baz=40,slow=33					
	comp=Z,16nm,0.8s					
CASP	Castiglione de	85.79	353	IAmb	IAmb	06 44 09.3
	comp=Z,21nm,0.6s					
CESX	Cesi	85.83	352	IAmb	IAmb	06 44 10.8
	comp=Z,35nm,1.0s					
AQU	L'Aquila	86.01	351	P	P	06 44 10.5 +0.2
	comp=Z,40nm,1.0s					
INTR	Introdacqua	86.30	351	IAmb	IAmb	06 44 13.3
	comp=Z,28nm,0.8s					
GAZ	Gaziantep	86.42	332	IAmb	IAmb	06 44 13.7
	comp=Z,26nm,0.8s					
INKA	Innaminka	86.71	216	P	P	06 44 14.2 +0.6
PAOL	Paolisi	87.20	350	IAmb	IAmb	06 44 16.9
	comp=Z,22nm,1.2s					
MATE	Matera	87.34	349	⇓P	P	06 44 16.6 -0.1
CUC	Castrocucco	88.09	349	IAmb	IAmb	06 44 19.8
	comp=Z,17nm,0.9s					
MTE	Manteigas	88.16	7	eP	P	06 44 19.8 -0.9
CMSA	Cobar Meteorol	88.52	210	P	P	06 44 23.3 +1.1
	comp=Z,23nm,1.5s					
CMSA	Cobar Meteorol	88.52	210	P	P	06 44 23.3 +1.1
OOD	Oodnadatta	88.69	220	P	P	06 44 23.7 +0.7
TIP	Timpagrande	88.78	348	IAmb	IAmb	06 44 24.2
	comp=Z,22nm,0.9s					
TIP	Timpagrande	88.78	348	⇓P	P	06 44 23.4 -0.3
SJG	San Juan	89.03	62	P	P	06 44 26.0 +0.9
SJG	San Juan	89.03	62	LR	LR	07 24 56.0
	comp=Z,91nm,21.1s,baz=5.5,slow=36					
SJG	San Juan	89.03	62	P	P	06 44 26.0 +0.9
SJG			pmax	pmax		
	comp=Z,51nm,0.9s					
ESBB	Sonseca Array	89.10	4	IAmb	IAmb	06 44 25.2
	comp=Z,16nm,1.2s					
ESDC	Sonseca Array	89.10	4	P	P	06 44 24.2 -1.0
	comp=Z,8.2nm,0.9s,baz=347,slow=3.8,SNR=54					
ESDC			LR	LR		07 25 05.6
	comp=Z,52nm,20.2s,baz=344,slow=36					
	comp=Z,8.2nm,0.9s					
URZ	Urewera	89.44	184	LR	LR	07 18 43.6
	comp=Z,126nm,20.6s,baz=130,slow=32					
WRKA	Warakurna	89.44	227	P	P	06 44 27.2 +0.5
	comp=Z,21nm,1.1s					
WRKA	Warakurna	89.44	227	P	P	06 44 27.1 +0.4
PESTR	Estremoz	89.68	7	IAmb	IAmb	06 44 28.0
	comp=Z,20nm,0.9s					
LCRK	Leigh Creek	90.09	216	P	P	06 44 31.0 +1.5
UOSS	Minazif	90.16	312	P	P	06 44 28.6 -1.7
UOSS				IAmb	IAmb	06 44 31.1
	comp=Z,6.8nm,0.8s					
STKA	Stephens Creek	90.18	213	P	P	06 44 30.8 +0.9
STKA	Stephens Creek	90.18	213	P	P	06 44 30.2 +0.2
	comp=Z,141nm,1.3s					
STKA	Stephens Creek	90.18	213	P	P	06 44 30.6 +0.7
	comp=Z,21nm,0.7s,baz=0.3,slow=5.7,SNR=32					
	comp=Z,21nm,0.7s					
STKA	Stephens Creek	90.18	213	P	P	06 44 31.0 +1.1
STKA	Stephens Creek	90.18	213	P	P	06 44 30.8 +0.9
STKA			pmax	pmax		
	comp=Z,98nm,0.8s					
MMAI	Mount Meron Ar	90.82	332	P	P	06 44 31.8 -1.6
	comp=Z,10nm,0.9s,baz=340,slow=6.2,SNR=3.6					
MMAI			LR	LR		07 30 47.0
	comp=Z,68nm,19.6s,baz=12,slow=39					
	comp=Z,10nm,0.9s					
ASF	Jabal al Asfar	91.16	331	LR	LR	07 32 28.0
	comp=Z,169nm,18.8s,baz=58,slow=40					
PALK	Pallekele	91.18	283	LR	LR	07 28 53.4
	comp=Z,33nm,20.7s,baz=10.0,slow=38					
IDI	Anoyia	91.25	341	LR	LR	07 31 32.4
	comp=Z,101nm,18.1s,baz=46,slow=40					
KEST	Kesra	92.92	354	P	P	06 44 42.2 -0.8
	comp=Z,4.2nm,0.8s,baz=181,slow=0.5,SNR=4.4					
	comp=Z,4.2nm,0.8s					
SDV	Santo Domingo	93.88	71	eP	P	06 44 48.2 +0.3
EIL	Elat	94.08	331	LR	LR	07 35 49.5
	comp=Z,33nm,18.7s,baz=64,slow=41					
RUSC	La Rusia	94.79	74	IAmb	IAmb	06 45 15.4
	comp=Z,18nm,1.4s					
ROSC	El Rosal	94.88	76	LR	LR	07 28 28.5
	comp=Z,55nm,21.5s,baz=9.5,slow=36					
BAUV	El Baul	95.35	69	IAmb	IAmb	06 45 06.7
	comp=Z,18nm,0.8s					
RAYN	Ar Rayn	96.02	320	P	P	06 44 56.4 -1.0
RAYN				IAmb	IAmb	06 44 57.6
	comp=Z,7.8nm,0.8s					
RAYN	Ar Rayn	96.02	320	P	P	06 44 56.4 -1.0
H03N2	Juan Fernandez	120.85	106	T	T	09 02 53.8
	baz=317,slow=77,SNR=294					
H03N1	Juan Fernandez	120.87	106	T	T	09 02 55.1
	baz=317,slow=77,SNR=345					
H03N3	Juan Fernandez	120.87	106	T	T	09 02 49.9
	baz=317,slow=77,SNR=372					
DBIC	Dimbokro	121.82	8	PKP	PKPdf	06 50 23.5 -0.6
	comp=Z,20nm,0.6s,baz=3.1,slow=2.2,SNR=46					
BDFB	Brasilia	126.77	67	PKP	PKPdf	06 50 33.3 -0.3
	comp=Z,3.9nm,0.9s,baz=321,slow=4.3,SNR=7.5					
BDFB			PP	PP		06 52 30.0 -1.0
	comp=Z,4.5nm,1.0s,baz=305,slow=5.7,SNR=5.4					
JANB	Januaria	128.39	63	eP	PKPdf	06 50 36.8 +0.2
IPMB	Ipameri, GO	128.51	69	eP	PKPdf	06 50 36.8 +0.1
ITRB	Iturama	128.59	72	eP	PKiKP	06 50 38.4 +0.9
CPUP	Villa Florida	129.26	84	PKP	PKPdf	06 50 37.5 -0.3
	comp=Z,2.9nm,0.7s,baz=279,slow=2.2,SNR=5.2					
VNDA	Vanda	129.31	185	PKP	PKiKP	06 50 37.0 -0.1
	comp=Z,0.7nm,0.7s,baz=22,slow=2.0,SNR=3.9					
VNDA	Vanda	129.31	185	PKIKP	PKiKP	06 50 37.0 -0.1
PLCA	Paso Flores	130.68	107	PKP	PKPdf	06 50 40.7 +0.5
	comp=Z,4.0nm,0.8s,baz=261,slow=3.0,SNR=11					
PLCA	Paso Flores	130.68	107	eP	PKPdf	06 50 40.4 +0.2
DIAM	Diamantina, MG	131.36	64	eP	PKiKP	06 50 43.2 0.0
CPSB	Cacapava Do Su	134.56	84	eP	PKPdf	06 50 48.6 +0.9
LSZ	Lusaka	138.14	324	PKP	PKPdf	06 50 55.1 +0.2
	comp=Z,7.0nm,0.8s,baz=48,slow=2.7,SNR=8.7					
QSPA	South Pole Qui	141.22	180	PKhKP	PKPpre	06 50 52.2
	comp=Z,2.3nm,0.5s,baz=281,slow=1.0,SNR=22					
MATP	Matopo	142.60	316	PKP	PKPdf	06 51 00.7 -2.3
	comp=Z,4.4nm,0.9s,baz=43,slow=3.4,SNR=10					
TSUM	Tsumeb	145.46	333	PKPbc	PKPdf	06 51 08.0 +0.1
	comp=Z,61nm,0.8s,baz=2.2,slow=5.7,SNR=52					
GRTLG	Ghanzi	146.33	326	iP	PKPab	06 51 11.3 -0.2
LPHEP	Lephephe	146.33	317	iP	PKPbc	06 51 11.1 +0.6
MAW	Mawson	146.75	218	P	PKPdf	06 51 08.9 +0.5
MAW	Mawson	146.75	218	PKPbc	PKPbc	06 51 10.5 +0.2
	comp=Z,68nm,0.9s,baz=93,slow=3.4,SNR=70					
KDWAN	Kaudwane	146.85	319	iP	PKPbc	06 51 12.4 +0.3
KGCAE	Kacgae	147.33	323	iP	PKPbc	06 51 13.8 +0.3
KOOLE	Kule	148.19	326	iP	PKPbc	06 51 16.2 +0.5
LKGWB	Lokgwabe	148.85	324	iP	PKPbc	06 51 17.4 0.0
MAKGR	Makgori	148.94	317	iP	PKPbc	06 51 18.0 +0.4
PHPEN	Phepeng	149.45	320	iP	PKPbc	06 51 19.2 +0.4
BOSA	Boshof	151.16	313	PKP	PKPdf	06 51 16.7 -0.3
	comp=Z,2.8nm,0.7s,baz=29,slow=5.4,SNR=6.7					
BOSA				PKPbc	PKPbc	06 51 23.0 +0.1
	comp=Z,76nm,0.6s,baz=25,slow=2.4,SNR=155					
SYO	Syowa Base	154.92	211⇑	esPKPdf	sPKPdf	06 51 44.0 +0.1
SYO	Syowa Base	154.92	211⇑	ePKPab	PKPab	06 51 46.9 +1.5
SYO	Syowa Base	154.92	211⇓	epPKiKP	PKPab	06 51 48.5 +3.1
SUR	Sutherland	156.35	316	PKPab	PKPab	06 51 53.4 +0.6
	comp=Z,12nm,1.0s,baz=79,slow=5.2,SNR=5.9					
ELIB	Princess Elisa	157.31	197	dPKPdf	PKPdf	06 51 23.7 -0.5
ELIB				dPKP	PKPab	06 51 54.5 -1.3

*TAP **21** 06:39:23.1,24.′14N×121.′57E,h16km,ML2.9,B*

ISC 21 06:39:23.2±0.7,**24.′13N**±0.′01×**121.′59E**±0.′02,**h17**km±3km, **n133,**σ0.56/239,**1C,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	Fush Village	0.04	49	iP	Pg	06 39 26.4	+0.1
ETL				iS	Sg	06 39 28.6	+0.1
NACB	Ninganchiao	0.04	8	P	Pg	06 39 26.2	-0.1
NACB	Ninganchiao	0.04	8	S	Sg	06 39 28.6	+0.1
NACB	Ninganchiao	0.04	8	eP	Pg	06 39 26.3	0.0
NACB				eS	Sg	06 39 28.7	+0.2
TWD	Chiawan	0.05	172	iP	Pg	06 39 26.5	+0.1
TWD				S	Sg	06 39 28.9	+0.5
ETLH	Xiulin Townshi	0.12	308	iP	Pb	06 39 27.0	-0.2
ETLH				iS	Sg	06 39 29.8	0.0
HWA	Hwalien	0.15	174	iP	Pb	06 39 27.9	+0.3
HWA				S	Sb	06 39 31.7	+1.2
ETM	Tongmen	0.19	208	iP	Pg	06 39 27.7	-0.2
ETM				S	Sg	06 39 30.8	-0.3
LXIB	Xiulin Townshi	0.19	236	iP	Pg	06 39 27.8	-0.3
LXIB				eS	Sb	06 39 31.7	-0.2
EHP	Heping Village	0.23	38	eP	Pb	06 39 29.4	+0.5
EAHA	Aohua	0.24	35	eP	Pg	06 39 28.6	-0.1
EAHA				iS	Sb	06 39 32.9	-0.2
WHF	Hehuan Shan	0.29	273	iP	Pg	06 39 29.6	-0.3
WHF				S	Sg	06 39 34.1	-0.3
ENA	Nanau	0.33	25	P	Pg	06 39 30.3	+0.1
ENA				eS	Sg	06 39 35.0	+0.2
FUSS	Fushou	0.34	290	iP	Pg	06 39 30.4	0.0
FUSS				iS	Sg	06 39 35.5	+0.2
SHUL	Shoufeng	0.34	184	eP	Pb	06 39 30.7	-0.1
SHUL				iS	Sb	06 39 36.7	+0.7
ESL	Shilin	0.35	204	eP	Pg	06 39 29.9	-0.6
ESL				S	Sg	06 39 35.2	-0.2
NNSB	Datong	0.35	328	iP	Pg	06 39 30.6	0.0
NNSB				eS	Sg	06 39 35.5	-0.2
EWUT	Wuta	0.36	29	iP	Pg	06 39 30.6	-0.1
EWUT				S	Sg	06 39 35.5	-0.3
NNS	Nan Shan	0.36	328	iP	Pg	06 39 30.8	-0.1
NNS				eS	Sg	06 39 36.0	-0.1
TWT	Tachien	0.40	288	iP	Pb	06 39 31.7	-0.1
TWT				iS	Sb	06 39 37.4	-0.3
LATG	Datong	0.41	352	iP	Pg	06 39 31.5	-0.2
LATG				S	Sb	06 39 37.7	-0.3
TDCB	Techi	0.41	287	iP	Pg	06 39 31.8	+0.1
TDCB				iS	Sg	06 39 37.4	-0.1
OWD	Renai	0.42	245	eP	Pg	06 39 31.5	-0.3
OWD				iS	Sg	06 39 37.6	0.0
TEGC	Jichi Village	0.42	186	P	Pb	06 39 32.9	+0.7
TEGC				S	Sb	06 39 39.2	+1.0
WARBT	Fenglin Townsh	0.45	204	iP	Pg	06 39 31.6	-0.7
WARBT				eS	Sg	06 39 38.2	-0.4
WUSB	Renai	0.45	252	iP	Pg	06 39 32.4	-0.1
WUSB				iS	Sg	06 39 38.4	-0.2
ESAO	Su ao	0.50	28	eP	Pb	06 39 33.4	-0.1
ESAO				iS	Sg	06 39 39.5	-0.5
ENTT	Nioudou	0.51	358	eP	Pg	06 39 33.2	-0.2
ENTT				eS	Sb	06 39 40.6	-0.2
NDS	Dongshan	0.51	13	eP	Pg	06 39 32.6	-0.9
NDS				eS	Sg	06 39 39.4	-1.0
TWC	Suao	0.53	27	iP	Pg	06 39 33.8	-0.1
TWC				eS	Sg	06 39 40.8	-0.3
VWDT	VWDT	0.56	227	iP	Pg	06 39 34.0	-0.2
VWDT				eS	Sb	06 39 42.1	0.0
YHNB	Yeheng	0.57	340	P	Pg	06 39 34.5	-0.1
YHNB	Yeheng	0.57	340	S	Sg	06 39 41.9	-0.4
YHNB	Yeheng	0.57	340	eP	Pg	06 39 34.3	-0.3
YHNB				eS	Sg	06 39 41.9	-0.4
NSK	Sanguang	0.58	339	iP	Pg	06 39 34.6	-0.2
NSK				iS	Sg	06 39 42.2	-0.4
WPL	Puli Township	0.59	258	P	Pg	06 39 34.7	-0.2
WPL				S	Sg	06 39 42.6	-0.2
TWE	Neicheng	0.59	7	eP	Pg	06 39 34.8	-0.2
TWE				S	Sg	06 39 42.8	-0.1
WHP	Taichung City	0.60	284	eP	Pg	06 39 35.2	0.0
WHP				eS	Sb	06 39 43.7	+0.1
DPDB	Guoxing	0.61	261	⇑P	Pg	06 39 35.2	-0.1
DPDB				S	Sb	06 39 44.0	+0.2
WCS	Beigang Elemen	0.62	263	iP	Pg	06 39 35.3	-0.2
WCS				eS	Sg	06 39 43.5	-0.3
FUSB	Fushanzhiwuyua	0.63	360	iP	Pg	06 39 35.5	-0.1
FUSB				S	Sb	06 39 44.2	0.0
ILA	Ilan	0.65	13	P	Pg	06 39 36.0	0.0
ILA				eS	Sb	06 39 45.1	+0.4
NWLT	Wulai	0.65	353	eP	Pg	06 39 35.7	-0.3
NWLT				eS	Sg	06 39 44.1	-0.6
HGSD	Ruisui	0.65	193	eP	Pb	06 39 36.7	+0.6
HGSD				S	Sn	06 39 46.5	-1.0
NFF	Wufeng Townshi	0.66	319	P	Pg	06 39 36.1	-0.1
NFF				eS	Sg	06 39 44.7	-0.3
EOS4	EOS4	0.67	91	eP	Pn	06 39 38.0	+0.5
EOS4				S	Sn	06 39 46.9	-0.4
EHY	Hungye	0.67	201	eP	Pg	06 39 34.9	-1.5
EHY				S	Sg	06 39 44.6	-0.7
EHYH	Wanrong	0.67	199	eP	Pn	06 39 38.1	+0.2
EHYH				eS	Sg	06 39 44.0	-1.4
SSLB	Suanglung	0.67	240	P	Pg	06 39 36.0	-0.5
SSLB	Suanglung	0.67	240	S	Sg	06 39 45.1	-0.3
SSLB	Suanglung	0.67	240	iP	Pg	06 39 36.1	-0.3
SSLB				eS	Sg	06 39 45.4	-0.1
SMLT	Sun Moon Lake	0.68	249	eP	Pg	06 39 35.1	-1.4
SMLT				eS	Sg	06 39 44.0	-1.5
EOS3	EOS3	0.68	77	eP	Pn	06 39 37.6	-0.3
EOS3				eS	Sn	06 39 47.7	-0.3
TYC	Yuchr	0.71	251	eP	Pb	06 39 36.8	-0.2
TYC				eS	Sg	06 39 46.9	+0.5
LIOB	Emei	0.73	315	eP	Pg	06 39 37.8	+0.2
LIOB				S	Sn	06 39 48.3	-1.3
NSTT	Nanjuang	0.73	313	eP	Pg	06 39 37.6	+0.1
NSTT				S	Sg	06 39 47.7	+0.5
KSHI	Guanxi Townshi	0.74	330	iP	Pg	06 39 38.0	+0.3
KSHI				eS	Sg	06 39 48.4	+0.7
NJD	Zhudong	0.76	323	P	Pg	06 39 38.1	+0.2
NJD				S	Sn	06 39 49.1	-1.0
TWQ1	Liyutan	0.78	286	eP	Pn	06 39 39.4	+0.1
TWQ1				eS	Sn	06 39 50.3	-0.3
EGS		0.78	24	P	Pg	06 39 38.7	+0.3
EGS				S	Sg	06 39 49.6	+0.9
YULB	Yu-li	0.78	200	P	Pb	06 39 37.9	-0.4
YULB	Yu-li	0.78	200	S	Sb	06 39 48.3	-0.4
YULB	Yu-li	0.78	200	eP	Pn	06 39 39.1	-0.3
YULB				eS	Sg	06 39 49.1	+0.3
WHYT	Xinyi Township	0.80	237	eP	Pg	06 39 38.8	-0.1
WHYT				eS	Sn	06 39 50.5	-0.7
NSY	Sanyi	0.81	291	S	Sg	06 39 50.1	+0.5
EYUL	Yuli	0.82	198	eP	Pb	06 39 38.8	-0.2
EYUL				eS	Sg	06 39 50.8	+0.8
TWF1	Yuli	0.82	199	eP	Pb	06 39 37.9	-1.1
TWF1				S	Sb	06 39 49.6	-0.1
HSN1	Hsinchu	0.83	321	P	Pn	06 39 40.3	+0.3
HSN1				S	Sn	06 39 51.1	-0.8
NHDH	Xindian Distri	0.83	356	eP	Pn	06 39 39.7	-0.4
NMLH	Miaoli	0.83	299	iP	Pn	06 39 40.0	-0.1
NMLH				S	Sn	06 39 51.5	-0.5
TCU	Taichung	0.83	271	P	Pn	06 39 40.2	+0.1
TCU				eS	Sn	06 39 52.1	+0.2
TATO	Taipei	0.84	354	P	Pn	06 39 40.4	+0.1
TATO	Taipei	0.84	354	S	Sg	06 39 51.1	+0.2
TATO	Taipei	0.84	354	eP	Pg	06 39 39.9	+0.2
TATO				eS	Sg	06 39 51.1	+0.2
TWA	Mucha	0.84	360	P	Pb	06 39 39.5	+0.1
TWA				S	Sg	06 39 51.5	+0.6
WJS	Zhushan	0.84	249	eP	Pn	06 39 40.2	-0.1
WJS				eS	Sn	06 39 53.0	+0.7
SBCB	Hsinchu	0.86	320	P	Pg	06 39 40.0	+0.1
SBCB				S	Sn	06 39 52.6	0.0
WNT1	Nantou City	0.86	255	P	Pn	06 39 40.2	-0.3
WNT1				eS	Sn	06 39 53.9	+1.3
WNT	Mingjian	0.86	253	iP	Pn	06 39 40.6	0.0
WNT				eS	Sn	06 39 53.4	+0.6
TIPB	Shuangxi	0.86	14	iP	Pb	06 39 39.8	0.0
TIPB				S	Sb	06 39 50.6	-0.5
HSN	Hsinchu	0.87	320	eP	Pn	06 39 41.0	+0.3
HSN				eS	Sn	06 39 53.9	+0.9
WDJ	Dajia District	0.89	284	eP	Pn	06 39 41.7	+0.8
NCUH	Zhongli	0.91	336	eP	Pn	06 39 41.2	0.0
NCUH				eS	Sn	06 39 54.7	+0.8
NCU	National Centr	0.91	336	P	Pg	06 39 40.7	-0.2
NCU				eS	Sn	06 39 53.4	-0.6
WCHH	Zhanghua	0.94	267	eS	Sn	06 39 57.4	+2.7
TWB1	Santiao Chiao	0.95	23	eP	Pn	06 39 42.9	+1.3
TWB1				eS	Sb	06 39 52.8	-0.6
ALS	Alishan	0.95	229	eP	Pg	06 39 41.5	-0.2
ALS				S	Sn	06 39 55.1	-0.1
CHKH	Chenggong	0.95	191	eP	Pb	06 39 39.7	-1.5
CHKH				eS	Sb	06 39 52.7	-0.8
NWF	Wu-fen Shan	0.95	11	eP	Pn	06 39 42.6	+0.7
NWF				S	Sg	06 39 54.1	-0.2
WFSB	Wu-fen Shan	0.95	11	eS	Sg	06 39 54.2	0.0
FULB	Fuli	0.97	196	eP	Pg	06 39 43.4	+1.4
FULB				eS	Sn	06 39 56.3	+1.0
TWS1	Kuangyinshan	0.98	351	eP	Pb	06 39 41.6	-0.1
TWS1				eS	Sn	06 39 55.4	-0.2
SXI1	Grass Mountain	0.99	15	eP	Pn	06 39 42.3	-0.1
SXI1				iS	Sg	06 39 55.8	+0.2
YM01	YM01	1.01	359	eP	Pg	06 39 42.9	+0.1
YM01				S	Sn	06 39 56.6	+0.2
ZUZH	Zhuzihu	1.03	358	eP	Pg	06 39 43.1	0.0
ZUZH				S	Sg	06 39 56.5	-0.2
NTST	Danshui	1.04	353	eS	Sn	06 39 57.8	+0.8
CHKT	Chengkung	1.05	191	eP	Pg	06 39 43.6	+0.1
YM08	YM08	1.05	0	P	Pg	06 39 43.4	-0.2
YM08				S	Sn	06 39 57.0	-0.4
WDLH	Douliu	1.06	246	eP	Pg	06 39 44.1	+0.4
ELDTW	Lidau	1.07	209	eP	Pg	06 39 44.3	+0.3
ELDTW				eS	Sn	06 39 57.7	-0.4
TWY	Chenhua	1.14	1	eP	Pg	06 39 46.5	+1.2
TWY				S	Sg	06 40 00.1	-0.1
RLNB	Erlin	1.15	258	P	Pb	06 39 44.9	+0.3
RLNB				S	Sg	06 40 00.9	+0.5
EDH	Donghe	1.18	193	eP	Pn	06 39 45.0	+0.1
EDH				eS	Sg	06 40 01.3	-0.2
CHN4	Tsaushan	1.20	230	P	Pg	06 39 46.2	-0.1
CHN4				S	Sg	06 40 02.7	+0.6
TPUB	Ta-pu	1.21	227	P	Pg	06 39 46.3	-0.2
TPUB	Ta-pu	1.21	227	S	Sg	06 40 02.8	+0.5
TPUB	Ta-pu	1.21	227	eP	Pg	06 39 46.9	+0.4
TPUB				S	Sg	06 40 02.0	-0.3
STYH	Taoyuan	1.21	218	eP	Pn	06 39 44.8	-0.5
STYH				eS	Sb	06 40 00.9	-0.1
STYT	Tauyuan	1.23	218	eP	Pn	06 39 44.9	-0.7
STYT				S	Sn	06 40 01.9	0.0
LONT	Longtian	1.29	199	eP	Pn	06 39 46.4	0.0
LONT				eS	Sg	06 40 04.7	-0.3
TWK	Hsinying	1.33	230	iP	Pg	06 39 48.4	-0.4
TWK				S	Sg	06 40 05.6	-0.5
YOJ	Yonaguni jima	1.34	75	P	Pb	06 39 47.9	+0.1
YOJ	Yonaguni jima	1.34	75	P	Pn	06 39 46.5	-0.6
YOJ				S	Sg	06 40 06.0	-0.5
CHN1	Nanshi	1.35	226	P	Pg	06 39 49.1	-0.3
CHN1				S	Sg	06 40 07.9	+0.9
WSL	Shuilin Townsh	1.39	244	eP	Pg	06 39 49.3	-0.6
WSL				iS	Sg	06 40 08.5	+0.5
TWG	Pinlang	1.39	200	eP	Pb	06 39 49.2	+0.5
TWG				eS	Sb	06 40 05.9	-0.2
TWGBT	Beinan	1.39	200	P	Pg	06 39 49.8	-0.2
TWGBT	Beinan	1.39	200	eP	Pb	06 39 48.9	+0.3
TWGBT				S	Sn	06 40 05.6	-0.1
SGST	Jiashian	1.39	222	P	Pb	06 39 48.5	-0.2
SGST				S	Sg	06 40 07.9	-0.3
ICHU	Yijhu	1.42	238	eP	Pg	06 39 50.9	+0.3
ICHU				eS	Sg	06 40 09.9	+0.6
LDUT	Ludao	1.46	184	eP	Pb	06 39 49.3	-0.5
LDUT				S	Sn	06 40 07.5	+0.2
SCST	Cishan	1.60	219	eP	Pb	06 39 51.5	-0.7
ECL	Taimali	1.63	201	iP	Pn	06 39 50.3	-0.9
ECL				eS	Sn	06 40 11.8	+0.1
TSCK	Chigu Township	1.69	235	eP	Pn	06 39 52.7	+0.8
TSCK				eS	Sb	06 40 15.2	+0.4
MASBT	Mashibuluo	1.75	210	P	Pb	06 39 54.6	-0.2
PNG	Penghu	1.94	254	iP	Pn	06 39 56.5	+1.1
PNG				eS	Sn	06 40 20.2	+0.8
PHUB	P'eng-hu	1.95	252	eP	Pn	06 39 55.7	+0.3
PHUB				eS	Sn	06 40 20.2	+0.7
WDGT	Dungji	1.97	244	eP	Pn	06 39 56.5	+0.7
WDGT				eS	Sn	06 40 20.9	+0.9
LYUB	Lan-yu	2.12	180	eP	Pn	06 39 58.5	+0.7
LYUB				eS	Sn	06 40 25.3	+1.6
VCHM	Qimei	2.18	246	P	Pn	06 40 00.1	+1.5
VCHM				S	Sb	06 40 27.6	-1.3
PTMZ	Houxiangcun	2.42	292	eP	Pn	06 40 01.2	-0.8
MHZQ	Yeshan	3.04	311	eP	Pn	06 40 09.8	-0.6
MHZQ				eS	Sn	06 40 45.8	-0.6
AXDP	Jialang	3.38	284	eP	Pn	06 40 15.1	-0.1

*IDC **21** 07:01:29.9±1.6,19.′98N×93.′27E,h0km,mb3.6/5, mbtmp3.5/6,ML3.8/1,Error ellipse: s-maj=55.0km s-min=19.6km az=54.0*

*NEIC **21**

C18K	Utukok River	76.19	21	P	P	07 13 22.1	-0.3
C18K				IAmb	IAmb	07 13 32.8	
comp=Z,3.5nm,1.4s							
B21K	Ikpikpuk River	77.95	20	P	P	07 13 32.5	+0.3
B21K				IAmb	IAmb	07 14 07.9	
comp=Z,2.5nm,1.3s							
B22K	Teshekpuk Lake	77.98	19	P	P	07 13 32.8	+0.5
B22K				IAmb	IAmb	07 13 49.4	
comp=Z,7.2nm,1.4s							
E21K	Killik River	78.69	20	P	P	07 13 36.2	-0.2

*WEL **21** 07:08:22.0±1.0,32°S±4°×17°7W±1°6,h12km,mB4.5/7, ML5.0/12,MLv4.7/12,Mw(mB)3.7/7,Error ellipse: s-maj=21.1km s-min=3.3km az=102.9,confirmed*
*IDC **21** 07:08:24.5±0.9,31°.96S×177°.99W,h0km,mb4.1/5, mbtmp4.1/6,ML3.6/1,MS3.5/3,Error ellipse: s-maj=30.3km s-min=24.6km az=109.0*
*NEIC **21** 07:08:26.6±0.7,32°.01S±0°.09×178°.0W±0°.2,h10km±2km, mb4.4/13,Error ellipse: s-maj=28.0km s-min=5.0km az=120.0*

ISC 21 07:08:25.6±0.7,32°.03S±0°.06×178°.0W±0°.1,h10km,n68, σ2°35/85,mb4.4/12,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.76	1	P	Pn	07 09 06.8	-3.1
GLKZ				S	Sn	07 09 39.6	-3.7
RIZ	Raoul Island	2.77	1	P	Pn	07 09 06.9	-3.2
RIZ				S	Sn	07 09 41.7	-2.0
MXZ	Matakaoa Point	6.31	208	P	Pn	07 09 58.3	-0.4
MXZ				S	Sn	07 11 16.5	+5.6
WMGZ	Waiomatatini S	6.50	206	P	Pn	07 10 00.2	-1.1
WMGZ				S	Sn	07 11 19.0	+3.6
PKGZ	Pakihiroa	6.67	208	P	Pn	07 10 01.9	-1.7
PKGZ				S	Sn	07 11 19.4	-0.2
HAZ	Te Kaha	6.69	210	P	Pn	07 10 03.0	-0.9
HAZ				S	Sn	07 11 23.7	+3.4
RUGZ	Raukumara Rang	6.92	210	P	Pn	07 10 06.3	-0.8
RUGZ				S	Sn	07 11 26.8	+0.8
TWGZ	Tauwhareparae	6.97	207	P	Pn	07 10 08.9	+1.1
TWGZ				S	Sn	07 11 28.9	+1.7
CNGZ	Carnagh Statio	7.16	205	P	Pn	07 10 08.6	-1.8
CNGZ				S	Sn	07 11 35.9	+4.2
TKGZ	Te Karaka	7.25	207	P	Pn	07 10 10.9	-0.7
URZ	Urewera	7.41	212	Pn	Pn	07 10 13.0	-0.7
1.0nm,0.3s,baz=335,slow=4.0,SNR=7.2							
URZ				Sn	Sn	07 11 38.4	+0.6
4.0nm,0.3s,baz=46,slow=22,SNR=8.6							
8.2nm,0.9s							
RAGZ	Rawiri	7.47	209	P	Pn	07 10 12.4	-2.4
RAGZ				S	Sn	07 11 41.4	+1.8
WCZ	Waipu Caves	7.48	236	P	Pn	07 10 24.5	+10
RIGZ	Rimuhau	7.52	206	P	Pn	07 10 13.6	-1.7
RIGZ				S	Sn	07 11 40.0	-0.6
PRGZ	Paritu Road	7.66	205	S	Sn	07 11 42.5	-1.7
OUZ	Omahuta	7.72	243	P	Pn	07 10 25.3	+7.2
MUGZ	Murupara	7.74	212	P	Pn	07 10 18.7	+0.4
MUGZ				S	Sn	07 11 45.5	-0.5
SNGZ	Shannon Statio	7.75	208	P	Pn	07 10 18.0	-0.5
SNGZ				S	Sn	07 11 47.5	+1.2
RTZ	Ruatahuna	7.76	211	Pn	Pn	07 10 19.8	+1.1
MHGZ	Mahia Peninsul	7.86	204	P	Pn	07 10 20.3	+0.3
MHGZ				S	Sn	07 11 45.6	-3.4
BKZ	Black Stump Fm	8.43	211	Pn	Pn	07 10 28.4	+0.6
MCHZ	McNeill Hill	8.57	209	S	Sn	07 12 07.4	+0.8
KWHZ	Kaweka Forest	8.67	210	P	Pn	07 10 30.3	-0.8
KWHZ				S	Sn	07 12 08.8	-0.3
ETVZ	East Tongariro	8.76	214	P	Pn	07 10 34.7	+2.3
ETVZ				S	Sn	07 12 10.4	-0.9
KAHZ	Kahuranaki	8.80	207	P	Pn	07 10 31.8	-1.1
KAHZ				S	Sn	07 12 09.2	-3.0
PXZ	Pawanui	9.01	206	S	Sn	07 12 14.4	-2.9
PNHZ	Pukenui	9.18	209	P	Pn	07 10 37.4	-0.6
PNHZ				S	Sn	07 12 18.6	-2.8
WPHZ	Waipukurau	9.21	208	S	Sn	07 12 19.0	-3.1
PRHZ	Porangahau	9.30	206	P	Pn	07 10 35.7	-4.1
PRHZ				S	Sn	07 12 19.2	-5.3
DVHZ	Dannevirke	9.51	208	P	Pn	07 10 40.8	-1.9
DVHZ				S	Sn	07 12 24.2	-5.5
ANWZ	Angora Road	9.53	206	S	Sn	07 12 25.3	-4.7
POWZ	Post Office Ro	9.76	209	S	Sn	07 12 32.0	-3.5
PRWZ	Pori Road	9.81	208	S	Sn	07 12 33.1	-3.8
BFZ	Birch Farm	9.81	207	P	Pn	07 10 45.5	-1.2
BFZ				S	Sn	07 12 32.9	-4.0
TIWZ	Tintock	10.03	208	S	Sn	07 12 37.2	-5.2
MRZ	Mangatainoka R	10.06	209	P	Pn	07 10 46.0	-4.2
MRZ				S	Sn	07 12 37.2	-5.8
DZM	Mont Dzumac	17.04	302	LR	LR	07 17 14.7	
comp=Z,110nm,19.2s,baz=292,slow=31							
CAN	Canberra	27.61	254	P	P	07 14 12.8	-0.4
CAN				IAmb	IAmb	07 14 34.7	
comp=Z,13nm,1.2s							
STKA	Stephens Creek	34.17	259	P	P	07 15 11.3	+0.2
comp=Z,2.6nm,0.7s,baz=130,slow=12,SNR=4.5							
comp=Z,2.6nm,0.7s							
BBOO	Buckleboo	38.58	256		P	07 15 48.5	-0.2
PMG	Port Moresby	39.35	297	P	P	07 15 54.9	-0.5
PMG				IAmb	IAmb	07 16 13.6	
comp=Z,8.8nm,1.0s							
COEN	Coen	39.76	288	P	P	07 15 58.8	0.0
COEN				IAmb	IAmb	07 16 24.6	
comp=Z,8.8nm,1.1s							
AS31	Alice Springs	43.07	269	P	P	07 16 26.2	+0.2
ASAR	Alice Springs	43.07	269	P	P	07 16 25.4	-0.6
ASAR	Alice Springs	43.07	269	P	P	07 16 26.4	+0.4
comp=Z,1.6nm,0.6s,baz=105,slow=7.9,SNR=32							
comp=Z,1.6nm,0.6s							
WR8	Warramunga Arr	44.06	274	P	P	07 16 34.1	+0.1
WR8				IAmb	IAmb	07 16 35.6	
comp=Z,5.3nm,1.1s							
WRA	Warramunga Arr	44.20	274	P	P	07 16 35.7	+0.6
comp=Z,3.1nm,0.6s,baz=112,slow=8.0,SNR=33							
comp=Z,3.1nm,0.6s							
WB0	Warramunga Arr	44.24	274	P	P	07 16 36.0	+0.6
WB0				IAmb	IAmb	07 16 39.1	
comp=Z,5.1nm,0.7s							
VNDA	Vanda	46.48	186	P	P	07 16 50.4	-2.0
MTN	Manton Dam	50.28	280	P	P	07 17 22.4	-0.1
MTN				IAmb	IAmb	07 17 42.6	
comp=Z,6.1nm,1.1s							
KNRA	Kununurra	50.87	276	P	P	07 17 27.0	+0.1
KNRA				IAmb	IAmb	07 17 36.1	
comp=Z,7.4nm,1.1s							
FITZ	Fitzroy Crossi	52.40	271	P	P	07 17 38.4	0.0
CASY	Casey	53.72	208	P	P	07 17 48.5	+1.0
QSPA	South Pole Qui	58.09	180	P	P	07 18 21.8	+2.9
QSPA	South Pole Qui	58.09	180	P	P	07 18 21.0	+2.1
comp=Z,1.1nm,0.7s,baz=78,slow=1.1,SNR=11							
comp=Z,1.1nm,0.7s							
MAW	Mawson	70.80	201	P	P	07 19 41.8	0.0
comp=Z,1.4nm,0.7s,baz=246,slow=12,SNR=2.0							
comp=Z,1.4nm,0.7s							
LPIG	La Paz	85.37	58	LR	LR	07 55 14.5	
comp=Z,25nm,18.2s,baz=313,slow=33							
YBH	Yreka Blue Hor	89.30	38	LR	LR	07 53 02.7	
comp=Z,29nm,20.8s,baz=84,slow=30							
KURBB	Kurchatov Arra	122.22	313	PKP	PKPdf	07 27 19.7	-0.5
comp=Z,0.2nm,0.4s,baz=98,slow=2.8,SNR=2.2							
KBZ	Khabaz	146.01	302	PKPbc	PKPdf	07 28 05.3	+0.7
comp=Z,1.6nm,0.8s,baz=258,slow=4.9,SNR=3.2							
FINES	FINESS Array B	146.67	339	PKPbc	PKPdf	07 28 06.6	+1.4
comp=Z,3.6nm,0.5s,baz=44,slow=3.9,SNR=39							
FINES				PP	PP	07 31 36.6	+6.2
comp=Z,0.6nm,0.4s,baz=22,slow=4.5,SNR=6.6							
NB2	NORSAR Subarra	150.36	351	PKP	PKPbc	07 28 15.7	-0.8
comp=Z,0.4nm,0.6s,baz=16,slow=2.6							
NOA	NORSAR Array B	150.36	351	PKPbc	PKPbc	07 28 15.9	-0.7
comp=Z,0.3nm,0.6s,baz=12,slow=2.7,SNR=4.5							
HFS	Hagfors	150.84	348	PKPbc	PKPbc	07 28 16.9	-0.7
comp=Z,2.0nm,0.8s,baz=72,slow=4.8,SNR=4.7							
MMAI	Mount Meron Ar	151.90	281	PKPbc	PKiKP	07 28 22.8	+1.3
comp=Z,0.7nm,0.3s,baz=95,slow=8.7,SNR=4.0							
AKASG	Malin Array Be	152.59	321	PKPbc	PKPbc	07 28 22.2	+0.3
comp=Z,0.3nm,0.4s,baz=64,slow=2.2,SNR=1.4							
BRTR	Keskin Array B	153.36	296	PKPbc	PKPbc	07 28 24.1	-0.2
comp=Z,0.9nm,0.8s,baz=119,slow=5.6,SNR=3.6							
TORD	Torodi Ar. Bea	161.21	179	PKP	PKPdf	07 28 27.2	+0.1
comp=Z,59nm,0.3s,baz=220,slow=3.8,SNR=2.0							

WEL 21 07:12:45.2±1.1,32°S±7°×17°8E±1°4,h12km,mB4.6/6, ML4.7/11,MLv4.2/10,Mw(mB)3.9/6,Error ellipse: s-maj=19.3km s-min=5.1km az=113.6,confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.03	54	S	Sn	07 14 34.6	+0.8
MXZ	Matakaoa Point	5.87	180	P	Pn	07 14 12.8	+0.8
MXZ				S	Sn	07 15 20.6	+1.4
HAZ	Te Kaha	6.08	184	P	Pn	07 14 16.3	+1.5
HAZ				S	Sn	07 15 27.6	+3.2
WMGZ	Waiomatatini S	6.12	179	P	Pn	07 14 16.4	+0.9
WMGZ				S	Sn	07 15 28.6	+3.1
PKGZ	Pakihiroa	6.18	182	P	Pn	07 14 17.7	+1.5
PKGZ				S	Sn	07 15 24.6	-2.2
RUGZ	Raukumara Rang	6.29	185	P	Pn	07 14 18.2	+0.3
RUGZ				S	Sn	07 15 30.1	+0.3
TWGZ	Tauwhareparae	6.49	183	P	Pn	07 14 20.6	+0.1
TWGZ				S	Sn	07 15 36.3	+1.8
TKGZ	Te Karaka	6.76	183	P	Pn	07 14 22.9	-1.2
TKGZ				S	Sn	07 15 41.7	+0.7
CNGZ	Carnagh Statio	6.79	181	P	Pn	07 14 23.2	-1.4
CNGZ				S	Sn	07 15 43.1	+1.2
RAGZ	Rawiri	6.84	186	P	Pn	07 14 25.5	+0.1
RAGZ				S	Sn	07 15 45.2	+1.9
MUGZ	Murupara	6.90	190	P	Pn	07 14 26.7	+0.5
MUGZ				S	Sn	07 15 46.2	+1.5
RIGZ	Rimuhau	7.03	184	P	Pn	07 14 26.2	-1.7
RIGZ				S	Sn	07 15 46.2	-1.5
SNGZ	Shannon Statio	7.13	186	P	Pn	07 14 28.2	-1.2
SNGZ				S	Sn	07 15 50.5	+0.2
PRGZ	Paritu Road	7.24	183	S	Sn	07 15 47.7	-5.2
MTHZ	Maungataniwha	7.26	189	P	Pn	07 14 30.8	-0.3
MTHZ				S	Sn	07 15 54.1	+0.6
MHGZ	Mahia Peninsul	7.46	183	P	Pn	07 14 32.9	-1.0
MHGZ				S	Sn	07 15 53.6	-4.9
NTVZ	North Tongarir	7.71	196	P	Pn	07 14 37.7	+0.3
MCHZ	McNeill Hill	7.86	189	P	Pn	07 14 37.3	-2.1
MCHZ				S	Sn	07 16 07.9	-0.3
KWHZ	Kaweka Forest	7.88	191	P	Pn	07 14 37.0	-2.7
KWHZ				S	Sn	07 16 08.9	0.0
KRHZ	Kereru	8.11	191	P	Pn	07 14 39.8	-3.0
PNHZ	Pukenui	8.40	191	P	Pn	07 14 42.2	-4.6
PXZ	Pawanui	8.42	188	P	Pn	07 14 42.6	-4.3
TSZ	Takapari Road	8.58	192	P	Pn	07 14 44.5	-4.7
PRHZ	Porangahau	8.68	189	P	Pn	07 14 45.3	-5.3
DVHZ	Dannevirke	8.78	191	P	Pn	07 14 46.9	-5.1

*GCG **21** 07:24:21.8±0.8,14°.54N×91°.92W,h71km±11km,MD3.4*
*MEX **21** 07:24:22.0±0.6,14°.62N×92°.21W,h95km±6km,MD3.4*

ISC 21 07:24:16.0±3.1,14°.5N±0°.3×91°.9W±0°.2,h106km±20km,n9, σ1°87/17,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	Catarina	0.42	337	eP	Pn	07 24 33.2	+1.3
SMCA				eS	Sn	07 24 42.6	-1.3
STG8	El Palmar, Qui	0.54	92	eP	Pn	07 24 34.2	+1.3
STG8				eS	Sn	07 24 44.4	-1.3
STG5	El Palmar, Qui	0.55	97	eP	Pn	07 24 33.8	+0.9
STG5				eS	Sn	07 24 43.3	-2.2
STG0	El Palmar, Qui	0.55	94	eP	Pn	07 24 34.1	+1.1
STG0				eS	Sn	07 24 44.0	-1.7
THIG		0.56	322	eP	Pn	07 24 34.7	+1.9
THIG				eS	Sn	07 24 44.2	-1.2
THIG		0.56	322	eS	Sn	07 24 45.2	-0.2
PATR	El Naranjo	0.72	334	eP	Pn	07 24 35.7	+1.3
PATR				eS	Sn	07 24 47.0	-1.2
PAVE	Pavencul	0.77	340	eP	Pn	07 24 36.6	+1.8
PAVE				eS	Sn	07 24 48.6	-0.4
PCIG		1.77	314	eP	Pn	07 24 47.0	+1.2
PCIG				eS	Sn	07 25 04.5	-4.0

*BJI **21** 07:27:01.7,17°.78S×177°.37W,h614km,mB4.8/17, mb5.0/53*
*NOU **21** 07:27:03.5,18°.15S×177°.89W,h617km,ML4.8/120,Fiji Islands Region*
*NEIC **21** 07:27:03.5±1.8,18°.1S±0°.1×177°.9W±0°.1,h611km±6km, mb4.8/332,Error ellipse: s-maj=16.1km s-min=14.0km az=155.0*
*IDC **21** 07:27:04.4±0.6,18°.09S×178°.09W,h622km±5km,mb4.1/19, mbtmp5.1/22,Error ellipse: s-maj=10.2km s-min=7.8km az=140.0*
*GCMT **21** 07:27:05.5±0.3,18°.02S±0°.03×178°.05W±0°.02, h628km±2km,MW5.3/97,Moment Tensor Solution. s97,c136; Duration: 1s1 Moment tensor: Scale 10^17^Nm; M_{rr}-0.56±.02; $M_{\theta\theta}$0.26±.04; $M_{\phi\phi}$0.30±.05; $M_{r\theta}$-0.62±.04; $M_{\theta\phi}$0.13±.04; $M_{\phi r}$-0.93±.04; Best double couple: M_0=1.22000×10^17^ NP1:ϕ_s220.00000°,δ12.00000°, λ-84.00000°. NP2:ϕ_s34.00000°,δ78.00000°,λ-91.00000°. Principal axes: T 1.1440, Plg33.0000°, Azm125.0000°; N 0.1520, Plg1.0000°, Azm34.0000°; P -1.2950, Plg57.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 21 07:27:03.3±0.3,18°.14S±0°.04×177°.90W±0°.04, h614km±3km,h614km:pP-P,n981,σ0°98/890,mb4.8/251, 57C-52D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	0.87	263	P	P	07 28 16.5	+0.9
TAVE	Taveuni	2.38	306	P	P	07 28 21.7	+1.2
DGTI	Dogotuki	2.90	309	P	P	07 28 23.3	+0.2
FUTU	Fugatoga	3.81	357		P	07 28 29.1	+0.5
FUTU	Fugatoga	3.81	357	P	P	07 28 29.1	+0.5
MSVF	Nonsavu	3.87	275		P	07 28 30.3	+1.3
MSVF	Nonsavu	3.87	275	P	P	07 28 30.0	+1.0
3μm,0.8s,baz=129,slow=5.1,SNR=542							
MSVF				S	S	07 29 41.2	+2.4
521nm,1.2s,baz=124,slow=23,SNR=19							
MSVF	Nonsavu	3.87	275	P	P	07 28 29.9	+0.9
AFI	Afiamalu	7.24	55	P	P	07 28 55.2	-1.0
AFI	Afiamalu	7.24	55	P	P	07 28 55.7	-0.5
AFI	Afiamalu	7.24	55	S	S	07 30 28.3	-0.2
NIUE	Niue	7.62	98	P	P	07 29 00.9	+1.4
comp=Z,478nm,1.1s							
NIUE	Niue	7.62	98	P	P	07 29 00.8	+1.2
GLKZ	Green Lake	11.08	180	P	P	07 29 31.0	-1.8
INH	Isangel	12.22	261	P	P	07 29 44.6	+0.4
VLAKA	Lakatoro	14.17	276	P	P	07 30 03.8	+0.4
PINNC	Pines Island,	14.44	250	P	P	07 30 06.3	+0.5
DZM	Mont Dzumac	15.21	252	P	P	07 30 13.1	+0.1
DZM				IAmb	IAmb	07 30 15.7	
comp=Z,51nm,0.9s							
DZM	Mont Dzumac	15.21	252	eP	P	07 30 13.2	+0.2
comp=Z,173nm,1.4s							
DZM				eS	S	07 32 46.2	-1.4
comp=Z,140nm,1.3s							
DZM	Mont Dzumac	15.21	252	P	P	07 30 12.4	-0.6
comp=Z,33nm,0.8s,baz=72,slow=18,SNR=9.3							
DZM				S	S	07 32 48.6	+1.0
comp=Z,39nm,1.0s,baz=306,slow=15,SNR=3.6							
DZM	Mont Dzumac	15.21	252	P	P	07 30 13.9	+0.9
KOUNC	Koumac, New Ca	16.98	259	P	P	07 30 30.7	+1.7
RAR	Rarotonga	17.35	103	P	P	07 30 33.9	+1.5
comp=Z,66nm,1.0s,baz=249,slow=6.8,SNR=5.0							
OUZ	Omahuta	18.62	202	P	P	07 30 46.2	+2.5
GRZ	Great Barrier	18.98	197	P	P	07 30 48.5	+1.6
WCZ	Waipu Caves	19.02	200	P	P	07 30 50.0	+2.7
KUZ	Kuaotunu	19.37	196	P	P	07 30 51.9	+1.4
KUZ	Kuaotunu	19.37	196	P	P	07 30 52.0	+1.4
MXZ	Matakaoa Point	19.64	189	P	P	07 30 52.3	-0.6
HAZ	Te Kaha	19.91	190	P	P	07 30 54.5	-0.8
PUZ	Puketiti	20.14	189	P	P	07 30 57.7	+0.2
TOZ	Tahuroa Road	20.36	195	P	P	07 31 00.8	+1.4
MWZ	Matawai	20.52	190	P	P	07 30 58.8	-2.1
URZ	Urewera	20.52	191	P	P	07 30 58.0	-2.8
comp=Z,55nm,0.7s,baz=32,slow=0.9,SNR=43							
URZ				S	S	07 34 05.6	-6.8
comp=Z,18nm,0.6s,baz=108,slow=24,SNR=7.6							
URZ	Urewera	20.52	191	P	P	07 30 59.4	-1.4
URZ	Urewera	20.52	191	P	P	07 30 58.5	-2.3
RTZ	Ruatahuna	20.89	191	P	P	07 31 02.7	-1.6
TLZ	Tolley Road	20.92	195	P	P	07 31 06.0	+1.5
KNZ	Kokohu	21.16	190	P	P	07 31 06.2	-0.4
HIZ	Hauiti	21.26	196	P	P	07 31 10.0	+2.5
BKZ	Black Stump Fm	21.51	192	P	P	07 31 07.6	-2.2
PXZ	Pawanui	22.28	191	P	P	07 31 15.3	-1.2
WAZ	Wanganui	22.41	194	P	P	07 31 18.1	+0.4
TSZ	Takapari Road	22.48	192	P	P	07 31 17.8	-0.6
BFZ	Birch Farm	23.03	191	P	P	07 31 21.5	-1.7
MRZ	Mangatainoka R	23.14	193	P	P	07 31 22.3	-1.8
TATA	Tatamba Isabel	23.74	291	P	P	07 31 29.7	-0.1
QRZ	Quartz Range	24.07	198	P	P	07 31 32.6	+0.3
QRZ	Quartz Range	24.07	198	S	S	07 35 08.6	+0.4
QRZ	Quartz Range	24.07	198	P	P	07 31 32.6	+0.3
NNZ	Nelson	24.19	196	P	P	07 31 32.7	-0.8
THZ	Tophouse	24.83	197	P	P	07 31 38.5	-0.6
DSZ	Denniston Nort	25.12	198	P	P	07 31 41.8	0.0
KHZ	Kahutara	25.28	195	P	P	07 31 41.8	-1.2
CTZ	Chatham Island	25.55	178	P	P	07 31 47.4	+2.1
CTZ	Chatham Island	25.55	178	P	P	07 31 48.2	+2.9
GVZ	Greta Valley S	25.92	195	P	P	07 31 47.3	-1.4
LTZ	Lake Taylor	25.95	197	P	P	07 31 47.5	-1.5
INZ	Inchbonnie	26.13	198	P	P	07 31 49.5	-1.0
OXZ	Oxford	26.52	197	P	P	07 31 52.7	-1.2
WVZ	Waitaha Valley	26.66	199	P	P	07 31 54.6	-0.5
MQZ	McQueen's Vall	26.71	195	P	P	07 31 54.3	-1.2
PAE	Paea	26.95	93	eP	P	07 31 59.0	+1.0
comp=Z,40nm,1.3s							
PPT2	Papeete2	26.96	93	eS	sS	07 38 49.9	-1.6
comp=Z,409nm,25.5s							
PPT2				eS	SS	07 38 56.9	-2.1
comp=Z,347nm,31.0s							
PPT	Papeete	26.96	93	P	P	07 31 57.6	-0.5
comp=Z,56nm,1.0s,baz=295,slow=14,SNR=4.2							
TBI	Tubuai	27.07	106	eS	sS	07 38 56.3	+3.1
comp=Z,1μm,25.8s							
RPZ	Rata Peaks	27.15	198	P	P	07 31 59.5	0.0
TVO	Taravao	27.25	94	eP	P	07 32 01.7	+1.0
comp=Z,76nm,1.3s							
FOZ	Fox Glacier	27.36	200	P	P	07 32 00.2	-1.0
TMZ	Timaru	27.78	197	P	P	07 32 03.7	-1.1
LBZ	Lake Benmore	28.02	198	P	P	07 32 04.9	-2.0
JCZ	Jackson Bay	28.18	201	P	P	07 32 08.1	-0.4
JCZ	Jackson Bay	28.18	201	P	P	07 32 08.1	-0.4
ODZ	Otahua Downs	28.49	197	P	P	07 32 10.1	-0.9
ODZ	Otahua Downs	28.49	197	P	P	07 32 10.1	-0.9
WKZ	Wanaka	28.78	200	P	P	07 32 12.7	-0.9
PMOR	Pomariorio Ree	28.91	88	eP	P	07 32 16.7	+1.6
comp=Z,182nm,1.2s							
MSZ	Milford Sound	29.00	201	P	P	07 32 16.0	+0.5
EAZ	Earnscleugh	29.05	199	P	P	07 32 15.0	-0.8
VAH	Vaihoa	29.13	89	eP	P	07 32 17.1	+0.2
comp=Z,92nm,1.2s							
GD1S	Gladstone Soft	29.39	254	P	P	07 32 19.5	+0.4
MLZ	Mavora Lakes	29.55	200	P	P	07 32 20.4	+0.2
TUZ	Tuapeka	29.61	198	P	P	07 32 20.8	+0.2
EIDS	Eidsvold	29.64	250		P	07 32 21.3	0.0
EIDS	Eidsvold	29.64	250	P	P	07 32 20.4	-0.9
comp=Z,117nm,1.1s							
EIDS	Eidsvold	29.64	250	P	P	07 32 21.1	-0.2
DCZ	Deep Cove	29.96	201	P	P	07 32 23.8	+0.1
RK1H	Rockhampton Ha	29.97	255	P	P	07 32 23.5	-0.6
WHZ	Wether Hill Ro	30.07	200	P	P	07 32 24.7	+0.1
ARMA	Armidale	30.25	240		P	07 32 26.3	-0.2
ARMA	Armidale	30.25	240	P	P	07 32 25.6	-0.9
comp=Z,74nm,0.8s							
ARMA	Armidale	30.25	240	P	P	07 32 27.1	+0.6
SYZ	Scrubby Hill	30.28	198	P	P	07 32 26.5	+0.1
APZ	The Paps	30.89	199	P	P	07 32 32.0	+0.4
NTLH	Newcastle Hard	30.98	236	P	P	07 32 33.6	+1.0
RIV	Riverview	31.75	234	P	P	07 32 39.7	+0.6
comp=Z,90nm,1.3s							
SYDH	Sydney Hard Ro	32.04	235	P	P	07 32 42.6	+1.0
WOLH	Wollongong Har	32.18	234	P	P	07 32 43.3	+0.6
RABL	Rabaul	32.40	292	P	P	07 32 43.8	-1.1
TV1H	Townsville Har	33.42	262	P	P	07 32 53.0	-0.4
CNB	Canberra Magne	33.67	233	P	P	07 32 56.0	+0.7
comp=Z,267nm,1.0s							
CNB	Canberra Magne	33.67	233	P	P	07 32 55.9	+0.5
CAN	Canberra	33.95	233		P	07 32 57.8	+0.1
CAN	Canberra	33.95	233	P	P	07 32 58.2	+0.5
comp=Z,157nm,0.9s							
CAN	Canberra	33.95	233	P	P	07 32 58.0	+0.3
CAN	Canberra	33.95	233	P	P	07 32 58.0	+0.3
MILA	Mila	34.51	230	P	P	07 33 02.3	0.0
comp=Z,16nm,1.3s							
PMG	Port Moresby	34.97	280		P	07 33 07.5	+1.1
PMG	Port Moresby	34.97	280	P	P	07 33 07.1	+0.8
PMG	Port Moresby	34.97	280	P	P	07 33 07.1	+0.8
CMSA	Cobar Meteorol	35.46	241	P	P	07 33 10.2	0.0
comp=Z,225nm,0.8s							
CMSA	Cobar Meteorol	35.46	241	P	P	07 33 10.2	0.0
MTSU	Mount Surprise	35.86	264	P	P	07 33 13.2	-0.5
comp=Z,54nm,0.9s							
MTSU	Mount Surprise	35.86	264	P	P	07 33 13.4	-0.3
QLP	Quilpie	35.91	250	P	P	07 33 13.5	-0.4
comp=Z,407nm,0.8s							
QLP	Quilpie	35.91	250	P	P	07 33

AS01	Alice Springs	45.15	254	P	P	07 34 26.7 -0.4
AS31	Alice Springs	45.19	254	P	P	07 34 27.1 -0.4
AS31				IAmb	IAmb	07 34 28.6
	comp=Z,46nm,0.8s					
AS31	Alice Springs	45.19	254	P	P	07 34 26.9 -0.6
	comp=Z,62nm,1.0s					
ASAR	Alice Springs	45.19	254	P	P	07 34 26.9 -0.6
	comp=Z,204nm,0.9s,baz=86,slow=8.1,SNR=1156					
ASAR				PcP	PcP	07 35 53.9 -0.4
	comp=Z,13nm,0.6s,baz=99,slow=4.4,SNR=7.9					
ASAR				ScP	ScP	07 38 48.8 -0.5
	comp=Z,1.2nm,0.7s,baz=95,slow=5.0,SNR=4.2					
ASAR				S	S	07 40 21.1 -3.0
	comp=Z,10nm,0.9s,baz=95,slow=14,SNR=26					
	comp=Z,204nm,0.9s					
SMPI	Sarmi	45.47	286	P	P	07 34 30.2 +0.6
	comp=Z,109nm,0.9s					
KDU	Kakadu	48.03	269	P	P	07 34 47.7 -1.1
	comp=Z,140nm,0.9s					
KDU	Kakadu	48.03	269	P	P	07 34 48.1 -0.7
BAKI	Biak	48.17	285	P	P	07 34 51.2 +1.3
	comp=Z,2µmcomp=Z,209nm,1.1s					
GUMO	Guam	48.39	308	P	P	07 34 51.3 -0.1
GUMO	Guam	48.39	308	P	P	07 34 51.3 -0.1
MTN	Manton Dam	49.27	268		P	07 34 57.1 -0.9
MTN	Manton Dam	49.27	268	P	P	07 34 56.8 -1.1
	comp=Z,138nm,0.8s					
MTN	Manton Dam	49.27	268	P	P	07 34 56.9 -1.1
DRS	Darwin Rock St	49.59	269	P	P	07 34 59.3 -1.0
RKPI	Ransiki, Papua	49.82	284	P	P	07 35 02.5 +0.5
WRKA	Warakurna	50.23	252	P	P	07 35 04.1 -0.8
	comp=Z,249nm,0.9s					
WRKA	Warakurna	50.23	252	P	P	07 35 04.3 -0.6
FORT	Forrest	50.35	245		P	07 35 04.8 -0.8
FORT	Forrest	50.35	245	P	P	07 35 04.4 -1.1
	comp=Z,216nm,0.9s					
FORT	Forrest	50.35	245	P	P	07 35 04.5 -1.1
KNRA	Kununurra	50.95	264		P	07 35 09.5 -0.6
KNRA	Kununurra	50.95	264	P	P	07 35 09.1 -0.9
	comp=Z,124nm,1.1s					
FAKI	Fak Fak	51.09	281	P	P	07 35 10.7 -0.5
FAKI	Fak Fak	51.09	281	P	P	07 35 10.8 -0.5
FAKI	Fak Fak	51.09	281	P	P	07 35 10.9 -0.3
	comp=Z,909nmcomp=Z,66nm,1.3s					
SWI	Sorong	52.76	283	P	P	07 35 22.0 -1.1
FITZ	Fitzroy Crossi	53.47	261	P	P	07 35 27.8 -0.2
MSAI	Masohi	54.05	279	P	P	07 35 32.9 +0.7
	comp=Z,3µmcomp=Z,104nm,0.6s					
AAI	Ambon	54.63	279	P	P	07 35 35.3 -1.0
	comp=Z,2µmcomp=Z,132nm,1.0s					
KMBL	Kambalda	55.65	244	P	P	07 35 41.8 -1.3
	comp=Z,66nm,1.2s					
KMBL	Kambalda	55.65	244	P	P	07 35 42.3 -0.8
NLAI	Namlea	55.81	279	P	P	07 35 44.4 0.0
	comp=Z,2µmcomp=Z,174nm,1.1s					
SOEI	Soe	56.55	270	P	P	07 35 49.7 0.0
TNTI	Ternate	56.98	283	P	P	07 35 52.8 +0.3
TNTI	Ternate	56.98	283	P	P	07 35 52.8 +0.3
TNTI	Ternate	56.98	283	P	P	07 35 52.7 +0.3
	comp=Z,2µmcomp=Z,151nm,1.4s					
SANI	Sanana	57.25	279	P	P	07 35 54.0 -0.4
SANI	Sanana	57.25	279	P	P	07 35 53.9 -0.4
	comp=Z,1µmcomp=Z,156nm,0.9s					
PSA00	Pilbara Seismi	58.32	255	P	P	07 36 00.6 -0.8
PSA00	Pilbara Seismi	58.32	255	P	P	07 35 59.9 -1.5
	comp=Z,129nm,1.6s					
PSA00	Pilbara Seismi	58.32	255	P	P	07 36 00.7 -0.7
MBWA	Marble Bar	58.49	256	P	P	07 36 01.6 -1.0
MBWA				IAmb	IAmb	07 36 03.5
	comp=Z,52nm,0.8s					
MBWA	Marble Bar	58.49	256	P	P	07 36 01.4 -1.1
	comp=Z,113nm,1.1s					
MBWA	Marble Bar	58.49	256	P	P	07 36 02.0 -0.5
MBWA	Marble Bar	58.49	256	P	P	07 36 01.8 -0.7
MMRI	Maumere	58.78	271	P	P	07 36 04.1 -0.5
MMRI	Maumere	58.78	271	P	P	07 36 04.4 -0.2
MEEK	Meekatharra	58.80	249	P	P	07 36 03.1 -1.5
	comp=Z,91nm,0.9s					
MEEK	Meekatharra	58.80	249	P	P	07 36 03.9 -0.7
KLBR	Kellerberrin	59.16	244	P	P	07 36 05.6 -1.2
	comp=Z,332nm,0.8s					
KLBR	Kellerberrin	59.16	244	P	P	07 36 06.4 -0.5
NWAO	Narrogin (SRO)	59.53	242	P	P	07 36 09.1 -0.2
NWAO				IAmb	IAmb	07 36 10.0
	comp=Z,66nm,1.1s					
NWAO	Narrogin (SRO)	59.53	242	P	P	07 36 09.3 0.0
NWAO	Narrogin (SRO)	59.53	242	P	P	07 36 09.2 -0.1
KMSI	Cibinong	60.05	282	P	P	07 36 13.3 +0.3
	comp=Z,171nm,0.6s					
BLDU	Ballidu	60.12	245	P	P	07 36 12.4 -0.8
	comp=Z,70nm,1.0s					
BLDU	Ballidu	60.12	245	P	P	07 36 12.7 -0.5
SBA	Scott Base	60.22	184	P	P	07 36 15.7 +2.6
SBA	Scott Base	60.22	184	P	P	07 36 15.4 +2.4
SBA				PcP	PcP	07 36 54.2 +3.6
SBA				pP	pwP	07 38 13.2 0.0
VNDA	Vanda	60.26	185	P	P	07 36 14.9 +1.6
VNDA	Vanda	60.26	185	P	P	07 36 14.9 +1.6
	comp=Z,5.2nm,0.9s,baz=358,slow=6.8,SNR=24					
	comp=Z,5.2nm,0.9s					
VNDA	Vanda	60.26	185	P	P	07 36 15.0 +1.7
VNDA				PcP	PcP	07 36 52.7 +1.9
VNDA				ScP	ScP	07 39 55.9 +2.2
MUN	Mundaring	60.45	243	P	P	07 36 15.5 +0.1
	comp=Z,103nm,2.9s					
MUN	Mundaring	60.45	243	P	P	07 36 15.5 +0.1
LUWI	Luwuk	60.62	279	P	P	07 36 17.0 +0.3
LUWI	Luwuk	60.62	279	P	P	07 36 19.7 +3.0
	comp=Z,2µmcomp=Z,156nm,1.5s					
MORW	Morawa	60.83	246	P	P	07 36 17.2 -0.7
MORW				IAmb	IAmb	07 36 18.3
	comp=Z,29nm,0.8s					
MORW	Morawa	60.83	246	P	P	07 36 16.9 -1.0
	comp=Z,45nm,0.9s					
MORW	Morawa	60.83	246	P	P	07 36 17.7 -0.2
APSI	Ampana	61.72	279	P	P	07 36 25.3 +1.4
	comp=Z,2µmcomp=Z,128nm,1.1s					
BNSI	Bone	62.04	275	P	P	07 36 26.3 +0.3
	comp=Z,1µmcomp=Z,108nm,1.1s					
SPSI	Sidrap Palu	62.49	275	P	P	07 36 28.1 -0.8
	comp=Z,1µmcomp=Z,55nm,1.0s					
PLAI	Plampang	62.97	269	P	P	07 36 32.0 0.0
TOLI2	Tolitoli	63.23	281	P	P	07 36 33.4 -0.2
TOLI2				IAmb	IAmb	07 36 34.3
	comp=Z,53nm,0.9s					
TOLI2	Tolitoli	63.23	281	P	P	07 36 33.7 +0.1
GIRL	Giralia	63.29	253	P	P	07 36 34.3 +0.4
GIRL	Giralia	63.29	253	P	P	07 36 34.4 +0.5
	comp=Z,269nm,1.1s					
PCI	Palu	63.42	278	P	P	07 36 36.7 +1.8
	comp=Z,3µmcomp=Z,224nm,1.1s					
MPSI	Mapaga	63.79	280	P	P	07 36 36.7 -0.5
	comp=Z,1µmcomp=Z,92nm,1.1s					
CCD	Concordia, Ant	64.77	194	P	P	07 36 43.5 +0.8
CCD				PcP	PcP	07 37 09.8 -0.1
CCD				pP	pP	07 38 44.5 +1.6
JHJ2	Mitsune	65.02	321	P	P	07 36 43.9 -0.6
CASY	Casey	66.13	205	P	P	07 36 51.2 +0.4
CASY	Casey	66.13	205	P	P	07 36 51.2 +0.4
JAGI	Jajag, Banyuwa	66.52	268	P	P	07 36 52.5 -1.8
JAGI	Jajag, Banyuwa	66.52	268	P	P	07 36 53.1 -1.2
JAGI	Jajag, Banyuwa	66.52	268	P	P	07 36 53.0 -1.2
MYLDM	Lahad Datu	66.83	284	P	P	07 36 57.0 +0.9
JMM	Marumori	67.90	326	P	P	07 37 02.0 0.0
JMM				IAmb	IAmb	07 37 03.2
	comp=Z,30nm,0.9s					
JMM	Marumori	67.90	326	P	P	07 37 02.5 +0.4
JGF	Kuroka	68.21	322	P	P	07 37 03.7 -0.5
JGF				IAmb	IAmb	07 37 05.1
	comp=Z,33nm,1.2s					
JGF	Kuroka	68.21	322	P	P	07 37 03.8 -0.3
INU	Inuyama	68.24	321	P	P	07 37 04.0 -0.2
INU				IAmb	IAmb	07 37 05.5
	comp=Z,24nm,1.2s					
INU	Inuyama	68.24	321	P	P	07 37 04.9 +0.7
INU	Inuyama	68.24	321	P	P	07 37 04.5 +0.3
INU				PcP	PcP	07 37 25.5 +0.9
MJAR	Matsushiro Arr	68.38	323	P	P	07 37 04.4 -0.6
	comp=Z,11nm,0.4s,baz=165,slow=5.9,SNR=70					
	comp=Z,11nm,0.4s					
MAJO	Matsushiro	68.38	323	P	P	07 37 04.8 -0.3
MAJO				IAmb	IAmb	07 37 06.0
	comp=Z,46nm,1.1s					
MAJO	Matsushiro	68.38	323	P	P	07 37 04.7 -0.3
MAJO	Matsushiro	68.38	323	P	P	07 37 04.5 -0.6
MAJO				PcP	PcP	07 37 25.9 +0.7
MJB9	Matsu-Tunnel	68.38	323	P	P	07 37 05.6 +0.5
MJB9				IAmb	IAmb	07 37 07.0
	comp=Z,47nm,1.1s					
JMN	Monobe	69.08	318	P	P	07 37 10.2 +0.8
KKM	Kota Kinabalu	69.26	284	P	P	07 37 10.9 -0.1
KKM	Kota Kinabalu	69.26	284	P	P	07 37 11.1 +0.1
JSD	Sado	69.40	324	P	P	07 37 11.3 +0.2
JSD				IAmb	IAmb	07 37 12.6
	comp=Z,36nm,1.2s					
JSD	Sado	69.40	324	P	P	07 37 11.3 +0.2
PCJI	Pacitan	69.42	268	P	P	07 37 11.8 0.0
KIWB	Kanaga Island	69.69	0	P	P	07 37 12.2 -0.3
ADK	Adak	69.73	1	P	P	07 37 11.5 -1.2
ERM	Erimo	69.83	330	P	P	07 37 14.6 +1.1
ATKA	Atka Island	70.11	2	P	P	07 37 14.2 -0.8
UGM	Wanagama	70.12	268	P	P	07 37 15.4 -0.6
SMRI	Semarang	70.44	269	P	P	07 37 18.6 +0.7
JNU	Nakatsue	70.64	316	P	P	07 37 18.0 -0.6
JNU				IAmb	IAmb	07 37 19.7
	comp=Z,32nm,1.0s					
JNU	Nakatsue	70.64	316	P	P	07 37 18.9 +0.3
SHEM	Shemya Is, Ala	70.91	355	P	P	07 37 18.6 -1.0
	comp=Z,30nm,0.4s,baz=315,slow=1.4,SNR=7.2					
	comp=Z,30nm,0.4s					
NIKH	Nikolski High	71.24	6	P	P	07 37 20.8 -0.8
	baz=189					
YOJ	Yonaguni jima	71.47	304	P	P	07 37 23.6 0.0
JKA	Kamikawa-asahi	71.70	331	P	P	07 37 25.5 +1.0
SBUM	Sibu	71.72	279	P	P	07 37 25.9 +0.7
SBUM				IAmb	IAmb	07 37 27.0
	comp=Z,15nm,0.9s					
SBUM	Sibu	71.72	279	P	P	07 37 26.0 +0.7
QSPA	South Pole Qui	71.92	180	P	P	07 37 26.6 +0.9
QSPA				IAmb	IAmb	07 37 28.0
	comp=Z,29nm,0.8s					
QSPA	South Pole Qui	71.92	180	P	P	07 37 26.5 +0.9
	comp=Z,22nm,0.7s,baz=342,slow=0.1,SNR=151					
QSPA				S	S	07 45 58.9 +0.4
	comp=Z,2.4nm,1.1s,baz=92,slow=22,SNR=12					
	comp=Z,22nm,0.7s					
QSPA	South Pole Qui	71.92	180	P	P	07 37 26.7 +1.0
QSPA				pP	pP	07 39 29.8 +0.7
YULB	Yu-li	72.30	303	P	P	07 37 27.2 -1.2
YULB				IAmb	IAmb	07 37 28.0
	comp=Z,22nm,0.9s					
YULB	Yu-li	72.30	303	P	P	07 37 27.7 -0.7
NACB	Ninganchiao	72.44	304	P	P	07 37 29.2 0.0
SSLB	Suanglung	72.76	303	P	P	07 37 30.0 -1.1
TPUB	Ta-pu	72.79	302	P	P	07 37 30.0 -1.2
YHNB	Yeheng	72.86	304	P	P	07 37 32.3 +0.6
BBJI	Bungbulang	72.98	268	P	P	07 37 32.0 -0.6
KSM	Kuching	73.19	277	P	P	07 37 34.3 +0.6
FALS	False Pass	73.74	9	P	P	07 37 34.5 -1.3
	baz=194					
YSS	Yuzhno-Sakhali	73.83	333	P	P	07 37 37.5 +0.9
YSS	Yuzhno-Sakhali	73.83	333	P	P	07 37 38.0 +1.4
PEA0B	Petropavlovsk-	74.02	345	P	P	07 37 37.1 -0.4
PETK	Petropavlovsk-	74.02	345	P	P	07 37 37.0 -0.5
	comp=Z,34nm,0.9s,baz=128,slow=7.5,SNR=33					
	comp=Z,34nm,0.9s					
CHNA	Chernabura Isl	74.34	11	P	P	07 37 38.5 -0.7
	baz=198					
SDPT	Sand Point	74.68	10	P	P	07 37 40.3 -0.8
	baz=197					
S12K	Black Hills	74.76	9	P	P	07 37 40.8 -0.8
	baz=196					
P08K	Saint George I	74.78	5	P	P	07 37 40.3 -1.3
	baz=188					
TJN	Taejon	74.91	317	P	P	07 37 42.9 0.0
TJN	Taejon	74.91	317	P	P	07 37 43.2 +0.4
KSRS	Korea Array	75.19	318	P	P	07 37 44.6 +0.3
	comp=Z,12nm,1.1s,baz=139,slow=6.2,SNR=36					
	comp=Z,12nm,1.1s					
QZH	Quanzhou	75.20	303	P	P	07 37 45.8 +1.1
QZH				pmax	pmax	
	comp=Z,65nm,0.9s					
KSAR	Wonju Array Be	75.21	318	P	P	07 37 45.4 +0.9
KS19	Wonju Array Si	75.25	318	P	P	07 37 45.1 +0.4
KS19				IAmb	IAmb	07 37 46.8
	comp=Z,50nm,1.5s					
SPIA	Saint Paul Isl	75.30	4	P	P	07 37 43.9 -0.6
	baz=188					
S14K	Fog Glacier	75.73	10	P	P	07 37 46.4 -0.6
	baz=198					
CHGN	Chignik	75.95	11	P	P	07 37 47.0 -1.0
	baz=199					
INCN	Inchon	76.03	318	P	P	07 37 50.0 +0.9
CHIR	Chirikof Islan	76.04	13	P	P	07 37 46.9 -1.8
	baz=202					
SII	Sitkinak Islan	77.03	13	P	P	07 37 53.0 -1.1
	baz=203					
USRK	Ussuriysk Ar.	77.07	326	P	P	07 37 55.4 +0.9
USRK	Ussuriysk Ar.	77.07	326	P	P	07 37 55.8 +1.3
	comp=Z,2.8nm,0.4s,baz=124,slow=3.4,SNR=17					
	comp=Z,2.8nm,0.4s					
R16K	Pilot Point	77.30	11	P	P	07 37 54.6 -0.9
	baz=200					
ISA	Isabella, Lake	77.63	46	P	P	07 37 55.9 -1.9
OHAK	Old Harbor	77.84	13	P	P	07 37 58.6 +0.3
OHAK	Old Harbor	77.84	13	P	P	07 37 57.6 -0.8
	baz=204					
R18K	Karluk	77.91	13	P	P	07 37 57.6 -1.1
	baz=203					
Q17K	Contact Creek	78.27	12	P	P	07 37 59.0 -1.8
	baz=201,SNR=7.0					
O14K	Tigyukauivet M	78.31	9	P	P	07 38 00.4 -0.4
	baz=196					
O15K	Ungalikthiuk R	78.45	9	P	P	07 38 01.0 -0.6
	baz=198					
NJ2	Nanjing	78.45	309	⇑P	P	07 38 03.5 +1.3
NJ2				pmax	pmax	
	comp=Z,21nm,0.9s					
KDAK	Kodiak Island	78.51	14	P	P	07 38 01.4 -0.5
	baz=205					
Q16K	King Salmon	78.51	11	P	P	07 38 01.8 -0.1
	baz=201,SNR=5.6					
DLV	Lat	78.52	287	IAmb	IAmb	07 38 04.5
	comp=Z,36nm,0.7s					
DLV	Lat	78.52	287	P	P	07 38 03.3 +0.1
P16K	Nushagak River	78.61	10	P	P	07 38 02.0 -0.4
	baz=199					
MPK	Martis Peak	78.62	42	IAmb	IAmb	07 38 06.2
	comp=Z,26nm,1.2s					
MDJ	Mudanjiang	78.65	325	P	P	07 38 02.7 -0.3
MDJ				IAmb	IAmb	07 38 05.4
	comp=Z,66nm,1.1s					
MDJ	Mudanjiang	78.65	325	P	P	07 38 03.8 +0.8
MDJ				S	SKSac	07 47 16.4 -3.9
MDJ				ScS	ScS	07 47 32.3 +3.5
MDJ				pmax	pmax	
	comp=Z,43nm,0.8s					
MDJ	Mudanjiang	78.65	325	P	P	07 38 04.0 +1.0
PNTR	Pine Nut	78.78	42	IAmb	IAmb	07 38 07.0
	comp=Z,21nm,1.1s					
Q18K	Katmai Hardscr	78.80	12	P	P	07 38 02.8 -0.8
	baz=202,SNR=8.6					
M11K	Mekoryuk	78.81	6	P	P	07 38 02.8 -0.6
	baz=191					
N14K	Kuskokwak Cree	78.89	8	P	P	07 38 03.5 -0.4
	baz=196,SNR=7.7					
P17K	Kvichak River	79.03	11	P	P	07 38 04.0 -0.7
	baz=201,SNR=9.0					
O16K	Kokwok River B	79.12	10	P	P	07 38 04.2 -0.9
O16K				IAmb	IAmb	07 38 05.7
	comp=Z,25nm,1.1s					
O16K	Kokwok River B	79.12	10	P	P	07 38 04.1 -1.0
	baz=199,SNR=7.7					
M13K	Dall Lake	79.15	7	P	P	07 38 04.4 -0.9
	baz=194					
NVAR	Mina Array Bea	79.25	44	P	P	07 38 07.5 +0.8
NVAR	Mina Array Bea	79.25	44	P	P	07 38 07.6 +0.9
	comp=Z,3.5nm,0.9s,baz=221,slow=8.9,SNR=14					
	comp=Z,3.5nm,0.9s					
Q20K	Shuyak Island	79.30	13	P	P	07 38 05.8 -0.3
	baz=205					
Q19K	Cape Douglas,	79.33	13	P	P	07 38 06.3 0.0
	baz=204					
N15K	Kwethluk River	79.36	9	IAmb	IAmb	07 38 08.3
	comp=Z,32nm,1.2s					
N15K	Kwethluk River	79.36	9	P	P	07 38 05.6 -0.7
	baz=197					
MYKOM	Kota Tinggi	79.40	275	IAmb	IAmb	07 38 09.2
	comp=Z,53nm,1.2s					
MYKOM	Kota Tinggi	79.40	275	P	P	07 38 08.3 +0.6
P18K	Big Mountain,	79.44	12	IAmb	IAmb	07 38 07.8
	comp=Z,53nm,1.1s					
P18K	Big Mountain,	79.44	12	P	P	07 38 06.0 -0.9
	baz=202					
O17K	Koliganek Bris	79.46	11	P	P	07 38 06.3 -0.6
	baz=200					
M14K	Bethel	79.66	8	IAmb	IAmb	07 38 09.9
	comp=Z,33nm,1.1s					
M14K	Bethel	79.66	8	P	P	07 38 08.3 +0.5
	baz=195,SNR=6.1					
J04A	Umpqua Nationa	79.66	38	IAmb	IAmb	07 38 11.4
	comp=Z,35nm,1.1s					
M15K	Kasigluk River	79.78	9	P	P	07 38 08.8 +0.3
	baz=197,SNR=6.8					
N16K	Nishlik Lake	79.85	9	P	P	07 38 09.6 +0.6
	baz=198,SNR=6.2					
O18K	Koktuh Hills	79.88	11	P	P	07 38 08.8 -0.3
	baz=202					
P19K	Oil Pt	80.08	12	P	P	07 38 10.2 0.0
	baz=204					
L14K	Kuka Creek	80.14	7	IAmb	IAmb	07 38 12.5
	comp=Z,33nm,1.2s					
L14K	Kuka Creek	80.14	7	P	P	07 38 10.7 +0.3
	baz=195,SNR=5.5					
N17K	Nushagak Hills	80.16	10	P	P	07 38 10.8 +0.3
	baz=200					
J05D	Fort Rock, OR	80.20	38	IAmb	IAmb	07 38 14.3
	comp=Z,34nm,1.1s					
M16K	Timber Creek	80.34	9	P	P	07 38 12.2 +0.7
	baz=198,SNR=18					
SHPR	Sheep Range	80.35	47	P	P	07 38 13.5 +1.2
O19K	Port Alsworth	80.36	12	P	P	07 38 11.3 -0.3
	baz=203					
HOM	Homer	80.42	13	P	P	07 38 11.6 -0.3
	baz=205					
H04A	Detroit Lake	80.49	37	IAmb	IAmb	07 38 14.8
	comp=Z,33nm,1.4s					
K13K	Kusilvak Mount	80.49	6	IAmb	IAmb	07 38 14.4
	comp=Z,26nm,1.3s					
K13K	Kusilvak Mount	80.49	6	P	P	07 38 11.1 -1.1
	baz=193					
CN2	Changchun	80.49	322	⇑P	P	07 38 13.8 +1.1
CN2				pmax	pmax	
	comp=Z,40nm,1.1s					
N18K	Kilae Creek	80.53	11	P	P	07 38 11.7 -0.8
	baz=201					
BNX	BinXian	80.56	325	⇑P	P	07 38 13.8 +0.9
BNX				PcP	PcP	07 38 17.6 0.0
BNX				S	S	07 47 31.4 +1.0
BNX				pmax	pmax	
	comp=Z,47nm,1.1s					
L15K	Ungalak Mounta	80.61	8	P	P	07 38 12.7 -0.2
	baz=196,SNR=12					
PINE	Pine Mountain	80.67	38	IAmb	IAmb	07 38 16.9
	comp=Z,33nm,1.1s					
BRSE	Bradley Lake S	80.69	14	P	P	07 38 13.1 -0.3
	baz=206					
I05D	Terrebonne, OR	80.76	37	IAmb	IAmb	07 38 16.9
	comp=Z,24nm,1.3s					
N19K	Bonanza Creek	80.91	11	P	P	07 38 13.6 -0.9
	baz=202,SNR=5.3					
L16K	Owhat River	80.92	9	IAmb	IAmb	07 38 16.7
	comp=Z,44nm,1.1s					
L16K	Owhat River	80.92	9	P	P	07 38 15.3 +0.8
	baz=198,SNR=19					
M17K	Holitna River	80.94	10	P	P	07 38 15.4 +0.8
	baz=200,SNR=16					
WHN	Wuhan	81.13	306	⇑P	P	07 38 17.4 +1.2
WHN				PP	PP	07 41 32.1 -1.4
WHN				pmax	pmax	
	comp=Z,120nm,1.2s					
CNSH	ChangSha	81.19	303	P	P	07 38 17.8 +1.2
CNSH				pmax	pmax	
	comp=Z,25nm,1.1s					
K15K	Wolf Creek Mou	81.20	8	P	P	07 38 16.6 +0.7
	baz=196,SNR=31					
M18K	Stony River	81.30	11	P	P	07 38 16.7 +0.4
	baz=201					
SEW	Seward	81.31	14	P	P	07 38 16.6 +0.1
	baz=207					
J14K	Nanvaranak Lak	81.41	7	IAmb	IAmb	07 38 18.8
	comp=Z,22nm,1.1s					
J14K	Nanvaranak Lak	81.41	7	P	P	07 38 16.9 +0.1
	baz=194					
TUC	Tucson	81.46	52	P	P	07 38 18.4 +0.3
SLKM	Skilak Lake	81.50	13	IAmb	IAmb	07 38 18.6
	comp=Z,48nm,1.0s					
L17K	Donlin	81.50	9	P	P	07 38 18.3 +0.9
	baz=199,SNR=19					
MA2	Magadan	81.54	344	P	P	07 38 17.0 -0.7
MA2				IAmb	IAmb	07 38 18.3
	comp=Z,31nm,1.0s					
MA2	Magadan	81.54	344	P	P	07 38 16.9 -0.7
O22K	Cooper Landing	81.59	14	P	P	07 38 17.7 -0.1
	baz=207					
BKNI	Bangkinang	81.60	273	P	P	07 38 19.0 0.0
I07A	Izee	81.68	38	IAmb	IAmb	07 38 21.7
	comp=Z,16nm,1.1s					
P23K	Montague Islan	81.70	15	P	P	07 38 18.4 0.0
	baz=209					
SPCR	Spurr Chakacha	81.71	12	P	P	07 38 17.9 -0.7
	baz=205					
TIA	Tai'an	81.76	312	P	P	07 38 20.3 +1.0
TIA				pmax	pmax	
	comp=Z,13nm,0.7s					
GAMB	Gambell	81.79	3	IAmb	IAmb	07 38 21.7
	comp=Z,34nm,1.2s					
GAMB	Gambell	81.79	3	P	P	07 38 18.6 -0.2
	baz=186,SNR=9.5					
L18K	Granite Mounta	81.83	10	IAmb	IAmb	07 38 21.4
	comp=Z,38nm,1.2s					
L18K	Granite Mounta	81.83	10	P	P	07 38 19.8 +0.7
	baz=200,SNR=12					
BELA	Belgrano 2	81.88	173	P	P	07 38 19.6 +0.3
BELA				IAmb	IAmb	07 38 20.8
	comp=Z,27nm,0.9s					
GNW	Green Mountain	81.89	34	IAmb	IAmb	07 38 22.2
	comp=Z,16nm,1.1s					
M19K	Big River Lodg	81.94	11	P	P	07 38 19.0 -0.6
	baz=203					
K17K	Iditarod	82.05	9	IAmb	IAmb	07 38 22.4
	comp=Z,26nm,1.2s					
K17K	Iditarod	82.05	9	P	P	07 38 20.2 0.0
	baz=199,SNR=8.2					
STLK	Strandline Lak	82.05	12	IAmb	IAmb	07 38 20.6
	comp=Z,18nm,1.0s					
L19K	White Mountain	82.11	11	IAmb	IAmb	07 38 23.1
	comp=Z,43nm,1.2s					
L19K	White Mountain	82.11	11	P	P	07 38 19.9 -0.6
	baz=202,SNR=12					
D05A	Enumclaw	82.11	35	IAmb	IAmb	07 38 24.6
	comp=Z,58nm,1.3s					
RC01	Rabbit Creek A	82.13	13	P	P	07 38 20.8 +0.2
	baz=207					
M20K	Styx River	82.15	12	IAmb	IAmb	07 38 21.6
	comp=Z,23nm,1.4s			

TTA	Tatalina	82.61	10	P	P	07 38 23.4	+0.3
TTA	Tatalina	82.61	10	P	P	07 38 22.2	-0.9
	baz=201,SNR=16						
M22K	Willow	82.64	13	P	P	07 38 22.4	-0.7
	baz=207,SNR=5.5						
G08A	Pilot Rock	82.69	38	IAmb	IAmb	07 38 26.6	
	comp=Z,20nm,1.3s						
KNK	Knik Glacier	82.70	14	P	P	07 38 22.7	-0.8
	baz=208						
PMR	Palmer	82.71	13	IAmb	IAmb	07 38 24.5	
	comp=Z,23nm,1.0s						
PMR	Palmer	82.71	13	P	P	07 38 23.1	-0.4
PMR	Palmer	82.71	13	P	P	07 38 22.5	-0.9
	baz=208						
I17K	Unalakleet	82.84	8	P	P	07 38 22.6	-1.5
	baz=196						
SIT	Sitka	82.91	22	P	P	07 38 23.6	-0.9
	baz=220						
GHO	Glory Hole Cre	82.92	13	IAmb	IAmb	07 38 25.8	
	comp=Z,49nm,1.1s						
HAWA	Hanford	83.00	36	IAmb	IAmb	07 38 27.9	
	comp=Z,28nm,1.4s						
ANM	Nome	83.00	5	P	P	07 38 24.9	0.0
	baz=192						
J18K	Innoko River	83.00	9	IAmb	IAmb	07 38 26.6	
	comp=Z,38nm,1.1s						
J18K	Innoko River	83.00	9	P	P	07 38 24.7	-0.3
	baz=200,SNR=24						
U33K	Whale Pass	83.01	23	P	P	07 38 24.2	-0.8
	baz=222						
V35K	Ketchikan	83.01	25	P	P	07 38 23.7	-1.5
	baz=224						
SML	Sawmill	83.08	14	P	P	07 38 24.6	-0.8
	baz=208						
CUT	Chulitna	83.19	13	P	P	07 38 25.2	-0.7
	baz=206,SNR=8.6						
M23K	Glacier View	83.20	14	P	P	07 38 25.3	-0.7
	baz=209						
BMRM	Bremner River	83.24	16	P	P	07 38 25.3	-1.0
	baz=212						
PPLA	Purkeypile	83.26	12	P	P	07 38 24.7	-1.7
	baz=205						
S31K	Pelican	83.29	21	P	P	07 38 25.5	-0.9
	baz=220						
MESA	MESA	83.29	17	P	P	07 38 25.2	-1.5
	baz=214						
SCM	Sheep Creek Mo	83.33	14	P	P	07 38 25.4	-1.3
	baz=209						
K20K	Telida	83.34	11	IAmb	IAmb	07 38 28.1	
	comp=Z,43nm,1.1s						
K20K	Telida	83.34	11	P	P	07 38 25.9	-0.8
	baz=203,SNR=18						
HEH	HeiHe	83.36	328	eP	P	07 38 27.4	+0.4
HEH				pmax	pmax		
	comp=Z,27nm,1.5s						
KLU	Klutina	83.37	15	IAmb	IAmb	07 38 28.9	
	comp=Z,39nm,1.4s						
KLU	Klutina	83.37	15	P	P	07 38 26.1	-0.8
	baz=210						
H16K	Elim	83.39	7	P	P	07 38 27.2	+0.4
	baz=195,SNR=5.3						
S32K	Killisnoo	83.49	22	P	P	07 38 27.3	-0.2
	baz=221						
WRAK	Wrangell Islan	83.52	24	P	P	07 38 28.0	+0.4
	baz=223						
MFID	Camas Ranch	83.53	40	P	P	07 38 29.2	+1.0
KULM	Kulim	83.54	278	IAmb	IAmb	07 38 30.6	
	comp=Z,54nm,1.3s						
KULM	Kulim	83.54	278	P	P	07 38 29.6	+0.8
G15K	Niukluk	83.55	6	P	P	07 38 27.9	+0.3
	baz=193,SNR=12						
T33K	Petersburg	83.59	23	P	P	07 38 27.4	-0.5
	baz=223						
PNL	Peninsula	83.62	19	P	P	07 38 27.2	-0.9
	baz=217						
J19K	Poorman	83.67	10	IAmb	IAmb	07 38 30.2	
	comp=Z,15nm,1.1s						
J19K	Poorman	83.67	10	P	P	07 38 28.4	+0.2
	baz=201,SNR=8.8						
PINM	Pinnacle	83.71	18	P	P	07 38 27.3	-1.3
	baz=216						
CAST	Castle Rocks	83.75	11	P	P	07 38 27.3	-1.4
CAST				IAmb	IAmb	07 38 28.6	
	comp=Z,28nm,0.9s						
CAST	Castle Rocks	83.75	11	P	P	07 38 27.5	-1.2
	baz=205,SNR=19						
VRDI	Verde Repeater	83.76	16	IAmb	IAmb	07 38 31.0	
	comp=Z,26nm,1.2s						
TNA	Tin City	83.78	4	IAmb	IAmb	07 38 30.4	
	comp=Z,21nm,1.0s						
TNA	Tin City	83.78	4	P	P	07 38 28.5	-0.2
	baz=190,SNR=12						
N25K	Chitina, Valde	83.79	15	P	P	07 38 29.1	+0.1
N25K				IAmb	IAmb	07 38 30.5	
	comp=Z,41nm,1.1s						
N25K	Chitina, Valde	83.79	15	P	P	07 38 28.6	-0.3
	baz=212,SNR=6.3						
MAW	Mawson	83.81	200	P	P	07 38 29.6	+0.6
MAW	Mawson	83.81	200	P	P	07 38 28.7	-0.2
	comp=Z,2.9nm,2.9s						
MAW	Mawson	83.81	200	P	P	07 38 29.3	+0.3
	comp=Z,3.8nm,0.5s,baz=154,slow=3.4,SNR=18						
	comp=Z,3.8nm,0.5s						
F14K	Arctic Creek	83.82	5	P	P	07 38 29.1	+0.2
	baz=191,SNR=11						
M24K	Tolsona, Glenn	83.84	14	IAmb	IAmb	07 38 57.6	
	comp=Z,54nm,1.4s						
M24K	Tolsona, Glenn	83.84	14	P	P	07 38 28.9	-0.3
	baz=210						
GLB	Gilahina Butte	83.85	16	IAmb	IAmb	07 38 30.6	
	comp=Z,39nm,1.2s						
H17K	Granite Mounta	83.95	8	P	P	07 38 29.3	-0.3
	baz=197						
HNS	HongShan	84.03	312	⇓P	P	07 38 31.5	+0.9
HNS				pmax	pmax		
	comp=Z,34nm,1.4s						
U35K	Hyder	84.06	25	P	P	07 38 30.1	-0.2
	baz=225						
F10A	Beach Ranch, E	84.08	38	IAmb	IAmb	07 38 32.8	
	comp=Z,19nm,1.1s						
J20K	Nowinta River	84.08	10	IAmb	IAmb	07 38 31.7	
	comp=Z,44nm,1.3s						
J20K	Nowinta River	84.08	10	P	P	07 38 29.8	-0.4
	baz=203,SNR=13						
KTH	Kantishna Hill	84.10	12	IAmb	IAmb	07 38 30.6	
	comp=Z,20nm,1.0s						
P29M	Windy Craggy	84.10	19	IAmb	IAmb	07 38 32.8	
	comp=Z,42nm,1.2s						
P29M	Windy Craggy	84.10	19	P	P	07 38 29.8	-0.7
	baz=218						
G16K	Koyuk River	84.11	6	IAmb	IAmb	07 38 32.0	
	comp=Z,16nm,1.1s						
G16K	Koyuk River	84.11	6	P	P	07 38 31.0	+0.7
	baz=195,SNR=7.0						
R32K	Eaglecrest	84.12	21	P	P	07 38 28.5	-2.0
	baz=221						
TRF	Thorofare Moun	84.13	12	P	P	07 38 28.8	-1.9
	baz=206,SNR=15						
CHUM	Lake Minchumin	84.14	11	P	P	07 38 29.4	-1.1
	baz=204,SNR=7.5						
GCSA	Galena City Sc	84.19	9	P	P	07 38 30.1	-0.6
	baz=200						
F15K	North Star Dit	84.19	5	P	P	07 38 30.2	-0.5
	baz=193,SNR=6.2						
B08A	Colville Reser	84.25	35	IAmb	IAmb	07 38 33.2	
	comp=Z,14nm,1.1s						
BJT	Baijiatuau	84.28	315	P	P	07 38 31.9	+0.1
BJT				IAmb	IAmb	07 38 33.0	
	comp=Z,20nm,1.1s						
BJT	Baijiatuau	84.28	315	P	P	07 38 32.9	+1.1
O28M	Mount Upton	84.28	18	IAmb	IAmb	07 38 33.3	
	comp=Z,25nm,1.1s						
O28M	Mount Upton	84.28	18	P	P	07 38 31.0	-0.7
	baz=216						
BJI	Beijing	84.28	315	P	P	07 38 32.6	+0.8
BJI				pmax	pmax		
	comp=Z,13nm,1.4s						
BJI				pmax	pmax		
	comp=Z,110nm,4.0s						
HARP	HAARP	84.33	15	P	P	07 38 31.2	-0.4
	baz=211						
LYN	LuoYang	84.34	309	P	P	07 38 33.4	+1.2
LYN				pmax	pmax		
	comp=Z,100nm,0.9s						
H18K	Honhosa River	84.36	8	P	P	07 38 31.5	-0.1
	baz=199						
O29M	Mount Kennedy	84.38	18	P	P	07 38 31.6	-0.4
	baz=217						
PSI	Prapat	84.38	275	P	P	07 38 32.8	-0.3
G17K	Kiwalik Mounta	84.41	7	P	P	07 38 31.5	-0.3
	baz=196,SNR=5.5						
C09A	Chrisman Ranch	84.51	36	IAmb	IAmb	07 38 34.9	
	comp=Z,14nm,1.1s						
BPAW	Bear Paw Mtn.	84.58	12	P	P	07 38 32.7	0.0
	baz=206						
I20K	Naaghedeneel	84.60	10	IAmb	IAmb	07 38 34.6	
	comp=Z,47nm,1.2s						
I20K	Naaghedeneel	84.60	10	P	P	07 38 33.6	+0.9
	baz=202,SNR=6.7						
MCK	McKinley	84.66	12	P	P	07 38 32.3	-0.9
	baz=208,SNR=12						
P30M	Million Dollar	84.73	19	P	P	07 38 34.2	+0.6
	baz=219,SNR=9.1						
T35M	Bob Quinn	84.73	24	P	P	07 38 34.4	+0.8
	baz=225						
SKAG	Skagway	84.74	20	P	P	07 38 32.9	-0.6
	baz=220						
PAX	Paxson	84.75	14	P	P	07 38 33.4	-0.3
	baz=211						
ENH	Enshi	84.80	304	P	P	07 38 35.7	+1.1
YUK8	Steele Glacier	84.82	17	P	P	07 38 34.8	+0.5
	baz=216,SNR=5.8						
M26K	Nabesna, AK	84.87	16	IAmb	IAmb	07 38 36.5	
	comp=Z,32nm,1.1s						
M26K	Nabesna, AK	84.87	16	P	P	07 38 34.6	+0.4
	baz=213,SNR=12						
YUK6	Outpost Mounta	84.95	18	P	P	07 38 34.6	-0.3
	baz=217						
H19K	Roundabout Mou	84.98	9	IAmb	IAmb	07 38 36.2	
	comp=Z,17nm,1.3s						
H19K	Roundabout Mou	84.98	9	P	P	07 38 34.9	+0.4
	baz=200,SNR=6.8						
YUK3	Moose Creek	85.02	17	P	P	07 38 35.6	+0.5
	baz=216,SNR=12						
G18K	Tagagawik	85.03	8	P	P	07 38 36.0	+1.1
	baz=198						
S34M	Telegraph Cree	85.06	23	IAmb	IAmb	07 38 38.3	
	comp=Z,26nm,1.1s						
S34M	Telegraph Cree	85.06	23	P	P	07 38 36.2	+1.1
	baz=224						
HYT	Haines Junctio	85.12	19	P	P	07 38 35.8	+0.3
HYT				IAmb	IAmb	07 38 37.6	
	comp=Z,21nm,1.1s						
HYT	Haines Junctio	85.12	19	P	P	07 38 35.3	-0.2
	baz=218,SNR=5.6						
M27K	Edge Creek, AK	85.12	16	IAmb	IAmb	07 38 37.6	
	comp=Z,45nm,1.1s						
M27K	Edge Creek, AK	85.12	16	P	P	07 38 35.7	+0.2
	baz=214,SNR=14						
MENT	Mentasta	85.14	15	IAmb	IAmb	07 38 37.2	
	comp=Z,27nm,1.2s						
MENT	Mentasta	85.14	15	P	P	07 38 36.0	+0.5
Y22D	IRIS PASSCAL I	85.14	52	P	P	07 38 35.4	-0.9
	baz=244						
H20K	Anotleneega Mo	85.19	9	P	P	07 38 35.7	+0.1
	baz=202,SNR=8.4						
GSI	Gunungsitoli	85.19	273	P	P	07 38 38.2	+1.3
F17K	Baldwin Pennin	85.25	7	P	P	07 38 35.6	-0.2
	baz=196,SNR=5.5						
L26K	Log Cabin Wild	85.31	15	IAmb	IAmb	07 38 38.0	
	comp=Z,18nm,1.2s						
L26K	Log Cabin Wild	85.31	15	P	P	07 38 37.1	+0.9
	baz=213,SNR=7.0						
I21K	Tanana	85.38	11	IAmb	IAmb	07 38 37.7	
	comp=Z,33nm,1.3s						
I21K	Tanana	85.38	11	P	P	07 38 36.0	-0.5
	baz=205,SNR=14						
P32M	Atlin	85.38	21	P	P	07 38 36.0	-0.7
	baz=222						
NEA2	Nenana	85.40	12	IAmb	IAmb	07 38 36.3	
	comp=Z,15nm,1.3s						
NEA2	Nenana	85.40	12	P	P	07 38 36.1	-0.5
	baz=207,SNR=5.6						
K24K	Donnelly Dome	85.40	14	P	P	07 38 36.8	+0.1
	baz=210,SNR=10						
Q32M	Nakina River	85.41	22	P	P	07 38 36.2	-0.9
	baz=223						
BVCY	Beaver Creek	85.44	16	P	P	07 38 36.6	-0.3
	baz=215,SNR=6.4						
G19K	Purcell Mounta	85.47	8	P	P	07 38 36.1	-0.8
	baz=200						
O30N	Mendenhall	85.51	19	IAmb	IAmb	07 38 39.4	
	comp=Z,21nm,1.1s						
O30N	Mendenhall	85.51	19	P	P	07 38 36.1	-1.2
	baz=220,SNR=5.6						
PV10	Paradox Valley	85.51	47	IAmb	IAmb	07 38 41.9	
	comp=Z,13nm,1.2s						
NONG	Nongkai	85.53	291	P	P	07 38 39.4	+1.1
RIDG	Independent Ri	85.56	14	IAmb	IAmb	07 38 38.8	
	comp=Z,35nm,1.2s						
RIDG	Independent Ri	85.56	14	P	P	07 38 36.7	-0.7
	baz=211,SNR=7.8						
GYA	Guiyang	85.57	300	⇑P	P	07 38 39.5	+1.0
GYA				pmax	pmax		
	comp=Z,30nm,1.1s						
F18K	Selawik	85.58	7	P	P	07 38 36.5	-0.9
	baz=197						
SRIT	Nakonsritamara	85.59	280	P	P	07 38 40.5	+1.8
DOT	Dot Lake	85.66	14	IAmb	IAmb	07 38 39.3	
	comp=Z,24nm,1.2s						
HDA	Harding Lake	85.67	13	IAmb	IAmb	07 38 38.9	
	comp=Z,23nm,1.1s						
HDA	Harding Lake	85.67	13	P	P	07 38 37.2	-0.8
	baz=209,SNR=9.0						
H21K	Melozitna Rive	85.68	10	IAmb	IAmb	07 38 40.5	
	comp=Z,20nm,1.4s						
H21K	Melozitna Rive	85.68	10	P	P	07 38 37.0	-1.0
	baz=204,SNR=9.6						
CCB	Clear Creek Bu	85.70	13	IAmb	IAmb	07 38 38.7	
	comp=Z,40nm,1.2s						
TXAR	Lajitas Array	85.71	57	P	P	07 38 41.8	+2.7
TXAR	Lajitas Array	85.71	57	P	P	07 38 41.3	+2.2
	comp=Z,3.7nm,0.9s,baz=223,slow=6.4,SNR=39						
TXAR				pP	pwP	07 40 50.8	-1.3
	comp=Z,1.5nm,1.2s,baz=266,slow=5.9,SNR=3.8						
	comp=Z,3.7nm,0.9s						
L27K	Beaver Creek,	85.72	16	P	P	07 38 38.0	-0.3
	baz=214						
BCAR	Beaver Creek A	85.73	16	P	P	07 38 39.1	+0.8
N30M	Aishikik Lake	85.74	18	P	P	07 38 39.0	+0.6
	baz=219						
E17K	Hotham Inlet	85.80	6	P	P	07 38 37.9	-0.6
	baz=195,SNR=15						
WHY	Whitehorse	85.81	20	IAmb	IAmb	07 38 40.9	
	comp=Z,31nm,1.1s						
WHY	Whitehorse	85.81	20	P	P	07 38 37.8	-1.0
	baz=221						
I23K	Minto, Yukon-K	85.83	12	IAmb	IAmb	07 38 39.2	
	comp=Z,19nm,1.3s						
I23K	Minto, Yukon-K	85.83	12	P	P	07 38 38.0	-0.6
	baz=207,SNR=6.5						
DLBC	Dease Lake	85.85	23	P	P	07 38 39.1	+0.1
	baz=225						
ANMO	Albuquerque	85.86	51	P	P	07 38 40.4	+0.6
COLA	College	85.89	12	P	P	07 38 38.3	-0.6
COLA	College	85.89	12	P	P	07 38 37.9	-1.0
COLA	College	85.89	12	P	P	07 38 37.8	-1.0
	baz=209						
SCRK	Sand Creek	85.96	14	IAmb	IAmb	07 38 41.0	
	comp=Z,22nm,1.3s						
SCRK	Sand Creek	85.96	14	P	P	07 38 39.4	0.0
	baz=212,SNR=8.4						
IL31		86.00	13	IAmb	IAmb	07 38 40.2	
	comp=Z,25nm,1.2s						
ILAR	Eielson Array	86.00	13	P	P	07 38 39.1	-0.4
ILAR	Eielson Array	86.00	13	P	P	07 38 38.3	-1.2
	comp=Z,5.0nm,0.4s,baz=218,slow=5.0,SNR=148						
ILAR				pP	pwP	07 40 51.5	-1.4
	comp=Z,1.0nm,1.0s,baz=235,slow=6.4,SNR=3.9						
	comp=Z,5.0nm,0.4s						
SLVN	Son La	86.01	294	P	P	07 38 41.4	+0.8
F19K	Shaleruckik Mo	86.04	8	P	P	07 38 39.3	-0.3
	baz=199,SNR=9.2						
M29M	Somme Creek	86.12	17	IAmb	IAmb	07 38 42.2	
	comp=Z,35nm,1.4s						
M29M	Somme Creek	86.12	17	P	P	07 38 40.6	+0.4
	baz=217,SNR=6.6						
H22K	Ishtalitna Cre	86.14	11	P	P	07 38 40.0	-0.1
	baz=205,SNR=19						
P33M	Teslin, Yukon	86.15	21	P	P	07 38 40.5	+0.2
	baz=222						
N31M	Braeburn, Yuko	86.16	19	IAmb	IAmb	07 38 42.4	
	comp=Z,32nm,1.2s						
N31M	Braeburn, Yuko	86.16	19	P	P	07 38 40.8	+0.5
	baz=220,SNR=5.9						
J25K	Salcha River,	86.19	13	IAmb	IAmb	07 38 41.7	
	comp=Z,19nm,1.2s						
J25K	Salcha River,	86.19	13	P	P	07 38 40.3	-0.1
	baz=211,SNR=9.7						
POKR	Poker Plat Res	86.19	12	P	P	07 38 39.6	-0.8
	baz=209						
R33M	Jennings River	86.19	22	IAmb	IAmb	07 38 43.2	
	comp=Z,15nm,1.2s						
R33M	Jennings River	86.19	22	P	P	07 38 40.6	0.0
	baz=224						
XLT	XiLinHaoTe	86.24	319	eP	P	07 38 41.8	+0.6
XLT				pmax	pmax		
	comp=Z,37nm,1.1s						
E18K	Tukpahlearik C	86.26	7	IAmb	IAmb	07 38 42.0	
	comp=Z,9.7nm,0.9s						
E18K	Tukpahlearik C	86.26	7	P	P	07 38 40.6	0.0
	baz=196,SNR=13						
D17K	Noatak River	86.28	6	P	P	07 38 40.6	-0.1
	baz=194,SNR=9.9						
G21K	Allakaket	86.35	10	IAmb	IAmb	07 38 42.5	
	comp=Z,14nm,1.0s						
G21K	Allakaket	86.35	10	P	P	07 38 41.1	0.0
	baz=203,SNR=11						
H23K	Yukon River	86.41	11	P	P	07 38 40.9	-0.5
	baz=207						
K27K	Chicken	86.46	15	IAmb	IAmb	07 38 43.9	
	comp=Z,25nm,1.2s						
K27K	Chicken	86.46	15	P	P	07 38 42.0	+0.3
	baz=214						
J26L	Joseph Creek	86.50	14	IAmb	IAmb	07 38 44.0	
	comp=Z,44nm,1.4s						
J26L	Joseph Creek	86.50	14	P	P	07 38 42.0	0.0
	baz=213,SNR=18						
F20K	Avaraart Lake	86.52	9	P	P	07 38 42.5	+0.7
	baz=201,SNR=8.7						
DLMT	Dillon	86.52	40	IAmb	IAmb	07 38 45.3	
	comp=Z,16nm,1.3s						
RDOG	Red Dog Mine	86.64	6	P	P	07 38 42.0	-0.4
	baz=194						
C16K	Lisburne Hills	86.65	5	P	P	07 38 42.0	-0.5
	baz=192						
E19K	Redstone River	86.70	8	IAmb	IAmb	07 38 44.1	
	comp=Z,16nm,1.1s						
E19K	Redstone River	86.70	8	P	P	07 38 42.6	-0.1
	baz=200,SNR=14						
M30M	Minto, Yukon	86.70	18	IAmb	IAmb	07 38 44.6	
	comp=Z,33nm,1.1s						
M30M	Minto, Yukon	86.70	18	P	P	07 38 42.8	-0.1
	baz=219						
BILL	Bilibino	86.70	354	P	P	07 38 42.9	+0.2
H24K	Noodor Dome	86.73	12	P	P	07 38 43.2	+0.2
	baz=208						
SNOW	Snow King Moun	86.74	42	IAmb	IAmb	07 38 46.6	
	comp=Z,12nm,1.1s						
L29M	L29M	86.74	17	P	P	07 38 43.1	0.0
	baz=218,SNR=14						
N32M	Quiet Lake	86.76	20	IAmb	IAmb	07 38 46.1	
	comp=Z,38nm,1.5s						
N32M	Quiet Lake	86.76	20	P	P	07 38 43.2	0.0
	baz=222						
XAN	Xi'an	86.78	307	⇓P	P	07 38 44.3	+0.4
XAN				pmax	pmax		
	comp=Z,91nm,1.2s						
PRP	Porcupine Dome	86.94	13	IAmb	IAmb	07 38 44.9	
	comp=Z,18nm,1.2s						
PRP	Porcupine Dome	86.94	13	P	P	07 38 43.4	-0.6
	baz=211,SNR=8.0						
F21K	Alatna River	87.01	9	P	P	07 38 44.1	-0.1
	baz=203,SNR=9.4						
G22K	Bettles	87.05	10	P	P	07 38 44.5	+0.2
	baz=205						
YHB	Horse Butte	87.08	41	IAmb	IAmb	07 38 48.6	
	comp=Z,17nm,1.1s						
G23K	Bananza Creek	87.11	11	IAmb	IAmb	07 38 46.2	
	comp=Z,13nm,1.1s						
G23K	Bananza Creek	87.11	11	P	P	07 38 44.7	0.0
	baz=206,SNR=11						
M31M	Drury Creek, Y	87.13	19	IAmb	IAmb	07 38 46.2	
	comp=Z,17nm,1.2s						
M31M	Drury Creek, Y	87.13	19	P	P	07 38 44.6	-0.3
	baz=221						
YHL	Hebgen Lake	87.14	41	IAmb	IAmb	07 38 49.0	
	comp=Z,22nm,1.2s						
DAWY	Dawson	87.17	16	IAmb	IAmb	07 38 46.8	
	comp=Z,27nm,1.3s						
DAWY	Dawson	87.17	16	P	P	07 38 45.1	0.0
	baz=216,SNR=9.6						
PDAR	Pinedale Array	87.19	43	P	P	07 38 45.9	+0.1
PDAR	Pinedale Array	87.19	43	P	P	07 38 46.6	+0.7
	comp=Z,4.5nm,1.0s,baz=215,slow=2.4,SNR=23						
PDAR				pP	pwP	07 40 59.3	-0.2
	comp=Z,1.2nm,0.9s,baz=282,slow=2.7,SNR=3.1						
	comp=Z,4.5nm,1.0s						
YMR	Madison River	87.19	41	IAmb	IAmb	07 38 49.1	
	comp=Z,11nm,1.0s						
I26K	Coal Creek Min	87.28	14	IAmb	IAmb	07 38 47.1	
	comp=Z,21nm,1.2s						
I26K	Coal Creek Min	87.28	14	P	P	07 38 46.0	+0.6
	baz=213						
H17A	Grant Village	87.30	41	IAmb	IAmb	07 38 50.1	
	comp=Z,9.6nm,1.0s						
C18K	Utukok River	87.38	6	P	P	07 38 45.5	-0.5
	baz=196						
F22K	John River	87.47	10	P	P	07 38 45.7	-0.7
	baz=204						
FARO	Faro, Yukon	87.48	19	P	P	07 38 46.3	-0.2
	baz=222						
WTLY	Watson Lake, Y	87.48	22	P	P	07 38 46.3	-0.3
	baz=226						
K29M	Barlow Dome	87.49	17	IAmb	IAmb	07 38 48.8	
	comp=Z,23nm,1.1s						
K29M	Barlow Dome	87.49	17	P	P	07 38 47.1	+0.5
	baz=218,SNR=14						
COLD	Coldfoot	87.55	10	IAmb	IAmb	07 38 48.5	
	comp=Z,22nm,1.1s						
COLD	Coldfoot	87.55	10	P	P	07 38 46.8	+0.1
	baz=206,SNR=25						
D19K	Kuna River	87.57	7	IAmb	IAmb	07 38 48.0	
	comp=Z,12nm,1.1s						
D19K	Kuna River	87.57	7	P	P	07 38 46.6	-0.2
	baz=199,SNR=7.2						
G24K	Hadweenzic Riv	87.58	12	P	P	07 38 46.4	-0.5
	baz=209						
E20K	Nigu River	87.59	8	P	P	07 38 46.9	-0.1
	baz=201,SNR=27						
HHC	Hu-ho-hao-te	87.78	314	eP	P	07 38 50.0	+1.5
HHC				pmax	pmax		
	comp=Z,32nm,0.6s						
HHC				pmax	pmax		
	comp=Z,59nm,5.4s						
J29N	Klondike Camp	87.79	16	IAmb	IAmb	07 38 51.0	
	comp=Z,34nm,1.4s						
J29N	Klondike Camp	87.79	16	P	P	07 38 48.3	+0.3
	baz=218						
I27K	Kandik River	87.88	14	P	P	07 38 48.4	0.0
	baz=214,SNR=7.2						
G25K	Bearman Lake	87.90	12	P	P	07 38 49.0	+0.7
	baz=210,SNR=5.9						
YNE	Yellowstone No	87.95	41	IAmb	IAmb	07 38 52.4	
	comp=Z,13nm,1.2s						
D20K	Etivluk River	87.96	8	IAmb	IAmb	07 38 50.1	
	comp=Z,26nm,1.1s						
D20K	Etivluk River	87.96	8	P	P	07 38 48.7	+0.1
	baz=200,SNR=18						
TOAD	Toad River Com	87.97	24	P	P	07 38 49.4	+0.6
	baz=229,SNR=16						
LIRD	Liard River Hi	88.00	24	P	P	07 38 49.0	+0.1
	baz=228						
B18K	Kokolik River	88.02	6	P	P	07 38 48.6	-0.2
	baz=195						
E21K	Killik River	88.06	9	IAmb	IAmb	07 38 50.8	
	comp=Z,16nm,1.1s						
E21K	Killik River	88.06	9	P	P	07

J30M Hart River 88.39 17 IAmb IAmb 07 38 52.7
comp=Z,16nm,1.4s
J30M Hart River 88.39 17 P **P** **07 38 51.9 +1.0**
baz=219,SNR=5.2
E23K Chandalar 88.39 10 IAmb IAmb 07 38 52.2
comp=Z,20nm,1.1s
E23K Chandalar 88.39 10 P **P** **07 38 50.3 -0.5**
baz=207,SNR=18
MMPY Sheldon Lake, 88.42 20 IAmb IAmb 07 38 53.1
comp=Z,25nm,1.1s
MMPY Sheldon Lake, 88.42 20 P **P** **07 38 51.9 +1.0**
baz=224,SNR=10
H27K Steamboat Moun 88.42 14 IAmb IAmb 07 38 52.7
comp=Z,18nm,1.1s
H27K Steamboat Moun 88.42 14 P **P** **07 38 51.0 +0.1**
baz=214,SNR=11
RLMT Red Lodge 88.47 41 IAmb IAmb 07 38 55.2
comp=Z,8.6nm,1.1s
I29M Ogilvie Camp, 88.49 16 IAmb IAmb 07 38 52.4
comp=Z,15nm,1.1s
I29M Ogilvie Camp, 88.49 16 P **P** **07 38 51.4 +0.3**
baz=217
G26K Porcupine Rive 88.53 13 P **P** **07 38 51.9 +0.7**
baz=212,SNR=29
E24K Your Creek 88.60 11 P **P** **07 38 52.0 +0.4**
baz=208
C21K Knifeblade Rid 88.62 8 P **P** **07 38 52.0 +0.3**
baz=202,SNR=18
TGTN Hyland Airport 88.65 21 P **P** **07 38 52.1 +0.1**
baz=226
D22K Ayikyak River 88.66 9 P **P** **07 38 52.1 +0.3**
baz=204,SNR=20
F25K Christian Rive 88.71 12 IAmb IAmb 07 38 54.2
comp=Z,9.1nm,1.1s
F25K Christian Rive 88.71 12 P **P** **07 38 52.4 +0.2**
baz=211,SNR=12
BTO Baotou 88.73 314 *eP* **P** **07 38 55.0 +2.1**
BTO pP **pP** **07 41 05.8 +1.2**
BTO sP **sP** **07 42 03.9 -1.7**
BTO pmax pmax
comp=Z,39nm,1.0s
BTO pmax pmax
comp=Z,250nm,7.7s
BMAR Burnt Mountain 88.78 12 P **P** **07 38 52.5 0.0**
G27K Doyon Strip 88.88 14 P **P** **07 38 53.2 +0.3**
baz=214
LL01 San Ignacio de 88.88 134 P **P** **07 38 54.1 +0.6**
LL01 IAmb IAmb 07 38 56.3
comp=Z,12nm,1.2s
I30M Mount Dempster 88.89 16 P **P** **07 38 52.6 -0.5**
I30M IAmb IAmb 07 38 54.6
comp=Z,12nm,0.9s
I30M Mount Dempster 88.89 16 P **P** **07 38 53.8 +0.7**
baz=219,SNR=13
A19K Wainwright 88.90 6 P **P** **07 38 53.5 +0.6**
baz=196
TOLK Toolik Lake Re 88.92 10 IAmb IAmb 07 38 54.6
comp=Z,14nm,1.1s
TOLK Toolik Lake Re 88.92 10 P **P** **07 38 53.7 +0.6**
baz=207,SNR=8.9
LL02 Futaleuf 88.93 135 P **P** **07 38 54.5 +0.6**
LL02 IAmb IAmb 07 38 56.9
comp=Z,21nm,1.1s
ELIB Princess Elisa 88.99 186 *dP* **P** **07 38 53.4 -0.2**
ELIB *dpP* **pP** **07 41 05.6 +0.4**
D23K Nanushuk River 89.04 10 P **P** **07 38 54.2 +0.6**
baz=206,SNR=21
B21K Ikpikpuk River 89.07 8 IAmb IAmb 07 38 55.2
comp=Z,19nm,1.2s
B21K Ikpikpuk River 89.07 8 P **P** **07 38 54.1 +0.4**
baz=202
F26K Sheenjek River 89.09 12 IAmb IAmb 07 38 56.0
comp=Z,10nm,1.1s
F26K Sheenjek River 89.09 12 P **P** **07 38 54.5 +0.6**
baz=212
B20K Meade River 89.12 7 P **P** **07 38 53.8 -0.1**
baz=200
H29M Whitestone 89.16 15 P **P** **07 38 54.2 -0.1**
baz=217
E25K Arctic Village 89.18 12 IAmb IAmb 07 38 56.1
comp=Z,16nm,1.2s
E25K Arctic Village 89.18 12 P **P** **07 38 54.0 -0.3**
baz=211
KOTAN Kotaneelee Air 89.26 24 P **P** **07 38 55.0 +0.3**
baz=230,SNR=6.1
CMAR Chiang Mai Arr 89.41 290 P **P** **07 38 57.5 +1.1**
CMAR Chiang Mai Arr 89.41 290 P **P** **07 38 57.8 +1.3**
comp=Z,14nm,0.9s,baz=110,slow=2.9,SNR=82
comp=Z,14nm,0.9s
D24K Happy Valley 89.51 10 IAmb IAmb 07 38 57.5
comp=Z,15nm,1.1s
D24K Happy Valley 89.51 10 P **P** **07 38 56.2 +0.4**
baz=208
CHTO Chiang Mai 89.53 290 P **P** **07 38 56.8 -0.2**
CHTO Chiang Mai 89.53 290 P **P** **07 38 57.7 +0.7**
CD2 Chengdu 89.60 303 P **P** **07 38 58.6 +1.5**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
PZH PanZhiHua 89.69 298 P **P** **07 38 58.6 +0.9**
PZH pmax pmax
comp=Z,11nm,0.9s
PZH pmax pmax
comp=Z,90nm,4.7s
EPYK Eagle Plains 89.69 15 P **P** **07 38 56.6 -0.1**
baz=219,SNR=9.5
G29M Pine Creek 89.80 15 IAmb IAmb 07 38 58.6
comp=Z,17nm,1.1s
G29M Pine Creek 89.80 15 P **P** **07 38 57.7 +0.5**
baz=218,SNR=8.6
C23K Itkillik River 89.84 9 P **P** **07 38 57.5 +0.2**
baz=206,SNR=16
H31M Peel River 89.88 16 IAmb IAmb 07 38 58.6
comp=Z,13nm,1.1s
H31M Peel River 89.88 16 P **P** **07 38 57.5 -0.1**
baz=221,SNR=6.3
B22K Teshekpuk Lake 89.90 8 P **P** **07 38 56.7 -0.8**
baz=203
C24K Franklin Bluff 90.03 10 P **P** **07 38 58.6 +0.5**
baz=208
E27K Coleen River 90.03 13 IAmb IAmb 07 39 00.2
comp=Z,18nm,1.4s
E27K Coleen River 90.03 13 P **P** **07 38 58.3 0.0**
baz=214,SNR=8.0
D25K Kavik River 90.07 11 IAmb IAmb 07 38 59.4
comp=Z,6.4nm,1.1s
D25K Kavik River 90.07 11 P **P** **07 38 58.6 +0.2**
baz=210,SNR=6.9
TROLL Troll, Antarti 90.08 180 ⇑P **P** **07 38 58.9 +0.1**
comp=Z,660nm,0.9s
G30M tAoh Zraii Nji 90.30 15 P **P** **07 38 59.2 -0.3**
baz=219,SNR=22
A22K Sinclair Lake 90.32 7 P **P** **07 38 59.3 -0.1**
baz=202
A21K Barrow 90.42 7 P **P** **07 38 59.4 -0.5**
baz=200
G31M Satah River 90.75 16 P **P** **07 39 01.2 -0.3**
G31M Satah River 90.75 16 P **P** **07 39 01.3 -0.1**
baz=221,SNR=24
E28M Babbage River 90.81 13 IAmb IAmb 07 39 03.4
comp=Z,19nm,1.1s
E28M Babbage River 90.81 13 P **P** **07 39 01.5 -0.3**
baz=216,SNR=18
C27K Jago River 90.82 11 IAmb IAmb 07 39 04.2
comp=Z,13nm,1.2s
C27K Jago River 90.82 11 P **P** **07 39 01.9 0.0**
baz=212,SNR=9.4
PLCA Paso Flores 90.83 133 P **P** **07 39 01.5 -1.3**
PLCA IAmb IAmb 07 39 05.5
comp=Z,18nm,1.4s
PLCA Paso Flores 90.83 133 P **P** **07 39 04.5 +1.7**
comp=Z,3.9nm,1.0s,baz=218,slow=2.1,SNR=8.1
comp=Z,3.9nm,1.0s
C26K Camden Bay 90.85 11 P **P** **07 39 02.5 +0.5**
baz=211,SNR=13
F30M Barrier River 90.89 15 IAmb IAmb 07 39 04.3
comp=Z,13nm,1.1s
F30M Barrier River 90.89 15 P **P** **07 39 02.2 0.0**
baz=220,SNR=6.3
E29M Blow River 91.00 14 IAmb IAmb 07 39 04.5
comp=Z,12nm,1.4s
E29M Blow River 91.00 14 P **P** **07 39 02.4 -0.3**
baz=218,SNR=9.0
D27M Malcolm River 91.04 12 IAmb IAmb 07 39 04.8
comp=Z,14nm,1.3s
D27M Malcolm River 91.04 12 P **P** **07 39 03.4 +0.5**
baz=215,SNR=11
LAO LASA Array 91.07 41 IAmb IAmb 07 39 06.7
comp=Z,18nm,1.2s
F31M Tsiigehtchic 91.27 16 P **P** **07 39 02.8 -1.1**
baz=222,SNR=30
LZH Lanzhou 91.41 308 *eP* **P** **07 39 07.3 +1.8**
LZH pmax pmax
comp=Z,41nm,1.0s
WRGLY Wrigley 91.46 22 P **P** **07 39 04.7 -0.2**
baz=231
D28M Stokes Point 91.57 13 P **P** **07 39 05.1 -0.2**
baz=217,SNR=6.1
INK Inuvik 91.98 15 P **P** **07 39 06.7 -0.4**
baz=222
R32A Long Quarter, 92.95 51 IAmb IAmb 07 39 14.6
comp=Z,13nm,0.9s
ULN Ulaanbaatar 93.64 319 P **P** **07 39 15.5 0.0**
ULN IAmb IAmb 07 39 16.6
comp=Z,7.0nm,0.8s
SONM Songino Array 94.04 319 P **P** **07 39 17.1 -0.2**
SONM IAmb IAmb 07 39 18.2
comp=Z,11nm,1.4s
SONM Songino Array 94.04 319 P **P** **07 39 17.2 -0.1**
comp=Z,2.8nm,1.0s,baz=120,slow=3.4,SNR=15
SONM pP **pP** **07 41 30.9 +1.3**
comp=Z,0.7nm,0.8s,baz=149,slow=0.8,SNR=2.7
SONM PP **PP** **07 43 17.6 +2.8**
comp=Z,1.0nm,0.9s,baz=132,slow=8.2,SNR=4.9
comp=Z,2.8nm,1.0s
YKA Yellowknife Ar 94.34 25 P **P** **07 39 17.4 -0.6**
comp=Z,2.1nm,1.0s,baz=240,slow=4.5,SNR=20
YKA PKKPbc **PKKPdf** **07 56 13.4 -2.6**
comp=Z,0.1nm,0.5s,baz=64,slow=2.8,SNR=4.1
comp=Z,2.1nm,1.0s
YKAW3 Yellowknife Wh 94.37 25 IAmb IAmb 07 39 19.6
comp=Z,7.1nm,1.2s
YKAW1 Yellowknife Wh 94.38 25 IAmb IAmb 07 39 19.6
comp=Z,6.2nm,1.2s
C36M Paulatuk 95.17 17 IAmb IAmb 07 39 23.6
comp=Z,9.1nm,1.1s
C36M Paulatuk 95.17 17 P **P** **07 39 21.8 +0.2**
baz=230
GTA Gaotai 95.55 310 *eP* **P** **07 39 25.3 +1.0**
GTA pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 96.50 345 P **P** **07 39 26.1 -1.4**
TIXI IAmb IAmb 07 39 27.8
comp=Z,5.6nm,1.1s
A36M Sachs Harbour 96.58 14 P **P** **07 39 28.1 +0.1**
A36M IAmb IAmb 07 39 29.9
comp=Z,8.4nm,1.0s
A36M Sachs Harbour 96.58 14 P **P** **07 39 27.7 -0.2**
baz=230
ZALV Zalesovo Beam 108.71 322 PKiKP **PKiKP** **07 44 21.9 -1.5**
comp=Z,1.1nm,0.5s,baz=90,slow=1.5,SNR=6.7
MKAR Makanchi Array 109.64 314 Pdiff **Pdif** **07 40 25.4 -1.2**
comp=Z,0.1nm,0.3s,baz=81,slow=4.5,SNR=2.6
MKAR PKiKP **PKiKP** **07 44 22.2 -3.2**
comp=Z,0.6nm,0.5s,baz=127,slow=6.3,SNR=15
MKAR PKKPbc **PKKPbc** **07 55 31.8 -0.5**
comp=Z,0.5nm,0.7s,baz=270,slow=3.6,SNR=4.7
KURBB Kurchatov Arra 112.37 318 PKiKP **PKiKP** **07 44 29.0 -1.5**
comp=Z,2.7nm,0.8s,baz=94,slow=1.8,SNR=35
KURBB PKKPbc **PKKPbc** **07 55 22.9 -0.7**
comp=Z,0.1nm,0.5s,baz=265,slow=4.3,SNR=4.1
M65A Busby, Falmout 114.59 52 P PKPdf 07 44 33.6 -1.3
baz=267
AAK Ala-Archa 114.90 309 PKPdf 07 44 35.0 -0.8
AAK Ala-Archa 114.90 309 PKP PKPdf 07 44 35.1 -0.7
comp=Z,2.2nm,0.7s,baz=126,slow=4.0,SNR=7.2
BVAR Borovoye Array 117.32 321 PKP **PKPdf** **07 44 38.8 -1.1**
comp=Z,4.2nm,0.3s,baz=113,slow=2.8,SNR=30
BRVK Borovoye 117.38 321 **PKPdf** **07 44 39.6 -0.4**
KKAR Karatay Array 117.83 310 **PKPdf** **07 44 40.0 -1.2**
OPO Ambohidratompo 122.61 233 PKP **PKPdf** **07 44 51.4 +0.1**
comp=Z,3.7nm,0.8s,baz=101,slow=16,SNR=2.2
ARTI Arti 123.41 326 **PKPdf** **07 44 50.9 -0.6**
ABKAR Akbulak array 124.42 318 **PKPdf** **07 44 53.1 -0.5**
ARCES ARCESS Array B 126.62 350 PKP **PKPdf** **07 44 56.8 -0.5**
comp=Z,2.5nm,0.3s,baz=59,slow=1.2,SNR=41
BOSA Boshof 128.41 206 PKP **PKPdf** **07 45 02.3 +0.1**
comp=Z,4.3nm,0.9s,baz=190,slow=5.7,SNR=3.2
FINES FINESS Array B 133.54 344 PKP **PKPdf** **07 45 09.9 -0.6**
comp=Z,1.9nm,0.4s,baz=88,slow=2.9,SNR=20
FINES SKPbc **SKPbc** **07 47 43.8 +1.1**
comp=Z,5.0nm,1.0s,baz=318,slow=7.5,SNR=6.9
MATP Matopo 133.75 215 PKP **PKPdf** **07 45 12.4 -0.1**
comp=Z,1.2nm,0.8s,baz=90,slow=6.1,SNR=2.9
NB2 NORSAR Subarra 136.66 354 PKP PKPpre 07 45 05.1
comp=Z,3.7nm,1.0s,baz=17,slow=2.6
NOA NORSAR Array B 136.66 354 PKhKP PKPpre 07 45 08.3
comp=Z,0.9nm,0.6s,baz=20,slow=2.5,SNR=6.4
NOA PKP **PKPdf** **07 45 16.8 +0.3**
comp=Z,0.3nm,0.3s,baz=20,slow=3.3,SNR=8.0
NOA SKPbc **SKPbc** **07 47 51.7 -0.7**
comp=Z,0.6nm,0.8s,baz=332,slow=2.6,SNR=3.4
HFS Hagfors 137.23 351 PKhKP PKPpre 07 45 04.6
comp=Z,0.7nm,0.3s,baz=95,slow=1.6,SNR=11
KBZ Khabaz 137.30 316 PKP **PKPdf** **07 45 16.8 -1.3**
comp=Z,2.3nm,0.8s,baz=63,slow=1.9,SNR=6.1
KBZ PP **PP** **07 48 08.6 -3.5**
comp=Z,1.9nm,0.9s,baz=79,slow=3.5,SNR=4.0
LSZ Lusaka 138.01 219 PKiKP PKPdf 07 45 11.1 -9.4
comp=Z,1.3nm,0.3s,baz=245,slow=3.6,SNR=1.3
QNGWA Qangwa 138.15 208 **PKPdf** **07 45 18.5 -2.1**
AKASG Malin Array Be 140.98 333 PKhKP PKPpre 07 45 18.2
comp=Z,3.3nm,0.3s,baz=44,slow=4.2,SNR=44
AKASG PKP **PKiKP** **07 45 26.1 -1.4**
comp=Z,0.7nm,0.3s,baz=45,slow=2.9,SNR=4.9
AKASG SKPbc **SKPbc** **07 48 03.6 -0.8**
comp=Z,2.2nm,0.9s,baz=48,slow=1.4,SNR=4.5
KIEV Kiev 141.00 333 ⇑P PKPdf 07 45 16.0 -8.6
INVG Invergeldie, C 141.49 5 *eP* **PKPdf** **07 45 19.6 -5.8**
LAWE Loch Awe, Argy 141.52 7 *eP* **PKPdf** **07 45 20.4 -4.9**
EKA Eskdalemuir Ar 142.65 5 PKhKP PKPpre 07 45 23.9
comp=Z,1.6nm,0.4s,baz=328,slow=2.4,SNR=31
NEWG New Galloway 142.77 6 *eP* **PKPdf** **07 45 24.1 -3.6**
R9F13 Warsaw-Wawer 142.84 341 *eP*KPc 07 45 26.5
GAL1 Galloway 142.97 7 *eP* **PKPdf** **07 45 24.5 -3.4**
SORM Soroca 143.22 330 ⇓P PKPab 07 45 26.1 -0.9
EDMD Edmundbyers 143.24 4 *eP* PKPab 07 45 26.1 -0.7
BEL Belsk 143.28 341 *eP*KP PKPbc 07 45 27.6 +0.3
KESW Keswick, Cumbr 143.40 5 *eP* PKPab 07 45 25.8 -1.6
IOMK Kirk Michael 143.58 7 *eP* PKPab 07 45 27.0 -1.1
PURM Purcari 143.58 327 ⇑P PKPbc 07 45 28.4 +0.1
ILTH Belurgan, Co L 143.59 8 *eP* PKPab 07 45 26.9 -1.2
IGLA Glengowla, Co 143.67 12 *eP* PKPbc 07 45 28.0 -0.4
WIM Isle of Man 143.68 7 *eP* PKPbc 07 45 26.9 -1.5
KIS Kishinev 143.80 329 ⇓*i*PKP PKPbc 07 45 28.0 -1.0
comp=Z,170nm,1.2s
MILM Milestii Mici 143.85 329 ⇓*i*PKP PKPbc 07 45 28.0 -1.2
comp=Z,360nm,1.8s
MILM Milestii Mici 143.85 329 ⇑P PKPbc 07 45 28.0 -1.1
DSB Dublin 144.34 9 **PKPdf** **07 45 30.3 -0.1**
WPS Cemaes, Angles 144.43 7 *eP* **PKPdf** **07 45 29.8 -0.8**
WME Myndd Eilian 144.46 7 *eP* **PKPdf** **07 45 28.7 -1.9**
WLF1 Llynfaes 144.55 7 *eP* **PKPdf** **07 45 29.6 -1.1**
ILGA Ilgaz 144.57 317 **PKPab** **07 45 32.6 -0.1**
LBWR Ladybower, Pea 144.68 4 *eP* **PKPdf** **07 45 31.0 0.0**
PRAR RASCA 144.77 331 ⇓P PKPbc 07 45 31.8 -0.2
VLDR Vladesti 144.96 328 ⇓P PKPbc 07 45 32.8 +0.2
OJC Ojcow 144.99 340 *eP*KP PKPbc 07 45 32.6 +0.1
TLCR 145.03 326 ⇑P **PKPbc** **07 45 32.9 +0.1**
BURAR Bucovina Array 145.04 332 ⇓P **PKPab** **07 45 33.5 -0.5**
FOEL Foel Wylfa 145.07 6 *eP* **PKPdf** **07 45 31.3 -0.4**
SCTR Scanteiesti 145.12 328 ⇓P **PKPbc** **07 45 33.5 +0.4**
IWEX Carrickbyrne, 145.13 10 *eP* **PKPbc** **07 45 32.5 -0.3**
GHRR 145.15 329 ⇑P **PKPab** **07 45 34.1 -0.3**
TESR Tescani 145.20 330 ⇓P **PKPbc** **07 45 32.7 -0.6**
KOLS Kolonicke sedl 145.20 337 *eP*KP **PKPbc** **07 45 33.6 +0.3**
NEGRR Negrea 145.28 328 ⇑P **PKPbc** **07 45 33.5 -0.1**
BRTR Keskin Array B 145.28 315 **PKPdf** **07 45 32.3 -0.4**
BRTR Keskin Array B 145.28 315 PKPbc **PKPbc** **07 45 33.5 -0.5**
comp=Z,18nm,0.8s,baz=132,slow=3.6,SNR=57
BRTR SKPbc **SKiKP** **07 48 16.9 +1.2**
comp=Z,1.3nm,0.9s,baz=61,slow=3.6,SNR=3.0
SCHL Schela 145.33 328 ⇓P **PKPab** **07 45 34.8 -0.3**
IZVR Izvoarele 145.33 328 ⇑P **PKPab** **07 45 34.9 -0.2**
COSR Cosmesti PH 145.34 328 ⇓P **PKPdf** **07 45 32.9 +0.5**
SCHLR Schela 145.35 327 ⇓P **PKPab** **07 45 34.7 -0.5**
KIRS Kirsehir-Merke 145.38 314 ⇑P **PKPbc** **07 45 33.6 -0.6**
CFR Carcaliu 145.39 327 ⇑P **PKPdf** **07 45 32.3 -0.2**
PANC Panciu 145.41 329 ⇓P **PKPbc** **07 45 34.0 +0.1**
ONER Baraj Valea Uz 145.45 330 ⇑P **PKPbc** **07 45 34.1 +0.1**
TPGR Topolog 145.46 326 ⇑P **PKPbc** **07 45 34.5 +0.3**
KSP Ksiaz 145.46 344 *eP*KP **PKPbc** **07 45 34.1 +0.2**
WACR West Acre 145.46 2 *eP* **PKPdf** **07 45 32.4 0.0**
HLM1 Long Mynd 145.47 5 *eP* **PKPdf** **07 45 33.1 +0.7**
NIE Niedzica 145.51 339 *eP*KP **PKPbc** **07 45 34.4 +0.3**
ODBI Odobesti 145.53 329 ⇓P **PKPab** **07 45 35.1 -0.8**
VRI Vrincioaia 145.62 329 ⇓P **PKPbc** **07 45 34.2 -0.3**
PLOR Plostina 145.67 329 ⇑P **PKPbc** **07 45 34.3 -0.4**
TIRR Tirgusor 145.72 326 ⇑P **PKPbc** **07 45 34.6 -0.3**
BMR Baia Mare 145.73 334 ⇑P **PKPdf** **07 45 33.3 +0.4**
OSTC Ostas 145.74 344⇑*eP*KP **PKPab** **07 45 35.8 -0.9**
CHVC Chvalec 145.75 344⇑*eP*KP **PKPbc** **07 45 35.1 +0.3**
ANTO Ankara 145.78 316 **PKPdf** **07 45 34.2 +0.8**
ANTO Ankara 145.78 316 ⇑P **PKPdf** **07 45 32.8 -0.7**
CLL Collm 145.79 348 *eP*KPdf **PKPbc** **07 45 34.0 -0.8**
CLL *i* PKPbc **PKPdf** **07 45 34.7 +1.8**
comp=Z,91nm,1.1s
CLL *i* PKPab **PKPab** **07 45 37.0 +0.3**
CLL *ep*PKiKP **pPKiKP** **07 47 57.0 -0.6**
CLL *i* x x 07 48 01.2
CLL *e*SKPdf **SKPdf** **07 48 10.0 +0.2**
comp=Z,5.0nm,1.1s
ARCR ARCALIA 145.82 333 ⇓P **PKPbc** **07 45 35.6 +0.6**
HARR Harsova 145.83 326 ⇑P **PKPbc** **07 45 35.1 0.0**
RSBS Rosebush, Pemb 145.83 8 *eP* **PKPdf** **07 45 33.2 +0.2**
UPC Upice 145.84 344⇑*eP*KP **PKPbc** **07 45 35.3 +0.3**
OKC Ostrava-Krasne 145.84 341⇑*eP*KP **PKPbc** **07 45 35.8 +0.8**
TLBR Topalu 145.86 326 ⇓P **PKPbc** **07 45 35.1 -0.1**
COVR Voineasa-Covas 145.89 329 ⇑P **PKPbc** **07 45 34.9 -0.5**
DPC Dobruska-Polom 145.90 344⇑*eP*KP **PKPbc** **07 45 35.8 +0.6**
MFTR Murfatlar 145.91 325 ⇓P **PKPbc** **07 45 35.3 0.0**
OZUR 145.91 330 ⇓P **PKPbc** **07 45 35.5 +0.1**
MCH1 Michaelchurch 145.97 6 *eP* **PKPdf** **07 45 33.7 +0.5**
BRG Berggiesshubel 146.00 347 *eP*KP **PKPdf** **07 45 34.1 +0.7**
BRG Amp 07 45 37.7
comp=Z,52nm,1.1s
BRG Berggiesshubel 146.00 347 P **PKiKP** **07 45 42.8 +4.9**
BRG Amp 07 45 43.8
comp=Z,5.2nm,0.8s
LANS Liptovska Anna 146.02 339 *eP*KP **PKPbc** **07 45 36.6 +1.0**
KRLC Kraliky 146.03 343⇑*eP*KP **PKPbc** **07 45 35.9 +0.3**
MANR Mangalia 146.05 325 ⇓P **PKPbc** **07 45 34.9 -0.9**
MORC Moravsky Berou 146.08 342 *eP*KP **PKPdf** **07 45 34.1 +0.5**
MORC Moravsky Berou 146.08 342 ⇓P **PKPdf** **07 45 34.6 +1.0**
ELMS Elmsett, Ipswi 146.10 1 *eP* **PKPbc** **07 45 35.1 -0.5**
MONM Monmouth 146.15 5 *eP* **PKPbc** **07 45 34.7 -1.0**
NEHR Nehoiu 146.15 329 ⇑P **PKPbc** **07 45 35.8 -0.2**
PVCC Panska Ves 146.18 346⇑*eP*KP **PKPbc** **07 45 36.4 +0.5**
DOPR Dopca 146.19 330 ⇑P **PKPbc** **07 45 36.4 +0.3**
KECS Kecovo 146.24 338 *eP*KP **PKiKP** **07 45 37.3 -1.1**
ISR Istrita 146.24 328 ⇑P **PKPbc** **07 45 35.7 -0.6**
MLR Muntele Rosu 146.27 329 ⇑P **PKPdf** **07 45 34.7 +0.5**
RICC Richard 146.27 346⇑*eP*KP **PKPbc** **07 45 36.2 0.0**
HSKC Hora Svate Kat 146.36 347⇑*eP*KP **PKPbc** **07 45 36.6 +0.1**
MESR Meseseni 146.37 334 ⇓P **PKPbc** **07 45 37.3 +0.8**
CJR Cluj-Napoca 146.44 333 ⇑P **PKPbc** **07 45 37.3 +0.5**
LEHL Lehliu 146.55 327 ⇑P **PKPdf** **07 45 34.2 -0.2**
PRA Prague 146.64 346⇑*eP*KP **PKPbc** **07 45 37.4 +0.2**
MMAI Mount Meron Ar 146.67 303 PKPbc **PKPbc** **07 45 37.9 -0.1**
comp=Z,18nm,0.6s,baz=70,slow=3.6,SNR=13
MARR Marisel-Cluj 146.67 333 ⇑P **PKPbc** **07 45 37.8 +0.3**
PRU Pruhonice 146.69 345⇑*eP*KP **PKPbc** **07 45 37.3 0.0**
GOPC GO Pecny, Ondr 146.70 345⇑*eP*KP **PKPbc** **07 45 37.7 +0.3**
VOIR 146.74 330 ⇑P **PKPbc** **07 45 37.1 -0.7**
DRGR 146.75 334 ⇑P **PKPbc** **07 45 38.0 +0.3**
VRAC Vranov 146.77 343 *eP*KP **PKPdf** **07 45 35.1 +0.4**
VRAC Vranov 146.77 343 ⇓P **PKPbc** **07 45 37.5 -0.1**
VYHS Vyhne 146.80 340 *eP*KP **PKPbc** **07 45 38.1 +0.4**
JAVC Velka Javorina 146.85 341 *eP*KP **PKPbc** **07 45 36.5 -1.4**
NKC Novy Kostel 146.92 348⇑*eP*KP **PKPbc** **07 45 37.8 -0.2**
PSZ Piszkesteto 146.93 338 ⇓P **PKPbc** **07 45 38.2 +0.1**
TNR Turnu Rosu 146.95 331 ⇓P **PKPbc** **07 45 38.7 +0.5**
ARR Arges 146.99 330 ⇑P **PKPbc** **07 45 36.8 -1.6**
KRUC Moravsky 147.05 343 *eP*KP **PKPdf** **07 45 35.4 +0.3**
TREC Trest 147.09 344⇑*eP*KP **PKPbc** **07 45 38.5 +0.1**
ZVC Zvikov 147.28 345⇑*eP*KP **PKPbc** **07 45 39.4 +0.5**
LOT Lotru 147.33 331 ⇑P **PKPdf** **07 45 37.5 +1.6**
RAZG Razgrad 147.34 326 ⇓P **PKPbc** **07 45 38.3 -1.0**
UCC Uccle 147.36 357 *dP*KP **PKPbc** **07 45 39.5 +0.5**
DEV Deva 147.39 333 ⇑P **PKPbc** **07 45 39.2 -0.1**
MODS Modra-Piesok 147.41 341 *eP*KP **PKiKP** **07 45 40.2 -0.6**
MODS *e* 07 45 45.8
HUMR Humele 147.44 329 ⇓P **PKPbc** **07 45 39.3 -0.1**
MEM Membach 147.45 355 *dP*KP **PKPbc** **07 45 39.9 +0.6**
BTNL Ternell 147.46 355 *dP*KP **PKPbc** **07 45 39.1 -0.2**
BSTI Sart Tilman 147.51 356 *dP*KP **PKPbc** **07 45 39.6 +0.2**
SRO Srobarova 147.56 339 *eP*KP **PKPbc** **07 45 40.3 +0.7**
SRO *e* 07 45 45.5
CSS Mathiatis 147.60 307 **PKPbc** **07 45 39.5 -0.8**
BCLA Clavier 147.69 356 *dP*KP **PKPbc** **07 45 40.0 +0.2**
BHOU Houvegnez 147.71 355 *dP*KP **PKiKP** **07 45 40.7 -0.7**
KHC Kasperske Hory 147.72 346 *eP*KPDF **PKPdf** **07 45 37.7 +1.4**
KHC ⇑*eP*KP **PKPbc** **07 45 40.3 +0.2**
BGES Gesves 147.74 356 *dP*KP **PKPbc** **07 45 40.0 0.0**
GZR Gura Zlata 147.82 332 ⇑P **PKPbc** **07 45 40.0 -0.5**
SURR Surduc 147.82 333 ⇓P **PKPbc** **07 45 39.9 -0.5**
CKRC Cesky Krumlov 147.83 345 *eP*KPDF **PKPdf** **07 45 37.4 +0.9**
CKRC ⇑*eP*KP **PKPbc** **07 45 40.5 +0.2**
BMRD Maredsous 147.84 357 *dP*KP **PKiKP** **07 45 41.0 -0.6**
GERES GERESS Array B 147.95 345 **PKPdf** **07 45 36.7 -0.1**
GERES PKPbc **PKPbc** **07 45 40.9 +0.1**
GERES GERESS Array B 147.95 345 PKPbc **PKPbc** **07 45 40.5 -0.3**
comp=Z,9.8nm,0.6s,baz=26,slow=3.3,SNR=40
DOU Dourbes 148.05 357 *dP*KP **PKPbc** **07 45 40.7 -0.1**
VLAD Vladila 148.11 329 ⇓P **PKPbc** **07 45 40.1 -1.1**
BZS Buzias 148.15 334 ⇑P **PKPdf** **07 45 37.0 -0.1**
SRE Strehaia 148.19 331 ⇑P **PKPbc** **07 45 41.9 +0.5**
CONA Conrad Observa 148.23 342 *eP*KP **PKPbc** **07 45 41.7 +0.2**
comp=Z,23nm,1.3s,SNR=30
RONA Rosalia, Austr 148.30 342 *eP*KP **PKPbc** **07 45 41.7 +0.1**
comp=Z,20nm,1.1s,SNR=23
PVL Pavlikeni 148.35 327 *i* P **PKPbc** **07 45 42.3 +0.5**
WLF Walferdange 148.38 355 *dP*KP **PKPbc** **07 45 42.1 +0.4**
HERR Herculane 148.38 332 ⇑P **PKPbc** **07 45 41.7 -0.1**
BAND Balkesir-Ban 148.50 320 ⇓P **PKPbc** **07 45 41.9 -0.3**
MOA Molln 148.74 344 *eP*KP **PKPbc** **07 45 42.5 -0.1**
comp=Z,4.9nm,0.7s,SNR=9.6
MDVR Moldovita 148.77 333 ⇑P **PKPbc** **07 45 42.2 -0.6**
VALD Valchedram 148.81 329 *i* P **PKiKP** **07 45 43.8 0.0**
DIM Dimitrovgrad 148.88 325 *i* P **PKiKP** **07 45 43.8 -0.2**
MPEP Malo Peshtene 148.91 329 *i* P **PKPbc** **07 45 43.3 +0.1**
ARSA Arzberg 148.94 342 **PKPdf** **07 45 37.6 -0.7**
ARSA PKPbc **PKPbc** **07 45 43.5 +0.4**
ARSA PKPab **PKPab** **07 45 50.7 +0.9**
ARSA Arzberg 148.94 342 *eP*KP **PKPbc** **07 45 42.0 -1.1**
comp=Z,4.7nm,0.9s,SNR=11
BIOA Bad Ischl, Aus 149.04 345 *eP*KP **PKPbc** **07 45 43.1 -0.3**
comp=Z,3.5nm,0.4s,SNR=11
KDZ Kurdzhali 149.29 325 *i* P **PKPbc** **07 45 44.0 -0.1**
PGB Panagyurishte 149.30 327 *i* P **PKiKP** **07 45 44.6 -0.3**
ALN Alexandroupoli 149.38 323 **PKPbc** **07 45 43.9 -0.5**
BFO Black Forest 149.46 352 **PKPbc** **07 45 44.4 0.0**
LESA Schwarzleotal 149.53 346 *i* PKP **PKPbc** **07 45 44.5 -0.1**
comp=Z,9.2nm,0.4s,SNR=9.3
RZN Rozhen 149.58 325 *i* P **PKPbc** **07 45 45.0 -0.1**
SOKA Soboth 149.60 342 *i* PKP **PKPbc** **07 45 44.5 -0.3**
comp=Z,15nm,0.8s,SNR=13
BOVS Bovan 149.67 331 ⇓P **PKPbc** **07 45 43.7 -1.2**
KBA Koelnbreinsper 149.69 345 *i* PKP **PKPbc** **07 45 44.4 -0.8**
comp=Z,18nm,0.7s,SNR=14
VTS Vitosha 149.70 328 *i* P **PKiKP** **07 45 45.8 -0.1**
WATA Walderalm 149.85 347 *eP*KP **PKPbc** **07 45 44.9 -0.6**
comp=Z,21nm,1.0s,SNR=12
RETA Reutte 149.88 348 *i* PKP **PKPbc** **07 45 45.0 -0.5**
comp=Z,14nm,1.1s,SNR=11
OBKA Obir 149.89 343 *i* PKP **PKPbc** **07 45 44.6 -0.9**
comp=Z,7.6nm,0.8s,SNR=8.5
WTTA Wattenberg 149.91 347 *eP*KP **PKPbc** **07 45 45.2 -0.4**
comp=Z,17nm,0.6s,SNR=14
MOTA Moosalm 149.94 348 *i* PKP **PKPbc** **07 45 45.6 -0.1**
comp=Z,20nm,0.8s
MYKA Terra Mystica

FETA	Feichten	150.33	348	*i* PKP	PKPbc	07 45 46.1	-0.5
	comp=Z,18nm,0.8s,SNR=10.0						
A051A	Mrakovica	150.48	338	⇓*i*P	PKPbc	07 45 46.1	-0.8
BOJS	Bojanci	150.59	341	⇓*i*P	PKPbc	07 45 46.9	-0.1
BLY	Banja Luka	150.61	338	⇓*i*P	PKPbc	07 45 46.7	-0.4
CEY	Cerknica	150.63	342	⇓*i*P	PKPbc	07 45 45.9	-1.3
CEY	Cerknica	150.63	342	*i* PKPdf	PKPdf	07 45 41.1	+0.1
CEY				*i* PKPbc	PKiKP	07 45 47.5	-0.1
CEY				*i* PKPab	PKPab	07 45 56.7	-0.1
SKDS	Skadanscina	150.92	343	⇓*i*P	PKPbc	07 45 46.8	-1.0
VAY	Valandovo	150.99	327	*i* P	PKPbc	07 45 47.7	-0.4
A050A	Klekovaca	151.07	338	*e*P	PKPbc	07 45 47.1	-1.2
STON	Ston	152.01	335	⇓*i*P	PKPbc	07 45 48.6	-1.7
ESDC	Sonseca Array	157.90	13		PKPdf	07 46 28.9	+0.7
ESDC	Sonseca Array	157.90	13	PKP	PKPdf	07 45 51.0	-0.2
	comp=Z,0.4nm,0.7s,baz=11,slow=1.2,SNR=2.4						
ESDC				PKPab	PKPab	07 46 28.4	+0.1
	comp=Z,4.3nm,1.0s,baz=357,slow=5.3,SNR=11						
DBIC	Dimbokro	166.74	148	PKP	PKPdf	07 45 59.7	-0.8
	comp=Z,4.4nm,1.0s,baz=160,slow=1.2,SNR=3.6						
TORD	Torodi Ar. Bea	175.03	175		PKPdf	07 46 03.9	-0.8
TORD					PKPab	07 47 44.6	+0.4
TORD	Torodi Ar. Bea	175.03	175	PKP	PKPdf	07 46 04.3	-0.3
	comp=Z,144nm,0.4s,baz=214,slow=1.8,SNR=2.7						
TORD				PKPab	PKPab	07 47 44.3	+0.1
	comp=Z,69nm,0.3s,baz=179,slow=3.3,SNR=1.6						

*ISK **21** 07:41:54.6, 36°.47N×28°.73E, h8km, ML2.8/14*
*AFAD **21** 07:41:55.6, 36°.49N×28°.76E, h7km±4km, ML2.4*

ISC 21 07:41:55.2±1.1, 36°.47N±0°.04×28°.73E±0°.02, h6km±10km, n24, σ0s88/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.33	60	Pg	Pg	07 42 01.7	0.0
FETY				Sg	Sg	07 42 06.7	+0.6
FETY	Fethiye	0.33	60	P	Pb	07 42 02.7	-0.9
FETY				S	Sg	07 42 06.4	+0.3
DALY	Dalyan (Mula)	0.35	350	Pg	Pg	07 42 01.6	-0.5
DALY				Sg	Sg	07 42 07.4	+0.7
SABU	Mula-Dalaman	0.40	29	P	Pg	07 42 03.0	-0.1
SABU				S	Sg	07 42 09.4	+1.0
SABU				*i* AML	AML	07 42 12.0	
	comp=E,370nm,0.2s						
ARG	Arkhangelos	0.55	243	Pg	Pg	07 42 05.6	-0.1
ARG				Sg	Sg	07 42 13.6	+0.8
CAME	Cameli-Denizli	0.66	44	Pg	Pg	07 42 08.1	+0.1
CAME				Sg	Sb	07 42 17.6	-1.2
AKAS	Kas	0.75	108	P	Pg	07 42 09.3	-0.3
AKAS				S	Sb	07 42 21.0	-0.2
AKAS				*i* AML	AML	07 42 26.0	
	comp=E,377nm,0.5s						
YER	Yerkesik	0.75	332	Pg	Pg	07 42 09.8	+0.1
YER				Sg	Sb	07 42 20.4	-0.9
KNIK	Mula-Seydike	0.78	61	P	Pg	07 42 09.4	-0.8
KNIK				S	Sg	07 42 19.8	-0.5
MULA	Mugla, Merkez-	0.85	338	P	Pg	07 42 11.4	-0.1
MULA				S	Sn	07 42 42.4	+16
DAT	Datca	0.96	286	Pg	Pg	07 42 13.6	0.0
ELL	Elmali	0.99	73	Pg	Pg	07 42 14.1	-0.1
TAVA	DENIZLI_Tavas	1.01	9	P	Pb	07 42 14.8	-0.3
GOLH	Golhisar	1.02	41	P	Pg	07 42 14.3	-0.4
GOLH				S	Sg	07 42 27.8	-0.2
GOLH				*i* AML	AML	07 42 38.0	
	comp=E,105nm,0.4s						
GOLH				*i* AML	AML	07 42 41.0	
	comp=N,111nm,0.5s						
APMY	Acipayam-Deniz	1.10	25	Pn	Pg	07 42 16.3	-0.1
MLSB	Milas	1.12	318	Pn	Pn	07 42 17.1	-0.4
DNIZ	Denizli-Tavas-	1.18	12	P	Pb	07 42 17.3	-0.8
DNIZ				S	Sn	07 42 36.8	+2.0
DNIZ				*i* AML	AML	07 42 40.0	
	comp=N,216nm,0.2s						
BODT	Bodrum	1.28	298	Pn	Pb	07 42 19.3	-0.4
KORT	Korkueli	1.41	67	P	Pg	07 42 22.3	0.0
KORT				S	Sg	07 42 44.1	+3.6
KORT				*i* AML	AML	07 42 56.0	
	comp=N,75nm,0.6s						
KORT				*i* AML	AML	07 42 59.0	
	comp=E,82nm,0.5s						
NAZL	Nazilli-Aydin	1.53	347	Pn	Pn	07 42 23.1	0.0
ANTB	Antalya	1.61	74	Pn	Pn	07 42 23.8	-0.3
AYDB	Zeytinkoy-Aydi	1.62	336	Pn	Pn	07 42 24.3	-0.1
ODEM	Odemis-Izmir	1.88	344	Pn	Pn	07 42 27.8	-0.1
KULA	Kula-Manisa	2.04	359	Pn	Pn	07 42 30.1	-0.1

*NNC **21** 07:44:30.7±3.2, 37°.44N×71°.38E, h200km±40km, mb2.8, mpv4.0, Error ellipse: s-maj=28.3km s-min=20.1km az=17.0*

ISC 21 07:44:24.5±2.9, 37°.1N±0°.2×71°.0E±0°.1, h100km, n12, σ2s11/18, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.42	21	P	Pn	07 45 45.4	+2.2
	SNR=18						
UCH	Uchtor	5.78	27	P	Sn	07 46 51.8	-1.5
	SNR=10.0						
EKS2	Erkin-Say	5.94	20	P	Pn	07 45 52.7	+2.7
	SNR=5.1						
KK31	Karatay Array	6.01	356	⇓P	Pn	07 45 53.6	+2.7
	7.6nm,0.3s,baz=180,slow=13,SNR=78						
KK31				⇑S	Sn	07 47 00.9	+2.7
	4.1nm,0.2s,baz=172,slow=20,SNR=10						
AAK	Ala-Archa	6.13	25	P	Pn	07 45 54.9	+2.2
	SNR=9.9						
AAK	Ala-Archa	6.13	25	P	Pn	07 45 54.1	+1.4
	6.4nm,0.5s						
AAK				S	Sn	07 47 00.4	-1.1
	15nm,0.8s						
CHMS	Chumysh	6.54	25	P	Pn	07 46 00.1	+2.0
	SNR=8.4						
CHMS	Chumysh	6.54	25	⇓P	Pn	07 45 59.6	+1.5
	12nm,0.6s						
CHMS				⇓S	Sn	07 47 10.5	-0.7
	16nm,0.6s						
TKM2	Tokmak 2	6.78	30	P	Pn	07 46 03.2	+1.7
	SNR=6.4						
TKM2	Tokmak 2	6.78	30	⇑P	Pn	07 46 02.4	+0.8
	5.8nm,0.6s						
TKM2				⇑S	Sn	07 47 16.4	-0.9
	6.3nm,0.8s						
AB31	Akbulak array	14.57	330	⇓P	P	07 47 47.9	-1.4
	0.6nm,0.4s,baz=132,slow=12,SNR=24						
AB31				⇑S	Sn	07 50 26.0	-0.2
	1.4nm,0.6s,baz=150,slow=23,SNR=6.2						
AKTO	Aktyubinsk	16.28	329	⇑P	Pn	07 48 06.6	-0.4
	1.0nm,0.8s						
AKTO				⇑S	Sn	07 51 03.2	-4.1
	1.2nm,0.9s						

*NEIC **21** 07:48:11.4±0.6, 53°.40S±0°.04×140°.7E±0°.3, h10km±1km, mb4.1/13, Error ellipse: s-maj=34.9km s-min=5.6km az=98.0*
*IDC **21** 07:48:11.3±1.1, 53°.37S×140°.76E, h0km, mb3.8/5, mbtmp3.8/5, MS3.8/7, Error ellipse: s-maj=97.8km s-min=18.2km az=84.0*

ISC 21 07:48:12.0±0.7, 53°.35S±0°.09×140°.6E±0°.2, h10km, n44, σ1s05/28, mb3.9/8, MS3.7/7, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	Toolangi	16.13	14	Pn	Pn	07 51 58.2	-0.5
CASY	Casey	19.65	217	P	P	07 52 39.4	-1.1
BBOO	Buckleboo	20.79	349	P	P	07 52 52.3	-0.8
BBOO				IAmb	IAmb	07 53 00.8	
	comp=Z,4.7nm,0.9s						
STKA	Stephens Creek	21.47	2	P	P	07 53 00.2	-0.2
STKA	Stephens Creek	21.47	2	P	P	07 53 02.2	+1.8
	comp=Z,3.5nm,0.9s,baz=188,slow=14,SNR=3.6						
	comp=Z,3.5nm,0.9s						
VNDA	Vanda	25.48	169	P	P	07 53 39.1	-0.7
VNDA				IAmb	IAmb	07 54 00.0	
	comp=Z,3.2nm,1.0s						
VNDA	Vanda	25.48	169	P	P	07 53 40.2	+0.5
	comp=Z,1.0nm,0.7s,baz=320,slow=5.6,SNR=6.1						
	comp=Z,1.0nm,0.7s						
H01W1	Cape Leeuwin H	26.24	304	T	T	08 21 07.9	
	baz=143,slow=75,SNR=40						
H01W2	Cape Leeuwin H	26.25	304	T	T	08 21 08.5	
	baz=143,slow=75,SNR=51						
H01W3	Cape Leeuwin H	26.26	304	T	T	08 21 07.2	
	baz=143,slow=75,SNR=41						
NWAO	Narrogin (SRO)	26.39	311	P	P	07 53 47.7	-0.7
NWAO	Narrogin (SRO)	26.39	311	LR	LR	08 02 47.5	
	comp=Z,145nm,18.6s,baz=297,slow=33						
ASAR	Alice Springs	30.07	348	P	P	07 54 21.3	0.0
ASAR	Alice Springs	30.07	348	P	P	07 54 21.6	+0.3
	comp=Z,0.8nm,0.6s,baz=165,slow=10.0,SNR=18						
ASAR				PcP	PcP	07 57 25.5	+2.5
	comp=Z,0.2nm,0.8s,baz=160,slow=3.0,SNR=1.3						
	comp=Z,0.8nm,0.6s						
AS31	Alice Springs	30.07	348	P	P	07 54 20.6	-0.7
WR8	Warramunga Arr	33.66	350	P	P	07 54 52.9	0.0
WR8				IAmb	IAmb	07 55 06.9	
	comp=Z,3.7nm,1.1s						
WRA	Warramunga Arr	33.69	349	P	P	07 54 51.5	-1.6
WRA	Warramunga Arr	33.69	349	P	P	07 54 53.0	-0.2
	comp=Z,0.8nm,0.5s,baz=174,slow=7.5,SNR=15						
WRA				PcP	PcP	07 57 32.9	+0.1
	comp=Z,0.3nm,0.8s,baz=180,slow=2.0,SNR=1.4						
	comp=Z,0.8nm,0.5s						
WRAB	Tennant Creek	33.70	349	P	P	07 54 52.5	-0.7
WRAB				IAmb	IAmb	07 55 01.4	
	comp=Z,2.4nm,0.7s						
WB0	Warramunga Arr	33.86	349	P	P	07 54 54.3	-0.3
WB0				IAmb	IAmb	07 55 00.7	
	comp=Z,2.2nm,0.7s						
ONTNC	Quen Toro	36.70	42	P	P	07 55 18.0	-1.0
QSPA	South Pole Qui	36.77	180	P	P	07 55 18.7	-0.7
QSPA				IAmb	IAmb	07 55 28.3	
	comp=Z,2.1nm,0.9s						
QSPA	South Pole Qui	36.77	180	P	P	07 55 18.6	-0.7
	comp=Z,1.7nm,0.9s,baz=291,slow=2.0,SNR=5.9						
QSPA				LR	LR	08 09 46.7	
	comp=Z,146nm,18.7s,baz=335,slow=35						
	comp=Z,1.7nm,0.9s						
DZM	Mont Dzumac	36.91	42	LR	LR	08 07 55.0	
	comp=Z,135nm,19.4s,baz=190,slow=32						
FITZ	Fitzroy Crossi	37.06	336	P	P	07 55 21.6	-0.5
FITZ	Fitzroy Crossi	37.06	336	LR	LR	08 09 01.9	
	comp=Z,108nm,21.3s,baz=150,slow=34						
MAW	Mawson	38.00	217	LR	LR	08 09 35.2	
	comp=Z,96nm,20.2s,baz=85,slow=34						
SNAA	Sanae	52.64	194	LR	LR	08 19 30.5	
	comp=Z,90nm,18.1s,baz=116,slow=36						
H04S1	CROZET ISLANDS	53.76	238	T	T	08 56 05.5	
	baz=131,slow=75,SNR=9.1						
H04S2	CROZET ISLANDS	53.76	238	T	T	08 56 00.2	
	baz=131,slow=75,SNR=14						
H04S3	CROZET ISLANDS	53.77	238	T	T	08 56 08.9	
	baz=131,slow=75,SNR=9.8						
H08S2	Diego Garcia H	70.90	283	T	T	09 16 47.8	
	baz=144,slow=76,SNR=11						
H08S1	Diego Carcia H	70.92	283	T	T	09 16 49.9	
	baz=144,slow=76,SNR=18						
H08S3	Diego Garcia H	70.92	283	T	T	09 16 50.6	
	baz=144,slow=76,SNR=18						
SUR	Sutherland	79.96	228	LR	LR	08 30 14.4	
	comp=Z,56nm,18.1s,baz=157,slow=32						
H03S1	Juan Fernandez	86.63	148	T	T	09 37 28.6	
	baz=201						
H03S2	Juan Fernandez	86.63	148	T	T	09 37 28.6	
	baz=201						
H03S3	Juan Fernandez	86.64	148	T	T	09 37 36.4	
	baz=201						
DBIC	Dimbokro	125.67	224	PKP	PKiKP	08 07 16.7	+2.6
	comp=Z,13nm,1.2s,baz=54,slow=8.7,SNR=4.3						
TORD	Torodi Ar. Bea	128.40	235	PKP	PKPdf	08 07 18.6	-0.2
	comp=Z,55nm,0.3s,baz=160,slow=4.6,SNR=1.1						
FINES	FINESS Array B	145.24	310	PKPbc	PKPab	08 07 48.9	+0.7
	comp=Z,1.0nm,0.7s,baz=113,slow=5.0,SNR=5.7						
ARCES	ARCESS Array B	147.00	324	PKPbc	PKiKP	08 07 56.0	+0.2
	comp=Z,5.5nm,1.0s,baz=97,slow=3.7,SNR=4.3						
GERES	GERESS Array B	147.01	284	PKPbc	PKPbc	08 07 53.8	-0.2
	comp=Z,0.4nm,0.6s,baz=143,slow=4.7,SNR=4.2						
ESDC	Sonseca Array	152.38	255	PKPbc	PKiKP	08 08 08.9	+1.1
	comp=Z,0.6nm,0.7s,baz=100,slow=1.7,SNR=6.7						

KRSC 21 08:00:38.9±1.1, 48°.47N×156°.65E, h57km±31km, Ml3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	3.47	15	*e*P	Pn	08 01 34.2	+3.8
KDTR				*e*S	Sn	08 02 14.7	+4.5
ASAK	Asacha	4.00	11	*e*P	Pn	08 01 41.5	+3.8
MTVR	Mutnovka	4.14	13	*e*P	Pn	08 01 43.2	+3.5
MTVR				*e*S	Sn	08 02 30.9	+4.0
RUS	Russkaya	4.15	16	*e*P	Pn	08 01 42.8	+3.2
RUS				*e*S	Sn	08 02 30.0	+3.2
GRL	Gorelyy	4.19	12	*e*P	Pn	08 01 44.1	+3.7
KOK	Koryaka	4.99	14	*e*P	Pn	08 01 55.0	+3.7
SDLR	Sedlovina	5.02	16	*e*P	Pn	08 01 54.7	+3.0

*IDC **21** 08:03:45.7±1.6, 18°.15S×177°.89W, h619km±14km, mb3.3/11, mbtmp4.2/12, Error ellipse: s-maj=26.3km s-min=17.6km az=121.0*
*NEIC **21** 08:03:46.5±1.0, 18°.1S±0°.2×177°.9W±0°.1, h624km±11km, mb4.2/21, Error ellipse: s-maj=25.3km s-min=13.9km az=164.0*

ISC 21 08:03:46.1±0.6, 18°.1S±0°.1×177°.9W±0°.1, h624km, n54, σ0s70/58, mb4.1/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.84	274	P	P	08 05 12.8	+0.4
MSVF	Nonsavu	3.84	274	P	P	08 05 12.6	+0.2
	139nm,0.7s,baz=122,slow=6.5,SNR=45						
MSVF				S	S	08 06 22.3	-0.4
	2.7nm,0.4s,baz=282,slow=20,SNR=0.8						
AFI	Afiamalu	7.22	56	P	P	08 05 38.5	-0.8
EIDS	Eidsvold	29.64	250	P	P	08 09 03.9	+0.3
ARMA	Armidale	30.26	240	P	P	08 09 07.7	-1.2
ARMA				IAmb	IAmb	08 09 23.0	
	comp=Z,17nm,1.4s						
CAN	Canberra	33.97	233	P	P	08 09 40.0	-0.1
CAN				IAmb	IAmb	08 09 49.2	
	comp=Z,6.0nm,0.9s						
PMG	Port Moresby	34.94	280	P	P	08 09 49.1	+0.9
	comp=Z,9.0nm,0.7s,baz=124,slow=11,SNR=2.4						
	comp=Z,9.0nm,0.7s						
TOO	Toolangi	37.43	231	P	P	08 10 09.2	+0.8
TOO				IAmb	IAmb	08 10 13.0	
	comp=Z,6.9nm,1.3s						
COEN	Coen	37.56	270	P	P	08 10 10.5	+0.7
COEN				IAmb	IAmb	08 10 11.2	
	comp=Z,9.4nm,0.7s						
STKA	Stephens Creek	38.95	241	P	P	08 10 21.5	+0.7
STKA	Stephens Creek	38.95	241	P	P	08 10 20.8	0.0
	comp=Z,2.4nm,0.5s,baz=87,slow=10,SNR=8.2						
	comp=Z,2.4nm,0.5s						
JAY	Jayapura	43.39	286	P	P	08 10 56.5	+0.6
	comp=Z,7.5nm,0.6s,baz=105,slow=12,SNR=1.5						
	comp=Z,7.5nm,0.6s						
BBOO	Buckleboo	43.73	241	P	P	08 10 58.1	-0.1
WR8	Warramunga Arr	44.90	260	P	P	08 11 07.0	-0.4
WR8				IAmb	IAmb	08 11 24.5	
	comp=Z,6.6nm,1.4s						
WB0	Warramunga Arr	45.02	260	P	P	08 11 08.1	-0.3
WB0				IAmb	IAmb	08 11 08.4	
	comp=Z,4.4nm,0.8s						
WRA	Warramunga Arr	45.05	260	P	P	08 11 08.1	-0.5
	comp=Z,2.0nm,0.4s,baz=97,slow=8.1,SNR=62						
WRA				PcP	PcP	08 12 35.9	+0.2
	comp=Z,0.4nm,0.3s,baz=91,slow=3.7,SNR=5.4						
	comp=Z,2.0nm,0.4s						
AS31	Alice Springs	45.19	254	P	P	08 11 09.4	-0.2
ASAR	Alice Springs	45.19	254	P	P	08 11 09.0	-0.6
ASAR	Alice Springs	45.19	254	P	P	08 11 09.4	-0.1
	comp=Z,4.9nm,0.4s,baz=90,slow=7.8,SNR=98						
ASAR				PcP	PcP	08 12 36.1	0.0
	comp=Z,0.9nm,0.4s,baz=102,slow=3.7,SNR=8.7						
	comp=Z,4.9nm,0.4s						
MTN	Manton Dam	49.25	268	P	P	08 11 39.3	-0.6
MTN				IAmb	IAmb	08 11 39.8	
	comp=Z,6.4nm,0.7s						
FORT	Forrest	50.35	245	P	P	08 11 47.2	-0.5
KNRA	Kununurra	50.93	264	P	P	08 11 51.4	-0.7
KNRA				IAmb	IAmb	08 11 52.5	
	comp=Z,4.7nm,0.8s						
FITZ	Fitzroy Crossi	53.45	261	P	P	08 12 10.2	+0.1
TNTI	Ternate	56.94	283	P	P	08 12 32.9	-1.4
TNTI	Ternate	56.94	283	P	P	08 12 33.1	-1.2
PSA00	Pilbara Seismi	58.31	255	P	P	08 12 43.1	-0.3
PSA00				IAmb	IAmb	08 12 50.4	
	comp=Z,27nm,1.4s						
SBA	Scott Base	60.29	184	P	P	08 12 56.3	+0.8
SBA				IAmb	IAmb	08 13 19.7	
	comp=Z,18nm,1.4s						
MJAR	Matsushiro Arr	68.31	323	P	P	08 13 46.6	-0.1
	comp=Z,1.1nm,0.5s,baz=159,slow=7.1,SNR=5.1						
	comp=Z,1.1nm,0.5s						
QSPA	South Pole Qui	71.99	180	P	P	08 14 08.9	+0.8
QSPA	South Pole Qui	71.99	180	P	P	08 14 08.6	+0.6
	comp=Z,0.7nm,0.6s,baz=21,slow=8.6,SNR=1.7						
	comp=Z,0.7nm,0.6s						
PETK	Petropavlovsk-	73.95	345	P	P	08 14 19.3	+0.2
	comp=Z,1.2nm,0.6s,baz=160,slow=5.6,SNR=2.9						
	comp=Z,1.2nm,0.6s						
GAMB	Gambell	81.72	3	P	P	08 15 01.5	+1.2
L18K	Granite Mounta	81.77	10	P	P	08 15 01.8	+1.1
L18K				IAmb	IAmb	08 15 02.5	
	comp=Z,8.7nm,1.3s						
CAST	Castle Rocks	83.69	11	P	P	08 15 09.6	-0.7
MAW	Mawson	83.87	200	P	P	08 15 09.8	-1.4
	comp=Z,2.7nm,0.5s,baz=18,slow=3.2,SNR=15						
	comp=Z,2.7nm,0.5s						
ILAR	Eielson Array	85.94	13	P	P	08 15 21.0	-0.1
	comp=Z,0.3nm,0.5s,baz=216,slow=4.7,SNR=7.0						
	comp=Z,0.3nm,0.5s						
YKA	Yellowknife Ar	94.28	25	P	P	08 15 59.3	-0.4
	comp=Z,0.1nm,0.5s,baz=235,slow=1.6,SNR=2.7						
YKA				PKiKP	PKiKP	08 20 38.2	-0.6
	comp=Z,0.1nm,0.2s,baz=273,slow=3.1,SNR=5.2						
	comp=Z,0.1nm,0.5s						
BVAR	Borovoye Array	117.25	321	PKP	PKPdf	08 21 21.2	-0.4
	comp=Z,0.4nm,0.5s,baz=104,slow=6.1,SNR=2.2						
ARCES	ARCESS Array B	126.55	350	PKP	PKPdf	08 21 39.0	-0.1
	comp=Z,5.3nm,1.1s,baz=48,slow=1.7,SNR=5.0						
FINES	FINESS Array B	133.46	344	PKP	PKPdf	08 21 52.3	0.0
	comp=Z,4.9nm,1.1s,baz=350,slow=7.1,SNR=2.5						
AKASG	Malin Array Be	140.91	333	PKP	PKPdf	08 22 05.5	-0.8
	comp=Z,0.2nm,0.4s,baz=349,slow=0.9,SNR=1.5						
BRTR	Keskin Array B	145.22	315	PKPbc	PKPbc	08 22 15.8	+0.2
	comp=Z,0.8nm,0.5s,baz=130,slow=4.5,SNR=5.2						
CLL	Collm	145.72	348	*e*PKPab	PKiKP	08 22 21.0	+2.0
CLL	Collm	145.72	348	*i* PKPbc	PKPbc	08 22 17.1	+0.7
	comp=Z,3.0nm,0.8s						
MMAI	Mount Meron Ar	146.61	303	PKPbc	PKPbc	08 22 20.5	+0.9
	comp=Z,4.7nm,0.8s,baz=70,slow=9.3,SNR=2.2						
GERES	GERESS Array B	147.88	345	PKPbc	PKPbc	08 22 22.9	+0.5
	comp=Z,0.9nm,0.6s,baz=29,slow=3.0,SNR=10						
CONA	Conrad Observa	148.15	342	*i* PKP	PKPbc	08 22 24.1	+1.0
	comp=Z,0.4nm,0.3s						
RONA	Rosalia, Austr	148.23	342	*i* PKP	PKiKP	08 22 24.6	+0.2
	comp=Z,0.3nm,0.3s						
MOA	Molln	148.66	344	*i* PKP	PKPbc	08 22 25.2	+0.9
	comp=Z,0.4nm,0.4s						
WATA	Walderalm	149.78	347	*i* PKP	PKiKP	08 22 28.3	+0.6
	comp=Z,0.6nm,0.3s						
WTTA	Wattenberg	149.84	347	*i* PKP	PKPbc	08 22 27.9	+0.5
	comp=Z,2.1nm,0.5s						
MOTA	Moosalm	149.87	348	*e*PKP	PKPbc	08 22 27.8	+0.4
	comp=Z,0.4nm,0.4s						
SQTA	Sankt Quirin	149.97	348	*i* PKP	PKPbc	08 22 27.4	-0.1
	comp=Z,0.7nm,0.3s						
ABTA	Abfaltersbach	150.13	346	*e*PKP	PKPbc	08 22 27.8	-0.1
	comp=Z,1.4nm,0.6s						

TAP 21 08:09:10.7, 24°.76N×121°.82E, h10km, ML2.3, 4C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	Ilan	0.06	279	*e*P	Pg	08 09 13.5	+0.8
ILA				*e*S	Sg	08 09 15.5	+1.2
EGS		0.14	50	P	Pg	08 09 14.3	+0.5
EGS				*e*S	Sg	08 09 16.7	+0.7
TWE	Neicheng	0.14	256	⇑*i*P	Pg	08 09 14.4	+0.6
TWE				S	Sg	08 09 16.5	+0.4
TWC	Suao	0.15	169	⇑*i*P	Pg	08 09 14.5	+0.5
TWC				*i* S	Sg	08 09 16.6	+0.4
NDS	Dongshan	0.15	217	*e*P	Pg	08 09 13.5	-0.5
NDS				*e*S	Sg	08 09 15.9	-0.4
ESAO	Su ao	0.18	172	*e*P	Pg	08 09 14.9	+0.4
ESAO				*e*S	Sg	08 09 17.5	+0.4
FUSB	Fushanzhiwuyua	0.21	271	⇑*i*P	Pg	08 09 15.7	+0.7
FUSB				*i* S	Sg	08 09 18.7	+0.6
TIPB	Shuangxi	0.21	2	P	Pg	08 09 15.6	+0.4
TIPB				S	Sg	08 09 18.4	+0.2
ENTT	Nioudou	0.26	243	P	Pg	08 09 16.4	+0.5
NWLT	Wulai	0.29	274	*e*P	Pg	08 09 17.1	+0.6
NWLT				*e*S	Sg	08 09 20.6	+0.3
TWB1	Santiao Chiao	0.29	32	*e*P	Pg	08 09 16.8	+0.2
TWB1				S	Sg	08 09 20.4	-0.1
TWA	Mucha	0.31	317	*e*P	Pb	08 09 18.3	0.0
EWUT	Wuta	0.31	187	*i* P	Pg	08 09 17.3	+0.4
EWUT				S	Sg	08 09 21.3	+0.3
ENA	Nanau	0.33	192	*e*P	Pg	08 09 17.6	+0.3
ENA				*e*S	Sg	08 09 22.0	+0.3
SXI1	Grass Mountain	0.34	9	P	Pg	08 09 18.1	+0.6
SXI1				*e*S	Sg	08 09 22.5	+0.4
LATG	Datong	0.34	230	*e*P	Pg	08 09 17.9	+0.4
LATG				*e*S	Sg	08 09 23.3	+1.2
TATO	Taipei	0.37	306	P	Pb	08 09 18.9	-0.4
YHNB	Yeheng	0.41	258	⇑

*ASIES **21** 08:09:48.4, 24°.75N×121°.82E, h10km, ML4.0, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-1.91; $M_{\theta\theta}$0.54; $M_{\phi\phi}$1.38; $M_{r\theta}$1.46; $M_{\theta\phi}$0.56; $M_{\phi r}$0.52; Fault plane solution: $M_0$2.83870×10^{21} NP1:ϕ_s13.27000°, δ35.33000°, λ-129.91000°. NP2:ϕ_s238.99000°, δ63.67000°, λ-65.55000°. Principal axes: T Plg15.2620°, Azm311.3210°; N Plg21.7780°, Azm47.5790°; P Plg62.9410°, Azm189.0350°;*
*TAP **21** 08:09:48.4, 24°.75N×121°.82E, h10km, ML4.0, B*
ISC 21 08:09:48.4±0.7, 24°.75N±0°.01×121°.84E±0°.01, h11km±4km, n162, σ0s80/249, mb3.6/6, 39C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**		**0.08 279**	⇓*i*P	**Pg**	**08 09 51.1**	**+0.2**
ILA				*i* S	**Sg**	**08 09 53.0**	**+0.2**
NTC	**Toucheng**		**0.10 355**	⇓P	**Pg**	**08 09 51.3**	**+0.2**
NTC				S	**Sg**	**08 09 53.4**	**+0.2**
EGS		**0.13**	**42**	*i* P	**Pg**	**08 09 52.1**	**+0.6**
EGS				eS	**Sg**	**08 09 54.3**	**+0.6**
TWC	**Suao**		**0.14 176**	⇑*i*P	**Pg**	**08 09 52.1**	**+0.4**
TWC				S	**Sg**	**08 09 54.3**	**+0.2**
TWE	**Neicheng**		**0.16 259**	⇑*i*P	**Pg**	**08 09 52.1**	**+0.1**
TWE				S	**Sg**	**08 09 54.2**	**-0.3**
NDS	**Dongshan**		**0.16 224**	⇑*i*P	**Pg**	**08 09 51.3**	**-0.7**
NDS				S	**Sg**	**08 09 53.6**	**-1.1**
ESAO	**Su ao**		**0.17 178**	⇑*i*P	**Pg**	**08 09 52.6**	**+0.4**
ESAO				S	**Sg**	**08 09 55.0**	**0.0**
TIPB	**Shuangxi**		**0.22 357**	⇑*i*P	**Pg**	**08 09 53.3**	**+0.2**
TIPB				S	**Sg**	**08 09 56.3**	**+0.1**
FUSB	**Fushanzhiwuyua**		**0.23 272**	⇑*i*P	**Pg**	**08 09 53.4**	**+0.2**
FUSB				S	**Sg**	**08 09 56.2**	**-0.3**
ENTT	**Nioudou**		**0.27 246**	⇑*i*P	**Pg**	**08 09 54.0**	**0.0**
TWB1	**Santiao Chiao**		**0.29**	**28**	⇓P	**Pg**	**08 09 54.5**	**+0.2**
TWB1				S	**Sg**	**08 09 58.2**	**-0.1**
NWLT	**Wulai**		**0.31 275**	⇑*i*P	**Pg**	**08 09 54.7**	**+0.1**
NWLT				S	**Sg**	**08 09 58.4**	**-0.4**
EWUT	**Wuta**		**0.31 190**	P	**Pg**	**08 09 54.9**	**+0.3**
EWUT				S	**Sg**	**08 09 58.8**	**-0.1**
NWF	**Wu-fen Shan**		**0.32 351**	⇑*i*P	**Pg**	**08 09 55.5**	**+0.6**
NWF				S	**Sg**	**08 09 59.9**	**+0.6**
WFSB	**Wu-fen Shan**		**0.32 351**	⇑*i*P	**Pg**	**08 09 55.5**	**+0.6**
WFSB				S	**Sg**	**08 09 59.7**	**+0.5**
TWA	**Mucha**		**0.33 315**	⇑*i*P	**Pb**	**08 09 56.4**	**+0.2**
ENA	**Nanau**		**0.34 195**	⇑P	**Pg**	**08 09 55.3**	**+0.2**
ENA				S	**Sg**	**08 09 59.7**	**+0.1**
SXI1	**Grass Mountain**		**0.34**	**6**	⇑*i*P	**Pg**	**08 09 55.8**	**+0.5**
SXI1				S	**Sg**	**08 10 00.3**	**+0.4**
NHDH	**Xindian Distri**		**0.35 306**	⇑P	**Pb**	**08 09 56.2**	**-0.6**
NHDH				S	**Sg**	**08 10 00.7**	**+0.5**
LATG	**Datong**		**0.36 233**	⇑P	**Pg**	**08 09 55.7**	**+0.1**
LATG				S	**Sg**	**08 10 00.9**	**+0.6**
NHY	**Taipei**		**0.38 320**	⇑P	**Pb**	**08 09 56.7**	**-0.4**
TNOU	**National Taiwa**		**0.40 351**	⇑*i*P	**Pb**	**08 09 57.9**	**+0.4**
TNOU				S	**Sg**	**08 10 02.7**	**+1.0**
TAP	**Taipei**		**0.42 314**	⇑*i*P	**Pb**	**08 09 57.5**	**-0.3**
TAP				S	**Sg**	**08 10 03.0**	**+0.8**
YHNB	**Yeheng**		**0.43 259**	P	**Pg**	**08 09 56.6**	**-0.3**
YHNB	**Yeheng**		**0.43 259**	S	**Sg**	**08 10 02.0**	**-0.6**
YHNB	**Yeheng**		**0.43 259**	⇑*i*P	**Pg**	**08 09 56.8**	**-0.1**
YHNB				S	**Sg**	**08 10 01.5**	**-1.1**
EAHA	**Aohua**		**0.43 192**	P	**Pg**	**08 09 57.0**	**+0.1**
EAHA				S	**Sg**	**08 10 03.1**	**+0.5**
NSK	**Sanguang**		**0.44 260**	⇑*i*P	**Pg**	**08 09 57.0**	**-0.2**
NSK				S	**Sg**	**08 10 02.1**	**-1.0**
EHP	**Heping Village**		**0.45 191**	S	**Sg**	**08 10 03.4**	**+0.2**
YM01	**YM01**		**0.46 328**	⇑*i*P	**Pb**	**08 09 58.4**	**-0.2**
EOS2	**EOS2**		**0.49 133**	⇑P	**Pb**	**08 09 58.9**	**0.0**
ZUZH	**Zhuzihu**		**0.49 327**	⇑P	**Pb**	**08 09 58.8**	**-0.3**
YM08	**YM08**		**0.49 333**	⇑*i*P	**Pg**	**08 09 58.5**	**+0.5**
TWS1	**Kuangyinshan**		**0.52 312**	⇑*i*P	**Pg**	**08 09 58.7**	**+0.2**
ANP	**Anpu**		**0.52 326**	⇑*i*P	**Pg**	**08 09 59.2**	**-0.4**
NNSB	**Datong**		**0.53 232**	⇑P	**Pg**	**08 09 58.4**	**-0.3**
NNS	**Nan Shan**		**0.53 234**	⇑P	**Pg**	**08 09 58.4**	**-0.3**
NNS				eS	**Sg**	**08 10 05.5**	**-0.2**
NTST	**Danshui**		**0.54 319**	⇑*i*P	**Pb**	**08 10 00.3**	**+0.4**
TWY	**Chenhua**		**0.56 337**	⇑P	**Pg**	**08 09 59.2**	**-0.2**
KSHI	**Guanxi Townshi**		**0.60 272**	⇑P	**Pb**	**08 10 01.0**	**0.0**
KSHI				eS	**Sb**	**08 10 09.2**	**-0.3**
NACB	**Ninganchiao**		**0.62 201**	P	**Pg**	**08 10 00.6**	**+0.2**
NACB	**Ninganchiao**		**0.62 201**	S	**Sb**	**08 10 10.4**	**+0.5**
NACB	**Ninganchiao**		**0.62 201**	P	**Pg**	**08 10 00.4**	**0.0**
NACB				eS	**Sg**	**08 10 08.0**	**-0.6**
ETL	**Fush Village**		**0.62 198**	*e*P	**Pg**	**08 10 00.7**	**+0.2**
ETL				eS	**Sg**	**08 10 08.2**	**-0.5**
NCUH	**Zhongli**		**0.63 290**	⇑P	**Pb**	**08 10 02.1**	**+0.7**
NCUH				eS	**Sb**	**08 10 10.8**	**+0.5**
ETLH	**Xiulin Townshi**		**0.63 211**	*e*P	**Pg**	**08 10 00.5**	**-0.2**
ETLH				eS	**Sg**	**08 10 07.8**	**-1.3**
EOS3	**EOS3**		**0.64 137**	⇓P	**Pb**	**08 10 01.8**	**+0.2**
EOS3				eS	**Sb**	**08 10 10.3**	**0.0**
NFF	**Wufeng Townshi**		**0.67 260**	*e*P	**Pb**	**08 10 01.9**	**-0.2**
NFF				eS	**Sb**	**08 10 12.4**	**+1.1**
TWD	**Chiawan**		**0.70 198**	P	**Pg**	**08 10 01.9**	**-0.1**
TWD				eS	**Sg**	**08 10 10.8**	**-0.4**
FUSS	**Fushou**		**0.74 227**	*e*P	**Pg**	**08 10 02.6**	**-0.1**
FUSS				eS	**Sg**	**08 10 12.1**	**-0.4**
LIOB	**Emei**		**0.76 262**	P	**Pb**	**08 10 03.5**	**-0.1**
LIOB				eS	**Sn**	**08 10 16.2**	**-0.3**
EOS4	**EOS4**		**0.77 145**	*e*P	**Pb**	**08 10 03.5**	**0.0**
NSTT	**Nanjuang**		**0.77 261**	*e*P	**Pg**	**08 10 03.6**	**+0.3**
NSTT				eS	**Sb**	**08 10 14.9**	**+0.6**
SBCB	**Hsinchu**		**0.78 273**	⇑*i*P	**Pn**	**08 10 05.0**	**-0.3**
SBCB				eS	**Sn**	**08 10 15.8**	**-1.1**
TWT	**Tachien**		**0.78 231**	*e*P	**Pg**	**08 10 03.4**	**-0.1**
HSN	**Hsinchu**		**0.79 274**	⇑*i*P	**Pb**	**08 10 04.5**	**+0.3**
HSN				eS	**Sb**	**08 10 15.7**	**+0.8**
TDCB	**Techi**		**0.79 231**	*e*P	**Pb**	**08 10 03.2**	**-0.6**
TDCB				eS	**Sg**	**08 10 13.7**	**-0.5**
WHF	**Hehuan Shan**		**0.80 221**	*e*P	**Pg**	**08 10 03.6**	**-0.3**
HWA	**Hwalien**		**0.80 195**	*e*P	**Pb**	**08 10 04.3**	**0.0**
HWA				eS	**Sg**	**08 10 14.4**	**+0.1**
LXIB	**Xiulin Townshi**		**0.82 208**	⇑P	**Pg**	**08 10 04.0**	**-0.4**
LXIB				eS	**Sg**	**08 10 15.4**	**+0.2**
ETM	**Tongmen**		**0.84 202**	*e*P	**Pg**	**08 10 04.6**	**-0.1**
ETM				eS	**Sg**	**08 10 14.8**	**-0.9**
PCYT	**Pengchaiyu**		**0.90**	**14**	⇑*i*P	**Pg**	**08 10 05.9**	**+0.1**
PCYT				eS	**Sb**	**08 10 18.6**	**+0.6**
WHP	**Taichung City**		**0.94 240**	*e*P	**Pg**	**08 10 06.5**	**0.0**
NMLH	**Miaoli**		**0.98 258**	P	**Pn**	**08 10 08.7**	**+0.6**
NMLH				eS	**Sn**	**08 10 22.7**	**+0.8**
SHUL	**Shoufeng**		**0.99 195**	*e*P	**Pb**	**08 10 07.9**	**+0.3**
SHUL				eS	**Sb**	**08 10 21.1**	**+0.5**
OWD	**Renai**		**1.00 217**	*e*P	**Pg**	**08 10 07.1**	**-0.5**
WUSB	**Renai**		**1.00 221**	*e*P	**Pg**	**08 10 07.1**	**-0.6**
WUSB				eS	**Sb**	**08 10 21.8**	**+0.7**
ESL	**Shilin**		**1.00 202**	*e*P	**Pb**	**08 10 07.0**	**-0.8**
ESL				eS	**Sg**	**08 10 19.2**	**-1.7**
NSY	**Sanyi**		**1.04 251**	⇑*i*P	**Pb**	**08 10 06.4**	**-2.0**
NSY				eS	**Sb**	**08 10 20.9**	**-1.1**
JYNG	**Yonagunijimaku**		**1.05 106**	P	**Pb**	**08 10 08.1**	**-0.5**
JYNG				eS	**Sg**	**08 10 22.5**	**+0.1**
JYNG	**Yonagunijimaku**		**1.05 106**	A	A	08 10 08.1	
	comp=N,4.0nm,1.9s,comp=E,4.0nm,2.1s						
TWQ1	**Liyutan**		**1.05 248**	*e*P	**Pn**	**08 10 09.5**	**+0.5**
TWQ1				eS	**Sn**	**08 10 23.2**	**-0.5**
WCS	**Beigang Elemen**		**1.09 231**	*e*P	**Pb**	**08 10 09.3**	**0.0**
YOJ	**Yonaguni jima**		**1.10 105**	P	**Pb**	**08 10 09.1**	**-0.5**
YOJ	**Yonaguni jima**		**1.10 105**	S	**Sn**	**08 10 25.3**	**+0.3**
YOJ	**Yonaguni jima**		**1.10 105**	P	**Pb**	**08 10 08.8**	**-0.7**
YOJ				eS	**Sb**	**08 10 23.9**	**0.0**
YOJ	**Yonaguni jima**		**1.10 105**	*e*P	**Pb**	**08 10 09.0**	**-0.5**
YOJ				eS	**Sb**	**08 10 23.7**	**-0.2**
WARBT	**Fenglin Townsh**		**1.11 202**	⇑P	**Pb**	**08 10 08.9**	**-0.7**
WARBT				eS	**Sg**	**08 10 24.6**	**+0.4**
WDJ	**Dajia District**		**1.16 250**	*e*P	**Pg**	**08 10 11.7**	**+0.9**
WDJ				eS	**Sn**	**08 10 27.9**	**+1.4**
VWDT	**VWDT**		**1.18 213**	*e*P	**Pb**	**08 10 10.5**	**-0.3**
VWDT				eS	**Sn**	**08 10 27.2**	**+0.4**
SMLT	**Sun Moon Lake**		**1.22 225**	*e*P	**Pn**	**08 10 10.7**	**-0.8**
SMLT				eS	**Sn**	**08 10 28.2**	**+0.2**
TYC	**Yuchr**		**1.23 227**	*e*P	**Pb**	**08 10 11.6**	**-0.1**
TYC				eS	**Sg**	**08 10 30.6**	**+2.5**
SSLB	**Suanglung**		**1.25 220**	P	**Pb**	**08 10 12.3**	**+0.2**
SSLB	**Suanglung**		**1.25 220**	S	**Sg**	**08 10 31.9**	**+3.1**
SSLB	**Suanglung**		**1.25 220**	*e*P	**Pn**	**08 10 11.7**	**-0.2**
SSLB				eS	**Sg**	**08 10 29.2**	**+0.4**
HGSD	**Ruisui**		**1.31 197**	*e*P	**Pg**	**08 10 13.6**	**0.0**
EHY	**Hungye**		**1.33 201**	*e*P	**Pn**	**08 10 12.8**	**-0.1**
EHYH	**Wanrong**		**1.33 200**	*e*P	**Pn**	**08 10 13.0**	**0.0**
WCHH	**Zhanghua**		**1.35 240**	*e*P	**Pg**	**08 10 14.1**	**-0.2**
WCHH				eS	**Sg**	**08 10 33.9**	**+2.1**
WNT	**Mingjian**		**1.37 231**	*e*P	**Pg**	**08 10 15.6**	**+0.9**
WNT				eS	**Sg**	**08 10 34.6**	**+2.2**
WJS	**Zhushan**		**1.37 228**	*e*P	**Pg**	**08 10 15.7**	**+0.9**
WJS				eS	**Sg**	**08 10 35.6**	**+3.0**
WHYT	**Xinyi Township**		**1.38 221**	*e*P	**Pg**	**08 10 15.7**	**+0.7**
YULB	**Yu-li**		**1.44 200**	P	**Pb**	**08 10 15.5**	**+0.2**
YULB	**Yu-li**		**1.44 200**	*e*P	**Pb**	**08 10 15.1**	**-0.2**
YULB				eS	**Sb**	**08 10 34.2**	**+0.6**
EYUL	**Yuli**		**1.48 199**	*e*P	**Pg**	**08 10 16.9**	**+0.1**
TWF1	**Yuli**		**1.48 200**	*e*P	**Pb**	**08 10 16.0**	**+0.1**
TWF1				eS	**Sg**	**08 10 36.7**	**+0.7**
ALS	**Alishan**		**1.56 218**	*e*P	**Pg**	**08 10 19.0**	**+0.7**
ALS				eS	**Sg**	**08 10 41.7**	**+3.2**
WGK	**Gukeng**		**1.58 228**	*e*P	**Pg**	**08 10 18.8**	**+0.1**
WGK				eS	**Sg**	**08 10 39.8**	**+0.6**
WDLH	**Douliu**		**1.59 229**	*e*P	**Pg**	**08 10 19.2**	**+0.3**
WDLH				eS	**Sg**	**08 10 40.1**	**+0.5**
CHKH	**Chenggong**		**1.60 195**	*e*P	**Pb**	**08 10 18.1**	**+0.1**
CHKH				eS	**Sg**	**08 10 39.7**	**-0.4**
FULB	**Fuli**		**1.62 198**	*e*P	**Pg**	**08 10 19.1**	**-0.5**
WTCT	**Ta-ch'eng**		**1.67 238**	*e*S	**Sb**	**08 10 40.2**	**-0.1**
WTK	**Tuku**		**1.70 232**	*e*P	**Pb**	**08 10 19.6**	**0.0**
WTK				eS	**Sg**	**08 10 42.3**	**-0.7**
CHKT	**Chengkung**		**1.70 195**	*e*P	**Pb**	**08 10 19.7**	**0.0**
WCKO	**Fanlu**		**1.73 221**	*e*P	**Pg**	**08 10 21.4**	**-0.2**
WCKO				eS	**Sg**	**08 10 44.2**	**+0.3**
ELDTW	**Lidau**		**1.73 206**	*e*P	**Pb**	**08 10 20.6**	**+0.4**
IRIF	**Iriomote-Funau**		**1.77 103**	P	**Pn**	**08 10 18.2**	**-0.7**
CHY	**Chiayi**		**1.80 226**	*e*P	**Pb**	**08 10 21.0**	**-0.4**
CHY				eS	**Sb**	**08 10 44.9**	**+1.1**
CHN4	**Tsaushan**		**1.80 219**	⇑P	**Pg**	**08 10 22.4**	**-0.6**
TPUB	**Ta-pu**		**1.82 218**	*e*P	**Pg**	**08 10 22.6**	**-0.7**
TPUB				eS	**Sg**	**08 10 47.7**	**+0.8**
EDH	**Donghe**		**1.84 196**	*e*P	**Pb**	**08 10 21.1**	**-0.9**
WSF	**Szhu**		**1.85 233**	eS	**Sn**	**08 10 43.9**	**+0.6**
STYH	**Taoyuan**		**1.85 212**	*e*P	**Pb**	**08 10 21.9**	**-0.3**
STYH				eS	**Sg**	**08 10 47.7**	**-0.2**
WTP	**Ta-pu**		**1.87 217**	*e*P	**Pb**	**08 10 23.2**	**+0.6**
WSL	**Shuilin Townsh**		**1.91 231**	*e*P	**Pb**	**08 10 22.7**	**-0.7**
WSL				eS	**Sb**	**08 10 48.3**	**+1.0**
HATJ	**Hateruma jima**		**1.92 111**	P	**Pn**	**08 10 21.0**	**-0.1**
TWK	**Hsinying**		**1.93 220**	*e*P	**Pb**	**08 10 24.1**	**+0.6**
LONT	**Longtian**		**1.95 200**	*e*P	**Pn**	**08 10 22.4**	**+0.9**
CHN1	**Nanshi**		**1.97 218**	*e*P	**Pb**	**08 10 24.6**	**+0.4**
CHN1				eS	**Sg**	**08 10 52.0**	**+0.3**
ICHU	**Yijhu**		**1.99 226**	*e*P	**Pb**	**08 10 24.5**	**-0.1**
ICHU				eS	**Sb**	**08 10 50.2**	**+0.9**
SGST	**Jiashian**		**2.02 215**	*e*P	**Pb**	**08 10 25.4**	**+0.2**
SGST				eS	**Sg**	**08 10 52.5**	**-0.9**
CHN8	**Yiju**		**2.04 227**	*e*P	**Pb**	**08 10 25.1**	**-0.4**
CHN8				eS	**Sb**	**08 10 52.0**	**+1.1**
JKRS	**Kuro-shima**		**2.04 104**	*e*P	**Pn**	**08 10 22.6**	**-0.1**
JKRS				eS	**Sn**	**08 10 47.3**	**-0.9**
TWG	**Pinlang**		**2.05 200**	*e*P	**Pn**	**08 10 23.4**	**+0.7**
TWGBT	**Beinan**		**2.05 200**	P	**Pb**	**08 10 24.8**	**-0.8**
TWGBT	**Beinan**		**2.05 200**	*e*P	**Pn**	**08 10 23.3**	**+0.5**
LDUT	**Ludao**		**2.10 189**	*e*P	**Pn**	**08 10 24.0**	**+0.5**
JIJ	**Ishigaki jima**		**2.13 100**	P	**Pn**	**08 10 24.1**	**+0.1**
JIJ				S	**Sn**	08 10 32.8	-18
VWUC	**VWUC**		**2.18 277**	*e*P	**Pn**	**08 10 23.8**	**-0.9**
VWUC				eS	**Sn**	**08 10 49.3**	**-2.4**
SHHT	**Tainan City**		**2.20 219**	*e*P	**Pb**	**08 10 28.8**	**+0.6**
MATB	**Ma-tsu**		**2.21 310**	*e*P	**Pn**	**08 10 23.7**	**-1.3**
SCST	**Cishan**		**2.23 214**	*e*P	**Pb**	**08 10 29.7**	**+1.0**
SCST				eS	**Sb**	**08 10 56.2**	**-0.1**
JISG	**Ishigakijimahi**		**2.25**	**94**	P	**Pn**	**08 10 25.5**	**-0.1**
TSCK	**Chigu Township**		**2.26 225**	*e*P	**Pn**	**08 10 27.2**	**+1.5**
SSD	**Sandimen**		**2.28 209**	*e*P	**Pb**	**08 10 30.3**	**+0.6**
SSD				eS	**Sb**	**08 10 59.4**	**+1.6**
ECL	**Taimali**		**2.29 201**	*e*P	**Pb**	**08 10 28.3**	**-1.5**
TSMG	**Majia**		**2.31 208**	eS	**Sb**	**08 10 60.0**	**+1.2**
PNG	**Penghu**		**2.40 241**	*e*P	**Pn**	**08 10 28.1**	**+0.6**
PNG				eS	**Sn**	**08 10 57.0**	**0.0**
MASBT	**Mashibuluo**		**2.40 208**	*e*P	**Pb**	**08 10 31.2**	**-0.4**
MASBT				eS	**Sb**	**08 11 02.8**	**+1.6**
PHUB	**P'eng-hu**		**2.41 240**	*e*P	**Pn**	**08 10 27.9**	**+0.2**
PHUB				eS	**Sn**	**08 10 55.8**	**-1.5**
WDGT	**Dungji**		**2.48 234**	*e*P	**Pn**	**08 10 29.8**	**+1.0**
WDGT				eS	**Sn**	**08 10 59.8**	**+0.7**
PTMZ	**Houxiangcun**		**2.49 277**	*e*P	**Pn**	**08 10 28.1**	**-0.7**
PTMZ				eS	**Sn**	**08 10 57.3**	**-1.9**
JTJ	**Tarama**		**2.61**	**92**	P	**Pn**	**08 10 31.5**	**+1.1**
SCZT	**Fangliau**		**2.62 206**	*e*P	**Pb**	**08 10 34.1**	**-1.2**
XPSS	**Dashiqiu**		**2.63 326**	*e*P	**Pn**	**08 10 29.7**	**-1.1**
XPSS				eS	**Sn**	**08 11 01.9**	**-0.8**
VCHM	**Qimei**		**2.69 236**	⇓P	**Pn**	**08 10 32.1**	**+0.5**
VCHM				eS	**Sn**	**08 11 04.1**	**0.0**
LYUB	**Lan-yu**		**2.75 185**	eS	**Sn**	**08 11 04.2**	**-1.4**
MHZQ	**Yeshan**		**2.87 298**	*e*P	**Pn**	**08 10 33.0**	**-1.1**
TWK1	**Hengchun**		**2.95 199**	*e*P	**Pb**	**08 10 38.7**	**-2.3**
KNM	**Kinmen**		**3.12 265**	*e*P	**Pn**	**08 10 38.8**	**+1.3**
KNM				eS	**Sn**	**08 11 15.7**	**+1.0**
KNMB	**Chin-men Tao**		**3.15 265**	*e*P	**Pn**	**08 10 37.3**	**-0.7**
AXDP	**Jialang**		**3.52 273**	*e*P	**Pn**	**08 10 42.6**	**-0.4**
AXDP				eS	**Sn**	**08 11 22.4**	**-2.2**
ZPLA	**Ao Xicun**		**3.82 258**	*e*P	**Pn**	**08 10 47.2**	**0.0**
SXFK	**Yanhouchang**		**4.13 294**	*e*P	**Pn**	**08 10 50.2**	**-1.2**
KSRS	**Korea Array**		**13.69**	**21**	Pn	**P**	**08 13 10.4**	**-0.8**
	comp=E,0.1nm,0.3s,baz=200,slow=11,SNR=7.3						
	comp=E,0.8nm,0.6s						
SONM	**Songino Array**		**26.09 336**	P	**P**	**08 15 23.4**	**+1.2**
	comp=E,1.6nm,0.8s,baz=152,slow=9.4,SNR=7.0						
	comp=E,1.6nm,0.8s						
MKAR	**Makanchi Array**		**38.35 315**	P	**P**	**08 17 10.0**	**+0.6**
	comp=E,0.2nm,0.4s,baz=99,slow=8.8,SNR=3.8						
	comp=E,0.2nm,0.4s						
ZALV	**Zalesovo Beam**		**40.10 326**	P	**P**	**08 17 24.3**	**+0.5**
	comp=E,0.7nm,0.4s,baz=128,slow=9.3,SNR=3.6						
	comp=E,0.7nm,0.4s						
KRVT	**Keravat (AS076**		**41.18 130**	LR	LR	08 30 35.7	
	comp=E,5.7nm,20.5s,baz=194,slow=30						
KURBB	**Kurchatov Arra**		**42.06 319**	P	**P**	**08 17 39.5**	**-0.6**
	comp=E,0.1nm,0.4s,baz=108,slow=9.6,SNR=2.2						
	comp=E,0.1nm,0.4s						
WRA	**Warramunga Arr**		**46.06 164**	P	**P**	**08 18 12.3**	**-0.1**
	comp=E,1.4nm,0.9s,baz=347,slow=7.8,SNR=2.3						
	comp=E,1.4nm,0.9s						
ASAR	**Alice Springs**		**49.53 165**	P	**P**	**08 18 38.9**	**-0.4**
	comp=E,0.4nm,0.8s,baz=344,slow=6.0,SNR=3.2						
	comp=E,0.4nm,0.8s						

*IDC **21** 08:11:11.8±3.2, 5°.26N×127°.07E, $h0^{km}$, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=304.7km s-min=24.5km az=67.0*
*DJA **21** 08:11:33.2±1.7, 4°N±14°×12°6E±°, h159km±8km, M3.8/6, mB4.6/1, mb4.1/1, MLv3.7/6, Mw(mB)3.8/1*
ISC 21 08:11:20.9±1.4, 5°.0N±0°.1×127°.0E±0°.2, h76km, n6, σ1s71/6, mb3.3/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**		**1.95 227**	P	Pn	08 11 57.4	+5.3
SGSI				S	**Sn**	**08 12 16.7**	**+0.9**
SANI	**Sanana**		**7.11 188**	P	**Pn**	**08 13 00.5**	**-1.8**
WRA	**Warramunga Arr**		**25.87 164**	P	**P**	**08 16 47.1**	**+1.4**
	0.7nm,0.8s,baz=343,slow=9.5,SNR=3.0						
	0.7nm,0.8s						
ASAR	**Alice Springs**		**29.33 167**	P	**P**	**08 17 18.1**	**+1.4**
	0.3nm,0.5s,baz=347,slow=7.6,SNR=6.8						
	0.3nm,0.5s						
MKAR	**Makanchi Array**		**56.62 325**	P	**P**	**08 20 56.4**	**+0.3**
	0.2nm,0.4s,baz=119,slow=8.4,SNR=1.9						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**		**60.77 327**	P	**P**	**08 21 23.9**	**-0.9**
	0.2nm,0.6s,baz=123,slow=6.8,SNR=3.2						
	0.2nm,0.6s						

*NIED **21** 08:15:15.7, 24°.75N×121°.71E, h36km, MW3.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.22; $M_{\theta\theta}$0.81; $M_{\phi\phi}$1.41; $M_{r\theta}$0.67; $M_{\theta\phi}$1.73; $M_{\phi r}$1.07; Fault plane solution: $M_0$2.84000×10^{14} NP1:ϕ_s46.00000°, δ32.00000°, λ-80.00000°. NP2:ϕ_s215.00000°, δ58.00000°, λ-96.00000°.*
*ASIES **21** 08:15:15.7, 24°.75N×121°.82E, h10km, ML3.9, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-0.91; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$0.94; $M_{r\theta}$2.31; $M_{\theta\phi}$1.36; $M_{\phi r}$1.12; Fault plane solution: $M_0$3.04432×10^{21} NP1: ϕ_s357.30000°, δ25.72000°, λ-154.53000°. NP2: ϕ_s244.08000°, δ79.25000°, λ-66.50000°. Principal axes: T Plg30.3370°, Azm315.0030°; N Plg23.0660°, Azm59.4340°; P Plg50.2650°, Azm180.2510°;*
*JMA **21** 08:15:15.7±0.2, 24°.7N±0°.4×12°2E±°, h36km±3km, MV3.5/13, TAIWAN REGION*
*TAP **21** 08:15:15.7, 24°.75N×121°.82E, h10km, ML3.9, B*
ISC 21 08:15:16.0±0.8, 24°.75N±0°.01×121°.86E±0°.02, h11km±4km, n136, σ0s99/223, 24C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**		**0.11 280**	⇓*i*P	**Pg**	**08 15 18.4**	**-0.3**
ILA				eS	**Sg**	**08 15 20.3**	**-0.4**
NTC	**Toucheng**		**0.11 344**	⇓P	**Pg**	**08 15 18.6**	**-0.2**
NTC				eS	**Sg**	**08 15 20.7**	**-0.1**
EGS		**0.12**	**32**	⇓P	**Pg**	**08 15 19.4**	**+0.5**
EGS				eS	**Sg**	**08 15 21.9**	**+1.0**
TWC	**Suao**		**0.14 186**	⇑*i*P	**Pg**	**08 15 19.4**	**+0.2**
TWC				eS	**Sg**	**08 15 21.6**	**+0.2**
ESAO	**Su ao**		**0.17 186**	⇑*i*P	**Pg**	**08 15 19.9**	**+0.2**
ESAO				S	**Sg**	**08 15 22.3**	**-0.1**
NDS	**Dongshan**		**0.18 230**	⇓P	**Pg**	**08 15 18.7**	**-1.1**
NDS				eS	**Sg**	**08 15 21.1**	**-1.4**
TWE	**Neicheng**		**0.18 262**	⇑*i*P	**Pg**	**08 15 19.4**	**-0.5**
TWE				eS	**Sg**	**08 15 21.7**	**-0.9**
TIPB	**Shuangxi**		**0.23 351**	⇑*i*P	**Pg**	**08 15 20.6**	**-0.2**
TIPB				S	**Sg**	**08 15 23.5**	**-0.4**
FUSB	**Fushanzhiwuyua**		**0.25 273**	⇑*i*P	**Pg**	**08 15 20.7**	**-0.5**
FUSB				S	**Sg**	**08 15 23.5**	**-1.2**
TWB1	**Santiao Chiao**		**0.28**	**23**	⇓P	**Pg**	**08 15 21.7**	**0.0**
TWB1				S	**Sg**	**08 15 25.6**	**0.0**
ENTT	**Nioudou**		**0.29 249**	⇑*i*P	**Pg**	**08 15 21.3**	**-0.6**
ENTT				eS	**Sg**	**08 15 24.8**	**-1.0**
EWUT	**Wuta**		**0.31 195**	⇑*i*P	**Pg**	**08 15 22.5**	**0.0**
EWUT				S	**Sg**	**08 15 26.1**	**-0.3**
NWLT	**Wulai**		**0.33 275**	⇑*i*P	**Pg**	**08 15 22.0**	**-0.6**
NWLT				S	**Sg**	**08 15 25.

WCHH	Zhanghua	1.36 241	eP	Pn	08 15 40.8	-0.1
WCHH			eS	Sn	08 16 01.0	+1.9
WCH1	Changhua City	1.38 241	eS	Sb	08 15 59.9	+0.5
WNT	Mingjian	1.38 231	eP	Pg	08 15 43.0	+0.5
WNT			eS	Sn	08 16 02.3	+2.8
WJS	Zhushan	1.39 229	eP	Pg	08 15 43.0	+0.4
WJS			eS	Sn	08 16 02.4	+2.8
WHYT	Xinyi Township	1.40 222	eP	Pb	08 15 42.6	+0.5
WHYT			eS	Sn	08 16 02.1	+2.2
YULB	Yu-li	1.45 201	P	Pn	08 15 42.7	+0.6
YULB	Yu-li	1.45 201	S	Sn	08 16 02.9	+1.8
YULB	Yu-li	1.45 201	eP	Pn	08 15 42.6	+0.5
YULB			eS	Sb	08 16 00.8	-0.5
EYUL	Yuli	1.48 200	eP	Pb	08 15 43.7	+0.2
TWF1	Yuli	1.48 201	eP	Pn	08 15 43.2	+0.5
ALS	Alishan	1.57 218	eP	Pb	08 15 45.6	+0.4
WGK	Gukeng	1.59 229	eS	Sg	08 16 08.1	+0.9
WDLH	Douliu	1.60 229	eP	Pg	08 15 46.6	-0.1
WDLH			eS	Sb	08 16 07.3	+1.4
CHKH	Chenggong	1.61 196	eP	Pn	08 15 45.0	+0.7
WTCT	Ta-ch'eng	1.69 239	eS	Sn	08 16 07.8	+0.7
ELDTW	Lidau	1.73 207	eP	Pb	08 15 48.0	+0.1
ELDTW			eS	Sn	08 16 09.0	+0.6
WCKO	Fanlu	1.74 222	eP	Pb	08 15 48.2	+0.2
WCKO			eS	Sg	08 16 12.2	+0.3
IRIF	Iriomote-Funau	1.75 103	P	Pn	08 15 45.8	-0.5
CHY	Chiayi	1.81 227	eP	Pb	08 15 49.2	+0.1
CHY			eS	Sb	08 16 12.8	+1.0
CHN4	Tsaushan	1.81 220	eP	Pb	08 15 49.9	+0.7
TPUB	Ta-pu	1.83 218	eP	Pb	08 15 50.1	+0.6
TPUB			eS	Sb	08 16 13.1	+0.7
EDH	Donghe	1.84 196	eP	Pn	08 15 48.4	+0.9
EDH			eS	Sn	08 16 11.1	+0.3
STYH	Taoyuan	1.86 213	eP	Pn	08 15 48.9	+1.2
STYH			eS	Sb	08 16 13.7	+0.5
WSF	Szhu	1.86 234	eP	Pn	08 15 49.6	+1.8
WTP	Ta-pu	1.88 218	eP	Pb	08 15 51.1	+0.7
WTP			eS	Sg	08 16 17.4	+0.9
HATJ	Hateruma jima	1.90 111	P	Pn	08 15 48.8	+0.5
WSL	Shuilin Townsh	1.93 231	eP	Pn	08 15 49.8	+1.1
WSL			eS	Sn	08 16 14.9	+1.9
TWK	Hsinying	1.94 221	eP	Pb	08 15 51.1	-0.3
LONT	Longtian	1.95 200	eP	Pb	08 15 52.0	+0.4
CHN1	Nanshi	1.98 218	eP	Pb	08 15 52.1	+0.1
CHN1			eS	Sb	08 16 17.9	+1.1
ICHU	Yijhu	2.00 227	eP	Pn	08 15 51.7	+1.9
ICHU			eS	Sb	08 16 17.6	+0.3
JKRS	Kuro-shima	2.02 104	P	Pn	08 15 50.1	+0.1
SGST	Jiashian	2.03 216	eP	Pb	08 15 53.3	+0.3
SGST			eS	Sb	08 16 19.4	+1.2
TWG	Pinlang	2.05 201	eP	Pn	08 15 51.7	+1.3
TWGBT	Beinan	2.05 201	P	Pb	08 15 51.9	+1.5
CHN8	Yiju	2.06 228	eS	Sb	08 16 19.2	+0.3
JJJ	Ishigaki jima	2.11 100	P	Pn	08 15 51.2	0.0
VWUC	VWUC	2.21 277	⇑iP	Pn	08 15 51.2	-1.4
VWUC			eS	Sn	08 16 16.5	-3.4
SHHT	Tainan City	2.21 219	eP	Pb	08 15 56.1	+0.2
MATB	Ma-tsu	2.23 309	eP	Pn	08 15 50.9	-2.0
JISG	Ishigakijimahi	2.23 94	P	Pn	08 15 53.7	+0.8
SCST	Cishan	2.24 214	eP	Pb	08 15 56.6	+0.2
SCST			eS	Sb	08 16 25.6	+1.5
ECL	Taimali	2.30 201	eP	Pb	08 15 57.6	+0.2
MASBT	Mashibuluo	2.41 208	eP	Pb	08 15 58.7	-0.7
MASBT			eS	Sn	08 16 27.9	+3.0
PNG	Penghu	2.41 241	eP	Pn	08 15 55.2	-0.2
PNG			eS	Sn	08 16 24.0	-1.0
PHUB	P'eng-hu	2.43 240	eP	Pn	08 15 55.9	+0.3
PHUB			eS	Sn	08 16 24.2	-1.2
WDGT	Dungji	2.50 234	eP	Pn	08 15 56.9	+0.2
WDGT			eS	Sn	08 16 27.8	+0.6
PTMZ	Houxiangcun	2.51 277	eP	Pn	08 15 55.0	-1.7
PTMZ			eS	Sn	08 16 24.9	-2.5
SCZT	Fangliau	2.62 206	eP	Pb	08 16 02.3	-0.7
SCZT			eS	Sb	08 16 34.0	-1.3
XPSS	Dashiqiu	2.65 326	eP	Pn	08 15 57.0	-1.6
XPSS			eS	Sn	08 16 29.0	-1.7
VCHM	Qimei	2.70 236	eP	Pn	08 15 59.2	-0.2
VCHM			eS	Sn	08 16 32.0	-0.2

*BJI **21** 08:21:40.1, 4.′06S×127.′71E, h80km, mB4.9/14, mb4.8/44, Ms4.5/15, Ms7 4.3/16*
*IDC **21** 08:21:45.5±1.6, 3.′54S×127.′15E, h65km±13km, mb4.5/30, mbtmp4.8/34, MS3.7/36, Error ellipse: s-maj=18.7km s-min=7.8km az=72.0*
*NEIC **21** 08:21:47.0±1.6, 3.′40S±0.′06×127.′25E±0.′07, h69km±5km, mb4.9/160, Error ellipse: s-maj=9.9km s-min=9.0km az=50.0*
*DJA **21** 08:21:46.2±0.1, 3.′S±2.′×12.′7E±.′, h63km±2km, M4.9/70, mb5.1/70, mB5.4/32, MLv5.3/28, Mw(mB)4.9/32, MwMwp4.6/6, Mwp4.9/6*
*GCMT **21** 08:21:46.0±0.3, 3.′35S±0.′02×127.′09E±0.′02, h55km±1km, MW4.9/85, Moment Tensor Solution. s51,c62; s85,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.02±.14; $M_{\theta\theta}$-2.81±.09; $M_{\phi\phi}$0.79±.12; $M_{r\theta}$1.10±.07; $M_{\theta\phi}$-0.99±.11; $M_{r\phi}$0.21±.07; Best double couple: $M_0$2.77900×10^{16} NP1:ϕ_s252.00000°, δ33.00000°, λ84.00000°. NP2: ϕ_s78.00000°, δ57.00000°, λ94.00000°. Principal axes: T 2.2590, Plg78.0000°, Azm0.0000°; N 1.0480, Plg3.0000°, Azm256.0000°; P -3.3000, Plg12.0000°, Azm166.0000°; ' nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 08:21:45.7±0.4, 3.′46S±0.′04×127.′28E±0.′04, h64km±3km, h64km:pP-P, n614, σ1§18/571, mb4.9/113, 2C-1D, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NLAI	Namlea	0.28	321	P		Pn	08 21 55.0	-1.1
NLAI				S		Sn	08 22 01.7	-2.0
AAI	Ambon	0.94	104	P		Pn	08 22 02.9	-0.3
AAI				S		Sn	08 22 15.7	-0.4
MSAI	Masohi	1.65	86	P		Pn	08 22 12.2	-0.3
SANI	Sanana	1.90	317	P		Pn	08 22 14.0	-1.9
BNDI	Bandanaira	2.82	112	P		Pn	08 22 29.5	+1.0
BNDI	Bandanaira	2.82	112	P		Pn	08 22 29.1	+0.6
TNTI	Ternate	4.21	1			Pn	08 22 47.1	-0.2
TNTI	Ternate	4.21	1	P		Pn	08 22 47.2	-0.2
TNTI	Ternate	4.21	1	S		Sn	08 23 25.6	+0.3
TNTI	Ternate	4.21	1	P		Pn	08 22 46.7	-0.7
SWI	Sorong	4.74	57	P		Pn	08 22 54.5	-0.2
FAKI	Fak Fak	4.99	84			Pn	08 22 58.9	+0.7
FAKI	Fak Fak	4.99	84	P		Pn	08 22 59.3	+1.2
FAKI	Fak Fak	4.99	84	P		Pn	08 22 58.7	+0.6
LUWI	Luwuk	5.10	298			Pn	08 23 00.2	+0.5
LUWI	Luwuk	5.10	298	P		Pn	08 23 00.6	+0.9
LUWI	Luwuk	5.10	298	S		Sn	08 23 58.3	+1.0
LUWI	Luwuk	5.10	298	P		Pn	08 23 00.0	+0.3
BBSI	Bau Bau 1.1nm4μm381nm,1.1s	5.11	247	P		Pn	08 23 02.8	+3.1
KMSI	Cibinong	5.19	321	P		Pn	08 23 00.2	-0.6
SAUI	Saumlaki	6.01	138			Pn	08 23 14.8	+2.7
SAUI	Saumlaki	6.01	138	P		Pn	08 23 15.2	+3.0
SAUI	Saumlaki	6.01	138	P		Pn	08 23 15.7	+3.5
APSI	Ampana 2.6nm4μm369nm,0.7s	6.17	294	P		Pn	08 23 15.3	+1.1
KMPI	Kaimana, Papua 3.5nm6μm356nm,0.7s	6.42	92	P		Pn	08 23 17.3	-0.3
SOEI	Soe	6.93	205			Pn	08 23 27.5	+2.7
SOEI	Soe	6.93	205	P		Pn	08 23 28.7	+3.9
SOEI	Soe 1.0nm3μm337nm,0.7s	6.93	205	P		Pn	08 23 28.6	+3.8
RKPI	Ransiki, Papua 224nm,0.6s	7.16	74	P		Pn	08 23 27.6	-0.2
MMRI	Maumere	7.18	224			Pn	08 23 30.8	+2.7
MMRI	Maumere	7.18	224	P		Pn	08 23 31.4	+3.3
MMRI	Maumere 0.4nm129nm,0.7s	7.18	224	P		Pn	08 23 29.3	+1.2
BNSI	Bone 0.4nm1μm91nm,0.7s	7.21	262	P		Pn	08 23 31.0	+2.4
BSSI	Bau Bau, Buton 1.3nm4μm327nm,0.8s	7.27	248	P		Pn	08 23 30.9	+1.6
SGSI	Sangihe	7.31	346	P		Pn	08 23 29.3	-0.6
BKSI	Bulukumba 0.7nm2μm198nm,0.7s	7.37	255	P		Pn	08 23 32.6	+1.9
SPSI	Sidrap Palu 0.3nm72nm,0.4s	7.51	266	P		Pn	08 23 35.0	+2.4
EDFI	Ende, Flores	7.64	226	P		Pn	08 23 37.1	+2.5
KAPI	Kappang	7.66	258			Pn	08 23 37.7	+3.0
KAPI	Kappang 102nm,0.5s,baz=87,slow=6.4,SNR=44	7.66	258	P		Pn	08 23 37.3	+2.6
KAPI	9.8nm,0.5s,baz=72,slow=23,SNR=0.8			S		Sn	08 25 01.3	+1.2
KAPI	comp=Z,446nm,21.2s,baz=72,slow=41			LR		LR	08 26 51.3	
KAPI	Kappang	7.66	258	P		Pn	08 23 38.3	+3.6
KAPI	Kappang	7.66	258	S		Sn	08 25 03.5	+3.4
PCI	Palu 1.0nm8μm174nm,0.8s	7.86	289	P		Pn	08 23 38.5	+1.1
TOLI2	Tolitoli	7.92	305			Pn	08 23 40.5	+2.2
TOLI2	Tolitoli	7.92	305	P		Pn	08 23 40.7	+2.4
TOLI2	Tolitoli	7.92	305	S		Sn	08 25 08.5	+2.0
MPSI	Mapaga 1μm98nm,1.0s	8.29	297	P		Pn	08 23 44.1	+0.9
SRPI	Serui, Papua	9.09	80	P		Pn	08 23 54.2	-0.1
BAKI	Biak 1μm105nm,0.8s	9.11	76	P		Pn	08 23 54.3	-0.2
WSI	Waingapu 250nm,1.0s	9.28	228	P		Pn	08 23 59.8	+3.0
DRS	Darwin Rock St	9.61	158	P		Pn	08 24 03.7	+2.4
WBSI	Waikabubak, Su 3μm118nm,0.8s	9.95	232	P		Pn	08 24 09.1	+3.0
MTN	Manton Dam	10.07	158			Pn	08 24 09.8	+2.2
MTN	Manton Dam comp=Z,72nm,0.6s	10.07	158	P		Pn	08 24 08.9	+1.2
MTN	Manton Dam	10.07	158	P		Pn	08 24 09.9	+2.2
KDU	Kakadu comp=Z,63nm,0.7s	10.51	151	P		Pn	08 24 14.2	+0.6
KDU	Kakadu	10.51	151	P		Pn	08 24 16.3	+2.7
DAV	Davao City (W)	10.60	351	Pn		Pn	08 24 13.8	-1.0
DAV	Davao City (W) comp=Z,194nm,0.5s,baz=51,slow=5.2,SNR=3.8	10.60	351	P		Pn	08 24 15.3	+0.4
PLAI	Plampang	10.85	240	P		Pn	08 24 22.3	+4.1
PLAI	Plampang comp=Z,1μmcomp=Z,77nm,0.9s	10.85	240	P		Pn	08 24 20.8	+2.6
SMPI	Sarmi comp=Z,35nm,1.0s	11.51	83	P		Pn	08 24 27.5	+0.1
TWSI	Taliwang, Sumb comp=Z,72nm,1.2s	11.59	243	P		Pn	08 24 30.8	+2.4
KNRA	Kununurra	12.23	173			Pn	08 24 38.0	+0.9
KNRA	Kununurra comp=Z,91nm,0.9s	12.23	173	P		Pn	08 24 37.3	+0.2
MYLDM	Lahad Datu	12.27	314	Pn		Pn	08 24 39.0	+1.3
MYLDM	Lahad Datu	12.27	314	P		Pn	08 24 40.4	+2.7
JAY	Jayapura comp=Z,12nm,0.9s,baz=108,slow=22,SNR=7.8	13.44	86	P		Pn	08 24 56.0	+2.3
JAY	comp=Z,140nm,18.4s,baz=218,slow=47			LR		LR	08 32 20.8	
JAY	Jayapura	13.44	86	P		Pn	08 24 53.7	0.0
JAGI	Jajag, Banyuwa	13.97	249	P		Pn	08 25 03.9	+3.2
JAGI	Jajag, Banyuwa comp=Z,61nm,1.0s	13.97	249	P		Pn	08 25 02.6	+1.9
GMJI	Gumukmas comp=Z,82nm,1.0s	14.56	250	P		Pn	08 25 10.9	+2.4
FITZ	Fitzroy Crossi	14.63	186	Pn		Pn	08 25 10.0	+0.6
FITZ	Fitzroy Crossi comp=Z,21nm,0.7s,baz=30,slow=11,SNR=18	14.63	186	P		Pn	08 25 08.5	-0.9
FITZ	comp=Z,8.7nm,0.9s,baz=260,slow=12,SNR=3.3			S		Sn	08 27 47.4	-3.0
FITZ	comp=Z,488nm,19.6s,baz=352,slow=40			LR		LR	08 31 27.1	
SBUM	Sibu	16.16	291	Pn		Pn	08 25 28.8	-0.1
SBUM	Sibu	16.16	291	P		P	08 25 31.2	+0.2
NGJI	Ngawi	16.21	255	P		P	08 25 32.2	+0.5
PCJI	Pacitan comp=Z,184nm,1.0s	16.69	253	P		P	08 25 38.2	+1.3
SMRI	Semarang	17.14	257	P		P	08 25 41.9	-0.1
SMRI	comp=Z,75nm,0.6s			IAmb		IAmb	08 25 48.0	
SMRI	Semarang	17.14	257	P		P	08 25 44.9	+3.0
SMRI	Semarang comp=Z,119nm,0.9s	17.14	257	P		P	08 25 43.4	+1.5
UGM	Wanagama	17.25	254			Pn	08 25 42.5	+0.1
UGM	comp=Z,133nm,1.1s			IAmb		IAmb	08 25 53.9	
UGM	Wanagama comp=Z,165nm,2.4s	17.25	254	P		P	08 25 44.8	+1.7
YOGI	Yogyakarta comp=Z,149nm,1.5s	17.44	255	P		P	08 25 47.1	+1.8
WB0	Warramunga Arr	17.63	157			Pn	08 25 46.8	-0.3
WB0	comp=Z,68nm,0.8s			IAmb		IAmb	08 25 50.7	
KSM	Kuching	17.66	286	P		P	08 25 47.4	-0.3
KSM	Kuching	17.66	286	P		P	08 25 50.0	+2.4
WRAB	Tennant Creek	17.77	158	P		P	08 25 48.9	+0.1
WRAB	comp=Z,58nm,0.7s			IAmb		IAmb	08 25 52.4	
WRA	Warramunga Arr	17.77	158	P		P	08 25 49.2	+0.3
WRA	Warramunga Arr comp=Z,45nm,0.6s,baz=342,slow=12,SNR=154	17.77	158	P		P	08 25 48.3	-0.6
WRA				S		Sn	08 28 59.0	-7.3
WRA	comp=Z,2.4nm,0.8s,baz=335,slow=23,SNR=2.1			LR		LR	08 32 43.6	
WRA	comp=Z,348nm,21.9s,baz=331,slow=37			ScP		ScP	08 33 52.5	-0.9
WR8	Warramunga Arr comp=Z,0.8nm,0.6s,baz=311,slow=2.9,SNR=2.8	17.84	157			P	08 25 49.7	0.0
WR8	comp=Z,90nm,1.1s			IAmb		IAmb	08 25 53.7	
COEN	Coen	18.84	125			P	08 26 01.4	+0.7
COEN	Coen	18.84	125	P		P	08 26 01.5	+0.8
MBWA	Marble Bar	19.06	202	P		P	08 26 04.0	+1.0
CMJI	Cimerak comp=Z,3μmcomp=Z,207nm,0.6s	19.22	256	P		P	08 26 05.6	+0.8
PSA00	Pilbara Seismi	19.40	201	P		P	08 26 08.0	+1.3
PSA00	Pilbara Seismi	19.40	201	P		P	08 26 07.4	+0.7
PSA00				IAmb		IAmb	08 26 17.8	
TPI	comp=Z,20nm,0.8s Tanjungpandan comp=Z,35nm,1.1s	19.61	271	P		Pn	08 26 11.4	+0.5
LEM	Lembang comp=Z,69nm,0.6s,baz=17,slow=8.3,SNR=8.7	19.86	260	P		Pn	08 26 13.9	-0.2
LEM				S		S	08 29 44.4	-8.1
LEM	comp=Z,53nm,0.5s,baz=248,slow=13,SNR=6.4			LR		LR	08 34 54.7	
LEM	comp=Z,235nm,18.6s,baz=144,slow=40							
LEM	Lembang comp=Z,82nm,1.0s	19.86	260	P		Pn	08 26 14.0	-0.1
BBJI	Bungbulang	19.93	258	P		P	08 26 13.5	+0.8
MANU	Manus Island	20.11	87	P		P	08 26 15.7	+1.1
CNJI	Cibinong comp=Z,2μmcomp=Z,74nm,0.9s	20.42	258	P		P	08 26 18.2	+0.4
PMG	Port Moresby	20.61	108			P	08 26 20.5	+0.6
PMG	Port Moresby comp=Z,29nm,0.8s,baz=302,slow=11,SNR=7.3	20.61	108	P		P	08 26 21.1	+1.1
PMG	comp=Z,239nm,20.0s,baz=294,slow=42 comp=Z,29nm,0.8s			LR		LR	08 36 04.0	
PMG	Port Moresby	20.61	108	P		P	08 26 21.9	+2.0
PMG	Port Moresby	20.61	108	P		P	08 26 21.8	+1.9
QIS	Mount Isa	20.81	146	P		Pn	08 26 24.7	-0.3
AS31	Alice Springs	21.08	163	P		P	08 26 26.5	+1.5
ASAR	Alice Springs comp=Z,74nm,0.9s,baz=341,slow=12,SNR=223	21.08	163	P		P	08 26 25.1	+0.1
ASAR				S		S	08 30 15.9	-0.3
ASAR	comp=Z,30nm,1.1s,baz=346,slow=22,SNR=21			PcP		PcP	08 30 27.6	-1.9
ASAR	comp=Z,1.9nm,0.5s,baz=337,slow=1.9,SNR=5.1			ScP		ScP	08 34 00.3	-0.6
ASAR	comp=Z,1.2nm,0.7s,baz=353,slow=2.0,SNR=5.8			LR		LR	08 35 04.1	
AS01	comp=Z,215nm,21.2s,baz=344,slow=38 comp=Z,74nm,0.9s Alice Springs	21.09	163	P		P	08 26 27.5	+2.4
WRKA	Warakurna	21.47	177	P		P	08 26 32.0	+2.9
MTSU	Mount Surprise	22.16	132	P		P	08 26 38.9	+2.3
GIRL	Giralia	22.88	212	P		P	08 26 44.5	+0.5
MDSI	Maura Dua	23.07	267	P		P	08 26 47.3	+1.2
MYKOM	Kota Tinggi	23.99	282	P		P	08 26 54.9	+0.3
MYKOM	Kota Tinggi	23.99	282	P		P	08 26 56.9	+2.3
GUMO	Guam comp=Z,110nm,21.8s,baz=214,slow=35	24.32	46	LR		LR	08 35 52.0	
MEEK	Meekatharra	24.50	199	P		P	08 26 59.8	+0.7
TV1H	Townsville Har	24.70	131	P		P	08 27 03.0	+2.0
RABL	Rabaul	24.84	92	P		P	08 27 03.1	+0.7
OOD	Oodnadatta	25.49	162	P		P	08 27 09.7	+1.6
PPI	Padang Panjang comp=Z,1μmcomp=Z,46nm,0.8s	27.03	276	P		P	08 27 23.3	+1.1
FORT	Forrest	27.18	179	P		P	08 27 23.6	+0.2
FORT	Forrest	27.18	179	P		P	08 27 24.4	+1.1
INKA	Innaminka	27.35	153	P		P	08 27 27.0	+2.1
TPUB	Ta-pu	27.38	347	P		P	08 27 24.8	-0.4
TPUB				IAmb		IAmb	08 27 47.9	
	comp=Z,33nm,0.8s							
MORW	Morawa	27.61	202	P		P	08 27 27.5	+0.2
SSLB	Suanglung	27.78	347	P		P	08 27 29.0	+0.3
SSLB	Suanglung	27.78	347	P		P	08 27 29.9	+1.2
MNSI	Mandailing Nat comp=Z,31nm,0.7s	28.01	278	P		P	08 27 31.5	+0.6
YOJ	Yonaguni jima	28.06	352			P	08 27 31.6	+0.4
KMBL	Kambalda	28.22	190	P		P	08 27 33.2	+0.6
YHNB	Yeheng	28.55	349	P		P	08 27 35.2	-0.5
YHNB	comp=Z,24nm,1.0s			IAmb		IAmb	08 27 54.9	
RPSI	Rantau Prapat	28.99	282	P		P	08 27 39.5	-0.2
PSI	Prapat comp=Z,185nm,19.8s,baz=107,slow=39	29.01	282	LR		LR	08 40 36.8	
PSI	Prapat	29.01	282	P		P	08 27 40.9	+0.9
GSI	Gunungsitoli	30.06	279	P		P	08 27 49.4	+0.2
GSI	Gunungsitoli	30.06	279	P		P	08 27 51.3	+2.1
GSI	Gunungsitoli comp=Z,52nm,0.8s	30.06	279	P		P	08 27 49.2	0.0
BBOO	Buckleboo	30.33	165	P		P	08 27 51.3	-0.1
BBOO	comp=Z,18nm,0.6s			IAmb		IAmb	08 27 53.1	
NWAO	Narrogin (SRO)	30.79	197	P		P	08 27 54.6	-0.7
NWAO	comp=Z,19nm,1.1s			IAmb		IAmb	08 28 19.9	
NWAO	Narrogin (SRO) comp=Z,150nm,18.9s,baz=96,slow=38	30.79	197	LR		LR	08 41 15.1	
NWAO	Narrogin (SRO)	30.79	197	P		P	08 27 54.5	-0.9
STKA	Stephens Creek	31.31	156	P		P	08 28 00.4	+0.5
STKA	Stephens Creek comp=Z,4.7nm,0.4s,baz=335,slow=8.8,SNR=24	31.31	156	P		P	08 27 60.0	0.0
STKA				LR		LR	08 41 09.4	
STKA	comp=Z,194nm,18.8s,baz=358,slow=37 comp=Z,4.7nm,0.4s	31.31	156	P		P	08 28 01.8	+1.8
EIDS	Eidsvold	31.59	136	P		P	08 28 02.4	-0.2
EIDS	comp=Z,27nm,1.5s			IAmb		IAmb	08 28 23.2	
CMSA	Cobar Meteorol	32.87	150	P		P	08 28 15.3	+1.6
HNR	Honiara comp=Z,87nm,19.1s,baz=246,slow=41	32.98	102	LR		LR	08 44 22.5	
ARMA	Armidale	35.34	142	P		P	08 28 36.0	+0.8
CMAR	Chiang Mai Arr comp=Z,1.3nm,0.6s,baz=137,slow=7.6,SNR=9.0	35.40	309	P		P	08 28 36.7	+0.9
CMAR				PcP		PcP	08 31 03.7	-0.9
CMAR	comp=Z,0.8nm,0.3s,baz=126,slow=3.4,SNR=5.8			ScP		ScP	08 34 45.2	0.0
CMAR	comp=Z,0.4nm,0.3s,baz=155,slow=4.5,SNR=4.5			LR		LR	08 43 28.2	
ARPS	Mount Arapiles comp=Z,60nm,21.1s,baz=115,slow=37	35.76	160	P		P	08 28 40.6	+2.1
WHN	Wuhan comp=Z,1.3nm,0.6s	36.00	341	⇓P		P	08 28 38.3	-2.4
WHN	comp=Z,44nm,0.9s			pmax		pmax		
MGBR	Mount Gambier	36.21	162	P		P	08 28 43.9	+1.5
NJ2	Nanjing	36.21	348	eP		P	08 28 44.6	+2.1
NJ2	comp=Z,16nm,0.6s			pmax		pmax		
JNU	Nakatsue	36.54	5	P		P	08 28 44.5	-0.9
JNU	Nakatsue comp=Z,203nm,21.0s,baz=185,slow=34	36.54	5	LR		LR	08 42 44.1	
JMN	Monobe	37.51	9	P		P	08 28 53.5	-0.1
JMN	comp=Z,29nm,1.2s			IAmb		IAmb	08 28 54.7	
CAN	Canberra	37.55	150	P		P	08 28 56.4	+2.5
CAN	Canberra	37.55	150	P		P	08 28 55.0	+1.1
CAN				sP		sP	08 29 16.8	+0.9
ENH	Enshi	37.61	334	P		P	08 28 55.3	+0.9
TOO	Toolangi	37.83	156	P		P	08 28 56.3	+0.1
INU	Inuyama	39.67	13			P	08 29 11.0	-0.6
INU	comp=Z,14nm,0.8s			IAmb		IAmb	08 29 13.8	
INU	Inuyama	39.67	13	P		P	08 29 13.2	+1.6
INU	Inuyama	39.67	13	P		P	08 29 10.7	-0.9
JGF	Kuroka	39.99	13			P	08 29 13.5	-0.7
JGF	comp=Z,11nm,0.9s			IAmb		IAmb	08 29 15.4	
JGF	Kuroka	39.99	13	P		P	08 29 15.4	+1.1
LYN	LuoYang	40.30	341	P		P	08 29 17.5	+0.7
LYN				pP		pP	08 29 35.3	+2.5
LYN				PP		PnPn	08 31 00.6	+5.7
LYN	comp=Z,12nm,0.9s			pmax		pmax		
LYN	comp=Z,1μm,13.7s			LR		LR		
LYN	comp=Z,1μm,14.8s			LR		LR		
LYN	comp=Z,2μm,14.4s			LR		LR		
TIA	Tai'an	40.59	347	P		P	08 29 11.8	-7.4
TIA	comp=Z,3.0nm,0.3s			pmax		pmax		
KSAR	Wonju Array Be	40.70	1	P		P	08 29 20.2	+0.2
KSRS	Korea Array comp=Z,6.2nm,0.7s,baz=179,slow=9.6,SNR=40	40.71	1	P		P	08 29 20.4	+0.2
KSRS				PcP		PcP	08 31 20.4	-0.2
KS19	Wonju Array Si	40.76	1	P		P	08 29 20.4	-0.1
CD2	Chengdu comp=Z,6.2nm,0.7s	40.89	328	P		P	08 29 22.3	+0.5
CD2	comp=Z,10.0nm,0.4s			pmax		pmax		
SANVU	Saraoutou	41.06	110	P		P	08 29 24.7	+1.4
MJAR	Matsushiro Arr comp=Z,7.1nm,0.8s,baz=182,slow=10.0,SNR=18	41.08	13	P		P	08 29 22.3	-0.9
MJAR				PcP		PcP	08 31 20.9	-1.1
MJAR	comp=Z,2.3nm,1.0s,baz=188,slow=3.2,SNR=4.0			LR		LR	08 44 31.6	
MJAR	comp=Z,126nm,21.3s,baz=200,slow=33 comp=Z,7.1nm,0.8s							
MAJO	Matsushiro	41.09	13			P	08 29 21.4	-1.9
MAJO	comp=Z,12nm,0.8s			IAmb		IAmb	08 29 25.8	
MAJO	Matsushiro	41.09	13	P		P	08 29 23.7	+0.4
MJB9	Matsu-Tunnel

LSA Lhasa 47.78 316 P P 08 30 16.1 -1.3
LSA IAmb IAmb 08 30 19.5
comp=Z,9.7nm,0.9s
MDJ Mudanjiang 47.91 2 P P 08 30 17.6 +0.1
MDJ IAmb IAmb 08 30 19.2
comp=Z,20nm,1.1s
MDJ Mudanjiang 47.91 2 P P 08 30 18.3 +0.8
MDJ pmax pmax
comp=Z,20nm,1.0s
MDJ LR LR
comp=Z,260nm,15.5s
MDJ LR LR
comp=Z,120nm,15.8s
MDJ LR LR
comp=Z,270nm,16.5s
MDJ Mudanjiang 47.91 2 P P 08 30 18.7 +1.2
MDJ Mudanjiang 47.91 2 P P 08 30 18.1 +0.5
JKA Kamikawa-asahi 49.32 15 P P 08 30 29.1 +0.7
JKA IAmb IAmb 08 30 35.0
comp=Z,19nm,1.2s
GTA Gaotai 49.59 332 P P 08 30 32.0 +1.3
GTA pP pP 08 30 47.3 +0.2
GTA pmax pmax
comp=Z,8.0nm,1.1s
KLR Kul'dur 52.62 4 LR LR 08 54 11.0
comp=Z,62nm,21.7s,baz=216,slow=37
HEH HeiHe 53.50 0 *e*P **P 08 30 59.9 +0.4**
HEH pmax pmax
comp=Z,18nm,1.0s
HEH LR LR
comp=Z,180nm,14.6s
HEH LR LR
comp=Z,580nm,13.8s
HEH LR LR
comp=Z,410nm,15.6s
ULN Ulaanbaatar 54.10 343 P P 08 31 04.0 -0.2
ULN IAmb IAmb 08 31 06.5
comp=Z,8.7nm,0.8s
ULN Ulaanbaatar 54.10 343 P P 08 31 04.5 +0.4
ULN pP **pP 08 31 19.9 -0.6**
SONM Songino Array 54.27 343 P P 08 31 05.3 -0.1
SONM Songino Array 54.27 343 P P 08 31 05.5 +0.2
comp=Z,6.4nm,0.9s,baz=163,slow=8.1,SNR=24
SONM PcP **PcP 08 32 07.5 -1.3**
comp=Z,1.9nm,0.7s,baz=162,slow=3.2,SNR=4.0
comp=Z,6.4nm,0.9s
JCZ Jackson Bay 54.52 144 P P 08 31 06.9 -0.4
QRZ Quartz Range 55.09 139 P P 08 31 13.2 +1.9
LTZ Lake Taylor 55.92 141 P P 08 31 18.8 +1.5
GVZ Greta Valley S 56.50 141 P P 08 31 22.0 +0.6
BKZ Black Stump Fm 57.00 135 P P 08 31 25.0 -0.1
URZ Urewera 57.05 134 P P 08 31 26.1 +0.7
URZ Urewera 57.05 134 P P 08 31 26.0 +0.6
RTZ Ruatahuna 57.11 135 P P 08 31 26.4 +0.5
HAZ Te Kaha 57.33 133 P P 08 31 28.0 +0.7
RUGZ Raukumara Rang 57.34 134 P P 08 31 27.1 -0.5
RAGZ Rawiri 57.37 134 P P 08 31 28.0 +0.3
MWZ Matawai 57.38 134 P P 08 31 28.0 +0.3
SNGZ Shannon Statio 57.44 135 P P 08 31 28.6 +0.5
BFZ Birch Farm 57.50 137 P P 08 31 26.6 -1.9
TWGZ Tauwhareparae 57.65 134 P P 08 31 30.5 +0.8
TKGZ Te Karaka 57.66 134 P P 08 31 30.1 +0.5
RIGZ Rimuhau 57.70 134 P P 08 31 29.5 -0.5
PUZ Puketiti 57.80 134 P P 08 31 30.5 -0.2
WMGZ Waiomatatini S 57.82 133 P P 08 31 30.6 -0.2
CNGZ Carnagh Statio 57.93 134 P P 08 31 32.2 +0.6
WMQ Urumqi 58.97 327 *e*P **P 08 31 41.1 +2.4**
WMQ LR LR
comp=Z,180nm,24.2s
PETK Petropavlovsk- 61.89 20 P P 08 31 58.5 +0.1
PETK Petropavlovsk- 61.89 20 P P 08 31 59.6 +1.2
comp=Z,7.1nm,0.9s,baz=206,slow=3.5,SNR=14
PETK PcP **PcP 08 32 38.4 -0.3**
comp=Z,4.9nm,0.6s,baz=218,slow=2.4,SNR=14
PETK LR LR 08 57 05.6
comp=Z,33nm,21.5s,baz=227,slow=34
comp=Z,7.1nm,0.9s
TARG Taragay, Kyrgy 63.53 321 P P 08 32 09.9 -0.2
KSH Kashi 63.59 318 P P 08 32 11.4 +1.2
KSH pmax pmax
comp=Z,8.0nm,1.0s
MKAR Makanchi Array 63.80 327 P 08 32 11.1 -0.1
MKAR Makanchi Array 63.80 327 P P 08 32 11.0 -0.3
comp=Z,10nm,0.7s,baz=124,slow=7.9,SNR=93
comp=Z,10nm,0.7s
MAKZ Makanchi 63.98 327 P P 08 32 12.0 -0.4
MAKZ IAmb IAmb 08 32 13.8
comp=Z,6.7nm,0.7s
MAKZ Makanchi 63.98 327 P P 08 32 12.1 -0.4
MAKZ pP **pP 08 32 27.3 -2.2**
MAKZ sP **sP 08 32 34.0 -2.6**
KDJ Kajisay 64.14 321 P P 08 32 13.9 +0.2
BOOM Boomskoye usch 65.11 320 P 08 32 19.5 -0.6
YAK Yakutsk 65.34 1 P P 08 32 20.6 -0.2
YAK Yakutsk 65.34 1 LR LR 09 01 36.7
comp=Z,78nm,21.9s,baz=176,slow=37
YAK Yakutsk 65.34 1 P P 08 32 21.1 +0.2
YAK pP **pP 08 32 36.6 -0.9**
MA2 Magadan 65.53 13 P P 08 32 21.9 -0.2
MA2 IAmb IAmb 08 32 24.4
comp=Z,9.6nm,0.7s
MA2 Magadan 65.53 13 P P 08 32 23.3 +1.2
comp=Z,8.2nm,0.7s,baz=191,slow=6.8,SNR=8.9
MA2 LR LR 09 04 37.0
comp=Z,37nm,18.0s,baz=198,slow=39
comp=Z,8.2nm,0.7s
MA2 Magadan 65.53 13 P P 08 32 23.3 +1.2
MA2 Magadan 65.53 13 P P 08 32 23.4 +1.2
MA2 pP **pP 08 32 38.9 +0.1**
AAK Ala-Archa 66.11 320 P P 08 32 26.2 -0.3
AAK Ala-Archa 66.11 320 P P 08 32 26.8 +0.3
KBL Kabul 66.42 310 P P 08 32 27.8 -1.0
ZAA0 Zalesovo Array 67.24 334 P P 08 32 32.1 -1.1
ZALV Zalesovo Beam 67.24 334 P P 08 32 32.1 -1.1
comp=Z,5.3nm,0.7s,baz=120,slow=5.3,SNR=24
comp=Z,5.3nm,0.7s
GAR Garm 67.27 315 P P 08 32 33.5 -0.4
GAR IAmb IAmb 08 32 35.5
comp=Z,22nm,1.0s
CHGR Chuyangaron 67.95 314 P P 08 32 37.7 -0.5
KURBB Kurchatov Arra 68.10 329 P P 08 32 38.3 -0.4
comp=Z,8.3nm,0.6s,baz=133,slow=5.7,SNR=103
comp=Z,8.3nm,0.6s
KURK Kurchatov 68.11 329 P P 08 32 38.2 -0.6
KURK IAmb IAmb 08 32 40.3
comp=Z,18nm,0.8s
KURK Kurchatov 68.11 329 P P 08 32 38.4 -0.4
KURK pP **pP 08 32 54.0 -1.9**
SEY Seymchan 68.89 12 P P 08 32 44.6 +1.2
comp=Z,12nm,0.6s,baz=212,slow=5.5,SNR=61
SEY LR LR 09 05 55.5
comp=Z,40nm,18.7s,baz=183,slow=38
comp=Z,12nm,0.6s
KK31 Karatay Array 68.91 319 P P 08 32 43.1 -0.9
KKAR Karatay Array 68.91 319 P P 08 32 43.1 -0.9
CCD Concordia, Ant 71.61 181 P P 08 33 00.5 +0.1
BVAR Borovoye Array 73.65 328 P P 08 33 11.8 -0.6
comp=Z,3.1nm,0.4s,baz=140,slow=7.2,SNR=22
comp=Z,3.1nm,0.4s
BRVK Borovoye 73.72 328 P P 08 33 12.2 -0.6
TIXI Tiksi 74.98 1 P P 08 33 18.7 -1.0
TIXI IAmb IAmb 08 33 20.4
comp=Z,9.1nm,0.6s
TIXI Tiksi 74.98 1 LR LR 09 08 17.6
comp=Z,117nm,22.0s,baz=194,slow=37
VNDA Vanda 76.27 173 P P 08 33 26.1 -0.9
VNDA Vanda 76.27 173 P P 08 33 26.0 -1.1
comp=Z,6.3nm,0.8s,baz=312,slow=6.5,SNR=36
VNDA LR LR 09 04 59.4
comp=Z,69nm,21.6s,baz=328,slow=34
comp=Z,6.3nm,0.8s
BILL Bilibino 76.33 14 P P 08 33 27.2 -0.3
MAW Mawson 77.25 201 LR LR 09 06 38.9
comp=Z,59nm,18.1s,baz=86,slow=35
NIKH Nikolski High 77.40 34 P P 08 33 34.6 +0.8
baz=247
NRIK Noril'sk 77.50 347 P P 08 33 33.9 -0.2
NRIK IAmb IAmb 08 33 35.5
comp=Z,13nm,1.0s
NRIK Noril'sk 77.50 347 P P 08 33 34.0 0.0
comp=Z,12nm,1.0s,baz=124,slow=5.1,SNR=24
NRIK LR LR 09 12 46.1
comp=Z,198nm,18.6s,baz=144,slow=40
comp=Z,12nm,1.0s
ABKAR Akbulak array 78.07 322 P P 08 33 36.7 -0.9

SPIA Saint Paul Isl 78.41 30 P P 08 33 40.5 +1.3
baz=245
P08K Saint George I 78.51 30 P P 08 33 40.2 +0.3
baz=245
AKTO Aktyubinsk 79.63 323 P P 08 33 45.6 -0.6
comp=Z,4.8nm,0.6s,baz=119,slow=4.9,SNR=12
comp=Z,4.8nm,0.6s
GAMB Gambell 80.73 23 IAmb IAmb 08 33 55.3
comp=Z,12nm,0.9s
GAMB Gambell 80.73 23 P P 08 33 52.7 +1.0
baz=242
FALS False Pass 81.08 33 P P 08 33 54.7 +0.8
baz=251
ARTI Arti 81.37 328 P P 08 33 54.3 -1.0
ARTI IAmb IAmb 08 33 57.2
comp=Z,14nm,0.6s
ARTI Arti 81.37 328 P P 08 33 56.2 +0.9
comp=Z,9.2nm,0.7s,baz=148,slow=2.5,SNR=13
comp=Z,9.2nm,0.7s
M11K Mekoryuk 81.64 27 P P 08 33 57.7 +1.1
baz=248
S12K Black Hills 82.09 33 P P 08 33 59.9 +0.8
baz=252
PPT2 Papeete2 82.44 107 *e*LR LR 08 59 56.0
PPT2 *e*LR LR 09 00 00.1
comp=Z,91nm,30.0s
SDPT Sand Point 82.84 33 P P 08 34 02.9 -0.1
baz=253
K13K Kusilvak Mount 82.91 26 IAmb IAmb 08 34 06.2
comp=Z,11nm,0.8s
K13K Kusilvak Mount 82.91 26 P P 08 34 04.0 +0.7
baz=249
M13K Dall Lake 82.97 28 P P 08 34 04.6 +1.0
baz=250
TNA Tin City 82.97 22 IAmb IAmb 08 34 05.9
comp=Z,13nm,1.0s
TNA Tin City 82.97 22 P P 08 34 04.5 +0.9
baz=246
CHNA Chernabura Isl 83.19 34 P P 08 34 05.0 +0.2
baz=254
F14K Arctic Creek 83.55 23 P P 08 34 07.5 +1.0
baz=247
ANM Nome 83.57 24 P P 08 34 07.1 +0.4
baz=248
L14K Kuka Creek 83.58 27 IAmb IAmb 08 34 09.4
comp=Z,11nm,0.8s
L14K Kuka Creek 83.58 27 P P 08 34 07.9 +1.2
baz=251
O14K Tigyukauivet M 83.59 29 P P 08 34 07.7 +0.9
baz=252
N14K Kuskokwak Cree 83.59 29 P P 08 34 07.7 +0.9
baz=252
S14K Fog Glacier 83.60 32 P P 08 34 07.3 +0.2
baz=254
J14K Nanvaranak Lak 83.67 26 IAmb IAmb 08 34 10.0
comp=Z,16nm,1.1s
J14K Nanvaranak Lak 83.67 26 P P 08 34 07.8 +0.6
baz=250
M14K Bethel 83.73 28 IAmb IAmb 08 34 11.7
comp=Z,24nm,1.1s
M14K Bethel 83.73 28 P P 08 34 08.5 +1.0
baz=251
RAYN Ar Rayn 83.84 294 P P 08 34 08.0 -1.0
L15K Ungalak Mounta 84.24 27 P P 08 34 11.3 +1.2
baz=252,SNR=6.0
G15K Niukluk 84.26 23 P P 08 34 11.2 +1.1
baz=249
O15K Ungalikthiuk R 84.28 30 P P 08 34 10.9 +0.6
baz=254
F15K North Star Dit 84.28 23 IAmb IAmb 08 34 13.0
comp=Z,14nm,1.4s
F15K North Star Dit 84.28 23 P P 08 34 10.9 +0.6
baz=248
M15K Kasigluk River 84.30 28 P P 08 34 11.2 +0.7
baz=253
K15K Wolf Creek Mou 84.41 26 IAmb IAmb 08 34 13.7
comp=Z,14nm,0.8s
K15K Wolf Creek Mou 84.41 26 P P 08 34 11.9 +1.0
baz=252,SNR=7.7
N15K Kwethluk River 84.43 29 P P 08 34 12.0 +0.9
baz=253
H16K Elim 84.86 24 P P 08 34 14.1 +0.9
baz=251
R16K Pilot Point 84.99 32 P P 08 34 15.0 +1.1
baz=256
C16K Lisburne Hills 84.99 20 P P 08 34 15.0 +1.3
baz=248,SNR=5.9
G16K Koyuk River 85.07 23 P P 08 34 15.6 +1.4
baz=251
J16K Avik River 85.12 26 P P 08 34 15.2 +0.6
baz=252
P16K Nushagak River 85.15 30 P P 08 34 15.8 +1.1
baz=255
N16K Nishlik Lake 85.15 29 P P 08 34 15.8 +1.1
baz=254,SNR=12
L16K Owhat River 85.16 27 P P 08 34 15.3 +0.6
baz=254,SNR=10
M16K Timber Creek 85.21 28 P P 08 34 16.0 +1.0
baz=254,SNR=6.1
O16K Kokwok River B 85.24 29 P P 08 34 16.0 +0.8
baz=255,SNR=8.4
I17K Unalakleet 85.27 25 P P 08 34 16.2 +1.0
baz=252
D17K Noatak River 85.58 21 P P 08 34 17.6 +1.0
baz=250,SNR=15
CHIR Chirikof Islan 85.63 33 P P 08 34 17.2 0.0
baz=257
Q16K King Salmon 85.73 31 P P 08 34 17.6 0.0
baz=256
RDOG Red Dog Mine 85.76 21 P P 08 34 17.9 +0.2
baz=250
O17K Koliganek Bris 85.78 29 P P 08 34 18.5 +0.7
baz=256,SNR=5.2
G17K Kiwalik Mounta 85.78 23 P P 08 34 18.7 +1.0
baz=252,SNR=7.5
J17K VABM Dome 85.81 26 IAmb IAmb 08 34 20.8
comp=Z,20nm,1.4s
J17K VABM Dome 85.81 26 P P 08 34 18.6 +0.6
baz=254
L17K Donlin 85.81 27 P P 08 34 18.9 +0.9
baz=255
E17K Hotham Inlet 85.83 22 P P 08 34 18.4 +0.5
baz=251,SNR=9.1
F17K Baldwin Pennin 85.84 22 P P 08 34 18.6 +0.6
baz=252
H17K Granite Mounta 85.91 24 IAmb IAmb 08 34 20.8
comp=Z,14nm,1.3s
H17K Grite Mounta 85.91 24 P P 08 34 19.1 +0.7
baz=253
N17K Nushagak Hills 85.92 29 P P 08 34 19.4 +0.9
baz=256
P17K Kvichak River 85.96 30 P P 08 34 19.4 +0.6
baz=256
K17K Iditarod 85.97 26 IAmb IAmb 08 34 20.9
comp=Z,7.2nm,0.7s
K17K Iditarod 85.97 26 P P 08 34 19.9 +1.1
baz=254
M17K Holitna River 86.02 28 P P 08 34 19.9 +0.9
baz=255
Q17K Contact Creek 86.03 31 P P 08 34 19.9 +0.7
baz=257,SNR=5.3
E18K Tukpahlearik C 86.39 22 IAmb IAmb 08 34 22.1
comp=Z,5.7nm,0.6s
E18K Tukpahlearik C 86.39 22 P P 08 34 21.7 +1.0
baz=252,SNR=9.8
BELG Belogornoye 86.42 323 P P 08 34 20.5 -0.6
comp=Z,32nm,1.0s,baz=139,slow=2.1,SNR=9.6
comp=Z,32nm,1.0s
QSPA South Pole Qui 86.49 180 P P 08 34 19.9 -1.5
comp=Z,12nm,1.0s,baz=292,slow=1.3,SNR=24
QSPA LR LR 09 12 28.3
comp=Z,66nm,19.4s,baz=336,slow=35
comp=Z,12nm,1.0s
F18K Selawik 86.50 23 P P 08 34 21.7 +0.5
baz=253
C18K Utukok River 86.56 20 P P 08 34 21.8 +0.1
baz=252,SNR=6.6
Q18K Katmai Hardscr 86.56 31 P P 08 34 22.2 +0.3
baz=258
L18K Granite Mounta 86.57 27 IAmb IAmb 08 34 23.7
comp=Z,7.6nm,0.7s
L18K Granite Mounta 86.57 27 P P 08 34 22.2 +0.5
baz=256,SNR=6.6
SII Sitkinak Islan 86.57 33 P P 08 34 22.6 +0.7
baz=258
N18K Kilae Creek 86.58 29 P P 08 34 22.2 +0.4
baz=257
B18K Kokolik River 86.58 20 P P 08 34 22.1 +0.5

baz=251,SNR=5.3
H18K Honhosa River 86.60 24 P P 08 34 22.9 +1.0
baz=254
P18K Big Mountain, 86.61 30 P P 08 34 23.0 +1.0
baz=258
KIRV Kirov 86.63 329 P P 08 34 21.1 -0.9
comp=Z,15nm,0.8s,baz=228,slow=2.7,SNR=5.3
comp=Z,15nm,0.8s
R18K Karluk 86.63 32 P P 08 34 22.4 +0.4
baz=258
G18K Tagagawik 86.68 23 P P 08 34 22.8 +0.6
baz=254
O18K Koktuh Hills 86.72 30 P P 08 34 22.8 +0.2
baz=257
M18K Stony River 86.79 28 P P 08 34 23.3 +0.5
baz=257,SNR=5.1
J18K Innoko River 86.86 26 IAmb IAmb 08 34 24.4
comp=Z,5.1nm,0.7s
J18K Innoko River 86.86 26 P P 08 34 23.5 +0.4
baz=256,SNR=5.9
TTA Tatalina 87.04 26 P P 08 34 24.3 +0.2
baz=257,SNR=5.3
A19K Wainwright 87.09 19 P P 08 34 24.7 +0.6
baz=252,SNR=9.8
GCSA Galena City Sc 87.10 25 P P 08 34 24.6 +0.4
baz=256
OHAK Old Harbor 87.18 32 P P 08 34 25.8 +1.1
OHAK Old Harbor 87.18 32 P P 08 34 25.5 +0.8
baz=259
O19K Port Alsworth 87.23 29 P P 08 34 25.7 +0.7
baz=258
F19K Shaleruckik Mo 87.28 22 P P 08 34 25.3 +0.3
baz=255
N19K Bonanza Creek 87.28 29 IAmb IAmb 08 34 27.3
comp=Z,9.3nm,0.8s
N19K Bonanza Creek 87.28 29 P P 08 34 25.8 +0.5
baz=258
G19K Purcell Mounta 87.37 23 IAmb IAmb 08 34 28.6
comp=Z,12nm,0.8s
G19K Purcell Mounta 87.37 23 P P 08 34 26.1 +0.6
baz=255,SNR=7.1
L19K White Mountain 87.39 27 IAmb IAmb 08 34 27.9
comp=Z,9.5nm,0.9s
L19K White Mountain 87.39 27 P P 08 34 26.3 +0.6
baz=258,SNR=6.0
J19K Poorman 87.45 25 IAmb IAmb 08 34 28.6
comp=Z,5.7nm,0.9s
J19K Poorman 87.45 25 P P 08 34 25.6 -0.4
baz=257,SNR=5.4
H19K Roundabout Mou 87.47 24 IAmb IAmb 08 34 28.2
comp=Z,11nm,1.1s
H19K Roundabout Mou 87.47 24 P P 08 34 26.2 +0.3
baz=256,SNR=7.1
M19K Big River Lodg 87.55 28 IAmb IAmb 08 34 28.4
comp=Z,7.7nm,0.8s
M19K Big River Lodg 87.55 28 P P 08 34 26.8 +0.3
baz=258
D19K Kuna River 87.60 21 IAmb IAmb 08 34 28.0
comp=Z,14nm,0.9s
D19K Kuna River 87.60 21 P P 08 34 26.7 +0.1
baz=254,SNR=16
E19K Redstone River 87.64 22 IAmb IAmb 08 34 30.2
comp=Z,12nm,0.8s
E19K Redstone River 87.64 22 P P 08 34 27.1 +0.2
baz=255,SNR=20
KDAK Kodiak Island 87.65 32 LR LR 09 08 20.3
comp=Z,76nm,21.8s,baz=94,slow=32
KDAK Kodiak Island 87.65 32 P P 08 34 27.2 +0.2
baz=260
P19K Oil Pt 87.66 30 P P 08 34 27.1 0.0
baz=259
Q20K Shuyak Island 87.90 31 P P 08 34 27.9 -0.3
baz=260
L20K Farewell, AK 87.90 27 P P 08 34 28.5 +0.3
baz=258
K20K Telida 87.99 26 P P 08 34 28.1 -0.4
baz=258
H20K Anotleneega Mo 88.10 24 P P 08 34 29.3 +0.3
baz=258
F20K Avaraart Lake 88.11 22 P P 08 34 29.2 +0.1
baz=257
I20K Naaghedeneel 88.11 25 P P 08 34 29.4 +0.3
baz=258
J20K Nowinta River 88.13 25 P P 08 34 29.6 +0.4
baz=258
M20K Styx River 88.13 28 P P 08 34 29.6 +0.2
baz=259
D20K Etivluk River 88.19 21 IAmb IAmb 08 34 30.8
comp=Z,9.5nm,0.8s
D20K Etivluk River 88.19 21 P P 08 34 29.4 0.0
baz=256,SNR=14
E20K Nigu River 88.23 21 P P 08 34 29.8 +0.2
baz=256,SNR=24
KBZ Khabaz 88.31 314 P P 08 34 30.4 0.0
comp=Z,3.0nm,1.0s,baz=129,slow=1.7,SNR=5.3
comp=Z,3.0nm,1.0s
B20K Meade River 88.32 19 P P 08 34 30.5 +0.6
baz=255
SPCR Spurr Chakacha 88.44 29 P P 08 34 31.0 +0.2
baz=260
HOM Homer 88.46 30 P P 08 34 31.0 +0.2
baz=261
PPLA Purkeypile 88.75 27 P P 08 34 32.3 0.0
baz=260
A21K Barrow 88.83 18 P P 08 34 32.3 0.0
baz=256
G21K Allakaket 88.86 23 P P 08 34 33.1 +0.5
baz=259,SNR=7.7
CHUM Lake Minchumin 88.86 26 P P 08 34 32.8 +0.2
baz=260,SNR=5.6
CAPN Captain Cook N 88.88 29 P P 08 34 33.3 +0.6
baz=261
CAST Castle Rocks 88.88 26 P P 08 34 32.9 +0.1
baz=260
SKT Skwentna 88.89 28 P P 08 34 32.7 -0.2
baz=261
BRSE Bradley Lake S 88.92 30 P P 08 34 32.9 -0.1
baz=261
C21K Knifeblade Rid 88.93 20 P P 08 34 33.2 +0.3
baz=258,SNR=6.2
H21K Melozitna Rive 88.98 24 P P 08 34 33.2 0.0
baz=259
F21K Alatna River 89.01 22 P P 08 34 33.6 +0.3
baz=259
E21K Killik River 89.07 21 P P 08 34 33.9 +0.3
baz=258
B21K Ikpikpuk River 89.09 20 IAmb IAmb 08 34 36.1
comp=Z,5.8nm,0.7s
B21K Ikpikpuk River 89.09 20 P P 08 34 33.6 +0.1
baz=258,SNR=12
SUA Susitna One 89.18 28 P P 08 34 34.1 -0.2
baz=261
I21K Tanana 89.23 25 P P 08 34 34.8 +0.5
baz=260
A22K Sinclair Lake 89.27 19 P P 08 34 35.0 +0.7
baz=257
BPAW Bear Paw Mtn. 89.48 26 P P 08 34 36.1 +0.5
baz=261
M22K Willow 89.52 28 P P 08 34 35.7 0.0
baz=262
O22K Cooper Landing 89.53 29 P P 08 34 36.1 +0.3
baz=262
CUT Chulitna 89.54 27 P P 08 34 36.1 +0.2
baz=262
F22K John River 89.56 22 P P 08 34 35.9 0.0
baz=260
H22K Ishtalitna Cre 89.60 24 P P 08 34 36.3 +0.2
baz=261
RC01 Rabbit Creek A 89.61 29 P P 08 34 36.2 0.0
baz=262
SEW Seward 89.62 30 P P 08 34 36.3 +0.1
baz=262
D22K Ayikyak River 89.62 21 P P 08 34 36.0 -0.2
baz=260
B22K Teshekpuk Lake 89.64 19 IAmb IAmb 08 34 37.5
comp=Z,5.8nm,0.9s
B22K Teshekpuk Lake 89.64 19 P P 08 34 36.4 +0.3
baz=259,SNR=5.9
TRF Thorofare Moun 89.69 26 P P 08 34 36.3 -0.5
baz=262
G22K Bettles 89.71 23 P P 08 34 36.4 -0.1
baz=261
E22K Anaktuvuk Pass 89.80 22 P P 08 34 37.5 +0.5
baz=260,SNR=9.7
PMR Palmer 89.97 28 P P 08 34 37.8 0.0
baz=263
G23K Bananza Creek 90.26 23 IAmb IAmb 08 34 41.5
comp=Z,5.7nm,0.8s
G23K Bananza Creek 90.26 23 P P 08 34 39.9 +0.6

baz=262,SNR=7.5
KNK Knik Glacier 90.26 29 P P 08 34 39.3 0.0
baz=263
COLD Coldfoot 90.27 23 IAmb IAmb 08 34 40.8
comp=Z,3.9nm,0.6s
COLD Coldfoot 90.27 23 P P 08 34 39.5 +0.4
baz=262
RND Reindeer 90.32 27 IAmb IAmb 08 34 39.7
comp=Z,7.5nm,0.8s
I23K Minto, Yukon-K 90.32 25 P P 08 34 39.4 0.0
baz=262,SNR=10
MCK McKinley 90.32 26 P P 08 34 39.4 -0.1
baz=263
H23K Yukon River 90.33 24 P P 08 34 40.0 +0.4
baz=262
D23K Nanushuk River 90.35 21 IAmb IAmb 08 34 41.5
comp=Z,7.9nm,1.1s
D23K Nanushuk River 90.35 21 P P 08 34 40.4 +0.9
baz=261,SNR=8.7
SML Sawmill 90.37 28 P P 08 34 40.0 +0.2
baz=263
NEA2 Nenana 90.37 25 P P 08 34 40.2 +0.5
baz=263
C23K Itkillik River 90.50 20 P P 08 34 40.4 +0.2
baz=261,SNR=13
E23K Chandalar 90.60 22 P P 08 34 41.4 +0.6
baz=262,SNR=13
P23K Montague Islan 90.62 30 P P 08 34 41.2 +0.2
baz=264
M23K Glacier View 90.65 28 P P 08 34 41.3 +0.2
baz=264
TOLK Toolik Lake Re 90.70 21 IAmb IAmb 08 34 42.6
comp=Z,4.1nm,0.8s
TOLK Toolik Lake Re 90.70 21 P P 08 34 41.5 +0.3
baz=262,SNR=5.9
WRH Wood River Hil 90.78 26 IAmb IAmb 08 34 41.8
comp=Z,5.8nm,1.0s
SCM Sheep Creek Mo 90.85 28 P P 08 34 41.9 -0.2
baz=264
GLI Glacier Island 90.86 29 P P 08 34 42.2 +0.1
baz=264
CCB Clear Creek Bu 90.92 25 IAmb IAmb 08 34 43.2
comp=Z,6.0nm,0.8s
H24K Noodor Dome 91.02 24 IAmb IAmb 08 34 44.2
comp=Z,4.1nm,0.7s
H24K Noodor Dome 91.02 24 P P 08 34 42.7 0.0
baz=264,SNR=6.6
E24K Your Creek 91.03 22 P P 08 34 42.8 +0.1
baz=263
D24K Happy Valley 91.03 21 IAmb IAmb 08 34 43.9
comp=Z,4.3nm,0.7s
D24K Happy Valley 91.03 21 P P 08 34 42.7 +0.1
baz=263
POKR Poker Plat Res 91.13 25 P P 08 34 43.1 -0.1
baz=264
C24K Franklin Bluff 91.14 20 P P 08 34 42.9 -0.2
baz=263
F24K Squaw Lake 91.19 23 P P 08 34 43.8 +0.3
baz=264
HDA Harding Lake 91.27 26 IAmb IAmb 08 34 44.4
comp=Z,5.9nm,0.8s
HDA Harding Lake 91.27 26 P P 08 34 43.4 -0.4
baz=265
G24K Hadweenzic Riv 91.27 23 P P 08 34 43.6 -0.3
baz=264
ILAR Eielson Array 91.33 25 P P 08 34 42.6 -1.5
comp=Z,2.2nm,0.8s,baz=236,slow=5.9,SNR=19
ILAR LR LR 09 11 07.2
comp=Z,22nm,21.3s,baz=302,slow=32
comp=Z,2.2nm,0.8s
M24K Tolsona, Glenn 91.41 28 P P 08 34 44.6 -0.1
baz=265
KLU Klutina 91.48 29 P P 08 34 45.4 +0.3
baz=266
EYAK Cordova Ski Ar 91.49 30 P P 08 34 45.6 +0.7
baz=266
K24K Donnelly Dome 91.73 26 P P 08 34 46.1 +0.1
baz=266
PAX Paxson 91.80 27 P P 08 34 46.4 -0.1
baz=266
G25K Bearman Lake 91.82 23 P P 08 34 46.4 +0.1
baz=266
HARP HAARP 91.91 28 P P 08 34 46.9 0.0
baz=266
D25K Kavik River 91.92 21 IAmb IAmb 08 34 50.4
comp=Z,6.4nm,1.4s
D25K Kavik River 91.92 21 P P 08 34 47.2 +0.4
baz=265
PRP Porcupine Dome 91.96 25 P P 08 34 46.6 -0.6
baz=266
J25K Salcha River, 91.96 26 P P 08 34 46.5 -0.6
baz=266
TAOE Nuku Hiva Isla 92.01 99 eLR LR 09 04 26.9
comp=Z,80nm,31.7s
F25K Christian Rive 92.06 23 P P 08 34 47.5 0.0
baz=266
BMRM Bremner River 92.08 29 P P 08 34 48.5 +0.7
baz=267
KAIM Kayak Island 92.12 30 P P 08 34 48.4 +0.5
baz=267
E25K Arctic Village 92.12 22 P P 08 34 48.3 +0.5
baz=266
N25K Chitina, Valde 92.12 29 P P 08 34 48.4 +0.4
baz=267
RIDG Independent Ri 92.14 26 P P 08 34 48.0 0.0
baz=267
ASF Jabal al Asfar 92.14 302 LR LR 09 24 57.3
comp=Z,26nm,18.0s,baz=149,slow=41
C26K Camden Bay 92.47 20 P P 08 34 50.0 +0.7
baz=267,SNR=5.3
DOT Dot Lake 92.48 27 IAmb IAmb 08 34 50.4
comp=Z,4.7nm,0.7s
SCRK Sand Creek 92.53 26 P P 08 34 49.9 0.0
baz=267
F26K Sheenjek River 92.64 22 P P 08 34 50.6 +0.5
baz=267
J26L Joseph Creek 92.73 26 P P 08 34 51.2 +0.5
baz=268,SNR=7.2
G26K Porcupine Rive 92.74 23 IAmb IAmb 08 34 52.8
comp=Z,3.6nm,0.8s
G26K Porcupine Rive 92.74 23 P P 08 34 51.1 +0.5
baz=268
L26K Log Cabin Wild 92.77 27 P P 08 34 51.3 +0.4
baz=268
C27K Jago River 92.87 21 IAmb IAmb 08 34 54.3
comp=Z,11nm,1.5s
C27K Jago River 92.87 21 P P 08 34 51.5 +0.3
baz=268,SNR=5.5
M26K Nabesna, AK 92.92 28 P P 08 34 51.9 +0.3
baz=268
I26K Coal Creek Min 92.94 25 P P 08 34 52.3 +0.7
baz=268
MESA MESA 93.36 30 P P 08 34 54.1 +0.2
baz=269
K27K Chicken 93.37 26 P P 08 34 53.9 +0.3
baz=269
M27K Edge Creek, AK 93.44 28 P P 08 34 54.4 +0.3
baz=269
MMAI Mount Meron Ar 93.44 303 LR LR 09 24 06.6
comp=Z,18nm,19.1s,baz=124,slow=40
L27K Beaver Creek, 93.47 27 IAmb IAmb 08 34 55.5
comp=Z,3.7nm,0.7s
L27K Beaver Creek, 93.47 27 P P 08 34 54.2 +0.1
baz=269
BCAR Beaver Creek A 93.49 27 P P 08 34 54.4 +0.2
G27K Doyon Strip 93.58 23 P P 08 34 54.6 +0.1
baz=270
I27K Kandik River 93.59 25 P P 08 34 54.8 +0.1
baz=270,SNR=13
E27K Coleen River 93.61 22 IAmb IAmb 08 34 56.2
comp=Z,4.8nm,1.2s
E27K Coleen River 93.61 22 P P 08 34 54.6 0.0
baz=270
H27K Steamboat Moun 93.63 24 IAmb IAmb 08 34 57.5
comp=Z,11nm,1.4s
H27K Steamboat Moun 93.63 24 P P 08 34 55.3 +0.5
baz=270
D27M Malcolm River 93.84 21 IAmb IAmb 08 34 58.7
comp=Z,2.4nm,0.7s
D27M Malcolm River 93.84 21 P P 08 34 56.0 +0.3
baz=270
BVCY Beaver Creek 93.91 28 P P 08 34 56.2 +0.1
baz=270
YUK3 Moose Creek 94.10 28 P P 08 34 57.3 0.0
baz=270
PINM Pinnacle 94.21 30 P P 08 34 57.6 0.0
baz=270
O28M Mount Upton 94.24 29 P P 08 34 57.5 -0.5
baz=270
I28M Miner Creek 94.29 25 P P 08 34 57.9 0.0
baz=271,SNR=13
E28M Babbage River 94.37 22 P P 08 34 58.1 0.0
baz=272,SNR=7.5
YUK8 Steele Glacier 94.44 29 P P 08 34 59.0 +0.1
baz=271
DAWY Dawson 94.55 26 P P 08 34 59.1 +0.1
baz=272
D28M Stokes Point 94.63 21 P P 08 34 59.6 +0.4
baz=272,SNR=8.0
PNL Peninsula 94.65 31 P P 08 34 59.4 -0.2
baz=271
H29M Whitestone 94.91 24 P P 08 35 00.4 -0.2
baz=273
I29M Ogilvie Camp, 94.97 25 P P 08 35 01.0 +0.1
baz=273
YUK4 Talbot Arm 94.98 29 P P 08 35 01.4 +0.1
baz=272
E29M Blow River 94.98 22 IAmb IAmb 08 35 10.0
comp=Z,4.3nm,1.2s
E29M Blow River 94.98 22 P P 08 35 01.3 +0.4
baz=273
BRTR Keskin Array B 94.99 309 P P 08 35 00.4 -1.4
comp=Z,0.9nm,0.8s,baz=126,slow=7.3,SNR=3.3
comp=Z,0.9nm,0.8s
G29M Pine Creek 95.01 23 P P 08 35 01.3 +0.2
baz=273,SNR=9.9
M29M Somme Creek 95.02 28 P P 08 35 01.4 0.0
baz=272
O29M Mount Kennedy 95.05 30 P P 08 35 02.2 +0.7
baz=272
J29N Klondike Camp 95.05 26 P P 08 35 02.0 +0.6
baz=273
YUK6 Outpost Mounta 95.13 29 P P 08 35 01.9 -0.2
baz=272
L29M L29M 95.15 27 P P 08 35 02.0 +0.1
baz=272
K29M Barlow Dome 95.39 26 IAmb IAmb 08 35 04.4
comp=Z,4.6nm,0.8s
K29M Barlow Dome 95.39 26 P P 08 35 03.1 +0.1
baz=273
P29M Windy Craggy 95.49 31 P P 08 35 03.4 -0.1
baz=273
HYT Haines Junctio 95.55 29 P P 08 35 04.1 +0.3
baz=273
EPYK Eagle Plains 95.56 24 P P 08 35 03.9 +0.2
baz=274,SNR=5.6
G30M tAoh Zraii Nji 95.72 23 P P 08 35 04.3 -0.1
baz=275,SNR=5.3
N30M Aishikik Lake 95.72 29 P P 08 35 04.5 0.0
baz=273
I30M Mount Dempster 95.79 25 IAmb IAmb 08 35 06.5
comp=Z,4.6nm,1.1s
I30M Mount Dempster 95.79 25 P P 08 35 04.7 -0.1
baz=274
M30M Minto, Yukon 95.79 28 P P 08 35 04.5 -0.3
baz=274
F30M Barrier River 95.83 22 P P 08 35 05.3 +0.5
baz=275
J30M Hart River 95.86 26 IAmb IAmb 08 35 11.4
comp=Z,4.6nm,0.9s
J30M Hart River 95.86 26 P P 08 35 05.5 +0.4
baz=274
P30M Million Dollar 95.86 30 P P 08 35 05.4 +0.2
baz=273
O30N Mendenhall 96.25 29 P P 08 35 07.1 +0.2
baz=274
N31M Braeburn, Yuko 96.34 29 P P 08 35 07.6 +0.3
baz=274
S31K Pelican 96.37 32 P P 08 35 07.1 -0.3
baz=274
G31M Satah River 96.48 23 P P 08 35 07.6 -0.1
baz=276,SNR=6.4
H31M Peel River 96.58 24 P P 08 35 08.0 -0.2
baz=276
R31K City Hall, Gus 96.60 32 P P 08 35 07.8 -0.6
baz=274
INK Inuvik 96.60 22 P P 08 35 07.5 -0.8
comp=Z,2.2nm,0.5s,baz=297,slow=4.2,SNR=31
comp=Z,2.2nm,0.5s
INK Inuvik 96.60 22 P P 08 35 08.0 -0.2
baz=277,SNR=5.7
F31M Tsiigehtchic 96.63 23 P P 08 35 08.2 -0.2
baz=277,SNR=5.9
SKAG Skagway 96.73 31 P P 08 35 09.1 +0.1
baz=275
WHY Whitehorse 96.85 29 P P 08 35 09.4 -0.3
baz=275
SIT Sitka 96.92 33 P P 08 35 09.7 -0.2
baz=274
M31M Drury Creek, Y 96.94 28 P P 08 35 09.4 -0.5
baz=276
R32K Eaglecrest 97.25 32 P P 08 35 10.6 -0.8
baz=275
S32K Killisnoo 97.29 33 P P 08 35 11.2 -0.3
baz=275
ARCES ARCESS Array B 97.34 340 P P 08 35 10.3 -1.3
comp=Z,3.2nm,0.6s,baz=83,slow=5.7,SNR=16
comp=Z,3.2nm,0.6s
FARO Faro, Yukon 97.42 28 P P 08 35 11.7 -0.5
baz=277
P32M Atlin 97.53 30 P P 08 35 12.2 -0.5
baz=276
SPITS Spitsbergen Ar 97.59 349 P P 08 35 12.1 -0.5
comp=Z,9.7nm,0.8s,baz=104,slow=8.7,SNR=5.7
SPITS LR LR 09 25 00.7
comp=Z,61nm,19.0s,baz=355,slow=39
comp=Z,9.7nm,0.8s
N32M Quiet Lake 97.67 29 P P 08 35 13.1 -0.2
baz=277
AKASG Malin Array Be 97.77 321 P P 08 35 12.9 -1.0
comp=Z,0.2nm,0.3s,baz=75,slow=3.4,SNR=2.0
AKASG LR LR 09 25 27.2
comp=Z,36nm,19.0s,baz=62,slow=39
comp=Z,0.2nm,0.3s
P33M Teslin, Yukon 97.91 30 P P 08 35 13.5 -0.9
baz=277
U33K Whale Pass 98.22 34 P P 08 35 15.0 -0.8
baz=276
Q32M Nakina River 98.34 31 P P 08 35 15.7 -0.9
baz=277
FINES FINESS Array B 98.38 332 P P 08 35 16.1 -0.3
comp=Z,1.6nm,1.0s,baz=90,slow=4.2,SNR=4.0
FINES LR LR 09 22 25.8
comp=Z,28nm,19.6s,baz=68,slow=37
comp=Z,1.6nm,1.0s
WRAK Wrangell Islan 98.61 34 P P 08 35 16.6 -0.9
baz=277
A36M Sachs Harbour 98.64 17 P P 08 35 17.1 -0.3
baz=286
R33M Jennings River 98.95 30 P P 08 35 18.6 -0.6
baz=278
V35K Ketchikan 99.16 35 P Pdif 08 35 19.8 -0.2
baz=277
DLBC Dease Lake 99.58 31 P Pdif 08 35 21.3 -0.6
baz=279
T35M Bob Quinn 99.68 33 P Pdif 08 35 21.1 -1.2
baz=279
C36M Paulatuk 99.75 20 IAmb IAmb 08 35 23.1
comp=Z,3.2nm,0.8s
C36M Paulatuk 99.75 20 P Pdif 08 35 22.2 -0.1
baz=286,SNR=6.2
RNPP9 Sopachiv 99.80 321 P Pdif 08 35 23.6 +0.6
MLR Muntele Rosu 100.41 315 P Pdif 08 35 24.2 -1.8
comp=Z,1.4nm,0.5s,baz=232,slow=19,SNR=3.3
HFS Hagfors 104.58 332 Pdiff Pdif 08 35 43.0 -1.1
comp=Z,0.7nm,0.6s,baz=95,slow=12,SNR=1.6
VYHS Vyhne 104.76 319 ePDIFF Pdif 08 35 45.4 +0.2
NOA NORSAR Array B 105.42 333 Pdiff Pdif 08 35 47.2 -0.6
comp=Z,1.0nm,0.9s,baz=67,slow=4.7,SNR=3.8
YKA Yellowknife Ar 105.75 25 Pdiff Pdif 08 35 49.2 0.0
comp=Z,0.4nm,1.0s,baz=298,slow=5.1,SNR=5.1
YKA PKiKP PKiKP 08 40 01.2 -0.5
comp=Z,0.1nm,0.6s,baz=313,slow=2.3,SNR=4.3
GERES GERESS Array B 107.98 320 PKiKP PKiKP 08 40 06.0 -0.4
comp=Z,0.2nm,0.4s,baz=108,slow=3.0,SNR=4.4
DAVOX Davos/Dischmat 111.05 319 PKiKP PKiKP 08 40 12.2 -0.1
comp=Z,1.3nm,0.6s,baz=326,slow=8.9,SNR=3.6
EKA Eskdalemuir Ar 114.78 331 PKP PKiKP 08 40 18.4 -0.6
comp=Z,0.2nm,0.4s,baz=23,slow=1.8,SNR=2.1
PDAR Pinedale Array 116.28 43 PKP PKPdf 08 40 22.5 -0.1
comp=Z,0.4nm,0.4s,baz=92,slow=2.5,SNR=9.8
O20A White River Ci 118.15 46 PKiKP 08 40 27.3 +1.1
PV20 West Nyswonger 118.24 48 PKiKP 08 40 27.6 +1.1
EPLO Experimental L 122.34 30 PKPdf 08 40 33.4 -0.3
ESDC Sonseca Array 123.09 316 PKP PKPdf 08 40 35.5 0.0
comp=Z,0.9nm,1.0s,baz=10,slow=3.9,SNR=2.9
TBO Thunder Bay 125.15 29 PKiKP 08 40 39.5 0.0
TXAR Lajitas Array 125.34 56 PKP PKPdf 08 40 40.4 +0.2
comp=Z,0.4nm,0.4s,baz=218,slow=2.1,SNR=14
TORD Torodi Ar. Bea 125.41 284 PKP PKPdf 08 40 40.1 -0.4
comp=Z,62nm,0.3s,baz=68,slow=2.1,SNR=1.3
JCT Junction City 128.10 53 PKiKP 08 40 46.2 +0.3
DBIC Dimbokro 132.23 276 SKPbc SKPab 08 44 15.6 -0.3
comp=Z,4.1nm,0.8s,baz=90,slow=5.1,SNR=3.1
PLCA Paso Flores 133.09 161 PKP PKiKP 08 40 55.6 -0.2
comp=Z,1.3nm,0.9s,baz=353,slow=4.4,SNR=7.6
PLCA SKPbc SKPbc 08 44 15.6 -1.6
comp=Z,2.2nm,1.2s,baz=225,slow=5.7,SNR=3.1
AC05 El Transito 143.73 153 PKPab 08 41 11.7 +0.4
PLTB Pedras Altas 144.96 179 PKPbc 08 41 15.5 -0.1
AC02 Maricunga 145.96 153 PKPbc 08 41 19.9 +0.4
ITQB Itaqui 146.84 174 PKPab 08 41 23.5 +0.7
GO02 Mina Guanaco 147.17 151 PKPbc 08 41 23.4 +0.4
CPUP Villa Florida 150.05 172 PKPbc PKPbc 08 41 29.1 -0.8
comp=Z,2.9nm,0.7s,baz=222,slow=4.7,SNR=6.3
LPAZ La Paz 155.16 143 PKP PKPdf 08 41 32.6 -0.8
comp=Z,0.8nm,0.8s,baz=304,slow=5.1,SNR=2.2
LPAZ PKPab sPKPdf 08 41 58.1 -0.2
comp=Z,2.8nm,0.9s,baz=247,slow=3.8,SNR=5.9
ROSC El Rosal 158.42 86 PKP PKPdf 08 41 37.2 -0.2
comp=Z,2.3nm,0.3s,baz=325,slow=24,SNR=2.1
PTLB Pontes e Lacer 160.17 161 PKPab 08 42 19.5 +0.6

---

*IDC **21** 08:24:51.5±1.1, 19°.42N×146°.87E, h0km, mb3.8/8, mbtmp3.9/9, ML4.3/1, Error ellipse: s-maj=43.4km s-min=20.9km az=80.0*

ISC 21 08:24:57.3±1.0, 19°.5N±0°.1×146°.8E±0°.3, h39km, n13, σ0§90/11, mb3.9/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	8.70	332	Pn	Pn	08 26 59.0	-1.6
	3.5nm,0.3s,baz=104,slow=23,SNR=6.1						
	49nm,0.8s						
H11S3	WAKE ISLAND Hy	18.86	90	T	T	08 48 26.0	
	baz=276,slow=74,SNR=12						
H11S1	WAKE ISLAND Hy	18.87	90	T	T	08 48 21.9	
	baz=276,slow=74,SNR=11						
H11S2	WAKE ISLAND Hy	18.88	90	T	T	08 48 30.4	
	baz=276,slow=74,SNR=8.1						
WRA	Warramunga Arr	41.01	198	P	P	08 32 36.6	-0.2
	3.1nm,0.9s,baz=17,slow=8.3,SNR=6.3						
WRA				PcP	PcP	08 34 36.6	+0.2
	0.4nm,0.6s,baz=18,slow=3.2,SNR=1.7						
	3.1nm,0.9s						
SONM	Songino Array	43.20	320	P	P	08 32 55.5	+0.9
	0.4nm,0.4s,baz=121,slow=6.1,SNR=1.5						
	0.4nm,0.4s						
ASAR	Alice Springs	44.66	197	P	P	08 33 05.5	-0.9
	0.9nm,0.9s,baz=16,slow=6.9,SNR=2.5						
	0.9nm,0.9s						
MKAR	Makanchi Array	58.68	313	P	P	08 34 52.0	+1.1
	0.3nm,0.4s,baz=96,slow=7.5,SNR=2.8						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	61.44	318	P	P	08 35 10.2	+0.5
	0.9nm,0.5s,baz=92,slow=7.5,SNR=11						
	0.9nm,0.5s						
BVAR	Borovoye Array	66.55	320	P	P	08 35 43.2	-0.1
	0.9nm,0.4s,baz=96,slow=6.4,SNR=4.2						
	0.9nm,0.4s						
YKA	Yellowknife Ar	76.85	28	P	P	08 36 45.1	+0.2
	0.2nm,0.8s,baz=288,slow=5.5,SNR=2.5						
	0.2nm,0.8s						
FINES	FINESS Array B	86.62	336	P	P	08 37 37.0	+0.6
	1.3nm,0.8s,baz=68,slow=5.9,SNR=5.2						
	1.3nm,0.8s						
LPAZ	La Paz	146.67	90	PKPbc	PKPbc	08 44 35.8	-0.7
	1.2nm,0.9s,baz=214,slow=3.6,SNR=2.7						

IDC 21 08:36:39.2±8.5, 22°.89N×94°.27E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=713.2km s-min=28.6km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	25.73	341	P	P	08 42 11.3	0.0
	0.4nm,0.5s,baz=140,slow=8.8,SNR=5.3						
	0.4nm,0.5s						
WRA	Warramunga Arr	57.81	134	P	P	08 46 33.3	+0.6
	1.6nm,1.0s,baz=317,slow=7.0,SNR=5.3						
	1.6nm,1.0s						
ASAR	Alice Springs	60.21	138	P	P	08 46 48.7	-0.7
	0.2nm,0.5s,baz=319,slow=6.8,SNR=5.0						
	0.2nm,0.5s						

---

*IDC **21** 08:39:11.8±0.5, 24°.85N×128°.16E, h0km, mb4.3/23, mbtmp4.3/28, ML4.5/3, MS3.8/27, Error ellipse: s-maj=18.2km s-min=11.1km az=75.0*

*BJI **21** 08:39:12.0, 24°.87N×128°.14E, h9km, mB4.7/24, mb4.5/46, Ms4.3/39, Ms7 4.1/41*

*MOS **21** 08:39:12.7±1.4, 24°.84N×128°.20E, h16km, mb4.7/14, MS4.0/5, Error ellipse: s-maj=13.0km s-min=6.6km az=93.7*

*NIED **21** 08:39:13.0, 24°.84N×128°.20E, h68km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}-6.91; $M_{\theta\theta}$3.82; $M_{\phi\phi}$3.09; $M_{r\theta}$4.72; $M_{\theta\phi}$2.56; $M_{\phi r}$5.99; Fault plane solution: $M_0$9.99000×10¹⁵ NP1:ϕ_s54.00000°, δ21.00000°, λ-78.00000°. NP2:ϕ_d221.00000°, δ70.00000°, λ-95.00000°.*

*NEIC **21** 08:39:13.6±1.3, 24°.88N±0°.05×128°.28E±0°.07, h10km±1km, mb4.7/79 Error ellipse: s-maj=11.2km s-min=8.2km az=119.0*

*JMA **21** 08:39:13.0±0.2, 24°.8N±1°.0×128°.2E±1°.0, h68km, MD4.5/29, MV4.3/29, FAR S OFF OKINAWAJIMA*

ISC 21 08:39:14.1±0.6, 24°.87N±0°.03×128°.22E±0°.03, h15km±3km, h15km:pP-P, n249, σ2§17/252, mb4.6/79, MS4.0/35, 2C-2D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	1.33	343	eP	Pn	08 39 36.9	-1.4
JJT3				eS	Sb	08 39 53.0	-2.8
JJT3	Tamagusuku3	1.33	343	A	A	08 39 36.9	
	comp=N,31nm,4.3s,comp=E,36nm,4.1s						
JNTH	Nagotoyohara	1.66	354	P	Pn	08 39 40.5	-2.2
JNTH				S	Sn	08 40 00.9	-2.8
JNTH	Nagotoyohara	1.66	354	A	A	08 39 40.5	
	comp=N,4.0nm,7.0s,comp=E,4.0nm,4.8s						
JAGN	Aguni-jima	1.93	333	P	Pn	08 39 44.8	-1.6
JAGN				eS	Sn	08 40 07.2	-3.3
JAGN	Aguni-jima	1.93	333	A	A	08 39 44.8	
	comp=N,6.0nm,10.8s,comp=E,5.0nm,5.1s						
JKE	Kume jima 2	1.95	319	P	Pn	08 39 44.5	-2.2
JKE				eS	Sn	08 40 07.8	-3.1
JOW	Kunigami	1.96	1	Pn	Pn	08 39 45.5	-1.3
	comp=E,190nm,0.3s,baz=158,slow=18,SNR=575						
JOW				Sn	Sn	08 40 06.3	-4.9
	comp=E,248nm,0.3s,baz=133,slow=28,SNR=14						
JOW	Kunigami	1.96	1	P	Pn	08 39 45.2	-1.7
JOW	Kunigami	1.96	1	P	Pn	08 39 45.2	-1.7
JOW	Kunigami	1.96	1	A	A	08 39 45.2	
	comp=N,3.0nm,4.3s,comp=E,4.0nm,5.1s						
JYRO	Yoronjima	2.16	5	P	Pn	08 39 47.8	-1.8
JYRO				eS	Sn	08 40 11.2	-5.0
JIH	Iheya	2.17	354	eP	Pn	08 39 48.6	-1.2
JIH	Iheya	2.17	354	A	A	08 39 48.6	
	comp=N,4.0nm,4.1s,comp=E,3.0nm,5.5s						
JOKE	Okinoerabujima	2.50	7	P	Pn	08 39 52.9	-1.5
JOKE				S	Sn	08 40 20.0	-4.7
JOGS	Gusukube	2.56	268	P	Pn	08 39 53.2	-1.9
JOGS	Gusukube	2.56	268	A	A	08 39 53.2	
	comp=N,8.0nm,4.8s,comp=E,9.0nm,4.2s						
JMJ2	Miyako jima3	2.63	268	P	Pn	08 39 54.0	-2.1
JMJ2				eS	Sn	08 40 23.9	-4.0
JMJ	Miyako jima 2	2.66	270	P	Pn	08 39 54.3	-2.2
JIKM	Ikemajima	2.70	272	P	Pn	08 39 55.2	-1.9
JIKM	Ikemajima	2.70	272	A	A	08 39 55.2	
	comp=N,6.0nm,4.7s,comp=E,7.0nm,4.1s						
JIRB	Irabujima	2.77	270	P	Pn	08 39 55.6	-2.4
JIRB				S	Sn	08 40 26.1	-5.1
JIRB	Irabujima	2.77	270	A	A	08 39 55.6	
	comp=N,7.0nm,3.7s,comp=E,6.0nm,1.6s						
JMZ	Minamidaito 2	2.88	70	P	Pn	08 39 57.4	-2.1
JMZ	Minamidaito 2	2.88	70	P	Pn	08 39 57.1	-2.4
JMZ	Minamidaito 2	2.88	70	P	Pn	08 39 56.7	-2.8
JMZ				S	Sn	08 40 29.5	-4.3
JMZ	Minamidaito 2	2.88	70	A	A	08 39 56.7	
	comp=N,13nm,6.6s,comp=E,8.0nm,5.2s						

JTK	**Tokunoshima**	**2.98**	**12**	P	**Pn**	**08 39 59.5**	**-1.4**
JTK				*e*S	**Sn**	**08 40 30.9**	**-5.5**
JKDJ	**Kitadaitoujima**	**2.98**	**68**	P	**Pn**	**08 39 58.6**	**-2.3**
JKDJ				S	**Sn**	**08 40 32.8**	**-3.6**
JKDJ	**Kitadaitoujima**	**2.98**	**68**	A	A	08 39 58.6	
comp=N,11nm,4.6s,comp=E,8.0nm,6.1s							
JTJ	**Tarama**	**3.21**	**267**	P	**Pn**	**08 40 01.9**	**-2.1**
JTJ				*e*S	**Sn**	**08 40 36.6**	**-5.4**
JTJ	**Tarama**	**3.21**	**267**	A	A	08 40 01.9	
comp=N,4.0nm,4.1s,comp=E,4.0nm,3.9s							
JAMN	**Amaminishikomi**	**3.47**	**14**	*e*P	**Pn**	**08 40 06.8**	**-0.8**
JISG	**Ishigakijimahi**	**3.57**	**266**	*e*P	**Pn**	**08 40 06.2**	**-2.8**
JISG				*e*S	**Sn**	**08 40 45.5**	**-5.4**
JAM	**Amami Oshima**	**3.74**	**19**	P	**Pn**	**08 40 09.9**	**-1.4**
JAM				*e*S	**Sn**	**08 40 50.3**	**-4.9**
JIJ	**Ishigaki jima**	**3.75**	**263**	P	**Pn**	**08 40 08.7**	**-2.8**
JIJ				*e*S	**Sn**	**08 40 48.5**	**-6.8**
JZK	**Kikaishima**	**3.77**	**24**	P	**Pn**	**08 40 11.7**	**-0.1**
JZK				*e*S	**Sn**	**08 40 53.2**	**-2.8**
JKRS	**Kuro-shima**	**3.89**	**262**	P	**Pn**	**08 40 11.2**	**-2.2**
HATJ	**Hateruma jima**	**4.11**	**260**	*e*P	**Pn**	**08 40 13.7**	**-2.7**
HATJ				*e*S	**Sn**	**08 40 56.3**	**-7.9**
IRIF	**Iriomote-Funau**	**4.12**	**264**	P	**Pn**	**08 40 14.2**	**-2.4**
JTAJ	**Takarajima**	**4.36**	**11**	*e*P	**Pn**	**08 40 18.8**	**-1.1**
JTAJ				*e*S	**Sn**	**08 41 04.7**	**-5.7**
YOJ	**Yonaguni jima**	**4.76**	**266**		**Pn**	**08 40 22.8**	**-2.6**
YOJ	**Yonaguni jima**	**4.76**	**266**	P	**Pn**	**08 40 22.8**	**-2.6**
TATO	**Taipei**	**6.12**	**272**	Pn	**Pn**	**08 40 43.8**	**-0.2**
YHNB	**Yeheng**	**6.23**	**270**		**Pn**	**08 40 45.1**	**-0.5**
YHNB	**Yeheng**	**6.23**	**270**	P	**Pn**	**08 40 44.9**	**-0.7**
YULB	**Yu-li**	**6.49**	**258**		**Pn**	**08 40 44.8**	**-4.4**
YULB	**Yu-li**	**6.49**	**258**	P	**Pn**	**08 40 44.6**	**-4.6**
SSLB	**Suanglung**	**6.72**	**262**		**Pn**	**08 40 49.6**	**-2.7**
SSLB	**Suanglung**	**6.72**	**262**	P	**Pn**	**08 40 49.0**	**-3.3**
TWGBT	**Beinan**	**6.85**	**254**	P	**Pn**	**08 40 49.9**	**-4.2**
TPUB	**Ta-pu**	**7.11**	**259**		**Pn**	**08 40 55.5**	**-2.2**
TPUB	**Ta-pu**	**7.11**	**259**	P	**Pn**	**08 40 55.2**	**-2.5**
JNU	**Nakatsue**	**8.55**	**15**		**Pn**	**08 41 17.1**	**-0.3**
JNU	**Nakatsue**	**8.55**	**15**	Pn	**Pn**	**08 41 17.4**	**0.0**
comp=E,3.8nm,0.3s,baz=185,slow=4.9,SNR=83							
JNU				Sn	**Sn**	**08 42 48.4**	**-5.3**
comp=E,1.9nm,0.3s,baz=319,slow=24,SNR=6.5							
comp=E,90nm,0.8s							
JNU	**Nakatsue**	**8.55**	**15**	P	**Pn**	**08 41 17.4**	**0.0**
SSE	**Sheshan**	**8.79**	**317**	P	**Pn**	**08 41 19.9**	**-0.7**
SSE				S	**Sn**	**08 43 00.4**	**+1.0**
SSE				pmax	pmax		
comp=E,8.0nm,0.8s							
SSE				pmax	pmax		
comp=E,60nm,3.5s							
SSE				LR	LR		
comp=E,280nm,13.6s							
SSE				LR	LR		
comp=E,330nm,14.1s							
JTU	**Tsushima**	**9.68**	**6**	P	**Pn**	**08 41 35.0**	**+2.1**
JMN	**Monobe**	**10.12**	**28**	Pn	**Pn**	**08 41 37.6**	**-1.3**
JMN	**Monobe**	**10.12**	**28**	P	**Pn**	**08 41 38.6**	**-0.3**
NJ2	**Nanjing**	**10.91**	**313**	*e*P	**Pn**	**08 41 50.0**	**+0.2**
NJ2				pmax	pmax		
comp=E,8.0nm,0.5s							
NJ2				LR	LR		
comp=E,890nm,13.3s							
NJ2				LR	LR		
comp=E,560nm,13.3s							
NJ2				LR	LR		
comp=E,2μm,14.2s							
KSAR	**Wonju Array Be**	**12.54**	**359**		**Pn**	**08 42 10.1**	**-1.9**
KSRS	**Korea Array**	**12.55**	**359**	Pn	**Pn**	**08 42 11.9**	**-0.2**
comp=E,3.9nm,0.8s,baz=178,slow=14,SNR=26							
KSRS				LR	LR	08 47 59.3	
comp=E,254nm,18.4s,baz=185,slow=42							
KS19	**Wonju Array Si**	**12.60**	**359**	Pn	**Pn**	**08 42 11.5**	**-1.4**
JCJ	**Chichijima**	**12.75**	**77**	LR	LR	08 46 51.0	
comp=E,238nm,18.5s,baz=192,slow=36							
INU	**Inuyama**	**12.92**	**34**		**Pn**	**08 42 15.4**	**-1.8**
JHJ	**Hachijo jima 2**	**13.03**	**48**	Pn	**Pn**	**08 42 21.0**	**+2.2**
comp=E,18nm,0.3s,baz=117,slow=10,SNR=10							
comp=E,32nm,0.3s							
JHJ2	**Mitsune**	**13.05**	**48**	P	**Pn**	**08 42 19.6**	**+0.6**
JGF	**Kuroka**	**13.29**	**34**		**Pn**	**08 42 20.6**	**-1.7**
JGF	**Kuroka**	**13.29**	**34**	P	**Pn**	**08 42 23.9**	**+1.6**
WHN	**Wuhan**	**13.52**	**298**	*e*P	**Pn**	**08 42 28.3**	**+2.8**
WHN				*e*S	**Sn**	**08 45 01.0**	**+5.4**
WHN				LR	LR		
comp=E,1μm,13.2s							
WHN				LR	LR		
comp=E,3μm,10.6s							
WHN				LR	LR		
comp=E,4μm,10.6s							
MAJO	**Matsushiro**	**14.45**	**34**	Pn	**Pn**	**08 42 36.7**	**-1.5**
MJAR	**Matsushiro Arr**	**14.45**	**34**	Pn	**Pn**	**08 42 38.9**	**+0.7**
comp=E,1.1nm,0.6s,baz=237,slow=14,SNR=6.4							
MJA0	**Matsu Arr-Jizo**	**14.47**	**34**	*e*P	**Pn**	**08 42 40.4**	**+1.9**
TIA	**Tai'an**	**14.80**	**322**	P	**Pn**	**08 42 44.6**	**+1.7**
TIA				pmax	pmax		
comp=E,10.0nm,0.7s							
TIA				pmax	pmax		
comp=E,190nm,5.2s							
TIA				LR	LR		
comp=E,420nm,10.0s							
TIA				LR	LR		
comp=E,280nm,10.3s							
TIA				LR	LR		
comp=E,480nm,11.0s							
DL2	**Dalian**	**15.07**	**340**	P	**Pn**	**08 42 44.8**	**-1.7**
DL2				S	**Sn**	**08 45 33.9**	**+0.7**
DL2				pmax	pmax		
comp=E,17nm,0.9s							
DL2				pmax	pmax		
comp=E,240nm,9.4s							
DL2				LR	LR		
comp=E,720nm,15.3s							
DL2				LR	LR		
comp=E,480nm,12.6s							
DL2				LR	LR		
comp=E,1μm,14.0s							
JSD	**Sado**	**15.66**	**31**	Pn	**Pn**	**08 42 49.1**	**-5.2**
LYN	**LuoYang**	**16.73**	**309**	P	**P**	**08 43 09.1**	**-1.1**
LYN				sP	sP	08 43 14.8	+1.4
LYN				PP	**pwP**	**08 43 23.0**	**+1.1**
LYN				S	**Sn**	**08 46 17.0**	**+3.4**
LYN				pmax	pmax		
comp=E,93nm,0.7s							
LYN				pmax	pmax		
comp=E,320nm,4.4s							
LYN				LR	LR		
comp=E,1μm,12.7s							
LYN				LR	LR		
comp=E,1μm,13.1s							
LYN				LR	LR		
comp=E,2μm,13.1s							
JMM	**Marumori**	**16.81**	**37**	Pn	**Pn**	**08 43 07.0**	**-1.9**
HNS	**HongShan**	**17.00**	**320**	⇑P	**Pn**	**08 43 10.9**	**-0.5**
HNS				PP	**pwP**	**08 43 24.0**	**-1.0**
HNS				S	**Sn**	**08 46 23.1**	**+2.9**
HNS				pmax	pmax		
comp=E,16nm,1.2s							
HNS				pmax	pmax		
comp=E,250nm,7.8s							
HNS				LR	LR		
comp=E,470nm,14.1s							
HNS				LR	LR		
comp=E,380nm,13.1s							
HNS				LR	LR		
comp=E,620nm,12.9s							
DAV	**Davao City (W)**	**17.88**	**189**	LR	LR	08 49 15.3	
comp=E,200nm,20.1s,baz=346,slow=34							
QIZ	**Qiongzhong**	**18.00**	**255**	P	**P**	**08 43 23.8**	**-0.6**
QIZ				S	**Sn**	**08 46 46.6**	**+1.9**
QIZ				LR	LR		
comp=E,280nm,11.0s							
QIZ				LR	LR		
comp=E,300nm,13.6s							
QIZ				LR	LR		
comp=E,380nm,15.7s							
BJT	**Baijiatuau**	**18.19**	**329**		**P**	**08 43 25.9**	**-0.4**
BJI	**Beijing**	**18.20**	**329**	P	**P**	**08 43 25.9**	**-0.5**
BJI				pP	**sP**	**08 43 29.1**	**-0.6**
BJI				pmax	pmax		
comp=E,7.0nm,0.7s							
BJI				pmax	pmax		
comp=E,110nm,5.3s							
BJI				LR	LR		
comp=E,91nm,21.6s							
BJI				LR	LR		
comp=E,80nm,22.5s							
BJI				LR	LR		
comp=E,130nm,22.2s							
TIY	**Taiyuan**	**18.57**	**317**	*e*P	**P**	**08 43 29.3**	**-1.3**
TIY				S	**Sn**	**08 46 54.1**	**-4.2**
TIY				pmax	pmax		
comp=E,220nm,5.6s							
TIY				LR	LR		
comp=E,250nm,15.5s							
TIY				LR	LR		
comp=E,450nm,12.4s							
TIY				LR	LR		
comp=E,500nm,15.4s							
JTM	**Tenmabayashi**	**19.16**	**31**	P	**P**	**08 43 34.2**	**-2.8**
JTM				IAmb	IAmb	08 43 50.7	
comp=Z,57nm,1.2s							
GUMO	**Guam**	**19.29**	**123**	LR	LR	08 51 25.6	
comp=Z,218nm,18.6s,baz=320,slow=38							
USA0B	**Ussuriysk Arra**	**19.53**	**8**	P	**P**	**08 43 40.7**	**-0.4**
USA0B	**Ussuriysk Arra**	**19.53**	**8**	*i* P	**Pn**	**08 43 41.4**	**-0.9**
USRK	**Ussuriysk Ar.**	**19.53**	**8**		**P**	**08 43 40.4**	**-0.6**
USRK	**Ussuriysk Ar.**	**19.53**	**8**	P	**Pn**	**08 43 43.0**	**+0.7**
comp=Z,1.0nm,0.3s,baz=191,slow=9.6,SNR=28							
comp=Z,20nm,0.8s							
BNX	**BinXian**	**20.84**	**358**	⇓P	Pn	08 43 58.5	+0.8
BNX				pmax	pmax		
comp=Z,6.0nm,0.4s							
ERM	**Erimo**	**21.11**	**32**	P	**P**	**08 43 57.3**	**-0.9**
ERM				IAmb	IAmb	08 44 22.2	
comp=Z,20nm,0.8s							
ERM	**Erimo**	**21.11**	**32**	*i* P	**P**	**08 43 57.5**	**-0.6**
ERM				pmax	pmax		
comp=Z,9.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**21.15**	**323**	*e*P	**P**	**08 44 01.3**	**+2.5**
HHC				pP	pwP	08 44 05.6	-5.0
HHC				S	**S**	**08 47 55.6**	**+1.9**
HHC				SS	**SnSn**	**08 48 19.4**	**+3.8**
HHC				pmax	pmax		
comp=Z,30nm,0.6s							
HHC				pmax	pmax		
comp=Z,110nm,4.0s							
HHC				LR	LR		
comp=Z,290nm,11.5s							
HHC				LR	LR		
comp=Z,220nm,12.2s							
HHC				LR	LR		
comp=Z,400nm,13.4s							
XLT	**XiLinHaoTe**	**21.43**	**335**	*e*P	**P**	**08 44 03.1**	**+1.4**
XLT				pP	pwP	08 44 07.1	-5.9
XLT				sP	sP	08 44 14.9	+10
XLT				S	**S**	**08 47 56.9**	**-2.1**
XLT				PcS	**PcS**	**08 51 42.3**	**-0.7**
XLT				pmax	pmax		
comp=Z,7.0nm,0.6s							
XLT				pmax	pmax		
comp=Z,120nm,4.7s							
XLT				LR	LR		
comp=Z,350nm,13.3s							
XLT				LR	LR		
comp=Z,520nm,13.9s							
MYLDM	**Lahad Datu**	**21.69**	**207**	P	**P**	**08 44 04.0**	**-0.6**
MYLDM				IAmb	IAmb	08 44 08.7	
comp=Z,32nm,1.1s							
BTO	**Baotou**	**21.86**	**320**	*e*P	**P**	**08 44 09.3**	**+2.9**
BTO				pP	**pwP**	**08 44 13.4**	**-4.8**
BTO				sP	sP	08 44 16.3	+6.8
BTO				PP	**PnPn**	**08 44 35.0**	**+7.2**
BTO				S	**S**	**08 48 11.4**	**+3.8**
BTO				pmax	pmax		
comp=Z,19nm,0.6s							
BTO				pmax	pmax		
comp=Z,200nm,5.1s							
BTO				LR	LR		
comp=Z,930nm,13.3s							
BTO				LR	LR		
comp=Z,620nm,13.3s							
BTO				LR	LR		
comp=Z,1μm,13.6s							
CD2	**Chengdu**	**22.42**	**291**	P	**P**	**08 44 11.8**	**-0.7**
CD2				pmax	pmax		
comp=Z,20nm,0.8s							
CD2				LR	LR		
comp=Z,740nm,13.3s							
CD2				LR	LR		
comp=Z,1μm,11.4s							
JKA	**Kamikawa-asahi**	**22.50**	**28**	P	**P**	**08 44 10.0**	**-3.1**
KMI	**Kunming**	**23.09**	**276**	P	**P**	**08 44 21.6**	**+1.9**
KMI				S	**S**	**08 48 30.5**	**-0.2**
KMI				pmax	pmax		
comp=Z,32nm,0.5s							
KMI				LR	LR		
comp=Z,190nm,13.5s							
KMI				LR	LR		
comp=Z,250nm,16.8s							
KMI				LR	LR		
comp=Z,240nm,15.5s							
PZH	**PanZhiHua**	**23.91**	**280**	P	**P**	**08 44 27.8**	**+0.1**
PZH				pmax	pmax		
comp=Z,7.0nm,1.0s							
PZH				pmax	pmax		
comp=Z,100nm,4.4s							
TNTI	**Ternate**	**23.97**	**182**	P	**P**	**08 44 28.3**	**+0.2**
TNTI				IAmb	IAmb	08 44 31.6	
comp=Z,28nm,0.9s							
TNTI	**Ternate**	**23.97**	**182**	P	**P**	**08 44 28.8**	**+0.7**
comp=Z,32nm,0.7s							
KLR	**Kul'dur**	**24.48**	**6**	*i* P	**P**	**08 44 33.0**	**+0.4**
KLR				pmax	pmax		
comp=Z,10.0nm,1.0s							
TOLI2	**Tolitoli**	**24.69**	**198**	P	**P**	**08 44 35.0**	**+0.3**
YSS	**Yuzhno-Sakhali**	**24.91**	**24**	P	**P**	**08 44 35.2**	**-1.2**
YSS	**Yuzhno-Sakhali**	**24.91**	**24**	*e*P	**P**	**08 44 38.8**	**+2.4**
YSS				*e*S	**S**	**08 48 59.6**	**+0.5**
YSS				pmax	pmax		
comp=Z,40nm,0.9s							
HEH	**HeiHe**	**25.35**	**359**	*e*P	**P**	**08 44 41.4**	**+1.0**
HEH				pmax	pmax		
comp=Z,5.0nm,0.9s							
MPSI	**Mapaga**	**25.68**	**200**	P	**P**	**08 44 45.2**	**+1.5**
SANI	**Sanana**	**26.84**	**185**	P	**P**	**08 44 53.9**	**-0.3**
comp=Z,470nmcomp=Z,29nm,0.7s							
SBUM	**Sibu**	**27.11**	**217**	P	**P**	**08 44 56.4**	**-0.3**
FAKI	**Fak Fak**	**27.89**	**171**	P	**P**	**08 45 03.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**27.91**	**263**	P	**P**	**08 45 04.4**	**+0.5**
comp=Z,0.8nm,0.3s,baz=60,slow=8.4,SNR=2.1							
CMAR				LR	LR	08 57 57.8	
comp=Z,163nm,18.1s,baz=75,slow=40							
comp=Z,0.8nm,0.3s							
GTA	**Gaotai**	**27.95**	**308**	*e*P	**P**	**08 45 03.3**	**-0.9**
GTA				sP	pwP	08 45 16.1	+0.4
GTA				pmax	pmax		
comp=Z,20nm,0.7s							
GTA				LR	LR		
comp=Z,320nm,13.8s							
GTA				LR	LR		
comp=Z,320nm,14.9s							
GTA				LR	LR		
comp=Z,420nm,13.8s							
ULN	**Ulaanbaatar**	**28.41**	**329**	*i* P	**P**	**08 45 09.2**	**+0.9**
ULN				pmax	pmax		
comp=Z,2.0nm,0.9s							
SMPI	**Sarmi**	**28.57**	**158**	P	**P**	**08 45 10.2**	**+0.5**
comp=Z,33nm,1.6s							
SONM	**Songino Array**	**28.70**	**329**	P	**P**	**08 45 10.2**	**-0.6**
SONM	**Songino Array**	**28.70**	**329**	P	**P**	**08 45 08.9**	**-1.9**
comp=Z,2.1nm,0.6s,baz=146,slow=10,SNR=12							
comp=Z,2.1nm,0.6s							
SONM	**Songino Array**	**28.70**	**329**	*e*P	**P**	**08 45 11.6**	**+0.8**
SONM				pmax	pmax		
comp=Z,2.0nm,0.6s							
KSM	**Kuching**	**28.99**	**219**	P	**P**	**08 45 14.0**	**+0.6**
KSM				IAmb	IAmb	08 45 15.2	
comp=Z,9.8nm,0.8s							
JAY	**Jayapura**	**29.79**	**154**	LR	LR	08 55 51.4	
comp=Z,158nm,18.6s,baz=3.5,slow=34							
KAPI	**Kappang**	**30.82**	**197**	LR	LR	08 57 53.1	
comp=Z,110nm,19.5s,baz=5.0,slow=36							
SHL	**Shillong**	**32.82**	**279**		**P**	**08 45 47.9**	**+0.5**
SHL				IAmb	IAmb	08 46 06.1	
comp=Z,6.9nm,0.9s							
PETK	**Petropavlovsk-**	**35.87**	**30**	P	**P**	**08 46 11.6**	**-1.7**
PETK	**Petropavlovsk-**	**35.87**	**30**	P	**P**	**08 46 14.1**	**+0.8**
comp=Z,1.9nm,0.8s,baz=227,slow=6.9,SNR=3.7							
comp=Z,1.9nm,0.8s							
YAK	**Yakutsk**	**37.17**	**1**	*e*P	**P**	**08 46 24.2**	**0.0**
YAK				*e**PP	**sP**	**08 46 27.2**	**-0.3**
YAK				*e*		08 47 53.4	
YAK				*e*		08 48 45.1	
YAK				*e*S	**S**	**08 52 11.3**	**+1.2**
YAK				*e**SS	**sS**	**08 52 16.9**	**+3.0**
YAK				*e*		08 56 37.0	
YAK				pmax	pmax		
comp=Z,11nm,1.0s							
YAK				pmax	pmax		
comp=E,2.0nm,1.4s							
YAK				pmax	pmax		
comp=N,5.0nm,1.3s							
YAK				pmax	pmax		
comp=Z,128nm,4.9s							
YAK				pmax	pmax		
comp=N,39nm,4.3s							
YAK				smax	smax		
comp=N,79nm,4.2s							
YAK				MLR	MLR		
comp=Z,117nm,19.0s							
YAK				MLR	MLR		
comp=N,75nm,17.0s							
MTN	**Manton Dam**	**37.59**	**175**		**P**	**08 46 27.4**	**-0.9**
GSI	**Gunungsitoli**	**37.74**	**236**	P	**P**	**08 46 29.9**	**+0.2**
WMQ	**Urumqi**	**37.97**	**310**	*e*P	**P**	**08 46 33.9**	**+2.4**
WMQ				LR	LR		
comp=N,170nm,13.9s							
PMG	**Port Moresby**	**38.75**	**149**	P	**P**	**08 46 37.1**	**-0.9**
PMG				IAmb	IAmb	08 46 39.7	
comp=Z,8.4nm,0.7s							
PMG	**Port Moresby**	**38.75**	**149**	P	**P**	**08 46 38.3**	**+0.2**
comp=Z,8.6nm,0.7s,baz=245,slow=18,SNR=3.5							
PMG				LR	LR	08 59 57.3	
comp=Z,155nm,20.6s,baz=351,slow=32							
comp=Z,8.6nm,0.7s							
KNRA	**Kununurra**	**40.30**	**179**	P	**P**	**08 46 51.1**	**+0.1**
COEN	**Coen**	**41.25**	**158**	P	**P**	**08 46 59.5**	**+0.7**
COEN				IAmb	IAmb	08 47 00.8	
comp=Z,15nm,1.1s							
SEY	**Seymchan**	**41.32**	**16**	*e*P	**P**	**08 47 00.7**	**+1.7**
SEY				pmax	pmax		
comp=Z,4.0nm,1.0s							
MK31	**Makanchi Array**	**42.45**	**313**	*i* P	**P**	**08 47 09.0**	**+0.6**
MKAR	**Makanchi Array**	**42.45**	**313**	P	**P**	**08 47 07.8**	**-0.7**
MKAR	**Makanchi Array**	**42.45**	**313**	P	**P**	**08 47 07.6**	**-0.9**
comp=Z,6.4nm,0.6s,baz=99,slow=10,SNR=46							
MKAR				LR	LR	09 06 08.0	
comp=Z,96nm,19.3s,baz=80,slow=38							
comp=Z,6.4nm,0.6s							
MAKZ	**Makanchi**	**42.66**	**313**	P	**P**	**08 47 09.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**42.78**	**184**	P	**P**	**08 47 11.2**	**-0.1**
ZAA0	**Zalesovo Array**	**43.33**	**324**	P	**P**	**08 47 15.6**	**+0.1**
ZALV	**Zalesovo Beam**	**43.33**	**324**	P	**P**	**08 47 15.6**	**+0.1**
ZALV	**Zalesovo Beam**	**43.33**	**324**	P	**P**	**08 47 15.4**	**0.0**
comp=Z,6.2nm,0.6s,baz=110,slow=8.5,SNR=26							
ZALV				LR	LR	09 06 44.6	
comp=Z,135nm,18.8s,baz=82,slow=38							
comp=Z,6.2nm,0.6s							
TARG	**Taragay, Kyrgy**	**44.72**	**305**	P	**P**	**08 47 27.3**	**0.0**
WB0	**Warramunga Arr**	**44.77**	**172**		**P**	**08 47 27.0**	**-0.3**
WRAB	**Tennant Creek**	**44.93**	**172**	P	**P**	**08 47 28.0**	**-0.5**
WRAB	**Tennant Creek**	**44.93**	**172**	*i* P	**P**	**08 47 28.8**	**+0.2**
WRAB				pmax	pmax		
comp=Z,23nm,0.8s							
WRA	**Warramunga Arr**	**44.93**	**172**		**P**	**08 47 28.1**	**-0.5**
WRA	**Warramunga Arr**	**44.93**	**172**	P	**P**	**08 47 28.4**	**-0.2**
comp=Z,17nm,0.7s,baz=352,slow=8.6,SNR=65							
WRA				PcP	**PcP**	**08 49 09.6**	**-0.4**
comp=Z,1.6nm,0.7s,baz=350,slow=3.9,SNR=1.2							
comp=Z,17nm,0.7s							
WR8	**Warramunga Arr**	**44.97**	**172**		**P**	**08 47 28.8**	**-0.1**
KURK	**Kurchatov**	**45.81**	**318**		**P**	**08 47 34.6**	**-0.7**
KURK	**Kurchatov**	**45.81**	**318**	P	**P**	**08 47 34.8**	**-0.5**
KURK						08 49 12.3	
KURBB	**Kurchatov Arra**	**45.84**	**317**	P	**P**	**08 47 34.8**	**-0.7**
comp=Z,2.7nm,0.6s,baz=104,slow=8.6,SNR=24							
KURBB				PcP	**PcP**	**08 49 12.3**	**-0.4**
comp=Z,0.6nm,0.6s,baz=110,slow=3.1,SNR=1.3							
KURBB				LR	LR	09 07 41.3	
comp=Z,99nm,20.3s,baz=162,slow=37							
comp=Z,2.7nm,0.6s							
KSH	**Kashi**	**45.96**	**302**	P	P	08 47 40.9	+4.1
HNR	**Honiara**	**46.03**	**134**	LR	LR	09 08 20.2	
comp=Z,51nm,18.5s,baz=128,slow=38							
TIXI	**Tiksi**	**46.82**	**0**	P	**P**	**08 47 43.2**	**+0.4**
TIXI				IAmb	IAmb	08 48 00.9	
comp=Z,7.0nm,1.4s							
PSA00	**Pilbara Seismi**	**46.87**	**191**	P	**P**	**08 47 43.0**	**-0.9**
AAK	**Ala-Archa**	**47.25**	**306**	P	**P**	**08 47 46.8**	**-0.2**
AS31	**Alice Springs**	**48.56**	**173**		**P**	**08 47 57.0**	**0.0**
ASAR	**Alice Springs**	**48.56**	**173**	P	**P**	**08 47 56.7**	**-0.3**
ASAR	**Alice Springs**	**48.56**	**173**	P	**P**	**08 47 57.3**	**+0.3**
comp=Z,4.8nm,0.7s,baz=2.6,slow=14,SNR=74							
ASAR				PcP	**PcP**	**08 49 22.3**	**-0.4**
comp=Z,1.1nm,0.7s,baz=336,slow=3.0,SNR=2.6							
ASAR				LR	LR	09 10 18.8	
comp=Z,89nm,18.6s,baz=283,slow=38							
comp=Z,4.8nm,0.7s							
BILL	**Bilibino**	**48.97**	**18**	*i* P	**P**	**08 48 00.7**	**+1.1**
BTK	**Batken**	**49.94**	**302**	P	**P**	**08 48 08.0**	**+0.4**
KK31	**Karatay Array**	**50.20**	**306**		**P**	**08 48 09.6**	**+0.1**
KK31				IAmb	IAmb	08 48 11.8	
comp=Z,5.0nm,0.9s							
KKAR	**Karatay Array**	**50.20**	**306**		**P**	**08 48 09.6**	**+0.1**
GAR	**Garm**	**50.35**	**301**		**P**	**08 48 10.8**	**+0.1**
NRIK	**Noril'sk**	**50.55**	**343**		**P**	**08 48 11.1**	**-0.5**
NRIK				IAmb	IAmb	08 48 25.4	
comp=Z,6.0nm,0.9s							
NRIK	**Noril'sk**	**50.55**	**343**	P	**P**	**08 48 11.0**	**-0.6**
comp=Z,4.4nm,0.8s,baz=120,slow=10.0,SNR=9.9							
comp=Z,4.4nm,0.8s							
NRIK	**Noril'sk**	**50.55**	**343**	*i* P	**P**	**08 48 12.4**	**+0.8**
NRIK				pmax	pmax		
comp=Z,5.0nm,0.9s							
BVAR	**Borovoye Array**	**51.29**	**319**	P	**P**	**08 48 17.6**	**+0.1**
comp=Z,9.0nm,0.6s,baz=86,slow=7.3,SNR=44							
BVAR				LR	LR	09 11 39.6	
comp=Z,121nm,18.9s,baz=96,slow=38							
comp=Z,9.0nm,0.6s							
BRVK	**Borovoye**	**51.36**	**319**		**P**	**08 48 17.8**	**-0.2**
BRVK				IAmb	IAmb	08 48 31.6	
comp=Z,6.8nm,0.8s							
SIMJ	**Simiganj**	**51.38**	**301**	P	**P**	**08 48 18.4**	**-0.2**
KBL	**Kabul**	**51.67**	**295**		**P**	**08 48 20.8**	**-0.1**
KBL				IAmb	IAmb	08 48 34.2	
comp=Z,10.0nm,0.8s							
ABKAR	**Akbulak array**	**57.58**	**314**		**P**	**08 49 03.3**	**0.0**
ABKAR	**Akbulak array**	**57.58**	**314**		**P**	**08 49 03.0**	**-0.2**
ABKAR				IAmb	IAmb	08 49 17.4	
comp=Z,6.5nm,0.8s							
STKA	**Stephens Creek**	**57.85**	**167**	P	**P**	**08 49 04.5**	**-0.8**
comp=Z,3.6nm,0.6s,baz=344,slow=8.2,SNR=12							
STKA				LR	LR	09

J20K IAmb IAmb 08 50 02.1
comp=Z,6.8nm,1.2s
B22K Teshekpuk Lake 62.90 22 P **P 08 49 40.5 +1.1**
B22K IAmb IAmb 08 50 02.9
comp=Z,3.9nm,0.8s
CAN Canberra 63.01 161 P **P 08 49 40.6 +0.1**
D22K Ayikyak River 63.13 24 **P 08 49 42.1 +1.1**
D22K IAmb IAmb 08 49 45.8
comp=Z,4.8nm,1.1s
KIRV Kirov 63.35 325 LR LR 09 20 01.7
comp=Z,172nm,19.1s,baz=82,slow=39
PPLA Purkeypile 63.45 30 P **P 08 49 43.0 -0.4**
D23K Nanushuk River 63.85 23 IAmb IAmb 08 50 02.5
comp=Z,7.0nm,1.1s
G23K Bananza Creek 64.18 26 IAmb IAmb 08 50 03.5
comp=Z,3.3nm,1.0s
E23K Chandalar 64.27 24 IAmb IAmb 08 50 15.9
comp=Z,3.0nm,0.9s
RND Reindeer 64.93 30 **P 08 49 53.2 +0.3**
RND IAmb IAmb 08 49 57.3
comp=Z,8.0nm,1.0s
F24K Squaw Lake 64.96 25 IAmb IAmb 08 50 08.1
comp=Z,3.8nm,0.8s
BELG Belogornoye 65.08 318 LR LR 09 21 03.9
comp=Z,89nm,18.5s,baz=122,slow=39
G24K Hadweenzic Riv 65.19 26 IAmb IAmb 08 50 09.8
comp=Z,2.5nm,0.8s
ILAR Eielson Array 65.64 28 P **P 08 49 57.1 -0.3**
comp=Z,0.5nm,0.8s,baz=252,slow=4.5,SNR=9.1
comp=Z,0.5nm,0.8s
C27K Jago River 66.27 22 IAmb IAmb 08 50 16.7
comp=Z,3.4nm,0.8s
F26K Sheenjek River 66.37 25 IAmb IAmb 08 50 15.8
comp=Z,4.0nm,0.9s
E27K Coleen River 67.25 24 IAmb IAmb 08 50 23.2
comp=Z,4.0nm,1.0s
E28M Babbage River 67.92 23 IAmb IAmb 08 50 26.9
comp=Z,4.4nm,0.8s
KLMR Klimovskoe 68.00 328 *eP* **P 08 50 13.2 +0.8**
KLMR pmax pmax
comp=Z,25nm,1.7s
F30M Barrier River 69.52 24 IAmb IAmb 08 50 48.2
comp=Z,6.1nm,0.9s
G30M tAoh Zraii Nji 69.52 25 IAmb IAmb 08 50 47.2
comp=Z,6.6nm,0.9s
GNI Garni 69.66 306 LR LR 09 25 14.6
comp=Z,43nm,19.8s,baz=99,slow=40
KBZ Khabaz 70.02 310 P **P 08 50 26.2 +0.9**
comp=Z,4.2nm,0.9s,baz=103,slow=2.7,SNR=8.7
KBZ LR LR 09 23 58.8
comp=Z,66nm,20.1s,baz=82,slow=38
comp=Z,4.2nm,0.9s
KBZ Khabaz 70.02 310 *eP* **P 08 50 27.3 +2.0**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 70.11 310 *eP* **P 08 50 26.3 +0.3**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,44nm,18.0s
H31M Peel River 70.58 26 IAmb IAmb 08 50 43.5
comp=Z,3.7nm,0.8s
OBN Obninsk 70.90 323 *i* P **P 08 50 28.1 -2.4**
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,124nm,21.0s
C36M Paulatuk 72.97 21 IAmb IAmb 08 50 57.4
comp=Z,5.0nm,0.8s
FINES FINESS Array B 74.04 331 P **P 08 50 49.9 +0.8**
comp=Z,2.9nm,0.8s,baz=73,slow=5.8,SNR=14
comp=Z,2.9nm,0.8s
FINES FINESS Array B 74.04 331 *eP* **P 08 50 51.0 +1.9**
FINES pmax pmax
comp=Z,3.0nm,0.8s
MNK Minsk 75.84 324 *i* P **P 08 50 56.4 -3.3**
MNK *i* 08 51 09.6
MNK *i* 08 53 46.6
MNK *i* PPP PPP 08 55 32.8
MNK *i* S **S 09 00 40.1 -1.3**
MNK *i* 09 01 10.8
MNK *i* SS **SS 09 05 33.5 +0.7**
MNK *i* SSS SSS 09 08 56.4
MNK pmax pmax
comp=Z,8.0nm,0.7s
MNK pmax pmax
comp=E,7.0nm,0.7s
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK MLR MLR
comp=N,224nm,19.0s
MNK MLR MLR
comp=Z,172nm,20.0s
MNK MLR MLR
comp=E,336nm,20.0s
AK03 Malin Array Si 76.56 320 P **P 08 51 04.0 +0.2**
AKASG Malin Array Be 76.56 320 P **P 08 51 04.0 +0.1**
comp=E,2.6nm,0.7s,baz=59,slow=6.4,SNR=12
comp=E,2.6nm,0.7s
AKASG Malin Array Be 76.56 320 *eP* **P 08 51 06.4 +2.6**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 76.56 320 P **P 08 51 04.0 +0.2**
RES Resolute Bay 76.88 11 LR LR 09 27 58.8
comp=Z,22nm,19.4s,baz=16,slow=38
BRTR Keskin Array B 77.87 308 P **P 08 51 12.3 +0.8**
comp=Z,1.2nm,0.8s,baz=67,slow=7.3,SNR=5.6
comp=Z,1.2nm,0.8s
BRTR Keskin Array B 77.87 308 *eP* **P 08 51 14.3 +2.7**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
RTZ Ruatahuna 77.92 143 P **P 08 51 11.0 -0.6**
BKZ Black Stump Fm 78.05 144 P **P 08 51 12.1 -0.2**
RNPP8 Varash 78.25 321 P **P 08 51 13.4 +0.1**
YKA Yellowknife Ar 79.76 25 P **P 08 51 21.8 +0.5**
comp=Z,0.8nm,0.8s,baz=301,slow=5.1,SNR=12
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 79.76 25 *eP* **P 08 51 24.4 +3.1**
YKA pmax pmax
comp=Z,1.0nm,0.8s
HFS Hagfors 80.02 332 P **P 08 51 22.7 -0.1**
comp=Z,1.5nm,0.8s,baz=72,slow=4.7,SNR=3.0
HFS LR LR 09 30 06.4
comp=Z,78nm,18.2s,baz=70,slow=38
comp=Z,1.5nm,0.8s
NB2 NORSAR Subarra 80.53 334 P **P 08 51 25.3 -0.3**
comp=Z,6.8nm,1.2s,baz=53,slow=5.9
NOA NORSAR Array B 80.53 334 P **P 08 51 25.4 -0.3**
comp=Z,0.7nm,0.6s,baz=52,slow=5.4,SNR=6.5
NOA LR LR 09 30 00.2
comp=Z,62nm,19.9s,baz=70,slow=38
comp=Z,0.7nm,0.6s
MLR Muntele Rosu 80.72 316 LR LR 09 30 15.6
comp=Z,98nm,20.2s,baz=80,slow=38
SUMG Summit 82.39 356 *i* P **P 08 51 37.0 +1.3**
VYHS Vyhne 83.59 321 *eP* **P 08 51 44.2 +2.3**
VYHS Vyhne 83.59 321 *eP* **P 08 51 44.2 +2.3**
VRAC Vranov 84.43 322 LR LR 09 31 51.9
comp=Z,159nm,18.3s,baz=63,slow=37
CLL Collm 85.26 325 *eP* **P 08 51 52.0 +1.7**
CLL *ex* x 08 52 03.0
CLL AMS AMS 09 28 00.0
comp=N,100nm,21.7s
CLL AMS AMS 09 28 00.0
comp=E,100nm,18.6s
CLL AMS AMS 09 32 00.0
comp=Z,200nm,19.2s
GERES GERESS Array B 86.28 323 P **P 08 51 55.9 +0.4**
comp=Z,0.3nm,0.6s,baz=57,slow=3.6,SNR=4.3
comp=Z,0.3nm,0.6s
J05D Fort Rock, OR 86.97 43 P **P 08 52 01.1 +2.0**
J05D IAmb IAmb 08 52 03.8
comp=Z,6.9nm,0.9s
DAVOX Davos/Dischmat 89.58 323 LR LR 09 34 31.7
comp=Z,120nm,20.1s,baz=74,slow=37
PPT2 Papeete2 90.46 109 *e*LR LR 09 21 00.7
comp=Z,144nm,29.0s
NVAR Mina Array Bea 91.45 46 P **P 08 52 21.1 +0.7**
comp=Z,0.9nm,0.7s,baz=284,slow=3.5,SNR=4.2
comp=Z,0.9nm,0.7s
ELK Elko 92.09 43 LR LR 09 25 16.9
comp=Z,81nm,21.9s,baz=262,slow=30
PDAR Pinedale Array 94.23 39 P **P 08 52 33.0 -0.1**
comp=Z,0.2nm,0.6s,baz=280,slow=5.8,SNR=2.6
comp=Z,0.2nm,0.6s
QSPA South Pole Qui 114.65 180 PKP **PKiKP 08 57 52.1 -1.1**
comp=Z,0.8nm,0.9s,baz=240,slow=1.0,SNR=6.7

ELIB Princess Elisa 118.04 200 *d*PKPdf **PKiKP 08 57 59.9 +0.1**
PLCA Paso Flores 157.73 140 PKPab **PKPab 08 59 43.6 +0.9**
comp=Z,1.7nm,1.0s,baz=278,slow=7.1,SNR=5.7

*HEL **21** 08:59:51.2±0.1, 67°.72N×26°.97E, h0km, ML1.6, Explosion*
*IDC **21** 08:59:51.8±1.4, 67°.76N×27°.06E, h0km, mbtmp3.0/1, ML1.4/1, Error ellipse: s-maj=32.7km s-min=10.1km az=85.0*
*UPP **21** 08:59:53.3±1.0, 67°.72N×26°.61E, h0km, ML1.7*
ISC 21 08:59:51.0±0.8, 67°.77N±0°.03×26°.96E±0°.02, h0km, n39, σ1§18/62, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**0.87**	**35**	PB	**Pb**	**09 00 08.1**	**-0.9**
RAJF				SB	**Sb**	**09 00 20.2**	**-0.9**
VRF	**Varrio**	**1.01**	**90**	PB	**Pg**	**09 00 09.9**	**-0.4**
VRF				MSG		09 00 22.1	
	comp=Z,5.3nm,0.2s						
VRF				SB	**Sg**	**09 00 22.8**	**-0.5**
RNF	**Rovaniemi**	**1.22**	**198**	PG	**Pg**	**09 00 13.0**	**-1.4**
RNF				SB	**Sg**	**09 00 29.7**	**-0.4**
KLF	**Kolari**	**1.27**	**246**	PG	**Pg**	**09 00 14.0**	**-1.3**
KLF				MSG		09 00 29.3	
	comp=Z,5.2nm,0.2s						
KLF				SN	**Sg**	**09 00 32.8**	**+1.0**
HEF	**Hetta**	**1.40**	**299**	*eP*	**Pg**	**09 00 17.6**	**-0.1**
HEF	**Hetta**	**1.40**	**299**	PN	**Pg**	**09 00 17.6**	**-0.1**
	baz=119						
HEF				MSG		09 00 34.0	
	comp=Z,5.8nm,0.2s						
HEF				SN	**Sn**	**09 00 37.4**	**+0.7**
PAJU	**Pajala**	**1.67**	**245**	P	**Pn**	**09 00 21.2**	**-0.2**
PAJU				S	**Sn**	**09 00 42.9**	**-0.6**
PAJU	**Pajala**	**1.67**	**245**	PG	**Pn**	**09 00 21.2**	**-0.2**
PAJU				SN	**Sn**	**09 00 43.0**	**-0.4**
OLKF	**Oulanka, Finla**	**1.74**	**146**	PG	**Pn**	**09 00 21.5**	**-0.9**
OLKF				MSG		09 00 41.7	
	comp=Z,7.1nm,0.2s						
OLKF				SN	**Sn**	**09 00 46.4**	**+1.2**
RANF	**Ranua**	**1.76**	**182**	PG	**Pn**	**09 00 21.7**	**-1.0**
	baz=6.0						
RANF				SG	**Sn**	**09 00 43.3**	**-2.5**
ARA0	**ARCESS Array S**	**1.85**	**344**	PG	**Pg**	**09 00 25.5**	**-0.9**
ARA0				SG	**Sg**	**09 00 51.6**	**+1.2**
ARCES	**ARCESS Array B**	**1.85**	**344**	Pn	**Pb**	**09 00 25.1**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=164,slow=17,SNR=37						
ARCES				Sn	**Sg**	**09 00 50.2**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=161,slow=28,SNR=13						
KTK1	**Kautokeino**	**1.86**	**314**	PG	**Pb**	**09 00 25.5**	**-0.3**
KTK1				SG	**Sg**	**09 00 50.7**	**0.0**
LANU	**Lannavaara**	**1.90**	**281**	P	**Pn**	**09 00 25.4**	**+0.8**
LANU	**Lannavaara**	**1.90**	**281**	PG	**Pn**	**09 00 25.2**	**+0.6**
	baz=99						
MASU	**Masugnsbyn**	**1.93**	**263**	P	**Pn**	**09 00 25.6**	**+0.6**
TOF	**Tornio**	**1.99**	**213**	PG	**Pn**	**09 00 25.8**	**0.0**
TOF				MSG		09 00 49.0	
	comp=Z,3.5nm,0.2s						
TOF				SG	**Sn**	**09 00 50.8**	**-0.5**
KEV	**Kevo**	**2.00**	**0**	*eP*	**Pg**	**09 00 28.1**	**-1.1**
KEV	**Kevo**	**2.00**	**0**	PG	**Pg**	**09 00 28.2**	**-1.0**
KEV				MSG		09 00 52.1	
	comp=Z,4.3nm,0.2s						
KEV				SG	**Sg**	**09 00 54.8**	**-0.2**
MSF	**Maaselka**	**2.04**	**155**	PG	**Pn**	**09 00 26.9**	**+0.3**
MSF				SG	**Sn**	**09 00 52.9**	**+0.3**
KU6	**Riekki**	**2.10**	**145**	PG	**Pn**	**09 00 28.1**	**+0.8**
	baz=324						
KU6				MSG		09 00 52.1	
	comp=Z,2.5nm,0.2s						
KU6				SG	**Sn**	**09 00 55.3**	**+1.2**
KU2	**Taivalkoski**	**2.13**	**166**	PG	**Pn**	**09 00 28.5**	**+0.7**
KU2				SG	**Sn**	**09 00 57.0**	**+2.1**
ERTU	**Ertsjaerv**	**2.23**	**239**	P	**Pn**	**09 00 29.9**	**+0.8**
ERTU	**Ertsjaerv**	**2.23**	**239**	PB	**Pn**	**09 00 29.5**	**+0.4**
	baz=58						
ERTU				SG	**Sn**	**09 00 59.4**	**+2.2**
KALU	**Kalix**	**2.39**	**218**	P	**Pn**	**09 00 32.1**	**+0.9**
KALU	**Kalix**	**2.39**	**218**	PB	**Pn**	**09 00 32.2**	**+0.9**
KALU				SG	**Sn**	**09 01 03.0**	**+1.8**
KU1	**Kurvinen**	**2.44**	**154**	PB	**Pn**	**09 00 32.8**	**+0.8**
KU1				SG	**Sn**	**09 01 05.0**	**+2.4**
KUA	**Kurravaara**	**2.52**	**277**	P	**Pn**	**09 00 34.1**	**+1.0**
DUNU	**Dundret**	**2.55**	**258**	P	**Pn**	**09 00 34.4**	**+0.8**
KIF	**Kilpisjarvi**	**2.60**	**301**	PB	**Pb**	**09 00 37.3**	**-1.0**
KIF				MSG		09 01 09.2	
	comp=Z,1.6nm,0.2s						
KIF				SG	**Sg**	**09 01 14.2**	**-0.1**
OUL	**Oulu**	**2.73**	**190**	PB	**Pn**	**09 00 37.2**	**+1.3**
OUL				SB	**Sn**	**09 01 11.4**	**+1.8**
LVZ	**Lovozero**	**2.92**	**84**	SG	**Sb**	**09 01 21.9**	**+1.9**
OBF4	**Vikkela, Lumij**	**3.06**	**195**	PB	**Pn**	**09 00 42.5**	**+2.0**
OBF4				MSG		09 01 19.8	
	comp=Z,1.0nm,0.2s						
I37NO	**I37NO**	**3.35**	**297**	I	I	09 22 45.0	
	comp=Z,0.1nm,1.1s,baz=108,slow=329,SNR=7.6						
OBF0	**Syolatti, Pyha**	**3.47**	**200**	PN	**Pn**	**09 00 47.0**	**+0.9**
OBF0				SN	**Sn**	**09 01 28.4**	**+0.7**
OUF	**Merijarvi**	**3.54**	**196**	PN	**Pn**	**09 00 48.4**	**+1.4**
NIF	**Nilsia**	**4.41**	**175**	PN	**Pn**	**09 01 00.2**	**+1.2**
UMAU	**Umeaa**	**4.68**	**216**	PN	**Pn**	**09 01 03.4**	**+0.7**
FINES	**FINESS Array B**	**6.36**	**184**	Pn	**Pn**	**09 01 27.3**	**+1.4**
	baz=7.0,slow=12,SNR=1.5						
FINES				Sn	**Sn**	**09 02 35.8**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=3.9,slow=22,SNR=2.0						
FINES				Lg	Lg	09 03 03.9	
	comp=Z,0.1nm,0.3s,baz=6.6,slow=28,SNR=1.9						
	comp=Z,1.3nm,0.9s						

IDC 21 09:00:57.4±3.5, 6°.85S×152°.18E, h0km, mb3.5/2, mbtmp3.7/3, ML2.2/1, Error ellipse: s-maj=106.2km s-min=53.1km az=138.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.58**	**243**	Pn	Pn	09 02 22.5	+0.7
	4.6nm,0.3s,baz=55,slow=12,SNR=10						
PMG				Sn	Sn	09 03 21.0	-5.7
	5.3nm,0.3s,baz=278,slow=23,SNR=14						
	18nm,0.5s						
WRA	**Warramunga Arr**	**21.66**	**231**	P	P	09 05 48.4	-1.4
	1.0nm,0.5s,baz=58,slow=12,SNR=10						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**24.25**	**224**	P	P	09 06 17.0	+0.6
	1.0nm,0.7s,baz=58,slow=8.8,SNR=17						
	1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.29**	**284**	PKP	PKPdf	09 20 46.0	-0.6
	59nm,0.3s,baz=72,slow=2.7,SNR=1.7						

IDC 21 09:03:15.7±1.7, 0°.36N×126°.77E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=168.3km s-min=21.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.49**	**160**	P	P	09 08 05.6	-0.6
	0.7nm,0.3s,baz=339,slow=11,SNR=22						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**24.86**	**164**	P	P	09 08 40.6	+0.4
	1.4nm,0.7s,baz=346,slow=9.8,SNR=14						
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**60.35**	**326**	P	P	09 13 25.3	-1.4
	0.2nm,0.3s,baz=117,slow=7.2,SNR=5.7						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.60**	**328**	P	P	09 13 56.2	+1.3
	0.3nm,0.3s,baz=126,slow=5.7,SNR=4.9						
	0.3nm,0.3s						

*IDC **21** 09:10:20.1±0.9, 36°.15N×114°.65E, h0km, mb3.7/13, mbtmp3.6/17, ML3.2/4, MS3.0/6, Error ellipse: s-maj=22.1km s-min=17.1km az=14.0*
ISC 21 09:10:22.2±0.6, 36°.22N±0°.05×114°.70E±0°.07, h10km, n25, σ0§90/24, mb3.7/13, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHN	**Wuhan**	**5.67**	**183**	Pg	**Pg**	**09 12 11.6**	**+0.8**
WHN				Sg	**Sg**	**09 13 25.3**	**+1.1**
WHN				smax	smax		
	comp=N,370nm,0.9s						
WHN				smax	smax		
	comp=E,260nm,0.8s						
BTO	**Baotou**	**5.72**	**321**	*e*Pg	Pb	09 11 57.3	-4.8
BTO				Sg	**Sb**	**09 13 11.9**	**+1.2**
BTO				smax	smax		
	comp=N,240nm,0.9s						
BTO				smax	smax		
	comp=E,170nm,0.9s						
DL2	**Dalian**	**6.12**	**62**	Pg	**Pn**	**09 11 52.3**	**-0.3**
DL2				Sg	**Sn**	**09 13 01.5**	**-1.1**
DL2				smax	smax		
	comp=N,110nm,0.6s						
DL2				smax	smax		
	comp=E,62nm,0.7s						
DL2				LR	LR		
	comp=N,330nm,12.9s						
DL2				LR	LR		
	comp=E,300nm,12.3s						
DL2				LR	LR		
	comp=Z,580nm,18.6s						
XLT	**XiLinHaoTe**	**7.74**	**7**	*e*PKP	**Pb**	**09 12 38.1**	**+1.6**
KSRS	**Korea Array**	**10.67**	**79**	Pn	**Pn**	**09 12 55.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=270,slow=14,SNR=7.0						
KSRS				Lg	Lg	09 16 00.2	
	comp=Z,0.5nm,0.3s,baz=258,slow=29,SNR=7.6						
KSRS				LR	LR	09 17 50.9	
	comp=Z,39nm,18.2s,baz=235,slow=42						
	comp=Z,1.0nm,0.5s						
GTA	**Gaotai**	**12.20**	**290**	*e*P	Pn	09 13 13.1	-3.0
GTA				pP		09 13 17.4	
GTA				sP		09 13 20.3	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				LR	LR		
	comp=N,150nm,7.6s						
GTA				LR	LR		
	comp=E,170nm,7.6s						
GTA				LR	LR		
	comp=Z,160nm,9.5s						
SONM	**Songino Array**	**13.14**	**335**	Pn	**Pn**	**09 13 28.0**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=149,slow=14,SNR=6.5						
SONM				Lg	Lg	09 17 04.4	
	comp=Z,0.4nm,0.3s,baz=152,slow=28,SNR=6.7						
SONM				LR	LR	09 18 55.5	
	comp=Z,69nm,21.3s,baz=78,slow=39						
	comp=Z,1.0nm,0.5s						
JNU	**Nakatsue**	**13.67**	**98**	LR	LR	09 19 06.9	
	comp=Z,54nm,18.9s,baz=329,slow=38						
KLR	**Kul'dur**	**18.00**	**38**	P	**Pn**	**09 14 33.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=246,slow=12,SNR=4.2						
KLR				LR	LR	09 22 06.2	
	comp=Z,64nm,21.6s,baz=228,slow=39						
	comp=Z,0.3nm,0.3s						
MJAR	**Matsushiro Arr**	**18.92**	**82**	P	**P**	**09 14 42.7**	**-0.5**
	baz=270,slow=8.4,SNR=2.0						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**22.51**	**222**	P	**P**	**09 15 20.7**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=32,slow=10,SNR=1.7						
CMAR				LR	LR	09 24 08.4	
	comp=Z,20nm,18.6s,baz=140,slow=37						
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**26.30**	**304**	P	**P**	**09 15 57.7**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=98,slow=11,SNR=13						
	comp=Z,1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**27.26**	**320**	P	**P**	**09 16 05.7**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=140,slow=6.9,SNR=2.0						
	comp=Z,0.7nm,0.6s						
YAK	**Yakutsk**	**27.49**	**15**	LR	LR	09 28 05.6	
	comp=Z,67nm,18.1s,baz=201,slow=39						
KURBB	**Kurchatov Arra**	**29.62**	**310**	P	**P**	**09 16 27.2**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=107,slow=9.6,SNR=6.0						
	comp=Z,1.1nm,0.7s						
BVAR	**Borovoye Array**	**35.08**	**313**	P	**P**	**09 17 15.5**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=99,slow=9.5,SNR=1.7						
	comp=Z,0.3nm,0.4s						
NRIK	**Noril'sk**	**36.35**	**344**	P	**P**	**09 17 26.7**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=134,slow=6.2,SNR=4.5						
	comp=Z,2.1nm,0.9s						
FINES	**FINESS Array B**	**58.31**	**326**	P	**P**	**09 20 15.4**	**-1.5**
	comp=Z,2.2nm,1.0s,baz=90,slow=2.1,SNR=1.8						
	comp=Z,2.2nm,1.0s						
ILAR	**Eielson Array**	**61.26**	**29**	P	**P**	**09 20 37.9**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=310,slow=6.4,SNR=4.5						
	comp=Z,0.3nm,0.7s						
BRTR	**Keskin Array B**	**61.88**	**300**	P	**P**	**09 20 41.7**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=74,slow=5.1,SNR=2.6						
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**62.27**	**160**	P	**P**	**09 20 43.6**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=342,slow=5.8,SNR=4.8						
	comp=Z,0.2nm,0.6s						
HFS	**Hagfors**	**64.40**	**327**	P	**P**	**09 20 57.7**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=63,slow=13,SNR=5.1						
	comp=Z,1.1nm,0.6s						
NB2	**NORSAR Subarra**	**65.03**	**329**	P	**P**	**09 21 01.9**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=58,slow=6.5						
NOA	**NORSAR Array B**	**65.03**	**329**	P	**P**	**09 21 02.0**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=56,slow=6.2,SNR=4.8						
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**73.96**	**21**	P	**P**	**09 21 56.5**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=318,slow=6.3,SNR=3.6						
	comp=Z,0.2nm,0.6s						

*JMA **21** 09:14:06.4±0.1, 29°.N±1°.×13°.9E±°, h514km, MV4.1/40, W OFF OGASAWARA*
*IDC **21** 09:14:07.1±0.6, 28°.71N×138°.95E, h485km±6km, mb3.3/25, mbtmp4.2/33, Error ellipse: s-maj=10.4km s-min=8.0km az=73.0*
*NEIC **21** 09:14:08.5±1.2, 28°.7N±0°.1×138°.8E±0°.1, h491km±10km, mb4.1/58, Error ellipse: s-maj=18.3km s-min=15.0km az=134.0*
ISC 21 09:14:08.2±0.4, 28°.72N±0°.06×138°.95E±0°.06, h500km, n340, σ1§24/354, mb4.0/61, 1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.29**	**119**	P	**P**	**09 15 19.8**	**-1.5**
CBIJ				S	**S**	**09 16 17.2**	**-3.5**
JCJ	**Chichijima**	**3.29**	**119**		**P**	**09 15 19.2**	**-2.1**
JCJ	**Chichijima**	**3.29**	**119**	P	**P**	**09 15 18.9**	**-2.3**
	107nm,0.3s,baz=7.2,slow=8.8,SNR=99						
JCJ				S	**S**	**09 16 16.1**	**-4.6**
	212nm,0.4s,baz=245,slow=22,SNR=21						
JHH2	**Haha-jima-NKT2**	**3.54**	**125**	*e*P	**P**	**09 15 22.0**	**-1.1**
JHH2				*e*S	**S**	**09 16 20.5**	**-3.5**
JHJ2	**Mitsune**	**4.44**	**9**	P	**P**	**09 15 29.5**	**-0.6**
JHJ2	**Mitsune**	**4.44**	**9**	P	**P**	**09 15 30.3**	**+0.2**
JHJ	**Hachijo jima 2**	**4.44**	**9**	P	**P**	**09 15 29.9**	**-0.2**
	43nm,0.3s,baz=52,slow=19,SNR=26						
JHJ				S	**S**	**09 16 34.0**	**-3.1**
	54nm,0.3s,baz=241,slow=23,SNR=5.5						
JTNC	**Tanabenakahech**	**5.83**	**332**	*e*P	**P**	**09 15 44.2**	**+1.4**
BSO1	**Boso 1**	**6.16**	**16**	S	**S**	**09 17 03.4**	**-1.5**
BSO3	**Boso 3**	**6.21**	**12**	*e*P	**P**	**09 15 45.8**	**-0.2**
BSO3				S	**S**	**09 17 03.4**	**-2.9**
BSO4	**Boso 4**	**6.36**	**10**	*e*S	**S**	**09 17 07.2**	**-2.2**
JOD2	**Odawara 2**	**6.52**	**1**	*e*S	**S**	**09 17 08.8**	**-3.7**
JMN	**Monobe**	**6.61**	**320**	P	**P**	**09 15 51.6**	**+1.2**
JTO	**Tosashimizu**	**6.70**	**309**	P	**P**	**09 15 52.8**	**+1.5**
JRY	**Ryogami san**	**7.27**	**360**	P	**P**	**09 15 56.5**	**-0.6**
JRY				*e*S	**S**	**09 17 23.7**	**-2.6**
JYT	**Yasato**	**7.56**	**8**	*e*P	**P**	**09 15 56.5**	**-3.3**
JYT				*e*S	**S**	**09 17 26.1**	**-5.4**
JAG	**Ashikaga**	**7.69**	**3**	P	**P**	**09 15 59.6**	**-1.6**
JAG				S	**S**	**09 17 27.3**	**-6.8**
MJAR	**Matsushiro Arr**	**7.82**	**356**	P	**P**	**09 16 01.2**	**-1.4**
	1.2nm,0.5s,baz=180,slow=11,SNR=6.0						
MJAR				S	**S**	**09 17 34.3**	**-2.3**
	1.9nm,0.6s,baz=251,slow=20,SNR=4.5						
MAJO	**Matsushiro**	**7.82**	**356**	P	**P**	**09 16 01.6**	**-1.0**
MJB9	**Matsu-Tunnel**	**7.83**	**356**	P	**P**	**09 16 01.9**	**-0.8**
JHO	**Hitachi**	**7.98**	**9**	P	**P**	**09 16 03.6**	**-0.7**
JNU	**Nakatsue**	**8.20**	**304**	P	**P**	**09 16 07.2**	**+0.6**
	32nm,0.8s,baz=144,slow=2.9,SNR=31						
JNU				S	**S**	**09 17 42.5**	**-1.3**
	3.2nm,0.8s,baz=21,slow=23,SNR=1.5						
JSJ	**Shimokoshiki**	**8.51**	**293**	P	**P**	**09 16 10.4**	**+0.5**
JAMN	**Amaminishikomi**	**8.61**	**269**	P	**P**	**09 16 12.2**	**+1.3**
JMM	**Marumori**	**9.25**	**9**	P	**P**	**09 16 17.4**	**0.0**
JOW	**Kunigami**	**9.64**	**261**	P	**P**	**09 16 22.4**	**+0.6**
	27nm,0.4s,baz=112,sl

1.5nm,1.1s,baz=130,slow=21,SNR=2.7
ASAJ Asahikawa 15.64 10 P P 09 17 25.5 +0.7
2.7nm,0.5s,baz=250,slow=6.4,SNR=5.3
NACB Ninganchiao 16.18 258 P P 09 17 27.3 -3.5
USRK Ussuriysk Ar. 16.42 342 P 09 17 32.7 -0.3
USRK Ussuriysk Ar. 16.42 342 P P 09 17 33.0 0.0
5.8nm,0.6s,baz=169,slow=9.5,SNR=15
USA0B Ussuriysk Arra 16.42 342 P 09 17 33.1 +0.2
YULB Yu-li 16.72 256 P P 09 17 34.3 -2.2
TIA Tai'an 19.84 298 P P 09 18 05.3 0.0
TIA pmax pmax
comp=Z,100nm,0.4s
KLR Kul'dur 21.21 347 P P 09 18 18.4 +0.8
comp=Z,4.8nm,0.6s,baz=169,slow=7.0,SNR=22
comp=Z,4.8nm,0.6s
WHN Wuhan 21.45 281 ⇓P P 09 18 20.3 +0.4
WHN pmax pmax
comp=Z,76nm,0.7s
TGY Tagaytay City 22.15 233 P P 09 18 27.1 +0.5
comp=Z,76nm,0.3s,baz=186,slow=11,SNR=3.1
HHC Hu-ho-hao-te 25.43 306 eP P 09 18 57.6 +2.1
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,68nm,4.1s
ENH Enshi 25.66 281 P 09 18 56.8 -0.8
PETK Petropavlovsk- 28.01 24 P P 09 19 18.4 +0.5
PETK Petropavlovsk- 28.01 24 P P 09 19 19.8 +1.8
comp=Z,1.7nm,0.9s,baz=207,slow=7.6,SNR=7.7
comp=Z,1.7nm,0.9s
LZH Lanzhou 30.41 293 eP P 09 19 39.6 +0.3
LZH sP sP 09 21 52.4 -8.4
LZH pmax pmax
comp=Z,52nm,0.6s
CD2 Chengdu 30.53 283 P P 09 19 40.1 -0.1
CD2 pmax pmax
comp=Z,40nm,0.3s
SONM Songino Array 31.56 316 P P 09 19 48.7 -0.2
comp=Z,1.9nm,0.5s,baz=131,slow=8.4,SNR=13
comp=Z,1.9nm,0.5s
MA2 Magadan 31.89 11 P 09 19 51.7 +0.3
KMI Kunming 32.40 272 P P 09 19 57.5 +0.9
KMI pmax pmax
comp=Z,26nm,1.2s
GTA Gaotai 33.89 299 eP P 09 20 08.6 -0.3
GTA pmax pmax
comp=Z,8.0nm,1.1s
CHTO Chiang Mai 37.76 264 P 09 20 40.7 -0.4
CHTO IAmb IAmb 09 20 42.1
comp=Z,8.6nm,0.8s
CMAR Chiang Mai Arr 37.90 263 P P 09 20 41.8 -0.5
comp=Z,1.4nm,0.3s,baz=44,slow=9.2,SNR=10.0
comp=Z,1.4nm,0.3s
SHL Shillong 41.79 277 P 09 21 13.1 -0.7
SRIT Nakonsritamara 42.04 249 P P 09 21 16.4 +0.8
BILL Biiibino 42.57 15 P 09 21 19.3 +0.3
BILL IAmb IAmb 09 21 21.1
comp=Z,11nm,1.1s
KULM Kulim 43.10 245 P P 09 21 23.7 -0.2
TIXI Tiksi 43.33 355 P 09 21 24.5 -0.4
TIXI IAmb IAmb 09 21 25.7
comp=Z,5.0nm,0.8s
NIKH Nikolski High 45.06 42 P P 09 21 39.7 +1.1
baz=259
SPIA Saint Paul Isl 45.31 36 P P 09 21 42.1 +1.7
baz=253
P08K Saint George I 45.52 37 P P 09 21 43.1 +1.1
baz=254
ZALV Zalesovo Beam 46.38 319 P P 09 21 47.9 -0.7
comp=Z,1.1nm,0.6s,baz=107,slow=8.0,SNR=4.1
comp=Z,1.1nm,0.6s
GAMB Gambell 46.96 27 P P 09 21 54.5 +1.6
baz=246
MKAR Makanchi Array 47.23 309 P P 09 21 55.0 -0.2
comp=Z,0.8nm,0.4s,baz=87,slow=11,SNR=14
MKAR PcP PcP 09 23 16.9 +0.1
comp=Z,0.5nm,0.6s,baz=84,slow=3.1,SNR=3.7
MKAR ScP ScP 09 26 22.2 -0.6
comp=Z,1.2nm,0.7s,baz=85,slow=3.9,SNR=9.8
comp=Z,0.8nm,0.4s
FALS False Pass 48.55 41 P P 09 22 05.9 +0.9
baz=262
WR8 Warramunga Arr 48.58 186 P P 09 22 05.5 -0.2
WRA Warramunga Arr 48.59 186 P P 09 22 05.8 +0.1
comp=Z,2.9nm,0.4s,baz=0.7,slow=7.6,SNR=111
WRA ScP ScP 09 26 29.0 +0.3
comp=Z,0.7nm,0.9s,baz=5.4,slow=4.4,SNR=2.7
comp=Z,2.9nm,0.4s
TNA Tin City 49.16 26 P P 09 22 10.7 +1.5
baz=248
K13K Kusilvak Mount 49.37 31 P P 09 22 12.7 +1.8
baz=255
S12K Black Hills 49.44 40 P P 09 22 11.4 -0.2
baz=262
F14K Arctic Creek 49.75 27 P P 09 22 14.0 +0.3
baz=250
KURK Kurchatov 49.80 314 P 09 22 13.6 -0.6
ANM Nome 49.83 28 P P 09 22 15.6 +1.3
baz=252
KURBB Kurchatov Arra 49.85 314 P P 09 22 14.5 -0.2
comp=Z,2.8nm,0.5s,baz=93,slow=7.3,SNR=33
comp=Z,2.8nm,0.5s
NRIK Noril'sk 50.10 339 P P 09 22 16.0 -0.2
comp=Z,3.6nm,0.4s,baz=110,slow=9.3,SNR=10
comp=Z,3.6nm,0.4s
L14K Kuka Creek 50.14 32 P P 09 22 18.0 +1.4
baz=257
N14K Kuskokwak Cree 50.33 34 P P 09 22 19.4 +1.4
baz=259
M14K Bethel 50.36 33 P P 09 22 19.8 +1.6
baz=258
O14K Tigyukauivet M 50.41 35 P P 09 22 19.4 +0.8
baz=260
F15K North Star Dit 50.48 27 P P 09 22 20.5 +1.4
F15K IAmb IAmb 09 22 22.0
comp=Z,16nm,1.4s
F15K North Star Dit 50.48 27 P P 09 22 20.3 +1.2
baz=252
G15K Niukluk 50.51 28 P P 09 22 20.5 +1.3
baz=253
CHNA Chernabura Isl 50.75 41 P P 09 22 21.8 +0.6
baz=265
L15K Ungalak Mounta 50.77 32 P P 09 22 22.2 +0.9
baz=258
K15K Wolf Creek Mou 50.89 31 P P 09 22 23.3 +1.2
baz=257
S14K Fog Glacier 50.91 39 P P 09 22 23.6 +1.2
baz=264
M15K Kasigluk River 50.96 33 P P 09 22 23.6 +1.0
baz=259
C16K Lisburne Hills 51.10 23 P P 09 22 24.1 +0.6
C16K Lisburne Hills 51.10 23 P P 09 22 25.3 +1.8
baz=249
O15K Ungalikthiuk R 51.13 35 P P 09 22 25.0 +1.1
baz=262
H16K Elim 51.15 28 P P 09 22 25.0 +1.1
baz=255
N15K Kwethluk River 51.16 34 P P 09 22 24.9 +0.9
baz=260
G16K Koyuk River 51.30 27 P P 09 22 26.3 +1.3
baz=254
J16K Anvik River 51.52 30 P P 09 22 28.1 +1.5
baz=258
I17K Unalakleet 51.61 29 P P 09 22 28.5 +1.2
baz=257
D17K Noatak River 51.71 24 P P 09 22 29.0 +1.1
baz=252
L16K Owhat River 51.72 32 P P 09 22 28.8 +0.7
baz=260
M16K Timber Creek 51.85 33 P P 09 22 29.9 +0.9
baz=261
N16K Nishlik Lake 51.85 34 P P 09 22 29.9 +0.7
baz=261
RDOG Red Dog Mine 51.88 24 P P 09 22 30.3 +1.1
baz=252
E17K Hotham Inlet 51.98 25 P P 09 22 30.9 +1.0
baz=253
G17K Kiwalik Mounta 52.02 27 P P 09 22 31.1 +0.9
baz=256
F17K Baldwin Pennin 52.02 26 P P 09 22 31.7 +1.5
F17K IAmb IAmb 09 22 32.9
comp=Z,7.2nm,0.7s
F17K Baldwin Pennin 52.02 26 P P 09 22 31.1 +0.9
baz=254
O16K Kokwok River B 52.07 35 P P 09 22 30.5 -0.2
baz=263
H17K Granite Mounta 52.18 28 P P 09 22 31.5 +0.1
baz=257

J17K VABM Dome 52.22 30 P P 09 22 33.0 +1.4
baz=259
ASAR Alice Springs 52.31 186 P P 09 22 33.2 +0.3
comp=Z,0.7nm,0.4s,baz=0.7,slow=6.3,SNR=23
comp=Z,0.7nm,0.4s
L17K Donlin 52.34 32 P P 09 22 33.8 +1.2
baz=261
K17K Iditarod 52.44 31 P P 09 22 33.9 +0.7
baz=260
E18K Tukpahlearik C 52.53 25 P P 09 22 35.2 +1.3
E18K Tukpahlearik C 52.53 25 P P 09 22 34.6 +0.7
baz=254
M17K Holitna River 52.63 33 P P 09 22 35.7 +1.0
baz=262
N17K Nushagak Hills 52.64 34 P P 09 22 35.7 +1.0
baz=263
C18K Utukok River 52.67 23 P P 09 22 35.8 +0.8
C18K IAmb IAmb 09 22 36.8
comp=Z,11nm,1.5s
C18K Utukok River 52.67 23 P P 09 22 35.5 +0.5
baz=253,SNR=5.3
B18K Kokolik River 52.68 23 P P 09 22 35.8 +0.8
baz=252,SNR=6.4
F18K Selawik 52.68 26 P P 09 22 35.5 +0.5
baz=256
Q16K King Salmon 52.70 36 P P 09 22 35.9 +0.6
baz=265
P17K Kvichak River 52.87 36 P P 09 22 37.1 +0.8
baz=264
H18K Honhosa River 52.87 28 P P 09 22 37.3 +0.9
baz=258
G18K Tagagawik 52.91 27 P P 09 22 37.5 +0.9
G18K Tagagawik 52.91 27 P P 09 22 37.5 +0.9
baz=257
Q17K Contact Creek 53.07 37 P P 09 22 38.7 +0.7
baz=266
L18K Granite Mounta 53.10 32 P P 09 22 39.1 +1.1
baz=262
A19K Wainwright 53.19 22 P P 09 22 40.1 +1.6
baz=252,SNR=8.2
J18K Innoko River 53.27 30 P P 09 22 40.2 +1.0
baz=261
M18K Stony River 53.41 33 P P 09 22 41.4 +1.1
baz=263
GCSA Galena City Sc 53.42 29 P P 09 22 40.9 +0.7
baz=260
F19K Shaleruckik Mo 53.46 26 P P 09 22 41.0 +0.5
F19K Shaleruckik Mo 53.46 26 P P 09 22 41.9 +1.4
baz=258
P18K Big Mountain, 53.50 36 P P 09 22 41.6 +0.7
baz=265
O18K Koktuh Hills 53.55 35 P P 09 22 42.2 +0.9
baz=265
Q18K Katmai Hardscr 53.56 36 P P 09 22 41.7 +0.2
baz=266
G19K Purcell Mounta 53.59 27 P P 09 22 41.9 +0.4
baz=259
D19K Kuna River 53.72 24 P P 09 22 43.1 +0.7
D19K IAmb IAmb 09 22 44.3
comp=Z,5.7nm,0.7s
D19K Kuna River 53.72 24 P P 09 22 43.5 +1.1
baz=256,SNR=9.2
H19K Roundabout Mou 53.73 28 P P 09 22 43.6 +1.2
H19K Roundabout Mou 53.73 28 P P 09 22 43.9 +1.5
baz=260
R18K Karluk 53.79 38 P P 09 22 44.1 +1.1
baz=268
E19K Redstone River 53.81 25 P P 09 22 43.9 +0.9
E19K IAmb IAmb 09 22 45.5
comp=Z,11nm,0.7s
E19K Redstone River 53.81 25 P P 09 22 43.8 +0.8
baz=258,SNR=22
J19K Poorman 53.84 30 P P 09 22 44.1 +0.9
baz=262
SII Sitkinak Islan 53.90 39 P P 09 22 44.4 +0.5
baz=268
L19K White Mountain 53.95 32 P P 09 22 44.7 +0.6
baz=264
N19K Bonanza Creek 53.99 34 P P 09 22 44.9 +0.4
baz=265
O19K Port Alsworth 54.02 35 P P 09 22 45.0 +0.4
baz=266
M19K Big River Lodg 54.14 32 P P 09 22 46.1 +0.7
baz=264
Q19K Cape Douglas, 54.28 36 P P 09 22 46.8 +0.3
baz=267
F20K Avaraart Lake 54.30 26 P P 09 22 46.4 0.0
baz=259
D20K Etivluk River 54.31 24 P P 09 22 47.6 +1.1
baz=257,SNR=19
E20K Nigu River 54.36 25 P P 09 22 47.9 +0.9
baz=258,SNR=7.5
H20K Anotleneega Mo 54.37 28 P P 09 22 47.6 +0.6
baz=261
OHAK Old Harbor 54.41 38 P P 09 22 47.8 +0.4
OHAK Old Harbor 54.41 38 P P 09 22 48.5 +1.2
baz=269
B20K Meade River 54.42 22 P P 09 22 48.3 +1.1
baz=256
L20K Farewell, AK 54.43 32 P P 09 22 48.5 +1.0
baz=264
K20K Telida 54.44 31 P P 09 22 48.4 +0.8
baz=264
I20K Naaghedeneel 54.44 29 P P 09 22 48.8 +1.4
baz=262
J20K Nowinta River 54.50 30 P P 09 22 49.3 +1.4
J20K IAmb IAmb 09 22 51.2
comp=Z,12nm,1.3s
J20K Nowinta River 54.50 30 P P 09 22 49.5 +1.5
baz=263
BVAR Borovoye Array 54.90 317 P P 09 22 51.1 +0.1
comp=Z,2.2nm,0.5s,baz=93,slow=7.9,SNR=12
comp=Z,2.2nm,0.5s
A21K Barrow 54.92 21 P P 09 22 51.8 +1.1
baz=256
Q20K Shuyak Island 54.92 37 P P 09 22 51.6 +0.6
baz=268
C21K Knifeblade Rid 55.05 24 P P 09 22 52.2 +0.5
baz=259
G21K Allakaket 55.08 27 P P 09 22 53.2 +1.3
G21K IAmb IAmb 09 22 54.2
comp=Z,8.4nm,1.1s
G21K Allakaket 55.08 27 P P 09 22 52.5 +0.5
baz=262
SPCR Spurr Chakacha 55.12 33 P P 09 22 53.2 +0.7
baz=267
F21K Alatna River 55.19 26 P P 09 22 53.6 +0.8
baz=262
B21K Ikpikpuk River 55.20 23 P P 09 22 53.4 +0.7
baz=259
E21K Killik River 55.20 24 P P 09 22 53.3 +0.5
baz=260
H21K Melozitna Rive 55.25 28 P P 09 22 54.6 +1.4
H21K Melozitna Rive 55.25 28 P P 09 22 53.2 0.0
baz=263
CHUM Lake Minchumin 55.27 30 P P 09 22 53.7 +0.4
baz=265,SNR=13
CAST Castle Rocks 55.34 31 P P 09 22 55.5 +1.6
CAST Castle Rocks 55.34 31 P P 09 22 54.7 +0.9
baz=265
A22K Sinclair Lake 55.36 21 P P 09 22 54.9 +1.1
baz=257
SKT Skwentna 55.49 32 P P 09 22 55.5 +0.6
baz=267
I21K Tanana 55.54 29 P P 09 22 56.0 +0.9
baz=264
CAPN Captain Cook N 55.62 34 P P 09 22 56.6 +0.8
baz=268
F22K John River 55.73 26 P P 09 22 57.5 +0.9
baz=262
B22K Teshekpuk Lake 55.74 22 P P 09 22 57.1 +0.7
baz=259
D22K Ayikyak River 55.74 24 P P 09 22 57.7 +1.2
D22K IAmb IAmb 09 22 59.0
comp=Z,5.9nm,0.7s
D22K Ayikyak River 55.74 24 P P 09 22 58.0 +1.4
baz=261,SNR=8.7
BRSE Bradley Lake S 55.80 35 P P 09 22 57.3 +0.2
baz=269
KKAR Karatay Array 55.81 305 P P 09 22 57.2 -0.3
H22K Ishtalitna Cre 55.86 28 P P 09 22 58.3 +0.8
baz=264
BPAW Bear Paw Mtn. 55.87 30 P P 09 22 58.8 +1.2
baz=266
G22K Bettles 55.92 26 P P 09 22 59.1 +1.4
baz=264,SNR=9.1
E22K Anaktuvuk Pass 55.95 25 P P 09 22 59.5 +1.4
E22K IAmb IAmb 09 23 00.7
comp=Z,12nm,1.4s
E22K Anaktuvuk Pass 55.95 25 P P 09 22 58.5 +0.5
baz=262,SNR=5.7
CUT Chulitna 56.10 32 P P 09 22 59.3 +0.2
baz=268
M22K Willow 56.15 33 P P 09 22 59.9 +0.5
baz=268
O22K Cooper Landing 56.32 34 P P 09 23 01.4 +0.8
baz=270
RC01 Rabbit Creek A 56.32 34 P P 09 23 01.2 +0.6
baz=269
SEW Seward 56.45 35 P P 09 23 02.5 +0.9
baz=270
COLD Coldfoot 56.46 26 P P 09 23 02.4 +0.8
baz=265
D23K Nanushuk River 56.47 24 P P 09 23 03.4 +1.8
D23K IAmb IAmb 09 23 04.6
comp=Z,8.6nm,0.6s
D23K Nanushuk River 56.47 24 P P 09 23 03.0 +1.4
baz=263,SNR=10
G23K Bananza Creek 56.48 27 P P 09 23 03.0 +1.3
G23K Bananza Creek 56.48 27 P P 09 23 02.9 +1.1
baz=265,SNR=7.8
C23K Itkillik River 56.61 23 P P 09 23 03.7 +1.2
C23K IAmb IAmb 09 23 04.7
comp=Z,8.0nm,0.7s
C23K Itkillik River 56.61 23 P P 09 23 03.6 +1.1
baz=262,SNR=9.5
H23K Yukon River 56.61 28 P P 09 23 04.1 +1.5
baz=266
PMR Palmer 56.62 33 P P 09 23 04.3 +1.6
baz=269
I23K Minto, Yukon-K 56.64 29 P P 09 23 04.2 +1.4
baz=267
NEA2 Nenana 56.74 29 P P 09 23 04.5 +1.0
baz=267,SNR=5.6
MCK McKinley 56.76 30 P P 09 23 04.8 +1.1
MCK IAmb IAmb 09 23 06.9
comp=Z,22nm,1.4s
MCK McKinley 56.76 30 P P 09 23 04.9 +1.2
baz=268
E23K Chandalar 56.76 25 P P 09 23 05.2 +1.5
baz=265
TOLK Toolik Lake Re 56.84 25 P P 09 23 04.6 +0.4
baz=264
KNK Knik Glacier 56.94 33 P P 09 23 05.9 +1.0
baz=270
SML Sawmill 57.00 33 P P 09 23 06.8 +1.4
baz=270
PWL Port Wells 57.00 34 P P 09 23 06.7 +1.3
baz=270
D24K Happy Valley 57.16 24 P P 09 23 07.5 +1.2
baz=265
E24K Your Creek 57.19 25 P P 09 23 07.7 +1.1
baz=266
C24K Franklin Bluff 57.25 23 P P 09 23 07.9 +1.0
baz=264
COLA College 57.27 29 P P 09 23 08.0 +0.9
baz=268
H24K Noodor Dome 57.29 28 P P 09 23 08.7 +1.3
H24K Noodor Dome 57.29 28 P P 09 23 08.7 +1.3
baz=268
F24K Squaw Lake 57.38 26 P P 09 23 09.1 +1.2
baz=267,SNR=23
POKR Poker Plat Res 57.45 29 P P 09 23 09.5 +1.1
baz=269
SCM Sheep Creek Mo 57.48 33 P P 09 23 10.3 +1.6
baz=271
G24K Hadweenzic Riv 57.49 27 P P 09 23 10.1 +1.4
G24K Hadweenzic Riv 57.49 27 P P 09 23 10.5 +1.8
baz=268
HDA Harding Lake 57.65 30 P P 09 23 10.4 +0.7
baz=269
IL31 57.68 29 P P 09 23 10.1 +0.3
ILAR Eielson Array 57.68 29 P P 09 23 09.9 0.0
comp=Z,1.0nm,0.4s,baz=251,slow=5.4,SNR=31
comp=Z,1.0nm,0.4s
D25K Kavik River 58.04 24 P P 09 23 13.5 +1.1
baz=267
G25K Bearman Lake 58.04 27 P P 09 23 13.6 +1.3
baz=269
KLU Klutina 58.16 33 P P 09 23 13.7 +0.3
baz=272
K24K Donnelly Dome 58.16 30 P P 09 23 13.3 0.0
baz=271
F25K Christian Rive 58.24 26 P P 09 23 15.9 +2.1
F25K IAmb IAmb 09 23 16.6
comp=Z,4.3nm,0.7s
F25K Christian Rive 58.24 26 P P 09 23 14.4 +0.6
baz=269,SNR=9.3
PRP Porcupine Dome 58.26 28 P P 09 23 14.9 +0.8
baz=270
E25K Arctic Village 58.28 25 P P 09 23 15.5 +1.4
E25K IAmb IAmb 09 23 17.1
comp=Z,6.9nm,0.6s
E25K Arctic Village 58.28 25 P P 09 23 15.4 +1.4
baz=268,SNR=11
EYAK Cordova Ski Ar 58.28 34 P P 09 23 15.1 +1.0
baz=273
PAX Paxson 58.32 31 P P 09 23 15.7 +1.2
baz=272
J25K Salcha River, 58.33 29 P P 09 23 15.7 +1.3
baz=271
HARP HAARP 58.48 32 P P 09 23 16.8 +1.3
baz=272
C26K Camden Bay 58.58 23 P P 09 23 17.9 +2.0
baz=268,SNR=6.4
RIDG Independent Ri 58.58 30 P P 09 23 16.9 +0.8
baz=272
N25K Chitina, Valde 58.78 33 P P 09 23 18.5 +0.9
baz=273
F26K Sheenjek River 58.81 26 P P 09 23 19.6 +2.0
F26K IAmb IAmb 09 23 20.5
comp=Z,5.9nm,0.6s
F26K Sheenjek River 58.81 26 P P 09 23 19.2 +1.6
baz=270,SNR=10
BMRM Bremner River 58.82 34 P P 09 23 18.8 +1.0
baz=274
DOT Dot Lake 58.93 31 P P 09 23 19.3 +0.8
DOT IAmb IAmb 09 23 19.8
comp=Z,4.5nm,0.6s
SCRK Sand Creek 58.95 30 P P 09 23 19.3 +0.6
baz=272,SNR=5.4
G26K Porcupine Rive 58.96 27 P P 09 23 19.4 +0.8
baz=271
C27K Jago River 58.99 23 P P 09 23 20.5 +1.8
C27K IAmb IAmb 09 23 21.1
comp=Z,5.7nm,0.7s
C27K Jago River 58.99 23 P P 09 23 19.9 +1.2
baz=269,SNR=9.5
J26L Joseph Creek 59.11 29 P P 09 23 20.1 +0.4
baz=272,SNR=8.5
I26K Coal Creek Min 59.26 29 P P 09 23 20.6 0.0
baz=272
L26K Log Cabin Wild 59.28 31 P P 09 23 21.4 +0.5
baz=274
M26K Nabesna, AK 59.49 32 P P 09 23 22.5 +0.2
baz=274
E27K Coleen River 59.77 25 P P 09 23 25.7 +1.7
E27K IAmb IAmb 09 23 26.8
comp=Z,3.7nm,0.6s
E27K Coleen River 59.77 25 P P 09 23 25.1 +1.1
baz=272,SNR=7.6
K27K Chicken 59.79 30 P P 09 23 25.1 +0.9
baz=274
G27K Doyon Strip 59.80 27 P P 09 23 25.1 +0.9
baz=273
H27K Steamboat Moun 59.88 27 P P 09 23 26.5 +1.7
H27K Steamboat Moun 59.88 27 P P 09 23 25.2 +0.4
baz=273,SNR=5.7
I27K Kandik River 59.88 28 P P 09 23 25.6 +0.7
baz=274
D27M Malcolm River 59.96 24 P P 09 23 25.5 +0.2
baz=272
L27K Beaver Creek, 59.97 31 P P 09 23 26.2 +0.7
baz=275
M27K Edge Creek, AK 60.01 32 P P 09 23 26.1 +0.2
baz=275
BVCY Beaver Creek 60.48 32 P P 09 23 28.7 -0.1
baz=276
E28M Babbage River 60.51 25 P P 09 23 29.9 +1.0
baz=274,SNR=16
I28M Miner Creek 60.59 28 P P 09 23 30.4 +0.8
baz=275,SNR=5.5
YUK3 Moose Creek 60.73 33 P P 09 23 31.5 +0.7
baz=277
D28M Stokes Point 60.75 24 P P 09 23 31.5 +1.1
baz=274

DAWY	Dawson	60.96	30	P	P	09 23 33.4	+1.4
	baz=276						
O28M	Mount Upton	60.99	34	P	P	09 23 32.4	-0.1
	baz=278						
PINM	Pinnacle	61.05	34	P	P	09 23 32.8	+0.2
	baz=278						
YUK8	Steele Glacier	61.13	33	P	P	09 23 33.3	-0.1
	baz=278						
E29M	Blow River	61.13	25	P	P	09 23 32.7	-0.2
	baz=275						
H29M	Whitestone	61.16	27	P	P	09 23 34.0	+0.7
	baz=276						
G29M	Pine Creek	61.23	27	P	P	09 23 35.1	+1.5
G29M				IAmb	IAmb	09 23 36.2	
	comp=Z,7.9nm,0.7s						
G29M	Pine Creek	61.23	27	P	P	09 23 34.7	+1.1
	baz=276,SNR=9.8						
I29M	Ogilvie Camp,	61.28	28	P	P	09 23 34.9	+0.8
	baz=277						
J29N	Klondike Camp	61.43	29	P	P	09 23 35.9	+0.8
	baz=277						
PNL	Peninsula	61.53	35	P	P	09 23 36.1	+0.3
	baz=279						
M29M	Somme Creek	61.58	32	P	P	09 23 36.5	+0.3
	baz=278						
L29M	L29M	61.64	31	P	P	09 23 38.1	+1.6
L29M	L29M	61.64	31	P	P	09 23 36.9	+0.4
	baz=278						
YUK4	Talbot Arm	61.65	33	P	P	09 23 37.2	+0.4
	baz=278						
EPYK	Eagle Plains	61.80	27	P	P	09 23 38.1	+0.6
	baz=278,SNR=11						
K29M	Barlow Dome	61.81	30	P	P	09 23 38.1	+0.5
	baz=278						
O29M	Mount Kennedy	61.84	34	P	P	09 23 38.4	+0.4
	baz=279						
YUK6	Outpost Mounta	61.85	33	P	P	09 23 38.1	0.0
	baz=279						
AB31	Akbulak array	61.90	313	P	P	09 23 38.0	-0.3
AB31				IAmb	IAmb	09 23 39.1	
	comp=Z,3.9nm,0.8s						
ABKAR	Akbulak array	61.90	313	P	P	09 23 37.9	-0.5
G30M	tAoh Zraii Njí	61.92	26	P	P	09 23 38.8	+0.6
	baz=278						
F30M	Barrier River	62.01	26	P	P	09 23 39.7	+0.9
F30M	Barrier River	62.01	26	P	P	09 23 39.4	+0.6
	baz=278,SNR=7.8						
I30M	Mount Dempster	62.10	28	P	P	09 23 40.9	+1.3
I30M				IAmb	IAmb	09 23 42.0	
	comp=Z,3.3nm,0.7s						
I30M	Mount Dempster	62.10	28	P	P	09 23 40.1	+0.6
	baz=278						
J30M	Hart River	62.22	29	P	P	09 23 41.1	+0.8
	baz=279						
HYT	Haines Junctio	62.28	33	P	P	09 23 40.9	+0.1
	baz=280						
M30M	Minto, Yukon	62.33	31	P	P	09 23 41.2	+0.2
	baz=279						
P29M	Windy Craggy	62.37	35	P	P	09 23 41.5	+0.2
	baz=280						
N30M	Aishikik Lake	62.37	33	P	P	09 23 42.0	+0.7
	baz=280						
P30M	Million Dollar	62.67	34	P	P	09 23 43.9	+0.6
	baz=280						
G31M	Satah River	62.69	26	P	P	09 23 44.0	+0.9
	baz=279						
INK	Inuvik	62.75	25	P	P	09 23 44.4	+0.9
	baz=279						
F31M	Tsiigehtchic	62.81	26	P	P	09 23 45.3	+1.4
	baz=280						
H31M	Peel River	62.85	28	P	P	09 23 45.3	+1.0
	baz=280						
O30N	Mendenhall	62.97	33	P	P	09 23 46.7	+1.5
	baz=281						
N31M	Braeburn, Yuko	62.99	32	P	P	09 23 46.4	+1.1
	baz=281						
M31M	Drury Creek, Y	63.50	32	P	P	09 23 49.9	+1.4
	baz=282						
WHY	Whitehorse	63.58	33	P	P	09 23 50.7	+1.6
	baz=282						
FARO	Faro, Yukon	63.97	31	P	P	09 23 53.0	+1.4
	baz=282						
A36M	Sachs Harbour	64.74	20	P	P	09 23 57.5	+1.4
	baz=285						
MMPY	Sheldon Lake,	64.82	31	P	P	09 23 58.1	+1.2
	baz=284						
DLBC	Dease Lake	66.53	35	P	P	09 24 09.4	+1.7
	baz=287						
T35M	Bob Quinn	66.84	37	P	P	09 24 11.2	+1.6
	baz=287						
U35K	Hyder	67.28	38	P	P	09 24 14.2	+1.9
	baz=288						
WRGLY	Wrigley	68.06	29	P	P	09 24 18.3	+1.4
	baz=290						
LIRD	Liard River Hi	68.16	33	P	P	09 24 19.6	+2.0
	baz=290						
SPITS	Spitsbergen Ar	68.26	349	P	P	09 24 18.1	+0.1
	comp=Z,2.4nm,0.5s,baz=108,slow=9.3,SNR=7.7						
	comp=Z,2.4nm,0.5s						
TOAD	Toad River Com	68.77	34	P	P	09 24 23.1	+1.7
	baz=290						
ARCES	ARCESS Array B	71.05	340	P	P	09 24 35.2	+0.4
	comp=Z,2.4nm,0.6s,baz=68,slow=7.1,SNR=14						
	comp=Z,2.4nm,0.6s						
YKA	Yellowknife Ar	72.06	28	P	P	09 24 41.2	+0.4
	comp=Z,1.0nm,0.5s,baz=238,slow=5.8,SNR=21						
	comp=Z,1.0nm,0.5s						
YKAW1	Yellowknife Wh	72.12	28	P	P	09 24 41.5	+0.3
YKAW1				IAmb	IAmb	09 24 42.6	
	comp=Z,2.9nm,0.5s						
KBZ	Khabaz	74.80	312	P	P	09 24 57.4	+0.6
	comp=Z,3.5nm,0.8s,baz=131,slow=2.2,SNR=9.3						
	comp=Z,3.5nm,0.8s						
FINES	FINESS Array B	75.21	333	P	P	09 24 58.5	-0.3
	comp=Z,2.7nm,0.4s,baz=73,slow=5.1,SNR=52						
	comp=Z,2.7nm,0.4s						
PINE	Pine Mountain	77.41	47		P	09 25 13.7	+2.1
PINE				IAmb	IAmb	09 25 14.8	
	comp=Z,5.2nm,0.8s						
AKASG	Malin Array Be	79.60	323	P	P	09 25 22.6	-0.2
	comp=Z,0.3nm,0.4s,baz=73,slow=4.2,SNR=2.3						
	comp=Z,0.3nm,0.4s						
HFS	Hagfors	80.78	336	P	P	09 25 28.3	-0.5
	comp=Z,1.0nm,0.6s,baz=81,slow=2.0,SNR=9.4						
	comp=Z,1.0nm,0.6s						
NB2	NORSAR Subarra	81.02	337	P	P	09 25 29.6	-0.5
	comp=Z,1.5nm,0.6s,baz=45,slow=5.3						
NOA	NORSAR Array B	81.02	337	P	P	09 25 29.3	-0.8
	comp=Z,0.7nm,0.5s,baz=47,slow=5.0,SNR=8.9						
	comp=Z,0.7nm,0.5s						
NVAR	Mina Array Bea	81.74	51	P	P	09 25 35.1	+0.5
	comp=Z,1.0nm,0.6s,baz=296,slow=6.6,SNR=7.8						
	comp=Z,1.0nm,0.6s						
ELK	Elko	82.59	47		P	09 25 40.3	+1.5
ELK				IAmb	IAmb	09 25 41.5	
	comp=Z,6.4nm,1.4s						
BRTR	Keskin Array B	82.79	311	P	P	09 25 40.2	+0.5
	comp=Z,0.8nm,0.7s,baz=113,slow=4.7,SNR=4.4						
	comp=Z,0.8nm,0.7s						
HVU	Hansel Valley	83.61	46	P	P	09 25 45.3	+1.5
HVU				IAmb	IAmb	09 25 46.7	
	comp=Z,3.9nm,0.6s						
RLMT	Red Lodge	83.87	41	P	P	09 25 46.4	+1.3
RLMT				IAmb	IAmb	09 25 47.4	
	comp=Z,2.7nm,0.7s						
TPNV	Topopah Spring	83.89	51	P	P	09 25 46.9	+1.5
PDAR	Pinedale Array	85.04	43	P	P	09 25 51.7	+0.7
	comp=Z,0.6nm,0.8s,baz=306,slow=4.0,SNR=5.2						
	comp=Z,0.6nm,0.8s						
EKA	Eskdalemuir Ar	90.21	339	P	P	09 26 15.2	+0.5
	comp=Z,0.3nm,0.5s,baz=50,slow=4.7,SNR=3.7						
	comp=Z,0.3nm,0.5s						
TXAR	Lajitas Array	96.88	51	P	P	09 26 47.2	+1.4
	comp=Z,0.3nm,0.6s,baz=322,slow=3.5,SNR=5.9						
	comp=Z,0.3nm,0.6s						
QSPA	South Pole Qui	118.49	180	PKP	PKPdf	09 31 57.8	-0.1
	comp=Z,1.7nm,1.1s,baz=0.0,slow=4.0,SNR=3.2						
PLCA	Paso Flores	153.09	124	PKPbc	PKPbc	09 33 08.8	-0.1
	comp=Z,1.0nm,0.8s,baz=259,slow=5.2,SNR=2.8						

OTT 21 09:19:37.9±0.4, 76°.15N×118°.50W, h18km, ML3.5/4, 24km east from Mould Bay, Nt Sverdrup Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A36M	Sachs Harbour	4.58	207	PN	Pn	09 20 43.6	-2.5
A36M				SN	Sn	09 21 36.4	-2.3
A36M				Trac		09 21 41.5	
	comp=Z,7.1nm,0.7s						
RES	Resolute Bay	6.11	92	PN	Pn	09 21 06.3	-0.8
RES				SN	Sn	09 22 12.6	-3.8
RES				Trac		09 22 20.6	
	comp=Z,14nm,0.9s						
C36M	Paulatuk	7.03	196	PN	Pn	09 21 18.2	-1.5
C36M				SN	Sn	09 22 34.5	-4.5
C36M				Trac		09 22 48.3	
	comp=Z,14nm,1.1s						
EUNU	Eureka	7.58	44	PN	Pn	09 21 23.6	-3.6
EUNU				SN	Sn	09 22 47.6	-4.9
EUNU				Trac		09 22 51.9	
	comp=Z,166nm,3.9s						
CB31	Cambridge Bay	8.08	144	PN	Pn	09 21 32.5	-1.6
CB31				SN	Sn	09 22 58.8	-6.0
CB31				Trac		09 23 08.8	
	comp=Z,6.0nm,0.3s						
KUKN	Kugluktuk,NWT	8.44	171	PN	Pn	09 21 38.8	-0.1
KUKN				SN	Sn	09 23 08.2	-5.4
KUKN				Trac		09 23 35.4	
	comp=Z,1.3nm,0.2s						
INK	Inuvik	9.08	218	PN	Pn	09 21 43.9	-3.8
INK				SN	Sn	09 23 22.8	-6.4
INK				Trac		09 23 34.9	
	comp=Z,131nm,3.1s						

*MOS **21** 09:24:20.9±1.1, 45°.37N×150°.02E, h73km, mb4.6/1, Error ellipse: s-maj=10.0km s-min=8.3km az=55.1*
*JMA **21** 09:24:20.4±0.9, 45°N±4°×15°0E±°, h30km, MV4.4/17, KURILE ISLANDS REGION*
*SKHL **21** 09:24:22.5±0.4, 45°.30N×150°.00E, h88km±9km, mb4.9/5, msha5.5/4*
*NEIC **21** 09:24:23.9±1.0, 45°.5N±0°.1×149°.9E±0°.1, h80km±10km, mb4.4/39, Error ellipse: s-maj=20.1km s-min=12.8km az=157.0*
*IDC **21** 09:24:25.6±2.2, 45°.55N×149°.89E, h93km±19km, mb3.5/18, mbtmp3.9/23, MS2.8/5, Error ellipse: s-maj=19.6km s-min=12.2km az=159.0*

ISC 21 09:24:19.7±0.4, 45°.19N±0°.05×150°.19E±0°.05, h51km, n346, σ1§38/358, mb4.3/41, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.64	272	*d* iPN	Pn	09 24 45.9	-0.1
KUR				*e*S	Sn	09 25 04.1	-1.8
KUR				pmax	pmax		
	comp=Z,921nm,0.3s						
KUR				pmax	pmax		
	comp=N,427nm,0.2s						
KUR				pmax	pmax		
	comp=E,266nm,0.2s						
KUR				smax	smax		
	comp=N,2μm,0.6s						
KUR				smax	smax		
	comp=E,2μm,0.6s						
KUR	Kuril'sk	1.64	272	*e*P	Pn	09 24 46.9	+0.9
KUR				AMB	AMB	09 24 47.3	
	comp=E,1μm,0.4s						
KUR				*e*S	Sn	09 25 05.5	-0.4
KUR				A	A	09 25 06.0	
	comp=E,4μm,0.6s						
KUR				A	A	09 25 06.0	
	comp=E,2μm,0.6s						
SHO	Shikotan	2.74	242	*e*PN	Pn	09 25 01.9	+0.8
SHO				*e*S	Sn	09 25 31.5	-1.4
SHO				pmax	pmax		
	comp=N,22nm,0.3s						
SHO				pmax	pmax		
	comp=Z,51nm,0.3s						
SHO				smax	smax		
	comp=E,388nm,0.4s						
SHO				smax	smax		
	comp=N,139nm,0.2s						
SHO	Shikotan	2.74	242	*e*P	Pn	09 25 02.1	+1.0
SHO				AMB	AMB	09 25 06.5	
	comp=N,80nm,0.6s						
SHO				*e*S	Sn	09 25 33.2	+0.3
SHO				A	A	09 25 36.4	
	comp=N,230nm,0.4s						
SHO				A	A	09 25 36.4	
	comp=N,330nm,0.4s						
YUK	Yuzh-Kuril'sk	3.30	251	*e*PN	Pn	09 25 10.7	+2.0
YUK				*e*S	Sn	09 25 46.6	0.0
YUK				pmax	pmax		
	comp=Z,245nm,0.4s						
YUK				pmax	pmax		
	comp=N,34nm,0.3s						
YUK				pmax	pmax		
	comp=E,79nm,0.3s						
YUK				smax	smax		
	comp=E,362nm,0.3s						
YUK				smax	smax		
	comp=N,738nm,0.4s						
YUK	Yuzh-Kuril'sk	3.30	251	*e*P	Pn	09 25 10.8	+2.0
YUK				AMB	AMB	09 25 12.0	
	comp=N,300nm,0.4s						
YUK				*e*S	Sn	09 25 46.7	+0.1
YUK				A	A	09 25 51.5	
	comp=N,860nm,0.5s						
YUK				A	A	09 25 51.5	
	comp=N,700nm,0.5s						
NEM2	Nemuro 2	3.67	242	P	Pn	09 25 14.7	+0.8
NEM2				*e*S	Sn	09 25 55.6	-0.4
NMR	Nemuro--Hokkai	3.68	242	*e*PN	Pn	09 25 15.3	+1.3
NMR				*e*S	Sn	09 25 54.8	-1.3
NMR	Nemuro--Hokkai	3.68	242	*e*P	Pn	09 25 15.4	+1.4
NMR				*e*S	Sn	09 25 56.6	+0.5
RUSJ	Misakicho	3.69	255	*e*PN	Pn	09 25 17.6	+3.5
JRA	Rausu	3.83	253	P	Pn	09 25 19.5	+3.5
JRA				*e*S	Sn	09 26 04.3	+4.5
JNK	Nakash	4.23	250	P	Pn	09 25 24.6	+3.0
AKK	Akkeshi	4.42	242	*e*P	Pn	09 25 25.5	+1.4
AKK				*e*S	Sn	09 26 13.9	-0.4
JAK	Akkeshi	4.52	243	P	Pn	09 25 26.8	+1.3
JAK				*e*S	Sn	09 26 16.6	-0.1
JTKR	Abashiri--Toko	4.65	257	*e*P	Pn	09 25 29.5	+2.3
JTKR				*e*S	Sn	09 26 23.9	+4.1
JAR	Ashorobuto	4.98	250	P	Pn	09 25 35.0	+3.2
JOB	Onbets	5.12	246	P	Pn	09 25 36.2	+2.5
JOB				*e*S	Sn	09 26 31.8	+0.4
YSS	Yuzhno-Sakhali	5.46	291	Pn	Pn	09 25 39.0	+0.6
YSS	Yuzhno-Sakhali	5.46	291	*e*PN	Pn	09 25 39.3	+0.9
YSS				*e*S	Sn	09 26 38.4	-1.5
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				smax	smax		
	comp=N,20nm,0.6s						
YSS				smax	smax		
	comp=E,10.0nm,0.5s						
YSS	Yuzhno-Sakhali	5.46	291	*e*P	Pn	09 25 39.3	+0.9
YSS				AMB	AMB	09 25 40.1	
	comp=E,10.0nm,0.3s						
YSS				*e*S	Sn	09 26 38.4	-1.5
YSS				A	A	09 26 40.3	
	comp=E,10.0nm,0.6s						
YSS				A	A	09 26 40.3	
	comp=E,20nm,0.6s						
JKK2	Kamakawa 2	5.48	259	*e*P	Pn	09 25 41.8	+3.1
JKA	Kamikawa-asahi	5.52	261		Pn	09 25 41.2	+2.0
JKA	Kamikawa-asahi	5.52	261	*e*P	Pn	09 25 42.1	+2.9
ASAJ	Asahikawa	5.52	261	P	Pn	09 25 42.1	+2.9
	comp=E,4.9nm,0.4s,baz=73,slow=16,SNR=17						
ASAJ				S	Sn	09 26 46.0	+4.7
	comp=E,8.7nm,0.5s,baz=117,slow=25,SNR=2.3						
JCH	Churui	5.56	245	P	Pn	09 25 41.9	+2.1
JCH				S	Sn	09 26 41.5	-0.8
JWK2	Keihoku	5.85	274	P	Pn	09 25 47.8	+4.0
ERM	Erimo	6.01	241		Pn	09 25 48.8	+2.9
ERM	Erimo	6.01	241	PN	Pn	09 25 48.8	+2.9
JNBK	Urakawa-nobuka	6.12	244	P	Pn	09 25 48.4	+1.0
TYV	Tymovskoe	7.59	321	*e*PN	Pn	09 26 08.3	+0.7
TYV				*e*S	Sn	09 27 30.1	-2.0
TYV				pmax	pmax		
	comp=Z,200nm,2.8s						
TYV				pmax	pmax		
	comp=Z,20nm,0.5s						
TYV				smax	smax		
	comp=N,11nm,1.3s						
TYV				smax	smax		
	comp=N,200nm,4.4s						
TYV				smax	smax		
	comp=E,300nm,4.4s						
TYV	Tymovskoe	7.59	321	*e*P	Pn	09 26 08.2	+0.7
TYV				AMB	AMB	09 26 12.4	
	comp=E,20nm,0.4s						
TYV				*e*S	Sn	09 27 30.1	-2.0
TYV				A	A	09 27 31.0	
	comp=E,10.0nm,0.7s						
TYV				A	A	09 27 31.0	
	comp=E,10.0nm,0.7s						
JANG	Nango	7.99	236	*e*S	Sn	09 27 36.1	-5.9
JTM	Tenmabayashi	8.00	240	Pn	Pn	09 26 13.1	-0.2
JTH	Tanohata	8.08	232	*e*S	Sn	09 27 36.3	-7.8
PEA0B	Petropavlovsk-	9.32	29		Pn	09 26 33.7	+2.4
PEA0B	Petropavlovsk-	9.32	29	PN	Pn	09 26 33.7	+2.4
PETK	Petropavlovsk-	9.32	29		Pn	09 26 32.5	+1.2
PETK	Petropavlovsk-	9.32	29	P	Pn	09 26 33.4	+2.1
	comp=E,9.3nm,0.6s,baz=191,slow=9.0,SNR=31						
PETK				LR	LR	09 30 01.9	
	comp=E,58nm,19.3s,baz=251,slow=37						
MJAR	Matsushiro Arr	12.51	230	P	P	09 27 24.2	-1.0
	comp=E,0.6nm,0.4s,baz=25,slow=13,SNR=2.0						
USRK	Ussuriysk Ar.	12.99	272	P	Pn	09 27 24.5	+3.1
	comp=E,1.9nm,0.7s,baz=85,slow=15,SNR=2.6						
KLR	Kul'dur	13.16	294	P	Pn	09 27 27.2	+3.5
	comp=E,1.0nm,0.7s,baz=115,slow=18,SNR=9.3						
KLR	Kul'dur	13.16	294	*e*PN	Pn	09 27 25.9	+2.2
KLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MA2	Magadan	14.41	1	LR	LR	09 32 51.6	
	comp=Z,20nm,21.1s,baz=160,slow=36						
JHJ	Hachijo jima 2	14.49	217	LR	LR	09 34 57.7	
	comp=Z,16nm,18.4s,baz=302,slow=43						
SEY	Seymchan	17.82	3	P	Pn	09 28 21.7	-2.0
	comp=Z,1.4nm,0.3s,baz=186,slow=9.8,SNR=4.3						
KSRS	Korea Array	18.38	253	P	Pn	09 28 31.5	+0.8
	comp=Z,0.8nm,0.7s,baz=57,slow=11,SNR=6.5						
JNU	Nakatsue	19.16	238	P	P	09 28 39.3	+0.5
YAK	Yakutsk	20.64	332	P	P	09 28 53.7	-0.9
	comp=Z,15nm,0.5s,baz=314,slow=1.6,SNR=5.8						
YAK				LR	LR	09 36 33.5	
	comp=Z,20nm,19.3s,baz=174,slow=36						
	comp=Z,15nm,0.5s						
YAK	Yakutsk	20.64	332	*e*P	P	09 28 55.1	+0.6
YAK				*e**PP	sP	09 29 12.7	+0.2
YAK				*e*S	S	09 32 39.7	-2.4
YAK				*e*		09 33 04.3	
YAK				*e**SS	sS	09 33 06.0	+5.4
YAK				*e*		09 40 21.0	
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.4s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.1s						
YAK				smax	smax		
	comp=E,36nm,3.7s						
YAK	Yakutsk	20.64	332	*e*P	P	09 28 55.1	+0.6
SPIA	Saint Paul Isl	27.14	50	P	P	09 29 59.3	+1.7
	baz=262						
P08K	Saint George I	27.44	51	P	P	09 30 01.9	+1.6
	baz=263						
NIKH	Nikolski High	27.62	59	P	P	09 30 03.9	+1.9
	baz=271						
GAMB	Gambell	28.28	35	P	P	09 30 08.2	+0.4
	baz=248						
HHC	Hu-ho-hao-te	28.38	275	*e*P	P	09 30 09.3	+0.2
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.1s						
H11N2	WAKE ISLAND Hy	28.92	146	T	T	10 01 07.0	
	baz=336,slow=76,SNR=853						
H11N1	WAKE ISLAND Hy	28.94	146	T	T	10 01 09.0	
	baz=336,slow=76,SNR=712						
H11N3	WAKE ISLAND Hy	28.94	146	T	T	10 01 05.7	
	baz=336,slow=76,SNR=745						
M11K	Mekoryuk	29.77	44	P	P	09 30 20.8	-0.2
	baz=260						
SONM	Songino Array	29.95	291	P	P	09 30 22.9	-0.1
	comp=Z,0.2nm,0.4s,baz=90,slow=8.6,SNR=1.7						
	comp=Z,0.2nm,0.4s						
H11S1	WAKE ISLAND Hy	29.95	147	T	T	10 02 21.3	
	baz=336,slow=76,SNR=848						
H11S3	WAKE ISLAND Hy	29.96	147	T	T	10 02 25.7	
	baz=336,slow=76,SNR=459						
H11S2	WAKE ISLAND Hy	29.97	147	T	T	10 02 21.8	
	baz=336,slow=76,SNR=523						
TNA	Tin City	30.46	33	P	P	09 30 26.8	-0.2
	baz=249						
K13K	Kusilvak Mount	30.81	41	P	P	09 30 30.7	+0.5
	baz=259						
F14K	Arctic Creek	31.05	34	P	P	09 30 32.6	+0.3
	baz=251						
ANM	Nome	31.15	36	P	P	09 30 32.9	-0.3
	baz=254						
M13K	Dall Lake	31.18	44	P	P	09 30 34.2	+0.8
	baz=263						
J14K	Nanvaranak Lak	31.49	40	P	P	09 30 36.5	+0.4
	baz=259						
S12K	Black Hills	31.57	53	P	P	09 30 37.4	+0.4
	baz=272						
L14K	Kuka Creek	31.64	42	P	P	09 30 37.5	+0.1
	baz=262						
F15K	North Star Dit	31.79	34	P	P	09 30 39.0	+0.2
	baz=253						
G15K	Niukluk	31.82	35	P	P	09 30 39.7	+0.6
	baz=255						
M14K	Bethel	31.90	44	P	P	09 30 40.8	+1.0
	baz=264						
N14K	Kuskokwak Cree	31.94	45	P	P	09 30 40.6	+0.5
	baz=265						
O14K	Tigyukauivet M	32.10	46	P	P	09 30 42.0	+0.4
	baz=266						
L15K	Ungalak Mounta	32.25	42	P	P	09 30 43.2	+0.3
	baz=262						
K15K	Wolf Creek Mou	32.33	41	P	P	09 30 43.6	0.0
	baz=261						
C16K	Lisburne Hills	32.42	29	P	P	09 30 43.7	-0.5
C16K	Lisburne Hills	32.42	29	P	P	09 30 43.9	-0.3
	baz=248						
H16K	Elim	32.48	36	P	P	09 30 43.7	-1.1
	baz=257						
SDPT	Sand Point	32.48	54	P	P	09 30 45.6	+0.7
	baz=273						
M15K	Kasigluk River	32.52	44	P	P	09 30 44.7	-0.5
	baz=265						
N15K	Kwethluk River	32.76	45	P	P	09 30 47.4	0.0
	baz=266						
O15K	Ungalikthiuk R	32.84	47	P	P	09 30 47.9	-0.2
	baz=268						
J16K	Anvik River	32.91	39	P	P	09 30 48.2	-0.4
	baz=261						
S14K	Fog Glacier	32.96	52	P	P	09 30 49.2	-0.1
	baz=273						
I17K	Unalakleet	32.98	38	P	P	09 30 48.7	-0.4
	baz=260						
D17K	Noatak River	33.01	31	P	P	09 30 49.1	-0.3
	baz=252						
CHNA	Chernabura Isl	33.02	55	P	P	09 30 49.0	-0.7
	baz=275						
RDOG	Red Dog Mine	33.19	30	P	P	09 30 50.5	-0.5
	baz=251						
L16K	Owhat River	33.21	42	P	P	09 30 50.9	-0.3
	baz=264						
E17K	Hotham Inlet	33.28	32	P	P	09 30 51.7	-0.1
	baz=254						
F17K	Baldwin Pennin	33.33	33		P	09 30 52.9	+0.7
F17K	Baldwin Pennin	33.33	33	P	P	09 30 51.9	-0.3
	baz=255						
G17K	Kiwalik Mounta	33.33	35	P	P	09 30 52.3	0.0
	baz=257						
M16K	Timber Creek	33.39	43	P	P	09 30 52.6	-0.2
	baz=266						
N16K	Nishlik Lake	33.44	44	P	P	09 30 53.0	-0.3
	baz=267						
H17K	Granite Mounta	33.52	36	P	P	09 30 53.0	-0.9
	baz=259						
J17K	VABM Dome	33.61	39	P	P	09 30 53.9	-0.8
	baz=262						
O16K	Kokwok River B	33.74	46	P	P	09 30 56.4	+0.6
	baz=269						
L17K	Donlin	33.81	41	P	P	09 30 55.6	-0.8
	baz=265						
E18K	Tukpahlearik C	33.84	32	P	P	09 30 56.0	-0.6
	ba

baz=264
F18K Selawik 33.99 33 P P 09 30 57.1 -0.9
baz=257
C18K Utukok River 33.99 29 P 09 30 58.2 +0.1
C18K Utukok River 33.99 29 P P 09 30 57.0 -1.0
baz=252
B18K Kokolik River 34.02 28 P P 09 30 57.7 -0.5
baz=250
M17K Holitna River 34.15 43 P P 09 30 59.8 +0.3
baz=267
H18K Honhosa River 34.20 36 P P 09 30 59.9 +0.1
baz=260
G18K Tagagawik 34.23 35 P P 09 31 00.7 +0.6
G18K Tagagawik 34.23 35 P P 09 30 59.6 -0.4
baz=259,SNR=5.0
O17K Koliganek Bris 34.25 46 P P 09 31 00.4 +0.1
baz=269
Q16K King Salmon 34.47 48 P P 09 31 02.6 +0.4
baz=271
A19K Wainwright 34.55 27 P P 09 31 02.4 -0.3
baz=250
L18K Granite Mounta 34.56 41 P P 09 31 03.6 +0.6
baz=266
J18K Innoko River 34.67 39 P P 09 31 04.4 +0.5
baz=264
F19K Shaleruckik Mo 34.77 33 P P 09 31 04.5 -0.1
baz=258
N18K Kilae Creek 34.87 44 P P 09 31 06.1 +0.4
baz=269
G19K Purcell Mounta 34.90 34 P P 09 31 05.7 -0.1
baz=260
M18K Stony River 34.93 43 P P 09 31 05.6 -0.5
baz=268
TTA Tatalina 34.94 40 P P 09 31 06.3 0.0
baz=266
D19K Kuna River 35.03 30 P 09 31 07.1 +0.2
D19K IAmb IAmb 09 31 11.4
comp=Z,4.6nm,0.9s
D19K Kuna River 35.03 30 P P 09 31 06.3 -0.7
baz=256,SNR=8.4
H19K Roundabout Mou 35.06 36 P 09 31 07.0 -0.2
H19K Roundabout Mou 35.06 36 P P 09 31 07.0 -0.2
baz=262,SNR=5.4
E19K Redstone River 35.11 32 P P 09 31 07.6 -0.1
E19K IAmb IAmb 09 31 10.6
comp=Z,5.0nm,1.1s
E19K Redstone River 35.11 32 P P 09 31 07.5 -0.1
baz=258,SNR=7.6
CHIR Chirikof Islan 35.19 53 P P 09 31 07.8 -0.6
baz=276
O18K Koktuh Hills 35.20 46 P P 09 31 08.4 -0.1
baz=271
J19K Poorman 35.21 38 P P 09 31 08.5 -0.1
baz=265
Q18K Katmai Hardscr 35.33 48 P P 09 31 09.4 -0.4
baz=273
N19K Bonanza Creek 35.56 44 P P 09 31 11.9 +0.2
baz=270
F20K Avaraart Lake 35.60 33 P P 09 31 11.9 0.0
baz=260
D20K Etivluk River 35.62 30 P P 09 31 11.3 -0.7
baz=257,SNR=7.1
M19K Big River Lodg 35.63 42 P P 09 31 12.1 0.0
baz=269
O19K Port Alsworth 35.65 45 P P 09 31 12.4 +0.1
baz=271
E20K Nigu River 35.67 31 P P 09 31 12.0 -0.5
baz=258,SNR=7.3
R18K Karluk 35.69 49 P P 09 31 12.7 +0.1
baz=275
H20K Anotleneega Mo 35.70 36 P P 09 31 12.5 -0.3
baz=263
B20K Meade River 35.76 28 P P 09 31 13.4 +0.2
B20K Meade River 35.76 28 P P 09 31 12.9 -0.2
baz=255
I20K Naaghedeneel 35.79 37 P P 09 31 13.9 +0.5
baz=265
K20K Telida 35.85 40 P P 09 31 13.7 -0.4
baz=267
J20K Nowinta River 35.87 38 P P 09 31 13.8 -0.4
baz=266
LZH Lanzhou 35.90 272 *e*P **P 09 31 12.4 -2.6**
LZH pP sP 09 31 33.3 -0.8
LZH sP pP 09 31 45.3 +17
LZH pmax pmax
comp=Z,28nm,0.8s
P19K Oil Pt 36.21 46 P P 09 31 17.0 -0.2
baz=273
A21K Barrow 36.31 26 P P 09 31 16.6 -1.2
baz=254
C21K Knifeblade Rid 36.36 30 P P 09 31 18.3 0.0
baz=258
G21K Allakaket 36.39 34 P 09 31 19.5 +0.9
G21K IAmb IAmb 09 31 20.7
comp=Z,3.8nm,0.8s
G21K Allakaket 36.39 34 P P 09 31 17.6 -1.0
baz=263,SNR=6.1
F21K Alatna River 36.49 33 P P 09 31 18.9 -0.6
baz=262
E21K Killik River 36.51 31 P P 09 31 19.3 -0.4
baz=260
B21K Ikpikpuk River 36.52 29 P P 09 31 20.2 +0.6
B21K Ikpikpuk River 36.52 29 P P 09 31 19.3 -0.4
baz=258
H21K Melozitna Rive 36.58 36 P P 09 31 19.9 -0.3
baz=265
Q20K Shuyak Island 36.70 48 P P 09 31 21.7 +0.4
baz=275
A22K Sinclair Lake 36.73 27 P P 09 31 21.2 -0.2
baz=256
CAST Castle Rocks 36.74 39 P P 09 31 21.6 -0.1
baz=269
I21K Tanana 36.88 37 P P 09 31 22.7 0.0
baz=266
SKT Skwentna 36.98 42 P P 09 31 24.2 +0.5
baz=271
F22K John River 37.03 33 P P 09 31 24.0 -0.1
baz=263
D22K Ayikyak River 37.05 30 P 09 31 24.9 +0.7
D22K IAmb IAmb 09 31 25.6
comp=Z,2.0nm,0.5s
D22K Ayikyak River 37.05 30 P P 09 31 24.0 -0.2
baz=261
B22K Teshekpuk Lake 37.08 28 P 09 31 24.4 +0.1
B22K IAmb IAmb 09 32 01.3
comp=Z,7.0nm,1.5s
B22K Teshekpuk Lake 37.08 28 P P 09 31 24.5 +0.1
baz=258
H22K Ishtalitna Cre 37.18 35 P P 09 31 25.6 +0.2
baz=266
CAPN Captain Cook N 37.20 44 P P 09 31 25.8 +0.3
baz=273
GTA Gaotai 37.20 279 *e*P **P 09 31 25.8 -0.2**
GTA pP sP 09 31 41.9 -3.2
GTA pmax pmax
comp=Z,3.0nm,1.0s
G22K Bettles 37.22 34 P P 09 31 25.9 +0.2
baz=265,SNR=7.9
BPAW Bear Paw Mtn. 37.25 38 P P 09 31 25.9 -0.1
baz=269
E22K Anaktuvuk Pass 37.25 32 P 09 31 26.4 +0.4
E22K IAmb IAmb 09 31 27.9
comp=Z,5.5nm,0.8s
E22K Anaktuvuk Pass 37.25 32 P P 09 31 26.0 0.0
baz=263,SNR=8.3
SUA Susitna One 37.37 43 P P 09 31 26.6 -0.5
baz=272
BRSE Bradley Lake S 37.46 46 P P 09 31 27.9 0.0
baz=275
TRF Thorofare Moun 37.55 39 P P 09 31 28.6 -0.1
baz=270
COLD Coldfoot 37.76 33 P 09 31 30.8 +0.6
COLD IAmb IAmb 09 31 32.9
comp=Z,3.4nm,0.6s
COLD Coldfoot 37.76 33 P P 09 31 30.3 0.0
baz=266,SNR=7.4
D23K Nanushuk River 37.78 30 P P 09 31 29.8 -0.6
baz=263
G23K Bananza Creek 37.79 34 P P 09 31 30.6 +0.1
baz=266
RC01 Rabbit Creek A 37.87 43 P P 09 31 31.8 +0.6
baz=274
O22K Cooper Landing 37.92 44 P P 09 31 31.1 -0.5
baz=275
C23K Itkillik River 37.93 29 P P 09 31 31.3 -0.3
baz=262,SNR=5.2
H23K Yukon River 37.93 36 P P 09 31 32.7 +1.0
H23K IAmb IAmb 09 31 34.8
comp=Z,3.5nm,0.8s
H23K Yukon River 37.93 36 P P 09 31 31.0 -0.8
baz=268
I23K Minto, Yukon-K 37.98 37 P P 09 31 31.8 -0.2
baz=269
E23K Chandalar 38.06 32 P P 09 31 33.8 +0.9
E23K IAmb IAmb 09 31 37.4
comp=Z,4.2nm,0.8s
E23K Chandalar 38.06 32 P P 09 31 32.0 -0.8
baz=265
SEW Seward 38.08 45 P P 09 31 32.7 -0.2
baz=275
NEA2 Nenana 38.09 38 P P 09 31 33.2 +0.1
baz=270
PMR Palmer 38.13 42 P P 09 31 33.4 0.0
baz=274
TOLK Toolik Lake Re 38.14 31 P P 09 31 33.3 -0.2
TOLK IAmb IAmb 09 31 59.7
comp=Z,6.4nm,1.4s
TOLK Toolik Lake Re 38.14 31 P P 09 31 32.8 -0.7
baz=264
MCK McKinley 38.15 39 P P 09 31 32.4 -1.2
baz=271
D24K Happy Valley 38.47 30 P P 09 31 36.7 +0.6
D24K IAmb IAmb 09 31 41.4
comp=Z,4.1nm,0.6s
D24K Happy Valley 38.47 30 P P 09 31 35.7 -0.5
baz=264
KNK Knik Glacier 38.47 43 P P 09 31 36.1 -0.2
baz=274
E24K Your Creek 38.49 32 P P 09 31 36.0 -0.4
baz=266
SML Sawmill 38.50 42 P P 09 31 36.6 0.0
baz=274
PWL Port Wells 38.57 44 P P 09 31 37.3 +0.2
baz=275
C24K Franklin Bluff 38.57 29 P P 09 31 36.3 -0.7
baz=264
H24K Noodor Dome 38.62 36 P P 09 31 37.3 -0.3
baz=269
F24K Squaw Lake 38.68 33 P P 09 31 37.4 -0.6
baz=267
M23K Glacier View 38.79 42 P P 09 31 38.7 -0.2
baz=275
POKR Poker Plat Res 38.80 37 P P 09 31 38.0 -1.0
baz=271
G24K Hadweenzic Riv 38.80 34 P 09 31 40.0 +1.0
G24K IAmb IAmb 09 31 41.6
comp=Z,6.1nm,0.8s
G24K Hadweenzic Riv 38.80 34 P P 09 31 38.3 -0.7
baz=269
SCM Sheep Creek Mo 38.98 42 P P 09 31 39.6 -1.0
baz=275
HDA Harding Lake 39.02 38 P P 09 31 40.2 -0.6
baz=272
ILAR Eielson Array 39.03 37 P P 09 31 41.8 +0.9
comp=Z,1.4nm,0.8s,baz=263,slow=7.4,SNR=18
comp=Z,1.4nm,0.8s
GLI Glacier Island 39.17 43 P P 09 31 42.4 +0.3
baz=276
G25K Bearman Lake 39.35 34 P P 09 31 43.7 +0.2
baz=270
D25K Kavik River 39.35 30 P P 09 31 43.8 +0.2
D25K IAmb IAmb 09 31 48.6
comp=Z,5.2nm,1.1s
D25K Kavik River 39.35 30 P P 09 31 43.2 -0.4
baz=266
M24K Tolsona, Glenn 39.50 41 P P 09 31 46.3 +1.4
baz=276
F25K Christian Rive 39.54 33 P P 09 31 46.0 +0.7
baz=269
K24K Donnelly Dome 39.55 39 P P 09 31 45.4 +0.1
baz=274
E25K Arctic Village 39.58 32 P P 09 31 45.2 -0.3
baz=269
PRP Porcupine Dome 39.59 36 P P 09 31 45.7 0.0
baz=272
KLU Klutina 39.67 42 P P 09 31 45.5 -0.9
baz=276
J25K Salcha River, 39.69 38 P P 09 31 45.8 -0.7
baz=273
FYU Fort Yukon 39.70 34 P P 09 31 46.8 +0.5
EYAK Cordova Ski Ar 39.87 44 P P 09 31 48.1 +0.2
baz=278
C26K Camden Bay 39.90 29 P P 09 31 47.2 -0.9
baz=267
RIDG Independent Ri 39.97 39 P P 09 31 47.8 -1.0
baz=275
F26K Sheenjek River 40.12 33 P P 09 31 49.7 -0.3
baz=271
G26K Porcupine Rive 40.26 34 P 09 31 52.2 +1.1
G26K IAmb IAmb 09 31 54.0
comp=Z,7.1nm,1.1s
G26K Porcupine Rive 40.26 34 P P 09 31 50.5 -0.6
baz=272
N25K Chitina, Valde 40.29 42 P P 09 31 51.4 -0.2
baz=277
C27K Jago River 40.30 30 P P 09 31 50.6 -0.8
baz=269
SCRK Sand Creek 40.33 38 P P 09 31 51.6 -0.3
baz=275
J26L Joseph Creek 40.48 38 P P 09 31 53.2 +0.1
baz=275
I26K Coal Creek Min 40.59 36 P P 09 31 54.6 +0.7
baz=274
KAIM Kayak Island 40.61 45 P P 09 31 54.5 +0.4
baz=280
L26K Log Cabin Wild 40.71 40 P P 09 31 55.1 +0.2
baz=277
M26K Nabesna, AK 40.94 41 P P 09 31 57.9 +1.0
baz=278
E27K Coleen River 41.07 32 P P 09 31 56.8 -1.0
baz=272
G27K Doyon Strip 41.11 34 P P 09 31 56.8 -1.3
baz=274
K27K Chicken 41.17 38 P P 09 31 59.4 +0.8
K27K IAmb IAmb 09 32 01.1
comp=Z,6.4nm,1.1s
K27K Chicken 41.17 38 P P 09 31 57.8 -0.8
baz=277
H27K Steamboat Moun 41.20 35 P P 09 31 58.7 -0.2
baz=275
I27K Kandik River 41.21 36 P P 09 31 58.9 -0.2
baz=275
D27M Malcolm River 41.27 30 P P 09 31 59.9 +0.4
D27M Malcolm River 41.27 30 P P 09 31 59.0 -0.5
baz=272
L27K Beaver Creek, 41.39 40 P P 09 32 00.3 -0.2
baz=278,SNR=7.4
M27K Edge Creek, AK 41.47 41 P P 09 32 01.7 +0.5
baz=279
MESA MESA 41.79 44 P P 09 32 02.4 -1.6
baz=281
E28M Babbage River 41.81 31 P P 09 32 03.6 -0.3
baz=274
ZALV Zalesovo Beam 41.88 306 PcP **PcP 09 33 58.7 -0.6**
comp=Z,0.7nm,0.6s,baz=96,slow=4.3,SNR=2.5
I28M Miner Creek 41.92 36 P 09 32 05.8 +0.9
I28M IAmb IAmb 09 32 07.3
comp=Z,3.7nm,0.8s
I28M Miner Creek 41.92 36 P P 09 32 04.8 -0.1
baz=277
BVCY Beaver Creek 41.93 41 P P 09 32 05.5 +0.6
baz=280
D28M Stokes Point 42.06 30 P P 09 32 05.9 +0.1
baz=274
YUK3 Moose Creek 42.22 41 P P 09 32 07.6 +0.1
baz=280
DAWY Dawson 42.33 38 P P 09 32 08.8 +0.6
baz=279
E29M Blow River 42.43 31 P P 09 32 09.6 +0.7
baz=275
H29M Whitestone 42.47 35 P P 09 32 09.9 +0.6
baz=277
G29M Pine Creek 42.53 34 P P 09 32 11.4 +1.7
G29M IAmb IAmb 09 32 12.5
comp=Z,4.1nm,0.8s
G29M Pine Creek 42.53 34 P P 09 32 09.0 -0.7
baz=277
I29M Ogilvie Camp, 42.61 36 P P 09 32 09.7 -0.7
baz=278
M29M Somme Creek 43.02 40 P P 09 32 13.4 -0.5
baz=281
L29M L29M 43.05 39 P P 09 32 12.5 -1.5
baz=281
EPYK Eagle Plains 43.12 34 P P 09 32 13.8 -0.7
baz=279
K29M Barlow Dome 43.18 38 P P 09 32 14.8 -0.4
baz=281
G30M tAoh Zraii Nji 43.23 33 P P 09 32 13.3 -2.1
baz=278
F30M Barrier River 43.31 32 P P 09 32 13.9 -2.1
baz=278
I30M Mount Dempster 43.43 36 P P 09 32 15.5 -1.7
baz=280,SNR=7.8
J30M Hart River 43.56 37 P P 09 32 15.5 -2.8
baz=281
HYT Haines Junctio 43.81 42 P P 09 32 18.3 -1.9
baz=284
P29M Windy Craggy 43.98 44 P P 09 32 19.5 -2.0
baz=285
G31M Satah River 43.99 33 P P 09 32 19.4 -2.0
baz=280
INK Inuvik 44.05 31 P P 09 32 20.4 -1.5
baz=279
F31M Tsiigehtchic 44.11 33 P P 09 32 20.7 -1.6
baz=280
H31M Peel River 44.16 35 P P 09 32 21.3 -1.7
baz=281
P30M Million Dollar 44.24 43 P P 09 32 20.9 -2.7
baz=285
N31M Braeburn, Yuko 44.46 41 P P 09 32 23.1 -2.3
baz=284
O30N Mendenhall 44.49 42 P P 09 32 22.7 -2.9
baz=285
M31M Drury Creek, Y 44.93 40 P P 09 32 25.8 -3.2
baz=285
WHY Whitehorse 45.10 42 P P 09 32 27.7 -2.8
baz=286
S31K Pelican 45.19 46 P P 09 32 28.8 -2.3
baz=288
SKAG Skagway 45.21 44 P P 09 32 29.7 -1.5
baz=287
FARO Faro, Yukon 45.39 40 P P 09 32 33.8 +1.0
FARO IAmb IAmb 09 32 52.4
comp=Z,5.8nm,1.2s
FARO Faro, Yukon 45.39 40 P P 09 32 31.8 -0.9
baz=286
N32M Quiet Lake 45.81 41 P P 09 32 33.7 -2.4
baz=287
MKAR Makanchi Array 45.84 297 P P 09 32 35.0 -1.5
MKAR Makanchi Array 45.84 297 P P 09 32 35.3 -1.2
comp=Z,0.3nm,0.5s,baz=73,slow=7.5,SNR=4.5
MKAR PcP **PcP 09 34 12.2 -0.8**
comp=Z,0.4nm,0.7s,baz=81,slow=1.9,SNR=2.8
comp=Z,0.3nm,0.5s
SIT Sitka 45.93 47 P P 09 32 36.2 -0.8
baz=289
P32M Atlin 45.96 43 P P 09 32 35.4 -1.9
baz=288
R32K Eaglecrest 45.96 45 P P 09 32 36.7 -0.5
baz=288
A36M Sachs Harbour 46.15 25 P P 09 32 38.4 -0.1
A36M Sachs Harbour 46.15 25 P P 09 32 35.6 -2.8
baz=283
S32K Killisnoo 46.19 46 P P 09 32 37.5 -1.5
baz=289
P33M Teslin, Yukon 46.20 42 P P 09 32 37.9 -1.3
baz=288
MMPY Sheldon Lake, 46.22 39 P P 09 32 38.1 -1.2
baz=287
KURK Kurchatov 46.53 304 P P 09 32 41.2 -0.6
KURK Kurchatov 46.53 304 *e*P **P 09 32 41.2 -0.6**
KURBB Kurchatov Arra 46.62 304 P P 09 32 41.2 -1.3
comp=Z,0.3nm,0.4s,baz=72,slow=8.1,SNR=4.9
comp=Z,0.3nm,0.4s
Q32M Nakina River 46.86 44 P P 09 32 43.9 -0.6
baz=289
C36M Paulatuk 47.18 29 P P 09 32 45.5 -1.0
baz=286,SNR=5.3
R33M Jennings River 47.35 43 P P 09 32 47.9 -0.4
baz=290
U33K Whale Pass 47.40 48 P P 09 32 47.9 -0.5
baz=291
WRAK Wrangell Islan 47.69 47 P P 09 32 49.3 -1.4
baz=292
V35K Ketchikan 48.48 48 P P 09 32 55.7 -1.1
baz=293
T35M Bob Quinn 48.56 46 P P 09 32 59.9 +2.4
T35M Bob Quinn 48.56 46 P P 09 32 56.7 -0.8
baz=292
U35K Hyder 49.08 47 P P 09 33 00.8 -0.6
baz=293
WRGLY Wrigley 49.40 37 P P 09 33 02.7 -1.1
baz=292
LIRD Liard River Hi 49.67 42 P P 09 33 06.2 +0.3
baz=293
TOAD Toad River Com 50.30 42 P P 09 33 09.9 -0.8
baz=294
KOTAN Kotaneelee Air 50.34 40 P P 09 33 09.9 -1.0
baz=294
YKA Yellowknife Ar 53.38 35 P P 09 33 34.4 +0.8
comp=Z,1.2nm,0.7s,baz=300,slow=6.9,SNR=20
comp=Z,1.2nm,0.7s
AB31 Akbulak array 57.84 309 P P 09 34 04.4 -1.4
AB31 IAmb IAmb 09 34 05.7
comp=Z,2.1nm,0.5s
ABKAR Akbulak array 57.84 309 P P 09 34 04.4 -1.4
BLKN Baker Lake 59.20 28 P P 09 34 14.3 -0.6
BLKN IAmb IAmb 09 34 15.3
comp=Z,3.1nm,0.7s
PINE Pine Mountain 60.15 57 P P 09 34 24.3 +2.2
FIA1 FINESS Array S 64.56 334 P P 09 34 49.8 -1.1
FINES FINESS Array B 64.56 334 P P 09 34 49.8 -1.2
comp=Z,1.1nm,0.5s,baz=48,slow=8.5,SNR=9.0
comp=Z,1.1nm,0.5s
NVAR Mina Array Bea 64.97 60 P P 09 34 56.0 +1.6
comp=Z,0.8nm,0.7s,baz=292,slow=5.8,SNR=6.1
comp=Z,0.8nm,0.7s
RLMT Red Lodge 65.94 50 P P 09 35 02.1 +1.6
PDAR Pinedale Array 67.31 52 P P 09 35 09.6 +0.3
PDAR Pinedale Array 67.31 52 P P 09 35 10.5 +1.2
comp=Z,0.8nm,0.6s,baz=297,slow=1.1,SNR=12
comp=Z,0.8nm,0.6s
NC405 NORSAR Array S 68.83 340 P P 09 35 17.3 -0.9
NB2 NORSAR Subarra 69.02 340 P P 09 35 17.7 -1.7
comp=Z,1.2nm,0.6s,baz=26,slow=6.5
NOA NORSAR Array B 69.02 340 P P 09 35 17.7 -1.7
comp=Z,0.4nm,0.4s,baz=30,slow=6.7,SNR=6.5
comp=Z,0.4nm,0.4s
HFS Hagfors 69.18 338 P P 09 35 18.2 -2.1
comp=Z,1.6nm,0.9s,baz=45,slow=6.5,SNR=7.9
comp=Z,1.6nm,0.9s
ASAR Alice Springs 70.12 196 P P 09 35 28.8 +2.3
comp=Z,0.5nm,0.8s,baz=10,slow=6.3,SNR=1.4
comp=Z,0.5nm,0.8s
KBZ Khabaz 70.44 313 P P 09 35 28.4 0.0
comp=Z,2.8nm,0.8s,baz=7.2,slow=2.6,SNR=8.2
comp=Z,2.8nm,0.8s
AKASG Malin Array Be 71.68 325 P P 09 35 33.7 -2.0
comp=Z,0.5nm,0.5s,baz=38,slow=6.0,SNR=4.5
comp=Z,0.5nm,0.5s
ECSD EROS Data Cent 73.43 44 P P 09 35 46.2 -0.1
ECSD IAmb IAmb 09 36 23.1
comp=Z,6.1nm,1.3s
BUR08 Bucovina Ar. S 75.71 325 P P 09 35 58.5 -1.2
BURAR Bucovina Array 75.73 325 P P 09 35 58.4 -1.3
STKA Stephens Creek 77.10 187 LR LR 10 16 34.5
comp=Z,48nm,18.0s,baz=354,slow=40
EKA Eskdalemuir Ar 77.34 345 P P 09 36 06.6 -1.9
comp=Z,0.4nm,0.6s,baz=19,slow=6.8,SNR=3.7
comp=Z,0.4nm,0.6s
BRTR Keskin Array B 78.09 315 P P 09 36 13.0 -0.2
comp=Z,0.8nm,0.8s,baz=138,slow=2.7,SNR=5.8
comp=Z,0.8nm,0.8s
BRTR Keskin Array B 78.09 315 P P 09 36 13.0 -0.2
GERES GERESS Array B 78.92 332 P P 09 36 15.4 -2.1
comp=Z,0.3nm,0.7s,baz=35,slow=4.9,SNR=3.5
comp=Z,0.3nm,0.7s
TXAR Lajitas Array 80.04 58 P P 09 36 25.2 +1.3
comp=Z,0.7nm,0.5s,baz=302,slow=4.5,SNR=20
comp=Z,0.7nm,0.5s
M65A Busby, Falmout 86.23 29 P P 09 36 54.1 -1.3
baz=333
VNDA Vanda 122.65 177 PKP **PKiKP 09 43 08.7 +0.5**
comp=Z,0.4nm,0.7s,baz=288,slow=6.4,SNR=1.4
QSPA South Pole Qui 134.93 180 PKP **PKiKP 09 43 33.7 +0.6**
comp=Z,1.3nm,1.0s,baz=285,slow=2.5,SNR=6.5
H03N2 Juan Fernandez 140.79 90 T T 12 21 03.7
baz=306,slow=77,SNR=18
H03N3 Juan Fernandez 140.80 90 T T 12 21 04.6
baz=306,slow=77,SNR=24
H03N1 Juan Fernandez 140.80 90 T T 12 21 02.9
baz=306,slow=77,SNR=26
ELIB Princess Elisa 143.52 205 *d*PKiKP **PKiKP 09 43 52.9 +2.2**

BDFB Brasilia 146.79 33 PKPbc **PKPbc 09 43 56.5 +0.1**
comp=Z,2.1nm,0.5s,baz=27,slow=1.7,SNR=4.9
PLCA Paso Flores 150.09 96 PKPbc **PKiKP 09 44 05.5 +0.3**
comp=Z,2.4nm,0.7s,baz=269,slow=3.6,SNR=9.7

---

*IDC **21** 09:24:38.7±0.5,22.°18S×174.°80E,h0km,mb4.4/20, mbtmp4.4/22,ML6.6/1,MS4.8/43,Error ellipse: s-maj=18.2km s-min=11.3km az=96.0*
*NEIC **21** 09:24:41.0±1.6,22.°2S±0.°1×174.°9E±0.°1,h10km±1km, mb5.3/100,Mww5.4/27,Error ellipse: s-maj=20.9km s-min=13.4km az=149.0*
*NEIC **21** 09:24:41.1,22.°14S×175.°00E,h22km,Moment Tensor Solution. Duration: 2s9 Moment tensor: Scale 10^17^Nm; Mrr0.30; Mθθ-1.25; Mφφ0.95; Mrθ1.16; Mθφ0.08; Mφr-0.59; Fault plane solution: M0 1.67000×10^17^ NP1: φs225.35000°,δ37.42000°,λ10.06000°. NP2: φs127.32000°,δ83.90000°,λ126.99000°. Principal axes: T 1.4362, Plg40.0000°, Azm71.0000°; N 0.4762, Plg37.0000°, Azm303.0000°; P -1.9123, Plg29.0000°, Azm188.0000°;*
*MOS **21** 09:24:41.6±2.1,22.°04S×174.°76E,h16km,mb5.4/21, MS4.8/11 Error ellipse: s-maj=10.8km s-min=9.1km az=92.8*
*NEIC **21** 09:24:41.1,22.°14S×174.°91E,h22km*
*NOU **21** 09:24:44.7,22.°03S×175.°12E,h19km,mb4.9/23,South of Fiji Islands*
*GCMT **21** 09:24:45.0±0.1,22.°09S±0.°01×174.°84E±0.°01,h19km, MW5.4/153,Moment Tensor Solution. s115,c208; s153,c288; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr0.25±.02; Mθθ-1.28±.02; Mφφ1.03±.01; Mrθ0.80±.05; Mθφ0.34±.01; Mφr-0.79±.05; Best double couple: M0 1.64400×10^17^ NP1:φs233.00000°,δ46.00000°, λ6.00000°. NP2:φs139.00000°,δ85.00000°,λ136.00000°. Principal axes: T 1.5240, Plg33.0000°, Azm86.0000°; N 0.2400, Plg46.0000°, Azm314.0000°; P -1.7640, Plg26.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 09:24:41.7±0.4,22.°20S±0.°04×175.°02E±0.°04,h16km±2km, h17km:pP-P,n685,σ1§43/679,mb5.2/98,MS4.9/73, 52C-22D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.28**	**33**			**Pn**	**09 25 58.7**	**-1.3**
MSVF	**Nonsavu**	**5.28**	**33**	Pn		**Pn**	**09 25 58.9**	**-1.1**
	70nm,0.3s,baz=16,slow=17,SNR=47							
MSVF				Sn		**Sn**	**09 27 00.4**	**-0.1**
	82nm,0.3s,baz=132,slow=18,SNR=16							
MSVF				LR		LR	09 27 28.4	
	comp=Z,10μm,18.2s,baz=242,slow=32							
	106nm,0.3s							
MSVF	**Nonsavu**	**5.28**	**33**	P		**Pn**	**09 25 59.4**	**-0.6**
MSVF	**Nonsavu**	**5.28**	**33**	S		**Sn**	**09 27 00.0**	**-0.6**
LKBA	**Tubou, Lakemba**	**7.01**	**57**	P		**Pn**	**09 26 23.7**	**0.0**
LKBA	**Tubou, Lakemba**	**7.01**	**57**	S		**Sn**	**09 27 41.7**	**-1.4**
PINNC	**Pines Island,**	**7.02**	**265**			**Pn**	**09 26 23.0**	**-0.9**
DGTI	**Dogotuki**	**7.37**	**38**	P		**Pn**	**09 26 29.5**	**+0.8**
OUENC	**Ouen Island, N**	**7.57**	**267**	P		Pn	09 26 36.2	+4.7
ONTNC	**Ouen Toro**	**7.93**	**268**	Pn		**Pn**	**09 26 34.7**	**-1.7**
DZM	**Mont Dzumac**	**7.95**	**269**			**Pn**	**09 26 35.1**	**-1.7**
DZM	**Mont Dzumac**	**7.95**	**269**	*e*Pn		**Pn**	**09 26 39.9**	**+3.2**
	192nm,1.6s							
DZM				*e*LR		LR	09 28 18.4	
	19μm,23.9s							
DZM	**Mont Dzumac**	**7.95**	**269**	Pn		**Pn**	**09 26 36.8**	**+0.1**
	4.3nm,0.3s,baz=241,slow=23,SNR=10							
DZM				Sn		**Sn**	**09 28 02.5**	**-3.9**
	baz=132,slow=23							
DZM	**Mont Dzumac**	**7.95**	**269**	P		**Pn**	**09 26 40.1**	**+3.4**
KOUNC	**Koumac, New Ca**	**10.13**	**277**	P		**Pn**	**09 27 10.7**	**+4.1**
OUZ	**Omahuta**	**13.03**	**185**	P		**Pn**	**09 27 50.7**	**+4.5**
OUZ	**Omahuta**	**13.03**	**185**	P		**Pn**	**09 27 47.5**	**+1.3**
WCZ	**Waipu Caves**	**13.71**	**182**	P		**Pn**	**09 27 56.4**	**+1.1**
GRZ	**Great Barrier**	**14.01**	**179**	P		**Pn**	**09 28 00.7**	**+1.2**
KUZ	**Kuaotunu**	**14.51**	**178**	P		**Pn**	**09 28 09.3**	**+2.9**
WIZ	**White Island**	**15.39**	**173**	P		**P**	**09 28 21.9**	**-0.8**
MXZ	**Matakaoa Point**	**15.57**	**170**	P		**P**	**09 28 26.0**	**+1.2**
HAZ	**Te Kaha**	**15.69**	**172**	P		**P**	**09 28 26.0**	**0.0**
PUZ	**Puketiti**	**16.07**	**171**	P		**P**	**09 28 31.1**	**+0.8**
TLZ	**Tolley Road**	**16.08**	**179**	P		**P**	**09 28 31.0**	**+0.5**
URZ	**Urewera**	**16.11**	**174**	Pn		**P**	**09 28 30.8**	**+0.1**
	1.8nm,0.3s,baz=81,slow=6.8,SNR=16							
URZ				LR		LR	09 33 17.6	
	comp=Z,3μm,21.9s,baz=102,slow=32							
URZ	**Urewera**	**16.11**	**174**	P		**P**	**09 28 32.8**	**+2.1**
URZ	**Urewera**	**16.11**	**174**	P		**P**	**09 28 31.6**	**+0.8**
MWZ	**Matawai**	**16.23**	**173**	P		**P**	**09 28 31.8**	**-0.3**
RTZ	**Ruatahuna**	**16.45**	**175**			**P**	**09 28 34.5**	**-0.1**
RTZ	**Ruatahuna**	**16.45**	**175**	P		**P**	**09 28 35.8**	**+1.2**
BKZ	**Black Stump Fm**	**16.96**	**176**			**P**	**09 28 41.3**	**+1.0**
BKZ	**Black Stump Fm**	**16.96**	**176**	P		**P**	**09 28 44.6**	**+4.3**
TSZ	**Takapari Road**	**17.82**	**178**	P		**P**	**09 28 51.9**	**+2.1**
PXZ	**Pawanui**	**17.85**	**175**	P		**P**	**09 28 51.8**	**+1.9**
MRZ	**Mangatainoka R**	**18.41**	**179**	P		**Pn**	**09 28 57.3**	**+1.1**
MRZ	**Mangatainoka R**	**18.41**	**179**	P		**Pn**	**09 28 57.7**	**+1.4**
BFZ	**Birch Farm**	**18.46**	**177**	P		**Pn**	**09 29 00.5**	**+3.7**
BFZ	**Birch Farm**	**18.46**	**177**	P		**Pn**	**09 28 58.6**	**+1.8**
QRZ	**Quartz Range**	**18.69**	**186**	P		**Pn**	**09 29 04.3**	**+4.7**
QRZ	**Quartz Range**	**18.69**	**186**	P		**Pn**	**09 29 04.4**	**+4.8**
NNZ	**Nelson**	**19.01**	**184**	P		**Pn**	**09 29 05.6**	**+2.1**
SNZO	**South Karori**	**19.06**	**181**	P		**Pn**	**09 29 07.9**	**+3.9**
HNR	**Honiara**	**19.25**	**309**	P		**P**	**09 29 04.7**	**-0.9**
	34nm,0.4s,baz=130,slow=2.4,SNR=4.9							
HNR				S		**Sn**	**09 32 38.9**	**-3.2**
	22nm,0.4s,baz=30,slow=17,SNR=1.0							
HNR				LR		LR	09 35 03.9	
	comp=Z,1μm,21.7s,baz=138,slow=33							
PLWZ	**Palliser**	**19.32**	**179**	P		**Pn**	**09 29 07.6**	**+0.4**
THZ	**Tophouse**	**19.59**	**185**	P		**Pn**	**09 29 12.9**	**+2.4**
DSZ	**Denniston Nort**	**19.68**	**187**	P		**Pn**	**09 29 14.9**	**+3.4**
TATA	**Tatamba Isabel**	**20.07**	**311**	P		Pn	09 29 16.4	+0.1
KHZ	**Kahutara**	**20.20**	**183**	P		Pn	09 29 19.9	+2.3
KHZ	**Kahutara**	**20.20**	**183**	P		Pn	09 29 19.9	+2.3
LTZ	**Lake Taylor**	**20.65**	**186**	P		Pn	09 29 23.0	-0.1
INZ	**Inchbonnie**	**20.68**	**187**	P		Pn	09 29 26.7	+3.3
GVZ	**Greta Valley S**	**20.78**	**184**	P		Pn	09 29 25.9	+1.5
WVZ	**Waitaha Valley**	**21.12**	**189**	P		**P**	**09 29 30.8**	**+5.1**
OXZ	**Oxford**	**21.21**	**186**	P		**P**	**09 29 28.0**	**+1.3**
MQZ	**McQueen's Vall**	**21.54**	**185**	P		**P**	**09 29 31.6**	**+1.5**
RPZ	**Rata Peaks**	**21.71**	**188**	P		**P**	**09 29 32.7**	**+0.7**
	12nm,0.6s,baz=319,slow=3.5,SNR=6.7							
RPZ				S		**S**	**09 33 34.3**	**+2.6**
	7.4nm,1.1s,baz=25,slow=19,SNR=1.1							
RPZ				LR		LR	09 37 14.8	
	comp=Z,5μm,19.6s,baz=18,slow=35							
	12nm,0.6s							
RPZ	**Rata Peaks**	**21.71**	**188**	P		**P**	**09 29 34.7**	**+2.6**
FOZ	**Fox Glacier**	**21.71**	**190**	P		**P**	**09 29 36.8**	**+4.8**
TMZ	**Timaru**	**22.37**	**188**	P		**P**	**09 29 42.6**	**+3.4**
JCZ	**Jackson Bay**	**22.42**	**192**	P		**P**	**09 29 43.7**	**+4.0**
ARMA	**Armidale**	**22.48**	**244**			**P**	**09 29 40.7**	**+0.1**
ARMA	**Armidale**	**22.48**	**244**	P		**P**	**09 29 44.1**	**+3.6**
LBZ	**Lake Benmore**	**22.49**	**189**			**P**	**09 29 43.7**	**+3.3**
LBZ	**Lake Benmore**	**22.49**	**189**	P		**P**	**09 29 44.3**	**+3.9**
ODZ	**Otahua Downs**	**23.07**	**188**	P		**P**	**09 29 51.0**	**+4.5**
ODZ	**Otahua Downs**	**23.07**	**188**	P		**P**	**09 29 48.1**	**+1.7**
WKZ	**Wanaka**	**23.10**	**191**	P		**P**	**09 29 48.7**	**+1.8**
MSZ	**Milford Sound**	**23.16**	**193**	P		**P**	**09 29 48.8**	**+1.4**
RAR	**Rarotonga**	**23.44**	**92**	LR		LR	09 37 01.5	
	comp=Z,1μm,21.8s,baz=270,slow=31							
EAZ	**Earnscleugh**	**23.45**	**190**	P		**P**	**09 29 51.7**	**+1.4**
MLZ	**Mavora Lakes**	**23.79**	**192**			**P**	**09 29 55.7**	**+2.0**
MLZ	**Mavora Lakes**	**23.79**	**192**	P		**P**	**09 29 56.1**	**+2.4**
TUZ	**Tuapeka**	**24.10**	**189**	P		**P**	**09 29 58.7**	**+2.2**
WHZ	**Wether Hill Ro**	**24.33**	**192**			**P**	**09 30 01.0**	**+2.4**
WHZ	**Wether Hill Ro**	**24.33**	**192**	P		**P**	**09 30 00.3**	**+1.6**
SYZ	**Scrubby Hill**	**24.75**	**190**	P		**P**	**09 30 04.0**	**+1.7**
APZ	**The Paps**	**25.23**	**191**	P		**P**	**09 30 09.5**	**+2.7**
CMSA	**Cobar Meteorol**	**27.70**	**244**	P		**P**	**09 30 33.2**	**+4.0**
PMG	**Port Moresby**	**29.60**	**291**	LR		LR	09 41 24.8	
	comp=Z,1μm,19.8s,baz=126,slow=34							
PMG	**Port Moresby**	**29.60**	**291**	*i*P		**P**	**09 30 45.0**	**-1.3**
PMG				pmax		pmax		
	comp=Z,10.0nm,1.1s							
STKA	**Stephens Creek**	**31.19**	**245**	P		**P**	**09 30 58.0**	**-2.2**
STKA	**Stephens Creek**	**31.19**	**245**	P		**P**	**09 30 58.0**	**-2.2**
	comp=Z,1.4nm,0.6s,baz=91,slow=12,SNR=5.9							
STKA				LR		LR	09 42 18.0	
	comp=Z,3μm,20.4s,baz=75,slow=34							
	comp=Z,1.4nm,0.6s							
TBI	**Tubuai**	**32.72**	**99**	*e*P		**P**	**09 31 13.7**	**-0.1**
	comp=Z,518nm,27.2s							
TBI				*e*S		**S**	**09 36 27.5**	**-2.4**
	comp=Z,1μm,28.0s							
TBI				*e*LR		LR	09 39 48.6	
	comp=Z,3μm,27.8s							
TBI				*e*LR		LR	09 39 54.1	
	comp=Z,14μm,29.0s							
PAE	**Paea**	**33.54**	**89**	*e*LR		LR	09 40 13.1	
	comp=Z,617nm,25.0s							
PPT2	**Papeete2**	**33.56**	**89**	*e*P		P	09 31 14.9	-6.3
	comp=Z,154nm,25.0s							
PPT2				*e*S		**S**	**09 36 42.2**	**-0.9**
	comp=Z,363nm,24.2s							
PPT2				*e*LR		LR	09 40 16.7	
	comp=Z,3μm,27.2s							
PPT2				*e*LR		LR	09 40 18.0	
	comp=Z,5μm,27.5s							
PPT	**Papeete**	**33.56**	**89**	LR		LR	09 41 40.9	
	comp=Z,1μm,21.4s,baz=262,slow=30							
TVO	**Taravao**	**33.81**	**89**	*e*LR		LR	09 40 19.0	
	comp=Z,806nm,25.7s							
LCRK	**Leigh Creek**	**33.88**	**248**	P		**P**	**09 31 27.6**	**+3.8**
PMOR	**Pomariorio Ree**	**35.80**	**85**	*e*P		**P**	**09 31 40.5**	**0.0**
	comp=Z,94nm,1.3s							
PMOR				*e*LR		LR	09 41 18.1	
	comp=Z,6μm,25.3s							
BBOO	**Buckleboo**	**35.96**	**244**	P		**P**	**09 31 40.1**	**-1.6**
BBOO				IAmb		IAmb	09 32 23.7	
	comp=Z,81nm,1.6s							
VAH	**Vaihoa**	**35.98**	**85**	*e*P		**P**	**09 31 42.9**	**+0.8**
	comp=Z,52nm,1.1s							
VAH				*e*LR		LR	09 41 21.1	
	comp=Z,3μm,23.6s							
WR8	**Warramunga Arr**	**37.80**	**266**	P		**P**	**09 31 53.5**	**-4.0**
AS31	**Alice Springs**	**37.80**	**260**			**P**	**09 31 55.7**	**-1.9**
ASAR	**Alice Springs**	**37.80**	**260**			**P**	**09 31 55.2**	**-2.4**
ASAR	**Alice Springs**	**37.80**	**260**	P		**P**	**09 31 55.0**	**-2.6**
	comp=Z,4.1nm,0.9s,baz=84,slow=9.4,SNR=22							
ASAR				PcP		**PcP**	**09 34 13.1**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=100,slow=2.8,SNR=1.1							
ASAR				S		S	09 37 36.7	-11
	comp=Z,1.0nm,0.8s,baz=94,slow=15,SNR=5.6							
ASAR				LR		LR	09 46 49.9	
	comp=Z,3μm,20.9s,baz=102,slow=35							
	comp=Z,4.1nm,0.9s							
WB0	**Warramunga Arr**	**37.93**	**266**	P		**P**	**09 31 55.9**	**-2.8**
WRAB	**Tennant Creek**	**37.94**	**266**	*i* P		**P**	**09 31 58.4**	**-0.4**
WRA	**Warramunga Arr**	**37.95**	**266**	P		**P**	**09 31 56.4**	**-2.5**
WRA	**Warramunga Arr**	**37.95**	**266**	P		**P**	**09 31 55.4**	**-3.5**
	comp=Z,0.7nm,0.5s,baz=99,slow=8.0,SNR=11							
WRA				PcP		**PcP**	**09 34 13.5**	**-1.2**
	comp=Z,1.9nm,1.1s,baz=94,slow=4.0,SNR=2.7							
WRA				S		S	09 37 40.8	-10
	comp=Z,1.2nm,1.1s,baz=102,slow=12,SNR=2.4							
WRA				ScP		**ScP**	**09 37 59.8**	**-2.0**
	comp=Z,1.0nm,1.1s,baz=74,slow=0.4,SNR=5.3							
WRA				LR		LR	09 47 50.5	
	comp=Z,6μm,18.0s,baz=108,slow=37							
	comp=Z,0.7nm,0.5s							
JAY	**Jayapura**	**38.64**	**296**	LR		LR	09 47 08.0	
	comp=Z,943nm,21.0s,baz=182,slow=35							
H11S2	**WAKE ISLAND Hy**	**41.25**	**348**	T		T	10 16 19.9	
	baz=163,slow=75,SNR=5.3							
H11S3	**WAKE ISLAND Hy**	**41.26**	**348**	T		T	10 16 16.1	
	baz=163,slow=75,SNR=4.6							
H11S1	**WAKE ISLAND Hy**	**41.27**	**348**	T		T	10 16 21.7	
	baz=163,slow=75,SNR=8.5							
H11N1	**WAKE ISLAND Hy**	**42.41**	**349**	T		T	10 17 43.3	
	baz=170,slow=76,SNR=17							
H11N3	**WAKE ISLAND Hy**	**42.41**	**349**	T		T	10 17 43.6	
	baz=170,slow=76,SNR=12							
H11N2	**WAKE ISLAND Hy**	**42.42**	**349**	T		T	10 17 44.3	
	baz=170,slow=76,SNR=10							
FORT	**Forrest**	**42.64**	**248**	P		**P**	**09 32 35.4**	**-2.2**
MTN	**Manton Dam**	**42.74**	**275**	P		**P**	**09 32 36.9**	**-1.7**
KNRA	**Kununurra**	**44.10**	**270**	P		**P**	**09 32 46.5**	**-3.0**
TAOE	**Nuku Hiva Isla**	**45.01**	**80**	*e*P		**P**	**09 32 55.5**	**-1.5**
	comp=Z,95nm,23.4s							
TAOE				*e*S		**S**	**09 39 36.0**	**+0.6**
	comp=Z,362nm,25.1s							
TAOE				*e*SS		**SS**	**09 42 58.4**	**+0.9**
	comp=Z,2μm,29.5s							
TAOE				*e*LR		LR	09 45 33.6	
	comp=Z,4μm,25.5s							
FAKI	**Fak Fak**	**45.70**	**289**	P		**P**	**09 33 00.3**	**-1.9**
RKT	**Rikitea**	**45.97**	**101**	*e*P		**P**	**09 33 02.2**	**-2.2**
	comp=Z,456nm,32.8s							
RKT				*e*S		**S**	**09 39 49.0**	**+0.2**
	comp=Z,1μm,26.8s							
RKT				*e*SS		**SS**	**09 43 13.6**	**-0.2**
	comp=Z,4μm,32.0s							
RKT				*e*LR		LR	09 45 59.9	
	comp=Z,8μm,29.5s							
GUMO	**Guam**	**46.25**	**317**	LR		LR	09 50 20.0	
	comp=Z,328nm,22.0s,baz=134,slow=33							
FITZ	**Fitzroy Crossi**	**46.38**	**266**	P		**P**	**09 33 05.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**46.38**	**266**	LR		LR	09 52 53.1	
	comp=Z,2μm,18.5s,baz=106,slow=37							
MBWA	**Marble Bar**	**51.14**	**260**	P		**P**	**09 33 41.3**	**-2.9**
NWAO	**Narrogin (SRO)**	**51.77**	**245**	P		**P**	**09 33 46.9**	**-1.9**
NWAO				IAmb		IAmb	09 34 16.5	
	comp=Z,41nm,1.2s							
NWAO	**Narrogin (SRO)**	**51.77**	**245**	LR		LR	09 56 03.8	
	comp=Z,2μm,18.2s,baz=96,slow=36							
NWAO	**Narrogin (SRO)**	**51.77**	**245**	P		**P**	**09 33 46.9**	**-1.9**
NWAO				pmax		pmax		
	comp=Z,41nm,1.3s							
MORW	**Morawa**	**53.15**	**250**	P		**P**	**09 33 56.4**	**-2.7**
MORW				IAmb		IAmb	09 34 05.0	
	comp=Z,54nm,1.5s							
VNDA	**Vanda**	**55.74**	**183**	P		**P**	**09 34 17.0**	**-0.1**
	comp=Z,0.3nm,1.0s,baz=360,slow=7.3,SNR=1.4							
VNDA				LR		LR	09 54 12.6	
	comp=Z,1μm,21.9s,baz=9.0,slow=32							
SBA	**Scott Base**	**55.85**	**182**	P		**P**	**09 34 19.6**	**+1.7**
SBA	**Scott Base**	**55.85**	**182**	P		**P**	**09 34 19.6**	**+1.7**
SBA				pmax		pmax		
	comp=Z,23nm,1.2s							
KAPI	**Kappang**	**56.04**	**279**	LR		LR	10 00 31.4	
	comp=Z,635nm,18.8s,baz=120,slow=39							
TOLI2	**Tolitoli**	**57.70**	**286**	P		**P**	**09 34 31.6**	**-0.5**
TOLI2				IAmb		IAmb	09 34 45.9	
	comp=Z,27nm,0.9s							
JCJ	**Chichijima**	**58.40**	**325**	P		**P**	**09 34 35.4**	**-1.2**
	comp=Z,45nm,0.8s,baz=266,slow=16,SNR=2.1							
CASY	**Casey**	**59.66**	**205**	P		**P**	**09 34 43.6**	**-1.3**
JHJ	**Hachijo jima 2**	**64.47**	**328**	LR		LR	09 56 57.1	
	comp=Z,128nm,21.6s,baz=156,slow=30							
SBUM	**Sibu**	**65.96**	**283**	P		**P**	**09 35 25.1**	**-2.6**
JOW	**Kunigami**	**66.50**	**315**	P		**P**	**09 35 30.4**	**-0.3**
LEM	**Lembang**	**66.55**	**272**	LR		LR	10 02 56.5	
	comp=Z,1μm,21.8s,baz=167,slow=35							
KSM	**Kuching**	**67.28**	**282**	P		**P**	**09 35 34.4**	**-1.8**
KSM				IAmb		IAmb	09 35 53.8	
	comp=Z,20nm,1.1s							
JGF	**Kuroka**	**67.66**	**327**	P		**P**	**09 35 36.9**	**-1.2**
JGF				IAmb		IAmb	09 35 53.1	
	comp=Z,49nm,1.9s							
QSPA	**South Pole Qui**	**67.87**	**180**			**P**	**09 35 39.1**	**-0.1**
QSPA				IAmb		IAmb	09 36 04.6	
	comp=Z,18nm,1.1s							
QSPA	**South Pole Qui**	**67.87**	**180**	P		**P**	**09 35 38.5**	**-0.7**
	comp=Z,4.2nm,0.9s,baz=248,slow=0.7,SNR=16							
QSPA				LR		LR	10 02 05.8	
	comp=Z,630nm,19.4s,baz=40,slow=33							
	comp=Z,4.2nm,0.9s							
MJAR	**Matsushiro Arr**	**67.98**	**329**	P		**P**	**09 35 39.0**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=161,slow=5.3,SNR=7.1							
MJAR				LR		LR	10 00 17.5	
	comp=Z,53nm,21.9s,baz=124,slow=32							
	comp=Z,1.3nm,0.4s							
MJAR	**Matsushiro Arr**	**67.98**	**329**	P		**P**	**09 35 39.0**	**-1.1**
JNU	**Nakatsue**	**69.28**	**321**	P		**P**	**09 35 47.4**	**-0.9**
JNU				IAmb		IAmb	09 35 57.3	
	comp=Z,25nm,1.2s							
JNU	**Nakatsue**	**69.28**	**321**	P		**P**	**09 35 47.2**	**-1.0**
	comp=Z,7.6nm,1.1s,baz=285,slow=5.0,SNR=4.7							
	comp=Z,7.6nm,1.1s							
NACB	**Ninganchiao**	**69.42**	**308**	P		**P**	**09 35 48.3**	**-1.0**
SSLB	**Suanglung**	**69.66**	**308**	P		**P**	**09 35 48.4**	**-2.4**
SSLB				IAmb		IAmb	09 35 57.8	
	comp=Z,15nm,0.8s							
ASAJ	**Asahikawa**	**72.37**	**336**	LR		LR	10 02 41.8	
	comp=Z,610nm,21.1s,baz=162,slow=32							
KSRS	**Korea Array**	**74.06**	**323**	P		**P**	**09 36 16.7**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=149,slow=5.3,SNR=5.8							
	comp=Z,1.0nm,0.8s							
KSAR	**Wonju Array Be**	**74.07**	**323**			**P**	**09 36 15.0**	**-2.0**
KSAR	**Wonju Array Be**	**74.07**	**323**	P		**P**	**09 36 15.0**	**-2.0**
YSS	**Yuzhno-Sakhali**	**74.74**	**338**			**P**	**09 36 19.4**	**-1.2**
YSS				IAmb		IAmb	09 36 30.6	
	comp=Z,38nm,1.2s							
YSS	**Yuzhno-Sakhali**	**74.74**	**338**	*e*P		**P**	**09 36 21.2**	**+0.6**
YSS				*e**SP		**pwP**	**09 36 30.4**	**+1.9**
YSS				*e*S		**S**	**09 45 54.9**	**-1.3**
YSS				*e*SS		**SS**	**09 50 43.9**	**-0.7**
YSS				pmax		pmax		
	comp=Z,30nm,1.2s							
YSS				MLR		MLR		
	comp=Z,300nm,21.0s							
QIZ	**Qiongzhong**	**75.74**	**298**	P		**P**	**09 36 26.5**	**-0.5**
QIZ				S		**S**	**09 46 09.8**	**+1.3**
QIZ				ScS		**ScS**	**09 46 42.1**	**+1.3**
QIZ				LR		LR		
	comp=Z,370nm,12.9s							
QIZ				LR		LR		
	comp=Z,260nm,14.2s							
QIZ				LR		LR		
	comp=Z,290nm,17.7s							
NJ2	**Nanjing**	**76.12**	**313**	*e*P		**P**	**09 36 29.8**	**+0.9**
NJ2				pmax		pmax		
	comp=Z,18nm,0.6s							
NIKH	**Nikolski High**	**76.16**	**10**	P		**P**	**09 36 29.8**	**+1.2**
	baz=196							
PET	**Petropavlovsk**	**76.25**	**350**	*e*P		**P**	**09 36 28.0**	**-1.1**
PET				*e*S		**S**	**09 46 14.2**	**+1.6**
PET				pmax		pmax		
	comp=Z,25nm,0.9s							
PET				pmax		pmax		
	comp=Z,200nm,7.8s							
PET				pmax		pmax		
	comp=Z,100nm,10.3s							
PEA0B	**Petropavlovsk-**	**76.48**	**349**			**P**	**09 36 30.4**	**-0.1**
PEA0B				IAmb		IAmb	09 36 37.7	
	comp=Z,36nm,1.1s							
PEA0B	**Petropavlovsk-**	**76.48**	**349**	*ce*P		**P**	**09 36 30.4**	**-0.1**
PETK	**Petropavlovsk-**	**76.48**	**349**			**P**	**09 36 30.1**	**-0.4**
PETK	**Petropavlovsk-**	**76.48**	**349**	P		**P**	**09 36 30.5**	**0.0**
	comp=Z,13nm,0.9s,baz=170,slow=9.0,SNR=15							
	comp=Z,13nm,0.9s							
USA0B	**Ussuriysk Arra**	**76.92**	**330**	P		**P**	**09 36 32.4**	**-0.8**
USA0B				IAmb		IAmb	09 36 45.8	
	comp=Z,48nm,1.8s							
USA0B	**Ussuriysk Arra**	**76.92**	**330**	P		**P**	**09 36 32.4**	**-0.8**
USA0B				pmax		pmax		
	comp=Z,47nm,1.8s							
USRK	**Ussuriysk Ar.**	**76.92**	**330**			**P**	**09 36 32.9**	**-0.3**
USRK	**Ussuriysk Ar.**	**76.92**	**330**	P		**P**	**09 36 33.4**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=120,slow=6.8,SNR=6.1							
	comp=Z,1.3nm,0.6s							
MAW	**Mawson**	**77.70**	**201**	P		**P**	**09 36 36.7**	**-0.6**
MAW	**Mawson**	**77.70**	**201**	P		**P**	**09 36 37.0**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=106,slow=5.1,SNR=4.9							
MAW				LR		LR	10 09 02.3	
	comp=Z,655nm,18.2s,baz=88,slow=34							
	comp=Z,0.8nm,0.5s							
MAW	**Mawson**	**77.70**	**201**	P		**P**	**09 36 37.0**	**-0.3**
PSI	**Prapat**	**78.22**	**278**	LR		LR	10 14 43.2	
	comp=Z,665nm,18.3s,baz=142,slow=38							
WHN	**Wuhan**	**78.36**	**310**	P		**P**	**09 36 42.8**	**+1.3**
WHN				sP		**sP**	**09 36 47.9**	**+0.2**
WHN				S		**S**	**09 46 37.1**	**+0.5**
WHN				pmax		pmax		
	comp=Z,88nm,1.2s							
WHN				LR		LR		
	comp=Z,830nm,24.9s							
MDJ	**Mudanjiang**	**78.37**	**329**	P		**P**	**09 36 42.4**	**+1.2**
MDJ				PP		**PP**	**09 39 39.4**	**+0.5**
MDJ				S		**S**	**09 46 43.3**	**+7.2**
MDJ				pmax		pmax		
	comp=Z,8.0nm,1.0s		

	comp=Z,120nm,17.7s						
BJI				LR	LR		
	comp=Z,45nm,16.8s						
BJI				LR	LR		
	comp=Z,47nm,12.3s						
R18K	**Karluk**	**83.47**	**16**	P	**P**	**09 37 08.5**	**+0.3**
	baz=208						
OHAK	**Old Harbor**	**83.47**	**17**	P	**P**	**09 37 09.5**	**+1.4**
	baz=209						
O14K	**Tigyukauivet M**	**83.47**	**12**	P	**P**	**09 37 09.5**	**+1.4**
	baz=202						
HEH	**HeiHe**	**83.51**	**332**	*e*P	**P**	**09 37 08.3**	**-0.2**
HEH				sP	**sP**	**09 37 14.1**	**-0.2**
HEH				S	**SKSac**	**09 47 31.8**	**+1.7**
HEH				SS	**SS**	**09 53 01.3**	**+5.2**
HEH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HEH				LR	LR		
	comp=Z,160nm,16.0s						
HEH				LR	LR		
	comp=Z,200nm,16.5s						
HEH				LR	LR		
	comp=Z,380nm,17.8s						
O15K	**Ungalikthiuk R**	**83.69**	**13**	P	**P**	**09 37 10.0**	**+0.7**
	baz=203						
Q17K	**Contact Creek**	**83.73**	**15**	P	**P**	**09 37 10.2**	**+0.6**
	baz=207						
MA2	**Magadan**	**83.88**	**348**	LR	LR	10 10 18.7	
	comp=Z,350nm,20.1s,baz=166,slow=33						
MA2	**Magadan**	**83.88**	**348**	*i* P	**P**	**09 37 10.4**	**+0.2**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.1s						
Q16K	**King Salmon**	**83.92**	**14**	P	**P**	**09 37 11.0**	**+0.6**
	baz=206						
N14K	**Kuskokwak Cree**	**84.02**	**12**	P	**P**	**09 37 11.3**	**+0.4**
N14K	**Kuskokwak Cree**	**84.02**	**12**	P	**P**	**09 37 11.6**	**+0.7**
	baz=202,SNR=5.1						
ELIB	**Princess Elisa**	**84.11**	**189**	*d*P	**P**	**09 37 10.9**	**-0.8**
	comp=Z,5.1nm,1.1s						
XAN	**Xi'an**	**84.11**	**310**	⇑P	**P**	**09 37 12.9**	**+0.8**
XAN				SKS	**SKSac**	**09 47 34.9**	**-0.1**
XAN				S	**SKKSac**	**09 47 39.3**	**-0.9**
XAN				pmax	pmax		
	comp=Z,16nm,1.3s						
XAN				pmax	pmax		
	comp=Z,300nm,5.1s						
XAN				LR	LR		
	comp=Z,240nm,15.5s						
XAN				LR	LR		
	comp=Z,290nm,18.2s						
XAN				LR	LR		
	comp=Z,390nm,17.9s						
KDAK	**Kodiak Island**	**84.15**	**17**	LR	LR	10 07 22.3	
	comp=Z,614nm,21.1s,baz=57,slow=30						
KDAK	**Kodiak Island**	**84.15**	**17**	P	**P**	**09 37 12.6**	**+1.1**
	baz=210						
M13K	**Dall Lake**	**84.18**	**11**	P	**P**	**09 37 12.5**	**+0.8**
	baz=200						
BCW	**Bitter Crk WRg**	**84.22**	**49**	P	**P**	**09 37 12.8**	**+0.1**
Q18K	**Katmai Hardscr**	**84.29**	**15**	P	**P**	**09 37 12.5**	**0.0**
	baz=208,SNR=12						
O16K	**Kokwok River B**	**84.43**	**13**	P	**P**	**09 37 14.0**	**+1.0**
	baz=205						
P17K	**Kvichak River**	**84.44**	**14**	P	**P**	**09 37 13.7**	**+0.7**
	baz=206						
N15K	**Kwethluk River**	**84.55**	**12**	P	**P**	**09 37 13.4**	**-0.2**
N15K	**Kwethluk River**	**84.55**	**12**	P	**P**	**09 37 14.8**	**+1.2**
	baz=203,SNR=11						
CMAR	**Chiang Mai Arr**	**84.64**	**292**		**P**	**09 37 14.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**84.64**	**292**	P	**P**	**09 37 14.8**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=112,slow=4.8,SNR=5.6						
	comp=Z,1.0nm,0.3s						
PASC	**Pasadena Art C**	**84.68**	**50**	P	**P**	**09 37 13.8**	**-1.1**
PASC				IAmb	IAmb	09 37 24.0	
	comp=Z,22nm,1.2s						
M14K	**Bethel**	**84.74**	**11**	P	**P**	**09 37 14.7**	**+0.2**
M14K	**Bethel**	**84.74**	**11**	P	**P**	**09 37 15.3**	**+0.8**
	baz=201,SNR=8.8						
CHTO	**Chiang Mai**	**84.79**	**293**		**P**	**09 37 15.0**	**-0.8**
CHTO	**Chiang Mai**	**84.79**	**293**	P	**P**	**09 37 15.0**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,14nm,1.0s						
O17K	**Koliganek Bris**	**84.81**	**14**	P	**P**	**09 37 15.6**	**+0.7**
	baz=206						
O02D	**Mt. Diablo Mer**	**84.84**	**43**		**P**	**09 37 16.8**	**+1.1**
P18K	**Big Mountain,**	**84.90**	**15**	P	**P**	**09 37 15.8**	**+0.4**
	baz=208,SNR=6.8						
Q20K	**Shuyak Island**	**84.92**	**16**	P	**P**	**09 37 16.1**	**+0.6**
	baz=210						
M15K	**Kasigluk River**	**84.92**	**12**	P	**P**	**09 37 15.8**	**+0.3**
	baz=203,SNR=9.3						
ELS	**Elsinore Mount**	**84.95**	**51**	P	**P**	**09 37 16.9**	**+0.5**
ELS				IAmb	IAmb	09 37 31.5	
	comp=Z,21nm,1.2s						
N16K	**Nishlik Lake**	**85.09**	**13**	P	**P**	**09 37 17.0**	**+0.6**
	baz=204,SNR=7.9						
L14K	**Kuka Creek**	**85.17**	**11**	P	**P**	**09 37 17.0**	**+0.3**
L14K				IAmb	IAmb	09 37 18.4	
	comp=Z,32nm,1.2s						
L14K	**Kuka Creek**	**85.17**	**11**	P	**P**	**09 37 17.6**	**+1.0**
	baz=201,SNR=6.1						
CMB	**Columbia Colle**	**85.21**	**46**		**P**	**09 37 17.6**	**0.0**
CMB				IAmb	IAmb	09 37 26.9	
	comp=Z,31nm,1.2s						
CMB	**Columbia Colle**	**85.21**	**46**	P	**P**	**09 37 17.6**	**0.0**
CMB				pmax	pmax		
	comp=Z,31nm,1.2s						
ISA	**Isabella, Lake**	**85.25**	**49**		**P**	**09 37 18.3**	**+0.5**
ISA	**Isabella, Lake**	**85.25**	**49**	P	**P**	**09 37 18.3**	**+0.5**
ISA				pmax	pmax		
	comp=Z,42nm,1.1s						
O18K	**Koktuh Hills**	**85.31**	**15**	P	**P**	**09 37 17.8**	**+0.3**
	baz=208						
ORV	**Oroville**	**85.32**	**44**	P	**P**	**09 37 18.6**	**+0.6**
ORV				IAmb	IAmb	09 37 20.6	
	comp=Z,43nm,1.4s						
ORV	**Oroville**	**85.32**	**44**	P	**P**	**09 37 18.6**	**+0.6**
ORV				pmax	pmax		
	comp=Z,43nm,1.4s						
AFDM	**Forest Hills D**	**85.33**	**45**		**P**	**09 37 18.3**	**+0.2**
AFDM				IAmb	IAmb	09 37 27.4	
	comp=Z,38nm,1.2s						
K13K	**Kusilvak Mount**	**85.41**	**9**	P	**P**	**09 37 17.6**	**-0.3**
K13K				IAmb	IAmb	09 37 25.5	
	comp=Z,28nm,1.1s						
K13K	**Kusilvak Mount**	**85.41**	**9**	P	**P**	**09 37 18.5**	**+0.6**
	baz=199						
N17K	**Nushagak Hills**	**85.47**	**13**	P	**P**	**09 37 19.1**	**+0.8**
	baz=206						
M16K	**Timber Creek**	**85.56**	**12**	P	**P**	**09 37 19.7**	**+1.1**
	baz=204						
P19K	**Oil Pt**	**85.61**	**16**	P	**P**	**09 37 19.3**	**+0.3**
	baz=209						
PFO	**Pinyon Flats O**	**85.63**	**51**	P	**P**	**09 37 20.3**	**+0.4**
PFO	**Pinyon Flats O**	**85.63**	**51**	LR	LR	10 08 18.5	
	comp=Z,964nm,19.4s,baz=242,slow=30						
PFO	**Pinyon Flats O**	**85.63**	**51**	P	**P**	**09 37 20.3**	**+0.4**
PFO				pmax	pmax		
	comp=Z,17nm,1.4s						
L15K	**Ungalak Mounta**	**85.69**	**11**	P	**P**	**09 37 20.3**	**+1.0**
	baz=202						
YBH	**Yreka Blue Hor**	**85.78**	**42**	P	**P**	**09 37 20.5**	**+0.1**
YBH				IAmb	IAmb	09 37 29.5	
	comp=Z,30nm,1.3s						
YBH	**Yreka Blue Hor**	**85.78**	**42**	LR	LR	10 07 52.0	
	comp=Z,1μm,20.7s,baz=238,slow=30						
YBH	**Yreka Blue Hor**	**85.78**	**42**	P	**P**	**09 37 20.5**	**+0.1**
YBH				pmax	pmax		
	comp=Z,30nm,1.3s						
O19K	**Port Alsworth**	**85.82**	**15**	P	**P**	**09 37 20.1**	**+0.2**
	baz=208,SNR=7.9						
PZH	**PanZhiHua**	**85.86**	**301**	P	**P**	**09 37 21.8**	**+0.7**
PZH				S	**S**	**09 47 54.3**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,5.7s						
PZH				LR	LR		
	comp=Z,310nm,22.5s						
PZH				LR	LR		
	comp=Z,320nm,20.8s						
PZH				LR	LR		
	comp=Z,350nm,22.6s						
N18K	**Kilae Creek**	**85.89**	**14**	P	**P**	**09 37 21.3**	**+1.0**
	baz=207						
TROLL	**Troll, Antarti**	**85.90**	**182**	⇑P	**P**	**09 37 19.7**	**-1.0**
	comp=Z,360nm,0.6s						
LPIG	**La Paz**	**85.91**	**62**	LR	LR	10 09 09.0	
	comp=Z,629nm,18.4s,baz=226,slow=31						
HHC	**Hu-ho-hao-te**	**86.02**	**317**	*e*P	**P**	**09 37 22.8**	**+1.2**
HHC				sP	pwP	09 37 30.1	+0.4
HHC				SKS	**SKSac**	**09 47 46.8**	**-0.2**
HHC				S	**S**	**09 47 57.4**	**+2.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,150nm,3.7s						
HHC				LR	LR		
	comp=Z,120nm,15.3s						
HHC				LR	LR		
	comp=Z,110nm,15.3s						
HHC				LR	LR		
	comp=Z,180nm,14.5s						
HOM	**Homer**	**86.02**	**16**	P	**P**	**09 37 21.5**	**+0.6**
	baz=211						
L16K	**Owhat River**	**86.09**	**12**	P	**P**	**09 37 22.0**	**+0.7**
	baz=204						
WAKR	**Walker**	**86.09**	**46**	P	**P**	**09 37 22.6**	**+0.5**
ZEA	**Zeya**	**86.11**	**334**	*e*P	**P**	**09 37 21.8**	**+0.3**
ZEA				*e*S	**S**	**09 47 57.3**	**+2.2**
ZEA				*e*SS	**SS**	**09 53 38.3**	**+3.9**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA				smax	smax		
	comp=N,200nm,15.2s						
ZEA				smax	smax		
	comp=E,200nm,14.2s						
MPK	**Martis Peak**	**86.13**	**45**	P	**P**	**09 37 22.8**	**+0.4**
M17K	**Holitna River**	**86.21**	**13**	P	**P**	**09 37 22.6**	**+0.7**
	baz=206						
K15K	**Wolf Creek Mou**	**86.26**	**11**	P	**P**	**09 37 23.6**	**+1.5**
	baz=202,SNR=7.5						
GAMB	**Gambell**	**86.32**	**6**	P	**P**	**09 37 23.0**	**+0.7**
	baz=192						
BRSE	**Bradley Lake S**	**86.33**	**17**	P	**P**	**09 37 22.8**	**+0.3**
	baz=212						
N19K	**Bonanza Creek**	**86.33**	**14**	P	**P**	**09 37 23.4**	**+0.8**
	baz=208						
J14K	**Nanvaranak Lak**	**86.35**	**10**	P	**P**	**09 37 23.6**	**+1.1**
	baz=200						
SNAA	**Sanae**	**86.37**	**181**	LR	LR	10 12 40.9	
	comp=E,477nm,21.8s,baz=188,slow=33						
GLA	**Glamis**	**86.54**	**52**	P	**P**	**09 37 24.7**	**+0.4**
GLA	**Glamis**	**86.54**	**52**	P	**P**	**09 37 24.7**	**+0.4**
GLA				pmax	pmax		
	comp=Z,62nm,1.4s						
LHV	**Little Huntoon**	**86.58**	**46**	P	**P**	**09 37 25.2**	**+0.9**
LHV				IAmb	IAmb	09 37 47.2	
	comp=Z,31nm,1.3s						
M18K	**Stony River**	**86.63**	**14**	P	**P**	**09 37 24.6**	**+0.7**
	baz=207						
L17K	**Donlin**	**86.70**	**12**	P	**P**	**09 37 25.0**	**+0.7**
	baz=205						
SEY	**Seymchan**	**86.72**	**350**	P	**P**	**09 37 24.2**	**-0.1**
	comp=Z,13nm,1.0s,baz=168,slow=5.1,SNR=20						
SEY				LR	LR	10 17 29.6	
	comp=Z,228nm,18.2s,baz=156,slow=37						
	comp=Z,13nm,1.0s						
PAHR	**Pah Rah Range**	**86.77**	**45**	P	**P**	**09 37 25.8**	**+0.4**
PAHR				IAmb	IAmb	09 37 34.8	
	comp=Z,33nm,1.3s						
NVAR	**Mina Array Bea**	**86.81**	**46**	P	**P**	**09 37 25.6**	**-0.1**
NVAR	**Mina Array Bea**	**86.81**	**46**	P	**P**	**09 37 26.4**	**+0.8**
	comp=Z,9.1nm,1.1s,baz=224,slow=6.2,SNR=26						
NVAR				LR	LR	10 08 08.2	
	comp=Z,538nm,21.4s,baz=220,slow=30						
	comp=Z,9.1nm,1.1s						
BTO	**Baotou**	**86.86**	**316**	*e*P	**P**	**09 37 29.3**	**+3.6**
BTO				pP	**pwP**	**09 37 34.1**	**+0.3**
BTO				sP	**sP**	**09 37 36.4**	**+4.5**
BTO				S	**S**	**09 48 10.3**	**+6.9**
BTO				sS	sS	09 48 19.3	+8.1
BTO				SS	**SS**	**09 53 50.0**	**+3.7**
BTO				pmax	pmax		
	comp=Z,21nm,1.4s						
BTO				pmax	pmax		
	comp=Z,380nm,3.9s						
SEW	**Seward**	**86.98**	**17**	P	**P**	**09 37 26.9**	**+1.3**
	baz=213						
J04A	**Umpqua Nationa**	**87.00**	**41**		**P**	**09 37 27.1**	**+0.7**
BLYC	**Blythe**	**87.10**	**52**		**P**	**09 37 27.5**	**+0.5**
BLYC				IAmb	IAmb	09 37 36.2	
	comp=Z,22nm,1.2s						
L18K	**Granite Mounta**	**87.11**	**13**	P	**P**	**09 37 26.6**	**+0.3**
	baz=206						
SPCR	**Spurr Chakacha**	**87.21**	**15**	P	**P**	**09 37 26.9**	**0.0**
	baz=210						
O22K	**Cooper Landing**	**87.22**	**17**	P	**P**	**09 37 27.3**	**+0.5**
	baz=212						
K17K	**Iditarod**	**87.23**	**12**	P	**P**	**09 37 27.8**	**+0.9**
	baz=205						
M19K	**Big River Lodg**	**87.32**	**14**	P	**P**	**09 37 28.3**	**+1.0**
	baz=208						
J16K	**Anvik River**	**87.34**	**11**	P	**P**	**09 37 28.2**	**+0.9**
	baz=203						
L19K	**White Mountain**	**87.46**	**14**	P	**P**	**09 37 27.9**	**-0.2**
L19K				IAmb	IAmb	09 37 35.0	
	comp=Z,18nm,1.2s						
L19K	**White Mountain**	**87.46**	**14**	P	**P**	**09 37 28.6**	**+0.6**
	baz=208						
J05D	**Fort Rock, OR**	**87.55**	**41**		**P**	**09 37 29.1**	**+0.1**
M20K	**Styx River**	**87.58**	**14**	P	**P**	**09 37 28.5**	**-0.2**
	baz=209						
J17K	**VABM Dome**	**87.71**	**11**	P	**P**	**09 37 29.7**	**+0.5**
	baz=204						
RC01	**Rabbit Creek A**	**87.74**	**16**	P	**P**	**09 37 29.6**	**+0.3**
	baz=212						
SUA	**Susitna One**	**87.80**	**16**	P	**P**	**09 37 30.2**	**+0.5**
	baz=212						
TNCH	**TengChong**	**87.81**	**298**	*e*P	**P**	**09 37 34.8**	**+4.0**
TNCH				pmax	pmax		
	comp=Z,350nm,3.2s						
ANM	**Nome**	**87.81**	**8**	P	**P**	**09 37 30.2**	**+0.6**
	baz=198						
I17K	**Unalakleet**	**87.88**	**10**	P	**P**	**09 37 31.4**	**+1.5**
	baz=202						
TTA	**Tatalina**	**87.88**	**13**	P	**P**	**09 37 30.8**	**+0.8**
	baz=207						
PWL	**Port Wells**	**87.92**	**17**	P	**P**	**09 37 31.1**	**+0.9**
	baz=214						
L20K	**Farewell, AK**	**87.94**	**14**	P	**P**	**09 37 30.5**	**+0.2**
	baz=209						
PINE	**Pine Mountain**	**88.01**	**41**		**P**	**09 37 32.6**	**+1.3**
SKT	**Skwentna**	**88.05**	**15**	P	**P**	**09 37 30.1**	**-0.7**
	baz=211						
M22K	**Willow**	**88.20**	**16**	P	**P**	**09 37 31.1**	**-0.3**
	baz=212						
J18K	**Innoko River**	**88.22**	**12**	P	**P**	**09 37 32.2**	**+0.6**
	baz=206						
GLI	**Glacier Island**	**88.27**	**17**	P	**P**	**09 37 32.1**	**+0.2**
	baz=215						
KAIM	**Kayak Island**	**88.28**	**19**	P	**P**	**09 37 32.4**	**+0.5**
	baz=217						
PMR	**Palmer**	**88.32**	**16**	P	**P**	**09 37 33.0**	**+1.0**
	baz=213						
H16K	**Elim**	**88.33**	**10**	P	**P**	**09 37 32.4**	**+0.3**
	baz=201						
KNK	**Knik Glacier**	**88.35**	**17**	P	**P**	**09 37 32.5**	**+0.2**
	baz=214						
EYAK	**Cordova Ski Ar**	**88.38**	**18**	P	**P**	**09 37 33.0**	**+0.6**
	baz=216						
G15K	**Niukluk**	**88.40**	**9**	P	**P**	**09 37 32.7**	**+0.3**
	baz=199						
TNA	**Tin City**	**88.45**	**7**	P	**P**	**09 37 32.9**	**+0.3**
	baz=196						
PRN	**Pahroc Range**	**88.51**	**48**	P	**P**	**09 37 34.7**	**+1.0**
PRN				IAmb	IAmb	09 37 43.7	
	comp=Z,28nm,1.4s						
F14K	**Arctic Creek**	**88.56**	**8**	P	**P**	**09 37 33.2**	**+0.1**
	baz=197						
K20K	**Telida**	**88.67**	**13**	P	**P**	**09 37 34.0**	**+0.2**
	baz=208						
PPLA	**Purkeypile**	**88.69**	**14**	P	**P**	**09 37 34.8**	**+0.9**
	baz=210						
SML	**Sawmill**	**88.71**	**16**	P	**P**	**09 37 34.5**	**+0.5**
	baz=214						
CUT	**Chulitna**	**88.72**	**15**	P	**P**	**09 37 33.6**	**-0.3**
	baz=212						
LZH	**Lanzhou**	**88.74**	**310**	*e*P	**P**	**09 37 39.3**	**+4.4**
LZH				pP	pwP	09 37 44.9	+1.9
LZH				SKS	**SKSac**	**09 48 03.8**	**-0.1**
LZH				S	**S**	**09 48 23.8**	**+2.2**
LZH				SS	**SS**	**09 54 18.8**	**+4.8**
LZH				pmax	pmax		
	comp=Z,30nm,1.6s						
LZH				LR	LR		
	comp=Z,280nm,17.5s						
LZH				LR	LR		
	comp=Z,270nm,17.5s						
LZH				LR	LR		
	comp=Z,280nm,19.9s						
BGLC	**Bering Glacier**	**88.78**	**19**	P	**P**	**09 37 33.8**	**-0.4**
	baz=218						
M23K	**Glacier View**	**88.86**	**17**	P	**P**	**09 37 33.9**	**-0.8**
	baz=214						
J19K	**Poorman**	**88.92**	**12**	P	**P**	**09 37 34.4**	**-0.4**
	baz=207						
H17K	**Granite Mounta**	**88.98**	**10**	P	**P**	**09 37 34.4**	**-0.7**
	baz=203						
F15K	**North Star Dit**	**89.00**	**8**	P	**P**	**09 37 35.6**	**+0.4**
F15K	**North Star Dit**	**89.00**	**8**	P	**P**	**09 37 35.6**	**+0.4**
	baz=199						
SCM	**Sheep Creek Mo**	**89.00**	**17**	P	**P**	**09 37 35.2**	**-0.2**
	baz=215						
G16K	**Koyuk River**	**89.02**	**9**	P	**P**	**09 37 35.3**	**0.0**
	baz=201						
GNW	**Green Mountain**	**89.04**	**37**	P	**P**	**09 37 35.9**	**+0.1**
GNW				IAmb	IAmb	09 37 38.3	
	comp=Z,22nm,1.2s						
BMRM	**Bremner River**	**89.06**	**18**	P	**P**	**09 37 35.8**	**+0.1**
	baz=217						
BBB	**Bella Bella**	**89.09**	**31**	LR	LR	10 09 05.5	
	comp=Z,663nm,21.4s,baz=239,slow=30						
KLU	**Klutina**	**89.10**	**18**	P	**P**	**09 37 36.0**	**+0.1**
	baz=216						
CBB	**Campbell River**	**89.13**	**34**		**P**	**09 37 36.2**	**+0.1**
CBB				IAmb	IAmb	09 37 38.7	
	comp=Z,24nm,1.2s						
CAST	**Castle Rocks**	**89.16**	**14**	P	**P**	**09 37 35.6**	**-0.4**
	baz=210						
MESA	**MESA**	**89.24**	**20**	P	**P**	**09 37 36.7**	**-0.1**
	baz=219						
SIT	**Sitka**	**89.25**	**25**	P	**P**	**09 37 36.1**	**-0.4**
	baz=225						
J08A	**Circle Bar Ran**	**89.28**	**42**	P	**P**	**09 37 37.6**	**+0.4**
J08A				IAmb	IAmb	09 37 39.8	
	comp=Z,37nm,1.3s						
GCSA	**Galena City Sc**	**89.35**	**12**	P	**P**	**09 37 36.9**	**+0.1**
	baz=206						
J20K	**Nowinta River**	**89.38**	**13**	P	**P**	**09 37 37.3**	**+0.3**
	baz=208						
G17K	**Kiwalik Mounta**	**89.39**	**10**	P	**P**	**09 37 37.1**	**+0.1**
	baz=202						
H18K	**Honhosa River**	**89.45**	**11**	P	**P**	**09 37 37.1**	**-0.2**
	baz=205						
U33K	**Whale Pass**	**89.46**	**26**	P	**P**	**09 37 37.4**	**-0.2**
	baz=227						
CHUM	**Lake Minchumin**	**89.52**	**14**	P	**P**	**09 37 37.6**	**-0.1**
	baz=210						
M24K	**Tolsona, Glenn**	**89.53**	**17**	P	**P**	**09 37 38.2**	**+0.4**
	baz=216						
S31K	**Pelican**	**89.55**	**24**	P	**P**	**09 37 38.0**	**+0.1**
	baz=224						
V35K	**Ketchikan**	**89.56**	**27**	P	**P**	**09 37 38.6**	**+0.6**
	baz=228						
N25K	**Chitina, Valde**	**89.57**	**18**	P	**P**	**09 37 38.3**	**+0.2**
	baz=217						
LCMT	**Little Creek M**	**89.58**	**49**	P	**P**	**09 37 38.8**	**0.0**
TRF	**Thorofare Moun**	**89.61**	**15**	P	**P**	**09 37 38.5**	**+0.1**
	baz=212						
X16A	**Lo Mia Camp, P**	**89.67**	**52**		**P**	**09 37 39.9**	**+0.6**
PNL	**Peninsula**	**89.68**	**21**	P	**P**	**09 37 38.7**	**+0.1**
	baz=222						
PINM	**Pinnacle**	**89.72**	**21**	P	**P**	**09 37 38.8**	**0.0**
	baz=221						
S32K	**Killisnoo**	**89.82**	**25**	P	**P**	**09 37 38.4**	**-0.8**
	baz=226						
I20K	**Naaghedeneel**	**89.86**	**13**	P	**P**	**09 37 39.3**	**+0.1**
	baz=208						
KNB	**Kanab**	**89.88**	**50**	P	**P**	**09 37 40.8**	**+0.5**
KNB	**Kanab**	**89.88**	**50**	P	**P**	**09 37 40.8**	**+0.5**
KNB				pmax	pmax		
	comp=Z,46nm,1.5s						
RND	**Reindeer**	**89.92**	**15**		**P**	**09 37 39.1**	**-0.6**
RND	**Reindeer**	**89.92**	**15**	P	**P**	**09 37 39.1**	**-0.6**
RND				pmax	pmax		
	comp=Z,69nm,1.7s						
MXC	**Moxie City**	**89.92**	**39**	P	**P**	**09 37 40.3**	**+0.3**
MXC				IAmb	IAmb	09 37 48.4	
	comp=Z,27nm,1.4s						
U15A	**North Rim**	**89.98**	**50**		**P**	**09 37 41.1**	**+0.2**
U15A				IAmb	IAmb	09 37 56.7	
	comp=Z,35nm,1.2s						
WRAK	**Wrangell Islan**	**89.99**	**26**	P	**P**	**09 37 39.3**	**-0.6**
	baz=228						
BPAW	**Bear Paw Mtn.**	**90.00**	**14**	P	**P**	**09 37 39.5**	**-0.5**
	baz=211						
G08A	**Pilot Rock**	**90.01**	**40**	P	**P**	**09 37 40.3**	**-0.3**
G08A				IAmb	IAmb	09 37 43.0	
	comp=Z,24nm,1.2s						
ELK	**Elko**	**90.03**	**45**		**P**	**09 37 41.2**	**+0.4**
ELK				IAmb	IAmb	09 37 50.2	
	comp=Z,28nm,1.1s						
ELK	**Elko**	**90.03**	**45**	LR	LR	10 09 45.4	
	comp=Z,591nm,21.6s,baz=248,slow=30						
ELK	**Elko**	**90.03**	**45**	P	**P**	**09 37 41.3**	**+0.4**
ELK				pmax	pmax		
	comp=Z,28nm,1.2s						
HARP	**HAARP**	**90.05**	**17**	P	**P**	**09 37 39.4**	**-0.8**
	baz=216						
G18K	**Tagagawik**	**90.08**	**10**	P	**P**	**09 37 40.0**	**-0.2**
	baz=204						
H19K	**Roundabout Mou**	**90.13**	**11**	P	**P**	**09 37 40.7**	**+0.2**
	baz=206						
E07A	**Sunnyside**	**90.17**	**39**	P	**P**	**09 37 40.9**	**-0.3**
E07A				IAmb	IAmb	09 37 43.7	
	comp=Z,33nm,1.2s						
F17K	**Baldwin Pennin**	**90.17**	**9**	P	**P**	**09 37 40.9**	**+0.3**
	baz=202						
MCK	**McKinley**	**90.17**	**15**	P	**P**	**09 37 40.9**	**+0.2**
	baz=213						
BILL	**Bilibino**	**90.20**	**357**	P	**P**	**09 37 40.5**	**-0.2**
BILL				IAmb	IAmb	09 37 48.0	
	comp=Z,32nm,1.3s						
BILL	**Bilibino**	**90.20**	**357**	*ce*P	**P**	**09 37 40.5**	**-0.2**
BILL				pmax	pmax		
	comp=Z,27nm,1.7s						
P29M	**Windy Craggy**	**90.22**	**22**	P	**P**	**09 37 41.1**	**0.0**
	baz=223						
WUAZ	**Wupatki**	**90.22**	**52**	P	**P**	**09 37 41.1**	**-0.8**
WUAZ				IAmb	IAmb	09 37 58.1	
	comp=Z,21nm,1.1s						
O28M	**Mount Upton**	**90.26**	**20**	P	**P**	**09 37 41.5**	**-0.1**
	baz=221						
HAWA	**Hanford**	**90.26**	**39**	P	**P**	**09 37 41.3**	**-0.2**
H03S2	**Juan Fernandez**	**90.30**	**127**	T	T	11 17 47.5	
	baz=238						
H03S1	**Juan Fernandez**	**90.31**	**127**	T	T	11 17 50.1	
	baz=238						
H03S3	**Juan Fernandez**	**90.31**	**127**	T	T	11 17 52.6	
	baz=238						
H20K	**Anotleneega Mo**	**90.40**	**12**	P	**P**	**09 37 42.3**	**+0.5**
	baz=208						
R32K	**Eaglecrest**	**90.41**	**24**	P	**P**	**09 37 42.1**	**+0.1**
	baz=226						
PAX	**Paxson**	**90.43**	**17**	P	**P**	**09 37 41.8**	**-0.3**
	baz=216						
O29M	**Mount Kennedy**	**90.43**	**21**	P	**P**	**09 37 42.5**	**+0.3**
	baz=222						
H03N2	**Juan Fernandez**	**90.47**	**127**	T	T

BMO IAmb IAmb 09 37 53.1
comp=Z,19nm,1.4s
BMO Blue Mountains 90.78 41 P **P 09 37 44.0 -0.1**
BMO pmax pmax
comp=Z,19nm,1.5s
YUK8 Steele Glacier 90.78 20 P **P 09 37 44.1 +0.1**
baz=221
MTPU Mount Pierson 90.81 49 P **P 09 37 45.8 +1.0**
X18A Snowflake 90.82 53 **P 09 37 45.5 +0.8**
P30M Million Dollar 90.85 22 P **P 09 37 44.6 +0.5**
baz=224
NEA2 Nenana 90.86 15 P **P 09 37 43.9 0.0**
baz=213
TCRU Three Creeks R 90.89 48 P **P 09 37 44.6 -0.4**
TCRU IAmb IAmb 09 37 54.5
comp=Z,19nm,1.2s
YUK3 Moose Creek 90.94 19 P **P 09 37 44.8 +0.2**
baz=221
SKAG Skagway 90.95 23 P **P 09 37 44.9 +0.5**
baz=225
M27K Edge Creek, AK 90.96 19 P **P 09 37 44.4 -0.2**
baz=219
H21K Melozitna Rive 90.96 13 P **P 09 37 44.4 0.0**
baz=210
MFID Camas Ranch 90.97 43 P **P 09 37 45.5 +0.4**
MFID IAmb IAmb 09 37 54.3
comp=Z,22nm,1.3s
YUK6 Outpost Mounta 90.98 21 P **P 09 37 44.8 0.0**
baz=222
K24K Donnelly Dome 91.02 16 P **P 09 37 44.4 -0.3**
baz=216,SNR=6.3
L26K Log Cabin Wild 91.06 18 P **P 09 37 44.5 -0.4**
baz=218,SNR=6.7
F19K Shaleruckik Mo 91.08 10 P **P 09 37 44.2 -0.7**
baz=205
D17K Noatak River 91.09 8 P **P 09 37 44.7 -0.2**
baz=200,SNR=9.2
E18K Tukpahlearik C 91.18 9 P **P 09 37 45.0 -0.3**
baz=203
HYT Haines Junctio 91.18 21 P **P 09 37 45.2 -0.5**
baz=223
YUK4 Talbot Arm 91.19 20 P **P 09 37 45.7 -0.1**
baz=222
RIDG Independent Ri 91.22 17 P **P 09 37 44.8 -0.9**
baz=217,SNR=6.6
HDA Harding Lake 91.22 16 P **P 09 37 45.2 -0.4**
baz=215,SNR=10
T35M Bob Quinn 91.22 27 P **P 09 37 45.5 -0.3**
baz=229
I23K Minto, Yukon-K 91.27 14 P **P 09 37 45.4 -0.3**
baz=213
LLLB Lillooet 91.28 35 P **P 09 37 46.0 -0.2**
LLLB IAmb IAmb 09 38 16.0
comp=Z,27nm,1.7s
BVCY Beaver Creek 91.30 19 P **P 09 37 45.6 -0.4**
baz=220
C16K Lisburne Hills 91.36 7 P **P 09 37 45.7 -0.4**
baz=198,SNR=8.2
YAK Yakutsk 91.38 340 P **P 09 37 45.3 -1.1**
comp=Z,8.4nm,0.4s,baz=145,slow=6.9,SNR=5.0
YAK LR LR 10 13 04.9
comp=Z,215nm,21.2s,baz=136,slow=32
YAK Yakutsk 91.38 340 *e*P **P 09 37 50.2 +3.8**
YAK *e**PP **pwP 09 37 54.5 -0.7**
YAK *e* 09 41 30.2
YAK *e*S **SKSac 09 48 22.0 +4.4**
YAK *e*SS **SS 09 54 49.8 -0.9**
YAK *e*SSS SSS 09 58 31.6
YAK pmax pmax
comp=Z,17nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=Z,56nm,2.5s
YAK pmax pmax
comp=N,18nm,2.5s
YAK pmax pmax
comp=E,13nm,1.5s
YAK smax smax
comp=E,50nm,4.3s
YAK smax smax
comp=N,40nm,4.1s
YAK MLR MLR
comp=Z,161nm,21.0s
YAK MLR MLR
comp=E,69nm,19.0s
YAK MLR MLR
comp=N,99nm,18.0s
COLA College 91.39 15 *i* P **P 09 37 45.3 -1.0**
COLA pmax pmax
comp=Z,37nm,1.2s
COLA College 91.39 15 P **P 09 37 45.4 -0.9**
baz=214
RDOG Red Dog Mine 91.45 8 P **P 09 37 46.5 -0.1**
baz=200
H22K Ishtalitna Cre 91.46 13 P **P 09 37 46.7 0.0**
baz=211,SNR=8.3
S34M Telegraph Cree 91.48 26 P **P 09 37 46.6 -0.4**
baz=228
L27K Beaver Creek, 91.52 18 P **P 09 37 47.3 +0.2**
baz=219
BCAR Beaver Creek A 91.53 18 P **P 09 37 45.8 -1.4**
ILAR Eielson Array 91.54 15 P **P 09 37 45.8 -1.3**
comp=Z,7.1nm,0.9s,baz=232,slow=5.3,SNR=48
ILAR PP **PP 09 41 22.1 -3.5**
comp=Z,0.2nm,0.5s,baz=234,slow=7.7,SNR=6.4
ILAR LR LR 10 12 03.7
comp=Z,645nm,21.2s,baz=220,slow=31
comp=Z,7.1nm,0.9s
G21K Allakaket 91.57 12 P **P 09 37 47.3 +0.1**
baz=209,SNR=7.2
O30N Mendenhall 91.62 22 P **P 09 37 48.0 +0.4**
baz=224
P32M Atlin 91.63 23 P **P 09 37 47.4 -0.3**
baz=226
F20K Avaraart Lake 91.63 11 P **P 09 37 47.3 -0.1**
baz=207
SCRK Sand Creek 91.64 17 P **P 09 37 47.5 -0.2**
baz=218,SNR=6.9
POKR Poker Plat Res 91.69 15 P **P 09 37 47.8 +0.1**
baz=214
Q32M Nakina River 91.74 24 P **P 09 37 48.3 -0.1**
baz=228
E19K Redstone River 91.74 10 P **P 09 37 47.6 -0.4**
baz=206,SNR=8.7
N30M Aishikik Lake 91.78 21 P **P 09 37 49.0 +0.7**
baz=224
J25K Salcha River, 91.79 16 P **P 09 37 47.2 -1.1**
J25K IAmb IAmb 09 37 49.3
comp=Z,25nm,1.5s
J25K Salcha River, 91.79 16 P **P 09 37 48.1 -0.2**
baz=216,SNR=8.2
H23K Yukon River 91.80 14 P **P 09 37 48.8 +0.5**
baz=213
WHY Whitehorse 91.96 22 P **P 09 37 49.2 0.0**
baz=225
M29M Somme Creek 92.06 20 P **P 09 37 49.5 -0.2**
baz=222
J26L Joseph Creek 92.17 17 P **P 09 37 49.8 -0.3**
baz=218,SNR=13
H24K Noodor Dome 92.18 14 P **P 09 37 50.2 +0.1**
baz=214
F21K Alatna River 92.20 12 P **P 09 37 50.1 0.0**
baz=209,SNR=5.5
K27K Chicken 92.20 17 P **P 09 37 50.6 +0.5**
baz=219
C18K Utukok River 92.23 9 P **P 09 37 50.5 +0.2**
baz=202,SNR=10
N31M Braeburn, Yuko 92.23 21 P **P 09 37 50.0 -0.4**
baz=225
DLBC Dease Lake 92.27 26 LR LR 10 15 52.1
comp=Z,556nm,18.0s,baz=246,slow=33
DLBC Dease Lake 92.27 26 P **P 09 37 50.2 -0.5**
baz=230
G22K Bettles 92.32 13 P **P 09 37 51.1 +0.5**
baz=211
P33M Teslin, Yukon 92.39 23 P **P 09 37 51.1 -0.1**
baz=227
G23K Bananza Creek 92.44 13 P **P 09 37 51.8 +0.5**
baz=212
PRP Porcupine Dome 92.48 15 P **P 09 37 51.8 +0.2**
baz=216,SNR=8.5
ULN Ulaanbaatar 92.50 321 *ce*P **P 09 37 51.3 -0.8**
ULN pmax pmax
comp=Z,8.0nm,1.3s
R33M Jennings River 92.53 24 P **P 09 37 51.4 -0.6**
baz=229
D19K Kuna River 92.54 10 P **P 09 37 51.4 -0.3**
baz=205,SNR=8.6
E20K Nigu River 92.64 10 P **P 09 37 51.6 -0.6**
baz=207,SNR=11
NEW Newport 92.64 38 LR LR 10 15 38.6
comp=Z,467nm,18.1s,baz=227,slow=33
L29M L29M 92.66 19 P **P 09 37 52.3 -0.1**
baz=223,SNR=7.6
M30M Minto, Yukon 92.69 20 P **P 09 37 52.4 -0.1**
baz=224
F22K John River 92.69 12 P **P 09 37 52.4 +0.1**
baz=210
PLCA Paso Flores 92.70 136 P **P 09 37 53.8 +0.4**
comp=Z,1.4nm,0.9s,baz=243,slow=6.8,SNR=2.9
comp=Z,1.4nm,0.9s
B18K Kokolik River 92.82 8 P **P 09 37 52.9 0.0**
baz=202,SNR=11
COLD Coldfoot 92.85 13 P **P 09 37 53.1 +0.1**
baz=212,SNR=11
SONM Songino Array 92.86 321 P **P 09 37 52.4 -1.4**
comp=Z,0.3nm,0.4s,baz=119,slow=5.2,SNR=5.0
comp=Z,0.3nm,0.4s
Y22D IRIS PASSCAL I 92.89 54 P **P 09 37 53.4 -0.8**
baz=245
I26K Coal Creek Min 92.91 16 P **P 09 37 53.1 -0.3**
I26K Coal Creek Min 92.91 16 P **P 09 37 53.9 +0.5**
baz=218
N32M Quiet Lake 92.93 22 P **P 09 37 53.7 0.0**
baz=227
D20K Etivluk River 92.98 10 P **P 09 37 54.0 +0.4**
baz=206,SNR=12
G24K Hadweenzic Riv 92.99 14 P **P 09 37 54.2 +0.5**
baz=214
DAWY Dawson 92.99 18 P **P 09 37 53.7 -0.2**
baz=222,SNR=5.4
MNTX Cornudas Mount 93.08 57 P **P 09 37 55.5 +0.5**
GTA Gaotai 93.11 311 *e*P **P 09 37 59.5 +4.4**
GTA pP pwP 09 38 02.3 -0.9
GTA S **S 09 49 05.3 +4.0**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA LR LR
comp=Z,110nm,16.4s
GTA LR LR
comp=Z,160nm,20.4s
GTA LR LR
comp=Z,230nm,18.9s
E21K Killik River 93.18 11 P **P 09 37 54.8 +0.1**
baz=209
M31M Drury Creek, Y 93.21 21 P **P 09 37 54.8 -0.1**
baz=226
E22K Anaktuvuk Pass 93.31 12 P **P 09 37 55.5 +0.3**
baz=211,SNR=14
G25K Bearman Lake 93.36 14 P **P 09 37 55.9 +0.5**
baz=216
K29M Barlow Dome 93.38 19 P **P 09 37 56.0 +0.2**
baz=223
TX31 Lajitas Ar. Si 93.49 60 P **P 09 37 57.8 +0.7**
TXAR Lajitas Array 93.49 60 P **P 09 37 57.0 -0.1**
TXAR Lajitas Array 93.49 60 P **P 09 37 57.5 +0.4**
comp=Z,1.9nm,1.1s,baz=213,slow=4.3,SNR=8.9
TXAR LR LR 10 12 27.5
comp=Z,441nm,20.0s,baz=238,slow=31
comp=Z,1.9nm,1.1s
I27K Kandik River 93.55 17 P **P 09 37 56.4 -0.1**
baz=220
F24K Squaw Lake 93.58 13 P **P 09 37 56.0 -0.5**
baz=214,SNR=10
FARO Faro, Yukon 93.58 22 P **P 09 37 56.4 -0.2**
baz=227
ANMO Albuquerque 93.60 54 P **P 09 37 57.2 -0.4**
ANMO Albuquerque 93.60 54 LR LR 10 13 20.9
comp=Z,635nm,18.9s,baz=46,slow=31
ANMO Albuquerque 93.60 54 *ce*P **P 09 37 58.1 +0.5**
ANMO pmax pmax
comp=Z,5.0nm,1.2s
J29N Klondike Camp 93.62 18 P **P 09 37 56.1 -0.7**
baz=223
C21K Knifeblade Rid 93.67 10 P **P 09 37 57.1 +0.3**
baz=208,SNR=11
E23K Chandalar 93.67 13 P **P 09 37 56.7 -0.3**
baz=213,SNR=13
A19K Wainwright 93.70 8 P **P 09 37 56.9 0.0**
baz=202,SNR=16
D22K Ayikyak River 93.80 11 P **P 09 37 57.3 -0.1**
baz=210,SNR=8.2
I28M Miner Creek 93.88 17 P **P 09 37 58.1 +0.1**
baz=221
E24K Your Creek 93.92 13 P **P 09 37 57.9 -0.2**
baz=214
G26K Porcupine Rive 94.05 15 P **P 09 37 58.2 -0.4**
G26K IAmb IAmb 09 38 00.5
comp=Z,21nm,1.2s
G26K Porcupine Rive 94.05 15 P **P 09 37 59.0 +0.4**
baz=218,SNR=13
H27K Steamboat Moun 94.06 16 P **P 09 37 58.7 -0.1**
baz=220,SNR=5.7
B20K Meade River 94.06 9 P **P 09 37 58.3 -0.2**
B20K IAmb IAmb 09 38 05.7
comp=Z,23nm,1.3s
B20K Meade River 94.06 9 P **P 09 37 58.9 +0.3**
baz=206
B21K Ikpikpuk River 94.11 10 P **P 09 37 59.0 +0.2**
baz=208
F25K Christian Rive 94.14 14 P **P 09 37 59.4 +0.3**
baz=216,SNR=6.5
TOLK Toolik Lake Re 94.18 12 P **P 09 37 59.1 -0.1**
baz=213,SNR=6.3
D23K Nanushuk River 94.24 12 **P 09 37 59.4 0.0**
D23K IAmb IAmb 09 38 06.8
comp=Z,22nm,1.2s
D23K Nanushuk River 94.24 12 P **P 09 37 59.1 -0.3**
baz=212,SNR=12
I29M Ogilvie Camp, 94.27 18 P **P 09 37 59.8 +0.1**
baz=223
J30M Hart River 94.28 19 P **P 09 37 59.1 -0.8**
baz=224
LIRD Liard River Hi 94.47 26 P **P 09 38 00.8 +0.1**
baz=233
G27K Doyon Strip 94.47 16 P **P 09 38 00.7 +0.1**
baz=220
TOAD Toad River Com 94.48 27 P **P 09 38 01.1 +0.2**
baz=234
F26K Sheenjek River 94.56 15 P **P 09 38 01.6 +0.6**
baz=218,SNR=5.5
MMPY Sheldon Lake, 94.56 22 P **P 09 38 01.1 0.0**
baz=229
E25K Arctic Village 94.58 14 P **P 09 38 01.6 +0.5**
baz=216,SNR=6.5
YHL Hebgen Lake 94.59 43 **P 09 38 02.3 +0.3**
PDAR Pinedale Array 94.73 46 P **P 09 38 03.2 +0.6**
comp=Z,1.4nm,1.1s,baz=199,slow=3.1,SNR=5.2
PDAR LR LR 10 13 39.0
comp=Z,306nm,20.1s,baz=239,slow=31
comp=Z,1.4nm,1.1s
I30M Mount Dempster 94.73 18 P **P 09 38 02.3 +0.4**
baz=224
D24K Happy Valley 94.76 12 P **P 09 38 02.5 +0.7**
baz=213
H29M Whitestone 94.89 17 P **P 09 38 02.7 +0.2**
baz=223
TGTN Hyland Airport 94.93 24 P **P 09 38 03.4 +0.6**
baz=231
B22K Teshekpuk Lake 94.95 10 P **P 09 38 02.8 +0.2**
baz=209,SNR=9.5
C23K Itkillik River 95.00 11 P **P 09 38 03.3 +0.4**
baz=212,SNR=15
C24K Franklin Bluff 95.25 12 P **P 09 38 03.6 -0.5**
C24K Franklin Bluff 95.25 12 P **P 09 38 04.3 +0.3**
baz=214
A22K Sinclair Lake 95.29 9 P **P 09 38 04.0 -0.2**
baz=208
A21K Barrow 95.33 9 P **P 09 38 04.7 +0.4**
baz=206
D25K Kavik River 95.39 13 P **P 09 38 05.4 +0.7**
baz=216
EPYK Eagle Plains 95.46 18 P **P 09 38 05.4 +0.3**
baz=224
G29M Pine Creek 95.49 17 P **P 09 38 05.5 +0.3**
baz=223
E27K Coleen River 95.55 15 P **P 09 38 06.0 +0.5**
baz=220
KOTAN Kotaneelee Air 95.73 26 P **P 09 38 06.6 +0.2**
baz=235
H31M Peel River 95.74 19 P **P 09 38 05.7 -0.7**
baz=226
G30M tAoh Zraii Nji 96.03 17 P **P 09 38 07.5 -0.3**
baz=225
C26K Camden Bay 96.17 13 P **P 09 38 08.0 -0.2**
baz=217
C27K Jago River 96.19 13 P **P 09 38 08.7 +0.3**
baz=218
E28M Babbage River 96.36 15 P **P 09 38 09.4 +0.2**
baz=222
D27M Malcolm River 96.51 14 P **P 09 38 10.8 +0.8**
baz=220
G31M Satah River 96.54 18 P **P 09 38 10.3 +0.4**
baz=226
F30M Barrier River 96.60 17 P **P 09 38 10.9 +0.6**
baz=225
E29M Blow River 96.61 16 P **P 09 38 10.6 +0.3**
baz=223
PALK Pallekele 96.69 275 LR LR 10 21 18.5
comp=Z,907nm,21.2s,baz=124,slow=35
F31M Tsiigehtchic 97.05 18 P **P 09 38 12.1 -0.1**
baz=227
D28M Stokes Point 97.10 15 P **P 09 38 12.1 -0.3**
baz=222
INK Inuvik 97.70 17 LR LR 10 15 28.8
comp=Z,397nm,21.6s,baz=221,slow=31
INK Inuvik 97.70 17 P **P 09 38 14.7 -0.5**
baz=227
WRGLY Wrigley 97.75 24 P Pdif 09 38 15.9 +0.3
baz=235
TIXI Tiksi 98.80 347 LR LR 10 18 43.6
comp=Z,221nm,20.7s,baz=176,slow=33
TIXI Tiksi 98.80 347 *i* P Pdif 09 38 20.2 +0.2
TIXI pmax pmax
comp=Z,4.0nm,1.7s
YKA Yellowknife Ar 100.85 26 P **Pdif 09 38 29.0 -0.4**
comp=Z,0.4nm,0.7s,baz=243,slow=4.2,SNR=6.4
YKA PP **PP 09 42 35.3 -2.3**
comp=Z,0.5nm,1.0s,baz=241,slow=7.9,SNR=5.3
C36M Paulatuk 101.03 18 P **Pdif 09 38 30.6 +0.5**
baz=236
A36M Sachs Harbour 102.22 16 P **Pdif 09 38 35.9 +0.6**
baz=235
MKAR Makanchi Array 107.65 314 Pdiff **Pdif 09 39 05.8 +5.7**
comp=Z,0.4nm,0.7s,baz=93,slow=5.8,SNR=4.6
MKAR PP **PKiKP 09 43 08.4 +0.4**
comp=Z,0.3nm,0.7s,baz=119,slow=8.4,SNR=3.6
KURBB Kurchatov Arra 110.87 317 PP **PP 09 43 48.7 -3.2**
comp=Z,1.0nm,1.2s,baz=101,slow=9.5,SNR=4.5
ARTI Arti 122.90 324 *i* PKIKP **PKPdf 09 43 36.6 -0.1**
ARTI 09 50 48.5
ARTI SS SS 10 01 52.9 -5.5
BDFB Brasilia 123.51 128 PKP **PKiKP 09 43 39.5 -0.1**
comp=Z,0.5nm,0.3s,baz=129,slow=6.5,SNR=1.5
ARCES ARCESS Array B 129.24 347 PKP **PKPdf 09 43 46.3 -2.2**
comp=Z,2.1nm,0.7s,baz=37,slow=3.0,SNR=4.6
BELG Belogornoye 129.92 321 *i* PKIKP **PKPdf 09 43 50.2 0.0**
OBN Obninsk 134.91 327 *i* PKIKP **PKiKP 09 44 00.1 -0.9**
OBN pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 135.18 310 PKP **PKPdf 09 43 57.3 -3.1**
comp=Z,0.6nm,0.6s,baz=15,slow=5.8,SNR=1.4
KIV Kislovodsk 135.28 311 *e*PKIKP **PKPdf 09 44 00.2 -0.6**
KIV pmax pmax
comp=Z,5.0nm,1.0s
FINES FINESS Array B 135.31 339 PKP **PKPdf 09 43 59.8 -0.3**
comp=Z,2.2nm,0.8s,baz=77,slow=1.9,SNR=3.9
ANN Anapa 138.67 313 *i* PKIKP PKiKP 09 44 17.0 +8.0
ANN pmax pmax
comp=Z,64nm,1.1s
MNK Minsk 139.39 331 *i* PKIKP **PKPdf 09 44 06.7 -1.2**
MNK *i* 09 47 00.4
MNK *i* PPP PPP 09 50 02.8
MNK *i* 09 51 17.2
MNK *i* SS SS 10 05 19.4 0.0
MNK *i* SSS SSS 10 10 30.5
MNK pmax pmax
comp=N,19nm,0.7s
MNK pmax pmax
comp=Z,6.0nm,0.4s
MNK pmax pmax
comp=E,5.0nm,0.5s
MNK MLR MLR
comp=N,714nm,21.0s
MNK MLR MLR
comp=Z,260nm,21.0s
HFS Hagfors 139.87 346 PKP **PKPdf 09 44 06.0 -2.6**
comp=Z,2.8nm,1.0s,baz=93,slow=5.8,SNR=3.1
AKASG Malin Array Be 141.01 325 PKP **PKPdf 09 44 07.6 -3.4**
comp=Z,0.9nm,0.6s,baz=50,slow=1.4,SNR=5.9
AKASG Malin Array Be 141.01 325 *c i* PKIKP **PKiKP 09 44 14.6 +1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 142.90 307 PKP **PKPdf 09 44 12.1 -2.8**
comp=Z,0.4nm,0.7s,baz=124,slow=7.7,SNR=1.6
SORM Soroca 142.90 322 ⇑P **PKiKP 09 44 18.3 +0.7**
SORM Soroca 142.90 322 ⇑PKIKP **PKiKP 09 44 18.3 +0.7**
TLCR 144.12 318 ⇓P **PKPdf 09 44 17.1 +0.5**
TLCR 144.12 318 ⇓PKIKP **PKPdf 09 44 17.1 +0.5**
VLDR Vladesti 144.25 319 ⇑P **PKPdf 09 44 16.8 -0.1**
SCTR Scanteiesti 144.38 319 ⇓P **PKiKP 09 44 18.8 -1.9**
TPGR Topolog 144.52 318 ⇓P PKPbc 09 44 16.5 +0.4
GHRR 144.54 320 ⇑P **PKPdf 09 44 18.1 +0.8**
CFR Carcaliu 144.54 318 ⇑P PKPbc 09 44 16.2 +0.1
CFR Carcaliu 144.54 318 ⇑PKIKP PKPbc 09 44 16.2 +0.2
TESR Tescani 144.75 321 ⇑P PKPbc 09 44 17.0 +0.3
PANC Panciu 144.79 320 ⇓P **PKPdf 09 44 18.3 +0.5**
ODBI Odobesti 144.91 320 ⇑P **PKiKP 09 44 22.5 +0.7**
TLBR Topalu 144.91 317 ⇑P **PKPdf 09 44 18.5 +0.4**
HARR Harsova 144.91 318 ⇑P **PKPdf 09 44 18.4 +0.4**
HARR Harsova 144.91 318 ⇑PKIKP **PKPdf 09 44 18.4 +0.4**
BURAR Bucovina Array 144.94 324 ⇑P **PKPdf 09 44 17.8 -0.4**
BURAR Bucovina Array 144.94 324 ⇑PKIKP **PKPdf 09 44 17.8 -0.4**
ONER Baraj Valea Uz 144.99 321 ⇓P **PKPdf 09 44 18.0 -0.2**
VRI Vrincioaia 145.05 320 ⇑P **PKiKP 09 44 22.4 +0.2**
VRI Vrincioaia 145.05 320 ⇑PKIKP **PKiKP 09 44 22.4 +0.2**
PLOR Plostina 145.10 320 ⇑P **PKPdf 09 44 18.1 -0.3**
PLOR Plostina 145.10 320 ⇑PKIKP **PKPdf 09 44 18.2 -0.3**
MLR Muntele Rosu 145.71 320 ⇑P **PKPdf 09 44 19.0 -0.6**
MLR Muntele Rosu 145.71 320 ⇑PKIKP **PKPdf 09 44 19.0 -0.6**
ARCR ARCALIA 145.72 324 ⇑P **PKiKP 09 44 21.9 -1.6**
DOPR Dopca 145.78 321 ⇑P **PKPab 09 44 20.5 +0.1**
BMR Baia Mare 145.83 325 ⇑P **PKiKP 09 44 23.0 -0.7**
BMR Baia Mare 145.83 325 ⇑PKIKP **PKiKP 09 44 23.0 -0.7**
OJC Ojcow 145.94 331 PKPdf 09 44 19.2 -0.5
OJC Ojcow 145.94 331 PKIKP **PKPdf 09 44 19.2 -0.5**
VOIR 146.27 321 ⇑P **PKPbc 09 44 21.4 -0.2**
VOIR 146.27 321 ⇑PKP2 **PKPbc 09 44 21.5 -0.2**
CJR Cluj-Napoca 146.36 324 ⇓P **PKPdf 09 44 19.9 -0.7**
CJR Cluj-Napoca 146.36 324 ⇓PKIKP **PKPdf 09 44 19.9 -0.7**
ARR Arges 146.55 321 ⇑P **PKPbc 09 44 22.1 -0.3**
TNR Turnu Rosu 146.60 321 ⇓P **PKPbc 09 44 22.0 -0.5**
TNR Turnu Rosu 146.60 321 ⇓PKP2 **PKPbc 09 44 22.0 -0.5**
MARR Marisel-Cluj 146.65 324 ⇓P **PKPab 09 44 23.2 -0.6**
DRGR 146.80 324 ⇑P **PKPab 09 44 24.1 -0.3**
DRGR 146.80 324 ⇑PKP2 **PKPab 09 44 24.1 -0.3**
LANS Liptovska Anna 146.85 330 *e*PKP2 **PKPab 09 44 24.3 -0.2**
LANS Liptovska Anna 146.85 330 *e*PKP **PKPab 09 44 24.2 -0.2**
EKA Eskdalemuir Ar 146.88 358 PKPbc **PKPbc 09 44 22.0 -1.0**
comp=Z,4.1nm,0.7s,baz=347,slow=2.7,SNR=15
EKA Eskdalemuir Ar 146.88 358 PKP2 **PKPbc 09 44 22.0 -1.0**
KSP Ksiaz 146.93 335 *e*PKP **PKPbc 09 44 22.6 -0.7**
OKC Ostrava-Krasne 146.94 332 AMS AMS 10 47 50.0
comp=Z,200nm,17.2s
LOT Lotru 147.01 322 ⇑P **PKiKP 09 44 27.7 +1.4**
OSTC Ostas 147.19 335 *e*PKP **PKPbc 09 44 24.1 +0.1**
OSTC AMS AMS 10 53 10.0
comp=Z,300nm,21.7s
OSTC Ostas 147.19 335 *e*PKP2 **PKPbc 09 44 24.1 +0.1**
OSTC MLR MLR
comp=Z,300nm,21.7s
CHVC Chvalec 147.23 335 *e*PKP **PKPbc 09 44 23.9 -0.2**
CHVC AMS AMS 10 53 00.0
comp=Z,200nm,20.4s
CHVC Chvalec 147.23 335 *e*PKP2 **PKPbc 09 44 23.9 -0.2**
CHVC MLR MLR
comp=Z,200nm,20.4s
MORC Moravsky Berou 147.25 333 PKPbc 09 44 23.6 -0.7
MORC Moravsky Berou 147.25 333 *e*PKP **PKPbc 09 44 23.8 -0.4**
MORC Moravsky Berou 147.25 333 ⇑P **PKPbc 09 44 24.5 +0.3**
MORC Moravsky Berou 147.25 333 ⇑PKP2 **PKPbc 09 44 24.5 +0.3**
UPC Upice 147.31 335 AMS AMS 10 49 50.0
comp=Z,200nm,18.5s
DPC Dobruska-Polom 147.31 334 *e*PKP **PKPbc 09 44 24.7 +0.3**
DPC AMS AMS 10 53 00.0
comp=Z,300nm,22.6s
DPC Dobruska-Polom 147.31 334 *e*PKP2 **PKPbc 09 44 24.7 +0.3**

DPC MLR MLR
comp=Z,300nm,22.6s
KRLC Kraliky 147.34 334 AMS AMS 10 51 30.0
comp=Z,300nm,22.5s
GZR Gura Zlata 147.61 322 ⇑P **PKPdf 09 44 22.9 +0.2**
GZR Gura Zlata 147.61 322 ⇑PKIKP **PKPdf 09 44 22.9 +0.2**
VYHS Vyhne 147.61 330 *e*PKP2 **PKPbc 09 44 25.4 +0.1**
VYHS Vyhne 147.61 330 *e*PKP **PKPbc 09 44 25.4 +0.1**
SURR Surduc 147.76 323 ⇑P **PKPab 09 44 29.2 +1.2**
BRG Berggiesshubel 147.79 337 *e*PKP **PKPbc 09 44 25.6 0.0**
BRG Amp 09 44 27.0
comp=Z,20nm,1.3s
BRG Berggiesshubel 147.79 337 P **PKPab 09 44 32.0 +4.1**
BRG Amp 09 44 32.5
comp=Z,20nm,1.1s
PVCC Panska Ves 147.84 336 *e*PKP **PKPbc 09 44 26.0 +0.2**
PVCC AMS AMS 10 49 20.0
comp=Z,300nm,21.8s
PVCC Panska Ves 147.84 336 *e*PKP2 **PKPbc 09 44 26.0 +0.2**
PVCC MLR MLR
comp=Z,300nm,21.8s
JAVC Velka Javorina 147.88 331 *e*PKP **PKiKP 09 44 26.8 -1.1**
VRAC Vranov 148.00 333 *e*PKP **PKPbc 09 44 26.0 -0.3**
VRAC Vranov 148.00 333 ⇑P **PKPbc 09 44 26.6 +0.3**
VRAC Vranov 148.00 333 ⇑PKP2 **PKPbc 09 44 26.6 +0.3**
HERR Herculane 148.12 322 ⇑P **PKPbc 09 44 25.8 -0.9**
BZS Buzias 148.12 323 ⇑P **PKPbc 09 44 25.4 -1.3**
BZS Buzias 148.12 323 ⇑PKP2 **PKPbc 09 44 25.4 -1.3**
HSKC Hora Svate Kat 148.19 338 *e*PKP **PKPbc 09 44 26.6 -0.1**
HSKC AMS AMS 10 47 00.0
comp=Z,400nm,22.1s
GOPC GO Pecny, Ondr 148.26 335 AMS AMS 10 48 50.0
comp=Z,300nm,16.8s
PRA Prague 148.26 336 AMS AMS 10 48 40.0
comp=Z,400nm,27.0s
KRUC Moravsky 148.28 333 *e*PKP **PKPbc 09 44 26.5 -0.5**
PRU Pruhonice 148.29 336 *e*PKP **PKPbc 09 44 26.9 -0.1**
PRU AMS AMS 10 48 50.0
comp=Z,400nm,26.5s
PRU Pruhonice 148.29 336 *e*PKP2 **PKPbc 09 44 26.9 -0.1**
PRU MLR MLR
comp=Z,400nm,26.5s
MODS Modra-Piesok 148.41 331 *e*PKP2 **PKiKP 09 44 28.6 -0.4**
MODS Modra-Piesok 148.41 331 *e*PKP **PKiKP 09 44 28.6 -0.4**
TREC Trest 148.47 334 *e*PKP **PKPbc 09 44 27.5 0.0**
TREC AMS AMS 10 47 40.0
comp=Z,200nm,21.3s
TREC Trest 148.47 334 *e*PKP2 **PKPbc 09 44 27.5 0.0**
TREC MLR MLR
comp=Z,200nm,21.3s
MDVR Moldovita 148.58 322 ⇑P **PKPbc 09 44 27.8 -0.2**
NKC Novy Kostel 148.85 338 AMS AMS 10 47 00.0
comp=Z,300nm,22.9s
ZVC Zvikov 148.87 336 *e*PKP **PKPbc 09 44 28.1 -0.4**
ZVC AMS AMS 10 49 30.0
comp=Z,300nm,20.1s
BOVS Bovan 149.26 320 ⇑P **PKiKP 09 44 30.5 -0.3**
MORH Mrgy, Hungar 149.31 327 ⇑P **PKPbc 09 44 29.4 -0.2**
CKRC Cesky Krumlov 149.32 335 *e*PKP **PKPbc 09 44 28.9 -0.8**
CKRC AMS AMS 10 48 30.0
comp=Z,300nm,22.0s
CKRC Cesky Krumlov 149.32 335 *e*PKP2 **PKPbc 09 44 28.9 -0.8**
CKRC MLR MLR
comp=Z,300nm,22.0s
KHC Kasperske Hory 149.35 336 *e*PKP **PKPbc 09 44 29.0 -0.8**
KHC AMS AMS 10 49 50.0
comp=Z,300nm,20.5s
KHC Kasperske Hory 149.35 336 *e*PKP2 **PKPbc 09 44 29.0 -0.8**
KHC MLR MLR
comp=Z,300nm,20.5s
RONA Rosalia, Austr 149.35 331 *e*PKP **PKPbc 09 44 29.3 -0.5**
comp=Z,14nm,1.3s,SNR=7.9
CONA Conrad Observa 149.37 332 *e*PKP **PKPbc 09 44 29.5 -0.4**
comp=Z,19nm,1.5s,SNR=10
GERES GERESS Array B 149.54 335 PKPbc **PKPbc 09 44 29.1 -1.3**
comp=Z,5.8nm,1.1s,baz=55,slow=5.2,SNR=22
ARSA Arzberg 150.04 331 *e*PKP **PKPbc 09 44 30.3 -1.2**
comp=Z,6.1nm,1.3s
MOA Molln 150.11 334 *e*PKP **PKPbc 09 44 30.8 -0.8**
comp=Z,10nm,1.4s
KOGS Kog 150.31 330 *e*PKPbc **PKPbc 09 44 30.6 -1.6**
BTNL Ternell 150.36 346 *d*PKP **PKPbc 09 44 31.0 -1.1**
MEM Membach 150.36 346 *d*PKP **PKPbc 09 44 29.7 -2.4**
BSTI Sart Tilman 150.49 346 *d*PKP **PKPbc 09 44 32.0 -0.4**
BIOA Bad Ischl, Aus 150.49 334 *ep*PKP pPKPdf 09 44 30.8 -1.0
comp=Z,15nm,1.5s
UCC Uccle 150.53 348 *d*PKP **PKPbc 09 44 32.6 +0.1**
SOKA Soboth 150.69 331 *e*PKP **PKPbc 09 44 32.2 -0.9**
comp=Z,14nm,1.4s,SNR=6.5
BCLA Clavier 150.70 347 *d*PKP **PKPdf 09 44 29.3 +1.9**
BGES Gesves 150.78 347 *d*PKP **PKPbc 09 44 32.4 -0.8**
BMRD Mareedsous 150.92 347 *d*PKP **PKPbc 09 44 33.1 -0.3**
LESA Schwarzleotal 151.09 335 *e*PKP **PKPbc 09 44 32.7 -1.4**
comp=Z,15nm,1.6s,SNR=6.8
KBA Koelnbreinsper 151.10 334 *e*PKP **PKPbc 09 44 32.9 -1.3**
comp=Z,8.6nm,1.3s
DOU Dourbes 151.15 347 *d*PKP **PKPbc 09 44 32.7 -1.3**
WLF Walferdange 151.21 345 *d*PKP **PKiKP 09 44 34.8 +0.1**
PDG Podgorica 151.42 321 ⇓P **PKiKP 09 44 37.1 +1.8**
WATA Walderalm 151.59 336 *e*PKP **PKPbc 09 44 34.1 -1.2**
comp=Z,13nm,1.2s,SNR=7.3
WTTA Wattenberg 151.63 336 *e*PKP **PKPbc 09 44 34.6 -0.8**
comp=Z,13nm,1.2s,SNR=6.2
CEY Cerknica 151.68 331 *e*PKPbc **PKPbc 09 44 34.2 -1.2**
ABTA Abfaltersbach 151.71 334 *ep*PKP pPKPdf 09 44 33.4 -0.3
comp=Z,14nm,1.6s,SNR=6.0
MOTA Moosalm 151.76 337 *e*PKP **PKPbc 09 44 34.1 -1.6**
comp=Z,14nm,1.3s
RETA Reutte 151.76 337 *e*PKP **PKPbc 09 44 34.6 -1.0**
comp=Z,2.1nm,0.4s
SQTA Sankt Quirin 151.83 336 *e*PKP **PKPbc 09 44 34.9 -1.0**
comp=Z,13nm,1.4s,SNR=6.1
FETA Feichten 152.17 337 *e*PKP **PKPbc 09 44 36.0 -0.7**
comp=Z,9.2nm,1.1s
DAVA Damuels 152.25 338 *e*PKP **PKPbc 09 44 34.8 -2.0**
comp=Z,8.9nm,1.4s
ESDC Sonseca Array 162.56 357 PKPab **PKPab 09 45 30.5 -0.5**
comp=Z,3.4nm,1.1s,baz=355,slow=3.6,SNR=6.9
TORD Torodi Ar. Bea 168.98 216 PKP **PKPdf 09 44 49.2 +0.3**
comp=Z,82nm,0.4s,baz=64,slow=1.2,SNR=1.6
TORD PKPab **PKPab 09 45 58.4 -1.5**
comp=Z,57nm,0.3s,baz=112,slow=3.3,SNR=1.8

ISC 21 09:35:51.2±1.0, 66°.06N±0°.03×148°.27W±0°.03, h10km±10km, n12, σ0°.82/20, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H24K	**Noodor Dome**	**0.27**	**144**	P	**Pg**	**09 35 57.2**	**+0.5**
	baz=320						
H24K				S	**Sg**	**09 36 01.3**	**+0.9**
	baz=320						
H23K	**Yukon River**	**0.57**	**246**	P	**Pg**	**09 36 02.1**	**-0.1**
	baz=67						
H23K				S	**Sg**	**09 36 09.9**	**+0.1**
	baz=67						
G24K	**Hadweenzic Riv**	**0.72**	**26**	P	**Pg**	**09 36 04.8**	**-0.2**
	baz=206						
G24K				S	**Sg**	**09 36 14.6**	**+0.2**
	baz=206						
G23K	**Bananza Creek**	**0.96**	**314**	P	**Pg**	**09 36 09.3**	**-0.4**
	baz=133						
G23K				S	**Sg**	**09 36 21.7**	**-0.5**
	baz=133						
POKR	**Poker Plat Res**	**1.01**	**159**	P	**Pb**	**09 36 10.8**	**+0.2**
	baz=340						
POKR				S	**Sg**	**09 36 23.0**	**-0.5**
	baz=340						
I23K	**Minto, Yukon-K**	**1.02**	**207**	P	**Pg**	**09 36 10.2**	**-0.5**
	baz=26						
I23K				S	**Sg**	**09 36 23.6**	**-0.4**
	baz=26						
G25K	**Bearman Lake**	**1.12**	**50**	P	**Pg**	**09 36 13.0**	**+0.3**
	baz=231						
PRP	**Porcupine Dome**	**1.25**	**114**	P	**Pg**	**09 36 14.4**	**-0.8**
	baz=296						
PRP				S	**Sg**	**09 36 29.7**	**-1.8**
	baz=296						
H22K	**Ishtalitna Cre**	**1.28**	**264**	S	**Sg**	**09 36 31.5**	**-0.9**
	baz=82						
COLD	**Coldfoot**	**1.41**	**328**	S	**Sb**	**09 36 34.1**	**-1.3**
	baz=146						
F24K	**Squaw Lake**	**1.48**	**6**	S	**Sn**	**09 36 37.2**	**0.0**
	baz=186						
G22K	**Bettles**	**1.56**	**305**	P	**Pn**	**09 36 20.0**	**+1.1**
	baz=123						
G22K				S	**Sn**	**09 36 40.0**	**+0.8**
	baz=123						

---

*VAO **21** 10:00:04.2±0.4, 35°.68S×71°.72W, h10km, mb5.2*
*NEIC **21** 10:00:10.3, 35°.73S×71°.92W, h79km*
*NEIC **21** 10:00:10.6±1.7, 35°.74S±0°.05×72°.0W±0°.1, h79km±5km, mb5.2/22, Mwr4.9/53, Error ellipse: s-maj=13.0km s-min=7.1km az=101.0, Moment Tensor Solution. Moment tensor: Scale 1016Nm; Mrr~0.93; Mθθ~1.81; Mφφ2.74; Mrθ1.31; Mrφ0.59; Mθφ~0.03; Fault plane solution: M=2.81000×1016 NP1:φ=327.96000°, δ64.22000°, λ-155.28000°. NP2:φ=226.64000°, δ67.88000°, λ-28.00000°. Principal axes: T 2.8229, Plg2.0000°, Azm278.0000°; N -0.0265, Plg55.0000°, Azm11.0000°; P -2.7964, Plg35.0000°, Azm186.0000°;*
*IDC **21** 10:00:11.5±0.4, 35°.75S×71°.67W, h78km±3km, mb4.3/13, mbtmp4.7/16, MS3.8/13 Error ellipse: s-maj=15.9km s-min=8.8km az=98.0*
*GUC **21** 10:00:11.2±0.9, 35°.78S×71°.85W, h85km±3km, ML5.2*
*GCMT **21** 10:00:14.6±0.3, 35°.86S±0°.02×71°.86W±0°.03, h86km±3km, MW5.0/98, Moment Tensor Solution. s26,c33; s98,c133; Duration: 0 Moment tensor: Scale 1016Nm; Mrr~1.85±.14; Mθθ-2.50±.13; Mφφ4.35±.16; Mrθ1.65±.06; Mθφ0.61±.12; Mφr0.41±.12; Best double couple: M=4.15900×1016 NP1:φ=327.00000°, δ59.00000°, λ-154.00000°. NP2: φ=223.00000°, δ68.00000°, λ-34.00000°. Principal axes: T 4.4550, Plg5.0000°, Azm276.0000°; N -0.5930, Plg50.0000°, Azm13.0000°; P -3.8620, Plg39.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 10:00:10.9±0.3, 35°.76S±0°.03×71°.79W±0°.04, h79km±2km, h80km:pP-P, n251, σ1s24/281, mb5.0/24, 2C-24D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ML02	**Panimavida**	**0.30**	**90**		**Pn**	**10 00 23.7**	**+0.5**
ML02	**Panimavida**	**0.30**	**90**	⇓*iP*	**Pn**	**10 00 24.0**	**+0.8**
ML02				*e*S	**Sn**	**10 00 33.4**	**+1.2**
GO05	**Hualane**	**0.76**	**351**	*e*P	**Pn**	**10 00 28.1**	**+0.8**
GO05				*e*S	**Sn**	**10 00 40.9**	**+1.6**
GO05				IAML		10 00 42.9	
comp=N,59μm,0.3s							
BI02	**San Fabin de**	**0.99**	**155**		**Pn**	**10 00 30.0**	**+0.1**
BI02	**San Fabin de**	**0.99**	**155**	⇑*iP*	**Pn**	**10 00 30.5**	**+0.6**
BI02				*e*S	**Sn**	**10 00 44.7**	**+0.6**
BI02				IAML		10 00 46.2	
comp=N,54μm,0.5s							
BO02	**Sierra Bellavi**	**1.27**	**41**		**Pn**	**10 00 33.9**	**+0.5**
BO02	**Sierra Bellavi**	**1.27**	**41**	*e*P	**Pn**	**10 00 34.4**	**+1.0**
BO03	**Pichilemu**	**1.27**	**354**	⇓*iP*	**Pn**	**10 00 33.9**	**+0.6**
BO03				*e*S	**Sn**	**10 00 50.6**	**+0.5**
BO03				IAML		10 00 52.9	
comp=E,27μm,0.7s							
BO01	**Tunca**	**1.48**	**23**		**Pn**	**10 00 36.2**	**+0.2**
BO01	**Tunca**	**1.48**	**23**	⇓*iP*	**Pn**	**10 00 36.8**	**+0.8**
BO01				*e*S	**Sn**	**10 00 55.5**	**+0.5**
BO01				IAML		10 00 56.5	
comp=N,32μm,0.3s							
BI05	**Punta Hualpn**	**1.50**	**229**		**Pn**	**10 00 34.8**	**-1.4**
BI05	**Punta Hualpn**	**1.50**	**229**	⇑*iP*	**Pn**	**10 00 35.5**	**-0.7**
BI05				*e*S	**Sn**	**10 00 54.4**	**-0.9**
BI05				IAML		10 00 55.6	
comp=E,26μm,0.4s							
MT01	**Popeta**	**1.94**	**13**		**Pn**	**10 00 42.4**	**+0.4**
MT01	**Popeta**	**1.94**	**13**	⇓*iP*	**Pn**	**10 00 43.0**	**+0.9**
MT01				IAML		10 01 08.2	
comp=E,42μm,0.3s							
BO04	**La Punta**	**2.02**	**29**		**Pn**	**10 00 43.2**	**+0.2**
BO04	**La Punta**	**2.02**	**29**	⇓*iP*	**Pn**	**10 00 43.7**	**+0.6**
BO04				IAML		10 01 09.6	
comp=N,13μm,0.6s							
MT09	**Talagante**	**2.09**	**19**		**Pn**	**10 00 44.2**	**+0.1**
MT09	**Talagante**	**2.09**	**19**	⇓*iP*	**Pn**	**10 00 44.7**	**+0.6**
MT09				IAML		10 01 13.7	
comp=N,22μm,0.2s							
VA05	**Santo Domingo**	**2.10**	**4**		**Pn**	**10 00 43.6**	**-0.5**
VA05	**Santo Domingo**	**2.10**	**4**	⇓*iP*	**Pn**	**10 00 44.1**	**0.0**
VA05				IAML		10 01 14.7	
comp=N,24μm,0.6s							
LMEL	**Las Melosas**	**2.31**	**35**		**Pn**	**10 00 48.4**	**+1.2**
LMEL	**Las Melosas**	**2.31**	**35**	⇓*iP*	**Pn**	**10 00 48.8**	**+1.7**
LMEL				IAML		10 01 21.6	
comp=N,19μm,0.2s							
MT13	**San Alfonso**	**2.36**	**32**		**Pn**	**10 00 48.5**	**+0.8**
MT13	**San Alfonso**	**2.36**	**32**	*e*P	**Pn**	**10 00 49.0**	**+1.2**
MT13				IAML		10 01 20.5	
comp=E,12μm,0.4s							
MT15	**Las Vizcachas**	**2.40**	**26**	⇓*iP*	**Pn**	**10 00 48.9**	**+0.6**
MT15				IAML		10 01 24.5	
comp=E,17μm,0.4s							
MT03	**Universidad Ad**	**2.50**	**25**		**Pn**	**10 00 49.7**	**+0.1**
MT03	**Universidad Ad**	**2.50**	**25**	*i P*	**Pn**	**10 00 50.1**	**+0.5**
MT03				IAML		10 01 28.1	
comp=N,16μm,0.3s							
MT05	**Renca**	**2.52**	**20**		**Pn**	**10 00 50.0**	**+0.2**
MT05	**Renca**	**2.52**	**20**	⇓*iP*	**Pn**	**10 00 50.5**	**+0.7**
MT05				IAML		10 01 26.1	
comp=E,15μm,0.4s							
MT16	**CCHEN**	**2.55**	**24**		**Pn**	**10 00 50.4**	**+0.1**
MT16	**CCHEN**	**2.55**	**24**	⇓*iP*	**Pn**	**10 00 50.8**	**+0.6**
MT16				IAML		10 01 39.3	
comp=N,7μm,0.6s							
MT02	**Curacav**	**2.55**	**12**		**Pn**	**10 00 50.6**	**+0.4**
MT02	**Curacav**	**2.55**	**12**	⇓*iP*	**Pn**	**10 00 50.7**	**+0.4**
MT02				IAML		10 01 24.9	
comp=E,6μm,0.4s							
MT14	**Cerro Calın**	**2.58**	**24**	⇓*iP*	**Pn**	**10 00 51.3**	**+0.7**
MT10	**Hacienda Santa**	**2.69**	**23**	⇓*iP*	**Pn**	**10 00 52.9**	**+0.7**
MT04	**Ro Olivares**	**2.72**	**31**	⇓*iP*	**Pn**	**10 00 54.1**	**+1.5**
FCH	**Farellones**	**2.73**	**27**	⇓*iP*	**Pn**	**10 00 53.6**	**+0.8**
FCH				IAML		10 01 31.0	
comp=N,13μm,0.3s							
MT08	**Bocatoma Ro**	**2.73**	**33**		**Pn**	**10 00 54.4**	**+1.5**
MT08	**Bocatoma Ro**	**2.73**	**33**	⇓*iP*	**Pn**	**10 00 54.6**	**+1.7**
MT08				IAML		10 01 29.8	
comp=N,7μm,0.6s							
VA01	**Torpederas**	**2.73**	**2**		**Pn**	**10 00 52.4**	**-0.3**
VA01	**Torpederas**	**2.73**	**2**	⇓*iP*	**Pn**	**10 00 52.7**	**0.0**
PEL	**Peldehue**	**2.77**	**20**		**Pn**	**10 00 53.8**	**+0.7**
PEL	**Peldehue**	**2.77**	**20**	⇓*iP*	**Pn**	**10 00 53.8**	**+0.7**
ROCH	**El Roble**	**2.86**	**13**	⇓*iP*	**Pn**	**10 00 55.0**	**+0.5**
BI04	**Isla Mocha**	**3.13**	**212**	⇓*iP*	**Pn**	**10 00 55.9**	**-2.1**
VA03	**San Esteban**	**3.16**	**19**		**Pn**	**10 00 58.5**	**-0.1**
VA03	**San Esteban**	**3.16**	**19**	⇓*iP*	**Pn**	**10 00 58.9**	**+0.3**
VA06	**Catapilco**	**3.22**	**7**		**Pn**	**10 00 58.6**	**-0.6**
LC02	**Puerto Saavedr**	**3.28**	**202**		**Pn**	**10 00 58.4**	**-1.6**
LR04	**Corral**	**4.31**	**197**		**Pn**	**10 01 11.1**	**-2.9**
LR05	**Currie**	**4.46**	**182**		**Pn**	**10 01 15.7**	**-0.4**
CO02	**Combarbal**	**4.59**	**8**		**Pn**	**10 01 17.0**	**-1.1**
ZON	**Zonda**	**4.94**	**33**		**Pn**	**10 01 23.0**	**+0.3**
CO03	**El Pedregal**	**5.00**	**11**		**Pn**	**10 01 23.2**	**-0.3**
PLCA	**Paso Flores**	**5.06**	**169**		**Pn**	**10 01 24.4**	**+0.2**
PLCA	**Paso Flores**	**5.06**	**169**	P	**Pn**	**10 01 25.6**	**+1.3**
comp=N,688nm,0.7s,baz=335,slow=11,SNR=2197							
PLCA				S	**Sn**	**10 02 21.3**	**-0.1**
comp=N,121nm,0.8s,baz=345,slow=17,SNR=1.3							
PLCA				LR	LR	10 02 59.9	
comp=N,627nm,19.2s,baz=2.5,slow=33							
PLCA	**Paso Flores**	**5.06**	**169**	*e*P	**Pn**	**10 01 23.7**	**-0.6**
CO06	**Fray Jorge**	**5.08**	**1**		**Pn**	**10 01 23.4**	**-1.1**
CFA	**Coronel Fontan**	**5.09**	**37**	P	**Pn**	**10 01 25.1**	**+0.3**
comp=N,63nm,0.2s,baz=210,slow=10,SNR=679							
CFA				S	**Sn**	**10 02 22.6**	**+0.3**
comp=N,376nm,0.5s,baz=89,slow=18,SNR=16							
LL03	**Petrohue**	**5.39**	**185**		**Pn**	**10 01 27.8**	**-1.0**
GO04	**Tololo Observa**	**5.64**	**9**		**Pn**	**10 01 30.9**	**-1.4**
LL05	**Los Muermos**	**5.79**	**193**		**Pn**	**10 01 30.8**	**-3.3**
CO05	**La Serena**	**5.85**	**5**		**Pn**	**10 01 33.5**	**-1.5**
CO01	**Juntas del Tor**	**5.94**	**14**		**Pn**	**10 01 35.9**	**-0.6**
H03S1	**Juan Fernandez**	**6.16**	**286**	P	**Pn**	**10 01 39.9**	**+0.9**
baz=73,slow=13,SNR=458							
H03S1				T	T	10 07 23.2	
baz=111,slow=74,SNR=111							
H03S3	**Juan Fernandez**	**6.17**	**286**	P	**Pn**	**10 01 39.8**	**+0.7**
baz=73,slow=13,SNR=461							
H03S3				T	T	10 07 24.5	
baz=111,slow=74,SNR=74							
VA04	**Juan Fernndez**	**6.17**	**288**		**Pn**	**10 01 39.1**	**-0.3**
H03S2	**Juan Fernandez**	**6.18**	**286**	P	**Pn**	**10 01 39.9**	**+0.6**
baz=73,slow=13,SNR=754							
H03S2				T	T	10 07 19.5	
baz=111,slow=74,SNR=138							
H03N1	**Juan Fernandez**	**6.32**	**289**	P	**Pn**	**10 01 42.6**	**+1.5**
baz=135,slow=25,SNR=3490							
H03N3	**Juan Fernandez**	**6.32**	**289**	P	**Pn**	**10 01 42.9**	**+1.7**
baz=135,slow=25,SNR=2600							
H03N2	**Juan Fernandez**	**6.33**	**289**	P	**Pn**	**10 01 43.2**	**+1.9**
baz=135,slow=25,SNR=1671							
LL06	**Loncomilla**	**6.60**	**192**		**Pn**	**10 01 43.2**	**-2.0**
LL01	**San Ignacio de**	**6.62**	**184**		**Pn**	**10 01 43.9**	**-1.7**
LCO	**Las Campanas**	**6.79**	**8**		**Pn**	**10 01 47.4**	**-0.8**
AC05	**El Transito**	**7.02**	**11**		**Pn**	**10 01 49.9**	**-1.4**
LL07	**Hotel Espejo d**	**7.18**	**190**		**Pn**	**10 01 50.0**	**-3.2**
LL02	**Futaleuf**	**7.42**	**180**		**Pn**	**10 01 55.8**	**-0.6**
GO07	**Milladeo Hill,**	**7.48**	**191**		**Pn**	**10 01 54.3**	**-2.9**
AC04	**Llanos de Chal**	**7.56**	**5**		**Pn**	**10 01 56.4**	**-2.1**
TRQA	**Tornquist**	**8.18**	**109**		**Pn**	**10 02 08.3**	**+1.4**
GO03	**Copiapo**	**8.25**	**10**		**Pn**	**10 02 05.6**	**-2.3**
AC06	**Mina Casimiro**	**8.47**	**9**		**Pn**	**10 02 08.1**	**-2.7**
AY01	**Puyuhuapi**	**8.67**	**184**		**Pn**	**10 02 12.2**	**-1.2**
AC02	**Maricunga**	**9.19**	**15**		**Pn**	**10 02 19.0**	**-2.0**
AC01	**Pan de Azucar**	**9.64**	**6**		**Pn**	**10 02 22.6**	**-4.2**
COYC	**Coyhaique**	**9.80**	**181**		**Pn**	**10 02 27.9**	**-0.9**
AY03	**Cochrane**	**11.50**	**183**		**Pn**	**10 02 51.3**	**-0.7**
PB05	**IPOC Station P**	**12.94**	**7**		**Pn**	**10 03 10.2**	**-1.5**
TBOT	**Tacuaremb**	**13.80**	**77**	*e*P	**Pn**	**10 03 20.2**	**-2.8**
PB09	**IPOC Station P**	**14.09**	**10**		**Pn**	**10 03 26.3**	**-0.7**
ITQB	**Itaqui**	**14.13**	**69**		**Pn**	**10 03 26.5**	**-0.7**
ITQB	**Itaqui**	**14.13**	**69**	*e*P	**Pn**	**10 03 24.4**	**-2.8**
TA02	**Huaiquique**	**15.50**	**6**		**Pn**	**10 03 43.2**	**-1.7**
CPUP	**Villa Florida**	**15.54**	**57**	P	**Pn**	**10 03 42.7**	**-2.7**
comp=N,3.2nm,0.5s,baz=247,slow=12,SNR=11							
CPUP				S	**Sn**	**10 06 35.8**	**-1.0**
comp=N,6.5nm,0.9s,baz=48,slow=20,SNR=1.3							
CPUP				Lg	Lg	10 08 28.2	
comp=N,0.1nm,0.3s,baz=114,slow=11,SNR=1.7							
CPUP				LR	LR	10 10 13.2	
comp=N,411nm,20.5s,baz=236,slow=39							
CPUP	**Villa Florida**	**15.54**	**57**	*e*P	**Pn**	**10 03 42.9**	**-2.5**
PLTB	**Pedras Altas**	**15.64**	**80**		**Pn**	**10 03 45.7**	**-1.0**
PLTB	**Pedras Altas**	**15.64**	**80**	*e*P	**Pn**	**10 03 44.3**	**-2.3**
PB08	**IPOC Station P**	**15.73**	**9**		**Pn**	**10 03 47.5**	**-0.8**
MG05	**Puerto Natales**	**15.92**	**182**		**Pn**	**10 03 49.4**	**-0.5**
PB11	**IPOC Station P**	**16.05**	**7**		**Pn**	**10 03 49.9**	**-2.1**
CPSB	**Cacapava Do Su**	**16.27**	**76**	*e*P	**Pn**	**10 03 52.7**	**-1.8**
PB12	**IPOC Station P**	**17.13**	**5**	P	**Pn**	**10 04 05.5**	**+0.2**
SJPY	**San Joaquin**	**17.25**	**56**	*e*P	**Pn**	**10 04 05.3**	**-1.4**
MG03	**Isla Dawson**	**18.11**	**177**		**Pn**	**10 04 17.1**	**+0.2**
CNLB	**Canela**	**18.77**	**76**	*e*P	**P**	**10 04 23.3**	**-0.5**
ITAB	**Concordia**	**18.77**	**69**	P	**P**	**10 04 23.3**	**-0.4**
ITAB	**Concordia**	**18.77**	**69**	*e*P	**P**	**10 04 23.4**	**-0.3**
USHA	**Ushuaia**	**19.21**	**174**	P	**Pn**	**10 04 29.1**	**-0.8**
comp=N,130nm,0.8s,baz=351,slow=9.1,SNR=27							
USHA				LR	LR	10 13 16.7	
comp=N,459nm,19.8s,baz=352,slow=41							
MG01	**Puerto William**	**19.39**	**173**	P	**P**	**10 04 29.9**	**-0.2**
LPAZ	**La Paz**	**19.67**	**10**	P	**Pn**	**10 04 36.1**	**-0.2**
comp=N,14nm,0.9s,baz=182,slow=5.9,SNR=43							
LPAZ	**La Paz**	**19.67**	**10**	*e*P	**P**	**10 04 32.9**	**-1.3**
PTGB	**Pitanga**	**20.25**	**62**	*e*P	**P**	**10 04 39.4**	**-0.5**
TER01	**Tubaro-SC**	**20.47**	**76**	*e*P	**P**	**10 04 40.9**	**-1.3**
AQDB	**Aquidauana**	**20.77**	**47**		**P**	**10 04 44.9**	**-0.5**
AQDB	**Aquidauana**	**20.77**	**47**	*e*P	**P**	**10 04 45.6**	**+0.1**
BBSD	**Serra de San D**	**21.00**	**31**	*e*P	**P**	**10 04 48.1**	**+0.1**
MAJ01	**Sao Joao Batis**	**21.09**	**73**	*e*P	**P**	**10 04 48.5**	**-0.4**
LDASE	**Londrina, Braz**	**21.74**	**61**	*e*P	**P**	**10 04 53.8**	**-2.1**
SIV	**San Ignacio**	**21.89**	**29**	P	**P**	**10 04 57.6**	**+0.1**
comp=N,20nm,0.9s,baz=218,slow=8.6,SNR=62							
comp=N,20nm,0.9s							
RPRD	**Ribas do Rio P**	**21.99**	**51**	*e*P	**P**	**10 04 57.8**	**-0.8**
FRTB	**Fartura**	**22.89**	**63**	*e*P	**P**	**10 05 07.0**	**-1.1**
PTLB	**Pontes e Lacer**	**23.18**	**32**	P	**P**	**10 05 10.6**	**-0.2**
PTLB	**Pontes e Lacer**	**23.18**	**32**	*e*P	**P**	**10 05 11.0**	**+0.1**
C2SB	**Chapadao do Su**	**23.81**	**50**	*e*P	**P**	**10 05 16.7**	**+0.2**
SALV	**Santo Antonio**	**24.45**	**40**	*e*P	**P**	**10 05 21.9**	**-0.5**
ITRB	**Iturama**	**24.73**	**55**	*e*P	**P**	**10 05 24.3**	**-0.7**
VAO	**Valinhos**	**25.01**	**66**	P	**P**	**10 05 26.7**	**-0.8**
VAO				IAmb	IAmb	10 05 29.8	
comp=Z,76nm,1.0s							
VAO	**Valinhos**	**25.01**	**66**	*e*P	**P**	**10 05 27.1**	**-0.4**
BB19B	**Bebedouro**	**25.07**	**61**	*e*P	**P**	**10 05 26.9**	**-1.1**
PARB	**Paraibuna**	**25.82**	**69**	*e*P	**P**	**10 05 34.5**	**-0.4**
ARAG	**Araguaiana, MT**	**26.78**	**47**	*e*P	**P**	**10 05 43.2**	**-0.2**
MAN01	**Angra dos Reis**	**27.35**	**70**	*e*P	**P**	**10 05 48.4**	**-0.2**
IPMB	**Ipameri, GO**	**27.38**	**56**	*e*P	**P**	**10 05 47.9**	**-1.0**
PDRB	**Porto dos Gac**	**27.64**	**33**	*e*P	**P**	**10 05 51.1**	**-0.1**
CZSB	**Cruzeiro do Su**	**27.91**	**358**	*e*P	**P**	**10 05 55.0**	**+1.4**
VAS01	**Vassouras-RJ**	**28.08**	**69**	*e*P	**P**	**10 05 54.7**	**-0.4**
PMNB	**Patos De Minas**	**28.21**	**59**	*e*P	**P

SYO Syowa Base 64.16 158 eP **P 10 10 36.5 +0.1**
TBI Tubuai 67.12 257 eLR LR 10 31 12.7
comp=Z,799nm,30.5s
TAOE Nuku Hiva Isla 67.33 275 eLR LR 10 31 18.1
comp=Z,117nm,30.0s
CCD Concordia, Ant 68.96 184 P **P 10 11 08.2 +0.6**
CCD pP **pP 10 11 28.7 +0.4**
CCD sP **sP 10 11 37.6 +0.5**
LPIG La Paz 69.81 323 LR LR 10 33 33.4
comp=Z,73nm,18.1s,baz=174,slow=29
PPT2 Papeete2 70.19 262 eLR LR 10 32 34.0
comp=Z,186nm,29.8s
PPT Papeete 70.20 262 LR LR 10 34 06.3
comp=Z,43nm,18.1s,baz=350,slow=29
TXAR Lajitas Array 71.37 331 P **P 10 11 22.8 +0.5**
comp=Z,0.5nm,0.6s,baz=149,slow=7.8,SNR=4.5
TXAR pP **pP 10 11 44.6 +1.3**
comp=Z,3.3nm,0.6s,baz=153,slow=9.1,SNR=12
TXAR LR LR 10 38 55.9
comp=Z,46nm,18.2s,baz=165,slow=33
comp=Z,0.5nm,0.6s
MAW Mawson 71.44 163 P **P 10 11 22.2 0.0**
MAW Mawson 71.44 163 P **P 10 11 22.9 +0.8**
comp=Z,12nm,1.2s
MAW Mawson 71.44 163 P **P 10 11 22.9 +0.8**
comp=Z,37nm,0.8s,baz=211,slow=6.1,SNR=52
MAW LR LR 10 42 21.2
comp=Z,120nm,19.6s,baz=240,slow=35
comp=Z,37nm,0.8s
V48A Smith Brothers 72.50 347 P **P 10 11 29.8 +0.9**
DBIC Dimbokro 75.56 71 P **P 10 11 47.5 +0.3**
comp=Z,6.0nm,0.9s,baz=207,slow=8.9,SNR=4.9
DBIC pP **pP 10 12 08.3 0.0**
comp=Z,15nm,1.0s,baz=224,slow=8.4,SNR=5.3
comp=Z,6.0nm,0.9s
ANMO Albuquerque 77.42 331 LR LR 10 41 26.0
comp=Z,86nm,18.2s,baz=299,slow=32
CASY Casey 78.27 181 P **P 10 12 02.2 +0.6**
KOOLE Kule 78.46 110 P **P 10 12 04.1 +0.5**
KOOLE IAmb IAmb 10 12 11.7
comp=Z,62nm,1.3s
BOSA Boshof 79.08 117 P **P 10 12 06.6 -0.3**
BOSA IAmb IAmb 10 12 08.0
comp=Z,29nm,0.7s
BOSA Boshof 79.08 117 P **P 10 12 07.2 +0.2**
comp=Z,31nm,0.7s,baz=242,slow=3.7,SNR=74
comp=Z,31nm,0.7s
PFO Pinyon Flats O 80.67 324 LR LR 10 41 30.2
comp=Z,71nm,18.4s,baz=122,slow=31
KHWEE KHWEE 83.04 112 P **P 10 12 28.1 0.0**
KHWEE IAmb IAmb 10 12 54.6
comp=Z,13nm,0.7s
MREMI Moremi 84.18 113 P **P 10 12 33.8 -0.1**
MREMI IAmb IAmb 10 12 35.2
comp=Z,15nm,0.7s
TORD Torodi Ar. Bea 84.62 70 P **P 10 12 35.5 -0.4**
TORD Torodi Ar. Bea 84.62 70 P **P 10 12 35.9 0.0**
comp=Z,68nm,0.5s,baz=247,slow=5.6,SNR=1.6
HWUT Hardware Ranch 85.19 331 P **P 10 12 38.7 +0.2**
HWUT IAmb IAmb 10 13 01.4
comp=Z,24nm,1.4s
PDAR Pinedale Array 85.42 333 P **P 10 12 40.8 +1.1**
comp=Z,0.5nm,0.8s,baz=151,slow=3.4,SNR=5.9
PDAR pP **pP 10 13 01.1 0.0**
comp=Z,1.5nm,0.7s,baz=162,slow=6.2,SNR=8.8
PDAR PKKPbc **PKKPbc 10 30 43.4 -1.6**
comp=Z,0.4nm,0.5s,baz=165,slow=1.8,SNR=6.0
PDAR LR LR 10 47 19.5
comp=Z,40nm,20.1s,baz=78,slow=33
comp=Z,0.5nm,0.8s
NVAR Mina Array Bea 85.44 325 P **P 10 12 41.2 +1.4**
comp=Z,0.7nm,0.7s,baz=123,slow=5.5,SNR=3.9
NVAR pP **pP 10 13 02.8 +1.5**
comp=Z,3.6nm,0.8s,baz=158,slow=6.2,SNR=14
comp=Z,0.7nm,0.7s
HVU Hansel Valley 85.82 331 P **P 10 12 41.9 +0.4**
ELK Elko 85.97 328 LR LR 10 47 00.7
comp=Z,33nm,20.9s,baz=146,slow=33
MATP Matopo 86.24 112 P **P 10 12 46.4 +2.2**
comp=Z,5.9nm,0.8s,baz=244,slow=4.1,SNR=22
comp=Z,5.9nm,0.8s
ULM Lac du Bonnet 88.25 345 P **P 10 12 53.0 +0.2**
comp=Z,5.1nm,0.9s,baz=169,slow=3.7,SNR=4.3
ULM pP **pP 10 13 14.1 -0.3**
comp=Z,8.5nm,0.9s,baz=179,slow=2.9,SNR=4.7
comp=Z,5.1nm,0.9s
LSZ Lusaka 89.06 108 P **P 10 12 58.7 +0.9**
comp=Z,3.4nm,0.7s,baz=221,slow=4.7,SNR=5.8
comp=Z,3.4nm,0.7s
NEW Newport 92.92 332 LR LR 10 51 25.3
comp=Z,38nm,18.5s,baz=28,slow=33
YKA Yellowknife Ar 103.79 341 Pdiff **Pdif 10 14 05.5 +2.3**
comp=Z,0.2nm,0.8s,baz=142,slow=3.9,SNR=2.6
YKA PKKPbc **PKKPbc 10 29 53.3 -2.4**
comp=Z,0.1nm,0.3s,baz=322,slow=4.0,SNR=5.2
GERES GERESS Array B 113.24 46 PKKPab PKKPab 10 29 31.6 +1.6
comp=Z,0.2nm,0.5s,baz=48,slow=1.5,SNR=4.5
ILAR Eielson Array 115.85 333 PKP **PKiKP 10 18 44.3 +1.0**
comp=Z,0.4nm,0.9s,baz=173,slow=1.5,SNR=1.3
ASAR Alice Springs 116.09 206 PKP **PKiKP 10 18 44.6 -0.6**
comp=Z,1.3nm,0.8s,baz=135,slow=2.0,SNR=14
ASAR PKKPbc **PKKPbc 10 29 15.2 +0.4**
comp=Z,0.3nm,0.6s,baz=340,slow=2.9,SNR=8.6
ASAR PKKP **PKKPdf 10 29 37.2 -1.8**
comp=Z,0.8nm,0.6s,baz=340,slow=3.2,SNR=12
NOA NORSAR Array B 117.39 33 pPKP **pPKPdf 10 19 08.6 -0.3**
comp=Z,0.6nm,0.8s,baz=250,slow=2.3,SNR=2.9
NOA PKKPbc **PKKPab 10 29 11.7 +0.6**
comp=Z,0.5nm,0.7s,baz=52,slow=6.0,SNR=4.5
HFS Hagfors 118.14 34 PKP **PKiKP 10 18 49.1 +1.2**
comp=Z,1.0nm,0.9s,baz=225,slow=1.6,SNR=1.5
HFS pPKP **pPKPdf 10 19 08.9 -1.4**
comp=Z,4.7nm,1.1s,baz=222,slow=1.9,SNR=3.1
HFS PKKPbc **PKKPbc 10 29 09.1 +0.9**
comp=Z,2.2nm,0.7s,baz=60,slow=8.5,SNR=10
WRA Warramunga Arr 119.32 208 PKP **PKPdf 10 18 51.3 -0.2**
comp=Z,4.1nm,0.9s,baz=165,slow=1.6,SNR=26
WRA pPKP **pPKPdf 10 19 13.8 -0.1**
comp=Z,0.3nm,0.6s,baz=114,slow=1.7,SNR=1.3
RNPP5 Staryi Chortor 121.38 47 PKP **PKPdf 10 18 52.9 -1.4**
BRTR Keskin Array B 122.50 62 PKP **PKiKP 10 18 57.4 +0.1**
comp=Z,1.0nm,0.7s,baz=186,slow=3.4,SNR=4.6
BRTR pPKP **pPKPdf 10 19 19.1 -0.4**
comp=Z,0.7nm,0.7s,baz=174,slow=1.1,SNR=2.6
KIEV Kiev 123.21 48 PKP **PKPdf 10 18 56.4 -1.4**
AKASG Malin Array Be 123.22 48 PKP **PKPdf 10 18 56.9 -0.9**
comp=Z,0.9nm,0.6s,baz=264,slow=1.9,SNR=2.7
AKASG pPKP **pPKPdf 10 19 18.7 -1.6**
comp=Z,1.8nm,0.7s,baz=261,slow=2.7,SNR=3.9
AKBB Malin Array Si 123.22 48 PKP **PKPdf 10 18 56.4 -1.5**
AK03 Malin Array Si 123.22 48 PKP **PKPdf 10 18 56.4 -1.5**
FINES FINESS Array B 124.31 35 PKP **PKiKP 10 18 59.8 -0.1**
comp=Z,1.5nm,0.9s,baz=230,slow=3.5,SNR=2.0
FINES pPKP **pPKPdf 10 19 20.8 -1.2**
comp=Z,1.3nm,0.8s,baz=343,slow=6.0,SNR=1.9
SPITS Spitsbergen Ar 124.33 14 PKP **PKPdf 10 18 58.6 -0.7**
comp=Z,10.0nm,1.1s,baz=289,slow=10,SNR=1.4
SPITS pPKP **pPKPdf 10 19 21.5 -0.3**
comp=Z,5.7nm,0.8s,baz=260,slow=8.6,SNR=1.3
ARCES ARCESS Array B 125.52 25 PKP **PKiKP 10 19 02.0 -0.2**
comp=Z,2.8nm,0.9s,baz=325,slow=1.9,SNR=4.5
ARCES pPKP **pPKPdf 10 19 23.8 -0.5**
comp=Z,3.0nm,0.8s,baz=266,slow=3.6,SNR=2.3
H11S2 WAKE ISLAND Hyl 25.93 268 T T 12 39 00.7
baz=118
H11S1 WAKE ISLAND Hyl 25.94 268 T T 12 39 17.2
baz=118
H11S3 WAKE ISLAND Hyl 25.95 268 T T 12 38 55.8
baz=118
H11N3 WAKE ISLAND Hyl 26.39 269 T T 12 38 38.1
baz=122
H11N1 WAKE ISLAND Hyl 26.40 269 T T 12 38 38.3
baz=122
H11N2 WAKE ISLAND Hyl 26.40 269 T T 12 38 55.2
baz=122
SEY Seymchan 141.65 329 PKhKP PKPpre 10 19 26.5
comp=Z,1.1nm,0.2s,baz=179,slow=24,SNR=2.1
SEY pPKP pPKPdf 10 19 54.6 0.0
comp=Z,0.7nm,0.3s,baz=92,slow=5.6,SNR=2.0
MA2 Magadan 143.68 324 PKP **PKPdf 10 19 36.1 +0.3**
comp=Z,0.9nm,0.4s,baz=360,slow=1.4,SNR=3.8
NRIK Noril'sk 144.49 12 PKP **PKPdf 10 19 36.4 -0.6**
comp=Z,3.5nm,0.5s,baz=68,slow=2.7,SNR=5.7
DAV Davao City (W) 147.30 213 PKPbc **PKPbc 10 19 46.7 +0.9**
comp=Z,165nm,0.3s,baz=346,slow=7.2,SNR=6.6
HYB Hyderabad 147.98 117 ePKPbc **PKPbc 10 19 46.8 -0.8**
HYB ePKiKP **PKiKP 10 19 48.1 -1.4**
BVAR Borovoye Array 148.40 45 PKP **PKPdf 10 19 44.3 +0.2**
comp=Z,4.0nm,0.6s,baz=293,slow=3.8,SNR=16
BVAR PKPbc **PKiKP 10 19 48.5 -0.7**
comp=Z,4.0nm,0.6s,baz=290,slow=3.7,SNR=13
BVAR pPKPbc **pPKPbc 10 20 10.3 +0.4**
comp=Z,6.9nm,0.8s,baz=318,slow=4.0,SNR=7.9
YAK Yakutsk 150.45 340 pPKPbc pPKPbc 10 20 14.6 -0.2
comp=Z,55nm,0.7s,baz=325,slow=0.5,SNR=6.0
KURBB Kurchatov Arra 153.98 46 PKP **PKPdf 10 19 53.7 +1.1**
comp=Z,1.0nm,0.9s,baz=282,slow=1.5,SNR=7.2
KURBB PKPbc **PKiKP 10 20 01.4 +0.6**
comp=Z,2.2nm,0.7s,baz=296,slow=2.9,SNR=19
KURBB pPKPbc **pPKPbc 10 20 23.0 0.0**
comp=Z,3.2nm,0.7s,baz=298,slow=2.9,SNR=8.2
ZALV Zalesovo Beam 155.58 35 PKP **PKPdf 10 19 54.7 0.0**
comp=Z,0.3nm,0.3s,baz=86,slow=21,SNR=1.7
ZALV PKPbc PKPbc 10 20 04.4
comp=Z,2.6nm,0.8s,baz=274,slow=2.4,SNR=9.7
ZALV PKPab **PKPab 10 20 20.1 -1.0**
comp=Z,2.9nm,0.8s,baz=315,slow=3.1,SNR=5.1
ZALV pPKPbc **sPKPdf 10 20 25.5 0.0**
comp=Z,3.0nm,0.6s,baz=298,slow=3.2,SNR=6.1
MKAR Makanchi Array 157.72 52 PKP **PKPdf 10 19 58.5 +0.8**
comp=Z,0.6nm,0.8s,baz=318,slow=1.6,SNR=5.9
MKAR pPKP **pPKPdf 10 20 20.0 -0.3**
comp=Z,1.2nm,0.9s,baz=336,slow=1.5,SNR=4.7
MKAR PKPab **PKPab 10 20 30.6 0.0**
comp=Z,1.9nm,0.9s,baz=289,slow=3.7,SNR=6.6
MKAR pPKPab **pPKPab 10 20 52.3 -0.1**
comp=Z,1.2nm,0.7s,baz=275,slow=3.4,SNR=2.9
CMAR Chiang Mai Arr 160.91 152 PKP **PKPdf 10 20 02.8 +0.5**
comp=Z,2.0nm,0.8s,baz=236,slow=2.8,SNR=13
CMAR PKPab **PKPab 10 20 43.9 -1.1**
comp=Z,0.7nm,0.3s,baz=217,slow=5.9,SNR=8.6
KSRS Korea Array 164.08 282 PKP **PKPdf 10 20 05.5 +0.6**
comp=Z,0.2nm,0.3s,baz=105,slow=1.4,SNR=2.3
KSRS pPKP **pPKPdf 10 20 27.5 +0.1**
comp=Z,0.6nm,0.8s,baz=144,slow=1.0,SNR=2.9
KSRS pPKPab **pPKPab 10 21 21.1 +0.7**
comp=Z,1.6nm,1.0s,baz=98,slow=4.1,SNR=4.9
CN2 Changchun 164.53 306 eP **PKPdf 10 20 10.0 +5.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
SONM Songino Array 167.86 6 PKP **PKPdf 10 20 07.5 -0.3**
comp=Z,0.2nm,0.5s,baz=151,slow=3.3,SNR=1.9
SONM PKPab **PKPab 10 21 15.1 +0.1**
comp=Z,1.3nm,0.9s,baz=344,slow=4.9,SNR=5.0
SONM pPKPab **pPKPab 10 21 37.3 +0.6**
comp=Z,2.6nm,0.9s,baz=340,slow=4.2,SNR=8.2
PZH PanZhiHua 169.24 147 PKP **PKPdf 10 20 07.8 -1.5**
NJ2 Nanjing 170.41 250 eP **PKPdf 10 20 11.0 +1.4**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
GTA Gaotai 172.40 59 ePKP **PKPdf 10 20 11.3 +0.7**
GTA pPKP pPKPdf 10 20 33.3 +0.1
HHC Hu-ho-hao-te 174.28 334 eP **PKPdf 10 20 07.0 -4.2**
LZH Lanzhou 176.44 84 eP **PKPdf 10 20 07.1 -4.9**

*IDC **21** 10:02:51.9±2.0, 56°.89S×25°.74W, h0km, mb5.4/2, mbtmp5.4/2, Error ellipse: s-maj=86.6km s-min=40.5km az=14.0*
*NEIC **21** 10:02:54.5±1.4, 56°.4S±0°.1×25°.5W±0°.2, h10km±1km, mb4.7/20, Error ellipse: s-maj=24.7km s-min=19.9km az=199.0*
ISC 21 10:02:57.1±0.9, 56°.4S±0°.2×25°.6W±0°.1, h29km, n35, σ0°.90/32, mb4.7/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.58**	**285**	Pn	**Pn**	**10 04 32.2**	**+0.4**
BELA	**Belgrano 2**	**21.76**	**185**	P	**P**	**10 07 46.0**	**+0.1**
BELA				IAmb	IAmb	10 07 46.8	
comp=Z,16nm,0.7s							
MG05	**Puerto Natales**	**27.51**	**260**	P	**P**	**10 08 42.5**	**+1.9**
LL02	**Futaleuf**	**32.01**	**275**	P	**P**	**10 09 21.2**	**+0.6**
LL02				IAmb	IAmb	10 09 24.9	
comp=Z,6.8nm,1.1s							
MT09	**Talagante**	**38.28**	**287**	P	**P**	**10 10 12.0**	**-2.8**
MT09				IAmb	IAmb	10 10 29.6	
comp=Z,15nm,1.5s							
CO01	**Juntas del Tor**	**40.79**	**291**	P	**P**	**10 10 35.4**	**-0.5**
AC04	**Llanos de Chal**	**42.72**	**292**	P	**P**	**10 10 50.6**	**-0.8**
AC04				IAmb	IAmb	10 11 01.5	
comp=Z,28nm,1.2s							
AC02	**Maricunga**	**42.85**	**295**	P	**P**	**10 10 52.7**	**-0.3**
AC01	**Pan de Azucar**	**44.16**	**294**	P	**P**	**10 11 01.8**	**-1.2**
PB09	**IPOC Station P**	**47.12**	**299**	P	**P**	**10 11 26.7**	**+0.1**
PB09				IAmb	IAmb	10 11 30.3	
comp=Z,12nm,1.1s							
PB01	**IPOC Station P**	**47.88**	**299**	P	**P**	**10 11 32.1**	**-0.3**
H10S2	**ASCENSION HYDR**	**48.13**	**15**	T	T	11 04 38.0	
baz=188							
H10S3	**ASCENSION HYDR**	**48.14**	**15**	T	T	11 04 42.0	
baz=32							
PB08	**IPOC Station P**	**48.49**	**300**	P	**P**	**10 11 37.4**	**-0.1**
PB08				IAmb	IAmb	10 11 38.8	
comp=Z,6.6nm,0.6s							
SIV	**San Ignacio**	**48.50**	**312**	P	**P**	**10 11 37.6**	**+0.4**
comp=Z,1.6nm,0.9s,baz=153,slow=6.8,SNR=1.9							
GO01	**Chusmiza**	**48.91**	**300**	P	**P**	**10 11 41.2**	**+0.3**
PB16	**IPOC Station P**	**50.21**	**301**	P	**P**	**10 11 50.8**	**-0.1**
PB16				IAmb	IAmb	10 12 16.8	
comp=Z,11nm,1.5s							
LPAZ	**La Paz**	**51.34**	**304**	P	**P**	**10 11 59.8**	**+0.4**
LPAZ				IAmb	IAmb	10 12 01.2	
comp=Z,7.5nm,0.6s							
LPAZ	**La Paz**	**51.34**	**304**	P	**P**	**10 12 00.1**	**+0.7**
comp=Z,7.5nm,0.5s,baz=157,slow=6.0,SNR=26							
comp=Z,7.5nm,0.5s							
BOAV	**Boa Vista**	**65.14**	**321**	P	**P**	**10 13 34.8**	**-0.3**
BOAV				IAmb	IAmb	10 13 58.1	
comp=Z,8.6nm,1.3s							
COHC	**Cochancay**	**68.64**	**300**	P	**P**	**10 13 57.6**	**+0.2**
SLOR	**San Lorenzo -**	**69.79**	**302**	P	**P**	**10 14 05.7**	**+0.6**
OTAV	**Otavalo**	**70.62**	**302**	P	**P**	**10 14 10.4**	**+0.2**
OTAV				IAmb	IAmb	10 14 16.9	
comp=Z,6.1nm,1.2s							
TORD	**Torodi Ar. Bea**	**72.97**	**28**	P	**P**	**10 14 23.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**72.97**	**28**	P	**P**	**10 14 25.6**	**+2.0**
comp=Z,34nm,0.3s,baz=200,slow=6.1,SNR=1.0							
comp=Z,34nm,0.3s							
YKA	**Yellowknife Ar**	**137.06**	**317**	PKP	**PKPdf**	**10 22 15.2**	**-0.4**
comp=Z,0.4nm,0.8s,baz=130,slow=2.2,SNR=4.7							
M31M	**Drury Creek, Y**	**144.93**	**309**	PKPdf	PKPbc	10 22 29.2	0.0
A36M	**Sachs Harbour**	**145.02**	**328**		**PKPbc**	**10 22 29.0**	**-0.1**
HYT	**Haines Junctio**	**145.74**	**306**	PKPdf	**PKPab**	**10 22 32.1**	**-0.2**
F31M	**Tsiigehtchic**	**146.51**	**318**	PKPdf	**PKPbc**	**10 22 33.5**	**-0.3**
L29M	**L29M**	**146.87**	**310**		**PKPbc**	**10 22 34.7**	**-0.4**
G30M	**tAoh Zraii Nji**	**147.31**	**317**	PKPdf	**PKPbc**	**10 22 35.7**	**-0.5**
E29M	**Blow River**	**148.27**	**319**		**PKPbc**	**10 22 37.3**	**-1.4**
SONM	**Songino Array**	**149.86**	**86**	PKPbc	**PKPbc**	**10 22 43.0**	**-0.5**
comp=Z,0.6nm,0.6s,baz=250,slow=2.1,SNR=2.0							
ILAR	**Eielson Array**	**151.04**	**311**	PKPbc	**PKPbc**	**10 22 45.2**	**-0.3**
comp=Z,2.2nm,1.0s,baz=120,slow=1.9,SNR=11							

IDC 21 10:27:38.0±1.9, 3°.36N×126°.76E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=168.7km s-min=23.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.33**	**162**	P	P	10 32 57.4	-0.3
0.4nm,0.4s,baz=342,slow=10,SNR=12							
0.4nm,0.4s							
ASAR	**Alice Springs**	**27.75**	**166**	P	P	10 33 29.0	+0.4
0.2nm,0.5s,baz=343,slow=11,SNR=4.7							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**57.87**	**325**	P	P	10 37 31.8	+0.1
0.2nm,0.4s,baz=127,slow=6.2,SNR=2.3							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**62.06**	**327**	P	P	10 38 00.1	-0.3
0.2nm,0.4s,baz=132,slow=5.7,SNR=2.2							
0.2nm,0.4s							

IDC 21 10:40:03.6±7.0, 13°.56S×75°.80W, h54km±77km, mb2.9/2, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=409.3km s-min=33.3km az=26.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.90**	**111**	P	Pn	10 41 56.5	+0.1
0.5nm,0.3s,baz=294,slow=9.0,SNR=17							
LPAZ				S	Sn	10 43 25.4	+0.7
0.9nm,0.7s,baz=230,slow=17,SNR=1.6							
2.1nm,0.4s							
H03N1	**Juan Fernandez**	**20.00**	**188**	T	T	11 03 51.1	
baz=7.7,slow=74,SNR=270							
H03N2	**Juan Fernandez**	**20.00**	**188**	T	T	11 03 52.0	
baz=7.7,slow=74,SNR=193							
H03N3	**Juan Fernandez**	**20.01**	**188**	T	T	11 03 49.9	
baz=7.7,slow=74,SNR=307							
TXAR	**Lajitas Array**	**50.42**	**328**	P	P	10 48 55.9	0.0
0.1nm,0.6s,baz=147,slow=9.1,SNR=2.4							
0.1nm,0.6s							
NVAR	**Mina Array Bea**	**65.23**	**324**	P	P	10 50 39.7	-0.1
0.1nm,0.3s,baz=103,slow=5.5,SNR=1.6							
0.1nm,0.3s							
TORD	**Torodi Ar. Bea**	**81.23**	**74**	P	P	10 52 14.5	+0.1
37nm,0.3s,baz=248,slow=5.7,SNR=1.3							
H11N3	**WAKE ISLAND Hyl**	**19.88**	**285**	T	T	13 09 37.2	
baz=96,slow=74,SNR=38							
H11N2	**WAKE ISLAND Hyl**	**19.89**	**285**	T	T	13 09 38.1	
baz=96,slow=74,SNR=44							
H11N1	**WAKE ISLAND Hyl**	**19.89**	**285**	T	T	13 09 38.5	
baz=96,slow=74,SNR=14							
H11S2	**WAKE ISLAND Hyl**	**19.97**	**284**	T	T	13 09 41.9	
baz=95,slow=74,SNR=13							
H11S1	**WAKE ISLAND Hyl**	**19.97**	**284**	T	T	13 09 39.0	
baz=95,slow=74,SNR=5.5							
H11S3	**WAKE ISLAND Hyl**	**19.98**	**284**	T	T	13 09 42.0	
baz=95,slow=74,SNR=6.3							

RSNC 21 10:58:12.0±0.0, 7°.N±1°×7°.3W±°, h149km±2km, M2.3, mb3.7, ML2.1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.21**	**192**	P	Pn	10 58 31.9	-0.6
BARC				S	Sn	10 58 47.3	-0.8
BRJC	**Barrancabermej**	**0.62**	**286**	P	Pn	10 58 33.6	-0.3
BRJC				S	Sn	10 58 50.8	+0.2
PAMC	**Pamplona, Colo**	**0.69**	**39**	P	Pn	10 58 34.9	0.0
PAMC				S	Sn	10 58 51.9	-0.5
RUSC	**La Rusia**	**0.90**	**176**	P	Pn	10 58 36.0	-0.5
RUSC				S	Sn	10 58 54.7	-0.4
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	P	Pn	10 58 38.7	-1.1
PTBC				S	Sn	10 59 00.0	-1.0
TAMC	**Tame, Arauca**	**1.39**	**105**	P	Pn	10 58 40.5	+0.1
TAMC				S	Sn	10 59 01.7	-0.3
OCAC	**Ocana**	**1.44**	**353**	P	Pn	10 58 40.0	-1.1
OCAC				S	Sn	10 59 02.7	-0.6
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	P	Pn	10 58 44.5	-0.7
ZARC				S	Sn	10 59 10.0	-0.7
NORC	**Norcasia**	**2.11**	**235**	P	Pn	10 58 48.1	-0.4
NORC				S	Sn	10 59 15.9	-0.6
CHIC	**Chingaza**	**2.23**	**195**	P	Pn	10 58 50.4	+0.1
CHIC				S	Sn	10 59 19.6	-0.1
ROSC	**El Rosal**	**2.27**	**211**	P	Pn	10 58 52.1	+1.4
ROSC				S	Sn	10 59 22.7	+2.2
CVER	**Cruz Verde, Cu**	**2.45**	**202**	P	Pn	10 58 53.5	+0.6
CVER				S	Sn	10 59 26.1	+1.7
GUY2C	**Guyana, Caldas**	**2.71**	**235**	P	Pn	10 58 57.6	+1.4
GUY2C				S	Sn	10 59 34.0	+3.8
PTGC	**Puerto Gaitan,**	**2.77**	**159**	P	Pn	10 58 55.2	-1.3
PTGC				S	Sn	10 59 28.6	-2.3
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	10 58 59.4	-0.1
CBOC				S	Sn	10 59 35.6	-0.6
ANIL	**Santa Ana**	**3.21**	**225**	P	Pn	10 59 03.7	+1.3
ANIL				S	Sn	10 59 44.3	+3.0
ARGC	**Ariguani, Magd**	**3.23**	**340**	P	Pn	10 59 04.0	+1.7
ARGC				S	Sn	10 59 44.4	+3.1
PRAC	**Prado**	**3.52**	**210**	P	Pn	10 59 05.3	-0.8
PRAC				S	Sn	10 59 47.7	-0.4
SJCC	**San Jacinto, C**	**3.68**	**327**	P	Pn	10 59 06.1	-2.0
SJCC				S	Sn	10 59 46.9	-4.8
URMC	**La Uribe, Meta**	**3.74**	**199**	P	Pn	10 59 08.8	-0.2
URMC				S	Sn	10 59 52.7	-0.5
LCBC	**Los crdobas,**	**3.79**	**303**	P	Pn	10 59 09.9	+0.3
LCBC				S	Sn	10 59 49.4	-4.9
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	P	Pn	10 59 11.7	-3.3
CRJC				S	Sn	10 59 59.9	-4.1
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	10 59 23.1	-2.3
URIC				S	Sn	11 00 19.5	-3.2

*IDC **21** 11:01:07.0±3.1, 8°.54N×126°.68E, h85km±29km, mb3.4/10, mbtmp3.8/10, Error ellipse: s-maj=35.2km s-min=16.1km az=73.0*
*NEIC **21** 11:01:09.2±1.3, 8°.41N±0°.10×126°.4E±0°.2, h98km±4km, mb4.2/13, Error ellipse: s-maj=29.1km s-min=13.8km az=89.0*
ISC 21 11:01:03.5±0.7, 8°.57N±0°.07×126°.9E±0°.1, h50km, n34, σ1°.63/29, mb4.2/17, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.96**	**220**	P	**Pn**	**11 01 35.7**	**+1.3**
142nm,0.3s,baz=86,slow=3.8,SNR=6.6							
DAV				S	**Sn**	**11 01 59.9**	**+2.1**
332nm,0.6s,baz=101,slow=19,SNR=3.9							
DAV				LR	LR	11 02 34.9	
comp=Z,180nm,18.5s,baz=343,slow=48							
TGY	**Tagaytay City**	**7.99**	**314**	P	**Pn**	**11 02 58.5**	**+1.2**
126nm,0.3s,baz=201,slow=14,SNR=2.4							
KNRA	**Kununurra**	**24.17**	**176**	P	**P**	**11 06 14.7**	**-0.5**
KNRA				IAmb	IAmb	11 06 54.1	
comp=Z,16nm,1.4s							
FITZ	**Fitzroy Crossi**	**26.53**	**183**	P	**P**	**11 06 34.5**	**-2.1**
KSRS	**Korea Array**	**28.77**	**2**	P	**P**	**11 06 57.9**	**+1.3**
comp=Z,0.2nm,0.4s,baz=194,slow=8.8,SNR=2.0							
comp=Z,0.2nm,0.4s							
CMAR	**Chiang Mai Arr**	**28.82**	**293**	P	**P**	**11 06 56.6**	**-0.7**
comp=Z,0.6nm,0.7s,baz=103,slow=7.4,SNR=4.8							
comp=Z,0.6nm,0.7s							
WRA	**Warramunga Arr**	**29.28**	**165**	P	**P**	**11 07 01.4**	**+0.1**
comp=Z,0.3nm,0.5s,baz=340,slow=8.7,SNR=4.9							
comp=Z,0.3nm,0.5s							
ASAR	**Alice Springs**	**32.77**	**168**	P	**P**	**11 07 31.7**	**-0.4**
comp=Z,0.2nm,0.5s,baz=344,slow=7.2,SNR=6.3							
comp=Z,0.2nm,0.5s							
USRK	**Ussuriysk Ar.**	**35.77**	**6**	P	**P**	**11 07 58.6**	**+0.9**
H11S3	**WAKE ISLAND Hy**	**39.87**	**71**	T	T	11 51 42.9	
baz=262							
H11S1	**WAKE ISLAND Hy**	**39.89**	**71**	T	T	11 51 35.8	
baz=262							
H11S2	**WAKE ISLAND Hy**	**39.89**	**71**	T	T	11 51 36.1	
baz=262							
H11N1	**WAKE ISLAND Hy**	**40.27**	**70**	T	T	11 52 19.2	
baz=265,slow=74,SNR=8.2							
H11N2	**WAKE ISLAND Hy**	**40.27**	**70**	T	T	11 52 12.3	
baz=265,slow=74,SNR=7.6							
H11N3	**WAKE ISLAND Hy**	**40.28**	**70**	T	T	11 52

ARCES	ARCESS Array B	85.98	340	P	P	11 13 37.3	-0.9
	comp=Z,5.6nm,1.1s,baz=74,slow=6.0,SNR=6.9						
	comp=Z,5.6nm,1.1s						
FIA1	FINESS Array S	87.65	332	P	P	11 13 44.9	-1.5
FINES	FINESS Array B	87.65	332	P	P	11 13 44.9	-1.5
FINES	FINESS Array B	87.65	332	P	P	11 13 45.7	-0.8
	comp=Z,0.7nm,0.4s,baz=80,slow=4.1,SNR=15						
	comp=Z,0.7nm,0.4s						

*GUC **21** 11:07:35.3±0.9, 20°.11S×69°.26W, h96km±4km, ML3.4*
*IDC **21** 11:07:39.4±8.4, 19°.85S×69°.32W, h135km±63km, mb2.8/2, mbtmp3.3/3, Error ellipse: s-maj=132.4km s-min=76.3km az=106.0*
ISC 21 11:07:34.5±1.0, 20°.14S±0°.04×69°.33W±0°.08, h99km±7km, n25, σ0°72/22, 3C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.16	90	⇓iP	Pn	11 07 48.9	-0.1
PB08				eS	Sn	11 07 59.6	-0.2
PB08				IAML		11 07 60.0	
	comp=E,6μm,0.2s						
GO01	Chusmiza	0.48	15	eP	Pn	11 07 50.4	-0.4
GO01				eS	Sn	11 08 02.4	-0.4
PB11	IPOC Station P	0.49	320	⇑iP	Pn	11 07 50.5	+0.1
PB11				eS	Sn	11 08 02.6	+0.4
PB11				IAML		11 08 03.9	
	comp=N,4μm,0.3s						
TA02	Huaiquique	0.77	260	eP	Pn	11 07 53.2	+0.8
TA01	Diego Aracena	0.91	242	⇑iP	Pn	11 07 54.3	+0.4
TA01				eS	Sn	11 08 09.4	+0.9
PB01	IPOC Station P	0.91	190	⇑iP	Pn	11 07 54.5	+0.4
PB01				eS	Sn	11 08 09.4	+0.7
PB01				IAML		11 08 11.0	
	comp=N,3μm,0.3s						
PB09	IPOC Station P	1.65	177	eP	Pn	11 08 03.6	+0.8
PB09				IAML		11 08 30.5	
	comp=E,327nm,0.3s						
PB12	IPOC Station P	1.79	328	eP	Pn	11 08 04.5	0.0
PB12				eS	Sn	11 08 27.0	-0.2
PB12				IAML		11 08 32.6	
	comp=E,329nm,0.5s						
PB16	IPOC Station P	1.80	355	⇓iP	Pn	11 08 06.0	+0.9
PB16				IAML		11 08 33.2	
	comp=E,174nm,0.4s						
PB03	IPOC Station P	1.94	192	eP	Pn	11 08 06.8	+0.4
PB03				IAML		11 08 37.0	
	comp=N,254nm,0.2s						
PB18	Visviri	2.54	357	eP	Pn	11 08 17.9	+3.2
PB18				IAML		11 08 59.2	
	comp=E,69nm,0.7s						
PB06	IPOC Station P	2.56	185	eP	Pn	11 08 14.8	+0.2
PB06				IAML		11 08 51.3	
	comp=E,190nm,0.4s						
PB05	IPOC Station P	2.82	197	eP	Pn	11 08 17.9	-0.1
PB05				IAML		11 09 03.1	
	comp=E,157nm,0.7s						
LPAZ	La Paz	4.00	17	P	Pn	11 08 36.2	+2.0
	comp=E,8.8nm,0.7s,baz=186,slow=8.0,SNR=32						
LPAZ				S	Sn	11 09 20.5	+0.1
	comp=E,3.3nm,0.6s,baz=161,slow=5.4,SNR=1.9						
H03N1	Juan Fernandez	15.76	211	T	T	11 26 36.4	
	baz=35						
H03N2	Juan Fernandez	15.77	211	T	T	11 27 13.4	
	baz=35						
H03N3	Juan Fernandez	15.78	211	T	T	11 27 04.9	
	baz=35						
TXAR	Lajitas Array	59.30	325	P	P	11 17 25.2	-0.9
	comp=E,0.1nm,0.5s,baz=148,slow=9.3,SNR=1.3						
	comp=E,0.1nm,0.5s						
YKA	Yellowknife Ar	89.78	341	P	P	11 20 21.0	-0.3
	comp=E,0.3nm,0.7s,baz=138,slow=4.6,SNR=7.8						
	comp=E,0.3nm,0.7s						
H11S2	WAKE ISLAND Hyd	27.31	278	T	T	13 46 15.4	
	baz=101,slow=74,SNR=4.8						
H11S1	WAKE ISLAND Hyd	27.32	278	T	T	13 46 13.9	
	baz=101,slow=74,SNR=4.7						
H11S3	WAKE ISLAND Hyd	27.33	278	T	T	13 46 16.0	
	baz=101,slow=74,SNR=5.2						
H11N3	WAKE ISLAND Hyd	27.36	280	T	T	13 46 23.0	
	baz=103						
H11N2	WAKE ISLAND Hyd	27.37	280	T	T	13 46 20.3	
	baz=103						
H11N1	WAKE ISLAND Hyd	27.37	280	T	T	13 46 24.0	
	baz=103						

*NIED **21** 11:16:58.0, 20°.22N×121°.56E, h0km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=1.84; $M_{\theta\theta}$=0.91; $M_{\phi\phi}$=0.93; $M_{r\theta}$=1.44; $M_{\theta\phi}$=1.51; $M_{\phi r}$=-0.02; Fault plane solution: M_0=2.63000×10^{15} NP1:ϕ_s=19.00000°, δ=39.00000°, λ=-133.00000°. NP2:ϕ_s=250.00000°, δ=63.00000°, λ=-61.00000°.*
*JMA **21** 11:16:58.0±0.6, 20°.N±3°×12°.2E±°, h0km, MV4.7/16, PHILIPPINE ISL REGION*
*NEIC **21** 11:17:00.8±1.2, 19°.99N±0°.08×121°.42E±0°.08, h35km±2km, mb4.5/80, Error ellipse: s-maj=14.7km s-min=11.3km az=129.0*
*IDC **21** 11:17:00.4±3.1, 20°.03N×121°.47E, h38km±26km, mb3.8/20, mbtmp4.1/23, ML4.1/3, MS3.4/15, Error ellipse: s-maj=18.9km s-min=12.6km az=70.0*
ISC 21 11:17:00.4±0.4, 19°.97N±0°.05×121°.45E±0°.05, h40km, n392, σ0°84/390, mb4.4/60, MS3.2/13, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	2.86	353		Pn	11 17 42.0	-1.5
TPUB	Ta-pu	3.40	347		Pn	11 17 49.3	-1.8
YULB	Yu-li	3.41	358		Pn	11 17 50.1	-1.1
SSLB	Suanglung	3.83	353		Pn	11 17 56.6	-0.3
NACB	Ninganchiao	4.18	2		Pn	11 18 00.6	-1.2
HATJ	Hateruma jima	4.61	28	eS	Sn	11 18 57.9	-2.1
JYNG	Yonagunijimaku	4.67	17	eP	Pn	11 18 08.2	-0.2
JYNG				eS	Sn	11 18 60.0	-1.3
YHNB	Yeheng	4.68	359		Pn	11 18 08.9	+0.3
YOJ	Yonaguni jima	4.70	18		Pn	11 18 08.0	-0.8
YOJ	Yonaguni jima	4.70	18	P	Pn	11 18 09.4	+0.6
YOJ				S	Sn	11 19 02.0	-0.1
IRIF	Iriomote-Funau	4.83	25	P	Pn	11 18 10.6	0.0
IRIF				eS	Sn	11 19 04.6	-0.7
TATO	Taipei	4.98	0	Pn	Pn	11 18 10.8	-1.9
JIJ	Ishigaki jima	5.03	29	P	Pn	11 18 12.7	-0.7
KNMB	Chin-men Tao	5.30	328	Pn	Pn	11 18 14.5	-2.6
JISG	Ishigakijimahi	5.30	29	P	Pn	11 18 16.3	-0.8
JISG				eS	Sn	11 19 15.4	-1.5
JTJ	Tarama	5.54	32	eP	Pn	11 18 20.0	-0.3
JTJ				eS	Sn	11 19 20.7	-2.0
JIRB	Irabujima	5.93	35	eP	Pn	11 18 27.0	+1.2
JOGS	Gusukube	6.01	37	eP	Pn	11 18 28.5	+1.7
HKPS	Hong Kong Po S	7.20	290	Pn	Pn	11 18 39.4	-3.8
JOW	Kunigami	9.26	41		Pn	11 19 11.1	-0.4
JOW	Kunigami	9.26	41	Pn	Pn	11 19 10.9	-0.6
	9.8nm,0.3s,baz=185,slow=11,SNR=39						
JOW				Sn	Sn	11 20 51.7	-2.8
	1.1nm,0.3s,baz=342,slow=27,SNR=1.8						
JOW				LR	LR	11 21 50.5	
	comp=Z,76nm,20.7s,baz=212,slow=32						
	19nm,0.3s						
JOW	Kunigami	9.26	41	eP	Pn	11 19 10.9	-0.6
JTK	Tokunoshima	10.37	40	eP	Pn	11 19 26.4	-0.2
QIZ	Qiongzhong	10.99	267	Pn	Pn	11 19 32.0	-3.2
QIZ	Qiongzhong	10.99	267	P	Pn	11 19 33.5	-1.7
QIZ				S	Sn	11 21 37.4	+0.5
QIZ				LR	LR		
	comp=N,250nm,11.3s						
QIZ				LR	LR		
	comp=E,300nm,10.7s						
QIZ				LR	LR		
	comp=Z,270nm,11.9s						
NJ2	Nanjing	12.25	350	eP	Pn	11 19 52.4	0.0
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
DAV	Davao City (W)	13.44	162	LR	LR	11 25 40.0	
	comp=Z,126nm,20.9s,baz=340,slow=38						
JNU	Nakatsue	15.56	31	Pn	Pn	11 20 37.6	+0.6
JNU	Nakatsue	15.56	31	Pn	Pn	11 20 37.3	+0.2
	comp=Z,0.2nm,0.3s,baz=160,slow=6.4,SNR=7.3						
JNU				LR	LR	11 26 46.3	
	comp=Z,109nm,21.5s,baz=180,slow=38						
	comp=Z,1.5nm,0.6s						
UBPT	Khong Chiam	15.93	256	Pn	Pn	11 20 41.5	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	Tai'an	16.62	348	P	P	11 20 53.9	+1.4
TIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSRS	Korea Array	18.31	17	P	Pn	11 21 11.2	-0.1
	comp=Z,0.6nm,0.3s,baz=198,slow=11,SNR=22						
KSRS				LR	LR	11 29 13.1	
	comp=Z,89nm,18.7s,baz=195,slow=40						
	comp=Z,2.2nm,0.6s						
HNS	HongShan	18.34	343	⇑P	Pn	11 21 14.4	+2.8
HNS				PP	sP	11 21 24.9	-0.1
HNS				S	S	11 24 39.1	+0.2
HNS				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HNS				LR	LR		
	comp=N,110nm,13.7s						
HNS				LR	LR		
	comp=E,120nm,14.1s						
HNS				LR	LR		
	comp=Z,120nm,17.5s						
KS19	Wonju Array Si	18.34	16	P	P	11 21 11.2	-0.2
PZH	PanZhiHua	19.23	293	P	Pn	11 21 23.8	+1.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.8s						
SBUM	Sibu	19.61	209	P	P	11 21 26.4	+0.8
JCJ	Chichijima	20.27	66	LR	LR	11 28 03.5	
	comp=Z,93nm,21.6s,baz=119,slow=33						
BJT	Baijiatuau	20.49	348	P	P	11 21 35.0	+0.1
BJI	Beijing	20.51	348	P	P	11 21 35.0	-0.1
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,49nm,4.3s						
BJI				LR	LR		
	comp=N,60nm,13.7s						
BJI				LR	LR		
	comp=E,45nm,17.2s						
BJI				LR	LR		
	comp=Z,62nm,19.1s						
INU	Inuyama	20.56	39		Pn	11 21 37.8	-0.4
INU				IAmb	IAmb	11 21 41.5	
	comp=Z,13nm,0.9s						
JGF	Kuroka	20.94	39	P	P	11 21 40.8	+0.9
JHJ	Hachijo jima 2	20.94	48	LR	LR	11 28 14.7	
	comp=Z,76nm,21.4s,baz=294,slow=32						
CHTO	Chiang Mai	21.26	271		P	11 21 42.6	-0.9
CM31	Chiang Mai Arr	21.31	270	P	P	11 21 44.1	+0.1
CMAR	Chiang Mai Arr	21.31	270	P	P	11 21 44.1	+0.1
CMAR	Chiang Mai Arr	21.31	270	P	P	11 21 44.6	+0.6
	comp=Z,1.5nm,0.6s,baz=66,slow=9.7,SNR=13						
CMAR				LR	LR	11 30 23.2	
	comp=Z,94nm,19.4s,baz=285,slow=38						
	comp=Z,1.5nm,0.6s						
KSM	Kuching	21.37	212	P	P	11 21 44.6	0.0
MJAR	Matsushiro Arr	22.09	38	P	P	11 21 52.1	-0.1
	comp=Z,2.0nm,0.8s,baz=223,slow=7.9,SNR=12						
	comp=Z,2.0nm,0.8s						
LZH	Lanzhou	22.29	320	eP	P	11 21 54.3	-0.2
LZH				sP	pP	11 22 01.3	-2.3
LZH				S	S	11 25 59.3	+1.9
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC	Hu-ho-hao-te	22.46	340	eP	P	11 21 56.8	+0.6
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,76nm,4.7s						
HHC				LR	LR		
	comp=N,170nm,12.2s						
HHC				LR	LR		
	comp=E,110nm,13.8s						
HHC				LR	LR		
	comp=Z,150nm,15.3s						
GUMO	Guam	23.28	102	LR	LR	11 31 13.0	
	comp=Z,62nm,19.4s,baz=281,slow=37						
JMM	Marumori	24.50	39	P	P	11 22 16.3	+0.3
FAKI	Fak Fak	25.10	154	P	P	11 22 19.5	-2.1
FAKI				IAmb	IAmb	11 22 42.1	
	comp=Z,12nm,1.0s						
USRK	Ussuriysk Ar.	25.71	18	P	P	11 22 25.6	-1.3
	comp=Z,3.5nm,0.6s,baz=213,slow=7.8,SNR=5.7						
	comp=Z,3.5nm,0.6s						
JTM	Tenmabayashi	26.66	35	P	P	11 22 35.4	-0.1
ERM	Erimo	28.64	35	P	P	11 22 54.9	+1.7
ERM				IAmb	IAmb	11 23 20.1	
	comp=Z,14nm,1.1s						
JAY	Jayapura	29.27	138	LR	LR	11 32 32.4	
	comp=Z,58nm,21.3s,baz=352,slow=32						
ASAJ	Asahikawa	29.84	31	LR	LR	11 35 47.2	
	comp=Z,63nm,20.9s,baz=270,slow=38						
JKA	Kamikawa-asahi	29.84	31	P	P	11 23 03.1	-0.8
KLR	Kul'dur	30.34	13	LR	LR	11 37 23.7	
	comp=Z,55nm,18.3s,baz=176,slow=40						
SONM	Songino Array	30.36	340	P	P	11 23 09.5	+1.0
	comp=Z,0.7nm,0.5s,baz=155,slow=8.5,SNR=3.7						
	comp=Z,0.7nm,0.5s						
MTN	Manton Dam	33.97	163	P	P	11 23 39.2	-1.1
MTN				IAmb	IAmb	11 23 55.7	
	comp=Z,9.5nm,1.3s						
KNRA	Kununurra	36.15	168	P	P	11 23 58.4	-0.7
WMQ	Urumqi	36.84	318	eP	P	11 24 06.8	+1.9
FITZ	Fitzroy Crossi	38.06	174	P	P	11 24 15.1	-0.1
WB0	Warramunga Arr	41.48	161	P	P	11 24 42.9	-0.8
WB0				IAmb	IAmb	11 24 45.1	
	comp=Z,5.5nm,0.8s						
MKAR	Makanchi Array	41.60	319	P	P	11 24 43.4	-1.1
	comp=Z,1.8nm,0.8s,baz=118,slow=9.8,SNR=7.5						
MKAR				PcP	PcP	11 26 40.5	-0.6
	comp=Z,0.3nm,0.6s,baz=122,slow=5.4,SNR=2.0						
	comp=Z,1.8nm,0.8s						
WRA	Warramunga Arr	41.63	162	P	P	11 24 44.0	-1.0
WRA	Warramunga Arr	41.63	162	P	P	11 24 44.9	0.0
	comp=Z,5.4nm,0.8s,baz=342,slow=9.0,SNR=32						
WRA				PcP	PcP	11 26 42.8	+1.3
	comp=Z,0.4nm,0.7s,baz=340,slow=3.4,SNR=2.0						
WRA				S	S	11 30 55.8	-3.0
	comp=Z,1.2nm,0.9s,baz=340,slow=16,SNR=5.2						
	comp=Z,5.4nm,0.8s						
MAKZ	Makanchi	41.80	319	P	P	11 24 46.6	+0.4
H11S3	WAKE ISLAND Hy	42.64	84	T	T	12 10 40.6	
	baz=279,slow=75,SNR=9.6						
H11N1	WAKE ISLAND Hy	42.64	82	T	T	12 10 38.5	
	baz=278,slow=75,SNR=11						
H11N2	WAKE ISLAND Hy	42.64	82	T	T	12 10 43.1	
	baz=278,slow=75,SNR=9.6						
H11S1	WAKE ISLAND Hy	42.65	84	T	T	12 10 30.2	
	baz=279,slow=75,SNR=8.1						
H11N3	WAKE ISLAND Hy	42.66	82	T	T	12 10 22.5	
	baz=278,slow=75,SNR=8.1						
H11S2	WAKE ISLAND Hy	42.66	84	T	T	12 10 26.9	
	baz=279,slow=75,SNR=8.3						
GIRL	Giralia	42.94	190	P	P	11 24 57.1	+1.6
PEA0B	Petropavlovsk-	43.26	31	P	P	11 24 58.0	+0.1
PETK	Petropavlovsk-	43.26	31	P	P	11 24 57.8	-0.1
PETK	Petropavlovsk-	43.26	31	P	P	11 24 57.6	-0.3
	comp=Z,3.9nm,0.7s,baz=228,slow=3.5,SNR=16						
	comp=Z,3.9nm,0.7s						
ZAA0	Zalesovo Array	43.94	329	P	P	11 25 03.8	+0.4
ZALV	Zalesovo Beam	43.94	329	P	P	11 25 03.4	0.0
	comp=Z,1.1nm,0.5s,baz=127,slow=6.8,SNR=5.5						
	comp=Z,1.1nm,0.5s						
AS31	Alice Springs	45.04	164	P	P	11 25 13.3	+0.8
ASAR	Alice Springs	45.04	164	P	P	11 25 12.9	+0.4
ASAR	Alice Springs	45.04	164	P	P	11 25 13.4	+0.9
	comp=Z,1.7nm,0.4s,baz=344,slow=6.7,SNR=104						
ASAR				S	S	11 31 51.0	+2.2
	comp=Z,0.6nm,1.0s,baz=351,slow=17,SNR=4.1						
	comp=Z,1.7nm,0.4s						
AAK	Ala-Archa	45.34	311	LR	LR	11 46 38.5	
	comp=Z,87nm,19.6s,baz=46,slow=39						
KURBB	Kurchatov Arra	45.54	323	P	P	11 25 16.6	+0.5
	comp=Z,0.9nm,0.3s,baz=126,slow=7.0,SNR=5.5						
	comp=Z,0.9nm,0.3s						
FORT	Forrest	50.86	173	P	P	11 25 58.1	+0.8
BVAR	Borovoye Array	51.12	323	P	P	11 25 59.7	+0.5
	comp=Z,0.8nm,0.6s,baz=134,slow=13,SNR=4.8						
BVAR				PcP	PcP	11 27 13.1	-1.3
	comp=Z,0.6nm,0.6s,baz=69,slow=4.9,SNR=3.6						
	comp=Z,0.8nm,0.6s						
TIXI	Tiksi	51.87	3	P	P	11 26 04.0	-0.3
TIXI				IAmb	IAmb	11 26 10.3	
	comp=Z,6.1nm,1.1s						
NRIK	Noril'sk	53.52	346	P	P	11 26 16.8	+0.1
NRIK				IAmb	IAmb	11 26 18.0	
	comp=Z,6.2nm,0.8s						
NRIK	Noril'sk	53.52	346	P	P	11 26 15.8	-0.9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,5.1nm,0.6s,baz=125,slow=6.5,SNR=4.7						
	comp=Z,5.1nm,0.6s						
STKA	Stephens Creek	55.05	159	P	P	11 26 27.1	-1.1
	comp=Z,1.4nm,0.7s,baz=338,slow=3.8,SNR=3.0						
	comp=Z,1.4nm,0.7s						
BILL	Bilibino	55.56	19	P	P	11 26 32.1	+0.6
BILL				IAmb	IAmb	11 26 32.9	
	comp=Z,4.0nm,0.7s						
AB31	Akbulak array	56.60	316	P	P	11 26 39.5	+0.3
ABKAR	Akbulak array	56.60	316	P	P	11 26 39.3	0.0
SPIA	Saint Paul Isl	61.69	35	P	P	11 27 14.4	+0.1
	baz=263						
P08K	Saint George I	62.01	36	P	P	11 27 16.8	+0.4
	baz=264						
GAMB	Gambell	62.06	28	P	P	11 27 16.4	-0.3
	baz=258						
NIKH	Nikolski High	62.11	40	P	P	11 27 17.6	+0.4
	baz=266						
TNA	Tin City	63.99	26	P	P	11 27 30.3	+0.9
TNA				IAmb	IAmb	11 27 50.8	
	comp=Z,3.1nm,1.2s						
TNA	Tin City	63.99	26	P	P	11 27 29.9	+0.5
	baz=261						
M11K	Mekoryuk	64.13	32	P	P	11 27 31.2	+0.8
	baz=265						
F14K	Arctic Creek	64.63	26	P	P	11 27 33.7	0.0
	baz=262						
ANM	Nome	64.92	27	P	P	11 27 37.5	+1.9
ANM	Nome	64.92	27	P	P	11 27 36.3	+0.7
	baz=264						
K13K	Kusilvak Mount	65.00	30	P	P	11 27 37.2	+1.1
	baz=266						
F15K	North Star Dit	65.35	26	P	P	11 27 39.0	+0.6
F15K				IAmb	IAmb	11 27 40.6	
	comp=Z,3.6nm,1.1s						
F15K	North Star Dit	65.35	26	P	P	11 27 39.2	+0.8
	baz=264						
FALS	False Pass	65.38	38	P	P	11 27 39.1	+0.5
	baz=270						
C16K	Lisburne Hills	65.40	23	P	P	11 27 39.4	+0.8
C16K				IAmb	IAmb	11 27 40.4	
	comp=Z,2.9nm,0.8s						
C16K	Lisburne Hills	65.40	23	P	P	11 27 39.0	+0.4
	baz=262						
G15K	Niukluk	65.54	27	P	P	11 27 40.2	+0.7
	baz=265						
M13K	Dall Lake	65.54	32	P	P	11 27 40.4	+0.8
	baz=268						
J14K	Nanvaranak Lak	65.57	29	P	P	11 27 40.5	+0.7
	baz=266						
L14K	Kuka Creek	65.91	31	P	P	11 27 43.1	+1.1
L14K	Kuka Creek	65.91	31	P	P	11 27 43.0	+1.1
	baz=268						
S12K	Black Hills	66.15	37	P	P	11 27 43.9	+0.2
	baz=271						
D17K	Noatak River	66.17	24	P	P	11 27 43.8	+0.2
	baz=264,SNR=12						
M14K	Bethel	66.24	31	P	P	11 27 44.9	+0.8
	baz=269						
G16K	Koyuk River	66.28	26	P	P	11 27 45.3	+1.0
	baz=266						
H16K	Elim	66.28	27	P	P	11 27 45.4	+1.1
	baz=267						
N14K	Kuskokwak Cree	66.36	32	P	P	11 27 45.9	+1.0
	baz=269						
K15K	Wolf Creek Mou	66.49	30	P	P	11 27 46.8	+1.1
	baz=268						
L15K	Ungalak Mounta	66.49	30	P	P	11 27 46.6	+0.9
	baz=269						
O14K	Tigyukauivet M	66.57	33	P	P	11 27 47.3	+1.1
	baz=270						
E17K	Hotham Inlet	66.61	25	P	P	11 27 47.4	+1.0
	baz=266						
F17K	Baldwin Pennin	66.79	25	P	P	11 27 48.6	+1.1
F17K	Baldwin Pennin	66.79	25	P	P	11 27 48.8	+1.3
	baz=267,SNR=5.3						
B18K	Kokolik River	66.80	22	P	P	11 27 48.9	+1.3
	baz=265,SNR=10						
M15K	Kasigluk River	66.86	32	P	P	11 27 49.8	+1.6
	baz=270						
I17K	Unalakleet	66.92	28	P	P	11 27 49.2	+0.8
	baz=268						
J16K	Anvik River	66.94	29	P	P	11 27 49.5	+0.9
	baz=269						
C18K	Utukok River	66.96	23	P	P	11 27 49.4	+0.7
C18K				IAmb	IAmb	11 27 50.5	
	comp=Z,2.6nm,0.8s						
C18K	Utukok River	66.96	23	P	P	11 27 49.6	+0.8
	baz=266						
G17K	Kiwalik Mounta	66.99	26	P	P	11 27 49.8	+0.9
	baz=268,SNR=5.7						
SDPT	Sand Point	67.06	37	P	P	11 27 50.9	+1.5
	baz=272						
E18K	Tukpahlearik C	67.10	24	P	P	11 27 50.7	+1.2
E18K				IAmb	IAmb	11 27 52.5	
	comp=Z,3.5nm,0.8s						
E18K	Tukpahlearik C	67.10	24	P	P	11 27 50.7	+1.2
	baz=267,SNR=6.5						
A19K	Wainwright	67.12	21	P	P	11 27 50.4	+0.8
	baz=265						
N15K	Kwethluk River	67.16	32	P	P	11 27 50.0	0.0
	baz=270						
H17K	Granite Mounta	67.28	27	P	P	11 27 52.0	+1.3
H17K				IAmb	IAmb	11 27 54.4	
	comp=Z,4.2nm,0.8s						
H17K	Granite Mounta	67.28	27	P	P	11 27 51.7	+1.0
	baz=269						
O15K	Ungalikthiuk R	67.31	33	P	P	11 27 51.2	+0.2
	baz=271						
F18K	Selawik	67.44	25	P	P	11 27 52.7	+1.1
	baz=268,SNR=9.6						
L16K	Owhat River	67.45	30	P	P	11 27 52.7	+0.9
	baz=270						
S14K	Fog Glacier	67.54	36	P	P	11 27 53.3	+0.6
	baz=272						
CHNA	Chernabura Isl	67.59	38	P	P	11 27 53.5	+0.7
	baz=273						
J17K	VABM Dome	67.63	29	P	P	11 27 54.0	+1.1
J17K	VABM Dome	67.63	29	P	P	11 27 53.4	+0.4
	baz=270						
M16K	Timber Creek	67.71	31	P	P	11 27 53.5	0.0
	baz=271						
N16K	Nishlik Lake	67.81	32	P	P	11 27 54.5	+0.3
	baz=272						
G18K	Tagagawik	67.83	26	P	P	11 27 54.8	+0.6
G18K				IAmb	IAmb	11 27 57.5	
	comp=Z,2.9nm,0.8s						
G18K	Tagagawik	67.83	26	P	P	11 27 54.8	+0.6
	baz=269						
H18K	Honhosa River	67.94	27	P	P	11 27 55.1	+0.2
	baz=270						
K17K	Iditarod	67.99	29	P	P	11 27 55.8	+0.6
	baz=271						
L17K	Donlin	68.00	30	P	P	11 27 55.8	+0.5
	baz=271						
D19K	Kuna River	68.08	23		P	11 27 56.8	+1.1
D19K				IAmb	IAmb	11

A21K	Barrow baz=269	68.66	20	P	P	11 27 59.7 +0.5
O17K	Koliganek Bris baz=273	68.68	32	P	P	11 27 59.8 +0.3
J18K	Innoko River baz=272	68.69	29	P	P	11 27 59.8 +0.1
H19K	Roundabout Mou	68.74	26	P	P	11 28 01.0 +1.2
H19K	Roundabout Mou baz=272,SNR=7.8	68.74	26	P	P	11 27 59.8 0.0
L18K	Granite Mounta baz=273	68.75	30	P	P	11 28 00.3 +0.3
E20K	Nigu River baz=271,SNR=10.0	68.80	23	P	P	11 28 00.2 -0.1
Q16K	King Salmon baz=274	68.97	34	P	P	11 28 01.2 -0.2
F20K	Avaraart Lake F20K comp=Z,2.3nm,0.7s	69.00	25	P IAmb	P IAmb	11 28 02.5 +1.1 11 28 03.5
F20K	Avaraart Lake baz=272	69.00	25	P	P	11 28 01.6 +0.2
TTA	Tatalina TTA comp=Z,3.5nm,0.6s	69.03	29	P IAmb	P IAmb	11 28 02.9 +1.0 11 28 03.7
TTA	Tatalina baz=273	69.03	29	P	P	11 28 02.1 +0.3
P17K	Kvichak River baz=274	69.05	33	P	P	11 28 02.0 +0.1
J19K	Poorman baz=273	69.16	28	P	P	11 28 02.9 +0.4
A22K	Sinclair Lake baz=271	69.19	20	P	P	11 28 03.0 +0.5
M18K	Stony River baz=274	69.20	31	P	P	11 28 02.9 +0.1
N18K	Kilae Creek baz=274	69.22	31	P	P	11 28 02.7 -0.3
C21K	Knifeblade Rid baz=272	69.29	22	P	P	11 28 03.7 +0.4
B21K	Ikpikpuk River B21K comp=Z,5.0nm,0.8s	69.34	22	P IAmb	P IAmb	11 28 04.6 +1.1 11 28 06.2
B21K	Ikpikpuk River baz=272	69.34	22	P	P	11 28 04.2 +0.7
H20K	Anotleneega Mo baz=273,SNR=5.4	69.40	26	P	P	11 28 04.2 +0.3
Q17K	Contact Creek baz=275	69.41	34	P	P	11 28 04.8 +0.5
I20K	Naaghedeneel baz=274	69.61	27	P	P	11 28 06.0 +0.8
E21K	Killik River baz=273	69.61	23	P	P	11 28 06.0 +0.7
L19K	White Mountain	69.61	30	P	P	11 28 06.5 +1.1
L19K	White Mountain baz=274	69.61	30	P	P	11 28 05.8 +0.4
O18K	Koktuh Hills baz=275	69.62	32	P	P	11 28 05.8 +0.3
P18K	Big Mountain, baz=275	69.65	33	P	P	11 28 05.3 -0.4
B22K	Teshekpuk Lake B22K comp=Z,2.9nm,0.8s	69.72	21	P IAmb	P IAmb	11 28 06.8 +1.0 11 28 07.7
B22K	Teshekpuk Lake baz=272	69.72	21	P	P	11 28 06.1 +0.3
CHIR	Chirikof Islan baz=276	69.78	37	P	P	11 28 06.2 -0.3
J20K	Nowinta River	69.79	28	P	P	11 28 07.8 +1.4
J20K	Nowinta River baz=274,SNR=5.0	69.79	28	P	P	11 28 06.2 -0.2
Q18K	Katmai Hardscr baz=275	69.83	34	P	P	11 28 06.8 -0.1
M19K	Big River Lodg baz=275	69.85	30	P	P	11 28 06.9 +0.1
F21K	Alatna River	69.86	24	P	P	11 28 07.4 +0.6
F21K	Alatna River baz=274	69.86	24	P	P	11 28 07.1 +0.3
K20K	Telida baz=274	69.89	29	P	P	11 28 07.6 +0.6
G21K	Allakaket G21K comp=Z,2.9nm,0.8s	69.90	25	P IAmb	P IAmb	11 28 08.1 +1.0 11 28 09.1
G21K	Allakaket baz=274	69.90	25	P	P	11 28 07.4 +0.4
N19K	Bonanza Creek baz=275	69.90	31	P	P	11 28 07.5 +0.2
O19K	Port Alsworth baz=275	70.04	32	P	P	11 28 08.4 +0.5
L20K	Farewell, AK baz=275	70.04	29	P	P	11 28 08.8 +0.8
D22K	Ayikyak River D22K comp=Z,3.3nm,0.8s	70.06	23	P IAmb	P IAmb	11 28 09.2 +1.2 11 28 10.2
D22K	Ayikyak River baz=274	70.06	23	P	P	11 28 08.6 +0.6
R18K	Karluk baz=276	70.23	35	P	P	11 28 10.0 +0.8
H21K	Melozitna Rive baz=275	70.25	26	P	P	11 28 09.8 +0.6
F22K	John River baz=275	70.35	24	P	P	11 28 10.3 +0.5
E22K	Anaktuvuk Pass E22K comp=Z,2.7nm,0.7s	70.43	23	IAmb	P IAmb	11 28 11.3 +1.0 11 28 12.3
E22K	Anaktuvuk Pass baz=275	70.43	23	P	P	11 28 11.0 +0.7
M20K	Styx River baz=276	70.45	30	P	P	11 28 10.9 +0.3
SII	Sitkinak Islan baz=277	70.49	36	P	P	11 28 10.6 -0.3
Q19K	Cape Douglas, baz=276	70.51	33	P	P	11 28 10.7 -0.2
I21K	Tanana baz=276	70.63	27	P	P	11 28 11.0 -0.5
P19K	Oil Pt baz=276	70.64	32	P	P	11 28 11.2 -0.5
G22K	Bettles baz=276	70.66	25	P	P	11 28 12.2 +0.5
C23K	Itkillik River baz=275	70.72	22	P	P	11 28 12.4 +0.5
CAST	Castle Rocks	70.77	28		P	11 28 13.5 +1.1
CAST	Castle Rocks baz=276	70.77	28	P	P	11 28 12.9 +0.4
D23K	Nanushuk River D23K comp=Z,4.5nm,0.8s	70.78	22	P IAmb	P IAmb	11 28 13.5 +1.2 11 28 14.8
D23K	Nanushuk River baz=276	70.78	22	P	P	11 28 12.9 +0.5
PPLA	Purkeypile baz=276	70.78	29	P	P	11 28 13.0 +0.4
H22K	Ishtalitna Cre baz=276	70.81	26	P	P	11 28 13.1 +0.5
OHAK	Old Harbor baz=277	70.90	35	P	P	11 28 13.4 +0.1
SPCR	Spurr Chakacha baz=277	70.96	31	P	P	11 28 13.5 -0.2
COLD	Coldfoot baz=277	71.14	24	P	P	11 28 14.3 -0.3
BPAW	Bear Paw Mtn. baz=277	71.18	28	P	P	11 28 14.4 -0.5
SKT	Skwentna baz=277	71.19	30	P	P	11 28 14.6 -0.4
KDAK	Kodiak Island baz=278	71.20	34	P	P	11 28 15.2 +0.1
TOLK	Toolik Lake Re TOLK comp=Z,2.9nm,0.7s	71.21	23	P IAmb	P IAmb	11 28 15.9 +0.9 11 28 17.7
TOLK	Toolik Lake Re baz=277	71.21	23	P	P	11 28 15.2 +0.1
E23K	Chandalar baz=277	71.26	23	P	P	11 28 14.8 -0.6
G23K	Bananza Creek G23K comp=Z,5.1nm,1.4s	71.27	25	P IAmb	P IAmb	11 28 16.2 +0.8 11 28 20.4
G23K	Bananza Creek baz=277	71.27	25	P	P	11 28 14.9 -0.5
C24K	Franklin Bluff C24K comp=Z,4.3nm,0.9s	71.39	22	P IAmb	P IAmb	11 28 16.9 +0.9 11 28 19.5
C24K	Franklin Bluff baz=277	71.39	22	P	P	11 28 16.0 0.0
D24K	Happy Valley baz=277	71.42	22	P	P	11 28 16.8 +0.5
TRF	Thorofare Moun baz=278	71.57	28	P	P	11 28 17.8 +0.4
H23K	Yukon River H23K comp=Z,5.0nm,0.8s	71.57	26	P IAmb	P IAmb	11 28 18.8 +1.6 11 28 20.2
H23K	Yukon River baz=278	71.57	26	P	P	11 28 17.6 +0.3
SUA	Susitna One baz=278	71.63	30	P	P	11 28 18.0 +0.2
E24K	Your Creek baz=278	71.68	23	P	P	11 28 18.2 +0.3
I23K	Minto, Yukon-K I23K comp=Z,6.6nm,1.5s	71.74	26	P IAmb	P IAmb	11 28 19.2 +1.0 11 28 42.0
M22K	Willow baz=278	71.88	30	P	P	11 28 18.9 -0.2
NEA2	Nenana NEA2 comp=Z,5.7nm,0.8s	71.94	27	P IAmb	P IAmb	11 28 19.8 +0.3 11 28 21.4
NEA2	Nenana baz=278	71.94	27	P	P	11 28 19.9 +0.5
F24K	Squaw Lake F24K comp=Z,3.8nm,0.7s	71.98	24	P IAmb	P IAmb	11 28 21.0 +1.3 11 28 22.6
F24K	Squaw Lake baz=279	71.98	24	P	P	11 28 19.5 -0.2
MCK	McKinley baz=279	72.13	28	P	P	11 28 20.5 -0.2
RC01	Rabbit Creek A baz=279	72.17	31	P	P	11 28 20.5 -0.4
RND	Reindeer	72.21	28	P	P	11 28 20.8 -0.4
H24K	Noodor Dome baz=279	72.25	26	P	P	11 28 21.2 -0.2
D25K	Kavik River baz=279	72.26	22	P	P	11 28 21.8 +0.4
O22K	Cooper Landing baz=279	72.27	31	P	P	11 28 21.7 +0.2
G24K	Hadweenzic Riv baz=279	72.27	25	P	P	11 28 21.9 +0.5
COLA	College baz=279	72.41	27	P	P	11 28 23.0 +0.8
SEW	Seward baz=280	72.46	32	P	P	11 28 22.7 +0.1
POKR	Poker Plat Res baz=280	72.55	26	P	P	11 28 23.2 +0.1
C26K	Camden Bay baz=280	72.66	21	P	P	11 28 24.2 +0.5
SML	Sawmill baz=280	72.72	30	P	P	11 28 24.4 +0.2
KNK	Knik Glacier baz=280	72.72	30	P	P	11 28 24.7 +0.5
E25K	Arctic Village baz=280	72.75	23	P	P	11 28 24.9 +0.6
G25K	Bearman Lake baz=280	72.80	25	P	P	11 28 25.1 +0.6
F25K	Christian Rive	72.82	24		P	11 28 25.9 +1.2
F25K	Christian Rive baz=281	72.82	24	P	P	11 28 25.1 +0.4
ILAR	Eielson Array comp=Z,0.9nm,0.7s,baz=268,slow=4.4,SNR=15 comp=Z,0.9nm,0.7s	72.84	27	P	P	11 28 24.0 -0.8
HDA	Harding Lake baz=280	72.88	27	P	P	11 28 24.6 -0.5
PWL	Port Wells baz=280	72.88	31	P	P	11 28 24.6 -0.5
M23K	Glacier View baz=280	73.00	30	P	P	11 28 25.9 0.0
C27K	Jago River baz=282	73.13	21	P	P	11 28 25.9 -0.5
SCM	Sheep Creek Mo baz=281	73.18	30	P	P	11 28 26.9 0.0
PRP	Porcupine Dome baz=281	73.26	26	P	P	11 28 27.2 -0.3
F26K	Sheenjek River baz=282	73.36	23	P	P	11 28 27.7 -0.3
GLI	Glacier Island baz=281	73.47	31	P	P	11 28 28.2 -0.4
P23K	Montague Islan baz=281	73.49	32	P	P	11 28 27.3 -1.4
K24K	Donnelly Dome baz=282	73.50	28	P	P	11 28 28.1 -0.6
J25K	Salcha River, baz=282	73.51	27	P	P	11 28 27.7 -1.1
SPITS	Spitsbergen Ar comp=Z,8.6nm,0.9s,baz=284,slow=3.4,SNR=4.6 comp=Z,8.6nm,0.9s	73.63	348	P	P	11 28 29.4 +0.1
G26K	Porcupine Rive G26K comp=Z,2.6nm,0.7s	73.66	24	IAmb	P IAmb	11 28 30.3 +0.7 11 28 31.8
G26K	Porcupine Rive baz=282	73.66	24	P	P	11 28 29.7 +0.2
M24K	Tolsona, Glenn baz=282	73.66	29	P	P	11 28 29.9 +0.1
PAX	Paxson baz=282	73.80	28	P	P	11 28 30.7 +0.1
KLU	Klutina baz=282	73.90	30	P	P	11 28 31.2 0.0
RIDG	Independent Ri baz=282	73.91	28	P	P	11 28 31.5 +0.2
HARP	HAARP baz=282	74.06	29	P	P	11 28 32.4 +0.3
D27M	Malcolm River baz=284	74.16	22	P	P	11 28 32.9 +0.3
EYAK	Cordova Ski Ar baz=282	74.19	31	P	P	11 28 33.1 +0.3
E27K	Coleen River baz=284	74.19	23	P	P	11 28 32.4 -0.4
SCRK	Sand Creek SCRK comp=Z,2.2nm,0.6s	74.23	27	P IAmb	P IAmb	11 28 33.4 +0.2 11 28 34.6
SCRK	Sand Creek baz=283	74.23	27	P	P	11 28 32.5 -0.7
I26K	Coal Creek Min baz=283	74.28	26	P	P	11 28 33.6 +0.3
J26L	Joseph Creek baz=283	74.29	27	P	P	11 28 32.6 -0.8
N25K	Chitina, Valde baz=283	74.50	30	P	P	11 28 35.4 +0.7
G27K	Doyon Strip baz=284	74.51	24	P	P	11 28 35.5 +0.9
BMRM	Bremner River baz=283	74.64	30	P	P	11 28 36.2 +0.7
H27K	Steamboat Moun baz=285	74.70	25	P	P	11 28 37.0 +1.2
L26K	Log Cabin Wild baz=284	74.73	28	P	P	11 28 36.9 +0.9
E28M	Babbage River	74.82	22	P	P	11 28 37.2 +0.9
E28M	Babbage River baz=286	74.82	22	P	P	11 28 37.3 +0.9
I27K	Kandik River baz=285	74.83	25	P	P	11 28 37.3 +0.8
D28M	Stokes Point baz=286	74.90	21	P	P	11 28 36.7 0.0
KAIM	Kayak Island baz=284	74.97	31	P	P	11 28 38.1 +0.7
K27K	Chicken K27K comp=Z,2.8nm,0.7s	75.04	27	P IAmb	P IAmb	11 28 38.2 +0.5 11 28 39.7
K27K	Chicken baz=285	75.04	27	P	P	11 28 38.4 +0.8
M26K	Nabesna, AK baz=284	75.04	29	P	P	11 28 39.2 +1.3
FINES	FINESS Array B comp=Z,1.3nm,0.7s,baz=33,slow=11,SNR=5.5 comp=Z,1.3nm,0.7s	75.20	330	P	P	11 28 38.4 -0.3
L27K	Beaver Creek, baz=285	75.39	28	P	P	11 28 40.6 +0.8
E29M	Blow River baz=287	75.46	22	P	P	11 28 41.1 +1.0
BGLC	Bering Glacier baz=285	75.48	31	P	P	11 28 40.9 +0.7
I28M	Miner Creek	75.54	25		P	11 28 41.5 +0.8
I28M	Miner Creek baz=286	75.54	25	P	P	11 28 41.6 +0.8
M27K	Edge Creek, AK baz=285	75.56	29	P	P	11 28 40.7 -0.1
G29M	Pine Creek G29M comp=Z,11nm,1.4s	75.86	24	P IAmb	P IAmb	11 28 43.2 +0.8 11 28 57.5
G29M	Pine Creek baz=288	75.86	24	P	P	11 28 42.9 +0.5
H29M	Whitestone baz=287	75.94	24	P	P	11 28 43.6 +0.8
BVCY	Beaver Creek baz=286	76.00	28	P	P	11 28 43.9 +0.7
MESA	MESA baz=286	76.11	31	P	P	11 28 44.4 +0.2
DAWY	Dawson baz=287	76.16	27	P	P	11 28 44.5 +0.3
AKASG	Malin Array Be comp=Z,39nm,19.3s,baz=184,slow=38	76.19	319	LR	LR	12 04 54.8
YUK3	Moose Creek baz=287	76.36	29	P	P	11 28 45.8 +0.2
F30M	Barrier River	76.47	23		P	11 28 46.5 +0.7
F30M	Barrier River baz=289	76.47	23	P	P	11 28 46.4 +0.7
G30M	tAoh Zraii Nji baz=289	76.51	23	P	P	11 28 46.9 +0.8
EPYK	Eagle Plains baz=289	76.53	24	P	P	11 28 46.8 +0.6
J29N	Klondike Camp baz=288	76.54	26	P	P	11 28 47.3 +1.0
YUK8	Steele Glacier baz=287	76.82	29	P	P	11 28 49.2 +0.9
PINM	Pinnacle baz=287	76.95	31	P	P	11 28 48.8 0.0
L29M	L29M baz=288	76.99	27	P	P	11 28 48.5 -0.4
K29M	Barlow Dome baz=289	77.02	27	P	P	11 28 49.0 -0.1
INK	Inuvik baz=291	77.02	22	P	P	11 28 49.4 +0.6
I30M	Mount Dempster baz=289	77.03	25	P	P	11 28 49.4 +0.2
M29M	Somme Creek	77.06	28		P	11 28 51.1 +1.7
M29M	Somme Creek baz=288	77.06	28	P	P	11 28 49.3 0.0
G31M	Satah River baz=291	77.25	23	P	P	11 28 50.0 -0.2
F31M	Tsiigehtchic F31M comp=Z,4.1nm,0.6s	77.26	22	IAmb	P IAmb	11 28 50.3 +0.1 11 28 51.3
F31M	Tsiigehtchic baz=291	77.26	22	P	P	11 28 50.2 0.0
J30M	Hart River baz=290	77.27	26	P	P	11 28 50.0 -0.6
YUK4	Talbot Arm baz=288	77.32	29	P	P	11 28 50.9 0.0
PNL	Peninsula baz=288	77.49	31	P	P	11 28 52.1 +0.4
YUK6	Outpost Mounta baz=289	77.58	29	P	P	11 28 51.6 -0.9
H31M	Peel River baz=291	77.63	24	P	P	11 28 52.9 +0.5
O29M	Mount Kennedy baz=289	77.68	30	P	P	11 28 53.1 +0.2
M30M	Minto, Yukon baz=290	77.75	28	P	P	11 28 53.8 +0.7
N30M	Aishikik Lake baz=290	77.99	29	P	P	11 28 55.2 +0.7
HYT	Haines Junctio baz=289	78.01	29	P	P	11 28 55.2 +0.5
A36M	Sachs Harbour baz=298	78.06	17	P	P	11 28 54.6 0.0
P29M	Windy Craggy baz=289	78.30	31	P	P	11 28 56.5 +0.3
P30M	Million Dollar baz=290	78.50	30	P	P	11 28 57.5 +0.1
N31M	Braeburn, Yuko baz=291	78.57	29	P	P	11 28 58.0 +0.3
O30N	Mendenhall baz=291	78.68	29	P	P	11 28 58.3 -0.1
M31M	Drury Creek, Y baz=292	78.93	28	P	P	11 28 59.6 0.0
WHY	Whitehorse baz=292	79.28	29	P	P	11 29 01.7 +0.1
FARO	Faro, Yukon baz=293	79.37	27	P	P	11 29 02.1 +0.1
SKAG	Skagway baz=291	79.51	30	P	P	11 29 03.0 +0.2
S31K	Pelican baz=291	79.61	32	P	P	11 29 02.9 -0.4
C36M	Paulatuk C36M comp=Z,4.4nm,1.2s	79.68	19	IAmb	P IAmb	11 29 03.2 -0.3 11 29 06.9
P32M	Atlin baz=293	80.22	30	P	P	11 29 07.1 +0.4
R32K	Eaglecrest baz=292	80.34	31	P	P	11 29 07.3 0.0
P33M	Teslin, Yukon baz=293	80.39	29	P	P	11 29 08.0 +0.3
SIT	Sitka baz=292	80.40	33	P	P	11 29 07.4 -0.2
S32K	Killisnoo baz=292	80.62	32	P	P	11 29 08.4 -0.3
Q32M	Nakina River baz=294	81.15	30	P	P	11 29 11.5 -0.4
HFS	Hagfors comp=Z,0.5nm,0.4s,baz=120,slow=6.0,SNR=5.9 comp=Z,0.5nm,0.4s	81.35	331	P	P	11 29 11.3 -1.4
R33M	Jennings River baz=295	81.58	30	P	P	11 29 14.1 0.0
U33K	Whale Pass baz=294	81.89	33	P	P	11 29 14.9 -0.6
NOA	NORSAR Array B comp=Z,0.5nm,0.9s,baz=63,slow=5.3,SNR=2.1 NOA comp=Z,70nm,18.1s,baz=50,slow=39 comp=Z,0.5nm,0.9s	82.05	333	P LR	P LR	11 29 14.8 -1.6 12 09 42.0
WRAK	Wrangell Islan baz=294	82.16	33	P	P	11 29 16.7 -0.3
WTLY	Watson Lake, Y baz=297	82.26	28	P	P	11 29 17.1 -0.5
DLBC	Dease Lake baz=296	82.44	30	P	P	11 29 18.0 -0.5
T35M	Bob Quinn baz=296	82.97	32	P	P	11 29 20.1 -1.2
WRGLY	Wrigley baz=301	82.99	24	P	P	11 29 21.0 -0.1
V35K	Ketchikan baz=295	82.99	33	P	P	11 29 20.9 -0.4
U35K	Hyder baz=296	83.55	32	P	P	11 29 24.0 -0.2
KOTAN	Kotaneelee Air baz=301	84.33	27	P	P	11 29 28.4 +0.2
GERES	GERESS Array B comp=Z,0.1nm,0.3s,baz=82,slow=8.0,SNR=1.8 comp=Z,0.1nm,0.3s	86.25	321	P	P	11 29 39.0 +0.9
YKAW3	Yellowknife Wh YKAW3 comp=Z,2.5nm,0.6s	86.69	23	IAmb	P IAmb	11 29 40.3 +0.4 11 29 41.2
YKA	Yellowknife Ar comp=Z,1.1nm,0.6s,baz=311,slow=4.8,SNR=27 comp=Z,1.1nm,0.6s	86.74	23	P	P	11 29 40.8 +0.8
DAVOX	Davos/Dischmat comp=Z,56nm,19.8s,baz=102,slow=36	89.49	320	LR	LR	12 11 02.7
TXAR	Lajitas Array comp=Z,0.1nm,0.4s,baz=323,slow=2.4,SNR=1.8	114.46	43	PKP	PKiKP	11 35 36.4 -0.4

NEIC ***21*** *11:46:02.9±0.5, 9°.8S±0°.1×161°.23E±0°.06, h83km±8km, mb4.3/12, Error ellipse: s-maj=22.0km s-min=6.0km az=194.0*

IDC ***21*** *11:46:04.5±3.2, 9°.73S×161°.08E, h96km±19km, mb3.7/5, mbtmp4.1/5, Error ellipse: s-maj=41.5km s-min=25.8km az=96.0*

ISC 21 11:46:03.4±0.9, 9°.62S±0°.06×161°.2E±0°.1, h100km, n36, σ1§09/32, mb4.3/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEG	Aligegeo Malai	1.00	329	P	Pn	11 46 22.4	-1.5
ALEG	Aligegeo Malai	1.00	329	S	Sn	11 46 37.0	-2.3
HNR	Honiara	1.26	279		Pn	11 46 25.6	-1.2
HNR				Sn	Sn	11 46 43.0	-1.5
HNR	Honiara 211nm,0.3s,baz=138,slow=7.2,SNR=101	1.26	279	P	Pn	11 46 26.4	-0.4
HNR	1μm,0.3s,baz=168,slow=14,SNR=27			S	Sn	11 46 42.9	-1.6
HNR	Honiara	1.26	279	P	Pn	11 46 26.4	-0.4
SAVO	Savo Central	1.46	289	P	Pn	11 46 29.1	-0.1
TATA	Tatamba Isabel	1.85	311	P	Pn	11 46 33.6	-0.6
TATA	Tatamba Isabel	1.85	311	S	Sn	11 46 56.4	-1.2
NGOA	Tingoa Renbel	2.23	210	P	Pn	11 46 38.8	-0.2
NGOA	Tingoa Renbel	2.23	210	S	Sn	11 47 05.6	-0.6
DZM	Mont Dzumac	13.36	159	Pn	Pn	11 49 06.9	-2.3
MANU	Manus Island MANU comp=Z,12nm,1.1s	15.69	298	P IAmb	Pn IAmb	11 49 40.2 11 49 56.5	+1.2
WR8	Warramunga Arr	27.75	245	P	P	11 51 42.9	-0.1
WR8 comp=Z,12nm,1.4s				IAmb	IAmb	11 52 10.6	
WB0	Warramunga Arr	27.79	246	P	P	11 51 43.4	+0.1
WB0 comp=Z,5.7nm,0.6s				IAmb	IAmb	11 51 44.4	
WRA	Warramunga Arr	27.89	245	P	P	11 51 43.2	-1.0
WRA	Warramunga Arr comp=Z,4.1nm,0.4s,baz=76,slow=8.8,SNR=72 comp=Z,4.1nm,0.4s	27.89	245	P	P	11 51 44.6	+0.4
H11S2	WAKE ISLAND Hy baz=194,slow=76,SNR=15	28.45	11	T	T	12 20 47.0	
H11S3	WAKE ISLAND Hy	28.46	11	T	T	12 20 58.7	

baz=194,slow=76,SNR=13
H11S1 WAKE ISLAND Hy 28.47 11 T T 12 21 00.9
baz=194,slow=76,SNR=16
AS31 Alice Springs 29.58 238 P **P** **11 51 58.7 -0.5**
ASAR Alice Springs 29.58 238 P **P** **11 51 58.7 -0.5**
ASAR Alice Springs 29.58 238 P **P** **11 51 58.8 -0.4**
comp=Z,0.6nm,0.3s,baz=63,slow=10,SNR=26
comp=Z,0.6nm,0.3s
MTN Manton Dam 29.66 261 P **P** **11 52 00.1 +0.2**
MTN IAmb IAmb 11 52 34.0
comp=Z,12nm,1.4s
H11N1 WAKE ISLAND Hy 29.68 11 T T 12 22 32.3
baz=192,slow=76,SNR=16
H11N3 WAKE ISLAND Hy 29.69 11 T T 12 22 32.9
baz=192,slow=76,SNR=18
H11N2 WAKE ISLAND Hy 29.70 11 T T 12 22 44.5
baz=192,slow=76,SNR=24
KNRA Kununurra 32.20 256 P **P** **11 52 22.2 -0.1**
KNRA IAmb IAmb 11 52 27.8
comp=Z,16nm,1.4s
FITZ Fitzroy Crossi 35.49 252 P **P** **11 52 50.2 -0.6**
PSA00 Pilbara Seismi 41.45 248 P **P** **11 53 40.8 +0.1**
MBWA Marble Bar 41.48 249 P **P** **11 53 41.2 +0.3**
MORW Morawa 46.46 239 P **P** **11 54 20.3 -0.3**
KSRS Korea Array 56.26 328 P **P** **11 55 35.3 +1.7**
comp=Z,0.3nm,0.4s,baz=140,slow=6.3,SNR=2.6
comp=Z,0.3nm,0.4s
SONM Songino Array 74.92 325 P **P** **11 57 35.1 +1.4**
SONM IAmb IAmb 11 57 36.4
comp=Z,1.5nm,0.7s
SONM Songino Array 74.92 325 P **P** **11 57 35.3 +1.6**
comp=Z,1.4nm,0.6s,baz=134,slow=5.1,SNR=9.0
comp=Z,1.4nm,0.6s
QSPA South Pole Qui 80.37 180 P **P** **11 58 04.4 +0.7**
QSPA South Pole Qui 80.37 180 P **P** **11 58 04.8 +1.1**
comp=Z,1.2nm,0.7s,baz=252,slow=2.0,SNR=5.4
comp=Z,1.2nm,0.7s

---

*NEIC **21** 11:46:21.4±0.9, 32°.34S±0°.05×70°.28W±0°.07, h120km±7km, mb4.1/5, Error ellipse: s-maj=9.1km s-min=6.0km az=59.0*
*SJA **21** 11:46:21.7±1.1, 32°.30S×70°.03W, h101km±9km, ML3.8, MW3.6*
*GUC **21** 11:46:21.6±0.8, 32°.36S×70°.24W, h125km±3km, ML4.1*
*IDC **21** 11:46:22.6±2.6, 32°.22S×69°.92W, h120km±22km, mb3.4/5, mbtmp3.7/7, Error ellipse: s-maj=35.3km s-min=19.2km az=84.0*
ISC 21 11:46:21.3±0.6, 32°.33S±0°.03×70°.13W±0°.04, h115km±5km, n108, σ1°.03/136, mb3.9/7, 12C-11D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.56**	**219**		**Pn**	**11 46 39.0**	**-0.2**
VA03	**San Esteban**	**0.56**	**219⇓**	*eP*	**Pn**	**11 46 39.2**	**0.0**
VA03				*eS*	**Sn**	**11 46 53.2**	**+0.5**
AUSP	**Uspallata**	**0.64**	**81**	*eP*	**Pn**	**11 46 39.2**	**-0.8**
AUSP				*eS*	**Sn**	**11 46 52.2**	**-1.9**
RTLS	**Leoncito**	**0.89**	**54**	*eP*	**Pn**	**11 46 41.6**	**-0.6**
RTLS				*eS*	**Sn**	**11 46 56.3**	**-1.5**
RTLS				IAML		11 46 57.8	
	comp=Z,9μm,0.2s						
PEL	**Peldehue**	**0.94**	**210**		**Pn**	**11 46 42.2**	**-0.2**
PEL	**Peldehue**	**0.94**	**210⇑**	*iP*	**Pn**	**11 46 42.0**	**-0.4**
PEL				*i* S	**Sn**	**11 46 58.1**	**-0.1**
PEL				IAML		11 46 58.8	
	comp=N,7μm,0.2s						
MT10	**Hacienda Santa**	**1.00**	**200⇓**	*eP*	**Pn**	**11 46 43.5**	**+0.4**
MT10				*eS*	**Sn**	**11 46 59.8**	**+0.2**
MT10				IAML		11 47 01.8	
	comp=N,12μm,0.5s						
FCH	**Farellones**	**1.00**	**187⇓**	*eP*	**Pn**	**11 46 43.6**	**+0.3**
FCH				*eS*	**Sn**	**11 47 01.1**	**+1.1**
FCH				IAML		11 47 04.8	
	comp=E,3μm,0.2s						
VA06	**Catapilco**	**1.01**	**256**		**Pn**	**11 46 42.6**	**-0.4**
VA06	**Catapilco**	**1.01**	**256⇓**	*eP*	**Pn**	**11 46 42.8**	**-0.2**
VA06				*eS*	**Sn**	**11 46 58.2**	**-1.1**
MT04	**Ro Olivares**	**1.07**	**180⇓**	*eP*	**Pn**	**11 46 44.2**	**+0.2**
MT04				*eS*	**Sn**	**11 47 01.2**	**+0.2**
MT04				IAML		11 47 10.9	
	comp=E,1μm,0.2s						
MT14	**Cerro Calan**	**1.12**	**198⇓**	*eP*	**Pn**	**11 46 44.5**	**+0.3**
MT14				*eS*	**Sn**	**11 47 01.3**	**-0.2**
MT14				IAML		11 47 03.6	
	comp=E,5μm,0.5s						
MT08	**Bocatoma Ro**	**1.12**	**175**		**Pn**	**11 46 44.9**	**+0.5**
MT08	**Bocatoma Ro**	**1.12**	**175**	*eP*	**Pn**	**11 46 45.0**	**+0.5**
MT08				*eS*	**Sn**	**11 47 02.8**	**+1.0**
ARCO	**CERRO ARCO**	**1.14**	**117**	*eP*	**Pn**	**11 46 44.3**	**-0.2**
ARCO				*eS*	**Sn**	**11 47 01.1**	**-0.9**
ARCO				IAML		11 47 03.3	
	comp=Z,2μm,0.6s						
MT16	**CCHEN**	**1.14**	**197**		**Pn**	**11 46 44.5**	**0.0**
MT16	**CCHEN**	**1.14**	**197⇓**	*eP*	**Pn**	**11 46 44.8**	**+0.3**
MT16				*eS*	**Sn**	**11 47 02.1**	**0.0**
MT16				IAML		11 47 04.1	
	comp=N,2μm,0.5s						
MT05	**Renca**	**1.18**	**205**		**Pn**	**11 46 45.0**	**+0.3**
MT05	**Renca**	**1.18**	**205⇑**	*eP*	**Pn**	**11 46 45.1**	**+0.3**
MT05				*eS*	**Sn**	**11 47 01.8**	**-0.8**
MT03	**Universidad Ad**	**1.20**	**195**		**Pn**	**11 46 45.3**	**+0.1**
MT03	**Universidad Ad**	**1.20**	**195⇓**	*eP*	**Pn**	**11 46 45.4**	**+0.2**
MT03				*eS*	**Sn**	**11 47 03.0**	**-0.2**
MT03				IAML		11 47 05.7	
	comp=N,8μm,0.3s						
MT02	**Curacav**	**1.25**	**222**		**Pn**	**11 46 45.1**	**-0.5**
MT02	**Curacav**	**1.25**	**222⇑**	*eP*	**Pn**	**11 46 45.4**	**-0.3**
MT02				*eS*	**Sn**	**11 47 03.5**	**-0.6**
MT02				IAML		11 47 06.2	
	comp=E,1μm,0.2s						
MT15	**Las Vizcachas**	**1.30**	**194⇓**	*eP*	**Pn**	**11 46 46.6**	**+0.4**
MT15				*eS*	**Sn**	**11 47 04.6**	**-0.5**
MT15				IAML		11 47 08.0	
	comp=E,6μm,0.2s						
AAGR	**Agrelo**	**1.33**	**125**	*eP*	**Pn**	**11 46 46.6**	**0.0**
AAGR				*eS*	**Sn**	**11 47 04.8**	**-1.0**
AAGR				IAML		11 47 08.7	
	comp=Z,877nm,1.3s						
CO02	**Combarbal**	**1.34**	**326**		**Pn**	**11 46 46.8**	**0.0**
CO02	**Combarbal**	**1.34**	**326⇑**	*eP*	**Pn**	**11 46 47.2**	**+0.4**
CO02				*eS*	**Sn**	**11 47 06.0**	**0.0**
MT13	**San Alfonso**	**1.42**	**185**		**Pn**	**11 46 48.0**	**+0.4**
MT13	**San Alfonso**	**1.42**	**185⇓**	*eP*	**Pn**	**11 46 48.1**	**+0.5**
MT13				*eS*	**Sn**	**11 47 07.1**	**-0.4**
MT13				IAML		11 47 12.9	
	comp=N,2μm,0.3s						
MT12	**Pirque**	**1.44**	**194**	*eP*	**Pn**	**11 46 48.1**	**+0.3**
MT12				*eS*	**Sn**	**11 47 06.7**	**-1.3**
MT12				IAML		11 47 10.5	
	comp=E,4μm,0.3s						
VA01	**Torpederas**	**1.45**	**241**		**Pn**	**11 46 47.1**	**-0.7**
VA01	**Torpederas**	**1.45**	**241⇑**	*eP*	**Pn**	**11 46 47.6**	**-0.2**
VA01				*eS*	**Sn**	**11 47 07.2**	**-0.8**
VA01				IAML		11 47 12.9	
	comp=N,3μm,0.1s						
LMEL	**Las Melosas**	**1.52**	**182**		**Pn**	**11 46 48.9**	**+0.1**
LMEL	**Las Melosas**	**1.52**	**182**	*eP*	**Pn**	**11 46 48.9**	**+0.1**
LMEL				⇑*eS*	**Sn**	**11 47 08.9**	**-0.8**
LMEL				IAML		11 47 15.6	
	comp=N,2μm,0.3s						
CO03	**El Pedregal**	**1.56**	**342**		**Pn**	**11 46 49.6**	**+0.4**
CO03	**El Pedregal**	**1.56**	**342⇑**	*iP*	**Pn**	**11 46 49.8**	**+0.5**
CO03				*i* S	**Sn**	**11 47 11.1**	**+0.7**
CO03				IAML		11 47 13.6	
	comp=E,5μm,0.1s						
MT09	**Talagante**	**1.61**	**206**		**Pn**	**11 46 49.6**	**-0.3**
MT09	**Talagante**	**1.61**	**206⇑**	*eP*	**Pn**	**11 46 49.5**	**-0.3**
MT09				*eS*	**Sn**	**11 47 11.1**	**-0.6**
MT09				IAML		11 47 14.2	
	comp=N,3μm,0.6s						
BO04	**La Punta**	**1.70**	**193**		**Pn**	**11 46 50.9**	**0.0**
BO04	**La Punta**	**1.70**	**193⇑**	*eP*	**Pn**	**11 46 51.0**	**0.0**
BO04				*eS*	**Sn**	**11 47 12.7**	**-0.8**
BO04				IAML		11 47 15.2	
	comp=N,2μm,0.4s						
RTLL	**Cerro Villicun**	**1.73**	**55**	*eP*	**Pn**	**11 46 50.8**	**-0.4**
CFA	**Coronel Fontan**	**1.77**	**66**	P	**Pn**	**11 46 50.2**	**-1.4**
	comp=N,157nm,0.2s,baz=232,slow=10,SNR=1731						
CFA				S	**Sn**	**11 47 12.3**	**-2.5**
	comp=N,293nm,0.3s,baz=135,slow=20,SNR=38						
MT01	**Popeta**	**1.80**	**211**		**Pn**	**11 46 51.2**	**-0.8**
MT01	**Popeta**	**1.80**	**211⇑**	*eP*	**Pn**	**11 46 51.4**	**-0.6**
MT01				*eS*	**Sn**	**11 47 13.9**	**-1.4**
MT01				IAML		11 47 15.6	
	comp=E,1μm,0.1s						
VA05	**Santo Domingo**	**1.82**	**223**		**Pn**	**11 46 51.2**	**-1.0**
VA05	**Santo Domingo**	**1.82**	**223**	*i* P	**Pn**	**11 46 51.7**	**-0.5**
VA05				*i* S	**Sn**	**11 47 14.6**	**-1.2**
VA05				IAML		11 47 23.4	
	comp=N,3μm,0.5s						
CO06	**Fray Jorge**	**2.09**	**322**		**Pn**	**11 46 55.5**	**-0.2**
CO06	**Fray Jorge**	**2.09**	**322**	*eP*	**Pn**	**11 46 55.7**	**0.0**
CO06				*eS*	**Sn**	**11 47 21.3**	**-0.6**
CO06				IAML		11 47 29.9	
	comp=E,1μm,0.2s						
BO01	**Tunca**	**2.21**	**201**		**Pn**	**11 46 56.2**	**-0.9**
BO01	**Tunca**	**2.21**	**201⇓**	*iP*	**Pn**	**11 46 56.5**	**-0.6**
BO01				*eS*	**Sn**	**11 47 22.9**	**-1.7**
BO01				IAML		11 47 25.3	
	comp=E,545nm,0.3s						
BO01				IAML		11 47 27.2	
	comp=N,405nm,0.2s						
GO04	**Tololo Observa**	**2.22**	**345**		**Pn**	**11 46 57.7**	**+0.1**
GO04	**Tololo Observa**	**2.22**	**345**	*eP*	**Pn**	**11 46 57.8**	**+0.1**
GO04				*eS*	**Sn**	**11 47 24.4**	**-1.0**
GO04				IAML		11 47 32.2	
	comp=N,6μm,0.5s						
AROD	**Rodeo**	**2.23**	**15**	*eP*	**Pn**	**11 46 58.8**	**+1.1**
AROD				*eS*	**Sn**	**11 47 27.0**	**+1.4**
ACDV	**Cuesta del Vie**	**2.32**	**22**	*eP*	**Pn**	**11 46 59.5**	**+0.7**
ACDV				*eS*	**Sn**	**11 47 27.0**	**-0.4**
ACDV				IAML		11 47 30.5	
	comp=Z,230nm,0.2s						
CO01	**Juntas del Tor**	**2.34**	**1**		**Pn**	**11 47 00.1**	**+0.9**
CO01	**Juntas del Tor**	**2.34**	**1**	IAML		11 47 36.9	
	comp=N,200nm,0.5s						
BO02	**Sierra Bellavi**	**2.52**	**192**		**Pn**	**11 47 01.1**	**-0.2**
BO02	**Sierra Bellavi**	**2.52**	**192**	*eP*	**Pn**	**11 47 01.0**	**-0.2**
BO02				*eS*	**Sn**	**11 47 30.4**	**-1.4**
BO02				IAML		11 47 33.0	
	comp=N,1μm,0.4s						
CO05	**La Serena**	**2.58**	**338**		**Pn**	**11 47 01.2**	**-0.8**
CO05	**La Serena**	**2.58**	**338⇑**	*eP*	**Pn**	**11 47 01.9**	**-0.1**
CO05				*eS*	**Sn**	**11 47 30.6**	**-2.7**
CO05				IAML		11 47 34.8	
	comp=E,1μm,0.4s						
BO03	**Pichilemu**	**2.65**	**215⇑**	*eP*	**Pn**	**11 47 01.2**	**-1.6**
BO03				*eS*	**Sn**	**11 47 30.5**	**-4.2**
BO03				IAML		11 47 45.8	
	comp=N,284nm,0.3s						
GO05	**Hualane**	**3.06**	**209**	IAML		11 47 46.2	
	comp=E,244nm,0.3s						
AGUA	**GUANDACOL**	**3.17**	**27**	*eP*	**Pn**	**11 47 10.0**	**+0.2**
AGUA				IAML		11 48 05.6	
	comp=Z,129nm,0.4s						
LCO	**Las Campanas**	**3.34**	**351**		**Pn**	**11 47 12.1**	**-0.2**
AC05	**El Transito**	**3.48**	**358**		**Pn**	**11 47 14.1**	**+0.1**
MRA	**San Martin**	**3.74**	**93**	*eP*	**Pn**	**11 47 15.2**	**-2.2**
MRA				IAML		11 48 23.5	
	comp=Z,180nm,0.7s						
VCA	**Vinchina**	**3.95**	**25**	*eP*	**Pn**	**11 47 19.7**	**-0.5**
VCA				IAML		11 48 35.4	
	comp=Z,151nm,0.5s						
AC04	**Llanos de Chal**	**4.19**	**349**		**Pn**	**11 47 22.5**	**-0.8**
BI02	**San Fabin de**	**4.43**	**192**		**Pn**	**11 47 25.3**	**-1.2**
GO03	**Copiapo**	**4.72**	**359**	Pn	**Pn**	**11 47 29.2**	**-1.3**
AC06	**Mina Casimiro**	**4.96**	**358**		**Pn**	**11 47 32.4**	**-1.3**
BI05	**Punta Hualpn**	**5.08**	**209**		**Pn**	**11 47 32.4**	**-2.9**
AC02	**Maricunga**	**5.54**	**9**		**Pn**	**11 47 41.0**	**-1.0**
AC01	**Pan de Azucar**	**6.17**	**356**	Pn	**Pn**	**11 47 46.9**	**-3.2**
H03N1	**Juan Fernandez**	**7.47**	**259**	P	**Pn**	**11 48 08.4**	**+1.2**
	baz=170,slow=10,SNR=18						
H03N1				T	T	11 55 00.1	
	baz=83,slow=72,SNR=248						
H03N3	**Juan Fernandez**	**7.48**	**259**	P	**Pn**	**11 48 08.7**	**+1.2**
	baz=170,slow=10,SNR=20						
H03N3				T	T	11 55 06.7	
	baz=83,slow=72,SNR=207						
H03N2	**Juan Fernandez**	**7.48**	**259**	P	**Pn**	**11 48 08.5**	**+1.0**
	baz=170,slow=10,SNR=18						
H03N2				T	T	11 54 60.0	
	baz=83,slow=72,SNR=229						
H03S1	**Juan Fernandez**	**7.51**	**256**	P	**Pn**	**11 48 08.6**	**+0.7**
	baz=18						
H03S1				T	T	11 54 40.7	
	baz=84,slow=75,SNR=14						
H03S3	**Juan Fernandez**	**7.51**	**256**	P	**Pn**	**11 48 08.1**	**+0.2**
	baz=18,slow=74						
H03S3				T	T	11 54 41.9	
	baz=84,slow=75,SNR=18						
H03S2	**Juan Fernandez**	**7.53**	**256**	P	**Pn**	**11 48 08.5**	**+0.4**
	baz=18,slow=74						
H03S2				T	T	11 54 45.1	
	baz=84,slow=75,SNR=16						
LR04	**Corral**	**7.99**	**199**	Pn	Pn	11 48 09.8	-4.7
PLCA	**Paso Flores**	**8.39**	**182**	Pn	**Pn**	**11 48 17.7**	**-2.4**
PLCA	**Paso Flores**	**8.39**	**182**	P	**Pn**	**11 48 18.2**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=352,slow=11,SNR=7.6						
TRQA	**Tornquist**	**8.78**	**133**		**Pn**	**11 48 22.9**	**-2.5**
CPUP	**Villa Florida**	**12.66**	**65**	P	Pn	11 49 11.8	-5.5
	comp=Z,1.0nm,0.3s,baz=227,slow=12,SNR=5.5						
LPAZ	**La Paz**	**16.07**	**7**	P	**Pn**	**11 50 01.1**	**-0.3**
LPAZ	**La Paz**	**16.07**	**7**	P	**Pn**	**11 50 00.6**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=145,slow=4.5,SNR=2.3						
ITAB	**Concordia**	**16.43**	**77**	P	**P**	**11 50 05.7**	**-0.1**
ITAB				IAmb	IAmb	11 50 08.0	
	comp=Z,6.5nm,0.7s						
SIV	**San Ignacio**	**18.23**	**29**	P	**P**	**11 50 24.6**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=199,slow=9.9,SNR=6.1						
VAO	**Valinhos**	**22.49**	**71**	P	**P**	**11 51 13.1**	**+1.7**
VAO				IAmb	IAmb	11 51 14.4	
	comp=Z,5.7nm,0.7s						
BAUV	**El Baul**	**41.09**	**3**	P	**P**	**11 53 53.5**	**-0.4**
BELA	**Belgrano 2**	**48.25**	**171**	P	**P**	**11 54 49.7**	**-0.4**
BELA				IAmb	IAmb	11 55 09.1	
	comp=Z,5.6nm,1.2s						
QSPA	**South Pole Qui**	**57.91**	**180**	P	**P**	**11 56 02.9**	**+1.8**
	comp=Z,3.0nm,0.9s,baz=286,slow=1.0,SNR=15						
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	**69.09**	**329**	P	**P**	**11 57 16.1**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=157,slow=8.8,SNR=8.1						
	comp=Z,0.3nm,0.5s						
MAW	**Mawson**	**74.32**	**163**	P	**P**	**11 57 46.3**	**+0.6**
	comp=Z,2.2nm,1.0s,baz=182,slow=12,SNR=2.3						
	comp=Z,2.2nm,1.0s						
PDAR	**Pinedale Array**	**83.02**	**332**	P	**P**	**11 58 33.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=200,slow=4.2,SNR=2.0						
	comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**83.45**	**324**	P	**P**	**11 58 37.8**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=93,slow=2.9,SNR=2.6						
	comp=Z,0.1nm,0.4s						
WRA	**Warramunga Arr**	**122.99**	**208**	PKP	**PKPdf**	**12 05 04.9**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=162,slow=1.7,SNR=5.8						
H11S2	**WAKE ISLAND Hyl**	**27.39**	**269**	T	T	14 24 54.6	
	baz=117,slow=75,SNR=6.2						
H11S1	**WAKE ISLAND Hyl**	**27.40**	**269**	T	T	14 24 56.3	
	baz=117,slow=75,SNR=5.4						
H11S3	**WAKE ISLAND Hyl**	**27.41**	**269**	T	T	14 24 55.5	
	baz=117,slow=75,SNR=3.9						
H11N3	**WAKE ISLAND Hyl**	**27.76**	**271**	T	T	14 25 23.8	
	baz=117						
H11N1	**WAKE ISLAND Hyl**	**27.78**	**271**	T	T	14 25 02.7	
	baz=117						
H11N2	**WAKE ISLAND Hyl**	**27.78**	**271**	T	T	14 25 26.0	
	baz=117						
BVAR	**Borovoye Array**	**144.97**	**42**	PKP	PKPbc	12 05 43.7	-0.3
	comp=Z,0.6nm,0.5s,baz=321,slow=2.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**150.56**	**42**	PKPbc	**PKPbc**	**12 05 58.3**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=297,slow=2.8,SNR=8.1						
ZALV	**Zalesovo Beam**	**151.96**	**32**	PKPbc	**PKiKP**	**12 06 03.0**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=293,slow=2.7,SNR=12						
ZALV				pPKPbc	**pPKPbc**	**12 06 34.2**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=311,slow=2.7,SNR=3.4						
MKAR	**Makanchi Array**	**154.46**	**48**	PKP	**PKPdf**	**12 05 59.6**	**0.0**
	comp=Z,0.3nm,0.7s,baz=270,slow=0.1,SNR=2.6						
MKAR				PKPbc	**PKiKP**	**12 06 08.1**	**0.0**
	comp=Z,0.4nm,0.9s,baz=337,slow=2.2,SNR=2.8						
MKAR				PKPab	**PKPab**	**12 06 23.2**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=358,slow=4.6,SNR=3.6						

---

*IDC **21** 12:05:27.2±1.4, 52°.17N×162°.40E, h0km, mb3.3/3, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=45.8km s-min=30.7km az=8.0*
*KRSC **21** 12:05:31.9±1.7, 52°.10N×162°.00E, h65km±31km, Ml3.8*
ISC 21 12:05:27.9±3.1, 52°.02N±0°.06×162°.08E±0°.05, h3km±20km, n38, σ1°.62/64, mb3.3/3, Off east coast of Kamchatka

Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.66**	**312**	*eP*	**Pb**	**12 05 59.4**	**+0.3**
SPN				*eS*	**Sn**	**12 06 18.2**	**-1.5**
NLC	**Nalytchevo**	**2.03**	**306**	*eP*	**Pb**	**12 06 04.5**	**-0.9**
NLC				*eS*	**Sn**	**12 06 28.4**	**-0.4**
RUS	**Russkaya**	**2.23**	**282**	*eP*	**Pb**	**12 06 08.1**	**-0.8**
RUS				*eS*	**Sn**	**12 06 33.0**	**-0.8**
DALK	**Dalny**	**2.27**	**298**	*eP*	**Pb**	**12 06 08.8**	**-0.7**
DALK				*eS*	**Sn**	**12 06 33.7**	**-1.1**
UGLR	**Uglovaya**	**2.32**	**302**	*eP*	**Pb**	**12 06 09.8**	**-0.6**
UGLR				*eS*	**Sb**	**12 06 37.0**	**-2.4**
SDLR	**Sedlovina**	**2.32**	**304**	*eP*	**Pb**	**12 06 09.6**	**-0.9**
PET	**Petropavlovsk**	**2.32**	**297**	*eP*	**Pb**	**12 06 09.5**	**-1.0**
PET				*eS*	**Sn**	**12 06 35.8**	**-0.3**
INSR	**Institute**	**2.37**	**298**	*eP*	**Pb**	**12 06 09.9**	**-1.2**
INSR				*eS*	**Sn**	**12 06 36.6**	**-0.6**
AVH	**Avacha**	**2.39**	**303**	*eP*	**Pb**	**12 06 10.7**	**-0.9**
AVH				*eS*	**Sn**	**12 06 38.7**	**+0.9**
KRER	**Koryakskii**	**2.40**	**304**	*eP*	**Pb**	**12 06 11.0**	**-0.9**
KRER				*eS*	**Sn**	**12 06 37.0**	**-1.4**
MTVR	**Mutnovka**	**2.44**	**283**	*eP*	**Pb**	**12 06 11.4**	**-1.1**
MTVR				*eS*	**Sn**	**12 06 39.1**	**-0.1**
KOK	**Koryaka**	**2.46**	**303**	*eP*	**Pb**	**12 06 12.0**	**-0.8**
KOK				*eS*	**Sn**	**12 06 39.4**	**-0.1**
KRX	**Arik**	**2.48**	**304**	*eP*	**Pb**	**12 06 11.8**	**-1.5**
KRX				*eS*	**Sn**	**12 06 38.8**	**-1.5**
KDTR	**Khodutka, Kamc**	**2.49**	**267**	*eP*	**Pn**	**12 06 11.3**	**+2.1**
KDTR				*eS*	**Sn**	**12 06 37.8**	**-2.3**
GRL	**Gorelyy**	**2.52**	**284**	*eP*	**Pb**	**12 06 12.9**	**-0.9**
GRL				*eS*	**Sn**	**12 06 42.3**	**+1.2**
KRMR	**Karymshinskiy**	**2.55**	**290**	*eP*	**Pb**	**12 06 12.6**	**-1.7**
KRMR				*eS*	**Sn**	**12 06 40.9**	**-0.8**
MKZ	**Mys Kozlova**	**2.56**	**355**	*eP*	**Pb**	**12 06 13.0**	**-1.3**
MKZ				*eS*	**Sn**	**12 06 41.2**	**-0.6**
KII	**Karymskiy**	**2.57**	**323**	*eP*	**Pb**	**12 06 13.2**	**-1.5**
KII				*eS*	**Sn**	**12 06 41.8**	**-0.6**
ASAK	**Asacha**	**2.60**	**280**	*eP*	**Pn**	**12 06 13.3**	**+2.4**
PETK	**Petropavlovsk-**	**2.89**	**294**	Pn	**Pn**	**12 06 16.9**	**+2.1**
	22nm,0.3s,baz=108,slow=17,SNR=378						
PETK				Sn	**Sn**	**12 06 50.1**	**+0.1**
	5.9nm,0.3s,baz=268,slow=11,SNR=1.7						
	65nm,0.5s						
GNL	**Ganaly**	**3.02**	**305**	*eP*	**Pb**	**12 06 20.3**	**-2.0**
GNL				*eS*	**Sn**	**12 06 54.9**	**+1.4**
APC	**Apacha**	**3.15**	**289**	*eP*	**Pb**	**12 06 21.8**	**-2.6**
APC				*eS*	**Sn**	**12 06 58.0**	**+1.7**
PAU	**Pauzhetka**	**3.32**	**263**	*eP*	**Pn**	**12 06 23.4**	**+2.7**
TUMD	**Tumrok D**	**3.35**	**343**	*eP*	**Pn**	**12 06 23.4**	**+2.3**
TUMD				*eS*	**Sn**	**12 07 00.6**	**-0.8**
KMNR	**Kamenistaya**	**3.90**	**345**	*eP*	**Pn**	**12 06 32.6**	**+3.7**
KMNR				*eS*	**Sn**	**12 07 15.3**	**+0.1**
BKI	**Bering**	**3.95**	**34**	*eP*	**Pn**	**12 06 32.4**	**+3.1**
BKI				*eS*	**Sn**	**12 07 14.0**	**-2.1**
SKR	**Severo-Kuril's**	**3.97**	**253**	*eP*	**Pn**	**12 06 32.1**	**+2.5**
BZGR	**Bezymyannyi-Gr**	**4.02**	**349**	*eS*	**Sn**	**12 07 18.2**	**+0.2**
KIRR	**Kirishev**	**4.08**	**346**	*eS*	**Sn**	**12 07 20.8**	**+1.2**
KBTR	**Krutoberegovo**	**4.22**	**6**	*eP*	**Pn**	**12 06 36.2**	**+3.1**
KBTR				*eS*	**Sn**	**12 07 21.9**	**-1.0**
KOZ	**Kozyrevsk**	**4.25**	**343**	*eS*	**Sn**	**12 07 24.1**	**+0.3**
KBG	**Krutoberegovo**	**4.26**	**5**	*eP*	**Pn**	**12 06 35.2**	**+1.5**
KBG				*eS*	**Sn**	**12 07 21.4**	**-2.5**
KRSR	**Krestovskiy**	**4.30**	**349**	*eS*	**Sn**	**12 07 25.0**	**-0.1**
KLY	**Klyuchi**	**4.39**	**350**	*eS*	**Sn**	**12 07 27.6**	**+0.7**
ESO	**Esso**	**4.40**	**334**	*eP*	**Pn**	**12 06 39.1**	**+3.6**
ESO				*eS*	**Sn**	**12 07 27.7**	**+0.5**
KURBB	**Kurchatov Arra**	**49.44**	**304**	P	**P**	**12 14 18.4**	**-0.4**
	0.2nm,0.6s,baz=56,slow=8.4,SNR=1.9						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**69.93**	**68**	P	**P**	**12 16 39.0**	**-1.5**
	0.1nm,0.4s,baz=303,slow=4.6,SNR=4.9						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**79.30**	**206**	P	**P**	**12 17 35.7**	**+1.1**
	0.3nm,0.7s,baz=24,slow=5.7,SNR=5.3						
	0.3nm,0.7s						

---

*IDC **21** 12:10:32.2±1.2, 53°.10S×23°.90E, h0km, mb3.7/5, mbtmp3.7/5, MS3.5/2, Error ellipse: s-maj=42.5km s-min=31.5km az=41.0*
ISC 21 12:10:34.1±1.3, 53°.2S±0°.3×23°.9E±0°.3, h10km, n13, σ0°.74/8, mb3.9/5, South of Africa

| Code | Station Name | Δ° | AZ° | Phase

CMAR Chiang Mai Arr 15.68 360 P P 12 22 55.7 +0.5
comp=Z,0.9nm,0.6s,baz=189,slow=11,SNR=7.2
KKM Kota Kinabalu 17.45 78 Pn Pn 12 23 16.2 +0.1
KKM IAmb IAmb 12 23 24.0
comp=Z,15nm,0.8s
PALK Pallekele 18.81 285 P Pn 12 23 31.8 -0.4
comp=Z,3.0nm,0.6s,baz=97,slow=7.6,SNR=4.7
PALK S S 12 26 52.6 -2.8
comp=Z,4.5nm,0.6s,baz=150,slow=14,SNR=4.1
MDRS Chennai 21.25 300 IAmb IAmb 12 24 44.2
comp=Z,2.9nm,0.4s
MDRS eS S 12 27 47.6 +5.0
TOLI2 Tolitoli 21.80 94 P P 12 24 01.4 -0.2
KAPI Kappang 22.07 110 P P 12 24 05.1 +0.7
comp=Z,12nm,0.7s,baz=304,slow=8.6,SNR=5.6
comp=Z,12nm,0.7s
MMRI Maumere 25.73 116 P P 12 24 37.2 -0.7
H08S2 Diego Garcia H 28.39 249 T T 12 52 47.2
baz=68,slow=70
H08S3 Diego Garcia H 28.40 249 T T 12 52 49.1
baz=68,slow=70
H08S1 Diego Carcia H 28.41 249 T T 12 52 59.0
baz=68,slow=70
FITZ Fitzroy Crossi 33.37 129 P P 12 25 44.7 -0.7
FITZ Fitzroy Crossi 33.37 129 P P 12 25 45.5 +0.1
comp=Z,2.0nm,0.7s,baz=296,slow=4.8,SNR=5.9
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 41.31 125 P P 12 26 51.5 -0.8
WRA Warramunga Arr 41.31 125 P P 12 26 52.1 -0.2
comp=Z,0.8nm,0.6s,baz=305,slow=8.9,SNR=13
comp=Z,0.8nm,0.6s
WR8 Warramunga Arr 41.45 124 P P 12 26 52.9 -0.5
WR8 IAmb IAmb 12 27 18.4
comp=Z,9.7nm,1.4s
JNU Nakatsue 42.49 41 P P 12 27 02.4 +0.7
JNU IAmb IAmb 12 27 28.4
comp=Z,9.1nm,1.2s
AS31 Alice Springs 42.88 130 P P 12 27 03.8 -1.1
ASAR Alice Springs 42.88 130 P P 12 27 04.8 -0.2
ASAR Alice Springs 42.88 130 P P 12 27 04.3 -0.6
comp=Z,0.9nm,0.5s,baz=299,slow=7.8,SNR=16
comp=Z,0.9nm,0.5s
KSRS Korea Array 43.60 34 P P 12 27 10.4 0.0
comp=Z,1.1nm,0.7s,baz=223,slow=8.7,SNR=11
KSRS pP pP 12 27 46.3 +0.2
comp=Z,0.5nm,0.8s,baz=219,slow=8.6,SNR=2.5
comp=Z,1.1nm,0.7s
KDJ Kajisay 43.88 336 P P 12 27 12.1 -0.8
SONM Songino Array 45.42 7 P P 12 27 25.6 +0.6
comp=Z,0.6nm,0.6s,baz=189,slow=8.5,SNR=2.7
SONM pP pP 12 28 01.0 +0.2
comp=Z,1.2nm,1.0s,baz=189,slow=8.2,SNR=3.6
SONM PcP PcP 12 29 02.0 +0.7
comp=Z,0.2nm,0.3s,baz=179,slow=5.8,SNR=1.8
comp=Z,0.6nm,0.6s
MKAR Makanchi Array 46.29 344 P P 12 27 32.2 +0.7
comp=Z,0.9nm,0.5s,baz=156,slow=8.7,SNR=14
comp=Z,0.9nm,0.5s
KURBB Kurchatov Arra 50.81 343 P P 12 28 06.6 +0.6
comp=Z,0.7nm,0.4s,baz=156,slow=7.3,SNR=9.8
comp=Z,0.7nm,0.4s
KURK Kurchatov 50.87 343 P P 12 28 06.2 -0.3
ZALV Zalesovo Beam 52.42 349 P P 12 28 17.9 +0.1
ZALV Zalesovo Beam 52.42 349 P P 12 28 18.2 +0.4
comp=Z,1.1nm,0.4s,baz=177,slow=6.1,SNR=6.3
ZALV pP pP 12 28 54.8 +0.1
comp=Z,0.9nm,0.6s,baz=152,slow=6.5,SNR=1.4
comp=Z,1.1nm,0.4s
STKA Stephens Creek 53.02 134 P P 12 28 22.2 -0.6
STKA Stephens Creek 53.02 134 P P 12 28 22.5 -0.3
comp=Z,1.1nm,0.5s,baz=342,slow=7.5,SNR=2.8
comp=Z,1.1nm,0.5s
BVAR Borovoye Array 55.48 339 P P 12 28 40.3 +0.1
comp=Z,0.8nm,0.5s,baz=147,slow=8.8,SNR=6.2
comp=Z,0.8nm,0.5s
AB31 Akbulak array 57.10 331 P P 12 28 51.7 0.0
AB31 IAmb IAmb 12 29 28.1
comp=Z,0.8nm,0.9s
ABKAR Akbulak array 57.10 331 P P 12 28 51.6 -0.1
ABKAR IAmb IAmb 12 29 28.1
comp=Z,0.8nm,0.9s
H04N2 CROZET ISLANDS 64.02 215 T T 13 37 46.1
baz=53,slow=75,SNR=8.7
H04N1 CROZET ISLANDS 64.03 215 T T 13 37 44.7
baz=53,slow=75,SNR=6.5
H04N3 CROZET ISLANDS 64.04 215 T T 13 37 55.1
baz=53,slow=75,SNR=7.0
BRTR Keskin Array B 69.49 312 P P 12 30 13.7 +0.2
comp=Z,0.4nm,0.6s,baz=113,slow=3.7,SNR=2.7
comp=Z,0.4nm,0.6s
PET Petropavlovsk 69.99 34 P P 12 30 15.8 -0.3
BOSA Boshof 77.10 240 P P 12 30 59.3 +1.0
comp=Z,2.8nm,0.8s,baz=325,slow=12,SNR=2.0
comp=Z,2.8nm,0.8s
BURAR Bucovina Array 77.13 318 P P 12 30 57.9 -0.3
FINES FINESS Array B 79.54 332 P P 12 31 10.5 -0.4
FINES FINESS Array B 79.54 332 P P 12 31 11.2 +0.3
comp=Z,0.9nm,0.6s,baz=127,slow=5.5,SNR=5.8
comp=Z,0.9nm,0.6s
SPITS Spitsbergen Ar 85.88 348 P P 12 31 43.5 +0.2
comp=Z,13nm,1.0s,baz=124,slow=7.2,SNR=1.5
comp=Z,13nm,1.0s
C18K Utukok River 91.08 21 P P 12 32 08.6 +0.4
C18K IAmb IAmb 12 32 11.7
comp=Z,1.7nm,1.3s
B20K Meade River 92.19 20 P P 12 32 13.6 +0.4
B20K IAmb IAmb 12 32 24.9
comp=Z,6.3nm,1.5s
D20K Etivluk River 92.70 21 P P 12 32 15.7 0.0
D20K IAmb IAmb 12 32 25.2
comp=Z,2.9nm,1.2s
E21K Killik River 93.71 21 P P 12 32 20.3 0.0
E21K IAmb IAmb 12 32 24.2
comp=Z,1.7nm,1.0s
TXAR Lajitas Array 141.44 33 PKP PKPdf 12 38 34.6 -0.3
comp=Z,0.1nm,0.3s,baz=57,slow=0.9,SNR=5.2
TXAR SKPbc SKPbc 12 41 57.6 +0.6
comp=Z,0.4nm,0.7s,baz=21,slow=1.3,SNR=5.6

IDC 21 12:19:25.3±2.1, 9°.07N×121°.20E, h0km, mb3.5/5, mbtmp3.5/5, MS2.9/1, Error ellipse: s-maj=333.4km s-min=21.0km az=63.0, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**18.90**	**20**	LR	LR	12 31 15.9	
	comp=Z,32nm,19.1s,baz=280,slow=38						
WRA	**Warramunga Arr**	**31.60**	**156**	P	P	12 25 49.4	-0.7
	0.2nm,0.5s,baz=334,slow=9.6,SNR=1.6						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**34.83**	**159**	P	P	12 26 18.6	+0.4
	0.2nm,0.8s,baz=336,slow=6.8,SNR=8.6						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**50.07**	**326**	P	P	12 28 21.5	-0.5
	0.5nm,0.5s,baz=125,slow=9.0,SNR=4.5						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**54.32**	**328**	P	P	12 28 53.8	+0.3
	0.7nm,0.6s,baz=119,slow=8.8,SNR=11						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**59.88**	**327**	P	P	12 29 32.6	-0.3
	0.5nm,0.5s,baz=121,slow=5.6,SNR=2.0						
	0.5nm,0.5s						

*IDC **21** 12:24:11.3±0.9, 37°.58N×31°.78W, h0km, mb3.7/14, mbtmp3.7/14, MS3.8/45, Error ellipse: s-maj=29.2km s-min=16.8km az=169.0*
*NEIC **21** 12:24:13.8±2.8, 37°.92N±0°.06×31°.4W±0°.1, h10km±1km, mb4.5/14, Error ellipse: s-maj=18.2km s-min=5.4km az=241.0*

ISC 21 12:24:13.1±0.6, 37°.7N±0°.1×31°.53W±0°.08, h10km, n69, σ1§63/32, mb3.9/21, MS3.8/45, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**1.69**	**9**	Pn	Pn	12 24 39.8	-2.8
H07S1				T	T	12 26 21.2	
CMLA	**Cha da Macela**	**4.76**	**88**	Pn	Pn	12 25 22.6	-2.3
PMOZ	**Porto Moniz, M**	**12.68**	**108**	Pn	Pn	12 27 13.1	-0.5
PAB	**San Pablo**	**21.29**	**77**	P	P	12 28 57.0	-2.8
ESDC	**Sonseca Array**	**21.58**	**76**	P	P	12 29 00.4	-2.5
ESDC	**Sonseca Array**	**21.58**	**76**	P	P	12 29 04.6	+1.7
	2.3nm,1.0s,baz=275,slow=9.7,SNR=7.3						
ESDC				LR	LR	12 35 35.2	
	comp=Z,160nm,20.6s,baz=283,slow=31						
	2.3nm,1.0s						
MDT	**Midelt**	**22.48**	**94**	LR	LR	12 36 25.5	
	comp=Z,297nm,18.2s,baz=342,slow=32						
EKA	**Eskdalemuir Ar**	**26.02**	**38**	P	P	**12 29 48.0**	**+1.8**
	3.1nm,1.0s,baz=234,slow=9.6,SNR=4.0						
	3.1nm,1.0s						
BBTS	**Babate**	**26.54**	**146**	LR	LR	12 38 19.7	
	comp=Z,185nm,19.4s,baz=193,slow=32						
BORG	**Borgarnes**	**27.75**	**9**	LR	LR	12 38 43.8	
	comp=Z,63nm,18.1s,baz=200,slow=31						
SFJD	**Kangerlussuaq**	**31.28**	**346**	LR	LR	12 40 28.5	
	comp=Z,258nm,18.5s,baz=156,slow=31						
DAVOX	**Davos/Dischmat**	**31.65**	**60**	LR	LR	12 40 59.5	
	comp=Z,55nm,21.9s,baz=261,slow=32						
GRFO	**Grafenberg**	**32.71**	**55**	P	P	**12 30 44.7**	**-0.9**
GRFO				IAmb	IAmb	12 30 52.9	
	comp=Z,10nm,1.3s						
GRA1	**Grafenberg Arr**	**32.71**	**55**	P	P	**12 30 44.7**	**-1.0**
GRA1				IAmb	IAmb	12 30 57.2	
	comp=Z,8.7nm,1.2s						
FDMO	**Fiordimonte**	**34.09**	**67**	P	P	**12 30 57.3**	**-0.5**
FDMO				IAmb	IAmb	12 31 03.5	
	comp=Z,5.2nm,1.0s						
FRB	**Frobisher Bay**	**34.19**	**332**	LR	LR	12 42 04.5	
	comp=Z,154nm,18.2s,baz=100,slow=31						
GERES	**GERESS Array B**	**34.29**	**56**	P	P	**12 31 00.7**	**+1.2**
	comp=Z,0.6nm,0.9s,baz=268,slow=7.7,SNR=4.3						
	comp=Z,0.6nm,0.9s						
NOA	**NORSAR Array B**	**35.36**	**35**	LR	LR	12 43 10.2	
	comp=Z,85nm,21.5s,baz=240,slow=32						
VRAC	**Vranov**	**36.20**	**56**	LR	LR	12 45 03.2	
	comp=Z,30nm,19.5s,baz=252,slow=34						
HFS	**Hagfors**	**36.21**	**37**	LR	LR	12 43 58.5	
	comp=Z,81nm,20.0s,baz=256,slow=33						
TORD	**Torodi Ar. Bea**	**38.38**	**121**	P	P	**12 31 34.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**38.38**	**121**	P	P	**12 31 34.1**	**-0.5**
	comp=Z,49nm,0.3s,baz=315,slow=7.8,SNR=1.2						
DBIC	**Dimbokro**	**39.26**	**135**	LR	LR	12 46 47.2	
	comp=Z,210nm,18.7s,baz=306,slow=34						
TKL	**Tuckaleechee C**	**41.50**	**284**	LR	LR	12 46 37.0	
	comp=Z,79nm,19.3s,baz=79,slow=33						
FINES	**FINESS Array B**	**42.41**	**37**	P	P	**12 32 09.4**	**+1.9**
	comp=Z,2.6nm,1.1s,baz=262,slow=5.3,SNR=2.0						
FINES				LR	LR	12 48 19.6	
	comp=Z,117nm,18.2s,baz=230,slow=34						
	comp=Z,2.6nm,1.1s						
MLR	**Muntele Rosu**	**42.87**	**61**	LR	LR	12 48 44.5	
	comp=Z,49nm,20.2s,baz=270,slow=34						
RCBR	**Riachuelo**	**43.50**	**186**	LR	LR	12 46 51.2	
	comp=Z,20nm,20.9s,baz=74,slow=31						
BAUV	**El Baul**	**43.63**	**238**	P	P	**12 32 18.2**	**+0.3**
ARCES	**ARCESS Array B**	**43.78**	**25**	LR	LR	12 47 11.6	
	comp=Z,59nm,18.4s,baz=262,slow=31						
AKASG	**Malin Array Be**	**44.24**	**53**	P	P	**12 32 23.8**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=274,slow=8.2,SNR=7.7						
AKASG				LR	LR	12 49 41.9	
	comp=Z,49nm,18.3s,baz=254,slow=34						
	comp=Z,1.1nm,0.7s						
ULM	**Lac du Bonnet**	**46.57**	**307**	LR	LR	12 52 03.6	
	comp=Z,170nm,18.3s,baz=78,slow=36						
RES	**Resolute Bay**	**47.03**	**341**	LR	LR	12 50 07.9	
	comp=Z,81nm,18.4s,baz=36,slow=33						
H10N2	**ASCENSION HYDR**	**48.02**	**157**	T	T	13 23 51.3	
	baz=342						
H10N3	**ASCENSION HYDR**	**48.03**	**157**	T	T	13 23 56.2	
	baz=342						
H10N1	**ASCENSION HYDR**	**48.04**	**157**	T	T	13 23 48.7	
	baz=342						
KIRV	**Kirov**	**54.25**	**40**	LR	LR	12 56 57.4	
	comp=Z,72nm,18.2s,baz=294,slow=36						
YKA	**Yellowknife Ar**	**54.28**	**325**	P	P	**12 33 37.7**	**-1.3**
	comp=Z,0.5nm,1.0s,baz=82,slow=6.8,SNR=5.0						
YKA				LR	LR	12 54 46.4	
	comp=Z,138nm,18.4s,baz=127,slow=34						
	comp=Z,0.5nm,1.0s						
BRDY	**Brady**	**54.91**	**285**	P	P	**12 33 42.3**	**-1.8**
BELG	**Belogornoye**	**55.06**	**47**	LR	LR	12 56 42.7	
	comp=Z,99nm,19.2s,baz=279,slow=35						
RLMT	**Red Lodge**	**56.67**	**304**	P	P	**12 33 58.4**	**+1.6**
RLMT				IAmb	IAmb	12 34 02.9	
	comp=Z,9.7nm,1.5s						
YNE	**Yellowstone No**	**57.20**	**304**		P	**12 33 59.7**	**-0.9**
YNE				IAmb	IAmb	12 34 08.9	
	comp=Z,5.6nm,1.2s						
PD31	**Pinedale Array**	**57.78**	**302**		P	**12 34 04.9**	**+0.2**
PD31				IAmb	IAmb	12 34 09.8	
	comp=Z,4.5nm,1.4s						
PDAR	**Pinedale Array**	**57.78**	**302**	P	P	**12 34 02.5**	**-2.2**
	comp=Z,0.2nm,0.6s,baz=74,slow=6.3,SNR=4.2						
PDAR				LR	LR	12 57 47.0	
	comp=Z,160nm,21.1s,baz=64,slow=35						
	comp=Z,0.2nm,0.6s						
ANMO	**Albuquerque**	**58.89**	**292**	LR	LR	12 57 27.3	
	comp=Z,122nm,21.2s,baz=234,slow=34						
TXAR	**Lajitas Array**	**59.38**	**285**	P	P	**12 34 14.4**	**-1.5**
	comp=Z,1.1nm,0.9s,baz=61,slow=6.2,SNR=10						
TXAR				LR	LR	12 58 08.4	
	comp=Z,51nm,20.3s,baz=56,slow=34						
	comp=Z,1.1nm,0.9s						
VHRN	**Van Horn**	**59.70**	**287**		P	**12 34 19.5**	**+1.4**
VHRN				IAmb	IAmb	12 34 27.8	
	comp=Z,8.6nm,1.5s						
INK	**Inuvik**	**59.73**	**335**	LR	LR	12 57 21.1	
	comp=Z,211nm,18.7s,baz=28,slow=33						
NEW	**Newport**	**60.40**	**310**	LR	LR	13 00 23.8	
	comp=Z,124nm,18.0s,baz=58,slow=36						
DUG	**Dugway, Tooele**	**61.08**	**300**	P	P	**12 34 28.9**	**+1.4**
DUG				IAmb	IAmb	12 34 30.2	
	comp=Z,6.2nm,1.2s						
DLBC	**Dease Lake**	**62.85**	**324**	LR	LR	13 00 07.5	
	comp=Z,172nm,19.3s,baz=354,slow=34						
J08A	**Circle Bar Ran**	**63.42**	**305**		P	**12 34 43.6**	**+0.6**
LPAZ	**La Paz**	**63.79**	**220**	P	P	**12 34 45.2**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=213,slow=1.4,SNR=3.8						
LPAZ				LR	LR	12 59 55.3	
	comp=Z,60nm,19.6s,baz=34,slow=34						
	comp=Z,1.3nm,0.9s						
BBB	**Bella Bella**	**64.91**	**318**	LR	LR	13 02 36.1	
	comp=Z,212nm,18.6s,baz=54,slow=36						
NVAR	**Mina Array Bea**	**65.67**	**301**	P	P	**12 34 58.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=52,slow=5.7,SNR=2.3						
NVAR				LR	LR	13 03 30.4	
	comp=Z,148nm,20.0s,baz=68,slow=36						
	comp=Z,0.1nm,0.3s						
ILAR	**Eielson Array**	**66.12**	**335**	LR	LR	13 01 30.7	
	comp=Z,133nm,18.7s,baz=60,slow=34						
PFO	**Pinyon Flats O**	**66.79**	**295**	LR	LR	13 04 13.1	
	comp=Z,86nm,18.1s,baz=160,slow=36						
YBH	**Yreka Blue Hor**	**66.94**	**306**	LR	LR	13 04 30.3	
	comp=Z,144nm,18.2s,baz=62,slow=36						
LPIG	**La Paz**	**67.15**	**283**	LR	LR	13 05 16.4	
	comp=Z,40nm,18.7s,baz=42,slow=37						
BVAR	**Borovoye Array**	**67.26**	**40**	P	P	**12 35 08.7**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=306,slow=5.0,SNR=2.2						
BVAR				LR	LR	13 03 45.8	
	comp=Z,55nm,18.6s,baz=308,slow=35						
	comp=Z,0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**72.77**	**39**	P	P	**12 35 43.5**	**+2.0**
	comp=Z,1.1nm,1.0s,baz=309,slow=5.6,SNR=6.2						
	comp=Z,1.1nm,1.0s						
ZALV	**Zalesovo Beam**	**73.55**	**34**	LR	LR	13 07 49.4	
	comp=Z,37nm,19.9s,baz=335,slow=36						
AAK	**Ala-Archa**	**75.55**	**47**	LR	LR	13 11 53.7	
	comp=Z,38nm,18.1s,baz=302,slow=38						
LSZ	**Lusaka**	**76.91**	**121**	LR	LR	13 09 37.5	
	comp=Z,103nm,20.0s,baz=321,slow=35						
MKAR	**Makanchi Array**	**77.14**	**40**	P	P	**12 36 08.3**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=305,slow=5.0,SNR=5.5						
MKAR				LR	LR	13 10 07.1	
	comp=Z,54nm,18.1s,baz=311,slow=36						
	comp=Z,0.6nm,0.8s						
MA2	**Magadan**	**83.05**	**359**	LR	LR	13 11 40.6	
	comp=Z,22nm,19.6s,baz=8.5,slow=34						
BOSA	**Boshof**	**84.73**	**132**	LR	LR	13 12 55.7	
	comp=Z,60nm,18.1s,baz=349,slow=34						
SONM	**Songino Array**	**86.94**	**27**	P	P	**12 37 00.6**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=328,slow=5.3,SNR=4.2						
SONM				LR	LR	13 17 34.3	
	comp=Z,29nm,18.2s,baz=264,slow=37						
	comp=Z,0.3nm,0.6s						
PETK	**Petropavlovsk-**	**89.20**	**354**	LR	LR	13 17 36.6	
	comp=Z,41nm,18.1s,baz=32,slow=36						
BRDH	**Bariadhala**	**99.63**	**52**	LR	LR	13 28 47.2	
	comp=Z,78nm,18.1s,baz=142,slow=39						

IDC 21 12:42:58.5±5.9, 17°.39S×178°.61W, h609km±22km, mb3.0/2, mbtmp3.8/3, Error ellipse: s-maj=256.3km s-min=42.3km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.21**	**263**	P	P	12 44 19.7	0.0
	9.9nm,0.6s,baz=124,slow=8.9,SNR=4.5						
WRA	**Warramunga Arr**	**44.54**	**259**	P	P	12 50 18.0	-0.1
	0.6nm,0.5s,baz=95,slow=7.2,SNR=24						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**44.75**	**254**	P	P	12 50 19.6	-0.1
	2.3nm,0.6s,baz=87,slow=8.8,SNR=54						
	2.3nm,0.6s						
GERES	**GERESS Array B**	**147.07**	**345**	PKPbc	PKPbc	13 01 33.5	-0.7
	0.2nm,0.5s,baz=18,slow=3.7,SNR=2.1						

*IDC **21** 12:45:36.9±0.9, 37°.64N×31°.76W, h0km, mb3.4/9, mbtmp3.4/9, MS3.6/33, Error ellipse: s-maj=28.8km s-min=22.6km az=179.0*

ISC 21 12:45:38.3±0.9, 37°.8N±0°.1×31°.7W±0°.1, h10km, n39, σ1§21/10, mb3.4/9, MS3.6/33, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**1.64**	**14**	Pn	Pn	**12 46 06.0**	**-1.3**
H07S1				T	T	12 47 46.2	
ESDC	**Sonseca Array**	**21.69**	**76**	P	P	**12 50 29.6**	**+0.2**
	0.6nm,0.7s,baz=274,slow=9.6,SNR=5.9						
	0.6nm,0.7s						
MDT	**Midelt**	**22.62**	**94**	LR	LR	12 57 33.8	
	comp=Z,165nm,21.0s,baz=338,slow=32						
BBTS	**Babate**	**26.67**	**146**	LR	LR	12 59 06.9	
	comp=Z,115nm,20.8s,baz=200,slow=30						
BORG	**Borgarnes**	**27.70**	**10**	LR	LR	12 59 22.4	
	comp=Z,94nm,19.2s,baz=202,slow=30						
SFJD	**Kangerlussuaq**	**31.18**	**346**	LR	LR	13 01 45.7	
	comp=Z,209nm,19.9s,baz=158,slow=31						
DAVOX	**Davos/Dischmat**	**31.74**	**60**	LR	LR	13 01 59.9	
	comp=Z,42nm,20.7s,baz=261,slow=31						
FRB	**Frobisher Bay**	**34.07**	**332**	LR	LR	13 03 11.8	
	comp=Z,105nm,18.4s,baz=96,slow=31						
NOA	**NORSAR Array B**	**35.38**	**35**	LR	LR	13 04 34.9	
	comp=Z,53nm,18.8s,baz=240,slow=32						
HFS	**Hagfors**	**36.23**	**37**	LR	LR	13 05 13.7	
	comp=Z,43nm,20.3s,baz=276,slow=32						
VRAC	**Vranov**	**36.27**	**56**	LR	LR	13 06 05.1	
	comp=Z,33nm,19.5s,baz=183,slow=34						
DBIC	**Dimbokro**	**39.41**	**135**	P	P	**12 53 07.6**	**-0.9**
	1.7nm,0.6s,baz=338,slow=6.0,SNR=4.3						
DBIC				LR	LR	13 07 44.7	
	comp=Z,122nm,19.6s,baz=334,slow=34						
	1.7nm,0.6s						
TKL	**Tuckaleechee C**	**41.35**	**284**	LR	LR	13 08 01.3	
	comp=Z,49nm,18.4s,baz=92,slow=32						
RCBR	**Riachuelo**	**43.56**	**186**	LR	LR	13 08 09.7	
	comp=Z,18nm,20.2s,baz=90,slow=31						
AKASG	**Malin Array Be**	**44.30**	**53**	LR	LR	13 10 57.0	
	comp=Z,39nm,18.3s,baz=241,slow=34						
ULM	**Lac du Bonnet**	**46.42**	**307**	LR	LR	13 13 38.2	
	comp=Z,76nm,18.2s,baz=53,slow=36						
RES	**Resolute Bay**	**46.92**	**341**	LR	LR	13 11 43.0	
	comp=Z,46nm,18.3s,baz=51,slow=33						
YKA	**Yellowknife Ar**	**54.14**	**325**	P	P	**12 55 03.3**	**+0.1**
	0.2nm,0.8s,baz=87,slow=6.3,SNR=2.5						
YKA				LR	LR	13 16 12.4	
	comp=Z,73nm,18.2s,baz=298,slow=34						
	0.2nm,0.8s						
BDFB	**Brasília**	**55.30**	**199**	LR	LR	13 16 09.7	
	comp=Z,59nm,18.0s,baz=251,slow=33						
PDAR	**Pinedale Array**	**57.62**	**302**	P	P	**12 55 28.5**	**-0.4**
	0.2nm,0.5s,baz=64,slow=6.8,SNR=4.3						
PDAR				LR	LR	13 19 43.0	
	comp=Z,85nm,19.7s,baz=61,slow=36						
	0.2nm,0.5s						
ANMO	**Albuquerque**	**58.73**	**292**	LR	LR	13 19 42.0	
	comp=Z,67nm,19.4s,baz=248,slow=35						
TXAR	**Lajitas Array**	**59.23**	**285**	P	P	**12 55 40.8**	**+0.7**
	0.2nm,0.7s,baz=106,slow=7.5,SNR=3.5						
TXAR				LR	LR	13 19 33.6	
	comp=Z,26nm,19.9s,baz=42,slow=34						
	0.2nm,0.7s						
ARTI	**Arti**	**59.58**	**40**	LR	LR	13 19 12.8	
	comp=Z,40nm,19.8s,baz=254,slow=34						
INK	**Inuvik**	**59.61**	**335**	LR	LR	13 18 47.5	
	comp=Z,137nm,18.7s,baz=1.5,slow=33						
NEW	**Newport**	**60.26**	**310**	LR	LR	13 21 05.5	
	comp=Z,53nm,18.6s,baz=60,slow=35						
AKTO	**Aktyubinsk**	**61.87**	**46**	LR	LR	13 23 02.1	
	comp=Z,62nm,18.2s,baz=82,slow=36						
DLBC	**Dease Lake**	**62.71**	**324**	LR	LR	13 21 44.4	
	comp=Z,73nm,19.9s,baz=192,slow=34						
LPAZ	**La Paz**	**63.75**	**219**	P	P	**12 56 10.7**	**-0.5**
	0.6nm,0.5s,baz=7.0,slow=5.8,SNR=5.2						
	0.6nm,0.5s						
BBB	**Bella Bella**	**64.77**	**317**	LR	LR	13 24 02.4	
	comp=Z,109nm,18.6s,baz=51,slow=36						
NVAR	**Mina Array Bea**	**65.51**	**301**	LR	LR	13 25 25.5	
	comp=Z,94nm,19.0s,baz=197,slow=36						
ILAR	**Eielson Array**	**66.00**	**335**	LR	LR	13 22 47.9	
	comp=Z,98nm,18.9s,baz=81,slow=34						
PFO	**Pinyon Flats O**	**66.64**	**295**	LR	LR	13 25 38.9	
	comp=Z,61nm,18.7s,baz=156,slow=36						
YBH	**Yreka Blue Hor**	**66.79**	**305**	LR	LR	13 25 56.1	
	comp=Z,78nm,18.1s,baz=74,slow=36						
LPIG	**La Paz**	**67.00**	**283**	LR	LR	13 26 12.9	
	comp=Z,23nm,18.2s,baz=193,slow=36						
BVAR	**Borovoye Array**	**67.30**	**40**	LR	LR	13 26 43.3	
	comp=Z,24nm,19.3s,baz=312,slow=37						
TIXI	**Tiksi**	**70.00**	**6**	LR	LR	13 26 20.7	
	comp=Z,19nm,18.2s,baz=19,slow=35						
KURBB	**Kurchatov Arra**	**72.80**	**39**	P	P	**12 57 08.0**	**+1.2**
	0.3nm,0.8s,baz=318,slow=6.7,SNR=2.3						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**73.56**	**33**	P	P	**12 57 12.3**	**+1.0**
	0.3nm,0.5s,baz=316,slow=8.1,SNR=1.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**77.18**	**40**	P	P	**12 57 34.4**	**+2.1**
	0.2nm,0.7s,baz=347,slow=5.9,SNR=3.8						
	0.2nm,0.7s						

*IDC **21** 13:08:10.9±7.2, 15°.60N×96°.98W, h0km, mb3.6/4, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=143.1km s-min=113.7km az=30.0*
*NEIC **21** 13:08:21.6±1.6, 16°.21N±0°.04×98°.86W±0°.03, h19km±7km, mb4.1/13, Md4.5/133(MEX), Error ellipse: s-maj=7.1km s-min=2.2km az=206.0*
*MEX **21** 13:08:23.3±0.6, 16°.16N×98°.90W, h17km±4km, MD4.5*

**ISC 21 13:08:19.8±1.

HMTT					Sg	13 09 08.7	-0.9
HMTT	**Tlapaneco**	**1.54**	**10**	*e*P	**Pb**	**13 08 48.8**	**-0.2**
HMTT				*e*S	**Sg**	**13 09 08.7**	**-0.9**
CAIG	**El Cayaco**	**1.58**	**300**		**Pn**	**13 08 48.3**	**-0.2**
CAIG					**Sn**	**13 09 06.3**	**-3.0**
CAIG	**El Cayaco**	**1.58**	**300**	*e*P	**Pn**	**13 08 48.3**	**-0.2**
CAIG				*e*S	**Sn**	**13 09 06.3**	**-3.0**
PEIG	**Puerto Escondi**	**1.64**	**99**		**Pn**	**13 08 48.5**	**-0.9**
PEIG					**Sn**	**13 09 10.3**	**-0.6**
PEIG	**Puerto Escondi**	**1.64**	**99**	*e*P	**Pn**	**13 08 48.5**	**-0.9**
PEIG				*e*S	**Sn**	**13 09 10.3**	**-0.6**
FTIG	**Fresnillo de T**	**1.76**	**22**		**Pb**	**13 08 52.0**	**-0.8**
FTIG					**Sn**	**13 09 12.6**	**-1.4**
FTIG	**Fresnillo de T**	**1.76**	**22**	*e*P	**Pb**	**13 08 52.0**	**-0.8**
FTIG				*e*S	**Sn**	**13 09 12.6**	**-1.4**
ATYC	**Atoyac**	**1.80**	**302**	*e*P	**Pn**	**13 08 51.4**	**-0.2**
ATYC				*e*S	**Sn**	**13 09 11.8**	**-2.9**
MEIG	**Mezcala**	**1.81**	**336**		**Pn**	**13 08 52.3**	**+0.5**
MEIG					**Sn**	**13 09 13.6**	**-1.7**
MEIG	**Mezcala**	**1.81**	**336**	*e*P	**Pn**	**13 08 52.3**	**+0.5**
MEIG				*e*S	**Sn**	**13 09 13.6**	**-1.7**
HLIG	**Huajuapan de L**	**1.84**	**32**		**Pb**	**13 08 53.1**	**-0.9**
HLIG					**Sn**	**13 09 15.6**	**-0.5**
HLIG	**Huajuapan de L**	**1.84**	**32**	*e*P	**Pb**	**13 08 53.1**	**-0.9**
HLIG				*e*S	**Sn**	**13 09 15.6**	**-0.5**
OXIG	**Oaxaca**	**2.17**	**68**		**Pn**	**13 08 57.8**	**+1.0**
OXIG					**Sb**	**13 09 25.6**	**-1.3**
VHO	**Vista Hermosa**	**2.17**	**68**	*e*P	**Pn**	**13 08 57.8**	**+1.0**
VHO				*e*S	**Sb**	**13 09 25.6**	**-1.3**
OXBJ	**Oaxaca**	**2.17**	**68**		**Pn**	**13 08 57.5**	**+0.7**
OXBJ					**Sg**	**13 09 29.5**	**-0.1**
OXBJ	**Oaxaca**	**2.17**	**68**	*e*P	**Pn**	**13 08 57.5**	**+0.7**
OXBJ				*e*S	**Sg**	**13 09 29.5**	**-0.1**
OXLC	**Oaxaca**	**2.19**	**68**	*e*P	**Pb**	**13 08 59.6**	**-0.4**
OXLC				*e*S	**Sg**	**13 09 32.3**	**+2.1**
PLIG	**Platanillo**	**2.21**	**343**		**Pb**	**13 08 59.2**	**-1.1**
PLIG					**Sn**	**13 09 22.8**	**-2.2**
PLIG	**Platanillo**	**2.21**	**343**	*e*P	**Pb**	**13 08 59.2**	**-1.1**
PLIG				*e*S	**Sn**	**13 09 22.8**	**-2.2**
ARIG	**Puente Sto Nin**	**2.47**	**324**		**Pb**	**13 09 03.0**	**-1.8**
ARIG					**Sn**	**13 09 29.9**	**-1.5**
ARIG	**Puente Sto Nin**	**2.47**	**324**	*e*P	**Pb**	**13 09 03.0**	**-1.8**
ARIG				*e*S	**Sn**	**13 09 29.9**	**-1.5**
TOIG	**Toxpalan**	**2.48**	**43**		**Pn**	**13 09 01.8**	**+0.8**
TOIG					**Sb**	**13 09 33.8**	**-2.2**
TOIG	**Toxpalan**	**2.48**	**43**	*e*P	**Pn**	**13 09 01.8**	**+0.8**
TOIG				*e*S	**Sb**	**13 09 33.8**	**-2.2**
TPIG	**Tehuac#an**	**2.56**	**33**		**Pn**	**13 09 03.0**	**+0.9**
TPIG					**Sb**	**13 09 36.1**	**-2.1**
TPIG	**Tehuac#an**	**2.56**	**33**	*e*P	**Pn**	**13 09 03.0**	**+0.9**
TPIG				*e*S	**Sb**	**13 09 36.1**	**-2.1**
YAIG	**Yautepec**	**2.59**	**355**		**Pn**	**13 09 04.0**	**+1.4**
YAIG					**Sn**	**13 09 36.0**	**+1.5**
YAIG	**Yautepec**	**2.59**	**355**	*e*P	**Pn**	**13 09 04.0**	**+1.4**
YAIG				*e*S	**Sn**	**13 09 36.0**	**+1.5**
HUIG	**Huatulco**	**2.67**	**100**		**Pn**	**13 09 03.7**	**+0.2**
HUIG					**Sn**	**13 09 32.6**	**-3.6**
HUIG	**Huatulco**	**2.67**	**100**	*e*P	**Pn**	**13 09 03.7**	**+0.2**
HUIG				*e*S	**Sn**	**13 09 32.6**	**-3.6**
PBCV	**Popocatepetl**	**2.72**	**5**	*e*P	**Pb**	**13 09 06.8**	**-2.4**
PBCV				*e*S	**Sn**	**13 09 36.3**	**-1.6**
PBXN	**Popocatepetl**	**2.73**	**3**	*e*P	**Pn**	**13 09 06.6**	**+1.8**
PBXN				*e*P	**Pb**	**13 09 07.3**	**-2.2**
PBXN				*e*S	**Sn**	**13 09 37.2**	**-1.3**
PBXN				*e*S	**Sb**	**13 09 39.5**	**-4.0**
PBPN	**Popocatepetl**	**2.77**	**4**	*e*P	**Pn**	**13 09 06.9**	**+1.5**
PBPN				*e*P	**Pb**	**13 09 07.3**	**-2.8**
PBPN				*e*S	**Sn**	**13 09 37.5**	**-1.8**
PBPN				*e*S	**Sb**	**13 09 40.0**	**-4.5**
PPIG	**Popocatepetl**	**2.79**	**4**		**Pn**	**13 09 07.3**	**+1.7**
PPIG					**Sn**	**13 09 40.4**	**+0.5**
PPM	**Popocatepetl**	**2.79**	**4**	*e*P	**Pn**	**13 09 07.3**	**+1.7**
PPM				*e*S	**Sn**	**13 09 40.4**	**+0.5**
PHPU	**Puebla**	**2.83**	**13**		**Pb**	**13 09 10.7**	**-0.4**
PHPU					**Sb**	**13 09 45.6**	**-0.6**
PHPU	**Puebla**	**2.83**	**13**	*e*P	**Pb**	**13 09 10.7**	**-0.4**
PHPU				*e*S	**Sb**	**13 09 45.6**	**-0.6**
ZIIG	**Zihuatanejo**	**2.85**	**298**		**Pn**	**13 09 07.9**	**+1.9**
ZIIG					**Sn**	**13 09 38.4**	**-2.3**
ZIIG	**Zihuatanejo**	**2.85**	**298**	*e*P	**Pn**	**13 09 07.9**	**+1.9**
ZIIG				*e*S	**Sn**	**13 09 38.4**	**-2.3**
MPVM	**San Francisco**	**2.92**	**357**	*e*P	**Pb**	**13 09 10.7**	**-1.9**
MPVM				*e*S	**Sn**	**13 09 44.5**	**+1.6**
TLVM	**San Miguel Top**	**2.94**	**354**	*e*P	**Pb**	**13 09 12.8**	**-0.2**
TLVM				*e*S	**Sn**	**13 09 43.1**	**-0.4**
XCVM	**Xochimilco**	**2.98**	**355**	*e*P	**Pb**	**13 09 12.2**	**-1.4**
XCVM				*e*S	**Sn**	**13 09 42.4**	**-2.0**
AOVM	**Tlapan**	**3.02**	**351**		**Pn**	**13 09 10.8**	**+2.0**
AOVM					**Sn**	**13 09 44.6**	**-1.0**
AOVM	**Tlapan**	**3.02**	**351**	*e*P	**Pn**	**13 09 10.8**	**+2.0**
AOVM				*e*S	**Sn**	**13 09 44.6**	**-1.0**
THVM	**De Xico**	**3.03**	**357**	*e*P	**Pn**	**13 09 08.6**	**-0.2**
THVM				*e*S	**Sn**	**13 09 46.4**	**+0.8**
CNCY	**Coyoacan**	**3.05**	**354**	*e*P	**Pn**	**13 09 11.5**	**+2.5**
CNCY				*e*S	**Sn**	**13 09 44.8**	**-1.2**
INVM	**La Marquesa**	**3.05**	**350**	*e*P	**Pb**	**13 09 13.9**	**-1.0**
INVM				*e*S	**Sn**	**13 09 46.9**	**+0.6**
UNM	**Universidad Na**	**3.06**	**354**		**Pg**	**13 09 18.6**	**0.0**
UNM	**Universidad Na**	**3.06**	**354**	*e*P	**Pb**	**13 09 14.9**	**-0.1**
UNM				*e*S	**Sn**	**13 09 47.8**	**+1.5**
CUP5	**Mexico City**	**3.06**	**354**	*e*P	**Pb**	**13 09 15.3**	**+0.3**
CUP5				*e*S	**Sb**	**13 09 49.8**	**-3.0**
COVM	**Coyoacan**	**3.08**	**354**	*e*S	**Sn**	**13 09 41.8**	**-5.1**
BJVM	**Benito Juarez**	**3.11**	**354**	*e*P	**Pb**	**13 09 07.5**	**-2.3**
BJVM				*e*S	**Sn**	**13 09 42.3**	**-5.1**
CJVM	**Cuajimalpa**	**3.11**	**352**	*e*P	**Pb**	**13 09 16.0**	**+0.3**
CJVM				*e*S	**Sb**	**13 09 50.5**	**-3.6**
MHVM	**Bosque de Chap**	**3.14**	**353**	*e*P	**Pb**	**13 09 13.8**	**-2.6**
MHVM				*e*S	**Sn**	**13 09 49.2**	**+0.8**
TXVM	**Universitario**	**3.15**	**359**	*e*P	**Pb**	**13 09 14.4**	**-2.0**
TXVM				*e*S	**Sn**	**13 09 48.3**	**-0.2**
POHV	**Veracruz**	**3.15**	**28**		**Pn**	**13 09 12.2**	**+1.6**
POHV					**Sn**	**13 09 47.5**	**-1.5**
POHV	**Veracruz**	**3.15**	**28**	*e*P	**Pn**	**13 09 12.2**	**+1.6**
POHV				*e*S	**Sn**	**13 09 47.5**	**-1.5**
PBVM	**Pinon**	**3.17**	**356**		**Pb**	**13 09 15.9**	**-0.6**
PBVM					**Sn**	**13 09 45.5**	**-3.0**
PBVM	**Pinon**	**3.17**	**356**	*e*P	**Pb**	**13 09 15.9**	**-0.6**
PBVM				*e*S	**Sn**	**13 09 45.5**	**-3.0**
APVM	**Azcapotzalco**	**3.22**	**354**		**Pb**	**13 09 16.4**	**-1.4**
APVM					**Sn**	**13 09 47.2**	**-3.1**
APVM	**Azcapotzalco**	**3.22**	**354**	*e*P	**Pb**	**13 09 16.4**	**-1.4**
APVM				*e*S	**Sn**	**13 09 47.2**	**-3.1**
NEUV	**Arroyo Zacate**	**3.24**	**63**	*e*P	**Pn**	**13 09 12.3**	**+1.0**
NEUV				*e*S	**Sn**	**13 09 50.0**	**-0.3**
JAUV	**Jalcomulco**	**3.64**	**32**	*e*P	**Pn**	**13 09 17.5**	**+0.6**
JAUV				*e*S	**Sn**	**13 10 00.2**	**0.0**
ACIG	**Acambay**	**3.83**	**345**		**Pb**	**13 09 29.9**	**+1.9**
ACIG					**Sn**	**13 10 04.3**	**-0.7**
ACIG	**Acambay**	**3.83**	**345**	*e*P	**Pb**	**13 09 29.9**	**+1.9**
ACIG				*i* S	**Sn**	**13 10 04.3**	**-0.7**
CMIG	**Matias Romero**	**3.87**	**77**		**Pn**	**13 09 20.9**	**+0.8**
CMIG					**Sn**	**13 10 04.7**	**-1.2**
CMIG	**Matias Romero**	**3.87**	**77**	*e*P	**Pn**	**13 09 20.9**	**+0.8**
CMIG				*e*S	**Sn**	**13 10 04.7**	**-1.2**
DHIG	**Demacu**	**4.02**	**357**		**Pb**	**13 09 32.1**	**+0.9**
DHIG					**Sb**	**13 10 15.2**	**-5.0**
DEIG	**Demacu**	**4.02**	**357**	*e*P	**Pb**	**13 09 32.1**	**+0.9**
DEIG				*e*S	**Sb**	**13 10 15.2**	**-5.0**
CXUV	**Coxquihui**	**4.06**	**17**	*e*P	**Pb**	**13 09 32.8**	**+1.0**
CXUV				*e*S	**Sb**	**13 10 18.2**	**-3.1**
MOIG	**Morelia**	**4.07**	**327**		**Pb**	**13 09 32.5**	**+0.4**
MOIG	**Morelia**	**4.07**	**327**	*e*P	**Pn**	**13 09 26.9**	**+3.9**
MOIG				*e*S	**Sn**	**13 10 07.2**	**-3.9**
LVIG	**Laguna Verde**	**4.13**	**33**	*e*P	**Pn**	**13 09 22.6**	**-1.0**
LVIG				*e*S	**Sn**	**13 10 16.5**	**+4.1**
PMUV	**Sontecomapan**	**4.20**	**57**	*e*P	**Pn**	**13 09 25.9**	**+1.2**
PMUV				*e*S	**Sb**	**13 10 19.6**	**-5.9**
JRQG	**Juriquilla Cam**	**4.67**	**341**	*e*P	**Pb**	**13 09 40.1**	**-2.3**
JRQG				*e*S	**Sn**	**13 10 30.2**	**+4.1**
CTUV	**Llano Grande**	**5.20**	**5**	*e*P	Pb	13 09 45.8	-5.4
CTUV				*e*S	**Sn**	**13 10 41.5**	**+2.8**
MNGA	**Volcan de Coli**	**5.56**	**306**	*e*P	**Pn**	**13 09 47.0**	**+3.5**
MNGA				*e*S	**Sn**	**13 10 50.3**	**+2.4**
INCO	**Volcan de Coli**	**5.58**	**306**	*e*P	**Pn**	**13 09 42.7**	**-1.2**
INCO				*e*S	**Sn**	**13 10 49.4**	**+0.7**
SOMAC	**Volcano de Col**	**5.60**	**306**	*e*P	Pn	13 09 49.1	+4.9
SOMAC				*e*S	**Sn**	**13 10 50.3**	**+1.2**
CDAR	**Ciudad de Arme**	**5.61**	**299**	*e*P	**Pn**	**13 09 46.9**	**+3.0**
CDAR				*e*S	**Sn**	**13 10 42.5**	**-6.3**
CEGR	**Campo Tres**	**5.71**	**304**	*e*P	**Pn**	**13 09 46.7**	**+1.3**
CEGR				*e*S	**Sn**	**13 10 52.4**	**+0.9**
TXAR	**Lajitas Array**	**13.74**	**342**	Pn	**P**	**13 11 48.0**	**+3.7**
	0.1nm,0.3s,baz=159,slow=14,SNR=7.0						
	0.7nm,0.7s						
ANMO	**Albuquerque**	**19.82**	**341**		**P**	**13 12 51.6**	**0.0**
ANMO				IAmb	IAmb	13 12 56.8	
	comp=Z,2.5nm,0.8s						
ANMO	**Albuquerque**	**19.82**	**341**	P	**P**	**13 12 51.9**	**+0.4**
ANMO				IAmb	IAmb	13 12 56.9	
	comp=Z,2.4nm,0.8s						
ANMO	**Albuquerque**	**19.82**	**341**		**P**	**13 12 51.5**	**0.0**
ANMO				IAmb	IAmb	13 12 56.9	
	comp=Z,2.4nm,0.8s						
X16A	**Lo Mia Camp, P**	**21.33**	**330**		**P**	**13 13 08.2**	**+0.2**
X16A				IAmb	IAmb	13 13 16.1	
	comp=Z,4.3nm,0.9s						
MVCO	**Mesa Verde**	**22.55**	**340**		**P**	**13 13 21.1**	**0.0**
MVCO				IAmb	IAmb	13 13 25.1	
	comp=Z,10nm,1.3s						
R40A	**Maddies Statio**	**22.69**	**13**		**P**	**13 13 23.3**	**+1.1**
TKX	**Tecate**	**22.86**	**318**	P	**P**	**13 13 23.0**	**-1.3**
CPCT	**Cooper Cave**	**22.99**	**31**	P	**P**	**13 13 25.9**	**+0.4**
CPCT				IAmb	IAmb	13 13 28.1	
	comp=Z,16nm,1.1s						
PV12	**Saucer Basin,**	**23.65**	**340**	P	**P**	**13 13 31.8**	**-0.6**
PV12				IAmb	IAmb	13 14 02.9	
	comp=Z,7.7nm,1.2s						
P40A	**Paris**	**23.92**	**13**		**P**	**13 13 35.3**	**+0.6**
P40A				IAmb	IAmb	13 13 36.7	
	comp=Z,8.5nm,0.8s						
ISCO	**Idaho Springs**	**24.18**	**347**	IAmb	IAmb	13 13 41.5	
	comp=Z,2.1nm,0.7s						
NVAR	**Mina Array Bea**	**27.93**	**326**	P	**P**	**13 14 15.9**	**+4.6**
	comp=Z,0.6nm,0.7s,baz=152,slow=9.9,SNR=4.3						
	comp=Z,0.6nm,0.7s						
PDAR	**Pinedale Array**	**27.96**	**343**	P	**P**	**13 14 13.9**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=143,slow=10,SNR=9.3						
	comp=Z,0.7nm,0.7s						
YKA	**Yellowknife Ar**	**47.49**	**350**	P	**P**	**13 16 54.2**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=160,slow=7.2,SNR=8.8						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**58.22**	**338**	P	**P**	**13 18 16.9**	**+2.0**
	comp=Z,0.6nm,1.0s,baz=120,slow=7.0,SNR=4.1						
	comp=Z,0.6nm,1.0s						

*IDC **21** 13:19:54.6±1.4, 7°.34N×94°.01E, h0km, mb3.8/8, mbtmp3.7/9, ML3.8/1, MS3.4/1, Error ellipse: s-maj=63.9km s-min=22.2km az=57.0*

ISC 21 13:19:57.8±1.4, 7°.3N±0°.2×94°.0E±0°.3, h20km, n16, σ0.8 81/9, mb3.9/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.05**	**23**	Pn	**Pn**	**13 22 48.5**	**0.0**
	0.2nm,0.3s,baz=203,slow=14,SNR=1.4						
	0.3nm,0.3s						
H08S3	**Diego Garcia H**	**26.12**	**236**	T	T	13 52 24.2	
	baz=54,slow=75,SNR=19						
H08S2	**Diego Garcia H**	**26.12**	**236**	T	T	13 52 23.9	
	baz=54,slow=75,SNR=12						
H08S1	**Diego Carcia H**	**26.14**	**236**	T	T	13 52 23.1	
	baz=54,slow=75,SNR=12						
MKAR	**Makanchi Array**	**40.59**	**348**	P	**P**	**13 27 35.8**	**-0.2**
	0.5nm,0.5s,baz=155,slow=8.6,SNR=7.4						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**45.04**	**346**	P	**P**	**13 28 11.8**	**-0.3**
	0.8nm,0.3s,baz=162,slow=6.1,SNR=5.4						
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**47.07**	**353**	P	**P**	**13 28 27.5**	**-0.5**
	1.1nm,0.4s,baz=175,slow=7.7,SNR=5.0						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**48.05**	**125**	P	**P**	**13 28 37.3**	**+1.1**
	0.3nm,0.6s,baz=302,slow=7.8,SNR=2.3						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**49.46**	**341**	P	**P**	**13 28 46.0**	**-0.5**
	0.8nm,0.8s,baz=147,slow=8.2,SNR=4.0						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**49.66**	**130**	P	**P**	**13 28 47.3**	**-1.2**
	0.1nm,0.7s,baz=301,slow=7.9,SNR=1.7						
	0.1nm,0.7s						
ARTI	**Arti**	**56.38**	**337**	LR	LR	13 54 39.0	
	comp=Z,30nm,18.6s,baz=0.5,slow=37						
H04N2	**CROZET ISLANDS**	**65.21**	**211**	T	T	14 41 17.0	
	baz=46,slow=74						
H04N1	**CROZET ISLANDS**	**65.22**	**211**	T	T	14 41 12.5	
	baz=46,slow=74						
H04N3	**CROZET ISLANDS**	**65.22**	**211**	T	T	14 41 04.0	
	baz=46						
FINES	**FINESS Array B**	**73.13**	**332**	P	**P**	**13 31 27.1**	**+0.5**
	2.0nm,0.9s,baz=72,slow=6.2,SNR=6.4						
	2.0nm,0.9s						
HFS	**Hagfors**	**78.86**	**330**	P	**P**	**13 31 59.9**	**+0.5**
	0.7nm,0.4s,baz=114,slow=6.6,SNR=8.0						
	0.7nm,0.4s						

*DNK **21** 13:21:34.5±1.5, 81°.92N×3°.90W, h36km±18km, ML1.5*
*BER **21** 13:21:35.1±3.6, 81°.94N×4°.34W, h36km±73km, mb(Pn)3.1, ML1.5(DNK), Confirmed Earthquake*
*FCIAR **21** 13:21:36.0, 81°.81N×3°.55W, h10km, station ZFI2 has station magnitude of 3.40 station OMEGA has station magnitude of 3.50*

ISC 21 13:21:29.6±1.0, 81°.91N±0°.08×3°.92W±0°.05, h10km, n15, σ2.8 72/24, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.86**	**267**	*i* P	**Pn**	**13 22 02.5**	**+1.0**
NOR				*e*S	**Sn**	**13 22 23.9**	**-1.2**
NOR				IAML		13 22 25.6	
	comp=Z,9.3nm,0.4s						
NOR	**Nord**	**1.86**	**267**	*i* P	**Pn**	**13 22 02.5**	**+1.0**
NOR				*e*S	**Sn**	**13 22 23.9**	**-1.2**
NOR				IAML		13 22 25.6	
	comp=Z,9.3nm,0.4s						
KBS	**Kingsbay**	**3.98**	**130**	*e*P	**Pn**	**13 22 31.4**	**+0.8**
KBS				*i* S	**Sn**	**13 23 14.4**	**-2.8**
KBS	**Kingsbay**	**3.98**	**130**	*e*P	**Pn**	**13 22 31.4**	**+0.8**
KBS				*i* S	**Sn**	**13 23 14.4**	**-2.8**
BRBB	**Barentsburg B**	**4.93**	**131**	*e*P	**Pn**	**13 22 48.1**	**+4.4**
BRBA	**Barentsburg A**	**4.96**	**132**	*e*P	**Pn**	**13 22 48.5**	**+4.5**
SPA0	**Spitsbergen Ar**	**5.10**	**126**	*e*P	**Pn**	**13 22 48.9**	**+2.9**
SPA0				*e*S	**Sn**	**13 23 43.0**	**-1.8**
SPA0	**Spitsbergen Ar**	**5.10**	**126**	*e*P	**Pn**	**13 22 49.2**	**+3.2**
SPA0				IAML		13 22 51.2	
	comp=Z,4.4nm,0.3s						
SPA0				*e*S	**Sn**	**13 23 43.1**	**-1.6**
HOPEN	**Hopen**	**7.54**	**120**	P	**Pn**	**13 23 21.7**	**+2.4**
HOPEN				S	**Sn**	**13 24 40.9**	**-3.7**
ZFI2	**Zemlya Franca-**	**7.61**	**72**	*e*P	**Pn**	**13 23 23.7**	**+3.4**
ZFI2				*e*S	**Sn**	**13 24 42.8**	**-3.6**
	comp=Z,10nm,2.1s						
OMEGA	**Omega**	**7.63**	**72**	*e*P	**Pn**	**13 23 23.8**	**+3.2**
OMEGA				*e*S	**Sn**	**13 24 43.2**	**-3.8**
	comp=Z,12nm,1.9s						
DBG	**Daneborg**	**8.29**	**212**	*i* P	**Pn**	**13 23 29.0**	**-0.7**
DBG				*e*S	Sn	13 24 54.0	-9.1
DBG				IAML		13 24 59.4	
	comp=Z,1.1nm,0.4s						
DBG	**Daneborg**	**8.29**	**212**	*i* P	**Pn**	**13 23 29.0**	**-0.7**
DBG				*e*S	Sn	13 24 54.0	-9.1
DBG				IAML		13 24 59.4	
	comp=Z,1.1nm,0.4s						
NEEM	**North Greenlan**	**9.24**	**267**	*i* P	**Pn**	**13 23 43.1**	**+0.2**
NEEM				IAML		13 25 11.4	
	comp=Z,0.7nm,0.3s						
NEEM	**North Greenlan**	**9.24**	**267**	*i* P	**Pn**	**13 23 43.1**	**+0.2**
NEEM				IAML		13 25 11.4	
	comp=Z,0.7nm,0.3s						

*HVO **21** 13:23:20.2±0.7, 19°.43N±0°.04×155°.270W±0°.009, h-0km±3km, ML2.5/27, ML2.3/33(NEIC), Error ellipse: s-maj=5.9km s-min=1.0km az=184.0*

NEIC 21 13:23:20.6±0.7, 19°.5N±0°.2×155°.27W±0°.05, h3km±17km, Error ellipse: s-maj=29.4km s-min=0.8km az=193.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLHI	**Steaming Bluff**	**0.02**	**172**		Pg	13 23 21.0	-0.4
UWB	**Uwekahuna Bluf**	**0.02**	**196**		Pg	13 23 21.0	-0.4
HATHI	**Halema'uma'u T**	**0.03**	**159**		Pg	13 23 20.8	-0.6
OBL	**Observatory Le**	**0.03**	**202**		Pg	13 23 21.5	0.0
UWE	**Uwekahuna**	**0.03**	**218**		Pg	13 23 21.1	-0.4
BYL	**Byron's Ledge**	**0.04**	**164**		Pg	13 23 21.1	-0.4
KKO	**Keanakako'i**	**0.05**	**175**		Pg	13 23 22.3	+0.6
WRMHI	**West Rim**	**0.05**	**213**		Pg	13 23 22.9	+1.1
RIM	**Rim**	**0.05**	**183**		Pg	13 23 22.5	+0.7
SDHHI	**Sand Hill**	**0.06**	**200**		Pg	13 23 22.0	0.0
PUH	**Pauahi**	**0.09**	**145**		Pg	13 23 22.5	+0.1
KNHH	**Kane Nui o Ham**	**0.12**	**125**		Pg	13 23 23.1	+0.2
MLH	**Mauna Loa**	**0.12**	**293**		Pg	13 23 23.8	+0.8
MLH				IAML		13 23 26.7	
	comp=E,859nm,0.8s						
STCH	**Steam Cracks**	**0.15**	**114**		Pg	13 23 23.7	+0.1
STCH				IAML		13 23 27.3	
	comp=E,2μm,0.8s						
STCH				IAML		13 23 27.4	
	comp=N,626nm,0.8s						
HLP	**Hilina Pali**	**0.15**	**193**	Pg	Pg	13 23 23.4	-0.2
HLP				IAML		13 23 27.1	
	comp=E,980nm,0.8s						
NPOC	**North of Pu'u**	**0.16**	**110**		Pg	13 23 24.2	+0.4
JCUZ	**Jacuzzi**	**0.17**	**112**		Pg	13 23 24.5	+0.5
HTC	**Hot Caves**	**0.24**	**210**		Pg	13 23 25.6	+0.4
HMH	**Humu'ula Sheep**	**0.25**	**308**		Pg	13 23 26.5	+1.0
HMH				IAML		13 23 33.6	
	comp=N,469nm,0.8s						
HMH				IAML		13 23 34.7	
	comp=E,437nm,0.8s						
JOKA	**Jonika Flow**	**0.25**	**93**		Pg	13 23 25.7	+0.2
JOKA				IAML		13 23 32.3	
	comp=E,341nm,0.7s						
JOKA				IAML		13 23 33.3	
	comp=N,688nm,0.9s						
MWH	**Mokuaweoweo**	**0.31**	**277**		Pg	13 23 26.4	-0.4
MWH				IAML		13 23 37.0	
	comp=N,614nm,1.1s						
ALEP	**Alea Permanent**	**0.36**	**285**		Pg	13 23 28.0	+0.3
KHU	**Kahuku**	**0.38**	**238**		Pg	13 23 28.0	0.0
KHU	**Kahuku**	**0.38**	**238**	IAML		13 23 36.0	
	comp=N,264nm,2.1s						
KHU				IAML		13 23 38.0	
	comp=E,256nm,0.7s						
POHA	**Pohakuloa**	**0.39**	**321**		Pg	13 23 28.1	-0.1
POHA				IAML		13 23 39.8	
	comp=E,389nm,0.7s						
HUH	**Hualalai**	**0.58**	**294**		Pg	13 23 31.5	-0.3
CPH	**Captain Cook**	**0.61**	**274**		Pg	13 23 32.2	-0.1
HPAH	**Hawaii Prepara**	**0.70**	**325**		Pg	13 23 33.5	-0.7
HPAH				IAML		13 23 49.4	
	comp=N,159nm,0.8s						
HPAH				IAML		13 23 59.0	
	comp=E,160nm,0.7s						

*NEIC **21** 13:27:42.5±0.6, 66°.31N±0°.02×157°.2W±0°.1, h7km±9km, Error ellipse: s-maj=6.8km s-min=2.8km az=95.0*

AEIC 21 13:27:42.8±1.1, 66°.29N±0°.01×157°.0W±0°.1, h0km±7km, ML3.0, ML3.2/112(NEIC), Error ellipse: s-maj=6.6km s-min=1.9km az=98.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.15**	**200**		Pg	13 27 46.3	+0.6
G19K				IAML		13 27 49.4	
	comp=E,10μm,0.3s						
G19K				IAML		13 27 49.9	
	comp=N,9μm,0.4s						
F19K	**Shaleruckik Mo**	**0.64**	**330**		Pg	13 27 53.6	-1.4
H19K	**Roundabout Mou**	**0.79**	**165**		Pg	13 27 58.4	+0.4
H19K				IAML		13 28 13.9	
	comp=E,572nm,0.2s						
G18K	**Tagagawik**	**0.80**	**241**		Pg	13 27 56.4	-1.7
E19K	**Redstone River**	**1.18**	**355**		Pg	13 28 04.2	-1.2
E19K				IAML		13 28 22.8	
	comp=N,480nm,0.5s						
E19K				IAML		13 28 23.0	
	comp=E,433nm,0.6s						
H18K	**Honhosa River**	**1.28**	**208**		Pg	13 28 05.5	-1.8
G21K	**Allakaket**	**1.41**	**79**		Pn	13 28 09.6	-0.1
F21K	**Alatna River

	comp=E,50nm,0.8s				
G24K	Hadweenzic Riv	3.82	79	IAML	13 29 52.2
	comp=N,48nm,0.8s				
ANM	Nome	3.92	248	IAML	13 29 52.2
	comp=N,25nm,0.6s				
ANM				IAML	13 29 54.7
	comp=E,22nm,0.8s				
B22K	Teshekpuk Lake	4.28	16	IAML	13 30 14.0
	comp=E,31nm,0.8s				
B22K				IAML	13 30 16.1
	comp=N,32nm,1.0s				
C23K	Itkillik River	4.28	31	IAML	13 30 10.8
	comp=N,34nm,0.7s				
C23K				IAML	13 30 12.6
	comp=E,29nm,0.8s				
TNA	Tin City	4.55	266	IAML	13 30 15.1
	comp=E,16nm,1.2s				
J14K	Nanvaranak Lak	4.55	222	IAML	13 30 20.2
	comp=N,25nm,1.1s				
F25K	Christian Rive	4.64	68	IAML	13 30 18.5
	comp=N,24nm,0.7s				
F25K				IAML	13 30 20.2
	comp=E,27nm,1.0s				
PRP	Porcupine Dome	4.75	94	IAML	13 30 17.2
	comp=E,19nm,0.7s				
PRP				IAML	13 30 24.7
	comp=N,18nm,0.9s				
E25K	Arctic Village	4.79	62	IAML	13 30 24.2
	comp=N,24nm,0.9s				
F26K	Sheenjek River	5.22	68	IAML	13 30 36.3
	comp=E,15nm,0.7s				
F26K				IAML	13 30 41.5
	comp=N,14nm,1.0s				

*ISK **21** 13:29:35.7, 37°.57N×32°.07E, h3km, ML3.6/34*
*AFAD **21** 13:29:35.9, 37°.57N×32°.05E, h10km±1km, MW3.5*
ISC 21 13:29:36.1±0.9, 37°.56N±0°.02×32°.07E±0°.02, h10km±8km, n64, σ0°78/84, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEYD	Seydisehir-KON	0.24	231	Pg	Pg	13 29 41.3	+0.2
SEYD				Sg	Sg	13 29 44.9	+0.5
SEDI	Konya, Seydise	0.27	247	P	Pg	13 29 41.9	+0.2
SEDI				S	Sg	13 29 45.5	0.0
KONT	Konya--Tatoy	0.45	30	Pg	Pg	13 29 44.8	-0.2
KONT				Sg	Sb	13 29 51.8	-1.2
KONT	Konya--Tatoy	0.45	30	P	Pg	13 29 44.7	-0.2
KONT				S	Sg	13 29 51.6	+0.8
HDMB	Hadim	0.68	151	Pg	Pg	13 29 48.8	-0.5
KEPZ	Antalya-Kepez	0.76	210	P	Pg	13 29 50.6	0.0
KKBE	Karaman, Kazim	0.77	116	P	Pg	13 29 49.9	-1.1
KKBE				S	Sg	13 29 59.3	-1.7
MNVG	Manavgat-Antal	0.93	215	Pg	Pb	13 29 53.9	-0.4
KDHN	Kadinhani	0.96	2	P	Pg	13 29 54.1	-0.5
KDHN				S	Sb	13 30 07.5	-0.4
YVAC	Isparta, Yalva	0.97	317	P	Pg	13 29 54.2	-0.6
YVAC				S	Sb	13 30 07.9	-0.2
ALIN	Konya, Altinte	0.98	41	P	Pg	13 29 54.1	-0.9
ALIN				S	Sb	13 30 08.4	+0.1
ALAN	Alanya-ANTALYA	1.00	182	Pg	Pb	13 29 55.5	-0.1
KRMN	Karaman	1.02	112	Pg	Pb	13 29 56.0	0.0
BAGO	Egridir - ISPA	1.10	293	P	Pb	13 29 57.1	-0.3
BCK	Bucak	1.18	266	Pn	Pn	13 29 58.7	-0.2
UCKU	Afyonkarahisar	1.19	335	P	Pn	13 29 58.0	-1.0
UCKU				S	Sn	13 30 15.4	+0.1
CHBY	Cihanbeyli	1.21	32	Pn	Pn	13 29 59.3	+0.1
CHBY				Sn	Sn	13 30 17.0	+1.2
BUCA	Burdur, Bucak-	1.23	260	P	Pn	13 29 59.7	+0.3
ISP	Isparta	1.26	283	Pn	Pn	13 30 00.2	+0.3
CBEY	Konya-Cihanbey	1.26	26	P	Pn	13 30 00.5	+0.5
CBEY				S	Sn	13 30 17.3	+0.3
ANTB	Antalya	1.31	240	Pn	Pg	13 30 01.8	+0.6
SULT	Sultanhani-AKS	1.31	60	Pn	Pg	13 30 01.4	+0.1
KIZT	Kizilcal	1.33	354	Pn	Pg	13 30 02.2	+0.6
GAZI	Gazipasa	1.33	172	P	Pn	13 30 01.0	+0.2
GAZI				S	Sb	13 30 17.2	-1.2
YESY	Yesilyurt	1.34	80	Pn	Pg	13 30 02.1	+0.2
AFYN	Afyon-Dinar-K	1.43	300	P	Pg	13 30 03.0	-0.6
AFYN				S	Sg	13 30 25.1	+2.9
KURO	Afyon-Bolvadin	1.48	323	P	Pb	13 30 03.2	-0.6
KURO				S	Sg	13 30 22.9	-0.8
KORT	Korkueli	1.48	248	P	Pb	13 30 03.6	-0.2
CTIK	Konya-Celtik	1.51	347	P	Pg	13 30 04.4	-0.7
CTIK				S	Sg	13 30 24.3	-0.3
BERE	Bereket-Mersin	1.52	142	Pn	Pb	13 30 04.4	-0.1
SHUT	Suhut-Afyon	1.56	310	Pn	Pb	13 30 04.9	-0.3
TEVE	Tevekalti-Mers	1.57	135	Pn	Pb	13 30 05.0	-0.3
BOZY	Bozyazi-Mersin	1.62	153	Pn	Pb	13 30 06.0	-0.1
BYAT	Afyon-Bayat	1.63	329	P	Pg	13 30 06.5	-0.9
BYAT				S	Sg	13 30 29.7	+1.1
KERG	Konya-Eregli	1.64	94	P	Pb	13 30 06.1	-0.4
TEKE	Tekeli-Mersin	1.64	149	Pn	Pb	13 30 06.2	-0.3
BASM	Basmaki-Afyon	1.64	283	Pn	Pg	13 30 06.9	-0.8
KZIL	AFYON_Kizioren	1.68	295	P	Pg	13 30 07.4	-0.9
KZIL				S	Sg	13 30 30.8	+0.6
KEBE	Keben-Mersin	1.72	130	Pn	Pb	13 30 07.6	-0.3
KKUL	Konya-Kulu	1.74	22	P	Pb	13 30 08.0	-0.3
KKUL				S	Sg	13 30 34.1	+1.9
OREN	Orenkoy-Mersin	1.75	140	Pn	Pb	13 30 07.9	-0.4
YORU	Yoruktepe-Mers	1.76	142	Pn	Pb	13 30 08.3	-0.3
TEPK	Tepekoy-MERSIN	1.78	138	Pn	Pb	13 30 08.7	-0.2
GULN	MERSIN_Gulnar	1.81	139	P	Pb	13 30 09.1	-0.3
GULN				S	Sn	13 30 31.0	+0.6
SERE	Sereflikochisa	1.82	40	Pn	Pb	13 30 08.7	-0.9
AKKU	Akkuyu-Mersin	1.83	139	Pn	Pb	13 30 09.2	-0.5
AKK1	Akkuyu-Mersin	1.84	140	Pn	Pb	13 30 09.8	0.0
IKL	Isikli	1.85	135	Pn	Pb	13 30 09.6	-0.4
YESI	Yesilovacik-Me	1.85	137	Pn	Pb	13 30 09.3	-0.8
AKUM	Antalya-Kumluc	1.85	229	P	Pg	13 30 10.9	-0.8
AFYO	Afyonkarahisar	1.86	312	P	Pb	13 30 10.1	-0.1
KARG	Kargicak-Mersi	1.88	135	Pn	Pb	13 30 10.3	-0.3
TISA	Tisan-Mersin	1.90	137	Pn	Pb	13 30 10.3	-0.6
SILI	Silifke-Mersin	1.90	128	Pn	Pb	13 30 10.3	-0.6
ELL	Elmali	1.91	246	Pn	Pb	13 30 10.6	-0.5
SVRH	Sivrihisar-ESK	1.94	347	Pn	Pn	13 30 09.9	+0.7
CIFT	Cifteler, Eski	1.97	337	Pn	Pn	13 30 10.2	+0.6
INCE	Denizli-Bozkur	1.99	275	P	Pb	13 30 11.7	-0.8
GOLH	Golhisar	2.02	262	P	Pb	13 30 13.3	+0.2
BNAZ	Uak-Banaz	2.06	304	P	Pb	13 30 12.5	-1.2
MERS	Mersin	2.07	109	Pn	Pn	13 30 12.6	+1.5
KNIK	Mula-Seydike	2.12	251	P	Pb	13 30 14.8	+0.1
KNIK				S	Sg	13 30 45.5	+1.3
APMY	Acipayam-Deniz	2.21	269	Pn	Pb	13 30 14.6	-1.6
CAME	Cameli-Denizli	2.29	255	Pn	Pb	13 30 16.1	-1.6

*IDC **21** 13:33:03.2±1.1, 29°.43N×51°.62E, h0km, mb3.8/22,*
mbtmp3.8/25, ML3.4/3, MS3.2/1, Error ellipse:
s-maj=26.4km s-min=14.7km az=16.0
*NEIC **21** 13:33:04.7±2.0, 29°.38N±0°.10×51°.65E±0°.04, h10km±1km,*
mb4.3/27, Error ellipse: s-maj=16.5km s-min=5.4km
az=186.0
*TEH **21** 13:33:05.4, 29°.44N×51°.50E, h11km±12km*
*NAO **21** 13:33:33.3, 31°.41N×48°.09E, h33km, mb3.6*
ISC 21 13:33:05.9±0.5, 29°.37N±0°.04×51°.56E±0°.04, h20km, n113, σ1°50/113, mb4.1/40, 6C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ2	Kazeron-Fars-I	0.26	20	Pg	Pb	13 33 10.6	-1.5
AHBU	AHRAM	0.55	205	Pg	Pb	13 33 16.9	+0.1
SHI	Shiraz	0.88	71	Pg	Pb	13 33 23.0	+0.4
DSBU	Dashti - Bushe	1.03	195	Pg	Pn	13 33 27.0	+1.6
QIR1	Qir	1.58	124	Pg	Pb	13 33 36.5	+2.1
KLNJ	Kolanjah	1.64	1	Pg	Pn	13 33 35.5	+1.6
JHRM	Jahrom	1.97	115	Pn	Pb	13 33 41.7	+0.6
IRAM	Ramesheh	2.54	16	Pn	Pn	13 33 48.8	+2.6
IBRJ	Brojen	2.55	354	Pn	Pn	13 33 47.9	+1.5
ZNGN	Zangian	2.81	348	Pn	Pn	13 33 51.3	+1.3
JHBN	Jahan bin	2.96	345	Pn	Pn	13 33 53.5	+1.4
IMEH	Mehriz	3.32	52	Pn	Pn	13 34 00.6	+3.5
IPIR	Pirpir	3.36	350	Pn	Pn	13 33 58.8	+1.3
IZEF	Zefreh	3.58	10	Pn	Pn	13 34 02.8	+2.2
IKLH	Kolahrood	3.94	0	Pn	Pn	13 34 07.0	+1.5
IBAF	Bafgh	4.11	56	Pn	Pn	13 34 10.9	+3.2
ANAR	Anarak	4.24	25	Pn	Pn	13 34 11.6	+2.1
QAMS	Qamsar	4.36	358	Pn	Pn	13 34 13.0	+1.7
NGRK	Negar Kerman	4.52	85	Pn	Pn	13 34 17.0	+3.5
ZRDN	Zarand Kerman	4.60	68	Pn	Pn	13 34 17.2	+2.7
KRSH	Karshahi	4.62	6	Pn	Pn	13 34 16.7	+2.0
ISFB	Sefidab	5.01	6	Pn	Pn	13 34 21.0	+1.0
HSAM	Samen	5.45	333	Pn	Pn	13 34 27.7	+1.4
IQOM	Qom	5.48	356	Pn	Pn	13 34 27.3	+0.7
IVRN	Varamin	5.62	1	Pn	Pn	13 34 29.2	+0.8
KBAM	BAM	6.03	90	Pn	Pn	13 34 37.4	+3.3
UOSS	Minazif	6.04	136	Pn	Pn	13 34 32.4	-1.8
IRAZ	Razeghan	6.18	348	Pn	Pn	13 34 38.5	+2.3
IDMV	Damavand	6.21	4	Pn	Pn	13 34 38.1	+1.4
TKDS	Koohdasht(Taba	6.37	47	Pn	Pn	13 34 41.4	+2.7
QABG	Abgarm-Qazvin	6.54	346	Pn	Pn	13 34 43.2	+2.0
IALA	Alasht	6.78	9	Pn	Pn	13 34 46.9	+2.3
IDHR	Dehrash	6.89	322	Pn	Pn	13 34 47.2	+1.1
IKOO	Kooshah	7.09	63	Pn	Pn	13 34 51.2	+2.5
RAYN	Ar Rayn	7.95	224		Pn	13 35 00.4	-0.1
WSAR	Wadi Sarin	8.80	132	Pn	Pn	13 35 12.6	+0.5
	baz=38,slow=24,SNR=5.6						
WSAR				Sn	Sn	13 36 44.2	-6.5
	baz=218,slow=24,SNR=1.7						
ASF	Jabal al Asfar	12.91	286	Pn	Pn	13 36 10.3	+1.9
	0.5nm,0.3s,baz=157,slow=21,SNR=1.9						
	4.2nm,0.9s						
KBL	Kabul	15.71	66	Pn	Pn	13 36 44.0	-2.2
KBZ	Khabaz	15.92	337	Pn	Pn	13 36 50.7	+2.0
	0.1nm,0.3s,baz=160,slow=8.5,SNR=10						
	5.4nm,0.9s						
KIV	Kislovodsk	16.19	336	Pn	Pn	13 36 52.1	-0.2
KIV				IAmb	IAmb	13 36 57.9	
	comp=Z,20nm,0.9s						
BRTR	Keskin Array B	17.99	310	P	Pn	13 37 14.7	-0.2
	comp=Z,0.1nm,0.3s,baz=123,slow=11,SNR=4.8						
	comp=Z,0.6nm,0.6s						
KKAR	Karatay Array	20.47	43	P	P	13 37 41.6	-0.8
AB31	Akbulak array	20.87	16	P	P	13 37 46.5	-0.1
ABKAR	Akbulak array	20.87	16	P	P	13 37 46.7	+0.2
AKTO	Aktyubinsk	21.60	11	P	P	13 37 54.2	-0.2
	comp=Z,1.7nm,0.5s,baz=209,slow=7.6,SNR=5.1						
	comp=Z,1.7nm,0.5s						
AAK	Ala-Archa	22.71	48	P	P	13 38 06.3	-0.3
	comp=Z,0.6nm,0.5s,baz=233,slow=7.7,SNR=5.4						
	comp=Z,0.6nm,0.5s						
IDI	Anoyia	23.26	292	P	P	13 38 13.2	+1.0
	comp=Z,14nm,0.9s,baz=227,slow=19,SNR=1.5						
	comp=Z,14nm,0.9s						
CFR	Carcaliu	24.30	317	⇑P	P	13 38 22.9	+1.0
SPBR	Spulber	25.43	317	⇓P	P	13 38 33.7	+1.4
VRI	Vrincioaia	25.50	317	⇑P	P	13 38 34.3	+1.5
NEHR	Nehoiu	25.54	316	⇑P	P	13 38 33.6	+0.4
PLOR	Plostina	25.54	317	⇓P	P	13 38 35.3	+2.0
MLR	Muntele Rosu	25.78	316	P	P	13 38 34.6	-0.9
MLR				IAmb	IAmb	13 38 46.6	
	comp=Z,6.5nm,0.8s						
MLR	Muntele Rosu	25.78	316	P	P	13 38 37.2	+1.7
	comp=Z,2.6nm,0.6s,baz=303,slow=2.0,SNR=6.1						
	comp=Z,2.6nm,0.6s						
MLR	Muntele Rosu	25.78	316	⇓P	P	13 38 36.5	+0.9
COVR	Voineasa-Covas	25.80	317	⇓P	P	13 38 37.5	+1.9
TESR	Tescani	25.89	318	⇑P	P	13 38 38.2	+1.8
VOIR		26.31	315	⇑P	P	13 38 40.8	+0.5
DOPR	Dopca	26.36	316	⇑P	P	13 38 41.7	+1.0
AKASG	Malin Array Be	27.13	328	P	P	13 38 45.9	-1.6
	comp=Z,0.2nm,0.3s,baz=133,slow=9.3,SNR=5.0						
	comp=Z,0.2nm,0.3s						
AKBB	Malin Array Si	27.13	328	P	P	13 38 46.4	-1.1
KIEV	Kiev	27.13	328	P	P	13 38 46.4	-1.1
BURAR	Bucovina Array	27.31	319	P	P	13 38 50.1	+0.8
BUR08	Bucovina Ar. S	27.34	319	P	P	13 38 50.5	+1.0
BVAR	Borovoye Array	27.39	25	P	P	13 38 49.7	-0.2
	comp=Z,0.4nm,0.4s,baz=218,slow=9.4,SNR=4.3						
	comp=Z,0.4nm,0.4s						
MARR	Marisel-Cluj	28.08	316	⇓P	P	13 38 57.6	+1.5
KURBB	Kurchatov Arra	29.35	36	P	P	13 39 07.0	-0.4
	comp=Z,0.6nm,0.7s,baz=235,slow=9.2,SNR=6.9						
	comp=Z,0.6nm,0.7s						
MKAR	Makanchi Array	29.54	45	P	P	13 39 09.2	+0.1
MKAR	Makanchi Array	29.54	45	P	P	13 39 08.5	-0.6
	comp=Z,0.3nm,0.5s,baz=255,slow=8.5,SNR=3.5						
	comp=Z,0.3nm,0.5s						
MORC	Moravsky Berou	32.80	318	⇓P	P	13 39 38.9	+1.1
ZALV	Zalesovo Beam	34.41	35	P	P	13 39 52.6	+0.9
	comp=Z,1.0nm,0.4s,baz=245,slow=9.7,SNR=6.2						
	comp=Z,1.0nm,0.4s						
GERES	GERESS Array B	34.76	315	P	P	13 39 55.6	+0.7
	comp=Z,0.4nm,0.6s,baz=97,slow=9.0,SNR=5.6						
	comp=Z,0.4nm,0.6s						
WTTA	Wattenberg	35.59	311	P	P	13 40 01.5	-0.7
	comp=Z,3.2nm,1.1s						
WATA	Walderalm	35.65	311	eP	P	13 40 02.1	-0.6
	comp=Z,2.9nm,1.0s						
SQTA	Sankt Quirin	35.86	311	eP	P	13 40 03.8	-0.6
	comp=Z,2.1nm,0.5s						
MOTA	Moosalm	35.96	311	eP	P	13 40 04.4	-1.0
	comp=Z,1.1nm,0.7s						
FINES	FINESS Array B	36.24	340	P	P	13 40 06.4	-0.9
FINES	FINESS Array B	36.24	340	P	P	13 40 06.8	-0.5
	comp=Z,0.4nm,0.5s,baz=142,slow=9.6,SNR=6.2						
	comp=Z,0.4nm,0.5s						
DAVOX	Davos/Dischmat	36.63	310	P	P	13 40 12.1	+0.9
	comp=Z,0.8nm,0.4s,baz=2.4,slow=5.5,SNR=4.6						
	comp=Z,0.8nm,0.4s						
HFS	Hagfors	39.89	331	P	P	13 40 37.4	-0.7
	comp=Z,1.5nm,0.4s,baz=120,slow=8.8,SNR=23						
	comp=Z,1.5nm,0.4s						
NC405	NORSAR Array S	41.24	332	P	P	13 40 48.3	-1.0
NC405				IAmb	IAmb	13 40 53.5	
	comp=Z,3.5nm,0.7s						
NB201	NORSAR Array S	41.38	332	P	P	13 40 49.2	-1.3
NB2	NORSAR Subarra	41.41	332	P	P	13 40 49.4	-1.3
	comp=Z,0.5nm,0.5s,baz=124,slow=8.6						
NOA	NORSAR Array B	41.41	332	P	P	13 40 49.6	-1.1
	comp=Z,0.3nm,0.4s,baz=122,slow=8.4,SNR=4.5						
	comp=Z,0.3nm,0.4s						
NBO00	NORSAR Array S	41.59	331	P	P	13 40 51.1	-1.1
PBA	Port Blair	42.14	106	P	P	13 40 55.5	-1.7
ARCES	ARCESS Array B	42.90	347	P	P	13 41 02.7	-0.1
	comp=Z,3.3nm,0.8s,baz=152,slow=5.5,SNR=5.9						
	comp=Z,3.3nm,0.8s						
NRIK	Noril'sk	45.03	17	LR	LR	14 00 56.2	
	comp=Z,28nm,18.7s,baz=145,slow=37						
EKA	Eskdalemuir Ar	46.49	320	P	P	13 41 31.1	-0.4
	comp=Z,0.2nm,0.3s,baz=100,slow=7.7,SNR=4.2						
	comp=Z,0.2nm,0.3s						
SPB2	Spitsbergen Ar	51.35	351	P	P	13 42 09.0	+0.5
SPITS	Spitsbergen Ar	51.35	351	P	P	13 42 08.3	-0.2
	comp=Z,25nm,1.2s,baz=137,slow=14,SNR=5.5						
KSRS	Korea Array	62.67	61	P	P	13 43 28.6	-0.7
	comp=Z,0.7nm,0.6s,baz=282,slow=7.3,SNR=6.5						
	comp=Z,0.7nm,0.6s						
B20K	Meade River	78.77	10	P	P	13 45 07.8	+1.1
B20K				IAmb	IAmb	13 45 28.3	
	comp=Z,4.2nm,1.4s						
A36M	Sachs Harbour	78.90	359	P	P	13 45 07.8	+0.4
A36M				IAmb	IAmb	13 45 15.2	
	comp=Z,2.5nm,0.7s						
C18K	Utukok River	79.33	12	P	P	13 45 10.1	+0.2
C18K				IAmb	IAmb	13 45 43.0	
	comp=Z,3.8nm,1.5s						
C23K	Itkillik River	79.79	8	P	P	13 45 13.2	+1.0
D23K	Nanushuk River	80.60	8	P	P	13 45 17.6	+0.9
D23K				IAmb	IAmb	13 46 01.0	
	comp=Z,3.8nm,1.3s						
E19K	Redstone River	81.07	11	P	P	13 45 19.4	+0.2
E19K				IAmb	IAmb	13 45 21.4	
	comp=Z,4.4nm,1.4s						
E22K	Anaktuvuk Pass	81.25	9	P	P	13 45 20.8	+0.6
E22K				IAmb	IAmb	13 45 45.4	
	comp=Z,3.5nm,1.4s						
C36M	Paulatuk	81.53	358	P	P	13 45 21.2	-0.3
C36M				IAmb	IAmb	13 45 22.1	
	comp=Z,5.2nm,1.5s						
F19K	Shaleruckik Mo	81.55	11	P	P	13 45 21.6	-0.1
F19K				IAmb	IAmb	13 46 03.8	
	comp=Z,5.3nm,1.4s						
INK	Inuvik	82.55	2	P	P	13 45 27.1	+0.2
	comp=Z,0.5nm,0.9s,baz=180,slow=11,SNR=1.7						
	comp=Z,0.5nm,0.9s						
F30M	Barrier River	83.17	3	P	P	13 45 30.5	+0.3
F30M				IAmb	IAmb	13 46 08.1	
	comp=Z,3.6nm,1.3s						
F31M	Tsiigehtchic	83.41	2	P	P	13 45 31.6	+0.2
F31M				IAmb	IAmb	13 45 37.1	
	comp=Z,5.1nm,1.5s						
H31M	Peel River	85.03	2	P	P	13 45 40.0	+0.3
ILAR	Eielson Array	85.07	8	P	P	13 45 39.8	-0.1
	comp=Z,0.3nm,0.6s,baz=330,slow=5.1,SNR=4.8						
	comp=Z,0.3nm,0.6s						
I28M	Miner Creek	85.08	5	P	P	13 45 40.1	0.0
I28M				IAmb	IAmb	13 45 49.7	
	comp=Z,4.6nm,1.4s						
J30M	Hart River	86.17	3	P	P	13 45 46.4	+0.9
J30M				IAmb	IAmb	13 45 53.9	
	comp=Z,4.0nm,1.2s						
SKT	Skwentna	87.09	11	P	P	13 45 50.1	+0.1
BCAR	Beaver Creek A	87.27	6	P	P	13 45 51.3	+0.4
YKA	Yellowknife Ar	87.79	354	P	P	13 45 53.5	+0.3
	comp=Z,0.3nm,0.8s,baz=160,slow=6.5,SNR=4.6						
	comp=Z,0.3nm,0.8s						
WRA	Warramunga Arr	93.57	111	P	P	13 46 21.7	+0.8
	comp=Z,0.3nm,0.9s,baz=296,slow=5.4,SNR=1.1						
	comp=Z,0.3nm,0.9s						
ASAR	Alice Springs	95.06	114	P	P	13 46 27.2	-0.6
	comp=Z,0.3nm,0.8s,baz=306,slow=5.4,SNR=2.4						
	comp=Z,0.3nm,0.8s						

*KRSC **21** 13:34:03.7±1.4, 55°.60N×164°.96E, h60km±22km, Ml3.7*
*IDC **21** 13:34:03.1±2.0, 55°.39N×165°.11E, h0km, mb3.5/2,*
mbtmp3.5/2, ML2.0/1, MS2.8/1, Error ellipse:
s-maj=268.1km s-min=26.3km az=158.0
ISC 21 13:34:05.2±1.7, 55°.59N±0°.05×164°.85E±0°.06, h16km±14km, n47, σ1°38/52, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.75	121	eP	Pg	13 34 19.7	-0.1
BKI				eS	Sg	13 34 29.7	+0.1
KBTR	Krutoberegovo	1.30	299	eP	Pn	13 34 26.8	-1.7
KBTR				eS	Sb	13 34 42.6	-3.0
KBG	Krutoberegovo	1.38	300	eP	Pn	13 34 28.0	-1.7
KBG				eS	Sb	13 34 45.5	-2.3
MKZ	Mys Kozlova	2.07	241	eP	Pn	13 34 39.1	-0.1
MKZ				eS	Sn	13 35 03.0	-1.6
SMKR	Semkarok	2.14	299	eP	Pn	13 34 40.5	+0.2
ZLN	Zelenaya	2.32	282	eP	Pn	13 34 44.4	+1.6
ZLN				eS	Sn	13 35 13.2	+2.2
CIRR	Tsirk	2.37	284	eS	Sn	13 35 14.2	+1.9
BZGR	Bezymyannyi-Gr	2.37	280	eP	Pn	13 34 44.5	+1.0
BZGR				eS	Sn	13 35 13.5	+1.2
KLY	Klyuchi	2.47	289	eP	Pn	13 34 43.8	-0.9
KLY				eS	Sn	13 35 12.7	-1.8
BZMR	Bezymyannaya	2.49	280	eS	Sn	13 35 15.7	+0.6
BZWR	Bezymyannyi-We	2.49	280	eP	Pn	13 34 46.7	+1.6
KRSR	Krestovskiy	2.49	286	eP	Pn	13 34 45.5	+0.4
KRSR				eS	Sn	13 35 15.7	+0.4
TUMD	Tumrok D	2.57	263	eP	Pn	13 34 46.8	+0.7
TUMD				eS	Sn	13 35 16.9	-0.1
KIRR	Kirishev	2.57	280	eP	Pn	13 34 47.4	+1.1
KIRR				eS	Sn	13 35 17.5	+0.3
KMNR	Kamenistaya	2.62	276	eP	Pn	13 34 48.4	+1.6
KMNR				eS	Sn	13 35 20.0	+1.7
KPT	Kopyto	2.64	280	eP	Pn	13 34 48.2	+1.1
KPT				eS	Sn	13 35 20.2	+1.3
KOZ	Kozyrevsk	2.85	281	eP	Pn	13 34 51.7	+1.8
ESO	Esso	3.49	278	eP	Pn	13 34 59.4	+0.6
KII	Karymskiy	3.49	246	eP	Pn	13 35 00.2	+1.3
SPN	Mys Shipunski	3.77	230	eS	Sn	13 35 43.2	-3.4
OSSR	Ossora	3.79	346	eP	Pn	13 35 02.2	-0.6
OSSR				eS	Sn	13 35 42.7	-4.4
NLC	Nalytchevo	4.03	235	eS	Sn	13 35 51.4	-1.6
SDLR	Sedlovina	4.18	239	eP	Pn	13 35 09.9	+1.5
KRX	Arik	4.25	241	eP	Pn	13 35 11.2	+1.9
KRX				eS	Sn	13 35 58.7	0.0
UGLR	Uglovaya	4.25	238	eP	Pn	13 35 10.9	+1.6
UGLR				eS	Sn	13 35 58.5	-0.1
AVH	Avacha	4.26	239	eP	Pn	13 35 11.4	+2.0
AVH				eS	Sn	13 35 59.4	+0.5
KOK	Koryaka	4.30	240	eP	Pn	13 35 11.7	+1.8
PALN	Palana	4.39	325	eP	Pn	13 35 11.6	+0.5
DALK	Dalny	4.40	237	eP	Pn	13 35 12.2	+1.1
DALK				eS	Sn	13 36 00.3	-1.7
PET	Petropavlovsk	4.45	237	eP	Pn	13 35 13.2	+1.4
PET				eS	Sn	13 36 02.4	-0.9
KRMR	Karymshinskiy	4.82	238	eP	Pn	13 35 18.5	+1.5
KRMR				eS	Sn	13 36 13.2	+0.8
PETK	Petropavlovsk-	4.87	242	Pn	Pn	13 35 18.5	+0.8
	0.3nm,0.3s,baz=61,slow=14,SNR=41						
PETK				Sn	Sn	13 36 15.7	+2.1
	1.2nm,

CBEY	**Konya-Cihanbey**	**1.25**	**25**	P	**Pb**	**13 40 27.5**	**-0.1**
CBEY				S	**Sn**	**13 40 44.5**	**-0.2**
ISP	**Isparta**	**1.28**	**282**	Pn	**Pn**	**13 40 28.1**	**0.0**
SULT	**Sultanhani-AKS**	**1.29**	**60**	Pn	**Pg**	**13 40 29.1**	**+0.6**
YESY	**Yesilyurt**	**1.32**	**80**	Pn	**Pg**	**13 40 29.9**	**+0.8**
ANTB	**Antalya**	**1.33**	**241**	Pn	**Pg**	**13 40 29.6**	**+0.3**
GAZI	**Gazipasa**	**1.33**	**173**	P	**Pn**	**13 40 28.5**	**-0.2**
KIZT	**Kizilcal**	**1.33**	**352**	Pn	**Pg**	**13 40 30.1**	**+0.8**
KIZT				Sn	**Sn**	**13 40 49.3**	**+2.5**
AFYN	**Afyon-Dinar-K**	**1.45**	**300**	P	**Pn**	**13 40 30.7**	**+0.2**
AFYN				P	**Pb**	**13 40 30.9**	**-0.3**
AFYN				S	**Sg**	**13 40 53.1**	**+2.6**
KURO	**Afyon-Bolvadin**	**1.49**	**322**	P	**Pn**	**13 40 31.1**	**+0.1**
KURO				S	**Sn**	**13 40 50.3**	**-0.5**
BERE	**Bereket-Mersin**	**1.50**	**143**	Pn	**Pb**	**13 40 31.9**	**-0.1**
KORT	**Korkueli**	**1.50**	**249**	P	**Pn**	**13 40 31.3**	**+0.1**
CTIK	**Konya-Celtik**	**1.52**	**346**	P	**Pb**	**13 40 32.1**	**-0.1**
CTIK				S	**Sg**	**13 40 52.5**	**0.0**
TEVE	**Tevekalti-Mers**	**1.55**	**136**	Pn	**Pg**	**13 40 33.6**	**+0.1**
SHUT	**Suhut-Afyon**	**1.58**	**310**	Pn	**Pn**	**13 40 32.7**	**+0.5**
BOZY	**Bozyazi-Mersin**	**1.61**	**154**	Pn	**Pb**	**13 40 33.7**	**0.0**
BRDR	**BURDUR-Merkez**	**1.63**	**276**	P	**Pb**	**13 40 34.2**	**+0.1**
TEKE	**Tekeli-Mersin**	**1.63**	**150**	Pn	**Pb**	**13 40 33.8**	**-0.2**
BYAT	**Afyon-Bayat**	**1.64**	**328**	P	**Pb**	**13 40 34.1**	**-0.3**
BYAT				S	**Sg**	**13 40 56.9**	**+0.3**
BASM	**Basmaki-Afyon**	**1.67**	**283**	Pn	**Pb**	**13 40 34.5**	**-0.3**
KEBE	**Keben-Mersin**	**1.70**	**130**	Pn	**Pb**	**13 40 35.8**	**+0.5**
OREN	**Orenkoy-Mersin**	**1.73**	**141**	Pn	**Pb**	**13 40 35.7**	**-0.1**
YORU	**Yoruktepe-Mers**	**1.75**	**143**	Pn	**Pb**	**13 40 36.5**	**+0.4**
TEPK	**Tepekoy-MERSIN**	**1.76**	**139**	Pn	**Pb**	**13 40 36.3**	**-0.1**
SERE	**Sereflikochisa**	**1.80**	**39**	Pn	**Pb**	**13 40 36.3**	**-0.8**
AKKU	**Akkuyu-Mersin**	**1.81**	**140**	Pn	**Pb**	**13 40 37.2**	**0.0**
AKK1	**Akkuyu-Mersin**	**1.82**	**140**	Pn	**Pb**	**13 40 37.4**	**+0.1**
IKL	**Isikli**	**1.83**	**136**	Pn	**Pb**	**13 40 37.5**	**+0.1**
YESI	**Yesilovacik-Me**	**1.83**	**137**	Pn	**Pb**	**13 40 37.5**	**-0.1**
GULA	**Gulagac**	**1.86**	**64**	Pn	**Pb**	**13 40 37.9**	**-0.2**
KARG	**Kargicak-Mersi**	**1.87**	**136**	Pn	**Pb**	**13 40 37.8**	**-0.3**
SILI	**Silifke-Mersin**	**1.88**	**129**	Pn	**Pb**	**13 40 38.1**	**-0.2**
TISA	**Tisan-Mersin**	**1.88**	**137**	Pn	**Pb**	**13 40 37.7**	**-0.6**
ELL	**Elmali**	**1.93**	**246**	Pn	**Pn**	**13 40 38.2**	**+1.2**
SVRH	**Sivrihisar-ESK**	**1.94**	**347**	Pn	**Pn**	**13 40 37.7**	**+0.5**
CIFT	**Cifteler, Eski**	**1.98**	**336**	Pn	**Pn**	**13 40 37.9**	**+0.2**
AFSR	**Afar-Bala (An**	**2.03**	**22**	Pn	**Pb**	**13 40 39.9**	**-1.1**
MERS	**Mersin**	**2.05**	**109**	Pn	**Pb**	**13 40 40.7**	**-0.6**
KIRS	**Kirsehir-Merke**	**2.12**	**42**	⇑P	**Pn**	**13 40 40.8**	**+1.2**
KIRS				⇑S	**Sb**	**13 41 08.4**	**-0.6**
APMY	**Acipayam-Deniz**	**2.23**	**269**	Pn	**Pn**	**13 40 42.2**	**+1.1**
CMRD	**Camardi-Nigde**	**2.29**	**87**	Pn	**Pb**	**13 40 44.0**	**-1.5**
CAME	**Cameli-Denizli**	**2.32**	**256**	Pn	**Pn**	**13 40 44.0**	**+1.6**
ANTO	**Ankara**	**2.37**	**13**	⇑P	**Pn**	**13 40 44.2**	**+1.2**
BRTR	**Keskin Array B**	**2.48**	**29**	Pn	**Pn**	**13 40 45.1**	**+0.6**
	5.0nm,0.3s,baz=196,slow=15,SNR=101						
BRTR				Sn	**Sn**	**13 41 16.7**	**+1.7**
	8.1nm,0.3s,baz=211,slow=24,SNR=7.9						
	14nm,0.4s						
LEF	**Lefka**	**2.51**	**165**	Pn	**Pn**	**13 40 46.8**	**+1.9**
FETY	**Fethiye**	**2.58**	**250**	Pn	**Pn**	**13 40 47.6**	**+1.7**
GEDZ	**Gediz**	**2.59**	**306**	Pn	**Pn**	**13 40 47.8**	**+1.8**
DALY	**Dalyan (Mula)**	**2.85**	**256**	Pn	**Pn**	**13 40 50.7**	**+1.1**
BAND	**Balkesir-Ban**	**4.19**	**313**	⇑P	**Pn**	**13 41 10.2**	**+2.2**
MMAI	**Mount Meron Ar**	**5.27**	**148**	Pn	**Pn**	**13 41 23.7**	**+0.8**
	8.0nm,0.3s,baz=330,slow=13,SNR=25						
MMAI				Sn	**Sn**	**13 42 20.9**	**-3.0**
	baz=325,slow=14						
	5.0nm,0.3s						
IDI	**Anoyia**	**6.24**	**251**	Pn	**Pn**	**13 41 36.5**	**+0.3**
	6.9nm,0.5s,baz=46,slow=21,SNR=5.3						
IDI				Sn	**Sn**	**13 42 45.7**	**-2.2**
	1.2nm,0.3s,baz=228,slow=18,SNR=4.0						
ASF	**Jabal al Asfar**	**6.66**	**142**	Pn	**Pn**	**13 41 44.0**	**+2.0**
	1.8nm,0.3s,baz=332,slow=7.1,SNR=7.2						
ASF				Sn	**Sn**	**13 43 02.8**	**+4.6**
	0.5nm,0.3s,baz=196,slow=6.8,SNR=1.5						
ASF				LR	LR	13 45 06.9	
	comp=Z,46nm,21.9s,baz=4.8,slow=45						
	1.8nm,0.3s						
SEV	**Sevastopol'**	**7.08**	**9**	*i* P	**Pn**	**13 41 48.5**	**+0.9**
SEV				Pm		13 41 49.4	
	comp=Z,3.0nm,0.3s						
SEV				*e*S	**Sn**	**13 43 07.9**	**-0.4**
SEV				Sm		13 43 15.3	
	comp=N,4.0nm,0.6s						
SEV				Sm		13 43 15.3	
	comp=E,6.0nm,0.6s						
TIRR	**Tirgusor**	**7.44**	**339**	⇓P	**Pn**	**13 41 53.9**	**+1.4**
HARR	**Harsova**	**7.79**	**337**	⇑P	**Pn**	**13 41 59.8**	**+2.4**
TPGR	**Topolog**	**7.80**	**340**	⇑P	**Pn**	**13 41 58.5**	**+1.0**
DNZ2	**Donuzlav2**	**7.86**	**6**	*e*P	**Pn**	**13 42 00.0**	**+1.7**
DNZ2				Pm		13 42 00.4	
	comp=Z,18nm,0.3s						
DNZ2				*ex*	x	13 43 28.2	
DNZ2				Sm		13 43 33.2	
	comp=N,2.0nm,0.3s						
DNZ2				Sm		13 43 33.2	
	comp=E,5.0nm,0.4s						
CFR	**Carcaliu**	**8.18**	**340**	⇑P	**Pn**	**13 42 03.7**	**+1.1**
EIL	**Elat**	**8.22**	**162**	Pn	**Pn**	**13 42 04.5**	**+1.2**
	comp=E,2.1nm,0.3s,baz=330,slow=9.0,SNR=8.7						
EIL				Sn	**Sn**	**13 43 32.8**	**-3.6**
	comp=E,0.4nm,0.3s,baz=232,slow=23,SNR=1.0						
	comp=E,7.1nm,0.5s						
NEHR	**Nehoiu**	**8.99**	**333**	⇑P	**Pn**	**13 42 16.1**	**+2.3**
MLR	**Muntele Rosu**	**9.17**	**332**	Pn	**Pn**	**13 42 17.0**	**+0.6**
	comp=E,0.2nm,0.3s,baz=190,slow=15,SNR=2.0						
MLR				Sn	**Sn**	**13 44 01.0**	**+1.1**
	comp=E,0.1nm,0.3s,baz=294,slow=20,SNR=1.0						
	comp=E,0.9nm,0.5s						
MLR	**Muntele Rosu**	**9.17**	**332**	⇑P	**Pn**	**13 42 18.8**	**+2.4**
VRI	**Vrincioaia**	**9.22**	**336**	⇑P	**Pn**	**13 42 19.8**	**+2.7**
PLOR	**Plostina**	**9.23**	**336**	⇓P	**Pn**	**13 42 19.0**	**+1.8**
COVR	**Voineasa-Covas**	**9.38**	**334**	⇑P	**Pn**	**13 42 21.4**	**+2.2**
VOIR		**9.48**	**328**	⇑P	**Pn**	**13 42 22.9**	**+2.3**
DOPR	**Dopca**	**9.78**	**331**	⇑P	**Pn**	**13 42 27.0**	**+2.3**
GNI	**Garni**	**10.19**	**71**	LR	LR	13 47 12.6	
	comp=E,94nm,18.8s,baz=272,slow=42						
MARR	**Marisel-Cluj**	**11.29**	**327**	⇓P	**Pn**	**13 42 48.1**	**+2.7**
AKASG	**Malin Array Be**	**13.30**	**352**	Pn	**Pn**	**13 43 10.7**	**-2.1**
	comp=E,0.5nm,0.3s,baz=164,slow=13,SNR=4.1						
	comp=E,0.4nm,0.4s						
GERES	**GERESS Array B**	**17.48**	**316**	Pn	**P**	**13 44 10.2**	**+1.1**
	baz=119,slow=9.8,SNR=3.9						
	comp=E,0.3nm,0.7s						
DAVOX	**Davos/Dischmat**	**18.82**	**306**	LR	LR	13 52 25.9	
	comp=E,36nm,21.0s,baz=78,slow=40						
FINES	**FINESS Array B**	**24.21**	**353**	P	**P**	**13 45 19.9**	**-0.6**
	comp=E,3.5nm,1.1s,baz=153,slow=11,SNR=7.3						
	comp=E,3.5nm,1.1s						
ESDC	**Sonseca Array**	**28.14**	**286**	P	**P**	**13 45 55.8**	**-0.7**
	comp=E,0.5nm,0.9s,baz=90,slow=9.0,SNR=2.0						
	comp=E,0.5nm,0.9s						
BVAR	**Borovoye Array**	**30.62**	**47**	P	**P**	**13 46 18.5**	**+0.3**
	comp=E,0.2nm,0.3s,baz=234,slow=40,SNR=1.7						
	comp=E,0.2nm,0.3s						
ARCES	**ARCESS Array B**	**32.24**	**356**	P	**P**	**13 46 31.8**	**-0.4**
	comp=E,1.9nm,0.9s,baz=180,slow=9.8,SNR=0.9						
	comp=E,1.9nm,0.9s						
AAK	**Ala-Archa**	**32.57**	**68**	P	**P**	**13 46 36.1**	**+0.5**
	comp=E,0.8nm,0.5s,baz=241,slow=4.8,SNR=4.3						
	comp=E,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**35.23**	**53**	P	**P**	**13 46 59.3**	**+0.8**
	comp=E,1.5nm,0.7s,baz=273,slow=8.8,SNR=20						
	comp=E,1.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**36.41**	**236**	P	**P**	**13 47 09.6**	**+0.7**
	comp=E,80nm,0.5s,baz=32,slow=8.5,SNR=1.9						
MKAR	**Makanchi Array**	**37.75**	**60**	P	**P**	**13 47 20.2**	**+0.1**
	comp=E,1.0nm,0.7s,baz=281,slow=6.0,SNR=9.8						
	comp=E,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**39.27**	**48**	P	**P**	**13 47 32.3**	**-0.4**
	comp=E,0.6nm,0.4s,baz=270,slow=11,SNR=1.8						
	comp=E,0.6nm,0.4s						
DBIC	**Dimbokro**	**45.51**	**237**	P	**P**	**13 48 24.1**	**+0.2**
	comp=E,1.8nm,0.7s,baz=159,slow=16,SNR=1.7						
	comp=E,1.8nm,0.7s						
PALK	**Pallekele**	**53.29**	**112**	LR	LR	14 17 11.9	
	comp=E,58nm,18.2s,baz=104,slow=42						
SONM	**Songino Array**	**53.59**	**54**	P	**P**	**13 49 25.3**	**-0.1**
	comp=E,0.6nm,0.7s,baz=311,slow=7.8,SNR=3.8						
	comp=E,0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**60.81**	**88**	P	**P**	**13 50 15.7**	**-1.0**
	comp=E,0.6nm,0.7s,baz=305,slow=8.8,SNR=5.2						
	comp=E,0.6nm,0.7s						
YKA	**Yellowknife Ar**	**76.75**	**345**	P	**P**	**13 51 55.6**	**+0.3**
	comp=E,0.2nm,0.8s,baz=30,slow=6.0,SNR=4.4						
	comp=E,0.2nm,0.8s						

*IDC **21** 13:47:29.3±1.0, 36°.29N×112°.11W, h0km, mbtmp2.6/4, ML2.8/3, Error ellipse: s-maj=12.2km s-min=9.6km az=41.0*
*NEIC **21** 13:47:30.8±1.4, 36°.33N±0°.03×112°.23W±0°.05, h10km±2km, ML3.1/14, ML2.8/3(REN), Error ellipse: s-maj=6.8km s-min=5.3km az=68.0*
*REN **21** 13:47:33.5±6.9, 36°.31N±0°.03×112°.52W±0°.05, h10km±7km, Error ellipse: s-maj=5.7km s-min=3.5km az=69.0*

ISC 21 13:47:32.0±1.0, 36°.35N±0°.03×112°.21W±0°.03, h15km±8km, n61, σ1s32/49, Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U15A	**North Rim**	**0.10**	**320**	Pg	**Pg**	**13 47 36.0**	**+0.3**
KNB	**Kanab**	**0.83**	**324**		**Sg**	**13 47 58.2**	**-0.9**
KNB	**Kanab**	**0.83**	**324**		**Pg**	**13 47 47.3**	**-0.9**
LCMT	**Little Creek M**	**1.06**	**309**		**Sg**	**13 48 05.3**	**-1.2**
LCMT	**Little Creek M**	**1.06**	**309**		**Pg**	**13 47 51.2**	**-1.4**
LCMT				IAML		13 48 06.4	
	comp=E,440nm,0.2s						
LCMT				IAML		13 48 08.2	
	comp=N,315nm,0.3s						
WUAZ	**Wupatki**	**1.07**	**141**		**Pg**	**13 47 51.5**	**-1.2**
WUAZ				IAML		13 48 09.2	
	comp=N,865nm,0.3s						
PKCU	**Pink Cliffs**	**1.09**	**356**		**Pg**	**13 47 51.9**	**-1.3**
PKCU				IAML		13 48 11.2	
	comp=E,723nm,0.2s						
PKCU				IAML		13 48 11.7	
	comp=N,439nm,0.3s						
ZNPU	**Zion National**	**1.25**	**324**		**Pg**	**13 47 55.4**	**-0.7**
BTU	**Barney Top**	**1.43**	**11**		**Pn**	**13 47 57.2**	**-0.6**
ICU	**Indian Springs**	**1.59**	**301**		**Pn**	**13 47 57.8**	**-2.0**
ICU					**Sn**	**13 48 18.0**	**-2.1**
ARUT	**Antelope Range**	**1.74**	**326**		**Pn**	**13 48 02.6**	**+0.8**
W13A	**Hualapai Mount**	**1.85**	**228**		**Pn**	**13 48 03.2**	**-0.1**
X16A	**Lo Mia Camp, P**	**2.03**	**162**		**Pn**	**13 48 06.3**	**+0.5**
MVU	**Marysvale**	**2.15**	**360**		**Pn**	**13 48 08.0**	**+0.4**
MVU				IAML		13 48 39.4	
	comp=E,88nm,0.3s						
MVU				IAML		13 48 40.3	
	comp=N,150nm,0.3s						
MSU	**Marysvale**	**2.16**	**1**		**Pn**	**13 48 08.5**	**+0.9**
V12A	**Nelson**	**2.23**	**255**		**Sb**	**13 48 41.1**	**+1.5**
V12A	**Nelson**	**2.23**	**255**		**Pb**	**13 48 11.8**	**-0.3**
V12A				IAML		13 48 42.5	
	comp=E,56nm,0.5s						
SHPR	**Sheep Range**	**2.38**	**275**		**Sb**	**13 48 45.0**	**+1.0**
SHPR	**Sheep Range**	**2.38**	**275**		**Pn**	**13 48 11.6**	**+0.9**
Y14A	**Wickenburg**	**2.49**	**195**		**Pn**	**13 48 11.7**	**-0.4**
Y14A				IAML		13 48 53.2	
	comp=N,49nm,0.7s						
Y14A				IAML		13 48 56.6	
	comp=E,51nm,0.5s						
PRN	**Pahroc Range**	**2.51**	**296**		**Sb**	**13 48 49.0**	**+1.3**
PRN	**Pahroc Range**	**2.51**	**296**		**Pn**	**13 48 12.4**	**0.0**
PRN				IAML		13 48 57.3	
	comp=N,94nm,0.6s						
PRN				IAML		13 48 58.5	
	comp=E,107nm,0.6s						
X18A	**Snowflake**	**2.59**	**134**		**Pb**	**13 48 18.6**	**+0.4**
X18A				IAML		13 48 52.7	
	comp=E,97nm,0.5s						
X18A				IAML		13 48 59.2	
	comp=N,97nm,0.8s						
Q16A	**Castle Valley**	**2.69**	**17**	Pn	**Pn**	**13 48 15.8**	**+0.9**
Q16A				IAML		13 48 56.9	
	comp=N,62nm,0.3s						
Q16A				IAML		13 49 01.9	
	comp=E,78nm,0.6s						
PV05	**Paradox Valley**	**3.02**	**54**		**Pn**	**13 48 23.0**	**+3.4**
MCY	**Mercury**	**3.04**	**277**		**Pb**	**13 48 25.8**	**-0.1**
SRU	**San Rafael Swe**	**3.06**	**25**		**Pn**	**13 48 19.9**	**-0.1**
SRU				IAML		13 49 09.2	
	comp=E,80nm,0.8s						
SRU				IAML		13 49 09.3	
	comp=N,69nm,0.4s						
MVCO	**Mesa Verde**	**3.10**	**73**	IAML		13 49 17.4	
	comp=N,105nm,0.7s						
MVCO				IAML		13 49 19.5	
	comp=N,104nm,0.9s						
CPY	**CP-1**	**3.15**	**282**		**Pb**	**13 48 28.9**	**+1.1**
BLYC	**Blythe**	**3.21**	**217**		**Pn**	**13 48 22.2**	**+0.3**
BLYC				IAML		13 49 20.2	
	comp=E,23nm,1.0s						
PV17	**East Wray Mesa**	**3.23**	**52**	IAML		13 49 13.4	
	comp=E,80nm,0.5s						
PV19	**Morning Glory**	**3.23**	**52**	IAML		13 49 18.5	
	comp=E,82nm,0.6s						
PV18	**Skein Mesa, Pa**	**3.24**	**53**		**Pn**	**13 48 23.7**	**+1.2**
NSP	**Numbskull Pass**	**3.25**	**278**		**Pb**	**13 48 29.5**	**+0.1**
PV13	**Radium Mtn., P**	**3.25**	**55**		**Pn**	**13 48 24.4**	**+1.7**
PV13				IAML		13 49 16.8	
	comp=N,93nm,0.8s						
PV20	**West Nyswonger**	**3.26**	**51**		**Pn**	**13 48 24.0**	**+1.2**
PV03	**Paradox Valley**	**3.29**	**54**	IAML		13 49 17.0	
	comp=E,68nm,0.5s						
PV03				IAML		13 49 18.7	
	comp=N,75nm,0.7s						
PV04	**Paradox Valley**	**3.33**	**51**		**Pn**	**13 48 25.0**	**+1.3**
PV02	**Paradox Valley**	**3.33**	**55**		**Pn**	**13 48 25.2**	**+1.4**
SDH	**Striped Hills**	**3.34**	**276**		**Pb**	**13 48 32.4**	**+1.3**
PV12	**Saucer Basin,**	**3.35**	**53**		**Pn**	**13 48 24.8**	**+0.8**
PV01	**Paradox Valley**	**3.41**	**57**		**Pn**	**13 48 25.9**	**+1.1**
PV01				IAML		13 49 21.2	
	comp=E,61nm,0.5s						
PV01				IAML		13 49 22.2	
	comp=N,43nm,0.5s						
PV22	**Blue Mesa, Par**	**3.49**	**50**	Pn	**Pn**	**13 48 27.3**	**+1.3**
PV22				IAML		13 49 22.5	
	comp=N,57nm,0.5s						
PV22				IAML		13 49 28.7	
	comp=E,64nm,0.7s						
PV07	**Paradox Valley**	**3.52**	**53**	IAML		13 49 26.1	
	comp=E,34nm,0.6s						
PV07				IAML		13 49 26.4	
	comp=N,53nm,0.7s						
PV15	**Paradox Valley**	**3.58**	**55**	IAML		13 49 27.7	
	comp=N,60nm,0.5s						
PV15				IAML		13 49 34.7	
	comp=E,63nm,0.7s						
P18A	**Preston Nutter**	**3.62**	**25**	IAML		13 49 24.1	
	comp=E,35nm,0.6s						
P18A				IAML		13 49 28.4	
	comp=N,37nm,0.7s						
DUG	**Dugway, Tooele**	**3.87**	**353**	Pn	**Pn**	**13 48 31.6**	**+0.5**
GSC	**Goldstone, Bar**	**3.88**	**256**	IAML		13 49 35.4	
	comp=E,16nm,0.7s						
GSC				IAML		13 49 36.2	
	comp=N,18nm,0.6s						
SGV	**South Grapevin**	**3.93**	**281**		**Pn**	**13 48 34.4**	**+2.4**
GRAC	**Grapevine Rang**	**4.20**	**280**	IAML		13 49 46.7	
	comp=N,22nm,0.6s						
GRAC				IAML		13 49 49.9	
	comp=E,24nm,1.0s						
BSUT	**Blindstream Ca**	**4.33**	**15**	IAML		13 49 55.7	
	comp=E,10nm,2.6s						
BSUT				IAML		13 50 09.1	
	comp=N,12nm,3.9s						
PFO	**Pinyon Flats O**	**4.43**	**233**	Pn	**Pn**	**13 48 39.6**	**+0.8**
	comp=N,0.7nm,0.2s,baz=220,slow=20,SNR=0.9						
PFO				Lg	Lg	13 49 50.0	
	comp=N,0.8nm,0.3s,baz=154,slow=12,SNR=4.0						
S22A	**4UR Ranch, Cre**	**4.52**	**70**	IAML		13 50 20.9	
	comp=E,10nm,3.5s						
ANMO	**Albuquerque**	**4.89**	**105**	IAML		13 50 07.3	
	comp=E,6.4nm,1.8s						
ANMO	**Albuquerque**	**4.89**	**105**	IAML		13 50 02.7	
	comp=E,3.1nm,0.4s						
ANMO				IAML		13 50 05.9	
	comp=E,4.1nm,0.6s						
ANMO	**Albuquerque**	**4.89**	**105**	IAML		13 50 04.8	
	comp=E,4.9nm,0.6s						
ANMO				IAML		13 50 05.9	
	comp=E,6.0nm,0.6s						
ANMO	**Albuquerque**	**4.89**	**105**	Pg	**Pb**	**13 48 55.6**	**-1.8**
	comp=E,0.5nm,0.3s,baz=267,slow=18,SNR=12						
ANMO				Lg	Lg	13 50 01.2	
	comp=E,0.9nm,0.3s,baz=215,slow=19,SNR=6.5						
ELK	**Elko**	**4.99**	**332**	Pn	**Pn**	**13 48 48.8**	**+2.2**
	comp=E,0.1nm,0.3s,baz=226,slow=4.7,SNR=1.5						
ELK				Lg	Lg	13 50 06.7	
	comp=E,0.3nm,0.3s,baz=25,slow=23,SNR=5.6						
	comp=E,0.2nm,0.3s						
NVAR	**Mina Array Bea**	**5.28**	**295**	Pg	**Pb**	**13 49 05.0**	**+0.9**
	comp=E,0.5nm,0.3s,baz=56,slow=26,SNR=7.5						
NVAR				Lg	Lg	13 50 17.8	
	comp=E,0.6nm,0.3s,baz=60,slow=26,SNR=1.9						
PDAR	**Pinedale Array**	**6.73**	**17**	Pn	**Pn**	**13 49 13.2**	**+2.7**
	baz=195,slow=12,SNR=2.1						
PDAR				Pg	**Pb**	**13 49 28.0**	**-0.8**
	comp=E,0.1nm,0.3s,baz=206,slow=11,SNR=4.3						
PDAR				Lg	Lg	13 51 02.0	
	comp=E,0.2nm,0.3s,baz=97,slow=34,SNR=2.1						
	comp=E,0.1nm,0.4s						
TXAR	**Lajitas Array**	**10.02**	**132**	Pn	**Pn**	**13 49 56.0**	**+0.5**
	baz=306,slow=8.2,SNR=1.2						
TXAR				Pg		13 50 32.7	
	baz=317,slow=18,SNR=1.7						
TXAR				Lg	Lg	13 52 41.8	
	baz=313,slow=30,SNR=7.0						
	comp=E,0.2nm,1.0s						

IDC 21 14:06:49.1±6.8, 2°.40S×133°.14E, h262km±70km, mb2.8/3, mbtmp3.5/5, Error ellipse: s-maj=56.8km s-min=22.9km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.25**	**205**	P	P	14 10 33.1	+0.1
	2.5nm,1.1s,baz=39,slow=13,SNR=1.5						
WRA	**Warramunga Arr**	**17.48**	**176**	P	P	14 10 34.7	-0.7
	0.3nm,0.4s,baz=356,slow=12,SNR=5.2						
WRA				S	S	14 13 42.6	-0.9
	0.2nm,0.5s,baz=5.8,slow=21,SNR=2.0						
ASAR	**Alice Springs**	**21.16**	**178**	P	P	14 11 15.3	+0.9
	0.4nm,0.6s,baz=3.0,slow=12,SNR=11						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**66.22**	**324**	P	P	14 17 08.4	-0.7
	0.3nm,0.8s,baz=123,slow=5.3,SNR=1.9						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**87.88**	**25**	P	P	14 19 09.2	+0.4
	0.4nm,0.7s,baz=260,slow=5.3,SNR=4.4						
	0.4nm,0.7s						

*NEIC **21** 14:08:09.0±1.1, 19°.88N±0°.06×63°.77W±0°.04, h10km±2km, ML3.3/20, Error ellipse: s-maj=10.6km s-min=4.8km az=333.0*
*TRN **21** 14:08:11.2, 19°.61N×63°.80W, h25km, MD0.0*

ISC 21 14:08:11.2±2.7, 19°.9N±0°.2×63°.75W±0°.07, h35km, n18, σ0s88/25, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**1.90**	**160**	Pn	**Pn**	**14 08 41.2**	**0.0**
SMRT				Sn	**Sn**	**14 09 05.1**	**+1.2**
SMRT				IAML		14 09 07.2	
	comp=N,673nm,0.2s						
SKI	**Saint Kitts**	**2.68**	**159**	*e*P	**Pn**	**14 08 51.6**	**-0.3**
SKI				*e*S	**Sn**	**14 09 21.9**	**-1.4**
GCPR	**Guaynabo City**	**2.69**	**236**	Pn	**Pn**	**14 08 51.8**	**-0.2**
GCPR					**Sn**	**14 09 22.7**	**-0.7**
SKOC	**St. Kitts, UWI**	**2.72**	**159**	*e*S	**Sn**	**14 09 21.9**	**-2.3**
PDPR	**Patillas Dam,**	**2.82**	**230**		**Pn**	**14 08 54.8**	**+1.0**
PDPR				IAML		14 09 30.1	
	comp=E,78nm,0.6s						
PDPR				IAML		14 09 31.5	
	comp=N,92nm,0.1s						
SJG	**San Juan**	**2.85**	**233**	Pn	**Pn**	**14 08 54.9**	**+0.6**
SJG				IAML		14 09 30.3	
	comp=N,70nm,0.3s						
ANWB	**Willy Bob**	**2.86**	**139**	Pn	**Pn**	**14 08 54.7**	**+0.3**
ANWB				IAML		14 09 52.0	
	comp=N,93nm,1.4s						
ANWB				IAML		14 09 55.2	
	comp=N,82nm,2.3s						
ANWB	**Willy Bob**	**2.86**	**139**	*e*P	**Pn**	**14 08 55.0**	**+0.6**
ANWB				*e*S	**Sn**	**14 09 26.7**	**-0.9**
IGPR	**InterUniversit**	**2.92**	**230**		**Pn**	**14 08 56.0**	**+0.9**
IGPR				IAML		14 09 30.2	
	comp=E,246nm,0.3s						
CELP	**Cerrillos**	**3.21**	**237**		**Pn**	**14 08 59.5**	**+0.3**
CELP					**Sn**	**14 09 34.9**	**-1.3**
CELP				IAML		14 09 36.5	
	comp=N,69nm,0.3s						
AOPR	**Arecibo Observ**	**3.21**	**243**		**Pn**	**14 08 59.5**	**+0.2**
AOPR				IAML		14 09 45.7	
	comp=N,124nm,0.3s

AAK Ala-Archa 6.68 23 P Pn 14 19 46.6 +0.9
comp=N,5.7nm,0.3s
AAK S Sn 14 21 00.6 -1.1
comp=N,42nm,0.6s
BHK Bhakra 6.82 137 *e*P **Pn 14 19 48.7 +1.3**
BHK *e*S **Sn 14 21 03.3 -1.5**
BHK IAML 14 21 04.9
comp=N,190nm,0.3s
BHK IAML 14 21 05.2
comp=E,156nm,0.3s
KBK Karagaybulak 6.85 25 P **Pn 14 19 49.5 +1.6**
SNR=7.8
BOOM Boomskoye usch 7.09 31 Pn **Pn 14 19 52.1 +1.1**
CHMS Chumysh 7.09 23 P **Pn 14 19 51.9 +1.0**
SNR=9.4
CHMS Chumysh 7.09 23 ⇓P **Pn 14 19 51.2 +0.3**
comp=E,10nm,0.5s
CHMS ⇑S **Sn 14 21 08.2 -2.9**
comp=E,32nm,0.6s
USP Ospenovka 7.26 21 P **Pn 14 19 54.0 +0.9**
SNR=12
TKM2 Tokmak 2 7.32 28 P **Pn 14 19 55.1 +1.1**
SNR=43
TKM2 Tokmak 2 7.32 28 ⇓P **Pn 14 19 54.7 +0.7**
comp=E,26nm,0.6s
TKM2 ⇓S **Sn 14 21 14.0 -2.7**
comp=E,27nm,0.9s
KDJ Kajisay 7.38 39 Pn **Pn 14 19 55.9 +1.0**
SMLA Simla 7.46 134 *e*P **Pn 14 19 56.4 +0.6**
SMLA *e*S **Sn 14 21 14.6 -5.3**
SMLA IAML 14 21 20.3
comp=E,180nm,0.2s
SMLA IAML 14 21 21.4
comp=N,121nm,0.3s
DDI Dehra Dun 8.57 134 *e*P **Pn 14 20 11.0 +0.6**
DDI *e*S **Sn 14 21 41.8 -4.6**
DDI IAML 14 21 46.0
comp=E,118nm,0.2s
DDI IAML 14 21 46.4
comp=N,113nm,0.1s
JOSI Joshimath 9.32 127 *e*P **Pn 14 20 21.2 +0.8**
JOSI IAML 14 22 04.4
comp=E,90nm,0.3s
JOSI IAML 14 22 06.0
comp=Z,83nm,0.5s
KUDL Kundal 9.57 149 *e*P **Pn 14 20 23.3 -0.2**
KUDL *e*S **Sn 14 22 02.5 -7.8**
KUDL IAML 14 22 05.2
comp=E,51nm,0.4s
KUDL IAML 14 22 06.3
comp=N,21nm,0.5s
LGTI Lohaghat 10.51 130 *e*P **Pn 14 20 34.9 -0.7**
LGTI *e*S Sn 14 22 20.7 -12
LGTI IAML 14 22 27.0
comp=N,32nm,0.4s
LGTI IAML 14 22 28.6
comp=E,42nm,0.5s
MAKZ Makanchi 13.15 35 Pn 14 21 09.6 +0.4
MKAR Makanchi Array 13.29 36 Pn **Pn 14 21 11.4 +0.4**
MKAR Makanchi Array 13.29 36 P **Pn 14 21 10.9 0.0**
comp=E,0.7nm,0.7s,baz=224,slow=10,SNR=8.2
WMQ Urumqi 14.71 55 *e*P **P 14 21 31.4 +1.5**
AB31 Akbulak array 15.05 331 Pn **P 14 21 31.5 -2.1**
AB31 Akbulak array 15.05 331 ⇓P **P 14 21 32.0 -1.6**
comp=E,8.8nm,0.6s,baz=146,slow=12,SNR=172
AB31 ⇓S **Sn 14 24 16.9 -3.8**
comp=E,1.9nm,0.5s,baz=144,slow=23,SNR=6.4
ABKAR Akbulak array 15.05 331 P 14 21 32.1 -1.4
ABKAR Akbulak array 15.05 331 Pn **P 14 21 31.7 -1.8**
KURBB Kurchatov Arra 15.11 19 P **Pn 14 21 32.4 -1.0**
comp=E,0.6nm,0.5s,baz=214,slow=8.6,SNR=5.8
BVAR Borovoye Array 16.50 359 P **Pn 14 21 50.3 0.0**
comp=E,4.0nm,0.5s,baz=166,slow=12,SNR=28
BVAR S **S 14 24 46.4 -5.7**
comp=E,0.5nm,0.6s,baz=176,slow=26,SNR=1.6
BRVK Borovoye 16.54 359 P **Pn 14 21 49.8 -0.9**
BRVK IAmb IAmb 14 21 54.5
comp=Z,3.4nm,0.6s
AKTO Aktyubinsk 16.74 330 P **Pn 14 21 53.8 +0.6**
comp=Z,6.6nm,0.5s,baz=136,slow=9.2,SNR=20
AKTO Aktyubinsk 16.74 330 ⇑P **Pn 14 21 52.9 -0.3**
comp=Z,6.6nm,0.8s
AKTO ⇓S **S 14 24 55.1 -2.1**
comp=Z,2.9nm,1.1s
ZALV Zalesovo Beam 19.90 25 P **P 14 22 26.6 +0.1**
ZALV Zalesovo Beam 19.90 25 P **P 14 22 26.9 +0.4**
comp=Z,2.2nm,0.6s,baz=222,slow=10,SNR=11
SHL Shillong 20.95 116 P **P 14 22 39.4 +1.3**
SHL IAmb IAmb 14 22 58.9
comp=Z,8.7nm,1.0s
ARTI Arti 21.61 341 P **P 14 22 47.3 +2.8**
comp=Z,2.4nm,0.6s,baz=123,slow=4.9,SNR=5.2
comp=Z,2.4nm,0.6s
RAYN Ar Rayn 25.48 247 P **P 14 23 20.9 +0.3**
RAYN IAmb IAmb 14 23 27.0
comp=Z,3.6nm,0.5s
LZH Lanzhou 26.43 81 *e*P **P 14 23 32.8 +3.6**
LZH pP pP 14 24 17.3 +8.7
LZH pmax pmax
comp=Z,15nm,0.5s
SONM Songino Array 28.35 55 P **P 14 23 47.6 +1.7**
comp=Z,0.3nm,0.5s,baz=242,slow=8.0,SNR=2.7
comp=Z,0.3nm,0.5s
BRTR Keskin Array B 29.40 288 P **P 14 23 55.5 +0.1**
comp=Z,0.6nm,0.8s,baz=114,slow=12,SNR=3.8
comp=Z,0.6nm,0.8s
CMAR Chiang Mai Arr 30.49 119 P **P 14 24 04.4 -0.7**
comp=Z,0.6nm,0.3s,baz=307,slow=6.7,SNR=4.0
comp=Z,0.6nm,0.3s
HHC Hu-ho-hao-te 31.78 70 *e*P **P 14 24 18.8 +2.5**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,69nm,5.1s
AKASG Malin Array Be 32.91 309 P **P 14 24 26.7 +0.9**
comp=Z,0.7nm,0.6s,baz=80,slow=7.3,SNR=9.4
comp=Z,0.7nm,0.6s
NRIK Noril'sk 34.11 10 P **P 14 24 37.3 +1.4**
comp=Z,1.8nm,0.5s,baz=182,slow=6.1,SNR=4.6
comp=Z,1.8nm,0.5s
FINES FINESS Array B 37.44 326 P **P 14 25 05.1 +0.7**
comp=Z,1.8nm,0.6s,baz=122,slow=9.2,SNR=15
comp=Z,1.8nm,0.6s
ARCES ARCESS Array B 41.11 338 P **P 14 25 35.8 +1.2**
comp=Z,7.0nm,1.0s,baz=113,slow=8.2,SNR=14
comp=Z,7.0nm,1.0s
HFS Hagfors 43.03 322 P **P 14 25 51.0 +0.8**
comp=Z,2.4nm,0.6s,baz=91,slow=13,SNR=21
comp=Z,2.4nm,0.6s
NC405 NORSAR Array S 44.11 323 P **P 14 25 59.4 +0.6**
NC405 IAmb IAmb 14 26 24.9
comp=Z,16nm,1.4s
NB201 NORSAR Array S 44.30 323 P **P 14 26 00.4 0.0**
NB2 NORSAR Subarra 44.34 323 P **P 14 26 00.8 +0.1**
comp=Z,1.0nm,0.5s,baz=95,slow=7.9
NOA NORSAR Array B 44.34 323 P **P 14 26 00.8 +0.1**
comp=Z,1.7nm,0.7s,baz=97,slow=7.7,SNR=11
comp=Z,1.7nm,0.7s
NC204 NORSAR Array S 44.58 323 P **P 14 26 03.3 +0.7**
NC204 IAmb IAmb 14 26 46.9
comp=Z,6.3nm,1.1s
KONO Kongsberg 45.05 321 P **P 14 26 07.0 +0.8**
KONO IAmb IAmb 14 26 49.6
comp=Z,20nm,1.3s
TIXI Tiksi 45.76 22 P **P 14 26 12.2 +0.6**
JNU Nakatsue 48.62 75 LR LR 14 52 11.3
comp=Z,25nm,18.7s,baz=298,slow=42
KMBO Kilima Mbogo 48.83 227 P **P 14 26 36.4 +0.1**
ESDC Sonseca Array 57.42 298 P **P 14 27 38.5 -0.1**
comp=Z,0.6nm,1.1s,baz=50,slow=8.0,SNR=1.9
comp=Z,0.6nm,1.1s
DAV Davao City (W) 57.63 107 LR LR 14 53 40.1
comp=Z,122nm,19.8s,baz=322,slow=37
C16K Lisburne Hills 67.44 20 P **P 14 28 44.4 0.0**
C16K IAmb IAmb 14 28 45.3
comp=Z,2.6nm,0.9s
C18K Utukok River 68.26 18 P **P 14 28 50.0 +0.4**
B22K Teshekpuk Lake 68.73 15 P **P 14 28 52.8 +0.4**
B22K IAmb IAmb 14 28 54.2
comp=Z,5.6nm,1.2s
D19K Kuna River 69.13 17 P **P 14 28 55.2 +0.3**
D19K IAmb IAmb 14 28 56.3
comp=Z,3.8nm,0.6s
D20K Etivluk River 69.31 17 P **P 14 28 56.5 +0.4**
F17K Baldwin Pennin 69.86 20 P **P 14 29 00.2 +0.8**
F17K IAmb IAmb 14 29 14.7
comp=Z,6.6nm,1.3s

E19K Redstone River 70.14 18 P **P 14 29 01.4 +0.3**
E22K Anaktuvuk Pass 70.85 16 P **P 14 29 06.0 +0.6**
E22K IAmb IAmb 14 29 10.1
comp=Z,5.7nm,1.5s
C36M Paulatuk 73.86 5 P **P 14 29 23.2 +0.2**
C36M IAmb IAmb 14 29 24.2
comp=Z,13nm,1.4s
F30M Barrier River 74.23 10 P **P 14 29 25.8 +0.5**
F30M IAmb IAmb 14 29 26.8
comp=Z,4.0nm,1.0s
ILAR Eielson Array 74.76 16 P **P 14 29 28.1 -0.4**
comp=Z,0.5nm,0.8s,baz=304,slow=4.8,SNR=4.6
comp=Z,0.5nm,0.8s
KTH Kantishna Hill 74.85 18 P **P 14 29 29.3 +0.2**
PPLA Purkeypile 75.07 19 P **P 14 29 30.7 +0.2**
KNRA Kununurra 75.27 123 P **P 14 29 32.4 +0.4**
K24K Donnelly Dome 75.84 16 P **P 14 29 34.8 +0.1**
H31M Peel River 76.12 10 P **P 14 29 35.9 -0.3**
H31M IAmb IAmb 14 29 42.7
comp=Z,12nm,1.5s
K29M Barlow Dome 77.44 13 P **P 14 29 44.4 +0.6**
K29M IAmb IAmb 14 29 45.8
comp=Z,10nm,1.5s
BOSA Boshof 77.75 220 P **P 14 29 46.0 +0.2**
BOSA Boshof 77.75 220 P **P 14 29 46.0 +0.2**
comp=Z,3.2nm,0.9s,baz=9.6,slow=4.7,SNR=5.8
comp=Z,3.2nm,0.9s
YKA Yellowknife Ar 81.22 3 P **P 14 30 04.5 +0.5**
comp=Z,0.7nm,0.5s,baz=356,slow=5.3,SNR=31
comp=Z,0.7nm,0.5s
YKAW1 Yellowknife Wh 81.24 3 P **P 14 30 04.4 +0.3**
YKAW1 IAmb IAmb 14 30 06.1
comp=Z,1.2nm,0.6s
WRA Warramunga Arr 82.03 122 P **P 14 30 08.2 -0.7**
WRA Warramunga Arr 82.03 122 P **P 14 30 07.7 -1.2**
comp=Z,1.0nm,0.5s,baz=324,slow=5.0,SNR=22
comp=Z,1.0nm,0.5s
WR8 Warramunga Arr 82.15 122 P **P 14 30 08.4 -1.1**
WR8 IAmb IAmb 14 30 26.7
comp=Z,12nm,1.5s
AS31 Alice Springs 84.30 125 P **P 14 30 19.7 -0.8**
ASAR Alice Springs 84.30 125 P **P 14 30 19.7 -0.8**
ASAR Alice Springs 84.30 125 P **P 14 30 19.8 -0.6**
comp=Z,1.3nm,0.5s,baz=313,slow=4.6,SNR=46
comp=Z,1.3nm,0.5s

*IDC **21** 14:21:20.5±0.8, 55°.08N×164°.70E, h0km, mb3.8/19, mbtmp3.8/21, ML4.6/1, MS2.8/7, Error ellipse: s-maj=24.3km s-min=13.6km az=157.0*
*KRSC **21** 14:21:21.0±1.6, 54°.84N×164°.72E, h49km±27km, Ml4.0*
*NEIC **21** 14:21:22.9±1.1, 55°.2N±0°.1×164°.5E±0°.1, h10km±2km, mb4.1/24, Error ellipse: s-maj=20.5km s-min=13.3km az=159.0*
*MOS **21** 14:21:24.6±1.2, 55°.11N×164°.56E, h42km, mb4.1/6, Error ellipse: s-maj=18.7km s-min=12.5km az=54.4*
ISC 21 14:21:22.8±3.2, 54°.90N±0°.04×164°.70E±0°.05, h17km±21km, n107, σ1§54/107, mb4.0/30, MS2.8/5, 2C, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.80**	**67**	*e*P	**Pb**	**14 21 37.5**	**-0.6**
BKI				*e*S	**Sb**	**14 21 48.4**	**-0.2**
KBTR	**Krutoberegovo**	**1.69**	**322**	*e*P	**Pn**	**14 21 48.9**	**-2.6**
MKZ	**Mys Kozlova**	**1.75**	**260**	*e*P	**Pn**	**14 21 51.4**	**-1.0**
KBG	**Krutoberegovo**	**1.77**	**321**	*e*P	**Pn**	**14 21 50.2**	**-2.3**
ZLN	**Zelenaya**	**2.48**	**298**	*e*P	**Pn**	**14 22 03.2**	**+0.7**
SMKR	**Semkarok**	**2.48**	**314**	*e*P	**Pn**	**14 22 02.2**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**2.50**	**296**	*e*P	**Pn**	**14 22 03.2**	**+0.4**
CIRR	**Tsirk**	**2.55**	**300**	*e*P	**Pn**	**14 22 05.7**	**+2.2**
LGNR	**Loginova**	**2.57**	**299**	*e*P	**Pn**	**14 22 04.4**	**+0.6**
LGNR				*e*S	**Sn**	**14 22 35.9**	**+1.2**
BZMR	**Bezymyannaya**	**2.61**	**295**	*e*P	**Pn**	**14 22 05.0**	**+0.7**
BZWR	**Bezymyannyi-We**	**2.62**	**296**	*e*P	**Pn**	**14 22 05.2**	**+0.8**
SRKR	**Sorokina**	**2.66**	**313**	*e*S	**Sn**	**14 22 38.0**	**+1.4**
KMNR	**Kamenistaya**	**2.69**	**290**	*e*P	**Pn**	**14 22 06.2**	**+0.9**
KMNR				*e*S	**Sn**	**14 22 39.3**	**+1.8**
KRSR	**Krestovskiy**	**2.69**	**301**	*e*P	**Pn**	**14 22 05.0**	**-0.3**
KRSR				*e*S	**Sn**	**14 22 36.6**	**-0.9**
KLY	**Klyuchi**	**2.69**	**303**	*e*P	**Pn**	**14 22 03.8**	**-1.5**
KLY				*e*S	**Sn**	**14 22 35.6**	**-1.8**
KIRR	**Kirishev**	**2.69**	**295**	*e*P	**Pn**	**14 22 06.3**	**+0.9**
KIRR				*e*S	**Sn**	**14 22 39.2**	**+1.5**
KPT	**Kopyto**	**2.76**	**295**	*e*P	**Pn**	**14 22 07.3**	**+0.9**
KPT				*e*S	**Sn**	**14 22 41.9**	**+2.6**
KOZ	**Kozyrevsk**	**2.98**	**295**	*e*P	**Pn**	**14 22 10.4**	**+1.2**
KOZ				*e*S	**Sn**	**14 22 47.0**	**+2.5**
KII	**Karymskiy**	**3.18**	**256**	*e*P	**Pn**	**14 22 12.7**	**+0.7**
SPN	**Mys Shipunski**	**3.30**	**239**	*e*S	**Sn**	**14 22 48.1**	**-4.2**
ESO	**Esso**	**3.57**	**289**	*e*P	**Pn**	**14 22 17.6**	**+0.3**
NLC	**Nalytchevo**	**3.60**	**243**	*e*P	**Pn**	**14 22 17.9**	**+0.2**
NLC				*e*S	**Sn**	**14 22 57.2**	**-2.5**
SDLR	**Sedlovina**	**3.79**	**247**	*e*P	**Pn**	**14 22 20.9**	**+0.5**
SDLR				*e*S	**Sn**	**14 23 02.8**	**-1.8**
KRER	**Koryakskii**	**3.85**	**248**	*e*S	**Sn**	**14 23 04.5**	**-1.7**
UGLR	**Uglovaya**	**3.85**	**246**	*e*P	**Pn**	**14 22 22.4**	**+1.1**
UGLR				*e*S	**Sn**	**14 23 04.7**	**-1.5**
AVH	**Avacha**	**3.87**	**247**	*e*P	**Pn**	**14 22 22.5**	**+1.0**
AVH				*e*S	**Sn**	**14 23 04.9**	**-1.7**
KRX	**Arik**	**3.88**	**249**	*e*P	**Pn**	**14 22 21.8**	**+0.1**
KOK	**Koryaka**	**3.91**	**248**	*e*P	**Pn**	**14 22 23.1**	**+0.9**
DALK	**Dalny**	**3.98**	**244**	*e*P	**Pn**	**14 22 23.6**	**+0.7**
DALK				*e*S	**Sn**	**14 23 05.8**	**-3.3**
PET	**Petropavlovsk**	**4.03**	**245**		**Pn**	**14 22 24.6**	**+0.9**
PET	**Petropavlovsk**	**4.03**	**245**	*e*PN	**Pn**	**14 22 25.4**	**+1.7**
PET				pmax	pmax		
PET	**Petropavlovsk**	**4.03**	**245**	*e*P	**Pn**	**14 22 24.5**	**+0.9**
GNL	**Ganaly**	**4.14**	**256**	*e*P	**Pn**	**14 22 26.4**	**+1.2**
KRMR	**Karymshinskiy**	**4.41**	**245**	*e*P	**Pn**	**14 22 29.3**	**+0.5**
KRMR				*e*S	**Sn**	**14 23 18.3**	**-1.3**
RUS	**Russkaya**	**4.43**	**239**	*e*P	**Pn**	**14 22 29.3**	**+0.2**
OSSR	**Ossora**	**4.45**	**349**	*e*P	**Pn**	**14 22 28.7**	**-0.6**
PEA0B	**Petropavlovsk-**	**4.50**	**249**		**Pn**	**14 22 30.9**	**+0.8**
PEA0B	**Petropavlovsk-**	**4.50**	**249**	PN	**Pn**	**14 22 30.9**	**+0.8**
PETK	**Petropavlovsk-**	**4.50**	**249**	Pn	**Pn**	**14 22 30.2**	**+0.1**
	comp=Z,4.0nm,0.5s,baz=69,slow=18,SNR=52						
PETK				Sn	**Sn**	**14 23 21.3**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=85,slow=18,SNR=4.6						
MTVR	**Mutnovka**	**4.57**	**241**	*e*P	**Pn**	**14 22 31.4**	**+0.3**
MTVR				*e*S	**Sn**	**14 23 20.9**	**-2.9**
GRL	**Gorelyy**	**4.58**	**242**	*e*P	**Pn**	**14 22 32.3**	**+1.0**
KDTR	**Khodutka, Kamc**	**5.03**	**235**	*e*P	**Pn**	**14 22 37.1**	**-0.2**
SHEM	**Shemya Is, Ala**	**5.98**	**107**	LR	LR	14 24 23.9	
	comp=Z,16nm,19.5s,baz=302,slow=30						
MA2	**Magadan**	**8.88**	**307**	LR	LR	14 27 06.8	
	comp=Z,57nm,18.9s,baz=110,slow=40						
GSTR	**Great Sitkin T**	**11.80**	**96**	Pn	**Pn**	**14 24 12.8**	**+2.7**
BILL	**Bilibino**	**13.21**	**3**	Pn	**Pn**	**14 24 27.4**	**-1.9**
BILL	**Bilibino**	**13.21**	**3**	*i* PN	Pn	14 24 23.8	-5.4
BILL				pmax	pmax		
	comp=Z,1.0nm,1.3s						
YSS	**Yuzhno-Sakhali**	**15.91**	**249**	*i* P	**Pn**	**14 25 02.7**	**-2.9**
YSS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
JKA	**Kamikawa-asahi**	**17.87**	**242**	P	**P**	**14 25 33.8**	**+2.8**
JKA				IAmb	IAmb	14 26 11.8	
	comp=Z,27nm,1.5s						
ASAJ	**Asahikawa**	**17.87**	**242**	P	**P**	**14 25 33.8**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,27nm,1.5s						
FALS	**False Pass**	**18.27**	**77**	P	**P**	**14 25 36.6**	**+1.4**
C16K	**Lisburne Hills**	**19.27**	**34**	P	**P**	**14 25 46.1**	**-0.1**
YAK	**Yakutsk**	**19.45**	**306**	P	**P**	**14 25 44.2**	**-3.9**
YAK				IAmb	IAmb	14 25 58.3	
	comp=Z,8.4nm,0.7s						
YAK	**Yakutsk**	**19.45**	**306**	P	**P**	**14 25 45.6**	**-2.5**
	comp=Z,1.2nm,0.3s,baz=94,slow=1.7,SNR=2.0						
	comp=Z,3.7nm,0.4s						
YAK	**Yakutsk**	**19.45**	**306**	*i* P	**P**	**14 25 42.4**	**-5.7**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
N15K	**Kwethluk River**	**19.45**	**60**	P	**Pn**	**14 25 48.9**	**-0.6**
N15K				IAmb	IAmb	14 25 51.5	
	comp=Z,11nm,1.1s						
M16K	**Timber Creek**	**20.02**	**57**	P	Pn	14 25 55.4	-0.8
M16K				IAmb	IAmb	14 25 57.5	
	comp=Z,11nm,1.3s						
C18K	**Utukok River**	**20.81**	**35**		**P**	**14 26 03.2**	**+0.2**
KLR	**Kul'dur**	**20.90**	**268**	P	**P**	**14 26 04.0**	**0.0**
	comp=Z,0.4nm,0.4s,baz=51,slow=6.5,SNR=1.6						
KLR				LR	LR	14 34 11.2	
	comp=Z,30nm,19.6s,baz=136,slow=37						
	comp=Z,0.4nm,0.4s						
H19K	**Roundabout Mou**	**21.64**	**45**	P	**P**	**14 26 11.5**	**-0.3**
H19K				IAmb	IAmb	14 26 15.5	
	comp=Z,9.9nm,1.4s						
F20K	**Avaraart Lake**	**22.25**	**41**	P	**P**	**14 26 18.7**	**+0.3**
B20K	**Meade River**	**22.67**	**33**	P	**P**	**14 26 22.1**	**-0.6**
TIXI	**Tiksi**	**22.68**	**331**	*i* P	P	14 26 12.8	-10
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
B21K	**Ikpikpuk River**	**23.36**	**35**		**P**	**14 26 29.5**	**-0.4**
B21K				IAmb	IAmb	14 26 30.8	
	comp=Z,8.0nm,1.1s						
KDAK	**Kodiak Island**	**23.56**	**65**	LR	LR	14 35 15.7	
	comp=Z,36nm,19.6s,baz=95,slow=36						
D22K	**Ayikyak River**	**23.81**	**37**	P	**P**	**14 26 34.2**	**-0.1**
E22K	**Anaktuvuk Pass**	**23.95**	**39**	P	**P**	**14 26 35.2**	**-0.6**
E22K				IAmb	IAmb	14 26 38.6	
	comp=Z,6.8nm,1.3s						
B22K	**Teshekpuk Lake**	**23.98**	**34**		**P**	**14 26 35.1**	**-0.7**
H23K	**Yukon River**	**24.52**	**45**	P	**P**	**14 26 41.3**	**+0.3**
H23K				IAmb	IAmb	14 26 42.7	
	comp=Z,4.3nm,0.9s						
E23K	**Chandalar**	**24.75**	**40**	P	**P**	**14 26 42.8**	**-0.3**
E23K				IAmb	IAmb	14 26 45.2	
	comp=Z,5.6nm,1.1s						
CCB	**Clear Creek Bu**	**25.20**	**48**	P	**P**	**14 26 46.8**	**-0.3**
D24K	**Happy Valley**	**25.23**	**38**	P	**P**	**14 26 47.0**	**-0.3**
D24K				IAmb	IAmb	14 26 49.5	
	comp=Z,2.5nm,0.6s						
IL31		**25.60**	**48**	IAmb	IAmb	14 26 53.0	
	comp=Z,3.9nm,0.8s						
ILAR	**Eielson Array**	**25.60**	**48**	P	**P**	**14 26 48.7**	**-1.9**
	comp=Z,2.0nm,0.7s,baz=258,slow=8.5,SNR=19						
	comp=Z,2.0nm,0.7s						
MJAR	**Matsushiro Arr**	**25.81**	**236**	P	**P**	**14 26 54.0**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=23,slow=8.5,SNR=5.2						
	comp=Z,0.9nm,0.8s						
C27K	**Jago River**	**27.09**	**37**	IAmb	IAmb	14 27 05.7	
	comp=Z,3.6nm,1.1s						
KSRS	**Korea Array**	**30.40**	**250**	P	**P**	**14 27 35.7**	**+2.0**
	comp=Z,1.7nm,0.7s,baz=40,slow=8.5,SNR=13						
KSRS				LR	LR	14 38 49.4	
	comp=Z,7.1nm,20.4s,baz=185,slow=34						
	comp=Z,1.7nm,0.7s						
KSRS	**Korea Array**	**30.40**	**250**	*e*P	**P**	**14 27 35.9**	**+2.1**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**35.15**	**176**	T	T	15 06 41.0	
	baz=359,slow=76,SNR=132						
H11N3	**WAKE ISLAND Hy**	**35.16**	**176**	T	T	15 06 42.1	
	baz=359,slow=76,SNR=80						
H11N1	**WAKE ISLAND Hy**	**35.17**	**176**	T	T	15 06 42.3	
	baz=359,slow=76,SNR=106						
SONM	**Songino Array**	**36.12**	**284**	P	**P**	**14 28 24.9**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=64,slow=6.6,SNR=2.7						
SONM				LR	LR	14 44 39.3	
	comp=Z,48nm,18.2s,baz=116,slow=39						
	comp=Z,0.4nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**36.36**	**177**	T	T	15 08 13.6	
	baz=5.2,slow=79,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**36.37**	**177**	T	T	15 08 10.8	
	baz=5.2,slow=79,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**36.38**	**177**	T	T	15 08 11.7	
	baz=5.2,slow=79,SNR=3.3						
JOW	**Kunigami**	**38.58**	**238**	LR	LR	14 44 27.5	
	comp=Z,24nm,20.9s,baz=268,slow=36						
YKA	**Yellowknife Ar**	**39.97**	**45**	P	**P**	**14 28 55.6**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=301,slow=8.1,SNR=10.0						
	comp=Z,0.6nm,0.8s						
GTA	**Gaotai**	**45.08**	**278**	*e*P	**P**	**14 29 39.3**	**+1.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BLKN	**Baker Lake**	**46.05**	**37**	P	**P**	**14 29 44.5**	**-0.4**
KURK	**Kurchatov**	**49.06**	**303**	P	**P**	**14 30 09.1**	**+0.6**
KURBB	**Kurchatov Arra**	**49.16**	**303**	P	**P**	**14 30 09.1**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=57,slow=7.7,SNR=7.6						
	comp=Z,0.7nm,0.4s						
MKAR	**Makanchi Array**	**49.79**	**297**	P	**P**	**14 30 13.5**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=54,slow=6.3,SNR=7.2						
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**49.79**	**297**	*e*P	**P**	**14 30 13.7**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.36**	**310**	P	**P**	**14 30 25.7**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=52,slow=9.6,SNR=5.7						
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**51.39**	**310**	*ce*P	**P**	**14 30 23.5**	**-2.6**
BRVK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
PDAR	**Pinedale Array**	**54.28**	**65**	P	**P**	**14 30 47.4**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=355,slow=3.3,SNR=3.8						
	comp=Z,0.3nm,0.7s						
AAK	**Ala-Archa**	**56.67**	**298**	*ce*P	P	14 30 59.7	-5.3
AAK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
FINES	**FINESS Array B**	**59.49**	**338**	P	**P**	**14 31 23.8**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=22,slow=6.2,SNR=4.9						
	comp=Z,2.1nm,0.8s						
FINES	**FINESS Array B**	**59.49**	**338**	*e*P	**P**	**14 31 24.2**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**61.18**	**261**	P	**P**	**14 31 36.6**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=34,slow=8.6,SNR=2.1						
	comp=Z,0.4nm,0.3s						
NOA	**NORSAR Array B**	**62.51**	**346**	P	**P**	**14 31 44.0**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=19,slow=6.7,SNR=3.8						
	comp=Z,0.6nm,0.7s						
HFS	**Hagfors**	**63.01**	**344**	P	**P**	**14 31 47.4**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=5.0,slow=3.4,SNR=4.8						
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**67.45**	**71**	P	**P**	**14 32 18.3**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=303,slow=4.1,SNR=9.2						
	comp=Z,0.6nm,0.7s						
AKASG	**Malin Array Be**	**68.40**	**331**	P	**P**	**14 32 22.4**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=27,slow=6.8,SNR=2.9						
	comp=Z,1.2nm,0.6s						
GERES	**GERESS Array B**	**73.79**	**341**	P	**P**	**14 32 55.6**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=17,slow=5.7,SNR=3.2						
	comp=Z,0.2nm,0.4s						
ASAR	**Alice Springs**	**82.58**	**208**	P	**P**	**14 33 45.5**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=0.7,slow=4.6,SNR=4.7						
	comp=Z,0.7nm,0.9s						
ESDC	**Sonseca Array**	**85.29**	**351**	P	**P**	**14 33 58.7**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=7.0,slow=5.2,SNR=2.6						
	comp=Z,0.6nm,0.8s						

*IDC **21** 14:51:44.9±1.3, 8°.35N×127°.31E, h0km, mb3.6/6, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=33.5km s-min=21.7km az=76.0*
ISC 21 14:51:49.9±1.2, 8°.4N±0°.1×127°.4E±0°.2, h35km, n13, σ1§05/8, mb3.6/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.18**	**234**	Pn	**Pn**	**14 52 22.4**	**-1.3**
	24nm,0.3s,baz=240,slow=20,SNR=1.7						
DAV				Sn

0.4nm,0.8s
FINES FINESS Array B 88.08 332 P **P** **15 04 37.5 +0.9**
0.6nm,0.7s,baz=78,slow=4.8,SNR=4.6
0.6nm,0.7s

DJA 21 14:58:48.6±1.1, 4°N±3°×12°5E±°, h16km±9km, M3.5/7, mB4.9/1, mb4.0/3, MLv3.3/7, Mw(mB)4.2/1, Taland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.91**	**148**	P	Pb	14 59 04.8	-1.2
SGSI				S	Sn	14 59 19.6	+0.2
MRSI	**Marisa**	**5.03**	**218**	P	Pn	15 00 02.6	-0.9
0.1nm12nm,0.5s							
LUWI	**Luwuk**	**5.92**	**203**	P	Pn	15 00 16.9	+1.2

*CATAC **21** 15:12:11.9±0.6, 14°N±4°×9°1W±°, h32km±6km, M3.4/11, MLv3.4/11, Error ellipse: s-maj=9.3km s-min=4.0km az=30.8, confirmed*
*GCG **21** 15:12:12.8±0.9, 14°.14N×91°.27W, h68km±8km, MD3.3*
ISC 21 15:12:11.9±1.7, 14°.0N±0°.1×91°.24W±0°.06, h74km±13km, n23, σ2°33/31, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG5	**El Palmar, Qui**	**0.43**	**346**	*e*P	**Pn**	**15 12 26.7**	**+2.1**
STG5				*e*S	**Sn**	**15 12 37.6**	**+3.6**
STG0	**El Palmar, Qui**	**0.45**	**347**	*e*P	**Pn**	**15 12 27.2**	**+2.3**
STG0				*e*S	**Sn**	**15 12 38.7**	**+4.2**
STG8	**El Palmar, Qui**	**0.48**	**347**	*e*P	**Pn**	**15 12 27.8**	**+2.6**
ESSG	**Sabana Grande**	**0.56**	**45**	*e*P	**Pn**	**15 12 25.4**	**-0.3**
ESSG				*i* S	**Sn**	**15 12 35.1**	**-0.9**
RTAL	**Retalhuleu**	**0.69**	**321**	P	**Pn**	**15 12 26.2**	**-0.9**
RTAL	**Retalhuleu**	**0.69**	**321**	S	**Sn**	**15 12 35.9**	**-2.4**
FG8	**Yepocapa, Chim**	**0.71**	**67**	*i* P	**Pn**	**15 12 25.4**	**-2.0**
FG8				*e*S	**Sn**	**15 12 34.6**	**-4.2**
FG16	**Alotenango, Sa**	**0.76**	**68**	*e*P	**Pn**	**15 12 26.2**	**-1.8**
FG16				*e*S	**Sn**	**15 12 36.7**	**-3.3**
ESSJ	**San Jos, E**	**0.83**	**120**	*e*P	Pn	15 12 24.6	-4.0
ESSJ				*i* S	**Sn**	**15 12 35.5**	**-5.5**
SOKI	**Kika Raxquin**	**0.85**	**349**	*e*P	**Pn**	**15 12 28.9**	**-0.3**
SOKI				*e*S	**Sn**	**15 12 41.3**	**-0.7**
SMCA	**Catarina**	**1.19**	**317**	*e*P	**Pn**	**15 12 32.1**	**-0.9**
SMCA				*i* S	**Sn**	**15 12 46.8**	**-1.9**
FAME	**Alcaldia de Sa**	**1.20**	**97**	P	**Pn**	**15 12 32.9**	**-0.2**
FAME	**Alcaldia de Sa**	**1.20**	**97**	S	**Sn**	**15 12 49.3**	**+0.4**
THIG		**1.35**	**313**	*i* P	**Pn**	**15 12 34.8**	**-0.2**
THIG				*e*S	**Sn**	**15 12 52.0**	**-0.5**
CEVE	**Cerro Verde**	**1.58**	**95**	P	**Pn**	**15 12 39.3**	**+1.1**
CEVE	**Cerro Verde**	**1.58**	**95**	S	**Sn**	**15 13 00.7**	**+2.5**
UNIC	**Universidad Ca**	**1.64**	**90**	P	**Pn**	**15 12 39.8**	**+0.9**
UNIC	**Universidad Ca**	**1.64**	**90**	S	**Sn**	**15 13 01.1**	**+1.7**
JAYA	**Jayaque - finc**	**1.77**	**100**	P	**Pn**	**15 12 41.9**	**+1.2**
JAYA	**Jayaque - finc**	**1.77**	**100**	S	**Sn**	**15 13 03.9**	**+1.3**
MTO3	**Montecristo**	**1.87**	**77**	P	**Pn**	**15 12 42.4**	**+0.3**
PMON	**Piamonte**	**1.89**	**98**	P	**Pn**	**15 12 43.8**	**+1.6**
PMON	**Piamonte**	**1.89**	**98**	S	**Sn**	**15 13 06.9**	**+1.5**

*IDC **21** 15:15:49.9±0.8, 30°.83S×178°.97W, h0km, mb4.2/9, mbtmp4.1/10, ML3.3/1, MS3.4/8, Error ellipse: s-maj=23.9km s-min=23.1km az=95.0*
ISC 21 15:15:55.4±0.8, 30°.9S±0°.1×179°.0W±0°.2, h35km, n30, σ0°80/15, mb4.2/9, MS3.5/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.03**	**202**	Pn	**Pn**	**15 17 48.1**	**-1.4**
0.4nm,0.3s,baz=315,slow=16,SNR=2.0							
URZ				Sn	**Sn**	**15 19 20.0**	**+1.1**
baz=103,slow=18							
URZ				LR	LR	15 20 38.9	
comp=Z,185nm,20.0s,baz=131,slow=36							
8.5nm,0.8s							
MSVF	**Nonsavu**	**13.35**	**348**	LR	LR	15 23 06.2	
comp=Z,259nm,20.1s,baz=92,slow=33							
RPZ	**Rata Peaks**	**15.04**	**209**	LR	LR	15 24 54.8	
comp=Z,112nm,21.1s,baz=110,slow=36							
DZM	**Mont Dzumac**	**15.68**	**301**	*e*LR	LR	15 23 19.6	
337nm,23.7s							
DZM	**Mont Dzumac**	**15.68**	**301**	LR	LR	15 24 21.0	
comp=Z,241nm,18.7s,baz=194,slow=33							
PPT2	**Papeete2**	**29.83**	**71**	*e*LR	LR	15 29 33.7	
72nm,27.0s							
STKA	**Stephens Creek**	**33.51**	**258**	P	**P**	**15 22 32.5**	**+0.8**
6.2nm,1.0s,baz=90,slow=4.0,SNR=5.1							
6.2nm,1.0s							
ASAR	**Alice Springs**	**42.20**	**268**	P	**P**	**15 23 45.4**	**+0.2**
1.7nm,0.7s,baz=106,slow=7.1,SNR=22							
1.7nm,0.7s							
TAOE	**Nuku Hiva Isla**	**42.30**	**67**	*e*LR	LR	15 35 18.5	
33nm,26.2s							
WRA	**Warramunga Arr**	**43.24**	**273**	P	**P**	**15 23 53.8**	**+0.3**
3.9nm,0.7s,baz=114,slow=7.3,SNR=19							
3.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**51.48**	**271**	P	**P**	**15 24 57.6**	**0.0**
6.4nm,0.8s,baz=135,slow=2.9,SNR=12							
6.4nm,0.8s							
QSPA	**South Pole Qui**	**59.24**	**180**	P	**P**	**15 25 53.4**	**+0.4**
3.4nm,0.8s,baz=51,slow=15,SNR=14							
3.4nm,0.8s							
MJAR	**Matsushiro Arr**	**78.13**	**326**	P	**P**	**15 27 50.5**	**-0.3**
1.4nm,1.1s,baz=155,slow=4.0,SNR=4.6							
1.4nm,1.1s							
JNU	**Nakatsue**	**79.33**	**319**	LR	LR	15 57 49.5	
comp=Z,26nm,19.6s,baz=184,slow=32							
H03S2	**Juan Fernandez**	**80.94**	**124**	T	T	16 57 07.2	
baz=237,slow=74,SNR=23							
H03S1	**Juan Fernandez**	**80.95**	**124**	T	T	16 57 08.8	
baz=237,slow=74,SNR=21							
H03S3	**Juan Fernandez**	**80.96**	**124**	T	T	16 57 09.1	
baz=237,slow=74,SNR=26							
H03N3	**Juan Fernandez**	**81.14**	**124**	T	T	16 57 12.0	
baz=241,slow=72,SNR=5.2							
H03N2	**Juan Fernandez**	**81.14**	**124**	T	T	16 57 13.9	
baz=241,slow=72,SNR=4.9							
H03N1	**Juan Fernandez**	**81.15**	**124**	T	T	16 57 17.4	
baz=241,slow=72,SNR=7.5							
ASAJ	**Asahikawa**	**82.46**	**333**	LR	LR	16 00 26.2	
comp=Z,25nm,19.1s,baz=163,slow=32							
PLCA	**Paso Flores**	**82.83**	**133**	P	**P**	**15 28 16.4**	**0.0**
0.7nm,0.8s,baz=243,slow=9.0,SNR=1.5							
0.7nm,0.8s							
KSRS	**Korea Array**	**84.14**	**320**	P	**P**	**15 28 22.6**	**0.0**
0.6nm,0.8s,baz=142,slow=5.4,SNR=5.0							
0.6nm,0.8s							
PETK	**Petropavlovsk-**	**86.05**	**346**	LR	LR	16 02 42.1	
comp=Z,15nm,20.3s,baz=113,slow=33							
NVAR	**Mina Array Bea**	**89.19**	**43**	P	**P**	**15 28 48.9**	**+1.3**
1.1nm,0.9s,baz=231,slow=4.8,SNR=3.7							
1.1nm,0.9s							
KLR	**Kul'dur**	**91.00**	**330**	LR	LR	16 08 44.8	
comp=Z,15nm,18.7s,baz=166,slow=35							
BVAR	**Borovoye Array**	**126.12**	**316**	PKP	**PKPdf**	**15 34 53.0**	**-0.5**
0.6nm,0.8s,baz=93,slow=2.9,SNR=3.7							
FINES	**FINESS Array B**	**145.28**	**339**	PKPbc	**PKPbc**	**15 35 27.5**	**-0.9**
3.3nm,0.9s,baz=60,slow=3.4,SNR=9.0							
AKASG	**Malin Array Be**	**151.13**	**321**	PKPbc	**PKPbc**	**15 35 43.5**	**-0.8**
1.9nm,0.8s,baz=56,slow=1.4,SNR=6.6							
BRTR	**Keskin Array B**	**152.04**	**297**	PKPbc	**PKPbc**	**15 35 46.6**	**-0.5**
1.2nm,0.8s,baz=99,slow=1.8,SNR=5.6							

GCG 21 15:34:28.1±0.9, 14°.97N×91°.36W, h208km±18km, MD3.9, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG8	**El Palmar, Qui**	**0.52**	**179**	*e*P	Pn	15 34 56.5	-0.1
STG0	**El Palmar, Qui**	**0.55**	**178**	*e*P	Pn	15 34 56.3	-0.3
STG5	**El Palmar, Qui**	**0.57**	**179**	*e*P	Pn	15 34 56.3	-0.3
STG5				*i* S	S	15 35 19.2	+0.3
FG8	**Yepocapa, Chim**	**1.05**	**133**	*i* P	Pn	15 34 57.6	-1.7
FG16	**Alotenango, Sa**	**1.08**	**130**	*i* P	Pn	15 34 58.0	-1.5

*IDC **21** 15:45:18.1±1.8, 3°.21N×125°.05E, h0km, mb3.3/4, mbtmp3.3/4, MS3.5/1, Error ellipse: s-maj=200.4km s-min=23.1km az=65.0*
*DJA **21** 15:45:26.4±0.8, 4°N±7°×12°7E±°, h65km±9km, M3.7/12, mB4.7/3, mb3.8/6, MLv3.5/12, Mw(mB)3.9/3*
ISC 21 15:45:27.0±2.1, 3°.8N±0°.2×126°.6E±0°.1, h100km, n10, σ1°33/9, mb3.2/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.08**	**264**	P	**Pn**	**15 45 47.6**	**-0.7**
SGSI				S	**Sn**	**15 46 03.5**	**-0.8**
TNTI	**Ternate**	**3.11**	**166**	P	**Pn**	**15 46 14.1**	**-0.2**
KMSI	**Cibinong**	**4.14**	**219**	P	**Pn**	**15 46 28.4**	**+0.2**
SANI	**Sanana**	**5.85**	**186**	P	**Pn**	**15 46 49.2**	**-2.1**
0.1nm618nm6.9nm,0.6s							
SWI	**Sorong**	**6.57**	**135**	P	**Pn**	**15 47 00.0**	**-1.1**
NLAI	**Namlea**	**7.01**	**176**	P	**Pn**	**15 47 06.9**	**-0.3**
757nm15nm,1.0s							
WRA	**Warramunga Arr**	**24.80**	**162**	P	**P**	**15 50 41.0**	**+1.2**
0.4nm,0.5s,baz=337,slow=11,SNR=5.3							
WRA				LR	LR	16 01 37.7	
comp=Z,109nm,19.0s,baz=30,slow=40							
0.4nm,0.5s							
ASAR	**Alice Springs**	**28.22**	**166**	P	**P**	**15 51 12.1**	**+1.5**
0.1nm,0.5s,baz=341,slow=7.5,SNR=5.7							
0.1nm,0.5s							
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	15 55 05.9	+0.6
0.2nm,0.4s,baz=120,slow=7.3,SNR=6.3							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**61.61**	**327**	P	P	15 55 35.0	+1.1
0.2nm,0.6s,baz=140,slow=4.9,SNR=2.2							
0.2nm,0.6s							

TAP 21 15:46:17.9, 23°.29N×121°.97E, h23km±1km, ML2.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.48**	**273**	*e*P	Pn	15 46 28.6	-0.7
ECBN				*e*S	Sn	15 46 36.2	-0.9
CHKH	**Chenggong**	**0.54**	**259**	*e*P	Pb	15 46 28.9	+0.2
CHKH				*e*S	Sb	15 46 36.7	+0.6
HGSD	**Ruisui**	**0.54**	**292**	*e*P	Pb	15 46 29.1	+0.3
TEGC	**Jichi Village**	**0.57**	**316**	*e*P	Pb	15 46 29.9	+0.6
TEGC				*e*S	Sn	15 46 38.7	-0.7
CHKT	**Chengkung**	**0.59**	**251**	*e*P	Pb	15 46 29.7	+0.1
CHKT				*e*S	Sb	15 46 37.5	-0.1
EYUL	**Yuli**	**0.60**	**275**	*i* P	Pb	15 46 30.4	+0.6
EYUL				*e*S	Sn	15 46 40.0	-0.2
SHUL	**Shoufeng**	**0.62**	**323**	*i* P	Pn	15 46 30.7	-0.5
SHUL				S	Sn	15 46 40.3	-0.3
TWF1	**Yuli**	**0.62**	**276**	*i* P	Pb	15 46 30.6	+0.4
TWF1				*e*S	Sn	15 46 40.3	-0.4
YULB	**Yu-li**	**0.63**	**279**	P	Pb	15 46 30.8	+0.6
YULB	**Yu-li**	**0.63**	**279**	S	Sn	15 46 40.8	0.0
YULB	**Yu-li**	**0.63**	**279**	*e*P	Pb	15 46 30.6	+0.4
YULB				*e*S	Sn	15 46 40.4	-0.4
FULB	**Fuli**	**0.63**	**262**	P	Pb	15 46 30.3	0.0
FULB				*e*S	Sb	15 46 39.5	+0.8
EHY	**Hungye**	**0.64**	**290**	*e*P	Pb	15 46 30.7	+0.4
WARBT	**Fenglin Townsh**	**0.69**	**308**	*e*P	Pb	15 46 31.4	+0.2
WARBT				*i* S	Sn	15 46 41.5	-0.7
EDH	**Donghe**	**0.69**	**243**	*e*S	Sb	15 46 40.5	+0.5
ESL	**Shilin**	**0.72**	**316**	*e*P	Pb	15 46 31.6	-0.1
LDUT	**Ludao**	**0.77**	**217**	*e*P	Pb	15 46 32.9	+0.3
ETM	**Tongmen**	**0.80**	**327**	*e*P	Pb	15 46 32.8	-0.3
TWD	**Chiawan**	**0.86**	**336**	*e*P	Pb	15 46 33.7	-0.3
EOS4	**EOS4**	**0.88**	**21**	*e*P	Pn	15 46 34.9	+0.4
ELDTW	**Lidau**	**0.89**	**263**	*e*P	Pb	15 46 34.0	-0.6
LXIB	**Xiulin Townshi**	**0.89**	**325**	*e*P	Pb	15 46 34.4	-0.3
LXIB				*e*S	Sb	15 46 46.7	+0.5
NACB	**Ninganchiao**	**0.94**	**338**	P	Pb	15 46 34.7	-0.8
NACB	**Ninganchiao**	**0.94**	**338**	S	Sb	15 46 47.2	-0.4
NACB	**Ninganchiao**	**0.94**	**338**	*e*P	Pb	15 46 34.7	-0.8
NACB				*e*S	Sb	15 46 46.9	-0.7
TWGBT	**Beinan**	**0.95**	**240**	*e*P	Pb	15 46 35.0	-0.6
TWGBT				*e*S	Sb	15 46 47.2	-0.6
TWG	**Pinlang**	**0.95**	**241**	*e*P	Pb	15 46 35.5	-0.2
OWD	**Renai**	**0.98**	**312**	*e*P	Pb	15 46 36.0	-0.3
ETLH	**Xiulin Townshi**	**1.01**	**334**	*e*P	Pn	15 46 36.0	-0.8
EOS3	**EOS3**	**1.04**	**18**	*e*P	Pn	15 46 36.9	0.0
EOS3				*e*S	Sb	15 46 50.2	0.0
WUSB	**Renai**	**1.05**	**312**	P	Pn	15 46 37.4	0.0
SSLB	**Suanglung**	**1.06**	**298**	P	Pn	15 46 36.9	-0.4
SSLB	**Suanglung**	**1.06**	**298**	P	Pn	15 46 37.4	0.0
WHF	**Hehuan Shan**	**1.07**	**323**	*e*P	Pn	15 46 37.5	-0.4
ALS	**Alishan**	**1.10**	**282**	P	Pb	15 46 38.6	+0.3
ALS				*e*S	Sn	15 46 53.6	+0.9
WHYT	**Xinyi Township**	**1.10**	**292**	*i* P	Pb	15 46 38.7	+0.4
WHYT				*e*S	Sn	15 46 52.9	+0.3
STYH	**Taoyuan**	**1.11**	**264**	*e*P	Pn	15 46 37.0	-0.9
STYH				*e*S	Sb	15 46 51.0	-1.4
EOS2	**EOS2**	**1.15**	**12**	*e*P	Pb	15 46 39.0	+0.1
SMLT	**Sun Moon Lake**	**1.15**	**301**	*e*P	Pn	15 46 38.7	+0.1
ENA	**Nanau**	**1.15**	**349**	*e*P	Pn	15 46 38.2	-0.4
EWUT	**Wuta**	**1.16**	**351**	*e*P	Pn	15 46 38.6	-0.1
FUSS	**Fushou**	**1.16**	**325**	*i* P	Pn	15 46 39.0	+0.1
FUSS				*e*S	Sb	15 46 54.0	-0.2
TYC	**Yuchr**	**1.19**	**301**	*e*P	Pb	15 46 39.8	+0.1
TWT	**Tachien**	**1.20**	**323**	*e*P	Pb	15 46 39.8	-0.3
TDCB	**Techi**	**1.21**	**322**	P	Pb	15 46 39.9	-0.3
TDCB				*e*S	Sn	15 46 55.1	-0.3
TPUB	**Ta-pu**	**1.24**	**271**	P	Pb	15 46 41.0	+0.5
TPUB	**Ta-pu**	**1.24**	**271**	S	Sb	15 46 57.9	+1.8
TPUB	**Ta-pu**	**1.24**	**271**	*e*P	Pb	15 46 40.7	+0.2
TPUB				*e*S	Sb	15 46 57.5	+1.5
WCS	**Beigang Elemen**	**1.24**	**308**	*e*P	Pb	15 46 40.2	-0.3
WTP	**Ta-pu**	**1.25**	**268**	*e*P	Pb	15 46 41.0	+0.1
WTP				*e*S	Sb	15 46 58.0	+1.5
NNSB	**Datong**	**1.25**	**335**	P	Pn	15 46 40.1	-0.1
NNSB				*e*S	Sn	15 46 55.7	-0.6
CHN4	**Tsaushan**	**1.27**	**273**	*e*P	Pb	15 46 41.4	+0.3
LATG	**Datong**	**1.30**	**342**	*e*P	Pb	15 46 41.0	+0.2
LATG				*e*S	Sn	15 46 57.5	-0.1
TWC	**Suao**	**1.31**	**355**	*e*P	Pn	15 46 41.3	+0.4
CHN1	**Nanshi**	**1.33**	**266**	P	Pb	15 46 42.7	+0.5
CHN1				*e*S	Sb	15 47 00.8	+1.9
WHP	**Taichung City**	**1.36**	**316**	*e*P	Pb	15 46 42.4	-0.3
SNST	**Tainan City**	**1.36**	**267**	*e*P	Pb	15 46 42.5	-0.2
TWK	**Hsinying**	**1.37**	**269**	*e*P	Pb	15 46 42.5	-0.2
EAST	**Anshuo**	**1.38**	**229**	*e*P	Pb	15 46 42.4	-0.6
ENTT	**Nioudou**	**1.39**	**345**	*e*P	Pn	15 46 42.3	+0.4
MASBT	**Mashibuluo**	**1.41**	**242**	*e*P	Pn	15 46 42.3	+0.1
TWE	**Neicheng**	**1.45**	**349**	*e*P	Pn	15 46 43.2	+0.5
YHNB	**Yeheng**	**1.48**	**338**	P	Pn	15 46 43.7	+0.6
YHNB	**Yeheng**	**1.48**	**338**	S	Sn	15 47 01.8	0.0
YHNB	**Yeheng**	**1.48**	**338**	*e*P	Pn	15 46 43.5	+0.4
YHNB				*e*S	Sn	15 47 01.4	-0.4
NSK	**Sanguang**	**1.49**	**338**	*e*P	Pn	15 46 43.7	+0.4
FUSB	**Fushanzhiwuya**	**1.50**	**346**	*e*P	Pb	15 46 44.4	-0.7
FUSB				*e*S	Sb	15 47 03.2	-0.6
NWLT	**Wulai**	**1.54**	**344**	*e*P	Pn	15 46 44.6	+0.6
TIPB	**Shuangxi**	**1.68**	**355**	*e*P	Pn	15 46 46.7	+0.8
SXI1	**Grass Mountain**	**1.79**	**357**	*e*P	Pn	15 46 48.4	+0.9

*SDD **21** 15:57:29.4±2.2, 18°.51N×70°.60W, h17km±15km, MD2.8, ML3.2, MW3.5*
*OSPL **21** 15:57:29.6±2.0, 18°.53N×70°.60W, h7km±14km, ML2.5*
ISC 21 15:57:28.6±0.9, 18°.52N±0°.03×70°.60W±0°.02, h11km±8km, n17, σ1°53/33, 12C-9D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANI	**BANI**	**0.26**	**119**	⇑*e*Pg	**Pg**	**15 57 34.7**	**+0.8**
BANI				⇑*e*Sg	**Sg**	**15 57 39.8**	**+2.3**
BANI				IAML		15 57 41.9	
comp=N,5μm,0.2s							
ABDR	**Alto Bandera**	**0.29**	**354**	⇓*e*Pg	**Pg**	**15 57 34.3**	**-0.4**
ABDR				⇑*e*Sg	**Sg**	**15 57 39.5**	**+0.7**
ABDR				IAML		15 57 40.6	
comp=N,7μm,0.2s							
LOBA2	**Hotel Casa Bon**	**0.64**	**228**	⇑*e*Pg	**Pg**	**15 57 40.4**	**-0.6**
LOBA2				⇓*e*Sg	**Sg**	**15 57 49.7**	**+0.2**
SDD	**Santo Domingo**	**0.65**	**95**	*i* P	**Pb**	**15 57 41.8**	**-0.1**
SDD				*e*S	**Sb**	**15 57 50.8**	**-0.2**
DR08	**Loma La Naviza**	**0.70**	**51**	⇑*e*Pg	**Pb**	**15 57 41.8**	**-1.0**
DR08				⇓*e*Sg	**Sg**	**15 57 50.0**	**-1.4**
DR08				IAML		15 57 57.3	
comp=N,4μm,0.1s							
PODR	**Polo**	**0.74**	**242**	⇑*e*Pg	**Pg**	**15 57 42.1**	**-0.8**
PODR				IAML		15 58 02.4	
comp=N,329nm,0.5s							
PODR	**Polo**	**0.74**	**242**	*i* P	**Pg**	**15 57 42.0**	**-0.9**
PODR				*e*S	**Sg**	**15 57 53.3**	**+0.7**
SDDR	**Presa de Saban**	**0.80**	**305**	⇑*e*Pg	**Pg**	**15 57 43.3**	**-0.8**
SDDR				⇑*e*Sg	**Sg**	**15 57 54.7**	**+0.1**
SDDR				IAML		15 58 01.6	
comp=N,732nm,0.6s							
SDDR	**Presa de Saban**	**0.80**	**305**	*i* P	**Pg**	**15 57 43.2**	**-0.8**
SDDR				*e*S	**Sg**	**15 57 54.5**	**-0.1**
SDDR				IAML		15 58 00.3	
comp=Z,423nm,0.8s							
LODU1	**El Espartillar**	**0.85**	**259**	*i* P	**Pg**	**15 57 44.3**	**-0.7**
LODU1				*e*S	**Sb**	**15 57 57.2**	**+0.4**
LODU1				IAML		15 58 04.4	
comp=Z,354nm,0.6s							
SC01	**Santiago de lo**	**0.91**	**352**	⇑*e*Pg	**Pg**	**15 57 46.0**	**-0.2**
SC01				⇑*e*Sg	**Sn**	**15 57 59.8**	**-0.8**
SC01				IAML		15 58 00.3	
comp=N,2μm,0.7s							
REDR	**Restauracion**	**0.99**	**311**	⇓*e*Pg	**Pn**	**15 57 51.4**	**+2.8**
REDR				⇓*e*Sg	**Sn**	**15 58 08.5**	**+5.9**
REDR				IAML		15 58 15.4	
comp=N,309nm,0.2s							
LOVI	**El Cajuil, Ovi**	**1.03**	**226**	*i* P	**Pg**	**15 57 47.2**	**-1.1**
LOVI				*e*S	**Sg**	**15 58 00.7**	**-1.0**
LOVI				IAML		15 58 04.0	
comp=Z,120nm,1.1s							
NADR	**Nagua**	**1.09**	**40**	⇓*e*Pg	**Pg**	**15 57 48.5**	**-1.0**
NADR				⇑*e*Sg	**Sn**	**15 58 04.2**	**-0.6**
NADR				IAML		15 58 04.7	
comp=N,2μm,0.5s							
HATOM	**Hato Mayor del**	**1.18**	**77**	⇑*e*Pg	**Pb**	**15 57 49.5**	**-1.6**
HATOM				⇓*e*Sg	**Sb**	**15 58 05.6**	**-0.8**
HATOM				IAML		15 58 08.1	
comp=N,151nm,0.4s							
LOBH	**Bahia de las A**	**1.19**	**237**	*i* P	**Pb**	**15 57 50.4**	**-0.8**
LOBH				*e*S	**Sg**	**15 58 07.0**	**+0.1**
LOBH				IAML		15 58 15.0	
comp=Z,67nm,0.7s							
JIDR	**Jimani**	**1.19**	**269**	⇓*e*Pg	**Pn**	**15 57 50.0**	**-1.3**
JIDR				⇓*e*Sg	**Sb**	**15 58 05.9**	**-0.8**
JIDR				IAML		15 58 15.1	
comp=N,193nm,0.7s							

TXNET 21 15:59:05.2, 31°.5N±0°.7×103°.4W±0°.7, h6km±1km, ML2.0/10, Error ellipse: s-maj=1.2km s-min=0.9km az=146.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.15**	**204**	P	Pg	15 59 08.7	+0.5
PCOS				S	Sg	15 59 11.4	+1.1
TPB07	**Mentone**	**0.20**	**281**	P	Pg	15 59 10.2	+1.0
TPB07				S	Sg	15 59 13.4	+1.5
TPB06	**Permian Basin**	**0.22**	**61**	P	Pg	15 59 10.6	+1.1
TPB06				S	Sg	15 59 13.7	+1.3
TPB10	**Southeast of T**	**0.37**	**226**	P	Pg	15 59 13.4	+0.9
TPB10				S	Sb	15 59 19.1	-1.3
TPB04	**Verhalen**	**0.38**	**158**	P	Pg	15 59 13.5	+0.8
TPB04				S	Sg	15 59 19.2	+1.4
PECS	**Pecos**	**0.40**	**245**	P	Pg	15 59 13.3	+0.2
PECS				S	Sg	15 59 19.6	+1.3
TPB16	**Coyonosa**	**0.45**	**159**	P	Pb	15 59 15.0	-0.6
TPB16				S	Sb	15 59 21.4	-1.2
TPB03	**Saragosa**	**0.46**	**188**	P	Pb	15 59 15.2	-0.7
TPB03				S	Sb	15 59 21.6	-1.4
TPB12	**Southwest of T**	**0.55**	**233**	P	Pg	15 59 15.8	-0.1
TPB12				S	Sg	15 59 23.7	+0.7
MNHN	**Monahans**	**0.61**	**109**	P	Pg	15 59 17.0	-0.1
MNHN				S	Sb	15 59 26.5	-0.9
TPB05	**Hovey Rd**	**0.63**	**171**	P	Pg	15 59 17.6	+0.2
TPB05				S	Sg	15 59 26.5	+0.9
TPB11	**China Draw**	**0.64**	**308**	S	Sb	15 59 27.3	-0.9
TPB01	**Permian Basin**	**0.67**	**206**	P	Pg	15 59 17.7	-0.3
TPB01				S	Sb	15 59 28.9	0.0
TPB08	**Permian Basin**	**0.79**	**145**	S	Sb	15 59 31.9	-0.7
HTMS	**Hat Mesa**	**0.94**	**350**	S	Sb	15 59 36.8	-0.1
ODSA	**Odessa**	**0.95**	**53**	P	Pg	15 59 23.8	+0.3
ODSA				S	Sb	15 59 37.5	+0.3
ALPN	**Alpine**	**1.18**	**188**	P	Pg	15 59 27.8	0.0
ALPN				S	Sn	15 59 45.4	+0.5
TMB02	**Rankin**	**1.25**	**106**	P	Pg	15 59 28.5	-0.7
TMB02				S	Sb	15 59 45.7	+0.1
TMB04	**Seminole**	**1.35**	**37**	P	Pn	15 59 30.8	+0.1
TMB04				S	Sg	15 59 48.8	+0.1
VHRN	**Van Horn**	**1.52**	**241**	P	Pn	15 59 33.3	+0

0.2nm,0.4s,baz=134,slow=10,SNR=1.5
0.2nm,0.4s
MKAR Makanchi Array 40.41 313 P **P 16 29 15.4 -1.4**
0.2nm,0.4s,baz=106,slow=9.4,SNR=4.4
0.2nm,0.4s
ZALV Zalesovo Beam 41.58 324 P **P 16 29 24.8 -1.5**
0.5nm,0.5s,baz=104,slow=9.2,SNR=2.5
0.5nm,0.5s
KURBB Kurchatov Arra 43.91 318 P **P 16 29 45.3 0.0**
0.3nm,0.7s,baz=107,slow=8.7,SNR=2.9
0.3nm,0.7s
WRA Warramunga Arr 45.77 168 P **P 16 30 00.7 +0.4**
0.9nm,0.6s,baz=350,slow=8.7,SNR=6.2
WRA PcP **PcP 16 31 37.8 -0.1**
0.4nm,1.0s,baz=357,slow=3.7,SNR=1.6
0.9nm,0.6s
ASAR Alice Springs 49.34 170 P **P 16 30 28.8 +0.8**
0.4nm,0.6s,baz=356,slow=7.9,SNR=15
ASAR PcP **PcP 16 31 51.0 +0.4**
0.6nm,1.1s,baz=346,slow=4.0,SNR=4.6
0.4nm,0.6s
BVAR Borovoye Array 49.41 319 P **P 16 30 27.7 -0.6**
0.2nm,0.4s,baz=95,slow=9.9,SNR=1.7
BVAR PcP **PcP 16 31 49.9 -0.5**
0.2nm,0.5s,baz=105,slow=2.2,SNR=1.9
0.2nm,0.4s
FINES FINESS Array B 72.50 330 P **P 16 33 04.4 -0.6**
2.8nm,1.1s,baz=68,slow=6.4,SNR=2.3
2.8nm,1.1s
YKA Yellowknife Ar 80.36 24 P **P 16 33 48.7 -0.9**
0.5nm,0.9s,baz=310,slow=5.3,SNR=6.7
0.5nm,0.9s

IDC 21 16:31:31.0±6.7, 10°.50N×89°.88E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=315.6km s-min=30.3km az=58.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.74**	**351**	P			P	16 38 39.4	-0.7
0.4nm,0.7s,baz=169,slow=8.3,SNR=5.3									
0.4nm,0.7s									
KURBB	**Kurchatov Arra**	**41.08**	**349**	P			P	16 39 15.9	-0.5
0.5nm,0.7s,baz=164,slow=7.1,SNR=4.6									
0.5nm,0.7s									
ZALV	**Zalesovo Beam**	**43.52**	**356**	P			P	16 39 37.1	+0.8
0.9nm,0.8s,baz=162,slow=10.0,SNR=2.3									
0.9nm,0.8s									
BVAR	**Borovoye Array**	**45.22**	**344**	P			P	16 39 50.1	+0.2
0.4nm,0.7s,baz=160,slow=4.6,SNR=2.2									
0.4nm,0.7s									
WRA	**Warramunga Arr**	**53.21**	**125**	P			P	16 40 51.3	-0.2
0.3nm,0.8s,baz=315,slow=5.9,SNR=1.4									
0.3nm,0.8s									

---

*MOS **21** 16:31:40.7±1.2, 24°.31S×67°.04W, h162km, mb5.1/15, Error ellipse: s-maj=12.3km s-min=7.0km az=95.4*
*NEIC **21** 16:31:41.9, 24°.44S×67°.00W, h160km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16Nm; Mrr=2.81; Mθθ=0.15; Mφφ=2.96; Mrθ=0.63; Mφθ=0.66; Mφr=2.50; Fault plane solution: M0=3.92000×10^16 NP1: φs=208.22000°, δ=27.96000°, λ=-59.89000°. NP2: φs=354.93000°, δ=66.07000°, λ=-104.91000°. Principal axes: T 3.9271, Plg=20.0000°, Azm=96.0000°; N -0.0073, Plg=14.0000°, Azm=1.0000°; P -3.9197, Plg=66.0000°, Azm=239.0000°;*
*SJA **21** 16:31:41.5±1.1, 24°.35S×67°.16W, h200km, ML5.1, MW4.8*
*NEIC **21** 16:31:41.8±1.3, 24°.35S±0°.05×67°.01W±0°.08, h162km±5km, mb5.1/413, Mww5.0/30, Error ellipse: s-maj=10.6km s-min=7.3km az=63.0*
*NEIC **21** 16:31:41.9, 24°.34S×67°.03W, h160km*
*GUC **21** 16:31:42.9±0.7, 24°.33S×67°.21W, h178km±6km, ML5.1*
*IDC **21** 16:31:42.3±1.1, 24°.26S×67°.01W, h164km±9km, mb4.5/14, mbtmp5.0/21, MS3.7/7, Error ellipse: s-maj=13.8km s-min=9.2km az=68.0*
*VAO **21** 16:31:43.3±0.5, 24°.24S×66°.97W, h182km±4km, mb5.2*
*GCMT **21** 16:31:46.8±0.2, 24°.30S±0°.02×67°.12W±0°.02, h192km±2km, MW5.1/118, Moment Tensor Solution. s54,c60; s118,c156; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.68±.12; Mθθ=0.40±.15; Mφφ=4.08±.19; Mrθ=0.05±.10; Mφθ=0.58±.16; Mφr=3.85±.14; Best double couple: M0=5.49600×10^16 NP1:φs=195.00000°, δ=23.00000°, λ=-78.00000°. NP2:φs=1.00000°, δ=67.00000°, λ=-95.00000°. Principal axes: T 5.7110, Plg=22.0000°, Azm=95.0000°; N -0.4260, Plg=5.0000°, Azm=3.0000°; P -5.2810, Plg=67.0000°, Azm=262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 16:31:42.6±0.4, 24°.27S±0°.03×67°.18W±0°.03, h175km±3km, h176km: pP-P, n489, σ1957/369, mb5.1/212, 21C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SALTA		**0.77**	**86**	⇓*i*P			**Pn**	**16 32 10.2**	**+1.4**
SALTA		**0.77**	**86**	*e*P			**Pn**	**16 32 10.0**	**+1.1**
SLA	**San Lorenzo**	**1.59**	**107**	⇓*i*P			**Pn**	**16 32 16.7**	**+1.5**
SLA				*e*S			**Sn**	**16 32 42.2**	**+1.9**
SLA	**San Lorenzo**	**1.59**	**107**	*e*P			**Pn**	**16 32 16.7**	**+1.5**
SLA				*e*S			**Sn**	**16 32 43.1**	**+2.7**
SLA				IAML				16 32 43.5	
comp=Z,5μm,1.1s									
AF01	**San Pedro de A**	**1.60**	**325**				**Pn**	**16 32 17.8**	**+2.2**
AF01	**San Pedro de A**	**1.60**	**325**	⇑*e*P			**Pn**	**16 32 18.1**	**+2.6**
AF01				*e*S			**Sn**	**16 32 44.5**	**+3.5**
AF01				IAML				16 32 46.4	
comp=E,16μm,0.6s									
AF01	**San Pedro de A**	**1.60**	**325**	*e*P			**Pn**	**16 32 17.7**	**+2.2**
AF01				*e*S			**Sn**	**16 32 45.5**	**+4.5**
AF01				IAML				16 32 59.0	
comp=Z,9μm,1.0s									
AZAP	**Zapla**	**1.93**	**89**	*e*P			**Pn**	**16 32 19.9**	**+1.1**
AZAP				*e*S			**Sn**	**16 32 50.2**	**+3.4**
AZAP				IAML				16 32 51.1	
comp=Z,7μm,1.2s									
FSA	**Cafayete**	**2.13**	**150**	*e*P			**Pn**	**16 32 21.6**	**+0.7**
FSA				*e*S			**Sn**	**16 32 51.2**	**+0.5**
GO02	**Mina Guanaco**	**2.37**	**248**				**Pn**	**16 32 24.9**	**+1.1**
GO02	**Mina Guanaco**	**2.37**	**248**	⇑*i*P			**Pn**	**16 32 24.9**	**+1.1**
GO02				*i*S			**Sn**	**16 32 56.5**	**+0.8**
GO02	**Mina Guanaco**	**2.37**	**248**	*e*P			**Pn**	**16 32 24.9**	**+1.1**
GO02				*e*S			**Sn**	**16 32 57.2**	**+1.5**
YJA	**Yavi**	**2.59**	**37**	⇑*e*P			**Pn**	**16 32 28.4**	**+1.9**
YJA	**Yavi**	**2.59**	**37**	*e*P			**Pn**	**16 32 28.3**	**+1.7**
PB06	**IPOC Station P**	**2.70**	**305**	⇑*i*P			**Pn**	**16 32 28.9**	**+1.4**
PB06				*i*S			**Sn**	**16 33 02.8**	**+0.3**
PB06	**IPOC Station P**	**2.70**	**305**	*e*P			**Pn**	**16 32 28.9**	**+1.4**
PB06				*e*S			**Sn**	**16 33 03.7**	**+1.2**
PB06				IAML				16 33 08.2	
comp=Z,8μm,0.8s									
ALOL	**LOMAS DE OLMED**	**2.96**	**82**	*e*P			**Pn**	**16 32 31.7**	**+1.2**
PB14	**IPOC Station P**	**2.96**	**263**				**Pn**	**16 32 31.3**	**+0.4**
PB14	**IPOC Station P**	**2.96**	**263**	⇑*i*P			**Pn**	**16 32 31.3**	**+0.4**
PB14				*i*S			**Sn**	**16 33 07.1**	**-1.3**
PB14				IAML				16 33 14.0	
comp=E,5μm,0.5s									
PB14	**IPOC Station P**	**2.96**	**263**	*e*P			**Pn**	**16 32 31.4**	**+0.4**
PB14				*e*S			**Sn**	**16 33 08.5**	**+0.1**
PB14				IAML				16 33 13.7	
comp=Z,5μm,0.5s									
AC02	**Maricunga**	**3.10**	**214**				**Pn**	**16 32 33.7**	**+1.0**
AC02	**Maricunga**	**3.10**	**214**	⇑*i*P			**Pn**	**16 32 33.8**	**+1.0**
AC02				*e*S			**Sn**	**16 33 12.8**	**+0.9**
AC02				IAML				16 33 24.8	
comp=E,1μm,0.2s									
AC02	**Maricunga**	**3.10**	**214**	*e*P			**Pn**	**16 32 34.0**	**+1.3**
AC02				*e*S			**Sn**	**16 33 17.4**	**+5.5**
PB09	**IPOC Station P**	**3.11**	**322**				**Pn**	**16 32 34.4**	**+1.8**
PB09	**IPOC Station P**	**3.11**	**322**	⇑*i*P			**Pn**	**16 32 34.3**	**+1.7**
PB09				*i*S			**Sn**	**16 33 12.4**	**+0.8**
PB09	**IPOC Station P**	**3.11**	**322**	*e*P			**Pn**	**16 32 34.5**	**+1.8**
PB09				*e*S			**Sn**	**16 33 13.1**	**+1.5**
PB09				IAML				16 33 13.5	
comp=Z,5μm,0.8s									
PB05	**IPOC Station P**	**3.12**	**296**				**Pn**	**16 32 33.4**	**+0.8**
PB05	**IPOC Station P**	**3.12**	**296**	⇑*i*P			**Pn**	**16 32 33.3**	**+0.8**
PB05				*i*S			**Sn**	**16 33 10.1**	**-1.4**
PB05				IAML				16 33 14.3	
comp=N,5μm,0.3s									
PB05	**IPOC Station P**	**3.12**	**296**	*e*P			**Pn**	**16 32 33.4**	**+0.8**
PB05				*e*S			**Sn**	**16 33 13.4**	**+1.9**
PB05				IAML				16 33 17.1	
comp=Z,3μm,0.7s									
PB10	**IPOC Station P**	**3.18**	**283**				**Pn**	**16 32 34.2**	**+0.9**
PB10	**IPOC Station P**	**3.18**	**283**	⇑*i*P			**Pn**	**16 32 34.1**	**+0.9**
PB10				*e*S			**Sn**	**16 33 12.8**	**+0.1**
PB10				IAML				16 33 15.8	
comp=N,4μm,0.5s									
PB10	**IPOC Station P**	**3.18**	**283**	*e*P			**Pn**	**16 32 34.2**	**+0.9**
PB10				*e*S			**Sn**	**16 33 13.9**	**+1.2**
PB10				IAML				16 33 18.9	
comp=Z,4μm,0.4s									
PB03	**IPOC Station P**	**3.25**	**313**	*e*P			**Pn**	**16 32 35.2**	**+0.9**
PB03				*e*S			**Sn**	**16 33 16.4**	**+1.9**
PB03				IAML				16 33 19.5	
comp=Z,3μm,0.2s									
AC01	**Pan de Azucar**	**3.62**	**238**				**Pn**	**16 32 38.1**	**-0.6**
AC01	**Pan de Azucar**	**3.62**	**238**	*e*P			**Pn**	**16 32 38.1**	**-0.6**
AC01				*e*S			**Sn**	**16 33 20.5**	**-2.0**
AC01				IAML				16 33 28.5	
comp=Z,2μm,0.4s									
PB01	**IPOC Station P**	**3.86**	**326**				**Pn**	**16 32 42.4**	**+0.5**
PB01	**IPOC Station P**	**3.86**	**326**	*e*P			**Pn**	**16 32 42.3**	**+0.4**
PB01				*e*S			**Sn**	**16 33 29.2**	**+1.0**
PB01				IAML				16 33 31.7	
comp=Z,2μm,0.5s									
AC06	**Mina Casimiro**	**4.20**	**222**				**Pn**	**16 32 44.9**	**-1.2**
GO03	**Copiapo**	**4.30**	**219**				**Pn**	**16 32 46.2**	**-1.3**
GO03	**Copiapo**	**4.30**	**219**	*e*P			**Pn**	**16 32 46.6**	**-0.9**
GO03				*e*S			**Sn**	**16 33 37.1**	**-1.2**
PATCX	**Punta Patache**	**4.40**	**321**				**Pn**	**16 32 48.4**	**-0.4**
PATCX	**Punta Patache**	**4.40**	**321**	*e*P			**Pn**	**16 32 48.6**	**-0.3**
PATCX				*e*S			**Sn**	**16 33 43.9**	**+3.2**
PATCX				IAML				16 33 46.8	
comp=Z,2μm,0.4s									
PB08	**IPOC Station P**	**4.50**	**336**				**Pn**	**16 32 51.5**	**+1.1**
PB08	**IPOC Station P**	**4.50**	**336**	*e*P			**Pn**	**16 32 51.7**	**+1.2**
PB08				*e*S			**Sn**	**16 33 43.9**	**+0.4**
PB08				IAML				16 33 45.2	
comp=Z,913nm,0.4s									
VCA	**Vinchina**	**4.54**	**192**	*e*P			**Pn**	**16 32 52.1**	**+1.5**
VCA				*e*S			Sn	16 33 53.6	+10
TA01	**Diego Aracena**	**4.62**	**322**				**Pn**	**16 32 50.6**	**-0.9**
TA01	**Diego Aracena**	**4.62**	**322**	*e*P			**Pn**	**16 32 51.1**	**-0.4**
TA01				*e*S			**Sn**	**16 33 44.9**	**-0.7**
TA01				IAML				16 33 47.9	
comp=Z,1μm,0.9s									
HMBC	**Humberstone**	**4.70**	**327**				**Pn**	**16 32 51.9**	**-0.8**
HMBC	**Humberstone**	**4.70**	**327**	*e*P			**Pn**	**16 32 52.0**	**-0.8**
HMBC				*e*S			**Sn**	**16 33 45.6**	**-2.2**
HMBC				IAML				16 33 57.7	
comp=Z,2μm,0.4s									
TA02	**Huaiquique**	**4.83**	**325**				**Pn**	**16 32 53.9**	**-0.4**
TA02	**Huaiquique**	**4.83**	**325**	*e*P			**Pn**	**16 32 54.2**	**-0.2**
TA02				*e*S			**Sn**	**16 33 46.1**	**-4.4**
TA02				IAML				16 34 13.8	
comp=Z,1μm,1.4s									
GO01	**Chusmiza**	**4.95**	**337**				**Pn**	**16 32 56.5**	**+0.1**
GO01	**Chusmiza**	**4.95**	**337**	*e*P			**Pn**	**16 32 56.4**	**+0.1**
PB11	**IPOC Station P**	**5.04**	**332**				**Pn**	**16 32 56.5**	**-0.7**
PB11	**IPOC Station P**	**5.04**	**332**	*e*P			**Pn**	**16 32 56.4**	**-0.9**
PB11				*e*S			**Sn**	**16 33 54.0**	**-1.9**
PB11				IAML				16 34 23.5	
comp=Z,956nm,1.2s									
ACLC	**CERRO LA CRUZ**	**5.14**	**178**	*e*P			**Pn**	**16 32 58.5**	**+0.1**
ACLC				*e*S			**Sn**	**16 33 57.4**	**-0.5**
AC04	**Llanos de Chal**	**5.25**	**221**				**Pn**	**16 32 57.8**	**-1.9**
AC04	**Llanos de Chal**	**5.25**	**221**	*e*P			**Pn**	**16 32 57.2**	**-2.5**
AC04				*e*S			**Sn**	**16 33 56.6**	**-3.7**
AC05	**El Transito**	**5.32**	**211**				**Pn**	**16 32 59.5**	**-1.2**
AC05	**El Transito**	**5.32**	**211**	IAML				16 34 01.9	
comp=Z,1μm,1.1s									
AGUA	**GUANDACOL**	**5.32**	**192**	*e*P			**Pn**	**16 33 01.2**	**+0.4**
AGUA				*e*S			**Sn**	**16 34 05.1**	**+2.9**
LCO	**Las Campanas**	**5.67**	**213**				**Pn**	**16 33 03.7**	**-1.8**
LCO	**Las Campanas**	**5.67**	**213**	P			**Pn**	**16 33 03.7**	**-1.8**
CO01	**Juntas del Tor**	**6.25**	**204**				**Pn**	**16 33 11.7**	**-1.3**
CFA	**Coronel Fontan**	**7.36**	**187**	P			**Pn**	**16 33 26.2**	**-1.3**
comp=Z,10nm,0.3s,baz=0.4,slow=10,SNR=64									
CFA				S			**Sn**	**16 34 45.4**	**-5.1**
comp=Z,25nm,0.3s,baz=56,slow=22,SNR=13									
ZON	**Zonda**	**7.37**	**190**				**Pn**	**16 33 25.8**	**-1.8**
ZON	**Zonda**	**7.37**	**190**	P			**Pn**	**16 33 25.8**	**-1.8**
LPAZ	**La Paz**	**8.00**	**353**	P			**Pn**	**16 33 37.0**	**+0.5**
comp=Z,61nm,0.4s,baz=156,slow=5.5,SNR=328									
LPAZ				S			**Sn**	**16 35 03.3**	**-3.1**
comp=Z,36nm,0.6s,baz=354,slow=20,SNR=7.1									
LPAZ	**La Paz**	**8.00**	**353**	P			**Pn**	**16 33 37.0**	**+0.5**
CPUP	**Villa Florida**	**9.14**	**105**	P			**Pn**	**16 33 48.1**	**-2.8**
comp=Z,49nm,0.8s,baz=284,slow=12,SNR=72									
PEL	**Peldehue**	**9.36**	**198**				**Pn**	**16 33 51.5**	**-2.3**
PEL	**Peldehue**	**9.36**	**198**	P			**Pn**	**16 33 51.5**	**-2.3**
MT16	**CCHEN**	**9.58**	**197**				**Pn**	**16 33 56.5**	**-0.3**
MT05	**Renca**	**9.61**	**198**				**Pn**	**16 33 54.9**	**-2.2**
MT03	**Universidad Ad**	**9.64**	**197**				**Pn**	**16 33 57.8**	**+0.2**
MT13	**San Alfonso**	**9.82**	**195**				**Pn**	**16 33 59.1**	**-0.8**
LMEL	**Las Melosas**	**9.90**	**195**				**Pn**	**16 33 59.6**	**-1.4**
SIV	**San Ignacio**	**10.04**	**36**	P			**Pn**	**16 34 01.1**	**-1.7**
comp=Z,49nm,0.7s,baz=215,slow=12,SNR=214									
SIV				S			Sn	16 35 43.9	-11
comp=Z,16nm,0.8s,baz=217,slow=16,SNR=3.5									
BO04	**La Punta**	**10.13**	**196**				**Pn**	**16 34 01.1**	**-2.9**
MT01	**Popeta**	**10.20**	**200**				**Pn**	**16 34 00.8**	**-3.9**
BO01	**Tunca**	**10.64**	**198**				**Pn**	**16 34 08.4**	**-2.1**
ITQB	**Itaqui**	**10.84**	**122**				**Pn**	**16 34 10.3**	**-2.8**
ITQB	**Itaqui**	**10.84**	**122**	*e*P			**Pn**	**16 34 10.7**	**-2.3**
AQDB	**Aquidauana**	**11.27**	**73**	*e*P			**Pn**	**16 34 16.1**	**-2.6**
PTLB	**Pontes e Lacer**	**11.58**	**42**				**Pn**	**16 34 21.0**	**-1.9**
PTLB	**Pontes e Lacer**	**11.58**	**42**	*e*P			**Pn**	**16 34 20.8**	**-2.1**
TBOT	**Tacuaremb**	**12.37**	**129**	*e*P			**Pn**	**16 34 32.4**	**-0.4**
RPRD	**Ribas do Rio P**	**13.02**	**76**	*e*P			**Pn**	**16 34 39.8**	**-1.5**
SALV	**Santo Antonio**	**13.62**	**54**	*e*P			**Pn**	**16 34 47.1**	**-1.7**
PTGB	**Pitanga**	**13.77**	**95**	*e*P			**Pn**	**16 34 49.8**	**-0.9**
VA04	**Juan Fernndez**	**13.82**	**225**				**Pn**	**16 34 50.7**	**-0.5**
ITAB	**Concordia**	**13.87**	**105**	*e*P			**Pn**	**16 34 50.4**	**-1.5**
PLTB	**Pedras Altas**	**14.11**	**125**				**Pn**	**16 34 52.3**	**-2.6**
PLTB	**Pedras Altas**	**14.11**	**125**	*e*P			**Pn**	**16 34 52.7**	**-2.2**
C2SB	**Chapadao do Su**	**14.42**	**70**	*e*P			**Pn**	**16 34 58.5**	**-0.3**
TRQA	**Tornquist**	**14.44**	**163**				**Pn**	**16 34 57.1**	**-1.8**
TRQA	**Tornquist**	**14.44**	**163**	P			**Pn**	**16 34 57.1**	**-1.8**
TRQA	**Tornquist**	**14.44**	**163**	*e*P			**Pn**	**16 34 58.6**	**-0.3**
LDASE	**Londrina, Braz**	**14.72**	**90**	*e*P			**Pn**	**16 35 01.2**	**-1.3**
NNA	**Nana**	**15.28**	**321**	P			**P**	**16 35 11.2**	**+0.9**
NNA	**Nana**	**15.28**	**321**	P			**P**	**16 35 11.0**	**+0.7**
comp=Z,27nm,0.9s,baz=154,slow=10,SNR=9.4									
NNA				S			**Sn**	**16 37 57.5**	**-2.6**
comp=Z,6.3nm,0.4s,baz=180,slow=12,SNR=1.8									
NNA	**Nana**	**15.28**	**321**	P			**P**	**16 35 11.2**	**+0.9**
CNLB	**Canela**	**15.41**	**113**	*e*P			**Pn**	**16 35 09.2**	**-1.8**
PDRB	**Porto dos Gac**	**16.03**	**40**	*e*P			**P**	**16 35 17.3**	**-1.3**
ITRB	**Iturama**	**16.24**	**77**	*e*P			**P**	**16 35 19.2**	**-1.7**
LR05	**Currie**	**16.42**	**193**				**P**	**16 35 22.4**	**-0.3**
MAJ01	**Sao Joao Batis**	**16.65**	**105**	*e*P			**P**	**16 35 23.3**	**-2.0**
PLCA	**Paso Flores**	**16.66**	**189**				**P**	**16 35 25.3**	**0.0**
PLCA	**Paso Flores**	**16.66**	**189**	P			**Pn**	**16 35 25.7**	**-0.2**
comp=Z,9.6nm,0.7s,baz=10,slow=12,SNR=66									
PLCA	**Paso Flores**	**16.66**	**189**	*e*P			**Pn**	**16 35 25.8**	**-0.2**
TER01	**Tubaro-SC**	**16.71**	**109**	*e*P			**P**	**16 35 24.6**	**-1.4**
ARAG	**Araguaiana, MT**	**16.76**	**62**	*e*P			**P**	**16 35 25.0**	**-1.6**
CLDB	**Colider**	**17.17**	**41**	*e*P			**P**	**16 35 30.3**	**-0.8**
CZSB	**Cruzeiro do Su**	**17.28**	**341**				**P**	**16 35 32.3**	**0.0**
CZSB	**Cruzeiro do Su**	**17.28**	**341**	*e*P			**P**	**16 35 33.0**	**+0.7**
BB19B	**Bebedouro**	**17.50**	**83**	*e*P			**P**	**16 35 34.1**	**-0.7**
VAO	**Valinhos**	**18.56**	**90**				**P**	**16 35 45.1**	**-1.3**
VAO	**Valinhos**	**18.56**	**90**	*e*P			**P**	**16 35 44.5**	**-1.8**
IPMB	**Ipameri, GO**	**18.76**	**74**	*e*P			**P**	**16 35 46.7**	**-1.8**
SNDB	**Serra Nova Dou**	**19.40**	**54**	*e*P			**P**	**16 35 53.8**	**-1.6**
PARB	**Paraibuna**	**19.74**	**92**	*e*P			**P**	**16 35 57.4**	**-1.7**
BDFB	**Brasilia**	**19.94**	**68**				**P**	**16 36 00.8**	**-0.5**
BDFB	**Brasilia**	**19.94**	**68**	P			**P**	**16 36 00.4**	**-0.9**
comp=Z,130nm,0.5s,baz=243,slow=10,SNR=211									
BDFB	**Brasilia**	**19.94**	**68**	P			**P**	**16 36 00.8**	**-0.5**
PMNB	**Patos De Minas**	**20.12**	**78**	*e*P			**P**	**16 36 01.5**	**-1.8**
TBTG	**Tabatinga, AM**	**20.14**	**352**	*e*P			**P**	**16 36 04.8**	**+1.4**
ATAH	**Atahualpa**	**20.15**	**326**	P			**P**	**16 36 05.8**	**+1.9**
comp=Z,10nm,0.7s,baz=134,slow=8.0,SNR=5.9									
SLP01	**Ubatuba-SP**	**20.17**	**92**	*e*P			**P**	**16 36 02.0**	**-1.8**
NPGB	**Novo Progresso**	**20.54**	**35**	*e*P			**P**	**16 36 04.5**	**-3.1**
AY01	**Puyuhuapi**	**20.59**	**191**				**P**	**16 36 07.6**	**-0.3**
TEFE	**Tefe**	**20.79**	**7**	*e*P			**P**	**16 36 09.9**	**-0.3**
MAN01	**Angra dos Reis**	**21.32**	**91**	*e*P			**P**	**16 36 14.2**	**-1.7**
COYC	**Coyhaique**	**21.62**	**189**				**P**	**16 36 17.6**	**-1.1**
VAS01	**Vassouras-RJ**	**21.89**	**90**	*e*P			**P**	**16 36 20.3**	**-1.5**
MACA	**Manacapuru-AM**	**21.91**	**18**	P			**P**	**16 36 20.3**	**-1.6**
MACA	**Manacapuru-AM**	**21.91**	**18**	*e*P			**P**	**16 36 20.3**	**-1.6**
ITTB	**Itaituba**	**22.65**	**31**	*e*P			**P**	**16 36 27.3**	**-1.8**
DIAM	**Diamantina, MG**	**22.68**	**79**	*e*P			**P**	**16 36 27.9**	**-1.5**
DUB01	**Friburgo-RJ**	**22.90**	**90**	*e*P			**P**	**16 36 29.7**	**-1.6**
JANB	**Januaria**	**23.37**	**71**	*e*P			**P**	**16 36 33.5**	**-2.2**
CAM01	**Campos-RJ**	**23.60**	**89**	*e*P			**P**	**16 36 36.1**	**-1.5**
SDBA	**SAO DESIDERIO**	**24.17**	**65**	*e*P			**P**	**16 36 41.2**	**-1.7**
SMTB	**Santa Maria do**	**24.18**	**54**	*e*P			**P**	**16 36 41.5**	**-1.5**
PRPB	**Parauapebas**	**24.53**	**46**	*e*P			**P**	**16 36 43.8**	**-2.3**
COHC	**Cochancay**	**24.62**	**330**	P			**P**	**16 36 49.8**	**+2.8**
SJMB	**Sao Joao De Ma**	**24.79**	**82**	*e*P			**P**	**16 36 45.1**	**-3.4**
RIB01	**Linhares ES**	**25.33**	**84**	*e*P			**P**	**16 36 51.6**	**-1.8**
MAL2	**Monte Alegre,**	**25.44**	**32**				**P**	**16 36 52.9**	**-1.5**
MAL2				IAmb			IAmb	16 36 57.3	
comp=Z,47nm,1.1s									
GUA01	**Guaratinga, BA**	**26.73**	**79**	*e*P			**P**	**16 37 04.5**	**-1.4**
FLOC	**Florencia**	**26.99**	**341**	IAmb			IAmb	16 37 11.0	
comp=Z,68nm,1.0s									
BOAV	**Boa Vista**	**27.29**	**15**	P			**P**	**16 37 10.8**	**-0.1**
BOAV	**Boa Vista**	**27.29**	**15**	*e*P			**P**	**16 37 10.6**	**-0.3**
CMC01	**Camacan, BA**	**27.45**	**76**	*e*P			**P**	**16 37 10.4**	**-1.9**
EFI	**East Falkland**	**28.24**	**168**	*i*P			**P**	**16 37 18.7**	**-0.3**
EFI				pmax			pmax		
comp=Z,28nm,1.1s									
TMAB	**Tom-Au,PA,Br**	**28.53**	**43**	*e*P			**P**	**16 37 21.0**	**-1.0**
ROSC	**El Rosal**	**29.76**	**346**	P			**P**	**16 37 34.4**	**+1.2**
comp=Z,12nm,0.5s,baz=163,slow=14,SNR=7.7									
ROSC				LR			LR	16 53 04.8	
comp=Z,161nm,19.1s,baz=128,slow=43									
comp=Z,12nm,0.5s									
RUSC	**La Rusia**	**30.53**	**348**	P			**P**	**16 37 40.3**	**+0.1**
RUSC				IAmb			IAmb	16 37 43.6	
comp=Z,55nm,0.9s									
NBPB	**Pedra_Branca-C**	**32.40**	**59**	*e*P			**P**	**16 37 54.7**	**-1.3**
MPGF	**Montagnes des**	**32.46**	**28**	P			**P**	**16 37 55.8**	**-0.7**
NBAN	**Anadia - AL**	**32.83**	**69**	*e*P			**P**	**16 37 57.1**	**-2.6**
SDV	**Santo Domingo**	**33.13**	**354**	P			**P**	**16 38 01.3**	**-1.2**
SDV	**Santo Domingo**	**33.13**	**354**	LR			LR	16 53 25.0	
comp=Z,153nm,18.2s,baz=168,slow=39									
SDV	**Santo Domingo**	**33.13**	**354**	*e*P			**P**	**16 38 01.7**	**-0.8**
RCBR	**Riachuelo**	**35.19**	**64**	P			**P**	**16 38 19.1**	**-1.1**
RCBR				IAmb			IAmb	16 38 20.6	
comp=Z,36nm,0.8s									
RCBR	**Riachuelo**	**35.19**	**64**	P			**P**	**16 38 19.1**	**-1.1**
RCBR				pmax			pmax		
comp=Z,36nm,0.9s									
RCBR	**Riachuelo**	**35.19**	**64**	*e*P			**P**	**16 38 19.6**	**-0.6**
RCBR	**Riachuelo**	**35.19**	**64**	P			**P**	**16 38 19.4**	**-0.8**
SMRC	**Santa Marta, M**	**35.89**	**

comp=Z,32nm,1.1s
Z41A Richland Creek 62.20 336 IAmb IAmb 16 41 48.0
comp=Z,22nm,0.9s
DRIO Del Rio 62.32 327 IAmb IAmb 16 41 48.5
comp=Z,34nm,1.2s
BLA Blacksburg 62.42 348 IAmb IAmb 16 41 48.7
comp=Z,18nm,0.7s
TZTN Tazewell 62.43 345 IAmb IAmb 16 41 48.3
comp=Z,71nm,1.7s
V48A Smith Brothers 62.52 342 IAmb IAmb 16 41 49.0
comp=Z,41nm,1.0s
CLTN Cedars of Leba 62.71 343 IAmb IAmb 16 41 50.1
comp=Z,19nm,0.9s
HPIG 63.03 321 IAmb IAmb 16 41 54.6
comp=Z,28nm,1.3s
BRDY Brady 63.09 330 IAmb IAmb 16 41 53.4
comp=Z,23nm,0.9s
WVT Waverly 63.17 341 P **P** **16 41 51.1 -0.7**
WVT Waverly 63.17 341 P **P** **16 41 51.1 -0.7**
WVT pmax pmax
comp=Z,76nm,1.1s
WVT Waverly 63.17 341 P **P** **16 41 51.7 -0.1**
WVT pP **pP** **16 42 34.9 +0.6**
T50A Nancy 63.20 344 IAmb IAmb 16 41 53.0
comp=Z,19nm,0.8s
SLBS Sierra La Lagu 63.20 316 P **P** **16 41 53.8 +1.4**
SLBS IAmb IAmb 16 41 57.3
comp=Z,70nm,1.8s
FW13 Cleburne 63.29 331 IAmb IAmb 16 41 54.2
comp=Z,21nm,0.7s
SAND Sanderson 63.51 326 IAmb IAmb 16 41 57.1
comp=Z,43nm,1.1s
MIAR Mount Ida 63.64 336 IAmb IAmb 16 41 56.9
comp=Z,35nm,1.1s
NVL N'lazarevskaya 63.68 159 *e*P **P** **16 41 56.0 +1.2**
NVL *e* 16 42 52.7
NVL *i* S **S** **16 50 20.6 +6.0**
NVL pmax pmax
comp=Z,25nm,0.7s
OZNA Ozona 63.80 328 IAmb IAmb 16 41 58.2
comp=Z,37nm,1.2s
TXAR Lajitas Array 63.81 325 P **P** **16 41 56.7 +0.4**
TXAR Lajitas Array 63.81 325 P **P** **16 41 57.7 +1.4**
comp=Z,4.5nm,0.8s,baz=152,slow=8.5,SNR=53
comp=Z,4.5nm,0.8s
Q56A Snyder Ridge, 63.98 350 IAmb IAmb 16 41 59.6
comp=Z,22nm,0.9s
PLPT Palo Pinto 64.07 331 IAmb IAmb 16 41 59.9
comp=Z,35nm,0.8s
LCAR Lake Charles 64.15 339 IAmb IAmb 16 41 59.6
comp=Z,21nm,1.1s
R50A Paris 64.27 345 IAmb IAmb 16 42 00.2
comp=Z,60nm,1.8s
SSFO Shawnee State 64.41 346 IAmb IAmb 16 42 01.1
comp=Z,20nm,0.8s
Q52A Bidwell 64.47 347 IAmb IAmb 16 42 01.6
comp=Z,27nm,0.8s
SGCY Sterling City 64.61 328 IAmb IAmb 16 42 03.4
comp=Z,20nm,0.8s
ALPN Alpine 64.62 325 IAmb IAmb 16 42 03.6
comp=Z,15nm,0.7s
WCI Wyandotte Cave 64.71 343 P **P** **16 42 01.2 -0.6**
WCI Wyandotte Cave 64.71 343 P **P** **16 42 01.2 -0.6**
WCI pmax pmax
comp=Z,34nm,0.8s
WCI Wyandotte Cave 64.71 343 P **P** **16 42 01.4 -0.4**
CGM3 Cape Girardeau 64.80 340 IAmb IAmb 16 42 03.7
comp=Z,46nm,1.4s
USIN University of 64.83 342 IAmb IAmb 16 42 03.2
comp=Z,28nm,1.0s
SIUC Southern Illin 65.05 341 IAmb IAmb 16 42 05.2
comp=Z,39nm,1.2s
P51A Williamsport 65.14 346 IAmb IAmb 16 42 05.6
comp=Z,45nm,1.3s
O54A Avella 65.29 349 IAmb IAmb 16 42 07.1
comp=Z,17nm,0.6s
HHAR Hobbs 65.32 336 IAmb IAmb 16 42 07.6
comp=Z,28nm,1.0s
SSPA Standing Stone 65.34 351 P **P** **16 42 06.9 +1.0**
SSPA PcP **PcP** **16 42 37.3 +0.7**
PCOS Crockett Middl 65.38 326 P P 16 42 01.8 -4.6
W35A Tecumseh 65.46 333 IAmb IAmb 16 42 08.0
comp=Z,18nm,0.6s
O52A Adamsville 65.50 348 IAmb IAmb 16 42 08.2
comp=Z,32nm,0.7s
O53A New Philadelph 65.51 348 IAmb IAmb 16 42 08.5
comp=Z,24nm,0.7s
PECS Pecos 65.53 326 IAmb IAmb 16 42 10.4
comp=Z,42nm,1.4s
U38A Gravette 65.62 336 IAmb IAmb 16 42 09.4
comp=Z,14nm,0.7s
VHRN Van Horn 65.65 325 IAmb IAmb 16 42 10.9
comp=Z,43nm,1.1s
P48A Milroy 65.66 345 IAmb IAmb 16 42 07.9
comp=Z,21nm,0.7s
BLO Bloomington 65.66 344 IAmb IAmb 16 42 08.3
comp=Z,23nm,0.7s
TUL3 Leonard 65.69 335 IAmb IAmb 16 42 10.1
comp=Z,53nm,1.2s
POST Post 65.74 329 IAmb IAmb 16 42 11.8
comp=Z,21nm,0.9s
FNO Franklin 65.77 333 IAmb IAmb 16 42 10.3
comp=Z,27nm,0.9s
QSPA South Pole Qui 65.93 180 P **P** **16 42 10.7 +1.1**
comp=Z,28nm,0.5s,baz=167,slow=2.6,SNR=346
comp=Z,28nm,0.5s
QSPA South Pole Qui 65.93 180 P **P** **16 42 10.8 +1.2**
DKNS Dickens 65.97 330 IAmb IAmb 16 42 11.9
comp=Z,20nm,0.8s
CCM Cathedral Cave 65.99 339 P **P** **16 42 10.0 -0.1**
CCM Cathedral Cave 65.99 339 P **P** **16 42 10.0 -0.1**
CCM pmax pmax
comp=Z,95nm,1.3s
CCM Cathedral Cave 65.99 339 P **P** **16 42 10.4 +0.4**
CCM PcP **PcP** **16 42 39.2 -0.1**
CCM pP **pP** **16 42 54.7 +1.8**
P46A Rosedale 66.26 343 IAmb IAmb 16 42 12.3
comp=Z,23nm,1.0s
L56A Greenwood 66.77 352 IAmb IAmb 16 42 17.2
comp=Z,58nm,1.2s
M52A Chesterland 66.79 348 IAmb IAmb 16 42 16.6
comp=Z,25nm,0.8s
M50A Fremont 66.98 347 IAmb IAmb 16 42 17.5
comp=Z,34nm,0.8s
ELIB Princess Elisa 67.31 160 *d*P **P** **16 42 19.1 +0.9**
comp=Z,24nm,0.6s
ELIB *d*PcP **PcP** **16 42 44.8 +0.2**
ELIB *d*pP **pP** **16 42 56.7 -4.5**
AMTX Amarillo 67.32 330 IAmb IAmb 16 42 20.8
comp=Z,40nm,1.4s
OK038 West end E0370 67.37 333 IAmb IAmb 16 44 35.7
comp=Z,33nm,0.9s
NOKA Waynoka 67.58 333 IAmb IAmb 16 43 26.6
comp=Z,26nm,0.8s
P40A Paris 67.59 339 IAmb IAmb 16 42 21.7
comp=Z,34nm,0.8s
HSIG 67.67 319 P **P** **16 42 21.9 +1.0**
HSIG IAmb IAmb 16 42 24.4
comp=Z,51nm,1.2s
HDIL Hopedale 67.70 342 IAmb IAmb 16 42 21.6
comp=Z,39nm,0.9s
AAM Ann Arbor 67.97 347 IAmb IAmb 16 42 26.9
comp=Z,18nm,0.5s
DBIC Dimbokro 68.04 72 P **P** **16 42 22.1 -1.5**
DBIC Dimbokro 68.04 72 P **P** **16 42 22.6 -0.9**
comp=Z,11nm,0.5s,baz=231,slow=6.5,SNR=37
DBIC LR LR 17 11 14.7
comp=Z,69nm,20.0s,baz=191,slow=35
comp=Z,11nm,0.5s
DBIC Dimbokro 68.04 72 P **P** **16 42 22.6 -0.9**
DBIC PcP **PcP** **16 42 49.0 +0.5**
DBIC pP **pP** **16 43 07.0 +0.5**
DBIC sP **sP** **16 43 26.6 +0.7**
M44A Midewin, Midew 68.14 343 IAmb IAmb 16 42 24.1
comp=Z,25nm,0.9s
P38A Dawn 68.17 338 IAmb IAmb 16 42 24.8
comp=Z,32nm,0.6s
319A Douglas 68.45 322 IAmb IAmb 16 42 29.3
comp=Z,28nm,0.7s
PECO Prince Edward 68.47 352 IAmb IAmb 16 42 27.4
comp=Z,39nm,1.0s
HQIL Hanson Quary C 68.47 344 IAmb IAmb 16 42 26.2
comp=Z,44nm,1.0s
KSU1 Kansas State U 68.80 336 IAmb IAmb 16 42 29.3
comp=Z,29nm,1.0s
L44A Lake County Fo 68.84 344 IAmb IAmb 16 42 29.4
comp=Z,49nm,1.0s

LONY Lake Ozonia 68.89 354 IAmb IAmb 16 42 30.4
comp=Z,29nm,1.2s
RTBA Rita Blanca 69.09 330 IAmb IAmb 16 42 33.8
comp=Z,27nm,0.9s
L42A Oliver, Polo 69.15 342 IAmb IAmb 16 42 30.9
comp=Z,40nm,1.1s
WBO Williamsburg 69.33 354 IAmb IAmb 16 42 32.9
comp=Z,20nm,0.8s
ANMO Albuquerque 69.68 326 P **P** **16 42 34.6 +1.2**
ANMO IAmb IAmb 16 42 36.9
comp=Z,36nm,1.1s
ANMO Albuquerque 69.68 326 P **P** **16 42 34.7 +1.2**
ANMO pmax pmax
comp=Z,36nm,1.1s
ANMO Albuquerque 69.68 326 P **P** **16 42 35.7 +2.2**
ANMO pP **pP** **16 43 19.3 +2.5**
TUC Tucson 70.00 322 P **P** **16 42 37.0 +1.7**
TUC IAmb IAmb 16 42 38.9
comp=Z,37nm,1.2s
TUC Tucson 70.00 322 P **P** **16 42 37.0 +1.7**
TUC pmax pmax
comp=Z,37nm,1.3s
TUC Tucson 70.00 322 P **P** **16 42 37.6 +2.3**
BUKO Buck Lake 70.27 351 IAmb IAmb 16 42 38.4
comp=Z,39nm,1.1s
T25A Trinidad 70.44 329 IAmb IAmb 16 42 41.3
comp=Z,22nm,0.8s
TRQ Mont Tremblant 70.48 355 IAmb IAmb 16 42 39.5
comp=Z,24nm,1.0s
TAOE Nuku Hiva Isla 70.94 269 *e*LR LR 17 04 35.2
comp=Z,87nm,30.8s
I40A Norwalk 71.16 342 IAmb IAmb 16 42 43.3
comp=Z,32nm,1.2s
L34A Svendsen Farm, 71.23 337 IAmb IAmb 16 42 44.0
comp=Z,44nm,0.8s
X16A Lo Mia Camp, P 71.92 323 IAmb IAmb 16 42 50.8
comp=Z,33nm,1.2s
Q24A Divide 72.25 330 IAmb IAmb 16 42 52.3
comp=Z,31nm,1.1s
VTX Valle De La Tr 72.29 318 IAmb IAmb 16 42 52.9
comp=Z,49nm,1.4s
MVCO Mesa Verde 72.48 326 IAmb IAmb 16 42 53.7
comp=Z,30nm,0.9s
WUAZ Wupatki 72.70 323 IAmb IAmb 16 42 55.4
comp=Z,39nm,0.9s
ECSD EROS Data Cent 72.87 338 IAmb IAmb 16 42 54.1
comp=Z,42nm,1.1s
SPMN Marine on St. 73.00 341 IAmb IAmb 16 42 54.3
comp=Z,36nm,0.9s
BLYC Blythe 73.19 320 IAmb IAmb 16 42 58.1
comp=Z,33nm,1.0s
PV01 Paradox Valley 73.23 327 IAmb IAmb 16 42 58.3
comp=Z,38nm,1.3s
PV15 Paradox Valley 73.35 327 IAmb IAmb 16 42 59.2
comp=Z,42nm,1.1s
SYO Syowa Base 73.35 159⇓ *e*P **P** **16 42 55.6 +0.9**
PV02 Paradox Valley 73.37 327 IAmb IAmb 16 42 59.1
comp=Z,59nm,1.3s
PV13 Radium Mtn., P 73.38 327 IAmb IAmb 16 42 58.9
comp=Z,31nm,1.0s
SBA Scott Base 73.40 190 P **P** **16 42 56.3 +1.5**
SBA Scott Base 73.40 190 P **P** **16 42 56.3 +1.5**
SBA pmax pmax
comp=Z,15nm,1.0s
PV05 Paradox Valley 73.45 327 IAmb IAmb 16 42 59.1
comp=Z,30nm,1.0s
CBX Cerro Bola 73.47 318 IAmb IAmb 16 42 59.9
comp=Z,34nm,1.0s
PV18 Skein Mesa, Pa 73.49 327 IAmb IAmb 16 42 59.4
comp=Z,30nm,0.9s
PV22 Blue Mesa, Par 73.65 327 IAmb IAmb 16 43 00.5
comp=Z,39nm,1.1s
PV10 Paradox Valley 73.65 327 IAmb IAmb 16 43 00.0
comp=Z,35nm,1.0s
PV23 Carpenter Ridg 73.70 327 IAmb IAmb 16 43 00.7
comp=Z,28nm,1.0s
U15A North Rim 73.88 323 IAmb IAmb 16 43 02.6
comp=Z,30nm,1.0s
E38A The Farm, Brul 73.92 343 IAmb IAmb 16 42 59.7
comp=Z,31nm,0.9s
PFO Pinyon Flats O 74.24 319 P **P** **16 43 02.6 +2.0**
PFO Pinyon Flats O 74.24 319 P **P** **16 43 02.6 +2.0**
PFO pmax pmax
comp=Z,21nm,1.1s
VNDA Vanda 74.41 190 P **P** **16 43 01.9 +1.2**
VNDA Vanda 74.41 190 P **P** **16 43 02.3 +1.6**
comp=Z,9.3nm,0.9s,baz=132,slow=5.1,SNR=35
comp=Z,9.3nm,0.9s
O20A White River Ci 74.63 329 IAmb IAmb 16 43 06.2
comp=Z,48nm,0.9s
SRU San Rafael Swe 74.96 326 IAmb IAmb 16 43 07.8
comp=Z,33nm,0.8s
EYMN Ely 75.14 343 IAmb IAmb 16 43 06.7
comp=Z,24nm,0.9s
P18A Preston Nutter 75.22 327 IAmb IAmb 16 43 09.8
comp=Z,29nm,0.8s
TBO Thunder Bay 75.27 345 IAmb IAmb 16 43 07.7
comp=Z,55nm,1.0s
MVU Marysvale 75.37 325 IAmb IAmb 16 43 10.8
comp=Z,32nm,0.9s
K22A Casper 75.84 331 IAmb IAmb 16 43 12.8
comp=Z,39nm,1.2s
PRN Pahroc Range 76.10 323 IAmb IAmb 16 43 15.2
comp=Z,43nm,1.2s
GWY Greenwater Val 76.16 321 IAmb IAmb 16 43 14.8
comp=Z,31nm,1.0s
BSUT Blindstream Ca 76.16 327 IAmb IAmb 16 43 15.2
comp=Z,29nm,0.9s
CCAC Calif City Air 76.23 319 IAmb IAmb 16 43 15.4
comp=Z,97nm,1.6s
PPT2 Papeete2 76.24 257 *e*LR LR 17 06 58.2
comp=Z,58nm,25.5s
PSUT Pine Spring 76.26 324 IAmb IAmb 16 43 15.8
comp=Z,26nm,0.8s
TPNV Topopah Spring 76.45 321 IAmb IAmb 16 43 17.1
comp=Z,40nm,1.1s
S11A Rachel 76.66 322 IAmb IAmb 16 43 18.9
comp=Z,63nm,1.7s
AGMN Agassiz Nation 76.69 341 IAmb IAmb 16 43 15.8
comp=Z,27nm,0.9s
TORD Torodi Ar. Bea 76.82 69 LR LR 17 18 04.4
comp=Z,73nm,20.2s,baz=249,slow=36
TCUT Toone Canyon 76.92 327 IAmb IAmb 16 43 19.0
comp=Z,81nm,1.7s
PDAR Pinedale Array 77.30 329 P **P** **16 43 18.6 +0.8**
PDAR Pinedale Array 77.30 329 P **P** **16 43 19.3 +1.5**
comp=Z,5.0nm,0.8s,baz=134,slow=7.8,SNR=43
comp=Z,5.0nm,0.8s
EPLO Experimental L 77.31 343 IAmb IAmb 16 43 19.1
comp=Z,41nm,0.9s
BGU Big Grassy Mou 77.59 326 IAmb IAmb 16 43 22.6
comp=Z,40nm,1.4s
AHID Auburn Hatcher 78.03 329 IAmb IAmb 16 43 24.8
comp=Z,49nm,1.0s
ULM Lac du Bonnet 78.44 342 IAmb IAmb 16 43 25.3
comp=Z,42nm,1.1s
ULM Lac du Bonnet 78.44 342 P **P** **16 43 24.3 +0.7**
comp=Z,24nm,0.8s,baz=151,slow=5.8,SNR=18
comp=Z,24nm,0.8s
LOHW Long Hollow 78.44 329 IAmb IAmb 16 43 27.2
comp=Z,72nm,1.7s
KOOLE Kule 78.62 110 P **P** **16 43 24.9 -0.7**
NVAR Mina Array Bea 78.65 321 P **P** **16 43 26.7 +1.4**
NVAR Mina Array Bea 78.65 321 P **P** **16 43 27.4 +2.0**
comp=Z,5.3nm,0.7s,baz=150,slow=6.4,SNR=20
comp=Z,5.3nm,0.7s
LAO LASA Array 78.97 334 IAmb IAmb 16 43 29.4
comp=Z,41nm,0.9s
RLMT Red Lodge 79.00 331 IAmb IAmb 16 43 30.3
comp=Z,90nm,1.8s
YNE Yellowstone No 79.24 331 IAmb IAmb 16 43 31.6
comp=Z,40nm,1.0s
YMR Madison River 79.42 330 IAmb IAmb 16 43 33.2
comp=Z,44nm,1.0s
YHB Horse Butte 79.58 330 IAmb IAmb 16 43 33.9
comp=Z,27nm,0.9s
CMB Columbia Colle 79.59 320 P **P** **16 43 31.4 +1.1**
CMB Columbia Colle 79.59 320 P **P** **16 43 31.4 +1.1**
CMB pmax pmax
comp=Z,11nm,1.4s
YHL Hebgen Lake 79.66 330 IAmb IAmb 16 43 34.5
comp=Z,68nm,1.5s
PNTR Pine Nut 79.84 321 IAmb IAmb 16 43 35.4
comp=Z,41nm,0.9s
PAHR Pah Rah Range 80.14 322 IAmb IAmb 16 43 36.9
comp=Z,42nm,1.0s
MPK Martis Peak 80.23 321 IAmb IAmb 16 43 37.7
comp=Z,56nm,1.3s

HLID Hailey 80.23 327 IAmb IAmb 16 43 37.5
comp=Z,42nm,0.8s
AFDM Forest Hills D 80.54 320 IAmb IAmb 16 43 38.2
comp=Z,60nm,1.8s
DLMT Dillon 80.69 329 IAmb IAmb 16 43 39.5
comp=Z,49nm,1.2s
BOSA Boshof 80.75 117 P **P** **16 43 37.0 +0.1**
comp=Z,7.6nm,0.5s,baz=263,slow=3.4,SNR=54
comp=Z,7.6nm,0.5s
BEKR Beckworth 80.80 321 IAmb IAmb 16 43 40.1
comp=Z,44nm,1.5s
MAW Mawson 81.22 163 P **P** **16 43 39.3 +0.9**
MAW Mawson 81.22 163 P **P** **16 43 39.4 +0.9**
comp=Z,13nm,0.5s,baz=215,slow=6.3,SNR=28
comp=Z,13nm,0.5s
ORV Oroville 81.25 321 IAmb IAmb 16 43 42.4
comp=Z,34nm,1.1s
EGMT Eagleton 81.48 333 IAmb IAmb 16 43 42.5
comp=Z,42nm,1.1s
HATC Hat Creek Radi 82.06 322 IAmb IAmb 16 43 46.1
comp=Z,52nm,1.2s
PLID Pearl Lake 82.12 327 IAmb IAmb 16 43 46.7
comp=Z,38nm,0.9s
J08A Circle Bar Ran 82.15 325 IAmb IAmb 16 43 47.0
comp=Z,76nm,1.3s
BMO Blue Mountains 82.60 327 IAmb IAmb 16 43 49.0
comp=Z,71nm,1.9s
MESJ Messejana 82.94 43 *e*P **P** **16 43 48.4 +0.5**
MESJ IAmb IAmb 16 43 53.4
comp=Z,14nm,1.0s
J05D Fort Rock, OR 83.58 323 IAmb IAmb 16 43 54.2
comp=Z,31nm,1.2s
PINE Pine Mountain 83.76 324 IAmb IAmb 16 43 55.4
comp=Z,30nm,0.9s
L02F Cave Junction 84.11 321 IAmb IAmb 16 43 57.5
comp=Z,77nm,1.9s
FFC Flin Flon 84.16 341 P **P** **16 43 54.2 +0.6**
FFC Flin Flon 84.16 341 P **P** **16 43 54.2 +0.6**
FFC pmax pmax
comp=Z,18nm,1.2s
I05D Terrebonne, OR 84.34 324 IAmb IAmb 16 43 58.0
comp=Z,22nm,0.7s
K02D Willamette Mer 84.53 322 IAmb IAmb 16 43 59.1
comp=Z,51nm,1.3s
DBO Dodson Butte 84.57 322 IAmb IAmb 16 43 59.2
comp=Z,50nm,1.4s
HAWA Hanford 84.79 327 IAmb IAmb 16 43 60.0
comp=Z,27nm,1.1s
D08A Wollman Farm, 84.95 327 IAmb IAmb 16 44 00.7
comp=Z,38nm,1.3s
I03D Drain, OR 85.00 323 IAmb IAmb 16 44 00.9
comp=Z,37nm,1.2s
BUCK Buck Mountain 85.13 323 IAmb IAmb 16 44 01.4
comp=Z,46nm,1.0s
LTY Liberty 85.96 327 IAmb IAmb 16 44 05.2
comp=Z,48nm,1.5s
PAB San Pablo 86.39 44 P **P** **16 44 05.3 +0.1**
PAB San Pablo 86.39 44 P **P** **16 44 05.3 +0.1**
PAB pmax pmax
comp=Z,8.0nm,0.8s
D05A Enumclaw 86.58 326 IAmb IAmb 16 44 08.0
comp=Z,32nm,1.0s
ESDC Sonseca Array 86.70 44 P **P** **16 44 08.0 +1.3**
comp=Z,2.8nm,0.7s,baz=249,slow=4.3,SNR=12
comp=Z,2.8nm,0.7s
MATP Matopo 86.72 111 P **P** **16 44 09.6 +2.2**
comp=Z,3.8nm,0.6s,baz=252,slow=3.7,SNR=29
comp=Z,3.8nm,0.6s
NLWA Neilton Lookou 87.68 325 IAmb IAmb 16 44 13.9
comp=Z,37nm,1.2s
LLLB Lillooet 88.80 329 IAmb IAmb 16 44 18.2
comp=Z,46nm,1.7s
CASY Casey 89.72 179 P **P** **16 44 20.8 +0.3**
CASY IAmb IAmb 16 44 23.2
comp=Z,27nm,0.8s
ILON Igloolik, Nuna 93.98 355 IAmb IAmb 16 44 41.4
comp=Z,8.7nm,0.8s
YKAW1 Yellowknife Wh 94.28 340 IAmb IAmb 16 44 43.4
comp=Z,23nm,1.1s
YKA Yellowknife Ar 94.33 340 P **P** **16 44 42.2 +0.7**
comp=Z,10nm,0.9s,baz=132,slow=4.6,SNR=117
comp=Z,10nm,0.9s
YKAW3 Yellowknife Wh 94.38 340 IAmb IAmb 16 44 43.9
comp=Z,30nm,1.3s
BORG Borgarnes 95.54 18 LR LR 17 23 31.9
comp=Z,24nm,19.8s,baz=192,slow=33
DAVOX Davos/Dischmat 99.00 43 LR LR 17 31 38.8
comp=Z,35nm,18.4s,baz=262,slow=36
KMBO Kilima Mbogo 102.67 97 *i* P **Pdif** **16 45 19.2 -1.4**
KMBO pmax pmax
comp=Z,335nm,0.5s
ILAR Eielson Array 107.43 334 Pdiff **Pdif** **16 45 40.4 +0.2**
comp=Z,0.4nm,0.8s,baz=161,slow=3.3,SNR=4.3
KMPD K-Podol'skiy 110.12 45 P **Pdif** **16 45 52.2 -0.3**
RNPP5 Staryi Chortor 110.40 42 P **Pdif** **16 45 53.7 +0.1**
RNPP8 Varash 110.40 42 P **Pdif** **16 45 53.6 -0.1**
MNK Minsk 112.27 39 *i* P **Pdif** **16 45 58.4 -3.5**
MNK *i* 16 50 47.9
MNK *i* 16 56 49.9
MNK *i* PS **PS** **17 00 17.0 -4.0**
MNK *i* SS SS 17 06 08.0 -2.8
MNK *i* SSS SSS 17 10 20.4
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK MLR MLR
comp=N,31nm,15.0s
MNK MLR MLR
comp=Z,29nm,17.0s
MNK MLR MLR
comp=E,48nm,16.0s
AKBB Malin Array Si 112.34 43*c i*PKIKP **PKiKP** **16 49 56.2 -1.1**
BRTR Keskin Array B 113.10 55 PKKPab PKKPab 17 00 54.8 +2.0
comp=E,1.2nm,0.7s,baz=73,slow=5.3,SNR=7.0
BRTR Keskin Array B 113.10 55 *i* PKIKP **PKiKP** **16 50 01.1 +1.8**
OBN Obninsk 117.33 39 *i* PKIKP **PKPdf** **16 50 06.2 -0.5**
OBN pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 119.00 32 *e*PKIKP **PKPdf** **16 50 05.8 -3.9**
KLMR pmax pmax
comp=Z,15nm,1.9s
SHA1 Shidzhatmaz 120.40 52 *i* PKIKP **PKPdf** **16 50 12.7 -0.6**
KIV Kislovodsk 120.44 52 *e*PKIKP **PKPdf** **16 50 13.0 -0.2**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 120.58 52 PKP **PKiKP** **16 50 13.6 +0.2**
comp=Z,5.0nm,0.9s,baz=105,slow=0.9,SNR=11
KBZ Khabaz 120.58 52*c i*PKIKP **PKiKP** **16 50 14.5 +1.1**
KIRV Kirov 124.21 34*c i*PKIKP **PKiKP** **16 50 20.7 +0.6**
BILL Bilibino 125.68 338*c i*PKIKP **PKiKP** **16 50 23.4 +0.6**
BILL pmax pmax
comp=Z,6.0nm,1.0s
ASAR Alice Springs 128.14 205 PKP **PKPdf** **16 50 28.6 0.0**
comp=Z,6.7nm,0.8s,baz=136,slow=0.5,SNR=5.0
ARTI Arti 129.41 36 *i* PKIKP **PKiKP** **16 50 31.5 +0.9**
ARTI 16 52 44.6
WRA Warramunga Arr 131.31 207 PKP **PKiKP** **16 50 35.1 -0.6**
comp=Z,4.1nm,0.5s,baz=165,slow=1.6,SNR=38
WRA SKPbc **SKPab** **16 53 43.6 -0.3**
comp=Z,4.8nm,0.8s,baz=156,slow=3.7,SNR=16
TIXI Tiksi 131.73 353 *i* PKIKP **PKPdf** **16 50 34.0 +0.2**
NRIK Noril'sk 132.46 12 PKP **PKiKP** **16 50 36.0 -0.4**
comp=Z,1.1nm,0.5s,baz=182,slow=1.4,SNR=4.3
NRIK Noril'sk 132.46 12*c i*PKIKP **PKiKP** **16 50 36.2 -0.2**
SEY Seymchan 133.27 336*c i*PKIKP **PKiKP** **16 50 38.9 +0.7**
SEY pmax pmax
comp=Z,18nm,1.3s
PEA0B Petropavlovsk- 135.73 322*c i*PKIKP **PKPdf** **16 50 41.8 -0.1**
PETK Petropavlovsk- 135.73 322 PKhKP PKPpre 16 50 34.9
comp=Z,2.2nm,0.8s,baz=68,slow=1.2,SNR=6.1
PETK PKP **PKiKP** **16 50 43.4 -0.1**
comp=Z,7.6nm,0.9s,baz=76,slow=2.3,SNR=14
MA2 Magadan 135.91 333*c i*PKIKP **PKiKP** **16 50 42.9 -0.7**
MA2 pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 137.04 37*c i*PKIKP **PKPdf** **16 50 44.6 +0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 137.11 37 PKP **PKiKP** **16 50 45.6 -0.7**
comp=Z,3.3nm,0.7s,baz=280,slow=2.9,SNR=19
BVAR SKPbc **SKiKP** **16 54 03.2 -2.6**
comp=Z,0.9nm,0.7s,baz=320,slow=3.9,SNR=4.4
YAK Yakutsk 140.56 348 *i* PKIKP **PKPdf** **16 50 50.2 -0.2**
KURK Kurchatov 142.69 36 PKIKP **PKPdf** **16 50 52.6 -2.0**

KURK 16 54 13.3
KURBB Kurchatov Arra 142.69 36 PKP **PKPdf 16 50 52.6 -2.0**
comp=Z,4.6nm,0.2s,baz=305,slow=3.0,SNR=7.2
KURBB SKP 16 54 13.3
comp=Z,0.4nm,0.2s,baz=296,slow=2.4,SNR=4.2
AAK Ala-Archa 143.53 50 *i* PKIKP PKPbc 16 50 55.2 +0.8
ZALV Zalesovo Beam 143.71 28 PKP **PKPdf 16 50 55.4 -0.9**
comp=Z,17nm,0.7s,baz=300,slow=4.1,SNR=74
ZALV SKPbc **SKiKP 16 54 19.6 +0.2**
comp=Z,2.8nm,0.8s,baz=323,slow=2.2,SNR=3.8
KSH Kashi 145.49 55 PKPbc **PKPab 16 51 01.1 +0.2**
BOD Bodaibo 146.47 359 *e*PKIKP **PKPdf 16 51 01.8 +0.9**
BOD pmax pmax
comp=Z,41nm,1.0s
MKAR Makanchi Array 146.84 40 PKPbc **PKPbc 16 51 03.1 -1.0**
comp=Z,27nm,0.6s,baz=314,slow=1.4,SNR=132
YSS Yuzhno-Sakhali 147.10 321 *e*PKIKP **PKPbc 16 51 04.0 -0.7**
YSS *e* 16 52 00.0
YSS pmax pmax
comp=Z,30nm,0.8s
HYB Hyderabad 147.31 95 *e*PKPdf **PKPdf 16 51 02.4 -1.3**
HYB *e*PKPab **PKPbc 16 51 07.1 +0.9**
GRNR Gornyy 147.87 331 ⇑*i*PKP2 **PKiKP 16 51 07.8 -0.7**
GRNR pmax pmax
comp=Z,30nm,1.1s
GUMO Guam 147.96 256 PKPbc **PKPbc 16 51 08.4 +0.5**
comp=Z,172nm,0.9s,baz=97,slow=8.1,SNR=7.1
ZEA Zeya 148.64 343 *e*PKIKP **PKPdf 16 51 06.2 +1.6**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,30nm,1.0s
ASAJ Asahikawa 148.67 317 PKPbc **PKiKP 16 51 10.1 -0.2**
comp=Z,30nm,0.9s,baz=34,slow=3.6,SNR=8.5
KAPI Kappang 150.12 194 PKPbc **PKiKP 16 51 14.3 +0.1**
comp=Z,15nm,0.6s,baz=185,slow=3.4,SNR=7.5
KLR Kul'dur 151.00 334 PKPbc **PKiKP 16 51 15.0 0.0**
comp=Z,23nm,0.8s,baz=49,slow=3.1,SNR=67
KLR Kul'dur 151.00 334 PKIKP **PKiKP 16 51 15.0 0.0**
MOY Mondy 151.18 15 *e*PKIKP **PKiKP 16 51 16.6 +1.2**
MOY pmax pmax
comp=Z,43nm,1.5s
WMQ Urumqi 151.66 40 *e*PKPbc **PKPdf 16 51 10.0 +0.2**
HEH HeiHe 151.69 340 *e*P **PKPdf 16 51 09.8 +0.3**
HEH pmax pmax
comp=Z,4.0nm,1.3s
USRK Ussuriysk Ar. 154.69 326 PKP **PKPdf 16 51 14.6 +0.6**
comp=Z,2.1nm,0.9s,baz=69,slow=4.9,SNR=8.4
USRK PKPbc **PKiKP 16 51 23.4 +0.7**
comp=Z,3.3nm,0.7s,baz=17,slow=1.5,SNR=9.8
USRK PKPab **PKPab 16 51 37.1 -1.1**
comp=Z,3.5nm,0.8s,baz=18,slow=2.0,SNR=5.8
MJAR Matsushiro Arr 155.01 305 PKP **PKPdf 16 51 15.6 +0.8**
comp=Z,2.5nm,1.1s,baz=63,slow=3.3,SNR=6.8
MJAR PKPab **PKPab 16 51 41.3 +1.4**
comp=Z,18nm,0.9s,baz=65,slow=2.5,SNR=25
MDJ Mudanjiang 155.53 330 P **PKPdf 16 51 16.1 +0.9**
MDJ pmax pmax
comp=Z,7.0nm,1.7s
BNX BinXian 155.56 335 ⇑P **PKPdf 16 51 15.8 +0.6**
BNX pP **PKPab 16 51 43.3 +1.4**
BNX pmax pmax
comp=Z,9.0nm,0.6s
SONM Songino Array 155.94 11 PKP **PKPdf 16 51 16.3 +0.5**
comp=Z,2.3nm,0.8s,baz=2.6,slow=3.2,SNR=6.3
SONM PKPab **PKPab 16 51 43.9 +0.2**
comp=Z,3.7nm,0.7s,baz=316,slow=3.5,SNR=6.6
XLT XiLinHaoTe 160.24 353 *e*PKPbc **PKPdf 16 51 22.3 +1.2**
XLT pPKP PKPab 16 52 02.8 +0.5
XLT PKPab **pPKPdf 16 52 03.9 -4.8**
XLT PP **PP 16 55 42.1 -2.0**
XLT pmax pmax
comp=Z,140nm,5.1s
GTA Gaotai 161.33 33 PKP **PKPdf 16 51 23.4 +0.9**
GTA pPKP PKPab 16 52 07.9 +0.6
KSRS Korea Array 161.58 319 PKP **PKPdf 16 51 23.6 +1.0**
comp=Z,5.0nm,1.1s,baz=49,slow=1.7,SNR=27
KSRS PKPab **pPKPdf 16 52 10.2 0.0**
comp=Z,3.1nm,0.8s,baz=48,slow=4.0,SNR=20
HHC Hu-ho-hao-te 163.44 3 *e*P **PKPdf 16 51 23.3 -1.2**
CMAR Chiang Mai Arr 165.84 111 PKP **PKPdf 16 51 27.9 +0.8**
comp=Z,1.9nm,1.1s,baz=185,slow=1.0,SNR=12
CMAR PKPab **PKPab 16 52 28.3 +0.7**
comp=Z,1.9nm,0.9s,baz=255,slow=5.7,SNR=9.9
HNS HongShan 166.82 353 ⇑PKP **PKPdf 16 51 29.0 +1.7**
TIA Tai'an 167.54 344 PKP **PKPdf 16 51 29.1 +1.2**
XAN Xi'an 169.69 18 PKP **PKPdf 16 51 30.1 +0.7**
PZH PanZhiHua 169.74 75 PKP **PKPdf 16 51 28.3 -1.5**
NJ2 Nanjing 170.60 327 *e*P **PKPdf 16 51 29.6 -0.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
WHN Wuhan 173.61 348 PKPbc **PKPdf 16 51 32.5 +1.2**

*DJA **21** 16:33:24.6±0.8, 4°.N±5°×9°.6E±°, h21km±6km, M3.5/6, MLv3.5/6*
*IDC **21** 16:33:29.9±3.4, 3°.66N×95°.68E, h0km, mb3.3/2, mbtmp3.2/4, ML3.2/2, Error ellipse: s-maj=66.9km s-min=46.0km az=53.0*
ISC 21 16:33:25.5±1.7, 3°.75N±0°.08×96°.5E±0°.2, h35km, n8, σ1§57/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.52**	**348**	P	**Pn**	**16 33 37.6**	**+1.1**
MLSI				S	**Sn**	**16 33 42.4**	**-1.7**
LHMI	**Lhok Sumawe**	**1.53**	**16**	P	**Pn**	**16 33 50.9**	**+0.6**
BSI	**Banda Aceh**	**2.12**	**325**	P	**Pn**	**16 33 58.9**	**+0.5**
PSI	**Prapat**	**2.58**	**111**	Pn	Pn	16 34 24.9	+20
	0.9nm,0.3s,baz=262,slow=16,SNR=4.1						
PSI				Sn	Sn	16 35 04.3	+29
	1.0nm,0.3s,baz=230,slow=4.5,SNR=3.9						
	3.0nm,0.4s						
GSI	**Gunungsitoli**	**2.65**	**156**	P	**Pn**	**16 34 06.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**14.81**	**9**	Pn	P	16 37 03.6	+5.7
	0.1nm,0.3s,baz=191,slow=12,SNR=3.0						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**43.99**	**124**	P	P	16 41 44.5	+15
	0.4nm,0.8s,baz=298,slow=8.5,SNR=2.3						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**45.49**	**129**	P	P	16 41 55.9	+14
	0.2nm,0.4s,baz=299,slow=7.8,SNR=7.4						
	0.2nm,0.4s						

*NEIC **21** 16:38:03.0±2.1, 38°.799N±0°.007×122°.70W±0°.02, h5km±7km, Error ellipse: s-maj=2.7km s-min=1.0km az=86.0*
NCEDC 21 16:38:03.0±1.3, 38°.79N±0°.02×122°.77W±0°.03, h3km±6km, Md3.0/79, ML2.7/47(NEIC), Error ellipse: s-maj=3.0km s-min=2.1km az=72.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.03**	**309**	Pg	Pg	16 38 03.9	+0.1
GGPM	**Geyser Peak**	**0.07**	**247**		Pg	16 38 04.7	+0.2
GBGM	**Boggs Mountain**	**0.07**	**71**		Pg	16 38 04.9	+0.3
GAXM	**Alexander Vall**	**0.08**	**173**		Pg	16 38 04.8	+0.1
GSGM	**Seigler Mounta**	**0.09**	**30**		Pg	16 38 05.5	+0.6
GRTM	**Round Top Moun**	**0.17**	**27**		Pg	16 38 06.6	+0.3
NHSM	**Mount Saint He**	**0.18**	**138**		Pg	16 38 06.7	+0.2
GCVM	**Cloverdale**	**0.19**	**264**		Pg	16 38 07.4	+0.6
NMTM	**Middletown**	**0.25**	**86**		Pg	16 38 08.2	+0.3
MNRC	**McLaughlin Min**	**0.27**	**71**		Pg	16 38 09.2	+0.9
MNRC	**McLaughlin Min**	**0.27**	**71**	IAML		16 38 14.5	
	comp=E,2μm,1.0s						
MNRC				IAML		16 38 17.2	
	comp=N,2μm,1.1s						
GSNM	**Snow Mountain**	**0.36**	**294**		Pg	16 38 10.8	+0.7
GHCM	**House Creek**	**0.38**	**241**		Pg	16 38 11.1	+0.7
OAKV	**Oakville Exper**	**0.46**	**142**		Pg	16 38 12.1	+0.3
CVS	**Carmenet Viney**	**0.51**	**151**		Pg	16 38 13.0	+0.3
CVS	**Carmenet Viney**	**0.51**	**151**	IAML		16 38 21.2	
	comp=N,1μm,0.5s						
CVS				IAML		16 38 23.9	
	comp=E,837nm,0.5s						
QRDG	**Quail Ridge Na**	**0.58**	**122**		Pb	16 38 15.0	-0.8
GWRM	**Wonder Ranch**	**0.59**	**315**		Pg	16 38 15.1	+0.7
MCCM	**Marconi Confer**	**0.65**	**188**		Pb	16 38 16.3	-0.7
MCCM				IAML		16 38 28.5	
	comp=E,357nm,0.8s						
MCCM				IAML		16 38 32.3	
	comp=N,414nm,0.9s						
NGVM		**0.67**	**139**		Pg	16 38 16.1	+0.2
NADM	**Allendale**	**0.71**	**118**		Pb	16 38 18.4	+0.4
RUSS	**Russell Ranch**	**0.75**	**109**		Pb	16 38 19.1	+0.4
NOLM	**Olema**	**0.75**	**182**		Pg	16 38 17.9	+0.5
DCMP	**DeCamp, Califo**	**0.81**	**327**		Pb	16 38 19.4	-0.4
NPRM	**Point Reyes**	**0.82**	**194**		Pg	16 38 19.2	+0.5
NLHM	**Lake Herman**	**0.83**	**144**		Pg	16 38 18.9	0.0
PINL	**Point Pinole R**	**0.84**	**158**		Pg	16 38 19.5	+0.4
OSUM	**Sutter Buttes**	**0.86**	**56**		Pg	16 38 19.4	-0.1
GTC	**Three Chop Rid**	**0.86**	**315**		Pb	16 38 20.4	-0.4
HERB	**Hercules**	**0.87**	**153**		Pg	16 38 19.9	+0.2
CPMM	**Point Molate**	**0.89**	**161**		Pg	16 38 20.1	+0.1
CSPM	**San Pablo Ridg**	**0.91**	**157**		Pg	16 38 20.9	+0.5
CPIM	**Pinole Ridge**	**0.91**	**151**		Pg	16 38 20.5	0.0
JEPS	**Jepson Natural**	**0.91**	**125**		Pb	16 38 21.9	+0.4
CTAM	**Taylor**	**0.96**	**142**		Pb	16 38 22.1	-0.3
GVV	**Valley View**	**0.99**	**4**		Pb	16 38 23.2	+0.3
BRK	**Berkeley--Havi**	**1.00**	**156**		Pg	16 38 22.3	+0.1
VAK	**Adit at Lawren**	**1.00**	**156**		Pg	16 38 22.5	+0.4
BL67	**Building 67, L**	**1.00**	**156**		Pg	16 38 22.1	-0.1
BKS	**Berkeley--Byer**	**1.00**	**155**		Pg	16 38 21.5	-0.8
JPRM	**Presidio of Sa**	**1.02**	**167**		Pg	16 38 22.5	-0.1
OSTM	**Stimpson Lane**	**1.08**	**57**		Pg	16 38 22.2	-1.6
BGC	**Bolinger Road**	**1.12**	**150**		Pg	16 38 23.4	-1.1
JSBM	**San Bruno Moun**	**1.15**	**165**		Pg	16 38 24.4	-0.6
PAM	**Palermo**	**1.17**	**55**		Pg	16 38 23.7	-1.8
JMGM	**Milagra Ridge**	**1.17**	**169**		Pg	16 38 24.5	-1.1
SFRE	**Sierra Foothil**	**1.22**	**67**		Pg	16 38 24.0	-2.4
CMOB	**Morgan Territo**	**1.24**	**142**		Pg	16 38 25.0	-1.8
ORV	**Oroville**	**1.25**	**52**		Pg	16 38 24.2	-2.7
JCHM	**Cahill Ridge**	**1.31**	**166**		Pg	16 38 26.0	-2.1
CNIC	**Niles Canyon**	**1.34**	**152**		Pn	16 38 26.5	-2.2
O02D	**Mt. Diablo Mer**	**1.39**	**359**		Pb	16 38 29.7	0.0
AFDM	**Forest Hills D**	**1.41**	**83**		Pn	16 38 27.2	-2.5
JRSC	**Jasper Ridge**	**1.45**	**163**		Pn	16 38 28.1	-2.0
CSTL	**Coral Hollow**	**1.52**	**139**		Pn	16 38 29.4	-1.8
KMRM	**Mail Ridge**	**1.60**	**333**		Pg	16 38 33.7	-0.1
KMRM				IAML		16 39 10.6	
	comp=N,60nm,0.8s						
KMRM				IAML		16 39 11.7	
	comp=E,81nm,1.1s						
MHC	**Mount Hamilton**	**1.70**	**148**		Pn	16 38 32.4	-1.3
MTOS	**Mt Oso, Westle**	**1.71**	**138**		Pn	16 38 32.2	-1.6
MTOS	**Mt Oso, Westle**	**1.71**	**138**	IAML		16 38 58.2	
	comp=N,54nm,0.5s						
MTOS				IAML		16 39 01.2	
	comp=E,51nm,0.5s						
ARN	**Arnold Ranch**	**1.74**	**146**		Pn	16 38 32.5	-1.7
CCOB	**Coe Ranch Numb**	**1.76**	**150**		Pn	16 38 33.2	-1.2
KSMM	**Slide Mountain**	**1.77**	**322**		Pb	16 38 36.5	+0.3
KCSM	**Cold Springs**	**1.84**	**342**		Pn	16 38 35.7	0.0
GHS	**Gilroy Hot Spr**	**1.99**	**148**		Pn	16 38 36.0	-1.6
CMB	**Columbia Colle**	**2.02**	**111**		Pn	16 38 36.5	-1.5
CMB				IAML		16 39 04.6	
	comp=E,34nm,0.9s						
CMB				IAML		16 39 06.2	
	comp=N,48nm,0.8s						
CDC	**Canada Road**	**2.03**	**150**		Pn	16 38 36.7	-1.6
HPCM	**Pacheco Lake**	**2.09**	**145**		Pn	16 38 37.8	-1.3
HFEM	**San Felipe**	**2.10**	**149**		Pn	16 38 37.6	-1.6
HTUM	**Tustin Road**	**2.15**	**155**		Pb	16 38 41.9	-0.8
BEKR	**Beckworth**	**2.15**	**59**		Pn	16 38 40.2	+0.1
BEKR				IAML		16 39 14.0	
	comp=E,46nm,0.7s						
MPK	**Martis Peak**	**2.19**	**76**		Pn	16 38 40.6	0.0
HATC	**Hat Creek Radi**	**2.26**	**26**		Pn	16 38 41.8	+0.4
HATC				IAML		16 39 47.2	
	comp=N,34nm,2.3s						
HATC				IAML		16 39 53.1	
	comp=E,54nm,3.1s						
FRP	**Fremont Peak**	**2.27**	**153**		Pn	16 38 39.2	-2.3
SAO	**San Andreas Ge**	**2.28**	**152**		Pn	16 38 39.7	-1.9
PEAR	**Peavine Mounta**	**2.33**	**69**		Pn	16 38 42.6	+0.1
PNTR	**Pine Nut**	**2.49**	**82**		Pn	16 38 44.5	-0.2
PNTR				IAML		16 39 04.6	
	comp=E,50nm,0.9s						
WAKR	**Walker**	**2.62**	**95**		Pn	16 38 45.7	-0.8
WAKR				IAML		16 39 28.3	
	comp=E,44nm,0.5s						
WAKR				IAML		16 39 31.0	
	comp=N,27nm,0.8s						
PAHR	**Pah Rah Range**	**2.78**	**70**		Pn	16 38 48.0	-0.7
PAHR				IAML		16 39 36.9	
	comp=N,20nm,1.4s						
RYN	**Ryan**	**3.32**	**91**		Pn	16 38 55.5	-0.7
RYN				IAML		16 39 51.2	
	comp=N,16nm,1.9s						
RYN				IAML		16 39 53.1	
	comp=E,20nm,0.9s						
NVAR	**Mina Array Bea**	**3.52**	**94**	Pn	Pn	16 38 57.8	-1.0
NV11	**Mina Array Sit**	**3.63**	**94**	IAML		16 39 59.5	
	comp=N,14nm,1.9s						
NV11				IAML		16 40 12.7	
	comp=E,12nm,2.7s						

*IDC **21** 16:38:55.7±0.8, 29°.16N×140°.72E, h0km, mb3.6/9, mbtmp3.7/13, ML3.5/3, MS2.5/2, Error ellipse: s-maj=29.3km s-min=15.5km az=76.0*
*JMA **21** 16:38:59.9±0.1, 29°.N±1°×14°.1E±°, h63km, MV4.3/32, NEAR TORISHIMA IS*
ISC 21 16:39:00.6±0.8, 29°.37N±0°.06×141°.3E±0°.2, h46km, n35, σ1§77/30, mb3.7/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.41**	**160**	P	**Pn**	**16 39 37.7**	**+0.2**
CBIJ				*e*S	**Sn**	**16 40 06.3**	**+0.6**
JCJ	**Chichijima**	**2.41**	**160**	Pn	**Pn**	**16 39 36.7**	**-0.9**
	611nm,0.3s,baz=36,slow=8.1,SNR=381						
JCJ				Sn	**Sn**	**16 40 06.0**	**+0.3**
	259nm,0.3s,baz=274,slow=23,SNR=15						
JCJ				LR	LR	16 40 40.2	
	comp=Z,105nm,19.1s,baz=78,slow=43						
JHH2	**Haha-jima-NKT2**	**2.84**	**163**	*e*P	**Pn**	**16 39 43.4**	**-0.1**
JHH2				*e*S	**Sn**	**16 40 16.1**	**-0.4**
JHCJ	**Hachijojimakas**	**3.90**	**342**	*e*S	**Sn**	**16 40 41.0**	**-1.6**
JHJ2	**Mitsune**	**3.93**	**342**	*e*P	**Pn**	**16 39 59.4**	**+0.9**
JHJ2				*e*S	**Sn**	**16 40 43.4**	**+0.1**
JHJ	**Hachijo jima 2**	**3.95**	**342**	Pn	**Pn**	**16 39 59.8**	**+1.1**
	8.2nm,0.3s,baz=97,slow=21,SNR=19						
JHJ				Sn	**Sn**	**16 40 42.6**	**-1.1**
	29nm,0.3s,baz=242,slow=23,SNR=6.9						
	29nm,0.3s						
JMKN	**Mikurajimanish**	**4.73**	**343**	S	**Sn**	**16 41 03.7**	**+0.7**
JMYK	**Miyake Tsubota**	**4.90**	**343**	*e*S	**Sn**	**16 41 08.3**	**+1.1**
BSO3	**Boso 3**	**5.46**	**354**	*e*P	**Pn**	**16 40 20.0**	**+0.9**
BSO3				S	**Sn**	**16 41 19.1**	**-1.4**
JOD2	**Odawara 2**	**6.16**	**343**	*e*P	**Pn**	**16 40 31.5**	**+2.4**
JYT	**Yasato**	**6.90**	**353**	*e*P	Pn	16 40 41.8	+2.6
JAG	**Ashikaga**	**7.20**	**348**	*e*P	**Pn**	**16 40 44.9**	**+1.6**
JHO	**Hitachi**	**7.25**	**356**	*e*P	**Pn**	**16 40 45.8**	**+1.9**
MJAR	**Matsushiro Arr**	**7.60**	**341**	Pn	**Pn**	**16 40 51.4**	**+2.6**
	0.3nm,0.3s,baz=154,slow=13,SNR=33						
MJAR				Sn	**Sn**	**16 42 18.0**	**+4.3**
	0.1nm,0.3s,baz=114,slow=18,SNR=4.2						
KSRS	**Korea Array**	**13.74**	**309**	Pn	**Pn**	**16 42 13.8**	**+1.1**
	0.1nm,0.3s,baz=119,slow=14,SNR=5.1						
KSRS				LR	LR	16 46 24.2	
	comp=Z,23nm,20.2s,baz=185,slow=33						
ASAJ	**Asahikawa**	**14.76**	**4**	Pn	**P**	**16 42 27.7**	**-3.8**
	0.4nm,0.3s,baz=249,slow=12,SNR=5.8						
	4.5nm,0.9s						
USRK	**Ussuriysk Ar.**	**16.54**	**336**	Pn	**P**	**16 42 50.7**	**-0.6**
	0.1nm,0.3s,baz=163,slow=10,SNR=2.4						
	0.6nm,0.6s						
KLR	**Kul'dur**	**21.12**	**343**	P	**P**	**16 43 44.6**	**+3.3**
	1.6nm,0.5s,baz=161,slow=9.5,SNR=8.0						
	1.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**25.17**	**107**	T	T	17 11 02.3	
	baz=296,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**25.17**	**107**	T	T	17 11 01.3	
	baz=296,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**25.19**	**107**	T	T	17 11 04.9	
	baz=296,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**25.58**	**109**	T	T	17 11 31.1	
	baz=300,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**25.59**	**109**	T	T	17 11 29.2	
	baz=300,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**25.60**	**109**	T	T	17 11 32.8	
	baz=300,slow=75,SNR=11						
CMAR	**Chiang Mai Arr**	**39.99**	**264**	P	**P**	**16 46 28.5**	**-2.6**
	0.2nm,0.4s,baz=61,slow=8.4,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**48.42**	**308**	P	**P**	**16 47 37.6**	**-0.6**
	0.1nm,0.4s,baz=91,slow=8.9,SNR=2.0						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**49.47**	**189**	P	**P**	**16 47 45.9**	**-0.6**
	0.6nm,0.6s,baz=6.8,slow=8.2,SNR=5.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**53.20**	**188**	P	**P**	**16 48 14.2**	**-0.1**
	0.2nm,0.6s,baz=7.4,slow=5.6,SNR=4.5						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**56.13**	**29**	P	P	16 48 39.2	+4.1
	0.3nm,0.6s,baz=258,slow=4.9,SNR=5.8						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**71.14**	**340**	P	**P**	**16 50 15.1**	**+1.2**
	2.9nm,0.9s,baz=65,slow=5.8,SNR=6.6						
	2.9nm,0.9s						
FINES	**FINESS Array B**	**75.56**	**333**	P	**P**	**16 50 40.3**	**+0.2**
	0.7nm,0.7s,baz=85,slow=4.0,SNR=7.4						
	0.7nm,0.7s						
TXAR	**Lajitas Array**	**94.89**	**53**	P	P	16 52 23.9	+5.6
	0.3nm,0.7s,baz=286,slow=2.0,SNR=5.4						
	0.3nm,0.7s						
H03N2	**Juan Fernandez**	**145.60**	**107**	T	T	19 41 38.2	
	baz=278,slow=74,SNR=4.8						
H03N3	**Juan Fernandez**	**145.61**	**107**	T	T	19 41 38.0	
	baz=278,slow=74,SNR=5.3						
H03N1	**Juan Fernandez**	**145.62**	**107**	T	T	19 41 37.9	
	baz=278,slow=74,SNR=6.9						

*DJA **21** 16:50:58.2±1.1, 1°.N±4°×12°.6E±°, h12km±11km, M3.2/8, MLv3.2/8*
*IDC **21** 16:51:40.0±2.1, 3°.11S×127°.11E, h0km, mb3.1/2, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=146.8km s-min=28.6km az=66.0*
ISC 21 16:51:00.8±1.4, 1°.01N±0°.08×125°.92E±0°.08, h44km, n7, σ1§40/6, mb2.8/3, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.46**	**99**	P	**Pn**	**16 51 24.4**	**-0.3**
KMSI	**Cibinong**	**1.99**	**257**	P	**Pn**	**16 51 31.5**	**-0.4**
SGSI	**Sangihe**	**2.69**	**352**	P	**Pn**	**16 51 41.7**	**+0.2**
SANI	**Sanana**	**3.04**	**179**	P	**Pn**	**16 51 46.8**	**+0.4**
WRA	**Warramunga Arr**	**22.40**	**159**	P	**P**	**16 55 54.1**	**-1.6**
	0.1nm,0.3s,baz=336,slow=11,SNR=4.8						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**25.73**	**163**	P	**P**	**16 56 29.0**	**+1.7**
	0.1nm,0.3s,baz=345,slow=12,SNR=6.5						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**59.34**	**327**	P	P	17 02 12.2	+74
	0.4nm,0.8s,baz=134,slow=6.2,SNR=3.2						
	0.4nm,0.8s						

*NIED **21** 16:56:15.6, 31°.15N×128°.80E, h8km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.28; $M_{\theta\theta}$1.04; $M_{\phi\phi}$-0.75; $M_{r\theta}$1.69; $M_{\theta\phi}$1.62; $M_{\phi r}$-0.38; Fault plane solution: $M_0$2.54000×10^{14} NP1:ϕ_s16.00000°, δ47.00000°, λ-174.00000°. NP2:ϕ_s282.00000°, δ86.00000°, λ-44.00000°.*
*JMA **21** 16:56:15.6±0.3, 31°.2N±0°.5×12°.9E±°, h8km±2km, MV3.5/28, SW OFF KYUSHU*
*IDC **21** 16:56:18.7±1.2, 31°.27N×128°.46E, h0km, mb3.4/4, mbtmp3.4/7, ML2.8/3, Error ellipse: s-maj=30.7km s-min=19.6km az=89.0*
ISC 21 16:56:17.8±1.7, 31°.19N±0°.04×129°.02E±0°.06, h12km±13km, n16, σ1§17/20, mb3.5/4, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.77**	**50**	*i* P	**Pb**	**16 56 33.1**	**-0.1**
JSJ				*e*S	**Sb**	**16 56 45.4**	**+1.8**
JKC	**Kuchinoerabu**	**1.25**	**125**	*e*P	**Pb**	**16 56 41.4**	**-0.3**
JKC				*e*S	**Sg**	**16 56 59.6**	**+1.6**
JSU	**Suzuyama**	**1.27**	**75**	*i* P	**Pg**	**16 56 42.2**	**0.0**
JFU	**Fukue jima 2**	**1.48**	**351**	P	**Pb**	**16 56 43.3**	**-1.9**
JFU				*e*S	**Sb**	**16 57 02.7**	**-1.3**
JNN	**Nakanoshima**	**1.53**	**151**	*e*P	**Pn**	**16 56 43.7**	**-1.2**
JNN				*e*S	**Sb**	**16 57 04.8**	**-0.6**
JYAK	**Yakushimahirau**	**1.60**	**126**	P	**Pn**	**16 56 45.1**	**-0.6**
JTN	**Tanegashima 3**	**1.77**	**107**	P	**Pn**	**16 56 48.6**	**+0.5**
JMTN	**Minamitane**	**1.80**	**115**	P	**Pb**	**16 56 49.2**	**-1.4**
JTZ	**Takazaki**	**1.91**	**68**	*e*P	**Pb**	**16 56 51.6**	**-0.9**
JNU	**Nakatsue**	**2.49**	**39**	Pn	**Pg**	**16 57 04.8**	**-0.8**
	6.8nm,0.3s,baz=232,slow=11,SNR=39						
JNU				Sn	**Sg**	**16 57 38.3**	**+0.4**
	7.9nm,0.3s,baz=252,slow=8.0,SNR=8.6						
	24nm,0.4s						
JOW	**Kunigami**	**4.39**	**189**	Pn	**Pn**	**16 57 26.1**	**+1.9**
	0.4nm,0.3s,baz=50,slow=1.3,SNR=2.0						
	11nm,0.9s						
KSRS	**Korea Array**	**6.32**	**352**	Pn	**Pn**	**16 57 50.6**	**0.0**
	0.3nm,0.3s,baz=175,slow=14,SNR=18						
	1.4nm,0.5s						
SONM	**Songino Array**	**23.97**	**320**	P	**P**	**17 01 32.3**	**+0.3**
	0.5nm,0.7s,baz=130,slow=8.1,SNR=2.7						
	0.5nm,0.7s						
NRIK	**Noril'sk**	**44.79**	**341**	P	**P**	**17 04 31.1**	**+0.2**
	0.6nm,0.5s,baz=98,slow=7.1,SNR=2.3						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**47.14**	**315**	P	**P**	**17 04 49.2**	**-0.6**
	0.4nm,0.5s,baz=102,slow=6.1,SNR=4.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**54.74**	**175**	P	P	17 05 51.2	+4.0
	0.3nm,0.8s,baz=3.9,slow=14,SNR=12						
	0.3nm,0.8s						

*IDC **21** 17:00:35.1±1.8, 55°.05N×164°.65E, h0km, mb3.4/6, mbtmp3.3/7, ML2.3/1, MS2.8/2,

baz=359,slow=74
JOW Kunigami 38.62 238 LR LR 17 25 51.5
comp=Z,27nm,19.2s,baz=152,slow=39
YKA Yellowknife Ar 39.92 46 P **P 17 08 10.9 +1.2**
0.2nm,0.6s,baz=301,slow=8.4,SNR=5.0
0.2nm,0.6s
KURBB Kurchatov Arra 49.15 303 P **P 17 09 22.5 -1.0**
0.2nm,0.4s,baz=62,slow=8.5,SNR=1.7
0.2nm,0.4s
MKAR Makanchi Array 49.78 297 P **P 17 09 28.0 -0.4**
0.2nm,0.7s,baz=60,slow=8.5,SNR=2.7
0.2nm,0.7s
BVAR Borovoye Array 51.34 310 P **P 17 09 40.5 +0.4**
0.4nm,0.8s,baz=30,slow=10.0,SNR=2.4
0.4nm,0.8s

---

*IDC **21** 17:00:29.6±2.7, 37.°16N×43.°56E, h0km, mb3.6/7, mbtmp3.5/8, ML2.9/1, MS2.8/2, Error ellipse: s-maj=49.5km s-min=23.9km az=8.0*
*ISK **21** 17:00:38.1, 38.°90N×43.°55E, h5km, ML3.7/18*
*TEH **21** 17:00:38.5, 38.°88N×43.°61E, h8km±60km*
*AFAD **21** 17:00:38.8, 38.°88N×43.°56E, h14km±1km, MW3.9*
*NSSP **21** 17:00:39.1, 38.°87N×43.°62E, h10km, Ms3.7*
ISC 21 17:00:39.8±0.6, 38.°87N±0.°02×43.°59E±0.°02, h10km, n78, σ1.9°60/103, mb3.5/7, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.12**	**353**	P	**Pg**	**17 00 42.1**	**-0.8**
VMUR				S	**Sg**	**17 00 44.6**	**-0.4**
VMUR	**Van-Muradiye**	**0.12**	**353**	Pg	**Pg**	**17 00 42.0**	**-0.8**
ERCV	**ERCIS-VAN**	**0.24**	**307**	Pg	**Pg**	**17 00 43.1**	**-1.8**
ERCV	**ERCIS-VAN**	**0.24**	**307**	Pg	**Pg**	**17 00 43.1**	**-1.8**
VANB	**Van**	**0.32**	**210**	Pg	**Pb**	**17 00 47.4**	**-0.3**
VANB				Sg	**Sb**	**17 00 54.0**	**+1.0**
VANB	**Van**	**0.32**	**210**	Pg	**Pb**	**17 00 47.1**	**-0.6**
OZAP	**Van, Ozalp-Mer**	**0.38**	**124**	P	**Pb**	**17 00 47.9**	**-0.9**
OZAP				S	**Sb**	**17 00 53.2**	**-1.6**
DYDN	**Diyadin**	**0.67**	**7**	P	**Pg**	**17 00 51.8**	**-1.2**
DYDN				S	**Sb**	**17 01 01.3**	**-2.0**
DYDN	**Diyadin**	**0.67**	**7**	Pg	**Pg**	**17 00 51.7**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.68**	**265**	P	**Pg**	**17 00 51.8**	**-1.3**
ADCV				S	**Sb**	**17 01 02.1**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.68**	**265**	Pg	**Pg**	**17 00 51.7**	**-1.3**
GEVA	**Gevas**	**0.70**	**217**	P	**Pg**	**17 00 52.0**	**-1.3**
GEVA	**Gevas**	**0.70**	**217**	Pg	**Pg**	**17 00 52.0**	**-1.3**
AGRB	**Hanur-Agry**	**0.84**	**327**	Pg	**Pg**	**17 00 54.4**	**-1.7**
AGRB				Sg	**Sb**	**17 01 06.8**	**-1.3**
AGRB	**Hanur-Agry**	**0.84**	**327**	Pg	**Pg**	**17 00 54.0**	**-2.1**
MLAZ	**Malazgirt-MUS**	**0.85**	**289**	Pg	**Pg**	**17 00 54.8**	**-1.5**
MLAZ				Sg	**Sb**	**17 01 07.4**	**-1.0**
KOTA	**Agri, Merkez-K**	**0.97**	**342**	P	**Pg**	**17 00 56.7**	**-1.9**
MAKU	**Maku**	**0.98**	**60**	Pg	**Pg**	**17 00 57.0**	**-1.6**
IGDI	**IGDIR**	**1.06**	**21**	P	**Pb**	**17 00 59.1**	**-1.3**
IGDI				S	**Sn**	**17 01 14.7**	**-1.0**
TASB	**TASBURUN-IGDIR**	**1.22**	**24**	Pn	**Pg**	**17 01 02.5**	**-0.7**
PERV	**Siirt/Pervari-**	**1.24**	**222**	P	**Pn**	**17 01 01.5**	**-1.8**
BLIS	**Bitlis-Merkez**	**1.24**	**249**	P	**Pn**	**17 01 01.2**	**-2.2**
BLIS				S	**Sb**	**17 01 17.5**	**-2.1**
VNNZ	**Vanand**	**1.24**	**8**	*e*P	**Pg**	**17 01 03.0**	**-0.7**
VNNZ				*e*S	**Sn**	**17 01 20.7**	**+0.5**
EATA	**Eleskirt**	**1.30**	**320**	P	**Pn**	**17 01 02.8**	**-1.6**
EATA				S	**Sn**	**17 01 21.3**	**-0.8**
METS	**Metsamor**	**1.33**	**16**	*e*P	**Pg**	**17 01 04.7**	**-0.7**
METS				*e*S	**Sg**	**17 01 23.6**	**+0.9**
ARUZ	**Aruch**	**1.46**	**15**	*e*P	**Pg**	**17 01 06.6**	**-1.3**
ARUZ				*e*S	**Sg**	**17 01 26.8**	**0.0**
DIGO	**Kars**	**1.55**	**354**	P	**Pg**	**17 01 10.2**	**+0.7**
GNI	**Garni**	**1.56**	**35**	Pn	**Pg**	**17 01 08.1**	**-1.6**
GNI	**Garni**	**1.56**	**35**	⎍*i*P	**Pg**	**17 01 08.1**	**-1.6**
GNI				⎍*i*S	**Sg**	**17 01 29.7**	**-0.2**
SRTM	**Siirt_Merkez**	**1.58**	**237**	P	**Pb**	**17 01 08.5**	**-0.7**
SRTM				S	**Sg**	**17 01 30.2**	**-0.4**
AMBZ	**Amberd**	**1.60**	**19**	*e*P	**Pg**	**17 01 09.1**	**-1.5**
AMBZ				*e*S	**Sg**	**17 01 31.1**	**-0.2**
CUKT	**Cukurca**	**1.62**	**179**	Pn	**Pb**	**17 01 09.1**	**-0.8**
CUKT	**Cukurca**	**1.62**	**179**	P	**Pg**	**17 01 09.5**	**-1.5**
CUKT	**Cukurca**	**1.62**	**179**	Pg	**Pg**	**17 01 09.5**	**-1.5**
MUSM	**Mu-Merkez**	**1.63**	**265**	P	**Pn**	**17 01 07.7**	**-1.0**
MUSM				S	**Sb**	**17 01 29.7**	**-1.1**
VAYK	**Vayk**	**1.65**	**59**	*i*P	**Pg**	**17 01 09.9**	**-1.5**
VAYK				*i*S	**Sg**	**17 01 33.5**	**+0.7**
IMRD	**Marand**	**1.66**	**95**	Pg	**Pb**	**17 01 09.0**	**-1.6**
VRTB	**Varto-Mus**	**1.69**	**280**	Pn	**Pb**	**17 01 09.4**	**-1.7**
ISHB	**Shabestar**	**1.69**	**110**	Pg	**Pb**	**17 01 09.5**	**-1.7**
KOPR	**Koprukoy-ERZUR**	**1.75**	**310**	Pn	**Pb**	**17 01 10.4**	**-1.7**
HOMI	**Horasan**	**1.75**	**312**	P	**Pg**	**17 01 12.3**	**-1.2**
BOZK	**Kars-Merkez-Bo**	**1.78**	**348**	P	**Pg**	**17 01 12.5**	**-1.5**
KARS	**Kars**	**1.80**	**347**	Pn	**Pb**	**17 01 10.9**	**-2.0**
SENK	**Senkaya-Erzuru**	**1.94**	**331**	Pn	**Pn**	**17 01 12.9**	**-0.1**
KMOZ	**Kamo**	**1.97**	**8**	*e*P	**Pb**	**17 01 15.0**	**-0.8**
KMOZ				*e*S	**Sg**	**17 01 41.3**	**-1.7**
KARO	**Karliova-Bingo**	**2.02**	**283**	Pn	**Pb**	**17 01 14.5**	**-2.3**
BTMN	**Batman**	**2.07**	**242**	P	**Pb**	**17 01 16.3**	**-1.3**
BTMN				S	**Sg**	**17 01 44.3**	**-2.1**
ITBZ	**Tabriz**	**2.10**	**107**	Pn	**Pb**	**17 01 15.4**	**-2.8**
AYRK	**Ayrk**	**2.10**	**53**	*e*P	**Pb**	**17 01 17.0**	**-1.3**
AYRK				*e*S	**Sg**	**17 01 44.7**	**-2.8**
ECAT	**Cat-ERZURUM**	**2.16**	**291**	P	**Pb**	**17 01 17.5**	**-1.7**
ECAT				S	**Sg**	**17 01 49.2**	**-0.1**
IAZR	**Azarshahr**	**2.23**	**122**	Pn	**Pb**	**17 01 18.3**	**-2.1**
SRTK	**Saratovka**	**2.26**	**14**	*e*P	**Pb**	**17 01 20.5**	**-0.4**
SRTK				*e*S	**Sg**	**17 01 50.8**	**-1.8**
MIDY	**Mardin/Midyat-**	**2.27**	**230**	P	**Pb**	**17 01 18.9**	**-1.9**
MIDY				S	**Sg**	**17 01 51.0**	**-1.6**
BNGB	**Bingl**	**2.27**	**274**	Pn	**Pb**	**17 01 17.9**	**+0.4**
EGVZ	**Egvard**	**2.33**	**80**	*e*P	**Pb**	**17 01 20.0**	**-1.9**
EGVZ				*e*S	**Sb**	**17 01 50.0**	**-0.8**
EMRE	**Erzurum,Aziziy**	**2.33**	**301**	P	**Pb**	**17 01 21.9**	**-0.2**
LSVT	**Lusahovit**	**2.38**	**31**	*e*P	**Pb**	**17 01 20.3**	**-2.6**
LSVT				*e*S	**Sb**	**17 01 50.4**	**-2.0**
KRIK	**Erzurum-spir**	**2.52**	**306**	P	**Pb**	**17 01 25.3**	**-0.1**
HANI	**Diyarbakir_Han**	**2.54**	**261**	P	**Pb**	**17 01 22.7**	**-2.9**
HANI				S	**Sb**	**17 01 57.7**	**+0.8**
DBAD	**Bademkaya**	**2.59**	**326**	P	**Pb**	**17 01 24.6**	**-1.9**
IHRS	**Heris**	**2.76**	**100**	Pn	**Pb**	**17 01 25.5**	**-4.0**
BCA	**Borcka**	**2.98**	**330**	Pn	**Pn**	**17 01 27.7**	**+0.5**
BAYT	**Aydıntepe-Bayb**	**3.07**	**301**	Pn	**Pn**	**17 01 29.0**	**+0.5**
CHOM	**Cayeli-Rize**	**3.11**	**317**	Pn	**Pn**	**17 01 29.5**	**+0.6**
GRMI	**Germi**	**3.36**	**90**	Pn	**Pn**	**17 01 34.3**	**+1.8**
URFA	**Urfa**	**4.02**	**251**	Pn	**Pn**	**17 01 43.0**	**+1.4**
ESPY	**Espiye-Giresun**	**4.26**	**300**	Pn	**Pn**	**17 01 46.0**	**+1.2**
KBZ	**Khabaz**	**4.88**	**354**	Pn	**Pg**	**17 02 10.4**	**-2.8**
	0.2nm,0.3s,baz=180,slow=11,SNR=6.1						
	2.2nm,0.8s						
IGHG	**Ghaleghazi**	**5.13**	**151**	Pn	**Pn**	**17 01 58.8**	**+1.9**
AKASG	**Malin Array Be**	**15.58**	**324**	LR	LR	17 11 56.8	
	comp=Z,26nm,18.4s,baz=212,slow=40						
VYHS	**Vyhne**	**20.24**	**306**	*e*P	Pn	17 05 20.3	+3.3
BVAR	**Borovoye Array**	**23.22**	**44**	P	**P**	**17 05 49.8**	**+3.0**
	0.5nm,0.8s,baz=242,slow=8.0,SNR=2.3						
	0.5nm,0.8s						
GERES	**GERESS Array B**	**23.61**	**305**	P	**P**	**17 05 51.7**	**+0.9**
	0.3nm,0.7s,baz=113,slow=7.6,SNR=3.5						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**27.20**	**53**	P	**P**	**17 06 24.7**	**+1.2**
	0.7nm,0.7s,baz=264,slow=8.7,SNR=7.0						
	0.7nm,0.7s						
HFS	**Hagfors**	**28.38**	**328**	P	**P**	**17 06 37.2**	**+3.2**
	1.6nm,0.7s,baz=126,slow=9.7,SNR=3.6						
	1.6nm,0.7s						
MKAR	**Makanchi Array**	**29.23**	**62**	P	**P**	**17 06 40.9**	**-0.8**
	0.6nm,0.8s,baz=255,slow=8.7,SNR=5.1						
	0.6nm,0.8s						
NOA	**NORSAR Array B**	**29.90**	**328**	P	**P**	**17 06 50.3**	**+2.8**
	0.3nm,0.6s,baz=125,slow=8.8,SNR=1.4						
NOA				LR	LR	17 19 12.7	
	comp=Z,16nm,19.7s,baz=260,slow=36						
	0.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**35.06**	**314**	P	**P**	**17 07 35.2**	**+2.6**
	1.4nm,0.7s,baz=103,slow=7.2,SNR=4.7						
	1.4nm,0.7s						

WEL 21 17:25:19.0±0.9, 32.°S±15.°×18.°0E±3.°6, h409km±16km, M4.0/4, mB4.2/3, MLv4.0/4, Mw(mB)3.3/3, Error ellipse: s-maj=50.3km s-min=8.1km az=110.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.28**	**191**	P	P	17 26 43.8	-0.1
MXZ				S	S	17 27 52.8	-0.7
WMGZ	**Waiomatatini S**	**5.51**	**190**	P	P	17 26 45.6	-0.7
HAZ	**Te Kaha**	**5.57**	**195**	P	P	17 26 47.1	+0.3
HAZ				S	S	17 27 59.1	+0.1
PUZ	**Puketiti**	**5.78**	**191**	P	P	17 26 50.8	+1.6
PUZ				S	S	17 28 01.7	-1.5
RUGZ	**Raukumara Rang**	**5.79**	**195**	P	P	17 26 50.0	+0.6
RUGZ				S	S	17 27 59.9	-3.7
TWGZ	**Tauwhareparae**	**5.93**	**193**	P	P	17 26 52.6	+1.8
TWGZ				S	S	17 28 06.6	+0.3
MWZ	**Matawai**	**6.18**	**195**	P	P	17 26 55.1	+1.6
MWZ				S	S	17 28 13.2	+2.2
CNGZ	**Carnagh Statio**	**6.19**	**190**	P	P	17 26 54.1	+0.5
CNGZ				S	S	17 28 11.1	-0.2
URZ	**Urewera**	**6.21**	**198**	P	P	17 26 51.6	-2.1
URZ				S	S	17 28 13.5	+1.9
RIGZ	**Rimuhau**	**6.49**	**193**	P	P	17 26 55.4	-1.4
RIGZ				S	S	17 28 18.5	+1.3
MUGZ	**Murupara**	**6.51**	**200**	P	P	17 26 57.9	+0.2
MUGZ				S	S	17 28 18.0	+0.4
SNGZ	**Shannon Statio**	**6.65**	**196**	P	P	17 27 00.8	+1.6
SNGZ				S	S	17 28 23.0	+2.6
PRGZ	**Paritu Road**	**6.67**	**192**	S	S	17 28 23.5	+2.5
KNZ	**Kokohu**	**6.81**	**193**	P	P	17 27 00.8	-0.2
KNZ				S	S	17 28 21.3	-2.3
BKZ	**Black Stump Fm**	**7.23**	**200**	S	S	17 28 34.7	+2.5
PNHZ	**Pukenui**	**8.00**	**199**	P	P	17 27 13.2	-0.9
PNHZ				S	S	17 28 49.8	+1.6
WPHZ	**Waipukurau**	**8.08**	**198**	S	S	17 28 51.4	+1.6
TSZ	**Takapari Road**	**8.21**	**200**	P	P	17 27 13.2	-3.2
TSZ				S	S	17 28 51.8	-0.7
DVHZ	**Dannevirke**	**8.37**	**198**	P	P	17 27 18.0	-0.3
DVHZ				P	S	17 28 56.8	+0.9
ANWZ	**Angora Road**	**8.45**	**196**	P	S	17 28 57.2	-0.2
BFZ	**Birch Farm**	**8.71**	**197**	P	P	17 27 23.2	+1.2
BFZ				S	S	17 29 04.8	+1.8
MRZ	**Mangatainoka R**	**8.87**	**200**	P	P	17 27 23.4	-0.4
MRZ				P	S	17 29 03.0	-3.5
TIWZ	**Tintock**	**8.89**	**199**	P	P	17 27 25.0	+1.0
TIWZ				P	S	17 29 06.7	-0.2

NOU 21 17:37:53.8, 20.°69S×169.°62E, h40km, MLv3.7/14, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**1.18**	**344**	P	Pn	17 38 14.2	+0.3
INH	**Isangel**	**1.18**	**344**	S	Sn	17 38 29.4	+0.6
MARNC	**Mare, Loyalty**	**1.68**	**242**	P	Pn	17 38 20.3	-0.4
MARNC	**Mare, Loyalty**	**1.68**	**242**	S	Sn	17 38 41.2	+0.2
PINNC	**Pines Island,**	**2.78**	**226**	P	Pn	17 38 36.5	+0.6
DVP	**Devils Point**	**3.25**	**335**	P	Pn	17 38 41.8	-0.4
DZM	**Mont Dzumac**	**3.26**	**245**	P	Pn	17 38 42.4	-0.2
DZM	**Mont Dzumac**	**3.26**	**245**	S	Sn	17 39 20.8	+0.6
ONTNC	**Ouen Toro**	**3.36**	**241**	P	Pn	17 38 43.8	0.0
ONTNC	**Ouen Toro**	**3.36**	**241**	S	Sn	17 39 22.7	+0.3
KOUNC	**Koumac, New Ca**	**5.00**	**271**	P	Pn	17 39 06.9	+0.6
	0.1nm,1.4s						
KOUNC	**Koumac, New Ca**	**5.00**	**271**	S	Sn	17 40 03.8	+0.9
	0.1nm,1.4s						
VLAKA	**Lakatoro**	**5.01**	**335**	P	Pn	17 39 06.5	-0.1

IDC 21 17:39:45.6±1.8, 7.°02S×127.°50E, h0km, mb3.4/2, mbtmp3.6/5, ML3.8/3, Error ellipse: s-maj=107.6km s-min=25.6km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.16**	**189**	Pn	Pn	17 42 27.1	+0.6
	0.6nm,0.3s,baz=14,slow=10,SNR=29						
FITZ				Sn	Sn	17 44 20.6	-11
	0.4nm,0.3s,baz=337,slow=23,SNR=2.4						
	2.4nm,0.4s						
WRA	**Warramunga Arr**	**14.46**	**153**	Pn	Pn	17 43 11.1	-0.6
	0.4nm,0.3s,baz=326,slow=14,SNR=5.5						
WRA				Sn	Sn	17 45 35.5	-17
	0.3nm,0.3s,baz=331,slow=22,SNR=4.9						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**17.66**	**160**	P	Pn	17 43 52.9	-0.3
	0.5nm,0.3s,baz=340,slow=12,SNR=69						
ASAR				S	Sn	17 46 55.4	-15
	0.2nm,0.6s,baz=316,slow=17,SNR=4.8						
	1.7nm,0.4s						
MKAR	**Makanchi Array**	**66.91**	**328**	P	P	17 50 38.1	-1.7
	0.2nm,0.6s,baz=126,slow=7.3,SNR=2.2						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**71.25**	**330**	P	P	17 51 08.0	+1.4
	0.3nm,0.6s,baz=129,slow=5.3,SNR=4.9						
	0.3nm,0.6s						

---

*IDC **21** 17:40:29.2±2.0, 55.°14N×164.°62E, h0km, mb3.3/4, mbtmp3.2/5, ML2.0/1, Error ellipse: s-maj=80.2km s-min=21.8km az=153.0*
*KRSC **21** 17:40:29.2±1.4, 54.°87N×164.°65E, h51km±28km, Ml3.5*
ISC 21 17:40:31.1±1.9, 54.°91N±0.°05×164.°73E±0.°07, h23km±18km, n38, σ1.9°53/57, mb3.3/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.77**	**67**	*e*P	**Pb**	**17 40 45.5**	**-0.3**
BKI				*e*S	**Sb**	**17 40 56.6**	**+0.6**
KBTR	**Krutoberegovo**	**1.70**	**321**	*e*P	**Pn**	**17 40 58.2**	**-1.2**
KBTR				*e*S	**Sn**	**17 41 17.1**	**-3.2**
KBG	**Krutoberegovo**	**1.77**	**320**	*e*P	**Pn**	**17 40 59.4**	**-1.0**
KBG				*e*S	**Sn**	**17 41 19.6**	**-2.6**
MKZ	**Mys Kozlova**	**1.77**	**260**	*e*P	**Pn**	**17 40 59.3**	**-1.1**
MKZ				*e*S	**Sn**	**17 41 19.6**	**-2.6**
SMKR	**Semkarok**	**2.50**	**314**	*e*P	**Pn**	**17 41 10.6**	**+0.2**
SMKR				*e*S	**Sn**	**17 41 40.2**	**0.0**
ZLN	**Zelenaya**	**2.50**	**298**	*e*P	**Pn**	**17 41 11.0**	**+0.6**
TUMD	**Tumrok D**	**2.51**	**279**	*e*P	**Pn**	**17 41 09.7**	**-0.8**
TUMD				*e*S	**Sn**	**17 41 40.1**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**2.52**	**296**	*e*P	**Pn**	**17 41 11.1**	**+0.3**
BZGR				*e*S	**Sn**	**17 41 41.4**	**+0.6**
BZMR	**Bezymyannaya**	**2.63**	**295**	*e*P	**Pn**	**17 41 12.7**	**+0.4**
BZWR	**Bezymyannyi-We**	**2.63**	**295**	*e*P	**Pn**	**17 41 13.4**	**+1.0**
KRSR	**Krestovskiy**	**2.71**	**301**	*e*P	**Pn**	**17 41 12.8**	**-0.5**
KRSR				*e*S	**Sn**	**17 41 45.7**	**+0.3**
KLY	**Klyuchi**	**2.71**	**303**	*e*P	**Pn**	**17 41 11.9**	**-1.3**
KLY				*e*S	**Sn**	**17 41 42.3**	**-2.9**
KIRR	**Kirishev**	**2.71**	**295**	*e*P	**Pn**	**17 41 14.2**	**+0.8**
KIRR				*e*S	**Sn**	**17 41 45.9**	**+0.3**
KPT	**Kopyto**	**2.78**	**294**	*e*P	**Pn**	**17 41 14.9**	**+0.6**
KOZ	**Kozyrevsk**	**3.00**	**295**	*e*P	**Pn**	**17 41 18.3**	**+1.1**
KOZ				*e*S	**Sn**	**17 41 53.0**	**+0.6**
KII	**Karymskiy**	**3.20**	**256**	*e*P	**Pn**	**17 41 20.4**	**+0.3**
KII				*e*S	**Sn**	**17 41 55.3**	**-2.3**
NLC	**Nalytchevo**	**3.62**	**243**	*e*S	**Sn**	**17 42 04.9**	**-2.8**
SDLR	**Sedlovina**	**3.81**	**247**	*e*P	**Pn**	**17 41 29.4**	**+0.9**
SDLR				*e*S	**Sn**	**17 42 10.1**	**-2.5**
UGLR	**Uglovaya**	**3.87**	**246**	*e*P	**Pn**	**17 41 29.8**	**+0.5**
UGLR				*e*S	**Sn**	**17 42 12.7**	**-1.4**
AVH	**Avacha**	**3.89**	**247**	*e*P	**Pn**	**17 41 30.3**	**+0.8**
AVH				*e*S	**Sn**	**17 42 12.8**	**-1.8**
KRX	**Arik**	**3.90**	**249**	*e*P	**Pn**	**17 41 30.3**	**+0.6**
KRX				*e*S	**Sn**	**17 42 12.0**	**-2.9**
KOK	**Koryaka**	**3.94**	**248**	*e*P	**Pn**	**17 41 30.9**	**+0.7**
KOK				*e*S	**Sn**	**17 42 16.1**	**+0.4**
DALK	**Dalny**	**4.00**	**244**	*e*P	**Pn**	**17 41 30.5**	**-0.4**
DALK				*e*S	**Sn**	**17 42 13.8**	**-3.3**
GNL	**Ganaly**	**4.16**	**256**	*e*P	**Pn**	**17 41 34.6**	**+1.3**
KRMR	**Karymshinskiy**	**4.43**	**245**	*e*P	**Pn**	**17 41 36.9**	**+0.1**
KRMR				*e*S	**Sn**	**17 42 25.8**	**-1.7**
OSSR	**Ossora**	**4.45**	**349**	*e*P	**Pn**	**17 41 35.7**	**-1.4**
RUS	**Russkaya**	**4.45**	**239**	*e*P	**Pn**	**17 41 36.9**	**-0.2**
PETK	**Petropavlovsk-**	**4.52**	**249**	Pn	**Pn**	**17 41 38.8**	**+0.7**
	0.4nm,0.3s,baz=64,slow=16,SNR=18						
PETK				Sn	**Sn**	**17 42 29.7**	**-0.3**
	0.5nm,0.3s,baz=77,slow=21,SNR=2.7						
	0.8nm,0.3s						
MTVR	**Mutnovka**	**4.59**	**241**	*e*P	**Pn**	**17 41 39.4**	**+0.2**
MTVR				*e*S	**Sn**	**17 42 28.8**	**-2.9**
GRL	**Gorelyy**	**4.60**	**242**	*e*P	**Pn**	**17 41 40.0**	**+0.6**
GRL				*e*S	**Sn**	**17 42 31.8**	**-0.3**
KDTR	**Khodutka, Kamc**	**5.05**	**235**	*e*S	**Sn**	**17 42 39.5**	**-3.4**
ILAR	**Eielson Array**	**25.58**	**48**	P	**P**	**17 45 58.2**	**+0.2**
	0.6nm,0.8s,baz=269,slow=11,SNR=5.7						
	0.6nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**30.42**	**250**	P	**P**	**17 46 43.7**	**+2.2**
	0.3nm,0.6s,baz=43,slow=9.0,SNR=4.5						
	0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**35.16**	**176**	T	T	18 25 46.0	
	baz=359,slow=76,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**35.17**	**176**	T	T	18 25 50.2	
	baz=359,slow=76,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**35.17**	**176**	T	T	18 25 50.5	
	baz=359,slow=76,SNR=5.9						
YKA	**Yellowknife Ar**	**39.95**	**46**	P	**P**	**17 48 03.8**	**+0.6**
	0.2nm,0.8s,baz=300,slow=8.4,SNR=4.8						
	0.2nm,0.8s						
KURBB	**Kurchatov Arra**	**49.18**	**303**	P	**P**	**17 49 16.9**	**-0.1**
	0.4nm,0.8s,baz=56,slow=7.8,SNR=4.2						
	0.4nm,0.8s						

IDC 21 17:48:37.8±2.5, 5.°37S×130.°62E, h0km, mb3.2/1, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=102.6km s-min=28.6km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.55**	**201**	Pn	Pn	17 51 49.5	-2.0
	0.1nm,0.3s,baz=53,slow=5.5,SNR=8.5						
	1.7nm,0.8s						
WRA	**Warramunga Arr**	**14.93**	**166**	Pn	Pn	17 52 08.7	-1.6
	0.1nm,0.3s,baz=353,slow=20,SNR=2.0						
WRA				Sn	Sn	17 54 57.0	+0.4
	0.1nm,0.3s,baz=345,slow=21,SNR=2.2						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**18.46**	**170**	P	P	17 52 57.1	+1.7
	baz=345,slow=11,SNR=7.5						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**67.22**	**326**	P	P	17 59 34.0	0.0
	0.1nm,0.4s,baz=132,slow=8.0,SNR=1.9						
	0.1nm,0.4s						

IDC 21 17:53:59.1±14.0, 11.°21N×123.°89E, h141km±121km, mb3.1/4, mbtmp3.5/4, Error ellipse: s-maj=320.5km s-min=18.0km az=64.0, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.62**	**162**	P	P	18 00 19.5	+1.8
	0.7nm,1.0s,baz=346,slow=9.1,SNR=2.3						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**36.02**	**164**	P	P	18 00 46.0	-1.0
	0.2nm,0.6s,baz=344,slow=6.9,SNR=14						
ASAR				PcP	PcP	18 03 10.1	-0.4
	0.2nm,0.4s,baz=343,slow=2.9,SNR=6.8						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**49.87**	**323**	P	P	18 02 37.6	-0.5
	0.6nm,0.8s,baz=123,slow=8.0,SNR=5.9						
MKAR				PcP	PcP	18 03 56.5	-0.1
	0.3nm,0.8s,baz=107,slow=5.0,SNR=2.3						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**53.98**	**326**	P	P	18 03 08.6	+0.2
	0.9nm,0.6s,baz=126,slow=6.8,SNR=11						
	0.9nm,0.6s						

---

*RSNC **21** 17:54:59.4±0.0, 7.°N±1.°×7.°8W±.°, h19km±4km, M4.1, mB4.9, mb4.8, ML3.6, MLv4.5, Mw(mB)4.2*
*UPA **21** 17:54:59.6±1.2, 7.°14N×78.°30W, h28km±101km, MW4.3*
*IDC **21** 17:55:06.4±2.2, 7.°58N×78.°00W, h77km±21km, mb3.2/9, mbtmp3.6/11, MS3.4/13, Error ellipse: s-maj=20.9km s-min=16.0km az=39.0*
ISC 21 17:54:57.1±1.4, 7.°31N±0.°03×78.°28W±0.°03, h7km±9km, n75, σ2.8°22/115, mb3.6/9, MS3.4/9, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.50**	**109**	P	**Pg**	**17 55 06.9**	**+0.1**
PTAC				S	**Sg**	**17 55 13.0**	**-0.3**
SOLC	**Bahia Solano**	**1.39**	**141**	P	**Pb**	**17 55 23.2**	**-0.1**
SOLC				S	**Sb**	**17 55 40

RUSC			S		**Sn**	**17 57 23.1 +3.0**
	1.1nm1μ98nm,0.9s					
BBAC	**Balboa, Cauca**	**5.36 169**	P		**Pn**	**17 56 18.8 +1.1**
	1μ44nm,0.6s					
BBAC			S		**Sn**	**17 57 20.1 +0.3**
	1μ44nm,0.6s					
BETC	**Betania**	**5.40 148**	P		**Pn**	**17 56 20.1 +1.9**
BETC			S		**Sn**	**17 57 20.8 +0.1**
GARC	**Garzon, Huila**	**5.80 151**	P		**Pn**	**17 56 24.8 +0.9**
GARC			S		**Sn**	**17 57 29.7 -1.1**
CRUC	**La Cruz**	**5.86 167**	P		**Pn**	**17 56 27.7 +2.9**
CRUC			S		**Sn**	**17 57 33.6 +1.2**
GCUF	**Volcan Galeras**	**6.12 171**	P		**Pn**	**17 56 32.7 +4.3**
GCUF			S		**Sn**	**17 57 38.5 -0.5**
FLOC	**Florencia**	**6.27 155**	P		**Pn**	**17 56 31.9 +1.8**
	897nm19nm,0.5s					
FLOC			S		**Sn**	**17 57 44.8 +2.8**
	897nm19nm,0.5s					
TAMC	**Tame, Arauca**	**6.50 97**	P		**Pn**	**17 56 32.6 -0.7**
	68nm,1.3s					
TAMC			S		**Sn**	**17 57 50.2 +2.4**
	68nm,1.3s					
MACC	**Macarena, Meta**	**6.77 139**	P		**Pn**	**17 56 38.5 +1.5**
	54nm,0.6s					
MACC			S		**Sn**	**17 57 55.1 +0.6**
	54nm,0.6s					
JTS	**Las Juntas de**	**7.22 295**	P		Pn	17 56 50.4 +7.2
	7.2nm,0.8s,baz=321,slow=23,SNR=4.2					
JTS			LR		LR	17 59 48.3
	comp=Z,480nm,21.8s,baz=113,slow=38					
URIC	**Uribia, Colomb**	**7.58 54**	P		**Pn**	**17 56 48.4 +0.3**
	1μm100nm,1.1s					
URIC			S		**Sn**	**17 58 12.3 -2.0**
	1μm100nm,1.1s					
SDV	**Santo Domingo**	**7.73 78**	P		**Pn**	**17 56 51.8 +1.5**
	61nm,0.6s,baz=244,slow=9.4,SNR=27					
SDV			S		**Sn**	**17 58 16.7 -1.6**
	78nm,0.7s,baz=36,slow=12,SNR=6.2					
SDV			LR		LR	18 00 06.8
	comp=Z,173nm,21.0s,baz=227,slow=40					
SDV	**Santo Domingo**	**7.73 78**	P		**Pn**	**17 56 52.9 +2.6**
SDV			S		**Sn**	**17 58 15.4 -2.9**
SJG	**San Juan**	**15.96 47**	LR		LR	18 05 59.6
	comp=Z,80nm,19.0s,baz=134,slow=42					
LPAZ	**La Paz**	**25.51 157**	P		**P**	**18 00 29.6 +2.5**
	1.2nm,0.8s,baz=342,slow=13,SNR=2.8					
LPAZ			LR		LR	18 11 57.5
	comp=Z,102nm,19.3s,baz=300,slow=39					
	1.2nm,0.8s					
MDP	**Montagnes des**	**25.58 93**	LR		LR	18 10 33.0
	comp=Z,101nm,18.2s,baz=314,slow=37					
TXAR	**Lajitas Array**	**32.42 316**	P		**P**	**18 01 29.4 +1.4**
	0.2nm,0.6s,baz=124,slow=7.1,SNR=3.0					
	0.2nm,0.6s					
LPIG	**La Paz**	**34.93 302**	LR		LR	18 16 04.3
	comp=Z,48nm,20.2s,baz=128,slow=36					
BDFB	**Brasilia**	**37.67 127**	LR		LR	18 19 04.3
	comp=Z,100nm,18.6s,baz=212,slow=38					
ANMO	**Albuquerque**	**37.77 321**	LR		LR	18 22 57.9
	comp=Z,14nm,19.5s,baz=281,slow=44					
CPUP	**Villa Florida**	**39.14 149**	LR		LR	18 20 48.3
	comp=Z,67nm,19.7s,baz=284,slow=39					
PFO	**Pinyon Flats O**	**43.91 312**	LR		LR	18 26 24.6
	comp=Z,30nm,18.4s,baz=212,slow=43					
PDAR	**Pinedale Array**	**44.77 327**	P		**P**	**18 03 12.6 +0.9**
	0.3nm,0.7s,baz=140,slow=8.7,SNR=2.1					
	0.3nm,0.7s					
NVAR	**Mina Array Bea**	**47.55 317**	P		**P**	**18 03 34.8 +1.1**
	0.1nm,0.3s,baz=114,slow=2.9,SNR=1.9					
	0.1nm,0.3s					
PLCA	**Paso Flores**	**48.34 172**	P		**P**	**18 03 42.3 +2.8**
	1.0nm,0.7s,baz=354,slow=9.2,SNR=4.5					
	1.0nm,0.7s					
YBH	**Yreka Blue Hor**	**52.12 318**	LR		LR	18 30 37.6
	comp=Z,33nm,18.5s,baz=144,slow=41					
NEW	**Newport**	**52.38 328**	LR		LR	18 29 43.3
	comp=Z,21nm,19.0s,baz=170,slow=40					
YKA	**Yellowknife Ar**	**61.11 342**	P		**P**	**18 05 11.6 -0.1**
	0.6nm,0.8s,baz=134,slow=7.1,SNR=9.0					
	0.6nm,0.8s					
ESDC	**Sonseca Array**	**73.30 51**	P		**P**	**18 06 27.3 -2.4**
	0.6nm,0.9s,baz=293,slow=5.8,SNR=5.6					
	0.6nm,0.9s					
ILAR	**Eielson Array**	**74.37 336**	P		**P**	**18 06 34.5 -0.8**
	0.5nm,1.0s,baz=83,slow=2.8,SNR=2.7					
	0.5nm,1.0s					
NOA	**NORSAR Array B**	**83.41 29**	P		**P**	**18 07 22.0 -3.1**
	0.8nm,0.8s,baz=302,slow=12,SNR=2.0					
	0.8nm,0.8s					
ASAR	**Alice Springs**	**145.11 239**	PKPbc		**PKPab**	**18 14 35.9 +0.1**
	1.3nm,0.8s,baz=116,slow=3.3,SNR=19					
WRA	**Warramunga Arr**	**145.98 245**	PKPbc		**PKPbc**	**18 14 38.7 +0.1**
	1.0nm,0.7s,baz=101,slow=3.6,SNR=4.7					
CMAR	**Chiang Mai Arr**	**154.25 6**	PKPbc		**PKPbc**	**18 14 58.5 -0.5**
	0.2nm,0.4s,baz=14,slow=3.3,SNR=1.8					

RSNC 21 17:55:35.1±0.0, 7°N±1°×7°3W±°, h133km±1km, M2.1, ML1.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZNC	**La Esperanza**	**0.22**	**331**	P	Pn	17 55 52.6	-0.8
EZNC				S	Sn	17 56 06.5	-0.8
VMM09	**Lebrija**	**0.31**	**195**	P	Pn	17 55 53.1	-0.7
VMM09				S	Sn	17 56 06.9	-1.1
PAMC	**Pamplona, Colo**	**0.51**	**100**	P	Pn	17 55 54.5	-0.7
PAMC				S	Sn	17 56 09.7	-0.6
VMM07	**Puerto Wilches**	**0.64**	**264**	P	Pn	17 55 55.3	-0.1
BRJC	**Barrancabermej**	**0.70**	**229**	P	Pn	17 55 55.0	-0.8
OCAC	**Ocana**	**0.81**	**352**	P	Pn	17 55 56.2	-0.7
OCAC				S	Sn	17 56 12.7	-0.7
BARC	**Barichara**	**0.83**	**178**	P	Pn	17 55 56.3	-0.8
AGCC	**Aguachica**	**1.14**	**341**	P	Pn	17 55 58.5	-1.2
AGCC				S	Sn	17 56 16.9	-1.5
PTBC	**PUERTO BERRIO,**	**1.52**	**235**	P	Pn	17 56 03.5	-0.2
PTBC				S	Sn	17 56 25.4	-0.1
RUSC	**La Rusia**	**1.53**	**175**	P	Pn	17 56 03.0	-1.3
ZARC	**Zaragoza, Cauc**	**1.64**	**272**	P	Pn	17 56 04.6	-0.3
ZARC				S	Sn	17 56 27.9	+0.2

TXNET 21 17:57:25.2, 31°5N±0°5×103°7W±0°6, h6km±1km, ML2.2/9, Error ellipse: s-maj=0.9km s-min=0.7km az=116.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB07	**Mentone**	**0.06**	**27**	P	Pg	17 57 27.0	+0.1
TPB07				S	Sg	17 57 28.8	+0.7
PCOS	**Crockett Middl**	**0.20**	**125**	P	Pg	17 57 29.5	+0.4
PCOS				S	Sg	17 57 33.0	+1.2
PECS	**Pecos**	**0.21**	**223**	P	Pg	17 57 29.9	+0.6
PECS				S	Sg	17 57 33.7	+1.7
TPB10	**Southeast of T**	**0.24**	**191**	P	Pg	17 57 30.5	+0.6
TPB10				S	Sg	17 57 34.7	+1.5
TPB12	**Southwest of T**	**0.38**	**215**	P	Pg	17 57 33.2	+0.6
TPB06	**Permian Basin**	**0.43**	**73**	P	Pg	17 57 34.2	+0.7
TPB06				S	Sb	17 57 40.9	-1.2
TPB03	**Saragosa**	**0.47**	**160**	P	Pg	17 57 34.6	+0.4
TPB03				S	Sg	17 57 41.6	+1.3
TPB04	**Verhalen**	**0.50**	**132**	P	Pb	17 57 35.9	-0.5
TPB04				S	Sb	17 57 44.0	0.0
TPB11	**China Draw**	**0.50**	**326**	S	Sb	17 57 43.3	-0.8
TPB16	**Coyonosa**	**0.55**	**136**	S	Sb	17 57 45.3	-0.3
TPB01	**Permian Basin**	**0.58**	**187**	P	Pg	17 57 35.3	-1.0
TPB01				S	Sg	17 57 44.4	+0.4
TPB05	**Hovey Rd**	**0.68**	**152**	S	Sg	17 57 47.8	+0.6
CLNB	**Carlsbad**	**0.75**	**349**	S	Sb	17 57 51.0	-0.4
CLNB	**Carlsbad**	**0.75**	**349**	P	Pb	17 57 40.3	-0.5
MNHN	**Monahans**	**0.82**	**103**	P	Pg	17 57 41.3	+0.3
MNHN				S	Sg	17 57 51.7	0.0
NM01	**Eunice**	**0.87**	**17**	P	Pg	17 57 41.3	-0.6
NM01				S	Sb	17 57 54.3	-0.4
CLN7	**Carlsbad 7**	**0.89**	**354**	P	Pb	17 57 43.1	0.0
TPB08	**Permian Basin**	**0.93**	**133**	S	Sb	17 57 56.4	+0.1
HTMS	**Hat Mesa**	**0.95**	**3**	S	Sb	17 57 57.5	+0.5
ALPN	**Alpine**	**1.15**	**177**	P	Pg	17 57 46.5	-0.7
ALPN				S	Sg	17 58 02.1	+0.1
ODSA	**Odessa**	**1.15**	**58**	P	Pg	17 57 47.3	+0.1
ODSA				S	Sb	17 58 03.0	+0.3
VHRN	**Van Horn**	**1.32**	**237**	P	Pn	17 57 50.3	0.0
VHRN				S	Sn	17 58 08.4	0.0
MNTX	**Cornudas Mount**	**1.44**	**277**	P	Pg	17 57 52.7	-0.1
MNTX				S	Sg	17 58 12.8	+1.2
TMB02	**Rankin**	**1.46**	**102**	P	Pn	17 57 51.9	-0.2
TMB02				S	Sn	17 58 11.6	0.0
CPRX	**Cap Rock**	**1.51**	**355**	P	Pb	17 57 53.9	+0.2
TMB05	**Klondike**	**1.91**	**54**	P	Pb	17 58 00.1	-0.4
TMB05				S	Sg	17 58 26.0	-0.6
SAND	**Sanderson**	**2.07**	**139**	P	Pb	17 58 02.3	-1.0
SAND				S	Sb	17 58 30.4	+1.1
TX31	**Lajitas Ar. Si**	**2.18**	**179**	P	Pn	17 58 03.3	+1.2
TX31				S	Sb	17 58 33.8	+1.4
SGCY	**Sterling City**	**2.23**	**79**	P	Pb	17 58 04.5	-1.4
SGCY				S	Sb	17 58 33.6	-0.3

*SDD **21** 17:57:39.4±2.2, 20°.25N×70°.28W, h31km±29km, MD3.3, ML2.9, MWS3.2*
*OSPL **21** 17:57:41.3±2.5, 20°.22N×70°.30W, h15km±16km, ML2.2*
ISC 21 17:57:38.1±1.1, 20°.23N±0°.04×70°.27W±0°.03, h10km, n25, σ1§30/45, 21C-11D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUDR	**Luperon**	**0.73**	**243**	⇑*e*Pg	**Pg**	**17 57 53.4**	**+1.2**
LUDR				⇑*e*Sg	**Sg**	**17 58 01.6**	**-0.1**
LUDR				IAML		17 58 11.3	
	comp=N,562nm,0.3s						
SC01	**Santiago de lo**	**0.91**	**209**	*i* P	**Pg**	**17 57 56.1**	**+0.6**
SC01				*e*S	**Sg**	**17 58 09.2**	**+1.9**
SC01				IAML		17 58 17.3	
	comp=Z,41nm,0.3s						
NADR	**Nagua**	**0.95**	**156**	*e*Pg	**Pg**	**17 57 55.6**	**-0.7**
NADR				*e*Sg	**Sg**	**17 58 07.0**	**-1.7**
NADR				IAML		17 58 14.8	
	comp=N,466nm,0.5s						
NADR	**Nagua**	**0.95**	**156**	⇑*e*Pg	**Pg**	**17 57 58.1**	**+1.8**
NADR				⇑*e*Sg	**Sg**	**17 58 10.2**	**+1.5**
NADR				IAML		17 58 14.8	
	comp=N,466nm,0.5s						
DR08	**Loma La Naviza**	**1.28**	**170**	⇓*e*Pg	**Pn**	**17 58 00.5**	**-1.5**
DR08				⇓*e*Sg	**Sb**	**17 58 17.6**	**-1.2**
DR08				IAML		17 58 18.7	
	comp=N,5μm,0.1s						
MCDR	**Montecristi**	**1.35**	**256**	*e*Pg	**Pn**	**17 57 59.6**	**-3.4**
MCDR				⇑*e*Sg	**Sb**	**17 58 20.5**	**-0.3**
MCDR				IAML		17 58 22.8	
	comp=N,157nm,0.1s						
MCDR	**Montecristi**	**1.35**	**256**	⇑*e*Pg	**Pn**	**17 58 02.0**	**-0.9**
MCDR				⇓*e*Sg	**Sb**	**17 58 20.5**	**-0.3**
MCDR				IAML		17 58 22.8	
	comp=N,157nm,0.1s						
SMDR	**Samana, DR**	**1.38**	**132**	⇓*e*Pg	**Pn**	**17 58 02.8**	**-0.6**
SMDR				⇓*e*Sg	**Sn**	**17 58 21.5**	**-0.2**
SMDR				IAML		17 58 23.7	
	comp=N,93nm,0.2s						
ABDR	**Alto Bandera**	**1.45**	**194**	⇑*e*Pg	**Pn**	**17 58 03.3**	**-1.3**
ABDR				⇑*e*Sg	**Sn**	**17 58 21.8**	**-2.1**
ABDR				IAML		17 58 25.7	
	comp=N,115nm,0.1s						
ABDR	**Alto Bandera**	**1.45**	**194**	⇑*e*Pg	**Pn**	**17 58 03.3**	**-1.3**
ABDR				⇑*e*Sg	**Sn**	**17 58 22.2**	**-1.7**
ABDR				IAML		17 58 25.7	
	comp=N,115nm,0.1s						
REDR	**Restauracion**	**1.50**	**225**	⇑*e*Pg	**Pn**	**17 58 06.2**	**+1.2**
REDR				⇑*e*Sg	**Sb**	**17 58 27.1**	**+2.0**
REDR				IAML		17 58 29.3	
	comp=N,236nm,0.7s						
GRTK	**Grand Turk**	**1.52**	**328**	⇓*e*Pg	**Pn**	**17 58 05.0**	**-0.3**
GRTK				⇑*e*Sg	**Sn**	**17 58 24.1**	**-0.9**
GRTK				IAML		17 58 33.9	
	comp=N,74nm,1.9s						
GRTK	**Grand Turk**	**1.52**	**328**	*i* P	**Pn**	**17 58 05.0**	**-0.3**
GRTK				*e*S	**Sn**	**17 58 25.4**	**+0.4**
GRTK				IAML		17 58 32.0	
	comp=Z,34nm,0.8s						
LODA1	**ITESIL, Dajabo**	**1.52**	**244**	*e*Sg	**Sn**	**17 58 23.4**	**-1.7**
LODA1	**ITESIL, Dajabo**	**1.52**	**244**	*e*S	**Sn**	**17 58 23.4**	**-1.7**
SDDR	**Presa de Saban**	**1.57**	**218**	⇓*e*Pg	**Pn**	**17 58 04.8**	**-1.2**
SDDR				*e*Sg	**Sn**	**17 58 24.7**	**-1.8**
SDDR				IAML		17 58 26.1	
	comp=N,69nm,0.3s						
SDDR	**Presa de Saban**	**1.57**	**218**	*i* P	**Pn**	**17 58 05.6**	**-0.5**
SDDR				*e*S	**Sn**	**17 58 24.9**	**-1.6**
SDDR				IAML		17 58 29.7	
	comp=Z,76nm,0.3s						
HATOM	**Hato Mayor del**	**1.66**	**150**	⇓*e*Pg	**Pn**	**17 58 06.4**	**-0.9**
HATOM				⇓*e*Sg	**Sn**	**17 58 28.0**	**-0.6**
HATOM				IAML		17 58 28.2	
	comp=N,71nm,0.6s						
HATOM	**Hato Mayor del**	**1.66**	**150**	⇑*e*Pg	**Pn**	**17 58 06.5**	**-0.7**
HATOM				IAML		17 58 28.2	
	comp=N,61nm,0.6s						
HATOM				⇑*e*Sg	**Sn**	**17 58 28.5**	**-0.1**
MIDR	**Miches**	**1.69**	**137**	⇑*e*Pg	**Pn**	**17 58 07.2**	**-0.4**
MIDR				IAML		17 58 30.7	
	comp=N,69nm,0.3s						
BANI	**BANI**	**1.83**	**183**	⇓*e*Pg	**Pn**	**17 58 09.3**	**-0.3**
BANI				⇑*e*Sg	**Sn**	**17 58 33.1**	**+0.2**
BANI				IAML		17 58 34.6	
	comp=N,179nm,0.4s						
BANI	**BANI**	**1.83**	**183**	⇑*e*Pg	**Pn**	**17 58 09.8**	**+0.1**
BANI				⇑*e*Sg	**Sn**	**17 58 33.0**	**+0.1**
BANI				IAML		17 58 34.6	
	comp=N,179nm,0.4s						
LODU1	**El Espartillar**	**2.19**	**212**	*i* P	**Pn**	**17 58 16.1**	**+1.6**
JIDR	**Jimani**	**2.29**	**221**	⇓*e*Pg	**Pn**	**17 58 17.6**	**+1.7**
JIDR				⇑*e*Sg	**Sn**	**17 58 45.1**	**+1.0**
JIDR				IAML		17 58 47.6	
	comp=N,58nm,0.9s						
PCDR	**Punta Cana, DR**	**2.46**	**133**	*i* P	**Pn**	**17 58 19.3**	**+1.0**

IDC 21 18:11:34.1±3.2, 48°.89S×123°.43E, h0km, mb3.5/2, mbtmp3.8/3, ML2.5/1, MS3.7/2, Error ellipse: s-maj=77.1km s-min=64.3km az=46.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.58**	**330**	T	T	18 31 32.3	
	baz=154,slow=74,SNR=27						
H01W2	**Cape Leeuwin H**	**15.59**	**330**	T	T	18 31 21.2	
	baz=154,slow=74,SNR=19						
H01W3	**Cape Leeuwin H**	**15.60**	**330**	T	T	18 31 27.9	
	baz=154,slow=74,SNR=30						
NWAO	**Narrogin (SRO)**	**16.61**	**341**	Pn	P	18 15 30.3	-0.6
	0.8nm,0.3s,baz=163,slow=10,SNR=7.7						
	5.0nm,0.5s						
ASAR	**Alice Springs**	**26.50**	**22**	P	P	18 17 12.8	-0.3
	0.6nm,1.0s,baz=198,slow=8.8,SNR=4.8						
	0.6nm,1.0s						
VNDA	**Vanda**	**32.24**	**165**	LR	LR	18 31 09.5	
	comp=Z,123nm,18.2s,baz=312,slow=36						
QSPA	**South Pole Qui**	**41.23**	**180**	LR	LR	18 35 52.6	
	comp=Z,80nm,18.1s,baz=346,slow=35						
CMAR	**Chiang Mai Arr**	**70.51**	**335**	P	P	18 22 50.0	-0.5
	0.6nm,0.9s,baz=156,slow=8.2,SNR=5.4						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**145.86**	**45**	PKPbc	PKPbc	18 31 13.8	-0.3
	0.4nm,1.0s,baz=268,slow=2.7,SNR=5.8						

*SNET **21** 18:20:01.4±1.1, 13°.31N×89°.89W, h33km±5km, ML2.7*
*GCG **21** 18:20:02.2±0.5, 13°.61N×89°.81W, h59km±15km, MD3.6*
*CATAC **21** 18:20:04.6±0.6, 14°N±4°×9°0W±°, h50km±4km, M2.7/11, MLv2.7/11, Error ellipse: s-maj=10.8km s-min=5.2km az=35.7, confirmed*
ISC 21 18:20:04.2±1.4, 13°.53N±0°.08×89°.72W±0°.05, h66km, n40, σ1§32/45, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.29**	**65**	*e*P	**Pn**	**18 20 12.8**	**-2.3**
JAYA	**Jayaque - finc**	**0.29**	**65**	*e*P	**Pn**	**18 20 12.8**	**-2.3**
JAYA	**Jayaque - finc**	**0.29**	**65**	P	**Pn**	**18 20 13.0**	**-2.2**
CEVE	**Cerro Verde**	**0.31**	**18**	*e*P	**Pn**	**18 20 13.3**	**-2.1**
SBLS	**San Blas**	**0.32**	**18**	*e*P	**Pn**	**18 20 13.5**	**-2.0**
SBLS				*e*S	**Sn**	**18 20 23.4**	**-0.2**
SNJE	**San Jose**	**0.35**	**19**	*e*P	**Pn**	**18 20 13.9**	**-1.8**
SNJE				*e*P		18 20 13.9	
LALI	**Alcalda de L**	**0.39**	**96**	*i* S	**Sn**	**18 20 22.8**	**-1.2**
LALI	**Alcalda de L**	**0.39**	**96**	P	**Pn**	**18 20 17.1**	**+1.4**
CEDA	**San Andres**	**0.42**	**50**	S	**Sn**	**18 20 25.7**	**+1.2**
CEDA	**San Andres**	**0.42**	**50**	P	**Pn**	**18 20 17.0**	**+1.0**
PMON	**Piamonte**	**0.43**	**66**	*e*P	**Pn**	**18 20 14.9**	**-1.3**
PMON				*e*S	**Sn**	**18 20 25.6**	**+0.7**
PMON	**Piamonte**	**0.43**	**66**	P	**Pn**	**18 20 16.4**	**+0.1**
UNIC	**Universidad Ca**	**0.48**	**21**	S	**Sn**	**18 20 27.5**	**+2.0**
SLOZ	**Alcaldia de Sa**	**0.49**	**353**	*e*P	**Pn**	**18 20 15.3**	**-1.4**
SLOZ				*e*S	**Sn**	**18 20 26.9**	**+1.0**
SLOZ				IAML		18 20 30.5	
	comp=Z,162nm,0.2s						
UEES	**Universidad Ev**	**0.50**	**69**	S	**Sn**	**18 20 26.5**	**+0.4**
LOMA	**Loma Larga**	**0.55**	**78**	P	**Pn**	**18 20 16.9**	**-0.4**
LOMA	**Loma Larga**	**0.55**	**78**	S	**Sn**	**18 20 28.1**	**+1.2**
UDBS	**Universidad Do**	**0.58**	**72**	S	**Sn**	**18 20 28.6**	**+1.2**
LFRS	**El Faro**	**0.65**	**82**	*e*	**Pn**	**18 20 18.1**	**-0.4**
LFRS				*e*P	**Pn**	**18 20 18.1**	**-0.4**
COEG	**Centro de Oper**	**0.82**	**84**	*e*P	**Pn**	**18 20 19.7**	**-0.7**
COEG				*e*S	**Sn**	**18 20 33.5**	**+1.1**
COEG				IAML		18 20 42.2	
	comp=Z,336nm,0.5s						
COEG	**Centro de Oper**	**0.82**	**84**	P	**Pn**	**18 20 20.0**	**-0.4**
TECO	**Alcaldia de Te**	**0.92**	**90**	P	**Pn**	**18 20 20.8**	**-0.7**
MTO3	**Montecristo**	**0.93**	**22**	*i* P	**Pn**	**18 20 22.0**	**+0.1**
MTO3	**Montecristo**	**0.93**	**22**	P	**Pn**	**18 20 22.1**	**+0.2**
MTO3	**Montecristo**	**0.93**	**22**	S	**Sn**	**18 20 34.7**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.98**	**80**	P	**Pn**	**18 20 22.1**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.98**	**80**	S	**Sn**	**18 20 35.0**	**-0.8**
FG16	**Alotenango, Sa**	**1.06**	**314**	*e*P	**Pn**	**18 20 25.1**	**+1.5**
ESQI	**Esquipulas**	**1.09**	**20**	P	**Pn**	**18 20 24.3**	**+0.5**
ESQI	**Esquipulas**	**1.09**	**20**	S	**Sn**	**18 20 37.7**	**-0.6**
PQSS	**Presa 15 de Se**	**1.13**	**85**	*e*P	**Pn**	**18 20 24.1**	**-0.2**
PQSS	**Presa 15 de Se**	**1.13**	**85**	P	**Pn**	**18 20 24.0**	**-0.2**
PACA	**Pacayal**	**1.36**	**92**	S	**Sn**	**18 20 43.7**	**-1.0**
ESSG	**Sabana Grande**	**1.37**	**308**	*e*S	**Sn**	**18 20 41.0**	**-3.9**
RANC	**El Ranchito**	**1.40**	**94**	P	**Pn**	**18 20 27.6**	**-0.2**
RANC	**El Ranchito**	**1.40**	**94**	S	**Sn**	**18 20 46.1**	**+0.5**
STG5	**El Palmar, Qui**	**1.80**	**299**	*e*P	**Pn**	**18 20 34.5**	**+1.3**
STG0	**El Palmar, Qui**	**1.81**	**300**	*e*P	**Pn**	**18 20 34.8**	**+1.4**
CNCH	**Conchagua**	**1.85**	**98**	S	**Sn**	**18 20 56.7**	**+0.2**
POTN	**Potosi Cosigui**	**2.22**	**104**	S	**Sn**	**18 21 06.6**	**+1.4**

*IDC **21** 18:31:26.2±2.5, 19°.03S×174°.15W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=95.2km s-min=33.5km az=141.0*
ISC 21 18:31:34.0±2.7, 18°.9S±0°.6×174°.3W±0°.5, h50km, n9, σ0§53/6, mb4.1/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.27**	**255**	P	**P**	**18 40 10.9**	**+0.5**
	1.8nm,0.5s,baz=96,slow=7.8,SNR=50						
	1.8nm,0.5s						
WRA	**Warramunga Arr**	**48.27**	**260**	P	**P**	**18 40 10.2**	**-0.3**
	1.2nm,0.3s,baz=97,slow=8.0,SNR=12						
	1.2nm,0.3s						
MJAR	**Matsushiro Arr**	**71.09**	**321**	P	**P**	**18 42 47.1**	**0.0**
	1.0nm,0.8s,baz=133,slow=10,SNR=6.0						
	1.0nm,0.8s						
H03S2	**Juan Fernandez**	**83.99**	**124**	T	T	20 16 48.7	
	baz=250,slow=75,SNR=7.6						
H03S1	**Juan Fernandez**	**84.00**	**124**	T	T	20 16 50.3	
	baz=250,slow=75,SNR=9.4						
H03S3	**Juan Fernandez**	**84.00**	**124**	T	T	20 16 53.2	
	baz=250,slow=75,SNR=7.3						
ILAR	**Eielson Array**	**86.06**	**11**	P	**P**	**18 44 09.1**	**+0.3**
	0.2nm,0.5s,baz=206,slow=4.9,SNR=7.1						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**115.24**	**318**	PKP	**PKiKP**	**18 50 09.0**	**-0.7**
	0.1nm,0.5s,baz=90,slow=1.9,SNR=2.1						
BVAR	**Borovoye Array**	**120.09**	**321**	PKP	**PKPdf**	**18 50 19.1**	**+0.1**
	0.5nm,0.4s,baz=90,slow=1.4,SNR=5.4						

*PRE **21** 18:33:32.3±1.0, 27°.65S×26°.45E, h2km, ML2.8*
*BUL **21** 18:33:35.4±1.2, 27°.63S×26°.44E, h10km, MD3.5*
*BGSI **21** 18:33:38.7±1.0, 27°.73S×26°.23E, h142km±20km, ML3.3*
ISC 21 18:33:33.9±1.4, 27°.64S±0°.04×26°.45E±0°.04, h17km±10km, n30, σ1§79/58, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**1.43**	**227**	*e*P	**Pb**	**18 34 00.2**	**-0.1**
BOSA				*e*S	**Sn**	**18 34 19.4**	**+1.7**
BOSA				IAML		18 34 22.8	
	comp=Z,202nm,0.4s						
BOSA	**Boshof**	**1.43**	**227**	*i* P	**Pb**	**18 34 01.7**	**+1.4**
BOSA				*i* S	**Sg**	**18 34 18.0**	**-2.3**
WDLM	**Western Deep L**	**1.49**	**36**	*e*P	**Pg**	**18 34 02.0**	**-0.6**
WDLM				*e*S	**Sn**	**18 34 21.7**	**+2.6**
WDLM				IAML		18 34 22.8	
	comp=Z,882nm,0.4s						
HRAO	**HartRAO**	**2.06**	**33**	*e*P	**Pn**	**18 34 09.3**	**+1.5**
HRAO				*e*S	**Sn**	**18 34 34.9**	**+1.7**
HRAO				IAML		18 34 39.5	
	comp=Z,137nm,0.4s						
MAKGR	**Makgori**	**2.34**	**321**	*i* P	**

MOPA eS Sn 18 36 10.3 -1.6
MOPA IAML 18 36 47.5
comp=Z,36nm,0.4s
MOPA Mopani 6.07 49 *i* P **Pn 18 35 04.5 +1.7**
MOPA *i* S **Sn 18 36 08.9 -3.0**
MUSN Musina, Limpop 6.16 31 *eP* **Pn 18 35 04.8 +0.7**
MUSN *eS* **Sn 18 36 13.6 -0.6**
MUSN IAML 18 36 53.4
comp=Z,11nm,0.5s
MUSN Musina, Limpop 6.16 31 *i* P **Pn 18 35 05.9 +1.7**
MUSN *i* S **Sn 18 36 10.8 -3.4**
SUR Sutherland 6.80 225 *eP* **Pn 18 35 14.6 +1.6**
SUR *eS* **Sn 18 36 28.1 -2.1**
SUR IAML 18 36 48.1
comp=Z,18nm,0.3s
BLWY Bulawayo 7.72 15 *i* P **Pn 18 35 25.6 0.0**
BLWY *i* S **Sn 18 36 47.2 -5.5**
KOMG Komaggas 8.16 253 *eP* **Pn 18 35 33.1 +1.5**
KOMG *eS* **Sn 18 37 00.6 -2.8**
KOMG IAML 18 37 36.7
comp=Z,4.3nm,1.5s
AUSN Aus 9.12 274 *eP* **Pn 18 35 46.7 +1.8**
AUSN *eS* **Sn 18 37 24.0 -3.3**

*IDC **21** 18:34:01.7±8.7, 17°.50S×178°.91W, h502km±95km, mb3.2/8, mbtmp4.0/8, Error ellipse: s-maj=45.1km s-min=31.4km az=131.0*
ISC 21 18:34:04.5±1.2, 17°.6S±0°.3×179°.0W±0°.2, h539km, n11, σ0s74/11, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.32**	**241**	P	**P**	**18 40 38.8**	**-0.5**
	1.9nm,0.5s,baz=94,slow=11,SNR=5.4 1.9nm,0.5s						
WRA	**Warramunga Arr**	**44.15**	**259**	P	**P**	**18 41 26.0**	**+0.3**
	0.6nm,0.4s,baz=91,slow=7.5,SNR=7.3 0.6nm,0.4s						
ASAR	**Alice Springs**	**44.35**	**254**	P	**P**	**18 41 28.1**	**+0.8**
	5.8nm,0.4s,baz=92,slow=7.6,SNR=55 5.8nm,0.4s						
MJAR	**Matsushiro Arr**	**67.30**	**324**	P	**P**	**18 44 06.8**	**+1.0**
	0.5nm,0.4s,baz=168,slow=4.9,SNR=4.5 0.5nm,0.4s						
PETK	**Petropavlovsk-**	**73.20**	**346**	P	**P**	**18 44 39.5**	**-1.0**
	1.8nm,0.8s,baz=160,slow=5.6,SNR=6.2 1.8nm,0.8s						
ILAR	**Eielson Array**	**85.67**	**13**	P	**P**	**18 45 45.9**	**0.0**
	0.3nm,0.4s,baz=224,slow=5.1,SNR=8.1 0.3nm,0.4s						
TXAR	**Lajitas Array**	**86.28**	**58**	P	**P**	**18 45 50.2**	**+0.5**
	0.4nm,0.8s,baz=241,slow=4.7,SNR=5.2 0.4nm,0.8s						
PDAR	**Pinedale Array**	**87.48**	**44**	P	**P**	**18 45 55.6**	**+0.3**
	0.3nm,0.6s,baz=176,slow=2.2,SNR=4.6 0.3nm,0.6s						
BVAR	**Borovoye Array**	**116.23**	**321**	PKP	**PKPdf**	**18 51 46.1**	**-0.5**
	0.3nm,0.3s,baz=112,slow=3.8,SNR=2.2						
BRTR	**Keskin Array B**	**144.15**	**315**	PKP	**PKPab**	**18 52 39.0**	**-0.3**
	0.7nm,0.9s,baz=35,slow=5.3,SNR=2.8						
GERES	**GERESS Array B**	**147.13**	**344**	PKPbc	**PKiKP**	**18 52 48.1**	**-0.9**
	0.5nm,0.4s,baz=14,slow=3.3,SNR=6.7						

*IDC **21** 18:47:57.6±3.6, 21°.98N×145°.53E, h116km±30km, mb3.3/10, mbtmp3.7/12, Error ellipse: s-maj=38.2km s-min=16.8km az=83.0*
ISC 21 18:47:56.2±1.1, 22°.0N±0°.1×145°.5E±0°.3, h100km, n12, σ1s54/14, mb3.6/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.91**	**330**	P	**Pn**	**18 49 22.9**	**+1.6**
	20nm,0.3s,baz=217,slow=20,SNR=22						
JCJ				S	**Sn**	**18 50 24.5**	**-3.0**
	22nm,0.3s,baz=291,slow=23,SNR=6.5						
MJAR	**Matsushiro Arr**	**15.82**	**338**	P	**Pn**	**18 51 34.8**	**+1.6**
	0.9nm,0.7s,baz=161,slow=9.0,SNR=5.3						
KSRS	**Korea Array**	**21.63**	**319**	P	**P**	**18 52 40.0**	**+1.8**
	2.8nm,0.7s,baz=144,slow=8.6,SNR=43 2.8nm,0.7s						
SONM	**Songino Array**	**40.50**	**319**	P	**P**	**18 55 25.1**	**-0.3**
	0.3nm,0.5s,baz=123,slow=7.9,SNR=2.9 0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.08**	**195**	P	**P**	**18 55 46.0**	**-0.4**
	0.4nm,0.4s,baz=14,slow=8.2,SNR=5.8 0.4nm,0.4s						
ASAR	**Alice Springs**	**46.76**	**195**	P	**P**	**18 56 15.3**	**-0.4**
	0.3nm,0.8s,baz=6.5,slow=7.7,SNR=7.9 0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**55.32**	**321**	P	**P**	**18 57 17.3**	**-2.1**
	0.4nm,0.4s,baz=105,slow=7.8,SNR=2.4 0.4nm,0.4s						
MKAR	**Makanchi Array**	**56.08**	**312**	P	**P**	**18 57 24.0**	**-1.0**
	0.3nm,0.5s,baz=92,slow=8.3,SNR=4.4						
MKAR				PcP	**PcP**	**18 58 22.4**	**+0.4**
	0.3nm,0.5s,baz=104,slow=4.0,SNR=4.4 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**58.78**	**317**	P	**P**	**18 57 43.3**	**-0.5**
	0.8nm,0.5s,baz=92,slow=7.5,SNR=18 0.8nm,0.5s						
ILAR	**Eielson Array**	**60.80**	**27**	P	**P**	**18 57 56.5**	**-1.0**
	0.2nm,0.6s,baz=261,slow=6.7,SNR=5.1 0.2nm,0.6s						
BVAR	**Borovoye Array**	**63.84**	**319**	P	**P**	**18 58 17.7**	**-0.2**
	0.8nm,0.3s,baz=93,slow=7.8,SNR=11 0.8nm,0.3s						
FINES	**FINESS Array B**	**83.83**	**335**	P	**P**	**19 00 15.4**	**+1.1**
	0.4nm,0.4s,baz=56,slow=6.1,SNR=8.1 0.4nm,0.4s						

JMA 21 19:05:07.4±0.3, 24°N±2°×12°3E±°, h34km, MV0.9/6, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.26**	**59**	*eP*	Pn	19 05 14.5	+0.2
JYNG				*eS*	Sb	19 05 19.2	-0.5
IRIF	**Iriomote-Funau**	**0.94**	**89**	*eP*	Pn	19 05 24.2	0.0
IRIF				*eS*	Sn	19 05 36.2	-0.1
HATJ	**Hateruma jima**	**1.04**	**104**	*eP*	Pn	19 05 26.0	+0.4
HATJ				*eS*	Sn	19 05 38.6	-0.3
JKRS	**Kuro-shima**	**1.20**	**94**	*eP*	Pb	19 05 28.6	-0.9

TAP 21 19:06:01.4, 24°.04N×121°.50E, h18km±1km, ML0.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.07**	**184**	*i* P	Pg	19 06 05.0	+0.1
LXIB	**Xiulin Townshi**	**0.08**	**256**	*eP*	Pg	19 06 05.4	+0.2
TWD	**Chiawan**	**0.10**	**66**	*eP*	Pg	19 06 05.2	+0.1
TWD				*eS*	Sg	19 06 07.8	+0.3
NACB	**Ninganchiao**	**0.16**	**33**	S	Sg	19 06 08.5	-0.2
ETLH	**Xiulin Townshi**	**0.17**	**355**	*eP*	Pg	19 06 06.3	+0.3
ETLH				*eS*	Sg	19 06 09.0	-0.1
ESL	**Shilin**	**0.23**	**195**	*eP*	Pg	19 06 06.7	-0.2
ESL				*eS*	Sg	19 06 10.6	-0.1
OWD	**Renai**	**0.31**	**254**	*eP*	Pb	19 06 08.4	-0.1
OWD				*eS*	Sg	19 06 13.0	+0.2
FUSS	**Fushou**	**0.31**	**311**	*eP*	Pb	19 06 09.0	+0.4
FUSS				*i* S	Sb	19 06 13.8	+0.4
WARBT	**Fenglin Townsh**	**0.34**	**198**	*eP*	Pg	19 06 08.3	-0.3
WARBT				*eS*	Sg	19 06 13.1	-0.4
WUSB	**Renai**	**0.35**	**262**	P	Pb	19 06 09.6	+0.3

*DJA **21** 19:37:21.9±0.3, 0°.S±3°×12°3E±°, h123km±6km, M4.2/18, mB4.7/1, mb4.2/9, MLv4.1/18, Mw(mB)3.9/1*
*IDC **21** 19:37:24.1±4.8, 0°.01N×123°.38E, h179km±47km, mb3.5/13, mbtmp4.0/14, Error ellipse: s-maj=25.3km s-min=11.6km az=75.0*
ISC 21 19:37:21.5±0.6, 0°.08S±0°.05×123°.36E±0°.05, h157km, n31, σ1s67/36, mb3.8/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.89**	**44**	P	**Pn**	**19 37 44.9**	**-1.2**
LUWI	**Luwuk**	**1.13**	**212**	P	**Pn**	**19 37 45.8**	**-2.3**
LUWI				S	**Sn**	**19 38 04.4**	**-4.0**
MRSI	**Marisa**	**1.52**	**291**	P	**Pn**	**19 37 49.3**	**-2.6**
APSI	**Ampana**	**1.91**	**244**	S	**Sn**	**19 38 18.9**	**-3.6**
SANI	**Sanana**	**3.28**	**127**	P	**Pn**	**19 38 10.0**	**-2.7**
MPSI	**Mapaga**	**3.49**	**277**	P	**Pn**	**19 38 15.0**	**-0.4**
PCI	**Palu**	**3.62**	**257**	P	**Pn**	**19 38 16.8**	**-0.3**
TNTI	**Ternate**	**4.09**	**78**	P	**Pn**	**19 38 22.2**	**-1.0**
NLAI	**Namlea**	**4.88**	**130**	P	**Pn**	**19 38 33.5**	**0.0**
NLAI				S	**Sn**	**19 39 27.2**	**-2.5**
SPSI	**Sidrap Palu**	**5.28**	**223**	P	**Pn**	**19 38 38.0**	**-0.7**
	0.1nm15nm,1.0s						
SPSI				S	**Sn**	**19 39 39.0**	**-0.1**
	0.1nm15nm,1.0s						
BNSI	**Bone**	**5.39**	**217**	P	**Pn**	**19 38 41.7**	**+1.5**
	0.1nm19nm,0.6s						
BBSI	**Bau Bau**	**5.43**	**188**	P	**Pn**	**19 38 40.2**	**-0.6**
	0.1nm29nm,1.0s						
AAI	**Ambon**	**6.01**	**127**	P	**Pn**	**19 38 49.1**	**+0.6**
BKSI	**Bulukumba**	**6.13**	**212**	P	**Pn**	**19 38 50.7**	**+0.6**
	0.1nm14nm,0.9s						
MSAI	**Masohi**	**6.44**	**120**	P	**Pn**	**19 38 54.8**	**+0.6**
	33nm,0.7s						
TGY	**Tagaytay City**	**14.29**	**350**	P	**P**	**19 40 41.2**	**+1.7**
	97nm,0.3s,baz=167,slow=14,SNR=3.6						
FITZ	**Fitzroy Crossi**	**18.05**	**173**	P	**Pn**	**19 41 22.1**	**-0.5**
	1.9nm,0.7s,baz=1.6,slow=8.8,SNR=15						
WRA	**Warramunga Arr**	**22.48**	**152**	P	**P**	**19 42 08.7**	**+0.6**
	1.2nm,0.7s,baz=331,slow=9.7,SNR=13 1.2nm,0.7s						
ASAR	**Alice Springs**	**25.59**	**157**	P	**P**	**19 42 38.3**	**+2.0**
	0.2nm,0.4s,baz=347,slow=12,SNR=8.8						
ASAR				PcP	**PcP**	**19 46 04.0**	**+0.6**
	0.4nm,0.4s,baz=347,slow=2.3,SNR=8.7 0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.25**	**309**	P	**P**	**19 43 19.1**	**+1.3**
	1.2nm,0.7s,baz=123,slow=7.9,SNR=15 1.2nm,0.7s						
KSRS	**Korea Array**	**37.58**	**6**	P	**P**	**19 44 22.3**	**+1.5**
	0.6nm,0.6s,baz=180,slow=9.3,SNR=6.9 0.6nm,0.6s						
MJAR	**Matsushiro Arr**	**38.95**	**19**	P	**P**	**19 44 31.0**	**-1.4**
	2.4nm,0.7s,baz=189,slow=9.3,SNR=15 2.4nm,0.7s						
GTA	**Gaotai**	**44.82**	**334**	*eP*	**P**	**19 45 22.6**	**+2.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ASAJ	**Asahikawa**	**47.22**	**19**	P	**P**	**19 45 38.9**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=169,slow=10,SNR=6.2 comp=Z,4.6nm,0.8s						
SONM	**Songino Array**	**49.95**	**345**	P	**P**	**19 45 59.9**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=163,slow=9.2,SNR=12 comp=Z,1.4nm,0.7s						
MKAR	**Makanchi Array**	**58.87**	**328**	P	**P**	**19 47 03.4**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=120,slow=9.1,SNR=15						
MKAR				PcP	**PcP**	**19 47 50.0**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=131,slow=4.0,SNR=5.1 comp=Z,0.5nm,0.4s						
YAK	**Yakutsk**	**62.13**	**3**	P	**P**	**19 47 24.9**	**-0.7**
	comp=Z,7.1nm,0.5s,baz=207,slow=1.8,SNR=4.8 comp=Z,7.1nm,0.5s						
ZALV	**Zalesovo Beam**	**62.53**	**335**	P	**P**	**19 47 27.1**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=136,slow=7.0,SNR=2.6 comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**63.21**	**330**	P	**P**	**19 47 31.8**	**-1.2**
	comp=Z,3.4nm,0.2s,baz=134,slow=5.3,SNR=1.8 comp=Z,3.4nm,0.2s						
BVAR	**Borovoye Array**	**68.73**	**329**	P	**P**	**19 48 06.6**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=146,slow=8.0,SNR=2.4 comp=Z,0.2nm,0.5s						
QSPA	**South Pole Qui**	**89.86**	**180**	P	**P**	**19 50 03.3**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=229,slow=1.8,SNR=7.2 comp=Z,0.4nm,0.4s						

KRSC 21 19:57:33.7±1.8, 48°.88N×157°.28E, h17km±25km, MI3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.95**	**338**	*eP*	Pn	19 58 05.8	-0.2
PAU	**Pauzhetka**	**2.60**	**354**	*eP*	Pn	19 58 17.1	+2.1
PAU				*eS*	Sn	19 58 48.4	+2.2
KDTR	**Khodutka, Kamc**	**2.97**	**10**	*eP*	Pn	19 58 23.0	+3.0
KDTR				*eS*	Sb	19 58 58.9	-3.2
RUS	**Russkaya**	**3.64**	**12**	*eP*	Pn	19 58 32.3	+3.1
RUS				*eS*	Sn	19 59 15.6	+4.0
MTVR	**Mutnovka**	**3.65**	**9**	*eP*	Pn	19 58 33.1	+3.6
MTVR				*eS*	Sb	19 59 17.0	-4.8
GRL	**Gorelyy**	**3.71**	**7**	*eP*	Pn	19 58 34.1	+3.9
KRMR	**Karymshinskiy**	**3.99**	**7**	*eP*	Pn	19 58 38.3	+4.3
APC	**Apacha**	**4.05**	**359**	*eP*	Pn	19 58 38.7	+3.9
DALK	**Dalny**	**4.26**	**12**	*eP*	Pn	19 58 41.9	+4.3
UGLR	**Uglovaya**	**4.44**	**12**	*eP*	Pn	19 58 44.6	+4.3
AVH	**Avacha**	**4.48**	**11**	*eP*	Pn	19 58 46.2	+5.3
KOK	**Koryaka**	**4.50**	**10**	*eP*	Pn	19 58 46.1	+5.1
SDLR	**Sedlovina**	**4.51**	**12**	*eP*	Pn	19 58 45.2	+3.9
KRX	**Arik**	**4.56**	**10**	*eP*	Pn	19 58 47.0	+5.0
KII	**Karymskiy**	**5.33**	**14**	*eP*	Pn	19 58 58.1	+5.5
MKZ	**Mys Kozlova**	**6.32**	**24**	*eP*	Pn	19 59 10.0	+4.1

*IDC **21** 20:13:21.4±0.8, 54°.89N×164°.63E, h0km, mb3.7/16, mbtmp3.8/18, ML2.9/2, MS2.7/4, Error ellipse: s-maj=23.1km s-min=14.9km az=145.0*
*KRSC **21** 20:13:22.6±1.2, 54°.73N×164°.70E, h47km±24km, Ml4.0*
ISC 21 20:13:23.8±2.0, 54°.77N±0°.05×164°.72E±0°.06, h17km±13km, n56, σ1s18/62, mb3.8/16, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.84**	**59**	*eP*	**Pg**	**20 13 39.9**	**-0.2**
BKI				*eS*	**Sb**	**20 13 51.6**	**+0.6**
MKZ	**Mys Kozlova**	**1.75**	**264**	*eP*	**Pn**	**20 13 52.3**	**-1.0**
MKZ				*eS*	**Sn**	**20 14 12.6**	**-2.6**
KBTR	**Krutoberegovo**	**1.80**	**324**	*eP*	**Pn**	**20 13 52.1**	**-1.9**
KBTR				*eS*	**Sn**	**20 14 13.8**	**-2.6**
KBG	**Krutoberegovo**	**1.87**	**323**	*eP*	**Pn**	**20 13 53.9**	**-1.1**
KBG				*eS*	**Sn**	**20 14 15.6**	**-2.7**
TUMD	**Tumrok D**	**2.52**	**282**	*eP*	**Pn**	**20 14 03.0**	**-1.0**
TUMD				*eS*	**Sn**	**20 14 31.9**	**-2.5**
ZLN	**Zelenaya**	**2.56**	**301**	*eP*	**Pn**	**20 14 05.2**	**+0.7**
ZLN				*eS*	**Sn**	**20 14 36.0**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.58**	**299**	*eP*	**Pn**	**20 14 05.7**	**+0.9**
BZGR				*eS*	**Sn**	**20 14 36.5**	**+0.7**
SMKR	**Semkarok**	**2.58**	**316**	*eP*	**Pn**	**20 14 05.7**	**+0.8**
SMKR				*eS*	**Sn**	**20 14 37.3**	**+1.4**
CIRR	**Tsirk**	**2.63**	**302**	*eP*	**Pn**	**20 14 05.0**	**-0.6**
CIRR				*eS*	**Sn**	**20 14 38.1**	**+0.9**
LGNR	**Loginova**	**2.64**	**301**	*eS*	**Sn**	**20 14 39.3**	**+1.6**
BZMR	**Bezymyannaya**	**2.68**	**297**	*eP*	**Pn**	**20 14 07.1**	**+0.8**
BZWR	**Bezymyannyi-We**	**2.69**	**298**	*eP*	**Pn**	**20 14 07.2**	**+0.8**
KMNR	**Kamenistaya**	**2.75**	**293**	*eP*	**Pn**	**20 14 07.5**	**+0.4**
KIRR	**Kirishev**	**2.76**	**297**	*eP*	**Pn**	**20 14 08.1**	**+0.7**
KIRR				*eS*	**Sn**	**20 14 42.3**	**+1.9**
KRSR	**Krestovskiy**	**2.77**	**303**	*eP*	**Pn**	**20 14 07.7**	**+0.3**
KRSR				*eS*	**Sn**	**20 14 41.4**	**+0.8**
KPT	**Kopyto**	**2.83**	**297**	*eP*	**Pn**	**20 14 09.3**	**+1.0**
KPT				*eS*	**Sn**	**20 14 44.7**	**+2.7**
KII	**Karymskiy**	**3.17**	**259**	*eP*	**Pn**	**20 14 13.0**	**+0.1**
ESO	**Esso**	**3.62**	**291**	*eP*	**Pn**	**20 14 19.2**	**+0.1**
SDLR	**Sedlovina**	**3.75**	**249**	*eP*	**Pn**	**20 14 21.6**	**+0.6**
SDLR				*eS*	**Sn**	**20 15 03.0**	**-1.8**
UGLR	**Uglovaya**	**3.81**	**248**	*eP*	**Pn**	**20 14 22.8**	**+1.0**
AVH	**Avacha**	**3.84**	**249**	*eP*	**Pn**	**20 14 23.0**	**+0.9**
KRX	**Arik**	**3.85**	**251**	*eP*	**Pn**	**20 14 22.9**	**+0.6**
KOK	**Koryaka**	**3.88**	**250**	*eP*	**Pn**	**20 14 23.4**	**+0.7**
GNL	**Ganaly**	**4.12**	**258**	*eP*	**Pn**	**20 14 25.8**	**-0.2**
KRMR	**Karymshinskiy**	**4.36**	**246**	*eP*	**Pn**	**20 14 29.9**	**+0.6**
RUS	**Russkaya**	**4.38**	**240**	*eP*	**Pn**	**20 14 29.2**	**-0.3**
PETK	**Petropavlovsk-**	**4.47**	**251**	Pn	**Pn**	**20 14 30.4**	**-0.3**
	1.2nm,0.3s,baz=68,slow=16,SNR=13						
PETK				Sn	**Sn**	**20 15 19.9**	**-2.4**
	1.5nm,0.3s,baz=69,slow=33,SNR=5.7						
PETK				LR	LR	20 16 27.4	
	comp=Z,53nm,20.2s,baz=78,slow=42 2.5nm,0.5s						
MTVR	**Mutnovka**	**4.52**	**242**	*eP*	**Pn**	**20 14 31.9**	**+0.4**
GRL	**Gorelyy**	**4.54**	**243**	*eP*	**Pn**	**20 14 32.5**	**+0.7**
KDTR	**Khodutka, Kamc**	**4.97**	**236**	*eP*	**Pn**	**20 14 38.4**	**+0.8**
MA2	**Magadan**	**8.97**	**308**	LR	LR	20 19 20.7	
	comp=Z,29nm,18.2s,baz=104,slow=40						
ASAJ	**Asahikawa**	**17.82**	**242**	P	**P**	**20 17 32.1**	**+0.6**
	0.1nm,0.3s,baz=344,slow=7.4,SNR=4.3 4.6nm,0.8s						
ILAR	**Eielson Array**	**25.67**	**48**	P	**P**	**20 18 51.5**	**-1.0**
	2.5nm,0.9s,baz=262,slow=8.6,SNR=20 2.5nm,0.9s						
MJAR	**Matsushiro Arr**	**25.75**	**236**	P	**P**	**20 18 52.7**	**-0.7**
	0.3nm,0.5s,baz=30,slow=11,SNR=4.0						
	0.3nm,0.5s						
KSRS	**Korea Array**	**30.37**	**251**	P	**P**	**20 19 36.1**	**+1.5**
	0.4nm,0.8s,baz=36,slow=9.0,SNR=4.6						
KSRS				LR	LR	20 31 29.1	
	comp=Z,9.4nm,18.1s,baz=215,slow=36 0.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.02**	**176**	T	T	20 58 44.3	
	baz=359,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.04**	**176**	T	T	20 58 45.7	
	baz=359,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.04**	**176**	T	T	20 58 44.9	
	baz=359,slow=76						
H11S1	**WAKE ISLAND Hy**	**36.23**	**177**	T	T	21 00 15.2	
	baz=359,slow=74						
H11S3	**WAKE ISLAND Hy**	**36.24**	**177**	T	T	21 00 16.7	
	baz=359,slow=74						
H11S2	**WAKE ISLAND Hy**	**36.25**	**177**	T	T	21 00 18.9	
	baz=359						
YKA	**Yellowknife Ar**	**40.05**	**45**	P	**P**	**20 20 57.9**	**+0.3**
	0.5nm,0.7s,baz=300,slow=7.9,SNR=9.4 0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**49.24**	**303**	P	**P**	**20 22 10.4**	**-0.5**
	0.6nm,0.7s,baz=57,slow=8.1,SNR=8.1 0.6nm,0.7s						
MKAR	**Makanchi Array**	**49.86**	**297**	P	**P**	**20 22 15.1**	**-0.7**
	0.6nm,0.7s,baz=58,slow=7.2,SNR=7.4 0.6nm,0.7s						
BVAR	**Borovoye Array**	**51.45**	**310**	P	**P**	**20 22 26.8**	**-0.9**
	0.7nm,0.7s,baz=57,slow=8.7,SNR=5.4 0.7nm,0.7s						
FINES	**FINESS Array B**	**59.61**	**338**	P	**P**	**20 23 24.9**	**-1.2**
	2.9nm,1.0s,baz=53,slow=10,SNR=3.9 2.9nm,1.0s						
BORG	**Borgarnes**	**60.72**	**3**	LR	LR	20 49 39.9	
	comp=Z,15nm,20.0s,baz=343,slow=36						
NB2	**NORSAR Subarra**	**62.64**	**346**	P	**P**	**20 23 47.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**62.64**	**346**	P	**P**	**20 23 46.6**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=17,slow=6.8,SNR=5.2 comp=Z,0.6nm,0.7s						
HFS	**Hagfors**	**63.13**	**344**	P	**P**	**20 23 49.6**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=79,slow=8.0,SNR=6.5 comp=Z,1.4nm,0.7s						
TXAR	**Lajitas Array**	**67.48**	**71**	P	**P**	**20 24 19.4**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=300,slow=4.8,SNR=14 comp=Z,1.1nm,0.6s						
KBZ	**Khabaz**	**70.12**	**319**	P	**P**	**20 24 34.1**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=124,slow=7.3,SNR=4.3 comp=Z,1.5nm,0.9s						
GERES	**GERESS Array B**	**73.91**	**341**	P	**P**	**20 24 57.7**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=28,slow=6.0,SNR=4.2 comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**78.82**	**209**	P	**P**	**20 25 25.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=9.7,slow=5.2,SNR=3.0 comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**82.48**	**208**	P	**P**	**20 25 46.0**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=14,slow=4.9,SNR=11 comp=Z,0.7nm,0.8s						
ESDC	**Sonseca Array**	**85.42**	**351**	P	**P**	**20 26 00.6**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=359,slow=3.7,SNR=4.3 comp=Z,0.6nm,0.7s						

*TAP **21** 20:33:37.0, 22°.97N×120°.83E, h4km, ML2.4, C*
ISC 21 20:33:37.5±0.9, 22°.97N±0°.01×120°.82E±0°.01, h6km±8km, n95, σ0s80/181, 6C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.20**	**342**	⇑*i* P	**Pg**	**20 33 40.7**	**-0.9**
STYT				*i* S	**Sg**	**20 33 43.7**	**-0.7**
STYH	**Taoyuan**	**0.20**	**347**	⇑*i* P	**Pg**	**20 33 40.7**	**-0.9**
STYH				*i* S	**Sg**	**20 33 43.7**	**-0.7**
SGST	**Jiashian**	**0.25**	**297**	*i* P	**Pg**	**20 33 42.2**	**-0.2**
SGST				S	**Sg**	**20 33 46.5**	**+0.8**
TWG	**Pinlang**	**0.27**	**123**	*i* P	**Pg**	**20 33 43.4**	**+0.5**
TWG				*i* S	**Sg**	**20 33 47.5**	**+1.0**
TWGBT	**Beinan**	**0.28**	**123**	P	**Pg**	**20 33 43.3**	**+0.3**
TWGBT	**Beinan**	**0.28**	**123**	S	**Sg**	**20 33 47.6**	**+0.9**
TWGBT	**Beinan**	**0.28**	**123**	*i* P	**Pg**	**20 33 43.4**	**+0.3**
TWGBT				S	**Sg**	**20 33 47.6**	**+0.8**
ELDTW	**Lidau**	**0.28**	**39**	⇑*i* P	**Pg**	**20 33 43.0**	**-0.2**
ELDTW				S	**Sg**	**20 33 47.3**	**+0.4**
SSD	**Sandimen**	**0.28**	**219**	⇑*i* P	**Pg**	**20 33 43.2**	**+0.1**
SSD				*i* S	**Sg**	**20 33 46.7**	**-0.2**
LONT	**Longtian**	**0.29**	**102**	*i* P	**Pg**	**20 33 43.6**	**+0.4**
LONT				*i* S	**Sg**	**20 33 47.8**	**+0.7**
TSMG	**Majia**	**0.31**	**212**	*i* P	**Pg**	**20 33 43.2**	**-0.4**
TSMG				*i* S	**Sg**	**20 33 47.1**	**-0.6**
SCST	**Cishan**	**0.32**	**255**	*i* P	**Pb**	**20 33 44.7**	**-0.9**
SCST				S	**Sb**	**20 33 50.3**	**-0.7**
WTP	**Ta-pu**	**0.34**	**325**	*i* P	**Pg**	**20 33 45.0**	**+0.8**
WTP				*i* S	**Sb**	**20 33 50.3**	**-1.4**
CHN1	**Nanshi**	**0.35**	**308**	*i* P	**Pb**	**20 33 45.4**	**-0.8**
CHN1				*i* S	**Sb**	**20 33 52.0**	**0.0**
TTN	**Taitung**	**0.37**	**126**	*i* P	**Pb**	**20 33 46.8**	**+0.3**
TTN				*i* S	**Sb**	**20 33 52.4**	**-0.1**
TPUB	**Ta-pu**	**0.38**	**332**	P	**Pg**	**20 33 45.5**	**+0.6**
TPUB	**Ta-pu**	**0.38**	**332**	P	**

EHY			*i* S		Sg	20 34 00.6	+0.4
EHYH	**Wanrong**	0.71	42 *i* P		Pg	20 33 50.9	-0.3
EHYH			*e*S		Sg	20 34 00.2	-0.2
WHYT	**Xinyi Township**	0.72	2 *i* P		Pg	20 33 51.9	+0.4
WHYT			*e*S		Sb	20 34 02.7	-0.2
SLIU	**Shizi**	0.75	182 *i* P		Pg	20 33 51.8	-0.1
SLIU			*e*S		Sb	20 34 02.7	-0.9
WGK	**Gukeng**	0.75	341 *i* P		Pb	20 33 53.7	+0.6
WGK			*e*S		Sn	20 34 05.6	-0.9
HGSD	**Ruisui**	0.76	47 *i* P		Pb	20 33 52.7	-0.5
HGSD			*i* S		Sb	20 34 03.8	0.0
WDLH	**Douliu**	0.76	340 *i* P		Pb	20 33 54.0	+0.7
WDLH			*i* S		Sn	20 34 06.3	-0.4
WSL	**Shuilin Townsh**	0.78	315 *i* P		Pn	20 33 54.3	-0.8
WSL			*i* S		Sn	20 34 06.3	-0.8
WTK	**Tuku**	0.82	331 *i* P		Pb	20 33 54.7	+0.4
WTK			S		Sn	20 34 07.7	-0.4
SSLB	**Suanglung**	0.82	8 P		Pg	20 33 53.0	-0.4
SSLB	**Suanglung**	0.82	8 *i* P		Pg	20 33 53.0	-0.4
SSLB			*e*S		Sb	20 34 05.4	-0.3
WJS	**Zhushan**	0.85	354 *i* P		Pb	20 33 55.1	+0.3
WJS			*e*S		Sn	20 34 08.4	-0.6
WSF	**Szhu**	0.87	320 *i* P		Pn	20 33 55.7	-0.6
WSF			*i* S		Sn	20 34 09.3	0.0
WARBT	**Fenglin Townsh**	0.91	35 *i* P		Pg	20 33 54.0	-1.0
WARBT			S		Sb	20 34 08.7	+0.6
SMLT	**Sun Moon Lake**	0.91	4 *i* P		Pg	20 33 54.3	-0.8
SMLT			*i* S		Sn	20 34 10.1	-0.5
WNT	**Mingjian**	0.91	352 *i* P		Pb	20 33 56.1	+0.2
WNT			S		Sn	20 34 10.6	+0.1
TYC	**Yuchr**	0.93	2 *i* P		Pb	20 33 56.1	0.0
TYC			*i* S		Sn	20 34 11.2	+0.4
HEN	**Hengchun**	0.96	185 P		Pb	20 33 57.0	+0.3
HEN			*e*S		Sn	20 34 10.8	-0.9
TWK1	**Hengchun**	1.02	181 P		Pn	20 33 58.1	-0.3
TWK1			*e*S		Sn	20 34 13.2	+0.1
TWKBT	**Hengchun**	1.02	181 *i* P		Pn	20 33 58.0	-0.4
TWKBT			*e*S		Sn	20 34 12.6	-0.6
OWD	**Renai**	1.03	18 *i* P		Pg	20 33 56.7	-0.7
OWD			S		Sn	20 34 13.0	-0.6
WUSB	**Renai**	1.05	15 *i* P		Pg	20 33 56.7	-1.1
WUSB			*e*S		Sn	20 34 13.2	-0.9
SHUL	**Shoufeng**	1.06	40 *i* P		Pg	20 33 57.8	-0.1
SHUL			*e*S		Sn	20 34 15.3	+1.2
WCS	**Beigang Elemen**	1.09	4 *i* P		Pg	20 33 58.4	0.0
WCS			S		Sn	20 34 14.7	-0.1
WDGT	**Dungji**	1.11	285 *i* P		Pb	20 33 58.9	-0.2
WDGT			S		Sb	20 34 13.9	0.0
LAY	**Lan-yu**	1.14	144 *e*P		Pg	20 33 59.0	-0.5
LAY			*e*S		Sb	20 34 14.9	0.0
ETM	**Tongmen**	1.17	32 *i* P		Pg	20 33 59.2	-0.8
ETM			S		Sn	20 34 16.6	-0.2
LXIB	**Xiulin Townshi**	1.18	27 *i* P		Pg	20 33 58.5	-1.7
LXIB			S		Sn	20 34 17.1	-0.2
TCU	**Taichung**	1.18	353 *i* P		Pn	20 34 01.6	+1.0
TCU			*e*S		Sn	20 34 18.4	+1.3
HWA	**Hwalien**	1.23	35 P		Pn	20 34 01.3	-0.1
HWA			*e*S		Sn	20 34 19.8	+1.5
WHF	**Hehuan Shan**	1.24	19 *i* P		Pg	20 34 00.4	-1.0
WHF			S		Sn	20 34 20.8	+1.7
PHUB	**P'eng-hu**	1.27	295 P		Pn	20 34 01.4	-0.5
PHUB			*e*S		Sn	20 34 19.1	-0.2
VCHM	**Qimei**	1.31	281 P		Pn	20 34 01.7	-0.6
VCHM			*e*S		Sn	20 34 20.5	+0.4
WHP	**Taichung City**	1.31	5 *i* P		Pg	20 34 03.2	+0.5
WHP			*i* S		Sn	20 34 22.0	+1.6
TWD	**Chiawan**	1.31	33 P		Pn	20 34 01.8	-0.6
TWD			S		Sn	20 34 20.3	-0.3
TDCB	**Techi**	1.31	13 *i* P		Pn	20 34 01.9	-0.8
TDCB			S		Sn	20 34 22.7	+2.1
TWT	**Tachien**	1.32	14 *i* P		Pb	20 34 03.0	+0.1
TWT			S		Sn	20 34 22.2	+1.5
FUSS	**Fushou**	1.33	17 *i* P		Pn	20 34 01.9	-1.1
FUSS			*e*S		Sn	20 34 21.9	+0.8
ETLH	**Xiulin Townshi**	1.37	26 *i* P		Pn	20 34 02.7	-0.7
ETLH			S		Sn	20 34 22.0	+0.1
TWQ1	**Liyutan**	1.37	358 *i* P		Pg	20 34 03.8	-0.2
TWQ1			S		Sn	20 34 23.4	+1.5
NACB	**Ninganchiao**	1.39	30 P		Pn	20 34 03.5	-0.1
NACB	**Ninganchiao**	1.39	30 *i* P		Pn	20 34 02.9	-0.7
NACB			*e*S		Sn	20 34 23.6	+1.3
NNSB	**Datong**	1.54	19 *i* P		Pn	20 34 05.8	+0.1
NNSB			S		Sg	20 34 29.2	+2.1
NNS	**Nan Shan**	1.55	19 *i* P		Pb	20 34 06.8	+0.1
NNS			*e*S		Sg	20 34 29.7	+2.4
YHNB	**Yeheng**	1.77	17 P		Pg	20 34 11.0	-0.4

*IDC **21** 20:45:16.1±0.7, 36°.84N×129°.77E, h0km, mb3.7/12, mbtmp3.7/15, ML3.0/3, MS3.6/2, Error ellipse: s-maj=20.0km s-min=14.7km az=41.0*
*JMA **21** 20:45:18.1±0.2, 36°.9N±1.0×130°.0E±0°.8, h23km, MV3.7/23, S KOREAN PENINSULA REG*
*NIED **21** 20:45:18.1, 36°.86N×129°.98E, h23km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr4.17; Mθθ-0.14; Mφφ-4.03; Mrθ0.06; Mφθ-0.27; Mφr-0.04; Fault plane solution: Mo4.11000×10^14 NP1:φs5.00000°, δ45.00000°, λ,91.00000°. NP2:φs183.00000°, δ45.00000°, λ,89.00000°.*
*KMA **21** 20:45:19.3±0.3, 36°.86N×129°.80E, h21km±2km Error ellipse: s-maj=2.6km s-min=1.5km az=102.0*
*KEA **21** 20:45:24.7, 36°.95N×129°.58E, h18km, ML3.8/3*
ISC 21 20:45:17.5±1.4, 36°.88N±0°.03×129°.88E±0°.04, h11km±9km, n41, σ1°09/59, mb4.0/11, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSULJ	**Uljin**	0.42	245	P		**Pb**	20 45 27.0	+0.1
KSULJ	SNR=7118						
				P		**Pb**	20 45 27.0	+0.1
KSULJ	SNR=7118						
KSULJ				S		**Sg**	20 45 32.3	+1.1
KSULJ				S		**Sg**	20 45 32.3	+1.1
YODB	**Yeongdeok**	0.51	228	P		**Pb**	20 45 28.6	+0.1
YODB	SNR=797						
				P		**Pb**	20 45 28.6	+0.1
YODB	SNR=797						
SUBA	**Subi**	0.54	260	P		**Pb**	20 45 28.9	-0.1
	SNR=698						
IMWB	**Imwonan-gil**	0.56	310	P		**Pb**	20 45 29.6	+0.3
IMWB	SNR=365						
				P		**Pb**	20 45 29.6	+0.3
IMWB	SNR=365						
GGGA	**Ganggu**	0.65	218	P		**Pb**	20 45 30.9	+0.1
	SNR=471						
YEYB	**Yeongyang**	0.68	249	P		**Pb**	20 45 31.5	+0.1
YEYB	SNR=932						
				P		**Pb**	20 45 31.5	+0.1
YEYB	SNR=932						
YEYB				S		**Sg**	20 45 40.2	+0.4
YEYB				S		**Sg**	20 45 40.2	+0.4
CHYB	**Chungyang**	0.78	275	P		**Pb**	20 45 33.2	+0.1
	SNR=990						
SNGB	**Singi**	0.79	307	P		**Pb**	20 45 33.4	+0.2
SNGB	SNR=1277						
				P		**Pb**	20 45 33.4	+0.2
SNGB	SNR=1277						
KSPHA	**Pohang**	0.80	211	P		**Pb**	20 45 33.6	+0.2
	SNR=422						
KSPHA				P		**Pb**	20 45 33.6	+0.2
KSPHA	SNR=422						
KSRS	**Korea Array**	1.67	291	Pn		**Pn**	20 45 46.8	+0.1
	44nm,0.3s,baz=110,slow=18,SNR=143						
KSRS				Sn		**Sn**	20 46 08.7	+0.7
	186nm,0.3s,baz=112,slow=35,SNR=15						
JHGM	**Hagimishima**	2.33	154	P		**Pn**	20 45 55.8	+0.1
JHGM				S		**Sn**	20 46 23.0	-1.3
JTU	**Tsushima**	2.38	190	P		**Pn**	20 45 56.7	+0.2
JTSM	**Tsushimamitsus**	2.56	189	P		**Pn**	20 45 59.6	+0.6
JISK	**Izumosakaura**	2.77	119	S		**Sn**	20 46 33.3	-1.9
JOI	**OKI**	2.77	101	*e*P		**Pn**	20 46 01.6	-0.2
JTY	**Toyota**	2.78	159	*i* P		**Pn**	20 46 01.8	-0.2
JGT2	**ShimaneMisato**	2.80	130	P		**Pn**	20 46 01.6	-0.6
JGT2				S		**Sn**	20 46 34.7	-1.2
WOSN	**Wonsan**	3.00	320	Pg		**Pg**	20 46 15.1	+0.2
WOSN				Sg		**Sg**	20 46 53.2	-0.6
WOSN				AML	AML		
	comp=N,198nm,0.5s						
WOSN				AML	AML		
	comp=E,257nm,0.4s						
WOSN				AML	AML		
	comp=Z,225nm,0.7s						
JHT	**Toyohira**	3.03	136	P		**Pn**	20 46 05.1	-0.3
JHT				S		**Sn**	20 46 40.1	-1.6
JHS	**Saijyo**	3.23	125	P		**Pn**	20 46 08.0	-0.2
HJU	**Haeju**	3.50	291	Sg		**Sg**	20 47 07.6	-2.4
JNU	**Nakatsue**	3.84	167	Pn		**Pn**	20 46 17.9	+1.3
	comp=Z,1.8nm,0.3s,baz=54,slow=3.7,SNR=11						
JNU				Sn		**Sn**	20 46 59.6	-2.0
	comp=Z,2.5nm,0.3s,baz=84,slow=5.5,SNR=4.4						
	comp=Z,4.9nm,0.3s						
PYAG	**Pyongyang**	3.91	305	Pg		**Pg**	20 46 31.6	-0.8
PYAG				Sg		**Sg**	20 47 20.3	-2.9
PYAG				AML	AML		
	comp=N,426nm,0.9s						
PYAG				AML	AML		
	comp=E,302nm,0.6s						
PYAG				AML	AML		
	comp=Z,197nm,0.8s						
PYS	**Pyongsong**	3.96	308	Pg		**Pg**	20 46 32.4	-1.0
PYS				Sg		**Sg**	20 47 21.7	-3.0
PYS				AML	AML		
	comp=N,595nm,0.8s						
PYS				AML	AML		
	comp=E,757nm,0.8s						
PYS				AML	AML		
	comp=Z,488nm,0.9s						
JTO	**Tosashimizu**	4.67	148	P		**Pn**	20 46 28.9	+0.9
JTO				*e*S		**Sn**	20 47 21.4	-0.9
MJAR	**Matsushiro Arr**	6.70	90	Pn		**Pn**	20 46 58.5	+2.7
	comp=Z,0.1nm,0.3s,baz=281,slow=13,SNR=4.7						
	comp=Z,1.1nm,0.7s						
USRK	**Ussuriysk Ar.**	7.49	12	Pn		**Pn**	20 47 08.8	+2.1
	comp=Z,0.6nm,0.3s,baz=205,slow=12,SNR=6.4						
	comp=Z,2.2nm,0.4s						
SONM	**Songino Array**	20.44	310	P		**P**	20 49 55.9	+1.0
	comp=Z,1.8nm,0.7s,baz=122,slow=12,SNR=13						
	comp=Z,1.8nm,0.7s						
SEY	**Seymchan**	29.52	21	LR		LR	21 02 57.2	
	comp=Z,33nm,18.3s,baz=162,slow=36						
MKAR	**Makanchi Array**	36.32	301	P		**P**	20 52 20.9	-0.3
	comp=Z,0.5nm,0.7s,baz=94,slow=8.8,SNR=4.3						
	comp=Z,0.5nm,0.7s						
KURBB	**Kurchatov Arra**	38.77	307	P		**P**	20 52 41.5	-0.4
	comp=Z,0.6nm,0.6s,baz=91,slow=9.1,SNR=4.8						
	comp=Z,0.6nm,0.6s						
BVAR	**Borovoye Array**	43.77	311	P		**P**	20 53 23.2	+0.3
	comp=Z,2.1nm,0.8s,baz=106,slow=11,SNR=8.9						
BVAR				PcP		**PcP**	20 55 09.7	+0.3
	comp=Z,0.6nm,0.5s,baz=101,slow=3.7,SNR=4.4						
	comp=Z,2.1nm,0.8s						
ILAR	**Eielson Array**	54.52	32	P		**P**	20 54 45.0	0.0
	comp=Z,0.2nm,0.8s,baz=224,slow=3.8,SNR=1.4						
	comp=Z,0.2nm,0.8s						
WRA	**Warramunga Arr**	56.67	175	P		**P**	20 55 00.5	-0.4
	comp=Z,1.2nm,0.8s,baz=354,slow=7.7,SNR=6.4						
	comp=Z,1.2nm,0.8s						
ASAR	**Alice Springs**	60.34	176	P		**P**	20 55 26.4	-0.1
	comp=Z,0.5nm,0.9s,baz=3.3,slow=14,SNR=7.2						
	comp=Z,0.5nm,0.9s						
FINES	**FINESS Array B**	64.40	329	P		**P**	20 55 52.6	-0.6
	comp=Z,1.2nm,0.7s,baz=84,slow=7.9,SNR=6.9						
	comp=Z,1.2nm,0.7s						
YKA	**Yellowknife Ar**	68.36	27	P		**P**	20 56 19.2	+0.7
	comp=Z,0.8nm,1.0s,baz=310,slow=6.4,SNR=8.2						
	comp=Z,0.8nm,1.0s						
AKASG	**Malin Array Be**	68.48	318	P		**P**	20 56 18.7	-0.8
	comp=Z,0.7nm,0.5s,baz=56,slow=6.9,SNR=4.1						
	comp=Z,0.7nm,0.5s						
NVAR	**Mina Array Bea**	82.19	47	P		**P**	20 57 40.9	+1.9
	comp=Z,0.6nm,0.5s,baz=309,slow=5.7,SNR=4.4						
	comp=Z,0.6nm,0.5s						
PDAR	**Pinedale Array**	84.03	40	P		**P**	20 57 49.2	+0.8
	comp=Z,0.9nm,0.8s,baz=297,slow=1.0,SNR=7.6						
	comp=Z,0.9nm,0.8s						
URZ	**Urewera**	86.55	145	LR		LR	21 35 29.6	
	comp=Z,95nm,18.1s,baz=334,slow=35						

*TAP **21** 20:45:55.3, 24°.33N×121°.45E, h7km, ML2.7, C*
ISC 21 20:45:55.9±0.9, 24°.34N±0°.01×121°.46E±0°.02, h7km±6km, n88, σ0°63/141, 4C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNSB	**Datong**	0.11	321 *i* P		**Pg**	20 45 58.4	-0.1
NNSB			*i* S		**Sg**	20 46 00.1	-0.1
NNS	**Nan Shan**	0.13	322 ⇓ *i* P		**Pg**	20 45 58.7	0.0
NNS			*i* S		**Sg**	20 46 00.6	-0.1
ETLH	**Xiulin Townshi**	0.13	172 *i* P		**Pg**	20 45 59.0	+0.3
ETLH			*i* S		**Sg**	20 46 01.1	+0.4
LATG	**Datong**	0.20	17 ⇑ *i* P		**Pg**	20 46 00.1	+0.1
LATG			S		**Sg**	20 46 03.4	+0.5
NACB	**Ninganchiao**	0.20	143 P		**Pg**	20 46 00.2	+0.3
NACB	**Ninganchiao**	0.20	143 S		**Sg**	20 46 03.2	+0.5
NACB	**Ninganchiao**	0.20	143 P		**Pg**	20 46 00.3	+0.3
NACB	**Ninganchiao**	0.20	143 S		**Sg**	20 46 03.1	+0.4
NACB	**Ninganchiao**	0.20	143 ⇑ *i* P		**Pg**	20 46 00.3	+0.3
NACB			*i* S		**Sg**	20 46 03.2	+0.5
FUSS	**Fushou**	0.22	245 ⇑ *i* P		**Pg**	20 46 00.2	-0.1
FUSS			S		**Sg**	20 46 03.1	-0.2
ETL	**Fush Village**	0.23	140 P		**Pg**	20 46 01.1	+0.6
ETL			*e*S		**Sg**	20 46 04.6	+1.0
EAHA	**Aohua**	0.25	92 P		**Pg**	20 46 01.1	+0.2
EAHA			S		**Sg**	20 46 04.7	+0.4
WHF	**Hehuan Shan**	0.26	223 ⇑ *i* P		**Pg**	20 46 01.0	-0.2
WHF			*i* S		**Sg**	20 46 04.2	-0.6
ENA	**Nanau**	0.27	71 *i* P		**Pg**	20 46 01.4	+0.1
ENA			S		**Sg**	20 46 05.4	+0.5
TWT	**Tachien**	0.27	252 P		**Pg**	20 46 01.3	-0.1
TWT			S		**Sg**	20 46 05.2	+0.2
TWD	**Chiawan**	0.29	154 *i* P		**Pg**	20 46 02.0	+0.5
TWD			*i* S		**Sg**	20 46 05.6	+0.3
TDCB	**Techi**	0.29	253 P		**Pg**	20 46 01.5	-0.1
TDCB			*i* S		**Sg**	20 46 05.1	-0.4
EWUT	**Wuta**	0.31	70 *i* P		**Pg**	20 46 01.9	-0.1
EWUT			*i* S		**Sg**	20 46 06.0	0.0
ENTT	**Nioudou**	0.32	18 P		**Pg**	20 46 02.4	+0.3
ENTT			*e*S		**Sg**	20 46 06.9	+0.6
LXIB	**Xiulin Townshi**	0.32	188 P		**Pg**	20 46 02.0	-0.2
LXIB			S		**Sg**	20 46 07.0	+0.5
YHNB	**Yeheng**	0.34	347 S		**Sg**	20 46 07.6	+0.5
YHNB	**Yeheng**	0.34	347 P		**Pg**	20 46 03.0	+0.4
YHNB	**Yeheng**	0.34	347 S		**Sg**	20 46 07.4	+0.3
YHNB	**Yeheng**	0.34	347 *i* P		**Pg**	20 46 03.1	+0.6
YHNB			S		**Sg**	20 46 07.5	+0.4
NSK	**Sanguang**	0.35	344 P		**Pg**	20 46 03.2	+0.5
NSK			S		**Sg**	20 46 07.2	-0.1
ETM	**Tongmen**	0.37	176 *e*P		**Pg**	20 46 03.2	+0.1
NDS	**Dongshan**	0.37	38 *i* P		**Pg**	20 46 02.4	-0.8
NDS			*e*S		**Sg**	20 46 07.8	-0.4
HWA	**Hwalien**	0.38	160 *e*P		**Pb**	20 46 04.1	-1.0
HWA			*e*S		**Sg**	20 46 09.4	+1.0
ESAO	**Su ao**	0.42	56 P		**Pg**	20 46 04.1	0.0
ESAO			*e*S		**Sg**	20 46 10.1	+0.5
TWE	**Neicheng**	0.42	26 P		**Pb**	20 46 04.8	-1.0
TWE			S		**Sb**	20 46 11.1	-1.3
NFF	**Wufeng Townshi**	0.43	313 *i* P		**Pg**	20 46 04.8	+0.6
NFF			*i* S		**Sg**	20 46 10.4	+0.6
FUSB	**Fushanzhiwuyua**	0.43	15 P		**Pg**	20 46 04.7	+0.4
FUSB			*i* S		**Sg**	20 46 11.2	+1.1
NWLT	**Wulai**	0.44	5 *e*P		**Pg**	20 46 04.9	+0.5
NWLT			*e*S		**Sg**	20 46 10.9	+0.7
TWC	**Suao**	0.44	53 P		**Pg**	20 46 04.7	+0.1
TWC			S		**Sg**	20 46 10.8	+0.4
OWD	**Renai**	0.46	214 P		**Pg**	20 46 04.2	-0.7
OWD			*e*S		**Sg**	20 46 10.3	-0.7
WUSB	**Renai**	0.47	222 P		**Pg**	20 46 04.6	-0.3
WUSB			S		**Sg**	20 46 10.9	-0.2
WHP	**Taichung City**	0.47	263 P		**Pg**	20 46 05.6	+0.5
WHP			S		**Sg**	20 46 11.6	+0.3
KSHI	**Guanxi Townshi**	0.51	329 *i* P		**Pb**	20 46 07.1	-0.1
KSHI			*e*S		**Sb**	20 46 14.4	-0.4
LIOB	**Emei**	0.51	307 *i* P		**Pb**	20 46 06.7	-0.5
LIOB			*i* S		**Sb**	20 46 13.6	-1.2
NSTT	**Nanjuang**	0.51	305 *i* P		**Pb**	20 46 06.5	-0.7
NSTT			*i* S		**Sb**	20 46 13.4	-1.5
ESL	**Shilin**	0.52	183 P		**Pg**	20 46 06.0	0.0
ESL			*e*S		**Sg**	20 46 13.3	+0.4
SHUL	**Shoufeng**	0.56	170 *e*P		**Pb**	20 46 07.6	-0.4
SHUL			*i* S		**Sb**	20 46 15.7	-0.4
WCS	**Beigang Elemen**	0.57	241 *e*P		**Pg**	20 46 07.3	+0.3
WCS			*e*S		**Sg**	20 46 14.8	+0.4
WARBT	**Fenglin Townsh**	0.62	186 *e*P		**Pg**	20 46 07.3	-0.5
WARBT			*e*S		**Sg**	20 46 16.0	0.0
NHDH	**Xindian Distri**	0.62	5 *e*P		**Pb**	20 46 08.8	-0.4
NHDH			*e*S		**Sb**	20 46 17.3	-0.8
TWQ1	**Liyutan**	0.63	271 *e*P		**Pb**	20 46 09.1	-0.2
TATO	**Taipei**	0.63	2 P		**Pb**	20 46 09.0	-0.3
TATO	**Taipei**	0.63	2 S		**Sb**	20 46 17.4	-1.1
NMLH	**Miaoli**	0.64	288 *e*P		**Pb**	20 46 09.1	-0.4
NMLH			*i* S		**Sb**	20 46 18.6	-0.1
EGS		0.66	40 *e*P		**Pb**	20 46 09.8	0.0
SMLT	**Sun Moon Lake**	0.69	229 *e*P		**Pg**	20 46 08.0	-1.1
TAP	**Taipei**	0.70	3 *e*S		**Sb**	20 46 20.2	-0.1
TYC	**Yuchr**	0.70	232 *e*P		**Pg**	20 46 09.1	-0.3
TIPB	**Shuangxi**	0.71	28 *i* P		**Pg**	20 46 09.9	+0.3
TIPB			*i* S		**Sg**	20 46 19.1	+0.1
SSLB	**Suanglung**	0.72	220 P		**Pg**	20 46 09.0	-0.8
SSLB	**Suanglung**	0.72	220 P		**Pg**	20 46 08.9	-0.8
SSLB	**Suanglung**	0.72	220 P		**Pg**	20 46 08.7	-1.0
TCU	**Taichung**	0.74	255 *e*P		**Pb**	20 46 11.5	+0.4
TWS1	**Kuangyinshan**	0.76	357 *e*P		**Pb**	20 46 11.8	+0.4
TWS1			S		**Sb**	20 46 21.7	-0.3
YM01	**YM01**	0.81	7 *e*P		**Pb**	20 46 12.8	+0.4
YM01			S		**Sb**	20 46 22.9	-0.7
NTST	**Danshui**	0.82	359 *e*P		**Pn**	20 46 13.8	-0.1
NTST			*e*S		**Sn**	20 46 25.3	-1.1
ZUZH	**Zhuzihu**	0.82	5 *e*P		**Pb**	20 46 13.0	+0.4
EHY	**Hungye**	0.84	189 P		**Pb**	20 46 12.3	-0.5
SXI1	**Grass Mountain**	0.84	27 *e*P		**Pb**	20 46 12.7	-0.3
SXI1			S		**Sb**	20 46 23.8	-0.7
HGSD	**Ruisui**	0.84	182 *e*P		**Pb**	20 46 12.5	-0.4
WJS	**Zhushan**	0.84	233 *e*P		**Pb**	20 46 13.2	+0.2
WNT	**Mingjian**	0.84	237 *e*P		**Pn**	20 46 13.5	-0.8
ANP	**Anpu**	0.85	4 *e*P		**Pb**	20 46 13.4	+0.4
WHYT	**Xinyi Township**	0.85	221 *e*P		**Pg**	20 46 11.6	-0.6
YULB	**Yu-li**	0.95	189 P		**Pg**	20 46 13.8	-0.5
YULB	**Yu-li**	0.95	189 P		**Pg**	20 46 13.7	-0.5
YULB	**Yu-li**	0.95	189 P		**Pg**	20 46 14.0	-0.2
YULB			*e*S		**Sg**	20 46 26.7	+0.1
TWF1	**Yuli**	0.99	189 *e*P		**Pg**	20 46 14.9	0.0
TWF1			*e*S		**Sb**	20 46 28.6	-0.2
EYUL	**Yuli**	1.00	188 *e*P		**Pg**	20 46 13.9	-1.1
ALS	**Alishan**	1.02	216 *i* P		**Pg**	20 46 15.1	-0.4
WDLH	**Douliu**	1.06	233 *e*P		**Pn**	20 46 17.6	+0.3
WDLH			*e*S		**Sn**	20 46 33.5	+1.2
WTK	**Tuku**	1.18	237 *e*P		**Pn**	20 46 19.4	+0.7
WTK			*e*S		**Sn**	20 46 35.9	+0.8
WCKO	**Fanlu**	1.19	221 *e*P		**Pn**	20 46 19.4	+0.3
WCKO			*e*S		**Sn**	20 46 36.1	+0.6
TPUB	**Ta-pu**	1.28	217 P		**Pn**	20 46 20.0	-0.3
TPUB	**Ta-pu**	1.28	217 P		**Pb**	20 46 20.2	-0.2
TPUB	**Ta-pu**	1.28	217 S		**Sn**	20 46 37.5	-0.3
WTP	**Ta-pu**	1.34	216 *e*P		**Pg**	20 46 21.9	+0.3
WTP			*e*S		**Sn**	20 46 41.0	+1.9
WSL	**Shuilin Townsh**	1.39	234 *e*P		**Pg**	20 46 22.6	0.0
WSL			*e*S		**Sg**	20 46 42.3	+1.7
YOJ	**Yonaguni jima**	1.42	85 P		**Pg**	20 46 22.9	-0.2
YOJ	**Yonaguni jima**	1.42	85 *e*P		**Pg**	20 46 22.9	-0.2
CHN1	**Nanshi**	1.43	217 *e*P		**Pg**	20 46 23.6	+0.2
CHN1			S		**Sg**	20 46 43.8	+1.9
ICHU	**Yijhu**	1.46	228 *e*P		**Pg**	20 46 24.0	+0.1
ICHU			S		**Sg**	20 46 44.8	+2.1
SGST	**Jiashian**	1.49	213 *e*P		**Pb**	20 46 23.6	-0.4
SGST			S		**Sg**	20 46 44.6	+0.9

*TAP **21** 20:54:48.9, 22°.89N×121°.56E, h8km, ML2.6, C*
**ISC 21 20:54:48.0±1

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.77**	**349**	P		**Pn**		**21 04 45.7**	**-0.1**
KTR				*e*S		**Sn**		**21 04 56.4**	**-0.1**
JMYK	**Miyake Tsubota**	**0.85**	**247**	*e*P		**Pn**		**21 04 47.0**	**+0.1**
JMYK				S		**Sn**		**21 04 59.0**	**+0.7**
JMKN	**Mikurajimanish**	**0.90**	**237**	P		**Pn**		**21 04 47.7**	**+0.1**
JMKN				S		**Sn**		**21 04 59.4**	**-0.1**
JIM2	**Oshima 3**	**0.93**	**291**	P		**Pn**		**21 04 47.8**	**-0.3**
JIM2				S		**Sn**		**21 04 59.7**	**-0.7**
JTHY	**Toshimahigashi**	**1.00**	**278**	*e*P		**Pn**		**21 04 49.1**	**+0.1**
JKO	**Kozu shima**	**1.14**	**260**	P		**Pn**		**21 04 51.1**	**+0.3**
JKO				S		**Sn**		**21 05 05.8**	**+0.5**
KTJ3	**Kamata3**	**1.29**	**295**	P		**Pn**		**21 04 52.5**	**-0.4**
KTJ3				*e*S		**Sn**		**21 05 07.1**	**-1.9**
JIZS	**Izushimoda**	**1.37**	**284**	P		**Pn**		**21 04 54.0**	**0.0**
JIZS				*e*S		**Sn**		**21 05 11.1**	**+0.1**
JHJ2	**Mitsune**	**1.39**	**204**	*e*P		**Pn**		**21 04 54.4**	**+0.1**
JHJ2				*e*S		**Sn**		**21 05 11.5**	**0.0**
JOD2	**Odawara 2**	**1.44**	**307**	P		**Pn**		**21 04 54.8**	**-0.2**
JOD2				S		**Sn**		**21 05 11.9**	**-0.9**
MJAR	**Matsushiro Arr**	**2.84**	**320**	Pn		**Pn**		**21 05 14.6**	**+0.4**
	0.8nm,0.3s,baz=165,slow=14,SNR=26								
MJAR				Sn		**Sn**		**21 05 48.6**	**+1.5**
	0.6nm,0.3s,baz=134,slow=27,SNR=9.9								
	3.9nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**27.57**	**115**	T		T		21 40 04.4	
	baz=308								
H11N1	**WAKE ISLAND Hy**	**27.58**	**115**	T		T		21 40 09.8	
	baz=308								
H11N3	**WAKE ISLAND Hy**	**27.59**	**115**	T		T		21 40 08.4	
	baz=308								
MKAR	**Makanchi Array**	**44.93**	**304**	P		**P**		**21 12 41.4**	**+0.1**
	0.2nm,0.7s,baz=77,slow=7.7,SNR=1.5								
	0.2nm,0.7s								
KURBB	**Kurchatov Arra**	**47.07**	**310**	P		**P**		**21 12 59.5**	**+1.4**
	0.2nm,0.5s,baz=83,slow=9.1,SNR=2.6								
	0.2nm,0.5s								
WRA	**Warramunga Arr**	**54.35**	**187**	P		**P**		**21 13 52.1**	**-1.0**
	0.3nm,0.5s,baz=7.3,slow=7.4,SNR=1.9								
	0.3nm,0.5s								

*IDC **21** 21:09:48.6±2.5, 4°.62S×153°.05E, h44km±23km, mb4.3/17, mbtmp4.6/19, ML2.2/1, MS3.4/38, Error ellipse: s-maj=19.3km s-min=12.8km az=78.0*
*DJA **21** 21:09:51.0±0.6, 5°.5S±4°×15°.3E±°, h52km±6km, M4.8/22, mb4.8/22, mB5.4/7, MLv4.9/1, Mw(mB)4.8/7*
*NEIC **21** 21:09:51.1±1.1, 4°.63S±0°.08×153°.03E±0°.08, h56km±4km, mb4.7/71, Error ellipse: s-maj=13.km s-min=9.8km az=219.0*
ISC 21 21:09:49.7±0.3, **4°.72S**±0°.05×**153°.07E**±0°.06, **h55**km, **n391**, σ0**92**/371, **mb4.7**/69, **MS3.4**/36, **3C-4D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.04**	**300**			**Pn**		**21 10 07.9**	**-0.3**
RABL						Sn	**Sn**	**21 10 21.6**	**-0.3**
MANU	**Manus Island**	**6.28**	**295**			**Pn**		**21 11 21.3**	**+1.5**
PMG	**Port Moresby**	**7.49**	**231**			**Pn**		**21 11 38.2**	**+1.8**
PMG	**Port Moresby**	**7.49**	**231**	P		**Pn**		**21 11 37.6**	**+1.3**
	2.1nm,0.3s,baz=37,slow=9.3,SNR=17								
PMG				S		**Sn**		**21 12 58.3**	**-1.7**
	40nm,0.6s,baz=300,slow=21,SNR=6.7								
	36nm,0.7s								
HNR	**Honiara**	**8.28**	**125**	P		**Pn**		**21 11 46.0**	**-1.2**
	21nm,0.4s,baz=20,slow=15,SNR=1.7								
HNR				LR		LR		21 15 16.1	
	comp=Z,470nm,19.3s,baz=304,slow=39								
PATS	**Pohnpei**	**12.61**	**25**			**Pn**		**21 12 47.1**	**+0.6**
GUMO	**Guam**	**19.93**	**336**	LR		LR		21 21 10.7	
	comp=Z,58nm,20.1s,baz=166,slow=34								
DZM	**Mont Dzumac**	**21.57**	**144**			**P**		**21 14 37.4**	**+2.4**
DZM				IAmb		IAmb		21 14 40.2	
	comp=Z,33nm,0.9s								
DZM	**Mont Dzumac**	**21.57**	**144**	*e*P		**P**		**21 14 37.9**	**+2.9**
	comp=Z,48nm,24.1s								
DZM				*e*S		**S**		**21 18 26.2**	**-5.1**
	comp=Z,219nm,27.6s								
DZM				*e*LR		LR		21 19 54.4	
	comp=Z,369nm,26.6s								
DZM	**Mont Dzumac**	**21.57**	**144**	P		**P**		**21 14 36.7**	**+1.8**
	comp=Z,38nm,1.0s,baz=268,slow=5.9,SNR=9.5								
DZM				LR		LR		21 22 42.0	
	comp=Z,196nm,18.6s,baz=274,slow=36								
	comp=Z,38nm,1.0s								
SWI	**Sorong**	**22.11**	**279**	P		**P**		**21 14 40.6**	**-0.1**
	comp=Z,608nmcomp=Z,47nm,0.8s								
MTN	**Manton Dam**	**23.12**	**248**			**P**		**21 14 51.4**	**+0.2**
MTN				IAmb		IAmb		21 14 52.3	
	comp=Z,28nm,0.8s								
WB0	**Warramunga Arr**	**23.55**	**229**			**P**		**21 14 55.3**	**-0.1**
WB0				IAmb		IAmb		21 14 57.0	
	comp=Z,29nm,0.9s								
WR8	**Warramunga Arr**	**23.59**	**228**			**P**		**21 14 55.8**	**+0.1**
WR8				IAmb		IAmb		21 14 57.3	
	comp=Z,23nm,0.9s								
WRAB	**Tennant Creek**	**23.69**	**229**	P		**P**		**21 14 56.8**	**+0.1**
WRAB				IAmb		IAmb		21 14 57.5	
	comp=Z,42nm,1.3s								
WRA	**Warramunga Arr**	**23.70**	**229**	P		**P**		**21 14 56.2**	**-0.6**
WRA	**Warramunga Arr**	**23.70**	**229**	P		**P**		**21 14 55.9**	**-0.9**
	comp=Z,14nm,0.7s,baz=52,slow=9.8,SNR=63								
WRA				PcP		**PcP**		**21 18 40.0**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=45,slow=2.1,SNR=5.0								
	comp=Z,14nm,0.7s								
KNRA	**Kununurra**	**26.25**	**244**			**P**		**21 15 20.7**	**+0.8**
KNRA				IAmb		IAmb		21 15 23.5	
	comp=Z,20nm,0.8s								
AS31	**Alice Springs**	**26.39**	**223**			**P**		**21 15 22.4**	**+1.2**
ASAR	**Alice Springs**	**26.39**	**223**	P		**P**		**21 15 20.4**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=53,slow=8.5,SNR=20								
ASAR				PcP		**PcP**		**21 18 46.2**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=54,slow=3.1,SNR=4.9								
ASAR				LR		LR		21 25 32.2	
	comp=Z,114nm,19.7s,baz=76,slow=36								
	comp=Z,1.5nm,0.6s								
STKA	**Stephens Creek**	**29.08**	**200**	LR		LR		21 26 49.2	
	comp=Z,164nm,20.6s,baz=25,slow=35								
DAV	**Davao City (W)**	**29.83**	**293**	LR		LR		21 28 45.3	
	comp=Z,32nm,18.1s,baz=334,slow=38								
FITZ	**Fitzroy Crossi**	**29.93**	**241**	P		**P**		**21 15 51.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**29.93**	**241**	LR		LR		21 29 23.4	
	comp=Z,109nm,19.9s,baz=86,slow=39								
TOLI2	**Tolitoli**	**32.77**	**279**	P		**P**		**21 16 17.4**	**-0.4**
TOLI2				IAmb		IAmb		21 16 18.6	
	comp=Z,9.2nm,0.9s								
PCI	**Palu**	**33.40**	**275**	P		**P**		**21 16 24.4**	**+1.0**
	comp=Z,2μmcomp=Z,30nm,0.9s								
MPSI	**Mapaga**	**33.51**	**278**	P		**P**		**21 16 22.9**	**-1.5**
	comp=Z,407nmcomp=Z,11nm,0.8s								
MYLDM	**Lahad Datu**	**35.90**	**285**			**P**		**21 16 45.5**	**+0.6**
MYLDM				IAmb		IAmb		21 16 47.9	
	comp=Z,14nm,1.0s								
JOW	**Kunigami**	**39.48**	**324**			**P**		**21 17 15.4**	**+0.4**
JOW	**Kunigami**	**39.48**	**324**	LR		LR		21 31 02.1	
	comp=Z,28nm,19.9s,baz=142,slow=32								
JHJ	**Hachijo jima 2**	**39.68**	**342**	LR		LR		21 30 44.5	
	comp=Z,63nm,21.9s,baz=314,slow=32								
RTZ	**Ruatahuna**	**40.13**	**150**	P		**P**		**21 17 21.7**	**+1.3**
YULB	**Yu-li**	**41.73**	**313**	P		**P**		**21 17 33.4**	**-0.3**
YULB				IAmb		IAmb		21 17 35.1	
	comp=Z,9.5nm,0.7s								
JNU	**Nakatsue**	**43.11**	**332**			**P**		**21 17 44.6**	**-0.2**
JNU	**Nakatsue**	**43.11**	**332**	LR		LR		21 33 00.8	
	comp=Z,22nm,20.9s,baz=155,slow=32								
MJAR	**Matsushiro Arr**	**43.33**	**342**	P		**P**		**21 17 44.2**	**-2.3**
	comp=Z,1.0nm,0.6s,baz=170,slow=8.6,SNR=5.0								
MJAR				PcP		**PcP**		**21 19 34.0**	**-0.5**
	comp=Z,3.9nm,1.1s,baz=153,slow=2.7,SNR=4.2								
MJAR				LR		LR		21 33 19.1	
	comp=Z,88nm,21.6s,baz=178,slow=33								
	comp=Z,1.0nm,0.6s								
NWAO	**Narrogin (SRO)**	**43.64**	**226**	LR		LR		21 36 00.1	
	comp=Z,93nm,18.9s,baz=290,slow=36								
LEM	**Lembang**	**45.26**	**265**	LR		LR		21 39 07.4	
	comp=Z,37nm,21.7s,baz=154,slow=39								
DLV	**Lat**	**47.32**	**291**			**P**		**21 18 18.4**	**-0.3**
TJN	**Taejon**	**47.43**	**332**			**P**		**21 18 18.9**	**+0.1**
KSRS	**Korea Array**	**48.05**	**333**	P		**P**		**21 18 23.1**	**-0.5**
	comp=Z,5.7nm,0.7s,baz=150,slow=8.2,SNR=42								
KSRS				LR		LR		21 38 15.2	
	comp=Z,16nm,18.4s,baz=145,slow=36								
	comp=Z,5.7nm,0.7s								
KSAR	**Wonju Array Be**	**48.05**	**333**	P		**P**		**21 18 23.6**	**-0.1**
INCN	**Inchon**	**48.67**	**332**	P		**P**		**21 18 28.7**	**+0.3**
NJ2	**Nanjing**	**48.95**	**321**	*e*P		**P**		**21 18 32.6**	**+1.9**
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.5s								
ASAJ	**Asahikawa**	**49.52**	**350**	LR		LR		21 36 48.6	
	comp=Z,24nm,21.6s,baz=200,slow=33								
USA0B	**Ussuriysk Arra**	**52.26**	**341**			**P**		**21 18 56.0**	**+0.6**
USA0B				IAmb		IAmb		21 18 56.2	
	comp=Z,8.5nm,0.9s								
USRK	**Ussuriysk Ar.**	**52.26**	**341**	P		**P**		**21 18 55.5**	**+0.1**
	comp=Z,7.5nm,0.8s,baz=180,slow=9.8,SNR=16								
	comp=Z,7.5nm,0.8s								
MDJ	**Mudanjiang**	**53.44**	**339**	P		**P**		**21 19 03.8**	**-0.3**
MDJ				pmax		pmax			
	comp=Z,11nm,0.9s								
GYA	**Guiyang**	**54.56**	**307**	⇓P		**P**		**21 19 13.4**	**+0.6**
GYA				pmax		pmax			
	comp=Z,6.0nm,0.7s								
SLVN	**Son La**	**54.69**	**300**	P		**P**		**21 19 13.9**	**+0.1**
SLVN				IAmb		IAmb		21 19 15.3	
	comp=Z,16nm,1.5s								
HNS	**HongShan**	**55.04**	**323**	⇑P		**P**		**21 19 16.1**	**+0.2**
HNS				pmax		pmax			
	comp=Z,20nm,0.8s								
BNX	**BinXian**	**55.19**	**338**	⇓P		**P**		**21 19 16.5**	**-0.3**
BNX				pmax		pmax			
	comp=Z,20nm,0.8s								
XAN	**Xi'an**	**56.75**	**316**	⇑P		**P**		**21 19 27.8**	**-0.5**
XAN				pP		pP		21 19 42.5	-1.0
XAN				pmax		pmax			
	comp=Z,14nm,0.7s								
KLR	**Kul'dur**	**56.84**	**343**	LR		LR		21 41 58.0	
	comp=Z,24nm,21.6s,baz=174,slow=34								
PPT	**Papeete**	**57.49**	**108**	LR		LR		21 42 15.6	
	comp=Z,26nm,19.0s,baz=5.5,slow=34								
PPT2	**Papeete2**	**57.50**	**108**	*e*LR		LR		21 36 34.7	
	comp=Z,34nm,22.5s								
PETK	**Petropavlovsk-**	**57.74**	**3**	P		**P**		**21 19 34.8**	**0.0**
PETK	**Petropavlovsk-**	**57.74**	**3**	P		**P**		**21 19 34.3**	**-0.5**
	comp=Z,5.0nm,0.6s,baz=168,slow=6.6,SNR=21								
PETK				LR		LR		21 40 58.3	
	comp=Z,18nm,21.5s,baz=178,slow=32								
	comp=Z,5.0nm,0.6s								
CM31	**Chiang Mai Arr**	**58.08**	**295**	P		**P**		**21 19 38.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**58.08**	**295**			**P**		**21 19 37.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**58.08**	**295**	P		**P**		**21 19 38.4**	**+0.5**
	comp=Z,6.7nm,0.9s,baz=114,slow=5.4,SNR=43								
CMAR				LR		LR		21 43 02.0	
	comp=Z,22nm,21.2s,baz=115,slow=34								
	comp=Z,6.7nm,0.9s								
CHTO	**Chiang Mai**	**58.19**	**295**			**P**		**21 19 38.4**	**-0.3**
CHTO				IAmb		IAmb		21 19 39.9	
	comp=Z,9.7nm,1.2s								
TBI	**Tubuai**	**58.35**	**114**	*e*LR		LR		21 36 49.6	
	comp=Z,566nm,29.8s								
PZH	**PanZhiHua**	**58.55**	**305**	P		**P**		**21 19 44.1**	**+3.0**
PZH				pmax		pmax			
	comp=Z,6.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,10.0nm,4.4s								
CD2	**Chengdu**	**58.89**	**310**	P		**P**		**21 19 43.6**	**+0.3**
CD2				pmax		pmax			
	comp=Z,20nm,0.7s								
HEH	**HeiHe**	**59.06**	**341**	*e*P		**P**		**21 19 43.3**	**-0.8**
HEH				pmax		pmax			
	comp=Z,12nm,0.8s								
HHC	**Hu-ho-hao-te**	**59.14**	**324**	*e*P		P		21 19 48.3	+3.4
HHC				pmax		pmax			
	comp=Z,8.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,70nm,4.6s								
BTO	**Baotou**	**59.90**	**323**	*e*P		**P**		**21 19 52.4**	**+2.2**
BTO				pP		**sP**		**21 20 08.5**	**-3.1**
BTO				sP		pP		21 20 15.6	+10
BTO				pmax		pmax			
	comp=Z,24nm,0.8s								
BTO				pmax		pmax			
	comp=Z,170nm,5.7s								
SHEM	**Shemya Is, Ala**	**59.94**	**15**	LR		LR		21 41 05.9	
	comp=Z,76nm,21.8s,baz=282,slow=31								
TNCH	**TengChong**	**60.66**	**302**	⇑P		**P**		**21 19 55.9**	**+0.1**
TNCH				S		**S**		**21 28 07.4**	**-1.3**
TNCH				sS		sS		21 28 36.5	+2.7
TNCH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
TNCH				pmax		pmax			
	comp=Z,96nm,4.3s								
LZH	**Lanzhou**	**61.36**	**316**	*e*P		**P**		**21 20 00.9**	**+0.6**
LZH				pP		pP		21 20 16.3	+0.6
LZH				sP		sP		21 20 24.0	+1.9
MA2	**Magadan**	**64.12**	**359**			**P**		**21 20 18.7**	**+0.7**
MA2	**Magadan**	**64.12**	**359**	LR		LR		21 48 33.2	
	comp=Z,21nm,19.0s,baz=129,slow=36								
GTA	**Gaotai**	**65.78**	**317**	*e*P		**P**		**21 20 30.6**	**+1.2**
GTA				pP		pP		21 20 45.8	+1.1
GTA				pmax		pmax			
	comp=Z,9.0nm,1.2s								
ULN	**Ulaanbaatar**	**66.07**	**328**			**P**		**21 20 31.1**	**0.0**
SONM	**Songino Array**	**66.40**	**328**	P		**P**		**21 20 32.9**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=148,slow=6.0,SNR=12								
SONM				LR		LR		21 48 40.3	
	comp=Z,16nm,20.8s,baz=275,slow=35								
	comp=Z,1.9nm,0.6s								
SHL	**Shillong**	**66.50**	**300**			**P**		**21 20 34.2**	**-0.1**
SHL				IAmb		IAmb		21 20 34.6	
	comp=Z,11nm,0.9s								
SEY	**Seymchan**	**67.46**	**360**	LR		LR		21 50 13.6	
	comp=Z,9.3nm,18.9s,baz=179,slow=36								
YAK	**Yakutsk**	**68.95**	**348**	LR		LR		21 49 50.7	
	comp=Z,15nm,20.6s,baz=150,slow=35								
S12K	**Black Hills**	**70.58**	**25**	P		**P**		**21 21 00.4**	**+1.5**
	baz=228								
SDPT	**Sand Point**	**71.03**	**26**	P		**P**		**21 21 03.4**	**+1.8**
	baz=230								
VNDA	**Vanda**	**72.90**	**178**			**P**		**21 21 13.6**	**+1.1**
VNDA	**Vanda**	**72.90**	**178**	P		**P**		**21 21 13.7**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=321,slow=6.2,SNR=6.8								
	comp=Z,2.7nm,0.8s								
BILL	**Bilibino**	**73.19**	**5**			**P**		**21 21 14.8**	**+0.5**
BILL				IAmb		IAmb		21 21 15.8	
	comp=Z,6.9nm,0.8s								
PALK	**Pallekele**	**73.19**	**279**	LR		LR		21 57 51.1	
	comp=Z,72nm,18.0s,baz=154,slow=39								
GAMB	**Gambell**	**73.23**	**16**	P		**P**		**21 21 15.3**	**+0.7**
	baz=217								
CHIR	**Chirikof Islan**	**73.49**	**27**	P		**P**		**21 21 16.9**	**+0.5**
	baz=234								
N14K	**Kuskokwak Cree**	**73.57**	**22**	P		**P**		**21 21 17.6**	**+0.9**
	baz=228								
R16K	**Pilot Point**	**73.68**	**25**	P		**P**		**21 21 18.8**	**+1.4**
	baz=232								
O15K	**Ungalikthiuk R**	**73.78**	**23**	P		**P**		**21 21 19.0**	**+1.1**
	baz=230								
M14K	**Bethel**	**74.03**	**21**	P		**P**		**21 21 20.5**	**+1.1**
	baz=227								
L14K	**Kuka Creek**	**74.18**	**20**	P		**P**		**21 21 21.9**	**+1.7**
	baz=226								
N15K	**Kwethluk River**	**74.33**	**22**	P		**P**		**21 21 22.3**	**+1.2**
	baz=229								
M15K	**Kasigluk River**	**74.46**	**22**	P		**P**		**21 21 23.5**	**+1.7**
	baz=228								
O16K	**Kokwok River B**	**74.73**	**23**	P		**P**		**21 21 25.0**	**+1.5**
	baz=231								
Q16K	**King Salmon**	**74.75**	**25**	P		**P**		**21 21 25.1**	**+1.5**
	baz=233								
Q17K	**Contact Creek**	**74.82**	**25**	P		**P**		**21 21 24.9**	**+0.8**
	baz=233								
L15K	**Ungalak Mounta**	**74.83**	**21**	P		**P**		**21 21 25.3**	**+1.3**
	baz=227								
J14K	**Nanvaranak Lak**	**74.87**	**19**	P		**P**		**21 21 25.1**	**+0.9**
	baz=225								
N16K	**Nishlik Lake**	**75.03**	**22**	P		**P**		**21 21 25.9**	**+0.7**
	baz=230								
R18K	**Karluk**	**75.03**	**26**	P		**P**		**21 21 26.1**	**+0.9**
	baz=235								
P17K	**Kvichak River**	**75.15**	**24**	P		**P**		**21 21 26.1**	**+0.3**
	baz=233								
K15K	**Wolf Creek Mou**	**75.23**	**20**	P		**P**		**21 21 26.9**	**+0.5**
	baz=227								
O17K	**Koliganek Bris**	**75.24**	**24**	P		**P**		**21 21 27.7**	**+1.3**
	baz=232								
M16K	**Timber Creek**	**75.31**	**22**	P		**P**		**21 21 28.1**	**+1.3**
	baz=230								
OHAK	**Old Harbor**	**75.36**	**27**	P		**P**		**21 21 27.4**	**+0.3**
	baz=236								
Q18K	**Katmai Hardscr**	**75.42**	**25**	P		**P**		**21 21 27.7**	**0.0**
	baz=234								
L16K	**Owhat River**	**75.57**	**21**	P		**P**		**21 21 28.9**	**+0.6**
	baz=229								
ANM	**Nome**	**75.62**	**17**	P		**P**		**21 21 29.7**	**+1.2**
	baz=223								
TNA	**Tin City**	**75.64**	**16**	P		**P**		**21 21 29.3**	**+0.7**
	baz=220								
N17K	**Nushagak Hills**	**75.67**	**23**	P		**P**		**21 21 29.7**	**+0.8**
	baz=232								
P18K	**Big Mountain,**	**75.77**	**24**	P		**P**		**21 21 30.7**	**+1.2**
	baz=234								
WMQ	**Urumqi**	**75.86**	**317**	*e*P		**P**		**21 21 32.5**	**+2.0**
WMQ				pmax		pmax			
	comp=Z,38nm,0.8s								
KDAK	**Kodiak Island**	**75.98**	**27**	LR		LR		21 48 22.8	
	comp=Z,68nm,21.0s,baz=76,slow=30								
KDAK	**Kodiak Island**	**75.98**	**27**	P		**P**		**21 21 32.0**	**+1.3**
	baz=237								
F14K	**Arctic Creek**	**76.02**	**16**	P		**P**		**21 21 31.9**	**+1.1**
	baz=222								
O18K	**Koktuh Hills**	**76.05**	**24**	P		**P**		**21 21 31.4**	**+0.3**
	baz=234								
M17K	**Holitna River**	**76.12**	**22**	P		**P**		**21 21 32.4**	**+0.9**
	baz=231								
Q19K	**Cape Douglas,**	**76.16**	**25**	P		**P**		**21 21 32.2**	**+0.5**
	baz=235								
J16K	**Anvik River**	**76.22**	**20**	P		**P**		**21 21 32.0**	**+0.1**
	baz=228								
L17K	**Donlin**	**76.27**	**21**	P		**P**		**21 21 33.0**	**+0.7**
	baz=230								
N18K	**Kilae Creek**	**76.27**	**23**	P		**P**		**21 21 33.0**	**+0.6**
	baz=233								
G15K	**Niukluk**	**76.33**	**17**	P		**P**		**21 21 33.5**	**+1.0**
	baz=224								
Q20K	**Shuyak Island**	**76.52**	**26**	P		**P**		**21 21 34.5**	**+0.8**
	baz=237								
I17K	**Unalakleet**	**76.60**	**19**	P		**P**		**21 21 35.4**	**+1.3**
	baz=228								
O19K	**Port Alsworth**	**76.61**	**24**	P		**P**		**21 21 35.6**	**+1.4**
	baz=234								
H16K	**Elim**	**76.62**	**18**	P		**P**		**21 21 35.4**	**+1.2**
	baz=226								
K17K	**Iditarod**	**76.64**	**21**	P		**P**		**21 21 35.5**	**+1.2**
	baz=230								
F15K	**North Star Dit**	**76.66**	**17**	P		**P**		**21 21 35.5**	**+1.1**
	baz=224								
P19K	**Oil Pt**	**76.75**	**25**	P		**P**		**21 21 36.2**	**+1.2**
	baz=236								
M18K	**Stony River**	**76.79**	**23**	P		**P**		**21 21 36.2**	**+1.0**
	baz=233								
J17K	**VABM Dome**	**76.81**	**20**	P		**P**		**21 21 35.9**	**+0.6**
	baz=229								
N19K	**Bonanza Creek**	**76.91**	**24**	P		**P**		**21 21 36.5**	**+0.5**
	baz=234								
L18K	**Granite Mounta**	**76.91**	**22**	P		**P**		**21 21 36.8**	**+0.9**
	baz=232								
G16K	**Koyuk River**	**77.11**	**18**			**P**		**21 21 37.5**	**+0.5**
G16K				IAmb		IAmb		21 21 39.2	
	comp=Z,4.8nm,0.8s								
G16K	**Koyuk River**	**77.11**	**18**	P		**P**		**21 21 37.9**	**+1.0**
	baz=226								
H17K	**Granite Mounta**	**77.55**	**19**			**P**		**21 21 40.3**	**+0.9**
H17K				IAmb		IAmb		21 21 41.4	
	comp=Z,6.4nm,0.8s								
H17K	**Granite Mounta**	**77.55**	**19**	P		**P**		**21 21 40.8**	**+1.4**
	baz=228								
L19K	**White Mountain**	**77.57**	**22**	P		**P**		**21 21 40.7**	**+1.1**
	baz=234								
M19K	**Big River Lodg**	**77.58**	**23**	P		**P**		**21 21 40.8**	**+1.1**
	baz=234								
TTA	**Tatalina**	**77.60**	**21**	P		**P**		**21 21 40.5**	**+0.7**
	baz=232								
J18K	**Innoko River**	**77.67**	**21**	P		**P**		**21 21 40.7**	**+0.5**
	baz=232								
G17K	**Kiwalik Mounta**	**77.70**	**18**	P		**P**		**21 21 40.8**	**+0.5**
	baz=228,SNR=5.8								
SPCR	**Spurr Chakacha**	**78.04**	**24**	P		**P**		**21 21 42.3**	**-0.1**
	baz=236								
M20K	**Styx River**	**78.06**	**23**	P		**P**		**21 21 43.3**	**+0.9**
	baz=235								
L20K	**Farewell, AK**	**78.11**	**22**	P		**P**		**21 21 43.1**	**+0.5**
	baz=234								
F17K	**Baldwin Pennin**	**78.17**	**17**			**P**		**21 21 43.6**	**+0.8**
F17K	**Baldwin Pennin**	**78.17**	**17**	P		**P**		**21 21 43.5**	**+0.8**
	baz=227,SNR=10								
H18K	**Honhosa River**	**78.19**	**19**	P		**P**		**21 21 43.7**	**+0.7**
	baz=230								
CAPN	**Captain Cook N**	**78.23**	**24**	P		**P**		**21 21 43.4**	**+0.2**
	baz=237								
C16K	**Lisburne Hills**	**78.36**	**15**			**P**		**21 21 44.3**	**+0.

comp=Z,3.9nm,0.8s,baz=98,slow=6.8,SNR=36
MKAR LR LR 21 58 05.7
comp=Z,16nm,19.5s,baz=122,slow=36
comp=Z,3.9nm,0.8s
D19K Kuna River 80.44 16 P **P 21 21 55.9 +0.6**
baz=230
G21K Allakaket 80.61 19 P **P 21 21 56.7 +0.6**
baz=234
MAKZ Makanchi 80.65 319 P 21 21 57.0 +0.2
MAKZ IAmb IAmb 21 21 57.8
comp=Z,12nm,1.1s
MCK McKinley 80.69 22 P **P 21 21 56.5 -0.1**
MCK McKinley 80.69 22 P **P 21 21 57.0 +0.4**
baz=239
A19K Wainwright 80.81 14 P **P 21 21 58.4 +1.3**
baz=226
E20K Nigu River 80.84 17 P **P 21 21 57.9 +0.5**
baz=231
M24K Tolsona, Glenn 80.97 25 P **P 21 21 58.8 +0.6**
baz=242
D20K Etivluk River 81.01 17 P **P 21 21 59.2 +1.0**
baz=231
F21K Alatna River 81.03 18 P **P 21 21 58.9 +0.5**
baz=234
ZAA0 Zalesovo Array 81.23 326 P 21 21 59.7 +0.1
ZALV Zalesovo Beam 81.23 326 P 21 21 59.4 -0.3
ZALV Zalesovo Beam 81.23 326 P **P 21 21 59.0 -0.7**
comp=Z,3.5nm,0.6s,baz=109,slow=6.1,SNR=18
ZALV LR LR 21 58 28.0
comp=Z,12nm,20.5s,baz=108,slow=36
comp=Z,3.5nm,0.6s
I23K Minto, Yukon-K 81.27 21 P **P 21 22 00.8 +1.2**
baz=238
G22K Bettles 81.50 19 P **P 21 22 01.8 +1.0**
baz=236
H23K Yukon River 81.56 21 P **P 21 22 02.0 +0.8**
baz=238
E21K Killik River 81.61 17 P **P 21 22 02.3 +0.9**
E21K Killik River 81.61 17 P **P 21 22 01.8 +0.3**
baz=234
F22K John River 81.61 19 P **P 21 22 01.3 -0.1**
baz=235
PAX Paxson 81.67 24 P **P 21 22 03.1 +1.2**
baz=242
B20K Meade River 81.68 15 P 21 22 02.4 +0.7
B20K IAmb IAmb 21 22 02.8
comp=Z,6.0nm,0.6s
B20K Meade River 81.68 15 P **P 21 22 02.4 +0.7**
baz=230,SNR=11
HDA Harding Lake 81.78 22 P **P 21 22 03.3 +0.9**
baz=241
C21K Knifeblade Rid 81.80 17 P **P 21 22 03.8 +1.4**
baz=233
G23K Bananza Creek 81.87 20 P 21 22 02.8 -0.1
G23K Bananza Creek 81.87 20 P **P 21 22 03.8 +1.0**
baz=238
K24K Donnelly Dome 81.94 23 P **P 21 22 04.3 +1.0**
baz=242
POKR Poker Plat Res 81.95 22 P **P 21 22 03.7 +0.4**
baz=240
IL31 81.98 22 P **P 21 22 02.4 -1.0**
ILAR Eielson Array 81.98 22 P **P 21 22 02.1 -1.3**
comp=Z,3.3nm,0.8s,baz=244,slow=5.6,SNR=30
comp=Z,3.3nm,0.8s
E22K Anaktuvuk Pass 82.08 18 P **P 21 22 04.8 +0.9**
baz=236
COLD Coldfoot 82.09 19 P **P 21 22 04.8 +0.8**
baz=237
B21K Ikpikpuk River 82.13 16 P 21 22 04.7 +0.6
B21K Ikpikpuk River 82.13 16 P **P 21 22 04.7 +0.6**
baz=233
H24K Noodor Dome 82.15 21 P **P 21 22 04.9 +0.5**
baz=240
D22K Ayikyak River 82.25 17 P 21 22 05.8 +1.1
D22K IAmb IAmb 21 22 06.7
comp=Z,4.1nm,0.6s
D22K Ayikyak River 82.25 17 P **P 21 22 05.6 +0.8**
baz=235
RIDG Independent Ri 82.28 23 P **P 21 22 05.3 +0.2**
baz=243
M26K Nabesna, AK 82.44 25 P **P 21 22 06.3 +0.4**
baz=245
J25K Salcha River, 82.48 22 P **P 21 22 06.7 +0.5**
baz=242,SNR=7.1
L26K Log Cabin Wild 82.56 24 P **P 21 22 06.3 -0.2**
baz=244
A21K Barrow 82.66 14 P **P 21 22 07.8 +1.0**
baz=231
PINM Pinnacle 82.70 28 P **P 21 22 08.0 +0.7**
baz=247
SCRK Sand Creek 82.72 23 P **P 21 22 07.6 +0.1**
baz=244
E23K Chandalar 82.73 19 P 21 22 08.2 +0.9
E23K Chandalar 82.73 19 P **P 21 22 08.6 +1.2**
baz=238
G24K Hadweenzic Riv 82.73 20 P **P 21 22 08.0 +0.6**
baz=240
A22K Sinclair Lake 82.88 15 P **P 21 22 08.5 +0.6**
baz=232,SNR=12
M27K Edge Creek, AK 82.89 25 P **P 21 22 08.5 +0.2**
baz=246
B22K Teshekpuk Lake 82.89 16 P 21 22 08.4 +0.4
B22K Teshekpuk Lake 82.89 16 P **P 21 22 08.3 +0.3**
baz=234
D23K Nanushuk River 82.89 18 P 21 22 09.3 +1.2
D23K IAmb IAmb 21 22 10.4
comp=Z,9.8nm,0.8s
D23K Nanushuk River 82.89 18 P **P 21 22 09.1 +1.0**
baz=237
PNL Peninsula 82.94 28 P **P 21 22 08.1 -0.4**
baz=248
F24K Squaw Lake 83.01 19 P 21 22 09.6 +0.8
F24K IAmb IAmb 21 22 10.7
comp=Z,4.6nm,0.8s
F24K Squaw Lake 83.01 19 P **P 21 22 09.6 +0.8**
baz=240
TOLK Toolik Lake Re 83.06 18 P **P 21 22 09.6 +0.6**
baz=238
KSH Kashi 83.08 311 P **P 21 22 12.3 +2.4**
KSH pmax pmax
comp=Z,5.0nm,1.1s
E24K Your Creek 83.10 19 P **P 21 22 10.1 +0.8**
baz=239
L27K Beaver Creek, 83.20 25 P **P 21 22 10.7 +0.9**
baz=246
G25K Bearman Lake 83.24 20 P **P 21 22 10.6 +0.7**
baz=241
YUK3 Moose Creek 83.27 26 P **P 21 22 10.8 +0.4**
baz=247
BVCY Beaver Creek 83.34 25 P **P 21 22 11.5 +0.8**
baz=247
YUK8 Steele Glacier 83.38 27 P **P 21 22 12.0 +0.9**
baz=248
C23K Itkillik River 83.39 17 P **P 21 22 11.4 +0.8**
C23K IAmb IAmb 21 22 12.1
comp=Z,6.1nm,0.9s
C23K Itkillik River 83.39 17 P **P 21 22 11.1 +0.5**
baz=237
K27K Chicken 83.50 24 P **P 21 22 11.7 +0.4**
baz=245
D24K Happy Valley 83.56 18 P **P 21 22 12.3 +0.8**
baz=238
O29M Mount Kennedy 83.56 28 P **P 21 22 12.3 +0.4**
baz=249
I26K Coal Creek Min 83.64 22 P **P 21 22 12.7 +0.7**
baz=244
F25K Christian Rive 83.79 20 P **P 21 22 13.6 +0.8**
baz=242
KURK Kurchatov 83.87 322 P 21 22 13.3 -0.1
KURK IAmb IAmb 21 22 14.1
comp=Z,15nm,1.3s
C24K Franklin Bluff 83.89 17 P **P 21 22 13.3 +0.1**
baz=238
KURBB Kurchatov Arra 83.90 322 P **P 21 22 12.6 -1.1**
comp=Z,4.5nm,1.0s,baz=107,slow=4.0,SNR=29
comp=Z,4.5nm,1.0s
YUK4 Talbot Arm 83.91 27 P **P 21 22 14.8 +1.1**
baz=249
SIT Sitka 84.06 31 P **P 21 22 15.0 +0.7**
baz=252
E25K Arctic Village 84.07 19 P **P 21 22 14.1 -0.1**
baz=242
G26K Porcupine Rive 84.14 21 P 21 22 15.5 +1.1
G26K IAmb IAmb 21 22 16.4
comp=Z,6.6nm,0.8s
G26K Porcupine Rive 84.14 21 P **P 21 22 15.6 +1.1**
baz=243,SNR=7.0
NIL Nilore 84.15 304 P 21 22 15.3 0.0

HYT Haines Junctio 84.24 27 P **P 21 22 16.2 +0.9**
baz=250
P30M Million Dollar 84.25 28 P **P 21 22 16.0 +0.7**
baz=250
R31K City Hall, Gus 84.28 30 P **P 21 22 16.2 +0.8**
baz=252
I27K Kandik River 84.34 22 P **P 21 22 16.5 +0.8**
baz=246
F26K Sheenjek River 84.35 20 P **P 21 22 15.8 +0.2**
baz=243
M29M Somme Creek 84.39 26 P **P 21 22 17.2 +1.2**
baz=249
D25K Kavik River 84.40 18 P **P 21 22 16.2 +0.4**
D25K Kavik River 84.40 18 P **P 21 22 16.8 +0.9**
baz=241
S32K Killisnoo 84.58 31 P **P 21 22 17.5 +0.6**
baz=253
DAWY Dawson 84.60 24 P **P 21 22 17.8 +0.8**
baz=248
H27K Steamboat Moun 84.64 22 P **P 21 22 17.7 +0.6**
H27K Steamboat Moun 84.64 22 P **P 21 22 18.3 +1.2**
baz=246
N30M Aishikik Lake 84.65 27 P **P 21 22 17.9 +0.6**
baz=250
CHMS Chumysh 84.69 314 P **P 21 22 18.6 +0.7**
SNR=7.6
L29M L29M 84.77 25 P **P 21 22 19.1 +1.2**
baz=249
AAK Ala-Archa 84.80 313 P **P 21 22 19.2 +0.5**
SNR=10
SKAG Skagway 84.81 29 P **P 21 22 19.1 +1.1**
baz=252
G27K Doyon Strip 84.83 21 P **P 21 22 19.2 +1.1**
baz=245
R32K Eaglecrest 84.85 30 P **P 21 22 19.2 +0.9**
baz=253
I28M Miner Creek 84.92 23 P **P 21 22 19.2 +0.5**
baz=247
USP Ospenovka 84.92 314 P **P 21 22 19.5 +0.4**
SNR=8.1
C26K Camden Bay 85.13 18 P **P 21 22 20.1 +0.7**
baz=242,SNR=10
QSPA South Pole Qui 85.24 180 P **P 21 22 21.0 +0.7**
comp=Z,5.9nm,0.6s,baz=286,slow=0.5,SNR=27
comp=Z,5.9nm,0.6s
K29M Barlow Dome 85.29 25 P 21 22 21.4 +0.9
K29M IAmb IAmb 21 22 22.4
comp=Z,7.8nm,1.1s
K29M Barlow Dome 85.29 25 P **P 21 22 21.0 +0.5**
baz=250
AML Almayashu 85.29 313 P **P 21 22 22.1 +0.7**
SNR=24
EKS2 Erkin-Say 85.33 313 P **P 21 22 22.1 +0.9**
SNR=14
C27K Jago River 85.37 18 P **P 21 22 21.8 +1.1**
C27K Jago River 85.37 18 P **P 21 22 21.4 +0.7**
baz=243,SNR=5.9
WHY Whitehorse 85.40 28 P **P 21 22 21.7 +0.5**
baz=252
E27K Coleen River 85.43 20 P 21 22 22.2 +1.1
E27K IAmb IAmb 21 22 22.5
comp=Z,3.6nm,0.8s
E27K Coleen River 85.43 20 P **P 21 22 21.3 +0.3**
baz=245,SNR=6.6
WRAK Wrangell Islan 85.45 33 P **P 21 22 21.9 +0.6**
baz=255
I29M Ogilvie Camp, 85.52 23 P **P 21 22 21.8 +0.3**
baz=249
H29M Whitestone 85.81 22 P **P 21 22 23.8 +0.9**
baz=248
NRIK Noril'sk 85.97 341 LR LR 21 59 17.1
comp=Z,25nm,21.4s,baz=148,slow=35
J30M Hart River 86.03 24 P **P 21 22 25.6 +1.3**
baz=250
D27M Malcolm River 86.08 19 P 21 22 25.6 +1.3
D27M IAmb IAmb 21 22 26.2
comp=Z,5.7nm,0.7s
D27M Malcolm River 86.08 19 P **P 21 22 25.4 +1.1**
baz=246,SNR=15
G29M Pine Creek 86.19 22 P **P 21 22 25.7 +0.8**
baz=249
I30M Mount Dempster 86.23 23 P **P 21 22 25.6 +0.4**
baz=250
E28M Babbage River 86.30 20 P 21 22 26.3 +1.0
E28M IAmb IAmb 21 22 26.7
comp=Z,3.7nm,0.8s
E28M Babbage River 86.30 20 P **P 21 22 25.6 +0.3**
baz=247
N32M Quiet Lake 86.39 28 P **P 21 22 25.8 -0.1**
baz=254
S34M Telegraph Cree 86.48 31 P **P 21 22 26.2 -0.2**
baz=256
EPYK Eagle Plains 86.49 22 P **P 21 22 26.7 +0.3**
baz=250
FARO Faro, Yukon 86.57 27 P **P 21 22 27.2 +0.4**
baz=253
U35K Hyder 86.58 33 P **P 21 22 26.8 -0.1**
baz=257
T35M Bob Quinn 86.71 32 P **P 21 22 27.8 +0.2**
baz=256
E29M Blow River 86.78 20 P **P 21 22 27.7 +0.1**
baz=249
D28M Stokes Point 86.84 19 P **P 21 22 27.5 -0.4**
baz=248
G30M tAoh Zraii Nji 86.88 22 P **P 21 22 27.9 -0.4**
baz=250
R33M Jennings River 86.93 30 P **P 21 22 28.6 -0.2**
baz=256
BTK Batken 87.09 310 P 21 22 30.1 +0.2
BTK IAmb IAmb 21 22 31.7
comp=Z,7.4nm,1.1s
DLBC Dease Lake 87.17 31 P **P 21 22 29.5 -0.3**
baz=256
H31M Peel River 87.22 23 P 21 22 30.3 +0.4
H31M Peel River 87.22 23 P **P 21 22 29.6 -0.3**
baz=252
F30M Barrier River 87.25 21 P **P 21 22 30.4 +0.5**
F30M Barrier River 87.25 21 P **P 21 22 29.8 -0.2**
baz=251
GAR Garm 87.32 309 P 21 22 31.2 +0.1
G31M Satah River 87.59 22 P 21 22 31.7 +0.2
G31M Satah River 87.59 22 P **P 21 22 31.7 +0.2**
baz=252
MMPY Sheldon Lake, 87.61 27 P **P 21 22 31.6 -0.3**
baz=255
KKAR Karatay Array 87.77 313 P 21 22 32.9 -0.1
F31M Tsiigehtchic 87.95 22 P **P 21 22 32.8 -0.4**
baz=253
WTLY Watson Lake, Y 88.17 29 P **P 21 22 34.8 +0.3**
baz=257
INK Inuvik 88.28 21 LR LR 21 56 52.1
comp=Z,28nm,21.5s,baz=236,slow=32
INK Inuvik 88.28 21 P **P 21 22 35.0 +0.2**
baz=253
TGTN Hyland Airport 88.73 28 P **P 21 22 36.7 -0.4**
baz=258
YBH Yreka Blue Hor 88.80 48 LR LR 21 55 09.5
comp=Z,26nm,21.3s,baz=267,slow=31
BVAR Borovoye Array 89.33 323 P **P 21 22 39.1 -1.0**
comp=Z,19nm,0.7s,baz=102,slow=5.8,SNR=127
BVAR LR LR 22 00 59.5
comp=Z,25nm,21.4s,baz=115,slow=34
comp=Z,19nm,0.7s
BRVK Borovoye 89.40 323 P 21 22 39.5 -0.9
TOAD Toad River Com 89.71 31 P **P 21 22 41.1 -0.7**
baz=260
NVAR Mina Array Bea 91.82 52 LR LR 21 58 07.2
comp=Z,33nm,19.0s,baz=58,slow=32
C36M Paulatuk 91.86 21 P **P 21 22 51.4 0.0**
baz=262
A36M Sachs Harbour 91.88 18 P **P 21 22 51.4 -0.1**
baz=261
NEW Newport 93.36 42 LR LR 22 00 23.2
comp=Z,23nm,18.1s,baz=278,slow=32
YKA Yellowknife Ar 95.23 28 P **P 21 23 06.1 -1.0**
comp=Z,0.6nm,0.8s,baz=273,slow=4.7,SNR=12
YKA LR LR 22 00 22.0
comp=Z,32nm,20.0s,baz=312,slow=32
comp=Z,0.6nm,0.8s
AB31 Akbulak array 95.58 319 P 21 23 07.5 -1.6
AB31 IAmb IAmb 21 23 08.0
comp=Z,3.3nm,1.1s
ABKAR Akbulak array 95.58 319 P 21 23 07.3 -1.8
ABKAR IAmb IAmb 21 23 08.0
comp=Z,3.3nm,1.1s
ARTI Arti 96.50 326 P 21 23 11.0 -2.1
ARTI Arti 96.50 326 LR LR 22 10 00.6
comp=Z,15nm,18.1s,baz=72,slow=38

AKTO Aktyubinsk 96.83 320 LR LR 22 06 04.3
comp=Z,16nm,21.2s,baz=119,slow=35
PDAR Pinedale Array 98.60 48 LR LR 22 00 54.5
comp=Z,17nm,21.0s,baz=272,slow=31
FINES FINESS Array B 111.09 336 Pdiff **Pdif 21 24 15.8 -2.2**
comp=Z,1.7nm,0.9s,baz=57,slow=7.0,SNR=4.1
FINES PKIKP **PKiKP 21 28 17.0 +0.2**
comp=Z,2.5nm,1.0s,baz=101,slow=1.4,SNR=4.0
AKASG Malin Array Be 114.58 324 PKiKP **PKiKP 21 28 22.6 -1.2**
comp=Z,0.5nm,0.4s,baz=64,slow=2.0,SNR=7.5
BRTR Keskin Array B 115.45 312 PKP **PKPdf 21 28 26.9 +0.9**
comp=Z,0.5nm,0.6s,baz=95,slow=2.7,SNR=3.1
HFS Hagfors 116.70 339 PKP **PKPdf 21 28 26.7 -0.9**
comp=Z,0.7nm,0.7s,baz=215,slow=1.8,SNR=1.4
NB2 NORSAR Subarra116.93 340 PKPdf **PKiKP 21 28 27.6 -0.5**
comp=Z,3.0nm,1.2s,baz=42,slow=1.9
NOA NORSAR Array B116.93 340 PKP **PKiKP 21 28 27.4 -0.6**
comp=Z,0.9nm,0.6s,baz=44,slow=1.8,SNR=7.1
PLCA Paso Flores 119.68 143 PKP **PKiKP 21 28 33.9 -0.3**
comp=Z,0.6nm,0.4s,baz=251,slow=3.3,SNR=7.9
MATP Matopo 120.14 243 PKP **PKiKP 21 28 36.0 +0.3**
comp=Z,1.0nm,0.6s,baz=261,slow=1.6,SNR=5.2
LSZ Lusaka 121.92 249 PKP **PKPdf 21 28 38.5 -0.6**
comp=Z,1.1nm,0.5s,baz=115,slow=3.4,SNR=4.2
CLL Collm 122.91 331 PKiKP 21 28 40.9 +0.9
CONA Conrad Observa 123.53 327 *e*PKP **PKiKP 21 28 41.2 -0.3**
comp=Z,0.6nm,0.5s
GEC2 GERESS Array S 124.12 329 PKiKP 21 28 42.6 0.0
GERES GERESS Array B 124.12 329 PKP **PKiKP 21 28 42.7 +0.1**
comp=Z,2.0nm,0.5s,baz=59,slow=1.8,SNR=23
MOA Molln 124.44 327 *i* PKiKP **PKiKP 21 28 44.1 +0.9**
comp=Z,0.2nm,0.3s
SOKA Soboth 124.72 326 *i* PKP **PKiKP 21 28 44.0 +0.1**
comp=Z,0.1nm,0.2s
KBA Koelnbreinsper 125.40 327 *e*PKP **PKiKP 21 28 45.1 -0.2**
comp=Z,0.3nm,0.3s
LESA Schwarzleotal 125.55 328 *i* PKP **PKiKP 21 28 45.0 -0.5**
comp=Z,2.2nm,0.5s
EKA Eskdalemuir Ar 126.03 343 PKP 21 28 45.9 +0.4
comp=Z,1.6nm,0.5s,baz=12,slow=2.9,SNR=12
ABTA Abfaltersbach 126.06 327 *i* PKP **PKiKP 21 28 46.2 -0.3**
comp=Z,0.7nm,0.5s
WATA Walderalm 126.18 328 *i* PKP **PKiKP 21 28 46.6 -0.2**
comp=Z,1.4nm,0.4s
WTTA Wattenberg 126.20 328 *i* PKP **PKiKP 21 28 46.8 -0.1**
comp=Z,4.5nm,0.8s
MOTA Moosalm 126.42 329 *e*PKP **PKiKP 21 28 47.0 -0.4**
comp=Z,1.1nm,0.5s
SQTA Sankt Quirin 126.45 328 *i* PKP **PKiKP 21 28 47.3 0.0**
comp=Z,2.9nm,0.7s
MEM Membach 126.58 334 *d*PKPdf **PKiKP 21 28 47.5 +0.2**
AC05 El Transito 126.64 131 PKiKP 21 28 48.9 +0.6
FETA Feichten 126.83 329 *i* PKiKP **PKiKP 21 28 48.2 +0.1**
comp=Z,2.7nm,0.7s
BMRD Maredsous 127.33 335 *d*PKP **PKiKP 21 28 49.0 +0.1**
TUE Stuetta 127.90 329 PKiKP 21 28 50.1 -0.3
LPAZ La Paz 134.22 118 PKP **PKiKP 21 29 03.4 -1.1**
comp=Z,1.4nm,0.6s,baz=239,slow=2.8,SNR=7.9
SDV Santo Domingo 136.43 82 PKP **PKiKP 21 29 07.6 -0.9**
comp=Z,3.2nm,0.3s,baz=293,slow=6.0,SNR=3.1
CPUP Villa Florida 137.34 138 PKP **PKiKP 21 29 08.7 -1.1**
comp=Z,1.9nm,0.7s,baz=7.9,slow=2.5,SNR=7.2
ESDC Sonseca Array 139.48 332 PKP **PKiKP 21 29 12.0 -1.9**
comp=Z,0.4nm,0.6s,baz=12,slow=1.9,SNR=4.7
PTLB Pontes e Lacer 142.34 123 PKPdf 21 29 18.0 +0.8
TORD Torodi Ar. Bea 150.53 288 PKPbc **PKPbc 21 29 35.1 -1.3**
comp=Z,101nm,0.3s,baz=54,slow=2.7,SNR=1.9
BDFB Brasília 150.93 134 PKPbc **PKiKP 21 29 38.1 0.0**
comp=Z,16nm,0.8s,baz=242,slow=1.5,SNR=36
DBIC Dimbokro 157.95 276 PKPab **PKPab 21 30 15.2 +0.5**
comp=Z,6.5nm,0.9s,baz=72,slow=3.2,SNR=5.8

---

*NEIC **21** 21:39:49.0±0.7, 19°.36N±0°.02×154°.82W±0°.03, h5km±2km, Error ellipse: s-maj=5.1km s-min=3.0km az=297.0*
HVO 21 21:39:49.5±1.0, 19°.43N±0°.02×154°.85W±0°.04, h5km±8km, ML2.4/16, ML2.5/30(NEIC), Error ellipse: s-maj=5.3km s-min=1.6km az=113.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.15**	**272**		Pg	21 39 52.6	+0.1
JOKA	**Jonika Flow**	**0.15**	**272**		Sg	21 39 55.4	+0.8
JOKA	**Jonika Flow**	**0.15**	**272**	IAML		21 39 54.9	
	comp=E,1μm,0.5s						
JCUZ	**Jacuzzi**	**0.24**	**260**		Pg	21 39 54.5	+0.2
JCUZ					Sg	21 39 58.1	+0.6
NPOC	**North of Pu'u**	**0.25**	**262**		Sg	21 39 58.0	+0.3
STCH	**Steam Cracks**	**0.26**	**261**		Pg	21 39 54.5	-0.2
STCH					Sg	21 39 58.7	+0.5
STCH	**Steam Cracks**	**0.26**	**261**	IAML		21 40 00.1	
	comp=E,372nm,0.1s						
STCH				IAML		21 40 02.8	
	comp=N,236nm,0.2s						
KNHH	**Kane Nui o Ham**	**0.31**	**261**		Pg	21 39 55.6	+0.1
PUH	**Pauahi**	**0.35**	**261**		Pg	21 39 56.5	+0.1
PUH					Sg	21 40 01.8	+0.8
PUH	**Pauahi**	**0.35**	**261**	IAML		21 40 01.9	
	comp=E,575nm,0.1s						
PUH				IAML		21 40 01.9	
	comp=N,584nm,0.2s						
BYL	**Byron's Ledge**	**0.39**	**268**		Pg	21 39 57.1	0.0
BYL	**Byron's Ledge**	**0.39**	**268**	IAML		21 39 58.4	
	comp=N,56nm,1.0s						
BYL				IAML		21 40 04.9	
	comp=E,268nm,0.4s						
HATHI	**Halema'uma'u T**	**0.39**	**269**		Pg	21 39 57.1	0.0
HATHI	**Halema'uma'u T**	**0.39**	**269**	IAML		21 40 04.5	
	comp=N,375nm,0.8s						
HATHI				IAML		21 40 06.6	
	comp=E,344nm,0.7s						
KKO	**Keanakako'i**	**0.40**	**266**		Pg	21 39 57.2	0.0
KKO					Sg	21 40 03.0	+0.5
SBLHI	**Steaming Bluff**	**0.40**	**270**		Pg	21 39 57.1	-0.1
RIM	**Rim**	**0.40**	**266**		Pg	21 39 57.5	+0.1
RIM					Sg	21 40 03.0	+0.4
UWB	**Uwekahuna Bluf**	**0.41**	**270**		Pg	21 39 57.3	-0.1
UWB					Sg	21 40 03.0	+0.3
RSD	**Rainshed**	**0.41**	**275**		Pg	21 39 57.6	+0.2
RSD					Sg	21 40 03.5	+0.7
OBL	**Observatory Le**	**0.41**	**269**		Pg	21 39 57.7	+0.2
OBL					Sg	21 40 03.6	+0.7
UWE	**Uwekahuna**	**0.42**	**269**		Pg	21 39 57.7	0.0
UWE					Sg	21 40 04.1	+0.9
UWE	**Uwekahuna**	**0.42**	**269**	IAML		21 40 11.3	
	comp=N,358nm,0.3s						
UWE				IAML		21 40 11.5	
	comp=E,388nm,0.3s						
SDHHI	**Sand Hill**	**0.42**	**265**		Pg	21 39 57.7	0.0
SDHHI					Sg	21 40 03.6	+0.3
WRMHI	**West Rim**	**0.43**	**267**		Pg	21 39 57.7	-0.1
WRMHI					Sg	21 40 04.0	+0.6
HLP	**Hilina Pali**	**0.45**	**253**		Pg	21 39 58.4	+0.1
HLP					Sg	21 40 05.0	+0.8
HLP	**Hilina Pali**	**0.45**	**253**	IAML		21 40 05.1	
	comp=N,731nm,0.3s						
HLP				IAML		21 40 08.4	
	comp=E,553nm,0.6s						
MLH	**Mauna Loa**	**0.51**	**278**		Pg	21 39 59.2	-0.2
MLH					Sg	21 40 06.2	+0.1
MLH	**Mauna Loa**	**0.51**	**278**	IAML		21 40 12.0	
	comp=N,315nm,0.5s						
MLH				IAML		21 40 12.4	
	comp=E,314nm,0.5s						
HTC	**Hot Caves**	**0.55**	**250**		Pg	21 39 60.0	-0.2
HMH	**Humu'ula Sheep**	**0.62**	**286**		Pg	21 40 01.0	-0.6
POHA	**Pohakuloa**	**0.72**	**297**		Pg	21 40 03.6	+0.2
POHA				IAML		21 40 26.5	
	comp=E,156nm,0.9s						
ALEP	**Alea Permanent**	**0.76**	**279**		Pg	21 40 02.6	-1.5
ALEP					Sg	21 40 13.9	-0.1
HUH	**Hualalai**	**0.96**	**286**		Pg	21 40 07.5	-0.6

---

*SNET **21** 21:42:38.7±0.9, 12°.66N×88°.24W, h52km, ML4.1*
*CATAC **21** 21:42:38.7±0.4, 13°.N±3°×8°.8W±°, h37km±7km, M4.0/25, MLv4.0/25, Error ellipse: s-maj=7.3km s-min=2.1km az=32.6, confirmed*
*GCG **21** 21:42:39.4±0.6, 12°.78N×88°.33W, h15km±7km, MD4.3*
*UCR **21** 21:42:40.0±2.5, 12°.78N×88°.06W, h77km±46km, MW4.0*
ISC 21 21:42:36.6±1.3, 12°.61N±0°.04×88°.26W±0°.03, h18km±7km, n84, σ0°88/102, Off coast of central America

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

LCY	Lacayo	0.81	358	*i* P	Pn	21 42 53.6	+0.3
RANC	El Ranchito	0.82	358	*e*P	Pn	21 42 54.0	+0.5
RANC	El Ranchito	0.82	358	P	Pn	21 42 54.0	+0.5
RANC	El Ranchito	0.82	358	S	Sn	21 43 05.5	+0.3
BLLM	Bellamira	0.82	2	*i* P	Pn	21 42 53.9	+0.4
POTN	Potosi Cosigui	0.83	62	P	Pn	21 42 53.8	+0.3
POTN				S	Sn	21 43 05.7	+0.3
PACA	Pacayal	0.85	356	*e*P	Pn	21 42 54.6	+0.6
PACA				*e*S	Sn	21 43 06.2	+0.1
PACA	Pacayal	0.85	356	P	Pn	21 42 54.5	+0.6
CNRM	Centro Naciona	0.86	6	*e*S	Sn	21 43 06.6	+0.5
CNRM	Centro Naciona	0.86	6	S	Sn	21 43 06.9	+0.8
TECA	Tecapa	0.91	345	*i* P	Pn	21 42 55.1	+0.4
TECA				*e*P		21 42 55.1	
PQSS	Presa 15 de Se	1.05	344	*i* P	Pg	21 42 57.2	+0.2
PQSS	Presa 15 de Se	1.05	344	P	Pg	21 42 57.2	+0.2
PQSS	Presa 15 de Se	1.05	344	S	Sg	21 43 11.2	+0.5
TECO	Alcaldia de Te	1.05	331	*e*P	Pn	21 42 56.6	+0.2
TECO				*e*S	Sn	21 43 10.0	-0.8
TECO	Alcaldia de Te	1.05	331	P	Pn	21 42 56.7	+0.2
TECO	Alcaldia de Te	1.05	331	S	Sn	21 43 10.2	-0.6
UESV	Universidad de	1.14	333	*e*P	Pb	21 42 58.2	+0.4
UESV	Universidad de	1.14	333	P	Pb	21 42 58.4	+0.5
UESV	Universidad de	1.14	333	S	Sg	21 43 13.2	-0.5
CAHU	Cacacuatique	1.15	3	*e*P	Pg	21 42 58.8	-0.2
COEG	Centro de Oper	1.17	329	*e*P	Pb	21 42 58.6	+0.3
COEG				*e*S	Sn	21 43 13.6	-0.2
COEG	Centro de Oper	1.17	329	P	Pb	21 42 58.6	+0.3
SCLA	Alcaldia de Sa	1.17	337	*e*P	Pb	21 42 59.2	+0.6
SCLA	Alcaldia de Sa	1.17	337	P	Pb	21 42 59.1	+0.6
SCLA	Alcaldia de Sa	1.17	337	S	Sg	21 43 14.5	-0.3
CRIN	San Cristobal	1.19	86	*e*P	Pb	21 42 59.3	+0.6
CRIN				*e*S	Sg	21 43 15.2	0.0
CRIN	San Cristobal	1.19	86	P	Pb	21 42 59.3	+0.6
CRIN	San Cristobal	1.19	86	S	Sg	21 43 14.9	-0.3
LFRS	El Faro	1.27	322	*e*P	Pn	21 42 59.8	+0.1
PAVA	Las Pavas	1.28	329	*e*P	Pb	21 43 00.5	+0.3
PAVA	Las Pavas	1.28	329	P	Pb	21 43 00.6	+0.4
PAVA	Las Pavas	1.28	329	S	Sg	21 43 17.2	-0.9
LALI	Alcalda de L	1.35	310	*e*S	Sn	21 43 16.1	-2.0
LOMA	Loma Larga	1.35	319	*e*P	Pn	21 43 01.3	+0.5
LOMA	Loma Larga	1.35	319	P	Pn	21 43 01.3	+0.5
LOMA	Loma Larga	1.35	319	S	Sb	21 43 18.8	+0.1
QUEN	Al S del Volca	1.38	91	P	Pn	21 43 01.6	+0.5
CHOHN	Orocuina	1.38	51	P	Pn	21 43 01.2	0.0
CHOHN	Orocuina	1.38	51	S	Sb	21 43 18.9	-0.5
HERN	Volcan Telica	1.40	90	P	Pn	21 43 01.5	+0.1
HERN	Volcan Telica	1.40	90	S	Sn	21 43 19.2	-0.2
POLN	Al Sur del Vol	1.42	88	P	Pn	21 43 01.9	+0.3
POLN				S	Sn	21 43 19.3	-0.5
PACN	Al O del Volca	1.44	94	P	Pn	21 43 02.4	+0.5
PACN				S	Sn	21 43 20.2	-0.2
UEES	Universidad Ev	1.45	319	P	Pn	21 43 02.7	+0.6
PLRN	Geotermica Pol	1.46	91	P	Pn	21 43 02.3	+0.1
PLRN				S	Sn	21 43 19.9	-0.9
PIC2	El Picacho	1.48	319	*e*P	Pn	21 43 03.4	+0.7
ROCN	Rota Cerro Neg	1.49	93	P	Pn	21 43 03.0	+0.4
ROCN				S	Sn	21 43 21.2	-0.4
PMON	Piamonte	1.50	317	*e*P	Pn	21 43 03.1	+0.3
PMON	Piamonte	1.50	317	P	Pn	21 43 03.3	+0.5
ILCN	San Idelfonso	1.53	91	P	Pn	21 43 03.4	+0.3
CNGA	Al SSO del Vol	1.53	94	P	Pn	21 43 03.3	+0.2
CNGA				S	Sn	21 43 22.6	0.0
CNGN	Cerro Negro	1.53	94	P	Pn	21 43 03.3	+0.1
JAYA	Jayaque - finc	1.55	312	*e*P	Pn	21 43 03.8	+0.3
JAYA	Jayaque - finc	1.55	312	*e*P	Pn	21 43 04.1	+0.5
JAYA	Jayaque - finc	1.55	312	P	Pn	21 43 04.0	+0.4
MARCA	Marcala la Paz	1.55	8	*i* P	Pb	21 43 04.2	-0.8
MARCA				*i* S	Sb	21 43 23.7	-0.7
LEVN	Ruinas Leon Vi	1.62	97	P	Pn	21 43 05.1	+0.7
LEVN				S	Sn	21 43 25.2	+0.4
LLGN	La Laguna	1.68	337	P	Pn	21 43 05.7	+0.4
COPN	Copaltepe	1.69	105	*e*P	Pn	21 43 05.4	+0.1
COPN				*e*S	Sn	21 43 25.8	-0.7
COPN	Copaltepe	1.69	105	P	Pn	21 43 05.3	+0.1
MOMN	Momotombo	1.69	97	P	Pn	21 43 05.5	+0.1
MOMN				S	Sn	21 43 25.6	-1.2
SBLS	San Blas	1.80	313	*e*P	Pn	21 43 07.9	+0.8
SAPS	Ciudad Sandino	1.87	103	P	Pn	21 43 08.0	+0.2
SAPS	Ciudad Sandino	1.87	103	S	Sn	21 43 30.2	-0.7
YUSH	Yuscaran	1.92	46	P	Pn	21 43 09.0	+0.4
TISN	Laguna Tiscapa	2.00	103	P	Pn	21 43 10.0	+0.4
UNAN	Cigeo UNAN	2.01	104	P	Pn	21 43 10.2	+0.4
UNAN				S	Sn	21 43 33.6	-0.9
MGAN	Managua	2.02	103	*e*P	Pn	21 43 10.1	+0.2
MGAN				*e*S	Sn	21 43 33.4	-1.3
MTO3	Montecristo	2.07	329	*e*P	Pn	21 43 11.3	+0.5
MTO3	Montecristo	2.07	329	*e*P	Pn	21 43 11.3	+0.5
MTO3				*e*		21 43 11.3	
MTO3	Montecristo	2.07	329	P	Pn	21 43 11.3	+0.5
LCRUZ	La Cruz	3.00	120	*e*P	Pn	21 43 24.2	+0.9
LCRUZ				*e*S	Sn	21 43 57.6	-1.2
ACON	Acoyapa	3.09	102	*e*P	Pn	21 43 24.3	-0.2
STG0	El Palmar, Qui	3.50	301	*e*P	Pb	21 43 36.5	-1.7
STG0				*e*S	Sb	21 44 21.2	+0.8
JTS	Las Juntas de	3.98	125	*e*P	Pn	21 43 38.5	+1.6
JUNT	Juntas	3.98	125	*e*P	Pb	21 43 44.1	-2.3
JCR1	Jicaral	4.13	131	*e*P	Pn	21 43 40.6	+1.5
PICV	PH. Pirrs	4.97	126	*e*P	Pn	21 43 53.2	+2.7
ABE2	San Pablo	5.04	125	*e*P	Pn	21 43 54.0	+2.3
LCR2	La Lucha 2	5.06	124	*e*P	Pn	21 43 54.3	+2.4
PIEC	Cerro El Cedra	5.17	125	*e*P	Pn	21 43 55.9	+2.5
SAJE	San Jernim	5.69	124	*e*P	Pn	21 44 02.9	+2.5
PIRO	Carate, Puerto	6.40	130	*e*P	Pn	21 44 12.3	+2.2

*SOME **21** 22:07:11.8,40.°10N×77.°85E,h10km*
*NNC **21** 22:07:12.9±0.8,40.°13N×77.°89E,h8km±6km,mb4.1,*
mpv3.7,Error ellipse: s-maj=5.8km s-min=4.2km az=156.0
*KRNET **21** 22:07:13.4±0.1,40.°08N×77.°72E,mb3.6*
ISC 21 22:07:11.4±2.0,39.°90N±0.°08×78.°05E±0.°06,h10km±12km,
n71,σ1°59/99,38C-20D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	2.18	315	⇓*e*P	Pn	22 07 47.9	-0.2
NRN				⇓*e*S	Sn	22 08 14.4	-0.9
KDJ	Kajisay	2.32	344	⇑*i*P	Pb	22 07 51.6	-1.9
KDJ				⇑*i*S	Sb	22 08 19.9	-2.4
PRZ	Przheval'sk	2.60	6	⇑*i*P	Pb	22 07 57.0	-1.1
PRZ				⇑*i*S	Sb	22 08 29.0	-1.2
ULHL	Ulahol	2.71	330	P	Pb	22 07 58.1	-2.0
	SNR=20						
ULHL	Ulahol	2.71	330	⇑*i*P	Pb	22 07 57.0	-3.1
ULHL				⇑*i*S	Sn	22 08 28.6	+0.4
ANVS	Anan'yevo	2.90	354	⇑*i*P	Pb	22 08 00.1	-3.1
ANVS				⇑*i*S	Sn	22 08 34.5	+1.8
BOOM	Boomskoye usch	3.04	329	⇑*i*P	Pn	22 08 01.0	+1.3
BOOM				⇑*i*S	Sn	22 08 35.7	-0.5
SATY	Saty	3.17	5	Pg	Pb	22 08 07.3	-0.6
	12nm,0.4s						
SATY				Lg	Lg	22 08 47.0	
	75nm,0.6s						
SATY	Saty	3.17	5	*e*P	Pg	22 08 28.0	+16
	4.2nm,0.3s						
SATY				*e*S	Sg	22 09 22.9	+30
	40nm,0.5s						
TNSS	Tian-Shan	3.24	346	Pg	Pb	22 08 08.3	-1.0
	37nm,0.3s						
TNSS				Lg	Lg	22 08 48.9	
	57nm,0.5s						
TNSS	Tian-Shan	3.24	346	*e*P	Pb	22 08 08.2	-1.0
	37nm,0.3s						
TNSS				*e*S	Sb	22 08 48.9	0.0
	57nm,0.5s						
ZHN	Zhinishke	3.28	5	Pg	Pb	22 08 08.0	-1.8
	8.3nm,0.2s						
ZHN				Lg	Lg	22 08 48.5	
	24nm,0.2s						
ZHN	Zhinishke	3.28	5	*e*P	Pb	22 08 08.0	-1.8
	8.3nm,0.2s						
ZHN				*e*S	Sb	22 08 48.5	-1.2
	53nm,0.4s						
UZB	Uzynbulak	3.33	12	Pg	Pb	22 08 10.3	-0.3
	10nm,0.5s						
UZB				Lg	Lg	22 08 52.5	
	57nm,0.5s						
UZB	Uzynbulak	3.33	12	*e*P	Pb	22 08 10.3	-0.3
	10nm,0.5s						
UZB				*e*S	Sb	22 08 52.5	+1.4
	57nm,0.5s						
MDOK	Medeo	3.35	347	Pg	Pb	22 08 10.0	-0.9
	29nm,0.4s						
MDOK				Pg	Pg	22 08 10.2	-5.3
	17nm,0.4s						
MDOK				Lg	Lg	22 08 51.7	
	64nm,0.5s						
MDOK				Lg	Lg	22 08 52.7	
	44nm,0.5s						
SALK	Salom-Alik	3.37	288	⇑*i*P	Pn	22 08 05.7	+1.4
SALK				⇑*i*S	Sn	22 08 43.9	-0.5
KNDC	Almaty	3.41	347	⇓Pg	Pb	22 08 12.0	+0.1
	32nm,0.5s						
KNDC				⇑Lg	Lg	22 08 55.1	
	310nm,0.7s						
AAA	Alma-Ata	3.41	346	Pg	Pb	22 08 11.4	-0.6
	105nm,0.5s						
AAA				Lg	Lg	22 08 54.3	
	36nm,0.5s						
AAA	Alma-Ata	3.41	346	*e*P	Pb	22 08 11.4	-0.6
	105nm,0.5s						
AAA				*e*S	Sb	22 08 54.3	+0.7
	36nm,0.5s						
SHLS	Shalkode	3.42	18	Pg	Pg	22 08 14.4	-2.5
	47nm,0.5s						
SHLS				Lg	Lg	22 08 59.6	
	109nm,0.5s						
SHLS	Shalkode	3.42	18	*e*P	Pg	22 08 14.4	-2.5
	47nm,0.5s						
SHLS				*e*S	Sg	22 08 59.6	-1.8
	109nm,0.5s						
ARLS	Aral	3.44	306	⇑*e*P	Pn	22 08 06.1	+1.0
ARLS				⇑*e*S	Sn	22 08 44.7	-1.3
MTBS	Maitube	3.45	340	Pg	Pb	22 08 11.5	-1.1
	44nm,0.5s						
MTBS				Lg	Lg	22 08 54.4	
	103nm,0.5s						
MTBS	Maitube	3.45	340	*e*P	Pb	22 08 11.5	-1.1
	44nm,0.5s						
MTBS				*e*S	Sb	22 08 54.4	-0.2
	103nm,0.5s						
SFK	Sufi-Kurgan	3.49	273	⇓*i*P	Pn	22 08 07.6	+1.6
SFK				⇓*i*S	Sn	22 08 47.5	0.0
KST	Kastek	3.51	334	Pg	Pb	22 08 12.4	-1.3
	12nm,0.3s						
KST				Lg	Lg	22 08 56.0	
	62nm,0.6s						
KST	Kastek	3.51	334	*e*P	Pb	22 08 12.4	-1.3
	12nm,0.3s						
KST				*e*S	Sb	22 08 56.0	-0.4
	62nm,0.6s						
TKM2	Tokmak 2	3.54	329	P	Pn	22 08 07.9	+1.3
	SNR=9.6						
TKM2	Tokmak 2	3.54	329	⇓Pg	Pb	22 08 12.7	-1.5
	14nm,0.7s						
TKM2				⇓Lg	Lg	22 08 57.9	
	36nm,0.8s						
UCH	Uchtor	3.54	312	P	Pb	22 08 13.5	-0.9
	SNR=6.3						
UCH	Uchtor	3.54	312	⇑*i*P	Pn	22 08 08.4	+1.6
UCH				⇑*i*S	Sn	22 08 47.7	-1.3
KURS	Kuram	3.59	1	Pg	Pb	22 08 15.1	+0.2
	9.2nm,0.4s						
KURS				Lg	Lg	22 09 00.4	
	30nm,0.8s						
KURS	Kuram	3.59	1	*e*P	Pg	22 08 21.9	+1.8
	14nm,0.4s						
KURS				*e*S	Sg	22 09 12.2	+5.6
	51nm,0.5s						
PDGK	Podgornoye	3.59	17	⇓Pg	Pb	22 08 13.5	-1.6
	15nm,0.7s						
PDGK				⇑Lg	Lg	22 09 00.5	
	116nm,1.1s						
KBK	Karagaybulak	3.61	321	P	Pb	22 08 14.3	-1.1
	SNR=21						
KBK	Karagaybulak	3.61	321	⇑*i*P	Pn	22 08 09.2	+1.7
KBK				⇑*i*S	Sn	22 08 49.3	-1.0
AAK	Ala-Archa	3.83	317	P	Pb	22 08 17.9	-1.1
	SNR=19						
AAK	Ala-Archa	3.83	317	⇓Pg	Pb	22 08 17.0	-2.1
	12nm,0.7s						
AAK				⇑Lg	Lg	22 09 06.7	
	59nm,1.0s						
AAK	Ala-Archa	3.83	317	⇑*i*P	Pn	22 08 12.3	+1.8
AAK				⇑*i*S	Sn	22 08 54.3	-1.3
KTBS	Karatobe	3.94	345	Pg	Pb	22 08 20.0	-1.0
	17nm,0.5s						
KTBS				Lg	Lg	22 09 08.9	
	101nm,0.5s						
CHMS	Chumysh	3.96	322	P	Pb	22 08 20.7	-0.7
	SNR=6.3						
CHMS	Chumysh	3.96	322	⇑Pg	Pb	22 08 20.2	-1.2
	8.2nm,0.7s						
CHMS				⇑Lg	Lg	22 09 10.4	
	29nm,0.7s						
CHMS	Chumysh	3.96	322	⇓*i*P	Pn	22 08 14.1	+1.8
CHMS				⇓*i*S	Sn	22 08 57.9	-0.9
AML	Almayashu	3.98	306	P	Pn	22 08 14.8	+2.1
	SNR=31						
AML	Almayashu	3.98	306	⇑*i*P	Pn	22 08 13.9	+1.1
AML				⇑*i*S	Sn	22 08 57.6	-2.0
CHKK	Chushkaly	4.03	349	Pg	Pb	22 08 21.9	-0.6
	14nm,0.4s						
CHKK				Lg	Lg	22 09 12.2	
	51nm,0.5s						
CHKK	Chushkaly	4.03	349	*e*P	Pb	22 08 21.9	-0.6
	14nm,0.4s						
CHKK				*e*S	Sb	22 09 12.2	+1.0
	51nm,0.5s						
OHH	Osh	4.08	280	⇑*e*P	Pn	22 08 15.2	+1.4
OHH				⇑*e*S	Sn	22 09 00.9	-0.7
KUU	Kurty	4.19	343	Pg	Pb	22 08 24.2	-1.0
	12nm,0.6s						
KUU				Lg	Lg	22 09 16.0	
	64nm,0.7s						
KUU	Kurty	4.19	343	*e*P	Pb	22 08 24.2	-1.0
	12nm,0.6s						
KUU				*e*S	Sb	22 09 16.0	+0.2
	64nm,0.7s						
EKS2	Erkin-Say	4.24	312	P	Pn	22 08 17.7	+1.6
	SNR=6.7						
EKS2	Erkin-Say	4.24	312	⇑*i*P	Pn	22 08 17.7	+1.6
EKS2				⇑*i*S	Sn	22 09 04.1	-1.6
USP	Ospenovka	4.29	323	P	Pb	22 08 25.8	-1.0
	SNR=14						
USP	Ospenovka	4.29	323	⇑*i*P	Pn	22 08 18.5	+1.8
USP				⇑*i*S	Sn	22 09 06.1	-0.7
ARXS	Arharly	4.31	358	Pg	Pb	22 08 28.0	+0.7
	4.2nm,0.3s						
ARXS				Lg	Lg	22 09 22.9	
	40nm,0.5s						
SGDS	Sogindy	4.38	325	Pg	Pb	22 08 27.8	-0.6
	8.6nm,0.4s						
SGDS				Lg	Lg	22 09 23.0	
	20nm,0.6s						
MRKS	Merke	4.61	310	Pg	Pb	22 08 31.9	-0.4
	4.1nm,0.5s						
MRKS				Lg	Lg	22 09 29.6	
	12nm,0.3s						
MRKS	Merke	4.61	310	*e*P	Pb	22 08 31.9	-0.4
	4.1nm,0.5s						
MRKS				*e*S	Sb	22 09 29.6	+1.7
	12nm,0.3s						
DRK	Karamyk	4.84	267	⇓*i*P	Pn	22 08 26.6	+2.1
DRK				⇓*i*S	Sn	22 09 20.2	-0.5
MNAS	Manas	4.92	304	⇑*i*P	Pn	22 08 26.6	+1.2
MNAS				⇑*i*S	Sn	22 09 20.2	-2.2
TDK	Taldyqorghan	5.11	3	Pg	Pb	22 08 41.9	+1.1
TDK				Lg	Lg	22 09 47.2	
	30nm,0.5s						
TDK	Taldyqorghan	5.11	3	*e*P	Pb	22 08 41.9	+1.1
TDK				*e*S	Sb	22 09 47.2	+5.0
	30nm,0.5s						
TRKS	Terek-Say	5.49	289	⇓*e*P	Pn	22 08 34.5	+1.1
TRKS				⇓*e*S	Sn	22 09 33.6	-3.1
IUG	Iuzhnay	6.46	293	Pg	Pg	22 09 08.9	-6.2
	5.8nm,0.5s						
IUG				Lg	Lg	22 10 33.2	
	19nm,0.5s						
KK31	Karatay Array	6.50	302	Pg	Pb	22 09 06.0	+1.5
	1.0nm,0.4s,baz=125,slow=15,SNR=12						
KK31				⇓Lg	Lg	22 10 32.7	
	4.5nm,0.6s,baz=114,slow=27,SNR=4.3						
BRLS	Borolday	6.91	300	Pg	Pb	22 09 15.4	+3.8
	1.1nm,0.3s						
BRLS				Lg	Lg	22 10 44.2	
	4.5nm,0.6s						
MAKZ	Makanchi	7.48	21	⇑Pn	Pn	22 09 01.0	+0.5
	0.6nm,0.5s						
MAKZ				⇑Lg	Lg	22 11 08.8	
	2.4nm,1.2s						
MK31	Makanchi Array	7.55	23	⇓Pn	Pn	22 09 01.0	-0.5
	0.2nm,0.4s,baz=194,slow=12,SNR=13						
MK31				⇓Sn	Sn	22 10 25.9	-1.3
	1.5nm,0.7s,baz=201,slow=22,SNR=4.0						
MK31				⇑Lg	Lg	22 11 09.4	
	2.2nm,0.9s,baz=211,slow=26,SNR=3.9						
KURBB	Kurchatov Arra	10.73	2	⇓Lg	Lg	22 12 48.0	
	7.8nm,0.7s						
KURK	Kurchatov	10.82	2	⇓Lg	Lg	22 12 49.3	
	5.8nm,1.1s						

*IDC **21** 22:10:39.0±0.3,13.°97N×144.°89E,h187km±2km,mb3.9/19,*
mbtmp4.4/20,MS2.9/1,Error ellipse: s-maj=18.5km
s-min=9.5km az=82.0
*NEIC **21** 22:10:40.6±1.0,13.°96N±0.°09×144.°7E±0.°1,h188km±2km,*
mb4.5/40,Error ellipse: s-maj=20.2km s-min=12.8km
az=77.0
ISC 21 22:10:40.1±0.4,13.°96N±0.°06×144.°7E±0.°1,h188km,n97,
σ0°97/100,mb4.5/48,2D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.41	152		Pn	22 11 06.0	+0.5
GUMO				Sn	Sn	22 11 25.1	0.0
GUMO	Guam	0.41	152	P	Pn	22 11 06.1	+0.5
	798nm,0.3s,baz=174,slow=4.8,SNR=58						
GUMO				S	Sn	22 11 24.7	-0.5
	2μm,0.3s,baz=96,slow=24,SNR=29						
JCJ	Chichijima	13.28	350	Pn	Pn	22 13 42.7	+1.2
JCJ	Chichijima	13.28	350	P	Pn	22 13 41.8	+0.2
	68nm,0.6s,baz=245,slow=22,SNR=6.3						
PATS	Pohnpei	15.16	116	P	P	22 14 07.1	+1.4
JHJ2	Mitsune	19.58	348	P	P	22 14 54.3	+0.5
JOW	Kunigami	19.98	312	P	P	22 14 58.9	+0.7
JOW	Kunigami	19.98	312	P	P	22 14 59.2	+1.1
	15nm,0.6s,baz=154,slow=7.8,SNR=8.0						
	15nm,0.6s						
JMN	Monobe	21.99	335		P	22 15 19.9	+0.7
JMN				IAmb	IAmb	22 15 23.0	
	comp=Z,31nm,1.2s						
H11N1	WAKE ISLAND Hy	22.02	72	T	T	22 38 49.6	
	baz=257,slow=75						
H11N2	WAKE ISLAND Hy	22.02	72	T	T	22 38 50.4	
	baz=257,slow=75						
H11N3	WAKE ISLAND Hy	22.03	72	T	T	22 38 49.5	
	baz=257,slow=75						
INU	Inuyama	22.39	343		P	22 15 22.9	0.0
INU				IAmb	IAmb	22 15 25.4	
	comp=Z,20nm,0.8s						
JGF	Kuroka	22.54	344		P	22 15 23.4	-0.9
JGF				IAmb	IAmb	22 15 27.1	
	comp=Z,12nm,0.8s						
JNU	Nakatsue	22.84	329		P	22 15 27.4	+0.3
JNU	Nakatsue	22.84	329	P	P	22 15 27.0	-0.2
	comp=Z,26nm,0.8s,baz=132,slow=4.3,SNR=26						
	comp=Z,26nm,0.8s						
MJAR	Matsushiro Arr	23.23	347	P	P	22 15 29.3	-1.2
	comp=Z,11nm,0.9s,baz=172,slow=9.8,SNR=31						
MJAR				LR	LR	22 23 50.2	
	comp=Z,29nm,19.5s,baz=137,slow=34						
	comp=Z,11nm,0.9s						
MAJO	Matsushiro	23.23	347		P	22 15 29.8	-0.8
MJB9	Matsu-Tunnel	23.23	347		P	22 15 30.5	-0.1
MJB9				IAmb	IAmb	22 15 32.9	
	comp=Z,20nm,0.9s						
PMG	Port Moresby	23.34	174		P	22 15 31.9	+0.2
YULB	Yu-li	24.02	296	P	P	22 15 37.9	-0.1
YULB				IAmb	IAmb	22 16 11.1	
	comp=Z,15nm,1.3s						
JSD	Sado	24.65	348		P	22 15 43.1	-0.3
KSRS	Korea Array	27.75	330	P	P	22 16 10.8	-0.4
	comp=Z,3.3nm,0.4s,baz=143,slow=9.5,SNR=30						
	comp=Z,3.3nm,0.4s						
COEN	Coen	27.77	183	P	P	22 16 11.6	0.0
COEN				IAmb	IAmb	22 16 17.6	
	comp=Z,12nm,1.1s						
NJ2	Nanjing	29.69	312	*e*P	P	22 16 30.4	+1.9
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
MTN	Manton Dam	29.82	207	P	P	22 16 29.6	-0.1
MTN				IAmb	IAmb	22 16 36.7	
	comp=Z,9.8nm,1.0s						
USRK	Ussuriysk Ar.	32.03	343	P	P	22 16 49.0	+0.1
	comp=Z,1.7nm,0.7s,baz=159,slow=12,SNR=2.8						
	comp=Z,1.7nm,0.7s						
MDJ	Mudanjiang	33.15	340	P	P	22 16 59.4	+0.8
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KNRA	Kununurra	33.38	209	P	P	22 17 00.2	-0.6
KNRA				IAmb	IAmb	22 17 42.7	
	comp=Z,12nm,1.1s						
BNX	BinXian	34.88	339	⇓P	P	22 17 13.9	+0.4
BNX				pmax	pmax		
	comp=Z,18nm,0.8s						
WB0	Warramunga Arr	35.00	197		P	22 17 14.2	-0.6
WB0				IAmb	IAmb	22 17 14.7	
	comp=Z,5.3nm,0.5s						
WR8	Warramunga Arr	35.15	197	P	P	22 17 15.6	-0.5
WRA	Warramunga Arr	35.19	197	P	P	22 17 15.6	-0.8
WRA	Warramunga Arr	35.19	197	P	P	22 17 15.3	-1.1
	comp=Z,4.6nm,0.7s,baz=15,slow=9.3,SNR=46						
WRA				PcP	PcP	22 19 42.7	-0.6
	comp=Z,0.5nm,0.6s,baz=20,slow=3.6,SNR=2.1						
WRA				ScP	ScP	22 23 09.8	-1.5
	comp=Z,0.5nm,0.7s,baz=25,slow=4.0,SNR=2.8						
	comp=Z,4.6nm,0.7s						
HNS	HongShan	35.44	317	⇓P	P	22 17 19.3	+1.0
HNS				pmax	pmax		
	comp=Z,26nm,0.8s						
BJI	Beijing	36.04	321	P	P	22 17 23.4	0.0
BJI				pmax	pmax		
	comp=Z,4.0nm,1.0s					

SONM	Songino Array	46.32	325	P	P	22 18 47.5	+0.2
	comp=Z,2.1nm,0.7s,baz=136,slow=7.2,SNR=9.9						
	comp=Z,2.1nm,0.7s						
GTA	Gaotai	46.79	311	P	P	22 18 51.9	+0.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BBOO	Buckleboo	47.23	190	P	P	22 18 53.8	-0.4
BBOO				IAmb	IAmb	22 19 08.4	
	comp=Z,24nm,1.3s						
FORT	Forrest	47.26	200	P	P	22 18 54.3	-0.2
OUZ	Omahuta	56.07	151	P	P	22 20 02.4	+2.7
URZ	Urewera	60.18	151	P	P	22 20 28.2	+0.1
MXZ	Matakaoa Point	60.21	150	P	P	22 20 28.8	+0.4
QRZ	Quartz Range	60.31	156	P	P	22 20 30.9	+1.9
MWZ	Matawai	60.44	151	P	P	22 20 29.6	-0.3
BKZ	Black Stump Fm	60.62	152	P	P	22 20 34.3	+3.1
DSZ	Dennistoun Nort	60.82	157	P	P	22 20 33.3	+0.8
NNZ	Nelson	60.98	156	P	P	22 20 34.1	+0.6
MKAR	Makanchi Array	61.09	316	P	P	22 20 34.3	0.0
MKAR	Makanchi Array	61.09	316	P	P	22 20 34.2	-0.2
	comp=Z,1.8nm,0.6s,baz=93,slow=8.5,SNR=25						
	comp=Z,1.8nm,0.6s						
TSZ	Takapari Road	61.11	153	P	P	22 20 35.5	+1.0
ZALV	Zalesovo Beam	61.22	324	P	P	22 20 34.5	-0.4
	comp=Z,1.0nm,0.5s,baz=91,slow=7.3,SNR=5.3						
	comp=Z,1.0nm,0.5s						
THZ	Tophouse	61.26	156	P	P	22 20 35.9	+0.5
THZ	Tophouse	61.26	156	P	P	22 20 36.3	+0.8
MAKZ	Makanchi	61.31	316		P	22 20 35.4	-0.4
LTZ	Lake Taylor	61.88	157	P	P	22 20 41.0	+1.5
KHZ	Kahutara	62.06	156	P	P	22 20 40.2	-0.5
GVZ	Greta Valley S	62.33	157	P	P	22 20 42.8	+0.3
DCZ	Deep Cove	62.55	162	P	P	22 20 44.2	+0.4
MLZ	Mavora Lakes	62.75	162	P	P	22 20 45.4	+0.2
MQZ	McQueen's Vall	62.82	158	P	P	22 20 47.5	+1.8
KURK	Kurchatov	64.18	320		P	22 20 54.5	-0.1
KURK				IAmb	IAmb	22 20 54.7	
	comp=Z,4.3nm,0.6s						
KURBB	Kurchatov Arra	64.22	320	P	P	22 20 54.7	-0.2
	comp=Z,4.0nm,0.5s,baz=102,slow=6.8,SNR=27						
	comp=Z,4.0nm,0.5s						
E22K	Anaktuvuk Pass	67.39	21		P	22 21 14.6	-0.3
B22K	Teshekpuk Lake	67.65	19	P	P	22 21 15.7	-0.7
B22K				IAmb	IAmb	22 21 16.1	
	comp=Z,8.7nm,1.4s						
ILAR	Eielson Array	68.32	25	P	P	22 21 18.1	-2.6
	comp=Z,0.8nm,0.4s,baz=252,slow=5.6,SNR=18						
	comp=Z,0.8nm,0.4s						
D24K	Happy Valley	68.76	21	P	P	22 21 23.4	0.0
BVAR	Borovoye Array	69.52	322	P	P	22 21 28.0	-0.3
	comp=Z,3.7nm,0.4s,baz=103,slow=7.8,SNR=39						
	comp=Z,3.7nm,0.4s						
BRVK	Borovoye	69.59	322	P	P	22 21 29.0	+0.3
BRVK				IAmb	IAmb	22 21 29.2	
	comp=Z,3.0nm,0.5s						
Q32M	Nakina River	74.59	32	P	P	22 21 59.1	+0.6
Q32M				IAmb	IAmb	22 22 39.3	
	comp=Z,22nm,1.4s						
R33M	Jennings River	75.24	32	P	P	22 22 02.2	0.0
R33M				IAmb	IAmb	22 22 17.5	
	comp=Z,13nm,1.4s						
ABKAR	Akbulak array	76.14	318	P	P	22 22 06.7	-0.6
ABKAR	Akbulak array	76.14	318	P	P	22 22 06.3	-1.1
ABKAR				IAmb	IAmb	22 22 19.2	
	comp=Z,3.2nm,1.4s						
EUNU	Eureka	82.53	8	P	P	22 22 41.6	+0.2
YKA	Yellowknife Ar	82.62	27	P	P	22 22 40.8	-1.2
	comp=Z,0.3nm,0.5s,baz=283,slow=4.7,SNR=14						
	comp=Z,0.3nm,0.5s						
PINE	Pine Mountain	83.60	47	P	P	22 22 48.2	+0.4
PINE				IAmb	IAmb	22 22 49.7	
	comp=Z,7.7nm,1.2s						
ARCES	ARCESS Array B	86.68	342	P	P	22 23 01.3	-1.0
	comp=Z,6.8nm,1.1s,baz=350,slow=15,SNR=3.9						
	comp=Z,6.8nm,1.1s						
NVAR	Mina Array Bea	86.84	51	P	P	22 23 03.4	-0.6
	comp=Z,2.5nm,0.7s,baz=265,slow=6.0,SNR=11						
	comp=Z,2.5nm,0.7s						
FINES	FINESS Array B	90.75	335	P	P	22 23 19.1	-2.4
	comp=Z,1.1nm,0.6s,baz=57,slow=5.1,SNR=6.1						
	comp=Z,1.1nm,0.6s						
PDAR	Pinedale Array	91.84	45	P	P	22 23 24.4	-2.9
	comp=Z,0.5nm,0.7s,baz=283,slow=4.9,SNR=7.1						
	comp=Z,0.5nm,0.7s						

GCG 21 22:26:47.0±0.8, 14°.12N×91°.42W, h70km±11km, MD3.5, MW3.4, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	El Palmar, Qui	0.31	13	*i* P	Pn	22 27 01.4	+2.8
STG0				*i* S	Sn	22 27 12.6	+5.6
STG8	El Palmar, Qui	0.34	11	*e*P	Pn	22 27 01.9	+3.1
STG8				*e*S	Sn	22 27 13.5	+6.1
ESSG	Sabana Grande	0.62	65	*e*P	Pn	22 27 01.3	+0.1
SOKI	Kika Raxquin	0.70	1	*i* P	Pn	22 27 03.6	+1.2
SOKI				*i* S	Sn	22 27 16.4	+2.8
FG8	Yepocapa, Chim	0.84	80	⇑*i*P	Pn	22 27 01.0	-2.7
FG8				*e*S	Sn	22 27 12.5	-3.6
FG16	Alotenango, Sa	0.89	80	*i* P	Pn	22 27 02.0	-2.4
JAYA	Jayaque - finc	1.96	103	*i* S	Sn	22 27 41.9	-0.3
MTO3	Montecristo	2.01	82	*e*P	Pn	22 27 20.3	+1.3

*NEIC **21** 22:35:21.1±1.6, 24°.8S±0°.1×177°.2W±0°.2, h143km±8km, mb4.6/23, Error ellipse: s-maj=23.1km s-min=15.0km az=108.0*
*IDC **21** 22:35:25.1±4.2, 24°.84S×177°.39W, h176km±38km, mb3.6/7, mbtmp4.2/8, Error ellipse: s-maj=33.6km s-min=21.4km az=51.0*
ISC 21 22:35:24.2±0.7, 24°.81S±0°.08×177°.3W±0°.1, h176km, n40, σ0.97/38, mb4.2/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.29	327	P	Pn	22 37 21.8	+0.4
	24nm,0.8s,baz=146,slow=14,SNR=4.2						
URZ	Urewera	14.23	198	P	Pn	22 38 31.9	-5.9
	8.4nm,0.5s,baz=344,slow=3.3,SNR=14						
URZ				S	Sn	22 40 56.5	-20
	8.4nm,0.6s,baz=253,slow=23,SNR=9.8						
RTZ	Ruatahuna	14.60	198	Pn	Pn	22 38 39.5	-3.0
DZM	Mont Dzumac	15.20	277	P	Pn	22 38 50.2	+0.2
DZM				IAmb	IAmb	22 38 52.1	
	comp=Z,26nm,1.0s						
HIZ	Hauiti	15.21	204	Pn	Pn	22 38 49.0	-0.8
HIZ				IAmb	IAmb	22 39 32.6	
	comp=Z,104nm,1.3s						
SNZO	South Karori	17.76	200	P	P	22 39 18.9	+0.1
CTZ	Chatham Island	18.89	179	P	P	22 39 31.8	+0.7
CTZ				IAmb	IAmb	22 39 34.4	
	comp=Z,74nm,1.5s						
GVZ	Greta Valley S	19.79	201	P	P	22 39 40.4	-0.5
LTZ	Lake Taylor	19.89	203	P	P	22 39 41.5	-0.5
LTZ				IAmb	IAmb	22 40 10.9	
	comp=Z,27nm,1.4s						
TOO	Toolangi	34.08	239	P	P	22 41 52.5	+0.6
TOO				IAmb	IAmb	22 41 55.4	
	comp=Z,9.2nm,1.5s						
STKA	Stephens Creek	36.72	249	P	P	22 42 15.5	+1.1
STKA				IAmb	IAmb	22 42 24.8	
	comp=Z,25nm,1.2s						
STKA	Stephens Creek	36.72	249	P	P	22 42 15.1	+0.6
	comp=Z,0.8nm,0.4s,baz=112,slow=14,SNR=4.1						
	comp=Z,0.8nm,0.4s						
BBOO	Buckleboo	41.40	248	P	P	22 42 52.6	-0.6
BBOO				IAmb	IAmb	22 42 55.5	
	comp=Z,18nm,1.1s						
ASAR	Alice Springs	44.35	261	P	P	22 43 17.0	-0.2
ASAR	Alice Springs	44.35	261	P	P	22 43 16.5	-0.7
	comp=Z,0.9nm,0.7s,baz=91,slow=7.2,SNR=14						
	comp=Z,0.9nm,0.7s						
WR8	Warramunga Arr	44.68	266	P	P	22 43 19.9	+0.1
WB0	Warramunga Arr	44.83	266	P	P	22 43 20.2	-0.8
WRA	Warramunga Arr	44.83	266	P	P	22 43 19.7	-1.3
WRA	Warramunga Arr	44.83	266	P	P	22 43 20.3	-0.7
	comp=Z,1.5nm,0.5s,baz=99,slow=6.7,SNR=14						
	comp=Z,1.5nm,0.5s						
HON	Honolulu	49.54	24	P	P	22 43 55.9	-1.3
KEKH	Kekaha	49.54	22	P	P	22 43 55.6	-1.6
KNRA	Kununurra	51.17	269	P	P	22 44 09.4	-0.3
KNRA				IAmb	IAmb	22 44 31.3	
	comp=Z,19nm,1.4s						
FITZ	Fitzroy Crossi	53.24	265	P	P	22 44 25.5	+0.6
FITZ	Fitzroy Crossi	53.24	265	P	P	22 44 25.7	+0.8
	comp=Z,3.2nm,0.8s,baz=100,slow=9.3,SNR=7.2						
	comp=Z,3.2nm,0.8s						
SBA	Scott Base	53.64	184	P	P	22 44 29.0	+2.1
SBA				IAmb	IAmb	22 44 29.8	
	comp=Z,5.4nm,0.8s						
VNDA	Vanda	53.70	186	P	P	22 44 28.6	+1.2
VNDA				IAmb	IAmb	22 44 29.7	
	comp=Z,5.7nm,1.4s						
VNDA	Vanda	53.70	186	P	P	22 44 28.2	+0.9
	comp=Z,0.7nm,0.5s,baz=15,slow=5.8,SNR=8.2						
	comp=Z,0.7nm,0.5s						
NWAO	Narrogin (SRO)	57.13	246	P	P	22 44 52.5	-0.1
MORW	Morawa	58.90	250	P	P	22 45 04.2	-0.7
MORW				IAmb	IAmb	22 45 46.9	
	comp=Z,9.0nm,1.1s						
CASY	Casey	60.39	206	P	P	22 45 14.6	+0.1
QSPA	South Pole Qui	65.28	180	P	P	22 45 47.3	+0.4
QSPA	South Pole Qui	65.28	180	P	P	22 45 47.3	+0.4
	comp=Z,3.0nm,0.8s,baz=138,slow=1.2,SNR=14						
	comp=Z,3.0nm,0.8s						
BELA	Belgrano 2	75.22	172	P	P	22 46 46.4	-0.5
BELA				IAmb	IAmb	22 46 49.6	
	comp=Z,8.8nm,1.4s						
ATKA	Atka Island	76.73	2	P	P	22 46 55.8	+0.3
MAW	Mawson	77.76	200	P	P	22 47 02.8	+1.6
MAW	Mawson	77.76	200	P	P	22 47 02.0	+0.8
	comp=Z,4.8nm,0.9s,baz=120,slow=8.1,SNR=2.4						
	comp=Z,4.8nm,0.9s						
H29M	Whitestone	95.43	15	P	P	22 48 28.2	+0.1
HFS	Hagfors	143.88	351	PKhKP	PKPpre	22 54 35.8	
	comp=Z,0.5nm,0.4s,baz=50,slow=4.5,SNR=9.6						
AKASG	Malin Array Be	147.06	329	PKPbc	PKPbc	22 54 46.3	+0.3
	comp=Z,0.5nm,0.5s,baz=40,slow=4.4,SNR=5.4						
BRTR	Keskin Array B	150.11	307	PKPbc	PKPbc	22 54 54.5	+0.1
	comp=Z,0.3nm,0.6s,baz=3.6,slow=9.1,SNR=1.8						

*RHSSO **21** 22:38:31.9±0.6, 41°.39N×19°.42E, h9km±2km, ML2.8/11*
*PDG **21** 22:38:31.5±0.5, 41°.41N×19°.49E, h20km±1km, ML2.7/12, Error ellipse: s-maj=1.2km s-min=1.9km az=0.0*
*BEO **21** 22:38:33.9±0.5, 41°.50N×19°.69E, h11km±3km, ML2.6/3*
*ATH **21** 22:38:33.2, 41°.46N×19°.42E, h13km±8km, ML2.6/4, Manual Solution by S.Koutrakis First location: 2019/04/21 22:39:47, This location: 2019/04/22 05:24:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 6 km*
ISC 21 22:38:31.5±1.1, 41°.43N±0°.02×19°.50E±0°.03, h8km±9km, n67, σ1.03/110, 8C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.29	105	*e*Pg	Pb	22 38 38.0	-0.9
TIR				*e*Sg	Sb	22 38 42.9	-1.0
TIR	Tirane	0.29	105	P	Pb	22 38 38.1	-0.9
TIR				S	Sb	22 38 43.0	-1.0
ULC	Ulcinj	0.57	341	⇓*i*Pg	Pg	22 38 42.7	+0.1
ULC				*i* Sg	Sb	22 38 52.8	+0.7
DRME	Dracevica, Mon	0.80	343	*e*Pg	Pg	22 38 46.2	-0.6
DRME				*e*Sg	Sg	22 38 57.7	+0.5
DRME	Dracevica, Mon	0.80	343	⇓*i*Pg	Pg	22 38 46.3	-0.6
DRME				*i* Sg	Sb	22 38 59.9	+1.3
BUM	Brajici-Budva	0.98	333	⇓*i*Pg	Pb	22 38 51.4	+0.5
BUM				*i* Sg	Sb	22 39 05.9	+1.8
PDG	Podgorica	1.02	350	⇑*i*Pg	Pg	22 38 50.3	-0.8
PDG				*e*Sg	Sb	22 39 05.7	+0.7
PDG	Podgorica	1.02	350	*e*Pg	Pg	22 38 51.3	+0.2
PDG				*e*Sg	Sb	22 39 06.1	+1.1
PDG	Podgorica	1.02	350	⇑*i*Pg	Pg	22 38 50.7	-0.4
PDG				*i* Sg	Sn	22 39 06.9	+0.2
PDG	Podgorica	1.02	350	P	Pb	22 38 51.7	+0.2
PDG				S	Sb	22 39 05.4	+0.4
OHR	Ohrid	1.03	107	*i* Pn	Pg	22 38 51.1	-0.2
OHR				*i* Sn	Sn	22 39 07.3	+0.3
CEME	Cevo	1.20	339	⇓*i*Pg	Pg	22 38 54.4	-0.2
CEME				*i* Sg	Sn	22 39 12.1	+0.8
PVY	Plav	1.22	16	⇓*i*Pg	Pg	22 38 52.8	-2.1
HCY	Herceg Novi	1.27	324	⇓*i*Pg	Pg	22 38 55.4	-0.4
HCY				*e*Sg	Sg	22 39 12.4	+0.1
HCY	Herceg Novi	1.27	324	⇓*i*Pg	Pg	22 38 56.2	+0.4
HCY				*i* Sg	Sn	22 39 14.0	+1.2
NKME	Niksic	1.40	343	⇓*i*Pg	Pn	22 38 57.7	+0.2
NKME				*i* Sg	Sg	22 39 16.9	+0.3
KOME	Kolasin	1.42	1	⇓*i*Pg	Pn	22 38 57.6	-0.2
KOME				*i* Sg	Sn	22 39 17.7	+0.9
IVA	Berane	1.48	11	⇓*i*Pg	Pn	22 38 57.7	-0.8
IVA				*i* Sg	Sb	22 39 18.6	+0.4
MESG	Mesagne	1.50	237	P	Pn	22 38 59.2	+0.4
MESG				S	Sn	22 39 18.4	-0.1
TREB	Trebinje	1.55	327	*e*Pg	Pn	22 38 59.5	+0.1
TREB				*e*Sg	Sn	22 39 20.5	+0.8
NEST	Nestorio	1.55	130	P	Pg	22 39 01.8	+0.5
NEST	Nestorio	1.55	130	P	Pg	22 39 01.8	+0.5
NEST				S	Sg	22 39 22.1	+0.7
SCTE	Santa Cesarea	1.56	210	P	Pb	22 39 00.8	+0.1
SCTE				S	Sb	22 39 21.5	+0.9
BRY	Bratogost	1.64	335	⇑*i*Pn	Pn	22 39 01.6	+0.8
BRY				*e*Sn	Sn	22 39 23.2	+1.0
BRY	Bratogost	1.64	335	⇓*i*Pn	Pn	22 39 01.7	+0.9
BRY				*i* Sn	Sn	22 39 22.2	0.0
KEK	Kerkira	1.73	172	P	Pg	22 39 04.3	-0.4
PENT	Pentalofos	1.75	134	P	Pg	22 39 04.6	-0.5
UPM	Unac-Piva	1.83	346	*e*Pn	Pn	22 39 04.5	+1.0
UPM				*e*Sn	Sn	22 39 27.9	+0.9
UPM	Unac-Piva	1.83	346	⇑*i*Pn	Pn	22 39 04.2	+0.7
UPM				*i* Sn	Sn	22 39 28.1	+1.1
KLINJ	Klinje	1.87	339	*e*Pn	Pn	22 39 03.6	-0.3
KLINJ				*e*Sn	Sn	22 39 27.9	+0.1
SJES	Sjenica	1.87	11	⇑*i*Pn	Pn	22 39 04.2	+0.2
SJES				*e*Sn	Sn	22 39 28.6	+0.8
SJES	Sjenica	1.87	11	*e*Pg	Pb	22 39 05.6	-0.4
SJES				*e*Sg	Sn	22 39 29.2	+1.4
PLE	Pljevlja	1.91	358	⇓*i*Pn	Pn	22 39 05.7	+1.2
PLE				*i* Sn	Sn	22 39 30.4	+1.7
STON	Ston	1.97	318	*e*Pn	Pn	22 39 05.2	0.0
STON				*e*Sn	Sn	22 39 29.4	-0.6
IGT	Igoumenitsa	2.00	161	P	Pb	22 39 07.2	-0.9
IGT	Igoumenitsa	2.00	161	P	Pb	22 39 07.3	-0.7
KPRO	Kipourio	2.04	135	P	Pb	22 39 09.1	+0.1
SELS	Selova	2.16	33	*e*Pn	Pn	22 39 07.6	-0.3
RUDO	Rudo	2.19	358	*e*Pn	Pn	22 39 09.1	+0.8
RUDO				*e*Sn	Sn	22 39 37.3	+1.6
IVAS	Ivanjica	2.20	13	*e*Pn	Pn	22 39 08.9	+0.4
BARS	Barje	2.22	50	*e*Pn	Pn	22 39 09.5	+0.9
KALIN	Kalinovik	2.22	340	*e*Pn	Pn	22 39 09.5	+0.8
KALIN				*e*Sn	Sn	22 39 36.7	+0.3
VAY	Valandovo	2.32	92	*i* Pn	Pn	22 39 10.3	+0.4
VAY				*i* Sn	Sn	22 39 40.1	+1.4
BBLS	Lazi&#263i	2.44	358	*e*Pn	Pn	22 39 12.7	+0.9
BBLS				*e*Sn	Sn	22 39 43.2	+1.4
BBLS	Lazi&#263i	2.44	358	*e*Pn	Pn	22 39 13.6	+1.8
TETR	Tetrakomo, Epi	2.48	146	P	Pb	22 39 14.9	-1.6
KNT	Kendrikon	2.58	95	P	Pn	22 39 12.7	-0.9
HAPS	Han Pijesak,BI	2.69	352	⇑*i*Pn	Pb	22 39 15.3	+0.1
HAPS				*e*Sn	Sn	22 39 48.7	+0.6
TYRN	Tyrnavos	2.70	129	P	Pn	22 39 16.8	+1.6
TSLK	Tsoukalades, L	2.75	161	P	Pn	22 39 17.2	+1.3
LKD2	Lefkada island	2.78	161	P	Pn	22 39 17.5	+1.1
LKD2	Lefkada island	2.78	161	P	Pn	22 39 17.5	+1.1
NYDR	Nydri-Lefkada	2.86	161	P	Pn	22 39 18.3	+0.8
EVGI	Lefkada island	2.94	162	P	Pn	22 39 19.2	+0.6
ZAPS	Zavoj	2.97	51	*e*Pn	Pn	22 39 19.6	+0.6
FSK	Fiskardo	3.07	164	P	Pn	22 39 20.7	+0.3
TEKS	Tekeris	3.12	0	*e*Pn	Pn	22 39 21.6	+0.5
TEKS	Tekeris	3.12	0	*e*Pn	Pn	22 39 20.9	-0.2
ZAGS	Zajecar	3.13	39	*e*Pn	Pn	22 39 21.0	-0.1
BLY	Banja Luka	3.73	334	*e*Pn	Pn	22 39 29.1	-0.3
BLY				*e*Sn	Sn	22 40 12.7	-0.8
A050A	Klekovaca	3.75	326	⇑*i*Pn	Pn	22 39 30.5	+0.7
A050A				*e*Sn	Sn	22 40 13.6	-0.6
A051A	Mrakovica	4.05	333	*e*Pn	Pn	22 39 34.4	+0.5
A051A				*e*Sn	Sn	22 40 20.3	-1.3
BOJS	Bojanci	5.11	324	*e*Pn	Pn	22 39 47.7	-0.7
BOJS				*e*Sn	Sn	22 40 45.1	-2.5
CRES	Cresnjevec Ost	5.29	328	⇑*i*Pn	Pn	22 39 50.6	-0.2
CRES				*e*Sn	Sn	22 40 50.5	-1.4
CEY	Cerknica	5.67	321	*e*Pn	Pn	22 39 55.8	-0.3
CEY				*e*Sn	Sn	22 40 58.2	-3.2
SKDS	Skadanscina	5.73	318	*e*Pn	Pn	22 39 55.9	-1.1
SKDS				*e*Sn	Sn	22 40 59.4	-3.5
OBKA	Obir	6.21	327	*e*Pn	Pn	22 40 03.2	-0.4
OBKA				*e*Sn	Sn	22 41 11.5	-3.3

IDC 21 22:43:31.0±1.8, 2°.46N×124°.73E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=138.3km s-min=23.5km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.45	178	P	Pn	22 48 11.9	-0.3
	1.2nm,0.3s,baz=4.7,slow=10,SNR=10.0						
	1.2nm,0.3s						
WRA	Warramunga Arr	24.18	157	P	P	22 48 49.2	-0.1
	1.3nm,0.7s,baz=331,slow=10,SNR=6.3						
	1.3nm,0.7s						
ASAR	Alice Springs	27.46	162	P	P	22 49 18.1	-0.9
	0.1nm,0.5s,baz=334,slow=8.2,SNR=5.2						
	0.1nm,0.5s						
MKAR	Makanchi Array	57.48	327	P	P	22 53 21.8	-0.2
	0.3nm,0.3s,baz=120,slow=8.5,SNR=9.2						
	0.3nm,0.3s						

*CNRM **21** 22:53:53.6, 36°.79N×3°.15W, h57km, ML2.2*
*SFS **21** 22:53:53.0, 36°.74N×3°.03W, h5km, ML2.8/9, ML2.5/12, MLv2.3/12*
*MDD **21** 22:53:54.6±0.4, 36°.86N×3°.03W, h1km±3km, mb_Lg2.7/41, Error ellipse: s-maj=2.6km s-min=1.6km az=163.0*
ISC 21 22:53:51.2±1.0, 36°.69N±0°.02×2°.94W±0°.02, h12km±9km, n58, σ1.40/94, 2C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELGU	Los Guajares,	0.58	288	Pg	Pg	22 54 02.8	+0.3
ELGU				Sg	Sg	22 54 09.0	-1.2
ELGU	Los Guajares,	0.58	288	⇑Pg	Pg	22 54 02.8	+0.3
ELGU				Sg	Sg	22 54 08.9	-1.2
ENIJ	Nijar	0.65	64	Pg	Pn	22 54 05.9	-0.4
ENIJ				Sg	Sn	22 54 14.9	-1.7
ENIJ	Nijar	0.65	64	⇑Pg	Pn	22 54 05.9	-0.4
ENIJ				Sg	Sn	22 54 15.0	-1.6
ENIJ				*i* Vmb_Lg		22 54 16.7	
EQUE	Quentar	0.65	322	Pg	Pg	22 54 03.9	0.0
EQUE				Sg	Sg	22 54 10.2	-2.3
EQUE				*i* Vmb_Lg		22 54 12.7	
EQTA	Presa de Quent	0.66	322	Pg	Pg	22 54 03.9	0.0
EQTA				Sg	Sg	22 54 11.0	-1.6
EXCAB	Granada	0.71	313	Pg	Pg	22 54 05.9	+0.8
EXCAB				Sg	Sg	22 54 13.9	-0.5
ANER	Nerja	0.73	276	Pg	Pg	22 54 05.2	-0.1
ANER				Sg	Sg	22 54 14.0	-0.9
ANER				*i* Vmb_Lg		22 54 18.0	
EGOR	Sierra Gorda,	1.03	294	Pg	Pb	22 54 10.6	-0.5
EGOR				Sg	Sb	22 54 23.0	-1.5
EGOR	Sierra Gorda,	1.03	294	Pg	Pb	22 54 10.5	-0.5
EGOR				Sg	Sb	22 54 23.3	-1.3
EGOR				*i* Vmb_Lg		22 54 28.0	
EQES	Quesada	1.12	355	Pg	Pg	22 54 13.4	+0.7
EQES				Sg	Sb	22 54 27.4	+0.3
EQES				*i* Vmb_Lg		22 54 32.4	
EMAL	Malaga-Limoner	1.20	274	Pg	Pn	22 54 12.0	-1.8
EMAL				Sg	Sb	22 54 28.3	-1.1
E0803	Jimena (Jaen)	1.22	340	Pg	Pg	22 54 15.7	+1.0
E0803				Sg	Sg	22 54 31.6	+1.1
ELOR	Lorca, Murcia	1.34	45	Sg	Sg	22 54 35.1	+0.6
ELOR				*i* Vmb_Lg		22 54 37.0	
E0802	Ubeda,Jaen	1.38	346	Pg	Pg	22 54 18.0	+0.3
E0802				Sg	Sg	22 54 35.6	0.0
GOG	Mont Gurugu	1.47	182	P	Pb	22 54 19.1	+0.7
GOG	Mont Gurugu	1.47	182	S	Sg	22 54 39.3	+1.0
EZAR	Zarzadilla de	1.54	40	Pg	Pg	22 54 22.2	+1.4
EZAR				Sg	Sg	22 54 43.3	+2.4
EZAR				*i* Vmb_Lg		22 54 48.4	
ESTP	Estepa	1.65	291	Pg	Pg	22 54 23.9	+1.1
ESTP				Sn	Sg	22 54 45.5	+1.3
ESTP				Sg	Sb	22 54 46.9	+4.5
ESTP				*i* Vmb_Lg		22 54 49.3	
PALE	Palemas	1.68	209	P	Pn	22 54 20.8	+0.4
PALE	Palemas	1.68	209	S	Sn	22 54 41.3	-0.6
JAND	Jandula	1.73	332	Pn	Pb	22 54 22.5	-0.6
JAND				Sn	Sb	22 54 44.6	-0.2
JAND				*i* Vmb_Lg		22 54 46.6	
EMUR	La Murta	1.78	49	Pn	Pb	22 54 23.6	-0.2
EMUR				Sg	Sg	22 54 51.1	+2.7
EMUR	La Murta	1.78	49	Pn	Pb	22 54 23.6	-0.2
EMUR				Sn	Sb	22 54 45.5	-0.6
EMUR				*i* Vmb_Lg		22 54 54.1	
CART	Cartagena	1.79	59	Pn	Pb	22 54 23.0

MKZ				*e*S	Sb	22 58 34.1	-2.3
BZWR	**Bezymyannyi-We**	**3.14**	**283**	*e*P	Pn	22 58 11.2	+3.6
KRSR	**Krestovskiy**	**3.15**	**288**	*e*P	Pn	22 58 10.9	+3.2
TUMD	**Tumrok D**	**3.17**	**269**	*e*P	Pn	22 58 11.1	+3.2
TUMD				*e*S	Sn	22 58 49.1	+4.5
KIRR	**Kirishev**	**3.23**	**283**	*e*P	Pn	22 58 12.6	+3.9
KMNR	**Kamenistaya**	**3.26**	**279**	*e*P	Pb	22 58 14.0	-3.6
KPT	**Kopyto**	**3.29**	**283**	*e*P	Pn	22 58 13.7	+4.1
KII	**Karymskiy**	**3.99**	**253**	*e*P	Pb	22 58 24.6	-5.3
SDLR	**Sedlovina**	**4.63**	**246**	*e*P	Pn	22 58 33.0	+5.0
UGLR	**Uglovaya**	**4.69**	**246**	*e*P	Pn	22 58 34.2	+5.3
AVH	**Avacha**	**4.71**	**246**	*e*P	Pn	22 58 34.3	+5.3
KRX	**Arik**	**4.71**	**248**	*e*P	Pn	22 58 34.2	+5.0
KOK	**Koryaka**	**4.75**	**247**	*e*P	Pn	22 58 34.7	+5.1
GNL	**Ganaly**	**4.95**	**254**	*e*P	Pn	22 58 37.8	+5.5
RUS	**Russkaya**	**5.28**	**239**	*e*P	Pn	22 58 40.9	+4.1
MTVR	**Mutnovka**	**5.41**	**241**	*e*P	Pn	22 58 43.6	+4.8
KDTR	**Khodutka, Kamc**	**5.88**	**236**	*e*P	Pn	22 58 48.9	+3.8
KDTR				*e*S	Sn	22 59 53.7	+2.5

*IDC **21** 22:58:27.5±0.7,7°.12S×150°.80E,h0km,mb4.2/16, mbtmp4.2/17,ML2.6/1,MS3.3/11,Error ellipse: s-maj=26.4km s-min=14.2km az=98.0*
*NEIC **21** 22:58:31.6±1.4,7°.11S±0°.06×150°.62E±0°.08,h10km±1km, mb4.9/82,Error ellipse: s-maj=13.9km s-min=10.5km az=107.0*
*DJA **21** 22:58:38.8±0.6,7°S±4°×15°0E±°,h45km±7km,M4.6/17, mb4.6/17,mB5.5/2,MLv4.6/1,Mw(mB)5.0/2*
ISC 21 22:58:32.6±0.5,7°.09S±0°.07×150°.70E±0°.08,h26km,n131, σ1§55/121,mb4.9/59,MS3.3/11,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.23**	**27**	Pn	**Pn**	**22 59 21.2**	**-0.5**
PMG	**Port Moresby**	**4.19**	**236**		**Pn**	**22 59 33.8**	**-1.0**
PMG	**Port Moresby**	**4.19**	**236**	Pn	**Pn**	**22 59 35.8**	**+0.9**
	23nm,0.3s,baz=45,slow=7.7,SNR=18						
PMG				Sn	**Sn**	**23 00 23.6**	**+0.7**
	48nm,0.3s,baz=84,slow=19,SNR=12						
	61nm,0.4s						
PMG	**Port Moresby**	**4.19**	**236**	P	**Pn**	**22 59 36.1**	**+1.3**
PMG	**Port Moresby**	**4.19**	**236**	P	**Pn**	**22 59 36.4**	**+1.6**
COEN	**Coen**	**10.06**	**227**	Pn	**Pn**	**23 00 55.4**	**-0.1**
QIS	**Mount Isa**	**17.16**	**218**	P	**P**	**23 02 32.7**	**+0.4**
EIDS	**Eidsvold**	**18.18**	**179**		**P**	**23 02 44.5**	**+1.1**
FAKI	**Fak Fak**	**18.83**	**282**	P	**P**	**23 02 48.0**	**-2.8**
MTN	**Manton Dam**	**20.09**	**252**		**P**	**23 03 02.8**	**-1.6**
WB0	**Warramunga Arr**	**20.23**	**230**	P	**P**	**23 03 05.2**	**-0.7**
WB0				IAmb	IAmb	23 03 05.9	
	comp=Z,38nm,1.1s						
WR0	**Warramunga Arr**	**20.23**	**229**	P	**P**	**23 03 05.6**	**-0.4**
WR8	**Warramunga Arr**	**20.26**	**229**	P	**P**	**23 03 05.4**	**-0.8**
QLP	**Quilpie**	**20.34**	**197**	P	**P**	**23 03 08.1**	**+1.1**
SWI	**Sorong**	**20.34**	**287**	P	Pn	23 03 09.3	0.0
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**20.36**	**230**	P	**P**	**23 03 06.3**	**-1.0**
WRAB				IAmb	IAmb	23 03 08.5	
	comp=Z,28nm,0.8s						
WB2	**Warramunga Arr**	**20.36**	**230**	P	**P**	**23 03 06.5**	**-0.9**
WRA	**Warramunga Arr**	**20.37**	**230**		**P**	**23 03 06.0**	**-1.5**
WRA	**Warramunga Arr**	**20.37**	**230**	P	**P**	**23 03 06.0**	**-1.5**
	comp=Z,14nm,0.5s,baz=49,slow=10,SNR=35						
	comp=Z,14nm,0.5s						
DZM	**Mont Dzumac**	**21.27**	**136**	LR	LR	23 09 50.8	
	comp=Z,122nm,21.0s,baz=344,slow=32						
GUMO	**Guam**	**21.35**	**344**	LR	LR	23 10 47.5	
	comp=Z,23nm,18.4s,baz=78,slow=35						
INKA	**Innaminka**	**22.60**	**203**	P	**P**	**23 03 32.2**	**+0.9**
AS01	**Alice Springs**	**23.02**	**222**	P	**P**	**23 03 35.0**	**-0.9**
AS31	**Alice Springs**	**23.05**	**223**		**P**	**23 03 35.0**	**-1.2**
ASAR	**Alice Springs**	**23.06**	**223**	P	**P**	**23 03 35.0**	**-1.2**
	comp=Z,6.4nm,0.4s,baz=57,slow=9.5,SNR=92						
ASAR				LR	LR	23 11 57.3	
	comp=Z,99nm,20.0s,baz=68,slow=35						
	comp=Z,6.4nm,0.4s						
KNRA	**Kununurra**	**23.11**	**246**		**P**	**23 03 35.4**	**-1.4**
ARMA	**Armidale**	**23.22**	**178**		**P**	**23 03 38.5**	**+0.6**
ARMA				IAmb	IAmb	23 03 40.1	
	comp=Z,42nm,1.1s						
ARMA	**Armidale**	**23.22**	**178**	P	**P**	**23 03 38.8**	**+0.9**
OOD	**Oodnadatta**	**25.02**	**213**	P	**P**	**23 03 54.0**	**-0.7**
STKA	**Stephens Creek**	**26.08**	**198**		**P**	**23 04 03.1**	**-1.1**
STKA				IAmb	IAmb	23 04 05.1	
	comp=Z,75nm,1.4s						
STKA	**Stephens Creek**	**26.08**	**198**	P	**P**	**23 04 01.8**	**-2.4**
	comp=Z,3.6nm,0.6s,baz=30,slow=14,SNR=9.5						
STKA				LR	LR	23 13 24.2	
	comp=Z,117nm,18.0s,baz=26,slow=34						
	comp=Z,3.6nm,0.6s						
SOEI	**Soe**	**26.27**	**262**	P	**P**	**23 04 04.9**	**-1.4**
SOEI				IAmb	IAmb	23 04 19.7	
	comp=Z,32nm,0.9s						
SOEI	**Soe**	**26.27**	**262**	P	**P**	**23 04 08.8**	**+2.5**
FITZ	**Fitzroy Crossi**	**26.75**	**244**	P	**P**	**23 04 09.8**	**-0.6**
CAN	**Canberra**	**28.14**	**183**	P	**P**	**23 04 22.2**	**-0.5**
EDFI	**Ende, Flores**	**28.77**	**265**	P	**P**	**23 04 29.1**	**+0.4**
	comp=Z,28nm,1.0s						
BBOO	**Buckleboo**	**28.98**	**206**	P	**P**	**23 04 28.6**	**-1.6**
BBOO				IAmb	IAmb	23 04 31.8	
	comp=Z,77nm,1.9s						
FORT	**Forrest**	**31.70**	**219**	P	**P**	**23 04 53.3**	**-1.0**
TAU	**Tasmania Unive**	**35.80**	**184**	P	**P**	**23 05 29.9**	**+0.2**
GIRL	**Giralia**	**38.34**	**242**	P	**P**	**23 05 49.3**	**-2.3**
URZ	**Urewera**	**39.16**	**146**	LR	LR	23 20 07.8	
	comp=Z,76nm,18.6s,baz=330,slow=33						
MORW	**Morawa**	**39.29**	**232**	P	**P**	**23 05 59.1**	**-0.4**
MORW				IAmb	IAmb	23 06 00.0	
	comp=Z,25nm,1.1s						
MJAR	**Matsushiro Arr**	**44.96**	**346**	P	**P**	**23 06 44.5**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=178,slow=8.6,SNR=5.2						
MJAR				LR	LR	23 22 24.9	
	comp=Z,21nm,20.3s,baz=183,slow=32						
	comp=Z,1.0nm,0.5s						
KSRS	**Korea Array**	**49.16**	**336**	P	**P**	**23 07 17.6**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=149,slow=7.7,SNR=6.3						
	comp=Z,0.8nm,0.5s						
NJ2	**Nanjing**	**49.37**	**324**	*e*P	**P**	**23 07 20.1**	**0.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**57.01**	**297**	P	**P**	**23 08 17.1**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=131,slow=6.1,SNR=5.0						
	comp=Z,0.4nm,0.4s						
PZH	**PanZhiHua**	**58.02**	**307**	P	**P**	**23 08 25.3**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
HHC	**Hu-ho-hao-te**	**59.73**	**326**	*e*P	**P**	**23 08 37.3**	**+2.0**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.8s						
PETK	**Petropavlovsk-**	**60.26**	**5**	P	**P**	**23 08 38.2**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=201,slow=7.4,SNR=5.6						
	comp=Z,0.9nm,0.4s						
LZH	**Lanzhou**	**61.46**	**318**	*e*P	**P**	**23 08 47.0**	**-0.3**
LZH				sP	sP	23 08 56.5	+0.2
LZH				pmax	pmax		
	comp=Z,33nm,1.3s						
MA2	**Magadan**	**66.45**	**0**	LR	LR	23 36 01.7	
	comp=Z,10nm,20.5s,baz=148,slow=34						
SONM	**Songino Array**	**67.18**	**329**	P	**P**	**23 09 24.3**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=116,slow=6.8,SNR=4.2						
	comp=Z,0.7nm,0.4s						
VNDA	**Vanda**	**70.64**	**177**	P	**P**	**23 09 44.4**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=337,slow=7.4,SNR=22						
	comp=Z,1.8nm,0.6s						
L16K	**Owhat River**	**78.63**	**22**	P	**P**	**23 10 34.0**	**+2.1**
L16K				IAmb	IAmb	23 10 36.8	
	comp=Z,14nm,1.4s						
KDAK	**Kodiak Island**	**79.16**	**27**	LR	LR	23 39 37.2	
	comp=Z,22nm,20.8s,baz=352,slow=31						
F15K	**North Star Dit**	**79.61**	**17**	P	**P**	**23 10 38.7**	**+1.5**
F15K				IAmb	IAmb	23 10 40.0	
	comp=Z,7.9nm,1.1s						
L18K	**Granite Mounta**	**79.98**	**22**		**P**	**23 10 41.0**	**+1.7**
L18K				IAmb	IAmb	23 10 56.5	
	comp=Z,33nm,1.8s						
G16K	**Koyuk River**	**80.08**	**18**	P	**P**	**23 10 41.8**	**+2.1**
L19K	**White Mountain**	**80.66**	**23**	P	**P**	**23 10 45.1**	**+2.1**
TTA	**Tatalina**	**80.66**	**22**	P	**P**	**23 10 44.7**	**+1.7**
TTA				IAmb	IAmb	23 10 58.3	
	comp=Z,24nm,1.8s						
M19K	**Big River Lodg**	**80.67**	**23**	P	**P**	**23 10 45.2**	**+2.1**
M19K				IAmb	IAmb	23 10 47.1	
	comp=Z,44nm,1.9s						
CNPM	**China Poot**	**80.68**	**26**	P	**P**	**23 10 45.6**	**+2.4**
MKAR	**Makanchi Array**	**80.69**	**320**	P	**P**	**23 10 43.0**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=91,slow=8.8,SNR=5.2						
	comp=Z,0.4nm,0.5s						
MAKZ	**Makanchi**	**80.89**	**320**	P	**P**	**23 10 45.9**	**+1.3**
F17K	**Baldwin Pennin**	**81.12**	**18**	P	**P**	**23 10 46.7**	**+1.4**
M20K	**Styx River**	**81.16**	**23**	P	**P**	**23 10 47.5**	**+1.8**
M20K				IAmb	IAmb	23 10 51.2	
	comp=Z,37nm,1.8s						
G18K	**Tagagawik**	**81.57**	**19**	P	**P**	**23 10 49.2**	**+1.5**
SLKM	**Skilak Lake**	**81.62**	**25**	P	**P**	**23 10 50.5**	**+2.4**
ZALV	**Zalesovo Beam**	**81.91**	**327**	P	**P**	**23 10 48.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=94,slow=6.4,SNR=4.4						
ZALV				LR	LR	23 48 30.9	
	comp=Z,13nm,18.2s,baz=78,slow=37						
	comp=Z,0.4nm,0.3s						
H19K	**Roundabout Mou**	**82.06**	**20**	P	**P**	**23 10 52.3**	**+2.0**
J20K	**Nowinta River**	**82.06**	**21**	P	**P**	**23 10 52.5**	**+2.2**
J20K				IAmb	IAmb	23 10 57.5	
	comp=Z,9.7nm,1.3s						
RC01	**Rabbit Creek A**	**82.12**	**25**	P	**P**	**23 10 52.6**	**+1.9**
CAST	**Castle Rocks**	**82.41**	**22**	P	**P**	**23 10 53.5**	**+1.3**
CAST				IAmb	IAmb	23 10 56.8	
	comp=Z,30nm,1.8s						
F19K	**Shaleruckik Mo**	**82.44**	**18**	P	**P**	**23 10 53.6**	**+1.4**
PWL	**Port Wells**	**82.60**	**26**	P	**P**	**23 10 55.1**	**+1.8**
KSH	**Kashi**	**82.84**	**311**	P	**P**	**23 10 58.0**	**+2.8**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.3s						
QSPA	**South Pole Qui**	**82.88**	**180**		**P**	**23 10 54.9**	**0.0**
QSPA				IAmb	IAmb	23 10 57.5	
	comp=Z,5.6nm,1.1s						
QSPA	**South Pole Qui**	**82.88**	**180**	P	**P**	**23 10 54.6**	**-0.3**
	comp=Z,5.7nm,0.6s,baz=334,slow=0.7,SNR=43						
	comp=Z,5.7nm,0.6s						
E19K	**Redstone River**	**82.99**	**18**	P	**P**	**23 10 56.8**	**+1.6**
E19K				IAmb	IAmb	23 11 00.7	
	comp=Z,6.3nm,0.9s						
SML	**Sawmill**	**83.06**	**25**	P	**P**	**23 10 57.2**	**+1.5**
F20K	**Avaraart Lake**	**83.21**	**19**	P	**P**	**23 10 58.0**	**+1.8**
F20K				IAmb	IAmb	23 11 02.2	
	comp=Z,21nm,1.9s						
D19K	**Kuna River**	**83.38**	**17**	P	**P**	**23 10 58.5**	**+1.3**
NIL	**Nilore**	**83.55**	**305**	P	**P**	**23 11 00.1**	**+1.3**
NIL				IAmb	IAmb	23 11 03.5	
	comp=Z,25nm,1.6s						
RND	**Reindeer**	**83.64**	**23**	P	**P**	**23 11 00.2**	**+1.6**
MCK	**McKinley**	**83.77**	**23**	P	**P**	**23 11 00.6**	**+1.4**
D20K	**Etivluk River**	**83.95**	**17**	P	**P**	**23 11 01.6**	**+1.6**
D20K				IAmb	IAmb	23 11 02.4	
	comp=Z,5.4nm,1.3s						
KURK	**Kurchatov**	**84.29**	**323**	P	**P**	**23 11 03.6**	**+1.5**
KURK				IAmb	IAmb	23 11 08.2	
	comp=Z,7.1nm,1.4s						
KURBB	**Kurchatov Arra**	**84.31**	**322**	P	**P**	**23 11 01.9**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=118,slow=3.5,SNR=11						
	comp=Z,1.8nm,0.9s						
B20K	**Meade River**	**84.59**	**16**		**P**	**23 11 05.0**	**+1.8**
AAK	**Ala-Archa**	**84.73**	**314**		**P**	**23 11 05.5**	**+0.7**
AAK				IAmb	IAmb	23 11 11.1	
	comp=Z,4.1nm,0.9s						
G23K	**Bananza Creek**	**84.89**	**20**	P	**P**	**23 11 06.2**	**+1.3**
G23K				IAmb	IAmb	23 11 08.1	
	comp=Z,5.5nm,1.1s						
IL31		**85.06**	**22**	P	**P**	**23 11 06.3**	**+0.6**
IL31				IAmb	IAmb	23 11 07.5	
	comp=Z,4.4nm,0.8s						
ILAR	**Eielson Array**	**85.06**	**22**	P	**P**	**23 11 04.0**	**-1.7**
	comp=Z,2.4nm,0.7s,baz=248,slow=5.1,SNR=28						
	comp=Z,2.4nm,0.7s						
E22K	**Anaktuvuk Pass**	**85.06**	**18**		**P**	**23 11 07.1**	**+1.4**
E22K				IAmb	IAmb	23 11 11.0	
	comp=Z,4.5nm,0.9s						
ARSB	**Arslanbob**	**85.50**	**312**	P	**P**	**23 11 09.8**	**+1.1**
J25K	**Salcha River,**	**85.57**	**23**	P	**P**	**23 11 09.6**	**+1.2**
J25K				IAmb	IAmb	23 11 11.1	
	comp=Z,6.6nm,0.8s						
D23K	**Nanushuk River**	**85.86**	**18**		**P**	**23 11 12.1**	**+2.4**
D23K				IAmb	IAmb	23 11 15.6	
	comp=Z,11nm,0.9s						
F24K	**Squaw Lake**	**86.02**	**20**		**P**	**23 11 12.6**	**+2.1**
F24K				IAmb	IAmb	23 11 28.1	
	comp=Z,17nm,1.9s						
C23K	**Itkillik River**	**86.34**	**17**	P	**P**	**23 11 14.1**	**+2.1**
D24K	**Happy Valley**	**86.53**	**18**		**P**	**23 11 15.1**	**+2.1**
G26K	**Porcupine Rive**	**87.18**	**21**		**P**	**23 11 18.9**	**+2.7**
D25K	**Kavik River**	**87.38**	**18**	P	**P**	**23 11 18.8**	**+1.7**
D25K				IAmb	IAmb	23 11 22.2	
	comp=Z,7.3nm,1.4s						
NRIK	**Noril'sk**	**87.45**	**342**		**P**	**23 11 19.7**	**+2.3**
NRIK	**Noril'sk**	**87.45**	**342**	P	**P**	**23 11 15.6**	**-1.8**
	comp=Z,0.9nm,0.5s,baz=81,slow=2.5,SNR=4.7						
	comp=Z,0.9nm,0.5s						
KK31	**Karatay Array**	**87.68**	**314**	P	**P**	**23 11 20.8**	**+1.6**
KK31				IAmb	IAmb	23 11 24.1	
	comp=Z,11nm,1.6s						
KKAR	**Karatay Array**	**87.68**	**314**		**P**	**23 11 20.1**	**+1.0**
KKAR	**Karatay Array**	**87.68**	**314**	P	**P**	**23 11 21.3**	**+2.2**
KKAR				IAmb	IAmb	23 11 24.1	
	comp=Z,11nm,1.6s						
H27K	**Steamboat Moun**	**87.71**	**22**	P	**P**	**23 11 20.6**	**+1.8**
H27K				IAmb	IAmb	23 11 25.8	
	comp=Z,8.4nm,1.2s						
DAWY	**Dawson**	**87.72**	**24**	P	**P**	**23 11 21.2**	**+2.3**
DAWY				IAmb	IAmb	23 11 22.6	
	comp=Z,4.0nm,0.9s						
G27K	**Doyon Strip**	**87.89**	**22**	P	**P**	**23 11 21.6**	**+2.0**
G27K				IAmb	IAmb	23 11 40.3	
	comp=Z,12nm,1.8s						
L29M	**L29M**	**87.92**	**26**	P	**P**	**23 11 22.5**	**+2.6**
L29M				IAmb	IAmb	23 11 23.9	
	comp=Z,5.9nm,0.8s						
I28M	**Miner Creek**	**88.01**	**23**	P	**P**	**23 11 21.6**	**+1.3**
M30M	**Minto, Yukon**	**88.32**	**26**	P	**P**	**23 11 23.8**	**+2.0**
M30M				IAmb	IAmb	23 11 38.2	
	comp=Z,8.0nm,1.4s						
C27K	**Jago River**	**88.35**	**19**	P	**P**	**23 11 23.8**	**+2.1**
K29M	**Barlow Dome**	**88.42**	**25**		**P**	**23 11 24.3**	**+2.0**
K29M				IAmb	IAmb	23 11 26.3	
	comp=Z,6.5nm,0.8s						
E27K	**Coleen River**	**88.46**	**20**		**P**	**23 11 24.5**	**+2.3**
E27K				IAmb	IAmb	23 11 27.9	
	comp=Z,15nm,1.8s						
P32M	**Atlin**	**88.85**	**30**	P	**P**	**23 11 25.5**	**+1.1**
I30M	**Mount Dempster**	**89.34**	**24**	P	**P**	**23 11 28.8**	**+2.2**
I30M				IAmb	IAmb	23 11 48.4	
	comp=Z,15nm,1.9s						
BVAR	**Borovoye Array**	**89.82**	**323**	P	**P**	**23 11 28.9**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=344,slow=2.1,SNR=4.5						
	comp=Z,0.8nm,0.6s						
F30M	**Barrier River**	**90.31**	**22**	P	**P**	**23 11 31.8**	**+0.8**
F30M				IAmb	IAmb	23 11 40.5	
	comp=Z,28nm,2.0s						
G31M	**Satah River**	**90.67**	**22**	P	**P**	**23 11 34.1**	**+1.6**
SYO	**Syowa Base**	**90.82**	**200**	‖*e*PcP	**PcP**	**23 11 36.2**	**+1.8**
YBH	**Yreka Blue Hor**	**92.13**	**48**	LR	LR	23 45 50.7	
	comp=Z,29nm,20.6s,baz=281,slow=31						
MSEY	**Mahe Island**	**94.59**	**265**	P	**P**	**23 11 49.2**	**-2.7**
BELA	**Belgrano 2**	**95.11**	**179**	P	**P**	**23 11 53.0**	**0.0**
BELA				IAmb	IAmb	23 11 57.3	
	comp=Z,12nm,1.8s						
BMO	**Blue Mountains**	**96.36**	**46**	P	**P**	**23 11 58.8**	**-0.7**
NEW	**Newport**	**96.69**	**42**	LR	LR	23 51 52.7	
	comp=Z,19nm,18.0s,baz=159,slow=33						
YKAW3	**Yellowknife Wh**	**98.42**	**28**	P	Pdif	23 12 09.7	+1.6
YKAW3				IAmb	IAmb	23 12 23.8	
	comp=Z,9.3nm,1.9s						
YKA	**Yellowknife Ar**	**98.42**	**28**	P	Pdif	23 12 10.7	+2.5
YKA	**Yellowknife Ar**	**98.42**	**28**	P	Pdif	23 12 09.8	+1.7
	comp=Z,0.5nm,0.8s,baz=269,slow=4.4,SNR=9.9						
BDFB	**Brasilia**	**150.78**	**141**	PKPbc	**PKPbc**	**23 18 23.6**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=178,slow=5.9,SNR=5.7						

*IDC **21** 23:06:16.5±7.2,24°.45N×127°.26E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=419.3km s-min=23.7km az=63.0*
*JMA **21** 23:06:18.0±0.3,25°N±1°×12°8E±°,h82km,MV3.4/28,FAR S OFF OKINAWAJIMA*
ISC 21 23:06:14.9±2.4,24°.87N±0°.05×128°.19E±0°.04,h15km±15km, n26,σ1§82/44,mb3.7/4,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.32**	**344**	P	**Pb**	**23 06 39.7**	**+0.2**
JJT3				S	**Sg**	**23 06 56.1**	**-1.6**
JNTH	**Nagotoyohara**	**1.65**	**355**	P	**Pn**	**23 06 43.7**	**+0.3**
JNTH				*e*S	**Sn**	**23 07 02.0**	**-2.4**
JAGN	**Aguni-jima**	**1.92**	**334**	*e*P	**Pn**	**23 06 47.8**	**+0.7**
JAGN				*e*S	**Sn**	**23 07 09.4**	**-1.6**
JKE	**Kume jima 2**	**1.93**	**319**	P	**Pn**	**23 06 47.6**	**+0.4**
JOW	**Kunigami**	**1.96**	**2**	*i* P	**Pn**	**23 06 48.2**	**+0.6**
JOW				*e*S	**Sn**	**23 07 09.9**	**-2.1**
JYRO	**Yoronjima**	**2.16**	**6**	P	**Pn**	**23 06 51.2**	**+0.8**
JYRO				*e*S	**Sn**	**23 07 15.1**	**-1.9**
JIH	**Iheya**	**2.17**	**355**	P	**Pn**	**23 06 51.5**	**+1.0**
JIH				*e*S	**Sn**	**23 07 15.1**	**-2.1**
JOKE	**Okinoerabujima**	**2.51**	**8**	*e*P	**Pn**	**23 06 56.5**	**+1.3**
JOGS	**Gusukube**	**2.54**	**268**	*e*P	**Pn**	**23 06 56.2**	**+0.7**
JOGS				*e*S	**Sn**	**23 07 25.1**	**-1.1**
JMJ2	**Miyako jima3**	**2.61**	**268**	*e*P	**Pn**	**23 06 57.4**	**+0.9**
JMJ2				*e*S	**Sn**	**23 07 26.4**	**-1.6**
JIKM	**Ikemajima**	**2.68**	**272**	*e*P	**Pn**	**23 06 58.1**	**+0.7**
JIKM				*e*S	**Sn**	**23 07 28.3**	**-1.4**
JIRB	**Irabujima**	**2.75**	**270**	P	**Pn**	**23 06 58.6**	**+0.2**
JIRB				*e*S	**Sn**	**23 07 29.1**	**-2.3**
JMZ	**Minamidaito 2**	**2.90**	**70**	*e*P	**Pn**	**23 06 59.4**	**-1.1**
JMZ				*e*S	**Sn**	**23 07 32.6**	**-2.6**
JTK	**Tokunoshima**	**2.98**	**13**	P	**Pn**	**23 07 02.9**	**+1.1**
JTK				S	**Sn**	**23 07 34.2**	**-3.1**
JKDJ	**Kitadaitoujima**	**3.01**	**68**	P	**Pn**	**23 07 01.5**	**-0.5**
JKDJ				S	**Sn**	**23 07 35.6**	**-2.2**
JTJ	**Tarama**	**3.18**	**267**	P	**Pn**	**23 07 04.8**	**+0.4**
JTJ				*e*S	**Sn**	**23 07 39.4**	**-2.8**
JAMN	**Amaminishikomi**	**3.48**	**14**	*e*S	**Sn**	**23 07 46.9**	**-2.5**
JISG	**Ishigakijimahi**	**3.54**	**266**	*e*P	**Pn**	**23 07 09.1**	**-0.3**
JISG				*e*S	**Sn**	**23 07 47.7**	**-3.4**
JIJ	**Ishigaki jima**	**3.72**	**263**	*e*P	**Pn**	**23 07 11.8**	**-0.1**
JIJ				*e*S	**Sn**	**23 07 51.1**	**-4.4**
JAM	**Amami Oshima**	**3.75**	**19**	P	**Pn**	**23 07 13.8**	**+1.6**
JAM				*e*S	**Sn**	**23 07 53.8**	**-2.3**
JZK	**Kikaishima**	**3.79**	**24**	*e*S	**Sn**	**23 07 55.9**	**-1.2**
JKRS	**Kuro-shima**	**3.86**	**262**	*e*P	**Pn**	**23 07 14.3**	**+0.5**
JKRS				*e*S	**Sn**	**23 07 56.4**	**-2.6**
MKAR	**Makanchi Array**	**42.43**	**313**	P	**P**	**23 14 10.3**	**+1.2**
	0.6nm,0.5s,baz=97,slow=11,SNR=11						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**44.94**	**172**	P	**P**	**23 14 31.1**	**+1.7**
	1.5nm,0.7s,baz=351,slow=8.5,SNR=7.0						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**45.82**	**317**	P	**P**	**23 14 37.7**	**+1.5**
	0.3nm,0.6s,baz=104,slow=8.8,SNR=3.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**48.56**	**173**	P	**P**	**23 14 59.0**	**+1.2**
	0.3nm,0.3s,baz=6.2,slow=10,SNR=3.2						
	0.3nm,0.3s						

IDC 21 23:12:14.9±1.1,25°.03N×127°.88E,h0km,mb3.3/4, mbtmp3.3/4,Error ellipse: s-maj=48.2km s-min=19.0km az=89.0,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.83**	**11**	Pn	Pn	23 12 46.5	-1.2
	18nm,0.3s,baz=157,slow=21,SNR=67						
JOW				Sn	Sn	23 13 11.6	-0.1
	36nm,0.3s,baz=148,slow=29,SNR=16						
MKAR	**Makanchi Array**	**42.11**	**313**	P	P	23 20 08.7	-0.1
	0.2nm,0.4s,baz=99,slow=9.1,SNR=7.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**45.14**	**171**	P	P	23 20 31.9	-1.4
	0.9nm,0.7s,baz=353,slow=8.6,SNR=5.9						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**48.76**	**173**	P	P	23 21 02.2	+0.6
	0.3nm,0.7s,baz=352,slow=7.4,SNR=5.2						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**79.75**	**25**	P	P	23 24 26.1	+1.6
	0.1nm,0.8s,baz=301,slow=6.0,SNR=2.4						
	0.1nm,0.8s						

MA2	Magadan	71.12	26	LR	LR	00 04 59.5
	comp=Z,19nm,19.0s,baz=108,slow=40					
VRAC	Vranov	80.84	319	LR	LR	00 10 24.4
	comp=Z,26nm,18.4s,baz=110,slow=39					
GERES	GERESS Array B	82.69	319	P	P	23 30 14.5 +1.2
	0.1nm,0.3s,baz=45,slow=5.9,SNR=2.6					
	0.1nm,0.3s					

*IDC **21** 23:58:14.1±7.4, 9°.79S×151°.52E, h60km±58km, mb3.5/7, mbtmp3.8/9, ML2.5/2, MS2.9/4, Error ellipse: s-maj=48.6km s-min=34.4km az=90.0*

ISC 21 23:58:10.6±1.3, 9°.9S±0°.2×151°.7E±0°.1, h35km, n12, σ1°.00/10, mb3.9/7, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.50	275	P	Pn	23 59 17.4	+1.1
	2.9nm,0.3s,baz=77,slow=12,SNR=4.1						
PMG				S	Sn	00 00 06.6	-0.8
	69nm,0.9s,baz=16,slow=15,SNR=3.4						
PMG				LR	LR	00 01 01.2	
	comp=Z,119nm,21.3s,baz=102,slow=39						
	131nm,1.1s						
DZM	Mont Dzumac	18.64	132	LR	LR	00 07 51.0	
	comp=Z,72nm,20.5s,baz=230,slow=31						
WRA	Warramunga Arr	19.52	237	P	Pn	00 02 36.1	-0.5
	0.1nm,0.3s,baz=61,slow=10,SNR=2.1						
	0.6nm,0.7s						
ASAR	Alice Springs	21.84	229	P	P	00 03 00.7	+0.4
	0.6nm,0.7s,baz=58,slow=9.9,SNR=6.4						
	0.6nm,0.7s						
JNU	Nakatsue	47.13	336	LR	LR	00 22 00.2	
	comp=Z,32nm,21.7s,baz=352,slow=30						
KSRS	Korea Array	52.08	336	LR	LR	00 28 42.9	
	comp=Z,4.9nm,18.1s,baz=180,slow=35						
CMAR	Chiang Mai Arr	59.17	298	P	P	00 08 08.2	-0.3
	1.0nm,0.3s,baz=112,slow=5.9,SNR=4.1						
	1.0nm,0.3s						
SONM	Songino Array	70.05	329	P	P	00 09 20.2	+1.0
	1.1nm,0.8s,baz=152,slow=6.5,SNR=3.8						
	1.1nm,0.8s						
MKAR	Makanchi Array	83.43	320	P	P	00 10 34.2	-0.4
	0.6nm,0.7s,baz=110,slow=7.0,SNR=5.7						
	0.6nm,0.7s						
ZALV	Zalesovo Beam	84.75	327	P	P	00 10 39.6	-1.5
	0.5nm,0.6s,baz=79,slow=7.5,SNR=2.5						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	87.10	322	P	P	00 10 51.8	-1.0
	0.3nm,0.6s,baz=104,slow=4.1,SNR=4.1						
	0.3nm,0.6s						
ILAR	Eielson Array	87.24	22	P	P	00 10 53.4	+0.2
	0.7nm,1.0s,baz=258,slow=4.7,SNR=4.2						
	0.7nm,1.0s						

*CNRM **22** 00:02:12.7, 35°.68N×3°.61W, h14km, ML2.5*
*SFS **22** 00:02:16.8, 35°.63N×3°.49W, h3km, ML2.6/7, ML2.5/7, MLv2.4/7*
*MDD **22** 00:02:17.8±0.4, 35°.69N×3°.34W, h0km, mb_Lg2.3/12, Error ellipse: s-maj=5.5km s-min=2.7km az=63.0*

ISC 22 00:02:15.1±1.2, 35°.50N±0°.02×3°.59W±0°.03, h13km±10km, n42, σ1°.40/64, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.40	225	P	Pg	00 02 23.1	0.0
PALE	Palemas	0.40	225	S	Sb	00 02 30.9	+0.8
WMELI	Melilla	0.55	109	Sg	Sb	00 02 33.8	-0.7
WMELI				Pg	Pb	00 02 27.1	+0.4
EMEL	Melilla	0.56	111	Pg	Pb	00 02 26.6	-0.1
EMEL				Sg	Sb	00 02 33.9	-0.6
EMLI	Melilla	0.56	111	Sg	Sb	00 02 33.9	-0.7
EMLI				Pg	Pb	00 02 26.6	-0.2
GOG	Mont Gurugu	0.56	120	P	Pb	00 02 26.2	-0.6
GOG	Mont Gurugu	0.56	120	S	Sn	00 02 35.6	-2.5
AKLM	AKL	1.01	193	P	Pg	00 02 34.5	-0.2
AKLM	AKL	1.01	193	S	Sn	00 02 49.7	+0.5
ANER	Nerja	1.28	351	Pg	Pb	00 02 39.5	+0.5
ANER				Sg	Sb	00 02 54.2	-1.2
ANER				*i* Vmb_Lg		00 02 58.3	
ELGU	Los Guajares,	1.36	359	Pn	Pn	00 02 39.3	-0.7
ELGU				Sn	Sb	00 02 55.8	-2.1
ELGU	Los Guajares,	1.36	359	Pg	Pn	00 02 39.2	-0.7
ELGU				Sg	Sb	00 02 55.9	-2.1
ELGU				*i* Vmb_Lg		00 02 58.3	
EMAL	Malaga-Limoner	1.43	332	Pn	Pn	00 02 40.1	-0.6
EMAL				Sn	Sn	00 02 57.5	-2.0
JBK	JBK	1.44	144	P	Pn	00 02 40.3	-0.7
JBK	JBK	1.44	144	S	Sg	00 03 02.4	+1.0
SMIR	Smir Dam	1.47	278	P	Pn	00 02 38.8	-2.5
SMIR	Smir Dam	1.47	278	S	Sn	00 02 58.4	-2.0
CHEFC	Chefchaouen	1.48	255	P	Pn	00 02 39.8	-1.7
CHEFC	Chefchaouen	1.48	255	S	Sn	00 03 00.7	-0.1
EGOR	Sierra Gorda,	1.66	346	Pn	Pn	00 02 44.4	+0.3
EGOR				Sn	Sn	00 03 05.4	+0.1
EGOR	Sierra Gorda,	1.66	346	Pn	Pn	00 02 44.9	+0.8
EGOR				Sn	Sn	00 03 06.2	+0.8
EQUE	Quentar	1.71	4	Pg	Pb	00 02 46.3	-0.1
EQUE				Sn	Sn	00 03 05.4	-1.0
EQTA	Presa de Quent	1.71	4	Pg	Pb	00 02 46.5	+0.1
EQTA				Sg	Sn	00 03 06.1	-0.4
EJIF	Jimena Fronter	1.79	302	Pn	Pg	00 02 50.3	+0.8
EJIF				Sn	Sb	00 03 12.4	+2.1
ENIJ	Nijar	1.85	37	Sg	Sn	00 03 07.5	-2.3
ENIJ				*i* Vmb_Lg		00 03 14.4	
LCRM	LCR	2.09	210	P	Pn	00 02 51.6	+1.7
LCRM	LCR	2.09	210	S	Sg	00 03 21.2	-1.1
E0803	Jimena (Jaen)	2.33	2	Pg	Pb	00 02 56.2	-0.8
E0803				Sg	Sb	00 03 25.8	0.0
EQES	Quesada	2.34	10	Pg	Pn	00 02 55.6	+2.3
EQES				Sg	Sn	00 03 24.0	+2.1
EQES				*i* Vmb_Lg		00 03 28.8	
E0802	Ubeda,Jaen	2.53	4	Sg	Sn	00 03 29.8	+3.2
JAND	Jandula	2.73	354	Pg	Pb	00 03 02.1	-1.7
JAND				Sn	Sn	00 03 31.9	+0.3
JAND				Sg	Sb	00 03 37.0	-0.3
JAND				*i* Vmb_Lg		00 03 39.5	
EADA	Adamuz	2.78	344	Sn	Sn	00 03 32.3	-0.4
EADA				Pn	Pn	00 03 01.1	+1.7
EADA	Adamuz	2.78	344	Pn	Pn	00 03 01.0	+1.7
EADA				Sn	Sn	00 03 34.0	+1.3
EADA				Sg	Sb	00 03 39.4	+0.8
EADA				*i* Vmb_Lg		00 03 43.2	
MD31	MD31	2.80	201	P	Pn	00 02 59.7	0.0
MD31	MD31	2.80	201	S	Sn	00 03 35.8	+2.4
MDT	Midelt	2.81	198	P	Pn	00 03 00.0	+0.2
MDT	Midelt	2.81	198	S	Sn	00 03 36.1	+2.6
ECAB	El Cabril	2.96	331	Sn	Sn	00 03 39.0	+1.8
ECAB				*i* Vmb_Lg		00 03 51.1	
PSIM	Granatula de C	3.32	358	Sn	Sn	00 03 45.5	-0.5
EGRO	El Granado	3.73	304	Pn	Pn	00 03 12.3	-0.2
EGRO				*i* Vmb_Lg		00 03 52.5	
EGRO				Sn	Sn	00 03 53.9	-2.4
ESDC	Sonseca Array	4.18	356	Pn	Pn	00 03 20.7	+2.1
ESDC				Sn	Sn	00 04 06.7	-0.6
ESDC				*i* Vmb_Lg		00 04 10.2	
EBAD	Badajoz	4.25	321	Pn	Pn	00 03 21.2	+1.7
EBAD				Sn	Sn	00 04 08.1	-0.8
EBAD				*i* Vmb_Lg		00 04 09.4	

IDC 22 00:27:35.0±1.5, 14°.66S×167°.67E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=41.7km s-min=36.6km az=143.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.22	256	P	P	00 34 05.5	+0.3
	0.1nm,0.3s,baz=84,slow=8.0,SNR=1.1						
	0.1nm,0.3s						
ASAR	Alice Springs	33.06	249	P	P	00 34 12.3	-0.3
	0.3nm,0.4s,baz=76,slow=8.9,SNR=8.4						
	0.3nm,0.4s						
VNDA	Vanda	62.94	181	P	P	00 38 03.6	+0.7
	0.3nm,0.5s,baz=1.1,slow=6.7,SNR=1.6						
	0.3nm,0.5s						
QSPA	South Pole Qui	75.37	180	P	P	00 39 19.8	-0.5
	1.3nm,0.9s,baz=26,slow=7.4,SNR=5.9						
	1.3nm,0.9s						
ILAR	Eielson Array	86.34	18	P	P	00 40 18.6	0.0
	0.2nm,0.6s,baz=243,slow=4.0,SNR=4.5						
	0.2nm,0.6s						

NNC 22 00:29:02.1±1.6, 36°.79N×71°.30E, h0km, mb4.2, mpv4.0, 2C, Error ellipse: s-maj=14.0km s-min=11.9km az=149.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	5.45	350	P	Pn	00 30 24.9	+0.2
MRKS	Merke	6.13	13	Pg	Pn	00 30 34.8	+0.7
	19nm,0.4s						
MRKS				Lg	Lg	00 31 42.8	
	2.7nm,0.2s						
BRLS	Borolday	6.34	350	P	Pn	00 30 33.0	-3.8
KK31	Karatay Array	6.34	355	P	Pn	00 30 36.8	0.0
	1.9nm,0.4s,baz=177,slow=12,SNR=25						
KK31				⇑S	Sn	00 31 51.1	+1.2
	1.1nm,0.4s,baz=173,slow=21						
AAK	Ala-Archa	6.34	22	P	Pn	00 30 37.8	+0.8
	4.5nm,0.3s						
AAK				⇑S	Sn	00 31 51.4	+1.2
	3.3nm,1.2s						
CHMS	Chumysh	6.75	22	P	Pn	00 30 42.3	-0.1
TKM2	Tokmak 2	6.96	27	P	Pn	00 30 45.1	-0.4
AB31	Akbulak array	14.96	330	P	Pn	00 32 34.6	-0.1
	0.9nm,0.7s,baz=150,slow=13,SNR=7.2						

*SOME **22** 00:33:33.9, 39°.65N×76°.80E, h0km*
*NNC **22** 00:33:35.9±6.0, 39°.09N×76°.64E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=46.0km s-min=33.3km az=6.0*
*KRNET **22** 00:33:36.0±0.1, 39°.70N×76°.82E, mb3.0*

ISC 22 00:33:36.6±1.7, 39°.72N±0°.07×76°.78E±0°.04, h10km, n27, σ2°.20/48, 17C-16D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.81	341	⇑*e*P	Pb	00 34 10.2	+0.1
NRN				⇑*e*S	Sg	00 34 35.7	+0.7
TARG	Taragay, Kyrgy	2.16	21	⇑*i*P	Pb	00 34 15.4	-0.6
TARG				⇑*i*S	Sg	00 34 44.6	-1.4
KDJ	Kajisay	2.43	7	⇓*i*P	Pb	00 34 19.3	-1.2
KDJ				⇓*i*S	Sb	00 34 50.9	+0.3
SFK	Sufi-Kurgan	2.54	278	⇑*i*P	Pb	00 34 21.6	-0.8
SFK				⇑*i*S	Sb	00 34 54.4	+0.7
SALK	Salom-Alik	2.54	298	⇑*i*P	Pb	00 34 21.6	-0.9
SALK				⇑*i*S	Sb	00 34 54.4	+0.5
ULHL	Ulahol	2.56	351	⇑*i*P	Pb	00 34 21.3	-1.4
ULHL				⇑*i*S	Sb	00 34 54.4	+0.1
ARLS	Aral	2.84	320	⇓*e*P	Pb	00 34 25.3	-2.2
ARLS				⇓*e*S	Sb	00 35 01.1	-1.2
BOOM	Boomskoye usch	2.84	347	⇓*i*P	Pb	00 34 25.0	-2.5
BOOM				⇓*i*S	Sb	00 35 01.6	-0.8
OHH	Osh	3.17	286	⇓*e*P	Pb	00 34 29.8	-3.2
OHH				⇓*e*S	Sb	00 35 09.2	-2.5
KBK	Karagaybulak	3.25	335	⇓*i*P	Pb	00 34 30.9	-3.5
KBK				⇓*i*S	Sb	00 35 11.0	-3.0
TNSS	Tian-Shan	3.32	2	Pg	Pg	00 34 38.1	-2.2
	2.2nm,0.4s						
TNSS				Lg	Lg	00 35 23.8	
	4.1nm,0.5s						
TNSS	Tian-Shan	3.32	2	*e*P	Pg	00 34 38.0	-2.2
	2.2nm,0.4s						
TNSS				*e*S	Sg	00 35 23.8	+0.5
	4.1nm,0.5s						
TKM2	Tokmak 2	3.32	345	⇑Pn	Pb	00 34 36.9	+1.1
	1.9nm,0.5s						
TKM2				⇓Sn	Sg	00 35 24.1	+0.8
	2.9nm,0.4s						
AML	Almayashu	3.36	317	⇑*i*P	Pn	00 34 32.8	+3.3
AML				⇑*i*S	Sb	00 35 14.1	-3.4
KST	Kastek	3.38	350	Pg	Pg	00 34 40.0	-1.4
	1.8nm,0.1s						
KST				Lg	Lg	00 35 27.1	
	6.2nm,0.4s						
KST	Kastek	3.38	350	*e*P	Pg	00 34 40.0	-1.4
	1.8nm,0.1s						
KST				*e*S	Sg	00 35 27.1	+2.0
	6.2nm,0.4s						
AAK	Ala-Archa	3.39	330	⇑Pn	Pb	00 34 37.7	+0.8
	2.8nm,0.6s						
AAK				⇑Sn	Sg	00 35 25.9	+0.4
	6.5nm,0.7s						
AAK	Ala-Archa	3.39	330	⇓*i*P	Pn	00 34 33.0	+3.3
AAK				⇓*i*S	Sb	00 35 14.5	-3.7
MTBS	Maitube	3.42	356	*e*P	Pg	00 34 40.1	-2.0
	0.9nm,0.2s						
MTBS				*e*S	Sg	00 35 27.4	+0.9
	6.5nm,0.5s						
SATY	Saty	3.56	20	Pg	Pg	00 34 42.4	-2.4
	1.9nm,0.3s						
SATY				Lg	Lg	00 35 30.8	
	4.9nm,0.3s						
UZB	Uzynbulak	3.82	25	*e*P	Pb	00 34 46.2	+2.0
	4.8nm,0.6s						
UZB				*e*S	Sg	00 35 37.6	-1.6
	2.5nm,0.6s						
MRKS	Merke	4.04	320	Pg	Pg	00 34 51.4	-2.6
	3.0nm,0.2s						
MRKS				Lg	Lg	00 35 46.8	
	9.4nm,0.4s						
MRKS	Merke	4.04	320	*e*P	Pg	00 34 51.4	-2.6
	3.0nm,0.2s						
MRKS				*e*S	Sg	00 35 46.8	+0.4
	9.4nm,0.4s						
PDGK	Podgornoye	4.14	29	⇑Pn	Pb	00 34 49.5	-0.2
	1.1nm,0.5s						
PDGK				⇑Sn	Sg	00 35 45.3	-4.4
	4.9nm,0.7s						
KUU	Kurty	4.18	356	*e*P	Pb	00 34 53.0	+2.6
	1.7nm,1.0s						
KUU				*e*S	Sg	00 35 48.9	-2.1
	5.3nm,0.6s						
MNAS	Manas	4.25	312	⇓*e*P	Pn	00 34 45.2	+3.6
MNAS				⇓*e*S	Sn	00 35 35.5	+4.2
KK31	Karatay Array	5.80	308	Pn	Pn	00 35 08.6	+5.9
	0.8nm,0.6s,baz=139,slow=16,SNR=4.4						
KK31				⇓Lg	Lg	00 36 50.6	
	1.2nm,0.6s,baz=142,slow=46						

*MEX **22** 00:41:42.8±0.3, 14°.96N×92°.40W, h106km±5km, MD3.8*
*GCG **22** 00:41:43.0±1.2, 14°.74N×92°.43W, h76km±13km, MD3.6*

ISC 22 00:41:38.0±2.5, 14°.8N±0°.2×92°.3W±0°.1, h112km±17km, n8, σ1°.38/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	Catarina	0.20	73	*e*P	Pn	00 41 55.1	+1.5
SMCA				*i* S	Sn	00 42 04.8	-0.6
STG8	El Palmar, Qui	0.95	111	*e*P	Pn	00 41 59.8	+0.7
STG8				*e*S	Sn	00 42 13.3	-1.7
STG0	El Palmar, Qui	0.97	112	*e*P	Pn	00 41 59.9	+0.7
STG0				*i* S	Sn	00 42 14.1	-1.2
STG5	El Palmar, Qui	0.97	114	*e*P	Pn	00 42 00.3	+1.1
STG5				*i* S	Sn	00 42 14.0	-1.1
PCIG		1.28	315	*e*P	Pn	00 42 03.4	+1.0
PCIG				*e*S	Sn	00 42 19.3	-1.6
CCIG	Comitan	1.48	5	*e*P	Pn	00 42 10.0	+5.1
CCIG				*e*S	Sn	00 42 24.9	-0.4
CCIG	Comitan	1.48	5	*e*P	Pn	00 42 10.2	+5.4
UXUV	UXUV	3.09	325	*e*P	Pn	00 42 26.1	+0.9
UXUV				*e*S	Sn	00 43 00.0	-1.6

*MOS **22** 00:47:42.8±0.8, 43°.05N×133°.57E, h458km, mb4.4/48, Error ellipse: s-maj=6.9km s-min=4.7km az=105.4*
*BJI **22** 00:47:42.4, 43°.03N×133°.61E, h466km, mB4.5/18, mb5.0/58*
*SKHL **22** 00:47:43.8±0.6, 43°.10N×133°.70E, h478km±9km, mb5.1/8, mbv4.9/3, msh4.5/5, msha4.8/5*
*JMA **22** 00:47:43.3±0.3, 43°N± 1°×13°4E±°, h500km, MV4.4/40, NEAR VLADIVOSTOK*
*NIED **22** 00:47:43.3, 42°.99N×134°.07E, h500km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}~0.91; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$0.98; $M_{r\theta}$1.02; $M_{\theta\phi}$-1.02; $M_{\phi r}$-4.51; Fault plane solution: $M_0$4.81000×10^{15} NP1: ϕ_s117.00000°, δ11.00000°, λ-140.00000°. NP2: ϕ_s347.00000°, δ83.00000°, λ-82.00000°.*
*IDC **22** 00:47:43.9±0.4, 43°.05N×133°.51E, h457km±4km, mb3.8/30, mbtmp4.6/39 Error ellipse: s-maj=7.3km s-min=6.8km az=146.0*
*NEIC **22** 00:47:43.6±1.4, 43°.12N±0°.09×133°.6E±0°.1, h449km±6km, mb4.5/336, Error ellipse: s-maj=13.8km s-min=10.7km az=137.0*

ISC 22 00:47:43.4±0.4, 43°.03N±0°.04×133°.62E±0°.04, h456km±4km, h455km:pP-P, n944, σ1°.14/949, mb4.4/250, 47C-34D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRTR	Gornotajezhnoj	1.27	303	⇑*i*P	P	00 48 42.4	+1.4
GRTR				AMB	AMB	00 48 42.7	
	660nm,1.1s						
GRTR				AMB	AMB	00 48 43.6	
	610nm,0.4s						
GRTR				*e*S	S	00 49 28.2	+0.3
GRTR				A	A	00 49 28.9	
	190nm,0.8s						
GRTR				A	A	00 49 28.9	
	200nm,0.8s						
GRTR				A	A	00 49 29.3	
	550nm,2.4s						
GRTR				A	A	00 49 29.3	
	1μm,2.4s						
USA0B	Ussuriysk Arra	1.67	315		P	00 48 43.5	+0.9
USA0B	Ussuriysk Arra	1.67	315	*c i*P	P	00 48 43.7	+1.1
USRK	Ussuriysk Ar.	1.67	315	P	P	00 48 43.9	+1.2
	292nm,0.6s,baz=116,slow=3.8,SNR=514						
USRK				S	S	00 49 31.8	+0.9
	46nm,1.0s,baz=111,slow=10,SNR=4.6						
MSHR	Mys Shultsa	1.87	257	*c i*P	P	00 48 44.7	+1.0
TEY	Ternei	2.94	46	⇓*i*P	P	00 48 51.6	+1.3
TEY				*e*		00 49 45.2	
TEY				pmax	pmax		
	comp=E,270nm,0.5s						
TEY				pmax	pmax		
	comp=N,260nm,0.9s						
TEY				pmax	pmax		
	comp=Z,800nm,0.6s						
TEY				pmax	pmax		
	comp=E,200nm,2.9s						
TEY				pmax	pmax		
	comp=N,200nm,2.8s						
TEY				pmax	pmax		
	comp=E,160nm,1.3s						
TEY				pmax	pmax		
	comp=N,160nm,0.9s						
TEY	Ternei	2.94	46	⇓*i*P	P	00 48 51.6	+1.3
TEY				AMB	AMB	00 48 51.8	
	comp=N,500nm,0.4s						
TEY				*e*S	S	00 49 44.9	+0.1
TEY				A	A	00 49 46.1	
	comp=N,160nm,0.8s						
TEY				A	A	00 49 46.1	
	comp=N,160nm,0.8s						
TEY				A	A	00 49 46.2	
	comp=N,200nm,3.0s						
TEY				A	A	00 49 46.2	
	comp=N,200nm,3.0s						
MDJ	Mudanjiang	3.32	300		P	00 48 53.2	0.0
MDJ	Mudanjiang	3.32	300	P	P	00 48 53.6	+0.4
MDJ	Mudanjiang	3.32	300	S	S	00 49 50.6	+0.5
JOSM	Okushiri--Mats	4.42	100	P	P	00 49 02.4	-0.2
JOSM				*e*S	S	00 50 06.3	-0.9
JHST	Hiyamasetana	4.65	95	*e*P	P	00 49 05.0	+0.4
JSH	Shimam	4.74	92	P	P	00 49 05.5	0.0
JSK	Shakotan	5.02	84	P	P	00 49 08.2	0.0
JOG3	Oga3	5.14	125	P	P	00 49 14.2	+4.8
BNX	BinXian	5.22	303	⇑P	P	00 49 10.4	+0.4
BNX				S	S	00 50 20.0	-0.7
BNX				pmax	pmax		
	comp=N,180nm,0.7s						
BNX				pmax	pmax		
	comp=N,92nm,4.6s						
JIW	Iwasaki	5.35	115	*i* P	P	00 49 11.6	+0.1
JKB	Kayabe	5.60	99	*i* P	P	00 49 13.4	-0.4
JKB				S	S	00 50 25.2	-2.4
JHG	Hegura jima	5.75	153	P	P	00 49 16.9	+1.4
JOT	Ohata	5.75	104	P	P	00 49 14.7	-0.7
JOT				*e*S	S	00 50 26.9	-3.7
JHR	Hokuryu	5.95	80	P	P	00 49 17.7	+0.4
JTM	Tenmabayashi	5.99	109		P	00 49 17.6	-0.2
JTM	Tenmabayashi	5.99	109	P	P	00 49 17.8	0.0
JTM	Tenmabayashi	5.99	109	S	S	00 50 33.8	-1.1
CN2	Changchun	6.00	280	P	P	00 49 17.8	-0.1
CN2				S	S	00 50 32.8	-2.3
CN2				pmax	pmax		
	comp=N,200nm,2.0s						
JSD	Sado	6.11	143		P	00 49 19.3	+0.2
JSD				S	S	00 50 37.8	+0.6
JSD	Sado	6.11	143	P	P	00 49 19.4	+0.3
JSD	Sado	6.11	143	*e*P	P	00 49 19.1	0.0
JSD				*e*S	S	00 50 36.9	-0.3
JAW	Awa shima	6.25	135	*e*P	P	00 49 20.0	-0.5
KLR	Kul'dur	6.34	349	P	P	00 49 21.6	+0.4
	comp=N,7.8nm,0.3s,baz=171,slow=11,SNR=44						
KLR				S	S	00 50 41.5	+0.3
	comp=N,2.5nm,0.5s,baz=244,slow=16,SNR=9.8						
JWK2	Keihoku	6.37	66	P	P	00 49 22.7	+1.2
JWK2				*e*S	S	00 50 41.2	-0.8
JRG	Rokugo	6.41	122	P	P	00 49 21.7	-0.4
JRG				*e*S	S	00 50 40.2	-2.6
ASAJ	Asahikawa	6.61	77	P	P	00 49 24.2	+0.2
	comp=N,117nm,0.6s,baz=263,slow=11,SNR=57						
ASAJ				S	S	00 50 44.5	-2.0
	comp=N,33nm,0.9s,baz=253,slow=20,SNR=11						
JKA	Kamikawa-asahi	6.61	77		P	00 49 23.7	-0.3
JKA				S	S	00 50 45.1	-1.4
JMK	Ichinoseki	7.04	123	*i* P	P	00 49 27.1	-1.5
JMK				*e*S	S	00 50 49.8	-5.1
KS19	Wonju Array Si	7.06	220		P	00 49 30.7	+1.8
KSRS	Korea Array	7.07	220	P	P	00 49 30.9	+1.9
	comp=N,75nm,0.7s,baz=36,slow=10,SNR=312						
KSRS				S	S	00 50 58.2	+2.7
	comp=N,8.9nm,1.0s,baz=42,slow=21,SNR=7.7						
KSAR	Wonju Array Be	7.10	220		P	00 49 30.7	+1.4
KSAR					S	00 51 00.0	+4.0
KSAR	Wonju Array Be	7.10	220	P	P	00 49 30.7	+1.4
KSAR				S	S	00 51 00.0	+4.0
ERM	Erimo	7.12	95		P	00 49 28.7	-0.7
ERM				S	S	00 50 51.4	-4.8
ERM	Erimo	7.12	95	P	P	00 49 28.7	-0.7
ERM	Erimo	7.12	95	P	P	00 49 28.7	-0.7
ERM				S	S	00 50 51.4	-4.8
JEM	Erimo	7.12	95	P	P	00 49 28.7	-0.7
JCH	Churui	7.17	90	*e*P	P	00 49 29.1	-0.9
JCH				*e*S	S	00 50 50.3	-7.1
MJB9	Matsu-Tunnel	7.37	150	P	P	00 49 31.7	-0.5
MAJO	Matsushiro	7.37	150	P	P	00 49 31.3	-1.0
MAJO	Matsushiro	7.37	150	P	P	00 49 31.3	-1.0
MJAR	Matsushiro Arr	7.38	150	P	P	00 49 32.8	+0.5
	comp=N,2.3nm,0.3s,baz=334,slow=11,SNR=12						
MJAR				S	S	00 51 05.2	+3.7
	comp=N,2.1nm,0.4s,baz=329,slow=18,SNR=4.3						
JMM	Marumori	7.51	131	P	P	00 49 32.4	-1.3
JMM				S	S	00 51 01.1	-3.0
J

JGF	Kuroka	7.96	157			P	00 49 39.0 +0.4
JHS	Saijyo	8.03	183	P		P	00 49 40.9 +1.6
INU	Inuyama	8.11	160	P		P	00 49 40.5 +0.4
TJN	Taejon	8.21	218			P	00 49 42.2 +1.1
TJN	Taejon	8.21	218	P		P	00 49 43.0 +1.9
TJN	Taejon	8.21	218	*i* P		P	00 49 42.8 +1.7
AKK	Akkeshi	8.22	86	*e*P		P	00 49 41.0 -0.1
JNY	Yasuok	8.33	155	P		P	00 49 43.5 +0.9
JOD2	Odawara 2	8.84	150	*e*P		P	00 49 46.9 -1.1
JOD2				*e*S		S	00 51 24.2 -6.1
NMR	Nemuro--Hokkai	8.85	84	*e*P		P	00 49 46.6 -1.3
YUK	Yuzh-Kuril'sk	8.95	79	*i* P		P	00 49 49.5 +0.5
YUK	Yuzh-Kuril'sk	8.95	79	*e*P		P	00 49 49.5 +0.5
JMN	Monobe	9.29	179			P	00 49 54.2 +1.3
SHO	Shikotan	9.64	80	*e*P		P	00 49 56.2 -0.3
SHO				*e*S		S	00 51 40.8 -5.3
SHO				pmax	pmax		
comp=Z,45nm,0.4s							
SHO				pmax	pmax		
comp=N,12nm,0.2s							
SHO				pmax	pmax		
comp=E,25nm,0.5s							
SHO	Shikotan	9.64	80	*e*P		P	00 49 56.2 -0.3
SHO				AMB	AMB		00 49 57.0
comp=E,50nm,0.4s							
SHO				AMB	AMB		00 49 57.1
comp=E,180nm,1.5s							
DL2	Dalian	9.96	250	P		P	00 50 00.6 +0.6
DL2				S		S	00 51 52.5 0.0
DL2				pmax	pmax		
comp=E,34nm,0.6s							
DL2				pmax	pmax		
comp=E,140nm,4.0s							
TYV	Tymovskoe	9.97	35	*e*P		P	00 50 01.8 +1.9
TYV				*e*S		S	00 51 53.3 +0.9
TYV				pmax	pmax		
comp=Z,24nm,0.4s							
TYV				pmax	pmax		
comp=Z,200nm,3.8s							
TYV				smax	smax		
comp=N,14nm,1.3s							
TYV				smax	smax		
comp=E,7.0nm,1.3s							
TYV				smax	smax		
comp=E,200nm,4.4s							
TYV	Tymovskoe	9.97	35	*e*P		P	00 50 01.3 +1.4
TYV				AMB	AMB		00 50 03.5
comp=E,20nm,0.4s							
TYV				AMB	AMB		00 50 06.9
comp=E,200nm,3.8s							
TYV				*e*S		S	00 51 51.5 -0.9
TYV				A	A		00 51 54.2
comp=E,10.0nm,0.8s							
TYV				A	A		00 51 54.2
comp=E,10.0nm,0.8s							
TYV				A	A		00 51 55.9
comp=E,260nm,4.0s							
EKMR	Ekimchan	10.06	358	*e*P		P	00 50 01.2 +0.3
EKMR				AMB	AMB		00 50 02.0
comp=E,20nm,0.8s							
EKMR				*e*S		S	00 51 53.4 -0.8
JNU	Nakatsue	10.12	193	P		P	00 50 01.0 -1.0
comp=E,4.3nm,0.5s,baz=72,slow=3.2,SNR=4.0							
OCTB	Oktyabr'skiy	10.54	343	*e*P		P	00 50 06.7 +0.7
JHJ	Hachijo jima 2	11.01	152	P		P	00 50 10.6 -1.0
comp=E,34nm,0.3s,baz=7.7,slow=19,SNR=5.9							
JHJ				S		S	00 52 09.9 -3.7
comp=E,68nm,0.4s,baz=73,slow=22,SNR=8.3							
NKL	Nikolayevsk	11.17	22⇑	*i* P		P	00 50 13.5 +0.7
NKL				AMB	AMB		00 50 13.9
comp=E,240nm,0.7s							
ZEA	Zeya	11.52	341	*e*P		P	00 50 17.4 +0.7
ZEA				*e*			00 52 21.4
ZEA				pmax	pmax		
comp=Z,10.0nm,0.9s							
ZEA	Zeya	11.52	341	*e*P		P	00 50 17.4 +0.7
ZEA				AMB	AMB		00 50 18.4
comp=Z,10.0nm,0.9s							
JSJ	Shimokoshiki	11.75	197	*e*P		P	00 50 20.6 +1.1
XLT	XiLinHaoTe	12.78	280	*e*P		P	00 50 30.8 +0.2
XLT				pmax	pmax		
comp=Z,17nm,1.2s							
XLT				pmax	pmax		
comp=Z,49nm,4.0s							
BJT	Baijiatuau	13.42	263			P	00 50 37.7 +0.2
BJT	Baijiatuau	13.42	263	P		P	00 50 37.4 0.0
BJT	Baijiatuau	13.42	263	P		P	00 50 37.7 +0.2
TIA	Tai'an	14.41	247	P		P	00 50 48.3 +0.2
TIA				S		S	00 53 21.4 +0.7
TIA				pmax	pmax		
comp=Z,19nm,0.9s							
TIA				pmax	pmax		
comp=Z,86nm,5.1s							
HNS	HongShan	15.50	255	⇓P		P	00 50 59.3 -0.3
HNS				S		S	00 53 39.6 -2.1
HNS				pmax	pmax		
comp=Z,23nm,0.9s							
HHC	Hu-ho-hao-te	16.55	270	*e*P		P	00 51 12.1 +1.2
HHC				pmax	pmax		
comp=Z,22nm,0.6s							
HHC				pmax	pmax		
comp=Z,84nm,5.3s							
JOW	Kunigami	16.74	197	P		P	00 51 11.6 -1.3
comp=Z,3.5nm,0.3s,baz=76,slow=12,SNR=1.8							
LYN	LuoYang	18.50	250	P		P	00 51 29.5 -1.2
LYN				pmax	pmax		
comp=Z,40nm,1.1s							
PEA0B	Petropavlovsk-	18.90	49	*ce*P		P	00 51 33.5 -0.6
PETK	Petropavlovsk-	18.90	49	P		P	00 51 34.4 +0.3
comp=Z,11nm,0.8s,baz=231,slow=6.6,SNR=13							
YAK	Yakutsk	19.18	354	*i* P		P	00 51 36.5 0.0
YAK				pmax	pmax		
comp=Z,11nm,0.7s							
ULN	Ulaanbaatar	19.22	294			P	00 51 36.5 -0.8
ULN	Ulaanbaatar	19.22	294	P		P	00 51 36.7 -0.6
ULN	Ulaanbaatar	19.22	294	*i* P		P	00 51 37.6 +0.3
ULN				pmax	pmax		
comp=Z,23nm,0.7s							
ULN	Ulaanbaatar	19.22	294	P		P	00 51 36.7 -0.6
BOD	Bodaibo	19.27	327	*e*P		P	00 51 34.6 -2.8
BOD				pmax	pmax		
comp=Z,12nm,1.0s							
PET	Petropavlovsk	19.40	50	P		P	00 51 37.7 -1.0
PET				IAmb	IAmb		00 51 40.4
comp=Z,16nm,0.9s							
PET	Petropavlovsk	19.40	50	*ce*P		P	00 51 38.3 -0.4
PET				pmax	pmax		
comp=Z,16nm,1.3s							
PET	Petropavlovsk	19.40	50	P		P	00 51 37.7 -1.0
PET	Petropavlovsk	19.40	50	P		P	00 51 37.7 -1.0
comp=Z,24nm,1.6s							
MA2	Magadan	19.63	27			P	00 51 40.4 -0.2
MA2	Magadan	19.63	27	P		P	00 51 40.9 +0.2
comp=Z,45nm,0.6s,baz=207,slow=9.1,SNR=35							
MA2	Magadan	19.63	27	P		P	00 51 40.8 +0.1
MA2	Magadan	19.63	27	*ce*P		P	00 51 41.2 +0.5
MA2				pmax	pmax		
comp=Z,39nm,0.6s							
MA2	Magadan	19.63	27	P		P	00 51 40.7 +0.1
comp=Z,87nm,0.7s							
SONM	Songino Array	19.66	294			P	00 51 40.6 -0.6
SONM	Songino Array	19.66	294	P		P	00 51 40.9 -0.3
comp=Z,15nm,0.6s,baz=95,slow=9.1,SNR=72							
SONM				ScP		ScP	00 58 30.2 -0.5
comp=Z,1.4nm,0.6s,baz=110,slow=1.7,SNR=4.9							
WHN	Wuhan	19.78	237	P		P	00 51 41.8 -0.6
WHN				pmax	pmax		
comp=Z,210nm,0.6s							
SSLB	Suanglung	21.86	213	P		P	00 52 01.4 -0.1
SSLB				IAmb	IAmb		00 52 02.8
comp=Z,12nm,0.9s							
ZAK	Zakamensk	21.96	300	*e*P		P	00 52 01.1 -1.0
ZAK				pmax	pmax		
comp=Z,10.0nm,1.4s							
TPUB	Ta-pu	22.43	213			P	00 52 06.4 -0.2
TPUB	Ta-pu	22.43	213	P		P	00 52 07.2 +0.6
SEY	Seymchan	22.75	22	P		P	00 52 09.9 +1.1
comp=Z,13nm,0.5s,baz=222,slow=8.7,SNR=24							
SEY				ScP		ScP	00 58 38.6 +0.7
comp=Z,1.0nm,0.3s,baz=265,slow=2.0,SNR=4.2							
ENH	Enshi	23.08	244	P		P	00 52 11.1 -1.3
LZH	Lanzhou	23.90	263	*e*P		P	00 52 19.3 -0.5
LZH				sP		sP	00 54 27.1 -1.5
LZH				pmax	pmax		
comp=Z,59nm,0.8s							
GTA	Gaotai	25.59	273	P		P	00 52 34.8 +0.1
GTA				ScP		ScP	00 58 47.0 +0.5
GTA				pmax	pmax		
comp=Z,28nm,0.9s							
CD2	Chengdu	26.61	253	P		P	00 52 43.1 -0.6
CD2				pmax	pmax		
comp=Z,30nm,0.6s							
TIXI	Tiksi	28.79	357			P	00 53 01.5 -0.8
TIXI	Tiksi	28.79	357	P		P	00 53 01.5 -0.8
TIXI				pmax	pmax		
comp=Z,3.0nm,0.6s							
BILL	Biilibino	30.43	24			P	00 53 17.2 +0.5
BILL	Biilibino	30.43	24	*ce*P		P	00 53 17.2 +0.5
BILL				pmax	pmax		
comp=Z,5.0nm,0.6s							
BILL	Biilibino	30.43	24	P		P	00 53 17.2 +0.5
GOMU	GeErMu	30.46	270	P		P	00 53 17.1 -0.7
GOMU				pmax	pmax		
comp=Z,22nm,0.7s							
PZH	PanZhiHua	30.71	248	P		P	00 53 18.5 -1.3
PZH				pmax	pmax		
comp=Z,20nm,0.8s							
PZH				pmax	pmax		
comp=Z,110nm,4.7s							
KMI	Kunming	30.96	245	P		P	00 53 21.3 -0.7
KMI				pmax	pmax		
comp=Z,27nm,0.8s							
SLVN	Son La	32.90	238			P	00 53 38.0 -0.5
SLVN				IAmb	IAmb		00 53 39.1
comp=Z,16nm,1.0s							
SLVN	Son La	32.90	238	P		P	00 53 38.5 0.0
WMQ	Urumqi	33.04	287	*e*P		P	00 53 40.3 +0.8
WMQ				pmax	pmax		
comp=Z,35nm,0.9s							
ZAA0	Zalesovo Array	33.50	306			P	00 53 41.8 -1.3
ZAA0						PcP	00 56 11.4 +0.3
ZAA0						ScP	00 59 11.2 -0.5
ZALV	Zalesovo Beam	33.50	306			P	00 53 42.0 -1.1
ZALV						PcP	00 56 10.7 -0.4
ZALV						ScP	00 59 11.0 -0.7
ZALV	Zalesovo Beam	33.50	306	P		P	00 53 42.2 -0.9
comp=Z,20nm,0.5s,baz=85,slow=8.0,SNR=116							
ZALV				PcP		PcP	00 56 11.1 0.0
comp=Z,4.2nm,0.5s,baz=85,slow=2.3,SNR=12							
ZALV				ScP		ScP	00 59 10.9 -0.8
comp=Z,2.2nm,0.5s,baz=92,slow=3.7,SNR=15							
comp=Z,20nm,0.5s							
NRIK	Noril'sk	35.29	334			P	00 53 56.8 -1.3
NRIK	Noril'sk	35.29	334	P		P	00 53 57.8 -0.3
comp=Z,2.3nm,0.4s,baz=107,slow=8.6,SNR=9.8							
comp=Z,2.3nm,0.4s							
NONG	Nongkai	35.83	236	P		P	00 54 03.7 +0.5
MK31	Makanchi Array	36.02	294	*ce*P		P	00 54 03.8 -0.7
MKAR	Makanchi Array	36.02	294			P	00 54 04.0 -0.5
MKAR	Makanchi Array	36.02	294	P		P	00 54 04.0 -0.5
comp=Z,21nm,0.8s,baz=84,slow=9.7,SNR=167							
MKAR				PcP		PcP	00 56 18.6 -0.2
comp=Z,0.9nm,0.5s,baz=73,slow=2.4,SNR=4.5							
MKAR				ScP		ScP	00 59 20.2 -0.8
comp=Z,1.6nm,0.7s,baz=73,slow=4.5,SNR=11							
comp=Z,21nm,0.8s							
MKAR	Makanchi Array	36.02	294	P		P	00 54 04.5 0.0
MAKZ	Makanchi	36.23	294			P	00 54 05.3 -0.9
MAKZ	Makanchi	36.23	294	P		P	00 54 05.3 -0.9
MAKZ				pmax	pmax		
comp=Z,34nm,0.9s							
GAMB	Gambell	37.11	37	P		P	00 54 11.9 -1.2
baz=263							
SPIA	Saint Paul Isl	37.55	48	P		P	00 54 15.7 -1.2
baz=273							
KURK	Kurchatov	37.61	301			P	00 54 16.9 -0.6
KURK	Kurchatov	37.61	301	P		P	00 54 16.9 -0.6
KURK	Kurchatov	37.61	301	P		P	00 54 17.5 0.0
KURK				*PP		pP	00 55 41.4 +0.8
KURK							00 56 23.5
KURK							00 59 26.4
KURK	Kurchatov	37.61	301	P		P	00 54 16.9 -0.6
KURBB	Kurchatov Arra	37.68	301	P		P	00 54 17.5 -0.6
comp=Z,83nm,0.6s,baz=81,slow=8.9,SNR=475							
KURBB				pP		pP	00 55 41.4 +0.1
comp=Z,1.6nm,0.8s,baz=83,slow=8.5,SNR=1.9							
KURBB				PcP		PcP	00 56 23.5 -0.3
comp=Z,1.9nm,0.7s,baz=76,slow=3.2,SNR=4.4							
KURBB				ScP		ScP	00 59 26.4 -0.8
comp=Z,1.3nm,0.6s,baz=84,slow=3.6,SNR=9.1							
CHTO	Chiang Mai	37.89	241			P	00 54 20.2 0.0
CHTO				IAmb	IAmb		00 54 21.0
comp=Z,20nm,0.9s							
CHTO	Chiang Mai	37.89	241	P		P	00 54 20.5 +0.2
CHTO	Chiang Mai	37.89	241	P		P	00 54 20.0 -0.3
CHTO	Chiang Mai	37.89	241	P		P	00 54 20.2 0.0
CHTO				pmax	pmax		
comp=Z,20nm,1.0s							
P08K	Saint George I	37.97	49	P		P	00 54 20.3 0.0
baz=274							
CM31	Chiang Mai Arr	38.16	241	P		P	00 54 22.4 0.0
CMAR	Chiang Mai Arr	38.16	241	P		P	00 54 22.4 +0.1
comp=Z,3.6nm,0.5s,baz=33,slow=7.0,SNR=28							
CMAR				ScP		ScP	00 59 29.9 +0.4
comp=Z,1.7nm,0.4s,baz=19,slow=3.2,SNR=14							
comp=Z,3.6nm,0.5s							
CMAR	Chiang Mai Arr	38.16	241	*ce*P		P	00 54 22.5 +0.1
CMAR				pmax	pmax		
comp=Z,3.0nm,0.4s							
SHL	Shillong	38.19	257	P		P	00 54 21.9 -0.9
SHL	Shillong	38.19	257	P		P	00 54 21.9 -0.9
SHL				pmax	pmax		
comp=Z,53nm,1.2s							
NIKH	Nikolski High	38.77	55	P		P	00 54 27.0 +0.1
baz=279							
TNA	Tin City	38.93	34	P		P	00 54 28.3 +0.2
TNA				IAmb	IAmb		00 54 30.0
comp=Z,19nm,1.0s							
TNA	Tin City	38.93	34	P		P	00 54 28.9 +0.8
baz=264,SNR=15							
M11K	Mekoryuk	39.53	43	P		P	00 54 33.2 +0.2
baz=272							
F14K	Arctic Creek	39.59	35	P		P	00 54 34.6 +1.2
baz=266,SNR=6.9							
ANM	Nome	39.94	36	P		P	00 54 36.7 +0.4
ANM				IAmb	IAmb		00 54 38.5
comp=Z,11nm,0.8s							
ANM	Nome	39.94	36	P		P	00 54 36.7 +0.4
ANM				pmax	pmax		
comp=Z,11nm,0.8s							
ANM	Nome	39.94	36	P		P	00 54 37.3 +1.1
baz=268							
K13K	Kusilvak Mount	40.24	40	P		P	00 54 39.1 +0.4
K13K				IAmb	IAmb		00 54 40.7
comp=Z,10nm,0.7s							
K13K	Kusilvak Mount	40.24	40	P		P	00 54 39.9 +1.2
baz=271							
C16K	Lisburne Hills	40.25	30	P		P	00 54 38.7 0.0
C16K				IAmb	IAmb		00 54 40.1
comp=Z,18nm,0.9s							
C16K	Lisburne Hills	40.25	30	P		P	00 54 39.2 +0.5
baz=263,SNR=23							
F15K	North Star Dit	40.30	34	P		P	00 54 39.6 +0.4
F15K				IAmb	IAmb		00 54 41.2
comp=Z,16nm,0.7s							
F15K	North Star Dit	40.30	34	P		P	00 54 40.3 +1.1
baz=267,SNR=14							
G15K	Niukluk	40.52	35	P		P	00 54 42.2 +1.2
baz=268,SNR=20							
J14K	Nanvaranak Lak	40.73	39	P		P	00 54 43.7 +1.0
baz=271							
KDJ	Kajisay	40.90	289	IAmb	IAmb		00 54 45.3
comp=Z,24nm,1.1s							
M13K	Dall Lake	40.95	42	P		P	00 54 45.1 +0.8
M13K	Dall Lake	40.95	42	P		P	00 54 46.4 +2.1
baz=274							
D17K	Noatak River	41.04	31	P		P	00 54 46.1 +1.0
baz=266,SNR=20							
RDOG	Red Dog Mine	41.13	31	P		P	00 54 46.0 +0.2
RDOG				IAmb	IAmb		00 54 47.0
comp=Z,11nm,0.5s							
RDOG	Red Dog Mine	41.13	31	P		P	00 54 46.5 +0.6
baz=266							
L14K	Kuka Creek	41.21	41	P		P	00 54 47.8 +1.3
L14K	Kuka Creek	41.21	41	P		P	00 54 48.1 +1.7
baz=274,SNR=10							
G16K	Koyuk River	41.24	35	P		P	00 54 47.0 +0.3
G16K				IAmb	IAmb		00 54 48.5
comp=Z,13nm,0.7s							
G16K	Koyuk River	41.24	35	P		P	00 54 47.6 +0.9
baz=269,SNR=7.6							
H16K	Elim	41.29	36	P		P	00 54 48.1 +1.0
baz=270,SNR=10							
E17K	Hotham Inlet	41.50	32	P		P	00 54 49.8 +1.1
baz=268,SNR=17							
M14K	Bethel	41.60	42	P		P	00 54 50.5 +0.9
M14K	Bethel	41.60	42	P		P	00 54 51.1 +1.5
baz=275							
B18K	Kokolik River	41.64	29	P		P	00 54 51.2 +1.4
baz=265,SNR=12							
K15K	Wolf Creek Mou	41.69	40	P		P	00 54 51.5 +1.2
K15K	Wolf Creek Mou	41.69	40	P		P	00 54 52.1 +1.8
baz=274,SNR=10							
TKM2	Tokmak 2	41.71	291	P		P	00 54 51.4 +0.3
SNR=5.9							
F17K	Baldwin Pennin	41.71	33	P		P	00 54 50.6 +0.2
F17K				IAmb	IAmb		00 54 52.6
comp=Z,19nm,0.7s							
F17K	Baldwin Pennin	41.71	33	P		P	00 54 51.8 +1.4
baz=269,SNR=20							
L15K	Ungalak Mounta	41.75	40	P		P	00 54 52.2 +1.3
baz=274							
C18K	Utukok River	41.81	30	P		P	00 54 52.1 +0.9
baz=267,SNR=32							
N14K	Kuskokwak Cree	41.82	43	P		P	00 54 52.0 +0.6
N14K	Kuskokwak Cree	41.82	43	P		P	00 54 53.0 +1.7
baz=276,SNR=5.9							
G17K	Kiwalik Mounta	41.95	35	P		P	00 54 53.6 +1.2
baz=271,SNR=10							
A19K	Wainwright	41.96	28	P		P	00 54 53.8 +1.5
baz=265,SNR=22							
E18K	Tukpahlearik C	41.98	32	P		P	00 54 53.7 +1.2
E18K	Tukpahlearik C	41.98	32	P		P	00 54 54.0 +1.4
baz=269,SNR=26							
I17K	Unalakleet	41.98	37	P		P	00 54 54.0 +1.4
baz=273							
J16K	Anvik River	42.06	38	P		P	00 54 54.8 +1.6
baz=273							
O14K	Tigyukauivet M	42.11	44	P		P	00 54 55.2 +1.5
baz=277							
BVAR	Borovoye Array	42.16	307	P		P	00 54 53.6 -0.6
comp=Z,7.2nm,0.7s,baz=78,slow=9.5,SNR=23							
BVAR				PcP		PcP	00 56 38.6 +0.3
comp=Z,4.9nm,0.5s,baz=107,slow=4.0,SNR=11							
comp=Z,7.2nm,0.7s							
BRVK	Borovoye	42.21	307	P		P	00 54 53.3 -1.3
BRVK	Borovoye	42.21	307	P		P	00 54 54.2 -0.4
BRVK	Borovoye	42.21	307	*ce*P		P	00 54 54.5 -0.1
BRVK				pmax	pmax		
comp=Z,24nm,2.5s							
BRVK	Borovoye	42.21	307	P		P	00 54 54.5 -0.1
M15K	Kasigluk River	42.23	42	P		P	00 54 56.1 +1.5
baz=276,SNR=8.5							
S12K	Black Hills	42.23	49	P		P	00 54 56.2 +1.5
baz=281							
KBK	Karagaybulak	42.25	290	P		P	00 54 55.5 +0.2
SNR=28							
CHMS	Chumysh	42.26	291	P		P	00 54 54.9 -0.3
SNR=5.3							
H17K	Granite Mounta	42.28	35	P		P	00 54 55.4 +0.5
H17K				IAmb	IAmb		00 54 57.2
comp=Z,12nm,0.8s							
H17K	Granite Mounta	42.28	35	P		P	00 54 56.4 +1.4
baz=272,SNR=8.2							
USP	Ospenovka	42.34	291	P		P	00 54 55.5 -0.3
SNR=12							
F18K	Selawik	42.35	33	P		P	00 54 56.9 +1.4
baz=270,SNR=33							
AAK	Ala-Archa	42.56	291			P	00 54 57.5 -0.2
AAK				IAmb	IAmb		00 54 58.3
comp=Z,13nm,0.8s							
AAK	Ala-Archa	42.56	291	P		P	00 54 57.4 -0.2
AAK	Ala-Archa	42.56	291	P		P	00 54 57.5 -0.2
SNR=13							
AAK	Ala-Archa	42.56	291	*ce*P		P	00 54 57.6 -0.2
AAK				pmax	pmax		
comp=Z,14nm,0.8s							
AAK	Ala-Archa	42.56	291	*i* P		P	00 54 57.6 -0.2
SNR=15							
AAK	Ala-Archa	42.56	291	P		P	00 54 57.6 -0.2
N15K	Kwethluk River	42.58	43	P		P	00 54 57.1 -0.4
N15K	Kwethluk River	42.58	43	P		P	00 54 59.2 +1.8
baz=277							
L16K	Owhat River	42.71	40	P		P	00 54 59.0 +0.6
L16K				IAmb	IAmb		00 55 00.6
comp=Z,9.6nm,0.8s							
L16K	Owhat River	42.71	40	P		P	00 54 59.6 +1.2
baz=276							
J17K	VABM Dome	42.73	38	P		P	00 54 59.5 +0.9
J17K	VABM Dome	42.73	38	P		P	00 55 00.2 +1.6
baz=275,SNR=9.6							
KSH	Kashi	42.74	286	P		P	00 55 02.3 +3.1
KSH				pmax	pmax		
comp=Z,7.0nm,1.1s							
G18K	Tagagawik	42.77	34	IAmb	IAmb		00 55 00.8
comp=Z,18nm,0.8s							
G18K	Tagagawik	42.77	34	P		P	00 54 59.9 +1.0
baz=272,SNR=19							
O15K	Ungalikthiuk R	42.85	44	P		P	00 55 00.3 +0.7
O15K				IAmb	IAmb		00 55 02.1
comp=Z,32nm,1.2s							
O15K	Ungalikthiuk R	42.85	44	P		P	00 55 00.8 +1.2
baz=278							
H18K	Honhosa River	42.93	35	P		P	00 55 00.4 +0.3
H18K				IAmb	IAmb		00 55 02.1
comp=Z,18nm,0.8s							
H18K	Honhosa River	42.93	35	P		P	00 55 01.2 +1.1
baz=273,SNR=11							
D19K	Kuna River	42.93	30	P		P	00 55 01.2 +1.1
baz=270,SNR=30							
M16K	Timber Creek	43.03	41	P		P	00 55 01.4 +0.5
M16K				IAmb	IAmb		00 55 03.5
comp=Z,14nm,0.9s							
M16K	Timber Creek	43.03	41	P		P	00 55 02.5 +1.5
baz=277							
EKS2	Erkin-Say	43.05	291	P		P	00 55 01.3 -0.3
SNR=17							
F19K	Shaleruckik Mo	43.09	33	P		P	00 55 00.0 -1.3
F19K				IAmb	IAmb		00 55 03.1
comp=Z,22nm,1.1s							
F19K	Shaleruckik Mo	43.09	33	P		P	00 55 02.2 +0.9
baz=272,SNR=21							
K17K	Iditarod	43.15	39	P		P	00 55 02.5 +0.6
K17K				IAmb	IAmb		00 55 04.5
comp=Z,17nm,0.9s							
K17K	Iditarod	43.15	39	P		P	00 55 03.4 +1.6
baz=276							
SDPT	Sand Point	43.19	50	P		P	00 55 03.5 +1.3
baz=282							
N16K	Nishlik Lake	43.20	42	P		P	00 55 03.7 +1.4
baz=278							
L17K	Donlin	43.21	40	P		P	00 55 04.5 +2.2
baz=277,SNR=14							
E19K	Redstone River	43.28	32	P		P	00 55 03.6 +0.8
E19K						ScP	00 59 51.2 +2.2
E19K	Redstone River	43.28	32	P		P	00 55 04.1 +1.2
baz=272,SNR=43							
TOLI2	Tolitoli	43.29	199	P		P	00 55 03.8 +0.3
TOLI2				IAmb	IAmb		00 55 04.8
comp=Z,15nm,0.8s							
TOLI2	Tolitoli	43.29	199	P		P	00 55 04.2 +0.7
B20K	Meade River	43.29	28	P		P	00 55 03.1 +0.3
B20K						pP	00 56 31.8 +2.9
B20K	Meade River	43.29	28	P		P	00 55 03.9 +1.1
baz=269,SNR=34							
AML	Almayashu	43.30	290	P		P	00 55 04.1 +0.2
SNR=18							
G19K	Purcell Mounta	43.40	34	P		P	00 55 04.0 +0.2

M17K	Holitna River	43.71	41	P	P	00 55 08.5 +2.2
	baz=278,SNR=6.0					
J18K	Innoko River	43.78	37	P	P	00 55 07.7 +0.9
	baz=276,SNR=6.7					
CHNA	Chernabura Isl	43.80	50	P	P	00 55 07.6 +0.6
	baz=283					
F20K	Avaraart Lake	43.89	32	P	P	00 55 08.6 +1.1
	baz=274,SNR=12					
L18K	Granite Mounta	43.95	39	P	P	00 55 09.9 +1.7
	baz=278,SNR=5.2					
N17K	Nushagak Hills	43.96	42	P	P	00 55 09.9 +1.7
	baz=279					
A22K	Sinclair Lake	44.03	27	P	P	00 55 09.8 +1.3
	baz=270,SNR=40					
C21K	Knifeblade Rid	44.13	29	P	P	00 55 11.0 +1.6
	baz=272,SNR=26					
O17K	Koliganek Bris	44.13	43	P	P	00 55 11.4 +1.9
	baz=280					
TTA	Tatalina	44.17	38	P	P	00 55 11.0 +1.1
TTA				IAmb	IAmb	00 55 12.0
	comp=Z,17nm,1.3s					
TTA	Tatalina	44.17	38	P	P	00 55 10.8 +0.9
TTA	Tatalina	44.17	38	P	P	00 55 11.0 +1.1
TTA				pmax	pmax	
	comp=Z,17nm,1.3s					
TTA	Tatalina	44.17	38	P	P	00 55 11.2 +1.2
	baz=278					
B21K	Ikpikpuk River	44.18	29	P	P	00 55 11.1 +1.4
	baz=272,SNR=39					
J19K	Poorman	44.21	37	P	P	00 55 10.0 -0.1
J19K	Poorman	44.21	37	P	P	00 55 11.3 +1.2
	baz=277,SNR=18					
H20K	Anotleneega Mo	44.36	34	P	P	00 55 12.5 +1.2
	baz=276,SNR=22					
E21K	Killik River	44.46	30	P	P	00 55 12.6 +0.5
E21K	Killik River	44.46	30	P	P	00 55 13.0 +0.9
	baz=274,SNR=12					
M18K	Stony River	44.47	40	P	P	00 55 13.8 +1.7
	baz=279					
B22K	Teshekpuk Lake	44.56	27	P	P	00 55 13.3 +0.6
B22K				IAmb	IAmb	00 55 14.7
	comp=Z,21nm,0.8s					
B22K					PcP	00 56 42.9 -3.2
B22K	Teshekpuk Lake	44.56	27	P	P	00 55 13.8 +1.1
	baz=272,SNR=20					
P17K	Kvichak River	44.57	44	P	P	00 55 14.4 +1.5
	baz=281					
N18K	Kilae Creek	44.57	41	P	P	00 55 14.6 +1.6
	baz=280					
I20K	Naaghedeneel	44.60	35	P	P	00 55 13.7 +0.6
I20K	Naaghedeneel	44.60	35	P	P	00 55 14.8 +1.6
	baz=277					
SBUM	Sibu	44.69	211		P	00 55 15.7 +1.2
SBUM				IAmb	IAmb	00 55 16.6
	comp=Z,9.9nm,0.8s					
SBUM	Sibu	44.69	211	P	P	00 55 15.9 +1.5
F21K	Alatna River	44.75	32	P	P	00 55 15.4 +1.1
	baz=275,SNR=20					
G21K	Allakaket	44.81	33	P	P	00 55 15.5 +0.8
G21K				IAmb	IAmb	00 55 17.0
	comp=Z,18nm,0.8s					
G21K	Allakaket	44.81	33	P	P	00 55 16.2 +1.5
	baz=276,SNR=25					
L19K	White Mountain	44.81	39	P	P	00 55 16.1 +1.3
	baz=279					
J20K	Nowinta River	44.83	36	P	P	00 55 15.4 +0.5
J20K				IAmb	IAmb	00 55 17.4
	comp=Z,25nm,0.9s					
J20K	Nowinta River	44.83	36	P	P	00 55 16.5 +1.6
	baz=278,SNR=14					
D22K	Ayikyak River	44.90	30	P	P	00 55 16.9 +1.4
	baz=274					
K20K	Telida	44.98	37	P	P	00 55 17.8 +1.6
	baz=279					
Q17K	Contact Creek	45.04	45	P	P	00 55 17.6 +0.8
	baz=282					
O18K	Koktuh Hills	45.06	42	P	P	00 55 18.2 +1.4
	baz=281					
M19K	Big River Lodg	45.07	39	P	P	00 55 18.0 +1.2
M19K				IAmb	IAmb	00 55 19.4
	comp=Z,8.8nm,0.8s					
M19K	Big River Lodg	45.07	39	P	P	00 55 18.6 +1.7
	baz=280					
KK31	Karatay Array	45.10	293		P	00 55 16.7 -0.7
KK31				IAmb	IAmb	00 55 17.1
	comp=Z,8.0nm,0.7s					
KK31	Karatay Array	45.10	293	P	P	00 55 16.7 -0.7
KK31				pmax	pmax	
	comp=Z,8.0nm,0.7s					
KKAR	Karatay Array	45.10	293		P	00 55 16.6 -0.8
KKAR	Karatay Array	45.10	293	IAmb	IAmb	00 55 17.1
	comp=Z,8.4nm,0.7s					
KKAR	Karatay Array	45.10	293	P	P	00 55 16.6 -0.8
P18K	Big Mountain,	45.14	43	P	P	00 55 18.9 +1.5
	baz=282					
H21K	Melozitna Rive	45.19	34	P	P	00 55 18.0 +0.2
H21K	Melozitna Rive	45.19	34	P	P	00 55 18.8 +1.1
	baz=278,SNR=6.4					
L20K	Farewell, AK	45.21	39	P	P	00 55 19.3 +1.4
	baz=280					
F22K	John River	45.22	31	P	P	00 55 19.5 +1.6
	baz=276,SNR=29					
N19K	Bonanza Creek	45.22	41	P	P	00 55 19.8 +1.7
	baz=281					
E22K	Anaktuvuk Pass	45.29	31	P	P	00 55 19.5 +1.0
E22K	Anaktuvuk Pass	45.29	31	P	P	00 55 19.9 +1.4
	baz=276,SNR=90					
Q18K	Katmai Hardscr	45.41	44	P	P	00 55 20.2 +0.6
	baz=283					
SRIT	Nakonsritamara	45.41	231	P	P	00 55 20.8 +0.7
G22K	Bettles	45.55	32	P	P	00 55 21.2 +0.8
	baz=277					
C23K	Itkillik River	45.55	28	P	P	00 55 21.1 +0.7
C23K				IAmb	IAmb	00 55 22.6
	comp=Z,18nm,0.8s					
C23K	Itkillik River	45.55	28	P	P	00 55 21.7 +1.3
	baz=275,SNR=17					
I21K	Tanana	45.60	35	P	P	00 55 22.3 +1.5
	baz=279					
D23K	Nanushuk River	45.62	29	P	P	00 55 21.9 +1.0
D23K	Nanushuk River	45.62	29	P	P	00 55 22.4 +1.5
	baz=276,SNR=21					
M20K	Styx River	45.66	39	P	P	00 55 23.6 +2.1
	baz=281					
CHUM	Lake Minchumin	45.67	37	P	P	00 55 23.3 +1.9
	baz=280					
H22K	Ishtalitna Cre	45.74	34	P	P	00 55 23.5 +1.5
	baz=279					
CHIR	Chirikof Islan	45.76	48	P	P	00 55 23.3 +1.1
	baz=285					
CAST	Castle Rocks	45.85	37	P	P	00 55 23.9 +1.0
CAST				IAmb	IAmb	00 55 25.3
	comp=Z,19nm,0.8s					
CAST	Castle Rocks	45.85	37	P	P	00 55 24.3 +1.5
	baz=280,SNR=10					
PPLA	Purkeypile	45.90	38	P	P	00 55 25.2 +1.8
	baz=281					
R18K	Karluk	45.95	45	P	P	00 55 24.3 +0.8
	baz=284					
COLD	Coldfoot	46.01	32	P	P	00 55 24.7 +0.7
COLD				IAmb	IAmb	00 55 26.1
	comp=Z,10nm,0.7s					
COLD	Coldfoot	46.01	32	P	P	00 55 25.0 +1.0
	baz=278,SNR=16					
Q19K	Cape Douglas,	46.04	43	P	P	00 55 25.3 +1.0
	baz=283					
TOLK	Toolik Lake Re	46.06	30	P	P	00 55 25.3 +0.9
TOLK				IAmb	IAmb	00 55 26.4
	comp=Z,14nm,0.9s					
TOLK	Toolik Lake Re	46.06	30	P	P	00 55 25.4 +1.1
	baz=278,SNR=12					
P19K	Oil Pt	46.08	42	P	P	00 55 26.2 +1.6
	baz=283					
E23K	Chandalar	46.12	31	P	P	00 55 25.5 +0.6
E23K					ScP	01 00 03.1 +2.3
E23K	Chandalar	46.12	31	P	P	00 55 26.2 +1.3
	baz=278,SNR=32					
BTK	Batken	46.13	289	IAmb	IAmb	00 55 25.7
	comp=Z,19nm,1.4s					
G23K	Bananza Creek	46.16	32	IAmb	IAmb	00 55 27.1
	comp=Z,15nm,0.8s					
G23K	Bananza Creek	46.16	32	P	P	00 55 26.2 +1.1
	baz=279,SNR=19					
BPAW	Bear Paw Mtn.	46.21	36	IAmb	IAmb	00 55 27.8
	comp=Z,11nm,0.8s					
BPAW	Bear Paw Mtn.	46.21	36	P	P	00 55 26.9 +1.4
	baz=281					
C24K	Franklin Bluff	46.23	28	P	P	00 55 26.7 +1.2
	baz=277					
SPCR	Spurr Chakacha	46.23	40	P	P	00 55 27.6 +1.8
	baz=282					
D24K	Happy Valley	46.26	29	P	P	00 55 27.1 +1.3
	baz=278					
KTH	Kantishna Hill	46.34	37	IAmb	IAmb	00 55 29.2
	comp=Z,22nm,0.9s					
SKT	Skwentna	46.38	39	P	P	00 55 27.7 +0.8
	baz=282					
H23K	Yukon River	46.50	34	P	P	00 55 29.5 +1.7
	baz=280					
E24K	Your Creek	46.53	30	P	P	00 55 29.4 +1.4
	baz=279,SNR=48					
TRF	Thorofare Moun	46.64	37	P	P	00 55 30.0 +1.0
	baz=282					
OHAK	Old Harbor	46.64	46	P	P	00 55 29.3 +0.4
	baz=285					
SVE	Sverdlovsk	46.69	314	*e*P	P	00 55 29.3 0.0
SVE				pmax	pmax	
	comp=Z,18nm,0.8s					
SVE	Sverdlovsk	46.69	314	P	P	00 55 29.3 0.0
I23K	Minto, Yukon-K	46.70	34	P	P	00 55 30.4 +1.2
	baz=281					
Q20K	Shuyak Island	46.75	44	P	P	00 55 30.7 +1.1
	baz=285					
F24K	Squaw Lake	46.85	31	P	P	00 55 31.6 +1.2
	baz=280,SNR=41					
HOM	Homer	46.86	42	P	P	00 55 30.7 +0.1
	baz=284					
SUA	Susitna One	46.86	40	P	P	00 55 31.3 +0.6
	baz=283					
KDAK	Kodiak Island	46.86	45	P	P	00 55 31.0 +0.4
	comp=Z,14nm,0.6s,baz=210,slow=0.2,SNR=12					
KDAK				PcP	PcP	00 56 54.1 -0.5
	comp=Z,25nm,1.3s,baz=191,slow=15,SNR=1.4					
	comp=Z,14nm,0.6s					
KDAK	Kodiak Island	46.86	45	P	P	00 55 31.0 +0.4
	baz=285					
CUT	Chulitna	46.87	38	P	P	00 55 31.4 +0.9
	baz=283					
NEA2	Nenana	46.93	35	IAmb	IAmb	00 55 33.1
	comp=Z,13nm,0.6s					
NEA2	Nenana	46.93	35	P	P	00 55 32.2 +1.1
	baz=282					
GAR	Garm	46.94	288	IAmb	IAmb	00 55 31.8
	comp=Z,33nm,1.3s					
D25K	Kavik River	47.09	29	P	P	00 55 33.3 +1.1
	baz=280,SNR=34					
G24K	Hadweenzic Riv	47.16	32	P	P	00 55 34.2 +1.5
	baz=281,SNR=6.8					
MCK	McKinley	47.17	36	IAmb	IAmb	00 55 34.8
	comp=Z,13nm,0.9s					
MCK	McKinley	47.17	36	P	P	00 55 34.5 +1.7
	baz=283,SNR=6.3					
H24K	Noodor Dome	47.17	33	P	P	00 55 34.3 +1.4
H24K	Noodor Dome	47.17	33	P	P	00 55 34.6 +1.7
	baz=282,SNR=5.2					
RND	Reindeer	47.28	37	IAmb	IAmb	00 55 36.5
	comp=Z,10nm,0.6s					
BRSE	Bradley Lake S	47.28	42	P	P	00 55 35.2 +1.5
	baz=285					
NIL	Nilore	47.36	280		P	00 55 35.0 +0.2
NIL	Nilore	47.36	280	P	P	00 55 35.3 +0.5
NIL	Nilore	47.36	280	P	P	00 55 35.0 +0.2
NIL				pmax	pmax	
	comp=Z,24nm,0.6s					
WRH	Wood River Hil	47.37	35	P	P	00 55 34.9 +0.5
WRH				IAmb	IAmb	00 55 36.8
	comp=Z,17nm,0.8s					
COLA	College	47.38	35	P	P	00 55 35.6 +1.2
COLA	College	47.38	35	P	P	00 55 35.8 +1.4
COLA	College	47.38	35	P	P	00 55 35.6 +1.2
COLA				pmax	pmax	
	comp=Z,35nm,0.8s					
COLA	College	47.38	35	P	P	00 55 35.6 +1.2
	baz=282					
RC01	Rabbit Creek A	47.42	40	P	P	00 55 35.6 +0.8
RC01	Rabbit Creek A	47.42	40	P	P	00 55 36.2 +1.4
	baz=284					
C26K	Camden Bay	47.50	28	P	P	00 55 37.0 +1.8
	baz=280,SNR=14					
POKR	Poker Plat Res	47.50	34	P	P	00 55 36.7 +1.3
POKR				IAmb	IAmb	00 55 38.1
	comp=Z,18nm,0.8s					
POKR	Poker Plat Res	47.50	34	P	P	00 55 37.2 +1.8
	baz=283					
KULM	Kulim	47.56	227	P	P	00 55 36.2 -0.2
KULM				IAmb	IAmb	00 55 37.9
	comp=Z,12nm,0.8s					
PMR	Palmer	47.58	39	P	P	00 55 36.6 +0.6
	baz=284					
O22K	Cooper Landing	47.58	41	P	P	00 55 37.4 +1.4
	baz=285					
E25K	Arctic Village	47.60	30	IAmb	IAmb	00 55 39.5
	comp=Z,9.8nm,0.7s					
E25K	Arctic Village	47.60	30	P	P	00 55 37.6 +1.4
	baz=281,SNR=12					
G25K	Bearman Lake	47.68	32	P	P	00 55 38.2 +1.5
	baz=282					
F25K	Christian Rive	47.68	31		P	00 55 38.2 +1.4
F25K				IAmb	IAmb	00 55 39.7
	comp=Z,10nm,0.8s					
F25K	Christian Rive	47.68	31	P	P	00 55 38.4 +1.7
	baz=282,SNR=18					
IL31		47.81	35	IAmb	IAmb	00 55 38.9
	comp=Z,9.9nm,0.7s					
ILAR	Eielson Array	47.81	35		P	00 55 37.6 -0.1
ILAR	Eielson Array	47.81	35	P	P	00 55 38.1 +0.5
	comp=Z,6.9nm,0.7s,baz=278,slow=5.9,SNR=86					
ILAR				PcP	PcP	00 56 57.3 -0.6
	comp=Z,0.7nm,0.7s,baz=260,slow=4.7,SNR=2.5					
ILAR				pP	pP	00 57 06.7 +0.7
	comp=Z,0.6nm,0.9s,baz=281,slow=7.3,SNR=2.3					
	comp=Z,6.9nm,0.7s					
SEW	Seward	47.81	41	P	P	00 55 38.7 +0.9
	baz=286					
HDA	Harding Lake	47.87	35	P	P	00 55 38.3 +0.2
	baz=284,SNR=12					
SML	Sawmill	47.90	39	P	P	00 55 39.3 +0.9
	baz=285					
H25L	Birch Creek	47.90	33	P	P	00 55 39.8 +1.5
	baz=283					
KNK	Knik Glacier	47.94	39	P	P	00 55 39.8 +1.1
	baz=285					
C27K	Jago River	47.96	28	P	P	00 55 40.3 +1.6
	baz=282,SNR=70					
SIMJ	Simiganj	48.00	288		P	00 55 38.8 -0.9
SIMJ				IAmb	IAmb	00 55 39.7
	comp=Z,17nm,0.8s					
ARTI	Arti	48.01	314		P	00 55 38.5 -0.9
ARTI	Arti	48.01	314	*c iP*	P	00 55 38.4 -0.9
ARTI						00 56 54.9
ARTI				*PP	pP	00 57 06.3 -1.3
ARTI						00 57 33.1
ARTI				S	S	01 02 02.8 +0.4
ARTI				SS	SS	01 05 39.1 +1.2
ARTI				pmax	pmax	
	comp=Z,22nm,0.6s					
FYU	Fort Yukon	48.06	32	P	P	00 55 40.1 +0.6
PWL	Port Wells	48.14	40	P	P	00 55 41.2 +0.9
	baz=286					
M23K	Glacier View	48.18	39	P	P	00 55 41.2 +0.7
	baz=285					
PRP	Porcupine Dome	48.19	34	P	P	00 55 41.5 +0.8
PRP				IAmb	IAmb	00 55 43.1
	comp=Z,14nm,0.7s					
PRP	Porcupine Dome	48.19	34	P	P	00 55 42.2 +1.5
	baz=284					
F26K	Sheenjek River	48.22	30	P	P	00 55 42.0 +1.2
F26K				IAmb	IAmb	00 55 43.6
	comp=Z,12nm,0.6s					
F26K	Sheenjek River	48.22	30	P	P	00 55 42.5 +1.8
	baz=283,SNR=15					
SCM	Sheep Creek Mo	48.35	39	P	P	00 55 42.5 +0.7
SCM	Sheep Creek Mo	48.35	39	P	P	00 55 42.5 +0.7
SCM				pmax	pmax	
	comp=Z,36nm,0.7s					
SCM	Sheep Creek Mo	48.35	39	P	P	00 55 43.1 +1.3
	baz=286					
J25K	Salcha River,	48.48	35	P	P	00 55 42.5 -0.3
	baz=285					
K24K	Donnelly Dome	48.51	36	P	P	00 55 43.5 +0.5
	baz=285,SNR=8.9					
G26K	Porcupine Rive	48.53	31		P	00 55 44.0 +1.0
G26K				IAmb	IAmb	00 55 45.8
	comp=Z,13nm,0.8s					
G26K	Porcupine Rive	48.53	31	P	P	00 55 44.9 +1.9
	baz=284,SNR=10					
GLI	Glacier Island	48.72	40	P	P	00 55 45.4 +0.8
	baz=287					
M24K	Tolsona, Glenn	48.80	38	P	P	00 55 46.6 +1.4
	baz=286					
P23K	Montague Islan	48.83	41	P	P	00 55 46.2 +0.8
	baz=287					
PAX	Paxson	48.87	37	P	P	00 55 46.4 +0.7
	baz=286					
RIDG	Independent Ri	48.93	36	P	P	00 55 46.4 +0.2
	baz=286,SNR=6.7					
D27M	Malcolm River	48.99	28		P	00 55 47.4 +0.9
D27M				IAmb	IAmb	00 55 48.9
	comp=Z,13nm,0.7s					
D27M	Malcolm River	48.99	28	P	P	00 55 48.1 +1.5
	baz=284,SNR=20					
E27K	Coleen River	49.04	30	P	P	00 55 48.1 +1.3
	baz=285,SNR=8.4					
KLU	Klutina	49.09	39	P	P	00 55 48.4 +1.0
	baz=287					
HARP	HAARP	49.17	37	P	P	00 55 49.1 +1.2
	baz=287					
I26K	Coal Creek Min	49.20	33	P	P	00 55 48.4 +0.3
	baz=286					
SCRK	Sand Creek	49.23	35	IAmb	IAmb	00 55 49.7
	comp=Z,19nm,0.9s					
SCRK	Sand Creek	49.23	35	P	P	00 55 48.8 +0.3
	baz=286,SNR=13					
J26L	Joseph Creek	49.26	35	P	P	00 55 49.0 +0.3
	baz=286					
DOT	Dot Lake	49.29	36	P	P	00 55 48.8 0.0
DOT				IAmb	IAmb	00 55 49.9
	comp=Z,19nm,0.7s					
G27K	Doyon Strip	49.38	31	P	P	00 55 51.3 +1.9
	baz=286,SNR=11					
KAPI	Kappang	49.44	198	P	P	00 55 51.2 +0.7
	comp=Z,5.4nm,0.5s,baz=71,slow=18,SNR=0.6					
	comp=Z,5.4nm,0.5s					
EYAK	Cordova Ski Ar	49.45	40	P	P	00 55 50.7 +0.8
	baz=288					
ABKAR	Akbulak array	49.56	304		P	00 55 50.4 -0.6
ABKAR	Akbulak array	49.56	304	IAmb	IAmb	00 55 50.8
	comp=Z,22nm,0.4s					
H27K	Steamboat Moun	49.59	32	IAmb	IAmb	00 55 53.8
	comp=Z,11nm,0.8s					
H27K	Steamboat Moun	49.59	32	P	P	00 55 52.7 +1.7
	baz=286,SNR=14					
MENT	Mentasta	49.65	37	P	P	00 55 51.8 +0.3
MENT				IAmb	IAmb	00 55 53.8
	comp=Z,10nm,0.5s					
N25K	Chitina, Valde	49.66	38	P	P	00 55 53.2 +1.6
	baz=288					
E28M	Babbage River	49.66	29		P	00 55 52.0 +0.5
E28M				IAmb	IAmb	00 55 53.7
	comp=Z,11nm,0.7s					
E28M	Babbage River	49.66	29	P	P	00 55 52.8 +1.4
	baz=286,SNR=20					
D28M	Stokes Point	49.74	28	P	P	00 55 53.4 +1.5
	baz=286,SNR=7.4					
I27K	Kandik River	49.74	33	P	P	00 55 54.1 +1.9
	baz=287,SNR=12					
L26K	Log Cabin Wild	49.78	36	P	P	00 55 52.9 +0.5
L26K				IAmb	IAmb	00 55 54.1
	comp=Z,7.1nm,0.5s					
L26K	Log Cabin Wild	49.78	36	P	P	00 55 53.5 +1.1
	baz=288					
BMRM	Bremner River	49.85	39	P	P	00 55 54.3 +1.3
	baz=288					
KBL	Kabul	49.94	283		P	00 55 52.8 -1.5
KBL				IAmb	IAmb	00 55 53.8
	comp=Z,13nm,0.8s					
KBL	Kabul	49.94	283	P	P	00 55 53.5 -0.8
KBL	Kabul	49.94	283	P	P	00 55 52.8 -1.5
KBL				pmax	pmax	
	comp=Z,13nm,0.8s					
K27K	Chicken	50.02	35	P	P	00 55 54.9 +0.8
K27K				IAmb	IAmb	00 55 56.3
	comp=Z,15nm,0.8s					
K27K	Chicken	50.02	35	P	P	00 55 55.5 +1.4
	baz=288,SNR=12					
M26K	Nabesna, AK	50.13	37	P	P	00 55 55.8 +0.7
M26K				IAmb	IAmb	00 55 57.7
	comp=Z,19nm,0.8s					
M26K	Nabesna, AK	50.13	37	P	P	00 55 56.8 +1.7
	baz=288,SNR=6.6					
KAIM	Kayak Island	50.28	40	P	P	00 55 57.2 +1.1
	baz=289					
E29M	Blow River	50.30	29	IAmb	IAmb	00 55 58.6
	comp=Z,12nm,0.6s					
E29M	Blow River	50.30	29	P	P	00 55 57.8 +1.7
	baz=288,SNR=20					
VRDI	Verde Repeater	50.30	39	P	P	00 55 57.2 +0.7
L27K	Beaver Creek,	50.43	36	P	P	00 55 58.2 +1.0
L27K				IAmb	IAmb	00 55 59.9
	comp=Z,31nm,1.3s					
L27K	Beaver Creek,	50.43	36	P	P	00 55 58.8 +1.5
	baz=289,SNR=9.5					
BCAR	Beaver Creek A	50.45	36	P	P	00 55 58.9 +1.6
I28M	Miner Creek	50.45	33	P	P	00 55 58.0 +0.6
I28M	Miner Creek	50.45	33	P	P	00 55 59.0 +1.5
	baz=288,SNR=8.2					
M27K	Edge Creek, AK	50.64	37	IAmb	IAmb	00 56 01.0
	comp=Z,10nm,0.7s					
M27K	Edge Creek, AK	50.64	37	P	P	00 56 00.6 +1.7
	baz=289,SNR=5.1					
G29M	Pine Creek	50.72	31	IAmb	IAmb	00 56 02.0
	comp=Z,26nm,1.3s					
G29M	Pine Creek	50.72	31	P	P	00 56 00.9 +1.6
	baz=289					
H29M	Whitestone	50.81	32	P	P	00 56 01.5 +1.6
	baz=289,SNR=5.8					
BVCY	Beaver Creek	51.07	37	P	P	00 56 03.3 +1.4
	baz=290					
I29M	Ogilvie Camp,	51.12	33	P	P	00 56 03.6 +1.4
	baz=290					
DAWY	Dawson	51.13	34	P	P	00 56 03.3 +0.9
	baz=290,SNR=5.7					
F30M	Barrier River	51.31	29	IAmb	IAmb	00 56 06.1
	comp=Z,29nm,1.0s					
F30M	Barrier River	51.31	29	P	P	00 56 05.1 +1.6
	baz=290,SNR=14					
MESA	MESA	51.36	40	P	P	00 56 05.9 +1.7
	baz=291					
G30M	tAoh Zraii Nji	51.37	30	IAmb	IAmb	00 56 06.0
	comp=Z,26nm,1.1s					
G30M	tAoh Zraii Nji	51.37	30	P	P	00 56 04.8 +0.8
	baz=290,SNR=11					
EPYK	Eagle Plains	51.39	31	IAmb	IAmb	00 56 06.1
	comp=Z,19nm,0.7s					
EPYK	Eagle Plains	51.39	31	P	P	00 56 05.3 +1.1
	baz=290,SNR=14					
YUK3	Moose Creek	51.47	37	P	P	00 56 05.8 +0.7
	baz=291					
J29N	Klondike Camp	51.47	34	P	P	00 56 05.9 +1.0
	baz=290					
KIRV	Kirov	51.84	318	*ce*P	P	00 56 07.6 +0.2
INK	Inuvik	51.86	28	P	P	00 56 08.5 +1.0
	comp=Z,13nm,0.5s,baz=304,slow=6.9,SNR=137					
	comp=Z,13nm,0.5s					
INK	Inuvik	51.86	28	P	P	00 56 08.5 +1.0
	baz=291,SNR=20					
I30M	Mount Dempster	51.93	32	IAmb	IAmb	00 56 10.5
	comp=Z,23nm,0.9s					
I30M	Mount Dempster	51.93	32	P	P	00 56 09.5 +1.2
	baz=291,SNR=20					
O28M	Mount Upton	51.95	38	P	P	00 56 09.8 +1.2
	baz=292					
YUK8	Steele Glacier	51.95	38	P	P	00 56 10.2 +1.6
	baz=292					
K29M	Barlow Dome	51.98	34	IAmb	IAmb	00 56 11.2
	comp=Z,22nm,1.1s					
K29M	Barlow Dome	51.98	34	P	P	00 56 10.1 +1.5
	baz=292,SNR=12					
L29M	L29M	51.99	35	IAmb	IAmb	00 56 11.2
	comp=Z,11nm,0.6s					
L29M	L29M	51.99	35	P	P	00 56 10.7 +2.0
	baz=292,SNR=8.0					
M29M	Somme Creek	52.10	36	IAmb	IAmb	00 56 12.6
	comp=Z,19nm,0.6s					
M29M	Somme Creek	52.10	36	P	P	00 56 11.8 +2.3
	baz=292,SNR=12					
F31M	Tsiigehtchic	52.10	29	P	P	00 56 10.5 +1.2
	baz=292,SNR=7.9					
G31M	Satah River	52.10	30	IAmb	IAmb	00 56 10.2
	comp=Z,16nm,0.5s					
G31M	Satah River	52.10	30	P	P	00 56 09.7 +0.4
	baz=292,SNR=18					

PINM **Pinnacle** 52.18 39 P P 00 56 11.2 +1.2
baz=292
J30M **Hart River** 52.19 33 P P 00 56 11.4 +1.2
baz=292
YUK4 **Talbot Arm** 52.43 37 P P 00 56 13.6 +1.6
baz=292
MMRI **Maumere** 52.45 194 P P 00 56 13.8 +1.3
H31M **Peel River** 52.50 31 IAmb IAmb 00 56 13.9
comp=Z,15nm,0.7s
H31M **Peel River** 52.50 31 P P 00 56 13.1 +0.8
baz=293,SNR=13
GSI **Gunungsitoli** 52.55 228 P 00 56 13.3 +0.1
GSI **Gunungsitoli** 52.55 228 P P 00 56 13.4 +0.1
comp=Z,23nm,0.7s
YUK6 **Outpost Mounta** 52.71 38 P P 00 56 15.6 +1.5
baz=293
PNL **Peninsula** 52.74 40 P P 00 56 15.7 +1.7
baz=293
M30M **Minto, Yukon** 52.76 36 P P 00 56 16.0 +1.8
baz=293
O29M **Mount Kennedy** 52.87 39 P P 00 56 17.2 +2.1
baz=293
A36M **Sachs Harbour** 52.98 22 P P 00 56 16.6 +1.1
baz=296,SNR=46
N30M **Aishikik Lake** 53.08 37 P P 00 56 18.1 +1.6
baz=294
HYT **Haines Junctio** 53.15 38 IAmb IAmb 00 56 20.1
comp=Z,20nm,0.9s
HYT **Haines Junctio** 53.15 38 P P 00 56 19.2 +2.2
baz=294,SNR=7.2
SOEI **Soe** 53.22 192 P P 00 56 18.1 0.0
SPITS **Spitsbergen Ar** 53.41 347 P P 00 56 19.5 +0.9
comp=Z,5.6nm,0.9s,baz=316,slow=55,SNR=1.1
comp=Z,5.6nm,0.9s
P29M **Windy Craggy** 53.53 39 P P 00 56 22.0 +2.3
baz=294
N31M **Braeburn, Yuko** 53.64 37 P P 00 56 21.6 +1.2
baz=294
P30M **Million Dollar** 53.68 38 P P 00 56 22.4 +1.6
baz=295
O30N **Mendenhall** 53.80 37 P P 00 56 23.1 +1.5
baz=295
M31M **Drury Creek, Y** 53.94 35 P P 00 56 23.9 +1.4
baz=295
MDSI **Maura Dua** 54.28 217 P P 00 56 25.8 +0.3
comp=Z,29nm,0.7s
FARO **Faro, Yukon** 54.37 35 P P 00 56 26.8 +1.1
baz=296
WHY **Whitehorse** 54.39 37 P P 00 56 27.4 +1.5
baz=296
C36M **Paulatuk** 54.53 25 P P 00 56 27.2 +0.7
baz=298,SNR=32
SKAG **Skagway** 54.71 39 P P 00 56 29.5 +1.5
baz=296
S31K **Pelican** 54.95 41 P P 00 56 30.9 +1.3
baz=296
N32M **Quiet Lake** 54.96 36 P P 00 56 30.9 +1.1
baz=297
MMPY **Sheldon Lake,** 55.06 34 P P 00 56 32.1 +1.6
baz=297,SNR=5.7
BELG **Belogornoye** 55.34 312 *i* P P 00 56 33.0 +0.5
BELG pmax pmax
comp=Z,7.0nm,0.9s
KLMR **Klimovskoe** 55.45 324 *eP* P 00 56 30.1 -3.0
KLMR pmax pmax
comp=Z,22nm,1.2s
P33M **Teslin, Yukon** 55.50 37 IAmb IAmb 00 56 36.5
comp=Z,13nm,0.9s
P33M **Teslin, Yukon** 55.50 37 P P 00 56 35.3 +1.6
baz=297,SNR=8.0
R32K **Eaglecrest** 55.62 40 P P 00 56 36.4 +2.0
baz=297
MTN **Manton Dam** 55.64 183 P P 00 56 35.5 +0.5
SIT **Sitka** 55.80 41 P P 00 56 37.1 +1.5
baz=298
S32K **Killisnoo** 55.97 41 P P 00 56 38.2 +1.4
baz=298
ARCES **ARCESS Array B** 56.20 336 P P 00 56 38.2 -0.1
comp=Z,1.4nm,0.4s,baz=62,slow=8.6,SNR=17
comp=Z,1.4nm,0.4s
Q32M **Nakina River** 56.34 38 P P 00 56 41.5 +1.8
baz=299
R33M **Jennings River** 56.72 38 P P 00 56 44.0 +1.8
baz=299
TGTN **Hyland Airport** 56.83 35 P P 00 56 44.3 +1.5
baz=300
T33K **Petersburg** 57.06 41 P P 00 56 46.0 +1.7
baz=299
WTLY **Watson Lake, Y** 57.31 36 IAmb IAmb 00 56 48.0
comp=Z,15nm,0.7s
WTLY **Watson Lake, Y** 57.31 36 P P 00 56 47.8 +1.7
baz=300
U33K **Whale Pass** 57.32 42 P P 00 56 47.4 +1.2
baz=300
S34M **Telegraph Cree** 57.37 39 P P 00 56 48.7 +2.2
baz=300
DLBC **Dease Lake** 57.62 38 P P 00 56 50.3 +2.0
comp=Z,6.1nm,0.8s,baz=303,slow=1.7,SNR=5.7
comp=Z,6.1nm,0.8s
DLBC **Dease Lake** 57.62 38 P P 00 56 50.3 +2.0
baz=300
JOF **Joensuu** 57.80 328 *eP* P 00 56 48.9 -0.4
WRGLY **Wrigley** 57.86 31 P P 00 56 51.8 +2.0
baz=302
T35M **Bob Quinn** 58.26 40 P P 00 56 54.7 +2.0
baz=301
MOS **Moscow** 58.84 319 *eP* P 00 56 55.3 -1.3
MOS pmax pmax
comp=Z,24nm,0.7s
LIRD **Liard River Hi** 58.85 36 P P 00 56 58.2 +1.6
baz=303
VRH **Novokhopyorsk** 59.12 313 *eP* P 00 56 57.6 -0.9
VRH pmax pmax
comp=Z,30nm,0.6s
KOTAN **Kotaneelee Air** 59.32 35 P P 00 57 01.3 +1.6
baz=304
TOAD **Toad River Com** 59.53 36 P P 00 57 02.7 +1.5
baz=304
OBN **Obninsk** 59.69 319 P 00 57 01.4 -0.8
OBN **Obninsk** 59.69 319 *deP* P 00 57 01.7 -0.5
OBN 00 57 42.0
OBN S S 01 04 34.0 -2.6
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN **Obninsk** 59.69 319 P P 00 57 01.8 -0.5
LPSR **Galich'ya Gora** 59.86 315 *eP* P 00 57 02.8 -0.6
LPSR pmax pmax
comp=Z,31nm,0.8s
VORR **Voronezh** 60.21 314 *eP* P 00 57 05.0 -0.8
VORR pmax pmax
comp=Z,82nm,0.4s
VSR **Storozhevoye** 60.48 314 *eP* P 00 57 05.1 -2.5
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD **Divnogorie** 60.55 314 *eP* P 00 57 05.9 -2.2
VORD pmax pmax
comp=Z,10.0nm,0.9s
FINES **FINESS Array B** 60.66 328 P P 00 57 08.4 -0.2
comp=Z,9.9nm,0.6s,baz=61,slow=7.4,SNR=80
comp=Z,9.9nm,0.6s
KEF **Keuruu** 60.68 329 *eP* P 00 57 08.7 0.0
NGCH **Negor - Chabah** 60.71 278 P P 00 57 10.3 +0.7
YKAW3 **Yellowknife Wh** 61.54 29 P 00 57 14.9 +0.5
YKAW3 IAmb IAmb 00 57 15.4
comp=Z,5.8nm,0.6s
YKA **Yellowknife Ar** 61.58 29 P P 00 57 15.1 +0.3
comp=Z,3.9nm,0.8s,baz=313,slow=6.6,SNR=86
YKA PcP PcP 00 57 52.3 +1.1
comp=Z,0.7nm,0.7s,baz=318,slow=3.9,SNR=6.9
YKA ScP ScP 01 01 09.8 +1.5
comp=Z,0.1nm,0.8s,baz=316,slow=5.5,SNR=4.5
comp=Z,3.9nm,0.8s
YKAW1 **Yellowknife Wh** 61.63 29 IAmb IAmb 00 57 16.5
comp=Z,6.5nm,0.8s
ARBE **Arbavere** 61.91 326 *eP* P 00 57 17.0 +0.1
VSU **Vasula** 62.20 325 *ceP* P 00 57 18.5 -0.3
VSU pmax pmax
comp=Z,15nm,1.3s
VSU **Vasula** 62.20 325 *eP* P 00 57 17.7 -1.1
KIV **Kislovodsk** 62.51 306 P 00 57 21.5 +0.2
KIV **Kislovodsk** 62.51 306 P P 00 57 21.7 +0.4
KIV **Kislovodsk** 62.51 306 ⇑P P 00 57 21.6 +0.4
KIV **Kislovodsk** 62.51 306 P P 00 57 21.6 +0.4
KIV **Kislovodsk** 62.51 306 *i* P P 00 57 21.5 +0.2
SNR=12
KIV **Kislovodsk** 62.51 306 P P 00 57 21.6 +0.4
KBZ **Khabaz** 62.51 305 P P 00 57 20.7 -0.4
comp=Z,3.1nm,0.6s,baz=45,slow=1.8,SNR=10
comp=Z,3.1nm,0.6s
KBZ **Khabaz** 62.51 305 *ceP* P 00 57 21.5 +0.4
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ **Khabaz** 62.51 305 P P 00 57 21.5 +0.4
SHA1 **Shidzhatmaz** 62.65 305 *i* P P 00 57 21.5 -0.8
WRA **Warramunga Arr** 62.66 179 P P 00 57 22.2 0.0
comp=Z,1.7nm,0.4s,baz=352,slow=7.3,SNR=24
WRA PcP PcP 00 57 56.7 +0.5
comp=Z,0.2nm,0.3s,baz=1.2,slow=6.4,SNR=1.1
comp=Z,1.7nm,0.4s
MLOA **Mauna Loa Obse** 63.03 88 pP 00 58 59.7 +0.9
MTSE **Matsula** 63.24 327 *eP* P 00 57 25.9 +0.4
BANOM **Banah** 63.86 282 P P 00 57 30.0 -0.2
BANOM **Banah** 63.86 282 *i* P P 00 57 30.0 -0.2
SNR=11
SHME **Shamm** 63.90 282 P P 00 57 29.9 -0.5
SHME **Shamm** 63.90 282 *i* P P 00 57 29.9 -0.5
SNR=9.4
WBK **Wadi Bani Khal** 63.95 277 P P 00 57 31.4 +0.6
BIDO **Bidbid** 64.00 279 P P 00 57 31.2 +0.2
MNK **Minsk** 64.14 321 *eP* P 00 57 32.0 +0.6
MASF **Masafi** 64.30 281 P P 00 57 32.3 -0.7
SMDO **Samad** 64.34 278 P P 00 57 33.8 +0.5
UOSS **Minazif** 64.52 281 P 00 57 34.1 -0.3
UOSS IAmb IAmb 00 57 34.6
comp=Z,8.1nm,0.8s
UOSS **Minazif** 64.52 281 P P 00 57 34.1 -0.3
UOSS **Minazif** 64.52 281 *i* P P 00 57 34.1 -0.3
SNR=6.5
HOQ **Hoqain** 64.55 279 P P 00 57 34.4 -0.2
HATD **Hatta, Dubai** 64.65 281 P P 00 57 35.2 0.0
SNR=10
HATD **Hatta, Dubai** 64.65 281 *i* P P 00 57 35.2 0.0
SNR=10
JMDO **Jabal Madar** 64.72 278 P P 00 57 35.8 +0.1
SOHO **SOHO** 64.78 280 P P 00 57 35.5 -0.5
ASHO **Ashiyiah** 64.79 281 P P 00 57 36.0 -0.1
SNR=9.2
ASHO **Ashiyiah** 64.79 281 *i* P P 00 57 36.0 -0.1
SNR=9.2
VSVD **Vaisvydziai** 64.95 324 *eP* P 00 57 37.0 +0.5
BSY **Bisya** 65.15 279 P P 00 57 38.9 +0.5
PABE **Paberze** 65.24 324 *eP* P 00 57 39.0 +0.6
ARQ **Araqi** 65.28 279 P P 00 57 38.4 -0.8
ASUD **Al Ashush, Dub** 65.35 281 P P 00 57 39.6 0.0
ASUD **Al Ashush, Dub** 65.35 281 *i* P P 00 57 39.6 0.0
SNR=6.6
ALNE **Al Ain** 65.39 281 P P 00 57 39.4 -0.5
ALNE **Al Ain** 65.39 281 *i* P P 00 57 39.6 -0.3
SNR=9.0
MHTO **MHTO** 65.68 277 P P 00 57 42.1 +0.4
PBUR **Paburge** 65.77 325 *eP* P 00 57 42.1 +0.4
AKASG **Malin Array Be** 65.87 318 P P 00 57 42.0 -0.5
AKASG **Malin Array Be** 65.87 318 P P 00 57 42.0 -0.5
comp=Z,4.4nm,0.4s,baz=50,slow=6.4,SNR=56
comp=Z,4.4nm,0.4s
AKASG **Malin Array Be** 65.87 318 *ceP* P 00 57 42.0 -0.5
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKBB **Malin Array Si** 65.87 318 IAmb IAmb 00 57 42.8
comp=Z,13nm,0.8s
AKBB **Malin Array Si** 65.87 318 *ceP* P 00 57 42.1 -0.4
AKBB pmax pmax
comp=Z,12nm,0.9s
KIEV **Kiev** 65.89 318 P 00 57 41.6 -0.9
KIEV IAmb IAmb 00 57 42.8
comp=Z,11nm,0.8s
KIEV **Kiev** 65.89 318 ⇑P P 00 57 42.3 -0.2
KIEV **Kiev** 65.89 318 P P 00 57 42.3 -0.2
KIEV **Kiev** 65.89 318 *i* P P 00 57 42.1 -0.5
SNR=10
LLLB **Lillooet** 65.98 42 IAmb IAmb 00 57 45.3
comp=Z,14nm,1.0s
GURO **Guroymak-BITLI** 66.05 301 IAmb IAmb 00 57 44.9
comp=Z,7.4nm,0.6s
HFS **Hagfors** 66.08 332 P P 00 57 43.1 -0.4
comp=Z,3.0nm,0.6s,baz=82,slow=6.2,SNR=34
HFS PcP PcP 00 58 09.4 -0.5
comp=Z,2.8nm,1.0s,baz=95,slow=4.8,SNR=1.8
comp=Z,3.0nm,0.6s
BLKN **Baker Lake** 66.11 21 P 00 57 43.5 -0.2
NB2 **NORSAR Subarra** 66.26 333 P P 00 57 44.2 -0.5
comp=Z,3.3nm,0.7s,baz=39,slow=6.5
NOA **NORSAR Array B** 66.26 333 P P 00 57 44.4 -0.3
comp=Z,2.6nm,0.7s,baz=41,slow=6.1,SNR=15
NOA pP pP 00 59 20.8 +0.3
comp=Z,0.4nm,0.9s,baz=45,slow=7.1,SNR=1.5
comp=Z,2.6nm,0.7s
ASAR **Alice Springs** 66.36 180 P P 00 57 46.4 +0.6
comp=Z,1.9nm,0.5s,baz=355,slow=6.9,SNR=31
comp=Z,1.9nm,0.5s
UMZA **Um Al Zommool** 66.64 280 P P 00 57 46.6 -1.2
DQM **DQM** 66.65 276 P P 00 57 47.2 -0.6
JRN **Qarnain Island** 66.93 283 P P 00 57 48.1 -1.3
RNPP5 **Staryi Chortor** 67.16 319 P P 00 57 49.1 -1.3
MZR **Muzera** 67.68 281 P P 00 57 53.2 -1.0
MZR **Muzera** 67.68 281 *i* P P 00 57 53.4 -0.7
SNR=7.7
E03A **Lebam** 67.68 47 IAmb IAmb 00 57 56.3
comp=Z,14nm,0.8s
SHMA **Al-Shehemyia** 67.71 285 P P 00 57 53.3 -1.0
SORM **Soroca** 67.95 316 ⇓P P 00 57 54.8 -0.6
SORM **Soroca** 67.95 316 P P 00 57 54.8 -0.6
SORM **Soroca** 67.95 316 P P 00 57 54.3 -1.1
KBD **Kabd** 67.96 290 P P 00 57 54.7 -1.1
D05A **Enumclaw** 68.10 45 IAmb IAmb 00 57 59.1
comp=Z,12nm,0.7s
NDNU **Novodnistrovsk** 68.15 317 P P 00 57 55.9 -0.7
PURM **Purcari** 68.19 314 ⇓P P 00 57 56.3 -0.5
MILM **Milestii Mici** 68.50 315 ⇓*i* P P 00 57 57.9 -0.8
comp=Z,30nm,0.8s
MILM **Milestii Mici** 68.50 315 ⇑P P 00 57 58.2 -0.6
MILM **Milestii Mici** 68.50 315 P P 00 57 58.1 -0.6
KMPD **K-Podol'skiy** 68.63 317 P P 00 57 57.9 -1.6
B08A **Colville Reser** 68.70 43 IAmb IAmb 00 58 01.9
comp=Z,15nm,1.4s
MXC **Moxie City** 69.38 45 IAmb IAmb 00 58 06.5
comp=Z,6.6nm,0.8s
BIR **Birlad** 69.54 315 ⇑P P 00 58 06.0 +0.8
BIR **Birlad** 69.54 315 P P 00 58 05.9 +0.8
VLDR **Vladesti** 69.58 314 ⇓P P 00 58 05.1 -0.2
TLCR 69.62 313 ⇑P P 00 58 05.5 -0.1
TLCR 69.62 313 P P 00 58 05.4 -0.1
SCTR **Scanteiesti** 69.74 314 ⇓P P 00 58 06.9 +0.6
NEW **Newport** 69.86 42 IAmb IAmb 00 58 09.0
comp=Z,5.8nm,0.6s
JURR **Jurilovca** 69.87 313 ⇑P P 00 58 07.3 +0.3
BUR08 **Bucovina Ar. S** 69.87 317 IAmb IAmb 00 58 08.3
comp=Z,5.9nm,0.8s
BURAR **Bucovina Array** 69.88 317 ⇑P P 00 58 07.3 +0.1
BURAR **Bucovina Array** 69.88 317 P P 00 58 07.3 +0.1
TESR **Tescani** 69.89 315 ⇓P P 00 58 07.0 -0.2
HAWA **Hanford** 69.90 45 IAmb IAmb 00 58 09.4
comp=Z,10.0nm,0.7s
DMTO **DMTO** 69.95 276 P P 00 58 07.1 -0.8
DOK **Doka** 69.97 277 P P 00 58 07.5 -0.6
SNR=6.4
CFR **Carcaliu** 69.99 314 ⇑P P 00 58 07.8 +0.1
CFR **Carcaliu** 69.99 314 P P 00 58 07.8 +0.1
TPGR **Topolog** 70.05 313 ⇓P P 00 58 08.5 +0.3
PANC **Panciu** 70.06 315 ⇓P P 00 58 08.9 +0.8
ODBI **Odobesti** 70.17 315 ⇑P P 00 58 09.1 +0.3
VRI **Vrincioaia** 70.28 315 ⇓P P 00 58 10.0 +0.5
VRI **Vrincioaia** 70.28 315 P P 00 58 10.0 +0.5
TIRR **Tirgusor** 70.32 313 ⇓P P 00 58 09.8 +0.1
TIRR **Tirgusor** 70.32 313 P P 00 58 09.8 +0.1
PLOR **Plostina** 70.33 315 ⇑P P 00 58 10.4 +0.5
PLOR **Plostina** 70.33 315 P P 00 58 10.4 +0.5
HARR **Harsova** 70.42 313 ⇓P P 00 58 10.6 +0.2
HARR **Harsova** 70.42 313 P P 00 58 10.5 +0.2
KOLS **Kolonicke sedl** 70.42 319 *eP* P 00 58 10.7 +0.4
KOLS pmax pmax
comp=Z,8.0nm,0.7s
KOLS **Kolonicke sedl** 70.42 319 *eP* P 00 58 10.7 +0.4
BR131 **Keskin Array S** 70.44 306 P P 00 58 10.6 -0.2
SNR=7.5
BRTR **Keskin Array B** 70.44 306 P P 00 58 10.6 -0.2
comp=Z,3.5nm,0.7s,baz=60,slow=4.3,SNR=21
comp=Z,3.5nm,0.7s
BRTR **Keskin Array B** 70.44 306 *ceP* P 00 58 10.8 0.0
BRTR pmax pmax
comp=Z,4.0nm,0.7s
TLBR **Topalu** 70.46 313 ⇓P P 00 58 10.7 +0.1
MFTR **Murfatlar** 70.50 313 ⇑P P 00 58 11.2 +0.4
STHS **Stebnicka Huta** 70.58 320 *eP* P 00 58 11.4 +0.2
STHS **Stebnicka Huta** 70.58 320 *eP* P 00 58 11.4 +0.2
OZUR 70.61 315 ⇑P P 00 58 12.1 +0.6
ARCR **ARCALIA** 70.67 317 ⇑P P 00 58 12.6 +0.7
WHFO **Wadi Hawf** 70.68 277 P P 00 58 11.4 -0.9
OJC **Ojcow** 70.68 321 P 00 58 12.1 +0.2
OJC **Ojcow** 70.68 321 P P 00 58 12.1 +0.2
BMR **Baia Mare** 70.69 318 ⇓P P 00 58 12.9 +0.9
BMR **Baia Mare** 70.69 318 P P 00 58 12.8 +0.9
NEHR **Nehoiu** 70.80 315 ⇓P P 00 58 13.1 +0.4
ANTO **Ankara** 70.85 307 P P 00 58 13.4 +0.3
ANTO **Ankara** 70.85 307 P P 00 58 13.4 +0.3
ANTO **Ankara** 70.85 307 ⇑P P 00 58 13.0 -0.1
ANTO **Ankara** 70.85 307 P P 00 58 13.4 +0.3
ANTO pmax pmax
comp=Z,19nm,1.0s
ICOR **Ion Corvin** 70.87 313 ⇑P P 00 58 14.0 +0.9
PINE **Pine Mountain** 70.88 48 IAmb IAmb 00 58 15.9
comp=Z,8.9nm,0.7s
DOPR **Dopca** 70.90 315 ⇑P P 00 58 13.5 +0.2
MLR **Muntele Rosu** 70.94 315 ⇑P P 00 58 14.1 +0.4
MLR **Muntele Rosu** 70.94 315 P P 00 58 14.0 +0.4
J05D **Fort Rock, OR** 71.06 48 P 00 58 16.4 +2.0
J05D IAmb IAmb 00 58 16.9
comp=Z,7.2nm,0.6s
CBBR **Cluj-Babes-Bol** 71.29 317 ⇓P P 00 58 16.4 +1.0
F10A **Beach Ranch, E** 71.37 44 IAmb IAmb 00 58 19.1
comp=Z,5.4nm,0.7s
ABTO **Aybut** 71.38 277 P P 00 58 14.8 -1.8
VOIR 71.44 315 ⇓P P 00 58 16.8 +0.3
VOIR 71.44 315 P P 00 58 16.7 +0.3
MARR **Marisel-Cluj** 71.57 317 ⇓P P 00 58 18.3 +1.0
LANS **Liptovska Anna** 71.59 321 *eP* P 00 58 18.7 +1.4
LANS pmax pmax
comp=Z,5.0nm,1.0s
LANS **Liptovska Anna** 71.59 321 *eP* P 00 58 18.7 +1.4
ARR **Arges** 71.70 315 ⇓P P 00 58 19.1 +1.1
FFC **Flin Flon** 71.73 30 P 00 58 18.2 +0.3
FFC IAmb IAmb 00 58 19.1
comp=Z,9.5nm,0.9s
FFC **Flin Flon** 71.73 30 P P 00 58 18.2 +0.3
FFC pmax pmax
comp=Z,9.0nm,1.0s
STEB **Steborice** 71.80 322 *eP* P 00 58 19.2 +0.8
RAZG **Razgrad** 71.94 313 ⇑P P 00 58 19.3 0.0
MORC **Moravsky Berou** 72.02 322 IAmb IAmb 00 58 21.2
comp=Z,9.0nm,0.8s
MORC **Moravsky Berou** 72.02 322 *eP* P 00 58 20.4 +0.6
MORC **Moravsky Berou** 72.02 322 ⇓P P 00 58 20.4 +0.6
MORC **Moravsky Berou** 72.02 322 P P 00 58 20.4 +0.6
LOT **Lotru** 72.09 316 ⇓P P 00 58 21.1 +0.7
CHVC **Chvalec** 72.09 324 *eP* P 00 58 20.8 +0.7
CHVC **Chvalec** 72.09 324 *eP* P 00 58 20.8 +0.7
BMO **Blue Mountains** 72.09 45 IAmb IAmb 00 58 22.5
comp=Z,7.9nm,0.8s
KRLC **Kraliky** 72.14 323 *eP* P 00 58 21.0 +0.5
KRLC **Kraliky** 72.14 323 *eP* P 00 58 21.0 +0.5
DPC **Dobruska-Polom** 72.15 323 *eP* P 00 58 21.1 +0.6
DPC **Dobruska-Polom** 72.15 323 *eP* P 00 58 21.1 +0.6
UPC **Upice** 72.17 324 *eP* P 00 58 21.5 +0.9
UPC **Upice** 72.17 324 *eP* P 00 58 21.5 +0.9
PSZ **Piszkesteto** 72.27 320 IAmb IAmb 00 58 22.9
comp=Z,7.9nm,0.9s
PSZ **Piszkesteto** 72.27 320 ⇓P P 00 58 22.0 +0.7
PSZ **Piszkesteto** 72.27 320 P P 00 58 22.0 +0.7
PSZ **Piszkesteto** 72.27 320 *eP* P 00 58 21.9 +0.7
VYHS **Vyhne** 72.35 321 *eP* P 00 58 22.3 +0.6
VYHS pmax pmax
comp=Z,3.0nm,0.6s
VYHS **Vyhne** 72.35 321 *eP* P 00 58 22.3 +0.6
J08A **Circle Bar Ran** 72.50 47 IAmb IAmb 00 58 25.3
comp=Z,13nm,1.1s
SIRR **Siria** 72.58 318 ⇑P P 00 58 23.4 +0.4
JAVC **Velka Javorina** 72.63 322 *eP* P 00 58 24.9 +1.6
GZR **Gura Zlata** 72.63 316 ⇓P P 00 58 23.9 +0.4
GZR **Gura Zlata** 72.63 316 P P 00 58 23.8 +0.4
SURR **Surduc** 72.70 317 ⇑P P 00 58 24.6 +0.8
VLAD **Vladila** 72.76 314 ⇑P P 00 58 24.2 +0.2
PVCC **Panska Ves** 72.78 324 *eP* P 00 58 24.9 +0.8
PVCC **Panska Ves** 72.78 324 *eP* P 00 58 24.9 +0.8
BRG **Berggiesshubel** 72.78 325 *eP* P 00 58 24.6 +0.5
BRG Amp 00 58 25.1
comp=Z,4.2nm,0.7s
VRAC **Vranov** 72.79 322 *eP* P 00 58 24.9 +0.7
VRAC **Vranov** 72.79 322 ⇑P P 00 58 25.6 +1.3
VRAC **Vranov** 72.79 322 P P 00 58 25.5 +1.3
CLL **Collm** 72.85 326 *i* P P 00 58 24.6 +0.1
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL **Collm** 72.85 326 *i* P P 00 58 24.6 +0.1
comp=Z,7.0nm,0.9s
SMOL **Smolenice** 72.99 321 *eP* P 00 58 26.8 +1.4
SMOL pmax pmax
comp=Z,4.0nm,1.1s
RAYN **Ar Rayn** 73.03 286 P P 00 58 25.9 -0.2
RAYN **Ar Rayn** 73.03 286 P P 00 58 25.5 -0.6
WVOR **Wild Horse Val** 73.04 47 IAmb IAmb 00 58 28.2
comp=Z,12nm,1.3s
BZS **Buzias** 73.06 317 ⇑P P 00 58 26.1 +0.3
BZS **Buzias** 73.06 317 P P 00 58 26.0 +0.3
KRUC **Moravsky** 73.06 322 *eP* P 00 58 26.2 +0.5
SRO **Srobarova** 73.09 320 *eP* P 00 58 27.1 +1.2
SRO pmax pmax
comp=Z,12nm,1.0s
SRO **Srobarova** 73.09 320 *eP* P 00 58 27.1 +1.2
GOPC **GO Pecny, Ondr** 73.14 324 *eP* P 00 58 27.0 +0.8
GOPC **GO Pecny, Ondr** 73.14 324 *eP* P 00 58 27.0 +0.8
MODS **Modra-Piesok** 73.16 321 *eP* P 00 58 27.8 +1.4
MODS pmax pmax
comp=Z,10.0nm,0.9s
MODS **Modra-Piesok** 73.16 321 *eP* P 00 58 27.8 +1.4
HERR **Herculane** 73.17 316 ⇑P P 00 58 26.6 +0.1
PRU **Pruhonice** 73.19 324 *eP* P 00 58 26.8 +0.3
PRU **Pruhonice** 73.19 324 *eP* P 00 58 26.8 +0.3
HSKC **Hora Svate Kat** 73.20 325 *eP* P 00 58 27.2 +0.6
TREC **Trest** 73.29 323 *eP* P 00 58 27.7 +0.6
TREC **Trest** 73.29 323 *eP* P 00 58 27.7 +0.6
MDVR **Moldovita** 73.59 316 ⇑P P 00 58 29.1 +0.1
MMAI **Mount Meron Ar** 73.70 300 P P 00 58 30.1 +0.3
comp=Z,4.2nm,0.9s,baz=15,slow=4.3,SNR=5.1
comp=Z,4.2nm,0.9s
ZVC **Zvikov** 73.75 324 *eP* P 00 58 29.4 -0.3
BEKR **Beckworth** 73.84 50 IAmb IAmb 00 58 32.5
comp=Z,9.4nm,0.8s
MFID **Camas Ranch** 73.86 45 IAmb IAmb 00 58 33.0
comp=Z,13nm,0.8s
MORH **Mrgy, Hungar** 74.08 319 ⇑P P 00 58 31.9 +0.2
RONA **Rosalia, Austr** 74.10 321 *i* P P 00 58 32.9 +1.1
SNR=5.2
RONA **Rosalia, Austr** 74.10 321 *i* P P 00 58 32.9 +1.1
comp=Z,7.5nm,1.1s
RDO **Rodhopi** 74.11 312 IAmb IAmb 00 58 33.2
comp=Z,13nm,0.9s
CONA **Conrad Observa** 74.13 322 *i* P P 00 58 33.3 +1.2
SNR=6.3
CONA **Conrad Observa** 74.13 322 *i* P P 00 58 33.0 +1.0
comp=Z,3.1nm,0.7s
CKRC **Cesky Krumlov** 74.16 323 *eP* P 00 58 32.7 +0.6
CKRC **Cesky Krumlov** 74.16 323 *eP* P 00 58 32.7 +0.6
KHC **Kasperske Hory** 74.25 324 *eP* P 00 58 33.4 +0.8
KHC **Kasperske Hory** 74.25 324 *eP* P 00 58 33.4 +0.8
GERES **GERESS Array B** 74.41 324 P P 00 58 33.8 +0.2
comp=Z,1.9nm,0.6s,baz=34,slow=5.6,SNR=18
comp=Z,1.9nm,0.6s
HLID **Hailey** 74.48 44 P P 00 58 35.0 +0.8
PAHR **Pah Rah Range** 74.50 50 P P 00 58 35.0 +0.6
PAHR IAmb IAmb 00 58 36.4
comp=Z,10nm,0.8s
ELL **Elmali** 74.61 306 P P 00 58 34.1 -0.9
ELL P 00 58 35.0 0.0
GHAJ **Ghor Haditha** 74.72 299 P P 00 58 35.3 -0.2
ARSA **Arzberg** 74.79 321 *eP* P 00 58 36.3 +0.6
comp=Z,2.8nm,1.1s
PNTR **Pine Nut** 74.80 51 P P 00 58 34.9 -1.3
PNTR P 00 58 37.7 +1.6
PNTR IAmb IAmb 00 58 38.9
comp=Z,12nm,0.7s
GRA1 **Grafenberg Arr** 74.82 325 P P 00 58 35.9 +0.1
GRA1 IAmb IAmb 00 58 37.6
comp=Z,7.5nm,0.8s
GRF **Grafenberg Arr** 74.82 325 P P 00 58 35.9 +0.1
GRF pmax pmax

comp=Z,8.0nm,0.8s
MOA Molln 74.91 323 *e*P **P 00 58 37.1 +0.7**
comp=Z,1.4nm,0.6s
CMB Columbia Colle 75.07 52 P **P 00 58 37.8 +0.3**
CMB IAmb IAmb 00 58 39.6
comp=Z,8.9nm,1.0s
CMB Columbia Colle 75.07 52 P **P 00 58 37.8 +0.3**
CMB pmax pmax
comp=Z,9.0nm,1.0s
YHL Hebgen Lake 75.18 42 P **P 00 58 39.2 +0.9**
YHL IAmb IAmb 00 58 40.7
comp=Z,12nm,1.0s
BIOA Bad Ischl, Aus 75.31 323 *i* P **P 00 58 39.2 +0.7**
comp=Z,7.0nm,1.2s
EKA Eskdalemuir Ar 75.37 336 P **P 00 58 39.0 +0.3**
comp=Z,0.9nm,0.3s,baz=37,slow=5.1,SNR=16
comp=Z,0.9nm,0.3s
EKA Eskdalemuir Ar 75.37 336 P **P 00 58 39.0 +0.3**
GROS Grobnik 75.38 321 *i* P **P 00 58 39.0 -0.1**
YHH Holmes Hill 75.38 42 P **P 00 58 40.1 +0.6**
YHH **P 00 58 41.3 +1.9**
PERS Pernice 75.43 321 *i* P **P 00 58 39.7 +0.3**
SOKA Soboth 75.44 321 *e*P **P 00 58 40.2 +0.8**
comp=Z,8.7nm,0.8s
YNE Yellowstone No 75.63 41 P **P 00 58 41.0 +0.3**
YNE **P 00 58 42.2 +1.5**
YFT Old Faithful 75.64 42 P **P 00 58 42.2 +1.4**
YFT **P 00 58 44.1 +3.3**
YFT IAmb IAmb 00 58 44.5
comp=Z,6.8nm,0.7s
DGMT Dagmar 75.67 36 P **P 00 58 40.2 -0.4**
DGMT IAmb IAmb 00 58 42.2
comp=Z,13nm,0.8s
RYN Ryan 75.72 50 P **P 00 58 40.6 -0.6**
RYN IAmb IAmb 00 58 43.6
comp=Z,9.8nm,0.9s
OBKA Obir 75.78 321 *e*P **P 00 58 41.5 +0.2**
comp=Z,1.5nm,0.6s
H17A Grant Village 75.81 42 P **P 00 58 43.1 +1.4**
H17A **P 00 58 45.2 +3.4**
H17A IAmb IAmb 00 58 45.7
comp=Z,12nm,0.8s
KBA Koelnbreinsper 75.90 323 *i* P **P 00 58 42.8 +0.7**
comp=Z,5.5nm,1.1s
RLMT Red Lodge 75.90 41 P **P 00 58 43.0 +0.8**
RLMT IAmb IAmb 00 58 45.2
comp=Z,7.3nm,0.8s
LESA Schwarzleotal 75.93 323 *i* P **P 00 58 42.5 +0.3**
comp=Z,4.0nm,0.8s
NVAR Mina Array Bea 75.98 50 P **P 00 58 44.3 +1.5**
comp=Z,6.2nm,0.6s,baz=298,slow=5.6,SNR=43
comp=Z,6.2nm,0.6s
ELK Elko 76.05 47 P **P 00 58 43.9 +0.8**
ELK Elko 76.05 47 P **P 00 58 43.9 +0.8**
ELK pmax pmax
comp=Z,3.0nm,0.7s
MYKA Terra Mystica 76.11 322 *e*P **P 00 58 43.1 0.0**
comp=Z,2.1nm,0.5s
FXWY Fox Creek 76.14 43 P **P 00 58 44.3 +0.7**
LAO LASA Array 76.14 38 P **P 00 58 43.3 0.0**
LAO IAmb IAmb 00 58 45.2
comp=Z,6.6nm,0.8s
BTNL Ternell 76.15 329 *d*P **P 00 58 43.3 0.0**
MEM Membach 76.18 329 *d*P **P 00 58 43.4 +0.1**
comp=Z,4.7nm,0.8s
MEM *d*PcP **PcP 00 58 51.9 -1.3**
MOOW Moose Ponds 76.19 42 P **P 00 58 44.4 +0.5**
MOOW IAmb IAmb 00 58 46.7
comp=Z,7.0nm,0.8s
TPAW Teton Pass 76.28 43 P **P 00 58 44.6 +0.2**
Q09A Carvers 76.33 49 P **P 00 58 45.7 +1.1**
LOHW Long Hollow 76.36 42 P **P 00 58 44.8 0.0**
GBRS Gornja Briga 76.40 321 *i* P **P 00 58 44.6 -0.1**
SNOW Snow King Moun 76.40 42 P **P 00 58 45.5 +0.4**
WATA Walderalm 76.48 324 *e*P **P 00 58 45.4 +0.1**
comp=Z,1.0nm,0.6s
WTTA Wattenberg 76.51 324 *i* P **P 00 58 45.8 +0.3**
SNR=4.2
WTTA Wattenberg 76.51 324 *e*P **P 00 58 45.8 +0.3**
comp=Z,1.6nm,0.6s
ABTA Abfaltersbach 76.52 323 *e*P **P 00 58 45.6 +0.1**
comp=Z,6.0nm,1.3s
PDG Podgorica 76.52 316 P **P 00 58 45.3 0.0**
PDG IAmb IAmb 00 58 46.3
comp=Z,18nm,1.0s
PDG Podgorica 76.52 316 ⇓P **P 00 58 45.4 0.0**
BCLA Clavier 76.60 329 *d*P **P 00 58 45.5 -0.2**
MOTA Moosalm 76.68 324 *e*P **P 00 58 46.2 -0.2**
comp=Z,7.7nm,1.2s
BGES Gesves 76.71 329 *d*P **P 00 58 46.1 -0.2**
RETA Reutte 76.72 324 *i* P **P 00 58 47.0 +0.5**
SNR=7.7
RETA Reutte 76.72 324 *e*P **P 00 58 47.0 +0.5**
comp=Z,4.9nm,0.8s
SQTA Sankt Quirin 76.73 324 *e*P **P 00 58 47.0 +0.4**
comp=Z,1.1nm,0.5s
AHID Auburn Hatcher 76.74 43 P **P 00 58 46.6 -0.3**
BMRD Maredsous 76.90 329 *d*P **P 00 58 47.2 -0.1**
comp=Z,5.5nm,0.7s
DSP Deep Springs 76.91 51 P **P 00 58 48.2 +0.6**
TIR Tirane 77.00 315 P **P 00 58 47.5 -0.5**
TIR IAmb IAmb 00 59 05.5
comp=Z,23nm,1.3s
TIR Tirane 77.00 315 P **P 00 58 47.5 -0.5**
TIR pmax pmax
comp=Z,23nm,1.3s
DOU Dourbes 77.13 329 *d*PcP **PcP 00 58 56.4 -0.9**
DAVA Damuels 77.25 325 *i* P **P 00 58 49.8 +0.3**
SNR=5.9
DAVA Damuels 77.25 325 *e*P **P 00 58 49.5 0.0**
comp=Z,5.3nm,0.6s
HWUT Hardware Ranch 77.35 44 P **P 00 58 51.0 +0.7**
HWUT IAmb IAmb 00 58 52.7
comp=Z,9.5nm,0.9s
BW06 Boulder Array 77.50 42 IAmb IAmb 00 58 52.7
comp=Z,8.3nm,0.9s
PD31 Pinedale Array 77.50 42 P **P 00 58 51.2 +0.1**
PD31 IAmb IAmb 00 58 52.7
comp=Z,7.8nm,0.8s
PDAR Pinedale Array 77.50 42 **P 00 58 51.4 +0.3**
PDAR Pinedale Array 77.50 42 P **P 00 58 51.8 +0.7**
comp=Z,6.3nm,0.8s,baz=352,slow=1.1,SNR=64
PDAR pP **pP 01 00 32.0 +1.3**
comp=Z,1.3nm,0.8s,baz=325,slow=1.8,SNR=8.1
comp=Z,6.3nm,0.8s
ULM Lac du Bonnet 77.55 30 IAmb IAmb 00 58 51.2
comp=Z,7.1nm,0.6s
ULM Lac du Bonnet 77.55 30 P **P 00 58 50.8 -0.1**
comp=Z,7.8nm,0.6s,baz=315,slow=5.7,SNR=7.7
comp=Z,7.8nm,0.6s
R11B Troy Canyon, C 77.56 49 P **P 00 58 51.6 +0.2**
FUORN Ofenpass-Fuorn 77.61 324 P **P 00 58 51.0 -0.6**
FUORN IAmb IAmb 00 58 52.9
comp=Z,9.7nm,0.6s
ECH Echery 77.64 327 P **P 00 58 51.2 -0.3**
ECH Echery 77.64 327 P **P 00 58 51.2 -0.3**
ECH pmax pmax
comp=Z,9.0nm,1.4s
DUG Dugway, Tooele 77.73 46 P **P 00 58 52.5 +0.2**
DUG Dugway, Tooele 77.73 46 P **P 00 58 52.5 +0.2**
DUG pmax pmax
comp=Z,7.0nm,1.1s
SPR3 Spring Creek 3 77.78 48 P **P 00 58 53.3 +0.6**
SPR3 IAmb IAmb 00 58 55.8
comp=Z,8.9nm,1.2s
TCUT Toone Canyon 77.79 44 P **P 00 58 53.5 +0.8**
TCUT IAmb IAmb 00 58 55.0
comp=Z,13nm,0.8s
TEOL Teolo 77.96 322 P **P 00 58 52.2 -1.0**
TEOL IAmb IAmb 00 58 54.8
comp=Z,6.8nm,0.7s
S11A Rachel 77.97 49 P **P 00 58 54.0 +0.3**
S11A IAmb IAmb 00 58 55.0
comp=Z,9.6nm,0.8s
MDND Maddock 78.06 33 P **P 00 58 52.9 -0.8**
MDND IAmb IAmb 00 58 55.4
comp=Z,19nm,1.3s
WCT Wildcat Mounta 78.08 51 P **P 00 58 54.3 +0.1**
TPNV Topopah Spring 78.18 50 P **P 00 58 54.5 -0.3**
TPNV IAmb IAmb 00 58 57.0
comp=Z,16nm,1.3s
TPNV Topopah Spring 78.18 50 P **P 00 58 54.5 -0.3**
TPNV pmax pmax
comp=Z,17nm,1.3s
PSUT Pine Spring 78.37 48 P **P 00 58 55.8 0.0**

CCAC Calif City Air 78.44 53 P **P 00 58 57.1 +1.0**
MPU Maple Canyon 78.48 45 P **P 00 58 56.4 0.0**
GWY Greenwater Val 78.49 51 P **P 00 58 57.2 +0.7**
GWY IAmb IAmb 00 58 58.5
comp=Z,10nm,1.1s
PRN Pahroc Range 78.53 49 P **P 00 58 57.6 +1.1**
BSUT Blindstream Ca 78.55 45 P **P 00 58 57.4 +0.5**
EPLO Experimental L 78.81 29 IAmb IAmb 00 58 57.9
comp=Z,9.0nm,1.0s
GSC Goldstone, Bar 79.03 52 P **P 00 58 59.8 +0.5**
GSC IAmb IAmb 00 59 01.5
comp=Z,12nm,1.3s
GSC Goldstone, Bar 79.03 52 P **P 00 58 59.8 +0.5**
GSC pmax pmax
comp=Z,12nm,1.3s
SHPR Sheep Range 79.11 50 P **P 00 59 00.9 +1.2**
AGMN Agassiz Nation 79.16 31 IAmb IAmb 00 59 00.2
comp=Z,5.2nm,0.7s
TMUT Trail Mountain 79.23 46 P **P 00 59 00.7 +0.1**
TMUT IAmb IAmb 00 59 02.7
comp=Z,5.4nm,0.7s
NRCA Norcia 79.24 320 P **P 00 58 59.9 -0.3**
NRCA IAmb IAmb 00 59 01.7
comp=Z,16nm,0.9s
MSU Marysvale 79.29 47 P **P 00 59 01.6 +0.8**
MSU Marysvale 79.29 47 P **P 00 59 01.6 +0.8**
P18A Preston Nutter 79.48 45 P **P 00 59 02.7 +0.8**
P18A IAmb IAmb 00 59 04.2
comp=Z,9.7nm,0.8s
INTR Introdacqua 79.49 319 P **P 00 59 01.3 -0.3**
Q16A Castle Valley 79.53 46 P **P 00 59 02.7 +0.7**
MTPU Mount Pierson 79.63 47 P **P 00 59 03.5 +0.8**
MTPU IAmb IAmb 00 59 05.9
comp=Z,5.7nm,0.8s
SRU San Rafael Swe 79.72 45 P **P 00 59 03.2 +0.2**
SRU San Rafael Swe 79.72 45 P **P 00 59 03.2 +0.2**
SRU pmax pmax
comp=Z,4.0nm,0.7s
LCMT Little Creek M 79.81 48 P **P 00 59 03.6 +0.2**
V12A Nelson 79.84 50 P **P 00 59 03.8 +0.2**
V12A IAmb IAmb 00 59 06.2
comp=Z,12nm,1.5s
PKCU Pink Cliffs 80.00 48 P **P 00 59 04.4 -0.3**
PKCU IAmb IAmb 00 59 07.3
comp=Z,8.2nm,0.7s
KNB Kanab 80.04 48 P **P 00 59 05.7 +1.0**
KNB Kanab 80.04 48 P **P 00 59 05.7 +1.0**
KNB pmax pmax
comp=Z,5.0nm,0.8s
O20A White River Ci 80.13 43 P **P 00 59 05.5 +0.4**
PFO Pinyon Flats O 80.44 53 *ce*P **P 00 59 06.3 -0.5**
U15A North Rim 80.76 48 P **P 00 59 08.5 -0.1**
U15A IAmb IAmb 00 59 11.3
comp=Z,14nm,0.8s
W13A Hualapai Mount 80.84 50 P **P 00 59 09.5 +0.5**
PV21 Cone Mtn., Par 80.94 45 P **P 00 59 09.2 -0.2**
PV21 IAmb IAmb 00 59 11.5
comp=Z,7.9nm,0.8s
PV23 Carpenter Ridg 81.00 45 P **P 00 59 09.8 -0.1**
PV23 IAmb IAmb 00 59 11.9
comp=Z,13nm,0.9s
PV22 Blue Mesa, Par 81.06 45 IAmb IAmb 00 59 12.1
comp=Z,7.9nm,0.8s
PV15 Paradox Valley 81.36 45 P **P 00 59 12.0 +0.3**
PV15 IAmb IAmb 00 59 13.7
comp=Z,8.5nm,0.9s
BLYC Blythe 81.46 51 P **P 00 59 12.2 +0.4**
BLYC IAmb IAmb 00 59 14.2
comp=Z,7.3nm,0.8s
WUAZ Wupatki 81.93 48 P **P 00 59 14.5 -0.1**
ECSD EROS Data Cent 82.62 34 IAmb IAmb 00 59 18.7
comp=Z,5.9nm,0.7s
X16A Lo Mia Camp, P 82.71 49 P **P 00 59 19.6 +1.1**
X18A Snowflake 83.44 48 IAmb IAmb 00 59 24.6
comp=Z,6.6nm,0.6s
G40A Rib Lake 83.81 29 IAmb IAmb 00 59 24.8
comp=Z,7.7nm,0.6s
T25A Trinidad 84.35 43 IAmb IAmb 00 59 28.3
comp=Z,4.4nm,0.7s
ANMO Albuquerque 85.00 46 **P 00 59 31.8 +1.9**
ANMO Albuquerque 85.00 46 P **P 00 59 31.8 +1.9**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
RTBA Rita Blanca 85.73 42 IAmb IAmb 00 59 34.9
comp=Z,6.6nm,0.9s
P38A Dawn 87.32 35 IAmb IAmb 00 59 42.0
comp=Z,6.4nm,0.6s
P40A Paris 88.01 34 IAmb IAmb 00 59 45.3
comp=Z,6.0nm,0.7s
R40A Maddies Statio 88.97 34 IAmb IAmb 00 59 50.0
comp=Z,9.4nm,0.8s
ESDC Sonseca Array 89.17 329 P **P 00 59 49.2 -0.2**
comp=Z,1.0nm,1.2s,baz=15,slow=4.4,SNR=1.8
comp=Z,1.0nm,1.2s
CCM Cathedral Cave 89.59 34 P **P 00 59 52.0 +0.7**
CCM IAmb IAmb 00 59 52.9
comp=Z,5.9nm,0.7s
CCM Cathedral Cave 89.59 34 P **P 00 59 52.0 +0.7**
CCM pmax pmax
comp=Z,6.0nm,0.7s
U38A Gravette 89.63 37 P **P 00 59 52.1 +0.6**
U38A IAmb IAmb 00 59 52.7
comp=Z,5.9nm,0.8s
ALPN Alpine 90.04 47 IAmb IAmb 00 59 55.7
comp=Z,3.1nm,0.8s
TX31 Lajitas Ar. Si 90.84 47 IAmb IAmb 00 59 59.5
comp=Z,3.2nm,0.7s
TXAR Lajitas Array 90.84 47 P **P 00 59 58.0 +0.6**
TXAR Lajitas Array 90.84 47 P **P 00 59 58.7 +1.3**
comp=Z,3.2nm,0.7s,baz=289,slow=3.2,SNR=44
comp=Z,3.2nm,0.7s
PBMO Poplar Bluff 91.02 34 P **P 00 59 57.7 -0.3**
PBMO IAmb IAmb 00 59 59.2
comp=Z,4.6nm,0.8s
W52A Murphy 95.03 30 pP 01 02 05.5 +5.6
KMBO Kilima Mbogo 95.43 274 P **P 01 00 19.5 +0.7**
ITTB Itaituba 140.62 15 *eP* **PKiKP 01 06 23.0 -0.3**
LPAZ La Paz 147.52 42 PKPbc **PKPbc 01 06 36.8 +0.4**
comp=Z,2.7nm,0.7s,baz=20,slow=5.4,SNR=12
CPUP Villa Florida 161.09 32 PKPab **PKPab 01 07 37.6 +0.8**
comp=Z,2.8nm,0.8s,baz=353,slow=3.3,SNR=9.9
PLCA Paso Flores 161.87 91 PKPab **PKPab 01 07 41.1 +0.9**
comp=Z,2.1nm,0.9s,baz=282,slow=3.8,SNR=10.0

IDC ***22*** *01:04:45.5±0.5, 3°.23S×80°.64W, h0km, mb4.3/14, mbtmp4.3/19, ML3.5/5, MS3.8/35, Error ellipse: s-maj=24.1km s-min=12.0km az=62.0*
VAO ***22*** *01:04:46.8±0.5, 3°.22S×80°.69W, h10km, mb4.8*
IGQ ***22*** *01:04:47.9±0.8, 3°.S±3°.×8°.1W±°., h12km±4km, MLv4.8/9*
NEIC ***22*** *01:04:51.9±2.0, 3°.28S±0°.06×80°.44W±0°.09, h38km±5km, mb4.8/200, Error ellipse: s-maj=13.9km s-min=8.6km az=74.0*
ISC 22 01:04:51.0±0.4, 3°.32S±0°.04×80°.73W±0°.05, h41km±3km, h41km;pP-P,n541,σ1°.21/517, mb4.8/95, MS3.7/30, 43C-4D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNL	**Arenillas**	**0.70**	**109**	⇓P	**Pn**	**01 05 02.4**	**-2.1**
ARNL				S	**Sn**	**01 05 12.5**	**-1.7**
PU01	**PU01**	**0.71**	**44**	⇑P	**Pn**	**01 05 03.2**	**-1.5**
PU02	**PU02**	**0.83**	**54**	⇑P	**Pn**	**01 05 05.9**	**-0.4**
ACH2	**Ecuador-Machal**	**0.92**	**87**	⇑P	**Pn**	**01 05 06.6**	**-0.9**
LAMO	**ALAMOR**	**0.99**	**134**	S	**Sn**	**01 05 21.4**	**-0.2**
LAMO				⇓P	**Pn**	**01 05 07.7**	**-1.0**
PU03	**PU03**	**1.01**	**66**	⇑P	**Pn**	**01 05 06.3**	**-2.4**
SALI	**Salinas**	**1.15**	**347**	⇓P	**Pn**	**01 05 08.4**	**-2.3**
AMCR	**Ecuador-Macara**	**1.30**	**144**	P	**Pn**	**01 05 11.8**	**-1.0**
PU04	**PU04**	**1.30**	**61**	⇑P	**Pn**	**01 05 12.0**	**-0.7**
PU06	**PU06**	**1.42**	**51**	⇑P	**Pn**	**01 05 13.3**	**-1.1**
GYE3	**Ecuador-Guayaq**	**1.42**	**36**	P	**Pn**	**01 05 13.1**	**-1.2**
PU05	**PU05**	**1.46**	**58**	⇑P	**Pn**	**01 05 13.3**	**-1.6**
AGUAY	**Guayaquil**	**1.48**	**32**	P	**Pn**	**01 05 13.6**	**-1.5**
AGUAY				S	**Sn**	**01 05 33.1**	**-0.1**
MILO	**Milagro-Astudi**	**1.56**	**49**	⇑P	**Pn**	**01 05 16.0**	**-0.3**
MILO				S	**Sn**	**01 05 39.5**	**+4.1**
PU07	**PU07**	**1.61**	**53**	⇑P	**Pn**	**01 05 15.9**	**-1.1**
GONZ	**Gonzanam**	**1.62**	**124**	P	**Pn**	**01 05 17.1**	**-0.3**
GONZ				S	**Sn**	**01 05 37.7**	**+0.4**
ALJ1	**Ecuador-Loja-U**	**1.67**	**114**	P	**Pn**	**01 05 18.5**	**+0.5**
ALJ1				S	**Sn**	**01 05 40.3**	**+1.9**
COHC	**Cochancay**	**1.70**	**60**	⇑P	**Pn**	**01 05 17.2**	**-1.1**
COHC	**Cochancay**	**1.70**	**60**	P	**Pn**	**01 05 17.1**	**-1.1**
PPLP	**Puerto Lpez**	**1.76**	**359**	⇑P	**Pn**	**01 05 17.4**	**-1.7**
ACUE	**Ecuador-Cuenca**	**1.81**	**77**	P	**Pn**	**01 05 20.1**	**0.0**
MONB	**Balzapamba Mon**	**2.17**	**45**	P	**Pn**	**01 05 22.5**	**-2.3**
ZUMB	**Zumba**	**2.21**	**134**	⇑P	**Pn**	**01 05 26.3**	**+0.9**
ZUMB				S	**Sn**	**01 05 53.9**	**+2.4**
BOSC	**San Juan Bosco**	**2.24**	**86**	⇑P	**Pn**	**01 05 26.8**	**+1.0**
BOSC				S	**Sn**	**01 05 59.9**	**+7.7**
JSCH	**Cashca Tororas**	**2.36**	**48**	P	**Pn**	**01 05 25.6**	**-2.1**
AQUE	**Quevedo**	**2.57**	**29**	P	**Pn**	**01 05 28.4**	**-1.9**
AQUE				S	**Sn**	**01 06 00.9**	**+0.7**
CHSH	**Refugio Sur-Vo**	**2.59**	**46**	⇑P	**Pn**	**01 05 30.0**	**-1.0**
TAMH	**Tambohuasha Ch**	**2.63**	**48**	⇑P	**Pn**	**01 05 30.1**	**-1.3**
PORT	**Chimborazo Vol**	**2.69**	**47**	S	**Sn**	**01 06 06.3**	**+2.4**
PORT				P	**Pn**	**01 05 32.1**	**-0.2**
IGUA	**Igualata**	**2.77**	**49**	P	**Pn**	**01 05 32.6**	**-0.8**
BMAS	**Trigal station**	**2.88**	**51**	P	**Pn**	**01 05 33.3**	**-1.5**
ARRY	**Arrayan**	**2.90**	**52**	P	**Pn**	**01 05 34.7**	**-0.3**
BBIL	**Ulba Tungurahu**	**2.91**	**50**	P	**Pn**	**01 05 34.9**	**-0.2**
BPAT	**Tungurahua Vol**	**2.92**	**52**	P	**Pn**	**01 05 35.4**	**0.0**
JUI6	**Juive**	**2.94**	**50**	P	**Pn**	**01 05 35.8**	**+0.2**
POND	**Pondoa**	**2.95**	**50**	P	**Pn**	**01 05 36.0**	**+0.2**
BULB	**Ulba Tungurahu**	**2.98**	**51**	P	**Pn**	**01 05 36.6**	**+0.5**
PIS1	**Pisayambo**	**3.24**	**46**	⇑P	**Pn**	**01 05 41.2**	**+1.3**
PUYO	**Puyo, Santa Ro**	**3.25**	**56**	P	**Pn**	**01 05 40.8**	**+1.1**
ILLI	**Illinizas Sur**	**3.27**	**38**	⇑P	**Pn**	**01 05 40.2**	**0.0**
APUY	**Puyo**	**3.30**	**56**	P	**Pn**	**01 05 43.3**	**+3.0**
PAST	**Pastocalle**	**3.34**	**39**	P	**Pn**	**01 05 43.4**	**+2.2**
TAIS	**Taisha**	**3.36**	**74**	P	**Pn**	**01 05 41.7**	**+0.7**
BRRN	**Barrancas-Volc**	**3.38**	**42**	⇑P	**Pn**	**01 05 42.6**	**+0.9**
SLOR	**San Lorenzo -**	**3.40**	**41**	⇑P	**Pn**	**01 05 43.2**	**+1.1**
VCES	**Cotopaxi**	**3.42**	**43**	⇑P	**Pn**	**01 05 43.3**	**+0.9**
BMOR	**Cotopaxi Volca**	**3.43**	**42**	⇑P	**Pn**	**01 05 43.4**	**+0.9**
ASDO	**Santo Domingo**	**3.43**	**28**	P	**Pn**	**01 05 40.0**	**-2.1**
CAMI	**Rancho Maria**	**3.44**	**40**	⇓P	**Pn**	**01 05 43.9**	**+1.3**
BNAS	**Cotopaxi Volca**	**3.46**	**41**	⇑P	**Pn**	**01 05 45.2**	**+2.3**
SUCR	**Mariscal Sucre**	**3.47**	**40**	⇑P	**Pn**	**01 05 44.4**	**+1.4**
BREF	**Cotopaxi Volca**	**3.49**	**41**	⇑P	**Pn**	**01 05 44.7**	**+1.3**
BTAM	**Cotopaxi Volca**	**3.51**	**42**	⇑P	**Pn**	**01 05 44.8**	**+1.2**
BVC2	**Cotopaxi Volca**	**3.51**	**41**	⇑P	**Pn**	**01 05 45.0**	**+1.3**
TAMB	**Tambo**	**3.52**	**42**	P	**Pn**	**01 05 45.0**	**+1.3**
VC1	**Cotopaxi 1**	**3.53**	**41**	⇑P	**Pn**	**01 05 45.2**	**+1.3**
PITA	**Cotopaxi Volc**	**3.58**	**40**	P	**Pn**	**01 05 45.6**	**+1.2**
TOMA	**Boca Toma-Volc**	**3.62**	**39**	P	**Pn**	**01 05 46.3**	**+1.3**
HPAL	**Hacienda Las P**	**3.71**	**34**	P	**Pn**	**01 05 46.4**	**+0.1**
GGPT	**Toaza - Volcan**	**3.73**	**35**	⇑P	**Pn**	**01 05 46.6**	**+0.1**
ARDO	**Archidona, Ten**	**3.73**	**52**	⇑P	**Pn**	**01 05 46.7**	**+0.5**
ANTM	**Antisana-La Mi**	**3.73**	**42**	⇑P	**Pn**	**01 05 47.4**	**+0.8**
ANTG	**Antisana-Guama**	**3.73**	**42**	⇑P	**Pn**	**01 05 47.5**	**+0.8**
JUA2	**San Juan 2**	**3.74**	**35**	⇑P	**Pn**	**01 05 47.4**	**+0.6**
BV15	**Puerto Quito-O**	**3.77**	**24**	⇑P	**Pn**	**01 05 44.9**	**-1.7**
TERV	**Terraza Guagua**	**3.78**	**34**	⇑P	**Pn**	**01 05 47.6**	**+0.3**
GGPC	**Guagua Pichinc**	**3.78**	**34**	⇑P	**Pn**	**01 05 47.7**	**+0.4**
PINO	**Pino**	**3.79**	**34**	P	**Pn**	**01 05 47.5**	**0.0**
ANTS	**Antisana-Sarah**	**3.79**	**42**	⇑P	**Pn**	**01 05 48.4**	**+0.9**
ANTI	**Antisana**	**3.83**	**42**	P	**Pn**	**01 05 48.9**	**+0.8**
YANA	**Yana**	**3.84**	**34**	⇑P	**Pn**	**01 05 48.6**	**+0.5**
PULU	**Pululahua**	**4.00**	**34**	P	**Pn**	**01 05 48.6**	**-1.5**
PAC1	**Pacto, Paraso**	**4.05**	**29**	P	**Pn**	**01 05 49.1**	**-1.6**
OTAV	**Otavalo**	**4.20**	**33**	Pn	**Pn**	**01 05 52.1**	**-1.0**
CAYR	**Refugio Cayamb**	**4.29**	**39**	⇑P	**Pn**	**01 05 55.6**	**+1.3**
CUSE	**Cuicocha Este**	**4.29**	**33**	⇑P	**Pn**	**01 05 54.4**	**+0.3**
CUSE	**Cuicocha Este**	**4.29**	**33**	P	**Pn**	**01 05 54.6**	**+0.4**
CUSW	**Cuicocha Oeste**	**4.30**	**34**	P	**Pn**	**01 05 57.3**	**+3.0**
CUIC	**Cuicocha-Domo**	**4.31**	**33**	P	**Pn**	**01 05 54.8**	**+0.3**
ANGU	**Angureal**	**4.31**	**39**	⇑P	**Pn**	**01 05 55.7**	**+1.0**
CAYA	**Cayambe**	**4.34**	**39**	⇑P	**Pn**	**01 05 55.9**	**+0.8**
COTA	**Cotacachi**	**4.34**	**33**	P	**Pn**	**01 05 55.7**	**+0.6**
IMBA	**Imbabura, San**	**4.38**	**35**	P	**Pn**	**01 05 56.7**	**+1.3**
ATAH	**Atahualpa**	**4.45**	**149**	Pn	**Pn**	**01 05 57.0**	**+0.6**
	2.7nm,0.3s,baz=339,slow=8.6,SNR=62						
ATAH				Sn	**Sn**	**01 06 43.5**	**-3.7**
	13nm,0.3s,baz=27,slow=14,SNR=4.6						
ATAH				Lg	Lg	01 07 00.8	
	9.8nm,0.3s,baz=278,slow=21,SNR=5.7						
ATAH				LR	LR	01 07 47.9	
	comp=Z,2μm,18.5s,baz=313,slow=41						
	69nm,0.8s						
REVS	**Reventador Sur**	**4.45**	**44**	P	**Pn**	**01 05 58.1**	**+1.8**
URCU	**Urcuqui**	**4.48**	**34**	⇑P	**Pn**	**01 05 57.2**	**+0.4**
YAHU	**Yahuarcocha**	**4.53**	**36**	⇑P	**Pn**	**01 05 57.9**	**+0.5**
RVRD	**Rio Verde**	**4.56**	**17**	P	**Pn**	**01 05 57.1**	**-0.4**
CASC	**Dorado de Casc**	**4.82**	**45**	P	**Pn**	**01 06 01.8**	**+0.6**
LNGL	**El Angel-Carch**	**4.87**	**34**	P	**Pn**	**01 06 02.7**	**+0.5**
BONI	**La Bonita**	**4.92**	**41**	P	**Pn**	**01 06 03.5**	**+0.7**
	6μm3μm367nm,0.8s						
BONI	**La Bonita**	**4.92**	**41**	P	**Pn**	**01 06 03.4**	**+0.7**
CHMA	**Chilma**	**4.93**	**33**	P	**Pn**	**01 06 04.4**	**+1.4**
CHL1	**Volcn Chiles**	**4.94**	**34**	P	**Pn**	**01 06 03.3**	**+0.1**
SNLR	**San Lorenzo-Es**	**4.95**	**22**	P	**Pn**	**01 06 02.4**	**-0.5**
ECEN	**Cerro Negro**	**4.95**	**34**	P	**Pn**	**01 06 04.2**	**+0.8**
CHL2	**Volcn Chiles**	**4.96**	**35**	P	**Pn**	**01 06 05.2**	**+1.6**
TULM	**Tulcn-Chalpat**	**4.97**	**36**	P	**Pn**	**01 06 04.9**	**+1.3**
	4μm506nm,0.8s						
TULM	**Tulcn-Chalpat**	**4.97**	**36**	P	**Pn**	**01 06 04.5**	**+0.9**
CMBC	**Cumbal**	**5.13**	**35**	P	**Pn**	**01 06 06.9**	**+1.1**
TUMC	**Tumaco**	**5.49**	**21**	Pn	**Pn**	**01 06 11.1**	**+0.8**
TUMC	**Tumaco**	**5.49**	**21**	P	**Pn**	**01 06 11.9**	**+1.6**
BBAC	**Balboa, Cauca**	**6.34**	**33**	P	**Pn**	**01 06 22.0**	**-0.3**
PTLC	**Puerto Leguiza**	**6.87**	**60**	P	**Pn**	**01 06 25.3**	**-4.0**
FLOC	**Florencia**	**7.03**	**46**		**Pn**	**01 06 29.7**	**-1.9**
FLOC	**Florencia**	**7.03**	**46**	P	**Pn**	**01 06 29.9**	**-1.7**
POPC	**Popayan, Colom**	**7.09**	**35**	P	**Pn**	**01 06 31.2**	**-1.3**
	428nm36nm,0.9s						
GARC	**Garzon, Huila**	**7.57**	**44**	P	**Pn**	**01 06 38.3**	**-0.8**
	921nm74nm,0.6s						
MALC	**Bahia Malaga**	**8.03**	**25**	P	**Pn**	**01 06 47.4**	**+2.1**
CZSB	**Cruzeiro do Su**	**9.11**	**119**		**Pn**	**01 06 57.6**	**-2.5**
CZSB	**Cruzeiro do Su**	**9.11**	**119**	P	**Pn**	**01 06 59.9**	**-0.2**
	2μm247nm,0.9s						
CZSB	**Cruzeiro do Su**	**9.11**	**119**	*e*P	**Pn**	**01 06 58.6**	**-1.4**
NNA	**Nana**	**9.44**	**156**	Pn	**Pn**	**01 07 05.3**	**+0.7**
NNA	**Nana**	**9.44**	**156**	Pn	**Pn**	**01 07 04.7**	**+0.2**
	1.2nm,0.3s,baz=333,slow=12,SNR=3.9						
NNA				Sn	**Sn**	**01 08 54.1**	**+4.7**
	baz=239,slow=22						
NNA				Lg	Lg	01 09 36.1	
	2.7nm,0.3s,baz=63,slow=11,SNR=4.5						
	10nm,0.7s						
ROSC	**El Rosal**	**10.33**	**38**	Pn	**Pn**	**01 07 14.6**	**-2.5**
ROSC	**El Rosal**	**10.33**	**38**	Pn	**Pn**	**01 07 15.3**	**-1.8**
	1.4nm,0.3s,baz=165,slow=17,SNR=2.3						
ROSC				Lg	Lg	01 10 14.7	
	baz=252,slow=20						
ROSC				LR	LR	01 12 05.9	
	comp=Z,1μm,18.8s,baz=232,slow=43						
	3.8nm,0.4s						
TBTG	**Tabatinga, AM**	**10.83**	**95**		**Pn**	**01 07 20.2**	**-3.4**
TBTG	**Tabatinga, AM**	**10.83**	**95**	P	**Pn**	**01 07 23.3**	**-0.3**
	2μm235nm,1.0s						
TBTG	**Tabatinga, AM**	**10.83**	**95**	*e*P	**Pn**	**01 07 21.1

ESQI IAmb IAmb 01 09 34.2
comp=Z,98nm,1.4s
GO01 Chusmiza 19.77 146 P **P 01 09 18.2 -0.2**
GO01 IAmb IAmb 01 09 23.6
comp=Z,43nm,1.1s
HMBC Humberstone 19.90 149 P **P 01 09 18.2 -1.1**
HMBC IAmb IAmb 01 09 22.7
comp=Z,88nm,2.0s
MACA Manacapuru-AM 20.02 90 P **P 01 09 17.7 -2.8**
MACA IAmb IAmb 01 09 26.4
comp=Z,53nm,0.7s
MACA Manacapuru-AM 20.02 90 *e*P **P 01 09 19.9 -0.6**
PB08 IPOC Station P 20.18 147 P **P 01 09 21.6 -1.1**
BOAV Boa Vista 20.98 75 P **P 01 09 27.6 -3.4**
BOAV Boa Vista 20.98 75 *e*P **P 01 09 30.0 -1.0**
PB09 IPOC Station P 21.49 150 P **P 01 09 37.0 +0.4**
PB09 IAmb IAmb 01 09 55.0
comp=Z,57nm,1.4s
BBSD Serra de San D 24.08 126 *e*P **P 01 10 02.9 0.0**
GO02 Mina Guanaco 24.22 155 P **P 01 10 05.0 +0.6**
GO02 IAmb IAmb 01 10 08.3
comp=Z,21nm,0.8s
PTLB Pontes e Lacer 24.44 121 **P 01 10 05.0 -1.2**
PTLB Pontes e Lacer 24.44 121 *e*P **P 01 10 07.2 +1.1**
SC01 Santiago de lo 24.65 23 P **P 01 10 08.2 +0.2**
ITTB Itaituba 24.96 93 *e*P **P 01 10 10.7 -0.3**
PDRB Porto dos Gac 25.16 110 *e*P **P 01 10 13.2 +0.4**
OBIP Obispado Ponce 25.38 33 P **P 01 10 13.4 -1.2**
OBIP IAmb IAmb 01 10 16.7
comp=Z,27nm,0.8s
CELP Cerrillos 25.43 33 P **P 01 10 14.6 -0.4**
CELP IAmb IAmb 01 10 17.9
comp=Z,27nm,0.8s
UUPR Utuado, UPR, P 25.50 32 P **P 01 10 14.3 -1.3**
UUPR IAmb IAmb 01 10 17.4
comp=Z,34nm,0.9s
NPGB Novo Progresso 25.53 99 *e*P **P 01 10 15.2 -0.9**
AOPR Arecibo Observ 25.55 32 P **P 01 10 15.6 -0.7**
IGPR InterUniversit 25.59 34 P **P 01 10 16.1 -0.5**
PDPR Patillas Dam, 25.68 34 P **P 01 10 16.2 -1.2**
SJG San Juan 25.69 34 P **P 01 10 16.5 -0.9**
SJG San Juan 25.69 34 LR LR 01 22 10.2
comp=Z,182nm,18.5s,baz=206,slow=41
CLDB Colider 25.84 108 *e*P **P 01 10 18.4 -0.5**
AC02 Maricunga 25.89 156 P **P 01 10 19.2 -0.5**
SALV Santo Antonio 27.62 119 *e*P **P 01 10 35.4 +0.5**
BDQN Bodoquena, MS 28.91 128 *e*P **P 01 10 46.0 -0.4**
MURT Porto Murtinho 28.93 131 *e*P **P 01 10 46.8 +0.2**
MDP Montagnes des 29.28 74 LR LR 01 23 43.8
comp=Z,892nm,18.4s,baz=254,slow=39
AQDB Aquidauana 29.76 127 P **P 01 10 53.4 -0.5**
AQDB IAmb IAmb 01 10 55.1
comp=Z,15nm,1.1s
AQDB Aquidauana 29.76 127 *e*P **P 01 10 54.0 +0.1**
SNDB Serra Nova Dou 30.39 108 *e*P **P 01 10 59.4 -0.1**
VA03 San Esteban 30.81 163 P **P 01 11 02.4 -0.7**
VA03 IAmb IAmb 01 11 05.4
comp=Z,17nm,1.1s
ARAG Araguaiana, MT 31.01 115 *e*P **P 01 11 04.4 -0.6**
RPRD Ribas do Rio P 31.38 125 *e*P **P 01 11 08.7 +0.5**
MT08 Bocatoma Ro 31.60 163 P **P 01 11 10.4 +0.2**
MT08 IAmb IAmb 01 11 13.4
comp=Z,12nm,0.9s
SJPY San Joaquin 32.04 135 *e*P **P 01 11 14.2 +0.1**
CPUP Villa Florida 32.05 138 P **P 01 11 13.9 -0.1**
comp=Z,2.4nm,0.8s,baz=313,slow=8.5,SNR=8.5
CPUP LR LR 01 25 27.2
comp=Z,111nm,21.9s,baz=316,slow=39
comp=Z,2.4nm,0.8s
CPUP Villa Florida 32.05 138 *e*P **P 01 11 14.4 +0.4**
CPUP Villa Florida 32.05 138 P **P 01 11 14.3 +0.3**
CPUP PcP **PcP 01 14 03.2 +0.1**
BDFB Brasilia 34.45 113 P **P 01 11 34.7 -0.5**
comp=Z,3.0nm,0.8s,baz=277,slow=10,SNR=7.4
BDFB LR LR 01 27 27.6
comp=Z,441nm,18.9s,baz=291,slow=40
comp=Z,3.0nm,0.8s
ITQB Itaqui 34.78 141 *e*P **P 01 11 39.0 +1.3**
PTGB Pitanga 34.86 130 *e*P **P 01 11 38.4 -0.2**
LDASE Londrina, Braz 34.90 127 *e*P **P 01 11 38.6 -0.4**
IPMB Ipameri, GO 35.03 117 *e*P **P 01 11 39.6 -0.6**
BB19B Bebedouro 35.95 122 *e*P **P 01 11 47.1 -0.9**
HKT Hockley 36.10 337 P **P 01 11 50.5 +1.5**
HKT pP **pP 01 12 01.9 +1.5**
ITAB Concordia 36.23 134 *e*P **P 01 11 50.1 -0.2**
SDBA SAO DESIDERIO 36.58 106 *e*P **P 01 11 52.7 -0.8**
TBOT Tacuaremb 36.61 143 *e*P **P 01 11 54.4 +1.0**
LRAL Lakeview Retre 36.64 351 P **P 01 11 52.9 -0.7**
LRAL IAmb IAmb 01 11 54.4
comp=Z,9.4nm,1.0s
HNDO Hondo 37.18 333 IAmb IAmb 01 12 11.9
comp=Z,9.8nm,0.8s
435B Jarrell 37.53 336 P **P 01 12 02.0 +0.8**
435B pP **pP 01 12 13.3 +0.6**
435B IAmb IAmb 01 12 14.9
comp=Z,18nm,0.9s
JANB Januaria 37.72 110 *e*P **P 01 12 02.4 -0.8**
DRIO Del Rio 37.73 331 IAmb IAmb 01 12 16.7
comp=Z,19nm,1.0s
Y45A Yeager Farm, C 37.91 348 **P 01 12 05.5 +1.1**
Y45A **pP 01 12 17.0 +1.3**
VAO Valinhos 38.09 124 *e*P **P 01 12 04.7 -1.5**
PLTB Pedras Altas 38.10 141 *e*P **P 01 12 07.1 +1.0**
JCT Junction City 38.23 333 P **P 01 12 08.3 +1.1**
JCT IAmb IAmb 01 12 20.9
comp=Z,19nm,0.9s
PLCA Paso Flores 38.36 168 P **P 01 12 08.9 +0.7**
comp=Z,1.4nm,0.7s,baz=343,slow=10,SNR=9.3
PLCA PcP **PcP 01 14 22.3 +0.9**
comp=Z,2.0nm,0.8s,baz=349,slow=4.2,SNR=4.7
PLCA LR LR 01 25 15.3
comp=Z,106nm,20.3s,baz=6.0,slow=32
comp=Z,1.4nm,0.7s
PLCA Paso Flores 38.36 168 *e*P **P 01 12 08.2 -0.1**
PLCA Paso Flores 38.36 168 P **P 01 12 08.8 +0.6**
PLCA pP **pP 01 12 19.9 +0.2**
PLCA PcP **PcP 01 14 22.0 +0.6**
CNLB Canela 38.37 136 *e*P **P 01 12 08.3 -0.2**
BRDY Brady 38.56 334 P **P 01 12 11.5 +1.6**
FW13 Cleburne 38.85 337 P **P 01 12 13.4 +1.0**
FW13 IAmb IAmb 01 12 25.6
comp=Z,16nm,0.9s
TKL Tuckaleechee C 38.88 356 LR LR 01 28 01.4
comp=Z,221nm,20.4s,baz=179,slow=36
DIAM Diamantina, MG 39.21 115 *e*P **P 01 12 15.3 -0.5**
TX31 Lajitas Ar. Si 39.21 327 P **P 01 12 16.1 +0.6**
TX31 pP **pP 01 12 27.4 +0.4**
TXAR Lajitas Array 39.21 327 P **P 01 12 16.7 +1.1**
comp=Z,1.0nm,0.9s,baz=144,slow=7.7,SNR=8.1
TXAR PcP **PcP 01 14 25.2 +0.9**
comp=Z,0.8nm,0.7s,baz=155,slow=6.1,SNR=5.6
TXAR LR LR 01 27 38.3
comp=Z,62nm,19.7s,baz=122,slow=35
comp=Z,1.0nm,0.9s
PARB Paraibuna 39.35 124 *e*P **P 01 12 16.3 -0.5**
PLPT Palo Pinto 39.61 336 P **P 01 12 20.2 +1.5**
LPIG La Paz 39.64 315 LR LR 01 25 11.8
comp=Z,75nm,21.1s,baz=162,slow=31
SLP01 Ubatuba-SP 39.73 123 *e*P **P 01 12 19.7 -0.3**
WVT Waverly 39.80 351 P **P 01 12 18.8 -1.4**
WVT pP **pP 01 12 30.3 -1.3**
WVT PcP **PcP 01 14 24.6 -1.2**
MNHN Monahans 40.35 330 IAmb IAmb 01 12 38.4
comp=Z,17nm,1.0s
LCAR Lake Charles 40.38 347 IAmb IAmb 01 12 36.9
comp=Z,13nm,0.9s
LL02 Futaleuf 40.48 170 P **P 01 12 25.8 -0.1**
SN05 Snyder 5 40.75 334 IAmb IAmb 01 12 42.2
comp=Z,34nm,1.3s
APMT Aspermont 40.80 335 IAmb IAmb 01 12 42.0
comp=Z,16nm,0.9s
SN07 Snyder 07 40.93 334 P **P 01 12 29.9 +0.2**
SN07 pP **pP 01 12 41.5 +0.3**
SN07 IAmb IAmb 01 12 43.3
comp=Z,22nm,1.5s
VHRN Van Horn 41.06 327 IAmb IAmb 01 12 44.4
comp=Z,15nm,1.1s
TUL3 Leonard 41.49 341 P **P 01 12 33.6 -0.5**
TUL3 pP **pP 01 12 44.9 -0.8**
TUL3 IAmb IAmb 01 12 47.7
comp=Z,28nm,1.0s
U38A Gravette 41.56 343 P **P 01 12 34.3 -0.4**
U38A pP **pP 01 12 45.4 -0.9**
U38A IAmb IAmb 01 12 47.7
comp=Z,16nm,1.1s
SJMB Sao Joao De Ma 41.58 115 *e*P **P 01 12 34.6 -0.7**
DUB01 Friburgo-RJ 41.62 120 *e*P **P 01 12 35.1 -0.4**
WCI Wyandotte Cave 41.66 353 P **P 01 12 34.5 -1.0**
WCI pP **pP 01 12 45.9 -1.1**
MGMO Mountain Grove 41.67 346 IAmb IAmb 01 12 48.2
comp=Z,13nm,0.9s
CLN7 Carlsbad 7 41.74 330 P **P 01 12 37.9 +1.5**
CLN7 pP **pP 01 12 48.8 +0.9**
CAM01 Campos-RJ 42.15 119 *e*P **P 01 12 39.3 -0.5**
CMC01 Camacan, BA 42.30 109 *e*P **P 01 12 40.7 -0.4**
GUA01 Guaratinga, BA 42.30 111 *e*P **P 01 12 40.9 -0.2**
CCM Cathedral Cave 42.30 348 P **P 01 12 40.2 -0.5**
CCM Cathedral Cave 42.30 348 P **P 01 12 40.6 -0.1**
CCM pP **pP 01 12 51.9 -0.4**
CCM PcP **PcP 01 14 34.0 +0.1**
OK051 E0350 and S346 42.37 341 P **P 01 12 42.0 +0.6**
OLIL Olney 42.39 351 IAmb IAmb 01 12 40.9
comp=Z,11nm,0.6s
RIB01 Linhares ES 42.47 115 *e*P **P 01 12 41.7 -0.8**
T35A Sooner Cattle 42.64 341 pP 01 12 56.6 +1.5
ACSO Alum Creek Sta 43.39 357 IAmb IAmb 01 13 00.8
comp=Z,12nm,0.9s
M50A Fremont 44.56 358 IAmb IAmb 01 12 58.7
comp=Z,17nm,0.9s
RTBA Rita Blanca 44.57 334 IAmb IAmb 01 13 12.7
comp=Z,18nm,1.0s
NBAN Anadia - AL 44.59 100 *e*P **P 01 12 59.3 -0.3**
RCBR Riachuelo 44.75 95 LR LR 01 34 00.1
comp=Z,278nm,18.3s,baz=272,slow=39
ANMO Albuquerque 45.08 330 P **P 01 13 04.8 +1.3**
ANMO pP **pP 01 13 15.3 +0.2**
ANMO IAmb IAmb 01 13 17.8
comp=Z,18nm,0.9s
ANMO Albuquerque 45.08 330 P **P 01 13 05.4 +1.9**
ANMO pP **pP 01 13 16.9 +1.8**
TUC Tucson 45.48 324 P **P 01 13 08.1 +1.6**
TUC pP **pP 01 13 19.6 +1.5**
X16A Lo Mia Camp, P 47.37 325 P **P 01 13 22.5 +1.0**
S22A 4UR Ranch, Cre 47.49 332 P **P 01 13 21.7 -0.7**
S22A IAmb IAmb 01 13 37.0
comp=Z,11nm,1.3s
MVCO Mesa Verde 47.88 330 P **P 01 13 26.3 +0.9**
MVCO IAmb IAmb 01 13 41.8
comp=Z,16nm,1.4s
WUAZ Wupatki 48.13 326 P **P 01 13 29.0 +1.7**
BLYC Blythe 48.74 322 P **P 01 13 32.2 +0.5**
BLYC pP **pP 01 13 44.1 +0.6**
BLYC IAmb IAmb 01 13 46.4
comp=Z,8.2nm,1.1s
PV02 Paradox Valley 48.78 331 P **P 01 13 32.6 +0.3**
PV02 pP **pP 01 13 44.9 +0.8**
PV05 Paradox Valley 48.85 330 IAmb IAmb 01 13 46.9
comp=Z,14nm,1.0s
PV11 David Mesa, Pa 48.91 331 P **P 01 13 34.2 +0.9**
PV23 Carpenter Ridg 49.10 331 P **P 01 13 35.7 +0.9**
PV23 pP **pP 01 13 45.9 -0.7**
PFO Pinyon Flats O 49.86 320 LR LR 01 33 31.2
comp=Z,66nm,18.2s,baz=72,slow=35
KNB Kanab 50.02 326 P **P 01 13 43.6 +1.9**
O20A White River Ci 50.06 332 IAmb IAmb 01 13 58.0
comp=Z,16nm,1.2s
MSU Marysvale 50.76 328 P **P 01 13 49.0 +1.6**
MSU pP **pP 01 14 01.2 +2.0**
TCRU Three Creeks R 50.98 328 IAmb IAmb 01 14 03.4
comp=Z,6.1nm,0.7s
SHPR Sheep Range 50.99 324 P **P 01 13 50.7 +1.6**
D62A Allapoint, All 51.23 10 P **P 01 13 51.0 +0.6**
BSUT Blindstream Ca 51.57 331 P **P 01 13 55.0 +1.3**
BSUT pP **pP 01 14 05.9 +0.5**
BSUT IAmb IAmb 01 14 07.4
comp=Z,7.6nm,1.0s
WCT Wildcat Mounta 52.05 323 IAmb IAmb 01 14 11.8
comp=Z,9.4nm,1.2s
SPR3 Spring Creek 3 52.27 327 IAmb IAmb 01 14 13.0
comp=Z,19nm,1.4s
TBO Thunder Bay 52.30 353 P **P 01 13 57.2 -1.3**
TBO pP **pP 01 14 10.2 -0.1**
TCUT Toone Canyon 52.33 331 P **P 01 14 00.0 +0.9**
DUG Dugway, Tooele 52.34 329 P **P 01 14 02.7 +3.6**
DUG IAmb IAmb 01 14 13.8
comp=Z,18nm,1.6s
PD31 Pinedale Array 52.76 334 IAmb IAmb 01 14 15.6
comp=Z,9.8nm,1.1s
PDAR Pinedale Array 52.76 334 P **P 01 14 02.1 -0.1**
PDAR pP **pP 01 14 13.2 -0.9**
PDAR Pinedale Array 52.76 334 P **P 01 14 02.9 +0.6**
comp=Z,2.6nm,0.8s,baz=125,slow=9.1,SNR=26
PDAR LR LR 01 36 35.7
comp=Z,63nm,21.5s,baz=135,slow=36
comp=Z,2.6nm,0.8s
BGU Big Grassy Mou 52.99 330 P **P 01 14 05.6 +1.7**
BGU IAmb IAmb 01 14 17.5
comp=Z,23nm,1.5s
SNOW Snow King Moun 53.84 333 P **P 01 14 11.0 +0.8**
SNOW IAmb IAmb 01 14 26.1
comp=Z,8.2nm,1.0s
LOHW Long Hollow 53.89 333 IAmb IAmb 01 14 24.3
comp=Z,9.1nm,1.2s
TPAW Teton Pass 53.95 333 IAmb IAmb 01 14 29.4
comp=Z,15nm,1.2s
EPLO Experimental L 53.96 350 IAmb IAmb 01 14 11.4
comp=Z,11nm,1.1s
ELK Elko 54.01 328 IAmb IAmb 01 14 25.2
comp=Z,9.2nm,1.3s
NVAR Mina Array Bea 54.13 324 P **P 01 14 13.6 +1.2**
NVAR Mina Array Bea 54.13 324 P **P 01 14 13.9 +1.5**
comp=Z,1.9nm,0.8s,baz=136,slow=7.7,SNR=8.4
NVAR LR LR 01 37 43.1
comp=Z,63nm,18.0s,baz=214,slow=37
comp=Z,1.9nm,0.8s
YFT Old Faithful 54.66 334 P **P 01 14 16.5 +0.4**
YFT IAmb IAmb 01 14 31.4
comp=Z,16nm,1.2s
YNE Yellowstone No 54.74 335 IAmb IAmb 01 14 30.8
comp=Z,8.4nm,0.9s
ULM Lac du Bonnet 54.93 348 P **P 01 14 17.5 -0.1**
comp=Z,13nm,0.6s,baz=168,slow=8.1,SNR=18
comp=Z,13nm,0.6s
YHH Holmes Hill 54.93 334 P **P 01 14 19.8 +1.6**
HLID Hailey 55.64 331 IAmb IAmb 01 14 37.5
comp=Z,6.6nm,0.9s
BEKR Beckworth 56.28 324 P **P 01 14 29.3 +1.5**
BEKR IAmb IAmb 01 14 42.3
comp=Z,13nm,1.3s
ORV Oroville 56.76 323 P **P 01 14 31.8 +0.8**
ORV pP **pP 01 14 44.1 +1.2**
WVOR Wild Horse Val 57.01 327 IAmb IAmb 01 14 46.8
comp=Z,12nm,1.1s
EGMT Eagleton 57.08 337 IAmb IAmb 01 14 49.1
comp=Z,8.3nm,1.1s
J08A Circle Bar Ran 57.55 328 IAmb IAmb 01 14 50.4
comp=Z,11nm,1.3s
MSO Missoula 57.88 334 P **P 01 14 39.1 +0.3**
MSO pP **pP 01 14 50.6 -0.2**
MSO IAmb IAmb 01 14 52.9
comp=Z,13nm,1.2s
F10A Beach Ranch, E 58.77 331 IAmb IAmb 01 14 59.5
comp=Z,9.6nm,0.9s
YBH Yreka Blue Hor 58.84 324 LR LR 01 40 21.5
comp=Z,88nm,18.2s,baz=140,slow=36
PINE Pine Mountain 59.17 327 P **P 01 14 48.5 +0.4**
PINE pP **pP 01 15 00.3 +0.3**
NEW Newport 60.38 333 P **P 01 14 56.7 +0.6**
NEW IAmb IAmb 01 14 58.0
comp=Z,8.5nm,1.2s
NEW Newport 60.38 333 LR LR 01 42 30.3
comp=Z,61nm,18.6s,baz=161,slow=38
FFC Flin Flon 60.47 346 P **P 01 14 55.6 -0.8**
FFC IAmb IAmb 01 15 43.5
comp=Z,22nm,1.9s
FFC Flin Flon 60.47 346 P **P 01 14 56.8 +0.4**
FFC pP **pP 01 15 08.7 +0.2**
E07A Sunnyside 60.47 330 P **P 01 14 58.0 +1.3**
E07A pP **pP 01 15 09.5 +0.8**
LON Longmire 61.59 329 IAmb IAmb 01 15 06.3
comp=Z,5.5nm,1.0s
FRB Frobisher Bay 67.51 6 LR LR 01 45 43.2
comp=Z,38nm,20.9s,baz=255,slow=36
PPT2 Papeete2 68.84 253 *e*LR LR 01 36 52.1
comp=Z,103nm,26.0s
PPT2 LR LR 01 36 59.6
comp=Z,99nm,26.5s
TBI Tubuai 69.18 246 *e*LR LR 01 37 03.1
comp=Z,359nm,35.0s
NRS Narsarsuaq 69.83 17 P **P 01 15 56.0 -1.0**
YKAW1 Yellowknife Wh 70.45 344 IAmb IAmb 01 16 02.1
comp=Z,17nm,1.7s
YKA Yellowknife Ar 70.49 344 P **P 01 16 00.8 -0.3**
comp=Z,1.9nm,1.0s,baz=142,slow=6.0,SNR=21
comp=Z,1.9nm,1.0s
TOAD Toad River Com 71.27 337 P **P 01 16 06.7 +0.7**
baz=132
KOTAN Kotaneelee Air 71.71 339 P **P 01 16 09.4 +0.8**
baz=133
V35K Ketchikan 71.77 332 P **P 01 16 10.1 +1.1**
baz=125
T35M Bob Quinn 72.14 334 P **P 01 16 12.8 +1.6**
baz=127
WRAK Wrangell Islan 72.74 333 P **P 01 16 16.4 +1.6**
baz=125
DLBC Dease Lake 72.93 335 LR LR 01 50 10.6
comp=Z,54nm,19.3s,baz=110,slow=37
DLBC Dease Lake 72.93 335 P **P 01 16 17.2 +1.2**
baz=127
S34M Telegraph Cree 73.08 335 P **P 01 16 18.5 +1.8**
baz=126
SFJD Kangerlussuaq 73.35 12 LR LR 01 48 01.1
comp=Z,26nm,19.2s,baz=206,slow=35
WRGLY Wrigley 73.69 341 P **P 01 16 20.9 +0.7**
WRGLY IAmb IAmb 01 16 22.6
comp=Z,11nm,1.1s
WRGLY Wrigley 73.69 341 P **P 01 16 21.8 +1.6**
baz=135
R33M Jennings River 73.90 336 P **P 01 16 23.4 +1.7**
baz=127
Q32M Nakina River 74.18 335 P **P 01 16 24.5 +1.0**
baz=125
S32K Killisnoo 74.34 333 P **P 01 16 25.5 +1.4**
baz=123
P33M Teslin, Yukon 75.14 336 P **P 01 16 29.8 +1.0**
baz=125
P32M Atlin 75.15 335 P **P 01 16 30.4 +1.5**
baz=124
MMPY Sheldon Lake, 75.97 338 P **P 01 16 35.5 +2.0**
baz=127
DBIC Dimbokro 76.39 82 P **P 01 16 36.5 -0.3**
DBIC IAmb IAmb 01 16 37.7
comp=Z,14nm,0.9s
DBIC Dimbokro 76.39 82 P **P 01 16 37.4 +0.5**
comp=Z,10nm,0.7s,baz=246,slow=6.0,SNR=13
DBIC LR LR 01 48 53.6
comp=Z,139nm,19.9s,baz=255,slow=35
comp=Z,10nm,0.7s
FARO Faro, Yukon 76.52 337 P **P 01 16 38.5 +1.9**
baz=125
O30N Mendenhall 76.79 335 P **P 01 16 40.1 +1.9**
baz=122
P30M Million Dollar 76.81 335 P **P 01 16 39.4 +1.0**
baz=121
M31M Drury Creek, Y 76.90 337 P **P 01 16 40.0 +1.2**
baz=124
N31M Braeburn, Yuko 77.06 336 P **P 01 16 41.4 +1.8**
baz=122
HYT Haines Junctio 77.41 335 P **P 01 16 43.1 +1.3**
baz=121
N30M Aishikik Lake 77.57 336 P **P 01 16 44.1 +1.5**
baz=121
O29M Mount Kennedy 77.60 334 P **P 01 16 44.5 +1.7**
baz=120
PNL Peninsula 77.64 334 P **P 01 16 44.7 +1.7**
baz=119
M30M Minto, Yukon 78.05 337 P **P 01 16 46.6 +1.4**
baz=122
YUK4 Talbot Arm 78.16 335 P **P 01 16 47.1 +1.1**
baz=120
PINM Pinnacle 78.23 334 P **P 01 16 46.9 +0.6**
baz=118
RES Resolute Bay 78.36 356 LR LR 01 53 39.8
comp=Z,44nm,18.2s,baz=20,slow=38
O28M Mount Upton 78.53 334 P **P 01 16 48.6 +0.4**
baz=118
YUK8 Steele Glacier 78.59 335 P **P 01 16 49.4 +0.9**
baz=119
M29M Somme Creek 78.64 336 P **P 01 16 49.7 +1.2**
baz=120
L29M L29M 78.85 337 P **P 01 16 50.7 +1.1**
baz=121
H31M Peel River 78.95 340 P **P 01 16 50.9 +0.9**
baz=125
J30M Hart River 78.95 339 P **P 01 16 50.9 +0.6**
baz=122
K29M Barlow Dome 79.00 338 P **P 01 16 51.3 +0.8**
baz=121
MESA MESA 79.02 333 P **P 01 16 51.8 +1.0**
baz=117
YUK3 Moose Creek 79.12 335 P **P 01 16 52.2 +0.8**
baz=118
I30M Mount Dempster 79.32 339 P **P 01 16 53.7 +1.4**
baz=123
G31M Satah River 79.57 341 P **P 01 16 54.3 +1.0**
baz=125,SNR=5.5
J29N Klondike Camp 79.58 338 P **P 01 16 54.6 +1.0**
baz=121
BVCY Beaver Creek 79.59 336 P **P 01 16 55.3 +1.6**
baz=118
F31M Tsiigehtchic 79.70 342 IAmb IAmb 01 16 55.6
comp=Z,8.5nm,0.9s
F31M Tsiigehtchic 79.70 342 P **P 01 16 55.3 +1.2**
baz=126
DAWY Dawson 79.82 338 P **P 01 16 56.1 +1.2**
baz=120
M27K Edge Creek, AK 79.99 335 P **P 01 16 56.8 +0.9**
baz=117
EPYK Eagle Plains 80.07 340 P **P 01 16 57.1 +0.9**
baz=122
INK Inuvik 80.15 343 P **P 01 16 57.0 +0.6**
comp=Z,6.3nm,0.9s,baz=132,slow=6.5,SNR=15
INK LR LR 01 56 15.7
comp=Z,54nm,18.4s,baz=239,slow=39
comp=Z,6.3nm,0.9s
INK Inuvik 80.15 343 P **P 01 16 57.4 +0.9**
baz=126,SNR=10
G30M tAoh Zraii Nji 80.24 341 P **P 01 16 57.7 +0.7**
baz=123
L27K Beaver Creek, 80.29 336 P **P 01 16 58.5 +1.1**
baz=117
SUMG Summit 80.34 12 P **P 01 16 57.8 -0.2**
SUMG pP **pP 01 17 09.7 -0.7**
A36M Sachs Harbour 80.39 347 P **P 01 16 58.0 +0.3**
baz=134
F30M Barrier River 80.45 341 P **P 01 16 58.7 +0.6**
baz=124
M26K Nabesna, AK 80.47 335 P **P 01 16 58.9 +0.5**
baz=116
BMRM Bremner River 80.55 334 P **P 01 17 00.2 +1.3**
baz=114
H29M Whitestone 80.55 340 P **P 01 16 59.6 +0.8**
baz=121
I28M Miner Creek 80.72 339 P **P 01 17 00.8 +1.1**
baz=119
G29M Pine Creek 80.80 340 P **P 01 17 00.4 +0.4**
G29M IAmb IAmb 01 17 01.4
comp=Z,8.6nm,0.8s
G29M Pine Creek 80.80 340 P **P 01 17 00.9 +0.8**
baz=121,SNR=5.1
N25K Chitina, Valde 80.81 334 P **P 01 17 01.3 +1.0**
baz=114
K27K Chicken 80.84 337 P **P 01 17 01.3 +1.0**
baz=117
EYAK Cordova Ski Ar 80.89 333 P **P 01 17 01.7 +1.1**
baz=113
L26K Log Cabin Wild 80.89 336 P **P 01 17 01.3 +0.6**
baz=116
KLU Klutina 81.34 334 P **P 01 17 04.1 +1.0**
baz=113
I27K Kandik River 81.40 338 P **P 01 17 04.1 +0.7**
baz=118
E29M Blow River 81.54 342 P **P 01 17 04.0 +0.1**
baz=122,SNR=8.0
SCRK Sand Creek 81.57 337 P **P 01 17 05.1 +0.8**
baz=115
GLI Glacier Island 81.62 333 P **P 01 17 05.8 +1.2**
baz=112
J26L Joseph Creek 81.63 337 IAmb IAmb 01 17 06.2
comp=Z,6.4nm,0.9s
J26L Joseph Creek 81.63 337 P **P 01 17 05.6 +0.9**
baz=116
H27K Steamboat Moun 81.67 339 IAmb IAmb 01 18 47.6
comp=Z,22nm,1.9s
H27K Steamboat Moun 81.67 339 P **P 01 17 05.6 +0.8**
baz=118
PAX Paxson 81.75 335 P **P 01 17 06.0 +0.7**

	baz=114					
RIDG	Independent Ri	81.81 336	P	P	01 17 06.2	+0.6
	baz=114					
I26K	Coal Creek Min	81.84 338	P	P	01 17 06.0	+0.5
	baz=116					
ESDC	Sonseca Array	81.96 49	P	P	01 17 07.0	+0.1
	comp=Z,2.7nm,0.9s,baz=263,slow=5.8,SNR=16					
ESDC			LR	LR	01 52 51.6	
	comp=Z,34nm,18.7s,baz=208,slow=35					
	comp=Z,2.7nm,0.9s					
G27K	Doyon Strip	81.99 340	P	P	01 17 06.7	+0.3
	baz=118					
E28M	Babbage River	82.17 342	P	P	01 17 07.0	-0.2
E28M			IAmb	IAmb	01 17 08.0	
	comp=Z,7.8nm,1.1s					
E28M	Babbage River	82.17 342	P	P	01 17 07.4	+0.1
	baz=120,SNR=7.5					
D28M	Stokes Point	82.29 342	P	P	01 17 08.5	+0.7
	baz=121					
J25K	Salcha River,	82.39 337	P	P	01 17 08.8	+0.2
	baz=114					
SEW	Seward	82.43 332	P	P	01 17 09.7	+1.0
	baz=110					
KNK	Knik Glacier	82.44 333	P	P	01 17 09.5	+0.7
	baz=111					
E27K	Coleen River	82.62 341	IAmb	IAmb	01 17 11.0	
	comp=Z,6.6nm,0.9s					
E27K	Coleen River	82.62 341	P	P	01 17 10.5	+0.8
	baz=118,SNR=9.5					
G26K	Porcupine Rive	82.80 339	P	P	01 17 11.3	+0.8
	baz=116					
PMR	Palmer	82.80 333	P	P	01 17 11.7	+1.1
	baz=110					
PRP	Porcupine Dome	82.82 338	P	P	01 17 11.5	+0.6
	baz=114					
RC01	Rabbit Creek A	82.90 333	P	P	01 17 12.6	+1.4
	baz=110					
D27M	Malcolm River	82.94 342	IAmb	IAmb	01 17 12.9	
	comp=Z,11nm,0.9s					
D27M	Malcolm River	82.94 342	P	P	01 17 11.8	+0.5
	baz=119,SNR=14					
ILAR	Eielson Array	83.05 337	P	P	01 17 11.8	-0.2
	comp=Z,2.3nm,1.0s,baz=136,slow=3.5,SNR=13					
ILAR			LR	LR	01 55 52.1	
	comp=Z,63nm,19.6s,baz=102,slow=37					
	comp=Z,2.3nm,1.0s					
KDAK	Kodiak Island	83.22 329	LR	LR	01 52 30.6	
	comp=Z,38nm,21.4s,baz=308,slow=34					
KDAK	Kodiak Island	83.22 329	P	P	01 17 14.1	+1.2
	baz=107					
H25L	Birch Creek	83.24 338	P	P	01 17 13.6	+0.8
	baz=114					
F26K	Sheenjek River	83.26 340	IAmb	IAmb	01 17 14.6	
	comp=Z,4.8nm,0.8s					
F26K	Sheenjek River	83.26 340	P	P	01 17 13.9	+0.9
	baz=116,SNR=8.7					
BMAR	Burnt Mountain	83.29 340	P	P	01 17 13.5	+0.4
HOM	Homer	83.33 331	P	P	01 17 14.6	+1.2
	baz=108					
TORD	Torodi Ar. Bea	83.38 76	P	P	01 17 13.4	-1.3
TORD	Torodi Ar. Bea	83.38 76	P	P	01 17 14.4	-0.2
	comp=Z,46nm,0.3s,baz=251,slow=2.6,SNR=1.1					
POKR	Poker Plat Res	83.40 337	P	P	01 17 15.0	+1.3
	baz=112					
MCK	McKinley	83.48 335	P	P	01 17 15.5	+1.3
	baz=111					
G25K	Bearman Lake	83.55 339	P	P	01 17 15.2	+0.7
	baz=114					
H24K	Noodor Dome	83.84 338	IAmb	IAmb	01 17 17.5	
	comp=Z,6.7nm,0.9s					
H24K	Noodor Dome	83.84 338	P	P	01 17 17.1	+1.1
	baz=112					
E25K	Arctic Village	83.92 340	IAmb	IAmb	01 17 18.3	
	comp=Z,6.8nm,0.9s					
E25K	Arctic Village	83.92 340	P	P	01 17 17.4	+1.1
	baz=114,SNR=6.8					
C27K	Jago River	83.97 342	IAmb	IAmb	01 17 18.4	
	comp=Z,9.6nm,1.0s					
C27K	Jago River	83.97 342	P	P	01 17 17.6	+1.0
	baz=116,SNR=8.6					
SKT	Skwentna	84.01 333	P	P	01 17 17.9	+1.0
	baz=108					
G24K	Hadweenzic Riv	84.03 338	P	P	01 17 17.6	+0.7
G24K			IAmb	IAmb	01 17 19.2	
	comp=Z,6.6nm,0.9s					
G24K	Hadweenzic Riv	84.03 338	P	P	01 17 17.6	+0.7
	baz=112					
SPCR	Spurr Chakacha	84.07 333	P	P	01 17 18.1	+0.8
	baz=108					
P19K	Oil Pt	84.09 331	P	P	01 17 18.5	+1.1
	baz=106					
I23K	Minto, Yukon-K	84.17 337	P	P	01 17 18.6	+1.0
	baz=110					
BPAW	Bear Paw Mtn.	84.46 335	P	P	01 17 19.6	+0.4
	baz=109					
C26K	Camden Bay	84.48 342	P	P	01 17 19.8	+0.8
	baz=115,SNR=14					
H23K	Yukon River	84.48 337	P	P	01 17 19.9	+0.6
	baz=110					
F24K	Squaw Lake	84.49 339	P	P	01 17 20.0	+0.7
	baz=112					
PPLA	Purkeypile	84.59 334	P	P	01 17 20.2	+0.2
	baz=108					
D25K	Kavik River	84.69 341	IAmb	IAmb	01 17 21.8	
	comp=Z,6.7nm,0.8s					
D25K	Kavik River	84.69 341	P	P	01 17 21.0	+0.7
	baz=114,SNR=9.3					
M20K	Styx River	84.70 333	P	P	01 17 20.7	+0.2
	baz=107					
CAST	Castle Rocks	84.71 335	P	P	01 17 20.5	+0.1
	baz=108					
O19K	Port Alsworth	84.77 331	P	P	01 17 21.3	+0.6
	baz=106					
E24K	Your Creek	84.91 340	IAmb	IAmb	01 17 44.2	
	comp=Z,14nm,1.7s					
E24K	Your Creek	84.91 340	P	P	01 17 21.9	+0.4
	baz=112					
G23K	Bananza Creek	84.97 338	IAmb	IAmb	01 17 23.7	
	comp=Z,10nm,1.1s					
G23K	Bananza Creek	84.97 338	P	P	01 17 22.7	+0.9
	baz=110					
P18K	Big Mountain,	85.00 330	P	P	01 17 23.3	+1.3
	baz=105					
N19K	Bonanza Creek	85.02 332	P	P	01 17 22.9	+0.7
	baz=106					
Q17K	Contact Creek	85.04 329	P	P	01 17 23.2	+0.8
	baz=104					
COLD	Coldfoot	85.22 339	IAmb	IAmb	01 17 36.9	
	comp=Z,6.4nm,1.0s					
COLD	Coldfoot	85.22 339	P	P	01 17 24.1	+1.2
	baz=110,SNR=6.4					
I21K	Tanana	85.22 336	P	P	01 17 23.8	+0.9
	baz=108					
E23K	Chandalar	85.30 339	P	P	01 17 23.9	+0.5
E23K			IAmb	IAmb	01 17 26.5	
	comp=Z,7.5nm,1.1s					
E23K	Chandalar	85.30 339	P	P	01 17 24.5	+1.1
	baz=110					
D24K	Happy Valley	85.43 341	P	P	01 17 24.3	+0.4
	baz=111					
TOLK	Toolik Lake Re	85.50 340	P	P	01 17 24.7	+0.4
	baz=110					
K20K	Telida	85.54 334	P	P	01 17 25.4	+0.8
	baz=106					
L19K	White Mountain	85.56 333	P	P	01 17 25.5	+0.8
	baz=105					
G22K	Bettles	85.60 338	P	P	01 17 25.5	+0.8
	baz=109					
C24K	Franklin Bluff	85.60 341	P	P	01 17 25.6	+0.8
	baz=112					
N18K	Kilae Creek	85.65 332	P	P	01 17 26.0	+0.8
	baz=104					
EKA	Eskdalemuir Ar	85.66 34	P	P	01 17 24.7	-0.6
	comp=Z,1.0nm,0.6s,baz=262,slow=3.9,SNR=6.0					
	comp=Z,1.0nm,0.6s					
H21K	Melozitna Rive	85.69 337	P	P	01 17 26.0	+0.7
	baz=107					
D23K	Nanushuk River	85.99 340	IAmb	IAmb	01 17 28.8	
	comp=Z,6.1nm,0.8s					
D23K	Nanushuk River	85.99 340	P	P	01 17 27.6	+0.9
	baz=110,SNR=6.6					
F22K	John River	86.03 339	P	P	01 17 27.8	+0.8
	baz=108,SNR=5.3					
E22K	Anaktuvuk Pass	86.10 339	IAmb	IAmb	01 17 28.8	
	comp=Z,5.0nm,0.8s					
E22K	Anaktuvuk Pass	86.10 339	P	P	01 17 28.0	+0.7
	baz=108,SNR=6.7					
G21K	Allakaket	86.23 337	IAmb	IAmb	01 17 29.5	
	comp=Z,4.4nm,0.8s					
G21K	Allakaket	86.23 337	P	P	01 17 28.8	+0.8
	baz=107,SNR=5.1					
C23K	Itkillik River	86.26 341	P	P	01 17 29.0	+1.0
	baz=110,SNR=7.6					
J19K	Poorman	86.38 335	P	P	01 17 29.7	+1.0
	baz=105					
F21K	Alatna River	86.43 338	P	P	01 17 30.1	+1.2
	baz=107					
O16K	Kokwok River B	86.47 330	P	P	01 17 30.4	+1.2
	baz=102					
H20K	Anotleneega Mo	86.47 336	P	P	01 17 30.1	+0.9
	baz=105					
M17K	Holitna River	86.56 332	P	P	01 17 30.7	+1.1
	baz=103					
D22K	Ayikyak River	86.64 340	P	P	01 17 30.8	+0.9
	baz=108					
QSPA	South Pole Qui	86.76 180	P	P	01 17 31.2	+0.5
QSPA	South Pole Qui	86.76 180	P	P	01 17 31.6	+0.9
	comp=Z,4.6nm,1.0s,baz=143,slow=2.0,SNR=7.7					
QSPA			LR	LR	01 48 21.1	
	comp=Z,63nm,21.3s,baz=262,slow=30					
	comp=Z,4.6nm,1.0s					
E21K	Killik River	86.96 339	P	P	01 17 31.9	+0.4
	baz=106					
F20K	Avaraart Lake	87.22 338	P	P	01 17 33.5	+0.8
	baz=105					
K17K	Iditarod	87.25 333	P	P	01 17 33.9	+0.9
	baz=102					
B22K	Teshekpuk Lake	87.34 341	P	P	01 17 33.9	+0.6
	baz=107					
C21K	Knifeblade Rid	87.45 340	P	P	01 17 34.6	+0.8
	baz=106,SNR=7.3					
G19K	Purcell Mounta	87.52 337	P	P	01 17 35.5	+1.3
	baz=103					
B21K	Ikpikpuk River	87.52 340	P	P	01 17 35.0	+0.9
	baz=106,SNR=15					
E20K	Nigu River	87.70 339	P	P	01 17 36.0	+0.9
	baz=104,SNR=11					
J17K	VABM Dome	87.74 334	P	P	01 17 36.9	+1.6
	baz=102					
H18K	Honhosa River	87.81 336	P	P	01 17 36.5	+0.8
	baz=102					
TAM	Tamanrasset	87.82 67	P	P	01 17 35.9	-0.9
E19K	Redstone River	87.89 338	P	P	01 17 37.0	+1.0
	baz=103					
F19K	Shaleruckik Mo	87.95 337	IAmb	IAmb	01 17 38.4	
	comp=Z,7.8nm,1.1s					
F19K	Shaleruckik Mo	87.95 337	P	P	01 17 37.2	+1.0
	baz=103,SNR=5.8					
M15K	Kasigluk River	87.96 331	P	P	01 17 37.8	+1.4
	baz=100					
D20K	Etivluk River	87.97 339	P	P	01 17 37.4	+1.0
	baz=104,SNR=7.6					
A22K	Sinclair Lake	88.02 342	P	P	01 17 37.8	+1.3
	baz=106					
G18K	Tagagawik	88.09 336	IAmb	IAmb	01 17 39.1	
	comp=Z,6.1nm,0.8s					
G18K	Tagagawik	88.09 336	P	P	01 17 38.2	+1.3
	baz=102					
N14K	Kuskokwak Cree	88.31 330	P	P	01 17 39.6	+1.5
	baz=99					
J16K	Anvik River	88.39 334	P	P	01 17 39.6	+1.2
	baz=100					
H17K	Granite Mounta	88.41 335	P	P	01 17 39.5	+1.1
	baz=101					
D19K	Kuna River	88.45 339	P	P	01 17 39.7	+1.1
	baz=102,SNR=12					
B20K	Meade River	88.47 340	P	P	01 17 39.8	+1.2
	baz=104					
L15K	Ungalak Mounta	88.51 332	P	P	01 17 40.0	+1.0
	baz=99					
I17K	Unalakleet	88.54 334	P	P	01 17 39.8	+0.8
	baz=100					
A21K	Barrow	88.62 342	P	P	01 17 40.2	+0.9
	baz=104					
F18K	Selawik	88.63 337	P	P	01 17 40.5	+1.1
	baz=101,SNR=7.5					
G17K	Kiwalik Mounta	88.82 336	P	P	01 17 41.1	+0.7
	baz=100					
E18K	Tukpahlearik C	89.15 338	P	P	01 17 42.7	+0.8
	baz=100,SNR=8.2					
F17K	Baldwin Pennin	89.23 337	P	P	01 17 43.5	+1.3
	baz=100,SNR=5.8					
H16K	Elim	89.33 335	P	P	01 17 44.4	+1.6
	baz=99					
G16K	Koyuk River	89.50 336	P	P	01 17 45.3	+1.7
	baz=99					
E17K	Hotham Inlet	89.56 337	P	P	01 17 45.4	+1.6
	baz=99,SNR=19					
C18K	Utukok River	89.59 339	P	P	01 17 44.4	+0.3
C18K			IAmb	IAmb	01 17 57.5	
	comp=Z,4.7nm,0.9s					
C18K	Utukok River	89.59 339	P	P	01 17 45.1	+1.0
	baz=100					
J14K	Nanvaranak Lak	89.63 333	P	P	01 17 45.8	+1.6
	baz=98					
A19K	Wainwright	89.83 340	P	P	01 17 46.1	+1.1
	baz=100					
B18K	Kokolik River	89.93 340	P	P	01 17 46.7	+1.2
	baz=99					
K13K	Kusilvak Mount	90.04 332	P	P	01 17 47.3	+1.2
	baz=96					
D17K	Noatak River	90.14 338	P	P	01 17 48.0	+1.5
	baz=98,SNR=8.2					
G15K	Niukluk	90.15 335	P	P	01 17 48.2	+1.6
	baz=97					
F15K	North Star Dit	90.49 336	P	P	01 17 49.2	+1.0
	baz=96					
M11K	Mekoryuk	90.61 330	P	P	01 17 50.1	+1.3
	baz=95					
ANM	Nome	90.66 335	P	P	01 17 50.5	+1.5
	baz=96					
C16K	Lisburne Hills	91.06 338	P	P	01 17 51.6	+0.9
	baz=96					
F14K	Arctic Creek	91.16 335	P	P	01 17 52.7	+1.4
	baz=95					
NIKH	Nikolski High	91.49 323	P	P	01 17 54.6	+1.5
	baz=93					
KEST	Kesra	91.98 54	LR	LR	02 00 43.6	
	comp=Z,42nm,18.5s,baz=264,slow=37					
DAVOX	Davos/Dischmat	92.81 43	LR	LR	01 58 42.1	
	comp=Z,19nm,18.9s,baz=250,slow=35					
NOA	NORSAR Array B	93.82 29	LR	LR	01 57 12.9	
	comp=Z,19nm,21.1s,baz=270,slow=34					
SPITS	Spitsbergen Ar	94.69 12	LR	LR	02 02 57.6	
	comp=Z,24nm,19.3s,baz=178,slow=37					
SUR	Sutherland	97.45 123	LR	LR	02 01 51.8	
	comp=Z,61nm,18.1s,baz=300,slow=35					
ARCES	ARCESS Array B	98.74 20	LR	LR	01 57 55.7	
	comp=Z,24nm,19.8s,baz=280,slow=32					
ABKAR	Akbulak array	123.33 30	PKPdf	PKPdf	01 23 43.7	0.0
ZALV	Zalesovo Beam	128.16 11	PKPdf	PKPdf	01 23 51.9	-0.9
ZALV	Zalesovo Beam	128.16 11	PKP	PKPdf	01 23 52.8	0.0
	comp=Z,1.3nm,0.6s,baz=276,slow=2.6,SNR=8.4					
KURBB	Kurchatov Arra	129.72 17	PKP	PKPdf	01 23 56.1	+0.2
	comp=Z,1.6nm,0.8s,baz=328,slow=2.3,SNR=20					
MKAR	Makanchi Array	134.25 16	PKP	PKPdf	01 24 04.4	-0.2
	comp=Z,0.4nm,0.7s,baz=349,slow=1.5,SNR=2.5					
SONM	Songino Array	135.23 353	PKP	PKPdf	01 24 05.9	-0.6
	comp=Z,0.3nm,0.4s,baz=338,slow=3.1,SNR=2.8					
ASAR	Alice Springs	136.91 230	PKPdf	PKPdf	01 24 09.6	-0.7
ASAR	Alice Springs	136.91 230	PKhKP	PKPpre	01 24 04.3	
	comp=Z,0.4nm,0.7s,baz=123,slow=2.9,SNR=4.9					
ASAR			PKP	PKPdf	01 24 10.0	-0.3
	comp=Z,2.4nm,1.0s,baz=122,slow=1.9,SNR=12					
KSRS	Korea Array	137.05 326	PKP	PKPdf	01 24 10.5	+0.5
	comp=Z,0.5nm,0.3s,baz=50,slow=1.3,SNR=6.9					
KSAR	Wonju Array Be	137.08 326	PKPdf	PKPdf	01 24 10.2	+0.1
HHC	Hu-ho-hao-te	141.03 345	*eP*	PKiKP	01 24 19.8	-0.3
NJ2	Nanjing	146.00 329	*eP*	PKPbc	01 24 27.0	0.0
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.6s					
FITZ	Fitzroy Crossi	146.41 230	PKPbc	PKPbc	01 24 28.2	-0.3
	comp=Z,8.5nm,1.0s,baz=103,slow=4.0,SNR=3.7					
LZH	Lanzhou	147.12 353	*eP*	PKPbc	01 24 30.0	-0.4
LZH			sP	pPKPbc	01 24 43.5	+0.3
LZH			pmax	pmax		
	comp=Z,26nm,1.0s					
ENH	Enshi	151.50 341	PKPbc	PKPbc	01 24 40.5	-0.8
PZH	PanZhiHua	156.82 354	PKP	PKPdf	01 24 42.5	-0.4
CMAR	Chiang Mai Arr	164.95 1	PKP	PKPdf	01 24 51.6	-0.1
	comp=Z,0.6nm,0.3s,baz=289,slow=1.9,SNR=4.9					
CMAR			PKPab	PKPab	01 25 47.1	-0.7
	comp=Z,0.7nm,0.3s,baz=340,slow=5.4,SNR=4.8					

*SJA **22** 01:11:18.4±0.6, 24°.01S×66°.88W, h220km±5km, ML3.4, MW3.5*
*IDC **22** 01:11:19.3±2.5, 23°.91S×66°.78W, h186km±24km, mb3.1/3, mbtmp3.6/7, Error ellipse: s-maj=25.4km s-min=17.2km az=71.0*
*GUC **22** 01:11:19.9±0.7, 23°.98S×66°.94W, h211km±7km, ML3.5*

ISC 22 01:11:20.3±0.8, 23°.98S±0°.04×66°.94W±0°.05, h202km±7km, n38, σ1°.05/54, mb3.5/3, 9C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.60	114⇓	*eP*	Pn	01 11 48.6	0.0
SALTA		0.60	114	*eP*	Pn	01 11 48.6	0.0
SLA	San Lorenzo	1.50	120⇓	*eP*	Pn	01 11 54.3	0.0
SLA				*eS*	S	01 12 20.9	+0.5
SLA	San Lorenzo	1.50	120	*eP*	Pn	01 11 54.4	0.0
AF01	San Pedro de A	1.53	312⇑	*eP*	Pn	01 11 56.0	+1.2
AF01				IAML		01 12 24.9	
	comp=E,184nm,0.9s						
AF01	San Pedro de A	1.53	312	*eP*	Pn	01 11 54.9	+0.1
AF01				*eS*	S	01 12 22.7	+1.6
AF01				IAML		01 12 28.7	
	comp=Z,92nm,0.5s						
YJA	Yavi	2.22	36	*eP*	Pn	01 12 01.8	0.0
YJA	Yavi	2.22	36	*eP*	Pn	01 12 02.1	+0.3
FSA	Cafayete	2.29	158	*eP*	Pn	01 12 02.0	-0.2
GO02	Mina Guanaco	2.69	243⇑	*eP*	Pn	01 12 07.2	+0.4
GO02				*eS*	S	01 12 42.8	+0.4
GO02	Mina Guanaco	2.69	243	*eP*	Pn	01 12 07.1	+0.4
PB06	IPOC Station P	2.73	297⇑	*eP*	Pn	01 12 07.7	+0.5
PB06				*eS*	S	01 12 43.2	+0.2
PB06				IAML		01 12 45.4	
	comp=N,146nm,0.3s						
PB06	IPOC Station P	2.73	297	*eP*	Pn	01 12 07.7	+0.5
PB06				*eS*	S	01 12 44.1	+1.1
PB06				IAML		01 12 49.7	
	comp=Z,72nm,0.6s						
PB09	IPOC Station P	3.04	315⇑	*eP*	Pn	01 12 11.5	+0.8
PB09				*eS*	S	01 12 49.9	+0.5
PB09				IAML		01 12 51.2	
	comp=N,87nm,0.4s						
PB09	IPOC Station P	3.04	315	*eP*	Pn	01 12 08.9	-1.9
PB09				IAML		01 12 50.6	
	comp=Z,92nm,0.5s						
PB05	IPOC Station P	3.20	290⇑	*eP*	Pn	01 12 12.5	-0.1
PB05				*eS*	S	01 12 51.5	-1.3
PB05	IPOC Station P	3.20	290	*eP*	Pn	01 12 12.7	+0.1
PB05				IAML		01 12 59.1	
	comp=Z,31nm,0.5s						
PB03	IPOC Station P	3.23	306⇑	*eP*	Pn	01 12 13.0	+0.1
PB03				*eS*	S	01 12 52.0	-1.5
PB03	IPOC Station P	3.23	306	*eP*	Pn	01 12 13.1	+0.1
PB03				IAML		01 12 58.8	
	comp=Z,63nm,0.2s						
PB14	IPOC Station P	3.23	258⇑	*eP*	Pn	01 12 13.0	-0.1
PB14				*eS*	S	01 12 52.1	-1.6
PB14	IPOC Station P	3.23	258	*eP*	Pn	01 12 13.0	-0.1
PB14				*eS*	S	01 12 52.7	-1.0
PB14				IAML		01 12 54.7	
	comp=Z,86nm,0.5s						
PB10	IPOC Station P	3.35	277⇑	*eP*	Pn	01 12 14.5	+0.3
PB10				*eS*	S	01 12 55.4	-0.3
PB10	IPOC Station P	3.35	277	*eP*	Pn	01 12 14.4	+0.3
PB10				IAML		01 12 59.8	
	comp=Z,37nm,0.4s						
AC02	Maricunga	3.47	214⇑	*eP*	Pn	01 12 16.4	+0.3
AC02				*eS*	S	01 13 00.6	+1.4
AC02	Maricunga	3.47	214	*eP*	Pn	01 12 15.9	-0.2
AC02				*eS*	S	01 12 58.0	-1.2
AC01	Pan de Azucar	3.96	236	*eP*	Pn	01 12 20.6	-1.1
AC01				*eS*	S	01 13 06.8	-2.5
AC01				IAML		01 13 07.8	
	comp=Z,60nm,0.5s						
TA01	Diego Aracena	4.54	318	*eP*	Pn	01 12 28.5	-0.4
TA01				IAML		01 13 32.0	
	comp=Z,20nm,0.4s						
GO03	Copiapo	4.67	219	*eP*	Pn	01 12 29.7	-0.9
GO03				*eS*	S	01 13 23.5	-2.0
GO01	Chusmiza	4.78	334	*eP*	Pn	01 12 32.2	-0.2
LPAZ	La Paz	7.73	351	P	Pn	01 13 07.8	-3.0
	comp=Z,4.2nm,0.8s,baz=184,slow=13,SNR=3.0						
LPAZ				S	S	01 14 37.9	-0.6
	comp=Z,2.5nm,0.9s,baz=201,slow=21,SNR=1.0						
CPUP	Villa Florida	9.01	107	P	Pn	01 13 24.1	-2.6
	comp=Z,2.0nm,0.8s,baz=312,slow=9.2,SNR=3.7						
PLCA	Paso Flores	16.98	189	P	Pn	01 15 06.3	+0.1
	comp=Z,0.6nm,0.7s,baz=12,slow=13,SNR=3.5						
BDFB	Brasilia	19.62	68	P	P	01 15 33.0	-0.8
	comp=Z,6.7nm,0.6s,baz=239,slow=8.5,SNR=14						
TXAR	Lajitas Array	63.70	324	P	P	01 21 31.7	+1.2
	comp=Z,0.2nm,0.7s,baz=150,slow=6.9,SNR=1.9						
	comp=Z,0.2nm,0.7s						
QSPA	South Pole Qui	66.22	180	P	P	01 21 47.6	+1.2
	comp=Z,0.6nm,0.5s,baz=56,slow=3.6,SNR=11						
	comp=Z,0.6nm,0.5s						
TORD	Torodi Ar. Bea	76.51	69	P	P	01 22 47.7	-0.9
	comp=Z,53nm,0.3s,baz=260,slow=5.2,SNR=1.4						
YKA	Yellowknife Ar	94.12	340	P	P	01 24 16.0	+0.6
	comp=Z,0.2nm,0.6s,baz=126,slow=4.7,SNR=5.2						
	comp=Z,0.2nm,0.6s						
MKAR	Makanchi Array	146.47	40	PKPbc	PKPbc	01 30 37.3	-0.4
	comp=Z,0.3nm,0.6s,baz=304,slow=2.6,SNR=2.7						

NOU 22 01:18:26.8, 21°.67S×170°.40E, h0km, MLv4.2/17, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.21	274	P	Pn	01 19 04.9	+0.1
MARNC	Mare, Loyalty	2.21	274	S	Sn	01 19 33.4	+0.5
INH	Isangel	2.36	333	P	Pn	01 19 08.0	+1.2
PINNC	Pines Island,	2.90	251	P	Pn	01 19 14.3	+0.1
PINNC	Pines Island,	2.90	251	S	Sn	01 19 51.0	+1.3
YATNC	Mamie plateau,	3.28	263	P	Pn	01 19 18.0	-1.5
OUENC	Ouen Island, N	3.38	257	P	Pn	01 19 20.2	-0.7
OUENC	Ouen Island, N	3.38	257	S	Sn	01 20 03.2	+1.4
DZM	Mont Dzumac	3.70	263	P	Pn	01 19 24.8	-0.5
DZM	Mont Dzumac	3.70	263	S	Sn	01 20 09.3	-0.3
ONTNC	Ouen Toro	3.72	259	P	Pn	01 19 24.9	-0.6
ONTNC	Ouen Toro	3.72	259	S	Sn	01 20 09.6	-0.4
DVP	Devils Point	4.44	332	P	Pn	01 19 36.3	+0.8
KOUNC	Koumac, New Ca	5.82	280	S	Sn	01 21 02.4	+0.6
KOUNC	Koumac, New Ca	5.82	280	P	Pn	01 19 54.5	+0.1

*AEIC **22** 01:19:14.1±2.0, 61°.41N±0°.03×150°.00W±0°.04, h20km±8km, Error ellipse: s-maj=3.7km s-min=2.9km az=185.0*

NEIC 22 01:19:14.5±1.3, 61°.42N±0°.03×149°.94W±0°.04, h32km±9km, ML2.5/134, ML2.4(AEIC), Error ellipse: s-maj=4.0km s-min=2.7km az=188.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	Rabbit Creek A	0.34	163	Pg	Pb	01 19 22.5	-0.2
RC01				Sg	Sb	01 19 28.6	+0.3
RC01				IAML		01 19 30.3	
	comp=E,320nm,0.4s						
RC01				IAML		01 19 31.1	
	comp=N,399nm,0.2s						
M22K	Willow	0.35	346	Pg	Pb	01 19 22.3	-0.4
M22K				Sg	Sn	01 19 28.9	-0.3
SUA	Susitna One	0.39	277	Pg	Pb	01 19 23.4	-0.1
SUA				Sg	Sb	01 19 29.9	+0.3
PMR	Palmer	0.42	66		Pb	01 19 23.3	-0.5
PMR				Sg	Sn	01 19 30.7	-0.4

SML			IAML			01 19 43.4	
	comp=E,110nm,0.9s						
CAPN	**Captain Cook N**	**0.88 223**		Pb	Pn	01 19 31.3	0.0
STLK	**Strandline Lak**	**0.91 276**		Pn	Pn	01 19 30.7	-0.5
STLK			IAML			01 19 43.6	
	comp=E,82nm,0.6s						
SLKM	**Skilak Lake**	**0.93 189**		Pn	Pn	01 19 31.1	-0.2
SLKM			IAML			01 19 46.1	
	comp=E,266nm,0.4s						
SLKM			IAML			01 19 46.1	
	comp=N,254nm,0.2s						
SKT	**Skwentna**	**0.94 307**		Pn	Pn	01 19 30.6	-1.0
SKT			IAML			01 19 44.2	
	comp=E,129nm,0.3s						
SKT			IAML			01 19 44.4	
	comp=N,218nm,0.3s						
O22K	**Cooper Landing**	**0.95 174**		Pn	Pn	01 19 31.6	0.0
O22K			IAML			01 19 46.7	
	comp=N,240nm,0.4s						
PWL	**Port Wells**	**0.96 125**		Pn	Pn	01 19 31.3	-0.5
CUT	**Chulitna**	**1.00 351**		Pn	Pn	01 19 31.3	-1.0
CUT			IAML			01 19 45.1	
	comp=E,204nm,0.4s						
CUT			IAML			01 19 47.9	
	comp=N,166nm,0.3s						
SCM	**Sheep Creek Mo**	**1.31 70**	Pn	Pn	Pn	01 19 36.5	-0.2
SEW	**Seward**	**1.34 170**	Pn	Pn	Pn	01 19 36.7	-0.3
SEW			IAML			01 19 59.6	
	comp=N,56nm,0.2s						
SEW			IAML			01 20 01.1	
	comp=E,57nm,1.0s						
GLI	**Glacier Island**	**1.48 110**	Pn	Pn	Pn	01 19 38.8	-0.2
GLI			IAML			01 20 01.0	
	comp=N,116nm,0.4s						
M20K	**Styx River**	**1.59 288**	Pn	Pn	Pn	01 19 40.5	-0.1
M20K			IAML			01 20 03.4	
	comp=E,33nm,0.8s						
BRLK	**Bradley Lake**	**1.73 196**	Pn	Pn	Pn	01 19 42.4	+0.1
BRLK			IAML			01 20 07.5	
	comp=E,48nm,0.8s						
BRLK			IAML			01 20 11.8	
	comp=N,48nm,1.5s						
FID	**Port Fidalgo**	**1.81 110**	Pn	Pn	Pn	01 19 42.8	-0.6
FID			IAML			01 20 08.2	
	comp=E,76nm,0.6s						
FID			IAML			01 20 14.2	
	comp=N,79nm,1.0s						
PPLA	**Purkeypile**	**1.82 326**	Pn	Pn	Pn	01 19 43.8	+0.1
PPLA			IAML			01 20 08.4	
	comp=N,26nm,1.4s						
PPLA			IAML			01 20 21.0	
	comp=E,27nm,1.5s						
M24K	**Tolsona, Glenn**	**1.92 67**	Pn	Pn	Pn	01 19 45.6	+0.6
KLU	**Klutina**	**1.93 86**	Pn	Pn	Pn	01 19 44.9	-0.3
KLU			IAML			01 20 13.0	
	comp=N,58nm,0.4s						
KLU			IAML			01 20 15.7	
	comp=E,39nm,0.6s						
HIN	**Hinchinbrook I**	**1.97 120**	Pn	Pn	Pn	01 19 45.2	-0.5
CNPM	**China Poot**	**2.01 199**	Pn	Pn	Pn	01 19 46.4	+0.3
CNPM			IAML			01 20 15.2	
	comp=N,29nm,1.5s						
CNPM			IAML			01 20 18.3	
	comp=E,62nm,1.3s						
DIV	**Divide**	**2.03 96**	Pn	Pn	Pn	01 19 46.3	-0.3
DIV			IAML			01 20 12.7	
	comp=E,46nm,1.0s						
DIV			IAML			01 20 13.5	
	comp=N,64nm,0.7s						
TRF	**Thorofare Moun**	**2.04 356**	Pn	Pn	Pn	01 19 47.2	+0.3
TRF			IAML			01 20 24.2	
	comp=N,22nm,0.8s						
RND	**Reindeer**	**2.06 14**	Pn	Pn	Pn	01 19 46.8	-0.1
ILSW	**Iliamna Southw**	**2.13 229**	Pn	Pn	Pn	01 19 48.6	+0.6
ILSW			IAML			01 20 22.8	
	comp=N,27nm,1.3s						
M19K	**Big River Lodg**	**2.18 285**	Pn	Pn	Pn	01 19 48.5	0.0
KTH	**Kantishna Hill**	**2.19 348**	Pn	Pn	Pn	01 19 49.6	+0.8
KTH			IAML			01 20 19.2	
	comp=E,18nm,0.7s						
EYAK	**Cordova Ski Ar**	**2.22 111**	Pn	Pn	Pn	01 19 49.5	+0.4
EYAK			IAML			01 20 23.8	
	comp=N,48nm,1.4s						
EYAK			IAML			01 21 08.5	
	comp=E,30nm,0.9s						
CAST	**Castle Rocks**	**2.24 334**	Pn	Pn	Pn	01 19 49.7	+0.3
N19K	**Bonanza Creek**	**2.29 257**	Pn	Pn	Pn	01 19 50.5	+0.3
MCK	**McKinley**	**2.37 11**	Pn	Pn	Pn	01 19 51.9	+0.7
MCK			IAML			01 20 31.1	
	comp=E,15nm,1.1s						
P19K	**Oil Pt**	**2.41 224**	Pn	Pn	Pn	01 19 52.6	+0.9
L19K	**White Mountain**	**2.46 290**	Pn	Pn	Pn	01 19 52.6	+0.2
N25K	**Chitina, Valde**	**2.57 83**	Pn	Pn	Pn	01 19 54.7	+0.8
N25K			IAML			01 20 31.8	
	comp=N,19nm,1.0s						
N25K			IAML			01 20 33.0	
	comp=E,16nm,0.9s						
PAX	**Paxson**	**2.61 51**	Pn	Pn	Pn	01 19 55.6	+1.1
PAX			IAML			01 20 31.6	
	comp=N,16nm,0.5s						
PAX			IAML			01 20 32.3	
	comp=E,13nm,0.6s						
BMRM	**Bremner River**	**2.62 98**	Pn	Pn	Pn	01 19 54.2	-0.5
BMRM			IAML			01 20 32.6	
	comp=E,21nm,1.3s						
BMRM			IAML			01 20 34.5	
	comp=N,33nm,0.6s						
BPAW	**Bear Paw Mtn.**	**2.73 350**	Pn	Pn	Pn	01 19 55.1	-1.0
N18K	**Kilae Creek**	**2.99 258**	Pn	Pn	Pn	01 19 59.6	0.0
O18K	**Koktuh Hills**	**3.03 241**	Pn	Pn	Pn	01 20 00.2	0.0
O18K			IAML			01 20 35.8	
	comp=N,14nm,1.1s						
O18K			IAML			01 21 04.2	
	comp=E,8.0nm,1.4s						
K24K	**Donnelly Dome**	**3.07 37**	Pn	Pn	Pn	01 20 04.1	+3.3
Q19K	**Cape Douglas,**	**3.11 218**	Pn	Pn	Pn	01 20 02.1	+0.8
TTA	**Tatalina**	**3.23 301**	Pn	Pn	Pn	01 20 02.7	-0.3
L18K	**Granite Mounta**	**3.30 287**	Pn	Pn	Pn	01 20 03.8	-0.1
L18K			IAML			01 21 03.0	
	comp=E,9.9nm,1.2s						
L18K			IAML			01 21 06.4	
	comp=N,8.3nm,1.1s						
J20K	**Nowinta River**	**3.38 327**	Pn	Pn	Pn	01 20 05.0	+0.1
J20K			IAML			01 21 06.5	
	comp=E,9.4nm,1.4s						
J20K			IAML			01 21 17.5	
	comp=N,8.8nm,1.1s						
M26K	**Nabesna, AK**	**3.43 70**	Pn	Pn	Pn	01 20 06.3	+0.6
M26K			IAML			01 20 49.0	
	comp=E,7.1nm,1.4s						
M26K			IAML			01 21 14.0	
	comp=N,8.2nm,1.1s						
M17K	**Holitna River**	**3.60 273**	Pn	Pn	Pn	01 20 08.0	-0.1
IL31		**3.64 21**	Pn	Pn	Pn	01 20 09.2	+0.6
N17K	**Nushagak Hills**	**3.64 259**	Pn	Pn	Pn	01 20 08.7	0.0
N17K			IAML			01 21 11.0	
	comp=E,5.1nm,1.3s						
J19K	**Poorman**	**3.68 317**	Pn	Pn	Pn	01 20 09.0	-0.1
I23K	**Minto, Yukon-K**	**3.75 4**	Pn	Pn	Pn	01 20 11.4	+1.3
J18K	**Innoko River**	**3.76 306**	Pn	Pn	Pn	01 20 10.2	0.0
J25K	**Salcha River,**	**3.82 31**	Pn	Pn	Pn	01 20 13.0	+1.9
J25K			IAML			01 21 03.9	
	comp=N,7.5nm,1.1s						
K17K	**Iditarod**	**4.14 292**	Pn	Pn	Pn	01 20 15.0	-0.5
K17K			IAML			01 21 51.5	
	comp=N,6.3nm,1.5s						
K17K			IAML			01 22 14.5	
	comp=E,7.2nm,1.5s						
BCAR	**Beaver Creek A**	**4.16 63**	Pn	Pn	Pn	01 20 17.1	+1.4
J26L	**Joseph Creek**	**4.25 40**	Pn	Pn	Pn	01 20 20.0	+3.0
J26L			IAML			01 21 11.9	
	comp=N,9.7nm,0.7s						
J26L			IAML			01 21 12.4	
	comp=E,8.8nm,0.9s						
M16K	**Timber Creek**	**4.38 269**	Pn	Pn	Pn	01 20 18.9	+0.1
M16K			IAML			01 21 41.4	
	comp=E,7.1nm,1.5s						
M16K			IAML			01 22 37.4	
	comp=N,7.0nm,1.4s						
O16K	**Kokwok River B**	**4.43 249**	Pn	Pn	Pn	01 20 19.1	-0.2
O16K			IAML			01 21 44.0	
	comp=N,4.1nm,1.1s						
O16K			IAML			01 22 14.6	
	comp=E,4.5nm,1.5s						
H21K	**Melozitna Rive**	**4.44 344**	Pn	Pn	Pn	01 20 19.9	+0.3
H24K	**Noodor Dome**	**4.53 11**	Pn	Pn	Pn	01 20 21.0	+0.1
H24K			IAML			01 21 42.0	
	comp=E,3.5nm,1.5s						
L16K	**Owhat River**	**4.57 278**	Pn	Pn	Pn	01 20 19.6	-1.7
L16K			IAML			01 21 39.9	
	comp=E,4.4nm,1.4s						
L16K			IAML			01 21 46.2	
	comp=N,5.2nm,1.3s						
O28M	**Mount Upton**	**4.78 94**	Pn	Pn	Pn	01 20 23.9	-0.6
I26K	**Coal Creek Min**	**4.95 35**	Pn	Pn	Pn	01 20 28.8	+2.2
I26K			IAML			01 21 42.3	
	comp=E,4.6nm,1.5s						
I26K			IAML			01 21 59.8	
	comp=N,3.8nm,1.4s						
N15K	**Kwethluk River**	**5.13 260**	Pn	Pn	Pn	01 20 29.5	+0.4
K15K	**Wolf Creek Mou**	**5.56 284**	Pn	Pn	Pn	01 20 33.8	-1.1
G18K	**Tagagawik**	**5.93 323**	Pn	Pn	Pn	01 20 40.1	+0.1
I28M	**Miner Creek**	**6.04 44**	Pn	Pn	Pn	01 20 43.8	+2.2
F20K	**Avaraart Lake**	**6.19 338**	Pn	Pn	Pn	01 20 44.0	+0.6
P29M	**Windy Craggy**	**6.29 101**	Pn	Pn	Pn	01 20 45.6	+0.7
E19K	**Redstone River**	**6.83 336**	Pn	Pn	Pn	01 20 53.5	+1.2
F17K	**Baldwin Pennin**	**7.08 320**	Pn	Pn	Pn	01 20 56.2	+0.5
F15K	**North Star Dit**	**7.84 310**	Pn	Pn	Pn	01 21 06.9	+0.7

*IDC **22** 01:20:28.1±1.7, 7°.82S×129°.47E, h0km, mb3.7/2, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=70.6km s-min=25.6km az=77.0*

ISC 22 01:20:40.9±2.1, 8°.5S±0°.1×129°.1E±0°.1, h35km, n12, σ2°.33/13, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**4.28**	**156**	P	**Pn**	**01 21 46.2**	**+2.7**
MTN	**Manton Dam**	**4.75**	**155**	P	**Pn**	**01 21 52.8**	**+2.8**
FITZ	**Fitzroy Crossi**	**10.10**	**199**	Pn	**Pn**	**01 23 04.8**	**+1.3**
	0.9nm,0.3s,baz=27,slow=14,SNR=30						
FITZ				Sn	**Sn**	**01 24 57.5**	**+1.9**
	1.7nm,0.3s,baz=80,slow=18,SNR=3.4 2.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**10.10**	**199**	P	**Pn**	**01 23 04.8**	**+1.3**
PLAI	**Plampang**	**11.20**	**268**	P	**Pn**	**01 23 17.3**	**-1.2**
WRA	**Warramunga Arr**	**12.44**	**156**	Pn	**Pn**	**01 23 33.3**	**-2.3**
	0.7nm,0.3s,baz=338,slow=12,SNR=14						
WRA				Sn	**Sn**	**01 25 49.1**	**-4.0**
	1.2nm,0.3s,baz=331,slow=23,SNR=9.4 6.3nm,0.9s						
ASAR	**Alice Springs**	**15.76**	**164**	Pn	**Pn**	**01 24 19.4**	**-0.8**
	0.3nm,0.3s,baz=338,slow=9.1,SNR=12						
ASAR				Sn	**Sn**	**01 27 11.5**	**-2.4**
	0.4nm,0.3s,baz=343,slow=25,SNR=4.8 0.5nm,0.5s						
AS01	**Alice Springs**	**15.77**	**163**	P	**Pn**	**01 24 21.7**	**+1.3**
OOD	**Oodnadatta**	**20.16**	**163**	P	**P**	**01 25 13.4**	**+1.1**
LCRK	**Leigh Creek**	**23.43**	**160**	P	**P**	**01 25 47.7**	**+0.7**
MKAR	**Makanchi Array**	**69.00**	**328**	P	P	01 31 32.9	-10
	0.4nm,0.5s,baz=121,slow=8.2,SNR=5.8 0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**73.33**	**329**	P	P	01 31 59.6	-9.3
	0.8nm,0.8s,baz=130,slow=5.3,SNR=10 0.8nm,0.8s						

IDC 22 02:00:26.1±1.8, 6°.24S×129°.77E, h0km, mb4.0/2, mbtmp3.8/5, ML3.8/3, Error ellipse: s-maj=90.1km s-min=25.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.45**	**199**	Pn	Pn	02 03 25.7	+1.0
	0.3nm,0.3s,baz=18,slow=12,SNR=17						
FITZ				Sn	Sn	02 05 31.4	-13
	1.0nm,0.3s,baz=207,slow=18,SNR=6.4 0.9nm,0.2s						
WRA	**Warramunga Arr**	**14.32**	**162**	Pn	Pn	02 03 49.3	-1.0
	0.5nm,0.3s,baz=340,slow=14,SNR=12						
WRA				Sn	Sn	02 06 13.3	-17
	0.5nm,0.3s,baz=329,slow=24,SNR=6.6 0.3nm,0.3s						
ASAR	**Alice Springs**	**17.77**	**168**	P	Pn	02 04 34.9	-0.2
	0.3nm,0.3s,baz=344,slow=10,SNR=20						
ASAR				S	Sn	02 07 39.0	-15
	0.3nm,0.5s,baz=344,slow=26,SNR=4.2 1.0nm,0.7s						
MKAR	**Makanchi Array**	**67.47**	**327**	P	P	02 11 24.2	+0.3
	1.0nm,0.5s,baz=121,slow=7.8,SNR=15 1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**71.75**	**328**	P	P	02 11 49.9	-0.3
	0.7nm,0.5s,baz=129,slow=5.1,SNR=7.9 0.7nm,0.5s						

*SNET **22** 02:03:09.0±0.5, 12°.63N×88°.25W, h51km±5km, ML3.7*
*CATAC **22** 02:03:09.8±0.4, 13°.1N±3°.8°.8W±°.°, h38km±7km, M3.7/24, MLv3.7/24, Error ellipse: s-maj=6.9km s-min=2.0km az=29.4, confirmed*
*UCR **22** 02:03:10.9±2.0, 12°.83N×88°.04W, h83km±59km, MW3.7*
*GCG **22** 02:03:10.3±0.3, 12°.78N×88°.31W, h89km±30km, MD4.3*

ISC 22 02:03:10.6±1.3, 12°.65N±0°.06×88°.23W±0°.04, h47km±30km, n80, σ0°.84/89, 3C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.74**	**32**	*eP*	**Pn**	**02 03 24.3**	**-0.5**
CNCH	**Conchagua**	**0.74**	**32**	P	**Pn**	**02 03 24.4**	**-0.5**
CNCH	**Conchagua**	**0.74**	**32**	S	**Sn**	**02 03 35.7**	**+0.5**
LCY	**Lacayo**	**0.78**	**356**	*eP*	**Pn**	**02 03 24.8**	**-0.6**
RANC	**El Ranchito**	**0.79**	**356**	*eP*	**Pn**	**02 03 25.0**	**-0.6**
RANC	**El Ranchito**	**0.79**	**356**	P	**Pn**	**02 03 25.2**	**-0.4**
BLLM	**Bellamira**	**0.79**	**360**	*eP*	**Pn**	**02 03 25.0**	**-0.6**
POTN	**Potosi Cosigui**	**0.79**	**63**	P	**Pn**	**02 03 25.2**	**-0.3**
POTN				S	**Sn**	**02 03 36.9**	**+0.7**
PACA	**Pacayal**	**0.82**	**354**	*eP*	**Pn**	**02 03 25.5**	**-0.5**
PACA	**Pacayal**	**0.82**	**354**	S	**Sn**	**02 03 37.8**	**+0.6**
CNRM	**Centro Naciona**	**0.83**	**4**	S	**Sn**	**02 03 37.9**	**+0.8**
TECA	**Tecapa**	**0.88**	**343**	*eP*	**Pn**	**02 03 26.1**	**-0.8**
TECA				*eP*		02 03 26.1	
PQSS	**Presa 15 de Se**	**1.02**	**342**	*eP*	**Pn**	**02 03 28.2**	**-0.4**
PQSS	**Presa 15 de Se**	**1.02**	**342**	P	**Pn**	**02 03 28.1**	**-0.5**
PQSS	**Presa 15 de Se**	**1.02**	**342**	S	**Sn**	**02 03 42.5**	**+0.7**
TECO	**Alcaldia de Te**	**1.03**	**329**	*eP*	**Pn**	**02 03 27.7**	**-1.0**
TECO				*eS*	**Sn**	**02 03 41.0**	**-1.1**
TECO	**Alcaldia de Te**	**1.03**	**329**	P	**Pn**	**02 03 27.8**	**-1.0**
UESV	**Universidad de**	**1.12**	**331**	P	**Pn**	**02 03 29.4**	**-0.6**
UESV	**Universidad de**	**1.12**	**331**	S	**Sn**	**02 03 44.3**	**0.0**
COEG	**Centro de Oper**	**1.16**	**327**	*eP*	**Pn**	**02 03 29.5**	**-0.9**
COEG	**Centro de Oper**	**1.16**	**327**	P	**Pn**	**02 03 29.6**	**-0.9**
COEG	**Centro de Oper**	**1.16**	**327**	S	**Sn**	**02 03 45.3**	**+0.2**
CRIN	**San Cristobal**	**1.16**	**87**	*eP*	**Pn**	**02 03 30.2**	**-0.3**
CRIN				*eS*	**Sn**	**02 03 46.9**	**+1.7**
CRIN	**San Cristobal**	**1.16**	**87**	P	**Pn**	**02 03 30.1**	**-0.3**
CRIN	**San Cristobal**	**1.16**	**87**	S	**Sn**	**02 03 45.8**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.16**	**335**	*eP*	**Pn**	**02 03 29.9**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.16**	**335**	P	**Pn**	**02 03 30.0**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.16**	**335**	S	**Sn**	**02 03 45.9**	**+0.8**
LFRS	**El Faro**	**1.26**	**320**	*eP*	**Pn**	**02 03 31.0**	**-1.0**
PAVA	**Las Pavas**	**1.26**	**327**	*eP*	**Pn**	**02 03 31.4**	**-0.6**
PAVA	**Las Pavas**	**1.26**	**327**	P	**Pn**	**02 03 31.3**	**-0.7**
PAVA	**Las Pavas**	**1.26**	**327**	S	**Sn**	**02 03 48.5**	**+0.7**
LOMA	**Loma Larga**	**1.35**	**317**	*eP*	**Pn**	**02 03 32.2**	**-0.9**
LOMA	**Loma Larga**	**1.35**	**317**	P	**Pn**	**02 03 32.3**	**-0.8**
LOMA	**Loma Larga**	**1.35**	**317**	S	**Sn**	**02 03 50.0**	**0.0**
QUEN	**Al S del Volca**	**1.35**	**92**	P	**Pn**	**02 03 32.5**	**-0.6**
HERN	**Volcan Telica**	**1.37**	**91**	P	**Pn**	**02 03 32.6**	**-0.7**
HERN	**Volcan Telica**	**1.37**	**91**	S	**Sn**	**02 03 49.8**	**-0.5**
POLN	**Al Sur del Vol**	**1.39**	**90**	P	**Pn**	**02 03 32.8**	**-0.7**
POLN				S	**Sn**	**02 03 50.6**	**-0.2**
UDBS	**Universidad Do**	**1.39**	**320**	P	**Pn**	**02 03 33.6**	**-0.1**
UDBS	**Universidad Do**	**1.39**	**320**	S	**Sn**	**02 03 51.6**	**+0.7**
PLRN	**Geotermica Pol**	**1.43**	**92**	P	**Pn**	**02 03 33.0**	**-1.2**
PLRN				S	**Sn**	**02 03 52.2**	**+0.4**
UEES	**Universidad Ev**	**1.45**	**317**	*eP*	**Pn**	**02 03 33.8**	**-0.7**
UEES	**Universidad Ev**	**1.45**	**317**	P	**Pn**	**02 03 33.7**	**-0.7**
UEES	**Universidad Ev**	**1.45**	**317**	S	**Sn**	**02 03 52.5**	**+0.2**
ROCN	**Rota Cerro Neg**	**1.46**	**95**	P	**Pn**	**02 03 33.9**	**-0.6**
BOQS	**Boqueron**	**1.49**	**317**	*eP*	**Pn**	**02 03 34.6**	**-0.5**
PMON	**Piamonte**	**1.50**	**315**	*eP*	**Pn**	**02 03 34.1**	**-1.0**
PMON	**Piamonte**	**1.50**	**315**	S	**Sn**	**02 03 53.8**	**+0.4**
PMON	**Piamonte**	**1.50**	**315**	P	**Pn**	**02 03 34.4**	**-0.6**
ILCN	**San Idelfonso**	**1.50**	**92**	P	**Pn**	**02 03 34.2**	**-0.9**
ILCN				S	**Sn**	**02 03 52.8**	**-0.6**
CNGA	**Al SSO del Vol**	**1.50**	**96**	P	**Pn**	**02 03 34.5**	**-0.6**
CNGN	**Cerro Negro**	**1.50**	**95**	P	**Pn**	**02 03 34.4**	**-0.8**
CNGN	**Cerro Negro**	**1.50**	**95**	S	**Sn**	**02 03 52.7**	**-1.0**
MARCA	**Marcala la Paz**	**1.52**	**7**	*i* P	**Pn**	**02 03 35.3**	**-0.1**
MARCA				*i* S	**Sn**	**02 03 54.8**	**+0.8**
JAYA	**Jayaque - finc**	**1.55**	**310**	*eP*	**Pn**	**02 03 34.9**	**-1.0**
JAYA	**Jayaque - finc**	**1.55**	**310**	*eP*	**Pn**	**02 03 35.0**	**-1.0**
JAYA	**Jayaque - finc**	**1.55**	**310**	P	**Pn**	**02 03 35.7**	**-0.2**
COPN	**Copaltepe**	**1.67**	**106**	↑*eP*	**Pn**	**02 03 36.3**	**-1.1**
COPN				*eS*	**Sn**	**02 03 56.6**	**-1.0**
COPN	**Copaltepe**	**1.67**	**106**	P	**Pn**	**02 03 36.4**	**-1.1**
MOMN	**Momotombo**	**1.67**	**98**	P	**Pn**	**02 03 36.6**	**-0.8**
MOMN				S	**Sn**	**02 03 57.0**	**-0.8**
TGUH	**Tegucigalpa,Un**	**1.69**	**34**	P	**Pn**	**02 03 37.6**	**-0.2**
TGUH				S	**Sn**	**02 03 58.9**	**+0.7**
SBLS	**San Blas**	**1.80**	**311**	*eP*	**Pn**	**02 03 38.9**	**-0.5**
SAPS	**Ciudad Sandino**	**1.85**	**105**	P	**Pn**	**02 03 39.1**	**-0.7**
SAPS	**Ciudad Sandino**	**1.85**	**105**	S	**Sn**	**02 04 01.2**	**-0.8**
TISN	**Laguna Tiscapa**	**1.98**	**104**	P	**Pn**	**02 03 41.1**	**-0.6**
MGAN	**Managua**	**2.00**	**104**	*eP*	**Pn**	**02 03 40.9**	**-1.0**
MGAN				*eS*	**Sn**	**02 04 04.9**	**-0.9**
MTO3	**Montecristo**	**2.06**	**328**	*i* P	**Pn**	**02 03 42.3**	**-0.6**
MTO3	**Montecristo**	**2.06**	**328**	P	**Pn**	**02 03 42.3**	**-0.6**
RCVN	**Varillal2**	**2.19**	**65**	P	**Pn**	**02 03 44.3**	**-0.4**
RCPN	**Sur Rio San Ju**	**2.26**	**67**	P	**Pn**	**02 03 45.4**	**-0.2**
MATN	**Matagalpa**	**2.27**	**83**	P	**Pn**	**02 03 43.9**	**-1.7**
MATN	**Matagalpa**	**2.27**	**83**	S	**Sn**	**02 04 10.9**	**-1.6**
LCRUZ	**La Cruz**	**2.99**	**121**	*eP*	**Pn**	**02 03 55.2**	**-0.3**
QUEB	**Quebradon, Cot**	**3.84**	**121**	*eP*	Pn	02 04 18.0	+11
JTS	**Las Juntas de**	**3.98**	**126**	*eP*	Pn	02 04 16.1	+7.1
ABE2	**San Pablo**	**5.04**	**125**	*eP*	**Pn**	**02 04 24.7**	**+0.9**
LCR2	**La Lucha 2**	**5.05**	**124**	*eP*	**Pn**	**02 04 26.2**	**+2.2**
PIEC	**Cerro El Cedra**	**5.16**	**125**	*eP*	**Pn**	**02 04 27.2**	**+1.6**
SAJE	**San Jernim**	**5.68**	**125**	*eP*	**Pn**	**02 04 34.8**	**+2.2**

*NEIC **22** 02:04:27.5±1.2, 51°.15N±0°.03×175°.29W±0°.06, h10km±1km, ML3.4/4, Error ellipse: s-maj=7.4km s-min=3.4km az=235.0*
*IDC **22** 02:04:29.6±3.5, 51°.72N×175°.91W, h0km, mb3.5/3, mbtmp3.4/4, MS3.5/2, Error ellipse: s-maj=104.0km s-min=31.0km az=2.0*

ISC 22 02:04:27.8±1.6, 51°.2N±0°.1×175°.29W±0°.06, h10km, n14, σ0°.79/11, mb3.9/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**1.04**	**333**	Pg	**Pn**	**02 04 48.4**	**-0.1**
GSTR				Sg	**Sg**	**02 05 01.7**	**+0.5**
ADK	**Adak**	**1.12**	**310**		**Pb**	**02 04 49.3**	**0.0**
ADK				Sg	**Sb**	**02 05 03.3**	**-0.6**
ADK				IAML		02 05 06.3	
	2μm,0.3s						
ATKA	**Atka Island**	**1.23**	**33**		**Pn**	**02 04 50.1**	**-1.0**
ATKA				Sg	**Sb**	**02 05 07.3**	**+0.1**
ATKA				IAML		02 05 08.8	
	comp=E,385nm,0.5s						
KIWB	**Kanaga Island**	**1.34**	**301**		**Pn**	**02 04 52.8**	**+0.1**
SDPT	**Sand Point**	**9.81**	**59**	Pn	**Pn**	**02 06 49.3**	**+0.6**
ILAR	**Eielson Array**	**20.06**	**36**	P	**P**	**02 09 01.6**	**+0.7**
	comp=E,0.2nm,0.4s,baz=232,slow=12,SNR=1.0						
H11N2	**WAKE ISLAND Hy**	**34.38**	**211**	T	T	02 48 08.4	
	baz=18,slow=76,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**34.39**	**211**	T	T	02 48 08.6	
	baz=18,slow=76,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**34.40**	**211**	T	T	02 48 09.7	
	baz=18,slow=76,SNR=5.8						
PDAR	**Pinedale Array**	**44.26**	**74**	P	P	02 12 42.8	+5.2
	comp=E,0.1nm,0.5s,baz=296,slow=7.5,SNR=1.7 comp=E,0.1nm,0.5s						
ULM	**Lac du Bonnet**	**47.94**	**58**	LR	LR	02 32 47.0	
	comp=E,39nm,18.3s,baz=32,slow=35						
KURBB	**Kurchatov Arra**	**60.84**	**316**	P	**P**	**02 14 39.2**	**-0.7**
	comp=E,0.4nm,0.4s,baz=45,slow=6.4,SNR=8.4 comp=E,0.4nm,0.4s						
MKAR	**Makanchi Array**	**61.86**	**310**	P	**P**	**02 14 45.5**	**-1.5**
	comp=E,0.3nm,0.3s,baz=41,slow=6.8,SNR=12 comp=E,0.3nm,0.3s						
PMG	**Port Moresby**	**68.51**	**220**	LR	LR	02 45 21.0	
	comp=E,31nm,18.5s,baz=63,slow=36						

*NEIC **22** 02:06:37.6±1.6, 18°.24S±0°.07×174°.87W±0°.08, h200km±5km, mb4.6/63, Error ellipse: s-maj=11.2km s-min=10.3km az=50.0*
*NOU **22** 02:06:38.7, 18°.17S×174°.68W, h211km, mb4.9/22, Tonga Islands*
*IDC **22** 02:06:39.9±0.6, 18°.21S×175°.05W, h211km±5km, mb3.9/18, mbtmp4.5/21, Error ellipse: s-maj=14.4km s-min=10.7km az=138.0*

ISC 22 02:06:38.8±0.5, 18°.42S±0°.06×174°.90W±0°.05, h210km±4km, h208km: pP-P, n279, σ1°.31/261, mb4.6/69, 18C-37D, Tonga Islands

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

WVZ Waitaha Valley 27.43 203 P P 02 12 06.0 +1.1
FOZ Fox Glacier 28.17 204 P P 02 12 12.2 +0.8
JCZ Jackson Bay 29.02 205 P P 02 12 19.7 +0.5
ODZ Otahua Downs 29.16 201 P P 02 12 22.2 +1.9
DCZ Deep Cove 30.83 205 P P 02 12 36.9 +1.9
WHZ Wether Hill Ro 30.87 204 P P 02 12 37.4 +2.1
WHZ IAmb IAmb 02 12 42.2
comp=Z,16nm,0.9s
APZ The Paps 31.65 203 P P 02 12 41.6 -0.6
EIDS Eidsvold 32.25 252 P P 02 12 47.3 -0.4
EIDS IAmb IAmb 02 12 48.2
comp=Z,13nm,0.9s
ARMA Armidale 32.62 242 P P 02 12 51.2 +0.2
ARMA IAmb IAmb 02 13 23.9
comp=Z,28nm,1.4s
PMG Port Moresby 37.84 278 P P 02 13 34.1 -1.4
comp=Z,8.5nm,0.8s,baz=95,slow=12,SNR=2.5
comp=Z,8.5nm,0.8s
CMSA Cobar Meteorol 37.84 242 P P 02 13 35.1 -0.2
comp=Z,15nm,1.4s
CMSA Cobar Meteorol 37.84 242 P P 02 13 36.0 +0.7
QLP Quilpie 38.49 250 P P 02 13 40.2 -0.7
comp=Z,72nm,1.1s
TOO Toolangi 39.48 233 P P 02 13 49.1 +0.1
COEN Coen 40.45 270 P P 02 13 56.3 -0.8
COEN IAmb IAmb 02 13 58.0
comp=Z,9.2nm,0.8s
STKA Stephens Creek 41.34 242 P P 02 14 04.6 +0.4
STKA Stephens Creek 41.34 242 P P 02 14 04.6 +0.4
comp=Z,67nm,1.2s
STKA Stephens Creek 41.34 242 P P 02 14 04.2 0.0
comp=Z,9.4nm,1.0s,baz=90,slow=11,SNR=12
comp=Z,9.4nm,1.0s
STKA Stephens Creek 41.34 242 P P 02 14 04.4 +0.2
HTT Hallett 43.79 241 P P 02 14 23.8 -0.1
comp=Z,7.0nm,0.8s
HTT Hallett 43.79 241 P P 02 14 27.2 +3.3
LCRK Leigh Creek 44.05 245 P P 02 14 26.9 +0.9
TABU Tabubil 44.75 281 P P 02 14 33.8 +2.0
BBOO Buckleboo 46.10 242 P P 02 14 41.9 -0.2
BBOO Buckleboo 46.10 242 P P 02 14 42.0 0.0
comp=Z,57nm,0.8s
OOD Oodnadatta 46.14 249 P P 02 14 44.1 +1.6
WR8 Warramunga Arr 47.67 260 P P 02 14 53.4 -1.0
WB0 Warramunga Arr 47.79 260 P P 02 14 54.3 -1.1
WB0 IAmb IAmb 02 14 55.3
comp=Z,20nm,0.7s
WRA Warramunga Arr 47.82 259 P P 02 14 54.3 -1.3
WRA Warramunga Arr 47.82 259 P P 02 14 54.9 -0.7
comp=Z,12nm,0.6s,baz=96,slow=7.9,SNR=81
WRA PcP **PcP 02 16 21.9 +0.8**
comp=Z,2.3nm,0.8s,baz=87,slow=3.6,SNR=4.3
comp=Z,12nm,0.6s
AS31 Alice Springs 47.87 254 P P 02 14 55.2 -0.8
AS31 IAmb IAmb 02 14 56.7
comp=Z,26nm,0.8s
AS31 Alice Springs 47.87 254 P P 02 14 54.6 -1.3
comp=Z,42nm,0.8s
ASAR Alice Springs 47.87 254 P P 02 14 55.6 -0.3
comp=Z,103nm,0.7s,baz=91,slow=8.2,SNR=829
ASAR PcP **PcP 02 16 21.6 +0.5**
comp=Z,2.3nm,0.7s,baz=97,slow=3.6,SNR=3.9
ASAR S **S 02 21 33.5 -3.6**
comp=Z,0.9nm,0.9s,baz=97,slow=14,SNR=5.8
KDU Kakadu 50.88 268 P P 02 15 18.2 -0.5
comp=Z,30nm,0.8s
MTN Manton Dam 52.12 268 P P 02 15 26.4 -1.5
MTN IAmb IAmb 02 15 27.9
comp=Z,23nm,0.9s
MTN Manton Dam 52.12 268 P P 02 15 26.3 -1.6
comp=Z,31nm,0.9s
FORT Forrest 52.81 245 P P 02 15 32.0 -0.8
FORT Forrest 52.81 245 P P 02 15 32.2 -0.6
comp=Z,58nm,0.8s
WRKA Warakurna 52.87 252 P P 02 15 32.1 -1.3
comp=Z,49nm,1.1s
KNRA Kununurra 53.76 264 P P 02 15 38.9 -1.0
KNRA Kununurra 53.76 264 P P 02 15 39.0 -0.9
comp=Z,45nm,0.9s
FITZ Fitzroy Crossi 56.23 260 P P 02 15 59.6 +2.1
SOEI Soe 59.41 269 P P 02 16 20.8 +0.9
VNDA Vanda 60.25 186 P P 02 16 27.6 +3.2
VNDA Vanda 60.25 186 P P 02 16 27.4 +3.0
comp=Z,0.8nm,0.6s,baz=24,slow=7.1,SNR=5.9
comp=Z,0.8nm,0.6s
PSA00 Pilbara Seismi 61.01 255 P P 02 16 29.9 -0.6
PSA00 Pilbara Seismi 61.01 255 P P 02 16 26.1 -4.4
MBWA Marble Bar 61.19 256 P P 02 16 31.0 -0.7
JAGI Jajag, Banyuwa 69.36 268 P P 02 17 22.8 -1.5
MJAR Matsushiro Arr 70.35 321 P P 02 17 28.8 -1.0
comp=Z,9.5nm,0.8s,baz=154,slow=5.9,SNR=26
comp=Z,9.5nm,0.8s
MAJO Matsushiro 70.35 321 P P 02 17 28.2 -1.5
MAJO IAmb IAmb 02 17 30.2
comp=Z,12nm,0.7s
MAJO Matsushiro 70.35 321 P P 02 17 29.2 -0.6
MJB9 Matsu-Tunnel 70.35 321 P P 02 17 29.6 -0.2
MJB9 IAmb IAmb 02 17 31.2
comp=Z,11nm,0.7s
QSPA South Pole Qui 71.64 180 P P 02 17 39.5 +2.2
QSPA South Pole Qui 71.64 180 P P 02 17 39.3 +2.0
comp=Z,4.0nm,0.7s,baz=20,slow=1.4,SNR=23
comp=Z,4.0nm,0.7s
JNU Nakatsue 72.84 315 IAmb IAmb 02 17 45.6
comp=Z,20nm,0.9s
JNU Nakatsue 72.84 315 P P 02 17 44.5 -0.3
UGM Wanagama 72.96 267 P P 02 17 45.3 -0.6
YULB Yu-li 74.86 301 P P 02 17 55.5 -1.2
PEA0B Petropavlovsk- 75.07 343 P P 02 17 56.5 -0.7
PEA0B IAmb IAmb 02 18 23.5
comp=Z,14nm,1.0s
PETK Petropavlovsk- 75.07 343 P P 02 17 55.7 -1.4
comp=Z,9.4nm,0.9s,baz=103,slow=8.7,SNR=14
comp=Z,9.4nm,0.9s
KMRM Mail Ridge 75.31 38 P P 02 17 57.5 -1.4
TPUB Ta-pu 75.36 301 P P 02 17 57.8 -1.7
LEM Lembang 76.03 267 P P 02 18 04.1 +0.4
comp=Z,41nm,0.7s,baz=147,slow=7.7,SNR=4.4
KSRS Korea Array 77.33 317 P P 02 18 11.4 +1.2
comp=Z,7.6nm,0.9s,baz=136,slow=6.2,SNR=32
comp=Z,7.6nm,0.9s
KSAR Wonju Array Be 77.35 317 P P 02 18 10.4 +0.1
NVAR Mina Array Bea 77.52 42 P P 02 18 11.9 +0.4
comp=Z,1.6nm,0.9s,baz=229,slow=9.6,SNR=6.1
NVAR pP **pP 02 19 02.4 +0.9**
comp=Z,1.2nm,0.8s,baz=222,slow=9.7,SNR=4.1
comp=Z,1.6nm,0.9s
USRK Ussuriysk Ar. 78.95 324 P P 02 18 18.9 -0.1
USRK Ussuriysk Ar. 78.95 324 P P 02 18 19.0 +0.1
comp=Z,1.2nm,0.5s,baz=99,slow=6.0,SNR=7.4
comp=Z,1.2nm,0.5s
NJ2 Nanjing 80.86 308 *eP* **P 02 18 30.4 +0.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
K15K Wolf Creek Mou 81.13 6 IAmb IAmb 02 18 32.2
comp=Z,19nm,0.8s
BNX BinXian 82.46 323 ⇑P **P 02 18 38.0 +0.5**
BNX pmax pmax
comp=Z,12nm,0.8s
CN2 Changchun 82.49 321 P P 02 18 38.5 +0.8
CN2 pmax pmax
comp=Z,10.0nm,0.7s
TXAR Lajitas Array 83.47 56 P P 02 18 45.4 +2.1
comp=Z,0.7nm,0.9s,baz=219,slow=8.6,SNR=6.3
comp=Z,0.7nm,0.9s
PV23 Carpenter Ridg 83.68 46 P P 02 18 43.7 -0.6
TIA Tai'an 84.08 311 P P 02 18 46.9 +0.9
TIA pmax pmax
comp=Z,9.0nm,0.9s
MCK McKinley 84.34 11 IAmb IAmb 02 18 47.9
comp=Z,9.6nm,1.0s
MAW Mawson 84.49 199 P P 02 18 49.4 +1.8
comp=Z,4.8nm,0.7s,baz=132,slow=7.3,SNR=8.0
comp=Z,4.8nm,0.7s
H03S2 Juan Fernandez 84.73 124 T T 03 51 58.8
baz=249,slow=74
H03S1 Juan Fernandez 84.75 124 T T 03 51 59.1
baz=249
H03S3 Juan Fernandez 84.75 124 T T 03 51 57.5
baz=249,slow=74
H03N2 Juan Fernandez 84.85 123 T T 03 52 18.1
baz=257,slow=72,SNR=4.5
H03N3 Juan Fernandez 84.85 123 T T 03 52 18.7
baz=257,slow=72,SNR=3.3
H03N1 Juan Fernandez 84.87 123 T T 03 52 13.4
baz=257,slow=72,SNR=4.8

SEY Seymchan 85.06 346 P P 02 18 50.0 -0.3
comp=Z,5.0nm,0.5s,baz=144,slow=6.1,SNR=18
comp=Z,5.0nm,0.5s
F17K Baldwin Pennin 85.22 5 IAmb IAmb 02 18 52.3
comp=Z,5.9nm,0.8s
HDA Harding Lake 85.33 12 IAmb IAmb 02 18 52.1
comp=Z,11nm,0.9s
PDAR Pinedale Array 85.45 42 P P 02 18 53.3 +0.2
comp=Z,0.5nm,0.8s,baz=207,slow=3.0,SNR=5.4
PDAR pP **pP 02 19 45.5 +1.4**
comp=Z,0.9nm,0.8s,baz=240,slow=2.9,SNR=7.0
comp=Z,0.5nm,0.8s
H21K Melozitna Rive 85.48 9 IAmb IAmb 02 18 53.8
comp=Z,13nm,1.4s
COLA College 85.58 11 P P 02 18 51.3 -1.5
COLA College 85.58 11 P P 02 18 51.8 -1.0
IL31 85.67 12 P P 02 18 52.5 -0.7
ILAR Eielson Array 85.67 12 P P 02 18 51.9 -1.4
ILAR Eielson Array 85.67 12 P P 02 18 52.8 -0.5
comp=Z,2.1nm,0.8s,baz=224,slow=5.3,SNR=30
ILAR pP **pwP 02 19 45.7 +1.5**
comp=Z,0.3nm,0.6s,baz=237,slow=5.4,SNR=2.0
comp=Z,2.1nm,0.8s
F19K Shaleruckik Mo 85.95 7 IAmb IAmb 02 18 55.6
comp=Z,6.5nm,0.9s
J26L Joseph Creek 86.10 13 IAmb IAmb 02 18 57.2
comp=Z,6.5nm,0.8s
G21K Allakaket 86.18 8 IAmb IAmb 02 18 56.5
comp=Z,6.8nm,1.1s
L29M L29M 86.21 16 P P 02 18 55.4 -0.6
L29M IAmb IAmb 02 18 57.7
comp=Z,8.2nm,1.0s
E18K Tukpahlearik C 86.24 5 IAmb IAmb 02 18 57.2
comp=Z,5.5nm,0.8s
HNS HongShan 86.34 311 ⇓P **P 02 18 58.3 +1.1**
HNS pmax pmax
comp=Z,10.0nm,1.1s
LYN LuoYang 86.75 308 P P 02 19 00.8 +1.5
LYN pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 87.30 353 P P 02 19 00.1 -1.0
BILL IAmb IAmb 02 19 01.9
comp=Z,5.5nm,0.9s
GSI Gunungsitoli 88.06 272 P P 02 19 07.4 +1.4
SRIT Nakonsritamara 88.45 280 P P 02 19 09.8 +2.0
D22K Ayikyak River 88.52 8 IAmb IAmb 02 19 08.2
comp=Z,8.1nm,1.0s
ELIB Princess Elisa 89.01 186 *dP* **P 02 19 11.2 +1.6**
B20K Meade River 89.07 6 IAmb IAmb 02 19 10.4
comp=Z,4.2nm,0.8s
XAN Xi'an 89.23 306 ⇑P **P 02 19 12.4 +1.3**
XAN pmax pmax
comp=Z,11nm,1.2s
TROLL Troll, Antarti 89.79 179 ⇓P **P 02 19 14.8 +1.7**
comp=Z,130nm,0.5s
B22K Teshekpuk Lake 89.80 7 IAmb IAmb 02 19 13.7
comp=Z,4.7nm,0.9s
C24K Franklin Bluff 89.84 9 IAmb IAmb 02 19 17.4
comp=Z,7.2nm,1.4s
HHC Hu-ho-hao-te 90.03 313 *eP* **P 02 19 15.3 +0.6**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,78nm,4.7s
F31M Tsiigehtchic 90.80 15 IAmb IAmb 02 19 18.7
comp=Z,7.5nm,0.9s
INK Inuvik 91.52 14 P P 02 19 20.4 -0.5
comp=Z,1.9nm,0.8s,baz=171,slow=6.2,SNR=7.3
comp=Z,1.9nm,0.8s
CMAR Chiang Mai Arr 92.20 289 P P 02 19 24.8 -0.4
CMAR Chiang Mai Arr 92.20 289 P P 02 19 26.4 +1.2
comp=Z,1.4nm,0.7s,baz=104,slow=5.5,SNR=9.0
comp=Z,1.4nm,0.7s
PZH PanZhiHua 92.35 297 P P 02 19 25.8 0.0
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
YKA Yellowknife Ar 93.42 24 P P 02 19 29.9 +0.2
comp=Z,0.7nm,0.9s,baz=238,slow=4.2,SNR=8.1
YKA pP **pP 02 20 21.9 +0.8**
comp=Z,0.7nm,1.0s,baz=237,slow=4.6,SNR=4.8
comp=Z,0.7nm,0.9s
LZH Lanzhou 93.86 307 *eP* **P 02 19 35.9 +3.3**
LZH pP pP 02 20 24.1 +0.4
LZH sP sP 02 20 50.4 +5.1
LZH pmax pmax
comp=Z,24nm,1.4s
A36M Sachs Harbour 96.15 14 IAmb IAmb 02 19 43.9
comp=Z,4.4nm,0.8s
MKAR Makanchi Array 111.89 314 PKiKP PKiKP 02 24 48.1 -0.6
comp=Z,0.7nm,0.5s,baz=81,slow=1.3,SNR=8.3
KURBB Kurchatov Arra 114.49 318 PKP PKPdf 02 24 53.0 -0.5
comp=Z,0.6nm,0.5s,baz=92,slow=1.9,SNR=8.0
BVAR Borovoye Array 119.34 321 PKP PKPdf 02 25 02.9 +0.1
comp=Z,1.5nm,0.5s,baz=107,slow=1.5,SNR=10
ARCES ARCESS Array B 127.37 351 PKP PKPdf 02 25 17.8 +0.1
comp=Z,6.9nm,1.1s,baz=8.5,slow=2.5,SNR=7.3
FINES FINESS Array B 134.53 346 PKP PKiKP 02 25 32.6 -0.2
comp=Z,2.1nm,0.8s,baz=29,slow=3.2,SNR=10
HFS Hagfors 137.88 354 PKhKP PKPpre 02 25 30.5
comp=Z,1.5nm,0.9s,baz=56,slow=3.6,SNR=1.8
HFS PKP **PKPdf 02 25 35.7 -2.0**
comp=Z,2.7nm,1.1s,baz=62,slow=3.4,SNR=4.7
AKASG Malin Array Be 142.50 335 PKhKP PKPpre 02 25 41.7
comp=Z,1.3nm,0.5s,baz=40,slow=4.2,SNR=12
KIEV Kiev 142.51 335 ⇑P **PKPdf 02 25 41.3 -5.1**
RNPP9 Sopachiv 143.20 338 PKP PKPbc 02 25 45.0 -0.2
BEL Belsk 144.43 343 *e*PKP PKPbc 02 25 49.1 +0.4
SORM Soroca 144.83 333 ⇓P PKPbc 02 25 47.9 -2.2
KMPD K-Podol'skiy 145.29 335 PKP **PKPdf 02 25 49.6 -1.7**
PURM Purcari 145.32 329 ⇓P **PKPab 02 25 52.0 -0.1**
MILM Milestii Mici 145.54 331 ⇓P **PKPdf 02 25 51.9 +0.1**
OJC Ojcow 146.16 343 *e*PKP **PKPbc 02 25 54.5 +0.4**
KSP Ksiaz 146.44 347 *e*PKP **PKPab 02 25 55.8 -0.4**
KOLS Kolonicke sedl 146.54 339 *e*PKP **PKiKP 02 25 57.4 -0.5**
BURAR Bucovina Array 146.55 335 ⇑P **PKPab 02 25 57.1 +0.2**
CLL Collm 146.59 351 ⇓*i*PKPbc **PKPbc 02 25 55.8 +0.5**
comp=Z,15nm,0.9s
CLL *e*pPKiKP **pPKiKP 02 26 51.0 -0.4**
VLDR Vladesti 146.67 330 ⇑P **PKPab 02 25 56.7 -0.6**
OSTC Ostas 146.73 347 *e*PKP **PKPab 02 25 56.7 -0.7**
NIE Niedzica 146.73 342 *e*PKP **PKPab 02 25 56.9 -0.6**
VARL Varlezi 146.74 331 ⇑P **PKPdf 02 25 52.0 -1.8**
TLCR 146.80 329 ⇓P **PKPbc 02 25 56.7 +0.7**
TESR Tescani 146.82 332 ⇑P **PKPbc 02 25 56.0 -0.1**
GHRR 146.82 331 ⇑P **PKPab 02 25 57.6 -0.3**
BRG Berggiesshubel 146.86 350 *e*PKP **PKPbc 02 25 56.7 +0.7**
BRG Amp 02 25 57.8
comp=Z,9.3nm,1.0s
DPC Dobruska-Polom 146.90 347 *e*PKP **PKPbc 02 25 57.2 +0.9**
STEB Steborice 146.95 345 *e*PKP **PKPdf 02 25 55.2 +1.1**
KRLC Kraliky 147.06 346 *e*PKP **PKPbc 02 25 57.3 +0.6**
JURR Jurilovca 147.07 328 ⇓P **PKPbc 02 25 57.5 +0.7**
ONER Baraj Valea Uz 147.07 332 ⇓P **PKPab 02 25 58.1 -0.8**
PVCC Panska Ves 147.08 349 *e*PKP **PKPbc 02 25 57.6 +0.9**
CFR Carcaliu 147.13 329 ⇓P **PKPbc 02 25 57.3 +0.3**
MORC Moravsky Berou 147.15 345 *e*PKP **PKPbc 02 25 57.6 +0.6**
MORC Moravsky Berou 147.15 345 ⇑P **PKPbc 02 25 56.7 -0.3**
BMR Baia Mare 147.17 337 ⇑P **PKPdf 02 25 55.4 +0.9**
LANS Liptovska Anna 147.22 342 *e*PKP **PKiKP 02 25 59.0 -0.3**
TPGR Topolog 147.23 329 ⇑P **PKiKP 02 25 58.5 -1.0**
VRI Vrincioaia 147.28 332 ⇑P **PKPbc 02 25 57.1 -0.3**
PLOR Plostina 147.33 332 ⇓P **PKPbc 02 25 57.9 +0.3**
MAUC Maruska 147.46 344 *e*PKP **PKPbc 02 25 58.6 +0.8**
BRTR Keskin Array B 147.47 317 PKPbc **PKPbc 02 25 59.0 +0.7**
comp=Z,5.0nm,0.6s,baz=137,slow=3.5,SNR=34
TIRR Tirgusor 147.52 328 ⇑P **PKPbc 02 25 58.5 +0.4**
OZUR 147.52 333 ⇓P **PKPbc 02 25 58.9 +0.8**
HARR Harsova 147.59 329 ⇑P **PKiKP 02 25 59.3 -0.8**
PRU Pruhonice 147.60 349 *e*PKP **PKPbc 02 25 58.6 +0.5**
TLBR Topalu 147.64 329 ⇓P **PKiKP 02 25 60.0 -0.3**
UCC Uccle 147.69 1 *d*PKP **PKPbc 02 25 58.8 +0.5**
MFTR Murfatlar 147.71 328 ⇓P **PKPbc 02 25 58.6 0.0**
DOPR Dopca 147.79 333 ⇓P **PKPbc 02 25 59.7 +0.9**
NEHR Nehoiu 147.81 331 ⇓P **PKiKP 02 25 59.9 -0.8**
VRAC Vranov 147.82 346 *e*PKP **PKPbc 02 25 59.2 +0.4**
VRAC Vranov 147.82 346 ⇑P **PKPbc 02 25 59.2 +0.4**
MEM Membach 147.87 359 *d*PKPdf **PKPdf 02 25 54.9 -0.7**
MANR Mangalia 147.88 327 ⇓P **PKPbc 02 25 58.5 -0.6**
BTNL Ternell 147.89 359 *d*PKP **PKPbc 02 25 59.2 +0.2**
BSTI Sart Tilman 147.90 359 *d*PKP **PKPbc 02 25 59.8 +0.9**
MLR Muntele Rosu 147.92 332 ⇑P **PKPbc 02 25 59.8 +0.4**
CJR Cluj-Napoca 147.93 336 ⇓P **PKPbc 02 25 59.0 -0.2**
JAVC Velka Javorina 147.97 344 *e*PKP **PKiKP 02 26 01.0 +0.1**

VYHS Vyhne 147.99 343 *e*PKP **PKPbc 02 26 00.0 +0.8**
BCLA Clavier 148.07 360 *d*PKP **PKPbc 02 25 59.4 0.0**
KRUC Moravsky 148.09 346 *e*PKP **PKPbc 02 26 00.0 +0.5**
BHOU Houvegnez 148.13 359 *d*PKP **PKiKP 02 26 00.9 -0.3**
MARR Marisel-Cluj 148.15 336 ⇑P **PKPbc 02 26 00.5 +0.7**
BMRD Maredsous 148.19 0 *d*PKP **PKiKP 02 26 00.9 -0.3**
VOIR 148.36 333 ⇓P **PKPbc 02 26 01.1 +0.7**
DOU Dourbes 148.39 1 *d*PKiKP **PKPbc 02 26 00.9 +0.7**
MODS Modra-Piesok 148.52 344 *e*PKP **PKiKP 02 26 02.3 +0.3**
KHC Kasperske Hory 148.60 349 *e*PKP **PKPbc 02 26 01.5 +0.7**
CKRC Cesky Krumlov 148.77 348 *e*PKP **PKPbc 02 26 01.8 +0.6**
WLF Walferdange 148.81 359 *d*PKiKP **PKiKP 02 26 02.2 -0.3**
GERES GERESS Array B 148.86 349 PKPbc **PKPbc 02 26 02.1 +0.5**
comp=Z,2.0nm,0.6s,baz=18,slow=2.7,SNR=20
GERES pPKPbc **pPKPbc 02 26 55.6 +0.8**
comp=Z,0.8nm,0.8s,baz=19,slow=3.4,SNR=2.5
DEV Deva 148.89 336 ⇓P **PKPbc 02 26 02.1 +0.6**
SIRR Siria 149.03 337 ⇓P **PKPbc 02 26 01.6 -0.4**
MMAI Mount Meron Ar 149.21 304 PKPbc **PKiKP 02 26 04.4 +0.4**
comp=Z,6.1nm,0.7s,baz=276,slow=3.3,SNR=9.0
CONA Conrad Observa 149.28 346 *e*PKiKP **PKiKP 02 26 03.7 0.0**
comp=Z,10nm,1.2s
SURR Surduc 149.29 336 ⇑P **PKPbc 02 26 00.5 -2.1**
GZR Gura Zlata 149.34 335 ⇓P **PKPbc 02 26 03.0 +0.2**
RONA Rosalia, Austr 149.39 345 *i* PKiKP **PKiKP 02 26 03.9 0.0**
comp=Z,10nm,1.1s
RONA Rosalia, Austr 149.39 345 *i* PKiKP **PKiKP 02 26 04.0 0.0**
SNR=6.0
BZS Buzias 149.60 337 ⇓P **PKPbc 02 26 03.8 +0.4**
MOA Molln 149.70 348 *i* PKiKP **PKPbc 02 26 04.0 +0.4**
comp=Z,4.4nm,1.2s
HERR Herculane 149.91 335 ⇓P **PKPbc 02 26 04.4 +0.3**
BIOA Bad Ischl, Aus 149.98 348 *e*PKiKP **PKPbc 02 26 04.3 +0.1**
comp=Z,1.2nm,0.5s
ARSA Arzberg 150.00 346 *i* PKiKP **PKPbc 02 26 03.8 -0.5**
comp=Z,3.7nm,0.9s
MORH Mrgy. Hungar 150.10 341 ⇓P **PKPbc 02 26 04.7 +0.1**
MDVR Moldovita 150.27 336 ⇓P **PKPbc 02 26 05.4 +0.3**
LESA Schwarzleotal 150.41 350 *i* PKiKP **PKiKP 02 26 06.1 0.0**
comp=Z,1.9nm,0.4s
KBA Koelnbreinsper 150.62 348 *i* PKiKP **PKPbc 02 26 06.0 0.0**
comp=Z,4.2nm,0.5s
RETA Reutte 150.64 352 *i* PKiKP **PKPbc 02 26 06.1 +0.2**
comp=Z,4.2nm,0.9s
SOKA Soboth 150.65 346 *i* PKiKP **PKPbc 02 26 05.9 -0.1**
comp=Z,5.8nm,0.8s
WATA Walderalm 150.67 351 *i* PKiKP **PKPbc 02 26 06.3 +0.2**
comp=Z,2.7nm,0.5s
MOTA Moosalm 150.73 352 *i* PKiKP **PKPbc 02 26 06.5 +0.3**
comp=Z,10.0nm,1.1s
WTTA Wattenberg 150.73 351 *i* PKiKP **PKiKP 02 26 06.8 0.0**
comp=Z,12nm,0.5s
SQTA Sankt Quirin 150.84 351 *i* PKiKP **PKPbc 02 26 06.6 +0.2**
comp=Z,2.5nm,0.6s
SQTA Sankt Quirin 150.84 351 *i* PKiKP **PKiKP 02 26 07.1 +0.1**
SNR=4.5
OBKA Obir 150.92 347 *i* PKiKP **PKPbc 02 26 06.3 -0.3**
comp=Z,3.4nm,0.7s
DAVA Damuels 150.94 353 *i* PKiKP **PKPbc 02 26 06.4 -0.3**
comp=Z,13nm,1.1s
MYKA Terra Mystica 150.99 348 *i* PKiKP **PKPbc 02 26 06.6 -0.1**
comp=Z,4.3nm,0.5s
ABTA Abfaltersbach 151.09 349 *i* PKiKP **PKPbc 02 26 07.0 0.0**
comp=Z,9.5nm,0.6s
ABTA Abfaltersbach 151.09 349 *i* PKiKP **PKPbc 02 26 06.9 -0.1**
SNR=12
FETA Feichten 151.10 352 *i* PKiKP **PKiKP 02 26 07.6 0.0**
comp=Z,6.6nm,0.7s
FETA Feichten 151.10 352 *i* PKiKP **PKiKP 02 26 07.9 +0.4**
SNR=7.7
BOVS Bovan 151.22 334 ⇓P **PKPbc 02 26 06.2 -1.1**
ESDC Sonseca Array 157.41 18 PKPab **PKPab 02 26 42.7 +0.3**
comp=Z,0.9nm,0.9s,baz=335,slow=5.6,SNR=4.4
TORD Torodi Ar. Bea 173.82 147 PKP **PKPdf 02 26 23.2 -0.7**
comp=Z,72nm,0.3s,baz=209,slow=1.9,SNR=1.8

IDC ***22*** *02:26:43.5±3.1, 28°.06N×51°.88E, h0km, mb3.6/3, mbtmp3.6/3, MS3.5/2, Error ellipse: s-maj=70.3km s-min=37.2km az=150.0*
TEH ***22*** *02:26:45.3, 28°.07N×51°.89E, h12km*
ISC 22 02:26:45.0±1.3, 28°.1N±0°.1×51°.88E±0°.06, h10km, n11, σ0°12/10, mb3.6/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.62**	**299**	Pg	**Pb**	**02 26 57.9**	**0.0**
AHBU	**AHRAM**	**0.94**	**327**	Pg	**Pg**	**02 27 03.4**	**+0.2**
QIR1	**Qir**	**1.11**	**68**	Pg	**Pn**	**02 27 06.8**	**+0.2**
KAZ2	**Kazeron-Fars-I**	**1.55**	**353**	Pg	**Pg**	**02 27 14.7**	**-0.1**
JHRM	**Jahrom**	**1.56**	**73**	Pg	**Pb**	**02 27 14.0**	**0.0**
SHI	**Shiraz**	**1.67**	**19**	Pg	**Pb**	**02 27 15.9**	**0.0**
MKAR	**Makanchi Array**	**30.27**	**44**	P	**P**	**02 32 56.1**	**0.0**
	0.3nm,0.8s,baz=243,slow=9.4,SNR=2.3						
MKAR				LR	LR	02 45 54.2	
	comp=Z,30nm,19.2s,baz=210,slow=38						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**37.55**	**340**	P	**P**	**02 33 59.0**	**-0.1**
	1.3nm,0.8s,baz=145,slow=8.4,SNR=4.5						
	1.3nm,0.8s						
HFS	**Hagfors**	**41.16**	**332**	P	**P**	**02 34 29.2**	**0.0**
	0.7nm,0.6s,baz=141,slow=7.4,SNR=5.1						
	0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**48.93**	**263**	P	**P**	**02 35 31.6**	**-0.1**
	112nm,0.4s,baz=67,slow=8.0,SNR=2.3						
TGY	**Tagaytay City**	**65.18**	**87**	LR	LR	03 09 25.4	
	comp=Z,80nm,18.4s,baz=142,slow=39						

IDC ***22*** *02:34:47.6±0.8, 9°.37S×151°.07E, h0km, mb3.9/12, mbtmp3.8/14, ML3.1/1, MS3.4/9, Error ellipse: s-maj=25.4km s-min=19.3km az=104.0*
NEIC ***22*** *02:34:50.0±2.5, 9°.47S±0°.10×151°.2E±0°.1, h10km±1km, mb4.3/13, Error ellipse: s-maj=19.8km s-min=15.9km az=108.0*
ISC 22 02:34:50.1±0.7, 9°.42S±0°.09×151°.0E±0°.1, h13km, n42, σ1°20/37, mb4.1/16, MS3.3/8, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.82**	**270**	Pn	**Pn**	**02 35 47.9**	**-0.7**
PMG	**Port Moresby**	**3.82**	**270**	Pn	**Pn**	**02 35 48.1**	**-0.5**
	9.2nm,0.4s,baz=106,slow=6.0,SNR=6.1						
PMG				Pg	**Pb**	**02 35 56.1**	**-1.3**
	5.2nm,0.3s,baz=131,slow=4.4,SNR=13						
PMG				Lg	Lg	02 36 42.4	
	2.4nm,0.3s,baz=249,slow=23,SNR=1.4						
MANU	**Manus Island**	**8.18**	**333**	Pn	**Pn**	**02 36 51.0**	**+2.3**
COEN	**Coen**	**8.91**	**239**	Pn	**Pn**	**02 37 01.0**	**+2.3**
JAY	**Jayapura**	**12.34**	**303**	LR	LR	02 43 26.2	
	comp=Z,110nm,18.8s,baz=106,slow=42						
WR8	**Warramunga Arr**	**19.09**	**235**	P	**P**	**02 39 13.1**	**+0.3**
WRA	**Warramunga Arr**	**19.22**	**235**	P	**Pn**	**02 39 15.1**	**+0.1**
	0.1nm,0.3s,baz=56,slow=11,SNR=3.2						
	0.7nm,0.7s						
FAKI	**Fak Fak**	**19.75**	**288**	P	**Pn**	**02 39 21.3**	**-0.1**
FAKI				IAmb	IAmb	02 39 35.6	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**21.64**	**227**	P	**P**	**02 39 42.6**	**+2.2**
ASAR	**Alice Springs**	**21.65**	**227**	P	**P**	**02 39 41.6**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=58,slow=8.6,SNR=13						
	comp=Z,0.9nm,0.7s						
KNRA	**Kununurra**	**22.59**	**252**	P	**P**	**02 39 54.1**	**+3.4**
KNRA				IAmb	IAmb	02 39 57.0	
	comp=Z,8.7nm,0.8s						
STKA	**Stephens Creek**	**24.00**	**200**	P	**P**	**02 40 05.4**	**+0.8**
STKA	**Stephens Creek**	**24.00**	**200**	P	**P**	**02 40 04.6**	**0.0**
	comp=Z,1.6nm,0.7s,baz=356,slow=12,SNR=3.4						
STKA				LR	LR	02 48 42.6	
	comp=Z,73nm,19.9s,baz=29,slow=35						
	comp=Z,1.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**26.10**	**248**	P	**P**	**02 40 23.8**	**-0.1**
MSVF	**Nonsavu**	**27.51**	**110**	LR	LR	02 49 41.1	
	comp=Z,265nm,20.1s,baz=11,slow=32						
URZ	**Urewera**	**37.07**	**145**	LR	LR	02 55 03.1	
	comp=Z,70nm,18.5s,baz=350,slow=33						
JOW	**Kunigami**	**42.27**	**329**	LR	LR	02 58 11.0	
	comp=Z,33nm,19.9s,baz=224,slow=33						
JNU	**Nakatsue**	**46.46**	**336**	LR	LR	03 00 48.7	
	comp=Z,35nm,18.8s,baz=170,slow=34						
KSRS	**Korea Array**	**51.41**	**336**	P	**P**	**02 43 55.6**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=146,slow=6.9,SNR

comp=Z,0.6nm,0.3s
USRK Ussuriysk Ar. 56.09 344 P **P** **02 44 28.9 -0.1**
comp=Z,0.5nm,0.5s,baz=146,slow=8.2,SNR=1.3
comp=Z,0.5nm,0.5s
CMAR Chiang Mai Arr 58.38 298 P **P** **02 44 45.7 0.0**
CMAR Chiang Mai Arr 58.38 298 P **P** **02 44 45.3 -0.4**
comp=Z,0.6nm,0.3s,baz=134,slow=4.6,SNR=4.6
comp=Z,0.6nm,0.3s
SHEM Shemya Is, Ala 64.98 15 LR LR 03 07 08.8
comp=Z,23nm,21.4s,baz=290,slow=30
SHL Shillong 67.22 303 P **P** **02 45 43.2 -1.5**
SONM Songino Array 69.33 330 P **P** **02 45 57.7 +0.2**
SONM IAmb IAmb 02 45 59.5
comp=Z,1.6nm,0.9s
SONM Songino Array 69.33 330 P **P** **02 45 57.2 -0.3**
comp=Z,1.7nm,0.9s,baz=148,slow=5.4,SNR=5.4
comp=Z,1.7nm,0.9s
QSPA South Pole Qui 80.57 180 P **P** **02 47 02.0 -0.2**
QSPA IAmb IAmb 02 47 18.9
comp=Z,4.3nm,1.3s
QSPA South Pole Qui 80.57 180 P **P** **02 47 01.7 -0.4**
comp=Z,0.9nm,0.7s,baz=349,slow=1.0,SNR=6.2
comp=Z,0.9nm,0.7s
MKAR Makanchi Array 82.66 320 P **P** **02 47 13.2 -0.2**
comp=Z,1.2nm,0.8s,baz=99,slow=7.5,SNR=6.5
comp=Z,1.2nm,0.8s
MAKZ Makanchi 82.87 320 P **P** **02 47 14.0 -0.5**
MAKZ IAmb IAmb 02 47 15.3
comp=Z,2.7nm,1.0s
G18K Tagagawik 83.66 19 P **P** **02 47 19.3 +1.1**
ZALV Zalesovo Beam 84.02 327 P **P** **02 47 18.6 -1.7**
comp=Z,0.8nm,0.4s,baz=123,slow=7.3,SNR=4.4
comp=Z,0.8nm,0.4s
E19K Redstone River 85.09 18 P **P** **02 47 25.7 +0.3**
E19K IAmb IAmb 02 47 31.5
comp=Z,4.6nm,0.9s
KURBB Kurchatov Arra 86.35 323 P **P** **02 47 31.3 -0.7**
comp=Z,0.4nm,0.7s,baz=115,slow=3.4,SNR=3.6
comp=Z,0.4nm,0.7s
AAK Ala-Archa 86.57 314 P **P** **02 47 32.5 -1.0**
AAK IAmb IAmb 02 47 34.0
comp=Z,2.3nm,0.9s
ILAR Eielson Array 87.07 22 P **P** **02 47 34.3 -0.9**
comp=Z,0.8nm,0.7s,baz=257,slow=5.3,SNR=8.7
ILAR LR LR 03 24 15.2
comp=Z,22nm,19.4s,baz=150,slow=34
comp=Z,0.8nm,0.7s
BVAR Borovoye Array 91.87 323 P **P** **02 47 56.4 -1.7**
comp=Z,0.2nm,0.4s,baz=99,slow=9.2,SNR=1.9
comp=Z,0.2nm,0.4s
BRTR Keskin Array B 116.97 310 PKPdf **PKPdf** **02 53 34.4 -0.9**
L42A Oliver, Polo 117.93 47 PKPdf **PKPdf** **02 53 35.2 -1.6**
GERES GERESS Array B 126.96 326 PKP **PKiKP** **02 53 54.2 -0.4**
comp=Z,0.2nm,0.5s,baz=90,slow=2.9,SNR=3.0
BDFB Brasília 148.76 143 PKPbc **PKPbc** **02 54 37.8 -0.7**
comp=Z,3.1nm,0.8s,baz=115,slow=1.9,SNR=6.4
TORD Torodi Ar. Bea 149.71 280 PKPbc **PKPbc** **02 54 40.1 -0.7**
comp=Z,46nm,0.3s,baz=64,slow=2.4,SNR=1.4

---

*NOU **22** 02:36:18.9, 15°.94S×166°.31E, h0km, MLv4.7/23, Vanuatu Islands*
*NEIC **22** 02:36:19.4±0.6, 15°.8S±0°.1×166°.24E±0°.07, h10km±1km, mb4.2/10, Error ellipse: s-maj=21.7km s-min=8.9km az=156.0*
*IDC **22** 02:36:26.1±7.5, 16°.07S×166°.25E, h75km±77km, mb3.6/6, mbtmp3.9/7, ML4.6/1, MS3.3/1, Error ellipse: s-maj=52.0km s-min=28.6km az=168.0*
ISC 22 02:36:22.5±0.7, 15°.88S±0°.06×166°.34E±0°.07, h35km, n37, σ0°.96/38, mb4.1/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.07	103	P	Pn	02 36 40.1	-0.8
VLAKA	Lakatoro	1.07	103	S	Sn	02 36 54.4	-0.1
DVP	Devils Point	2.55	136	P	Pn	02 37 01.5	+0.1
KOUNC	Koumac, New Ca	5.04	202	P	Pn	02 37 36.7	+1.1
KOUNC	Koumac, New Ca	5.04	202	S	Sn	02 38 32.8	+0.1
LUES	Luesalemba Tem	5.20	355	P	Pn	02 37 37.2	-0.6
DZM	Mont Dzumac	6.16	179		Pn	02 37 51.1	0.0
DZM	Mont Dzumac	6.16	179	P	Pn	02 37 51.8	+0.6
DZM	14nm,0.3s,baz=338,slow=11,SNR=130			S	Sn	02 39 00.1	-0.4
	24nm,0.4s,baz=126,slow=24,SNR=6.1			LR	LR	02 40 05.8	
DZM	comp=Z,267nm,18.1s,baz=33,slow=37						
	29nm,0.3s						
DZM	Mont Dzumac	6.16	179	P	Pn	02 37 51.4	+0.3
DZM	Mont Dzumac	6.16	179	S	Sn	02 39 00.2	-0.3
YATNC	Mamie plateau,	6.17	175	P	Pn	02 37 50.6	-0.6
YATNC	Mamie plateau,	6.17	175	S	Sn	02 39 00.4	-0.2
ONTNC	Ouen Toro	6.40	179	Pn	Pn	02 37 54.5	+0.3
ONTNC	Ouen Toro	6.40	179	P	Pn	02 37 55.2	+0.9
ONTNC	Ouen Toro	6.40	179	S	Sn	02 39 06.1	0.0
OUENC	Ouen Island, N	6.53	176	P	Pn	02 37 56.9	+0.9
PINNC	Pines Island,	6.78	171	Pn	Pn	02 38 00.2	+0.7
NGOA	Tingoa Renbel	7.46	304	P	Pn	02 38 07.9	-0.9
SAVO	Savo Central	9.23	316	P	Pn	02 38 34.5	+1.3
TATA	Tatamba Isabel	9.81	319	P	Pn	02 38 41.6	+0.5
EIDS	Eidsvold	17.11	234	P	P	02 40 20.7	+0.3
EIDS				IAmb	IAmb	02 40 24.2	
	comp=Z,12nm,1.1s						
STKA	Stephens Creek	27.57	230	P	P	02 42 05.4	-1.0
WR8	Warramunga Arr	30.54	258	P	P	02 42 31.4	-1.5
WR8				IAmb	IAmb	02 43 05.9	
	comp=Z,5.0nm,1.1s						
WRA	Warramunga Arr	30.69	258	P	P	02 42 32.1	-2.1
	comp=Z,0.4nm,0.6s,baz=84,slow=9.2,SNR=2.7						
	comp=Z,0.4nm,0.6s						
AS31	Alice Springs	31.43	251	P	P	02 42 38.8	-2.0
ASAR	Alice Springs	31.44	251	P	P	02 42 39.6	-1.2
	comp=Z,0.4nm,0.5s,baz=78,slow=9.2,SNR=8.2						
	comp=Z,0.4nm,0.5s						
FORT	Forrest	37.95	240	P	P	02 43 36.0	-0.9
FITZ	Fitzroy Crossi	38.93	261	P	P	02 43 43.8	-1.5
USRK	Ussuriysk Ar.	67.51	334	P	P	02 47 14.9	0.0
USRK	Ussuriysk Ar.	67.51	334	P	P	02 47 16.1	+1.2
	comp=Z,0.7nm,0.4s,baz=106,slow=4.7,SNR=4.1						
	comp=Z,0.7nm,0.4s						
QSPA	South Pole Qui	74.16	180	P	P	02 47 56.6	+1.3
QSPA				IAmb	IAmb	02 48 15.2	
	comp=Z,2.7nm,1.1s						
M16K	Timber Creek	81.50	16	P	P	02 48 35.9	0.0
M16K				IAmb	IAmb	02 48 53.9	
	comp=Z,5.7nm,1.1s						
TTA	Tatalina	83.87	16	P	P	02 48 48.8	+0.6
TTA				IAmb	IAmb	02 49 04.3	
	comp=Z,1.3nm,0.9s						
J18K	Innoko River	84.11	16	P	P	02 48 50.0	+0.6
J18K				IAmb	IAmb	02 49 27.5	
	comp=Z,2.6nm,1.1s						
ILAR	Eielson Array	87.89	18	P	P	02 49 06.7	-1.3
	comp=Z,0.7nm,0.6s,baz=239,slow=5.1,SNR=19						
	comp=Z,0.7nm,0.6s						
NVAR	Mina Array Bea	88.69	49	P	P	02 49 14.1	+1.4
	comp=Z,0.8nm,0.9s,baz=268,slow=3.6,SNR=2.3						
	comp=Z,0.8nm,0.9s						
YKA	Yellowknife Ar	98.97	27	P	Pdif	02 49 58.0	-1.0
	comp=Z,0.2nm,0.6s,baz=254,slow=4.5,SNR=6.5						
	comp=Z,0.2nm,0.6s						

---

*IDC **22** 02:46:42.4±13.0, 19°.57S×177°.15W, h411km±131km, mb3.4/4, mbtmp4.3/5, Error ellipse: s-maj=85.2km s-min=25.2km az=37.0*
ISC 22 02:46:35.0±1.8, 19°.3S±0°.2×176°.9W±0°.3, h351km, n8, σ0°.24/7, mb3.7/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	19.62	194	P	P	02 50 39.3	+0.3
	4.9nm,0.3s,baz=5.7,slow=2.6,SNR=14						
STKA	Stephens Creek	39.24	243	P	P	02 53 31.0	0.0
	1.0nm,0.5s,baz=53,slow=10,SNR=3.0						
	1.0nm,0.5s						
WRA	Warramunga Arr	45.79	261	P	P	02 54 23.2	-0.1
	2.2nm,0.3s,baz=97,slow=7.0,SNR=47						
	2.2nm,0.3s						
ASAR	Alice Springs	45.80	255	P	P	02 54 23.2	-0.1
	2.8nm,0.6s,baz=91,slow=7.6,SNR=66						
	2.8nm,0.6s						
QSPA	South Pole Qui	70.79	180	P	P	02 57 13.8	-0.3
	1.9nm,1.1s,baz=234,slow=2.5,SNR=5.4						
	1.9nm,1.1s						
AKASG	Malin Array Be	142.42	333	PKhKP	PKPpre	03 05 23.7	
	0.3nm,0.4s,baz=44,slow=4.2,SNR=5.4						
BRTR	Keskin Array B	146.74	314	PKPbc	PKPbc	03 05 36.8	+0.2
	0.7nm,0.9s,baz=53,slow=7.4,SNR=3.1						
GERES	GERESS Array B	149.28	346	PKPbc	PKiKP	03 05 43.7	0.0
	0.3nm,0.6s,baz=354,slow=3.0,SNR=2.3						

---

*IDC **22** 03:01:01.5±1.1, 9°.42S×151°.50E, h0km, mb4.0/10, mbtmp3.9/12, ML2.7/2, MS3.2/11, Error ellipse: s-maj=33.8km s-min=21.5km az=111.0*
*NEIC **22** 03:01:02.0±2.8, 9°.8S±0°.1×151°.6E±0°.1, h10km±2km, mb4.4/8, Error ellipse: s-maj=19.8km s-min=17.1km az=115.0*
ISC 22 03:01:04.7±0.9, 9°.6S±0°.1×151°.4E±0°.1, h24km, n35, σ1°.32/29, mb4.1/12, MS3.0/9, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.22	272		Pn	03 02 10.0	+2.4
PMG	Port Moresby	4.22	272	Pn	Pn	03 02 09.8	+2.2
	4.4nm,0.3s,baz=117,slow=7.5,SNR=12						
PMG				Sn	Sn	03 02 54.0	-2.1
	0.9nm,0.3s,baz=164,slow=2.4,SNR=3.6						
	29nm,0.7s						
RABL	Rabaul	5.42	8	Pn	Pn	03 02 25.7	+1.6
MANU	Manus Island	8.53	331	Pn	Pn	03 03 09.0	+2.3
JAY	Jayapura	12.78	303	LR	LR	03 09 22.1	
	comp=Z,54nm,19.4s,baz=258,slow=39						
DZM	Mont Dzumac	19.01	132	LR	LR	03 11 38.7	
	comp=Z,122nm,18.8s,baz=11,slow=33						
WR8	Warramunga Arr	19.32	236	P	P	03 05 27.3	-1.0
WRA	Warramunga Arr	19.45	236	P	P	03 05 30.0	+0.2
	0.1nm,0.3s,baz=60,slow=10,SNR=5.9						
	1.4nm,0.9s						
ASAR	Alice Springs	21.82	228	P	P	03 05 57.8	+2.3
	1.1nm,0.8s,baz=56,slow=8.7,SNR=10						
ASAR				LR	LR	03 13 59.0	
	comp=Z,61nm,21.2s,baz=70,slow=35						
	1.1nm,0.8s						
KNRA	Kununurra	22.92	252	P	P	03 06 05.6	-1.6
KNRA				IAmb	IAmb	03 06 28.7	
	comp=Z,13nm,1.1s						
GUMO	Guam	23.94	344	LR	LR	03 13 50.8	
	comp=Z,39nm,19.8s,baz=106,slow=32						
STKA	Stephens Creek	23.97	201	P	P	03 06 16.4	-1.0
STKA	Stephens Creek	23.97	201	P	P	03 06 19.3	+1.9
	comp=Z,2.0nm,0.7s,baz=20,slow=12,SNR=4.8						
STKA				LR	LR	03 16 54.5	
	comp=Z,54nm,19.1s,baz=22,slow=39						
	comp=Z,2.0nm,0.7s						
FITZ	Fitzroy Crossi	26.40	249	P	P	03 06 38.4	-1.2
URZ	Urewera	36.69	145	LR	LR	03 20 49.5	
	comp=Z,82nm,20.8s,baz=339,slow=32						
NWAO	Narrogin (SRO)	39.14	228	LR	LR	03 24 40.2	
	comp=Z,85nm,18.2s,baz=346,slow=36						
MJAR	Matsushiro Arr	47.55	346	LR	LR	03 28 58.0	
	comp=Z,14nm,19.6s,baz=208,slow=35						
KSRS	Korea Array	51.73	336	P	P	03 10 10.8	+0.6
	comp=Z,0.5nm,0.4s,baz=153,slow=8.2,SNR=4.6						
KSRS				LR	LR	03 29 42.3	
	comp=Z,13nm,21.6s,baz=130,slow=33						
	comp=Z,0.5nm,0.4s						
CMAR	Chiang Mai Arr	58.81	298	P	P	03 11 00.7	-1.0
CMAR	Chiang Mai Arr	58.81	298	P	P	03 11 01.4	-0.2
	comp=Z,1.7nm,0.3s,baz=133,slow=5.0,SNR=5.1						
	comp=Z,1.7nm,0.3s						
SHL	Shillong	67.65	303	P	P	03 11 59.1	-1.3
MA2	Magadan	68.94	360	LR	LR	03 37 26.0	
	comp=Z,18nm,20.8s,baz=168,slow=32						
ULN	Ulaanbaatar	69.38	330	P	P	03 12 11.2	+0.5
ULN				IAmb	IAmb	03 12 18.3	
	comp=Z,2.2nm,0.6s						
SONM	Songino Array	69.69	329	P	P	03 12 12.7	+0.2
SONM				IAmb	IAmb	03 12 14.7	
	comp=Z,2.1nm,1.1s						
SONM	Songino Array	69.69	329	P	P	03 12 12.8	+0.2
	comp=Z,1.8nm,1.0s,baz=142,slow=7.4,SNR=5.5						
	comp=Z,1.8nm,1.0s						
MKAR	Makanchi Array	83.06	320	P	P	03 13 28.5	+0.2
MKAR	Makanchi Array	83.06	320	P	P	03 13 28.8	+0.4
	comp=Z,1.7nm,0.9s,baz=101,slow=6.4,SNR=8.2						
	comp=Z,1.7nm,0.9s						
ZALV	Zalesovo Beam	84.39	327	P	P	03 13 34.0	-0.9
ZALV	Zalesovo Beam	84.39	327	P	P	03 13 34.0	-0.9
	comp=Z,1.0nm,0.7s,baz=164,slow=6.0,SNR=4.3						
ZALV				LR	LR	03 49 02.2	
	comp=Z,8.9nm,21.6s,baz=14,slow=34						
	comp=Z,1.0nm,0.7s						
KURBB	Kurchatov Arra	86.73	322	P	P	03 13 46.2	-0.5
	comp=Z,0.2nm,0.4s,baz=135,slow=4.6,SNR=3.2						
	comp=Z,0.2nm,0.4s						
ILAR	Eielson Array	87.09	22	P	P	03 13 47.0	-1.1
	comp=Z,1.2nm,1.0s,baz=247,slow=4.4,SNR=6.5						
	comp=Z,1.2nm,1.0s						
BVAR	Borovoye Array	92.25	323	P	P	03 14 12.4	-0.2
	comp=Z,0.3nm,0.4s,baz=51,slow=4.6,SNR=1.5						
	comp=Z,0.3nm,0.4s						
GERES	GERESS Array B	127.33	326	PKP	PKiKP	03 20 08.9	+0.8
	comp=Z,0.3nm,0.6s,baz=94,slow=2.9,SNR=3.1						
BDFB	Brasília	148.38	142	PKPbc	PKiKP	03 20 51.8	-0.2
	comp=Z,1.9nm,0.8s,baz=242,slow=1.3,SNR=4.2						
TORD	Torodi Ar. Bea	150.13	280	PKPbc	PKPbc	03 20 54.1	-0.5

---

*IDC **22** 03:24:14.2±1.3, 7°.28S×155°.06E, h0km, mb3.6/6, mbtmp3.6/7, ML2.0/1, Error ellipse: s-maj=54.9km s-min=22.4km az=132.0*
ISC 22 03:24:18.8±1.1, 7°.4S±0°.2×155°.1E±0°.2, h31km, n8, σ1°.05/9, mb3.5/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.13	255	Pn	Pn	03 26 13.8	-0.9
	1.0nm,0.3s,baz=258,slow=18,SNR=1.6						
PMG				Sn	Sn	03 27 47.0	+1.3
	0.7nm,0.3s,baz=302,slow=19,SNR=4.2						
	4.9nm,0.4s						
WRA	Warramunga Arr	23.71	236	P	P	03 29 26.5	-1.8
	1.3nm,0.8s,baz=57,slow=9.1,SNR=5.2						
	1.3nm,0.8s						
ASAR	Alice Springs	26.03	229	P	P	03 29 50.1	+0.7
	0.4nm,0.6s,baz=61,slow=9.3,SNR=6.9						
	0.4nm,0.6s						
STKA	Stephens Creek	27.46	206	P	P	03 30 02.6	+0.4
	0.7nm,0.4s,baz=35,slow=16,SNR=3.2						
	0.7nm,0.4s						
ILAR	Eielson Array	83.66	21	P	P	03 36 43.9	-0.2
	0.2nm,0.5s,baz=235,slow=5.2,SNR=4.9						
	0.2nm,0.5s						
MKAR	Makanchi Array	83.75	319	P	P	03 36 45.2	+0.2
	0.3nm,0.6s,baz=99,slow=7.4,SNR=3.2						
	0.3nm,0.6s						
YKA	Yellowknife Ar	96.60	28	P	P	03 37 45.7	+0.3
	0.1nm,0.8s,baz=275,slow=4.7,SNR=4.0						
	0.1nm,0.8s						
TORD	Torodi Ar. Bea	153.23	285	PKPbc	PKiKP	03 44 15.2	+0.3
	73nm,0.3s,baz=72,slow=2.7,SNR=2.1						

IDC 22 03:28:44.0±3.9, 5°.76S×147°.97E, h0km, mb3.4/1, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=104.9km s-min=37.4km az=97.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.71	193	Pn	Pn	03 29 44.3	+1.8
	9.9nm,0.4s,baz=36,slow=19,SNR=6.0						
PMG				Sn	Sn	03 30 29.8	+2.8
	9.4nm,0.3s,baz=82,slow=18,SNR=6.8						
WRA	Warramunga Arr	19.35	222	P	P	03 33 11.3	+0.1
	0.3nm,0.3s,baz=46,slow=11,SNR=10						
	1.0nm,0.5s						
ASAR	Alice Springs	22.37	216	P	P	03 33 42.2	-1.7
	0.6nm,0.4s,baz=55,slow=9.4,SNR=20						
	0.6nm,0.4s						
TORD	Torodi Ar. Bea	145.97	285	PKPbc	PKPbc	03 48 26.7	-0.1
	67nm,0.3s,baz=84,slow=2.1,SNR=0.9						

IDC 22 03:43:37.7±4.5, 5°.44S×152°.23E, h0km, mb3.4/2, mbtmp3.4/2, MS2.9/2, Error ellipse: s-maj=204.8km s-min=54.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	8.62	118	LR	LR	03 48 36.7	
	comp=Z,44nm,20.1s,baz=98,slow=35						
WRA	Warramunga Arr	22.60	229	P	P	03 48 41.2	+1.0
	1.0nm,0.8s,baz=54,slow=10,SNR=3.1						
	1.0nm,0.8s						
ASAR	Alice Springs	25.30	222	P	P	03 49 05.5	-0.7
	0.7nm,0.9s,baz=57,slow=8.7,SNR=6.3						
	0.7nm,0.9s						
JCJ	Chichijima	33.77	344	LR	LR	04 02 17.0	
	comp=Z,32nm,20.3s,baz=126,slow=33						
TORD	Torodi Ar. Bea	149.95	287	PKPbc	PKPbc	04 03 30.9	-0.3
	54nm,0.3s,baz=83,slow=1.6,SNR=1.0						

---

*BJI **22** 03:59:55.6, 9°.29N×126°.41E, h48km, mB4.9/10, mb4.7/33, Ms4.0/7, Ms7 3.9/8*
*DJA **22** 03:59:57.4±1.5, 10°.N±9°.×12°.7E±°., h33km±15km, M5.0/14, mb4.6/14, mB5.3/3, MLv5.2/4, Mw(mB)4.8/3*
*NEIC **22** 03:59:58.9±1.8, 9°.66N±0°.07×126°.4E±0°.1, h41km±6km, mb4.6/69, Error ellipse: s-maj=15.9km s-min=9.6km az=71.0*
*IDC **22** 04:00:02.0±1.9, 9°.67N×126°.46E, h72km±18km, mb4.0/25, mbtmp4.4/29, MS3.5/19, Error ellipse: s-maj=20.5km s-min=9.9km az=76.0*
ISC 22 03:59:59.9±0.3, 9°.71N±0°.04×126°.48E±0°.07, h50km, n159, σ1°.51/150, mb4.6/70, MS3.5/17, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.77	199	Pn	Pn	04 00 39.0	-2.9
DAV	Davao City (W)	2.77	199	P	Pn	04 00 44.1	+2.3
	211nm,0.4s,baz=298,slow=7.6,SNR=6.1						
DAV				S	Sn	04 01 16.5	+2.4
	212nm,0.3s,baz=235,slow=20,SNR=4.1						
DAV				LR	LR	04 01 53.3	
	comp=Z,2μm,20.1s,baz=359,slow=41						
SGSI	Sangihe	6.05	189	P	Pn	04 01 31.3	+4.3
TGY	Tagaytay City	6.97	309	P	Pn	04 01 42.0	+2.4
	157nm,0.3s,baz=35,slow=6.4,SNR=1.7						
TNTI	Ternate	8.92	174	P	Pn	04 02 10.8	+4.6
	1μm53nm,1.0s						
LUWI	Luwuk	11.30	199	Pn	Pn	04 02 35.9	-2.9
FAKI	Fak Fak	13.79	155	Pn	Pn	04 03 11.1	-1.8
FAKI	Fak Fak	13.79	155	P	Pn	04 03 11.6	-1.3
	28nm,0.9s						
YULB	Yu-li	14.48	341	P	Pn	04 03 24.5	+2.4
TPUB	Ta-pu	14.63	338		Pn	04 03 27.6	+3.5
SSLB	Suanglung	14.97	340	P	Pn	04 03 32.0	+3.6
SPSI	Sidrap Palu	15.14	207	P	P	04 03 37.7	+2.8
	19nm,1.1s						
BNSI	Bone	15.39	205	P	P	04 03 38.6	+0.9
	34nm,1.1s						
SBUM	Sibu	15.90	244	P	Pn	04 03 40.8	+0.3
KAPI	Kappang	16.09	205	P	Pn	04 03 42.7	-0.1
	4.3nm,0.3s,baz=33,slow=11,SNR=3.6						
KAPI				LR	LR	04 10 13.0	
	comp=Z,113nm,19.8s,baz=56,slow=38						
BKSI	Bulukumba	16.22	203	P	P	04 03 49.4	+2.5
	12nm,0.9s						
SMPI	Sarmi	16.83	133	P	Pn	04 03 52.0	-0.3
	31nm,1.3s						
JOW	Kunigami	17.12	5	P	Pn	04 03 58.5	+2.7
JOW	Kunigami	17.12	5	P	Pn	04 03 58.3	+2.5
	12nm,0.8s,baz=193,slow=9.5,SNR=3.8						
GUMO	Guam	18.41	76	LR	LR	04 11 19.2	
	comp=Z,174nm,18.2s,baz=190,slow=37						
QIZ	Qiongzhong	18.58	302	P	P	04 04 10.0	-3.0
QIZ				S	Sn	04 07 38.3	-2.4
QIZ				LR	LR		
	comp=N,200nm,15.8s						
QIZ				LR	LR		
	comp=E,210nm,15.1s						
QIZ				LR	LR		
	comp=Z,240nm,19.2s						
JAY	Jayapura	18.66	130	P	P	04 04 12.9	-1.0
	16nm,1.1s,baz=323,slow=13,SNR=2.1						
JAY				LR	LR	04 11 43.5	
	comp=Z,197nm,18.3s,baz=323,slow=38						
JAY	Jayapura	18.66	130	P	P	04 04 12.2	-1.7
	12nm,1.0s						
MMRI	Maumere	18.70	193	P	Pn	04 04 18.9	+3.7
SOEI	Soe	19.46	187	P	P	04 04 20.7	-2.0
SOEI				IAmb	IAmb	04 04 54.8	
	comp=Z,39nm,0.7s						
MTN	Manton Dam	22.87	168	P	P	04 04 58.3	-1.0
MTN				IAmb	IAmb	04 05 03.9	
	comp=Z,15nm,0.8s						
NJ2	Nanjing	23.33	343	eP	P	04 05 05.3	+1.5
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
WHN	Wuhan	23.62	333	P	P	04 05 07.8	+1.3
WHN				pmax	pmax		
	comp=Z,34nm,0.9s						
JNU	Nakatsue	23.65	9	LR	LR	04 15 52.3	
	comp=Z,66nm,19.1s,baz=177,slow=40						
MYKOM	Kota Tinggi	23.84	252	P	P	04 05 09.5	+0.8
KNRA	Kununurra	25.32	175	P	P	04 05 20.9	-1.2
KNRA				IAmb	IAmb	04 05 39.6	
	comp=Z,15nm,0.8s						
ENH	Enshi	25.89	325	P	P	04 05 25.0	-2.3
ENH				IAmb	IAmb	04 05 28.5	
	comp=Z,19nm,1.2s						
KULM	Kulim	25.98	262	P	P	04 05 27.2	-1.0
KULM				IAmb	IAmb	04 05 31.8	
	comp=Z,35nm,1.4s						
JHJ	Hachijo jima 2	26.33	26	LR	LR	04 15 04.4	
	comp=Z,86nm,21.2s,baz=79,slow=34						
FITZ	Fitzroy Crossi	27.64	182	P	P	04 05 42.5	-0.6
KSRS	Korea Array	27.66	2	P	P	04 05 43.6	+0.6
	comp=Z,0.6nm,0.3s,baz=178,slow=9.7,SNR=8.3						
KSRS				LR	LR	04 18 36.7	
	comp=Z,84nm,18.8s,baz=180,slow=40						
	comp=Z,0.6nm,0.3s						
TIA	Tai'an	27.72	344	P	P	04 05 44.0	+0.3
TIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LYN	LuoYang	27.86	335	P	P	04 05 42.6	-2.3
LYN				pmax	pmax		
	comp=Z,11nm,0.7s						
CM31	Chiang Mai Arr	28.06	291	P	P	04 05 46.3	-0.6
CMAR	Chiang Mai Arr	28.06	291	P	P	04 05 46.0	-0.9
CMAR	Chiang Mai Arr	28.06	291	P	P	04 05 47.3	+0.4
	comp=Z,1.6nm,0.3s,baz=100,slow=7.5,SNR=12						
	comp=Z,1.6nm,0.3s						
RPSI	Rantau Prapat	28.25	258	P	P	04 05 45.7	-2.9
RPSI				IAmb	IAmb	04 05 55.0	
	comp=Z,17nm,1.4s						
PZH	PanZhiHua	28.75	309	P	P	04 05 54.3	+1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.4s						
MJAR	Matsushiro Arr	28.76	20	LR	LR	04 17 30.1	
	comp=Z,103nm,19.3s,baz=204,slow=36			

comp=Z,90nm,4.1s
AS31 Alice Springs 33.95 168 P **P 04 06 37.3 -1.5**
ASAR Alice Springs 33.95 168 P **P 04 06 37.4 -1.4**
ASAR Alice Springs 33.95 168 P **P 04 06 36.7 -2.0**
comp=Z,0.9nm,0.7s,baz=352,slow=7.1,SNR=14
ASAR PcP **PcP 04 09 15.9 -0.3**
comp=Z,0.7nm,0.6s,baz=339,slow=2.8,SNR=4.9
ASAR LR LR 04 23 19.4
comp=Z,35nm,18.1s,baz=29,slow=41
comp=Z,0.9nm,0.7s
BTO Baotou 34.06 337 *e*P **P 04 06 42.6 +3.0**
BTO pP **pP 04 06 52.3 +0.9**
BTO sP **sP 04 06 56.3 -0.5**
BTO PP **PP 04 07 59.0 +1.5**
BTO pmax pmax
comp=Z,19nm,1.1s
BTO pmax pmax
comp=Z,220nm,5.0s
USRK Ussuriysk Ar. 34.70 7 P **P 04 06 44.8 -0.1**
USRK Ussuriysk Ar. 34.70 7 P **P 04 06 44.2 -0.7**
comp=Z,3.6nm,0.8s,baz=217,slow=7.9,SNR=5.0
comp=Z,3.6nm,0.8s
MDJ Mudanjiang 34.89 4 P **P 04 06 45.9 -0.6**
MDJ IAmb IAmb 04 07 01.2
comp=Z,5.5nm,0.6s
SHL Shillong 36.40 300 P **P 04 06 58.2 -1.8**
SHL IAmb IAmb 04 07 02.7
comp=Z,8.3nm,0.8s
GTA Gaotai 37.96 326 P **P 04 07 13.3 +0.3**
GTA pmax pmax
comp=Z,7.0nm,0.8s
GTA LR LR
comp=Z,120nm,15.6s
GTA LR LR
comp=Z,95nm,16.0s
GTA LR LR
comp=Z,130nm,14.9s
HNR Honiara 38.35 119 LR LR 04 24 46.1
comp=Z,22nm,18.0s,baz=152,slow=39
MORW Morawa 39.84 194 P **P 04 07 27.8 -0.9**
H11S3 WAKE ISLAND Hy 39.88 73 T T 04 50 30.3
baz=262,slow=74,SNR=36
H11S1 WAKE ISLAND Hy 39.90 73 T T 04 50 29.7
baz=262,slow=74,SNR=21
H11S2 WAKE ISLAND Hy 39.90 73 T T 04 50 30.6
baz=262,slow=74,SNR=14
H11N1 WAKE ISLAND Hy 40.24 71 T T 04 50 51.9
baz=265,slow=74,SNR=36
H11N2 WAKE ISLAND Hy 40.24 71 T T 04 50 51.9
baz=265,slow=74,SNR=35
H11N3 WAKE ISLAND Hy 40.26 71 T T 04 50 56.4
baz=265,slow=74,SNR=45
FORT Forrest 40.28 178 P **P 04 07 31.9 -0.4**
ULN Ulaanbaatar 41.42 340 P **P 04 07 41.3 -0.4**
ULN IAmb IAmb 04 07 43.5
comp=Z,7.2nm,0.7s
SONM Songino Array 41.62 340 P **P 04 07 43.5 +0.2**
SONM Songino Array 41.62 340 P **P 04 07 44.0 +0.8**
comp=Z,3.3nm,0.6s,baz=154,slow=10,SNR=6.5
comp=Z,3.3nm,0.6s
BBOO Buckleboo 43.25 168 P **P 04 07 55.0 -1.6**
NWAO Narrogin (SRO) 43.30 191 P **P 04 07 56.8 -0.2**
STKA Stephens Creek 43.80 161 P **P 04 08 00.0 -1.0**
STKA Stephens Creek 43.80 161 P **P 04 07 59.7 -1.3**
comp=Z,1.4nm,0.5s,baz=341,slow=7.9,SNR=5.6
comp=Z,1.4nm,0.5s
WMQ Urumqi 47.79 322 *e*P **P 04 08 33.4 +0.9**
PEA0B Petropavlovsk- 50.06 24 P **P 04 08 48.8 -0.8**
PETK Petropavlovsk- 50.06 24 P **P 04 08 50.1 +0.5**
PETK Petropavlovsk- 50.06 24 P **P 04 08 49.3 -0.3**
comp=Z,2.6nm,0.7s,baz=207,slow=5.0,SNR=5.6
PETK LR LR 04 30 42.2
comp=Z,53nm,18.8s,baz=209,slow=37
comp=Z,2.6nm,0.7s
MKAR Makanchi Array 52.60 323 P **P 04 09 07.7 -1.1**
MKAR Makanchi Array 52.60 323 P **P 04 09 08.2 -0.6**
comp=Z,3.0nm,0.6s,baz=120,slow=7.9,SNR=36
MKAR PcP **PcP 04 10 18.6 +0.2**
comp=Z,1.0nm,0.6s,baz=103,slow=6.3,SNR=1.5
MKAR LR LR 04 31 51.2
comp=Z,52nm,18.9s,baz=138,slow=36
comp=Z,3.0nm,0.6s
MAKZ Makanchi 52.79 323 P **P 04 09 08.5 -1.6**
MAKZ IAmb IAmb 04 09 10.6
comp=Z,9.9nm,1.4s
NIL Nilore 54.22 305 P **P 04 09 19.7 -1.2**
NIL IAmb IAmb 04 09 21.3
comp=Z,12nm,0.9s
ZAA0 Zalesovo Array 55.22 331 P **P 04 09 26.5 -1.2**
ZALV Zalesovo Beam 55.22 331 P **P 04 09 25.6 -2.1**
ZALV Zalesovo Beam 55.22 331 P **P 04 09 25.9 -1.8**
comp=Z,1.5nm,0.5s,baz=134,slow=8.4,SNR=6.4
ZALV LR LR 04 36 17.1
comp=Z,27nm,20.4s,baz=92,slow=39
comp=Z,1.5nm,0.5s
AAK Ala-Archa 55.87 315 LR LR 04 36 19.9
comp=Z,89nm,18.3s,baz=90,slow=39
KURK Kurchatov 56.65 326 P **P 04 09 36.6 -1.3**
KURK IAmb IAmb 04 09 41.1
comp=Z,5.7nm,0.8s
KURBB Kurchatov Arra 56.65 326 P **P 04 09 36.8 -1.2**
comp=Z,2.9nm,0.2s,baz=124,slow=6.9,SNR=11
comp=Z,2.9nm,0.2s
GAR Garm 57.81 310 P **P 04 09 45.4 -1.2**
KBL Kabul 57.82 305 P **P 04 09 44.9 -1.9**
CHGR Chuyangaron 58.60 309 P **P 04 09 51.1 -1.0**
SIMJ Simiganj 58.72 309 P **P 04 09 50.5 -2.5**
SIMJ IAmb IAmb 04 09 54.6
comp=Z,5.6nm,1.1s
KK31 Karatay Array 58.79 315 P **P 04 09 51.7 -1.5**
KK31 IAmb IAmb 04 09 54.1
comp=Z,12nm,1.4s
KKAR Karatay Array 58.79 315 P **P 04 09 52.2 -1.1**
KKAR IAmb IAmb 04 09 54.1
comp=Z,13nm,1.4s
TIXI Tiksi 61.91 1 P **P 04 10 13.9 0.0**
BVAR Borovoye Array 62.24 325 P **P 04 10 16.1 -0.4**
comp=Z,2.1nm,0.5s,baz=111,slow=8.1,SNR=8.5
comp=Z,2.1nm,0.5s
NRIK Noril'sk 64.61 346 P **P 04 10 31.4 -0.5**
NRIK Noril'sk 64.61 346 P **P 04 10 32.2 +0.3**
comp=Z,6.5nm,0.6s,baz=126,slow=6.5,SNR=12
comp=Z,6.5nm,0.6s
BKZ Black Stump Fm 67.22 140 P **P 04 10 48.9 -0.3**
KHZ Kahutara 67.37 144 P **P 04 10 51.6 +1.7**
AB31 Akbulak array 67.44 319 P **P 04 10 49.3 -1.1**
AB31 IAmb IAmb 04 11 00.4
comp=Z,8.0nm,1.4s
ABKAR Akbulak array 67.44 319 P **P 04 10 49.4 -1.0**
ABKAR IAmb IAmb 04 11 00.4
comp=Z,8.0nm,1.4s
ARTI Arti 69.89 327 LR LR 04 41 21.5
comp=Z,24nm,21.1s,baz=333,slow=36
H17K Granite Mounta 74.33 25 P **P 04 11 32.8 +0.9**
H17K IAmb IAmb 04 11 35.3
comp=Z,5.0nm,1.0s
E18K Tukpahlearik C 74.55 23 P **P 04 11 33.4 +0.2**
C18K Utukok River 74.60 21 P **P 04 11 33.5 -0.1**
BELG Belogornoye 75.58 322 LR LR 04 47 42.2
comp=Z,23nm,19.9s,baz=236,slow=38
D19K Kuna River 75.68 22 P **P 04 11 40.1 +0.4**
D19K IAmb IAmb 04 11 59.3
comp=Z,4.8nm,0.9s
O18K Koktuh Hills 75.79 31 P **P 04 11 40.7 +0.2**
D20K Etivluk River 76.26 21 P **P 04 11 44.1 +1.1**
D20K IAmb IAmb 04 11 57.5
comp=Z,5.0nm,1.0s
B21K Ikpikpuk River 77.09 21 P **P 04 11 48.6 +1.0**
B21K IAmb IAmb 04 12 07.2
comp=Z,4.2nm,0.8s
B22K Teshekpuk Lake 77.58 20 P **P 04 11 51.4 +1.0**
B22K IAmb IAmb 04 12 04.1
comp=Z,4.0nm,0.7s
D23K Nanushuk River 78.43 21 P **P 04 11 56.2 +1.1**
D23K IAmb IAmb 04 12 02.7
comp=Z,12nm,1.5s
KBZ Khabaz 78.74 313 P **P 04 11 56.8 -0.5**
comp=Z,2.5nm,0.9s,baz=104,slow=4.2,SNR=4.0
comp=Z,2.5nm,0.9s
E23K Chandalar 78.78 22 P **P 04 11 58.5 +1.3**
E23K IAmb IAmb 04 12 12.1
comp=Z,5.1nm,0.9s
D24K Happy Valley 79.10 21 P **P 04 11 58.3 -0.5**
D24K IAmb IAmb 04 12 12.8
comp=Z,14nm,1.5s
F24K Squaw Lake 79.43 23 P **P 04 12 00.8 +0.2**
ILAR Eielson Array 79.85 26 P **P 04 12 02.5 -0.5**
comp=Z,0.5nm,0.7s,baz=232,slow=4.5,SNR=8.8
comp=Z,0.5nm,0.7s
D25K Kavik River 79.98 21 P **P 04 12 04.0 +0.4**
C27K Jago River 80.91 21 P **P 04 12 08.8 +0.2**
D27M Malcolm River 81.90 21 P **P 04 12 14.8 +0.9**
D27M IAmb IAmb 04 12 31.9
comp=Z,6.8nm,1.4s
BCAR Beaver Creek A 82.21 27 P **P 04 12 17.1 +1.5**
E28M Babbage River 82.49 22 P **P 04 12 16.8 -0.2**
I28M Miner Creek 82.74 25 P **P 04 12 19.5 +1.2**
I28M IAmb IAmb 04 12 32.6
comp=Z,5.8nm,0.8s
E29M Blow River 83.12 22 P **P 04 12 21.9 +1.8**
H29M Whitestone 83.27 24 P **P 04 12 21.8 +0.8**
H29M IAmb IAmb 04 12 37.8
comp=Z,8.1nm,1.4s
M29M Somme Creek 83.81 28 P **P 04 12 25.3 +1.3**
M29M IAmb IAmb 04 12 28.6
comp=Z,8.9nm,1.1s
F30M Barrier River 84.04 22 P **P 04 12 24.6 -0.3**
F30M IAmb IAmb 04 12 36.6
comp=Z,7.1nm,1.3s
I30M Mount Dempster 84.25 25 P **P 04 12 26.5 +0.3**
I30M IAmb IAmb 04 12 39.8
comp=Z,3.9nm,0.8s
SPITS Spitsbergen Ar 84.61 349 P **P 04 12 27.8 +0.2**
comp=Z,6.7nm,0.8s,baz=72,slow=5.4,SNR=7.5
comp=Z,6.7nm,0.8s
ARCES ARCESS Array B 84.79 340 P **P 04 12 28.6 -0.1**
comp=Z,10nm,0.9s,baz=81,slow=7.5,SNR=17
ARCES LR LR 04 54 12.8
comp=Z,24nm,18.9s,baz=0.5,slow=38
comp=Z,10nm,0.9s
BRTR Keskin Array B 86.05 309 P **P 04 12 34.8 -0.9**
comp=Z,1.0nm,0.7s,baz=66,slow=3.0,SNR=3.8
comp=Z,1.0nm,0.7s
A36M Sachs Harbour 86.39 17 P **P 04 12 36.1 -0.4**
A36M IAmb IAmb 04 12 42.3
comp=Z,6.6nm,0.8s
FINES FINESS Array B 86.48 332 P **P 04 12 36.6 -0.6**
comp=Z,6.2nm,0.8s,baz=56,slow=5.4,SNR=25
comp=Z,6.2nm,0.8s
AKASG Malin Array Be 87.13 321 P **P 04 12 39.4 -1.2**
comp=Z,0.5nm,0.4s,baz=62,slow=5.2,SNR=7.2
comp=Z,0.5nm,0.4s
C36M Paulatuk 87.70 20 P **P 04 12 42.3 -0.6**
C36M IAmb IAmb 04 12 44.9
comp=Z,4.1nm,0.9s
VNDA Vanda 89.35 173 P **P 04 12 50.4 0.0**
VNDA IAmb IAmb 04 13 29.9
comp=Z,6.2nm,1.4s
VNDA Vanda 89.35 173 P **P 04 12 50.1 -0.3**
comp=Z,2.2nm,1.0s,baz=299,slow=4.4,SNR=8.0
comp=Z,2.2nm,1.0s
MLR Muntele Rosu 90.44 316 LR LR 05 00 29.9
comp=Z,34nm,19.9s,baz=66,slow=40
KOLS Kolonicke sedl 91.93 320 *e*P **P 04 13 05.0 +1.8**
HFS Hagfors 92.64 332 P **P 04 13 05.1 -1.1**
comp=Z,3.2nm,0.6s,baz=90,slow=4.4,SNR=23
comp=Z,3.2nm,0.6s
NB2 NORSAR Subarra 93.35 334 P **P 04 13 07.9 -1.6**
comp=Z,1.1nm,0.7s,baz=67,slow=4.6
NOA NORSAR Array B 93.35 334 P **P 04 13 08.1 -1.4**
comp=Z,1.3nm,0.7s,baz=66,slow=4.5,SNR=6.2
NOA LR LR 04 58 12.9
comp=Z,16nm,18.5s,baz=40,slow=37
comp=Z,1.3nm,0.7s
YKA Yellowknife Ar 94.18 24 P **P 04 13 13.7 +0.4**
comp=Z,1.2nm,0.8s,baz=302,slow=4.6,SNR=20
comp=Z,1.2nm,0.8s
GERES GERESS Array B 97.26 322 P **P 04 13 27.2 -0.5**
comp=Z,0.4nm,0.7s,baz=74,slow=4.5,SNR=3.6
comp=Z,0.4nm,0.7s
TXAR Lajitas Array 118.03 49 PKP **PKPdf 04 18 42.2 +0.1**
comp=Z,0.2nm,0.5s,baz=284,slow=0.3,SNR=4.1
TORD Torodi Ar. Bea 120.67 292 PKP **PKPdf 04 18 46.4 -0.9**
comp=Z,78nm,0.3s,baz=45,slow=2.8,SNR=2.0
PLCA Paso Flores 145.61 157 PKPbc **PKPdf 04 19 33.7 +0.5**
PLCA Paso Flores 145.61 157 PKPbc **PKPdf 04 19 34.1 +0.9**
comp=Z,2.0nm,0.7s,baz=252,slow=5.6,SNR=7.8
SDDR Presa de Saban 146.54 32 PKPbc **PKPdf 04 19 36.6 +1.2**
TRQA Tornquist 150.76 166 PKPbc **PKPbc 04 19 47.0 -0.2**
LPAZ La Paz 164.34 116 PKP **PKPdf 04 19 58.8 -0.9**
comp=Z,1.3nm,0.9s,baz=15,slow=2.9,SNR=4.3

*SJA **22** 04:15:30.0±0.9, 32°.33S×72°.31W, h40km, ML3.4, MW3.6*
*GUC **22** 04:15:32.8±0.7, 32°.24S×71°.71W, h34km±10km, ML3.2*
ISC 22 04:15:29.6±2.5, 32°.28S±0°.03×71°.95W±0°.09, h13km±15km,
n31, σ1°.35/35, **4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.62**	**117**	*i*P	**Pb**	**04 15 42.6**	**+0.3**
VA06				*e*S	**Sg**	**04 15 49.7**	**-0.2**
VA06				IAML		04 15 50.6	
comp=E,4μm,0.5s							
ROC1	**El Roble**	**1.05**	**131**	*e*P	Pg	04 16 01.8	+12
ROCH	**El Roble**	**1.05**	**131**	↓*i*P	**Pb**	**04 15 49.7**	**0.0**
ROCH				*e*S	**Sb**	**04 16 02.2**	**-1.3**
MT02	**Curacav**	**1.19**	**145**	↓*i*P	**Pb**	**04 15 52.3**	**+0.2**
VA03	**San Esteban**	**1.28**	**112**	*e*P	**Pn**	**04 15 52.4**	**-0.9**
VA03				IAML		04 16 10.3	
comp=E,2μm,0.1s							
VA03	**San Esteban**	**1.28**	**112**	*e*P	Pg	04 16 09.7	+16
VA03				*e*S	Sg	04 16 31.8	+21
VA03				IAML		04 16 32.4	
comp=Z,2μm,0.2s							
CO02	**Combarbal**	**1.35**	**37**	*i*P	**Pn**	**04 15 53.9**	**-0.2**
CO02				*e*S	**Sn**	**04 16 09.8**	**-2.2**
CO02				IAML		04 16 10.9	
comp=E,2μm,0.3s							
CO02	**Combarbal**	**1.35**	**37**	*e*P	Pg	04 16 09.7	+14
CO02				IAML		04 16 39.4	
comp=Z,412nm,0.7s							
PEL	**Peldehue**	**1.37**	**129**	*e*P	**Pn**	**04 15 54.2**	**-0.2**
PEL				*e*S	**Sn**	**04 16 11.2**	**-1.3**
PEL				IAML		04 16 20.5	
comp=N,293nm,0.5s							
MT05	**Renca**	**1.51**	**138**	*e*P	**Pb**	**04 15 57.2**	**-0.2**
MT05				IAML		04 16 24.7	
comp=N,446nm,0.4s							
MT10	**Hacienda Santa**	**1.55**	**130**	↓*i*P	**Pn**	**04 15 57.3**	**+0.3**
MT10				*e*S	**Sn**	**04 16 16.8**	**-0.2**
MT10				IAML		04 16 27.8	
comp=N,626nm,0.3s							
CO06	**Fray Jorge**	**1.63**	**10**	*e*P	**Pn**	**04 15 58.2**	**+0.3**
CO06				IAML		04 16 24.7	
comp=N,349nm,0.5s							
MT14	**Cerro Calın**	**1.63**	**133**	*e*P	**Pb**	**04 15 59.2**	**-0.4**
MT14				IAML		04 16 28.6	
comp=E,581nm,0.6s							
MT16	**CCHEN**	**1.66**	**134**	*e*P	**Pb**	**04 15 59.7**	**-0.3**
MT16				IAML		04 16 31.9	
comp=E,160nm,0.7s							
MT09	**Talagante**	**1.70**	**152**	*e*P	**Pb**	**04 16 01.1**	**+0.4**
MT09				IAML		04 16 27.7	
comp=N,483nm,0.1s							
MT03	**Universidad Ad**	**1.71**	**135**	*e*P	**Pb**	**04 16 00.1**	**-0.9**
MT03				*e*S	**Sn**	**04 16 21.3**	**+0.3**
MT03				IAML		04 16 32.5	
comp=E,580nm,0.2s							
MT15	**Las Vizcachas**	**1.79**	**138**	*e*P	**Pb**	**04 16 01.6**	**-0.7**
MT15				IAML		04 16 32.9	
comp=E,378nm,0.5s							
CO03	**El Pedregal**	**1.80**	**37**	*e*P	**Pn**	**04 16 01.2**	**+0.9**
CO03				IAML		04 16 48.5	
comp=Z,195nm,0.3s							
AUSP	**Uspallata**	**2.17**	**89**	*e*P	**Pb**	**04 16 08.7**	**-0.2**
RTLS	**Leoncito**	**2.31**	**79**	*e*P	**Pb**	**04 16 10.8**	**-0.4**
RTLS				IAML		04 16 44.0	
comp=Z,303nm,0.5s							
GO04	**Tololo Observa**	**2.32**	**25**	*e*P	**Pb**	**04 16 10.6**	**-0.9**
ARCO	**CERRO ARCO**	**2.61**	**103**	*e*P	**Pb**	**04 16 15.7**	**-0.6**
ARCO				IAML		04 16 58.9	
comp=Z,60nm,0.8s							
AAGR	**Agrelo**	**2.75**	**108**	*e*P	**Pb**	**04 16 17.9**	**-0.8**
AAGR				IAML		04 17 02.7	
comp=Z,82nm,0.6s							
DOCA	**Reserva Natura**	**2.79**	**62**	*e*P	**Pb**	**04 16 17.3**	**-2.1**
DOCA				IAML		04 17 24.1	
comp=Z,57nm,0.6s							
ZON	**Zonda**	**2.88**	**76**	*e*P	**Pb**	**04 16 20.4**	**-0.4**
ZON				IAML		04 17 06.7	
comp=Z,71nm,0.5s							
ACCO	**Cerro Coronel**	**2.99**	**56**	*e*P	**Pb**	**04 16 22.8**	**-0.1**
ACCO				*e*S	**Sb**	**04 17 00.4**	**+0.9**
AROD	**Rodeo**	**2.99**	**46**	*e*P	**Pb**	**04 16 20.9**	**-2.0**
AROD				*e*S	**Sb**	**04 16 59.8**	**+0.3**
AGUA	**GUANDACOL**	**4.08**	**48**	*e*P	**Pn**	**04 16 36.3**	**+4.6**
AGUA				IAML		04 17 56.5	
comp=Z,51nm,0.4s							
VCA	**Vinchina**	**4.79**	**43**	*e*P	Pb	04 16 48.3	-5.2
VCA				IAML		04 18 13.3	
comp=Z,48nm,0.7s							
APLL	**PUNTA DE LOS L**	**5.01**	**69**	*e*P	**Pn**	**04 16 47.1**	**+2.6**
APLL				*e*S	Sn	04 17 11.4	-31
APLL				IAML		04 17 52.1	
comp=Z,4.9nm,0.7s							
ACLC	**CERRO LA CRUZ**	**5.16**	**58**	*e*P	**Pn**	**04 16 49.0**	**+2.4**
ACLC				*e*S	Sn	04 17 15.3	-31
ACLC				IAML		04 17 57.2	
comp=Z,16nm,0.6s							

*IDC **22** 04:27:43.3±0.7, 12°.94S×45°.36E, h0km, mb3.9/11,*
mbtmp4.0/13, ML5.1/2, MS3.2/5, Error ellipse:
s-maj=22.3km s-min=17.8km az=83.0
*NEIC **22** 04:27:45.5±2.0, 13°.0S±0°.1×45°.4E±0°.1, h10km±1km,*
mb4.5/17, Error ellipse: s-maj=20.7km s-min=17.9km
az=269.0
ISC 22 04:27:44.6±0.4, **13°.05S**±0°.05×**45°.51E**±0°.07, **h10**km, **n70,**
σ1°.67/71, **mb4.4/22, MS3.3/4, Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.32**	**96**	P	**Pn**	**04 28 50.0**	**-0.3**
SBV				S	**Sn**	**04 29 36.0**	**-4.7**
OPO	**Ambohidratompo**	**5.72**	**164**	Pn	**Pn**	**04 29 11.9**	**+2.0**
16nm,0.3s,baz=336,slow=12,SNR=417							
OPO				Sn	**Sn**	**04 30 14.0**	**-1.8**
8.8nm,0.3s,baz=251,slow=19,SNR=11							
OPO				LR	LR	04 31 02.6	
comp=Z,152nm,18.1s,baz=154,slow=34							
OPO	**Ambohidratompo**	**5.72**	**164**	P	**Pn**	**04 29 12.0**	**+2.2**
OPO				S	**Sn**	**04 30 13.4**	**-2.4**
FIRM	**Firavahana**	**5.77**	**167**	P	**Pn**	**04 29 12.9**	**+2.4**
FIRM				S	**Sn**	**04 30 14.4**	**-2.6**
ATG	**Ambohiby**	**5.83**	**174**	P	**Pn**	**04 29 13.0**	**+1.7**
ABPO	**Ambohimpanom**	**6.16**	**165**		**Pn**	**04 29 17.4**	**+1.6**
ABPO	**Ambohimpanom**	**6.16**	**165**	P	**Pn**	**04 29 17.6**	**+1.7**
ABPO				S	**Sn**	**04 30 24.0**	**-2.5**
MDSM	**Mandiavato**	**6.18**	**167**	P	**Pn**	**04 29 18.3**	**+2.2**
MDSM				S	**Sn**	**04 30 24.7**	**-2.3**
AVY	**Angavokely**	**6.23**	**160**	P	**Pn**	**04 29 18.4**	**+1.6**
AVY				S	**Sn**	**04 30 22.6**	**-5.6**
DGRM	**Ambatolahisoa**	**6.24**	**172**	P	**Pn**	**04 29 18.8**	**+1.9**
ABM	**Ambohimiarambe**	**6.93**	**165**	P	**Pn**	**04 29 28.5**	**+2.1**
VOI	**Vohitsoka**	**8.89**	**172**		**Pn**	**04 29 54.4**	**+1.0**
FOMA	**Nahampoana Res**	**11.95**	**174**	Pn	**Pn**	**04 30 35.1**	**+0.1**
RER	**Riviere de l'E**	**12.68**	**131**	Pn	**Pn**	**04 30 46.5**	**+1.4**
KIBK	**Kibwezi**	**12.95**	**325**	Pn	**Pn**	04 30 42.2	-6.7
KMBO	**Kilima Mbogo**	**14.39**	**325**	Pn	**Pn**	04 31 02.6	-6.2
LSZ	**Lusaka**	**16.94**	**260**	Pn	**Pn**	**04 31 41.2**	**-0.9**
LSZ	**Lusaka**	**16.94**	**260**	Pn	**Pn**	**04 31 40.8**	**-1.2**
0.5nm,0.3s,baz=71,slow=7.2,SNR=10							
9.5nm,0.7s							
LSZ	**Lusaka**	**16.94**	**260**	*i* P	**P**	**04 31 43.5**	**-0.5**
MOPA	**Mopani**	**16.95**	**230**	*i* P	**Pn**	**04 31 41.4**	**-0.6**
MUSN	**Musina, Limpop**	**17.50**	**236**	*i* P	**Pn**	**04 31 48.4**	**-0.5**
BLWY	**Bulawayo**	**17.66**	**244**	*i* P	**P**	**04 31 53.1**	**+1.1**
MATP	**Matopo**	**17.86**	**243**	P	**Pn**	**04 31 52.4**	**-1.0**
2.3nm,0.8s,baz=69,slow=13,SNR=9.2							
MREMI	**Moremi**	**19.61**	**239**	P	**P**	**04 32 14.0**	**+0.6**
LPHEP	**Lephephe**	**21.27**	**238**	P	**P**	**04 32 31.6**	**+0.2**
KDWAN	**Kaudwane**	**22.28**	**240**	P	**P**	**04 32 42.3**	**0.0**
MAKGR	**Makgori**	**23.25**	**234**	P	**P**	**04 32 52.4**	**-0.1**
MAKGR				IAmb	IAmb	04 32 53.5	
comp=Z,26nm,1.4s							
QNGWA	**Qangwa**	**24.21**	**251**	P	**P**	**04 33 03.5**	**+1.7**
QNGWA				IAmb	IAmb	04 33 44.8	
comp=Z,15nm,1.5s							
BOSA	**Boshof**	**24.40**	**227**	P	**P**	**04 33 02.7**	**-0.7**
BOSA				IAmb	IAmb	04 33 38.4	
comp=Z,21nm,1.4s							
BOSA	**Boshof**	**24.40**	**227**	P	**P**	**04 33 02.3**	**-1.1**
comp=Z,3.0nm,0.5s,baz=57,slow=10,SNR=21							
comp=Z,3.0nm,0.5s							
BOSA	**Boshof**	**24.40**	**227**	*i* P	**P**	**04 33 03.1**	**-0.4**
GRTLG	**Ghanzi**	**24.61**	**247**	P	**P**	**04 33 05.2**	**-0.3**
LKGWB	**Lokgwabe**	**25.48**	**241**	P	**P**	**04 33 09.1**	**-4.1**
SUR	**Sutherland**	**29.69**	**226**	P	**P**	**04 33 52.3**	**+1.3**
EIL	**Elat**	**43.67**	**347**	LR	LR	04 52 23.8	
comp=Z,28nm,19.6s,baz=244,slow=34							
TORD	**Torodi Ar. Bea**	**50.63**	**299**	P	**P**	**04 36 44.2**	**-0.1**
comp=Z,51nm,0.5s,baz=127,slow=8.0,SNR=1.1							
BRTR	**Keskin Array B**	**53.65**	**349**	P	**P**	**04 37 06.8**	**+0.3**
comp=Z,0.6nm,0.8s,baz=161,slow=9.2,SNR=2.4							
comp=Z,0.6nm,0.8s							
KK31	**Karatay Array**	**60.39**	**21**	P	**P**	**04 37 53.6**	**-0.5**
KK31				IAmb	IAmb	04 38 05.6	
comp=Z,3.5nm,1.1s							
KKAR	**Karatay Array**	**60.39**	**21**	P	**P**	**04 37 54.1**	**+0.1**
KKAR				IAmb	IAmb	04 38 05.6	
comp=Z,3.7nm,1.1s							
AAK	**Ala-Archa**	**61.47**	**24**	LR	LR	05 03 47.8	
comp=Z,13nm,19.8s,baz=200,slow=35							
AB31	**Akbulak array**	**63.33**	**11**	P	**P**	**04 38 12.0**	**-1.7**
AB31				IAmb	IAmb	04 38 14.3	
comp=Z,2.9nm,0.7s							
ABKAR	**Akbulak array**	**63.33**	**11**	P	**P**	**04 38 12.2**	**-1.4**
ABKAR				IAmb	IAmb	04 38 14.3	
comp=Z,2.9nm,0.7s							
SNAA	**Sanae**	**65.31**	**195**	LR	LR	05 02 34.5	
comp=Z,48nm,21.7s,baz=138,slow=32							
PZH	**PanZhiHua**	**67.31**	**54**	P	**P**	**04 38 42.6**	**+2.5**
PZH				pmax	pmax		
comp=Z,7.0nm,1.1s							
PZH				pmax	pmax		
comp=Z,100nm,4.8s							
GERES	**GERESS Array B**	**67.75**	**338**	P	**P**	**04 38 40.7**	**-1.8**
comp=Z,0.8nm,0.8s,baz=126,slow=6.8,SNR=7.9							
comp=Z,0.8nm,0.8s							
MKAR	**Makanchi Array**	**68.08**	**26**	P	**P**	**04 38 44.4**	**-0.1**
MKAR	**Makanchi Array**	**68.08**	**26**	P	**P**	**04 38 44.8**	**+0.3**
comp=Z,0.2nm,0.6s,baz=215,slow=7.2,SNR=4.5							
comp=Z,0.2nm,0.6s							
BVAR	**Borovoye Array**	**69.19**	**16**	P	**P**	**04 38 51.2**	**0.0**
comp=Z,0.2nm,0.3s,baz=214,slow=6.9,SNR=4.2							
comp=Z,0.2nm,0.3s							
ESDC	**Sonseca Array**	**69.75**	**321**	P	**P**	**04 38 54.0**	**-1.1**
comp=Z,1.4nm,0.7s,baz=126,slow=5.7,SNR=12							
ESDC				LR	LR	05 10 04.9	
comp=Z,19nm,19.6s,baz=84,slow=36							
comp=Z,1.4nm,0.7s							
LZH	**Lanzhou**	**73.57**	**46**	*e*P	**P**	**04 39 20.3**	**+2.0**
LZH				pmax	pmax		
comp=Z,19nm,1.3s							
FINES	**FINESS Array B**	**75.83**	**351**	P	**P**	**04 39 30.5**	**0.0**
comp=Z,1.1nm,0.8s,baz=157,slow=7.5,SNR=1.7							
comp=Z,1.1nm,0.8s							
QSPA	**South Pole Qui**	**77.05**	**180**	P	**P**	**04 39 40.0**	**+2.2**
QSPA				IAmb	IAmb	04 39 40.7	
comp=Z,5.4nm,1.0s							
QSPA	**South Pole Qui**	**77.05**	**180**	P	**P**	**04 39 39.8**	**+2.0**
comp=Z,3.8nm,1.0s,baz=268,slow=2.3,SNR=7.9							
comp=Z,3.8nm,1.0s							
EKA	**Eskdalemuir Ar**	**79.42**	**334**	P	**P**	**04 39 50.2**	**-0.6**
comp=Z,1.6nm,0.8s,baz=148,slow=6.6,SNR=3.5							
comp=Z,1.6nm,0.8s							
HHC	**Hu-ho-hao-te**	**81.15**	**45**	*e*P	**P**	**04 40 01.1**	**+0.5**
HHC				pmax	pmax		
comp=Z,21nm,0.7s							
HHC				pmax	pmax		
comp=Z,120nm,4.3s							
NJ2	**Nanjing**	**83.18**	**55**	*e*P	**P**	**04 40 12.1**	**+0.8**
NJ2				pmax	pmax		
comp=Z,5.0nm,0.5s							
ASAR	**Alice Springs**	**83.42**	**113**	P	**P**	**04 40 13.9**	**+1.1**
comp=Z,1.4nm,0.7s,baz=261,slow=4.9,SNR=14							
comp=Z,1.4nm,0.7s							
WRA	**

PDAR Pinedale Array 143.37 329 PKP **PKPdf 04 47 19.6 -0.3**
comp=Z,0.1nm,0.4s,baz=332,slow=1.3,SNR=3.7
SDCO Great Sand Dun 144.34 319 PKPdf PKPbc 04 47 20.3 +0.2
HWUT Hardware Ranch 145.23 329 PKPbc 04 47 22.1 -0.6
PV22 Blue Mesa, Par 145.88 323 PKPdf 04 47 24.4 +0.1
SRU San Rafael Swe 146.48 325 PKPbc **PKPdf 04 47 25.7 +0.4**
TXAR Lajitas Array 147.15 304 PKPbc **PKPbc 04 47 28.2 -0.6**
comp=Z,0.5nm,0.7s,baz=103,slow=4.7,SNR=6.8
MSU Marysvale 147.82 326 PKPbc **PKPbc 04 47 29.5 -1.0**
NVAR Mina Array Bea 150.91 333 PKP **PKPdf 04 47 32.6 +0.1**
comp=Z,0.1nm,0.4s,baz=360,slow=4.2,SNR=1.9

---

*ASRS **22** 04:30:15.0±0.8, 54°.11N×87°.22E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 04:30:15.2±3.1, 54°.12N×87°.39E, h0km, mbtmp2.5/2, ML2.5/2, Error ellipse: s-maj=25.4km s-min=18.6km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.52**	**265**	I	I	04 40 20.0	
	baz=81,slow=332,SNR=11						
ZALV	**Zalesovo Beam**	**1.52**	**265**	Pg	Pn	04 30 42.7	-1.0
	1.5nm,0.3s,baz=85,slow=16,SNR=12						
ZALV				Lg	Lg	04 31 03.3	
	5.3nm,0.3s,baz=83,slow=26,SNR=17						
KURBB	**Kurchatov Arra**	**6.45**	**241**	Pn	Pn	04 31 52.7	+1.4
	baz=54,slow=14,SNR=3.3						
KURBB				Sn	Sn	04 33 04.7	-1.0
	baz=45,slow=16,SNR=1.6						
KURBB				Lg	Lg	04 33 40.6	
	baz=61,slow=32,SNR=2.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**8.02**	**206**	Pn	Pn	04 32 13.7	+0.8
	0.2nm,0.3s,baz=26,slow=14,SNR=4.5						
	0.1nm,0.4s						

---

*IDC **22** 04:37:54.0±0.6, 22°.04S×170°.32E, h0km, mb4.3/15, mbtmp4.3/16, MS3.8/28, Error ellipse: s-maj=20.9km s-min=16.7km az=87.0*
*BGR **22** 04:37:55.7, 22°.82S×171°.66E, h33km, Hypocentre not reviewed by the ISC*
*NEIC **22** 04:37:56.9±1.8, 22°.0S±0°.1×170°.1E±0°.1, h10km±1km, mb4.7/19, Error ellipse: s-maj=20.9km s-min=17.6km az=9.0*
*NOU **22** 04:37:58.8, 22°.13S×169°.89E, h0km, MLv4.5/12, Southeast of Loyalty Islands*

ISC 22 04:37:58.1±0.4, 22°.18S±0°.06×170°.11E±0°.05, h25km, n170, σ1°.04/144, mb4.5/26, MS3.8/25, 12C-12D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.05**	**289**	P	**Pn**	**04 38 30.3**	**-0.7**
MARNC	**Mare, Loyalty**	**2.05**	**289**	S	**Sn**	**04 38 55.8**	**0.0**
PINNC	**Pines Island,**	**2.50**	**259**	Pn	**Pn**	**04 38 38.1**	**+0.9**
PINNC	**Pines Island,**	**2.50**	**259**	P	**Pn**	**04 38 38.3**	**+1.1**
INH	**Isangel**	**2.73**	**343**	P	**Pn**	**04 38 41.0**	**+0.7**
YATNC	**Mamie plateau,**	**2.98**	**272**	P	**Pn**	**04 38 44.2**	**+0.3**
OUENC	**Ouen Island, N**	**3.04**	**265**	P	**Pn**	**04 38 45.0**	**+0.5**
ONTNC	**Ouen Toro**	**3.39**	**267**	Pn	**Pn**	**04 38 48.8**	**-0.6**
ONTNC	**Ouen Toro**	**3.39**	**267**	P	**Pn**	**04 38 50.0**	**+0.6**
DZM	**Mont Dzumac**	**3.40**	**271**	Pn	**Pn**	**04 38 49.5**	**-0.2**
DZM	**Mont Dzumac**	**3.40**	**271**	*e*Pn	**Pn**	**04 38 48.5**	**-1.1**
	310nm,1.2s						
DZM				*e*Sn	**Sn**	**04 39 27.0**	**-2.2**
DZM				*e*LR	LR	04 39 34.7	
	2μm,23.3s						
DZM	**Mont Dzumac**	**3.40**	**271**	Pn	**Pn**	**04 38 49.7**	**+0.1**
	74nm,0.3s						
DZM				Sn	**Sn**	**04 39 28.1**	**-1.2**
	37nm,0.3s,baz=88,slow=22,SNR=5.8						
DZM				LR	LR	04 40 04.7	
	comp=Z,653nm,20.4s,baz=78,slow=36						
DZM	**Mont Dzumac**	**3.40**	**271**	P	**Pn**	**04 38 50.5**	**+0.9**
DVP	**Devils Point**	**4.78**	**337**	P	**Pn**	**04 39 11.9**	**+3.3**
KOUNC	**Koumac, New Ca**	**5.66**	**286**	P	**Pn**	**04 39 22.5**	**+1.8**
VLAKA	**Lakatoro**	**6.55**	**337**	P	**Pn**	**04 39 34.5**	**+1.6**
MSVF	**Nonsavu**	**8.68**	**61**	Pn	**Pn**	**04 40 05.9**	**+3.7**
	2.4nm,0.3s,baz=212,slow=14,SNR=8.5						
HNR	**Honiara**	**15.99**	**321**	LR	LR	04 46 41.0	
	comp=Z,168nm,18.0s,baz=110,slow=33						
URZ	**Urewera**	**17.12**	**161**	LR	LR	04 47 15.7	
	comp=Z,337nm,19.4s,baz=65,slow=33						
MRZ	**Mangatainoka R**	**19.00**	**167**	P	**Pn**	**04 42 20.6**	**+1.8**
MRZ				IAmb	IAmb	04 42 25.7	
	comp=Z,49nm,1.1s						
MSWZ	**Moikau Station**	**19.67**	**168**	P	**Pn**	**04 42 27.4**	**+0.7**
LTZ	**Lake Taylor**	**20.63**	**175**	P	Pn	04 42 38.7	+0.7
RPZ	**Rata Peaks**	**21.50**	**178**	P	**P**	**04 42 45.1**	**+0.2**
	comp=Z,3.6nm,0.4s,baz=8.9,slow=3.8,SNR=4.8						
	comp=Z,3.6nm,0.4s						
PMG	**Port Moresby**	**25.42**	**296**	LR	LR	04 52 13.9	
	comp=Z,246nm,20.0s,baz=166,slow=34						
STKA	**Stephens Creek**	**27.11**	**243**	P	**P**	**04 43 40.5**	**+1.4**
STKA	**Stephens Creek**	**27.11**	**243**	P	**P**	**04 43 41.2**	**+2.1**
	comp=Z,4.0nm,0.8s,baz=72,slow=8.5,SNR=9.1						
STKA				PcP	**PcP**	**04 47 00.8**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=40,slow=3.5,SNR=3.8						
STKA				LR	LR	04 54 21.6	
	comp=Z,240nm,18.2s,baz=53,slow=36						
	comp=Z,4.0nm,0.8s						
RAR	**Rarotonga**	**27.98**	**94**	LR	LR	04 54 04.8	
	comp=Z,60nm,18.3s,baz=254,slow=35						
BBOO	**Buckleboo**	**31.88**	**243**	P	**P**	**04 44 23.5**	**+2.0**
BBOO				IAmb	IAmb	04 44 35.1	
	comp=Z,13nm,1.1s						
WR8	**Warramunga Arr**	**33.26**	**267**	P	**P**	**04 44 33.6**	**-0.1**
ASAR	**Alice Springs**	**33.33**	**260**	P	**P**	**04 44 35.0**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=86,slow=9.4,SNR=12						
ASAR				PcP	**PcP**	**04 47 16.5**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=107,slow=3.0,SNR=5.3						
ASAR				LR	LR	04 58 10.4	
	comp=Z,194nm,19.8s,baz=95,slow=36						
	comp=Z,1.2nm,0.8s						
WB0	**Warramunga Arr**	**33.39**	**267**	P	**P**	**04 44 34.0**	**-0.8**
WB2	**Warramunga Arr**	**33.40**	**267**	P	**P**	**04 44 34.3**	**-0.6**
WB2				IAmb	IAmb	04 44 47.2	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**33.41**	**267**	P	**P**	**04 44 35.3**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=99,slow=8.3,SNR=8.3						
WRA				PcP	**PcP**	**04 47 16.7**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=99,slow=3.2,SNR=3.3						
	comp=Z,1.4nm,0.5s						
JAY	**Jayapura**	**34.60**	**300**	LR	LR	04 58 27.2	
	comp=Z,98nm,19.1s,baz=128,slow=36						
TBI	**Tubuai**	**37.22**	**100**	*e*SS	SS	04 53 28.2	-8.6
	comp=Z,1μm,34.8s						
PPT2	**Papeete2**	**38.11**	**91**	*e*S	**S**	**04 51 03.5**	**-3.7**
	comp=Z,66nm,37.2s						
PPT2				*e*SS	**SS**	**04 53 54.3**	**-0.8**
	comp=Z,210nm,29.5s						
PPT2				*e*LR	LR	04 55 33.0	
	comp=Z,141nm,25.2s						
PPT2				*e*LR	LR	04 55 36.2	
	comp=Z,145nm,25.8s						
FAKI	**Fak Fak**	**41.42**	**292**	P	**P**	**04 45 42.5**	**-0.3**
FAKI				IAmb	IAmb	04 45 43.8	
	comp=Z,17nm,1.0s						
FITZ	**Fitzroy Crossi**	**41.84**	**267**	P	**P**	**04 45 46.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**41.84**	**267**	LR	LR	05 03 32.4	
	comp=Z,230nm,18.2s,baz=106,slow=37						
MBWA	**Marble Bar**	**46.65**	**261**	P	**P**	**04 46 25.4**	**+0.5**
NWAO	**Narrogin (SRO)**	**47.66**	**245**	P	**P**	**04 46 32.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**47.66**	**245**	LR	LR	05 06 40.6	
	comp=Z,268nm,18.8s,baz=102,slow=36						
TAOE	**Nuku Hiva Isla**	**49.51**	**83**	*e*LR	LR	05 00 53.1	
	comp=Z,159nm,24.8s						
RKT	**Rikitea**	**50.43**	**102**	*e*LR	LR	05 01 12.9	
	comp=Z,704nm,29.5s						
VNDA	**Vanda**	**55.54**	**182**	P	**P**	**04 47 31.9**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=13,slow=4.9,SNR=2.3						
VNDA				LR	LR	05 08 56.7	
	comp=Z,148nm,18.0s,baz=340,slow=34						
	comp=Z,0.9nm,0.8s						
SBA	**Scott Base**	**55.75**	**181**	P	**P**	**04 47 34.9**	**+2.6**
SBA				IAmb	IAmb	04 47 55.8	
	comp=Z,6.5nm,1.1s						
LEM	**Lembang**	**62.00**	**274**	LR	LR	05 14 59.9	
	comp=Z,73nm,21.3s,baz=184,slow=36						
JGF	**Kuroka**	**65.30**	**331**	P	**P**	**04 48 36.7**	**-1.4**
JGF				IAmb	IAmb	04 48 43.2	
	comp=Z,11nm,1.2s						
MJAR	**Matsushiro Arr**	**65.72**	**332**	P	**P**	**04 48 39.7**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=155,slow=6.0,SNR=7.0						
MJAR				LR	LR	05 15 22.1	
	comp=Z,19nm,20.8s,baz=156,slow=34						
	comp=Z,3.2nm,0.8s						
JNU	**Nakatsue**	**66.52**	**325**	LR	LR	05 18 08.3	
	comp=Z,30nm,18.4s,baz=138,slow=36						
QSPA	**South Pole Qui**	**67.89**	**180**	P	**P**	**04 48 55.6**	**+1.3**
QSPA				IAmb	IAmb	04 48 56.3	
	comp=Z,7.2nm,1.0s						
QSPA	**South Pole Qui**	**67.89**	**180**	P	**P**	**04 48 55.4**	**+1.1**
	comp=Z,6.3nm,1.0s,baz=27,slow=4.3,SNR=10.0						
	comp=Z,6.3nm,1.0s						
KSRS	**Korea Array**	**71.38**	**326**	P	**P**	**04 49 15.9**	**0.0**
	comp=Z,2.9nm,0.8s,baz=146,slow=6.0,SNR=16						
KSRS				LR	LR	05 20 50.3	
	comp=Z,19nm,18.0s,baz=140,slow=36						
	comp=Z,2.9nm,0.8s						
KSAR	**Wonju Array Be**	**71.39**	**326**	P	**P**	**04 49 15.8**	**-0.2**
USA0B	**Ussuriysk Arra**	**74.71**	**333**	P	**P**	**04 49 36.0**	**+0.5**
USA0B				IAmb	IAmb	04 49 36.5	
	comp=Z,5.4nm,0.7s						
USRK	**Ussuriysk Ar.**	**74.71**	**333**	P	**P**	**04 49 35.6**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=130,slow=3.7,SNR=7.5						
	comp=Z,2.6nm,0.7s						
PETK	**Petropavlovsk-**	**75.74**	**352**	P	**P**	**04 49 40.9**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=134,slow=6.4,SNR=4.7						
PETK				LR	LR	05 16 14.2	
	comp=Z,62nm,21.7s,baz=127,slow=30						
	comp=Z,3.6nm,0.8s						
MDJ	**Mudanjiang**	**76.08**	**331**	P	**P**	**04 49 43.4**	**0.0**
MDJ				IAmb	IAmb	04 49 44.9	
	comp=Z,8.4nm,1.1s						
ENH	**Enshi**	**78.16**	**310**	P	**P**	**04 49 55.0**	**-0.5**
KLR	**Kul'dur**	**78.87**	**336**	LR	LR	05 23 51.4	
	comp=Z,26nm,19.3s,baz=183,slow=35						
BELA	**Belgrano 2**	**79.12**	**175**	P	**P**	**04 50 00.1**	**+0.1**
BELA				IAmb	IAmb	04 50 00.8	
	comp=Z,5.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**80.45**	**294**	P	**P**	**04 50 08.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**80.45**	**294**	P	**P**	**04 50 10.4**	**+2.2**
	comp=Z,2.2nm,0.6s,baz=132,slow=4.3,SNR=14						
	comp=Z,2.2nm,0.6s						
CHTO	**Chiang Mai**	**80.61**	**295**	P	**P**	**04 50 10.1**	**+1.1**
CHTO				IAmb	IAmb	04 50 11.9	
	comp=Z,7.4nm,0.9s						
MA2	**Magadan**	**82.99**	**350**	LR	LR	05 22 17.6	
	comp=Z,72nm,20.5s,baz=128,slow=32						
ELIB	**Princess Elisa**	**83.41**	**190**	*d*P	**P**	**04 50 23.8**	**+0.8**
TROLL	**Troll, Antarti**	**85.68**	**184**	⇓P	**P**	**04 50 35.3**	**+0.8**
	comp=Z,539nm,0.6s						
SEY	**Seymchan**	**85.97**	**352**	LR	LR	05 23 23.4	
	comp=Z,61nm,21.7s,baz=214,slow=32						
VNA3	**Neumayer Olymp**	**86.83**	**180**	⇓P	**P**	**04 50 40.4**	**+0.3**
	comp=Z,16nm,0.8s						
YBH	**Yreka Blue Hor**	**88.84**	**44**	LR	LR	05 21 42.5	
	comp=Z,40nm,21.2s,baz=208,slow=30						
PFO	**Pinyon Flats O**	**89.21**	**53**	LR	LR	05 22 55.9	
	comp=Z,47nm,20.2s,baz=248,slow=30						
GTA	**Gaotai**	**89.72**	**313**	*e*P	**P**	**04 50 55.3**	**+0.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.6s						
YAK	**Yakutsk**	**89.90**	**342**	LR	LR	05 25 22.3	
	comp=Z,43nm,21.7s,baz=156,slow=32						
LPIG	**La Paz**	**89.96**	**64**	LR	LR	05 23 31.0	
	comp=Z,96nm,18.5s,baz=192,slow=30						
SONM	**Songino Array**	**90.04**	**323**	P	**P**	**04 50 55.5**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=141,slow=5.4,SNR=16						
	comp=Z,4.1nm,0.9s						
NVAR	**Mina Array Bea**	**90.14**	**48**	P	**P**	**04 50 54.7**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=242,slow=6.9,SNR=4.8						
	comp=Z,0.9nm,0.8s						
BBB	**Bella Bella**	**91.48**	**33**	LR	LR	05 23 52.5	
	comp=Z,32nm,20.0s,baz=212,slow=30						
ILAR	**Eielson Array**	**92.78**	**17**	P	**P**	**04 51 05.4**	**-2.4**
	comp=Z,0.5nm,0.6s,baz=240,slow=5.1,SNR=13						
	comp=Z,0.5nm,0.6s						
NEW	**Newport**	**95.49**	**40**	LR	LR	05 28 11.4	
	comp=Z,35nm,18.6s,baz=261,slow=32						
PLCA	**Paso Flores**	**95.81**	**138**	P	**P**	**04 51 22.5**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=219,slow=8.6,SNR=5.3						
	comp=Z,1.3nm,1.0s						
ANMO	**Albuquerque**	**97.29**	**55**	LR	LR	05 30 16.5	
	comp=Z,36nm,18.3s,baz=63,slow=32						
TXAR	**Lajitas Array**	**97.45**	**61**	LR	LR	05 27 49.8	
	comp=Z,65nm,19.2s,baz=238,slow=31						
INK	**Inuvik**	**99.06**	**18**	LR	LR	05 31 06.0	
	comp=Z,43nm,19.2s,baz=246,slow=32						
MKAR	**Makanchi Array**	**104.38**	**315**	Pdiff	**Pdif**	**04 52 01.7**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=91,slow=7.4,SNR=3.4						
ILON	**Igloolik, Nuna**	**116.92**	**22**	PKPdf	**PKPdf**	**04 56 37.8**	**-2.0**
BAUV	**El Baul**	**122.77**	**94**	PKPdf	**PKPdf**	**04 56 51.6**	**-1.1**
NCB	**Newcomb**	**123.33**	**51**	PKPdf	**PKPdf**	**04 56 51.4**	**-1.6**
LMQ	**La Malbaie**	**125.86**	**47**	PKPdf	**PKPdf**	**04 56 55.0**	**-2.6**
OBIP	**Obispado Ponce**	**126.84**	**84**	PKPdf	**PKPdf**	**04 56 58.2**	**-2.2**
BDFB	**Brasilia**	**127.01**	**132**	PKP	**PKPdf**	**04 57 00.6**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=173,slow=6.7,SNR=4.2						
PDPR	**Patillas Dam,**	**127.37**	**84**	PKPdf	**PKPdf**	**04 57 00.0**	**-1.4**
ARCES	**ARCESS Array B**	**128.10**	**345**	PKP	**PKPdf**	**04 57 00.2**	**-1.1**
	comp=Z,4.3nm,1.0s,baz=68,slow=2.5,SNR=9.1						
FINES	**FINESS Array B**	**133.60**	**337**	PKhKP	PKPpre	04 57 08.1	
	comp=Z,0.5nm,0.5s,baz=149,slow=1.1,SNR=5.1						
FINES				PKP	**PKPdf**	**04 57 11.9**	**0.0**
	comp=Z,1.1nm,0.8s,baz=354,slow=2.8,SNR=1.7						
AKASG	**Malin Array Be**	**138.33**	**323**	PKhKP	PKPpre	04 57 17.6	
	comp=Z,0.6nm,0.6s,baz=57,slow=2.5,SNR=1.5						
MLR	**Muntele Rosu**	**142.68**	**317**	⇓P	**PKPdf**	**04 57 30.6**	**+1.4**
KOLS	**Kolonicke sedl**	**143.09**	**324**	*e*PKP	PKPbc	04 57 27.8	+1.2
MARR	**Marisel-Cluj**	**143.84**	**321**	⇓P	PKPbc	04 57 29.4	+0.5
ALN	**Alexandroupoli**	**144.46**	**310**	PKPdf	**PKPab**	**04 57 30.6**	**-0.1**
GZR	**Gura Zlata**	**144.69**	**319**	⇑P	PKPbc	04 57 31.7	+0.1
STEB	**Steborice**	**144.78**	**329**	*e*PKP	PKPbc	04 57 31.5	-0.1
BSEG	**Bad Segeberg**	**144.78**	**339**	*e*PKPbc		04 57 31.5	
	baz=36,slow=2.7						
KSP	**Ksiaz**	**144.84**	**331**	*e*PKP	PKPbc	04 57 31.9	+0.1
SURR	**Surduc**	**144.91**	**320**	⇑P	**PKPab**	**04 57 31.9**	**-0.2**
SIRR	**Siria**	**144.91**	**321**	⇑P	**PKPdf**	**04 57 33.3**	**+0.3**
PSZ	**Piszkesteto**	**144.97**	**324**	⇑P	PKPbc	04 57 32.6	+0.2
MORC	**Moravsky Berou**	**144.99**	**329**	*e*PKP	PKPbc	04 57 32.4	0.0
MORC	**Moravsky Berou**	**144.99**	**329**	⇑P	**PKPdf**	**04 57 32.9**	**-0.2**
OSTC	**Ostas**	**145.08**	**331**	*e*PKP	**PKPdf**	**04 57 32.9**	**-0.3**
MAUC	**Maruska**	**145.12**	**328**	*e*PKP	**PKPdf**	**04 57 33.4**	**+0.1**
CHVC	**Chvalec**	**145.13**	**331**	*e*PKP	**PKPab**	**04 57 32.9**	**+0.1**
HERR	**Herculane**	**145.17**	**318**	⇑P	**PKPbc**	**04 57 32.8**	**-0.3**
DPC	**Dobruska-Polom**	**145.17**	**330**	*e*PKP	**PKPdf**	**04 57 33.3**	**-0.1**
VYHS	**Vyhne**	**145.17**	**326**	*e*PKP	**PKPdf**	**04 57 33.2**	**-0.2**
UPC	**Upice**	**145.21**	**331**	*e*PKP	**PKPdf**	**04 57 33.2**	**-0.2**
BZS	**Buzias**	**145.28**	**320**	⇑P	**PKPab**	**04 57 33.5**	**0.0**
JAVC	**Velka Javorina**	**145.53**	**327**	*e*PKP	**PKPab**	**04 57 35.4**	**+1.0**
MDVR	**Moldovita**	**145.66**	**319**	⇑P	**PKPbc**	**04 57 34.5**	**-0.2**
VRAC	**Vranov**	**145.76**	**329**	*e*PKP	**PKPab**	**04 57 35.0**	**-0.2**
VRAC	**Vranov**	**145.76**	**329**	⇑P	**PKPab**	**04 57 35.3**	**+0.1**
FLTG	**Flechtingen**	**145.78**	**337**	*e*PKPbc		04 57 34.3	
	baz=36,slow=2.7						
PVCC	**Panska Ves**	**145.83**	**332**	*e*PKP	**PKPab**	**04 57 35.2**	**-0.2**
BRG	**Berggiesshubel**	**145.85**	**333**	P	PKiKP	04 57 49.1	+11
BRG				Amp		04 57 49.7	
	comp=Z,14nm,1.1s						
BRG	**Berggiesshubel**	**145.85**	**333**	*e*PKPbc		04 57 34.9	
	baz=36,slow=2.7						
SRO	**Srobarova**	**145.87**	**325**	*e*PKP	**PKPab**	**04 57 35.9**	**+0.3**
CLL	**Collm**	**145.91**	**334**	PKPdf	**PKPdf**	**04 57 33.8**	**-0.7**
CLL	**Collm**	**145.91**	**334**	⇑*i*PKPbc	**PKPbc**	**04 57 34.9**	**-0.3**
	comp=Z,34nm,0.8s						
CLL				*e*PKiKP	**pPKPdf**	**04 57 40.0**	**-1.1**
CLL	**Collm**	**145.91**	**334**	*e*PKPbc		04 57 35.0	
	baz=36,slow=2.7						
KRUC	**Moravsky**	**146.03**	**329**	*e*PKP	**PKPbc**	**04 57 35.7**	**+0.1**
NRDL	**Niedersach Rie**	**146.05**	**338**	*e*PKPbc		04 57 35.1	
	baz=36,slow=2.7						
MODS	**Modra-Piesok**	**146.05**	**327**	*e*PKP	**PKPab**	**04 57 36.6**	**+0.3**
ASSE	**Asse, Remlinge**	**146.15**	**337**	*e*PKPbc		04 57 35.5	
	baz=36,slow=2.7						
PRU	**Pruhonice**	**146.24**	**331**	*e*PKP	**PKPbc**	**04 57 36.2**	**0.0**
TREC	**Trest**	**146.30**	**330**	*e*PKP	**PKPbc**	**04 57 36.6**	**+0.1**
NEUB	**Neuenburg**	**146.47**	**335**	*e*PKPbc		04 57 36.5	
	baz=36,slow=2.7						
CLZ	**Clausthal**	**146.49**	**337**	*e*PKPbc		04 57 36.4	
	baz=36,slow=2.7						
EKA	**Eskdalemuir Ar**	**146.51**	**353**	PKPbc	**PKPdf**	**04 57 35.7**	**+0.3**
	comp=Z,8.2nm,0.5s,baz=355,slow=2.7,SNR=54						
ESK	**Eskdalemuir**	**146.53**	**353**	PKPdf	**PKPdf**	**04 57 35.8**	**+0.3**
MORH	**Mrgy, Hungar**	**146.67**	**323**	⇑P	**PKPbc**	**04 57 37.6**	**0.0**
ZVC	**Zvikov**	**146.79**	**331**	*e*PKP	**PKPbc**	**04 57 37.9**	**0.0**
TANN	**Tannenbergstha**	**146.81**	**334**	*e*PKPbc		04 57 37.7	
	baz=36,slow=2.7						
GTTG	**Gottingen**	**146.88**	**337**	*e*PKPbc		04 57 37.3	
	baz=36,slow=2.7						
NKC	**Novy Kostel**	**146.96**	**333**	*e*PKP	**PKPbc**	**04 57 38.3**	**0.0**
MOX	**Moxa**	**146.97**	**335**	*e*PKPbc		04 57 37.8	
	baz=36,slow=2.7						
IBBN	**Ibbenburen**	**146.99**	**340**	*e*PKPbc		04 57 38.1	
	baz=36,slow=2.7						
RONA	**Rosalia, Austr**	**146.99**	**327**	*i* PKP	**PKPbc**	**04 57 38.7**	**+0.1**
	comp=Z,4.8nm,0.7s						
RONA	**Rosalia, Austr**	**146.99**	**327**	*i* P	**PKPbc**	**04 57 38.7**	**+0.1**
	SNR=7.5						
CONA	**Conrad Observa**	**147.06**	**327**	*i* PKP	**PKPbc**	**04 57 39.1**	**+0.3**
	comp=Z,5.7nm,1.0s						
CONA	**Conrad Observa**	**147.06**	**327**	*i* P	**PKPbc**	**04 57 39.4**	**+0.6**
	SNR=5.9						
CKRC	**Cesky Krumlov**	**147.18**	**330**	*e*PKP	**PKPbc**	**04 57 39.0**	**0.0**
CKRC				*ex*	x	04 57 42.7	
MANZ	**Manzenberg**	**147.29**	**333**	*e*PKPbc		04 57 38.6	
	baz=36,slow=2.7						
KHC	**Kasperske Hory**	**147.29**	**331**	*e*PKP	**PKPbc**	**04 57 39.5**	**+0.2**
ROTZ	**Rotzenmuhle**	**147.41**	**333**	*e*PKPbc		04 57 39.2	
	baz=36,slow=2.7						
GEC2	**GERESS Array S**	**147.44**	**331**	*e*PKPbc		04 57 39.8	
	baz=36,slow=2.7						
GERES	**GERESS Array B**	**147.44**	**331**	PKPbc	**PKPbc**	**04 57 39.7**	**-0.2**
GERES	**GERESS Array B**	**147.44**	**331**	PKPbc	**PKPbc**	**04 57 39.9**	**0.0**
	comp=Z,6.0nm,0.8s,baz=31,slow=2.7,SNR=44						
UBBA	**Unterbreizbach**	**147.46**	**336**	*e*PKPbc		04 57 38.8	
	baz=36,slow=2.7						
WET	**Wettzell**	**147.59**	**332**	*e*PKPbc		04 57 39.9	
	baz=36,slow=2.7						
ARSA	**Arzberg**	**147.68**	**327**	*i* PKP	**PKPbc**	**04 57 41.1**	**+0.6**
	comp=Z,1.9nm,0.9s						
KASTN	**Kahler Asten**	**147.71**	**338**	*e*PKPbc		04 57 39.6	
	baz=36,slow=2.7						
BUG	**Bochum--Univer**	**147.89**	**340**	*e*PKPbc		04 57 40.2	
	baz=36,slow=2.7						
MOA	**Molln**	**147.89**	**329**	*i* PKP	**PKPbc**	**04 57 40.8**	**-0.2**
	comp=Z,2.2nm,0.6s						
BIOA	**Bad Ischl, Aus**	**148.30**	**329**	*i* PKP	**PKPbc**	**04 57 41.1**	**-1.0**
	comp=Z,1.5nm,0.5s						
SOKA	**Soboth**	**148.31**	**326**	*i* PKP	**PKPbc**	**04 57 41.8**	**-0.4**
	comp=Z,3.9nm,0.8s						
PDG	**Podgorica**	**148.39**	**317**	⇑P	**PKiKP**	**04 57 43.5**	**-0.5**
RJOB	**Jochberg**	**148.66**	**330**	*e*PKPbc		04 57 42.7	
	baz=36,slow=2.7						
OBKA	**Obir**	**148.67**	**327**	*e*PKP	**PKPbc**	**04 57 43.3**	**+0.1**
	comp=Z,3.8nm,1.0s						
KBA	**Koelnbreinsper**	**148.88**	**329**	*i* PKP	**PKPbc**	**04 57 43.0**	**-0.8**
	comp=Z,4.5nm,1.0s						
LESA	**Schwarzleotal**	**148.95**	**330**	*i* PKP	**PKPbc**	**04 57 43.3**	**-0.5**
	comp=Z,5.7nm,0.6s						
BTNL	**Ternell**	**148.99**	**340**	*d*PKP	**PKPbc**	**04 57 43.5**	**-0.3**
MEM	**Membach**	**149.01**	**340**	*d*PKP	**PKPbc**	**04 57 43.3**	**-0.4**
MYKA	**Terra Mystica**	**149.05**	**328**	*i* PKP	**PKPbc**	**04 57 43.2**	**-0.8**
	comp=Z,4.4nm,0.8s						
PRED	**Cave del Predi**	**149.21**	**327**	PKPbc	**PKPbc**	**04 57 42.8**	**-1.7**

comp=E,1μm,0.5s
O19K IAML 05 03 29.6
comp=N,890nm,0.4s
P18K Big Mountain, 1.23 267 Pn 05 03 08.4 -0.2
P18K Sn **Sn 05 03 25.1 -0.6**
O18K Koktuh Hills 1.26 288 Pn 05 03 08.9 -0.1
O18K Sn **Sn 05 03 26.0 -0.4**
O18K IAML 05 03 26.9
comp=N,306nm,0.8s
O18K IAML 05 03 27.0
comp=E,320nm,0.7s
CAPN Captain Cook N 1.54 32 Pn **Pn 05 03 13.1 +0.7**
N19K Bonanza Creek 1.57 329 Pn 05 03 12.8 -0.1
SLKM Skilak Lake 1.67 51 Pn 05 03 13.7 -0.4
SLKM IAML 05 03 35.8
comp=N,487nm,0.3s
SLKM IAML 05 03 37.3
comp=E,323nm,0.4s
KDAK Kodiak Island 1.71 175 Pn 05 03 13.9 -0.7
KDAK IAML 05 03 36.2
comp=E,189nm,0.3s
KDAK IAML 05 03 37.0
comp=E,174nm,0.7s
ACHA Angle Creek He 1.82 227 Pn 05 03 16.2 +0.2
SEW Seward 1.82 68 Pn 05 03 15.5 -0.4
SEW IAML 05 03 37.5
comp=N,251nm,0.3s
SEW IAML 05 03 37.6
comp=E,207nm,0.3s
O22K Cooper Landing 1.86 56 Pn 05 03 16.4 -0.1
N18K Kilae Creek 1.95 309 Pn 05 03 17.2 -0.4
N18K IAML 05 03 42.0
comp=N,169nm,1.0s
STLK Strandline Lak 2.08 13 Pn 05 03 19.4 0.0
STLK IAML 05 03 45.2
comp=N,163nm,0.5s
STLK IAML 05 03 47.3
comp=E,162nm,0.4s
RC01 Rabbit Creek A 2.23 42 Pn 05 03 21.3 0.0
SUA Susitna One 2.24 27 Pn 05 03 21.6 +0.1
SUA IAML 05 03 51.3
comp=N,314nm,0.8s
OHAK Old Harbor 2.28 186 Pn 05 03 20.8 -1.1
OHAK Old Harbor 2.28 186 P **Pn 05 03 20.8 -1.1**
M20K Styx River 2.41 357 Pn 05 03 23.9 +0.1
N17K Nushagak Hills 2.42 297 Pn 05 03 23.6 -0.3
M19K Big River Lodg 2.55 343 Pn 05 03 25.3 -0.2
SKT Skwentna 2.59 14 Pn 05 03 25.7 -0.3
SKT IAML 05 03 59.0
comp=E,109nm,0.6s
SKT IAML 05 03 59.8
comp=N,102nm,0.3s
PWL Port Wells 2.64 56 Pn 05 03 26.2 -0.5
PWL IAML 05 03 58.4
comp=N,282nm,0.5s
M22K Willow 2.64 29 Pn 05 03 27.1 +0.4
O16K Kokwok River B 2.68 275 Pn 05 03 27.3 0.0
P16K Nushagak River 2.69 263 Pn **Pn 05 03 27.6 +0.3**
P16K IAML 05 04 02.3
comp=E,117nm,2.1s
P16K IAML 05 04 41.5
comp=N,97nm,3.1s
P23K Montague Islan 2.80 77 Pn **Pn 05 03 28.6 -0.2**
P23K IAML 05 04 07.1
comp=E,252nm,2.2s
PMR Palmer 2.80 39 Pn 05 03 28.4 -0.4
PMR IAML 05 04 03.4
comp=E,136nm,0.5s
PMR IAML 05 04 11.3
comp=N,82nm,0.8s
PMR Palmer 2.80 39 P **Pn 05 03 28.6 -0.2**
L19K White Mountain 2.88 341 Pn 05 03 29.7 -0.3
KNK Knik Glacier 2.91 46 Pn 05 03 29.7 -0.6
M17K Holitna River 2.98 312 Pn 05 03 30.7 -0.6
M17K IAML 05 04 06.4
comp=N,63nm,0.8s
M17K IAML 05 04 20.6
comp=E,71nm,0.8s
GHO Glory Hole Cre 3.00 38 Pn 05 03 31.1 -0.5
GHO IAML 05 04 08.6
comp=N,208nm,0.7s
SII Sitkinak Islan 3.02 194 Pn **Pn 05 03 31.1 -0.7**
SII IAML 05 04 18.6
comp=E,92nm,0.7s
SII IAML 05 04 35.1
comp=N,105nm,2.0s
SII Sitkinak Islan 3.02 194 P **Pn 05 03 30.6 -1.2**
CUT Chulitna 3.19 22 Pn 05 03 33.3 -0.7
CUT IAML 05 04 17.0
comp=N,177nm,0.3s
GLI Glacier Island 3.19 61 Pn **Pn 05 03 33.0 -1.0**
GLI IAML 05 04 11.0
comp=E,161nm,0.8s
GLI IAML 05 04 13.3
comp=N,140nm,2.1s
SML Sawmill 3.22 42 Pn **Pn 05 03 34.0 -0.5**
SML IAML 05 04 10.0
comp=E,135nm,0.8s
SML IAML 05 04 11.7
comp=N,142nm,0.8s
HIN Hinchinbrook I 3.32 71 Pn **Pn 05 03 35.1 -0.7**
L18K Granite Mounta 3.33 327 Pn 05 03 35.5 -0.5
M16K Timber Creek 3.42 299 Pn **Pn 05 03 36.6 -0.6**
FID Port Fidalgo 3.43 65 Pn **Pn 05 03 35.6 -1.6**
FID IAML 05 04 14.9
comp=E,156nm,0.5s
FID IAML 05 04 15.6
comp=N,132nm,0.4s
PPLA Purkeypile 3.44 5 Pn 05 03 36.7 -0.8
SCM Sheep Creek Mo 3.59 47 Pn **Pn 05 03 39.2 -0.3**
O15K Ungalikthiuk R 3.59 268 Pn 05 03 39.5 0.0
EYAK Cordova Ski Ar 3.71 70 Pn **Pn 05 03 40.1 -1.0**
EYAK IAML 05 04 36.3
comp=N,73nm,5.0s
EYAK IAML 05 05 43.9
comp=E,62nm,2.9s
EYAK Cordova Ski Ar 3.71 70 P **Pn 05 03 40.0 -1.1**
N15K Kwethluk River 3.73 284 Pn 05 03 40.6 -0.7
N15K IAML 05 04 57.5
comp=E,32nm,3.2s
TTA Tatalina 3.79 337 Pn **Pn 05 03 41.2 -0.9**
DIV Divide 3.88 62 Pn **Pn 05 03 42.8 -0.7**
DIV IAML 05 04 26.9
comp=E,45nm,0.9s
DIV IAML 05 04 33.7
comp=N,78nm,0.6s
K20K Telida 3.93 352 Pn 05 03 44.1 0.0
L16K Owhat River 3.96 307 Pn **Pn 05 03 44.9 +0.5**
CAST Castle Rocks 3.97 5 Pn 05 03 44.1 -0.4
KLU Klutina 3.97 57 Pn 05 03 43.9 -0.8
KLU IAML 05 04 29.0
comp=E,98nm,0.4s
TRF Thorofare Moun 4.17 16 Pn 05 03 47.3 -0.1
TRF IAML 05 04 37.9
comp=E,60nm,0.3s
TRF IAML 05 04 40.1
comp=N,60nm,0.9s
KTH Kantishna Hill 4.19 12 Pn 05 03 47.3 -0.3
KTH IAML 05 04 58.2
comp=E,42nm,1.0s
KTH IAML 05 05 15.7
comp=N,37nm,2.3s
K17K Iditarod 4.19 323 Pn 05 03 47.1 -0.4
K17K IAML 05 04 30.5
comp=E,27nm,3.6s
K17K IAML 05 05 12.5
comp=N,23nm,2.9s
M24K Tolsona, Glenn 4.19 48 Pn 05 03 47.4 -0.2
KAIM Kayak Island 4.29 80 Pn **Pn 05 03 49.2 +0.4**
O14K Tigyukauivet M 4.32 271 Pn **Pn 05 03 50.1 +0.8**
O14K IAML 05 05 11.2
comp=N,28nm,3.2s
O14K IAML 05 05 46.0
comp=E,26nm,2.1s
BMRM Bremner River 4.37 67 Pn 05 03 49.5 -0.4
BMRM IAML 05 04 39.3
comp=E,60nm,0.5s
BMRM IAML 05 04 41.2
comp=N,52nm,0.5s
RND Reindeer 4.38 24 Pn 05 03 49.6 -0.6
RND IAML 05 04 39.3
comp=E,33nm,1.0s
RND IAML 05 04 39.3
comp=N,30nm,0.6s
J18K Innoko River 4.41 337 Pn 05 03 50.0 -0.5
N25K Chitina, Valde 4.59 59 Pn 05 03 53.1 0.0
N25K IAML 05 04 46.6
comp=E,38nm,0.6s
N25K IAML 05 06 26.2
comp=N,38nm,3.6s
SUCK Suckling Hills 4.62 79 Pn **Pn 05 03 53.2 -0.1**
MCK McKinley 4.65 22 Pn 05 03 53.7 -0.1
MCK IAML 05 04 47.7
comp=E,49nm,0.6s
MCK IAML 05 04 50.7
comp=N,34nm,0.7s
BPAW Bear Paw Mtn. 4.72 10 Pn 05 03 54.5 -0.2
BPAW IAML 05 04 58.8
comp=N,24nm,3.1s
BPAW IAML 05 05 53.0
comp=E,21nm,4.5s
J19K Poorman 4.72 345 Pn 05 03 54.1 -0.6
J20K Nowinta River 4.75 353 Pn 05 03 54.9 -0.2
GLB Gilahina Butte 4.88 62 Pn **Pn 05 03 56.5 -0.5**
GLB IAML 05 06 14.4
comp=E,31nm,4.3s
GLB IAML 05 06 52.2
comp=N,37nm,4.3s
J17K VABM Dome 4.94 325 Pn 05 03 56.6 -1.0
J17K IAML 05 04 40.7
comp=N,15nm,4.0s
J17K IAML 05 05 44.1
comp=E,18nm,3.7s
BWN Browne 4.97 17 Pn 05 03 57.9 -0.2
VRDI Verde Repeater 4.98 65 Pn **Pn 05 03 57.9 -0.5**
VRDI IAML 05 04 53.3
comp=E,38nm,3.1s
VRDI IAML 05 04 53.4
comp=N,46nm,0.8s
PAX Paxson 4.99 42 Pn 05 03 58.2 -0.2
PAX IAML 05 04 54.4
comp=E,35nm,0.6s
PAX IAML 05 05 09.8
comp=N,30nm,2.7s
SNH Sunshine Point 5.09 78 Pn **Pn 05 04 00.2 +0.4**
K15K Wolf Creek Mou 5.10 307 Pn **Pn 05 03 59.6 -0.2**
K15K IAML 05 05 34.6
comp=N,14nm,4.0s
K15K IAML 05 06 24.3
comp=E,17nm,3.8s
WAX Waxell Ridge 5.11 75 Pn **Pn 05 03 59.3 -0.8**
L14K Kuka Creek 5.22 295 Pn **Pn 05 04 00.7 -0.8**
L14K IAML 05 04 52.1
comp=E,20nm,3.4s
L14K IAML 05 06 33.2
comp=N,24nm,3.9s
J16K Anvik River 5.34 319 Pn **Pn 05 04 02.6 -0.4**
J16K IAML 05 07 11.2
comp=E,15nm,3.3s
J16K IAML 05 07 15.4
comp=N,16nm,4.0s
I20K Naaghedeneel 5.39 352 Pn 05 04 03.8 +0.1
NEA2 Nenana 5.43 17 Pn 05 04 03.3 -1.0
NEA2 IAML 05 04 49.9
comp=N,18nm,4.0s
NEA2 IAML 05 05 26.8
comp=E,16nm,4.0s
K24K Donnelly Dome 5.49 35 Pn **Pn 05 04 05.1 0.0**
MESA MESA 5.54 78 Pn **Pn 05 04 05.9 -0.1**
MENT Mentasta 5.60 48 Pn **Pn 05 04 07.0 +0.3**
M26K Nabesna, AK 5.62 54 Pn 05 04 06.7 -0.2
YAH Yahtse 5.65 76 Pn 05 04 06.8 -0.8
HDA Harding Lake 5.67 27 Pn **Pn 05 04 06.9 -0.7**
CCB Clear Creek Bu 5.70 22 Pn 05 04 06.9 -1.0
RIDG Independent Ri 5.72 38 Pn 05 04 07.3 -1.1
I21K Tanana 5.73 4 Pn 05 04 08.0 -0.4
L26K Log Cabin Wild 5.79 48 Pn 05 04 08.1 -1.2
COLA College 5.89 21 Pn 05 04 09.7 -0.8
COLA College 5.89 21 P **Pn 05 04 09.6 -1.0**
I23K Minto, Yukon-K 5.91 14 Pn 05 04 10.3 -0.6
DOT Dot Lake 5.92 41 Pn 05 04 11.9 +1.0
IL31 6.00 25 Pn 05 04 10.9 -1.0
ILAR Eielson Array 6.00 25 Pn 05 04 10.3 -1.7
M27K Edge Creek, AK 6.07 57 Pn **Pn 05 04 13.2 0.0**
SCRK Sand Creek 6.16 39 Pn 05 04 13.5 -0.9
POKR Poker Plat Res 6.19 22 Pn **Pn 05 04 13.7 -1.0**
H21K Melozitna Rive 6.20 0 Pn 05 04 14.6 -0.2
J25K Salcha River, 6.23 31 Pn 05 04 14.3 -1.0
H18K Honhosa River 6.25 338 Pn 05 04 14.8 -0.6
H19K Roundabout Mou 6.29 346 Pn **Pn 05 04 15.2 -0.8**
PCA Pinnacle 6.38 79 Pn **Pn 05 04 17.5 +0.2**
H17K Granite Mounta 6.39 332 Pn 05 04 17.0 -0.4
L27K Beaver Creek, 6.41 51 Pn **Pn 05 04 18.1 +0.5**
BCAR Beaver Creek A 6.42 51 Pn **Pn 05 04 18.2 +0.3**
O28M Mount Upton 6.45 73 Pn 05 04 19.0 +0.5
H23K Yukon River 6.54 12 Pn 05 04 19.2 -0.3
J26L Joseph Creek 6.66 37 Pn 05 04 21.0 -0.2
BCPM Bancas Point 6.70 80 Pn **Pn 05 04 22.3 +0.8**
H24K Noodor Dome 6.77 18 Pn 05 04 21.5 -1.1
PNL Peninsula 6.83 83 P **Pn 05 04 22.7 -0.7**
PRP Porcupine Dome 6.93 26 Pn 05 04 24.3 -0.6
G18K Tagagawik 6.97 340 Pn **Pn 05 04 23.2 -2.1**
G21K Allakaket 7.07 358 Pn 05 04 26.2 -0.3
O29M Mount Kennedy 7.22 77 Pn 05 04 29.9 +1.1
G23K Bananza Creek 7.37 9 Pn 05 04 30.2 -0.5
I26K Coal Creek Min 7.37 33 Pn 05 04 30.3 -0.4
M29M Somme Creek 7.59 61 Pn **Pn 05 04 34.0 +0.1**
G24K Hadweenzic Riv 7.64 16 Pn **Pn 05 04 33.0 -1.4**
P29M Windy Craggy 7.67 82 Pn 05 04 35.7 +0.8
F20K Avaraart Lake 7.71 352 Pn 05 04 34.6 -0.6
F19K Shaleruckik Mo 7.71 345 Pn 05 04 35.4 +0.2
DAWY Dawson 7.85 48 Pn **Pn 05 04 37.3 0.0**
COLD Coldfoot 7.87 8 Pn 05 04 36.4 -1.0
FYU Fort Yukon 7.90 23 Pn **Pn 05 04 37.1 -0.8**
L29M L29M 7.95 57 Pn **Pn 05 04 38.3 -0.4**
F17K Baldwin Pennin 7.96 335 Pn 05 04 37.9 -0.8
N30M Aishikik Lake 8.03 69 Pn **Pn 05 04 39.5 -0.2**
E19K Redstone River 8.24 348 Pn 05 04 42.4 -0.1
F15K North Star Dit 8.28 324 Pn **Pn 05 04 42.9 -0.1**
F24K Squaw Lake 8.36 13 Pn 05 04 43.6 -0.6
M30M Minto, Yukon 8.38 61 Pn **Pn 05 04 44.1 -0.3**
I28M Miner Creek 8.44 39 Pn 05 04 45.2 -0.1
O30N Mendenhall 8.46 74 Pn **Pn 05 04 44.9 -0.6**
K29M Barlow Dome 8.49 52 Pn 05 04 45.5 -0.5
J29N Klondike Camp 8.49 48 Pn **Pn 05 04 45.9 -0.1**
H27K Steamboat Moun 8.51 33 Pn 05 04 45.6 -0.6
G26K Porcupine Rive 8.53 25 Pn **Pn 05 04 45.5 -0.8**
E18K Tukpahlearik C 8.69 340 Pn **Pn 05 04 48.0 -0.6**
E22K Anaktuvuk Pass 8.70 3 Pn 05 04 47.9 -0.9
E23K Chandalar 8.73 8 Pn 05 04 49.0 -0.2
F25K Christian Rive 8.74 18 Pn **Pn 05 04 48.0 -1.4**
BMAR Burnt Mountain 8.78 21 Pn **Pn 05 04 48.7 -1.2**
E24K Your Creek 8.84 11 Pn **Pn 05 04 49.7 -1.0**
G27K Doyon Strip 8.91 30 Pn 05 04 51.2 -0.5
SKAG Skagway 8.91 83 Pn 05 04 52.8 +1.2
SKAG Skagway 8.91 83 P **Pn 05 04 52.8 +1.2**
E21K Kilik River 9.01 357 Pn **Pn 05 04 52.1 -0.9**
WHY Whitehorse 9.05 75 Pn 05 04 53.0 -0.7
F26K Sheenjek River 9.10 21 Pn 05 04 53.1 -1.0
TOLK Toolik Lake Re 9.30 7 Pn 05 04 56.8 -0.2
BESE Bessie Mountai 9.31 88 Pn 05 04 58.6 +1.4
D19K Kuna River 9.34 348 Pn 05 04 57.6 +0.2
M31M Drury Creek, Y 9.40 65 Pn 05 04 58.6 +0.3
H29M Whitestone 9.43 38 Pn 05 04 58.3 -0.4
SIT Sitka 9.54 97 Pn 05 05 00.5 +0.3
I30M Mount Dempster 9.55 46 Pn 05 05 01.2 +0.7
D23K Nanushuk River 9.57 5 Pn 05 05 00.7 +0.2
JIS Juneau Island 9.63 89 P **Pn 05 05 02.7 +1.3**
P32M Atlin 9.71 81 Pn 05 05 03.6 +1.1
D24K Happy Valley 9.86 8 Pn 05 05 04.4 -0.1
C18K Utukok River 9.89 342 Pn 05 05 05.3 +0.3
N32M Quiet Lake 9.93 72 Pn 05 05 05.0 -0.6
P33M Teslin, Yukon 10.09 77 Pn 05 05 08.5 +0.7
D25K Kavik River 10.26 13 Pn 05 05 09.6 -0.4
C24K Franklin Bluff 10.43 8 Pn 05 05 10.8 -1.4
C23K Itkillik River 10.44 4 Pn 05 05 12.0 -0.4
Q32M Nakina River 10.55 84 Pn 05 05 14.5 +0.4
H31M Peel River 10.58 45 Pn 05 05 14.6 +0.2
B20K Meade River 10.73 352 Pn 05 05 14.6 -1.7
MMPY Sheldon Lake, 10.90 64 Pn 05 05 19.5 +0.8
B22K Teshekpuk Lake 10.91 359 Pn 05 05 16.4 -2.3
U33K Whale Pass 11.04 99 Pn 05 05 20.2 -0.3
E29M Blow River 11.05 30 Pn 05 05 19.9 -0.8
G31M Satah River 11.17 40 Pn 05 05 21.6 -0.7
S34M Telegraph Cree 11.39 89 Pn 05 05 26.8 +1.4
F31M Tsiigehtchic 11.63 39 Pn 05 05 27.3 -1.2
ATKA Atka Island 13.99 248 P **Pn 05 05 59.9 +0.2**
KIWB Kanaga Island 15.63 251 Pn **P 05 06 22.0 -0.8**
A36M Sachs Harbour 16.66 30 Pn 05 06 33.6 +0.4
A36M IAmb IAmb 05 06 35.3
comp=Z,8.6nm,0.8s
YKAW3 Yellowknife Wh 18.58 64 P **P 05 06 55.3 +0.1**
YKAW3 IAmb IAmb 05 07 26.2
comp=Z,2.6nm,1.4s
YKA Yellowknife Ar 18.60 64 P **P 05 06 55.0 -0.3**
YKAW1 Yellowknife Wh 18.65 64 P **P 05 06 56.8 +0.8**
YKAW1 IAmb IAmb 05 07 00.9
comp=Z,2.7nm,1.4s
NLWA Neilton Lookou 20.88 113 P **P 05 07 19.8 -0.4**
EUNU Eureka 28.07 20 P **P 05 08 29.1 +1.2**
EUNU IAmb IAmb 05 08 32.2
comp=Z,4.3nm,1.2s

---

*IDC **22** 05:05:18.4±2.7,53°.62N×87°.11E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=26.6km s-min=15.5km az=72.0*

ASRS 22 05:05:22.0±1.9,53°.62N×86°.87E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**286**	I	I	05 14 10.0	
	baz=103,slow=329,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.26**	**286**	Pg	Pg	05 05 43.1	-3.0
	0.7nm,0.3s,baz=101,slow=16,SNR=12						
ZALV				Lg	Lg	05 06 03.8	
	1.4nm,0.3s,baz=104,slow=28,SNR=7.2						
KURBB	**Kurchatov Arra**	**5.95**	**243**	Pn	Pn	05 06 49.9	-1.4
	baz=61,slow=14,SNR=5.2						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**7.44**	**205**	Pn	Pn	05 07 10.9	-0.8
	0.1nm,0.3s,baz=28,slow=14,SNR=5.1						
MKAR				Lg	Lg	05 09 14.2	
	0.1nm,0.3s,baz=22,slow=31,SNR=3.9						
	0.1nm,0.2s						

---

*SOME **22** 05:34:09.1,39°.82N×75°.18E, h15km*
*KRNET **22** 05:34:10.1±0.1,39°.79N×75°.33E, h30km, mb3.4*
*NNC **22** 05:34:12.6±1.3,39°.72N×74°.82E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=9.0km s-min=8.1km az=4.0*

ISC 22 05:34:13.1±1.2,39°.78N±0°.06×75°.28E±0°.03, h10km, n51, σ1§67/82, 39C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.39**	**280**	⇑*iP*	**Pn**	**05 34 37.1**	**-1.6**
SFK				⇑*iS*	**Sb**	**05 34 57.2**	**+0.1**
SALK	**Salom-Alik**	**1.57**	**315**	⇑*iP*	**Pn**	**05 34 40.1**	**-1.1**
SALK				⇑*iS*	**Sb**	**05 35 02.1**	**-0.2**
NRN	**Naryn**	**1.74**	**18**	⇑*eP*	**Pn**	**05 34 41.7**	**-2.0**
NRN				⇑*eS*	**Sn**	**05 35 05.1**	**-1.0**
OHH	**Osh**	**2.05**	**292**	⇓*iP*	**Pn**	**05 34 48.1**	**+0.4**
OHH				⇓*iS*	**Sb**	**05 35 16.1**	**0.0**
ARLS	**Aral**	**2.21**	**341**	⇑*iP*	**Pn**	**05 34 49.6**	**-0.3**
ARLS				⇑*iS*	**Sb**	**05 35 18.8**	**-1.8**
ARSB	**Arslanbob**	**2.33**	**312**	⇑*eP*	**Pn**	**05 34 52.4**	**+0.7**
ARSB				⇑*eS*	**Sb**	**05 35 22.9**	**-1.4**
UCH	**Uchtor**	**2.52**	**347**	P	**Pb**	**05 34 57.7**	**-0.9**
	SNR=7.8						
UCH	**Uchtor**	**2.52**	**347**	⇑*iP*	**Pn**	**05 34 54.5**	**+0.1**
UCH				⇑*iS*	**Sn**	**05 35 26.4**	**+1.0**
ULHL	**Ulahol**	**2.57**	**16**	P	**Pn**	**05 34 57.0**	**+2.0**
	SNR=11						
ULHL	**Ulahol**	**2.57**	**16**	⇑*iP*	**Pn**	**05 34 55.2**	**+0.2**
ULHL				⇑*iS*	**Sn**	**05 35 27.7**	**+1.3**
AML	**Almayashu**	**2.64**	**333**	P	**Pn**	**05 34 56.6**	**+0.6**
	SNR=15						
AML	**Almayashu**	**2.64**	**333**	⇑*iP*	**Pn**	**05 34 56.8**	**+0.7**
AML				⇑*iS*	**Sn**	**05 35 30.2**	**+1.8**
DRK	**Karamyk**	**2.70**	**265**	⇑*iP*	**Pn**	**05 34 57.4**	**+0.5**
DRK				⇑*iS*	**Sn**	**05 35 32.1**	**+2.3**
TARG	**Taragay, Kyrgy**	**2.73**	**44**	⇑*eP*	**Pn**	**05 34 57.0**	**-0.4**
TARG				⇑*iS*	**Sn**	**05 35 31.4**	**+0.7**
BOOM	**Boomskoye usch**	**2.76**	**10**	⇓*iP*	**Pn**	**05 34 57.6**	**+0.1**
BOOM				⇓*iS*	**Sn**	**05 35 32.6**	**+1.7**
KDJ	**Kajisay**	**2.76**	**31**	⇑*iP*	**Pn**	**05 34 57.3**	**-0.2**
KDJ				⇑*iS*	**Sn**	**05 35 31.8**	**+0.9**
KBK	**Karagaybulak**	**2.89**	**355**	P	**Pb**	**05 35 04.2**	**-0.6**
	SNR=22						
KBK	**Karagaybulak**	**2.89**	**355**	⇑*iP*	**Pn**	**05 34 59.9**	**+0.6**
KBK				⇑*iS*	**Sn**	**05 35 35.4**	**+1.2**
AAK	**Ala-Archa**	**2.92**	**349**	P	**Pn**	**05 35 01.0**	**+1.3**
	SNR=11						
AAK	**Ala-Archa**	**2.92**	**349**	⇑Pn	**Pn**	**05 35 00.6**	**+0.9**
	16nm,0.5s						
AAK				⇑Sn	**Sn**	**05 35 37.6**	**+2.7**
	34nm,0.9s						
FRU1	**Bishkek**	**3.07**	**351**	⇑*iP*	**Pn**	**05 35 02.1**	**+0.4**
FRU1				⇑*iS*	**Sn**	**05 35 40.4**	**+1.9**
TKM2	**Tokmak 2**	**3.15**	**4**	P	**Pn**	**05 35 03.4**	**+0.5**
	SNR=8.0						
TKM2	**Tokmak 2**	**3.15**	**4**	⇑Pn	**Pn**	**05 35 04.8**	**+1.9**
	10nm,0.7s						
TKM2				⇓Sn	**Sb**	**05 35 45.4**	**-2.4**
	84nm,0.9s						
TKM2	**Tokmak 2**	**3.15**	**4**	⇑*iP*	**Pn**	**05 35 03.5**	**+0.5**
TKM2				⇑*iS*	**Sn**	**05 35 42.5**	**+1.8**
ARK	**Arkit**	**3.23**	**310**	⇓*eP*	**Pn**	**05 35 04.4**	**+0.5**
ARK				⇓*eS*	**Sn**	**05 35 44.2**	**+1.7**
CHMS	**Chumysh**	**3.24**	**353**	P	**Pn**	**05 35 05.3**	**+1.2**
	SNR=5.2						
CHMS	**Chumysh**	**3.24**	**353**	⇑Pn	**Pn**	**05 35 04.5**	**+0.5**
	11nm,0.7s						
CHMS				⇓Sn	**Sb**	**05 35 46.6**	**-3.7**
	26nm,0.7s						
KST	**Kastek**	**3.30**	**9**	Pg	**Pb**	**05 35 11.9**	**+0.1**
	7.4nm,0.4s						
KST				Lg	Lg	05 35 53.2	
KST	**Kastek**	**3.30**	**9**	*eP*	**Pb**	**05 35 10.4**	**-1.4**
	11nm,0.5s						
KST				*eS*	**Sb**	**05 35 54.7**	**+2.6**
	146nm,0.8s						
MRKS	**Merke**	**3.34**	**333**	Pg	**Pb**	**05 35 13.4**	**+0.9**
	11nm,0.4s						
MRKS				Lg	Lg	05 35 55.5	
	16nm,0.6s						
MRKS	**Merke**	**3.34**	**333**	*eP*	**Pn**	**05 35 08.0**	**+2.5**
	11nm,0.4s						
MRKS				*eS*	**Sb**	**05 35 50.4**	**-2.9**
	16nm,0.6s						
MNAS	**Manas**	**3.42**	**323**	⇑*eP*	**Pn**	**05 35 07.0**	**+0.4**
MNAS				⇑*eS*	**Sn**	**05 35 48.7**	**+1.4**
BTK	**Batken**	**3.44**	**276**	⇑*eP*	**Pn**	**05 35 07.8**	**+1.0**
BTK				⇑*eS*	**Sn**	**05 35 49.9**	**+2.2**
MTBS	**Maitube**	**3.46**	**14**	Pg	**Pb**	**05 35 14.9**	**+0.5**
	6.3nm,0.5s						
MTBS				Lg	Lg	05 35 58.1	
	26nm,0.5s						
MTBS	**Maitube**	**3.46**	**14**	*eP*	**Pb**	**05 35 12.8**	**-1.6**
	6.3nm,0.5s						
MTBS				*eS*	**Sb**	**05 35 58.5**	**+1.9**
	26nm,0.5s						
TNSS	**Tian-Shan**	**3.49**	**21**	Pg	**Pb**	**05 35 15.2**	**0.0**
	9.3nm,0.6s						
TNSS				Lg	Lg	05 35 58.6	
	27nm,0.7s						
TNSS	**Tian-Shan**	**3.49**	**21**	*eP*	**Pb**	**05 35 13.3**	**-1.9**
	9.3nm,0.6s						
TNSS				*eS*	**Sb**	**05 35 59.1**	**+1.4**
	27nm,0.7s						
USP	**Ospenovka**	**3.54**	**351**	P	**Pn**	**05 35 08.8**	**+0.7**
	SNR=7.5						
MDOK	**Medeo**	**3.63**	**21**	Pn	**Pn**	**05 35 13.2**	**+3.7**
	10.0nm,0.7s						
MDOK				Sn	**Sb**	**05 36 00.1**	**-1.6**
	61nm,0.7s						
SATY	**Saty**	**4.03**	**35**	Pg	**Pb**	**05 35 23.4**	**-0.8**
	3.8nm,0.5s						
SATY				Lg	Lg	05 36 12.9	
	9.6nm,0.5s						
KTBS	**Karatobe**	**4.07**	**14**	Pg	**Pb**	**05 35 25.8**	**+1.0**
	4.5nm,0.6s						
KTBS				Lg	Lg	05 36 17.2	
	46nm,0.7s						
KUU	**Kurty**	**4.19**	**11**	Lg	Lg	05 36 18.7	
	27nm,0.9s						
KUU	**Kurty**	**4.19**	**11**	*eP*	**Pb**	**05 35 24.9**	**-2.0**
	1.7nm,0.3s						
KUU				*eS*	**Sb**	**05 36 19.4**	**+1.9**

27nm,0.9s
CHKK Chushkaly 4.27 17 Pg **Pb 05 35 29.2 +1.0**
4.9nm,0.4s
CHKK Lg Lg 05 36 23.1
48nm,0.8s
CHKK Chushkaly 4.27 17 *e*P **Pb 05 35 27.2 -1.0**
4.9nm,0.4s
CHKK *e*S **Sb 05 36 23.1 +3.3**
48nm,0.8s
KURS Kuram 4.29 29 *e*P **Pb 05 35 27.2 -1.4**
4.9nm,0.4s
KURS *e*S **Sb 05 36 23.1 +2.6**
48nm,0.8s
UZB Uzynbulak 4.39 39 *e*P **Pb 05 35 28.0 -2.3**
4.2nm,0.6s
UZB *e*S **Sb 05 36 24.7 +1.5**
4.9nm,0.8s
SHLS Shalkode 4.61 42 Pg **Pg 05 35 39.5 -1.8**
8.6nm,0.8s
SHLS Shalkode 4.61 42 *e*P **Pb 05 35 37.4 +3.3**
5.2nm,0.2s
SHLS *e*S **Sg 05 36 40.6 -0.5**
9.4nm,0.6s
PDGK Podgornoye 4.75 40 ⇑Pn Pn 05 35 30.3 +5.4
4.9nm,0.8s
PDGK ⇓Sn **Sb 05 36 29.1 -4.7**
8.5nm,0.6s
KK31 Karatay Array 4.89 314 ⇑Pg **Pb 05 35 37.3 -1.4**
1.2nm,0.5s,baz=125,slow=16,SNR=8.3
KK31 ⇑Lg Lg 05 36 41.1
2.9nm,0.5s,baz=133,slow=27

---

*IDC **22** 05:43:40.2±3.9, 54°.60N×86°.39E, h0km, mbtmp2.6/2, ML1.8/1, Error ellipse: s-maj=32.6km s-min=22.3km az=34.0*

ASRS 22 05:43:43.0±1.1, 54°.39N×86°.83E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**250**	I	I	05 52 30.0	
	baz=68,slow=329,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.26**	**250**	Pg	Pn	05 44 09.4	+1.5
	0.5nm,0.3s,baz=64,slow=14,SNR=5.7						
ZALV				Lg	Lg	05 44 33.3	
	1.1nm,0.3s,baz=65,slow=24,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.32**	**237**	Pn	Pn	05 45 19.2	+1.9
	baz=53,slow=14,SNR=1.9						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**8.13**	**203**	Pn	Pn	05 45 45.9	+3.6
	0.5nm,0.8s,baz=29,slow=14,SNR=1.1						

---

*NEIC **22** 05:45:09.6±2.1, 36°.576N±0°.010×121°.27W±0°.01, h10km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=171.0*

NCEDC 22 05:45:09.8±1.8, 36°.602N±0°.010×121°.21W±0°.01, h9km±5km, Mwr3.6/3, ML3.2/94(NEIC), Error ellipse: s-maj=1.7km s-min=1.3km az=116.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.09**	**288**		Pg	05 45 13.8	+1.7
BEMM	**Emmet**	**0.11**	**58**		Pg	05 45 13.2	+0.7
BPIM	**Pinnacles**	**0.12**	**162**		Pg	05 45 12.5	0.0
BBGB	**Big Mountain B**	**0.14**	**99**		Pg	05 45 13.9	+0.9
BBGB				IAML		05 45 17.6	
	comp=N,14μm,0.7s						
BAVM	**Antelope Valle**	**0.15**	**73**		Pg	05 45 13.8	+0.7
SCZ	**Santa Cruz**	**0.15**	**269**		Pg	05 45 13.1	0.0
SCZ					Sg	05 45 15.5	+0.1
SCZ	**Santa Cruz**	**0.15**	**269**	IAML		05 45 15.9	
	comp=E,20μm,0.6s						
SCZ				IAML		05 45 16.6	
	comp=N,7μm,0.4s						
BJCM	**Johnson Can.**	**0.15**	**249**		Pg	05 45 13.1	0.0
BSGM	**Shirttail Gulc**	**0.19**	**190**		Pg	05 45 13.6	-0.2
BSGM					Sg	05 45 16.3	-0.1
LRV	**Little Rabbit**	**0.24**	**138**		Pg	05 45 15.1	+0.5
SAO	**San Andreas Ge**	**0.25**	**311**	Pg	Pg	05 45 14.8	-0.1
SAO	**San Andreas Ge**	**0.25**	**311**		Sg	05 45 18.6	+0.4
BSRM	**Salinas Radio**	**0.26**	**285**		Pg	05 45 14.9	0.0
FRP	**Fremont Peak**	**0.27**	**304**		Pg	05 45 15.1	-0.2
BSMM	**Soledad Missio**	**0.28**	**219**		Pg	05 45 15.4	0.0
BPCNC	**Pine Canyon**	**0.34**	**265**		Pg	05 45 16.6	+0.2
HFEM	**San Felipe**	**0.41**	**338**		Pb	05 45 18.6	-0.7
PACP	**Pacheco Peak**	**0.41**	**352**		Pb	05 45 18.8	-0.6
PACP	**Pacheco Peak**	**0.41**	**352**	IAML		05 45 26.3	
	comp=N,7μm,0.4s						
PACP				IAML		05 45 29.6	
	comp=E,8μm,0.4s						
HTUM	**Tustin Road**	**0.41**	**303**		Pg	05 45 17.7	-0.2
HERM	**Elkhorn Road**	**0.45**	**296**		Pg	05 45 18.6	+0.1
BPRM	**Ponciano Ridge**	**0.46**	**245**		Pg	05 45 18.8	-0.1
BPRM					Sg	05 45 25.1	+0.2
HPCM	**Pacheco Lake**	**0.46**	**354**		Pb	05 45 19.6	-0.6
SLD	**San Luis Dam**	**0.47**	**359**		Pg	05 45 19.6	+0.6
CDC	**Canada Road**	**0.48**	**333**		Pb	05 45 19.9	-0.6
HCAM	**Canada Road**	**0.48**	**333**		Pb	05 45 20.0	-0.4
HCBM	**Chamberlain**	**0.49**	**312**		Pg	05 45 19.1	-0.2
HCOM	**Corn Cob Canyo**	**0.49**	**306**		Pg	05 45 19.3	0.0
PMPB	**Monarch Peak**	**0.51**	**139**		Pg	05 45 19.8	+0.1
PMPB				IAML		05 45 35.7	
	comp=E,2μm,0.8s						
PMPB				IAML		05 45 36.3	
	comp=N,3μm,0.9s						
PCCM	**Crazy Canyon**	**0.51**	**176**		Pg	05 45 20.0	+0.2
GHS	**Gilroy Hot Spr**	**0.53**	**339**		Pb	05 45 20.8	-0.6
HLPM	**Lions Peak**	**0.55**	**323**		Pg	05 45 20.8	+0.2
HMOM	**Monterey**	**0.57**	**270**		Pg	05 45 20.7	-0.1
HULI	**Fort Hunter Li**	**0.58**	**182**		Pg	05 45 21.0	0.0
HULI	**Fort Hunter Li**	**0.58**	**182**	IAML		05 45 30.8	
	comp=E,994nm,0.6s						
HULI				IAML		05 45 34.4	
	comp=N,1μm,0.7s						
JELB	**Ellicott, Sant**	**0.59**	**304**		Pg	05 45 21.2	-0.1
SCKWR	**San Luis Creek**	**0.59**	**11**		Pb	05 45 22.6	+0.2
PJUM	**Juniper Ridge**	**0.62**	**127**		Pg	05 45 22.4	+0.5
PPTM	**Peach Tree Val**	**0.63**	**141**		Pg	05 45 21.9	-0.2
PSAM	**San Ardo**	**0.63**	**155**		Pg	05 45 21.9	-0.2
CADM	**Anderson Res.**	**0.65**	**330**		Pg	05 45 22.8	+0.3
JLAB	**Laurel Hill**	**0.69**	**323**		Pg	05 45 23.6	+0.4
PSMM	**Smith Mountain**	**0.73**	**137**		Pg	05 45 24.0	+0.1
PDRM	**Domengine Ranc**	**0.73**	**111**		Pb	05 45 24.7	-0.1
CCOB	**Coe Ranch Numb**	**0.75**	**331**		Pb	05 45 25.1	-0.1
CMPM	**Mikes Peak**	**0.76**	**354**		Pb	05 45 25.4	+0.1
PHSB	**Hesperia Broad**	**0.79**	**171**		Pg	05 45 24.7	-0.3
ARN	**Arnold Ranch**	**0.79**	**341**		Pb	05 45 25.5	-0.3
PHPM	**Hope Ranch**	**0.79**	**142**		Pg	05 45 24.6	-0.5
C072	**Blauer Lane Sa**	**0.81**	**328**		Pb	05 45 26.3	+0.2
MHC	**Mount Hamilton**	**0.81**	**335**		Pb	05 45 26.0	-0.3
PWMM	**Westland Maint**	**0.82**	**102**		Pb	05 45 26.7	+0.3
C054	**Valleyhaven Wa**	**0.83**	**324**		Pg	05 45 25.9	+0.1
PKD	**Bear Valley Ra**	**0.85**	**140**		Pg	05 45 25.6	-0.6
JJOM	**Saint Joseph's**	**0.86**	**315**		Pg	05 45 25.6	-0.8
SCCB	**Santa Clara Co**	**0.86**	**323**		Pg	05 45 26.4	0.0
PVCM	**Vineyard Canyo**	**0.87**	**141**		Pg	05 45 26.1	-0.5
PPO	**Portuguese Can**	**0.88**	**147**		Pg	05 45 26.6	-0.1
PSTM	**Stockdale Moun**	**0.88**	**140**		Pg	05 45 26.4	-0.4
MTOS	**Mt Oso, Westle**	**0.91**	**354**		Pb	05 45 27.9	+0.1
CMLM	**Mount Lewis**	**0.94**	**338**		Pg	05 45 28.0	+0.1
PHFM	**Heflinger Ranc**	**0.97**	**137**		Pg	05 45 28.1	-0.4
CTM	**Castle Mountai**	**0.97**	**133**		Pb	05 45 29.4	+0.4
RAMR	**Ramage Ranch**	**1.00**	**164**		Pg	05 45 28.3	-0.8
JSJM	**St Joseph**	**1.01**	**316**		Pg	05 45 28.2	-1.2
GHC	**Gold Hill**	**1.04**	**138**		Pg	05 45 29.3	-0.5
JBMM	**Black Mountain**	**1.04**	**314**		Pg	05 45 28.6	-1.2
PKEM	**Kettleman Hill**	**1.04**	**121**		Pn	05 45 30.5	-0.2
LEGD	**La Grand CA**	**1.05**	**54**		Pg	05 45 29.2	-0.7
PSRM	**Scobie Ranch**	**1.06**	**134**		Pg	05 45 29.7	-0.4
CSTL	**Corral Hollow**	**1.06**	**348**		Pg	05 45 30.2	0.0
PKLM	**Kerr Lake**	**1.09**	**139**		Pg	05 45 29.8	-0.9
JPSM		**1.09**	**304**		Pg	05 45 29.3	-1.5
JFP	**Foothills Park**	**1.09**	**314**		Pg	05 45 29.5	-1.3
JSFB	**Stanford Teles**	**1.11**	**316**		Pg	05 45 29.7	-1.5
TCAS	**Cass Winery, P**	**1.12**	**152**		Pg	05 45 30.1	-1.3
TCHL	**Shandon**	**1.12**	**144**		Pg	05 45 30.6	-0.8
JRSC	**Jasper Ridge**	**1.15**	**315**		Pb	05 45 29.9	-2.0
CBZL	**Buffer Zone**	**1.16**	**340**		Pb	05 45 30.9	-1.2
BGH	**Bear Gulch**	**1.17**	**310**		Pb	05 45 30.6	-1.6
CNIC	**Niles Canyon**	**1.17**	**329**		Pb	05 45 30.8	-1.5
CBSNC	**Byron Hot Spri**	**1.26**	**344**		Pn	05 45 33.0	-0.6
TSCN	**Private Proper**	**1.27**	**146**		Pn	05 45 32.4	-1.4
FRI	**Friant**	**1.27**	**72**		Pn	05 45 32.6	-1.2
CMOB	**Morgan Territo**	**1.29**	**339**		Pn	05 45 33.5	-0.8
JCHM	**Cahill Ridge**	**1.30**	**315**		Pn	05 45 32.4	-1.9
JCPM	**Coyote Point**	**1.32**	**318**		Pn	05 45 32.5	-2.0
CSLM	**San Leandro Hi**	**1.33**	**327**		Pn	05 45 32.9	-1.8
LSDC	**Los Osos Digit**	**1.34**	**167**		Pb	05 45 35.0	-0.1
EFD	**Emergency Oper**	**1.34**	**163**		Pn	05 45 33.4	-1.4
TRAY	**Twisselman Ran**	**1.37**	**140**		Pn	05 45 33.9	-1.3
PBPM	**Bitterwater Pu**	**1.37**	**138**		Pn	05 45 34.4	-0.9
KARE	**Kearney REC, C**	**1.38**	**90**		Pn	05 45 34.0	-1.3
VPDC	**Valencia Peak**	**1.39**	**168**		Pn	05 45 34.0	-1.5
BGC	**Bolinger Road**	**1.39**	**331**		Pn	05 45 34.4	-1.1
DPD	**Davis Peak**	**1.41**	**166**		Pn	05 45 34.6	-1.1
DCD	**Diablo Creek**	**1.42**	**168**		Pn	05 45 34.5	-1.4
SMCB	**Saint Mary's C**	**1.43**	**330**		Pn	05 45 34.9	-1.1
JSBM	**San Bruno Moun**	**1.43**	**319**		Pn	05 45 33.7	-2.3
JMGM	**Milagra Ridge**	**1.44**	**316**		Pn	05 45 34.1	-2.1
BDM	**Black Diamond**	**1.45**	**339**		Pg	05 45 39.3	+1.7
VOG	**Valley Oaks Go**	**1.50**	**100**		Pn	05 45 36.0	-1.0
BKS	**Berkeley--Byer**	**1.51**	**328**		Pn	05 45 35.4	-1.7
CYBM	**Yerba Buena Is**	**1.52**	**323**		Pn	05 45 34.8	-2.4
VAK	**Adit at Lawren**	**1.52**	**327**		Pn	05 45 36.0	-1.2
JPRM	**Presidio of Sa**	**1.56**	**320**		Pn	05 45 35.4	-2.4
CMB	**Columbia Colle**	**1.57**	**24**		Pn	05 45 37.5	-0.6
CMB					Pn	05 45 37.7	-1.5
CMB				IAML		05 46 01.0	
	comp=N,370nm,0.6s						
CMB				IAML		05 46 03.6	
	comp=E,339nm,1.1s						
CPIM	**Pinole Ridge**	**1.60**	**330**		Pn	05 45 37.3	-1.1
CSPM	**San Pablo Ridg**	**1.61**	**327**		Pn	05 45 36.9	-1.6
SMMC	**Simmler**	**1.62**	**142**		Pn	05 45 37.1	-1.5
CPMM	**Point Molate**	**1.65**	**325**		Pn	05 45 36.9	-2.1
KCC	**Kaiser Creek**	**1.68**	**64**		Pn	05 45 39.9	+0.4
JEPS	**Jepson Natural**	**1.72**	**344**		Pn	05 45 39.8	-0.2
CRGC	**Crocker Grade**	**1.82**	**138**		Pn	05 45 40.6	-0.8
NOLM	**Olema**	**1.91**	**319**		Pn	05 45 40.4	-2.2
MRDM	**Red Cones**	**1.99**	**59**		Pn	05 45 45.1	+1.1
MDPB	**Devils Postpil**	**1.99**	**58**	Pn	Pn	05 45 43.7	-0.3
MDPB				IAML		05 46 13.8	
	comp=E,276nm,0.5s						
CVS	**Carmenet Viney**	**2.00**	**331**		Pn	05 45 42.3	-1.6
CVS	**Carmenet Viney**	**2.00**	**331**	IAML		05 46 09.5	
	comp=E,160nm,1.5s						
CVS				IAML		05 46 27.4	
	comp=N,122nm,1.4s						
RUSS	**Russell Ranch**	**2.01**	**345**		Pn	05 45 44.1	+0.2
RUSS	**Russell Ranch**	**2.01**	**345**	IAML		05 46 34.6	
	comp=E,191nm,1.6s						
RUSS				IAML		05 46 35.4	
	comp=N,246nm,0.9s						
SPG2	**Springville 2**	**2.01**	**101**		Pn	05 45 43.3	-0.8
MINS	**Minaret Summit**	**2.02**	**58**		Pn	05 45 45.2	+0.9
MMPM	**Mammoth Pass**	**2.02**	**59**		Pn	05 45 45.6	+1.3
QRDG	**Quail Ridge Na**	**2.02**	**339**		Pn	05 45 43.2	-0.9
MCCM	**Marconi Confer**	**2.03**	**320**	Pn	Pn	05 45 42.8	-1.5
MCCM				IAML		05 46 20.2	
	comp=N,194nm,1.1s						
MCCM				IAML		05 46 25.6	
	comp=E,192nm,0.8s						
MDCM	**Deadman Creek**	**2.06**	**57**		Pn	05 45 45.4	+0.5
MMLB	**Mammoth Lakes**	**2.07**	**59**		Pb	05 45 47.0	-0.8
MLCM	**Laurel Creek C**	**2.10**	**61**		Pb	05 45 47.1	-1.1
FIGC	**Figueroa Mtn.**	**2.12**	**152**		Pn	05 45 44.6	-0.9
MCSM	**Casa Diablo Ho**	**2.12**	**60**		Pb	05 45 47.6	-1.1
MCBM	**Casa Benchmark**	**2.12**	**60**		Pb	05 45 48.0	-0.7
MCVM	**Convict Lake**	**2.15**	**62**		Pb	05 45 47.7	-1.4
MLAC	**Mammoth, Mammo**	**2.16**	**61**		Pb	05 45 48.3	-1.0
MDRNC	**Doe Ridge**	**2.16**	**61**		Pb	05 45 48.2	-1.1
BCW	**Bitter Crk WRg**	**2.21**	**138**		Pn	05 45 46.6	-0.3
BCW	**Bitter Crk WRg**	**2.21**	**138**	Pn	Pn	05 45 46.3	-0.5
BCW	**Bitter Crk WRg**	**2.21**	**138**	IAML		05 46 26.8	
	comp=E,269nm,1.1s						
BCW				IAML		05 46 37.3	
	comp=N,173nm,0.9s						
NJQ	**Nojoqui County**	**2.23**	**157**		Pn	05 45 46.2	-0.8
MTUM	**Tungsten Hills**	**2.25**	**70**		Pn	05 45 48.7	+1.2
BHPR	**Bishop**	**2.29**	**71**		Pn	05 45 49.3	+1.2
WASM	**Alta Sierra Ca**	**2.31**	**111**		Pn	05 45 48.5	+0.1
AFDM	**Forest Hills D**	**2.35**	**5**		Pn	05 45 48.4	-0.3
AFDM				IAML		05 46 30.8	
	comp=E,81nm,0.6s						
WAKR	**Walker**	**2.37**	**36**	Pn	Pn	05 45 49.1	0.0
WAKR				IAML		05 46 34.6	
	comp=N,212nm,0.8s						
MFBM	**Five Bridges**	**2.38**	**69**		Pb	05 45 51.1	-1.8
BENR	**Benton**	**2.38**	**61**		Pb	05 45 51.6	-1.5
ISA	**Isabella, Lake**	**2.41**	**112**	Pn	Pn	05 45 49.3	-0.2
ISA				IAML		05 46 23.7	
	comp=E,89nm,1.0s						
ISA				IAML		05 46 27.2	
	comp=N,106nm,0.9s						
MCDM	**Chidago Canyon**	**2.41**	**66**		Pb	05 45 52.6	-0.9
MRCM	**Red Rock Canyo**	**2.41**	**63**		Pb	05 45 52.4	-1.2
ARVC	**Arvin**	**2.43**	**127**		Pn	05 45 50.2	+0.4
TEJ	**El Tejon**	**2.46**	**123**		Pn	05 45 50.2	-0.1
GDXM	**Geysers**	**2.54**	**331**	Pn	Pn	05 45 50.9	-0.4
GHCM	**House Creek**	**2.55**	**322**		Pn	05 45 50.3	-1.2
GSGM	**Seigler Mounta**	**2.55**	**333**		Pn	05 45 50.4	-1.0
WORM	**Onyx Ranch**	**2.57**	**110**		Pn	05 45 53.0	+1.3
SFRE	**Sierra Foothil**	**2.65**	**358**		Pn	05 45 52.9	0.0
DSP	**Deep Springs**	**2.71**	**73**	Pn	Pn	05 45 53.3	-0.3
DSP				IAML		05 46 41.4	
	comp=E,77nm,1.2s						
DSP				IAML		05 46 42.8	
	comp=N,87nm,1.1s						
OSUM	**Sutter Buttes**	**2.71**	**349**		Pn	05 45 51.6	-2.0
LHV	**Little Huntoon**	**2.71**	**52**	Pn	Pn	05 45 54.2	+0.6
LHV				IAML		05 46 39.6	
	comp=N,145nm,1.1s						
LHV				IAML		05 46 41.8	
	comp=E,178nm,0.9s						
OSTM	**Stimpson Lane**	**2.78**	**354**		Pn	05 45 53.6	-0.9
PNTR	**Pine Nut**	**2.79**	**27**	Pn	Pn	05 45 55.5	+0.5
GSNM	**Snow Mountain**	**2.81**	**327**		Pn	05 45 53.4	-1.7
MPK	**Martis Peak**	**2.85**	**19**		Pn	05 45 54.8	-1.0
RYN	**Ryan**	**2.94**	**46**	Pn	Pn	05 45 56.7	-0.3
RYN				IAML		05 46 42.3	
	comp=N,121nm,0.7s						
RYN				IAML		05 46 43.3	
	comp=E,130nm,0.8s						
NVAR	**Mina Array Bea**	**2.95**	**51**	Pn	Pn	05 45 57.4	+0.3
ORV	**Oroville**	**2.96**	**356**		Pn	05 45 56.5	-0.5
ORV				IAML		05 46 51.1	
	comp=E,54nm,1.1s						
CCAC	**Calif City Air**	**2.97**	**118**		Pn	05 45 56.7	-0.6
CCAC				IAML		05 47 02.7	
	comp=E,138nm,1.1s						
CCAC				IAML		05 47 04.5	
	comp=N,113nm,1.3s						
NV11	**Mina Array Sit**	**3.04**	**52**	Pn	Pn	05 45 58.4	+0.1
NV11				IAML		05 46 49.8	
	comp=N,42nm,0.9s						
GRAC	**Grapevine Rang**	**3.11**	**82**	Pn	Pn	05 45 59.0	-0.2
GRAC				IAML		05 46 52.6	
	comp=N,80nm,0.8s						
GRAC				IAML		05 46 53.0	
	comp=E,92nm,1.1s						
MZP	**Montezuma Peak**	**3.25**	**69**	Pn	Pn	05 46 00.3	-1.0
BEKR	**Beckworth**	**3.33**	**11**		Pn	05 46 02.9	+0.6
BEKR				IAML		05 46 56.4	
	comp=N,42nm,0.7s						
BEKR				IAML		05 47 02.4	
	comp=E,82nm,0.8s						
PAHR	**Pah Rah Range**	**3.42**	**24**	Pn	Pn	05 46 02.8	-0.7
PAHR				IAML		05 47 03.7	
	comp=E,51nm,1.8s						
PAHR				IAML		05 47 06.1	
	comp=N,61nm,1.0s						
PASC	**Pasadena Art C**	**3.46**	**134**		Pn	05 46 02.0	-2.0
GWY	**Greenwater Val**	**3.69**	**95**	Pn	Pn	05 46 06.9	-0.4
WCT	**Wildcat Mounta**	**3.69**	**86**	Pn	Pn	05 46 07.0	-0.2
O02D	**Mt. Diablo Mer**	**3.78**	**341**	Pn	Pn	05 46 08.2	-0.1
GSC	**Goldstone, Bar**	**3.80**	**109**		Pn	05 46 09.2	+0.4
GSC				IAML		05 47 14.1	
	comp=E,42nm,1.4s						
GSC				IAML		05 47 18.9	
	comp=N,31nm,1.0s						
Q09A	**Carvers**	**3.90**	**54**	Pn	Pn	05 46 08.9	-1.2
TPNV	**Topopah Spring**	**4.00**	**84**		Pn	05 46 12.1	+0.6
TPNV				IAML		05 47 23.6	
	comp=N,26nm,1.0s						
TPNV				IAML		05 47 27.7	
	comp=N,38nm,1.0s						
HATC	**Hat Creek Radi**	**4.21**	**357**	Pn	Pn	05 46 14.5	+0.2
ELS	**Elsinore Mount**	**4.28**	**132**	Pn	Pn	05 46 14.3	-1.0
S11A	**Rachel**	**4.49**	**75**	Pn	Pn	05 46 16.9	-1.4
JCC	**Jacoby Creek,**	**4.75**	**333**	Pn	Pn	05 46 21.2	-0.5
SHPR	**Sheep Range**	**4.87**	**89**	Pn	Pn	05 46 23.4	-0.1
PFO	**Pinyon Flats O**	**4.91**	**126**	Pn	Pn	05 46 22.9	-1.0
CBX	**Cerro Bola**	**5.69**	**137**	Pn	Pn	05 46 31.5	-3.3
KBO	**Bosley Butte**	**6.07**	**338**	Pn	Pn	05 46 37.5	-2.4
ESJX	**Sierra Juarez**	**6.32**	**135**	Pn	Pn	05 46 43.6	+0.1
GLA	**Glamis**	**6.33**	**122**	Pn	Pn	05 46 43.6	+0.1
LCMT	**Little Creek M**	**6.41**	**84**	Pn	Pn	05 46 44.2	-0.4
KNB	**Kanab**	**6.74**	**84**	Pn	Pn	05 46 49.0	-0.3

GCG 22 06:04:09.8±2.3, 15°.85N×91°.49W, h6km±25km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUEH	**Huehuetenango**	**0.53**	**181**	*e*P	Pg	06 04 20.1	0.0
HUEH				*i* S	Sg	06 04 28.0	+0.9
CCIG	**Comitan**	**0.75**	**305**	*i* P	Pg	06 04 23.1	-1.3
SOKI	**Kika Raxquin**	**1.03**	**175**	*e*P	Pb	06 04 30.0	-0.3
SMCA	**Catarina**	**1.14**	**210**	*e*P	Pg	06 04 31.5	-0.2
STG8	**El Palmar, Qui**	**1.40**	**174**	*e*P	Pn	06 04 30.5	-5.6
STG0	**El Palmar, Qui**	**1.43**	**174**	*i* P	Pn	06 04 31.2	-5.2
STG0				*e*S	Sb	06 04 47.2	-8.1
STG5	**El Palmar, Qui**	**1.45**	**175**	*e*P	Pn	06 04 31.9	-4.8
TGIG		**1.82**	**301**	*e*P	Pn	06 04 42.0	+0.3
PETF	**Flores**	**1.88**	**56**	*e*P	Pn	06 04 40.9	-1.7
PETF				*e*S	Sn	06 05 06.5	-0.1

---

*VIE **22** 06:10:12.5±0.6, 50°.14N×18°.39E, h0km, mb2.4/7, ml2.7/8, Error ellipse: s-maj=9.1km s-min=2.6km az=155.0 35 km NNE of Ostrava Suspected Mining induced.*
*IPEC **22** 06:10:13.0±0.2, 50°.07N×18°.45E, h1km, ML2.6/4, Error ellipse: s-maj=1.7km s-min=1.0km az=163.0*
*IDC **22** 06:10:14.3±1.7, 49°.98N×18°.22E, h0km, mbtmp3.3/5, ML2.2/5, Error ellipse: s-maj=26.3km s-min=9.5km az=137.0*
*PRU **22** 06:10:15.6, 50°.04N×18°.28E, h0km*

ISC 22 06:10:11.7±0.7, 50°.15N±0°.03×18°.48E±0°.02, h0km, n49, σ1§52/89, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.20**	**249**	*e*PG	**Pg**	**06 10 17.2**	**+1.8**
RAC				*e*SG	**Sg**	**06 10 20.3**	**+2.4**
OKC	**Ostrava-Krasne**	**0.38**	**214**	*e*PG	**Pg**	**06 10 19.0**	**0.0**
OKC				*e*SG	**Sg**	**06 10 23.4**	**-0.5**
	comp=Z,448nm,0.6s						
STEB	**Steborice**	**0.50**	**244**	*e*PG	**Pg**	**06 10 22.0**	**+0.7**
STEB				*e*SG	**Sg**	**06 10 27.9**	**+0.1**
MORC	**Moravsky Berou**	**0.71**	**238**	*e*Pg	**Pg**	**06 10 25.3**	**0.0**
	baz=63						
MORC				*e*Sg	**Sg**	**06 10 33.4**	**-1.0**
	111nm,0.2s,baz=63						
MORC	**Moravsky Berou**	**0.71**	**238**	*e*PG	**Pg**	**06 10 25.4**	**+0.1**
MORC				*e*SG	**Sg**	**06 10 33.5**	**-1.0**
OJC	**Ojcow**	**0.85**	**85**	*e*Pg	**Pb**	**06 10 29.6**	**+0.2**
OJC				*e*Sg	**Sb**	**06 10 41.7**	**+0.3**
KRLC	**Kraliky**	**1.09**	**267**	*e*PG	**Pg**	**06 10 32.6**	**0.0**
KRLC				*e*SG	**Sg**	**06 10 46.4**	**-0.4**
	comp=Z,204nm,0.5s						
LANS	**Liptovska Anna**	**1.19**	**147**	*e*PG	**Pb**	**06 10 34.9**	**-0.3**
LANS				*e*SG	**Sg**	**06 10 48.0**	**-2.0**
LANS				*e*LG	Lg	06 10 56.0	
NIE	**Niedzica**	**1.39**	**121**	*e*Pg	**Pb**	**06 10 39.3**	**+0.7**
NIE				*e*Sg	**Sn**	**06 10 58.2**	**+0.7**
DPC	**Dobruska-Polom**	**1.40**	**279**	*e*PG	**Pb**	**06 10 39.2**	**+0.5**
DPC				*e*SG	**Sb**	**06 10 57.0**	**0.0**
	comp=Z,122nm,0.4s						
JAVC	**Velka Javorina**	**1.40**	**202**	*e*Pg	**Pg**	**06 10 37.8**	**-0.7**
	baz=22						
VRAC	**Vranov**	**1.49**	**236**	*e*Pg	**Pn**	**06 10 39.2**	**-0.5**
	baz=57						
VRAC				*e*Sg	**Sg**	**06 10 57.5**	**-1.9**
	54nm,0.4s,baz=57						
OSTC	**Ostas**	**1.50**	**286**	*e*SG	**Sn**	**06 11 01.4**	**+1.2**
	comp=Z,91nm,0.4s						
KSP	**Ksiaz**	**1.56**	**297**	*e*Pg	**Pb**	**06 10 41.3**	**-0.1**
KSP				*e*Sg	**Sg**	**06 11 03.1**	**+1.5**
CHVC	**Chvalec**

comp=Z,1.3nm,0.3s
OBKA *e*Sn **Sn** **06 12 16.1 +2.1**
comp=Z,2.2nm,0.7s
KBA Koelnbreinsper 4.59 230 *i* Pn **Pn** **06 11 23.3 +0.9**
comp=Z,0.2nm,0.1s
KBA *i* Sn **Sn** **06 12 17.3 +0.8**
comp=Z,2.4nm,0.4s
LESA Schwarzleotal 4.71 237 *e*Pn **Pn** **06 11 26.1 +2.1**
comp=Z,0.2nm,0.1s
LESA *i* Sn **Sn** **06 12 22.2 +3.0**
comp=Z,2.2nm,0.5s
BSD Bornholm Skovb 5.42 338 *i* P **Pn** **06 11 34.1 +0.4**
BSD *i* S **Sn** **06 12 32.3 -4.3**
BSD IAML 06 12 39.6
comp=Z,1.0nm,0.2s
BLEU Blekinge 6.37 346 *i* P **Pn** **06 11 47.4 +0.8**
BLEU *i* S **Sn** **06 12 56.0 -3.9**
AKASG Malin Array Be 6.89 81 Pg **Pb** **06 12 15.8 +3.6**
comp=Z,0.6nm,0.3s,baz=273,slow=14,SNR=4.3
DEL Delary 6.90 338 *i* P **Pn** **06 11 54.6 +0.6**
DEL *i* S **Sn** **06 13 06.7 -6.4**
HFS Hagfors 10.37 347 Pn **Pn** **06 12 42.1 +0.6**
comp=Z,0.1nm,0.3s,baz=163,slow=10,SNR=1.7
comp=Z,1.3nm,0.9s
NOA NORSAR Array B 11.65 342 Pn **Pn** **06 12 58.5 -0.5**
baz=160,slow=13,SNR=1.3
comp=Z,0.5nm,0.8s
FINES FINESS Array B 12.08 18 Pn **Pn** **06 13 04.0 -0.9**
comp=Z,0.2nm,0.3s,baz=207,slow=14,SNR=6.5
comp=Z,0.6nm,0.6s
ARCES ARCESS Array B 19.73 7 Pn **P** **06 14 43.5 +0.9**
baz=187,slow=14,SNR=1.5
comp=Z,3.0nm,0.9s

*NNC **22** 06:15:03.4±4.9, 54°.16N×87°.40E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=34.5km s-min=25.0km az=43.0, Suspected Mining explosion.*
*ASRS **22** 06:15:05.0±1.3, 54°.23N×87°.07E, h0km, M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **22** 06:15:07.1±2.5, 54°.24N×87°.16E, h0km, mbtmp3.3/3, ML2.6/3, Error ellipse: s-maj=21.4km s-min=14.1km az=62.0*
ISC 22 06:15:10.2±3.5, **54°.2N**±0°.2×**86°.7E**±0°.2, **h0km, n9,** σ1s**92**/12, **6C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**260**	I	I	06 24 40.0	
	0.2nm,0.8s,baz=77,slow=331,SNR=19						
ZAA0	**Zalesovo Array**	**1.13**	**260**	⇑P	**Pg**	**06 15 31.3**	**-0.5**
	0.4nm,0.4s,baz=74,slow=15						
ZAA0				⇓S	**Sn**	**06 15 52.2**	**+2.8**
	3.4nm,0.8s,baz=83,slow=14						
ZALV	**Zalesovo Beam**	**1.13**	**260**	Pg	**Pb**	**06 15 31.6**	**-1.0**
	2.4nm,0.3s,baz=76,slow=16,SNR=22						
ZALV				Lg	Lg	06 15 52.5	
	1.7nm,0.3s,baz=79,slow=30,SNR=9.3						
KURK	**Kurchatov**	**6.03**	**238**	⇑Pn	**Pn**	**06 16 39.4**	**-1.1**
	9.5nm,2.7s						
KURK				⇑Lg	Lg	06 18 27.1	
	4.2nm,0.9s						
KURBB	**Kurchatov Arra**	**6.13**	**238**	Pn	**Pn**	**06 16 43.0**	**+1.1**
	0.1nm,0.3s,baz=53,slow=13,SNR=18						
KURBB				Sn	**Sn**	**06 17 55.1**	**+2.5**
	baz=56,slow=23,SNR=2.3						
KURBB				Lg	Lg	06 18 28.6	
	baz=52,slow=31,SNR=6.2						
	1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**6.13**	**238**	⇑Pn	**Pn**	**06 16 40.8**	**-1.1**
	3.1nm,0.6s,baz=56,slow=14						
KURBB				⇑Lg	Lg	06 18 30.1	
	5.7nm,0.8s,baz=62,slow=33						
MK31	**Makanchi Array**	**7.89**	**203**	⇑Pn	Pn	06 17 02.3	-4.0
	1.3nm,1.0s,baz=32,slow=14,SNR=4.8						
MK31				⇓Sn	**Sn**	**06 18 35.3**	**-0.9**
	1.3nm,0.9s						
MK31				⇓Lg	Lg	06 19 20.4	
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**7.89**	**203**	Pn	**Pn**	**06 17 05.9**	**-0.3**
	0.1nm,0.3s,baz=26,slow=15,SNR=5.1						
MKAR				Sn	**Sn**	**06 18 38.4**	**+2.2**
	0.1nm,0.3s,baz=23,slow=26,SNR=7.1						
MKAR				Lg	Lg	06 19 23.2	
	baz=27,slow=36,SNR=2.1						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**9.77**	**270**	Pn	**Pn**	**06 17 33.3**	**+1.5**
	baz=70,slow=16,SNR=3.6						
BVAR				Sn	**Sn**	**06 19 19.6**	**-2.5**
	baz=71,slow=25,SNR=3.5						
	0.9nm,0.4s						

*NEIC **22** 06:18:07.3±0.8, 36°.377N±0°.009×98°.41W±0°.01, h8km±4km, Error ellipse: s-maj=1.4km s-min=1.0km az=201.0*
*NEIC **22** 06:18:07.2±0.6, 36°.375N±0°.009×98°.415W±0°.009, h5km±1km, mb_Lg2.5/44, ML2.5/31, ML2.8/45, Error ellipse: s-maj=2.4km s-min=1.5km az=295.0*
ISC 22 06:18:07.3±1.0, **36°.37N**±0°.03×**98°.40W**±0°.02, **h11**km±11km, **n62,** σ0s**68**/60, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.30**	**292**		**Pg**	**06 18 13.2**	**-0.2**
OK038					**Sg**	**06 18 17.7**	**+0.3**
OK038				IAML		06 18 20.1	
	1μm,0.3s						
OK038				IAML		06 18 21.6	
	2μm,0.4s						
CROK	**Carrier**	**0.36**	**68**		**Pg**	**06 18 14.8**	**+0.2**
CROK					**Sg**	**06 18 20.1**	**+0.7**
CROK				IAML		06 18 20.4	
	comp=N,1μm,0.4s						
CROK				IAML		06 18 22.5	
	comp=E,1μm,0.2s						
OK032	**Salt Plains WL**	**0.46**	**19**		**Pg**	**06 18 16.4**	**0.0**
OK032					**Sg**	**06 18 22.9**	**+0.4**
OK032				IAML		06 18 23.1	
	comp=E,1μm,0.2s						
OK032				IAML		06 18 27.7	
	comp=E,932nm,0.2s						
NOKA	**Waynoka**	**0.50**	**302**		**Pg**	**06 18 17.0**	**-0.2**
NOKA					**Sg**	**06 18 24.0**	**+0.2**
NOKA				IAML		06 18 24.2	
	comp=N,719nm,0.4s						
GC02	**Grant County #**	**0.65**	**42**		**Pg**	**06 18 19.9**	**0.0**
GC02					**Sg**	**06 18 28.8**	**+0.3**
KAN14	**Manchester OK**	**0.68**	**31**		**Pg**	**06 18 20.4**	**-0.1**
KAN14					**Sg**	**06 18 29.9**	**+0.4**
KAN14				IAML		06 18 30.1	
	comp=N,427nm,0.3s						
KAN14				IAML		06 18 31.3	
	comp=E,419nm,0.1s						
CSTR	**Hydro, Custer**	**0.76**	**198**		**Pg**	**06 18 21.9**	**-0.1**
CSTR					**Sb**	**06 18 32.7**	**-0.2**
KAN10	**Anthony SW Sta**	**0.79**	**18**		**Pg**	**06 18 22.3**	**-0.4**
KAN10					**Sg**	**06 18 33.2**	**+0.2**
KAN17	**Caldwell West**	**0.84**	**37**		**Pg**	**06 18 22.9**	**-0.7**
KAN17					**Sg**	**06 18 34.7**	**+0.1**
KAN17				IAML		06 18 46.5	
	comp=N,338nm,0.2s						
KAN05	**Bluff City Nor**	**0.85**	**30**		**Pg**	**06 18 23.4**	**-0.4**
KAN05					**Sg**	**06 18 35.1**	**+0.2**
KAN05				IAML		06 18 35.8	
	comp=N,447nm,0.2s						
KAN05				IAML		06 18 35.9	
	comp=E,491nm,0.2s						
ELIS	**Ellis County**	**0.88**	**250**	Sg	**Sb**	**06 18 36.8**	**+0.4**
KAN08	**Anthony NE Sta**	**0.92**	**22**		**Pg**	**06 18 24.8**	**-0.3**
KAN08					**Sg**	**06 18 37.3**	**+0.1**
OK029	**Liberty Lake**	**0.95**	**126**		**Pg**	**06 18 25.4**	**-0.4**
OK029					**Sg**	**06 18 38.7**	**+0.5**
OK029				IAML		06 18 41.6	
	comp=E,426nm,0.3s						
OK029				IAML		06 18 41.6	
	comp=E,196nm,0.5s						
KAN12	**Harper NE Stat**	**0.98**	**19**		**Pg**	**06 18 25.7**	**-0.5**
KAN12					**Sg**	**06 18 38.7**	**-0.3**
KAN13	**South Haven SW**	**0.98**	**49**		**Pg**	**06 18 25.7**	**-0.5**
KAN13					**Sg**	**06 18 39.0**	**0.0**
KAN09	**Caldwell North**	**0.99**	**39**		**Pg**	**06 18 26.0**	**-0.4**
KAN09					**Sg**	**06 18 39.2**	**-0.1**
BLOK	**Blackwell**	**1.03**	**67**		**Pg**	**06 18 26.8**	**-0.4**
BLOK					**Sg**	**06 18 40.9**	**+0.3**
ADOK	**Arcadia Dam**	**1.10**	**130**	Pg	**Pg**	**06 18 28.6**	**+0.1**
OK048	**Pawnee Station**	**1.18**	**87**		**Pb**	**06 18 29.4**	**-0.3**
OK048				IAML		06 18 50.5	
	comp=E,154nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**1.24**	**141**		**Pn**	**06 18 30.4**	**-0.3**
OKCSW				IAML		06 18 51.5	
	comp=E,188nm,0.5s						
OK051	**E0350 and S346**	**1.27**	**83**		**Pn**	**06 18 31.1**	**+0.1**
OK052	**Battle Ridge R**	**1.34**	**106**		**Pn**	**06 18 32.2**	**+0.1**
FNO	**Franklin**	**1.38**	**144**		**Pn**	**06 18 32.7**	**+0.2**
QUOK	**Quay**	**1.38**	**98**		**Pn**	**06 18 32.7**	**+0.1**
T35A	**Sooner Cattle**	**1.61**	**70**		**Pb**	**06 18 36.8**	**-0.3**
DEOK	**Depew**	**1.63**	**108**		**Pn**	**06 18 36.6**	**+0.6**
WMOK	**Wichita Mounta**	**1.66**	**191**		**Pn**	**06 18 36.8**	**+0.3**
WMOK	**Wichita Mounta**	**1.66**	**191**		**Pn**	**06 18 36.7**	**+0.3**
WMOK	**Wichita Mounta**	**1.66**	**191**	P	**Pn**	**06 18 37.0**	**+0.6**
W35A	**Tecumseh**	**1.73**	**134**		**Pn**	**06 18 38.0**	**+0.6**
X34A	**Smith Ranch, M**	**1.82**	**165**	IAmb_Lg		06 19 10.3	
	comp=Z,25nm,0.8s						
SMWD	**Samnorwood**	**1.96**	**230**		**Pb**	**06 18 41.8**	**-1.3**
SMWD				IAmb_Lg		06 19 12.3	
	comp=Z,21nm,0.8s						
SMWD	**Samnorwood**	**1.96**	**230**	P	**Pb**	**06 18 42.5**	**-0.5**
R32A	**Long Quarter,**	**2.06**	**353**	Pn	**Pn**	**06 18 42.7**	**+0.7**
TUL3	**Leonard**	**2.16**	**101**		**Pn**	**06 18 44.5**	**+1.2**
RLO	**Rose Lookout**	**2.74**	**93**	Pn	**Pn**	**06 18 51.4**	**+0.2**
AMTX	**Amarillo**	**3.06**	**242**	Pn	**Pn**	**06 18 55.5**	**-0.2**
AMTX				IAmb_Lg		06 19 51.7	
	comp=Z,15nm,0.7s						
AMTX	**Amarillo**	**3.06**	**242**	P	**Pb**	**06 18 59.9**	**-1.9**
KSU1	**Kansas State U**	**3.07**	**27**	Pn	**Pn**	**06 18 55.9**	**0.0**
KSU1				IAmb_Lg		06 19 46.8	
	comp=Z,12nm,0.8s						
U38A	**Gravette**	**3.24**	**88**	Pn	**Pn**	**06 18 59.1**	**+1.0**
U38A				IAmb_Lg		06 19 58.2	
	comp=Z,11nm,0.9s						
APMT	**Aspermont**	**3.35**	**205**	Pn	**Pn**	**06 19 00.5**	**+0.8**
DKNS	**Dickens**	**3.40**	**218**	P	**Pb**	**06 19 06.9**	**-0.7**
FW06	**Azle**	**3.46**	**168**	Pn	**Pn**	**06 19 02.3**	**+1.2**
RTBA	**Rita Blanca**	**3.50**	**272**	Pn	**Pn**	**06 19 03.5**	**+1.7**
RTBA	**Rita Blanca**	**3.50**	**272**	P	**Pn**	**06 19 04.3**	**+2.5**
SN07	**Snyder 07**	**3.86**	**213**	IAmb_Lg		06 20 12.6	
	comp=Z,13nm,0.7s						
ABTX	**Abilene, Hawle**	**3.88**	**196**	IAmb_Lg		06 20 11.9	
	comp=Z,8.4nm,0.7s						
POST	**Post**	**4.17**	**219**	IAmb_Lg		06 20 20.9	
	comp=Z,8.6nm,0.7s						
Z38A	**Mt. Pleasant**	**4.18**	**137**	IAmb_Lg		06 20 27.3	
	comp=Z,11nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.27**	**309**	IAmb_Lg		06 20 32.8	
	comp=Z,14nm,0.7s						
MSTX	**Muleshoe**	**4.31**	**238**	IAmb_Lg		06 20 27.2	
	comp=Z,7.3nm,0.9s						
MIAR	**Mount Ida**	**4.34**	**113**	IAmb_Lg		06 20 34.4	
	comp=Z,9.9nm,0.8s						
T25A	**Trinidad**	**4.89**	**281**	IAmb_Lg		06 20 42.8	
	comp=Z,11nm,0.7s						
X40A	**Basin Creek Fa**	**4.92**	**111**	IAmb_Lg		06 20 50.0	
	comp=Z,5.8nm,0.8s						
SGCY	**Sterling City**	**4.99**	**208**	IAmb_Lg		06 20 53.0	
	comp=Z,7.3nm,0.7s						
P38A	**Dawn**	**5.03**	**48**	IAmb_Lg		06 20 50.9	
	comp=Z,9.8nm,0.8s						
UALR	**University of**	**5.19**	**106**	IAmb_Lg		06 21 04.4	
	comp=Z,6.9nm,0.7s						
R40A	**Maddies Statio**	**5.25**	**67**	IAmb_Lg		06 20 54.1	
	comp=Z,9.2nm,0.9s						
T42A	**Van Buren**	**5.91**	**81**	IAmb_Lg		06 21 16.4	
	comp=Z,5.2nm,0.8s						
Q24A	**Divide**	**5.95**	**298**	IAmb_Lg		06 21 27.0	
	comp=Z,7.3nm,0.8s						
PBMO	**Poplar Bluff**	**6.43**	**84**	IAmb_Lg		06 21 42.1	
	comp=Z,6.6nm,0.7s						
FVM	**French Village**	**6.57**	**73**	IAmb_Lg		06 21 45.0	
	comp=Z,5.3nm,1.0s						

*NNC **22** 06:30:01.8±3.7, 53°.93N×87°.18E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=22.8km s-min=16.7km az=79.0, Suspected Mining explosion.*
*IDC **22** 06:30:01.6±3.0, 54°.30N×87°.21E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=24.3km s-min=17.9km az=62.0*
ASRS 22 06:30:00.0±1.1, **54°.19N**×**87°.13E, h0**km, **M2.7, 5C-1D, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**261**	I	I	06 39 40.0	
	0.1nm,0.9s,baz=79,slow=332,SNR=16						
ZAA0	**Zalesovo Array**	**1.38**	**261**	⇑P	Pb	06 30 27.4	+0.7
	0.3nm,0.5s,baz=84,slow=16						
ZAA0				⇓S	Sn	06 30 46.8	+1.3
	2.4nm,0.8s,baz=93,slow=26						
ZALV	**Zalesovo Beam**	**1.38**	**261**	Pg	Pb	06 30 27.1	+0.4
	1.5nm,0.3s,baz=75,slow=15,SNR=12						
ZALV				Lg	Lg	06 30 47.4	
	0.4nm,0.3s,baz=74,slow=23,SNR=4.5						
KURK	**Kurchatov**	**6.26**	**240**	⇑Pn	Pn	06 31 34.6	+1.1
	10nm,3.0s						
KURK				⇑Sn	Sn	06 32 46.8	+1.2
	2.2nm,1.0s						
KURBB	**Kurchatov Arra**	**6.36**	**239**	Pn	Pn	06 31 38.5	+3.6
	0.1nm,0.3s,baz=53,slow=13,SNR=9.4						
KURBB				Sn	Sn	06 32 51.5	+3.3
	baz=48,slow=21,SNR=1.8						
KURBB				Lg	Lg	06 33 24.3	
	baz=59,slow=31,SNR=4.6						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**6.36**	**239**	⇑Pn	Pn	06 31 35.3	+0.4
	2.0nm,0.8s,baz=60,slow=14						
KURBB				⇑Sn	Sn	06 32 49.3	+1.2
	3.0nm,0.7s						
MKAR	**Makanchi Array**	**8.02**	**205**	Pn	Pn	06 32 01.7	+4.0
	0.1nm,0.3s,baz=25,slow=13,SNR=2.5						
MKAR				Sn	Sn	06 33 35.3	+6.2
	0.1nm,0.3s,baz=20,slow=28,SNR=3.6						
MKAR				Lg	Lg	06 34 19.0	
	baz=28,slow=25,SNR=5.3						
	0.3nm,0.6s						

*UCR **22** 06:32:08.0±1.0, 9°.58N×84°.33W, h46km±2km, MW3.8*
*UPA **22** 06:32:11.1±2.1, 9°.80N×83°.99W, h28km±864km, ML3.5*
ISC 22 06:32:09.0±1.3, **9°.58N**±0°.04×**84°.33W**±0°.03, **h35**km, **n79,** σ0s**86**/91, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICV	**PH. Pirrs**	**0.14**	**72**	*e*P	**Pn**	**06 32 15.3**	**-0.1**
PICV				*e*S	**Sn**	**06 32 21.2**	**+1.4**
PISJ	**San Jernim**	**0.21**	**76**	*e*P	**Pn**	**06 32 15.7**	**-0.4**
PISJ				*e*S	**Sn**	**06 32 21.9**	**+0.9**
SVQ2	**Quepos**	**0.22**	**132**	*e*P	**Pn**	**06 32 15.5**	**-0.5**
SVQ2				*e*S	**Sn**	**06 32 21.9**	**+1.1**
QUEP	**Quepos**	**0.22**	**132**	*e*P	**Pn**	**06 32 15.5**	**-0.5**
QUEP				*e*S	**Sn**	**06 32 21.7**	**+0.9**
LLNJ	**Naranjito**	**0.25**	**115**	*e*P	**Pn**	**06 32 16.1**	**-0.3**
LLNJ				*e*S	**Sn**	**06 32 22.7**	**+1.3**
PURI	**Puriscal**	**0.27**	**5**	*e*P	**Pn**	**06 32 16.4**	**-0.3**
ACOS	**Acosta**	**0.27**	**38**	*e*P	**Pn**	**06 32 16.2**	**-0.5**
ACOS				*e*S	**Sn**	**06 32 22.7**	**+0.7**
ABE2	**San Pablo**	**0.30**	**66**	*e*P	**Pn**	**06 32 16.4**	**-0.7**
ABE2				*e*S	**Sn**	**06 32 23.2**	**+0.4**
RAZU	**San Marcos de**	**0.32**	**76**	*e*P	**Pn**	**06 32 16.5**	**-0.8**
RAZU				*e*S	**Sn**	**06 32 23.3**	**+0.4**
LCR2	**La Lucha 2**	**0.36**	**64**	*e*P	**Pn**	**06 32 16.9**	**-1.0**
SANTA	**Santa Ana**	**0.38**	**23**	*e*P	**Pn**	**06 32 17.3**	**-0.7**
AMPA	**Desamparados**	**0.41**	**40**	*e*P	**Pn**	**06 32 18.6**	**0.0**
BELE	**Belen**	**0.42**	**20**	*e*P	**Pn**	**06 32 17.7**	**-0.8**
MEXI	**Barrio Mexico**	**0.43**	**34**	*e*P	**Pn**	**06 32 17.9**	**-0.9**
SJS	**Escuela Geolog**	**0.45**	**38**	*e*P	**Pn**	**06 32 18.3**	**-0.8**
SJS3	**Mercedes San J**	**0.45**	**38**	*e*P	**Pn**	**06 32 18.4**	**-0.7**
UELA	**Alajuela**	**0.45**	**15**	*e*P	**Pn**	**06 32 19.4**	**+0.3**
HEME	**Heredia, Merce**	**0.45**	**25**	*e*P	**Pn**	**06 32 18.4**	**-0.7**
TCS1	**Tacares**	**0.46**	**4**	*e*P	**Pn**	**06 32 18.6**	**-0.6**
TRIO	**Tres Rios**	**0.46**	**46**	*e*P	**Pn**	**06 32 18.3**	**-1.0**
DOMI	**Santo Domingo**	**0.46**	**31**	*e*P	**Pn**	**06 32 18.7**	**-0.6**
GREC	**Grecia**	**0.49**	**3**	*e*P	**Pn**	**06 32 19.0**	**-0.6**
TAGO	**Cartago**	**0.49**	**55**	*e*P	**Pn**	**06 32 18.8**	**-0.9**
POAS	**San Pedro de P**	**0.50**	**10**	*e*P	**Pn**	**06 32 19.3**	**-0.5**
SARCI	**Sarchi**	**0.51**	**359**	*e*P	**Pn**	**06 32 19.3**	**-0.5**
CORON	**Coronado**	**0.51**	**40**	*e*P	**Pn**	**06 32 19.3**	**-0.6**
RAMO	**San Ramon**	**0.52**	**345**	*e*P	**Pn**	**06 32 20.4**	**+0.4**
REPA	**Paraso**	**0.52**	**62**	*e*P	**Pn**	**06 32 19.0**	**-1.1**
SRA1	**San Ramn**	**0.52**	**344**	*e*P	**Pn**	**06 32 19.4**	**-0.7**
ARZA	**Esparza**	**0.52**	**321**	*e*P	**Pn**	**06 32 19.2**	**-0.8**
VBV1	**V. Barva**	**0.58**	**23**	*e*P	**Pn**	**06 32 20.1**	**-0.9**
VPS8	**V Poas**	**0.60**	**9**	*e*P	**Pn**	**06 32 20.7**	**-0.7**
ZARE	**Zarcero**	**0.60**	**355**	*e*P	**Pn**	**06 32 20.8**	**-0.4**
PCAYA	**Pacayas**	**0.61**	**57**	*e*P	**Pn**	**06 32 20.4**	**-1.0**
ENAS	**Puntarenas**	**0.63**	**309**	*e*P	**Pn**	**06 32 21.0**	**-0.5**
PAQE	**Paquera**	**0.64**	**292**	*e*P	**Pn**	**06 32 20.5**	**-1.0**
VINA	**Juan Vinas**	**0.66**	**62**	*e*P	**Pn**	**06 32 20.9**	**-1.0**
VPL1	**V. Platanar**	**0.67**	**357**	*e*P	**Pn**	**06 32 21.4**	**-0.9**
CVTQ	**Turrialba Volc**	**0.70**	**53**	*e*P	**Pn**	**06 32 21.9**	**-0.8**
VTR0	**Volcan Turrial**	**0.71**	**52**	*e*P	**Pn**	**06 32 22.2**	**-0.7**
CVTV	**Tajo**	**0.71**	**54**	*e*P	**Pn**	**06 32 22.1**	**-0.8**
CVTR	**Volcan Turrial**	**0.71**	**52**	*e*P	**Pn**	**06 32 22.2**	**-0.8**
CBL1	**Cabuya**	**0.75**	**271**	*e*P	**Pn**	**06 32 21.6**	**-1.4**
RVSTA	**Santa Teresita**	**0.78**	**60**	*e*P	**Pn**	**06 32 22.8**	**-0.8**
CVTG	**V. Turrialba,**	**0.79**	**44**	*e*P	**Pn**	**06 32 23.0**	**-0.6**
PILE	**Guapiles**	**0.83**	**40**	*e*P	**Pn**	**06 32 24.6**	**+0.5**
SOCE	**Pocosol**	**0.84**	**341**	*e*P	**Pn**	**06 32 24.1**	**-0.3**
SAJE	**San Jernim**	**0.85**	**106**	*e*P	**Pn**	**06 32 23.2**	**-1.3**
ITAL	**Pital**	**0.87**	**4**	*e*P	**Pn**	**06 32 24.3**	**-0.4**
MTEVE	**Monteverde**	**0.88**	**326**	*e*P	**Pn**	**06 32 25.9**	**+0.8**
JUNT	**Juntas**	**0.93**	**318**	*e*P	**Pn**	**06 32 25.2**	**-0.4**
JTS	**Las Juntas de**	**0.93**	**319**	*e*P	**Pn**	**06 32 25.2**	**-0.4**
FORC	**Fortuna**	**0.94**	**339**	*e*P	**Pn**	**06 32 25.6**	**-0.1**
ARE1	**Arenal 1**	**0.95**	**337**	*e*P	**Pn**	**06 32 26.0**	**+0.1**
IRES	**Siquirres**	**0.96**	**58**	*e*P	**Pn**	**06 32 25.6**	**-0.4**
CARI	**Cariari**	**0.97**	**37**	*e*P	**Pn**	**06 32 26.9**	**+0.7**
NYURE	**Nandayure**	**1.00**	**294**	*e*P	**Pn**	**06 32 25.6**	**-0.8**
BURE	**Buenos Aires**	**1.06**	**112**	*e*P	**Pn**	**06 32 26.7**	**-0.7**
TILA	**Tilaran**	**1.08**	**325**	*e*P	**Pn**	**06 32 28.1**	**+0.3**
TAAN	**Batan**	**1.09**	**63**	*e*P	**Pn**	**06 32 27.6**	**-0.1**
FIMO	**Fila Mora**	**1.13**	**121**	*e*P	**Pn**	**06 32 27.9**	**-0.5**
CMARA	**Lajas Hojancha**	**1.16**	**292**	*e*P	**Pn**	**06 32 27.5**	**-1.3**
NICO	**Nicoya**	**1.23**	**297**	*e*P	**Pn**	**06 32 28.9**	**-0.7**
BAGA	**Bagaces**	**1.31**	**316**	*e*P	**Pn**	**06 32 30.5**	**-0.3**
CUI	**Cuipilapa**	**1.35**	**323**	*e*P	**Pn**	**06 32 31.3**	**-0.1**
VERA	**Finca Concepci**	**1.37**	**337**	*e*P	**Pn**	**06 32 31.5**	**-0.2**
CEUA	**Cerro Uatsi, L**	**1.37**	**88**	*e*P	**Pn**	**06 32 32.1**	**+0.4**
COLC	**Colonia**	**1.38**	**322**	*e*P	**Pn**	**06 32 31.6**	**-0.1**
UPAL	**Upala**	**1.47**	**333**	*e*P	**Pn**	**06 32 33.0**	**0.0**
BRIBI	**Bribri**	**1.50**	**88**	*e*P	**Pn**	**06 32 33.4**	**+0.1**
ALIBA	**Liberia Airpor**	**1.56**	**310**	*e*P	**Pn**	**06 32 34.2**	**0.0**
ALCO	**Alturas Coton,**	**1.61**	**113**	*e*P	**Pn**	**06 32 33.9**	**-1.2**
PEJA	**Penjamo Buenos**	**1.62**	**324**	*e*P	**Pn**	**06 32 35.0**	**-0.2**
BRU2	**Volcan**	**1.80**	**116**	*e*P	**Pn**	**06 32 36.6**	**-1.1**
BRU2	**Volcan**	**1.80**	**116**	*e*P	**Pn**	**06 32 36.7**	**-1.0**
BRU2				*e*S	**Sn**	**06 32 58.7**	**-0.7**
PTPM	**Petroterminale**	**1.98**	**133**	*e*P	**Pn**	**06 32 41.7**	**+1.6**
PTPM				AMP		06 32 43.1	
	comp=Z,353nm,0.4s						
PTPM				*e*S	**Sn**	**06 33 04.6**	**+0.9**
DVD	**David**	**2.18**	**121**	*e*P	**Pn**	**06 32 44.8**	**+2.0**
DVD				*e*S	**Sn**	**06 33 09.5**	**+1.0**
CHGR2	**Aguacate**	**2.25**	**106**	*e*P	**Pn**	**06 32 43.3**	**-0.5**
CHGR2				*e*S	**Sn**	**06 33 06.8**	**-3.6**
ACON	**Acoyapa**	**2.51**	**341**	*e*P	**Pn**	**06 32 47.0**	**-0.3**

*IDC **22** 06:38:34.3±0.8, 60°.27S×46°.62W, h0km, mb3.9/5, mbtmp3.9/5, MS3.0/2, Error ellipse: s-maj=40.2km s-min=21.9km az=67.0*
*NEIC **22** 06:38:36.2±1.9, 60°.31S±0°.04×46°.5W±0°.2, h10km±1km, mb4.4/23, Error ellipse: s-maj=14.2km s-min=5.3km az=251.0*
ISC 22 06:38:35.6±0.5, **60°.32S**±0°.09×**46°.55W**±0°.09, **h10**km, **n70,** σ0s**73**/64, **mb4.4**/15, **Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPZ	**Base Esperanza**	**5.83**	**234**	Pn	**Pn**	**06 40 01.1**	**-0.9**
HOPE	**Hope Point**	**8.13**	**46**	Pn	**Pn**	**06 40 33.1**	**-0.4**
EFI	**East Falkland**	**10.78**	**318**	Pn	**Pn**	**06 41 10.0**	**+0.2**
SMAI	**San Martin Ant**	**11.83**	**220**	Pn	**Pn**	**06 41 22.8**	**-1.3**
MG03	**Isla Dawson**	**14.47**	**286**	Pn	**Pn**	**06 42 00.8**	**+0.6**
MG02	**Cerro Sombrero**	**14.55**	**291**	Pn	**Pn**	**06 42 01.2**	**0.0**
MG05	**Puerto Natales**	**16.80**	**289**	Pn	**Pn**	**06 42 30.2**	**-0.4**
MG05				IAmb	IAmb	06 43 08.0	
	comp=Z,41nm,1.5s						
COYC	**Coyhaique**	**21.12**	**303**	P	**P**	**06 43 20.5**	**+0.2**
AY01	**Puyuhuapi**	**22.29**	**304**	P	**P**	**06 43 32.

ILSW	Iliamna Southw	145.21	302	PKPbc	PKPbc	06 58 11.2	-0.5
IL31		145.28	312	PKPbc	PKPbc	06 58 11.2	-0.4
ILAR	Eielson Array	145.28	312	PKPbc	PKPbc	06 58 11.5	-0.1
ILAR	Eielson Array	145.28	312	PKPbc	PKPbc	06 58 10.8	-0.9
	comp=Z,2.8nm,1.0s,baz=160,slow=2.0,SNR=19						
CCB	Clear Creek Bu	145.56	312	PKPdf	PKPdf	06 58 11.8	-0.5
F26K	Sheenjek River	145.77	318	PKPdf	PKPab	06 58 13.9	+0.3
BMAR	Burnt Mountain	145.79	317	PKPdf	PKPab	06 58 14.0	+0.3
BRVK	Borovoye	145.80	73	PKPdf	PKPbc	06 58 13.7	0.0
BVAR	Borovoye Array	145.83	74	PKPbc	PKPbc	06 58 13.6	-0.2
	comp=Z,3.2nm,0.5s,baz=228,slow=2.9,SNR=22						
M20K	Styx River	146.22	305	PKPdf	PKPbc	06 58 14.4	-0.3
E25K	Arctic Village	146.45	318	PKPdf	PKPbc	06 58 15.0	-0.2
CAST	Castle Rocks	146.57	308	PKPdf	PKPbc	06 58 15.0	-0.7
D25K	Kavik River	147.24	320	PKPdf	PKPbc	06 58 16.6	-0.9
G23K	Bananza Creek	147.35	314	PKPdf	PKPdf	06 58 16.1	+0.8
E24K	Your Creek	147.41	317	PKPdf	PKPbc	06 58 17.7	-0.3
MAKZ	Makanchi	147.49	91	PKPdf	PKPdf	06 58 16.1	-0.1
MKAR	Makanchi Array	147.63	91		PKPdf	06 58 17.7	+1.3
MKAR	Makanchi Array	147.63	91	PKPbc	PKPbc	06 58 18.2	-1.0
	comp=Z,1.6nm,0.6s,baz=241,slow=2.1,SNR=11						
J20K	Nowinta River	147.74	309	PKPbc	PKiKP	06 58 20.6	-0.2
E23K	Chandalar	147.79	317	PKPdf	PKPbc	06 58 18.1	-0.9
H21K	Melozitna River	147.90	312	PKPdf	PKPdf	06 58 16.4	+0.2
TOLK	Toolik Lake Re	148.01	318	PKPdf	PKPbc	06 58 19.0	-0.6
KURBB	Kurchatov Arra	148.30	83	PKPbc	PKPbc	06 58 19.5	-1.2
	comp=Z,0.7nm,0.6s,baz=232,slow=3.6,SNR=6.1						
B21K	Ikpikpuk River	150.05	318	PKPbc	PKPbc	06 58 24.9	+0.4

TRN 22 06:39:05.1, 14°.01N×60°.62W, h29km, MD3.6, East of Saint Lucia., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLAC	Saint Lucia, A	0.29	248	eP	Pn	06 39 13.7	+0.2
SLAC				eS	Sn	06 39 20.3	+1.5
SLBI	Saint Lucia, B	0.34	273	eP	Pn	06 39 13.9	-0.3
SLBI				eS	Sn	06 39 20.5	+0.4
BIM	Bigot	0.67	319	eP	Pn	06 39 19.9	+1.1
BIM				eS	Sn	06 39 29.3	+1.0
SSV	Crater Summit	0.87	219	eP	Pb	06 39 23.2	+1.4
SVB	Belmont	0.95	220	eP	Pb	06 39 23.6	+0.5
SVB				eS	Sb	06 39 38.0	+2.6
SVN	Savane Anatole	0.98	328	eP	Pb	06 39 23.8	+0.1
SVN				eS	Sb	06 39 37.5	+1.2
SVT	Saint Vincent	1.03	216	eP	Pb	06 39 24.0	-0.3
SVT				eS	Sb	06 39 38.1	+0.7
SVOC	Richmond Hill,	1.03	215	eP	Pb	06 39 24.1	-0.3
SVOC				eS	Sb	06 39 38.6	+1.1
BBGH	Gun Hill	1.34	130	eP	Pb	06 39 29.1	-0.6
BBGH				eS	Sb	06 39 46.4	-0.1
MDN	Morne-Daniel	1.50	330	eP	Pb	06 39 31.4	-1.0
MDN				eS	Sb	06 39 51.0	-0.1
DSLB	Salisbury	1.62	332	eP	Pb	06 39 33.9	-0.5
DSLB				eS	Sb	06 39 53.8	-0.6
DWS	Wesley	1.69	337	eP	Pb	06 39 34.8	-0.8
DWS				eS	Sb	06 39 55.2	-1.2
GCMP	Grenada, Carri	1.70	207	eP	Pb	06 39 34.8	-0.9
GCMP				eS	Sb	06 39 56.0	-0.8
GRGR	Grenville	2.12	208	eP	Pn	06 39 40.0	+1.3
GRGR				eS	Sn	06 40 06.3	+2.3
GRFF	Grenada Fort F	2.23	209	eS	Sn	06 40 08.1	+1.3

ASRS ***22*** *06:45:09.0±1.1, 54°.24N×87°.09E, h0km, M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC ***22*** *06:45:11.3±2.6, 54°.20N×87°.13E, h0km, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=22.8km s-min=15.4km az=70.0*

ISC 22 06:45:14.8±3.7, 54°.2N±0°.2×86°.6E±0°.2, h0km, n5, σ2s16/7, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.07	257	I	I	06 54 40.0	
	0.3nm,0.9s,baz=76,slow=326,SNR=11						
ZALV	Zalesovo Beam	1.07	257	Pg	Pg	06 45 35.2	-0.1
	3.2nm,0.3s,baz=79,slow=16,SNR=24						
ZALV				Lg	Lg	06 45 55.5	
	1.5nm,0.3s,baz=80,slow=16,SNR=4.8						
KURBB	Kurchatov Arra	6.09	237	Pn	Pn	06 46 46.3	+0.3
	0.1nm,0.3s,baz=53,slow=13,SNR=14						
KURBB				Sn	Sn	06 47 58.9	+2.5
	baz=50,slow=17,SNR=1.8						
KURBB				Lg	Lg	06 48 31.5	
	0.1nm,0.3s,baz=50,slow=32,SNR=6.7						
	2.3nm,0.6s						
MKAR	Makanchi Array	7.91	202	Pn	Pn	06 47 10.3	-0.7
	0.1nm,0.3s,baz=27,slow=13,SNR=5.3						
MKAR				Sn	Sn	06 48 40.6	-0.5
	0.2nm,0.3s,baz=27,slow=26,SNR=5.1						
MKAR				Lg	Lg	06 49 25.9	
	baz=21,slow=33,SNR=5.5						
	0.2nm,0.3s						
BVAR	Borovoye Array	9.70	270	Pn	Pn	06 47 37.1	+1.6
	baz=79,slow=16,SNR=3.6						
BVAR				Sn	Sn	06 49 22.0	-3.0
	baz=71,slow=23						
	0.8nm,0.5s						

NEIC ***22*** *06:49:51.5±2.7, 9°.15S±0°.06×117°.45E±0°.05, h101km±4km, mb4.7/51, Error ellipse: s-maj=9.3km s-min=7.7km az=178.0*

IDC ***22*** *06:49:51.2±1.8, 8°.86S×117°.33E, h99km±15km, mb4.0/20, mbtmp4.4/22, MS3.1/1, Error ellipse: s-maj=16.1km s-min=11.2km az=69.0*

DJA ***22*** *06:49:51.1±0.1, 9°.S±2°×11°.7E±°, h92km±2km, M4.9/47, mb4.9/47, mB5.3/13, MLv5.2/29, Mw(mB)4.8/13*

ISC 22 06:49:50.8±0.3, 9°.11S±0°.04×117°.48E±0°.04, h100km, n220, σ1s56/223, mb4.5/48, 1C, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.41	46	P	Pn	06 50 06.3	+0.3
PLAI	Plampang	0.41	46	P	Pn	06 50 06.3	+0.3
PLAI				S	Sn	06 50 16.0	-1.4
TWSI	Taliwang, Sumb	0.70	302	P	Pn	06 50 08.8	+0.6
TWSI				S	Sn	06 50 21.1	-0.1
WBSI	Waikabubak, Su	1.96	106	P	Pn	06 50 22.7	-0.2
DNP	Denpasar	2.28	281	P	Pn	06 50 29.4	+2.4
SRBI	Singaraja	2.46	294	P	Pn	06 50 30.3	+0.9
WSI	Waingapu	2.84	101	P	Pn	06 50 34.4	0.0
JAGI	Jajag, Banyuwa	3.35	281		Pn	06 50 41.5	+0.3
JAGI				Sn	Sn	06 51 20.0	-0.2
JAGI	Jajag, Banyuwa	3.35	281	P	Pn	06 50 42.2	+1.0
JAGI	Jajag, Banyuwa	3.35	281	S	Sn	06 51 20.0	-0.2
JAGI	Jajag, Banyuwa	3.35	281	P	Pn	06 50 41.9	+0.7
ABJI	Asem Bagus	3.46	292	P	Pn	06 50 44.3	+1.5
KMMI	Kalianget	4.04	300	P	Pn	06 50 52.2	+1.7
GMJI	Gumukmas	4.07	282	P	Pn	06 50 51.5	+0.5
EDFI	Ende, Flores	4.18	85	P	Pn	06 50 53.0	+0.5
BSSI	Bau Bau, Buton	4.20	46	P	Pn	06 50 53.2	+0.5
BKSI	Bulukumba	4.59	35	P	Pn	06 50 58.6	+0.6
KAPI	Kappang	4.66	29		Pn	06 50 59.8	+0.9
KAPI				Sn	Sn	06 51 49.5	-2.4
KAPI	Kappang	4.66	29	P	Pn	06 50 59.3	+0.4
	195nm,0.8s,baz=210,slow=8.9,SNR=66						
KAPI				S	Sn	06 51 49.9	-2.0
	223nm,0.6s,baz=217,slow=20,SNR=14						
KAPI	Kappang	4.66	29	P	Pn	06 50 59.8	+0.9
MMRI	Maumere	4.73	85		Pn	06 51 01.1	+1.2
MMRI				Sn	Sn	06 51 54.5	+1.0
MMRI	Maumere	4.73	85	P	Pn	06 51 01.6	+1.7
MMRI	Maumere	4.73	85	P	Pn	06 51 00.1	+0.2
BNSI	Bone	5.36	29	P	Pn	06 51 10.6	+2.1
	1.0nm2μm203nm,1.0s						
GRJI	Gresik	5.41	293	P	Pn	06 51 11.4	+2.3
SPSI	Sidrap Palu	5.60	24	P	Pn	06 51 12.3	+0.6
	0.5nm1μm120nm,0.8s						
BWJI	Bawean	5.77	304	P	Pn	06 51 14.7	+0.7
TBJI	Tambak Boyo	6.02	292	P	Pn	06 51 19.4	+2.0
NGJI	Ngawi	6.20	286	P	Pn	06 51 21.6	+1.8
	1.1nm222nm,0.9s						
PCJI	Pacitan	6.29	278	P	Pn	06 51 21.5	+0.4
	1.8nm4μm340nm,1.1s						
SOEI	Soe	6.73	96		Pn	06 51 26.9	-0.2
SOEI	Soe	6.73	96	P	Pn	06 51 28.2	+1.0
SOEI	Soe	6.73	96	P	Pn	06 51 26.6	-0.6
	1.4nm2μm202nm,0.8s						
UGM	Wanagama	6.98	279		Pn	06 51 31.9	+1.4
UGM	Wanagama	6.98	279	P	Pn	06 51 30.0	-0.5
UGM	Wanagama	6.98	279	P	Pn	06 51 29.8	-0.7
	335nm,1.0s						
YOGI	Yogyakarta	7.22	280	P	Pn	06 51 34.4	+0.7
	1.2nm122nm,1.7s						
SMRI	Semarang	7.26	286	Pn	Pn	06 51 34.5	+0.2
SMRI	Semarang	7.26	286	P	Pn	06 51 35.0	+0.7
SMRI	Semarang	7.26	286	P	Pn	06 51 34.8	+0.5
	0.7nm200nm,0.7s						
PCI	Palu	8.49	16	P	Pn	06 51 53.3	+2.3
	114nm,1.2s						
CMJI	Cimerak	9.03	278	P	Pn	06 51 57.0	-1.3
	133nm,0.9s						
LUWI	Luwuk	9.60	34	Pn	Pn	06 52 08.2	+2.1
LUWI	Luwuk	9.60	34	P	Pn	06 52 07.7	+1.6
	205nm,1.2s						
MPSI	Mapaga	9.69	15	P	Pn	06 52 10.1	+2.7
	56nm,1.1s						
BBJI	Bungbulang	9.86	279	P	Pn	06 52 09.4	-0.3
LEM	Lembang	10.03	282	P	Pn	06 52 12.7	+0.6
	45nm,0.5s,baz=127,slow=20,SNR=6.4						
LEM	Lembang	10.03	282	P	Pn	06 52 13.3	+1.3
	57nm,0.6s						
CNJI	Cibinong	10.40	279	P	Pn	06 52 16.2	-0.8
	1μm54nm,0.7s						
MRSI	Marisa	10.52	25	P	Pn	06 52 19.4	+0.8
	22nm,0.5s						
TOLI2	Tolitoli	10.68	18		Pn	06 52 22.1	+1.3
CGJI	Cibinong	11.93	281	P	Pn	06 52 38.1	+0.4
	71nm,0.7s						
FITZ	Fitzroy Crossi	11.94	139		Pn	06 52 37.0	-0.8
FITZ	Fitzroy Crossi	11.94	139	P	Pn	06 52 36.9	-0.8
	comp=Z,4.2nm,0.6s						
FITZ	Fitzroy Crossi	11.94	139	P	Pn	06 52 36.9	-0.8
	comp=Z,8.7nm,0.5s,baz=331,slow=10,SNR=21						
FITZ				S	Sn	06 54 40.6	-8.5
	comp=Z,47nm,0.6s,baz=197,slow=19,SNR=9.7						
MBWA	Marble Bar	12.17	170	Pn	Pn	06 52 39.8	-1.0
MBWA	Marble Bar	12.17	170	P	Pn	06 52 42.0	+1.2
	comp=Z,91nm,0.6s						
PSA00	Pilbara Seismi	12.60	170		Pn	06 52 47.8	+1.4
PSA00	Pilbara Seismi	12.60	170	P	Pn	06 52 47.5	+1.1
	comp=Z,54nm,0.6s						
KNRA	Kununurra	12.80	122		Pn	06 52 48.6	-0.6
KNRA	Kununurra	12.80	122	P	Pn	06 52 48.5	-0.6
	comp=Z,64nm,0.6s						
KASI	Kota Agung	13.36	285	P	Pn	06 52 57.2	+0.7
GIRL	Giralia	13.81	193		Pn	06 53 02.1	-0.2
MTN	Manton Dam	13.91	107		Pn	06 53 02.3	-1.3
MTN	Manton Dam	13.91	107	P	Pn	06 53 02.3	-1.3
TNTI	Ternate	13.91	46	P	Pn	06 53 05.3	+1.6
	comp=Z,49nm,1.3s						
LWLI	Liwa	13.92	286	P	Pn	06 53 05.2	+1.3
MDSI	Maura Dua	13.98	288	P	Pn	06 53 06.8	+2.2
	comp=Z,13nm,0.7s						
MYLDM	Lahad Datu	14.24	4	Pn	Pn	06 53 09.1	+1.3
KKM	Kota Kinabalu	15.11	355	Pn	Pn	06 53 19.0	-0.1
KKM				IAmb	IAmb	06 53 33.5	
	comp=Z,21nm,0.8s						
KDU	Kakadu	15.15	105	P	Pn	06 53 17.9	-1.6
MNAI	Manna	15.17	287	Pn	Pn	06 53 18.9	-0.9
MNAI	Manna	15.17	287	P	Pn	06 53 18.5	-1.3
FAKI	Fak Fak	15.92	68		Pn	06 53 29.7	+0.5
FAKI				IAmb	IAmb	06 53 46.5	
	comp=Z,20nm,0.6s						
FAKI	Fak Fak	15.92	68	P	Pn	06 53 28.4	-0.8
	comp=Z,29nm,0.7s						
SWI	Sorong	15.98	60	P	Pn	06 53 30.6	+0.6
	comp=Z,55nm,0.8s						
MEEK	Meekatharra	17.46	177	P	Pn	06 53 54.7	+6.6
WRKA	Warakurna	18.89	148	P	Pn	06 54 06.9	+1.6
	comp=Z,21nm,0.8s						
WB0	Warramunga Arr	19.49	125		Pn	06 54 11.3	-1.0
WB0				IAmb	IAmb	06 54 14.1	
	comp=Z,14nm,0.7s						
WRA	Warramunga Arr	19.53	125		P	06 54 11.5	+1.0
WRA	Warramunga Arr	19.53	125	P	Pn	06 54 12.0	-0.8
	comp=Z,8.6nm,0.9s,baz=302,slow=13,SNR=29						
WRA				S	S	06 57 40.2	-5.7
	comp=Z,6.4nm,0.9s,baz=293,slow=24,SNR=6.1						
WRA				ScP	ScP	07 01 55.9	+1.5
	comp=Z,1.1nm,0.8s,baz=302,slow=3.3,SNR=2.6						
WR8	Warramunga Arr	19.67	125		P	06 54 13.3	+1.3
WR8				IAmb	IAmb	06 54 16.3	
	comp=Z,16nm,0.8s						
WR0	Warramunga Arr	19.70	125	P	P	06 54 12.7	+0.3
AS31	Alice Springs	21.36	135		P	06 54 31.2	+0.9
AS31	Alice Springs	21.36	135	P	P	06 54 32.5	+2.2
	comp=Z,6.7nm,0.5s						
ASAR	Alice Springs	21.36	135	P	P	06 54 32.2	+2.0
	comp=Z,3.7nm,0.5s,baz=313,slow=11,SNR=45						
ASAR				S	S	06 58 25.4	+3.5
	comp=Z,5.8nm,0.8s,baz=311,slow=24,SNR=9.3						
ASAR				ScP	ScP	07 01 58.9	+0.1
	comp=Z,1.6nm,0.8s,baz=331,slow=3.4,SNR=4.6						
	comp=Z,3.7nm,0.5s						
RPSI	Rantau Prapat	21.90	302		P	06 54 35.8	-0.2
PSI	Prapat	21.95	302	P	P	06 54 34.1	-2.6
	comp=Z,5.7nm,0.3s,baz=164,slow=12,SNR=7.8						
	comp=Z,5.7nm,0.3s						
NWAO	Narrogin (SRO)	23.70	181	P	P	06 54 52.4	-1.1
NWAO				IAmb	IAmb	06 55 19.4	
	comp=Z,31nm,0.8s						
NWAO	Narrogin (SRO)	23.70	181	P	P	06 55 13.4	+20
	comp=Z,27nm,0.5s,baz=0.5,slow=12,SNR=28						
NWAO				S	S	06 59 12.5	+11
	comp=Z,13nm,0.4s,baz=59,slow=5.9,SNR=6.2						
NWAO				LR	LR	07 04 28.7	
	comp=Z,51nm,20.4s,baz=324,slow=37						
FORT	Forrest	23.71	157	P	P	06 54 51.9	-1.8
FORT				IAmb	IAmb	06 55 28.6	
	comp=Z,18nm,0.6s						
QIS	Mount Isa	24.19	121	P	P	06 55 01.7	+3.5
	comp=Z,13nm,1.2s						
COEN	Coen	25.62	103	P	P	06 55 12.2	+1.0
COEN				IAmb	IAmb	06 55 39.8	
	comp=Z,11nm,0.8s						
BBOO	Buckleboo	29.17	147	P	P	06 55 42.2	-0.6
BBOO				IAmb	IAmb	06 55 47.8	
	comp=Z,22nm,1.4s						
STKA	Stephens Creek	31.84	139	P	P	06 56 10.7	+4.4
	comp=Z,1.7nm,0.6s,baz=310,slow=14,SNR=3.5						
	comp=Z,1.7nm,0.6s						
CMAR	Chiang Mai Arr	32.94	326	P	P	06 56 15.3	-0.8
	comp=Z,1.0nm,0.4s,baz=144,slow=8.4,SNR=4.6						
CMAR				ScP	ScP	07 02 33.2	-0.3
	comp=Z,1.7nm,0.4s,baz=139,slow=3.3,SNR=7.8						
	comp=Z,1.0nm,0.4s						
JOW	Kunigami	37.24	16	P	P	06 56 52.9	+0.1
PZH	PanZhiHua	38.56	337	P	P	06 57 07.3	+3.2
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.3s						
PALK	Pallekele	40.10	293	P	P	06 57 15.7	-1.3
PALK				IAmb	IAmb	06 57 23.9	
	comp=Z,15nm,1.4s						
PALK	Pallekele	40.10	293	P	P	06 57 15.7	-1.3
	comp=Z,4.0nm,0.4s,baz=117,slow=6.8,SNR=5.6						
	comp=Z,4.0nm,0.4s						
NJ2	Nanjing	40.95	2	eP	P	06 57 25.3	+1.6
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SHL	Shillong	42.53	325	P	P	06 57 35.7	-1.2
SHL				IAmb	IAmb	06 57 36.3	
	comp=Z,12nm,0.5s						
H08S2	Diego Garcia H	44.51	268	T	T	07 45 03.6	
	baz=95,slow=75,SNR=36						
H08S3	Diego Garcia H	44.52	268	T	T	07 45 04.6	
	baz=95,slow=75,SNR=18						
H08S1	Diego Carcia H	44.52	268	T	T	07 45 05.0	
	baz=95,slow=75,SNR=35						
LZH	Lanzhou	46.76	345	eP	P	06 58 17.0	+6.7
LZH				pP	pP	06 58 39.8	+5.7
LZH				pmax	pmax		
	comp=Z,29nm,1.2s						
KSAR	Wonju Array Be	47.33	11		P	06 58 15.5	+1.0
KSRS	Korea Array	47.35	11	P	P	06 58 14.3	-0.3
	comp=Z,6.9nm,0.9s,baz=189,slow=8.2,SNR=31						
	comp=Z,6.9nm,0.9s						
MJAR	Matsushiro Arr	49.42	22	P	P	06 58 27.9	-2.7
	comp=Z,5.0nm,0.8s,baz=200,slow=7.6,SNR=7.5						
	comp=Z,5.0nm,0.8s						
HHC	Hu-ho-hao-te	50.01	354	eP	P	06 58 38.8	+3.7
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,77nm,4.7s						
JSD	Sado	50.77	21	P	P	06 58 41.5	+0.7
JMM	Marumori	51.57	24	P	P	06 58 47.3	+0.5
JTM	Tenmabayashi	54.21	22	P	P	06 59 06.4	+0.3
MDJ	Mudanjiang	54.59	11	P	P	06 59 09.7	+0.9
MDJ	Mudanjiang	54.59	11	P	P	06 59 09.1	+0.3
MDJ				pmax	pmax		
	comp=Z,20nm,0.9s						
USA0B	Ussuriysk Arra	54.67	13		P	06 59 09.8	+0.4
USRK	Ussuriysk Ar.	54.67	13		P	06 59 10.0	+0.6
USRK	Ussuriysk Ar.	54.67	13	P	P	06 59 09.2	-0.2
	comp=Z,16nm,0.7s,baz=198,slow=6.2,SNR=33						
	comp=Z,16nm,0.7s						
BNX	BinXian	55.33	8	⇑P	P	06 59 13.8	-0.3
BNX				pmax	pmax		
	comp=Z,4.0nm,1.7s						
SONM	Songino Array	57.54	351	P	P	06 59 29.3	-0.6
SONM	Songino Array	57.54	351	P	P	06 59 28.7	-1.2
	comp=Z,1.9nm,0.5s,baz=170,slow=8.6,SNR=8.4						
	comp=Z,1.9nm,0.5s						
JKA	Kamikawa-asahi	57.67	21	P	P	06 59 31.8	+1.1
BKZ	Black Stump Fm	60.38	130	P	P	06 59 49.5	-0.2
KBL	Kabul	63.12	316	P	P	07 00 06.5	-1.8
KBL				IAmb	IAmb	07 00 06.8	
	comp=Z,4.8nm,0.7s						
BOOM	Boomskoye usch	63.84	327	P	P	07 00 11.3	-1.6
BOOM				IAmb	IAmb	07 00 12.0	
	comp=Z,3.6nm,0.8s						
MKAR	Makanchi Array	63.88	334	P	P	07 00 11.3	-1.6
MKAR	Makanchi Array	63.88	334	P	P	07 00 11.2	-1.7
	comp=Z,2.3nm,0.5s,baz=140,slow=6.6,SNR=20						
	comp=Z,2.3nm,0.5s						
ARSB	Arslanbob	64.72	324	P	P	07 00 17.4	-1.2
ARSB				IAmb	IAmb	07 00 17.8	
	comp=Z,6.3nm,0.7s						
AAK	Ala-Archa	64.73	326	P	P	07 00 17.6	-1.0
AAK	Ala-Archa	64.73	326	P	P	07 00 17.3	-1.4
	comp=Z,2.0nm,0.7s,baz=151,slow=19,SNR=4.1						
	comp=Z,2.0nm,0.7s						
GAR	Garm	64.88	321		P	07 00 18.0	-1.6
GAR				IAmb	IAmb	07 00 19.0	
	comp=Z,18nm,1.1s						
BTK	Batken	65.21	322	P	P	07 00 20.3	-1.4
H04N2	CROZET ISLANDS	66.68	224	T	T	08 13 49.0	
	baz=81,slow=74						
H04N1	CROZET ISLANDS	66.69	224	T	T	08 13 44.5	
	baz=81,slow=74						
H04N3	CROZET ISLANDS	66.69	224	T	T	08 13 55.3	
	baz=81						
KK31	Karatay Array	67.27	325	P	P	07 00 33.0	-1.7
KKAR	Karatay Array	67.27	325	P	P	07 00 32.8	-2.0
KURBB	Kurchatov Arra	68.41	334	P	P	07 00 39.3	-2.4
	comp=Z,1.4nm,0.7s,baz=145,slow=5.5,SNR=15						
	comp=Z,1.4nm,0.7s						
KURK	Kurchatov	68.44	335	P	P	07 00 40.4	-1.4
ZAA0	Zalesovo Array	68.62	340	P	P	07 00 41.0	-2.0
ZAA0				IAmb	IAmb	07 00 53.3	
	comp=Z,7.2nm,1.3s						
ZALV	Zalesovo Beam	68.62	340		P	07 00 41.0	-2.0
ZALV	Zalesovo Beam	68.62	340	P	P	07 00 40.8	-2.2
	comp=Z,3.2nm,0.4s,baz=145,slow=5.2,SNR=13						
	comp=Z,3.2nm,0.4s						
PEA0B	Petropavlovsk-	70.79	24	P	P	07 00 56.0	-0.3
PEA0B				IAmb	IAmb	07 01 00.4	
	comp=Z,22nm,1.2s						
PETK	Petropavlovsk-	70.79	24	P	P	07 00 56.0	-0.3
PETK	Petropavlovsk-	70.79	24	P	P	07 00 55.7	-0.6
	comp=Z,4.4nm,0.9s,baz=222,slow=6.6,SNR=2.7						
	comp=Z,4.4nm,0.9s						
YAK	Yakutsk	71.56	6	P	P	07 01 00.8	+0.1
YAK				IAmb	IAmb	07 01 42.2	
	comp=Z,16nm,0.8s						
VNDA	Vanda	72.11	171	P	P	07 01 03.8	-0.1
VNDA	Vanda	72.11	171	P	P	07 01 05.8	+1.9
	comp=Z,0.6nm,0.6s,baz=305,slow=7.4,SNR=3.7						
	comp=Z,0.6nm,0.6s						
BVAR	Borovoye Array	73.70	333	P	P	07 01 11.6	-2.0
	comp=Z,2.0nm,0.7s,baz=134,slow=6.2,SNR=8.2						
	comp=Z,2.0nm,0.7s						
AB31	Akbulak array	76.79	325		P	07 01 29.8	-1.6
ABKAR	Akbulak array	76.79	325		P	07 01 30.0	-1.4
AKTO	Aktyubinsk	78.47	326	P	P	07 01 38.4	-2.4
	comp=Z,2.1nm,0.6s,baz=110,slow=4.5,SNR=5.6						
	comp=Z,2.1nm,0.6s						
QSPA	South Pole Qui	80.88	180	P	P	07 01 56.1	+2.4
	comp=Z,1.1nm,1.0s,baz=294,slow=5.4,SNR=3.2						
	comp=Z,1.1nm,1.0s						
TIXI	Tiksi	80.95	4	P	P	07 01 55.2	+1.6
BOSA	Boshof	87.63	242	P	P	07 02 27.6	-1.0
BOSA				IAmb	IAmb	07 02 30.9	
	comp=Z,5.6nm,0.9s						
BOSA	Boshof	87.63	242	P	P	07 02 30.1	+1.4
	comp=Z,3.8nm,0.8s,baz=99,slow=18,SNR=4.8						
	comp=Z,3.8nm,0.8s						
MMAI	Mount Meron Ar	88.33	304	P	P	07 02 31.3	-0.4
	comp=Z,0.6nm,0.2s,baz=108,slow=9.3,SNR=1.7						
	comp=Z,0

SWET	Sewanee	146.34	36	PKPbc	PKPbc	07 09 20.4	-0.1
Q56A	Snyder Ridge,	146.67	24	PKPbc	PKPdf	07 09 20.7	+1.1
TZTN	Tazewell	146.68	32	PKPbc	PKPbc	07 09 21.3	-0.2
W50A	Signal Mountai	146.71	35	PKPbc	PKPdf	07 09 20.6	+0.7
S54A	Dingess, Beckl	146.79	28	PKPbc	PKPbc	07 09 21.4	-0.4
CPCT	Cooper Cave	146.98	34	PKPbc	PKPbc	07 09 21.9	-0.4
LRAL	Lakeview Retre	147.18	40	PKPbc	PKPbc	07 09 22.7	-0.2
TKL	Tuckaleechee C	147.23	33	PKPbc	PKPbc	07 09 23.0	0.0
R58B	Mineral	148.11	23	PKPbc	PKPbc	07 09 24.7	-0.6
PB09	IPOC Station P	148.58	168	PKPdf	PKPdf	07 09 21.6	-2.0
PB09				PKPab	PKPab	07 09 30.6	-0.3
PAULI	Pauline	148.91	32	PKPdf	PKPdf	07 09 21.9	-1.6
PAULI				PKPab	PKPab	07 09 30.7	-0.9
GOGA	Godfrey	149.06	36	PKPdf	PKPdf	07 09 21.0	-2.7
GOGA				PKPab	PKPab	07 09 31.7	-0.6
HODGE	Hodges	149.12	33	PKPab	PKPab	07 09 31.3	-1.3
PB01	IPOC Station P	149.26	167	PKPab	PKiKP	07 09 31.8	+1.8
RCBR	Riachuelo	149.59	242	PKPab	PKiKP	07 09 32.2	+1.4
AQDB	Aquidauana	149.84	193	PKPab	PKiKP	07 09 32.7	+1.6
CCIG	Comitan	150.27	73	PKPab	PKiKP	07 09 35.5	+3.2
X58A	Rowland	150.35	29	PKPab	PKPab	07 09 37.4	-0.1
PB11	IPOC Station P	150.46	166	PKPab	PKiKP	07 09 34.6	+2.0
GO01	Chusmiza	150.65	167	PKPab	PKiKP	07 09 35.8	+2.3
BDFB	Brasilia	151.51	210	PKPbc	PKiKP	07 09 36.1	+1.3
	comp=Z,2.0nm,0.6s,baz=168,slow=1.6,SNR=7.1						
LPAZ	La Paz	154.16	168	PKPbc	PKiKP	07 09 42.4	+1.5
	comp=Z,0.3nm,0.5s,baz=270,slow=3.0,SNR=3.7						

ASRS ***22*** *06:49:58.0±1.5, 53°.78N×88°.20E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***22*** *06:50:01.1±3.2, 53°.68N×88°.06E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=25.3km s-min=16.6km az=60.0*
ISC 22 06:50:03.4±4.3, **53°.7N**±0°.2×**87°.7E**±0°.2, **h0**km, **n5**, σ3**9**1**04/6, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.71	279	I	I	07 03 25.0	
	0.2nm,1.2s,baz=93,slow=330,SNR=9.3						
ZALV	Zalesovo Beam	1.71	279	Pg	Pb	06 50 35.6	0.0
	1.5nm,0.3s,baz=96,slow=13,SNR=17						
ZALV				Lg	Lg	06 51 02.6	
	3.5nm,0.3s,baz=96,slow=26,SNR=17						
KURBB	Kurchatov Arra	6.42	245	Pn	Pn	06 51 40.1	+1.0
	0.1nm,0.3s,baz=60,slow=14,SNR=6.3						
KURBB				Sn	Sn	06 52 56.4	+3.4
	baz=44,slow=24						
KURBB				Lg	Lg	06 53 29.9	
	baz=62,slow=30,SNR=5.7						
	0.6nm,0.3s						
MKAR	Makanchi Array	7.74	209	Pn	Pn	06 51 58.2	+1.0
	baz=28,slow=15,SNR=2.4						
MKAR				Sn	Sn	06 53 22.9	-2.5
	baz=28,slow=25,SNR=1.6						
MKAR				Lg	Lg	06 54 08.1	
	baz=24,slow=25						
	0.2nm,0.5s						
BVAR	Borovoye Array	10.35	273	Sn	Sn	06 54 26.9	-2.7
	baz=74,slow=26,SNR=1.8						

JMA ***22*** *06:54:50.4±0.1, 33°.4N±0°.3×14°.1E±°, h55km±2km, MV3.4/31, E OFF HACHIJOJIMA ISLAND*
IDC ***22*** *06:54:52.3±2.4, 33°.17N×140°.20E, h60km±16km, mb3.2/3, mbtmp3.4/4, Error ellipse: s-maj=48.9km s-min=16.5km az=80.0*
ISC 22 06:54:50.6±1.2, **33°.3N**±0°.04×**140°.49E**±0°.07, **h53**km±12km, **n25**, σ0**9**7**8/29, mb3.6/3, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.60	249	P	Pn	06 55 03.6	+0.3
JHJ2				S	Sn	06 55 12.8	+0.4
JHJ	Hachijo jima 2	0.63	251	P	Pn	06 55 03.7	+0.1
	685nm,0.3s,baz=90,slow=20,SNR=548						
JHJ				S	Sn	06 55 12.7	-0.3
	1μm,0.2s,baz=90,slow=20,SNR=15						
JHCJ	Hachijojimakas	0.63	247	P	Pn	06 55 03.7	+0.1
JHCJ				S	Sn	06 55 12.6	-0.4
JMKN	Mikurajimanish	0.94	307	*i* P	Pn	06 55 07.5	-0.1
JAOM	Aogashimamukai	1.05	215	P	Pn	06 55 09.6	+0.4
JAOM				*e*S	Sn	06 55 23.0	+0.1
JMYK	Miyake Tsubota	1.07	313	*e*P	Pn	06 55 09.5	+0.1
JMYK				*e*S	Sn	06 55 23.6	+0.3
BSO1	Boso 1	1.39	17	P	Pn	06 55 12.9	-0.2
BSO1				*e*S	Sn	06 55 29.9	-0.1
JKO	Kozu shima	1.42	308	P	Pn	06 55 14.4	+0.4
JKO				S	Sn	06 55 31.6	0.0
BSO2	Boso 2	1.44	9	*e*S	Sn	06 55 32.4	+0.7
BSO3	Boso 3	1.47	1	P	Pn	06 55 14.9	+0.3
BSO3				*e*S	Sn	06 55 32.6	+0.1
JTHY	Toshimahigashi	1.56	320	P	Pn	06 55 16.4	+0.4
JTHY				S	Sn	06 55 34.5	-0.5
JIM2	Oshima 3	1.64	328	P	Pn	06 55 17.1	0.0
JIM2				S	Sn	06 55 36.1	-1.1
BSO4	Boso 4	1.66	356	*e*P	Pn	06 55 18.0	+0.6
JOD2	Odawara 2	2.25	329	S	Sn	06 55 50.4	-1.7
SHZ3	Shizuoka 3	2.56	313	P	Pn	06 55 31.6	+1.8
MJAR	Matsushiro Arr	3.71	330	P	Pn	06 55 47.4	+1.9
	1.3nm,0.3s,baz=150,slow=15,SNR=4.8						
H11N2	WAKE ISLAND Hy 27.14	113		T	T	07 29 13.3	
	baz=306,slow=75,SNR=41						
H11N1	WAKE ISLAND Hy 27.14	113		T	T	07 29 18.8	
	baz=306,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy 27.16	113		T	T	07 29 14.6	
	baz=306,slow=75,SNR=20						
H11S3	WAKE ISLAND Hy 27.71	116		T	T	07 29 54.8	
	baz=308,slow=75,SNR=7.0						
H11S1	WAKE ISLAND Hy 27.71	116		T	T	07 29 57.8	
	baz=308,slow=75,SNR=7.5						
H11S2	WAKE ISLAND Hy 27.73	116		T	T	07 30 02.6	
	baz=308,slow=75,SNR=7.8						
KURBB	Kurchatov Arra	47.76	311	P	P	07 03 21.4	-0.9
	0.3nm,0.4s,baz=90,slow=7.1,SNR=4.9						
	0.3nm,0.4s						
WRA	Warramunga Arr	53.29	187	P	P	07 04 03.7	-0.6
	0.6nm,0.9s,baz=4.1,slow=6.8,SNR=0.9						
	0.6nm,0.9s						
ASAR	Alice Springs	57.02	187	P	P	07 04 32.0	+0.9
	0.2nm,0.5s,baz=7.5,slow=8.0,SNR=1.7						
	0.2nm,0.5s						

IDC ***22*** *07:04:59.6±0.8, 4°.85S×102°.90E, h0km, mb4.2/20, mbtmp4.2/20, MS2.8/2, Error ellipse: s-maj=31.7km s-min=14.0km az=53.0*
NEIC ***22*** *07:05:04.1±1.2, 4°.09S±0°.09×103°.64E±0°.06, h10km±1km, mb4.5/9, Error ellipse: s-maj=15.9km s-min=9.1km az=167.0*
DJA ***22*** *07:05:08.4±0.5, 5°S±3°×10°3E±°, h36km±11km, M4.3/12, mb4.3/3, MLv4.3/12*
ISC 22 07:05:07.8±0.6, **4°.89S**±0°.08×**103°.01E**±0°.08, **h59**km, **n59**, σ0**9**8**9/54, mb4.3/25, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.53	354		Pn	07 05 20.5	+0.5
MNAI	Manna	0.53	354	P	Pn	07 05 20.6	+0.5
LWLI	Liwa	1.06	97	P	Pn	07 05 26.7	+0.1
LWLI				S	Sn	07 05 40.3	-0.3
MDSI	Maura Dua	1.23	71	P	Pn	07 05 29.8	+0.9
MDSI				S	Sn	07 05 46.5	+1.8
KSI	Kapahiang	1.30	341	P	Pn	07 05 31.5	+1.7
KSI				S	Sn	07 05 48.3	+2.0
KASI	Kota Agung	1.61	113	P	Pn	07 05 34.3	+0.3
BLSI	Bandar Lampung	2.28	102	P	Pn	07 05 44.2	+1.1
CGJI	Cibinong	3.17	123	P	Pn	07 05 56.3	+1.0
CNJI	Cibinong	4.75	121	P	Pn	07 06 16.9	0.0
LEM	Lembang	4.97	113	Pn	Pn	07 06 20.7	+0.6
	7.5nm,0.3s,baz=294,slow=20,SNR=4.1						
LEM				Sn	Sn	07 07 33.5	+17
	4.3nm,0.3s,baz=307,slow=20,SNR=3.6						
SISI	Saibi	5.28	312	P	Pn	07 06 25.1	+1.0
	0.3nm36nm,1.1s						
CMJI	Cimerak	6.12	118	P	Pn	07 06 36.3	+0.6
MYKOM	Kota Tinggi	6.69	7		Pn	07 06 30.7	-13
JAGI	Jajag, Banyuwa	11.63	108	Pn	Pn	07 07 46.2	-4.9
KAPI	Kappang	16.68	91	LR	LR	07 16 40.3	
	comp=Z,42nm,19.4s,baz=204,slow=42						

CMAR	Chiang Mai Arr	23.54	350	P	P	07 10 12.0	-1.1
	1.5nm,0.3s,baz=171,slow=9.4,SNR=8.4							
CMAR				LR	LR	07 19 56.7		
	comp=Z,21nm,19.8s,baz=135,slow=38							
	1.5nm,0.3s							
FITZ	Fitzroy Crossi	25.73	123	P	P	07 10 33.3	+0.3
KNRA	Kununurra	27.48	115	P	P	07 10 48.8	0.0
KNRA				IAmb	IAmb	07 10 52.2	
	comp=Z,4.2nm,0.8s						
H01W3	Cape Leeuwin H	31.57	162	T	T	07 44 50.2	
	baz=340,slow=76,SNR=5.3						
H01W2	Cape Leeuwin H	31.59	162	T	T	07 44 56.8	
	baz=340,slow=76,SNR=7.1						
H01W1	Cape Leeuwin H	31.59	162	T	T	07 44 47.3	
	baz=340,slow=76,SNR=6.8						
WB0	Warramunga Arr	33.95	119	P	P	07 11 46.1	+0.3
WB0				IAmb	IAmb	07 11 46.8	
	comp=Z,2.9nm,0.5s						
WRA	Warramunga Arr	33.96	119	P	P	07 11 46.0	0.0
WRA	Warramunga Arr	33.96	119	P	P	07 11 45.7	-0.2
	comp=Z,1.4nm,0.6s,baz=295,slow=8.2,SNR=15						
WRA				PcP	PcP	07 14 23.4	+0.2
	comp=Z,0.4nm,0.5s,baz=300,slow=1.9,SNR=1.9						
	comp=Z,1.4nm,0.6s						
WRAB	Tennant Creek	33.97	119	P	P	07 11 45.3	-0.7
WRAB				IAmb	IAmb	07 11 51.0	
	comp=Z,8.3nm,1.1s						
WR8	Warramunga Arr	34.11	119	P	P	07 11 46.7	-0.5
WR8				IAmb	IAmb	07 11 48.2	
	comp=Z,4.1nm,0.5s						
FORT	Forrest	34.91	140	P	P	07 11 57.0	+3.1
FORT				IAmb	IAmb	07 12 23.0	
	comp=Z,12nm,1.1s						
YOJ	Yonaguni jima	35.08	33	P	P	07 11 47.4	-8.1
ASAR	Alice Springs	35.14	125	P	P	07 11 56.6	+0.5
ASAR	Alice Springs	35.14	125	P	P	07 11 56.3	+0.2
	comp=Z,1.4nm,0.4s,baz=297,slow=8.6,SNR=39						
ASAR				PcP	PcP	07 14 26.9	+0.3
	comp=Z,0.7nm,0.6s,baz=295,slow=2.6,SNR=7.6						
	comp=Z,1.4nm,0.4s						
AS31	Alice Springs	35.14	125		P	07 11 56.4	+0.3
STKA	Stephens Creek	45.00	131	P	P	07 13 18.6	+1.0
STKA	Stephens Creek	45.00	131	P	P	07 13 17.3	-0.3
	comp=Z,3.1nm,0.7s,baz=308,slow=10,SNR=9.4						
	comp=Z,3.1nm,0.7s						
KSRS	Korea Array	48.10	27	P	P	07 13 40.2	-1.5
	comp=Z,0.7nm,0.6s,baz=232,slow=11,SNR=4.7						
	comp=Z,0.7nm,0.6s						
SONM	Songino Array	52.59	3	P	P	07 14 15.6	-0.1
	comp=Z,2.4nm,0.9s,baz=181,slow=8.4,SNR=8.2						
SONM				PcP	PcP	07 15 25.0	-0.2
	comp=Z,0.6nm,0.4s,baz=190,slow=4.3,SNR=2.9						
	comp=Z,2.4nm,0.9s						
MKAR	Makanchi Array	54.63	343	P	P	07 14 29.1	-1.4
MKAR	Makanchi Array	54.63	343	P	P	07 14 29.7	-0.8
	comp=Z,2.2nm,0.6s,baz=154,slow=7.4,SNR=24						
	comp=Z,2.2nm,0.6s						
USRK	Ussurlysk Ar.	55.38	25	P	P	07 14 35.6	-0.3
	comp=Z,2.5nm,0.7s,baz=223,slow=5.7,SNR=5.3						
	comp=Z,2.5nm,0.7s						
KURBB	Kurchatov Arra	59.18	342	P	P	07 15 01.6	-0.9
	comp=Z,1.4nm,0.8s,baz=160,slow=6.0,SNR=15						
KURBB				PcP	PcP	07 15 50.2	-0.2
	comp=Z,0.7nm,0.7s,baz=151,slow=3.1,SNR=6.6						
	comp=Z,1.4nm,0.8s						
KLR	Kul'dur	59.42	21	P	P	07 15 03.1	-1.1
	comp=Z,0.8nm,0.3s,baz=252,slow=3.2,SNR=4.6						
	comp=Z,0.8nm,0.3s						
H04N2	CROZET ISLANDS	60.34	219	T	T	08 19 45.2	
	baz=64,slow=75,SNR=32						
H04N1	CROZET ISLANDS	60.36	219	T	T	08 19 45.6	
	baz=64,slow=75,SNR=42						
H04N3	CROZET ISLANDS	60.36	219	T	T	08 19 42.1	
	baz=64,slow=75,SNR=28						
ASAJ	Asahikawa	60.38	32	P	P	07 15 10.4	-0.5
	comp=Z,1.2nm,0.3s,baz=246,slow=20,SNR=1.4						
	comp=Z,1.2nm,0.3s						
ZALV	Zalesovo Beam	60.58	348	P	P	07 15 11.3	-0.7
	comp=Z,3.4nm,0.7s,baz=165,slow=6.0,SNR=12						
	comp=Z,3.4nm,0.7s						
H04S1	CROZET ISLANDS	60.58	218	T	T	08 20 16.4	
	baz=62,slow=75,SNR=19						
H04S3	CROZET ISLANDS	60.60	218	T	T	08 20 01.5	
	baz=62,slow=75,SNR=45						
H04S2	CROZET ISLANDS	60.60	218	T	T	08 20 02.8	
	baz=62,slow=75,SNR=24						
BVAR	Borovoye Array	63.93	339	P	P	07 15 33.3	-1.2
	comp=Z,3.0nm,0.7s,baz=143,slow=8.2,SNR=15						
BVAR				PcP	PcP	07 16 09.3	-0.4
	comp=Z,0.8nm,0.7s,baz=152,slow=4.1,SNR=2.0						
	comp=Z,3.0nm,0.7s						
ARTI	Arti	71.09	336	P	P	07 16 18.6	-1.1
	comp=Z,2.0nm,0.6s,baz=112,slow=19,SNR=3.5						
	comp=Z,2.0nm,0.6s						
KBZ	Khabaz	72.44	319	P	P	07 16 28.5	+0.5
	comp=Z,1.7nm,0.8s,baz=117,slow=2.3,SNR=3.9						
	comp=Z,1.7nm,0.8s						
BRTR	Keskin Array B	77.47	312	P	P	07 16 57.0	-0.3
	comp=Z,0.9nm,0.7s,baz=124,slow=7.3,SNR=5.3						
	comp=Z,0.9nm,0.7s						
AKASG	Malin Array Be	83.59	322	P	P	07 17 29.1	-0.6
	comp=Z,0.3nm,0.4s,baz=86,slow=5.8,SNR=1.6						
	comp=Z,0.3nm,0.4s						
FINES	FINESS Array B	88.05	332	P	P	07 17 51.5	0.0
	comp=Z,1.2nm,0.6s,baz=111,slow=7.6,SNR=5.8						
	comp=Z,1.2nm,0.6s						
ARCES	ARCESS Array B	90.20	340	P	P	07 18 01.3	-0.2
	comp=Z,6.6nm,1.0s,baz=103,slow=5.4,SNR=5.3						
	comp=Z,6.6nm,1.0s						
SPITS	Spitsbergen Ar	94.06	348	P	P	07 18 19.6	+0.4
	comp=Z,6.9nm,1.0s,baz=101,slow=7.8,SNR=1.1						
	comp=Z,6.9nm,1.0s						
PDAR	Pinedale Array	132.51	33	PKP	PKiKP	07 24 17.2	-0.2
	comp=Z,0.2nm,0.7s,baz=330,slow=4.8,SNR=2.0						
BDFB	Brasilia	144.79	234	PKP	PKPdf	07 24 39.2	-0.1
	comp=Z,1.2nm,0.5s,baz=169,slow=5.2,SNR=3.5						
TXAR	Lajitas Array	144.96	43	PKPbc	PKPab	07 24 38.6	+0.1
	comp=Z,1.5nm,0.7s,baz=313,slow=2.7,SNR=21						

MEX ***22*** *07:33:22.6±0.5, 14°.51N×92°.19W, h75km±9km, MD3.8*
GCG ***22*** *07:33:23.5±1.3, 14°.39N×92°.15W, h36km±62km, MD3.5*
ISC 22 07:33:18.9±2.5, **14°.29N**±0°.10×**92°.27W**±0°.06, **h24**km±16km, **n15**, σ1**9**3**6/25, 1D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	Catarina	0.59	19	*e*P	Pn	07 33 33.0	+1.2
SMCA				*e*S	Sn	07 33 41.5	+0.7
RTAL	Retalhuleu	0.60	68	*e*P	Pn	07 33 34.4	+2.3
RTAL				*e*S	Sn	07 33 43.1	+2.0
THIG		0.61	1	*e*P	Pn	07 33 33.5	+1.4
THIG				*e*S	Sn	07 33 42.5	+1.3
PATR	El Naranjo	0.82	3	*e*P	Pn	07 33 35.5	+0.3
PATR				*e*S	Sn	07 33 45.8	-0.9
PAVE	Pavencul	0.90	6	*e*P	Pb	07 33 36.8	+0.8
PAVE				*e*S	Sn	07 33 47.7	-1.0
STG5	El Palmar, Qui	0.90	83	*e*P	Pn	07 33 35.9	-0.3
STG8	El Palmar, Qui	0.91	80	*e*P	Pn	07 33 36.3	-0.1
STG8				*e*S	Sn	07 33 47.3	-1.5
STG0	El Palmar, Qui	0.91	82	*e*P	Pn	07 33 36.5	+0.1
HUEH	Huehuetenango	1.26	36	*e*P	Pn	07 33 38.5	-2.8
HUEH				*e*S	Sb	07 33 57.9	-0.2
PCIG		1.68	327	*e*P	Pn	07 33 47.6	+0.9
PCIG				*e*S	Sn	07 34 05.3	-2.2
CCIG	Comitan	1.98	4	*e*P	Pb	07 33 53.6	-0.8
CCIG				*e*S	Sb	07 34 18.8	0.0
CCIG	Comitan	1.98	4	*i*P	Pb	07 33 53.7	-0.8
CCIG				*e*S	Sb	07 34 18.8	0.0
TGIG		2.60	342	*e*P	Pn	07 33 53.8	-5.8
TGIG				*i* S	Sn	07 34 30.2	-0.3
UXUV	UXUV	3.51	329	*e*S	Sn	07 34 54.5	+1.8
CMIG	Matias Romero	3.75	318	*i* S	Sn	07 34 57.8	-1.0

IDC ***22*** *07:43:58.4±1.7, 35°.40N×70°.42E, h0km, mb3.7/6, mbtmp3.6/9, ML3.0/3, Error ellipse: s-maj=34.4km s-min=29.8km az=53.0*
NNC ***22*** *07:44:24.6±2.6, 36°.90N×70°.83E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=21.4km s-min=20.6km az=143.0*
ISC 22 07:44:24.2±1.4, **36°.5N**±0°.1×**71°.3E**±0°.1, **h200**km, **n18**, σ1**9**8**1/19, mb3.6/5, 4C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.91	18	P	Pn	07 45 51.5	+0.9
	SNR=83						
EKS2	Erkin-Say	6.43	17	P	Pn	07 45 58.5	+1.4
	SNR=6.8						
AAK	Ala-Archa	6.59	21	P	Pn	07 46 00.6	+1.4
	SNR=13						
AAK	Ala-Archa	6.59	21	⇑P	Pn	07 46 00.5	+1.2
	4.9nm,0.3s						
AAK				⇑S	Sn	07 47 14.8	+0.2
	6.6nm,0.6s						
KK31	Karatay Array	6.60	355	P	Pn	07 45 58.7	-0.5
	10nm,0.3s,baz=180,slow=13,SNR=75						
KK31				⇑S	Sn	07 47 10.3	-4.3
	1.9nm,0.3s,baz=179,slow=16						
KBK	Karagaybulak	6.75	24	P	Pn	07 46 03.5	+2.2
	SNR=6.5						
TKM2	Tokmak 2	7.20	26	P	Pn	07 46 07.6	+0.4
	SNR=10.0						
TKM2	Tokmak 2	7.20	26	⇑P	Pn	07 46 08.2	+1.0
	9.1nm,0.8s						
MKAR	Makanchi Array	13.14	35	Pn	P	07 47 24.5	-1.9
	0.1nm,0.3s,baz=218,slow=12,SNR=5.0						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	15.03	18	Pn	P	07 47 46.4	-0.8
	baz=207,slow=10,SNR=1.4						
	0.3nm,0.3s						
AB31	Akbulak array	15.18	331	P	P	07 47 52.3	+3.4
	0.2nm,0.2s,baz=146,slow=12,SNR=21						
BVAR	Borovoye Array	16.52	358	P	Pn	07 48 05.9	+1.4
	baz=165,slow=11,SNR=4.9						
	0.8nm,0.6s						
ZALV	Zalesovo Beam	19.80	24	P	Pn	07 48 44.1	+0.8
	0.3nm,0.4s,baz=216,slow=6.9,SNR=1.9						
	0.3nm,0.4s						
FINES	FINESS Array B	37.60	326	P	P	07 51 19.2	0.0
	1.5nm,0.9s,baz=112,slow=9.1,SNR=5.3						
	1.5nm,0.9s						
ARCES	ARCESS Array B	41.21	338	P	P	07 51 49.6	+0.6
	4.5nm,1.0s,baz=119,slow=7.8,SNR=5.6						
	4.5nm,1.0s						
HFS	Hagfors	43.19	322	P	P	07 52 05.2	+0.2
	1.7nm,0.9s,baz=97,slow=11,SNR=2.1						
	1.7nm,0.9s						
NOA	NORSAR Array B	44.50	323	P	P	07 52 14.9	-0.6
	0.5nm,0.7s,baz=97,slow=7.9,SNR=2.3						
	0.5nm,0.7s						
ASAR	Alice Springs	84.08	125	P	P	07 56 31.1	-1.6
	0.3nm,0.7s,baz=316,slow=5.6,SNR=4.9						
	0.3nm,0.7s						

RSNC 22 07:49:41.4±0.0, **5°N**±1°×**7°6W**±°, **h83**km±3km, **M2.6, mb4.2, ML2.5, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBOC	Ciudad Bolivar	0.72	17	P	Pn	07 49 57.1	-0.7
CBOC				S	Sn	07 50 10.1	+0.2
NIZA	Niza - Manizal	0.76	98	P	Pn	07 49 58.4	+0.1
NIZA				S	Sn	07 50 10.4	-0.4
GUY2C	Guyana, Caldas	0.86	86	P	Pn	07 49 59.4	-0.1
GUY2C				S	Sn	07 50 13.0	0.0
PIZC	Pizarro, Choco	1.14	260	P	Pn	07 50 02.3	-0.1
PIZC				S	Sn	07 50 18.8	+0.7
YOTC	Yotoco, Valle	1.18	186	P	Pn	07 50 02.0	-1.0
YOTC				S	Sn	07 50 18.5	-0.7
NORC	Norcasia	1.41	74	P	Pn	07 50 05.5	-0.2
NORC				S	Sn	07 50 24.6	+0.5
SOLC	Bahia Solano	1.57	312	P	Pn	07 50 06.8	-1.0
SOLC				S	Sn	07 50 27.3	-0.5
MALC	Bahia Malaga	1.59	224	P	Pn	07 50 08.3	+0.2
MALC				S	Sn	07 50 29.6	+1.4
DBBC	Dabeiba	1.84	1	P	Pn	07 50 11.1	-0.2
DBBC				S	Sn	07 50 35.1	+1.1
ROSC	El Rosal	1.93	100	P	Pn	07 50 14.3	+1.5
ROSC				S	Sn	07 50 35.9	-0.8
PRAC	Prado	1.97	137	P	Pn	07 50 13.1	0.0
PRAC				S	Sn	07 50 37.0	-0.2
PTBC	PUERTO BERRIO,	2.23	52	P	Pn	07 50 15.9	-0.6
PTBC				S	Sn	07 50 42.6	-0.7
CVER	Cruz Verde, Cu	2.24	107	P	Pn	07 50 18.6	+1.5
CVER				S	Sn	07 50 44.7	+0.4
PTAC	Punta Ardita,	2.51	321	P	Pn	07 50 17.5	-2.8
PTAC				S	Sn	07 50 42.3	-7.8
BETC	Betania	2.59	162	P	Pn	07 50 20.8	-0.6
BETC				S	Sn	07 50 50.2	-1.9
POPC	Popayan, Colom	2.65	190	P	Pn	07 50 21.8	-0.5
POPC				S	Sn	07 50 51.7	-2.0
URMC	La Uribe, Meta	2.66	136	P	Pn	07 50 22.0	-0.3
URMC				S	Sn	07 50 54.0	+0.4
UREC	San Jos de Ur	2.66	15	P	Pn	07 50 21.7	-0.5
UREC				S	Sn	07 50 53.1	-0.5
ZARC	Zaragoza, Cauc	2.68	31	P	Pn	07 50 21.8	-0.7
ZARC				S	Sn	07 50 53.9	-0.2
APAC	Apartado, Choc	2.73	353	P	Pn	07 50 23.9	+0.6
APAC				S	Sn	07 50 54.3	-1.1
GR1C	Gorgona, Isla	2.89	222	P	Pn	07 50 22.7	-2.7
GR1C				S	Sn	07 50 53.6	-5.6
BRJC	Barrancabermej	3.05	54	P	Pn	07 50 25.4	-2.1
BRJC				S	Sn	07 51 01.8	-1.3
GARC

```
R18K                                IAML                    07 51 30.8
      comp=E,86nm,0.5s
R18K                                IAML                    07 51 40.9
      comp=N,83nm,0.5s
CNPM  China Poot        3.55 343          Pn   Pn   07 50 55.8  0.0
CNPM                                      Sn   Sn   07 51 37.8  0.0
CNPM                                IAML                    07 51 39.0
      comp=E,31nm,0.4s
CHIR  Chirikof Islan    3.60 267          Pn   Pn   07 50 56.0 -0.2
CHIR                                      Sn   Sn   07 51 35.6 -3.2
CHIR                                IAML                    07 51 35.7
      comp=N,58nm,0.7s
CHIR                                IAML                    07 51 35.7
      comp=E,80nm,0.7s
CHIR  Chirikof Islan    3.60 267  P       Pn   Pn   07 50 56.1 -0.2
Q19K  Cape Douglas,     3.66 321  Pn      Pn   Pn   07 50 57.6 +0.3
Q19K                                IAML                    07 52 11.9
      comp=E,89nm,1.0s
BRSE  Bradley Lake S    3.69 348          Pn   Pn   07 50 57.6 -0.1
KAHG  Katmai Hook Gl    3.71 312          Pn   Pn   07 50 59.6 +1.6
BRLK  Bradley Lake      3.73 347          Pn   Pn   07 50 58.1 -0.1
BRLK                                IAML                    07 51 43.5
      comp=E,42nm,0.9s
BRLK                                IAML                    07 51 47.9
      comp=N,41nm,0.8s
ACHA  Angle Creek He    3.90 305          Pn   Pn   07 51 01.6 +1.0
SEW   Seward            3.97 359  Pn      Pn   Pn   07 51 01.2 -0.2
P23K  Montague Islan    3.98  13  Pn      Pn   Pn   07 51 01.9 +0.2
P23K                                IAML                    07 51 47.3
      comp=E,58nm,0.9s
P23K                                IAML                    07 51 50.1
      comp=N,43nm,0.9s
KAHC  Katmai Hardscr    4.00 311          Pn   Pn   07 51 03.3 +1.3
P19K  Oil Pt            4.11 330  Pn      Pn   Pn   07 51 04.0 +0.6
P19K                                IAML                    07 51 59.4
      comp=E,52nm,0.9s
P19K                                IAML                    07 52 01.1
      comp=N,55nm,0.6s
CNTC  Contact Creek     4.19 303          Pn   Pn   07 51 06.2 +1.7
O22K  Cooper Landing    4.36 357  Pn      Pn   Pn   07 51 05.3 -1.4
ILSW  Iliamna Southw    4.37 333  Pn      Pn   Pn   07 51 07.0 -0.1
ILSW                                IAML                    07 51 59.5
      comp=E,26nm,0.6s
ILSW                                IAML                    07 52 06.4
      comp=N,25nm,0.9s
SLKM  Skilak Lake       4.41 354  Pn      Pn   Pn   07 51 07.6 +0.1
SLKM                                IAML                    07 51 59.1
      comp=N,38nm,0.5s
HIN   Hinchinbrook I    4.50  18  Pn      Pn   Pn   07 51 08.9 +0.1
HIN                                 IAML                    07 52 00.7
      comp=E,47nm,0.9s
P18K  Big Mountain,     4.57 318          Pn   Pn   07 51 09.9 +0.2
KAIM  Kayak Island      4.58  32  Pn      Pn   Pn   07 51 09.9 +0.1
KAIM                                IAML                    07 53 36.1
      comp=E,18nm,0.6s
PWL   Port Wells        4.75   5  Pn      Pn   Pn   07 51 12.1 -0.1
PWL                                 IAML                    07 52 06.9
      comp=N,26nm,1.0s
PWL                                 IAML                    07 52 08.6
      comp=E,21nm,0.6s
EYAK  Cordova Ski Ar    4.78  21          Pn   Pn   07 51 12.8 +0.2
EYAK                                IAML                    07 52 08.0
      comp=N,25nm,0.7s
EYAK                                IAML                    07 52 09.0
      comp=E,25nm,0.6s
EYAK  Cordova Ski Ar    4.78  21  P       Pn   Pn   07 51 12.8 +0.2
FID   Port Fidalgo      4.84  16  Pn      Pn   Pn   07 51 12.1 -1.3
FID                                 IAML                    07 52 10.0
      comp=E,30nm,0.6s
FID                                 IAML                    07 52 11.6
      comp=N,29nm,0.9s
O19K  Port Alsworth     4.87 329  Pn      Pn   Pn   07 51 12.4 -1.3
GLI   Glacier Island    4.88  12  Pn      Pn   Pn   07 51 13.0 -0.9
GLI                                 IAML                    07 52 12.6
      comp=E,25nm,0.5s
GLI                                 IAML                    07 54 22.3
      comp=N,17nm,0.9s
O18K  Koktuh Hills      4.89 322  Pn      Pn   Pn   07 51 13.9 -0.1
O18K                                IAML                    07 52 18.8
      comp=N,14nm,0.9s
SUCK  Suckling Hills    4.89  34  Pn      Pn   Pn   07 51 14.5 +0.4
P17K  Kvichak River     4.92 311          Pn   Pn   07 51 15.7 +1.2
HMT   Hamilton          4.96  30          Pn   Pn   07 51 15.4 +0.4
RC01  Rabbit Creek A    4.96 357  Pn      Pn   Pn   07 51 15.0 -0.1
RC01                                IAML                    07 52 11.9
      comp=N,18nm,0.7s
RC01                                IAML                    07 52 20.5
      comp=E,22nm,0.5s
BERG  Berg Lake         5.17  32  Pn      Pn   Pn   07 51 18.0 +0.1
SNH   Sunshine Point    5.28  37  Pn      Pn   Pn   07 51 18.0 -1.5
SNH                                 IAML                    07 52 25.1
      comp=E,23nm,0.8s
KNK   Knik Glacier      5.30   4  Pn      Pn   Pn   07 51 19.3 -0.4
KNK                                 IAML                    07 52 26.8
      comp=E,14nm,1.0s
DIV   Divide            5.32  19  Pn      Pn   Pn   07 51 20.2 +0.2
DIV                                 IAML                    07 52 19.1
      comp=N,10nm,0.9s
SUA   Susitna One       5.39 352  Pn      Pn   Pn   07 51 21.2 +0.1
BMRM  Bremner River     5.41  25  Pn      Pn   Pn   07 51 21.8 +0.5
N19K  Bonanza Creek     5.43 332  Pn      Pn   Pn   07 51 21.4 -0.2
PMR   Palmer            5.46   1  Pn      Pn   Pn   07 51 20.7 -1.3
PMR   Palmer            5.46   1  P       Pn   Pn   07 51 23.3 +1.4
WAX   Waxell Ridge      5.47  35  Pn      Pn   Pn   07 51 22.4 +0.2
P16K  Nushagak River    5.52 305  Pn      Pn   Pn   07 51 24.0 +1.2
STLK  Strandline Lak    5.53 347  Pn      Pn   Pn   07 51 23.3 +0.3
MESA  MESA              5.59  41  Pn      Pn   Pn   07 51 24.9 +1.0
KLU   Klutina           5.63  16  Pn      Pn   Pn   07 51 24.9 +0.5
GHO   Glory Hole Cre    5.65   2  Pn      Pn   Pn   07 51 25.8 +1.2
SML   Sawmill           5.70   4  Pn      Pn   Pn   07 51 26.1 +0.9
N18K  Kilae Creek       5.73 325  Pn      Pn   Pn   07 51 25.7 +0.1
SCM   Sheep Creek Mo    5.79   9  Pn      Pn   Pn   07 51 27.2 +0.6
YAH   Yahtse            5.79  40          Pn   Pn   07 51 26.7  0.0
O16K  Kokwok River B    5.85 310  Pn      Pn   Pn   07 51 27.8 +0.6
VRDI  Verde Repeater    5.92  28  Pn      Pn   Pn   07 51 28.2 -0.2
SKT   Skwentna          5.97 350  Pn      Pn   Pn   07 51 28.0 -0.9
N25K  Chitina, Valde    5.98  22  Pn      Pn   Pn   07 51 29.7 +0.5
GLB   Gilahina Butte    6.01  26  Pn      Pn   Pn   07 51 29.8 +0.2
CHNA  Chernabura Isl    6.03 262  P       Pn   Pn   07 51 29.2 -0.5
CNBA  Chernabura Isl    6.03 262  Pn      Pn   Pn   07 51 28.9 -0.8
N17K  Nushagak Hills    6.06 320  Pn      Pn   Pn   07 51 30.7 +0.5
M20K  Styx River        6.09 342  Pn      Pn   Pn   07 51 29.4 -1.3
M24K  Tolsona, Glenn    6.18  14  Pn      Pn   Pn   07 51 34.1 +2.2
PCA   Pinnacle          6.19  47  Pn      Pn   Pn   07 51 32.5 +0.4
PNL   Peninsula         6.33  52  P       Pn   Pn   07 51 34.1 +0.3
M19K  Big River Lodg    6.36 337  Pn      Pn   Pn   07 51 33.1 -1.1
BCPM  Bancas Point      6.37  49          Pn   Pn   07 51 33.1 -1.3
SDPT  Sand Point        6.39 267  Pn      Pn   Pn   07 51 31.8 -2.9
SDPT  Sand Point        6.39 267  P       Pn   Pn   07 51 34.7  0.0
O15K  Ungalikthiuk R    6.44 303  Pn      Pn   Pn   07 51 36.4 +1.1
O28M  Mount Upton       6.64  42  Pn      Pn   Pn   07 51 39.0 +0.7
L19K  White Mountain    6.70 337  Pn      Pn   Pn   07 51 38.7 -0.3
M17K  Holitna River     6.77 324  Pn      Pn   Pn   07 51 40.4 +0.5
PPLA  Purkeypile        6.93 349  Pn      Pn   Pn   07 51 39.8 -2.5
O29M  Mount Kennedy     7.00  49          Pn   Pn   07 51 44.1 +0.9
N15K  Kwethluk River    7.01 310  Pn      Pn   Pn   07 51 44.6 +1.4
M26K  Nabesna, AK       7.04  24  Pn      Pn   Pn   07 51 44.2 +0.6
M16K  Timber Creek      7.04 318  Pn      Pn   Pn   07 51 44.4 +0.8
P29M  Windy Craggy      7.06  56          Pn   Pn   07 51 44.0 +0.1
PAX   Paxson            7.11  14  Pn      Pn   Pn   07 51 46.2 +1.6
O14K  Tigyukauivet M    7.15 301  Pn      Pn   Pn   07 51 46.6 +1.5
L18K  Granite Mounta    7.19 331  Pn      Pn   Pn   07 51 45.2 -0.4
M27K  Edge Creek, AK    7.28  28  Pn      Pn   Pn   07 51 47.9 +0.8
S31K  Pelican           7.33  70  Pn      Pn   Pn   07 51 46.3 -1.2
CAST  Castle Rocks      7.43 350  Pn      Pn   Pn   07 51 51.0 +2.0
N14K  Kuskokwak Cree    7.61 305  Pn      Pn   Pn   07 51 52.2 +0.9
TTA   Tatalina          7.62 336  Pn      Pn   Pn   07 51 51.1 -0.5
L16K  Owhat River       7.68 321  Pn      Pn   Pn   07 51 52.5 +0.1
HYT   Haines Junctio    7.73  48  Pn      Pn   Pn   07 51 54.3 +1.1
SIT   Sitka             7.74  77  P       Pn   Pn   07 51 51.7 -1.4
L27K  Beaver Creek,     7.89  25  Pn      Pn   Pn   07 51 56.2 +1.0
BCAR  Beaver Creek A    7.90  25  Pn      Pn   Pn   07 51 55.2 -0.2
RIDG  Independent Ri    7.93  14  Pn      Pn   Pn   07 51 56.4 +0.6
BPAW  Bear Paw Mtn.     8.03 355  Pn      Pn   Pn   07 51 57.2 +0.1
K17K  Iditarod          8.04 329  Pn      Pn   Pn   07 51 56.7 -0.5
SKAG  Skagway           8.14  60  Pn      Pn   Pn   07 52 00.2 +1.6
SKAG  Skagway           8.14  60  P       Pn   Pn   07 51 59.2 +0.6
BESE  Bessie Mountai    8.15  67  Pn      Pn   Pn   07 51 58.5 -0.4
N30M  Aishikik Lake     8.25  45  Pn      Pn   Pn   07 52 01.0 +0.8
JIS   Juneau Island     8.35  69  P       Pn   Pn   07 52 01.1 -0.3
M29M  Somme Creek       8.38  37  Pn      Pn   Pn   07 52 03.2 +1.2
J20K  Nowinta River     8.42 345  Pn      Pn   Pn   07 52 02.3 -0.1
J19K  Poorman           8.49 341  Pn      Pn   Pn   07 52 02.3 -1.1
L14K  Kuka Creek        8.71 312  Pn      Pn   Pn   07 52 07.0 +0.6
ILAR  Eielson Array     8.73   7  Pn      Pn   Pn   07 52 07.8 +1.0
      comp=N,0.1nm,0.3s,baz=189,slow=13,SNR=6.7
ILAR                                      Sn   Sn   07 53 42.3 -2.9
      comp=N,0.2nm,0.3s,baz=183,slow=16,SNR=4.4
      comp=N,0.3nm,0.3s
N31M  Braeburn, Yuko    8.79  47  Pn      Pn   Pn   07 52 08.9 +1.3
P32M  Atlin             8.96  61  Pn      Pn   Pn   07 52 10.4 +0.4
M30M  Minto, Yukon      9.04  39  Pn      Pn   Pn   07 52 11.6 +0.6
P33M  Teslin, Yukon     9.58  58  Pn      Pn   Pn   07 52 18.9 +0.5
H21K  Melozitna Rive    9.70 351  Pn      Pn   Pn   07 52 21.0 +1.0
M31M  Drury Creek, Y    9.73  45  Pn      Pn   Pn   07 52 21.2 +0.7
N32M  Quiet Lake        9.79  53  Pn      Pn   Pn   07 52 21.7 +0.3
R33M  Jennings River   10.28  64  Pn      Pn   Pn   07 52 28.3 +0.1
DLBC  Dease Lake       10.64  70  Pn      Pn   Pn   07 52 34.2 +1.2
      comp=N,0.2nm,0.3s,baz=270,slow=20,SNR=6.7
DLBC                                      Sn   Sn   07 54 29.6 -2.6
      comp=N,0.1nm,0.3s,baz=274,slow=16,SNR=1.2
      comp=N,2.0nm,0.8s
MMPY  Sheldon Lake,    11.20  47  Pn      Pn   Pn   07 52 41.9 +1.3
INK   Inuvik           14.16  24  Pn      Pn   Pn   07 53 23.1 +2.2
      baz=201,slow=7.9,SNR=3.9
      comp=N,1.5nm,1.1s
YKA   Yellowknife Ar   18.60  56  P       Pn   Pn   07 54 19.3 +1.5
      baz=269,slow=13,SNR=4.6
      comp=N,0.3nm,0.9s
H11N2 WAKE ISLAND Hy 48.83 240   T       T    T    08 51 51.0
      baz=30
H11N3 WAKE ISLAND Hy 48.84 240   T       T    T    08 51 47.7
      baz=30
H11N1 WAKE ISLAND Hy 48.85 240   T       T    T    08 52 00.6
      baz=30
H11S1 WAKE ISLAND Hy 49.97 240   T       T    T    08 53 42.7
      baz=29
H11S2 WAKE ISLAND Hy 49.98 239   T       T    T    08 53 41.1
      baz=29
H11S3 WAKE ISLAND Hy 49.99 240   T       T    T    08 53 37.6
      baz=29
MKAR  Makanchi Array   68.72 325  P       P    P    08 01 05.8 +1.8
      comp=N,0.1nm,0.3s,baz=28,slow=5.5,SNR=3.8
      comp=N,0.1nm,0.3s
```

ASRS ***22*** *07:50:16.0±1.5, 54°.30N×86°.95E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 07:50:17.2±3.0, 54°.40N×86°.95E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=26.3km s-min=17.0km az=59.0, Southwestern Siberia

```
Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
I46RU ZALESOVO INFRA    1.33 251  I     I           07 59 30.0
      baz=71,slow=324,SNR=4.0
ZALV  Zalesovo Beam     1.33 251  Pg    Pg          07 50 41.3 -1.4
      1.5nm,0.3s,baz=65,slow=17,SNR=14
ZALV                              Lg    Lg          07 50 59.8
      0.9nm,0.3s,baz=65,slow=28,SNR=5.8
KURBB Kurchatov Arra    6.38 237  Pn    Pn          07 51 53.5 +1.1
      0.1nm,0.3s,baz=54,slow=14,SNR=6.4
KURBB                             Lg    Lg          07 53 41.6
      baz=52,slow=32,SNR=2.1
      0.4nm,0.4s
MKAR  Makanchi Array    8.17 203  Pn    Pn          07 52 18.3 +1.3
      0.1nm,0.3s,baz=18,slow=14,SNR=6.1
MKAR                              Sn    Sn          07 53 48.0 -2.0
      baz=20,slow=31,SNR=2.0
      0.2nm,0.4s
```

ASRS ***22*** *07:54:13.0±1.4, 54°.22N×86°.37E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 07:54:14.4±2.8, 54°.24N×86°.40E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=22.0km s-min=14.6km az=50.0, Southwestern Siberia

```
Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
I46RU ZALESOVO INFRA    0.97 253  I     I           08 01 10.0
      baz=74,slow=324,SNR=2.6
ZALV  Zalesovo Beam     0.97 253  Pg    Pg          07 54 32.3 -0.7
      1.5nm,0.3s,baz=73,slow=17,SNR=16
ZALV                              Lg    Lg          07 54 47.0
      2.3nm,0.3s,baz=73,slow=29,SNR=8.8
KURBB Kurchatov Arra    6.02 236  Pn    Pn          07 55 44.1 -0.6
      0.1nm,0.3s,baz=54,slow=14,SNR=5.1
KURBB                             Lg    Lg          07 57 27.7
      0.1nm,0.3s,baz=58,slow=32,SNR=4.9
      0.3nm,0.3s
MKAR  Makanchi Array    7.90 201  Pn    Pn          07 56 12.6 +2.1
      0.1nm,0.3s,baz=20,slow=13,SNR=5.8
MKAR                              Lg    Lg          07 58 25.2
      baz=23,slow=33,SNR=3.1
      0.2nm,0.3s
```

SJA ***22*** *07:54:46.3±0.8, 31°.67S×72°.72W, h40km±16km, ML3.7, MW4.1*
GUC ***22*** *07:54:51.2±1.0, 31°.71S×72°.17W, h37km±3km, ML3.4*

ISC 22 07:54:47.4±1.5, 31°.70S±0°.02×72°.53W±0°.07, h24km, n45, σ2.9 67/87, 5C-4D, Off coast of central Chile

```
Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
CO06  Fray Jorge        1.27  37⇓  eP    Pb          07 55 10.9 +0.2
CO06                              eS    Sb          07 55 26.8 +0.2
VA06  Catapilco         1.35 130⇓  eP    Pb          07 55 11.6 -0.5
VA06                              eS    Sn          07 55 26.5 -1.5
VA06                              IAML                07 55 33.3
      comp=E,2μm,0.6s
CO02  Combarbal         1.39  70⇑  eP    Pn          07 55 11.1 -0.4
CO02                              eS    Sn          07 55 25.5 -3.7
CO02                              IAML                07 55 29.6
      comp=E,4μm,0.3s
CO02  Combarbal         1.39  70   eP    Pb          07 55 26.2 +13
CO03  El Pedregal       1.79  62   eP    Pn          07 55 17.6 +0.7
CO03                              eS    Sn          07 55 37.4 -1.5
CO03                              IAML                07 55 43.7
      comp=E,569nm,0.4s
CO03  El Pedregal       1.79  62   eP    Pb          07 55 18.3 -1.3
CO03                              eS    Sn          07 55 38.6 -0.3
CO03                              IAML                07 55 43.6
      comp=Z,459nm,0.3s
ROC1  El Roble          1.81 135   eP    Pb          07 55 18.7 -1.3
ROC1                              eS    Sb          07 55 42.6 +0.3
MT02  Curacav           1.95 143   i P   Pb          07 55 21.0 -1.3
MT02                              eS    Sn          07 55 42.3 -0.5
VA03  San Esteban       1.98 123   eS    Sn          07 55 42.9 -0.8
VA03                              IAML                07 55 51.9
      comp=E,1μm,0.7s
VA03  San Esteban       1.98 123   eP    Pb          07 55 21.0 -1.9
VA03                              eS    Sb          07 55 47.5 +0.2
VA03                              IAML                07 55 50.8
      comp=Z,426nm,0.7s
CO05  La Serena         2.09  32⇑  eP    Pb          07 55 23.7 -0.9
CO05                              eS    Sb          07 55 48.4 -1.8
CO05                              IAML                07 56 00.6
      comp=N,280nm,0.6s
VA05  Santo Domingo     2.10 159⇓  eP    Pb          07 55 23.7 -1.2
VA05                              eS    Sn          07 55 47.8 +1.3
VA05                              IAML                07 56 01.9
      comp=E,469nm,0.5s
GO04  Tololo Observa    2.12  45⇑  eP    Pb          07 55 23.2 -2.1
GO04                              eS    Sn          07 55 48.8 +1.5
GO04  Tololo Observa    2.12  45   eP    Pb          07 55 23.6 -1.7
GO04                              eS    Sn          07 55 49.2 +1.9
PEL   Peldehue          2.12 133   eS    Sn          07 55 47.4 +0.2
PEL                               IAML                07 55 56.7
      comp=N,498nm,0.5s
PEL   Peldehue          2.12 133   eP    Pn          07 55 18.0 -3.5
PEL                               eP    Pb          07 55 23.2 -2.1
PEL                               eS    Sb          07 55 52.8 +1.6
MT05  Renca             2.27 139   eP    Pb          07 55 25.4 -2.3
MT05                              eS    Sn          07 55 51.4 +0.7
MT05                              IAML                07 56 03.2
      comp=E,532nm,0.3s
MT10  Hacienda Santa    2.30 134⇓  eP    Pb          07 55 25.9 -2.5
MT10                              eS    Sn          07 55 51.7  0.0
MT10                              IAML                07 56 01.3
      comp=E,941nm,0.5s
MT14  Cerro Calın       2.39 136⇑  eP    Pb          07 55 27.2 -2.6
MT14                              eS    Sn          07 55 53.6 -0.1
MT14                              IAML                07 56 05.2
      comp=N,610nm,0.5s
MT16  CCHEN             2.42 136   eP    Pb          07 55 27.6 -2.7
MT16                              eS    Sn          07 55 55.0 +0.6
MT16                              IAML                07 56 06.0
      comp=N,260nm,0.7s
MT09  Talagante         2.45 148   eP    Pb          07 55 28.9 -2.0
MT09                              eS    Sn          07 55 55.9 +0.7
MT09                              IAML                07 56 13.6
      comp=N,254nm,0.5s
MT03  Universidad Ad    2.47 137   eP    Pn          07 55 27.9 +1.6
MT03                              eS    Sn          07 55 56.7 +0.9
MT03                              IAML                07 56 04.2
      comp=E,541nm,0.4s
FCH   Farellones        2.49 131   IAML                07 56 03.4
      comp=N,147nm,0.4s
MT15  Las Vizcachas     2.55 139   eP    Pb          07 55 29.5 -3.1
MT15                              eS    Sn          07 55 58.0 +0.3
MT15                              IAML                07 56 16.4
      comp=E,389nm,0.3s
MT12  Pirque            2.63 141   eP    Pb          07 55 30.8 -3.1
MT12                              eS    Sn          07 56 00.6 +1.0
MT12                              IAML                07 56 16.5
      comp=N,399nm,0.4s
MT04  Ro Olivares       2.64 131   i P   Pn          07 55 30.6 +1.8
MT04                              i S   Sn          07 55 59.4 -0.8
MT04                              IAML                07 56 11.3
      comp=E,160nm,0.3s
CO01  Juntas del Tor    2.70  51⇑  eP    Pb          07 55 32.0 -3.2
CO01                              eS    Sn          07 56 01.8 +0.1
CO01                              IAML                07 56 12.0
      comp=N,251nm,0.3s
AUSP  Uspallata         2.72 102   eP    Pb          07 55 33.0 -2.6
AUSP                              eS    Sn          07 56 06.7 +4.5
RTLS  Leoncito          2.75  93   eP    Pb          07 55 33.4 -2.7
RTLS                              eS    Sn          07 56 07.8 +4.8
RTLS                              IAML                07 56 10.5
      comp=Z,524nm,0.8s
AROD  Rodeo             3.03  61   eP    Pn          07 55 32.5 -1.7
AROD                              eP    Pb          07 55 38.0 -2.9
AROD                              eS    Sn          07 56 14.0 +4.0
AROD                              eS    Sb          07 56 18.5 +0.8
DOCA  Reserva Natura    3.04  77   eP    Pb          07 55 38.0 -3.0
DOCA                              eP    Pn          07 55 38.5 +4.2
DOCA                              eS    Sn          07 56 13.5 +3.3
DOCA                              IAML                07 56 23.7
      comp=Z,192nm,0.8s
ACCO  Cerro Coronel     3.17  71   eP    Pb          07 55 42.0 -1.1
ACCO                              eS    Sn          07 56 18.0 +4.7
ACCO                              eS    Sb          07 56 19.5 -2.0
ARCO  CERRO ARCO        3.25 112   eP    Pb          07 55 45.0 +0.4
ARCO                              eS    Sb          07 56 32.5 +8.7
ARCO                              IAML                07 56 33.1
      comp=Z,100nm,0.8s
ASAL  Salagasta         3.26 107   eP    Pn          07 55 34.5 -2.6
ZON   Zonda             3.29  88   eP    Pn          07 55 38.0 +0.5
ZON                               eP    Pb          07 55 40.5 -4.6
ZON                               eP                07 55 45.0
ZON                               eS    Sn          07 56 18.0 +2.2
ZON                               eS    Sb          07 56 18.5 -6.2
ZON                               IAML                07 56 30.9
      comp=Z,79nm,0.5s
ACDV  Cuesta del Vie    3.30  63   eP    Pn          07 55 38.5 +0.8
ACDV                              eP    Pb          07 55 42.5 -2.8
ACDV                              eS    Sb          07 56 22.5 -2.6
ACDV                              IAML                07 56 37.5
      comp=Z,91nm,0.7s
AAGR  Agrelo            3.42 115   eP    Pb          07 55 46.7 -0.7
AAGR                              eS    Sb          07 56 33.0 +4.4
RTLL  Cerro Villicun    3.48  85   eP    Pn          07 55 42.5 +2.4
RTLL                              eS    Sn          07 56 25.0 +4.4
AGUA  GUANDACOL         4.12  59   eP    Pb          07 55 53.7 -5.6
AGUA                              eS    Sb          07 56 49.0 +0.4
AGUA                              IAML                07 57 04.0
      comp=Z,133nm,0.8s
VCA   Vinchina          4.76  53   eP    Pn          07 56 00.5 +2.7
VCA                               eS    Sb          07 57 01.0 -6.2
VCA                               IAML                07 57 22.0
      comp=Z,131nm,0.5s
APLL  PUNTA DE LOS L    5.31  77   eP    Pn          07 56 09.8 +4.5
APLL                              eS    Sb          07 57 19.5 -3.3
ACLC  CERRO LA CRUZ     5.31  66   eP    Pn          07 56 08.0 +2.6
ACLC                              eS    Sn          07 57 10.5 +4.5
ACLC                              IAML                07 57 21.2
      comp=Z,49nm,0.5s
AC02  Maricunga         5.68  32   eP    Pn          07 56 13.5 +2.8
AC02                              IAML                07 57 49.9
      comp=Z,21nm,0.8s
CYA   Choya             6.67  63   eP    Pn          07 56 26.0 +2.1
CYA                               eS    Sn          07 57 38.5 -0.7
CYA                               eS    Sb          07 57 51.4 -11
CYA                               IAML                07 57 52.4
      comp=Z,28nm,1.0s
FSA   Cafayete          7.99  48   eP    Pn          07 56 48.9 +6.7
FSA                               eS    Sn          07 58 14.8 +2.8
```

ASRS ***22*** *07:59:44.0±1.1, 54°.23N×87°.10E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 07:59:46.8±3.0, 54°.23N×87°.03E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=26.1km s-min=16.8km az=64.0, Southwestern Siberia

```
Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
I46RU ZALESOVO INFRA    1.33 259  I     I           08 09 10.0
      baz=77,slow=329,SNR=3.1
ZALV  Zalesovo Beam     1.33 259  Pg    Pg          08 00 10.4 -1.9
      1.2nm,0.3s,baz=74,slow=15,SNR=9.7
ZALV                              Lg    Lg          08 00 30.7
      1.4nm,0.3s,baz=75,slow=27,SNR=4.1
KURBB Kurchatov Arra    6.33 239  Pn    Pn          08 01 21.7 +0.4
      0.1nm,0.3s,baz=54,slow=13,SNR=7.8
KURBB                             Lg    Lg          08 03 06.2
      baz=52,slow=29,SNR=1.8
      0.8nm,0.5s
MKAR  Makanchi Array    8.03 204  Pn    Pn          08 01 47.0 +2.4
      0.1nm,0.3s,baz=20,slow=12,SNR=5.0
MKAR                              Sn    Sn          08 03 14.0 -2.2
      0.1nm,0.3s,baz=19,slow=27,SNR=1.9
MKAR                              Lg    Lg          08 04 02.0
      baz=26,slow=43,SNR=2.1
      0.2nm,0.3s
```

NEIC ***22*** *08:12:49.8±1.1, 35°.394N±0°.009×118°.53W±0°.01, h7km±3km, Error ellipse: s-maj=1.3km s-min=1.2km az=133.0*

PAS 22 08:12:50.1±1.1, 35°.391N±0°.008×118°.545W±0°.010, h4km±2km, ML3.3/294, ML3.1/108(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=122.0, Central California

```
Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
TEJ   El Tejon          0.20 216                Pg  08 12 54.1 +0.1
TEJ                                             Sg  08 12 56.8 +0.2
ISA   Isabella, Lake    0.28  12  Pg            Pg  08 12 55.4 -0.1
ISA                               IAML            08 12 59.9
      comp=E,4μm,0.3s
ISA                               IAML            08 13 00.3
      comp=N,3μm,0.3s
MAGC  SCE Magundon P    0.31 265                Pg  08 12 56.7 +0.6
MAGC                                            Sb  08 13 02.0 -1.6
WHFM  Hanning Flat      0.34  28                Pg  08 12 56.7 -0.1
WHFM                                            Sg  08 13 01.4 +0.1
WASM  Alta Sierra Ca    0.35 358                Pg  08 12 56.8  0.0
WASM                                            Sg  08 13 01.5  0.0
WBSM  Bird Springs      0.36  66                Pg  08 12 57.1  0.0
WBSM                                            Sg  08 13 01.9  0.0
WORM  Onyx Ranch        0.39  39                Pg  08 12 57.6 -0.1
WORM                                            Sg  08 13 02.9 +0.1
TJR   Tejon Ranch       0.40 204                Pg  08 12 57.7 -0.1
TJR                                             Sg  08 13 03.1 +0.2
BAKC  Calstate          0.46 264                Pg  08 12 59.5 +0.6
BAKC                                            Sb  08 13 06.7 -1.2
THC   Tehachapi Micr    0.49 191                Pg  08 12 59.3 -0.2
THC                                             Sg  08 13 05.8 -0.1
CCAC  Calif City Air    0.49 119                Sg  08 13 06.3 +0.4
CCAC  Calif City Air    0.49 119  Pg            Pg  08 12 59.5 -0.1
CCAC                              IAML            08 13 06.6
      comp=E,6μm,0.4s
CCAC                              IAML            08 13 06.7
      comp=N,4μm,0.2s
TPO   Tropico Hills     0.57 153                Pg  08 13 00.9 -0.2
```

TPO Sg 08 13 08.5 -0.1
DTP Desert Tortois 0.58 102 Pg 08 13 01.0 -0.3
DTP Sg 08 13 09.0 +0.1
VES Vestal, Richgr 0.63 316 Pg 08 13 01.9 -0.3
VES Sg 08 13 10.7 +0.4
EDW2 Edwards Air Fo 0.68 138 Pg 08 13 02.7 -0.5
EDW2 Sg 08 13 12.0 +0.1
WNMM Nine Mile Cany 0.69 49 Pg 08 13 03.0 -0.4
WNMM Sg 08 13 12.2 0.0
LRMC Laurel Mtn Rad 0.71 83 Pg 08 13 03.3 -0.4
LRMC Sg 08 13 12.8 -0.1
SRTC Snort 0.71 65 Pg 08 13 03.9 +0.1
SRTC Sg 08 13 14.2 +1.1
ALPC Antelope 0.73 164 Pg 08 13 03.7 -0.4
ALPC Sg 08 13 14.0 +0.4
MPI Mount Pinos, F 0.76 221 Pg 08 13 04.2 -0.4
MPI Sg 08 13 14.3 -0.2
TOW Tower One 0.76 57 Pg 08 13 04.8 +0.1
TOW Sg 08 13 15.3 +0.7
LEOC Leona Valley 0.78 165 Pg 08 13 04.6 -0.5
LEOC Sg 08 13 15.0 -0.3
OSI Osito Audit: C 0.79 191 Pg 08 13 04.8 -0.4
OSI Sg 08 13 14.8 -0.7
WVPM Volcano Peak E 0.81 47 Pg 08 13 05.3 -0.4
WVPM Sg 08 13 16.2 -0.1
WRVM Rose V. Centra 0.81 41 Pg 08 13 05.2 -0.5
WRVM Sg 08 13 16.3 0.0
SPG2 Springville 2 0.83 348 Pg 08 13 05.3 -0.7
SPG2 Sg 08 13 15.8 -0.9
JRC2 Joshua Ridge 0.84 45 Pg 08 13 05.9 -0.3
JRC2 Sg 08 13 17.2 0.0
BCW Bitter Crk WRg 0.84 238 Pg 08 13 05.7 -0.5
BCW IAML 08 13 17.9
comp=N,913nm,0.3s
BCW IAML 08 13 18.0
comp=E,898nm,0.7s
BCW Bitter Crk WRg 0.84 238 Sg 08 13 17.7 +0.5
CLC China Lake 0.88 61 Pg 08 13 06.4 -0.6
CLC Sg 08 13 18.5 +0.1
MFS McCloud Flat S 0.92 38 Pg 08 13 07.2 -0.5
MFS Sg 08 13 19.6 0.0
SBB Saddle Back Bu 0.92 140 Pg 08 13 06.9 -0.7
SBB Sg 08 13 18.4 -1.1
CJV Casa Juvan 0.92 159 Pg 08 13 06.9 -0.8
CJV Sb 08 13 20.6 -0.7
PDE Pardee, Santa 0.95 182 Pg 08 13 07.5 -0.7
HYS Haystack Butte 0.96 123 Pg 08 13 07.6 -0.8
HYS Sg 08 13 20.4 -0.5
LRRC Littlerock Res 0.96 154 Pg 08 13 07.8 -0.8
LRRC Sg 08 13 21.2 +0.3
CCCA Chr Cany lake 0.97 82 Pg 08 13 08.2 -0.5
CCCA Sb 08 13 22.2 -0.6
CRGC Crocker Grade 0.98 262 Pg 08 13 08.3 -0.5
CRGC Sg 08 13 22.1 +0.7
OAT Oat Mountain 1.05 183 Pg 08 13 09.8 -0.3
JNH Juniper Hills 1.06 153 Pg 08 13 09.6 -0.8
JNH Sb 08 13 25.2 -0.1
CARC Carrizo Plain 1.07 266 Pg 08 13 09.7 -0.8
CARC Sb 08 13 24.9 -0.5
MPMC Manual Prospec 1.09 52 Pg 08 13 10.2 -0.7
MPMC Sg 08 13 24.0 -1.0
HOLC Holcomb Ridge 1.09 148 Pg 08 13 10.2 -0.9
HOLC Sg 08 13 24.4 -0.9
CWC Cottonwood Cre 1.11 20 Pg 08 13 10.6 -0.9
CWC Sg 08 13 25.1 -0.8
CHFC Chilao Flat St 1.14 158 Pg 08 13 10.8 -1.1
CHFC Sg 08 13 25.6 -1.0
DECC Green Verdugo 1.15 171 Pg 08 13 11.3 -0.8
BLCC Black Canyon 1.15 185 Pg 08 13 12.1 0.0
VOG Valley Oaks Go 1.15 324 Pg 08 13 11.1 -1.1
VOG Sg 08 13 25.9 -1.2
PKM Mcpherson Peak 1.15 245 Pg 08 13 11.2 -1.0
SMMC Simmler 1.19 267 Pg 08 13 11.4 -1.5
PASC Pasadena Art C 1.25 166 Pg Pg 08 13 12.7 -1.4
PASC IAML 08 13 36.0
comp=E,225nm,0.7s
DJJ Donna J Jenkin 1.28 177 Pg 08 13 13.8 -0.9
GR2C Griffith Obs. 1.29 171 Pg 08 13 14.7 0.0
BFSC Mount Baldy Ra 1.36 147 Pn 08 13 14.8 -1.2
RRX Edison Barstow 1.37 112 Pn 08 13 15.7 -0.3
SSK Sunset Peak 1.37 149 Pn 08 13 15.2 -0.9
GSC Goldstone, Bar 1.42 93 Pn 08 13 15.4 -1.4
GSC IAML 08 13 39.1
comp=N,246nm,0.5s
PKEM Kettleman Hill 1.44 298 Pn 08 13 16.3 -0.7
SS2 San Sevaine 1.46 144 Pn 08 13 17.0 -0.2
TSCN Private Proper 1.48 276 Pn 08 13 16.1 -1.4
TIN Tinemaha, Big 1.68 9 Pb 08 13 21.1 -0.5
PWMM Westland Maint 1.71 308 Pn 08 13 20.4 -0.2
PKD Bear Valley Ra 1.72 289 Pn 08 13 19.8 -1.0
GWY Greenwater Val 1.72 62 Pn 08 13 19.4 -1.5
GWY IAML 08 13 47.9
comp=N,168nm,0.7s
GWY IAML 08 13 47.9
comp=E,200nm,0.5s
PSMM Smith Mountain 1.80 293 Pn 08 13 22.1 +0.1
GRAC Grapevine Rang 1.86 30 Pn 08 13 22.9 +0.1
HEC Hector,Ludlow 1.90 107 Pb 08 13 25.5 +0.2
RAMR Ramage Ranch 1.91 278 Pn 08 13 22.9 -0.6
MTUM Tungsten Hills 1.96 360 Pb 08 13 25.9 -0.6
ELS Elsinore Mount 1.97 152 Pn 08 13 23.1 -1.2
POCCA Poleta Canyon 1.98 6 Pb 08 13 27.0 +0.2
SGV South Grapevin 2.00 37 Pn 08 13 24.6 -0.2
PSAM San Ardo 2.01 289 Pn 08 13 23.9 -0.9
PMPB Monarch Peak 2.01 295 Pn 08 13 24.0 -0.9
DSCC Desert Studies 2.01 96 Pn 08 13 23.1 -1.7
DSP Deep Springs 2.03 13 Pn 08 13 25.6 +0.6
DSP IAML 08 13 55.0
comp=N,82nm,0.4s
PHSB Hesperia Broad 2.09 283 Pn 08 13 24.4 -1.5
WCT Wildcat Mounta 2.09 47 Pn 08 13 25.3 -0.7
HMTC Hemet 2.11 142 Pn 08 13 25.0 -1.1
MURC Murrieta 2.11 148 Pn 08 13 25.2 -0.9
AMDNV Amargosa 2.12 59 Pn 08 13 25.2 -1.1
DGR Domenigoni Val 2.15 143 Pn 08 13 25.7 -1.1
POB Polly Butte 2.16 141 Pn 08 13 25.9 -1.1
BACC Bachelor Mtn. 2.17 145 Pn 08 13 25.9 -1.1
BLAC Blackrock camp 2.21 126 Pn 08 13 27.0 -0.7
PCCM Crazy Canyon 2.24 289 Pn 08 13 26.5 -1.5
BBGB Big Mountain B 2.34 301 Pn 08 13 29.1 -0.4
CRY Cary Ranch 2.35 140 Pn 08 13 28.9 -0.7
TPC Twentynine Pal 2.42 121 Pn 08 13 29.2 -1.3
TPNV Topopah Spring 2.42 49 Pn 08 13 30.2 -0.4
TPNV IAML 08 14 12.2
comp=N,74nm,0.8s
TPNV IAML 08 14 12.2
comp=N,73nm,0.7s
GMRC Granite Mounta 2.44 104 Pn 08 13 29.5 -1.4
MTPC Mountain Pass 2.44 87 Pn 08 13 29.6 -1.3
PFO Pinyon Flats O 2.47 135 Pn 08 13 30.4 -0.8
MZP Montezuma Peak 2.49 22 Pn Pn 08 13 31.2 -0.4
SAO San Andreas Ge 2.72 301 Pn Pn 08 13 34.6 +0.1
LHV Little Huntoon 2.85 1 Pn Pn 08 13 35.8 -0.6
SHPR Sheep Range 2.96 67 Pn 08 13 37.7 -0.4
CMB Columbia Colle 3.02 331 Pn Pn 08 13 38.6 -0.2
CMB IAML 08 14 27.4
comp=E,48nm,0.7s
CMB IAML 08 14 29.4
comp=N,51nm,1.0s
V12A Nelson 3.03 83 Pn 08 13 37.7 -1.2
NVAR Mina Array Bea 3.04 4 Pn 08 13 38.1 -1.0
NV11 Mina Array Sit 3.05 6 Pn Pn 08 13 39.0 -0.3
NV11 IAML 08 14 28.1
comp=E,35nm,1.1s
S11A Rachel 3.18 44 Pn Pn 08 13 40.0 -1.1
S11A IAML 08 14 40.3
comp=E,75nm,0.9s
S11A IAML 08 14 50.4
comp=N,68nm,1.0s
WAKR Walker 3.19 347 Pn Pn 08 13 39.4 -1.8
WAKR IAML 08 14 31.9
comp=N,64nm,0.8s
WAKR IAML 08 14 33.3
comp=E,73nm,0.5s
RYN Ryan 3.23 0 Pn Pn 08 13 39.7 -2.0
RYN IAML 08 14 33.6
comp=E,70nm,0.9s
RYN IAML 08 14 35.5
comp=N,53nm,0.5s
TKX Tecate 3.24 150 Pn Pn 08 13 41.1 -0.7
TKX IAML 08 14 35.6
comp=E,32nm,0.4s
TKX IAML 08 15 11.2
comp=N,54nm,0.1s
CBX Cerro Bola 3.45 152 Pn Pn 08 13 44.4 -0.2
PRN Pahroc Range 3.46 53 Pn Pn 08 13 43.6 -1.3
PRN IAML 08 14 49.8
comp=N,32nm,0.7s
PRN IAML 08 14 55.9
comp=E,40nm,1.0s
YUH Yuha Desert 3.50 141 Pn Pn 08 13 43.6 -1.6
Q09A Carvers 3.60 17 Pn Pn 08 13 46.5 -0.4
BLYC Blythe 3.70 115 Pn Pn 08 13 47.4 -0.7
BLYC IAML 08 14 54.7
comp=N,44nm,0.6s
BLYC IAML 08 14 55.0
comp=E,29nm,0.9s
PNTR Pine Nut 3.79 347 Pn Pn 08 13 47.5 -2.0
R11B Troy Canyon, C 3.79 38 Pn Pn 08 13 48.4 -1.0
W13A Hualapai Mount 3.83 93 Pn 08 13 48.5 -1.5
GLA Glamis 3.86 126 Pn Pn 08 13 49.2 -1.1
ESJX Sierra Juarez 4.01 147 Pn Pn 08 13 52.2 -0.3
ESJX IAML 08 15 03.6
comp=E,15nm,1.6s
AFDM Forest Hills D 4.04 332 Pn Pn 08 13 52.1 -0.7
AFDM IAML 08 14 57.6
comp=E,30nm,0.6s
AFDM IAML 08 15 02.1
comp=N,22nm,0.5s
MPK Martis Peak 4.07 344 Pn Pn 08 13 52.5 -0.9
PAHR Pah Rah Range 4.36 351 Pn Pn 08 13 56.0 -1.3
PAHR IAML 08 15 13.9
comp=N,18nm,1.1s
PAHR IAML 08 15 16.1
comp=E,16nm,1.3s
LCMT Little Creek M 4.58 68 Pn 08 14 00.2 -0.1
VTX Valle De La Tr 4.61 149 Pn Pn 08 13 59.9 -0.7
VTX IAML 08 14 35.8
comp=E,16nm,3.8s
VTX IAML 08 16 49.3
comp=N,13nm,3.2s
113A Mohawk Valley, 4.75 122 Pn Pn 08 14 00.2 -2.3
113A IAML 08 15 24.7
comp=E,11nm,1.7s
113A IAML 08 15 24.8
comp=N,11nm,2.1s
Y14A Wickenburg 4.79 106 Pn 08 14 01.1 -1.9
Y14A IAML 08 15 28.5
comp=E,14nm,0.7s
Y14A IAML 08 15 41.2
comp=N,12nm,1.2s
PSUT Pine Spring 4.89 49 Pn Pn 08 14 02.8 -1.8
PSUT IAML 08 15 30.1
comp=N,9.1nm,1.7s
PSUT IAML 08 15 33.5
comp=E,12nm,1.6s
KNB Kanab 4.90 69 Pn 08 14 05.1 +0.4
KNB IAML 08 15 56.1
comp=N,7.8nm,3.7s
U15A North Rim 5.18 77 Pn 08 14 09.1 +0.4
U15A IAML 08 15 49.4
comp=N,7.0nm,4.2s
U15A IAML 08 15 59.8
comp=E,8.8nm,3.1s
PKCU Pink Cliffs 5.43 66 Pn 08 14 13.6 +1.5
MTPU Mount Pierson 5.75 61 Pn Pn 08 14 18.0 +1.4
TCRU Three Creeks R 5.84 55 Pn Pn 08 14 15.1 -2.7
WUAZ Wupatki 5.85 87 Pn Pn 08 14 17.3 -0.6
X16A Lo Mia Camp, P 5.92 97 Pn Pn 08 14 16.5 -2.2
ELK Elko 5.95 25 Pn Pn 08 14 17.7 -1.4
MSU Marysvale 5.97 57 Pn Pn 08 14 18.1 -1.5
X18A Snowflake 7.11 94 Pn Pn 08 14 34.0 -1.1
PV12 Saucer Basin, 8.34 67 Pn Pn 08 14 52.7 +0.8

*SDD **22** 08:14:02.2±1.3, 19°.72N×71°.74W, h23km±17km, MD2.9, ML1.8, MW2.7*
*SSNC **22** 08:14:37.4±1.5, 19°.97N×73°.49W, h7km±11km, MD2.6, ML1.4, MW1.5*
ISC 22 08:14:00.2±0.8, 19°.58N±0°.05×71°.83W±0°.03, h10km, n11, σ3s52/20, 10C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	**Montecristi**	**0.35**	**27⇑**	*e*Pg	**Pg**	**08 14 07.0**	**-0.2**
MCDR			⇑	*e*Sg	**Sg**	**08 14 10.6**	**-1.1**
MCDR				IAML		08 14 11.3	
comp=N,233nm,0.1s							
REDR	**Restauracion**	**0.58**	**135⇑**	*e*Pg	**Pg**	**08 14 11.2**	**-0.2**
REDR			⇑	*e*Sg	**Sg**	**08 14 16.9**	**-2.3**
REDR				IAML		08 14 18.2	
comp=N,52nm,0.1s							
MADR	**Mao Valverde**	**0.68**	**91⇑**	*e*Sg	**Sg**	**08 14 22.6**	**+0.3**
MADR				IAML		08 14 27.1	
comp=N,74nm,4.5s							
SDDR	**Presa de Saban**	**0.78**	**140⇑**	*e*Pg	**Pb**	**08 14 16.8**	**+0.8**
SDDR			⇑	*e*Sg	**Sb**	**08 14 28.1**	**+1.4**
SDDR				IAML		08 15 13.4	
comp=N,14nm,2.2s							
MASC	**Masc**	**2.34**	**285**	*e*P	**Pg**	**08 14 49.6**	**+4.5**
MASC				*e*S	Sn	08 14 59.5	-8.1
MASC				IAML		08 15 00.7	
comp=N,5.5nm,0.2s							
MASC				IAML		08 15 01.2	
comp=E,6.1nm,0.3s							
HATOM	**Hato Mayor del**	**2.44**	**108⇑**	*e*Pg	**Pn**	**08 14 41.8**	**+1.6**
HATOM			⇑	*e*Sg	**Sn**	**08 15 09.8**	**-0.4**
QMBU	**Quimbuelo**	**2.88**	**283⇑**	*e*P	**Pg**	**08 14 58.0**	**+2.6**
QMBU				*e*S	**Sn**	**08 15 13.9**	**-6.9**
QMBU				IAML		08 15 15.7	
comp=E,7.7nm,0.2s							
QMBU				IAML		08 15 17.1	
comp=N,8.5nm,0.3s							
GTBY	**Guantanamo Bay**	**3.11**	**277**	*e*P	**Pg**	**08 15 02.4**	**+2.5**
GTBY				*e*S	**Sn**	**08 15 21.7**	**-5.0**
GTBY				IAML		08 15 23.0	
comp=N,14nm,1.1s							
GTBY				IAML		08 15 27.5	
comp=N,16nm,1.3s							
NMDO	**Nuevo Mundo**	**3.12**	**289**	*e*P	**Pg**	**08 15 02.5**	**+2.4**
NMDO				*e*S	**Sn**	**08 15 21.7**	**-5.2**
NMDO				IAML		08 15 22.1	
comp=E,3.6nm,0.3s							
NMDO				IAML		08 15 24.5	
comp=N,3.6nm,0.2s							
RCC	**Rio Carpintero**	**3.67**	**277**	*e*P	**Pg**	**08 15 09.8**	**-0.8**
RCC				*i* S	**Sn**	**08 15 34.6**	**-5.8**
RCC				*e*Sg	**Sn**	**08 15 36.0**	**-4.4**
RCC				IAML		08 15 38.7	
comp=N,3.7nm,0.7s							
RCC				IAML		08 15 41.6	
comp=E,2.8nm,0.7s							
PINC	**Pinares de May**	**3.84**	**284**	*e*P	**Pb**	**08 15 10.5**	**+2.5**
PINC				*e*S	Sn	08 15 36.0	-8.4
PINC				IAML		08 15 37.6	
comp=E,1.3nm,0.3s							
PINC				IAML		08 15 39.1	
comp=N,1.8nm,0.3s							

*IDC **22** 08:15:13.5±3.4, 53°.51N×88°.17E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=29.8km s-min=18.3km az=58.0*
ASRS 22 08:15:17.0±1.2, 53°.62N×87°.95E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**281**	I	I	08 27 40.0	
0.1nm,0.9s,baz=98,slow=331,SNR=7.5							
ZALV	**Zalesovo Beam**	**1.89**	**281**	Pg	Pn	08 15 51.3	+0.8
0.8nm,0.3s,baz=98,slow=18,SNR=9.3							
ZALV				Lg	Lg	08 16 16.4	
1.8nm,0.3s,baz=103,slow=25,SNR=11							
KURBB	**Kurchatov Arra**	**6.53**	**246**	Pn	Pn	08 16 53.8	-0.5
baz=61,slow=14,SNR=3.5							
KURBB				Lg	Lg	08 18 43.2	
baz=62,slow=33,SNR=6.8							
0.3nm,0.5s							
MKAR	**Makanchi Array**	**7.74**	**210**	Pn	Pn	08 17 06.6	-4.2
baz=28,slow=13,SNR=1.7							
MKAR				Lg	Lg	08 19 19.4	
baz=32,slow=31,SNR=3.3							
0.2nm,0.7s							

*ASRS **22** 08:32:12.0±0.9, 54°.26N×87°.04E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 22 08:32:12.1±3.4, 54°.34N×87°.28E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=27.8km s-min=18.7km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**256**	I	I	08 41 30.0	
baz=78,slow=329,SNR=3.9							
ZALV	**Zalesovo Beam**	**1.50**	**256**	Pg	Pn	08 32 38.1	-2.2
1.0nm,0.3s,baz=74,slow=17,SNR=9.0							
ZALV				Lg	Lg	08 32 60.0	
0.7nm,0.3s,baz=75,slow=26,SNR=4.5							
KURBB	**Kurchatov Arra**	**6.51**	**239**	Pn	Pn	08 33 49.8	+0.7
0.1nm,0.3s,baz=53,slow=14,SNR=4.9							
KURBB				Lg	Lg	08 35 38.0	
baz=60,slow=34,SNR=1.5							
0.4nm,0.3s							
MKAR	**Makanchi Array**	**8.19**	**205**	Pn	Pn	08 34 13.1	+0.9
0.1nm,0.3s,baz=26,slow=14,SNR=2.3							
MKAR				Sn	Sn	08 35 46.5	+1.0
0.1nm,0.3s,baz=16,slow=23,SNR=2.1							
0.2nm,0.4s							

*ASRS **22** 08:38:20.0±0.5, 53°.84N×91°.14E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 22 08:38:25.8±3.7, 53°.43N×91°.24E, h0km, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=33.8km s-min=30.2km az=31.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.85**	**280**	I	I	09 01 30.0	
0.2nm,1.1s,baz=91,slow=331,SNR=8.7							
ZALV	**Zalesovo Beam**	**3.85**	**280**	Pn	Pn	08 39 28.0	+1.7
0.3nm,0.3s,baz=96,slow=16,SNR=5.7							
ZALV				Sn	Sn	08 40 15.0	+2.8
0.6nm,0.3s,baz=97,slow=23,SNR=8.3							
1.5nm,0.5s							
KURBB	**Kurchatov Arra**	**8.33**	**255**	Pn	Pn	08 40 26.6	-1.1
baz=64,slow=15,SNR=6.1							
KURBB				Sn	Sn	08 42 00.4	-2.0
baz=66,slow=25,SNR=5.7							
KURBB				Lg	Lg	08 42 52.4	
baz=67,slow=31,SNR=6.2							
0.5nm,0.6s							
MKAR	**Makanchi Array**	**8.78**	**224**	Pn	Pn	08 40 35.2	+1.2
0.1nm,0.3s,baz=41,slow=13,SNR=5.6							
MKAR				Lg	Lg	08 43 02.3	
baz=37,slow=30,SNR=1.6							
0.4nm,0.6s							

*IDC **22** 08:40:02.6±1.2, 13°.56N×146°.81E, h0km, mb3.7/10, mbtmp3.7/10, Error ellipse: s-maj=28.7km s-min=22.7km az=100.0*
ISC 22 08:40:07.8±1.1, 13°.5N±0°.2×146°.8E±0°.1, h35km, n11, σ1s00/12, mb3.9/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.86**	**272**	Pn	**Pn**	**08 40 36.0**	**-1.1**
104nm,0.3s,baz=132,slow=4.5,SNR=44							
GUMO				Sn	**Sn**	**08 40 59.9**	**+0.5**
42nm,0.3s,baz=131,slow=20,SNR=6.5							
KSRS	**Korea Array**	**29.16**	**328**	P	**P**	**08 46 04.6**	**-1.1**
0.7nm,0.4s,baz=146,slow=8.8,SNR=5.0							
0.7nm,0.4s							
WRA	**Warramunga Arr**	**35.44**	**200**	P	**P**	**08 47 00.6**	**-0.3**
0.6nm,0.9s,baz=15,slow=8.4,SNR=3.1							
0.6nm,0.9s							
ASAR	**Alice Springs**	**39.05**	**199**	P	**P**	**08 47 32.1**	**+0.6**
0.3nm,0.8s,baz=19,slow=9.0,SNR=2.8							
0.3nm,0.8s							
SONM	**Songino Array**	**47.86**	**324**	P	**P**	**08 48 43.7**	**+1.4**
0.9nm,0.8s,baz=122,slow=5.4,SNR=2.2							
0.9nm,0.8s							
ZALV	**Zalesovo Beam**	**62.76**	**324**	P	**P**	**08 50 31.1**	**+1.7**
0.4nm,0.4s,baz=99,slow=18,SNR=2.2							
0.4nm,0.4s							
MKAR	**Makanchi Array**	**62.82**	**316**	P	**P**	**08 50 30.2**	**+0.2**
0.4nm,0.4s,baz=96,slow=7.7,SNR=7.2							
0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**65.87**	**320**	P	**P**	**08 50 49.7**	**-0.1**
0.6nm,0.5s,baz=102,slow=7.4,SNR=4.1							
0.6nm,0.5s							
ILAR	**Eielson Array**	**67.83**	**25**	P	**P**	**08 51 01.1**	**-1.0**
0.2nm,0.9s,baz=264,slow=7.8,SNR=1.7							
0.2nm,0.9s							
BVAR	**Borovoye Array**	**71.12**	**322**	P	**P**	**08 51 23.0**	**+0.3**
0.6nm,0.4s,baz=90,slow=7.2,SNR=4.0							
0.6nm,0.4s							
FINES	**FINESS Array B**	**91.99**	**336**	P	**P**	**08 53 12.9**	**+0.2**
2.0nm,1.1s,baz=50,slow=6.6,SNR=3.4							
2.0nm,1.1s							

*UCR **22** 08:56:51.2±2.5, 11°.90N×87°.04W, h46km±47km, MW3.7*
*CATAC **22** 08:56:51.2±0.4, 12°.N±3°.×8°.7W±°, h36km±4km, M4.0/8, MLv4.0/8, Error ellipse: s-maj=6.9km s-min=3.0km az=39.3, confirmed*
*SNET **22** 08:56:54.9±1.0, 12°.07N×87°.55W, h14km±12km, ML3.5*
ISC 22 08:56:50.1±1.2, 11°.88N±0°.03×87°.11W±0°.03, h32km±11km, n85, σ0s93/110, 2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.58**	**60⇓**	*i*P	**Pn**	**08 57 02.6**	**+0.4**
COPN				*e*S	**Sn**	**08 57 11.8**	**+1.2**
COPN	**Copaltepe**	**0.58**	**60**	P	**Pn**	**08 57 02.6**	**+0.4**
BC86	**Nagarote**	**0.65**	**55**	P	**Pb**	**08 57 02.8**	**-0.4**
BC86	**Nagarote**	**0.65**	**55**	S	**Sn**	**08 57 12.7**	**+0.4**
LEVN	**Ruinas Leon Vi**	**0.70**	**43**	P	**Pn**	**08 57 04.0**	**+0.2**
LEVN				S	**Sn**	**08 57 14.2**	**+0.7**
CNGA	**AI SSO del Vol**	**0.72**	**33**	P	**Pn**	**08 57 04.5**	**+0.3**
CNGA				S	**Sn**	**08 57 14.1**	**0.0**
CNGN	**Cerro Negro**	**0.73**	**33**	P	**Pn**	**08 57 04.5**	**+0.3**
CNGN	**Cerro Negro**	**0.73**	**33**	S	**Sb**	**08 57 14.2**	**-0.1**
QUEN	**AI S del Volca**	**0.75**	**20**	P	**Pn**	**08 57 04.8**	**+0.4**
QUEN				S	**Sb**	**08 57 14.3**	**-0.4**
AMTN	**Mateare**	**0.75**	**62**	P	**Pn**	**08 57 04.8**	**+0.4**
AMTN	**Mateare**	**0.75**	**62**	S	**Sn**	**08 57 15.0**	**+0.4**
BC84	**Volcan Momotom**	**0.75**	**48**	P	**Pn**	**08 57 04.4**	**0.0**
BC84	**Volcan Momotom**	**0.75**	**48**	S	**Sb**	**08 57 14.6**	**-0.2**
MOMN	**Momotombo**	**0.76**	**47**	P	**Pn**	**08 57 04.8**	**+0.2**
MOMN				S	**Sn**	**08 57 15.1**	**0.0**
HERN	**Volcan Telica**	**0.77**	**21**	P	**Pn**	**08 57 04.9**	**+0.1**
HERN	**Volcan Telica**	**0.77**	**21**	S	**Sb**	**08 57 15.0**	**-0.4**
PLRN	**Geotermica Pol**	**0.77**	**25**	P	**Pn**	**08 57 04.3**	**-0.4**
PLRN				S	**Sb**	**08 57 14.2**	**-1.2**
ILCN	**San Idelfonso**	**0.80**	**30**	P	**Pn**	**08 57 05.3**	**+0.2**
ILCN				S	**Sb**	**08 57 15.6**	**-0.4**
CRUN	**El Crucero**	**0.80**	**83**	P	**Pb**	**08 57 06.6**	**+1.0**
CRIN	**San Cristobal**	**0.81**	**4⇓**	*i*P	**Pn**	**08 57 05.9**	**+0.5**
CRIN				*e*S	**Sn**	**08 57 17.7**	**+1.3**
CRIN	**San Cristobal**	**0.81**	**4**	P	**Pn**	**08 57 05.9**	**+0.5**
POLN	**AI Sur del Vol**	**0.81**	**21**	P	**Pn**	**08 57 05.5**	**+0.1**
ABCN	**Banco Central**	**0.81**	**73**	P	**Pn**	**08 57 05.6**	**+0.3**
ABCN	**Banco Central**	**0.81**	**73**	S	**Sb**	**08 57 16.9**	**+0.3**
APYN	**Apoyeque**	**0.82**	**65**	P	**Pn**	**08 57 05.5**	**+0.1**
APQ2	**Apoyeque**	**0.83**	**68**	P	**Pn**	**08 57 05.6**	**+0.2**
APQ2				S	**Sn**	**08 57 16.7**	**+0.1**
UNAN	**Cigeo UNAN**	**0.85**	**75**	P	**Pn**	**08 57 06.0**	**+0.2**
UNAN				S	**Sn**	**08 57 16.5**	**-0.7**
ALLN	**Telcor Managua**	**0.86**	**72**	P	**Pn**	**08 57 06.1**	**+0.2**
ALLN	**Telcor Managua**	**0.86**	**72**	S	**Sn**	**08 57 17.0**	**-0.4**
ENAN	**Enatrel Managu**	**0.86**	**74**	S	**Sn**	**08 57 17.3**	**-0.1**
ENAN	**Enatrel Managu**	**0.86**	**74**	P	**Pb**	**08 57 07.2**	**+0.6**
TISN	**Laguna Tiscapa**	**0.86**	**73**	P	**Pn**	**08 57 06.1**	**+0.1**
MAFN	**Magfor**	**0.88**	**76**	P	**Pn**	**08 57 06.5**	**+0.3**
MAFN	**Magfor**	**0.88**	**76**	S	**Sn**	**08 57 17.9**	**+0.1**
MGAN	**Managua**	**0.88**	**73**	*e*P	**Pn**	**08 57 06.4**	**+0.2**
MGAN				*e*S	**Sn**	**08 57 18.2**	**+0.2**
MGAN	**Managua**	**0.88**	**73**	P	**Pn**	**08 57 06.4**	**+0.2**
MGAN				P		08 57 06.4	
R4DEC	**Barrio San Lui**	**0.88**	**73**	P	**Pn**	**08 57 06.4**	**+0.1**
R4DEC	**Barrio San Lui**	**0.88**	**73**	S	**Sb**	**08 57 18.4**	**0.0**
MAS3	**AI N del Volca**	**0.92**	**81**	P	**Pn**	**08 57 06.7**	**-0.1**
MAS3				S	**Sn**	**08 57 18.7**	**-0.3**

SABN	Sabanita	0.93	85	P	Pn	08 57 07.1	+0.2
NANN	Nandasmo	0.97	87	P	Pb	08 57 08.6	+0.2
NANN	Nandasmo	0.97	87	S	Sn	08 57 20.5	+0.4
POTN	Potosi Cosigui	1.18	341	P	Pn	08 57 10.7	+0.4
POTN				S	Sn	08 57 25.1	-0.1
JAPN	Al SSO del Vol	1.45	104	P	Pn	08 57 14.2	+0.2
JAPN				S	Sn	08 57 31.6	-0.3
CONN	Concepcion	1.49	102	P	Pn	08 57 14.3	-0.3
CONN				S	Sn	08 57 32.8	-0.1
MATN	Matagalpa	1.55	48	P	Pn	08 57 14.6	-1.0
MATN	Matagalpa	1.55	48	S	Sn	08 57 33.6	-1.1
CNCH	Conchagua	1.56	333	eP	Pn	08 57 16.1	+0.5
CNCH				eS	Sn	08 57 34.9	+0.1
CNCH				IAML		08 57 38.7	
	comp=Z,887nm,0.2s						
CNCH	Conchagua	1.56	333	P	Pn	08 57 16.2	+0.5
CNCH	Conchagua	1.56	333	S	Sn	08 57 36.0	+1.2
LCRUZ	La Cruz	1.66	119	eP	Pn	08 57 16.3	-0.6
LCRUZ				eS	Sn	08 57 36.3	-0.8
CARN	Rivas	1.70	114	P	Pn	08 57 17.3	-0.2
CARN				S	Sn	08 57 37.9	-0.2
ACON	Acoyapa	1.89	87	eP	Pn	08 57 20.7	+0.6
LCY	Lacayo	1.92	323	eP	Pn	08 57 21.9	+1.3
RANC	El Ranchito	1.92	323	eP	Pn	08 57 21.7	+1.0
PACA	Pacayal	1.97	323	eP	Pn	08 57 22.6	+1.2
PACA				eS	Sn	08 57 44.2	-0.9
ALIBA	Liberia Airpor	2.00	130	eP	Pn	08 57 22.3	+0.7
PEJA	Penjamo Buenos	2.02	119	eP	Pn	08 57 21.9	0.0
PEJA				eS	Sn	08 57 45.2	-0.8
GPS3	Bodega del ICE	2.04	123	eP	Pn	08 57 24.2	+1.9
GPS2	Hotel Rincn d	2.06	123	eP	Pn	08 57 24.4	+1.9
DELF	Filadelfia	2.09	133	eP	Pn	08 57 25.6	+2.7
TECA	Tecapa	2.10	320	eP	Pn	08 57 24.1	+0.9
COLC	Colonia	2.23	123	eP	Pn	08 57 26.0	+1.2
COLC				eS	Sn	08 57 51.8	+0.6
VMAR	Armenia, Volca	2.23	118	eP	Pn	08 57 24.6	-0.2
VMAR				eS	Sn	08 57 50.0	-1.2
PQSS	Presa 15 de Se	2.24	321	eP	Pn	08 57 26.1	+1.3
CUI	Cuipilapa	2.26	122	eP	Pn	08 57 25.2	-0.1
TECO	Alcaldia de Te	2.32	315	eP	Pn	08 57 26.4	+0.4
NICO	Nicoya	2.38	137	eP	Pb	08 57 31.2	-1.2
SCLA	Alcaldia de Sa	2.40	319	eP	Pn	08 57 28.6	+1.3
VERA	Finca Concepci	2.42	115	eP	Pn	08 57 26.1	-1.3
COEG	Centro de Oper	2.44	315	eP	Pn	08 57 28.6	+0.8
COEG				eS	Sn	08 57 54.1	-2.5
CMARA	Lajas Hojancha	2.48	138	eP	Pb	08 57 32.7	-1.4
LCHIL	Los Chiles	2.49	110	eP	Pn	08 57 28.9	+0.5
QUEB	Quebradon, Cot	2.51	120	eP	Pn	08 57 28.7	+0.1
PAVA	Las Pavas	2.55	316	eP	Pn	08 57 30.5	+1.2
LFRS	El Faro	2.57	312	eP	Pn	08 57 30.4	+0.7
NYURE	Nandayure	2.62	136	eP	Pn	08 57 32.9	+2.8
NYURE				eS	Sn	08 57 59.6	-1.1
JTS	Las Juntas de	2.64	127	eP	Pn	08 57 30.5	0.0
JUNT	Juntas	2.64	127	eP	Pn	08 57 31.0	+0.5
LOMA	Loma Larga	2.67	311	eP	Pn	08 57 31.7	+0.8
LOMA				eS	Sn	08 58 00.1	-2.2
ARE1	Arenal 1	2.74	121	eP	Pn	08 57 34.4	+2.6
VARE2	V. Arenal	2.74	121	eP	Pn	08 57 33.5	+1.6
FORC	Fortuna	2.78	120	eP	Pn	08 57 34.9	+2.5
ACOS	Acosta	3.56	125	eP	Pn	08 57 44.5	+1.2
LCR2	La Lucha 2	3.72	125	eP	Pn	08 57 46.6	+1.1

*IDC **22** 08:59:51.2±3.4, 54°.23N×87°.19E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=30.0km s-min=19.5km az=58.0*

ASRS 22 08:59:49.0±0.8, 54°.21N×87°.11E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.38	260	I	I	09 09 30.0	
	baz=78,slow=329,SNR=9.1						
ZALV	Zalesovo Beam	1.38	260	Pg	Pb	09 00 16.2	+0.6
	0.7nm,0.3s,baz=79,slow=16,SNR=9.3						
ZALV				Lg	Lg	09 00 37.2	
	0.9nm,0.3s,baz=80,slow=26,SNR=5.8						
KURBB	Kurchatov Arra	6.36	239	Pn	Pn	09 01 27.1	+3.2
	baz=53,slow=14,SNR=4.5						
	0.6nm,0.7s						
MKAR	Makanchi Array	8.03	204	Pn	Pn	09 01 51.8	+4.9
	0.1nm,0.3s,baz=24,slow=15,SNR=1.6						
MKAR				Lg	Lg	09 04 04.1	
	baz=23,slow=32,SNR=1.8						
	0.1nm,0.3s						

*NOU **22** 09:04:36.8, 18°.80S×177°.62W, h627km, mb4.7/12, Fiji Islands Region*

*NEIC **22** 09:04:38.7±1.9, 19°.0S±0°.2×177°.9W±0°.2, h606km±13km, mb4.2/16, Error ellipse: s-maj=24.2km s-min=21.3km az=155.0*

*IDC **22** 09:04:39.2±1.8, 19°.12S×178°.07W, h608km±20km, mb3.2/9, mbtmp4.2/12, Error ellipse: s-maj=25.1km s-min=16.6km az=43.0*

ISC 22 09:04:38.1±0.7, 19°.0S±0°.1×177°.9W±0°.1, h600km, n41, σ1§17/41, mb4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.05	288		P	09 06 06.4	+2.3
MSVF	Nonsavu	4.05	288	P	P	09 06 06.3	+2.2
	76nm,0.7s,baz=122,slow=7.2,SNR=25						
MSVF	Nonsavu	4.05	288	P	P	09 06 06.4	+2.3
AFI	Afiamalu	7.75	50	P	P	09 06 34.2	-1.1
DVP	Devils Point	13.28	273	P	P	09 07 30.9	+1.1
VLAKA	Lakatoro	14.30	279	P	P	09 07 40.0	+0.1
DZM	Mont Dzumac	14.98	256	P	P	09 07 44.5	-1.8
	4.0nm,0.8s,baz=63,slow=6.6,SNR=1.5						
KUZ	Kuaotunu	18.54	196	P	P	09 08 19.5	+1.0
URZ	Urewera	19.67	192	P	P	09 08 26.5	-2.2
	12nm,0.4s,baz=349,slow=1.8,SNR=20						
URZ	Urewera	19.67	192	P	P	09 08 28.6	-0.1
RTZ	Ruatahuna	20.04	192	P	P	09 08 31.6	-0.5
BFZ	Birch Farm	22.18	192	P	P	09 08 51.2	0.0
MRZ	Mangatainoka R	22.30	193	P	P	09 08 51.4	-0.8
MRZ				IAmb	IAmb	09 09 01.1	
	comp=Z,25nm,1.4s						
SNZO	South Karori	23.12	194	P	P	09 08 59.5	+0.1
QRZ	Quartz Range	23.25	199	P	P	09 09 00.5	-0.2
QRZ	Quartz Range	23.25	199	P	P	09 09 01.2	+0.6
TATA	Tatamba Isabel	24.07	293	P	P	09 09 07.8	-0.5
OXZ	Oxford	25.69	197	P	P	09 09 21.1	-1.1
OXZ				IAmb	IAmb	09 09 21.9	
	comp=Z,9.5nm,0.7s						
MLZ	Mavora Lakes	28.74	201	P	P	09 09 49.3	+0.5
WHZ	Wether Hill Ro	29.26	200	P	P	09 09 53.1	-0.1
TOO	Toolangi	36.87	232	P	P	09 10 58.0	+0.7
TOO				IAmb	IAmb	09 11 33.7	
	comp=Z,6.6nm,1.4s						
COEN	Coen	37.61	272	P	P	09 11 03.4	-0.2
COEN				IAmb	IAmb	09 11 04.1	
	comp=Z,12nm,1.0s						
STKA	Stephens Creek	38.55	242	P	P	09 11 10.3	-0.7
	comp=Z,0.5nm,0.4s,baz=48,slow=16,SNR=1.8						
	comp=Z,0.5nm,0.4s						
BBOO	Buckleboo	43.31	242	P	P	09 11 48.1	-0.5
BBOO				IAmb	IAmb	09 12 04.5	
	comp=Z,12nm,1.2s						
JAY	Jayapura	43.68	287	P	P	09 11 51.3	-0.5
	comp=Z,11nm,0.5s,baz=104,slow=5.9,SNR=7.7						
	comp=Z,11nm,0.5s						
WR8	Warramunga Arr	44.77	261	P	P	09 11 58.5	-1.5
WR8				IAmb	IAmb	09 12 05.7	
	comp=Z,6.3nm,1.1s						
WB0	Warramunga Arr	44.90	261	P	P	09 11 60.0	-1.0
WB0				IAmb	IAmb	09 12 20.4	
	comp=Z,5.9nm,1.1s						
WRA	Warramunga Arr	44.92	261	P	P	09 11 59.8	-1.4
WRA	Warramunga Arr	44.92	261	P	P	09 12 00.1	-1.1
	comp=Z,2.1nm,0.4s,baz=98,slow=6.7,SNR=35						
	comp=Z,2.1nm,0.4s						
AS31	Alice Springs	44.97	255	P	P	09 12 00.3	-1.3
ASAR	Alice Springs	44.98	255	P	P	09 11 59.7	-1.9
ASAR	Alice Springs	44.98	255	P	P	09 12 00.8	-0.8
	comp=Z,2.0nm,0.4s,baz=89,slow=8.1,SNR=31						
	comp=Z,2.0nm,0.4s						
FITZ	Fitzroy Crossi	53.34	261	P	P	09 13 02.0	-1.0
	comp=Z,0.6nm,0.3s,baz=117,slow=9.0,SNR=7.5						
	comp=Z,0.6nm,0.3s						
SBA	Scott Base	59.36	184	P	P	09 13 45.2	+2.0
VNDA	Vanda	59.40	185	P	P	09 13 44.6	+1.1
VNDA	Vanda	59.40	185	P	P	09 13 44.6	+1.1
	comp=Z,0.6nm,0.7s,baz=2.9,slow=4.8,SNR=6.1						
	comp=Z,0.6nm,0.7s						
QSPA	South Pole Qui	71.06	180	P	P	09 14 56.8	+0.2
QSPA				IAmb	IAmb	09 15 32.6	
	comp=Z,9.3nm,1.5s						
QSPA	South Pole Qui	71.06	180	P	P	09 14 57.1	+0.5
	comp=Z,1.5nm,0.5s,baz=31,slow=6.0,SNR=25						
	comp=Z,1.5nm,0.5s						
MAW	Mawson	83.00	200	P	P	09 16 00.9	-0.1
	comp=Z,1.7nm,0.7s,baz=214,slow=3.6,SNR=1.0						
	comp=Z,1.7nm,0.7s						
TXAR	Lajitas Array	86.17	57	P	P	09 16 17.4	+0.1
TXAR	Lajitas Array	86.17	57	P	P	09 16 17.6	+0.3
	comp=Z,0.5nm,0.8s,baz=219,slow=6.5,SNR=6.6						
	comp=Z,0.5nm,0.8s						

*ASRS **22** 09:04:53.0±0.9, 54°.23N×87°.06E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 09:04:53.5±3.4, 54°.29N×87°.39E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=26.8km s-min=17.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.55	258	I	I	09 14 10.0	
	baz=77,slow=326,SNR=4.2						
ZALV	Zalesovo Beam	1.55	258	Pg	Pn	09 05 20.8	-1.5
	0.5nm,0.3s,baz=75,slow=18,SNR=10						
ZALV				Lg	Lg	09 05 42.8	
	1.2nm,0.3s,baz=77,slow=27,SNR=5.6						
KURBB	Kurchatov Arra	6.54	239	Pn	Pn	09 06 31.6	+0.8
	0.1nm,0.3s,baz=52,slow=13,SNR=4.2						
KURBB				Lg	Lg	09 08 21.4	
	baz=49,slow=31,SNR=1.4						
	0.4nm,0.5s						
MKAR	Makanchi Array	8.17	205	Pn	Pn	09 06 54.4	+1.1
	0.1nm,0.3s,baz=20,slow=13,SNR=1.5						
MKAR				Sn	Sn	09 08 25.8	-0.6
	0.1nm,0.3s,baz=22,slow=27,SNR=3.2						
MKAR				Lg	Lg	09 09 13.9	
	baz=23,slow=31,SNR=1.9						
	0.1nm,0.3s						

*IDC **22** 09:06:22.4±1.1, 17°.70S×122°.76E, h0km, mb3.8/6, mbtmp3.9/7, ML4.4/1, Error ellipse: s-maj=47.9km s-min=17.9km az=60.0*

*DJA **22** 09:06:25.6±0.2, 2°S±2°×12°3E±°, h10km, M4.3/16, MLv4.3/16*

ISC 22 09:06:28.2±0.8, 13°.88S±0°.04×122°.56E±0°.05, h35km, n21, σ1§17/25, mb3.8/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.86	15	P	Pn	09 06 42.5	-1.3
LUWI				S	Sn	09 06 54.4	-0.7
APSI	Ampana	1.32	317	P	Pn	09 06 49.6	-0.5
MRSI	Marisa	2.42	345	P	Pn	09 07 04.8	-0.5
KMSI	Cibinong	2.82	30	P	Pn	09 07 12.3	+1.5
KMSI				S	Sn	09 07 46.4	+2.8
PCI	Palu	2.88	290	P	Pn	09 07 11.6	-0.1
SANI	Sanana	3.43	93	P	Pn	09 07 17.2	-2.0
MPSI	Mapaga	3.45	310	P	Pn	09 07 18.8	-0.6
SPSI	Sidrap Palu	3.47	233	P	Pn	09 07 19.6	-0.1
SPSI				S	Sn	09 08 01.0	+1.4
BNSI	Bone	3.50	224	P	Pn	09 07 19.3	-0.8
BBSI	Bau Bau	3.58	180	P	Pn	09 07 21.6	+0.3
KAPI	Kappang	4.19	222	Pn	Pn	09 07 30.3	+0.7
	18nm,0.3s,baz=348,slow=4.6,SNR=26						
KAPI				Sn	Sn	09 08 17.1	-0.2
	14nm,0.3s,baz=199,slow=24,SNR=7.3						
	55nm,0.4s						
BKSI	Bulukumba	4.19	215	P	Pn	09 07 29.9	+0.2
BSSI	Bau Bau, Buton	4.71	206	P	Pn	09 07 37.3	+0.5
NLAI	Namlea	4.74	107	P	Pn	09 07 37.2	+0.1
TNTI	Ternate	5.48	61	P	Pn	09 07 48.8	+1.4
WRA	Warramunga Arr	21.33	148	P	P	09 11 11.6	-0.8
	3.3nm,0.8s,baz=326,slow=9.4,SNR=14						
	3.3nm,0.8s						
ASAR	Alice Springs	24.29	154	P	P	09 11 42.8	+0.3
	1.7nm,0.7s,baz=331,slow=8.9,SNR=28						
	1.7nm,0.7s						
CMAR	Chiang Mai Arr	30.80	312	P	P	09 12 42.3	+1.5
	1.4nm,0.3s,baz=122,slow=8.0,SNR=6.1						
	1.4nm,0.3s						
STKA	Stephens Creek	34.82	151	P	P	09 13 15.8	-0.1
	1.4nm,0.8s,baz=339,slow=8.6,SNR=3.0						
	1.4nm,0.8s						
MKAR	Makanchi Array	59.98	329	P	P	09 16 29.8	-1.4
	0.5nm,0.7s,baz=140,slow=7.6,SNR=5.1						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	64.36	331	P	P	09 16 58.8	-1.6
	0.5nm,0.8s,baz=136,slow=5.5,SNR=5.6						
	0.5nm,0.8s						

*IDC **22** 09:11:07.6±0.3, 14°.88N×120°.54E, h0km, mb5.5/58, mbtmp5.5/58, ML4.0/1, MS5.9/70, Error ellipse: s-maj=10.1km s-min=6.9km az=73.0*

*MAN **22** 09:11:08.5, 14°.99N×120°.27E, h9km, mb6.3, ML5.4, MS6.1*

MAN INTENSITY VII - LUBAO PAMPANGA; INTENSITY VI - ANGELES CITY; OLONGAPO CITY; SAN MARCELINO AND SUBIC ZAMBALES; FLORIDABLANCA AND PORAC PAMPANGA; INTENSITY V - CASTILLEJOS IBA AND SAN FELIPE ZAMBALES; SAN FERNANDO CITY; CANDABA MAGALANG AND MEXICO PAMPANGA; BALANGA CITY; ABUCAY AND MARIVELES BATAAN; ; MALOLOS CITY; CALUMPIT AND OBANDO BULACAN; TARLAC CITY TARLAC; SANTO DOMINGO NUEVA ECIJA; CITY OF MANILA; MAKATI CITY; MANDALUYONG CITY; PASAY CITY; QUEZON CITY; SAN ; JUAN CITY; TAGUIG CITY; VALENZUELA CITY; INDANG CAVITE; LIPA CITY BATANGAS; INTENSITY IV - MEYCAUAYAN CITY; SAN JOSE DEL MONTE CITY; PLARIDEL BULACAN; BAGUIO CITY; ITOGON AND LA TRINIDAD BENGUET; SAN RAFAEL TARLAC; ROSALES AND VILLASIS ; PANGASINAN; GABALDON NUEVA ECIJA; KASIBU NUEVA VIZCAYA; ANTIPOLO CITY; RODRIGUEZ AND SAN MATEO RIZAL; CALOOCAN CITY; LAS PIAS CITY; MARIKINA CITY; PASIG CITY; ; PARAAQUE CITY; BACOOR CITY; IMUS CITY; TAGAYTAY CITY; MARAGONDON CAVITE; NASUGBU BATANGAS; INTENSITY III - CABANATUAN CITY; GAPAN CITY; PALAYAN CITY; SANTO DOMINGO AND TALAVERA NUEVA ECIJA; MARILAO BULACAN; DINGALAN AURORA; MADDELA QUIRINO; ; MUNTINLUPA CITY; CALAMBA CITY; SANTA CRUZ LAGUNA; DASMARIAS CITY; GENERAL TRIAS CITY; CARMONA AND SILANG CAVITE; LEMERY SAN NICOLAS AND TALISAY BATANGAS; INFANTA ; AND LUCBAN QUEZON; INTENSITY II - BALER AURORA.

*MOS **22** 09:11:09.4±0.9, 14°.94N×120°.52E, h20km, mb6.2/83, MS6.0/59, Error ellipse: s-maj=5.9km s-min=3.4km az=113.0*

*BJI **22** 09:11:10.7, 15°.00N×120°.40E, h20km, mB6.1/68, mb5.6/84, Ms6.3/82, Ms7 6.1/93*

*NEIC **22** 09:11:11.8, 15°.13N×120°.00E, h18km, Moment Tensor Solution. Duration: 5s8 Moment tensor: Scale 10^{18}Nm; Mrr=0.41; Mθθ1.72; Mφφ-1.31; Mrθ-0.70; Mθφ-0.80; Mφr-0.53; Fault plane solution: M0 1.95000×10^{18} NP1: φs327.00000°, δ61.38000°, λ-9.89000°. NP2:φs61.77000°, δ81.33000°, λ-151.01000°. Principal axes: T 2.0510, Plg13.0000°, Azm191.0000°; N -0.2007, Plg60.0000°, Azm77.0000°; P -1.8503, Plg26.0000°, Azm288.0000°;*

*NEIC **22** 09:11:11.8, 14°.93N×120°.48E, h18km*

*NEIC **22** 09:11:11.7, 14°.93N×120°.50E, h20km*

*ISC-PP **22** 09:11:12, 14°.95N×120°.52E, h18km, Mwppsm6.2, Moment Tensor Solution. s43 Moment tensor: Scale 10^{18}Nm; Mrr0.13±.07; Mθθ0.48±.14; Mφφ-0.60±.13; Mrθ-0.09±.17; Mθφ-0.31±.15; Mφr0.30±.09; Fault plane solution: M0 2.95000×10^{18} NP1:φs208.80000°, δ87.80000°, λ152.50000°. NP2:φs300.00000°, δ62.50000°, λ2.50000°.*

*NEIC **22** 09:11:12.0±2.1, 14°.95N±0°.05×120°.52E±0°.07, h22km±3km, mb6.0/481, Ms_20 6.0/1036, Mwb6.0/53, Mww6.1/77 Error ellipse: s-maj=9.5km s-min=7.1km az=71.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; Mrr0.03; Mθθ1.02; Mφφ-1.06; Mrθ0.24; Mθφ-0.59; Mφr-0.17; Fault plane solution: M0 1.23000×10^{18} NP1: φs150.48000°, δ84.51000°, λ12.61000°. NP2:φs59.25000°, δ77.45000°, λ174.37000°. Principal axes: T 1.2446, Plg13.0000°, Azm15.0000°; N -0.0204, Plg76.0000°, Azm174.0000°; P -1.2241, Plg5.0000°, Azm284.0000°;*

*GCMT **22** 09:11:13.0±0.1, 15°.13N×120°.39E, h12km, MW6.1/167, Moment Tensor Solution. s145,c332; s167,c608; Duration: 2s6 Moment tensor: Scale 10^{18}Nm; Mrr-0.22±.01; Mθθ1.47±.01; Mφφ-1.25±.01; Mrθ-0.06±.02; Mθφ-0.73±.01; Mφr-0.10±.02; Best double couple: M0 1.54800×10^{18} NP1:φs329.00000°, δ86.00000°, λ-3.00000°. NP2:φs59.00000°, δ87.00000°, λ-176.00000°. Principal axes: T 1.6530, Plg1.0000°, Azm194.0000°; N -0.2080, Plg85.0000°, Azm95.0000°; P -1.4430, Plg5.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*IPGP **22** 09:11:14.0, 14°.94N×120°.49E, h13km, Mw5.9, Fault plane solution: NP1:φs60.00000°, δ87.00000°, λ173.00000°. NP2:φs151.00000°, δ83.00000°, λ4.00000°.*

*DJA **22** 09:11:16.4±0.3, 15°N±1°×12°0E±°, h60km±3km, M5.9/138, mB6.3/122, mb5.8/138, MLv5.9/1, Mw(mB)6.0/122, MwMwp5.8/98, Mwp5.9/98*

ISC 22 09:11:11.5±0.3, 14°.91N±0°.02×120°.48E±0°.03, h22km±2km, h22km:pP-P, n2217, σ1§40/1983, mb6.0/510, MS6.0/627, 172C-46D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.92	151	Pg	Pn	09 11 29.9	+0.8
	21μm,0.3s,baz=308,slow=2.9,SNR=261						
SZP	Santa	2.63	360	P	Pn	09 11 55.0	+2.4
SZP	Santa	2.63	360	⇑P	Pn	09 11 50.2	-2.5
TWGBT	Beinan	7.89	4	P	Pn	09 13 07.9	+2.9
TWG	Pinlang	7.89	4		Pn	09 13 03.8	-1.2
TPUB	Ta-pu	8.35	1		Pn	09 13 11.1	-0.2
TPUB	Ta-pu	8.35	1	P	Pn	09 13 13.9	+2.6
YULB	Yu-li	8.48	5		Pn	09 13 12.4	-0.7
YULB	Yu-li	8.48	5	P	Pn	09 13 15.9	+2.9
SSLB	Suanglung	8.85	3		Pn	09 13 18.4	+0.3
SSLB	Suanglung	8.85	3	P	Pn	09 13 20.1	+2.0
DAV	Davao City (W)	9.26	147	Pn	Pn	09 13 31.4	+7.7
	58nm,0.3s,baz=35,slow=3.9,SNR=19						
DAV	Davao City (W)	9.26	147	P	Pn	09 13 23.7	-0.1
DAV	Davao City (W)	9.26	147	P	Pn	09 13 34.0	+10
NACB	Ninganchiao	9.28	6		Pn	09 13 24.4	+0.4
NACB	Ninganchiao	9.28	6	P	Pn	09 13 27.7	+3.7
HKC	Hong Kong Obse	9.47	322	⇑P	Pn	09 13 25.0	-1.7
HKPS	Hong Kong Po S	9.48	322		Pn	09 13 24.8	-1.9
KNMB	Chin-men Tao	9.71	349		Pn	09 13 29.4	-0.5
MCO	Taipa Grande	9.72	319	P	Pn	09 13 29.0	-1.1
YHNB	Yeheng	9.75	5		Pn	09 13 30.9	+0.3
YHNB	Yeheng	9.75	5	P	Pn	09 13 33.5	+3.0
KKM	Kota Kinabalu	9.75	206		Pn	09 13 31.7	+1.1
KKM	Kota Kinabalu	9.75	206	P	Pn	09 13 31.5	+0.9
KKM	Kota Kinabalu	9.75	206	S	Sn	09 15 19.9	+0.3
KKM	Kota Kinabalu	9.75	206	⇑P	Pn	09 13 29.3	-1.3
YOJ	Yonaguni jima	9.80	14		Pn	09 13 30.9	-0.2
YOJ	Yonaguni jima	9.80	14	P	Pn	09 13 32.5	+1.3
YOJ	Yonaguni jima	9.80	14	P	Pn	09 13 30.9	-0.2
YOJ	Yonaguni jima	9.80	14	⇑P	Pn	09 13 30.6	-0.5
MYLDM	Lahad Datu	9.86	192		Pn	09 13 34.2	+2.2
MYLDM	Lahad Datu	9.86	192	P	Pn	09 13 34.2	+2.2
MYLDM	Lahad Datu	9.86	192	⇑P	Pn	09 13 34.8	+2.8
TATO	Taipei	10.06	5		Pn	09 13 35.8	+1.1
TATO	Taipei	10.06	5	P	Pn	09 13 39.5	+4.8
TATO				P	Pn	09 13 39.5	+4.8
TATO	Taipei	10.06	5	P	Pn	09 13 38.6	+3.9
QZH	Quanzhou	10.14	350	⇑iP	Pn	09 13 38.0	+2.2
QZH				LR	LR		
	comp=N,114μm,18.9s						
QZH				LR	LR		
	comp=E,178μm,17.0s						
QZH				LR	LR		
	comp=Z,145μm,16.9s						
GZH	Guangzhou	10.57	321	P	Pn	09 13 43.4	+1.7
GZH				LR	LR		
	comp=N,179μm,15.5s						
GZH				LR	LR		
	comp=E,133μm,14.5s						
GZH				LR	LR		
	comp=Z,129μm,14.1s						
JMJ	Miyako jima 2	10.85	24	P	Pn	09 13 49.8	+4.3
QIZ	Qiongzhong	10.97	293		Pn	09 13 44.5	-2.7
QIZ	Qiongzhong	10.97	293	P	Pn	09 13 44.9	-2.3
QIZ				pP		09 13 49.6	
QIZ				S	Sn	09 15 48.8	-0.5
QIZ				pmax	pmax		
	comp=Z,260nm,1.7s						
QIZ				pmax	pmax		
	comp=Z,6μm,5.5s						
QIZ				LR	LR		
	comp=N,52μm,16.5s						
QIZ				LR	LR		
	comp=E,89μm,17.2s						
QIZ				LR	LR		
	comp=Z,108μm,14.0s						
QIZ	Qiongzhong	10.97	293	P	Pn	09 13 48.9	+1.7
DLV	Lat	12.03	257		Pn	09 14 01.1	-0.8
DLV	Lat	12.03	257	P	Pn	09 14 01.0	-0.9
DLV	Lat	12.03	257	⇑P	Pn	09 14 01.5	-0.4
TOLI2	Tolitoli	13.71	179		Pn	09 14 27.5	+2.8
TOLI2	Tolitoli	13.71	179	P	Pn	09 14 25.4	+0.7
JOW	Kunigami	13.92	30		Pn	09 14 24.9	-2.6
JOW	Kunigami	13.92	30	Pn	Pn	09 14 26.4	-1.1
	1.5nm,0.3s,baz=227,slow=8.0,SNR=16						
JOW				Sn	Sn	09 17 03.2	+1.8
	0.9nm,0.3s,baz=100,slow=30,SNR=1.1						
JOW				LR	LR	09 20 12.5	
	comp=Z,28μm,18.7s,baz=219,slow=39						
JOW	Kunigami	13.92	30	P	Pn	09 14 29.7	+2.2
JOW	Kunigami	13.92	30	⇑P	Pn	09 14 25.9	-1.6
GULI	GuiLin	14.02	319	P	Pn	09 14 28.3	-0.7
GULI				pmax	pmax		
	comp=Z,260nm,2.4s						
MRSI	Marisa	14.41	174	P	Pn	09 14 37.5	+3.2
	16μm499nm,1.6s						
MPSI	Mapaga	14.49	182	P	Pn	09 14 38.0	+2.7
	8μm246nm,1.0s						
KMSI	Cibinong	14.65	166	P	P	09 14 41.3	-2.4
JMZ	Minamidaito 2	14.80	41	P	P	09 14 44.2	-1.1
JMZ

SSE LR LR
comp=N,6μm,17.9s
SSE LR LR
comp=E,10μm,17.7s
BKB Balikpapan 16.45 193 P **P 09 15 03.0 -0.6**
BKB IAmb IAmb 09 15 08.3
comp=Z,1μm,1.2s
BKB Balikpapan 16.45 193 P **Pn 09 15 01.3 +0.2**
BKB Balikpapan 16.45 193 P **P 09 15 04.0 +0.4**
comp=Z,36μmcomp=Z,2μm,1.9s
BKB Balikpapan 16.45 193 ⇑P **P 09 15 03.3 -0.3**
WHN Wuhan 16.55 341 P **Pn 09 15 02.8 +0.5**
WHN S **Sn 09 18 00.0 -5.4**
WHN SS **SnSn 09 18 19.8 +0.8**
KSM Kuching 16.70 218 P **Pn 09 15 05.2 +1.0**
KSM Kuching 16.70 218 P **Pn 09 15 05.4 +1.1**
KSM Kuching 16.70 218 ⇑P **Pn 09 15 05.3 +1.0**
NONG Nongkai 16.91 283 P **P 09 15 09.1 +0.3**
SLVN Son La 16.99 295 P **Pn 09 15 08.7 +0.7**
SLVN Son La 16.99 295 P **P 09 15 09.4 -0.3**
NJ2 Nanjing 17.13 355 ⇑P **Pn 09 15 10.0 +0.4**
NJ2 S **Sn 09 18 20.0 +0.5**
NJ2 pmax pmax
comp=Z,94nm,1.8s
NJ2 pmax pmax
comp=Z,9μm,8.6s
NJ2 LR LR
comp=Z,74μm,18.9s
NJ2 LR LR
comp=Z,77μm,15.2s
NJ2 LR LR
comp=Z,112μm,20.4s
STKI Sintang 17.22 212 P **P 09 15 13.8 +1.6**
comp=Z,35μmcomp=Z,24μmcomp=Z,534nm,1.7s
GYA Guiyang 17.28 314 ⇑P **P 09 15 12.3 -0.6**
GYA S **Sn 09 18 22.3 -1.0**
GYA pmax pmax
comp=Z,9μm,6.7s
GYA LR LR
comp=Z,95μm,17.4s
GYA LR LR
comp=Z,89μm,16.6s
GYA LR LR
comp=Z,131μm,16.4s
SANI Sanana 17.71 162 P **Pn 09 15 13.9 -2.9**
SANI Sanana 17.71 162 P **Pn 09 15 15.9 -0.9**
SANI Sanana 17.71 162 P **Pn 09 15 16.3 -0.5**
comp=Z,34μmcomp=Z,320nm,1.3s
SANI Sanana 17.71 162 ⇑P **Pn 09 15 15.2 -1.7**
ENH Enshi 18.33 328 P **P 09 15 24.8 +0.3**
ENH Enshi 18.33 328 P **P 09 15 25.6 +1.2**
NAYO Nakonayok 18.55 271 P **Pn 09 15 28.8 +1.6**
SPSI Sidrap Palu 18.76 182 P **Pn 09 15 31.2 +1.5**
comp=Z,30μmcomp=Z,13μmcomp=Z,426nm,0.9s
KDI Kendari 18.86 173 P **Pn 09 15 32.7 +1.8**
SWI Sorong 18.95 145 P **Pn 09 15 33.0 +0.9**
BNSI Bone 19.18 181 P **Pn 09 15 35.3 +0.5**
comp=Z,12μmcomp=Z,731nm,1.4s
NLAI Namlea 19.18 159 P **Pn 09 15 36.3 +1.5**
comp=Z,31μmcomp=Z,251nm,0.9s
KMI Kunming 19.50 304 ⇓P **Pn 09 15 41.3 +2.5**
KMI PP **PnPn 09 15 58.8 +6.5**
KMI S **S 09 19 14.0 -2.9**
KMI pmax pmax
comp=Z,280nm,2.5s
KMI pmax pmax
comp=Z,13μm,6.0s
KMI LR LR
comp=Z,39μm,13.2s
KMI LR LR
comp=Z,45μm,16.6s
KMI LR LR
comp=Z,58μm,17.6s
KAPI Kappang 19.80 182 P **Pn 09 15 42.5 +0.3**
KAPI IAmb IAmb 09 15 49.1
comp=Z,2μm,1.6s
KAPI Kappang 19.80 182 P **Pn 09 15 41.9 -0.4**
comp=Z,370nm,1.0s,baz=8.1,slow=7.6,SNR=61
KAPI LR LR 09 23 51.3
comp=Z,26μm,19.4s,baz=3.0,slow=39
KAPI Kappang 19.80 182 P **Pn 09 15 43.8 +1.6**
KAPI P **Pn 09 15 43.8 +1.6**
KAPI Kappang 19.80 182 P **Pn 09 15 42.1 -0.1**
KAPI Kappang 19.80 182 P **Pn 09 15 42.5 +0.3**
KAPI pmax pmax
comp=Z,2μm,1.6s
KAPI Kappang 19.80 182 ⇑P **Pn 09 15 42.5 +0.3**
MSAI Masohi 19.97 155 P **Pn 09 15 45.5 +1.2**
comp=Z,20μmcomp=Z,17μmcomp=Z,1μm,1.8s
AAI Ambon 19.99 157 P Pn 09 15 45.8 +1.3
comp=Z,29μmcomp=Z,222nm,0.9s
BKSI Bulukumba 20.10 181 P Pn 09 15 45.1 -0.6
comp=Z,22μmcomp=Z,7μmcomp=Z,556nm,1.3s
BBSI Bau Bau 20.37 174 P Pn 09 15 49.1 +0.2
comp=Z,33μmcomp=Z,16μmcomp=Z,776nm,1.0s
JNU Nakatsue 20.45 26 IAmb IAmb 09 15 52.8
comp=Z,882nm,1.4s
JNU Nakatsue 20.45 26 P **P 09 15 47.2 -0.4**
comp=Z,196nm,1.1s,baz=200,slow=5.0,SNR=37
comp=Z,196nm,1.1s
JNU Nakatsue 20.45 26 P **P 09 15 48.0 +0.4**
JNU Nakatsue 20.45 26 ⇑P **P 09 15 48.0 +0.4**
LYN LuoYang 20.85 341 ⇑P Pn 09 15 54.3 -0.1
LYN sP sP 09 16 04.3 +3.1
LYN S **S 09 19 41.1 -2.4**
LYN sS pS 09 19 54.3 -1.8
LYN SS **SnSn 09 20 13.3 +8.8**
LYN pmax pmax
comp=Z,1μm,1.8s
LYN pmax pmax
comp=Z,11μm,7.8s
LYN LR LR
comp=Z,98μm,17.5s
BSSI Bau Bau, Buton 20.91 180 P **P 09 15 53.6 +0.9**
comp=Z,25μmcomp=Z,14μmcomp=Z,645nm,1.7s
CM31 Chiang Mai Arr 20.93 283 IAmb IAmb 09 16 00.6
comp=Z,615nm,1.1s
CM31 Chiang Mai Arr 20.93 283 P Pn 09 15 55.9 +0.5
SNR=258
CM31 P Pn 09 15 55.9 +0.5
SNR=258
CMAR Chiang Mai Arr 20.93 283 P Pn 09 15 54.5 -0.9
CMAR Chiang Mai Arr 20.93 283 P **P 09 15 52.4 -0.5**
comp=Z,67nm,0.8s,baz=90,slow=9.1,SNR=233
CMAR PcP **PcP 09 20 02.7 +2.2**
comp=Z,22nm,0.8s,baz=69,slow=0.3,SNR=13
CMAR ScP **ScP 09 23 38.1 +2.0**
comp=Z,2.0nm,0.3s,baz=70,slow=0.8,SNR=7.9
CMAR LR LR 09 24 25.0
comp=Z,38μm,18.6s,baz=100,slow=38
CMAR PKiKP **PKiKP 09 27 49.4 +1.0**
comp=Z,0.7nm,0.3s,baz=349,slow=0.1,SNR=4.9
comp=Z,67nm,0.8s
PZH PanZhiHua 20.95 306 ⇑P Pn 09 15 55.1 -0.7
PZH S **S 09 19 40.4 -5.5**
PZH sS Sn 09 19 48.8 -3.3
PZH pmax pmax
comp=Z,200nm,1.1s
PZH pmax pmax
comp=Z,1μm,7.5s
PZH LR LR
comp=Z,36μm,19.1s
PZH LR LR
comp=Z,49μm,21.1s
PZH LR LR
comp=Z,69μm,22.6s
MYKOM Kota Tinggi 20.96 233 P **P 09 15 53.4 +0.2**
MYKOM Kota Tinggi 20.96 233 P **P 09 15 54.3 +1.1**
MYKOM Kota Tinggi 20.96 233 ⇑P **P 09 15 54.4 +1.2**
CHTO Chiang Mai 20.97 284 P **P 09 15 54.4 +1.1**
CHTO Chiang Mai 20.97 284 P Pn 09 15 56.0 0.0
CHTO P Pn 09 15 56.0 0.0
CHTO Chiang Mai 20.97 284 P Pn 09 15 55.1 -0.8
CHTO Chiang Mai 20.97 284 P **P 09 15 54.4 +1.1**
CHTO pmax pmax
comp=Z,481nm,1.4s
CHTO MLR MLR
comp=Z,45μm,20.0s
CHTO Chiang Mai 20.97 284 ⇑P **P 09 15 54.3 +1.0**
JTU Tsushima 21.13 21 P **P 09 15 56.5 +1.7**
JTU Tsushima 21.13 21 ⇑P **P 09 15 54.9 +0.1**
FAKI Fak Fak 21.20 146 P **P 09 15 56.5 +0.7**
FAKI Fak Fak 21.20 146 P **P 09 15 57.1 +1.3**
FAKI Fak Fak 21.20 146 P **P 09 15 57.8 +2.0**
FAKI Fak Fak 21.20 146 ⇑P **P 09 15 56.7 +0.8**

RKPI Ransiki, Papua 21.21 139 P **P 09 15 58.5 +2.6**
comp=Z,21μmcomp=Z,17μmcomp=Z,1μm,1.1s
SRIT Nakonsritamara 21.37 255 IAmb IAmb 09 16 13.7
comp=Z,917nm,1.6s
SRIT Nakonsritamara 21.37 255 P **P 09 15 59.3 +1.7**
TIA Tai'an 21.43 353 P **P 09 15 58.8 +0.7**
TIA pmax pmax
comp=Z,260nm,1.6s
TIA pmax pmax
comp=Z,2μm,3.9s
TIA LR LR
comp=Z,54μm,15.8s
TIA LR LR
comp=Z,61μm,18.0s
TIA LR LR
comp=Z,82μm,16.0s
BNDI Bandanaira 21.45 153 P **P 09 16 03.3 +4.9**
comp=Z,19μmcomp=Z,33μmcomp=Z,893nm,0.8s
TPI Tanjungpandan 21.66 217 P **P 09 16 00.9 +0.2**
comp=Z,18μmcomp=Z,9μmcomp=Z,419nm,1.8s
KULM Kulim 21.71 246 P **P 09 16 02.4 +1.1**
KULM Kulim 21.71 246 P **P 09 16 02.6 +1.3**
KULM Kulim 21.71 246 ⇑P **P 09 16 02.3 +1.0**
XAN Xi'an 21.73 333 ⇑P **P 09 16 01.4 0.0**
XAN pP sP 09 16 09.0 -1.6
XAN sP pP 09 16 12.0 +4.3
XAN pmax pmax
comp=Z,1μm,1.2s
XAN pmax pmax
comp=Z,11μm,3.9s
XAN LR LR
comp=Z,100μm,16.5s
BWJI Bawean 22.03 201 P **P 09 16 05.9 +1.2**
comp=Z,20μmcomp=Z,21μmcomp=Z,1μm,1.3s
CD2 Chengdu 22.11 319 ⇑P **P 09 16 06.3 +0.8**
CD2 S **S 09 20 07.5 -0.8**
CD2 pmax pmax
comp=Z,660nm,1.4s
CD2 LR LR
comp=Z,89μm,15.2s
CD2 LR LR
comp=Z,73μm,16.5s
PPBI Pangkal Pinang 22.12 221 P **P 09 16 06.3 +0.7**
BAKI Biak 22.25 135 P **P 09 16 09.9 +2.8**
comp=Z,17μmcomp=Z,21μmcomp=Z,876nm,1.9s
TJN Taejon 22.25 15 P **P 09 16 06.9 0.0**
TJN Taejon 22.25 15 *c i*P **P 09 16 06.2 -0.7**
JMN Monobe 22.32 31 IAmb IAmb 09 16 15.3
comp=Z,685nm,1.1s
JMN Monobe 22.32 31 P **P 09 16 08.9 +1.1**
JMN Monobe 22.32 31 ⇑P **P 09 16 07.9 +0.1**
KMPI Kaimana, Papua 22.63 144 P **P 09 16 13.7 +2.6**
comp=Z,18μmcomp=Z,21μmcomp=Z,1μm,1.5s
KMMI Kalianget 22.75 197 P **P 09 16 14.9 +2.5**
comp=Z,2μm,1.6s
SRPI Serui, Papua 22.83 136 P **P 09 16 15.7 +2.4**
comp=Z,9μmcomp=Z,14μmcomp=Z,654nm,1.8s
TNCH TengChong 22.93 299 ⇓*i*P **P 09 16 16.3 +1.8**
TNCH pP pP 09 16 20.4 -0.3
TNCH sP sP 09 16 23.8 +0.1
TNCH PP **PnPn 09 16 43.1 +3.8**
TNCH S **S 09 20 20.4 -3.2**
TNCH sS sS 09 20 34.5 +0.1
TNCH SS **SnSn 09 20 58.6 +2.8**
TNCH pmax pmax
comp=Z,1μm,1.9s
TNCH pmax pmax
comp=Z,9μm,3.1s
TNCH LR LR
comp=Z,27μm,14.4s
TNCH LR LR
comp=Z,30μm,14.9s
TNCH LR LR
comp=Z,45μm,17.3s
HNS HongShan 22.98 348 ⇓P **P 09 16 14.5 -0.1**
HNS S **S 09 20 22.1 -1.7**
HNS SS **SnSn 09 21 02.8 +6.2**
HNS pmax pmax
comp=Z,740nm,1.5s
HNS pmax pmax
comp=Z,7μm,4.5s
HNS LR LR
comp=Z,70μm,19.1s
HNS LR LR
comp=Z,57μm,14.7s
HNS LR LR
comp=Z,84μm,17.9s
GRJI Gresik 23.08 201 P **P 09 16 18.0 +2.2**
INCN Inchon 23.14 13 P **P 09 16 15.4 -0.9**
INCN Inchon 23.14 13 P **P 09 16 17.2 +0.9**
INCN Inchon 23.14 13 P **P 09 16 15.4 -0.9**
INCN pmax pmax
comp=Z,420nm,1.4s
INCN MLR MLR
comp=Z,35μm,20.0s
INCN Inchon 23.14 13 ⇑P **P 09 16 15.3 -0.9**
TBJI Tambak Boyo 23.22 202 P **P 09 16 19.6 +2.4**
ABJI Asem Bagus 23.39 196 P **P 09 16 20.9 +2.0**
KSAR Wonju Array Be 23.39 15 P **P 09 16 17.1 -1.6**
KSAR Wonju Array Be 23.39 15 P **P 09 16 17.1 -1.6**
KSRS Korea Array 23.41 15 P **P 09 16 18.6 -0.4**
comp=Z,39nm,0.9s,baz=198,slow=10,SNR=44
KSRS PcP **PcP 09 20 04.9 -0.2**
comp=Z,0.7nm,0.3s,baz=234,slow=2.0,SNR=4.1
KSRS ScP **ScP 09 23 43.5 +1.4**
comp=Z,5.5nm,1.1s,baz=196,slow=1.8,SNR=5.5
KSRS LR LR 09 26 37.8
comp=Z,43μm,18.2s,baz=200,slow=40
KSRS PKiKP **PKiKP 09 27 48.1 -0.9**
comp=Z,0.2nm,0.3s,baz=195,slow=2.5,SNR=4.2
comp=Z,39nm,0.9s
SRBI Singaraja 23.43 193 P **P 09 16 21.0 +1.7**
KS19 Wonju Array Si 23.44 15 IAmb IAmb 09 16 24.2
comp=Z,723nm,1.9s
MMRI Maumere 23.45 176 P **P 09 16 19.9 +0.4**
MMRI Maumere 23.45 176 P **P 09 16 19.9 +0.4**
MMRI Maumere 23.45 176 P **P 09 16 19.6 +0.1**
comp=Z,20μmcomp=Z,13μmcomp=Z,804nm,1.6s
MMRI Maumere 23.45 176 ⇑P **P 09 16 20.2 +0.6**
HJU Haeju 23.51 10 P **P 09 16 19.9 0.0**
HJU S **S 09 20 29.3 -3.3**
HJU AmB
comp=Z,1μm,2.0s
HJU AMS AMS
comp=Z,32μm,16.4s
EDFI Ende, Flores 23.53 177 P **P 09 16 20.3 -0.1**
comp=Z,17μmcomp=Z,18μmcomp=Z,754nm,0.7s
JCJ Chichijima 23.57 56 P **P 09 16 19.3 -1.3**
JCJ IAmb IAmb 09 16 23.0
comp=Z,935nm,1.3s
JCJ Chichijima 23.57 56 LR LR 09 24 37.5
comp=Z,34μm,20.6s,baz=242,slow=34
JCJ Chichijima 23.57 56 P **P 09 16 21.8 +1.1**
GUMO Guam 23.68 90 P **P 09 16 21.2 -0.6**
GUMO IAmb IAmb 09 16 33.7
comp=Z,857nm,1.4s
GUMO Guam 23.68 90 IAMs_20 IAMs_20 09 24 48.9
comp=Z,47μm,19.0s
GUMO Guam 23.68 90 LR LR 09 25 09.9
comp=Z,41μm,19.6s,baz=268,slow=36
GUMO Guam 23.68 90 P **P 09 16 23.0 +1.2**
GUMO Guam 23.68 90 P **P 09 16 21.2 -0.6**
GUMO pmax pmax
comp=Z,857nm,1.5s
GUMO MLR MLR
comp=Z,47μm,19.0s
PLAI Plampang 23.73 187 P **P 09 16 23.4 +1.2**
PLAI Plampang 23.73 187 P **P 09 16 23.6 +1.4**
TWSI Taliwang, Sumb 23.76 189 P **P 09 16 22.8 +0.3**
comp=Z,18μmcomp=Z,15μmcomp=Z,1μm,1.0s
TIY Taiyuan 23.81 344 *e*P **P 09 16 24.3 +1.4**
TIY S **S 09 20 36.8 -0.7**
TIY pmax pmax
comp=Z,260nm,1.4s
TIY pmax pmax
comp=Z,4μm,4.2s
TIY LR LR
comp=Z,48μm,17.9s
TIY LR LR
comp=Z,40μm,15.8s
TIY LR LR
comp=Z,60μm,17.2s
NGJI Ngawi 23.87 203 P **P 09 16 26.2 +2.7**
DL2 Dalian 23.93 2 P **P 09 16 23.3 -0.6**
DL2 S **S 09 20 38.1 -1.1**

DL2 pmax pmax
comp=Z,330nm,1.6s
DL2 pmax pmax
comp=Z,5μm,5.4s
DL2 LR LR
comp=Z,35μm,20.4s
DL2 LR LR
comp=Z,64μm,16.6s
DL2 LR LR
comp=Z,86μm,17.1s
SMRI Semarang 23.98 205 IAmb IAmb 09 16 34.2
comp=Z,1μm,1.5s
SMRI Semarang 23.98 205 P **P 09 16 25.7 +1.1**
SMRI Semarang 23.98 205 P **P 09 16 26.4 +1.8**
comp=Z,8μmcomp=Z,478nm,1.7s
SMRI Semarang 23.98 205 ⇑P **P 09 16 26.8 +2.2**
DNP Denpasar 24.00 193 P **P 09 16 26.9 +2.1**
JAGI Jajag, Banyuwa 24.06 196 P **P 09 16 25.9 +0.6**
JAGI Jajag, Banyuwa 24.06 196 P **P 09 16 26.6 +1.3**
JAGI Jajag, Banyuwa 24.06 196 P **P 09 16 26.4 +1.1**
JAGI Jajag, Banyuwa 24.06 196 ⇑P **P 09 16 26.4 +1.1**
BKNI Bangkinang 24.06 235 IAmb IAmb 09 16 37.1
comp=Z,1μm,1.4s
BKNI Bangkinang 24.06 235 P **P 09 16 21.9 -3.5**
BKNI Bangkinang 24.06 235 P **P 09 16 25.9 +0.5**
BKNI Bangkinang 24.06 235 P **P 09 16 25.6 +0.2**
comp=Z,10μmcomp=Z,7μmcomp=Z,510nm,1.5s
BKNI Bangkinang 24.06 235 ⇑P **P 09 16 25.3 -0.1**
GMJI Gumukmas 24.06 197 P **P 09 16 27.4 +2.1**
PWJI Pagerwojo 24.35 201 P **P 09 16 30.2 +2.2**
TSI Tuntungan 24.39 244 P **P 09 16 29.9 +1.5**
comp=Z,7μmcomp=Z,954nm,1.2s
WBSI Waikabubak, Su 24.41 183 P **P 09 16 28.8 +0.2**
comp=Z,15μmcomp=Z,11μmcomp=Z,831nm,1.4s
WSI Waingapu 24.42 180 P **P 09 16 27.2 -1.4**
PSI Prapat 24.42 243 P **P 09 16 28.9 0.0**
comp=Z,177nm,0.9s,baz=52,slow=10,SNR=49
PSI PcP **PcP 09 20 08.0 +0.1**
comp=Z,36nm,0.8s,baz=228,slow=3.1,SNR=5.7
comp=Z,177nm,0.9s
PSI Prapat 24.42 243 P **P 09 16 29.3 +0.4**
RPSI Rantau Prapat 24.48 242 P **P 09 16 28.1 -1.1**
PYAG Pyongyang 24.50 10 P **P 09 16 29.3 +0.1**
PYAG S **S 09 20 45.5 -2.8**
PYAG AmB
comp=Z,6μm,4.0s
PYAG AMS AMS
comp=Z,48μm,15.2s
SMPI Sarmi 24.65 131 P **P 09 16 32.2 +1.4**
comp=Z,26μmcomp=Z,12μmcomp=Z,669nm,1.0s
UGM Wanagama 24.73 204 P **P 09 16 32.1 +0.6**
UGM Wanagama 24.73 204 P **P 09 16 32.5 +1.0**
UGM Wanagama 24.73 204 P **P 09 16 33.4 +1.9**
comp=Z,735nm,1.8s
YOGI Yogyakarta 24.73 205 P **P 09 16 33.2 +1.7**
comp=Z,2μm,1.8s
PCJI Pacitan 24.73 202 P **P 09 16 33.0 +1.5**
comp=Z,18μmcomp=Z,18μmcomp=Z,794nm,1.1s
SOEI Soe 24.79 171 P **P 09 16 30.5 -1.6**
SOEI Soe 24.79 171 P **P 09 16 29.6 -2.5**
SOEI Soe 24.79 171 P **P 09 16 32.6 +0.5**
SOEI Soe 24.79 171 P **P 09 16 31.3 -0.8**
comp=Z,12μmcomp=Z,7μmcomp=Z,624nm,1.0s
SOEI Soe 24.79 171 ⇑P **P 09 16 32.8 +0.7**
MNSI Mandailing Nat 24.96 238 P **P 09 16 33.9 +0.3**
comp=Z,8μmcomp=Z,7μmcomp=Z,500nm,0.8s
TNG Tangerang 25.03 214 P **P 09 16 35.5 +1.3**
comp=Z,576nm,1.0s
TNG P **P 09 16 35.7 +1.5**
comp=Z,336nm,1.0s
PPI Padang Panjang 25.05 234 P **P 09 16 34.6 +0.2**
LHMI Lhok Sumawe 25.06 250 P **P 09 16 36.2 +1.7**
LHMI Lhok Sumawe 25.06 250 P **P 09 16 36.7 +2.2**
comp=Z,9μmcomp=Z,7μmcomp=Z,215nm,1.3s
LEM Lembang 25.07 211 P **P 09 16 35.3 +0.5**
comp=Z,149nm,1.0s,baz=43,slow=8.1,SNR=13
LEM LR LR 09 28 18.2
comp=Z,32μm,18.6s,baz=28,slow=41
comp=Z,149nm,1.0s
LEM Lembang 25.07 211 P **P 09 16 36.4 +1.6**
comp=Z,16μmcomp=Z,11μmcomp=Z,565nm,1.9s
MDSI Maura Dua 25.14 221 P **P 09 16 35.2 0.0**
comp=Z,12μmcomp=Z,8μmcomp=Z,303nm,1.2s
SAUI Saumlaki 25.14 154 P **P 09 16 37.2 +2.0**
SAUI Saumlaki 25.14 154 P **P 09 16 37.6 +2.4**
comp=Z,13μmcomp=Z,13μmcomp=Z,716nm,1.1s
BLSI Bandar Lampung 25.17 218 P **P 09 16 37.1 +1.6**
comp=Z,12μmcomp=Z,481nm,1.3s
INU Inuyama 25.20 33 P **P 09 16 34.9 -0.6**
INU Inuyama 25.20 33 P **P 09 16 35.3 -0.3**
INU Inuyama 25.20 33 ⇑P **P 09 16 34.5 -1.1**
JHJ Hachijo jima 2 25.22 41 LR LR 09 25 40.2
comp=Z,19μm,21.4s,baz=252,slow=35
JHJ2 Mitsune 25.23 41 P **P 09 16 34.9 -1.0**
JHJ2 Mitsune 25.23 41 P **P 09 16 36.5 +0.6**
JHJ2 Mitsune 25.23 41 ⇑P **P 09 16 35.8 -0.1**
BJT Baijiatuau 25.30 352 P **P 09 16 37.2 +0.8**
BJI Beijing 25.32 352 P **P 09 16 36.4 -0.2**
BJI pmax pmax
comp=Z,190nm,1.5s
BJI pmax pmax
comp=Z,1μm,4.0s
BJI LR LR
comp=Z,16μm,16.7s
BJI LR LR
comp=Z,17μm,15.2s
BJI LR LR
comp=Z,19μm,16.8s
JSG Sagara 25.34 36 P **P 09 16 38.4 +1.6**
JSG Sagara 25.34 36 ⇑P **P 09 16 36.5 -0.3**
SUJ Sinuiju 25.35 7 P **P 09 16 37.5 +0.6**
SUJ S **S 09 20 59.1 -2.8**
SUJ AmB
comp=Z,2μm,2.3s
SUJ AMS AMS
comp=Z,40μm,23.8s
CMJI Cimerak 25.50 209 P **P 09 16 40.4 +1.9**
comp=Z,14μmcomp=Z,17μmcomp=Z,457nm,1.6s
JGF Kuroka 25.57 33 P **P 09 16 38.3 -0.7**
JGF Kuroka 25.57 33 ⇑P **P 09 16 38.0 -0.9**
KSI Kapahiang 25.57 225 P **P 09 16 40.0 +0.8**
comp=Z,11μmcomp=Z,613nm,1.1s
BBJI Bungbulang 25.61 211 P **P 09 16 40.1 +0.6**
LWLI Liwa 25.62 221 P **P 09 16 40.4 +0.7**
HHU Hamhung 25.68 13 P **P 09 16 40.4 +0.5**
HHU S **S 09 21 04.0 -3.2**
HHU AmB
comp=Z,4μm,4.6s
HHU AMS AMS
comp=Z,11μm,12.7s
CNJI Cibinong 25.73 212 P **P 09 16 42.2 +1.6**
comp=Z,4μmcomp=Z,268nm,1.3s
SKJI Sukabumi 25.78 213 P **P 09 16 44.0 +3.0**
comp=Z,14μmcomp=Z,14μmcomp=Z,659nm,1.4s
LZH Lanzhou 25.81 328 P **P 09 16 42.6 +1.3**
LZH pP pP 09 16 48.8 +0.9
LZH S **S 09 21 09.8 0.0**
LZH pmax pmax
comp=Z,840nm,1.0s
LZH pmax pmax
comp=Z,2μm,5.5s
LZH LR LR
comp=Z,69μm,18.5s
MNAI Manna 25.84 224 P **P 09 16 41.6 0.0**
MNAI Manna 25.84 224 P **P 09 16 42.8 +1.2**
MNAI Manna 25.84 224 P **P 09 16 42.8 +1.2**
comp=Z,11μmcomp=Z,15μmcomp=Z,933nm,1.4s
MNAI Manna 25.84 224 ⇑P **P 09 16 43.0 +1.4**
CGJI Cibinong 25.92 215 P **P 09 16 42.4 +0.1**
comp=Z,9μmcomp=Z,322nm,1.6s
MLSI Meulaoh, Aceh 25.95 248 P **P 09 16 43.5 +0.9**
comp=Z,7μmcomp=Z,4μmcomp=Z,235nm,1.2s
GENI Genyem 26.12 130 P **P 09 16 46.2 +2.0**
GENI Genyem 26.12 130 P **P 09 16 46.1 +1.9**
comp=Z,14μmcomp=Z,15μmcomp=Z,762nm,1.2s
GENI Genyem 26.12 130 ⇑P **P 09 16 45.1 +0.9**
GSI Gunungsitoli 26.35 241 P **P 09 16 45.1 -1.1**
GSI IAmb IAmb 09 16 49.1
comp=Z,489nm,1.4s
GSI Gunungsitoli 26.35 241 P **P 09 16 45.4 -0.7**
GSI Gunungsitoli 26.35 241 P **P 09 16 45.5 -0.7**
comp=Z,10μmcomp=Z,6μmcomp=Z,274nm,1.6s
GSI Gunungsitoli 26.35 241 ⇑P **P 09 16 45.8 -0.4**
BSI Banda Aceh 26.46 252 P **P 09 16 48.5 +1.3**
comp=Z,6μmcomp=Z,4μmcomp=Z,232nm,1.4s

JAY	**Jayapura**	**26.47**	**129**	P	**P**	**09 16 46.7**	**-0.6**
	comp=Z,19nm,1.0s,baz=244,slow=5.4,SNR=7.3						
JAY				LR	LR	09 28 60.0	
	comp=Z,40μm,18.2s,baz=322,slow=41						
	comp=Z,19nm,1.0s						
JAY	**Jayapura**	**26.47**	**129**	P	**P**	**09 16 48.5**	**+1.1**
SISI	**Saibi**	**26.61**	**234**	P	**P**	**09 16 48.1**	**-0.4**
	comp=Z,4μmcomp=Z,284nm,1.1s						
MAJO	**Matsushiro**	**26.73**	**33**	P	**P**	**09 16 47.5**	**-2.0**
MAJO	**Matsushiro**	**26.73**	**33**	P	**P**	**09 16 48.4**	**-1.1**
MAJO	**Matsushiro**	**26.73**	**33***c*	*i*P	**P**	**09 16 48.1**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,207nm,1.6s						
MAJO				MLR	MLR		
	comp=Z,26μm,20.0s						
MAJO	**Matsushiro**	**26.73**	**33**	⇑P	**P**	**09 16 47.8**	**-1.7**
MJAR	**Matsushiro Arr**	**26.73**	**33**	P	**P**	**09 16 47.9**	**-1.6**
	comp=Z,21nm,0.9s,baz=208,slow=7.5,SNR=31						
MJAR				PcP	**PcP**	**09 20 12.7**	**+0.1**
	comp=Z,5.3nm,0.8s,baz=170,slow=2.4,SNR=5.0						
MJAR				P3KPbc		09 49 24.8	
	comp=Z,2.9nm,1.0s,baz=36,slow=5.0,SNR=7.7						
	comp=Z,21nm,0.9s						
IMP	**Imphal**	**26.79**	**296**	*e*P	**P**	**09 16 48.5**	**-1.7**
KOHI	**KOHIMA**	**26.91**	**298**	*e*P	**P**	**09 16 50.5**	**-0.9**
KOHI				IAmb	IAmb	09 17 01.0	
	comp=Z,277nm,1.2s						
SNY	**Shenyang**	**26.96**	**5**	⇑P	**P**	**09 16 50.8**	**-0.6**
SNY				S	**S**	**09 21 26.4**	**-1.0**
SNY				pmax	pmax		
	comp=Z,37nm,1.6s						
SNY				pmax	pmax		
	comp=Z,600nm,2.7s						
SNY				LR	LR		
	comp=Z,26μm,19.1s						
SNY				LR	LR		
	comp=Z,40μm,16.3s						
SNY				LR	LR		
	comp=Z,41μm,22.1s						
HHC	**Hu-ho-hao-te**	**26.99**	**345**	*e*P	**P**	**09 16 52.6**	**+0.8**
HHC				sP	sP	09 17 04.0	+2.7
HHC				S	**S**	**09 21 27.6**	**-0.6**
HHC				SS	**SnSn**	**09 22 40.6**	**+5.9**
HHC				pmax	pmax		
	comp=Z,160nm,1.4s						
HHC				pmax	pmax		
	comp=Z,1μm,4.4s						
HHC				LR	LR		
	comp=Z,48μm,17.6s						
HHC				LR	LR		
	comp=Z,41μm,19.1s						
HHC				LR	LR		
	comp=Z,66μm,18.3s						
SAIH	**SAIHA**	**27.08**	**290**	*e*P	**P**	**09 16 49.0**	**-3.9**
SAIH				IAmb	IAmb	09 17 23.4	
	comp=Z,102nm,0.7s						
PBA	**Port Blair**	**27.18**	**267**	*e*P	**P**	**09 16 53.7**	**+0.1**
PBA				IAmb	IAmb	09 17 00.4	
	comp=Z,428nm,1.8s						
BTO	**Baotou**	**27.18**	**342**	*e*P	**P**	**09 16 54.4**	**+0.8**
BTO				pP	**pP**	**09 17 00.5**	**+0.2**
BTO				sP	**sP**	**09 17 03.1**	**+0.1**
BTO				PP	**PnPn**	**09 17 42.1**	**+4.9**
BTO				S	**S**	**09 21 32.9**	**+1.7**
BTO				pmax	pmax		
	comp=Z,77nm,1.4s						
BTO				pmax	pmax		
	comp=Z,2μm,5.0s						
AZL	**Aizawl**	**27.61**	**293**	*e*P	**P**	**09 16 57.2**	**-0.5**
AZL				IAmb	IAmb	09 17 02.9	
	comp=Z,111nm,0.9s						
ITAN	**ITANAGAR**	**27.72**	**300**	*e*P	**P**	**09 16 56.3**	**-2.1**
ITAN				IAmb	IAmb	09 17 04.4	
	comp=Z,275nm,1.1s						
JSD	**Sado**	**27.90**	**31**	P	**P**	**09 17 02.2**	**+2.3**
JSD	**Sado**	**27.90**	**31**	⇑P	**P**	**09 16 58.2**	**-1.7**
BRDH	**Bariadhala**	**28.33**	**290**	LR	LR	09 29 56.8	
	comp=Z,30μm,19.0s,baz=148,slow=40						
SHL	**Shillong**	**28.79**	**296**	IAMs_20	IAMs_20	09 29 16.5	
	comp=Z,38μm,19.0s						
SHL	**Shillong**	**28.79**	**296**	P	**P**	**09 17 08.4**	**+0.2**
	SNR=57						
SHL	**Shillong**	**28.79**	**296**	*e*P	**P**	**09 17 06.0**	**-2.2**
SHL				IAmb	IAmb	09 17 18.5	
	comp=Z,169nm,1.0s						
AGT	**Agartala**	**28.93**	**292**	*e*P	P	09 17 04.1	-5.1
AGT				IAmb	IAmb	09 17 22.6	
	comp=Z,276nm,0.7s						
DRS	**Darwin Rock St**	**29.06**	**159**	P	**P**	**09 17 09.5**	**-0.9**
MSHR	**Mys Shultsa**	**29.07**	**16***ce*	P	**P**	**09 17 10.7**	**+0.4**
MSHR				pmax	pmax		
	comp=Z,88nm,1.7s						
MSHR				MLR	MLR		
	comp=Z,37μm,18.0s						
JMM	**Marumori**	**29.10**	**34**	IAmb	IAmb	09 17 17.2	
	comp=Z,510nm,1.7s						
JMM	**Marumori**	**29.10**	**34**	P	**P**	**09 17 12.9**	**+2.3**
JMM	**Marumori**	**29.10**	**34**	⇑P	**P**	**09 17 12.2**	**+1.7**
CN2	**Changchun**	**29.11**	**7**	P	**P**	**09 17 09.5**	**-1.1**
CN2				PP	**PnPn**	**09 18 01.1**	**-2.3**
CN2				S	**S**	**09 22 00.0**	**-1.3**
CN2				ScP	**ScP**	**09 24 00.9**	**+2.2**
CN2				pmax	pmax		
	comp=Z,1μm,8.0s						
CN2				LR	LR		
	comp=Z,30μm,15.0s						
CN2				LR	LR		
	comp=Z,61μm,15.0s						
GUWA	**GUWAHATI**	**29.13**	**297**	*e*P	**P**	**09 17 07.0**	**-4.0**
GUWA				IAmb	IAmb	09 17 14.3	
	comp=Z,489nm,2.4s						
XLT	**XiLinHaoTe**	**29.14**	**353**	*e*P	**P**	**09 17 10.8**	**-0.2**
XLT				pP	pP	09 17 15.3	-2.5
XLT				S	**S**	**09 21 55.8**	**-6.1**
XLT				pmax	pmax		
	comp=Z,80nm,1.4s						
XLT				LR	LR		
	comp=Z,36μm,16.0s						
XLT				LR	LR		
	comp=Z,45μm,20.2s						
XMI	**Christmas Isla**	**29.14**	**211**	P	**P**	**09 17 12.7**	**+1.5**
XMIS	**Christmas Isla**	**29.19**	**211**	P	**P**	**09 17 11.8**	**+0.2**
MTN	**Manton Dam**	**29.52**	**159**	P	**P**	**09 17 14.8**	**+0.3**
	comp=Z,0.0nmcomp=Z,78nm,1.8s						
MTN	**Manton Dam**	**29.52**	**159**	P	**P**	**09 17 14.4**	**-0.1**
VLA	**Vladivostok**	**29.77**	**17**	*i* P	**P**	**09 17 17.7**	**+1.2**
VLA				pmax	pmax		
	comp=Z,30nm,1.0s						
VLA				MLR	MLR		
	comp=Z,17μm,19.0s						
KDU	**Kakadu**	**29.88**	**156**	P	**P**	**09 17 15.9**	**-1.7**
KDU	**Kakadu**	**29.88**	**156**	P	**P**	**09 17 16.1**	**-1.5**
GTA	**Gaotai**	**30.41**	**327**	P	**P**	**09 17 23.8**	**+1.4**
GTA				pP	pP	09 17 29.9	+0.9
GTA				PcP	**PcP**	**09 20 22.9**	**+1.1**
GTA				S	**S**	**09 22 23.8**	**+1.7**
GTA				pmax	pmax		
	comp=Z,88nm,1.2s						
GTA				pmax	pmax		
	comp=Z,970nm,6.5s						
GTA				LR	LR		
	comp=Z,64μm,19.6s						
GTA				LR	LR		
	comp=Z,48μm,20.7s						
GTA				LR	LR		
	comp=Z,58μm,15.3s						
MDJ	**Mudanjiang**	**30.61**	**13**	IAMs_20	IAMs_20	09 31 11.6	
	comp=Z,36μm,19.0s						
MDJ	**Mudanjiang**	**30.61**	**13**	P	**P**	**09 17 23.9**	**0.0**
MDJ				pP	pP	09 17 29.8	-0.7
MDJ				S	**S**	**09 22 24.6**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,42nm,2.0s						
MDJ				LR	LR		
	comp=Z,28μm,21.4s						
MDJ				LR	LR		
	comp=Z,28μm,19.6s						
MDJ				LR	LR		
	comp=Z,41μm,18.2s						
MDJ	**Mudanjiang**	**30.61**	**13**	P	**P**	**09 17 25.5**	**+1.6**
LSA	**Lhasa**	**30.75**	**304**	IAMs_20	IAMs_20	09 30 03.6	
	comp=Z,30μm,19.0s						
LSA	**Lhasa**	**30.75**	**304**	P	**P**	**09 17 27.5**	**+1.6**
LSA				LR	LR		
	comp=Z,20μm,17.7s						
LSA				LR	LR		
	comp=Z,29μm,19.8s						
LSA	**Lhasa**	**30.75**	**304**	*i* P	**P**	**09 17 27.8**	**+1.8**
	SNR=46						
USA0B	**Ussuriysk Arra**	**30.80**	**16***c*	*i*P	**P**	**09 17 26.1**	**+0.5**
USRK	**Ussuriysk Ar.**	**30.80**	**16**	P	**P**	**09 17 25.4**	**-0.1**
USRK	**Ussuriysk Ar.**	**30.80**	**16**	P	**P**	**09 17 25.8**	**+0.2**
	comp=Z,13nm,0.8s,baz=194,slow=7.3,SNR=34						
USRK				LR	LR	09 30 47.6	
	comp=Z,26μm,19.5s,baz=196,slow=38						
	comp=Z,13nm,0.8s						
GOMU	**GeErMu**	**31.22**	**317**	P	**P**	**09 17 29.4**	**-0.5**
GOMU				pP	pP	09 17 33.4	-3.2
GOMU				sP	sP	09 17 36.8	-2.7
GOMU				S	**S**	**09 22 38.5**	**+3.1**
GOMU				pmax	pmax		
	comp=Z,41nm,1.0s						
BNX	**BinXian**	**31.29**	**9**	⇑P	**P**	**09 17 29.0**	**-0.8**
BNX				sP	**sP**	**09 17 39.3**	**+0.1**
BNX				S	**S**	**09 22 34.3**	**-1.1**
BNX				pmax	pmax		
	comp=Z,43nm,2.3s						
BNX				pmax	pmax		
	comp=Z,2μm,5.9s						
BNX				LR	LR		
	comp=Z,18μm,20.6s						
BNX				LR	LR		
	comp=Z,37μm,20.7s						
BNX				LR	LR		
	comp=Z,29μm,21.1s						
JTM	**Tenmabayashi**	**31.40**	**31**	IAmb	IAmb	09 18 31.4	
	comp=Z,288nm,1.4s						
JTM	**Tenmabayashi**	**31.40**	**31**	P	**P**	**09 17 32.3**	**+1.4**
JTM	**Tenmabayashi**	**31.40**	**31**	⇑P	**P**	**09 17 30.6**	**-0.3**
KNRA	**Kununurra**	**31.47**	**165**	P	**P**	**09 17 30.1**	**-1.6**
JPG	**JALPAIGURI**	**31.79**	**296**	*e*P	**P**	**09 17 31.1**	**-3.5**
JPG				IAmb	IAmb	09 18 21.4	
	comp=Z,282nm,0.3s						
TEY	**Ternei**	**32.99**	**21**	⇑*e*P	**P**	**09 17 44.4**	**-0.4**
TEY				*e*		09 19 02.7	
TEY				pmax	pmax		
	comp=N,10.0nm,1.9s						
TEY				pmax	pmax		
	comp=E,10.0nm,1.9s						
TEY				pmax	pmax		
	comp=Z,20nm,1.6s						
TEY				pmax	pmax		
	comp=N,100nm,4.1s						
TEY				pmax	pmax		
	comp=Z,200nm,4.2s						
FITZ	**Fitzroy Crossi**	**33.19**	**171**	P	**P**	**09 17 45.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**33.19**	**171**	P	**P**	**09 17 45.1**	**-1.6**
	comp=Z,25nm,0.9s,baz=3.5,slow=12,SNR=13						
	comp=Z,25nm,0.9s						
FITZ	**Fitzroy Crossi**	**33.19**	**171**	P	**P**	**09 17 45.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**33.19**	**171**	⇑P	**P**	**09 17 45.2**	**-1.5**
ERM	**Erimo**	**33.36**	**31***ce*	P	**P**	**09 17 51.2**	**+3.1**
ERM				pmax	pmax		
	comp=Z,156nm,1.7s						
ERM				MLR	MLR		
	comp=Z,19μm,17.0s						
ERM	**Erimo**	**33.36**	**31**	⇑P	**P**	**09 17 48.7**	**+0.6**
EVN	**Everest**	**33.79**	**298**	⇑P	**P**	**09 17 55.5**	**+2.6**
KNTI	**KHUNTI**	**34.18**	**289**	*e*P	**P**	**09 17 53.4**	**-2.2**
KNTI				IAmb	IAmb	09 18 02.8	
	comp=Z,887nm,2.5s						
HIA	**Hailar**	**34.27**	**359**	P	**P**	**09 17 55.3**	**-0.7**
ASAJ	**Asahikawa**	**34.67**	**28**	P	**P**	**09 17 59.2**	**-0.3**
	comp=Z,101nm,0.9s,baz=236,slow=14,SNR=51						
ASAJ				LR	LR	09 32 05.1	
	comp=Z,18μm,21.9s,baz=224,slow=36						
	comp=Z,101nm,0.9s						
JKA	**Kamikawa-asahi**	**34.67**	**28**	IAmb	IAmb	09 18 04.2	
	comp=Z,350nm,1.2s						
JKA	**Kamikawa-asahi**	**34.67**	**28**	⇑P	**P**	**09 18 00.0**	**+0.5**
ULN	**Ulaanbaatar**	**34.70**	**344**	P	**P**	**09 17 59.9**	**+0.1**
ULN				IAmb	IAmb	09 18 05.0	
	comp=Z,354nm,1.5s						
ULN	**Ulaanbaatar**	**34.70**	**344**	P	**P**	**09 18 01.2**	**+1.4**
ULN				P	**P**	**09 18 01.2**	**+1.4**
ULN	**Ulaanbaatar**	**34.70**	**344***ce*	P	**P**	**09 17 59.9**	**+0.1**
ULN				pmax	pmax		
	comp=Z,329nm,1.7s						
ULN				MLR	MLR		
	comp=Z,39μm,17.0s						
ULN	**Ulaanbaatar**	**34.70**	**344**	⇑P	**P**	**09 17 59.3**	**-0.5**
SONM	**Songino Array**	**34.85**	**343**	P	**P**	**09 18 01.4**	**+0.4**
SONM				IAmb	IAmb	09 18 05.4	
	comp=Z,266nm,1.4s						
SONM	**Songino Array**	**34.85**	**343**	P	**P**	**09 18 00.8**	**-0.2**
	comp=Z,88nm,1.2s,baz=162,slow=8.8,SNR=101						
SONM				PcP	**PcP**	**09 20 34.1**	**+0.2**
	comp=Z,17nm,1.0s,baz=148,slow=2.2,SNR=3.9						
SONM				ScP	**ScP**	**09 24 20.3**	**+2.1**
	comp=Z,3.0nm,0.8s,baz=150,slow=3.3,SNR=3.5						
SONM				LR	LR	09 33 15.4	
	comp=Z,40μm,19.3s,baz=154,slow=38						
	comp=Z,88nm,1.2s						
JHSG	**JHARSUGUGA**	**35.44**	**287**	*e*P	**P**	**09 18 06.9**	**+0.5**
JHSG				IAmb	IAmb	09 18 12.3	
	comp=Z,93nm,0.7s						
KLR	**Kul'dur**	**35.45**	**13**	P	**P**	**09 18 06.2**	**+0.1**
	comp=Z,159nm,1.1s,baz=220,slow=8.1,SNR=121						
KLR				PcP	**PcP**	**09 20 35.3**	**-0.2**
	comp=Z,19nm,0.9s,baz=355,slow=4.1,SNR=2.9						
KLR				LR	LR	09 32 47.2	
	comp=Z,25μm,20.6s,baz=196,slow=37						
	comp=Z,159nm,1.1s						
RAGD	**RAYAGADA**	**35.60**	**282**	*e*P	**P**	**09 18 06.7**	**-1.1**
RAGD				IAmb	IAmb	09 18 14.0	
	comp=Z,289nm,1.3s						
COCO	**West Island**	**35.68**	**222**	P	**P**	**09 18 09.1**	**+0.7**
COCO	**West Island**	**35.68**	**222**	P	**P**	**09 18 09.5**	**+1.1**
COCO	**West Island**	**35.68**	**222**	P	**P**	**09 18 09.1**	**+0.7**
COCO				pmax	pmax		
	comp=Z,1μm,1.6s						
COCO				MLR	MLR		
	comp=Z,9μm,18.0s						
HEH	**HeiHe**	**35.70**	**8**	*e*P	**P**	**09 18 08.1**	**-0.1**
HEH				pP	**pP**	**09 18 11.9**	**-3.2**
HEH				S	**S**	**09 23 43.4**	**-0.3**
HEH				pmax	pmax		
	comp=Z,62nm,1.8s						
HEH				pmax	pmax		
	comp=Z,2μm,5.2s						
HEH				LR	LR		
	comp=Z,34μm,18.7s						
HEH				LR	LR		
	comp=Z,33μm,15.8s						
HEH				LR	LR		
	comp=Z,55μm,16.0s						
PMG	**Port Moresby**	**35.82**	**131**	P	**P**	**09 18 09.3**	**-0.3**
PMG	**Port Moresby**	**35.82**	**131**	P	**P**	**09 18 08.7**	**-0.9**
	comp=Z,132nm,1.0s,baz=328,slow=8.0,SNR=28						
PMG				LR	LR	09 35 16.8	
	comp=Z,13μm,18.6s,baz=310,slow=40						
	comp=Z,132nm,1.0s						
PMG	**Port Moresby**	**35.82**	**131**	P	**P**	**09 18 10.2**	**+0.6**
PMG	**Port Moresby**	**35.82**	**131**	P	**P**	**09 18 10.1**	**+0.5**
PMG	**Port Moresby**	**35.82**	**131**	*i* P	**P**	**09 18 09.9**	**+0.3**
PMG				pmax	pmax		
	comp=Z,110nm,1.0s						
PMG				MLR	MLR		
	comp=Z,13μm,18.0s						
PMG	**Port Moresby**	**35.82**	**131**	⇑P	**P**	**09 18 09.7**	**0.0**
MBWA	**Marble Bar**	**35.85**	**181**	P	**P**	**09 18 08.2**	**-1.5**
MBWA				IAmb	IAmb	09 18 15.4	
	comp=Z,378nm,1.2s						
MBWA	**Marble Bar**	**35.85**	**181**	P	**P**	**09 18 08.8**	**-1.0**
MBWA	**Marble Bar**	**35.85**	**181**	P	**P**	**09 18 08.9**	**-0.9**
MBWA				P	**P**	**09 18 08.9**	**-0.9**
MBWA	**Marble Bar**	**35.85**	**181**	P	**P**	**09 18 08.5**	**-1.2**
MBWA	**Marble Bar**	**35.85**	**181**	⇑P	**P**	**09 18 08.4**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**36.19**	**32***d*	*i*P	**P**	**09 18 12.7**	**+0.2**
YUK				*e*		09 19 33.2	
YUK				*e*PPP	PPP	09 19 52.5	
YUK				*i* S	**S**	**09 23 51.5**	**+0.1**
YUK				*e*SSS	SSS	09 26 44.5	
YUK				pmax	pmax		
	comp=Z,727nm,2.1s						
YUK				pmax	pmax		
	comp=Z,648nm,1.4s						
YUK				pmax	pmax		
	comp=E,196nm,0.6s						
YUK				pmax	pmax		
	comp=N,149nm,0.8s						
PSA00	**Pilbara Seismi**	**36.26**	**181**	P	**P**	**09 18 12.1**	**-1.2**
PSA00	**Pilbara Seismi**	**36.26**	**181**	IAmb	IAmb	09 18 14.6	
	comp=Z,422nm,1.1s						
PSA00	**Pilbara Seismi**	**36.26**	**181**	P	**P**	**09 18 12.0**	**-1.2**
PSA00	**Pilbara Seismi**	**36.26**	**181**	P	**P**	**09 18 12.1**	**-1.2**
COEN	**Coen**	**36.42**	**141**	P	**P**	**09 18 14.4**	**-0.4**
COEN	**Coen**	**36.42**	**141**	P	**P**	**09 18 14.1**	**-0.7**
COEN	**Coen**	**36.42**	**141**	⇑P	**P**	**09 18 13.8**	**-1.0**
VAR	**Varanasi**	**36.55**	**292**	*e*P	**P**	**09 18 12.1**	**-3.7**
VAR				IAmb	IAmb	09 18 18.5	
	comp=Z,616nm,0.3s						
RABL	**Rabaul**	**36.69**	**119**	P	**P**	**09 18 18.2**	**+1.1**
RABL				IAmb	IAmb	09 18 28.7	
	comp=Z,251nm,0.9s						
RABL				IAMs_20	IAMs_20	09 30 41.2	
	comp=Z,23μm,22.0s						
RABL	**Rabaul**	**36.69**	**119**	⇑P	**P**	**09 18 18.4**	**+1.3**
YSS	**Yuzhno-Sakhali**	**36.96**	**26**	P	**P**	**09 18 19.0**	**0.0**
YSS				IAMs_20	IAMs_20	09 33 15.8	
	comp=Z,21μm,19.0s						
YSS	**Yuzhno-Sakhali**	**36.96**	**26**	P	**P**	**09 18 19.5**	**+0.5**
YSS	**Yuzhno-Sakhali**	**36.96**	**26***d*	*i*P	**P**	**09 18 18.7**	**-0.3**
YSS				*e*S	**S**	**09 23 59.8**	**-3.2**
YSS				pmax	pmax		
	comp=Z,2μm,4.3s						
YSS				pmax	pmax		
	comp=N,900nm,4.2s						
YSS				pmax	pmax		
	comp=E,800nm,4.3s						
YSS				pmax	pmax		
	comp=Z,210nm,1.2s						
YSS				pmax	pmax		
	comp=N,80nm,1.4s						
YSS				pmax	pmax		
	comp=E,70nm,0.8s						
YSS				smax	smax		
	comp=N,2μm,8.9s						
YSS				MLR	MLR		
	comp=Z,15μm,19.0s						
YSS				MLR	MLR		
	comp=N,16μm,18.0s						
YSS				MLR	MLR		
	comp=E,11μm,19.0s						
YSS	**Yuzhno-Sakhali**	**36.96**	**26**	⇑P	**P**	**09 18 18.8**	**-0.3**
BLSP	**Bilaspur**	**36.99**	**287**	*e*P	**P**	**09 18 18.3**	**-1.3**
BLSP				IAmb	IAmb	09 18 26.7	
	comp=Z,2μm,2.9s						
WB0	**Warramunga Arr**	**37.08**	**158**	IAmb	IAmb	09 18 26.4	
	comp=Z,206nm,0.8s						
WRAB	**Tennant Creek**	**37.21**	**158**	P	**P**	**09 18 20.4**	**-1.1**
WRAB				IAmb	IAmb	09 18 27.7	
	comp=Z,214nm,0.9s						
WRAB	**Tennant Creek**	**37.21**	**158**	P	**P**	**09 18 20.4**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,214nm,0.9s						
WRAB				MLR	MLR		
	comp=Z,13μm,21.0s						
WRA	**Warramunga Arr**	**37.22**	**158**	P	**P**	**09 18 19.8**	**-1.7**
	comp=Z,103nm,0.9s,baz=337,slow=9.4,SNR=71						
WRA				S	**S**	**09 24 00.9**	**-6.6**
	comp=Z,8.2nm,0.9s,baz=340,slow=15,SNR=4.9						
WRA				ScP	**ScP**	**09 24 29.2**	**+2.0**
	comp=Z,14nm,1.2s,baz=351,slow=4.1,SNR=6.6						
WRA				LR	LR	09 35 15.7	
	comp=Z,14μm,21.4s,baz=342,slow=39						
WRA				PKP2ab		09 52 40.4	
	comp=Z,1.4nm,1.1s,baz=166,slow=4.3,SNR=5.1						
	comp=Z,103nm,0.9s						
WR8	**Warramunga Arr**	**37.29**	**158**	IAmb	IAmb	09 18 27.9	
	comp=Z,194nm,0.9s						
CIT	**Chita**	**37.44**	**353**	*e*P	**P**	**09 18 23.2**	**+0.1**
CIT				*e*		09 19 47.2	
CIT				*e*		09 20 42.6	
CIT				*e*		09 24 16.4	
CIT				pmax	pmax		
	comp=Z,568nm,1.8s						
ALBI	**Allahabad**	**37.64**	**292**	*e*P	**P**	**09 18 24.8**	**-0.3**
ALBI				IAmb	IAmb	09 18 29.8	
	comp=Z,96nm,0.6s						
GIRL	**Giralia**	**37.81**	**189**	P	**P**	**09 18 26.6**	**+0.2**
	comp=Z,0.0nmcomp=Z,447nm,1.9s						
GIRL	**Giralia**	**37.81**	**189**	P	**P**	**09 18 26.7**	**+0.2**
GIRL	**Giralia**	**37.81**	**189**	⇑P	**P**	**09 18 26.5**	**0.0**
PATS	**Pohnpei**	**37.96**	**98**	P	**P**	**09 18 26.8**	**-1.1**
PATS				IAMs_20	IAMs_20	09 33 52.7	
	comp=Z,29μm,19.0s						
PATS	**Pohnpei**	**37.96**	**98**	P	P	09 18 33.6	+5.6
PATS	**Pohnpei**	**37.96**	**98**	P	**P**	**09 18 29.6**	**+1.6**
GRNR	**Gornyy**	**38.02**	**16**	⇑*i*P	**P**	**09 18 28.6**	**+0.6**
GRNR				*e*S	**S**	**09 24 20.8**	**+1.7**
GRNR				pmax	pmax		
	comp=E,10.0nm,1.0s						
GRNR				pmax	pmax		
	comp=N,30nm,1.2s						
GRNR				pmax	pmax		
	comp=Z,50nm,1.2s						
GRNR				smax	smax		
	comp=E,4.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,10μm,17.0s						
GRNR				MLR	MLR		
	comp=N,11μm,19.0s						
GRNR				MLR	MLR		
	comp=Z,14μm,19.0s						
ZAK	**Zakamensk**	**38.03**	**342**	*e*P	**P**	**09 18 27.4**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,96nm,1.6s						
KUR	**Kuril'sk**	**38.05**	**32***c*	*i*P	**P**	**09 18 28.1**	**-0.2**
KUR				*e*S	**S**	**09 24 21.7**	**+2.0**
KUR				pmax	pmax		
	comp=N,291nm,1.5s						
KUR				pmax	pmax		
	comp=E,145nm,1.5s						
KUR				pmax	pmax		
	comp=Z,1μm,1.5s						
KUR				MLR	MLR		
	comp=Z,11μm,17.0s						
KUR				MLR	MLR		
	comp=E,5μm,13.0s						
VJD	**Vijayawada**	**38.33**	**278**	*e*P	**P**	**09 18 33.0**	**+2.0**
VJD				IAmb	IAmb	09 18 37.4	
	comp=Z,398nm,1.1s						
UGL	**Uglegorsk**	**38.40**	**23**	⇑*i*P	**P**	**09 18 30.9**	**-0.2**
UGL				*e*S	**S**	**09 24 23.3**	**-1.5**
UGL				pmax	pmax		
	comp=Z,2μm,4.1s						
UGL				pmax	pmax		
	comp=Z,300nm,1.5s						
UGL				smax	smax		
	comp=E,6μm,8.6s						
UGL				smax	smax		
	comp=N,3μm,9.4s						
UGL				MLR	MLR		
	comp=E,7μm,16.0s						
UGL				MLR	MLR		
	comp=N,8μm,14.0s						
UGL				MLR	MLR		
	comp=Z,10μm,18.0s						
LKN	**LUCKNOW**	**38.69**	**294**	*e*P	P	09 18 28.3	-5.6
LKN				IAmb	IAmb	09 18 31.3	
	comp=Z,382nm,0.4s						
BNDA	**BANDA**	**38.98**	**292**	*e*P	**P**	**09 18 35.0**	**-1.4**
BNDA				IAmb	IAmb	09 18 42.6	
	comp=Z,4μm,3.1s						
MDRS	**Chennai**	**39.05**	**272**	*e*P	**P**	**09 18 38.5**	**+1.5**
MDRS				IAmb	IAmb	09 18 43.9	
	comp=Z,327nm,1.2s						
ZEA	**Zeya**	**39.11**	**6**	*e*P	**P**	**09 18 37.3**	**+0.2**
ZEA				*e*S	**S**	**09 24 29.4**	**-6.0**
ZEA				pmax	pmax		
	comp=N,40nm,1.4s						
ZEA				pmax	pmax		
	comp=E,20nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,110nm,1.2s						
ZEA				pmax	pmax		
	comp=E,400nm,2.8s		

comp=Z,24μm,15.0s
IRK Irkutsk 39.43 344 *e*P **P 09 18 38.3 -1.5**
IRK *e* 09 20 12.6
IRK pmax pmax
comp=Z,487nm,2.0s
PALK Pallekele 39.71 263 P **P 09 18 43.4 +0.7**
PALK IAmb IAmb 09 18 46.7
comp=Z,430nm,1.8s
PALK Pallekele 39.71 263 PcP **PcP 09 20 50.0 +0.8**
comp=Z,37nm,1.0s,baz=73,slow=3.3,SNR=5.2
PALK LR LR 09 34 07.7
comp=Z,6μm,20.5s,baz=76,slow=35
PALK Pallekele 39.71 263 P **P 09 18 45.0 +2.4**
PALK Pallekele 39.71 263 P **P 09 18 43.4 +0.7**
PALK pmax pmax
comp=Z,430nm,1.8s
PALK Pallekele 39.71 263 ⇑P **P 09 18 44.0 +1.3**
LGTI Lohaghat 39.75 298 *e*P **P 09 18 42.0 -0.8**
LGTI IAmb IAmb 09 19 06.0
comp=Z,184nm,1.4s
NGP Nagpur 39.79 285 *e*P **P 09 18 42.3 -1.0**
NGP IAmb IAmb 09 18 48.8
comp=Z,485nm,1.2s
PTH Pithoragarh 39.80 298 *e*P **P 09 18 43.0 -0.4**
PTH IAmb IAmb 09 18 49.2
comp=Z,205nm,1.6s
MOY Mondy 39.86 341 *e*P **P 09 18 43.2 -0.3**
MOY pmax pmax
comp=Z,456nm,2.7s
QIS Mount Isa 39.94 151 P **P 09 18 43.8 -0.6**
QIS Mount Isa 39.94 151 P **P 09 18 43.8 -0.6**
FRKB FARRUKHABAD 39.94 295 *e*P **P 09 18 42.1 -2.4**
FRKB IAmb IAmb 09 18 50.1
comp=Z,641nm,1.5s
TYV Tymovskoe 40.09 22 *e*P **P 09 18 46.8 +1.6**
TYV *e*S **S 09 24 56.6 +6.5**
TYV pmax pmax
comp=Z,2μm,4.3s
TYV pmax pmax
comp=Z,188nm,1.6s
TYV smax smax
comp=N,1μm,8.0s
TYV smax smax
comp=E,2μm,8.0s
TYV MLR MLR
comp=Z,12μm,15.0s
TYV MLR MLR
comp=E,9μm,15.0s
WMQ Urumqi 40.12 323 ⇑P **P 09 18 48.1 +2.4**
WMQ PP **PnPn 09 20 22.6 +0.9**
WMQ PcP **PcP 09 20 54.6 +4.6**
WMQ S **S 09 24 53.3 +2.3**
WMQ pmax pmax
comp=E,220nm,0.7s
WMQ pmax pmax
comp=E,1μm,5.7s
WMQ LR LR
comp=E,38μm,17.7s
HYB Hyderabad 40.29 279 *e*P **P 09 18 49.1 +1.7**
HYB IVmB_BB 09 18 54.6
comp=Z,4μm,3.3s
HYB *e* 09 20 22.2
HYB *e*PcP **PcP 09 20 51.8 +0.7**
HYB *e*S **S 09 24 55.1 +1.0**
HYB IVMs_BB IVMs_BB 09 38 57.0
comp=Z,4μm,16.0s
MTSU Mount Surprise 40.37 144 P **P 09 18 49.2 +1.1**
comp=Z,46nm,0.7s
MTSU Mount Surprise 40.37 144 P **P 09 18 48.8 +0.8**
WRKA Warakurna 40.43 169 P **P 09 18 47.4 -1.0**
WRKA Warakurna 40.43 169 P **P 09 18 47.1 -1.2**
WRKA Warakurna 40.43 169 ⇑P **P 09 18 47.2 -1.2**
AS31 Alice Springs 40.52 161 P **P 09 18 48.1 -1.0**
AS31 Alice Springs 40.52 161 P **P 09 18 48.2 -1.0**
ASAR Alice Springs 40.52 161 P **P 09 18 48.0 -1.2**
comp=Z,44nm,0.8s,baz=338,slow=6.5,SNR=136
ASAR ScP **ScP 09 24 41.8 +1.9**
comp=Z,3.6nm,0.8s,baz=335,slow=4.1,SNR=5.4
ASAR S **S 09 24 57.8 +0.5**
comp=Z,14nm,1.0s,baz=347,slow=20,SNR=7.8
ASAR LR LR 09 37 31.9
comp=Z,10μm,21.2s,baz=353,slow=39
ASAR PKPPKP **P'P'df 09 51 08.3 +4.0**
comp=Z,1.1nm,1.0s,baz=158,slow=3.1,SNR=4.6
comp=Z,44nm,0.8s
AS01 Alice Springs 40.53 161 P **P 09 18 48.5 -0.8**
JOSI Joshimath 40.58 300 *e*P **P 09 18 47.7 -2.2**
JOSI IAmb IAmb 09 18 55.9
comp=Z,742nm,1.6s
JHNI Jhansi 40.59 292 *e*P **P 09 18 49.1 -0.7**
JHNI IAmb IAmb 09 18 53.2
comp=Z,354nm,1.5s
TKRD Thakurdwara 40.88 297 *e*P **P 09 18 49.6 -2.5**
TKRD IAmb IAmb 09 18 50.7
comp=Z,696nm,0.1s
SALM Salem 41.23 271 *e*P **P 09 18 56.2 +1.0**
MEEK Meekatharra 41.33 183 P **P 09 18 54.5 -1.3**
MEEK Meekatharra 41.33 183 P **P 09 18 54.5 -1.3**
NKL Nikolayevsk 41.37 18 *e*P **P 09 18 54.2 -1.5**
NKL *e*S **S 09 25 08.8 -0.3**
NKL pmax pmax
comp=N,448nm,1.6s
NKL pmax pmax
comp=E,238nm,1.6s
NKL pmax pmax
comp=Z,958nm,1.6s
NKL smax smax
comp=E,545nm,5.2s
NKL smax smax
comp=N,759nm,6.3s
NKL MLR MLR
comp=N,64μm,19.0s
NKL MLR MLR
comp=E,79μm,19.0s
NKL MLR MLR
comp=Z,112μm,21.0s
BHPL Bhopal 41.40 288 *e*P **P 09 18 57.0 +0.4**
BHPL IAmb IAmb 09 19 01.4
comp=Z,229nm,0.8s
UGON Onchagaon 41.55 296 *e*P **P 09 18 55.3 -2.3**
UGON IAmb IAmb 09 19 00.0
comp=Z,590nm,1.5s
GUNA GUNA 41.59 290 *e*P **P 09 18 57.0 -1.2**
GUNA IAmb IAmb 09 19 02.9
comp=Z,339nm,1.0s
NRDN NARMADA NAGAR 41.61 287 *e*P **P 09 18 59.4 +1.1**
NRDN IAmb IAmb 09 19 08.6
comp=Z,759nm,1.2s
HNLY HANLEY 41.61 303 *e*P **P 09 18 56.0 -2.8**
HNLY IAmb IAmb 09 19 10.4
comp=Z,65nm,0.8s
AKL Akola 41.69 284 *e*P **P 09 18 59.6 +0.8**
AKL IAmb IAmb 09 19 04.5
comp=Z,527nm,1.1s
DDI Dehra Dun 41.80 299 *e*P **P 09 19 00.0 +0.3**
DDI IAmb IAmb 09 19 05.9
comp=Z,1μm,1.9s
KOD Kodaikanal 42.19 269 IAmb IAmb 09 19 07.8
comp=Z,367nm,1.5s
LDR Lodi Road 42.20 296 *e*P **P 09 19 00.7 -2.2**
NDI New Delhi 42.21 296 *e*P **P 09 19 01.4 -1.7**
NDI IAmb IAmb 09 19 13.3
comp=Z,105nm,1.1s
NPLP NPLP New Delhi 42.24 296 *e*P **P 09 19 01.4 -2.0**
NPLP IAmb IAmb 09 19 06.9
comp=Z,34nm,0.8s
AYAN Aya Nagar 42.26 296 *e*P **P 09 19 01.6 -1.8**
AYAN IAmb IAmb 09 19 06.6
comp=Z,4μm,2.1s
SONA Sohna 42.26 296 *e*P **P 09 19 01.9 -1.6**
SONA IAmb IAmb 09 19 06.8
comp=Z,166nm,0.9s
BHGR Bahadurgarh 42.45 296 *e*P **P 09 19 02.9 -2.1**
BHGR IAmb IAmb 09 19 08.8
comp=Z,196nm,0.5s
TV1H Townsville Har 42.71 142 P **P 09 19 08.5 +1.4**
SMLA Simla 42.71 300 *e*P **P 09 19 07.6 +0.5**
SMLA IAmb IAmb 09 19 13.7
comp=Z,910nm,1.8s
KUDL Kundal 42.76 295 *e*P **P 09 19 06.5 -1.0**
KUDL IAmb IAmb 09 19 10.8
comp=Z,74nm,0.9s
KKR Kurukshetra 42.78 298 *e*P **P 09 19 05.6 -2.0**
TRD Trivandrum 43.03 267 *e*P **P 09 19 11.4 +1.6**
TRD IAmb IAmb 09 19 13.9
comp=Z,129nm,1.0s
BOD Bodaibo 43.11 355 *e*P **P 09 19 09.7 -0.2**
BOD pmax pmax
comp=Z,248nm,1.5s
BHK Bhakra 43.40 300 *e*P **P 09 19 11.8 -0.9**
BHK IAmb IAmb 09 19 18.0
comp=Z,296nm,0.6s
DHRM DHARAMSHALA 43.67 301 *e*P **P 09 19 14.3 -0.9**
DHRM IAmb IAmb 09 19 20.6
comp=Z,217nm,0.9s
ZSN Zaisan 43.85 325 *e*P **P 09 19 16.4 +0.4**
ZSN *e*S **S 09 25 44.9 -1.0**
ZSN Zaisan 43.85 325 *e*P **P 09 19 16.5 +0.4**
ZSN *e*S **S 09 25 45.0 -1.0**
MORW Morawa 43.92 186 P **P 09 19 15.1 -1.7**
MORW Morawa 43.92 186 P **P 09 19 15.5 -1.3**
MORW Morawa 43.92 186 P **P 09 19 15.7 -1.1**
MORW Morawa 43.92 186 ⇑P **P 09 19 15.5 -1.3**
AJM Ajmer 44.18 293 *e*P **P 09 19 19.7 +0.6**
AJM IAmb IAmb 09 19 26.0
comp=Z,3μm,2.9s
THN Thein Dam 44.20 301 *e*P **P 09 19 16.8 -2.3**
THN IAmb IAmb 09 19 24.9
comp=Z,605nm,1.5s
WUS Wushi 44.26 315 IAMs_20 IAMs_20 09 41 16.8
comp=Z,18μm,20.0s
KAD Karad 44.46 280 *e*P **P 09 19 22.0 +0.6**
KAD IAmb IAmb 09 19 28.9
comp=Z,1μm,2.2s
SHLS Shalkode 44.92 317 *e*P **P 09 19 22.9 -2.0**
SHLS *e*S **S 09 25 56.6 -5.3**
SHLS pmax pmax
comp=Z,215nm,1.4s
SHLS Shalkode 44.92 317 *e*P **P 09 19 22.9 -2.0**
comp=Z,215nm,1.4s
SHLS *e*S **S 09 25 56.7 -5.3**
JMU Jammu 44.93 302 *e*P **P 09 19 26.3 +1.4**
JMU IAmb IAmb 09 19 28.3
comp=Z,256nm,1.0s
OOD Oodnadatta 44.94 161 P **P 09 19 23.7 -1.2**
MK31 Makanchi Array 44.94 323 *i*P **P 09 19 25.1 +0.3**
MK31 pmax pmax
comp=Z,264nm,1.1s
MKAR Makanchi Array 44.94 323 P **P 09 19 24.7 -0.1**
MKAR Makanchi Array 44.94 323 P **P 09 19 24.4 -0.4**
comp=Z,138nm,1.0s,baz=125,slow=7.8,SNR=296
MKAR PcP **PcP 09 21 06.5 +0.6**
comp=Z,30nm,0.9s,baz=110,slow=2.2,SNR=4.5
MKAR ScP **ScP 09 24 59.9 +2.6**
comp=Z,2.2nm,0.8s,baz=108,slow=4.8,SNR=2.3
MKAR S **S 09 26 04.2 +2.3**
comp=Z,2.5nm,1.2s,baz=94,slow=18,SNR=0.7
comp=Z,138nm,1.0s
PDGK Podgornoye 44.98 317 P **P 09 19 25.8 +0.4**
MAKZ Makanchi 45.13 323 P **P 09 19 26.8 +0.5**
MAKZ IAmb IAmb 09 19 30.6
comp=Z,214nm,1.2s
MAKZ Makanchi 45.13 323 P **P 09 19 26.8 +0.5**
MAKZ pmax pmax
comp=Z,214nm,1.3s
MAKZ Makanchi 45.13 323 ⇑P **P 09 19 26.9 +0.6**
UZB Uzynbulak 45.21 317 *e*P **P 09 19 27.4 +0.2**
UZB pmax pmax
comp=Z,219nm,1.4s
UZB Uzynbulak 45.21 317 *e*P **P 09 19 27.4 +0.2**
comp=Z,219nm,1.4s
SRNI Srinagar 45.28 303 *e*P **P 09 19 26.2 -1.4**
SRNI IAmb IAmb 09 19 38.2
comp=Z,634nm,0.4s
SRGN SRI GANGA NAGA 45.28 297 *e*P **P 09 19 26.1 -1.7**
SRGN IAmb IAmb 09 19 32.4
comp=Z,302nm,0.5s
TATA Tatamba Isabel 45.34 118 P **P 09 19 29.5 +1.1**
PRZ Przheval'sk 45.34 316 IAMs_20 IAMs_20 09 39 05.8
comp=Z,18μm,22.0s
BLDU Ballidu 45.40 185 P **P 09 19 26.7 -1.9**
BLDU Ballidu 45.40 185 P **P 09 19 27.4 -1.2**
TARG Taragay, Kyrgy 45.45 315 IAmb IAmb 09 19 34.8
comp=Z,202nm,1.2s
BKNR BIKANER 45.56 295 *e*P **P 09 19 28.6 -1.4**
BKNR IAmb IAmb 09 19 31.7
comp=Z,188nm,0.7s
KPKS Kokpek 45.57 317 *e*P **P 09 19 30.2 +0.3**
KPKS *e*S **S 09 26 09.9 -1.3**
KPKS pmax pmax
comp=Z,205nm,1.6s
KPKS Kokpek 45.57 317 *e*P **P 09 19 30.3 +0.3**
comp=Z,205nm,1.6s
KPKS *e*S **S 09 26 09.9 -1.3**
SATY Saty 45.58 317 *e*P **P 09 19 30.3 +0.2**
SATY *e*S **S 09 26 10.1 -1.3**
SATY pmax pmax
comp=Z,228nm,1.7s
SATY Saty 45.58 317 *e*P **P 09 19 30.3 +0.2**
comp=Z,228nm,1.7s
SATY *e*S **S 09 26 10.1 -1.3**
ZHN Zhinishke 45.61 317 *e*P **P 09 19 30.5 +0.2**
ZHN Zhinishke 45.61 317 *e*P **P 09 19 30.6 +0.2**
SAVO Savo Central 45.74 119 P **P 09 19 33.1 +1.6**
SKR Severo-Kuril's 45.81 31 *e*P **P 09 19 31.6 0.0**
SKR *e*S **S 09 26 16.2 +2.1**
SKR pmax pmax
comp=Z,800nm,4.6s
SKR pmax pmax
comp=Z,211nm,1.0s
SKR MLR MLR
comp=Z,12μm,20.0s
KSH Kashi 45.94 311 P **P 09 19 36.3 +3.3**
KSH pP pP 09 19 40.8 +0.8
KSH S **S 09 26 20.8 +4.0**
KSH sS sS 09 26 31.1 +2.9
KSH SS **SS 09 29 35.6 -6.0**
KSH pmax pmax
comp=Z,110nm,1.2s
KSH pmax pmax
comp=Z,2μm,3.7s
KSH LR LR
comp=Z,16μm,21.6s
KSH LR LR
comp=Z,42μm,20.5s
HNR Honiara 45.99 119 P **P 09 19 32.6 -0.9**
HNR IAmS_20 IAmS_20 09 36 31.5
comp=Z,25μm,20.0s
HNR Honiara 45.99 119 LR LR 09 36 53.9
comp=Z,24μm,21.5s,baz=294,slow=34
HNR Honiara 45.99 119 P **P 09 19 35.5 +2.0**
HNR Honiara 45.99 119 P **P 09 19 32.6 -0.9**
HNR pmax pmax
comp=Z,495nm,1.1s
FORT Forrest 46.00 171 IAmb IAmb 09 19 41.6
comp=Z,416nm,1.4s
FORT Forrest 46.00 171 P **P 09 19 32.6 -0.7**
FORT Forrest 46.00 171 P **P 09 19 31.9 -1.4**
FORT Forrest 46.00 171 ⇑P **P 09 19 31.7 -1.6**
KMBL Kambalda 46.03 178 P **P 09 19 32.8 -0.8**
comp=Z,199nm,1.5s
KMBL Kambalda 46.03 178 P **P 09 19 32.3 -1.2**
ALEG Aligegeo Malai 46.28 118 P **P 09 19 37.6 +1.8**
KLBR Kellerberrin 46.30 183 P **P 09 19 34.6 -1.1**
KLBR Kellerberrin 46.30 183 P **P 09 19 34.3 -1.4**
TDK Taldyqorghan 46.43 319 *e*P **P 09 19 36.9 +0.3**
TDK pmax pmax
comp=Z,230nm,1.0s
TDK MLR MLR
comp=Z,11μm,16.0s
TDK Taldyqorghan 46.43 319 *e*P **P 09 19 36.9 +0.3**
comp=Z,230nm,1.0s
TDK LR LR 09 40 52.0
comp=Z,11μm,16.3s
ARXS Arharly 46.45 318 *e*P **P 09 19 37.0 +0.1**
NIL Nilore 46.48 302 P **P 09 19 37.0 -0.2**
NIL Nilore 46.48 302 P **P 09 19 37.0 -0.2**
NIL pmax pmax
comp=Z,331nm,1.1s
MDOK Medeo 46.53 316 *e*P **P 09 19 37.8 +0.2**
MDOK *e*S **S 09 26 23.6 -1.5**
MDOK MLR MLR
comp=Z,12μm,15.0s
MDOK Medeo 46.53 316 *e*P **P 09 19 37.8 +0.2**
MDOK *e*S **S 09 26 23.6 -1.5**
MDOK LR LR 09 41 15.0
comp=Z,12μm,15.4s
TNSS Tian-Shan 46.55 316 *e*P **P 09 19 38.0 -0.1**
TNSS Tian-Shan 46.55 316 *e*P **P 09 19 38.0 -0.1**
AAA Alma-Ata 46.64 316 *e*P **P 09 19 38.5 +0.2**
AAA pmax pmax
comp=Z,219nm,1.2s
AAA MLR MLR
comp=Z,15μm,16.0s
AAA Alma-Ata 46.64 316 *e*P **P 09 19 38.6 +0.2**
comp=Z,219nm,1.2s
AAA LR LR 09 41 18.8
comp=Z,15μm,15.7s
ULHL Ulahol 46.72 315 P **P 09 19 40.1 +0.9**
SNR=18
INKA Innaminka 46.73 155 P **P 09 19 39.1 +0.1**
MUN Mundaring 46.80 185 P **P 09 19 39.1 -0.5**
comp=Z,68nm,1.3s
MUN Mundaring 46.80 185 P **P 09 19 38.6 -0.9**
CHKK Chushkaly 46.85 317 *e*P **P 09 19 40.1 +0.2**
CHKK Chushkaly 46.85 317 *e*P **P 09 19 40.2 +0.2**
MNCY Minicoy 46.87 267 IAmb IAmb 09 22 00.7
comp=Z,377nm,1.3s
BOOM Boomskoye usch 47.02 315 IAmb IAmb 09 19 46.2
comp=Z,192nm,1.2s
HMDM Hanimaadhoo 47.07 265 P **P 09 19 45.1 +3.1**
NGOA Tingoa Renbel 47.21 122 P **P 09 19 44.7 +1.6**
QLP Quilpie 47.27 151 P **P 09 19 42.2 -1.1**
QLP Quilpie 47.27 151 P **P 09 19 43.1 -0.2**
QLP Quilpie 47.27 151 ⇑P **P 09 19 42.5 -0.8**
KUU Kurty 47.30 317 *e*P **P 09 19 43.7 +0.3**
KUU MLR MLR
comp=Z,13μm,14.0s
KUU Kurty 47.30 317 *e*P **P 09 19 43.7 +0.3**
KUU LR LR 09 41 45.6
comp=Z,13μm,13.8s
TKM2 Tokmak 2 47.42 315 P **P 09 19 45.8 +1.2**
SNR=62
TKM2 Tokmak 2 47.42 315 *i*P **P 09 19 45.4 +0.8**
TKM2 pmax pmax
comp=Z,154nm,1.2s
YAK Yakutsk 47.52 6 P **P 09 19 44.6 -0.2**
YAK Yakutsk 47.52 6 IAMs_20 IAMs_20 09 40 18.5
comp=Z,24μm,21.0s
YAK Yakutsk 47.52 6 P **P 09 19 44.7 -0.1**
comp=Z,136nm,1.0s,baz=193,slow=4.9,SNR=51
YAK LR LR 09 40 37.1
comp=Z,24μm,20.8s,baz=188,slow=37
comp=Z,136nm,1.0s
YAK Yakutsk 47.52 6*d*i P **P 09 19 43.9 -0.9**
YAK *e**PP **pP 09 19 52.3 +0.6**
YAK *e* 09 21 32.3
YAK *e*S **S 09 26 36.7 -1.6**
YAK pmax pmax
comp=Z,277nm,1.2s
YAK pmax pmax
comp=E,67nm,1.4s
YAK pmax pmax
comp=N,194nm,1.4s
YAK pmax pmax
comp=Z,274nm,2.5s
YAK pmax pmax
comp=N,177nm,3.0s
YAK pmax pmax
comp=E,62nm,1.6s
YAK smax smax
comp=N,790nm,4.6s
YAK smax smax
comp=E,866nm,4.5s
YAK MLR MLR
comp=Z,33μm,16.0s
YAK MLR MLR
comp=N,23μm,16.0s
YAK MLR MLR
comp=E,4μm,14.0s
YAK Yakutsk 47.52 6 ⇑P **P 09 19 44.0 -0.8**
JASL Jaisalmer 47.56 293 *e*P **P 09 19 46.2 +0.5**
NWAO Narrogin (SRO) 47.66 184 P **P 09 19 45.4 -0.9**
NWAO IAmb IAmb 09 19 51.4
comp=Z,293nm,1.4s
NWAO Narrogin (SRO) 47.66 184 P **P 09 19 44.9 -1.4**
comp=Z,73nm,0.9s,baz=1.7,slow=9.1,SNR=26
NWAO LR LR 09 40 20.5
comp=Z,6μm,21.1s,baz=0.5,slow=37
comp=Z,73nm,0.9s
NWAO Narrogin (SRO) 47.66 184 P **P 09 19 45.5 -0.7**
NWAO Narrogin (SRO) 47.66 184 P **P 09 19 45.6 -0.7**
NWAO Narrogin (SRO) 47.66 184 P **P 09 19 45.4 -0.9**
NWAO pmax pmax
comp=Z,293nm,1.4s
KBK Karagaybulak 47.76 315 P **P 09 19 48.7 +1.4**
SNR=68
ZAA0 Zalesovo Array 47.89 332 IAmb IAmb 09 19 50.4
comp=Z,256nm,1.1s
ZALV Zalesovo Beam 47.89 332 P **P 09 19 47.7 -0.2**
ZALV Zalesovo Beam 47.89 332 P **P 09 19 47.8 0.0**
comp=Z,142nm,0.8s,baz=124,slow=7.4,SNR=144
ZALV PP **PP 09 21 40.7 +0.9**
comp=Z,34nm,1.0s,baz=130,slow=10,SNR=4.1
ZALV PKiKP **PKiKP 09 28 07.1 -0.4**
comp=Z,1.1nm,0.6s,baz=124,slow=1.0,SNR=2.2
ZALV LR LR 09 39 45.4
comp=Z,12μm,19.8s,baz=128,slow=36
comp=Z,142nm,0.8s
UCH Uchtor 47.91 314 P **P 09 19 51.1 +2.3**
SNR=48
CHMS Chumysh 48.02 315 P **P 09 19 49.8 +0.6**
SNR=56
FRU1 Bishkek 48.04 315 IAmb IAmb 09 19 54.0
comp=Z,169nm,0.9s
FRU1 IAMs_20 IAMs_20 09 40 22.9
comp=Z,23μm,22.0s
AAK Ala-Archa 48.07 314 P **P 09 19 50.4 +0.8**
AAK IAmb IAmb 09 19 54.7
comp=Z,257nm,1.4s
AAK Ala-Archa 48.07 314 LR LR 09 41 26.5
comp=Z,35μm,19.8s,baz=93,slow=38
AAK Ala-Archa 48.07 314 P **P 09 19 51.2 +1.6**
AAK Ala-Archa 48.07 314 P **P 09 19 50.9 +1.3**
SNR=65
AAK Ala-Archa 48.07 314*ce*P **P 09 19 51.3 +1.6**
AAK pmax pmax
comp=Z,274nm,1.7s
AAK MLR MLR
comp=Z,33μm,19.0s
AAK Ala-Archa 48.07 314 *i*P **P 09 19 50.7 +1.1**
SNR=78
AAK Ala-Archa 48.07 314 ⇑P **P 09 19 50.4 +0.8**
RK1H Rockhampton Ha 48.07 142 P **P 09 19 49.8 +0.2**
PEA0B Petropavlovsk- 48.08 29*ce*P **P 09 19 50.2 +0.9**
PETK Petropavlovsk- 48.08 29 P **P 09 19 48.5 -0.9**
PETK Petropavlovsk- 48.08 29 P **P 09 19 48.9 -0.5**
comp=Z,102nm,0.9s,baz=220,slow=3.9,SNR=55
PETK LR LR 09 40 48.1
comp=Z,8μm,19.3s,baz=220,slow=37
comp=Z,102nm,0.9s
LCRK Leigh Creek 48.22 159 P **P 09 19 49.7 -0.9**
SGDS Sogindy 48.27 316 *e*P **P 09 19 51.3 +0.3**
SGDS *e*S **S 09 26 48.5 -1.2**
SGDS Sogindy 48.27 316 *e*P **P 09 19 51.4 +0.3**
SGDS *e*S **S 09 26 48.5 -1.2**
USP Ospenovka 48.29 315 P **P 09 19 52.3 +1.1**
SNR=82
AML Almayashu 48.45 314 P **P 09 19 54.5 +1.7**
SNR=142
PET Petropavlovsk 48.49 30 P **P 09 19 52.2 -0.3**
PET IAmb IAmb 09 19 59.2
comp=Z,204nm,1.1s
PET Petropavlovsk 48.49 30 P **P 09 19 54.0 +1.6**
PET Petropavlovsk 48.49 30*ce*P **P 09 19 52.7 +0.3**
PET *e*S **S 09 26 52.0 -0.2**
PET pmax pmax
comp=Z,2μm,8.4s
PET pmax pmax
comp=Z,900nm,19.8s
PET pmax pmax
comp=Z,191nm,1.0s
PET MLR MLR
comp=Z,9μm,18.0s
PET MLR MLR
comp=Z,10μm,19.0s
PET Petropavlovsk 48.49 30 P **P 09 19 54.0 +1.6**
comp=Z,3μmcomp=Z,210nm,1.8s
PET Petropavlovsk 48.49 30 ⇑P **P 09 19 52.7 +0.3**
BHUJ Bhuj 48.54 288 *e*P **P 09 19 54.2 +0.9**
BHUJ IAmb IAmb 09 19 57.5
comp=Z,340nm,1.2s
EKS2 Erkin-Say 48.57 314 P **P 09 19 54.8 +1.3**
SNR=70
GD1S Gladstone Soft 48.81 142 P **P 09 19 56.8 +1.5**
DRK Karamyk 49.01 310 IAMs_20 IAMs_20 09 41 50.7

comp=Z,23µm,22.0s
KURBB **Kurchatov Arra** 49.07 326 P P 09 19 57.5 +0.5
comp=Z,319nm,0.9s,baz=121,slow=8.0,SNR=547
KURBB S S 09 27 03.9 +3.2
comp=Z,1.5nm,1.0s,baz=118,slow=14,SNR=5.5
KURBB PKPPKP P'P'df 09 50 57.1 -4.2
comp=Z,0.1nm,0.3s,baz=290,slow=2.7,SNR=4.6
comp=Z,319nm,0.9s
KURBB **Kurchatov Arra** 49.07 326 P P 09 19 57.3 +0.3
KURK **Kurchatov** 49.07 326 P P 09 19 57.3 +0.3
KURK **Kurchatov** 49.07 326 IAms_20 IAms_20 09 38 55.0
comp=Z,16µm,20.0s
KURK **Kurchatov** 49.07 326 P P 09 19 57.9 +0.9
KURK P P 09 19 57.9 +0.9
KURK **Kurchatov** 49.07 326 P P 09 19 57.5 +0.5
KURK S S 09 27 03.9 +3.3
KURK **Kurchatov** 49.07 326 ⇑P P 09 19 56.5 -0.5
RKGY **Rocky Gully** 49.35 184 P P 09 19 59.8 +0.5
comp=Z,50nm,1.3s
BBOO **Buckleboo** 49.73 163 P P 09 20 00.1 -2.0
BBOO **Buckleboo** 49.73 163 P P 09 20 00.4 -1.8
MA2 **Magadan** 49.84 20 P P 09 20 02.7 0.0
MA2 IAmb IAmb 09 20 05.8
comp=Z,232nm,1.1s
MA2 IAms_20 IAms_20 09 41 25.2
comp=Z,23µm,20.0s
MA2 **Magadan** 49.84 20 LR LR 09 41 26.0
comp=Z,22µm,20.7s,baz=212,slow=36
MA2 **Magadan** 49.84 20 P P 09 20 03.2 +0.5
MA2 **Magadan** 49.84 20*ce*P P 09 20 03.5 +0.8
MA2 pmax pmax
comp=Z,345nm,1.7s
MA2 MLR MLR
comp=Z,22µm,21.0s
MA2 **Magadan** 49.84 20 P P 09 20 03.2 +0.5
comp=Z,3µmcomp=Z,196nm,1.3s
MA2 **Magadan** 49.84 20 ⇑P P 09 20 03.1 +0.3
BTK **Batken** 49.89 310 IAmb IAmb 09 20 10.3
comp=Z,213nm,1.1s
BTK IAms_20 IAms_20 09 42 06.2
comp=Z,24µm,21.0s
EIDS **Eidsvold** 49.92 143 IAms_20 IAms_20 09 41 58.5
comp=Z,20µm,19.0s
EIDS **Eidsvold** 49.92 143 P P 09 20 03.1 -0.6
EIDS **Eidsvold** 49.92 143 P P 09 20 03.6 -0.2
EIDS **Eidsvold** 49.92 143 ⇑P P 09 20 03.4 -0.3
KBU **Kabul Universi** 49.99 303 P P 09 20 01.0 -3.6
KBL **Kabul** 50.07 303 P P 09 20 06.0 +0.8
KBL **Kabul** 50.07 303 P P 09 20 06.2 +1.0
SNR=147
KBL **Kabul** 50.07 303 P P 09 20 06.0 +0.8
KBL pmax pmax
comp=Z,333nm,1.3s
DZA **Taraz** 50.35 314 *e*P P 09 20 07.1 +0.2
DZA pmax pmax
comp=Z,142nm,1.3s
DZA **Taraz** 50.35 314 *e*P P 09 20 07.2 +0.2
comp=Z,142nm,1.3s
WHYH **Whyalla** 50.39 161 P P 09 20 06.3 -0.9
STKA **Stephens Creek** 50.73 157 P P 09 20 07.3 -2.5
STKA **Stephens Creek** 50.73 157 P P 09 20 09.4 -0.4
comp=Z,229nm,1.2s
STKA **Stephens Creek** 50.73 157 P P 09 20 08.4 -1.4
comp=Z,32nm,0.9s,baz=340,slow=9.0,SNR=22
STKA LR LR 09 43 48.9
comp=Z,8µm,21.2s,baz=335,slow=39
comp=Z,32nm,0.9s
STKA **Stephens Creek** 50.73 157 P P 09 20 09.0 -0.8
SIMJ **Simiganj** 50.91 308 P P 09 20 11.1 -0.2
SIMJ IAmb IAmb 09 20 15.0
comp=Z,216nm,1.1s
SIMJ IAms_20 IAms_20 09 43 41.1
comp=Z,20µm,19.0s
KK31 **Karatay Array** 50.98 314 IAmb IAmb 09 20 18.7
comp=Z,275nm,0.9s
KK31 **Karatay Array** 50.98 314 *i*P P 09 20 11.7 0.0
KKAR **Karatay Array** 50.98 314 P P 09 20 12.1 +0.4
KKAR **Karatay Array** 50.98 314 IAmb IAmb 09 20 18.7
comp=Z,289nm,0.9s
KKAR **Karatay Array** 50.98 314 P P 09 20 12.1 +0.4
KKAR **Karatay Array** 50.98 314 ⇑P P 09 20 12.2 +0.5
IUG **Iuzhnay** 51.04 312 *e*P P 09 20 12.4 +0.2
IUG *e*S S 09 27 27.3 -1.3
IUG pmax pmax
comp=Z,187nm,1.0s
IUG **Iuzhnay** 51.04 312 *e*P P 09 20 12.5 +0.2
comp=Z,187nm,1.0s
IUG *e*S S 09 27 27.4 -1.3
HTT **Hallett** 51.19 160 P P 09 20 11.5 -1.7
HTT **Hallett** 51.19 160 P P 09 20 12.5 -0.8
HTT **Hallett** 51.19 160 ⇑P P 09 20 12.1 -1.2
BRLS **Boroldoy** 51.44 314 *e*P P 09 20 15.7 +0.6
BRLS pmax pmax
comp=Z,139nm,1.3s
BRLS **Boroldoy** 51.44 314 *e*P P 09 20 15.7 +0.6
comp=Z,139nm,1.3s
LUES **Luesalemba Tem** 51.70 117 P P 09 20 18.7 +1.4
BRZS **Berezniki** 52.09 323 *e*P P 09 20 20.3 +0.5
BRZS **Berezniki** 52.09 323 *e*P P 09 20 20.3 +0.5
CMSA **Cobar Meteorol** 52.14 153 P P 09 20 20.3 0.0
comp=Z,70nm,1.1s
CMSA **Cobar Meteorol** 52.14 153 P P 09 20 20.4 +0.1
GHSS **Government Hou** 52.46 161 P P 09 20 22.5 -0.1
DGAR **Diego Garcia** 52.52 248*ce*P P 09 20 26.7 +3.2
DGAR pmax pmax
comp=Z,703nm,2.5s
H08S2 **Diego Garcia H** 52.58 248 P P 09 20 25.1 +1.4
baz=34,slow=9.2,SNR=14
H08S3 **Diego Garcia H** 52.58 248 P P 09 20 25.0 +1.3
baz=34,slow=9.2,SNR=10.0
H08S1 **Diego Carcia H** 52.60 248 P P 09 20 26.6 +2.8
baz=34,slow=9.2,SNR=7.1
SEY **Seymchan** 52.93 18 P P 09 20 25.6 -0.2
comp=Z,65nm,1.0s,baz=234,slow=5.7,SNR=58
SEY LR LR 09 42 33.9
comp=Z,18µm,21.2s,baz=216,slow=36
comp=Z,65nm,1.0s
SEY **Seymchan** 52.93 18*ce*P P 09 20 26.6 +0.8
SEY pmax pmax
comp=Z,155nm,1.7s
SEY MLR MLR
comp=Z,18µm,21.0s
ARMA **Armidale** 54.13 147 P P 09 20 35.5 +0.3
ARMA IAmb IAmb 09 20 49.9
comp=Z,334nm,1.9s
ARMA IAms_20 IAms_20 09 46 51.1
comp=Z,16µm,19.0s
ARMA **Armidale** 54.13 147 P P 09 20 36.1 +0.9
comp=Z,85nm,1.4s
ARMA **Armidale** 54.13 147 P P 09 20 36.3 +1.1
ARMA **Armidale** 54.13 147 ⇑P P 09 20 36.0 +0.8
BVA0 **Borovoye Array** 54.66 325 *i*P P 09 20 39.3 +0.6
BVAR **Borovoye Array** 54.66 325 P P 09 20 39.1 +0.5
comp=Z,78nm,0.8s,baz=111,slow=8.1,SNR=203
BVAR LR LR 09 45 06.6
comp=Z,15µm,18.7s,baz=112,slow=37
comp=Z,78nm,0.8s
BRVK **Borovoye** 54.73 325 P P 09 20 38.8 -0.4
BRVK **Borovoye** 54.73 325 IAms_20 IAms_20 09 44 57.7
comp=Z,17µm,19.0s
BRVK **Borovoye** 54.73 325 P P 09 20 40.1 +0.9
BRVK **Borovoye** 54.73 325*ce*P P 09 20 39.2 0.0
BRVK pmax pmax
comp=Z,948nm,1.7s
BRVK MLR MLR
comp=Z,13µm,17.0s
BRVK **Borovoye** 54.73 325 ⇑P P 09 20 38.8 -0.4
ARPS **Mount Arapiles** 55.21 159 P P 09 20 41.8 -1.0
ARPS **Mount Arapiles** 55.21 159 P P 09 20 41.6 -1.1
HRA **Herat** 55.62 302 IAmb IAmb 09 20 52.7
comp=Z,249nm,1.4s
KOUNC **Koumac, New Ca** 55.62 128 P P 09 20 47.6 +1.6
KOUNC **Koumac, New Ca** 55.62 128 ⇑P P 09 20 47.4 +1.4
VLAKA **Lakatoro** 55.67 122 P P 09 20 47.6 +1.2
NGCH **Negor - Chabah** 56.30 291 P P 09 20 51.9 +1.0
SHEM **Shemya Is, Ala** 56.52 36 P P 09 20 51.0 -1.0
comp=Z,56nm,1.0s,baz=117,slow=18,SNR=2.0
comp=Z,56nm,1.0s
CAN **Canberra** 56.80 152 IAmb IAmb 09 21 05.1
comp=Z,324nm,1.8s
CAN **Canberra** 56.80 152 P P 09 20 55.5 +1.2
comp=Z,69nm,2.0s
CAN **Canberra** 56.80 152 P P 09 20 55.7 +1.4
CAN **Canberra** 56.80 152 ⇑P P 09 20 55.2 +1.0
TIXI **Tiksi** 56.95 3 P P 09 20 54.3 -0.4

TIXI **Tiksi** 56.95 3 LR LR 09 46 40.6
comp=Z,31µm,21.8s,baz=206,slow=37
TIXI **Tiksi** 56.95 3 P P 09 20 54.3 -0.4
TIXI pmax pmax
comp=Z,458nm,1.1s
TIXI MLR MLR
comp=Z,34µm,22.0s
TIXI **Tiksi** 56.95 3 ⇑P P 09 20 53.4 -1.3
CNB **Canberra Magne** 56.96 152 P P 09 20 56.1 +0.7
comp=Z,77nm,1.1s
CNB **Canberra Magne** 56.96 152 P P 09 20 56.5 +1.1
DVP **Devils Point** 57.13 123 P P 09 20 58.8 +2.0
TOO **Toolangi** 57.26 156 P P 09 20 57.0 -0.4
TOO **Toolangi** 57.26 156 P P 09 20 57.6 +0.2
comp=Z,0.0nmcomp=Z,25nm,1.5s
TOO **Toolangi** 57.26 156 P P 09 20 57.0 -0.4
TOO pmax pmax
comp=Z,64nm,1.6s
TOO **Toolangi** 57.26 156 ⇑P P 09 20 57.5 +0.1
GEXS **Deakin Univers** 57.36 158 P P 09 20 59.0 +1.0
JLN **Jalan Bani Buh** 58.03 287 P P 09 21 04.4 +1.1
SNR=12
JLN P P 09 21 04.4 +1.1
SNR=12
DZM **Mont Dzumac** 58.14 128 LR LR 09 43 35.7
comp=Z,4µm,21.9s,baz=316,slow=34
DZM **Mont Dzumac** 58.14 128 P P 09 21 05.3 +1.3
DZM **Mont Dzumac** 58.14 128 ⇑P P 09 21 05.0 +0.9
NRIK **Noril'sk** 58.20 347 P P 09 21 03.1 -0.4
comp=Z,185nm,1.1s,baz=138,slow=7.1,SNR=111
NRIK LR LR 09 48 12.4
comp=Z,30µm,18.6s,baz=150,slow=38
comp=Z,185nm,1.1s
ONTNC **Ouen Toro** 58.28 128 P P 09 21 05.4 +0.5
MILA **Mila** 58.32 153 P P 09 21 04.3 -0.6
comp=Z,17nm,2.2s
WBK **Wadi Bani Khal** 58.41 288 P P 09 21 05.8 -0.1
SNR=29
WBK P P 09 21 05.8 -0.1
SNR=29
YATNC **Mamie plateau,** 58.48 128 P P 09 21 08.1 +1.9
OUENC **Ouen Island, N** 58.64 128 P P 09 21 08.9 +1.5
WSAR **Wadi Sarin** 58.67 288 P P 09 21 07.4 -0.3
comp=Z,0.2nm,0.8s,baz=122,slow=23,SNR=24
WSAR LR LR 09 52 21.8
comp=Z,33nm,18.4s,baz=96,slow=42
WSAR **Wadi Sarin** 58.67 288 P P 09 21 07.7 -0.1
SNR=34
MIDW **Midway** 58.75 66 P P 09 21 06.3 -1.8
MIDW **Midway** 58.75 66 P P 09 21 10.1 +2.0
BIDO **Bidbid'** 59.12 289 P P 09 21 12.0 +1.2
SNR=36
LHI **Lord Howe Isla** 59.18 142 P P 09 21 10.2 -0.7
PINNC **Pines Island,** 59.21 128 IAms_20 IAms_20 09 44 54.7
comp=Z,11µm,20.0s
PINNC **Pines Island,** 59.21 128 P P 09 21 13.3 +2.0
SMDO **Samad** 59.22 288 P P 09 21 11.2 -0.4
SNR=14
SMDO P P 09 21 11.2 -0.4
SNR=14
JMDO **Jabal Madar** 59.22 287 P P 09 21 10.7 -0.8
SNR=13
MHTO **MHTO** 59.47 286 P P 09 21 12.3 -0.9
SNR=41
MHTO P P 09 21 12.3 -0.9
SNR=41
AB31 **Akbulak array** 59.69 319 IAmb IAmb 09 21 20.6
comp=Z,160nm,0.9s
AB31 **Akbulak array** 59.69 319 *i*P P 09 21 14.0 -0.3
ABKAR **Akbulak array** 59.69 319 P P 09 21 14.1 -0.2
ABKAR **Akbulak array** 59.69 319 IAmb IAmb 09 21 20.6
comp=Z,160nm,0.9s
ABKAR **Akulak array** 59.69 319 ⇑P P 09 21 13.7 -0.5
HOQ **Hoqain** 59.86 289 P P 09 21 16.5 +0.5
SNR=38
HOQ P P 09 21 16.5 +0.5
SNR=38
DQM **DQM** 59.97 285 P P 09 21 16.2 -0.5
SNR=17
BSY **Bisya** 60.03 288 P P 09 21 17.2 +0.1
SNR=23
SOHO **SOHO** 60.53 289 P P 09 21 20.0 -0.5
SOHO P P 09 21 20.0 -0.5
SOHO **SOHO** 60.53 289 *i*P P 09 21 19.9 -0.5
SNR=32
ARQ **Araqi** 60.60 289 P P 09 21 21.4 +0.4
SNR=24
ARQ P P 09 21 21.4 +0.4
SNR=24
BILL **Bilibino** 60.63 18 P P 09 21 20.1 -0.3
BILL **Bilibino** 60.63 18 P P 09 21 20.5 +0.1
BANOM **Banah** 60.63 292 P P 09 21 22.3 +1.0
BANOM **Banah** 60.63 292 *i*P P 09 21 21.7 +0.5
SNR=24
MDH **Madha** 60.67 291 P P 09 21 22.4 +0.9
MDH **Madha** 60.67 291 *i*P P 09 21 21.1 -0.3
SNR=8.7
SHME **Shamm** 60.77 292 *i*P P 09 21 21.8 -0.3
SNR=20
UOSS **Minazif** 60.78 290 P P 09 21 22.0 -0.1
UOSS **Minazif** 60.78 290 P P 09 21 23.5 +1.3
UOSS **Minazif** 60.78 290 *i*P P 09 21 21.8 -0.3
SNR=20
UOSS **Minazif** 60.78 290 ⇑P P 09 21 22.1 -0.1
MSFE **Esma-Masafi** 60.79 291 *i*P P 09 21 22.5 +0.2
SNR=28
HATD **Hatta, Dubai** 60.85 290 P P 09 21 24.0 +1.3
SNR=29
HATD **Hatta, Dubai** 60.85 290 *i*P P 09 21 22.4 -0.3
SNR=20
ASHO **Ashiyiah** 60.93 290 P P 09 21 24.2 +1.0
SNR=38
ASHO **Ashiyiah** 60.93 290 *i*P P 09 21 22.7 -0.5
SNR=42
AKTO **Aktyubinsk** 61.16 320 P P 09 21 24.3 0.0
comp=Z,127nm,1.0s,baz=97,slow=5.9,SNR=78
AKTO LR LR 09 49 33.3
comp=Z,25µm,18.2s,baz=105,slow=38
comp=Z,127nm,1.0s
UMQ **Umm Al-Quwin** 61.23 291 *i*P P 09 21 27.2 +2.0
SNR=7.9
ALNE **Al Ain** 61.25 289 *i*P P 09 21 25.6 +0.1
SNR=8.4
CORO **Coronation Par** 61.26 157 P P 09 21 26.2 +1.3
NAZ **Nazwa, Dubai** 61.27 291 P P 09 21 27.1 +1.6
SNR=13
NAZ P P 09 21 27.1 +1.6
SNR=13
NAZ **Nazwa, Dubai** 61.27 291 *i*P P 09 21 26.0 +0.5
SNR=16
SVE **Sverdlovsk** 61.28 327*ce*P P 09 21 25.0 0.0
SVE *e*S S 09 29 45.2 +1.4
SVE pmax pmax
comp=Z,647nm,1.5s
SVE MLR MLR
comp=Z,10µm,16.0s
FAQ **Al Faqa, Dubai** 61.35 290 P P 09 21 27.9 +1.9
SNR=9.2
FAQ P P 09 21 27.9 +1.9
SNR=9.2
FAQ **Al Faqa, Dubai** 61.35 290 *i*P P 09 21 26.4 +0.4
SNR=12
KIWB **Kanaga Island** 61.41 39 P P 09 21 26.4 +0.5
ASUD **Al Ashush, Dub** 61.59 290 P P 09 21 28.4 +0.7
SNR=9.8
ASUD **Al Ashush, Dub** 61.59 290 *i*P P 09 21 27.9 +0.2
SNR=11
AJN **Ajban** 61.91 290 *i*P P 09 21 30.8 +1.0
SNR=10.0
MOO **Moorlands** 62.14 158 P P 09 21 31.6 +0.7
comp=Z,63nm,1.5s
ARTI **Arti** 62.35 326 P P 09 21 30.8 -1.4
ARTI IAmb IAmb 09 21 34.1
comp=Z,164nm,1.0s
ARTI IAms_20 IAms_20 09 51 33.0
comp=Z,15µm,19.0s
ARTI **Arti** 62.35 326 LR LR 09 51 54.0
comp=Z,13µm,18.3s,baz=101,slow=39
ARTI **Arti** 62.35 326*d*P P 09 21 31.4 -0.8
ARTI 09 22 11.5
ARTI S S 09 29 56.6 -0.8
ARTI 09 31 15.3
ARTI pmax pmax
comp=Z,219nm,1.1s
ARTI MLR MLR
comp=Z,14µm,18.0s

ARTI **Arti** 62.35 326 ⇑P P 09 21 31.2 -1.0
TAU **Tasmania Unive** 62.59 158 P P 09 21 33.5 -0.4
TAU IAmb IAmb 09 22 04.2
comp=Z,147nm,1.4s
TAU **Tasmania Unive** 62.59 158 IAms_20 IAms_20 09 53 15.9
comp=Z,11µm,19.0s
TAU **Tasmania Unive** 62.59 158 P P 09 21 34.6 +0.7
TAU **Tasmania Unive** 62.59 158 P P 09 21 33.5 -0.4
TAU pmax pmax
comp=Z,147nm,1.4s
TAU MLR MLR
comp=Z,11µm,19.0s
DMTO **DMTO** 62.68 282 P P 09 21 35.8 +0.7
SNR=9.4
DMTO P P 09 21 35.8 +0.7
SNR=9.4
ATKA **Atka Island** 63.27 39 P P 09 21 40.0 +1.6
DOK **Doka** 63.33 284 P P 09 21 39.4 +0.1
SNR=25
RBK **Rabkut** 63.41 282 P P 09 21 41.2 +1.2
SNR=31
RBK P P 09 21 41.2 +1.2
SNR=31
MZR **Muzera** 63.42 288 *i*P P 09 21 39.5 -0.4
SNR=18
WHFO **Wadi Hawf** 63.76 283 P P 09 21 42.3 +0.1
SNR=29
ABTO **Aybut** 64.29 282 P P 09 21 45.8 0.0
SNR=41
ABTO P P 09 21 45.8 0.0
SNR=41
TRNA **Turayna** 65.31 291 P P 09 21 52.9 +0.6
SNR=9.7
MSVF **Nonsavu** 65.37 118 P P 09 21 52.8 0.0
MSVF IAmb IAmb 09 22 02.0
comp=Z,254nm,1.4s
MSVF **Nonsavu** 65.37 118 IAms_20 IAms_20 09 46 22.7
comp=Z,10µm,20.0s
MSVF **Nonsavu** 65.37 118 LR LR 09 46 23.2
comp=Z,11µm,21.9s,baz=309,slow=32
MSVF **Nonsavu** 65.37 118 P P 09 21 54.4 +1.6
MSVF **Nonsavu** 65.37 118 P P 09 21 52.8 0.0
MSVF pmax pmax
comp=Z,254nm,1.4s
MSVF **Nonsavu** 65.37 118 ⇑P P 09 21 55.1 +2.3
SMRA **Abu-Samra** 65.67 291 P P 09 21 55.1 +0.6
SNR=18
DGTI **Dogotuki** 66.22 116 P P 09 21 59.9 +1.7
SPIA **Saint Paul Isl** 66.38 34 P P 09 21 58.5 -0.1
baz=261
NIKH **Nikolski High** 66.60 38 P P 09 22 01.0 +0.9
NIKH **Nikolski High** 66.60 38 P P 09 21 60.0 -0.1
baz=264,SNR=5.4
P08K **Saint George I** 66.67 34 P P 09 22 00.7 +0.3
baz=262
GAMB **Gambell** 66.97 27 P P 09 22 02.7 +0.5
baz=257,SNR=12
GAMB S S 09 30 55.9 +1.8
baz=257
MSEY **Mahe Island** 67.26 258 P P 09 22 05.3 +0.3
MSEY IAmb IAmb 09 22 08.3
comp=Z,202nm,1.1s
MSEY **Mahe Island** 67.26 258 P P 09 22 06.7 +1.7
MSEY **Mahe Island** 67.26 258 P P 09 22 05.3 +0.3
MSEY pmax pmax
comp=Z,202nm,1.1s
MSEY MLR MLR
comp=Z,5µm,20.0s
MSEY **Mahe Island** 67.26 258 *i*P P 09 22 05.3 +0.3
SNR=14
MSEY **Mahe Island** 67.26 258 ⇑P P 09 22 05.6 +0.6
FUTU **Fugatoga** 67.31 113 IAms_20 IAms_20 09 46 29.7
comp=Z,15µm,22.0s
FUTU **Fugatoga** 67.31 113 P P 09 22 07.4 +2.3
KIRV **Kirov** 67.54 328 P P 09 22 05.5 -0.4
comp=Z,162nm,0.9s,baz=99,slow=4.0,SNR=55
KIRV LR LR 09 54 05.1
comp=Z,17µm,19.6s,baz=97,slow=38
comp=Z,162nm,0.9s
MAK **Makhachkala** 67.58 311 *e*P P 09 22 05.4 -1.1
MAK *e* 09 24 33.5
MAK *e*PPP PPP 09 26 10.2
MAK *e*S S 09 31 00.6 -1.6
MAK *e*SS SS 09 35 24.8 +2.0
MAK pmax pmax
comp=Z,296nm,1.3s
MAK MLR MLR
comp=Z,14µm,16.0s
BELG **Belogornoye** 67.87 321 P P 09 22 07.7 -0.4
comp=Z,339nm,1.2s,baz=327,slow=1.0,SNR=57
BELG LR LR 09 51 13.3
comp=Z,10µm,20.2s,baz=87,slow=35
comp=Z,339nm,1.2s
KBD **Kabd** 68.02 296 P P 09 22 10.3 +0.8
M11K **Mekoryuk** 68.92 31 P P 09 22 14.8 +0.3
baz=263
M11K S S 09 31 20.0 +2.5
baz=263
TNA **Tin City** 68.94 25 IAms_20 IAms_20 09 53 59.3
comp=Z,8µm,19.0s
TNA **Tin City** 68.94 25 P P 09 22 15.0 +0.5
baz=259,SNR=11
TNA S S 09 31 20.5 +3.0
baz=259
TNA **Tin City** 68.94 25 ⇑P P 09 22 15.3 +0.8
F14K **Arctic Creek** 69.58 25 P P 09 22 19.5 +1.0
baz=261,SNR=37
F14K S S 09 31 27.3 +2.2
baz=261
GNI **Garni** 69.71 308 P P 09 22 20.6 +0.5
GNI **Garni** 69.71 308 P P 09 22 21.4 +1.3
comp=Z,137nm,1.2s,baz=177,slow=4.7,SNR=15
GNI LR LR 09 57 56.0
comp=Z,4µm,18.9s,baz=74,slow=40
comp=Z,137nm,1.2s
GNI **Garni** 69.71 308 P P 09 22 21.5 +1.5
GNI P P 09 22 21.5 +1.5
GNI **Garni** 69.71 308*ce*P P 09 22 22.3 +2.2
GNI pmax pmax
comp=Z,433nm,1.7s
GNI MLR MLR
comp=Z,5µm,21.0s
GNI **Garni** 69.71 308 P P 09 22 21.3 +1.2
GNI **Garni** 69.71 308 ⇑P P 09 22 21.6 +1.5
K13K **Kusilvak Mount** 69.84 29 IAmb IAmb 09 22 39.5
comp=Z,340nm,1.9s
K13K IAms_20 IAms_20 09 55 03.1
comp=Z,6µm,19.0s
K13K **Kusilvak Mount** 69.84 29 P P 09 22 20.5 +0.2
baz=264,SNR=6.6
K13K S S 09 31 31.4 +3.0
baz=264
ANM **Nome** 69.84 26 P P 09 22 20.3 +0.1
baz=262,SNR=16
ANM S S 09 31 32.7 +4.3
baz=262
FALS **False Pass** 69.95 37 IAms_20 IAms_20 09 55 02.2
comp=Z,7µm,20.0s
FALS **False Pass** 69.95 37 P P 09 22 21.3 +0.3
baz=268
F15K **North Star Dit** 70.30 25 IAmb IAmb 09 22 42.4
comp=Z,273nm,1.6s
F15K IAms_20 IAms_20 09 56 47.1
comp=Z,7µm,18.0s
F15K **North Star Dit** 70.30 25 P P 09 22 23.1 +0.1
baz=262,SNR=28
F15K S S 09 31 35.5 +1.8
baz=262
M13K **Dall Lake** 70.33 31 P P 09 22 23.5 +0.3
baz=266
M13K S S 09 31 38.5 +4.4
baz=266
C16K **Lisburne Hills** 70.41 22 IAmb IAmb 09 22 42.8
comp=Z,269nm,1.5s
C16K IAms_20 IAms_20 09 56 24.7
comp=Z,8µm,19.0s
C16K **Lisburne Hills** 70.41 22 P P 09 22 23.9 +0.4
baz=261,SNR=24
C16K S S 09 31 38.2 +3.4
baz=261
J14K **Nanvaranak Lak** 70.44 28 IAmb IAmb 09 22 43.1
comp=Z,238nm,1.6s
J14K **Nanvaranak Lak** 70.44 28 P P 09 22 23.9 0.0
baz=264
J14K S S 09 31 38.8 +3.5
baz=264
G15K **Niukluk** 70.47 26 P P 09 22 24.3 +0.3

baz=263,SNR=20
G15K S **S** **09 31 38.9 +3.3**
baz=263
RAYN Ar Rayn 70.64 290 P **P** **09 22 26.5 +0.6**
RAYN Ar Rayn 70.64 290 P **P** **09 22 26.5 +0.6**
RAYN Ar Rayn 70.64 290 *i* P **P** **09 22 25.7 -0.2**
SNR=24
RAYN Ar Rayn 70.64 290 ⇑P **P** **09 22 25.3 -0.6**
L14K Kuka Creek 70.73 30 P **P** **09 22 26.0 +0.4**
baz=266,SNR=19
L14K S **S** **09 31 40.1 +1.4**
baz=266
S12K Black Hills 70.76 36 P **P** **09 22 25.5 -0.5**
baz=268
GOF Gofitskoye 70.77 313 *c i* P **P** **09 22 27.6 +1.4**
OUZ Omahuta 70.83 136 IAMs_20 IAMs_20 09 53 27.1
comp=Z,8μm,21.0s
OUZ Omahuta 70.83 136 P **P** **09 22 28.5 +1.9**
KBZ Khabaz 70.92 311 P **P** **09 22 27.4 +0.2**
comp=Z,105nm,1.1s,baz=86,slow=4.4,SNR=77
KBZ LR LR 09 58 51.9
comp=Z,9μm,18.0s,baz=66,slow=40
comp=Z,105nm,1.1s
M14K Bethel 71.04 30 IAmb IAmb 09 22 46.7
comp=Z,129nm,1.2s
M14K Bethel 71.04 30 P **P** **09 22 27.5 0.0**
baz=267,SNR=5.8
M14K S **S** **09 31 44.5 +2.1**
baz=267
KIV Kislovodsk 71.07 312 P **P** **09 22 27.6 -0.7**
KIV IAMs_20 IAMs_20 09 54 21.8
comp=Z,10μm,21.0s
KIV Kislovodsk 71.07 312 P **P** **09 22 29.3 +1.1**
KIV Kislovodsk 71.07 312 ⇑P **P** **09 22 28.8 +0.6**
KIV Kislovodsk 71.07 312 *e*P **P** **09 22 27.8 -0.4**
KIV *e*S **S** **09 31 41.6 -2.0**
KIV *e*SS **SS** **09 36 14.9 -1.9**
KIV pmax pmax
comp=Z,248nm,1.0s
KIV pmax pmax
comp=Z,56nm,4.0s
KIV Kislovodsk 71.07 312 *i* P **P** **09 22 28.1 -0.1**
SNR=52
KIV Kislovodsk 71.07 312 ⇑P **P** **09 22 28.4 +0.2**
SHA1 Shidzhatmaz 71.10 312 *i* P **P** **09 22 28.7 +0.1**
N14K Kuskokwak Cree 71.13 31 IAmb IAmb 09 22 45.9
comp=Z,122nm,1.0s
N14K Kuskokwak Cree 71.13 31 P **P** **09 22 28.1 0.0**
baz=267
N14K S **S** **09 31 45.4 +2.0**
baz=267
D17K Noatak River 71.17 23 P **P** **09 22 29.0 +0.8**
baz=263,SNR=104
D17K S **S** **09 31 46.5 +2.8**
baz=263
H16K Elim 71.19 26 P **P** **09 22 28.7 +0.2**
baz=265,SNR=11
H16K S **S** **09 31 46.2 +2.1**
baz=265
G16K Koyuk River 71.21 26 IAMs_20 IAMs_20 09 55 11.4
comp=Z,10μm,20.0s
G16K Koyuk River 71.21 26 P **P** **09 22 28.7 +0.1**
baz=265,SNR=31
G16K S **S** **09 31 45.1 +0.8**
baz=265
RDOG Red Dog Mine 71.28 23 IAmb IAmb 09 23 05.2
comp=Z,163nm,1.6s
RDOG IAMs_20 IAMs_20 09 53 09.8
comp=Z,10μm,21.0s
RDOG Red Dog Mine 71.28 23 P **P** **09 22 29.0 +0.1**
baz=263,SNR=15
RDOG S **S** **09 31 47.1 +2.1**
baz=263
O14K Tigyukauivet M 71.31 32 IAmb IAmb 09 22 31.7
comp=Z,139nm,1.4s
O14K Tigyukauivet M 71.31 32 P **P** **09 22 28.7 -0.6**
baz=268
O14K S **S** **09 31 47.4 +1.7**
baz=268
L15K Ungalak Mounta 71.32 30 P **P** **09 22 29.3 0.0**
baz=267
L15K S **S** **09 31 47.4 +1.8**
baz=267
K15K Wolf Creek Mou 71.34 29 IAmb IAmb 09 22 48.9
comp=Z,220nm,1.8s
K15K Wolf Creek Mou 71.34 29 P **P** **09 22 29.9 +0.6**
baz=266,SNR=7.7
K15K S **S** **09 31 48.3 +2.5**
baz=266
VRH Novokhopyorsk 71.50 319 *e*P **P** **09 22 29.5 -1.0**
VRH pmax pmax
comp=Z,230nm,0.9s
VRH pmax pmax
comp=Z,600nm,1.8s
VRH MLR MLR
comp=Z,8μm,18.0s
E17K Hotham Inlet 71.59 24 P **P** **09 22 31.2 +0.5**
baz=265,SNR=49
E17K S **S** **09 31 49.8 +1.3**
baz=265
SDPT Sand Point 71.66 36 P **P** **09 22 31.0 -0.4**
baz=270
M15K Kasigluk River 71.66 31 P **P** **09 22 31.3 0.0**
baz=268,SNR=7.8
M15K S **S** **09 31 50.3 +0.7**
baz=268
F17K Baldwin Pennin 71.76 24 IAmb IAmb 09 22 38.2
comp=Z,113nm,1.1s
F17K IAMs_20 IAMs_20 09 57 22.5
comp=Z,6μm,18.0s
F17K Baldwin Pennin 71.76 24 P **P** **09 22 31.9 +0.1**
baz=265,SNR=34
F17K S **S** **09 31 53.3 +2.8**
baz=265
I17K Unalakleet 71.81 27 IAmb IAmb 09 22 50.8
comp=Z,192nm,1.4s
I17K IAMs_20 IAMs_20 09 53 33.1
comp=Z,7μm,22.0s
I17K Unalakleet 71.81 27 P **P** **09 22 32.8 +0.6**
baz=267,SNR=6.4
I17K S **S** **09 31 52.0 +0.8**
baz=267
J16K Anvik River 71.82 28 IAmb IAmb 09 22 51.9
comp=Z,193nm,1.6s
J16K Anvik River 71.82 28 P **P** **09 22 32.4 +0.1**
baz=267
J16K S **S** **09 31 54.5 +3.1**
baz=267
B18K Kokolik River 71.83 21 P **P** **09 22 32.9 +0.7**
baz=264
B18K S **S** **09 31 52.5 +1.2**
baz=264
GURO Guroymak-BITLI 71.91 306 IAmb IAmb 09 22 40.8
comp=Z,197nm,1.0s
GURO Guroymak-BITLI 71.91 306 ⇑P **P** **09 22 34.2 +0.8**
G17K Kiwalik Mounta 71.93 25 P **P** **09 22 33.3 +0.5**
baz=266,SNR=59
G17K S **S** **09 31 53.1 +0.5**
baz=266
N15K Kwethluk River 71.94 31 P **P** **09 22 33.3 +0.2**
baz=268,SNR=14
N15K S **S** **09 31 54.4 +1.5**
baz=268
C18K Utukok River 71.97 22 IAmb IAmb 09 22 38.4
comp=Z,290nm,1.8s
C18K IAMs_20 IAMs_20 09 56 53.2
comp=Z,8μm,18.0s
C18K Utukok River 71.97 22 P **P** **09 22 33.2 0.0**
baz=265,SNR=40
C18K S **S** **09 31 54.6 +1.5**
baz=265
O15K Ungalikthiuk R 72.05 32 IAmb IAmb 09 22 38.7
comp=Z,191nm,1.6s
O15K Ungalikthiuk R 72.05 32 P **P** **09 22 33.8 +0.1**
baz=269
O15K S **S** **09 31 55.9 +1.7**
baz=269
E18K Tukpahlearik C 72.09 23 IAmb IAmb 09 22 53.3
comp=Z,221nm,1.6s
E18K Tukpahlearik C 72.09 23 P **P** **09 22 34.3 +0.5**
baz=266,SNR=30
E18K S **S** **09 31 57.3 +3.0**
baz=266
A19K Wainwright 72.17 21 P **P** **09 22 34.9 +0.7**
baz=264,SNR=58
A19K S **S** **09 31 57.4 +2.3**
baz=264
CHNA Chernabura Isl 72.17 37 P **P** **09 22 34.5 0.0**
baz=271
CHNA S **S** **09 31 58.2 +2.7**
baz=271
S14K Fog Glacier 72.18 35 P **P** **09 22 34.4 -0.2**
baz=270
H17K Granite Mounta 72.21 26 IAmb IAmb 09 22 54.1
comp=Z,382nm,1.8s
H17K IAMs_20 IAMs_20 09 56 22.5
comp=Z,9μm,18.0s
H17K Granite Mounta 72.21 26 P **P** **09 22 35.0 +0.5**
baz=267,SNR=25
H17K S **S** **09 31 56.0 +0.2**
baz=267
L16K Owhat River 72.28 30 IAmb IAmb 09 22 40.4
comp=Z,260nm,1.8s
L16K Owhat River 72.28 30 P **P** **09 22 35.4 +0.3**
baz=268,SNR=14
L16K S **S** **09 31 57.7 +1.0**
baz=268
F18K Selawik 72.41 24 P **P** **09 22 36.1 +0.5**
baz=267,SNR=83
F18K S **S** **09 32 00.1 +2.1**
baz=267
LABN Labinsk 72.44 313 *e*P **P** **09 22 36.7 +0.4**
LABN *e**PP **sP** **09 22 45.5 -0.7**
LABN *e*S **S** **09 32 01.7 +2.6**
LABN pmax pmax
comp=Z,71nm,0.9s
LABN MLR MLR
comp=Z,19μm,18.0s
J17K VABM Dome 72.51 28 IAmb IAmb 09 22 56.8
comp=Z,201nm,1.2s
J17K VABM Dome 72.51 28 P **P** **09 22 37.0 +0.6**
baz=268,SNR=31
J17K S **S** **09 32 01.9 +2.6**
baz=268
M16K Timber Creek 72.52 30 IAmb IAmb 09 22 41.8
comp=Z,148nm,1.4s
M16K Timber Creek 72.52 30 P **P** **09 22 36.8 +0.3**
baz=269,SNR=8.7
M16K S **S** **09 32 01.9 +2.5**
baz=269
ERBR Yeremizino-Bor 72.54 314 *e*P **P** **09 22 35.6 -1.3**
ERBR *e**PP **sP** **09 22 47.2 +0.4**
ERBR *e*S **S** **09 31 58.1 -2.1**
ERBR *e*SS **SS** **09 36 33.9 -5.1**
ERBR pmax pmax
comp=Z,218nm,1.2s
ERBR MLR MLR
comp=Z,15μm,16.0s
N16K Nishlik Lake 72.60 31 P **P** **09 22 37.5 +0.4**
baz=270,SNR=9.2
N16K S **S** **09 32 03.7 +3.2**
baz=270
KLMR Klimovskoe 72.71 330 *e*P **P** **09 22 33.4 -4.2**
KLMR *e* 09 22 52.9
KLMR *e* 09 25 17.7
KLMR *e*PPP PPP 09 27 06.5
KLMR S S 09 31 51.3 -10
KLMR 09 32 30.2
KLMR pmax pmax
comp=Z,242nm,1.3s
KLMR MLR MLR
comp=Z,11μm,15.0s
G18K Tagagawik 72.78 25 P **P** **09 22 37.9 0.0**
baz=268,SNR=48
G18K S **S** **09 32 03.9 +1.6**
baz=268
L17K Donlin 72.85 29 P **P** **09 22 38.8 +0.4**
baz=269,SNR=24
L17K S **S** **09 32 05.5 +2.4**
baz=269
K17K Iditarod 72.85 28 IAmb IAmb 09 22 44.1
comp=Z,258nm,1.4s
K17K Iditarod 72.85 28 P **P** **09 22 38.9 +0.5**
baz=269,SNR=29
K17K S **S** **09 32 05.6 +2.4**
baz=269
AFI Afiamalu 72.88 110 IAMs_20 IAMs_20 09 51 11.1
comp=Z,7μm,21.0s
AFI Afiamalu 72.88 110 P **P** **09 22 41.0 +1.6**
H18K Honhosa River 72.88 26 IAmb IAmb 09 22 57.6
comp=Z,207nm,1.6s
H18K IAMs_20 IAMs_20 09 56 24.1
comp=Z,8μm,20.0s
H18K Honhosa River 72.88 26 P **P** **09 22 38.8 +0.2**
baz=268,SNR=25
H18K S **SKiKP** **09 32 07.3 -3.3**
baz=268
O16K Kokwok River B 72.94 32 IAmb IAmb 09 22 44.1
comp=Z,171nm,1.4s
O16K Kokwok River B 72.94 32 P **P** **09 22 39.3 +0.4**
baz=270,SNR=13
O16K S **S** **09 32 05.3 +1.0**
baz=270
P16K Nushagak River 73.00 32 P **P** **09 22 39.4 +0.1**
baz=271
VORD Divnogorie 73.04 319 *e*P **P** **09 22 38.9 -0.8**
VORD pmax pmax
comp=Z,140nm,1.1s
VORR Voronezh 73.06 320 *e*P **P** **09 22 39.2 -0.6**
VORR pmax pmax
comp=Z,360nm,1.1s
D19K Kuna River 73.09 22 IAmb IAmb 09 22 45.9
comp=Z,216nm,1.1s
D19K IAMs_20 IAMs_20 09 55 25.7
comp=Z,8μm,21.0s
D19K Kuna River 73.09 22 P **P** **09 22 40.1 +0.3**
baz=268,SNR=121
D19K S **S** **09 32 06.6 +0.7**
baz=268
VSR Storozhevoye 73.11 319 *e*P **P** **09 22 39.7 -0.4**
VSR pmax pmax
comp=Z,180nm,1.0s
VSR pmax pmax
comp=Z,370nm,1.4s
VSR MLR MLR
comp=Z,9μm,17.0s
F19K Shaleruckik Mo 73.16 24 IAmb IAmb 09 22 59.1
comp=Z,264nm,1.7s
F19K Shaleruckik Mo 73.16 24 P **P** **09 22 40.1 -0.1**
baz=268,SNR=59
F19K S **S** **09 32 07.8 +1.2**
baz=268
LPSR Galich'ya Gora 73.19 321 *e*P **P** **09 22 40.0 -0.6**
LPSR pmax pmax
comp=Z,260nm,1.0s
LPSR pmax pmax
comp=Z,460nm,1.4s
SOC Sochi 73.24 311 *e*P **P** **09 22 39.1 -2.0**
SOC *e* 09 25 20.8
SOC *e*PPP PPP 09 27 04.6
SOC *e*S **S** **09 32 04.7 -3.6**
SOC *e*SSS SSS 09 40 00.7
SOC pmax pmax
comp=Z,109nm,1.0s
R16K Pilot Point 73.24 34 P **P** **09 22 41.2 +0.4**
baz=271
M17K Holitna River 73.25 30 IAmb IAmb 09 23 00.5
comp=Z,292nm,1.7s
M17K Holitna River 73.25 30 P **P** **09 22 41.6 +0.8**
baz=270,SNR=10
M17K S **SKiKP** **09 32 10.8 -0.5**
baz=270
MSZ Milford Sound 73.30 147 P **P** **09 22 41.7 +0.4**
JCZ Jackson Bay 73.36 146 P **P** **09 22 42.1 +0.3**
JCZ Jackson Bay 73.36 146 P **P** **09 22 41.7 -0.1**
N17K Nushagak Hills 73.39 31 IAmb IAmb 09 23 01.2
comp=Z,307nm,1.7s
N17K Nushagak Hills 73.39 31 P **P** **09 22 42.3 +0.6**
baz=271,SNR=16
N17K S **SKiKP** **09 32 11.6 +0.1**
baz=271
E19K Redstone River 73.39 23 IAmb IAmb 09 22 49.4
comp=Z,118nm,1.1s
E19K IAMs_20 IAMs_20 09 58 00.7
comp=Z,6μm,20.0s
E19K Redstone River 73.39 23 P **P** **09 22 41.8 +0.3**
baz=269,SNR=100
E19K S **S** **09 32 10.4 +1.2**
baz=269
G19K Purcell Mounta 73.42 25 IAMs_20 IAMs_20 09 58 34.6
comp=Z,6μm,19.0s
G19K Purcell Mounta 73.42 25 P **P** **09 22 42.0 +0.2**
baz=269,SNR=32
G19K S **SKiKP** **09 32 11.4 -0.1**
baz=269
O17K Koliganek Bris 73.44 32 P **P** **09 22 42.3 +0.3**
baz=271,SNR=11
O17K S **SKiKP** **09 32 11.1 -0.5**
baz=271
QRZ Quartz Range 73.46 141 P **P** **09 22 42.3 0.0**
QRZ IAmb IAmb 09 22 51.1
comp=Z,185nm,1.2s
QRZ IAMs_20 IAMs_20 09 53 34.5
comp=Z,9μm,20.0s
QRZ Quartz Range 73.46 141 P **P** **09 22 42.5 +0.2**
B20K Meade River 73.49 21 IAmb IAmb 09 22 47.3
comp=Z,264nm,1.4s
B20K Meade River 73.49 21 P **P** **09 22 42.5 +0.5**
baz=268
B20K S **S** **09 32 10.1 0.0**
baz=268
GCSA Galena City Sc 73.50 26 P **P** **09 22 42.6 +0.4**
baz=270,SNR=43
GCSA S **SKiKP** **09 32 12.7 +1.1**
baz=270
TOZ Tahuroa Road 73.52 137 IAMs_20 IAMs_20 09 56 37.2
comp=Z,6μm,19.0s
TOZ Tahuroa Road 73.52 137 P **P** **09 22 44.1 +1.4**
HIZ Hauiti 73.55 138 IAmb IAmb 09 22 53.6
comp=Z,261nm,1.1s
HIZ Hauiti 73.55 138 P **P** **09 22 44.8 +1.9**
J18K Innoko River 73.58 28 P **P** **09 22 42.7 0.0**
baz=270,SNR=28
J18K S **SKiKP** **09 32 14.8 +3.0**
baz=270
FOZ Fox Glacier 73.58 145 IAMs_20 IAMs_20 09 53 56.6
comp=Z,8μm,21.0s
FOZ Fox Glacier 73.58 145 P **P** **09 22 42.3 -0.6**
DSZ Denniston Nort 73.59 142 IAMs_20 IAMs_20 09 55 27.9
comp=Z,6μm,19.0s
DSZ Denniston Nort 73.59 142 P **P** **09 22 42.5 -0.6**
L18K Granite Mounta 73.60 29 P **P** **09 22 43.0 +0.2**
baz=271,SNR=21
L18K S **SKiKP** **09 32 14.9 +3.1**
baz=271
D20K Etivluk River 73.65 22 IAmb IAmb 09 22 46.5
comp=Z,250nm,1.2s
D20K IAMs_20 IAMs_20 09 58 19.4
comp=Z,8μm,21.0s
D20K Etivluk River 73.65 22 P **P** **09 22 43.4 +0.3**
baz=269,SNR=130
D20K S **S** **09 32 13.9 +1.8**
baz=269
PYZ Puysegur Point 73.67 148 IAMs_20 IAMs_20 09 53 51.9
comp=Z,8μm,20.0s
H19K Roundabout Mou 73.68 26 IAmb IAmb 09 22 51.5
comp=Z,140nm,1.0s
H19K IAMs_20 IAMs_20 09 56 38.5
comp=Z,7μm,19.0s
H19K Roundabout Mou 73.68 26 P **P** **09 22 43.8 +0.6**
baz=270,SNR=62
H19K S **S** **09 32 15.8 +3.3**
baz=270
Q16K King Salmon 73.70 33 P **P** **09 22 42.9 -0.5**
baz=272
A21K Barrow 73.71 19 P **P** **09 22 43.4 +0.1**
baz=268,SNR=14
A21K S **S** **09 32 13.1 +0.4**
baz=268
P17K Kvichak River 73.80 32 P **P** **09 22 44.2 +0.2**
baz=272,SNR=32
E20K Nigu River 73.80 23 P **P** **09 22 44.4 +0.4**
baz=270,SNR=74
E20K S **S** **09 32 16.0 +2.1**
baz=270
WVZ Waitaha Valley 73.80 144 P **P** **09 22 42.6 -1.6**
MOS Moscow 73.81 324 *e*P **P** **09 22 42.0 -2.2**
MOS *e*S **SKiKP** **09 32 08.9 -3.4**
MOS *e* 09 32 48.2
MOS pmax pmax
comp=Z,332nm,1.7s
MOS pmax pmax
comp=Z,800nm,2.0s
MOS smax smax
comp=N,2μm,5.8s
MOS MLR MLR
comp=E,10μm,19.0s
MOS MLR MLR
comp=Z,9μm,19.0s
VRZ Vera Road 73.84 139 P **P** **09 22 45.4 +0.8**
MLZ Mavora Lakes 73.87 147 IAMs_20 IAMs_20 09 53 44.1
comp=Z,8μm,22.0s
MLZ Mavora Lakes 73.87 147 P **P** **09 22 44.0 -0.6**
TLZ Tolley Road 73.89 138 P **P** **09 22 47.5 +2.6**
TTA Tatalina 73.90 28 P **P** **09 22 44.6 -0.1**
baz=271,SNR=22
TTA S **S** **09 32 17.9 +2.6**
baz=271
F20K Avaraart Lake 73.97 24 P **P** **09 22 45.4 +0.5**
baz=270
F20K S **S** **09 32 17.1 +1.4**
baz=270
WKZ Wanaka 73.98 146 IAMs_20 IAMs_20 10 00 31.3
comp=Z,6μm,19.0s
INZ Inchbonnie 73.99 143 IAMs_20 IAMs_20 09 54 05.4
comp=Z,8μm,20.0s
INZ Inchbonnie 73.99 143 P **P** **09 22 45.8 +0.4**
N18K Kilae Creek 74.02 31 IAMs_20 IAMs_20 09 57 52.6
comp=Z,6μm,20.0s
N18K Kilae Creek 74.02 31 P **P** **09 22 45.9 +0.5**
baz=272,SNR=9.0
N18K S **S** **09 32 19.0 +2.4**
baz=272
M18K Stony River 74.03 30 P **P** **09 22 45.7 +0.4**
baz=272,SNR=25
M18K S **S** **09 32 19.4 +2.9**
baz=272
J19K Poorman 74.06 27 IAmb IAmb 09 23 04.9
comp=Z,188nm,1.6s
J19K IAMs_20 IAMs_20 09 56 26.3
comp=Z,8μm,20.0s
J19K Poorman 74.06 27 P **P** **09 22 45.8 +0.3**
baz=271,SNR=22
J19K S **S** **09 32 20.0 +3.2**
baz=271
Q17K Contact Creek 74.12 33 P **P** **09 22 46.3 +0.2**
baz=273,SNR=9.6
Q17K S **SKiKP** **09 32 15.5 +2.6**
baz=273
WHZ Wether Hill Ro 74.13 148 P **P** **09 22 44.7 -1.4**
WHZ IAMs_20 IAMs_20 09 53 41.1
comp=Z,6μm,20.0s
WHZ Wether Hill Ro 74.13 148 P **P** **09 22 45.1 -1.0**
NNZ Nelson 74.21 141 IAMs_20 IAMs_20 09 57 15.3
comp=Z,7μm,20.0s
NNZ Nelson 74.21 141 P **P** **09 22 44.5 -2.1**
A22K Sinclair Lake 74.24 20 P **P** **09 22 46.9 +0.5**
baz=270
A22K S **S** **09 32 19.0 +0.4**
baz=270
TWVZ Taurewa 74.24 139 P **P** **09 22 48.0 +1.0**
THZ Tophouse 74.25 142 IAMs_20 IAMs_20 09 54 42.5
comp=Z,7μm,20.0s
THZ Tophouse 74.25 142 P **P** **09 22 45.7 -1.3**
OMRZ Omania 74.30 137 P **P** **09 22 48.9 +1.6**
C21K Knifeblade Rid 74.31 22 P **P** **09 22 47.4 +0.4**
baz=270,SNR=58
C21K S **S** **09 32 21.5 +2.0**
baz=270
LBZ Lake Benmore 74.33 145 IAmb IAmb 09 22 51.9
comp=Z,245nm,1.4s
LBZ IAMs_20 IAMs_20 09 55 07.5
comp=Z,12μm,21.0s
LBZ Lake Benmore 74.33 145 P **P** **09 22 47.1 -0.2**
H20K Anotleneega Mo 74.34 26 P **P** **09 22 47.7 +0.6**
baz=272,SNR=61
H20K S **S** **09 32 20.0 +0.1**
baz=272
WAZ Wanganui 74.34 139 P **P** **09 22 48.8 +1.3**
KATZ Kakaramea 74.35 138 P **P** **09 22 49.7 +1.9**
WTVZ West Tongariro 74.36 138 P **P** **09 22 48.6 +0.9**
B21K Ikpikpuk River 74.37 21 IAmb IAmb 09 22 53.5
comp=Z,235nm,1.4s
B21K Ikpikpuk River 74.37 21 P **P** **09 22 47.7 +0.5**
baz=271
B21K S **S** **09 32 21.4 +1.3**
baz=271
RPZ Rata Peaks 74.39 144 IAMs_20 IAMs_20 09 56 52.0
comp=Z,7μm,20.0s
RPZ Rata Peaks 74.39 144 LR LR 09 57 14.3
comp=Z,6μm,20.0s,baz=306,slow=37
RPZ Rata Peaks 74.39 144 P **P** **09 22 47.1 -0.6**

NNVZ	North Ngauruho	74.39	138	P	P	09 22 49.2	+1.2
O18K	Koktuh Hills	74.39	31	P	P	09 22 47.4	-0.2
	baz=273,SNR=24						
O18K				S	S	09 32 22.8	+2.0
	baz=273						
CHIR	Chirikof Islan	74.40	36	P	P	09 22 47.3	-0.3
	baz=274						
NGZ	Ngauruhoe	74.40	139	P	P	09 22 49.1	+1.0
EAZ	Earnscleugh	74.41	146	P	P	09 22 48.1	+0.4
P18K	Big Mountain,	74.41	32	P	P	09 22 47.5	-0.2
	baz=273,SNR=8.8						
P18K				S	S	09 32 22.5	+1.5
	baz=273						
FWVZ	Far West T-bar	74.42	139	P	P	09 22 48.9	+0.6
SNVZ	South Ngauruho	74.44	139	P	P	09 22 49.6	+1.3
TMVZ	Te Maari	74.44	138	P	P	09 22 49.5	+1.3
OTVZ	Oturere	74.44	139	P	P	09 22 49.6	+1.4
TRVZ	Turoa	74.44	139	P	P	09 22 49.4	+1.1
OBN	Obninsk	74.44	324	P	P	09 22 47.5	-0.4
OBN				IAMs_20	IAMs_20	09 57 20.3	
	comp=Z,11μm,19.0s						
OBN	Obninsk	74.44	324	P	P	09 22 47.5	-0.4
	comp=Z,33nm,0.5s,baz=21,slow=4.9,SNR=32						
OBN				LR	LR	09 57 32.5	
	comp=Z,10μm,19.3s,baz=26,slow=37						
	comp=Z,33nm,0.5s						
OBN	Obninsk	74.44	324 *c*	*i*P	P	09 22 47.8	-0.1
OBN				*e**PP	sP	09 22 56.4	-1.3
OBN				*e**SP	PcP	09 23 02.8	+0.4
OBN				*e*		09 25 36.4	
OBN				*i* S	S	09 32 18.2	-3.2
OBN				*i* PS	PnS	09 33 04.2	+7.5
OBN				pmax	pmax		
	comp=Z,333nm,1.6s						
OBN				MLR	MLR		
	comp=Z,10μm,18.0s						
ETVZ	East Tongariro	74.45	138	P	P	09 22 49.0	+0.7
L19K	White Mountain	74.46	29	IAmb	IAmb	09 23 07.4	
	comp=Z,436nm,1.8s						
L19K	White Mountain	74.46	29	P	P	09 22 48.4	+0.5
	baz=272,SNR=28						
L19K				S	S	09 32 24.0	+2.5
	baz=272						
WNVZ	Wahianoa	74.49	139	P	P	09 22 49.4	+0.9
LTZ	Lake Taylor	74.50	143	P	P	09 22 48.3	-0.1
I20K	Naaghedeneel	74.53	26	IAmb	IAmb	09 22 57.2	
	comp=Z,232nm,1.0s						
I20K				IAMs_20	IAMs_20	09 57 27.8	
	comp=Z,7μm,19.0s						
I20K	Naaghedeneel	74.53	26	P	P	09 22 49.0	+0.8
	baz=272,SNR=16						
I20K				S	S	09 32 24.0	+2.0
	baz=272						
Q18K	Katmai Hardscr	74.56	33	P	P	09 22 48.8	+0.1
	baz=273,SNR=7.6						
E21K	Killik River	74.62	22	IAmb	IAmb	09 22 52.0	
	comp=Z,230nm,1.5s						
E21K				IAMs_20	IAMs_20	09 56 01.6	
	comp=Z,10μm,21.0s						
E21K	Killik River	74.62	22	P	P	09 22 48.8	+0.1
	baz=272						
E21K				S	S	09 32 22.9	-0.2
	baz=272						
MOVZ	Moawhango	74.63	139	P	P	09 22 49.6	+0.3
M19K	Big River Lodg	74.69	29	IAmb	IAmb	09 23 03.2	
	comp=Z,377nm,1.9s						
M19K	Big River Lodg	74.69	29	P	P	09 22 50.0	+0.7
	baz=273						
M19K				S	S	09 32 25.8	+1.7
	baz=273						
J20K	Nowinta River	74.70	27	IAmb	IAmb	09 22 55.7	
	comp=Z,214nm,1.4s						
J20K				IAMs_20	IAMs_20	09 56 16.3	
	comp=Z,8μm,20.0s						
J20K	Nowinta River	74.70	27	P	P	09 22 50.0	+0.7
	baz=272,SNR=51						
J20K				S	S	09 32 27.4	+3.5
	baz=272						
OXZ	Oxford	74.70	144	IAMs_20	IAMs_20	09 55 47.3	
	comp=Z,7μm,20.0s						
OXZ	Oxford	74.70	144	P	P	09 22 48.6	-0.9
N19K	Bonanza Creek	74.70	30	IAmb	IAmb	09 22 53.2	
	comp=Z,158nm,1.2s						
N19K	Bonanza Creek	74.70	30	P	P	09 22 49.9	+0.4
	baz=273,SNR=19						
N19K				S	S	09 32 25.0	+0.6
	baz=273						
ANN	Anapa	74.76	313 *d*	*i*P	P	09 22 49.1	-0.8
ANN				*i* *PP	sP	09 23 00.6	+0.9
ANN				*e*		09 25 37.2	
ANN				*e*PPP	PPP	09 27 22.8	
ANN				*e*S	S	09 32 24.3	-1.0
ANN				*e*SS	SS	09 37 13.4	+0.5
ANN				pmax	pmax		
	comp=Z,349nm,1.6s						
ANN				MLR	MLR		
	comp=Z,9μm,17.0s						
B22K	Teshekpuk Lake	74.77	20	IAmb	IAmb	09 22 52.8	
	comp=Z,396nm,1.8s						
B22K	Teshekpuk Lake	74.77	20	P	P	09 22 49.6	+0.2
	baz=272,SNR=66						
B22K				S	S	09 32 25.8	+1.3
	baz=272						
K20K	Telida	74.77	28	IAMs_20	IAMs_20	09 57 12.2	
	comp=Z,6μm,20.0s						
K20K	Telida	74.77	28	P	P	09 22 50.4	+0.7
	baz=273,SNR=35						
K20K				S	S	09 32 26.6	+1.8
	baz=273						
APZ	The Paps	74.78	148	P	P	09 22 49.7	-0.2
TMZ	Timaru	74.78	145	P	P	09 22 49.7	-0.3
O19K	Port Alsworth	74.82	31	IAmb	IAmb	09 22 53.2	
	comp=Z,173nm,1.3s						
O19K	Port Alsworth	74.82	31	P	P	09 22 50.1	+0.1
	baz=273,SNR=17						
O19K				S	S	09 32 27.3	+1.9
	baz=273						
F21K	Alatna River	74.84	24	IAMs_20	IAMs_20	10 01 09.1	
	comp=Z,7μm,21.0s						
F21K	Alatna River	74.84	24	P	P	09 22 50.0	0.0
	baz=272,SNR=9.9						
F21K				S	S	09 32 24.6	-1.0
	baz=272						
G21K	Allakaket	74.86	24	IAmb	IAmb	09 22 53.7	
	comp=Z,226nm,1.2s						
G21K				IAMs_20	IAMs_20	09 59 26.7	
	comp=Z,6μm,19.0s						
G21K	Allakaket	74.86	24	P	P	09 22 50.4	+0.3
	baz=272,SNR=62						
G21K				S	S	09 32 27.6	+1.8
	baz=272						
URZ	Urewera	74.87	137	LR	LR	09 56 26.9	
	comp=Z,6μm,20.1s,baz=32,slow=36						
URZ	Urewera	74.87	137	P	P	09 22 48.0	-2.6
L20K	Farewell, AK	74.90	29	P	P	09 22 50.9	+0.5
	baz=273,SNR=20						
L20K				S	S	09 32 28.6	+2.2
	baz=273						
R18K	Karluk	74.92	34	P	P	09 22 50.9	+0.3
	baz=274						
BKZ	Black Stump Fm	74.97	138	IAmb	IAmb	09 23 02.3	
	comp=Z,108nm,0.7s						
BKZ	Black Stump Fm	74.97	138	P	P	09 22 51.1	-0.1
BKZ	Black Stump Fm	74.97	138	P	P	09 22 51.0	-0.3
RTZ	Ruatahuna	74.98	137	IAmb	IAmb	09 22 53.4	
	comp=Z,130nm,0.8s						
RTZ	Ruatahuna	74.98	137	P	P	09 22 50.7	-0.6
ODZ	Otahua Downs	75.00	146	IAMs_20	IAMs_20	09 55 30.3	
	comp=Z,9μm,21.0s						
KHZ	Kahutara	75.02	142	IAMs_20	IAMs_20	09 53 08.8	
	comp=Z,10μm,22.0s						
KHZ	Kahutara	75.02	142	P	P	09 22 50.2	-1.1
KHZ	Kahutara	75.02	142	⇑P	P	09 22 50.8	-0.5
MTHZ	Maungataniwha	75.02	138	P	P	09 22 51.8	+0.2
HAZ	Te Kaha	75.05	136	P	P	09 22 51.2	-0.4
TUZ	Tuapeka	75.05	147	P	P	09 22 51.2	-0.2
GVZ	Greta Valley S	75.06	143	IAmb	IAmb	09 23 03.2	
	comp=Z,208nm,1.3s						
GVZ	Greta Valley S	75.06	143	P	P	09 22 50.6	-1.0
KWHZ	Kaweka Forest	75.07	138	P	P	09 22 52.8	+1.0
SNZO	South Karori	75.07	141	IAMs_20	IAMs_20	09 57 54.1	
	comp=Z,7μm,19.0s						
D22K	Ayikyak River	75.08	22	IAmb	IAmb	09 22 57.5	
	comp=Z,357nm,1.6s						
D22K				IAMs_20	IAMs_20	09 56 30.2	
	comp=Z,11μm,21.0s						
D22K	Ayikyak River	75.08	22	P	P	09 22 51.8	+0.4
	baz=273,SNR=46						
D22K				S	S	09 32 29.2	+1.1
	baz=273						
NMHZ	Naumai	75.14	138	P	P	09 22 52.9	+0.7
SII	Sitkinak Islan	75.15	35	IAMs_20	IAMs_20	09 57 30.4	
	comp=Z,7μm,21.0s						
SII	Sitkinak Islan	75.15	35	P	P	09 22 52.0	0.0
	baz=275						
KRHZ	Kereru	75.16	139	P	P	09 22 52.3	+0.1
MWZ	Matawai	75.19	137	P	P	09 22 52.8	+0.3
H21K	Melozitna Rive	75.19	25	IAmb	IAmb	09 22 58.6	
	comp=Z,320nm,1.4s						
H21K	Melozitna Rive	75.19	25	P	P	09 22 52.6	+0.5
	baz=273,SNR=79						
H21K				S	S	09 32 31.1	+1.6
	baz=273						
PNHZ	Pukenui	75.20	139	P	P	09 22 52.5	-0.1
RAGZ	Rawiri	75.20	137	P	P	09 22 52.4	-0.2
APA	Apatity	75.23	337	*i* P	P	09 22 50.6	-1.6
APA				*i*		09 23 07.5	
APA				*i* S	S	09 32 24.0	-5.7
APA				*i* PS	PnS	09 33 03.0	-3.5
APA				SS	SS	09 37 21.0	+2.1
APA				MLR	MLR		
	comp=Z,22μm,16.0s						
MRZ	Mangatainoka R	75.23	140	IAmb	IAmb	09 22 56.9	
	comp=Z,216nm,1.9s						
MRZ				IAMs_20	IAMs_20	09 54 19.5	
	comp=Z,9μm,20.0s						
MRZ	Mangatainoka R	75.23	140	P	P	09 22 51.8	-0.9
Q19K	Cape Douglas,	75.25	32	P	P	09 22 52.9	+0.3
	baz=274						
MCHZ	McNeill Hill	75.26	138	P	P	09 22 53.4	+0.6
SBV	Sambava	75.29	252	P	P	09 22 55.0	+1.5
	SNR=6.9						
SBV	Sambava	75.29	252	⇑P	P	09 22 53.8	+0.4
M20K	Styx River	75.29	29	IAmb	IAmb	09 23 00.4	
	comp=Z,208nm,1.4s						
M20K	Styx River	75.29	29	P	P	09 22 53.3	+0.5
	baz=274						
M20K				S	S	09 32 32.9	+2.0
	baz=274						
MQZ	McQueen's Vall	75.29	144	P	P	09 22 52.5	-0.4
ATD	Arta Tunnel	75.30	278	LR	LR	09 53 59.7	
	comp=Z,64nm,21.5s,baz=56,slow=34						
ATD	Arta Tunnel	75.30	278	P	P	09 22 55.0	+1.3
PKGZ	Pakihiroa	75.30	136	P	P	09 22 54.3	+1.1
SNGZ	Shannon Statio	75.31	137	P	P	09 22 53.3	+0.2
F22K	John River	75.33	23	P	P	09 22 53.3	+0.4
	baz=273						
F22K				S	S	09 32 31.9	+0.9
	baz=273						
ARHZ	Aropaoanui	75.35	138	P	P	09 22 53.8	+0.5
DVHZ	Dannevirke	75.40	139	P	P	09 22 53.5	-0.2
WHHZ	Waihua	75.40	138	P	P	09 22 54.3	+0.7
TWGZ	Tauwhareparae	75.40	137	P	P	09 22 53.9	+0.2
P19K	Oil Pt	75.41	32	P	P	09 22 53.6	+0.1
	baz=274						
PRWZ	Pori Road	75.42	140	P	P	09 22 53.5	-0.2
ILSW	Iliamna Southw	75.42	31	IAmb	IAmb	09 22 58.3	
	comp=Z,185nm,1.7s						
E22K	Anaktuvuk Pass	75.44	23	IAmb	IAmb	09 22 58.7	
	comp=Z,262nm,1.7s						
E22K				IAMs_20	IAMs_20	09 54 48.7	
	comp=Z,9μm,22.0s						
E22K	Anaktuvuk Pass	75.44	23	P	P	09 22 53.6	+0.2
	baz=274,SNR=72						
E22K				S	S	09 32 31.7	-0.5
	baz=274						
WPHZ	Waipukurau	75.44	139	P	P	09 22 53.8	-0.1
WMGZ	Waiomatatini S	75.50	136	P	P	09 22 55.0	+0.8
CHUM	Lake Minchumin	75.52	27	P	P	09 22 54.4	+0.5
	baz=274,SNR=30						
CHUM				S	S	09 32 33.0	-0.1
	baz=274						
PUZ	Puketiti	75.53	136	P	P	09 22 54.1	-0.3
RIGZ	Rimuhau	75.55	137	P	P	09 22 54.8	+0.3
I21K	Tanana	75.57	26	IAmb	IAmb	09 23 00.8	
	comp=Z,329nm,1.4s						
I21K	Tanana	75.57	26	P	P	09 22 54.9	+0.7
	baz=274						
I21K				S	S	09 32 36.1	+2.5
	baz=274						
KAHZ	Kahuranaki	75.57	138	P	P	09 22 55.2	+0.6
OHAK	Old Harbor	75.58	34	IAmb	IAmb	09 23 07.3	
	comp=Z,162nm,1.4s						
OHAK	Old Harbor	75.58	34	P	P	09 22 54.9	+0.5
OHAK	Old Harbor	75.58	34	P	P	09 22 54.7	+0.3
	baz=275,SNR=5.5						
OHAK				S	S	09 32 34.2	+0.2
	baz=275						
G22K	Bettles	75.63	24	P	P	09 22 54.6	+0.1
	baz=274,SNR=53						
G22K				S	S	09 32 33.6	-0.6
	baz=274						
PPLA	Purkeypile	75.65	28	P	P	09 22 55.0	+0.1
	baz=275,SNR=28						
CAST	Castle Rocks	75.66	28	IAmb	IAmb	09 23 02.6	
	comp=Z,191nm,1.0s						
CAST				IAMs_20	IAMs_20	09 57 37.7	
	comp=Z,7μm,21.0s						
CAST	Castle Rocks	75.66	28	P	P	09 22 55.2	+0.4
	baz=275,SNR=110						
CAST				S	S	09 32 36.2	+1.5
	baz=275						
BFZ	Birch Farm	75.67	140	IAMs_20	IAMs_20	09 52 48.8	
	comp=Z,7μm,21.0s						
BFZ	Birch Farm	75.67	140	P	P	09 22 54.7	-0.4
BFZ	Birch Farm	75.67	140	P	P	09 22 53.8	-1.3
PRHZ	Porangahau	75.68	139	P	P	09 22 55.4	+0.2
ANWZ	Angora Road	75.68	139	P	P	09 22 54.7	-0.5
PXZ	Pawanui	75.69	139	P	P	09 22 55.3	0.0
CNGZ	Carnagh Statio	75.72	137	P	P	09 22 56.0	+0.5
C23K	Itkillik River	75.75	21	IAmb	IAmb	09 23 01.1	
	comp=Z,376nm,1.6s						
C23K	Itkillik River	75.75	21	P	P	09 22 55.4	+0.3
	baz=274,SNR=75						
C23K				S	S	09 32 36.3	+0.9
	baz=274						
H22K	Ishtalitna Cre	75.76	25	P	P	09 22 56.2	+0.8
	baz=275						
H22K				S	S	09 32 37.2	+1.4
	baz=275						
SPCR	Spurr Chakacha	75.78	30	P	P	09 22 55.0	-0.6
	baz=275,SNR=14						
SPCR				S	S	09 32 35.3	-1.0
	baz=275						
D23K	Nanushuk River	75.79	22	IAmb	IAmb	09 22 59.2	
	comp=Z,326nm,1.4s						
D23K	Nanushuk River	75.79	22	P	P	09 22 55.8	+0.3
	baz=274						
D23K				S	S	09 32 35.8	-0.3
	baz=274						
GAZ	Gaziantep	75.86	305	IAmb	IAmb	09 23 05.0	
	comp=Z,233nm,1.1s						
GAZ				IAMs_20	IAMs_20	10 02 33.1	
	comp=Z,7μm,19.0s						
GAZ	Gaziantep	75.86	305	⇑P	P	09 22 57.3	+0.8
KDAK	Kodiak Island	75.91	33	P	P	09 22 55.9	-0.3
KDAK				IAmb	IAmb	09 22 59.0	
	comp=Z,151nm,1.1s						
KDAK	Kodiak Island	75.91	33	P	P	09 22 55.5	-0.7
	comp=Z,50nm,0.9s,baz=187,slow=1.7,SNR=13						
	comp=Z,50nm,0.9s						
KDAK	Kodiak Island	75.91	33	P	P	09 22 55.9	-0.3
KDAK				pmax	pmax		
	comp=Z,151nm,1.2s						
KDAK				MLR	MLR		
	comp=Z,5μm,21.0s						
KDAK	Kodiak Island	75.91	33	P	P	09 22 55.4	-0.8
	baz=276						
KDAK	Kodiak Island	75.91	33	⇑P	P	09 22 56.8	+0.5
Q20K	Shuyak Island	75.93	33	P	P	09 22 55.2	-1.1
	baz=276						
SYI	Shuyak Island	75.93	33	IAmb	IAmb	09 23 01.5	
	comp=Z,372nm,1.6s						
SKT	Skwentna	76.03	29	P	P	09 22 56.2	-0.8
	baz=275,SNR=34						
BPAW	Bear Paw Mtn.	76.08	27	IAMs_20	IAMs_20	10 02 07.0	
	comp=Z,8μm,19.0s						
BPAW	Bear Paw Mtn.	76.08	27	P	P	09 22 57.4	+0.2
	baz=275,SNR=100						
BPAW				S	S	09 32 39.1	-0.4
	baz=275						
COLD	Coldfoot	76.12	24	IAmb	IAmb	09 23 02.9	
	comp=Z,246nm,1.6s						
COLD				IAMs_20	IAMs_20	09 59 55.7	
	comp=Z,7μm,19.0s						
COLD	Coldfoot	76.12	24	P	P	09 22 57.8	+0.5
	baz=275,SNR=81						
COLD				S	S	09 32 38.8	-0.8
	baz=275						
KTH	Kantishna Hill	76.17	27	IAmb	IAmb	09 23 06.7	
	comp=Z,150nm,1.4s						
HOM	Homer	76.21	31	P	P	09 22 57.6	-0.4
	baz=276						
TOLK	Toolik Lake Re	76.22	22	IAmb	IAmb	09 23 04.0	
	comp=Z,177nm,1.4s						
TOLK				IAMs_20	IAMs_20	09 57 05.5	
	comp=Z,10μm,20.0s						
TOLK	Toolik Lake Re	76.22	22	P	P	09 22 57.7	-0.2
	baz=276,SNR=68						
TOLK				S	S	09 32 41.5	+0.6
	baz=276						
G23K	Bananza Creek	76.24	24	P	P	09 22 58.5	+0.4
	baz=276,SNR=87						
G23K				S	S	09 32 42.4	+1.3
	baz=276						
E23K	Chandalar	76.26	23	IAmb	IAmb	09 23 03.7	
	comp=Z,240nm,1.5s						
E23K				IAMs_20	IAMs_20	09 55 14.6	
	comp=Z,8μm,22.0s						
E23K	Chandalar	76.26	23	P	P	09 22 58.2	0.0
	baz=276,SNR=76						
E23K				S	S	09 32 42.1	+0.7
	baz=276						
CAPN	Captain Cook N	76.34	30	P	P	09 22 59.1	+0.5
	baz=276						
C24K	Franklin Bluff	76.42	21	P	P	09 22 59.3	+0.3
	baz=276						
C24K				S	S	09 32 43.4	+0.6
	baz=276						
CNPM	China Poot	76.43	32	IAmb	IAmb	09 23 01.9	
	comp=Z,181nm,1.5s						
D24K	Happy Valley	76.44	22	IAmb	IAmb	09 23 02.6	
	comp=Z,219nm,1.4s						
D24K	Happy Valley	76.44	22	P	P	09 22 59.4	+0.3
	baz=276,SNR=80						
D24K				S	S	09 32 44.8	+1.7
	baz=276						
TRF	Thorofare Moun	76.46	28	IAMs_20	IAMs_20	09 57 33.9	
	comp=Z,6μm,19.0s						
TRF	Thorofare Moun	76.46	28	P	P	09 22 58.8	-0.7
	baz=276,SNR=55						
SUA	Susitna One	76.46	30	IAmb	IAmb	09 23 04.6	
	comp=Z,236nm,1.2s						
SUA	Susitna One	76.46	30	P	P	09 22 58.7	-0.8
	baz=276,SNR=14						
VADS	Vadso	76.48	339 *e*	P	P	09 23 00.1	+0.7
H23K	Yukon River	76.52	25	IAmb	IAmb	09 23 03.7	
	comp=Z,288nm,1.3s						
H23K				IAMs_20	IAMs_20	10 00 48.3	
	comp=Z,6μm,19.0s						
H23K	Yukon River	76.52	25	P	P	09 23 00.3	+0.6
	baz=276						
H23K				S	S	09 32 48.5	+4.3
	baz=276						
BRLK	Bradley Lake	76.58	31	IAmb	IAmb	09 23 08.5	
	comp=Z,109nm,0.9s						
CUT	Chulitna	76.58	29	P	P	09 22 59.3	-0.7
	baz=276,SNR=18						
BRSE	Bradley Lake S	76.65	31	P	P	09 22 59.7	-0.8
	baz=277,SNR=9.2						
I23K	Minto, Yukon-K	76.67	26	IAMs_20	IAMs_20	10 03 25.5	
	comp=Z,6μm,19.0s						
I23K	Minto, Yukon-K	76.67	26	P	P	09 23 00.6	+0.1
	baz=277,SNR=67						
I23K				S	S	09 32 48.5	+2.8
	baz=277						
E24K	Your Creek	76.68	23	IAMs_20	IAMs_20	09 56 35.8	
	comp=Z,7μm,20.0s						
E24K	Your Creek	76.68	23	P	P	09 23 00.7	+0.1
	baz=277						
E24K				S	S	09 32 47.0	+1.0
	baz=277						
M22K	Willow	76.72	29	P	P	09 22 60.0	-0.8
	baz=277,SNR=32						
BWN	Browne	76.74	27	IAmb	IAmb	09 23 13.0	
	comp=Z,272nm,1.3s						
BWN				IAMs_20	IAMs_20	09 58 40.2	
	comp=Z,7μm,19.0s						
SLKM	Skilak Lake	76.82	31	IAmb	IAmb	09 23 04.4	
	comp=Z,245nm,1.5s						
NEA2	Nenana	76.86	26	IAMs_20	IAMs_20	09 59 36.5	
	comp=Z,7μm,19.0s						
NEA2	Nenana	76.86	26	P	P	09 23 01.8	+0.2
	baz=277,SNR=33						
NEA2				S	S	09 32 48.4	+0.5
	baz=277						
ASF	Jabal al Asfar	76.87	300	P	P	09 23 03.5	+1.1
	comp=Z,51nm,1.0s,baz=173,slow=0.9,SNR=27						
ASF				LR	LR	10 01 50.2	
	comp=Z,2μm,18.0s,baz=90,slow=40						
	comp=Z,51nm,1.0s						
HOPEN	Hopen	76.89	346 *e*	S	S	09 32 48.9	+1.1
KIP	Kipapa	76.95	71	P	P	09 23 02.1	-0.8
KIP				IAmb	IAmb	09 23 09.4	
	comp=Z,191nm,1.2s						
KIP	Kipapa	76.95	71	IAMs_20	IAMs_20	09 56 01.1	
	comp=Z,7μm,20.0s						
KIP	Kipapa	76.95	71	P	P	09 23 05.3	+2.4
KIP	Kipapa	76.95	71	P	P	09 23 04.9	+2.0
KIP	Kipapa	76.95	71	P	P	09 23 02.1	-0.8
KIP				pmax	pmax		
	comp=Z,191nm,1.3s						
F24K	Squaw Lake	76.98	23	IAmb	IAmb	09 23 07.7	
	comp=Z,299nm,1.9s						
F24K				IAMs_20	IAMs_20	10 01 01.5	
	comp=Z,8μm,20.0s						
F24K	Squaw Lake	76.98	23	P	P	09 23 02.5	+0.3
	baz=277,SNR=60						
F24K				S	S	09 32 49.0	-0.1
	baz=277						
RC01	Rabbit Creek A	76.99	30	P	P	09 23 01.7	-0.7
	baz=277						
MCK	McKinley	77.03	27	IAmb	IAmb	09 23 09.7	
	comp=Z,259nm,1.1s						
MCK				IAMs_20	IAMs_20	09 58 08.9	
	comp=Z,7μm,19.0s						
MCK	McKinley	77.03	27	P	P	09 23 01.7	-0.9
	baz=277,SNR=54						
O22K	Cooper Landing	77.07	31	IAmb	IAmb	09 23 19.6	
	comp=Z,266nm,1.2s						
O22K	Cooper Landing	77.07	31	P	P	09 23 01.9	-0.9
	baz=277						
SIM	Simferopol'	77.08	313 *e*	P	P	09 23 02.8	-0.4
SIM				pmax	pmax		
	comp=Z,230nm,0.9s						
SIM				MLR	MLR		
	comp=Z,4μm,20.9s						
RND	Reindeer	77.10	27	IAMs_20	IAMs_20	09 57 41.9	
	comp=Z,9μm,20.0s						
H24K	Noodor Dome	77.20	25	IAmb	IAmb	09 23 08.9	
	comp=Z,176nm,1.2s						
H24K	Noodor Dome	77.20	25	P	P	09 23 04.2	+0.6
	baz=278,SNR=80						
H24K				S	S	09 32 54.4	+2.7
	baz=278						
PMR	Palmer	77.21	29	IAmb	IAmb	09 23 05.8	
	comp=Z,117nm,1.1s						
PMR	Palmer	77.21	29	P	P	09 23 03.1	-0.5
PMR	Palmer	77.21	29	P	P	09 23 02.8	-0.8
	baz=278,SNR=24						
G24K	Hadweenzic Riv	77.25	24	P	P	09 23 04.0	+0.3
	baz=278,SNR=76						
G24K				S	S	09 32 55.0	+3.0
	baz=278						
SEW	Seward	77.25	31	IAmb	IAmb	09 23 16.0	
	comp=Z,233nm,1.2s						
SEW				IAMs_20	IAMs_20	09 59 35.0	
	comp=Z,6μm,20.0s						
SEW	Seward	77.25	31	P	P	09 23 03.6	-0.2
	baz=278,SNR=6.7						
D25K	Kavik River	77.28	21	IAmb	IAmb	09 23 07.1	
	comp=Z,180nm,1.1s						
D25K				IAMs_20	IAMs_20	09 58 20.7	
	comp=Z,11μm,20.0s						
D25K	Kavik River	77

WRH	**Wood River Hil**	**77.30**	**26**	IAmb	IAmb	09 23 09.3	
	comp=Z,266nm,1.5s						
WRH				IAms_20	IAms_20	09 59 50.0	
	comp=Z,6μm,18.0s						
PUL	**Pulkovo**	**77.34**	**329**	*ce*P	**P**	**09 23 06.2**	**+1.9**
PUL				pmax	pmax		
	comp=Z,497nm,1.7s						
PUL				MLR	MLR		
	comp=Z,18μm,17.0s						
COLA	**College**	**77.34**	**26**	P	**P**	**09 23 03.8**	**-0.3**
COLA	**College**	**77.34**	**26**	IAms_20	IAms_20	10 01 09.1	
	comp=Z,7μm,20.0s						
COLA	**College**	**77.34**	**26**	P	**P**	**09 23 03.9**	**-0.3**
COLA	**College**	**77.34**	**26**	P	**P**	**09 23 03.9**	**-0.3**
COLA	**College**	**77.34**	**26**	P	**P**	**09 23 03.3**	**-1.0**
	baz=278						
COLA	**College**	**77.34**	**26**	⇑P	**P**	**09 23 04.0**	**-0.3**
POKR	**Poker Plat Res**	**77.48**	**26**	IAms_20	IAms_20	10 01 22.0	
	comp=Z,7μm,19.0s						
POKR	**Poker Plat Res**	**77.48**	**26**	P	**P**	**09 23 04.8**	**-0.2**
	baz=278,SNR=19						
POKR				S	**S**	**09 32 54.7**	**+0.1**
	baz=278						
KNK	**Knik Glacier**	**77.56**	**30**	P	**P**	**09 23 04.9**	**-0.7**
	baz=278,SNR=24						
SML	**Sawmill**	**77.56**	**29**	P	**P**	**09 23 05.0**	**-0.6**
	baz=278,SNR=32						
BZK	**Bozkurt**	**77.61**	**310**	⇑P	**P**	**09 23 06.6**	**+0.5**
PWL	**Port Wells**	**77.70**	**30**	IAmb	IAmb	09 23 13.3	
	comp=Z,169nm,0.9s						
PWL	**Port Wells**	**77.70**	**30**	P	**P**	**09 23 05.4**	**-0.9**
	baz=278,SNR=21						
C26K	**Camden Bay**	**77.70**	**21**	P	**P**	**09 23 06.6**	**+0.5**
	baz=280,SNR=111						
C26K				S	**S**	**09 32 57.1**	**+0.4**
	baz=280						
E25K	**Arctic Village**	**77.76**	**22**	IAmb	IAmb	09 23 11.1	
	comp=Z,167nm,1.6s						
E25K	**Arctic Village**	**77.76**	**22**	P	**P**	**09 23 06.7**	**+0.1**
	baz=279,SNR=50						
E25K				S	**S**	**09 32 58.3**	**+0.7**
	baz=279						
ILAR	**Eielson Array**	**77.77**	**26**	P	**P**	**09 23 05.1**	**-1.5**
ILAR	**Eielson Array**	**77.77**	**26**	P	**P**	**09 23 05.3**	**-1.3**
	comp=Z,20nm,1.0s,baz=277,slow=5.2,SNR=46						
ILAR				PP	**PP**	**09 26 01.2**	**-0.7**
	comp=Z,2.3nm,1.0s,baz=274,slow=3.0,SNR=2.8						
ILAR				PKKPbc	**PKKPbc**	**09 42 10.1**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=64,slow=2.1,SNR=4.9						
ILAR				PKPPKP	**P'P'df**	**09 50 17.6**	**+2.9**
	comp=Z,1.4nm,1.1s,baz=223,slow=2.9,SNR=5.6						
ILAR				LR	LR	10 00 15.1	
	comp=Z,3μm,18.3s,baz=272,slow=38						
	comp=Z,20nm,1.0s						
G25K	**Bearman Lake**	**77.78**	**24**	P	**P**	**09 23 06.8**	**+0.2**
	baz=279,SNR=28						
HDA	**Harding Lake**	**77.80**	**26**	IAmb	IAmb	09 23 12.1	
	comp=Z,347nm,1.8s						
HDA				IAms_20	IAms_20	10 00 05.2	
	comp=Z,7μm,18.0s						
HDA	**Harding Lake**	**77.80**	**26**	P	**P**	**09 23 05.5**	**-1.4**
	baz=279,SNR=15						
F25K	**Christian Rive**	**77.82**	**23**	IAms_20	IAms_20	10 00 06.7	
	comp=Z,7μm,21.0s						
F25K	**Christian Rive**	**77.82**	**23**	P	**P**	**09 23 07.4**	**+0.5**
	baz=279,SNR=93						
F25K				S	**S**	**09 32 59.0**	**+0.7**
	baz=279						
M23K	**Glacier View**	**77.85**	**29**	P	**P**	**09 23 06.8**	**-0.4**
	baz=279,SNR=16						
ARA0	**ARCESS Array S**	**77.89**	**339**	*e*P	**P**	**09 23 07.0**	**-0.3**
ARA0				*e*S	**S**	**09 32 58.6**	**-0.3**
ARA0				IVMs_BB	IVMs_BB	10 02 40.1	
	comp=Z,7μm,20.0s						
ARCES	**ARCESS Array B**	**77.89**	**339**	P	**P**	**09 23 07.1**	**-0.2**
	comp=Z,29nm,0.9s,baz=73,slow=2.2,SNR=17						
ARCES				LR	LR	10 01 56.1	
	comp=Z,10μm,18.1s,baz=83,slow=39						
	comp=Z,29nm,0.9s						
MMAI	**Mount Meron Ar**	**77.97**	**301**	P	**P**	**09 23 09.3**	**+0.8**
	comp=Z,30nm,0.9s,baz=82,slow=7.1,SNR=14						
MMAI				LR	LR	10 02 34.8	
	comp=Z,5μm,20.6s,baz=58,slow=40						
	comp=Z,30nm,0.9s						
SCM	**Sheep Creek Mo**	**78.03**	**29**	P	**P**	**09 23 07.7**	**-0.5**
	baz=279,SNR=25						
KIRS	**Kirsehir-Merke**	**78.12**	**308**	⇓P	**P**	**09 23 09.2**	**-0.1**
GHAJ	**Ghor Haditha**	**78.14**	**299**	IAmb	IAmb	09 23 16.5	
	comp=Z,214nm,1.1s						
FYU	**Fort Yukon**	**78.15**	**24**	IAmb	IAmb	09 23 12.6	
	comp=Z,244nm,1.5s						
C27K	**Jago River**	**78.16**	**21**	IAmb	IAmb	09 23 12.4	
	comp=Z,199nm,1.1s						
C27K				IAms_20	IAms_20	09 59 54.7	
	comp=Z,11μm,20.0s						
C27K	**Jago River**	**78.16**	**21**	P	**P**	**09 23 09.2**	**+0.4**
	baz=281,SNR=137						
C27K				S	**S**	**09 33 03.0**	**+1.2**
	baz=281						
PRP	**Porcupine Dome**	**78.21**	**25**	P	**P**	**09 23 08.5**	**-0.8**
	baz=280,SNR=20						
PRP				S	**S**	**09 33 01.6**	**-1.1**
	baz=280						
BRTR	**Keskin Array B**	**78.24**	**308**	P	**P**	**09 23 09.0**	**-0.9**
BRTR	**Keskin Array B**	**78.24**	**308**	P	**P**	**09 23 09.8**	**-0.2**
	comp=Z,10nm,0.9s,baz=120,slow=4.4,SNR=33						
BRTR				LR	LR	10 00 10.3	
	comp=Z,3μm,21.6s,baz=46,slow=38						
	comp=Z,10nm,0.9s						
BMAR	**Burnt Mountain**	**78.25**	**23**	P	**P**	**09 23 09.9**	**+0.5**
P23K	**Montague Islan**	**78.29**	**31**	IAmb	IAmb	09 23 12.6	
	comp=Z,283nm,1.2s						
P23K	**Montague Islan**	**78.29**	**31**	P	**P**	**09 23 09.8**	**+0.2**
	baz=279						
GLI	**Glacier Island**	**78.29**	**30**	IAmb	IAmb	09 23 12.4	
	comp=Z,226nm,1.1s						
GLI				IAms_20	IAms_20	10 01 19.4	
	comp=Z,6μm,20.0s						
GLI	**Glacier Island**	**78.29**	**30**	P	**P**	**09 23 09.2**	**-0.4**
	baz=280,SNR=11						
HAMF	**Hammerfest**	**78.30**	**340**	*e*P	**P**	**09 23 11.7**	**+2.3**
MSBI	**Mazada**	**78.31**	**299**	⇑P	**P**	**09 23 11.5**	**+1.3**
SALP	**Salfit**	**78.31**	**300**	⇑P	**P**	**09 23 12.2**	**+1.8**
F26K	**Sheenjek River**	**78.36**	**23**	IAmb	IAmb	09 23 14.8	
	comp=Z,229nm,1.5s						
F26K				IAms_20	IAms_20	10 00 33.2	
	comp=Z,7μm,19.0s						
F26K	**Sheenjek River**	**78.36**	**23**	P	**P**	**09 23 10.7**	**+0.7**
	baz=281,SNR=96						
F26K				S	**S**	**09 33 05.8**	**+1.6**
	baz=281						
SPA0	**Spitsbergen Ar**	**78.37**	**348**	*e*P	**P**	**09 23 10.1**	**+0.2**
SPITS	**Spitsbergen Ar**	**78.37**	**348**	P	**P**	**09 23 09.8**	**0.0**
	comp=Z,95nm,0.9s,baz=73,slow=5.9,SNR=26						
SPITS				LR	LR	10 01 24.1	
	comp=Z,20μm,19.4s,baz=30,slow=38						
	comp=Z,95nm,0.9s						
K24K	**Donnelly Dome**	**78.40**	**27**	IAms_20	IAms_20	10 03 46.9	
	comp=Z,7μm,18.0s						
K24K	**Donnelly Dome**	**78.40**	**27**	P	**P**	**09 23 10.1**	**-0.2**
	baz=280,SNR=57						
J25K	**Salcha River,**	**78.44**	**26**	P	**P**	**09 23 08.7**	**-1.7**
	baz=280,SNR=19						
KHLH	**Kahului Airpor**	**78.50**	**71**	IAms_20	IAms_20	09 56 54.3	
	comp=Z,7μm,20.0s						
M24K	**Tolsona, Glenn**	**78.52**	**29**	P	**P**	**09 23 11.2**	**+0.2**
	baz=280,SNR=21						
FID	**Port Fidalgo**	**78.61**	**30**	IAmb	IAmb	09 23 14.3	
	comp=Z,277nm,1.2s						
FID				IAms_20	IAms_20	10 01 43.5	
	comp=Z,5μm,19.0s						
AMAZ	**Amatzia**	**78.64**	**300**	⇑P	**P**	**09 23 14.5**	**+2.3**
G26K	**Porcupine Rive**	**78.64**	**24**	IAmb	IAmb	09 23 15.3	
	comp=Z,133nm,1.1s						
G26K				IAms_20	IAms_20	10 03 45.7	
	comp=Z,6μm,18.0s						
G26K	**Porcupine Rive**	**78.64**	**24**	P	**P**	**09 23 12.2**	**+0.8**
	baz=281,SNR=84						
G26K				S	**S**	**09 33 08.9**	**+1.9**
	baz=281						
HIN	**Hinchinbrook I**	**78.66**	**30**	IAmb	IAmb	09 23 14.7	
	comp=Z,239nm,1.2s						
PAX	**Paxson**	**78.69**	**28**	IAmb	IAmb	09 23 16.8	
	comp=Z,290nm,1.5s						
PAX				IAms_20	IAms_20	09 58 20.0	
	comp=Z,7μm,21.0s						
PAX	**Paxson**	**78.69**	**28**	P	**P**	**09 23 11.5**	**-0.4**
	baz=280,SNR=48						
HLK	**Haleakala**	**78.70**	**71**	IAms_20	IAms_20	09 57 18.3	
	comp=Z,6μm,20.0s						
KLU	**Klutina**	**78.75**	**29**	P	**P**	**09 23 12.5**	**+0.2**
	baz=280,SNR=14						
KTK1	**Kautokeino**	**78.78**	**339**	*e*P	**P**	**09 23 13.4**	**+1.3**
KTK1				IVmB_BB		09 23 18.7	
	comp=Z,2μm,2.7s						
KTK1				*e*		09 33 00.5	
KTK1				IVMs_BB	IVMs_BB	09 59 25.2	
	comp=Z,4μm,13.0s						
RIDG	**Independent Ri**	**78.82**	**27**	IAms_20	IAms_20	10 03 59.3	
	comp=Z,6μm,18.0s						
RIDG	**Independent Ri**	**78.82**	**27**	P	**P**	**09 23 12.1**	**-0.5**
	baz=281,SNR=90						
ANTO	**Ankara**	**78.86**	**308**	P	**P**	**09 23 12.4**	**-0.8**
ANTO	**Ankara**	**78.86**	**308**	P	**P**	**09 23 13.3**	**0.0**
ANTO	**Ankara**	**78.86**	**308**	⇑P	**P**	**09 23 13.6**	**+0.3**
ANTO	**Ankara**	**78.86**	**308**	P	**P**	**09 23 13.5**	**+0.3**
ANTO	**Ankara**	**78.86**	**308**	P	**P**	**09 23 13.2**	**-0.1**
	comp=Z,980nmcomp=Z,50nm,1.2s						
ANTO	**Ankara**	**78.86**	**308**	⇑P	**P**	**09 23 13.1**	**-0.2**
DIV	**Divide**	**78.88**	**30**	IAmb	IAmb	09 23 16.1	
	comp=Z,176nm,1.1s						
DIV				IAms_20	IAms_20	09 58 24.0	
	comp=Z,6μm,22.0s						
HARP	**HAARP**	**78.94**	**28**	P	**P**	**09 23 13.1**	**-0.1**
	baz=281,SNR=15						
EIL	**Elat**	**78.96**	**298**	P	**P**	**09 23 14.7**	**+0.7**
	comp=Z,72nm,1.0s,baz=91,slow=2.4,SNR=42						
EIL				LR	LR	10 01 58.2	
	comp=Z,5μm,20.5s,baz=64,slow=39						
	comp=Z,72nm,1.0s						
EIL	**Elat**	**78.96**	**298**	⇑P	**P**	**09 23 14.7**	**+0.7**
KBS	**Kingsbay**	**78.97**	**349**	*ce*P	**P**	**09 23 15.2**	**+2.2**
KBS				pmax	pmax		
	comp=Z,190nm,2.5s						
KBS	**Kingsbay**	**78.97**	**349**	*e*P	**P**	**09 23 14.4**	**+1.4**
KBS				IVmB_BB		09 23 20.0	
	comp=Z,2μm,3.1s						
KBS				*e*S	**S**	**09 33 12.9**	**+2.8**
KBS				IVMs_BB	IVMs_BB	10 01 20.5	
	comp=Z,10μm,17.1s						
KBS	**Kingsbay**	**78.97**	**349**	*i* P	**P**	**09 23 13.6**	**+0.6**
KBS	**Kingsbay**	**78.97**	**349**	⇑P	**P**	**09 23 14.8**	**+1.7**
EYAK	**Cordova Ski Ar**	**79.00**	**30**	IAmb	IAmb	09 23 16.9	
	comp=Z,241nm,1.4s						
EYAK	**Cordova Ski Ar**	**79.00**	**30**	P	**P**	**09 23 15.6**	**+2.1**
EYAK	**Cordova Ski Ar**	**79.00**	**30**	P	**P**	**09 23 13.5**	**0.0**
	baz=281,SNR=7.2						
FINES	**FINESS Array B**	**79.13**	**331**	P	**P**	**09 23 13.4**	**-0.8**
	comp=Z,26nm,0.8s,baz=80,slow=6.0,SNR=41						
FINES				LR	LR	09 58 40.7	
	comp=Z,10μm,18.5s,baz=84,slow=36						
	comp=Z,26nm,0.8s						
SCRK	**Sand Creek**	**79.15**	**27**	IAmb	IAmb	09 23 17.2	
	comp=Z,168nm,1.3s						
SCRK				IAms_20	IAms_20	10 00 57.0	
	comp=Z,7μm,18.0s						
SCRK	**Sand Creek**	**79.15**	**27**	P	**P**	**09 23 14.1**	**-0.3**
	baz=282,SNR=56						
SCRK				S	**S**	**09 33 12.5**	**-0.3**
	baz=282						
DOT	**Dot Lake**	**79.18**	**27**	IAmb	IAmb	09 23 17.2	
	comp=Z,185nm,1.2s						
DOT				IAms_20	IAms_20	10 04 19.9	
	comp=Z,7μm,19.0s						
D27M	**Malcolm River**	**79.19**	**21**	IAmb	IAmb	09 23 18.0	
	comp=Z,215nm,1.1s						
D27M				IAms_20	IAms_20	09 59 24.0	
	comp=Z,8μm,20.0s						
D27M	**Malcolm River**	**79.19**	**21**	P	**P**	**09 23 14.8**	**+0.3**
	baz=283						
D27M				S	**S**	**09 33 11.9**	**-1.1**
	baz=283						
KZIT	**Kziot**	**79.19**	**299**	⇑P	**P**	**09 23 15.7**	**+0.5**
E27K	**Coleen River**	**79.21**	**22**	IAmb	IAmb	09 23 18.1	
	comp=Z,252nm,1.3s						
E27K	**Coleen River**	**79.21**	**22**	P	**P**	**09 23 15.0**	**+0.4**
	baz=283,SNR=158						
E27K				S	**S**	**09 33 14.1**	**+0.9**
	baz=283						
J26L	**Joseph Creek**	**79.22**	**26**	IAmb	IAmb	09 23 21.8	
	comp=Z,123nm,1.1s						
J26L				IAms_20	IAms_20	10 02 25.9	
	comp=Z,6μm,19.0s						
J26L	**Joseph Creek**	**79.22**	**26**	P	**P**	**09 23 14.3**	**-0.5**
	baz=282,SNR=59						
J26L				S	**S**	**09 33 13.7**	**+0.2**
	baz=282						
I26K	**Coal Creek Min**	**79.23**	**25**	IAmb	IAmb	09 23 17.5	
	comp=Z,207nm,1.1s						
I26K	**Coal Creek Min**	**79.23**	**25**	P	**P**	**09 23 14.4**	**-0.3**
	baz=282						
I26K				S	**S**	**09 33 15.8**	**+2.5**
	baz=282						
CSS	**Mathiatis**	**79.32**	**303**	IAmb	IAmb	09 23 23.2	
	comp=Z,190nm,1.0s						
CSS	**Mathiatis**	**79.32**	**303**	P	**P**	**09 23 16.1**	**+0.3**
	comp=Z,4μmcomp=Z,228nm,2.0s						
CSS	**Mathiatis**	**79.32**	**303**	⇑P	**P**	**09 23 16.2**	**+0.4**
N25K	**Chitina, Valde**	**79.35**	**29**	P	**P**	**09 23 15.7**	**+0.2**
	baz=282,SNR=19						
VSU	**Vasula**	**79.38**	**328**	*ce*P	**P**	**09 23 14.4**	**-1.2**
VSU				pmax	pmax		
	comp=Z,535nm,1.7s						
VSU				MLR	MLR		
	comp=Z,13μm,17.0s						
VSU	**Vasula**	**79.38**	**328**	⇑P	**P**	**09 23 13.0**	**-2.6**
AK09	**Malin Array Si**	**79.38**	**320**	P	**P**	**09 23 15.1**	**-0.7**
AK08	**Malin Array Si**	**79.40**	**320**	P	**P**	**09 23 15.1**	**-0.8**
AK03	**Malin Array Si**	**79.40**	**320**	P	**P**	**09 23 14.9**	**-1.0**
AKASG	**Malin Array Be**	**79.41**	**320**	P	**P**	**09 23 15.1**	**-0.8**
AKASG				IAmb	IAmb	09 24 43.6	
	comp=Z,156nm,1.2s						
AKASG	**Malin Array Be**	**79.41**	**320**	P	**P**	**09 23 14.8**	**-1.1**
	comp=Z,38nm,1.1s,baz=69,slow=5.1,SNR=92						
AKASG				PKiKP	**PKiKP**	**09 28 48.2**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=78,slow=1.2,SNR=1.9						
AKASG				S	**S**	**09 33 19.6**	**+3.9**
	comp=Z,0.2nm,0.3s,baz=257,slow=11,SNR=4.8						
AKASG				LR	LR	09 58 25.2	
	comp=Z,9μm,20.4s,baz=72,slow=36						
	comp=Z,38nm,1.1s						
AKASG	**Malin Array Be**	**79.41**	**320**	P	**P**	**09 23 15.1**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,156nm,1.3s						
AKBB	**Malin Array Si**	**79.41**	**320**	IAmb	IAmb	09 23 17.8	
	comp=Z,311nm,1.6s						
AKBB	**Malin Array Si**	**79.41**	**320**	*ce*P	**P**	**09 23 15.1**	**-0.8**
AKBB				pmax	pmax		
	comp=Z,206nm,1.6s						
AKBB				MLR	MLR		
	comp=Z,11μm,18.0s						
KIEV	**Kiev**	**79.42**	**320**	P	**P**	**09 23 14.5**	**-1.5**
KIEV				IAmb	IAmb	09 23 17.8	
	comp=Z,279nm,1.6s						
KIEV	**Kiev**	**79.42**	**320**	⇑P	**P**	**09 23 15.1**	**-0.9**
KIEV	**Kiev**	**79.42**	**320**	P	**P**	**09 23 15.0**	**-0.9**
KIEV	**Kiev**	**79.42**	**320**	*i* P	**P**	**09 23 14.6**	**-1.3**
	SNR=41						
KIEV	**Kiev**	**79.42**	**320**	P	**P**	**09 23 14.8**	**-1.2**
	comp=Z,9μmcomp=Z,374nm,1.6s						
KIEV	**Kiev**	**79.42**	**320**	⇑P	**P**	**09 23 14.7**	**-1.3**
AK05	**Malin Array Si**	**79.43**	**320**	P	**P**	**09 23 15.1**	**-1.0**
OPO	**Ambohidratompo**	**79.47**	**248**	P	**P**	**09 23 17.2**	**+0.1**
	comp=Z,54nm,0.9s,baz=67,slow=5.1,SNR=31						
	comp=Z,54nm,0.9s						
BMRM	**Bremner River**	**79.47**	**30**	IAmb	IAmb	09 23 19.3	
	comp=Z,146nm,1.2s						
BMRM	**Bremner River**	**79.47**	**30**	P	**P**	**09 23 16.2**	**0.0**
	baz=282,SNR=12						
MENT	**Mentasta**	**79.48**	**28**	IAmb	IAmb	09 23 27.1	
	comp=Z,164nm,1.4s						
MENT				IAms_20	IAms_20	09 59 47.9	
	comp=Z,9μm,21.0s						
MENT	**Mentasta**	**79.48**	**28**	P	**P**	**09 23 16.8**	**+0.6**
G27K	**Doyon Strip**	**79.50**	**24**	IAmb	IAmb	09 23 21.7	
	comp=Z,163nm,1.4s						
G27K				IAms_20	IAms_20	10 00 40.0	
	comp=Z,6μm,20.0s						
G27K	**Doyon Strip**	**79.50**	**24**	P	**P**	**09 23 16.4**	**+0.2**
	baz=283,SNR=80						
G27K				S	**S**	**09 33 17.7**	**+1.5**
	baz=283						
MNK	**Minsk**	**79.51**	**324**	*i* P	**P**	**09 23 16.3**	**-0.1**
MNK				*i*		09 26 14.3	
MNK				*i* PPP	PPP	09 28 07.2	
MNK				*i* S	**S**	**09 33 14.9**	**-1.7**
MNK				*i* SS	**SS**	**09 38 29.3**	**+5.3**
MNK				*i* SSS	SSS	09 41 43.6	
MNK				pmax	pmax		
	comp=E,27nm,1.1s						
MNK				pmax	pmax		
	comp=Z,113nm,1.1s						
MNK				pmax	pmax		
	comp=N,153nm,1.3s						
MNK				MLR	MLR		
	comp=Z,12μm,19.0s						
MNK				MLR	MLR		
	comp=N,10μm,17.0s						
MNK				MLR	MLR		
	comp=E,5μm,21.0s						
RAGM	**Ragged Mountai**	**79.56**	**30**	IAms_20	IAms_20	10 00 43.0	
	comp=Z,9μm,20.0s						
POHA	**Pohakuloa**	**79.56**	**72**	P	**P**	**09 23 17.1**	**-0.6**
POHA	**Pohakuloa**	**79.56**	**72**	P	**P**	**09 23 19.8**	**+2.1**
POHA	**Pohakuloa**	**79.56**	**72**	⇑P	**P**	**09 23 20.4**	**+2.7**
ABPO	**Ambohimpanom**	**79.58**	**247**	P	**P**	**09 23 17.4**	**-0.3**
ABPO	**Ambohimpanom**	**79.58**	**247**	P	**P**	**09 23 17.4**	**-0.3**
ABPO				pmax	pmax		
	comp=Z,67nm,1.1s						
ABPO				MLR	MLR		
	comp=Z,4μm,19.0s						
L26K	**Log Cabin Wild**	**79.63**	**27**	IAms_20	IAms_20	09 59 50.7	
	comp=Z,9μm,20.0s						
L26K	**Log Cabin Wild**	**79.63**	**27**	P	**P**	**09 23 17.2**	**+0.3**
	baz=282,SNR=36						
L26K				S	**S**	**09 33 18.4**	**+0.7**
	baz=282						
JETT	**Jettan, Norway**	**79.63**	**339**	*e*P	**P**	**09 23 17.0**	**+0.1**
JETT				IVmB_BB		09 23 24.9	
	comp=Z,3μm,3.8s						
JETT				*e*S	**S**	**09 33 18.5**	**+0.9**
JETT				IVMs_BB	IVMs_BB	10 06 27.4	
	comp=Z,7μm,14.6s						
H27K	**Steamboat Moun**	**79.68**	**24**	IAmb	IAmb	09 23 23.0	
	comp=Z,426nm,1.8s						
H27K				IAms_20	IAms_20	10 03 17.7	
	comp=Z,5μm,19.0s						
H27K	**Steamboat Moun**	**79.68**	**24**	P	**P**	**09 23 17.6**	**+0.4**
	baz=283,SNR=94						
H27K				S	**S**	**09 33 20.3**	**+2.1**
	baz=283						
HMT	**Hamilton**	**79.77**	**30**	IAms_20	IAms_20	10 00 47.6	
	comp=Z,8μm,20.0s						
KAIM	**Kayak Island**	**79.78**	**31**	P	**P**	**09 23 17.5**	**-0.3**
	baz=282						
I27K	**Kandik River**	**79.79**	**25**	P	**P**	**09 23 18.2**	**+0.4**
	baz=283,SNR=95						
I27K				S	**S**	**09 33 20.5**	**+1.1**
	baz=283						
E28M	**Babbage River**	**79.85**	**22**	IAmb	IAmb	09 23 22.3	
	comp=Z,283nm,1.6s						
E28M	**Babbage River**	**79.85**	**22**	P	**P**	**09 23 18.3**	**+0.2**
	baz=285,SNR=111						
E28M				S	**S**	**09 33 19.2**	**-0.7**
	baz=285						
M26K	**Nabesna, AK**	**79.92**	**28**	IAmb	IAmb	09 23 21.9	
	comp=Z,177nm,1.1s						
M26K				IAms_20	IAms_20	09 59 53.5	
	comp=Z,8μm,21.0s						
M26K	**Nabesna, AK**	**79.92**	**28**	P	**P**	**09 23 18.6**	**0.0**
	baz=283,SNR=58						
M26K				S	**S**	**09 33 21.2**	**+0.3**
	baz=283						
PUH	**Pauahi**	**79.93**	**73**	IAmb	IAmb	09 23 22.1	
	comp=Z,230nm,1.2s						
D28M	**Stokes Point**	**79.94**	**21**	P	**P**	**09 23 18.9**	**+0.4**
	baz=285,SNR=40						
D28M				S	**S**	**09 33 20.5**	**-0.2**
	baz=285						
MDUB	**Mudurnu**	**79.95**	**309**	⇑P	**P**	**09 23 18.9**	**-0.3**
K27K	**Chicken**	**79.96**	**26**	IAmb	IAmb	09 23 22.7	
	comp=Z,272nm,1.2s						
K27K				IAms_20	IAms_20	10 04 06.7	
	comp=Z,7μm,18.0s						
K27K	**Chicken**	**79.96**	**26**	P	**P**	**09 23 19.6**	**+0.9**
	baz=283,SNR=125						
K27K				S	**S**	**09 33 21.8**	**+0.7**
	baz=283						
STCH	**Steam Cracks**	**80.01**	**73**	IAmb	IAmb	09 23 24.6	
	comp=Z,153nm,1.1s						
BERG	**Berg Lake**	**80.03**	**30**	IAmb	IAmb	09 23 22.4	
	comp=Z,154nm,1.1s						
BERG				IAms_20	IAms_20	10 00 37.4	
	comp=Z,7μm,20.0s						
NACGM	**Naroch**	**80.05**	**324**	⇑*i*P	**P**	**09 23 19.3**	**0.0**
BGLC	**Bering Glacier**	**80.29**	**30**	P	**P**	**09 23 18.5**	**-2.0**
	baz=283						
L27K	**Beaver Creek,**	**80.29**	**27**	IAmb	IAmb	09 23 24.5	
	comp=Z,141nm,1.1s						
L27K				IAms_20	IAms_20	10 05 14.3	
	comp=Z,6μm,18.0s						
L27K	**Beaver Creek,**	**80.29**	**27**	P	**P**	**09 23 21.1**	**+0.5**
	baz=284,SNR=80						
L27K				S	**S**	**09 33 24.5**	**-0.3**
	baz=284						
BCAR	**Beaver Creek A**	**80.31**	**27**	P	**P**	**09 23 20.9**	**+0.2**
MI28	**Mi28,Pidlybu**	**80.33**	**320**	P	**P**	**09 23 20.2**	**-0.7**
KIS	**Kishinev**	**80.38**	**316**	*e*P	**P**	**09 23 20.0**	**-1.3**
KIS				*i* S	**S**	**09 33 22.8**	**-3.3**
	comp=Z,760nm,13.1s						
KIS				*e*L	L	09 51 48.0	
KIS				LQM		09 56 26.0	
	comp=Z,5μm,23.0s						
KIS				LRM	MLR	10 05 06.0	
	comp=Z,4μm,16.5s						
KIS	**Kishinev**	**80.38**	**316**	*e*P	**P**	**09 23 20.0**	**-1.3**
KIS				*i* S	**S**	**09 33 22.8**	**-3.3**
KIS				smax	smax		
	comp=N,760nm,13.1s						
MILM	**Milestii Mici**	**80.39**	**316**	*e*P	**P**	**09 23 19.3**	**-2.1**
	comp=N,470nm,2.1s						
MILM				*e*S	**S**	**09 33 22.8**	**-3.5**
	comp=N,490nm,3.3s						
MILM				*e*L	L	09 50 10.0	
MILM				LQM		09 56 18.0	
	comp=N,13μm,23.0s						
MILM				LRM	MLR	10 03 20.0	
	comp=N,7μm,17.0s						
**MILM

G29M	Pine Creek	80.86	23	P	P	09 23 23.4	-0.1
	baz=286,SNR=96						
BVCY	Beaver Creek	80.88	28	P	P	09 23 23.8	+0.1
	baz=285,SNR=37						
H29M	Whitestone	80.92	24	IAmb	IAmb	09 23 27.1	
	comp=Z,219nm,1.1s						
H29M				IAMs_20	IAMs_20	10 05 54.7	
	comp=Z,7μm,18.0s						
H29M	Whitestone	80.92	24	P	P	09 23 24.1	+0.3
	baz=286,SNR=68						
H29M				S	S	09 33 29.8	-1.3
	baz=286						
MESA	MESA	80.92	30	IAmb	IAmb	09 23 27.9	
	comp=Z,200nm,1.2s						
MESA	MESA	80.92	30	P	P	09 23 23.5	-0.8
	baz=284,SNR=7.2						
VOI	Vohitsoka	80.94	244	P	P	09 23 26.3	+1.4
	SNR=7.7						
VOI	Vohitsoka	80.94	244	⇑P	P	09 23 25.9	+1.0
YAH	Yahtse	80.98	30	IAMs_20	IAMs_20	10 01 14.7	
	comp=Z,6μm,21.0s						
ISP	Isparta	80.98	307	IAmb	IAmb	09 23 47.1	
	comp=Z,222nm,1.4s						
ISP				IAMs_20	IAMs_20	10 05 54.8	
	comp=Z,8μm,21.0s						
ISP	Isparta	80.98	307	*ce*P	P	09 23 25.7	+0.8
ISP				pmax	pmax		
	comp=Z,188nm,1.7s						
TPGR	Topolog	81.08	314	⇓P	P	09 23 24.9	-0.3
DAWY	Dawson	81.09	26	IAmb	IAmb	09 23 28.2	
	comp=Z,177nm,1.3s						
DAWY				IAMs_20	IAMs_20	10 01 01.4	
	comp=Z,6μm,20.0s						
DAWY	Dawson	81.09	26	P	P	09 23 24.8	0.0
	baz=286,SNR=55						
DAWY				S	S	09 33 32.8	-0.3
	baz=286						
EFOR	EFORIE	81.10	313	⇓P	P	09 23 26.1	+0.9
VLDR	Vladesti	81.11	315	⇑P	P	09 23 25.6	+0.4
TIRR	Tirgusor	81.17	314	IAMs_20	IAMs_20	10 03 38.0	
	comp=Z,9μm,20.0s						
TIRR	Tirgusor	81.17	314	⇓P	P	09 23 25.1	-0.5
TIRR	Tirgusor	81.17	314	P	P	09 23 25.0	-0.5
TIRR	Tirgusor	81.17	314	P	P	09 23 25.1	-0.5
	comp=Z,2μmcomp=Z,78nm,1.6s						
TIRR	Tirgusor	81.17	314	⇑P	P	09 23 25.2	-0.4
MANR	Mangalia	81.18	313	⇑P	P	09 23 25.7	+0.1
I29M	Ogilvie Camp,	81.19	25	IAmb	IAmb	09 23 30.2	
	comp=Z,206nm,1.4s						
I29M				IAMs_20	IAMs_20	10 00 06.7	
	comp=Z,6μm,21.0s						
I29M	Ogilvie Camp,	81.19	25	P	P	09 23 25.3	0.0
	baz=286,SNR=27						
I29M				S	S	09 33 33.7	-0.3
	baz=286						
SCTR	Scanteiesti	81.20	315	⇑P	P	09 23 25.6	-0.2
CFR	Carcaliu	81.21	314	⇓P	P	09 23 25.1	-0.7
CFR	Carcaliu	81.21	314	P	P	09 23 25.0	-0.7
YUK3	Moose Creek	81.23	28	P	P	09 23 26.1	+0.2
	baz=285,SNR=38						
YUK3				S	S	09 33 34.4	-0.6
	baz=285						
CASY	Casey	81.29	184	P	P	09 23 24.2	-1.3
CASY	Casey	81.29	184	⇑P	P	09 23 24.5	-1.1
YLV	Yalova	81.29	310	P	P	09 23 25.9	-0.5
	comp=Z,2μmcomp=Z,133nm,1.4s						
RNPP9	Sopachiv	81.32	321	P	P	09 23 25.5	-0.7
RNPP8	Varash	81.36	321	P	P	09 23 25.7	-0.7
IZVR	Izvoarele	81.39	315	⇑P	P	09 23 27.1	+0.4
KLYT	Kilyos	81.39	310	P	P	09 23 26.1	-0.7
	comp=Z,3μmcomp=Z,107nm,1.1s						
HARR	Harsova	81.46	314	⇑P	P	09 23 27.3	+0.1
HARR	Harsova	81.46	314	P	P	09 23 27.2	+0.1
F30M	Barrier River	81.48	22	P	P	09 23 26.2	-0.6
	baz=288,SNR=91						
F30M				S	S	09 33 35.7	-1.2
	baz=288						
J29N	Klondike Camp	81.48	25	IAMs_20	IAMs_20	10 04 53.6	
	comp=Z,6μm,20.0s						
J29N	Klondike Camp	81.48	25	P	P	09 23 27.2	+0.3
	baz=287,SNR=74						
J29N				S	S	09 33 37.3	+0.2
	baz=287						
EPYK	Eagle Plains	81.51	23	IAmb	IAmb	09 23 31.4	
	comp=Z,350nm,1.5s						
EPYK				IAMs_20	IAMs_20	10 02 29.4	
	comp=Z,10μm,20.0s						
EPYK	Eagle Plains	81.51	23	P	P	09 23 26.7	-0.4
	baz=288,SNR=51						
G30M	tAoh Zraii Nji	81.52	23	IAmb	IAmb	09 23 29.5	
	comp=Z,275nm,1.2s						
G30M				IAMs_20	IAMs_20	10 01 40.4	
	comp=Z,8μm,21.0s						
G30M	tAoh Zraii Nji	81.52	23	P	P	09 23 26.2	-0.9
	baz=288,SNR=77						
PSN	Preselentsi	81.54	313	P	P	09 23 26.0	-1.6
KMPD	K-Podol'skiy	81.60	318	P	P	09 23 26.6	-1.2
O28M	Mount Upton	81.62	29	P	P	09 23 28.4	+0.4
	baz=285,SNR=14						
COSR	Cosmesti PH	81.63	315	⇑P	P	09 23 29.0	+1.0
ICOR	Ion Corvin	81.67	313	⇑P	P	09 23 28.8	+0.6
YUK8	Steele Glacier	81.68	29	P	P	09 23 28.8	+0.5
	baz=286,SNR=21						
PANC	Panciu	81.74	315	⇑P	P	09 23 28.6	+0.1
PCA	Pinnacle	81.77	30	IAmb	IAmb	09 23 32.2	
	comp=Z,244nm,1.2s						
PINM	Pinnacle	81.77	30	P	P	09 23 28.0	-0.5
	baz=285,SNR=9.0						
ODBI	Odobesti	81.83	315	⇓P	P	09 23 28.9	-0.2
FOMA	Nahampoana Res	81.84	242	IAmb	IAmb	09 23 32.6	
	comp=Z,256nm,2.0s						
SLIT	Slitere, Latvi	81.87	327	⇑P	P	09 23 27.5	-1.5
L29M	L29M	81.91	27	IAmb	IAmb	09 23 33.4	
	comp=Z,284nm,1.2s						
L29M	L29M	81.91	27	P	P	09 23 30.0	+0.8
	baz=287,SNR=90						
L29M				S	S	09 33 40.8	-0.8
	baz=287						
STEI	Steigen	81.91	338	*eP*	P	09 23 28.2	-0.8
TESR	Tescani	81.94	316	⇑P	P	09 23 29.1	-0.5
K29M	Barlow Dome	81.95	26	IAmb	IAmb	09 23 33.1	
	comp=Z,239nm,1.4s						
K29M				IAMs_20	IAMs_20	10 03 50.7	
	comp=Z,6μm,20.0s						
K29M	Barlow Dome	81.95	26	P	P	09 23 29.6	+0.1
	baz=287,SNR=60						
K29M				S	S	09 33 40.2	-1.9
	baz=287						
M29M	Somme Creek	81.95	27	IAmb	IAmb	09 23 33.7	
	comp=Z,140nm,1.2s						
M29M				IAMs_20	IAMs_20	10 06 07.1	
	comp=Z,6μm,18.0s						
M29M	Somme Creek	81.95	27	P	P	09 23 30.1	+0.6
	baz=287,SNR=53						
M29M				S	S	09 33 42.7	+0.5
	baz=287						
I30M	Mount Dempster	82.00	24	IAmb	IAmb	09 23 32.2	
	comp=Z,150nm,1.1s						
I30M				IAMs_20	IAMs_20	10 00 49.3	
	comp=Z,8μm,22.0s						
I30M	Mount Dempster	82.00	24	P	P	09 23 29.9	+0.1
	baz=288,SNR=98						
I30M				S	S	09 33 41.7	-0.9
	baz=288						
VRI	Vrincioaia	82.03	315	⇓P	P	09 23 30.5	+0.3
VRI	Vrincioaia	82.03	315	P	P	09 23 30.4	+0.3
INK	Inuvik	82.05	21	P	P	09 23 29.1	-0.6
	comp=Z,87nm,1.0s,baz=298,slow=4.9,SNR=125						
INK				LR	LR	10 04 03.9	
	comp=Z,8μm,18.9s,baz=287,slow=39						
	comp=Z,87nm,1.0s						
INK	Inuvik	82.05	21	P	P	09 23 29.3	-0.5
	baz=290,SNR=147						
INK				S	S	09 33 41.5	-1.2
	baz=290						
PLOR5	Plostina Array	82.08	315	P	P	09 23 30.5	+0.1
	comp=Z,3μmcomp=Z,132nm,1.1s						
FAUS	Fauske	82.08	338	*eP*	P	09 23 30.1	+0.2
FAUS				IVmB_BB		09 23 32.0	
	comp=Z,2μm,1.7s						
FAUS				*eS*	S	09 33 42.5	-0.5
FAUS				IVMs_BB	IVMs_BB	10 05 11.9	
	comp=Z,7μm,16.3s						
PLOR	Plostina	82.08	315	⇑P	P	09 23 30.1	-0.3
PLOR	Plostina	82.08	315	P	P	09 23 30.1	-0.3
PLOR3	Plostina Array	82.09	315	P	P	09 23 30.5	0.0
	comp=Z,2μmcomp=Z,115nm,1.3s						
ONER	Baraj Valea Uz	82.15	316	⇓P	P	09 23 30.8	+0.1
YUK4	Talbot Arm	82.18	29	P	P	09 23 30.6	-0.3
	baz=287,SNR=18						
YUK4				S	S	09 33 44.8	0.0
	baz=287						
J30M	Hart River	82.22	25	IAmb	IAmb	09 23 36.2	
	comp=Z,312nm,1.8s						
J30M	Hart River	82.22	25	P	P	09 23 30.8	-0.2
	baz=288,SNR=37						
J30M				S	S	09 33 44.5	-0.4
	baz=288						
G31M	Satah River	82.26	23	P	P	09 23 30.2	-0.6
	baz=290,SNR=130						
G31M				S	S	09 33 45.1	+0.2
	baz=290						
F31M	Tsiigehtchic	82.28	22	IAMs_20	IAMs_20	10 01 40.5	
	comp=Z,8μm,20.0s						
F31M	Tsiigehtchic	82.28	22	P	P	09 23 30.3	-0.6
	baz=290,SNR=174						
F31M				S	S	09 33 43.1	-1.9
	baz=290						
BAND	Balkesir-Ban	82.29	310	⇓P	P	09 23 31.2	-0.4
PNL	Peninsula	82.30	30	P	P	09 23 32.8	+1.5
PNL	Peninsula	82.30	30	P	P	09 23 31.8	+0.5
	baz=286,SNR=10						
SUW	Suwalki	82.31	324	*eP*	P	09 23 30.7	-0.6
SUW				*e*PcP	PcP	09 23 36.2	-0.4
SUW				*e*PP	PP	09 26 41.0	+1.3
SUW				*e*L	L	10 05 23.1	
	comp=Z,17μm,17.7s						
COVR	Voineasa-Covas	82.39	315	⇑P	P	09 23 32.0	0.0
NEHR	Nehoiu	82.42	315	⇑P	P	09 23 32.5	+0.3
YUK6	Outpost Mounta	82.43	29	P	P	09 23 32.7	+0.5
	baz=287,SNR=19						
YUK6				S	S	09 33 48.5	+1.1
	baz=287						
LOF	Lofoten	82.44	339	*e*S	S	09 33 47.0	+0.2
LOF				IVMs_BB	IVMs_BB	10 04 36.0	
	comp=Z,5μm,17.9s						
O29M	Mount Kennedy	82.52	30	IAmb	IAmb	09 23 45.6	
	comp=Z,187nm,1.4s						
O29M				IAMs_20	IAMs_20	10 07 00.2	
	comp=Z,6μm,20.0s						
O29M	Mount Kennedy	82.52	30	P	P	09 23 32.9	+0.4
	baz=287,SNR=20						
H31M	Peel River	82.61	24	IAmb	IAmb	09 23 36.3	
	comp=Z,267nm,1.3s						
H31M				IAMs_20	IAMs_20	10 02 42.1	
	comp=Z,9μm,21.0s						
H31M	Peel River	82.61	24	P	P	09 23 32.5	-0.3
	baz=290,SNR=84						
H31M				S	S	09 33 47.3	-1.3
	baz=290						
OZUR		82.61	316	⇓P	P	09 23 33.2	0.0
SULR		82.63	314	⇑P	P	09 23 33.2	0.0
BURAR	Bucovina Array	82.63	317	⇑P	P	09 23 33.9	+0.5
BURAR	Bucovina Array	82.63	317	P	P	09 23 33.8	+0.5
BUR08	Bucovina Ar. S	82.63	317	IAmb	IAmb	09 23 36.2	
	comp=Z,181nm,1.3s						
MLR	Muntele Rosu	82.65	315	P	P	09 23 33.4	-0.1
	comp=Z,46nm,1.0s,baz=34,slow=3.3,SNR=47						
	comp=Z,46nm,1.0s						
MLR	Muntele Rosu	82.65	315	⇓P	P	09 23 33.4	-0.1
M30M	Minto, Yukon	82.65	27	IAmb	IAmb	09 23 38.9	
	comp=Z,323nm,1.5s						
M30M	Minto, Yukon	82.65	27	P	P	09 23 34.0	+0.9
	baz=288,SNR=45						
M30M				S	S	09 33 49.6	+0.4
	baz=288						
RAZG	Razgrad	82.71	313	⇑P	P	09 23 33.7	0.0
MOR8	Moi Rana	82.81	337	*eP*	P	09 23 32.3	-1.5
MOR8				IVmB_BB		09 23 34.8	
	comp=Z,2μm,1.9s						
MOR8				*e*S	S	09 33 49.6	-1.1
MOR8				IVMs_BB	IVMs_BB	10 03 18.9	
	comp=Z,8μm,16.8s						
N30M	Aishikik Lake	82.86	28	IAmb	IAmb	09 23 37.7	
	comp=Z,130nm,1.1s						
N30M				IAMs_20	IAMs_20	10 01 43.3	
	comp=Z,7μm,21.0s						
N30M	Aishikik Lake	82.86	28	P	P	09 23 35.2	+1.0
	baz=288,SNR=31						
N30M				S	S	09 33 51.1	-0.3
	baz=288						
HYT	Haines Junctio	82.87	29	P	P	09 23 34.6	+0.2
	baz=288,SNR=27						
HYT				S	S	09 33 51.6	-0.1
	baz=288						
DOPR	Dopca	82.91	316	⇓P	P	09 23 34.9	+0.1
JMB	Yambol	82.94	312	P	P	09 23 33.0	-2.0
VAGH	Vaagaholmen	83.05	338	*eP*	P	09 23 35.6	+0.6
P29M	Windy Craggy	83.12	30	IAmb	IAmb	09 23 39.6	
	comp=Z,219nm,1.4s						
P29M	Windy Craggy	83.12	30	P	P	09 23 36.2	+0.7
	baz=288,SNR=25						
P29M				S	SKSac	09 33 56.1	-0.1
	baz=288						
A36M	Sachs Harbour	83.15	17	IAmb	IAmb	09 23 37.7	
	comp=Z,170nm,1.0s						
A36M				IAMs_20	IAMs_20	10 02 29.0	
	comp=Z,9μm,22.0s						
A36M	Sachs Harbour	83.15	17	P	P	09 23 34.6	-0.7
	baz=298,SNR=128						
A36M				S	S	09 33 53.8	0.0
	baz=298						
SZH	Strazhitsa	83.16	313	P	P	09 23 35.0	-1.1
VOIR		83.27	315	⇑P	P	09 23 36.6	-0.2
VOIR		83.27	315	P	P	09 23 36.5	-0.2
KIBK	Kibwezi	83.29	266	IAmb	IAmb	09 23 40.9	
	comp=Z,119nm,1.4s						
KIBK	Kibwezi	83.29	266	P	P	09 23 34.9	-2.5
KIBK	Kibwezi	83.29	266	P	P	09 23 39.7	+2.3
	SNR=23						
STOK	Stokkvaagen	83.29	337	*eP*	P	09 23 36.5	+0.3
ARCR	ARCALIA	83.33	317	⇓P	P	09 23 37.7	+0.8
LEIR	Leirfjorden	83.34	337	*eP*	P	09 23 35.8	-0.7
LEIR				IVmB_BB		09 23 37.4	
	comp=Z,2μm,1.6s						
LEIR				*e*S	S	09 33 55.8	-0.1
LEIR				IVMs_BB	IVMs_BB	10 05 59.7	
	comp=Z,9μm,17.6s						
P30M	Million Dollar	83.34	29	P	P	09 23 36.0	-0.7
	baz=288						
N31M	Braeburn, Yuko	83.45	28	IAMs_20	IAMs_20	10 02 02.4	
	comp=Z,5μm,20.0s						
N31M	Braeburn, Yuko	83.45	28	P	P	09 23 37.9	+0.6
	baz=289,SNR=17						
O30N	Mendenhall	83.54	29	P	P	09 23 38.2	+0.4
	baz=289,SNR=29						
ARR	Arges	83.57	315	⇑P	P	09 23 38.6	+0.3
ALN	Alexandroupoli	83.68	310	P	P	09 23 36.0	-2.8
ALN	Alexandroupoli	83.68	310	IAmb	IAmb	09 23 40.8	
	comp=Z,129nm,1.4s						
ALN				IAMs_20	IAMs_20	10 06 00.6	
	comp=Z,5μm,21.0s						
KMBO	Kilima Mbogo	83.74	267	P	P	09 23 40.6	+0.7
KMBO				IAmb	IAmb	09 23 43.5	
	comp=Z,114nm,1.4s						
KMBO	Kilima Mbogo	83.74	267	P	P	09 23 40.7	+0.8
	comp=Z,34nm,0.5s,baz=95,slow=3.9,SNR=3.5						
	comp=Z,34nm,0.5s						
KMBO	Kilima Mbogo	83.74	267	P	P	09 23 37.6	-2.3
PVL	Pavlikeni	83.76	313	P	P	09 23 37.5	-1.6
M31M	Drury Creek, Y	83.83	27	IAmb	IAmb	09 23 42.7	
	comp=Z,133nm,1.4s						
M31M				IAMs_20	IAMs_20	10 05 13.5	
	comp=Z,7μm,19.0s						
M31M	Drury Creek, Y	83.83	27	P	P	09 23 38.7	-0.5
	baz=290,SNR=34						
M31M				S	SKSac	09 34 00.6	-0.2
	baz=290						
CJR	Cluj-Napoca	83.93	317	⇓P	P	09 23 40.8	+0.7
CJR	Cluj-Napoca	83.93	317	P	P	09 23 40.7	+0.7
CBBR	Cluj-Babes-Bol	83.94	317	⇓P	P	09 23 40.2	+0.2
R9F13	Warsaw-Wawer	83.97	322	*eP*	P	09 23 40.2	+0.2
	comp=Z,2.9nm,0.9s						
RDO	Rodhopi	83.99	311	IAmb	IAmb	09 23 42.3	
	comp=Z,166nm,1.5s						
VLAD	Vladila	84.08	314	⇑P	P	09 23 41.3	+0.6
KARP	Karpathos	84.12	305	P	P	09 23 40.5	-0.7
KARP	Karpathos	84.12	305	⇑P	P	09 23 41.4	+0.1
WHY	Whitehorse	84.14	29	IAMs_20	IAMs_20	10 04 02.6	
	comp=Z,9μm,19.0s						
WHY	Whitehorse	84.14	29	P	P	09 23 41.3	+0.4
	baz=290,SNR=33						
WHY				S	SKSac	09 34 03.8	+0.8
	baz=290						
LOT	Lotru	84.14	315	⇓P	P	09 23 40.4	-0.8
SMTH	Samothraki Isl	84.16	310	P	P	09 23 38.4	-2.9
KOLS	Kolonicke sedl	84.19	319	*eP*	P	09 23 41.2	-0.1
KOLS				pmax	pmax		
	comp=Z,80nm,1.6s						
KOLS	Kolonicke sedl	84.19	319	*eP*	P	09 23 41.2	-0.1
SIGR	SIGRI	84.24	309	P	P	09 23 41.9	+0.3
MARR	Marisel-Cluj	84.25	317	⇓P	P	09 23 42.0	+0.2
FARO	Faro, Yukon	84.28	27	IAMs_20	IAMs_20	10 06 38.4	
	comp=Z,6μm,19.0s						
FARO	Faro, Yukon	84.28	27	P	P	09 23 41.8	+0.4
	baz=291,SNR=94						
FARO				S	S	09 34 05.7	+0.1
	baz=291						
BEL	Belsk	84.29	322	*eP*	P	09 23 41.7	+0.1
SKAG	Skagway	84.33	30	IAmb	IAmb	09 23 45.8	
	comp=Z,182nm,1.2s						
SKAG	Skagway	84.33	30	P	P	09 23 43.2	+1.5
SKAG	Skagway	84.33	30	P	P	09 23 42.4	+0.7
	baz=290,SNR=35						
SKAG				S	S	09 34 05.6	-0.5
	baz=290						
S31K	Pelican	84.39	31	IAmb	IAmb	09 23 48.7	
	comp=Z,189nm,1.3s						
S31K	Pelican	84.39	31	P	P	09 23 40.5	-1.4
	baz=289						
NSS	Namsos	84.39	336	*eP*	P	09 23 42.2	+0.3
NSS				IVmB_BB		09 23 43.5	
	comp=Z,964nm,1.6s						
NSS				*e*S	S	09 34 09.3	+2.8
NSS				IVMs_BB	IVMs_BB	10 04 21.1	
	comp=Z,8μm,19.5s						
LODK	Lodwar	84.41	272	IAmb	IAmb	09 23 47.6	
	comp=Z,167nm,1.8s						
LODK	Lodwar	84.41	272	P	P	09 23 45.3	+2.2
	SNR=14						
R31K	City Hall, Gus	84.48	31	P	P	09 23 41.2	-1.3
	baz=289						
DRGR		84.49	317	⇓P	P	09 23 42.8	-0.1
DRGR		84.49	317	P	P	09 23 42.8	-0.1
DEV	Deva	84.61	316	⇑P	P	09 23 43.5	+0.1
DEV	Deva	84.61	316	P	P	09 23 43.5	+0.1
PGB	Panagyurishte	84.63	312	P	P	09 23 42.0	-1.6
THAS	Thassos island	84.73	310	P	P	09 23 40.8	-3.3
C36M	Paulatuk	84.75	19	IAMs_20	IAMs_20	10 05 49.7	
	comp=Z,7μm,21.0s						
C36M	Paulatuk	84.75	19	P	P	09 23 42.6	-0.9
	baz=299,SNR=125						
C36M				S	SKSac	09 34 05.2	-1.1
	baz=299						
KAVA	Kavala	84.78	311	P	P	09 23 44.2	-0.1
N32M	Quiet Lake	84.79	28	IAMs_20	IAMs_20	10 07 57.3	
	comp=Z,6μm,19.0s						
N32M	Quiet Lake	84.79	28	P	P	09 23 44.4	+0.3
	baz=291						
N32M				S	SKSac	09 34 08.7	+1.7
	baz=291						
GZR	Gura Zlata	84.83	315	⇓P	P	09 23 44.7	0.0
GZR	Gura Zlata	84.83	315	P	P	09 23 44.6	0.0
VALD	Valchedram	84.84	314	P	P	09 23 44.5	-0.1
BESE	Bessie Mountai	84.87	31	IAmb	IAmb	09 23 48.6	
	comp=Z,200nm,1.3s						
BESE				IAMs_20	IAMs_20	10 02 39.1	
	comp=Z,6μm,22.0s						
BORR	Bors	85.02	317	⇑P	P	09 23 46.4	+0.9
PUNG	Punghina	85.03	314	⇑P	P	09 23 46.2	+0.7
MMPY	Sheldon Lake,	85.03	26	P	P	09 23 45.1	-0.2
	baz=293,SNR=66						
MMPY				S	S	09 34 12.4	-0.8
	baz=293						
P32M	Atlin	85.06	29	IAmb	IAmb	09 23 49.3	
	comp=Z,90nm,1.1s						
P32M	Atlin	85.06	29	P	P	09 23 45.3	-0.2
	baz=291,SNR=16						
P32M				S	S	09 34 11.7	-1.8
	baz=291						
R32K	Eaglecrest	85.14	31	IAmb	IAmb	09 23 51.9	
	comp=Z,178nm,1.4s						
R32K				IAMs_20	IAMs_20	10 02 47.7	
	comp=Z,6μm,22.0s						
R32K	Eaglecrest	85.14	31	P	P	09 23 46.9	+1.1
	baz=290,SNR=12						
SIT	Sitka	85.15	32	P	P	09 23 47.6	+1.8
SIT	Sitka	85.15	32	P	P	09 23 46.7	+0.8
	baz=290,SNR=7.2						
SURR	Surduc	85.17	316	⇓P	P	09 23 46.0	-0.2
MMB	Musomishta	85.19	312	P	P	09 23 44.0	-2.5
KOKK	Kokkinochori,	85.20	311	P	P	09 23 45.8	-0.7
JIS	Juneau Island	85.20	31	P	P	09 23 47.7	+1.6
DJES	Djerdap	85.20	315	⇑P	P	09 23 46.7	+0.3
HERR	Herculane	85.22	315	⇓P	P	09 23 46.2	-0.3
P33M	Teslin, Yukon	85.26	29	IAMs_20	IAMs_20	10 03 08.7	
	comp=Z,6μm,21.0s						
P33M	Teslin, Yukon	85.26	29	P	P	09 23 46.7	+0.2
	baz=292,SNR=46						
P33M				S	S	09 34 15.6	0.0
	baz=292						
VTS	Vitosha	85.27	313	P	P	09 23 45.0	-2.0
NIE	Niedzica	85.30	320	*eP*	P	09 23 47.1	+0.3
NIE				*e*PcP	pP	09 23 53.6	-0.5
NIE				*e*S	S	09 34 16.1	-0.2
NIE				*e*L	L	10 07 15.2	
	comp=Z,7μm,20.1s						
HFS	Hagfors	85.32	331	P	P	09 23 45.5	-1.1
	comp=Z,50nm,0.8s,baz=68,slow=5.2,SNR=48						
HFS				PP	PP	09 27 02.5	-1.7
	comp=Z,21nm,1.0s,baz=70,slow=9.1,SNR=4.5						
HFS				LR	LR	10 04 01.1	
	comp=Z,9μm,19.6s,baz=68,slow=37						
	comp=Z,50nm,0.8s						
SIRR	Siria	85.34	317	⇓P	P	09 23 46.9	-0.2
OJC	Ojcow	85.36	321	*eP*	P	09 23 47.1	0.0
OJC				*e*PcP	pP	09 23 52.4	-2.0
OJC				*e*S	S	09 34 15.9	-0.9
OJC				*e*L	L	10 01 54.5	
	comp=Z,11μm,22.0s						
S32K	Killisnoo	85.39	32	IAmb	IAmb	09 23 55.2	
	comp=Z,83nm,1.2s						
S32K	Killisnoo	85.39	32	P	P	09 23 46.7	-0.3
	baz=290						
SRS	Serrai	85.42	311	P	P	09 23 45.3	-2.3
KECS	Kecovo	85.45	319	*eP*	P	09 23 47.7	+0.1
KECS				pmax	pmax		
	comp=Z,211nm,1.4s						
KECS	Kecovo	85.45	319	*eP*	P	09 23 47.7	+0.1
BZS	Buzias	85.55	316	⇓P	P	09 23 47.5	-0.6
BZS	Buzias	85.55	316	P	P	09 23 47.5	-0.6
KKB	Krupnik	85.56	312	P	P	09 23 45.5	-2.8
BLEU	Blekinge	85.65	327	*i*P	P	09 23 46.5	-1.9
PAIG	Paliouri	85.67	310	P	P	09 23 46.1	-2.8
KYMI	Kymi, Euboea I	85.71	309	P	P	09 23 48.0	-1.1

comp=Z,1μm,1.6s
NC602 e 09 27 07.0
NC602 eS S 09 34 21.0 -2.4
NC602 IVMs_BB IVMs_BB 10 07 37.6
comp=Z,8μm,14.6s
NB2 NORSAR Subarra 86.10 333 P **P 09 23 49.0 -1.6**
comp=Z,406nm,1.4s,baz=67,slow=5.1
NB2 PP **PP 09 27 07.1 -3.4**
comp=Z,3.3nm,0.8s,baz=66,slow=8.6
NB2 NORSAR Subarra 86.10 333 P **P 09 23 49.0 -1.6**
baz=67,slow=5.1
NOA NORSAR Array B 86.10 333 P **P 09 23 49.1 -1.5**
comp=Z,69nm,1.0s,baz=67,slow=4.8,SNR=148
NOA PP **PP 09 27 07.1 -3.4**
comp=Z,12nm,1.0s,baz=65,slow=8.1,SNR=5.8
NOA LR LR 10 05 42.1
comp=Z,11μm,19.8s,baz=65,slow=38
comp=Z,69nm,1.0s
VAY Valandovo 86.10 312 i P **P 09 23 49.6 -1.4**
XOR Xorichti 86.19 310 P **P 09 23 48.2 -3.3**
NAO01 NORSAR Array S 86.32 332 IAmb IAmb 09 23 53.2
comp=Z,178nm,1.1s
R33M Jennings River 86.43 29 IAmb IAmb 09 23 58.4
comp=Z,213nm,1.4s
R33M Jennings River 86.43 29 P **P 09 23 53.6 +1.2**
baz=293,SNR=26
OKC Ostrava-Krasne 86.50 321 eSKS **SKSac 09 34 19.3 +1.2**
OKC AMS AMS 10 01 50.0
comp=Z,9μm,20.8s
VYHS Vyhne 86.50 319 eP **P 09 23 52.5 -0.3**
VYHS pmax pmax
comp=Z,307nm,1.7s
VYHS Vyhne 86.50 319 eP **P 09 23 52.5 -0.3**
LIT Litokhoron 86.50 310 P **P 09 23 51.1 -1.9**
BSD Bornholm Skovb 86.55 326 i P **P 09 23 51.2 -1.6**
BSD IAmb IAmb 09 23 55.2
comp=Z,214nm,1.4s
DEL Delary 86.60 328 i P **P 09 23 52.0 -1.1**
DOMB Dombas 86.61 334 eP **P 09 23 52.3 -0.8**
DOMB IVmB_BB 09 23 54.1
comp=Z,1μm,1.7s
DOMB IVMs_BB IVMs_BB 10 06 32.3
comp=Z,9μm,16.5s
U33K Whale Pass 86.63 33 P **P 09 23 53.5 +0.3**
baz=292
STEB Steborice 86.69 321 eP **P 09 23 53.2 -0.5**
BORU Boraas 86.71 329 i P **P 09 23 52.2 -1.3**
TGTN Hyland Airport 86.77 27 P **P 09 23 54.1 +0.2**
baz=296,SNR=61
OSL Oslo 86.77 332 eP **P 09 23 53.3 -0.5**
OSL IVmB_BB 09 23 55.8
comp=Z,2μm,1.5s
OSL eS S 09 34 29.6 -0.5
OSL IVMs_BB IVMs_BB 10 08 31.1
comp=Z,7μm,17.2s
MAUC Maruska 86.84 320 eP **P 09 23 55.0 +0.5**
MORC Moravsky Berou 86.89 321 IAMs_20 IAMs_20 10 02 17.0
comp=Z,10μm,22.0s
MORC Moravsky Berou 86.89 321 eP **P 09 23 54.5 -0.2**
MORC Moravsky Berou 86.89 321 eS **S 09 34 29.7 -2.1**
MORC Moravsky Berou 86.89 321 ⇓P **P 09 23 54.8 +0.1**
MORC Moravsky Berou 86.89 321 P **P 09 23 54.8 +0.1**
WRAK Wrangell Islan 86.91 32 P **P 09 23 53.4 -1.2**
baz=292
STRU Stroemstad 86.93 331 i P **P 09 23 53.2 -1.4**
AGG Agios Georgios 86.93 309 P **P 09 23 51.1 -4.0**
S34M Telegraph Cree 86.94 30 IAmb IAmb 09 24 00.8
comp=Z,188nm,1.6s
S34M IAMs_20 IAMs_20 10 06 26.4
comp=Z,6μm,19.0s
S34M Telegraph Cree 86.94 30 P **P 09 23 55.5 +0.7**
baz=293,SNR=12
FABU Falkenberg 86.98 329 i P **P 09 23 54.0 -1.0**
MOL Molde 87.01 335 eP **P 09 23 54.4 -0.5**
MOL IVmB_BB 09 24 00.7
comp=Z,2μm,3.7s
SRO Srobarova 87.05 319 eP **P 09 23 55.4 0.0**
SRO pmax pmax
comp=Z,91nm,1.3s
SRO Srobarova 87.05 319 eP **P 09 23 55.4 0.0**
JAVC Velka Javorina 87.11 320 eP **P 09 23 56.4 +0.6**
TJOU Tjoern 87.12 330 i P **P 09 23 54.2 -1.4**
VLI Veliai 87.12 307 P **P 09 23 53.5 -2.5**
WTLY Watson Lake, Y 87.14 28 IAmb IAmb 09 23 59.4
comp=Z,139nm,1.0s
WTLY IAMs_20 IAMs_20 10 04 56.5
comp=Z,5μm,21.0s
WTLY Watson Lake, Y 87.14 28 P **P 09 23 56.2 +0.5**
baz=295,SNR=54
ONAU Onsala 87.23 329 i P **P 09 23 54.4 -1.7**
KRLC Kraliky 87.25 321 eP **P 09 23 56.4 -0.1**
KRLC AMS AMS 10 02 30.0
comp=Z,10μm,19.6s
KRLC Kraliky 87.25 321 eP **P 09 23 56.4 -0.1**
KRLC MLR MLR
comp=Z,10μm,19.6s
DLBC Dease Lake 87.27 30 P **P 09 23 57.1 +0.7**
comp=Z,34nm,1.0s,baz=283,slow=4.4,SNR=24
DLBC LR LR 10 05 01.0
comp=Z,3μm,20.4s,baz=310,slow=37
comp=Z,34nm,1.0s
DLBC Dease Lake 87.27 30 P **P 09 23 57.3 +0.9**
baz=294,SNR=21
KSP Ksiaz 87.28 322 eP **P 09 23 56.5 0.0**
KSP ePcP **pP 09 24 02.3 -1.6**
KSP eS **S 09 34 34.6 -0.8**
KLV Kalavryta, Ach 87.34 309 P **P 09 23 54.0 -3.2**
MORH Mrgy, Hungar 87.35 317 ⇑P **P 09 23 56.8 -0.1**
SMOL Smolenice 87.38 320 eP **P 09 23 57.3 +0.3**
SMOL pmax pmax
comp=Z,56nm,1.6s
KONO Kongsberg 87.41 332 P **P 09 23 55.7 -1.2**
KONO Kongsberg 87.41 332 P **P 09 23 55.9 -1.0**
KONO Kongsberg 87.41 332 eP **P 09 23 56.1 -0.8**
KONO IVmB_BB 09 24 02.6
comp=Z,1μm,2.8s
KONO eS **S 09 34 33.6 -2.7**
KONO IVMs_BB IVMs_BB 10 08 44.2
comp=Z,6μm,13.6s
AKN Aaknes 87.42 334 eP **P 09 23 56.9 -0.1**
AKN IVmB_BB 09 24 08.6
comp=Z,1μm,0.9s
AKN eS **S 09 34 35.9 -0.6**
AKN IVMs_BB IVMs_BB 10 07 15.5
comp=Z,12μm,17.1s
OSTC Ostas 87.42 322 eP **P 09 23 57.4 +0.1**
OSTC Ostas 87.42 322 eP **P 09 23 57.4 +0.1**
DPC Dobruska-Polom 87.43 322 eP **P 09 23 57.5 +0.2**
DPC eS **S 09 34 35.8 -1.2**
DPC AMS AMS 10 03 30.0
comp=Z,8μm,16.8s
DPC Dobruska-Polom 87.43 322 eP **P 09 23 57.5 +0.2**
DPC e 09 34 35.8
DPC MLR MLR
comp=Z,8μm,16.8s
OHR Ohrid 87.44 312 i P **P 09 23 56.0 -1.6**
CHVC Chvalec 87.51 322 eP **P 09 23 57.9 +0.2**
CHVC AMS AMS 10 02 30.0
comp=Z,8μm,18.4s
CHVC Chvalec 87.51 322 eP **P 09 23 57.9 +0.2**
CHVC MLR MLR
comp=Z,8μm,18.4s
MODS Modra-Piesok 87.52 319 eP **P 09 23 58.3 +0.5**
MODS pmax pmax
comp=Z,242nm,1.6s
MODS Modra-Piesok 87.52 319 eP **P 09 23 58.3 +0.5**
SKAR Skarslia 87.54 333 eP **P 09 23 57.2 -0.4**
SKAR IVmB_BB 09 24 03.8
comp=Z,1μm,3.2s
SKAR eSKSac **SKSac 09 34 23.3 -0.9**
SKAR eS **S 09 34 38.2 +0.5**
SKAR IVMs_BB IVMs_BB 10 06 25.2
comp=Z,6μm,16.4s
UPC Upice 87.56 322 AMS AMS 10 02 30.0
comp=Z,9μm,19.0s
JMIC Jan Mayen 87.58 345 LR LR 10 06 00.0
comp=Z,15μm,21.7s,baz=40,slow=38
VRAC Vranov 87.62 321 P **P 09 23 58.5 +0.3**
comp=Z,98nm,1.2s,baz=69,slow=5.3,SNR=66
VRAC LR LR 10 04 12.6
comp=Z,9μm,19.4s,baz=70,slow=36
comp=Z,98nm,1.2s
VRAC Vranov 87.62 321 eP **P 09 23 58.4 +0.2**
VRAC Vranov 87.62 321 eS **S 09 34 38.5 -0.4**
VRAC Vranov 87.62 321 ⇓P **P 09 23 58.7 +0.5**
VRAC Vranov 87.62 321 P **P 09 23 58.7 +0.5**
COP Copenhagen 87.64 327 i P **P 09 23 58.0 -0.1**
COP IAmb IAmb 09 24 01.2
comp=Z,48nm,0.9s
V35K Ketchikan 87.71 33 P **P 09 23 57.7 -0.8**
baz=293
T35M Bob Quinn 87.75 31 IAMs_20 IAMs_20 10 04 17.9
comp=Z,6μm,20.0s
T35M Bob Quinn 87.75 31 P **P 09 23 59.3 +0.5**
baz=294
ITM Ithomi 87.76 308 P **P 09 23 56.4 -2.8**
KRUC Moravsky 87.83 320 eP **P 09 23 59.2 0.0**
KRUC Moravsky 87.83 320 eS **S 09 34 40.7 -0.1**
RLS Riolos of Patr 87.86 309 P **P 09 23 58.0 -1.5**
RES Resolute Bay 87.88 9 LR LR 10 05 19.7
comp=Z,9μm,22.0s,baz=331,slow=37
WRGLY Wrigley 87.96 24 IAMs_20 IAMs_20 10 05 13.0
comp=Z,6μm,21.0s
WRGLY Wrigley 87.96 24 P **P 09 23 59.7 +0.2**
baz=300,SNR=44
WRGLY S **S 09 34 41.0 -0.4**
baz=300
TIR Tirane 88.04 312 IAMs_20 IAMs_20 10 09 43.4
comp=Z,8μm,19.0s
OVD Ostervraa, Den 88.11 329 i P **P 09 23 58.9 -1.4**
OVD IAmb IAmb 09 24 13.3
comp=Z,97nm,0.7s
PDG Podgorica 88.14 313 IAmb IAmb 09 24 02.7
comp=Z,93nm,1.4s
PDG IAMs_20 IAMs_20 10 07 34.7
comp=Z,6μm,19.0s
HYA Hoyanger 88.23 334 e P 09 24 14.0 +13
HYA IVMs_BB IVMs_BB 10 07 05.6
comp=Z,11μm,17.5s
U35K Hyder 88.30 32 IAMs_20 IAMs_20 10 04 42.9
comp=Z,5μm,21.0s
U35K Hyder 88.30 32 P **P 09 24 01.8 +0.5**
baz=294
U35K S **S 09 34 47.2 +2.3**
baz=294
TREC Trest 88.31 321 eS **S 09 34 43.3 -2.1**
TREC AMS AMS 10 02 50.0
comp=Z,12μm,22.5s
RONA Rosalia, Austr 88.37 319 i P **P 09 24 02.8 +0.9**
SNR=18
RONA Rosalia, Austr 88.37 319 i P **P 09 24 01.3 -0.5**
comp=Z,45nm,1.8s
RONA i PP **PP 09 27 33.7 +4.5**
comp=Z,25nm,1.3s
PVCC Panska Ves 88.42 322 eP **P 09 24 02.2 +0.3**
PVCC AMS AMS 10 05 40.0
comp=Z,8μm,18.7s
PVCC Panska Ves 88.42 322 eP **P 09 24 02.2 +0.3**
PVCC MLR MLR
comp=Z,8μm,18.7s
BEHE Becsehely 88.48 318 IAMs_20 IAMs_20 10 10 25.6
comp=Z,7μm,18.0s
GOPC GO Pecny, Ondr 88.51 321 AMS AMS 10 08 50.0
comp=Z,9μm,15.8s
FOO Floro 88.51 334 eP **P 09 24 02.4 +0.3**
FOO IVmB_BB 09 24 07.1
comp=Z,2μm,3.4s
FOO eS **S 09 34 47.3 +0.6**
FOO IVMs_BB IVMs_BB 10 07 58.7
comp=Z,12μm,14.4s
HOMB Homborsund 88.52 331 eP **P 09 24 01.0 -1.2**
HOMB IVmB_BB 09 24 07.8
comp=Z,1μm,3.7s
HOMB eS **S 09 34 46.6 -0.3**
HOMB IVMs_BB IVMs_BB 10 03 38.4
comp=Z,5μm,19.3s
HOMB Homborsund 88.52 331 i P **P 09 24 00.7 -1.5**
CONA Conrad Observa 88.56 319 i P **P 09 24 03.2 +0.4**
SNR=25
CONA Conrad Observa 88.56 319 i PcP **P 09 24 03.6 +0.8**
comp=Z,70nm,1.7s
CONA ePP **PP 09 27 30.5 -0.3**
comp=Z,16nm,1.2s
TULEG Thule 88.57 2 IAMs_20 IAMs_20 10 08 48.4
comp=Z,6μm,19.0s
TULEG Thule 88.57 2 i P **P 09 24 02.0 -0.1**
TULEG IAmb IAmb 09 24 07.5
comp=Z,314nm,1.8s
KEK Kerkira 88.60 311 IAMs_20 IAMs_20 10 09 01.7
comp=Z,5μm,20.0s
PRU Pruhonice 88.63 322 eP **P 09 24 02.4 -0.6**
PRU eS **S 09 34 41.7 -6.7**
PRU AMS AMS 10 08 50.0
comp=Z,8μm,16.1s
PRU Pruhonice 88.63 322 eP **P 09 24 02.4 -0.6**
PRU e 09 34 41.7
PRU MLR MLR
comp=Z,8μm,16.1s
ODD1 Odda 88.63 333 eP **P 09 24 02.1 -0.8**
ODD1 IVmB_BB 09 24 08.8
comp=Z,1μm,3.2s
ODD1 eS **S 09 34 47.5 -0.6**
ODD1 IVMs_BB IVMs_BB 10 09 06.8
comp=Z,6μm,13.3s
BRG Berggiesshubel 88.66 323 eP **P 09 24 02.7 -0.4**
BRG Amp 09 24 05.9
comp=Z,111nm,1.3s
BRG Berggiesshubel 88.66 323 P P 09 24 12.4 +9.3
BRG Amp 09 24 15.5
comp=Z,67nm,1.3s
BRG Berggiesshubel 88.66 323 S **S 09 34 49.0 +0.4**
PRA Prague 88.66 322 AMS AMS 10 11 10.0
comp=Z,8μm,15.3s
LIRD Liard River Hi 88.68 28 P **P 09 24 02.9 -0.1**
baz=298,SNR=14
LIRD S **S 09 34 48.5 +0.1**
baz=298
RICC Richard 88.69 322 AMS AMS 10 05 50.0
comp=Z,8μm,17.2s
BLS5 Blasjo 88.94 332 eP **P 09 24 03.8 -0.5**
BLS5 IVmB_BB 09 24 06.2
comp=Z,1μm,2.0s
BLS5 e 09 34 34.3
BLS5 eS **S 09 34 52.1 +1.1**
BLS5 IVMs_BB IVMs_BB 10 09 32.1
comp=Z,9μm,15.8s
BER Bergen 88.98 333 eS **S 09 34 50.7 -0.5**
BER IVMs_BB IVMs_BB 10 07 19.9
comp=Z,8μm,15.8s
ASK Askoy 88.99 333 eS **S 09 34 51.8 +0.6**
ASK IVMs_BB IVMs_BB 10 07 20.7
comp=Z,10μm,15.5s
MUD Monsted U'grnd 88.99 329 i P **P 09 24 02.7 -1.8**
MUD IAmb IAmb 09 24 06.1
comp=Z,85nm,1.1s
ARSA Arzberg 89.02 319 IAmb IAmb 09 24 15.5
comp=Z,135nm,1.9s
ARSA Arzberg 89.02 319 i P **P 09 24 05.7 +0.8**
SNR=17
ARSA Arzberg 89.02 319 i PcP **P 09 24 05.7 +0.8**
comp=Z,31nm,1.4s
ARSA ePP **PP 09 27 34.7 +0.3**
comp=Z,12nm,1.2s
CLL Collm 89.04 323 ⇓iP **P 09 24 04.2 -0.7**
CLL i *PP **pP 09 24 10.4 -1.8**
CLL eS **S 09 34 52.0 -0.1**
CLL pmax pmax
comp=Z,85nm,1.4s
CLL MLR MLR
comp=Z,13μm,18.8s
ZVC Zvikov 89.04 321 AMS AMS 10 11 20.0
comp=Z,11μm,15.4s
HSKC Hora Svate Kat 89.06 322 eS **S 09 34 48.5 -3.9**
HSKC AMS AMS 10 09 20.0
comp=Z,12μm,17.0s
SNART Snartemo 89.10 331 i P **P 09 24 04.3 -0.7**
SSRD Sdr. Stenderup 89.18 328 i P **P 09 24 04.6 -0.8**
SSRD IAmb IAmb 09 24 07.4
comp=Z,147nm,1.1s
CKRC Cesky Krumlov 89.20 321 AMS AMS 10 11 30.0
comp=Z,12μm,16.5s
KOTAN Kotaneelee Air 89.25 27 P **P 09 24 05.9 +0.2**
baz=299,SNR=6.0
KOTAN S **S 09 34 52.8 -0.9**
baz=299
GROS Grobnik 89.31 318 eP **P 09 24 05.4 -0.9**
TOAD Toad River Com 89.33 28 P **P 09 24 06.5 +0.4**
baz=298,SNR=17
TOAD S **S 09 34 54.1 -0.6**
baz=298
GCIS Gornji Cirnik 89.44 318 eP **P 09 24 06.5 -0.3**
SCTE Santa Cesarea 89.45 311 IAMs_20 IAMs_20 10 11 27.2
comp=Z,5μm,20.0s
KHC Kasperske Hory 89.53 321 eP **P 09 24 06.4 -0.9**
KHC ex x 09 24 39.5
KHC eSKS **SKSac 09 34 39.5 +3.0**
KHC AMS AMS 10 11 30.0
comp=Z,11μm,15.5s
KHC Kasperske Hory 89.53 321 eP **P 09 24 06.4 -0.9**
KHC e 09 34 39.5
KHC MLR MLR
comp=Z,11μm,15.5s
SOKA Soboth 89.53 318 i P **P 09 24 08.2 +0.8**
SNR=11
SOKA Soboth 89.53 318 i P **P 09 24 06.6 -0.9**
comp=Z,18nm,1.3s
SOKA ePP **PP 09 27 39.9 +1.3**
comp=Z,20nm,1.2s
GEC2 GERESS Array S 89.57 321 IAmb IAmb 09 24 10.2
comp=Z,100nm,1.3s
GERES GERESS Array B 89.57 321 P **P 09 24 06.9 -0.7**
GERES GERESS Array B 89.57 321 P **P 09 24 07.1 -0.4**
comp=Z,14nm,0.9s,baz=57,slow=4.9,SNR=40
GERES PP **PP 09 27 40.2 +1.4**
comp=Z,3.9nm,0.9s,baz=78,slow=8.1,SNR=4.6
GERES LR LR 10 06 51.6
comp=Z,9μm,19.3s,baz=73,slow=37
comp=Z,14nm,0.9s
KMY Karmoy 89.59 332 eP **P 09 24 06.9 -0.4**
KMY IVmB_BB 09 24 09.3
comp=Z,1μm,1.8s
KMY eS **S 09 34 54.0 -2.9**
KMY IVMs_BB IVMs_BB 10 09 51.4
comp=Z,7μm,17.3s
MOA Molln 89.59 320 i P **P 09 24 07.6 0.0**
SNR=41
MOA Molln 89.59 320 ePcP **P 09 24 07.7 0.0**
comp=Z,116nm,1.4s
NKC Novy Kostel 89.78 322 AMS AMS 10 09 50.0
comp=Z,13μm,16.8s
BOJS Bojanci 89.82 317 eP **P 09 24 08.3 -0.3**
BOJS eS S 09 34 45.4 -14
OBKA Obir 89.91 318 i P **P 09 24 10.5 +1.3**
SNR=6.3
OBKA Obir 89.91 318 i P **P 09 24 08.2 -1.0**
comp=Z,19nm,1.3s
OBKA ePP **PP 09 27 42.7 +1.1**
comp=Z,36nm,1.4s
BIOA Bad Ischl, Aus 90.04 320 i P **P 09 24 09.5 -0.2**
SNR=22
BIOA Bad Ischl, Aus 90.04 320 eP **P 09 24 09.5 -0.2**
comp=Z,38nm,1.2s
BIOA ePP **PP 09 27 43.5 +1.0**
comp=Z,16nm,1.3s
MYKA Terra Mystica 90.44 319 i P **P 09 24 12.7 +1.0**
SNR=6.2
MYKA Terra Mystica 90.44 319 ePcP **PcP 09 24 12.4 -0.4**
comp=Z,14nm,1.0s
MYKA ePP **PP 09 27 45.8 0.0**
comp=Z,28nm,1.5s
KBA Koelnbreinsper 90.46 319 i P **P 09 24 10.9 -0.9**
SNR=14
KBA Koelnbreinsper 90.46 319 i P **P 09 24 10.9 -0.9**
comp=Z,35nm,1.4s
KBA ePP **PP 09 27 48.3 +2.3**
comp=Z,25nm,1.3s
CADS Cadrg 90.53 318 i P **P 09 24 10.8 -1.3**
CADS eS **S 09 35 01.6 -4.7**
KULLO Kullorsuaq 90.70 359 i P **P 09 24 11.5 -0.7**
KULLO IAmb IAmb 09 24 14.0
comp=Z,124nm,1.1s
SABO M.te Sabotino 90.72 318 IAmb IAmb 09 24 14.9
comp=Z,164nm,1.8s
GRA1 Grafenberg Arr 90.72 322 IAmb IAmb 09 24 15.8
comp=Z,117nm,1.4s
GRFO Grafenberg 90.73 322 P **P 09 24 12.5 -0.3**
GRFO IAmb IAmb 09 24 15.8
comp=Z,116nm,1.4s
GRFO Grafenberg 90.73 322 P **P 09 24 12.5 -0.3**
GRFO pmax pmax
comp=Z,116nm,1.4s
LESA Schwarzleotal 90.75 320 i P **P 09 24 11.8 -1.2**
SNR=36
LESA Schwarzleotal 90.75 320 i P **P 09 24 11.9 -1.2**
comp=Z,105nm,1.7s
LESA ePP **PP 09 27 51.0 +2.8**
comp=Z,28nm,1.7s
BBB Bella Bella 90.91 35 LR LR 10 10 12.9
comp=Z,2μm,18.5s,baz=302,slow=39
SCO Scoresbysund 90.96 348 IAmb IAmb 09 24 19.8
comp=Z,76nm,1.3s
SCO IAMs_20 IAMs_20 10 07 56.7
comp=Z,7μm,20.0s
SCO Scoresbysund 90.96 348 i P **P 09 24 12.8 -0.7**
SCO IAmb IAmb 09 24 15.8
comp=Z,102nm,1.5s
TIP Timpagrande 91.00 311 IAmb IAmb 09 24 16.9
comp=Z,174nm,1.6s
TIP IAMs_20 IAMs_20 10 10 39.1
comp=Z,7μm,21.0s
ABTA Abfaltersbach 91.11 319 i P **P 09 24 13.8 -1.0**
SNR=23
ABTA Abfaltersbach 91.11 319 eP **P 09 24 13.1 -1.6**
comp=Z,74nm,1.4s
ABTA ePP **PP 09 27 51.7 +0.5**
comp=Z,9.1nm,1.3s
STAL STALIGIAL 91.18 319 IAmb IAmb 09 24 16.6
comp=Z,93nm,1.2s
STAL IAMs_20 IAMs_20 10 10 16.3
comp=Z,9μm,20.0s
CUC Castrocucco 91.39 312 IAmb IAmb 09 24 18.7
comp=Z,102nm,1.5s
CUC IAMs_20 IAMs_20 10 04 47.6
comp=Z,6μm,22.0s
WTTA Wattenberg 91.46 320 i P **P 09 24 15.7 -0.8**
SNR=51
WTTA Wattenberg 91.46 320 eP **P 09 24 15.5 -1.0**
comp=Z,159nm,1.3s
WTTA i PP **PP 09 27 50.9 -3.1**
comp=Z,26nm,1.7s
WATA Walderalm 91.47 320 i P **P 09 24 15.4 -1.0**
SNR=39
WATA Walderalm 91.47 320 eP **P 09 24 16.0 -0.5**
comp=Z,118nm,1.3s
WATA i PP **PP 09 27 51.6 -2.4**
comp=Z,20nm,1.8s
SUMG Summit 91.61 354 i P **P 09 24 16.8 -0.1**
SUMG IAmb IAmb 09 24 19.4
comp=Z,166nm,1.2s
YKAW3 Yellowknife Wh 91.71 22 IAmb IAmb 09 24 25.2
comp=Z,73nm,1.0s
SQTA Sankt Quirin 91.74 320 i P **P 09 24 16.9 -0.9**
SNR=45
SQTA Sankt Quirin 91.74 320 i P **P 09 24 16.9 -0.9**
comp=Z,70nm,2.1s
SQTA ePP **PP 09 27 56.0 -0.2**
comp=Z,18nm,1.3s
YKA Yellowknife Ar 91.75 22 P **P 09 24 17.0 -0.2**
comp=Z,34nm,1.0s,baz=314,slow=4.5,SNR=176
YKA PKKP **PKKPdf 09 41 33.3 -0.7**
comp=Z,0.2nm,0.5s,baz=131,slow=2.7,SNR=7.9
YKA PKPPKP **P'P'df 09 49 45.0 -3.7**
comp=Z,0.2nm,0.9s,baz=130,slow=2.0,SNR=3.5
YKA LR LR 10 10 09.3
comp=Z,4μm,19.4s,baz=309,slow=39
comp=Z,34nm,1.0s
MOTA Moosalm 91.76 320 i P **P 09 24 17.1 -0.8**
comp=Z,114nm,1.1s
MOTA ePP **PP 09 27 56.4 +0.1**
comp=Z,23nm,1.4s
YKAW1 Yellowknife Wh 91.80 22 IAmb IAmb 09 24 21.5
comp=Z,300nm,1.9s
PAOL Paolisi 91.91 313 IAMs_20 IAMs_20 10 13 16.1
comp=Z,5μm,20.0s
RETA Reutte 91.91 320 i P **P 09 24 19.7 +1.3**
SNR=11
RETA Reutte 91.91 320 eP **P 09 24 17.7 -0.8**
comp=Z,32nm,1.3s
RETA i PP **PP 09 27 58.1 +0.7**
comp=Z,42nm,1.6s
CTI Castel Tesino 91.94 319 IAmb IAmb 09 24 20.5
comp=Z,146nm,1.7s
CTI IAMs_20 IAMs_20 10 05 44.4
comp=Z,7μm,20.0s
INTR Introdacqua 92.01 314 IAmb IAmb 09 24 25.9
comp=Z,124nm,1.6s
INTR IAMs_20 IAMs_20 10 13 31.6
comp=Z,8μm,20.0s
FETA Feichten 92.12 320 i P **P 09 24 19.0 -0.5**

SNR=39
FETA Feichten 92.12 320 *i* P **P 09 24 19.0 -0.5**
comp=Z,104nm,1.1s
FETA *i* PP **PP 09 27 58.7 -0.4**
comp=Z,15nm,1.4s
CAMP Campotosto 92.15 315 IAmb IAmb 09 24 52.2
comp=Z,67nm,1.2s
MAW Mawson 92.16 199 P **P 09 24 18.3 -0.5**
MAW Mawson 92.16 199 P **P 09 24 19.6 +0.8**
comp=Z,4.2nm,1.2s
MAW Mawson 92.16 199 P **P 09 24 18.3 -0.5**
comp=Z,9.0nm,1.0s,baz=62,slow=3.4,SNR=5.0
MAW PKPPKP **P'P'df 09 49 45.5 +3.4**
comp=Z,6.6nm,1.1s,baz=150,slow=15,SNR=3.8
MAW LR LR 10 02 41.7
comp=Z,2μm,20.7s,baz=54,slow=34
comp=Z,9.0nm,1.0s
TEOL Teolo 92.20 318 IAmb IAmb 09 24 22.3
comp=Z,118nm,1.2s
AQU L'Aquila 92.22 315 P **P 09 24 19.2 -0.8**
AQU PP **PP 09 27 59.8 -0.2**
NRCA Norcia 92.24 315 IAmb IAmb 09 24 22.5
comp=Z,100nm,1.3s
STU Stuttgart 92.32 322 IAmb IAmb 09 24 22.8
comp=Z,84nm,1.2s
UPNV Upernavik 92.49 359 *i* P **P 09 24 20.3 -0.2**
UPNV IAmb IAmb 09 24 22.4
comp=Z,220nm,1.5s
DAVA Damuels 92.54 320 *i* P **P 09 24 20.7 -0.8**
SNR=19
DAVA Damuels 92.54 320 *e*PcP **P 09 24 21.1 -0.4**
comp=Z,82nm,1.3s
DAVA *i* PP **PP 09 28 02.7 +0.3**
comp=Z,38nm,1.3s
DAVOX Davos/Dischmat 92.75 320 PP **PP 09 28 04.4 +0.3**
comp=Z,14nm,1.0s,baz=114,slow=6.7,SNR=3.8
DAVOX LR LR 10 09 23.8
comp=Z,7μm,20.4s,baz=58,slow=38
BFO Black Forest 93.03 322 P **P 09 24 22.4 -1.2**
BFO IAmb IAmb 09 24 25.7
comp=Z,79nm,1.4s
BFO Black Forest 93.03 322 P **P 09 24 22.4 -1.2**
BFO pmax pmax
comp=Z,79nm,1.4s
BFO MLR MLR
comp=Z,9μm,19.0s
ZCCA Zocca 93.06 317 IAmb IAmb 09 24 46.7
comp=Z,119nm,1.3s
TUE Stuetta 93.22 320 IAmb IAmb 09 24 28.0
comp=Z,144nm,1.5s
OSSC Osservatorio P 93.22 317 IAMs_20 IAMs_20 10 13 42.1
comp=Z,5μm,19.0s
BTNL Ternell 93.27 324 *d*P **P 09 24 24.4 -0.2**
comp=Z,20nm,1.5s
MEM Membach 93.33 324 *d*P **P 09 24 23.9 -1.0**
comp=Z,23nm,1.4s
BEBN Eben Emael 93.43 325 *d*P **P 09 24 26.1 +0.8**
BHOU Houvegnez 93.45 324 *d*P **P 09 24 25.0 -0.5**
comp=Z,17nm,1.3s
VLC Villacollemand 93.53 317 PP PP 09 28 08.0 -2.1
BSTI Sart Tilman 93.59 325 *d*P **P 09 24 25.8 -0.2**
comp=Z,7.5nm,1.3s
WLF Walferdange 93.69 324 IAmb IAmb 09 24 29.6
comp=Z,110nm,1.2s
WLF Walferdange 93.69 324 P **P 09 24 26.0 -0.5**
WLF Walferdange 93.69 324 *d*P **P 09 24 26.3 -0.2**
comp=Z,36nm,1.4s
CASP Castiglione de 93.78 316 IAMs_20 IAMs_20 10 09 34.8
comp=Z,6μm,21.0s
BCLA Clavier 93.82 325 *d*P **P 09 24 26.9 -0.2**
comp=Z,18nm,1.5s
BGES Gesves 93.96 325 *d*P **P 09 24 27.3 -0.4**
comp=Z,13nm,1.6s
MSSA Maissana 94.03 318 IAMs_20 IAMs_20 10 14 05.3
comp=Z,6μm,21.0s
UCC Uccle 94.16 325 *d*P **P 09 24 28.3 -0.3**
comp=Z,20nm,1.3s
BMRD Maredsous 94.17 325 *d*P **P 09 24 28.1 -0.6**
comp=Z,25nm,1.4s
PPT Papeete 94.35 107 LR LR 10 02 24.5
comp=Z,3μm,19.0s,baz=262,slow=33
DOU Dourbes 94.37 324 *d*P **P 09 24 29.1 -0.5**
comp=Z,24nm,1.3s
ILON Igloolik, Nuna 94.47 8 IAmb IAmb 09 24 31.6
comp=Z,109nm,1.1s
UMMG Ummannaq 94.48 358 *i* P **P 09 24 29.8 +0.2**
UMMG IAmb IAmb 09 24 31.1
comp=Z,125nm,1.3s
SENIN Lac Senin/Sane 94.54 320 IAmb IAmb 09 24 42.3
comp=Z,144nm,1.8s
LLLB Lillooet 95.09 35 IAMs_20 IAMs_20 10 05 41.2
comp=Z,5μm,22.0s
VNDA Vanda 95.26 172 P **P 09 24 31.5 -1.4**
VNDA Vanda 95.26 172 P **P 09 24 31.4 -1.6**
comp=Z,2.5nm,1.1s,baz=300,slow=6.8,SNR=9.9
VNDA PP **PP 09 28 22.2 -1.1**
comp=Z,2.3nm,0.7s,baz=347,slow=8.3,SNR=4.6
VNDA PKKP **PKKPbc 09 41 28.5 -1.1**
comp=Z,2.7nm,0.9s,baz=204,slow=1.3,SNR=10.0
VNDA LR LR 10 09 04.1
comp=Z,3μm,19.8s,baz=339,slow=36
comp=Z,2.5nm,1.1s
VNDA Vanda 95.26 172 P **P 09 24 31.5 -1.4**
VNDA pmax pmax
comp=Z,33nm,1.8s
BORG Borgarnes 95.45 345 LR LR 10 13 59.9
comp=Z,5μm,18.1s,baz=23,slow=40
EKA Eskdalemuir Ar 95.52 331 P **P 09 24 33.6 -1.1**
comp=Z,11nm,1.0s,baz=53,slow=4.3,SNR=16
EKA PP **PP 09 28 25.6 +0.4**
comp=Z,15nm,0.9s,baz=56,slow=8.7,SNR=11
comp=Z,11nm,1.0s
ESK Eskdalemuir 95.55 331 P **P 09 24 34.7 -0.2**
ESK IAmb IAmb 09 24 36.7
comp=Z,62nm,1.2s
ESK Eskdalemuir 95.55 331 P **P 09 24 34.7 -0.2**
ESK pmax pmax
comp=Z,62nm,1.3s
NLWA Neilton Lookou 95.56 38 IAMs_20 IAMs_20 10 04 39.8
comp=Z,4μm,21.0s
WISH Wishkah 95.75 38 IAMs_20 IAMs_20 10 13 35.9
comp=Z,4μm,19.0s
ILULI Ilulissat 95.89 357 IAMs_20 IAMs_20 10 14 06.0
comp=Z,5μm,18.0s
ILULI Ilulissat 95.89 357 *i* P **P 09 24 36.4 +0.2**
ILULI IAmb IAmb 09 24 37.8
comp=Z,146nm,1.3s
LSZ Lusaka 95.98 256 P **P 09 24 37.2 -0.6**
LSZ IAmb IAmb 09 24 40.5
comp=Z,63nm,1.1s
LSZ Lusaka 95.98 256 IAMs_20 IAMs_20 10 10 42.0
comp=Z,6μm,18.0s
LSZ Lusaka 95.98 256 P **P 09 24 37.7 -0.1**
comp=Z,44nm,1.1s,baz=81,slow=3.9,SNR=22
LSZ PP **PP 09 28 29.9 -0.6**
comp=Z,1.6nm,0.3s,baz=70,slow=5.5,SNR=3.2
LSZ LR LR 10 07 05.4
comp=Z,3μm,18.1s,baz=82,slow=35
comp=Z,44nm,1.1s
LSZ Lusaka 95.98 256 P **P 09 24 39.3 +1.6**
VSL Villasalto 96.16 313 IAMs_20 IAMs_20 10 10 29.2
comp=Z,5μm,21.0s
F03A Seaside 96.45 39 IAMs_20 IAMs_20 10 10 50.5
comp=Z,5μm,19.0s
D05A Enumclaw 96.77 38 IAmb IAmb 09 24 56.0
comp=Z,102nm,1.6s
MATP Matopo 96.89 251 P **P 09 24 42.2 +0.4**
comp=Z,4.7nm,0.9s,baz=74,slow=3.9,SNR=14
MATP PP **PP 09 28 37.8 +0.3**
comp=Z,4.3nm,1.2s,baz=54,slow=9.0,SNR=4.9
comp=Z,4.7nm,0.9s
G04A Mulino 97.47 39 IAmb IAmb 09 24 50.2
comp=Z,74nm,1.5s
H04D Lebanon 97.64 40 IAmb IAmb 09 24 50.4
comp=Z,66nm,1.5s
IDGL Inch Island, C 97.65 333 P Pdif 09 24 45.3 +0.9
B08A Colville Reser 97.69 36 IAMs_20 IAMs_20 10 17 09.0
comp=Z,4μm,20.0s
KEST Kesra 97.75 310 PP **PP 09 28 42.4 -0.9**
comp=Z,12nm,1.0s,baz=353,slow=7.1,SNR=3.0
ILTH Belurgan, Co L 97.78 332 P Pdif 09 24 45.6 +0.6
HOOD Mount Hood Mea 97.92 39 IAMs_20 IAMs_20 10 13 31.3
comp=Z,4μm,20.0s
SFJD Kangerlussuaq 98.07 356 P **P 09 24 44.7 -1.3**
SFJD Kangerlussuaq 98.07 356 IAMs_20 IAMs_20 10 13 37.5
comp=Z,6μm,18.0s
SFJD Kangerlussuaq 98.07 356 LR LR 10 11 55.4
comp=Z,3μm,18.5s,baz=0.5,slow=37
SFJD Kangerlussuaq 98.07 356 P **P 09 24 44.7 -1.3**
SFJD pmax pmax
comp=Z,124nm,1.1s
SFJD Kangerlussuaq 98.07 356 *i* P **P 09 24 44.5 -1.5**
DSB Dublin 98.29 331 IAMs_20 IAMs_20 10 12 28.8
comp=Z,8μm,21.0s
DSB Dublin 98.29 331 P Pdif 09 24 48.1 +0.8
KRPM Rodgers 98.44 44 IAMs_20 IAMs_20 10 05 59.4
comp=Z,4μm,20.0s
G06A Carlson Farm, 98.58 39 IAmb IAmb 09 24 53.7
comp=Z,89nm,2.0s
JCC Jacoby Creek, 98.59 44 IAMs_20 IAMs_20 10 03 43.6
comp=Z,4μm,21.0s
J04A Umpqua Nationa 98.67 41 IAmb IAmb 09 24 59.8
comp=Z,41nm,1.1s
KMPM Mount Pierce 98.72 44 IAMs_20 IAMs_20 10 07 38.0
comp=Z,5μm,19.0s
KHMM Horse Mountain 98.76 44 IAMs_20 IAMs_20 10 12 00.1
comp=Z,5μm,20.0s
E08A Dider Farm, El 98.85 37 IAMs_20 IAMs_20 10 06 50.8
comp=Z,4μm,20.0s
IWEX Carrickbyrne, 99.02 330 P **Pdif 09 24 50.3 -0.3**
YBH Yreka Blue Hor 99.03 43 LR LR 10 01 02.4
comp=Z,3μm,21.6s,baz=318,slow=30
KMRM Mail Ridge 99.09 44 IAMs_20 IAMs_20 10 08 27.0
comp=Z,6μm,20.0s
K04D Chiloquin, OR 99.21 41 IAMs_20 IAMs_20 10 12 08.7
comp=Z,4μm,22.0s
KCPM Cahto Peak 99.42 45 IAMs_20 IAMs_20 10 07 15.8
comp=Z,5μm,20.0s
O02D Mt. Diablo Mer 99.73 44 IAMs_20 IAMs_20 10 08 41.7
comp=Z,7μm,20.0s
I07A Izee 99.87 39 IAMs_20 IAMs_20 10 17 36.9
comp=Z,4μm,19.0s
CEST Esterri de Car 100.14 319 IAMs_20 IAMs_20 10 12 20.0
comp=Z,6μm,18.0s
F10A Beach Ranch, E 100.20 37 IAMs_20 IAMs_20 10 13 12.5
comp=Z,4μm,21.0s
HATC Hat Creek Radi 100.30 43 IAMs_20 IAMs_20 10 07 24.7
comp=Z,4μm,21.0s
GDXM Geysers 100.38 45 IAMs_20 IAMs_20 10 03 50.1
comp=Z,6μm,21.0s
SYO Syowa Base 100.56 201⇑ *ep*Pdiff pPdif 09 25 06.0 +1.8
MCCM Marconi Confer 100.64 46 IAMs_20 IAMs_20 10 04 39.0
comp=Z,4μm,20.0s
BMO Blue Mountains 100.77 38 IAMs_20 IAMs_20 10 19 24.8
comp=Z,4μm,19.0s
WVOR Wild Horse Val 101.28 40 IAMs_20 IAMs_20 10 02 36.4
comp=Z,5μm,22.0s
PLID Pearl Lake 101.41 37 IAMs_20 IAMs_20 10 18 08.5
comp=Z,4μm,19.0s
BOSA Boshof 101.49 243 P **Pdif 09 25 01.0 -1.2**
comp=Z,11nm,1.0s,baz=114,slow=5.6,SNR=6.1
MSO Missoula 101.56 35 IAMs_20 IAMs_20 10 16 20.4
comp=Z,7μm,20.0s
FFC Flin Flon 101.86 24 IAMs_20 IAMs_20 10 16 26.5
comp=Z,5μm,20.0s
MPK Martis Peak 102.01 44 IAMs_20 IAMs_20 10 08 54.0
comp=Z,4μm,21.0s
PAHR Pah Rah Range 102.23 43 IAMs_20 IAMs_20 10 09 39.7
comp=Z,4μm,20.0s
SAO San Andreas Ge 102.30 46 IAMs_20 IAMs_20 10 09 17.1
comp=Z,4μm,19.0s
PNTR Pine Nut 102.40 44 IAMs_20 IAMs_20 10 06 59.5
comp=Z,4μm,22.0s
CMB Columbia Colle 102.41 45 IAMs_20 IAMs_20 10 04 29.7
comp=Z,4μm,21.0s
BBGB Big Mountain B 102.68 46 IAMs_20 IAMs_20 10 09 39.0
comp=Z,5μm,20.0s
WAKR Walker 102.81 44 IAMs_20 IAMs_20 10 05 22.4
comp=Z,5μm,21.0s
PMPB Monarch Peak 103.02 47 IAMs_20 IAMs_20 10 10 32.2
comp=Z,5μm,20.0s
EGMT Eagleton 103.04 32 IAMs_20 IAMs_20 10 13 55.3
comp=Z,5μm,20.0s
ECHE Chera 103.15 317 PKP **PP 09 29 26.1 +2.3**
DLMT Dillon 103.19 35 IAMs_20 IAMs_20 10 13 59.6
comp=Z,5μm,22.0s
HLID Hailey 103.22 38 IAMs_20 IAMs_20 10 15 38.5
comp=Z,4μm,20.0s
RYN Ryan 103.36 44 IAMs_20 IAMs_20 10 06 28.9
comp=Z,4μm,22.0s
LHV Little Huntoon 103.57 44 IAMs_20 IAMs_20 10 05 48.4
comp=Z,5μm,20.0s
NVAR Mina Array Bea 103.61 44 Pdiff **Pdif 09 25 12.3 +0.6**
comp=Z,2.5nm,0.9s,baz=310,slow=5.6,SNR=14
NVAR PKiKP **PKiKP 09 29 29.8 -0.3**
comp=Z,0.7nm,0.8s,baz=304,slow=2.1,SNR=1.8
NVAR PKKP **PKKPbc 09 41 03.2 -1.6**
comp=Z,1.7nm,0.7s,baz=129,slow=4.5,SNR=13
Q09A Carvers 104.14 43 IAMs_20 IAMs_20 10 08 00.4
comp=Z,4μm,22.0s
CART Cartagena 104.23 316 IAMs_20 IAMs_20 10 22 28.5
comp=Z,5μm,19.0s
YHL Hebgen Lake 104.30 35 IAMs_20 IAMs_20 10 17 21.7
comp=Z,4μm,20.0s
ELK Elko 104.33 40 IAMs_20 IAMs_20 10 09 44.3
comp=Z,4μm,20.0s
YHB Horse Butte 104.35 35 IAMs_20 IAMs_20 10 18 45.2
comp=Z,5μm,20.0s
DSP Deep Springs 104.39 44 IAMs_20 IAMs_20 10 07 25.2
comp=Z,4μm,20.0s
YMR Madison River 104.53 35 IAMs_20 IAMs_20 10 17 29.0
comp=Z,6μm,20.0s
BCW Bitter Crk WRg 104.64 47 IAMs_20 IAMs_20 10 11 10.0
comp=Z,4μm,19.0s
YNM Yellowstone No 104.64 35 IAMs_20 IAMs_20 10 17 30.8
comp=Z,4μm,20.0s
YNR Norris Junctio 104.66 35 IAMs_20 IAMs_20 10 17 42.4
comp=Z,4μm,20.0s
QSPA South Pole Qui 104.74 180 IAMs_20 IAMs_20 10 14 56.6
comp=Z,5μm,19.0s
QSPA South Pole Qui 104.74 180 Pdiff **Pdif 09 25 16.4 +0.7**
comp=Z,0.8nm,0.7s,baz=242,slow=0.7,SNR=6.8
QSPA PKiKP **PKiKP 09 29 30.0 -1.0**
comp=Z,5.0nm,1.0s,baz=312,slow=1.7,SNR=5.4
QSPA PKKPbc **PKKPbc 09 40 58.4 -4.4**
comp=Z,1.6nm,0.9s,baz=99,slow=0.1,SNR=6.5
QSPA PKKP **PKKPdf 09 41 13.9 +1.0**
comp=Z,6.4nm,1.1s,baz=169,slow=5.8,SNR=5.3
YNE Yellowstone No 104.84 34 IAMs_20 IAMs_20 10 18 00.2
comp=Z,5μm,19.0s
H17A Grant Village 104.92 35 IAMs_20 IAMs_20 10 17 42.2
comp=Z,7μm,20.0s
ISA Isabella, Lake 104.93 46 IAMs_20 IAMs_20 10 10 29.7
comp=Z,5μm,20.0s
YMP Mirror Lake Pl 104.93 35 IAMs_20 IAMs_20 10 14 33.6
comp=Z,5μm,21.0s
GRAC Grapevine Rang 105.00 45 IAMs_20 IAMs_20 10 07 51.3
comp=Z,4μm,20.0s
ESDC Sonseca Array 105.04 319 PP **PP 09 29 38.2 +0.3**
comp=Z,8.8nm,1.0s,baz=48,slow=7.2,SNR=13
FXWY Fox Creek 105.14 36 IAMs_20 IAMs_20 10 18 50.1
comp=Z,5μm,21.0s
RLMT Red Lodge 105.17 34 IAMs_20 IAMs_20 10 20 19.9
comp=Z,4μm,19.0s
MOOW Moose Ponds 105.23 36 IAMs_20 IAMs_20 10 19 21.5
comp=Z,4μm,20.0s
TPAW Teton Pass 105.27 36 IAMs_20 IAMs_20 10 18 54.6
comp=Z,5μm,21.0s
LOHW Long Hollow 105.39 36 IAMs_20 IAMs_20 10 19 26.9
comp=Z,4μm,20.0s
SNCC San Nicolas Is 105.40 49 IAMs_20 IAMs_20 10 16 43.4
comp=Z,3μm,19.0s
SNOW Snow King Moun 105.40 36 IAMs_20 IAMs_20 10 19 09.1
comp=Z,6μm,21.0s
DGMT Dagmar 105.47 29 IAMs_20 IAMs_20 10 19 12.3
comp=Z,6μm,19.0s
CCAC Calif City Air 105.52 46 IAMs_20 IAMs_20 10 11 16.2
comp=Z,6μm,19.0s
BGU Big Grassy Mou 105.60 39 IAMs_20 IAMs_20 10 21 14.7
comp=Z,3μm,19.0s
AHID Auburn Hatcher 105.64 37 IAMs_20 IAMs_20 10 19 16.4
comp=Z,6μm,21.0s
LAO LASA Array 105.72 31 IAMs_20 IAMs_20 10 21 33.2
comp=Z,3μm,19.0s
S11A Rachel 105.73 43 IAMs_20 IAMs_20 10 07 21.6
comp=Z,4μm,20.0s
SUR Sutherland 105.88 240 IAMs_20 IAMs_20 10 09 01.7
comp=Z,4μm,21.0s
PASC Pasadena Art C 105.90 47 IAMs_20 IAMs_20 10 14 30.5
comp=Z,5μm,19.0s
HWUT Hardware Ranch 106.07 38 IAMs_20 IAMs_20 10 20 10.0
comp=Z,5μm,21.0s
DUG Dugway, Tooele 106.16 40 IAMs_20 IAMs_20 10 21 38.6
comp=Z,4μm,20.0s
ELIB Princess Elisa 106.28 199 *d*PKP **PP 09 29 44.7 -2.1**
GSC Goldstone, Bar 106.28 46 IAMs_20 IAMs_20 10 11 34.4
comp=Z,4μm,20.0s
TCUT Toone Canyon 106.46 38 IAMs_20 IAMs_20 10 20 25.4
comp=Z,6μm,21.0s
BW06 Boulder Array 106.52 36 IAMs_20 IAMs_20 10 18 49.7
comp=Z,4μm,20.0s
PDAR Pinedale Array 106.52 36 Pdiff **Pdif 09 25 24.0 -0.6**
comp=Z,0.2nm,0.6s,baz=75,slow=23,SNR=1.7
PDAR PP **PP 09 29 46.5 -2.4**
comp=Z,2.6nm,1.0s,baz=323,slow=2.2,SNR=5.8
PDAR PKKPbc **PKKPbc 09 40 53.8 -2.4**
comp=Z,1.3nm,0.8s,baz=112,slow=4.2,SNR=11
PDAR PKKPab **PKKPab 09 41 10.9 -1.9**
comp=Z,4.1nm,0.9s,baz=122,slow=4.9,SNR=15
TSUM Tsumeb 106.70 254 IAMs_20 IAMs_20 10 13 06.2
comp=Z,4μm,21.0s
ELS Elsinore Mount 106.71 48 IAMs_20 IAMs_20 10 17 58.9
comp=Z,4μm,19.0s
MPU Maple Canyon 106.99 39 IAMs_20 IAMs_20 10 20 24.6
comp=Z,4μm,20.0s
BSUT Blindstream Ca 107.21 38 IAMs_20 IAMs_20 10 21 20.1
comp=Z,4μm,20.0s
V12A Nelson 107.39 45 IAMs_20 IAMs_20 10 14 28.6
comp=Z,4μm,20.0s
PFO Pinyon Flats O 107.42 47 IAMs_20 IAMs_20 10 11 30.7
comp=Z,5μm,20.0s
COI Coimbra 107.48 321 IAMs_20 IAMs_20 10 11 23.0
comp=Z,6μm,20.0s
TJX Tijuana 107.57 48 IAMs_20 IAMs_20 10 18 44.7
comp=Z,3μm,20.0s
LCMT Little Creek M 107.74 43 IAMs_20 IAMs_20 10 08 38.6
comp=Z,4μm,22.0s
PESTR Estremoz 107.79 320 IAMs_20 IAMs_20 10 15 50.4
comp=Z,6μm,20.0s
MTPU Mount Pierson 107.83 41 IAMs_20 IAMs_20 10 10 30.8
comp=Z,5μm,22.0s
Q16A Castle Valley 107.94 40 IAMs_20 IAMs_20 10 14 26.7
comp=Z,4μm,20.0s
KNB Kanab 108.01 42 IAMs_20 IAMs_20 10 08 48.9
comp=Z,4μm,22.0s
MDND Maddock 108.02 27 IAMs_20 IAMs_20 10 17 16.6
comp=Z,4μm,22.0s
P18A Preston Nutter 108.08 39 IAMs_20 IAMs_20 10 19 21.2
comp=Z,5μm,21.0s
PKCU Pink Cliffs 108.09 42 IAMs_20 IAMs_20 10 10 01.0
comp=Z,4μm,21.0s
CCX Cicese 108.18 49 IAMs_20 IAMs_20 10 12 57.0
comp=Z,5μm,21.0s
YUH Yuha Desert 108.31 48 IAMs_20 IAMs_20 10 06 34.2
comp=Z,4μm,22.0s
W13A Hualapai Mount 108.40 45 IAMs_20 IAMs_20 10 12 40.1
comp=Z,3μm,19.0s
E28A Huff 108.48 29 IAMs_20 IAMs_20 10 20 28.9
comp=Z,4μm,21.0s
ESJX Sierra Juarez 108.63 48 IAMs_20 IAMs_20 10 12 54.8
comp=Z,5μm,21.0s
U15A North Rim 108.70 43 IAMs_20 IAMs_20 10 24 30.1
comp=Z,3μm,20.0s
BLYC Blythe 108.70 46 IAMs_20 IAMs_20 10 13 49.5
comp=Z,5μm,19.0s
MESJ Messejana 108.81 319 *e*PP **PP 09 30 05.6 +0.2**
MESJ IAMs_20 IAMs_20 10 10 19.2
comp=N,9μm,15.9s
LIS Lisbon 108.85 320 *e*PP **PP 09 30 06.0 +0.3**
LIS IAMs_20 IAMs_20 10 11 42.2
comp=E,24μm,30.4s
GLA Glamis 108.87 47 IAMs_20 IAMs_20 10 07 44.0
comp=Z,4μm,22.0s
EPLO Experimental L 108.97 23 IAMs_20 IAMs_20 10 18 14.5
comp=Z,6μm,21.0s
AGMN Agassiz Nation 109.25 25 IAMs_20 IAMs_20 10 18 03.0
comp=Z,6μm,21.0s
MDT Midelt 109.27 313 PP **PP 09 30 09.4 +0.2**
comp=Z,2.0nm,0.4s,baz=44,slow=10.0,SNR=6.1
MORF Marmelete 109.40 319 *e*PP **PP 09 30 10.0 +0.1**
MORF IAMs_20 IAMs_20 10 12 39.9
comp=E,17μm,20.2s
Y14A Wickenburg 109.65 45 IAMs_20 IAMs_20 10 14 54.5
comp=Z,4μm,20.0s
113A Mohawk Valley, 109.77 47 IAMs_20 IAMs_20 10 12 44.9
comp=Z,3μm,20.0s
SFX San Felipe 109.93 49 IAMs_20 IAMs_20 10 13 30.4
comp=Z,5μm,21.0s
MVCO Mesa Verde 110.65 40 IAMs_20 IAMs_20 10 12 16.8
comp=Z,4μm,21.0s
ISCO Idaho Springs 110.71 36 IAMs_20 IAMs_20 10 17 27.5
comp=Z,4μm,20.0s
SUSD Miller 110.89 29 IAMs_20 IAMs_20 10 23 55.6
comp=Z,5μm,19.0s
AVE Averroes 110.95 315 IAMs_20 IAMs_20 10 14 23.6
comp=Z,5μm,22.0s
F33A 5 Mile Ranch, 111.02 27 IAMs_20 IAMs_20 10 19 10.8
comp=Z,6μm,22.0s
S22A 4UR Ranch, Cre 111.34 39 IAMs_20 IAMs_20 10 22 42.9
comp=Z,4μm,21.0s
X18A Snowflake 111.36 43 IAMs_20 IAMs_20 10 23 36.6
comp=Z,4μm,20.0s
K30B Basset 111.89 31 IAMs_20 IAMs_20 10 23 38.3
comp=Z,5μm,20.0s
OGNE Ogallala 111.90 33 IAMs_20 IAMs_20 10 21 51.8
comp=Z,4μm,19.0s
TUC Tucson 112.11 45 IAMs_20 IAMs_20 10 21 43.5
comp=Z,6μm,19.0s
SDCO Great Sand Dun 112.13 38 IAMs_20 IAMs_20 10 25 47.5
comp=Z,4μm,21.0s
E38A The Farm, Brul 112.33 23 IAMs_20 IAMs_20 10 24 15.3
comp=Z,6μm,20.0s
ECSD EROS Data Cent 112.52 28 IAMs_20 IAMs_20 10 21 32.6
comp=Z,4μm,22.0s
KSCO Kaye Shedlock' 112.93 35 IAMs_20 IAMs_20 10 24 29.4
comp=Z,4μm,21.0s
SPMN Marine on St. 112.97 25 IAMs_20 IAMs_20 10 25 12.5
comp=Z,5μm,20.0s
T25A Trinidad 113.18 38 IAMs_20 IAMs_20 10 21 21.8
comp=Z,3μm,21.0s
TORD Torodi Ar. Bea 113.31 292 Pdiff **Pdif 09 25 53.9 -1.0**
comp=Z,57nm,0.3s,baz=66,slow=4.5,SNR=2.1
ANMO Albuquerque 113.36 41 IAMs_20 IAMs_20 10 20 48.3
comp=Z,5μm,22.0s
ANMO Albuquerque 113.36 41 IAMs_20 IAMs_20 10 20 49.3
comp=Z,5μm,22.0s
ANMO Albuquerque 113.36 41 IAMs_20 IAMs_20 10 20 49.3
comp=Z,5μm,22.0s
BGNE Belgrade 113.56 31 IAMs_20 IAMs_20 10 25 12.5
comp=Z,4μm,19.0s
Y22D IRIS PASSCAL I 113.62 42 IAMs_20 IAMs_20 10 25 10.6
comp=Z,5μm,20.0s
319A Douglas 113.69 45 IAMs_20 IAMs_20 10 15 38.3
comp=Z,5μm,20.0s
I37A Lemond, Waseca 113.71 26 IAMs_20 IAMs_20 10 25 17.1
comp=Z,6μm,20.0s
SRIG Santa Rosalia 113.85 51 IAMs_20 IAMs_20 10 13 56.3
comp=Z,5μm,20.0s
HSIG 113.87 48 IAMs_20 IAMs_20 10 22 48.5
comp=Z,3μm,20.0s
G40A Rib Lake 113.97 23 IAMs_20 IAMs_20 10 24 26.6
comp=Z,4μm,20.0s
L34A Svendsen Farm, 113.99 29 IAMs_20 IAMs_20 10 22 59.8
comp=Z,4μm,21.0s
I40A Norwalk 114.96 24 IAMs_20 IAMs_20 10 21 53.9
comp=Z,5μm,21.0s
N35A Tabor 115.20 30 IAMs_20 IAMs_20 10 23 37.7
comp=Z,4μm,20.0s
EPT El Paso 115.33 44 IAMs_20 IAMs_20 10 23 31.5
comp=Z,4μm,21.0s
R32A Long Quarter, 115.49 33 IAMs_20 IAMs_20 10 26 10.8
comp=Z,6μm,19.0s
I42A Draeger Farm, 115.62 23 IAMs_20 IAMs_20 10 22 38.3
comp=Z,5μm,20.0s
BELA Belgrano 2 115.80 186 IAMs_20 IAMs_20 10 21 36.7
comp=Z,4μm,20.0s
JFWS Jewell Farm 115.92 25 IAMs_20 IAMs_20 10 22 32.4
comp=Z,5μm,21.0s
KSU1 Kansas State U 116.07 31 IAMs_20 IAMs_20 10 21 53.0
comp=Z,5μm,21.0s
MNTX Cornudas Mount 116.12 43 IAMs_20 IAMs_20 10 27 29.4
comp=Z,5μm,20.0s
L40A Anamosa 116.22 26 IAMs_20 IAMs_20 10 25 02.5
comp=Z,5μm,20.0s
MSTX Muleshoe 116.30 39 IAMs_20 IAMs_20 10 27 44.8
comp=Z,5μm,20.0s
GLMI Grayling 116.33 20 IAMs_20 IAMs_20 10 24 17.8
comp=Z,6μm,21.0s
AMTX Amarillo 116.34 38 IAMs_20 IAMs_20 10 14 38.6
comp=Z,3μm,21.0s
N38A Joes South For 116.37 28 IAMs_20 IAMs_20 10 22 43.6
comp=Z,5μm,22.0s
K43A Burlington 116.85 23 IAMs_20 IAMs_20 10 22 07.0
comp=Z,6μm,21.0s

OK038	West end E0370	116.90	35	IAMs_20	IAMs_20	10 25 13.1		
	comp=Z,5μm,20.0s							
L42A	Oliver, Polo	116.92	25	IAMs_20	IAMs_20	10 28 00.8		
	comp=Z,4μm,18.0s							
OK032	Salt Plains WL	116.95	34	IAMs_20	IAMs_20	10 27 14.5		
	comp=Z,4μm,20.0s							
P38A	Dawn	117.17	29	IAMs_20	IAMs_20	10 25 23.7		
	comp=Z,4μm,21.0s							
CROK	Carrier	117.29	34	IAMs_20	IAMs_20	10 27 23.6		
	comp=Z,5μm,20.0s							
L44A	Lake County Fo	117.46	23	IAMs_20	IAMs_20	10 22 25.1		
	comp=Z,6μm,21.0s							
N41A	Harden Midland	117.50	26	IAMs_20	IAMs_20	10 25 44.2		
	comp=Z,4μm,20.0s							
SLBS	Sierra La Lagu	117.55	53	IAMs_20	IAMs_20	10 11 15.5		
	comp=Z,5μm,20.0s							
T35A	Sooner Cattle	117.78	33	IAMs_20	IAMs_20	10 24 58.2		
	comp=Z,5μm,20.0s							
HQIL	Hanson Quary C	117.81	24	IAMs_20	IAMs_20	10 18 51.3		
	comp=Z,4μm,21.0s							
OK048	Pawnee Station	117.92	34	IAMs_20	IAMs_20	10 23 41.1		
	comp=Z,5μm,21.0s							
P40A	Paris	117.93	28	IAMs_20	IAMs_20	10 27 22.8		
	comp=Z,5μm,20.0s							
M44A	Midewin, Midew	118.09	24	IAMs_20	IAMs_20	10 23 32.7		
	comp=Z,5μm,22.0s							
OK029	Liberty Lake	118.10	35	IAMs_20	IAMs_20	10 23 54.0		
	comp=Z,5μm,21.0s							
WMOK	Wichita Mounta	118.13	36	IAMs_20	IAMs_20	10 25 25.0		
	comp=Z,5μm,20.0s							
HDIL	Hopedale	118.28	25	IAMs_20	IAMs_20	10 26 40.0		
	comp=Z,5μm,20.0s							
OK052	Battle Ridge R	118.31	34	IAMs_20	IAMs_20	10 23 41.5		
	comp=Z,5μm,21.0s							
FNO	Franklin	118.53	35	IAMs_20	IAMs_20	10 30 03.3		
	comp=Z,4μm,20.0s							
DEOK	Depew	118.59	34	IAMs_20	IAMs_20	10 23 36.8		
	comp=Z,5μm,20.0s							
TXAR	Lajitas Array	118.76	44		PKPdf	09 29 56.9	-2.0	
TXAR	Lajitas Array	118.76	44	PKP	PKPdf	09 29 58.8	-0.1	
	comp=Z,10.0nm,1.0s,baz=263,slow=0.8,SNR=36							
TXAR				PP	PP	09 31 14.5	-1.8	
	comp=Z,3.6nm,1.0s,baz=305,slow=4.4,SNR=3.4							
TXAR				PKKPbc	PKKPab	09 40 16.7	-1.5	
	comp=Z,3.1nm,1.1s,baz=140,slow=5.3,SNR=8.8							
TXAR				SKKPbc	SKKPbc	09 44 01.0	+1.2	
	comp=Z,2.5nm,1.2s,baz=101,slow=3.2,SNR=4.4							
S39A	Bolivar	118.80	30	IAMs_20	IAMs_20	10 28 53.9		
	comp=Z,5μm,20.0s							
R40A	Maddies Statio	118.82	29	IAMs_20	IAMs_20	10 24 46.6		
	comp=Z,6μm,22.0s							
HPIG		118.87	47	IAMs_20	IAMs_20	10 31 13.7		
	comp=Z,4μm,20.0s							
W35A	Tecumseh	118.90	35	IAMs_20	IAMs_20	10 25 24.0		
	comp=Z,5μm,22.0s							
P43A	Skaggs, Pawnee	118.95	26	IAMs_20	IAMs_20	10 26 34.7		
	comp=Z,5μm,21.0s							
U38A	Gravette	119.24	32	IAMs_20	IAMs_20	10 28 15.9		
	comp=Z,5μm,21.0s							
LMN	Caledonia Moun	119.34	4	IAMs_20	IAMs_20	10 24 21.0		
	comp=Z,6μm,20.0s							
N47A	Urbana	119.42	23	IAMs_20	IAMs_20	10 23 58.9		
	comp=Z,6μm,21.0s							
SLM	Saint Louis	119.47	27	IAMs_20	IAMs_20	10 26 41.6		
	comp=Z,5μm,19.0s							
CCM	Cathedral Cave	119.49	28		PKPdf	09 29 59.2	-0.6	
CCM	Cathedral Cave	119.49	28	PKIKP	PKPdf	09 29 59.2	-0.6	
HHAR	Hobbs	119.59	32	IAMs_20	IAMs_20	10 30 53.1		
	comp=Z,4μm,19.0s							
G65A	Princeton	119.74	7	IAMs_20	IAMs_20	10 28 32.5		
	comp=Z,4μm,19.0s							
Q44A	Meyer Farm, Va	119.78	26	IAMs_20	IAMs_20	10 27 29.7		
	comp=Z,5μm,20.0s							
FVM	French Village	119.92	28	IAMs_20	IAMs_20	10 29 06.6		
	comp=Z,4μm,19.0s							
Z35A	Perchaven, San	120.02	36	IAMs_20	IAMs_20	10 25 33.0		
	comp=Z,4μm,20.0s							
FW06	Azle	120.11	37	IAMs_20	IAMs_20	10 27 28.3		
	comp=Z,4μm,19.0s							
O48B	Farmland	120.17	23	IAMs_20	IAMs_20	10 22 37.6		
	comp=Z,6μm,22.0s							
T42A	Van Buren	120.39	29	IAMs_20	IAMs_20	10 25 51.1		
	comp=Z,4μm,22.0s							
JCT	Junction City	120.51	40	IAMs_20	IAMs_20	10 31 12.4		
	comp=Z,5μm,21.0s							
ACCN	Adirondack Com	120.56	12	IAMs_20	IAMs_20	10 28 16.6		
	comp=Z,6μm,20.0s							
HAL	Halifax	120.63	3	IAMs_20	IAMs_20	10 27 45.1		
	comp=Z,5μm,20.0s							
SIUC	Southern Illin	120.68	27	IAMs_20	IAMs_20	10 28 15.7		
	comp=Z,6μm,21.0s							
FW14	Alvarado	120.73	37	IAMs_20	IAMs_20	10 31 45.0		
	comp=Z,3μm,18.0s							
CGM3	Cape Girardeau	120.83	28	IAMs_20	IAMs_20	10 27 42.6		
	comp=Z,4μm,21.0s							
WHTX	Lake Whitney,	120.88	37	IAMs_20	IAMs_20	10 30 28.7		
	comp=Z,4μm,19.0s							
PBMO	Poplar Bluff	120.90	29	IAMs_20	IAMs_20	10 29 22.6		
	comp=Z,4μm,19.0s							
MIAR	Mount Ida	121.12	33	IAMs_20	IAMs_20	10 27 17.8		
	comp=Z,4μm,20.0s							
LCAR	Lake Charles	121.14	30	IAMs_20	IAMs_20	10 29 52.8		
	comp=Z,5μm,19.0s							
USIN	University of	121.14	26	IAMs_20	IAMs_20	10 30 04.7		
	comp=Z,5μm,19.0s							
N53A	Lisbon	121.15	19	IAMs_20	IAMs_20	10 26 58.3		
	comp=Z,6μm,20.0s							
PARMO	Parma	121.31	28	IAMs_20	IAMs_20	10 26 25.3		
	comp=Z,3μm,21.0s							
Z38A	Mt. Pleasant	121.35	35	IAMs_20	IAMs_20	10 27 17.0		
	comp=Z,5μm,21.0s							
WCI	Wyandotte Cave	121.48	25		PKPdf	09 30 01.8	-1.9	
WCI	Wyandotte Cave	121.48	25	PKIKP	PKPdf	09 30 01.8	-1.9	
PVMO	Portageville	121.54	28	IAMs_20	IAMs_20	10 27 31.4		
	comp=Z,4μm,20.0s							
X40A	Basin Creek Fa	121.55	32	IAMs_20	IAMs_20	10 30 14.1		
	comp=Z,5μm,19.0s							
HICK	Hickman	121.65	28	IAMs_20	IAMs_20	10 28 39.3		
	comp=Z,4μm,20.0s							
PEBM	Pemiscott Bayo	121.71	29	IAMs_20	IAMs_20	10 27 04.0		
	comp=Z,3μm,21.0s							
DBIC	Dimbokro	121.73	288	PKP	PKPdf	09 30 04.4	-0.3	
	comp=Z,43nm,0.9s,baz=49,slow=1.7,SNR=29							
DBIC				PP	PP	09 31 37.6	+0.1	
	comp=Z,16nm,1.1s,baz=71,slow=7.6,SNR=4.9							
GNAR	Gosnell	121.76	29	IAMs_20	IAMs_20	10 30 18.3		
	comp=Z,4μm,20.0s							
HBAR	Harrisburg	121.79	30	IAMs_20	IAMs_20	10 30 00.1		
	comp=Z,4μm,19.0s							
GLAT	Glass	121.85	28	IAMs_20	IAMs_20	10 28 45.5		
	comp=Z,5μm,20.0s							
R49A	Shelbyville	121.87	24	IAMs_20	IAMs_20	10 23 10.9		
	comp=Z,5μm,22.0s							
LNXT	Lenox	121.89	28	IAMs_20	IAMs_20	10 27 49.8		
	comp=Z,4μm,20.0s							
UTMT	University of	121.98	28	IAMs_20	IAMs_20	10 28 15.8		
	comp=Z,4μm,20.0s							
WLAR	White Oak Lake	122.03	33	IAMs_20	IAMs_20	10 26 35.8		
	comp=Z,5μm,22.0s							
HALT	Halls	122.12	28	IAMs_20	IAMs_20	10 27 46.7		
	comp=Z,4μm,20.0s							
SSPA	Standing Stone	122.17	16		PKPdf	09 30 04.5	-0.4	
R50A	Paris	122.20	23	IAMs_20	IAMs_20	10 25 45.6		
	comp=Z,6μm,21.0s							
T47A	Sharon Grove	122.21	26	IAMs_20	IAMs_20	10 29 39.9		
	comp=Z,4μm,20.0s							
Q52A	Bidwell	122.35	21	IAMs_20	IAMs_20	10 24 04.2		
	comp=Z,6μm,22.0s							
HDBT	Hernando Brdge	122.40	30	IAMs_20	IAMs_20	10 27 59.3		
	comp=Z,4μm,22.0s							
MET	Memphis--Engin	122.48	29	IAMs_20	IAMs_20	10 28 37.5		
	comp=Z,4μm,19.0s							
Z41A	Richland Creek	122.53	33	IAMs_20	IAMs_20	10 26 50.0		
	comp=Z,4μm,21.0s							
WVT	Waverly	122.62	27		PKPdf	09 30 05.1	-0.8	
WVT	Waverly	122.62	27	IAMs_20	IAMs_20	10 26 42.8		
	comp=Z,5μm,21.0s							
WVT	Waverly	122.62	27	PKIKP	PKPdf	09 30 05.1	-0.8	
735A	Kenedy	122.89	40	IAMs_20	IAMs_20	10 29 17.3		
	comp=Z,5μm,20.0s							
S51A	Beattyville	123.05	23	IAMs_20	IAMs_20	10 28 52.8		
	comp=Z,5μm,20.0s							
OXF	Oxford	123.23	29	IAMs_20	IAMs_20	10 28 59.3		
	comp=Z,5μm,21.0s							
HKT	Hockley	123.31	38	IAMs_20	IAMs_20	10 22 37.9		
	comp=Z,4μm,20.0s							
V48A	Smith Brothers	123.39	27	IAMs_20	IAMs_20	10 26 16.1		
	comp=Z,5μm,21.0s							
WUPA	West Chester U	123.42	15	IAMs_20	IAMs_20	10 30 06.4		
	comp=Z,3μm,20.0s							
PLAL	Pickwick Lake	123.46	28	IAMs_20	IAMs_20	10 29 52.3		
	comp=Z,5μm,20.0s							
SDMD	Soldier's Deli	123.60	16	IAMs_20	IAMs_20	10 25 37.1		
	comp=Z,5μm,22.0s							
ZAIG	Zacatecas	123.63	49	IAMs_20	IAMs_20	10 31 48.9		
	comp=Z,5μm,20.0s							
143A	Socs Landing,	123.69	32	IAMs_20	IAMs_20	10 32 13.7		
	comp=Z,5μm,19.0s							
Y45A	Yeager Farm, C	123.69	30	IAMs_20	IAMs_20	10 31 49.6		
	comp=Z,5μm,20.0s							
KVTX	Kingsville	123.74	42	IAMs_20	IAMs_20	10 27 53.0		
	comp=Z,4μm,20.0s							
441A	DeRidder	124.24	35	IAMs_20	IAMs_20	10 25 27.6		
	comp=Z,3μm,20.0s							
146A	Union	124.93	30	IAMs_20	IAMs_20	10 33 01.3		
	comp=Z,4μm,21.0s							
346A	Big Creek Wild	125.73	32	IAMs_20	IAMs_20	10 34 53.7		
	comp=Z,4μm,18.0s							
MOIG	Morelia	126.51	51	IAMs_20	IAMs_20	10 16 04.3		
	comp=Z,5μm,21.0s							
250A	Grady	126.80	29	IAMs_20	IAMs_20	10 28 32.7		
	comp=Z,4μm,20.0s							
BRAL	Brewton	127.10	30	IAMs_20	IAMs_20	10 33 53.8		
	comp=Z,5μm,19.0s							
451A	Vernon	128.18	29	IAMs_20	IAMs_20	10 37 46.3		
	comp=Z,5μm,20.0s							
UNM	Universidad Na	128.23	50	IAMs_20	IAMs_20	10 17 52.9		
	comp=Z,5μm,21.0s							
SHEL	Horse Pasture	128.27	261	IAMs_20	IAMs_20	10 25 59.0		
	comp=Z,3μm,20.0s							
TLIG	Tlapa	129.76	51	IAMs_20	IAMs_20	10 25 06.8		
	comp=Z,3μm,20.0s							
BBSR	BB Station	132.73	6	IAMs_20	IAMs_20	10 31 53.5		
	comp=Z,4μm,22.0s							
TEIG	Tepich	135.08	40	IAMs_20	IAMs_20	10 39 15.2		
	comp=Z,4μm,21.0s							
CCIG	Comitan	135.31	47	IAMs_20	IAMs_20	10 23 25.1		
	comp=Z,3μm,21.0s							
HUEH	Huehuetenango	136.40	48	IAMs_20	IAMs_20	10 42 51.2		
	comp=Z,4μm,22.0s							
PETF	Flores	136.45	45	IAMs_20	IAMs_20	10 37 43.1		
	comp=Z,3μm,21.0s							
RTAL	Retalhuleu	136.79	49	IAMs_20	IAMs_20	10 43 03.6		
	comp=Z,4μm,20.0s							
ESQI	Esquipulas	138.45	47	IAMs_20	IAMs_20	10 45 25.9		
	comp=Z,3μm,22.0s							
TGUH	Tegucigalpa,Un	140.23	45	IAMs_20	IAMs_20	10 45 50.9		
	comp=Z,3μm,20.0s							
HERN	Volcan Telica	141.55	46	IAMs_20	IAMs_20	10 43 23.0		
	comp=Z,3μm,21.0s							
CHIV	Chivirico	141.56	26	IAMs_20	IAMs_20	10 40 52.8		
	comp=Z,4μm,20.0s							
NMDO	Nuevo Mundo	141.62	24	IAMs_20	IAMs_20	10 39 32.2		
	comp=Z,4μm,20.0s							
GRTK	Grand Turk	142.06	18	IAMs_20	IAMs_20	10 38 33.2		
	comp=Z,4μm,20.0s							
ACON	Acoyapa	143.14	45	IAMs_20	IAMs_20	10 48 22.1		
	comp=Z,3μm,22.0s							
EFI	East Falkland	143.30	182	IAMs_20	IAMs_20	10 33 13.6		
	comp=Z,3μm,22.0s							
ESPN	Las Esperanzas	143.57	44	IAMs_20	IAMs_20	10 41 12.2		
	comp=Z,3μm,22.0s							
JTS	Las Juntas de	144.48	47		PKPbc	09 30 46.1	+0.4	
JTS	Las Juntas de	144.48	47	IAMs_20	IAMs_20	10 50 12.7		
	comp=Z,2μm,19.0s							
JTS	Las Juntas de	144.48	47	PKIKP	PKPbc	09 30 46.2	+0.5	
HDC	Heredia	145.27	46	IAMs_20	IAMs_20	10 42 54.2		
	comp=Z,3μm,22.0s							
AY03	Cochrane	145.96	164	IAMs_20	IAMs_20	10 34 13.4		
	comp=Z,2μm,21.0s							
AGPR	Aguadilla, PR	146.00	13	IAMs_20	IAMs_20	10 37 56.5		
	comp=Z,4μm,22.0s							
PRSN	Punto Rico Se	146.24	13	IAMs_20	IAMs_20	10 37 52.7		
	comp=Z,4μm,21.0s							
GCPR	Guaynabo City	146.37	11	IAMs_20	IAMs_20	10 44 38.0		
	comp=Z,2μm,19.0s							
CRPR	Cabo Rojo, PR	146.45	13	IAMs_20	IAMs_20	10 38 05.3		
	comp=Z,4μm,22.0s							
CELP	Cerrillos	146.50	12		PKPdf	09 30 50.6	0.0	
SJG	San Juan	146.55	11	IAMs_20	IAMs_20	10 44 38.8		
	comp=Z,3μm,20.0s							
PDPR	Patillas Dam,	146.66	11	IAMs_20	IAMs_20	10 44 00.8		
	comp=Z,2μm,20.0s							
IGPR	InterUniversit	146.70	11	IAMs_20	IAMs_20	10 44 48.7		
	comp=Z,2μm,20.0s							
SMRT	St. Maarten	147.07	6	IAMs_20	IAMs_20	10 41 48.3		
	comp=Z,3μm,22.0s							
BRU2	Volcan	147.11	46	IAMs_20	IAMs_20	10 43 40.3		
	comp=Z,4μm,21.0s							
ANWB	Willy Bob	147.56	4	IAMs_20	IAMs_20	10 39 52.2		
	comp=Z,3μm,21.0s							
COYC	Coyhaique	147.65	163		PKPdf	09 30 52.6	+1.0	
BCIP	Isla Barro Col	148.73	41	IAMs_20	IAMs_20	10 41 50.8		
	comp=Z,3μm,22.0s							
H05N1	Guadeloupe/Mar	148.94	3	PKPbc	PKPdf	09 30 54.2	-0.4	
	SNR=23							
GO07	Milladeo Hill,	149.38	159	IAMs_20	IAMs_20	10 36 11.2		
	comp=Z,2μm,19.0s							
LL07	Hotel Espejo d	149.69	159	IAMs_20	IAMs_20	10 37 29.5		
	comp=Z,2μm,20.0s							
LL02	Futaleuf	149.90	162	IAMs_20	IAMs_20	10 30 59.6		
	comp=Z,4μm,22.0s							
SVN	Savane Anatole	150.40	3	IAMs_20	IAMs_20	10 42 38.5		
	comp=Z,3μm,21.0s							
LL01	San Ignacio de	150.45	160	IAMs_20	IAMs_20	10 42 25.5		
	comp=Z,2μm,20.0s							
ILAM	Ilet Lapin Mar	150.48	3	IAMs_20	IAMs_20	10 37 06.6		
	comp=Z,4μm,21.0s							
FDF	Fort de France	150.51	3	IAMs_20	IAMs_20	10 42 40.3		
	comp=Z,3μm,20.0s							
BIM	Bigot	150.73	3	IAMs_20	IAMs_20	10 41 44.1		
	comp=Z,3μm,20.0s							
MPOM	Morne Pois Mar	150.81	3	IAMs_20	IAMs_20	10 37 05.3		
	comp=Z,3μm,20.0s							
H05S1	Guadeloupe/Mar	150.83	3	PKP	PKPdf	09 30 56.9	-0.7	
	SNR=4.5							
LL05	Los Muermos	150.95	158	IAMs_20	IAMs_20	10 29 37.9		
	comp=Z,3μm,21.0s							
LL03	Petrohue	151.57	159	IAMs_20	IAMs_20	10 40 11.0		
	comp=Z,2μm,22.0s							
LR04	Corral	152.30	157	IAMs_20	IAMs_20	10 33 25.7		
	comp=Z,2μm,22.0s							
LR05	Currie	152.51	159	IAMs_20	IAMs_20	10 38 05.1		
	comp=Z,2μm,22.0s							
PLCA	Paso Flores	152.53	162	PKP	PKPdf	09 30 59.5	-0.1	
	comp=Z,3.0nm,1.0s,baz=194,slow=4.5,SNR=6.2							
PLCA				PKPbc	PKiKP	09 31 07.1	+0.3	
	comp=Z,11nm,0.8s,baz=213,slow=3.2,SNR=21							
PLCA	Paso Flores	152.53	162	eP	PKPdf	09 31 00.5	+0.9	
GRGR	Grenville	153.05	5	IAMs_20	IAMs_20	10 43 37.9		
	comp=Z,4μm,20.0s							
SDV	Santo Domingo	153.92	26	eP	PKPdf	09 31 02.4	-0.2	
RCBR	Riachuelo	155.10	289	eP	PKPdf	09 31 04.7	+0.7	
ROSC	El Rosal	155.51	38	PKP	PKPdf	09 31 05.0	0.0	
	comp=Z,27nm,0.9s,baz=98,slow=1.3,SNR=17							
BI02	San Fabin de	155.93	156	IAMs_20	IAMs_20	10 37 38.8		
	comp=Z,2μm,22.0s							
OTAV	Otavalo	155.99	53	IAMs_20	IAMs_20	10 44 19.6		
	comp=Z,3μm,22.0s							
ML02	Panimavida	156.65	155	IAMs_20	IAMs_20	10 53 38.1		
	comp=Z,2μm,22.0s							
NBAN	Anadia - AL	156.70	280	eP	PKPdf	09 31 06.9	+0.9	
TRQA	Tornquist	156.84	175	IAMs_20	IAMs_20	10 51 42.7		
	comp=Z,3μm,22.0s							
BO01	Tunca	157.97	154	PKPdf	PKPdf	09 31 06.0	-1.0	
BO01					PKPab	09 31 39.3	-0.9	
BO01				IAMs_20	IAMs_20	10 40 04.0		
	comp=Z,2μm,20.0s							
NBPB	Pedra_Branca-C	158.30	293	eP	PKPdf	09 31 09.2	+1.1	
MT01	Popeta	158.35	153	IAMs_20	IAMs_20	10 36 50.1		
	comp=Z,2μm,20.0s							
VA05	Santo Domingo	158.36	152	IAMs_20	IAMs_20	10 36 02.5		
	comp=Z,3μm,22.0s							
BO04	La Punta	158.52	154	IAMs_20	IAMs_20	10 36 10.5		
	comp=Z,3μm,22.0s							
MT09	Talagante	158.54	153	IAMs_20	IAMs_20	10 37 16.1		
	comp=Z,2μm,21.0s							
LMEL	Las Melosas	158.81	155	IAMs_20	IAMs_20	10 44 58.1		
	comp=Z,3μm,20.0s							
MT13	San Alfonso	158.86	154	IAMs_20	IAMs_20	10 39 48.6		
	comp=Z,3μm,22.0s							
VA01	Torpederas	158.87	151	IAMs_20	IAMs_20	10 37 30.2		
	comp=Z,2μm,20.0s							
MT03	Universidad Ad	158.98	154	IAMs_20	IAMs_20	10 37 57.9		
	comp=Z,2μm,20.0s							
MT16	CCHEN	159.03	154	IAMs_20	IAMs_20	10 37 59.2		
	comp=Z,2μm,21.0s							
PEL	Peldehue	159.21	153	IAMs_20	IAMs_20	10 36 33.0		
	comp=Z,3μm,21.0s							
MT08	Bocatoma Ro	159.23	155	IAMs_20	IAMs_20	10 48 26.4		
	comp=Z,3μm,20.0s							
VA06	Catapilco	159.41	151	IAMs_20	IAMs_20	10 36 42.5		
	comp=Z,2μm,22.0s							
ATAH	Atahualpa	159.94	69	PKP	PKPdf	09 31 09.9	-0.6	
	comp=Z,15nm,0.9s,baz=204,slow=1.4,SNR=16							
ATAH				PKPab	PKPab	09 31 50.0	+0.1	
	comp=Z,31nm,0.9s,baz=308,slow=3.4,SNR=6.8							
LPA	La Plata	160.03	184	PKIKP	PKPdf	09 31 09.2	-0.2	
GDU01	Guandu, BA	160.63	271	eP	PKPdf	09 31 11.5	+0.8	
CMC01	Camacan, BA	160.68	266	eP	PKPdf	09 31 11.5	+0.8	
GUA01	Guaratinga, BA	160.95	262	eP	PKPdf	09 31 11.9	+1.0	
RIB01	Linhares ES	161.20	254	eP	PKPdf	09 31 11.5	+0.3	
CFA	Coronel Fontan	161.57	156	PKP	PKPdf	09 31 11.8	+0.5	
	comp=Z,5.9nm,1.1s,baz=244,slow=2.7,SNR=8.5							
CFA				PKPab	PKPab	09 31 54.6	-1.2	
	comp=Z,6.6nm,1.0s,baz=191,slow=5.3,SNR=5.5							
CAM01	Campos-RJ	161.71	245	eP	PKPdf	09 31 13.6	+2.0	
SJMB	Sao Joao De Ma	162.04	255	eP	PKPdf	09 31 13.2	+1.1	
DUB01	Friburgo-RJ	162.25	244	eP	PKPdf	09 31 12.8	+0.5	
PLTB	Pedras Altas	162.37	197	eP	PKPdf	09 31 12.8	+0.7	
BOAV	Boa Vista	162.78	3	eP	PKPdf	09 31 14.0	+1.0	
NNA	Nana	162.91	82	PKP	PKPdf	09 31 14.4	+1.3	
	comp=Z,17nm,0.9s,baz=319,slow=1.1,SNR=4.9							
TBOT	Tacuaremb	162.98	190	eP	PKPdf	09 31 13.6	+1.0	
VAS01	Vassouras-RJ	163.09	242	eP	PKPdf	09 31 13.2	+0.1	
TMAB	Tom-Au,PA,Br	163.20	317	eP	PKPdf	09 31 14.4	+1.0	
MAN01	Angra dos Reis	163.29	239	eP	PKPdf	09 31 14.4	+1.1	
CNLB	Canela	163.58	208	eP	PKPdf	09 31 14.0	+0.6	
CPSB	Cacapava Do Su	163.59	199	eP	PKPdf	09 31 14.0	+0.7	
SLP01	Ubatuba-SP	164.06	236	eP	PKPdf	09 31 14.8	+0.8	
PARB	Paraibuna	164.42	235	eP	PKPdf	09 31 15.2	+0.9	
DIAM	Diamantina, MG	164.44	255	eP	PKPdf	09 31 15.7	+1.1	
ITQB	Itaqui	165.06	190	eP	PKPdf	09 31 16.0	+1.4	
TBTG	Tabatinga, AM	165.23	45	eP	PKPdf	09 31 15.1	-0.1	
CZSB	Cruzeiro do Su	165.24	63	eP	PKPdf	09 31 15.6	+0.3	
JANB	Januaria	165.30	267	eP	PKPdf	09 31 15.6	+0.3	
VAO	Valinhos	165.66	234	eP	PKPdf	09 31 16.0	+0.6	
ITAB	Concordia	165.93	208	eP	PKPdf	09 31 17.1	+1.7	
MAL2	Monte Alegre,	166.15	337	PKPdf	PKPdf	09 31 16.0	0.0	
MAL2					PKPab	09 32 16.2	-0.2	
SMTB	Santa Maria do	166.87	296	eP	PKPdf	09 31 17.1	+0.6	
PMNB	Patos De Minas	166.96	252	eP	PKPdf	09 31 17.1	+0.6	
PRPB	Parauapebas	167.10	311	eP	PKPdf	09 31 16.7	0.0	
TEFE	Tefe	167.60	24	eP	PKPdf	09 31 17.9	+0.9	
PTGB	Pitanga	167.98	215	eP	PKPdf	09 31 17.5	+0.4	
MACA	Manacapuru-AM	168.27	6	eP	PKPdf	09 31 18.4	+0.8	
LDASE	Londrina, Braz	168.41	222	eP	PKPdf	09 31 17.5	+0.1	
CPUP	Villa Florida	168.45	190	PKP	PKPdf	09 31 17.4	+0.2	
	comp=Z,4.2nm,1.1s,baz=64,slow=2.7,SNR=5.1							
CPUP				PKPab	PKPab	09 32 24.7	-1.4	
	comp=Z,3.0nm,0.9s,baz=58,slow=4.4,SNR=3.9							
CPUP				PP	PP	09 36 12.6	-1.2	
	comp=Z,2.3nm,0.9s,baz=96,slow=2.9,SNR=2.8							
CPUP	Villa Florida	168.45	190	eP	PKPdf	09 31

az=63.0
*NEIC **22** 09:26:22.8±1.9, 14°.96N±0°.08×121°.1E±0°.2, h10km±1km, mb4.3/16, Error ellipse: s-maj=31.3km s-min=13.2km az=91.0*
ISC 22 09:26:27.2±0.6, 15°.01N±0°.06×120°.7E±0°.2, h35km, n35, σ19°60/37, mb4.2/21, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.92**	**168**	Pg	**Pn**	**09 26 45.5**	**+1.8**
	735nm,0.3s,baz=220,slow=1.9,SNR=34						
TGY				Lg	Lg	09 27 01.6	
	2μm,0.3s,baz=10,slow=22,SNR=38						
TWG	**Pinlang**	**7.78**	**2**	Pn	**Pn**	**09 28 15.8**	**-2.2**
YULB	**Yu-li**	**8.36**	**4**	Pn	**Pn**	**09 28 23.9**	**-2.1**
MYLDM	**Lahad Datu**	**10.01**	**193**	Pn	**Pn**	**09 28 46.5**	**-2.2**
SBUM	**Sibu**	**15.04**	**215**	P	**P**	**09 30 00.7**	**-1.5**
CMAR	**Chiang Mai Arr**	**21.15**	**282**	P	**P**	**09 31 08.0**	**-1.4**
	0.6nm,0.3s,baz=98,slow=11,SNR=7.8						
	0.6nm,0.3s						
SONM	**Songino Array**	**34.82**	**343**	P	**P**	**09 33 16.5**	**+1.6**
	0.8nm,0.9s,baz=156,slow=9.9,SNR=1.8						
	0.8nm,0.9s						
WB0	**Warramunga Arr**	**37.08**	**158**	P	**P**	**09 33 31.6**	**-2.7**
WB0				IAmb	IAmb	09 34 05.7	
	comp=Z,8.7nm,1.4s						
WRA	**Warramunga Arr**	**37.22**	**159**	P	**P**	**09 33 35.5**	**0.0**
	comp=Z,0.8nm,0.6s,baz=329,slow=10,SNR=10						
	comp=Z,0.8nm,0.6s						
WR8	**Warramunga Arr**	**37.29**	**158**	P	**P**	**09 33 32.2**	**-3.9**
AS31	**Alice Springs**	**40.54**	**161**	P	**P**	**09 34 01.5**	**-1.7**
ASAR	**Alice Springs**	**40.54**	**161**	P	**P**	**09 33 59.7**	**-3.5**
ASAR	**Alice Springs**	**40.54**	**161**	P	**P**	**09 34 03.2**	**0.0**
	comp=Z,1.0nm,0.4s,baz=333,slow=6.6,SNR=39						
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**45.01**	**323**	P	**P**	**09 34 39.4**	**0.0**
MKAR	**Makanchi Array**	**45.01**	**323**	P	**P**	**09 34 38.7**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=129,slow=8.4,SNR=5.4						
MKAR				PcP	**PcP**	**09 36 20.2**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=103,slow=5.0,SNR=4.7						
	comp=Z,0.8nm,0.8s						
MAKZ	**Makanchi**	**45.20**	**323**	P	**P**	**09 34 41.4**	**+0.5**
MAKZ				IAmb	IAmb	09 35 17.2	
	comp=Z,4.9nm,1.4s						
FORT	**Forrest**	**46.06**	**171**	P	**P**	**09 34 48.2**	**+0.5**
ZALV	**Zalesovo Beam**	**47.92**	**332**	P	**P**	**09 35 02.2**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=108,slow=7.7,SNR=2.4						
	comp=Z,0.6nm,0.4s						
KURK	**Kurchatov**	**49.13**	**326**		**P**	**09 35 11.8**	**+0.5**
KURBB	**Kurchatov Arra**	**49.13**	**326**	P	**P**	**09 35 11.8**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=122,slow=8.2,SNR=15						
KURBB				PcP	**PcP**	**09 36 35.9**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=121,slow=3.0,SNR=1.7						
	comp=Z,2.6nm,0.8s						
KK31	**Karatay Array**	**51.10**	**314**		**P**	**09 35 28.1**	**+1.6**
KK31				IAmb	IAmb	09 35 31.0	
	comp=Z,3.3nm,0.8s						
KKAR	**Karatay Array**	**51.10**	**314**		**P**	**09 35 28.1**	**+1.6**
KKAR				IAmb	IAmb	09 35 31.0	
	comp=Z,3.5nm,0.8s						
BVAR	**Borovoye Array**	**54.72**	**325**	P	**P**	**09 35 53.8**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=117,slow=7.6,SNR=7.5						
	comp=Z,1.4nm,0.5s						
BRVK	**Borovoye**	**54.79**	**325**	P	**P**	**09 35 55.4**	**+1.9**
BRVK				IAmb	IAmb	09 35 55.9	
	comp=Z,2.5nm,0.7s						
AB31	**Akbulak array**	**59.78**	**319**		**P**	**09 36 29.2**	**+0.4**
AB31				IAmb	IAmb	09 36 32.9	
	comp=Z,2.8nm,0.8s						
ABKAR	**Akbulak array**	**59.78**	**319**		**P**	**09 36 29.2**	**+0.4**
ABKAR				IAmb	IAmb	09 36 32.9	
	comp=Z,2.8nm,0.8s						
ARCES	**ARCESS Array B**	**77.88**	**339**	P	**P**	**09 38 22.6**	**+1.6**
	comp=Z,1.9nm,0.7s,baz=84,slow=5.4,SNR=3.9						
	comp=Z,1.9nm,0.7s						
FINES	**FINESS Array B**	**79.17**	**331**	P	**P**	**09 38 29.0**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=88,slow=6.2,SNR=4.5						
	comp=Z,1.6nm,0.8s						
F30M	**Barrier River**	**81.29**	**22**	P	**P**	**09 38 39.2**	**-0.4**
G31M	**Satah River**	**82.07**	**23**	P	**P**	**09 38 43.4**	**-0.3**
F31M	**Tsiigehtchic**	**82.09**	**22**	P	**P**	**09 38 41.7**	**-2.1**
F31M				IAmb	IAmb	09 38 46.6	
	comp=Z,2.2nm,0.9s						
HFS	**Hagfors**	**85.35**	**331**	P	**P**	**09 39 01.4**	**+0.8**
	comp=Z,2.4nm,0.9s,baz=69,slow=7.9,SNR=2.2						
	comp=Z,2.4nm,0.9s						
NB2	**NORSAR Subarra**	**86.12**	**333**	P	**P**	**09 39 05.1**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=66,slow=5.1						
NOA	**NORSAR Array B**	**86.12**	**333**	P	**P**	**09 39 04.9**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=67,slow=4.8,SNR=6.9						
	comp=Z,1.4nm,0.7s						
YKA	**Yellowknife Ar**	**91.56**	**22**	P	**P**	**09 39 31.9**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=319,slow=3.9,SNR=6.2						
	comp=Z,0.4nm,0.8s						

*IDC **22** 10:19:42.5±0.6, 5°.33S×152°.99E, h0km, mb4.2/21, mbtmp4.2/22, MLZ.1/1, MS4.1/1, Error ellipse: s-maj=21.7km s-min=14.2km az=105.0*
*NEIC **22** 10:19:48.4±1.1, 5°.43S±0°.09×153°.1E±0°.1, h38km±9km, mb4.5/25, Error ellipse: s-maj=17.9km s-min=11.5km az=116.0*
ISC 22 10:19:48.0±0.5, 5°.43S±0°.07×153°.00E±0°.09, h37km, n55, σ0°84/57, mb4.3/34, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.48**	**326**		**Pn**	**10 20 12.6**	**+0.5**
PMG	**Port Moresby**	**7.01**	**235**	Pn	**Pn**	**10 21 28.8**	**+0.7**
PMG					**Sn**	**10 22 47.2**	**+0.5**
PMG	**Port Moresby**	**7.01**	**235**	Pn	**Pn**	**10 21 27.5**	**-0.6**
	1.9nm,0.3s,baz=62,slow=13,SNR=4.2						
PMG				Sn	**Sn**	**10 22 47.4**	**+0.7**
	3.0nm,0.3s,baz=86,slow=23,SNR=12						
	12nm,0.7s						
PATS	**Pohnpei**	**13.29**	**24**	Pn	**Pn**	**10 22 54.6**	**+0.5**
EIDS	**Eidsvold**	**19.92**	**185**	P	**P**	**10 24 16.7**	**+0.1**
EIDS				IAmb	IAmb	10 24 38.4	
	comp=Z,40nm,1.5s						
DZM	**Mont Dzumac**	**21.05**	**143**	P	**P**	**10 24 29.2**	**+0.2**
	comp=Z,11nm,0.9s,baz=323,slow=20,SNR=2.2						
	comp=Z,11nm,0.9s						
MTN	**Manton Dam**	**22.80**	**250**	P	**P**	**10 24 48.8**	**+1.1**
MTN				IAmb	IAmb	10 25 11.3	
	comp=Z,29nm,1.4s						
WB0	**Warramunga Arr**	**23.05**	**230**		**P**	**10 24 50.0**	**-0.2**
WR8	**Warramunga Arr**	**23.07**	**230**		**P**	**10 24 50.7**	**+0.2**
WRAB	**Tennant Creek**	**23.17**	**230**	P	**P**	**10 24 52.1**	**+0.6**
WRA	**Warramunga Arr**	**23.19**	**230**	P	**P**	**10 24 52.0**	**+0.4**
WRA	**Warramunga Arr**	**23.19**	**230**	P	**P**	**10 24 51.7**	**0.0**
	comp=Z,7.7nm,0.9s,baz=54,slow=10,SNR=14						
WRA				LR	LR	10 34 01.0	
	comp=Z,500nm,19.9s,baz=88,slow=37						
	comp=Z,7.7nm,0.9s						
AS31	**Alice Springs**	**25.83**	**224**		**P**	**10 25 15.7**	**-0.4**
ASAR	**Alice Springs**	**25.83**	**224**	P	**P**	**10 25 14.3**	**-1.8**
ASAR	**Alice Springs**	**25.83**	**224**	P	**P**	**10 25 15.4**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=58,slow=9.4,SNR=14						
ASAR				PcP	**PcP**	**10 28 45.4**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=71,slow=2.1,SNR=4.5						
	comp=Z,3.5nm,0.8s						
KNRA	**Kununurra**	**25.88**	**245**	P	**P**	**10 25 18.4**	**+1.9**
KNRA				IAmb	IAmb	10 25 36.0	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**28.40**	**201**	P	**P**	**10 25 36.8**	**-2.2**
	comp=Z,1.5nm,0.7s,baz=337,slow=8.7,SNR=3.7						
FITZ	**Fitzroy Crossi**	**29.54**	**242**	P	**P**	**10 25 49.1**	**-0.2**
FITZ					**S**	**10 30 42.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**29.54**	**242**	P	**P**	**10 25 49.9**	**+0.6**
	comp=Z,4.5nm,0.9s,baz=68,slow=7.1,SNR=6.2						
	comp=Z,4.5nm,0.9s						
MJAR	**Matsushiro Arr**	**43.98**	**343**	P	**P**	**10 27 49.5**	**-2.2**
	comp=Z,1.4nm,0.7s,baz=166,slow=8.2,SNR=4.1						
MJAR				PcP	**PcP**	**10 29 37.6**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=151,slow=3.5,SNR=4.5						
	comp=Z,1.4nm,0.7s						
KSRS	**Korea Array**	**48.65**	**333**	P	**P**	**10 28 27.7**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=151,slow=7.6,SNR=4.4						
	comp=Z,0.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**52.90**	**341**	P	**P**	**10 28 59.4**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=146,slow=7.6,SNR=4.8						
	comp=Z,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**58.32**	**295**	P	**P**	**10 29 39.5**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=108,slow=5.0,SNR=5.7						
	comp=Z,0.6nm,0.3s						
PETK	**Petropavlovsk-**	**58.45**	**3**	P	**P**	**10 29 39.9**	**-0.1**
	comp=Z,11nm,0.5s,baz=164,slow=6.1,SNR=68						
	comp=Z,11nm,0.5s						
SONM	**Songino Array**	**66.96**	**328**	P	**P**	**10 30 37.7**	**+0.7**
SONM	**Songino Array**	**66.96**	**328**	P	**P**	**10 30 37.1**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=150,slow=4.8,SNR=6.5						
	comp=Z,0.9nm,0.5s						
VNDA	**Vanda**	**72.20**	**178**	P	**P**	**10 31 09.6**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=333,slow=4.5,SNR=3.6						
	comp=Z,0.3nm,0.8s						
BILL	**Bilibino**	**73.89**	**5**		**P**	**10 31 19.2**	**+0.5**
K15K	**Wolf Creek Mou**	**75.92**	**20**	P	**P**	**10 31 30.9**	**+0.3**
L19K	**White Mountain**	**78.25**	**22**	P	**P**	**10 31 43.5**	**-0.2**
CAST	**Castle Rocks**	**80.01**	**22**	P	**P**	**10 31 53.2**	**0.0**
CAST				IAmb	IAmb	10 31 53.8	
	comp=Z,5.0nm,0.9s						
MKAR	**Makanchi Array**	**80.92**	**319**	P	**P**	**10 31 58.7**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=99,slow=7.5,SNR=4.7						
	comp=Z,0.7nm,0.5s						
MCK	**McKinley**	**81.36**	**22**		**P**	**10 32 00.2**	**-0.3**
MCK				IAmb	IAmb	10 32 00.9	
	comp=Z,8.0nm,0.9s						
ZAA0	**Zalesovo Array**	**81.78**	**326**		**P**	**10 32 02.3**	**-0.6**
ZAA0				IAmb	IAmb	10 32 03.3	
	comp=Z,3.1nm,0.7s						
ZALV	**Zalesovo Beam**	**81.78**	**326**	P	**P**	**10 32 01.9**	**-1.0**
	comp=Z,3.8nm,0.8s,baz=107,slow=5.7,SNR=11						
	comp=Z,3.8nm,0.8s						
IL31		**82.66**	**22**	P	**P**	**10 32 06.3**	**-1.0**
IL31				IAmb	IAmb	10 32 08.0	
	comp=Z,6.6nm,1.3s						
ILAR	**Eielson Array**	**82.66**	**22**	P	**P**	**10 32 04.9**	**-2.4**
ILAR	**Eielson Array**	**82.66**	**22**	P	**P**	**10 32 06.0**	**-1.3**
	comp=Z,2.1nm,0.9s,baz=251,slow=5.3,SNR=13						
	comp=Z,2.1nm,0.9s						
D23K	**Nanushuk River**	**83.58**	**18**	IAmb	IAmb	10 32 13.4	
	comp=Z,5.1nm,1.1s						
F24K	**Squaw Lake**	**83.69**	**19**	IAmb	IAmb	10 32 14.3	
	comp=Z,2.7nm,0.9s						
KURK	**Kurchatov**	**84.38**	**322**		**P**	**10 32 16.7**	**+0.3**
KURK				IAmb	IAmb	10 32 22.3	
	comp=Z,3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**84.41**	**322**	P	**P**	**10 32 16.7**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=104,slow=4.1,SNR=11						
	comp=Z,1.3nm,0.9s						
QSPA	**South Pole Qui**	**84.54**	**180**	P	**P**	**10 32 18.2**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=8.5,slow=0.6,SNR=6.7						
	comp=Z,2.1nm,0.9s						
AAK	**Ala-Archa**	**85.24**	**313**	P	**P**	**10 32 21.3**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=166,slow=8.4,SNR=3.9						
	comp=Z,1.2nm,0.6s						
K29M	**Barlow Dome**	**85.96**	**25**	IAmb	IAmb	10 32 26.2	
	comp=Z,4.0nm,0.9s						
NRIK	**Noril'sk**	**86.62**	**341**	P	**P**	**10 32 27.9**	**+0.7**
	comp=Z,2.6nm,0.5s,baz=66,slow=2.4,SNR=2.8						
	comp=Z,2.6nm,0.5s						
D27M	**Malcolm River**	**86.77**	**19**	P	**P**	**10 32 27.3**	**-0.7**
D27M				IAmb	IAmb	10 32 30.3	
	comp=Z,3.4nm,0.9s						
H31M	**Peel River**	**87.90**	**23**	P	**P**	**10 32 33.5**	**0.0**
BVAR	**Borovoye Array**	**89.86**	**323**	P	**P**	**10 32 42.6**	**-0.4**
	comp=Z,4.3nm,0.8s,baz=100,slow=6.2,SNR=16						
	comp=Z,4.3nm,0.8s						
NVAR	**Mina Array Bea**	**92.31**	**52**	P	**P**	**10 32 55.1**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=123,slow=6.1,SNR=4.6						
	comp=Z,0.4nm,0.6s						
A36M	**Sachs Harbour**	**92.57**	**18**		**P**	**10 32 55.8**	**+0.7**
A36M				IAmb	IAmb	10 33 05.9	
	comp=Z,2.7nm,0.8s						
YKA	**Yellowknife Ar**	**95.88**	**28**	P	**P**	**10 33 10.2**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=271,slow=4.5,SNR=7.2						
	comp=Z,0.5nm,0.9s						
GERES	**GERESS Array B**	**124.69**	**328**	PKP	**PKiKP**	**10 38 44.0**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=25,slow=2.7,SNR=2.2						
SIV	**San Ignacio**	**140.12**	**123**	PKP	**PKPdf**	**10 39 14.2**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=303,slow=18,SNR=3.7						
BDFB	**Brasilia**	**150.48**	**135**	PKP	**PKPdf**	**10 39 31.6**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=240,slow=2.6,SNR=6.6						

*MEX **22** 10:19:49.4±0.7, 15°.87N×96°.21W, h46km±6km, MD4.7*
*NEIC **22** 10:19:49.1±2.9, 16°.02N±0°.05×96°.24W±0°.03, h25km±7km, mb4.4/116, Md4.7/154(MEX), Error ellipse: s-maj=7.7km s-min=4.5km az=181.0*
*IDC **22** 10:19:54.5±3.9, 16°.18N×95°.81W, h73km±36km, mb3.5/10, mbtmp3.8/12, ML4.0/2, Error ellipse: s-maj=32.5km s-min=13.3km az=56.0*
ISC 22 10:19:49.5±0.7, 15°.91N±0°.03×96°.22W±0°.03, h40km±7km, n200, σ2°38/238, mb4.3/38, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.17**	**143**		**Pn**	**10 19 55.4**	**-1.2**
HUIG					**Sn**	**10 20 00.1**	**-1.5**
HUIG	**Huatulco**	**0.17**	**143**	*i* P	**Pn**	**10 19 55.4**	**-1.2**
HUIG				*i* S	**Sn**	**10 20 00.1**	**-1.5**
PANG	**Puerto Angel**	**0.35**	**226**		**Pn**	**10 19 57.3**	**-1.0**
PANG					**Sn**	**10 20 04.4**	**-0.1**
PANG	**Puerto Angel**	**0.35**	**226**	*eP*	**Pn**	**10 19 57.3**	**-1.0**
PANG				*i* S	**Sn**	**10 20 04.4**	**-0.1**
PEIG	**Puerto Escondi**	**0.90**	**276**		**Pn**	**10 20 04.0**	**-1.8**
PEIG					**Sn**	**10 20 16.2**	**-1.4**
PEIG	**Puerto Escondi**	**0.90**	**276**	*eP*	**Pn**	**10 20 04.0**	**-1.8**
PEIG				*eS*	**Sn**	**10 20 16.2**	**-1.4**
OXLC	**Oaxaca**	**1.24**	**338**	*eP*	**Pn**	**10 20 10.8**	**+0.2**
OXLC				*eS*	**Sn**	**10 20 26.1**	**-0.1**
OXBJ	**Oaxaca**	**1.25**	**337**		**Pn**	**10 20 08.7**	**-2.1**
OXBJ					**Sn**	**10 20 24.1**	**-2.3**
OXBJ	**Oaxaca**	**1.25**	**337**	*eP*	**Pn**	**10 20 08.7**	**-2.1**
OXBJ				*i* S	**Sn**	**10 20 24.1**	**-2.3**
OXIG	**Oaxaca**	**1.26**	**337**		**Pn**	**10 20 09.6**	**-1.3**
OXIG					**Sn**	**10 20 24.9**	**-1.8**
VHO	**Vista Hermosa**	**1.26**	**337**	*eP*	**Pn**	**10 20 09.6**	**-1.3**
VHO				*eS*	**Sn**	**10 20 24.9**	**-1.8**
YOIG	**Yosondua**	**1.59**	**307**		**Pn**	**10 20 14.8**	**-0.6**
YOIG					**Sn**	**10 20 33.1**	**-1.8**
YOIG	**Yosondua**	**1.59**	**307**	*eP*	**Pn**	**10 20 14.8**	**-0.6**
YOIG				*eS*	**Sn**	**10 20 33.1**	**-1.8**
CMIG	**Matias Romero**	**1.74**	**47**		**Pn**	**10 20 15.6**	**-1.6**
CMIG					**Sn**	**10 20 37.0**	**-1.1**
CMIG	**Matias Romero**	**1.74**	**47**	*eP*	**Pn**	**10 20 15.6**	**-1.6**
CMIG				*eS*	**Sn**	**10 20 37.0**	**-1.1**
NEUV	**Arroyo Zacate**	**1.84**	**12**	*eP*	**Pn**	**10 20 17.9**	**-0.7**
NEUV				*eS*	**Sn**	**10 20 41.0**	**+0.3**
PNIG	**Pinotepa**	**1.90**	**285**		**Pn**	**10 20 18.0**	**-1.5**
PNIG					**Sn**	**10 20 40.8**	**-1.4**
PNIG	**Pinotepa**	**1.90**	**285**	*eP*	**Pn**	**10 20 18.0**	**-1.5**
PNIG				*eS*	**Sn**	**10 20 40.8**	**-1.4**
TXIG	**Tlaxiaco**	**2.00**	**312**		**Pn**	**10 20 21.6**	**+0.5**
TXIG					**Sn**	**10 20 44.0**	**-1.1**
TXIG	**Tlaxiaco**	**2.00**	**312**	*eP*	**Pn**	**10 20 21.6**	**+0.5**
TXIG				*eS*	**Sn**	**10 20 44.0**	**-1.1**
TOIG	**Toxpalan**	**2.32**	**340**		**Pn**	**10 20 26.4**	**+1.0**
TOIG					**Sn**	**10 20 51.4**	**-1.4**
TOIG	**Toxpalan**	**2.32**	**340**	*eP*	**Pn**	**10 20 26.4**	**+1.0**
TOIG				*i* S	**Sn**	**10 20 51.4**	**-1.4**
UXUV	**UXUV**	**2.43**	**54**	*eP*	**Pn**	**10 20 25.8**	**-1.0**
UXUV				*i* S	**Sn**	**10 20 54.3**	**-1.0**
HLIG	**Huajuapan de L**	**2.44**	**322**		**Pn**	**10 20 27.9**	**+0.8**
HLIG					**Sn**	**10 20 53.8**	**-2.0**
HLIG	**Huajuapan de L**	**2.44**	**322**	*eP*	**Pn**	**10 20 27.9**	**+0.8**
HLIG				*eS*	**Sn**	**10 20 53.8**	**-2.0**
MIHL	**Minatitlan**	**2.62**	**37**	*eP*	**Pn**	**10 20 28.5**	**-0.8**
MIHL				*i* S	**Sn**	**10 20 53.8**	**-6.1**
MGIG	**Malinaltepec**	**2.67**	**300**		**Pn**	**10 20 30.3**	**+0.1**
MGIG					**Sn**	**10 20 59.1**	**-2.3**
MGIG	**Malinaltepec**	**2.67**	**300**	*eP*	**Pn**	**10 20 30.3**	**+0.1**
MGIG				*eS*	**Sn**	**10 20 59.1**	**-2.3**
FTIG	**Fresnillo de T**	**2.71**	**318**		**Pn**	**10 20 31.7**	**+1.0**
FTIG					**Sn**	**10 20 59.5**	**-2.7**
FTIG	**Fresnillo de T**	**2.71**	**318**	*eP*	**Pn**	**10 20 31.7**	**+1.0**
FTIG				*eS*	**Sn**	**10 20 59.5**	**-2.7**
TUIG	**Tuzandepetl**	**2.72**	**39**	*eP*	**Pn**	**10 20 29.4**	**-1.4**
TUIG				*eS*	**Sn**	**10 20 58.6**	**-3.8**
TPIG	**Tehuac#an**	**2.73**	**336**		**Pn**	**10 20 32.8**	**+1.8**
TPIG					**Sn**	**10 21 04.3**	**+1.5**
TPIG	**Tehuac#an**	**2.73**	**336**	*eP*	**Pn**	**10 20 32.8**	**+1.8**
TPIG				*eS*	**Sn**	**10 21 04.3**	**+1.5**
TLIG	**Tlapa**	**2.79**	**306**		**Pn**	**10 20 34.9**	**+3.1**
TLIG	**Tlapa**	**2.79**	**306**	*eP*	**Pn**	**10 20 33.9**	**+2.1**
TLIG				*eS*	**Sn**	**10 21 03.4**	**-0.9**
PMUV	**Sontecomapan**	**2.82**	**22**	*i* P	**Pn**	**10 20 30.0**	**-2.2**
PMUV				*i* S	**Sn**	**10 21 02.4**	**-2.7**
PCIG		**2.89**	**94**		**Pn**	**10 20 32.5**	**-0.6**
PCIG		**2.89**	**94**	*eP*	**Pn**	**10 20 32.5**	**-0.6**
PCIG				*i* S	**Sn**	**10 21 02.1**	**-4.6**
CRIG	**Cruz Grande**	**2.92**	**287**		**Pn**	**10 20 32.5**	**-0.9**
CRIG	**Cruz Grande**	**2.92**	**287**	*eP*	**Pn**	**10 20 32.5**	**-0.9**
CRIG				*eS*	**Sn**	**10 21 02.6**	**-4.7**
HMTT	**Tlapaneco**	**2.93**	**310**		**Sn**	**10 21 08.0**	**+0.3**
HMTT	**Tlapaneco**	**2.93**	**310**	*eP*	**Pn**	**10 20 36.5**	**+2.8**
HMTT				*eS*	**Sn**	**10 21 08.0**	**+0.3**
TGIG		**3.09**	**73**		**Pn**	**10 20 35.5**	**-0.4**
TGIG					**Sn**	**10 21 14.6**	**+2.9**
TGIG		**3.09**	**73**	*eP*	**Pn**	**10 20 35.5**	**-0.4**
TGIG				*eS*	**Sn**	**10 21 14.6**	**+2.9**
POHV	**Veracruz**	**3.30**	**342**		**Pn**	**10 20 41.2**	**+2.0**
POHV	**Veracruz**	**3.30**	**342**	*eP*	**Pn**	**10 20 41.2**	**+2.0**
DAIG	**Los Arroyos**	**3.48**	**289**		**Pn**	**10 20 40.6**	**-0.6**
DAIG	**Los Arroyos**	**3.48**	**289**	*eP*	**Pn**	**10 20 40.6**	**-0.6**
DAIG				*eS*	**Sn**	**10 21 15.7**	**-5.4**
JAUV	**Jalcomulco**	**3.48**	**351**	*eP*	**Pn**	**10 20 39.4**	**-2.0**
JAUV				*eS*	**Sn**	**10 21 18.1**	**-3.3**
PHPU	**Puebla**	**3.63**	**329**	*e*	**Pn**	**10 20 48.2**	**+4.7**
PHPU				*eS*	**Sn**	**10 21 27.9**	**+2.6**
ACP2	**Acapulco**	**3.65**	**286**		Pn	10 20 50.8	+7.2
ACP2	**Acapulco**	**3.65**	**286**	*i* P	Pn	10 20 50.8	+7.2
ACP2				*eS*	**Sn**	**10 21 17.9**	**-7.6**
PBCV	**Popocatepetl**	**3.79**	**324**	*eP*	**Pn**	**10 20 48.5**	**+2.8**
PBCV				*eS*	**Sn**	**10 21 29.3**	**0.0**
LVIG	**Laguna Verde**	**3.80**	**357**	*eP*	**Pn**	**10 20 42.4**	**-3.2**
LVIG				*eS*	**Sn**	**10 21 26.6**	**-2.4**
MEIG	**Mezcala**	**3.83**	**302**		**Pn**	**10 20 45.6**	**-0.4**
MEIG					**Sn**	**10 21 27.6**	**-2.2**
MEIG	**Mezcala**	**3.83**	**302**	*eP*	**Pn**	**10 20 45.6**	**-0.4**
MEIG				*eS*	**Sn**	**10 21 27.6**	**-2.2**
PBXN	**Popocatepetl**	**3.86**	**323**	*eP*	**Pn**	**10 20 48.5**	**+1.5**
PBXN				*eP*		10 20 49.5	
PBXN				*eS*	**Sn**	**10 21 32.4**	**+1.0**
PBXN				*eS*		10 21 32.7	
PPM	**Popocatepetl**	**3.89**	**324**	*eP*	**Pn**	**10 20 49.0**	**+1.7**
PPM				*eS*	**Sn**	**10 21 27.4**	**-4.7**
PPIG	**Popocatepetl**	**3.89**	**324**		**Pn**	**10 20 49.0**	**+1.7**
PPIG					**Sn**	**10 21 27.4**	**-4.7**
PATR	**El Naranjo**	**3.92**	**101**	*eP*	**Pn**	**10 20 47.5**	**0.0**
PATR				*eS*	**Sn**	**10 21 28.5**	**-3.8**
CCIG	**Comitan**	**3.94**	**84**		**Pn**	**10 20 50.0**	**+2.3**
CCIG	**Comitan**	**3.94**	**84**	*eP*	**Pn**	**10 20 46.7**	**-1.0**
CCIG				*eS*	**Sn**	**10 21 30.0**	**-2.8**
THIG		**3.94**	**104**		**Pn**	**10 20 47.3**	**-0.2**
THIG		**3.94**	**104**	*eP*	**Pn**	**10 20 47.3**	**-0.2**
THIG				*eS*	**Sn**	**10 21 26.6**	**-5.9**
PAVE	**Pavencul**	**3.96**	**100**	*eP*	**Pn**	**10 20 48.4**	**+0.4**
PAVE				*eS*	**Sn**	**10 21 30.7**	**-2.6**
PLIG	**Platanillo**	**4.00**	**309**		**Pn**	**10 20 48.5**	**+0.1**
PLIG					**Sn**	**10 21 30.9**	**-3.2**
PLIG	**Platanillo**	**4.00**	**309**	*eP*	**Pn**	**10 20 48.5**	**+0.1**
PLIG				*eS*	**Sn**	**10 21 30.9**	**-3.2**
YAIG	**Yautepec**	**4.00**	**318**		**Pn**	**10 20 49.6**	**+1.1**
YAIG					**Sn**	**10 21 32.0**	**-2.4**
YAIG	**Yautepec**	**4.00**	**318**	*eP*	**Pn**	**10 20 49.6**	**+1.1**
YAIG				*eS*	**Sn**	**10 21 32.0**	**-2.4**
CAIG

TX31	Lajitas Ar. Si	15.02	334	Pn	Pn	10 23 18.6	-0.6
BRDY	Brady	15.52	351		Pn	10 23 23.6	-1.9
OZNA	Ozona	15.61	344		Pn	10 23 25.8	-0.9
OZNA				IAmb	IAmb	10 23 49.5	
	comp=Z,13nm,0.8s						
ALPN	Alpine	15.93	336		Pn	10 23 31.2	+0.3
MNHN	Monahans	16.48	340	P	Pn	10 23 38.2	+0.2
ABTX	Abilene, Hawle	16.93	350	P	Pn	10 23 43.1	-0.4
ABTX				IAmb	IAmb	10 23 54.7	
	comp=Z,24nm,1.2s						
ODSA	Odessa	17.14	341	IAmb	IAmb	10 23 57.7	
	comp=Z,34nm,0.9s						
Z38A	Mt. Pleasant	17.31	3	P	Pn	10 23 48.4	+0.1
Z38A				IAmb	IAmb	10 23 58.6	
	comp=Z,49nm,1.0s						
Z41A	Richland Creek	17.55	10	IAmb	IAmb	10 24 20.0	
	comp=Z,29nm,0.8s						
MIAR	Mount Ida	18.71	7	P	P	10 24 03.0	-1.7
MIAR				IAmb	IAmb	10 24 10.9	
	comp=Z,16nm,0.9s						
UALR	University of	19.11	10	P	P	10 24 08.5	-0.5
UALR				IAmb	IAmb	10 24 17.9	
	comp=Z,47nm,1.4s						
W35A	Tecumseh	19.17	358	IAmb	IAmb	10 24 37.7	
	comp=Z,20nm,0.9s						
SMWD	Samnorwood	19.45	350	IAmb	IAmb	10 24 25.8	
	comp=Z,17nm,0.7s						
OXF	Oxford	19.51	17	IAmb	IAmb	10 24 26.3	
	comp=Z,29nm,1.2s						
AMTX	Amarillo	19.52	346	IAmb	IAmb	10 24 24.2	
	comp=Z,14nm,0.6s						
DEOK	Depew	19.85	359	IAmb	IAmb	10 24 28.0	
	comp=Z,17nm,0.8s						
TUL3	Leonard	19.92	1	P	P	10 24 18.1	+0.1
TUL3				IAmb	IAmb	10 24 34.3	
	comp=Z,23nm,0.8s						
OK052	Battle Ridge R	20.01	359	IAmb	IAmb	10 24 29.1	
	comp=Z,20nm,0.8s						
QUOK	Quay	20.18	359	IAmb	IAmb	10 24 42.5	
	comp=Z,18nm,0.7s						
DUN6	Lazy B Ranch	20.28	327	IAmb	IAmb	10 24 55.0	
	comp=Z,36nm,1.2s						
HHAR	Hobbs	20.39	5	IAmb	IAmb	10 24 32.6	
	comp=Z,12nm,0.9s						
OK048	Pawnee Station	20.43	358	IAmb	IAmb	10 24 34.0	
	comp=Z,32nm,1.1s						
U38A	Gravette	20.51	4	IAmb	IAmb	10 24 28.3	
	comp=Z,13nm,0.6s						
OK051	E0350 and S346	20.52	359	IAmb	IAmb	10 24 35.0	
	comp=Z,25nm,0.9s						
LCAR	Lake Charles	20.58	12	IAmb	IAmb	10 25 00.3	
	comp=Z,9.0nm,0.8s						
OK038	West end E0370	20.61	354	IAmb	IAmb	10 24 30.0	
	comp=Z,18nm,0.8s						
T35A	Sooner Cattle	20.93	359		P	10 24 28.6	-0.2
TUC	Tucson	21.02	324	P	P	10 24 30.2	+0.3
ANMO	Albuquerque	21.07	336	P	P	10 24 31.3	+0.7
ANMO	Albuquerque	21.07	336	P	P	10 24 31.5	+0.9
	comp=Z,1.1nm,0.6s,baz=323,slow=13,SNR=8.6						
	comp=Z,1.1nm,0.6s						
KAN01	Argonia South	21.20	357	IAmb	IAmb	10 24 33.7	
	comp=Z,11nm,0.6s						
RTBA	Rita Blanca	21.25	345	IAmb	IAmb	10 25 02.5	
	comp=Z,10nm,0.9s						
PBMO	Poplar Bluff	21.41	13	IAmb	IAmb	10 24 38.9	
	comp=Z,8.6nm,0.8s						
MGMO	Mountain Grove	21.45	9	IAmb	IAmb	10 24 59.6	
	comp=Z,8.3nm,0.8s						
WVT	Waverly	21.48	19	P	P	10 24 32.4	-2.3
WVT				IAmb	IAmb	10 24 55.9	
	comp=Z,10nm,0.9s						
T42A	Van Buren	21.52	11	IAmb	IAmb	10 24 37.4	
	comp=Z,9.4nm,0.6s						
CCM	Cathedral Cave	22.49	10	P	P	10 24 43.8	-1.8
CCM				IAmb	IAmb	10 25 02.6	
	comp=Z,7.6nm,0.7s						
U49A	Red Boiling Sp	22.52	22	IAmb	IAmb	10 24 50.3	
	comp=Z,15nm,1.1s						
R32A	Long Quarter,	22.54	355	IAmb	IAmb	10 25 00.1	
	comp=Z,13nm,0.8s						
R40A	Maddies Statio	22.57	8	IAmb	IAmb	10 25 06.3	
	comp=Z,12nm,0.8s						
JSC	Jenkinsville	22.71	34	IAmb	IAmb	10 24 49.9	
	comp=Z,7.5nm,0.7s						
KSU1	Kansas State U	23.11	359	IAmb	IAmb	10 25 04.7	
	comp=Z,15nm,0.9s						
P38A	Dawn	23.74	5	IAmb	IAmb	10 25 26.8	
	comp=Z,11nm,0.7s						
MVCO	Mesa Verde	23.85	335	IAmb	IAmb	10 25 34.0	
	comp=Z,9.1nm,1.0s						
WCI	Wyandotte Cave	23.89	20	P	P	10 24 57.6	-1.9
WCI				IAmb	IAmb	10 25 13.6	
	comp=Z,16nm,0.8s						
V55A	Taylorsville	23.95	31	IAmb	IAmb	10 25 22.3	
	comp=Z,9.5nm,0.9s						
U54A	Nelsons Funny	24.20	29	IAmb	IAmb	10 25 25.3	
	comp=Z,16nm,1.1s						
S51A	Beattyville	24.35	25	IAmb	IAmb	10 25 07.5	
	comp=Z,14nm,1.1s						
R50A	Paris	24.62	23	IAmb	IAmb	10 25 06.3	
	comp=Z,17nm,1.3s						
RUSC	La Rusia	24.77	111	P	P	10 25 11.3	+3.0
RUSC				IAmb	IAmb	10 25 21.0	
	comp=Z,16nm,1.2s						
Q51A	Peebles	25.65	24	IAmb	IAmb	10 25 49.3	
	comp=Z,12nm,0.9s						
L40A	Anamosa	26.42	8	IAmb	IAmb	10 25 27.6	
	comp=Z,14nm,1.0s						
ECSD	EROS Data Cent	27.74	359	IAmb	IAmb	10 26 12.6	
	comp=Z,9.2nm,1.2s						
PDAR	Pinedale Array	29.11	340	P	P	10 25 47.6	+0.9
	comp=Z,0.3nm,0.6s,baz=145,slow=7.8,SNR=5.3						
	comp=Z,0.3nm,0.6s						
NVAR	Mina Array Bea	29.67	323	P	P	10 25 54.4	+2.6
	comp=Z,1.0nm,0.9s,baz=144,slow=9.9,SNR=5.1						
	comp=Z,1.0nm,0.9s						
SNOW	Snow King Moun	30.13	339	IAmb	IAmb	10 26 09.1	
	comp=Z,6.2nm,0.8s						
RLMT	Red Lodge	31.13	342	IAmb	IAmb	10 26 14.3	
	comp=Z,9.2nm,1.4s						
J08A	Circle Bar Ran	33.30	330	IAmb	IAmb	10 26 40.5	
	comp=Z,5.6nm,0.7s						
PLID	Pearl Lake	33.52	334	IAmb	IAmb	10 26 43.5	
	comp=Z,4.3nm,1.0s						
EPLO	Experimental L	33.74	3	IAmb	IAmb	10 26 35.4	
	comp=Z,8.0nm,1.0s						
ULM	Lac du Bonnet	34.25	0	P	P	10 26 30.9	-0.7
	comp=Z,1.7nm,0.5s,baz=182,slow=9.4,SNR=3.0						
	comp=Z,1.7nm,0.5s						
LPAZ	La Paz	42.33	138	P	P	10 27 41.3	+0.8
	comp=Z,0.4nm,0.5s,baz=32,slow=7.5,SNR=1.7						
	comp=Z,0.4nm,0.5s						
SIV	San Ignacio	46.99	131	P	P	10 28 17.7	+0.7
	comp=Z,1.2nm,0.5s,baz=297,slow=7.4,SNR=11						
	comp=Z,1.2nm,0.5s						
YKA	Yellowknife Ar	48.30	349	P	P	10 28 27.0	+0.4
	comp=Z,0.4nm,0.7s,baz=158,slow=7.4,SNR=8.0						
	comp=Z,0.4nm,0.7s						
BDFB	Brasilia	56.98	121	P	P	10 29 31.8	+0.1
	comp=Z,1.1nm,0.4s,baz=141,slow=14,SNR=2.0						
	comp=Z,1.1nm,0.4s						
ILAR	Eielson Array	59.51	337		P	10 29 49.8	+1.4
PLCA	Paso Flores	61.19	158	P	P	10 30 02.2	+1.9
	comp=Z,3.6nm,0.8s,baz=324,slow=7.4,SNR=10.0						
	comp=Z,3.6nm,0.8s						
NOA	NORSAR Array B	84.39	28	P	P	10 32 16.4	-1.2
	comp=Z,0.4nm,0.7s,baz=293,slow=4.9,SNR=2.1						
	comp=Z,0.4nm,0.7s						

UPA ***22*** *10:24:40.5±1.1, 6°.80N×82°.35W, h14km±17km, MW4.3*
UCR ***22*** *10:24:41.8±2.0, 6°.79N×82°.37W, h36km±31km, MW4.1*
ISC 22 10:24:38.0±1.9, 6°.81N±0°.10×82°.35W±0°.05, h10km, n57,
σ1$77/69, 4C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	Guarumal, Vera	1.46	49	eP	Pg	10 25 05.5	-0.5
GMAL				eS	Sg	10 25 25.1	+0.1
GMAL	Guarumal, Vera	1.46	49	eP	Pg	10 25 06.0	-0.1
GMAL				eS	Sg	10 25 24.9	0.0
CACAO	El Cacao, Vera	1.57	70	eP	Pb	10 25 06.9	-0.3
CACAO				eS	Sb	10 25 26.9	-0.3
DVD	David	1.62	357	eP	Pb	10 25 06.9	-1.1
DVD				eS	Sb	10 25 28.5	0.0
LPPC	Paso Canoas	1.78	344	eP	Pb	10 25 09.6	-1.2
NELY	Ciudad Neily	1.92	342	⇑iP	Pb	10 25 11.7	-1.4
JIME	Puerto Jimenez	1.97	331	eP	Pn	10 25 11.8	+0.4
BRU2	Volcan	2.00	350	⇑iP	Pb	10 25 13.0	-1.6
BRU2				eS	Sb	10 25 38.6	-1.1
BRU2	Volcan	2.00	350	eP	Pb	10 25 13.2	-1.4
BRU2				eS	Sb	10 25 39.2	-0.5
EDAD	Golfito	2.00	336	eP	Pn	10 25 12.0	+0.1
VITO	San Vito	2.09	343	eP	Pb	10 25 14.8	-1.3
CHGR2	Aguacate	2.13	6	eP	Pb	10 25 15.6	-1.1
CHGR2				eS	Sn	10 25 40.1	0.0
ALCO	Alturas Coton,	2.18	347	eP	Pn	10 25 15.5	+1.0
CHIT3	Chitre	2.23	59	eP	Pb	10 25 16.3	-2.1
CHIT3				eS	Sb	10 25 44.4	-1.8
AZU	Azuero	2.28	65	eP	Pn	10 25 16.4	+0.7
AZU				eS	Sn	10 25 44.2	+0.3
AZU	Azuero	2.28	65	eP	Pb	10 25 17.5	-1.7
AZU				eS	Sn	10 25 44.6	+0.7
EDP2	Potrero Grande	2.34	340	eP	Pb	10 25 18.5	-1.8
FIMO	Fila Mora	2.38	335	eP	Pn	10 25 18.5	+1.2
BURE	Buenos Aires	2.54	337	⇑iP	Pb	10 25 21.0	-2.8
SAJE	San Jernim	2.77	336	eP	Pn	10 25 23.7	+1.1
BRIBI	Bribri	2.83	351	eP	Pb	10 25 27.4	-1.3
BRIBI				eS	Sb	10 26 04.6	+1.1
CEUA	Cerro Uatsi, L	2.85	348	eP	Pb	10 25 27.5	-1.6
LLNJ	Naranjito	3.16	327	eP	Pn	10 25 28.4	+0.6
ZANG	Zanguenga, Cho	3.26	49	eP	Pn	10 25 31.8	+2.6
PISJ	San Jernim	3.31	328	eP	Pn	10 25 31.6	+1.6
ABE2	San Pablo	3.33	330	eP	Pn	10 25 31.9	+1.5
PICV	PH. Pirrs	3.34	327	eP	Pn	10 25 31.3	+0.9
LCR2	La Lucha 2	3.34	331	⇑iP	Pn	10 25 31.7	+1.1
LCR2				eS	Sn	10 26 12.0	+1.6
REPA	Paraso	3.35	334	eP	Pn	10 25 31.3	+0.7
PCAYA	Pacayas	3.41	335	eP	Pn	10 25 33.7	+2.2
IRES	Siquirres	3.46	341	eP	Pb	10 25 35.6	-3.8
CVTV	Tajo	3.46	337	eP	Pn	10 25 34.3	+2.0
ACOS	Acosta	3.47	329	eP	Pn	10 25 33.8	+1.6
CVTQ	Turrialba Volc	3.47	336	eP	Pn	10 25 34.5	+2.1
VTR0	Volcan Turrial	3.48	336	eP	Pn	10 25 34.5	+1.9
CVTR	Volcan Turrial	3.48	337	eP	Pn	10 25 34.0	+1.4
RVLA	Villa Bonita	3.50	340	eP	Pn	10 25 35.2	+2.7
AMPA	Desamparados	3.50	331	eP	Pn	10 25 35.0	+2.3
SJS3	Mercedes San J	3.54	332	eP	Pn	10 25 35.0	+1.9
DOMI	Santo Domingo	3.59	331	eP	Pn	10 25 36.1	+2.2
SANTA	Santa Ana	3.60	330	eP	Pn	10 25 35.2	+1.3
CVTG	V. Turrialba,	3.60	337	eP	Pn	10 25 36.4	+2.5
HEME	Heredia, Merce	3.63	331	eP	Pn	10 25 36.2	+1.8
PILE	Guapiles	3.67	337	eP	Pn	10 25 38.3	+3.4
CBL1	Cabuya	3.87	316	eP	Pn	10 25 38.6	+1.0
SOCE	Pocosol	4.20	328	eP	Pn	10 25 43.7	+1.5
NYURE	Nandayure	4.28	318	eP	Pn	10 25 44.4	+1.3
FORC	Fortuna	4.30	328	eP	Pn	10 25 47.1	+3.6
JUNT	Juntas	4.31	323	eP	Pn	10 25 45.5	+1.9
JTS	Las Juntas de	4.31	324	⇓iP	Pn	10 25 45.9	+2.2
JTS	Las Juntas de	4.31	324	eP	Pn	10 25 45.5	+1.8
ARE1	Arenal 1	4.32	327	eP	Pn	10 25 45.9	+2.1
CEDE	Laguna Cedeo	4.33	328	eP	Pn	10 25 46.7	+2.7
BAGA	Bagaces	4.68	322	eP	Pn	10 25 51.6	+2.8
VERA	Finca Concepci	4.73	328	eP	Pn	10 25 51.8	+2.5
COLC	Colonia	4.76	324	eP	Pn	10 25 52.2	+2.3
ELI1	Hacienda Flor	4.95	321	eP	Pn	10 25 54.3	+1.8

NEIC ***22*** *10:25:29.2±0.9, 5°.97S±0°.09×130°.3E±0°.1, h134km±17km, mb4.4/4, Error ellipse: s-maj=15.6km s-min=13.2km az=64.0*
IDC ***22*** *10:25:43.0±5.9, 6°.67S×129°.57E, h257km±59km, mb3.5/3, mbtmp4.2/5, Error ellipse: s-maj=66.5km s-min=17.7km az=65.0*
ISC 22 10:25:31.6±1.0, 6°.30S±0°.08×130°.2E±0°.1, h146km, n32,
σ1$76/31, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.79	350	P	Pn	10 26 02.6	-1.5
SAUI	Saumlaki	1.98	148	Pn	Pn	10 26 06.5	+0.2
FAKI	Fak Fak	3.92	31	Pn	Pn	10 26 23.8	-7.0
FAKI	Fak Fak	3.92	31	P	Pn	10 26 23.7	-7.0
FAKI	Fak Fak	3.92	31	S	Sn	10 27 03.9	-13
DRS	Darwin Rock St	6.13	174	P	Pn	10 27 02.7	+2.7
MTN	Manton Dam	6.57	172		Pn	10 27 07.5	+1.6
MTN	Manton Dam	6.57	172	P	Pn	10 27 07.4	+1.6
MTN	Manton Dam	6.57	172	S	Sn	10 28 21.4	+1.7
KDU	Kakadu	6.72	161	P	Pn	10 27 07.7	-0.3
SOEI	Soe	6.83	239	Pn	Pn	10 27 09.9	+0.4
KNRA	Kununurra	9.43	189		Pn	10 27 45.0	+0.9
FITZ	Fitzroy Crossi	12.55	200	P	Pn	10 28 26.1	+0.9
	2.2nm,0.3s,baz=25,slow=13,SNR=24						
FITZ				S	Sn	10 30 40.0	-4.0
	9.4nm,0.6s,baz=225,slow=19,SNR=11						
WB0	Warramunga Arr	13.99	164	Pn	Pn	10 28 44.2	+0.6
WRA	Warramunga Arr	14.14	164	Pn	Pn	10 28 45.0	-0.5
WRA	Warramunga Arr	14.14	164	P	Pn	10 28 43.5	-2.0
	2.8nm,0.3s,baz=341,slow=13,SNR=24						
WRA				S	Sn	10 31 13.5	-8.8
	2.3nm,0.4s,baz=345,slow=22,SNR=15						
WR8	Warramunga Arr	14.20	163	Pn	Pn	10 28 46.1	-0.2
COEN	Coen	14.84	122	Pn	Pn	10 28 54.0	-0.4
QIS	Mount Isa	16.84	148	P	Pn	10 29 19.0	+0.1
AS31	Alice Springs	17.63	169	P	Pn	10 29 29.8	+1.5
ASAR	Alice Springs	17.63	169	P	Pn	10 29 28.8	+0.4
ASAR	Alice Springs	17.63	169	P	Pn	10 29 29.5	+1.2
	2.6nm,0.3s,baz=350,slow=10,SNR=83						
ASAR				S	S	10 32 37.5	-5.5
	1.4nm,0.6s,baz=348,slow=20,SNR=6.2						
AS01	Alice Springs	17.64	169	P	Pn	10 29 29.8	+1.4
PSA00	Pilbara Seismi	18.20	212	P	Pn	10 29 37.1	+2.0
PSA00				IAmb	IAmb	10 29 40.4	
	comp=Z,28nm,1.5s						
WRKA	Warakurna	18.73	185	P	Pn	10 29 42.5	+1.2
OOD	Oodnadatta	22.00	167	P	P	10 30 15.5	+1.3
BBOO	Buckleboo	26.93	169	P	P	10 30 59.9	+0.5
BBOO				IAmb	IAmb	10 31 16.0	
	comp=Z,16nm,1.4s						
STKA	Stephens Creek	27.58	159	P	P	10 31 05.6	+0.5
STKA	Stephens Creek	27.58	159	P	P	10 31 05.5	+0.3
	comp=Z,0.8nm,0.3s,baz=339,slow=9.0,SNR=6.7						
	comp=Z,0.8nm,0.3s						
STKA	Stephens Creek	27.58	159	P	P	10 31 05.9	+0.8
MKAR	Makanchi Array	67.77	327	P	P	10 36 13.1	-0.5
	comp=Z,1.4nm,0.4s,baz=133,slow=6.6,SNR=24						
	comp=Z,1.4nm,0.4s						
KURBB	Kurchatov Arra	72.03	328	P	P	10 36 38.5	-1.0
	comp=Z,0.6nm,0.5s,baz=127,slow=5.2,SNR=5.6						
	comp=Z,0.6nm,0.5s						

JMA ***22*** *10:42:03.1±0.6, 44°.N±3°.×14°.8E±°, h0km, MV3.9/21, SE OFF ETOROFU*
SKHL ***22*** *10:42:04.3±0.4, 44°.70N×148°.50E, h55km±5km, mb4.4/3*
ISC 22 10:42:03.0±3.6, 44°.53N±0°.09×148°.4E±0°.2, h5km±16km,
n11, σ1$35/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.79	333	i P	Pg	10 42 17.8	-0.4
KUR				AMB	AMB	10 42 18.1	
	300nm,0.2s						
KUR				eS	Sg	10 42 28.0	-0.5
KUR				A	A	10 42 30.0	
	190nm,0.2s						
KUR				A	A	10 42 30.0	
	260nm,0.2s						
SHO	Shikotan	1.30	240	eP	Pn	10 42 27.7	0.0
SHO				AMB	AMB	10 42 28.3	
	10.0nm,0.2s						
SHO				eS	Sg	10 42 44.8	+0.2
SHO				A	A	10 42 50.8	
	110nm,0.2s						
SHO				A	A	10 42 50.8	
	160nm,0.2s						
YUK	Yuzh-Kuril'sk	1.88	256	eP	Pn	10 42 35.3	-0.4
YUK				AMB	AMB	10 42 38.7	
	110nm,0.2s						
YUK				eS	Sn	10 42 57.5	-2.2
YUK				A	A	10 43 05.1	
	200nm,0.2s						
YUK				A	A	10 43 05.1	
	220nm,0.2s						
NEM2	Nemuro 2	2.23	240	P	Pn	10 42 40.8	+0.2
NEM2				eS	Sn	10 43 08.1	-0.5
NMR	Nemuro--Hokkai	2.24	240	eP	Pn	10 42 41.0	+0.3
NMR				eS	Sn	10 43 08.3	-0.4
JRA	Rausu	2.42	257	eP	Pn	10 42 44.9	+1.8
JKHN	Kushirohamanak	2.74	239	eP	Pn	10 42 48.2	+0.6
AKK	Akkeshi	2.98	241	eP	Pn	10 42 51.0	+0.2
AKK				eS	Sn	10 43 26.2	-0.7
JAK	Akkeshi	3.08	241	P	Pn	10 42 52.6	+0.4
JTKR	Abashiri--Toko	3.26	262	P	Pn	10 42 56.3	+1.5
JAR	Ashorobuto	3.55	251	eP	Pn	10 43 01.8	+3.1

NEIC ***22*** *10:45:22.0±0.8, 19°.12N±0°.04×155°.54W±0°.04, h49km±4km, Error ellipse: s-maj=6.8km s-min=2.9km az=140.0*
HVO 22 10:45:23.3±1.1, 19°.07N±0°.04×155°.48W±0°.03, h44km±3km,
ML2.4/14, ML2.7/34(NEIC), Error ellipse: s-maj=7.4km
s-min=2.1km az=149.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	Honuapo	0.07	282		Pn	10 45 29.8	-0.6
HPO					Sn	10 45 34.3	-0.9
HTC	Hot Caves	0.18	27		Pn	10 45 30.4	-0.6
KHU	Kahuku	0.21	324		Pn	10 45 30.6	-0.8
KHU					Sn	10 45 35.6	-1.5
KHU	Kahuku	0.21	324	IAML		10 45 35.9	
	comp=N,688nm,0.3s						
KHU				IAML		10 45 36.2	
	comp=E,1μm,0.9s						
HLP	Hilina Pali	0.28	37		Pn	10 45 31.1	-0.7
HLP					Sn	10 45 37.1	-0.6
HLP	Hilina Pali	0.28	37	IAML		10 45 38.2	
	comp=N,907nm,0.7s						
HLP				IAML		10 45 38.5	
	comp=E,1μm,0.7s						
SDHHI	Sand Hill	0.36	30		Pn	10 45 31.6	-1.2
SDHHI					Sn	10 45 37.9	-1.5
WRMHI	West Rim	0.37	28		Pn	10 45 31.7	-1.2
WRMHI					Sn	10 45 38.1	-1.5
RIM	Rim	0.38	32		Pn	10 45 31.6	-1.3
KKO	Keanakako'i	0.38	33		Pn	10 45 31.9	-1.1
KKO					Sn	10 45 38.3	-1.5
UWE	Uwekahuna	0.39	28		Pn	10 45 31.9	-1.2
UWE					Sn	10 45 38.6	-1.3
UWE	Uwekahuna	0.39	28	IAML		10 45 40.8	
	comp=E,922nm,0.5s						
UWE				IAML		10 45 52.4	
	comp=N,794nm,0.5s						
OBL	Observatory Le	0.39	29		Pn	10 45 31.9	-1.2
OBL					Sn	10 45 39.0	-0.9
PUH	Pauahi	0.39	40		Pn	10 45 31.8	-1.2
PUH					Sn	10 45 38.6	-1.4
PUH	Pauahi	0.39	40	IAML		10 45 38.9	
	comp=E,448nm,1.2s						
PUH				IAML		10 45 44.3	
	comp=N,502nm,1.1s						
BYL	Byron's Ledge	0.40	32	Pn	Pn	10 45 31.9	-1.3
BYL				IAML		10 45 46.8	
	comp=E,573nm,0.5s						
UWB	Uwekahuna Bluf	0.40	29		Pn	10 45 31.8	-1.4
UWB					Sn	10 45 38.1	-2.1
HATHI	Halema'uma'u T	0.41	31		Pn	10 45 32.0	-1.3
HATHI					Sn	10 45 38.5	-1.8
HATHI	Halema'uma'u T	0.41	31	IAML		10 45 38.8	
	comp=E,615nm,0.5s						
HATHI				IAML		10 45 41.4	
	comp=N,568nm,0.8s						
SBLHI	Steaming Bluff	0.41	30		Pn	10 45 31.9	-1.3
SBLHI					Sn	10 45 38.0	-2.3
MWH	Mokuaweoweo	0.42	345	Pn	Pn	10 45 31.7	-2.2
MWH				IAML		10 45 43.0	
	comp=N,556nm,0.7s						
MWH				IAML		10 45 45.1	
	comp=E,529nm,0.6s						
KNHH	Kane Nui o Ham	0.42	44		Pn	10 45 32.4	-1.0
MLH	Mauna Loa	0.43	12		Pn	10 45 32.5	-1.1
MLH					Sn	10 45 38.8	-2.1
MLH	Mauna Loa	0.43	12	IAML		10 45 39.4	
	comp=N,544nm,0.5s						
MLH				IAML		10 45 45.5	
	comp=E,398nm,0.6s						
STCH	Steam Cracks	0.46	48		Pn	10 45 32.6	-1.2
STCH					Sn	10 45 39.6	-1.7
STCH	Steam Cracks	0.46	48	IAML		10 45 39.9	
	comp=N,334nm,0.6s						
STCH				IAML		10 45 40.0	
	comp=E,396nm,0.8s						
JCUZ	Jacuzzi	0.47	49		Pn	10 45 32.9	-1.1
JCUZ					Sn	10 45 40.4	-1.3
NPOC	North of Pu'u	0.47	48		Pn	10 45 32.8	-1.2
NPOC					Sn	10 45 40.2	-1.5
ALEP	Alea Permanent	0.49	342		Pn	10 45 33.2	-1.3
ALEP					Sn	10 45 39.7	-2.6
HMH	Humu'ula Sheep	0.53	0		Pn	10 45 34.0	-0.9
HMH					Sn	10 45 40.7	-2.4
HMH	Humu'ula Sheep	0.53	0	IAML		10 45 41.7	
	comp=N,358nm,0.4s						
HMH				IAML		10 45 41.8	
	comp=E,482nm,0.8s						
JOKA	Jonika Flow	0.58	52		Pn	10 45 34.0	-1.3
JOKA					Sn	10 45 42.3	-1.6
JOKA	Jonika Flow	0.58	52	IAML		10 45 42.6	
	comp=E,200nm,0.7s						
JOKA				IAML		10 45 43.9	
	comp=N,390nm,1.2s						
CPH	Captain Cook	0.58	315		Pn	10 45 33.9	-1.5
KKH	Kailua Kona	0.77	319		Sn	10 45 44.9	-3.4
MHA	Mahukona	1.18	340	Pn	Pn	10 45 41.7	-1.7

IDC ***22*** *10:51:25.6±1.3, 59°.58N×151°.65W, h63km±19km, mb3.6/4, mbtmp3.7/8, Error ellipse: s-maj=28.9km s-min=9.6km az=116.0*
NEIC ***22*** *10:51:26.4±0.8, 59°.57N±0°.04×151°.68W±0°.06, h52km±7km, Error ellipse: s-maj=6.0km s-min=3.7km az=152.0*
AEIC ***22*** *10:51:27.0±1.0, 59°.58N±0°.04×151°.66W±0°.05, h46km±6km, ML3.2,

RC01 IAML 10 52 22.1
comp=E,646nm,0.3s
RC01 IAML 10 52 22.9
comp=N,628nm,0.3s
O18K Koktuh Hills 1.83 281 Pn 10 51 54.7 +0.2
O18K IAML 10 52 20.9
comp=E,321nm,0.8s
O18K IAML 10 52 21.6
comp=N,402nm,0.7s
P18K Big Mountain, 1.84 266 Pn 10 51 54.6 -0.1
KAHG Katmai Hook Gl 1.85 235 Pn 10 51 56.0 +1.1
KDAK Kodiak Island 1.86 196 Pn 10 51 55.1 +0.2
KDAK Kodiak Island 1.86 196 IAML 10 52 24.8
comp=N,298nm,0.3s
KDAK IAML 10 52 26.5
comp=N,252nm,0.5s
KDAK Kodiak Island 1.86 196 P **Pn 10 51 54.9 0.0**
KDAK S **Sn 10 52 18.1 +0.9**
comp=N,65nm,0.3s,baz=97,slow=21,SNR=18
N19K Bonanza Creek 1.89 313 Pn 10 51 56.1 +0.7
N19K IAML 10 52 19.9
comp=N,364nm,0.6s
STLK Strandline Lak 1.94 357 Pn 10 51 57.5 +1.4
SUA Susitna One 1.95 13 Pn 10 51 57.6 +1.2
SUA IAML 10 52 25.0
comp=N,240nm,0.5s
SUA IAML 10 52 27.1
comp=E,283nm,0.6s
PWL Port Wells 2.10 51 Pn 10 51 59.1 +0.8
PWL IAML 10 52 31.8
comp=E,382nm,0.7s
PWL IAML 10 52 33.4
comp=N,392nm,0.3s
ACHA Angle Creek He 2.34 236 Pn 10 52 02.7 +1.1
PMR Palmer 2.38 30 IAML 10 52 37.6
comp=E,199nm,0.3s
PMR IAML 10 52 39.8
comp=N,196nm,0.5s
N18K Kilae Creek 2.40 300 Pn 10 52 02.7 +0.4
SKT Skwentna 2.42 1 Pn 10 52 04.3 +1.7
SKT IAML 10 52 39.8
comp=E,266nm,0.4s
SKT IAML 10 52 40.5
comp=N,178nm,0.5s
ANCK Angle Creek 2.42 237 Pn 10 52 04.5 +1.8
P17K Kvichak River 2.48 263 Pn 10 52 04.3 +0.9
OHAK Old Harbor 2.51 201 Pn 10 52 03.6 -0.2
OHAK IAML 10 52 43.4
comp=N,120nm,0.6s
OHAK IAML 10 52 50.4
comp=E,136nm,0.8s
GHO Glory Hole Cre 2.58 30 IAML 10 52 44.4
comp=N,333nm,0.4s
GLI Glacier Island 2.62 58 IAML 10 52 48.4
comp=N,273nm,0.7s
GLI IAML 10 52 49.9
comp=E,233nm,0.6s
HIN Hinchinbrook I 2.72 70 Pn 10 52 06.7 0.0
HIN IAML 10 52 52.8
comp=N,203nm,0.6s
HIN IAML 10 52 56.3
comp=E,195nm,0.8s
Q16K King Salmon 2.73 253 Pn 10 52 07.7 +0.9
SML Sawmill 2.77 35 IAML 10 52 52.2
comp=E,168nm,0.9s
SML IAML 10 52 52.5
comp=N,161nm,0.8s
FID Port Fidalgo 2.84 63 IAML 10 52 53.7
comp=N,235nm,0.6s
CUT Chulitna 2.92 13 IAML 10 52 55.5
comp=N,220nm,1.0s
CUT IAML 10 53 05.0
comp=E,252nm,0.7s
N17K Nushagak Hills 2.94 291 IAML 10 52 59.0
comp=N,84nm,0.9s
L19K White Mountain 3.05 330 Pn 10 52 12.3 +1.0
SCM Sheep Creek Mo 3.11 41 IAML 10 53 03.9
comp=N,153nm,0.7s
SCM IAML 10 53 09.9
comp=E,180nm,0.9s
O16K Kokwok River B 3.28 273 Pn 10 52 14.9 +0.6
O16K IAML 10 53 12.6
comp=N,85nm,0.9s
PPLA Purkeypile 3.35 356 IAML 10 53 27.4
comp=E,56nm,1.5s
M17K Holitna River 3.40 305 IAML 10 53 14.0
comp=E,152nm,0.8s
KLU Klutina 3.42 53 Pn 10 52 17.3 +0.9
KLU IAML 10 53 09.0
comp=N,167nm,0.7s
KLU IAML 10 53 12.1
comp=E,83nm,0.6s
L18K Granite Mounta 3.62 319 Pn 10 52 19.8 +0.8
L18K IAML 10 53 01.7
comp=N,70nm,0.5s
M24K Tolsona, Glenn 3.69 44 IAML 10 53 18.1
comp=N,124nm,1.2s
BMRM Bremner River 3.78 65 IAML 10 53 25.9
comp=N,75nm,0.6s
BMRM IAML 10 53 35.2
comp=E,52nm,0.7s
CAST Castle Rocks 3.87 357 Pn 10 52 23.3 +0.9
M16K Timber Creek 3.92 295 IAML 10 53 31.5
comp=E,45nm,0.9s
M16K IAML 10 53 33.8
comp=N,44nm,1.3s
TRF Thorofare Moun 3.95 9 IAML 10 53 18.3
comp=E,56nm,1.0s
TRF IAML 10 53 20.2
comp=N,82nm,0.6s
TTA Tatalina 3.98 330 Pn 10 52 24.9 +0.9
KTH Kantishna Hill 4.01 5 IAML 10 53 21.1
comp=N,65nm,0.6s
KTH IAML 10 53 24.5
comp=E,58nm,0.8s
N25K Chitina, Valde 4.03 57 Pn 10 52 25.6 +0.9
N25K IAML 10 53 29.4
comp=N,48nm,0.8s
N25K IAML 10 53 30.2
comp=E,46nm,1.2s
RND Reindeer 4.08 18 Pn 10 52 27.0 +1.7
RND IAML 10 53 34.2
comp=E,41nm,0.9s
RND IAML 10 53 34.4
comp=N,38nm,1.2s
BERG Berg Lake 4.08 75 IAML 10 53 14.0
comp=E,91nm,0.5s
N15K Kwethluk River 4.30 282 IAML 10 53 49.5
comp=E,55nm,0.6s
GLB Gilahina Butte 4.31 61 IAML 10 53 35.2
comp=E,42nm,0.8s
GLB IAML 10 53 35.3
comp=N,60nm,0.8s
MCK McKinley 4.37 16 IAML 10 53 41.8
comp=N,56nm,1.2s
MCK IAML 10 53 47.7
comp=E,27nm,0.6s
VRDI Verde Repeater 4.39 64 IAML 10 53 39.9
comp=N,26nm,1.0s
L16K Owhat River 4.41 302 IAML 10 53 21.2
comp=N,24nm,0.5s
K17K Iditarod 4.51 317 Pn 10 52 32.1 +0.9
K17K IAML 10 53 40.5
comp=N,29nm,0.7s
K17K IAML 10 53 59.5
comp=E,38nm,1.0s
PAX Paxson 4.53 39 IAML 10 53 41.6
comp=E,45nm,0.6s
PAX IAML 10 53 46.6
comp=N,41nm,1.0s
BPAW Bear Paw Mtn. 4.56 4 IAML 10 53 31.3
comp=E,22nm,0.6s
J19K Poorman 4.82 339 Pn 10 52 36.6 +1.2
YAH Yahtse 5.04 77 IAML 10 53 27.9
comp=N,50nm,0.7s
M26K Nabesna, AK 5.08 52 IAML 10 54 16.9
comp=N,19nm,1.1s
MENT Mentasta 5.11 45 IAML 10 54 10.2
comp=E,41nm,0.9s
MENT IAML 10 54 11.7
comp=N,37nm,1.0s
WRH Wood River Hil 5.20 17 IAML 10 54 06.9
comp=N,15nm,0.7s
WRH IAML 10 54 22.0
comp=E,15nm,1.1s
RIDG Independent Ri 5.29 35 IAML 10 54 12.7
comp=N,32nm,0.9s
L26K Log Cabin Wild 5.29 46 IAML 10 54 15.8
comp=E,20nm,0.8s
L26K IAML 10 54 27.8
comp=N,17nm,0.7s
HDA Harding Lake 5.34 22 IAML 10 54 09.6
comp=E,24nm,1.2s
HDA IAML 10 54 11.4
comp=N,29nm,0.9s
DOT Dot Lake 5.46 38 Pn 10 52 45.1 +0.9
COLA College 5.61 17 Pn 10 52 47.2 +1.0
ILAR Eielson Array 5.68 21 Pn 10 52 48.1 +1.0
ILAR Eielson Array 5.68 21 P **Pn 10 52 48.0 +0.8**
comp=N,3.8nm,0.4s,baz=203,slow=14,SNR=111
ILAR S **Sn 10 53 50.0 -0.8**
comp=N,1.3nm,0.3s,baz=203,slow=24,SNR=4.6
COLD Coldfoot 7.72 4 Pn 10 53 16.1 +1.1
DLBC Dease Lake 11.20 86 P **Pn 10 54 03.8 +1.1**
comp=N,1.0nm,0.3s,baz=281,slow=8.0,SNR=19
DLBC S **Sn 10 56 04.5 -1.7**
comp=N,1.9nm,0.9s,baz=138,slow=24,SNR=1.5
INK Inuvik 11.79 34 P **Pn 10 54 11.9 +1.4**
comp=N,0.2nm,0.3s,baz=241,slow=12,SNR=1.4
YKA Yellowknife Ar 18.01 65 P **P 10 55 32.4 +1.0**
comp=N,0.4nm,0.8s,baz=278,slow=10,SNR=5.7
RES Resolute Bay 25.32 31 P **P 10 56 45.7 -0.5**
comp=N,0.6nm,0.8s,baz=256,slow=10.0,SNR=4.1
comp=N,0.6nm,0.8s
SPITS Spitsbergen Ar 42.30 4 P **P 10 59 12.0 -0.9**
comp=N,5.8nm,0.9s,baz=0.0,slow=6.5,SNR=17
comp=N,5.8nm,0.9s
FINES FINESS Array B 59.30 1 P **P 11 01 19.8 -0.9**
comp=N,1.1nm,0.8s,baz=347,slow=7.8,SNR=4.5
comp=N,1.1nm,0.8s
HFS Hagfors 60.09 8 P **P 11 01 25.5 -0.7**
comp=N,0.8nm,0.5s,baz=350,slow=5.2,SNR=7.4
comp=N,0.8nm,0.5s

*NEIC **22** 10:51:57.1±0.3, 19°.15N±0°.04×155°.45W±0°.03, h44km±4km, Error ellipse: s-maj=7.0km s-min=3.7km az=155.0*

HVO 22 10:51:58.1±0.4,**19°.10N**±0°.05×**155°.41W**±0°.03,**h40**km±4km, **ML2.3**/3,**ML2.5**/34(NEIC),**Error ellipse: s-maj=7.8km s-min=1.9km az=152.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.14**	**6**		Pn	10 52 04.6	-1.2
HLP	**Hilina Pali**	**0.22**	**27**		Pn	10 52 05.0	-0.9
HLP	**Hilina Pali**	**0.22**	**27**	IAML		10 52 14.0	
comp=E,649nm,0.9s							
HLP				IAML		10 52 18.6	
comp=N,616nm,0.4s							
KHU	**Kahuku**	**0.24**	**308**		Pn	10 52 05.1	-1.2
KHU					Sn	10 52 10.2	-1.9
KHU	**Kahuku**	**0.24**	**308**	IAML		10 52 10.5	
comp=N,626nm,0.4s							
KHU				IAML		10 52 10.7	
comp=E,548nm,0.5s							
SDHHI	**Sand Hill**	**0.31**	**21**		Pn	10 52 05.6	-1.1
SDHHI					Sn	10 52 11.4	-1.5
RIM	**Rim**	**0.32**	**24**		Pn	10 52 05.8	-1.0
WRMHI	**West Rim**	**0.33**	**19**		Pn	10 52 05.7	-1.2
KKO	**Keanakako'i**	**0.33**	**25**		Pn	10 52 05.8	-1.1
PUH	**Pauahi**	**0.33**	**34**		Pn	10 52 05.7	-1.1
PUH	**Pauahi**	**0.33**	**34**	IAML		10 52 10.0	
comp=N,318nm,2.4s							
PUH				IAML		10 52 22.8	
comp=E,182nm,1.4s							
OBL	**Observatory Le**	**0.34**	**21**		Pn	10 52 05.8	-1.2
UWE	**Uwekahuna**	**0.34**	**19**		Pn	10 52 05.8	-1.2
BYL	**Byron's Ledge**	**0.34**	**25**	Pn	Pn	10 52 06.0	-1.0
BYL				IAML		10 52 22.7	
comp=E,301nm,0.7s							
UWB	**Uwekahuna Bluf**	**0.35**	**21**		Pn	10 52 05.8	-1.3
HATHI	**Halema'uma'u T**	**0.35**	**24**		Pn	10 52 06.0	-1.1
HATHI	**Halema'uma'u T**	**0.35**	**24**	IAML		10 52 19.3	
comp=E,263nm,0.8s							
HATHI				IAML		10 52 22.5	
comp=N,273nm,2.8s							
SBLHI	**Steaming Bluff**	**0.35**	**23**		Pn	10 52 05.8	-1.3
KNHH	**Kane Nui o Ham**	**0.36**	**39**		Pn	10 52 06.1	-1.1
MLH	**Mauna Loa**	**0.40**	**4**		Pn	10 52 06.6	-1.2
MLH					Sn	10 52 13.0	-1.5
MLH	**Mauna Loa**	**0.40**	**4**	IAML		10 52 13.6	
comp=N,399nm,0.7s							
MLH				IAML		10 52 24.9	
comp=E,260nm,2.2s							
STCH	**Steam Cracks**	**0.40**	**44**		Pn	10 52 06.4	-1.2
STCH	**Steam Cracks**	**0.40**	**44**		Sn	10 52 12.8	-1.4
STCH	**Steam Cracks**	**0.40**	**44**	IAML		10 52 11.2	
comp=N,139nm,1.5s							
NPOC	**North of Pu'u**	**0.41**	**44**		Pn	10 52 06.6	-1.2
MWH	**Mokuaweoweo**	**0.42**	**336**	Pn	Pn	10 52 06.5	-1.9
ALEP	**Alea Permanent**	**0.49**	**334**		Pn	10 52 07.5	-1.6
HMH	**Humu'ula Sheep**	**0.51**	**353**		Pn	10 52 08.0	-1.3
HMH	**Humu'ula Sheep**	**0.51**	**353**	IAML		10 52 14.7	
comp=N,260nm,0.4s							
HMH				IAML		10 52 16.0	
comp=E,432nm,0.6s							
JOKA	**Jonika Flow**	**0.51**	**49**		Pn	10 52 07.6	-1.4
JOKA	**Jonika Flow**	**0.51**	**49**	IAML		10 52 24.7	
comp=N,241nm,1.3s							

RSNC 22 10:59:46.5±0.0,**7°N**±1°×**7°3W**±°,**h151**km±2km,**M2.6,mb3.6, ML2.5,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**181**	P	Pn	11 00 06.7	-0.6
BARC				S	Sn	11 00 22.2	-0.9
BRJC	**Barrancabermej**	**0.58**	**285**	P	Pn	11 00 08.4	0.0
BRJC				S	Sn	11 00 25.2	+0.2
PAMC	**Pamplona, Colo**	**0.70**	**43**	P	Pn	11 00 09.7	0.0
PAMC				S	Sn	11 00 26.8	-0.6
RUSC	**La Rusia**	**0.93**	**174**	P	Pn	11 00 10.7	-0.7
RUSC				S	Sn	11 00 29.7	-0.6
PTBC	**PUERTO BERRIO,**	**1.30**	**258**	P	Pn	11 00 13.5	-0.6
PTBC				S	Sn	11 00 34.7	-0.5
OCAC	**Ocana**	**1.42**	**354**	P	Pn	11 00 14.9	-0.6
OCAC				S	Sn	11 00 36.9	-0.8
TAMC	**Tame, Arauca**	**1.43**	**105**	P	Pn	11 00 15.2	-0.3
TAMC				S	Sn	11 00 37.0	-0.6
ZARC	**Zaragoza, Cauc**	**1.79**	**292**	P	Pn	11 00 19.3	-0.1
ZARC				S	Sn	11 00 43.7	-0.9
NORC	**Norcasia**	**2.09**	**233**	P	Pn	11 00 22.8	-0.1
NORC				S	Sn	11 00 49.7	-1.1
CHIC	**Chingaza**	**2.24**	**194**	P	Pn	11 00 24.8	-0.2
CHIC				S	Sn	11 00 54.0	-0.6
ROSC	**El Rosal**	**2.27**	**210**	P	Pn	11 00 26.6	+1.3
ROSC				S	Sn	11 00 54.9	-0.2
CVER	**Cruz Verde, Cu**	**2.45**	**201**	P	Pn	11 00 28.1	+0.5
CVER				S	Sn	11 00 56.5	-2.7
UREC	**San Jos de Ur**	**2.51**	**292**	P	Pn	11 00 26.8	-1.0
UREC				S	Sn	11 00 56.0	-3.7
GUY2C	**Guyana, Caldas**	**2.69**	**234**	P	Pn	11 00 30.7	+0.2
GUY2C				S	Sn	11 01 07.4	+3.0
CBOC	**Ciudad Bolivar**	**2.97**	**252**	P	Pn	11 00 33.5	-0.2
ARGC	**Ariguani, Magd**	**3.20**	**341**	P	Pn	11 00 34.3	-2.2
ARGC				S	Sn	11 01 15.8	+0.6
SDV	**Santo Domingo**	**3.25**	**51**	P	Pn	11 00 36.4	-0.9
PRAC	**Prado**	**3.52**	**209**	P	Pn	11 00 40.0	-0.7
PRAC				S	Sn	11 01 20.6	-2.1
SJCC	**San Jacinto, C**	**3.64**	**327**	P	Pn	11 00 40.5	-1.7
SJCC				S	Sn	11 01 20.9	-4.6
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	11 00 43.5	-0.1
URMC				S	Sn	11 01 27.4	-0.5
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	P	Pn	11 00 46.7	-2.6
CRJC				S	Sn	11 01 34.6	-3.6
YOTC	**Yotoco, Valle**	**4.23**	**228**	P	Pn	11 00 49.3	-0.6
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	11 00 57.1	-2.7
URIC				S	Sn	11 01 53.9	-3.2
FLOC	**Florencia**	**5.76**	**205**	P	Pn	11 01 09.3	-0.8
3.8nm,1.0s							

*CATAC **22** 11:04:50.6±0.9, 14°N±5°×9°2W±°, h4km±4km, M3.8/4, MLv3.8/4, Error ellipse: s-maj=12.7km s-min=5.4km az=33.2, confirmed*
*GCG **22** 11:04:51.4±1.5, 13°.89N×91°.89W, h13km±16km, MD4.2*
*MEX **22** 11:04:53.2±0.7, 13°.92N×92°.05W, h8km±32km, MD4.2*

ISC 22 11:04:49.4±1.7,**13°.86N**±0°.06×**92°.05W**±0°.04,**h14**km±9km,
n38,σ1$**86**/50,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.75**	**27**	*eP*	**Pg**	**11 05 05.4**	**+1.5**
RTAL				*i S*	**Sg**	**11 05 13.8**	**0.0**
RTAL	**Retalhuleu**	**0.75**	**27**	P	**Pg**	**11 05 02.2**	**-1.8**
STG5	**El Palmar, Qui**	**0.87**	**51**	*eP*	**Pg**	**11 05 07.5**	**+1.3**
STG5				*eS*	**Sg**	**11 05 19.3**	**+1.6**
STG0	**El Palmar, Qui**	**0.89**	**50**	*eP*	**Pg**	**11 05 07.8**	**+1.1**
STG8	**El Palmar, Qui**	**0.90**	**49**	*eP*	**Pg**	**11 05 08.2**	**+1.4**
SMCA	**Catarina**	**1.00**	**358**	*eP*	**Pg**	**11 05 08.8**	**+0.1**
THIG		**1.07**	**349**	*eP*	**Pg**	**11 05 09.8**	**-0.2**
THIG				*i S*	**Sg**	**11 05 22.7**	**-1.3**
THIG		**1.07**	**349**	*eP*	**Pg**	**11 05 10.0**	**0.0**
THIG				*eS*	**Sg**	**11 05 24.5**	**+0.5**
SOKI	**Kika Raxquin**	**1.15**	**33**	*eP*	**Pg**	**11 05 10.7**	**-0.9**
PATR	**El Naranjo**	**1.27**	**352**	*eP*	**Pg**	**11 05 12.2**	**-1.6**
PATR				*i S*	**Sg**	**11 05 27.9**	**-2.5**
ESSG	**Sabana Grande**	**1.29**	**66**	*eP*	Pn	11 05 11.7	-1.4
ESSG				*eS*	**Sb**	**11 05 26.7**	**-3.3**
PAVE	**Pavencul**	**1.34**	**355**	*eP*	**Pn**	**11 05 13.4**	**-0.4**
PAVE				*eS*	**Sb**	**11 05 29.0**	**-2.4**
FG8	**Yepocapa, Chim**	**1.50**	**74**	*eP*	Pn	11 05 11.2	-4.7
FG16	**Alotenango, Sa**	**1.55**	**74**	*eP*	Pn	11 05 12.3	-4.4
HUEH	**Huehuetenango**	**1.55**	**20**	*eP*	**Pn**	**11 05 17.0**	**+0.3**
HUEH				*i S*	**Sn**	**11 05 36.1**	**-0.6**
HUEH	**Huehuetenango**	**1.55**	**20**	*eP*	**Pn**	**11 05 17.5**	**+0.8**
HUEH	**Huehuetenango**	**1.55**	**20**	P	**Pn**	**11 05 17.1**	**+0.3**
FAME	**Alcaldia de Sa**	**1.97**	**90**	S	**Sn**	**11 05 46.1**	**-0.9**
PCIG		**2.16**	**328**	*eP*	**Pn**	**11 05 25.5**	**+0.5**
PCIG				*eS*	**Sn**	**11 05 50.2**	**-1.4**
NUBE	**Las Nubes**	**2.20**	**89**	P	**Pn**	**11 05 25.7**	**0.0**
NUBE	**Las Nubes**	**2.20**	**89**	S	**Sn**	**11 05 51.9**	**-0.9**
SLOZ	**Alcaldia de Sa**	**2.20**	**85**	P	**Pn**	**11 05 25.9**	**+0.3**
CEVE	**Cerro Verde**	**2.35**	**90**	P	Pn	11 05 27.4	-0.4
CCIG	**Comitan**	**2.42**	**358**	*eP*	**Pn**	**11 05 31.8**	**+3.2**
CCIG				*eS*	**Sn**	**11 05 59.1**	**+1.0**
CCIG	**Comitan**	**2.42**	**358**	*eP*	**Pn**	**11 05 30.8**	**+2.1**
CCIG				*eS*	**Sn**	**11 06 01.8**	**+3.6**
CCIG	**Comitan**	**2.42**	**358**	P	**Pn**	**11 05 30.7**	**+2.0**
UNIC	**Universidad Ca**	**2.43**	**87**	P	**Pn**	**11 05 29.0**	**+0.3**
TGIG		**3.09**	**340**	*eP*	**Pn**	**11 05 37.3**	**-0.4**
TGIG				*eS*	**Sn**	**11 06 14.8**	**+0.3**
TGIG		**3.09**	**340**	*eP*	**Pn**	**11 05 39.6**	**+1.9**
PETF	**Flores**	**3.70**	**34**	*eP*	**Pn**	**11 05 49.5**	**+3.3**
UXUV	**UXUV**	**3.99**	**330**	*eP*	**Pn**	**11 05 51.8**	**+1.6**
UXUV				*eS*	**Sn**	**11 06 39.2**	**+2.4**
CMIG	**Matias Romero**	**4.22**	**320**	*eP*	**Pn**	**11 05 53.3**	**-0.1**
CMIG				*eS*	**Sn**	**11 06 43.5**	**+0.9**
HUIG	**Huatulco**	**4.37**	**296**	*eP*	**Pn**	**11 05 56.8**	**+1.5**
HUIG				*eS*	**Sn**	**11 06 42.2**	**-3.8**
NEUV	**Arroyo Zacate**	**5.27**	**317**	*eP*	**Pn**	**11 06 07.1**	**-0.6**
NEUV				*eS*	**Sn**	**11 07 10.8**	**+2.5**
PEIG	**Puerto Escondi**	**5.37**	**294**	*eP*	**Pn**	**11 06 11.7**	**+2.6**
PNIG	**Pinotepa**	**6.39**	**294**	*eP*	**Pn**	**11 06 26.0**	**+2.8**
TOIG	**Toxpalan**	**6.41**	**312**	*eP*	**Pn**	**11 06 27.5**	**+4.0**
TOIG				*eS*	**Sn**	**11 07 35.3**	**-1.3**
JAUV	**Jalcomulco**	**7.13**	**321**	*eP*	Pn	11 06 32.3	-1.0
JAUV				*eS*	Sn	11 07 48.5	-5.7

IDC 22 11:10:18.8±270.0,**42°.00N**×**165°.98W**,**h0**km,**Error ellipse: s-maj=179.4km s-min=130.4km az=42.0,North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I59US	**HAWAII INFRASO**	**23.93**	**156**	I	I	13 36 10.0	
baz=346,slow=326,SNR=2.9							
I44RU	**PETROPAVLOVSK**	**26.62**	**307**	I	I	13 52 30.0	
baz=99,slow=325,SNR=5.1							
I56US	**NEWPORT INFRAS**	**34.55**	**63**	I	I	14 43 10.0	
baz=278,slow=309,SNR=1.0							

*NOU **22** 11:13:09.0, 19°.33S×177°.35W, h569km, mb4.6/57, Fiji Islands Region*
*NEIC **22** 11:13:10.0±1.9, 19°.5S±0°.1×177°.6W±0°.1, h548km±6km, mb4.5/155, Error ellipse: s-maj=17.7km s-min=15.6km az=140.0*
*IDC **22** 11:13:11.8±0.7, 19°.43S×177°.74W, h569km±6km, mb3.8/19, mbtmp4.6/21, Error ellipse: s-maj=11.4km s-min=9.3km az=141.0*

ISC 22 11:13:09.5±0.3,**19°.49S**±0°.06×**177°.58W**±0°.06,**h550**km, **n384**,σ1$**00**/336,**mb4.5**/105,**33C-25D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.71**	**317**	P	**P**	**11 14 19.6**	**+1.6**
DGTI	**Dogotuki**	**4.07**	**321**	P	**P**	**11 14 32.6**	**+0.6**
MSVF	**Nonsavu**	**4.50**	**292**	P	**P**	**11 14 37.3**	**+2.0**
MSVF	**Nonsavu**	**4.50**	**292**	P	**P**	**11 14 36.7**	**+1.4**
16nm,0.4s,baz=125,slow=16,SNR=12							
MSVF				S	**S**	**11 15 48.6**	**+3.4**
29nm,0.9s,baz=114,slow=20,SNR=3.7							
MSVF	**Nonsavu**	**4.50**	**292**	P	**P**	**11 14 37.1**	**+1.8**
FUTU	**Fugatoga**	**5.18**	**354**		**P**	**11 14 41.4**	**+0.5**
FUTU	**Fugatoga**	**5.18**	**354**	P	**P**	**11 14 41.0**	**+0.1**
NIUE	**Niue**	**7.24**	**88**	P	**P**	**11 15 00.1**	**+0.3**
AFI	**Afiamalu**	**7.85**	**46**	P	**P**	**11 15 04.0**	**-1.9**
PINNC	**Pines Island,**	**14.32**	**255**	P	**P**	**11 16 12.2**	**+0.2**
PINNC	**Pines Island,**	**14.32**	**255**	P	**P**	**11 16 12.8**	**+0.8**
VLAKA	**Lakatoro**	**14.67**	**281**	P	**P**	**11 16 16.5**	**+0.8**
DZM	**Mont Dzumac**	**15.16**	**257**	P	**P**	**11 16 21.3**	**+0.6**
DZM	**Mont Dzumac**	**15.16**	**257**	P	**P**	**11 16 20.6**	**-0.1**
11nm,0.7s,baz=80,slow=19,SNR=14							
DZM	**Mont Dzumac**	**15.16**	**257**	P	**P**	**11 16 21.8**	**+1.1**
KOUNC	**Koumac, New Ca**	**17.07**	**263**	P	**P**	**11 16 40.8**	**+1.9**
OUZ	**Omahuta**	**17.51**	**205**	P	**P**	**11 16 44.8**	**+2.1**
OUZ	**Omahuta**	**17.51**	**205**	P	**P**	**11 16 44.6**	**+2.0**
GRZ	**Great Barrier**	**17.79**	**199**	P	**P**	**11 16 46.9**	**+1.6**
WCZ	**Waipu Caves**	**17.87**	**202**	P	**P**	**11 16 48.1**	**+2.1**
KUZ	**Kuaotunu**	**18.17**	**197**	P	**P**	**11 16 50.2**	**+1.5**
KUZ	**Kuaotunu**	**18.17**	**197**	P	**P**	**11 16 50.6**	**+1.9**
WIAZ	**Waiheke Island**	**18.39**	**199**	P	**P**	**11 16 52.7**	**+2.0**
MBAZ	**Motutapu North**	**18.44**	**199**	P	**P**	**11 16 53.5**	**+2.4**
WMGZ	**Waiomatatini S**	**18.60**	**190**	P	**P**	**11 16 53.2**	**+0.6**
ETAZ	**East Tamaki Re**	**18.60**	**199**	P	**P**	**11 16 54.9**	**+2.2**
HAZ	**Te Kaha**	**18.65**	**192**	P	**P**	**11 16 53.1**	**+0.1**
WTAZ	**Waiatarua**	**18.69**	**200**	P	**P**	**11 16 54.8**	**+1.3**
PUZ	**Puketiti**	**18.87**	**190**	P	**P**	**11 16 55.2**	**+0.1**
TOZ	**Tahuroa Road**	**19.15**	**197**	P	**P**	**11 16 59.9**	**+2.2**
MWZ	**Matawai**	**19.25**	**192**	P	**P**	**11 16 57.0**	**-1.6**
URZ	**Urewera**	**19.27**	**193**	P	**P**	**11 16 56.6**	**-2.1**
15nm,0.4s,baz=24,slow=2.4,SNR=25							
URZ				S	**S**	**11 19 58.8**	**-6.0**
24nm,0.8s,baz=308,slow=19,SNR=9.1							
URZ	**Urewera**	**19.27**	**193**	P	**P**	**11 16 57.5**	**-1.2**
URZ	**Urewera**	**19.27**	**193**	P	**P**	**11 16 56.0**	**-2.7**
TLZ	**Tolley Road**	**19.70**	**196**	P	**P**	**11 17 05.1**	**+2.4**
PRGZ	**Paritu Road**	**19.76**	**191**	P	**P**	**11 17 04.7**	**+1.5**
HIZ	**Hauiti**	**20.06**	**198**	P	**P**	**11 17 07.1**	**+1.1**
HIZ	**Hauiti**	**20.06**	**198**	P	**P**	**11 17 08.3**	**+2.3**
BKZ	**Black Stump Fm**	**20.27**	**193**	P	**P**	**11 17 07.0**	**-0.9**
BKZ	**Black Stump Fm**	**20.27**	**193**	P	**P**	**11 17 06.7**	**-1.1**
NNVZ	**North Ngauruho**	**20.44**	**195**	P	**P**	**11 17 09.6**	**+0.1**
NGZ	**Ngauruhoe**	**20.49**	**195**	P	**P**	**11 17 09.9**	**-0.1**
VRZ	**Vera Road**	**20.66**	**197**	P	**P**	**11 17 13.5**	**+2.1**
NEZ	**North Egmont**	**20.99**	**198**	P	**P**	**11 17 16.6**	**+2.2**
PXZ	**Pawanui**	**21.02**	**192**	P	**P**	**11 17 14.0**	**-0.6**
TSZ	**Takapari Road**	**21.24**	**194**	P	**P**	**11 17 15.2**	**-1.4**
BFZ	**Birch Farm**	**21.78**	**193**	P	**P**	**11 17 20.8**	**-0.6**
BFZ	**Birch Farm**	**21.78**	**193**	P	**P**	**11 17 20.1**	**-1.3**
MRZ	**Mangatainoka R**	**21.90**	**194**	P	**P**	**11 17 20.4**	**-2.1**
SNZO	**South Karori**	**22.73**	**195**	P	**P**	**11 17 30.3**	**+0.5**
QRZ	**Quartz Range**	**22.89**	**200**	P	**P**	**11 17 31.7**	**+0.4**
QRZ	**Quartz Range**	**22.89**	**200**	P	**P**	**11 17 31.4**	**+0.1**
NNZ	**Nelson**	**22.99**	**198**	P	**P**	**11 17 31.8**	**-0.5**
THZ	**Tophouse**	**23.63**	**198**	P	**P**	**11 17 36.8**	**-1.2**
DSZ	**Denniston Nort**	**23.95**	**200**	P	**P**	**11 17 40.6**	**-0.3**
KHZ	**Kahutara**	**24.06**	**196**	P	**P**	**11 17 42.2**	**+0.5**
KHZ	**Kahutara**	**24.06**	**196**	P	**P**	**11 17 39.0**	**-2.7**
SAVO	**Savo Central**	**24.16**	**292**	P	**P**	**11 17 42.9**	**-0.1**
GVZ	**Greta Valley S**

JCZ Jackson Bay 27.04 202 P P 11 18 07.9 -0.2
ODZ Otahua Downs 27.30 198 P P 11 18 10.9 +0.7
WKZ Wanaka 27.62 201 P P 11 18 12.7 -0.4
MLZ Mavora Lakes 28.40 201 P P 11 18 20.6 +0.7
MLZ IAmb IAmb 11 18 22.0
comp=Z,9.4nm,0.6s
MLZ Mavora Lakes 28.40 201 P P 11 18 20.4 +0.5
TUZ Tuapeka 28.43 199 P P 11 18 19.8 -0.2
DCZ Deep Cove 28.83 203 P P 11 18 24.1 +0.6
DCZ Deep Cove 28.83 203 P P 11 18 24.2 +0.6
WHZ Wether Hill Ro 28.92 201 P 11 18 24.7 +0.4
WHZ Wether Hill Ro 28.92 201 P P 11 18 24.4 +0.1
EIDS Eidsvold 29.51 253 P P 11 18 30.0 +0.2
APZ The Paps 29.73 200 P P 11 18 31.5 +0.1
ARMA Armidale 29.87 243 P 11 18 33.8 +0.8
ARMA Armidale 29.87 243 P P 11 18 33.8 +0.8
RK1H Rockhampton Ha 29.94 257 P P 11 18 33.9 +0.4
CNB Canberra Magne 33.12 235 P P 11 19 01.0 +0.4
CAN Canberra 33.41 235 P P 11 19 02.7 -0.3
CAN Canberra 33.41 235 P P 11 19 03.3 +0.3
TV1H Townsville Har 33.57 264 P P 11 19 04.1 -0.4
CMSA Cobar Meteorol 35.09 243 P P 11 19 17.2 +0.1
PMG Port Moresby 35.52 281 P P 11 19 20.7 -0.1
QLP Quilpie 35.74 251 P P 11 19 23.0 +0.4
MTSU Mount Surprise 36.05 266 P P 11 19 24.6 -0.6
TOO Toolangi 36.81 233 P 11 19 31.9 +0.6
TOO IAmb IAmb 11 19 32.6
comp=Z,13nm,1.2s
TAU Tasmania Unive 37.62 224 P P 11 19 38.1 +0.4
COEN Coen 37.92 272 P 11 19 40.4 -0.2
COEN Coen 37.92 272 P P 11 19 41.0 +0.4
MANU Manus Island 38.41 293 P P 11 19 44.1 -0.5
STKA Stephens Creek 38.59 243 P 11 19 45.9 +0.1
STKA Stephens Creek 38.59 243 P P 11 19 45.8 0.0
comp=Z,23nm,0.9s,baz=94,slow=11,SNR=40
STKA PcP PcP 11 21 44.2 +0.2
comp=Z,3.2nm,1.0s,baz=32,slow=8.2,SNR=3.5
comp=Z,23nm,0.9s
STKA Stephens Creek 38.59 243 P P 11 19 46.5 +0.7
INKA Innaminka 38.91 250 P P 11 19 50.0 +1.6
ARPS Mount Arapiles 39.38 235 P P 11 19 52.1 +0.1
QIS Mount Isa 40.16 261 P P 11 19 57.8 -0.8
HTT Hallett 41.05 241 P P 11 20 06.3 +0.8
LCRK Leigh Creek 41.30 246 P P 11 20 07.8 +0.3
BBOO Buckleboo 43.35 243 P 11 20 22.6 -1.0
BBOO Buckleboo 43.35 243 P P 11 20 23.5 -0.1
OOD Oodnadatta 43.39 250 P P 11 20 24.8 +0.9
JAY Jayapura 44.11 287 P P 11 20 29.9 +0.2
comp=Z,58nm,0.9s
GENI Genyem 44.56 287 P P 11 20 33.6 +0.5
comp=Z,64nm,0.9s
WR8 Warramunga Arr 44.99 261 P 11 20 35.6 -0.8
AS01 Alice Springs 45.10 256 P P 11 20 36.6 -0.6
WB0 Warramunga Arr 45.11 261 P 11 20 36.6 -0.8
WRAB Tennant Creek 45.13 261 P P 11 20 35.4 -2.1
WRA Warramunga Arr 45.14 261 P 11 20 35.8 -1.7
WRA Warramunga Arr 45.14 261 P P 11 20 36.6 -0.9
comp=Z,28nm,0.8s,baz=97,slow=7.5,SNR=311
WRA PcP PcP 11 22 06.1 -0.2
comp=Z,4.8nm,0.8s,baz=94,slow=3.5,SNR=7.1
WRA S S 11 26 34.4 -3.0
comp=Z,3.0nm,1.0s,baz=95,slow=14,SNR=5.5
comp=Z,28nm,0.8s
AS31 Alice Springs 45.14 256 P 11 20 37.3 -0.3
ASAR Alice Springs 45.14 256 P P 11 20 37.1 -0.4
comp=Z,32nm,0.5s,baz=90,slow=7.4,SNR=923
ASAR PcP PcP 11 22 05.9 -0.4
comp=Z,7.2nm,0.8s,baz=100,slow=4.0,SNR=11
ASAR S S 11 26 35.2 -2.1
comp=Z,3.0nm,0.7s,baz=93,slow=16,SNR=17
comp=Z,32nm,0.5s
KDU Kakadu 48.33 270 P P 11 21 00.9 -0.7
MTN Manton Dam 49.56 270 P P 11 21 09.1 -1.6
MTN Manton Dam 49.56 270 P P 11 21 10.1 -0.6
FORT Forrest 50.06 246 P 11 21 13.4 -0.8
FORT Forrest 50.06 246 P P 11 21 14.2 0.0
WRKA Warakurna 50.13 253 P P 11 21 14.4 -0.5
KNRA Kununurra 51.13 265 IAmb IAmb 11 21 21.9
comp=Z,19nm,0.8s
FITZ Fitzroy Crossi 53.56 262 P 11 21 39.2 -0.4
FITZ Fitzroy Crossi 53.56 262 P P 11 21 38.9 -0.7
SOEI Soe 56.87 271 P P 11 22 03.4 +0.6
PSA00 Pilbara Seismi 58.28 256 IAmb IAmb 11 22 11.8
comp=Z,20nm,0.8s
PSA00 Pilbara Seismi 58.28 256 P P 11 22 11.4 -0.8
MBWA Marble Bar 58.46 257 P 11 22 12.6 -0.8
MBWA Marble Bar 58.46 257 P P 11 22 12.7 -0.7
MEEK Meekatharra 58.63 250 P P 11 22 13.9 -0.6
KLBR Kellerberrin 58.84 244 P P 11 22 15.7 -0.1
SBA Scott Base 58.90 184 P P 11 22 17.7 +2.3
SBA IAmb IAmb 11 22 19.3
comp=Z,17nm,1.1s
VNDA Vanda 58.95 185 P 11 22 17.6 +1.9
VNDA Vanda 58.95 185 P P 11 22 17.6 +1.9
comp=Z,2.7nm,0.6s,baz=0.5,slow=8.0,SNR=30
comp=Z,2.7nm,0.6s
NWAO Narrogin (SRO) 59.18 243 P P 11 22 17.9 -0.1
BLDU Ballidu 59.83 245 P P 11 22 21.9 -0.5
MUN Mundaring 60.12 244 P P 11 22 23.7 -0.6
MORW Morawa 60.58 247 P P 11 22 27.1 -0.3
GIRL Giralia 63.20 254 P P 11 22 44.3 -0.2
MPSI Mapaga 64.32 280 P P 11 22 51.2 -0.6
CASY Casey 65.04 205 P 11 22 55.9 +0.5
CASY IAmb IAmb 11 22 56.7
comp=Z,16nm,1.0s
JSG Sagara 68.33 322 P P 11 23 14.4 -1.7
MJAR Matsushiro Arr 69.64 323 P P 11 23 23.2 -0.8
comp=Z,3.2nm,0.8s,baz=146,slow=5.7,SNR=7.0
comp=Z,3.2nm,0.8s
UGM Wanagama 70.38 268 P P 11 23 28.4 -0.6
QSPA South Pole Qui 70.58 180 P P 11 23 30.7 +1.4
QSPA South Pole Qui 70.58 180 P P 11 23 30.3 +1.0
comp=Z,22nm,0.8s,baz=10,slow=0.7,SNR=124
comp=Z,22nm,0.8s
SBUM Sibu 72.23 279 P P 11 23 39.3 -0.4
ASAJ Asahikawa 73.03 331 P P 11 23 44.9 +1.3
comp=Z,10nm,0.9s,baz=218,slow=9.5,SNR=10
comp=Z,10nm,0.9s
KSM Kuching 73.67 278 P 11 23 48.1 +0.1
KSM IAmb IAmb 11 23 49.1
comp=Z,19nm,0.9s
YSS Yuzhno-Sakhali 75.17 333 P 11 23 56.1 +0.5
YSS IAmb IAmb 11 23 57.7
comp=Z,20nm,1.0s
PETK Petropavlovsk- 75.40 345 P P 11 23 56.4 -0.4
comp=Z,5.8nm,0.8s,baz=117,slow=9.3,SNR=7.4
comp=Z,5.8nm,0.8s
KSRS Korea Array 76.40 318 P P 11 24 03.1 +0.5
comp=Z,1.8nm,1.0s,baz=145,slow=6.0,SNR=8.0
comp=Z,1.8nm,1.0s
KSAR Wonju Array Be 76.41 318 P 11 24 02.9 +0.1
USRK Ussuriysk Ar. 78.36 326 P P 11 24 14.1 +0.9
comp=Z,6.0nm,0.9s,baz=142,slow=4.2,SNR=12
comp=Z,6.0nm,0.9s
NJ2 Nanjing 79.54 309 eP P 11 24 20.4 +0.7
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PNTR Pine Nut 79.57 42 IAmb IAmb 11 24 22.0
comp=Z,16nm,0.9s
MDJ Mudanjiang 79.92 325 P P 11 24 21.5 +0.1
MDJ IAmb IAmb 11 24 23.1
comp=Z,10.0nm,0.9s
MDJ Mudanjiang 79.92 325 P P 11 24 21.8 +0.4
MDJ pmax pmax
comp=Z,13nm,1.3s
NVAR Mina Array Bea 80.02 43 P P 11 24 23.2 +0.8
NVAR Mina Array Bea 80.02 43 P P 11 24 23.4 +1.0
comp=Z,2.5nm,0.8s,baz=224,slow=8.6,SNR=17
comp=Z,2.5nm,0.8s
NV11 Mina Array Sit 80.12 43 IAmb IAmb 11 24 24.8
comp=Z,17nm,1.4s
BELA Belgrano 2 80.51 173 P 11 24 24.4 +0.4
J04A Umpqua Nationa 80.54 38 IAmb IAmb 11 24 26.9
comp=Z,14nm,0.6s
J05D Fort Rock, OR 81.07 38 IAmb IAmb 11 24 29.7
comp=Z,19nm,1.1s
PINE Pine Mountain 81.55 38 IAmb IAmb 11 24 32.3
comp=Z,18nm,1.1s
E03A Lebam 81.80 34 IAmb IAmb 11 24 32.9
comp=Z,9.6nm,0.8s
BNX BinXian 81.83 325 ⇑P P 11 24 31.3 +0.1
BNX pmax pmax
comp=Z,14nm,0.9s
KLR Kul'dur 81.86 329 P P 11 24 31.8 +0.4
comp=Z,0.6nm,0.3s,baz=89,slow=5.7,SNR=4.4
comp=Z,0.6nm,0.3s
WHN Wuhan 82.17 306 P P 11 24 33.9 +0.6
K15K Wolf Creek Mou 82.50 7 IAmb IAmb 11 24 36.4
comp=Z,18nm,1.1s
X16A Lo Mia Camp, P 82.59 50 IAmb IAmb 11 24 38.3
comp=Z,12nm,1.1s
MAW Mawson 82.64 200 P P 11 24 35.4 +0.4
comp=Z,5.2nm,0.6s,baz=145,slow=5.5,SNR=16
comp=Z,5.2nm,0.6s
319A Douglas 82.73 53 IAmb IAmb 11 24 39.2
comp=Z,21nm,1.0s
J08A Circle Bar Ran 82.74 39 IAmb IAmb 11 24 38.5
comp=Z,11nm,1.2s
U15A North Rim 82.99 48 IAmb IAmb 11 24 40.1
comp=Z,9.5nm,0.8s
PKCU Pink Cliffs 83.49 47 IAmb IAmb 11 24 43.1
comp=Z,14nm,1.2s
G08A Pilot Rock 83.58 37 IAmb IAmb 11 24 41.9
comp=Z,7.9nm,1.0s
K20K Telida 84.61 10 IAmb IAmb 11 24 45.2
comp=Z,5.9nm,0.8s
HEH HeiHe 84.66 328 eP P 11 24 45.1 -0.1
HEH pmax pmax
comp=Z,8.0nm,1.4s
RPSI Rantau Prapat 84.76 275 P P 11 24 45.4 -1.2
RPSI IAmb IAmb 11 24 46.8
comp=Z,11nm,0.9s
F10A Beach Ranch, E 84.96 37 IAmb IAmb 11 24 48.1
comp=Z,8.7nm,0.9s
CAST Castle Rocks 85.01 11 IAmb IAmb 11 24 45.8
comp=Z,6.0nm,0.7s
HNS HongShan 85.16 312 ⇑P P 11 24 45.9 -2.1
HNS pmax pmax
comp=Z,11nm,1.0s
TRF Thorofare Moun 85.38 12 IAmb IAmb 11 24 48.4
comp=Z,7.7nm,0.8s
LYN LuoYang 85.43 309 P P 11 24 50.3 +1.0
LYN pmax pmax
comp=Z,32nm,0.5s
SRU San Rafael Swe 85.54 46 IAmb IAmb 11 24 51.5
comp=Z,4.4nm,0.7s
RND Reindeer 85.63 13 IAmb IAmb 11 24 50.1
comp=Z,13nm,0.9s
VHRN Van Horn 85.76 55 IAmb IAmb 11 24 53.2
comp=Z,8.3nm,0.8s
MNTX Cornudas Mount 85.84 54 IAmb IAmb 11 24 53.8
comp=Z,6.7nm,0.8s
MCK McKinley 85.91 12 IAmb IAmb 11 24 51.2
comp=Z,13nm,1.0s
PV05 Paradox Valley 86.02 47 IAmb IAmb 11 24 54.4
comp=Z,6.2nm,1.1s
TX31 Lajitas Ar. Si 86.18 57 IAmb IAmb 11 24 55.9
comp=Z,15nm,1.3s
TXAR Lajitas Array 86.18 57 P 11 24 54.4 +1.2
TXAR Lajitas Array 86.18 57 P P 11 24 54.7 +1.5
comp=Z,4.6nm,0.7s,baz=216,slow=6.5,SNR=66
TXAR pP pwP 11 26 56.4 +1.3
comp=Z,0.9nm,1.0s,baz=268,slow=5.8,SNR=3.9
comp=Z,4.6nm,0.7s
PV14 Lion Creek, Pa 86.21 47 IAmb IAmb 11 24 54.1
comp=Z,5.5nm,0.8s
PV20 West Nyswonger 86.23 47 IAmb IAmb 11 24 54.8
comp=Z,5.2nm,0.7s
PV23 Carpenter Rid 86.26 47 IAmb IAmb 11 24 55.5
comp=Z,9.4nm,0.9s
ANMO Albuquerque 86.47 51 IAmb IAmb 11 24 56.2
comp=Z,6.5nm,1.0s
ANMO Albuquerque 86.47 51 IAmb IAmb 11 24 56.3
comp=Z,5.8nm,0.9s
ALPN Alpine 86.64 56 IAmb IAmb 11 24 57.6
comp=Z,15nm,1.1s
WRH Wood River Hil 86.73 12 IAmb IAmb 11 24 54.9
comp=Z,10nm,0.9s
PECS Pecos 86.88 55 IAmb IAmb 11 24 58.4
comp=Z,7.8nm,1.1s
CCB Clear Creek Bu 86.95 12 IAmb IAmb 11 24 55.2
comp=Z,7.5nm,0.6s
COLA College 87.14 12 P P 11 24 55.4 -1.2
ILAR Eielson Array 87.25 13 P P 11 24 55.6 -1.7
ILAR Eielson Array 87.25 13 P P 11 24 56.1 -1.1
comp=Z,2.7nm,0.9s,baz=226,slow=4.8,SNR=28
ILAR pP pP 11 26 57.1 +0.7
comp=Z,1.3nm,1.0s,baz=246,slow=4.9,SNR=4.9
ILAR PP PP 11 28 31.9 0.0
comp=Z,1.0nm,1.1s,baz=220,slow=6.3,SNR=4.4
ILAR PKKPbc PKKPdf 11 42 43.4 +2.0
comp=Z,0.2nm,0.5s,baz=330,slow=2.1,SNR=5.6
comp=Z,2.7nm,0.9s
DLMT Dillon 87.36 40 IAmb IAmb 11 25 00.3
comp=Z,13nm,1.1s
POKR Poker Plat Res 87.44 12 IAmb IAmb 11 24 57.8
comp=Z,8.7nm,0.9s
S22A 4UR Ranch, Cre 87.45 49 IAmb IAmb 11 25 01.1
comp=Z,5.8nm,1.0s
SNOW Snow King Moun 87.53 42 IAmb IAmb 11 25 01.4
comp=Z,11nm,1.1s
SAND Sanderson 87.66 57 IAmb IAmb 11 25 01.8
comp=Z,5.3nm,0.8s
ELIB Princess Elisa 87.69 186 dP P 11 24 59.2 -0.4
comp=Z,21nm,0.7s
LOHW Long Hollow 87.70 42 IAmb IAmb 11 25 01.9
comp=Z,10nm,1.5s
MNHN Monahans 87.72 56 IAmb IAmb 11 25 02.1
comp=Z,5.4nm,0.8s
XAN Xi'an 87.84 307 ⇓P P 11 25 00.9 +0.1
XAN pmax pmax
comp=Z,23nm,1.0s
M30M Minto, Yukon 87.89 18 IAmb IAmb 11 25 01.2
comp=Z,9.1nm,1.0s
PDAR Pinedale Array 87.96 43 P P 11 25 00.8 -0.6
PDAR Pinedale Array 87.96 43 P P 11 25 01.8 +0.3
comp=Z,3.1nm,0.9s,baz=205,slow=3.1,SNR=22
comp=Z,3.1nm,0.9s
E19K Redstone River 87.99 8 IAmb IAmb 11 25 01.3
comp=Z,6.2nm,1.1s
YMR Madison River 88.00 41 IAmb IAmb 11 25 04.1
comp=Z,13nm,1.2s
H17A Grant Village 88.11 41 IAmb IAmb 11 25 05.1
comp=Z,7.1nm,0.9s
I26K Coal Creek Min 88.51 14 IAmb IAmb 11 25 03.9
comp=Z,7.9nm,1.2s
TROLL Troll, Antarti 88.74 180 ⇓P P 11 25 04.4 -0.1
comp=Z,474nm,0.5s
YNE Yellowstone No 88.76 41 IAmb IAmb 11 25 07.4
comp=Z,8.0nm,1.0s
COLD Coldfoot 88.82 10 IAmb IAmb 11 25 05.5
comp=Z,5.2nm,0.9s
OZNA Ozona 88.83 57 IAmb IAmb 11 25 34.6
comp=Z,7.0nm,1.4s
D19K Kuna River 88.87 7 IAmb IAmb 11 25 05.3
comp=Z,4.1nm,0.8s
HHC Hu-ho-hao-te 88.93 314 eP P 11 25 07.9 +2.1
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.5s
VNA3 Neumayer Olymp 89.12 176 ⇓P P 11 25 05.8 -0.3
comp=Z,38nm,0.6s
D20K Etivluk River 89.26 8 IAmb IAmb 11 25 06.8
comp=Z,5.7nm,0.8s
RLMT Red Lodge 89.28 41 IAmb IAmb 11 25 09.5
comp=Z,5.6nm,0.9s
E21K Killik River 89.35 9 IAmb IAmb 11 25 07.4
comp=Z,5.8nm,1.1s
I28M Miner Creek 89.38 15 IAmb IAmb 11 25 07.8
comp=Z,4.0nm,0.9s
E22K Anaktuvuk Pass 89.38 9 IAmb IAmb 11 25 07.9
comp=Z,7.6nm,1.0s
VNA2 Neumayer--Watz 89.57 177 ⇓P P 11 25 07.9 -0.3
comp=Z,22nm,0.4s,baz=207,slow=7.5
E23K Chandalar 89.67 10 IAmb IAmb 11 25 09.4
comp=Z,3.9nm,0.9s
PLCA Paso Flores 89.68 133 P P 11 25 10.6 +1.2
comp=Z,3.1nm,0.9s,baz=225,slow=7.4,SNR=3.2
comp=Z,3.1nm,0.9s
G26K Porcupine Rive 89.78 13 IAmb IAmb 11 25 10.8
comp=Z,9.1nm,1.1s
RTBA Rita Blanca 89.84 51 IAmb IAmb 11 25 10.9
comp=Z,4.3nm,0.9s
D22K Ayikyak River 89.94 9 IAmb IAmb 11 25 10.8
comp=Z,7.4nm,1.0s
BMAR Burnt Mountain 90.03 12 P P 11 25 10.2 0.0
CMAR Chiang Mai Arr 90.15 289 P P 11 25 11.6 -0.2
CMAR Chiang Mai Arr 90.15 289 P P 11 25 12.8 +0.9
comp=Z,5.8nm,0.9s,baz=115,slow=2.7,SNR=43
CMAR pP pwP 11 27 15.4 +0.9
comp=Z,0.4nm,0.3s,baz=91,slow=2.9,SNR=1.8
comp=Z,5.8nm,0.9s
CHTO Chiang Mai 90.27 290 P 11 25 11.5 -0.9
D23K Nanushuk River 90.31 9 P 11 25 11.6 +0.1
D23K IAmb IAmb 11 25 12.5
comp=Z,8.2nm,1.1s
B20K Meade River 90.42 7 IAmb IAmb 11 25 12.2
comp=Z,6.6nm,1.0s
PZH PanZhiHua 90.59 298 P P 11 25 14.3 +0.5
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
EPYK Eagle Plains 90.91 15 IAmb IAmb 11 25 14.7
comp=Z,4.9nm,0.8s
C24K Franklin Bluff 91.31 10 IAmb IAmb 11 25 16.5
comp=Z,5.5nm,0.9s
LAO LASA Array 91.89 41 IAmb IAmb 11 25 21.0
comp=Z,5.6nm,0.8s
E28M Babbage River 92.06 13 IAmb IAmb 11 25 19.8
comp=Z,3.0nm,0.9s
LZH Lanzhou 92.47 307 eP P 11 25 22.8 +0.4
YKA Yellowknife Ar 95.43 25 P P 11 25 34.5 -0.4
comp=Z,0.7nm,0.9s,baz=243,slow=4.6,SNR=8.5
comp=Z,0.7nm,0.9s
ZALV Zalesovo Beam 109.95 321 PKiKP PKiKP 11 30 36.8 -1.5
comp=Z,1.2nm,0.5s,baz=81,slow=1.2,SNR=6.3
MKAR Makanchi Array 110.79 314 PKiKP PKiKP 11 30 38.5 -1.6
comp=Z,1.5nm,0.5s,baz=161,slow=0.7,SNR=23
MKAR PKKPbc PKKPbc 11 41 40.2 -0.7
comp=Z,0.5nm,0.7s,baz=270,slow=2.9,SNR=4.6
KURBB Kurchatov Arra 113.57 318 PKiKP PKiKP 11 30 43.7 -1.6
comp=Z,2.5nm,0.6s,baz=92,slow=1.9,SNR=26
KURBB PKKPbc PKKPbc 11 41 31.4 -0.5
comp=Z,0.4nm,0.6s,baz=270,slow=3.7,SNR=4.6
BVAR Borovoye Array 118.56 320 PKP PKPdf 11 30 53.6 -1.2
comp=Z,4.8nm,0.4s,baz=120,slow=1.7,SNR=23
KK31 Karatay Array 118.92 309 PKPdf 11 30 54.6 -1.3
KKAR Karatay Array 118.92 309 PKPdf 11 30 54.5 -1.4
SPITS Spitsbergen Ar 120.88 357 PKP PKPdf 11 30 57.7 -1.0
comp=Z,1.6nm,0.5s,baz=42,slow=7.8,SNR=6.3
ARTI Arti 124.70 326 PKPdf 11 31 06.0 -0.5
ARTI Arti 124.70 326 PKP PKPdf 11 31 05.7 -0.8
comp=Z,5.9nm,0.4s,baz=129,slow=0.9,SNR=11
ABKAR Abkulak array 125.62 317 PKPdf 11 31 07.7 -0.8
AKTO Aktyubinsk 126.57 319 PKP PKPdf 11 31 10.2 -0.1
comp=Z,2.9nm,0.7s,baz=66,slow=2.1,SNR=8.2
BOSA Boshof 127.33 205 PKP PKiKP 11 31 13.0 -0.3
comp=Z,5.4nm,0.8s,baz=147,slow=1.1,SNR=5.4
ARCES ARCESS Array B 128.00 350 PKP PKPdf 11 31 12.1 -0.3
comp=Z,3.6nm,0.4s,baz=19,slow=1.4,SNR=44
MATP Matopo 132.82 214 PKP PKPdf 11 31 23.1 -0.2
comp=Z,2.3nm,0.8s,baz=165,slow=3.4,SNR=4.1
FINES FINESS Array B 134.91 344 PKhKP PKPpre 11 31 19.3
comp=Z,2.4nm,0.8s,baz=52,slow=5.1,SNR=4.8
FINES PKP PKPdf 11 31 25.5 -0.1
comp=Z,2.2nm,0.5s,baz=72,slow=1.9,SNR=13
FINES SKP 11 34 05.0
comp=Z,1.1nm,0.6s,baz=40,slow=3.2,SNR=7.4
LSZ Lusaka 137.15 218 PKP PKPdf 11 31 31.7 +0.3
comp=Z,1.0nm,0.3s,baz=59,slow=3.1,SNR=5.8
NB2 NORSAR Subarra 138.03 354 PKP PKPpre 11 31 24.8
comp=Z,0.6nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 138.03 354 PKP PKPdf 11 31 32.6 +1.0
comp=Z,0.9nm,0.7s,baz=23,slow=3.5,SNR=6.0
HFS Hagfors 138.60 351 PKhKP PKPpre 11 31 22.0
comp=Z,0.8nm,0.5s,baz=50,slow=3.6,SNR=12
HFS PKP PKPdf 11 31 32.7 +0.1
comp=Z,2.3nm,0.6s,baz=79,slow=2.3,SNR=5.5
AKASG Malin Array Be 142.32 332 PKhKP PKPpre 11 31 34.8
comp=Z,3.8nm,0.6s,baz=44,slow=3.9,SNR=22
AKASG SKPbc SKPbc 11 34 24.7 -0.9
comp=Z,0.3nm,0.3s,baz=43,slow=2.2,SNR=4.6
KIEV Kiev 142.33 332 ⇑P PKPpre 11 31 35.1
EKA Eskdalemuir Ar 143.97 5 PKP PKPbc 11 31 40.8 -0.8
comp=Z,13nm,0.8s,baz=341,slow=2.9,SNR=20
BEL Belsk 144.65 340 ePKP PKPdf 11 31 43.5 0.0
MILM Milestii Mici 145.16 328 ⇓P PKPdf 11 31 44.3 -0.2
ILGA Ilgaz 145.75 316 PKPbc 11 31 48.1 +0.4
TLCR 146.31 325 ⇑P PKPbc 11 31 48.7 -0.1
OJC Ojcow 146.36 340 ePKP PKPbc 11 31 48.3 -0.5
BURAR Bucovina Array 146.37 332 ⇑P PKPbc 11 31 49.4 +0.3
BRTR Keskin Array B 146.44 314 PKPdf PKPdf 11 31 47.4 +0.3
BRTR PKPbc 11 31 49.1 -0.5
BRTR Keskin Array B 146.44 314 PKPbc PKPbc 11 31 48.8 -0.8
comp=Z,8.6nm,0.7s,baz=136,slow=4.4,SNR=35
BRTR pPKP pPKPbc 11 33 58.5 +2.5
comp=Z,1.2nm,0.9s,baz=45,slow=1.9,SNR=4.1
GHRR 146.45 328 ⇑P PKPbc 11 31 50.2 +1.0
TESR Tescani 146.51 329 ⇑P PKPbc 11 31 49.2 -0.2
KIRS Kirsehir-Merke 146.52 313 ⇑P PKPbc 11 31 49.5 -0.2
KOLS Kolonicke sedl 146.56 336 ePKP PKPbc 11 31 49.6 +0.2
ASF Jabal al Asfar 146.64 299 PKPbc PKPbc 11 31 50.4 +0.1
comp=Z,7.5nm,0.8s,baz=90,slow=1.4,SNR=9.5
CFR Carcaliu 146.68 326 ⇓P PKPbc 11 31 49.6 -0.2
TPGR Topolog 146.74 325 ⇑P PKPbc 11 31 50.1 0.0
ONER Baraj Valea Uz 146.76 329 ⇑P PKPbc 11 31 50.7 +0.6
KSP Ksiaz 146.84 344 ePKP PKPbc 11 31 50.1 +0.1
NIE Niedzica 146.88 338 ePKP PKPbc 11 31 50.5 +0.2
VRI Vrincioaia 146.93 328 ⇑P PKPbc 11 31 50.2 -0.3
PLOR Plostina 146.98 328 ⇓P PKPbc 11 31 50.1 -0.6
HARR Harsova 147.11 326 ⇓P PKPbc 11 31 50.9 -0.1
OSTC Ostas 147.12 344 ⇑ePKP PKPbc 11 31 51.0 +0.1
CLL Collm 147.17 348 ⇓iPKPbc PKPbc 11 31 50.7 -0.2
comp=Z,28nm,0.7s
CLL iPKiKP PKPab 11 31 53.7 -0.7
comp=Z,17nm,1.0s
UPC Upice 147.22 344 ⇑ePKP PKPbc 11 31 51.1 0.0
OZUR 147.23 329 ⇓P PKPbc 11 31 51.5 +0.1
STEB Steborice 147.24 342 ⇑ePKP PKPbc 11 31 51.0 -0.2
STEB ePKPAB PKPab 11 31 54.9 +0.1
DPC Dobruska-Polom 147.28 343 ⇑ePKP PKPbc 11 31 51.3 0.0
MANR Mangalia 147.32 324 ⇑P PKPbc 11 31 51.3 -0.2
BRG Berggiesshubel 147.38 346 ePKP PKPbc 11 31 51.4 -0.1
BRG Amp 11 31 52.0
comp=Z,11nm,0.8s
BRG Berggiesshubel 147.38 346 P PKPab 11 31 55.0 -0.3
BRG Amp 11 31 55.3
comp=Z,7.4nm,0.8s
LANS Liptovska Anna 147.39 339 ePKP PKiKP 11 31 52.5 -0.8
MORC Moravsky Berou 147.45 342 ePKP PKPbc 11 31 51.7 -0.1
MORC Moravsky Berou 147.45 342 ⇑P PKPbc 11 31 52.1 +0.2
PVCC Panska Ves 147.56 345 ⇑ePKP PKPbc 11 31 52.2 +0.2
MLR Muntele Rosu 147.58 328 PKPbc PKPbc 11 31 52.1 -0.3
comp=Z,7.5nm,0.6s,baz=2.9,slow=6.9,SNR=10.0
MLR Muntele Rosu 147.58 328 ⇑P PKPbc 11 31 51.6 -0.8
MMAI Mount Meron Ar 147.64 301 PKPbc PKPbc 11 31 53.2 +0.3
comp=Z,15nm,0.6s,baz=76,slow=5.2,SNR=25
MAUC Maruska 147.73 341 ⇑ePKP PKPbc 11 31 52.8 +0.3
HSKC Hora Svate Kat 147.74 347 ⇑ePKP PKPbc 11 31 52.1 -0.4
MARR Marisel-Cluj 148.01 333 ⇑P PKPbc 11 31 52.6 -0.8
VOIR 148.06 329 ⇑P PKPbc 11 31 53.4 -0.2
PRU Pruhonice 148.07 345 ⇑ePKP PKPbc 11 31 53.1 -0.2
VRAC Vranov 148.15 342 PKPbc PKPbc 11 31 53.5 0.0
comp=Z,6.4nm,0.9s,baz=38,slow=2.8,SNR=10
VRAC Vranov 148.15 342 ePKP PKPbc 11 31 53.6 0.0
VRAC Vranov 148.15 342 ⇑P PKPbc 11 31 53.8 +0.3
VYHS Vyhne 148.17 339 ePKP PKPbc 11 31 53.7 +0.1
JAVC Velka Javorina 148.22 341 ePKP PKiKP 11 31 54.8 -0.3
PSZ Piszkesteto 148.29 337 ⇑P PKPbc 11 31 54.0 0.0
ARR Arges 148.31 330 ⇓P PKPbc 11 31 54.7 +0.5
KRUC Moravsky 148.43 342 ePKP PKPbc 11 31 53.9 -0.3
TREC Trest 148.46 344 ePKPAB PKPab 11 31 59.8 0.0
ZVC Zvikov 148.66 345 ePKPAB PKPab 11 32 00.6 0.0
UCC Uccle 148.72 358 dPKP PKPbc 11 31 54.8 -0.1
MODS Modra-Piesok 148.78 341 ePKP PKiKP 11 31 55.8 -0.4
MEM Membach 148.82 356 dPKP PKPbc 11 31 54.6 -0.5
EIL Elat 148.82 295 PKPbc PKPbc 11 31 56.0 +0.2
comp=Z,17nm,1.0s,baz=27,slow=6.8,SNR=7.7
BTNL Ternell 148.83 355 dPKP PKPbc 11 31 54.5 -0.7
BSTI Sart Tilman 148.87 356 dPKP PKPbc 11 31 54.8 -0.5
SIRR Siria 148.95 334 ⇑P PKPbc 11 31 55.7 +0.1
BCLA Clavier 149.05 356 dPKP PKPbc 11 31 55.3 -0.4
BHOU Houvegnez 149.07 356 dPKP PKPbc 11 31 55.0 -0.8
KHC Kasperske Hory 149.09 346 ⇑ePKP PKPbc 11 31 55.6 -0.3
BGES Gesves 149.10 357 dPKP PKPbc 11 31 54.9 -1.0
GZR Gura Zlata 149.15 331 ⇑P PKPbc 11 31 55.8 -0.4
SURR Surduc 149.16 333 ⇓P PKPbc 11 31 55.8 -0.3
BMRD Maredsous 149.20 357 dPKP PKPbc 11 31 55.7 -0.3
CKRC Cesky Krumlov 149.21 345 ⇑ePKP PKPbc 11 31 56.2 0.0
GERES GERESS Array B 149.33 345 PKPdf PKPdf 11 31 52.0 +0.5
GERES PKPbc 11 31 56.3 -0.3
GERES GERESS Array B 149.33 345 PKPbc PKPbc 11 31 56.3 -0.3
comp=Z,13nm,0.8s,baz=104,slow=4.4,SNR=23
DOU Dourbes 149.41 357 dPKP PKPbc 11 31 56.3 -0.2

BZS	Buzias	149.49	333	⇑P	PKPbc	11 31 56.5	-0.4
CONA	Conrad Observa	149.60	342	*i* PKP	PKPbc	11 31 57.3	+0.1
	SNR=13						
CONA	Conrad Observa	149.60	342	*i* PKP	PKPbc	11 31 56.9	-0.4
	comp=Z,20nm,0.7s						
RONA	Rosalia, Austr	149.68	341	*i* PKP	PKPbc	11 31 57.3	0.0
	SNR=18						
RONA	Rosalia, Austr	149.68	341	*i* PKP	PKPbc	11 31 57.4	0.0
	comp=Z,26nm,0.6s						
HERR	Herculane	149.71	331	⇓P	PKPbc	11 31 56.4	-1.0
BAND	Balkesir-Ban	149.73	319	⇑P	PKPbc	11 31 57.3	-0.4
WLF	Walferdange	149.74	355	*d*PKP	PKPbc	11 31 57.4	0.0
MOA	Molln	150.11	344	*e*PKP	PKPbc	11 31 57.4	-1.0
	comp=Z,6.3nm,0.6s						
MORH	Mrgy, Hungar	150.19	337	⇑P	PKPbc	11 31 58.2	-0.3
ARSA	Arzberg	150.31	342	*i* PKP	PKPbc	11 31 58.3	-0.6
	comp=Z,8.9nm,1.3s						
BIOA	Bad Ischl, Aus	150.42	345	*i* PKP	PKPbc	11 31 58.4	-0.7
	SNR=6.6						
BIOA	Bad Ischl, Aus	150.42	345	*i* PKP	PKPbc	11 31 58.3	-0.8
	comp=Z,15nm,0.9s						
BFO	Black Forest	150.83	352		PKPbc	11 31 59.8	-0.2
LESA	Schwarzleotal	150.90	346	*i* PKP	PKPbc	11 31 59.6	-0.7
	SNR=5.3						
LESA	Schwarzleotal	150.90	346	*i* PKP	PKPbc	11 31 59.2	-1.1
	comp=Z,7.0nm,0.5s						
SOKA	Soboth	150.97	342	*i* PKP	PKPbc	11 31 59.9	-0.6
	SNR=7.5						
SOKA	Soboth	150.97	342	*i* PKP	PKPbc	11 31 59.5	-0.9
	comp=Z,13nm,0.8s						
BOVS	Bovan	150.99	330	⇓P	PKPbc	11 31 59.9	-0.6
KBA	Koelnbreinsper	151.06	344	*i* PKP	PKPbc	11 32 00.4	-0.3
	SNR=6.8						
KBA	Koelnbreinsper	151.06	344	*i* PKP	PKPbc	11 31 59.8	-1.0
	comp=Z,13nm,0.6s						
WATA	Walderalm	151.23	347	*i* PKP	PKPbc	11 32 00.5	-0.7
	SNR=8.6						
WATA	Walderalm	151.23	347	*i* PKP	PKPbc	11 32 00.4	-0.7
	comp=Z,8.8nm,0.5s						
RETA	Reutte	151.25	348	*i* PKP	PKPbc	11 32 00.4	-0.7
	comp=Z,4.7nm,0.6s						
OBKA	Obir	151.27	342	*i* PKP	PKPbc	11 32 00.1	-1.0
	comp=Z,7.2nm,0.8s						
WTTA	Wattenberg	151.29	347	*i* PKP	PKPbc	11 32 00.9	-0.4
	SNR=9.3						
WTTA	Wattenberg	151.29	347	*i* PKP	PKPbc	11 32 00.8	-0.4
	comp=Z,26nm,0.6s						
MOTA	Moosalm	151.32	348	*e*PKP	PKPbc	11 32 00.5	-0.8
	comp=Z,23nm,1.2s						
MYKA	Terra Mystica	151.40	344	*i* PKP	PKPbc	11 32 00.1	-1.3
	comp=Z,9.7nm,0.8s						
SQTA	Sankt Quirin	151.42	347	*i* PKP	PKPbc	11 32 01.0	-0.5
	SNR=7.4						
SQTA	Sankt Quirin	151.42	347	*i* PKP	PKPbc	11 32 01.0	-0.5
	comp=Z,16nm,0.6s						
CLF	Chambon-Foret	151.53	0		PKPbc	11 32 01.5	0.0
ABTA	Abfaltersbach	151.58	345	*i* PKP	PKPbc	11 32 00.8	-1.0
	SNR=8.1						
ABTA	Abfaltersbach	151.58	345	*i* PKP	PKPbc	11 32 00.6	-1.2
	comp=Z,24nm,0.6s						
DAVA	Damuels	151.61	349	*i* PKP	PKPbc	11 32 01.9	-0.1
	SNR=5.3						
DAVA	Damuels	151.61	349	*i* PKiKP	PKiKP	11 32 02.2	0.0
	comp=Z,26nm,1.1s						
FETA	Feichten	151.71	348	*i* PKP	PKPbc	11 32 01.9	-0.3
	SNR=6.2						
FETA	Feichten	151.71	348	*i* PKP	PKPbc	11 32 01.7	-0.5
	comp=Z,18nm,1.0s						
ESDC	Sonseca Array	159.14	14	PKP	PKPdf	11 32 04.7	-0.6
	comp=Z,1.0nm,1.0s,baz=329,slow=4.1,SNR=5.3						
ESDC				PKPab	PKPab	11 32 45.8	+0.1
	comp=Z,0.2nm,0.3s,baz=81,slow=1.7,SNR=2.6						
DBIC	Dimbokro	165.43	150	PKP	PKPdf	11 32 11.0	-1.0
	comp=Z,2.3nm,0.7s,baz=222,slow=1.3,SNR=4.5						
DBIC				PKPab	PKPab	11 33 14.6	+0.8
	comp=Z,3.0nm,0.7s,baz=182,slow=4.7,SNR=4.2						

*IDC **22** 11:17:41.1±1.3, 30°.20S×71°.80W, h0km, mb3.2/1, mbtmp3.5/5, ML3.6/4, Error ellipse: s-maj=40.6km s-min=30.3km az=48.0*
*SJA **22** 11:17:44.2±0.7, 30°.13S×71°.52W, h12km±3km, ML3.7, MW3.6*
*GUC **22** 11:17:48.4±0.9, 30°.21S×71°.27W, h58km±3km, ML3.9*
ISC 22 11:17:49.1±0.8, 30°.11S±0°.03×71°.48W±0°.05, h54km±7km, n53, σ2§00/66, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.28	49	⇓*i*P	Pn	11 17 59.0	+0.6
CO05				*e*S	Sn	11 18 06.3	+1.2
CO05				IAML		11 18 06.6	
	comp=N,20μm,0.4s						
CO06	Fray Jorge	0.58	193	*e*P	Pn	11 18 02.0	+0.4
CO06				*e*S	Sn	11 18 11.7	+1.1
CO06				IAML		11 18 12.6	
	comp=E,6μm,0.3s						
GO04	Tololo Observa	0.60	96	⇑*i*P	Pn	11 18 01.1	-0.9
GO04				*e*S	Sn	11 18 09.8	-1.5
GO04				IAML		11 18 11.1	
	comp=E,88μm,0.5s						
GO04	Tololo Observa	0.60	96	*e*P	Pn	11 18 10.2	+8.2
CO03	El Pedregal	1.00	137	*i* P	Pn	11 18 05.4	-1.7
CO03				*e*S	Sn	11 18 17.6	-2.7
CO03				IAML		11 18 18.0	
	comp=N,10μm,0.2s						
CO03	El Pedregal	1.00	137	*e*P	Pn	11 18 04.9	-2.2
CO03				*e*S	Sn	11 18 17.9	-2.4
CO03				IAML		11 18 18.5	
	comp=Z,3μm,0.7s						
CO02	Combarbal	1.17	159	⇓*i*P	Pn	11 18 08.1	-1.2
CO02				IAML		11 18 24.6	
	comp=N,9μm,0.2s						
CO02	Combarbal	1.17	159	*e*P	Pn	11 18 04.9	-4.5
CO02				*e*P		11 18 07.4	
CO02				*e*S	Sn	11 18 22.8	-1.5
CO02				IAML		11 18 24.2	
	comp=Z,2μm,0.3s						
CO01	Juntas del Tor	1.21	84	⇑*i*P	Pn	11 18 09.1	-0.9
CO01				*e*S	Sn	11 18 23.8	-1.7
CO01				IAML		11 18 24.4	
	comp=N,3μm,0.1s						
CO01	Juntas del Tor	1.21	84	*e*P	Pn	11 18 09.0	-0.9
CO01				*e*S	Sn	11 18 24.3	-1.3
CO01				IAML		11 18 24.3	
	comp=Z,2μm,0.3s						
LCO	Las Campanas	1.29	32	*e*P	Pn	11 18 10.4	-0.6
LCO				*e*S	Sn	11 18 28.1	+0.7
LCO				IAML		11 18 29.3	
	comp=Z,4μm,0.3s						
AC05	El Transito	1.65	40	*e*P	Pn	11 18 16.3	+0.5
AC05				IAML		11 18 40.2	
	comp=E,1μm,0.5s						
AC05	El Transito	1.65	40	*e*P	Pn	11 18 15.6	-0.3
AC05				*e*S	Sn	11 18 37.4	+1.4
AC05				IAML		11 18 37.8	
	comp=Z,1μm,0.3s						
AROD	Rodeo	1.74	92	*e*P	Pn	11 18 17.6	+0.3
AROD				*e*S	Sn	11 18 38.8	+0.2
AROD				*e*S		11 18 39.0	
AC04	Llanos de Chal	1.93	11	⇓*i*P	Pn	11 18 20.1	+0.6
AC04				IAML		11 18 52.3	
	comp=E,562nm,0.5s						
AC04	Llanos de Chal	1.93	11	*e*P	Pn	11 18 19.4	-0.1
AC04				*e*S	Sn	11 18 36.5	-6.2
AC04				IAML		11 18 50.7	
	comp=Z,408nm,0.6s						
ACDV	Cuesta del Vie	2.05	92	*e*P	Pn	11 18 22.3	+1.0
ACCO	Cerro Coronel	2.15	104	*e*P	Pn	11 18 25.6	+2.8
ACCO				*e*S	Sn	11 18 41.8	-6.6
DOCA	Reserva Natura	2.24	113	*e*P	Pn	11 18 24.4	+0.4
VA06	Catapilco	2.45	176	*e*P	Pn	11 18 25.8	-0.8
VA06				IAML		11 19 05.9	
	comp=E,973nm,0.3s						
RTLS	Leoncito	2.52	132	*e*P	Pn	11 18 28.7	+0.7
RTLS				*e*S	Sn	11 18 46.9	-11
RTLS				IAML		11 19 05.2	
	comp=Z,423nm,1.0s						
GO03	Copiapo	2.73	24	IAML		11 19 12.3	
	comp=N,386nm,0.7s						
GO03	Copiapo	2.73	24	*e*P	Pn	11 18 30.4	-0.2
GO03				*e*S	Sn	11 18 50.9	-12
VA03	San Esteban	2.77	163	IAML		11 19 11.4	
	comp=E,626nm,0.4s						
VA03	San Esteban	2.77	163	*e*P	Pn	11 18 30.7	-0.4
VA03				*e*S	Sn	11 19 06.8	+3.4
VA03				IAML		11 19 22.0	
	comp=Z,358nm,0.7s						
ZON	Zonda	2.81	121	*e*P	Pn	11 18 31.9	+0.3
ZON				*e*S	Sn	11 19 07.4	+3.1
AC06	Mina Casimiro	2.91	20	IAML		11 19 19.1	
	comp=N,248nm,0.3s						
MT02	Curacav	3.16	175	*e*P	Pn	11 18 35.2	-1.2
MT02				IAML		11 19 28.4	
	comp=E,211nm,0.3s						
MT02	Curacav	3.16	175	*e*P	Pn	11 18 35.4	-1.0
MT02				*e*S	Sn	11 19 15.9	+3.1
MT02				IAML		11 19 22.6	
	comp=Z,167nm,0.2s						
CFA	Coronel Fontan	3.17	119	Pn	Pn	11 18 35.9	-0.6
	comp=Z,7.9nm,0.3s,baz=272,slow=12,SNR=178						
CFA				Sn	Sn	11 19 12.1	-1.0
	comp=Z,20nm,0.3s,baz=204,slow=20,SNR=9.1						
	comp=Z,17nm,0.3s						
CFA	Coronel Fontan	3.17	119	*e*P	Pn	11 18 36.3	-0.2
CFA				*e*S	Sn	11 19 03.0	-10
VCA	Vinchina	3.17	65	*e*P	Pn	11 18 38.3	+1.7
VCA				*e*P		11 18 39.0	
VCA				*e*S	Sn	11 19 16.8	+3.4
VCA				IAML		11 19 17.5	
	comp=Z,533nm,0.6s						
MT05	Renca	3.34	169	*e*P	Pn	11 18 39.0	+0.1
MT05				*e*S	Sn	11 19 23.4	+6.1
MT05				IAML		11 19 35.4	
	comp=Z,126nm,1.0s						
MT03	Universidad Ad	3.48	166	*e*P	Pn	11 18 41.0	+0.2
MT03				*e*S	Sn	11 19 22.4	+1.6
MT03				IAML		11 19 34.3	
	comp=Z,269nm,0.6s						
MT04	Ro Olivares	3.48	161	*e*P	Pn	11 18 41.3	+0.3
MT04				*e*S	Sn	11 19 24.3	+3.2
MT04				IAML		11 19 32.4	
	comp=Z,139nm,0.5s						
MT08	Bocatoma Ro	3.56	160	*e*P	Pn	11 18 43.5	+1.5
MT08				*e*S	Sn	11 19 29.4	+6.5
MT08				IAML		11 19 36.8	
	comp=Z,117nm,0.5s						
MT01	Popeta	3.75	177	*e*P	Pn	11 18 43.5	-1.0
MT01	Popeta	3.75	177	*e*P	Pn	11 18 43.9	-0.6
MT01				IAML		11 19 49.9	
	comp=Z,92nm,0.7s						
MT13	San Alfonso	3.77	165	*e*P	Pn	11 18 45.4	+0.6
MT13				IAML		11 19 46.0	
	comp=Z,97nm,0.8s						
LMEL	Las Melosas	3.88	164	*e*S	Sn	11 19 32.5	+1.6
LMEL				*e*S		11 19 35.4	
AC01	Pan de Azucar	4.02	11	*e*P	Pn	11 18 46.9	-1.4
AC01				IAML		11 19 54.5	
	comp=Z,63nm,0.5s						
APLL	PUNTA DE LOS L	4.30	95	*e*P	Pn	11 18 51.6	-0.4
H03N1	Juan Fernandez	7.14	240	T	T	11 26 37.8	
	baz=68,slow=72,SNR=136						
H03N2	Juan Fernandez	7.16	240	T	T	11 26 37.8	
	baz=68,slow=72,SNR=136						
H03N3	Juan Fernandez	7.16	240	T	T	11 27 03.8	
	baz=68,slow=72,SNR=134						
PLCA	Paso Flores	10.63	176	Pn	Pn	11 20 14.6	-4.1
	baz=257,slow=23,SNR=1.5						
	comp=Z,0.7nm,0.9s						
CPUP	Villa Florida	13.04	77	Pn	Pn	11 20 52.3	+0.7
	comp=Z,0.2nm,0.3s,baz=219,slow=12,SNR=1.6						
CPUP				Sn	Sn	11 23 17.7	+2.7
	comp=Z,0.2nm,0.3s,baz=229,slow=11,SNR=2.1						
	comp=Z,0.5nm,0.3s						
SIV	San Ignacio	16.99	37	P	P	11 21 43.5	-0.8
	baz=215,slow=12,SNR=6.4						
	comp=Z,1.3nm,0.7s						
TXAR	Lajitas Array	66.60	330	P	P	11 28 34.7	+0.8
	comp=Z,0.2nm,0.6s,baz=142,slow=6.8,SNR=2.0						
	comp=Z,0.2nm,0.6s						
TORD	Torodi Ar. Bea	82.44	70	P	P	11 30 07.8	+1.7
	comp=Z,56nm,0.3s,baz=240,slow=4.8,SNR=1.8						
KURBB	Kurchatov Arra	149.64	39	PKPbc	PKPbc	11 37 31.4	-0.9
	comp=Z,0.2nm,0.3s,baz=301,slow=3.1,SNR=5.7						
AAK	Ala-Archa	150.09	56	PKPbc	PKiKP	11 37 33.7	-1.1
	comp=Z,1.3nm,0.4s,baz=270,slow=3.0,SNR=4.4						
ZALV	Zalesovo Beam	150.65	29	PKPbc	PKiKP	11 37 33.9	-1.4
	comp=Z,1.4nm,0.5s,baz=316,slow=4.0,SNR=6.4						

*MEX **22** 11:20:31.9±0.3, 14°.85N×93°.25W, h18km±271km, MD3.7*
*GCG **22** 11:20:32.5±0.4, 14°.94N×92°.96W, h79km±6km, MD3.6*
ISC 22 11:20:24.7±2.2, 14°.68N±0°.09×93°.26W±0°.07, h17km±11km, n12, σ2§34/21, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.99	77	*e*P	Pn	11 20 46.3	+2.5
THIG				*e*S	Sb	11 20 57.7	+1.6
THIG		0.99	77	*e*S	Sn	11 20 59.2	+1.8
PCIG		1.02	2	*e*P	Pn	11 20 45.4	+1.1
PCIG				*e*S	Sg	11 20 55.6	-2.3
PATR	El Naranjo	1.08	66	*e*P	Pn	11 20 47.8	+2.5
PATR				*e*S	Sg	11 20 59.9	-0.1
PAVE	Pavencul	1.17	64	*e*P	Pn	11 20 49.1	+2.6
PAVE				*e*S	Sg	11 21 02.3	-0.3
STG8	El Palmar, Qui	1.86	97	*e*P	Pn	11 20 56.5	+0.4
STG8				*e*S	Sn	11 21 15.4	-4.0
STG0	El Palmar, Qui	1.87	97	*e*P	Pn	11 20 56.8	+0.6
STG0				*e*S	Sn	11 21 15.8	-3.8
CCIG	Comitan	1.93	34	*e*P	Pb	11 20 59.0	-0.6
CCIG				*e*S	Sn	11 21 19.9	-0.9
CCIG	Comitan	1.93	34	*e*P	Pb	11 20 59.3	-0.3
TGIG		2.09	4	*e*P	Pn	11 21 00.5	+1.4
TGIG				*e*S	Sn	11 21 20.0	-4.8
UXUV	UXUV	2.76	342	*e*P	Pn	11 21 10.4	+2.2
UXUV				*e*S	Sn	11 21 42.0	+0.8
CMIG	Matias Romero	2.86	327	*e*P	Pg	11 21 19.9	+0.2

BER 22 11:24:54.8±2.0, 71°.77N×1°.92W, h10km, mb(Pn)4.1, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	Daneborg	5.92	304	*e*P	Pn	11 26 19.6	-2.7
LOF	Lofoten	6.44	117	*e*P	Pn	11 26 27.2	-2.2
LOF				IAML		11 26 29.7	
	comp=Z,3.7nm,0.7s						
HSPB	Hornsund (broa	7.02	34	*e*P	Pn	11 26 34.3	-3.1
STEI	Steigen	7.05	115	*e*P	Pn	11 26 34.4	-3.4
STEI				IAML		11 26 35.2	
	comp=Z,12nm,0.4s						
TRO	Tromso	7.21	97	*e*P	Pn	11 26 35.7	-4.4
TRO				IAML		11 26 36.4	
	comp=Z,3.9nm,0.3s						
KONS	Konsvik	7.51	127	*e*P	Pn	11 26 41.2	-3.0
KONS				IAML		11 26 43.6	
	comp=Z,5.2nm,0.6s						
JETT	Jettan, Norway	7.71	96	*e*P	Pn	11 26 42.5	-4.5
LEIR	Leirfjorden	7.82	129	*e*P	Pn	11 26 45.3	-3.1
SPA0	Spitsbergen Ar	7.95	28	*e*P	Pn	11 26 48.4	-1.8
KIF	Kilpisjarvi	8.10	99	*e*P	Pn	11 26 48.0	-4.3
MOR8	Moi Rana	8.11	126	*e*P	Pn	11 26 50.4	-2.0
SALU	Saltoluokta	8.36	112	*e*P	Pn	11 26 52.7	-3.1
KTK1	Kautokeino	8.86	96	*e*P	Pn	11 26 58.8	-3.8
HEF	Hetta	9.30	99	*e*P	Pn	11 27 04.5	-4.3
ARA0	ARCESS Array S	9.32	91	*e*P	Pn	11 27 05.4	-3.6

*NNC **22** 11:47:18.9±5.9, 43°.79N×69°.83E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=36.6km s-min=24.0km az=145.0, Suspected Mining explosion.*
*KRNET **22** 11:47:19.3±0.1, 43°.63N×69°.64E, mb3.0*
*SOME **22** 11:47:20.1, 43°.60N×69°.82E*
ISC 22 11:47:25.0±2.4, 43°.47N±0°.09×69°.87E±0°.10, h0km, n17, σ1§02/23, 10C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	Borolday	0.45	183	P	Pb	11 47 35.9	+0.2
	3.9nm,0.5s						
KK31	Karatay Array	0.60	128	⇑P	Pg	11 47 35.5	-1.0
	4.0nm,0.5s,baz=322,slow=14,SNR=95						
KK31				⇑S	Sb	11 47 47.3	-0.1
	31nm,0.5s,baz=327,slow=24						
KKAR	Karatay Array	0.60	128	⇓*i*P	Pg	11 47 35.3	-1.2
KKAR				⇓*i*S	Sb	11 47 47.0	-0.4
IUG	Iuzhnay	1.33	175	S	Sn	11 48 10.2	+0.8
	76nm,0.6s						
TRKS	Terek-Say	2.16	154	⇑*i*P	Pn	11 48 02.7	+0.3
TRKS				⇑*i*S	Sg	11 48 34.3	0.0
MNAS	Manas	2.17	116	⇑*i*P	Pn	11 48 01.9	-0.6
MNAS				⇑*i*S	Sb	11 48 33.1	+0.3
ARK	Arkit	2.28	137	⇑*e*P	Pn	11 48 03.7	-0.3
ARK				⇑*e*S	Sb	11 48 35.9	0.0
MRKS	Merke	2.57	105	Pg	Pb	11 48 10.0	-2.0
	4.5nm,0.6s						
AML	Almayashu	3.12	114	⇑*i*P	Pn	11 48 15.2	-0.6
AML				⇑*i*S	Sn	11 48 56.0	+2.0
ARLS	Aral	3.66	115	⇓*i*P	Pn	11 48 22.8	-0.2
ARLS				⇓*i*S	Sn	11 49 08.9	+1.9
KST	Kastek	4.47	93	Lg	Lg	11 49 43.7	
	8.4nm,0.6s						
KUU	Kurty	4.71	83	Pg	Pb	11 48 47.7	-0.8
	2.7nm,0.3s						
KUU				Lg	Lg	11 49 50.3	
	14nm,0.6s						
MTBS	Maitube	4.80	92	Pg	Pb	11 48 50.9	+0.8
	2.0nm,0.5s						
MTBS				Lg	Lg	11 49 56.4	
	6.9nm,0.5s						
KTBS	Karatobe	4.96	85	Pg	Pb	11 48 53.1	+0.5
	2.9nm,0.6s						
KTBS				Lg	Lg	11 49 59.7	
	12nm,0.8s						
TNSS	Tian-Shan	5.19	92	Pg	Pb	11 48 58.0	+1.1
	1.3nm,0.4s						
TNSS				Lg	Lg	11 50 08.3	
	3.0nm,0.5s						
MDOK	Medeo	5.25	91	Pg	Pb	11 48 59.1	+1.4
	4.6nm,0.8s						
MDOK				Lg	Lg	11 50 10.0	
	4.5nm,0.7s						
ARXS	Arharly	5.81	80	Pg	Pb	11 49 07.4	+0.3
	1.4nm,0.3s						

*IDC **22** 11:48:21.5±2.1, 9°.55N×126°.14E, h144km±22km, mb3.5/13, mbtmp3.9/14, Error ellipse: s-maj=30.5km s-min=15.9km az=63.0*
ISC 22 11:48:21.9±0.7, 9°.50N±0°.08×126°.1E±0°.2, h150km, n17, σ1§07/15, mb3.8/13, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.47	192	P	Pn	11 49 01.1	-1.6
	115nm,0.4s,baz=10,slow=10,SNR=4.3						
DAV				S	Sn	11 49 35.8	+1.6
	165nm,0.3s,baz=326,slow=22,SNR=3.8						
CMAR	Chiang Mai Arr	27.78	292	P	P	11 53 57.8	+0.8
	0.9nm,0.4s,baz=98,slow=7.6,SNR=7.5						
	0.9nm,0.4s						
WRA	Warramunga Arr	30.36	165	P	P	11 54 19.7	-0.1
	0.5nm,0.7s,baz=345,slow=9.5,SNR=2.3						
	0.5nm,0.7s						
ASAR	Alice Springs	33.84	167	P	P	11 54 49.9	-0.3
	0.1nm,0.3s,baz=352,slow=6.9,SNR=15						
	0.1nm,0.3s						
H11N1	WAKE ISLAND Hy	40.66	71	T	T	12 39 17.2	
	baz=265,slow=74,SNR=8.5						
H11N2	WAKE ISLAND Hy	40.67	71	T	T	12 39 12.1	
	baz=265,slow=74,SNR=8.3						
H11N3	WAKE ISLAND Hy	40.68	71	T	T	12 39 14.2	
	baz=265,slow=74,SNR=7.7						
SONM	Songino Array	41.68	340	P	P	11 55 54.9	-0.9
	1.1nm,0.5s,baz=161,slow=8.8,SNR=5.0						
	1.1nm,0.5s						
PETK	Petropavlovsk-	50.41	24	P	P	11 57 02.8	-1.0
	1.7nm,0.8s,baz=236,slow=1.6,SNR=4.5						
	1.7nm,0.8s						
MKAR	Makanchi Array	52.54	323	P	P	11 57 19.7	-0.2
	1.3nm,0.7s,baz=119,slow=8.9,SNR=9.6						
	1.3nm,0.7s						
ZALV	Zalesovo Beam	55.22	332	P	P	11 57 37.9	-1.2
	0.5nm,0.3s,baz=134,slow=6.4,SNR=3.9						
	0.5nm,0.3s						
KURBB	Kurchatov Arra	56.61	326	P	P	11 57 48.7	-0.4
	0.6nm,0.4s,baz=126,slow=6.5,SNR=8.2						
	0.6nm,0.4s						
BVAR	Borovoye Array	62.20	326	P	P	11 58 27.5	+0.1
	0.5nm,0.5s,baz=113,slow=9.8,SNR=3.6						
	0.5nm,0.5s						
ILAR	Eielson Array	80.20	26	P	P	12 00 17.0	+1.5
	0.2nm,0.7s,baz=246,slow=4.7,SNR=5.1						
	0.2nm,0.7s						
ARCES	ARCESS Array B	84.85	340	P	P	12 00 40.3	+0.9
	3.2nm,0.8s,baz=74,slow=4.4,SNR=6.8						
	3.2nm,0.8s						
FINES	FINESS Array B	86.48	332	P	P	12 00 48.3	+0.7
	2.4nm,0.9s,baz=82,slow=4.0,SNR=7.5						
	2.4nm,0.9s						
YKA	Yellowknife Ar	94.53	24	P	P	12 01 25.8	+0.7
	0.3nm,0.7s,baz=301,slow=4.3,SNR=7.2						
	0.3nm,0.7s						

*AFAD **22** 11:48:29.4, 34°.99N×28°.40E, h7km±3km, ML2.8*
*ISK **22** 11:48:33.4, 35°.44N×28°.72E, h5km, ML2.9/9*
*ATH **22** 11:48:37.0, 35°.64N×28°.52E, h88km±8km, ML3.0/4, Manual Solution by A.Papageorgiou First location: 2019/04/22 11:50:22, This location: 2020/07/13 14:40:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 2 km*
ISC 22 11:48:36.2±1.4, 35°.38N±0°.05×28°.57E±0°.03, h10km±15km, n26, σ1§90/30, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.92	337	P	Pg	11 48 51.8	-2.1
ARG				S	Sg	11 49 04.8	-1.0
ARG	Arkhangelos	0.92	337	Pg	Pg	11 48 51.4	-2.5
ARG	Arkhangelos	0.92	337	P	Pg	11 48 52.9	-1.0
ARG				S	Sg	11 49 05.0	-0.8
KSL	Kastellorizon	1.13	46	P	Pg	11 48 58.3	+0.4
KSL	Kastellorizon	1.13	46	P	Pg	11 48 57.1	-0.8
KSL				S	Sg	11 49 11.3	-1.3
KARP	Karpathos	1.16	279	P	Pg	11 48 57.8	-0.8
KARP				S	Sg	11 49 13.9	+0.2
KARP	Karpathos	1.16	279	Pn	Pg	11 48 58.4	-0.2
KARP				Sn	Sg	11 49 16.5	+2.8

IDC 22 12:04:09.0±27.0, 46°11N×148°48E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=591.7km s-min=69.5km az=153.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.37**	**296**	P	P	12 12 21.1	+0.1
	0.2nm,0.5s,baz=60,slow=8.5,SNR=1.9 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**45.12**	**302**	P	P	12 12 26.6	-0.2
	0.7nm,0.6s,baz=70,slow=9.0,SNR=4.6 0.7nm,0.6s						
ARCES	**ARCESS Array B**	**57.37**	**339**	P	P	12 13 59.3	+0.8
	2.9nm,0.8s,baz=34,slow=6.9,SNR=1.8 2.9nm,0.8s						
FINES	**FINESS Array B**	**63.21**	**333**	P	P	12 14 37.6	-0.9
	1.0nm,0.6s,baz=25,slow=9.5,SNR=4.7 1.0nm,0.6s						
NOA	**NORSAR Array B**	**67.74**	**339**	P	P	12 15 08.2	+0.2
	0.3nm,0.5s,baz=31,slow=7.1,SNR=2.0 0.3nm,0.5s						

*WEL **22** 12:18:11.7±0.4, 42°S±2°×17°2E±°, h5km, M3.3/13, ML3.5/13, MLv3.3/13, Error ellipse: s-maj=3.6km s-min=2.2km az=133.6, confirmed*
*NOU **22** 12:18:12.0, 41°55S×172°20E, h12km, MLv3.7/15, South Island, New Zealand*

ISC 22 12:18:12.0±1.0, 41°60S±0°02×172°26E±0°02, h10km±8km, n99, σ0°91/123, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INGS	**Inangahua Fire**	**0.34**	**221**	P	**Pg**	**12 18 19.4**	**+0.6**
INGS				S	**Sg**	**12 18 24.4**	**+0.9**
KASC	**Karamea School**	**0.36**	**343**	P	**Pb**	**12 18 19.8**	**-0.7**
KASC				S	**Sb**	**12 18 25.7**	**-0.6**
DSZ	**Denniston Nort**	**0.37**	**247**	P	**Pg**	**12 18 19.7**	**+0.4**
DSZ				S	**Sg**	**12 18 24.9**	**+0.6**
MATW	**Matariki Wadsw**	**0.38**	**63**	P	**Pg**	**12 18 19.2**	**-0.2**
MATW				S	**Sg**	**12 18 24.4**	**+0.1**
MRNZ	**Matariki Terra**	**0.42**	**62**	P	**Pg**	**12 18 20.3**	**0.0**
MRNZ				S	**Sg**	**12 18 26.1**	**+0.1**
THZ	**Tophouse**	**0.51**	**109**	P	**Pg**	**12 18 21.5**	**-0.5**
THZ				S	**Sg**	**12 18 28.2**	**-0.5**
TKNZ	**Takaka Hill**	**0.77**	**43**	P	**Pg**	**12 18 26.3**	**-0.6**
TKNZ				S	**Sg**	**12 18 36.5**	**-0.5**
QRZ	**Quartz Range**	**0.80**	**15**	P	**Pg**	**12 18 26.7**	**-0.7**
QRZ	**Quartz Range**	**0.80**	**15**	P	**Pg**	**12 18 27.0**	**-0.4**
QRZ				S	**Sg**	**12 18 37.3**	**-0.5**
NNZ	**Nelson**	**0.93**	**66**	P	**Pg**	**12 18 28.6**	**-1.1**
NNZ				S	**Sg**	**12 18 40.8**	**-1.0**
LTZ	**Lake Taylor**	**1.18**	**180**	P	**Pb**	**12 18 34.9**	**+0.4**
LTZ				S	**Sb**	**12 18 50.0**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.22**	**96**	P	**Pn**	**12 18 34.7**	**-0.3**
BSWZ				S	**Sb**	**12 18 50.9**	**+0.1**
KHZ	**Kahutara**	**1.26**	**131**	P	**Pn**	**12 18 36.8**	**+0.5**
KHZ	**Kahutara**	**1.26**	**131**	S	**Sn**	**12 18 54.3**	**+1.8**
KHZ	**Kahutara**	**1.26**	**131**	P	**Pn**	**12 18 36.1**	**+0.5**
KHZ				S	**Sn**	**12 18 53.9**	**+1.4**
TUWZ	**Tuamarina**	**1.28**	**83**	P	**Pn**	**12 18 35.6**	**-0.2**
TUWZ				S	**Sb**	**12 18 53.0**	**+0.5**
INZ	**Inchbonnie**	**1.28**	**208**	P	**Pn**	**12 18 35.0**	**-0.9**
CMWZ	**Cape Campbell**	**1.47**	**97**	P	**Pn**	**12 18 39.0**	**+0.5**
GVZ	**Greta Valley S**	**1.48**	**157**	P	**Pn**	**12 18 39.2**	**+0.5**
GVZ				S	**Sn**	**12 18 59.1**	**+0.9**
DUWZ	**D'Urville Isla**	**1.49**	**58**	P	**Pn**	**12 18 38.5**	**-0.2**
DUWZ				S	**Sb**	**12 18 58.8**	**+0.2**
TCW	**Tory Channel**	**1.57**	**76**	P	**Pn**	**12 18 39.9**	**+0.1**
TCW				S	**Sn**	**12 19 00.4**	**+0.3**
AMCZ	**Amberley**	**1.60**	**170**	P	**Pn**	**12 18 40.8**	**+0.5**
AMCZ				S	**Sn**	**12 19 01.9**	**+0.8**
OXZ	**Oxford**	**1.73**	**185**	P	**Pn**	**12 18 42.0**	**-0.1**
OXZ				S	**Sn**	**12 19 04.0**	**-0.4**
WVZ	**Waitaha Valley**	**1.86**	**217**	P	**Pn**	**12 18 43.3**	**-0.5**
SNZO	**South Karori**	**1.86**	**82**	P	**Pn**	**12 18 44.2**	**+0.4**
WEL	**Wellington**	**1.91**	**81**	P	**Pn**	**12 18 45.5**	**+1.0**
BHW	**Baring Head**	**1.97**	**85**	P	**Pn**	**12 18 46.1**	**+0.7**
BHW				S	**Sn**	**12 19 10.6**	**+0.5**
MHCZ	**Mount Hutt**	**2.00**	**195**	P	**Pn**	**12 18 45.7**	**-0.1**
MHCZ				S	**Sn**	**12 19 10.6**	**-0.3**
MNZS	**Menzies Bay Ba**	**2.10**	**166**	P	**Pn**	**12 18 47.5**	**+0.3**
MQZ	**McQueen's Vall**	**2.13**	**172**	P	**Pn**	**12 18 46.7**	**-0.8**
MQZ				S	**Sn**	**12 19 11.9**	**-2.0**
RACZ	**Rakaia**	**2.13**	**182**	P	**Pn**	**12 18 47.4**	**-0.2**
KIW	**Kapiti Island**	**2.13**	**71**	P	**Pn**	**12 18 49.0**	**+1.4**
OKCZ	**Okains Bay**	**2.20**	**165**	P	**Pn**	**12 18 48.5**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.23**	**219**	P	**Pn**	**12 18 49.6**	**+0.6**
PLWZ	**Palliser**	**2.25**	**90**	P	**Pn**	**12 18 49.1**	**-0.1**
MSWZ	**Moikau Station**	**2.25**	**86**	P	**Pn**	**12 18 49.2**	**-0.1**
RPZ	**Rata Peaks**	**2.29**	**202**	P	**Pn**	**12 18 49.8**	**-0.1**
RPZ	**Rata Peaks**	**2.29**	**202**	S	**Sn**	**12 19 18.4**	**+0.2**
RPZ	**Rata Peaks**	**2.29**	**202**	P	**Pn**	**12 18 51.2**	**+1.4**
RPZ				S	**Sn**	**12 19 17.8**	**-0.4**
AKCZ	**Akaroa Harbour**	**2.32**	**168**	P	**Pn**	**12 18 49.7**	**-0.5**
OGWZ	**Otaki Gorge**	**2.33**	**71**	P	**Pn**	**12 18 51.3**	**+1.0**
WACZ	**Wakanui South**	**2.36**	**187**	P	**Pn**	**12 18 50.7**	**-0.1**
PAWZ	**Paruwai Farm**	**2.39**	**86**	P	**Pn**	**12 18 50.9**	**-0.3**
ARCZ	**Arundel**	**2.48**	**198**	P	**Pn**	**12 18 51.7**	**-0.7**
MTW	**Mount Morrison**	**2.48**	**81**	P	**Pn**	**12 18 52.3**	**-0.1**
NMEZ	**Namu Road**	**2.51**	**30**	P	**Pn**	**12 18 54.1**	**+1.3**
HOWZ	**Holdsworth Sta**	**2.55**	**75**	P	**Pn**	**12 18 53.4**	**0.0**
NBEZ	**Newall Road No**	**2.63**	**28**	P	**Pn**	**12 18 55.8**	**+1.3**
FOZ	**Fox Glacier**	**2.64**	**222**	P	**Pn**	**12 18 53.9**	**-0.7**
KHEZ	**Kahui Hut**	**2.66**	**31**	P	**Pn**	**12 18 55.6**	**+0.6**
KHEZ	**Kahui Hut**	**2.66**	**31**	P	**Pn**	**12 18 55.9**	**+0.9**
MRZ	**Mangatainoka R**	**2.68**	**71**	P	**Pn**	**12 18 55.3**	**+0.2**
MRZ				S	**Sn**	**12 19 29.1**	**+1.5**
PREZ	**Palmer Road**	**2.68**	**33**	P	**Pn**	**12 18 56.1**	**+0.9**
LRHZ	**Lake Rotokare**	**2.69**	**38**	P	**Pn**	**12 18 56.8**	**+1.6**
NEZ	**North Egmont**	**2.71**	**32**	P	**Pn**	**12 18 56.4**	**+0.7**
WAZ	**Wanganui**	**2.77**	**49**	P	**Pn**	**12 18 57.9**	**+1.5**
TMWZ	**Te Maipa**	**2.78**	**81**	P	**Pn**	**12 18 56.4**	**-0.1**
TMZ	**Timaru**	**2.93**	**198**	P	**Pn**	**12 18 57.8**	**-0.8**
TMZ				S	**Sn**	**12 19 32.1**	**-1.7**
PRWZ	**Pori Road**	**2.99**	**71**	P	**Pn**	**12 18 59.3**	**-0.2**
VRZ	**Vera Road**	**3.12**	**39**	P	**Pn**	**12 19 02.2**	**+1.0**
BFZ	**Birch Farm**	**3.15**	**74**	P	**Pn**	**12 19 01.4**	**-0.2**
BFZ	**Birch Farm**	**3.15**	**74**	S	**Sn**	**12 19 39.4**	**+0.2**
BFZ	**Birch Farm**	**3.15**	**74**	P	**Pn**	**12 19 00.6**	**-1.0**
LBZ	**Lake Benmore**	**3.17**	**208**	P	**Pn**	**12 19 02.6**	**+0.7**
TSZ	**Takapari Road**	**3.20**	**63**	P	**Pn**	**12 19 03.6**	**+1.3**
DVHZ	**Dannevirke**	**3.23**	**68**	P	**Pn**	**12 19 02.9**	**+0.1**
PKVZ	**Pokaka**	**3.30**	**47**	P	**Pn**	**12 19 04.5**	**+0.8**
TRVZ	**Turoa**	**3.40**	**49**	P	**Pn**	**12 19 06.8**	**+1.5**
WNVZ	**Wahianoa**	**3.41**	**49**	P	**Pn**	**12 19 07.0**	**+1.6**
PNHZ	**Pukenui**	**3.43**	**62**	P	**Pn**	**12 19 05.0**	**-0.5**
FWVZ	**Far West T-bar**	**3.44**	**48**	P	**Pn**	**12 19 07.4**	**+1.6**
MOVZ	**Moawhango**	**3.45**	**52**	P	**Pn**	**12 19 06.6**	**+0.8**
COVZ	**Chateau Observ**	**3.47**	**47**	P	**Pn**	**12 19 09.0**	**+3.0**
TUVZ	**Tukino**	**3.48**	**49**	P	**Pn**	**12 19 08.4**	**+2.0**
NGZ	**Ngauruhoe**	**3.52**	**48**	P	**Pn**	**12 19 08.3**	**+1.5**
SNVZ	**South Ngauruho**	**3.53**	**48**	P	**Pn**	**12 19 08.7**	**+1.7**
WTVZ	**West Tongariro**	**3.55**	**47**	P	**Pn**	**12 19 08.8**	**+1.5**
JCZ	**Jackson Bay**	**3.56**	**225**	P	**Pn**	**12 19 07.8**	**+0.5**
JCZ	**Jackson Bay**	**3.56**	**225**	P	**Pn**	**12 19 06.4**	**-0.9**
NNVZ	**North Ngauruho**	**3.56**	**47**	P	**Pn**	**12 19 08.8**	**+1.5**
OTVZ	**Oturere**	**3.56**	**48**	P	**Pn**	**12 19 08.4**	**+1.0**
PRHZ	**Porangahau**	**3.57**	**70**	P	**Pn**	**12 19 06.5**	**-0.9**
ETVZ	**East Tongariro**	**3.61**	**48**	P	**Pn**	**12 19 09.8**	**+1.8**
TMVZ	**Te Maari**	**3.62**	**48**	P	**Pn**	**12 19 09.9**	**+1.7**
ODZ	**Otahua Downs**	**3.64**	**198**	P	**Pn**	**12 19 07.8**	**-0.5**
ODZ	**Otahua Downs**	**3.64**	**198**	P	**Pn**	**12 19 07.5**	**-0.8**
HIZ	**Hauiti**	**3.67**	**34**	P	**Pn**	**12 19 08.6**	**-0.2**
HIZ	**Hauiti**	**3.67**	**34**	P	**Pn**	**12 19 08.5**	**-0.2**
KAHZ	**Kahuranaki**	**3.95**	**64**	P	**Pn**	**12 19 12.7**	**+0.1**
BKZ	**Black Stump Fm**	**4.04**	**54**	P	**Pn**	**12 19 14.5**	**+0.6**
TLZ	**Tolley Road**	**4.12**	**39**	P	**Pn**	**12 19 15.7**	**+0.7**
MSZ	**Milford Sound**	**4.42**	**224**	P	**Pn**	**12 19 19.1**	**+0.2**
TOZ	**Tahuroa Road**	**4.60**	**34**	P	**Pn**	**12 19 21.7**	**+0.2**
TUZ	**Tuapeka**	**4.75**	**203**	P	**Pn**	**12 19 24.4**	**+0.8**
WTAZ	**Waiatarua**	**4.99**	**22**	P	**Pn**	**12 19 27.5**	**+0.5**
RVAZ	**Riverhead Bore**	**5.15**	**21**	P	**Pn**	**12 19 29.3**	**+0.3**
WHZ	**Wether Hill Ro**	**5.31**	**215**	P	**Pn**	**12 19 33.3**	**+2.1**
WCZ	**Waipu Caves**	**5.88**	**17**	P	**Pn**	**12 19 39.2**	**+0.1**
OUZ	**Omahuta**	**6.46**	**10**	P	**Pn**	**12 19 46.9**	**-0.1**

*IDC **22** 12:28:11.9±0.9, 51°45N×178°24W, h0km, mb3.9/24, mbtmp4.0/26, ML3.9/1, MS3.3/4, Error ellipse: s-maj=27.8km s-min=13.0km az=175.0*
*MOS **22** 12:28:14.9±1.2, 51°25N×178°01W, h42km, mb4.6/8, Error ellipse: s-maj=15.1km s-min=9.4km az=103.5*
*NEIC **22** 12:28:17.9±1.8, 51°25N±0°08×178°15W±0°07, h53km±8km, ML3.6(AEIC), Error ellipse: s-maj=12.2km s-min=5.9km az=173.0*
*AEIC **22** 12:28:18.0±1.2, 51°28N±0°07×178°12W±0°06, h44km±6km, Error ellipse: s-maj=10.6km s-min=5.3km az=184.0*

ISC 22 12:28:17.7±0.6, 51°26N±0°09×178°09W±0°04, h45km, n69, σ1°39/67, mb4.2/31, MS3.7/5, 6C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.58**	**3**		**Pn**	**12 28 30.3**	**+0.6**
TAFP	**Tanaga Falls P**	**0.65**	**6**		**Pn**	**12 28 30.9**	**+0.4**
TAFP					**Sn**	**12 28 41.5**	**+1.7**
GALAA	**Gareloi Lava P**	**0.66**	**320**		**Pn**	**12 28 31.1**	**+0.3**
GANO	**Gareloi North**	**0.72**	**322**		**Pn**	**12 28 31.6**	**+0.1**
KIWB	**Kanaga Island**	**0.83**	**44**		**Sn**	**12 28 46.7**	**+2.5**
KIWB	**Kanaga Island**	**0.83**	**44**		**Pn**	**12 28 33.2**	**+0.1**
KICM	**Kanaga Island**	**0.86**	**40**		**Pn**	**12 28 34.1**	**+0.7**
KICM					**Sn**	**12 28 48.3**	**+3.4**
KIRH	**Kanaga Island**	**0.89**	**44**		**Pn**	**12 28 34.1**	**+0.3**
GSCK	**Great Sitkin C**	**1.42**	**57**		**Pn**	**12 28 41.9**	**+1.0**
GSTR	**Great Sitkin T**	**1.52**	**56**		**Pn**	**12 28 43.3**	**+1.0**
ATKA	**Atka Island**	**2.60**	**67**		**Sn**	**12 29 30.3**	**+2.9**
ATKA	**Atka Island**	**2.60**	**67**		**Pn**	**12 28 58.4**	**+1.3**
SHEM	**Shemya Is, Ala**	**5.05**	**290**	Pn	**Pn**	**12 29 31.1**	**+0.4**
	8.5nm,0.3s,baz=147,slow=5.6,SNR=8.4						
SHEM				LR	LR	12 30 25.2	
	comp=Z,74nm,20.5s,baz=153,slow=27						
SHEM				Sn	**Sn**	**12 30 33.3**	**+5.6**
	4.5nm,0.3s,baz=78,slow=22,SNR=1.7						
K15K	**Wolf Creek Mou**	**14.25**	**33**		**P**	**12 31 40.4**	**-2.4**
PETK	**Petropavlovsk-**	**14.95**	**287**	Pn	**Pn**	**12 31 46.3**	**+0.5**
	0.1nm,0.3s,baz=286,slow=42,SNR=1.9						
O18K	**Koktuh Hills**	**15.47**	**47**		**P**	**12 31 55.4**	**-1.0**
L18K	**Granite Mounta**	**15.98**	**38**		**P**	**12 32 02.3**	**+0.3**
KDAK	**Kodiak Island**	**16.12**	**56**	Pn	**Pn**	**12 31 57.8**	**-3.0**
	0.4nm,0.3s,baz=12,slow=1.1,SNR=18 6.6nm,1.0s						
BILL	**Bilibino**	**18.49**	**341**	*ce*P	**Pn**	**12 32 31.9**	**+1.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SEY	**Seymchan**	**19.64**	**318**	P	**P**	**12 32 40.5**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=107,slow=10,SNR=3.7						
COLA	**College**	**20.73**	**37**	*i* P	**P**	**12 32 54.7**	**+0.7**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ILAR	**Eielson Array**	**21.06**	**38**	P	**P**	**12 32 56.7**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=220,slow=14,SNR=12 comp=Z,0.7nm,0.8s						
TYV	**Tymovskoe**	**24.48**	**285**	*e*P	**P**	**12 33 33.8**	**+1.6**
TYV				pmax	pmax		
	comp=Z,12nm,0.8s						
TYV				pmax	pmax		
	comp=Z,100nm,2.7s						
YSS	**Yuzhno-Sakhali**	**25.78**	**276**	*e*P	**P**	**12 33 42.8**	**-1.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				MLR	MLR		
	comp=Z,200nm,19.0s						
INK	**Inuvik**	**27.30**	**35**	P	**P**	**12 33 57.2**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=298,slow=6.0,SNR=5.3 comp=Z,1.0nm,0.7s						
KLR	**Kul'dur**	**31.64**	**286**	*ce*P	**P**	**12 34 36.0**	**-0.2**
KLR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZEA	**Zeya**	**32.68**	**296**	*e*P	**P**	**12 34 44.6**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**33.61**	**206**	T	T	13 10 44.3	
	baz=17,slow=76,SNR=32						
H11N3	**WAKE ISLAND Hy**	**33.62**	**206**	T	T	13 10 49.0	
	baz=17,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy**	**33.63**	**206**	T	T	13 10 42.5	
	baz=17,slow=76,SNR=16						
MJAR	**Matsushiro Arr**	**34.21**	**262**	P	**P**	**12 34 57.9**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=55,slow=12,SNR=2.2 comp=Z,1.0nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**34.83**	**206**	T	T	13 12 12.4	
	baz=17,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**34.85**	**206**	T	T	13 12 20.5	
	baz=17,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**34.85**	**206**	T	T	13 12 22.8	
	baz=17,slow=76,SNR=23						
YKA	**Yellowknife Ar**	**34.99**	**46**	P	**P**	**12 35 03.7**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=286,slow=8.7,SNR=7.9						
YKA				PcP	**PcP**	**12 37 37.0**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=300,slow=3.0,SNR=3.8 comp=Z,0.7nm,0.8s						
YBH	**Yreka Blue Hor**	**38.45**	**82**	LR	LR	12 47 52.6	
	comp=Z,86nm,21.4s,baz=260,slow=31						
KSRS	**Korea Array**	**40.09**	**271**	P	**P**	**12 35 48.5**	**0.0**
	comp=Z,1.1nm,0.7s,baz=52,slow=7.9,SNR=7.8						
KSRS				LR	LR	12 49 46.9	
	comp=Z,24nm,21.4s,baz=145,slow=32 comp=Z,1.1nm,0.7s						
NVAR	**Mina Array Bea**	**43.12**	**83**	P	**P**	**12 36 15.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=309,slow=8.2,SNR=2.7 comp=Z,0.1nm,0.3s						
PDAR	**Pinedale Array**	**45.92**	**73**	P	**P**	**12 36 37.0**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=310,slow=3.7,SNR=27 comp=Z,2.3nm,0.7s						
ULN	**Ulaanbaatar**	**46.71**	**297**	*ce*P	**P**	**12 36 42.7**	**+0.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**47.10**	**297**	P	**P**	**12 36 44.2**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=56,slow=10,SNR=11 comp=Z,1.6nm,0.6s						
SPITS	**Spitsbergen Ar**	**50.53**	**356**	P	**P**	**12 37 09.4**	**-1.3**
	comp=Z,4.8nm,0.8s,baz=50,slow=5.5,SNR=5.5 comp=Z,4.8nm,0.8s						
ZALV	**Zalesovo Beam**	**54.44**	**314**	P	**P**	**12 37 38.5**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=93,slow=5.9,SNR=2.1						
ZALV				PcP	**PcP**	**12 38 43.8**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=44,slow=3.5,SNR=11 comp=Z,0.4nm,0.3s						
TXAR	**Lajitas Array**	**58.23**	**82**	P	**P**	**12 38 07.9**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=290,slow=3.2,SNR=7.2 comp=Z,0.2nm,0.7s						
KURK	**Kurchatov**	**59.43**	**314**	P	**P**	**12 38 14.4**	**-0.9**
KURK						12 39 03.9	
KURBB	**Kurchatov Arra**	**59.53**	**314**	P	**P**	**12 38 14.4**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=43,slow=6.8,SNR=9.5						
KURBB				PcP	**PcP**	**12 39 03.9**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=46,slow=4.2,SNR=5.0 comp=Z,0.7nm,0.6s						
MK31	**Makanchi Array**	**60.46**	**309**	*ce*P	**P**	**12 38 23.1**	**+0.6**
MKAR	**Makanchi Array**	**60.46**	**309**	P	**P**	**12 38 20.9**	**-1.6**
	comp=Z,1.4nm,0.7s,baz=53,slow=6.3,SNR=12						
MKAR				PcP	**PcP**	**12 39 07.0**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=47,slow=5.3,SNR=3.7 comp=Z,1.4nm,0.7s						
BVAR	**Borovoye Array**	**61.27**	**320**	P	**P**	**12 38 27.9**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=46,slow=5.9,SNR=8.7 comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**61.27**	**320**	P	**P**	**12 38 28.0**	**+0.1**
BRVK	**Borovoye**	**61.29**	**320**	*i* P	**P**	**12 38 27.9**	**0.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARTI	**Arti**	**63.03**	**329**	P	**P**	**12 38 38.5**	**-1.1**
	comp=Z,2.2nm,0.5s,baz=231,slow=4.3,SNR=4.3 comp=Z,2.2nm,0.5s						
FINES	**FINESS Array B**	**66.00**	**348**	P	**P**	**12 38 57.6**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=35,slow=7.0,SNR=4.3 comp=Z,1.6nm,0.8s						
FINES	**FINESS Array B**	**66.00**	**348**	*i* P	**P**	**12 38 57.5**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**67.81**	**355**	P	**P**	**12 39 10.6**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=358,slow=9.8,SNR=3.4 comp=Z,0.5nm,0.7s						
AKTO	**Aktyubinsk**	**68.04**	**325**	P	**P**	**12 39 11.2**	**-0.8**
	comp=Z,3.8nm,0.7s,baz=65,slow=5.7,SNR=10						
AKTO				LR	LR	13 12 07.5	
	comp=Z,83nm,18.6s,baz=345,slow=39 comp=Z,3.8nm,0.7s						
HFS	**Hagfors**	**68.56**	**354**	P	**P**	**12 39 14.5**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=9.6,slow=9.8,SNR=4.3 comp=Z,1.8nm,0.8s						
OBN	**Obninsk**	**70.14**	**340**	*eP*	**P**	**12 39 25.5**	**+0.6**
OBN				*e*		12 39 33.0	
OBN				*SP	**sP**	**12 39 44.0**	**+1.6**
OBN						12 39 46.0	
OBN				*e*SSS	SSS	12 56 13.0	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
OBN							
	comp=Z,96nm,19.0s			MLR	MLR		
CMAR	**Chiang Mai Arr**	**71.47**	**277**	P	**P**	**12 39 33.5**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=30,slow=6.1,SNR=5.6 comp=Z,0.6nm,0.6s						
AKASG	**Malin Array Be**	**75.80**	**342**	P	**P**	**12 39 58.7**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=19,slow=6.1,SNR=7.1 comp=Z,2.0nm,0.6s						
AKBB	**Malin Array Si**	**75.80**	**342**	*ce*P	**P**	**12 39 58.2**	**-0.2**
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KBZ	**Khabaz**	**78.93**	**331**	P	**P**	**12 40 16.9**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=58,slow=1.2,SNR=7.7 comp=Z,2.3nm,0.7s						
KBZ	**Khabaz**	**78.93**	**331**	P	**P**	**12 40 17.0**	**+0.9**
BRTR	**Keskin Array B**	**85.24**	**336**	P	**P**	**12 40 49.6**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=67,slow=1.8,SNR=13 comp=Z,2.9nm,0.8s						
ESDC	**Sonseca Array**	**89.30**	**5**	P	**P**	**12 41 08.1**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=335,slow=3.6,SNR=5.8 comp=Z,0.7nm,0.6s						
H03N2	**Juan Fernandez**	**120.68**	**106**	T	T	14 59 08.6	
	baz=323,SNR=3.3						
H03N1	**Juan Fernandez**	**120.69**	**106**	T	T	14 59 09.8	
	baz=323,slow=74,SNR=4.4						
H03N3	**Juan Fernandez**	**120.70**	**106**	T	T	14 59 03.8	
	baz=323,slow=74,SNR=3.9						
BOSA	**Boshof**	**151.39**	**313**	PKPbc	**PKPbc**	**12 48 06.4**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=123,slow=2.3,SNR=7.5						

*NOU **22** 12:30:30.6, 17°39S×178°54W, h551km, mb4.9/83, Fiji Islands Region*
*NEIC **22** 12:30:31.4±1.6, 17°5S±0°1×178°8W±0°1, h531km±8km, mb4.9/29, Error ellipse: s-maj=18.7km s-min=18.0km az=118.0*
*IDC **22** 12:30:32.4±0.6, 17°33S×178°84W, h552km±6km, mb3.6/17, mbtmp4.5/19, Error ellipse: s-maj=14.6km s-min=10.7km az=138.0*
*GCMT **22** 12:30:33.4±0.6, 17°15S±0°07×178°46W±0°07, h555km±3km, MWS4.49, Moment Tensor Solution. s49,c55; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.73±.08; $M_{\theta\theta}$0.70±.12; $M_{\phi\phi}$0.02±.12; $M_{r\theta}$0.33±.14; $M_{\theta\phi}$1.31±.15; $M_{r\phi}$0.03±.14; Best double couple: $M_0$1.41600×10^{17} NP1:ϕ_s10.00000°, δ65.00000°, λ-164.00000°. NP2:ϕ_s273.00000°, δ75.00000°, λ-25.00000°. Principal axes: T 1.7480, Plg6.0000°, Azm323.0000°; N -0.6640, Plg61.0000°, Azm64.0000°; P -1.0840, Plg28.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 22 12:30:31.5±0.3, 17°44S±0°06×178°66W±0°05, h550km, n305, σ1°27/311, mb4.9/61, 1C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGTI	**Dogotuki**	**1.91**	**306**	P	**P**	**12 31 40.2**	**-0.7**
DGTI	**Dogotuki**	**1.91**	**306**	S	**S**	**12 32 37.1**	**-0.1**
FUTU	**Fugatoga**	**3.16**	**9**		**P**	**12 31 47.0**	**-0.6**
FUTU	**Fugatoga**	**3.16**	**9**	P	**P**	**12 31 46.7**	**-0.9**
MSVF	**Nonsavu**	**3.16**	**264**	P	**P**	**12 31 48.0**	**+0.4**
	101nm,0.5s,baz=80,slow=4.7,SNR=54						
MSVF				S	**S**	**12 32 51.7**	**+2.2**
	59nm,0.8s,baz=308,slow=23,SNR=21						
MSVF	**Nonsavu**	**3.16**	**264**	P	**P**	**12 31 48.4**	**+0.8**
MSVF	**Nonsavu**	**3.16**	**264**	S	**S**	**12 32 51.0**	**+1.4**
AFI	**Afiamalu**	**7.50**	**63**		**P**	**12 32 21.4**	**-3.0**
AFI	**Afiamalu**	**7.50**	**63**	P	**P**	**12 32 22.0**	**-2.4**
AFI	**Afiamalu**	**7.50**	**63**	S	**S**	**12 33 54.1**	**-2.8**
NIUE	**Niue**	**8.

TBI	Tubuai	27.96 107	*e*S	S	12 39 46.4	+2.3
	comp=Z,462nm,26.2s					
TBI			*es*S	sS	12 42 25.6	-6.2
	comp=Z,560nm,27.0s					
TMZ	Timaru	28.24 196	P	P	12 35 38.8	-1.7
LBZ	Lake Benmore	28.46 197	P	P	12 35 40.3	-2.1
JCZ	Jackson Bay	28.59 199	P	P	12 35 43.2	-0.5
JCZ	Jackson Bay	28.59 199	S	S	12 39 53.4	-0.2
JCZ	Jackson Bay	28.59 199	P	P	12 35 43.1	-0.6
ODZ	Otahua Downs	28.95 196	P	P	12 35 46.6	0.0
ODZ	Otahua Downs	28.95 196	P	P	12 35 45.1	-1.5
WKZ	Wanaka	29.20 198	P	P	12 35 47.5	-1.4
EIDS	Eidsvold	29.21 249	P	P	12 35 48.5	-0.7
EIDS	Eidsvold	29.21 249	P	P	12 35 48.6	-0.7
	comp=Z,48nm,1.0s					
EIDS	Eidsvold	29.21 249	P	P	12 35 48.7	-0.5
MSZ	Milford Sound	29.40 200	P	P	12 35 51.0	+0.5
RK1H	Rockhampton Ha	29.48 253	P	P	12 35 51.4	-0.1
EAZ	Earnscleugh	29.48 197	P	P	12 35 50.5	-0.8
MLZ	Mavora Lakes	29.96 199		P	12 35 55.5	+0.1
MLZ	Mavora Lakes	29.96 199	P	P	12 35 55.5	+0.1
ARMA	Armidale	29.98 239		P	12 35 56.0	+0.1
ARMA			IAmb	IAmb	12 35 57.5	
	comp=Z,53nm,0.8s					
ARMA	Armidale	29.98 239	P	P	12 35 56.1	+0.3
	comp=Z,74nm,0.6s					
ARMA	Armidale	29.98 239	P	P	12 35 56.2	+0.3
TUZ	Tuapeka	30.06 196	P	P	12 35 56.1	-0.1
DCZ	Deep Cove	30.36 200	IAmb	IAmb	12 36 02.6	
	comp=Z,26nm,0.7s					
WHZ	Wether Hill Ro	30.49 199		P	12 36 00.0	+0.1
WHZ	Wether Hill Ro	30.49 199	P	P	12 35 59.8	-0.1
SYZ	Scrubby Hill	30.73 197	P	P	12 36 01.7	-0.2
SYZ	Scrubby Hill	30.73 197	P	P	12 36 01.7	-0.2
NTLH	Newcastle Hard	30.79 234	P	P	12 36 02.9	+0.2
APZ	The Paps	31.32 198	P	P	12 36 07.0	-0.2
MGCD	Mangrove Creek	31.37 234	P	P	12 36 07.5	-0.2
	comp=Z,142nm,0.7s					
MGCD	Mangrove Creek	31.37 234	P	P	12 36 08.2	+0.5
RABL	Rabaul	31.47 291		P	12 36 08.9	0.0
RABL			IAmb	IAmb	12 36 21.2	
	comp=Z,19nm,0.5s					
SYDH	Sydney Hard Ro	31.87 233	P	P	12 36 12.1	+0.2
TV1H	Townsville Har	32.81 261	P	P	12 36 19.5	-0.6
CNB	Canberra Magne	33.53 232	P	P	12 36 26.4	+0.4
	comp=Z,147nm,0.8s					
CNB	Canberra Magne	33.53 232	P	P	12 36 26.5	+0.4
CAN	Canberra	33.80 232		P	12 36 28.2	-0.2
CAN	Canberra	33.80 232	P	P	12 36 28.6	+0.2
	comp=Z,61nm,0.9s					
CAN	Canberra	33.80 232	P	P	12 36 28.7	+0.3
CAN	Canberra	33.80 232	P	P	12 36 28.1	-0.2
PMG	Port Moresby	34.15 279	P	P	12 36 31.4	0.0
	comp=Z,40nm,0.8s,baz=63,slow=4.5,SNR=8.5					
	comp=Z,40nm,0.8s					
PMG	Port Moresby	34.15 279	P	P	12 36 31.7	+0.2
PMG	Port Moresby	34.15 279	P	P	12 36 31.5	0.0
PMG	Port Moresby	34.15 279	P	P	12 36 32.3	+0.8
MILA	Mila	34.41 229	P	P	12 36 33.7	+0.3
	comp=Z,23nm,1.5s					
CMSA	Cobar Meteorol	35.18 240	P	P	12 36 39.3	-0.5
	comp=Z,84nm,0.8s					
CMSA	Cobar Meteorol	35.18 240	P	P	12 36 39.8	0.0
MTSU	Mount Surprise	35.23 263	P	P	12 36 39.7	-0.8
	comp=Z,20nm,0.7s					
QLP	Quilpie	35.48 249	P	P	12 36 41.5	-1.0
	comp=Z,149nm,0.9s					
QLP	Quilpie	35.48 249	P	P	12 36 42.1	-0.3
MANU	Manus Island	36.71 291		P	12 36 52.4	-0.4
COEN	Coen	36.87 270		P	12 36 53.5	-0.5
COEN			IAmb	IAmb	12 36 55.2	
	comp=Z,40nm,0.8s					
COEN	Coen	36.87 270	P	P	12 36 53.6	-0.4
	comp=Z,63nm,0.8s					
COEN	Coen	36.87 270	P	P	12 36 54.0	0.0
GLAD	Gladstone	37.02 224	P	P	12 36 55.0	+0.1
TOO	Toolangi	37.28 230		P	12 36 57.2	0.0
TOO			IAmb	IAmb	12 36 59.0	
	comp=Z,32nm,0.8s					
TOO	Toolangi	37.28 230	P	P	12 36 57.3	+0.2
	comp=Z,46nm,1.0s					
CORO	Coronation Par	37.82 224	P	P	12 37 01.8	+0.4
MOO	Moorlands	38.28 222	P	P	12 37 05.4	+0.3
	comp=Z,113nm,1.1s					
MOO	Moorlands	38.28 222	P	P	12 37 05.2	+0.1
TAU	Tasmania Unive	38.43 221		P	12 37 06.4	0.0
TAU			IAmb	IAmb	12 37 07.9	
	comp=Z,64nm,1.1s					
TAU	Tasmania Unive	38.43 221	P	P	12 37 06.6	+0.3
TAU	Tasmania Unive	38.43 221	P	P	12 37 06.3	0.0
STKA	Stephens Creek	38.65 241		P	12 37 08.4	+0.1
STKA	Stephens Creek	38.65 241	P	P	12 37 08.6	+0.3
	comp=Z,294nm,1.0s					
STKA	Stephens Creek	38.65 241	P	P	12 37 08.5	+0.1
	comp=Z,28nm,0.5s,baz=91,slow=9.6,SNR=96					
	comp=Z,28nm,0.5s					
STKA	Stephens Creek	38.65 241	P	P	12 37 08.5	+0.1
INKA	Innaminka	38.71 247	P	P	12 37 09.1	+0.3
QIS	Mount Isa	39.51 259	P	P	12 37 14.0	-1.4
	comp=Z,14nm,0.8s					
QIS	Mount Isa	39.51 259	P	P	12 37 14.9	-0.6
ARPS	Mount Arapiles	39.74 233	P	P	12 37 16.3	-0.7
	comp=Z,70nm,0.8s					
ARPS	Mount Arapiles	39.74 233	P	P	12 37 16.9	-0.1
HTT	Hallett	41.18 239	P	P	12 37 28.6	0.0
	comp=Z,23nm,0.9s					
HTT	Hallett	41.18 239	P	P	12 37 28.8	+0.2
LCRK	Leigh Creek	41.25 244	P	P	12 37 28.9	-0.2
JAY	Jayapura	42.55 286	P	P	12 37 38.7	-1.0
	comp=Z,12nm,0.6s,baz=136,slow=4.6,SNR=7.9					
	comp=Z,12nm,0.6s					
GENI	Genyem	43.02 285	P	P	12 37 44.1	+0.9
	comp=Z,2μmcomp=Z,93nm,0.8s					
OOD	Oodnadatta	43.17 248	P	P	12 37 44.5	+0.2
BBOO	Buckleboo	43.43 241		P	12 37 45.9	-0.3
BBOO	Buckleboo	43.43 241	P	P	12 37 45.6	-0.6
BBOO	Buckleboo	43.43 241	P	P	12 37 45.9	-0.3
WR8	Warramunga Arr	44.34 259		P	12 37 52.0	-1.4
WR8			IAmb	IAmb	12 37 53.4	
	comp=Z,21nm,0.7s					
WB0	Warramunga Arr	44.45 259	IAmb	IAmb	12 37 54.3	
	comp=Z,34nm,0.9s					
WB2	Warramunga Arr	44.48 259	P	P	12 37 53.0	-1.5
WRAB	Tennant Creek	44.48 259	P	P	12 37 52.7	-1.8
WRAB			IAmb	IAmb	12 37 54.5	
	comp=Z,24nm,0.7s					
WRA	Warramunga Arr	44.49 259	P	P	12 37 52.1	-2.5
WRA	Warramunga Arr	44.49 259	P	P	12 37 53.0	-1.6
	comp=Z,21nm,0.6s,baz=96,slow=7.2,SNR=118					
WRA			S	S	12 43 44.3	-6.0
	comp=Z,1.7nm,0.7s,baz=91,slow=14,SNR=8.1					
	comp=Z,21nm,0.6s					
SMPI	Sarmi	44.59 285	P	P	12 37 55.9	+0.5
	comp=Z,3μmcomp=Z,32nm,0.9s					
AS01	Alice Springs	44.65 254	P	P	12 37 55.3	-0.5
AS31	Alice Springs	44.69 254	P	P	12 37 55.3	-0.8
	comp=Z,72nm,0.6s					
ASAR	Alice Springs	44.69 254	P	P	12 37 55.4	-0.8
	comp=Z,133nm,0.5s,baz=90,slow=7.8,SNR=4164					
ASAR			S	S	12 43 48.6	-4.5
	comp=Z,6.5nm,0.8s,baz=89,slow=16,SNR=27					
KDU	Kakadu	47.33 269	P	P	12 38 15.5	-0.6
	comp=Z,37nm,0.6s					
KDU	Kakadu	47.33 269	P	P	12 38 15.6	-0.6
MTN	Manton Dam	48.58 268	P	P	12 38 24.6	-0.9
	comp=Z,31nm,1.0s					
MTN	Manton Dam	48.58 268	P	P	12 38 24.7	-0.8
DRS	Darwin Rock St	48.89 269	P	P	12 38 27.4	-0.4
WRKA	Warakurna	49.77 252	P	P	12 38 33.8	-0.5
	comp=Z,194nm,0.6s					
WRKA	Warakurna	49.77 252	P	P	12 38 33.7	-0.5
FORT	Forrest	50.00 244	P	P	12 38 34.8	-1.0
	comp=Z,145nm,0.7s					
FORT	Forrest	50.00 244	P	P	12 38 34.9	-0.9
FAKI	Fak Fak	50.26 281	P	P	12 38 37.6	-0.3
FAKI	Fak Fak	50.26 281	P	P	12 38 37.8	-0.1
	comp=Z,22nm,1.6s					
KNRA	Kununurra	50.30 264	IAmb	IAmb	12 38 38.7	
	comp=Z,95nm,1.4s					
KNRA	Kununurra	50.30 264	P	P	12 38 37.5	-0.7
	comp=Z,59nm,0.9s					
SWI	Sorong	51.91 283	P	P	12 38 49.9	0.0
KMBL	Kambalda	55.31 244	P	P	12 39 12.8	-0.9
SOEI	Soe	55.84 270	IAmb	IAmb	12 39 20.1	
	comp=Z,106nm,1.1s					
SOEI	Soe	55.84 270	P	P	12 39 18.6	+0.9
SOEI	Soe	55.84 270	P	P	12 39 18.6	+0.9
DRV	Dumont d'Urvil	56.03 198	P	P	12 39 18.6	+0.6
SANI	Sanana	56.43 279	P	P	12 39 21.7	0.0
	comp=Z,25nm,0.9s					
PSA00	Pilbara Seismi	57.80 255	P	P	12 39 30.1	-0.9
MBWA	Marble Bar	57.96 256		P	12 39 31.3	-0.7
MBWA	Marble Bar	57.96 256	P	P	12 39 31.5	-0.6
MBWA	Marble Bar	57.96 256	P	P	12 39 31.2	-0.9
MEEK	Meekatharra	58.38 249	P	P	12 39 34.3	-0.6
KLBR	Kellerberrin	58.83 243	P	P	12 39 36.9	-0.9
NWAO	Narrogin (SRO)	59.22 242	P	P	12 39 40.5	+0.1
NWAO	Narrogin (SRO)	59.22 242	P	P	12 39 39.7	-0.7
BLDU	Ballidu	59.77 244	P	P	12 39 43.4	-0.7
MUN	Mundaring	60.13 243	P	P	12 39 46.6	+0.2
MORW	Morawa	60.45 246		P	12 39 47.9	-0.7
MORW			IAmb	IAmb	12 39 49.1	
	comp=Z,55nm,1.6s					
MORW	Morawa	60.45 246	P	P	12 39 47.9	-0.7
SBA	Scott Base	60.87 184		P	12 39 52.3	+1.9
SBA	Scott Base	60.87 184	P	P	12 39 53.1	+2.7
VNDA	Vanda	60.89 185		P	12 39 52.2	+1.6
VNDA	Vanda	60.89 185	P	P	12 39 52.2	+1.6
	comp=Z,2.5nm,0.7s,baz=1.9,slow=8.5,SNR=19					
	comp=Z,2.5nm,0.7s					
VNDA	Vanda	60.89 185	P	P	12 39 52.0	+1.5
PLAI	Plampang	62.27 269	P	P	12 40 01.2	+0.5
TOLI2	Tolitoli	62.40 281	P	P	12 40 01.3	-0.2
GIRL	Giralia	62.80 253	P	P	12 40 05.1	+1.1
CCD	Concordia, Ant	65.27 194	P	P	12 40 19.9	+0.7
CCD			PcP	PcP	12 40 46.4	+0.3
JAGI	Jajag, Banyuwa	65.82 268	P	P	12 40 22.5	-0.8
CASY	Casey	66.46 205	P	P	12 40 26.4	+0.1
MJAR	Matsushiro Arr	67.39 323	P	P	12 40 32.3	-0.2
	comp=Z,0.9nm,0.6s,baz=169,slow=5.2,SNR=4.1					
	comp=Z,0.9nm,0.6s					
UGM	Wanagama	69.43 268	P	P	12 40 44.5	-0.8
KSM	Kuching	72.39 277		P	12 41 02.6	-0.1
KSM			IAmb	IAmb	12 41 04.6	
	comp=Z,36nm,1.2s					
QSPA	South Pole Qui	72.61 180	P	P	12 41 04.6	+1.3
QSPA			IAmb	IAmb	12 41 06.0	
	comp=Z,46nm,1.4s					
QSPA	South Pole Qui	72.61 180	P	P	12 41 04.5	+1.3
	comp=Z,12nm,0.5s,baz=257,slow=0.5,SNR=264					
	comp=Z,12nm,0.5s					
PETK	Petropavlovsk-	73.17 345	P	P	12 41 05.3	-1.0
	comp=Z,1.9nm,0.8s,baz=172,slow=7.1,SNR=1.7					
	comp=Z,1.9nm,0.8s					
NJ2	Nanjing	77.46 310	*e*P	P	12 41 34.1	+3.5
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.5s					
NVAR	Mina Array Bea	79.25 44	P	P	12 41 42.5	+2.1
	comp=Z,0.7nm,0.8s,baz=225,slow=9.4,SNR=3.8					
NVAR			pP	pwP	12 43 39.2	-0.6
	comp=Z,2.0nm,0.9s,baz=222,slow=8.5,SNR=8.0					
	comp=Z,0.7nm,0.8s					
BELA	Belgrano 2	82.66 173	IAmb	IAmb	12 41 58.2	
	comp=Z,14nm,0.5s					
SEY	Seymchan	83.27 347	P	P	12 41 59.9	-0.3
	comp=Z,1.7nm,0.3s,baz=136,slow=8.2,SNR=5.6					
	comp=Z,1.7nm,0.3s					
MAW	Mawson	84.22 200		P	12 42 06.0	+1.1
MAW	Mawson	84.22 200	P	P	12 42 05.2	+0.3
	comp=Z,13nm,0.6s,baz=145,slow=4.5,SNR=40					
	comp=Z,13nm,0.6s					
XLT	XiLinHaoTe	85.24 319	*e*P	P	12 42 12.3	+1.9
XLT			pP	pwP	12 44 11.4	-0.6
XLT			pmax	pmax		
	comp=Z,9.0nm,1.0s					
XLT			pmax	pmax		
	comp=Z,95nm,4.7s					
ILAR	Eielson Array	85.49 13	P	P	12 42 10.6	-0.4
	comp=Z,0.3nm,0.5s,baz=227,slow=5.4,SNR=12					
ILAR			pP	pP	12 44 10.9	+1.1
	comp=Z,1.8nm,1.1s,baz=224,slow=8.2,SNR=2.8					
	comp=Z,0.3nm,0.5s					
XAN	Xi'an	85.79 307	⇑P	P	12 42 14.8	+1.6
XAN			S	S	12 52 01.3	+0.6
XAN			pmax	pmax		
	comp=Z,14nm,1.3s					
XAN			pmax	pmax		
	comp=Z,130nm,4.2s					
TXAR	Lajitas Array	85.94 58	P	P	12 42 16.1	+1.9
	comp=Z,0.4nm,0.8s,baz=205,slow=5.5,SNR=5.1					
TXAR			pP	pwP	12 44 15.2	-0.3
	comp=Z,2.9nm,1.2s,baz=212,slow=6.9,SNR=6.5					
	comp=Z,0.4nm,0.8s					
HHC	Hu-ho-hao-te	86.78 315	*e*P	P	12 42 19.9	+2.1
HHC			pmax	pmax		
	comp=Z,15nm,0.8s					
HHC			pmax	pmax		
	comp=Z,100nm,6.6s					
PDAR	Pinedale Array	87.17 44	P	P	12 42 20.7	+0.9
	comp=Z,0.4nm,0.5s,baz=220,slow=3.7,SNR=7.2					
PDAR			pP	pP	12 44 20.2	+1.1
	comp=Z,1.9nm,1.0s,baz=250,slow=2.5,SNR=9.5					
	comp=Z,0.4nm,0.5s					
CMAR	Chiang Mai Arr	88.51 290		P	12 42 27.2	+1.0
CMAR	Chiang Mai Arr	88.51 290	P	P	12 42 26.4	+0.1
	comp=Z,1.7nm,0.9s,baz=102,slow=2.9,SNR=11					
	comp=Z,1.7nm,0.9s					
SYO	Syowa Base	89.56 193⇓	*e*P	P	12 42 31.5	+1.4
ELIB	Princess Elisa	89.59 187	*d*P	P	12 42 30.8	+0.3
	comp=Z,11nm,0.6s					
LZH	Lanzhou	90.42 308	*e*P	P	12 42 36.3	+1.3
LZH			sP	sP	12 45 24.8	-6.1
LZH			pmax	pmax		
	comp=Z,22nm,1.0s					
TROLL	Troll, Antarti	90.77 180	⇓P	P	12 42 36.3	+0.4
	comp=Z,449nm,0.6s					
VNA3	Neumayer Olymp	91.22 176	⇓P	P	12 42 38.7	+0.9
	comp=Z,18nm,0.6s					
INK	Inuvik	91.50 15	P	P	12 42 38.3	-0.6
	comp=Z,0.6nm,0.7s,baz=275,slow=11,SNR=6.9					
	comp=Z,0.6nm,0.7s					
YKA	Yellowknife Ar	94.01 25	P	P	12 42 50.5	-0.1
	comp=Z,0.1nm,0.5s,baz=235,slow=4.7,SNR=5.5					
YKA			pP	pwP	12 44 53.0	-0.4
	comp=Z,0.3nm,1.0s,baz=255,slow=5.6,SNR=3.1					
	comp=Z,0.1nm,0.5s					
MKAR	Makanchi Array	108.64 314	PKiKP	PKiKP	12 47 57.4	-0.7
	comp=Z,0.3nm,0.5s,baz=195,slow=1.0,SNR=6.6					
BVAR	Borovoye Array	116.33 321	PKP	PKPdf	12 48 12.1	-0.5
	comp=Z,0.6nm,0.4s,baz=141,slow=0.9,SNR=3.7					
SPITS	Spitsbergen Ar	118.79 357	PKP	PKPdf	12 48 15.9	-0.8
	comp=Z,9.3nm,1.0s,baz=191,slow=4.1,SNR=5.9					
ARCES	ARCESS Array B	125.81 350	PKP	PKPdf	12 48 30.0	-0.4
	comp=Z,4.4nm,1.0s,baz=20,slow=2.8,SNR=5.4					
FINES	FINESS Array B	132.68 344	PKP	PKPdf	12 48 43.2	-0.4
	comp=Z,1.8nm,0.8s,baz=33,slow=4.5,SNR=6.6					
AKASG	Malin Array Be	140.04 332	PKP	PKiKP	12 48 59.0	-1.1
	comp=Z,0.5nm,0.4s,baz=43,slow=2.8,SNR=4.6					
BNN	Bunyan	143.17 312		PKPdf	12 49 03.2	-0.4
LODK	Lodwar	143.85 251		PKPdf	12 49 05.1	-0.3
BUR08	Bucovina Ar. S	144.08 332		PKPdf	12 49 05.2	+0.3
KOLS	Kolonicke sedl	144.28 336	*e*PKP	PKPab	12 49 05.7	+0.5
BRTR	Keskin Array B	144.29 315		PKPbc	12 49 05.1	-0.2
BRTR	Keskin Array B	144.29 315	PKP	PKPab	12 49 06.0	+0.3
	comp=Z,1.3nm,0.4s,baz=52,slow=1.7,SNR=11					
KSP	Ksiaz	144.60 344	*e*PKP	PKPab	12 49 06.2	-0.1
NIE	Niedzica	144.60 339	*e*PKP	PKPab	12 49 06.8	+0.3
OSTC	Ostas	144.88 343	*e*PKP	PKPab	12 49 08.0	+0.5
CLL	Collm	144.96 347		PKPbc	12 49 06.8	0.0
CLL	Collm	144.96 347	*i* PKPbc	PKPbc	12 49 07.0	+0.2
	comp=Z,17nm,1.3s					
STEB	Steborice	144.99 341	*e*PKP	PKPbc	12 49 07.3	+0.3
DPC	Dobruska-Polom	145.03 343	*e*PKP	PKPbc	12 49 07.7	+0.5
LANS	Liptovska Anna	145.12 339	*e*PKP	PKPab	12 49 08.9	+0.4
BRG	Berggiesshubel	145.16 346	*e*PKP	PKPab	12 49 08.1	-0.4
BRG			Amp		12 49 09.9	
	comp=Z,3.7nm,0.6s					
MORC	Moravsky Berou	145.19 342	*e*PKP	PKPbc	12 49 08.3	+0.6
MMAI	Mount Meron Ar	145.69 303	PKPbc	PKPab	12 49 10.4	-0.9
	comp=Z,3.2nm,0.5s,baz=64,slow=5.7,SNR=7.2					
PRU	Pruhonice	145.83 345	*e*PKP	PKPbc	12 49 09.5	+0.1
VRAC	Vranov	145.89 342	*e*PKP	PKPbc	12 49 10.6	+1.0
VYHS	Vyhne	145.90 339	*e*PKP	PKPab	12 49 10.8	-0.7
VYHS			*e*		13 02 10.7	
JAVC	Velka Javorina	145.96 341	*e*PKP	PKPab	12 49 11.7	-0.1
KRUC	Moravsky	146.17 342	*e*PKP	PKPbc	12 49 10.6	+0.2
MODS	Modra-Piesok	146.52 341	*e*PKP	PKPbc	12 49 12.4	+1.0
SRO	Srobarova	146.66 339	*e*PKP	PKPbc	12 49 11.8	0.0
KHC	Kasperske Hory	146.87 345	*e*PKP	PKPbc	12 49 12.0	-0.3
CKRC	Cesky Krumlov	146.97 344	*e*PKP	PKPbc	12 49 12.8	+0.2
GERES	GERESS Array B	147.10 345	PKPbc	PKPbc	12 49 13.4	+0.3
	comp=Z,1.3nm,0.5s,baz=14,slow=3.5,SNR=12					
CONA	Conrad Observa	147.35 342	*i* PKP	PKiKP	12 49 14.6	-0.7
	SNR=9.9					
CONA	Conrad Observa	147.35 342	*i* PKP	PKPbc	12 49 14.3	+0.6
	comp=Z,2.2nm,0.5s					
RONA	Rosalia, Austr	147.42 341	*i* PKP	PKPbc	12 49 14.3	+0.5
	comp=Z,2.5nm,0.6s					
MOA	Molln	147.87 344	*i* PKP	PKPbc	12 49 15.2	+0.2
	comp=Z,1.3nm,0.5s					
ARSA	Arzberg	148.06 342	*i* PKP	PKPbc	12 49 16.2	+0.7
	comp=Z,1.6nm,0.6s					
LESA	Schwarzleotal	148.68 345	*i* PKP	PKPbc	12 49 17.2	+0.1
	comp=Z,3.9nm,0.4s					
KBA	Koelnbreinsper	148.83 344	*i* PKP	PKPbc	12 49 17.3	-0.3
	comp=Z,2.7nm,0.4s					
OBKA	Obir	149.01 342	*e*PKP	PKiKP	12 49 19.3	+0.4
	comp=Z,0.9nm,0.5s					
WATA	Walderalm	149.02 346	*i* PKP	PKPbc	12 49 17.9	-0.1
	SNR=6.2					
WATA	Walderalm	149.02 346	*i* PKP	PKPbc	12 49 17.7	-0.3
	comp=Z,1.7nm,0.6s					
RETA	Reutte	149.05 348	*i* PKP	PKPbc	12 49 18.1	+0.2
	comp=Z,3.0nm,0.5s					
WTTA	Wattenberg	149.07 346	*i* PKP	PKPbc	12 49 18.4	+0.3
	SNR=12					
WTTA	Wattenberg	149.07 346	*i* PKP	PKPbc	12 49 18.4	+0.3
	comp=Z,5.1nm,0.4s					
MOTA	Moosalm	149.11 347	*e*PKP	PKiKP	12 49 19.1	0.0
	comp=Z,1.8nm,0.5s					
MYKA	Terra Mystica	149.16 343	*e*PKP	PKPbc	12 49 17.8	-0.5
	comp=Z,3.1nm,0.4s					
SQTA	Sankt Quirin	149.21 347	*i* PKP	PKPbc	12 49 18.7	+0.3
	comp=Z,3.6nm,0.4s					
ABTA	Abfaltersbach	149.35 345	*i* PKP	PKPbc	12 49 18.3	-0.5
	SNR=10					
ABTA	Abfaltersbach	149.35 345	*i* PKP	PKPbc	12 49 18.2	-0.5
	comp=Z,3.6nm,0.5s					
DAVA	Damuels	149.41 349	*e*PKP	PKiKP	12 49 21.0	+1.2
	comp=Z,2.2nm,0.4s					
FETA	Feichten	149.50 347	*i* PKP	PKPbc	12 49 19.3	+0.1
	comp=Z,2.6nm,0.5s					
TUE	Stuetta	150.30 349		PKiKP	12 49 21.6	-0.1

*IDC **22** 12:48:30.1±3.0, 52°.60N×62°.96E, h0km, mb3.2/1, mbtmp3.1/2, ML1.9/1, Error ellipse: s-maj=63.6km s-min=17.5km az=7.0*
*NNC **22** 12:48:32.2±1.8, 52°.26N×63°.07E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=28.9km s-min=9.9km az=155.0, Suspected Mining explosion.*

ISC 22 12:48:23.0±1.1, 51°.9N±0°.1×63°.41E±0°.07, h0km, n7, σ1§34/9, 4C-3D, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AB31	Akbulak array	3.47	221	Pn	Pg	12 49 30.5	+1.1
	0.4nm,0.4s,baz=26,slow=15,SNR=13						
AB31				⇑Sn	Sg	12 50 13.1	-1.4
	0.6nm,0.3s,baz=39,slow=24						
AB31				⇑Lg	Lg	12 50 26.1	
	6.0nm,0.7s,baz=29,slow=27						
AKTO	Aktyubinsk	3.71	248	⇓Pn	Pb	12 49 29.2	-0.2
	1.4nm,0.8s						
AKTO				⇑Sn	Sb	12 50 15.1	+0.2
	1.0nm,0.6s						
AKTO				⇓Lg	Lg	12 50 28.5	
	4.0nm,1.0s						
I31KZ	AKTYUBINSK INF	3.71	248	I	I	13 13 10.0	
	0.4nm,0.8s,baz=53,slow=330,SNR=9.4						
BVA0	Borovoye Array	4.40	73	Pn	Pb	12 49 41.9	+0.7
	1.7nm,0.9s,baz=283,slow=12,SNR=5.9						
BVA0				⇑Sn	Sb	12 50 36.1	+1.3
	1.0nm,0.5s						
BVA0				⇓Lg	Lg	12 50 55.9	
	6.3nm,0.8s						
BVAR	Borovoye Array	4.40	73	Pn	Pb	12 49 41.0	-0.2
	0.1nm,0.3s,baz=269,slow=11,SNR=4.6						
BVAR				Sn	Sb	12 50 32.5	-2.3
	0.1nm,0.3s,baz=264,slow=23,SNR=2.2						
BVAR				Lg	Lg	12 50 53.5	
	0.1nm,0.3s,baz=265,slow=32,SNR=4.3						
	0.4nm,0.3s						
I46RU	ZALESOVO INFRA	13.06	73	I	I	14 04 40.0	
	baz=271,slow=331,SNR=2.1						
FINES	FINESS Array B	22.30	310	P	P	12 53 21.4	-0.3
	0.5nm,0.4s,baz=97,slow=12,SNR=7.2						
	0.5nm,0.4s						

JMA 22 12:49:53.5±0.3, 25°N±1°×123°.4E±0°.5, h16km, NW OFF ISHIGAKIJIMA IS, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.74	158	*e*P	Pg	12 50 07.4	-0.5
IRIF				S	Sg	12 50 17.3	-0.4
JKRS	Kuro-shima	0.94	146	P	Pb	12 50 11.2	-0.2
JKRS				S	Sb	12 50 23.2	-0.5

TAP 22 12:50:48.2, 24°.02N×121°.72E, h12km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.12	248	*e*P	Pb	12 50 52.5	+0.1
HWA				*e*S	Sg	12 50 55.5	+2.2
TWD	Chiawan	0.13	297	*

JYNG	Yonagunijimaku	0.23	99	*i* P	Pn	12 52 11.9	-0.1
JYNG				S	Sn	12 52 19.5	-0.1
YOJ	Yonaguni jima	0.29	95	P	Pn	12 52 12.3	0.0
YOJ				S	Sn	12 52 19.9	-0.4
YOJ	Yonaguni jima	0.29	95	P	Pn	12 52 12.3	0.0
YOJ				*i* S	Sn	12 52 20.2	-0.1
EOS3	EOS3	0.40	240	*i* P	Pn	12 52 13.5	+0.5
EOS3				*e*S	Sn	12 52 22.1	+0.7
EOS2	EOS2	0.43	261	P	Pn	12 52 13.5	+0.3
EOS2				*i* S	Sn	12 52 22.8	+0.9
EOS4	EOS4	0.50	223	*e*P	Pn	12 52 14.6	+0.9
EOS4				*e*S	Sn	12 52 24.6	+2.0
TWC	Suao	0.78	279	P	Pn	12 52 16.5	-0.6
TWC				*i* S	Sn	12 52 27.1	-1.6
EGS		0.78	297	*i* P	Pn	12 52 16.9	-0.3
EGS				*i* S	Sn	12 52 27.8	-0.9
ESAO	Su ao	0.78	277	*e*P	Pn	12 52 15.9	-1.2
ESAO				*i* S	Sn	12 52 27.6	-1.1
TWB1	Santiao Chiao	0.82	309	P	Pn	12 52 17.9	+0.2
TWB1				*e*S	Sn	12 52 29.2	-0.5
EWUT	Wuta	0.84	267	P	Pn	12 52 18.0	+0.1
EWUT				S	Sn	12 52 28.9	-1.0
ENA	Nanau	0.87	266	*i* P	Pn	12 52 18.2	0.0
ENA				*e*S	Sn	12 52 30.7	0.0
EAHA	Aohua	0.89	260	*i* P	Pn	12 52 18.5	+0.1
EAHA				*e*S	Sn	12 52 31.7	+0.7
NDS	Dongshan	0.90	279	P	Pn	12 52 18.9	+0.2
NDS				*e*S	Sn	12 52 29.5	-1.9
TIPB	Shuangxi	0.93	302	*e*P	Pn	12 52 18.4	-0.5
TIPB				S	Sn	12 52 30.5	-1.4
IRIF	Iriomote-Funau	0.96	99	P	Pn	12 52 19.5	+0.2
IRIF				S	Sn	12 52 32.6	0.0
SXI1	Grass Mountain	0.96	309	*e*P	Pn	12 52 18.8	+0.6
SXI1				S	Sn	12 52 32.3	-0.5
TWE	Neicheng	0.96	284	*e*P	Pn	12 52 18.8	-0.6
TWE				S	Sn	12 52 31.7	-1.0
NWF	Wu-fen Shan	1.01	305	P	Pn	12 52 20.0	-0.1
NWF				*e*S	Sn	12 52 33.7	-0.2
WFSB	Wu-fen Shan	1.01	305	P	Pn	12 52 20.2	+0.2
WFSB				*e*S	Sn	12 52 33.7	-0.1
ETL	Fush Village	1.03	252	P	Pn	12 52 20.2	-0.1
ETL				S	Sn	12 52 34.0	-0.3
ENTT	Nioudou	1.04	279	*i* P	Pn	12 52 20.7	+0.4
ENTT				S	Sn	12 52 34.3	-0.1
FUSB	Fushanzhiwuyua	1.04	285	*e*P	Pn	12 52 20.4	-0.1
FUSB				*e*S	Sn	12 52 33.8	-0.8
NACB	Ninganchiao	1.05	253	P	Pn	12 52 20.2	-0.3
NACB				*i* S	Sn	12 52 34.0	-0.7
LATG	Datong	1.06	273	⇑P	Pn	12 52 21.0	+0.2
LATG				S	Sn	12 52 34.9	-0.3
TWD	Chiawan	1.08	248	⇑P	Pn	12 52 21.2	+0.3
TWD				S	Sn	12 52 34.4	-0.9
HWA	Hwalien	1.12	243	P	Pn	12 52 21.6	+0.2
HWA				*e*S	Sn	12 52 36.6	+0.4
NWLT	Wulai	1.12	285	*e*P	Pn	12 52 22.1	+0.6
NWLT				*i* S	Sn	12 52 35.6	-0.8
TWA	Mucha	1.12	296	P	Pn	12 52 21.4	-0.1
TWA				*i* S	Sn	12 52 35.7	-0.7
ETLH	Xiulin Townshi	1.14	256	P	Pn	12 52 21.2	-0.6
ETLH				*e*S	Sn	12 52 36.4	-0.5
NHY	Taipei	1.16	298	*e*P	Pn	12 52 21.1	-0.8
NHY				*e*S	Sn	12 52 36.0	-1.2
NWRT	Kuosheng	1.18	307	*e*P	Pn	12 52 22.5	+0.3
NNSB	Datong	1.20	267	*e*P	Pn	12 52 23.0	+0.5
NNSB				S	Sn	12 52 38.2	0.0
TATO	Taipei	1.20	294	*e*P	Pn	12 52 21.7	-0.8
TATO				S	Sn	12 52 37.0	-1.1
NNS	Nan Shan	1.21	268	P	Pn	12 52 23.1	+0.4
NNS				*i* S	Sn	12 52 38.3	-0.2
ETM	Tongmen	1.21	245	P	Pn	12 52 22.9	+0.3
ETM				S	Sn	12 52 37.4	-1.0
YHNB	Yeheng	1.21	279	*e*P	Pn	12 52 23.4	+0.7
YHNB				*e*S	Sn	12 52 38.9	+0.3
YM01	YM01	1.21	303	P	Pn	12 52 23.2	+0.6
YM01				*i* S	Sn	12 52 37.5	-1.0
YM08	YM08	1.22	305	*i* P	Pn	12 52 23.1	+0.3
YM08				*e*S	Sn	12 52 38.5	-0.1
JKRS	Kuro-shima	1.23	101	P	Pn	12 52 23.1	+0.4
JKRS				S	Sn	12 52 39.3	+0.7
NSK	Sanguang	1.23	279	*i* P	Pn	12 52 23.4	+0.5
NSK				S	Sn	12 52 38.9	0.0
ZUZH	Zhuzihu	1.24	303	P	Pn	12 52 22.9	-0.2
ZUZH				S	Sn	12 52 37.9	-1.3
SHUL	Shoufeng	1.25	236	*e*P	Pn	12 52 22.9	-0.2
SHUL				S	Sn	12 52 38.2	-1.0
LXIB	Xiulin Townshi	1.26	249	P	Pn	12 52 23.7	+0.3
LXIB				*e*S	Sn	12 52 39.2	-0.5
TWY	Chenhua	1.27	308	P	Pn	12 52 23.4	+0.1
TWY				S	Sn	12 52 39.5	-0.2
PCYT	Pengchaiyu	1.27	334	P	Pn	12 52 23.7	+0.3
PCYT				*e*S	Sn	12 52 39.6	-0.1
ANP	Anpu	1.27	303	P	Pn	12 52 23.9	+0.4
ANP				*e*S	Sn	12 52 39.5	-0.4
TEGC	Jichi Village	1.31	234	P	Pn	12 52 24.1	+0.2
TEGC				*e*S	Sn	12 52 41.0	+0.4
JIJ	Ishigaki jima	1.33	95	P	Pn	12 52 24.1	+0.1
JIJ				S	Sn	12 52 40.5	-0.6
ESL	Shilin	1.33	240	*e*P	Pn	12 52 25.0	+0.8
ESL				*i* S	Sn	12 52 40.4	-0.8
FUSS	Fushou	1.34	260	P	Pn	12 52 25.1	+0.5
FUSS				*e*S	Sn	12 52 40.5	-1.3
WHF	Hehuan Shan	1.35	256	P	Pn	12 52 25.0	+0.2
WHF				*i* S	Sn	12 52 41.8	-0.4
TWT	Tachien	1.41	261	P	Pn	12 52 25.8	+0.5
TWT				S	Sn	12 52 43.6	+0.5
KSHI	Guanxi Townshi	1.41	282	*e*P	Pn	12 52 25.3	+0.1
KSHI				*e*S	Sn	12 52 42.6	-0.5
EGFH	Guangfu	1.42	235	*e*P	Pn	12 52 25.5	+0.3
EGFH				*e*S	Sn	12 52 42.9	-0.3
TDCB	Techi	1.42	261	*e*P	Pn	12 52 26.4	+0.9
TDCB				S	Sn	12 52 43.1	-0.4
WARBT	Fenglin Townsh	1.42	238	*i* P	Pn	12 52 25.0	-0.4
WARBT				S	Sn	12 52 42.0	-1.3
NFF	Wufeng Townshi	1.44	276	*e*P	Pn	12 52 26.0	+0.3
NFF				*e*S	Sn	12 52 43.9	0.0
JISG	Ishigakijimahi	1.48	86	P	Pn	12 52 25.9	-0.1
JISG				*e*S	Sn	12 52 44.7	+0.2
OWD	Renai	1.48	249	*e*P	Pn	12 52 26.7	+0.4
OWD				*i* S	Sn	12 52 43.7	-1.3
WUSB	Renai	1.52	251	*e*P	Pn	12 52 27.4	+0.6
WUSB				*e*S	Sn	12 52 45.4	-0.5
HGSD	Ruisui	1.53	230	P	Pn	12 52 26.5	-0.3
HGSD				S	Sn	12 52 44.3	-1.5
LIOB	Emei	1.54	276	P	Pn	12 52 28.0	+1.1
LIOB				S	Sn	12 52 46.5	+0.4
EHY	Hungye	1.59	232	*e*P	Pn	12 52 28.5	+0.9
EHY				*e*S	Sn	12 52 45.7	-1.6
VWDT	VWDT	1.60	243	*e*P	Pn	12 52 28.3	+0.7
VWDT				S	Sn	12 52 46.3	-1.1
WHP	Taichung City	1.61	263	*i* P	Pn	12 52 29.0	+1.1
WHP				*e*S	Sn	12 52 48.7	+0.8
ECBN	Changbin	1.63	225	*e*P	Pn	12 52 28.9	+0.8
ECBN				S	Sn	12 52 46.9	-1.3
DPDB	Guoxing	1.68	255	*i* P	Pn	12 52 29.2	+0.4
DPDB				S	Sn	12 52 49.7	+0.2
YULB	Yu-li	1.68	230	*e*P	Pn	12 52 28.6	-0.2
YULB				*i* S	Sn	12 52 48.0	-1.5
WCS	Beigang Elemen	1.68	256	P	Pn	12 52 29.7	+0.9
WCS				S	Sn	12 52 49.6	+0.1
EYUL	Yuli	1.69	228	*e*P	Pn	12 52 30.1	+1.1
EYUL				S	Sn	12 52 49.6	-0.2
TWF1	Yuli	1.71	229	*e*P	Pn	12 52 28.7	-0.5
TWF1				*e*S	Sn	12 52 48.1	-2.0
SSLB	Suanglung	1.74	247	*i* P	Pn	12 52 29.7	+0.1
SSLB				*e*S	Sn	12 52 51.4	+0.5
SMLT	Sun Moon Lake	1.75	250	*i* P	Pn	12 52 30.2	+0.5
SMLT				*e*S	Sn	12 52 51.4	+0.1
CHKH	Chenggong	1.75	223	*e*P	Pn	12 52 30.6	+0.8
CHKH				*e*S	Sn	12 52 47.9	-3.3
NSY	Sanyi	1.76	268	*e*P	Pn	12 52 30.0	0.0
TYC	Yuchr	1.78	251	P	Pn	12 52 30.1	+0.1
TYC				*e*S	Sn	12 52 52.3	+0.5
FULB	Fuli	1.81	225	*e*P	Pn	12 52 30.8	+0.2
FULB				*e*S	Sn	12 52 51.0	-1.7
CHKT	Chengkung	1.84	222	P	Pn	12 52 30.1	-0.9
CHKT				*e*S	Sn	12 52 50.4	-2.9
WHYT	Xinyi Township	1.86	245	*e*P	Pn	12 52 32.3	+1.1
WHYT				S	Sn	12 52 54.4	+0.6
WWF	Wufeng	1.88	257	*e*P	Pn	12 52 31.2	-0.1
WWF				*e*S	Sn	12 52 55.2	+1.1
EHD	Haiduan	1.91	226	*e*P	Pn	12 52 32.6	+0.8
EHD				*e*S	Sn	12 52 53.5	-1.5
ECS	Chishang	1.94	225	P	Pn	12 52 32.9	+0.7
ECS				S	Sn	12 52 56.1	+0.5
EDH	Donghe	1.98	220	*e*P	Pn	12 52 31.5	-1.2
EDH				*e*S	Sn	12 52 53.6	-3.0
ALS	Alishan	1.98	241	P	Pn	12 52 34.4	+1.2
ALS				*e*S	Sn	12 52 57.4	+0.3
ELDTW	Lidau	2.01	230	*e*P	Pn	12 52 34.2	+0.9
ELDTW				S	Sn	12 52 55.9	-1.6
WDL	Douliou City	2.12	249	*e*P	Pn	12 52 34.6	-0.1
LDUT	Ludao	2.13	212	P	Pn	12 52 34.8	-0.1
LDUT				*e*S	Sn	12 52 56.0	-4.2
LONT	Longtian	2.13	223	P	Pn	12 52 35.5	+0.6
LONT				S	Sn	12 52 58.9	-1.4
WCKO	Fanlu	2.18	242	*e*P	Pn	12 52 36.2	+0.7
WCKO				*e*S	Sn	12 53 01.9	+0.4
STYH	Taoyuan	2.19	234	*e*P	Pn	12 52 36.6	+0.9
STYH				*e*S	Sn	12 53 00.4	-1.4
STYT	Tauyuan	2.21	234	P	Pn	12 52 36.5	+0.5
STYT				S	Sn	12 53 01.9	-0.5
TWGBT	Beinan	2.23	222	P	Pn	12 52 35.7	-0.5
TPUB	Ta-pu	2.23	238	*e*P	Pn	12 52 37.9	+1.7
TPUB				*e*S	Sn	12 53 04.5	+1.7
TWG	Pinlang	2.23	222	P	Pn	12 52 36.5	+0.3
CHN4	Tsaushan	2.23	240	P	Pn	12 52 38.1	+1.8
CHN4				S	Sn	12 53 04.6	+1.8
WTK	Tuku	2.25	250	P	Pn	12 52 37.7	+1.2
WTK				S	Sn	12 53 04.9	+1.6
WTP	Ta-pu	2.27	237	P	Pn	12 52 38.4	+1.6
WTP				S	Sn	12 53 04.6	+0.8
CHN1	Nanshi	2.37	237	P	Pn	12 52 39.4	+1.2
CHN1				S	Sn	12 53 08.0	+1.9
SNST	Tainan City	2.38	238	P	Pn	12 52 39.9	+1.7
SNST				*e*S	Sn	12 53 06.2	-0.1
SSD	Sandimen	2.57	228	*i* P	Pn	12 52 42.5	+1.7
SSD				*e*S	Sn	12 53 11.4	+0.4
MASBT	Mashibuluo	2.66	226	*e*P	Pn	12 52 43.4	+1.4
MASBT				S	Sn	12 53 13.8	+0.6
PHUB	P'eng-hu	3.02	252	*e*P	Pn	12 52 47.1	+0.2
PHUB				*e*S	Sn	12 53 21.1	-0.7

IDC 22 12:52:45.2±10.0, 7°.75N×93°.06E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=534.0km s-min=30.4km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	Diego Garcia H	25.57	234	T	T	13 25 03.1	
	baz=54,slow=75,SNR=7.2						
H08S2	Diego Garcia H	25.57	234	T	T	13 24 57.9	
	baz=54,slow=75,SNR=6.0						
H08S1	Diego Carcia H	25.59	234	T	T	13 24 58.9	
	baz=54,slow=75,SNR=9.2						
MKAR	Makanchi Array	39.99	348	P	P	13 00 21.4	-0.3
	0.8nm,0.7s,baz=159,slow=7.7,SNR=7.9						
	0.8nm,0.7s						
KURBB	Kurchatov Arra	44.42	347	P	P	13 00 57.9	+0.2
	0.6nm,0.7s,baz=169,slow=7.2,SNR=7.1						
	0.6nm,0.7s						
ZALV	Zalesovo Beam	46.55	353	P	P	13 01 14.2	-0.4
	0.4nm,0.4s,baz=161,slow=9.2,SNR=4.3						
	0.4nm,0.4s						
ASAR	Alice Springs	50.66	129	P	P	13 01 46.7	-0.1
	0.2nm,0.8s,baz=300,slow=8.6,SNR=2.3						
	0.2nm,0.8s						

*SJA **22** 12:55:37.5±0.7, 24°.24S×67°.17W, h198km±6km, ML3.7, MW3.7*
*IDC **22** 12:55:37.9±2.0, 24°.17S×67°.11W, h170km±19km, mb3.3/3, mbtmp3.7/9, Error ellipse: s-maj=26.2km s-min=15.6km az=96.0*
*GUC **22** 12:55:39.6±0.5, 24°.21S×67°.49W, h220km±7km, ML4.0*
*VAO **22** 12:55:43.6±1.5, 23°.94S×66°.96W, h214km, mb3.9*

ISC 22 12:55:38.6±0.7, 24°.24S±0°.04×67°.22W±0°.04, h180km±7km, n64, σ1°.25/86, mb3.6/3, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.80	89	*e*P	Pn	12 56 06.1	+0.5
AF01	San Pedro de A	1.56	325	*e*P	Pn	12 55 59.5	-12
AF01				*e*S	Sn	12 56 35.2	-1.7
AF01				IAML		12 56 49.8	
	comp=Z,245nm,0.5s						
SLA	San Lorenzo	1.63	107	*e*P	Pn	12 56 13.0	+1.0
SLA				*e*S	Sn	12 56 38.8	+0.9
SLA				IAML		12 56 39.2	
	comp=Z,169nm,1.1s						
FSA	Cafayete	2.17	149	*e*P	Pn	12 56 18.3	+0.5
GO02	Mina Guanaco	2.35	246	⇑*i*P	Pn	12 56 21.1	+1.3
GO02				*e*S	Sn	12 56 53.0	+1.2
GO02	Mina Guanaco	2.35	246	*e*P	Pn	12 56 21.2	+1.3
YJA	Yavi	2.58	38	*e*P	Pn	12 56 23.8	+1.0
YJA				*e*S	Sn	12 56 57.5	+0.4
PB06	IPOC Station P	2.65	305	⇑*i*P	Pn	12 56 24.4	+1.2
PB06				*e*S	Sn	12 56 57.8	-0.1
PB06	IPOC Station P	2.65	305	*e*P	Pn	12 56 24.3	+1.0
PB06				*e*S	Sn	12 56 58.6	+0.7
PB06				IAML		12 57 00.6	
	comp=Z,452nm,0.2s						
PB14	IPOC Station P	2.93	262	*e*P	Pn	12 56 27.5	+0.8
PB14				*e*S	Sn	12 57 03.7	-0.5
PB14				IAML		12 57 05.3	
	comp=E,137nm,0.4s						
PB14	IPOC Station P	2.93	262	*e*P	Pn	12 56 27.3	+0.6
PB14				*e*S	Sn	12 57 04.1	0.0
PB14				IAML		12 57 06.3	
	comp=Z,138nm,0.3s						
ALOL	LOMAS DE OLMED	2.99	82	*e*P	Pn	12 56 28.3	+1.1
PB09	IPOC Station P	3.07	322	⇑*i*P	Pn	12 56 29.5	+1.2
PB09				*e*S	Sn	12 57 07.4	+0.4
PB09				IAML		12 57 08.9	
	comp=N,251nm,0.5s						
PB09	IPOC Station P	3.07	322	*e*P	Pn	12 56 29.6	+1.3
PB09				*e*S	Sn	12 57 06.8	-0.2
PB09				IAML		12 57 08.3	
	comp=Z,195nm,0.3s						
PB05	IPOC Station P	3.07	296	*e*P	Pn	12 56 28.8	+0.5
PB05				*e*S	Sn	12 57 05.6	-1.3
PB05				IAML		12 57 10.5	
	comp=E,287nm,0.6s						
PB05	IPOC Station P	3.07	296	*e*P	Pn	12 56 12.4	-16
PB05				*e*S	Sn	12 57 07.6	+0.7
PB05				IAML		12 57 08.8	
	comp=Z,127nm,0.2s						
AC02	Maricunga	3.11	213	*e*P	Pn	12 56 29.8	+0.7
AC02				*e*S	Sn	12 57 09.1	+0.7
PB10	IPOC Station P	3.14	283	⇑*i*P	Pn	12 56 29.8	+0.8
PB10				*e*S	Sn	12 57 06.7	-1.5
PB10				IAML		12 57 13.5	
	comp=N,192nm,0.5s						
PB10	IPOC Station P	3.14	283	*e*P	Pn	12 56 30.1	+1.0
PB10				*e*S	Sn	12 57 09.6	+1.3
PB10				IAML		12 57 10.7	
	comp=Z,163nm,0.4s						
PB03	IPOC Station P	3.20	313	⇑*i*P	Pn	12 56 30.4	+0.6
PB03				IAML		12 57 13.8	
	comp=N,327nm,0.1s						
PB03	IPOC Station P	3.20	313	*e*P	Pn	12 56 30.5	+0.6
PB03				*e*S	Sn	12 57 10.1	+0.3
PB03				IAML		12 57 15.0	
	comp=Z,264nm,0.2s						
AC01	Pan de Azucar	3.60	238	*e*P	Pn	12 56 34.4	-0.3
AC01	Pan de Azucar	3.60	238	*e*P	Pn	12 56 33.9	-0.9
AC01				*e*S	Sn	12 57 17.9	-0.7
AC01				IAML		12 57 21.0	
	comp=Z,102nm,0.2s						
PB01	IPOC Station P	3.81	326	*e*P	Pn	12 56 37.2	-0.2
PB01	IPOC Station P	3.81	326	*e*P	Pn	12 56 37.5	0.0
PB01				*e*S	Sn	12 57 22.7	-0.8
PB01				IAML		12 57 24.8	
	comp=Z,112nm,0.2s						
AC06	Mina Casimiro	4.20	222	*e*P	Pn	12 56 41.7	-0.6
GO03	Copiapo	4.30	219	*e*P	Pn	12 56 42.8	-0.9
GO03	Copiapo	4.30	219	*e*P	Pn	12 56 43.2	-0.5
GO03				*e*S	Sn	12 57 33.0	-1.6
PATCX	Punta Patache	4.35	321	*e*P	Pn	12 56 43.7	-0.7
PATCX	Punta Patache	4.35	321	*e*P	Pn	12 56 43.8	-0.7
PATCX				*e*S	Sn	12 57 37.0	+1.1
PATCX				IAML		12 57 46.2	
	comp=Z,61nm,0.3s						
PB08	IPOC Station P	4.46	336	*e*P	Pn	12 56 46.8	+0.7
PB08				*e*S	Sn	12 57 39.0	+0.2
PB08				IAML		12 57 40.0	
	comp=Z,33nm,0.3s						
TA01	Diego Aracena	4.57	323	*e*P	Pn	12 56 47.1	0.0
TA01				*e*S	Sn	12 57 41.2	+0.4
TA01				IAML		12 57 50.1	
	comp=Z,43nm,0.8s						
HMBC	Humberstone	4.66	327	*e*P	Pn	12 56 46.7	-1.7
HMBC	Humberstone	4.66	327	*e*P	Pn	12 56 47.3	-1.0
HMBC				*e*S	Sn	12 57 41.5	-1.5
HMBC				IAML		12 57 49.8	
	comp=Z,76nm,0.4s						
PB11	IPOC Station P	5.00	333	*e*P	Pn	12 56 51.6	-1.2
PB11				*e*S	Sn	12 57 46.8	-4.2
PB11				IAML		12 57 53.8	
	comp=Z,41nm,0.3s						
AC04	Llanos de Chal	5.25	220	*e*S	Sn	12 57 43.9	-13
AC04				IAML		12 57 55.4	
	comp=Z,33nm,0.2s						
AC05	El Transito	5.33	210	*e*P	Pn	12 56 57.3	+0.3
AC05				*e*S	Sn	12 57 57.1	-1.5
AC05				IAML		12 57 59.9	
	comp=Z,24nm,0.3s						
AGUA	GUANDACOL	5.35	192	*e*P	Pn	12 56 53.2	-4.0
AGUA				*e*S	Sn	12 58 09.5	+11
CFA	Coronel Fontan	7.39	187	P	Pn	12 57 23.3	-0.6
	comp=Z,0.5nm,0.3s,baz=34,slow=16,SNR=7.5						
CFA				S	Sn	12 58 42.6	-4.6
	comp=Z,1.1nm,0.3s,baz=132,slow=21,SNR=5.6						
LPAZ	La Paz	7.96	354	P	Pn	12 57 31.7	-0.4
	comp=Z,3.9nm,0.4s,baz=166,slow=8.4,SNR=24						
LPAZ	La Paz	7.96	354	*e*P	Pn	12 57 32.6	+0.5
CPUP	Villa Florida	9.19	105	P	Pn	12 57 45.9	-1.6
	comp=Z,1.2nm,0.6s,baz=246,slow=9.3,SNR=3.4						
MURT	Porto Murtinho	9.22	76	*e*P	Pn	12 57 47.2	-0.8
BBSD	Serra de San D	9.35	43	*e*P	Pn	12 57 49.2	-0.6
SIV	San Ignacio	10.03	36	P	Pn	12 57 56.2	-2.5
	comp=Z,1.1nm,0.4s,baz=188,slow=12,SNR=5.2						
PTGB	Pitanga	13.81	95	*e*P	P	12 58 49.2	-0.6
ITRB	Iturama	16.27	77	*e*P	P	12 59 16.9	-0.1
PLCA	Paso Flores	16.68	189	P	P	12 59 22.1	+0.7
	comp=Z,1.6nm,0.9s,baz=352,slow=10.0,SNR=3.8						
ARAG	Araguaiana, MT	16.77	62	*e*P	P	12 59 22.3	-0.2
IPMB	Ipameri, GO	18.78	74	*e*P	P	12 59 43.6	-0.9
SNDB	Serra Nova Dou	19.41	54	*e*P	P	12 59 50.4	-0.9
BDFB	Brasilia	19.96	68	P	P	12 59 55.7	-1.5
	comp=Z,3.6nm,0.4s,baz=263,slow=5.2,SNR=7.9						
VAS01	Vassouras-RJ	21.93	90	*e*P	P	13 00 18.5	+0.6
JANB	Januaria	23.40	71	*e*P	P	13 00 30.2	-1.4
CAM01	Campos-RJ	23.64	89	*e*P	P	13 00 32.7	-0.9
SDBA	SAO DESIDERIO	24.19	65	*e*P	P	13 00 37.5	-1.2
SMTB	Santa Maria do	24.19	54	*e*P	P	13 00 38.8	+0.1
TXAR	Lajitas Array	63.76	325	P	P	13 05 50.9	-0.7
	comp=Z,0.1nm,0.5s,baz=143,slow=5.3,SNR=2.4						
	comp=Z,0.1nm,0.5s						
QSPA	South Pole Qui	65.96	180	P	P	13 06 06.7	+1.4
	comp=Z,1.4nm,0.6s,baz=274,slow=0.6,SNR=18						
	comp=Z,1.4nm,0.6s						
YKA	Yellowknife Ar	94.28	340	P	P	13 08 37.5	+0.6
	comp=Z,0.4nm,0.8s,baz=131,slow=4.5,SNR=7.9						
	comp=Z,0.4nm,0.8s						
ASAR	Alice Springs	128.16	205	PKP	PKPdf	13 14 24.1	0.0
	comp=Z,0.4nm,0.5s,baz=125,slow=1.6,SNR=11						
WRA	Warramunga Arr	131.32	207	PKP	PKPdf	13 14 30.4	+0.2
	comp=Z,0.4nm,0.5s,baz=169,slow=1.6,SNR=6.0						
ZALV	Zalesovo Beam	143.70	28	PKP	PKPbc	13 14 50.9	+1.1
	comp=Z,0.9nm,0.6s,baz=270,slow=1.5,SNR=5.5						
MKAR	Makanchi Array	146.84	40	PKPbc	PKPdf	13 14 59.0	+1.5
	comp=Z,1.2nm,0.6s,baz=293,slow=3.5,SNR=14						

*IDC **22** 13:10:51.6±1.8, 6°.90S×150°.34E, h0km, mb3.5/5, mbtmp3.6/6, ML1.6/1, Error ellipse: s-maj=73.0km s-min=21.7km az=125.0*

ISC 22 13:10:54.5±1.8, 6°.9S±0°.4×150°.0E±0°.4, h10km, n7, σ2°.06/8, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.77	229	Pn	Pn	13 11 53.8	+1.1
	3.2nm,0.3s,baz=240,slow=14,SNR=10						
PMG				Sn	Sb	13 12 45.1	-1.9
	14nm,0.3s,baz=306,slow=22,SNR=8.6						
	7.1nm,0.2s						
WRA	Warramunga Arr	19.99	228	P	P	13 15 27.3	-0.1
	4.9nm,0.7s,baz=51,slow=10,SNR=23						
	4.9nm,0.7s						
ASAR	Alice Springs	22.75	221	P	P	13 15 57.5	+0.3
	1.0nm,0.4s,baz=55,slow=9.4,SNR=42						
	1.0nm,0.4s						
MKAR	Makanchi Array	80.12	320	P	P	13 23 05.0	0.0
	0.1nm,0.3s,baz=92,slow=7.2,SNR=2.8						
	0.1nm,0.3s						
KURBB	Kurchatov Arra	83.77

PPT2	Papeete2	22.74	99	eS	S	13 20 40.7	-10
	comp=Z,508nm,30.5s						
PPT2				eLR	LR	13 22 06.5	
	comp=Z,170nm,28.5s						
PPT2				eLR	LR	13 22 07.2	
	comp=Z,219nm,26.0s						
WCZ	Waipu Caves	23.45	206	P	P	13 16 50.0	+0.7
TBI	Tubuai	23.75	114	eS	S	13 21 05.8	-2.1
	comp=Z,2μm,29.2s						
TBI				eLR	LR	13 22 36.5	
	comp=Z,2μm,27.5s						
HAZ	Te Kaha	23.83	198	P	P	13 16 55.2	+2.4
MWZ	Matawai	24.44	198	P	P	13 16 59.8	+1.1
URZ	Urewera	24.49	199	P	P	13 16 56.6	-2.5
	comp=Z,4.1nm,0.3s,baz=19,slow=3.4,SNR=1.8						
URZ				LR	LR	13 25 17.9	
	comp=Z,585nm,18.8s,baz=118,slow=34						
	comp=Z,4.1nm,0.3s						
URZ	Urewera	24.49	199	P	P	13 16 58.5	-0.6
TOZ	Tahuroa Road	24.56	202	P	P	13 16 59.5	-0.2
TOZ				IAmb	IAmb	13 17 00.3	
	comp=Z,41nm,1.4s						
TSZ	Takapari Road	26.50	199	P	P	13 17 18.5	+1.2
HNR	Honiara	26.88	279	LR	LR	13 26 52.8	
	comp=Z,61nm,19.7s,baz=94,slow=35						
BFZ	Birch Farm	26.98	198	P	P	13 17 19.6	-2.0
MRZ	Mangatainoka R	27.17	199	P	P	13 17 22.3	-1.0
QRZ	Quartz Range	28.38	203	P	P	13 17 32.4	-1.7
NNZ	Nelson	28.40	202	P	P	13 17 34.8	+0.4
THZ	Tophouse	29.05	202	P	P	13 17 39.2	-1.0
KHZ	Kahutara	29.41	200	P	P	13 17 43.3	+0.1
DSZ	Denniston Nort	29.44	203	P	P	13 17 41.7	-1.9
GVZ	Greta Valley S	30.07	200	P	P	13 17 46.8	-2.3
LTZ	Lake Taylor	30.17	202	P	P	13 17 48.1	-1.9
INZ	Inchbonnie	30.42	203	P	P	13 17 50.0	-2.3
MQZ	McQueen's Vall	30.85	200	P	P	13 17 54.2	-1.8
WVZ	Waitaha Valley	30.99	203	P	P	13 17 55.2	-2.0
RPZ	Rata Peaks	31.42	202	LR	LR	13 30 22.6	
	comp=Z,755nm,19.6s,baz=34,slow=36						
TMZ	Timaru	32.02	202	P	P	13 18 05.4	-0.9
LBZ	Lake Benmore	32.32	203	P	P	13 18 09.9	+1.0
JCZ	Jackson Bay	32.59	205	P	P	13 18 09.2	-2.2
TAOE	Nuku Hiva Isla	32.87	83	eLR	LR	13 26 55.3	
	comp=Z,112nm,25.8s						
EAZ	Earnscleugh	33.37	203	P	P	13 18 17.5	-0.6
MSZ	Milford Sound	33.44	205	P	P	13 18 17.1	-1.6
TUZ	Tuapeka	33.86	202	P	P	13 18 20.8	-1.6
WHZ	Wether Hill Ro	34.44	204	P	P	13 18 26.8	-0.6
WHZ	Wether Hill Ro	34.44	204	P	P	13 18 26.8	-0.6
RKT	Rikitea	36.82	108	eS	S	13 24 34.2	+1.5
	comp=Z,537nm,35.2s						
RKT				eSS	SS	13 27 11.8	-2.0
	comp=Z,914nm,26.8s						
RKT				eLR	LR	13 28 35.6	
	comp=Z,879nm,29.2s						
H11S2	WAKE ISLAND Hy	38.94	329	T	T	14 00 00.4	
	baz=148,slow=76,SNR=9.6						
H11S3	WAKE ISLAND Hy	38.95	329	T	T	13 59 41.2	
	baz=148,slow=76,SNR=28						
H11S1	WAKE ISLAND Hy	38.96	329	T	T	14 00 05.6	
	baz=148,slow=76,SNR=11						
H11N3	WAKE ISLAND Hy	39.88	330	T	T	14 01 39.6	
	baz=149,slow=76,SNR=58						
H11N1	WAKE ISLAND Hy	39.89	330	T	T	14 01 32.2	
	baz=149,slow=76,SNR=50						
H11N2	WAKE ISLAND Hy	39.90	330	T	T	14 01 12.6	
	baz=149,slow=76,SNR=32						
STKA	Stephens Creek	44.32	240	P	P	13 19 46.3	-3.8
STKA	Stephens Creek	44.32	240	P	P	13 19 44.4	-5.7
	comp=Z,3.5nm,0.8s,baz=92,slow=13,SNR=5.4						
	comp=Z,3.5nm,0.8s						
JAY	Jayapura	47.18	281	LR	LR	13 37 44.4	
	comp=Z,116nm,20.0s,baz=52,slow=34						
WR8	Warramunga Arr	49.96	257	P	P	13 20 29.2	-5.1
WR8				IAmb	IAmb	13 20 58.0	
	comp=Z,23nm,1.6s						
WB0	Warramunga Arr	50.07	257	P	P	13 20 30.3	-4.9
WB0				IAmb	IAmb	13 20 51.1	
	comp=Z,24nm,1.6s						
WRA	Warramunga Arr	50.11	257	P	P	13 20 29.3	-6.2
	comp=Z,3.6nm,0.7s,baz=97,slow=6.0,SNR=39						
WRA				LR	LR	13 39 53.6	
	comp=Z,86nm,21.1s,baz=34,slow=34						
	comp=Z,3.6nm,0.7s						
AS31	Alice Springs	50.38	252	P	P	13 20 32.0	-5.5
ASAR	Alice Springs	50.38	252	P	P	13 20 32.4	-5.2
	comp=Z,12nm,0.6s,baz=86,slow=8.1,SNR=145						
ASAR				LR	LR	13 40 24.9	
	comp=Z,100nm,21.3s,baz=95,slow=35						
	comp=Z,12nm,0.6s						
GUMO	Guam	50.44	302	LR	LR	13 38 25.0	
	comp=Z,45nm,20.6s,baz=114,slow=32						
FITZ	Fitzroy Crossi	58.47	258	LR	LR	13 46 05.6	
	comp=Z,130nm,18.1s,baz=111,slow=36						
JCJ	Chichijima	60.41	314	LR	LR	13 42 51.0	
	comp=Z,98nm,21.5s,baz=120,slow=31						
SBA	Scott Base	63.43	185		P	13 22 09.8	+0.6
SBA				IAmb	IAmb	13 22 11.0	
	comp=Z,7.3nm,1.0s						
VNDA	Vanda	63.56	186		P	13 22 08.0	-2.0
VNDA				IAmb	IAmb	13 22 26.9	
	comp=Z,6.9nm,1.1s						
VNDA	Vanda	63.56	186	P	P	13 22 07.1	-2.9
	comp=Z,3.1nm,0.9s,baz=12,slow=5.8,SNR=13						
	comp=Z,3.1nm,0.9s						
JHJ	Hachijo jima 2	65.80	318	LR	LR	13 45 36.7	
	comp=Z,36nm,21.9s,baz=100,slow=31						
SHEM	Shemya Is, Ala	68.57	352	LR	LR	13 45 51.8	
	comp=Z,250nm,22.0s,baz=115,slow=30						
MJAR	Matsushiro Arr	68.96	320	P	P	13 22 42.5	-2.7
	comp=Z,1.8nm,0.9s,baz=145,slow=4.3,SNR=5.0						
MJAR				LR	LR	13 47 13.5	
	comp=Z,131nm,22.0s,baz=120,slow=31						
	comp=Z,1.8nm,0.9s						
JOW	Kunigami	70.57	306	LR	LR	13 47 36.7	
	comp=Z,114nm,21.6s,baz=119,slow=31						
TGY	Tagaytay City	71.39	291	LR	LR	13 49 06.1	
	comp=Z,134nm,21.4s,baz=132,slow=32						
KMRM	Mail Ridge	71.79	38		P	13 23 02.2	-0.3
JNU	Nakatsue	71.86	313	LR	LR	13 47 57.9	
	comp=Z,88nm,21.6s,baz=132,slow=30						
O02D	Mt. Diablo Mer	72.31	38	P	P	13 23 07.2	+1.5
PETK	Petropavlovsk-	72.54	342	P	P	13 23 04.5	-2.2
	comp=Z,5.8nm,0.9s,baz=124,slow=7.7,SNR=5.0						
PETK				LR	LR	13 50 26.9	
	comp=Z,36nm,20.8s,baz=118,slow=32						
	comp=Z,5.8nm,0.9s						
PFO	Pinyon Flats O	72.64	47	LR	LR	13 47 20.3	
	comp=Z,165nm,20.5s,baz=248,slow=29						
AFDM	Forest Hills D	72.66	40	P	P	13 23 08.5	+0.7
LPIG	La Paz	72.75	58	LR	LR	13 46 16.3	
	comp=Z,104nm,20.2s,baz=204,slow=28						
YBH	Yreka Blue Hor	73.33	37		P	13 23 13.0	+1.3
YBH				IAmb	IAmb	13 23 14.1	
	comp=Z,13nm,1.1s						
YBH	Yreka Blue Hor	73.33	37	LR	LR	13 47 45.6	
	comp=Z,136nm,21.9s,baz=253,slow=30						
PNTR	Pine Nut	73.61	41	P	P	13 23 14.1	+0.5
PNTR				IAmb	IAmb	13 23 15.7	
	comp=Z,13nm,1.0s						
DSP	Deep Springs	73.67	43		P	13 23 14.7	+1.0
DSP				IAmb	IAmb	13 23 16.9	
	comp=Z,25nm,1.9s						
LHV	Little Huntoon	73.82	42	P	P	13 23 15.6	+1.1
LHV				IAmb	IAmb	13 23 17.0	
	comp=Z,14nm,1.2s						
NVAR	Mina Array Bea	74.05	42	P	P	13 23 16.6	+0.4
	comp=Z,5.0nm,1.0s,baz=229,slow=9.6,SNR=24						
NVAR				LR	LR	13 48 01.6	
	comp=Z,169nm,21.8s,baz=224,slow=29						
	comp=Z,5.0nm,1.0s						
PAHR	Pah Rah Range	74.10	40	IAmb	IAmb	13 23 18.4	
	comp=Z,15nm,1.3s						
NV11	Mina Array Sit	74.15	42	IAmb	IAmb	13 23 18.8	
	comp=Z,14nm,1.2s						
I03D	Drain, OR	74.21	35	IAmb	IAmb	13 24 00.2	
	comp=Z,19nm,1.3s						
TPNV	Topopah Spring	74.58	44	IAmb	IAmb	13 23 38.6	
	comp=Z,23nm,1.9s						
J04A	Umpqua Nationa	74.62	36		P	13 23 20.3	+0.9
KDAK	Kodiak Island	74.71	11	LR	LR	13 49 02.1	
	comp=Z,138nm,20.9s,baz=55,slow=30						
QSPA	South Pole Qui	74.81	180	P	P	13 23 17.1	-3.0
	comp=Z,11nm,0.9s,baz=49,slow=2.6,SNR=19						
	comp=Z,11nm,0.9s						
J05D	Fort Rock, OR	75.15	36		P	13 23 23.3	+0.9
H04A	Detroit Lake	75.48	35		P	13 23 24.3	+0.2
H04A				IAmb	IAmb	13 23 44.1	
	comp=Z,11nm,1.1s						
PINE	Pine Mountain	75.63	36		P	13 23 25.9	+0.7
TUC	Tucson	76.11	51	P	P	13 23 29.3	+1.3
WVOR	Wild Horse Val	76.16	38	IAmb	IAmb	13 23 30.7	
	comp=Z,20nm,1.4s						
KSRS	Korea Array	76.20	315	P	P	13 23 25.2	-3.1
	comp=Z,0.7nm,0.8s,baz=126,slow=8.2,SNR=4.1						
KSRS				LR	LR	13 51 07.6	
	comp=Z,48nm,21.9s,baz=130,slow=31						
	comp=Z,0.7nm,0.8s						
J08A	Circle Bar Ran	76.80	38	IAmb	IAmb	13 23 34.4	
	comp=Z,16nm,1.4s						
319A	Douglas	76.81	52	IAmb	IAmb	13 23 34.7	
	comp=Z,8.7nm,1.1s						
KNB	Kanab	76.95	46	IAmb	IAmb	13 24 01.9	
	comp=Z,24nm,1.9s						
U15A	North Rim	77.02	46	IAmb	IAmb	13 23 36.1	
	comp=Z,14nm,1.3s						
ELK	Elko	77.31	41		P	13 23 35.2	+0.4
ELK	Elko	77.31	41	LR	LR	13 49 49.1	
	comp=Z,111nm,21.4s,baz=254,slow=30						
USRK	Ussuriysk Ar.	77.39	323	P	P	13 23 32.2	-2.6
	comp=Z,1.4nm,0.8s,baz=120,slow=7.5,SNR=5.3						
USRK				LR	LR	13 51 13.1	
	comp=Z,125nm,21.7s,baz=145,slow=31						
	comp=Z,1.4nm,0.8s						
BBB	Bella Bella	77.63	26	LR	LR	13 50 14.2	
	comp=Z,102nm,20.9s,baz=289,slow=30						
MTPU	Mount Pierson	77.90	45	IAmb	IAmb	13 23 40.8	
	comp=Z,12nm,1.4s						
TMUT	Trail Mountain	79.19	44	IAmb	IAmb	13 23 48.0	
	comp=Z,12nm,1.3s						
PV14	Lion Creek, Pa	80.24	46	IAmb	IAmb	13 23 52.5	
	comp=Z,17nm,1.4s						
NJ2	Nanjing	80.25	307	eP	P	13 23 53.1	+2.2
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PV23	Carpenter Ridg	80.28	46	IAmb	IAmb	13 24 06.1	
	comp=Z,10nm,0.9s						
TXAR	Lajitas Array	80.33	56	P	P	13 23 52.7	+1.2
	comp=Z,1.6nm,1.1s,baz=247,slow=2.6,SNR=8.6						
TXAR				LR	LR	13 53 18.8	
	comp=Z,47nm,19.3s,baz=273,slow=31						
	comp=Z,1.6nm,1.1s						
PV12	Saucer Basin,	80.36	46	IAmb	IAmb	13 24 06.2	
	comp=Z,133nm,20.4s,baz=218,slow=30						
S22A	4UR Ranch, Cre	81.49	47	IAmb	IAmb	13 24 21.7	
	comp=Z,21nm,1.7s						
WRH	Wood River Hil	81.75	11	IAmb	IAmb	13 24 18.9	
	comp=Z,18nm,1.3s						
PDAR	Pinedale Array	81.99	42	P	P	13 23 58.9	-1.4
	comp=Z,0.7nm,0.9s,baz=224,slow=4.1,SNR=5.4						
PDAR				LR	LR	13 54 54.6	
	comp=Z,72nm,19.1s,baz=226,slow=32						
	comp=Z,0.7nm,0.9s						
YHL	Hebgen Lake	82.00	39	IAmb	IAmb	13 24 16.0	
	comp=Z,9.9nm,1.0s						
COLA	College	82.16	11	P	P	13 23 59.0	-1.3
ILAR	Eielson Array	82.24	11	P	P	13 23 58.6	-2.1
	comp=Z,1.1nm,1.0s,baz=234,slow=6.3,SNR=10						
ILAR				LR	LR	13 52 58.0	
	comp=Z,99nm,21.3s,baz=208,slow=30						
	comp=Z,1.1nm,1.0s						
J25K	Salcha River,	82.38	12	IAmb	IAmb	13 24 23.2	
	comp=Z,7.3nm,1.1s						
SEY	Seymchan	82.42	345	LR	LR	13 55 39.1	
	comp=Z,74nm,20.7s,baz=146,slow=32						
POKR	Poker Plat Res	82.45	11	IAmb	IAmb	13 24 22.9	
	comp=Z,9.4nm,0.8s						
PRP	Porcupine Dome	83.16	11	IAmb	IAmb	13 24 27.2	
	comp=Z,8.0nm,0.9s						
E19K	Redstone River	83.28	6	IAmb	IAmb	13 24 06.7	
	comp=Z,7.1nm,1.1s						
COLD	Coldfoot	83.94	9	IAmb	IAmb	13 24 31.8	
	comp=Z,6.3nm,1.1s						
BELA	Belgrano 2	84.13	172		P	13 24 09.5	-1.0
BELA				IAmb	IAmb	13 24 11.0	
	comp=Z,7.2nm,0.9s						
E22K	Anaktuvuk Pass	84.57	8	IAmb	IAmb	13 24 34.4	
	comp=Z,9.6nm,1.0s						
E23K	Chandalar	84.80	9	IAmb	IAmb	13 24 26.2	
	comp=Z,5.8nm,1.1s						
I30M	Mount Dempster	84.89	15	IAmb	IAmb	13 24 36.1	
	comp=Z,7.1nm,1.1s						
BMAR	Burnt Mountain	85.05	11	P	P	13 24 15.2	0.0
H03S2	Juan Fernandez	85.10	124	T	T	14 58 55.4	
	baz=252,slow=75,SNR=3.7						
H03S1	Juan Fernandez	85.11	124	T	T	14 58 56.8	
	baz=252,slow=75,SNR=3.6						
H03S3	Juan Fernandez	85.12	124	T	T	14 59 09.7	
	baz=252,slow=75,SNR=3.0						
F26K	Sheenjek River	85.36	11	IAmb	IAmb	13 24 38.6	
	comp=Z,6.9nm,1.1s						
MAW	Mawson	88.02	199	P	P	13 24 27.1	-2.7
	comp=Z,4.1nm,0.8s,baz=126,slow=6.3,SNR=5.1						
	comp=Z,4.1nm,0.8s						
INK	Inuvik	88.05	14	LR	LR	13 56 09.4	
	comp=Z,91nm,21.7s,baz=228,slow=30						
HHC	Hu-ho-hao-te	89.08	313	eP	P	13 24 36.8	+1.3
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,32nm,4.8s						
PLCA	Paso Flores	89.45	132	LR	LR	13 57 52.3	
	comp=Z,53nm,18.9s,baz=238,slow=31						
YKA	Yellowknife Ar	89.85	23	P	P	13 24 37.6	-0.7
	comp=Z,0.8nm,0.9s,baz=240,slow=4.3,SNR=13						
YKA				LR	LR	13 57 43.2	
	comp=Z,101nm,20.0s,baz=257,slow=31						
	comp=Z,0.8nm,0.9s						
JTS	Las Juntas de	90.95	80	LR	LR	13 55 51.7	
	comp=Z,38nm,22.0s,baz=292,slow=29						
ELIB	Princess Elisa	92.32	185	dP	P	13 24 49.0	-1.1
	comp=Z,4.3nm,1.0s						
A36M	Sachs Harbour	92.69	13	IAmb	IAmb	13 25 12.7	
	comp=Z,4.4nm,0.8s						
CMAR	Chiang Mai Arr	92.78	288	LR	LR	14 00 39.7	
	comp=Z,26nm,21.6s,baz=195,slow=32						
LZH	Lanzhou	93.31	306	eP	P	13 24 54.8	-0.5
LZH				pP	pP	13 24 59.5	+1.6
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
ULM	Lac du Bonnet	93.66	39	LR	LR	14 01 52.3	
	comp=Z,147nm,19.8s,baz=249,slow=32						
SONM	Songino Array	94.88	318	LR	LR	14 02 29.2	
	comp=Z,48nm,21.8s,baz=80,slow=32						
TKL	Tuckaleechee C	98.23	55	LR	LR	14 05 37.5	
	comp=Z,46nm,18.1s,baz=284,slow=33						
GERES	GERESS Array B	146.01	352	PKPbc	PKPdf	13 31 17.7	-1.4
	comp=Z,0.3nm,0.3s,baz=343,slow=1.4,SNR=5.1						
BRTR	Keskin Array B	146.17	321	PKPbc	PKPdf	13 31 18.0	-1.8
	comp=Z,2.0nm,0.7s,baz=115,slow=0.8,SNR=11						
CONA	Conrad Observa	146.56	349	ePKP	PKPdf	13 31 21.1	+1.1
	comp=Z,11nm,1.7s						
CONA				epPKiKP	pPKiKP	13 31 32.1	+5.2
	comp=Z,25nm,1.4s						
RONA	Rosalia, Austr	146.69	348	ePKP	PKPdf	13 31 20.0	-0.2
	comp=Z,6.2nm,1.3s						
RONA				iPKiKP	pPKiKP	13 31 33.7	+6.6
	comp=Z,15nm,1.6s						
MOA	Molln	146.90	351	ePKP	PKPdf	13 31 21.0	+0.4
MOA				epPKiKP	pPKiKP	13 31 34.7	+7.1
	comp=Z,4.4nm,1.2s						
	comp=Z,8.5nm,1.2s						
BIOA	Bad Ischl, Aus	147.15	352	iPKiKP	PKiKP	13 31 35.2	+10
	comp=Z,11nm,1.1s						
ARSA	Arzberg	147.27	349	ePKP	PKPdf	13 31 21.5	+0.2
	comp=Z,3.8nm,1.2s						
ARSA				iPKiKP	sPKPab	13 31 34.3	+5.9
	comp=Z,6.7nm,1.2s						
LESA	Schwarzleotal	147.54	353	ePKP	PKPdf	13 31 22.7	+1.0
	comp=Z,3.6nm,1.2s						
LESA				iPKiKP	sPKPab	13 31 35.9	+6.3
	comp=Z,5.2nm,1.3s						
RETA	Reutte	147.68	355	iPKiKP	PKPab	13 31 36.6	+10
	comp=Z,15nm,1.2s						
WATA	Walderalm	147.75	354	iPKP	PKPbc	13 31 24.7	-0.3
	comp=Z,5.0nm,1.0s						
WATA				iPKiKP	sPKPab	13 31 36.4	+5.9
	comp=Z,8.9nm,1.1s						
MOTA	Moosalm	147.79	355	ePKP	PKPdf	13 31 23.8	+1.5
	comp=Z,6.3nm,1.1s						
MOTA				iPKiKP	sPKPab	13 31 37.0	+6.3
	comp=Z,15nm,1.3s						
KBA	Koelnbreinsper	147.79	352	ePKP	PKPdf	13 31 22.8	+0.5
	comp=Z,4.4nm,1.3s						
KBA				iPKiKP	sPKPab	13 31 36.2	+5.4
	comp=Z,7.4nm,1.4s						
WTTA	Wattenberg	147.82	354	ePKP	PKPdf	13 31 23.7	+1.3
	comp=Z,7.9nm,1.5s						
WTTA				iPKiKP	sPKPab	13 31 37.3	+6.4
	comp=Z,14nm,1.5s						
SQTA	Sankt Quirin	147.90	354	ePKP	PKPdf	13 31 24.3	+1.9
	comp=Z,6.9nm,1.2s						
SQTA				epPKiKP	sPKPab	13 31 36.7	+5.6
	comp=Z,12nm,1.2s						
SOKA	Soboth	147.91	349	iPKP	PKPdf	13 31 23.8	+1.4
	comp=Z,5.1nm,0.8s						
SOKA				iPKP	sPKPab	13 31 36.2	+5.1
	comp=Z,15nm,1.5s						
DAVA	Damuels	147.94	356	epPKP	PKPab	13 31 37.5	+9.4
	comp=Z,11nm,1.4s						
FETA	Feichten	148.14	355	iPKP	PKPdf	13 31 25.4	+2.6
	comp=Z,7.7nm,1.4s						
FETA				epPKP	sPKPab	13 31 37.9	+5.8
	comp=Z,14nm,1.5s						
OBKA	Obir	148.16	350	ePKP	PKPdf	13 31 24.2	+1.4
	comp=Z,3.7nm,1.0s						
OBKA				epPKP	sPKPab	13 31 37.3	+5.2
	comp=Z,12nm,1.7s						
MYKA	Terra Mystica	148.19	351	iPKP	PKPdf	13 31 23.7	+0.8
	comp=Z,2.5nm,0.5s						
MYKA				epPKP	sPKPab	13 31 36.5	+4.3
	comp=Z,11nm,1.3s						
ABTA	Abfaltersbach	148.22	353	iPKP	PKPdf	13 31 24.5	+1.6
	comp=Z,5.0nm,1.2s						
ABTA				iPKP	sPKPab	13 31 34.5	+2.2
	comp=Z,12nm,1.4s						
ESDC	Sonseca Array	153.88	19	PKPab	PKPab	13 31 52.4	-0.2
	comp=Z,2.2nm,1.0s,baz=327,slow=3.9,SNR=4.5						

*IDC **22** 13:17:47.6±2.8,28°.79S×177°.76W,h0km,mb3.8/4, mbtmp3.9/5,ML3.9/1,Error ellipse: s-maj=63.6km s-min=33.6km az=44.0*
*NEIC **22** 13:17:48.8±1.3,28°.6S±0°.2×177°.65W±0°.07,h10km±2km, mb4.5/13,Error ellipse: s-maj=29.1km s-min=10.4km az=351.0*

ISC 22 13:17:58.3±1.1,29°.46S±0°.07×178°.5W±0°.2,h35km,n49, σ3°06/70,mb4.2/10,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	8.73	196	P	Pn	13 20 06.3	+4.2
WMGZ				S	Sn	13 21 38.6	-0.7
HAZ	Te Kaha	8.85	200	P	Pn	13 20 06.4	+2.8
HAZ				S	Sn	13 21 43.0	+1.0
PKGZ	Pakihiroa	8.87	198	P	Pn	13 20 07.1	+3.2
PKGZ				S	Sn	13 21 39.6	-2.9
PUZ	Puketiti	9.01	197	P	Pn	13 20 07.9	+2.0
PUZ				S	Sn	13 21 42.2	-4.0
RUGZ	Raukumara Rang	9.07	200	P	Pn	13 20 11.2	+4.4
RUGZ				S	Sn	13 21 48.0	+0.2
TWGZ	Tauwhareparae	9.18	198	P	Pn	13 20 13.2	+4.9
TWGZ				S	Sn	13 21 50.9	+0.4
CNGZ	Carnagh Statio	9.42	196	P	Pn	13 20 14.3	+2.9
CNGZ				S	Sn	13 21 55.7	-0.3
MWZ	Matawai	9.46	199	P	Pn	13 20 13.0	+1.0
MWZ				S	Sn	13 21 56.1	-1.0
TKGZ	Te Karaka	9.46	198	P	Pn	13 20 15.0	+2.9
TKGZ				S	Sn	13 21 54.8	-2.4
URZ	Urewera	9.52	201	Pn	Pn	13 20 16.9	+4.2
	1.0nm,0.3s,baz=337,slow=3.5,SNR=12						
URZ				Sn	Sn	13 21 58.3	-0.1
	2.6nm,0.3s,baz=347,slow=6.3,SNR=14						
	2.9nm,0.3s						
URZ	Urewera	9.52	201	P	Pn	13 20 16.2	+3.5
URZ				S	Sn	13 21 56.2	-2.2
RAGZ	Rawiri	9.64	200	P	Pn	13 20 17.2	+2.6
RAGZ				S	Sn	13 22 00.8	-0.8
RIGZ	Rimuhau	9.74	198	P	Pn	13 20 17.3	+1.4
RIGZ				S	Sn	13 22 02.3	-1.7
PRGZ	Paritu Road	9.91	197	P	Pn	13 20 20.0	+1.7
PRGZ				S	Sn	13 22 02.4	-5.9
SNGZ	Shannon Statio	9.93	199	P	Pn	13 20 19.8	+1.4
SNGZ				S	Sn	13 22 07.4	-1.3
KNZ	Kokohu	10.06	197	P	Pn	13 20 20.8	+0.6
KNZ				S	Sn	13 22 04.5	-7.3
MHGZ	Mahia Peninsul	10.12	196	P	Pn	13 20 21.4	+0.3
MHGZ				S	Sn	13 22 05.7	-7.7
ARHZ	Aropaoanui	10.47	200	P	Pn	13 20 27.3	+1.4
ARHZ				S	Sn	13 22 19.6	-2.3
BKZ	Black Stump Fm	10.54	202	Pn	Pn	13 20 27.9	+1.0
OTVZ	Oturere	10.82	205	P	Pn	13 20 30.1	-0.8
OTVZ				S	Sn	13 22 27.9	-2.9
SNVZ	South Ngauruho	10.85	205	P	Pn	13 20 33.1	+1.8
SNVZ				S	Sn	13 22 30.6	-1.0
WNVZ	Wahianoa	10.99	205	P	Pn	13 20 36.0	+2.8
KAHZ	Kahuranaki	11.00	199	P	Pn	13 20 32.2	-1.0
KAHZ				S	Sn	13 22 30.0	-4.9
PNHZ	Pukenui	11.31	201	P	Pn	13 20 37.2	-0.2
PNHZ				S	Sn	13 22 36.6	-6.0
PRHZ	Porangahau	11.51	199	P	Pn	13 20 37.0	-3.0
PRHZ				S	Sn	13 22 39.7	-7.6
TSZ	Takapari Road	11.52	202	P	Pn	13 20 39.0	-1.3
TSZ				S	Sn	13 22 42.3	-5.4
WAZ	Wanganui	11.60	206	P	Pn	13 20 46.9	+5.6
WAZ				S	Sn	13 22 49.3	-0.2
DVHZ	Dannevirke	11.67	201	P	Pn	13 20 42.4	+0.1
DVHZ				S	Sn	13 22 43.5	-7.9
BFZ

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**194**	P	Pn	13 24 10.5	-0.5
BARC				S	Sn	13 24 25.1	-0.9
BRJC	**Barrancabermej**	**0.63**	**285**	P	Pn	13 24 12.2	-0.3
BRJC				S	Sn	13 24 28.8	+0.1
PAMC	**Pamplona, Colo**	**0.68**	**39**	P	Pn	13 24 13.4	0.0
PAMC				S	Sn	13 24 29.9	-0.3
RUSC	**La Rusia**	**0.91**	**177**	P	Pn	13 24 14.5	-0.7
RUSC				S	Sn	13 24 32.7	-0.6
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	P	Pn	13 24 17.4	-1.2
PTBC				S	Sn	13 24 38.4	-1.1
TAMC	**Tame, Arauca**	**1.38**	**106**	P	Pn	13 24 19.0	0.0
TAMC				S	Sn	13 24 40.0	-0.2
OCAC	**Ocana**	**1.43**	**352**	P	Pn	13 24 18.6	-1.1
OCAC				S	Sn	13 24 40.1	-1.4
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	P	Pn	13 24 23.5	-0.6
ZARC				S	Sn	13 24 48.6	-0.7
NORC	**Norcasia**	**2.13**	**234**	P	Pn	13 24 27.0	-0.5
NORC				S	Sn	13 24 54.9	-0.5
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	13 24 29.3	0.0
CHIC				S	Sn	13 24 58.2	-0.4
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	13 24 29.7	-0.1
ROSC				S	Sn	13 25 01.7	+2.3
CVER	**Cruz Verde, Cu**	**2.46**	**202**	P	Pn	13 24 32.5	+0.5
CVER				S	Sn	13 25 04.0	+0.7
UREC	**San Jos de Ur**	**2.56**	**292**	P	Pn	13 24 30.8	-2.0
UREC				S	Sn	13 25 01.3	-3.5
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	13 24 35.1	-0.2
GUY2C				S	Sn	13 25 08.6	-0.6
PTGC	**Puerto Gaitan,**	**2.78**	**159**	P	Pn	13 24 33.9	-1.6
PTGC				S	Sn	13 25 07.5	-2.2
CBOC	**Ciudad Bolivar**	**3.02**	**252**	P	Pn	13 24 39.1	+0.4
CBOC				S	Sn	13 25 14.7	-0.6
ARGC	**Ariguani, Magd**	**3.22**	**340**	P	Pn	13 24 40.8	-0.4
ARGC				S	Sn	13 25 18.7	-1.2
PRAC	**Prado**	**3.54**	**210**	P	Pn	13 24 44.7	-0.6
PRAC				S	Sn	13 25 26.9	-0.3
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	13 24 45.4	-0.3
ORTC				S	Sn	13 25 28.8	+0.8
SJCC	**San Jacinto, C**	**3.68**	**327**	P	Pn	13 24 44.4	-2.7
SJCC				S	Sn	13 25 25.9	-4.6
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	13 24 47.7	-0.5
URMC				S	Sn	13 25 32.2	-0.1
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	P	Pn	13 24 50.7	-3.2
CRJC				S	Sn	13 25 36.1	-6.5
BBAC	**Balboa, Cauca**	**6.28**	**221**	P	Pn	13 25 21.9	0.0

IDC 22 13:29:09.9±1.6, 27°.70N×101°.42E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=49.8km s-min=26.5km az=74.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.48**	**194**	Pg	Pn	13 32 04.0	+36
	0.1nm,0.3s,baz=4.6,slow=16,SNR=7.0						
CMAR				Lg	Lg	13 34 12.2	
	0.2nm,0.3s,baz=7.7,slow=26,SNR=4.7						
MKAR	**Makanchi Array**	**24.28**	**327**	P	P	13 34 29.3	+0.4
	0.2nm,0.5s,baz=144,slow=10,SNR=2.0						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**57.08**	**142**	P	P	13 38 58.4	+0.2
	0.3nm,0.7s,baz=331,slow=7.3,SNR=2.0						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**59.92**	**145**	P	P	13 39 17.3	-0.7
	0.1nm,0.3s,baz=325,slow=6.5,SNR=5.4						
	0.1nm,0.3s						

*IDC **22** 13:34:05.3±7.5, 26°.35N×127°.82E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=192.5km s-min=40.5km az=5.0*
*JMA **22** 13:34:25.6±0.2, 27°N±1°×12°7E±°, h100km±2km, MV3.0/20, NW OFF OKINAWAJIMA IS*

ISC 22 13:34:24.9±0.8, 27°.27N±0°.06×127°.57E±0°.06, h119km±7km, n21, σ1§14/35, mb3.4/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.43**	**124**	P	**Pn**	**13 34 42.3**	**0.0**
JIH				S	**Sn**	**13 34 54.5**	**-0.9**
JAGN	**Aguni-jima**	**0.74**	**203**	*i* P	**Pn**	**13 34 44.1**	**-0.3**
JAGN				S	**Sn**	**13 34 57.8**	**-1.5**
JOW	**Kunigami**	**0.77**	**125**	*i* P	**Pn**	**13 34 45.2**	**+0.5**
JOW				S	**Sn**	**13 34 59.8**	**+0.2**
JYRO	**Yoronjima**	**0.82**	**107**	*i* P	**Pn**	**13 34 45.8**	**+0.6**
JYRO				S	**Sn**	**13 35 00.5**	**0.0**
JNTH	**Nagotoyohara**	**0.85**	**152**	*i* P	**Pn**	**13 34 46.2**	**+0.8**
JNTH				S	**Sn**	**13 35 01.3**	**+0.3**
JOKE	**Okinoerabujima**	**0.90**	**84**	P	**Pn**	**13 34 46.2**	**+0.3**
JOKE				S	**Sn**	**13 35 01.4**	**-0.3**
JJT3	**Tamagusuku3**	**1.14**	**170**	P	**Pn**	**13 34 49.9**	**+1.6**
JJT3				S	**Sn**	**13 35 07.5**	**+1.5**
JKE	**Kume jima 2**	**1.17**	**217**	P	**Pn**	**13 34 48.4**	**-0.3**
JKE				S	**Sn**	**13 35 04.9**	**-1.6**
JTK	**Tokunoshima**	**1.33**	**67**	P	**Pn**	**13 34 50.7**	**+0.4**
JTK				S	**Sn**	**13 35 08.8**	**-0.8**
JAMN	**Amaminishikomi**	**1.72**	**55**	P	**Pn**	**13 34 55.0**	**+0.1**
JAMN				S	**Sn**	**13 35 16.7**	**-1.0**
JAM	**Amami Oshima**	**2.13**	**57**	P	**Pn**	**13 35 00.6**	**+0.7**
JAM				*e*S	**Sn**	**13 35 26.7**	**-0.1**
JTAJ	**Takarajima**	**2.37**	**37**	P	**Pn**	**13 35 03.8**	**+0.9**
JZK	**Kikaishima**	**2.37**	**63**	P	**Pn**	**13 35 04.3**	**+1.3**
JMZ	**Minamidaito 2**	**3.58**	**113**	P	**Pn**	**13 35 18.9**	**+0.1**
JMZ				S	**Sn**	**13 35 57.7**	**-2.8**
JKDJ	**Kitadaitoujima**	**3.59**	**111**	P	**Pn**	**13 35 19.5**	**+0.6**
JKDJ				S	**Sn**	**13 35 59.1**	**-1.6**
JYAK	**Yakushimahirau**	**3.92**	**40**	*e*P	**Pn**	**13 35 24.1**	**+0.7**
JYAK				*e*S	**Sn**	**13 36 06.9**	**-1.8**
SONM	**Songino Array**	**26.36**	**327**	P	**P**	**13 39 51.9**	**+2.0**
	0.6nm,0.4s,baz=148,slow=10,SNR=4.7						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**40.40**	**311**	P	**P**	**13 41 50.9**	**-0.3**
	0.5nm,0.7s,baz=90,slow=9.1,SNR=5.8						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**63.80**	**28**	P	**P**	**13 44 42.1**	**-1.9**
	0.2nm,0.8s,baz=278,slow=8.8,SNR=4.2						
	0.2nm,0.8s						
FINES	**FINESS Array B**	**71.67**	**330**	P	**P**	**13 45 33.8**	**+0.4**
	1.3nm,1.0s,baz=51,slow=6.4,SNR=4.3						
	1.3nm,1.0s						
YKA	**Yellowknife Ar**	**77.83**	**25**	P	**P**	**13 46 09.8**	**+0.9**
	0.2nm,0.6s,baz=300,slow=5.6,SNR=6.9						
	0.2nm,0.6s						

*IDC **22** 13:52:13.1±0.7, 1°.67S×122°.76E, h0km, mb4.1/11, mbtmp4.1/13, ML3.9/2, MS3.1/7, Error ellipse: s-maj=34.7km s-min=13.6km az=69.0*
*NEIC **22** 13:52:16.6±1.2, 1°.79S±0°.05×122°.63E±0°.07, h10km±1km, mb4.6/20, Error ellipse: s-maj=11.9km s-min=8.7km az=97.0*
*DJA **22** 13:52:17.0±0.2, 2°S±2°×12°3E±°, h10km, M4.5/22, mB5.0/5, mb4.8/9, MLv4.5/22, Mw(mB)4.3/5*

ISC 22 13:52:16.6±0.5, 1°.87S±0°.04×122°.61E±0°.05, h10km, n92, σ1§12/83, mb4.5/26, MS3.2/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.84**	**11**		**Pg**	**13 52 32.4**	**-0.4**
LUWI	**Luwuk**	**0.84**	**11**	P	**Pg**	**13 52 32.5**	**-0.3**
LUWI	**Luwuk**	**0.84**	**11**	P	**Pg**	**13 52 32.2**	**-0.6**
LUWI				S	**Sg**	**13 52 44.1**	**+0.3**
APSI	**Ampana**	**1.35**	**315**	P	**Pn**	**13 52 39.9**	**-1.6**
KDI	**Kendari**	**2.07**	**180**	P	**Pn**	**13 52 51.8**	**+0.3**
KDI				S	**Sn**	**13 53 16.7**	**-0.7**
KMSI	**Cibinong**	**2.79**	**30**	P	**Pn**	**13 53 01.4**	**0.0**
PCI	**Palu**	**2.93**	**289**	P	**Pn**	**13 53 03.3**	**0.0**
SANI	**Sanana**	**3.38**	**93**	P	**Pn**	**13 53 08.9**	**-0.7**
SANI	**Sanana**	**3.38**	**93**	S	**Sn**	**13 53 49.2**	**-0.6**
SANI	**Sanana**	**3.38**	**93**	P	**Pn**	**13 53 08.2**	**-1.4**
TOLI2	**Tolitoli**	**3.48**	**328**		**Pn**	**13 53 11.4**	**+0.6**
TOLI2	**Tolitoli**	**3.48**	**328**	P	**Pn**	**13 53 12.1**	**+1.3**
MPSI	**Mapaga**	**3.48**	**309**	P	**Pn**	**13 53 09.7**	**-1.2**
SPSI	**Sidrap Palu**	**3.52**	**234**	P	**Pn**	**13 53 12.1**	**+0.8**
BNSI	**Bone**	**3.54**	**225**	P	**Pn**	**13 53 12.5**	**+0.8**
BBSI	**Bau Bau**	**3.59**	**181**	P	**Pn**	**13 53 12.9**	**+0.5**
KAPI	**Kappang**	**4.23**	**222**		**Pn**	**13 53 22.5**	**+1.4**
KAPI	**Kappang**	**4.23**	**222**	Pn	**Pn**	**13 53 22.7**	**+1.6**
	28nm,0.3s,baz=356,slow=5.7,SNR=27						
KAPI				Sn	**Sn**	**13 54 10.9**	**+0.3**
	29nm,0.3s,baz=214,slow=23,SNR=8.4						
KAPI				LR	LR	13 55 26.1	
	comp=Z,179nm,18.2s,baz=32,slow=43						
	78nm,0.4s						
KAPI	**Kappang**	**4.23**	**222**	P	**Pn**	**13 53 22.9**	**+1.8**
BKSI	**Bulukumba**	**4.23**	**216**	P	**Pn**	**13 53 22.0**	**+0.8**
NLAI	**Namlea**	**4.69**	**107**	P	**Pn**	**13 53 29.6**	**+2.1**
BSSI	**Bau Bau, Buton**	**4.74**	**206**	P	**Pn**	**13 53 28.8**	**+0.6**
TNTI	**Ternate**	**5.43**	**61**		**Pn**	**13 53 38.3**	**+0.5**
TNTI	**Ternate**	**5.43**	**61**	S	**Sn**	**13 54 41.9**	**+1.5**
TNTI	**Ternate**	**5.43**	**61**	P	**Pn**	**13 53 38.8**	**+1.0**
TNTI	**Ternate**	**5.43**	**61**	P	**Pn**	**13 53 39.0**	**+1.2**
	0.3nm1μm48nm,0.5s						
BKB	**Balikpapan**	**5.74**	**276**	Pn	**Pn**	**13 53 42.4**	**+0.5**
MMRI	**Maumere**	**6.73**	**183**	Pn	**Pn**	**13 53 56.4**	**+0.8**
MMRI	**Maumere**	**6.73**	**183**	P	**Pn**	**13 53 56.6**	**+1.0**
MMRI	**Maumere**	**6.73**	**183**	P	**Pn**	**13 53 55.9**	**+0.3**
	0.3nm67nm,0.5s						
EDFI	**Ende, Flores**	**6.89**	**188**	P	**Pn**	**13 53 58.0**	**+0.1**
	0.1nm36nm,0.8s						
SOEI	**Soe**	**8.01**	**168**		**Pn**	**13 54 14.2**	**+0.9**
SOEI	**Soe**	**8.01**	**168**	P	**Pn**	**13 54 16.9**	**+3.7**
	86nm,0.9s						
MYLDM	**Lahad Datu**	**8.12**	**330**		**Pn**	**13 54 16.9**	**+2.3**
MYLDM	**Lahad Datu**	**8.12**	**330**	P	**Pn**	**13 54 17.3**	**+2.7**
SWI	**Sorong**	**8.71**	**84**	P	**Pn**	**13 54 23.4**	**+0.6**
DAV	**Davao City (W)**	**9.36**	**18**	LR	LR	13 58 36.5	
	comp=Z,28nm,19.4s,baz=272,slow=42						
FAKI	**Fak Fak**	**9.69**	**96**	Pn	**Pn**	**13 54 35.8**	**-0.4**
FAKI	**Fak Fak**	**9.69**	**96**	P	**Pn**	**13 54 35.7**	**-0.5**
MTN	**Manton Dam**	**13.79**	**143**	P	**P**	**13 55 42.0**	**+1.1**
KNRA	**Kununurra**	**15.00**	**156**	Pn	**Pn**	**13 55 49.2**	**+0.3**
LEM	**Lembang**	**15.73**	**251**	LR	LR	14 03 08.5	
	comp=Z,140nm,20.4s,baz=306,slow=41						
FITZ	**Fitzroy Crossi**	**16.40**	**170**	Pn	**Pn**	**13 56 07.7**	**+0.6**
	0.1nm,0.3s,baz=8.6,slow=10,SNR=2.9						
	2.1nm,0.7s						
PSA00	**Pilbara Seismi**	**19.77**	**188**	P	**P**	**13 56 46.8**	**-0.2**
WRAB	**Tennant Creek**	**21.31**	**148**	P	**P**	**13 57 03.7**	**-0.1**
WRAB				IAmb	IAmb	13 57 09.6	
	comp=Z,10nm,0.7s						
WRA	**Warramunga Arr**	**21.31**	**148**	P	**P**	**13 57 04.5**	**+0.6**
WRA	**Warramunga Arr**	**21.31**	**148**	P	**P**	**13 57 03.6**	**-0.2**
	comp=Z,10nm,0.7s,baz=333,slow=9.8,SNR=58						
	comp=Z,10nm,0.7s						
WR8	**Warramunga Arr**	**21.41**	**148**		**P**	**13 57 04.6**	**-0.2**
WR8				IAmb	IAmb	13 57 07.9	
	comp=Z,16nm,0.7s						
COEN	**Coen**	**23.62**	**122**	P	**P**	**13 57 27.1**	**-1.0**
COEN				IAmb	IAmb	13 57 46.1	
	comp=Z,19nm,1.4s						
WRKA	**Warakurna**	**23.68**	**167**	P	**P**	**13 57 28.9**	**+0.3**
RPSI	**Rantau Prapat**	**24.11**	**281**		**P**	**13 57 32.7**	**-0.1**
RPSI				IAmb	IAmb	13 57 38.4	
	comp=Z,23nm,1.2s						
PSI	**Prapat**	**24.12**	**281**	LR	LR	14 08 17.4	
	comp=Z,79nm,21.7s,baz=94,slow=40						
AS31	**Alice Springs**	**24.27**	**154**		**P**	**13 57 34.0**	**-0.3**
ASAR	**Alice Springs**	**24.28**	**154**	P	**P**	**13 57 34.2**	**-0.1**
	comp=Z,6.3nm,0.6s,baz=330,slow=8.2,SNR=161						
ASAR				PcP	**PcP**	**14 01 13.4**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=338,slow=2.0,SNR=8.6						
ASAR				LR	LR	14 07 55.1	
	comp=Z,101nm,18.3s,baz=358,slow=39						
	comp=Z,6.3nm,0.6s						
AS01	**Alice Springs**	**24.30**	**154**	P	**P**	**13 57 34.5**	**0.0**
QIS	**Mount Isa**	**24.91**	**139**	P	**P**	**13 57 39.7**	**-0.3**
FORT	**Forrest**	**29.21**	**170**	P	**P**	**13 58 18.1**	**-0.5**
FORT				IAmb	IAmb	13 58 57.8	
	comp=Z,21nm,1.2s						
CMAR	**Chiang Mai Arr**	**30.82**	**312**	P	**P**	**13 58 32.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**30.82**	**312**	P	**P**	**13 58 31.6**	**-1.4**
	comp=Z,2.2nm,0.9s,baz=136,slow=6.9,SNR=15						
CMAR				LR	LR	14 13 21.3	
	comp=Z,20nm,19.6s,baz=160,slow=41						
	comp=Z,2.2nm,0.9s						
INKA	**Innaminka**	**31.04**	**148**	P	**P**	**13 58 35.5**	**+0.7**
CHTO	**Chiang Mai**	**31.05**	**313**	P	**P**	**13 58 33.3**	**-1.7**
BBOO	**Buckleboo**	**33.27**	**159**	P	**P**	**13 58 53.8**	**-0.6**
BBOO	**Buckleboo**	**33.27**	**159**	P	**P**	**13 58 54.2**	**-0.2**
NJ2	**Nanjing**	**33.92**	**354**	*e*P	**P**	**13 59 00.6**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
STKA	**Stephens Creek**	**34.81**	**151**	P	**P**	**13 59 07.3**	**-0.5**
STKA	**Stephens Creek**	**34.81**	**151**	P	**P**	**13 59 06.9**	**-0.8**
	comp=Z,4.6nm,0.8s,baz=328,slow=7.0,SNR=8.5						
	comp=Z,4.6nm,0.8s						
STKA	**Stephens Creek**	**34.81**	**151**	P	**P**	**13 59 07.6**	**-0.1**
HTT	**Hallett**	**34.92**	**156**	P	**P**	**13 59 10.0**	**+1.2**
CMSA	**Cobar Meteorol**	**36.69**	**146**	P	**P**	**13 59 24.2**	**+0.3**
ARPS	**Mount Arapiles**	**39.01**	**155**	P	**P**	**13 59 43.8**	**+0.4**
MJAR	**Matsushiro Arr**	**40.88**	**19**	P	P	13 59 54.3	-4.7
	comp=Z,1.6nm,0.8s,baz=191,slow=9.6,SNR=4.4						
	comp=Z,1.6nm,0.8s						
CAN	**Canberra**	**41.34**	**147**	P	**P**	**14 00 03.2**	**+0.4**
CAN	**Canberra**	**41.34**	**147**	P	**P**	**14 00 04.1**	**+1.2**
LZH	**Lanzhou**	**41.62**	**337**	*e*P	**P**	**14 00 08.3**	**+3.0**
LZH				pmax	pmax		
	comp=Z,14nm,0.4s						
HHC	**Hu-ho-hao-te**	**43.69**	**348**	*e*P	**P**	**14 00 23.4**	**+1.4**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,54nm,4.4s						
XLT	**XiLinHaoTe**	**45.94**	**353**	*e*P	P	14 00 45.5	+5.7
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,120nm,5.0s						
GTA	**Gaotai**	**46.10**	**335**	*e*P	**P**	**14 00 42.8**	**+1.6**
GTA				sP	sP	14 00 50.4	+5.1
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DZM	**Mont Dzumac**	**47.09**	**119**	LR	LR	14 21 00.9	
	comp=Z,34nm,18.5s,baz=182,slow=37						
JKA	**Kamikawa-asahi**	**49.16**	**19**	P	**P**	**14 01 03.4**	**-1.3**
SONM	**Songino Array**	**51.49**	**346**	P	P	14 01 20.4	-2.1
	comp=Z,0.3nm,0.4s,baz=163,slow=6.0,SNR=3.9						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**60.00**	**329**	P	**P**	**14 02 22.0**	**-1.5**
MKAR	**Makanchi Array**	**60.00**	**329**	P	P	14 02 20.8	-2.7
	comp=Z,1.0nm,0.6s,baz=123,slow=8.5,SNR=10						
MKAR				PcP	**PcP**	**14 03 07.2**	**-2.3**
	comp=Z,1.1nm,0.6s,baz=120,slow=5.2,SNR=5.8						
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**63.85**	**336**	P	P	14 02 46.8	-2.4
	comp=Z,0.8nm,0.6s,baz=123,slow=5.5,SNR=4.1						
	comp=Z,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**64.38**	**331**	P	P	14 02 49.9	-2.8
	comp=Z,1.4nm,0.2s,baz=126,slow=5.9,SNR=5.6						
	comp=Z,1.4nm,0.2s						
KURK	**Kurchatov**	**64.40**	**331**	P	P	14 02 50.5	-2.3
KURK				IAmb	IAmb	14 02 53.8	
	comp=Z,8.2nm,1.4s						
VNDA	**Vanda**	**78.46**	**172**	P	**P**	**14 04 16.7**	**-0.7**
VNDA	**Vanda**	**78.46**	**172**	P	P	14 04 14.7	-2.7
	comp=Z,1.6nm,0.9s,baz=307,slow=7.0,SNR=7.0						
	comp=Z,1.6nm,0.9s						
C18K	**Utukok River**	**86.72**	**21**	P	**P**	**14 04 59.5**	**-1.1**
C18K				IAmb	IAmb	14 05 06.6	
	comp=Z,4.2nm,1.1s						
D19K	**Kuna River**	**87.80**	**21**	P	**P**	**14 05 05.2**	**-0.6**
D19K				IAmb	IAmb	14 05 12.6	
	comp=Z,4.3nm,1.1s						
H19K	**Roundabout Mou**	**87.93**	**24**	P	**P**	**14 05 05.7**	**-0.6**
H19K				IAmb	IAmb	14 05 09.3	
	comp=Z,4.4nm,0.8s						
QSPA	**South Pole Qui**	**88.08**	**180**	P	P	14 05 05.6	-1.7
	comp=Z,0.8nm,0.6s,baz=276,slow=1.4,SNR=8.0						
	comp=Z,0.8nm,0.6s						
I29M	**Ogilvie Camp,**	**95.49**	**25**	IAmb	IAmb	14 05 44.9	
	comp=Z,3.2nm,1.0s						

*IDC **22** 14:07:25.6±4.3, 41°.30N×19°.66E, h0km, mb3.6/3, mbtmp3.5/5, ML2.9/2, Error ellipse: s-maj=66.7km s-min=22.1km az=22.0*
*TIR **22** 14:07:28.6, 41°.49N×19°.50E, h26km±1km, Md3.0/16, Ml3.2/9*
*BEO **22** 14:07:29.3±0.5, 41°.40N×19°.52E, h14km±2km, ML2.9/14*
*PDG **22** 14:07:30.1±0.5, 41°.52N×19°.56E, h12km±1km, MD3.1/3, ML3.0/13, Error ellipse: s-maj=0.7km s-min=1.4km az=0.0*
*THE **22** 14:07:31.9, 41°.47N×19°.52E, h10km±31km, ML2.7/3, Error ellipse: s-maj=31.6km s-min=3.0km az=0.0*
*ATH **22** 14:07:31.1, 41°.53N×19°.44E, h70km×7km, ML3.0/14, Manual Solution by A.Andreou First location: 2019/04/22 14:08:53, This location: 2020/08/10 13:29:44 ML*
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km
*RHSSO **22** 14:07:31.0±0.6, 41°.45N×19°.35E, h15km±2km, ML3.2/10*

ISC 22 14:07:29.5±0.9, 41°.47N±0°.01×19°.51E±0°.02, h16km±6km, n148, σ1§22/218, 19C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**114**	Pg	**Pg**	**14 07 35.7**	**-0.1**
TIR				Sg	**Sg**	**14 07 39.2**	**-0.9**
TIR				AML	AML	14 07 39.8	
	13nm,0.2s						
TIR				AMd		14 08 15.3	
TIR	**Tirane**	**0.29**	**114**	⇓P	**Pg**	**14 07 35.6**	**-0.1**
TIR				⇓S	**Sg**	**14 07 40.5**	**+0.4**
TIR	**Tirane**	**0.29**	**114**	*e*Pg	**Pg**	**14 07 35.5**	**-0.3**
TIR				*e*Sg	**Sg**	**14 07 40.2**	**+0.1**
ULC	**Ulcinj**	**0.53**	**338**	Pg	**Pg**	**14 07 39.5**	**-0.7**
ULC				AMd		14 08 45.3	
ULC	**Ulcinj**	**0.53**	**338**	⇑*i*Pg	**Pg**	**14 07 39.4**	**-0.7**
ULC				*i* Sg	**Sg**	**14 07 48.0**	**+0.7**
PUK	**Puka**	**0.64**	**26**	Pg	**Pg**	**14 07 40.8**	**-1.4**
PUK				Sg	**Sg**	**14 07 51.0**	**+0.3**
PUK				AML	AML	14 07 55.6	
	3.2nm,0.3s						
PUK				AMd		14 08 34.4	
PHP	**Peshkopia**	**0.73**	**72**	Pg	**Pg**	**14 07 42.4**	**-1.5**
PHP				Sg	**Sg**	**14 07 54.0**	**+0.5**
PHP				AML	AML	14 07 59.0	
	5.6nm,0.8s						
PHP				AMd		14 08 53.8	
DRME	**Dracevica, Mon**	**0.76**	**341**	Pg	**Pg**	**14 07 43.4**	**-0.9**
DRME				AMd		14 08 52.6	
DRME	**Dracevica, Mon**	**0.76**	**341**	*e*Pg	**Pg**	**14 07 44.3**	**0.0**
DRME				*e*Sg	**Sb**	**14 07 55.7**	**+1.3**
DRME	**Dracevica, Mon**	**0.76**	**341**	⇑*i*Pg	**Pg**	**14 07 44.1**	**-0.2**
DRME				*i* Sg	**Sg**	**14 07 55.0**	**+0.6**
BUM	**Brajici-Budva**	**0.95**	**331**	Pg	**Pb**	**14 07 46.8**	**-0.9**
BUM				AMd		14 08 49.3	
BUM	**Brajici-Budva**	**0.95**	**331**	⇑*i*Pg	**Pb**	**14 07 47.7**	**+0.1**
BUM				*i* Sg	**Sg**	**14 08 01.8**	**+1.3**
PDG	**Podgorica**	**0.98**	**349**	*e*Pg	**Pb**	**14 07 48.7**	**+0.6**
PDG				*e*Sg	**Sn**	**14 08 03.0**	**+0.8**
PDG	**Podgorica**	**0.98**	**349**	⇑P	**Pb**	**14 07 48.6**	**+0.5**
PDG				⇓S	**Sn**	**14 08 03.3**	**+1.1**
PDG	**Podgorica**	**0.98**	**349**	*e*Pg	**Pb**	**14 07 47.2**	**-0.9**
PDG				*e*Sg	**Sn**	**14 08 02.9**	**+0.8**
PDG	**Podgorica**	**0.98**	**349**	⇓*i*Pg	**Pb**	**14 07 47.1**	**-1.0**
PDG				*i* Sg	**Sg**	**14 08 01.9**	**+0.5**
PDG	**Podgorica**	**0.98**	**349**	P	**Pb**	**14 07 48.1**	**0.0**
PDG				S	**Sb**	**14 08 01.8**	**+1.0**
BCI	**Bajram Curri**	**0.99**	**25**	Pg	**Pb**	**14 07 46.4**	**-1.9**
BCI				Sg	**Sb**	**14 08 01.1**	**0.0**
BCI				AML	AML	14 08 09.4	
	2.6nm,0.4s						
VLO	**Vlora**	**1.00**	**181**	Pn	**Pb**	**14 07 47.8**	**-0.6**
VLO				Sn	**Sb**	**14 08 01.8**	**+0.6**
VLO				AML	AML	14 08 08.6	
	4.1nm,0.3s						
VLO				AMd		14 08 47.9	
OHR	**Ohrid**	**1.04**	**110**	*i* Pn	**Pb**	**14 07 48.4**	**-0.6**
OHR				*i* Sn	**Sn**	**14 08 05.4**	**+1.8**
CEME	**Cevo**	**1.16**	**338**	Pg	**Pn**	**14 07 50.5**	**-0.6**
CEME				AMd		14 08 57.6	
CEME	**Cevo**	**1.16**	**338**	⇑*i*Pg	**Pn**	**14 07 51.5**	**+0.3**
CEME				*i* Sg	**Sn**	**14 08 09.0**	**+2.2**
PVY	**Plav**	**1.18**	**16**	Pg	**Pn**	**14 07 50.9**	**-0.5**
PVY				AMd		14 08 42.3	
PVY	**Plav**	**1.18**	**16**	⇓*i*Pg	**Pn**	**14 07 50.4**	**-1.0**
PVY				*i* Sg	**Sb**	**14 08 07.7**	**+1.2**
HCY	**Herceg Novi**	**1.24**	**323**	Pg	**Pn**	**14 07 51.9**	**-0.2**
HCY				AMd		14 09 04.7	
HCY	**Herceg Novi**	**1.24**	**323**	*e*Pg	**Pn**	**14 07 52.7**	**+0.6**
HCY				*e*Sg	**Sb**	**14 08 09.1**	**+0.9**
HCY	**Herceg Novi**	**1.24**	**323**	⇑*i*Pg	**Pn**	**14 07 53.0**	**+0.9**
HCY				*i* Sg	**Sg**	**14 08 11.5**	**+2.0**

RUDO *e*Sn **Sn** **14 08 32.7 +1.6**
IVAS Ivanjica 2.16 13 *e*Pn **Pn** **14 08 05.9 +1.0**
IVAS *e*Sn **Sb** **14 08 34.4 -0.4**
KALIN Kalinovik 2.18 339 *e*Pn **Pn** **14 08 07.2 +2.0**
KALIN *e*Sn **Sn** **14 08 32.4 +0.5**
BARS Barje 2.18 51 *e*Pn **Pn** **14 08 06.2 +1.1**
BARS *e*Sn **Sn** **14 08 32.1 +0.3**
GRG Griva 2.24 102 P **Pn** **14 08 07.2 +1.2**
KTI Kastanea 2.25 118 P **Pn** **14 08 08.5 +2.3**
MATE Matera 2.27 250 ⇓P **Pn** **14 08 06.2 -0.1**
VAY Valandovo 2.31 93 *i* Pn **Pn** **14 08 08.3 +1.5**
VAY *i* Sn **Sb** **14 08 37.7 -1.3**
GOCS Kraljevo Serbi 2.32 25 *e*Pn **Pn** **14 08 08.7 +1.5**
GOCS *e*Sn **Sn** **14 08 37.8 +2.4**
BBLS Lazi&#263i 2.40 358 *e*Pn **Pn** **14 08 10.6 +2.4**
BBLS *e*Sn **Sn** **14 08 40.2 +3.0**
BBLS Lazi&#263i 2.40 358 *e*Pn **Pn** **14 08 10.3 +2.1**
BBLS *e*Sn **Sn** **14 08 37.9 +0.7**
BOSS Bosilegrad 2.44 64 *e*Pn **Pn** **14 08 09.2 +0.5**
BOSS *e*Sn **Sn** **14 08 39.0 +0.8**
TETR Tetrakomo, Epi 2.51 147 P **Pn** **14 08 11.4 +1.6**
KNT Kendrikon 2.57 96 P **Pn** **14 08 12.0 +1.5**
KNT Kendrikon 2.57 96 P **Pn** **14 08 11.1 +0.7**
GRUS Gruza 2.58 20 *e*Pn **Pn** **14 08 11.6 +1.0**
LIT Litokhoron 2.64 120 P **Pn** **14 08 13.0 +1.5**
HAPS Han Pijesak,BI 2.65 351 *e*Pn **Pn** **14 08 13.4 +1.8**
HAPS *e*Sn **Sn** **14 08 44.8 +1.3**
DIVS Divibare 2.65 8 *e*Pn **Pn** **14 08 13.0 +1.3**
THL Klokotos Trika 2.69 134 P **Pn** **14 08 14.3 +2.2**
THL Klokotos Trika 2.69 134 P **Pn** **14 08 13.2 +1.1**
BOVS Bovan 2.71 36 ⇓P **Pn** **14 08 13.4 +1.1**
BOVS Bovan 2.71 36 *e*Pn **Pn** **14 08 13.0 +0.7**
BOVS *e*Sn **Sn** **14 08 46.0 +1.3**
TYRN Tyrnavos 2.72 129 P **Pn** **14 08 14.9 +2.4**
THE Thessaloniki 2.74 107 P **Pn** **14 08 13.8 +1.0**
TSLK Tsoukalades, L 2.78 161 P **Pn** **14 08 14.7 +1.4**
TSLK Tsoukalades, L 2.78 161 P **Pn** **14 08 14.8 +1.4**
LKD2 Lefkada island 2.82 161 P **Pn** **14 08 15.0 +1.1**
LKD2 S **Sn** **14 08 48.9 +1.4**
LKD2 Lefkada island 2.82 161 P **Pn** **14 08 14.9 +1.1**
TRUS Trudelj 2.83 13 *e*Pn **Pn** **14 08 15.8 +1.7**
HORT Hortiatis 2.85 107 P **Pn** **14 08 15.6 +1.2**
NYDR Nydri-Lefkada 2.90 161 P **Pn** **14 08 16.0 +1.0**
ZAPS Zavoj 2.94 51 *e*Pn **Pn** **14 08 16.5 +1.0**
ZAPS *e*Sn **Sn** **14 08 52.6 +2.2**
EVGI Lefkada island 2.98 162 P **Pn** **14 08 16.8 +0.8**
EVGI Lefkada island 2.98 162 P **Pn** **14 08 16.9 +0.8**
TEKS Tekeris 3.08 0 *e*Pn **Pn** **14 08 19.7 +2.2**
TEKS Tekeris 3.08 0 *e*Pn **Pn** **14 08 18.8 +1.3**
ZAGS Zajecar 3.09 40 *e*Pn **Pn** **14 08 18.0 +0.5**
ZAGS *e*Sn **Sn** **14 08 54.5 +0.4**
EVR Evrytania 3.10 145 P **Pn** **14 08 21.6 +3.8**
TIP Timpagrande 3.11 223 ⇓P **Pn** **14 08 18.6 +0.7**
TIP Timpagrande 3.11 223 P **Pn** **14 08 18.3 +0.4**
CUC Castrocucco 3.17 244 P **Pn** **14 08 18.8 0.0**
PLG Polygyros 3.18 109 P **Pn** **14 08 19.9 +1.1**
BORS2 Bor- Borsko je 3.21 34 *e*Pn **Pn** **14 08 18.7 -0.5**
BORS2 *e*Sn **Sn** **14 08 56.3 -0.8**
PVO Paravola 3.24 151 P **Pn** **14 08 20.8 +1.1**
AGG Agios Georgios 3.26 138 P **Pn** **14 08 21.0 +1.1**
ANX Ano Chora 3.42 146 P **Pn** **14 08 23.6 +1.5**
XOR Xorichti 3.51 126 P **Pn** **14 08 24.8 +1.4**
EFP Efpalio 3.55 148 P **Pn** **14 08 24.8 +0.9**
MDVR Moldovita 3.68 25 ⇑P **Pn** **14 08 26.5 +0.7**
BLY Banja Luka 3.69 333 *e*Sn **Sn** **14 09 09.5 +0.4**
FRGS Fruska Gora 3.69 3 *e*Pn **Pn** **14 08 27.0 +1.1**
A050A Klekovaca 3.72 325 *e*Pn **Pn** **14 08 27.9 +1.6**
A050A *e*Sn **Sn** **14 09 09.1 -0.8**
RLS Riolos of Patr 3.73 155 P **Pn** **14 08 27.3 +1.0**
KAVA Kavala 3.80 95 P **Pn** **14 08 28.0 +0.6**
KLV Kalavryta, Ach 3.98 148 P **Pn** **14 08 30.8 +0.9**
A051A Mrakovica 4.02 333 *e*Pn **Pn** **14 08 30.9 +0.5**
A051A *e*Sn **Sn** **14 09 16.8 -0.4**
HERR Herculane 4.02 31 ⇑P **Pn** **14 08 31.2 +0.8**
THAS Thassos island 4.03 101 P **Pn** **14 08 31.9 +1.3**
CEL Celeste 4.24 222 P **Pn** **14 08 33.5 0.0**
BZS Buzias 4.42 20 ⇑P **Pn** **14 08 36.6 +0.7**
GZR Gura Zlata 4.59 30 ⇑P **Pn** **14 08 40.0 +1.7**
ITM Ithomi 4.67 156 P **Pn** **14 08 40.5 +1.1**
MORH Mrgy, Hungar 4.79 353 ⇓P **Pn** **14 08 41.9 +1.1**
SIRR Siria 5.04 17 ⇑P **Pn** **14 08 45.8 +1.4**
BOJS Bojanci 5.08 324 *e*Pn **Pn** **14 08 45.4 +0.4**
BOJS *e*Sn **Sn** **14 09 41.9 -1.5**
CRES Cresnjevec Ost 5.25 327 *e*Pn **Pn** **14 08 47.7 +0.4**
CRES *e*Sn **Sn** **14 09 45.9 -1.7**
ARR Arges 5.40 42 ⇓P **Pn** **14 08 51.1 +1.8**
CEY Cerknica 5.64 321 ⇑*i*Pn **Pn** **14 08 53.3 +0.6**
CEY *e*Sn **Sn** **14 09 54.9 -2.2**
VOIR 5.66 44 ⇑P **Pn** **14 08 54.2 +1.2**
SKDS Skadanscina 5.71 317 *e*Pn **Pn** **14 08 53.1 -0.5**
SKDS *e*Sn **Sn** **14 09 56.0 -2.7**
MLR Muntele Rosu 6.17 47 Pn **Pn** **14 09 00.9 +0.9**
0.6nm,0.3s,baz=220,slow=7.9,SNR=3.6
1.9nm,0.4s
MLR Muntele Rosu 6.17 47 ⇑P **Pn** **14 09 01.8 +1.8**
OBKA Obir 6.18 326 *e*Pn **Pn** **14 09 00.3 +0.2**
OBKA *e*Sn **Sn** **14 10 07.7 -2.7**
OBKA Obir 6.18 326 *i* Pn **Pn** **14 09 01.4 +1.3**
0.5nm,0.2s
ARSA Arzberg 6.45 335 *i* Pn **Pn** **14 09 05.5 +1.8**
0.7nm,0.3s
KBA Koelnbreinsper 7.14 324 *i* Pn **Pn** **14 09 13.2 -0.2**
0.6nm,0.4s
ABTA Abfaltersbach 7.29 319 *i* Pn **Pn** **14 09 16.6 +1.2**
0.3nm,0.2s
MOA Molln 7.39 331 *e*Pn **Pn** **14 09 19.6 +2.8**
0.2nm,0.2s
LESA Schwarzleotal 7.70 323 *e*Pn **Pn** **14 09 22.9 +1.9**
0.3nm,0.2s
WTTA Wattenberg 8.08 318 *e*Pn **Pn** **14 09 27.6 +1.3**
0.1nm,0.1s
WATA Walderalm 8.16 319 *e*Pn **Pn** **14 09 26.2 -1.2**
0.4nm,0.2s
SQTA Sankt Quirin 8.27 317 *e*Pn **Pn** **14 09 30.0 +1.2**
0.7nm,0.2s
GERES GERESS Array B 8.44 333 Pn **Pn** **14 09 33.5 +2.4**
baz=155,slow=13,SNR=2.3
0.5nm,0.7s
FINES FINESS Array B 20.40 9 P **P** **14 12 03.8 -1.6**
1.3nm,0.8s,baz=181,slow=14,SNR=4.6
1.3nm,0.8s
ZALV Zalesovo Beam 44.14 50 P **P** **14 15 35.5 -1.4**
0.5nm,0.4s,baz=289,slow=10,SNR=3.7
0.5nm,0.4s
MKAR Makanchi Array 44.32 61 P **P** **14 15 37.0 -1.5**
0.8nm,0.6s,baz=287,slow=6.9,SNR=9.5
0.8nm,0.6s

IDC 22 14:09:50.3±1.2,9°95N×122°26E,h0km,mb3.5/5, mbtmp3.5/5,MS2.7/2,Error ellipse: s-maj=82.3km s-min=20.8km az=73.0,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.35**	**131**	LR	LR	14 13 01.2	
	comp=Z,145nm,20.4s,baz=310,slow=44						
CMAR	**Chiang Mai Arr**	**24.11**	**293**	LR	LR	14 23 45.4	
	comp=Z,12nm,19.7s,baz=245,slow=35						
WRA	**Warramunga Arr**	**31.99**	**158**	P	P	14 16 19.0	+0.5
	0.5nm,0.7s,baz=332,slow=10.0,SNR=2.8						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**35.29**	**161**	P	P	14 16 46.9	-0.4
	0.3nm,0.5s,baz=341,slow=7.1,SNR=15						
	0.3nm,0.5s						
KLR	**Kul'dur**	**39.95**	**10**	P	P	14 17 25.6	-0.8
	0.8nm,0.6s,baz=197,slow=20,SNR=3.7						
	0.8nm,0.6s						
SONM	**Songino Array**	**40.07**	**343**	P	P	14 17 27.5	0.0
	0.4nm,0.6s,baz=154,slow=7.3,SNR=2.2						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**49.95**	**325**	P	P	14 18 46.5	+0.4
	0.5nm,0.8s,baz=120,slow=8.5,SNR=4.6						
	0.5nm,0.8s						

---

*SJA **22** 14:13:51.6±0.6,27°96S×66°82W,h175km±4km,ML3.3, MW3.5*
*IDC **22** 14:13:52.3±5.9,27°83S×67°34W,h160km±55km,mb3.5/1, mbtmp3.9/2,Error ellipse: s-maj=150.4km s-min=34.0km az=95.0*
ISC 22 14:13:52.3±0.9,**27°90S**±0°04×**66°85W**±0°05,**h166**km±8km,

n27,σ1$49/44,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**1.46**	**235**	*e*P	**Pn**	**14 14 23.4**	**+0.6**
VCA				*e*S	**Sn**	**14 14 46.8**	**+0.5**
VCA				IAML		14 14 49.3	
	comp=Z,608nm,0.6s						
ACLC	**CERRO LA CRUZ**	**1.52**	**183**	*e*P	**Pn**	**14 14 23.7**	**+0.2**
ACLC				*e*S	**Sn**	**14 14 47.1**	**-0.6**
ACLC				IAML		14 14 48.3	
	comp=Z,181nm,0.4s						
FSA	**Cafayete**	**1.94**	**24**	*e*P	**Pn**	**14 14 29.0**	**+1.0**
FSA				*e*S	**Sn**	**14 14 50.4**	**-5.1**
AGUA	**GUANDACOL**	**2.14**	**222**	*e*P	**Pn**	**14 14 30.3**	**+0.3**
AGUA				*e*S	**Sn**	**14 14 59.7**	**+0.4**
AGUA				IAML		14 15 01.5	
	comp=Z,208nm,0.3s						
AC02	**Maricunga**	**2.29**	**297**	*e*P	**Pn**	**14 14 33.5**	**+1.3**
AC02				*e*S	**Sn**	**14 15 04.3**	**+1.3**
AC02				IAML		14 15 14.8	
	comp=Z,44nm,0.1s						
APLL	**PUNTA DE LOS L**	**2.50**	**174**	*e*P	**Pn**	**14 14 34.4**	**+0.2**
APLL				*e*S	**Sn**	**14 15 05.7**	**-1.2**
ACDV	**Cuesta del Vie**	**3.01**	**221**	*e*P	**Pn**	**14 14 41.3**	**+0.7**
ACDV				*e*S	**Sn**	**14 15 17.2**	**-0.9**
ACDV				IAML		14 15 19.0	
	comp=Z,62nm,0.9s						
GO03	**Copiapo**	**3.01**	**275**	*e*P	**Pn**	**14 14 40.2**	**-0.3**
GO03				*e*S	**Sn**	**14 15 15.9**	**-2.0**
AC05	**El Transito**	**3.16**	**252**	*e*P	**Pn**	**14 14 42.7**	**+0.4**
AC05				*e*S	**Sn**	**14 15 20.7**	**-0.6**
AC05				IAML		14 15 23.2	
	comp=Z,31nm,0.5s						
AROD	**Rodeo**	**3.22**	**225**	*e*P	**Pn**	**14 14 43.9**	**+0.6**
AROD				*e*S	**Sn**	**14 15 23.8**	**+0.8**
ACCO	**Cerro Coronel**	**3.30**	**215**	*e*P	**Pn**	**14 14 46.2**	**+1.8**
ACCO				*e*S	**Sn**	**14 15 26.9**	**+2.0**
SLA	**San Lorenzo**	**3.39**	**21**	*e*P	**Pn**	**14 14 48.0**	**+2.6**
CO01	**Juntas del Tor**	**3.51**	**233**	*e*P	**Pn**	**14 14 47.8**	**+0.8**
CO01				*e*S	**Sn**	**14 15 26.2**	**-3.3**
CO01				IAML		14 15 31.7	
	comp=Z,19nm,0.5s						
DOCA	**Reserva Natura**	**3.61**	**212**	*e*P	**Pn**	**14 14 47.7**	**-0.5**
DOCA				*e*S	**Sn**	**14 15 30.1**	**-1.7**
DOCA				IAML		14 15 36.1	
	comp=Z,42nm,0.6s						
GO02	**Mina Guanaco**	**3.67**	**317**	*e*P	**Pn**	**14 14 49.7**	**+0.7**
GO02				*e*S	**Sn**	**14 15 33.8**	**+0.6**
AC04	**Llanos de Chal**	**3.74**	**264**	*e*P	**Pn**	**14 14 48.4**	**-1.2**
AC04				*e*S	Sn	14 15 25.0	-9.4
AC04				IAML		14 15 37.7	
	comp=Z,37nm,0.7s						
AC01	**Pan de Azucar**	**3.77**	**297**	*e*P	Pn	14 14 39.9	-10
AC01				*e*S	**Sn**	**14 15 33.0**	**-2.0**
AC01				IAML		14 15 35.7	
	comp=Z,38nm,0.2s						
CFA	**Coronel Fontan**	**3.88**	**198**	*e*P	**Pn**	**14 14 51.0**	**-0.4**
CFA				*e*S	**Sn**	**14 15 35.7**	**-2.0**
AZAP	**Zapla**	**4.00**	**24**	*e*P	**Pn**	**14 14 54.2**	**+1.0**
AZAP				IAML		14 15 49.8	
	comp=Z,12nm,2.4s						
GO04	**Tololo Observa**	**4.13**	**236**	*e*P	**Pn**	**14 14 54.0**	**-0.9**
GO04				*e*S	**Sn**	**14 15 42.4**	**-1.3**
CO03	**El Pedregal**	**4.45**	**228**	*e*P	**Pn**	**14 14 58.9**	**+0.1**
CO03				*e*S	**Sn**	**14 15 50.1**	**-0.7**
CO03				IAML		14 15 52.1	
	comp=Z,32nm,0.3s						
CO02	**Combarbal**	**4.89**	**227**	IAML		14 15 59.7	
	comp=Z,23nm,0.3s						
CO02				*e*S	**Sn**	**14 15 59.8**	**-1.4**
LPAZ	**La Paz**	**11.62**	**354**	P	**Pn**	**14 16 32.6**	**-1.2**
	comp=Z,1.4nm,0.4s,baz=157,slow=8.2,SNR=8.8						
QSPA	**South Pole Qui**	**62.32**	**180**	P	**P**	**14 23 57.8**	**+1.1**
	comp=Z,1.6nm,1.0s,baz=143,slow=3.5,SNR=6.7						
	comp=Z,1.6nm,1.0s						
ASAR	**Alice Springs**	**124.96**	**203**	PKP	**PKPdf**	**14 32 33.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=144,slow=2.0,SNR=4.4						
WRA	**Warramunga Arr**	**128.21**	**206**	PKP	**PKPdf**	**14 32 39.8**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=153,slow=2.0,SNR=5.3						
MKAR	**Makanchi Array**	**149.34**	**44**	PKPbc	**PKiKP**	**14 33 22.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=300,slow=3.3,SNR=6.6						

---

*LDG **22** 14:16:22.0±0.0,44°40N×8°81W,h20km,Ml3.7/29,Error ellipse: s-maj=3.0km s-min=2.0km az=2.0*
*MDD **22** 14:16:23.9±0.3,44°34N×8°85W,h40km±13km, mb_Lg3.5/67,Error ellipse: s-maj=3.4km s-min=2.0km az=113.0*
*IGIL **22** 14:16:26.0,44°34N×8°85W,h40km,ML2.8*
ISC 22 14:16:18.7±0.9,**44°37N**±0°04×**8°67W**±0°06,**h10**km,**n67,** σ2$97/105,**1C-1D,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**1.43**	**189**	⇑P	**Pg**	**14 16 46.6**	**+0.4**
EMAZ				S	**Sb**	**14 17 01.7**	**-2.0**
EMAZ				*i* Vmb_Lg		14 17 04.8	
EPON	**Pontenova**	**1.51**	**133**	⇓P	**Pg**	**14 16 48.6**	**+0.9**
EPON				S	**Sn**	**14 17 05.7**	**+0.1**
EPON				*i* Vmb_Lg		14 17 16.3	
EAGO	**Agolada(Pontev**	**1.62**	**165**	P	**Pb**	**14 16 49.4**	**+0.8**
EAGO				S	**Sn**	**14 17 07.5**	**-0.7**
EAGO				*i* Vmb_Lg		14 17 10.6	
EZAM	**Zamans**	**2.21**	**180**	P	**Pb**	**14 16 57.7**	**-1.1**
EZAM				S	**Sn**	**14 17 20.7**	**-2.1**
EZAM				*i* Vmb_Lg		14 17 24.4	
ELOB	**Lobios**	**2.54**	**170**	P	**Pn**	**14 17 02.1**	**+2.2**
ELOB				S	**Sn**	**14 17 29.2**	**-1.7**
ELOB				*i* Vmb_Lg		14 17 31.0	
EARI	**Arriondas**	**2.72**	**112**	P	**Pn**	**14 17 05.8**	**+3.3**
EARI				S	**Sn**	**14 17 37.6**	**+2.2**
EARI				*i* Vmb_Lg		14 17 41.3	
ECAL	**Calabor**	**2.81**	**149**	P	**Pn**	**14 17 06.9**	**+3.3**
ECAL				S	**Sn**	**14 17 36.6**	**-0.9**
ECAL				*i* Vmb_Lg		14 17 40.1	
EJUZ	**Juzbado, Salam**	**3.86**	**147**	P	**Pn**	**14 17 21.4**	**+3.2**
EJUZ				S	**Sn**	**14 18 02.6**	**-1.0**
ELAN	**Lanestosa**	**3.96**	**105**	P	**Pn**	**14 17 22.9**	**+3.5**
ELAN				S	**Sn**	**14 18 05.1**	**-0.8**
ELAN				*i* Vmb_Lg		14 18 13.3	
EPLA	**Plasencia**	**4.71**	**155**	P	**Pn**	**14 17 32.7**	**+3.0**
EPLA				S	**Sn**	**14 18 21.8**	**-2.6**
EPLA				*i* Vmb_Lg		14 18 26.2	
GUD	**Guadarrama**	**5.00**	**137**	P	**Pn**	**14 17 36.7**	**+2.9**
GUD				S	**Sn**	**14 18 29.0**	**-2.7**
GUD				*i* Vmb_Lg		14 18 34.1	
QUIF	**Quistinic**	**5.22**	**45**	*e*Pn	**Pn**	**14 17 38.7**	**+2.0**
QUIF				*e*Sn	**Sn**	**14 18 33.4**	**-3.5**
	23nm,0.2s						
EALK	**Alkurruntz**	**5.31**	**100**	P	**Pn**	**14 17 41.1**	**+3.0**
EALK				S	**Sn**	**14 18 36.2**	**-3.1**
EALK				*i* Vmb_Lg		14 18 43.5	
EARA	**Aranguren**	**5.39**	**105**	P	**Pn**	**14 17 43.1**	**+4.0**
EARA				S	**Sn**	**14 18 40.0**	**-1.3**
EARA				*i* Vmb_Lg		14 18 52.2	
ATANC	**Embalse El Ata**	**5.44**	**125**	P	**Pn**	**14 17 43.3**	**+3.5**
ROSF	**Rostrenen**	**5.45**	**41**	*e*Pn	**Pn**	**14 17 42.3**	**+2.4**
ROSF				*e*Sn	**Sn**	**14 18 39.9**	**-2.8**
	5.3nm,0.1s						
SJPF	**Ste Jean**	**5.54**	**100**	*e*Pn	**Pn**	**14 17 44.5**	**+3.4**
SJPF				*e*Sn	**Sn**	**14 18 43.7**	**-1.1**
	6.7nm,0.2s						
EORO	**Oroz-Betelu**	**5.54**	**103**	P	**Pn**	**14 17 45.6**	**+4.4**
EORO				S	**Sn**	**14 18 43.3**	**-1.7**
EORO				*i* Vmb_Lg		14 18 50.5	
EBAD	**Badajoz**	**5.74**	**167**	P	**Pn**	**14 17 45.1**	**+1.2**
EBAD				S	**Sn**	**14 18 46.8**	**-3.0**
EBAD				*i* Vmb_Lg		14 18 50.4	
SGMF	**Saint Gilles**	**5.75**	**45**	*e*Pn	**Pn**	**14 17 46.5**	**+2.5**
SGMF				*e*Sn	**Sn**	**14 18 46.4**	**-3.6**
	13nm,0.2s						
PAB	**San Pablo**	**5.79**	**145**	P	**Pn**	**14 17 47.9**	**+3.2**
PAB				S	**Sn**	**14 18 49.5**	**-1.7**
PAB				*i* Vmb_Lg		14 18 51.6	
ESBB	**Sonseca Array**	**5.85**	**142**	P	**Pn**	**14 17 48.4**	**+2.9**
ESBB				S	**Sn**	**14 18 49.4**	**-3.2**
ESDC	**Sonseca Array**	**5.85**	**142**	P	**Pn**	**14 17 48.3**	**+2.8**
ESDC				S	**Sn**	**14 18 49.3**	**-3.3**
ETOR	**Torete**	**6.03**	**124**	P	**Pn**	**14 17 51.0**	**+3.0**
ETOR				S	**Sn**	**14 18 55.7**	**-1.5**
ETSF	**Etsaut**	**6.07**	**101**	*e*Pn	**Pn**	**14 17 53.1**	**+4.7**
ETSF				*e*Sn	**Sn**	**14 18 56.7**	**-1.2**
	8.3nm,0.4s						
CCA1	**Carnmenellis**	**6.28**	**21**	P	**Pn**	**14 17 53.8**	**+2.5**
CCA1				S	Sn	14 18 57.4	-5.6
MESJ	**Messejana**	**6.53**	**177**	*e*P	**Pn**	**14 17 57.2**	**+2.5**
MESJ				*e*S	**Sn**	**14 19 03.5**	**-5.7**
MESJ				IAML		14 19 07.3	
	comp=N,5.5nm,0.6s						
ESAC	**San Caprasio**	**6.56**	**111**	P	**Pn**	**14 17 58.6**	**+3.3**
ESAC				S	**Sn**	**14 19 08.0**	**-2.1**
ESAC				*i* Vmb_Lg		14 19 15.3	
JSA	**Saint Aubin**	**6.57**	**40**	P	**Pn**	**14 17 58.7**	**+3.5**
JSA				S	**Sn**	**14 19 06.1**	**-4.1**
PSIM	**Granatula de C**	**6.65**	**145**	P	**Pn**	**14 17 59.0**	**+2.5**
PSIM				S	**Sn**	**14 19 09.6**	**-2.8**
EPF	**Esparros**	**6.67**	**98**	*e*Pn	**Pn**	**14 17 59.0**	**+2.3**
EPF				*e*Sn	**Sn**	**14 19 10.7**	**-2.0**
	comp=N,2.9nm,0.2s						
GRR	**Gorron**	**6.74**	**51**	*e*Pn	**Pn**	**14 18 00.3**	**+2.8**
GRR				*e*Sn	**Sn**	**14 19 09.7**	**-4.6**
	comp=N,7.1nm,0.1s						
LFF	**La Frestale**	**6.74**	**82**	*e*Pn	**Pn**	**14 18 00.0**	**+2.4**
LFF				*e*Sn	**Sn**	**14 19 10.0**	**-4.3**
	comp=N,6.1nm,0.3s						
ECAB	**El Cabril**	**6.74**	**158**	P	**Pn**	**14 18 00.5**	**+2.8**
ECAB				S	**Sn**	**14 19 10.7**	**-3.9**
ECAB				*i* Vmb_Lg		14 19 14.5	
DYA	**Yadsworthy**	**6.87**	**26**	P	**Pn**	**14 18 01.7**	**+2.3**
DYA				S	**Sn**	**14 19 13.7**	**-3.8**
EGRO	**El Granado**	**6.88**	**172**	S	**Sn**	**14 19 13.3**	**-4.6**
EGRO				*i* Vmb_Lg		14 19 18.1	
EADA	**Adamuz**	**6.92**	**152**	P	**Pn**	**14 18 03.0**	**+2.9**
EADA				S	**Sn**	**14 19 14.5**	**-4.3**
EADA				*i* Vmb_Lg		14 19 19.2	
MORF	**Marmelete**	**7.05**	**180**	*e*P	**Pn**	**14 18 04.1**	**+2.1**
MORF				*e*S	**Sn**	**14 19 15.4**	**-6.8**
MORF				IAML		14 19 22.3	
	comp=N,11nm,0.2s						
JAND	**Jandula**	**7.08**	**148**	P	**Pn**	**14 18 04.5**	**+2.1**
JAND				S	**Sn**	**14 19 18.9**	**-4.0**
JAND				*i* Vmb_Lg		14 19 21.3	
FLN	**La Foliniere**	**7.15**	**49**	*e*Pn	**Pn**	**14 18 05.8**	**+2.5**
	baz=239						
FLN				*e*Sn	Sn	14 19 18.9	-5.6
	comp=N,7.6nm,0.2s,baz=237						
HTL	**Hartland**	**7.21**	**22**	P	**Pn**	**14 18 07.7**	**+3.7**
HTL				S	Sn	14 19 19.5	-6.4
LDF	**La Druitiere**	**7.26**	**51**	*e*Pn	**Pn**	**14 18 07.2**	**+2.5**
LDF				*e*Sn	Sn	14 19 21.4	-5.7
	comp=N,6.7nm,0.3s						
EMOS	**Mosqueruela**	**7.27**	**121**	P	**Pn**	**14 18 08.9**	**+3.9**
EMOS				S	**Sn**	**14 19 25.2**	**-2.5**
RJF	**Les Rejaudoux**	**7.30**	**79**	*e*Pn	**Pn**	**14 18 06.9**	**+1.6**
RJF				*e*Sn	**Sn**	**14 19 24.5**	**-3.8**
	comp=N,3.2nm,0.1s						
ERTA	**Horta de San J**	**7.46**	**114**	P	**Pn**	**14 18 10.6**	**+3.1**
ERTA				S	**Sn**	**14 19 29.1**	**-3.0**
ERTA				*i* Vmb_Lg		14 19 34.9	
VAL	**Valentia**	**7.65**	**353**	P	**Pn**	**14 18 12.9**	**+2.9**
VAL				S	**Sn**	**14 19 32.9**	**-3.9**
CAF	**Calviac**	**7.68**	**82**	*e*Pn	**Pn**	**14 18 13.1**	**+2.6**
CAF				*e*Sn	Sn	14 19 30.9	-6.6
	comp=N,3.6nm,0.2s						
EPOB	**Poblet**	**7.77**	**109**	P	**Pn**	**14 18 14.5**	**+2.7**
EPOB				S	**Sn**	**14 19 36.5**	**-3.4**
EPOB				*i* Vmb_Lg		14 19 51.8	
TCF	**Toulx Ste Croi**	**7.91**	**72**	*e*Pn	**Pn**	**14 18 16.0**	**+2.4**
TCF				*e*Sn	Sn	14 19 36.8	-6.3
	comp=N,6.9nm,0.2s						
MTLF	**Montolieu**	**7.94**	**94**	*e*Pn	**Pn**	**14 18 15.9**	**+1.9**
MTLF				*e*Sn	**Sn**	**14 19 40.8**	**-3.1**
	comp=N,4.0nm,0.2s						
BGF	**Bois d'Agland**	**8.39**	**71**	*e*Sn	Sn	14 19 46.2	-8.7
	comp=N,13nm,0.3s						
HYF	**Humbligny**	**8.42**	**66**	*e*Pn	**Pn**	**14 18 22.5**	**+1.9**
HYF				*e*Sn	Sn	14 19 48.1	-7.5
MCH1	**Michaelchurch**	**8.52**	**24**	P	**Pn**	**14 18 24.4**	**+2.4**
MCH1				S	Sn	14 19 53.0	-5.2
EMUR	**La Murta**	**8.59**	**137**	P	**Pn**	**14 18 26.6**	**+3.5**
EMUR				*i* Vmb_Lg		14 20 54.9	
AVF	**Avril sur Loir**	**8.78**	**70**	*e*Pn	**Pn**	**14 18 27.5**	**+2.0**
AVF				*e*Sn	Sn	14 19 57.6	-6.8
	comp=N,2.4nm,0.2s						
SSF	**Saint Saulge**	**8.94**	**68**	*e*Pn	**Pn**	**14 18 30.0**	**+2.3**
SSF				*e*Sn	Sn	14 19 59.2	-9.2
	comp=N,5.8nm,0.3s						
LASF	**Ste Croix**	**9.00**	**87**	*e*Pn	**Pn**	**14 18 30.5**	**+1.8**
LASF				*e*Sn	**Sn**	**14 20 06.0**	**-4.1**
	comp=N,2.4nm,0.3s						
SMF	**Signal de Mont**	**9.08**	**71**	*e*Sn	Sn	14 20 05.4	-6.5
	comp=N,1.8nm,0.1s						
LOR	**Lormes**	**9.22**	**67**	*e*Pn	**Pn**	**14 18 34.2**	**+2.6**
	baz=252						
LOR				*e*Sn	Sn	14 20 07.2	-8.2
	comp=N,2.6nm,0.2s						
VIVF	**Saint-Julien-l**	**9.53**	**82**	*e*Pn	**Pn**	**14 18 38.2**	**+2.3**
VIVF				*e*Sn	**Sn**	**14 20 19.1**	**-4.0**
	comp=N,1.6nm,0.2s						
SFTF	**Sexfontaines**	**10.23**	**63**	*e*Pn	**Pn**	**14 18 48.2**	**+2.7**
SFTF				*e*Sn	Sn	14 20 33.2	-7.1
	comp=N,7.8nm,0.2s						
MEZF	**Maizieres J'vi**	**10.33**	**62**	*e*Sn	Sn	14 20 34.7	-8.0
	comp=N,1.9nm,0.1s		

MAVZ			S		**Sn**	**14 20 50.4**	**-1.7**
WTVZ	**West Tongariro**	**0.44 84**	P		**Pn**	**14 20 34.0**	**-0.5**
WTVZ			S		**Sn**	**14 20 50.2**	**-1.6**
NGZ	**Ngauruhoe**	**0.45 91**	P		**Pn**	**14 20 34.1**	**-0.5**
NGZ			S		**Sn**	**14 20 50.6**	**-1.3**
WHVZ	**Whangaehu Hut**	**0.45 105**	P		**Pn**	**14 20 34.4**	**-0.3**
NNVZ	**North Ngauruho**	**0.46 86**	P		**Pn**	**14 20 34.1**	**-0.6**
NNVZ			S		**Sn**	**14 20 51.1**	**-0.9**
WNVZ	**Wahianoa**	**0.47 110**	P		**Pn**	**14 20 34.3**	**-0.4**
SNVZ	**South Ngauruho**	**0.48 93**	P		**Pn**	**14 20 34.2**	**-0.5**
KRVZ	**Karewarewa**	**0.48 82**	P		**Pn**	**14 20 34.1**	**-0.6**
KRVZ			S		**Sn**	**14 20 50.7**	**-1.4**
OTVZ	**Oturere**	**0.50 90**	P		**Pn**	**14 20 34.1**	**-0.7**
TUVZ	**Tukino**	**0.50 102**	P		**Pn**	**14 20 34.5**	**-0.2**
NTVZ	**North Tongarir**	**0.51 83**	P		**Pn**	**14 20 34.2**	**-0.6**
TMVZ	**Te Maari**	**0.53 85**	P		**Pn**	**14 20 34.2**	**-0.7**
ETVZ	**East Tongariro**	**0.53 87**	P		**Pn**	**14 20 34.2**	**-0.7**
KATZ	**Kakaramea**	**0.55 70**	P		**Pn**	**14 20 34.3**	**-0.7**
MHEZ	**Mangahewa**	**0.56 279**	P		**Pn**	**14 20 34.8**	**0.0**
LREZ	**Lake Rotokare**	**0.57 239**	P		**Pn**	**14 20 35.2**	**+0.3**
WAZ	**Wanganui**	**0.59 183**	P		**Pn**	**14 20 35.3**	**+0.3**
MOVZ	**Moawhango**	**0.61 113**	P		**Pn**	**14 20 34.6**	**-0.7**
DREZ	**Durham Road**	**0.64 268**	P		**Pn**	**14 20 35.2**	**-0.2**
RATZ	**Rangitukua**	**0.65 63**	P		**Pn**	**14 20 34.6**	**-0.9**
HIZ	**Hauiti**	**0.67 348**			**Pn**	**14 20 34.2**	**-1.3**
HIZ			Sn		**Sn**	**14 20 51.3**	**-2.3**
HIZ	**Hauiti**	**0.67 348**	P		**Pn**	**14 20 34.2**	**-1.3**
HIZ	**Hauiti**	**0.67 348**	S		**Sn**	**14 20 52.0**	**-1.6**
HIZ	**Hauiti**	**0.67 348**	P		**Pn**	**14 20 34.3**	**-1.2**
HIZ			S		**Sn**	**14 20 51.8**	**-1.8**
RITZ	**Rihia Road**	**0.67 74**	P		**Pn**	**14 20 35.0**	**-0.6**
PREZ	**Palmer Road**	**0.70 255**	P		**Pn**	**14 20 35.7**	**0.0**
WATZ	**Wairara**	**0.72 51**	P		**Pn**	**14 20 35.2**	**-0.7**
NEZ	**North Egmont**	**0.73 262**	P		**Pn**	**14 20 35.9**	**0.0**
KHEZ	**Kahui Hut**	**0.80 260**	P		**Pn**	**14 20 36.3**	**-0.1**
KHEZ	**Kahui Hut**	**0.80 260**	P		**Sn**	**14 20 54.8**	**-0.4**
KHEZ	**Kahui Hut**	**0.80 260**	P		**Pn**	**14 20 36.2**	**-0.1**
HATZ	**Hinemaiaia**	**0.87 72**	P		**Pn**	**14 20 35.8**	**-1.1**
NBEZ	**Newall Road No**	**0.91 263**	P		**Pn**	**14 20 37.0**	**0.0**
NMEZ	**Namu Road**	**0.93 254**	P		**Pn**	**14 20 37.2**	**0.0**
OHWZ	**Ohakea**	**1.06 168**	P		**Pn**	**14 20 39.0**	**+0.8**
KWHZ	**Kaweka Forest**	**1.11 104**	P		**Pn**	**14 20 38.6**	**-0.2**
MRHZ	**Matea Rd**	**1.13 73**	P		**Pn**	**14 20 37.5**	**-1.4**
BKZ	**Black Stump Fm**	**1.14 90**			**Pn**	**14 20 38.0**	**-1.0**
BKZ	**Black Stump Fm**	**1.14 90**	P		**Pn**	**14 20 37.9**	**-1.1**
BKZ	**Black Stump Fm**	**1.14 90**	P		**Sn**	**14 20 57.2**	**-2.7**
BKZ	**Black Stump Fm**	**1.14 90**	P		**Pn**	**14 20 38.0**	**-1.0**
GRRZ	**Galatos Road**	**1.18 46**	P		**Pn**	**14 20 38.4**	**-0.9**
POWZ	**Post Office Ro**	**1.35 155**	P		**Pn**	**14 20 40.9**	**+0.1**
TOZ	**Tahuroa Road**	**1.48 15**			**Pn**	**14 20 40.8**	**-1.4**
MRZ	**Mangatainoka R**	**1.55 164**			**Pn**	**14 20 42.7**	**-0.2**
PRWZ	**Pori Road**	**1.57 153**	P		**Pn**	**14 20 43.4**	**+0.4**
RTZ	**Ruatahuna**	**1.62 71**			**Pn**	**14 20 42.1**	**-1.6**
OGWZ	**Otaki Gorge**	**1.65 176**	P		**Pn**	**14 20 44.1**	**+0.2**
ANWZ	**Angora Road**	**1.71 140**	P		**Pn**	**14 20 44.8**	**+0.3**
TIWZ	**Tintock**	**1.74 158**	P		**Pn**	**14 20 44.9**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.77 168**	P		**Pn**	**14 20 45.0**	**-0.2**
BFZ	**Birch Farm**	**1.78 149**			**Pn**	**14 20 44.8**	**-0.5**
BFZ	**Birch Farm**	**1.78 149**	P		**Pn**	**14 20 45.1**	**-0.2**
BFZ	**Birch Farm**	**1.78 149**	P		**Sn**	**14 21 09.0**	**-2.2**
DUWZ	**D'Urville Isla**	**1.84 207**	P		**Pn**	**14 20 45.7**	**-0.2**
URZ	**Urewera**	**1.86 62**	P		**Pn**	**14 20 44.1**	**-2.2**
	382nm,0.5s,baz=334,slow=7.6,SNR=370						
URZ			S		**Sn**	**14 21 07.7**	**-5.0**
	2μm,0.4s,baz=210,slow=18,SNR=226						
URZ			LR		LR	14 21 23.6	
	comp=Z,142nm,19.2s,baz=346,slow=39						
URZ	**Urewera**	**1.86 62**	P		**Pn**	**14 20 44.0**	**-2.2**
CPWZ	**Castlepoint**	**1.96 153**	P		**Pn**	**14 20 47.7**	**+0.5**
TMWZ	**Te Maipa**	**2.05 161**	P		**Pn**	**14 20 48.2**	**-0.1**
TCW	**Tory Channel**	**2.12 195**			**Pn**	**14 20 48.2**	**-0.8**
SNZO	**South Karori**	**2.16 186**			**Pn**	**14 20 48.9**	**-0.5**
SNZO	**South Karori**	**2.16 186**	P		**Pn**	**14 20 48.8**	**-0.6**
SNZO	**South Karori**	**2.16 186**	P		**Sn**	**14 21 15.9**	**-2.7**
PAWZ	**Paruwai Farm**	**2.23 172**	P		**Pn**	**14 20 49.9**	**-0.6**
BHW	**Baring Head**	**2.24 183**			**Pn**	**14 20 49.7**	**-0.7**
MSWZ	**Moikau Station**	**2.25 176**			**Pn**	**14 20 49.9**	**-0.7**
MSWZ	**Moikau Station**	**2.25 176**	P		**Pn**	**14 20 50.2**	**-0.4**
TRWZ	**Traveller**	**2.29 167**	P		**Pn**	**14 20 50.5**	**-0.5**
NNZ	**Nelson**	**2.41 211**			**Pn**	**14 20 51.4**	**-1.0**
PLWZ	**Palliser**	**2.41 176**			**Pn**	**14 20 51.7**	**-0.8**
PLWZ	**Palliser**	**2.41 176**	P		**Pn**	**14 20 51.6**	**-0.8**
TUWZ	**Tuamarina**	**2.41 200**			**Pn**	**14 20 52.2**	**-0.2**
TUWZ	**Tuamarina**	**2.41 200**	P		**Pn**	**14 20 52.9**	**+0.5**
TKNZ	**Takaka Hill**	**2.45 220**			**Pn**	**14 20 51.5**	**-1.5**
KUZ	**Kuaotunu**	**2.48 13**	P		**Pn**	**14 20 51.8**	**-1.5**
KUZ	**Kuaotunu**	**2.48 13**	P		**Sn**	**14 21 23.6**	**-1.8**
QRZ	**Quartz Range**	**2.54 228**			**Pn**	**14 20 52.4**	**-1.6**
QRZ	**Quartz Range**	**2.54 228**	P		**Pn**	**14 20 52.3**	**-1.6**
QRZ	**Quartz Range**	**2.54 228**	S		**Sn**	**14 21 24.8**	**-1.8**
CMWZ	**Cape Campbell**	**2.65 193**	P		**Pn**	**14 20 55.6**	**+0.2**
BSWZ	**Blackbirch Sta**	**2.69 199**	P		**Pn**	**14 20 55.6**	**-0.3**
MRNZ	**Matariki Terra**	**2.83 217**			**Pn**	**14 20 55.9**	**-1.7**
MXZ	**Matakaoa Point**	**3.04 59**			**Pn**	**14 20 58.4**	**-1.8**
MXZ	**Matakaoa Point**	**3.04 59**	P		**Pn**	**14 20 58.1**	**-2.0**
THZ	**Tophouse**	**3.06 211**			**Pn**	**14 20 58.9**	**-1.5**
KHZ	**Kahutara**	**3.44 199**	P		**Pn**	**14 21 04.5**	**-0.6**
KHZ	**Kahutara**	**3.44 199**	S		**Sn**	**14 21 44.1**	**-2.6**
OUZ	**Omahuta**	**4.10 343**	P		**Pn**	**14 21 12.8**	**-1.0**
RPZ	**Rata Peaks**	**5.44 212**	P		**Pn**	**14 21 28.4**	**-2.7**
	56nm,0.3s,baz=285,slow=1.8,SNR=89						
RPZ			S		**Sn**	**14 22 27.3**	**-6.0**
	58nm,0.3s,baz=297,slow=21,SNR=18						
RPZ	**Rata Peaks**	**5.44 212**	P		**Pn**	**14 21 28.6**	**-2.6**
ODZ	**Otahua Downs**	**6.72 208**	P		**Pn**	**14 21 44.8**	**-3.3**
CTZ	**Chatham Island**	**7.76 129**			**Pn**	**14 22 01.1**	**-0.8**
CTZ	**Chatham Island**	**7.76 129**	P		**Pn**	**14 22 01.3**	**-0.6**
SYZ	**Scrubby Hill**	**8.54 208**	P		**Pn**	**14 22 09.9**	**-2.3**
PYZ	**Puysegur Point**	**9.31 219**	P		**Pn**	**14 22 20.3**	**-2.1**
MSVF	**Nonsavu**	**21.52 8**	P		**P**	**14 24 46.6**	**-1.6**
	18nm,0.7s,baz=168,slow=13,SNR=6.1						
	18nm,0.7s						
STKA	**Stephens Creek**	**28.05 275**	P		**P**	**14 25 48.9**	**+0.9**
	2.4nm,0.6s,baz=92,slow=9.7,SNR=7.2						
	2.4nm,0.6s						
AS31	**Alice Springs**	**38.00 282**			**P**	**14 27 14.4**	**+0.2**
ASAR	**Alice Springs**	**38.00 282**			**P**	**14 27 14.1**	**-0.2**
ASAR	**Alice Springs**	**38.00 282**	P		**P**	**14 27 14.4**	**+0.2**
	5.5nm,0.8s,baz=116,slow=6.3,SNR=236						
	5.5nm,0.8s						
VNDA	**Vanda**	**38.87 185**	P		**P**	**14 27 23.1**	**+2.3**
	0.8nm,0.9s,baz=355,slow=9.0,SNR=3.8						
	0.8nm,0.9s						
WRA	**Warramunga Arr**	**39.84 287**	P		**P**	**14 27 29.1**	**-0.4**
WRA	**Warramunga Arr**	**39.84 287**	P		**P**	**14 27 29.6**	**+0.1**
	4.7nm,0.5s,baz=125,slow=8.1,SNR=62						
	4.7nm,0.5s						
WB0	**Warramunga Arr**	**39.91 287**	P		**P**	**14 27 30.1**	**-0.1**
WB0			IAmb		IAmb	14 27 30.9	
	comp=Z,5.5nm,0.6s						
KNRA	**Kununurra**	**46.64 287**	P		**P**	**14 28 24.4**	**+0.3**
KNRA			IAmb		IAmb	14 28 28.1	
	comp=Z,16nm,1.4s						
FITZ	**Fitzroy Crossi**	**47.50 282**	P		**P**	**14 28 31.0**	**+0.3**
QSPA	**South Pole Qui**	**50.96 180**	P		**P**	**14 28 58.8**	**+2.3**
	comp=Z,5.8nm,0.5s,baz=216,slow=1.2,SNR=54						
	comp=Z,5.8nm,0.5s						
NJ2	**Nanjing**	**87.98 315**	*e*P		**P**	**14 32 46.3**	**+3.0**
NJ2			pmax		pmax		
	comp=Z,2.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**91.17 293**	P		**P**	**14 32 58.7**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=136,slow=3.3,SNR=4.1						
	comp=Z,0.6nm,0.7s						
HHC	**Hu-ho-hao-te**	**98.42 317**	*e*P		Pdif	14 33 32.1	+0.9
HHC			pmax		pmax		
	comp=Z,17nm,0.7s						
HHC			pmax		pmax		
	comp=Z,130nm,4.6s						
LZH	**Lanzhou**	**99.54 309**	*e*P		**Pdif**	**14 33 36.3**	**-0.1**
LZH			pP		pP	14 34 16.0	-1.4
LZH			sP		sP	14 34 37.0	+2.6
LZH			pmax		pmax		
	comp=Z,19nm,0.6s						
ARCES	**ARCESS Array B**	**145.53 342**	PKPbc		**PKPdf**	**14 39 28.2**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=67,slow=3.2,SNR=7.7						
FINES	**FINESS Array B**	**150.65 330**	PKPbc		**PKPbc**	**14 39 42.5**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=32,slow=7.6,SNR=4.3						

PRE ***22*** *14:30:05.4±1.3, 26°.44S×27°.62E, h2km, ML2.5*
BGSI ***22*** *14:30:24.1±0.9, 25°.72S×26°.86E, h31km±999km, ML2.5*
ISC 22 14:29:59.6±0.9, 26°.23S±0°.04×27°.66E±0°.04, h8km, n7,
σ1⁹50/13, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.29**	**228**	*e*P	**Pn**	**14 30 09.4**	**-1.0**
WDLM				*e*S	**Sb**	**14 30 11.1**	**-1.2**
WDLM				IAML		14 30 11.5	
	comp=Z,2μm,0.2s						
PRYS	**Parys**	**0.74**	**201**	*e*P	**Pn**	**14 30 16.7**	**+0.1**
PRYS				*e*S	**Sg**	**14 30 22.5**	**-1.1**
PRYS				IAML		14 30 28.5	
	comp=Z,139nm,0.6s						
SNKL	**Senekal, Frees**	**2.04**	**177**	*e*P	**Pg**	**14 30 39.4**	**+0.7**
SNKL				*e*S	**Sb**	**14 31 03.1**	**+0.5**
SNKL				IAML		14 31 06.9	
	comp=Z,90nm,0.6s						
MAKGR	**Makgori**	**2.61**	**279**	*i* P	**Pg**	**14 30 52.1**	**+2.5**
MAKGR				*i* S	**Sn**	**14 31 14.1**	**0.0**
MAKGR				IAML		14 31 34.8	
	comp=E,104nm,0.6s						
PILG	**Pilgrimsrest,**	**3.04**	**66**	*e*P	**Pg**	**14 30 57.3**	**-0.6**
PILG				*e*S	**Sb**	**14 31 34.4**	**+2.9**
PILG				IAML		14 31 50.9	
	comp=Z,31nm,0.6s						
LPHEP	**Lephephe**	**3.29**	**330**	*i* P	**Pg**	**14 31 02.1**	**-0.5**
LPHEP				*i* S	**Sn**	**14 31 29.3**	**-1.7**
LPHEP				IAML		14 31 57.4	
	comp=E,29nm,0.5s						
KDWAN	**Kaudwane**	**3.93**	**315**	*i* P	**Pb**	**14 31 09.6**	**+0.3**
KDWAN				IAML		14 32 12.6	
	comp=N,37nm,0.5s						

NEIC ***22*** *14:49:05.3, 56°.26S×26°.99W, h90km, Moment Tensor Solution. Duration: 4s9 Moment tensor: Scale 10^18Nm; Mrr=0.35; Mθθ0.77; Mφφ-0.41; Mrθ-0.20; Mθφ0.91; Mφr-0.42; Fault plane solution: M0 1.19000×10^18 NP1: φs285.73000°, δ63.55000°, λ-8.46000°. NP2: φs19.51000°, δ82.43000°, λ-153.30000°. Principal axes: T 1.3507, Plg13.0000°, Azm150.0000°; N -0.3174, Plg62.0000°, Azm34.0000°; P -1.0333, Plg24.0000°, Azm246.0000°;*
MOS ***22*** *14:49:05.5±0.9, 56°.30S×27°.48W, h92km, MS5.0/4 Error ellipse: s-maj=17.4km s-min=9.9km az=105.0*
NEIC ***22*** *14:49:05.3±1.5, 56°.26S±0°.09×27°.4W±0°.2, h79km±1km, mb5.8/179, Mwb6.0/32, Mww6.0/34, Error ellipse: s-maj=14.8km s-min=14.1km az=342.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr=0.20; Mθθ0.53; Mφφ-0.33; Mrθ-0.39; Mθφ0.77; Mφr-0.57; Fault plane solution: M0 1.13000×10^18 NP1: φs286.40000°, δ51.68000°, λ-3.93000°. NP2: φs18.84000°, δ86.92000°, λ-141.61000°. Principal axes: T 1.2553, Plg24.0000°, Azm146.0000°; N -0.3141, Plg52.0000°, Azm23.0000°; P -0.9412, Plg28.0000°, Azm250.0000°;*
NEIC ***22*** *14:49:05.3, 56°.26S×27°.35W, h90km*
NEIC ***22*** *14:49:06.9, 56°.27S×27°.38W, h94km*
IDC ***22*** *14:49:06.7±0.6, 56°.28S×27°.41W, h95km±4km, mb5.2/23, mbtmp5.6/25, MS5.0/38, Error ellipse: s-maj=11.5km s-min=9.0km az=38.0*
IPGP ***22*** *14:49:07.0, 56°.27S×27°.40W, h81km, Mw6.0, Fault plane solution: NP1: φs293.00000°, δ45.00000°, λ-16.00000°. NP2: φs34.00000°, δ79.00000°, λ-133.00000°.*
GCMT ***22*** *14:49:09.3±0.1, 56°.35S×27°.06W, h82km, MW6.0/159, Moment Tensor Solution. s154, c337; s159, c504; Duration: 2s5 Moment tensor: Scale 10^18Nm; Mrr=0.14±.01; Mθθ0.71±.01; Mφφ-0.56±.01; Mrθ-0.36±.01; Mθφ0.90±.01; Mφr-0.56±.01; Best double couple: M0 1.27900×10^18 NP1: φs289.00000°, δ60.00000°, λ0.00000°. NP2: φs199.00000°, δ90.00000°, λ150.00000°. Principal axes: T 1.4010, Plg21.0000°, Azm150.0000°; N -0.2430, Plg60.0000°, Azm18.0000°; P -1.1580, Plg21.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 22 14:49:07.6±0.3, 56°.27S±0°.04×27°.44W±0°.04, h101km±1km, h101km: pP-P, n882, σ1⁹41/951, mb5.7/120, 24C-11D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.54**	**287**		**Pn**	**14 50 27.0**	**-0.5**
HOPE	**Hope Point**	**5.54**	**287**	P	**Pn**	**14 50 27.0**	**-0.5**
ESPZ	**Base Esperanza**	**16.35**	**232**		**P**	**14 52 52.1**	**+0.3**
VNA1	**Neumayer--Stat**	**16.65**	**158**	⇑P	**P**	**14 52 54.9**	**-0.2**
	comp=Z,2μm,0.9s						
VNA1				⇑ScP	**ScP**	**15 01 02.8**	**+0.2**
	comp=Z,201nm,1.0s						
VNA3	**Neumayer Olymp**	**16.83**	**160**	⇑P	**Pn**	**14 52 56.3**	**-0.4**
	comp=Z,821nm,0.7s						
VNA3				⇑S	S	14 56 21.6	+14
VNA3				⇓ScP	**ScP**	**15 01 03.2**	**+0.2**
	comp=Z,97nm,0.9s						
VNA2	**Neumayer--Watz**	**17.04**	**157**	⇑P	**P**	**14 52 59.4**	**-0.1**
	comp=Z,704nm,0.6s,baz=309,slow=13						
EFI	**East Falkland**	**18.50**	**271**		**P**	**14 53 16.1**	**+0.5**
EFI	**East Falkland**	**18.50**	**271**	*c*eP	**Pn**	**14 53 16.4**	**-0.4**
EFI				pmax	pmax		
	comp=Z,172nm,0.9s						
EFI				MLR	MLR		
	comp=Z,3μm,18.0s						
SNAA	**Sanae**	**18.60**	**156**	P	**P**	**14 53 15.7**	**-0.9**
	comp=Z,1μm,0.7s,baz=305,slow=8.5,SNR=2322						
SNAA				S	**Sn**	**14 56 48.4**	**+2.6**
	comp=Z,21nm,0.9s,baz=211,slow=16,SNR=3.2						
SNAA				LR	LR	14 59 51.8	
	comp=Z,5μm,18.4s,baz=321,slow=35						
SNAA				ScP	**ScP**	**15 01 06.6**	**-0.2**
	comp=Z,45nm,0.9s,baz=314,slow=2.4,SNR=12						
SNAA				ScS	**ScS**	**15 04 47.8**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=289,slow=13,SNR=18						
PMSA	**Palmer Station**	**19.65**	**229**	Pn	**Pn**	**14 53 30.6**	**+0.4**
PMSA	**Palmer Station**	**19.65**	**229**	P	**P**	**14 53 28.7**	**+0.8**
	comp=Z,255nm,1.0s,baz=70,slow=7.0,SNR=30						
PMSA				LR	LR	15 00 50.1	
	comp=Z,7μm,18.2s,baz=82,slow=36						
PMSA	**Palmer Station**	**19.65**	**229**	*e*P	**P**	**14 53 27.1**	**-0.9**
TROLL	**Troll, Antarti**	**20.11**	**153**	⇑P	**P**	**14 53 32.1**	**-1.0**
	comp=Z,56μm,0.6s						
TROLL				⇑S	**S**	**14 57 16.6**	**+3.4**
TROLL				⇑ScP	**ScP**	**15 01 10.6**	**+0.3**
	comp=Z,1μm,0.9s						
SMAI	**San Martin Ant**	**21.51**	**221**	P	**P**	**14 53 48.2**	**+0.4**
BELA	**Belgrano 2**	**21.85**	**184**		**P**	**14 53 50.6**	**-0.9**
MG01	**Puerto William**	**22.52**	**256**	P	**P**	**14 53 59.0**	**+0.4**
MG01				IAmb	IAmb	14 54 11.5	
	comp=Z,442nm,0.9s						
USHA	**Ushuaia**	**22.99**	**256**	LR	LR	15 01 55.0	
	comp=Z,3μm,20.5s,baz=110,slow=33						
MG02	**Cerro Sombrero**	**24.22**	**261**	P	**P**	**14 54 14.8**	**+0.3**
MG03	**Isla Dawson**	**24.46**	**257**		**P**	**14 54 16.8**	**+0.1**
MG03				IAmb	IAmb	14 54 46.0	
	comp=Z,455nm,1.3s						
GO10	**Punta Arenas**	**25.07**	**259**	P	**P**	**14 54 22.5**	**+0.3**
GO10				IAmb	IAmb	14 54 50.9	
	comp=Z,899nm,1.3s						
MG04	**Isla Riesco**	**25.48**	**259**	P	**P**	**14 54 26.7**	**+0.8**
MG04				IAmb	IAmb	14 54 54.1	
	comp=Z,670nm,1.4s						
ELIB	**Princess Elisa**	**26.04**	**147**	*d*P	**P**	**14 54 30.8**	**-0.2**
	comp=Z,173nm,1.0s						
ELIB				*d*S	**S**	**14 59 00.0**	**+5.8**
ELIB				*d*ScP	**ScP**	**15 01 24.9**	**-1.1**
ELIB				*d*ScS	**ScS**	**15 05 15.1**	**-0.4**
MG05	**Puerto Natales**	**26.52**	**261**		**P**	**14 54 35.3**	**0.0**
MG05				IAmb	IAmb	14 55 07.0	
	comp=Z,270nm,1.1s						
AY03	**Cochrane**	**28.88**	**269**	P	**P**	**14 54 56.4**	**-0.1**
TRQA	**Tornquist**	**29.28**	**294**		**P**	**14 54 59.4**	**-0.7**
TRQA				IAmb	IAmb	14 55 25.1	
	comp=Z,424nm,1.3s						
TRQA	**Tornquist**	**29.28**	**294**	P	**P**	**14 54 59.4**	**-0.7**
TRQA				pmax	pmax		
	comp=Z,424nm,1.3s						
TRQA	**Tornquist**	**29.28**	**294**	P	**P**	**14 54 59.8**	**-0.2**
COYC	**Coyhaique**	**29.59**	**272**		**P**	**14 55 03.0**	**+0.2**
COYC				IAmb	IAmb	14 55 30.1	
	comp=Z,144nm,1.0s						
PLTB	**Pedras Altas**	**30.54**	**312**		**P**	**14 55 11.4**	**+0.1**
PLTB				IAmb	IAmb	14 55 46.7	
	comp=Z,136nm,1.0s						
PLTB	**Pedras Altas**	**30.54**	**312**	*e*P	**P**	**14 55 11.8**	**+0.6**
PLTB	**Pedras Altas**	**30.54**	**312**	P	**P**	**14 55 11.6**	**+0.4**
PLTB				S	**S**	**15 00 05.7**	**+0.4**
AY01	**Puyuhuapi**	**30.62**	**273**		**P**	**14 55 11.1**	**-0.7**
AY01				IAmb	IAmb	14 55 12.8	
	comp=Z,178nm,1.3s						
LL02	**Futaleuf**	**30.96**	**276**		**P**	**14 55 14.0**	**-0.9**
SYO	**Syowa Base**	**31.50**	**141**	⇑*i*P	**P**	**14 55 18.3**	**-1.0**
SYO	**Syowa Base**	**31.50**	**141**	⇑*i*sP	sP	14 55 44.0	-8.8
TBOT	**Tacuaremb**	**31.59**	**309**	*e*P	**P**	**14 55 21.6**	**+1.1**
CNLB	**Canela**	**31.64**	**319**	*e*P	**P**	**14 55 22.7**	**+1.8**
CNLB	**Canela**	**31.64**	**319**	P	**P**	**14 55 21.4**	**+0.4**
CNLB				S	**S**	**15 00 22.1**	**-0.5**
CPSB	**Cacapava Do Su**	**31.66**	**314**	*e*P	**P**	**14 55 22.3**	**+1.2**
CPSB	**Cacapava Do Su**	**31.66**	**314**	P	**P**	**14 55 22.0**	**+0.9**
CPSB				S	**S**	**15 00 24.0**	**+1.1**
TER01	**Tubaro-SC**	**31.73**	**322**	*e*P	**P**	**14 55 23.7**	**+2.0**
TER01	**Tubaro-SC**	**31.73**	**322**	P	**P**	**14 55 22.7**	**+0.9**
PLCA	**Paso Flores**	**31.90**	**281**	P	**P**	**14 55 21.8**	**-1.4**
	comp=Z,13nm,1.0s,baz=148,slow=8.4,SNR=20						
PLCA				PcP	**PcP**	**14 58 12.0**	**+0.8**
	comp=Z,17nm,0.8s,baz=102,slow=4.3,SNR=4.7						
PLCA				ScP	**ScP**	**15 01 43.6**	**-1.5**
	comp=Z,10nm,0.8s,baz=115,slow=4.4,SNR=11						
PLCA				LR	LR	15 08 16.8	
	comp=Z,6μm,18.9s,baz=127,slow=36						
PLCA				PKPPKP	**P'P'df**	**15 29 01.4**	**-2.6**
	comp=Z,1.8nm,0.9s,baz=286,slow=5.4,SNR=3.0						
	comp=Z,13nm,1.0s						
PLCA	**Paso Flores**	**31.90**	**281**	*e*P	**P**	**14 55 22.3**	**-0.9**
PLCA	**Paso Flores**	**31.90**	**281**	P	**P**	**14 55 21.0**	**-2.2**
MAJ01	**Sao Joao Batis**	**32.74**	**323**	*e*P	**P**	**14 55 32.3**	**+1.8**
MAJ01	**Sao Joao Batis**	**32.74**	**323**	P	**P**	**14 55 32.0**	**+1.5**
LR05	**Currie**	**33.05**	**280**	P	**P**	**14 55 31.4**	**-1.7**
ITQB	**Itaqui**	**33.63**	**310**	IAmb	IAmb	14 56 46.7	
	comp=Z,168nm,1.1s						
ITQB	**Itaqui**	**33.63**	**310**	*e*P	**P**	**14 55 38.9**	**+0.7**
ITQB	**Itaqui**	**33.63**	**310**	P	**P**	**14 55 36.8**	**-1.4**
ITQB				S	**S**	**15 00 52.3**	**-1.0**
QSPA	**South Pole Qui**	**33.98**	**180**	P	**P**	**14 55 41.8**	**+0.6**
	comp=Z,185nm,0.6s,baz=36,slow=1.2,SNR=1849						
QSPA				S	**S**	**15 00 57.3**	**-1.3**
	comp=Z,9.7nm,1.0s,baz=267,slow=18,SNR=1.1						
QSPA				ScP	**ScP**	**15 01 50.7**	**-1.2**
	comp=Z,29nm,0.8s,baz=270,slow=0.4,SNR=6.1						
QSPA				LR	LR	15 08 42.5	
	comp=Z,5μm,21.1s,baz=190,slow=35						
QSPA				P3KPbc		15 26 44.4	
	comp=Z,1.3nm,0.8s,baz=73,slow=0.7,SNR=7.8						
	comp=Z,185nm,0.6s						
QSPA	**South Pole Qui**	**33.98**	**180**	⇑P	**P**	**14 55 41.8**	**+0.6**
QSPA				ScP	**ScP**	**15 01 52.1**	**+0.2**
ITAB	**Concordia**	**33.99**	**318**	P	**P**	**14 55 41.4**	**0.0**
ITAB	**Concordia**	**33.99**	**318**	*e*P	**P**	**14 55 42.6**	**+1.2**
ITAB	**Concordia**	**33.99**	**318**	P	**P**	**14 55 42.2**	**+0.8**
ITAB				S	**S**	**15 00 59.5**	**+0.5**
LR04	**Corral**	**34.07**	**279**	IAmb	IAmb	14 55 41.5	
	comp=Z,207nm,1.6s						
SLP01	**Ubatuba-SP**	**35.39**	**331**	*e*P	**P**	**14 55 54.5**	**+0.9**
SLP01	**Ubatuba-SP**	**35.39**	**331**	P	**P**	**14 55 54.6**	**+0.9**
SLP01				S	**S**	**15 01 24.3**	**+3.6**
PARB	**Paraibuna**	**35.50**	**330**	*e*P	**P**	**14 55 56.7**	**+2.2**
PARB	**Paraibuna**	**35.50**	**330**	P	**P**	**14 55 55.7**	**+1.2**
PARB				S	**S**	**15 01 26.2**	**+3.9**
MAN01	**Angra dos Reis**	**35.51**	**

comp=Z,171nm,1.4s
MAW Mawson 40.06 143 P **P** **14 56 31.9 -0.3**
MAW IAmb IAmb 14 56 35.9
comp=Z,159nm,1.6s
MAW Mawson 40.06 143 P **P** **14 56 32.0 -0.2**
comp=Z,0.0nmcomp=Z,78nm,1.2s
MAW Mawson 40.06 143 P **P** **14 56 32.1 -0.1**
comp=Z,117nm,0.5s,baz=226,slow=6.7,SNR=376
MAW ScP **ScP** **15 02 13.7 -0.7**
comp=Z,66nm,0.9s,baz=263,slow=8.3,SNR=15
MAW LR LR 15 10 41.2
comp=Z,4μm,21.7s,baz=252,slow=32
comp=Z,117nm,0.5s
PMNB Patos De Minas 40.29 331 *eP* **P** **14 56 36.0 +1.1**
PMNB Patos De Minas 40.29 331 S **S** **15 02 36.2 +1.4**
ITRB Iturama 40.33 325 *eP* **P** **14 56 36.0 +0.9**
ITRB Iturama 40.33 325 P **P** **14 56 35.7 +0.6**
ITRB S **S** **15 02 38.4 +3.1**
CO05 La Serena 40.41 292 IAmb IAmb 14 57 00.6
comp=Z,213nm,1.0s
CAR01 Carai MG 40.53 339 P **P** **14 56 36.5 -0.3**
CAR01 S **S** **15 02 37.2 -1.2**
GUA01 Guaratinga, BA 40.71 342 *eP* **P** **14 56 38.6 +0.4**
GUA01 Guaratinga, BA 40.71 342 P **P** **14 56 38.7 +0.6**
GUA01 S **S** **15 02 40.2 -0.8**
RPRD Ribas do Rio P 40.73 321 *eP* **P** **14 56 38.6 +0.3**
AC05 El Transito 40.78 294 P **P** **14 56 38.3 -0.5**
SUR Sutherland 40.83 75 P **P** **14 56 39.3 0.0**
SUR Sutherland 40.83 75 LR LR 15 09 25.6
comp=Z,3μm,22.0s,baz=212,slow=30
SUR Sutherland 40.83 75 P **P** **14 56 39.4 +0.1**
LCO Las Campanas 40.86 293 P **P** **14 56 38.9 -0.7**
LCO IAmb IAmb 14 57 04.8
comp=Z,280nm,1.3s
LCO Las Campanas 40.86 293 P **P** **14 56 38.9 -0.7**
LCO pmax pmax
comp=Z,281nm,1.3s
LCO Las Campanas 40.86 293 P **P** **14 56 39.5 -0.2**
LCO pP **pP** **14 57 02.5 +0.3**
FSA Cafayete 40.92 301 *i* P **P** **14 56 38.5 -1.6**
JQT1 Jequitai-MG 41.02 335 P **P** **14 56 40.8 +0.1**
MURT Porto Murtinho 41.13 315 *eP* **P** **14 56 41.1 -0.5**
ITU3 Corumbazu 41.28 328 P **P** **14 56 43.4 +0.6**
IPMB Ipameri, GO 41.31 329 *eP* **P** **14 56 44.2 +1.0**
IPMB Ipameri, GO 41.31 329 P **P** **14 56 43.8 +0.7**
IPMB S **S** **15 02 53.4 +3.5**
AQDB Aquidauana 41.47 318 *eP* **P** **14 56 44.0 -0.4**
AQDB Aquidauana 41.47 318 P **P** **14 56 43.5 -0.8**
AQDB S **S** **15 02 51.5 -0.5**
BAT3 Ipameri 41.68 330 S **S** **15 02 58.5 +3.2**
AC04 Llanos de Chal 41.70 294 P **P** **14 56 45.6 -0.7**
GO03 Copiapo 41.78 295 *i* P **P** **14 56 45.5 -1.4**
AC02 Maricunga 41.85 297 *i* P **P** **14 56 48.1 +0.1**
CMC01 Camacan, BA 41.86 342 *eP* **P** **14 56 48.1 +0.5**
CMC01 Camacan, BA 41.86 342 P **P** **14 56 47.7 +0.2**
BDQN Bodoquena, MS 41.89 317 *eP* **P** **14 56 47.0 -0.7**
NBIT Itapeh - BA 42.27 343 P **P** **14 56 51.3 +0.4**
ANA01 Lindo Horizont 42.89 341 P **P** **14 56 56.2 +0.2**
ANA01 S **S** **15 03 12.9 -0.2**
JANB Januaria 43.11 336 *eP* **P** **14 56 58.1 +0.4**
JANB Januaria 43.11 336 P **P** **14 56 57.8 +0.1**
JANB S **S** **15 03 15.8 -0.6**
SOE Somerset East 43.17 80 P **P** **14 56 56.6 -1.5**
SOE IAmb IAmb 14 57 50.3
comp=Z,375nm,1.9s
GDU01 Guandu, BA 43.48 343 *eP* **P** **14 57 00.5 -0.1**
BDFB Brasilia 43.48 331 P **P** **14 57 01.1 +0.2**
BDFB Brasilia 43.48 331 P **P** **14 57 01.9 +1.1**
comp=Z,16nm,0.5s,baz=150,slow=7.7,SNR=27
BDFB LR LR 15 12 26.5
comp=Z,3μm,21.9s,baz=160,slow=32
comp=Z,16nm,0.5s
BDFB Brasilia 43.48 331 P **P** **14 57 01.5 +0.7**
BDFB S **S** **15 03 23.8 +1.9**
SHEL Horse Pasture 43.50 31 P **P** **14 57 00.8 0.0**
SHEL IAmb IAmb 14 57 02.6
comp=Z,264nm,0.9s
SHEL Horse Pasture 43.50 31 P **P** **14 57 00.8 0.0**
SHEL pmax pmax
comp=Z,264nm,0.9s
SHEL Horse Pasture 43.50 31 P **P** **14 57 01.4 +0.5**
SHEL pP **pP** **14 57 24.8 +1.1**
SHEL sP **sP** **14 57 34.9 +0.2**
PB14 IPOC Station P 44.32 297 IAmb IAmb 14 57 32.9
comp=Z,313nm,1.6s
PB14 IPOC Station P 44.32 297 P **P** **14 57 05.9 -1.8**
ARAG Araguaiana, MT 44.54 325 *eP* **P** **14 57 10.0 +0.8**
ARAG Araguaiana, MT 44.54 325 P **P** **14 57 09.5 +0.4**
ARAG S **S** **15 03 39.7 +2.6**
PB10 IPOC Station P 45.32 298 IAmb IAmb 14 57 41.2
comp=Z,396nm,1.5s
SALV Santo Antonio 45.66 320 *eP* **P** **14 57 18.3 +0.3**
SALV Santo Antonio 45.66 320 P **P** **14 57 18.3 +0.3**
SALV S **S** **15 03 52.8 -0.5**
PB05 IPOC Station P 45.71 299 IAmb IAmb 14 57 45.5
comp=Z,221nm,1.1s
SDBA SAO DESIDERIO 45.80 336 *eP* **P** **14 57 19.5 +0.3**
SDBA SAO DESIDERIO 45.80 336 P **P** **14 57 19.4 +0.2**
SDBA S **S** **15 03 54.9 -0.4**
SBA Scott Base 45.85 184 P **P** **14 57 19.2 +0.4**
SBA IAmb IAmb 14 57 58.0
comp=Z,91nm,1.0s
SBA Scott Base 45.85 184 P **P** **14 57 19.2 +0.4**
SBA pmax pmax
comp=Z,91nm,1.0s
SBA Scott Base 45.85 184 P **P** **14 57 19.9 +1.1**
SBA pP **pP** **14 57 43.1 +1.5**
SBA sP **sP** **14 57 54.5 +1.8**
SBA ScP **ScP** **15 02 39.8 +2.1**
NBLA Lagarto - SE 45.88 346 P **P** **14 57 19.6 -0.2**
NBLA S **S** **15 03 57.0 +0.6**
BOSA Boshof 46.16 76 P **P** **14 57 21.2 -0.8**
comp=Z,28nm,0.9s,baz=224,slow=7.5,SNR=23
BOSA ScP **ScP** **15 02 39.0 -0.8**
comp=Z,16nm,0.9s,baz=232,slow=7.8,SNR=5.6
BOSA LR LR 15 12 31.0
comp=Z,3μm,21.7s,baz=218,slow=30
comp=Z,28nm,0.9s
BOSA Boshof 46.16 76 P **P** **14 57 20.8 -1.3**
BOSA pP **pP** **14 57 43.9 -0.9**
BOSA sP **sP** **14 57 54.6 -1.2**
BOSA ScP **ScP** **15 02 39.1 -0.8**
BOSA Boshof 46.16 76 P **P** **14 57 20.9 -1.1**
BOSA S **S** **15 03 57.9 -2.6**
VNDA Vanda 46.35 183 P **P** **14 57 23.5 +0.8**
VNDA IAmb IAmb 14 57 59.1
comp=Z,70nm,0.8s
VNDA Vanda 46.35 183 P **P** **14 57 23.6 +0.8**
comp=Z,52nm,0.6s,baz=186,slow=6.9,SNR=204
VNDA ScP **ScP** **15 02 39.1 -0.7**
comp=Z,12nm,0.9s,baz=199,slow=3.7,SNR=4.8
VNDA LR LR 15 15 02.5
comp=Z,2μm,21.7s,baz=168,slow=34
VNDA PKPPKP **P'P'df** **15 28 53.3 +4.2**
comp=Z,1,3nm,1.1s,baz=338,slow=4.8,SNR=3.9
comp=Z,52nm,0.6s
VNDA Vanda 46.35 183 P **P** **14 57 23.5 +0.8**
VNDA pP **pwP** **14 57 47.6 -1.5**
VNDA sP **sP** **14 57 58.2 +1.5**
VNDA ScP **ScP** **15 02 41.4 +1.6**
BBSD Serra de San D 46.36 314 *eP* **P** **14 57 23.0 -0.5**
NBAN Anadia - AL 47.00 348 P **P** **14 57 28.2 -0.2**
NBAN S **S** **15 04 13.1 +0.8**
PTLB Pontes e Lacer 47.35 316 *eP* **P** **14 57 31.1 -0.1**
PTLB Pontes e Lacer 47.35 316 P **P** **14 57 30.9 -0.4**
PHPEN Phepeng 47.38 71 IAmb IAmb 14 58 03.2
comp=Z,119nm,1.2s
CCD Concordia, Ant 47.48 170 ⇑P **P** **14 57 32.0 -0.1**
PB08 IPOC Station P 47.52 302 IAmb IAmb 14 57 58.7
comp=Z,266nm,1.1s
PB08 IPOC Station P 47.52 302 P P 14 57 26.9 -6.0
H04S2 CROZET ISLANDS 47.59 114 T T 15 49 05.0
baz=232,slow=74,SNR=23
H04S3 CROZET ISLANDS 47.60 114 T T 15 49 06.6
baz=232,SNR=25
H04S1 CROZET ISLANDS 47.61 114 T T 15 49 05.6
baz=232,slow=74,SNR=20
SIV San Ignacio 47.62 314 LR LR 15 16 06.7
comp=Z,2μm,21.7s,baz=160,slow=34
TA01 Diego Aracena 47.64 301 IAmb IAmb 14 58 22.9
comp=Z,192nm,1.2s
CRZF Crozet Islands 47.86 114 P **P** **14 57 35.4 +0.6**
CRZF IAmb IAmb 14 57 38.4
comp=Z,98nm,0.9s
TA02 Huaiquique 47.87 301 IAmb IAmb 14 57 38.7
comp=Z,124nm,0.8s
SNDB Serra Nova Dou 47.90 328 *eP* **P** **14 57 36.2 +0.8**
SNDB Serra Nova Dou 47.90 328 P **P** **14 57 36.3 +0.8**
KOOLE Kule 48.03 66 IAmb IAmb 14 57 37.2
comp=Z,108nm,0.7s
KOOLE Kule 48.03 66 *i* P **P** **14 57 36.0 -0.6**
MAKGR Makgori 48.14 73 IAmb IAmb 14 58 13.2
comp=Z,98nm,1.1s
MAKGR Makgori 48.14 73 *i* P **P** **14 57 36.3 -1.1**
H10S2 ASCENSION HYDR 48.25 17 T T 15 50 24.8
baz=188,SNR=6.9
H10S3 ASCENSION HYDR 48.25 17 T T 15 50 24.1
baz=32,SNR=29
NBCA Caruaru-PE 48.39 349 P **P** **14 57 39.1 -0.2**
LAJE UHE Lajeado 48.97 332 P **P** **14 57 44.3 +0.6**
KGCAE Kacgae 49.18 68 *i* P **P** **14 57 44.7 -0.7**
PB16 IPOC Station P 49.24 303 IAmb IAmb 14 57 48.9
comp=Z,67nm,0.6s
H10N1 ASCENSION HYDR 49.37 17 T T 15 51 49.2
baz=196,slow=74,SNR=21
H10N3 ASCENSION HYDR 49.37 17 T T 15 51 48.2
baz=196,slow=74,SNR=20
H10N2 ASCENSION HYDR 49.38 17 T T 15 51 50.2
baz=196,slow=74,SNR=5.1
NBMA Muriti-CE 49.59 345 P **P** **14 57 48.6 +0.2**
NBMA S **S** **15 04 48.9 0.0**
SMTB Santa Maria do 49.86 334 *eP* **P** **14 57 51.3 +0.8**
SMTB Santa Maria do 49.86 334 P **P** **14 57 51.3 +0.8**
SMTB S **S** **15 04 55.8 +3.2**
GRTLG Ghanzi 49.91 66 IAmb IAmb 14 58 24.1
comp=Z,113nm,1.1s
GRTLG Ghanzi 49.91 66 *i* P **P** **14 57 50.2 -0.7**
TSUM Tsumeb 49.91 61 P **P** **14 57 50.2 -0.7**
TSUM IAmb IAmb 14 58 22.7
comp=Z,82nm,1.1s
TSUM Tsumeb 49.91 61 LR LR 15 15 29.2
comp=Z,2μm,20.5s,baz=200,slow=32
TSUM Tsumeb 49.91 61 P **P** **14 57 50.3 -0.7**
PDRB Porto dos Gac 50.00 321 *eP* **P** **14 57 51.1 -0.4**
PDRB Porto dos Gac 50.00 321 P **P** **14 57 51.1 -0.4**
PDRB S **S** **15 04 53.3 -1.3**
KDWAN Kaudwane 50.03 71 IAmb IAmb 14 58 23.9
comp=Z,151nm,1.1s
KDWAN Kaudwane 50.03 71 *i* P **P** **14 57 51.0 -0.9**
NBPV Pedro Velho 50.10 350 P **P** **14 57 52.8 +0.6**
CLDB Colider 50.37 323 *eP* **P** **14 57 54.2 -0.1**
CLDB Colider 50.37 323 P **P** **14 57 53.9 -0.4**
CLDB S **S** **15 04 59.3 -0.5**
LPAZ La Paz 50.39 306 P **P** **14 57 55.7 +0.6**
comp=Z,187nm,0.6s,baz=126,slow=3.9,SNR=275
LPAZ pP **pP** **14 58 17.8 -1.1**
comp=Z,202nm,1.1s,baz=107,slow=7.1,SNR=4.9
LPAZ ScP **ScP** **15 02 58.2 -0.4**
comp=Z,5.2nm,0.9s,baz=107,slow=2.7,SNR=2.5
LPAZ S **S** **15 05 01.6 +0.5**
comp=Z,7.2nm,0.9s,baz=66,slow=24,SNR=6.9
LPAZ LR LR 15 21 20.5
comp=Z,1μm,18.7s,baz=158,slow=38
comp=Z,187nm,0.6s
LPAZ La Paz 50.39 306 *eP* **P** **14 57 55.9 +0.8**
LPAZ La Paz 50.39 306 P **P** **14 57 55.9 +0.8**
LPAZ pP **pP** **14 58 20.1 +1.2**
LPAZ sP **sP** **14 58 31.5 +1.5**
LPAZ La Paz 50.39 306 P **P** **14 57 55.5 +0.3**
LPAZ S **S** **15 05 02.2 +1.1**
RCBR Riachuelo 50.75 349 P **P** **14 57 57.4 +0.2**
RCBR IAmb IAmb 14 58 39.6
comp=Z,98nm,1.4s
RCBR Riachuelo 50.75 349 LR LR 15 17 06.5
comp=Z,201nm,19.1s,baz=172,slow=33
RCBR Riachuelo 50.75 349 P **P** **14 57 57.4 +0.2**
RCBR pmax pmax
comp=Z,98nm,1.5s
RCBR Riachuelo 50.75 349 *eP* **P** **14 57 58.0 +0.8**
RCBR Riachuelo 50.75 349 P **P** **14 57 57.0 -0.2**
RCBR S **S** **15 05 07.1 +2.2**
NBPA Parau_RN 50.96 348 P **P** **14 57 58.6 -0.1**
QNGWA Qangwa 51.42 65 IAmb IAmb 14 58 34.2
comp=Z,225nm,1.2s
QNGWA Qangwa 51.42 65 *i* P **P** **14 58 01.8 -0.5**
NBPB Pedra_Branca-C 51.50 344 *eP* **P** **14 58 03.9 +1.1**
NBPB Pedra_Branca-C 51.50 344 P **P** **14 58 03.1 +0.3**
NBPB S **S** **15 05 17.4 +2.1**
KHWEE KHWEE 51.62 71 IAmb IAmb 14 58 36.0
comp=Z,140nm,1.1s
KHWEE KHWEE 51.62 71 *i* P **P** **14 58 03.0 -0.8**
PAL2 UHE Estreito - 51.84 335 P **P** **14 58 06.5 +1.2**
PAL2 S **S** **15 05 23.2 +3.4**
PAL01 Palmeiras do T 51.99 334 P **P** **14 58 07.3 +0.9**
PAL01 S **S** **15 05 25.4 +3.4**
MREMI Moremi 52.17 73 *i* P **P** **14 58 07.2 -0.6**
XAUDM Khaudum 52.33 64 IAmb IAmb 14 58 31.4
comp=Z,167nm,1.2s
NBBC Barra do Corda 52.56 337 P **P** **14 58 11.2 +0.6**
PHDHD Phuduhudu 52.59 69 *i* P **P** **14 58 10.3 -0.6**
NBCL Cascavel-CE 52.61 346 P **P** **14 58 11.1 +0.1**
NBCL S **S** **15 05 33.9 +3.5**
NBPS Pedro II - PI 52.92 342 P **P** **14 58 13.6 +0.2**
PRPB Parauapebas 53.02 332 *eP* **P** **14 58 15.0 +1.1**
PRPB Parauapebas 53.02 332 P **P** **14 58 14.4 +0.5**
PRPB S **S** **15 05 37.6 +1.7**
SOOWA Sowa 53.16 71 *i* P **P** **14 58 14.7 -0.4**
SBBR Sobral 53.37 344 P **P** **14 58 16.9 +0.4**
CASY Casey 53.75 160 P **P** **14 58 18.8 +0.1**
CASY Casey 53.75 160 P **P** **14 58 18.8 +0.1**
CASY pP **pP** **14 58 41.7 -0.8**
CASY ScP **ScP** **15 03 11.3 -0.3**
NBMO Morrinhos-CE 53.76 344 P **P** **14 58 19.7 +0.3**
NPGB Novo Progresso 53.81 325 *eP* **P** **14 58 19.8 0.0**
NPGB Novo Progresso 53.81 325 P **P** **14 58 19.3 -0.5**
NPGB S **S** **15 05 47.2 +0.5**
MATP Matopo 54.48 73 P **P** **14 58 25.8 +1.0**
comp=Z,16nm,0.8s,baz=213,slow=7.1,SNR=43
MATP LR LR 15 17 21.9
comp=Z,554nm,21.6s,baz=208,slow=31
comp=Z,16nm,0.8s
TMAB Tom-Au,PA,Br 56.24 335 *eP* **P** **14 58 38.3 +1.1**
TMAB Tom-Au,PA,Br 56.24 335 P **P** **14 58 38.1 +0.9**
BMO2 UHE Belo Monte 56.31 330 P **P** **14 58 38.5 +0.8**
BMO2 S **S** **15 06 23.7 +3.7**
BMO1 UHE Belo Monte 56.42 330 P **P** **14 58 38.9 +0.4**
ATM1 UHE Belo Monte 56.43 330 P **P** **14 58 39.3 +0.7**
ATM1 S **S** **15 06 25.6 +3.9**
ITTB Itaituba 56.45 325 *eP* **P** **14 58 39.0 +0.2**
ITTB Itaituba 56.45 325 P **P** **14 58 38.5 -0.2**
ITTB S **S** **15 06 22.6 +0.7**
MAL2 Monte Alegre, 58.20 328 P **P** **14 58 51.5 +0.5**
MAL2 Monte Alegre, 58.20 328 P **P** **14 58 51.3 +0.3**
NNA Nana 58.23 299 P **P** **14 58 51.7 +0.4**
NNA Nana 58.23 299 P **P** **14 58 51.7 +0.4**
NNA pmax pmax
comp=Z,260nm,1.3s
NNA Nana 58.23 299 P **P** **14 58 51.6 +0.4**
NNA pP **pwP** **14 59 16.9 -0.9**
LSZ Lusaka 58.58 69 P **P** **14 58 52.8 -1.1**
LSZ IAmb IAmb 14 58 54.2
comp=Z,88nm,0.9s
LSZ Lusaka 58.58 69 P **P** **14 58 53.5 -0.4**
comp=Z,70nm,0.9s,baz=211,slow=7.3,SNR=91
LSZ LR LR 15 22 11.8
comp=Z,2μm,18.7s,baz=216,slow=34
comp=Z,70nm,0.9s
LSZ Lusaka 58.58 69 P **P** **14 58 52.8 -1.1**
LSZ pP **pP** **14 59 17.4 -0.3**
MACA Manacapuru-AM 59.24 320 *eP* **P** **14 58 57.6 -0.6**
MACA Manacapuru-AM 59.24 320 P **P** **14 58 56.8 -1.5**
CZSB Cruzeiro do Su 60.00 306 P **P** **14 59 02.1 -1.3**
CZSB IAmb IAmb 14 59 06.5
comp=Z,91nm,0.7s
CZSB Cruzeiro do Su 60.00 306 *eP* **P** **14 59 02.9 -0.6**
CZSB Cruzeiro do Su 60.00 306 P **P** **14 59 01.8 -1.7**
CN01 Coaracy Nunes 60.20 332 P **P** **14 59 03.7 -1.1**
TEFE Tefe 60.39 316 *eP* **P** **14 59 05.7 -0.5**
TEFE Tefe 60.39 316 P **P** **14 59 05.3 -0.8**
TBTG Tabatinga, AM 61.92 310 *eP* **P** **14 59 15.9 -0.5**
ATAH Atahualpa 63.18 300 P **P** **14 59 26.0 +0.7**
comp=Z,33nm,0.6s,baz=152,slow=4.4,SNR=52
ATAH LR LR 15 28 32.5
comp=Z,870nm,19.8s,baz=158,slow=37
comp=Z,33nm,0.6s
VOI Vohitsoka 63.35 90 P **P** **14 59 26.3 +0.2**
BOAV Boa Vista 64.37 323 P **P** **14 59 31.7 -0.9**
BOAV IAmb IAmb 14 59 57.5
comp=Z,161nm,1.0s
BOAV Boa Vista 64.37 323 *eP* **P** **14 59 31.8 -0.9**
BOAV Boa Vista 64.37 323 P **P** **14 59 31.4 -1.2**
BOAV S **S** **15 08 02.1 -0.8**
SGC2 Sao Gabriel da 64.38 315 P **P** **14 59 31.4 -1.3**
MDP Montagnes des 64.56 332 LR LR 15 25 00.6
comp=Z,1μm,21.1s,baz=158,slow=33
MPGF Montagnes des 64.57 332 P **P** **14 59 33.9 0.0**
MPGF pP **pP** **14 59 58.6 -0.1**
DBIC Dimbokro 65.42 25 P **P** **14 59 38.9 -0.5**
DBIC IAmb IAmb 14 59 40.1
comp=Z,79nm,0.8s
DBIC Dimbokro 65.42 25 P **P** **14 59 39.2 -0.1**
comp=Z,86nm,0.7s,baz=174,slow=6.8,SNR=133
DBIC pP **pP** **15 00 01.6 -2.3**
comp=Z,37nm,0.9s,baz=180,slow=8.0,SNR=5.1
DBIC ScS **SKiKP** **15 09 31.4 -6.2**
comp=Z,7.3nm,1.1s,baz=289,slow=3.0,SNR=3.3
DBIC LR LR 15 22 07.3
comp=Z,2μm,19.2s,baz=180,slow=30
comp=Z,86nm,0.7s
DBIC Dimbokro 65.42 25 P **P** **14 59 39.1 -0.3**
DBIC pP **pP** **15 00 03.5 -0.4**
DBIC sP **sP** **15 00 15.4 +0.7**
DBIC Dimbokro 65.42 25 P **P** **14 59 39.0 -0.3**
ACRG Accra 65.63 30 P **P** **14 59 40.2 -0.5**
ABPO Ambohimpanom 65.90 88 P **P** **14 59 42.5 -0.3**
ABPO Ambohimpanom 65.90 88 P **P** **14 59 42.5 -0.3**
ABPO pmax pmax
comp=Z,46nm,1.1s
ABPO Ambohimpanom 65.90 88 P **P** **14 59 43.6 +0.8**
ABPO pP **pP** **15 00 08.9 +1.9**
ABPO sP **sP** **15 00 20.6 +3.1**
OPO Ambohidratompo 66.24 88 P **P** **14 59 45.0 +0.1**
comp=Z,18nm,1.0s,baz=224,slow=2.9,SNR=10
OPO LR LR 15 24 05.4
comp=Z,2μm,18.9s,baz=344,slow=32
comp=Z,18nm,1.0s
AIS Amsterdam Isla 66.92 124 P **P** **14 59 48.6 -0.2**
FLOC Florencia 69.58 307 P **P** **15 00 05.3 -0.4**
FLOC IAmb IAmb 15 00 08.7
comp=Z,127nm,1.1s
OTAV Otavalo 69.66 304 P **P** **15 00 07.8 +1.1**
BBTS Babate 71.25 11 P **P** **15 00 16.6 +1.0**
comp=Z,41nm,0.7s,baz=355,slow=2.2,SNR=4.2
BBTS LR LR 15 24 26.6
comp=Z,1μm,21.3s,baz=76,slow=30
comp=Z,41nm,0.7s
ROSC El Rosal 71.91 310 IAmb IAmb 15 00 23.4
comp=Z,208nm,1.4s
ROSC El Rosal 71.91 310 P **P** **15 00 21.4 +1.2**
comp=Z,55nm,0.8s,baz=164,slow=5.0,SNR=26
ROSC LR LR 15 31 59.5
comp=Z,2μm,21.5s,baz=174,slow=36
comp=Z,55nm,0.8s
TORD Torodi Ar. Bea 73.31 30 P **P** **15 00 27.8 -0.2**
TORD IAmb IAmb 15 00 55.4
comp=Z,91nm,0.8s
TORD Torodi Ar. Bea 73.31 30 P **P** **15 00 27.9 -0.1**
comp=Z,107nm,0.5s,baz=203,slow=5.8,SNR=2.2
TORD LR LR 15 27 49.5
comp=Z,1μm,19.0s,baz=196,slow=32
comp=Z,107nm,0.5s
SDV Santo Domingo 74.06 315 P **P** **15 00 32.4 -0.2**
SDV IAmb IAmb 15 00 36.2
comp=Z,109nm,0.9s
SDV Santo Domingo 74.06 315 P **P** **15 00 32.4 -0.2**
comp=Z,142nm,1.1s,baz=170,slow=3.9,SNR=26
SDV LR LR 15 36 30.1
comp=Z,2μm,18.3s,baz=166,slow=38
comp=Z,142nm,1.1s
SDV Santo Domingo 74.06 315 *eP* **P** **15 00 32.7 +0.1**
SDV Santo Domingo 74.06 315 P **P** **15 00 32.4 -0.2**
SDV S **S** **15 09 57.7 +0.4**
KIBK Kibwezi 74.64 71 P **P** **15 00 35.5 -0.4**
KIBK Kibwezi 74.64 71 P **P** **15 00 37.1 +1.2**
KMBO Kilima Mbogo 75.25 69 P **P** **15 00 39.1 -0.5**
KMBO Kilima Mbogo 75.25 69 P **P** **15 00 39.1 -0.5**
KMBO pmax pmax
comp=Z,80nm,1.5s
FDF Fort de France 76.16 326 P **P** **15 00 44.8 +0.5**
FDF Fort de France 76.16 326 P **P** **15 00 44.8 +0.5**
FDF pmax pmax
comp=Z,593nm,1.6s
APZ The Paps 76.46 191 P **P** **15 00 44.9 -1.0**
SYZ Scrubby Hill 76.62 192 P **P** **15 00 46.2 -0.5**
CTZ Chatham Island 77.03 202 P **P** **15 00 47.3 -1.8**
CTZ Chatham Island 77.03 202 P **P** **15 00 50.3 +1.3**
TUZ Tuapeka 77.14 192 P **P** **15 00 49.3 -0.3**
TDBA Terre de Bas, 77.36 326 IAmb IAmb 15 01 30.0
comp=Z,237nm,1.0s
WHZ Wether Hill Ro 77.39 191 P **P** **15 00 50.8 -0.3**
CBE Ff, Capester 77.56 326 IAmb IAmb 15 01 24.3
comp=Z,242nm,1.0s
SMRC Santa Marta, M 77.57 313 IAmb IAmb 15 01 32.6
comp=Z,104nm,1.0s
GDSD La Dsirade Is 77.62 327 P **P** **15 00 52.6 +0.1**
GDSD IAmb IAmb 15 01 31.2
comp=Z,151nm,1.1s
EAZ Earnscleugh 77.89 192 P **P** **15 00 53.5 -0.3**
MLZ Mavora Lakes 77.89 191 P **P** **15 00 53.3 -0.6**
DCZ Deep Cove 77.90 190 P **P** **15 00 53.7 -0.1**
ODZ Otahua Downs 77.92 193 P **P** **15 00 53.5 -0.5**
LODK Lodwar 78.15 65 P **P** **15 00 55.2 -0.5**
WKZ Wanaka 78.33 192 P **P** **15 00 57.2 +1.0**
TMZ Timaru 78.52 193 P **P** **15 00 57.1 -0.3**
MSZ Milford Sound 78.60 191 P **P** **15 00 58.7 +1.0**
LBZ Lake Benmore 78.62 193 P **P** **15 00 58.1 +0.2**
MQZ McQueen's Vall 78.96 195 P **P** **15 00 59.4 -0.3**
MQZ McQueen's Vall 78.96 195 P **P** **15 00 59.3 -0.4**
JCZ Jackson Bay 79.10 192 P **P** **15 01 01.2 +0.6**
BRU2 Volcan 79.15 304 IAmb IAmb 15 01 36.3
comp=Z,154nm,1.1s
RPZ Rata Peaks 79.17 194 LR LR 15 32 28.9
comp=Z,345nm,19.5s,baz=160,slow=33
RPZ Rata Peaks 79.17 194 P **P** **15 01 01.4 +0.5**
OXZ Oxford 79.42 194 IAmb IAmb 15 01 52.1
comp=Z,190nm,1.8s
OXZ Oxford 79.42 194 P **P** **15 01 04.3 +2.1**
FOZ Fox Glacier 79.51 193 P **P** **15 01 02.9 +0.2**
GVZ Greta Valley S 79.63 195 IAmb IAmb 15 01 09.2
comp=Z,143nm,1.0s
GVZ Greta Valley S 79.63 195 P **P** **15 01 05.2 +1.8**
WVZ Waitaha Valley 79.84 193 P **P** **15 01 04.9 +0.4**
SMRT St. Maarten 79.87 326 IAmb IAmb 15 01 43.7
comp=Z,160nm,1.1s
LTZ Lake Taylor 79.92 195 IAmb IAmb 15 01 09.4
comp=Z,94nm,1.0s
LTZ Lake Taylor 79.92 195 P **P** **15 01 05.0 0.0**
INZ Inchbonnie 80.09 194 P **P** **15 01 05.4 -0.4**
KHZ Kahutara 80.10 196 P **P** **15 01 06.3 +0.5**
LCR2 La Lucha 2 80.59 304 IAmb IAmb 15 01 13.1
comp=Z,131nm,0.9s
BSWZ Blackbirch Sta 80.73 196 P **P** **15 01 10.6 +1.3**
MSWZ Moikau Station 80.81 197 P **P** **15 01 11.4 +1.6**
PAWZ Paruwai Farm 80.81 197 P **P** **15 01 10.4 +0.6**
THZ Tophouse 80.83 195 IAmb IAmb 15 01 28.5
comp=Z,70nm,0.8s
THZ Tophouse 80.83 195 P **P** **15 01 10.0 0.0**
HDC Heredia 80.87 304 *eP* **P** **15 01 12.5 +2.1**
SJG San Juan 80.93 323 P **P** **15 01 10.1 -0.4**
comp=Z,13nm,0.3s,baz=313,slow=7.8,SNR=5.1
SJG LR LR 15 36 33.1
comp=Z,704nm,21.8s,baz=164,slow=35
comp=Z,13nm,0.3s
TMWZ Te Maipa 81.00 198 P **P** **15 01 12.3 +1.5**
TUWZ Tuamarina 81.00 196 P **P** **15 01 12.8 +2.1**
DSZ Denniston Nort 81.00 194 IAmb IAmb 15 01 13.1
comp=Z,286nm,1.6s
DSZ Denniston Nort 81.00 194 P **P** **15 01 09.2 -1.6**
MTW Mount Morrison 81.01 197 P **P** **15 01 14.6 +3.8**
CAW Cannon Point 81.14 197 P **P** **15 01 12.7 +1.2**
MRNZ Matariki Terra 81.21 195 P **P** **15 01 11.6 -0.3**
UUPR Utuado, UPR, P 81.25 323 IAmb IAmb 15 01 13.1
comp=Z,85nm,0.3s
HOWZ Holdsworth Sta 81.27 197 P **P** **15 01 12.0 -0.2**
NNZ Nelson 81.29 196 IAmb IAmb 15 01 14.7
comp=Z,127nm,1.2s
NNZ Nelson 81.29 196 P **P** **15 01 11.9 -0.4**
TIWZ Tintock 81.32 198 P **P** **15 01 13.8 +1.3**
OGWZ Otaki Gorge 81.40 197 P **P** **15 01 13.9 +1.0**
MRZ Mangatainoka R 81.49 198 P **P** **15 01 13.2 -0.1**
JTS Las Juntas de 81.51 303 P **P** **15 01 13.4 -0.3**

JTS IAmb IAmb 15 01 55.2
comp=Z,150nm,1.2s
JTS Las Juntas de 81.51 303 P **P 15 01 13.7 0.0**
comp=Z,28nm,0.6s,baz=110,slow=3.2,SNR=23
JTS LR LR 15 40 47.1
comp=Z,368nm,19.7s,baz=116,slow=38
comp=Z,28nm,0.6s
ANWZ Angora Road 81.53 198 P **P 15 01 15.6 +2.1**
MOO Moorlands 81.56 176 P **P 15 01 13.5 -0.1**
comp=Z,156nm,1.3s
DUWZ D'Urville Isla 81.62 196 P **P 15 01 14.4 +0.3**
POWZ Post Office Ro 81.72 198 P **P 15 01 16.4 +1.8**
DVHZ Dannevirke 81.74 198 P **P 15 01 14.5 -0.2**
QRZ Quartz Range 81.80 195 IAmb IAmb 15 02 25.0
comp=Z,317nm,1.7s
QRZ Quartz Range 81.80 195 P **P 15 01 14.3 -0.7**
TSZ Takapari Road 82.01 198 P **P 15 01 18.8 +2.6**
PNHZ Pukenui 82.11 198 P **P 15 01 17.9 +1.3**
KRHZ Kereru 82.34 198 P **P 15 01 19.5 +1.7**
WAZ Wanganui 82.47 197 P **P 15 01 20.9 +2.4**
KWHZ Kaweka Forest 82.55 198 P **P 15 01 19.1 +0.1**
PRVC Isla de Provid 82.59 308 IAmb IAmb 15 01 23.1
comp=Z,194nm,1.1s
MOVZ Moawhango 82.68 198 P **P 15 01 20.2 +0.5**
WNVZ Wahianoa 82.78 198 P **P 15 01 20.8 +0.4**
BKZ Black Stump Fm 82.78 199 P **P 15 01 21.8 +1.6**
TRVZ Turoa 82.82 198 P **P 15 01 21.1 +0.5**
WHVZ Whangaehu Hut 82.83 198 P **P 15 01 21.2 +0.5**
TUVZ Tukino 82.83 198 P **P 15 01 21.5 +0.9**
LREZ Lake Rotokare 82.85 197 P **P 15 01 20.7 +0.3**
FWVZ Far West T-bar 82.86 198 P **P 15 01 22.3 +1.5**
PKVZ Pokaka 82.86 198 P **P 15 01 19.9 -0.8**
ESPN Las Esperanzas 82.88 304 IAmb IAmb 15 01 23.8
comp=Z,134nm,0.9s
COVZ Chateau Observ 82.92 198 P **P 15 01 22.1 +1.1**
NGZ Ngauruhoe 82.93 198 P **P 15 01 21.1 0.0**
OTVZ Ōturere 82.93 198 P **P 15 01 21.1 0.0**
ETVZ East Tongariro 82.95 198 P **P 15 01 21.0 -0.2**
NNVZ North Ngauruho 82.97 198 P **P 15 01 23.0 +1.7**
TMVZ Te Maari 82.97 198 P **P 15 01 21.0 -0.3**
NMEZ Namu Road 82.98 196 P **P 15 01 21.2 +0.1**
WTVZ West Tongariro 82.99 198 P **P 15 01 22.9 +1.6**
NTVZ North Tongarir 82.99 198 P **P 15 01 22.3 +0.9**
TWVZ Taurewa 83.06 198 P **P 15 01 22.2 +0.5**
KHEZ Kahui Hut 83.08 197 P **P 15 01 21.5 -0.3**
NEZ North Egmont 83.09 197 P **P 15 01 21.7 -0.1**
VRZ Vera Road 83.12 197 P **P 15 01 21.0 -0.8**
NBEZ Newall Road No 83.12 197 P **P 15 01 21.2 -0.7**
DREZ Durham Road 83.15 197 P **P 15 01 22.3 +0.3**
RTZ Ruatahuna 83.23 199 IAmb IAmb 15 02 07.2
comp=Z,94nm,0.9s
MWZ Matawai 83.40 200 P **P 15 01 25.5 +2.1**
SDDR Presa de Saban 83.55 319 IAmb IAmb 15 02 19.1
comp=Z,71nm,0.9s
TAM Tamanrasset 83.55 30 P **P 15 01 25.3 +1.1**
TAM Tamanrasset 83.55 30 P **P 15 01 25.3 +1.1**
TAM pmax pmax
comp=Z,57nm,1.0s
URZ Urewera 83.55 199 LR LR 15 34 56.4
comp=Z,920nm,19.6s,baz=248,slow=33
URZ Urewera 83.55 199 P **P 15 01 25.1 +1.0**
HIZ Hauiti 83.70 197 P **P 15 01 23.5 -1.4**
TLZ Tolley Road 83.76 198 P **P 15 01 24.9 -0.3**
EOSO Osorio 84.61 11 P P 15 01 23.8 -5.6
TGUH Tegucigalpa,Un 85.88 303 IAmb IAmb 15 01 37.7
comp=Z,154nm,1.4s
NWAO Narrogin (SRO) 86.21 151 P **P 15 01 36.6 -0.9**
NWAO IAmb IAmb 15 02 03.5
comp=Z,172nm,1.7s
NWAO Narrogin (SRO) 86.21 151 LR LR 15 36 01.0
comp=Z,783nm,22.0s,baz=214,slow=33
NWAO Narrogin (SRO) 86.21 151 P **P 15 01 36.6 -0.9**
NWAO pmax pmax
comp=Z,172nm,1.7s
WCZ Waipu Caves 86.30 198 P **P 15 01 36.5 -1.4**
TOO Toolangi 86.33 174 P **P 15 01 36.3 -1.8**
TOO Toolangi 86.33 174 P **P 15 01 37.4 -0.7**
comp=Z,16nm,1.1s
TOO Toolangi 86.33 174 P **P 15 01 36.3 -1.8**
TOO pmax pmax
comp=Z,16nm,1.0s
NMDO Nuevo Mundo 86.38 316 IAmb IAmb 15 01 41.0
comp=Z,138nm,1.6s
CHIV Chivirico 86.41 315 IAmb IAmb 15 02 19.4
comp=Z,120nm,1.3s
MUN Mundaring 86.82 150 P **P 15 01 39.6 -0.8**
comp=Z,138nm,1.0s
ARPS Mount Arapiles 86.88 171 P **P 15 01 39.8 -0.8**
comp=Z,72nm,0.9s
MILA Mila 87.00 177 P **P 15 01 41.1 -0.2**
comp=Z,24nm,1.2s
OUZ Omahuta 87.13 197 P P 15 01 28.4 -13
KLBR Kellerberrin 87.61 151 P **P 15 01 44.3 0.0**
comp=Z,146nm,0.9s
BLDU Ballidu 88.24 150 P **P 15 01 46.6 -0.7**
comp=Z,70nm,1.3s
TIO Tiouine 88.53 17 P **P 15 01 49.8 +1.3**
CAN Canberra 88.72 177 IAmb IAmb 15 02 30.9
comp=Z,69nm,1.3s
ATD Arta Tunnel 88.88 67 P **P 15 01 51.0 +0.6**
comp=Z,1.4nm,1.0s,baz=32,slow=2.9,SNR=4.8
ATD LR LR 15 40 19.7
comp=Z,51nm,18.9s,baz=190,slow=35
KMBL Kambalda 88.89 154 P **P 15 01 50.1 -0.2**
comp=Z,92nm,1.3s
MORW Morawa 89.51 149 P **P 15 01 52.8 -0.5**
MORW IAmb IAmb 15 02 19.4
comp=Z,57nm,1.3s
MORW Morawa 89.51 149 P **P 15 01 53.3 0.0**
comp=Z,37nm,1.0s
HTT Hallett 89.90 169 P **P 15 01 55.0 -0.1**
comp=Z,29nm,1.4s
BBOO Buckleboo 90.17 166 IAmb IAmb 15 01 59.5
comp=Z,54nm,0.9s
BBOO Buckleboo 90.17 166 P **P 15 01 55.9 -0.4**
comp=Z,87nm,1.2s
FORT Forrest 90.82 159 IAmb IAmb 15 02 26.4
comp=Z,95nm,1.1s
FORT Forrest 90.82 159 P **P 15 01 59.2 -0.1**
comp=Z,100nm,1.1s
MDT Midelt 90.84 19 P **P 15 02 00.9 +1.7**
comp=Z,36nm,0.7s,baz=207,slow=3.5,SNR=52
MDT LR LR 15 39 48.2
comp=Z,975nm,18.5s,baz=196,slow=34
comp=Z,36nm,0.7s
IFR Ifrane 91.43 19 P **P 15 02 04.0 +2.0**
SOR Soroa 91.63 310 IAmb IAmb 15 02 07.4
comp=Z,61nm,1.1s
STKA Stephens Creek 91.71 171 P **P 15 02 03.5 0.0**
comp=Z,165nm,1.2s
STKA Stephens Creek 91.71 171 P **P 15 02 03.5 0.0**
comp=Z,18nm,0.7s,baz=174,slow=5.0,SNR=23
STKA PP **PP 15 05 42.8 +0.5**
comp=Z,11nm,0.8s,baz=178,slow=7.7,SNR=5.4
STKA LR LR 15 41 36.1
comp=Z,1μm,19.7s,baz=185,slow=34
comp=Z,18nm,0.7s
TEIG Tepich 91.71 305 P **P 15 02 03.9 +0.5**
PPT Papeete 91.95 234 LR LR 15 35 08.6
comp=Z,1μm,21.5s,baz=152,slow=30
CMSA Cobar Meteorol 92.35 174 P **P 15 02 06.3 -0.1**
comp=Z,25nm,1.7s
MEEK Meekatharra 92.53 150 P **P 15 02 08.3 +0.9**
comp=Z,42nm,1.6s
RAR Rarotonga 92.98 224 LR LR 15 36 36.2
comp=Z,341nm,21.2s,baz=160,slow=31
ESPR Espera 94.58 17 P **P 15 02 11.5 -4.7**
PVAQ Vaqueiros 94.81 16 P **P 15 02 18.5 +1.2**
EGRO El Granado 94.97 16 P **P 15 02 17.0 -0.9**
PCVE Castro Verde 94.98 15 P **P 15 02 18.7 +0.7**
WRKA Warakurna 96.44 158 P **P 15 02 25.4 +0.1**
comp=Z,17nm,0.8s
KEST Kesra 96.83 29 LR LR 15 43 25.0
comp=Z,715nm,18.2s,baz=216,slow=34
QLP Quilpie 97.18 172 P **P 15 02 27.6 -0.9**
ESDC Sonseca Array 97.63 18 P **P 15 02 30.0 0.0**
ESDC Sonseca Array 97.63 18 P Pdif 15 02 30.2 +0.1
comp=Z,2.3nm,0.7s,baz=188,slow=4.3,SNR=15
ESDC LR LR 15 42 37.6
comp=Z,741nm,19.6s,baz=192,slow=33
comp=Z,2.3nm,0.7s
ASAR Alice Springs 98.82 163 P **P 15 02 35.0 -1.0**
comp=Z,17nm,0.9s,baz=183,slow=3.9,SNR=51
ASAR PP **PP 15 06 33.5 -4.2**
comp=Z,13nm,0.7s,baz=186,slow=6.9,SNR=16
ASAR S **SKSac 15 13 01.0 -3.9**
comp=Z,2.9nm,0.9s,baz=168,slow=7.1,SNR=9.2
ASAR PKKPbc **PKKPdf 15 19 01.9 -0.4**
comp=Z,0.8nm,0.5s,baz=17,slow=2.3,SNR=15
ASAR LR LR 15 46 57.8
comp=Z,2μm,18.1s,baz=186,slow=35
comp=Z,17nm,0.9s
AS31 Alice Springs 98.83 163 P **P 15 02 35.1 -0.9**
comp=Z,6.7nm,1.2s
WRA Warramunga Arr 102.54 162 P **Pdif 15 02 51.6 -1.0**
comp=Z,6.4nm,0.8s,baz=195,slow=4.1,SNR=15
WRA PP **PP 15 07 00.3 -5.4**
comp=Z,5.9nm,0.9s,baz=192,slow=6.0,SNR=5.7
WRA S **SKSac 15 13 18.9 -4.1**
comp=Z,4.7nm,1.2s,baz=204,slow=5.1,SNR=7.8
WRA PKKPbc **PKKPbc 15 18 51.6 +2.0**
comp=Z,1.7nm,0.4s,baz=356,slow=2.8,SNR=66
WRAB Tennant Creek 102.55 162 *i* P **Pdif 15 02 52.6 -0.1**
WRAB pmax pmax
comp=Z,45nm,2.3s
TXAR Lajitas Array 106.77 298 Pdiff **Pdif 15 03 11.6 +0.5**
comp=Z,0.4nm,0.7s,baz=127,slow=10,SNR=4.6
TXAR PKiKP **PKiKP 15 07 20.4 -0.4**
comp=Z,0.8nm,0.6s,baz=172,slow=3.3,SNR=6.0
TXAR PP **PP 15 07 38.8 +0.5**
comp=Z,0.7nm,0.7s,baz=131,slow=5.7,SNR=3.6
TXAR PKKPbc **PKKPbc 15 18 42.0 +4.4**
comp=Z,0.8nm,0.9s,baz=294,slow=1.2,SNR=4.4
BRTR Keskin Array B 108.68 45 PP **PP 15 07 50.0 -2.2**
comp=Z,2.0nm,0.9s,baz=190,slow=6.3,SNR=3.8
GERES GERESS Array B 110.21 28 PKiKP **PKiKP 15 07 25.0 -1.5**
comp=Z,0.7nm,0.7s,baz=201,slow=4.2,SNR=3.0
GERES PP **PP 15 07 59.9 -3.2**
comp=Z,2.8nm,1.0s,baz=212,slow=4.7,SNR=4.2
GERES PKKPbc **PKKPbc 15 18 28.9 +1.5**
comp=Z,0.3nm,0.3s,baz=35,slow=3.3,SNR=3.8
CKRC Cesky Krumlov 110.35 28 *e*XS 15 16 11.9
KHC Kasperske Hory 110.44 27 *e*PP **PP 15 08 05.0 +0.3**
KHC *ex* x 15 08 26.0
KHC *e*XS 15 16 11.1
KHC AMS AMS 15 50 10.0
comp=Z,700nm,16.9s
MLR Muntele Rosu 110.84 37 PP **PP 15 08 07.3 -0.5**
comp=Z,1.7nm,0.5s,baz=205,slow=7.1,SNR=3.9
DRGR 110.94 34 ⇑P **Pdif 15 03 21.4 -7.8**
DRGR 110.94 34 ⇑P **Pdif 15 03 21.4 -7.8**
VRAC Vranov 111.41 29 PP **PP 15 08 14.1 +2.5**
comp=Z,1.7nm,0.6s,baz=330,slow=4.1,SNR=3.0
PRU Pruhonice 111.48 28 AMS AMS 15 49 50.0
comp=Z,700nm,19.0s
PSI Prapat 111.76 120 PP **PP 15 08 14.4 +0.4**
comp=Z,4.6nm,0.6s,baz=222,slow=9.9,SNR=6.1
BRG Berggiesshubel 112.14 27 *e*PKP PKiKP 15 08 05.4 +35
BRG Amp 15 08 13.2
comp=Z,3.7nm,1.0s
DPC Dobruska-Polom 112.28 29 AMS AMS 15 51 40.0
comp=Z,400nm,16.1s
CLL Collm 112.31 26 *e*PP **PP 15 08 22.0 +4.0**
CLL *e*PPPP 15 12 30.0
CLL *e*SKKSac SKKSac 15 15 18.0 +9.2
CLL *e*PS **PS 15 17 54.0 +2.4**
CLL *e*SS **SS 15 23 54.0 +4.5**
CLL AMS AMS 15 49 00.0
comp=Z,400nm,21.0s
ANMO Albuquerque 112.70 299 *c i*PKiKP **PKiKP 15 07 32.2 +0.4**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
EKA Eskdalemuir Ar 112.99 15 PKKPbc PKKPbc 15 18 20.1 +1.8
comp=Z,0.4nm,0.4s,baz=0.1,slow=2.7,SNR=6.1
HYB Hyderabad 113.18 93 *e*PKiKP **PKiKP 15 07 34.2 +1.2**
HYB *e*PP **PP 15 08 24.8 +0.4**
HYB *e*SKSac **SKSac 15 14 09.9 +1.4**
ANN Anapa 114.47 45 *i* PKiKP **PKiKP 15 07 41.6 +7.0**
ANN *e*SS SS 15 24 18.8 +0.6
ANN pmax pmax
comp=Z,76nm,1.8s
KBZ Khabaz 115.82 49 PKP **PKPdf 15 07 36.4 -0.9**
comp=Z,1.3nm,0.7s,baz=206,slow=6.5,SNR=4.3
KBZ PKKPbc **PKKPab 15 18 15.2 +3.6**
comp=Z,2.5nm,0.9s,baz=127,slow=2.9,SNR=6.0
KIV Kislovodsk 115.92 49 *i* PKiKP **PKPdf 15 07 37.0 -0.6**
KIV *e* 15 08 42.5
KIV *e*PS PKKPdf 15 18 24.8 -8.6
KIV *e*SS SS 15 24 37.5 0.0
KIV *e*SSS SSS 15 28 58.5
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,461nm,22.0s
AKASG Malin Array Be 116.46 36 PKP **PKPdf 15 07 37.0 -1.2**
comp=Z,0.9nm,0.4s,baz=229,slow=2.2,SNR=6.4
AKASG PKKPbc **PKKPab 15 18 13.0 +4.7**
comp=Z,1.5nm,0.8s,baz=32,slow=4.9,SNR=7.2
AKBB Malin Array Si 116.46 36 *c i*PKiKP **PKPdf 15 07 36.6 -1.6**
PFO Pinyon Flats O 116.70 291 PKP **PKPdf 15 07 38.5 -1.0**
comp=Z,4.3nm,0.9s,baz=167,slow=3.1,SNR=4.1
PFO Pinyon Flats O 116.70 291 *i* PKiKP **PKiKP 15 07 39.7 +0.2**
MAK Makhachkala 117.21 53 *i* P **Pdif 15 03 55.5 -1.5**
MAK *i* 15 07 39.4
MAK *e* 15 08 06.0
MAK *e*PPP PPP 15 11 21.2
MAK *e* 15 14 22.1
MAK *e*SS SS 15 24 53.3 -0.8
MAK *e*SSS SSS 15 29 20.3
MAK pmax pmax
comp=Z,52nm,0.6s
MPSI Mapaga 118.33 142 PKP **PKiKP 15 07 45.9 +2.8**
MNK Minsk 119.28 33 *i* PKP **PKPdf 15 07 43.4 -0.1**
comp=E,9.0nm,0.8s
MNK *i* PKP **PKPdf 15 07 43.4 -0.1**
comp=N,16nm,0.9s
MNK *i* PKP **PKPdf 15 07 43.4 -0.1**
comp=Z,12nm,0.8s,baz=212
MNK *i* pPKP **pPKPdf 15 08 09.5 -1.3**
MNK *i* sPKP 15 08 21.0
MNK *i* PP **PP 15 09 04.7 -2.1**
MNK *i* PPP PPP 15 11 37.1
MNK *i* SKS **SKSdf 15 14 40.0 -5.6**
MNK *i* PS **PS 15 18 54.4 -0.7**
MNK *i* SS **SS 15 25 17.6 -2.9**
MNK *i* SSS SSS 15 29 23.9
MNK *i* LR LR 15 50 57.3
MNK *i* LRM MLR 15 56 52.0
comp=Z,642nm,18.7s
MNK *i* LRM MLR 15 57 15.3
comp=N,389nm,20.6s
MNK *i* LRM MLR 15 57 22.6
comp=E,236nm,17.6s
MNK Minsk 119.28 33 *i* PKiKP **PKPdf 15 07 43.4 -0.1**
MNK *i* 15 08 09.5
MNK *i* 15 08 21.0
MNK *i* 15 09 04.6
MNK *i* PPP PPP 15 11 37.0
MNK *i* 15 14 40.0
MNK *i* PS **PS 15 18 54.3 -0.7**
MNK *i* SS SS 15 25 17.5 -3.0
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK MLR MLR
comp=Z,642nm,19.0s
MNK MLR MLR
comp=N,389nm,21.0s
MNK MLR MLR
comp=E,236nm,18.0s
NACGM Naroch 119.28 32 *e*PKiKP **PKiKP 15 07 46.0 +2.4**
comp=Z,8.0nm,0.8s,baz=211
ULM Lac du Bonnet 120.31 316 PKP **PKPdf 15 07 44.4 -1.3**
comp=Z,7.8nm,0.5s,baz=163,slow=1.8,SNR=11
PDAR Pinedale Array 120.34 302 PKhKP PKPpre 15 07 34.2
comp=Z,0.2nm,0.4s,baz=108,slow=4.8,SNR=3.7
PDAR PKP **PKPdf 15 07 45.1 -1.2**
comp=Z,2.1nm,0.4s,baz=117,slow=4.7,SNR=39
PDAR SKP 15 11 11.7
comp=Z,1.0nm,0.6s,baz=121,slow=5.2,SNR=6.1
PDAR PKKPbc **PKKPab 15 17 53.3 +0.6**
comp=Z,1.4nm,0.8s,baz=113,slow=1.0,SNR=5.3
HFS Hagfors 120.54 22 PKP **PKPdf 15 07 44.0 -1.8**
comp=Z,3.1nm,0.6s,baz=167,slow=2.6,SNR=11
HFS PKKPbc **PKKPbc 15 17 52.2 +0.7**
comp=Z,1.2nm,0.5s,baz=45,slow=2.4,SNR=5.8
HFS Hagfors 120.54 22 PKIKP **PKPdf 15 07 44.0 -1.8**
VORR Voronezh 120.78 42 *e*PKIKP **PKiKP 15 07 49.9 +3.3**
VORR pmax pmax
comp=Z,51nm,0.4s
NB2 NORSAR Subarra120.86 21 PKPdf **PKPdf 15 07 45.7 -0.7**
comp=Z,8.2nm,1.2s,baz=202,slow=1.9
NB2 PKKP **PKKPbc 15 17 51.4 +1.0**
comp=Z,0.8nm,0.9s,baz=38,slow=4.1
NB2 NORSAR Subarra120.86 21 PKPdf **PKPdf 15 07 45.7 -0.7**
baz=202,slow=1.9
NOA NORSAR Array B120.86 21 PKP **PKPdf 15 07 45.0 -1.4**
comp=Z,2.2nm,0.7s,baz=205,slow=2.0,SNR=14
NOA PKKPbc **PKKPbc 15 17 53.4 +3.0**
comp=Z,1.9nm,0.9s,baz=25,slow=3.2,SNR=4.7
VRH Novokhopyorsk 121.35 44 *e*PKIKP **PKPdf 15 07 46.7 -0.9**
VRH pmax pmax
comp=Z,23nm,0.4s
NVAR Mina Array Bea 121.35 293 PKP **PKiKP 15 07 49.2 +0.7**
comp=Z,4.9nm,0.6s,baz=122,slow=3.2,SNR=26
NVAR PKKPbc **PKKPab 15 17 52.9 +4.0**
comp=Z,1.7nm,0.7s,baz=289,slow=3.0,SNR=9.1
KBU Kabul Universi 121.39 74 PKP **PKiKP 15 07 54.8 +6.1**
LPSR Galich'ya Gora 121.42 41 *e*PKIKP **PKiKP 15 07 48.1 +0.3**
LPSR pmax pmax
comp=Z,12nm,0.9s
ELK Elko 121.55 297 PKP **PKiKP 15 07 49.4 +0.5**
comp=Z,8.6nm,1.0s,baz=111,slow=3.5,SNR=18
VSU Vasula 122.30 30 *c i*PKIKP **PKPdf 15 07 47.7 -1.5**
VSU pmax pmax
comp=Z,16nm,1.3s
OBN Obninsk 122.60 38⇑ *i*PKIKP **PKiKP 15 07 51.3 +1.2**
OBN *i* 15 08 16.8
OBN *i* 15 08 28.9
OBN *e* 15 09 28.8
OBN *e*PPP PPP 15 12 12.5
OBN 15 14 53.0
OBN *e*SSS SSS 15 30 35.8
OBN pmax pmax
comp=Z,54nm,2.3s
OBN MLR MLR
comp=Z,393nm,19.0s
SFJD Kangerlussuaq 124.16 349 *e*P **PKPdf 15 07 51.8 -0.7**
BELG Belogornoye 124.59 46 *i* PKIKP **PKPdf 15 07 53.2 -0.6**
FINES FINESS Array B 124.64 28 PKP **PKPdf 15 07 53.0 -0.6**
comp=Z,19nm,0.5s,baz=258,slow=1.2,SNR=146
FINES SKP 15 11 19.0
comp=Z,2.9nm,0.6s,baz=116,slow=4.4,SNR=3.9
FINES SKKPbc SKKPbc 15 21 16.8 -1.5
comp=Z,1.4nm,0.8s,baz=22,slow=2.1,SNR=4.5
CMAR Chiang Mai Arr 125.12 111 PKP **PKPdf 15 07 55.5 -0.4**
comp=Z,11nm,0.9s,baz=229,slow=3.8,SNR=38
CHTO Chiang Mai 125.42 111 PKP **PKPdf 15 07 53.5 -3.0**
CHTO PKP **PKiKP 15 07 56.8 -0.1**
YBH Yreka Blue Hor 126.06 293 PKP **PKPdf 15 07 56.2 -0.9**
comp=Z,7.4nm,0.7s,baz=325,slow=4.0,SNR=17
SCO Scoresbysund 126.51 2 *e*P **PKiKP 15 07 58.4 +1.0**
IUG Iuzhnay 127.50 68 *e*PKIKP **PKPdf 15 07 59.6 -0.3**
IUG *e* 15 10 01.5
IUG Iuzhnay 127.50 68 *e*PKIKP **PKPdf 15 07 59.6 -0.3**
IUG *e*PP **PP 15 10 01.5 -1.0**
ABKAR Akbulak array 127.61 56 PKPpre 15 07 54.0
NEW Newport 127.98 302 PKP **PKPdf 15 08 00.3 -0.2**
comp=Z,5.3nm,0.8s,baz=73,slow=1.7,SNR=7.0
BRLS Borolday 128.03 67 *e*PKIKP **PKPdf 15 07 59.8 -1.0**
BRLS *e* 15 10 03.4
BRLS Borolday 128.03 67 *e*PKP **PKPdf 15 07 59.8 -1.0**
BRLS *e*PP **PP 15 10 03.4 -2.4**
KLMR Klimovskoe 128.08 35 *e*PKIKP **PKPdf 15 07 59.0 -1.2**
KLMR *e* 15 08 25.3
KLMR *e* 15 10 10.3
KLMR SS SS 15 27 17.3 +5.8
KLMR pmax pmax
comp=Z,39nm,1.3s
DZA Taraz 128.71 69 *e*PKIKP **PKPdf 15 08 01.8 -0.2**
DZA Taraz 128.71 69 *e*PKP **PKPdf 15 08 01.9 -0.2**
KSH Kashi 128.76 75 PKP **PKPdf 15 08 02.3 -0.1**
KSH PP **PP 15 10 12.6 +1.8**
KSH AMB AMB
comp=Z,250nm,13.2s
KSH LR LR
comp=Z,920nm,20.8s
KSH LR LR
comp=Z,680nm,20.8s
KSH LR LR
comp=Z,540nm,21.1s
SUMG Summit 128.78 356 PKP **PKPdf 15 07 56.0 -5.8**
SUMG Summit 128.78 356 *e*P **PKiKP 15 08 02.4 -0.1**
SUMG *i* 15 11 13.8
AML Almayashu 129.41 71 P SKPab 15 11 15.8 +0.4
SNR=11
EKS2 Erkin-Say 129.82 70 P SKPab 15 11 17.2 +0.3
SNR=7.9
KIRV Kirov 129.83 42 *c i*PKIKP **PKPdf 15 08 03.6 0.0**
LSA Lhasa 129.90 95 PKP **PKiKP 15 08 08.4 +2.3**
LSA PP **PP 15 10 22.3 +3.8**
LSA LR LR
comp=Z,510nm,21.2s
LSA LR LR
comp=Z,940nm,20.8s
AAK Ala-Archa 130.19 71 P **SKPab 15 11 18.4 -0.1**
SNR=6.1
AAK Ala-Archa 130.19 71 *c i*PKIKP **PKPdf 15 08 05.0 -0.1**
AAK pmax pmax
comp=Z,19nm,1.3s
AAK Ala-Archa 130.19 71 PKP **PKPdf 15 08 05.3 +0.2**
TNCH TengChong 130.27 106 PKP **PKPdf 15 08 05.0 -0.8**
TNCH sPKP 15 08 43.1
TNCH SKKS 15 17 06.6
TNCH SS **SS 15 27 40.5 +1.2**
TNCH AMB AMB
comp=Z,350nm,11.5s
TNCH LR LR
comp=Z,340nm,16.3s
TNCH LR LR
comp=Z,250nm,16.5s
TNCH LR LR
comp=Z,630nm,19.0s
UPNV Upernavik 130.28 349 *e*P **PKPdf 15 08 03.5 -0.5**
UPNV *i* 15 11 17.0
KBK Karagaybulak 130.44 71 P **SKPab 15 11 16.9 -2.7**
SNR=5.7
CHMS Chumysh 130.57 71 P **SKPab 15 11 20.3 +0.3**
SNR=5.7
USP Ospenovka 130.63 70 P **SKPab 15 11 19.6 -0.6**
SNR=6.9
SGDS Sogindy 130.82 70 *e*PKIKP **PKPdf 15 08 05.7 -0.4**
SGDS Sogindy 130.82 70 *e*PKP **PKPdf 15 08 05.8 -0.4**
QIZ Qiongzhong 131.05 122 PKP **PKPdf 15 08 04.9 -2.3**
QIZ PP **PP 15 10 25.8 +0.6**
QIZ AMB AMB
comp=Z,300nm,16.2s
QIZ LR LR
comp=Z,550nm,20.6s
QIZ LR LR
comp=Z,370nm,15.1s
QIZ LR LR
comp=Z,1μm,20.6s
BLKN Baker Lake 131.16 327 PKPpre 15 08 00.3
ARCES ARCESS Array B 131.20 22 PKhKP PKPpre 15 07 47.1
comp=Z,5.8nm,1.1s,baz=254,slow=2.4,SNR=8.9
ARCES PKP **PKPdf 15 08 05.2 -0.7**
comp=Z,10nm,0.6s,baz=192,slow=1.9,SNR=4.9
ARCES PP **PP 15 10 23.3 -2.6**
comp=Z,6.2nm,0.8s,baz=222,slow=3.3,SNR=4.4
ARCES SKPbc **SKPbc 15 11 20.4 -0.9**
comp=Z,6.1nm,0.9s,baz=209,slow=1.2,SNR=3.6
APA Apatity 131.46 27⇓ *i*PKIKP **PKPdf 15 08 02.9 -3.5**
APA *i* *PP **pPKPdf 15 08 31.0 -2.8**
APA *i* 15 10 36.2
APA pmax pmax
comp=Z,10.0nm,1.1s
TNSS Tian-Shan 131.76 72 *e*PKIKP **PKPdf 15 08 07.5 -0.8**
TNSS Tian-Shan 131.76 72 *e*PKP **PKPdf 15 08 07.5 -0.8**
ARTI Arti 131.85 48 *i* PKIKP **PKPdf 15 08 07.2 -0.3**
ARTI 15 10 27.6
MDOK Medeo 131.90 72 *e*PKIKP **PKPdf 15 08 07.8 -0.5**
MDOK Medeo 131.90 72 *e*PKP **PKPdf 15 08 07.8 -0.5**
KUU Kurty 132.03 71 *e*PKIKP **PKPdf 15 08 08.1 -0.2**
KUU *e* 15 10 31.0
KUU Kurty 132.03 71 *e*PKP **PKPdf 15 08 08.2 -0.2**
KUU *e*PP **PP 15 10 31.0 -0.7**
CHKK Chushkaly 132.34 71 *e*PKIKP **PKPdf 15 08 08.7 -0.2**
CHKK Chushkaly 132.34 71 *e*PKP **PKPdf 15 08 08.8 -0.2**
SATY Saty 132.55 73 *e*PKIKP **PKPdf 15 08 09.0 -0.5**
SATY Saty 132.55 73 *e*PKP **PKPdf 15 08 09.0 -0.5**

ZHN	Zhinishke	132.64	73	ePKIKP	PKPdf	15 08 09.1	-0.5	
ZHN	Zhinishke	132.64	73	ePKP	PKPdf	15 08 09.1	-0.5	
UZB	Uzynbulak	132.94	73	ePKIKP	PKPdf	15 08 09.7	-0.5	
UZB	Uzynbulak	132.94	73	ePKP	PKPdf	15 08 09.8	-0.5	
KPKS	Kokpek	132.98	73	ePKIKP	PKPdf	15 08 09.6	-0.6	
KPKS				e		15 10 36.8		
KPKS	Kokpek	132.98	73	ePKP	PKPdf	15 08 09.7	-0.6	
KPKS				ePP	PP	15 10 36.9	-1.1	
SVE	Sverdlovsk	133.08	49	ePKIKP	PKPdf	15 08 10.3	+0.5	
SVE				pmax	pmax			
	comp=Z,31nm,1.4s							
SHLS	Shalkode	133.18	74	ePKIKP	PKPdf	15 08 10.5	-0.2	
SHLS	Shalkode	133.18	74	ePKP	PKPdf	15 08 10.5	-0.2	
TDK	Taldyqorghan	133.87	71	ePKIKP	PKPdf	15 08 11.5	-0.2	
TDK	Taldyqorghan	133.87	71	ePKP	PKPdf	15 08 11.5	-0.2	
BRZS	Berezniki	134.19	62	ePKIKP	PKPdf	15 08 12.1	0.0	
BRZS	Berezniki	134.19	62	ePKP	PKPdf	15 08 12.2	0.0	
BRVK	Borovoye	134.99	58	i PKIKP	PKiKP	15 08 14.4	-0.6	
BVAR	Borovoye Array	135.02	58	PKhKP	PKPpre	15 08 02.1		
	comp=Z,0.8nm,0.3s,baz=264,slow=3.0,SNR=7.0							
BVAR				PKP	PKPdf	15 08 12.2	-1.4	
	comp=Z,4.1nm,0.5s,baz=247,slow=1.1,SNR=16							
BVAR				SKPbc	SKPbc	15 11 33.7	-1.0	
	comp=Z,20nm,0.9s,baz=242,slow=3.2,SNR=8.5							
GYA	Guiyang	135.72	113	PKP	PKiKP	15 08 18.6	+1.1	
GYA				PP	PP	15 10 53.1	-2.0	
GYA				SKKS		15 17 37.3		
GYA				SS	SS	15 28 45.8	+0.9	
GYA				AMB	AMB			
	comp=Z,280nm,17.7s							
GYA				LR	LR			
	comp=Z,400nm,17.1s							
GYA				LR	LR			
	comp=Z,290nm,20.5s							
GYA				LR	LR			
	comp=Z,580nm,18.0s							
YKAW1	Yellowknife Wh	136.19	318		PKPpre	15 08 01.6		
YKA	Yellowknife Ar	136.24	318	PKhKP	PKPpre	15 08 01.4		
	comp=Z,1.0nm,0.6s,baz=122,slow=4.1,SNR=26							
YKA				PKP	PKPdf	15 08 14.9	-0.7	
	comp=Z,8.8nm,0.6s,baz=165,slow=8.1,SNR=47							
YKA				PP	PP	15 10 58.3	+0.2	
	comp=Z,4.0nm,0.9s,baz=120,slow=7.1,SNR=5.0							
YKA				SKPbc	SKPbc	15 11 37.2	-0.9	
	comp=Z,13nm,0.8s,baz=129,slow=3.5,SNR=15							
YKA				SKKPbc	SKKPbc	15 20 35.9	-0.4	
	comp=Z,1.5nm,1.0s,baz=310,slow=3.9,SNR=5.0							
GOMU	GeErMu	136.79	93	PKP	PKPdf	15 08 18.3	+0.3	
GOMU				SS	SS	15 29 00.4	+1.8	
GOMU				AMB	AMB			
	comp=Z,530nm,4.9s							
GOMU				LR	LR			
	comp=Z,230nm,14.8s							
GOMU				LR	LR			
	comp=Z,190nm,14.8s							
GOMU				LR	LR			
	comp=Z,340nm,14.4s							
SPITS	Spitsbergen Ar	136.81	12	PKhKP	PKPpre	15 08 04.5		
	comp=Z,1.7nm,0.5s,baz=160,slow=5.1,SNR=6.6							
SPITS				PKP	PKPdf	15 08 17.0	+0.7	
	comp=Z,8.6nm,0.7s,baz=138,slow=5.1,SNR=9.4							
SPITS				SKPbc	SKPbc	15 11 39.9	+0.4	
	comp=Z,7.6nm,0.7s,baz=188,slow=2.9,SNR=5.6							
SPITS	Spitsbergen Ar	136.81	12	PKIKP	PKPdf	15 08 17.0	+0.7	
MAKZ	Makanchi	136.93	72		PKPpre	15 08 07.5		
MK31	Makanchi Array	137.09	72c	i PKIKP	PKPdf	15 08 17.2	-0.5	
MKAR	Makanchi Array	137.09	72	PKhKP	PKPpre	15 08 05.2		
	comp=Z,1.0nm,0.7s,baz=245,slow=2.6,SNR=6.9							
MKAR				PKP	PKPdf	15 08 15.6	-2.2	
	comp=Z,1.8nm,0.6s,baz=251,slow=3.7,SNR=13							
MKAR				SKPbc	SKPbc	15 11 39.7	-1.6	
	comp=Z,17nm,1.0s,baz=250,slow=2.5,SNR=14							
KURBB	Kurchatov Arra	137.52	65	PKhKP	PKPpre	15 08 05.6		
	comp=Z,2.5nm,0.8s,baz=236,slow=3.5,SNR=14							
KURBB				SKPbc	SKPbc	15 11 41.2	-1.1	
	comp=Z,16nm,0.9s,baz=230,slow=3.2,SNR=16							
KURBB				SKKPbc	SKKPbc	15 20 28.7	-1.7	
	comp=Z,2.4nm,0.9s,baz=55,slow=3.4,SNR=8.2							
KURK	Kurchatov	137.63	65		PKPpre	15 08 11.9		
KURK	Kurchatov	137.63	65	i PKIKP	PKiKP	15 08 19.9	-0.5	
WMQ	Urumqi	138.09	79	ePKP	PKiKP	15 08 20.8	-1.0	
WMQ				LR	LR			
	comp=Z,310nm,19.9s							
WMQ				LR	LR			
	comp=Z,530nm,24.2s							
WMQ				LR	LR			
	comp=Z,540nm,20.9s							
ZSN	Zaisan	138.87	73	ePKIKP	PKPdf	15 08 20.7	-0.2	
ZSN	Zaisan	138.87	73	ePKP	PKPdf	15 08 20.8	-0.2	
EUNU	Eureka	140.11	347		PKPpre	15 08 16.4		
QZH	Quanzhou	140.18	128	PKP	PKPdf	15 08 24.9	+0.9	
QZH				SKKS		15 18 05.8		
QZH				LR	LR			
	comp=Z,430nm,15.0s							
QZH				LR	LR			
	comp=Z,250nm,14.1s							
QZH				LR	LR			
	comp=Z,800nm,16.6s							
CNSH	ChangSha	140.28	118	PKP	PKPdf	15 08 22.3	-1.8	
CNSH				PP	PP	15 11 23.5	+0.3	
CNSH				LR	LR			
	comp=Z,360nm,19.0s							
CNSH				LR	LR			
	comp=Z,290nm,21.6s							
CNSH				LR	LR			
	comp=Z,550nm,19.2s							
DLBC	Dease Lake	140.33	306	PKhKP	PKPpre	15 08 15.6		
	comp=Z,12nm,0.9s,baz=127,slow=4.6,SNR=7.7							
DLBC				SKPbc	SKPbc	15 11 48.4	-1.6	
	comp=Z,16nm,0.8s,baz=64,slow=2.8,SNR=7.8							
LZH	Lanzhou	141.71	101	PKP	PKPpre	15 08 23.3		
LZH				PP	PP	15 11 33.3	+1.0	
LZH				SKKS		15 18 11.5		
LZH				AMB	AMB			
	comp=Z,200nm,8.2s							
LZH				LR	LR			
	comp=Z,200nm,21.3s							
LZH				LR	LR			
	comp=Z,210nm,21.3s							
LZH				LR	LR			
	comp=Z,340nm,21.0s							
GTA	Gaotai	141.85	93	ePKP	PKPpre	15 08 20.8		
GTA				SKKS		15 18 13.5		
GTA				SS	SS	15 29 58.4	+0.9	
GTA				AMB	AMB			
	comp=Z,120nm,11.3s							
GTA				LR	LR			
	comp=Z,210nm,22.5s							
GTA				LR	LR			
	comp=Z,260nm,23.3s							
GTA				LR	LR			
	comp=Z,470nm,23.6s							
P33M	Teslin, Yukon	142.46	308		PKPpre	15 08 23.8		
P32M	Atlin	142.56	307		PKPpre	15 08 24.0		
ZALV	Zalesovo Beam	142.59	64	PKhKP	PKPpre	15 08 21.3		
	comp=Z,3.8nm,0.4s,baz=234,slow=3.4,SNR=16							
ZALV				SKPbc	SKPbc	15 11 53.6	-2.2	
	comp=Z,5.9nm,0.8s,baz=222,slow=4.1,SNR=4.4							
BESE	Bessie Mountai	142.60	305		PKPpre	15 08 24.7		
MMPY	Sheldon Lake,	142.89	312		PKPpre	15 08 24.7		
XAN	Xi'an	142.91	108	⇓PKP	PKPdf	15 08 25.0	-3.7	
XAN				pPKP	pPKPdf	15 08 57.0	+0.9	
XAN				SKKS		15 18 16.4		
XAN				SS	SS	15 30 08.1	-1.3	
XAN				AMB	AMB			
	comp=Z,650nm,14.7s							
XAN				LR	LR			
	comp=Z,520nm,18.6s							
XAN				LR	LR			
	comp=Z,410nm,20.4s							
XAN				LR	LR			
	comp=Z,1μm,22.0s							
WHN	Wuhan	142.93	118	PKPbc	PKPpre	15 08 19.1		
WHN				pPKP	pPKPdf	15 08 45.6	-11	
WHN				PP	PP	15 11 38.3	-1.0	
C36M	Paulatuk	143.01	324		PKPpre	15 08 23.3		
WHY	Whitehorse	143.57	308		PKPpre	15 08 26.8		
FARO	Faro, Yukon	143.60	311		PKPpre	15 08 26.6		
P30M	Million Dollar	144.26	306	P	PKPbc	15 08 29.5	+0.7	
	baz=116							
A36M	Sachs Harbour	144.32	328	P	PKPbc	15 08 28.9	+0.4	
	baz=109							
N31M	Braeburn, Yuko	144.32	309	P	PKPbc	15 08 29.2	+0.2	
	baz=115							
P29M	Windy Craggy	144.40	305	P	PKPbc	15 08 29.4	+0.2	
	baz=116,SNR=54							
HYT	Haines Junctio	144.81	307	P	PKPdf	15 08 31.4	+0.1	
	baz=115,SNR=42							
N30M	Aishikik Lake	144.89	308		PKPdf	15 08 31.4	+0.1	
N30M	Aishikik Lake	144.89	308	P	PKPdf	15 08 31.4	+0.1	
	baz=114,SNR=145							
O29M	Mount Kennedy	145.07	306	P	PKPdf	15 08 31.8	0.0	
	baz=115,SNR=11							
LYN	LuoYang	145.17	111	⇑PKPbc	PKPbc	15 08 32.1	-0.3	
LYN				pPKP	pPKPab	15 08 55.6	-3.2	
LYN				PP	PP	15 11 56.0	+3.2	
LYN				SKKS		15 18 31.6		
LYN				SS	SS	15 30 34.8	-0.2	
LYN				AMB	AMB			
	comp=Z,400nm,6.2s							
PNL	Peninsula	145.18	304	P	PKPab	15 08 32.1	+0.2	
	baz=115							
M30M	Minto, Yukon	145.20	310	P	PKPbc	15 08 31.5	-0.2	
	baz=113,SNR=93							
YUK6	Outpost Mounta	145.24	307	P	PKPab	15 08 32.5	+0.2	
	baz=114,SNR=15							
H31M	Peel River	145.38	316	P	PKPbc	15 08 32.1	0.0	
	baz=110							
YUK4	Talbot Arm	145.53	307	P	PKPab	15 08 33.4	0.0	
	baz=113,SNR=72							
F31M	Tsiigehtchic	145.70	319	P	PKPbc	15 08 32.9	-0.1	
	baz=108							
G31M	Satah River	145.73	318		PKPdf	15 08 32.0	-0.4	
G31M	Satah River	145.73	318	P	PKPbc	15 08 33.0	0.0	
	baz=108							
J30M	Hart River	145.75	313	P	PKPbc	15 08 33.5	+0.1	
	baz=110,SNR=75							
PINM	Pinnacle	145.75	305	P	PKPab	15 08 34.0	-0.1	
	baz=114,SNR=25							
M29M	Somme Creek	145.87	309	P	PKPbc	15 08 33.9	+0.1	
	baz=112,SNR=126							
INK	Inuvik	145.88	320	P	PKPbc	15 08 33.5	-0.1	
	baz=107							
L29M	L29M	145.97	311	P	PKPbc	15 08 34.2	+0.1	
	baz=111,SNR=216							
K29M	Barlow Dome	145.98	312	P	PKPbc	15 08 33.9	-0.2	
	baz=110,SNR=118							
I30M	Mount Dempster	145.99	315	P	PKPbc	15 08 33.9	-0.3	
	baz=109,SNR=250							
O28M	Mount Upton	145.99	306	P	PKPab	15 08 35.0	-0.3	
	baz=113,SNR=32							
YUK8	Steele Glacier	146.00	307	P	PKPbc	15 08 34.6	+0.2	
	baz=113,SNR=59							
NJ2	Nanjing	146.35	122	ePKPbc	PKPab	15 08 36.6	-0.5	
NJ2				PKPab	PKiKP	15 08 38.3	-0.7	
NJ2				pPKP	pPKPdf	15 08 59.1	-2.9	
NJ2				sPKP		15 09 12.1		
NJ2				PP	PP	15 12 01.9	+2.3	
NJ2				SKKS		15 18 39.0		
NJ2				AMB	AMB			
	comp=Z,280nm,4.1s							
NJ2				LR	LR			
	comp=Z,300nm,16.1s							
NJ2				LR	LR			
	comp=Z,380nm,19.0s							
NJ2				LR	LR			
	comp=Z,570nm,21.8s							
J29N	Klondike Camp	146.47	313	P	PKPbc	15 08 35.6	+0.1	
	baz=109,SNR=86							
G30M	tAoh Zraii Nji	146.48	318	P	PKPbc	15 08 35.3	-0.1	
	baz=107,SNR=100							
EPYK	Eagle Plains	146.49	316	P	PKPbc	15 08 35.4	-0.1	
	baz=108,SNR=88							
YUK3	Moose Creek	146.49	308	P	PKPbc	15 08 35.5	-0.3	
	baz=112,SNR=48							
F30M	Barrier River	146.50	319	P	PKPbc	15 08 35.4	0.0	
	baz=106,SNR=145							
MESA	MESA	146.56	304	P	PKPbc	15 08 36.3	+0.2	
	baz=113,SNR=6.7							
SSE	Sheshan	146.63	126	PKPbc	PKPbc	15 08 36.1	-0.8	
SSE				PP	PP	15 12 04.9	+3.7	
SSE				SS	SS	15 30 54.9	+3.6	
SSE				AMB	AMB			
	comp=Z,100nm,5.2s							
SSE				LR	LR			
	comp=Z,340nm,18.2s							
SSE				LR	LR			
	comp=Z,190nm,18.9s							
I29M	Ogilvie Camp,	146.80	314	P	PKPbc	15 08 35.8	-0.6	
	baz=108,SNR=120							
DAWY	Dawson	146.83	312	P	PKPbc	15 08 36.2	-0.3	
	baz=109,SNR=99							
BVCY	Beaver Creek	146.90	309	P	PKPbc	15 08 36.7	0.0	
	baz=110,SNR=46							
H29M	Whitestone	147.08	316	P	PKPbc	15 08 36.9	-0.2	
	baz=106,SNR=176							
G29M	Pine Creek	147.14	317	P	PKPbc	15 08 37.0	-0.3	
	baz=106,SNR=287							
M27K	Edge Creek, AK	147.33	308	P	PKPbc	15 08 37.6	-0.5	
	baz=110,SNR=37							
E29M	Blow River	147.47	320	P	PKPbc	15 08 37.6	-0.5	
	baz=104,SNR=382							
I28M	Miner Creek	147.48	314	P	PKPbc	15 08 37.8	-0.6	
	baz=106,SNR=100							
L27K	Beaver Creek,	147.54	309	P	PKPbc	15 08 38.2	-0.3	
	baz=109,SNR=66							
TIY	Taiyuan	147.55	108	ePKPbc	PKPbc	15 08 40.4	+1.0	
TIY				pPKP	pPKPbc	15 09 06.1	-0.2	
TIY				SS	SS	15 31 00.5	-1.8	
TIY				AMB	AMB			
	comp=Z,260nm,9.3s							
TIY				LR	LR			
	comp=Z,340nm,19.2s							
TIY				LR	LR			
	comp=Z,190nm,17.9s							
TIY				LR	LR			
	comp=Z,420nm,24.7s							
KAIM	Kayak Island	147.61	303	P	PKPbc	15 08 38.8	+0.1	
	baz=112							
M26K	Nabesna, AK	147.83	308	P	PKPbc	15 08 38.8	-0.5	
	baz=109,SNR=11							
K27K	Chicken	147.94	311	P	PKPbc	15 08 40.0	+0.5	
	baz=107							
D28M	Stokes Point	147.97	321	P	PKPbc	15 08 39.9	+0.5	
	baz=101,SNR=124							
BMRM	Bremner River	148.07	305	P	PKPbc	15 08 40.0	0.0	
	baz=110,SNR=28							
E28M	Babbage River	148.10	320	P	PKPbc	15 08 39.2	-0.6	
	baz=102,SNR=50							
L26K	Log Cabin Wild	148.18	309	P	PKPbc	15 08 40.3	+0.1	
	baz=108							
I27K	Kandik River	148.19	314	P	PKPbc	15 08 40.2	+0.1	
	baz=105,SNR=80							
N25K	Chitina, Valde	148.28	306	P	PKPbc	15 08 40.8	+0.2	
	baz=109,SNR=20							
H27K	Steamboat Moun	148.32	315	P	PKPbc	15 08 40.6	+0.1	
	baz=104,SNR=111							
BTO	Baotou	148.32	101	ePKPbc	PKPdf	15 08 39.3	+1.5	
BTO				PP	PP	15 12 19.0	+7.4	
BTO				LR	LR			
	comp=Z,580nm,14.4s							
BTO				LR	LR			
	comp=Z,700nm,18.8s							
BTO				LR	LR			
	comp=Z,690nm,19.7s							
EYAK	Cordova Ski Ar	148.45	304	P	PKPbc	15 08 41.3	+0.4	
	baz=110,SNR=23							
G27K	Doyon Strip	148.50	316	P	PKPbc	15 08 41.0	+0.1	
	baz=103,SNR=44							
HNS	HongShan	148.51	111	⇓PKPbc	PKPbc	15 08 41.5	-0.3	
HNS				PKPab	PKPab	15 08 46.6	+1.1	
HNS				pPKP	pPKPdf	15 09 04.6	-0.9	
HNS				PP	PP	15 12 18.8	+6.4	
HNS				SKKS		15 18 49.0		
HNS				SS	SS	15 31 17.4	+4.6	
HNS				AMB	AMB			
	comp=Z,280nm,11.8s							
HNS				LR	LR			
	comp=Z,410nm,22.2s							
HNS				LR	LR			
	comp=Z,320nm,22.6s							
HNS				LR	LR			
	comp=Z,790nm,24.5s							
J26L	Joseph Creek	148.70	312	P	PKPbc	15 08 41.6	0.0	
	baz=105,SNR=178							
D27M	Malcolm River	148.73	321	P	PKPbc	15 08 41.9	+0.4	
	baz=100,SNR=241							
SCRK	Sand Creek	148.74	311	P	PKPbc	15 08 42.0	+0.2	
	baz=106,SNR=90							
I26K	Coal Creek Min	148.74	313	P	PKPbc	15 08 41.7	+0.2	
	baz=104							
E27K	Coleen River	148.77	319	P	PKPbc	15 08 41.6	0.0	
	baz=101,SNR=48							
HARP	HAARP	148.79	307	P	PKPbc	15 08 42.0	+0.2	
	baz=108							
TIA	Tai'an	148.84	115	PKPbc	PKiKP	15 08 43.6	-0.4	
TIA				pPKP	pPKPdf	15 09 05.5	-0.6	
TIA				SKKS		15 18 52.0		
TIA				AMB	AMB			
	comp=Z,310nm,6.5s							
TIA				LR	LR			
	comp=Z,460nm,22.4s							
TIA				LR	LR			
	comp=Z,510nm,21.8s							
TIA				LR	LR			
	comp=Z,680nm,20.4s							
KLU	Klutina	148.85	305	P	PKPbc	15 08 42.6	+0.5	
	baz=109,SNR=26							
RIDG	Independent Ri	149.04	310	P	PKPbc	15 08 42.9	+0.5	
	baz=106							
P23K	Montague Islan	149.04	302	P	PKPbc	15 08 42.6	+0.2	
	baz=110,SNR=15							
PAX	Paxson	149.09	308	P	PKPbc	15 08 42.6	0.0	
	baz=106							
M24K	Tolsona, Glenn	149.15	306	P	PKPbc	15 08 43.3	+0.5	
	baz=107,SNR=24							
GLI	Glacier Island	149.19	304	P	PKPbc	15 08 42.7	-0.1	
	baz=109,SNR=18							
NRIK	Noril'sk	149.27	39	PKPbc	PKPbc	15 08 42.6	0.0	
	comp=Z,21nm,0.8s,baz=47,slow=0.3,SNR=31							
HHC	Hu-ho-hao-te	149.34	103	ePKPbc	PKPdf	15 08 40.9	+1.5	
HHC				pPKP	pPKPdf	15 09 06.8	-0.1	
HHC				SKKS		15 18 57.0		
HHC				SS	SS	15 31 26.4	+3.9	
HHC				LR	LR			
	comp=Z,350nm,19.9s							
HHC				LR	LR			
	comp=Z,370nm,18.3s							
HHC				LR	LR			
	comp=Z,560nm,19.1s							
G26K	Porcupine Rive	149.35	316	P	PKPbc	15 08 43.1	+0.1	
	baz=101,SNR=34							
K24K	Donnelly Dome	149.45	310	P	PKPbc	15 08 43.6	+0.2	
	baz=105							
J25K	Salcha River,	149.48	311	P	PKPbc	15 08 43.6	+0.2	
	baz=104,SNR=6.4							
SCM	Sheep Creek Mo	149.59	306	P	PKPbc	15 08 44.2	+0.4	
	baz=107,SNR=24							
F26K	Sheenjek River	149.63	318	P	PKiKP	15 08 44.5	-0.1	
	baz=100,SNR=9.7							
C27K	Jago River	149.75	321	P	PKPbc	15 08 44.2	+0.3	
	baz=97,SNR=31							
PRP	Porcupine Dome	149.75	313	P	PKPbc	15 08 44.3	+0.1	
	baz=102,SNR=26							
PWL	Port Wells	149.76	303	P	PKPbc	15 08 44.3	+0.1	
	baz=108							
M23K	Glacier View	149.76	305	P	PKPbc	15 08 44.4	+0.2	
	baz=107,SNR=23							
JCJ	Chichijima	149.91	161	PKPbc	PKPbc	15 08 43.9	-1.7	
	comp=Z,43nm,0.3s,baz=99,slow=22,SNR=12							
KNK	Knik Glacier	149.98	305	P	PKPbc	15 08 44.7	0.0	
	baz=107,SNR=18							
SML	Sawmill	150.04	305	P	PKPbc	15 08 45.0	+0.1	
	baz=106,SNR=25							
SEW	Seward	150.04	302	P	PKPbc	15 08 44.9	+0.1	
	baz=109,SNR=30							
HDA	Harding Lake	150.10	311	P	PKPbc	15 08 44.5	-0.4	
	baz=103,SNR=6.2							
ILAR	Eielson Array	150.15	311	PKP	PKPdf	15 08 37.3	-2.5	
	comp=Z,3.8nm,0.8s,baz=317,slow=1.4,SNR=32							
ILAR				PKPbc	PKPbc	15 08 44.3	-0.7	
	comp=Z,109nm,0.8s,baz=133,slow=3.2,SNR=196							
F25K	Christian Rive	150.18	317	P	PKPbc	15 08 45.4	+0.3	
	baz=99,SNR=60							
C26K	Camden Bay	150.19	322	P	PKiKP	15 08 45.4	-0.3	
	baz=95,SNR=71							
G25K	Bearman Lake	150.22	315	P	PKiKP	15 08 45.9	0.0	
	baz=100							
E25K	Arctic Village	150.22	318	P	PKiKP	15 08 45.5	-0.3	
	baz=98,SNR=6.8							
PMR	Palmer	150.34	305	P	PKPbc	15 08 45.5	+0.1	
	baz=106,SNR=9.0							
POKR	Poker Plat Res	150.45	312	P	PKPbc	15 08 45.4	-0.4	
	baz=102,SNR=15							
RC01	Rabbit Creek A	150.48	304	P	PKPbc	15 08 46.2	+0.3	
	baz=107,SNR=21							
ZAK	Zakamensk	150.52	80	ePKIKP	PKPbc	15 08 45.7	-0.8	
ZAK				pmax	pmax			
	comp=Z,98nm,1.5s							
BRSE	Bradley Lake S	150.54	301	P	PKPbc	15 08 46.3	+0.2	
	baz=108,SNR=24							
COLA	College	150.58	311	i PKIKP	PKPbc	15 08 44.4	-1.5	
COLA	College	150.58	311	P	PKPbc	15 08 45.4	-0.5	
	baz=102							
D25K	Kavik River	150.65	321	P	PKPbc	15 08 45.9	-0.2	
	baz=95,SNR=10							
G24K	Hadweenzic Riv	150.75	315	P	PKPbc	15 08 46.6	+0.2	
	baz=99,SNR=7.5							
H24K	Noodor Dome	150.77	313	P	PKPbc	15 08 46.5	0.0	
	baz=100							
KDAK	Kodiak Island	150.79	296	P	PKPbc	15 08 46.7	+0.1	
	baz=111							
MCK	McKinley	150.80	309	P	PKPbc	15 08 46.8	+0.2	
	baz=103							
M22K	Willow	150.84	305	P	PKiKP	15 08 47.0	-0.2	
	baz=106,SNR=42							
SONM	Songino Array	150.88	87	PKP	PKPdf	15 08 39.6	-2.1	
	comp=Z,14nm,1.0s,baz=204,slow=2.3,SNR=14							
SONM				PKPbc	PKPbc	15 08 46.9	-0.5	
	comp=Z,40nm,0.8s,baz=226,slow=3.0,SNR=53							
OHAK	Old Harbor	150.94	295	P	PKPbc	15 08 47.3	+0.3	
	baz=111,SNR=38							
HOM	Homer	150.95	300	P	PKiKP	15 08 47.4	-0.2	
	baz=108							
Q20K	Shuyak Island	150.98	298	P	PKiKP	15 08 47.7	+0.1	
	baz=110,SNR=11							
F24K	Squaw Lake	151.02	317	P	PKiKP	15 08 47.5	-0.1	
	baz=97,SNR=9.5							
NEA2	Nenana	151.03	311	P	PKPbc	15 08 46.8	-0.3	
	baz=101,SNR=5.6							
CAPN	Captain Cook N	151.05	302	P	PKPbc	15 08 47.2	0.0	
	baz=106							
SUA	Susitna One	151.05	304	P	PKPbc	15 08 47.6	+0.3	
	baz=106,SNR=19							
CUT	Chulitna	151.08	306	P	PKPbc	15 08 47.4	+0.2	
	baz=104,SNR=26							
SII	Sitkinak Islan	151.15	293	P	PKPbc	15 08 47.7	+0.1	
	baz=112,SNR=12							
BJI	Beijing	151.24	109	PKPbc	PKPdf	15 08 44.3	+2.0	
BJI				SS	SS	15 31 46.8	+3.7	
I23K	Minto, Yukon-K	151.26	312	P	PKPbc	15 08 47.0	-0.5	
	baz=100,SNR=32							
E24K	Your Creek	151.31	318	P	PKPbc	15 08 47.9	+0.2	
	baz=95,SNR=9.9							
TRF	Thorofare Moun	151.33	308	P	PKPbc	15 08 48.0	0.0	
	baz=102							
H23K

CAST	Castle Rocks	152.11 308	P	PKPbc	15 08 49.1	-0.6
	baz=101					
C23K	Itkillik River	152.16 322	P	PKiKP	15 08 49.7	-0.1
	baz=90,SNR=12					
D23K	Nanushuk River	152.17 320	P	PKiKP	15 08 49.8	-0.1
	baz=92,SNR=8.8					
H22K	Ishtalitna Cre	152.20 313	P	PKPbc	15 08 49.8	+0.1
	baz=97					
M20K	Styx River	152.26 304	P	PKPbc	15 08 49.7	-0.4
	baz=103					
Q18K	Katmai Hardscr	152.28 297	P	PKPbc	15 08 49.6	-0.6
	baz=108,SNR=14					
CHUM	Lake Minchumin	152.30 309	P	PKPbc	15 08 49.6	-0.3
	baz=100,SNR=35					
I21K	Tanana	152.36 311	P	PKPbc	15 08 49.7	-0.3
	baz=98					
G22K	Bettles	152.36 315	P	PKiKP	15 08 50.2	-0.1
	baz=95,SNR=6.8					
O19K	Port Alsworth	152.40 300	P	PKPbc	15 08 49.9	-0.3
	baz=106,SNR=23					
JNU	Nakatsue	152.43 138	PKPbc	PKPbc	15 08 50.1	-1.1
	comp=Z,27nm,0.8s,baz=109,slow=6.0,SNR=14					
E22K	Anaktuvuk Pass	152.56 318	P	PKPbc	15 08 50.5	0.0
	baz=92,SNR=7.7					
Q17K	Contact Creek	152.60 296	P	PKPbc	15 08 50.6	-0.4
	baz=108,SNR=10.0					
P18K	Big Mountain,	152.62 298	P	PKPbc	15 08 50.1	-0.8
	baz=106,SNR=16					
N19K	Bonanza Creek	152.64 302	P	PKPbc	15 08 50.3	-0.6
	baz=104,SNR=19					
F22K	John River	152.66 316	P	PKiKP	15 08 50.9	0.0
	baz=93					
L20K	Farewell, AK	152.73 305	P	PKPbc	15 08 50.6	-0.4
	baz=102,SNR=12					
O18K	Koktuh Hills	152.73 299	P	PKPbc	15 08 51.0	-0.1
	baz=106,SNR=27					
M19K	Big River Lodg	152.84 304	P	PKPbc	15 08 51.2	0.0
	baz=102,SNR=8.5					
D22K	Ayikyak River	152.89 319	P	PKiKP	15 08 51.7	+0.4
	baz=90,SNR=9.4					
K20K	Telida	152.98 307	P	PKPbc	15 08 51.3	-0.2
	baz=100					
B22K	Teshekpuk Lake	153.11 323	P	PKPbc	15 08 51.6	0.0
	baz=86					
Q16K	King Salmon	153.12 296	P	PKPbc	15 08 51.5	-0.4
	baz=107,SNR=9.9					
L19K	White Mountain	153.12 305	P	PKPbc	15 08 51.6	-0.2
	baz=102					
G21K	Allakaket	153.12 314	P	PKiKP	15 08 51.9	+0.1
	baz=94,SNR=8.8					
J20K	Nowinta River	153.14 309	P	PKiKP	15 08 52.0	+0.1
	baz=98,SNR=15					
F21K	Alatna River	153.15 316	P	PKiKP	15 08 52.1	+0.2
	baz=93,SNR=6.0					
P17K	Kvichak River	153.16 298	P	PKPbc	15 08 51.9	0.0
	baz=106,SNR=12					
DL2	Dalian	153.19 117	PKPbc	PKiKP	15 08 53.4	+0.6
DL2			pPKP	pPKPbc	15 09 17.4	-2.5
DL2			sPKP		15 09 26.9	
DL2			PP	PP	15 12 49.3	+10
DL2			AMB	AMB		
	comp=Z,340nm,7.5s					
R16K	Pilot Point	153.24 294	P	PKiKP	15 08 52.4	+0.1
	baz=109					
N18K	Kilae Creek	153.27 301	P	PKPbc	15 08 52.2	-0.1
	baz=104,SNR=7.7					
CHNA	Chernabura Isl	153.32 287	P	PKPbc	15 08 52.3	-0.1
	baz=113					
I20K	Naaghedeneel	153.36 310	P	PKiKP	15 08 52.7	+0.4
	baz=97,SNR=9.8					
E21K	Killik River	153.37 319	P	PKPbc	15 08 52.3	+0.1
	baz=90					
M18K	Stony River	153.42 303	P	PKiKP	15 08 52.6	0.0
	baz=102					
B21K	Ikpikpuk River	153.56 321	P	PKiKP	15 08 52.9	+0.2
	baz=87					
A22K	Sinclair Lake	153.57 324	P	PKiKP	15 08 52.8	+0.2
	baz=84					
H20K	Anotleneega Mo	153.60 312	P	PKiKP	15 08 53.4	+0.5
	baz=95					
O17K	Koliganek Bris	153.63 299	P	PKPbc	15 08 53.0	0.0
	baz=105,SNR=9.1					
C21K	Knifeblade Rid	153.64 320	P	PKiKP	15 08 53.4	+0.5
	baz=88,SNR=6.8					
J19K	Poorman	153.76 308	P	PKiKP	15 08 53.7	+0.5
	baz=97,SNR=9.8					
TTA	Tatalina	153.78 306	P	PKiKP	15 08 53.6	+0.2
	baz=99,SNR=13					
S14K	Fog Glacier	153.83 290	P	PKiKP	15 08 54.0	+0.2
	baz=110					
N17K	Nushagak Hills	153.86 300	P	PKiKP	15 08 53.6	0.0
	baz=103					
XLT	XiLinHaoTe	153.86 103	ePKPbc	PKPdf	15 08 46.8	+0.7
XLT			PKPab	PKPab	15 09 08.6	+0.8
XLT			pPKP	pPKPbc	15 09 18.0	-3.3
XLT			PP	PP	15 12 45.8	+2.6
XLT			SKS	SKSdf	15 15 41.0	-2.4
XLT			SKKS	SKKSac	15 19 21.9	-0.9
XLT			AMB	AMB		
	comp=Z,200nm,9.7s					
XLT			LR	LR		
	comp=Z,410nm,21.1s					
XLT			LR	LR		
	comp=Z,430nm,21.6s					
P16K	Nushagak River	153.88 297	P	PKiKP	15 08 54.4	+0.8
	baz=106					
L18K	Granite Mounta	153.97 304	P	PKiKP	15 08 54.7	+1.0
	baz=100,SNR=14					
SDPT	Sand Point	153.98 288	P	PKiKP	15 08 54.1	+0.2
	baz=112					
F20K	Avaraart Lake	154.02 315	P	PKiKP	15 08 54.0	+0.3
	baz=91					
A21K	Barrow	154.05 325	P	PKiKP	15 08 53.8	+0.2
	baz=81					
O16K	Kokwok River B	154.08 298	P	PKPbc	15 08 53.7	-0.2
	baz=104					
M17K	Holitna River	154.16 302	P	PKPbc	15 08 54.1	0.0
	baz=101					
J18K	Innoko River	154.17 307	P	PKiKP	15 08 54.8	+0.6
	baz=98,SNR=9.3					
E20K	Nigu River	154.19 318	P	PKiKP	15 08 55.0	+0.9
	baz=88,SNR=5.6					
H19K	Roundabout Mou	154.26 312	P	PKiKP	15 08 54.8	+0.6
	baz=94,SNR=6.5					
D20K	Etivluk River	154.33 319	P	PKiKP	15 08 54.8	+0.4
	baz=87,SNR=6.1					
GCSA	Galena City Sc	154.38 310	P	PKiKP	15 08 55.4	+0.9
	baz=95,SNR=7.2					
B20K	Meade River	154.41 322	P	PKiKP	15 08 55.4	+1.0
	baz=83					
G19K	Purcell Mounta	154.55 313	P	PKiKP	15 08 55.2	+0.4
	baz=92,SNR=14					
E19K	Redstone River	154.61 316	P	PKiKP	15 08 55.4	+0.5
	baz=89,SNR=6.1					
N16K	Nishlik Lake	154.61 300	P	PKiKP	15 08 56.1	+1.0
	baz=102					
L17K	Donlin	154.70 304	P	PKiKP	15 08 56.5	+1.3
	baz=99,SNR=6.6					
K17K	Iditarod	154.79 305	P	PKiKP	15 08 56.2	+0.8
	baz=98,SNR=6.6					
M16K	Timber Creek	154.81 301	P	PKiKP	15 08 56.4	+0.9
	baz=101					
F19K	Shaleruckik Mo	154.83 315	P	PKiKP	15 08 55.7	+0.3
	baz=90,SNR=5.2					
O15K	Ungalikthiuk R	154.83 297	P	PKiKP	15 08 56.2	+0.6
	baz=104					
D19K	Kuna River	154.89 319	P	PKiKP	15 08 55.8	+0.3
	baz=86,SNR=8.6					
S12K	Black Hills	154.95 288	P	PKPbc	15 08 55.7	-0.3
	baz=110					
KSRS	Korea Array	154.97 128	PKP	PKPdf	15 08 44.8	-3.0
	comp=Z,1.7nm,0.9s,baz=191,slow=3.0,SNR=8.1					
KSRS			PKPab	PKPab	15 09 12.9	+0.4
	comp=Z,11nm,0.9s,baz=222,slow=4.3,SNR=19					
H18K	Honhosa River	155.04 311	P	PKPdf	15 08 56.5	+9.5
	baz=93,SNR=6.0					
L16K	Owhat River	155.18 303	P	PKPdf	15 08 57.1	+10
	baz=99					
G18K	Tagagawik	155.18 313	P	PKPdf	15 08 56.9	+10
	baz=91					
N15K	Kwethluk River	155.19 299	P	PKPdf	15 08 57.1	+10
	baz=102					
J17K	VABM Dome	155.22 307	P	PKPdf	15 08 57.2	+10
	baz=96,SNR=9.7					
FALS	False Pass	155.38 285	P	PKPab	15 09 14.6	+0.8
	baz=112					
O14K	Tigyukauivet M	155.57 296	P	PKPab	15 09 14.5	+0.1
	baz=103					
F18K	Selawik	155.58 314	P	PKPab	15 09 14.4	+0.1
	baz=88					
M15K	Kasigluk River	155.59 300	P	PKPab	15 09 15.4	+0.8
	baz=100					
H17K	Granite Mounta	155.69 310	P	PKPab	15 09 15.1	+0.2
	baz=92					
A19K	Wainwright	155.70 323	P	PKPab	15 09 15.4	+0.6
	baz=79					
J16K	Anvik River	155.89 306	P	PKPab	15 09 16.3	+0.5
	baz=95					
E18K	Tukpahlearik C	155.91 316	P	PKPab	15 09 16.5	+0.7
	baz=86,SNR=7.1					
N14K	Kuskokwak Cree	155.92 298	P	PKPab	15 09 17.1	+1.1
	baz=102					
I17K	Unalakleet	155.98 308	P	PKPab	15 09 17.1	+1.0
	baz=93					
C18K	Utukok River	156.00 319	P	PKPab	15 09 16.4	+0.2
	baz=82					
G17K	Kiwalik Mounta	156.01 312	P	PKPab	15 09 16.7	+0.4
	baz=90					
B18K	Kokolik River	156.10 321	P	PKPab	15 09 17.6	+1.0
	baz=80,SNR=8.0					
L15K	Ungalak Mounta	156.12 302	P	PKPab	15 09 17.3	+0.5
	baz=98,SNR=5.7					
M14K	Bethel	156.21 300	P	PKPab	15 09 17.2	0.0
	baz=100,SNR=9.9					
K15K	Wolf Creek Mou	156.22 304	P	PKPab	15 09 18.2	+1.0
	baz=96					
F17K	Baldwin Pennin	156.23 314	P	PKPab	15 09 18.0	+0.9
	baz=87					
SNY	Shenyang	156.37 115	⇓PKP	PKPab	15 09 12.3	-6.1
SNY			PP	PP	15 13 05.5	+8.6
E17K	Hotham Inlet	156.41 316	P	PKPab	15 09 18.6	+0.7
	baz=85,SNR=12					
L14K	Kuka Creek	156.65 301	P	PKPab	15 09 19.2	+0.1
	baz=98					
H16K	Elim	156.68 309	P	PKPab	15 09 19.1	0.0
	baz=90					
RDOG	Red Dog Mine	156.71 318	P	PKPab	15 09 20.0	+0.8
	baz=82,SNR=6.9					
G16K	Koyuk River	156.72 311	P	PKPab	15 09 20.0	+0.8
	baz=88,SNR=5.1					
D17K	Noatak River	156.83 317	P	PKPab	15 09 20.6	+0.9
	baz=82,SNR=7.0					
M13K	Dall Lake	156.83 299	P	PKPab	15 09 20.7	+0.8
	baz=99					
CIT	Chita	156.98 84	ePKIKP	PKPdf	15 09 00.8	+11
CIT			e		15 09 30.0	
J14K	Nanvaranak Lak	157.20 305	P	PKPab	15 09 22.3	+1.0
	baz=94					
G15K	Niukluk	157.44 310	P	PKPab	15 09 23.0	+0.6
	baz=88,SNR=16					
C16K	Lisburne Hills	157.57 319	P	PKPab	15 09 23.3	+0.4
	baz=79,SNR=6.8					
NIKH	Nikolski High	157.62 278	P	PKPab	15 09 23.7	+0.1
	baz=114					
K13K	Kusilvak Mount	157.65 302	P	PKPab	15 09 24.1	+0.7
	baz=95,SNR=10					
F15K	North Star Dit	157.66 312	P	PKPab	15 09 23.9	+0.6
	baz=86,SNR=7.9					
MJAR	Matsushiro Arr	158.01 148	PKP	PKPdf	15 08 49.7	-2.1
	comp=Z,2.3nm,0.9s,baz=233,slow=0.9,SNR=8.5					
MJAR			PKPab	PKPab	15 09 25.1	-0.5
	comp=Z,16nm,1.1s,baz=186,slow=3.9,SNR=7.5					
MAJO	Matsushiro	158.01 148	PKP	PKPdf	15 08 52.6	+0.8
ANM	Nome	158.03 309	P	PKPab	15 09 25.4	+0.4
	baz=88					
M11K	Mekoryuk	158.23 298	P	PKPab	15 09 26.3	+0.4
	baz=97					
F14K	Arctic Creek	158.37 312	P	PKPab	15 09 26.9	+0.4
	baz=84					
CN2	Changchun	158.75 114	PKP	PKPdf	15 08 53.4	+1.0
CN2			pPKP	pPKPdf	15 09 15.9	-3.9
CN2			sPKP		15 09 28.6	
CN2			PP	PP	15 13 13.9	+3.9
CN2			LR	LR		
	comp=Z,2μm,21.0s					
CN2			LR	LR		
	comp=Z,2μm,21.0s					
CN2			LR	LR		
	comp=Z,700nm,24.0s					
TNA	Tin City	159.02 312	P	PKPab	15 09 30.0	+0.8
	baz=82					
BOD	Bodaibo	159.16 70	ePKIKP	PKPdf	15 08 50.9	-1.5
BOD			pmax	pmax		
	comp=Z,12nm,1.2s					
P08K	Saint George I	159.22 287	P	PKPab	15 09 30.7	+0.4
	baz=105					
GAMB	Gambell	160.85 308	P	PKPab	15 09 36.3	-1.0
	baz=84					
BNX	BinXian	161.10 113	⇓PKP	PKPdf	15 08 53.9	-1.1
BNX			sPKP		15 09 33.9	
BNX			PP	PP	15 13 23.0	+0.3
BNX			SS	SS	15 33 25.3	-3.8
BNX			AMB	AMB		
	comp=Z,360nm,16.8s					
BNX			LR	LR		
	comp=Z,490nm,21.4s					
BNX			LR	LR		
	comp=Z,250nm,20.0s					
BNX			LR	LR		
	comp=Z,540nm,19.8s					
MDJ	Mudanjiang	161.40 119	PKP	PKPdf	15 08 53.9	-1.4
MDJ			SKKS		15 19 57.3	
MDJ			SS	SS	15 33 26.5	-5.6
MDJ			AMB	AMB		
	comp=Z,430nm,12.7s					
MDJ			LR	LR		
	comp=Z,330nm,20.5s					
MDJ			LR	LR		
	comp=Z,380nm,23.1s					
MDJ			LR	LR		
	comp=Z,330nm,18.7s					
USRK	Ussuriysk Ar.	162.23 124	PKPab	PKPab	15 09 42.9	-1.0
	comp=Z,14nm,0.9s,baz=243,slow=3.4,SNR=15					
HEH	HeiHe	163.85 101	ePKP	PKPdf	15 08 57.0	-0.5
HEH			LR	LR		
	comp=Z,350nm,16.9s					
HEH			LR	LR		
	comp=Z,290nm,15.7s					
HEH			LR	LR		
	comp=Z,820nm,19.4s					
ZEA	Zeya	165.29 89	*i* PKIKP	PKPdf	15 08 57.7	-1.0
ZEA			pmax	pmax		
	comp=Z,80nm,5.9s					
ZEA			pmax	pmax		
	comp=Z,10.0nm,1.5s					
KLR	Kul'dur	165.60 111	*e*PKIKP	PKPdf	15 08 58.1	-1.0
KLR			pmax	pmax		
	comp=Z,12nm,1.8s					
SHO	Shikotan	167.06 161	*c i* PKIKP	PKPdf	15 09 05.7	+5.3
YSS	Yuzhno-Sakhali	168.87 143	*d i* PKIKP	PKPdf	15 09 01.3	-0.2
YSS			*e*		15 09 25.1	
YSS			*e*		15 14 01.2	
YSS			*e*SS	SS	15 34 51.0	+3.4
YSS			pmax	pmax		
	comp=Z,10.0nm,1.3s					
YSS			pmax	pmax		
	comp=Z,100nm,3.6s					
GRNR	Gornyy	168.94 113	*e*PKIKP	PKPdf	15 09 01.2	-0.3
SEY	Seymchan	173.31 1	*e*PKIKP	PKPdf	15 09 00.5	-2.8
SEY			pmax	pmax		
	comp=Z,13nm,1.8s					
PETK	Petropavlovsk-	175.65 225	PKP	PKPdf	15 09 02.8	-1.6
	comp=Z,9.1nm,0.9s,baz=124,slow=4.5,SNR=6.2					
PETK			pPKP	pPKPdf	15 09 30.1	-2.0
	comp=Z,11nm,0.9s,baz=132,slow=2.2,SNR=5.4					
PETK			PKPab	PKPab	15 10 42.3	-0.7
	comp=Z,16nm,0.8s,baz=114,slow=5.5,SNR=8.5					

JMA ***22*** *14:51:52.0±1.1, 46°N×6°×15°2E±°, h30km, MV4.5/17, KURILE ISLANDS REGION*
MOS ***22*** *14:51:52.4±1.2, 45.98N×151.82E, h51km, mb4.5/5, Error ellipse: s-maj=9.5km s-min=6.8km az=61.9*
SKHL ***22*** *14:51:52.6±0.3, 45.80N×152.00E, h55km±5km, mb5.1/4*
NEIC ***22*** *14:51:55.7±0.8, 46.2N±0.1×151.5E±0.1, h50km±9km, mb4.3/28, Error ellipse: s-maj=20.0km s-min=3.7km az=137.0*
IDC ***22*** *14:51:56.3±2.4, 46.29N×151.49E, h51km±20km, mb3.7/18, mbtmp3.9/25, ML3.4/6, MS2.9/5, Error ellipse: s-maj=28.9km s-min=14.4km az=152.0*
ISC 22 14:51:53.2±0.5, 45.77N±0.06×151.85E±0.06, h48km, n137, σ1§78/151, mb4.2/33, 9C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.85	261	*e*PN	Pn	14 52 36.7	+0.6
KUR				*e*S	Sn	14 53 11.7	+2.5
KUR				pmax	pmax		
	comp=Z,311nm,0.4s						
KUR				pmax	pmax		
	comp=N,120nm,0.2s						
KUR				pmax	pmax		
	comp=E,50nm,0.4s						
KUR				smax	smax		
	comp=N,771nm,0.3s						
KUR				smax	smax		
	comp=E,516nm,0.4s						
KUR	Kuril'sk	2.85	261	*e*P	Pn	14 52 37.0	+0.9
KUR				AMB	AMB	14 52 39.0	
	comp=E,280nm,0.4s						
KUR				*e*S	Sn	14 53 10.1	+0.9
KUR				A	A	14 53 15.4	
	comp=E,770nm,0.2s						
KUR				A	A	14 53 15.4	
	comp=E,440nm,0.2s						
SHO	Shikotan	4.04	244	*c i*PN	Pn	14 52 53.2	+0.7
SHO				*e*S	Sn	14 53 41.0	+2.4
SHO				pmax	pmax		
	comp=Z,66nm,0.2s						
SHO				pmax	pmax		
	comp=N,10.0nm,0.1s						
SHO				smax	smax		
	comp=N,129nm,0.3s						
SHO				smax	smax		
	comp=E,231nm,0.4s						
SHO	Shikotan	4.04	244	*i* P	Pn	14 52 53.3	+0.7
SHO				AMB	AMB	14 52 53.4	
	comp=E,80nm,0.3s						
SHO				*e*S	Sn	14 53 40.7	+2.1
SHO				A	A	14 53 43.2	
	comp=E,160nm,0.3s						
SHO				A	A	14 53 43.2	
	comp=E,190nm,0.3s						
YUK	Yuzh-Kuril'sk	4.59	250	*c i*PN	Pn	14 53 01.9	+1.8
YUK				*i* S	Sn	14 53 54.1	+2.0
YUK				pmax	pmax		
	comp=Z,227nm,0.2s						
YUK				pmax	pmax		
	comp=N,13nm,0.1s						
YUK				smax	smax		
	comp=N,153nm,0.2s						
YUK				smax	smax		
	comp=E,489nm,0.6s						
YUK	Yuzh-Kuril'sk	4.59	250	*i* P	Pn	14 53 01.9	+1.8
YUK				*i* S	Sn	14 53 53.8	+1.7
YUK				A	A	14 53 59.4	
	comp=E,230nm,0.6s						
YUK				A	A	14 53 59.4	
	comp=E,390nm,0.6s						
RUSJ	Misakicho	4.97	253	*e*PN	Pn	14 53 08.6	+3.3
RUSJ				*e*S	Sn	14 54 07.1	+5.7
NEM2	Nemuro 2	4.98	243	P	Pn	14 53 05.5	+0.2
NEM2				*e*S	Sn	14 54 00.1	-1.5
NMR	Nemuro--Hokkai	4.99	243	⇑*i*PN	Pn	14 53 05.5	0.0
NMR	Nemuro--Hokkai	4.99	243	*i* P	Pn	14 53 07.0	+1.5
NMR				*e*S	Sn	14 54 03.0	+1.2
JRA	Rausu	5.12	251	P	Pn	14 53 10.0	+2.7
JRA				*e*S	Sn	14 54 09.4	+4.3
JNK	Nakash	5.53	249	P	Pn	14 53 15.2	+2.3
JNK				*e*S	Sn	14 54 17.7	+2.4
SKR	Severo-Kuril's	5.68	29	*e*PN	Pn	14 53 15.0	+0.1
SKR				pmax	pmax		
	comp=Z,65nm,0.8s						
SKR	Severo-Kuril's	5.68	29	*e*P	Pn	14 53 14.1	-0.8
SKR				AMB	AMB	14 53 17.0	
	comp=Z,50nm,0.3s						
SKR				*e*S	Sn	14 54 13.8	-5.0
SKR				A	A	14 54 16.6	
	comp=Z,90nm,0.3s						
SKR				A	A	14 54 16.6	
	comp=Z,50nm,0.3s						
AKK	Akkeshi	5.72	244	*e*P	Pn	14 53 16.2	+0.6
AKK				*e*S	Sn	14 54 20.6	+0.7
JAK	Akkeshi	5.83	244	*e*P	Pn	14 53 17.2	+0.2
JAK				*e*S	Sn	14 54 21.5	-0.9
JTKR	Abashiri--Toko	5.92	255	*e*P	Pn	14 53 20.9	+2.6
JAR	Ashorobuto	6.28	250	*e*P	Pn	14 53 25.5	+2.3
JAR				*e*S	Sn	14 54 35.4	+1.7
YSS	Yuzhno-Sakhali	6.40	284		Pn	14 53 23.3	-1.6
YSS	Yuzhno-Sakhali	6.40	284	κ*e*PN	Pn	14 53 27.0	+2.1
YSS				*e*S	Sn	14 54 39.2	+2.6
YSS				pmax	pmax		
	comp=Z,100nm,3.2s						
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				smax	smax		
	comp=N,10.0nm,0.7s						
YSS				smax	smax		
	comp=E,10.0nm,0.6s						
YSS				MLR	MLR		
	comp=Z,100nm,17.0s						
YSS				MLR	MLR		
	comp=E,100nm,18.0s						
YSS	Yuzhno-Sakhali	6.40	284	*e*P	Pn	14 53 27.0	+2.1
YSS				AMB	AMB	14 53 27.4	
	comp=E,10.0nm,0.4s						
YSS				*e*S	Sn	14 54 37.6	+1.0
YSS				A	A	14 54 41.5	
	comp=E,10.0nm,0.2s						
YSS				A	A	14 54 41.5	
	comp=E,10.0nm,0.2s						
YSS				A	A	14 54 52.3	
	comp=E,80nm,0.3s						
YSS				A	A	14 54 52.3	
	comp=E,60nm,0.3s						
JOB	Onbets	6.42	246	*e*P	Pn	14 53 26.4	+1.3
JOB				*e*S	Sn	14 54 36.2	-0.9
PAU	Pauzhetka	6.58	28	*e*P	Pn	14 53 25.8	-1.4
JKK2	Kamakawa 2	6.74	257	*e*P	Pn	14 53 32.9	+3.3
JKA	Kamikawa-asahi	6.77	259		Pn	14 53 31.8	+1.9
JKA	Kamikawa-asahi	6.77	259	*e*P	Pn	14 53 32.3	+2.4
ASAJ	Asahikawa	6.77	259	P	Pn	14 53 32.3	+2.3
	comp=E,2.7nm,0.3s,baz=74,slow=19,SNR=28						
ASAJ				LR	LR	14 56 08.6	
	comp=E,103nm,20.6s,baz=72,slow=38						
	comp=E,5.8nm,0.3s						
JCH	Churui	6.87	246	P	Pn	14 53 31.7	+0.5
JCH				*e*S	Sn	14 54 46.2	-1.8
JWK2	Keihoku	7.00	270	*e*P	Pn	14 53 39.4	+6.4
ERM	Erimo	7.31	242	Pn	Pn	14 53 39.1	+1.7
ERM	Erimo	7.31	242	PN	Pn	14 53 39.1	+1.7
UGL	Uglegorsk	7.41	300	*e*P	Pn	14 53 41.0	+2.3
JNBK	Urakawa-nobuka	7.43	245	*e*P	Pn	14 53 39.1	+0.2
TYV	Tymovskoe	7.96	313	*e*PN	Pn	14 53 48.4	+2.2
TYV				*e*S	Sn	14 55 17.6	+2.7
TYV				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TYV				pmax	pmax		
	comp=Z,100nm,4.2s						
TYV				smax	smax		
	comp=N,5.0nm,1.1s						
TYV				smax	smax		
	comp=E,10.0nm,1.1s						
TYV				smax	smax		
	comp=N,200nm,5.7s						
TYV	Tymovskoe	7.96	313	*e*P	Pn	14 53 48.0	+1.8
TYV				*e*S	Sn	14 55 15.0	+0.1
PEA0B	Petropavlovsk-	8.27	25	Pn	Pn	14 53 48.6	-1.8
PEA0B	Petropavlovsk-	8.27	25	*i* PN	Pn	14 53 50.2	-0.2
PETK	Petropavlovsk-	8.27	25	Pn	Pn	14 53 48.9	-1.5
PETK	Petropavlovsk-	8.27	25	P	Pn	14 53 49.0	-1.4
	comp=N,0.4nm,0.3s,baz=203,slow=13,SNR=17						
	comp=N,1.6nm,0.7s						
PET	Petropavlovsk	8.50	29	*i* PN	Pn	14 53 52.7	-0.9
PET	Petropavlovsk	8.50	29	*e*P	Pn	14 53 52.7	-0.9
JANG	Nango	9.29	238	*e*P	Pn	14 54 02.3	-2.1
JANG				*e*S	Sn	14 55 40.1	-7.3
JTH	Tanohata	9.36	235	*e*P	Pn	14 54 03.1	-2.4
JTH				*e*S	Sn	14 55 39.2	-10
MJAR	Matsushiro Arr	13.79	233	P	P	14 55 10.2	-3.0
	comp=N,0.1nm,0.3s,baz=33,slow=9.4,SNR=11						
MJAR				LR	LR	15 00 38.9	
	comp=N,45nm,21.8s,baz=52,slow=38						
	comp=N,0.3nm,0.4s						
MJB9	Matsu-Tunnel	13.79	233	P	P	14 55 16.1	+2.9
MAJO	Matsushiro	13.79	233	P	P	14 55 15.7	+2.5
MAJO	Matsushiro	13.79	233	*i* P	Pn	14 55 02.7	-3.3
MA2	Magadan	13.84	358	P	Pn	14 55 03.5	-3.0

comp=N,5.0nm,0.5s,baz=191,slow=11,SNR=4.1
MA2 LR LR 15 00 16.3
comp=N,35nm,18.8s,baz=110,slow=38
KLR Kul'dur 14.01 292 P **Pn 14 55 07.4 -1.5**
baz=102,slow=14,SNR=1.4
KLR LR LR 15 00 46.5
comp=N,69nm,18.3s,baz=32,slow=39
comp=N,0.2nm,0.3s
KLR Kul'dur 14.01 292 *e*P **P 14 55 13.4 -2.1**
KLR pmax pmax
comp=Z,2.0nm,0.9s
USA0B Ussuriysk Arra 14.14 271 Pn **Pn 14 55 09.5 -1.1**
USA0B Ussuriysk Arra 14.14 271 *i* P **Pn 14 55 11.0 +0.4**
USRK Ussuriysk Ar. 14.14 271 Pn **Pn 14 55 09.4 -1.2**
USRK Ussuriysk Ar. 14.14 271 P **Pn 14 55 10.4 -0.2**
comp=Z,0.3nm,0.3s,baz=91,slow=12,SNR=4.4
USRK LR LR 15 01 02.1
comp=Z,49nm,18.3s,baz=63,slow=39
comp=Z,2.1nm,0.6s
ZEA Zeya 17.71 306 *e*P **P 14 55 58.8 +2.3**
KSRS Korea Array 19.67 253 P **Pn 14 56 19.4 -0.4**
comp=Z,0.2nm,0.3s,baz=57,slow=11,SNR=8.9
comp=Z,2.3nm,0.8s
YAK Yakutsk 20.70 330 *e*P Pn 14 56 33.9 +2.2
YAK pmax pmax
comp=Z,19nm,0.8s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK Yakutsk 20.70 330 *e*P Pn 14 56 33.9 +2.2
TIXI Tiksi 28.17 345 P **P 14 57 38.5 -2.0**
TIXI Tiksi 28.17 345 P **P 14 57 38.5 -2.0**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
H11S1 WAKE ISLAND Hy 29.85 151 T T 15 30 48.6
baz=339,slow=76,SNR=6.5
H11S3 WAKE ISLAND Hy 29.86 151 T T 15 30 47.1
baz=339,slow=76,SNR=7.9
H11S2 WAKE ISLAND Hy 29.87 151 T T 15 30 47.6
baz=339,slow=76,SNR=8.1
H19K Roundabout Mou 33.90 36 P **P 14 58 31.7 +0.7**
H19K IAmb IAmb 14 58 33.4
comp=Z,8.7nm,1.3s
B21K Ikpikpuk River 35.44 29 P **P 14 58 44.5 +0.2**
B21K IAmb IAmb 14 58 59.5
comp=Z,3.4nm,0.8s
B22K Teshekpuk Lake 36.02 28 P **P 14 58 49.2 +0.1**
E22K Anaktuvuk Pass 36.14 32 P **P 14 58 50.8 +0.4**
E22K IAmb IAmb 14 58 58.3
comp=Z,7.6nm,1.5s
H23K Yukon River 36.77 36 P **P 14 58 56.0 +0.2**
H23K IAmb IAmb 14 59 16.4
comp=Z,3.8nm,1.3s
E24K Your Creek 37.37 32 P **P 14 59 01.3 +0.4**
E24K IAmb IAmb 14 59 13.1
comp=Z,4.2nm,1.4s
H24K Noodor Dome 37.46 36 P **P 14 59 02.6 +1.0**
H24K IAmb IAmb 14 59 21.5
comp=Z,5.0nm,1.4s
ILAR Eielson Array 37.86 38 P **P 14 59 04.8 -0.2**
comp=Z,0.4nm,0.8s,baz=263,slow=7.6,SNR=6.2
comp=Z,0.4nm,0.8s
D25K Kavik River 38.26 30 P **P 14 59 08.4 +0.1**
D25K IAmb IAmb 14 59 28.2
comp=Z,4.4nm,1.5s
C27K Jago River 39.22 30 P **P 14 59 16.7 +0.4**
I28M Miner Creek 40.76 36 P **P 14 59 30.1 +0.8**
I30M Mount Dempster 42.27 37 P **P 14 59 42.1 +0.5**
I30M IAmb IAmb 15 00 01.4
comp=Z,9.7nm,1.5s
ZALV Zalesovo Beam 42.48 306 PcP **PcP 15 01 36.2 +1.0**
comp=Z,0.9nm,0.5s,baz=90,slow=4.4,SNR=5.4
A36M Sachs Harbour 45.12 26 P **P 15 00 03.9 -0.2**
A36M IAmb IAmb 15 00 06.8
comp=Z,5.0nm,0.9s
C36M Paulatuk 46.10 29 P **P 15 00 12.2 +0.2**
C36M IAmb IAmb 15 00 25.5
comp=Z,4.5nm,1.3s
MKAR Makanchi Array 46.61 298 P **P 15 00 15.1 -1.3**
comp=Z,0.6nm,0.5s,baz=68,slow=7.5,SNR=8.0
MKAR PcP **PcP 15 01 50.7 +1.1**
comp=Z,1.0nm,0.5s,baz=236,slow=2.0,SNR=12
comp=Z,0.6nm,0.5s
KURK Kurchatov 47.18 304 P **P 15 00 19.7 -1.0**
KURK 15 01 52.5
KURK Kurchatov 47.18 304 *e*P **P 15 00 19.7 -1.0**
KURBB Kurchatov Arra 47.27 304 P **P 15 00 19.7 -1.7**
comp=Z,0.3nm,0.5s,baz=72,slow=8.4,SNR=5.4
KURBB PcP **PcP 15 01 52.5 +0.7**
comp=Z,0.6nm,0.8s,baz=72,slow=3.6,SNR=4.5
comp=Z,0.3nm,0.5s
EUNU Eureka 50.26 11 P **P 15 00 43.5 -0.5**
CMAR Chiang Mai Arr 51.28 256 P **P 15 00 53.7 +1.3**
comp=Z,0.7nm,0.7s,baz=40,slow=7.2,SNR=5.7
comp=Z,0.7nm,0.7s
CMAR Chiang Mai Arr 51.28 256 *e*P **P 15 00 54.9 +2.5**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
YKAW3 Yellowknife Wh 52.20 36 P **P 15 00 59.5 +0.8**
YKAW3 IAmb IAmb 15 01 33.3
comp=Z,2.3nm,1.2s
YKA Yellowknife Ar 52.23 36 P **P 15 00 58.6 -0.3**
comp=Z,0.4nm,0.5s,baz=300,slow=7.2,SNR=8.7
comp=Z,0.4nm,0.5s
YKA Yellowknife Ar 52.23 36 *e*P **P 15 00 59.6 +0.7**
SPITS Spitsbergen Ar 53.42 350 P **P 15 01 05.4 -2.1**
comp=Z,4.8nm,0.8s,baz=59,slow=6.9,SNR=6.4
comp=Z,4.8nm,0.8s
AB31 Akbulak array 58.38 310 P **P 15 01 42.2 -1.1**
AB31 IAmb IAmb 15 01 44.8
comp=Z,3.3nm,1.4s
ABKAR Akbulak array 58.38 310 P **P 15 01 42.2 -1.1**
ARCES ARCESS Array B 58.48 341 P **P 15 01 41.7 -2.1**
comp=Z,6.9nm,1.0s,baz=21,slow=7.5,SNR=2.4
comp=Z,6.9nm,1.0s
ILON Igloolik, Nuna 58.60 20 P **P 15 01 43.9 -0.7**
ILON IAmb IAmb 15 02 16.4
comp=Z,5.9nm,1.5s
O02D Mt. Diablo Mer 59.85 62 P **P 15 01 55.9 +2.2**
FIA1 FINESS Array S 64.54 334 P **P 15 02 23.1 -1.6**
FINES FINESS Array B 64.55 334 P **P 15 02 23.0 -1.7**
FINES FINESS Array B 64.55 334 P **P 15 02 22.7 -2.0**
comp=Z,1.2nm,0.5s,baz=31,slow=7.7,SNR=7.7
comp=Z,1.2nm,0.5s
FINES FINESS Array B 64.55 334 *e*P **P 15 02 23.4 -1.3**
FINES pmax pmax
comp=Z,1.0nm,0.5s
RLMT Red Lodge 64.67 51 P **P 15 02 27.6 +1.5**
PDAR Pinedale Array 66.03 53 P **P 15 02 36.2 +1.2**
comp=Z,0.7nm,0.8s,baz=280,slow=0.5,SNR=7.0
comp=Z,0.7nm,0.8s
NC303 NORSAR Array S 68.66 341 P **P 15 02 50.5 -0.5**
NB201 NORSAR Array S 68.84 341 P **P 15 02 51.6 -0.5**
NB2 NORSAR Subarra 68.86 341 P **P 15 02 51.7 -0.6**
comp=Z,0.7nm,0.3s,baz=29,slow=6.5
NOA NORSAR Array B 68.86 341 P **P 15 02 51.8 -0.5**
comp=Z,0.4nm,0.3s,baz=29,slow=6.6,SNR=14
comp=Z,0.4nm,0.3s
HFS Hagfors 69.06 339 P **P 15 02 52.8 -0.7**
comp=Z,1.9nm,0.3s,baz=42,slow=3.8,SNR=24
comp=Z,1.9nm,0.3s
PV17 East Wray Mesa 69.35 56 P **P 15 02 57.4 +1.5**
KBZ Khabaz 70.90 313 P **P 15 03 04.5 -0.6**
comp=Z,2.5nm,0.9s,baz=212,slow=4.3,SNR=5.7
comp=Z,2.5nm,0.9s
AKASG Malin Array Be 71.86 326 P **P 15 03 09.7 -1.0**
comp=Z,0.9nm,0.3s,baz=37,slow=6.1,SNR=8.0
comp=Z,0.9nm,0.3s
AKASG Malin Array Be 71.86 326 *e*P **P 15 03 10.4 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 71.86 326 P **P 15 03 10.0 -0.8**
AKBB IAmb IAmb 15 03 11.0
comp=Z,10nm,1.4s
KIEV Kiev 71.88 326 P **P 15 03 10.0 -0.8**
KIEV IAmb IAmb 15 03 11.0
comp=Z,9.2nm,1.4s
KIEV Kiev 71.88 326 ⇑P **P 15 03 10.0 -0.8**
KIEV Kiev 71.88 326 P **P 15 03 10.0 -0.8**
KIEV pmax pmax
comp=Z,9.0nm,1.4s
BUR08 Bucovina Ar. S 75.89 326 P **P 15 03 34.6 +0.1**
BURAR Bucovina Array 75.91 326 P **P 15 03 34.7 +0.1**
BURAR Bucovina Array 75.91 326 ⇑P **P 15 03 34.9 +0.3**
BURAR Bucovina Array 75.91 326 ⇑P **P 15 03 34.9 +0.3**
TESR Tescani 76.24 324 ⇓P **P 15 03 36.2 -0.1**
TPGR Topolog 76.83 322 ⇓P **P 15 03 39.3 -0.4**
EKA Eskdalemuir Ar 77.07 346 P **P 15 03 41.1 +0.2**
comp=Z,0.7nm,0.3s,baz=21,slow=5.3,SNR=15
comp=Z,0.7nm,0.3s
MLR Muntele Rosu 77.35 324 P **P 15 03 43.3 +0.5**
comp=Z,3.0nm,0.7s,baz=168,slow=9.0,SNR=3.8
comp=Z,3.0nm,0.7s
MLR Muntele Rosu 77.35 324 ⇑P **P 15 03 44.1 +1.3**
MLR Muntele Rosu 77.35 324 P **P 15 03 43.3 +0.5**
MLR Muntele Rosu 77.35 324 P **P 15 03 44.1 +1.3**
VOIR 77.76 325 ⇑P **P 15 03 45.9 +0.9**
VOIR 77.76 325 ⇑P **P 15 03 45.9 +0.9**
ARR Arges 77.98 325 ⇓P **P 15 03 47.0 +0.7**
BRTR Keskin Array B 78.49 316 P **P 15 03 50.1 +0.8**
comp=Z,1.4nm,0.9s,baz=53,slow=4.8,SNR=4.6
comp=Z,1.4nm,0.9s
KHC Kasperske Hory 78.73 334 *e*pP **P 15 03 51.1 +0.8**
TXAR Lajitas Array 78.74 60 P **P 15 03 55.1 +4.3**
comp=Z,0.3nm,0.5s,baz=132,slow=5.6,SNR=3.9
comp=Z,0.3nm,0.5s
GERES GERESS Array B 78.94 333 P **P 15 03 52.0 +0.5**
comp=Z,0.7nm,0.4s,baz=54,slow=6.8,SNR=5.3
comp=Z,0.7nm,0.4s
GERES GERESS Array B 78.94 333 P **P 15 03 52.0 +0.5**
WUPA West Chester U 84.68 35 P **P 15 04 22.3 +0.6**
IDI Anoyia 86.19 319 LR LR 15 48 59.8
comp=Z,292nm,18.2s,baz=209,slow=40
H03N2 Juan Fernandez 139.62 91 T T 17 46 56.2
baz=307,slow=77,SNR=20
H03N1 Juan Fernandez 139.64 91 T T 17 46 53.4
baz=307,slow=77,SNR=31
H03N3 Juan Fernandez 139.64 91 T T 17 46 47.9
baz=307,slow=77,SNR=36

NEIC ***22*** *14:56:50.9±1.9, 5°.8S±0°.1×148°.0E±0°.2, h183km±8km, mb4.1/7, Error ellipse: s-maj=23.7km s-min=19.9km az=127.0*
IDC ***22*** *14:56:50.2±6.1, 5°.78S×147°.90E, h173km±55km, mb3.5/1, mbtmp3.8/3, Error ellipse: s-maj=111.2km s-min=53.2km az=119.0*
ISC 22 14:56:51.4±1.0, 5°.9S±0°.1×148°.0E±0°.1, h200km, n14, σ1§47/15, mb4.2/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.55**	**193**	Pn	**Pn**	**14 57 48.2**	**+0.5**
PMG	**Port Moresby**	**3.55**	**193**	P	**Pn**	**14 57 48.5**	**+0.8**
	16nm,0.9s,baz=341,slow=18,SNR=1.9						
PMG				S	**Sn**	**14 58 31.6**	**-0.3**
	8.9nm,0.4s,baz=218,slow=21,SNR=14						
MTN	**Manton Dam**	**17.95**	**246**	P	**P**	**15 00 46.5**	**-0.4**
MTN				IAmb	IAmb	15 00 49.8	
comp=Z,6.1nm,0.8s							
WB0	**Warramunga Arr**	**19.06**	**223**	P	**Pn**	**15 01 00.1**	**-1.9**
WB0				IAmb	IAmb	15 01 33.4	
comp=Z,5.0nm,1.1s							
WR8	**Warramunga Arr**	**19.12**	**222**	P	**Pn**	**15 01 00.8**	**-1.9**
WR8				IAmb	IAmb	15 01 19.3	
comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**19.22**	**222**	P	**P**	**15 01 01.6**	**+1.0**
comp=Z,1.7nm,0.4s,baz=48,slow=12,SNR=42							
AS31	**Alice Springs**	**22.23**	**216**	P	**P**	**15 01 34.1**	**+2.1**
AS31				IAmb	IAmb	15 01 35.2	
comp=Z,2.4nm,0.3s							
ASAR	**Alice Springs**	**22.23**	**216**	P	**P**	**15 01 33.8**	**+1.9**
ASAR	**Alice Springs**	**22.23**	**216**	P	**P**	**15 01 34.5**	**+2.5**
comp=Z,1.8nm,0.4s,baz=49,slow=8.5,SNR=124							
comp=Z,1.8nm,0.4s							
FITZ	**Fitzroy Crossi**	**24.91**	**239**	P	**P**	**15 01 56.4**	**0.0**
MYLDM	**Lahad Datu**	**31.41**	**290**	P	**P**	**15 02 53.7**	**-0.4**
MYLDM				IAmb	IAmb	15 03 31.5	
comp=Z,6.6nm,1.0s							
AFI	**Afiamalu**	**40.41**	**104**	P	**P**	**15 04 09.5**	**-1.0**
PETK	**Petropavlovsk-**	**59.38**	**7**	P	**P**	**15 06 33.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**145.99**	**285**	PKPbc	**PKPab**	**15 16 09.0**	**-0.5**
comp=Z,60nm,0.3s,baz=84,slow=2.3,SNR=1.0							

SDD 22 15:00:25.7±2.2, 17°.16N×69°.24W, h17km±13km, MD3.1, ML2.8, MW3.5, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANI	**BANI**	**1.62**	**319**	*i* P	Pn	15 00 52.5	-1.1
BANI				*i* S	Sn	15 01 11.8	-2.4
BANI				IAML		15 01 27.7	
comp=N,182nm,0.2s							
HATOM	**Hato Mayor del**	**1.62**	**355**	*i* P	Pn	15 00 52.6	-1.0
HATOM				*i* S	Sn	15 01 10.7	-3.4
HATOM				IAML		15 01 39.9	
comp=N,20nm,2.8s							
MIDR	**Miches**	**1.82**	**6**	*i* P	Pn	15 00 54.7	-1.6
MIDR				*i* S	Sn	15 01 15.0	-4.0
DR08	**Loma La Naviza**	**1.94**	**338**	*i* P	Pn	15 00 56.5	-1.5
DR08				*i* S	Sn	15 01 20.9	-1.1
DR08				IAML		15 01 53.7	
comp=N,166nm,0.7s							
LOBA2	**Hotel Casa Bon**	**1.99**	**298**	*i* P	Pn	15 00 57.2	-1.4
LOBA2				*i* S	Sn	15 01 19.2	-4.0
ABDR	**Alto Bandera**	**2.10**	**321**	*e*Pg	Pn	15 01 01.7	+1.2
ABDR				*i* S	Sn	15 01 23.3	-3.3
ABDR				IAML		15 01 48.0	
comp=N,35nm,1.4s							
MLPR	**Magueyes Islan**	**2.24**	**69**	*i* P	Pn	15 01 00.9	-1.2
MLPR				IAML		15 02 18.7	
comp=N,16nm,3.8s							
PRSN	**Puerto Rico Se**	**2.25**	**62**	*e*Pg	Pb	15 01 05.9	-0.1
PRSN				*e*Sg	Sb	15 01 32.8	-0.9
PRSN				IAML		15 01 40.0	
comp=N,256nm,0.3s							
AOPR	**Arecibo Observ**	**2.65**	**63**	*i* P	Pn	15 01 06.1	-1.6
AOPR				IAML		15 01 44.4	
comp=N,37nm,2.5s							
SDDR	**Presa de Saban**	**2.66**	**313**	*i* P	Pn	15 01 05.8	-2.1
CELP	**Cerrillos**	**2.69**	**70**	*e*Pg	Pn	15 01 10.3	+1.9
CELP				IAML		15 02 03.1	
comp=N,27nm,2.4s							
REDR	**Restauracion**	**2.86**	**315**	IAML		15 01 58.7	
comp=N,12nm,1.6s							
LUDR	**Luperon**	**3.16**	**329**	*i* P	Pn	15 01 13.0	-1.8
LUDR				IAML		15 01 31.4	
comp=N,264nm,0.4s							

IDC ***22*** *15:19:08.1±1.7, 33°.92N×25°.16E, h0km, mb3.4/2, mbtmp3.4/3, ML2.9/1, MS4.6/3, Error ellipse: s-maj=35.1km s-min=27.7km az=128.0*
NEIC ***22*** *15:19:10.9±2.0, 34°.0N±0°.1×25°.02E±0°.07, h10km±2km, mb4.3/5, Error ellipse: s-maj=22.4km s-min=8.5km az=195.0*
ATH ***22*** *15:19:15.5, 34°.19N×24°.99E, h33km±8km, ML2.7/3, Manual Solution by A.Andreou First location: 2019/04/22 15:20:40, This location: 2019/04/22 15:28:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 12 km; Longitude uncertainty: 10 km*
ISC 22 15:19:11.4±1.0, 34°.04N±0°.08×25°.16E±0°.06, h20km, n27, σ1§00/26, mb4.1/5, MS4.8/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMBK	**Timbaki Herakl**	**1.08**	**343**	P	**Pb**	**15 19 32.0**	**+0.6**
TMBK				S	**Sb**	**15 19 43.9**	**-1.2**
GVD	**Gavdhos**	**1.19**	**312**	P	**Pn**	**15 19 33.0**	**+0.1**
GVD				S	**Sb**	**15 19 45.5**	**-2.7**
IDI	**Anoyia**	**1.27**	**350**		**Pn**	**15 19 34.2**	**+0.2**
IDI	**Anoyia**	**1.27**	**350**	Pn	**Pb**	**15 19 34.6**	**-0.1**
6.1nm,0.3s,baz=176,slow=17,SNR=9.3							
IDI	**Anoyia**	**1.27**	**350**	P	**Pb**	**15 19 34.5**	**-0.1**
IDI				S	**Sn**	**15 19 49.4**	**-1.1**
PRNS	**Prines Rethymn**	**1.43**	**338**	P	**Pb**	**15 19 37.4**	**0.0**
IMMV	**Iera Moni Meta**	**1.72**	**326**	P	**Pn**	**15 19 40.6**	**+0.4**
KARP	**Karpathos**	**2.23**	**47**	Pn	**Pb**	**15 19 49.5**	**-1.6**
KARP	**Karpathos**	**2.23**	**47**	P	**Pb**	**15 19 50.3**	**-0.8**
APE	**Apeiranthos**	**3.04**	**6**	P	**Pn**	**15 19 59.1**	**+0.7**
ITM	**Ithomi**	**4.09**	**321**	Pn	**Pn**	**15 20 13.4**	**+0.5**
AGG	**Agios Georgios**	**5.47**	**336**	Pn	**Pn**	**15 20 32.8**	**+1.0**
TIP	**Timpagrande**	**8.48**	**310**	Pn	**Pn**	**15 21 11.9**	**-1.2**
MMAI	**Mount Meron Ar**	**8.62**	**94**	LR	LR	15 26 32.8	
comp=Z,124nm,18.2s,baz=317,slow=52							
GERES	**GERESS Array B**	**17.07**	**333**	P	**P**	**15 23 10.2**	**-0.4**
baz=159,slow=11,SNR=2.5							
0.6nm,0.7s							
PABE	**Paberze**	**21.48**	**358**	P	**P**	**15 23 59.4**	**+0.9**
PABE				IAmb	IAmb	15 23 60.0	
comp=Z,6.7nm,0.9s							
NC204	**NORSAR Array S**	**28.79**	**346**	P	**P**	**15 25 08.4**	**+0.7**
NC204				IAmb	IAmb	15 25 29.6	
comp=Z,11nm,1.4s							
TORD	**Torodi Ar. Bea**	**29.78**	**231**	P	**P**	**15 25 16.0**	**-0.9**
comp=Z,65nm,0.3s,baz=34,slow=8.6,SNR=1.2							
KURBB	**Kurchatov Arra**	**41.83**	**50**	P	**P**	**15 26 59.3**	**-0.4**
comp=Z,0.4nm,0.7s,baz=273,slow=8.6,SNR=2.7							
comp=Z,0.4nm,0.7s							
MAKZ	**Makanchi**	**44.19**	**56**	P	**P**	**15 27 18.5**	**-0.3**
MKAR	**Makanchi Array**	**44.40**	**56**	P	**P**	**15 27 20.9**	**+0.3**
MKAR	**Makanchi Array**	**44.40**	**56**	P	**P**	**15 27 21.2**	**+0.6**
comp=Z,0.4nm,0.5s,baz=268,slow=7.8,SNR=6.3							
comp=Z,0.4nm,0.5s							
ANGG	**Ammassalik, Gr**	**48.35**	**330**	P	**P**	**15 27 52.8**	**+1.5**
YKA	**Yellowknife Ar**	**78.51**	**342**	LR	LR	16 08 05.1	
comp=Z,532nm,21.2s,baz=116,slow=37							
KSRS	**Korea Array**	**78.97**	**52**	LR	LR	16 11 40.9	
comp=Z,182nm,20.3s,baz=215,slow=40							
H21K	**Melozitna Rive**	**80.61**	**359**	P	**P**	**15 31 23.1**	**+0.8**
H21K				IAmb	IAmb	15 32 04.8	
comp=Z,5.7nm,1.4s							
DLBC	**Dease Lake**	**85.56**	**347**	LR	LR	16 10 52.8	
comp=Z,385nm,18.6s,baz=108,slow=36							

NEIC ***22*** *15:38:40.3±0.7, 13°.7N±0°.1×120°.95E±0°.06, h141km±10km, mb4.2/12, Error ellipse: s-maj=17.5km s-min=5.1km az=201.0*
IDC ***22*** *15:38:40.5±0.6, 13°.68N×120°.87E, h148km±9km, mb3.3/7, mbtmp3.8/7, Error ellipse: s-maj=48.6km s-min=14.9km az=56.0*
ISC 22 15:38:40.7±0.6, 13°.68N±0°.09×120°.9E±0°.1, h150km, n22, σ0§57/23, mb3.9/12, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.42**	**4**	P	**Pn**	**15 39 02.4**	**+0.6**
625nm,0.3s,baz=179,slow=3.5,SNR=12							
TGY				S	**Sn**	**15 39 18.3**	**+0.4**
704nm,0.3s,baz=218,slow=22,SNR=6.4							
SBUM	**Sibu**	**14.08**	**218**	P	**P**	**15 41 57.1**	**+0.3**
MYKOM	**Kota Tinggi**	**20.59**	**236**	P	**P**	**15 43 08.3**	**+0.2**
MYKOM				IAmb	IAmb	15 43 27.6	
comp=Z,7.4nm,1.1s							
JNU	**Nakatsue**	**21.39**	**23**	P	**P**	**15 43 15.8**	**-0.7**
JNU				IAmb	IAmb	15 43 28.1	
comp=Z,25nm,1.3s							
CMAR	**Chiang Mai Arr**	**21.62**	**286**	P	**P**	**15 43 18.9**	**-0.3**
comp=Z,2.9nm,0.8s,baz=94,slow=7.8,SNR=29							
comp=Z,2.9nm,0.8s							
FITZ	**Fitzroy Crossi**	**31.92**	**171**	P	**P**	**15 44 51.0**	**-1.2**
comp=Z,2.2nm,0.9s,baz=0.0,slow=8.1,SNR=2.7							
comp=Z,2.2nm,0.9s							
MBWA	**Marble Bar**	**34.64**	**182**	P	**P**	**15 45 15.2**	**-0.5**
WB0	**Warramunga Arr**	**35.79**	**158**	P	**P**	**15 45 25.4**	**-0.3**
WB0				IAmb	IAmb	15 45 55.8	
comp=Z,7.5nm,1.3s							
WRA	**Warramunga Arr**	**35.93**	**158**	P	**P**	**15 45 26.4**	**-0.5**
WRA	**Warramunga Arr**	**35.93**	**158**	P	**P**	**15 45 26.8**	**-0.1**
comp=Z,0.8nm,0.5s,baz=342,slow=8.0,SNR=8.5							
comp=Z,0.8nm,0.5s							
WR8	**Warramunga Arr**	**36.00**	**158**	P	**P**	**15 45 27.0**	**-0.5**
WR8				IAmb	IAmb	15 45 33.4	
comp=Z,7.0nm,1.4s							
AS31	**Alice Springs**	**39.23**	**161**	P	**P**	**15 45 54.8**	**+0.1**
ASAR	**Alice Springs**	**39.23**	**161**	P	**P**	**15 45 54.9**	**+0.2**
ASAR	**Alice Springs**	**39.23**	**161**	P	**P**	**15 45 55.1**	**+0.5**
comp=Z,0.5nm,0.5s,baz=334,slow=7.0,SNR=30							
comp=Z,0.5nm,0.5s							
FORT	**Forrest**	**44.73**	**171**	P	**P**	**15 46 39.5**	**+0.4**
MKAR	**Makanchi Array**	**46.17**	**324**	P	**P**	**15 46 50.7**	**+0.4**
comp=Z,0.3nm,0.5s,baz=126,slow=9.2,SNR=3.9							
comp=Z,0.3nm,0.5s							
BBOO	**Buckleboo**	**48.44**	**163**	P	**P**	**15 47 07.8**	**-0.2**
ZALV	**Zalesovo Beam**	**49.17**	**333**	P	**P**	**15 47 12.2**	**-1.0**
comp=Z,0.8nm,0.5s,baz=118,slow=7.5,SNR=3.9							
comp=Z,0.8nm,0.5s							
STKA	**Stephens Creek**	**49.45**	**157**	P	**P**	**15 47 16.0**	**+0.3**
comp=Z,1.1nm,0.8s,baz=348,slow=14,SNR=1.9							
comp=Z,1.1nm,0.8s							
TIXI	**Tiksi**	**58.14**	**3**	P	**P**	**15 48 17.7**	**-0.6**
TIXI				IAmb	IAmb	15 48 18.9	
comp=Z,2.9nm,1.1s							
B20K	**Meade River**	**74.48**	**21**	P	**P**	**15 50 02.6**	**+0.4**
B20K				IAmb	IAmb	15 50 16.5	
comp=Z,7.8nm,1.4s							
C36M	**Paulatuk**	**85.77**	**19**	P	**P**	**15 51 03.4**	**+0.7**

JMA 22 15:59:59.2±0.1, 41°.4N±0°.2×139°.3E±0°.5, h19km, MV1.5/24, W OFF AOMORI PREF, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOMM	**Oshimamatsumae**	**0.58**	**72**	*i* P	Pb	16 00 10.4	-0.3
JOMM				S	Sb	16 00 18.6	0.0
JOSM	**Okushiri--Mats**	**0.75**	**12**	P	Pb	16 00 13.3	-0.4
JOSM				*e*S	Sg	16 00 24.0	+0.1
JSI2	**Shiura 2**	**0.91**	**108**	P	Pb	16 00 15.9	-0.5
JSI2				*e*S	Sb	16 00 28.0	-0.2
JIW	**Iwasaki**	**0.94**	**143**	*e*P	Pb	16 00 16.5	-0.5
JYM2	**Yakumo 2**	**1.13**	**47**	*e*P	Pn	16 00 19.9	-0.1
JYM2				*e*S	Sn	16 00 35.0	+0.1
JKB	**Kayabe**	**1.43**	**67**	*e*S	Sb	16 00 44.1	+1.0

NEIC ***22*** *16:00:34.1±1.3, 31°.33N±0°.08×141°.0E±0°.1, h34km±2km, mb4.7/95, Error ellipse: s-maj=15.0km s-min=11.6km az=64.0*
JMA ***22*** *16:00:35.1±0.2, 31°.5N±0°.9×141°.2E±1°.0, h37km, MV4.8/34, NEAR TORISHIMA IS*
IDC ***22*** *16:00:38.2±0.7, 31°.39N×140°.79E, h62km±5km, mb4.0/23, mbtmp4.3/27, MS3.7/1, Error ellipse: s-maj=16.3km s-min=8.1km az=68.0*
ISC 22 16:00:35.2±0.5, 31°.39N±0°.04×141°.11E±0°.06, h37km±1km, n347, σ1§36/336, mb4.6/78, 1C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.57**	**313**	P	**Pn**	**16 01 01.4**	**+0.9**
JAOM				*e*S	**Sn**	**16 01 21.0**	**+1.5**
JHCJ	**Hachijojimakas**	**2.01**	**327**	P	**Pn**	**16 01 07.3**	**+0.8**
JHCJ				*e*S	**Sn**	**16 01 31.1**	**+0.6**
JHJ2	**Mitsune**	**2.04**	**328**	P	**Pn**	**16 01 07.7**	**+0.9**
JHJ2	**Mitsune**	**2.04**	**328**	P	**Pn**	**16 01 07.8**	**+0.9**
JHJ2	**Mitsune**	**2.04**	**328**	P	**Pn**	**16 01 07.8**	**+0.9**
JHJ2				*e*S	**Sn**	**16 01 30.8**	**-0.2**
JHJ	**Hachijo jima 2**	**2.06**	**327**	P	**Pn**	**16 01 07.8**	**+0.6**
542nm,0.3s,baz=86,slow=23,SNR=407							
JHJ				S	**Sn**	**16 01 30.4**	**-1.1**
1μm,0.3s,baz=106,slow=9.1,SNR=8.2							
JMKN	**Mikurajimanish**	**2.80**	**333**	*e*P	**Pn**	**16 01 18.7**	**+1.2**
JMKN				*e*S	**Sn**	**16 01 50.9**	**+0.9**
JMYK	**Miyake Tsubota**	**2.97**	**334**	P	**Pn**	**16 01 21.9**	**+2.2**
JMYK				*e*S	**Sn**	**16 01 55.1**	**+1.1**
JKO	**Kozu shima**	**3.25**	**330**	*e*P	**Pn**	**16 01 25.8**	**+2.2**
JKO				*e*S	**Sn**	**16 02 03.4**	**+2.5**
BSO1	**Boso 1**	**3.25**	**358**	*e*P	**Pn**	**16 01 24.1**	**+1.0**
JSG	**Sagara**	**4.09**	**324**		**Pn**	**16 01 38.2**	**+3.1**
JSG	**Sagara**	**4.09**	**324**	P	**Pn**	**16 01 39.4**	**+4.2**
JOD2	**Odawara 2**	**4.21**	**337**	P	**Pn**	**16 01 38.6**	**+1.8**
JOD2				*e*S	**Sn**	**16 02 25.9**	**+1.1**
CBIJ	**Chichi jima

JWY	Kouya	5.43	303	eP	Pn	16 01 55.9 +2.2
MJAR	Matsushiro Arr	5.67	336	P	Pn	16 01 58.4 +1.5
	24nm,0.5s,baz=153,slow=13,SNR=53					
MAJO	Matsushiro	5.67	336		Pn	16 01 59.3 +2.4
MAJO	Matsushiro	5.67	336	P	Pn	16 02 00.2 +3.3
MAJO	Matsushiro	5.67	336	P	Pn	16 01 59.9 +3.0
MJB9	Matsu-Tunnel	5.68	336		Pn	16 02 00.2 +3.2
JMM	Marumori	6.46	358		Pn	16 02 07.6 -0.1
JMM	Marumori	6.46	358	P	Pn	16 02 08.3 +0.6
JMN	Monobe	6.54	293	P	Pn	16 02 12.1 +3.3
JSD	Sado	7.03	341		Pn	16 02 16.7 +1.2
JSD	Sado	7.03	341	P	Pn	16 02 17.3 +1.8
JSD	Sado	7.03	341	P	Pn	16 02 17.4 +1.9
JMK	Ichinoseki	7.54	1	P	Pn	16 02 22.9 +0.4
JMK				eS	Sn	16 03 41.8 -4.9
JNU	Nakatsue	8.84	284	P	Pn	16 02 40.5 +0.1
	3.6nm,0.8s,baz=177,slow=8.8,SNR=6.5					
JTM	Tenmabayashi	9.37	360		Pn	16 02 47.7 +0.1
JTM	Tenmabayashi	9.37	360	P	Pn	16 02 48.3 +0.7
ERM	Erimo	10.73	8	P	Pn	16 03 05.7 -0.4
JEM	Erimo	10.73	8	P	Pn	16 03 05.7 -0.4
KSRS	Korea Array	12.45	303	P	Pn	16 03 30.2 +0.5
	6.2nm,0.9s,baz=117,slow=13,SNR=21					
ASAJ	Asahikawa	12.76	5	P	Pn	16 03 32.1 -1.8
	4.6nm,0.4s,baz=226,slow=11,SNR=21					
JKA	Kamikawa-asahi	12.76	5		Pn	16 03 32.7 -1.1
YSS	Yuzhno-Sakhali	15.59	4	Pn	Pn	16 04 11.4 -0.6
MDJ	Mudanjiang	16.00	329		Pn	16 04 17.2 -0.1
MDJ	Mudanjiang	16.00	329	P	Pn	16 04 16.6 -0.7
MDJ				pmax	pmax	
	comp=Z,8.0nm,1.5s					
BNX	BinXian	17.85	327	⇑P	P	16 04 40.9 0.0
BNX				pmax	pmax	
	comp=Z,7.0nm,0.9s					
GUMO	Guam	18.05	168	P	Pn	16 04 43.6 +0.5
	comp=Z,104nm,0.7s,baz=160,slow=5.9,SNR=6.6					
NJ2	Nanjing	18.95	278	eP	P	16 04 53.5 +0.5
NJ2				pmax	pmax	
	comp=Z,8.0nm,0.5s					
KLR	Kul'dur	19.17	341	P	P	16 04 54.3 -1.0
	comp=Z,1.4nm,0.3s,baz=175,slow=14,SNR=7.5					
YULB	Yu-li	19.30	250	P	P	16 04 56.2 -0.8
HEH	HeiHe	21.44	335	eP	P	16 05 18.9 -1.0
HEH				pmax	pmax	
	comp=Z,5.0nm,1.1s					
BJI	Beijing	21.96	300	P	P	16 05 24.3 -1.3
BJI				pmax	pmax	
	comp=Z,4.0nm,0.8s					
BJI				pmax	pmax	
	comp=Z,57nm,4.9s					
BJI				LR	LR	
	comp=N,73nm,14.6s					
BJI				LR	LR	
	comp=E,130nm,16.0s					
BJI				LR	LR	
	comp=Z,190nm,20.3s					
HIA	Hailar	24.03	324		P	16 05 46.2 -0.3
HHC	Hu-ho-hao-te	25.57	300	eP	P	16 05 58.8 -1.9
HHC				pmax	pmax	
	comp=Z,24nm,0.7s					
HHC				pmax	pmax	
	comp=Z,120nm,5.4s					
H11S3	WAKE ISLAND Hy	26.43	113	T	T	16 35 04.4
	baz=304,slow=75,SNR=4.6					
H11S1	WAKE ISLAND Hy	26.43	113	T	T	16 35 03.9
	baz=304,slow=75,SNR=6.4					
H11S2	WAKE ISLAND Hy	26.45	113	T	T	16 34 58.5
	baz=304,slow=75,SNR=4.7					
XAN	Xi'an	27.16	284	P	P	16 06 15.3 +0.2
XAN				pmax	pmax	
	comp=Z,8.0nm,0.8s					
MA2	Magadan	28.92	10	LR	LR	16 18 25.1
	comp=Z,144nm,19.6s,baz=78,slow=37					
ULN	Ulaanbaatar	30.65	312	P	P	16 06 46.2 +0.1
SONM	Songino Array	31.06	312	P	P	16 06 49.0 -0.7
SONM	Songino Array	31.06	312	P	P	16 06 49.3 -0.4
	comp=Z,3.4nm,0.8s,baz=119,slow=8.0,SNR=16					
	comp=Z,3.4nm,0.8s					
YAK	Yakutsk	31.54	350	P	P	16 06 52.9 -0.6
YAK				IAmb	IAmb	16 06 55.0
	comp=Z,12nm,1.1s					
PZH	PanZhiHua	34.67	272	P	P	16 07 21.3 -0.1
PZH				pmax	pmax	
	comp=Z,10.0nm,1.2s					
PZH				pmax	pmax	
	comp=Z,100nm,5.4s					
TIXI	Tiksi	40.85	354	P	P	16 08 12.5 -0.4
GAMB	Gambell	43.73	28	P	P	16 08 37.1 +0.7
	baz=245					
ZAA0	Zalesovo Array	45.68	317	P	P	16 08 51.7 -0.4
ZALV	Zalesovo Beam	45.68	317	P	P	16 08 51.6 -0.5
	comp=Z,2.2nm,0.4s,baz=95,slow=8.2,SNR=12					
ZALV				PcP	PcP	16 10 29.7 0.0
	comp=Z,1.0nm,0.6s,baz=83,slow=1.1,SNR=4.6					
	comp=Z,2.2nm,0.4s					
TNA	Tin City	45.94	27	P	P	16 08 55.0 +1.1
	baz=248					
K13K	Kusilvak Mount	46.12	32	P	P	16 08 56.4 +0.9
	baz=254					
F14K	Arctic Creek	46.52	27	P	P	16 08 59.6 +1.1
	baz=249					
ANM	Nome	46.60	29	P	P	16 09 00.3 +1.1
	baz=251					
J14K	Nanvaranak Lak	46.84	31	P	P	16 09 01.5 +0.5
	baz=255					
SDPT	Sand Point	47.05	42	P	P	16 09 03.1 +0.3
	baz=264					
N14K	Kuskokwak Cree	47.07	35	P	P	16 09 03.5 +0.6
	baz=259					
MKAR	Makanchi Array	47.09	307	P	P	16 09 01.6 -1.8
MKAR	Makanchi Array	47.09	307	P	P	16 09 01.9 -1.5
	comp=Z,1.8nm,0.6s,baz=85,slow=9.3,SNR=37					
MKAR				ScP	ScP	16 14 22.1 -3.7
	comp=Z,0.2nm,0.5s,baz=104,slow=5.1,SNR=3.3					
	comp=Z,1.8nm,0.6s					
M14K	Bethel	47.10	34	P	P	16 09 03.8 +0.7
	baz=258					
O14K	Tigyukauivet M	47.16	36	P	P	16 09 04.4 +0.8
	baz=260					
F15K	North Star Dit	47.26	27	IAmb	IAmb	16 09 08.2
	comp=Z,5.8nm,0.7s					
F15K	North Star Dit	47.26	27	P	P	16 09 05.3 +1.0
	baz=251					
G15K	Niukluk	47.27	28	P	P	16 09 05.2 +0.8
	baz=252					
MAKZ	Makanchi	47.31	307	P	P	16 09 03.4 -1.7
K15K	Wolf Creek Mou	47.63	32	P	P	16 09 07.7 +0.4
	baz=257					
S14K	Fog Glacier	47.66	40	P	P	16 09 07.8 +0.1
	baz=264					
O15K	Ungalikthiuk R	47.88	37	P	P	16 09 10.0 +0.8
	baz=262					
N15K	Kwethluk River	47.90	35	P	P	16 09 09.9 +0.6
	baz=260					
C16K	Lisburne Hills	47.91	24	P	P	16 09 10.1 +0.8
	baz=248					
NRIK	Noril'sk	48.33	338	P	P	16 09 12.1 -0.4
	comp=Z,0.9nm,0.3s,baz=115,slow=12,SNR=4.1					
	comp=Z,0.9nm,0.3s					
I17K	Unalakleet	48.37	30	P	P	16 09 13.6 +0.6
	baz=256					
D17K	Noatak River	48.50	25	P	P	16 09 14.5 +0.6
	baz=251,SNR=8.2					
M16K	Timber Creek	48.59	34	P	P	16 09 15.7 +1.0
	baz=261					
N16K	Nishlik Lake	48.60	35	P	P	16 09 15.8 +1.0
	baz=261					
RDOG	Red Dog Mine	48.68	25	P	P	16 09 16.1 +0.8
	baz=251					
E17K	Hotham Inlet	48.77	26	P	P	16 09 17.3 +1.3
	baz=253,SNR=5.1					
G17K	Kiwalik Mounta	48.79	28	P	P	16 09 17.2 +1.1
	baz=255					
F17K	Baldwin Pennin	48.80	27	IAmb	IAmb	16 09 19.7
	comp=Z,7.9nm,0.7s					
F17K	Baldwin Pennin	48.80	27	P	P	16 09 17.6 +1.4
	baz=254,SNR=8.6					
J17K	VABM Dome	48.97	31	P	P	16 09 19.0 +1.5
	baz=258					
L17K	Donlin	49.09	33	P	P	16 09 20.2 +1.7
	baz=260					
K17K	Iditarod	49.19	32	P	P	16 09 20.7 +1.5
	baz=260					
E18K	Tukpahlearik C	49.33	26	P	P	16 09 21.3 +1.1
	baz=254					
KURK	Kurchatov	49.37	312	P	P	16 09 19.5 -1.3
KURK				IAmb	IAmb	16 09 22.5
	comp=Z,4.4nm,0.8s					
M17K	Holitna River	49.38	34	P	P	16 09 22.2 +1.4
	baz=262					
N17K	Nushagak Hills	49.38	35	P	P	16 09 22.2 +1.4
	baz=263					
KURBB	Kurchatov Arra	49.43	312	P	P	16 09 19.6 -1.7
	comp=Z,2.0nm,0.4s,baz=89,slow=7.6,SNR=37					
	comp=Z,2.0nm,0.4s					
F18K	Selawik	49.46	27	P	P	16 09 22.0 +0.8
	baz=255					
C18K	Utukok River	49.48	24	P	P	16 09 22.2 +0.8
	baz=252					
B18K	Kokolik River	49.50	23	P	P	16 09 22.9 +1.3
	baz=251,SNR=8.4					
P17K	Kvichak River	49.61	37	P	P	16 09 24.2 +1.8
	baz=265					
H18K	Honhosa River	49.64	29	P	P	16 09 24.1 +1.5
	baz=258					
G18K	Tagagawik	49.68	28	IAmb	IAmb	16 09 26.1
	comp=Z,6.7nm,0.7s					
G18K	Tagagawik	49.68	28	P	P	16 09 24.1 +1.1
	baz=257,SNR=7.0					
L18K	Granite Mounta	49.85	33	P	P	16 09 24.9 +0.7
	baz=262					
A19K	Wainwright	50.02	22	P	P	16 09 27.1 +1.7
	baz=251,SNR=14					
M18K	Stony River	50.16	34	P	P	16 09 27.5 +0.9
	baz=263					
F19K	Shaleruckik Mo	50.24	27	P	P	16 09 26.9 -0.3
	baz=257					
TTA	Tatalina	50.26	32	P	P	16 09 26.3 -1.2
	baz=262					
O18K	Koktuh Hills	50.29	36	P	P	16 09 28.3 +0.6
	baz=265					
G19K	Purcell Mounta	50.36	28	P	P	16 09 28.8 +0.7
	baz=258					
H19K	Roundabout Mou	50.50	29	P	P	16 09 29.7 +0.6
	baz=259,SNR=5.5					
D19K	Kuna River	50.52	25	P	P	16 09 29.9 +0.5
	baz=255					
J19K	Poorman	50.59	31	P	P	16 09 31.5 +1.7
	baz=261					
E19K	Redstone River	50.59	26	P	P	16 09 31.0 +1.1
	baz=257					
L19K	White Mountain	50.70	33	P	P	16 09 31.8 +1.0
	baz=264					
GSI	Gunungsitoli	50.84	243	P	P	16 09 31.0 -1.5
F20K	Avaraart Lake	51.08	27	P	P	16 09 35.5 +2.0
F20K	Avaraart Lake	51.08	27	P	P	16 09 34.6 +1.2
	baz=259					
D20K	Etivluk River	51.11	25	P	P	16 09 35.0 +1.2
	baz=257,SNR=7.1					
H20K	Anotleneega Mo	51.14	29	P	P	16 09 35.9 +1.9
	baz=261,SNR=5.3					
E20K	Nigu River	51.16	25	P	P	16 09 35.3 +1.2
	baz=257					
OHAK	Old Harbor	51.16	39	P	P	16 09 35.4 +1.1
	baz=269					
L20K	Farewell, AK	51.18	33	P	P	16 09 35.0 +0.7
	baz=264					
K20K	Telida	51.19	32	P	P	16 09 35.7 +1.3
	baz=263,SNR=7.0					
I20K	Naaghedeneel	51.20	30	P	P	16 09 35.5 +1.1
	baz=262					
B20K	Meade River	51.24	23	P	P	16 09 35.9 +1.3
	baz=255,SNR=7.1					
KDJ	Kajisay	51.25	301	P	P	16 09 35.6 +0.2
KDJ				IAmb	IAmb	16 10 15.4
	comp=Z,7.9nm,1.1s					
J20K	Nowinta River	51.26	31	P	P	16 09 36.4 +1.5
	baz=263,SNR=8.4					
P19K	Oil Pt	51.27	36	P	P	16 09 35.2 0.0
	baz=267					
WB0	Warramunga Arr	51.28	188	P	P	16 09 34.0 -1.4
WB0				IAmb	IAmb	16 09 37.8
	comp=Z,7.7nm,1.2s					
WR8	Warramunga Arr	51.45	188	P	P	16 09 35.4 -1.4
WRA	Warramunga Arr	51.45	188	P	P	16 09 35.5 -1.4
	comp=Z,1.5nm,0.3s,baz=5.7,slow=7.7,SNR=43					
	comp=Z,1.5nm,0.3s					
M20K	Styx River	51.47	34	P	P	16 09 37.2 +0.6
	baz=265					
KDAK	Kodiak Island	51.55	39	P	P	16 09 38.3 +1.1
	baz=269					
C21K	Knifeblade Rid	51.85	24	P	P	16 09 40.8 +1.6
	baz=258					
G21K	Allakaket	51.85	28	P	P	16 09 40.8 +1.5
	baz=261					
F21K	Alatna River	51.97	27	P	P	16 09 40.9 +0.7
	baz=261					
PPLA	Purkeypile	51.99	32	P	P	16 09 41.5 +0.9
	baz=265					
E21K	Killik River	52.00	25	P	P	16 09 42.2 +1.7
	baz=259					
B21K	Ikpikpuk River	52.01	24	IAmb	IAmb	16 09 43.2
	comp=Z,6.9nm,0.6s					
B21K	Ikpikpuk River	52.01	24	P	P	16 09 42.0 +1.6
	baz=258,SNR=9.0					
H21K	Melozitna Rive	52.02	29	IAmb	IAmb	16 09 44.0
	comp=Z,6.4nm,0.7s					
H21K	Melozitna Rive	52.02	29	P	P	16 09 42.1 +1.5
	baz=263,SNR=7.3					
CHUM	Lake Minchumin	52.02	31	P	P	16 09 41.2 +0.6
	baz=264					
CAST	Castle Rocks	52.09	32	IAmb	IAmb	16 09 44.8
	comp=Z,6.4nm,1.0s					
CAST	Castle Rocks	52.09	32	P	P	16 09 41.8 +0.7
	baz=265,SNR=5.1					
A22K	Sinclair Lake	52.20	22	P	P	16 09 42.8 +1.1
	baz=256					
I21K	Tanana	52.30	29	P	P	16 09 43.6 +1.0
	baz=264					
F22K	John River	52.51	26	P	P	16 09 45.3 +1.0
	baz=262					
BRSE	Bradley Lake S	52.54	36	P	P	16 09 44.4 -0.2
	baz=269					
D22K	Ayikyak River	52.54	25	P	P	16 09 45.4 +0.9
	baz=260					
B22K	Teshekpuk Lake	52.56	23	IAmb	IAmb	16 09 48.1
	comp=Z,6.7nm,1.1s					
B22K	Teshekpuk Lake	52.56	23	P	P	16 09 44.9 +0.5
	baz=258					
SUA	Susitna One	52.58	34	P	P	16 09 46.1 +1.1
SUA				IAmb	IAmb	16 09 57.7
	comp=Z,16nm,1.5s					
SUA	Susitna One	52.58	34	P	P	16 09 44.7 -0.3
	baz=268					
BPAW	Bear Paw Mtn.	52.63	31	P	P	16 09 46.2 +1.1
	baz=266					
H22K	Ishtalitna Cre	52.63	29	P	P	16 09 46.0 +0.9
	baz=264					
G22K	Bettles	52.70	27	P	P	16 09 45.5 0.0
	baz=263					
E22K	Anaktuvuk Pass	52.74	26	IAmb	IAmb	16 09 49.1
	comp=Z,6.6nm,0.8s					
E22K	Anaktuvuk Pass	52.74	26	P	P	16 09 46.6 +0.7
	baz=262,SNR=7.6					
TRF	Thorofare Moun	52.89	32	P	P	16 09 48.0 +0.7
	baz=267					
G23K	Bananza Creek	53.26	28	P	P	16 09 50.2 +0.4
	baz=264					
D23K	Nanushuk River	53.27	25	P	P	16 09 51.6 +1.9
D23K				IAmb	IAmb	16 09 53.3
	comp=Z,8.0nm,1.1s					
D23K	Nanushuk River	53.27	25	P	P	16 09 51.0 +1.2
	baz=262					
PMR	Palmer	53.36	34	P	P	16 09 51.0 +0.5
	baz=269					
H23K	Yukon River	53.37	29	IAmb	IAmb	16 09 55.0
	comp=Z,14nm,1.5s					
H23K	Yukon River	53.37	29	P	P	16 09 52.0 +1.4
	baz=266					
I23K	Minto, Yukon-K	53.40	30	P	P	16 09 51.5 +0.7
	baz=266					
C23K	Itkillik River	53.42	24	P	P	16 09 52.8 +2.0
C23K				IAmb	IAmb	16 09 53.5
	comp=Z,6.5nm,0.5s					
C23K	Itkillik River	53.42	24	P	P	16 09 51.8 +1.0
	baz=262,SNR=5.6					
NEA2	Nenana	53.49	30	P	P	16 09 53.6 +2.1
NEA2				IAmb	IAmb	16 09 55.1
	comp=Z,15nm,1.2s					
NEA2	Nenana	53.49	30	P	P	16 09 52.9 +1.5
	baz=267,SNR=9.6					
MCK	McKinley	53.51	31	P	P	16 09 52.8 +1.2
	baz=268					
E23K	Chandalar	53.55	26	P	P	16 09 53.0 +1.0
	baz=264					
TOLK	Toolik Lake Re	53.63	25	P	P	16 09 53.5 +1.0
	baz=264,SNR=5.6					
KNK	Knik Glacier	53.68	34	P	P	16 09 53.9 +0.9
	baz=270					
PWL	Port Wells	53.74	35	P	P	16 09 55.0 +1.6
D24K	Happy Valley	53.96	25	P	P	16 09 56.1 +1.3
	baz=264					
E24K	Your Creek	53.97	26	P	P	16 09 56.4 +1.3
E24K				IAmb	IAmb	16 10 00.9
	comp=Z,7.3nm,1.2s					
E24K	Your Creek	53.97	26	P	P	16 09 56.3 +1.3
	baz=265					
COLA	College	54.03	30	P	P	16 09 56.3 +0.9
	baz=268					
H24K	Noodor Dome	54.06	29	P	P	16 09 56.7 +1.1
	baz=267					
C24K	Franklin Bluff	54.06	24	P	P	16 09 56.4 +0.9
	baz=264					
F24K	Squaw Lake	54.16	27	IAmb	IAmb	16 09 59.9
	comp=Z,4.1nm,0.7s					
F24K	Squaw Lake	54.16	27	P	P	16 09 57.9 +1.5
	baz=266,SNR=6.0					
POKR	Poker Plat Res	54.21	30	P	P	16 09 57.9 +1.2
	baz=268					
SCM	Sheep Creek Mo	54.22	34	P	P	16 09 57.9 +1.0
	baz=271					
G24K	Hadweenzic Riv	54.27	28	P	P	16 09 58.2 +1.1
	baz=267					
BVAR	Borovoye Array	54.29	315	P	P	16 09 56.4 -1.1
	comp=Z,2.8nm,0.4s					
	comp=Z,2.8nm,0.4s					
HDA	Harding Lake	54.40	31	IAmb	IAmb	16 10 00.0
	comp=Z,4.0nm,0.7s					
HDA	Harding Lake	54.40	31	P	P	16 09 59.3 +1.2
	baz=269					
IL31		54.44	30	IAmb	IAmb	16 10 00.4
	comp=Z,4.7nm,0.8s					
ILAR	Eielson Array	54.44	30	P	P	16 09 59.4 +1.1
	comp=Z,2.8nm,0.7s,baz=268,slow=6.3,SNR=30					
	comp=Z,2.8nm,0.7s					
D25K	Kavik River	54.84	24	P	P	16 10 03.1 +1.9
D25K	Kavik River	54.84	24	P	P	16 10 02.7 +1.4
	baz=266,SNR=6.7					
F25K	Christian Rive	55.02	27	P	P	16 10 03.8 +1.1
	baz=268,SNR=6.1					
PRP	Porcupine Dome	55.02	29	P	P	16 10 03.9 +1.1
	baz=270					
PAX	Paxson	55.07	32	P	P	16 10 04.4 +1.4
	baz=271					
E25K	Arctic Village	55.07	26	P	P	16 10 04.4 +1.5
	baz=268,SNR=6.0					
J25K	Salcha River,	55.09	30	P	P	16 10 03.8 +0.6
	baz=270					
AS31	Alice Springs	55.18	188	P	P	16 10 02.9 -1.3
ASAR	Alice Springs	55.18	188	P	P	16 10 03.1 -1.1
ASAR	Alice Springs	55.18	188	P	P	16 10 02.8 -1.4
	comp=Z,0.6nm,0.5s,baz=0.8,slow=4.9,SNR=40					
	comp=Z,0.6nm,0.5s					
HARP	HAARP	55.23	33	P	P	16 10 05.3 +1.1
	baz=272					
RIDG	Independent Ri	55.33	31	P	P	16 10 05.1 +0.2
RIDG				IAmb	IAmb	16 10 09.0
	comp=Z,6.6nm,1.1s					
RIDG	Independent Ri	55.33	31	P	P	16 10 05.7 +0.8
	baz=271					
C26K	Camden Bay	55.39	24	P	P	16 10 06.3 +1.2
	baz=267					
F26K	Sheenjek River	55.60	27	IAmb	IAmb	16 10 10.8
	comp=Z,5.2nm,0.8s					
F26K	Sheenjek River	55.60	27	P	P	16 10 07.8 +1.0
	baz=269,SNR=5.3					
SCRK	Sand Creek	55.70	31		P	16 10 08.7 +1.1
SCRK	Sand Creek	55.70	31	P	P	16 10 08.2 +0.5
	baz=272					
G26K	Porcupine Rive	55.73	27	P	P	16 10 07.9 +0.3
	baz=270					
C27K	Jago River	55.79	24	P	P	16 10 08.4 +0.3
	baz=268					
J26L	Joseph Creek	55.87	30	P	P	16 10 09.4 +0.5
J26L				IAmb	IAmb	16 10 11.3
	comp=Z,5.5nm,0.8s					
J26L	Joseph Creek	55.87	30	P	P	16 10 09.3 +0.5
	baz=272,SNR=5.3					
KK31	Karatay Array	55.88	303		P	16 10 08.2 -0.9
KKAR	Karatay Array	55.88	303		P	16 10 08.1 -1.0
KKAR	Karatay Array	55.88	303	IAmb	IAmb	16 10 09.7
	comp=Z,5.9nm,1.1s					
I26K	Coal Creek Min	56.02	29	P	P	16 10 10.1 +0.4
	baz=272					
L26K	Log Cabin Wild	56.03	32	P	P	16 10 10.7 +0.8
	baz=273					
M26K	Nabesna, AK	56.23	33	P	P	16 10 11.7 +0.3
	baz=274					
K27K	Chicken	56.54	31	P	P	16 10 13.7 +0.2
	baz=274					
E27K	Coleen River	56.56	26	P	P	16 10 13.8 +0.2
	baz=271					
G27K	Doyon Strip	56.58	28	P	P	16 10 15.0 +1.2
	baz=272					
I27K	Kandik River	56.65	29	P	P	16 10 14.7 +0.4
	baz=273					
H27K	Steamboat Moun	56.65	28	P	P	16 10 14.7 +0.4
	baz=273					
L27K	Beaver Creek,	56.72	32	P	P	16 10 15.7 +0.8
	baz=275					
M27K	Edge Creek, AK	56.76	33	P	P	16 10 15.1 -0.1
	baz=275					
D27M	Malcolm River	56.76	25	P	P	16 10 17.2 +2.1
	baz=271					
MESA	MESA	56.94	36	P	P	16 10 18.1 +1.5
	baz=276					
BVCY	Beaver Creek	57.22	33	P	P	16 10 19.4 +1.1
	baz=276					
E28M	Babbage River	57.30	25	IAmb	IAmb	16 10 22.9
	comp=Z,11nm,1.4s					
E28M	Babbage River	57.30	25	P	P	16 10 20.0 +1.2
	baz=273,SNR=5.6					
I28M	Miner Creek	57.35	29	IAmb	IAmb	16 10 22.5
	comp=Z,4.3nm,0.8s					
I28M	Miner Creek	57.35	29	P	P	16 10 20.7 +1.3
	baz=275,SNR=5.6					
YUK3	Moose Creek	57.48	34	P	P	16 10 20.7 +0.2
	baz=277					
D28M	Stokes Point	57.55	24	P	P	16 10 21.7 +1.2
	baz=273					
DAWY	Dawson	57.72	31	P	P	16 10 22.9 +1.0
	baz=276					
O28M	Mount Upton	57.73	35	P	P	16 10 22.9 +0.6
	baz=277					
E29M	Blow River	57.92	26	P	P	16 10 24.5 +1.4
	baz=275					
H29M	Whitestone	57.93	28	P	P	16 10 23.6 +0.3
H29M				IAmb	IAmb	16 10 59.4
	comp=Z,8.8nm,1.4s					
H29M	Whitestone	57.93	28	P	P	16 10 24.5 +1.2
	baz=276					
G29M	Pine Creek	58.00	27	P	P	16 10 25.2 +1.4
	baz=275,SNR=5.8					
I29M	Ogilvie Camp,	58.04	29	P	P	16 10 26.1 +2.0
	baz=276					
STCH	Steam Cracks	58.13	86	P	P	16 10 25.2 -0.3
J29N	Klondike Camp	58.18	30	P	P	16 10 27.0 +1.9
	baz=277					
PNL	Peninsula	58.28	36	P	P	16 10 26.9 +1.1
	baz=279					
M29M	Somme Creek	58.33	33	P	P	16 10 27.7 +1.5
	baz=278,SNR=6.2					
L29M	L29M	58.39	32	P	P	16 10 28.1 +1.5
	baz=278,SNR=5.3					
YUK4	Talbot Arm	58.40	34	P	P	16 10 27.3 +0.5
	baz=278					
K29M	Barlow Dome	58.56	31	IAmb	IAmb	16 10 31.6
	comp=Z,7.1nm,1.0s					
K29M	Barlow Dome	58.56	31	P	P	16 10 28.5 +0.6
	baz=278					
EPYK	Eagle Plains	58.58	28	P	P	16 10 29.1 +1.3
	baz=277,SNR=7.0					
O29M	Mount Kennedy	58.59	35	P	P	16 10 29.3 +1.2
	baz=279					
YUK6	Outpost Mounta	58.59	34	P	P	16 10 29.0 +0.8
	baz=279					
G30M	tAoh Zraii Nji	58.70	27	P	P	16 10 29.5 +0.8
	baz=277					
F30M	Barrier River	58.79	26	P	P	16 10 30.2 +1.0
	baz=277,SNR=5.5					
I30M	Mount Dempster	58.86	29	IAmb	IAmb	16 10 35.3
	comp=Z,11nm,1.2s					

I30M	Mount Dempster	58.86	29	P	P	16 10 30.5 +0.6
	baz=278,SNR=7.0					
J30M	Hart River	58.98	30	P	P	16 10 31.8 +1.0
	baz=278					
HYT	Haines Junctio	59.02	34	P	P	16 10 32.5 +1.3
	baz=280					
M30M	Minto, Yukon	59.07	32	P	P	16 10 32.5 +1.1
	baz=279					
N30M	Aishikik Lake	59.12	34	P	P	16 10 33.0 +1.3
	baz=280					
G31M	Satah River	59.47	27	P	P	16 10 35.4 +1.6
G31M				IAmb	IAmb	16 10 36.0
	comp=Z,4.0nm,0.7s					
G31M	Satah River	59.47	27	P	P	16 10 34.6 +0.7
	baz=279					
INK	Inuvik	59.54	25	P	P	16 10 35.2 +0.8
	baz=279,SNR=5.3					
H31M	Peel River	59.62	28	P	P	16 10 36.8 +1.8
H31M				IAmb	IAmb	16 10 39.0
	comp=Z,6.2nm,0.9s					
H31M	Peel River	59.62	28	P	P	16 10 36.0 +1.0
	baz=279					
N31M	Braeburn, Yuko	59.73	33	P	P	16 10 36.4 +0.5
	baz=281					
M31M	Drury Creek, Y	60.24	33	P	P	16 10 41.6 +2.2
M31M				IAmb	IAmb	16 10 42.5
	comp=Z,5.7nm,0.8s					
M31M	Drury Creek, Y	60.24	33	P	P	16 10 40.2 +0.9
	baz=281					
ARTI	Arti	60.59	321	P	P	16 10 40.9 -0.9
SIT	Sitka	60.89	38	P	P	16 10 44.8 +1.0
	baz=284					
AB31	Akbulak array	61.47	313	P	P	16 10 46.7 -1.2
ABKAR	Akbulak array	61.47	313	P	P	16 10 46.6 -1.2
A36M	Sachs Harbour	61.59	21	P	P	16 10 49.1 +0.8
A36M	Sachs Harbour	61.59	21	P	P	16 10 49.7 +1.4
	baz=284,SNR=8.3					
U33K	Whale Pass	62.30	39	P	P	16 10 54.2 +0.9
	baz=286					
C36M	Paulatuk	62.67	23	P	P	16 10 56.5 +1.1
C36M	Paulatuk	62.67	23	P	P	16 10 56.6 +1.1
	baz=286,SNR=8.0					
STKA	Stephens Creek	62.93	180	P	P	16 10 58.2 +0.5
	comp=Z,1.5nm,0.8s,baz=46,slow=8.2,SNR=4.2					
	comp=Z,1.5nm,0.8s					
TGTN	Hyland Airport	63.22	32	P	P	16 11 00.6 +1.1
	baz=287					
KOTAN	Kotaneelee Air	65.63	33	P	P	16 11 15.8 +0.7
	baz=291					
EUNU	Eureka	65.79	8	P	P	16 11 16.7 +0.8
EUNU				IAmb	IAmb	16 11 17.9
	comp=Z,10nm,1.3s					
SPITS	Spitsbergen Ar	66.00	349	P	P	16 11 18.1 +0.8
	comp=Z,11nm,1.0s,baz=104,slow=6.1,SNR=7.4					
	comp=Z,11nm,1.0s					
YKA	Yellowknife Ar	68.83	29	P	P	16 11 36.0 +0.6
YKA	Yellowknife Ar	68.83	29	P	P	16 11 34.9 -0.5
	comp=Z,1.6nm,0.7s,baz=297,slow=6.2,SNR=28					
	comp=Z,1.6nm,0.7s					
YKAW1	Yellowknife Wh	68.88	29	P	P	16 11 36.6 +0.9
YKAW1				IAmb	IAmb	16 11 37.8
	comp=Z,4.2nm,0.8s					
ARCES	ARCESS Array B	69.19	340	P	P	16 11 36.2 -1.3
	comp=Z,3.0nm,0.8s,baz=61,slow=7.5,SNR=5.1					
	comp=Z,3.0nm,0.8s					
FINES	FINESS Array B	73.70	333	P	P	16 12 04.9 +0.2
FINES	FINESS Array B	73.70	333	P	P	16 12 05.0 +0.2
	comp=Z,2.5nm,0.4s,baz=61,slow=5.5,SNR=36					
	comp=Z,2.5nm,0.4s					
KBZ	Khabaz	74.43	312	P	P	16 12 09.6 +0.3
	comp=Z,6.1nm,0.8s,baz=61,slow=3.4,SNR=16					
	comp=Z,6.1nm,0.8s					
BLKN	Baker Lake	74.68	22	P	P	16 12 11.0 +0.6
BLKN				IAmb	IAmb	16 12 12.0
	comp=Z,8.4nm,0.8s					
SUMG	Summit	76.31	360	P	P	16 12 21.3 +1.1
SUMG				IAmb	IAmb	16 12 25.8
	comp=Z,8.2nm,1.1s					
BEKR	Beckworth	76.50	52	IAmb	IAmb	16 12 24.6
	comp=Z,3.7nm,0.7s					
PNTR	Pine Nut	77.40	52	P	P	16 12 26.2 -0.5
PNTR				IAmb	IAmb	16 12 33.0
	comp=Z,9.7nm,1.3s					
SCO	Scoresbysund	77.69	354	P	P	16 12 28.7 +1.3
AK03	Malin Array Si	78.61	323	P	P	16 12 32.1 -0.8
NVAR	Mina Array Bea	78.61	52	P	P	16 12 35.3 +1.8
	comp=Z,2.5nm,0.7s,baz=290,slow=5.9,SNR=15					
	comp=Z,2.5nm,0.7s					
AKASG	Malin Array Be	78.62	323	P	P	16 12 32.0 -1.0
	comp=Z,0.5nm,0.3s,baz=48,slow=5.7,SNR=8.1					
AKASG				pP	pwP	16 12 49.9 +2.6
	comp=Z,2.6nm,0.6s,baz=50,slow=5.5,SNR=6.2					
	comp=Z,0.5nm,0.3s					
AKBB	Malin Array Si	78.62	323	P	P	16 12 32.2 -0.8
AK04	Malin Array Si	78.64	323	P	P	16 12 32.3 -0.8
AK02	Malin Array Si	78.66	323	P	P	16 12 32.4 -0.8
AK10	Malin Array Si	78.67	323	P	P	16 12 32.0 -1.2
AK15	Malin Array Si	78.67	323	P	P	16 12 32.0 -1.3
NC405	NORSAR Array S	79.07	338	P	P	16 12 35.4 +0.1
NC405				IAmb	IAmb	16 12 36.1
	comp=Z,6.0nm,0.8s					
NC303	NORSAR Array S	79.10	338	P	P	16 12 35.9 +0.5
HFS	Hagfors	79.12	336	P	P	16 12 35.4 -0.2
	comp=Z,2.1nm,0.4s,baz=64,slow=5.4,SNR=19					
	comp=Z,2.1nm,0.4s					
NC204	NORSAR Array S	79.26	338	P	P	16 12 36.5 +0.2
NC204				IAmb	IAmb	16 12 54.7
	comp=Z,7.0nm,0.9s					
NB2	NORSAR Subarra	79.29	338	P	P	16 12 36.2 -0.3
	comp=Z,1.3nm,0.4s,baz=43,slow=5.6					
NOA	NORSAR Array B	79.29	338	P	P	16 12 36.3 -0.3
	comp=Z,3.2nm,0.8s,baz=42,slow=5.4,SNR=13					
NOA				pP	pwP	16 12 54.2 +3.3
	comp=Z,1.8nm,0.8s,baz=42,slow=5.4,SNR=3.6					
	comp=Z,3.2nm,0.8s					
NC602	NORSAR Array S	79.41	337	P	P	16 12 36.8 -0.3
NC602				IAmb	IAmb	16 12 42.3
	comp=Z,8.9nm,1.1s					
NBO00	NORSAR Array S	79.44	338	P	P	16 12 36.9 -0.4
SFJD	Kangerlussuaq	81.51	5	P	P	16 12 49.1 +0.9
SFJD				IAmb	IAmb	16 12 51.4
	comp=Z,14nm,1.2s					
PDAR	Pinedale Array	81.82	45	P	P	16 12 52.2 +1.5
	comp=Z,0.8nm,0.6s,baz=3.0,slow=1.6,SNR=20					
	comp=Z,0.8nm,0.6s					
BRTR	Keskin Array B	82.42	312	P	P	16 12 53.6 -0.1
	comp=Z,1.6nm,1.0s,baz=67,slow=4.2,SNR=4.9					
BRTR				pP	pwP	16 13 11.3 +3.0
	comp=Z,1.9nm,0.8s,baz=105,slow=4.4,SNR=6.5					
	comp=Z,1.6nm,1.0s					
BR104	Keskin Array S	82.43	312	P	P	16 12 52.8 -1.0
BR106	Keskin Array S	82.43	312	P	P	16 12 52.8 -1.0
	comp=Z,2.5nm,1.0s					
RAYN	Ar Rayn	82.59	293	P	P	16 12 54.0 -0.9
PV20	West Nyswonger	84.77	48	P	P	16 13 04.9 -1.1
PV16	Nyswonger Mesa	84.82	48	IAmb	IAmb	16 13 49.9
	comp=Z,4.1nm,0.7s					
PV05	Paradox Valley	84.84	48	P	P	16 13 05.7 -0.7
PV12	Saucer Basin,	84.89	48	IAmb	IAmb	16 13 27.1
	comp=Z,6.0nm,0.9s					
PV03	Paradox Valley	84.90	48	IAmb	IAmb	16 13 10.2
	comp=Z,4.5nm,0.9s					
PV13	Radium Mtn., P	84.97	48	IAmb	IAmb	16 13 09.7
	comp=Z,3.6nm,0.7s					
VYHS	Vyhne	85.22	326	*e*P	P	16 13 08.5 +0.7
VYHS				*e*		16 13 26.0
CLL	Collm	85.86	330	*e*P	P	16 13 10.0 -0.8
CLL				*ex*	x	16 13 28.0
	comp=Z,7.0nm,0.8s					
EKA	Eskdalemuir Ar	88.35	341	P	P	16 13 22.5 -0.3
	comp=Z,0.7nm,0.4s,baz=38,slow=5.1,SNR=7.9					
	comp=Z,0.7nm,0.4s					
FUORN	Ofenpass-Fuorn	90.57	329	P	P	16 13 33.6 -0.2
FUORN				IAmb	IAmb	16 13 36.5
	comp=Z,5.4nm,0.9s					
TX31	Lajitas Ar, Si	93.75	52	IAmb	IAmb	16 13 51.7
	comp=Z,3.5nm,0.7s					
TXAR	Lajitas Array	93.76	52	P	P	16 13 51.0 +2.4
	comp=Z,3.0nm,0.7s,baz=294,slow=3.0,SNR=44					
	comp=Z,3.0nm,0.7s					
ELIB	Princess Elisa	128.08	201	*d*PKPdf	PKPdf	16 19 33.1 -3.3
LPAZ	La Paz	149.44	67	PKPbc	PKiKP	16 20 22.4 -0.4
	comp=Z,1.9nm,0.6s,baz=352,slow=2.8,SNR=9.0					

*IDC **22** 16:07:27.9±7.5, 31°.55S×179°.99E, h402km±83km, mb2.7/3, mbtmp3.5/3, Error ellipse: s-maj=88.8km s-min=35.1km az=7.0*

*WEL **22** 16:07:29.7±0.8, 32°.5±5°.×17°.9W±1°.3, h361km±12km, M4.4/18, mB4.9/12, ML4.9/10, MLv4.8/18, Mw(mB)4.2/12, Error ellipse: s-maj=18.2km s-min=4.7km az=105.2, confirmed*

ISC 22 16:07:26.2±1.0, 31°.51S±0°.08×179°.6W±0°.1, h400km, n35, σ1°77/52, mb3.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.65	33	P	Pn	16 08 25.6	-1.1
GLKZ				S	S	16 09 14.9	-0.6
MXZ	Matakaoa Point	6.29	196	P	Pn	16 09 06.2	+4.4
MXZ				S	S	16 10 18.7	-1.1
WMGZ	Waiomatatini S	6.51	194	P	Pn	16 09 04.5	+0.2
WMGZ				S	S	16 10 23.0	-1.4
KUZ	Kuaotunu	6.53	216	P	P	16 09 07.3	+2.2
HAZ	Te Kaha	6.61	199	P	P	16 09 07.1	+1.2
HAZ				S	S	16 10 25.5	-0.7
PKGZ	Pakihiroa	6.63	196	P	P	16 09 09.0	+2.8
PKGZ				S	S	16 10 27.5	+0.6
WCZ	Waipu Caves	6.74	227	P	P	16 09 08.9	+1.5
PUZ	Puketiti	6.79	195	P	P	16 09 08.7	+0.7
PUZ				S	S	16 10 29.0	-1.0
OUZ	Omahuta	6.82	235	P	P	16 09 09.1	+0.7
RUGZ	Raukumara Rang	6.83	199	P	P	16 09 10.5	+2.0
WIAZ	Waiheke Island	6.87	218	P	P	16 09 11.5	+2.6
ABAZ	Army Bay	6.89	221	P	P	16 09 13.6	+4.6
TWGZ	Tauwhareparae	6.95	196	P	P	16 09 11.1	+1.2
TWGZ				S	S	16 10 32.4	-1.1
MBAZ	Motutapu North	6.98	220	P	P	16 09 13.1	+3.0
MKAZ	Moumakai	7.09	217	P	P	16 09 13.8	+2.5
ETAZ	East Tamaki Re	7.10	219	P	P	16 09 14.6	+3.2
CNGZ	Carnagh Statio	7.20	194	P	P	16 09 13.3	+0.9
CNGZ				S	S	16 10 39.6	+1.3
MWZ	Matawai	7.22	199	P	P	16 09 13.0	+0.3
MWZ				S	S	16 10 37.6	-1.3
TKGZ	Te Karaka	7.23	196	P	Pn	16 09 11.5	-0.8
TKGZ				S	S	16 10 37.7	-1.4
URZ	Urewera	7.27	201	P	Pn	16 09 13.3	+0.6
	43nm,0.3s,baz=53,slow=2.8,SNR=73						
URZ				S	S	16 10 37.2	-2.6
	44nm,0.5s,baz=336,slow=23,SNR=18						
URZ	Urewera	7.27	201	P	Pn	16 09 13.4	+0.6
URZ				S	S	16 10 37.2	-2.6
AWAZ	Awhitu Peninsu	7.33	219	P	P	16 09 15.3	+1.4
RAGZ	Rawiri	7.40	199	P	Pn	16 09 14.7	+0.4
RAGZ				S	S	16 10 42.3	-0.4
RIGZ	Rimuhau	7.51	196	P	P	16 09 16.4	+0.4
RIGZ				S	S	16 10 43.1	-1.8
MUGZ	Murupara	7.58	202	P	P	16 09 17.1	+0.4
MUGZ				S	S	16 10 45.9	-0.4
PRGZ	Paritu Road	7.69	195	S	S	16 10 47.5	-1.1
SNGZ	Shannon Statio	7.69	198	P	Pn	16 09 16.8	-0.7
SNGZ				S	S	16 10 47.3	-1.3
MHGZ	Mahia Peninsul	7.90	195	P	P	16 09 22.0	+1.7
MHGZ				S	S	16 10 50.9	-2.1
NGZ	Ngauruhoe	8.61	206	P	P	16 09 29.2	+0.9
WAZ	Wanganui	9.35	207	P	Pn	16 09 37.4	+0.9
STKA	Stephens Creek	32.94	259	P	P	16 13 25.4	0.0
	0.4nm,0.4s,baz=97,slow=11,SNR=1.2						
	0.4nm,0.4s						
ASAR	Alice Springs	41.74	269	P	P	16 14 36.2	-2.1
	0.3nm,0.7s,baz=108,slow=7.2,SNR=6.8						
	0.3nm,0.7s						
WRA	Warramunga Arr	42.83	274	P	P	16 14 44.8	-2.3
	0.4nm,0.4s,baz=111,slow=8.0,SNR=7.0						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	120.88	313	PKP	PKiKP	16 25 31.6	+0.3
	0.1nm,0.4s,baz=112,slow=2.0,SNR=2.1						
FINES	FINESS Array B	145.71	338	PKPbc	PKPbc	16 26 18.6	+0.4
	1.8nm,0.5s,baz=37,slow=4.4,SNR=33						

IDC 22 16:12:49.3±3.6, 5°.75S×150°.72E, h0km, mb3.6/2, mbtmp3.7/2, Error ellipse: s-maj=129.0km s-min=49.3km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.27	227	P	P	16 17 37.4	-0.1
	2.1nm,0.8s,baz=51,slow=10,SNR=11						
	2.1nm,0.8s						
ASAR	Alice Springs	24.07	221	P	P	16 18 06.0	-0.5
	1.4nm,0.7s,baz=59,slow=8.7,SNR=36						
	1.4nm,0.7s						
TORD	Torodi Ar. Bea	148.60	286	PKPbc	PKPbc	16 32 39.5	+0.1
	98nm,0.3s,baz=55,slow=3.5,SNR=1.8						

*AFAD **22** 16:16:30.4, 37°.14N×28°.70E, h7km±3km, ML3.2*
*ISK **22** 16:16:30.4, 37°.15N×28°.70E, h6km, ML3.3/26*
*IDC **22** 16:16:31.9±2.7, 37°.03N×28°.97E, h0km, mb3.3/2, mbtmp3.4/5, ML3.7/2, Error ellipse: s-maj=41.5km s-min=29.9km az=25.0*

ISC 22 16:16:30.8±1.0, 37°.14N±0°.02×28°.69E±0°.02, h4km±9km, n49, σ0°91/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZT	Denizli-Tavas-	0.30	63	P	Pg	16 16 37.0	+0.4
DNZT				S	Sg	16 16 40.6	+0.1
MULA	Mugla, Merkez-	0.32	291	P	Pg	16 16 37.5	+0.5
MULA				S	Sg	16 16 42.5	+1.3
MULA				*i* AML	AML	16 16 47.0	
	comp=E,3μm,0.4s						
MULA				*i* AML	AML	16 16 49.0	
	comp=N,4μm,1.2s						
DALY	Dalyan (Mula)	0.33	186	Pg	Pg	16 16 37.4	+0.4
DALY				Sg	Sb	16 16 42.9	-1.8
YER	Yerkesik	0.33	269	Pg	Pg	16 16 37.2	+0.1
YER				Sg	Sg	16 16 42.7	+1.3
TAVA	DENIZLI_Tavas	0.37	28	P	Pg	16 16 38.0	+0.1
TAVA				S	Sg	16 16 42.9	+0.1
TAVA				*i* AML	AML	16 16 47.0	
	comp=N,719nm,0.3s						
SABU	Mula-Dalaman	0.39	145	P	Pg	16 16 37.9	-0.3
SABU				S	Sg	16 16 44.1	+0.8
SABU				*i* AML	AML	16 16 52.0	
	comp=N,1μm,0.5s						
SABU				*i* AML	AML	16 16 56.0	
	comp=E,2μm,1.3s						
CAEL	Denizli, Camel	0.50	92	P	Pb	16 16 40.9	-1.4
TURN	Turunc	0.51	225	P	Pg	16 16 40.7	0.0
TURN				S	Sg	16 16 48.1	+0.8
TURN				*i* AML	AML	16 16 53.0	
	comp=E,800nm,0.4s						
TURN				*i* AML	AML	16 16 54.0	
	comp=N,1μm,1.3s						
CAME	Cameli-Denizli	0.53	112	Pg	Pg	16 16 41.0	+0.1
DNIZ	Denizli-Tavas-	0.56	30	P	Pg	16 16 41.4	-0.1
DNIZ				S	Sg	16 16 49.1	+0.3
DNIZ				*i* AML	AML	16 16 53.0	
	comp=E,2μm,0.3s						
DNIZ				*i* AML	AML	16 16 54.0	
	comp=N,3μm,0.3s						
APMY	Acipayam-Deniz	0.59	56	Pg	Pg	16 16 42.3	+0.2
APMY				Sg	Sb	16 16 50.6	-1.8
FETY	Fethiye	0.59	148	Pg	Pb	16 16 42.4	-1.4
FETY				Sg	Sb	16 16 51.7	-0.9
FETY	Fethiye	0.59	148	P	Pb	16 16 43.2	-0.6
ESEN	Aydn-Nazilli	0.71	337	P	Pg	16 16 44.4	0.0
ESEN				S	Sg	16 16 52.0	-1.7
MLSB	Milas	0.75	282	Pg	Pg	16 16 45.1	0.0
MLSB				Sg	Sb	16 16 56.1	-0.9
AYDN	Tasoluk	0.83	309	P	Pb	16 16 47.1	-0.8
AYDN				S	Sg	16 16 56.1	-1.4
AYDN				*i* AML	AML	16 17 05.0	
	comp=N,2μm,1.1s						
AYDN				*i* AML	AML	16 17 05.0	
	comp=E,3μm,0.6s						
NAZL	Nazilli-Aydin	0.88	339	Pg	Pg	16 16 47.6	-0.1
DAT	Datca	0.98	246	Pg	Pb	16 16 49.8	-0.7
BDRM	Kayabasi	1.00	266	P	Pb	16 16 50.6	-0.1
BDRM				S	Sn	16 17 04.9	-1.3
BDRM				*i* AML	AML	16 17 11.0	
	comp=E,559nm,0.6s						
AYDB	Zeytinkoy-Aydi	1.03	322	Pg	Pg	16 16 50.1	-0.4
ARG	Arkhangelos	1.03	206	Pg	Pn	16 16 51.0	-1.0
ELL	Elmali	1.05	112	Pg	Pb	16 16 50.9	-0.7
KIRA	zmir-Kiraz	1.08	348	P	Pb	16 16 51.7	-0.5
KIRA				S	Sg	16 17 05.6	+0.1
KIRA				*i* AML	AML	16 17 15.0	
	comp=N,508nm,0.9s						
KIRA				*i* AML	AML	16 17 15.0	
	comp=E,812nm,0.8s						
YAZI	Mula-Dat§a-	1.09	246	P	Pn	16 16 52.5	-0.4
YAZI				S	Sb	16 17 07.0	0.0
YAZI				*i* AML	AML	16 17 13.0	
	comp=N,339nm,0.8s						
YAZI				*i* AML	AML	16 17 14.0	
	comp=E,731nm,0.7s						
BODT	Bodrum	1.11	266	Pn	Pg	16 16 51.9	-0.1
YKAV	Yalikavak-Bodr	1.13	270	Pn	Pg	16 16 52.3	-0.1
IZMR	zmir-demi	1.16	330	P	Pg	16 16 52.5	-0.4
IZMR				S	Sg	16 17 06.7	-1.2
IZMR				*i* AML	AML	16 17 18.0	
	comp=N,294nm,0.6s						
IZMR				*i* AML	AML	16 17 18.0	
	comp=E,348nm,0.9s						
DDIM	Aydin, Didim	1.20	286	P	Pn	16 16 53.9	-0.4
ODEM	Odemis-Izmir	1.23	337	Pn	Pn	16 16 54.4	-0.5
GCAM	G?zelcaml?	1.29	296	P	Pg	16 16 56.2	+0.7
GCAM				S	Sb	16 17 11.5	-1.0
GCAM				*i* AML	AML	16 17 19.0	
	comp=N,438nm,0.6s						
GCAM				*i* AML	AML	16 17 19.0	
	comp=E,644nm,0.4s						
BASM	Basmaki-Afyon	1.33	54	Pn	Pg	16 16 55.9	-0.4
DEMR	Demre-Antalya	1.33	132	Pn	Pg	16 16 56.2	0.0
KULA	Kula-Manisa	1.37	359	Pn	Pb	16 16 56.5	-0.6
ANTB	Antalya	1.59	98	Pn	Pb	16 16 59.8	-0.9
ISP	Isparta	1.61	64	Pn	Pn	16 16 59.9	-0.2
GMLD	Gumuldur	1.69	304	Pn	Pb	16 17 01.6	-0.9
BLCB	Balcova	1.80	314	Pn	Pn	16 17 02.8	+0.1
GORD	Gordes-Manisa	1.81	347	Pn	Pn	16 17 02.5	-0.4
SIMA	Simav-Kutahya	1.95	7	Pn	Pn	16 17 04.9	+0.1
GEDZ	Gediz	1.98	16	Pn	Pn	16 17 05.2	0.0
KARP	Karpathos	2.02	218	Pn	Pn	16 17 05.8	+0.2
SOMA	Soma-Manisa	2.21	336	Pn	Pn	16 17 08.4	+0.1
DKL	Dikili	2.39	324	Pn	Pn	16 17 11.1	+0.4
APE	Apeiranthos	2.53	269	Pn	Pn	16 17 13.4	+0.7
BRTR	Keskin Array B	4.66	55	Pn	Pn	16 17 44.0	+1.9
	1.6nm,0.3s,baz=237,slow=17,SNR=42						
BRTR				Sn	Sn	16 18 39.1	+2.4
	0.2nm,0.3s,baz=227,slow=25,SNR=12						
	3.8nm,0.5s						
MMAI	Mount Meron Ar	6.87	125	Pn	Pn	16 18 11.4	-1.0
	3.0nm,0.3s,baz=310,slow=12,SNR=14						
	2.1nm,0.3s						
GERES	GERESS Array B	16.00	322	Pn	P	16 20 23.3	+2.9
	0.9nm,0.8s,baz=142,slow=12,SNR=4.3						
KURBB	Kurchatov Arra	37.65	53	P	P	16 23 46.7	-0.1
	0.5nm,0.8s,baz=275,slow=8.5,SNR=4.4						
	0.5nm,0.8s						
MKAR	Makanchi Array	40.30	59	P	P	16 24 09.3	+0.2
	0.2nm,0.6s,baz=267,slow=10,SNR=2.8						
	0.2nm,0.6s						

IDC 22 16:23:31.0±3.5, 5°.74S×150°.86E, h0km, mb3.7/2, mbtmp3.8/3, ML1.0/1, Error ellipse: s-maj=129.6km s-min=45.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.17	225	Pn	Pn	16 24 50.8	+1.1
	0.3nm,0.3s,baz=90,slow=6.1,SNR=1.0						
PMG				Sn	Sn	16 25 46.3	-3.8
	1.5nm,0.3s,baz=69,slow=23,SNR=1.8						
	8.3nm,0.8s						
WRA	Warramunga Arr	21.38	227	P	P	16 28 19.9	-0.5
	2.5nm,0.7s,baz=52,slow=10,SNR=13						
	2.5nm,0.7s						
ASAR	Alice Springs	24.17	221	P	P	16 28 48.9	-0.3
	1.5nm,0.6s,baz=58,slow=8.8,SNR=101						
	1.5nm,0.6s						
TORD	Torodi Ar. Bea	148.73	286	PKPbc	PKPbc	16 43 21.4	-0.1
	74nm,0.3s,baz=61,slow=4.2,SNR=1.4						

*IDC **22** 17:00:36.3±1.6, 23°.69N×121°.06E, h0km, mb3.2/3, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=74.8km s-min=26.9km az=67.0*

*ASIES **22** 17:00:39.9, 24°.13N×121°.54E, h25km, ML3.8, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.46; $M_{\theta\theta}$-0.37; $M_{\phi\phi}$-1.09; $M_{r\theta}$0.05; $M_{\phi\theta}$-0.69; $M_{\phi r}$-1.06; Fault plane solution: $M_0$1.82178×10^{21} NP1:ϕ_s47.45000°, δ31.83000°, λ120.04000°. NP2:ϕ_s193.21000°, δ62.83000°, λ72.74000°. Principal axes: T Plg67.4590°, Azm70.0220°; N Plg15.3090°, Azm201.2840°; P Plg16.1370°, Azm295.8270°;*

*TAP **22** 17:00:39.9, 24°.13N×121°.54E, h25km, ML3.8, B*

*JMA **22** 17:00:40.1±0.1, 24°.1N±0°.2×121°.6E±0°.4, h26km, MV3.0/16, TAIWAN REGION*

ISC 22 17:00:39.9±0.7, 24°.12N±0°.01×121°.57E±0°.01, h25km±3km, n179, σ0°99/311, mb3.2/3, 14C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.04	144	⇓*i*P	Pb	17 00 44.5	+0.3
TWD				*i* S	Sb	17 00 47.8	+0.7
NACB	Ninganchiao	0.06	23	P	Pb	17 00 44.5	+0.2
NACB	Ninganchiao	0.06	23	S	Sb	17 00 48.1	+0.8
NACB	Ninganchiao	0.06	23	⇓*i*P	Pb	17 00 44.5	+0.2
NACB				S	Sb	17 00 47.8	+0.5
ETL	Fush Village	0.07	50	⇓*i*P	Pb	17 00 44.6	+0.2
ETL				S	Sb	17 00 48.0	+0.6
ETLH	Xiulin Townshi	0.12	319	⇑*i*P	Pb	17 00 44.9	+0.1
ETLH				S	Sb	17 00 48.0	-0.1
ETM	Tongmen	0.17	205	⇓*i*P	Pb	17 00 45.3	+0.1
ETM				S	Sb	17 00 49.1	+0.4
LXIB	Xiulin Townshi	0.17	236	⇑*i*P	Pb	17 00 45.3	0.0
LXIB				S	Sb	17 00 49.1	+0.1
EHP	Heping Village	0.25	39	*e*P	Pb	17 00 46.6	+0.4
EHP				S	Sb	17 00 51.1	+0.6
EAHA	Aohua	0.26	36	P	Pb	17 00 46.5	+0.1
EAHA				*e*S	Sb	17 00 51.2	+0.4
WHF	Hehuan Shan	0.28	276	⇑*i*P	Pb	17 00 46.8	-0.2
WHF				*i* S	Sb	17 00 51.5	-0.3

NSK			*i* S	Sb	17 00 59.2	-0.4	SNST	*e*S	Sb	17 01 22.5	+1.8
WHP	**Taichung City**	**0.59 286**	P	Pb	17 00 51.7	+0.1	**CHN1**	**Nanshi**	**1.33 226**	P	Pb	17 01 05.0	+0.8
WHP			S	Sb	17 00 59.8	+0.1	CHN1			S	Sb	17 01 22.8	+2.1
WCS	**Beigang Elemen**	**0.60 265**	*e*P	Pb	17 00 51.7	-0.1	**YOJ**	**Yonaguni jima**	**1.36 75**	P	Pn	17 01 03.7	+0.5
WCS			*e*S	Sb	17 01 00.2	+0.3	YOJ			S	Sn	17 01 21.2	+0.7
TWE	**Neicheng**	**0.61 9**	*i* P	Pb	17 00 51.9	-0.1	**YOJ**	**Yonaguni jima**	**1.36 75**	P	Pn	17 01 03.9	+0.6
TWE			S	Sb	17 01 00.5	+0.4	YOJ			*e*S	Sb	17 01 21.8	+0.1
HGSD	**Ruisui**	**0.64 192**	*e*P	Pb	17 00 51.8	-0.5	**WSL**	**Shuilin Townsh**	**1.36 245**	*e*P	Pb	17 01 04.8	+0.1
HGSD			*e*S	Sb	17 01 02.2	+1.3	WSL			*e*S	Sb	17 01 24.7	+3.0
FUSB	**Fushanzhiwuyua**	**0.64 2**	P	Pb	17 00 52.6	0.0	**TWG**	**Pinlang**	**1.37 200**	*e*P	Pn	17 01 01.3	-2.1
FUSB			*i* S	Sb	17 01 00.7	-0.5	**TWGBT**	**Beinan**	**1.37 199**	P	Pb	17 01 06.3	+1.5
EHY	**Hungye**	**0.65 200**	*e*P	Pb	17 00 51.0	-1.6	**TWGBT**	**Beinan**	**1.37 199**	*e*P	Pn	17 01 01.2	-2.2
EHY			*e*S	Sb	17 01 01.1	-0.1	**SGST**	**Jiashian**	**1.37 221**	*e*P	Pb	17 01 04.5	-0.3
SSLB	**Suanglung**	**0.65 240**	P	Pb	17 00 52.2	-0.4	SGST			*i* S	Sb	17 01 23.6	+1.7
SSLB	**Suanglung**	**0.65 240**	S	Sb	17 01 00.5	-0.8	**ICHU**	**Yijhu**	**1.40 238**	P	Pb	17 01 05.7	+0.4
SSLB	**Suanglung**	**0.65 240**	P	Pb	17 00 52.1	-0.6	ICHU			S	Sb	17 01 24.4	+1.7
SSLB			*e*S	Sb	17 01 00.8	-0.6	**LDUT**	**Ludao**	**1.44 184**	*e*P	Pn	17 01 02.6	-1.8
EHYH	**Wanrong**	**0.65 198**	*e*P	Pb	17 00 51.1	-1.6	**CHN8**	**Yiju**	**1.46 239**	*e*P	Pb	17 01 06.5	+0.2
EHYH			*e*S	Sb	17 01 02.0	+0.6	CHN8			S	Sb	17 01 26.4	+1.9
SMLT	**Sun Moon Lake**	**0.65 249** ⇑ *i* P		Pb	17 00 51.5	-1.2	**CHN3**	**Shinhua**	**1.51 227**	*e*P	Pb	17 01 08.9	+1.7
SMLT			S	Sb	17 01 00.2	-1.3	CHN3			*e*S	Sb	17 01 29.4	+3.4
NFF	**Wufeng Townshi**	**0.66 321**	P	Pb	17 00 52.8	0.0	**SSHA**	**Shanhua**	**1.53 231**	*e*P	Pb	17 01 08.1	+0.6
NFF			*e*S	Sb	17 01 01.4	-0.2	SSHA			*e*S	Sb	17 01 28.7	+2.3
NWLT	**Wulai**	**0.66 355**	*e*P	Pb	17 00 52.9	+0.1	**SHHT**	**Tainan City**	**1.56 226**	*e*P	Pb	17 01 08.4	+0.3
NWLT			S	Sb	17 01 01.1	-0.5	SHHT			*e*S	Sb	17 01 28.3	+0.8
ILA	**Ilan**	**0.67 14**	*e*P	Pn	17 00 53.4	-0.4	**SCLT**	**Jiali**	**1.57 234**	*e*P	Pb	17 01 07.5	-0.7
ILA			*e*S	Sn	17 01 02.9	-0.5	SCLT			*e*S	Sb	17 01 29.4	+1.7
EOS2	**EOS2**	**0.68 63**	*e*P	Pn	17 00 55.1	+1.4	**SCST**	**Cishan**	**1.57 219**	*e*P	Pb	17 01 08.7	+0.4
TYC	**Yuchr**	**0.68 252** ⇑ *i* P		Pb	17 00 52.9	-0.3	SCST			*e*S	Sb	17 01 29.3	+1.6
TYC			*e*S	Sb	17 01 02.2	0.0	**PCYT**	**Pengchaiyu**	**1.57 17**	*e*P	Pn	17 01 06.2	-0.1
EOS4	**EOS4**	**0.69 89**	*e*P	Pb	17 00 53.8	+0.8	**SSD**	**Sandimen**	**1.61 212**	*e*P	Pb	17 01 08.3	-0.7
EOS3	**EOS3**	**0.70 76**	*e*P	Pn	17 00 55.2	+1.1	SSD			S	Sb	17 01 29.9	+1.0
NSTT	**Nanjuang**	**0.73 315** *i* P		Pn	17 00 54.3	-0.3	**ECL**	**Taimali**	**1.61 201**	*e*P	Pn	17 01 06.1	-0.7
NSTT			S	Sn	17 01 03.5	-1.4	**TSMG**	**Majia**	**1.64 211**	*e*P	Pn	17 01 07.9	+0.8
LIOB	**Emei**	**0.73 316** *i* P		Pn	17 00 54.5	-0.2	**TWM1**	**Shoushan**	**1.66 219**	*e*P	Pb	17 01 10.8	+0.9
LIOB			*e*S	Sn	17 01 03.7	-1.3	TWM1			*e*S	Sb	17 01 32.0	+1.7
KSHI	**Guanxi Townshi**	**0.75 332** *i* P		Pn	17 00 55.0	+0.2	**TSCK**	**Chigu Township**	**1.67 235**	*e*P	Pb	17 01 08.7	-1.2
KSHI			*e*S	Sn	17 01 04.9	-0.5	TSCK			*i* S	Sb	17 01 30.4	0.0
TWQ1	**Liyutan**	**0.76 288**	P	Pn	17 00 55.3	+0.2	**SGLT**	**Jiouru**	**1.70 216**	*e*P	Pb	17 01 10.8	+0.3
TWQ1			*e*S	Sn	17 01 05.1	-0.7	SGLT			*e*S	Sb	17 01 32.8	+1.3
YULB	**Yu-li**	**0.76 199**	S	Sn	17 01 06.0	+0.3	**MASBT**	**Mashibuluo**	**1.73 210**	*e*P	Pn	17 01 08.3	0.0
YULB	**Yu-li**	**0.76 199**	*e*P	Pb	17 00 52.5	-2.0	MASBT			*i* S	Sb	17 01 32.6	+0.4
YULB			*e*S	Sb	17 01 04.5	0.0	**EAST**	**Anshuo**	**1.85 201**	*e*P	Pn	17 01 10.6	+0.6
NTC	**Toucheng**	**0.77 18**	*e*P	Pb	17 00 53.9	-0.7	**TAW**	**Tawu**	**1.86 200**	*e*P	Pn	17 01 10.7	+0.6
NTC			*e*S	Sb	17 01 05.1	+0.3	**TAWH**	**Dawu Township**	**1.88 200**	*e*P	Pn	17 01 10.9	+0.6
WHYT	**Xinyi Township**	**0.78 238** *i* P		Pb	17 00 55.0	+0.2	**WSSB**	**Gushan**	**1.90 220**	*e*P	Pb	17 01 13.7	-0.1
WHYT			*e*S	Sn	17 01 05.8	-0.3	**PNG**	**Penghu**	**1.92 254**	*e*P	Pn	17 01 11.4	+0.5
EGS		**0.80 25**	*e*P	Pn	17 00 55.3	-0.2	**PHUB**	**P'eng-hu**	**1.92 252**	*e*P	Pn	17 01 11.3	+0.3
EGS			*e*S	Sn	17 01 07.4	+0.8	PHUB			*e*S	Sn	17 01 34.1	-0.3
EYUL	**Yuli**	**0.80 197**	*e*P	Pb	17 00 55.1	0.0	**SCZT**	**Fangliau**	**1.94 207**	*e*P	Pn	17 01 13.0	+1.8
EYUL			*e*S	Sb	17 01 06.2	+0.6	**WDGT**	**Dungji**	**1.94 244**	*e*P	Pn	17 01 12.5	+1.2
TWF1	**Yuli**	**0.80 198**	*e*P	Pb	17 00 53.0	-2.1	WDGT			*e*S	Sn	17 01 36.3	+1.3
TWF1			*e*S	Sb	17 01 04.8	-0.8	**IRIF**	**Iriomote-Funau**	**1.99 83**	P	Pn	17 01 12.7	+0.8
ECBN	**Changbin**	**0.80 188**	*e*P	Pb	17 00 54.0	-1.2	IRIF			*e*S	Sn	17 01 37.2	+1.3
ECBN			*e*S	Sb	17 01 05.8	+0.1	**HATJ**	**Hateruma jima**	**2.05 91**	*e*S	Sn	17 01 38.7	+1.3
TCU	**Taichung**	**0.81 272**	P	Pn	17 00 56.5	+0.7	**LAY**	**Lan-yu**	**2.07 180**	*e*P	Pn	17 01 12.5	-0.5
TCU			S	Sn	17 01 07.9	+0.9	LAY			*e*S	Sn	17 01 37.3	-0.7
WJS	**Zhushan**	**0.82 249**	P	Pn	17 00 56.4	+0.5	**LYUB**	**Lan-yu**	**2.10 180**	*e*P	Pn	17 01 12.2	-1.4
WJS			S	Sn	17 01 08.3	+1.1	**VCHM**	**Qimei**	**2.16 246**	*e*P	Pn	17 01 15.2	+0.9
NMLH	**Miaoli**	**0.82 301**	P	Pn	17 00 56.8	+0.9	VCHM			S	Sn	17 01 41.6	+1.4
NMLH			*e*S	Sn	17 01 08.0	+0.7	**JKRS**	**Kuro-shima**	**2.23 86**	P	Pn	17 01 16.6	+1.4
WNT	**Mingjian**	**0.84 254**	*e*P	Pn	17 00 56.8	+0.7	JKRS			*e*S	Sn	17 01 43.2	+1.2
WNT			S	Sn	17 01 08.9	+1.2	**HEN**	**Hengchun**	**2.23 200**	*e*P	Pb	17 01 17.9	-1.7
NHDH	**Xindian Distri**	**0.84 357**	*e*P	Pn	17 00 56.7	+0.5	**TWK1**	**Hengchun**	**2.27 198**	*e*P	Pn	17 01 17.6	+1.7
NHDH			*e*S	Sn	17 01 07.3	-0.5	**TWKBT**	**Hengchun**	**2.27 198**	*e*P	Pn	17 01 17.2	+1.4
SBCB	**Hsinchu**	**0.86 322**	P	Pn	17 00 57.2	+0.9	TWKBT			*e*S	Sn	17 01 43.5	+0.4
SBCB			*e*S	Sn	17 01 09.1	+1.0	**JIJ**	**Ishigaki jima**	**2.36 83**	P	Pn	17 01 17.6	+0.5
TATO	**Taipei**	**0.86 355**	P	Pn	17 00 56.9	+0.5	JIJ			*e*S	Sn	17 01 45.2	-0.1
TATO	**Taipei**	**0.86 355**	S	Sn	17 01 08.4	+0.3	**PTMZ**	**Houxiangcun**	**2.41 293**	*e*P	Pn	17 01 17.4	-0.4
TWA	**Mucha**	**0.86 1**	*e*P	Pn	17 00 57.6	+1.2	**MATB**	**Ma-tsu**	**2.50 324**	*e*P	Pn	17 01 18.9	-0.1
TWA			*e*S	Sn	17 01 07.8	-0.5	**JISG**	**Ishigakijimahi**	**2.54 79**	*e*P	Pn	17 01 20.4	+0.8
HSN	**Hsinchu**	**0.87 322**	*e*P	Pn	17 00 57.6	+1.1	JISG			*e*S	Sn	17 01 49.8	0.0
HSN			S	Sn	17 01 09.6	+1.1	**KNM**	**Kinmen**	**2.88 277**	*e*P	Pn	17 01 25.0	+0.9
WDJ	**Dajia District**	**0.88 285** *i* P		Pn	17 00 57.7	+1.1	**JTJ**	**Tarama**	**2.91 79**	*e*P	Pn	17 01 26.4	+1.8
WDJ			*e*S	Sn	17 01 09.3	+0.7	JTJ			*e*S	Sn	17 01 59.1	+0.4
TIPB	**Shuangxi**	**0.88 15**	*e*P	Pn	17 00 56.6	-0.2	**KNMB**	**Chin-men Tao**	**2.92 277**	*e*P	Pn	17 01 24.0	-0.7
TIPB			*e*S	Sb	17 01 07.0	-1.0	**MHZQ**	**Yeshan**	**3.03 311**	*e*P	Pn	17 01 25.9	-0.4
NCUH	**Zhongli**	**0.92 338** *i* P		Pb	17 00 58.1	+1.0	**XPSS**	**Dashiqiu**	**3.07 336**	*e*P	Pn	17 01 26.2	-0.5
NCUH			S	Sn	17 01 11.5	+1.9	**JIRB**	**Irabujima**	**3.36 77**	*e*P	Pn	17 01 31.8	+1.1
NHY	**Taipei**	**0.92 0**	*e*P	Pb	17 00 57.9	+0.8	JIRB			*e*S	Sn	17 02 11.2	+1.3
NHY			*e*S	Sn	17 01 10.5	+0.8	**AXDP**	**Jialang**	**3.37 284**	*e*P	Pn	17 01 30.5	-0.3
TAP	**Taipei**	**0.92 357**	*e*P	Pb	17 00 57.7	+0.5	**JMJ2**	**Miyako jima3**	**3.48 79**	*e*P	Pn	17 01 33.8	+1.3
TAP			*i* S	Sn	17 01 10.4	+0.7	JMJ2			*e*S	Sn	17 02 14.0	+1.1
ALS	**Alishan**	**0.92 229** *i* P		Pb	17 00 57.9	+0.5	**ZPLA**	**Ao Xicun**	**3.50 268**	*e*P	Pn	17 01 32.3	-0.3
ALS			*i* S	Sn	17 01 10.5	+0.4	**DSXP**	**Dongshan**	**3.81 265**	*e*P	Pn	17 01 36.7	-0.3
WCHH	**Zhanghua**	**0.92 268**	*e*P	Pb	17 00 58.2	+0.9	**KSRS**	**Korea Array**	**14.37 21**	Pn	P	17 04 08.4	0.0
WCHH			*e*S	Sn	17 01 10.6	+0.9		0.2nm,0.3s,baz=201,slow=12,SNR=5.0					
CHKH	**Chenggong**	**0.93 190**	P	Pn	17 00 56.3	-1.1		0.6nm,0.6s					
CHKH			S	Sb	17 01 09.2	-0.1	**MKAR**	**Makanchi Array**	**38.63 316**	P	P	17 08 01.1	-0.1
WCH1	**Changhua City**	**0.93 268**	*e*P	Pb	17 00 58.7	+1.3		0.3nm,0.6s,baz=108,slow=9.1,SNR=4.7					
WCH1			*e*S	Sn	17 01 11.0	+1.1		0.3nm,0.6s					
FULB	**Fuli**	**0.95 195**	*e*P	Pn	17 00 56.2	-1.4	**WRA**	**Warramunga Arr**	**45.53 163**	P	P	17 08 55.5	-2.1
TWB1	**Santiao Chiao**	**0.97 23**	*e*P	Pb	17 00 58.2	+0.3		0.4nm,0.7s,baz=344,slow=8.0,SNR=2.2					
TWB1			*e*S	Sn	17 01 11.5	+0.7		0.4nm,0.7s					
NWF	**Wu-fen Shan**	**0.97 12**	*e*P	Pb	17 00 59.2	+1.1	**ASAR**	**Alice Springs**	**48.98 165**	P	P	17 09 22.5	-2.0
NWF			*i* S	Sn	17 01 11.3	+0.3		0.1nm,0.5s,baz=339,slow=6.7,SNR=6.7					
WFSB	**Wu-fen Shan**	**0.97 12**	*e*P	Pb	17 00 59.2	+1.1		0.1nm,0.5s					
WFSB			*e*S	Sn	17 01 10.7	-0.2							
TWS1	**Kuangyinshan**	**0.99 352**	*e*P	Pb	17 00 58.1	-0.2							
TWS1			*i* S	Sn	17 01 12.3	+1.0							
SXI1	**Grass Mountain**	**1.01 16**	*e*P	Pb	17 00 58.9	+0.1							
SXI1			*e*S	Sn	17 01 13.1	+1.1							
WGK	**Gukeng**	**1.01 245** *i* P		Pb	17 00 59.8	+1.0							
WGK			S	Sn	17 01 14.1	+2.1							
EHD	**Haiduan**	**1.02 199**	*e*P	Pn	17 00 58.5	0.0							
EHD			*e*S	Sn	17 01 11.4	-0.7							
WDL	**Douliou City**	**1.02 247**	*e*P	Pb	17 00 59.8	+0.9							
WDL			*e*S	Sn	17 01 14.7	+2.6							
YM01	**YM01**	**1.03 0**	*e*P	Pb	17 00 58.8	-0.3							
YM01			*e*S	Sn	17 01 12.4	0.0							
CHKT	**Chengkung**	**1.03 190**	P	Pn	17 00 57.7	-1.0							
CHKT			*e*S	Sn	17 01 11.5	-0.8							
WDLH	**Douliu**	**1.03 246** *i* P		Pb	17 01 00.1	+1.0							
WDLH			*e*S	Sb	17 01 15.0	+2.7							
ZUZH	**Zhuzihu**	**1.04 359**	*e*P	Pb	17 00 59.0	-0.3							
ZUZH			*e*S	Sb	17 01 12.8	+0.2							
TNOU	**National Taiwa**	**1.05 10**	*e*P	Pb	17 00 59.6	+0.3							
TNOU			*e*S	Sb	17 01 13.2	+0.6							
NTST	**Danshui**	**1.05 354**	*e*P	Pb	17 01 00.2	+0.9							
NTST			S	Sb	17 01 14.8	+2.0							
ELDTW	**Lidau**	**1.05 209**	*e*P	Pn	17 00 57.6	-1.6							
ELDTW			*i* S	Sb	17 01 13.4	+0.5							
ECS	**Chishang**	**1.06 198**	*e*P	Pb	17 01 00.0	+0.3							
ANP	**Anpu**	**1.07 358**	*e*P	Pb	17 01 00.1	+0.3							
ANP			*e*S	Sb	17 01 13.9	+0.6							
YM08	**YM08**	**1.07 1**	P	Pn	17 00 59.0	-0.3							
YM08			*e*S	Sb	17 01 13.0	-0.3							
WCKO	**Fanlu**	**1.11 233**	P	Pb	17 01 01.0	+0.6							
WCKO			*i* S	Sb	17 01 16.6	+2.1							
TWY	**Chenhua**	**1.16 1**	*e*P	Pb	17 01 00.7	-0.5							
TWY			*e*S	Sb	17 01 16.3	+0.6							
CHN2	**Minshiung**	**1.16 240**	*e*P	Pb	17 01 02.1	+0.9							
CHN2			*e*S	Sb	17 01 18.1	+2.3							
WTK	**Tuku**	**1.16 249**	*e*P	Pb	17 01 01.8	+0.6							
WTK			*i* S	Sb	17 01 18.3	+2.4							
EDH	**Donghe**	**1.16 192**	*e*P	Pn	17 00 59.5	-1.1							
EDH			*e*S	Sn	17 01 15.5	-0.1							
CHN4	**Tsaushan**	**1.17 230**	*e*P	Pb	17 01 02.6	+1.1							
CHN4			*e*S	Sb	17 01 18.2	+1.9							
TPUB	**Ta-pu**	**1.18 227**	P	Pb	17 01 02.5	+0.8							
TPUB	**Ta-pu**	**1.18 227**	S	Sb	17 01 18.9	+2.3							
TPUB	**Ta-pu**	**1.18 227**	*e*P	Pb	17 01 02.3	+0.6							
TPUB			*e*S	Sb	17 01 17.4	+0.8							
STYH	**Taoyuan**	**1.19 218**	*e*P	Pn	17 01 00.2	-0.6							
STYH			*e*S	Sb	17 01 17.1	+0.5							
WTCT	**Ta-ch'eng**	**1.20 258**	*e*P	Pb	17 01 02.1	+0.2							
WTCT			*i* S	Sb	17 01 18.7	+1.6							
CHY	**Chiayi**	**1.22 240**	*e*P	Pb	17 01 03.0	+0.8							
CHY			*e*S	Sb	17 01 19.2	+1.8							
WTP	**Ta-pu**	**1.23 225**	P	Pb	17 01 03.1	+0.6							
WTP			S	Sb	17 01 20.4	+2.4							
LONT	**Longtian**	**1.27 199**	*e*P	Pn	17 01 02.5	+0.5							
JYNG	**Yonagunijimaku**	**1.30 75**	*e*P	Pn	17 01 03.1	+0.7							
JYNG			*e*S	Sn	17 01 19.9	+0.9							
TWK	**Hsinying**	**1.30 230**	*e*P	Pb	17 01 04.4	+0.7							
TWK			*e*S	Sb	17 01 21.9	+1.9							
WSF	**Szhu**	**1.32 249**	*e*P	Pb	17 01 04.0	0.0							
WSF			*i* S	Sb	17 01 22.1	+1.6							
SNST	**Tainan City**	**1.33 228**	*e*P	Pb	17 01 05.0	+0.9							

KRSC ***22*** *17:08:36.2±2.4, 48°.76N×156°.52E, h7km±35km, Ml4.1*
SKHL ***22*** *17:08:37.6±0.5, 48°.80N×155°.00E, h54km±6km, mb4.6/4*
ISC 22 17:08:36.5±1.3, 48°.7N±0°.1×155°.2E±0°.1, h50km, n25, σ19°74/37, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.12**	**17**	*e*P	**Pn**	**17 09 09.3**	**-0.1**
SKR	**Severo-Kuril's**	**2.12**	**17**	*e*P	**Pn**	**17 09 09.3**	**-0.1**
SKR				AMB	AMB	17 09 11.7	
	140nm,0.5s						
SKR				*e*S	**Sn**	**17 09 32.9**	**-1.5**
SKR				A	A	17 09 35.0	
	320nm,0.2s						
SKR				A	A	17 09 35.0	
	340nm,0.2s						
PAU	**Pauzhetka**	**3.00**	**20**	*e*P	**Pn**	**17 09 22.1**	**+0.6**
PAU				*e*S	**Sn**	**17 09 56.3**	**+0.1**
PAU	**Pauzhetka**	**3.00**	**20**	*e*P	**Pn**	**17 09 22.0**	**+0.5**
PAU				AMB	AMB	17 09 24.9	
	30nm,0.2s						
PAU				*e*S	**Sn**	**17 09 55.4**	**-0.8**
PAU				A	A	17 09 57.0	
	80nm,0.2s						
PAU				A	A	17 09 57.0	
	180nm,0.2s						
KDTR	**Khodutka, Kamc**	**3.67**	**30**	*e*P	**Pn**	**17 09 30.7**	**+0.1**
KDTR				*e*S	**Sn**	**17 10 10.3**	**-2.2**
MTVR	**Mutnovka**	**4.28**	**26**	*e*P	**Pn**	**17 09 40.7**	**+1.5**
MTVR				*e*S	**Sn**	**17 10 27.7**	**-0.2**
GRL	**Gorelyy**	**4.31**	**24**	*e*P	**Pn**	**17 09 41.4**	**+1.8**
RUS	**Russkaya**	**4.34**	**28**	*e*P	**Pn**	**17 09 40.0**	**+0.2**
RUS				*e*S	**Sn**	**17 10 26.8**	**-2.3**
APC	**Apacha**	**4.45**	**16**	*e*P	**Pn**	**17 09 44.2**	**+2.8**
KRMR	**Karymshinskiy**	**4.58**	**23**	*e*P	**Pn**	**17 09 45.6**	**+2.5**
PET	**Petropavlovsk**	**4.90**	**26**	*e*P	**Pn**	**17 09 48.5**	**+1.0**
PET				AMB	AMB	17 09 52.4	
	10.0nm,0.3s						
PET				*e*S	**Sn**	**17 10 41.3**	**-1.4**
PET				A	A	17 10 43.7	
	20nm,0.4s						
PET				A	A	17 10 43.7	
	30nm,0.4s						
DALK	**Dalny**	**4.93**	**26**	*e*P	**Pn**	**17 09 48.9**	**+1.0**
DALK				*e*S	**Sn**	**17 10 43.4**	**-0.2**
UGLR	**Uglovaya**	**5.11**	**26**	*e*P	**Pn**	**17 09 51.9**	**+1.5**
KOK	**Koryaka**	**5.13**	**24**	*e*P	**Pn**	**17 09 53.8**	**+3.0**
AVH	**Avacha**	**5.13**	**25**	*e*P	**Pn**	**17 09 53.3**	**+2.5**
SDLR	**Sedlovina**	**5.19**	**26**	*e*P	**Pn**	**17 09 52.9**	**+1.3**
KRX	**Arik**	**5.19**	**24**	*e*P	**Pn**	**17 09 54.4**	**+2.7**
GNL	**Ganaly**	**5.33**	**18**	*e*P	**Pn**	**17 09 56.3**	**+2.7**
KUR	**Kuril'sk**	**6.05**	**238**	*e*P	**Pn**	**17 10 04.9**	**+1.6**
KUR				AMB	AMB	17 10 11.2	
	80nm,0.5s						
KUR				*e*S	**Sn**	**17 11 10.8**	**-0.4**
KUR				A	A	17 11 12.6	
	60nm,0.8s						
KUR				A	A	17 11 12.6	
	40nm,0.8s						
MKZ	**Mys Kozlova**	**7.18**	**32**	*e*P	**Pn**	**17 10 18.0**	**-0.7**
SHO	**Shikotan**	**7.50**	**233**	*e*P	**Pn**	**17 10 24.4**	**+1.3**
SHO				AMB	AMB	17 10 26.0	
	30nm,0.8s						
SHO				*e*S	**Sn**	**17 11 46.4**	**-0.3**
SHO				A	A	17 11 47.8	
	10.0nm,0.5s						
SHO				A	A	17 11 47.8	
	10.0nm,0.5s						
TYV	**Tymovskoe**	**8.39**	**290**	*e*P	**Pn**	**17 10 36.5**	**+1.2**
NMR	**Nemuro--Hokkai**	**8.43**	**235**	*e*P	**Pn**	**17 10 36.2**	**+0.4**
NMR				*e*S	**Sn**	**17 12 06.8**	**-2.7**
YSS	**Yuzhno-Sakhali**	**8.52**	**263**	*e*P	**Pn**	**17 10 38.4**	**+1.3**
YSS				AMB	AMB	17 10 42.9	
	10.0nm,0.8s						
YSS				*e*S	**Sn**	**17 12 07.8**	**-4.0**
YSS				A	A	17 12 09.1	
	10.0nm,0.2s						
KBTR	**Krutoberegovo**	**8.88**	**29**	*e*P	**Pn**	**17 10 42.9**	**+0.8**

IDC 22 17:20:29.4±1.6, 8°.91S×123°.83E, h0km, mb3.8/1, mbtmp4.0/4, ML4.2/3, MS2.5/1, Error ellipse: s-maj=117.8km s-min=25.4km az=63.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.60**	**313**	LR	LR	17 24 28.3	
	comp=Z,44nm,18.2s,baz=228,slow=43						
FITZ	**Fitzroy Crossi**	**9.30**	**169**	Pn	Pn	17 22 45.5	+0.7
	1.9nm,0.3s,baz=357,slow=9.8,SNR=56						
FITZ				Sn	Sn	17 24 19.1	-11
	2.5nm,0.3s,baz=137,slow=5.4,SNR=12						
	4.6nm,0.3s						
WRA	**Warramunga Arr**	**14.96**	**138**	Pn	Pn	17 24 00.9	-1.3
	0.9nm,0.3s,baz=318,slow=14,SNR=32						
WRA				Sn	Sn	17 26 35.1	-14
	0.8nm,0.3s,baz=307,slow=24,SNR=4.4						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**17.56**	**148**	P	Pn	17 24 36.1	+0.4
	0.7nm,0.3s,baz=318,slow=12,SNR=68						
ASAR				S	Sn	17 27 38.7	-13
	1.1nm,0.6s,baz=314,slow=21,SNR=5.5						
	2.5nm,0.5s						
MKAR	**Makanchi Array**	**66.65**	**330**	P	P	17 31 21.9	0.0
	0.5nm,0.5s,baz=139,slow=7.3,SNR=10						
	0.5nm,0.5s						

GII ***22*** *17:25:43.3±0.0, 33°.49N±0°.03×35°.666E±0°.008, h1km, Mws3.0, confirmed*
GRAL ***22*** *17:25:44.0±0.3, 33°.48N×35°.64E, h0km±17km, MD3.1*
JSO ***22*** *17:25:45, 33°.40N×35°.65E, h1km, ML2.9/19, Mw3.0/19*
ISC 22 17:25:43.9±0.9, 33°.50N±0°.02×35°.67E±0°.03, h7km±6km, n66, σ0°51/84, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRWL	**Qaraoun**	**0.05**	**14**	*e*P	**Pg**	**17 25 45.5**	**-0.1**
QRWL				*e*S	**Sg**	**17 25 46.6**	**-0.3**
RCY	**Rachaya**	**0.14**	**90**	*e*P	**Pg**	**17 25 47.0**	**+0.1**
RCY				*e*S	**Sg**	**17 25 49.3**	**+0.3**
SHBL	**Chebaa**	**0.16**	**156**	*e*P	**Pg**	**17 25 46.9**	**-0.3**
DQRL	**Deir Qamar**	**0.22**	**339**	*e*P	**Pg**	**17 25 48.3**	**-0.1**
MTLA	**Metula**	**0.23**	**199**	P	**Pg**	**17 25 48.3**	**-0.1**
MTLA				S	**Sg**	**17 25 52.3**	**+0.8**
NATI	**Neve Ativ**	**0.24**	**166**	P	**Pg**	**17 25 48.1**	**-0.5**
NATI				S	**Sg**	**17 25 52.3**	**+0.4**
NATI	**Neve Ativ**	**0.24**	**166**	P	**Pg**	**17 25 48.2**	**-0.5**
MSAM	**Misgav Am**	**0.27**	**202**	P	**Pg**	**17 25 49.6**	**+0.4**
MSAM				S	**Sg**	**17 25 53.8**	**+1.1**
GOSH	**HaGoshrim**	**0.28**	**187**	P	**Pg**	**17 25 49.2**	**-0.2**
GOSH				S	**Sg**	**17 25 54.1**	**+1.0**
KIRY	**Kiryat Shemona**	**0.30**	**196**	P	**Pg**	**17 25 49.6**	**-0.2**
KIRY				S	**Sg**	**17 25 54.6**	**+0.9**
LVBS

ASIES ***22*** *17:38:51.3,22.′98N×120.′89E,h4km,ML3.6,Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^21Nm; Mrr-1.07; Mθθ0.32; Mφφ0.76; Mrθ0.21; Mθφ-0.91; Mφr0.57; Fault plane solution: M0 1.45048×10^21 NP1: φs296.08000°,δ44.54000°,λ-130.82000°. NP2: φs166.55000°,δ57.94000°,λ-57.25000°. Principal axes: T Plg7.3920°, Azm233.8610°; N Plg27.2900°, Azm327.6990°; P Plg61.5620°, Azm130.0000°;*

TAP ***22*** *17:38:51.3,22.′98N×120.′89E,h4km,ML3.6,C*

JMA ***22*** *17:38:51.4±0.1,22.′8N±0.′4×121.′4E±0.′7,h8km±3km, MV3.1/12,TAIWAN REGION*

ISC 22 17:38:51.0±0.8,**22.′90N**±0.′02×**120.′87E**±0.′01,**h13**km±6km, **n153,**σ1§**25**/236,**6C-4D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**0.20**	**114**	ⅈ/*P*	**Pg**	**17 38 56.9**	**+1.3**
TWG				*i* S	**Sg**	**17 39 00.6**	**+2.0**
TWGBT	**Beinan**	**0.21**	**114**	P	**Pg**	**17 38 56.7**	**+1.0**
TWGBT	**Beinan**	**0.21**	**114**	S	**Sg**	**17 39 00.5**	**+1.6**
TWGBT	**Beinan**	**0.21**	**114**	ⅈ/*P*	**Pg**	**17 38 56.8**	**+1.2**
TWGBT				*i* S	**Sg**	**17 39 00.6**	**+1.8**
LONT	**Longtian**	**0.24**	**89**	ⅈ/*P*	**Pb**	**17 38 57.0**	**-0.2**
LONT				*i* S	**Sg**	**17 39 00.5**	**+0.8**
STYT	**Tauyuan**	**0.28**	**338**	ⅈ/*P*	**Pg**	**17 38 55.4**	**-1.5**
STYT				*i* S	**Sg**	**17 38 58.8**	**-2.1**
STYH	**Taoyuan**	**0.28**	**342**	*i* P	**Pg**	**17 38 55.1**	**-1.7**
STYH				*i* S	**Sg**	**17 38 58.6**	**-2.2**
TSMG	**Majia**	**0.29**	**227**	P	**Pg**	**17 38 57.5**	**+0.5**
TSMG				S	**Sg**	**17 39 01.7**	**+0.7**
TTN	**Taitung**	**0.29**	**120**	ⅈ/*P*	**Pn**	**17 38 59.5**	**-1.5**
TTN				*i* S	**Sn**	**17 39 05.0**	**-2.2**
ECL	**Taimali**	**0.32**	**166**	ⅈ/*P*	**Pn**	**17 38 59.2**	**-2.1**
ECL				*i* S	**Sn**	**17 39 04.0**	**-3.7**
ELDTW	**Lidau**	**0.32**	**25**	ⅈ/*P*	**Pg**	**17 38 56.7**	**-0.8**
ELDTW				*i* S	**Sg**	**17 39 00.2**	**-1.8**
SGST	**Jiashian**	**0.32**	**304**	ⅈ/*P*	**Pg**	**17 38 57.3**	**-0.3**
SGST				*i* S	**Sg**	**17 39 02.0**	**+0.1**
SCST	**Cishan**	**0.35**	**267**	*i* P	**Pn**	**17 38 59.5**	**-2.2**
MASBT	**Mashibuluo**	**0.36**	**217**	ⅈ/*P*	**Pn**	**17 38 59.6**	**-2.4**
MASBT				*i* S	**Sn**	**17 39 05.7**	**-3.2**
ECS	**Chishang**	**0.37**	**59**	*i* P	**Pg**	**17 38 58.9**	**+0.3**
ECS				S	**Sg**	**17 39 04.1**	**+0.4**
SGLT	**Jiouru**	**0.39**	**243**	*i* P	**Pn**	**17 39 01.0**	**-1.4**
SGLT				*i* S	**Sn**	**17 39 08.1**	**-1.5**
EHD	**Haiduan**	**0.39**	**52**	*i* P	**Pg**	**17 38 58.7**	**-0.2**
EHD				*i* S	**Sg**	**17 39 03.5**	**-0.7**
EDH	**Donghe**	**0.41**	**80**	P	**Pb**	**17 39 00.1**	**0.0**
EDH				S	**Sb**	**17 39 06.5**	**+0.5**
WTP	**Ta-pu**	**0.41**	**325**	*i* P	**Pb**	**17 38 59.8**	**-0.4**
WTP				*i* S	**Sg**	**17 39 05.4**	**+0.4**
TWM1	**Shoushan**	**0.42**	**259**	*i* P	**Pn**	**17 39 01.6**	**-1.1**
TWM1				*i* S	**Sn**	**17 39 09.4**	**-0.9**
CHN1	**Nanshi**	**0.42**	**312**	*i* P	**Pb**	**17 39 00.5**	**+0.1**
CHN1				*i* S	**Sb**	**17 39 07.2**	**+0.5**
TPUB	**Ta-pu**	**0.45**	**331**	P	**Pb**	**17 39 00.4**	**-0.5**
TPUB	**Ta-pu**	**0.45**	**331**	S	**Sb**	**17 39 07.1**	**-0.4**
TPUB	**Ta-pu**	**0.45**	**331**	ⅈ/*P*	**Pb**	**17 39 00.6**	**-0.3**
TPUB				*i* S	**Sg**	**17 39 06.6**	**+0.4**
SNST	**Tainan City**	**0.47**	**313**	P	**Pn**	**17 39 01.7**	**-1.7**
SNST				S	**Sn**	**17 39 09.0**	**-2.5**
FULB	**Fuli**	**0.49**	**53**	*i* P	**Pg**	**17 39 01.1**	**+0.4**
FULB				S	**Sg**	**17 39 07.5**	**+0.3**
CHKT	**Chengkung**	**0.50**	**67**	*i* P	**Pg**	**17 39 02.0**	**+1.2**
CHKT				*i* S	**Sb**	**17 39 09.9**	**+1.2**
CHN3	**Shinhua**	**0.50**	**290**	*i* P	**Pn**	**17 39 03.9**	**+0.2**
CHN3				S	**Sn**	**17 39 11.6**	**-0.6**
SHHT	**Tainan City**	**0.50**	**284**	P	**Pn**	**17 39 03.8**	**+0.1**
SSPT	**Xinbi**	**0.50**	**214**	*eP*	**Pn**	**17 39 04.1**	**+0.2**
TWK	**Hsinying**	**0.51**	**316**	*i* P	**Pn**	**17 39 02.5**	**-1.5**
TWK				S	**Sn**	**17 39 10.0**	**-2.5**
CHN4	**Tsaushan**	**0.51**	**330**	*i* P	**Pb**	**17 39 01.9**	**+0.1**
CHN4				S	**Sb**	**17 39 09.9**	**+0.6**
SNJT	**Kaohsiung City**	**0.52**	**253**	*eP*	**Pn**	**17 39 05.5**	**+1.5**
EAST	**Anshuo**	**0.52**	**182**	*i* P	**Pn**	**17 39 02.9**	**-1.2**
EAST				S	**Sn**	**17 39 11.5**	**-1.3**
TAW	**Tawu**	**0.54**	**178**	*i* P	**Pn**	**17 39 03.5**	**-0.9**
TAW				S	**Sn**	**17 39 10.2**	**-3.2**
TAWH	**Dawu Township**	**0.56**	**178**	P	**Pn**	**17 39 03.8**	**-0.8**
TAWH				*eS*	**Sn**	**17 39 12.5**	**-1.3**
CHKH	**Chenggong**	**0.56**	**59**	P	**Pb**	**17 39 02.4**	**-0.3**
CHKH				S	**Sg**	**17 39 10.9**	**+1.4**
SCZT	**Fangliau**	**0.58**	**204**	*i* P	**Pn**	**17 39 03.8**	**-1.1**
SCZT				*i* S	**Sn**	**17 39 12.3**	**-1.9**
SSHA	**Shanhua**	**0.58**	**293**	P	**Pn**	**17 39 06.0**	**+1.0**
WCKO	**Fanlu**	**0.59**	**335**	P	**Pg**	**17 39 03.0**	**+0.5**
WCKO				S	**Sg**	**17 39 11.8**	**+1.5**
TWF1	**Yuli**	**0.59**	**41**	*i* P	**Pb**	**17 39 02.1**	**-1.2**
TWF1				*i* S	**Sb**	**17 39 09.0**	**-2.6**
LDUT	**Ludao**	**0.60**	**112**	P	**Pn**	**17 39 04.3**	**-0.8**
LDUT				S	**Sn**	**17 39 14.2**	**-0.5**
EYUL	**Yuli**	**0.60**	**43**	*i* P	**Pb**	**17 39 02.7**	**-0.8**
EYUL				S	**Sb**	**17 39 09.8**	**-2.0**
ALS	**Alishan**	**0.61**	**354**	*i* P	**Pb**	**17 39 02.7**	**-0.9**
ALS				*i* S	**Sb**	**17 39 11.2**	**-1.1**
TAI1	**Yung-k'ang**	**0.61**	**283**	*eP*	**Pn**	**17 39 06.3**	**+1.1**
WSSB	**Gushan**	**0.62**	**245**	*eP*	**Pn**	**17 39 07.3**	**+1.8**
YULB	**Yu-li**	**0.63**	**39**	P	**Pb**	**17 39 02.0**	**-1.8**
YULB	**Yu-li**	**0.63**	**39**	S	**Sb**	**17 39 10.0**	**-2.5**
YULB	**Yu-li**	**0.63**	**39**	P	**Pb**	**17 39 02.3**	**-1.5**
YULB				S	**Sb**	**17 39 09.9**	**-2.6**
ECBN	**Changbin**	**0.67**	**52**	P	**Pg**	**17 39 04.7**	**+0.6**
ECBN				S	**Sg**	**17 39 15.1**	**+2.0**
SCLT	**Jiali**	**0.68**	**294**	*i* P	**Pn**	**17 39 06.8**	**+0.5**
SCLT				*i* S	**Sn**	**17 39 18.8**	**+2.1**
SLIU	**Shizi**	**0.69**	**186**	P	**Pn**	**17 39 06.1**	**-0.3**
ICHU	**Yijhu**	**0.71**	**310**	P	**Pn**	**17 39 06.6**	**-0.1**
ICHU				S	**Sn**	**17 39 18.0**	**+0.5**
WLCH	**Liuqiu**	**0.71**	**220**	P	Pn	17 39 09.8	+3.1
CHY	**Chiayi**	**0.72**	**325**	P	**Pn**	**17 39 06.8**	**-0.1**
CHY				*eS*	**Sn**	**17 39 16.3**	**-1.4**
CHN2	**Minshiung**	**0.72**	**330**	P	**Pn**	**17 39 07.5**	**+0.6**
CHN2				S	**Sn**	**17 39 17.7**	**-0.1**
TWP	**Hsiaoliuchiu**	**0.73**	**220**	P	**Pn**	**17 39 09.7**	**+2.8**
EHY	**Hungye**	**0.73**	**35**	*i* P	**Pb**	**17 39 04.2**	**-1.3**
EHY				*i* S	**Sb**	**17 39 13.4**	**-2.0**
EHYH	**Wanrong**	**0.73**	**37**	P	**Pb**	**17 39 04.3**	**-1.3**
EHYH				S	**Sb**	**17 39 13.9**	**-1.6**
CHN8	**Yiju**	**0.75**	**306**	P	**Pn**	**17 39 07.2**	**-0.1**
CHN8				S	**Sn**	**17 39 20.1**	**+1.6**
TSCK	**Chigu Township**	**0.76**	**289**	*eP*	**Pn**	**17 39 07.6**	**+0.2**
TSCK				S	**Sn**	**17 39 20.5**	**+1.7**
HGSD	**Ruisui**	**0.78**	**41**	P	**Pb**	**17 39 06.1**	**-0.3**
HGSD				S	**Sg**	**17 39 17.4**	**+1.1**
WHYT	**Xinyi Township**	**0.79**	**359**	P	**Pb**	**17 39 05.6**	**-1.0**
WHYT				S	**Sb**	**17 39 16.3**	**-0.9**
WGK	**Gukeng**	**0.83**	**340**	*i* P	**Pn**	**17 39 08.2**	**-0.2**
WGK				*i* S	**Sn**	**17 39 20.3**	**-0.2**
WDLH	**Douliu**	**0.84**	**339**	P	**Pn**	**17 39 08.3**	**-0.2**
WDLH				S	**Sn**	**17 39 20.7**	**0.0**
WSL	**Shuilin Townsh**	**0.85**	**316**	*eP*	**Pn**	**17 39 09.1**	**+0.4**
WSL				*eS*	**Sn**	**17 39 21.9**	**+0.9**
WDL	**Douliou City**	**0.86**	**339**	*eP*	**Pn**	**17 39 10.2**	**+1.4**
WDL				*eS*	**Sn**	**17 39 22.4**	**+1.2**
SMST	**Manzhou Townsh**	**0.88**	**182**	*eP*	**Pn**	**17 39 10.2**	**+1.2**
VWDT	**VWDT**	**0.88**	**16**	P	**Pb**	**17 39 06.6**	**-1.5**
SSLB	**Suanglung**	**0.88**	**5**	P	**Pb**	**17 39 06.7**	**-1.5**
SSLB	**Suanglung**	**0.88**	**5**	P	**Pb**	**17 39 06.8**	**-1.5**
SSLB				S	**Sb**	**17 39 19.5**	**-0.4**
WTK	**Tuku**	**0.90**	**331**	*eP*	**Pn**	**17 39 09.6**	**+0.3**
WTK				*i* S	**Sn**	**17 39 22.6**	**+0.5**
HEN	**Hengchun**	**0.90**	**188**	*eP*	**Pn**	**17 39 10.7**	**+1.4**
EGFH	**Guangfu**	**0.92**	**34**	*eP*	**Pb**	**17 39 07.9**	**-0.8**
EGFH				S	**Sb**	**17 39 19.5**	**-1.4**
WJS	**Zhushan**	**0.92**	**352**	*eP*	**Pg**	**17 39 09.7**	**+0.8**
WJS				*eS*	**Sn**	**17 39 24.9**	**+2.1**
WARBT	**Fenglin Townsh**	**0.94**	**30**	P	**Pb**	**17 39 07.1**	**-2.0**
WARBT				S	**Sb**	**17 39 20.2**	**-1.4**
WSF	**Szhu**	**0.94**	**321**	*eP*	**Pg**	**17 39 10.0**	**+0.7**
WSF				S	**Sn**	**17 39 24.2**	**+0.9**
TWK1	**Hengchun**	**0.96**	**184**	P	**Pn**	**17 39 12.4**	**+2.3**
TWKBT	**Hengchun**	**0.96**	**183**	*eP*	**Pn**	**17 39 12.3**	**+2.1**
SMLT	**Sun Moon Lake**	**0.97**	**2**	P	**Pb**	**17 39 08.3**	**-1.5**
WNT	**Mingjian**	**0.98**	**350**	*eP*	**Pg**	**17 39 10.8**	**+0.7**
WNT				*eS*	**Sg**	**17 39 24.6**	**+1.7**
TYC	**Yuchr**	**1.00**	**359**	*eP*	**Pg**	**17 39 10.3**	**+0.1**
TYC				*i* S	**Sg**	**17 39 25.4**	**+2.1**
TSEB	**Hengchuen, Pin**	**1.00**	**178**	*eP*	**Pg**	**17 39 14.1**	**+3.8**
TEGC	**Jichi Village**	**1.01**	**37**	*eP*	**Pg**	**17 39 11.1**	**+0.6**
ESL	**Shilin**	**1.04**	**30**	*eP*	**Pb**	**17 39 09.7**	**-1.2**
LAY	**Lan-yu**	**1.07**	**144**	*eP*	**Pg**	**17 39 11.3**	**-0.3**
OWD	**Renai**	**1.08**	**15**	*eP*	**Pn**	**17 39 10.6**	**-1.4**
SHUL	**Shoufeng**	**1.09**	**36**	*i* P	**Pb**	**17 39 11.6**	**0.0**
WUSB	**Renai**	**1.11**	**12**	*eP*	**Pn**	**17 39 10.7**	**-1.7**
LYUB	**Lan-yu**	**1.11**	**144**	*eP*	**Pn**	**17 39 10.8**	**-1.4**
WCS	**Beigang Elemen**	**1.15**	**2**	*eP*	**Pb**	**17 39 12.7**	**0.0**
WCS				*eS*	**Sg**	**17 39 30.1**	**+1.9**
WDGT	**Dungji**	**1.17**	**288**	*i* P	**Pg**	**17 39 14.1**	**+0.5**
WDGT				S	**Sg**	**17 39 30.4**	**+1.6**
ETM	**Tongmen**	**1.20**	**28**	*eP*	**Pn**	**17 39 12.9**	**-0.5**
WCHH	**Zhanghua**	**1.21**	**346**	*eP*	**Pg**	**17 39 15.0**	**+0.7**
WCHH				S	**Sg**	**17 39 31.6**	**+1.6**
LXIB	**Xiulin Townshi**	**1.22**	**24**	*i* P	**Pn**	**17 39 12.8**	**-1.1**
LXIB				*eS*	**Sn**	**17 39 30.1**	**-0.2**
TCU	**Taichung**	**1.25**	**352**	*eP*	**Pg**	**17 39 14.8**	**-0.3**
TCU				*eS*	**Sg**	**17 39 33.5**	**+2.1**
WHF	**Hehuan Shan**	**1.29**	**16**	*eP*	**Pn**	**17 39 14.8**	**-0.3**
PHUB	**P'eng-hu**	**1.34**	**297**	*eP*	**Pg**	**17 39 16.4**	**-0.4**
PHUB				*i* S	**Sg**	**17 39 34.9**	**+0.6**
TWD	**Chiawan**	**1.35**	**29**	*i* P	**Pb**	**17 39 15.8**	**-0.3**
VCHM	**Qimei**	**1.36**	**283**	*eP*	**Pg**	**17 39 16.9**	**-0.3**
TDCB	**Techi**	**1.37**	**11**	*eP*	**Pn**	**17 39 15.7**	**-0.2**
WHP	**Taichung City**	**1.37**	**3**	*eP*	**Pg**	**17 39 17.4**	**0.0**
WHP				*eS*	**Sg**	**17 39 36.4**	**+1.2**
TWT	**Tachien**	**1.37**	**12**	*eP*	**Pb**	**17 39 16.2**	**-0.4**
PNG	**Penghu**	**1.38**	**299**	*eP*	**Pg**	**17 39 17.1**	**-0.4**
PNG				*eS*	**Sg**	**17 39 35.1**	**-0.3**
FUSS	**Fushou**	**1.38**	**14**	*eP*	**Pb**	**17 39 16.6**	**-0.2**
FUSS				S	**Sg**	**17 39 35.7**	**+0.1**
ETLH	**Xiulin Townshi**	**1.41**	**23**	P	**Pn**	**17 39 16.5**	**0.0**
ETLH				*i* S	**Sb**	**17 39 35.6**	**+0.4**
ETL	**Fush Village**	**1.43**	**29**	*eP*	**Pb**	**17 39 17.9**	**+0.4**
NACB	**Ninganchiao**	**1.43**	**28**	P	**Pn**	**17 39 16.4**	**-0.2**
NACB	**Ninganchiao**	**1.43**	**28**	*eP*	**Pn**	**17 39 16.3**	**-0.3**
NACB				S	**Sb**	**17 39 36.4**	**+0.8**
TWQ1	**Liyutan**	**1.44**	**356**	*eP*	**Pg**	**17 39 18.9**	**+0.2**
TWQ1				*i* S	**Sg**	**17 39 39.4**	**+1.9**
WDJ	**Dajia District**	**1.45**	**352**	*eP*	**Pg**	**17 39 19.8**	**+0.9**
WDJ				S	**Sg**	**17 39 39.5**	**+1.6**
NNSB	**Datong**	**1.59**	**17**	*eP*	**Pn**	**17 39 18.9**	**0.0**
NNSB				*i* S	**Sg**	**17 39 42.0**	**-0.2**
NNS	**Nan Shan**	**1.60**	**17**	*eP*	**Pb**	**17 39 20.7**	**+0.3**
NNS				S	**Sg**	**17 39 42.4**	**-0.1**
EAHA	**Aohua**	**1.63**	**29**	*eP*	**Pb**	**17 39 21.1**	**+0.2**
NMLH	**Miaoli**	**1.63**	**357**	*eP*	**Pg**	**17 39 22.7**	**+0.4**
NMLH				*eS*	**Sg**	**17 39 44.4**	**+1.0**
ENA	**Nanau**	**1.71**	**28**	*eP*	**Pb**	**17 39 22.5**	**+0.1**
NSTT	**Nanjuang**	**1.72**	**4**	*eP*	**Pb**	**17 39 23.2**	**+0.7**
NSTT				*eS*	**Sg**	**17 39 47.0**	**+0.5**
LATG	**Datong**	**1.73**	**20**	*eP*	**Pb**	**17 39 22.1**	**-0.6**
NFF	**Wufeng Townshi**	**1.73**	**7**	P	**Pb**	**17 39 23.0**	**+0.2**
NFF				*i* S	**Sg**	**17 39 46.7**	**-0.2**
LIOB	**Emei**	**1.74**	**4**	*eP*	**Pb**	**17 39 23.2**	**+0.4**
EWUT	**Wuta**	**1.75**	**28**	*eP*	**Pb**	**17 39 22.9**	**0.0**
YHNB	**Yeheng**	**1.82**	**15**	P	**Pb**	**17 39 23.7**	**-0.5**
YHNB	**Yeheng**	**1.82**	**15**	*eP*	**Pb**	**17 39 23.9**	**-0.3**
NSK	**Sanguang**	**1.82**	**14**	P	**Pb**	**17 39 24.8**	**+0.6**
ENTT	**Nioudou**	**1.84**	**20**	*eP*	**Pb**	**17 39 25.0**	**+0.4**
KSHI	**Guanxi Townshi**	**1.89**	**8**	*eP*	**Pb**	**17 39 26.0**	**+0.8**
NDS	**Dongshan**	**1.89**	**24**	*eP*	**Pb**	**17 39 25.1**	**-0.2**
ESAO	**Su ao**	**1.89**	**28**	*i* P	**Pb**	**17 39 25.7**	**+0.4**
ESAO				*i* S	**Sb**	**17 39 49.4**	**+0.6**
TWC	**Suao**	**1.92**	**28**	*i* P	**Pb**	**17 39 26.2**	**+0.4**
TWC				*i* S	**Sb**	**17 39 50.4**	**+0.7**
TWE	**Neicheng**	**1.95**	**22**	P	**Pb**	**17 39 27.1**	**+0.7**
NWLT	**Wulai**	**1.95**	**17**	*eP*	**Pb**	**17 39 26.9**	**+0.4**
FUSB	**Fushanzhiwuyua**	**1.96**	**19**	P	**Pb**	**17 39 27.0**	**+0.4**
FUSB				S	**Sb**	**17 39 53.1**	**+2.2**
NHDH	**Xindian Distri**	**2.14**	**16**	*eP*	**Pb**	**17 39 29.9**	**+0.3**
TIPB	**Shuangxi**	**2.24**	**23**	*eP*	**Pb**	**17 39 30.3**	**-1.0**
TWS1	**Kuangyinshan**	**2.24**	**13**	*eP*	**Pb**	**17 39 31.8**	**+0.4**
YM01	**YM01**	**2.32**	**16**	*eP*	**Pb**	**17 39 32.8**	**0.0**
TWB1	**Santiao Chiao**	**2.33**	**26**	*eP*	**Pb**	**17 39 32.7**	**-0.2**
ZUZH	**Zhuzihu**	**2.33**	**15**	*eP*	**Pb**	**17 39 32.3**	**-0.6**
ANP	**Anpu**	**2.35**	**15**	*eP*	**Pb**	**17 39 33.7**	**+0.5**
SXI1	**Grass Mountain**	**2.37**	**23**	*eP*	**Pb**	**17 39 32.5**	**-1.0**
YM08	**YM08**	**2.37**	**16**	*eP*	**Pn**	**17 39 31.0**	**+1.5**
JYNG	**Yonagunijimaku**	**2.45**	**51**	*eP*	**Pb**	**17 39 32.9**	**-2.0**
JYNG				*eS*	**Sn**	**17 40 00.4**	**0.0**
TWY	**Chenhua**	**2.45**	**16**	*eP*	**Pb**	**17 39 33.4**	**-1.5**
YOJ	**Yonaguni jima**	**2.50**	**51**	P	**Pn**	**17 39 32.1**	**+0.8**
YOJ	**Yonaguni jima**	**2.50**	**51**	*eP*	**Pn**	**17 39 32.9**	**+1.5**
YOJ				*eS*	**Sn**	**17 40 02.1**	**+0.4**
YOJ	**Yonaguni jima**	**2.50**	**51**	*eP*	**Pn**	**17 39 31.1**	**-0.2**
PTMZ	**Houxiangcun**	**2.66**	**323**	*eP*	**Pn**	**17 39 34.3**	**+0.8**
KNMB	**Chin-men Tao**	**2.75**	**305**	*eP*	**Pn**	**17 39 36.1**	**+1.3**
IRIF	**Iriomote-Funau**	**2.98**	**61**	*eP*	**Pn**	**17 39 39.9**	**+1.9**
IRIF				*eS*	**Sn**	**17 40 14.3**	**+0.7**
DSXP	**Dongshan**	**3.27**	**285**	*eP*	**Pb**	**17 39 45.6**	**-3.2**
JIJ	**Ishigaki jima**	**3.33**	**64**	*eP*	**Pn**	**17 39 43.5**	**+0.7**
JISG	**Ishigakijimahi**	**3.57**	**61**	*eP*	**Pn**	**17 39 46.8**	**+0.7**
JISG				*eS*	**Sn**	**17 40 26.4**	**-1.7**
MHZQ	**Yeshan**	**3.60**	**333**	*eP*	**Pn**	**17 39 47.1**	**+0.7**

IDC ***22*** *17:45:16.9±0.4,40.′61N×143.′48E,h0km,mb4.6/36, mbtmp4.6/45,ML4.4/9,MS5.0/70,Error ellipse: s-maj=11.6km s-min=9.8km az=144.0*

MOS ***22*** *17:45:16.9±1.2,40.′68N×143.′60E,h9km,mb5.4/47, MS5.6/18,Error ellipse: s-maj=5.7km s-min=3.7km az=110.3*

NIED ***22*** *17:45:17.8,40.′55N×143.′85E,h57km,MW5.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; Mrr0.57; Mθθ0.96; Mφφ-1.53; Mrθ0.77; Mθφ-0.51; Mφr0.70; Fault plane solution: M0 1.74000×10^17 NP1: φs149.00000°,δ48.00000°,λ16.00000°. NP2:φs48.00000°, δ78.00000°,λ137.00000°.*

BJI ***22*** *17:45:17.0,40.′64N×143.′55E,h11km,mB5.5/75,mb5.2/86, Ms5.7/98,Ms7 5.6/95*

JMA ***22*** *17:45:17.8±0.1,40.′6N±0.′6×143.′9E±0.′8,h57km,MD5.6/27, MW5.4/27,FAR E OFF SANRIKU*

JMA Felt II J1 at FAR E OFF SANRIKU .

NEIC ***22*** *17:45:18.1±1.8,40.′66N±0.′06×143.′7E±0.′1,h10km±1km, mb5.2/326,Mww5.4/28,Error ellipse: s-maj=13.6km s-min=10.0km az=111.0*

NEIC ***22*** *17:45:18.1,40.′56N×144.′10E,h14km,Moment Tensor Solution. Duration: 2§5 Moment tensor: Scale 10^17Nm; Mrr0.85; Mθθ-0.08; Mφφ-0.78; Mrθ0.51; Mθφ-0.33; Mφr1.08; Fault plane solution: M0 1.48000×10^17 NP1: φs198.19000°,δ18.26000°,λ84.02000°. NP2:φs24.49000°, δ71.85000°,λ91.97000°. Principal axes: T 1.4600, Plg63.0000°, Azm298.0000°; N 0.0487, Plg2.0000°, Azm204.0000°; P -1.5087, Plg27.0000°, Azm113.0000°;*

NEIC ***22*** *17:45:18.1,40.′66N×143.′70E,h14km*

GCMT ***22*** *17:45:23.1±0.1,40.′54N±0.′01×143.′90E±0.′01,h14km, MW5.4/150,Moment Tensor Solution. s111,c199; s150,c310; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr1.02±.02; Mθθ-0.07±.01; Mφφ-0.94±.01; Mrθ0.67±.03; Mθφ-0.34±.01; Mφr1.05±.04; Best double couple: M0 1.62200×10^17 NP1:φs189.00000°,δ21.00000°, λ71.00000°. NP2:φs29.00000°,δ70.00000°,λ97.00000°. Principal axes: T 1.6180, Plg64.0000°, Azm311.0000°; N 0.0120, Plg7.0000°, Azm207.0000°; P -1.6270, Plg25.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 17:45:18.8±0.5,**40.′62N**±0.′03×**143.′77E**±0.′03,**h16**km±2km, **h16**km:**pP-P,n1155,**σ1§**73**/1024,**mb5.2**/297,**MS5.4**/120, **48C-43D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.47**	**342**		**Pn**	**17 45 43.1**	**-1.5**
ERM	**Erimo**	**1.47**	**342**	P	**Pb**	**17 45 45.3**	**-0.5**
ERM	**Erimo**	**1.47**	**342**	*ceP*	**Pn**	**17 45 44.2**	**-0.4**
ERM				pmax	pmax		
comp=Z,2μm,1.7s							
JEM	**Erimo**	**1.47**	**342**	P	**Pb**	**17 45 45.3**	**-0.5**
JEM	**Erimo**	**1.47**	**342**	*eP*	**Pn**	**17 45 43.6**	**-1.1**
JEM				*eS*	**Sn**	**17 46 02.4**	**-1.2**
JEM	**Erimo**	**1.47**	**342**	A	A	17 45 43.6	
comp=N,88nm,3.4s,comp=E,111nm,5.1s							
JTH	**Tanohata**	**1.61**	**246**	P	**Pn**	**17 45 44.9**	**-1.7**
JTH				*eS*	**Sn**	**17 46 04.9**	**-2.1**
JTH	**Tanohata**	**1.61**	**246**	A	A	17 45 44.9	
comp=N,84nm,4.4s,comp=E,98nm,1.4s							
JKEN	**Kujiedanarisaw**	**1.63**	**256**	P	**Pn**	**17 45 44.9**	**-1.9**
JKEN				*eS*	**Sn**	**17 46 05.5**	**-1.9**
JKEN	**Kujiedanarisaw**	**1.63**	**256**	A	A	17 45 44.9	
comp=N,135nm,8.3s,comp=E,119nm,1.0s							
JTHR	**Tokachihiroo**	**1.71**	**348**	P	**Pn**	**17 45 46.8**	**-1.1**
JTHR				*eS*	**Sn**	**17 46 08.8**	**-0.6**
JTHR	**Tokachihiroo**	**1.71**	**348**	A	A	17 45 46.8	
comp=N,69nm,4.8s,comp=E,110nm,2.0s							
JANG	**Nango**	**1.74**	**263**	P	**Pn**	**17 45 47.0**	**-1.3**
JANG	**Nango**	**1.74**	**263**	A	A	17 45 47.0	
comp=N,70nm,5.9s,comp=E,71nm,7.8s							
MIYJ	**Miyakonagasawa**	**1.82**	**236**	A	A	17 45 47.6	
comp=N,43nm,6.5s,comp=E,54nm,5.6s							
JNBK	**Urakawa-nobuka**	**1.83**	**336**	P	**Pn**	**17 45 49.0**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.83**	**336**	A	A	17 45 49.0	
comp=N,136nm,7.3s,comp=E,144nm,3.0s							
JARK	**Aomorirokkasho**	**1.87**	**283**	A	A	17 45 49.1	
comp=N,71nm,5.3s,comp=E,63nm,3.6s							
JAHD	**Aomorihigashid**	**1.96**	**290**	A	A	17 45 50.4	
comp=N,160nm,1.1s,comp=E,119nm,0.9s							
JKZ	**Kuzumaki**	**1.97**	**252**	A	A	17 45 50.1	
comp=N,61nm,8.2s,comp=E,65nm,4.3s							
JCH	**Churui**	**2.02**	**351**	P	**Pn**	**17 45 50.9**	**-1.3**
JCH				*eS*	**Sn**	**17 46 15.9**	**-1.1**
JCH	**Churui**	**2.02**	**351**	A	A	17 45 50.9	
comp=N,64nm,3.0s,comp=E,109nm,5.3s							
JSHD	**Hidakashinhida**	**2.04**	**332**	A	A	17 45 51.8	
comp=N,166nm,4.4s,comp=E,174nm,2.6s							
JTM	**Tenmabayashi**	**2.06**	**276**		**Pn**	**17 45 51.8**	**-0.9**
JTM	**Tenmabayashi**	**2.06**	**276**	P	**Pn**	**17 45 53.3**	**+0.5**
JTM	**Tenmabayashi**	**2.06**	**276**	A	A	17 45 51.8	
comp=N,87nm,3.8s,comp=E,81nm,4.1s							
JOT	**Ohata**	**2.20**	**291**	P	**Pn**	**17 45 54.4**	**-0.2**
JOT	**Ohata**	**2.20**	**291**	A	A	17 45 54.4	
comp=N,59nm,2.7s,comp=E,46nm,1.8s							
JOM	**Ohasama**	**2.22**	**240**	P	**Pn**	**17 45 54.2**	**-0.8**
JOM	**Ohasama**	**2.22**	**240**	A	A	17 45 54.2	
comp=N,67nm,3.0s,comp=E,62nm,5.6s							
OFUJ	**Ofunato**	**2.23**	**227**	A	A	17 45 53.2	
comp=N,38nm,3.8s,comp=E,56nm,5.6s							
JOB	**Onbets**	**2.29**	**1**	A	A	17 45 55.0	
comp=N,122nm,2.5s,comp=E,77nm,3.9s							
JSZI	**Iwateshizukuis**	**2.33**	**249**	A	A	17 45 55.1	
comp=N,227nm,1.5

comp=N,7μm,0.6s
JYAR Yonezawaarcadi 3.90 227 A A 17 46 16.7
comp=N,78nm,1.2s,comp=E,66nm,1.1s
JFK Kawauchi 3.95 216 A A 17 46 17.2
comp=N,14nm,9.3s,comp=E,18nm,6.9s
SHO Shikotan 3.96 34 *d i* P **Pn 17 46 16.5 -2.4**
SHO *i* S **Sn 17 47 00.9 -4.1**
SHO pmax pmax
comp=Z,143nm,0.3s
SHO pmax pmax
comp=N,49nm,0.2s
SHO smax smax
comp=N,2μm,0.5s
SHO smax smax
comp=E,2μm,0.3s
JSS Shosan 4.04 340 A A 17 46 19.9
comp=N,53nm,6.2s,comp=E,57nm,3.8s
JOTO OTAMA OYAMA 4.06 222 A A 17 46 18.8
comp=N,38nm,4.4s,comp=E,28nm,1.1s
ONAJ Iwakimizuishiy 4.21 214 A A 17 46 20.7
comp=N,15nm,5.0s,comp=E,24nm,4.9s
JFFD Fukushimafurud 4.32 216 A A 17 46 22.4
comp=N,15nm,7.5s,comp=E,16nm,5.5s
JSE Soyaes 4.43 349 A A 17 46 25.2
comp=N,14nm,3.4s,comp=E,20nm,5.7s
JNS Sasagawa 4.45 233 A A 17 46 24.5
comp=N,26nm,6.8s,comp=E,21nm,9.1s
JFY Yanaizu 4.51 226 A A 17 46 25.1
comp=N,17nm,5.0s,comp=E,22nm,7.9s
JSB Shiboa 4.73 221 A A 17 46 28.1
comp=N,37nm,6.0s,comp=E,46nm,4.0s
JSD Sado 4.99 241 **Pn 17 46 32.5 -0.5**
JSD Sado 4.99 241 P **Pn 17 46 34.1 +1.1**
JSD Sado 4.99 241 A A 17 46 32.2
comp=N,17nm,6.8s,comp=E,13nm,8.0s
JIZZ Izumozaki 5.00 234 A A 17 46 32.2
comp=N,71nm,3.8s,comp=E,79nm,5.2s
JUON Uonuma 5.01 229 A A 17 46 32.3
comp=N,22nm,6.9s,comp=E,19nm,5.0s
JAG Ashikaga 5.38 220 A A 17 46 37.3
comp=N,12nm,6.2s,comp=E,14nm,4.5s
KUR Kuril'sk 5.50 32 *c i* P **Pn 17 46 38.9 -1.1**
KUR *e*S **Sn 17 47 38.7 -4.3**
KUR pmax pmax
comp=Z,1μm,0.7s
KUR pmax pmax
comp=E,339nm,0.6s
KUR pmax pmax
comp=N,296nm,0.5s
KUR pmax pmax
comp=Z,3μm,3.1s
KUR smax smax
comp=N,2μm,0.6s
KUR smax smax
comp=N,15μm,8.4s
KUR smax smax
comp=E,9μm,9.0s
JJN Nakama 5.61 233 A A 17 46 40.7
comp=N,30nm,6.3s,comp=E,27nm,6.4s
JGK Kuni 5.71 226 A A 17 46 41.9
comp=N,29nm,6.8s,comp=E,21nm,4.6s
MJAR Matsushiro Arr 5.96 229 Pn **Pn 17 46 45.1 -1.3**
comp=E,1.5nm,0.3s,baz=35,slow=11,SNR=70
MJAR LR LR 17 49 35.3
comp=E,14μm,18.1s,baz=202,slow=45
comp=E,37nm,0.7s
MJB9 Matsu-Tunnel 5.96 229 **Pn 17 46 47.0 +0.6**
MAJO Matsushiro 5.96 229 **Pn 17 46 46.4 0.0**
MAJO Matsushiro 5.96 229 P **Pn 17 46 46.6 +0.2**
MAJO Matsushiro 5.96 229 P **Pn 17 46 46.4 0.0**
YSS Yuzhno-Sakhali 6.38 354 **Pn 17 46 52.0 0.0**
YSS Yuzhno-Sakhali 6.38 354 P **Pn 17 46 52.8 +0.8**
YSS Yuzhno-Sakhali 6.38 354 *e*P **Pn 17 46 52.8 +0.8**
YSS *e*S **Sn 17 48 07.1 +2.6**
YSS pmax pmax
comp=Z,1μm,6.5s
YSS smax smax
comp=N,240nm,1.0s
YSS smax smax
comp=E,200nm,0.7s
YSS MLR MLR
comp=Z,23μm,12.0s
YSS MLR MLR
comp=N,29μm,13.0s
YSS MLR MLR
comp=E,24μm,14.0s
TEY Ternei 6.88 312⇑ *e*P **Pn 17 46 59.1 +0.3**
TEY pmax pmax
comp=E,30nm,1.4s
TEY pmax pmax
comp=N,30nm,1.3s
TEY pmax pmax
comp=Z,40nm,1.4s
TEY MLR MLR
comp=E,600nm,12.0s
TEY MLR MLR
comp=N,1μm,13.0s
TEY MLR MLR
comp=Z,1μm,14.0s
JGF Kuroka 7.12 227 **Pn 17 47 02.3 +0.1**
JGF Kuroka 7.12 227 P **Pn 17 47 03.8 +1.5**
JSG Sagara 7.40 219 **Pn 17 47 06.1 -0.1**
JSG Sagara 7.40 219 P **Pn 17 47 07.0 +0.9**
INU Inuyama 7.49 228 **Pn 17 47 06.8 -0.6**
INU Inuyama 7.49 228 P **Pn 17 47 08.5 +1.2**
JHJ2 Mitsune 8.13 204 **Pn 17 47 13.9 -2.2**
JHJ2 Mitsune 8.13 204 P **Pn 17 47 15.6 -0.6**
JHJ Hachijo jima 2 8.14 204 Pn **Pn 17 47 13.6 -2.6**
comp=Z,29nm,0.3s,baz=71,slow=21,SNR=30
JHJ Sn **Sn 17 48 40.8 -7.1**
comp=Z,49nm,0.3s,baz=94,slow=22,SNR=5.8
JHJ LR LR 17 50 13.3
comp=Z,5μm,21.3s,baz=55,slow=37
comp=Z,86nm,0.4s
UGL Uglegorsk 8.55 352 *e*P **Pn 17 47 22.7 +0.9**
UGL *e*S **Sn 17 48 57.3 -0.5**
UGL pmax pmax
comp=Z,100nm,0.9s
UGL pmax pmax
comp=Z,2μm,10.0s
UGL smax smax
comp=E,4μm,3.6s
UGL smax smax
comp=N,3μm,9.0s
UGL MLR MLR
comp=E,22μm,14.0s
UGL MLR MLR
comp=N,14μm,13.0s
UGL MLR MLR
comp=Z,17μm,14.0s
USA0B Ussuriysk Arra 9.42 296 **Pn 17 47 32.5 -1.3**
USA0B Ussuriysk Arra 9.42 296 *i* P **Pn 17 47 34.7 +0.9**
USRK Ussuriysk Ar. 9.42 296 **Pn 17 47 34.4 +0.6**
USRK Ussuriysk Ar. 9.42 296 Pn **Pn 17 47 32.6 -1.2**
comp=Z,2.0nm,0.3s,baz=102,slow=14,SNR=39
USRK LR LR 17 51 26.1
comp=Z,9μm,18.1s,baz=104,slow=40
comp=Z,13nm,0.8s
USRK Ussuriysk Ar. 9.42 296 P **Pn 17 47 34.4 +0.6**
PSTR Posyet 9.92 286 *i* P **Pn 17 47 42.3 +1.7**
TYV Tymovskoe 10.28 356 *e*P **Pn 17 47 47.7 +2.2**
TYV *e*S **Sn 17 49 46.7 +6.4**
TYV pmax pmax
comp=Z,1μm,7.5s
TYV pmax pmax
comp=Z,68nm,1.0s
TYV smax smax
comp=N,51nm,1.6s
TYV smax smax
comp=N,2μm,6.4s
TYV smax smax
comp=E,3μm,6.4s
TYV MLR MLR
comp=Z,33μm,16.0s
TYV MLR MLR
comp=N,29μm,14.0s
JMN Monobe 10.46 232 **Pn 17 47 48.3 +0.2**
JMN Monobe 10.46 232 P **Pn 17 47 51.1 +3.0**
MDJ Mudanjiang 11.19 296 **Pn 17 47 58.6 +0.7**
MDJ Mudanjiang 11.19 296 P **Pn 17 47 59.4 +1.4**
MDJ PP **PnPn 17 48 11.0 +5.5**
MDJ pmax pmax
comp=N,13nm,0.9s
MDJ LR LR
comp=N,8μm,13.5s
MDJ LR LR
comp=N,14μm,14.0s
MDJ LR LR
comp=N,20μm,13.8s
MDJ Mudanjiang 11.19 296 P **Pn 17 48 00.8 +2.8**
GRNR Gornyy 11.37 336⇑ *i* P **Pn 17 48 00.7 +0.2**
GRNR pmax pmax
comp=E,2.0nm,0.8s
GRNR pmax pmax
comp=N,6.0nm,1.1s
GRNR pmax pmax
comp=Z,5.0nm,1.1s
GRNR MLR MLR
comp=E,10μm,15.0s
GRNR MLR MLR
comp=N,7μm,19.0s
GRNR MLR MLR
comp=Z,9μm,16.0s
KLR Kul'dur 12.10 319 Pn **Pn 17 48 10.2 -0.2**
comp=Z,0.6nm,0.3s,baz=131,slow=12,SNR=55
KLR LR LR 17 53 01.9
comp=Z,5μm,19.2s,baz=136,slow=39
comp=Z,19nm,1.1s
KLR Kul'dur 12.10 319 *e*P **Pn 17 48 09.0 -1.4**
KLR pmax pmax
comp=Z,110nm,1.6s
NKL Nikolayevsk 12.71 352 *e*P **Pn 17 48 17.1 -1.6**
NKL *e*S **Sn 17 50 37.2 -2.6**
NKL pmax pmax
comp=N,22nm,0.9s
NKL pmax pmax
comp=E,69nm,1.3s
NKL pmax pmax
comp=Z,91nm,1.3s
NKL smax smax
comp=E,368nm,5.8s
NKL smax smax
comp=N,628nm,6.2s
NKL MLR MLR
comp=N,20μm,16.0s
NKL MLR MLR
comp=E,53μm,16.0s
NKL MLR MLR
comp=Z,56μm,16.0s
KSRS Korea Array 12.72 261 Pn **Pn 17 48 18.2 -0.8**
comp=Z,0.5nm,0.3s,baz=73,slow=12,SNR=19
KSRS LR LR 17 53 02.8
comp=Z,12μm,18.0s,baz=75,slow=37
comp=Z,5.8nm,0.9s
JNU Nakatsue 12.74 238 **Pn 17 48 17.9 -1.4**
JNU Nakatsue 12.74 238 Pn **Pn 17 48 17.4 -1.9**
comp=Z,0.8nm,0.3s,baz=87,slow=5.4,SNR=13
JNU LR LR 17 53 31.1
comp=Z,11μm,20.1s,baz=42,slow=39
comp=Z,6.0nm,0.6s
JNU Nakatsue 12.74 238 P **Pn 17 48 19.0 -0.3**
KS19 Wonju Array Si 12.75 261 **Pn 17 48 19.1 -0.2**
KSAR Wonju Array Be 12.76 261 **Pn 17 48 19.4 0.0**
KSAR Wonju Array Be 12.76 261 P **Pn 17 48 19.4 0.0**
JTU Tsushima 12.92 246 P **Pn 17 48 24.5 +2.9**
OKH Okha 12.95 358 *c i* P Pn 17 48 15.9 -6.1
OKH *i* S **Sn 17 50 47.6 +1.9**
OKH pmax pmax
comp=Z,700nm,13.9s
OKH smax smax
comp=E,1μm,17.0s
OKH smax smax
comp=N,700nm,13.7s
OKH MLR MLR
comp=N,21μm,18.0s
OKH MLR MLR
comp=E,26μm,16.0s
OKH MLR MLR
comp=Z,13μm,16.0s
BNX BinXian 12.99 299 ⇓P **Pn 17 48 22.9 +0.3**
BNX S **Sn 17 50 50.4 +3.6**
BNX pmax pmax
comp=Z,75nm,1.6s
BNX pmax pmax
comp=Z,3μm,8.7s
BNX LR LR
comp=Z,11μm,15.5s
BNX LR LR
comp=Z,7μm,17.9s
BNX LR LR
comp=Z,13μm,13.6s
SKR Severo-Kuril's 13.24 36 *e*P **Pn 17 48 23.9 -2.1**
SKR *e*S **Sn 17 50 58.1 +5.3**
SKR pmax pmax
comp=Z,100nm,4.3s
SKR pmax pmax
comp=Z,115nm,0.5s
SKR MLR MLR
comp=Z,10μm,15.0s
TJN Taejon 13.53 257 **Pn 17 48 27.9 -2.1**
TJN Taejon 13.53 257 *i* P **Pn 17 48 31.0 +1.0**
JCJ Chichijima 13.55 186 Pn **Pn 17 48 25.9 -4.4**
comp=Z,17nm,0.3s,baz=278,slow=13,SNR=9.4
JCJ Sn Sn 17 50 47.2 -13
comp=Z,8.9nm,0.3s,baz=297,slow=24,SNR=1.7
JCJ LR LR 17 53 19.7
comp=Z,2μm,21.9s,baz=10,slow=36
JCJ Chichijima 13.55 186 P **Pn 17 48 30.8 +0.5**
INCN Inchon 13.69 262 Pn **Pn 17 48 31.6 -0.5**
INCN Inchon 13.69 262 P **Pn 17 48 31.6 -0.5**
CN2 Changchun 13.95 289 P **Pn 17 48 36.0 +0.3**
CN2 S **Sn 17 51 12.4 +2.2**
CN2 pmax pmax
comp=Z,40nm,1.3s
CN2 pmax pmax
comp=Z,2μm,10.0s
CN2 LR LR
comp=Z,10μm,14.0s
CN2 LR LR
comp=Z,20μm,14.0s
CN2 LR LR
comp=Z,24μm,14.0s
HEH HeiHe 14.96 316 *e*P **Pn 17 48 46.8 -2.6**
HEH pmax pmax
comp=Z,20nm,2.0s
HEH LR LR
comp=Z,8μm,14.6s
HEH LR LR
comp=Z,13μm,13.2s
HEH LR LR
comp=Z,18μm,13.6s
SNY Shenyang 15.25 281 ⇓P **Pn 17 48 53.5 +0.2**
SNY S **Sn 17 51 37.8 -4.0**
SNY pmax pmax
comp=Z,79nm,1.3s
SNY pmax pmax
comp=Z,3μm,11.6s
SNY LR LR
comp=Z,9μm,13.1s
SNY LR LR
comp=Z,12μm,13.6s
SNY LR LR
comp=Z,16μm,13.5s
PEA0B Petropavlovsk- 15.67 32 **Pn 17 48 55.7 -3.1**
PEA0B Petropavlovsk- 15.67 32 *i* P **Pn 17 49 00.3 +1.5**
PETK Petropavlovsk- 15.67 32 **Pn 17 48 54.9 -3.9**
PETK Petropavlovsk- 15.67 32 Pn **Pn 17 48 55.5 -3.3**
comp=Z,0.3nm,0.3s,baz=197,slow=14,SNR=7.6
PETK LR LR 17 54 42.4
comp=Z,4μm,20.7s,baz=214,slow=36
PET Petropavlovsk 16.01 34 *c i* P **P 17 49 11.8 +5.3**
PET *e*S **Sn 17 52 00.1 -0.1**
PET pmax pmax
comp=Z,200nm,8.5s
PET pmax pmax
comp=Z,300nm,10.8s
PET MLR MLR
comp=Z,5μm,14.0s
DL2 Dalian 17.11 271 P **Pn 17 49 16.0 -1.2**
DL2 pmax pmax
comp=Z,220nm,1.3s
DL2 pmax pmax
comp=Z,2μm,6.1s
DL2 LR LR
comp=Z,8μm,13.3s
DL2 LR LR
comp=Z,8μm,13.7s
DL2 LR LR
comp=Z,11μm,14.1s
JOW Kunigami 18.81 228 P **P 17 49 34.4 -3.2**
JOW Kunigami 18.81 228 P **P 17 49 36.0 -1.7**
comp=Z,3.2nm,0.3s,baz=33,slow=13,SNR=4.8
comp=Z,13nm,0.6s
HIA Hailar 19.02 305 P **Pn 17 49 40.9 +0.3**
MA2 Magadan 19.48 11 P **P 17 49 42.0 -2.7**
MA2 Magadan 19.48 11 P **P 17 49 44.2 -0.6**
comp=Z,0.5nm,0.3s,baz=170,slow=16,SNR=3.2
MA2 LR LR 17 58 32.2
comp=Z,5μm,18.1s,baz=197,slow=41
comp=Z,9.4nm,0.8s
MA2 Magadan 19.48 11 P **P 17 49 44.5 -0.3**
MA2 Magadan 19.48 11 *i* P **Pn 17 49 46.0 0.0**
MA2 pmax pmax
comp=Z,22nm,0.7s
MA2 Magadan 19.48 11 P **P 17 49 44.8 0.0**
comp=Z,61nm,1.7s
SSE Sheshan 20.58 250 P **P 17 49 55.3 -1.6**
SSE S **S 17 53 43.3 -3.1**
SSE pmax pmax
comp=Z,590nm,10.6s
SSE LR LR
comp=Z,5μm,13.6s
SSE LR LR
comp=Z,2μm,13.6s
XLT XiLinHaoTe 20.72 288 *e*P **P 17 49 56.8 -1.7**
XLT S **S 17 53 42.0 -7.3**
XLT pmax pmax
comp=Z,38nm,1.9s
XLT LR LR
comp=Z,7μm,14.9s
XLT LR LR
comp=Z,8μm,15.2s
BJI Beijing 21.02 277 P **P 17 49 59.8 -1.8**
BJI S **S 17 53 51.8 -3.3**
BJI pmax pmax
comp=Z,670nm,8.3s
BJI LR LR
comp=Z,3μm,13.2s
BJI LR LR
comp=Z,5μm,12.3s
BJI LR LR
comp=Z,6μm,12.8s
BJT Baijiatuau 21.03 277 IAmb IAmb 17 50 18.1
comp=Z,73nm,0.9s
TIA Tai'an 21.31 267 P **P 17 50 01.8 -3.0**
TIA PP **PnPn 17 50 24.1 -0.3**
TIA S **S 17 53 54.8 -6.1**
TIA pmax pmax
comp=Z,820nm,4.9s
TIA LR LR
comp=Z,7μm,12.5s
TIA LR LR
comp=Z,10μm,11.7s
TIA LR LR
comp=Z,11μm,11.8s
NJ2 Nanjing 21.77 255 *e*P **P 17 50 08.1 -1.6**
NJ2 pP **pP 17 50 12.0 -1.6**
NJ2 sP **sP 17 50 14.0 -1.2**
NJ2 pmax pmax
comp=Z,16nm,0.7s
NJ2 pmax pmax
comp=Z,410nm,4.1s
NJ2 LR LR
comp=Z,8μm,14.2s
NJ2 LR LR
comp=Z,13μm,16.1s
NJ2 LR LR
comp=Z,13μm,17.1s
JMJ Miyako jima 2 22.07 230 P **P 17 50 16.4 +3.4**
HNS HongShan 22.77 271 ⇓P **P 17 50 16.9 -3.5**
HNS S **S 17 54 21.8 -6.8**
HNS pmax pmax
comp=Z,34nm,1.3s
HNS LR LR
comp=Z,4μm,13.9s
HNS LR LR
comp=Z,6μm,14.6s
HNS LR LR
comp=Z,6μm,16.5s
SEY Seymchan 22.93 10 LR LR 18 00 42.2
comp=Z,6μm,18.6s,baz=194,slow=40
SEY Seymchan 22.93 10 *c e* P **P 17 50 20.7 -1.2**
SEY pmax pmax
comp=Z,49nm,0.8s
YAK Yakutsk 23.08 343 **P 17 50 19.2 -4.2**
YAK Yakutsk 23.08 343 S **S 17 54 27.2 -6.3**
comp=Z,23nm,0.9s,baz=9.0,slow=8.7,SNR=11
YAK LR LR 18 00 45.3
comp=Z,10μm,18.2s,baz=144,slow=40
YAK Yakutsk 23.08 343 *e*P **P 17 50 19.0 -4.3**
YAK *e**PP **pP 17 50 22.5 -4.7**
YAK *e* 17 50 45.3
YAK *e*S **S 17 54 26.7 -6.8**
YAK *e**SS **pS 17 54 33.9 -3.3**
YAK *e*SSS SSS 17 55 16.2
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,125nm,0.9s
YAK pmax pmax
comp=N,79nm,1.3s
YAK smax smax
comp=E,671nm,2.8s
YAK smax smax
comp=N,413nm,1.6s
YAK MLR MLR
comp=Z,14μm,15.0s
YAK MLR MLR
comp=N,5μm,14.0s
YAK MLR MLR
comp=E,6μm,14.0s
CIT Chita 23.61 309 *e*P **P 17 50 25.8 -3.0**
CIT *e* 17 50 55.6
CIT *e* 17 51 08.4
CIT *e* 17 54 22.0
CIT *e*S **S 17 54 40.8 -1.7**
CIT pmax pmax
comp=Z,499nm,2.5s
YOJ Yonaguni jima 23.70 233 P **P 17 50 31.5 +1.7**
SHEM Shemya Is, Ala 23.88 49 P **P 17 50 33.6 +2.3**
comp=Z,60nm,0.9s,baz=133,slow=9.2,SNR=7.8
SHEM LR LR 18 00 52.2
comp=Z,630nm,20.1s,baz=266,slow=39
comp=Z,60nm,0.9s
TATO Taipei 24.28 237 P **P 17 50 34.6 -0.7**
TATO IAmb IAmb 17 50 42.8
comp=Z,54nm,0.8s
TATO Taipei 24.28 237 P **P 17 50 37.5 +2.2**
HHC Hu-ho-hao-te 24.34 281 *e*P **P 17 50 34.5 -1.4**
HHC sP pwP 17 50 46.4 +2.8
HHC S **S 17 54 50.0 -4.5**
HHC sS pS 17 54 55.4 -3.7
HHC pmax pmax
comp=Z,1μm,6.6s
HHC LR LR
comp=Z,3μm,12.7s
HHC LR LR
comp=Z,9μm,14.8s
HHC LR LR
comp=Z,14μm,14.1s
TIY Taiyuan 24.41 273 *e*P **P 17 50 39.5 +3.0**
TIY S **S 17 54 52.8 -2.8**
TIY pmax pmax
comp=Z,30nm,1.0s
TIY pmax pmax
comp=Z,1μm,7.8s
TIY LR LR
comp=Z,6μm,12.4s
TIY LR LR
comp=Z,4μm,13.4s
TIY LR LR
comp=Z,4μm,15.1s
YHNB Yeheng 24.57 236 P **P 17 50 38.5 +0.4**
YHNB IAmb IAmb 17 51 08.8
comp=Z,39nm,0.8s
LYN LuoYang 25.45 266 P **P 17 50 44.8 -1.1**
LYN pP pP 17 50 47.1 -2.8
LYN S **S 17 55 10.8 -1.5**
LYN sS pS 17 55 15.0 -2.0
LYN pmax pmax
comp=Z,100nm,1.0s
LYN pmax pmax
comp=Z,2μm,7.1s
LYN LR LR
comp=Z,10μm,14.4s
LYN LR LR

	comp=Z,16μm,13.4s					
LYN				LR	LR	
	comp=Z,27μm,13.1s					
SSLB	**Suanglung**	**25.47**	**236**		**P**	**17 50 47.3 +1.1**
SSLB				IAmb	IAmb	17 51 22.2
	comp=Z,88nm,1.6s					
BTO	**Baotou**	**25.54**	**281**	*e*P	**P**	**17 50 47.5 +0.8**
BTO				pP	**sP**	**17 50 51.8 -0.6**
BTO				sP	**pwP**	**17 50 54.8 +0.4**
BTO				PP	**PnPn**	**17 51 25.8 +3.4**
BTO				SS		17 56 14.6
BTO				pmax	pmax	
	comp=Z,70nm,1.4s					
BTO				pmax	pmax	
	comp=Z,3μm,8.1s					
BTO				LR	LR	
	comp=Z,11μm,12.4s					
BTO				LR	LR	
	comp=Z,18μm,15.2s					
BTO				LR	LR	
	comp=Z,18μm,15.7s					
YULB	**Yu-li**	**25.54**	**235**	P	**P**	**17 50 44.2 -2.6**
YULB				IAmb	IAmb	17 51 19.8
	comp=Z,27nm,0.7s					
YULB	**Yu-li**	**25.54**	**235**	P	**P**	**17 50 48.1 +1.3**
BOD	**Bodaibo**	**25.66**	**322**	*e*P	**P**	**17 50 46.7 -0.8**
BOD				pmax	pmax	
	comp=Z,149nm,1.4s					
WHN	**Wuhan**	**25.85**	**256**	P	**P**	**17 50 50.3 +0.8**
WHN				S	**S**	**17 55 17.6 -1.0**
WHN				pmax	pmax	
	comp=Z,380nm,1.7s					
WHN				pmax	pmax	
	comp=Z,3μm,8.2s					
TPUB	**Ta-pu**	**26.02**	**235**		**P**	**17 50 49.0 -2.2**
TPUB				IAmb	IAmb	17 51 21.6
	comp=Z,56nm,1.0s					
TPUB	**Ta-pu**	**26.02**	**235**	P	**P**	**17 50 54.7 +3.5**
TWG	**Pinlang**	**26.10**	**234**	IAmb	IAmb	17 51 24.4
	comp=Z,70nm,1.0s					
QZH	**Quanzhou**	**26.19**	**241**	P	**P**	**17 50 52.1 -0.5**
QZH				S	**S**	**17 55 24.1 +0.1**
QZH				pmax	pmax	
	comp=Z,55nm,0.8s					
QZH				pmax	pmax	
	comp=Z,1μm,5.8s					
QZH				LR	LR	
	comp=Z,6μm,14.6s					
QZH				LR	LR	
	comp=Z,5μm,12.0s					
QZH				LR	LR	
	comp=Z,9μm,14.0s					
GUMO	**Guam**	**26.94**	**178**	LR	LR	18 00 00.5
	comp=Z,884nm,21.5s,baz=4.0,slow=33					
ULN	**Ulaanbaatar**	**27.09**	**298**		**P**	**17 51 00.5 -0.2**
ULN				IAmb	IAmb	17 51 28.3
	comp=Z,30nm,0.8s					
ULN	**Ulaanbaatar**	**27.09**	**298**	P	**P**	**17 51 01.2 +0.4**
ULN				P	**P**	**17 51 01.2 +0.4**
ULN	**Ulaanbaatar**	**27.09**	**298**	P	**P**	**17 51 01.4 +0.6**
SONM	**Songino Array**	**27.53**	**298**		**P**	**17 51 03.9 -0.8**
SONM				IAmb	IAmb	17 51 26.1
	comp=Z,39nm,0.8s					
SONM	**Songino Array**	**27.53**	**298**	P	**P**	**17 51 04.3 -0.4**
	comp=Z,9.0nm,0.7s,baz=87,slow=7.2,SNR=25					
SONM				LR	LR	18 03 03.1
	comp=Z,5μm,18.5s,baz=90,slow=39					
	comp=Z,9.0nm,0.7s					
CNSH	**ChangSha**	**28.16**	**254**	P	**P**	**17 51 09.9 -0.4**
CNSH				S	**S**	**17 55 52.5 -2.6**
CNSH				pmax	pmax	
	comp=Z,31nm,2.0s					
CNSH				LR	LR	
	comp=Z,9μm,17.3s					
CNSH				LR	LR	
	comp=Z,10μm,15.7s					
CNSH				LR	LR	
	comp=Z,5μm,14.1s					
XAN	**Xi'an**	**28.35**	**268**	⇓P	**P**	**17 51 11.8 -0.3**
XAN				pP	pP	17 51 15.8 -0.3
XAN				S	**S**	**17 55 57.3 -0.8**
XAN				pmax	pmax	
	comp=Z,45nm,1.4s					
XAN				pmax	pmax	
	comp=Z,1μm,10.2s					
XAN				LR	LR	
	comp=Z,10μm,15.8s					
XAN				LR	LR	
	comp=Z,5μm,12.8s					
XAN				LR	LR	
	comp=Z,16μm,14.4s					
H11N2	**WAKE ISLAND Hy**	**28.70**	**130**	T	T	18 22 38.5
	baz=318,slow=75,SNR=384					
H11N1	**WAKE ISLAND Hy**	**28.71**	**130**	T	T	18 22 44.8
	baz=318,slow=75,SNR=373					
H11N3	**WAKE ISLAND Hy**	**28.72**	**130**	T	T	18 22 18.5
	baz=318,slow=75,SNR=406					
IRK	**Irkutsk**	**29.24**	**307**	*e*P	**P**	**17 51 18.6 -1.2**
IRK				pmax	pmax	
	comp=Z,90nm,1.7s					
ZAK	**Zakamensk**	**29.68**	**303**	*e*P	**P**	**17 51 23.2 -0.6**
ZAK				pmax	pmax	
	comp=Z,39nm,1.4s					
BILL	**Bilibino**	**30.07**	**17**		**P**	**17 51 25.9 -1.0**
BILL				IAmb	IAmb	17 51 48.3
	comp=Z,69nm,1.2s					
BILL	**Bilibino**	**30.07**	**17**	*ce*P	**P**	**17 51 28.4 +1.5**
BILL				pmax	pmax	
	comp=Z,36nm,1.0s					
MOY	**Mondy**	**31.20**	**305**	*e*P	**P**	**17 51 34.3 -2.9**
MOY				pmax	pmax	
	comp=Z,80nm,2.0s					
LZH	**Lanzhou**	**31.45**	**275**	P	**P**	**17 51 41.0 +1.4**
LZH				sP	pwP	17 51 50.8 +3.5
LZH				S	**S**	**17 56 48.8 +1.9**
LZH				pmax	pmax	
	comp=Z,58nm,1.7s					
LZH				pmax	pmax	
	comp=Z,850nm,7.6s					
LZH				LR	LR	
	comp=Z,9μm,12.7s					
LZH				LR	LR	
	comp=Z,4μm,14.8s					
LZH				LR	LR	
	comp=Z,8μm,14.4s					
GULI	**GuiLin**	**31.70**	**252**	P	**P**	**17 51 41.5 -0.2**
GULI				PP	**PnPn**	**17 52 46.8 +1.1**
GULI				S	**S**	**17 56 46.8 -3.9**
GULI				pmax	pmax	
	comp=Z,20nm,1.2s					
GULI				pmax	pmax	
	comp=Z,630nm,8.5s					
GULI				LR	LR	
	comp=Z,6μm,15.1s					
GULI				LR	LR	
	comp=Z,5μm,14.3s					
GULI				LR	LR	
	comp=Z,8μm,14.0s					
TIXI	**Tiksi**	**32.00**	**351**		**P**	**17 51 42.0 -1.7**
TIXI	**Tiksi**	**32.00**	**351**	LR	LR	18 06 44.1
	comp=Z,5μm,18.3s,baz=170,slow=40					
TIXI	**Tiksi**	**32.00**	**351**	P	**P**	**17 51 44.2 +0.4**
GTA	**Gaotai**	**33.43**	**283**	P	**P**	**17 51 57.0 +0.1**
GTA				sP	pwP	17 52 07.1 +2.5
GTA				PP	**PP**	**17 53 11.5 -1.0**
GTA				S	**S**	**17 57 18.3 +0.6**
GTA				sS	pS	17 57 22.8 +0.4
GTA				PcS	**PcS**	**17 58 25.0 +1.2**
GTA				ScS	**ScS**	**18 02 21.8 -1.0**
GTA				pmax	pmax	
	comp=Z,34nm,1.7s					
GTA				pmax	pmax	
	comp=Z,620nm,6.8s					
GTA				LR	LR	
	comp=Z,4μm,15.3s					
GTA				LR	LR	
	comp=Z,6μm,16.7s					
GTA				LR	LR	
	comp=Z,9μm,14.9s					
CD2	**Chengdu**	**33.64**	**266**	P	**P**	**17 51 57.8 -0.9**
CD2				PP	**PnPn**	**17 53 11.4 +1.0**
CD2				S	**S**	**17 57 23.3 +2.4**
CD2				pmax	pmax	
	comp=Z,20nm,0.7s					
CD2				pmax	pmax	
	comp=Z,810nm,3.5s					
CD2				LR	LR	
	comp=Z,9μm,14.0s					
CD2				LR	LR	
	comp=Z,9μm,12.7s					
SPIA	**Saint Paul Isl**	**33.70**	**45**	P	**P**	**17 51 58.5 -0.3**
	baz=261					
GYA	**Guiyang**	**33.74**	**257**	⇑P	**P**	**17 51 58.3 -1.4**
GYA				pP	pP	17 52 04.3 +0.6
GYA				S	**S**	**17 57 21.0 -1.6**
GYA				pmax	pmax	
	comp=Z,70nm,1.4s					
GYA				pmax	pmax	
	comp=Z,810nm,8.6s					
GYA				LR	LR	
	comp=Z,10μm,13.4s					
GYA				LR	LR	
	comp=Z,9μm,14.4s					
GYA				LR	LR	
	comp=Z,16μm,14.0s					
P08K	**Saint George I**	**33.99**	**46**	P	**P**	**17 52 01.3 -0.1**
	baz=262					
NIKH	**Nikolski High**	**34.08**	**53**	P	**P**	**17 52 03.0 +0.8**
	baz=268					
GAMB	**Gambell**	**34.71**	**33**	P	**P**	**17 52 08.4 +0.9**
	baz=250					
QIZ	**Qiongzhong**	**36.13**	**244**	P	**P**	**17 52 22.5 +2.3**
QIZ				PP	**PP**	**17 53 44.8 +2.4**
QIZ				S	**S**	**17 58 01.8 +2.5**
QIZ				pmax	pmax	
	comp=Z,490nm,13.0s					
QIZ				LR	LR	
	comp=Z,4μm,14.0s					
QIZ				LR	LR	
	comp=Z,4μm,12.8s					
QIZ				LR	LR	
	comp=Z,5μm,12.0s					
M11K	**Mekoryuk**	**36.32**	**40**	P	**P**	**17 52 22.1 +0.7**
	baz=260					
TNA	**Tin City**	**36.84**	**31**	IAmb	IAmb	17 52 52.5
	comp=Z,40nm,1.0s					
TNA	**Tin City**	**36.84**	**31**	P	**P**	**17 52 25.8 0.0**
	baz=251					
DAV	**Davao City (W)**	**37.15**	**211**	LR	LR	18 08 42.8
	comp=Z,2μm,18.6s,baz=48,slow=38					
FALS	**False Pass**	**37.33**	**49**	P	**P**	**17 52 30.1 +0.1**
	baz=270					
K13K	**Kusilvak Mount**	**37.33**	**38**	P	**P**	**17 52 30.2 +0.2**
	baz=260					
PZH	**PanZhiHua**	**37.39**	**261**	⇑P	**P**	**17 52 30.8 -0.3**
PZH				PP	**PP**	**17 53 53.4 -3.0**
PZH				S	**S**	**17 58 18.8 +0.1**
PZH				sS	**sS**	**17 58 30.8 +5.1**
PZH				pmax	pmax	
	comp=Z,80nm,1.3s					
PZH				pmax	pmax	
	comp=Z,280nm,5.4s					
PZH				LR	LR	
	comp=Z,4μm,16.9s					
PZH				LR	LR	
	comp=Z,5μm,13.7s					
PZH				LR	LR	
	comp=Z,5μm,13.9s					
KMI	**Kunming**	**37.41**	**258**	⇑P	**P**	**17 52 30.8 -0.5**
KMI				sP	pwP	17 52 42.3 +3.2
KMI				PP	**PnPn**	**17 54 00.5 +3.1**
KMI				S	**S**	**17 58 12.4 -6.8**
KMI				pmax	pmax	
	comp=Z,48nm,1.2s					
KMI				pmax	pmax	
	comp=Z,830nm,7.2s					
KMI				LR	LR	
	comp=Z,4μm,16.4s					
KMI				LR	LR	
	comp=Z,7μm,14.2s					
KMI				LR	LR	
	comp=Z,9μm,14.1s					
F14K	**Arctic Creek**	**37.44**	**32**	P	**P**	**17 52 32.0 +1.1**
	baz=253,SNR=18					
ANM	**Nome**	**37.59**	**33**	IAmb	IAmb	17 52 45.4
	comp=Z,47nm,1.2s					
ANM	**Nome**	**37.59**	**33**	P	**P**	**17 52 33.4 +1.2**
	baz=255					
M13K	**Dall Lake**	**37.72**	**40**	P	**P**	**17 52 34.6 +1.3**
	baz=263					
J14K	**Nanvaranak Lak**	**37.99**	**36**	P	**P**	**17 52 37.4 +1.9**
	baz=260					
S12K	**Black Hills**	**38.11**	**48**	P	**P**	**17 52 38.6 +2.0**
	baz=270					
L14K	**Kuka Creek**	**38.17**	**39**	P	**P**	**17 52 38.9 +1.9**
	baz=262					
F15K	**North Star Dit**	**38.18**	**32**	P	**P**	**17 52 38.9 +1.8**
	baz=255,SNR=11					
GOMU	**GeErMu**	**38.22**	**280**	P	**P**	**17 52 38.8 +0.5**
GOMU				pP	pP	17 52 41.8 -0.6
GOMU				sP	pwP	17 52 46.0 -0.1
GOMU				PP	**PP**	**17 54 01.6 -4.0**
GOMU				S	**S**	**17 58 27.3 -4.4**
GOMU				pmax	pmax	
	comp=Z,14nm,0.8s					
GOMU				LR	LR	
	comp=Z,6μm,14.0s					
GOMU				LR	LR	
	comp=Z,5μm,14.6s					
GOMU				LR	LR	
	comp=Z,6μm,14.3s					
G15K	**Niukluk**	**38.25**	**33**	P	**P**	**17 52 39.0 +1.3**
	baz=256,SNR=6.5					
M14K	**Bethel**	**38.44**	**40**	IAmb	IAmb	17 53 33.1
	comp=Z,77nm,1.1s					
M14K	**Bethel**	**38.44**	**40**	P	**P**	**17 52 40.9 +1.5**
	baz=264					
N14K	**Kuskokwak Cree**	**38.50**	**41**	P	**P**	**17 52 41.3 +1.5**
	baz=265					
O14K	**Tigyukauivet M**	**38.66**	**42**	P	**P**	**17 52 41.6 +0.3**
	baz=266					
C16K	**Lisburne Hills**	**38.68**	**28**	IAmb	IAmb	17 52 48.2
	comp=Z,41nm,0.9s					
C16K	**Lisburne Hills**	**38.68**	**28**	P	**P**	**17 52 42.2 +0.9**
	baz=251,SNR=6.0					
L15K	**Ungalak Mounta**	**38.78**	**38**	P	**P**	**17 52 43.4 +1.2**
	baz=263					
SLVN	**Son La**	**38.81**	**252**		**P**	**17 52 43.5 +0.5**
SLVN	**Son La**	**38.81**	**252**	P	**P**	**17 52 44.3 +1.3**
K15K	**Wolf Creek Mou**	**38.84**	**37**	P	**P**	**17 52 44.0 +1.3**
	baz=262					
H16K	**Elim**	**38.92**	**34**	P	**P**	**17 52 45.2 +1.9**
	baz=259					
SDPT	**Sand Point**	**39.01**	**49**	P	**P**	**17 52 44.9 +0.6**
	baz=272					
G16K	**Koyuk River**	**39.03**	**32**	P	**P**	**17 52 45.6 +1.3**
	baz=258,SNR=11					
M15K	**Kasigluk River**	**39.06**	**40**	P	**P**	**17 52 46.0 +1.5**
	baz=265,SNR=6.4					
N15K	**Kwethluk River**	**39.31**	**41**	P	**P**	**17 52 47.8 +1.1**
	baz=266					
D17K	**Noatak River**	**39.32**	**29**	P	**P**	**17 52 47.6 +1.0**
	baz=254,SNR=12					
O15K	**Ungalikthiuk R**	**39.39**	**43**	P	**P**	**17 52 47.5 +0.1**
	baz=268					
J16K	**Anvik River**	**39.40**	**36**	P	**P**	**17 52 48.3 +0.9**
	baz=262					
I17K	**Unalakleet**	**39.45**	**35**	P	**P**	**17 52 48.5 +0.7**
	baz=261					
RDOG	**Red Dog Mine**	**39.48**	**28**	P	**P**	**17 52 48.5 +0.5**
	baz=254					
S14K	**Fog Glacier**	**39.51**	**47**	P	**P**	**17 52 48.4 -0.1**
	baz=271					
CHNA	**Chernabura Isl**	**39.55**	**49**	P	**P**	**17 52 49.7 +1.1**
	baz=273					
E17K	**Hotham Inlet**	**39.63**	**30**	P	**P**	**17 52 50.5 +1.3**
	baz=256,SNR=45					
F17K	**Baldwin Pennin**	**39.70**	**31**	P	**P**	**17 52 50.7 +0.9**
	baz=257,SNR=23					
L16K	**Owhat River**	**39.74**	**39**		**P**	**17 52 50.9 +0.7**
L16K	**Owhat River**	**39.74**	**39**	P	**P**	**17 52 50.3 +0.1**
	baz=265					
G17K	**Kiwalik Mounta**	**39.75**	**33**	P	**P**	**17 52 51.1 +0.8**
	baz=259,SNR=18					
M16K	**Timber Creek**	**39.93**	**40**	P	**P**	**17 52 52.7 +0.9**
	baz=266					
H17K	**Granite Mounta**	**39.95**	**33**		**P**	**17 52 51.5 -0.5**
H17K	**Granite Mounta**	**39.95**	**33**	P	**P**	**17 52 53.2 +1.2**
	baz=260					
N16K	**Nishlik Lake**	**39.99**	**41**	P	**P**	**17 52 53.1 +0.7**
	baz=267					
J17K	**VABM Dome**	**40.10**	**36**	P	**P**	**17 52 53.1 -0.1**
	baz=263					
CHGN	**Chignik**	**40.14**	**47**	P	**P**	**17 52 54.0 +0.4**
	baz=272					
E18K	**Tukpahlearik C**	**40.17**	**30**	P	**P**	**17 52 55.0 +1.3**
	baz=257					
B18K	**Kokolik River**	**40.24**	**27**	P	**P**	**17 52 55.1 +0.9**
	baz=253,SNR=33					
C18K	**Utukok River**	**40.25**	**28**	IAmb	IAmb	17 53 10.3
	comp=Z,47nm,0.8s					
C18K	**Utukok River**	**40.25**	**28**	P	**P**	**17 52 55.0 +0.5**
	baz=255,SNR=43					
O16K	**Kokwok River B**	**40.29**	**42**	P	**P**	**17 52 55.2 +0.4**
	baz=269					
L17K	**Donlin**	**40.33**	**38**	P	**P**	**17 52 55.1 0.0**
	baz=265					
P16K	**Nushagak River**	**40.34**	**43**	P	**P**	**17 52 55.6 +0.4**
	baz=269					
F18K	**Selawik**	**40.36**	**31**	P	**P**	**17 52 56.8 +1.5**
	baz=259,SNR=23					
K17K	**Iditarod**	**40.38**	**37**	IAmb	IAmb	17 53 08.7
	comp=Z,54nm,1.2s					
K17K	**Iditarod**	**40.38**	**37**	P	**P**	**17 52 56.7 +1.2**
	baz=265,SNR=6.0					
R16K	**Pilot Point**	**40.56**	**45**	P	**P**	**17 52 58.3 +1.2**
	baz=271					
TNCH	**TengChong**	**40.62**	**262**	⇑*i*P	**P**	**17 52 58.8 +0.6**
TNCH				pP	pP	17 53 01.6 -0.7
TNCH				sP	sP	17 53 03.8 -0.2
TNCH				PP	**PP**	**17 54 34.0 +2.2**
TNCH				S	**S**	**17 59 03.3 -4.2**
TNCH				pmax	pmax	
	comp=Z,55nm,1.5s					
TNCH				pmax	pmax	
	comp=Z,1μm,4.9s					
TNCH				LR	LR	
	comp=Z,3μm,14.6s					
TNCH				LR	LR	
	comp=Z,4μm,12.8s					
TNCH				LR	LR	
	comp=Z,4μm,18.7s					
G18K	**Tagagawik**	**40.63**	**32**	IAmb	IAmb	17 53 24.8
	comp=Z,53nm,1.1s					
G18K	**Tagagawik**	**40.63**	**32**	P	**P**	**17 52 58.9 +1.3**
	baz=261,SNR=24					
H18K	**Honhosa River**	**40.64**	**33**	IAmb	IAmb	17 53 45.7
	comp=Z,52nm,1.1s					
H18K	**Honhosa River**	**40.64**	**33**	P	**P**	**17 52 59.0 +1.3**
	baz=262					
M17K	**Holitna River**	**40.69**	**39**	IAmb	IAmb	17 53 16.3
	comp=Z,39nm,0.9s					
M17K	**Holitna River**	**40.69**	**39**	P	**P**	**17 52 59.7 +1.6**
	baz=267					
A19K	**Wainwright**	**40.72**	**25**	P	**P**	**17 53 00.0 +1.8**
	baz=253					
N17K	**Nushagak Hills**	**40.77**	**40**	P	**P**	**17 53 00.6 +1.7**
	baz=268					
O17K	**Koliganek Bris**	**40.80**	**42**	P	**P**	**17 52 59.8 +0.7**
	baz=269					
NRIK	**Noril'sk**	**40.84**	**333**		**P**	**17 52 59.5 +0.2**
NRIK	**Noril'sk**	**40.84**	**333**	P	**P**	**17 52 59.4 +0.1**
	comp=Z,8.4nm,0.9s,baz=103,slow=11,SNR=20					
NRIK				LR	LR	18 11 29.7
	comp=Z,8μm,19.3s,baz=102,slow=39					
	comp=Z,8.4nm,0.9s					
NRIK	**Noril'sk**	**40.84**	**333**	*ce*P	**P**	**17 53 00.9 +1.6**
NRIK				pmax	pmax	
	comp=Z,39nm,1.5s					
ZAA0	**Zalesovo Array**	**40.97**	**309**		**P**	**17 52 59.5 -0.9**
ZAA0				IAmb	IAmb	17 53 22.6
	comp=Z,44nm,0.8s					
ZALV	**Zalesovo Beam**	**40.97**	**309**	P	**P**	**17 52 59.8 -0.7**
	comp=Z,16nm,0.5s,baz=95,slow=8.2,SNR=50					
ZALV				LR	LR	18 10 53.8
	comp=Z,1μm,21.2s,baz=88,slow=38					
	comp=Z,16nm,0.5s					
ZALV	**Zalesovo Beam**	**40.97**	**309**	*i* P	**P**	**17 53 00.6 +0.1**
ZALV				pmax	pmax	
	comp=Z,21nm,0.7s					
WMQ	**Urumqi**	**40.98**	**294**	⇑P	**P**	**17 53 02.6 +1.8**
WMQ				ScP	**ScP**	**17 58 51.9 +2.1**
WMQ				S	**S**	**17 59 12.3 0.0**
WMQ				SS	**SS**	**18 02 07.8 -6.2**
WMQ				pmax	pmax	
	comp=Z,39nm,1.5s					
WMQ				pmax	pmax	
	comp=Z,870nm,4.9s					
WMQ				LR	LR	
	comp=Z,7μm,14.3s					
WMQ				LR	LR	
	comp=Z,9μm,14.3s					
WMQ				LR	LR	
	comp=Z,4μm,14.3s					
L18K	**Granite Mounta**	**41.09**	**38**	IAmb	IAmb	17 53 14.6
	comp=Z,51nm,1.4s					
L18K	**Granite Mounta**	**41.09**	**38**	P	**P**	**17 53 02.1 +0.7**
	baz=267					
P17K	**Kvichak River**	**41.14**	**43**	P	**P**	**17 53 02.1 +0.3**
	baz=270					
F19K	**Shaleruckik Mo**	**41.14**	**31**	IAmb	IAmb	17 53 30.3
	comp=Z,40nm,1.1s					
F19K	**Shaleruckik Mo**	**41.14**	**31**	P	**P**	**17 53 02.5 +0.8**
	baz=260					
J18K	**Innoko River**	**41.16**	**36**		**P**	**17 53 03.5 +1.5**
J18K	**Innoko River**	**41.16**	**36**	P	**P**	**17 53 02.9 +0.9**
	baz=265					
GCSA	**Galena City Sc**	**41.21**	**34**	P	**P**	**17 53 03.7 +1.4**
	baz=264					
G19K	**Purcell Mounta**	**41.30**	**32**	P	**P**	**17 53 04.6 +1.4**
	baz=262,SNR=12					
D19K	**Kuna River**	**41.32**	**28**	IAmb	IAmb	17 53 24.3
	comp=Z,66nm,1.0s					
D19K	**Kuna River**	**41.32**	**28**	P	**P**	**17 53 04.6 +1.3**
	baz=258					
N18K	**Kilae Creek**	**41.42**	**40**		**P**	**17 53 03.3 -0.8**
N18K				IAmb	IAmb	17 53 17.3
	comp=Z,50nm,1.1s					
N18K	**Kilae Creek**	**41.42**	**40**	P	**P**	**17 53 04.5 +0.3**
	baz=269					
TTA	**Tatalina**	**41.44**	**37**	P	**P**	**17 53 05.0 +0.6**
	baz=267					
Q17K	**Contact Creek**	**41.45**	**44**	P	**P**	**17 53 05.6 +1.1**
	baz=272					
E19K	**Redstone River**	**41.45**	**30**	IAmb	IAmb	17 53 22.1
	comp=Z,59nm,0.9s					
E19K	**Redstone River**	**41.45**	**30**	P	**P**	**17 53 06.6 +2.2**
	baz=260					
M18K	**Stony River**	**41.47**	**39**	P	**P**	**17 53 05.3 +0.8**
	baz=268					
H19K	**Roundabout Mou**	**41.48**	**33**	P	**P**	**17 53 05.6 +1.0**
	baz=263,SNR=37					
J19K	**Poorman**	**41.69**	**35**	IAmb	IAmb	17 53 19.3
	comp=Z,34nm,0.8s					
J19K	**Poorman**	**41.69**	**35**	P	**P**	**17 53 07.9 +1.6**
	baz=266,SNR=13					
CHIR	**Chirikof Islan**	**41.74**	**48**	P	**P**	**17 53 07.9 +1.1**
	baz=275					
P18K	**Big Mountain,**	**41.75**	**42**	P	**P**	**17 53 07.8 +0.9**
	baz=271					
O18K	**Koktuh Hills**	**41.76**	**42**	P	**P**	**17 53 07.5 +0.5**
	baz=271					
Q18K	**Katmai Hardscr**	**41.89**	**43**	P	**P**	**17 53 08.8 +0.6**
	baz=272					
D20K	**Etivluk River**	**41.90**	**28**	IAmb	IAmb	17 53 14.7
	comp=Z,55nm,0.9s					
D20K	**Etivluk River**	**41.90**	**28**	P	**P**	**17 53 09.0 +1.0**
	baz=260					
L19K	**White Mountain**	**41.95**	**38**	P	**P**	**17 53 09.6 +1.1**
	baz=268					
MYLDM	**Lahad Datu**	**41.95**	**220**		**P**	**17 53 09.5 +0.6**
F20K	**Avaraart Lake**	**41.97**	**31**	P	**P**	**17 53 10.1 +1.6**
	baz=262,SNR=9.8					
B20K	**Meade River**	**41.97**	**26**	P	**P**	**17 53 09.9 +1.4**
	baz=258,SNR=68					
E20K	**Nigu River**	**41.98**	**29**	P	**P**	**17 53 10.2 +1.5**
	baz=260					
ZSN	**Zaisan**	**42.01**	**300**	*e*P	**P**	**17 53 08.8 -0.3**
ZSN				*e*S	**S**	**17 59 27.7 +0.4**
ZSN				pmax	pmax	
	comp=Z,58nm,0.9s					
ZSN	**Zaisan**	**42.01**	**300**	*e*P	**P**	**17 53 08.8 -0.3**
	comp=Z,58nm,0.9s					
ZSN				*e*S	**S**	**17 59 27.8 +0.4**
N19K	**Bonanza Creek**	**42.11**	**40**	P	**P**	**17 53 10.7 +0.8**
	baz=270					
H20K	**Anotleneega Mo**	**42.13**	**33**	P	**P**	**17 53 11.1 +1.2**
	baz=265,SNR=15					
DLV	**Lat**	**42.15**	**237**	IAmb	IAmb	17 53 36.7
	comp=Z,32nm,0.9s					

M19K	**Big River Lodg**	42.16	38	P	P	17 53 11.5 +1.4
	baz=269					
I20K	**Naaghedeneel**	42.24	34	IAmb	IAmb	17 54 01.4
	comp=Z,67nm,1.1s					
I20K	**Naaghedeneel**	42.24	34	P	P	17 53 11.5 +0.8
	baz=266					
R18K	**Karluk**	42.24	45	P	P	17 53 12.0 +1.2
	baz=274					
K20K	**Telida**	42.34	36	IAmb	IAmb	17 53 25.3
	comp=Z,60nm,1.5s					
K20K	**Telida**	42.34	36	P	P	17 53 12.3 +0.7
	baz=268					
J20K	**Nowinta River**	42.35	35	IAmb	IAmb	17 53 24.6
	comp=Z,45nm,0.8s					
J20K	**Nowinta River**	42.35	35	P	P	17 53 12.7 +1.1
	baz=267,SNR=22					
L20K	**Farewell, AK**	42.41	38	P	P	17 53 13.3 +1.1
	baz=269,SNR=5.7					
A21K	**Barrow**	42.44	24	P	P	17 53 13.3 +1.0
	baz=257					
Q19K	**Cape Douglas,**	42.59	43	P	P	17 53 14.5 +0.7
	baz=273					
C21K	**Knifeblade Rid**	42.63	28	P	P	17 53 14.8 +0.9
	baz=261,SNR=46					
SMPI	**Sarmi**	42.66	187	P	P	17 53 18.1 +3.5
	comp=Z,22nm,0.9s					
M20K	**Styx River**	42.75	38	P	P	17 53 15.9 +0.8
	baz=270					
P19K	**Oil Pt**	42.76	42	P	P	17 53 16.2 +1.1
	baz=273					
B21K	**Ikpikpuk River**	42.76	27	IAmb	IAmb	17 53 21.8
	comp=Z,47nm,0.8s					
B21K	**Ikpikpuk River**	42.76	27	P	P	17 53 16.0 +1.0
	baz=260,SNR=77					
G21K	**Allakaket**	42.78	32	IAmb	IAmb	17 53 44.5
	comp=Z,58nm,0.9s					
G21K	**Allakaket**	42.78	32	P	P	17 53 16.7 +1.5
	baz=265					
E21K	**Killik River**	42.82	29	IAmb	IAmb	17 53 30.0
	comp=Z,40nm,1.0s					
E21K	**Killik River**	42.82	29	P	P	17 53 17.2 +1.7
	baz=262					
SWI	**Sorong**	42.83	199	P	P	17 53 16.8 +0.7
	comp=Z,22nm,0.8s					
F21K	**Alatna River**	42.86	31	P	P	17 53 17.4 +1.6
	baz=264,SNR=23					
A22K	**Sinclair Lake**	42.89	25	P	P	17 53 17.6 +1.6
	baz=259,SNR=43					
OHAK	**Old Harbor**	42.90	45		P	17 53 17.1 +0.9
OHAK				IAmb	IAmb	17 53 43.0
	comp=Z,52nm,1.4s					
OHAK	**Old Harbor**	42.90	45	P	P	17 53 18.2 +2.0
	baz=275					
H21K	**Melozitna Rive**	43.00	33	IAmb	IAmb	17 54 02.4
	comp=Z,41nm,1.2s					
H21K	**Melozitna Rive**	43.00	33	P	P	17 53 18.9 +1.9
	baz=267,SNR=12					
JAY	**Jayapura**	43.02	184	LR	LR	18 12 22.0
	comp=Z,562nm,19.5s,baz=4.5,slow=38					
JAY	**Jayapura**	43.02	184	P	P	17 53 25.8 +8.2
	comp=Z,17nm,1.0s					
CHUM	**Lake Minchumin**	43.14	36	P	P	17 53 19.4 +1.4
	baz=269					
PPLA	**Purkeypile**	43.19	37	P	P	17 53 19.8 +1.1
	baz=270					
SPCR	**Spurr Chakacha**	43.21	39	P	P	17 53 20.1 +1.4
	baz=272					
KDAK	**Kodiak Island**	43.23	44	P	P	17 53 18.7 -0.2
KDAK				IAmb	IAmb	17 54 01.7
	comp=Z,58nm,1.1s					
KDAK	**Kodiak Island**	43.23	44	LR	LR	18 11 38.4
	comp=Z,1µm,20.5s,baz=96,slow=36					
KDAK	**Kodiak Island**	43.23	44	P	P	17 53 18.7 -0.2
KDAK				pmax	pmax	
	comp=Z,58nm,1.2s					
KDAK	**Kodiak Island**	43.23	44	P	P	17 53 20.4 +1.6
	baz=275					
CAST	**Castle Rocks**	43.24	36		P	17 53 18.4 -0.5
CAST				IAmb	IAmb	17 53 45.5
	comp=Z,44nm,1.1s					
CAST	**Castle Rocks**	43.24	36	P	P	17 53 19.7 +0.8
	baz=270,SNR=11					
Q20K	**Shuyak Island**	43.26	43	P	P	17 53 20.4 +1.3
	baz=274					
B22K	**Teshekpuk Lake**	43.29	26	IAmb	IAmb	17 53 25.4
	comp=Z,30nm,0.8s					
B22K	**Teshekpuk Lake**	43.29	26	P	P	17 53 20.5 +1.4
	baz=261,SNR=20					
I21K	**Tanana**	43.32	34	P	P	17 53 20.7 +1.2
	baz=268					
D22K	**Ayikyak River**	43.34	28	P	P	17 53 21.0 +1.3
	baz=263,SNR=35					
STLK	**Strandline Lak**	43.38	39	IAmb	IAmb	17 53 42.0
	comp=Z,90nm,2.0s					
F22K	**John River**	43.39	30	P	P	17 53 21.3 +1.3
	baz=265					
SKT	**Skwentna**	43.51	38	P	P	17 53 22.3 +1.2
	baz=272					
E22K	**Anaktuvuk Pass**	43.58	29	IAmb	IAmb	17 53 34.6
	comp=Z,47nm,0.8s					
E22K	**Anaktuvuk Pass**	43.58	29	P	P	17 53 23.3 +1.7
	baz=265,SNR=68					
H22K	**Ishtalitna Cre**	43.60	33	P	P	17 53 23.8 +1.9
	baz=268					
G22K	**Bettles**	43.60	31	P	P	17 53 23.7 +1.9
	baz=266					
KMSI	**Cibinong**	43.72	209	P	P	17 53 27.2 +3.9
BPAW	**Bear Paw Mtn.**	43.73	35	P	P	17 53 24.0 +1.1
	baz=270					
KTH	**Kantishna Hill**	43.76	36	IAmb	IAmb	17 53 50.3
	comp=Z,67nm,1.1s					
LSA	**Lhasa**	43.80	273	IAmb	IAmb	17 54 05.0
	comp=Z,47nm,1.1s					
LSA	**Lhasa**	43.80	273	P	P	17 53 26.1 +1.6
LSA				S	S	17 59 53.6 -1.3
LSA				LR	LR	
	comp=Z,2µm,16.5s					
LSA				LR	LR	
	comp=Z,4µm,17.3s					
LSA	**Lhasa**	43.80	273	P	P	17 53 26.1 +1.6
MK31	**Makanchi Array**	43.87	299	*i* P	P	17 53 24.0 -0.3
MK31				pmax	pmax	
	comp=Z,22nm,0.7s					
MKAR	**Makanchi Array**	43.87	299		P	17 53 23.4 -0.9
MKAR	**Makanchi Array**	43.87	299	P	P	17 53 23.9 -0.4
	comp=Z,12nm,0.5s,baz=83,slow=8.7,SNR=91					
MKAR				LR	LR	18 12 53.1
	comp=Z,2µm,19.6s,baz=80,slow=38					
	comp=Z,12nm,0.5s					
SUA	**Susitna One**	43.90	39	IAmb	IAmb	17 53 52.1
	comp=Z,43nm,1.2s					
SUA	**Susitna One**	43.90	39	P	P	17 53 26.5 +2.1
	baz=273					
CHTO	**Chiang Mai**	44.01	254		P	17 53 25.6 0.0
CHTO				IAmb	IAmb	17 54 01.0
	comp=Z,34nm,1.0s					
CHTO	**Chiang Mai**	44.01	254	P	P	17 53 25.8 +0.1
CHTO				P	P	17 53 25.8 +0.1
CHTO				S	S	17 59 58.1 +0.9
CHTO				S	S	17 59 58.1 +0.9
CHTO	**Chiang Mai**	44.01	254	P	P	17 53 27.1 +1.5
CHTO	**Chiang Mai**	44.01	254	P	P	17 53 25.6 0.0
CHTO				pmax	pmax	
	comp=Z,34nm,1.0s					
BRSE	**Bradley Lake S**	44.02	42	P	P	17 53 26.4 +1.2
	baz=275					
TRF	**Thorofare Moun**	44.05	36	P	P	17 53 26.4 +0.8
	baz=271					
D23K	**Nanushuk River**	44.07	28	IAmb	IAmb	17 53 44.2
	comp=Z,73nm,1.3s					
D23K	**Nanushuk River**	44.07	28	P	P	17 53 26.5 +0.9
	baz=265,SNR=14					
MAKZ	**Makanchi**	44.08	300		P	17 53 24.9 -1.0
MAKZ	**Makanchi**	44.08	300	P	P	17 53 26.1 +0.2
CUT	**Chulitna**	44.09	38	P	P	17 53 27.2 +1.5
	baz=272					
COLD	**Coldfoot**	44.13	31	IAmb	IAmb	17 53 52.5
	comp=Z,39nm,1.2s					
COLD	**Coldfoot**	44.13	31	P	P	17 53 27.5 +1.5
	baz=267					
C23K	**Itkillik River**	44.17	27	P	P	17 53 27.3 +1.0
	baz=264,SNR=27					
G23K	**Bananza Creek**	44.18	31	IAmb	IAmb	17 53 55.4
	comp=Z,35nm,1.0s					
G23K	**Bananza Creek**	44.18	31	P	P	17 53 27.8 +1.3
	baz=268,SNR=12					
M22K	**Willow**	44.19	39	P	P	17 53 27.5 +1.0
	baz=273					
CM31	**Chiang Mai Arr**	44.23	254	P	P	17 53 29.2 +1.7
	SNR=8.1					
CM31				P	P	17 53 29.2 +1.7
	SNR=8.1					
CM31				S	S	18 00 04.3 +3.9
CM31				S	S	18 00 04.3 +3.9
CMAR	**Chiang Mai Arr**	44.23	254		P	17 53 26.1 -1.4
CMAR	**Chiang Mai Arr**	44.23	254	P	P	17 53 26.9 -0.5
	comp=Z,3.0nm,0.8s,baz=39,slow=7.4,SNR=24					
CMAR				LR	LR	18 11 13.8
	comp=Z,2µm,19.8s,baz=55,slow=35					
	comp=Z,3.0nm,0.8s					
CMAR	**Chiang Mai Arr**	44.23	254	*i* P	P	17 53 28.0 +0.6
CMAR				pmax	pmax	
	comp=Z,3.0nm,0.8s					
H23K	**Yukon River**	44.35	33	P	P	17 53 29.7 +1.8
	baz=269					
E23K	**Chandalar**	44.40	30	IAmb	IAmb	17 53 55.5
	comp=Z,54nm,1.1s					
E23K	**Chandalar**	44.40	30	P	P	17 53 29.3 +1.0
	baz=267,SNR=35					
RC01	**Rabbit Creek A**	44.41	40	P	P	17 53 29.0 +0.6
	baz=274					
I23K	**Minto, Yukon-K**	44.43	34	IAmb	IAmb	17 53 42.2
	comp=Z,30nm,1.1s					
I23K	**Minto, Yukon-K**	44.43	34	P	P	17 53 29.6 +1.2
	baz=270					
TOLK	**Toolik Lake Re**	44.45	29	IAmb	IAmb	17 54 03.0
	comp=Z,39nm,1.1s					
TOLK	**Toolik Lake Re**	44.45	29	P	P	17 53 30.2 +1.6
	baz=266,SNR=11					
NEA2	**Nenana**	44.56	35	IAmb	IAmb	17 53 42.7
	comp=Z,34nm,0.8s					
NEA2	**Nenana**	44.56	35	P	P	17 53 30.6 +1.1
	baz=271,SNR=11					
FAKI	**Fak Fak**	44.59	197	P	P	17 53 32.0 +1.8
FAKI	**Fak Fak**	44.59	197	P	P	17 53 33.5 +3.3
	comp=Z,725nmcomp=Z,36nm,1.0s					
SEW	**Seward**	44.63	41	P	P	17 53 31.4 +1.3
	baz=275					
MCK	**McKinley**	44.64	36	IAmb	IAmb	17 53 56.4
	comp=Z,42nm,1.1s					
MCK	**McKinley**	44.64	36	P	P	17 53 31.5 +1.3
	baz=272					
PMR	**Palmer**	44.67	39		pwP	17 53 35.4 -2.9
PMR	**Palmer**	44.67	39	P	P	17 53 31.7 +1.3
	baz=274					
RND	**Reindeer**	44.69	36	IAmb	IAmb	17 53 56.7
	comp=Z,52nm,1.1s					
D24K	**Happy Valley**	44.75	28	P	P	17 53 32.6 +1.6
	baz=267					
GHO	**Glory Hole Cre**	44.75	39	IAmb	IAmb	17 53 43.1
	comp=Z,44nm,0.9s					
E24K	**Your Creek**	44.82	30	IAmb	IAmb	17 53 45.2
	comp=Z,35nm,0.8s					
E24K	**Your Creek**	44.82	30	P	P	17 53 32.9 +1.3
	baz=268,SNR=60					
C24K	**Franklin Bluff**	44.83	27	P	P	17 53 32.5 +0.9
	baz=266,SNR=41					
WRH	**Wood River Hil**	44.99	35	IAmb	IAmb	17 53 59.1
	comp=Z,24nm,1.0s					
KNK	**Knik Glacier**	45.00	39	P	P	17 53 34.0 +0.9
	baz=275					
SML	**Sawmill**	45.03	38	P	P	17 53 33.8 +0.4
	baz=275					
F24K	**Squaw Lake**	45.04	30	P	P	17 53 36.0 +2.7
	baz=269,SNR=22					
H24K	**Noodor Dome**	45.04	33	IAmb	IAmb	17 54 22.7
	comp=Z,27nm,0.9s					
H24K	**Noodor Dome**	45.04	33	P	P	17 53 35.3 +2.0
	baz=271,SNR=11					
COLA	**College**	45.08	34	P	P	17 53 35.1 +1.5
COLA	**College**	45.08	34	*i* P	P	17 53 36.6 +3.0
COLA				pmax	pmax	
	comp=Z,29nm,0.9s					
COLA	**College**	45.08	34	P	P	17 53 36.1 +2.6
	baz=272					
PWL	**Port Wells**	45.11	40	P	P	17 53 35.4 +1.4
	baz=276					
G24K	**Hadweenzic Riv**	45.19	32	IAmb	IAmb	17 54 11.7
	comp=Z,42nm,1.1s					
G24K	**Hadweenzic Riv**	45.19	32	P	P	17 53 36.1 +1.6
	baz=270,SNR=15					
POKR	**Poker Plat Res**	45.24	34	P	P	17 53 36.8 +1.8
	baz=272,SNR=9.6					
RABL	**Rabaul**	45.25	168		P	17 53 33.2 -2.3
RABL				IAmb	IAmb	17 54 22.2
	comp=Z,40nm,1.1s					
KURK	**Kurchatov**	45.26	306		P	17 53 34.3 -0.9
KURK	**Kurchatov**	45.26	306	P	P	17 53 35.1 -0.1
KURK				P	P	17 53 35.1 -0.1
KURK				S	S	18 00 14.5 -0.1
KURK				S	S	18 00 14.5 -0.1
KURK	**Kurchatov**	45.26	306	P	P	17 53 35.1 -0.1
M23K	**Glacier View**	45.32	38	P	P	17 53 37.2 +1.6
	baz=275					
KURBB	**Kurchatov Arra**	45.34	306	P	P	17 53 35.1 -0.8
	comp=Z,13nm,0.5s,baz=79,slow=9.1,SNR=100					
KURBB				LR	LR	18 14 46.0
	comp=Z,2µm,18.6s,baz=104,slow=39					
	comp=Z,13nm,0.5s					
KURBB	**Kurchatov Arra**	45.34	306	P	P	17 53 34.7 -1.1
SHL	**Shillong**	45.36	267	P	P	17 53 35.4 -1.2
SHL				IAmb	IAmb	17 54 06.1
	comp=Z,32nm,0.8s					
SHL	**Shillong**	45.36	267	P	P	17 53 35.4 -1.2
SHL				pmax	pmax	
	comp=Z,32nm,0.8s					
SANI	**Sanana**	45.46	205	P	P	17 53 39.8 +2.6
SANI	**Sanana**	45.46	205	P	P	17 53 36.7 -0.5
	comp=Z,628nmcomp=Z,30nm,0.8s					
HDA	**Harding Lake**	45.48	35	IAmb	IAmb	17 53 48.4
	comp=Z,27nm,1.0s					
HDA	**Harding Lake**	45.48	35	P	P	17 53 38.4 +1.5
	baz=273,SNR=8.3					
ILAR	**Eielson Array**	45.49	34		P	17 53 36.5 -0.4
ILAR	**Eielson Array**	45.49	34	P	P	17 53 37.8 +0.9
	comp=Z,5.5nm,0.7s,baz=266,slow=6.4,SNR=37					
ILAR				LR	LR	18 13 00.8
	comp=Z,1µm,20.5s,baz=273,slow=36					
	comp=Z,5.5nm,0.7s					
SCM	**Sheep Creek Mo**	45.50	38	IAmb	IAmb	17 54 02.0
	comp=Z,41nm,1.0s					
SCM	**Sheep Creek Mo**	45.50	38	P	P	17 53 37.9 +0.8
	baz=275					
MPSI	**Mapaga**	45.58	215	P	P	17 53 36.7 -1.4
D25K	**Kavik River**	45.63	28	P	P	17 53 39.5 +1.5
	baz=269,SNR=36					
P23K	**Montague Islan**	45.67	41	P	P	17 53 39.7 +1.4
	baz=277					
GLI	**Glacier Island**	45.71	40	P	P	17 53 40.0 +1.3
	baz=276					
G25K	**Bearman Lake**	45.74	31	P	P	17 53 40.1 +1.3
	baz=272					
F25K	**Christian Rive**	45.90	30	IAmb	IAmb	17 54 09.8
	comp=Z,26nm,1.0s					
F25K	**Christian Rive**	45.90	30	P	P	17 53 41.8 +1.6
	baz=271,SNR=17					
E25K	**Arctic Village**	45.92	29	IAmb	IAmb	17 54 11.9
	comp=Z,36nm,1.2s					
E25K	**Arctic Village**	45.92	29	P	P	17 53 42.1 +1.9
	baz=271,SNR=9.2					
APSI	**Ampana**	45.98	212	P	P	17 53 43.9 +2.6
	comp=Z,936nmcomp=Z,68nm,1.0s					
M24K	**Tolsona, Glenn**	46.02	38	P	P	17 53 41.6 +0.4
M24K	**Tolsona, Glenn**	46.02	38	P	P	17 53 42.7 +1.5
	baz=276					
PRP	**Porcupine Dome**	46.03	33	P	P	17 53 42.5 +1.2
	baz=273,SNR=25					
K24K	**Donnelly Dome**	46.04	36	P	P	17 53 42.4 +1.1
	baz=275					
C26K	**Camden Bay**	46.15	27	P	P	17 53 43.6 +1.6
	baz=270,SNR=18					
J25K	**Salcha River,**	46.15	34	P	P	17 53 43.2 +1.0
	baz=274					
KLU	**Klutina**	46.21	39	IAmb	IAmb	17 53 59.7
	comp=Z,28nm,0.8s					
KLU	**Klutina**	46.21	39	P	P	17 53 42.7 0.0
	baz=277					
PAX	**Paxson**	46.25	37	P	P	17 53 44.1 +1.0
	baz=276					
BMAR	**Burnt Mountain**	46.31	30	P	P	17 53 45.3 +1.9
EYAK	**Cordova Ski Ar**	46.41	40	P	P	17 53 43.5 -0.7
EYAK				IAmb	IAmb	17 54 17.6
	comp=Z,36nm,1.1s					
EYAK	**Cordova Ski Ar**	46.41	40	P	P	17 53 45.4 +1.2
	baz=278					
RIDG	**Independent Ri**	46.46	36	IAmb	IAmb	17 54 05.8
	comp=Z,21nm,0.9s					
RIDG	**Independent Ri**	46.46	36	P	P	17 53 45.2 +0.6
	baz=276					
HARP	**HAARP**	46.46	37	P	P	17 53 45.5 +0.9
	baz=277					
F26K	**Sheenjek River**	46.47	30	P	P	17 53 46.8 +2.2
	baz=272,SNR=25					
C27K	**Jago River**	46.57	27	P	P	17 53 46.7 +1.3
	baz=271,SNR=33					
G26K	**Porcupine Rive**	46.65	31	P	P	17 53 47.4 +1.5
	baz=274,SNR=18					
PCI	**Palu**	46.73	214	P	P	17 53 51.2 +4.1
	comp=Z,52nm,1.1s					
SCRK	**Sand Creek**	46.81	35	IAmb	IAmb	17 54 13.3
	comp=Z,31nm,1.0s					
SCRK	**Sand Creek**	46.81	35	P	P	17 53 48.1 +0.7
	baz=276,SNR=29					
DOT	**Dot Lake**	46.81	36	IAmb	IAmb	17 54 14.7
	comp=Z,17nm,0.9s					
N25K	**Chitina, Valde**	46.82	38	P	P	17 53 48.4 +0.9
	baz=278					
SHLS	**Shalkode**	46.89	295	*e*P	P	17 53 45.5 -2.8
SHLS				pmax	pmax	
	comp=Z,46nm,1.7s					
SHLS	**Shalkode**	46.89	295	*e*P	P	17 53 45.6 -2.8
	comp=Z,46nm,1.7s					
BMRM	**Bremner River**	46.91	39	P	P	17 53 48.1 -0.1
	baz=278					
J26L	**Joseph Creek**	46.94	34	P	P	17 53 49.6 +1.2
	baz=276					
TDK	**Taldyqorghan**	46.99	298	*e*P	P	17 53 48.7 -0.3
TDK				pmax	pmax	
	comp=Z,40nm,1.2s					
TDK				MLR	MLR	
	comp=Z,4µm,14.0s					
TDK	**Taldyqorghan**	46.99	298	*e*P	P	17 53 48.7 -0.3
	comp=Z,40nm,1.2s					
TDK				LR	LR	18 14 05.8
	comp=Z,4µm,13.8s					
I26K	**Coal Creek Min**	47.03	33	P	P	17 53 49.8 +0.8
	baz=276					
MENT	**Mentasta**	47.05	37	IAmb	IAmb	17 54 31.1
	comp=Z,28nm,1.0s					
BRDH	**Bariadhala**	47.14	264	LR	LR	18 13 13.9
	comp=Z,2µm,18.7s,baz=68,slow=36					
KAIM	**Kayak Island**	47.16	41	P	P	17 53 50.7 +0.6
	baz=280					
UZB	**Uzynbulak**	47.19	296	*e*P	P	17 53 50.1 -0.7
UZB				*e*S	S	18 00 42.8 -0.1
UZB				pmax	pmax	
	comp=Z,12nm,0.9s					
UZB	**Uzynbulak**	47.19	296	*e*P	P	17 53 50.1 -0.7
	comp=Z,12nm,0.9s					
UZB				*e*S	S	18 00 42.9 -0.1
L26K	**Log Cabin Wild**	47.21	36	P	P	17 53 50.7 +0.2
	baz=278,SNR=9.3					
KPKS	**Kokpek**	47.31	296	*e*P	P	17 53 51.3 -0.3
KPKS				pmax	pmax	
	comp=Z,56nm,1.8s					
KPKS	**Kokpek**	47.31	296	*e*P	P	17 53 51.4 -0.3
	comp=Z,56nm,1.8s					
E27K	**Coleen River**	47.40	29	IAmb	IAmb	17 54 19.5
	comp=Z,20nm,0.8s					
E27K	**Coleen River**	47.40	29	P	P	17 53 52.9 +1.0
	baz=274,SNR=16					
VRDI	**Verde Repeater**	47.42	39	P	P	17 53 53.0 +0.7
VRDI				IAmb	IAmb	17 54 19.1
	comp=Z,30nm,1.0s					
M26K	**Nabesna, AK**	47.46	37	P	P	17 53 53.6 +1.2
	baz=278					
G27K	**Doyon Strip**	47.49	31	P	P	17 53 53.5 +0.9
	baz=276					
SBUM	**Sibu**	47.50	225		P	17 53 53.1 -0.1
D27M	**Malcolm River**	47.55	28	IAmb	IAmb	17 54 11.8
	comp=Z,32nm,1.1s					
D27M	**Malcolm River**	47.55	28	P	P	17 53 54.1 +1.0
	baz=274,SNR=10					
ZHN	**Zhinishke**	47.59	296	*e*P	P	17 53 53.4 -0.4
ZHN				pmax	pmax	
	comp=Z,41nm,1.9s					
ZHN	**Zhinishke**	47.59	296	*e*P	P	17 53 53.5 -0.4
	comp=Z,41nm,1.9s					
H27K	**Steamboat Moun**	47.60	32	IAmb	IAmb	17 54 07.8
	comp=Z,26nm,0.9s					
H27K	**Steamboat Moun**	47.60	32	P	P	17 53 55.1 +1.6
	baz=276,SNR=13					
I27K	**Kandik River**	47.64	33	P	P	17 53 54.0 +0.2
	baz=277,SNR=7.8					
K27K	**Chicken**	47.64	35	P	P	17 53 54.5 +0.7
	baz=278					
ARXS	**Arharly**	47.64	297	*e*P	P	17 53 53.2 -1.0
SATY	**Saty**	47.65	296	*e*P	P	17 53 53.8 -0.5
SATY				pmax	pmax	
	comp=Z,47nm,1.7s					
SATY	**Saty**	47.65	296	*e*P	P	17 53 53.9 -0.4
	comp=Z,47nm,1.7s					
BGLC	**Bering Glacier**	47.69	40	P	P	17 53 55.0 +0.8
	baz=280					
L27K	**Beaver Creek,**	47.89	36	P	P	17 53 55.2 -0.6
	baz=279,SNR=14					
BCAR	**Beaver Creek A**	47.91	36	P	P	17 53 57.1 +1.2
M27K	**Edge Creek, AK**	47.98	37	IAmb	IAmb	17 54 26.4
	comp=Z,21nm,0.8s					
M27K	**Edge Creek, AK**	47.98	37	P	P	17 53 56.5 -0.1
	baz=279					
E28M	**Babbage River**	48.12	29	P	P	17 53 58.4 +0.9
	baz=276,SNR=16					
CHKK	**Chushkaly**	48.34	297	*e*P	P	17 53 59.0 -0.4
CHKK	**Chushkaly**	48.34	297	*e*P	P	17 53 59.1 -0.4
D28M	**Stokes Point**	48.34	28	P	P	17 53 59.6 +0.6
	baz=276,SNR=12					
MESA	**MESA**	48.34	40	P	P	17 53 59.4 0.0
	baz=281					
I28M	**Miner Creek**	48.35	33	P	P	17 53 59.4 0.0
	baz=278,SNR=13					
BVCY	**Beaver Creek**	48.44	37	P	P	17 54 00.0 0.0
	baz=280					
MDOK	**Medeo**	48.54	296	*e*P	P	17 54 00.8 -0.4
MDOK				*e*S	S	18 01 02.3 +0.3
MDOK				MLR	MLR	
	comp=Z,3µm,14.0s					
MDOK	**Medeo**	48.54	296	*e*P	P	17 54 00.9 -0.3
MDOK				*e*S	S	18 01 02.4 +0.3
MDOK				LR	LR	18 14 56.4
	comp=Z,3µm,14.1s					
AAA	**Alma-Ata**	48.61	296	*e*P	P	17 54 01.3 -0.3
AAA				pmax	pmax	
	comp=Z,39nm,0.9s					
AAA				MLR	MLR	
	comp=Z,5µm,17.0s					
AAA	**Alma-Ata**	48.61	296	*e*P	P	17 54 01.4 -0.3
	comp=Z,39nm,0.9s					
AAA				LR	LR	18 14 59.7
	comp=Z,5µm,16.7s					
TNSS	**Tian-Shan**	48.65	296	*e*P	P	17 54 01.6 -0.8
TNSS	**Tian-Shan**	48.65	296	*e*P	P	17 54 01.7 -0.7
YUK3	**Moose Creek**	48.74	38	P	P	17 54 02.2 -0.3
	baz=281					
E29M	**Blow River**	48.75	29	P	P	17 54 03.2 +0.9
	baz=277,SNR=21					
DAWY	**Dawson**	48.80	35	P	P	17 54 03.3 +0.5
DAWY	**Dawson**	48.80	35	P	P	17 54 04.1 +1.3
	baz=280					
KDJ	**Kajisay**	48.83	295	IAmb	IAmb	17 54 52.3
	comp=Z,29nm,0.9s					
H29M	**Whitestone**	48.88	32	P	P	17 54 04.1 +0.8
	baz=279,SNR=5.5					
G29M	**Pine Creek**	48.91	31	P	P	17 54 04.5 +1.0
	baz=279					
I29M	**Ogilvie Camp,**	49.04	33	P	P	17 54 06.4 +1.8
	baz=280,SNR=12					
O28M	**Mount Upton**	49.07	39	P	P	17 54 07.0 +1.9
	baz=282					
BRZS	**Berezniki**	49.12	306	*e*P	P	17 54 05.0 -0.4
BRZS	**Berezniki**	49.12	306	*e*P	P	17 54 05.1 -0.4
YUK8	**Steele Glacier**	49.16	38	P	P	17 54 07

L29M	**L29M**	49.54	36	P		P	17 54 10.2 +1.7
	baz=282,SNR=5.4						
BVA0	**Borovoye Array**	49.59	311	*e*P		P	17 54 08.9 0.0
BVAR	**Borovoye Array**	49.59	311	P		P	17 54 08.5 -0.4
	comp=Z,14nm,0.6s,baz=75,slow=8.4,SNR=51						
BVAR				S		S	18 01 25.3 +9.1
	comp=Z,4.2nm,0.9s,baz=70,slow=15,SNR=6.8						
BVAR				LR		LR	18 14 08.9
	comp=Z,781nm,19.3s,baz=73,slow=35						
	comp=Z,14nm,0.6s						
G30M	**tAoh Zraii Nji**	49.59	31	P		P	17 54 10.3 +1.5
	baz=280						
TKM2	**Tokmak 2**	49.62	296	P		P	17 54 09.9 +0.3
	SNR=24						
TKM2	**Tokmak 2**	49.62	296	*i* P		P	17 54 09.7 +0.2
TKM2				pmax		pmax	
	comp=Z,42nm,0.9s						
BRVK	**Borovoye**	49.64	311			P	17 54 08.5 -0.7
BRVK	**Borovoye**	49.64	311	P		P	17 54 09.3 0.0
BRVK				P		P	17 54 09.3 0.0
BRVK				S		S	18 01 17.3 +0.4
BRVK				S		S	18 01 17.3 +0.4
BRVK	**Borovoye**	49.64	311	*ce*P		P	17 54 09.2 0.0
BRVK				pmax		pmax	
	comp=Z,112nm,1.6s						
F30M	**Barrier River**	49.65	30	P		P	17 54 10.4 +1.2
	baz=280,SNR=29						
K29M	**Barlow Dome**	49.66	35	IAmb		IAmb	17 54 22.5
	comp=Z,44nm,1.2s						
K29M	**Barlow Dome**	49.66	35	P		P	17 54 11.1 +1.6
	baz=282,SNR=13						
YUK4	**Talbot Arm**	49.68	38	P		P	17 54 11.5 +1.8
	baz=283						
BNSI	**Bone**	49.78	212	P		P	17 54 12.9 +2.2
	comp=Z,864nmcomp=Z,53nm,1.2s						
I30M	**Mount Dempster**	49.86	33	P		P	17 54 12.7 +1.7
	baz=282,SNR=36						
YUK6	**Outpost Mounta**	49.90	39	P		P	17 54 12.9 +1.5
	baz=283						
NRN	**Naryn**	49.91	295	IAmb		IAmb	17 55 17.7
	comp=Z,17nm,0.9s						
O29M	**Mount Kennedy**	49.95	39	P		P	17 54 13.1 +1.4
	baz=284						
J30M	**Hart River**	50.02	34	P		P	17 54 13.5 +1.4
	baz=282						
SGDS	**Sogindy**	50.08	297	*e*P		P	17 54 12.4 -0.4
SGDS	**Sogindy**	50.08	297	*e*P		P	17 54 12.4 -0.4
KBK	**Karagaybulak**	50.16	296	P		P	17 54 14.2 +0.5
	SNR=21						
CHMS	**Chumysh**	50.16	297	P		P	17 54 14.5 +1.0
	SNR=5.9						
USP	**Ospenovka**	50.23	297	P		P	17 54 14.3 +0.3
	SNR=12						
M30M	**Minto, Yukon**	50.25	36	IAmb		IAmb	17 54 33.1
	comp=Z,54nm,1.7s						
M30M	**Minto, Yukon**	50.25	36	P		P	17 54 15.6 +1.7
	baz=283						
HYT	**Haines Junctio**	50.34	39	P		P	17 54 16.6 +1.9
	baz=284,SNR=13						
G31M	**Satah River**	50.36	30	IAmb		IAmb	17 55 08.9
	comp=Z,26nm,0.9s						
G31M	**Satah River**	50.36	30	P		P	17 54 15.8 +1.3
	baz=282,SNR=5.4						
INK	**Inuvik**	50.36	29	LR		LR	18 18 20.4
	comp=Z,1μm,18.4s,baz=276,slow=39						
INK	**Inuvik**	50.36	29	P		P	17 54 16.1 +1.6
	baz=281,SNR=16						
N30M	**Aishikik Lake**	50.38	38	P		P	17 54 16.7 +1.8
	baz=284						
F31M	**Tsiigehtchic**	50.45	30	P		P	17 54 17.0 +1.7
	baz=282,SNR=8.5						
AAK	**Ala-Archa**	50.48	297			P	17 54 15.1 -0.9
AAK				IAmb		IAmb	17 55 12.4
	comp=Z,18nm,0.8s						
AAK	**Ala-Archa**	50.48	297	LR		LR	18 17 52.4
	comp=Z,2μm,19.2s,baz=78,slow=39						
AAK	**Ala-Archa**	50.48	297	P		P	17 54 15.5 -0.5
AAK				S		S	18 01 30.8 +1.6
AAK	**Ala-Archa**	50.48	297	P		P	17 54 16.2 +0.2
	SNR=11						
AAK	**Ala-Archa**	50.48	297	P		P	17 54 16.2 +0.2
AAK	**Ala-Archa**	50.48	297	*i* P		P	17 54 15.9 -0.1
	SNR=9.1						
KAPI	**Kappang**	50.48	212	LR		LR	18 17 34.4
	comp=Z,533nm,18.2s,baz=21,slow=38						
KAPI	**Kappang**	50.48	212	P		P	17 54 18.0 +2.0
KAPI				S		S	18 01 32.3 +3.0
SRIT	**Nakonsritamara**	50.49	243	IAmb		IAmb	17 54 44.0
	comp=Z,28nm,0.8s						
P29M	**Windy Craggy**	50.53	40	P		P	17 54 16.5 +0.6
	baz=285						
H31M	**Peel River**	50.57	32	P		P	17 54 17.8 +1.6
	baz=283,SNR=12						
KSH	**Kashi**	50.69	292	P		P	17 54 21.8 +4.2
KSH				sP		pwP	17 54 33.6 +8.1
KSH				PP		PP	17 56 19.4 +5.9
KSH				S		S	18 01 37.4 +5.2
KSH				SS		SS	18 05 09.3 +3.0
KSH				pmax		pmax	
	comp=Z,19nm,1.4s						
KSH				pmax		pmax	
	comp=Z,610nm,8.4s						
KSH				LR		LR	
	comp=Z,8μm,14.1s						
KSH				LR		LR	
	comp=Z,7μm,13.7s						
KSH				LR		LR	
	comp=Z,14μm,14.9s						
P30M	**Million Dollar**	50.78	39	P		P	17 54 19.3 +1.4
	baz=285						
TATA	**Tatamba Isabel**	50.95	159	P		P	17 54 20.3 +0.8
EKS2	**Erkin-Say**	50.95	297	P		P	17 54 19.4 -0.2
	SNR=16						
N31M	**Braeburn, Yuko**	50.98	38	P		P	17 54 21.3 +1.9
	baz=285						
O30N	**Mendenhall**	51.02	38	P		P	17 54 20.8 +1.1
	baz=285						
AML	**Almayashu**	51.22	296	P		P	17 54 22.6 +0.7
	SNR=22						
M31M	**Drury Creek, Y**	51.43	36	P		P	17 54 23.5 +0.8
	baz=286						
WHY	**Whitehorse**	51.63	38	P		P	17 54 24.9 +0.6
	baz=286						
S31K	**Pelican**	51.74	42	P		P	17 54 25.9 +0.8
	baz=287						
SKAG	**Skagway**	51.75	40	P		P	17 54 25.9 +0.8
	baz=287						
FARO	**Faro, Yukon**	51.89	36	P		P	17 54 26.6 +0.4
	baz=286						
KULM	**Kulim**	52.22	239			P	17 54 28.5 -0.6
KULM				IAmb		IAmb	17 55 06.7
	comp=Z,34nm,1.0s						
KULM	**Kulim**	52.22	239	P		P	17 54 30.7 +1.6
A36M	**Sachs Harbour**	52.25	23	P		P	17 54 29.4 +0.8
	baz=286,SNR=24						
N32M	**Quiet Lake**	52.33	37	P		P	17 54 29.6 +0.2
	baz=287						
SIT	**Sitka**	52.49	43	P		P	17 54 31.2 +0.6
	baz=289						
P32M	**Atlin**	52.50	39	P		P	17 54 31.3 +0.5
	baz=288						
R32K	**Eaglecrest**	52.52	41	P		P	17 54 31.4 +0.6
	baz=288						
DZA	**Taraz**	52.52	298	*e*P		P	17 54 30.7 -0.4
DZA	**Taraz**	52.52	298	*e*P		P	17 54 30.8 -0.4
MMPY	**Sheldon Lake,**	52.71	35	P		P	17 54 33.0 +0.7
	baz=288						
P33M	**Teslin, Yukon**	52.74	39	P		P	17 54 33.5 +0.9
	baz=288						
KK31	**Karatay Array**	52.98	299	IAmb		IAmb	17 55 15.2
	comp=Z,32nm,0.8s						
KK31	**Karatay Array**	52.98	299	*i* P		P	17 54 33.9 -0.6
KKAR	**Karatay Array**	52.98	299			P	17 54 32.7 -1.8
KKAR	**Karatay Array**	52.98	299	IAmb		IAmb	17 55 15.2
	comp=Z,33nm,0.8s						
KKAR	**Karatay Array**	52.98	299	P		P	17 54 32.7 -1.8
SOEI	**Soe**	53.26	204	P		P	17 54 37.4 +0.5
Q32M	**Nakina River**	53.41	40	P		P	17 54 37.6 0.0
	baz=290						
C36M	**Paulatuk**	53.41	26	P		P	17 54 38.1 +0.9
	baz=289,SNR=8.4						
BRLS	**Borolday**	53.46	299	*e*P		P	17 54 39.1 +1.1
BRLS	**Borolday**	53.46	299	*e*P		P	17 54 39.1 +1.1
DRK	**Karamyk**	53.63	294	IAmb		IAmb	17 55 49.0
	comp=Z,54nm,1.3s						
IUG	**Iuzhnay**	53.70	298	*e*P		P	17 54 39.5 -0.4
IUG				pmax		pmax	
	comp=Z,66nm,1.8s						
IUG	**Iuzhnay**	53.70	298	*e*P		P	17 54 39.6 -0.4
	comp=Z,66nm,1.8s						
SVE	**Sverdlovsk**	53.72	317	*de*P		P	17 54 39.9 +0.2
SVE				*e*			17 56 42.6
SVE				*e*S		S	18 02 14.5 +1.5
SVE				*e*SSS		SSS	18 07 46.6
SVE				pmax		pmax	
	comp=Z,72nm,1.0s						
SVE				MLR		MLR	
	comp=Z,6μm,13.0s						
U33K	**Whale Pass**	53.96	43	P		P	17 54 41.9 +0.5
	baz=291						
BTK	**Batken**	54.06	295	IAmb		IAmb	17 55 56.5
	comp=Z,24nm,0.9s						
COEN	**Coen**	54.30	181	P		P	17 54 54.7 +10
COEN	**Coen**	54.30	181	P		P	17 54 45.3 +1.0
S34M	**Telegraph Cree**	54.33	41	P		P	17 54 44.5 +0.4
	baz=291						
TGTN	**Hyland Airport**	54.40	36	P		P	17 54 45.4 +0.7
	baz=291						
MTN	**Manton Dam**	54.47	195	P		P	17 54 47.1 +1.6
WTLY	**Watson Lake, Y**	54.66	38	P		P	17 54 46.9 +0.4
	baz=291						
DLBC	**Dease Lake**	54.69	40	P		P	17 54 49.1 +2.3
	comp=Z,3.4nm,0.7s,baz=316,slow=13,SNR=4.0						
	comp=Z,3.4nm,0.7s						
DLBC	**Dease Lake**	54.69	40	P		P	17 54 46.8 0.0
	baz=292						
V35K	**Ketchikan**	55.04	44	P		P	17 54 49.6 +0.4
	baz=292						
ARTI	**Arti**	55.04	317			P	17 54 48.8 -0.5
ARTI	**Arti**	55.04	317	LR		LR	18 21 14.4
	comp=Z,5μm,18.5s,baz=69,slow=39						
ARTI	**Arti**	55.04	317	*c i* P		P	17 54 49.7 +0.4
ARTI							17 56 52.6
ARTI				S		S	18 02 33.9 +3.1
ARTI							18 04 43.7
ARTI				SS		SS	18 06 16.2 +2.3
ARTI				pmax		pmax	
	comp=Z,41nm,1.1s						
ARTI				MLR		MLR	
	comp=Z,6μm,16.0s						
T35M	**Bob Quinn**	55.12	42	P		P	17 54 50.3 +0.4
	baz=292						
PSI	**Prapat**	55.21	239	P		P	17 54 51.8 +0.6
	comp=Z,10nm,0.8s,baz=24,slow=8.5,SNR=5.3						
PSI				LR		LR	18 19 46.3
	comp=Z,1μm,19.1s,baz=43,slow=38						
	comp=Z,10nm,0.8s						
NIL	**Nilore**	55.29	287	P		P	17 54 51.8 +0.3
NIL	**Nilore**	55.29	287	P		P	17 54 52.3 +0.8
NIL	**Nilore**	55.29	287	P		P	17 54 51.8 +0.3
NIL				pmax		pmax	
	comp=Z,101nm,0.9s						
RPSI	**Rantau Prapat**	55.29	239	IAmb		IAmb	17 55 03.0
	comp=Z,16nm,0.8s						
WRGLY	**Wrigley**	55.84	33	P		P	17 54 54.8 -0.1
	baz=293						
SIMJ	**Simiganj**	55.94	294			P	17 54 55.7 -0.5
EUNU	**Eureka**	56.37	9	IAmb		IAmb	17 55 17.5
	comp=Z,19nm,0.7s						
TOAD	**Toad River Com**	56.83	38	P		P	17 55 02.9 +0.7
	baz=295						
KOTAN	**Kotaneelee Air**	56.84	37	P		P	17 55 02.5 +0.4
	baz=295						
HOPEN	**Hopen**	57.02	346	*e*P		P	17 55 05.3 +2.2
AB31	**Akbulak array**	57.08	309	IAmb		IAmb	17 55 18.3
	comp=Z,28nm,0.8s						
AB31	**Akbulak array**	57.08	309	*i* P		P	17 55 04.1 +0.1
ABKAR	**Akbulak array**	57.08	309			P	17 55 03.0 -0.9
SPA0	**Spitsbergen Ar**	57.37	349	*e*P		P	17 55 08.5 +2.8
SPITS	**Spitsbergen Ar**	57.37	349	P		P	17 55 06.4 +0.7
	comp=Z,1.7nm,0.4s,baz=64,slow=9.4,SNR=12						
SPITS				LR		LR	18 23 26.2
	comp=Z,2μm,18.3s,baz=355,slow=40						
	comp=Z,1.7nm,0.4s						
AKTO	**Aktyubinsk**	57.69	311	LR		LR	18 20 24.7
	comp=Z,474nm,20.2s,baz=43,slow=37						
AKTO	**Aktyubinsk**	57.69	311	P		P	17 55 07.6 -0.7
KNRA	**Kununurra**	57.72	197	P		P	17 55 08.6 -0.1
KNRA				IAmb		IAmb	17 55 52.2
	comp=Z,21nm,0.8s						
KNRA	**Kununurra**	57.72	197	P		P	17 55 09.6 +0.9
	comp=Z,17nm,1.8s						
LEM	**Lembang**	57.74	224	LR		LR	18 21 13.7
	comp=Z,676nm,19.8s,baz=11,slow=38						
KBL	**Kabul**	57.89	290			P	17 55 08.8 -1.4
KBL	**Kabul**	57.89	290	P		P	17 55 09.2 -1.0
	SNR=17						
KBL				P		P	17 55 09.2 -1.0
	SNR=17						
KBL				S		S	18 03 08.9 -0.8
KBL				S		S	18 03 08.9 -0.8
KBL	**Kabul**	57.89	290	P		P	17 55 08.8 -1.4
KBL				pmax		pmax	
	comp=Z,51nm,1.0s						
MTSU	**Mount Surprise**	58.45	179	P		P	17 55 15.2 +1.3
KIRV	**Kirov**	58.53	322	LR		LR	18 22 53.1
	comp=Z,2μm,18.8s,baz=52,slow=39						
KIRV	**Kirov**	58.53	322	*ce*P		P	17 55 14.9 +0.9
RES	**Resolute Bay**	58.67	15	LR		LR	18 23 26.2
	comp=Z,1μm,19.8s,baz=330,slow=39						
YKAW3	**Yellowknife Wh**	59.76	32	IAmb		IAmb	17 56 13.4
	comp=Z,57nm,1.9s						
YKA	**Yellowknife Ar**	59.79	32	P		P	17 55 23.8 +1.1
	comp=Z,3.0nm,1.1s,baz=302,slow=6.7,SNR=21						
YKA				LR		LR	18 23 53.2
	comp=Z,919nm,19.1s,baz=304,slow=39						
YKA				PKP2bc			18 25 09.4
	comp=Z,0.1nm,0.5s,baz=108,slow=4.5,SNR=3.9						
	comp=Z,3.0nm,1.1s						
YKA	**Yellowknife Ar**	59.79	32	*i* P		P	17 55 24.6 +1.9
YKA				pmax		pmax	
	comp=Z,2.0nm,0.8s						
YKAW1	**Yellowknife Wh**	59.85	32	IAmb		IAmb	17 56 32.3
	comp=Z,28nm,1.5s						
VADS	**Vadso**	59.88	339	*e*P		P	17 55 23.7 +0.4
HYB	**Hyderabad**	60.16	268	*e*P		P	17 55 25.6 -0.4
HYB				IVmB_BB			17 55 37.8
	comp=Z,605nm,2.4s						
HYB				*e*S		S	18 03 40.1 +1.1
HYB				IVMs_BB		IVMs_BB	18 24 35.9
	comp=Z,563nm,12.9s						
APA	**Apatity**	60.19	336	⇓*i*P		P	17 55 26.3 +1.0
APA				*i*			17 56 06.3
APA				pmax		pmax	
	comp=Z,10.0nm,1.2s						
APA				MLR		MLR	
	comp=Z,3μm,13.0s						
WB0	**Warramunga Arr**	60.70	190	IAmb		IAmb	17 56 11.0
	comp=Z,21nm,0.8s						
WR8	**Warramunga Arr**	60.88	190	IAmb		IAmb	17 56 20.4
	comp=Z,26nm,0.9s						
WRA	**Warramunga Arr**	60.88	190	P		P	17 55 29.1 -1.5
WRA	**Warramunga Arr**	60.88	190	P		P	17 55 29.6 -1.0
	comp=Z,6.6nm,0.8s,baz=7.8,slow=6.9,SNR=18						
	comp=Z,6.6nm,0.8s						
WRA	**Warramunga Arr**	60.88	190	*i* P		P	17 55 31.2 +0.6
WRA				pmax		pmax	
	comp=Z,7.0nm,0.8s						
QIS	**Mount Isa**	60.98	184	P		P	17 55 32.2 +0.9
	comp=Z,11nm,0.8s						
ARA0	**ARCESS Array S**	61.30	339	*e*P		P	17 55 33.4 +0.4
ARCES	**ARCESS Array B**	61.30	339	P		P	17 55 32.1 -0.8
	comp=Z,6.1nm,1.0s,baz=42,slow=5.7,SNR=8.2						
ARCES				LR		LR	18 27 59.6
	comp=Z,4μm,18.4s,baz=26,slow=42						
	comp=Z,6.1nm,1.0s						
KLMR	**Klimovskoe**	61.73	327	*e*P		P	17 55 34.0 -1.9
KLMR				S		S	18 03 55.6 -2.1
KLMR							18 05 19.9
KLMR				SSS		SSS	18 10 44.5
KLMR				pmax		pmax	
	comp=Z,57nm,1.8s						
KLMR				MLR		MLR	
	comp=Z,3μm,14.0s						
KTK1	**Kautokeino**	62.25	339	*e*P		P	17 55 41.1 +1.8
BELG	**Belogornoye**	62.45	317	LR		LR	18 27 28.6
	comp=Z,2μm,18.0s,baz=53,slow=41						
BELG	**Belogornoye**	62.45	317	*i* P		P	17 55 40.4 -0.5
BELG				pmax		pmax	
	comp=Z,16nm,2.3s						
TRO	**Tromso**	62.92	341	*e*P		P	17 55 45.8 +2.1
JOF	**Joensuu**	63.67	332	*e*P		P	17 55 49.8 +0.9
AS01	**Alice Springs**	64.60	190	P		P	17 55 56.9 +1.5
AS31	**Alice Springs**	64.61	190			P	17 55 55.0 -0.4
AS31	**Alice Springs**	64.61	190	P		P	17 55 56.3 +0.9
	comp=Z,3.7nm,0.8s						
ASAR	**Alice Springs**	64.61	190	P		P	17 55 54.6 -0.8
ASAR	**Alice Springs**	64.61	190	P		P	17 55 54.9 -0.5
	comp=Z,4.5nm,0.9s,baz=9.5,slow=6.0,SNR=27						
ASAR				PKPPKP			18 24 48.1
	comp=Z,0.6nm,1.1s,baz=302,slow=2.4,SNR=4.3						
	comp=Z,4.5nm,0.9s						
PALK	**Pallekele**	64.94	258	P		P	17 55 56.1 -1.8
	comp=Z,3.1nm,0.6s,baz=44,slow=7.7,SNR=5.9						
PALK				LR		LR	18 25 03.6
	comp=Z,632nm,21.7s,baz=52,slow=37						
	comp=Z,3.1nm,0.6s						
ILON	**Igloolik, Nuna**	65.31	16			P	17 55 59.5 0.0
ILON				IAmb		IAmb	17 56 10.2
	comp=Z,16nm,1.0s						
BLKN	**Baker Lake**	65.37	24			P	17 56 00.1 +0.2
H04A	**Detroit Lake**	65.41	51			P	17 56 00.3 -0.3
H04A				IAmb		IAmb	17 56 41.0
	comp=Z,21nm,1.3s						
MXC	**Moxie City**	65.47	49	P		P	17 56 01.1 +0.2
MXC				IAmb		IAmb	17 56 31.5
	comp=Z,20nm,1.2s						
MOS	**Moscow**	65.48	323	*e*P		P	17 55 58.9 -1.8
MOS				*e*			17 56 33.0
MOS				*e*			17 58 23.7
MOS				*e*S		S	18 04 42.6 -1.9
MOS				*e*			18 05 06.0
MOS				pmax		pmax	
	comp=Z,53nm,1.7s						
MOS				MLR		MLR	
	comp=N,3μm,14.0s						
MOS				MLR		MLR	
	comp=E,4μm,14.0s						
MOS				MLR		MLR	
	comp=Z,5μm,14.0s						
FAUS	**Fauske**	65.50	341	*e*P		P	17 56 02.8 +2.2
K02D	**Willamette Mer**	65.60	54	IAmb		IAmb	17 56 49.9
	comp=Z,15nm,1.1s						
DZM	**Mont Dzumac**	65.84	157	*e*P		P	17 56 02.3 -1.2
	comp=Z,128nm,23.0s						
DZM				*e*S		S	18 04 49.0 -0.8
	comp=Z,578nm,26.2s						
DZM				*e*SS		SS	18 09 06.1 +0.9
	comp=Z,248nm,24.0s						
DZM				*e*LQ		LQ	18 12 56.6
	comp=Z,671nm,28.5s						
DZM				*e*LR		LR	18 15 45.7
	comp=Z,1μm,22.0s						
DZM	**Mont Dzumac**	65.84	157	LR		LR	18 20 04.2
	comp=Z,594nm,21.6s,baz=348,slow=32						
VRH	**Novokhopyorsk**	66.17	318	*e*P		P	17 56 05.9 +0.7
VRH				pmax		pmax	
	comp=Z,27nm,1.0s						
MSVF	**Nonsavu**	66.22	144	LR		LR	18 26 50.8
	comp=Z,508nm,18.2s,baz=353,slow=38						
J04A	**Umpqua Nationa**	66.25	53			P	17 56 04.1 -2.2
NEW	**Newport**	66.30	46	P		P	17 56 04.7 -1.5
NEW				IAmb		IAmb	17 56 46.7
	comp=Z,40nm,1.6s						
NEW	**Newport**	66.30	46	P		P	17 56 08.9 +2.7
	comp=Z,3.5nm,0.7s,baz=299,slow=7.2,SNR=4.4						
	comp=Z,3.5nm,0.7s						
OBN	**Obninsk**	66.33	323	LR		LR	18 28 53.5
	comp=Z,4μm,18.4s,baz=356,slow=40						
OBN	**Obninsk**	66.33	323	⇓*i*P		P	17 56 06.6 +0.4
OBN				*i* *SP		pwP	17 56 14.0 0.0
OBN				*e*			17 56 37.1
OBN				*i*			17 58 36.4
OBN				*i* S		S	18 04 54.6 -0.4
OBN				*e*			18 06 04.8
OBN				*i* SS		SS	18 09 12.5 +2.0
OBN				pmax		pmax	
	comp=Z,73nm,2.5s						
OBN				MLR		MLR	
	comp=Z,4μm,15.0s						
KEF	**Keuruu**	66.43	333	*e*P		P	17 56 07.7 +0.9
FINES	**FINESS Array B**	66.50	332	P		P	17 56 06.5 -0.7
FINES	**FINESS Array B**	66.50	332	P		P	17 56 07.0 -0.2
	comp=Z,12nm,0.5s,baz=48,slow=6.2,SNR=64						
FINES				LR		LR	18 27 47.5
	comp=Z,4μm,20.4s,baz=40,slow=38						
	comp=Z,12nm,0.5s						
VAF	**Ylistaro**	66.55	335	*e*P		P	17 56 08.6 +1.2
MOR8	**Moi Rana**	66.64	340	*e*P		P	17 56 07.2 -0.8
PINE	**Pine Mountain**	66.65	52	IAmb		IAmb	17 56 56.9
	comp=Z,24nm,1.0s						
L04D	**Klamath Falls**	66.70	54			pP	17 56 12.0 -1.3
YBH	**Yreka Blue Hor**	66.73	54	IAmb		IAmb	17 56 30.1
	comp=Z,26nm,1.6s						
YBH	**Yreka Blue Hor**	66.73	54	P		P	17 56 12.0 +2.8
	comp=Z,3.5nm,0.8s,baz=296,slow=9.6,SNR=9.0						
YBH				LR		LR	18 20 07.3
	comp=Z,215nm,20.1s,baz=314,slow=31						
	comp=Z,3.5nm,0.8s						
YBH	**Yreka Blue Hor**	66.73	54	P		P	17 56 12.0 +2.8
LPSR	**Galich'ya Gora**	66.74	320	*e*P		P	17 56 09.7 +0.8
LPSR				pmax		pmax	
	comp=Z,20nm,0.8s						
J05D	**Fort Rock, OR**	66.75	52			P	17 56 10.7 +1.4
J05D				IAmb		IAmb	17 56 57.6
	comp=Z,24nm,1.2s						
QLP	**Quilpie**	66.86	180	P		P	17 56 09.3 -0.5
WRKA	**Warakurna**	66.89	195	P		P	17 56 10.6 +0.5
WRKA	**Warakurna**	66.89	195	P		P	17 56 11.6 +1.5
JMIC	**Jan Mayen**	66.93	350	LR		LR	18 28 04.2
	comp=Z,299nm,18.2s,baz=56,slow=38						
SUMG	**Summit**	67.10	1			P	17 56 12.0 +0.6
SUMG	**Summit**	67.10	1	P		P	17 56 12.0 +0.6
SUMG				pmax		pmax	
	comp=Z,29nm,0.7s						
VORR	**Voronezh**	67.16	319	*e*P		P	17 56 12.8 +1.2
VORR				pmax		pmax	
	comp=Z,40nm,0.5s						
VSR	**Storozhevoye**	67.45	319	*e*P		P	17 56 13.1 -0.4
VSR				pmax		pmax	
	comp=Z,10.0nm,0.6s						
VSR				MLR		MLR	
	comp=Z,6μm,15.0s						
VORD	**Divnogorie**	67.54	319	*e*P		P	17 56 13.1 -0.9
VORD				pmax		pmax	
	comp=Z,10.0nm,1.0s						
VORD				MLR		MLR	
	comp=Z,1μm,10.0s						
MAK	**Makhachkala**	67.71	308	*e*P		P	17 56 11.4 -3.8
MAK				*e*S		S	18 05 08.8 -3.2
MAK				*e*SS		SS	18 09 26.6 -5.8
MAK				pmax		pmax	
	comp=Z,89nm,1.2s						
ARBE	**Arbavere**	67.91	331	*e*P		P	17 56 16.3 +0.1
MEF	**Metsahovi**	67.95	332	*e*P		P	17 56 17.4 +1.0
HATC	**Hat Creek Radi**	68.02	55			P	17 56 15.9 -1.5
HATC				IAmb		IAmb	17 57 15.5
	comp=Z,24nm,1.1s						
INKA	**Innaminka**	68.07	183	P		P	17 56 20.7 +3.3
BMO	**Blue Mountains**	68.17	49			P	17 56 16.9 -1.4
BMO	**Blue Mountains**	68.

KIV e 17 59 03.3
KIV eS S 18 05 39.8 +1.0
KIV eSS SS 18 10 06.6 -0.6
KIV pmax pmax
comp=Z,36nm,1.1s
KIV pmax pmax
comp=Z,154nm,3.8s
KIV Kislovodsk 69.95 311 i P P 17 56 30.0 +0.7
SNR=12
KIV Kislovodsk 69.95 311 P P 17 56 30.1 +0.8
comp=Z,924nmcomp=Z,75nm,1.1s
KBZ Khabaz 69.97 311 P P 17 56 29.0 -0.3
comp=Z,9.1nm,0.9s,baz=56,slow=5.2,SNR=16
KBZ LR LR 18 32 34.7
comp=Z,2μm,18.1s,baz=28,slow=41
comp=Z,9.1nm,0.9s
KBZ Khabaz 69.97 311 ceP P 17 56 30.3 +1.1
KBZ pmax pmax
comp=Z,54nm,2.0s
SHA1 Shidzhatmaz 70.10 311 ⇑iP P 17 56 32.4 +2.0
ERBR Yeremizino-Bor 70.12 314 eP P 17 56 27.0 -3.2
ERBR eS S 18 05 40.5 0.0
ERBR e 18 06 28.2
ERBR pmax pmax
comp=Z,32nm,0.8s
MNK Minsk 70.56 326 i P P 17 56 34.3 +1.6
MNK i 17 59 10.3
MNK i PPP PPP 18 00 52.7
MNK i S S 18 05 47.5 +2.2
MNK i SS SS 18 10 10.4 -5.3
MNK pmax pmax
comp=N,21nm,1.3s
MNK pmax pmax
comp=E,25nm,1.1s
MNK pmax pmax
comp=Z,35nm,0.9s
MNK MLR MLR
comp=E,2μm,15.0s
MNK MLR MLR
comp=Z,2μm,14.0s
MNK MLR MLR
comp=N,1μm,18.0s
SLIT Slitere, Latvi 70.56 331 eP P 17 56 33.5 +0.8
LABN Labinsk 70.65 313 eP P 17 56 33.6 +0.2
LABN eS S 18 05 48.1 +1.4
LABN pmax pmax
comp=Z,36nm,0.7s
LCRK Leigh Creek 70.89 185 P P 17 56 36.4 +1.6
GNI Garni 71.04 307 LR LR 18 31 05.5
comp=Z,1μm,18.3s,baz=36,slow=39
GNI Garni 71.04 307 P P 17 56 38.6 +2.4
ARMA Armidale 71.05 173 P P 17 56 39.4 +3.5
comp=Z,12nm,0.9s
RYN Ryan 71.14 55 P P 17 56 37.0 +0.2
LHV Little Huntoon 71.38 55 IAmb IAmb 17 57 26.7
comp=Z,28nm,1.1s
NC405 NORSAR Array S 71.38 338 IAmb IAmb 17 57 30.6
comp=Z,28nm,1.0s
NC303 NORSAR Array S 71.39 338 IAmb IAmb 17 57 28.1
comp=Z,24nm,1.1s
NVAR Mina Array Bea 71.40 55 P P 17 56 37.7 -0.7
NVAR Mina Array Bea 71.40 55 P P 17 56 40.4 +2.0
comp=Z,6.0nm,0.9s,baz=292,slow=6.3,SNR=16
NVAR LR LR 18 27 09.8
comp=Z,206nm,18.6s,baz=306,slow=35
comp=Z,6.0nm,0.9s
PABE Paberze 71.46 329 P P 17 56 38.8 +0.7
PABE Paberze 71.46 329 eP P 17 56 39.1 +1.0
NV11 Mina Array Sit 71.49 55 P P 17 56 39.5 +0.6
NC204 NORSAR Array S 71.52 338 IAmb IAmb 17 57 28.7
comp=Z,23nm,0.9s
HFS Hagfors 71.57 336 P P 17 56 38.8 +0.1
comp=Z,10.0nm,0.7s,baz=40,slow=7.8,SNR=18
HFS LR LR 18 30 41.5
comp=Z,2μm,20.8s,baz=38,slow=38
comp=Z,10.0nm,0.7s
NB2 NORSAR Subarra 71.58 338 P P 17 56 38.3 -0.6
comp=Z,56nm,1.4s,baz=38,slow=6.2
NB2 NORSAR Subarra 71.58 338 P P 17 56 38.3 -0.6
baz=38,slow=6.2
NOA NORSAR Array B 71.58 338 P P 17 56 38.3 -0.6
comp=Z,8.8nm,0.8s,baz=37,slow=6.0,SNR=29
NOA LR LR 18 32 08.9
comp=Z,3μm,19.8s,baz=20,slow=39
comp=Z,8.8nm,0.8s
YHL Hebgen Lake 71.62 46 IAmb IAmb 17 57 34.6
comp=Z,16nm,1.0s
WSAR Wadi Sarin 71.72 285 LR LR 18 31 44.3
comp=Z,4.7nm,18.7s,baz=76,slow=39
WSAR Wadi Sarin 71.72 285 P P 17 56 41.9 +1.6
WSAR S S 18 06 02.6 +2.9
JLN Jalan Bani Buh 71.80 284 P P 17 56 42.3 +1.6
BANOM Banah 71.81 289 P P 17 56 40.9 +0.1
BANOM Banah 71.81 289 i P P 17 56 40.7 -0.1
SNR=8.0
CMSA Cobar Meteorol 71.81 178 P P 17 56 40.3 -0.1
CMSA Cobar Meteorol 71.81 178 P P 17 56 42.0 +1.6
WBK Wadi Bani Khal 71.84 284 P P 17 56 43.0 +2.0
SHME Shamm 71.85 289 i P P 17 56 40.7 -0.2
SNR=7.2
ELK Elko 71.86 52 P P 17 56 43.6 +2.5
comp=Z,3.1nm,0.9s,baz=297,slow=8.4,SNR=9.4
ELK LR LR 18 28 05.1
comp=Z,245nm,19.5s,baz=333,slow=36
comp=Z,3.1nm,0.9s
SOC Sochi 71.87 312 eP P 17 56 39.8 -1.0
SOC e 17 59 16.9
SOC ePPP PPP 18 00 58.3
SOC eS S 18 06 01.4 +0.5
BIDO Bidbid 71.92 286 P P 17 56 42.9 +1.5
SFJD Kangerlussuaq 72.15 6 LR LR 18 30 33.0
comp=Z,1μm,19.5s,baz=348,slow=38
STKA Stephens Creek 72.16 182 P P 17 56 43.9 +1.4
comp=Z,1.6nm,0.7s,baz=343,slow=9.1,SNR=4.0
comp=Z,1.6nm,0.7s
YNE Yellowstone No 72.17 46 IAmb IAmb 17 57 50.3
comp=Z,22nm,1.3s
MDH Madha 72.19 288 P P 17 56 43.7 +0.7
H17A Grant Village 72.25 46 P P 17 56 44.0 +0.5
H17A IAmb IAmb 17 57 52.7
comp=Z,31nm,1.3s
DSP Deep Springs 72.25 56 IAmb IAmb 17 57 43.7
comp=Z,15nm,1.1s
SMDO Samad 72.25 285 P P 17 56 44.0 +0.4
SNR=9.1
UOSS Minazif 72.47 288 P P 17 56 44.4 -0.3
UOSS Minazif 72.47 288 P P 17 56 44.8 +0.1
UOSS Minazif 72.47 288 P P 17 56 44.1 -0.6
HOQ Hoqain 72.48 286 P P 17 56 46.0 +1.2
SNR=8.9
FXWY Fox Creek 72.48 47 P P 17 56 45.5 +0.7
FXWY IAmb IAmb 17 57 24.9
comp=Z,20nm,1.4s
RLMT Red Lodge 72.50 45 IAmb IAmb 17 57 51.8
comp=Z,29nm,1.6s
FORT Forrest 72.51 194 P P 17 56 46.3 +1.7
AK03 Malin Array Si 72.57 323 P P 17 56 44.5 -0.3
MOOW Moose Ponds 72.57 47 IAmb IAmb 17 57 53.6
comp=Z,18nm,1.2s
AKASG Malin Array Be 72.58 323 P P 17 56 44.2 -0.7
AKASG IAmb IAmb 17 56 58.7
comp=Z,58nm,2.0s
AKASG Malin Array Be 72.58 323 P P 17 56 44.8 -0.2
comp=Z,5.2nm,0.4s,baz=44,slow=6.3,SNR=38
AKASG LR LR 18 32 39.2
comp=Z,3μm,18.5s,baz=37,slow=39
comp=Z,5.2nm,0.4s
AKBB Malin Array Si 72.58 323 IAmb IAmb 17 57 20.6
comp=Z,30nm,0.9s
AKBB Malin Array Si 72.58 323 ceP P 17 56 44.1 -0.8
AKBB pmax pmax
comp=Z,23nm,0.9s
AKBB Malin Array Si 72.58 323 P P 17 56 45.4 +0.5
AK23 Malin Array Si 72.58 323 P P 17 56 45.4 +0.4
HATD Hatta, Dubai 72.59 288 P P 17 56 45.7 +0.3
SNR=7.0
HATD Hatta, Dubai 72.59 288 i P P 17 56 45.2 -0.3
SNR=13
KIEV Kiev 72.59 323 P P 17 56 43.6 -1.4
KIEV IAmb IAmb 17 57 20.6
comp=Z,27nm,0.9s
KIEV Kiev 72.59 323 ⇓P P 17 56 44.4 -0.5
KIEV Kiev 72.59 323 P P 17 56 45.7 +0.7
KIEV Kiev 72.59 323 i P P 17 56 45.0 0.0
SNR=14
KIEV Kiev 72.59 323 P P 17 56 44.5 -0.5
comp=Z,120nm,0.9s
JMDO Jabal Madar 72.63 285 P P 17 56 47.0 +1.3
HVU Hansel Valley 72.66 50 P P 17 56 46.2 +0.4
HVU Hansel Valley 72.66 50 P P 17 56 46.2 +0.4
HVU pmax pmax
comp=Z,12nm,1.0s
SOHO SOHO 72.71 287 P P 17 56 46.9 +0.7
SOHO SOHO 72.71 287 P P 17 56 45.8 -0.4
ASHO Ashiyiah 72.73 288 P P 17 56 46.5 +0.2
SNR=5.2
FOO Floro 72.78 341 e P 17 56 25.8 -20
NAZ Nazwa, Dubai 72.83 288 P P 17 56 47.9 +1.0
NAZ Nazwa, Dubai 72.83 288 P P 17 56 47.2 +0.3
FAQ Al Faqa, Dubai 73.03 288 P P 17 56 49.0 +0.9
FAQ Al Faqa, Dubai 73.03 288 P P 17 56 48.5 +0.5
BSY Bisya 73.06 286 P P 17 56 50.0 +1.6
SNR=9.5
MI28 Mi28,Pidlybu 73.13 324 P P 17 56 48.9 +0.7
ARQ Araqi 73.20 286 P P 17 56 50.3 +1.1
SNR=6.4
ASUD Al Ashush, Dub 73.29 288 P P 17 56 50.8 +1.2
ASUD Al Ashush, Dub 73.29 288 P P 17 56 49.5 -0.1
ALNE Al Ain 73.33 288 P P 17 56 49.6 -0.3
HWUT Hardware Ranch 73.47 49 IAmb IAmb 17 57 31.1
comp=Z,20nm,1.2s
MHTO MHTO 73.56 284 P P 17 56 51.5 +0.2
SNR=14
RNPP9 Sopachiv 73.58 325 P P 17 56 51.8 +0.9
TPNV Topopah Spring 73.59 55 P P 17 56 55.4 +4.0
TPNV Topopah Spring 73.59 55 P P 17 56 55.4 +4.0
TPNV pmax pmax
comp=Z,14nm,1.0s
RNPP8 Varash 73.66 325 P P 17 56 52.1 +0.8
GURO Guroymak-BITLI 73.68 307 IAmb IAmb 17 57 43.6
comp=Z,19nm,0.8s
RNPP5 Staryi Chortor 73.72 325 P P 17 56 52.4 +0.8
LUBAR Lubar, Ukraine 73.80 323 P P 17 56 52.6 +0.4
GWY Greenwater Val 73.80 56 pP 17 56 56.6 -0.3
HTT Hallett 73.82 184 P P 17 56 54.8 +2.5
PDAR Pinedale Array 73.86 47 P P 17 56 53.5 +0.5
PDAR Pinedale Array 73.86 47 P P 17 56 54.3 +1.3
comp=Z,3.3nm,0.9s,baz=318,slow=2.0,SNR=14
comp=Z,3.3nm,0.9s
SIM Simferopol' 74.05 316 eP P 17 56 55.4 +1.6
SIM eS S 18 06 23.8 -1.9
SIM pmax pmax
comp=Z,39nm,1.3s
SIM smax smax
comp=E,189nm,15.7s
SIM MLR MLR
comp=Z,518nm,15.9s
PSUT Pine Spring 74.07 53 P P 17 56 57.5 +3.3
DQM DQM 74.53 283 P P 17 56 57.7 +0.8
SHPR Sheep Range 74.55 55 P P 17 56 56.4 -0.6
BSUT Blindstream Ca 74.63 50 P P 17 56 57.2 -0.4
SORM Soroca 74.78 321 P P 17 56 58.5 +0.6
MSU Marysvale 75.10 52 P P 17 57 00.2 0.0
MSU Marysvale 75.10 52 P P 17 57 00.2 0.0
KIS Kishinev 75.35 320 eP P 17 57 01.0 -0.2
comp=Z,260nm,6.1s
KIS Kishinev 75.35 320 ePP PP 17 59 49.0 -0.4
KIS eS S 18 06 43.0 +2.9
KIS eL L 18 27 38.0
KIS LQM 18 31 48.0
KIS comp=Z,850nm,17.5s LRM MLR 18 33 48.0
comp=Z,800nm,19.0s
KIS Kishinev 75.35 320 eP P 17 57 01.0 -0.2
KIS e 17 59 49.0
KIS eS S 18 06 43.0 +2.9
KIS pmax pmax
comp=Z,260nm,6.1s
KIS MLR MLR
comp=Z,800nm,19.0s
MILM Milestii Mici 75.41 320 eP P 17 57 01.0 -0.5
comp=Z,470nm,6.5s
MILM Milestii Mici 75.41 320 ePcP PcP 17 57 17.0 +2.3
MILM Milestii Mici 75.41 320 ePP P 17 57 48.0 +46
MILM eS S 18 06 40.0 -0.7
MILM Milestii Mici 75.41 320 ePS 18 06 54.0
MILM eL L 18 26 01.0
MILM LQM 18 28 45.0
MILM comp=Z,2μm,19.5s LRM MLR 18 33 32.0
comp=Z,2μm,17.0s
MILM Milestii Mici 75.41 320 ⇓P P 17 57 01.6 +0.1
MILM Milestii Mici 75.41 320 eP P 17 57 01.0 -0.5
MILM e 17 57 17.0
MILM e 17 59 48.0
MILM eS S 18 06 40.0 -0.7
MILM pmax pmax
comp=Z,470nm,6.5s
MILM MLR MLR
comp=Z,2μm,17.0s
BEL Belsk 75.44 327 eP P 17 57 03.5 +1.9
ULM Lac du Bonnet 75.51 35 P P 17 57 04.8 +2.8
comp=Z,2.5nm,0.7s,baz=315,slow=5.4,SNR=3.2
comp=Z,2.5nm,0.7s
PFO Pinyon Flats O 75.55 58 P P 17 57 05.5 +2.7
comp=Z,2.5nm,0.6s,baz=260,slow=3.4,SNR=3.8
PFO LR LR 18 23 57.8
comp=Z,386nm,20.9s,baz=270,slow=31
comp=Z,2.5nm,0.6s
MZR Muzera 75.62 288 P P 17 57 02.7 -0.5
W13A Hualapai Mount 76.24 56 P P 17 57 06.8 0.0
HMU Henry Mountain 76.33 52 IAmb IAmb 17 57 22.8
comp=Z,13nm,0.9s
BUR08 Bucovina Ar. S 76.61 322 IAmb IAmb 17 57 34.3
comp=Z,21nm,1.1s
TLCR 76.62 319 ⇑P P 17 57 10.3 +1.8
TLCR 76.62 319 ⇑P P 17 57 10.3 +1.8
BURAR Bucovina Array 76.62 322 ⇑P P 17 57 07.8 -0.8
BURAR Bucovina Array 76.62 322 P P 17 57 10.0 +1.4
GHRR 76.70 320 ⇑P P 17 57 10.7 +1.8
BLYC Blythe 76.70 57 P P 17 57 09.5 +0.3
TESR Tescani 76.75 321 ⇓P P 17 57 08.8 -0.4
EPLO Experimental L 76.86 34 IAmb IAmb 17 57 21.3
comp=Z,21nm,1.0s
JURR Jurilovca 76.89 318 ⇑P P 17 57 10.3 +0.3
PANC Panciu 76.96 320 ⇑P P 17 57 13.3 +2.9
PV21 Cone Mtn., Par 76.96 50 IAmb IAmb 17 58 40.0
comp=Z,16nm,1.1s
CFR Carcaliu 76.97 319 ⇑P P 17 57 10.9 +0.5
CFR Carcaliu 76.97 319 ⇑P P 17 57 10.9 +0.5
KOLS Kolonicke sedl 76.98 325 eP P 17 57 11.8 +1.3
KOLS pmax pmax
comp=Z,9.0nm,0.8s
KOLS Kolonicke sedl 76.98 325 eP P 17 57 11.8 +1.3
ONER Baraj Valea Uz 77.00 321 ⇑P P 17 57 11.2 +0.6
PV23 Carpenter Ridg 77.01 50 IAmb IAmb 17 58 32.6
comp=Z,18nm,0.9s
TPGR Topolog 77.06 319 ⇓P P 17 57 11.5 +0.5
PV14 Lion Creek, Pa 77.06 50 IAmb IAmb 17 58 29.0
comp=Z,31nm,1.3s
OJC Ojcow 77.07 327 eP P 17 57 10.6 -0.4
ODBI Odobesti 77.08 320 ⇓P P 17 57 13.7 +2.6
PV22 Blue Mesa, Par 77.09 50 IAmb IAmb 17 57 53.5
comp=Z,17nm,1.0s
PV04 Paradox Valley 77.12 50 IAmb IAmb 17 58 30.7
comp=Z,21nm,1.2s
PV19 Morning Glory 77.12 50 IAmb IAmb 17 57 53.8
comp=Z,24nm,1.2s
PV17 East Wray Mesa 77.16 50 IAmb IAmb 17 57 53.4
comp=Z,23nm,0.9s
PV16 Nyswonger Mesa 77.16 50 IAmb IAmb 17 57 24.3
comp=Z,13nm,0.9s
VRI Vrincioaia 77.17 320 ⇑P P 17 57 13.1 +1.5
VRI Vrincioaia 77.17 320 ⇑P P 17 57 13.1 +1.5
NWAO Narrogin (SRO) 77.18 203 LR LR 18 31 59.6
comp=Z,330nm,19.7s,baz=42,slow=36
PV11 David Mesa, Pa 77.20 50 IAmb IAmb 17 57 52.4
comp=Z,18nm,0.9s
PV05 Paradox Valley 77.21 51 IAmb IAmb 17 57 35.5
comp=Z,17nm,0.9s
PV18 Skein Mesa, Pa 77.21 50 IAmb IAmb 17 58 30.5
comp=Z,29nm,1.1s
PLOR Plostina 77.22 320 ⇓P P 17 57 14.7 +2.8
PLOR Plostina 77.22 320 ⇓P P 17 57 14.7 +2.8
PV13 Radium Mtn., P 77.32 50 IAmb IAmb 17 57 55.0
comp=Z,30nm,1.4s
PV02 Paradox Valley 77.34 50 IAmb IAmb 17 57 55.1
comp=Z,30nm,1.2s
TIRR Tirgusor 77.34 318 ⇑P P 17 57 14.7 +2.1
TIRR Tirgusor 77.34 318 ⇑P P 17 57 14.7 +2.1
BMR Baia Mare 77.37 323 ⇓P P 17 57 14.1 +1.4
BMR Baia Mare 77.37 323 ⇓P P 17 57 14.1 +1.4
BISRR Bisoca 77.41 320 ⇑P P 17 57 14.7 +1.6
ARCR ARCALIA 77.41 322 ⇑P P 17 57 16.8 +3.8
HARR Harsova 77.42 319 ⇓P P 17 57 13.4 +0.4
HARR Harsova 77.42 319 ⇓P P 17 57 13.4 +0.4
COVR Voineasa-Covas 77.44 321 ⇓P P 17 57 13.2 0.0
OZUR 77.46 321 ⇑P P 17 57 14.5 +1.2
NIE Niedzica 77.47 326 eP P 17 57 13.1 -0.1
WUAZ Wupatki 77.53 54 P P 17 57 13.8 -0.3
DOPR Dopca 77.74 321 ⇑P P 17 57 15.1 +0.2
ISR Istrita 77.80 320 ⇓P P 17 57 16.3 +1.1
ISR Istrita 77.80 320 ⇓P P 17 57 16.3 +1.1
MLR Muntele Rosu 77.82 320 IAmb IAmb 17 58 21.7
comp=Z,22nm,1.1s
MLR Muntele Rosu 77.82 320 LR LR 18 36 12.5
comp=Z,3μm,18.4s,baz=24,slow=39
TOO Toolangi 77.83 179 P P 17 57 23.1 +8.0
BR131 Keskin Array S 77.84 312 IAmb IAmb 17 58 11.3
comp=Z,21nm,1.2s
BR131 Keskin Array S 77.84 312 P P 17 57 17.0 +1.4
BRTR Keskin Array B 77.84 312 P P 17 57 14.8 -0.9
comp=Z,2.0nm,0.9s,baz=90,slow=2.5,SNR=12
BRTR PP PP 18 00 13.7 +2.9
comp=Z,2.4nm,0.8s,baz=52,slow=6.6,SNR=3.6
BRTR LR LR 18 34 49.6
comp=Z,1μm,18.7s,baz=10,slow=38
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 77.84 312 i P P 17 57 16.8 +1.2
BRTR pmax pmax
comp=Z,2.0nm,0.9s
DOK Doka 77.86 284 P P 17 57 16.7 +0.9
ICOR Ion Corvin 77.89 319 ⇓P P 17 57 17.0 +1.3
KSP Ksiaz 78.01 329 eP P 17 57 16.5 +0.3
LANS Liptovska Anna 78.03 326 eP P 17 57 18.4 +2.0
LANS pmax pmax
comp=Z,15nm,1.7s
LANS Liptovska Anna 78.03 326 eP P 17 57 18.4 +2.0
OKC Ostrava-Krasne 78.05 327 eS S 18 07 12.3 +2.8
OKC AMS AMS 18 36 40.0
comp=Z,3μm,13.5s
KIRS Kirsehir-Merke 78.08 312 ⇓P P 17 57 19.4 +2.5
STEB Steborice 78.13 328 eP P 17 57 17.7 +0.8
ANTO Ankara 78.21 313 P P 17 57 19.7 +2.1
ANTO Ankara 78.21 313 ⇓P P 17 57 19.9 +2.3
ANTO Ankara 78.21 313 ⇓P P 17 57 19.9 +2.3
X16A Lo Mia Camp, P 78.21 55 P P 17 57 19.4 +1.5
OSTC Ostas 78.26 329 AMS AMS 18 35 30.0
comp=Z,4μm,15.7s
MARR Marisel-Cluj 78.29 323 ⇓P P 17 57 18.5 +0.6
VOIR 78.29 321 ⇑P P 17 57 19.2 +1.2
VOIR 78.29 321 ⇑P P 17 57 19.2 +1.2
CHVC Chvalec 78.30 329 AMS AMS 18 35 30.0
comp=Z,4μm,16.8s
MORC Moravsky Berou 78.34 328 IAmb IAmb 17 58 06.5
comp=Z,22nm,1.1s
MORC Moravsky Berou 78.34 328 eP P 17 57 18.7 +0.6
MORC Moravsky Berou 78.34 328 ⇓P P 17 57 18.7 +0.6
MORC Moravsky Berou 78.34 328 ⇓P P 17 57 18.7 +0.6
UPC Upice 78.38 329 AMS AMS 18 35 40.0
comp=Z,4μm,16.4s
DPC Dobruska-Polom 78.38 329 eP P 17 57 19.8 +1.5
DPC eS S 18 07 13.7 +0.5
DPC AMS AMS 18 35 30.0
comp=Z,3μm,16.3s
DPC Dobruska-Polom 78.38 329 eP P 17 57 19.8 +1.5
DPC eS S 18 07 13.7 +0.5
DPC MLR MLR
comp=Z,3μm,16.3s
KRLC Kraliky 78.42 328 AMS AMS 18 37 50.0
comp=Z,3μm,14.0s
KRLC Kraliky 78.42 328 eP P 17 57 23.1 +4.6
KRLC eS S 18 07 22.4 +8.8
RBK Rabkut 78.50 283 P P 17 57 20.2 +0.7
ARR Arges 78.54 321 ⇑P P 17 57 21.3 +1.9
MAUC Maruska 78.55 327 eS S 18 07 19.0 +4.0
WHFO Wadi Hawf 78.56 284 P P 17 57 19.6 -0.2
PSZ Piszkesteto 78.79 325 ⇓P P 17 57 21.9 +1.3
PSZ Piszkesteto 78.79 325 ⇓P P 17 57 21.9 +1.3
VYHS Vyhne 78.80 326 eP P 17 57 22.0 +1.4
VYHS pmax pmax
comp=Z,21nm,1.4s
VYHS Vyhne 78.80 326 eP P 17 57 22.0 +1.4
BRG Berggiesshubel 78.89 330 eP P 17 57 22.2 +1.2
BRG Amp 17 57 25.2
comp=Z,11nm,1.1s
BRG Berggiesshubel 78.89 330 S S 18 07 18.0 -0.4
CLL Collm 78.89 331 IAmb IAmb 17 57 36.0
comp=Z,13nm,0.8s
CLL Collm 78.89 331 eP P 17 57 21.0 0.0
CLL i 17 57 28.1
CLL eS S 18 07 17.0 -1.4
CLL pmax pmax
comp=Z,47nm,1.7s
CLL MLR MLR
comp=Z,3μm,21.0s
PVCC Panska Ves 78.92 330 eP P 17 57 23.7 +2.5
PVCC AMS AMS 18 37 30.0
comp=Z,4μm,14.6s
PVCC Panska Ves 78.92 330 eP P 17 57 23.7 +2.5
PVCC MLR MLR
comp=Z,4μm,14.6s
JAVC Velka Javorina 79.01 327 eP P 17 57 23.6 +1.8
RICC Richard 79.09 330 AMS AMS 18 36 30.0
comp=Z,4μm,16.5s
VRAC Vranov 79.09 328 LR LR 18 36 05.6
comp=Z,3μm,18.2s,baz=20,slow=39
VRAC Vranov 79.09 328 eP P 17 57 22.9 +0.7
ABTO Aybut 79.27 284 P P 17 57 24.0 +0.3
SNR=5.4
HSKC Hora Svate Kat 79.29 330 eP P 17 57 23.1 -0.2
HSKC eS S 18 07 22.4 -0.4
GOPC GO Pecny, Ondr 79.33 329 AMS AMS 18 37 40.0
comp=Z,4μm,13.8s
PRA Prague 79.34 330 AMS AMS 18 37 50.0
comp=Z,5μm,14.8s
PRU Pruhonice 79.37 329 AMS AMS 18 37 40.0
comp=Z,5μm,14.5s
KRUC Moravsky 79.37 328 eP P 17 57 22.9 -0.8
SMOL Smolenice 79.38 327 eP P 17 57 25.8 +2.0
SMOL pmax pmax
comp=Z,73nm,2.8s
SURR Surduc 79.44 323 ⇓P P 17 57 25.3 +1.2
BORA Eskisehir 79.50 314 IAmb IAmb 17 57 26.8
comp=Z,34nm,1.6s
MODS Modra-Piesok 79.55 327 eP P 17 57 25.7 +1.0
MODS pmax pmax
comp=Z,57nm,1.5s
MODS Modra-Piesok 79.55 327 eP P 17 57 25.7 +1.0
TREC Trest 79.55 328 AMS AMS 18 38 30.0
comp=Z,3μm,13.9s
SRO Srobarova 79.55 326 eP P 17 57 26.9 +2.2
SRO pmax pmax
comp=Z,56nm,1.8s
SRO Srobarova 79.55 326 eP P 17 57 26.9 +2.2
BZS Buzias 79.77 323 ⇑P P 17 57 28.1 +2.1
BZS Buzias 79.77 323 ⇑P P 17 57 28.1 +2.1
ZVC Zvikov 79.94 329 eP P 17 57 27.3 +0.5
ZVC AMS AMS 18 37 50.0
comp=Z,4μm,13.5s
NKC Novy Kostel 79.96 331 AMS AMS 18 38 30.0
comp=Z,5μm,14.1s
EKA Eskdalemuir Ar 80.35 342 P P 17 57 29.0 +0.1
comp=Z,1.6nm,0.4s,baz=25,slow=4.9,SNR=11
comp=Z,1.6nm,0.4s
CKRC Cesky Krumlov 80.39 329 eS S 18 07 35.3 +0.8
CKRC AMS AMS 18 39 00.0
comp=Z,3μm,13.9s
KHC Kasperske Hory 80.43 329 eP P 17 57 29.4 -0.1
KHC eS S 18 07 28.5 -6.4
KHC AMS AMS 18 38 10.0
comp=Z,5μm,14.3s
KHC Kasperske Hory 80.43 329 eP P 17 57 29.4 -0.1
KHC eS S 18 07 28.5 -6.4
KHC MLR MLR
comp=Z,5μm,14.3s
CONA Conrad Observa 80.48 327 epP P 17 57 31.7 +1.9
comp=Z,14nm,1.1s
CONA Conrad Observa 80.48 327 i P P 17 57 31.9 +2.1
SNR=7.2
RONA Rosalia, Austr 80.48 327 i P P 17 57 31.1 +1.2
comp=Z,8.6nm,0.7s
RONA Rosalia, Austr 80.48 327 i P P 17 57 32.1 +2.2
SNR=6.9

GERES **GERESS Array B** 80.61 329 P **P** 17 57 29.9 -0.7
GERES **GERESS Array B** 80.61 329 P **P** 17 57 29.7 -0.9
comp=Z,1.3nm,0.4s,baz=40,slow=5.6,SNR=14
GERES LR LR 18 37 42.6
comp=Z,3μm,18.8s,baz=16,slow=39
comp=Z,1.3nm,0.4s
GERES **GERESS Array B** 80.61 329 P **P** 17 57 29.9 -0.7
MORH **Mrgy, Hungar** 80.65 325 ⇑P **P** 17 57 31.5 +0.8
RAR **Rarotonga** 80.84 128 LR LR 18 31 56.0
comp=Z,565nm,18.8s,baz=292,slow=35
ANMO **Albuquerque** 80.89 52 P **P** 17 57 33.0 +0.5
ANMO **Albuquerque** 80.89 52 P **P** 17 57 34.1 +1.6
comp=Z,4.7nm,1.1s,baz=126,slow=8.4,SNR=5.8
ANMO LR LR 18 28 55.6
comp=Z,130nm,21.1s,baz=143,slow=32
comp=Z,4.7nm,1.1s
ANMO **Albuquerque** 80.89 52 *ce*P **P** 17 57 35.2 +2.7
ANMO pmax pmax
comp=Z,4.0nm,1.3s
RAYN **Ar Rayn** 80.98 293 P **P** 17 57 32.5 -0.4
RAYN **Ar Rayn** 80.98 293 P **P** 17 57 33.8 +0.9
RAYN **Ar Rayn** 80.98 293 P **P** 17 57 32.5 -0.4
RAYN pmax pmax
comp=Z,9.0nm,0.9s
RAYN **Ar Rayn** 80.98 293 *i* P **P** 17 57 32.9 0.0
SNR=9.8
ARSA **Arzberg** 81.16 327 *e*P **P** 17 57 34.9 +1.4
comp=Z,5.5nm,0.9s
MOA **Molln** 81.19 328 *ep*P pP 17 57 35.8 -2.2
comp=Z,8.5nm,1.5s
RDO **Rodhopi** 81.19 318 IAmb IAmb 17 58 29.2
comp=Z,27nm,1.0s
BOVS **Bovan** 81.23 321 ⇓P **P** 17 57 33.8 0.0
I37A **Lemond, Waseca** 81.30 38 IAmb IAmb 17 57 46.5
comp=Z,32nm,0.9s
BNM **Barren Site** 81.34 52 P **P** 17 57 34.4 -0.5
MMAI **Mount Meron Ar** 81.37 306 LR LR 18 38 07.2
comp=Z,1μm,18.6s,baz=17,slow=39
BIOA **Bad Ischl, Aus** 81.57 329 *e*P **P** 17 57 36.9 +1.3
comp=Z,10nm,1.5s
BIOA **Bad Ischl, Aus** 81.57 329 *i* P **P** 17 57 37.0 +1.3
SNR=5.7
SOKA **Soboth** 81.82 327 *e*P **P** 17 57 37.7 +0.7
comp=Z,22nm,1.2s
SOKA **Soboth** 81.82 327 *i* P **P** 17 57 37.4 +0.4
SNR=7.8
BTNL **Ternell** 81.89 334 *d*P **P** 17 57 39.2 +2.0
comp=Z,6.4nm,0.9s
MEM **Membach** 81.91 334 *d*P **P** 17 57 38.1 +0.8
comp=Z,6.2nm,1.0s
BSTI **Sart Tilman** 82.08 335 *d*P **P** 17 57 39.2 +1.1
OBKA **Obir** 82.16 327 *e*P **P** 17 57 38.3 -0.5
comp=Z,16nm,1.8s
LESA **Schwarzleotal** 82.17 329 *i* pP **P** 17 57 40.5 +1.7
comp=Z,17nm,1.2s
LESA **Schwarzleotal** 82.17 329 *i* P **P** 17 57 40.2 +1.4
SNR=8.0
KBA **Koelnbreinsper** 82.18 328 *i* pP **P** 17 57 40.4 +1.4
comp=Z,22nm,1.5s
KBA **Koelnbreinsper** 82.18 328 *i* P **P** 17 57 40.6 +1.6
SNR=5.9
BCLA **Clavier** 82.31 335 *d*P **P** 17 57 39.7 +0.3
comp=Z,17nm,0.0s
BGES **Gesves** 82.41 335 *d*P **P** 17 57 40.9 +1.0
comp=Z,5.6nm,0.9s
MYKA **Terra Mystica** 82.43 328 *i* P **P** 17 57 40.9 +0.7
comp=Z,3.9nm,0.6s
BMRD **Maredsous** 82.58 335 *d*P **P** 17 57 41.7 +0.9
comp=Z,8.9nm,0.9s
PRED **Cave del Predi** 82.61 328 IAmb IAmb 17 58 12.3
comp=Z,12nm,0.9s
WATA **Walderalm** 82.67 329 *e*P **P** 17 57 42.4 +0.9
comp=Z,15nm,1.7s
WATA **Walderalm** 82.67 329 *i* P **P** 17 57 43.7 +2.2
SNR=5.6
WTTA **Wattenberg** 82.70 329 *i* P **P** 17 57 43.0 +1.2
comp=Z,12nm,0.9s
ABTA **Abfaltersbach** 82.78 329 *e*P **P** 17 57 43.3 +1.2
comp=Z,6.0nm,1.2s
DOU **Dourbes** 82.81 335 *d*P **P** 17 57 42.5 +0.4
comp=Z,4.8nm,1.4s
MOTA **Moosalm** 82.84 330 *i* P **P** 17 57 43.6 +1.2
comp=Z,16nm,1.3s
RETA **Reutte** 82.86 330 *i* P **P** 17 57 42.8 +0.4
comp=Z,21nm,1.8s
RETA **Reutte** 82.86 330 *i* P **P** 17 57 43.9 +1.5
SNR=7.2
SQTA **Sankt Quirin** 82.91 330 *i* P **P** 17 57 43.0 +0.3
comp=Z,16nm,1.6s
BFO **Black Forest** 83.05 332 P **P** 17 57 43.2 -0.1
BFO IAmb IAmb 17 57 57.2
comp=Z,22nm,1.2s
BFO **Black Forest** 83.05 332 P **P** 17 57 43.3 -0.1
BFO pmax pmax
comp=Z,22nm,1.2s
STAL **STALIGIAL** 83.10 328 IAmb IAmb 17 58 43.0
comp=Z,16nm,0.8s
FETA **Feichten** 83.25 330 *i* P **P** 17 57 45.5 +0.9
comp=Z,9.8nm,1.1s
PDG **Podgorica** 83.31 322 ⇑P **P** 17 57 47.1 +2.4
DAVA **Damuels** 83.36 330 *i* P **P** 17 57 46.0 +0.9
comp=Z,8.6nm,0.7s
ECH **Echery** 83.56 332 IAmb IAmb 17 58 46.4
comp=Z,14nm,1.1s
CTI **Castel Tesino** 83.70 329 P **P** 17 57 46.3 -0.5
CTI IAmb IAmb 17 58 46.1
comp=Z,22nm,1.2s
CTI **Castel Tesino** 83.70 329 P **P** 17 57 46.3 -0.5
CTI pmax pmax
comp=Z,22nm,1.2s
DAVOX **Davos/Dischmat** 83.78 330 LR LR 18 38 13.5
comp=Z,1μm,20.1s,baz=20,slow=38
EIL **Elat** 83.94 304 LR LR 18 39 50.7
comp=Z,898nm,18.1s,baz=24,slow=39
P38A **Dawn** 84.59 41 IAmb IAmb 17 58 02.9
comp=Z,14nm,0.9s
PPT **Papeete** 84.65 118 LR LR 18 31 31.7
comp=Z,1μm,19.2s,baz=328,slow=33
PPT2 **Papeete2** 84.66 118 *e*P **P** 17 57 49.7 -2.2
comp=Z,105nm,23.8s
PPT2 **Papeete2** 84.66 118 *e*PP PP 18 01 00.5 -7.6
comp=Z,70nm,23.2s
PPT2 *e*S **SKSac** 18 08 16.1 +0.5
comp=Z,258nm,24.8s
PPT2 *e*SS **SS** 18 13 46.5 -4.5
comp=Z,209nm,24.0s
PPT2 *e*LQ LQ 18 20 17.7
comp=Z,324nm,29.0s
PPT2 *e*LR LR 18 24 20.2
comp=Z,2μm,21.5s
PPT2 *e*LR LR 18 24 25.3
comp=Z,2μm,21.2s
VHRN **Van Horn** 84.67 54 IAmb IAmb 17 58 33.1
comp=Z,32nm,1.7s
PECS **Pecos** 84.94 53 IAmb IAmb 17 58 34.2
comp=Z,12nm,0.9s
DKNS **Dickens** 85.04 49 IAmb IAmb 17 58 10.2
comp=Z,12nm,0.9s
SENIN **Lac Senin/Sane** 85.09 331 IAmb IAmb 17 58 09.2
comp=Z,15nm,1.1s
T35A **Sooner Cattle** 85.10 44 IAmb IAmb 17 58 07.3
comp=Z,20nm,1.1s
TAOE **Nuku Hiva Isla** 85.31 106 *e*P **P** 17 57 52.2 -3.1
comp=Z,131nm,24.2s
TAOE **Nuku Hiva Isla** 85.31 106 *e*S **S** 18 08 25.1 -0.5
comp=Z,338nm,26.1s
TAOE **Nuku Hiva Isla** 85.31 106 *e*LR LR 18 24 49.5
comp=Z,2μm,21.2s
LPIG **La Paz** 85.84 62 LR LR 18 38 14.3
comp=Z,214nm,18.0s,baz=330,slow=37
TX31 **Lajitas Ar. Si** 86.50 54 IAmb IAmb 17 58 42.1
comp=Z,15nm,1.1s
TXAR **Lajitas Array** 86.50 54 P **P** 17 58 00.8 -0.4
TXAR **Lajitas Array** 86.50 54 P **P** 17 58 01.8 +0.6
comp=Z,4.5nm,1.0s,baz=292,slow=3.4,SNR=14
comp=Z,4.5nm,1.0s
CCM **Cathedral Cave** 86.93 40 P **P** 17 58 02.9 -0.1
CCM IAmb IAmb 17 58 25.1
comp=Z,18nm,1.0s
CCM **Cathedral Cave** 86.93 40 P **P** 17 58 02.9 -0.1
CCM pmax pmax
comp=Z,18nm,1.0s
SSB **Saint Sauveur** 87.01 333 IAmb IAmb 17 58 04.8
comp=Z,24nm,1.3s
TBI **Tubuai** 88.83 122 *e*PP **PP** 18 01 35.8 -5.8
comp=Z,417nm,33.2s
TBI *e*S **S** 18 08 54.1 -4.8
comp=Z,2μm,26.8s
TBI **Tubuai** 88.83 122 *e*LR LR 18 26 08.1
comp=Z,4μm,33.5s
TBI *e*LR LR 18 26 24.0
comp=Z,1μm,27.0s
VAE **Valguarnera** 89.50 322 LR LR 18 41 13.2
comp=Z,916nm,20.2s,baz=24,slow=38
ATD **Arta Tunnel** 90.72 286 LR LR 18 42 57.2
comp=Z,18nm,18.9s,baz=30,slow=38
KEST **Kesra** 93.24 324 LR LR 18 46 29.5
comp=Z,2μm,18.4s,baz=15,slow=39
ESDC **Sonseca Array** 94.84 336 P **P** 17 58 39.3 -0.7
comp=Z,1.1nm,1.0s,baz=6.9,slow=4.7,SNR=4.5
ESDC LR LR 18 45 48.3
comp=Z,2μm,20.0s,baz=27,slow=38
comp=Z,1.1nm,1.0s
MESJ **Messejana** 97.81 338 *e*PP **PP** 18 02 52.4 +1.8
MESJ IAMs_20 IAMs_20 18 45 29.2
comp=Z,2μm,32.8s
RKT **Rikitea** 98.43 113 *e*P **P** 17 58 54.0 -2.2
comp=Z,499nm,32.5s
RKT **Rikitea** 98.43 113 *e*SS SS 18 17 04.7 -4.4
comp=Z,1μm,24.5s
RKT **Rikitea** 98.43 113 *e*LR LR 18 30 38.7
comp=Z,4μm,32.2s
VNDA **Vanda** 118.39 176 PKP **PKiKP** 18 04 06.0 +1.9
comp=Z,0.8nm,0.9s,baz=199,slow=1.4,SNR=3.8
VNDA **Vanda** 118.39 176 PKiKP **PKiKP** 18 04 06.0 +1.9
QSPA **South Pole Qui** 130.35 180 PKP **PKiKP** 18 04 29.2 +1.1
comp=Z,1.7nm,0.7s,baz=241,slow=1.8,SNR=9.4
SYO **Syowa Base** 132.23 208 ⇑ *ep*Pdiff pPdif 18 01 31.4 +1.7
SYO **Syowa Base** 132.23 208 ⇓ *e*PKiKP **PKiKP** 18 04 34.5 +2.8
BELA **Belgrano 2** 142.62 181 **PKPdf** 18 04 47.5 -2.2
LPAZ **La Paz** 143.26 58 PKP **PKiKP** 18 04 55.5 -1.2
comp=Z,1.1nm,0.6s,baz=136,slow=2.8,SNR=4.5
PRPB **Parauapebas** 143.61 23 *e*P **PKiKP** 18 04 58.5 +1.8
SNAA **Sanae** 144.71 198 PKP PKPbc 18 04 52.8 +0.3
comp=Z,7.0nm,0.8s,baz=196,slow=4.4,SNR=13
SMTB **Santa Maria do** 146.80 21 *e*P **PKiKP** 18 05 03.5 +0.2
SIV **San Ignacio** 147.34 48 PKPbc **PKiKP** 18 05 04.8 +0.5
comp=Z,3.0nm,0.7s,baz=261,slow=1.6,SNR=12
PTLB **Pontes e Lacer** 147.98 45 **PKPdf** 18 05 01.5 +0.9
SNDB **Serra Nova Dou** 148.53 29 *e*P **PKiKP** 18 05 06.4 -0.4
BBSD **Serra de San D** 148.56 49 *e*P **PKiKP** 18 05 07.2 +0.5
SALV **Santo Antonio** 150.13 40 *e*P **PKPbc** 18 05 08.9 -0.3
SDBA **SAO DESIDERIO** 150.88 18 *e*P **PKPbc** 18 05 10.1 -0.9
BO02 **Sierra Bellavi** 152.17 89 **PKPbc** 18 05 13.8 +0.2
CFA **Coronel Fontan** 152.74 81 PKP **PKPdf** 18 05 08.3 +0.6
comp=Z,1.4nm,0.3s,baz=251,slow=18,SNR=9.3
CFA PKPbc **PKiKP** 18 05 15.6 +0.6
comp=Z,1.5nm,0.3s,baz=250,slow=18,SNR=9.0
BDFB **Brasilia** 153.09 26 PKPbc **PKiKP** 18 05 16.5 +0.3
comp=Z,1.7nm,0.4s,baz=70,slow=2.4,SNR=3.4
PLCA **Paso Flores** 154.06 102 PKPbc **PKiKP** 18 05 19.9 +2.4
comp=Z,1.5nm,0.9s,baz=27,slow=1.5,SNR=6.3

NEIC ***22*** *17:53:58.5±1.2,51.°7N±0.°2×160.°6E±0.°3,h10km±2km, mb4.1/4, Error ellipse: s-maj=36.6km s-min=7.9km az=46.0*
KRSC ***22*** *17:54:00.9±1.6,51.°52N×160.°15E,h61km±26km,Ml4.5*
IDC ***22*** *17:54:05.8±0.7,51.°74N×159.°67E,h34km±3km,mb3.9/27, mbtmp4.2/31,ML3.7/3,Error ellipse: s-maj=17.8km s-min=12.1km az=110.0*
MOS ***22*** *17:54:06.6±1.0,51.°74N×159.°58E,h59km,mb4.5/4, Error ellipse: s-maj=12.6km s-min=8.4km az=107.3*
ISC 22 17:54:04.4±0.6,51.°60N±0.°05×159.°99E±0.°05,h33km±1km, n86,σ1°24/95,mb4.2/30,1C,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	1.21	281	*e*P	**Pn**	17 54 24.5	-0.3
KDTR				*e*S	**Sn**	17 54 40.0	0.0
RUS	**Russkaya**	1.23	313	*e*P	**Pn**	17 54 24.8	-0.4
RUS				*e*S	**Sn**	17 54 41.6	+0.9
MTVR	**Mutnovka**	1.42	309	*e*P	**Pn**	17 54 28.1	+0.2
MTVR				*e*S	**Sn**	17 54 46.8	+1.2
SPN	**Mys Shipunski**	1.50	1	*e*P	**Pn**	17 54 28.6	-0.3
GRL	**Gorelyy**	1.52	310	*e*P	**Pn**	17 54 30.0	+0.8
DALK	**Dalny**	1.62	333	*e*P	**Pn**	17 54 30.6	+0.1
NLC	**Nalytchevo**	1.62	346	*e*P	**Pn**	17 54 30.7	+0.2
PET	**Petropavlovsk**	1.64	331	Pn	**Pn**	17 54 30.2	-0.6
PET				Sn	**Sn**	17 54 52.6	+1.8
PET	**Petropavlovsk**	1.64	331	⇑ *i*PN	**Pn**	17 54 30.7	-0.1
PET				pmax	pmax		
comp=Z,547nm,0.5s							
PET	**Petropavlovsk**	1.64	331	*e*P	**Pn**	17 54 30.9	+0.1
PET				*e*S	**Sb**	17 54 54.4	+0.1
KRMR	**Karymshinskiy**	1.68	318	*e*P	**Pn**	17 54 31.6	+0.3
INSR	**Institute**	1.69	330	*e*P	**Pn**	17 54 32.3	+0.7
UGLR	**Uglovaya**	1.76	337	*e*P	**Pn**	17 54 33.3	+0.7
SDLR	**Sedlovina**	1.81	339	*e*P	**Pn**	17 54 33.7	+0.5
AVH	**Avacha**	1.83	336	*e*P	**Pn**	17 54 34.6	+1.0
KOK	**Koryaka**	1.88	334	*e*P	**Pn**	17 54 35.2	+0.9
KRX	**Arik**	1.94	336	*e*P	**Pn**	17 54 35.6	+0.6
PAU	**Pauzhetka**	1.99	267	*e*P	**Pn**	17 54 36.0	+0.4
PEA0B	**Petropavlovsk-**	2.06	318	Pn	**Pn**	17 54 37.4	+0.8
PEA0B	**Petropavlovsk-**	2.06	318	PN	**Pn**	17 54 37.4	+0.8
PETK	**Petropavlovsk-**	2.06	318	Pn	**Pn**	17 54 36.4	-0.3
PETK	**Petropavlovsk-**	2.06	318	Pn	**Pn**	17 54 36.8	+0.2
comp=Z,14nm,0.3s,baz=114,slow=18,SNR=97							
PETK				Sn	**Sb**	17 55 08.0	+1.7
comp=Z,39nm,0.3s,baz=107,slow=19,SNR=5.9							
APC	**Apacha**	2.19	306	*e*P	**Pn**	17 54 39.5	+1.2
GNL	**Ganaly**	2.44	330	*e*P	**Pn**	17 54 43.3	+1.4
KII	**Karymskiy**	2.46	353	*e*P	**Pn**	17 54 43.2	+1.0
SKR	**Severo-Kuril's**	2.61	251	*e*PN	**Pn**	17 54 44.0	-0.1
SKR				*e*S	**Sn**	17 55 17.2	+2.7
SKR				pmax	pmax		
comp=Z,60nm,0.7s							
SKR				smax	smax		
comp=N,624nm,0.5s							
SKR				smax	smax		
comp=E,954nm,0.8s							
SKR	**Severo-Kuril's**	2.61	251	*e*P	**Pn**	17 54 43.9	-0.1
MKZ	**Mys Kozlova**	3.14	19	*e*P	**Pn**	17 54 50.8	-0.6
MKZ				*e*S	**Sn**	17 55 25.7	-1.9
TUMD	**Tumrok D**	3.62	4	*e*P	**Pn**	17 54 58.0	0.0
ESO	**Esso**	4.40	351	*e*P	**Pn**	17 55 10.4	+1.7
KBTR	**Krutoberegovo**	4.91	19	*e*P	**Pn**	17 55 16.1	+0.4
KBTR				*e*S	**Sn**	17 56 12.0	+0.7
KBG	**Krutoberegovo**	4.93	18	*e*P	**Pn**	17 55 17.5	+1.5
YUK	**Yuzh-Kuril'sk**	12.13	237	*i* PN	**Pn**	17 56 50.9	-3.8
ASAJ	**Asahikawa**	13.85	244	Pn	**Pn**	17 57 17.4	-0.7
comp=E,0.6nm,0.3s,baz=68,slow=13,SNR=8.3							
comp=E,3.7nm,0.6s							
BILL	**Bilibino**	16.77	8	*i* P	**Pn**	17 57 51.5	-4.9
KLR	**Kul'dur**	18.11	274	P	**Pn**	17 58 11.2	-1.8
comp=E,0.2nm,0.3s,baz=56,slow=12,SNR=6.7							
comp=E,4.4nm,1.0s							
KLR	**Kul'dur**	18.11	274	*e*P	**P**	17 58 13.9	+0.8
KLR				pmax	pmax		
comp=Z,9.0nm,1.6s							
YAK	**Yakutsk**	19.40	314	P	**P**	17 58 25.2	-1.9
comp=Z,12nm,0.6s,baz=288,slow=2.3,SNR=2.0							
YAK	**Yakutsk**	19.40	314	*e*P	**P**	17 58 25.3	-1.9
YAK				pmax	pmax		
comp=Z,16nm,0.9s							
YAK				pmax	pmax		
comp=N,9.0nm,1.5s							
YAK				pmax	pmax		
comp=E,9.0nm,1.9s							
USRK	**Ussuriysk Ar.**	20.09	259	P	**P**	17 58 34.6	-0.3
comp=E,0.2nm,0.3s,baz=45,slow=13,SNR=5.9							
comp=E,1.8nm,0.5s							
JSD	**Sado**	20.43	237		**P**	17 58 39.1	+0.6
MJAR	**Matsushiro Arr**	21.59	234	P	**P**	17 58 52.5	+1.3
comp=E,2.0nm,0.6s,baz=24,slow=9.9,SNR=7.8							
comp=E,2.0nm,0.6s							
MJB9	**Matsu-Tunnel**	21.59	234	P	**P**	17 58 52.8	+1.6
MJB9				IAmb	IAmb	17 58 56.3	
comp=Z,7.5nm,0.9s							
MAJO	**Matsushiro**	21.59	234		**P**	17 58 51.6	+0.5
MAJO				IAmb	IAmb	17 58 55.3	
comp=Z,7.9nm,0.9s							
MAJO	**Matsushiro**	21.59	234	P	**P**	17 58 51.7	+0.5
MAJO				pmax	pmax		
comp=Z,8.0nm,0.9s							
HIA	**Hailar**	25.52	281		**P**	17 59 28.5	-1.0
HIA	**Hailar**	25.52	281	P	**P**	17 59 28.5	-1.0
HIA				pmax	pmax		
comp=Z,14nm,0.6s							
KSRS	**Korea Array**	26.62	251	P	**P**	17 59 40.9	+1.3
comp=Z,1.2nm,0.7s,baz=51,slow=10.0,SNR=5.4							
comp=Z,1.2nm,0.7s							
JNU	**Nakatsue**	28.07	240	P	**P**	17 59 54.0	+1.4
comp=Z,4.9nm,0.9s,baz=164,slow=18,SNR=5.6							
comp=Z,4.9nm,0.9s							
ILAR	**Eielson Array**	29.93	43	P	**P**	18 00 10.2	+1.4
comp=Z,0.3nm,0.7s,baz=269,slow=7.5,SNR=2.6							
comp=Z,0.3nm,0.7s							
H11N2	**WAKE ISLAND Hy**	32.27	168	T	T	18 34 35.0	
baz=351,slow=74,SNR=19							
H11N3	**WAKE ISLAND Hy**	32.28	168	T	T	18 34 33.9	
baz=351,SNR=18							
H11N1	**WAKE ISLAND Hy**	32.28	168	T	T	18 34 33.9	
baz=351,slow=74,SNR=18							
H11S1	**WAKE ISLAND Hy**	33.45	168	T	T	18 36 10.3	
baz=351,slow=74,SNR=5.0							
H11S3	**WAKE ISLAND Hy**	33.46	168	T	T	18 36 08.2	
baz=351,slow=74,SNR=12							
H11S2	**WAKE ISLAND Hy**	33.47	168	T	T	18 36 33.2	
baz=351							
SONM	**Songino Array**	34.20	285	P	**P**	18 00 45.8	-0.9
comp=Z,0.8nm,0.6s,baz=68,slow=7.9,SNR=4.5							
comp=Z,0.8nm,0.6s							
ZALV	**Zalesovo Beam**	43.54	304	P	**P**	18 02 02.6	-1.9
comp=Z,0.6nm,0.3s,baz=61,slow=7.1,SNR=4.6							
comp=Z,0.6nm,0.3s							
KURK	**Kurchatov**	48.48	303	P	**P**	18 02 43.0	-0.4
KURBB	**Kurchatov Arra**	48.58	303	P	**P**	18 02 43.0	-1.2
comp=Z,7.1nm,0.7s,baz=63,slow=7.8,SNR=21							
comp=Z,7.1nm,0.7s							
SPITS	**Spitsbergen Ar**	48.60	351	P	**P**	18 02 43.0	-0.9
comp=Z,6.7nm,0.6s,baz=57,slow=9.1,SNR=29							
comp=Z,6.7nm,0.6s							
MK31	**Makanchi Array**	48.76	297	*i* P	**P**	18 02 44.1	-1.5
MKAR	**Makanchi Array**	48.76	297	P	**P**	18 02 44.4	-1.3
comp=Z,1.8nm,0.5s,baz=54,slow=6.8,SNR=41							
MKAR				pP	**pP**	18 02 54.5	0.0
comp=Z,0.8nm,0.5s,baz=58,slow=5.2,SNR=4.4							
comp=Z,1.8nm,0.5s							
BVAR	**Borovoye Array**	51.27	309	P	**P**	18 03 03.3	-1.3
comp=Z,5.1nm,0.4s,baz=55,slow=7.2,SNR=65							
BVAR				pP	**pP**	18 03 13.6	0.0
comp=Z,4.0nm,0.4s,baz=55,slow=7.1,SNR=7.8							
comp=Z,5.1nm,0.4s							
BRVK	**Borovoye**	51.30	309	*i* P	**P**	18 03 02.9	-1.9
BRVK				pmax	pmax		
comp=Z,5.0nm,1.2s							
ARCES	**ARCESS Array B**	54.69	342	P	**P**	18 03 29.7	+0.2
comp=Z,2.3nm,0.6s,baz=26,slow=7.5,SNR=9.9							
ARCES				pP	**pP**	18 03 39.6	+1.0
comp=Z,3.2nm,0.8s,baz=29,slow=8.5,SNR=2.3							
comp=Z,2.3nm,0.6s							
CMAR	**Chiang Mai Arr**	57.82	259	P	**P**	18 03 53.6	+1.1
comp=Z,1.0nm,0.7s,baz=27,slow=6.8,SNR=12							
comp=Z,1.0nm,0.7s							
AKTO	**Aktyubinsk**	58.79	313	P	**P**	18 03 59.6	+0.8
comp=Z,1.9nm,0.7s,baz=203,slow=7.4,SNR=3.6							
comp=Z,1.9nm,0.7s							
FINES	**FINESS Array B**	61.47	337	P	**P**	18 04 17.7	+0.7
comp=Z,3.6nm,0.7s,baz=35,slow=8.2,SNR=19							
comp=Z,3.6nm,0.7s							
BELG	**Belogornoye**	61.82	320	P	**P**	18 04 18.6	-0.8
comp=Z,11nm,0.8s,baz=294,slow=2.4,SNR=7.0							
comp=Z,11nm,0.8s							
NB2	**NORSAR Subarra**	64.96	344	P	**P**	18 04 40.7	+0.5
comp=Z,2.2nm,0.6s,baz=23,slow=6.9							
NOA	**NORSAR Array B**	64.96	344	P	**P**	18 04 40.4	+0.1
comp=Z,0.8nm,0.5s,baz=22,slow=6.7,SNR=11							
NOA				pP	**pP**	18 04 51.4	+1.9
comp=Z,0.7nm,0.6s,baz=22,slow=6.7,SNR=3.0							
comp=Z,0.8nm,0.5s							
HFS	**Hagfors**	65.35	342	P	**P**	18 04 43.2	+0.4
comp=Z,2.8nm,0.4s,baz=53,slow=5.7,SNR=30							
HFS				pP	**sP**	18 04 54.1	-1.0
comp=Z,2.0nm,0.5s,baz=64,slow=6.8,SNR=3.8							
comp=Z,2.8nm,0.4s							
AKASG	**Malin Array Be**	69.86	329	P	**P**	18 05 11.4	+0.1
comp=Z,4.6nm,0.5s,baz=31,slow=6.2,SNR=21							
comp=Z,4.6nm,0.5s							
KBZ	**Khabaz**	70.58	317	P	**P**	18 05 16.9	+1.1
comp=Z,1.1nm,0.6s,baz=182,slow=5.5,SNR=4.1							
comp=Z,1.1nm,0.6s							
TXAR	**Lajitas Array**	71.29	66	P	**P**	18 05 23.4	+2.9
comp=Z,0.5nm,0.8s,baz=333,slow=12,SNR=2.1							
comp=Z,0.5nm,0.8s							
EKA	**Eskdalemuir Ar**	72.52	350	P	**P**	18 05 28.0	+0.7
comp=Z,0.5nm,0.5s,baz=20,slow=5.0,SNR=3.7							
comp=Z,0.5nm,0.5s							
WRA	**Warramunga Arr**	74.70	205	P	**P**	18 05 41.8	+1.3
comp=Z,0.6nm,0.6s,baz=15,slow=6.0,SNR=3.5							
WRA				pP	**sP**	18 05 52.1	-1.2
comp=Z,1.9nm,1.0s,baz=15,slow=5.9,SNR=9.6							
comp=Z,0.6nm,0.6s							
MLR	**Muntele Rosu**	75.48	329	P	**P**	18 05 45.1	+0.1
comp=Z,2.4nm,0.6s,baz=137,slow=3.7,SNR=4.8							
comp=Z,2.4nm,0.6s							
GERES	**GERESS Array B**	75.87	338	P	**P**	18 05 46.6	-0.5
comp=Z,0.3nm,0.3s,baz=37,slow=9.0,SNR=2.7							
comp=Z,0.3nm,0.3s							
BRTR	**Keskin Array B**	77.73	321	P	**P**	18 05 57.0	-0.9
comp=Z,0.9nm,0.8s,baz=29,slow=2.3,SNR=4.0							
BRTR				pP	**PcP**	18 06 08.2	+0.4
comp=Z,1.7nm,0.9s,baz=37,slow=4.3,SNR=4.9							
comp=Z,0.9nm,0.8s							
ASAR	**Alice Springs**	78.37	204	P	**P**	18 06 02.1	+0.9
comp=Z,0.3nm,0.5s,baz=19,slow=5.6,SNR=7.3							
ASAR				pP	**sP**	18 06 13.8	0.0
comp=Z,0.6nm,0.5s,baz=13,slow=5.2,SNR=5.3							
comp=Z,0.3nm,0.5s							
MMAI	**Mount Meron Ar**	82.73	316	P	**P**	18 06 25.1	+0.4
comp=Z,2.4nm,0.6s,baz=35,slow=5.3,SNR=2.4							
MMAI				pP	**sP**	18 06 36.1	-1.0
comp=Z,1.6nm,0.4s,baz=29,slow=5.7,SNR=2.2							
comp=Z,2.4nm,0.6s							
H03N2	**Juan Fernandez**	134.26	90	T	T	20 43 57.2	
baz=314,slow=77,SNR=14							
H03N1	**Juan Fernandez**	134.28	90	T	T	20 43 58.4	
baz=314,slow=77,SNR=13							
H03N3	**Juan Fernandez**	134.28	90	T	T	20 43 57.8	
baz=314,slow=77,SNR=14							

IDC ***22*** *18:00:01.1±1.3,16.°48N×97.°95W,h0km,mb4.1/7, mbtmp4.0/9,ML3.4/2,MS3.4/1,Error ellipse: s-maj=69.0km s-min=19.7km az=60.0*
NEIC ***22*** *18:00:01.4±1.7,16.°11N±0.°05×98.°62W±0.°05,h10km±1km, mb4.4/101,Md4.5/114(MEX),Error ellipse: s-maj=9.0km s-min=6.8km az=221.0*
MEX ***22*** *18:00:02.2±0.6,15.°95N×98.°71W,h16km±999km,MD4.5*
ISC 22 17:59:59.3±1.4,15.°96N±0.°04×98.°68W±0.°02,h6km±9km, n200,σ2°10/265,mb4.4/40,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.68	51		**Pg**	18 00 13.0	+0.6
PNIG					**Sg**	18 00 22.4	+1.2
PNIG	**Pinotepa**	0.68	51	*e*P	**Pg**	18 00 13.0	+0.6
PNIG				*i* S	**Sg**	18 00 22.4	+1.2
CRIG	**Cruz Grande**	0.88	330		**Pb**	18 00 15.9	-1.2
CRIG					**Sb**	18 00 26.7	-2.4
CRIG	**Cruz Grande**

TLIG	Tlapa	1.59	4	Pn	Pn	18 00 27.1	-1.0
TLIG	Tlapa	1.59	4	eP	Pn	18 00 27.2	-1.0
TLIG				eS	Sn	18 00 46.1	-3.1
HMTT	Tlapaneco	1.83	3		Pn	18 00 30.8	-0.6
HMTT					Sn	18 00 53.6	-1.3
HMTT	Tlapaneco	1.83	3	eP	Pn	18 00 30.8	-0.6
HMTT				i S	Sn	18 00 53.6	-1.3
CAIG	El Cayaco	1.87	305		Pn	18 00 30.4	-1.4
CAIG					Sn	18 00 51.4	-4.4
CAIG	El Cayaco	1.87	305	eP	Pn	18 00 30.4	-1.4
CAIG				eS	Sn	18 00 51.4	-4.4
FTIG	Fresnillo de T	2.00	15		Pn	18 00 33.2	-0.6
FTIG					Sn	18 00 56.4	-2.9
FTIG	Fresnillo de T	2.00	15	eP	Pn	18 00 33.2	-0.6
FTIG				eS	Sn	18 00 56.4	-2.9
HLIG	Huajuapan de L	2.04	24		Pn	18 00 33.7	-0.7
HLIG					Sn	18 00 58.2	-2.0
HLIG	Huajuapan de L	2.04	24	eP	Pn	18 00 33.7	-0.7
HLIG				i S	Sn	18 00 58.2	-2.0
ATYC	Atoyac	2.09	307	eP	Pn	18 00 33.0	-2.0
ATYC				i S	Sn	18 00 58.9	-2.4
PANG	Puerto Angel	2.14	98		Pn	18 00 35.0	-0.6
PANG	Puerto Angel	2.14	98	eP	Pn	18 00 35.0	-0.6
PANG				eS	Sn	18 00 54.3	-8.2
MEIG	Mezcala	2.15	335		Pn	18 00 35.4	-0.4
MEIG					Sn	18 00 59.7	-3.2
MEIG	Mezcala	2.15	335	eP	Pn	18 00 35.4	-0.4
MEIG				i S	Sn	18 00 59.7	-3.2
OXIG	Oaxaca	2.17	59		Pn	18 00 35.9	-0.3
OXIG					Sn	18 01 02.4	-1.1
VHO	Vista Hermosa	2.17	59	eP	Pn	18 00 35.9	-0.2
VHO				eS	Sn	18 01 02.4	-1.1
OXBJ	Oaxaca	2.17	59		Pn	18 00 35.3	-0.9
OXBJ					Sn	18 01 01.7	-1.9
OXBJ	Oaxaca	2.17	59	i P	Pn	18 00 35.3	-0.9
OXBJ				eS	Sn	18 01 01.7	-1.9
OXLC	Oaxaca	2.19	60	eP	Pn	18 00 37.8	+1.4
OXLC				eS	Sn	18 01 06.5	+2.6
HUIG	Huatulco	2.48	94		Pn	18 00 39.9	-0.3
HUIG					Sn	18 01 06.4	-4.5
HUIG	Huatulco	2.48	94	eP	Pn	18 00 39.9	-0.3
HUIG				eS	Sn	18 01 06.4	-4.5
PLIG	Platanillo	2.54	342		Pn	18 00 41.4	+0.2
PLIG					Sn	18 01 11.0	-1.6
PLIG	Platanillo	2.54	342	eP	Pn	18 00 41.4	+0.2
PLIG				eS	Sn	18 01 11.0	-1.6
TOIG	Toxpalan	2.62	36		Pn	18 00 42.5	+0.1
TOIG					Sn	18 01 16.9	+2.3
TOIG	Toxpalan	2.62	36	eP	Pn	18 00 42.5	+0.1
TOIG				i S	Sn	18 01 16.9	+2.3
TPIG	Tehuac#an	2.75	27		Pn	18 00 42.3	-1.8
TPIG					Sn	18 01 19.1	+1.3
TPIG	Tehuac#an	2.75	27	eP	Pn	18 00 42.3	-1.8
TPIG				i S	Sn	18 01 19.1	+1.3
ARIG	Puente Sto Nin	2.80	326		Pn	18 00 48.0	+3.2
ARIG					Sn	18 01 16.4	-2.6
ARIG	Puente Sto Nin	2.80	326	eP	Pn	18 00 48.0	+3.2
ARIG				eS	Sn	18 01 16.4	-2.6
YAIG	Yautepec	2.91	353		Pn	18 00 47.1	+0.8
YAIG					Sn	18 01 19.9	-1.7
YAIG	Yautepec	2.91	353	eP	Pn	18 00 47.1	+0.8
YAIG				i S	Sn	18 01 19.9	-1.7
PBCV	Popocatepetl	3.01	2	eP	Pn	18 00 49.6	+1.7
PBCV				eS	Sn	18 01 23.6	-0.9
PBXN	Popocatepetl	3.03	0	eP	Pn	18 00 48.8	+0.5
PBXN				eP	Pb	18 00 49.8	-4.2
PBXN				eS	Sn	18 01 23.7	-1.5
PBXN				i S	Sb	18 01 25.2	-6.3
PBPN	Popocatepetl	3.06	1	eP	Pn	18 00 49.5	+0.7
PBPN				eP	Pb	18 00 50.2	-4.3
PBPN				i S	Sn	18 01 25.7	-0.3
PBPN				eS	Sb	18 01 26.1	-6.4
MAVM	Malinalco, Edo	3.08	345	eP	Pn	18 00 35.6	-13
MAVM				eS	Sn	18 01 13.6	-12
PPIG	Popocatepetl	3.09	1		Pn	18 00 52.3	+3.2
PPIG					Sb	18 01 32.0	-1.1
PPM	Popocatepetl	3.09	1	eP	Pn	18 00 49.5	+0.4
PPM				eS	Sn	18 01 25.1	-1.5
PHPU	Puebla	3.10	9		Sn	18 01 27.4	+0.8
PHPU	Puebla	3.10	9	eP	Pn	18 00 48.2	-0.8
PHPU				i S	Sn	18 01 23.5	-3.1
ZIIG	Zihuatanejo	3.13	302		Pb	18 00 55.2	-0.2
ZIIG					Sn	18 01 28.4	+1.5
ZIIG	Zihuatanejo	3.13	302	eP	Pn	18 00 48.7	-0.6
ZIIG				eS	Sn	18 01 23.3	-3.6
MPVM	San Francisco	3.24	354	eP	Pb	18 00 55.4	+0.2
MPVM				eS	Sn	18 01 23.0	-6.9
NEUV	Arroyo Zacate	3.26	57	eP	Pn	18 00 50.9	-0.1
NEUV				eP	Pb	18 00 51.1	-6.5
NEUV				i S	Sn	18 01 30.6	+0.6
NEUV				eS	Sb	18 01 31.1	-6.4
TLVM	San Miguel Top	3.26	352	eP	Pn	18 00 56.1	+4.8
TLVM				eS	Sn	18 01 28.2	-2.5
XCVM	Xochimilco	3.30	353	eP	Pn	18 00 51.9	+0.1
XCVM				eS	Sn	18 01 34.7	+3.2
THVM	De Xico	3.34	355	eP	Pb	18 00 59.1	-0.1
THVM				eS	Sn	18 01 32.7	+0.2
AOVM	Tlapan	3.34	349		Pn	18 00 55.2	+2.6
AOVM					Sn	18 01 32.3	-0.6
AOVM	Tlapan	3.34	349	eP	Pn	18 00 55.2	+2.6
AOVM				eS	Sn	18 01 32.3	-0.6
POHV	Veracruz	3.36	23		Pn	18 00 52.6	-0.3
POHV	Veracruz	3.36	23	eP	Pn	18 00 52.6	-0.3
POHV				i S	Sn	18 01 32.2	-1.3
CNCY	Coyoacan	3.37	352	eP	Pb	18 00 59.4	-0.2
CNCY				i S	Sn	18 01 34.2	+1.0
INVM	La Marquesa	3.38	349	eP	Pb	18 01 00.2	+0.4
INVM				eS	Sn	18 01 28.0	-5.6
UNM	Universidad Na	3.38	352		Pn	18 00 52.3	-0.7
UNM	Universidad Na	3.38	352	eP	Pn	18 00 53.4	+0.4
UNM				i S	Sn	18 01 32.2	-1.3
CUP5	Mexico City	3.38	352	eP	Pn	18 00 56.7	+3.8
CUP5				i S	Sb	18 01 43.3	+1.8
BJVM	Benito Juarez	3.42	352	eP	Pn	18 00 52.9	-0.6
BJVM				eS	Sn	18 01 32.0	-2.6
CJVM	Cuajimalpa	3.43	350	eP	Pb	18 01 02.0	+1.3
CJVM				i S	Sn	18 01 32.0	-2.7
MHVM	Bosque de Chap	3.46	352	eP	Pb	18 01 02.0	+0.8
MHVM				i S	Sn	18 01 36.1	+0.6
PBVM	Pinon	3.48	354		Pb	18 01 00.9	-0.5
PBVM					Sn	18 01 32.8	-2.8
PBVM	Pinon	3.48	354	eP	Pb	18 01 00.9	-0.5
PBVM				eS	Sn	18 01 32.8	-2.8
APVM	Azcapotzalco	3.54	352		Pb	18 01 01.7	-0.9
APVM					Sb	18 01 43.5	-2.5
APVM	Azcapotzalco	3.54	352	eP	Pb	18 01 01.7	-0.9
APVM				i S	Sb	18 01 43.5	-2.5
CMIG	Matias Romero	3.81	72		Pn	18 00 57.9	-0.6
CMIG					Sn	18 01 42.4	-1.3
CMIG	Matias Romero	3.81	72	eP	Pn	18 00 57.9	-0.6
CMIG				eS	Sn	18 01 42.4	-1.3
JAUV	Jalcomulco	3.83	28	eP	Pn	18 00 58.0	-0.9
JAUV				eS	Sn	18 01 50.0	+5.8
ACIG	Acambay	4.16	344	eP	Pn	18 01 06.2	+2.7
ACIG				eS	Sn	18 01 51.5	-1.0
PMUV	Sontecomapan	4.26	52	eP	Pn	18 01 03.4	-1.4
PMUV				i S	Sn	18 02 01.4	+6.6
CXUV	Coxquihui	4.31	14	eP	Pn	18 01 05.7	+0.1
CXUV				eS	Sn	18 01 54.8	-1.4
LVIG	Laguna Verde	4.31	30	eP	Pn	18 01 03.6	-1.9
LVIG				eS	Sn	18 01 58.6	+2.4
DHIG	Demacu	4.33	356		Sn	18 01 58.7	+1.9
DEIG	Demacu	4.33	356	eP	Pn	18 01 06.4	+0.5
DEIG				eS	Sn	18 01 58.7	+1.8
MOIG	Morelia	4.40	327		Pn	18 01 07.5	+0.6
MOIG	Morelia	4.40	327	eP	Pn	18 01 10.4	+3.4
MOIG				eS	Sn	18 01 57.5	-1.2
UXUV	UXUV	4.55	72	eP	Pn	18 01 08.6	-0.1
UXUV				eS	Sn	18 01 59.8	-2.1
TUIG	Tuzandepetl	4.56	63	eP	Pn	18 01 06.6	-2.3
TUIG				i S	Sn	18 01 59.7	-2.6
JRQG	Juriquilla Cam	5.01	341	Pn	Pn	18 01 15.6	+0.3
JRQG	Juriquilla Cam	5.01	341	eP	Pn	18 01 14.0	-1.3
JRQG				eS	Sn	18 02 09.7	-3.9
PCIG		5.26	92	eP	Pn	18 01 17.7	-0.8
PCIG				i S	Sn	18 02 17.2	-2.3
TGIG		5.39	81	eP	Pn	18 01 21.4	+0.9
TGIG				i S	Sn	18 02 22.4	-0.5
CTUV	Llano Grande	5.49	3	eP	Pn	18 01 21.0	-0.7
CTUV				eS	Sn	18 02 24.7	-0.4
CEGR	Campo Tres	6.00	305	eP	Pn	18 01 31.0	+2.1
CEGR				i S	Sn	18 02 38.1	+0.1
RPIG	Rio Verde	6.02	348	eP	Pn	18 01 33.2	+4.2
RPIG				i S	Sn	18 02 37.0	-1.4
PATR	El Naranjo	6.27	97	eP	Pn	18 01 34.1	+1.5
PATR				eS	Sn	18 02 39.8	-4.9
CCIG	Comitan	6.29	86	Pn	Pn	18 01 30.0	-2.9
CCIG	Comitan	6.29	86	eP	Pn	18 01 33.7	+0.8
CCIG				i S	Sn	18 02 45.6	+0.3
PAVE	Pavencul	6.31	96	eP	Pn	18 01 34.9	+1.8
PAVE				i S	Sn	18 02 44.7	-1.1
ZAIG	Zacatecas	7.70	332	Pn	Pn	18 01 51.8	-0.6
ZAIG	Zacatecas	7.70	332	eP	Pn	18 01 55.9	+3.6
ZAIG				i S	Sn	18 03 20.5	+0.4
MTO3	Montecristo	9.13	99		Pn	18 02 06.6	-5.3
TEIG	Tepich	10.76	65	Pn	Pn	18 02 30.6	-3.4
TXAR	Lajitas Array	14.08	342	Pn	Pn	18 03 19.8	+0.3
	baz=167,slow=17,SNR=4.9						
	0.9nm,0.9s						
SAND	Sanderson	14.28	348		Pn	18 03 24.1	+1.9
JCT	Junction City	14.49	356	Pn	Pn	18 03 18.2	-6.9
SOCE	Pocosol	14.77	110	Pn	Pn	18 03 25.0	-4.0
ALPN	Alpine	15.05	343	Pn	Pn	18 03 28.9	-3.9
OZNA	Ozona	15.06	352	Pn	Pn	18 03 27.9	-5.0
BRDY	Brady	15.26	359		Pn	18 03 31.9	-3.4
LCR2	La Lucha 2	15.58	112	Pn	Pn	18 03 36.4	-3.5
LCR2				IAmb	IAmb	18 03 50.2	
	comp=Z,15nm,1.1s						
MNHN	Monahans	15.76	347	Pn	Pn	18 03 41.9	-0.1
VHRN	Van Horn	15.84	340		Pn	18 03 42.8	-0.4
WHTX	Lake Whitney,	15.99	4	Pn	Pn	18 03 43.7	-1.3
WHTX				IAmb	IAmb	18 03 51.3	
	comp=Z,34nm,1.0s						
SGCY	Sterling City	16.04	352	Pn	Pn	18 03 45.8	+0.2
PECS	Pecos	16.05	344		Pn	18 03 45.3	-0.5
NATX	Nacogdoches	16.15	12	Pn	Pn	18 03 45.1	-1.8
NATX				IAmb	IAmb	18 03 52.0	
	comp=Z,32nm,1.1s						
ODSA	Odessa	16.47	348	Pn	Pn	18 03 50.9	-0.2
ABTX	Abilene, Hawle	16.61	357	P	Pn	18 03 55.1	+2.2
ABTX				IAmb	IAmb	18 03 57.9	
	comp=Z,26nm,1.0s						
PLPT	Palo Pinto	16.78	1		Pn	18 03 54.9	-0.1
PLPT				IAmb	IAmb	18 04 00.2	
	comp=Z,50nm,1.0s						
MNTX	Cornudas Mount	16.81	340	P	Pn	18 03 56.3	+0.8
SN05	Snyder 5	16.96	354	Pn	Pn	18 03 56.0	-1.4
HTMS	Hat Mesa	17.04	346		Pn	18 03 60.0	+1.5
SN07	Snyder 07	17.17	354	Pn	Pn	18 03 58.9	-1.1
APMT	Aspermont	17.34	356	Pn	Pn	18 04 00.5	-1.6
Z38A	Mt. Pleasant	17.54	10	Pn	Pn	18 04 03.2	-1.3
Z38A				IAmb	IAmb	18 04 07.5	
	comp=Z,28nm,1.0s						
DKNS	Dickens	17.74	354	P	Pn	18 04 08.6	+1.5
DKNS				IAmb	IAmb	18 04 10.2	
	comp=Z,15nm,0.9s						
Z41A	Richland Creek	18.02	16		Pn	18 04 10.3	-0.1
Z41A				IAmb	IAmb	18 04 20.5	
	comp=Z,40nm,1.3s						
319A	Douglas	18.14	330	P	P	18 04 14.1	+1.7
MSTX	Muleshoe	18.31	349		Pn	18 04 13.2	-0.9
MSTX				IAmb	IAmb	18 04 24.2	
	comp=Z,14nm,0.9s						
WMOX	Wichita Mounta	18.70	360	P	P	18 04 16.9	-1.5
AMTX	Amarillo	19.03	352	P	P	18 04 21.5	-0.8
MIAR	Mount Ida	19.06	13	P	P	18 04 21.9	-0.6
SMWD	Samnorwood	19.11	356		P	18 04 22.8	-0.3
SMWD				IAmb	IAmb	18 04 33.0	
	comp=Z,11nm,0.7s						
X40A	Basin Creek Fa	19.18	15	P	P	18 04 21.5	-2.2
BNM	Barren Site	19.47	340		P	18 04 29.3	+2.1
Y45A	Yeager Farm, C	19.64	23	P	P	18 04 28.5	-0.3
OK052	Battle Ridge R	20.02	4	P	P	18 04 30.6	-2.3
OK052				IAmb	IAmb	18 04 33.9	
	comp=Z,17nm,0.9s						
ANMO	Albuquerque	20.15	341	P	P	18 04 34.4	-0.2
ANMO	Albuquerque	20.15	341	P	P	18 04 35.9	+1.3
	comp=Z,0.2nm,0.3s,baz=317,slow=12,SNR=9.5						
ANMO				LR	LR	18 11 19.9	
	comp=Z,102nm,19.5s,baz=316,slow=34						
	comp=Z,4.1nm,0.8s						
OK048	Pawnee Station	20.43	4	P	P	18 04 36.9	-0.5
OK048				IAmb	IAmb	18 04 44.6	
	comp=Z,28nm,1.1s						
U38A	Gravette	20.75	10	IAmb	IAmb	18 04 46.5	
	comp=Z,12nm,0.9s						
T35A	Sooner Cattle	20.96	5		P	18 04 42.6	-0.5
T35A				IAmb	IAmb	18 04 43.6	
	comp=Z,17nm,0.9s						
Y49A	Blount Mountai	20.97	30		P	18 04 42.6	-0.7
Y49A				IAmb	IAmb	18 04 44.6	
	comp=Z,10.0nm,0.8s						
X48A	Hartselle	21.17	27		P	18 04 44.5	-0.9
X48A				IAmb	IAmb	18 04 45.8	
	comp=Z,9.2nm,0.9s						
X16A	Lo Mia Camp, P	21.67	330	IAmb	IAmb	18 05 05.0	
	comp=Z,16nm,1.1s						
MGMO	Mountain Grove	21.86	14	IAmb	IAmb	18 04 58.1	
	comp=Z,14nm,1.0s						
T42A	Van Buren	22.04	16		P	18 04 54.3	-0.3
T42A				IAmb	IAmb	18 04 59.2	
	comp=Z,20nm,1.0s						
Y14A	Wickenburg	22.07	327	IAmb	IAmb	18 04 59.7	
	comp=Z,8.9nm,0.9s						
Y52A	Lilburn	22.16	34	IAmb	IAmb	18 05 03.8	
	comp=Z,8.5nm,0.8s						
WVT	Waverly	22.29	24		P	18 04 57.3	-0.1
WVT				IAmb	IAmb	18 05 00.8	
	comp=Z,24nm,0.9s						
SWET	Sewanee	22.31	28	IAmb	IAmb	18 04 58.1	
	comp=Z,15nm,1.0s						
V48A	Smith Brothers	22.36	26	P	P	18 04 56.1	-2.1
V48A				IAmb	IAmb	18 05 01.1	
	comp=Z,12nm,0.9s						
WUAZ	Wupatki	22.54	332		P	18 05 02.0	+1.7
WUAZ				IAmb	IAmb	18 05 06.4	
	comp=Z,18nm,0.8s						
W50A	Signal Mountai	22.59	30		P	18 04 59.9	-0.8
W50A				IAmb	IAmb	18 05 01.7	
	comp=Z,14nm,0.9s						
S22A	4UR Ranch, Cre	22.86	343		P	18 05 01.5	-2.3
S22A				IAmb	IAmb	18 05 31.1	
	comp=Z,12nm,1.1s						
CLTN	Cedars of Leba	22.87	26	IAmb	IAmb	18 05 13.9	
	comp=Z,8.3nm,1.1s						
MVCO	Mesa Verde	22.88	339	IAmb	IAmb	18 05 07.3	
	comp=Z,20nm,1.0s						
CCM	Cathedral Cave	22.96	15		P	18 05 04.2	-0.3
CCM				IAmb	IAmb	18 05 10.3	
	comp=Z,16nm,1.1s						
FVM	French Village	23.11	17	IAmb	IAmb	18 05 08.1	
	comp=Z,12nm,0.8s						
CPCT	Cooper Cave	23.17	30	IAmb	IAmb	18 05 16.4	
	comp=Z,30nm,1.4s						
U49A	Red Boiling Sp	23.46	27	IAmb	IAmb	18 05 21.1	
	comp=Z,26nm,1.3s						
U15A	North Rim	23.71	332	IAmb	IAmb	18 05 23.9	
	comp=Z,12nm,1.2s						
PV01	Paradox Valley	23.75	340	IAmb	IAmb	18 05 16.4	
	comp=Z,11nm,1.0s						
P38A	Dawn	24.00	10	IAmb	IAmb	18 05 16.1	
	comp=Z,11nm,0.8s						
T50A	Nancy	24.30	28	IAmb	IAmb	18 05 19.9	
	comp=Z,12nm,1.0s						
KNB	Kanab	24.44	332	IAmb	IAmb	18 05 24.1	
	comp=Z,6.2nm,0.9s						
N41A	Harden Midland	25.57	14	IAmb	IAmb	18 05 30.6	
	comp=Z,12nm,0.8s						
SFIN	Lafayette	26.33	20	IAmb	IAmb	18 05 38.9	
	comp=Z,13nm,0.9s						
NV11	Mina Array Sit	28.19	326	IAmb	IAmb	18 05 57.7	
	comp=Z,4.4nm,1.1s						
NVAR	Mina Array Bea	28.26	326	P	P	18 05 56.6	+3.0
	comp=Z,1.6nm,0.8s,baz=157,slow=11,SNR=8.8						
	comp=Z,1.6nm,0.8s						
PDAR	Pinedale Array	28.29	343	P	P	18 05 55.0	+1.1
	comp=Z,2.5nm,0.9s,baz=184,slow=6.6,SNR=2.3						
	comp=Z,2.5nm,0.9s						
WVOR	Wild Horse Val	31.45	331	IAmb	IAmb	18 06 25.1	
	comp=Z,5.3nm,1.1s						
J08A	Circle Bar Ran	32.10	332	IAmb	IAmb	18 06 31.6	
	comp=Z,7.5nm,1.1s						
FFC	Flin Flon	38.77	357	P	P	18 07 24.8	+0.3
YKA	Yellowknife Ar	47.81	350	P	P	18 08 36.2	-1.2
	comp=Z,1.3nm,0.9s,baz=161,slow=7.4,SNR=13						
	comp=Z,1.3nm,0.9s						
BLKN	Baker Lake	48.34	2	P	P	18 08 42.4	+1.0
BLKN				IAmb	IAmb	18 08 43.3	
	comp=Z,4.5nm,0.9s						
SIV	San Ignacio	48.84	129	P	P	18 08 47.3	+1.2
	comp=Z,4.4nm,1.1s,baz=7.1,slow=8.1,SNR=2.4						
	comp=Z,4.4nm,1.1s						
H03N2	Juan Fernandez	52.62	159	T	T	19 06 06.8	
	baz=337,slow=77,SNR=145						
H03N1	Juan Fernandez	52.63	159	T	T	19 06 13.6	
	baz=337,slow=77,SNR=212						
H03N3	Juan Fernandez	52.63	159	T	T	19 06 07.0	
	baz=337,slow=77,SNR=254						
J26L	Joseph Creek	57.22	339		P	18 09 49.8	+2.5
J26L				IAmb	IAmb	18 09 51.5	
	comp=Z,7.1nm,1.1s						
A36M	Sachs Harbour	58.17	351	IAmb	IAmb	18 10 02.3	
	comp=Z,5.0nm,1.1s						
ILAR	Eielson Array	58.55	338		P	18 09 55.6	-1.0
ILAR	Eielson Array	58.55	338	P	P	18 09 57.2	+0.7
	comp=Z,1.7nm,1.0s,baz=146,slow=5.0,SNR=12						
	comp=Z,1.7nm,1.0s						
TRF	Thorofare Moun	59.16	336	P	P	18 10 02.3	+1.3
H24K	Noodor Dome	59.48	339		P	18 10 03.5	+0.5
D25K	Kavik River	60.96	343	P	P	18 10 14.1	+1.0
D25K				IAmb	IAmb	18 10 16.4	
	comp=Z,4.9nm,1.1s						
L18K	Granite Mounta	61.30	333	P	P	18 10 14.9	-0.6
L18K				IAmb	IAmb	18 10 18.0	
	comp=Z,5.2nm,1.0s						
J19K	Poorman	61.53	335	P	P	18 10 17.1	+0.2
PLCA	Paso Flores	62.16	156	P	P	18 10 25.5	+3.9
	comp=Z,2.1nm,1.0s,baz=323,slow=6.5,SNR=3.4						
	comp=Z,2.1nm,1.0s						
D22K	Ayikyak River	62.64	341	P	P	18 10 25.9	+1.6
B20K	Meade River	64.56	341	P	P	18 10 39.2	+2.3
EKA	Eskdalemuir Ar	80.13	35	P	P	18 12 08.9	-1.3
	comp=Z,1.7nm,0.8s,baz=274,slow=9.1,SNR=3.8						
	comp=Z,1.7nm,0.8s						
CMAR	Chiang Mai Arr	141.65	332	PKP	PKPdf	18 19 34.6	+2.0
	comp=Z,0.5nm,1.0s,baz=74,slow=4.3,SNR=2.1						

*IDC **22** 18:00:40.7±2.2,40°.58N×143°.75E,h0km,mb3.8/10,*
mbtmp3.7/12,ML2.7/3,Error ellipse: s-maj=45.4km
s-min=24.7km az=147.0
*JMA **22** 18:00:42.6±0.1,40°.6N±0°.7×14°.4E±°,h12km,MV3.6/38,*
FAR E OFF SANRIKU

ISC 22 18:00:42.4±3.9,40°.65N±0°.05×143°.63E±0°.09,h9km±24km,
n27,σ1°.61/33,mb3.9/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.41	346	P	Pn	18 01 09.1	+0.9
JEM				eS	Sn	18 01 27.8	+0.9
JTH	Tanohata	1.52	243	eP	Pn	18 01 09.9	+0.1
JKEN	Kujiedanarisaw	1.53	254	P	Pn	18 01 10.0	+0.2
JKEN				eS	Sb	18 01 30.4	0.0
JANG	Nango	1.63	261	P	Pn	18 01 12.1	+0.7
MIYJ	Miyakonagasawa	1.75	233	eP	Pn	18 01 13.4	+0.4
JNBK	Urakawa-nobuka	1.76	338	eP	Pn	18 01 14.4	+1.4
JTM	Tenmabayashi	1.95	275	P	Pb	18 01 17.5	-0.6
JTM				eS	Sb	18 01 42.5	+0.1
JCH	Churui	1.97	354	eP	Pn	18 01 16.6	+0.7
JCH				eS	Sn	18 01 40.8	0.0
JOT	Ohata	2.08	291	P	Pn	18 01 19.3	+1.8
JOM	Ohasama	2.14	237	P	Pn	18 01 19.5	+1.1
JKB	Kayabe	2.31	303	eP	Pn	18 01 22.7	+2.1
JAH	Hinai	2.33	260	P	Pb	18 01 23.0	-1.5
JMK	Ichinoseki	2.51	228	P	Pn	18 01 24.3	+0.9
JMK				eS	Sn	18 01 53.9	-0.2
JRG	Rokugo	2.62	242	P	Pn	18 01 26.8	+1.9
ASAJ	Asahikawa	3.55	348	Pn	Pn	18 01 39.8	+2.2
	0.6nm,0.3s,baz=198,slow=19,SNR=6.9						
ASAJ				Sn	Sn	18 02 13.2	-6.5
	1.5nm,0.3s,baz=233,slow=13,SNR=5.0						
MJAR	Matsushiro Arr	5.90	228	Pn	Pn	18 02 09.8	-0.2
	0.1nm,0.3s,baz=36,slow=11,SNR=4.7						
	1.7nm,0.7s						
USRK	Ussuriysk Ar.	9.31	296	Pn	Pn	18 02 56.9	+0.2
	0.1nm,0.3s,baz=98,slow=15,SNR=4.4						
	1.2nm,0.6s						
SEY	Seymchan	22.92	10	P	P	18 05 44.9	-1.5
	1.6nm,0.8s,baz=186,slow=8.2,SNR=3.9						
	1.6nm,0.8s						
SONM	Songino Array	27.42	298	P	P	18 06 28.0	-0.4
	0.3nm,0.5s,baz=85,slow=8.0,SNR=4.0						
	0.3nm,0.5s						
ZALV	Zalesovo Beam	40.86	309	P	P	18 08 25.6	+1.3
	1.6nm,0.7s,baz=85,slow=9.1,SNR=5.4						
	1.6nm,0.7s						
MKAR	Makanchi Array	43.76	299	P	P	18 08 48.5	+0.4
	1.1nm,0.8s,baz=84,slow=9.0,SNR=11						
	1.1nm,0.8s						
KURBB	Kurchatov Arra	45.23	306	P	P	18 09 00.6	+0.9
	1.1nm,0.5s,baz=76,slow=8.5,SNR=12						
	1.1nm,

ECS	Chishang	0.35	69	P	Pg	18 09 03.7 0.0
ECS				S	Sg	18 09 09.1 +0.8
SCST	Cishan	0.35	256	P	Pb	18 09 04.8 -0.9
SCST				S	Sb	18 09 10.3 -1.3
EHD	Haiduan	0.36	60	P	Pg	18 09 03.9 0.0
EHD				S	Sg	18 09 08.5 -0.1
WTP	Ta-pu	0.36	320	⇑iP	Pb	18 09 05.2 -0.6
WTP				i S	Sb	18 09 10.8 -1.0
CHN1	Nanshi	0.38	304	i P	Pb	18 09 05.8 -0.3
CHN1				i S	Sb	18 09 13.0 +0.7
ECL	Taimali	0.38	168	⇓iP	Pg	18 09 04.3 0.0
ECL				i S	Sg	18 09 09.1 -0.2
TPUB	Ta-pu	0.40	326	P	Pb	18 09 05.7 -0.7
TPUB	Ta-pu	0.40	326	i P	Pb	18 09 05.8 -0.7
TPUB				S	Sb	18 09 12.3 -0.5
EDH	Donghe	0.40	90	P	Pg	18 09 05.5 +0.7
EDH				S	Sb	18 09 11.5 -1.4
MASBT	Mashibuluo	0.42	211	⇑iP	Pg	18 09 04.8 -0.3
MASBT				S	Sg	18 09 11.0 +0.5
SNST	Tainan City	0.42	306	P	Pb	18 09 07.2 +0.4
SNST				S	Sb	18 09 13.9 +0.4
SGLT	Jiouru	0.42	235	i P	Pb	18 09 06.3 -0.6
SGLT				S	Sb	18 09 13.3 -0.2
TWM1	Shoushan	0.44	250	i P	Pb	18 09 07.0 -0.1
TWM1				S	Sb	18 09 15.6 +1.7
FULB	Fuli	0.45	60	P	Pg	18 09 06.3 +0.6
FULB				S	Sg	18 09 12.9 +1.2
CHN4	Tsaushan	0.46	326	i P	Pb	18 09 06.9 -0.6
TWK	Hsinying	0.46	310	i P	Pb	18 09 07.7 +0.2
TWK				S	Sb	18 09 15.2 +0.6
CHKT	Chengkung	0.48	74	i P	Pb	18 09 07.2 -0.6
CHKT				i S	Sb	18 09 15.2 +0.1
WCKO	Fanlu	0.53	333	i P	Pb	18 09 08.0 +0.3
WCKO				S	Sb	18 09 17.2 +0.7
CHKH	Chenggong	0.53	66	P	Pg	18 09 07.8 +0.6
CHKH				S	Sb	18 09 16.0 -0.7
ALS	Alishan	0.54	354	i P	Pg	18 09 07.9 +0.5
ALS				i S	Sb	18 09 16.4 -0.8
TWF1	Yuli	0.55	46	i P	Pg	18 09 07.4 -0.2
TWF1				i S	Sg	18 09 14.3 -0.4
SSHA	Shanhua	0.56	287	eP	Pb	18 09 10.1 +0.9
EYUL	Yuli	0.56	48	P	Pg	18 09 07.5 -0.2
EYUL				S	Sg	18 09 15.0 -0.1
YULB	Yu-li	0.58	43	P	Pg	18 09 07.3 -0.8
YULB	Yu-li	0.58	43	⇑iP	Pg	18 09 07.6 -0.5
YULB				S	Sg	18 09 16.0 +0.4
EAST	Anshuo	0.58	182	i P	Pg	18 09 08.2 0.0
EAST				i S	Sg	18 09 16.0 +0.2
TAW	Tawu	0.61	178	i P	Pg	18 09 08.5 -0.2
TAW				i S	Sg	18 09 17.1 +0.5
TAWH	Dawu Township	0.63	178	P	Pg	18 09 09.3 +0.3
TAWH				S	Sb	18 09 18.4 -1.0
LDUT	Ludao	0.63	118	P	Pg	18 09 09.4 +0.4
LDUT				S	Sb	18 09 19.8 +0.3
ECBN	Changbin	0.64	57	eS	Sb	18 09 20.4 +0.7
SCZT	Fangliau	0.64	201	i P	Pg	18 09 09.2 0.0
SCZT				i S	Sg	18 09 17.8 +0.2
WSSB	Gushan	0.65	240	eP	Pn	18 09 12.5 -0.3
CHY	Chiayi	0.67	322	eP	Pn	18 09 12.2 -0.7
CHY				eS	Sn	18 09 22.7 -1.0
ICHU	Yijhu	0.67	306	eP	Pn	18 09 12.2 -0.8
ICHU				i S	Sn	18 09 22.9 -0.9
EHY	Hungye	0.68	38	P	Pg	18 09 09.4 -0.6
EHY				S	Sg	18 09 19.3 +0.5
EHYH	Wanrong	0.68	40	eP	Pg	18 09 09.5 -0.6
EHYH				eS	Sg	18 09 19.2 +0.3
WHYT	Xinyi Township	0.72	359	eP	Pg	18 09 11.3 +0.4
HGSD	Ruisui	0.73	44	P	Pb	18 09 11.6 -0.5
HGSD				S	Sb	18 09 22.1 -0.3
TSCK	Chigu Township	0.74	284	eP	Pn	18 09 13.2 -0.8
TSCK				S	Sn	18 09 26.3 +0.7
SLIU	Shizi	0.75	185	eP	Pg	18 09 11.5 +0.1
WLCH	Liuqiu	0.76	216	eP	Pn	18 09 15.8 +1.4
WGK	Gukeng	0.77	339	P	Pb	18 09 13.3 +0.5
WGK				S	Sn	18 09 25.8 -0.5
WDLH	Douliu	0.78	337	eP	Pn	18 09 14.4 -0.1
WDLH				S	Sn	18 09 26.4 -0.1
WDL	Douliou City	0.80	338	eP	Pn	18 09 13.9 -0.9
WSL	Shuilin Townsh	0.81	313	eP	Pb	18 09 13.8 +0.5
SSLB	Suanglung	0.82	6	P	Pg	18 09 12.2 -0.5
SSLB	Suanglung	0.82	6	eP	Pg	18 09 12.5 -0.2
VWDT	VWDT	0.82	18	P	Pg	18 09 12.2 -0.5
WTK	Tuku	0.84	328	eP	Pb	18 09 14.5 +0.5
WJS	Zhushan	0.86	351	eP	Pn	18 09 15.3 -0.3
EGFH	Guangfu	0.86	36	eP	Pg	18 09 13.6 0.0
WARBT	Fenglin Townsh	0.88	33	i P	Pg	18 09 13.1 -0.8
WARBT				S	Sg	18 09 25.2 -0.2
WNT	Mingjian	0.92	349	eP	Pb	18 09 15.6 +0.3
WNT				eS	Sn	18 09 31.3 +1.3
TYC	Yuchr	0.93	359	i P	Pn	18 09 16.6 +0.1
TYC				i S	Sn	18 09 30.6 +0.4
ESL	Shilin	0.99	32	P	Pg	18 09 15.7 -0.2
ESL				S	Sg	18 09 28.9 +0.1
OWD	Renai	1.02	16	eP	Pg	18 09 15.6 -0.9
OWD				eS	Sb	18 09 31.3 +0.4
TWKBT	Hengchun	1.03	183	eP	Pn	18 09 17.8 -0.1
SHUL	Shoufeng	1.03	38	eP	Pb	18 09 17.4 +0.1
WUSB	Renai	1.04	13	eP	Pg	18 09 17.1 +0.1
WCS	Beigang Elemen	1.08	2	eP	Pn	18 09 19.2 +0.5
WCS				eS	Sn	18 09 35.3 +1.3
ETM	Tongmen	1.15	30	eP	Pg	18 09 18.9 0.0
WDGT	Dungji	1.15	285	eP	Pn	18 09 19.9 +0.3
LXIB	Xiulin Townshi	1.16	25	P	Pg	18 09 18.3 -0.9
LXIB				S	Sb	18 09 35.2 +0.3
WHF	Hehuan Shan	1.23	17	eP	Pg	18 09 20.0 -0.5
TWD	Chiawan	1.29	31	eP	Pn	18 09 20.2 -1.4
WHP	Taichung City	1.30	3	P	Pg	18 09 23.4 +1.4
TDCB	Techi	1.30	12	eP	Pg	18 09 22.7 +0.7
TWT	Tachien	1.31	12	eP	Pg	18 09 22.7 +0.6
FUSS	Fushou	1.32	15	eP	Pn	18 09 21.7 -0.5
FUSS				eS	Sn	18 09 40.5 +0.2
PNG	Penghu	1.34	296	eP	Pg	18 09 22.8 0.0
ETLH	Xiulin Townshi	1.35	24	eP	Pn	18 09 22.0 -0.5
ETLH				S	Sg	18 09 40.6 +0.1
NACB	Ninganchiao	1.37	29	P	Pn	18 09 22.3 -0.4
NACB	Ninganchiao	1.37	29	P	Pb	18 09 22.7 -0.3
NACB				S	Sg	18 09 41.5 +0.5
TWQ1	Liyutan	1.37	356	eP	Pg	18 09 24.8 +1.4
NNSB	Datong	1.53	18	eP	Pg	18 09 26.0 -0.2
NNSB				i S	Sg	18 09 47.2 +1.1
NNS	Nan Shan	1.53	17	eP	Pg	18 09 26.2 -0.2
ENA	Nanau	1.66	29	eP	Pb	18 09 27.6 -0.4
NSTT	Nanjuang	1.66	4	eP	Pg	18 09 28.4 -0.3
NFF	Wufeng Townshi	1.67	8	eP	Pg	18 09 29.1 +0.2
NFF				S	Sg	18 09 52.5 +1.9
LATG	Datong	1.67	21	eP	Pb	18 09 28.1 -0.1
LIOB	Emei	1.67	5	eP	Pg	18 09 29.0 0.0
EWUT	Wuta	1.69	29	eP	Pb	18 09 27.9 -0.6
YHNB	Yeheng	1.75	15	P	Pb	18 09 29.3 -0.3
YHNB	Yeheng	1.75	15	eP	Pb	18 09 28.8 -0.9
NSK	Sanguang	1.76	15	eP	Pb	18 09 29.6 0.0
ENTT	Nioudou	1.78	21	eP	Pg	18 09 30.7 -0.4
ENTT				eS	Sg	18 09 55.1 +0.8
KSHI	Guanxi Townshi	1.82	9	eP	Pb	18 09 30.8 +0.1
NDS	Dongshan	1.83	25	eP	Pg	18 09 31.8 -0.2
TWC	Suao	1.86	29	eP	Pb	18 09 31.1 -0.3
NWLT	Wulai	1.89	18	eP	Pg	18 09 33.5 +0.2
TWE	Neicheng	1.89	23	eP	Pb	18 09 31.7 -0.2
FUSB	Fushanzhiwuyua	1.90	20	eP	Pg	18 09 33.2 -0.2
TIPB	Shuangxi	2.18	24	eP	Pb	18 09 35.2 -1.6
ZUZH	Zhuzihu	2.27	16	eP	Pb	18 09 37.5 -0.9
ANP	Anpu	2.29	15	eP	Pb	18 09 38.8 +0.1
SXI1	Grass Mountain	2.31	23	eP	Pg	18 09 40.1 -1.1
YOJ	Yonaguni jima	2.46	53	eP	Pn	18 09 38.5 +0.8

IDC 22 18:15:49.3±62.0, 18°82S×178°34E, h0km, mb4.0/3, mbtmp4.0/3, MS4.4/3, Error ellipse: s-maj=1101.0km s-min=154.0km az=79.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.48	241	P	P	18 22 48.1	+0.4
	0.7nm,0.3s,baz=72,slow=6.4,SNR=4.3						
	0.7nm,0.3s						
WRA	Warramunga Arr	41.43	261	P	P	18 23 37.2	-0.7
	1.0nm,0.6s,baz=97,slow=7.8,SNR=5.4						
	1.0nm,0.6s						
ASAR	Alice Springs	41.57	255	P	P	18 23 39.1	0.0
	1.4nm,0.5s,baz=92,slow=7.7,SNR=29						
	1.4nm,0.5s						
VNDA	Vanda	59.30	184	LR	LR	18 46 09.9	
	comp=Z,171nm,21.9s,baz=343,slow=31						
SNAA	Sanae	89.74	180	LR	LR	19 06 15.0	
	comp=Z,247nm,20.7s,baz=124,slow=34						
PLCA	Paso Flores	92.92	135	LR	LR	19 04 15.9	
	comp=Z,316nm,19.4s,baz=330,slow=31						

BKK 22 18:22:09.8±0.9, 24°N±7°×10°3E±°, h10km±8km, M3.7/17, mB4.0/8, mb3.7/13, Mjma3.6/17, ML4.4/7, MLv4.2/14, Mw(mB)3.0/8
IDC 22 18:22:10.8±1.2, 23°79N×103°96E, h0km, mb3.3/5, mbtmp3.3/6, ML3.8/1, Error ellipse: s-maj=27.6km s-min=19.3km az=80.0
ISC 22 18:22:16.1±1.5, 23°9N±0°1×103°2E±0°2, h10km, n17, σ0°93/15, mb3.3/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAMP	Lampang	6.31	213	P	Pn	18 23 48.4	-0.9
	0.1nm0.6nm8.0nm,0.7s						
LOEI	Loei	6.62	196	P	Pn	18 23 51.6	-1.9
CM09	Chiang Mai Arr	6.71	217	P	Pn	18 23 55.6	+0.8
	0.1nm0.1nm57nm3.5nm,0.5s						
CMAR	Chiang Mai Arr	6.72	217	Pn	Pn	18 23 55.7	+0.7
	0.5nm,0.3s,baz=30,slow=12,SNR=14						
CMAR				Pg	Pg	18 24 21.6	-3.4
	0.3nm,0.3s,baz=33,slow=16,SNR=14						
CMAR				Lg	Lg	18 25 53.8	
	0.3nm,0.3s,baz=41,slow=31,SNR=11						
	0.6nm,0.4s						
CM15	Chiang Mai Arr	6.74	217	P	Pn	18 23 55.2	0.0
CM02	Chiang Mai Arr	6.74	217	P	Pn	18 23 55.4	+0.2
CM01	Chiang Mai Arr	6.74	217	P	Pn	18 23 56.0	+0.7
	0.1nm0.1nm56nm2.4nm,0.6s						
CM04	Chiang Mai Arr	6.75	217	P	Pn	18 23 56.0	+0.7
	0.1nm0.1nm71nm7.7nm,1.0s						
CM05	Chiang Mai Arr	6.76	217	P	Pn	18 23 56.0	+0.4
	0.1nm0.1nm44nm2.2nm,0.5s						
CM13	Chiang Mai Arr	6.77	217	P	Pn	18 23 55.8	+0.2
	0.0nm0.0nm1.7nm,0.4s						
PANO	Nakornpanom	6.85	169	P	Pn	18 23 57.3	+0.6
	0.1nm0.1nm5.4nm,1.0s						
CHAI	Chaiyaphum	8.04	188	P	Pn	18 24 13.9	+0.8
MKAR	Makanchi Array	28.34	329	P	P	18 28 11.4	+1.2
	0.1nm,0.5s,baz=144,slow=8.7,SNR=2.3						
	0.1nm,0.5s						
KURBB	Kurchatov Arra	32.82	331	P	P	18 28 48.8	-0.8
	0.2nm,0.5s,baz=148,slow=7.4,SNR=4.2						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	33.03	340	P	P	18 28 50.8	-0.6
	0.3nm,0.3s,baz=138,slow=11,SNR=2.3						
	0.3nm,0.3s						
WRA	Warramunga Arr	53.10	143	P	P	18 31 27.8	-6.4
	0.6nm,1.0s,baz=330,slow=7.9,SNR=1.8						
	0.6nm,1.0s						
ASAR	Alice Springs	55.90	146	P	P	18 31 46.2	-8.2
	0.1nm,0.3s,baz=337,slow=7.1,SNR=7.3						
	0.1nm,0.3s						

IDC 22 18:23:30.3±1.4, 52°89N×160°68E, h0km, mb3.8/11, mbtmp3.9/13, ML4.0/2, Error ellipse: s-maj=29.2km s-min=22.3km az=119.0
KRSC 22 18:23:32.5±1.5, 52°73N×160°74E, h21km±15km, Ml4.1
ISC 22 18:23:33.2±1.8, 52°90N±0°05×160°65E±0°05, h18km±9km, n50, σ1°09/55, mb4.0/11, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.43	298	eP	Pn	18 23 44.6	+0.1
SPN				eS	Sn	18 23 52.0	+0.1
NLC	Nalytchevo	0.83	290	eP	Pn	18 23 50.3	+0.3
SDLR	Sedlovina	1.13	290	eP	Pg	18 23 55.3	+0.2
UGLR	Uglovaya	1.14	287	eP	Pg	18 23 55.5	+0.1
DALK	Dalny	1.15	277	eP	Pb	18 23 55.0	+0.5
AVH	Avacha	1.21	288	eP	Pg	18 23 56.7	+0.1
PET	Petropavlovsk	1.21	277	eP	Pb	18 23 55.9	+0.3
PET				eS	Sn	18 24 12.1	+0.8
KRER	Koryakskii	1.22	290	eP	Pg	18 23 57.0	+0.4
INSR	Institute	1.25	279	eP	Pb	18 23 56.5	+0.3
KOK	Koryaka	1.28	289	eP	Pb	18 23 57.5	+0.8
KRX	Arik	1.29	292	eP	Pb	18 23 57.6	+0.6
KII	Karymskiy	1.35	328	eP	Pg	18 23 59.8	+0.6
RUS	Russkaya	1.38	251	eP	Pn	18 23 57.6	0.0
RUS				eS	Sn	18 24 15.2	-0.2
KRMR	Karymshinskiy	1.53	268	eP	Pn	18 23 59.9	+0.3
MTVR	Mutnovka	1.56	256	eP	Pn	18 24 00.5	+0.4
MTVR				eS	Sn	18 24 20.4	+0.4
GRL	Gorelyy	1.60	259	eP	Pb	18 24 01.8	-0.6
MKZ	Mys Kozlova	1.78	21	eP	Pb	18 24 05.3	0.0
MKZ				eS	Sb	18 24 28.3	+1.1
PETK	Petropavlovsk-	1.79	278	Pn	Pb	18 24 04.6	-0.9
	80nm,0.3s,baz=243,slow=9.8,SNR=322						
PETK				Sn	Sb	18 24 28.1	+0.4
	20nm,0.3s,baz=93,slow=19,SNR=4.2						
GNL	Ganaly	1.81	297	eP	Pb	18 24 06.6	+0.7
KDTR	Khodutka, Kamc	1.92	236	eP	Pn	18 24 05.1	+0.2
KDTR				eS	Sn	18 24 28.4	-0.2
APC	Apacha	2.11	272	eP	Pb	18 24 10.2	-0.8
APC				eS	Sb	18 24 39.1	+2.2
TUMD	Tumrok D	2.31	356	eP	Pb	18 24 13.0	-1.4
TUMD				eS	Sb	18 24 42.6	-0.1
KMNR	Kamenistaya	2.87	355	eP	Pb	18 24 23.4	-0.6
BZMR	Bezymyannaya	3.04	358	eP	Pb	18 24 26.1	-0.8
BZGR	Bezymyannyi-Gr	3.05	1	eP	Pb	18 24 25.7	-1.3
BZGR				eS	Sb	18 25 05.2	+1.3
KIRR	Kirishev	3.07	357	eP	Pb	18 24 26.4	-0.9
KPT	Kopyto	3.08	356	eP	Pb	18 24 26.9	-0.7
ESO	Esso	3.24	340	eP	Pb	18 24 27.2	-3.0
KRSR	Krestovskiy	3.33	359	eP	Pb	18 24 29.9	-1.8
KLY	Klyuchi	3.42	0	eP	Pb	18 24 30.7	-2.6
KLY				eS	Sb	18 25 13.3	-1.2
KBTR	Krutoberegovo	3.55	20	eP	Pn	18 24 31.1	+3.7
ASAJ	Asahikawa	14.81	241	Pn	Pn	18 27 01.2	-0.3
	0.3nm,0.3s,baz=74,slow=13,SNR=4.6						
	2.4nm,0.6s						
YAK	Yakutsk	18.82	311	P	P	18 27 50.7	-0.8
	1.0nm,0.3s,baz=82,slow=2.3,SNR=7.3						
	4.3nm,0.8s						
MJAR	Matsushiro Arr	22.69	233	P	P	18 28 33.4	-0.3
	0.7nm,0.6s,baz=20,slow=11,SNR=7.3						
	0.7nm,0.6s						
H11N2	WAKE ISLAND Hy	33.46	169	T	T	19 06 35.0	
	baz=351,slow=76,SNR=6.5						
H11N3	WAKE ISLAND Hy	33.47	169	T	T	19 06 36.0	
	baz=351,slow=76,SNR=4.6						
H11N1	WAKE ISLAND Hy	33.47	169	T	T	19 06 36.0	
	baz=351,slow=76,SNR=6.0						
SONM	Songino Array	34.27	284	P	P	18 30 18.1	0.0
	0.3nm,0.6s,baz=78,slow=7.5,SNR=2.7						
	0.3nm,0.6s						
H11S1	WAKE ISLAND Hy	34.64	170	T	T	19 07 54.7	
	baz=351,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy	34.66	170	T	T	19 07 59.7	
	baz=351,slow=76,SNR=29						
H11S2	WAKE ISLAND Hy	34.66	170	T	T	19 08 03.5	
	baz=351,slow=76,SNR=4.2						
KURBB	Kurchatov Arra	48.22	302	P	P	18 32 11.2	-1.2
	0.4nm,0.4s,baz=60,slow=7.5,SNR=8.3						
	0.4nm,0.4s						
MKAR	Makanchi Array	48.54	296	P	P	18 32 13.4	-1.6
	0.5nm,0.5s,baz=59,slow=7.6,SNR=13						
	0.5nm,0.5s						
BVAR	Borovoye Array	50.77	309	P	P	18 32 31.3	-0.6
	0.9nm,0.5s,baz=62,slow=7.8,SNR=6.6						
	0.9nm,0.5s						
ARCES	ARCESS Array B	53.58	342	P	P	18 32 53.1	+0.7
	4.5nm,1.0s,baz=48,slow=7.2,SNR=5.3						
	4.5nm,1.0s						
FINES	FINESS Array B	60.43	337	P	P	18 33 41.8	+0.7
	1.6nm,0.5s,baz=41,slow=7.7,SNR=23						
	1.6nm,0.5s						
HFS	Hagfors	64.24	342	P	P	18 34 06.4	-0.1
	0.5nm,0.5s,baz=79,slow=7.7,SNR=5.6						
	0.5nm,0.5s						
AKASG	Malin Array Be	68.95	329	P	P	18 34 36.8	0.0
	1.0nm,0.5s,baz=30,slow=6.6,SNR=6.5						
	1.0nm,0.5s						
KBZ	Khabaz	69.91	317	P	P	18 34 43.5	+0.7
	1.1nm,0.6s,baz=159,slow=6.7,SNR=6.1						
	1.1nm,0.6s						
ASAR	Alice Springs	79.72	205	P	P	18 35 39.9	+0.2
	0.3nm,0.6s,baz=18,slow=4.9,SNR=6.0						
	0.3nm,0.6s						

NEIC 22 18:29:54.2±1.5, 24°25S±0°07×67°09W±0°08, h158km±5km, mb4.8/219, Mww5.1/23, Mwr5.0(GUC), Error ellipse: s-maj=11.1km s-min=9.5km az=88.0
VAO 22 18:29:54.8±0.5, 24°15S×67°08W, h165km±4km, mb5.1
NEIC 22 18:29:54.3, 24°34S×67°00W, h160km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16Nm; Mrr-2.25; Mθθ-1.77; Mφφ4.02; Mrθ1.71; Mrφ1.63; Mθφ-2.29; Fault plane solution: M0 4.79000×10^16 NP1: φs=230.32000°, δ45.33000°, λ-27.59000°. NP2: φs=340.49000°, δ70.77000°, λ-131.88000°. Principal axes: T 4.9346, Plg15.0000°, Azm100.0000°; N -0.2969, Plg39.0000°, Azm357.0000°; P -4.6377, Plg47.0000°, Azm207.0000°;
IDC 22 18:29:54.9±1.0, 24°20S×66°99W, h161km±7km, mb4.6/15, mbtmp5.1/22, MS3.7/1 Error ellipse: s-maj=13.6km s-min=9.3km az=79.0
NEIC 22 18:29:54.3, 24°24S×67°09W, h160km
SJA 22 18:29:54.3±0.8, 24°25S×67°25W, h187km±4km, ML5.0, MW4.8
GUC 22 18:29:55.8±0.8, 24°29S×67°41W, h180km±7km, ML5.3
BJI 22 18:29:55.0, 24°30S×67°10W, h156km, mB5.3/2
GCMT 22 18:29:59.2±0.3, 24°25S±0°02×67°16W±0°02, h187km±2km, MW5.1/114, Moment Tensor Solution. s46,c53; s114,c152; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.86±.15; Mθθ-0.75±.19; Mφφ4.61±.22; Mrφ2.67±.12; Mθφ-1.11±.16; Mθr-3.01±.16; Best double couple: M0 5.97700×10^16 NP1:φs191.00000°, δ30.00000°, λ-50.00000°. NP2:φs328.00000°, δ68.00000°, λ-110.00000°. Principal axes: T 6.1150, Plg20.0000°, Azm73.0000°; N -0.2750, Plg18.0000°, Azm336.0000°; P -5.8380, Plg62.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 22 18:29:55.2±0.4, 24°26S±0°03×67°24W±0°03, h172km±3km, h172km: pP-P, n410, σ1°68/371, mb4.8/116, 13C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.82	88	⇓iP	Pn	18 30 22.5	+1.1
SALTA				i S	Sn	18 30 43.2	+1.7
SALTA		0.82	88	eP	Pn	18 30 22.6	+1.1
SALTA				eS	Sn	18 30 43.5	+2.0
AF01	San Pedro de A	1.56	326	P	Pn	18 30 29.0	+1.5
AF01	San Pedro de A	1.56	326	⇓iP	Pn	18 30 29.1	+1.5
AF01				i S	Sn	18 30 54.3	+2.0
AF01				IAML		18 30 56.6	
	comp=E,25μm,0.7s						
AF01	San Pedro de A	1.56	326	eP	Pn	18 30 29.0	+1.5
AF01				eS	Sn	18 30 55.2	+2.8
AF01				IAML		18 31 09.0	
	comp=Z,11μm,0.9s						
SLA	San Lorenzo	1.64	107	eP	Pn	18 30 29.9	+1.7
SLA				eS	Sn	18 30 54.7	+1.2
SLA				IAML		18 30 56.3	
	comp=Z,8μm,1.1s						
AZAP	Zapla	1.98	89	eP	Pn	18 30 32.9	+1.1
AZAP				eS	Sn	18 31 01.2	+1.1
AZAP				IAML		18 31 04.4	
	comp=Z,8μm,1.1s						
FSA	Cafayete	2.17	149	eP	Pn	18 30 35.1	+1.3
FSA				eS	Sn	18 31 03.4	-0.4
GO02	Mina Guanaco	2.32	247		Pn	18 30 36.0	+0.3
GO02				Sn	Sn	18 31 06.9	-0.2
GO02	Mina Guanaco	2.32	247	⇑iP	Pn	18 30 36.5	+0.8
GO02				i S	Sn	18 31 07.0	-0.1
GO02				IAML		18 31 08.8	
	comp=N,12μm,0.3s						
GO02	Mina Guanaco	2.32	247	eP	Pn	18 30 36.5	+0.8
GO02				eS	Sn	18 31 07.3	+0.2
YJA	Yavi	2.61	38	eP	Pn	18 30 40.5	+1.2
YJA				eS	Sn	18 31 14.3	+1.0
PB06	IPOC Station P	2.64	305	⇑iP	Pn	18 30 40.1	+0.8
PB06				i S	Sn	18 31 12.7	-0.9
PB14	IPOC Station P	2.91	262		Pn	18 30 42.2	-0.5
PB14	IPOC Station P	2.91	262	⇑iP	Pn	18 30 42.7	-0.1
PB14				i S	Sn	18 31 17.5	-2.1
PB14	IPOC Station P	2.91	262	eP	Pn	18 30 42.6	-0.1
PB14				eS	Sn	18 31 19.5	-0.1
PB14				IAML		18 31 23.2	
	comp=Z,2μm,0.8s						
PB05	IPOC Station P	3.06	297		Pn	18 30 44.2	-0.2
PB05	IPOC Station P	3.06	297	⇑iP	Pn	18 30 44.5	+0.1
PB05				i S	Sn	18 31 20.1	-2.5
PB05				IAML		18 31 31.7	
	comp=N,4μm,0.5s						
PB09	IPOC Station P	3.07	323		Pn	18 30 45.4	+0.8
PB09	IPOC Station P	3.07	323	⇑iP	Pn	18 30 45.6	+1.0
PB09				i S	Sn	18 31 22.2	-0.7
AC02	Maricunga	3.08	213		Pn	18 30 45.7	+0.7
AC02				Sn	Sn	18 31 19.7	-4.1
AC02	Maricunga	3.08	213	⇑iP	Pn	18 30 45.8	+0.7
AC02				i S	Sn	18 31 24.3	+0.6
AC02	Maricunga	3.08	213	eP	Pn	18 30 45.8	+0.8
AC02				eS	Sn	18 31 23.7	-0.1
PB10	IPOC Station P	3.13	283		Pn	18 30 45.1	+0.1
PB10	IPOC Station P	3.13	283	⇑iP	Pn	18 30 45.3	+0.3
PB10				IAML		18 31 29.5	
	comp=E,5μm,0.7s						
PB10	IPOC Station P	3.13	283	eP	Pn	18 30 45.4	+0.3
PB10				eS	Sn	18 31 23.3	-0.6
PB10				IAML		18 31 29

AGUA eS Sn 18 32 12.2 -2.5
AGUA IAML 18 32 20.6
comp=Z,478nm,0.4s
LCO Las Campanas 5.66 212 Pn 18 31 15.8 -2.1
CO01 Juntas del Tor 6.24 203 Pn 18 31 23.9 -1.6
PB16 IPOC Station P 6.26 340 Pn 18 31 24.6 -1.6
PB12 IPOC Station P 6.31 332 Pn 18 31 23.7 -2.7
AP01 Chacalluta 6.54 333 Pn 18 31 32.7 +3.5
CO05 La Serena 6.67 211 Pn 18 31 28.3 -2.6
GO04 Tololo Observa 6.69 208 Pn 18 31 28.6 -2.9
PB18 Visviri 6.96 342 Pn 18 31 35.5 +0.1
CO03 El Pedregal 7.24 204 Pn 18 31 35.5 -3.0
ZON Zonda 7.37 190 Pn 18 31 39.1 -1.2
CFA Coronel Fontan 7.37 187 P Pn 18 31 39.2 -1.1
comp=Z,19nm,0.3s,baz=9.8,slow=12,SNR=67
CFA S Sn 18 32 59.0 -4.2
comp=Z,61nm,0.5s,baz=246,slow=21,SNR=12
CO06 Fray Jorge 7.49 210 Pn 18 31 38.5 -3.2
CO02 Combarbal 7.68 205 Pn 18 31 40.7 -3.7
LPAZ La Paz 7.97 354 Pn 18 31 48.6 -0.3
LPAZ La Paz 7.97 354 P Pn 18 31 48.0 -0.9
comp=Z,106nm,0.3s,baz=162,slow=5.9,SNR=468
LPAZ S Sn 18 33 16.0 -2.6
comp=Z,98nm,0.9s,baz=173,slow=21,SNR=4.8
LPAZ LR LR 18 35 26.2
comp=Z,501nm,18.1s,baz=206,slow=42
LPAZ ScP ScP 18 41 24.9 +0.7
comp=Z,3.6nm,1.0s,baz=116,slow=4.8,SNR=3.5
LPAZ La Paz 7.97 354 eP Pn 18 31 48.6 -0.3
VA03 San Esteban 8.96 198 Pn 18 32 00.9 -0.4
VA06 Catapilco 9.01 202 Pn 18 31 59.0 -2.8
CPUP Villa Florida 9.20 105 Pn 18 32 02.5 -1.9
CPUP Villa Florida 9.20 105 P Pn 18 32 01.8 -2.6
comp=Z,55nm,0.9s,baz=282,slow=11,SNR=99
CPUP ScP ScP 18 41 25.3 +0.7
comp=Z,4.8nm,0.9s,baz=90,slow=3.0,SNR=3.3
CPUP Villa Florida 9.20 105 eP Pn 18 32 02.0 -2.4
BBSD Serra de San D 9.38 43 eP Pn 18 32 04.5 -2.3
MT08 Bocatoma Ro 9.47 194 Pn 18 32 07.5 -0.7
VA01 Torpederas 9.55 203 Pn 18 32 08.5 -0.4
MT16 CCHEN 9.58 197 Pn 18 32 06.4 -3.0
MT02 Curacav 9.60 200 Pn 18 32 05.5 -4.0
MT05 Renca 9.60 198 Pn 18 32 07.2 -2.5
MT03 Universidad Ad 9.64 197 Pn 18 32 09.7 -0.5
MT13 San Alfonso 9.82 195 Pn 18 32 10.7 -1.9
SIV San Ignacio 10.06 36 P Pn 18 32 13.1 -2.6
comp=Z,40nm,0.3s,baz=216,slow=12,SNR=291
SIV S Sn 18 33 53.0 -15
comp=Z,69nm,1.0s,baz=218,slow=15,SNR=11
VA05 Santo Domingo 10.12 201 Pn 18 32 14.9 -1.5
SJPY San Joaquin 10.15 96 eP Pn 18 32 14.6 -2.3
BDQN Bodoquena, MS 10.42 71 eP Pn 18 32 17.9 -2.5
BO01 Tunca 10.64 197 Pn 18 32 21.0 -2.2
ITQB Itaqui 10.89 122 Pn 18 32 24.1 -2.4
ITQB Itaqui 10.89 122 eP Pn 18 32 24.6 -1.9
AQDB Aquidauana 11.32 73 Pn 18 32 29.4 -2.8
AQDB Aquidauana 11.32 73 eP Pn 18 32 29.7 -2.4
PTLB Pontes e Lacer 11.61 42 Pn 18 32 33.3 -2.6
PTLB Pontes e Lacer 11.61 42 eP Pn 18 32 33.3 -2.6
PTLB eS Sn 18 34 38.0 -6.8
TBOT Tacuaremb 12.42 129 eP Pn 18 32 46.0 -0.3
RPRD Ribas do Rio P 13.07 76 eP Pn 18 32 52.3 -2.4
BI05 Punta Hualpn 13.46 201 Pn 18 32 57.0 -2.4
SALV Santo Antonio 13.66 55 eP Pn 18 32 59.6 -2.5
CPSB Cacapava Do Su 13.70 120 eP Pn 18 33 00.2 -2.3
VA04 Juan Fernndez 13.79 225 Pn 18 33 00.5 -3.0
PTGB Pitanga 13.82 95 eP Pn 18 33 02.6 -1.5
ITAB Concordia 13.93 105 Pn 18 33 03.3 -2.1
ITAB Concordia 13.93 105 eP Pn 18 33 03.9 -1.6
PLTB Pedras Altas 14.16 125 Pn 18 33 02.1 -6.2
PLTB Pedras Altas 14.16 125 eP Pn 18 33 06.5 -1.8
C2SB Chapadao do Su 14.47 71 eP Pn 18 33 10.6 -1.6
TRQA Tornquist 14.47 163 Pn 18 33 07.5 -4.6
LDASE Londrina, Braz 14.78 90 eP Pn 18 33 14.6 -1.5
NNA Nana 15.23 322 P P 18 33 23.4 +0.8
comp=Z,11nm,0.8s,baz=133,slow=9.2,SNR=3.6
CNLB Canela 15.47 113 eP Pn 18 33 23.1 -1.4
PDRB Porto dos Gac 16.05 40 eP Pn 18 33 29.2 -2.5
ITRB Iturama 16.29 77 eP P 18 33 33.3 -1.1
LR05 Currie 16.42 193 P 18 33 35.6 0.0
PLCA Paso Flores 16.66 189 P 18 33 37.8 -0.4
PLCA Paso Flores 16.66 189 P P 18 33 38.6 +0.3
comp=Z,87nm,0.9s,baz=11,slow=12,SNR=196
PLCA PcP PcP 18 38 18.4 +0.7
comp=Z,6.7nm,0.7s,baz=342,slow=3.2,SNR=5.9
PLCA ScP ScP 18 41 37.4 +1.1
comp=Z,5.0nm,0.9s,baz=342,slow=1.9,SNR=6.1
PLCA Paso Flores 16.66 189 eP P 18 33 38.6 +0.3
MAJ01 Sao Joao Batis 16.70 105 eP P 18 33 37.6 -1.2
TER01 Tubaro-SC 16.77 109 eP P 18 33 39.2 -0.3
ARAG Araguaiana, MT 16.80 62 eP P 18 33 39.4 -0.5
CLDB Colider 17.19 41 eP P 18 33 43.1 -1.2
CZSB Cruzeiro do Su 17.25 341 P 18 33 43.2 -1.7
CZSB Cruzeiro do Su 17.25 341 eP P 18 33 43.5 -1.4
BB19B Bebedouro 17.56 83 eP P 18 33 47.5 -0.8
VAO Valinhos 18.62 90 P 18 33 58.4 -1.5
VAO Valinhos 18.62 90 eP P 18 33 59.0 -0.9
IPMB Ipameri, GO 18.80 74 eP P 18 34 01.2 -0.7
LL02 Futaleuf 19.26 190 P 18 34 06.1 -0.4
SNDB Serra Nova Dou 19.44 54 eP P 18 34 07.0 -1.7
PARB Paraibuna 19.80 92 eP P 18 34 11.3 -1.3
BDFB Brasilia 19.98 68 P 18 34 13.3 -1.3
BDFB Brasilia 19.98 68 P P 18 34 13.5 -1.1
comp=Z,542nm,0.8s,baz=240,slow=12,SNR=457
TBTG Tabatinga, AM 20.12 352 P 18 34 15.9 -0.2
TBTG Tabatinga, AM 20.12 352 eP P 18 34 17.4 +1.7
PMNB Patos De Minas 20.18 78 eP P 18 34 15.3 -1.3
SLP01 Ubatuba-SP 20.23 92 eP P 18 34 16.8 -0.4
NPGB Novo Progresso 20.56 36 eP P 18 34 18.3 -2.4
AY01 Puyuhuapi 20.59 191 P 18 34 20.4 -0.3
TEFE Tefe 20.78 7 eP P 18 34 22.1 -1.0
MAN01 Angra dos Reis 21.38 91 eP P 18 34 28.0 -1.5
COYC Coyhaique 21.62 189 P 18 34 31.2 -0.5
MACA Manacapuru-AM 21.91 18 P 18 34 32.2 -2.7
MACA Manacapuru-AM 21.91 18 eP P 18 34 32.3 -2.6
VAS01 Vassouras-RJ 21.94 90 eP P 18 34 34.2 -1.1
ITTB Itaituba 22.67 31 eP P 18 34 39.7 -2.5
DIAM Diamantina, MG 22.73 79 eP P 18 34 41.4 -1.5
DUB01 Friburgo-RJ 22.95 90 eP P 18 34 43.7 -1.0
AY03 Cochrane 23.34 189 P P 18 34 47.7 -0.2
JANB Januaria 23.42 71 eP P 18 34 47.2 -1.9
CAM01 Campos-RJ 23.65 89 eP P 18 34 49.5 -1.5
SDBA SAO DESIDERIO 24.21 65 eP P 18 34 54.2 -2.1
SMTB Santa Maria do 24.22 54 eP P 18 34 54.3 -2.0
PRPB Parauapebas 24.56 46 eP P 18 34 56.6 -2.8
COHC Cochancay 24.58 330 P P 18 34 59.5 -0.1
SJMB Sao Joao De Ma 24.84 82 eP P 18 35 00.2 -1.7
RIB01 Linhares ES 25.39 84 eP P 18 35 05.1 -1.7
MAL2 Monte Alegre, 25.46 32 P P 18 35 05.4 -2.2
OTAV Otavalo 26.67 334 eP P 18 35 19.0 +0.1
GUA01 Guaratinga, BA 26.78 79 eP P 18 35 17.7 -1.7
BOAV Boa Vista 27.29 15 P P 18 35 23.5 -0.4
BOAV IAmb IAmb 18 35 24.9
comp=Z,42nm,1.4s
BOAV Boa Vista 27.29 15 eP P 18 35 23.4 -0.4
CMC01 Camacan, BA 27.50 76 eP P 18 35 23.4 -2.3
USHA Ushuaia 30.55 181 P P 18 35 53.0 +0.8
comp=Z,25nm,0.6s,baz=10,slow=7.8,SNR=20
comp=Z,25nm,0.6s
NBPB Pedra_Branca-C 32.44 59 eP P 18 36 07.8 -1.6
MPGF Montagnes des 32.47 28 P P 18 36 08.3 -1.2
BAUV El Baul 33.01 359 P P 18 36 12.7 -1.5
BAUV IAmb IAmb 18 36 21.0
comp=Z,25nm,0.9s
RCBR Riachuelo 35.23 64 P P 18 36 32.2 -1.3
RCBR Riachuelo 35.23 64 eP P 18 36 33.0 -0.5
RCBR Riachuelo 35.23 64 P P 18 36 32.4 -1.1
JTS Las Juntas de 38.45 331 P P 18 37 03.5 +2.9
FDF Fort de France 39.21 9 P P 18 37 05.7 -1.2
PMSA Palmer Station 40.56 178 P P 18 37 19.0 +1.6
CELP Cerrillos 42.08 1 P P 18 37 28.3 -2.0
CELP IAmb IAmb 18 37 38.2
comp=Z,20nm,0.6s
TEIG Tepich 48.73 333 P P 18 38 22.9 +0.3
TEIG pP pP 18 39 04.0 +1.6
BELA Belgrano 2 55.81 172 P P 18 39 14.6 +0.5
VNA3 Neumayer Olymp 56.98 161 ⇓P P 18 39 23.1 +0.7
comp=Z,45nm,0.6s
VNA1 Neumayer--Stat 57.18 160 ⇓P P 18 39 24.7 +1.0
comp=Z,28nm,0.6s
ZAIG Zacatecas 57.99 321 P P 18 39 31.1 +0.7
ZAIG IAmb IAmb 18 39 33.6
comp=Z,16nm,1.0s
152A Waverly Hall 59.02 343 P P 18 39 36.5 -0.4
SNAA Sanae 59.18 161 P P 18 39 38.2 +0.5
comp=Z,32nm,0.8s,baz=282,slow=6.0,SNR=72
comp=Z,32nm,0.8s
BG3 Lake Jocassee 60.78 345 P P 18 39 48.4 -0.6
BG3 IAmb IAmb 18 40 14.4
comp=Z,12nm,1.2s
TROLL Troll, Antarti 60.89 161 ⇓P P 18 39 50.3 +0.9
comp=Z,2μm,0.5s
W50A Signal Mountai 61.57 343 P P 18 39 54.2 -0.1
W50A IAmb IAmb 18 40 39.5
comp=Z,11nm,0.9s
CPCT Cooper Cave 61.60 344 P P 18 39 53.2 -1.2
CPCT IAmb IAmb 18 39 54.9
comp=Z,8.6nm,1.0s
HNDO Hondo 61.71 328 IAmb IAmb 18 39 57.1
comp=Z,13nm,0.7s
SWET Sewanee 61.75 343 IAmb IAmb 18 39 56.3
comp=Z,17nm,1.1s
PLAL Pickwick Lake 62.14 341 P P 18 39 56.9 -1.2
Z41A Richland Creek 62.17 336 P P 18 39 58.3 +0.1
DRIO Del Rio 62.28 327 P P 18 39 56.7 -2.4
DRIO IAmb IAmb 18 40 00.7
comp=Z,13nm,1.2s
JCT Junction City 62.75 328 P P 18 40 02.0 -0.3
HPIG 62.98 321 P P 18 40 04.9 +0.8
HPIG IAmb IAmb 18 40 06.2
comp=Z,7.5nm,0.7s
BRDY Brady 63.05 330 IAmb IAmb 18 40 05.5
comp=Z,9.7nm,0.8s
WVT Waverly 63.14 341 P P 18 40 03.5 -1.1
WVT IAmb IAmb 18 40 05.0
comp=Z,14nm,0.8s
WVT Waverly 63.14 341 P P 18 40 03.9 -0.8
SAND Sanderson 63.46 326 P P 18 40 08.1 +1.1
SAND IAmb IAmb 18 40 09.2
comp=Z,19nm,1.0s
MIAR Mount Ida 63.60 336 IAmb IAmb 18 40 08.6
comp=Z,11nm,0.8s
T47A Sharon Grove 63.73 342 IAmb IAmb 18 40 09.0
comp=Z,10nm,0.9s
OZNA Ozona 63.76 328 IAmb IAmb 18 40 10.4
comp=Z,10nm,1.0s
TXAR Lajitas Array 63.76 325 P P 18 40 09.4 +0.4
TXAR Lajitas Array 63.76 325 P P 18 40 10.0 +1.0
comp=Z,2.5nm,0.8s,baz=151,slow=8.1,SNR=25
comp=Z,2.5nm,0.8s
TX31 Lajitas Ar. Si 63.76 325 P P 18 40 09.6 +0.6
LCAR Lake Charles 64.12 339 P P 18 40 10.5 -0.6
ABTX Abilene, Hawle 64.47 330 P P 18 40 13.8 +0.4
ABTX IAmb IAmb 18 40 15.7
comp=Z,11nm,0.7s
SGCY Sterling City 64.57 328 P P 18 40 14.1 -0.1
SGCY IAmb IAmb 18 40 53.3
comp=Z,10.0nm,0.6s
ALPN Alpine 64.58 325 P P 18 40 15.1 +0.8
ALPN IAmb IAmb 18 40 15.8
comp=Z,7.8nm,0.7s
HHAR Hobbs 65.28 336 IAmb IAmb 18 40 19.9
comp=Z,18nm,1.1s
MGMO Mountain Grove 65.48 338 IAmb IAmb 18 40 21.0
comp=Z,14nm,1.1s
PECS Pecos 65.49 326 IAmb IAmb 18 40 22.3
comp=Z,28nm,1.5s
VHRN Van Horn 65.61 325 IAmb IAmb 18 40 23.0
comp=Z,18nm,1.0s
FVM French Village 65.64 340 IAmb IAmb 18 40 21.8
comp=Z,18nm,1.1s
POST Post 65.70 329 IAmb IAmb 18 40 22.2
comp=Z,14nm,0.8s
DKNS Dickens 65.92 330 IAmb IAmb 18 40 23.7
comp=Z,8.9nm,0.8s
QSPA South Pole Qui 65.95 180 P P 18 40 24.0 +1.3
comp=Z,64nm,0.6s,baz=158,slow=1.2,SNR=499
comp=Z,64nm,0.6s
QSPA South Pole Qui 65.95 180 P P 18 40 24.0 +1.3
CCM Cathedral Cave 65.96 339 P P 18 40 22.4 -0.5
CCM IAmb IAmb 18 40 23.8
comp=Z,17nm,0.9s
CCM Cathedral Cave 65.96 339 P P 18 40 23.0 +0.1
CCM pP pP 18 41 06.3 +1.3
R40A Maddies Statio 66.51 339 IAmb IAmb 18 40 27.5
comp=Z,25nm,1.5s
MNTX Cornudas Mount 66.53 325 IAmb IAmb 18 40 28.0
comp=Z,9.8nm,0.9s
T35A Sooner Cattle 66.81 335 IAmb IAmb 18 40 29.9
comp=Z,19nm,1.2s
AMTX Amarillo 67.28 330 IAmb IAmb 18 40 33.0
comp=Z,26nm,1.4s
ELIB Princess Elisa 67.34 160 dP P 18 40 32.4 +0.9
comp=Z,36nm,0.7s
P40A Paris 67.56 339 IAmb IAmb 18 40 33.9
comp=Z,10.0nm,0.8s
DBIC Dimbokro 68.09 72 P P 18 40 35.3 -1.6
DBIC Dimbokro 68.09 72 P P 18 40 34.7 -2.2
comp=Z,6.0nm,0.3s,baz=233,slow=5.5,SNR=26
comp=Z,6.0nm,0.3s
DBIC Dimbokro 68.09 72 P P 18 40 35.6 -1.2
P38A Dawn 68.13 338 IAmb IAmb 18 40 37.1
comp=Z,12nm,0.7s
RTBA Rita Blanca 69.05 330 IAmb IAmb 18 40 45.9
comp=Z,13nm,0.9s
L40A Anamosa 69.62 341 IAmb IAmb 18 40 46.5
comp=Z,17nm,0.8s
ANMO Albuquerque 69.64 326 P P 18 40 47.6 +1.3
ANMO IAmb IAmb 18 40 49.1
comp=Z,15nm,1.0s
ANMO Albuquerque 69.64 326 IAmb IAmb 18 40 49.0
comp=Z,16nm,1.0s
ANMO Albuquerque 69.64 326 P P 18 40 47.8 +1.6
ANMO pP pP 18 41 33.1 +4.3
TUC Tucson 69.95 322 P P 18 40 48.8 +0.7
TUC IAmb IAmb 18 40 51.1
comp=Z,15nm,1.2s
SDCO Great Sand Dun 71.40 329 IAmb IAmb 18 42 19.4
comp=Z,29nm,1.4s
X16A Lo Mia Camp, P 71.88 323 IAmb IAmb 18 41 03.1
comp=Z,17nm,1.2s
I37A Lemond, Waseca 72.05 340 IAmb IAmb 18 41 01.0
comp=Z,16nm,0.7s
Q24A Divide 72.21 330 IAmb IAmb 18 41 04.5
comp=Z,18nm,1.2s
Y14A Wickenburg 72.41 321 IAmb IAmb 18 41 05.8
comp=Z,20nm,1.5s
MVCO Mesa Verde 72.44 326 IAmb IAmb 18 41 05.9
comp=Z,14nm,0.9s
WUAZ Wupatki 72.66 323 IAmb IAmb 18 41 07.7
comp=Z,20nm,1.0s
BLYC Blythe 73.15 320 IAmb IAmb 18 41 10.3
comp=Z,18nm,1.1s
PV01 Paradox Valley 73.19 327 IAmb IAmb 18 41 10.6
comp=Z,21nm,1.4s
PV15 Paradox Valley 73.31 327 IAmb IAmb 18 41 11.4
comp=Z,17nm,1.0s
PV02 Paradox Valley 73.33 327 IAmb IAmb 18 41 11.3
comp=Z,35nm,1.4s
PV13 Radium Mtn., P 73.33 327 IAmb IAmb 18 41 11.2
comp=Z,16nm,1.0s
SYO Syowa Base 73.39 159 ⇓eP P 18 41 08.7 +0.8
SYO Syowa Base 73.39 159 ⇓ePcP PcP 18 41 22.5 -0.7
SBA Scott Base 73.40 190 P P 18 41 09.7 +1.8
PV18 Skein Mesa, Pa 73.45 327 IAmb IAmb 18 41 11.7
comp=Z,14nm,0.9s
PV22 Blue Mesa, Par 73.61 327 IAmb IAmb 18 41 12.8
comp=Z,19nm,1.1s
PV10 Paradox Valley 73.61 327 IAmb IAmb 18 41 12.3
comp=Z,19nm,0.9s
PV23 Carpenter Ridg 73.66 327 IAmb IAmb 18 41 13.0
comp=Z,16nm,1.1s
U15A North Rim 73.83 324 IAmb IAmb 18 41 14.9
comp=Z,15nm,1.0s
PFO Pinyon Flats O 74.20 319 P P 18 41 15.1 +1.8
VNDA Vanda 74.41 190 P P 18 41 16.1 +2.4
comp=Z,22nm,0.9s,baz=129,slow=5.4,SNR=83
comp=Z,22nm,0.9s
O20A White River Ci 74.59 329 IAmb IAmb 18 41 18.4
comp=Z,22nm,0.9s
V12A Nelson 74.75 321 IAmb IAmb 18 41 19.4
comp=Z,14nm,1.0s
ELS Elsinore Mount 74.80 318 P P 18 41 17.7 +0.9
ELS IAmb IAmb 18 41 19.9
comp=Z,15nm,0.9s
SRU San Rafael Swe 74.92 326 IAmb IAmb 18 41 20.0
comp=Z,16nm,0.8s
P18A Preston Nutter 75.17 327 IAmb IAmb 18 41 22.1
comp=Z,16nm,0.8s
MVU Marysvale 75.33 325 IAmb IAmb 18 41 23.1
comp=Z,15nm,0.9s
PRN Pahroc Range 76.06 323 IAmb IAmb 18 41 27.5
comp=Z,16nm,1.1s
GWY Greenwater Val 76.11 321 IAmb IAmb 18 41 27.1
comp=Z,17nm,1.0s
BSUT Blindstream Ca 76.12 327 IAmb IAmb 18 41 27.5
comp=Z,14nm,0.9s
PPT Papeete 76.19 257 P P 18 41 28.4 +3.4
comp=Z,47nm,0.9s,baz=136,slow=12,SNR=3.5
comp=Z,47nm,0.9s
PSUT Pine Spring 76.22 324 IAmb IAmb 18 41 28.1
comp=Z,15nm,0.9s
TPNV Topopah Spring 76.41 322 IAmb IAmb 18 41 29.4
comp=Z,20nm,1.1s
WCT Wildcat Mounta 76.51 321 IAmb IAmb 18 41 29.9
comp=Z,15nm,1.0s
ISA Isabella, Lake 76.81 319 P P 18 41 29.4 +1.3
ISA IAmb IAmb 18 41 31.3
comp=Z,12nm,0.8s
SPR3 Spring Creek 3 76.81 324 IAmb IAmb 18 41 31.1
comp=Z,17nm,1.1s
TORD Torodi Ar. Bea 76.86 69 P 18 41 27.7 -1.1
PDAR Pinedale Array 77.26 329 P P 18 41 30.9 +0.3
PDAR Pinedale Array 77.26 329 P P 18 41 31.6 +1.0
comp=Z,3.2nm,0.9s,baz=135,slow=7.7,SNR=18
comp=Z,3.2nm,0.9s
EPLO Experimental L 77.28 343 IAmb IAmb 18 41 31.4
comp=Z,15nm,1.0s
TSUM Tsumeb 77.79 106 P P 18 41 32.4 -1.7
TSUM IAmb IAmb 18 41 34.8
comp=Z,10nm,0.8s
AHID Auburn Hatcher 77.98 329 IAmb IAmb 18 41 37.1
comp=Z,24nm,1.0s
ULM Lac du Bonnet 78.41 342 IAmb IAmb 18 41 37.6
comp=Z,14nm,1.1s
ULM Lac du Bonnet 78.41 342 P P 18 41 36.7 +0.2
comp=Z,8.5nm,0.8s,baz=152,slow=6.8,SNR=7.5
comp=Z,8.5nm,0.8s
NVAR Mina Array Bea 78.61 321 P P 18 41 39.2 +1.1
NVAR Mina Array Bea 78.61 321 P P 18 41 39.9 +1.7
comp=Z,5.2nm,0.9s,baz=156,slow=6.2,SNR=17
comp=Z,5.2nm,0.9s
KOOLE Kule 78.67 110 P P 18 41 37.9 -1.0
KOOLE IAmb IAmb 18 41 39.6
comp=Z,14nm,0.7s
LAO LASA Array 78.93 334 IAmb IAmb 18 41 41.8
comp=Z,16nm,1.0s
RLMT Red Lodge 78.96 331 IAmb IAmb 18 41 42.5
comp=Z,37nm,1.8s
YNE Yellowstone No 79.20 331 IAmb IAmb 18 41 43.9
comp=Z,15nm,1.0s
YMR Madison River 79.38 330 IAmb IAmb 18 41 45.6
comp=Z,17nm,0.9s
YHB Horse Butte 79.55 330 IAmb IAmb 18 41 46.2
comp=Z,12nm,0.9s
YHL Hebgen Lake 79.61 330 IAmb IAmb 18 41 46.9
comp=Z,28nm,1.5s
PNTR Pine Nut 79.80 321 IAmb IAmb 18 41 47.7
comp=Z,22nm,0.8s
PAHR Pah Rah Range 80.09 322 IAmb IAmb 18 41 49.2
comp=Z,21nm,0.9s
HLID Hailey 80.19 327 IAmb IAmb 18 41 49.8
comp=Z,21nm,0.9s
DLMT Dillon 80.66 329 IAmb IAmb 18 41 51.9
comp=Z,27nm,1.2s
MFID Camas Ranch 80.79 326 IAmb IAmb 18 41 52.6
comp=Z,16nm,1.2s
BOSA Boshof 80.81 117 P P 18 41 50.4 +0.1
comp=Z,3.7nm,0.4s,baz=266,slow=3.0,SNR=26
comp=Z,3.7nm,0.4s
MAW Mawson 81.25 163 P P 18 41 52.2 +0.5
MAW Mawson 81.25 163 P P 18 41 52.7 +1.1
comp=Z,14nm,1.0s
MAW Mawson 81.25 163 P P 18 41 52.8 +1.1
comp=Z,41nm,0.9s,baz=215,slow=6.5,SNR=50
comp=Z,41nm,0.9s
EGMT Eagleton 81.44 333 IAmb IAmb 18 41 54.9
comp=Z,12nm,0.9s
HATC Hat Creek Radi 82.01 322 IAmb IAmb 18 41 58.3
comp=Z,24nm,1.1s
PLID Pearl Lake 82.08 327 IAmb IAmb 18 41 59.0
comp=Z,20nm,0.9s
J08A Circle Bar Ran 82.11 325 IAmb IAmb 18 41 59.4
comp=Z,35nm,1.3s
J05D Fort Rock, OR 83.53 324 IAmb IAmb 18 42 06.5
comp=Z,14nm,1.1s
PINE Pine Mountain 83.71 324 IAmb IAmb 18 42 07.8
comp=Z,19nm,1.0s
J04A Umpqua Nationa 83.98 323 IAmb IAmb 18 42 08.1
comp=Z,13nm,0.8s
FFC Flin Flon 84.13 341 P P 18 42 06.8 +0.3
K02D Willamette Mer 84.49 322 IAmb IAmb 18 42 10.9
comp=Z,14nm,1.1s
TAM Tamanrasset 84.70 62 P P 18 42 11.1 +0.8
I03D Drain, OR 84.96 323 IAmb IAmb 18 42 13.3
comp=Z,15nm,1.1s
MREMI Moremi 85.01 112 P P 18 42 12.3 +0.4
MREMI IAmb IAmb 18 42 13.7
comp=Z,14nm,0.8s
BUCK Buck Mountain 85.09 323 IAmb IAmb 18 42 13.3
comp=Z,17nm,0.8s
PAB San Pablo 86.42 44 P P 18 42 18.8 +0.5
PAB IAmb IAmb 18 42 25.1
comp=Z,15nm,0.9s
CTZ Chatham Island 86.45 223 P P 18 42 20.5 +2.0
ESDC Sonseca Array 86.73 44 P 18 42 20.1 +0.2
ESDC Sonseca Array 86.73 44 P P 18 42 21.0 +1.1
comp=Z,6.5nm,0.8s,baz=239,slow=5.5,SNR=14
comp=Z,6.5nm,0.8s
LSZ Lusaka 88.64 106 P 18 42 31.4 +1.7
CASY Casey 89.73 179 P P 18 42 34.7 +1.1
BFZ Birch Farm 92.56 223 P P 18 42 49.9 +2.7
MQZ McQueen's Vall 92.91 219 P P 18 42 50.6 +1.9
MRZ Mangatainoka R 92.98 223 P P 18 42 49.7 +0.5
SYZ Scrubby Hill 93.06 215 P P 18 42 51.4 +2.1
MWZ Matawai 93.08 225 P P 18 42 53.2 +3.5
TSZ Takapari Road 93.09 223 P P 18 42 51.5 +1.8
KHZ Kahutara 93.18 220 P P 18 42 52.4 +2.4
EAZ Earnscleugh 93.81 216 P P 18 42 54.8 +1.9
RPZ Rata Peaks 93.81 218 P P 18 42 54.9 +1.9
THZ Tophouse 93.95 221 P P 18 42 55.8 +2.1
NNZ Nelson 94.00 221 P P 18 42 55.8 +1.9
WHZ Wether Hill Ro 94.10 215 P P 18 42 55.8 +1.5
YKAW1 Yellowknife Wh 94.25 340 IAmb IAmb 18 42 55.9
comp=Z,8.7nm,1.0s
YKA Yellowknife Ar 94.29 340 P P 18 42 55.0 +0.6
comp=Z,4.4nm,0.8s,baz=134,slow=4.6,SNR=83
comp=Z,4.4nm,0.8s
YKAW3 Yellowknife Wh 94.34 340 IAmb IAmb 18 42 56.3
comp=Z,8.2nm,1.0s
VRZ Vera Road 94.39 224 P P 18 42 57.8 +2.1
HIZ Hauiti 94.69 224 P P 18 42 59.4 +2.4
QRZ Quartz Range 94.74 221 P P 18 42 57.9 +0.6
MSZ Milford Sound 94.92 216 P P 18 42 59.5 +1.6
DLBC Dease Lake 97.35 332 P P 18 43 08.5 -0.1
comp=Z,6.6nm,1.1s,baz=145,slow=13,SNR=3.7
comp=Z,6.6nm,1.1s
AKASG Malin Array Be 112.37 43 PKKPbc PKKPbc 18 59 02.5 +0.4
comp=Z,0.7nm,0.5s,baz=63,slow=3.2,SNR=4.7
FINES FINESS Array B 112.56 31 PKKPbc PKKPbc 18 59 02.6 +0.7
comp=Z,0.5nm,0.4s,baz=79,slow=4.4,SNR=13
BRTR Keskin Array B 113.13 55 PKiKP PKiKP 18 48 12.9 +0.5
comp=Z,1.1nm,0.9s,baz=185,slow=3.9,SNR=5.0
BRTR PKKPbc PKKPab 18 59 06.5 +0.8
comp=Z,1.1nm,0.7s,baz=123,slow=3.5,SNR=7.7
ARCES ARCESS Array B 113.44 23 PKKPbc PKKPbc 18 59 04.7 +5.6
comp=Z,1.9nm,0.8s,baz=57,slow=4.5,SNR=4.6
STKA Stephens Creek 117.75 208 PKP PKiKP 18 48 22.6 +1.1
comp=Z,1.8nm,0.7s,baz=341,slow=4.0,SNR=4.2
KBZ Khabaz 120.61 52 PKP PKiKP 18 48 27.4 +0.8
comp=Z,3.6nm,0.9s,baz=119,slow=3.6,SNR=9.1
ASAR Alice Springs 128.13 205 PKPdf 18 48 41.4 -0.3
ASAR Alice Springs 128.13 205 PKhKP PKPpre 18 48 24.6
comp=Z,0.2nm,0.4s,baz=142,slow=1.8,SNR=7.4
ASAR PKP PKPdf 18 48 41.9 +0.2
comp=Z,15nm,0.7s,baz=138,slow=1.9,SNR=110
ASAR SKPbc SKPbc 18 51 45.0
comp=Z,1.1nm,0.8s,baz=149,slow=3.2,SNR=5.6
NAZ Nazwa, Dubai 128.43 77 P SKPbc 18 51 45.9
ASHO Ashiyiah 128.72 77 P SKPbc 18 51 48.6
HATD Hatta, Dubai 128.81 77 P SKPbc 18 51 48.6
ARQ Araqi 128.84 79 P SKPbc 18 51 48.6
UOSS Minazif 128.90 77 P SKPbc 18 51 47.9
DQM DQM 128.92 83 P SKPbc 18 51 48.6
SOHO SOHO 129.02 78 P SKPbc 18 51 48.4 +0.2
BANOM Banah 129.18 76 P SKPbc 18 51 49.7 +0.9

BSY	Bisya	129.31	80	P	SKPbc	18 51 50.6	+1.2
	SNR=6.2						
MHTO	MHTO	129.58	82	P	SKPbc	18 51 51.2	+0.9
	SNR=5.9						
HOQ	Hoqain	129.60	79	P	SKPbc	18 51 51.0	+0.7
	SNR=7.5						
JMDO	Jabal Madar	130.04	80	P	**SKPbc**	**18 51 52.5**	**+0.5**
	SNR=7.7						
SMDO	Samad	130.15	80	P	**SKPbc**	**18 51 53.1**	**+0.6**
	SNR=7.5						
BIDO	Bidbid	130.32	79	P	**SKPbc**	**18 51 54.0**	**+1.0**
	SNR=6.3						
WSAR	Wadi Sarin	130.71	80	P	**SKPbc**	**18 51 55.7**	**+1.3**
	SNR=8.4						
WBK	Wadi Bani Khal	130.87	80	P	**SKPbc**	**18 51 56.7**	**+1.6**
	SNR=6.6						
JLN	Jalan Bani Buh	131.16	81	P	**SKPbc**	**18 51 57.5**	**+1.4**
	SNR=6.2						
WR8	Warramunga Arr	131.22	208		**PKPdf**	**18 48 47.8**	**+0.2**
WRA	Warramunga Arr	131.30	207	PKhKP	PKPpre	18 48 33.6	
	comp=Z,0.6nm,0.5s,baz=111,slow=2.9,SNR=6.5						
WRA				PKP	**PKPdf**	**18 48 48.0**	**+0.3**
	comp=Z,10nm,0.6s,baz=157,slow=1.4,SNR=8.1						
WRA				SKPbc	**SKPbc**	**18 51 56.8**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=157,slow=3.8,SNR=20						
WB0	Warramunga Arr	131.43	208		**PKPdf**	**18 48 48.2**	**+0.2**
TIXI	Tiksi	131.71	353		**PKPdf**	**18 48 46.0**	**-0.9**
ABKAR	Akbulak array	132.07	45		**PKPdf**	**18 48 48.1**	**-0.1**
PETK	Petropavlovsk-	135.69	322	PKP	**PKPdf**	**18 48 55.3**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=108,slow=4.8,SNR=4.7						
PETK				SKPbc	**SKPbc**	**18 52 10.8**	**+0.6**
	comp=Z,5.5nm,0.9s,baz=161,slow=5.4,SNR=5.2						
BVAR	Borovoye Array	137.13	37	PKP	**PKiKP**	**18 48 58.5**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=261,slow=2.5,SNR=12						
BVAR				SKPbc	**SKPbc**	**18 52 16.2**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=270,slow=3.9,SNR=6.7						
GAR	Garm	141.34	57		**PKPdf**	**18 49 03.7**	**-2.1**
KURBB	Kurchatov Arra	142.71	36	PKP	**PKPdf**	**18 49 05.4**	**-2.3**
	comp=Z,1.6nm,0.8s,baz=302,slow=2.8,SNR=11						
KURBB				PP	**PP**	**18 52 16.6**	**-1.4**
	comp=Z,1.3nm,1.0s,baz=298,slow=5.2,SNR=5.4						
KURBB				SKPbc	**SKiKP**	**18 52 30.9**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=291,slow=3.4,SNR=7.4						
ZAA0	Zalesovo Array	143.72	28		PKPbc	18 49 08.1	+0.7
ZALV	Zalesovo Beam	143.72	28		PKPbc	18 49 07.3	-0.2
ZALV	Zalesovo Beam	143.72	28	PKP	PKPbc	18 49 08.3	+0.9
	comp=Z,6.6nm,0.7s,baz=308,slow=3.8,SNR=25						
ZALV				SKPbc	**SKiKP**	**18 52 32.9**	**+0.1**
	comp=Z,9.1nm,1.0s,baz=298,slow=3.3,SNR=7.8						
SOEI	Soe	144.38	200		**PKPdf**	**18 49 11.5**	**-0.4**
SOEI	Soe	144.38	200	PKP	PKPbc	18 49 11.3	+0.6
SRPI	Serui, Papua	145.44	225	PKP	**PKiKP**	**18 49 16.0**	**-1.7**
WSI	Waingapu	145.49	193	PKP	**PKPab**	**18 49 14.4**	**0.0**
KSH	Kashi	145.52	55	PKPbc	**PKPab**	**18 49 14.6**	**+0.5**
MMRI	Maumere	146.02	197	PKP	**PKPdf**	**18 49 12.7**	**-1.9**
BAKI	Biak	146.04	225	PKP	**PKPab**	**18 49 17.4**	**+0.8**
EDFI	Ende, Flores	146.06	196	PKP	**PKPdf**	**18 49 14.3**	**-0.5**
MAKZ	Makanchi	146.67	40		**PKPdf**	**18 49 15.2**	**+0.4**
PLAI	Plampang	146.75	189	PKP	**PKiKP**	**18 49 21.3**	**+1.0**
MKAR	Makanchi Array	146.86	40	PKPbc	**PKPbc**	**18 49 16.2**	**-1.0**
	comp=Z,7.8nm,0.7s,baz=340,slow=1.3,SNR=50						
MKAR				SKPbc	**SKiKP**	**18 52 40.3**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=23,slow=4.0,SNR=4.4						
RKPI	Ransiki, Papua	147.01	222	PKP	PKPdf	18 49 05.7	-11
DNP	Denpasar	147.18	184	PKP	**PKPdf**	**18 49 13.5**	**-3.0**
AAI	Ambon	148.42	210	PKP	**PKPbc**	**18 49 21.1**	**-1.2**
LEM	Lembang	148.70	170	PKP	**PKPbc**	**18 49 21.3**	**-1.9**
SWI	Sorong	149.25	218	PKP	**PKPdf**	**18 49 17.4**	**-2.5**
NLAI	Namlea	149.31	209	PKP	**PKPdf**	**18 49 21.5**	**+1.5**
BKSI	Bulukumba	149.74	195	PKP	**PKPdf**	**18 49 22.9**	**+2.2**
BNSI	Bone	150.63	195	PKP	**PKiKP**	**18 49 28.2**	**-0.1**
SANI	Sanana	150.86	208	PKP	**PKPbc**	**18 49 27.6**	**-0.7**
SPSI	Sidrap Palu	151.13	195	PKP	**PKiKP**	**18 49 29.7**	**+0.3**
WMQ	Urumqi	151.68	40	*e*PKPbc	**PKPdf**	**18 49 22.6**	**-0.3**
WMQ				LR	LR		
	comp=Z,430nm,21.9s						
PCI	Palu	154.06	196	PKP	PKPdf	18 49 10.7	-17
PCI				PKP	PKPbc	18 49 11.0	-24
KMSI	Cibinong	154.07	206	PKP	**PKPab**	**18 49 44.5**	**-4.9**
USRK	Ussuriysk Ar.	154.65	326	PKP	**PKPdf**	**18 49 27.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=163,slow=2.0,SNR=5.6						
USRK				PKPbc	**PKiKP**	**18 49 36.6**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=340,slow=2.6,SNR=5.0						
MJAR	Matsushiro Arr	154.95	305	PKP	**PKPdf**	**18 49 28.4**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=347,slow=1.2,SNR=4.7						
MJAR				PKPab	**PKPab**	**18 49 54.0**	**+1.2**
	comp=Z,12nm,0.9s,baz=67,slow=2.4,SNR=20						
MPSI	Mapaga	155.24	197	PKP	**PKPdf**	**18 49 31.4**	**+2.6**
MPSI				PKP	**PKPdf**	**18 49 31.7**	**+2.9**
MPSI				PKP	**PKPdf**	**18 49 32.3**	**+3.5**
MPSI				PKP	**PKPab**	**18 49 54.4**	**+0.1**
BNX	BinXian	155.52	335	PKP	**PKPdf**	**18 49 26.1**	**-2.1**
SONM	Songino Array	155.93	11	PKP	**PKPdf**	**18 49 29.5**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=243,slow=0.5,SNR=11						
SONM				PKPab	**PKPab**	**18 49 57.4**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=339,slow=2.2,SNR=3.8						
XLT	XiLinHaoTe	160.22	353	*e*PKP	**PKPdf**	**18 49 35.1**	**+1.0**
GTA	Gaotai	161.34	33	*e*PKP	**PKPdf**	**18 49 36.6**	**+1.0**
GTA				PKPab	**pPKPdf**	**18 50 25.0**	**+2.7**
KSRS	Korea Array	161.53	319	PKP	**PKPdf**	**18 49 36.5**	**+0.9**
	comp=Z,4.0nm,1.0s,baz=84,slow=0.7,SNR=14						
KSRS				PKPab	**pPKPdf**	**18 50 22.4**	**0.0**
	comp=Z,1.9nm,0.8s,baz=50,slow=4.3,SNR=7.2						
HHC	Hu-ho-hao-te	163.43	3	*e*PKP	**PKPdf**	**18 49 36.1**	**-1.5**
CMAR	Chiang Mai Arr	165.89	112	PKP	**PKPdf**	**18 49 40.8**	**+0.6**
	comp=Z,2.0nm,1.0s,baz=265,slow=2.5,SNR=14						
CMAR				PKPab	**PKPab**	**18 50 41.0**	**0.0**
	comp=Z,2.1nm,0.8s,baz=260,slow=5.5,SNR=14						
TNCH	TengChong	167.02	84	PKP	**PKPdf**	**18 49 42.3**	**+1.2**
TNCH				pPKP	pPKPdf	18 50 18.1	-10
TNCH				PKPab	**PKPab**	**18 50 49.9**	**+3.8**
TNCH				PP	**PP**	**18 54 31.5**	**-3.5**
TNCH				AMB	AMB		
	comp=Z,230nm,11.6s						
TIA	Tai'an	167.51	343	PKP	**PKPdf**	**18 49 42.3**	**+1.4**
TIA				PP	**PP**	**18 54 38.0**	**+2.7**
XAN	Xi'an	169.69	18	‖PKP	**PKPdf**	**18 49 43.3**	**+0.8**
PZH	PanZhiHua	169.79	75	PKP	**PKPdf**	**18 49 41.8**	**-1.1**
NJ2	Nanjing	170.56	327	*e*PKP	**PKPdf**	**18 49 44.5**	**+1.6**

*SNET **22** 18:55:54.8±2.1, 13°.04N×89°.82W, h15km, ML4.0*
*CATAC **22** 18:55:55.7±0.6, 13°N±3°×9°0W±°, h15km±4km, M3.9/24, MLv3.9/24, Error ellipse: s-maj=6.6km s-min=5.4km az=15.1, confirmed*
*GCG **22** 18:55:58.0±1.1, 13°.31N×89°.84W, h32km±10km, MD4.2, ML3.1, MW3.7*

ISC 22 18:55:55.7±1.5, 13°.10N±0°.06×89°.82W±0°.03, h20km±8km, n78, σ0°78/89, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.62	52	*e*P	Pb	18 56 08.7	+0.8
LALI				*e*S	Sb	18 56 16.9	+0.7
LALI	Alcalda de L	0.62	52	*i* P	Pb	18 56 08.8	+0.8
LALI				*e*S	Sb	18 56 16.9	+0.7
LALI	Alcalda de L	0.62	52	P	Pb	18 56 08.7	+0.8
CEVE	Cerro Verde	0.75	15	*e*P	Pb	18 56 10.6	+0.3
CEVE				*e*S	Sg	18 56 20.1	-0.5
CEVE	Cerro Verde	0.75	15	S	Sb	18 56 21.8	+1.7
CEVE	Cerro Verde	0.75	15	P	Pb	18 56 10.5	+0.3
SBLS	San Blas	0.76	15	*e*P	Pb	18 56 10.6	+0.2
SBLS				*e*S	Sb	18 56 20.7	+0.2
ITCA	Escuela Especi	0.78	43	*e*P	Pg	18 56 10.8	-0.3
ITCA	Escuela Especi	0.78	43	P	Pb	18 56 10.9	+0.2
SNJE	San Jose	0.79	16	*e*P	Pg	18 56 11.0	-0.4
PANCS	Alcalda de	0.81	51	*e*P	Pg	18 56 11.0	-0.6
PANCS	Alcalda de	0.81	51	P	Pg	18 56 11.2	-0.4
BOQS	Boqueron	0.82	40	*e*P	Pg	18 56 11.6	-0.4
LOMA	Loma Larga	0.83	50	‖*e*P	Pg	18 56 11.7	-0.4
LOMA				*e*S	Sg	18 56 22.4	-0.8
LOMA	Loma Larga	0.83	50	P	Pg	18 56 11.8	-0.4
UEES	Universidad Ev	0.83	43	*e*P	Pg	18 56 11.3	-0.8
UEES	Universidad Ev	0.83	43	P	Pg	18 56 11.7	-0.4
PIC2	El Picacho	0.84	41	*e*P	Pg	18 56 11.8	-0.5
UTEC	Universidad Te	0.85	45	P	Pg	18 56 12.2	-0.2
UDBS	Universidad Do	0.89	47	*e*P	Pb	18 56 12.5	-0.1
UDBS	Universidad Do	0.89	47	P	Pb	18 56 12.7	+0.1
UDBS	Universidad Do	0.89	47	S	Sg	18 56 24.6	-0.4
LFRS	El Faro	0.91	55	*e*P	Pb	18 56 12.6	-0.2
AEIL	Aeropuerto Ilo	0.91	49	*e*P	Pb	18 56 12.8	-0.1
UNIC	Universidad Ca	0.92	17	*e*P	Pb	18 56 12.7	-0.3
UNIC	Universidad Ca	0.92	17	P	Pb	18 56 13.0	0.0
SLOZ	Alcaldia de Sa	0.92	2	*e*P	Pb	18 56 12.8	-0.2
SLOZ				*e*S	Sb	18 56 24.3	-0.6
SLOZ	Alcaldia de Sa	0.92	2	P	Pb	18 56 13.0	0.0
SLOZ	Alcaldia de Sa	0.92	2	S	Sg	18 56 26.1	+0.2
LFU	La Fuente	0.94	47	*e*P	Pb	18 56 13.5	0.0
COEG	Centro de Oper	1.05	61	*e*P	Pb	18 56 14.8	-0.6
COEG				*e*S	Sb	18 56 28.2	-0.5
COEG	Centro de Oper	1.05	61	P	Pb	18 56 15.1	-0.2
PAVA	Las Pavas	1.06	55	*e*P	Pb	18 56 15.2	-0.2
PAVA	Las Pavas	1.06	55	P	Pb	18 56 15.5	+0.1
PAVA	Las Pavas	1.06	55	S	Sg	18 56 29.9	-0.4
SNVI	San Vicente	1.08	62	*e*P	Pb	18 56 15.2	-0.7
TECO	Alcaldia de Te	1.10	67	*e*P	Pb	18 56 15.3	-0.8
TECO				*e*S	Sb	18 56 29.3	-0.9
TECO	Alcaldia de Te	1.10	67	S	Sb	18 56 30.2	0.0
TECO	Alcaldia de Te	1.10	67	P	Pb	18 56 15.6	-0.6
SCLA	Alcaldia de Sa	1.22	61	*e*P	Pn	18 56 17.8	0.0
SCLA	Alcaldia de Sa	1.22	61	P	Pn	18 56 17.8	0.0
PQSS	Presa 15 de Se	1.33	67	*e*P	Pn	18 56 19.0	-0.3
PQSS	Presa 15 de Se	1.33	67	S	Sn	18 56 36.2	-0.2
PQSS	Presa 15 de Se	1.33	67	P	Pn	18 56 19.1	-0.1
FG16	Alotenango, Sa	1.34	330	*e*P	Pg	18 56 23.6	+1.9
TECA	Tecapa	1.34	73	*e*P	Pn	18 56 19.0	-0.6
FG8	Yepocapa, Chim	1.36	328	*e*S	Sg	18 56 44.2	+4.4
LLGN	La Laguna	1.36	39	*e*P	Pn	18 56 19.1	-0.5
LLGN	La Laguna	1.36	39	P	Pn	18 56 19.7	0.0
PACA	Pacayal	1.51	76	*e*P	Pn	18 56 22.0	+0.3
PACA				*e*S	Sn	18 56 41.5	+0.6
PACA	Pacayal	1.51	76	P	Pn	18 56 22.2	+0.5
PACA	Pacayal	1.51	76	S	Sb	18 56 42.2	+0.4
ESQI	Esquipulas	1.52	18	P	Pn	18 56 21.9	-0.1
LCY	Lacayo	1.52	78	*e*P	Pn	18 56 22.3	+0.4
RANC	El Ranchito	1.53	77	*e*P	Pn	18 56 22.1	0.0
RANC	El Ranchito	1.53	77	S	Sn	18 56 42.3	+0.8
RANC	El Ranchito	1.53	77	P	Pn	18 56 22.3	+0.2
VSM	San Miguel	1.54	78	*e*P	Pn	18 56 22.5	+0.1
BLLM	Bellamira	1.58	77	*e*P	Pn	18 56 22.8	+0.1
ESSG	Sabana Grande	1.61	323	*e*P	Pn	18 56 22.1	-1.0
ESSG				*i* S	Sn	18 56 40.7	-2.6
CNCH	Conchagua	1.95	85	*e*P	Pn	18 56 27.8	0.0
CNCH	Conchagua	1.95	85	P	Pn	18 56 28.0	+0.2
STG5	El Palmar, Qui	1.97	311	*e*P	Pg	18 56 32.7	-0.9
STG0	El Palmar, Qui	1.98	312	*e*P	Pg	18 56 32.8	-1.1
STG8	El Palmar, Qui	2.00	312	*e*P	Pg	18 56 33.3	-0.9
STG8				*e*S	Sg	18 57 00.1	-0.2
MARCA	Marcala la Paz	2.03	59	*e*P	Pn	18 56 28.8	-0.2
CSGN	Cosiguina Volc	2.21	93	P	Pn	18 56 31.5	+0.1
POTN	Potosi Cosigui	2.26	92	P	Pn	18 56 32.3	+0.3
CHOHN	Orocuina	2.62	81	P	Pn	18 56 36.9	-0.1
CHOHN	Orocuina	2.62	81	S	Sn	18 57 09.7	+1.3
TGUH	Tegucigalpa,Un	2.66	69	P	Pn	18 56 37.9	+0.3
CRIN	San Cristobal	2.73	98	P	Pn	18 56 39.0	+0.4
YUSH	Yuscaran	3.02	73	P	Pn	18 56 42.7	+0.2
CNGN	Cerro Negro	3.11	101	P	Pn	18 56 44.6	+0.9
COPN	Copaltepe	3.29	106	P	Pn	18 56 46.2	+0.1
LIMN	Finca el Limon	3.37	90	P	Pn	18 56 47.3	0.0
RCVN	Varillal2	3.57	82	P	Pn	18 56 50.2	+0.1
RCPN	Sur Rio San Ju	3.66	83	P	Pn	18 56 51.6	+0.3

IDC 22 19:17:35.5±2.3, 5°.61S×130°.62E, h0km, mb3.4/1, mbtmp3.5/4, MLL3.6/3, Error ellipse: s-maj=73.8km s-min=30.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.33	201	Pn	Pn	19 20 45.1	-1.0
	0.1nm,0.3s,baz=30,slow=12,SNR=8.6						
FITZ				Sn	Sn	19 22 58.1	-17
	0.2nm,0.3s,baz=322,slow=18,SNR=7.0 1.0nm,0.7s						
WRA	Warramunga Arr	14.70	166	Pn	Pn	19 21 06.2	+1.4
	0.4nm,0.3s,baz=347,slow=11,SNR=12						
WRA				Sn	Sn	19 23 32.7	-16
	0.2nm,0.3s,baz=351,slow=20,SNR=2.3 0.5nm,0.5s						
ASAR	Alice Springs	18.23	170	P	Pn	19 21 49.6	-0.5
	0.3nm,0.3s,baz=351,slow=10,SNR=16 0.9nm,0.4s						
MKAR	Makanchi Array	67.42	326	P	P	19 28 33.1	+0.1
	0.2nm,0.4s,baz=130,slow=7.8,SNR=2.7 0.2nm,0.4s						

*IDC **22** 19:21:33.0±2.2, 40°.49N×143°.94E, h0km, mb3.8/6, mbtmp3.8/10, ML3.1/4, MS3.4/1, Error ellipse: s-maj=51.5km s-min=22.2km az=86.0*
*JMA **22** 19:21:34.9±0.2, 40°.5N±0°.7×14°4E±°, h17km, MV3.6/33, FAR E OFF SANRIKU*
*NIED **22** 19:21:34.9, 40°.52N×143°.81E, h17km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}6.24; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-5.94; $M_{r\theta}$1.27; $M_{r\phi}$-2.66; $M_{\theta\phi}$1.96; Fault plane solution: $M_0$7.02000×10^{14} NP1: ϕ_s197.00000°, δ36.00000°, λ83.00000°. NP2: ϕ_s26.00000°, δ55.00000°, λ95.00000°.*

ISC 22 19:21:34.0±3.8, 40°.49N±0°.05×143°.96E±0°.09, h17km±24km, n29, σ1°77/37, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.64	339	*e*P	Pn	19 22 02.5	+0.4
JEM				*e*S	Sb	19 22 22.7	-1.5
JTH	Tanohata	1.69	252	P	Pn	19 22 02.9	+0.1
JKEN	Kujiedanarisaw	1.74	261	P	Pn	19 22 03.1	-0.3
JANG	Nango	1.87	267	P	Pn	19 22 05.1	-0.1
MIYJ	Miyakonagasawa	1.88	242	P	Pb	19 22 06.2	-1.6
JNBK	Urakawa-nobuka	2.01	334	P	Pn	19 22 07.7	+0.6
JNBK				*e*S	Sb	19 22 32.6	-2.1
JCH	Churui	2.17	348	*e*P	Pn	19 22 10.0	+0.7
JCH				*e*S	Sn	19 22 34.6	-1.3
JOM	Ohasama	2.29	245	*e*P	Pn	19 22 11.9	+0.9
JOT	Ohata	2.38	293	*e*P	Pn	19 22 12.8	+0.6
JAK	Akkeshi	2.56	12	*e*P	Pn	19 22 16.5	+1.7
JAK				*e*S	Sn	19 22 44.2	-1.3
JMK	Ichinoseki	2.61	235	*i* P	Pn	19 22 16.9	+1.5
JAR	Ashorobuto	2.81	357	*i* P	Pn	19 22 18.3	+0.2
JAR				*e*S	Sn	19 22 49.7	-2.0
JEW	Eniwo	3.01	322	*e*P	Pn	19 22 22.5	+1.7
JEW				*e*S	Sn	19 22 57.7	+1.2
NEM2	Nemuro 2	3.17	24	P	Pn	19 22 24.2	+1.1
NEM2				*e*S	Sn	19 22 58.5	-2.0
JYK	Kaneyama	3.19	242	P	Pn	19 22 25.0	+1.7
JTKR	Abashiri--Toko	3.48	359	P	Pn	19 22 28.2	+0.9
JTKR				*e*S	Sn	19 23 07.0	-1.1
JRA	Rausu	3.55	14	*e*S	Sn	19 23 07.5	-2.5
JHR	Hokuryu	3.65	334	*e*P	Pn	19 22 32.4	+2.7
ASAJ	Asahikawa	3.76	345	Pn	Pn	19 22 32.7	+1.4
	0.8nm,0.3s,baz=198,slow=19,SNR=14 1.6nm,0.2s						
MJAR	Matsushiro Arr	5.99	231	Pn	Pn	19 23 03.7	+1.8
	0.1nm,0.3s,baz=32,slow=12,SNR=16 2.8nm,0.6s						
JHJ	Hachijo jima 2	8.08	206	Pn	Pn	19 23 29.9	-0.6
	3.1nm,0.3s,baz=340,slow=20,SNR=7.0						
JHJ				Sn	Sn	19 24 56.2	-5.3
	3.9nm,0.3s,baz=214,slow=24,SNR=5.8 10nm,0.4s						
USRK	Ussuriysk Ar.	9.61	297	Pn	Pn	19 23 53.0	+1.6
	0.3nm,0.3s,baz=99,slow=13,SNR=5.9 4.0nm,0.7s						
TGY	Tagaytay City	33.11	224	LR	LR	19 41 07.5	
	comp=Z,55nm,18.6s,baz=279,slow=36						
ZALV	Zalesovo Beam	41.15	310	P	P	19 29 17.4	+0.3
	0.9nm,0.5s,baz=89,slow=6.9,SNR=4.5 0.9nm,0.5s						
MKAR	Makanchi Array	44.06	300	P	P	19 29 42.2	+1.3
	1.3nm,0.8s,baz=82,slow=9.6,SNR=15 1.3nm,0.8s						
KURBB	Kurchatov Arra	45.52	306	P	P	19 29 53.7	+1.3
	1.3nm,0.6s,baz=77,slow=8.6,SNR=12 1.3nm,0.6s						
BVAR	Borovoye Array	49.78	311	P	P	19 30 27.7	+2.2
	0.5nm,0.4s,baz=75,slow=9.3,SNR=12 0.5nm,0.4s						
WRA	Warramunga Arr	60.78	190	P	P	19 31 47.2	+2.2
	0.3nm,0.6s,baz=7.3,slow=6.9,SNR=1.9 0.3nm,0.6s						
FINES	FINESS Array B	66.68	332	P	P	19 32 25.0	+1.5
	0.4nm,0.5s,baz=81,slow=8.6,SNR=1.1 0.4nm,0.5s						

*IDC **22** 19:25:54.8±3.3, 36°.69N×19°.97E, h0km, mb3.6/6, mbtmp3.5/9, ML3.9/2, Error ellipse: s-maj=57.2km s-min=24.4km az=42.0*
*ATH **22** 19:26:03.4, 37°.27N×20°.58E, h6km±1km, ML3.6/18, Manual Solution by S.Liakopoulos First location: 2019/04/22 19:27:04, This location: 2020/10/23 10:46:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **22** 19:26:04.1, 37°.31N×20°.59E, h0km±1km, ML3.5/14, Error ellipse: s-maj=2.2km s-min=0.7km az=226.0*

ISC 22 19:26:01.8±1.7, 37°.20N±0°.05×20°.52E±0°.05, h6km±9km, n82, σ1°01/120, mb3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.56	26	P	Pg	19 26 13.1	+0.4
LTHK				S	Sg	19 26 18.9	-1.1
LTHK	Lithakia	0.56	26	P	Pg	19 26 13.0	+0.4
LTHK				S	Sg	19 26 19.0	-1.1
KYPS	Kipseli, Zakin	0.66	21	P	Pg	19 26 15.1	+0.6
KYPS				S	Sg	19 26 22.8	-0.3
ORTH	Orthonies,Zaky	0.66	12	P	Pg	19 26 15.0	+0.5
ORTH				S	Sg	19 26 23.0	-0.1
CLEM	Kyllini,Ilia,G	0.84	35	P	Pg	19 26 18.0	0.0
CLEM				S	Sg	19 26 27.6	-1.2
RTZL	Ratzakli, Kefa	0.89	13	P	Pg	19 26 19.0	0.0
RTZL				S	Sg	19 26 30.7	+0.1
PSDA	Pessada-Kefalo	0.91	3	P	Pg	19 26 19.2	-0.1
PSDA				S	Sg	19 26 31.3	+0.2
	6μm,0.3s						
PSDA	Pessada-Kefalo	0.91	3	P	Pg	19 26 19.2	-0.1
PSDA				S	Sg	19 26 31.4	+0.2
LCHA	Lechaina	0.94	39	P	Pg	19 26 19.9	0.0
LCHA				S	Sg	19 26 31.0	-1.1
ZARO	Zacharo	0.94	72	P	Pg	19 26 20.4	+0.5
ZARO				S	Sg	19 26 32.6	+0.5
ARG2	Argostoli	0.97	358	P	Pg	19 26 21.0	+0.5
ARG2				S	Sg	19 26 32.4	-0.8
VLS	Valsamata	0.97	3	P	Pg	19 26 20.3	-0.2
VLS				S	Sb	19 26 33.7	-0.5
	3μm,0.3s						
VLS	Valsamata	0.97	3	P	Pg	19 26 20.4	-0.2
VLS				S	Sg	19 26 32.5	-0.6
AMT	Artemida-Makis	1.00	71	P	Pg	19 26 21.5	+0.5
AMT				S	Sg	19 26 33.1	-0.9
DMLN	Damoulianata-K	1.04	353	P	Pg	19 26 22.1	+0.3
DMLN				S	Sg	19 26 35.6	+0.3
	4μm,0.4s						
DMLN	Damoulianata-K	1.04	353	P	Pg	19 26 22.0	+0.3
DMLN				S	Sg	19 26 35.6	+0.3
SMHA	Samh	1.05	5	P	Pg	19 26 22.5	+0.5
SMHA				S	Sg	19 26 34.6	-1.0
YRMI	Loutra Irminis	1.11	36	P	Pg	19 26 22.4	-0.8
YRMI				S	Sg	19 26 36.5	-1.1
ITM	Ithomi	1.12	91	P	Pg	19 26 24.2	+0.9
ITM				S	Sn	19 26 40.9	+1.1
	1μm,0.5s						
ITM	Ithomi	1.12	91	P	Pg	19 26 24.1	+0.7
ITM				S	Sg	19 26 37.6	-0.3
RLS	Riolos of Patr	1.14	41	P	Pg	19 26 22.9	-0.7
RLS				S	Sg	19 26 37.4	-0.9
	2μm,0.3s						
RLS	Riolos of Patr	1.14	41	P	Pg	19 26 22.7	-0.9
RLS				S	Sg	19 26 37.4	-0.9
AXS	Araxos	1.20	34	P	Pg	19 26 23.9	-0.9
AXS				S	Sg	19 26 39.2	-1.2
DRO	Drossia	1.20	51	P	Pg	19 26 24.4	-0.5
DRO				S	Sb	19 26 40.6	-0.3
	3μm,0.5s						
DRO	Drossia	1.20	51	P	Pg	19 26 24.2	-0.7
DRO				S	Sg	19 26 39.6	-1.0
VSK1	VASILIKIADES	1.20	2	P	Pg	19 26 24.8	-0.1
VSK1				S	Sb	19 26 41.0	+0.1
	3μm,

MKAR Makanchi Array 45.81 58 P P 19 34 23.2 -1.2
0.6nm,0.5s,baz=275,slow=7.8,SNR=12
0.6nm,0.5s
ZALV Zalesovo Beam 46.34 47 P P 19 34 27.1 -1.4
0.5nm,0.3s,baz=280,slow=7.6,SNR=2.8
0.5nm,0.3s

---

*KRNET **22** 19:27:14.8±0.1, 42°.07N×72°.03E, h26km, mb2.6*
*SOME **22** 19:27:15.4, 42°.03N×72°.10E, h15km*
*NNC **22** 19:27:16.1±0.9, 42°.15N×72°.04E, h0km, mb2.7, mpv2.9, Error ellipse: s-maj=10.2km s-min=3.3km az=4.0*
ISC 22 19:27:14.3±1.1, 42°.09N±0°.03×72°.08E±0°.02, h5km±10km, n36, σ0§86/61, 28C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.30**	**196⇑**	*eP*	**Pg**	**19 27 21.1**	**+0.8**
ARK			⇑	*eS*	**Sg**	**19 27 25.6**	**+1.3**
MNAS	**Manas**	**0.51**	**39⇑**	*eP*	**Pb**	**19 27 25.8**	**0.0**
MNAS			⇑	*eS*	**Sb**	**19 27 33.8**	**+0.2**
TRKS	**Terek-Say**	**0.90**	**232⇓**	*eP*	**Pg**	**19 27 31.4**	**-0.1**
TRKS			⇓	*eS*	**Sb**	**19 27 43.3**	**-1.4**
MRKS	**Merke**	**1.07**	**52**	P	**Pn**	**19 27 36.3**	**+0.2**
4.5nm,0.1s							
MRKS				S	**Sn**	**19 27 51.0**	**-0.4**
78nm,0.3s							
MRKS	**Merke**	**1.07**	**52**	*eP*	**Pn**	**19 27 36.3**	**+0.2**
4.5nm,0.1s							
MRKS				*eS*	**Sn**	**19 27 51.0**	**-0.4**
78nm,0.3s							
AML	**Almayashu**	**1.21**	**87⇓**	*iP*	**Pg**	**19 27 37.7**	**+0.2**
AML			⇓	*eS*	**Sb**	**19 27 54.3**	**+0.4**
EKS2	**Erkin-Say**	**1.39**	**65⇓**	*eP*	**Pb**	**19 27 40.8**	**+0.1**
EKS2			⇓	*eS*	**Sg**	**19 27 59.6**	**+0.8**
IUG	**Iuzhnay**	**1.52**	**273**	P	**Pg**	**19 27 43.8**	**+0.3**
5.8nm,0.1s							
IUG				S	**Sg**	**19 28 03.6**	**+0.4**
32nm,0.2s							
KK31	**Karatay Array**	**1.54**	**312**	⇓P	**Pg**	**19 27 43.4**	**-0.3**
1.0nm,0.2s,baz=132,slow=16,SNR=14							
KK31			⇑	S	**Sg**	**19 28 03.3**	**-0.4**
1.6nm,0.2s,baz=133,slow=15							
KKAR	**Karatay Array**	**1.54**	**312⇑**	*eP*	**Pb**	**19 27 42.6**	**-0.7**
KKAR			⇑	*iS*	**Sg**	**19 28 02.8**	**-0.9**
OHH	**Osh**	**1.65**	**161⇑**	*eP*	**Pn**	**19 27 44.2**	**+0.2**
OHH			⇑	*iS*	**Sn**	**19 28 05.6**	**-0.1**
ARLS	**Aral**	**1.69**	**97⇑**	*iP*	**Pb**	**19 27 45.6**	**-0.4**
ARLS			⇑	*iS*	**Sb**	**19 28 07.9**	**+0.3**
SALK	**Salom-Alik**	**1.78**	**132⇑**	*eP*	**Pb**	**19 27 47.0**	**-0.5**
SALK			⇑	*eS*	**Sb**	**19 28 10.3**	**+0.1**
UCH	**Uchtor**	**1.82**	**85⇓**	*eP*	**Pn**	**19 27 47.6**	**+1.0**
UCH			⇓	*iS*	**Sb**	**19 28 11.4**	**-0.1**
AAK	**Ala-Archa**	**1.87**	**72⇑**	Pn	**Pg**	**19 27 50.9**	**+0.6**
1.8nm,0.3s							
AAK			⇓	Sn	**Sb**	**19 28 14.1**	**+1.2**
5.1nm,0.6s							
AAK	**Ala-Archa**	**1.87**	**72⇑**	*iP*	**Pn**	**19 27 48.2**	**+1.0**
AAK			⇑	*iS*	**Sb**	**19 28 12.5**	**-0.4**
BRLS	**Borolday**	**1.90**	**300**	*eP*	**Pg**	**19 27 51.2**	**+0.4**
1.6nm,0.3s							
BRLS				*eS*	**Sg**	**19 28 16.4**	**+0.9**
0.4nm,0.3s							
FRU1	**Bishkek**	**2.02**	**68⇑**	*eP*	**Pn**	**19 27 50.1**	**+1.0**
FRU1			⇑	*eS*	**Sn**	**19 28 15.7**	**+0.9**
USP	**Ospenovka**	**2.14**	**56⇓**	*eP*	**Pn**	**19 27 51.8**	**+1.1**
USP			⇓	*eS*	**Sn**	**19 28 18.9**	**+1.3**
CHMS	**Chumysh**	**2.18**	**64⇓**	*eP*	**Pn**	**19 27 52.3**	**+1.1**
CHMS			⇓	*iS*	**Sn**	**19 28 19.6**	**+1.1**
KBK	**Karagaybulak**	**2.20**	**74⇑**	*iP*	**Pn**	**19 27 52.8**	**+1.1**
KBK			⇑	*iS*	**Sn**	**19 28 20.5**	**+1.1**
BTK	**Batken**	**2.24**	**206⇑**	*eP*	**Pn**	**19 27 52.1**	**0.0**
BTK			⇑	*eS*	**Sn**	**19 28 19.3**	**-0.9**
SGDS	**Sogindy**	**2.32**	**53**	Pg	**Pg**	**19 27 58.8**	**0.0**
1.8nm,0.2s							
SGDS				Lg	Lg	19 28 29.1	
26nm,0.4s							
SFK	**Sufi-Kurgan**	**2.34**	**152⇑**	*iP*	**Pn**	**19 27 53.9**	**+0.3**
SFK			⇑	*iS*	**Sn**	**19 28 22.5**	**-0.3**
DRK	**Karamyk**	**2.62**	**185⇑**	*eP*	**Pn**	**19 27 58.1**	**+0.6**
DRK			⇑	*eS*	**Sn**	**19 28 29.4**	**-0.3**
TKM2	**Tokmak 2**	**2.73**	**71**	⇑Pn	**Pb**	**19 28 03.0**	**-0.8**
3.5nm,1.3s							
TKM2			⇑	Sn	**Sb**	**19 28 36.6**	**-1.0**
11nm,0.5s							
BOOM	**Boomskoye usch**	**2.90**	**81⇓**	*eP*	**Pn**	**19 28 02.3**	**+1.1**
BOOM			⇓	*eS*	**Sn**	**19 28 37.4**	**+0.9**
KST	**Kastek**	**3.03**	**70**	Lg	Lg	19 28 50.9	
13nm,0.5s							
KST	**Kastek**	**3.03**	**70**	*eP*	**Pg**	**19 28 11.3**	**-1.0**
2.3nm,0.5s							
KST				*eS*	**Sg**	**19 28 50.9**	**-0.6**
13nm,0.5s							
ULHL	**Ulahol**	**3.10**	**86⇓**	*eP*	**Pn**	**19 28 05.4**	**+1.3**
ULHL			⇓	*eS*	**Sn**	**19 28 42.0**	**+0.4**
MTBS	**Maitube**	**3.38**	**71**	Lg	Lg	19 29 00.8	
5.7nm,0.4s							
MTBS	**Maitube**	**3.38**	**71**	*eP*	**Pg**	**19 28 17.3**	**-1.7**
0.9nm,0.1s							
MTBS				*eS*	**Sg**	**19 29 01.3**	**-1.5**
5.7nm,0.4s							
TNSS	**Tian-Shan**	**3.72**	**74**	Lg	Lg	19 29 12.5	
2.0nm,0.5s							
TNSS	**Tian-Shan**	**3.72**	**74**	*eP*	**Pg**	**19 28 23.7**	**-1.9**
0.8nm,0.1s							
TNSS				*eS*	**Sg**	**19 29 12.5**	**-1.3**
2.0nm,0.5s							
KTBS	**Karatobe**	**3.75**	**63**	Lg	Lg	19 29 12.9	
4.9nm,0.3s							
MDOK	**Medeo**	**3.82**	**72**	Lg	Lg	19 29 15.6	
4.5nm,0.4s							

---

*IDC **22** 19:27:33.0±3.8, 4°.72S×101°.66E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=172.3km s-min=25.1km az=56.0*
*DJA **22** 19:27:42.1±1.1, 4°S±3°×10°2E±°, h22km±11km, M4.1/7, mb4.3/1, MLv3.9/7*
ISC 22 19:27:39.8±1.1, 4°47S±0°.10×102°.0E±0°.1, h37km, n21, σ1§13/14, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.99**	**84**	P	**Pn**	**19 27 58.1**	**+0.9**
MNAI				S	**Sn**	**19 28 09.4**	**-0.6**
KSI	**Kapahiang**	**1.03**	**37**	P	**Pn**	**19 27 58.5**	**+0.8**
KSI				S	**Sn**	**19 28 10.4**	**-0.5**
LWLI	**Liwa**	**2.15**	**105**	P	**Pn**	**19 28 14.8**	**+1.5**
MDSI	**Maura Dua**	**2.20**	**90**	P	**Pn**	**19 28 15.6**	**+1.7**
SISI	**Saibi**	**4.25**	**317**	P	**Pn**	**19 28 43.4**	**+1.4**
CNJI	**Cibinong**	**5.86**	**119**	P	**Pn**	**19 29 05.1**	**+1.0**
H08S2	**Diego Garcia H**	**29.47**	**262**	T	T	20 04 06.9	
baz=90,slow=74,SNR=6.2							
H08S3	**Diego Garcia H**	**29.48**	**262**	T	T	20 04 08.1	
baz=90,slow=74,SNR=6.5							
H08S1	**Diego Carcia H**	**29.49**	**262**	T	T	20 04 06.5	
baz=90							
H01W3	**Cape Leeuwin H**	**32.29**	**161**	T	T	20 08 03.5	
baz=338,slow=76,SNR=4.7							
H01W2	**Cape Leeuwin H**	**32.31**	**161**	T	T	20 08 05.9	
baz=338,slow=76,SNR=4.3							
H01W1	**Cape Leeuwin H**	**32.31**	**161**	T	T	20 08 10.0	
baz=338,slow=76,SNR=5.1							
WRA	**Warramunga Arr**	**35.07**	**119**	P	**P**	**19 34 28.7**	**-1.0**
0.4nm,0.6s,baz=301,slow=8.1,SNR=1.9							
0.4nm,0.6s							
STKA	**Stephens Creek**	**46.05**	**131**	P	**P**	**19 35 59.4**	**-0.8**
0.7nm,0.5s,baz=326,slow=15,SNR=3.3							
0.7nm,0.5s							
SONM	**Songino Array**	**52.23**	**4**	P	**P**	**19 36 48.1**	**+0.8**
0.4nm,0.5s,baz=184,slow=9.0,SNR=2.6							
0.4nm,0.5s							
MKAR	**Makanchi Array**	**53.93**	**343**	P	**P**	**19 36 59.6**	**-0.1**
0.2nm,0.5s,baz=148,slow=9.6,SNR=5.7							
0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**59.96**	**348**	P	**P**	**19 37 41.0**	**-1.2**
0.5nm,0.4s,baz=175,slow=7.4,SNR=3.7							
0.5nm,0.4s							
H04N2	**CROZET ISLANDS**	**60.03**	**218**	T	T	20 42 36.8	
baz=62,slow=74,SNR=17							
H04N1	**CROZET ISLANDS**	**60.04**	**218**	T	T	20 42 35.3	
baz=62,slow=74,SNR=28							
H04N3	**CROZET ISLANDS**	**60.05**	**218**	T	T	20 42 34.0	
baz=62,slow=74,SNR=19							
TXAR	**Lajitas Array**	**145.35**	**42**	PKPbc	**PKPab**	**19 47 14.8**	**+0.2**
1.0nm,0.6s,baz=284,slow=0.8,SNR=12							

---

*SCB **22** 19:28:44.7±1.1, 22°.06S×67°.36W, h160km±12km, ML3.7/3, MW3.3, Error ellipse: s-maj=10.0km s-min=3.9km az=0.0*
ISC 22 19:28:42.4±2.5, 22°.19S±0°.09×67°.36W±0°.06, h181km±21km, n17, σ1§02/26, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.79**	**282⇑**	*iP*	**Pn**	**19 29 18.6**	**+1.1**
PB09				*i* S	**S**	**19 29 45.1**	**+0.5**
PB09	**IPOC Station P**	**1.79**	**282**	Pg	**Pn**	**19 29 18.8**	**+1.2**
MOCB	**Mochara**	**1.85**	**60**	Pg	**Pn**	**19 29 19.1**	**+0.6**
MOCB				Sg	**S**	**19 29 45.2**	**-1.2**
MOCB				IAML		19 29 49.0	
413nm,0.4s							
PB06	**IPOC Station P**	**2.11**	**255**	*eP*	**Pn**	**19 29 21.6**	**+0.7**
PB06				*i* S	**S**	**19 29 50.7**	**0.0**
PB06				IAML		19 29 53.5	
comp=E,280nm,0.2s							
PB03	**IPOC Station P**	**2.22**	**273**	*eP*	**Pn**	**19 29 22.6**	**+0.4**
PB03				*i* S	**S**	**19 29 52.3**	**-0.7**
PB03				IAML		19 29 53.9	
comp=N,269nm,0.2s							
PB01	**IPOC Station P**	**2.28**	**300⇑**	*iP*	**Pn**	**19 29 23.1**	**+0.3**
PB01				*i* S	**S**	**19 29 52.8**	**-1.3**
PB01				IAML		19 29 54.7	
comp=E,230nm,0.2s							
PB01	**IPOC Station P**	**2.28**	**300**	Pg	**Pn**	**19 29 23.6**	**+0.8**
PB01				Sg	**S**	**19 29 53.7**	**-0.4**
PB01				IAML		19 29 55.7	
comp=E,183nm,0.2s							
PB08	**IPOC Station P**	**2.64**	**320⇑**	*iP*	**Pn**	**19 29 28.3**	**+1.1**
PB08				*i* S	**S**	**19 30 01.5**	**-0.5**
PB08				IAML		19 30 05.1	
comp=E,127nm,0.3s							
PB08	**IPOC Station P**	**2.64**	**320**	Pg	**Pn**	**19 29 28.6**	**+1.4**
PB05	**IPOC Station P**	**2.71**	**255**	*eP*	**Pn**	**19 29 28.1**	**+0.3**
PB05				*i* S	**S**	**19 30 01.2**	**-1.8**
PB05				IAML		19 30 02.7	
comp=N,101nm,0.3s							
GO01	**Chusmiza**	**3.04**	**325**	Pg	**Pn**	**19 29 32.8**	**+0.7**
PB11	**IPOC Station P**	**3.23**	**318**	Pg	**Pn**	**19 29 34.1**	**0.0**
PB11				Sg	**S**	**19 30 12.3**	**-2.1**
PB11				IAML		19 30 16.0	
comp=N,218nm,0.2s							
SOEO	**Opoqueri**	**3.64**	**352**	Pg	**Pn**	**19 29 40.4**	**+0.8**
SOET	**ToroToro**	**4.30**	**20**	Pg	**Pn**	**19 29 48.4**	**+0.5**
PB16	**IPOC Station P**	**4.33**	**332**	Pg	**Pn**	**19 29 49.4**	**+1.0**
SOEJ	**Jacaque**	**5.25**	**351**	Pg	**Pn**	**19 30 00.5**	**+0.4**
LPAZ	**La Paz**	**5.91**	**353**	Pg	**Pn**	**19 30 09.9**	**+0.9**

---

*IDC **22** 19:28:58.8±3.7, 2°.46S×140°.51E, h0km, mb3.5/3, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=146.2km s-min=26.3km az=90.0*
*DJA **22** 19:28:59.6±2.0, 3°S±24°×14°0E±°, h28km±12km, M3.7/3, MLv3.7/3*
ISC 22 19:29:02.4±1.1, 2°.5S±0°.1×140°.31E±0°.06, h24km, n7, σ1§78/9, mb3.6/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.18**	**230**	P	**Pn**	**19 29 07.4**	**-2.3**
GENI				S	**Sb**	**19 29 13.6**	**+2.2**
JAY	**Jayapura**	**0.40**	**96**	P	**Pn**	**19 29 11.1**	**-1.6**
JAY				S	**Sn**	**19 29 19.5**	**+0.1**
SMPI	**Sarmi**	**1.67**	**287**	P	**Pn**	**19 29 28.5**	**-1.6**
WRA	**Warramunga Arr**	**18.32**	**198**	P	**P**	**19 33 14.5**	**-0.5**
0.2nm,0.3s,baz=18,slow=13,SNR=8.7							
0.6nm,0.4s							
ASAR	**Alice Springs**	**21.96**	**196**	P	**P**	**19 33 55.9**	**+1.2**
0.9nm,0.6s,baz=28,slow=10,SNR=15							
0.9nm,0.6s							
MKAR	**Makanchi Array**	**70.58**	**322**	P	**P**	**19 40 17.2**	**+1.5**
0.3nm,0.6s,baz=111,slow=7.8,SNR=4.7							
0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**72.54**	**329**	P	**P**	**19 40 27.2**	**0.0**
0.4nm,0.5s,baz=118,slow=8.3,SNR=2.4							
0.4nm,0.5s							

---

*SJA **22** 19:35:08.3±0.7, 20°.91S×68°.85W, h100km±5km, ML3.9, MW3.9*
*GUC **22** 19:35:09.6±0.5, 20°.88S×68°.89W, h102km±2km, ML3.8*
*IDC **22** 19:35:10.3±0.9, 20°.82S×68°.63W, h114km±8km, mb3.4/3, mbtmp3.8/6, Error ellipse: s-maj=39.8km s-min=18.2km az=92.0*
*VAO **22** 19:35:10.0±0.9, 20°.80S×68°.67W, h110km±8km, mb4.2*
ISC 22 19:35:08.6±0.6, 20°.88S±0°.03×68°.90W±0°.05, h108km±5km, n54, σ1§43/74, mb3.8/3, 1C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.57**	**253**	*eP*	**Pn**	**19 35 25.5**	**-0.4**
PB01				*i* S	**Sn**	**19 35 38.3**	**-0.5**
PB01				IAML		19 35 40.0	
comp=E,6μm,0.2s							
PB01	**IPOC Station P**	**0.57**	**253**	*eP*	**Pn**	**19 35 25.5**	**-0.4**
PB01				*eS*	**Sn**	**19 35 38.9**	**+0.1**
PB01				IAML		19 35 40.9	
comp=Z,3μm,0.2s							
PB08	**IPOC Station P**	**0.77**	**342⇓**	*iP*	**Pn**	**19 35 28.0**	**+0.2**
PB08				*i* S	**Sn**	**19 35 42.2**	**-0.1**
PB08				IAML		19 35 43.4	
comp=E,2μm,0.2s							
PB08	**IPOC Station P**	**0.77**	**342**	*eP*	**Pn**	**19 35 28.1**	**+0.2**
PB08				*eS*	**Sn**	**19 35 42.9**	**+0.6**
PB09	**IPOC Station P**	**0.97**	**199**	*eP*	**Pn**	**19 35 30.1**	**+0.7**
PB09				*i* S	**Sn**	**19 35 45.9**	**+0.7**
PB09				IAML		19 35 48.6	
comp=N,2μm,0.4s							
PB09	**IPOC Station P**	**0.97**	**199**	*eP*	Pn	19 35 18.1	-11
PB09				*eS*	**Sn**	**19 35 47.6**	**+2.4**
PB09				IAML		19 35 48.2	
comp=Z,2μm,0.6s							
HMBC	**Humberstone**	**1.10**	**303**	*eP*	**Pn**	**19 35 30.8**	**0.0**
HMBC				*eS*	**Sn**	**19 35 47.6**	**-0.1**
HMBC				IAML		19 35 51.4	
comp=N,3μm,0.5s							
HMBC	**Humberstone**	**1.10**	**303**	*eS*	**Sn**	**19 35 48.2**	**+0.5**
HMBC				IAML		19 35 49.3	
comp=Z,2μm,0.6s							
PATCX	**Punta Patache**	**1.18**	**273⇑**	*iP*	**Pn**	**19 35 31.7**	**+0.1**
PATCX				*i* S	**Sn**	**19 35 49.0**	**0.0**
PATCX				IAML		19 35 53.7	
comp=N,3μm,0.4s							
PATCX	**Punta Patache**	**1.18**	**273**	*eP*	Pn	19 35 14.4	-17
PATCX				*eS*	**Sn**	**19 35 50.4**	**+1.5**
PATCX				IAML		19 35 50.9	
comp=Z,2μm,0.5s							
GO01	**Chusmiza**	**1.24**	**347**	*eP*	**Pn**	**19 35 33.0**	**+0.3**
GO01				*i* S	**Sn**	**19 35 51.1**	**+0.2**
GO01	**Chusmiza**	**1.24**	**347**	*eP*	Pn	19 35 17.6	-15
GO01				*eS*	**Sn**	**19 35 52.7**	**+1.8**
GO01				IAML		19 35 53.8	
comp=Z,803nm,0.4s							
TA01	**Diego Aracena**	**1.24**	**284**	*eP*	**Pn**	**19 35 32.0**	**-0.2**
TA01				*i* S	**Sn**	**19 35 49.8**	**-0.4**
TA01	**Diego Aracena**	**1.24**	**284**	*eP*	**Pn**	**19 35 31.4**	**-0.8**
TA01				*eS*	**Sn**	**19 35 51.9**	**+1.7**
TA01				IAML		19 35 55.5	
comp=Z,853nm,0.7s							
TA02	**Huaiquique**	**1.30**	**297**	*eP*	**Pn**	**19 35 33.2**	**+0.3**
TA02				IAML		19 35 56.4	
comp=N,4μm,0.2s							
TA02	**Huaiquique**	**1.30**	**297**	*eP*	**Pn**	**19 35 32.6**	**-0.3**
TA02				*eS*	**Sn**	**19 35 52.7**	**+1.3**
TA02				IAML		19 35 56.8	
comp=Z,1μm,0.5s							
PB11	**IPOC Station P**	**1.32**	**327**	*eP*	**Pn**	**19 35 33.3**	**0.0**
PB11				*eS*	**Sn**	**19 35 52.1**	**0.0**
PB11				IAML		19 35 53.9	
comp=E,2μm,0.2s							
PB11	**IPOC Station P**	**1.32**	**327**	*eP*	Pn	19 35 18.5	-15
PB11				*eS*	**Sn**	**19 35 53.3**	**+1.2**
PB11				IAML		19 35 54.9	
comp=Z,633nm,0.4s							
PB03	**IPOC Station P**	**1.41**	**214**	*eP*	**Pn**	**19 35 34.8**	**+0.5**
PB03				*eS*	**Sn**	**19 35 54.5**	**+0.6**
PB03				IAML		19 35 56.3	
comp=E,2μm,0.4s							
PB03	**IPOC Station P**	**1.41**	**214**	*eP*	**Pn**	**19 35 30.1**	**-4.3**
PB03				*eS*	**Sn**	**19 35 54.3**	**+0.4**
PB03				IAML		19 35 56.4	
comp=Z,2μm,0.4s							
PB06	**IPOC Station P**	**1.92**	**199**	*eP*	**Pn**	**19 35 41.2**	**+0.6**
PB06				*eS*	**Sn**	**19 36 05.9**	**+0.8**
PB06	**IPOC Station P**	**1.92**	**199**	*eP*	Pn	19 35 35.5	-5.1
PB06				*eS*	**Sn**	**19 36 07.7**	**+2.6**
PB06				IAML		19 36 10.5	
comp=Z,962nm,0.2s							
AF01	**San Pedro de A**	**2.17**	**162**	*eP*	Pn	19 35 59.1	+15
AF01				*eS*	**Sn**	**19 36 10.6**	**-0.3**
AF01				IAML		19 36 45.6	
comp=Z,495nm,0.8s							
PB05	**IPOC Station P**	**2.31**	**211**	*eP*	**Pn**	**19 35 45.4**	**-0.2**
PB05				*i* S	**Sn**	**19 36 15.3**	**+1.5**
PB05				IAML		19 36 24.0	
comp=E,933nm,0.2s							
PB05	**IPOC Station P**	**2.31**	**211**	*eP*	**Pn**	**19 35 44.9**	**-0.7**
PB05				*eS*	**Sn**	**19 36 11.6**	**-2.2**
PB05				IAML		19 36 23.1	
comp=Z,695nm,0.3s							
PB16	**IPOC Station P**	**2.60**	**347**	*eP*	**Pn**	**19 35 50.9**	**+1.1**
PB16				IAML		19 36 32.9	
comp=E,187nm,0.4s							
PB16	**IPOC Station P**	**2.60**	**347**	*eP*	**Pn**	**19 35 51.4**	**+1.6**
PB16				*eS*	Sn	19 36 04.6	-17
PB12	**IPOC Station P**	**2.63**	**329**	*eP*	**Pn**	**19 35 49.0**	**-0.7**
PB12				IAML		19 36 30.3	
comp=E,500nm,0.5s							
PB12	**IPOC Station P**	**2.63**	**329**	*eP*	Pn	19 35 35.1	-15
PB12				*eS*	**Sn**	**19 36 17.6**	**-3.7**
PB12				IAML		19 36 32.8	
comp=Z,241nm,0.2s							
AP01	**Chacalluta**	**2.84**	**331**	*eP*	**Pn**	**19 35 54.1**	**+1.7**
AP01				*eS*	Sn	19 36 16.1	-10
AP01				IAML		19 36 45.3	
comp=Z,327nm,0.4s							
YJA	**Yavi**	**3.41**	**113**	*eP*	**Pn**	**19 36 02.8**	**+2.5**
LPAZ	**La Paz**	**4.62**	**9**	P	**Pn**	**19 36 19.3**	**+2.4**
comp=Z,9.8nm,0.3s,baz=172,slow=4.1,SNR=58							
LPAZ	**La Paz**	**4.62**	**9**	*eP*	**Pn**	**19 36 19.3**	**+2.4**
LPAZ	**La Paz**	**4.62**	**9**	*eP*	**Pn**	**19 36 17.6**	**+0.7**
AC01	**Pan de Azucar**	**5.47**	**196**	*eP*	**Pn**	**19 36 25.3**	**-2.5**
AC01				IAML		19 37 49.2	
comp=Z,160nm,0.7s							
BBSD	**Serra de San D**	**8.66**	**66**	*eP*	**Pn**	**19 37 07.9**	**-3.2**
SIV	**San Ignacio**	**8.88**	**58**	P	**Pn**	**19 37 11.2**	**-2.9**
comp=Z,12nm,0.5s,baz=247,slow=8.0,SNR=31							
PTLB	**Pontes e Lacer**	**10.73**	**61**	*eP*	**Pn**	**19 37 36.9**	**-2.3**
PDRB	**Porto dos Gac**	**14.87**	**54**	*eP*	**Pn**	**19 38 32.2**	**-1.2**
NPGB	**Novo Progresso**	**19.00**	**46**	*eP*	**P**	**19 39 20.3**	**-1.6**
BB19B	**Bebedouro**	**19.03**	**94**	*eP*	**P**	**19 39 22.0**	**-0.3**
SNDB	**Serra Nova Dou**	**19.05**	**65**	*eP*	**P**	**19 39 21.8**	**-0.7**
MACA	**Manacapuru-AM**	**19.34**	**26**	*eP*	**P**	**19 39 24.5**	**-1.2**
IPMB	**Ipameri, GO**	**19.72**	**85**	*eP*	**P**	**19 39 29.5**	**-0.3**
PLCA	**Paso Flores**	**19.84**	**184**	P	**Pn**	**19 39 32.9**	**-0.7**
comp=Z,1.5nm,0.8s,baz=10.0,slow=8.4,SNR=4.5							
PLCA	**Paso Flores**	**19.84**	**184**	*eP*	**Pn**	**19 39 32.8**	**-0.7**
ITTB	**Itaituba**	**20.81**	**40**	*eP*	**P**	**19 39 39.8**	**-1.7**
SMTB	**Santa Maria do**	**23.77**	**63**	*eP*	**P**	**19 40 10.5**	**-0.9**
JANB	**Januaria**	**24.08**	**80**	*eP*	**P**	**19 40 13.7**	**-0.5**
BOAV	**Boa Vista**	**24.55**	**21**	*eP*	**P**	**19 40 18.6**	**+0.3**
TXAR	**Lajitas Array**	**60.13**	**325**	P	**P**	**19 45 05.7**	**+0.8**
comp=Z,0.1nm,0.4s,baz=152,slow=4.8,SNR=2.1							
comp=Z,0.1nm,0.4s							
QSPA	**South Pole Qui**	**69.31**	**180**	P	**P**	**19 46 05.8**	**+1.7**
comp=Z,1.8nm,0.9s,baz=273,slow=1.3,SNR=9.1							
QSPA				pP	**pP**	**19 46 33.9**	**+1.5**
comp=Z,1.1nm,0.8s,baz=77,slow=2.1,SNR=2.2							
comp=Z,1.8nm,0.9s							
YKA	**Yellowknife Ar**	**90.61**	**341**	P	**P**	**19 47 59.2**	**+1.0**
comp=Z,0.6nm,0.9s,baz=134,slow=4.3,SNR=8.7							
YKA				pP	**pP**	**19 48 28.9**	**+1.3**
comp=Z,0.3nm,0.8s,baz=138,slow=4.5,SNR=2.6							
comp=Z,0.6nm,0.9s							
MKAR	**Makanchi Array**	**145.13**	**35**	PKP	**PKPdf**	**19 54 34.3**	**+0.9**
comp=Z,2.4nm,0.7s,baz=322,slow=3.7,SNR=30							
MKAR				pPKP	**pPKPdf**	**19 55 04.0**	**-0.3**
comp=Z,0.7nm,0.7s,baz=321,slow=3.2,SNR=4.1							

---

*ISK **22** 19:36:37.9, 37°.14N×28°.67E, h5km, ML4.2/33*
*AFAD **22** 19:36:38.5, 37°.12N×28°.68E, h7km±2km, MW4.3*
*IDC **22** 19:36:38.2±0.7, 37°.15N×28°.77E, h0km, mb4.1/18, mbtmp4.1/29, ML3.6/10, MS3.5/21, Error ellipse: s-maj=15.0km s-min=12.2km az=174.0*
*MED_RC **22** 19:36:39.0±0.3, 37°.14N×28°.78E, h10km, MW4.4/27, Moment Tensor Solution. Mantle waves: s27,c33; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}=3.61±.18; $M_{\theta\theta}$=3.29±.19; $M_{\phi\phi}$=0.32±.17; $M_{r\theta}$=3.13±.76; $M_{\theta\phi}$=0.57±.13; $M_{\phi r}$=-1.08±.83; Best double couple: M_0=4.80000×10^{15} NP1:ϕ_s=66.00000°, δ27.00000°, λ-119.00000°. NP2:ϕ_s=278.00000°, δ67.00000°, λ-76.00000°. Principal axes: T 4.5000, Plg21.0000°, Azm358.0000°; N 0.5900, Plg13.0000°, Azm93.0000°; P -5.0900, Plg65.0

AKAS Kas 1.15 140 P Pn 19 37 02.0 +0.2
AKAS S Sn 19 37 20.7 +2.9
IZMR zmir-demi 1.17 330 P Pg 19 37 00.5 -1.4
IZMR S Sg 19 37 16.9 -0.2
DIDI Didim-Aydin 1.19 283 Pn **Pg** 19 37 01.8 -0.4
DDIM Aydin, Didim 1.20 287 P Pb 19 37 01.0 -1.4
DDIM S Sb 19 37 18.9 +0.9
BRDR BURDUR-Merkez 1.23 62 P Pg 19 37 02.8 -0.3
ODEM Odemis-Izmir 1.25 337 Pn **Pn** 19 37 02.7 -0.5
GCAM G?zelcaml? 1.30 297 P Pn 19 37 03.1 -0.6
DEMR Demre-Antalya 1.32 132 Pn **Pg** 19 37 05.1 +0.4
BASM Basmaki-Afyon 1.34 53 Pn **Pb** 19 37 04.8 0.0
MANT Manisa 1.37 356 Pn 19 37 04.0 -0.9
MANT Manisa 1.37 356 P Pn 19 37 04.3 -0.7
MANT S Sb 19 37 21.6 -1.6
PASA Karahalli, USA 1.38 27 P Pn 19 37 03.9 -1.1
PASA S Sb 19 37 22.2 -1.0
KULA Kula-Manisa 1.39 359 Pn **Pn** 19 37 04.9 -0.2
BCK Bucak 1.55 77 Pn **Pb** 19 37 08.3 -0.1
ANTB Antalya 1.59 97 Pn **Pb** 19 37 08.8 -0.1
USAK Uak-Merkez 1.61 9 P Pn 19 37 08.4 +0.2
ISP Isparta 1.62 64 Pn **Pn** 19 37 08.8 +0.6
ISP Isparta 1.62 64 Pb 19 37 08.9 -0.6
ISP Isparta 1.62 64 P Pb 19 37 08.9 -0.6
ISP Isparta 1.62 64 S Sg 19 37 34.8 +3.4
GOMA Golmarmara-Man 1.70 339 Pn **Pn** 19 37 09.6 +0.4
GMLD Gumuldur 1.70 305 Pn **Pn** 19 37 10.3 +1.0
DGB zmir 1.71 303 P Pn 19 37 08.7 -0.7
BLCB Balcova 1.82 315 Pn **Pn** 19 37 11.4 +0.5
GORD Gordes-Manisa 1.83 347 Pn **Pn** 19 37 11.5 +0.4
AKS Akhisar 1.89 339 Pn **Pn** 19 37 12.3 +0.4
SHAP Saphane-Kutahy 1.94 12 Pn **Pn** 19 37 13.4 +0.7
SIMA Simav-Kutahya 1.97 7 Pn **Pn** 19 37 13.5 +0.4
SMAA Simav-Kutahya 1.99 7 Pn **Pn** 19 37 13.9 +0.6
KARP Karpathos 2.00 219 Pn **Pn** 19 37 14.5 +1.1
KARP Karpathos 2.00 219 Pn 19 37 14.6 +1.2
GEDZ Gediz 2.00 16 Pn **Pn** 19 37 14.2 +0.7
FOCM Foa 2.22 316 Pn **Pn** 19 37 16.9 +0.5
SOMA Soma-Manisa 2.23 336 Pn **Pn** 19 37 17.1 +0.6
DKL Dikili 2.40 325 Pn **Pn** 19 37 19.8 +0.9
APE Apeiranthos 2.53 270 Pn **Pn** 19 37 21.7 +1.0
APE Apeiranthos 2.53 270 ⇓P **Pn** 19 37 21.1 +0.4
APE Apeiranthos 2.53 270 P Pn 19 37 21.3 +0.6
APE Apeiranthos 2.53 270 S Sn 19 37 53.5 +1.9
BORA Eskisehir 3.08 26 Pn 19 37 29.7 +1.3
BAND Balkesir-Ban 3.26 352 ⇑P **Pn** 19 37 31.1 +0.4
IDI Anoyia 3.58 240 Pn 19 37 36.6 +1.5
IDI Anoyia 3.58 240 Pn **Pn** 19 37 37.5 +2.4
100nm,0.7s,baz=56,slow=13,SNR=73
IDI Sn **Sn** 19 38 20.4 +2.9
8.8nm,0.3s,baz=146,slow=23,SNR=7.8
MDUB Mudurnu 3.88 30 Pn 19 37 40.5 +1.2
CAVK Edirne/Enez-Ca 4.07 332 ⇓P **Pn** 19 37 42.8 +0.9
ANTO Ankara 4.23 48 Pn 19 37 45.5 +1.4
ANTO Ankara 4.23 48 ⇑P **Pn** 19 37 46.1 +2.0
ALN Alexandroupoli 4.30 332 Pn 19 37 45.1 +0.1
CSS Mathiatis 4.33 118 Pn 19 37 46.7 +1.2
CSS Mathiatis 4.33 118 P **Pn** 19 37 45.6 +0.1
BR131 Keskin Array S 4.68 55 Pn 19 37 51.4 +1.1
BRTR Keskin Array B 4.68 55 Pn 19 37 50.6 +0.3
BRTR Keskin Array B 4.68 55 Pn **Pn** 19 37 51.8 +1.4
4.8nm,0.3s,baz=235,slow=15,SNR=207
BRTR Sn **Sn** 19 38 48.9 +4.1
0.9nm,0.3s,baz=220,slow=23,SNR=12
BRTR LR LR 19 40 20.3
comp=Z,427nm,19.9s,baz=246,slow=48
38nm,0.8s
RDO Rodhopi 4.71 330 Pn 19 37 50.9 +0.3
AGG Agios Georgios 5.37 293 Pn 19 38 01.9 +2.2
LIT Litokhoron 5.69 303 Pn **Pn** 19 38 05.5 +1.3
BNN Bunyan 5.91 71 Pn 19 38 08.2 +0.9
SLUM Salum 6.31 208 P Pn 19 38 13.3 +0.7
MMC7 Mount Meron ar 6.85 125 P Pn 19 38 19.7 -0.4
OFRI `Ofer 6.85 129 P Pn 19 38 19.6 -0.4
OFRI `Ofer 6.85 129 S Sn 19 39 36.9 -1.2
MMA0B Mount Meron ar 6.86 125 P Pn 19 38 19.6 -0.6
MMA0B Mount Meron ar 6.86 125 S Sn 19 39 38.2 -0.3
MMAI Mount Meron Ar 6.86 125 Pn **Pn** 19 38 20.1 -0.2
9.1nm,0.3s,baz=307,slow=12,SNR=42
MMAI Sn **Sn** 19 39 38.0 -0.5
6.6nm,0.3s,baz=289,slow=33,SNR=7.4
MMAI LR LR 19 41 32.0
comp=Z,681nm,19.7s,baz=286,slow=43
33nm,0.6s
BLGI Bet Lehem HaGe 6.90 127 P Pn 19 38 20.6 -0.2
BLGI Bet Lehem HaGe 6.90 127 S Sn 19 39 38.7 -0.8
NATI Neve Ativ 6.93 122 P Pn 19 38 21.4 +0.2
NATI Neve Ativ 6.93 122 S Sn 19 39 40.4 +0.3
ICOR Ion Corvin 7.02 355 ⇓P **Pn** 19 38 23.0 +0.6
MFTR Murfatlar 7.05 358 ⇑P **Pn** 19 38 24.8 +2.1
SLTI Sal'it 7.14 131 P Pn 19 38 23.9 -0.2
SLTI Sal'it 7.14 131 S Sn 19 39 44.2 -1.2
MMLI Mount Malkishu 7.24 128 P Pn 19 38 25.1 -0.4
MMLI Mount Malkishu 7.24 128 S Sn 19 39 47.2 -0.7
TIRR Tirgusor 7.33 358 Pn 19 38 27.0 +0.4
TIRR Tirgusor 7.33 358 ⇑P **Pn** 19 38 28.2 +1.6
HMDT Nahal Hemdat 7.43 129 P Pn 19 38 27.9 -0.2
HMDT Nahal Hemdat 7.43 129 S Sn 19 39 51.7 -0.8
TLBR Topalu 7.43 356 ⇑P **Pn** 19 38 29.0 +1.0
HARR Harsova 7.58 356 ⇑P **Pn** 19 38 31.2 +1.1
AMAZ Amatzia 7.59 135 P Pn 19 38 30.1 -0.1
AMAZ Amatzia 7.59 135 S Sn 19 39 55.0 -1.4
UJAP Al Uja 7.60 131 P Pn 19 38 29.6 -0.7
UJAP Al Uja 7.60 131 S Sn 19 39 55.5 -1.1
KOT Kottamia 7.64 159 P Pn 19 38 30.8 -0.1
JURR Jurilovca 7.64 1 ⇑P **Pn** 19 38 31.3 +0.4
TPGR Topolog 7.73 359 ⇑P **Pn** 19 38 33.0 +0.9
KZIT Kziot 7.80 141 P Pn 19 38 31.6 -1.5
KZIT Kziot 7.80 141 S Sn 19 39 59.0 -2.6
DSI Dead Sea 7.83 133 P Pn 19 38 32.4 -1.1
DSI Dead Sea 7.83 133 S Sn 19 40 00.7 -1.4
YTIR Yattir 7.83 135 P Pn 19 38 32.9 -0.7
YTIR Yattir 7.83 135 S Sn 19 40 00.8 -1.5
MSBI Mazada 8.00 134 P Pn 19 38 34.9 -0.9
MSBI Mazada 8.00 134 S Sn 19 40 04.7 -1.7
TLCR 8.06 1 ⇑P **Pn** 19 38 37.6 +1.0
CFR Carcaliu 8.06 357 ⇓P **Pn** 19 38 37.2 +0.6
RYAN Fayoum 8.13 170 P Pn 19 38 35.5 -2.0
RYAN S **Sn** 19 40 01.1 -8.4
GHAJ Ghor Haditha 8.13 134 Pn 19 38 37.7 +0.2
GHAJ Ghor Haditha 8.13 134 P Pn 19 38 37.1 -0.4
GHAJ Ghor Haditha 8.13 134 S Sn 19 40 08.2 -1.3
SWA2 8.31 200 P Pn 19 38 37.7 -2.4
ASF Jabal al Asfar 8.37 124 Pn **Pn** 19 38 40.3 -0.7
0.8nm,0.3s,baz=328,slow=10,SNR=8.7
ASF LR LR 19 42 39.8
comp=Z,421nm,18.4s,baz=323,slow=43
4.0nm,0.5s
BOVS Bovan 8.41 323 ⇑P **Pn** 19 38 42.8 +1.4
NEGRR Negrea 8.43 356 ⇓P **Pn** 19 38 42.8 +1.1
ZNM Zenema 8.48 154 P Pn 19 38 43.0 +0.6
PRNI Paran 8.55 140 P Pn 19 38 42.6 -0.8
PRNI Paran 8.55 140 S Sn 19 40 17.5 -2.7
SCTR Scanteiesti 8.56 357 ⇓P **Pn** 19 38 45.2 +1.7
KRMI Paran Flat 8.61 143 P Pn 19 38 43.1 -1.1
KRMI Paran Flat 8.61 143 S Sn 19 40 18.7 -2.7
MLR Muntele Rosu 8.61 347 Pn **Pn** 19 38 43.9 -0.4
0.2nm,0.3s,baz=121,slow=2.3,SNR=6.5
16nm,1.1s
MLR Muntele Rosu 8.61 347 ⇓P **Pn** 19 38 43.9 -0.4
VLDR Vladesti 8.73 357 ⇑P **Pn** 19 38 46.4 +0.6
VOIR 8.75 343 ⇓P **Pn** 19 38 47.4 +1.3
NBNS Bani Suef 8.75 165 P Pn 19 38 45.9 -0.3
HRFI Mount Harif 8.83 141 P Pn 19 38 46.4 -0.8
HRFI Mount Harif 8.83 141 S Sn 19 40 24.7 -2.1
PLOR Plostina 8.86 351 ⇓P **Pn** 19 38 49.4 +1.5
VRI Vrincioaia 8.86 351 ⇑P **Pn** 19 38 49.3 +1.7
COVR Voineasa-Covas 8.91 349 ⇑P **Pn** 19 38 50.0 +1.7
MBRI Mt Berech 8.96 143 P Pn 19 38 47.9 -1.3
MBRI Mt Berech 8.96 143 S Sn 19 40 27.7 -2.6
EIL Elat 9.09 143 Pn **Pn** 19 38 49.5 -1.2
2.5nm,0.3s,baz=354,slow=5.2,SNR=18
EIL Sn **Sn** 19 40 28.3 -4.9
1.2nm,0.3s,baz=9.9,slow=22,SNR=3.8
13nm,0.6s
EIL Elat 9.09 143 P Pn 19 38 49.2 -1.5
EIL Elat 9.09 143 S Sn 19 40 30.5 -2.7
LOT Lotru 9.11 338 ⇑P **Pn** 19 38 51.9 +0.8
DOPR Dopca 9.18 345 ⇓P **Pn** 19 38 52.7 +0.7
OZUR 9.23 347 ⇑P **Pn** 19 38 52.6 -0.1
MDVR Moldovita 9.29 328 ⇑P **Pn** 19 38 54.3 +0.7

ONER Baraj Valea Uz 9.37 350 ⇑P **Pn** 19 38 55.9 +1.4
GZR Gura Zlata 9.38 334 ⇑P **Pn** 19 38 54.4 -0.4
TESR Tescani 9.51 351 ⇑P **Pn** 19 38 57.2 +0.8
TAMRE El Minia 9.60 168 P Pn 19 38 57.9 +0.2
HKAT Jabal Katrina 9.66 151 P Pn 19 38 56.8 -2.0
MILM Milestii Mici 9.79 0 *eP* **Pn** 19 39 00.6 +0.3
MILM Milestii Mici 9.79 0 *e*PP Pn 19 39 06.0 +5.7
MILM *eL* L 19 42 47.0
MILM LRM MLR 19 43 20.0
600nm,16.0s
HFRF Wahat Farafira 9.95 182 P Pn 19 39 02.0 -0.6
BURAR Bucovina Array 10.80 347 Pn **Pn** 19 39 14.7 +0.5
BURAR Bucovina Array 10.80 347 ⇓P **Pn** 19 39 16.2 +2.0
BUR08 Bucovina Ar. S 10.83 347 Pn 19 39 15.5 +0.8
SORM Soroca 11.01 359 ⇓P **Pn** 19 39 18.3 +1.3
HDK1 Dakhla 11.56 177 P Pn 19 39 26.1 +1.5
KVAR Kislovodsk Arr 12.64 53 Pn **Pn** 19 39 40.7 +1.2
baz=275,slow=11
1.8nm,0.7s
KBZ Khabaz 12.67 54 Pn **Pn** 19 39 41.5 +1.8
0.1nm,0.3s,baz=283,slow=9.0,SNR=5.6
KBZ LR LR 19 44 37.5
comp=Z,73nm,19.6s,baz=231,slow=38
1.0nm,0.8s
GNI Garni 12.91 72 Pn **Pn** 19 39 47.1 +4.0
0.2nm,0.3s,baz=199,slow=12,SNR=4.6
GNI LR LR 19 45 02.8
comp=Z,45nm,18.1s,baz=260,slow=39
38nm,1.4s
AKASG Malin Array Be 13.58 1 Pn **Pn** 19 39 50.9 -1.3
0.2nm,0.3s,baz=189,slow=13,SNR=6.3
AKASG LR LR 19 46 08.2
comp=Z,202nm,19.5s,baz=182,slow=42
SOKA Soboth 13.93 318 *i* P **P** 19 40 03.3 -2.0
7.2nm,1.6s
RONA Rosalia, Austr 13.97 323 *eP* **Pn** 19 40 01.6 +4.1
7.4nm,1.5s
ARSA Arzberg 14.04 320 *eP* **Pn** 19 40 02.5 +4.0
7.3nm,1.3s
OBKA Obir 14.09 316 *i* P **P** 19 40 05.1 -2.0
9.4nm,1.7s
JAVC Velka Javorina 14.22 329 *e*PN **P** 19 40 10.4 +2.0
CONA Conrad Observa 14.34 323 *i* P **P** 19 40 07.8 -1.9
5.6nm,1.6s
OJC Ojcow 14.57 337 P 19 40 12.8 +0.5
KRUC Moravsky 14.91 327 *e*PN **P** 19 40 17.4 +1.4
VRAC Vranov 15.01 328 LR LR 19 46 50.6
comp=Z,158nm,18.1s,baz=124,slow=41
VRAC Vranov 15.01 328 *e*PN **P** 19 40 18.4 +1.2
MOA Molln 15.08 320 *eP* **Pn** 19 40 14.4 +1.8
5.7nm,1.3s
KBA Koelnbreinsper 15.10 316 *i* Pn **Pn** 19 40 12.3 -0.7
12nm,1.3s
BIOA Bad Ischl, Aus 15.31 318 *i* P **Pn** 19 40 17.0 +1.4
7.9nm,1.1s
ABTA Abfaltersbach 15.38 314 *eP* **Pn** 19 40 18.9 +2.3
7.7nm,1.7s
KEST Kesra 15.64 271 Pn **Pn** 19 40 21.3 +1.3
0.2nm,0.3s,baz=49,slow=14,SNR=6.0
6.4nm,1.0s
LESA Schwarzleotal 15.67 316 *eP* **P** 19 40 24.0 -0.6
8.9nm,1.4s
GEC2 GERESS Array S 16.02 322 IAmb IAmb 19 40 34.4
comp=Z,22nm,1.4s
GERES GERESS Array B 16.02 322 P 19 40 28.6 +0.2
GERES GERESS Array B 16.02 322 Pn **Pn** 19 40 26.1 +1.2
comp=Z,0.3nm,0.4s,baz=134,slow=11,SNR=10
WTTA Wattenberg 16.17 314 *e*pP **P** 19 40 31.0 +0.9
comp=Z,6.2nm,1.1s
WATA Walderalm 16.24 314 *e*pP **P** 19 40 32.3 +1.3
comp=Z,7.0nm,1.2s
KHC Kasperske Hory 16.27 322 *eP* **Pn** 19 40 28.7 +0.7
SQTA Sankt Quirin 16.39 313 *i* P **P** 19 40 32.4 -0.1
comp=Z,8.9nm,1.8s
MOTA Moosalm 16.52 314 *i* P **P** 19 40 33.9 -0.2
comp=Z,5.5nm,1.2s
FETA Feichten 16.57 312 *i* pP pP 19 40 36.8 -0.5
comp=Z,5.1nm,1.4s
FUORN Ofenpass-Fuorn 16.65 311 P P 19 40 37.2 +1.6
RETA Reutte 16.79 314 *i* P **P** 19 40 36.5 -0.5
comp=Z,6.2nm,1.5s
DAVA Damuels 17.20 312 *i* Pn **Pn** 19 40 36.8 -3.3
comp=Z,2.0nm,0.7s
SUW Suwalki 17.32 349 P Pn 19 40 42.0 +0.8
BRG Berggiesshubel 17.32 327 *eP* **P** 19 40 45.7 +3.0
BRG Amp 19 40 50.2
comp=Z,11nm,1.5s
MNK Minsk 17.39 358 *i* P **Pn** 19 40 40.4 -1.7
comp=E,7.0nm,1.1s
MNK *i* P **Pn** 19 40 40.4 -1.7
comp=N,6.0nm,0.8s
MNK *i* P **Pn** 19 40 40.4 -1.7
comp=Z,4.0nm,0.6s,baz=178
MNK *i* PP **PnPn** 19 40 50.5 -1.7
MNK *i* PPP PPP 19 40 58.2
MNK *i* S **Sn** 19 43 52.8 -2.9
MNK *i* SS **SnSn** 19 44 09.5 +0.4
MNK *i* SSS SSS 19 44 28.8
MNK *i* LR LR 19 47 09.1
MNK *i* LRM MLR 19 47 53.9
comp=N,85nm,15.1s
MNK *i* LRM MLR 19 48 00.5
comp=Z,298nm,17.1s
MNK *i* LRM MLR 19 48 12.2
comp=E,195nm,14.6s
NACGM Naroch 17.84 356 *eP* **Pn** 19 40 46.9 -0.7
comp=N,4.0nm,1.2s
CLL Collm 18.04 327 *i* P **P** 19 40 53.1 +2.4
CLL *es*PP 19 41 06.0
CLL AMS AMS 19 48 00.0
comp=N,200nm,19.1s
CLL AMS AMS 19 48 00.0
comp=E,100nm,20.4s
CLL AMS AMS 19 48 00.0
comp=Z,200nm,18.2s
BFO Black Forest 18.63 313 Pn 19 40 58.3 +0.9
BFO IAmb IAmb 19 41 07.7
comp=Z,12nm,1.1s
ECH Echery 19.26 312 P 19 41 04.8 +0.7
RAYN Ar Rayn 19.82 128 P 19 41 10.1 -0.3
RAYN IAmb IAmb 19 41 16.3
comp=Z,15nm,1.2s
BELG Belogornoye 20.25 35 P P 19 41 14.2 -0.6
comp=Z,20nm,0.8s,baz=326,slow=4.0,SNR=5.6
BELG LR LR 19 51 22.1
comp=Z,69nm,18.8s,baz=212,slow=44
comp=Z,20nm,0.8s
FINES FINESS Array B 24.40 357 P P 19 41 58.2 +0.3
comp=Z,5.2nm,0.8s,baz=155,slow=9.5,SNR=14
FINES LR LR 19 52 11.7
comp=Z,157nm,19.3s,baz=191,slow=38
comp=Z,5.2nm,0.8s
TAM Tamarasset 24.55 241 P 19 41 59.9 +0.2
HFS Hagfors 24.95 342 P P 19 42 02.0 -0.8
comp=Z,2.3nm,0.8s,baz=162,slow=19,SNR=4.5
HFS LR LR 19 53 25.1
comp=Z,273nm,18.8s,baz=156,slow=40
comp=Z,2.3nm,0.8s
KIRV Kirov 25.38 26 LR LR 19 52 15.9
comp=Z,68nm,19.6s,baz=248,slow=37
AB31 Akbulak array 25.62 52 P 19 42 08.8 -0.2
AB31 IAmb IAmb 19 42 39.5
comp=Z,7.6nm,1.4s
ABKAR Akbulak array 25.62 52 P 19 42 08.8 -0.2
ABKAR IAmb IAmb 19 42 39.5
comp=Z,7.6nm,1.4s
ESDC Sonseca Array 25.64 286 P P 19 42 10.0 +0.6
comp=Z,3.0nm,0.9s,baz=73,slow=9.8,SNR=11
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 26.36 341 P P 19 42 15.9 +0.2
comp=Z,0.8nm,0.8s,baz=144,slow=8.7,SNR=3.5
NOA LR LR 19 53 10.9
comp=Z,85nm,21.2s,baz=150,slow=38
comp=Z,0.8nm,0.8s
ARCES ARCESS Array B 32.52 358 LR LR 19 56 53.8
comp=Z,100nm,22.0s,baz=168,slow=37
BVAR Borovoye Array 32.92 48 P P 19 43 13.7 -0.2
comp=Z,0.8nm,0.8s,baz=259,slow=3.9,SNR=4.2
BVAR LR LR 19 59 23.3
comp=Z,78nm,18.2s,baz=243,slow=42
comp=Z,0.8nm,0.8s
TORD Torodi Ar. Bea 33.94 232 P P 19 43 23.0 -0.1
KURBB Kurchatov Arra 37.66 53 P P 19 43 55.0 +0.3
comp=Z,2.5nm,0.8s,baz=276,slow=8.8,SNR=25
KURBB PP **PnPn** 19 45 22.6 +1.2
comp=Z,0.9nm,1.1s,baz=270,slow=12,SNR=5.9
KURBB PcP **PcP** 19 46 12.6 +0.7
comp=Z,1.5nm,0.8s,baz=266,slow=4.1,SNR=10
comp=Z,2.5nm,0.8s
KURK Kurchatov 37.73 53 P P 19 43 55.1 -0.2
KURK IAmb IAmb 19 43 56.2
comp=Z,3.7nm,0.9s
MKAR Makanchi Array 40.31 59 P P 19 44 16.9 -0.1
MKAR Makanchi Array 40.31 59 P P 19 44 15.7 -1.3
comp=Z,1.4nm,0.8s,baz=287,slow=6.2,SNR=14
MKAR PcP **PcP** 19 46 20.9 +0.5
comp=Z,1.3nm,0.8s,baz=290,slow=3.5,SNR=7.0
comp=Z,1.4nm,0.8s
ZALV Zalesovo Beam 41.58 48 P P 19 44 26.0 -1.3
comp=Z,0.9nm,0.2s,baz=270,slow=8.9,SNR=5.1
ZALV LR LR 20 03 51.5
comp=Z,45nm,18.5s,baz=326,slow=39
comp=Z,0.9nm,0.2s
DBIC Dimbokro 43.02 234 P P 19 44 38.3 -1.1
comp=Z,5.5nm,1.0s,baz=349,slow=6.8,SNR=3.4
comp=Z,5.5nm,1.0s
NRIK Noril'sk 44.89 25 P P 19 44 54.5 +0.7
comp=Z,1.3nm,0.4s,baz=24,slow=2.1,SNR=3.6
NRIK LR LR 20 03 19.8
comp=Z,29nm,21.3s,baz=314,slow=36
comp=Z,1.3nm,0.4s
SFJD Kangerlussuaq 52.35 331 LR LR 20 09 40.6
comp=Z,70nm,18.3s,baz=128,slow=38
PALK Pallekele 55.69 109 LR LR 20 13 48.0
comp=Z,77nm,18.9s,baz=238,slow=40
SONM Songino Array 56.03 53 P P 19 46 18.0 -0.6
comp=Z,0.5nm,0.7s,baz=288,slow=9.4,SNR=3.4
SONM PcP **PcP** 19 47 17.4 +0.7
comp=Z,0.8nm,0.9s,baz=284,slow=2.6,SNR=3.9
comp=Z,0.5nm,0.7s
TIXI Tiksi 58.31 21 P P 19 46 35.1 +1.0
comp=Z,5.3nm,0.3s,baz=347,slow=3.1,SNR=5.7
comp=Z,5.3nm,0.3s
YAK Yakutsk 62.74 31 LR LR 20 19 35.1
comp=Z,62nm,18.6s,baz=287,slow=41
CMAR Chiang Mai Arr 63.55 86 P P 19 47 09.2 -1.3
comp=Z,0.6nm,0.8s,baz=299,slow=7.6,SNR=6.8
comp=Z,0.6nm,0.8s
SUR Sutherland 69.53 187 LR LR 20 23 09.8
comp=Z,47nm,18.5s,baz=333,slow=40
KSRS Korea Array 74.82 54 P P 19 48 20.4 +0.2
comp=Z,1.1nm,0.8s,baz=313,slow=4.1,SNR=4.4
KSRS LR LR 20 23 53.5
comp=Z,26nm,21.4s,baz=70,slow=38
comp=Z,1.1nm,0.8s
ILAR Eielson Array 78.38 358 P P 19 48 40.2 +0.4
comp=Z,0.3nm,0.8s,baz=359,slow=4.2,SNR=4.5
comp=Z,0.3nm,0.8s
MJAR Matsushiro Arr 81.89 50 P P 19 48 59.4 +0.1
comp=Z,4.9nm,1.0s,baz=316,slow=4.4,SNR=9.4
comp=Z,4.9nm,1.0s
BDFB Brasilia 89.08 250 P P 19 49 36.0 +0.6
comp=Z,1.1nm,0.3s,baz=36,slow=5.0,SNR=4.8
comp=Z,1.1nm,0.3s

IDC 22 19:45:34.5±14.0, 17°.15S×179°.80E, h540km±55km, mb3.2/3, mbtmp4.2/3, Error ellipse: s-maj=310.5km s-min=97.7km az=79.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.77**	**251**	P	P	P	19 46 42.4	0.0
	0.9nm,0.7s,baz=92,slow=4.1,SNR=17							
STKA	**Stephens Creek**	**37.51**	**240**	P	P	P	19 52 02.6	-0.1
	1.8nm,0.4s,baz=93,slow=9.6,SNR=9.7							
	1.8nm,0.4s							
WRA	**Warramunga Arr**	**43.09**	**259**	P	P	P	19 52 47.1	-0.4
	0.3nm,0.3s,baz=91,slow=8.2,SNR=15							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**43.36**	**254**	P	P	P	19 52 49.5	0.0
	3.9nm,0.5s,baz=89,slow=8.0,SNR=122							
	3.9nm,0.5s							

IDC 22 19:45:48.7±2.4, 50°.29N×115°.00W, h0km, mbtmp2.9/2, ML3.1/2, Error ellipse: s-maj=70.1km s-min=14.4km az=73.0, British Columbia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.46**	**215**	I	I	I	20 00 20.0	
	0.1nm,1.0s,baz=36,slow=319,SNR=5.7							
PDAR	**Pinedale Array**	**8.40**	**151**	Pn	Pn	Pn	19 47 52.9	+1.1
	0.1nm,0.3s,baz=337,slow=11,SNR=2.7							
PDAR				Lg	Lg	Lg	19 50 10.4	
	baz=354,slow=30,SNR=2.4							
	0.4nm,0.8s							
YKA	**Yellowknife Ar**	**12.24**	**1**	Pn	Pn	Pn	19 48 39.9	-4.1
	0.1nm,0.3s,baz=182,slow=16,SNR=7.3							
YKA				Sn	Sn	Sn	19 50 48.9	-12
	0.1nm,0.3s,baz=178,slow=27,SNR=2.3							
YKA				Lg	Lg	Lg	19 52 10.2	
	baz=181,slow=29							
	0.3nm,0.5s							

IDC 22 19:49:25.9±3.1, 51°.27N×158°.63E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=58.6km s-min=36.3km az=161.0

ISC 22 19:49:27.0±1.6, 51°.3N±0°.1×158°.6E±0°.2, h10km, n6, σ1°.26/7, mb3.6/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**1.93**	**343**	Pn	**Pb**		**19 50 00.9**	**-1.4**
	2.6nm,0.3s,baz=125,slow=18,SNR=37							
PETK				Sn	**Sg**		**19 50 30.5**	**+1.4**
	3.7nm,0.3s,baz=157,slow=19,SNR=6.7							
TIXI	**Tiksi**	**24.40**	**338**	P	**P**		**19 54 44.0**	**-1.1**
	baz=130,slow=9.7,SNR=5.6							
ILAR	**Eielson Array**	**30.77**	**43**	P	**P**		**19 55 42.7**	**+0.5**
	0.2nm,0.6s,baz=274,slow=8.6,SNR=1.7							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**48.04**	**302**	P	**P**		**19 58 06.8**	**+0.7**
	0.7nm,0.7s,baz=63,slow=7.6,SNR=4.9							
	0.7nm,0.7s							
MKAR	**Makanchi Array**	**48.14**	**296**	P	**P**		**19 58 07.6**	**+0.6**
	0.2nm,0.5s,baz=58,slow=6.2,SNR=4.1							
	0.2nm,0.5s							
BVAR	**Borovoye Array**	**50.82**	**309**	P	**P**		**19 58 27.6**	**+0.3**
	0.5nm,0.4s,baz=49,slow=6.8,SNR=7.2							
	0.5nm,0.4s							

TAP 22 19:59:37.6, 23°.90N×121°.67E, h46km, ML2.3, C

ISC 22 19:59:36.0±0.8, 23°.88N±0°.02×121°.71E±0°.03, h14km, n77, σ1°.09/125, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SHUL	**Shoufeng**	**0.17**	**235**	*e*P		Pb	19 59 45.8	+4.9
SHUL				*e*S		Sb	19 59 52.6	+8.4
ETM	**Tongmen**	**0.22**	**292**	P		Pb	19 59 45.3	+3.5
TWD	**Chiawan**	**0.22**	**332**	*e*P		Pb	19 59 45.0	+3.1
TWD				*e*S		**Sb**	**19 59 51.9**	**+6.1**
TEGC	**Jichi Village**	**0.23**	**222**	*e*P		Pb	19 59 45.8	+3.7
TEGC				*e*S		Sb	19 59 53.4	+7.3
ESL	**Shilin**	**0.26**	**255**	P		Pb	19 59 45.6	+3.0
ESL				*e*S		**Sb**	**19 59 51.1**	**+4.1**
ETL	**Fush Village**	**0.29**	**344**	*e*P		**Pn**	**19 59 46.0**	**+0.1**
LXIB	**Xiulin Townshi**	**0.30**	**297**	P		**Pn**	**19 59 46.0**	**-0.3**
LXIB				S		**Sn**	**19 59 52.6**	**0.0**
NACB	**Ninganchiao**	**0.31**	**340**	P		**Pn**	**19 59 45.9**	**-0.3**
NACB	**Ninganchiao**	**0.31**	**340**	P		**Pn**	**19 59 46.0**	**-0.1**
NACB				*e*S		**Sn**	**19 59 52.9**	**+0.3**
EGFH	**Guangfu**	**0.34**	**231**	*e*P		**Pn**	**19 59 46.5**	**-0.1**
EGFH				*e*S		**Sn**	**19 59 52.8**	**-0.3**
WARBT	**Fenglin Townsh**	**0.34**	**241**	P		**Pn**	**19 59 46.3**	**-0.3**
WARBT				*e*S		**Sn**	**19 59 52.4**	**-0.9**
ETLH	**Xiulin Townshi**	**0.38**	**327**	*e*P		**Pn**	**19 59 46.7**	**-0.6**
EAHA	**Aohua**	**0.44**	**3**	*e*P		**Pn**	**19 59 47.7**	**-0.3**
EAHA				*e*S		**Sn**	**19 59 55.8**	**-0.1**
HGSD	**Ruisui**	**0.47**	**214**	*e*P		**Pn**	**19 59 49.0**	**+0.6**
HGSD				*e*S		**Sn**	**19 59 57.4**	**+0.9**
WHF	**Hehuan Shan**	**0.48**	**303**	*e*P		**Pn**	**19 59 48.3**	**-0.7**
WHF				*e*S		**Sn**	**19 59 56.2**	**-1.3**
OWD	**Renai**	**0.49**	**278**	P		**Pn**	**19 59 48.5**	**-0.4**
OWD				*e*S		**Sn**	**19 59 55.9**	**-1.4**
EHY	**Hungye**	**0.52**	**224**	*e*P		**Pn**	**19 59 49.0**	**-0.1**
VWDT	**VWDT**	**0.54**	**256**	*e*P		**Pn**	**19 59 49.2**	**-0.1**
VWDT				*e*S		**Sn**	**19 59 57.5**	**-0.7**
ENA	**Nanau**	**0.54**	**3**	*e*P		**Pn**	**19 59 49.1**	**-0.3**

ENA			eS	Sn	19 59 57.6	-0.7
WUSB	**Renai**	**0.55 281**	P	Pn	19 59 49.3	-0.4
WUSB			S	Sn	19 59 57.5	-1.3
FUSS	**Fushou**	**0.56 310**	eP	Pn	19 59 49.4	-0.5
FUSS			eS	Sn	19 59 57.8	-1.3
EWUT	**Wuta**	**0.56 6**	eP	Pn	19 59 49.4	-0.2
EWUT			eS	Sn	19 59 58.4	-0.3
EOS4	**EOS4**	**0.60 67**	eP	Pn	19 59 49.9	+0.1
EOS4			eS	Sn	19 59 59.3	+0.1
TWT	**Tachien**	**0.61 307**	P	Pn	19 59 50.4	-0.1
TWT			S	Sn	19 59 59.1	-1.1
YULB	**Yu-li**	**0.62 218**	P	Pn	19 59 51.6	+1.2
YULB	**Yu-li**	**0.62 218**	eP	Pn	19 59 49.3	-1.1
YULB			eS	Sn	19 59 57.9	-2.3
NNSB	**Datong**	**0.62 331**	eP	Pn	19 59 49.9	-0.7
NNSB			eS	Sn	19 59 58.9	-1.5
TDCB	**Techi**	**0.63 306**	P	Pn	19 59 50.2	-0.4
TDCB			S	Sn	19 59 59.0	-1.6
NNS	**Nan Shan**	**0.64 331**	eP	Pn	19 59 50.3	-0.5
NNS			eS	Sn	19 59 59.6	-1.2
EYUL	**Yuli**	**0.64 214**	eP	Pn	19 59 51.1	+0.4
TWF1	**Yuli**	**0.65 216**	eP	Pn	19 59 50.1	-0.7
LATG	**Datong**	**0.67 345**	eP	Pn	19 59 50.5	-0.8
LATG			eS	Sn	20 00 00.8	-0.8
EOS3	**EOS3**	**0.68 54**	P	Pn	19 59 51.6	+0.5
EOS3			eS	Sn	20 00 02.1	+0.6
ESAO	**Su ao**	**0.70 10**	eP	Pn	19 59 51.4	-0.1
ESAO			eS	Sn	20 00 01.6	-0.6
SSLB	**Suanglung**	**0.70 262**	P	Pn	19 59 51.1	-0.5
SSLB	**Suanglung**	**0.70 262**	S	Sn	20 00 00.7	-1.5
SSLB	**Suanglung**	**0.70 262**	eP	Pn	19 59 51.0	-0.6
SSLB			eS	Sn	20 00 00.9	-1.3
EOS2	**EOS2**	**0.71 42**	eP	Pn	19 59 52.2	+0.6
EOS2			eS	Sn	20 00 03.4	+1.1
TWC	**Suao**	**0.73 10**	P	Pn	19 59 52.2	+0.2
TWC			S	Sn	20 00 02.8	-0.2
SMLT	**Sun Moon Lake**	**0.74 270**	eP	Pn	19 59 51.0	-1.3
SMLT			eS	Sn	20 00 01.6	-1.8
WCS	**Beigang Elemen**	**0.75 283**	eP	Pn	19 59 51.9	-0.3
WCS			eS	Sn	20 00 03.6	+0.2
ENTT	**Nioudou**	**0.77 350**	P	Pn	19 59 51.8	-0.7
ENTT			eS	Sn	20 00 02.6	-1.2
TYC	**Yuchr**	**0.78 272**	eP	Pn	19 59 52.6	-0.1
TYC			eS	Sn	20 00 03.4	-0.7
WHP	**Taichung City**	**0.80 299**	eP	Pn	19 59 53.6	+0.6
WHP			eS	Sn	20 00 04.1	-0.8
WHYT	**Xinyi Township**	**0.81 257**	eP	Pn	19 59 53.6	+0.5
WHYT			eS	Sn	20 00 04.1	-0.8
TWE	**Neicheng**	**0.83 357**	eP	Pn	19 59 53.0	-0.4
YHNB	**Yeheng**	**0.84 339**	P	Pn	19 59 53.1	-0.5
YHNB	**Yeheng**	**0.84 339**	S	Sn	20 00 03.6	-2.2
YHNB	**Yeheng**	**0.84 339**	P	Pn	19 59 53.0	-0.5
YHNB			S	Sn	20 00 04.1	-1.7
NSK	**Sanguang**	**0.85 338**	P	Pn	19 59 53.3	-0.4
NSK			eS	Sn	20 00 04.0	-2.0
FUSB	**Fushanzhiwuyua**	**0.88 353**	eP	Pn	19 59 53.6	-0.4
FUSB			eS	Sn	20 00 05.3	-1.4
WJS	**Zhushan**	**0.90 266**	eS	Sn	20 00 07.1	-0.1
ALS	**Alishan**	**0.91 246**	eP	Pn	19 59 55.0	+0.3
ALS			eS	Sn	20 00 06.9	-0.8
NWLT	**Wulai**	**0.91 348**	eP	Pn	19 59 54.0	-0.5
NWLT			eS	Sn	20 00 05.6	-1.8
NFF	**Wufeng Townshi**	**0.92 324**	eP	Pn	19 59 54.8	+0.2
NFF			eS	Sn	20 00 07.3	-0.4
ELDTW	**Lidau**	**0.94 223**	eP	Pn	19 59 54.2	-0.8
ELDTW			eS	Sn	20 00 06.6	-1.6
WNT	**Mingjian**	**0.94 270**	eS	Sn	20 00 08.4	+0.3
EDH	**Donghe**	**0.98 203**	eP	Pn	19 59 55.4	0.0
EDH			eS	Sn	20 00 08.4	-0.7
NSTT	**Nanjuang**	**0.99 319**	eP	Pn	19 59 56.4	+0.9
NSTT			eS	Sn	20 00 08.6	-0.7
LIOB	**Emei**	**0.99 320**	eP	Pn	19 59 56.3	+0.7
LIOB			eS	Sn	20 00 09.4	+0.1
KSHI	**Guanxi Townshi**	**1.01 331**	eP	Pn	19 59 56.6	+0.8
WGK	**Gukeng**	**1.07 260**	eP	Pn	19 59 57.4	+0.8
WGK			eS	Sn	20 00 12.2	+0.9
TIPB	**Shuangxi**	**1.09 5**	eP	Pg	19 59 57.0	-0.1
TIPB			eS	Sn	20 00 11.8	-0.1
WDLH	**Douliu**	**1.09 260**	eS	Sn	20 00 12.3	+0.5
WCKO	**Fanlu**	**1.11 247**	eP	Pg	19 59 57.8	+0.3
WCKO			eS	Sn	20 00 12.7	+0.4
STYH	**Taoyuan**	**1.11 231**	eP	Pg	19 59 56.3	-1.2
STYH			eS	Sn	20 00 10.7	-1.7
TPUB	**Ta-pu**	**1.15 240**	P	Pg	19 59 58.6	+0.4
TPUB	**Ta-pu**	**1.15 240**	S	Sn	20 00 13.5	+0.2
TPUB	**Ta-pu**	**1.15 240**	eP	Pg	19 59 58.2	0.0
TPUB			S	Sn	20 00 13.5	+0.2
CHN4	**Tsaushan**	**1.16 243**	eP	Pg	19 59 58.9	+0.6
CHN4			eS	Sn	20 00 14.4	+1.0
WTP	**Ta-pu**	**1.19 238**	eP	Pg	19 59 58.7	-0.3
TWGBT	**Beinan**	**1.21 209**	P	Pg	20 00 00.2	+0.8
SXI1	**Grass Mountain**	**1.22 7**	eP	Pg	19 59 59.3	-0.2
TWK	**Hsinying**	**1.28 242**	eP	Pg	19 59 59.8	-0.9
TWK			eS	Sg	20 00 16.9	-0.5
CHN1	**Nanshi**	**1.29 238**	eP	Pg	20 00 00.1	-0.8
CHN1			eS	Sg	20 00 17.5	-0.2
SGST	**Jiashian**	**1.31 233**	eP	Pg	19 59 59.5	-1.8
SGST			eS	Sg	20 00 17.2	-1.1
YOJ	**Yonaguni jima**	**1.32 64**	eP	Pb	19 59 59.2	-1.3
YOJ			eS	Sb	20 00 17.0	-0.4

*IDC **22** 20:05:39.5±1.5, 50°.16N×130°.10W, h0km, mb3.8/4, mbtmp3.6/10, ML3.3/6, MS3.4/5, Error ellipse: s-maj=25.9km s-min=15.5km az=79.0*

ISC 22 20:05:41.4±1.2, 50°.32N±0°.09×130°.1W±0°.1, h10km, n18, σ0°.79/11, mb3.8/4, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**2.23**	**33**	Pn	**Pn**	**20 06 18.8**	**+0.3**
BBB	16nm,0.3s,baz=220,slow=6.5,SNR=55			Sn	**Sn**	**20 06 46.0**	**-0.1**
	4.4nm,0.3s,baz=313,slow=22,SNR=3.2 87nm,0.5s						
NEW	**Newport**	**8.71**	**99**	LR	LR	20 11 07.2	
	comp=Z,271nm,19.4s,baz=322,slow=38						
YBH	**Yreka Blue Hor**	**9.99**	**146**	LR	LR	20 11 35.8	
	comp=Z,78nm,19.5s,baz=346,slow=36						
ELK	**Elko**	**14.10**	**127**	LR	LR	20 13 38.7	
	comp=Z,81nm,20.7s,baz=316,slow=34						
NVAR	**Mina Array Bea**	**14.54**	**140**	Pn	**Pn**	**20 09 07.0**	**-0.3**
	0.1nm,0.3s,baz=311,slow=9.6,SNR=4.9 0.3nm,0.4s						
YKA	**Yellowknife Ar**	**14.84**	**29**	Pn	**Pn**	**20 09 09.8**	**-1.4**
	baz=222,slow=12,SNR=21 1.7nm,0.9s						
KDAK	**Kodiak Island**	**15.14**	**308**	LR	LR	20 13 36.1	
	comp=Z,111nm,18.4s,baz=330,slow=31						
PDAR	**Pinedale Array**	**15.97**	**110**	Pn	**Pn**	**20 09 26.7**	**+0.4**
	0.1nm,0.3s,baz=306,slow=8.9,SNR=14 0.7nm,0.7s						
ILAR	**Eielson Array**	**16.98**	**335**	P	**P**	**20 09 41.0**	**+0.4**
	baz=150,slow=11,SNR=7.9 0.6nm,0.8s						
INK	**Inuvik**	**18.12**	**356**	P	**P**	**20 09 54.2**	**+1.0**
	baz=171,slow=12,SNR=5.0 1.4nm,0.9s						
ULM	**Lac du Bonnet**	**21.74**	**77**	P	**P**	**20 10 33.9**	**+1.2**
	3.2nm,0.8s,baz=281,slow=9.8,SNR=5.0 3.2nm,0.8s						
TXAR	**Lajitas Array**	**28.90**	**127**	P	**P**	**20 11 40.2**	**-0.3**
	0.7nm,1.0s,baz=328,slow=12,SNR=4.1 0.7nm,1.0s						
LPIG	**La Paz**	**30.34**	**142**	LR	LR	20 22 23.0	
	comp=Z,760nm,21.8s,baz=126,slow=33						
H11N2	**WAKE ISLAND Hy**	**57.90**	**262**	T	T	21 18 12.1	
	baz=42,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**57.90**	**262**	T	T	21 18 11.4	
	baz=42,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**57.92**	**262**	T	T	21 18 13.3	
	baz=42,slow=76,SNR=18						
FINES	**FINESS Array B**	**66.96**	**12**	P	**P**	**20 16 33.8**	**+0.2**
	1.4nm,0.8s,baz=342,slow=12,SNR=3.7 1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**76.52**	**342**	P	**P**	**20 17 31.0**	**-0.3**
	0.6nm,0.8s,baz=22,slow=5.7,SNR=3.9 0.6nm,0.8s						

*MOS **22** 20:15:22.5±1.2, 16°.34N×98°.48W, h11km, mb5.5/21, MS5.0/4, Error ellipse: s-maj=10.1km s-min=6.0km az=99.2*

*MEX **22** 20:15:23.1±0.6, 15°.96N×98°.67W, h16km±10km, MD5.5*

*IDC **22** 20:15:23.1±0.6, 16°.39N×98°.34W, h0km, mb4.7/26, mbtmp4.7/30, ML4.3/3, MS4.7/46, Error ellipse: s-maj=21.9km s-min=10.5km az=55.0*

*NEIC **22** 20:15:24.9±2.2, 16°.36N±0°.05×98°.49W±0°.05, h12km±2km, mb5.3/665, Mww5.4/38, Md5.5/180(MEX), Error ellipse: s-maj=8.0km s-min=5.4km az=219.0*

*GCMT **22** 20:15:24.9±0.1, 16°.16N±0°.01×98°.54W±0°.01, h12km, MW5.3/139, Moment Tensor Solution. s110,c164; s139,c247; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.94±.01; $M_{\theta\theta}$-0.80±.01; $M_{\phi\phi}$-0.14±.01; $M_{r\theta}$0.60±.03; $M_{\theta\phi}$0.29±.01; $M_{\phi r}$-0.45±.04; Best double couple: $M_0$1.19200×10^{17} NP1:ϕ_s282.00000°, δ26.00000°, λ74.00000°. NP2:ϕ_s121.00000°, δ65.00000°, λ98.00000°. Principal axes: T 1.2190, Plg69.0000°, Azm47.0000°; N -0.0550, Plg7.0000°, Azm297.0000°; P -1.1640, Plg19.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **22** 20:15:26.4, 16°.38N×98°.38W, h26km*

*NEIC **22** 20:15:26.4, 15°.99N×98°.00W, h26km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.17; $M_{\theta\theta}$-1.28; $M_{\phi\phi}$0.11; $M_{r\theta}$0.27; $M_{\theta\phi}$0.39; $M_{\phi r}$-0.61; Fault plane solution: $M_0$1.45000×10^{17} NP1: ϕ_s263.67000°, δ40.10000°, λ55.19000°. NP2: ϕ_s125.94000°, δ58.08000°, λ115.67000°. Principal axes: T 1.4491, Plg66.0000°, Azm85.0000°; N 0.0041, Plg22.0000°, Azm292.0000°; P -1.4532, Plg10.0000°, Azm198.0000°;*

ISC 22 20:15:22.2±0.8, 16°.14N±0°.03×98°.60W±0°.02, h6km±4km, n986, σ2°.02/807, mb5.3/338, MS4.9/65, 35C-10D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.52**	**61**		**Pb**	**20 15 33.8**	**0.0**
PNIG	**Pinotepa**	**0.52**	**61**	eP	**Pb**	**20 15 33.8**	**0.0**
PNIG				eS	**Sb**	**20 15 42.7**	**+1.1**
CRIG	**Cruz Grande**	**0.78**	**319**		**Pg**	**20 15 36.4**	**-0.8**
CRIG					**Sg**	**20 15 46.8**	**-0.5**
CRIG	**Cruz Grande**	**0.78**	**319**	eP	**Pg**	**20 15 36.4**	**-0.8**
CRIG				eS	**Sg**	**20 15 46.8**	**-0.5**
MGIG	**Malinaltepec**	**1.08**	**358**		**Pg**	**20 15 42.7**	**-0.4**
MGIG					**Sn**	**20 15 58.5**	**-1.2**
MGIG	**Malinaltepec**	**1.08**	**358**	eP	**Pg**	**20 15 42.7**	**-0.4**
MGIG				eS	**Sn**	**20 15 58.5**	**-1.2**
YOIG	**Yosondua**	**1.23**	**55**		**Pg**	**20 15 45.0**	**-0.9**
YOIG					**Sg**	**20 16 01.3**	**-0.7**
YOIG	**Yosondua**	**1.23**	**55**	eP	**Pg**	**20 15 45.0**	**-0.9**
YOIG				eS	**Sg**	**20 16 01.3**	**-0.7**
DAIG	**Los Arroyos**	**1.33**	**311**		**Pn**	**20 15 44.2**	**-3.2**
DAIG					**Sb**	**20 16 01.6**	**-3.5**
DAIG	**Los Arroyos**	**1.33**	**311**	eP	**Pn**	**20 15 44.2**	**-3.2**
DAIG				eS	**Sb**	**20 16 01.6**	**-3.5**
TXIG	**Tlaxiaco**	**1.36**	**36**		**Pn**	**20 15 47.1**	**-1.0**
TXIG					**Sn**	**20 16 09.4**	**+2.8**
TXIG	**Tlaxiaco**	**1.36**	**36**	eP	**Pn**	**20 15 47.1**	**-1.0**
TXIG				eS	**Sn**	**20 16 09.4**	**+2.8**
VNTA	**La Mica**	**1.40**	**303**	eP	**Pn**	**20 15 45.4**	**-3.0**
VNTA				eS	**Sb**	**20 16 01.1**	**-5.8**
PEIG	**Puerto Escondi**	**1.40**	**96**		**Pn**	**20 15 45.7**	**-2.7**
PEIG					**Sb**	**20 16 01.5**	**-5.6**
PEIG	**Puerto Escondi**	**1.40**	**96**	eP	**Pn**	**20 15 45.7**	**-2.7**
PEIG				eS	**Sb**	**20 16 01.5**	**-5.6**
TLIG	**Tlapa**	**1.41**	**1**	Pn	**Pn**	**20 15 47.1**	**-1.6**
TLIG	**Tlapa**	**1.41**	**1**	eP	**Pn**	**20 15 47.7**	**-0.9**
TLIG				eS	**Sn**	**20 16 09.0**	**+1.3**
ACP2	**Acapulco**	**1.43**	**301**		**Pn**	**20 15 48.6**	**-0.2**
ACP2					**Sg**	**20 16 09.0**	**+0.6**
ACP2	**Acapulco**	**1.43**	**301**	eP	**Pn**	**20 15 48.6**	**-0.2**
ACP2				eS	**Sg**	**20 16 09.0**	**+0.6**
HMTT	**Tlapaneco**	**1.65**	**1**		**Pg**	**20 15 56.3**	**+2.5**
HMTT					**Sg**	**20 16 15.9**	**+0.7**
HMTT	**Tlapaneco**	**1.65**	**1**	eP	**Pg**	**20 15 56.3**	**+2.5**
HMTT				eS	**Sg**	**20 16 15.9**	**+0.7**
FTIG	**Fresnillo de T**	**1.81**	**14**		**Pn**	**20 15 53.8**	**-0.3**
FTIG					**Sg**	**20 16 19.8**	**-0.7**
FTIG	**Fresnillo de T**	**1.81**	**14**	eP	**Pn**	**20 15 53.8**	**-0.3**
FTIG				eS	**Sg**	**20 16 19.8**	**-0.7**
CAIG	**El Cayaco**	**1.83**	**300**		**Pn**	**20 15 51.0**	**-3.4**
CAIG					**Sn**	**20 16 11.8**	**-6.2**
CAIG	**El Cayaco**	**1.83**	**300**	eP	**Pn**	**20 15 51.0**	**-3.4**
CAIG				eS	**Sn**	**20 16 11.8**	**-6.2**
HLIG	**Huajuapan de L**	**1.84**	**24**		**Pn**	**20 15 54.1**	**-0.5**
HLIG					**Sb**	**20 16 18.8**	**-1.2**
HLIG	**Huajuapan de L**	**1.84**	**24**	eP	**Pn**	**20 15 54.1**	**-0.5**
HLIG				eS	**Sb**	**20 16 18.8**	**-1.2**
OXIG	**Oaxaca**	**2.01**	**62**		**Pn**	**20 15 56.1**	**-0.9**
OXIG					**Sn**	**20 16 22.5**	**-0.2**
VHO	**Vista Hermosa**	**2.01**	**62**	eP	**Pn**	**20 15 56.1**	**-0.9**
VHO				eS	**Sn**	**20 16 22.5**	**-0.1**
MEIG	**Mezcala**	**2.02**	**331**		**Pn**	**20 15 56.1**	**-1.0**
MEIG					**Sn**	**20 16 21.5**	**-1.3**
MEIG	**Mezcala**	**2.02**	**331**	eP	**Pn**	**20 15 56.1**	**-1.0**
MEIG				eS	**Sn**	**20 16 21.5**	**-1.3**
ATYC	**Atoyac**	**2.05**	**301**	eP	**Pb**	**20 15 59.2**	**-0.7**
ATYC				eS	**Sn**	**20 16 22.2**	**-1.1**
PLIG	**Platanillo**	**2.40**	**339**		**Pn**	**20 16 02.1**	**-0.1**
PLIG					**Sn**	**20 16 32.9**	**+0.9**
PLIG	**Platanillo**	**2.40**	**339**	eP	**Pn**	**20 16 02.1**	**-0.1**
PLIG				eS	**Sn**	**20 16 32.9**	**+0.9**
HUIG	**Huatulco**	**2.42**	**99**		**Sn**	**20 16 27.0**	**-5.5**
HUIG	**Huatulco**	**2.42**	**99**	eP	**Pn**	**20 16 00.2**	**-2.3**
HUIG				eS	**Sn**	**20 16 27.0**	**-5.5**
TOIG	**Toxpalan**	**2.43**	**37**		**Pn**	**20 16 01.8**	**-0.9**
TOIG					**Sb**	**20 16 34.7**	**-2.2**
TOIG	**Toxpalan**	**2.43**	**37**	eP	**Pn**	**20 16 01.8**	**-0.9**
TOIG				eS	**Sb**	**20 16 34.7**	**-2.2**
TPIG	**Tehuac#an**	**2.55**	**27**		**Pn**	**20 16 03.8**	**-0.6**
TPIG					**Sn**	**20 16 37.3**	**+1.4**
TPIG	**Tehuac#an**	**2.55**	**27**	eP	**Pn**	**20 16 03.8**	**-0.6**
TPIG				eS	**Sn**	**20 16 37.3**	**+1.4**
ARIG	**Puente Sto Nin**	**2.70**	**322**		**Pn**	**20 16 05.8**	**-0.5**
ARIG					**Sn**	**20 16 37.9**	**-1.5**
ARIG	**Puente Sto Nin**	**2.70**	**322**	eP	**Pn**	**20 16 05.8**	**-0.5**
ARIG				eS	**Sn**	**20 16 37.9**	**-1.5**
YAIG	**Yautepec**	**2.74**	**351**		**Pn**	**20 16 06.4**	**-0.5**
YAIG					**Sn**	**20 16 39.5**	**-1.1**
YAIG	**Yautepec**	**2.74**	**351**	eP	**Pn**	**20 16 06.4**	**-0.5**
YAIG				eS	**Sn**	**20 16 39.5**	**-1.1**
PET2	**Petatlan**	**2.90**	**299**	eP	**Pn**	**20 16 06.8**	**-2.2**
PET2				eS	**Sn**	**20 16 40.6**	**-3.7**
PPIG	**Popocatepetl**	**2.91**	**359**		**Pn**	**20 16 09.6**	**0.0**
PPIG					**Sb**	**20 16 49.2**	**-1.7**
PPM	**Popocatepetl**	**2.91**	**359**	eP	**Pn**	**20 16 09.6**	**0.0**
PPM				eS	**Sb**	**20 16 49.2**	**-1.7**
MPVM	**San Francisco**	**3.07**	**353**	e	**Pb**	**20 16 17.8**	**+0.4**
MPVM				eS	**Sb**	**20 16 52.4**	**-2.8**
TLVM	**San Miguel Top**	**3.10**	**350**	e	**Pn**	**20 16 11.9**	**-0.1**
TLVM				e		20 16 57.4	
NEUV	**Arroyo Zacate**	**3.10**	**59**	eP	**Pn**	**20 16 10.9**	**-0.9**
NEUV				eS	**Sn**	**20 16 50.5**	**+1.3**
ZIIG	**Zihuatanejo**	**3.11**	**298**		**Pn**	**20 16 09.7**	**-2.1**
ZIIG					**Sn**	**20 16 43.7**	**-5.6**
ZIIG	**Zihuatanejo**	**3.11**	**298**	eP	**Pn**	**20 16 09.7**	**-2.1**
ZIIG				eS	**Sn**	**20 16 43.7**	**-5.6**
XCVM	**Xochimilco**	**3.13**	**351**	eP	**Pn**	**20 16 11.3**	**-1.1**
XCVM				eS	**Sb**	**20 16 55.0**	**-2.2**
THVM	**De Xico**	**3.17**	**354**	eP	**Pn**	**20 16 13.5**	**+0.5**
THVM				eS	**Sb**	**20 16 55.2**	**-3.0**
AOVM	**Tlapan**	**3.18**	**348**		**Pn**	**20 16 13.6**	**+0.2**
AOVM					**Sn**	**20 16 54.3**	**+2.4**
AOVM	**Tlapan**	**3.18**	**348**	eP	**Pn**	**20 16 13.6**	**+0.2**
AOVM				eS	**Sn**	**20 16 54.3**	**+2.4**
UNM	**Universidad Na**	**3.21**	**350**		**Pn**	**20 16 13.0**	**-0.6**
UNM	**Universidad Na**	**3.21**	**350**	eP	**Pn**	**20 16 13.8**	**+0.2**
UNM				eS	**Sn**	**20 16 52.5**	**0.0**
UNM	**Universidad Na**	**3.21**	**350**	P	**Pn**	**20 16 13.0**	**-0.6**
INVM	**La Marquesa**	**3.22**	**347**	eP	**Pn**	**20 16 13.5**	**-0.3**
INVM				eS	**Sn**	**20 16 50.5**	**-2.2**
COVM	**Coyoacan**	**3.23**	**351**	eP	**Pn**	**20 16 16.1**	**+2.3**
COVM				e		20 16 20.9	
COVM				eS	**Sn**	**20 16 47.2**	**-5.7**
COVM				eS	**Sb**	**20 16 55.6**	**-4.4**
BJVM	**Benito Juarez**	**3.26**	**350**	e	**Pb**	**20 16 20.4**	**-0.3**
BJVM				eS	**Sn**	**20 16 53.8**	**+0.3**
CJVM	**Cuajimalpa**	**3.27**	**349**	e	**Pb**	**20 16 20.2**	**-0.7**
CJVM				eS	**Sn**	**20 16 56.5**	**+2.8**
TXVM	**Universitario**	**3.29**	**355**	eP	**Pb**	**20 16 18.1**	**-3.0**
TXVM				eS	**Sn**	**20 16 54.4**	**+0.2**
VRVM	**Mexico City**	**3.29**	**351**	eP	**Pn**	**20 16 16.8**	**+2.1**
VRVM				eS	**Sn**	**20 16 55.7**	**+1.4**
MHVM	**Bosque de Chap**	**3.30**	**350**	eP	**Pn**	**20 16 15.3**	**+0.5**
MHVM				eS	**Sn**	**20 16 55.5**	**+1.0**
PBVM	**Pinon**	**3.31**	**352**		**Pn**	**20 16 15.0**	**+0.4**
PBVM					**Sn**	**20 16 55.3**	**+0.9**
PBVM	**Pinon**	**3.31**	**352**	eP	**Pn**	**20 16 15.0**	**+0.4**
PBVM				eS	**Sn**	**20 16 55.3**	**+0.9**
CTVM	**Cuauhtemoc**	**3.33**	**351**	e	**Pb**	**20 16 21.0**	**-0.8**
CTVM				eS	**Sb**	**20 16 58.9**	**-3.8**
APVM	**Azcapotzalco**	**3.38**	**350**		**Pn**	**20 16 17.9**	**+2.1**
APVM					**Sn**	**20 16 51.5**	**-5.0**
APVM	**Azcapotzalco**	**3.38**	**350**	eP	**Pn**	**20 16 17.9**	**+2.1**
APVM				eS	**Sn**	**20 16 51.5**	**-5.0**
UON	**La Union**	**3.57**	**301**	eP	**Pn**	**20 16 18.6**	**+0.3**
UON				eS	**Sn**	**20 17 02.5**	**+1.7**
JAUV	**Jalcomulco**	**3.63**	**28**	e	**Pn**	**20 16 17.7**	**-1.5**
JAUV				e		20 17 10.3	
CMIG	**Matias Romero**	**3.68**	**75**		**Pn**	**20 16 18.0**	**-1.8**
CMIG					**Sn**	**20 17 00.9**	**-2.8**
CMIG	**Matias Romero**	**3.68**	**75**	eP	**Pn**	**20 16 18.0**	**-1.8**
CMIG				eS	**Sn**	**20 17 00.9**	**-2.8**
ACIG	**Acambay**	**4.00**	**342**		**Pn**	**20 16 25.7**	**+1.3**
ACIG					**Sn**	**20 17 12.2**	**+0.4**
ACIG	**Acambay**	**4.00**	**342**	eP	**Pn**	**20 16 25.7**	**+1.3**
ACIG				eS	**Sn**	**20 17 12.2**	**+0.4**
PMUV	**Sontecomapan**	**4.09**	**54**	eP	**Pn**	**20 16 23.2**	**-2.3**
PMUV				eS	**Sn**	**20 17 15.9**	**+2.2**
CXUV	**Coxquihui**	**4.12**	**13**	e	**Pn**	**20 16 24.7**	**-1.1**
CXUV				e		20 17 06.5	
LVIG	**Laguna Verde**	**4.12**	**30**	eP	**Pn**	**20 16 23.2**	**-2.6**
LVIG				eS	**Sb**	**20 17 20.1**	**-5.2**
DHIG	**Demacu**	**4.16**	**354**		**Pn**	**20 16 26.3**	**-0.2**
DHIG					**Sn**	**20 17 20.2**	**+4.6**
DEIG	**Demacu**	**4.16**	**354**	eP	**Pn**	**20 16 26.3**	**-0.3**
DEIG				eS	**Sn**	**20 17 20.2**	**+4.6**
MOIG	**Morelia**	**4.29**	**325**		**Pn**	**20 16 28.6**	**+0.2**
MOIG	**Morelia**	**4.29**	**325**	eP	**Pn**	**20 16 29.1**	**+0.7**
MOIG				eS	**Sn**	**20 17 16.1**	**-2.9**
TUIG	**Tuzandepetl**	**4.41**	**64**	eP	**Pn**	**20 16 28.2**	**-1.6**
TUIG				eS	**Sn**	**20 17 18.6**	**-3.1**
UXUV	**UXUV**	**4.42**	**74**	eP	**Pn**	**20 16 28.4**	**-1.5**
UXUV				eS	**Sn**	**20 17 16.4**	**-5.5**
JRQG	**Juriquilla Cam**	**4.86**	**339**	Pn	**Pn**	**20 16 36.7**	**+0.5**
JRQG	**Juriquilla Cam**	**4.86**	**339**	eP	**Pn**	**20 16 36.6**	**+0.3**
JRQG				eS	**Sn**	**20 17 33.5**	**+0.4**
MMIG	**Aquila**	**5.01**	**296**		**Pn**	**20 16 35.8**	**-2.3**
MMIG					**Sn**	**20 17 37.7**	**+1.3**
MMIG	**Aquila**	**5.01**	**296**	eP	**Pn**	**20 16 35.8**	**-2.3**
MMIG				eS	**Sn**	**20 17 37.7**	**+1.3**
PCIG		**5.19**	**94**		**Pn**	**20 16 39.4**	**-1.2**
PCIG					**Sn**	**20 17 36.0**	**-4.9**
PCIG		**5.19**	**94**	eP	**Pn**	**20 16 39.4**	**-1.2**
PCIG				eS	**Sn**	**20 17 36.0**	**-4.9**
IGIG	**Irapuato, Guan**	**5.26**	**331**		**Pn**	**20 16 40.6**	**-1.2**
IGIG					**Sn**	**20 17 45.4**	**+2.5**
IGIG	**Irapuato, Guan**	**5.26**	**331**	eP	**Pn**	**20 16 40.6**	**-1.2**
IGIG				eS	**Sn**	**20 17 45.4**	**+2.5**
TGIG		**5.29**	**82**		**Pn**	**20 16 40.8**	**-1.2**
TGIG					**Sn**	**20 17 38.3**	**-5.1**
TGIG		**5.29**	**82**	eP	**Pn**	**20 16 40.8**	**-1.2**
TGIG				eS	**Sn**	**20 17 38.3**	**-5.1**
CTUV	**Llano Grande**	**5.30**	**2**	eP	**Pn**	**20 16 40.0**	**-2.1**
CTUV				eS	**Sn**	**20 17 47.5**	**+3.9**
INCO	**Volcan de Coli**	**5.83**	**306**	eP	**Pn**	**20 16 50.3**	**+0.6**
INCO				eS	**Sn**	**20 17 59.0**	**+1.7**
SOMAC	**Volcano de Col**	**5.85**	**306**	eP	**Pn**	**20 16 49.7**	**-0.3**
SOMAC				eS	**Sn**	**20 17 56.2**	**-1.4**
RPIG	**Rio Verde**	**5.86**	**347**		**Pn**	**20 16 49.3**	**-0

0.2nm,0.3s,baz=148,slow=24,SNR=4.0
TXAR LR LR 20 24 04.3
comp=Z,2µm,20.2s,baz=156,slow=38
11nm,0.9s
TXAR Lajitas Array 13.93 341 P **Pn 20 18 41.9 +1.4**
HKT Hockley 13.97 10 *i* P **Pn 20 18 42.4 +1.5**
HKT pmax pmax
comp=Z,109nm,1.4s
CSIG Choix 13.98 321 Pn 20 18 38.2 -2.9
CSIG **Sn 20 21 12.6 -4.1**
CSIG Choix 13.98 321 *e*P **Pn 20 18 38.2 -2.9**
CSIG *e*S **Sn 20 21 12.6 -4.1**
SAND Sanderson 14.12 347 Pn 20 18 44.8 +1.8
JCT Junction City 14.31 356 Pn 20 18 44.9 -0.7
JCT Junction City 14.31 356 P **Pn 20 18 44.9 -0.7**
ESPN Las Esperanzas 14.41 104 Pn 20 18 46.5 -0.4
ESPN Las Esperanzas 14.41 104 P **Pn 20 18 48.4 +1.4**
comp=Z,2µmcomp=Z,72nm,1.4s
JTS Las Juntas de 14.50 112 Pn **Pn 20 18 50.2 +2.0**
JTS Las Juntas de 14.50 112 Pn **Pn 20 18 49.6 +1.4**
comp=Z,1.6nm,0.3s,baz=319,slow=11,SNR=11
comp=Z,7.8nm,0.4s
JTS Las Juntas de 14.50 112 P **Pn 20 18 50.2 +2.0**
435B Jarrell 14.60 3 Pn **Pn 20 18 48.8 -0.7**
OZNA Ozona 14.89 352 Pn 20 18 53.7 +0.2
ALPN Alpine 14.90 343 Pn 20 18 54.4 +0.7
BRDY Brady 15.08 359 Pn 20 18 54.5 -1.5
NATX Nacogdoches 15.95 12 IAmb IAmb 20 19 12.3
comp=Z,219nm,1.0s
SOR Soroa 16.11 63 Pn 20 19 09.8 +0.2
SOR Soroa 16.11 63 P **Pn 20 19 09.8 +0.2**
SOR pmax pmax
comp=Z,15nm,0.9s
FW13 Cleburne 16.17 4 IAmb IAmb 20 19 15.3
comp=Z,230nm,1.1s
ABTX Abilene, Hawle 16.43 357 IAmb IAmb 20 19 18.6
comp=Z,267nm,0.9s
FW07 Weatherford 16.50 2 IAmb IAmb 20 19 19.1
comp=Z,496nm,1.4s
HSIG 17.14 321 P **P 20 19 23.6 -0.6**
Z35A Perchaven, San 17.16 4 IAmb IAmb 20 19 25.8
comp=Z,208nm,1.1s
Z38A Mt. Pleasant 17.35 10 IAmb IAmb 20 19 28.2
comp=Z,260nm,1.0s
DKNS Dickens 17.57 354 IAmb IAmb 20 19 30.9
comp=Z,174nm,0.8s
Z41A Richland Creek 17.83 16 IAmb IAmb 20 19 34.3
comp=Z,308nm,1.1s
146A Union 18.56 26 IAmb IAmb 20 19 41.4
comp=Z,218nm,1.2s
DUN6 Lazy B Ranch 18.91 332 IAmb IAmb 20 19 47.2
comp=Z,248nm,1.1s
W35A Tecumseh 18.99 4 IAmb IAmb 20 19 54.0
comp=Z,176nm,1.0s
Y22D IRIS PASSCAL I 19.36 339 P **Pn 20 19 51.2 +1.2**
baz=154
Y45A Yeager Farm, C 19.44 23 IAmb IAmb 20 19 52.4
comp=Z,314nm,1.3s
TUC Tucson 19.53 328 P **P 20 19 50.5 -0.2**
TUC Tucson 19.53 328 P **P 20 19 50.5 -0.2**
TUC pmax pmax
comp=Z,60nm,1.1s
OK029 Liberty Lake 19.60 3 IAmb IAmb 20 19 54.7
comp=Z,482nm,1.7s
DEOK Depew 19.71 5 IAmb IAmb 20 19 53.8
comp=Z,146nm,1.0s
OK052 Battle Ridge R 19.83 4 IAmb IAmb 20 19 54.6
comp=Z,175nm,0.9s
TUL3 Leonard 19.84 7 IAmb IAmb 20 19 57.3
comp=Z,129nm,0.9s
ANMO Albuquerque 20.00 341 P **Pn 20 19 57.2 -0.5**
ANMO Albuquerque 20.00 341 P **Pn 20 19 57.7 0.0**
comp=Z,1.7nm,0.3s,baz=315,slow=12,SNR=86
comp=Z,41nm,0.9s
QUOK Quay 20.02 4 IAmb IAmb 20 20 05.3
comp=Z,160nm,1.1s
OXF Oxford 20.07 23 IAmb IAmb 20 20 02.4
comp=Z,272nm,1.1s
MTDJ Mount Denham 20.23 81 P **P 20 19 57.6 -0.8**
MTDJ IAmb IAmb 20 20 05.4
comp=Z,262nm,1.2s
OK048 Pawnee Station 20.25 4 P **P 20 19 57.4 -0.9**
OK048 IAmb IAmb 20 20 07.0
comp=Z,292nm,1.1s
OK038 West end E0370 20.25 360 IAmb IAmb 20 19 59.6
comp=Z,140nm,0.9s
CROK Carrier 20.29 1 IAmb IAmb 20 20 04.1
comp=Z,179nm,0.9s
OK051 E0350 and S346 20.34 4 IAmb IAmb 20 20 14.6
comp=Z,232nm,1.1s
NOKA Waynoka 20.41 359 P **P 20 19 59.7 -0.5**
NOKA IAmb IAmb 20 20 01.6
comp=Z,144nm,0.9s
HHAR Hobbs 20.48 11 IAmb IAmb 20 20 06.2
comp=Z,110nm,1.0s
RTBA Rita Blanca 20.55 350 IAmb IAmb 20 20 04.2
comp=Z,188nm,0.9s
U38A Gravette 20.56 10 IAmb IAmb 20 20 06.7
comp=Z,128nm,0.9s
Y49A Blount Mountai 20.78 30 IAmb IAmb 20 20 04.9
comp=Z,91nm,0.9s
KAN13 South Haven SW 20.81 3 IAmb IAmb 20 20 09.9
comp=Z,261nm,1.1s
KAN17 Caldwell West 20.83 2 IAmb IAmb 20 20 10.0
comp=Z,154nm,1.0s
SFX San Felipe 20.97 318 P **P 20 20 06.5 +0.2**
SFX IAmb IAmb 20 20 09.8
comp=Z,166nm,1.6s
CHIV Chivirico 21.43 76 P **P 20 20 09.6 -1.7**
CHIV IAmb IAmb 20 20 21.3
comp=Z,144nm,1.1s
113A Mohawk Valley, 21.51 323 IAmb IAmb 20 20 16.9
comp=Z,403nm,1.9s
X16A Lo Mia Camp, P 21.55 330 IAmb IAmb 20 20 25.9
comp=Z,139nm,1.0s
154A Montrose 21.59 38 IAmb IAmb 20 20 17.0
comp=Z,109nm,0.9s
MGMO Mountain Grove 21.67 14 IAmb IAmb 20 20 18.8
comp=Z,159nm,1.0s
T42A Van Buren 21.84 16 IAmb IAmb 20 20 19.8
comp=Z,209nm,1.1s
Y14A Wickenburg 21.96 326 IAmb IAmb 20 20 21.6
comp=Z,157nm,1.3s
Y52A Lilburn 21.97 34 IAmb IAmb 20 20 21.7
comp=Z,103nm,1.0s
WVT Waverly 22.10 24 P **P 20 20 15.3 -2.9**
WVT Waverly 22.10 24 P **P 20 20 15.4 -2.9**
WVT pmax pmax
comp=Z,250nm,1.0s
X51A Calhoun 22.11 31 IAmb IAmb 20 20 26.6
comp=Z,196nm,1.3s
SWET Sewanee 22.12 28 IAmb IAmb 20 20 18.8
comp=Z,110nm,0.9s
R32A Long Quarter, 22.19 360 IAmb IAmb 20 20 22.4
comp=Z,158nm,1.0s
ESJX Sierra Juarez 22.31 318 IAmb IAmb 20 20 37.8
comp=Z,181nm,1.8s
GLA Glamis 22.33 322 IAmb IAmb 20 20 28.7
comp=Z,126nm,1.2s
W50A Signal Mountai 22.39 30 IAmb IAmb 20 20 29.8
comp=Z,171nm,1.1s
CGM3 Cape Girardeau 22.51 19 IAmb IAmb 20 20 25.0
comp=Z,151nm,0.9s
CBKS Cedar Bluff 22.61 358 IAmb IAmb 20 20 37.6
comp=Z,122nm,1.0s
GTBY Guantanamo Bay 22.64 77 P **P 20 20 20.2 -4.1**
CLTN Cedars of Leba 22.67 27 IAmb IAmb 20 20 32.5
comp=Z,132nm,1.3s
YUH Yuha Desert 22.72 319 P **P 20 20 25.2 +0.2**
CCM Cathedral Cave 22.77 15 P **P 20 20 22.4 -3.1**
CCM IAmb IAmb 20 20 37.1
comp=Z,120nm,1.1s
CCM Cathedral Cave 22.77 15 P **P 20 20 22.4 -3.1**
CCM pmax pmax
comp=Z,120nm,1.1s
NMDO Nuevo Mundo 22.83 75 P **P 20 20 24.2 -2.1**
NMDO IAmb IAmb 20 20 44.5
comp=Z,140nm,1.4s
FVM French Village 22.92 17 IAmb IAmb 20 20 28.8
comp=Z,149nm,1.1s
CBX Cerro Bola 22.98 318 IAmb IAmb 20 20 33.0
comp=Z,192nm,1.6s
CPCT Cooper Cave 22.98 31 IAmb IAmb 20 20 37.2
comp=Z,92nm,1.0s
W52A Murphy 22.99 32 IAmb IAmb 20 20 29.1
comp=Z,144nm,1.0s
U49A Red Boiling Sp 23.27 27 IAmb IAmb 20 20 32.1
comp=Z,141nm,1.1s
W13A Hualapai Mount 23.32 327 IAmb IAmb 20 20 36.6
comp=Z,127nm,1.4s
TKL Tuckaleechee C 23.51 31 P **P 20 20 33.3 +0.1**
comp=Z,23nm,0.8s,baz=218,slow=6.3,SNR=14
comp=Z,23nm,0.8s
PV01 Paradox Valley 23.60 340 IAmb IAmb 20 20 38.5
comp=Z,139nm,1.1s
PFO Pinyon Flats O 23.71 320 P **P 20 20 35.8 +0.6**
PFO IAmb IAmb 20 20 39.0
comp=Z,142nm,1.5s
PFO Pinyon Flats O 23.71 320 P **P 20 20 36.9 +1.7**
comp=Z,11nm,0.8s,baz=131,slow=12,SNR=25
PFO LR LR 20 30 16.6
comp=Z,3µm,18.9s,baz=131,slow=38
comp=Z,11nm,0.8s
PFO Pinyon Flats O 23.71 320⇑ *i*P **P 20 20 37.0 +1.8**
PFO pmax pmax
comp=Z,182nm,1.7s
PV13 Radium Mtn., P 23.71 340 IAmb IAmb 20 20 38.5
comp=Z,129nm,1.1s
PV05 Paradox Valley 23.73 339 IAmb IAmb 20 20 38.7
comp=Z,166nm,1.3s
PV03 Paradox Valley 23.80 340 IAmb IAmb 20 20 38.0
comp=Z,89nm,1.0s
P38A Dawn 23.81 10 IAmb IAmb 20 20 36.8
comp=Z,115nm,0.9s
PV12 Saucer Basin, 23.84 340 IAmb IAmb 20 20 37.8
comp=Z,148nm,1.0s
JSC Jenkinsville 23.86 38 IAmb IAmb 20 20 45.6
comp=Z,122nm,1.5s
PV17 East Wray Mesa 23.86 340 IAmb IAmb 20 20 40.6
comp=Z,134nm,1.2s
PV16 Nyswonger Mesa 23.88 340 IAmb IAmb 20 20 40.8
comp=Z,64nm,0.9s
PV19 Morning Glory 23.90 340 IAmb IAmb 20 20 40.9
comp=Z,87nm,1.1s
PV07 Paradox Valley 23.90 340 P **P 20 20 37.8 +0.7**
PV07 IAmb IAmb 20 20 39.5
comp=Z,145nm,1.2s
PAULI Pauline 23.92 36 IAmb IAmb 20 20 47.1
comp=Z,83nm,1.2s
PV14 Lion Creek, Pa 23.97 340 IAmb IAmb 20 20 39.0
comp=Z,126nm,1.3s
V53A Saluda 24.02 33 IAmb IAmb 20 20 47.4
comp=Z,175nm,1.4s
UREC San Jos de Ur 24.04 108 P **P 20 20 40.2 +1.8**
comp=Z,3µmcomp=Z,49nm,1.8s
PV21 Cone Mtn., Par 24.12 340 IAmb IAmb 20 20 43.2
comp=Z,148nm,1.3s
Y57A Sumter 24.19 39 IAmb IAmb 20 20 41.0
comp=Z,82nm,0.9s
V12A Nelson 24.30 326 P **P 20 20 41.9 +1.1**
KNB Kanab 24.31 331 IAmb IAmb 20 20 53.5
comp=Z,72nm,0.9s
ELS Elsinore Mount 24.33 319 P **P 20 20 41.8 +0.8**
KMSC Kings Mountain 24.43 36 IAmb IAmb 20 20 42.2
comp=Z,150nm,1.4s
WCI Wyandotte Cave 24.52 24 P **P 20 20 41.9 -0.8**
WCI Wyandotte Cave 24.52 24 P **P 20 20 41.9 -0.8**
WCI pmax pmax
comp=Z,1µm,1.9s
V55A Taylorsville 25.01 35 IAmb IAmb 20 20 56.8
comp=Z,139nm,1.4s
GSC Goldstone, Bar 25.08 323 IAmb IAmb 20 20 53.7
comp=Z,72nm,1.3s
SRU San Rafael Swe 25.15 338 IAmb IAmb 20 20 59.9
comp=Z,103nm,1.0s
BGNE Belgrade 25.18 1 IAmb IAmb 20 20 59.0
comp=Z,106nm,1.0s
MVU Marysvale 25.29 334 IAmb IAmb 20 21 01.8
comp=Z,65nm,1.0s
R50A Paris 25.38 27 IAmb IAmb 20 20 55.0
comp=Z,56nm,0.9s
OTAV Otavalo 25.39 127 P **P 20 20 52.4 +1.1**
OTAV Otavalo 25.39 127 P **P 20 20 52.4 +1.1**
OTAV pmax pmax
comp=Z,54nm,1.5s
OTAV Otavalo 25.39 127 *e*P **P 20 20 52.4 +1.1**
TCRU Three Creeks R 25.47 334 IAmb IAmb 20 21 19.6
comp=Z,61nm,1.0s
TMUT Trail Mountain 25.57 337 IAmb IAmb 20 21 04.8
comp=Z,110nm,1.2s
GWY Greenwater Val 25.63 325 IAmb IAmb 20 21 10.2
comp=Z,57nm,1.0s
CCAC Calif City Air 25.69 321 IAmb IAmb 20 21 10.7
comp=Z,80nm,1.1s
PRN Pahroc Range 25.70 329 IAmb IAmb 20 21 15.3
comp=Z,56nm,1.1s
L34A Svendsen Farm, 25.80 4 IAmb IAmb 20 21 15.7
comp=Z,90nm,0.8s
U56A King 25.83 35 IAmb IAmb 20 21 04.9
comp=Z,131nm,1.4s
P48A Milroy 25.93 24 IAmb IAmb 20 20 56.7
comp=Z,83nm,1.1s
TPNV Topopah Spring 25.96 326 IAmb IAmb 20 21 06.0
comp=Z,156nm,1.4s
RDMU Red Mountain 26.14 341 IAmb IAmb 20 21 01.4
comp=Z,80nm,1.1s
SDDR Presa de Saban 26.18 80 P **P 20 20 57.1 -0.8**
SDDR IAmb IAmb 20 21 10.0
comp=Z,96nm,1.1s
ISA Isabella, Lake 26.31 321 IAmb IAmb 20 21 05.8
comp=Z,125nm,1.6s
ROSC El Rosal 26.34 113 P **P 20 21 02.2 +2.4**
comp=Z,4.5nm,0.3s,baz=247,slow=23,SNR=5.5
comp=Z,4.5nm,0.3s
MPU Maple Canyon 26.36 337 IAmb IAmb 20 21 08.1
comp=Z,63nm,1.2s
BCW Bitter Crk WRg 26.42 319 IAmb IAmb 20 21 07.6
comp=Z,77nm,1.1s
BSUT Blindstream Ca 26.50 339 IAmb IAmb 20 21 14.6
comp=Z,91nm,1.0s
GRAC Grapevine Rang 26.61 325 IAmb IAmb 20 21 39.7
comp=Z,69nm,1.2s
T57A Hurt 26.93 36 IAmb IAmb 20 21 24.0
comp=Z,60nm,1.0s
RUSC La Rusia 27.00 109 IAmb IAmb 20 21 17.1
comp=Z,73nm,1.2s
TCUT Toone Canyon 27.24 339 IAmb IAmb 20 21 10.0
comp=Z,83nm,1.1s
R55A Marlinton 27.40 33 IAmb IAmb 20 21 27.7
comp=Z,60nm,1.0s
P52A Corning 27.46 28 IAmb IAmb 20 21 12.9
comp=Z,102nm,1.3s
ECSD EROS Data Cent 27.55 3 IAmb IAmb 20 21 15.3
comp=Z,54nm,1.0s
ACSO Alum Creek Sta 27.58 26 IAmb IAmb 20 21 17.0
comp=Z,140nm,1.4s
JFWS Jewell Farm 27.62 13 IAmb IAmb 20 21 11.5
comp=Z,84nm,1.0s
S57A Dark Hollow, R 27.64 35 IAmb IAmb 20 21 47.6
comp=Z,58nm,1.2s
P53A Whipple 27.69 30 IAmb IAmb 20 21 23.3
comp=Z,64nm,1.1s
O52A Adamsville 27.99 28 IAmb IAmb 20 21 29.3
comp=Z,58nm,1.0s
NV11 Mina Array Sit 28.08 326 IAmb IAmb 20 21 19.7
comp=Z,82nm,1.4s
I37A Lemoni, Wasecа 28.13 8 IAmb IAmb 20 21 18.9
comp=Z,39nm,0.9s
LHV Little Huntoon 28.14 325 IAmb IAmb 20 21 40.9
comp=Z,50nm,1.2s
BW06 Boulder Array 28.14 343 IAmb IAmb 20 21 19.4
comp=Z,102nm,1.4s
PD31 Pinedale Array 28.14 343 IAmb IAmb 20 21 19.4
comp=Z,102nm,1.4s
PDAR Pinedale Array 28.14 343 P **P 20 21 15.3 -0.2**
PDAR Pinedale Array 28.14 343 P **P 20 21 16.4 +0.8**
comp=Z,23nm,0.9s,baz=142,slow=7.5,SNR=102
PDAR LR LR 20 31 54.8
comp=Z,2µm,19.3s,baz=154,slow=35
comp=Z,23nm,0.9s
NVAR Mina Array Bea 28.16 326 P **P 20 21 16.9 +1.2**
NVAR Mina Array Bea 28.16 326 P **P 20 21 17.8 +2.1**
comp=Z,15nm,0.9s,baz=153,slow=9.8,SNR=67
NVAR LR LR 20 34 03.5
comp=Z,3µm,19.7s,baz=144,slow=40
comp=Z,15nm,0.9s
SUSD Miller 28.21 359 IAmb IAmb 20 21 21.3
comp=Z,84nm,1.1s
SDV Santo Domingo 28.21 101 P **P 20 21 15.5 -0.9**
SDV Santo Domingo 28.21 101 LR LR 20 34 03.4
comp=Z,2µm,18.0s,baz=326,slow=40
SDV Santo Domingo 28.21 101 *e*P **P 20 21 14.7 -1.7**
HVU Hansel Valley 28.32 337 IAmb IAmb 20 21 28.7
comp=Z,49nm,1.1s
Q56A Snyder Ridge, 28.45 33 IAmb IAmb 20 21 26.9
comp=Z,79nm,1.3s
I40A Norwalk 28.48 12 IAmb IAmb 20 21 19.5
comp=Z,70nm,1.3s
M50A Fremont 28.53 25 IAmb IAmb 20 21 25.1
comp=Z,100nm,1.4s
MCWV Mont Chateau 28.58 31 IAmb IAmb 20 21 34.1
comp=Z,69nm,1.2s
O54A Avella 28.72 30 IAmb IAmb 20 21 27.3
comp=Z,147nm,1.7s
I42A Draeger Farm, 28.86 15 IAmb IAmb 20 21 31.0
comp=Z,54nm,1.1s
N53A Lisbon 29.00 29 IAmb IAmb 20 21 29.5
comp=Z,105nm,1.3s
AAM Ann Arbor 29.05 23 IAmb IAmb 20 21 24.4
comp=Z,88nm,1.1s
TPAW Teton Pass 29.22 341 IAmb IAmb 20 22 13.7
comp=Z,46nm,1.1s
M52A Chesterland 29.36 27 IAmb IAmb 20 21 32.4
comp=Z,81nm,1.2s
P57A Homestead Farm 29.39 34 IAmb IAmb 20 21 36.1
comp=Z,84nm,1.5s
SPMN Marine on St. 29.40 8 IAmb IAmb 20 21 32.8
comp=Z,45nm,0.9s
H43A Windswept, Lux 29.69 16 IAmb IAmb 20 21 32.7
comp=Z,57nm,1.1s
MPK Martis Peak 29.72 325 IAmb IAmb 20 21 38.5
comp=Z,64nm,1.0s
G40A Rib Lake 29.88 12 IAmb IAmb 20 21 37.4
comp=Z,45nm,1.1s
RLMT Red Lodge 30.25 345 IAmb IAmb 20 21 38.3
comp=Z,54nm,1.0s
YMR Madison River 30.29 342 IAmb IAmb 20 21 51.6
comp=Z,73nm,1.4s
SSPA Standing Stone 30.30 32 P **P 20 21 31.8 -2.7**
SSPA IAmb IAmb 20 21 44.9
comp=Z,140nm,1.9s
ERPA Erie 30.43 28 IAmb IAmb 20 21 45.2
comp=Z,40nm,1.1s
YHL Hebgen Lake 30.52 342 IAmb IAmb 20 21 40.5
comp=Z,119nm,2.0s
ATAH Atahualpa 30.58 138 LR LR 20 31 29.0
comp=Z,1µm,19.2s,baz=322,slow=32
OBIP Obispado Ponce 30.62 82 P **P 20 21 38.3 +0.8**
OBIP IAmb IAmb 20 21 43.7
comp=Z,47nm,1.2s
F42A Maple Grove Fa 30.80 14 IAmb IAmb 20 21 45.2
comp=Z,50nm,1.1s
MFID Camas Ranch 30.89 335 IAmb IAmb 20 22 00.8
comp=Z,70nm,1.5s
COWI Conover 30.90 13 IAmb IAmb 20 21 46.5
comp=Z,32nm,0.9s
E38A The Farm, Brul 30.93 9 IAmb IAmb 20 22 06.0
comp=Z,34nm,1.0s
SJG San Juan 31.05 82 LR LR 20 34 46.2
comp=Z,914nm,19.9s,baz=252,slow=38
N58A Sunbury 31.06 33 IAmb IAmb 20 21 50.1
comp=Z,120nm,1.9s
LAO LASA Array 31.11 350 IAmb IAmb 20 21 42.9
comp=Z,84nm,1.6s
WVNY West Valley, N 31.29 29 IAmb IAmb 20 21 52.3
comp=Z,82nm,1.3s
DLMT Dillon 31.42 341 IAmb IAmb 20 21 56.6
comp=Z,80nm,1.2s
HATC Hat Creek Radi 31.57 326 IAmb IAmb 20 21 55.9
comp=Z,30nm,0.9s
L56A Greenwood 31.58 31 IAmb IAmb 20 21 48.3
comp=Z,34nm,1.0s
MMNY Mt. Morris Dam 31.87 30 IAmb IAmb 20 21 49.2
comp=Z,57nm,1.1s
J08A Circle Bar Ran 31.98 332 IAmb IAmb 20 21 51.7
comp=Z,60nm,1.1s
KCPM Cahto Peak 32.01 322 IAmb IAmb 20 21 58.8
comp=Z,34nm,0.9s
BRNJ Basking Ridge 32.12 36 IAmb IAmb 20 21 59.1
comp=Z,28nm,0.8s
EYMN Ely 32.25 9 IAmb IAmb 20 21 51.6
comp=Z,47nm,1.4s
J55A Hilton 32.32 29 IAmb IAmb 20 21 52.8
comp=Z,30nm,1.0s
PLID Pearl Lake 32.36 337 IAmb IAmb 20 21 54.7
comp=Z,56nm,1.2s
E46A Sault Ste Mari 32.41 19 IAmb IAmb 20 21 55.2
comp=Z,45nm,1.1s
BINY Binghamton 32.42 32 IAmb IAmb 20 22 46.6
comp=Z,57nm,1.4s
KMRM Mail Ridge 32.43 323 IAmb IAmb 20 21 56.0
comp=Z,56nm,1.1s
K57A Scipio Center 32.54 31 IAmb IAmb 20 22 00.1
comp=Z,44nm,1.2s
TRNY Table Rock, Ra 32.62 35 IAmb IAmb 20 22 31.9
comp=Z,47nm,1.1s
KMPM Mount Pierce 32.79 323 IAmb IAmb 20 22 05.2
comp=Z,30nm,0.9s
KHMM Horse Mountain 32.87 324 IAmb IAmb 20 22 05.3
comp=Z,44nm,1.1s
L59A Walton 32.90 33 IAmb IAmb 20 22 06.0
comp=Z,50nm,1.1s
L04D Klamath Falls 33.00 327 IAmb IAmb 20 22 05.0
comp=Z,47nm,1.3s
EGMT Eagleton 33.09 346 IAmb IAmb 20 22 02.8
comp=Z,105nm,1.6s
TBO Thunder Bay 33.28 11 IAmb IAmb 20 22 18.5
comp=Z,31nm,0.9s
J57A Williamstown 33.30 31 IAmb IAmb 20 22 06.5
comp=Z,48nm,1.0s
BUKO Buck Lake 33.36 25 IAmb IAmb 20 22 02.0
comp=Z,45nm,1.1s
DELO Deloro Mine 33.38 28 IAmb IAmb 20 22 07.7
comp=Z,39nm,1.2s
EPLO Experimental L 33.68 6 IAmb IAmb 20 22 04.8
comp=Z,50nm,1.0s
G08A Pilot Rock 33.72 334 IAmb IAmb 20 22 07.9
comp=Z,36nm,1.1s
J59A Piesco 34.09 32 IAmb IAmb 20 22 14.5
comp=Z,119nm,1.8s
ULM Lac du Bonnet 34.09 3 IAmb IAmb 20 22 07.5
comp=Z,51nm,1.1s
ULM Lac du Bonnet 34.09 3 P **P 20 22 06.8 -0.8**
comp=Z,25nm,1.0s,baz=189,slow=8.6,SNR=22
ULM LR LR 20 36 16.4
comp=Z,1µm,18.9s,baz=195,slow=37
comp=Z,25nm,1.0s
J01E Myrtle Point 34.52 326 IAmb IAmb 20 22 13.8
comp=Z,58nm,1.0s
NCB Newcomb 34.59 32 IAmb IAmb 20 22 15.8
comp=Z,81nm,1.8s
H04A Detroit Lake 34.72 330 IAmb IAmb 20 22 14.7
comp=Z,38nm,1.0s
BUCK Buck Mountain 34.76 329 IAmb IAmb 20 22 14.8
comp=Z,89nm,1.6s
H04D Lebanon 34.87 329 IAmb IAmb 20 22 41.2
comp=Z,33nm,1.1s
CZSB Cruzeiro do Su 34.92 131 P **P 20 22 16.8 +1.6**
CZSB IAmb IAmb 20 22 22.1
comp=Z,85nm,1.3s
CZSB Cruzeiro do Su 34.92 131 *e*P **P 20 22 17.7 +2.5**
HOOD Mount Hood Mea 34.94 331 IAmb IAmb 20 22 31.1
comp=Z,36nm,0.9s
J61A Chester 35.02 34 IAmb IAmb 20 22 18.5
comp=Z,56nm,1.4s
I02E Swisshome, OR 35.13 328 IAmb IAmb 20 22 20.2
comp=Z,66nm,1.0s
COR Corvallis 35.20 329 P **P 20 22 17.9 +0.7**
COR Corvallis 35.20 329 P **P 20 22 17.9 +0.7**
COR pmax pmax
comp=Z,120nm,1.6s
NNA Nana 35.28 141 LR LR 20 33 40.7
comp=Z,1µm,21.3s,baz=334,slow=31
MXC Moxie City 35.31 334 IAmb IAmb 20 22 21.6
comp=Z,44nm,1.4s
FRNY Flat Rock 35.53 31 IAmb IAmb 20 22 21.5
comp=Z,50nm,1.6s
G03D McMinnville, O 35.63 330 IAmb IAmb 20 22 24.0
comp=Z,68nm,1.2s
MNTQ Montreal, Queb 35.99 30 IAmb IAmb 20 22 24.3
comp=Z,86nm,1.6s
TRQ Mont Tremblant 36.08 29 IAmb IAmb 20 22 31.8
comp=Z,45nm,1.2s
VLDQ Val d'Or 36.31 24 IAmb IAmb 20 22 36.1
comp=Z,54nm,1.6s
B08A Colville Reser 36.35 337 IAmb IAmb 20 22 30.7
comp=Z,95nm,1.6s
D05A Enumclaw 36.51 333 pP 20 22 33.0 +3.2
E03A Lebam 36.74 331 IAmb IAmb 20 22 33.7
comp=Z,98nm,1.3s
G62A West of Eustis 37.36 33 IAmb IAmb 20 22 38.6
comp=Z,96nm,1.5s
A04D Lummi Island 38.00 334 IAmb IAmb 20 22 50.5

comp=Z,68nm,0.9s
FFC Flin Flon 38.59 357 P **P 20 22 44.9 -1.1**
FFC IAmb IAmb 20 22 54.0
comp=Z,53nm,0.9s
FFC Flin Flon 38.59 357 P **P 20 22 44.9 -1.1**
FFC pmax pmax
comp=Z,53nm,1.0s
TEFE Tefe 38.85 117 *e*P **P 20 22 48.2 -0.4**
D62A Allapoint, All 39.37 32 IAmb IAmb 20 23 01.9
comp=Z,87nm,1.6s
BOAV Boa Vista 39.88 106 *e*P **P 20 22 56.5 -0.8**
LMN Caledonia Moun 40.90 36 P **P 20 23 03.5 -1.9**
MACA Manacapuru-AM 42.10 114 *e*P **P 20 23 14.8 -0.8**
LPAZ La Paz 44.07 136 P **P 20 23 34.2 +2.1**
comp=Z,4.0nm,1.0s,baz=332,slow=7.9,SNR=11
LPAZ LR LR 20 40 40.7
comp=Z,1µm,18.2s,baz=308,slow=34
comp=Z,4.0nm,1.0s
LPAZ La Paz 44.07 136 *e*P **P 20 23 34.5 +2.3**
PB11 IPOC Station P 45.63 140 IAmb IAmb 20 23 49.7
comp=Z,39nm,1.1s
TA01 Diego Aracena 45.93 142 P **P 20 23 48.4 +2.3**
TA01 IAmb IAmb 20 23 52.2
comp=Z,45nm,1.1s
PB08 IPOC Station P 46.23 140 pP 20 23 54.4 +3.9
U35K Hyder 46.36 336 P **P 20 23 50.5 +1.3**
baz=136
MDP Montagnes des 46.38 98 LR LR 20 43 21.5
comp=Z,716nm,21.7s,baz=290,slow=36
V35K Ketchikan 46.58 335 P **P 20 23 52.6 +1.7**
baz=134
PB01 IPOC Station P 46.71 141 pP 20 23 57.6 +3.6
TOAD Toad River Com 46.95 341 P **P 20 23 56.4 +2.7**
baz=144,SNR=6.5
ITTB Itaituba 47.04 112 *e*P **P 20 23 54.6 -0.5**
T35M Bob Quinn 47.22 337 P **P 20 23 58.1 +2.1**
baz=136
PB09 IPOC Station P 47.43 142 IAmb IAmb 20 24 04.7
comp=Z,38nm,1.1s
YKAW1 Yellowknife Wh 47.62 350 IAmb IAmb 20 24 01.4
comp=Z,31nm,1.0s
WRAK Wrangell Islan 47.64 335 P **P 20 24 00.9 +1.8**
baz=133
YKA Yellowknife Ar 47.65 350 P **P 20 23 58.8 -0.3**
comp=Z,11nm,0.9s,baz=160,slow=7.4,SNR=92
YKA LR LR 20 46 30.8
comp=Z,1µm,21.9s,baz=166,slow=39
comp=Z,11nm,0.9s
KOTAN Kotaneelee Air 47.66 343 P **P 20 24 00.8 +1.6**
baz=146
YKAW3 Yellowknife Wh 47.72 350 P **P 20 23 58.5 -1.1**
YKAW3 IAmb IAmb 20 24 02.2
comp=Z,34nm,1.1s
U33K Whale Pass 47.74 335 P **P 20 24 01.5 +1.6**
baz=132
TAOE Nuku Hiva Isla 48.05 242 *e*S **S 20 31 02.8 +0.7**
comp=Z,311nm,23.8s
TAOE *e*LR LR 20 37 33.9
comp=Z,937nm,21.4s
BLKN Baker Lake 48.16 2 P **P 20 24 02.1 -0.9**
DLBC Dease Lake 48.21 338 P **P 20 24 05.3 +1.7**
comp=Z,14nm,0.9s,baz=133,slow=5.2,SNR=9.0
DLBC LR LR 20 45 59.0
comp=Z,2µm,18.6s,baz=142,slow=38
comp=Z,14nm,0.9s
DLBC Dease Lake 48.21 338 P **P 20 24 05.7 +2.0**
baz=137,SNR=7.1
S34M Telegraph Cree 48.23 337 P **P 20 24 05.8 +2.1**
baz=136
NPGB Novo Progresso 48.61 115 *e*P **P 20 24 05.1 -2.2**
SIV San Ignacio 48.90 129 P **P 20 24 11.9 +2.5**
comp=Z,5.5nm,0.9s,baz=301,slow=8.4,SNR=16
SIV LR LR 20 42 45.3
comp=Z,490nm,18.8s,baz=329,slow=34
comp=Z,5.5nm,0.9s
WTLY Watson Lake, Y 49.07 341 IAmb IAmb 20 24 19.0
comp=Z,50nm,1.1s
WTLY Watson Lake, Y 49.07 341 P **P 20 24 11.4 +1.2**
baz=140
S32K Killisnoo 49.25 335 P **P 20 24 13.3 +1.8**
baz=132
R33M Jennings River 49.25 339 IAmb IAmb 20 24 15.7
comp=Z,44nm,0.9s
R33M Jennings River 49.25 339 P **P 20 24 14.0 +2.3**
baz=137,SNR=10
SIT Sitka 49.28 334 P **P 20 24 14.2 +2.5**
baz=130
Q32M Nakina River 49.40 338 P **P 20 24 14.6 +1.6**
baz=135
PDRB Porto dos Gac 49.76 121 *e*P **P 20 24 17.5 +1.4**
R32K Eaglecrest 49.77 336 P **P 20 24 17.3 +1.8**
baz=132
GO02 Mina Guanaco 49.85 145 IAmb IAmb 20 24 23.1
comp=Z,29nm,1.1s
BBSD Serra de San D 49.99 130 *e*P **P 20 24 17.3 -0.5**
TGTN Hyland Airport 50.01 342 P **P 20 24 19.4 +2.0**
baz=141,SNR=10
PTLB Pontes e Lacer 50.03 127 P **P 20 24 14.7 -3.4**
WRGLY Wrigley 50.11 346 IAmb IAmb 20 24 51.8
comp=Z,34nm,1.1s
WRGLY Wrigley 50.11 346 P **P 20 24 19.0 +1.0**
baz=148
S31K Pelican 50.24 335 P **P 20 24 20.4 +1.3**
baz=130
P32M Atlin 50.37 338 IAmb IAmb 20 24 23.8
comp=Z,26nm,0.9s
P32M Atlin 50.37 338 P **P 20 24 20.7 +0.6**
baz=134
P33M Teslin, Yukon 50.49 339 IAmb IAmb 20 24 24.6
comp=Z,118nm,2.0s
P33M Teslin, Yukon 50.49 339 P **P 20 24 22.3 +1.3**
baz=135
SKAG Skagway 50.88 337 P **P 20 24 25.5 +1.6**
baz=132
N32M Quiet Lake 51.25 339 P **P 20 24 28.3 +1.5**
baz=135
AC02 Maricunga 51.42 146 P **P 20 24 31.6 +2.6**
WHY Whitehorse 51.53 338 P **P 20 24 29.0 +0.1**
WHY IAmb IAmb 20 24 32.2
comp=Z,58nm,1.3s
WHY Whitehorse 51.53 338 P **P 20 24 30.2 +1.3**
baz=133
MMPY Sheldon Lake, 51.75 341 IAmb IAmb 20 24 33.4
comp=Z,61nm,1.1s
MMPY Sheldon Lake, 51.75 341 P **P 20 24 32.8 +2.3**
baz=138,SNR=18
FRB Frobisher Bay 51.87 16 LR LR 20 47 35.3
comp=Z,929nm,18.6s,baz=213,slow=38
P29M Windy Craggy 51.92 336 P **P 20 24 33.1 +1.4**
baz=129
P30M Million Dollar 51.94 337 P **P 20 24 33.6 +1.7**
baz=130
O30N Mendenhall 52.05 338 IAmb IAmb 20 24 50.4
comp=Z,103nm,2.0s
O30N Mendenhall 52.05 338 P **P 20 24 34.1 +1.4**
baz=132,SNR=6.4
FARO Faro, Yukon 52.12 340 P **P 20 24 34.5 +1.3**
baz=136
N31M Braeburn, Yuko 52.42 339 IAmb IAmb 20 24 43.1
comp=Z,68nm,1.2s
N31M Braeburn, Yuko 52.42 339 P **P 20 24 37.2 +1.7**
baz=133,SNR=9.2
M31M Drury Creek, Y 52.44 340 IAmb IAmb 20 24 39.2
comp=Z,70nm,1.6s
M31M Drury Creek, Y 52.44 340 P **P 20 24 37.4 +1.8**
baz=134,SNR=6.7
PNL Peninsula 52.60 335 P **P 20 24 38.3 +1.5**
baz=128
HYT Haines Junctio 52.60 337 P **P 20 24 38.7 +1.7**
HYT Haines Junctio 52.60 337 P **P 20 24 37.5 +0.6**
baz=130,SNR=6.7
O29M Mount Kennedy 52.67 336 P **P 20 24 38.7 +1.3**
baz=129
H03N2 Juan Fernandez 52.76 159 T T 21 21 25.7
baz=337,slow=77,SNR=1653
H03N1 Juan Fernandez 52.77 159 T T 21 21 33.4
baz=337,slow=77,SNR=2880
H03N3 Juan Fernandez 52.78 159 T T 21 21 25.9
baz=337,slow=77,SNR=3987
RKT Rikitea 52.81 223 *e*P **P 20 24 40.7 +2.0**
comp=Z,660nm,27.8s
RKT *e*S **S 20 32 05.9 -2.0**
comp=Z,2µm,26.5s
RKT *e*SS **SS 20 35 49.7 +2.7**
comp=Z,2µm,37.8s
RKT *e*LQ LQ 20 37 37.1
comp=Z,2µm,42.2s
RKT *e*LR LR 20 39 59.3
comp=Z,8µm,25.5s
N30M Aishikik Lake 52.87 338 IAmb IAmb 20 24 48.2
comp=Z,39nm,1.4s
N30M Aishikik Lake 52.87 338 P **P 20 24 41.1 +2.3**
baz=131,SNR=5.7
SALV Santo Antonio 52.98 125 *e*P **P 20 24 41.0 +0.8**
YUK6 Outpost Mounta 53.00 337 P **P 20 24 41.8 +1.8**
baz=129
PRPB Paraiapebas 53.12 111 *e*P **P 20 24 41.6 +0.3**
PINM Pinnacle 53.20 335 P **P 20 24 42.4 +1.1**
baz=127
GO04 Tololo Observa 53.27 150 pP 20 24 47.8 +3.9
YUK4 Talbot Arm 53.36 337 P **P 20 24 44.5 +1.8**
baz=129,SNR=5.7
CO01 Juntas del Tor 53.46 149 pP 20 24 49.2 +3.9
M30M Minto, Yukon 53.51 339 P **P 20 24 44.7 +1.2**
baz=132,SNR=5.3
O28M Mount Upton 53.59 336 IAmb IAmb 20 25 01.7
comp=Z,40nm,1.4s
O28M Mount Upton 53.59 336 P **P 20 24 46.3 +1.8**
baz=127
YUK8 Steele Glacier 53.74 337 P **P 20 24 47.4 +1.9**
baz=128,SNR=8.8
CO03 El Pedregal 53.88 150 IAmb IAmb 20 24 52.2
comp=Z,26nm,1.0s
MESA MESA 53.94 335 P **P 20 24 47.9 +1.1**
baz=125
M29M Somme Creek 54.01 338 IAmb IAmb 20 24 49.8
comp=Z,50nm,1.3s
M29M Somme Creek 54.01 338 P **P 20 24 48.3 +1.1**
baz=130,SNR=12
ILON Igloolik, Nuna 54.23 7 P **P 20 24 47.3 -1.2**
ILON IAmb IAmb 20 24 49.2
comp=Z,36nm,1.0s
YUK3 Moose Creek 54.31 337 P **P 20 24 50.7 +1.1**
baz=128,SNR=5.4
L29M L29M 54.33 339 IAmb IAmb 20 24 51.9
comp=Z,51nm,1.0s
L29M L29M 54.33 339 P **P 20 24 51.2 +1.7**
baz=131,SNR=27
SNDB Serra Nova Dou 54.50 118 *e*P **P 20 24 50.7 -0.6**
K29M Barlow Dome 54.61 340 IAmb IAmb 20 24 54.4
comp=Z,90nm,1.8s
K29M Barlow Dome 54.61 340 P **P 20 24 52.6 +1.0**
baz=132,SNR=10
J30M Hart River 54.73 341 IAmb IAmb 20 24 55.5
comp=Z,34nm,1.2s
J30M Hart River 54.73 341 P **P 20 24 53.6 +1.1**
baz=134,SNR=10.0
KAIM Kayak Island 54.83 334 P **P 20 24 55.0 +1.9**
baz=122
BVCY Beaver Creek 54.85 337 P **P 20 24 54.9 +1.7**
baz=128
H31M Peel River 55.02 343 IAmb IAmb 20 25 02.5
comp=Z,47nm,1.4s
H31M Peel River 55.02 343 P **P 20 24 55.1 +0.7**
baz=136,SNR=10
VRDI Verde Repeater 55.15 335 IAmb IAmb 20 25 04.7
comp=Z,70nm,1.7s
M27K Edge Creek, AK 55.20 337 IAmb IAmb 20 25 03.5
comp=Z,36nm,1.4s
M27K Edge Creek, AK 55.20 337 P **P 20 24 57.2 +1.3**
baz=126
I30M Mount Dempster 55.20 342 IAmb IAmb 20 24 57.3
comp=Z,27nm,1.1s
I30M Mount Dempster 55.20 342 P **P 20 24 56.7 +0.9**
baz=134,SNR=18
DAWY Dawson 55.38 340 IAmb IAmb 20 25 04.9
comp=Z,39nm,1.5s
DAWY Dawson 55.38 340 P **P 20 24 57.9 +0.8**
baz=130,SNR=8.8
GLB Gilahina Butte 55.41 336 IAmb IAmb 20 24 59.8
comp=Z,29nm,1.0s
ZON Zonda 55.44 149 pP 20 25 03.0 +3.6
BMRM Bremner River 55.47 335 P **P 20 24 59.2 +1.4**
baz=123
C36M Paulatuk 55.52 349 P **P 20 24 57.8 -0.1**
baz=150
BCAR Beaver Creek A 55.59 338 P **P 20 24 58.6 0.0**
L27K Beaver Creek, 55.60 338 P **P 20 24 59.9 +1.3**
baz=127,SNR=10
M26K Nabesna, AK 55.64 337 IAmb IAmb 20 25 08.0
comp=Z,67nm,1.5s
M26K Nabesna, AK 55.64 337 P **P 20 25 00.5 +1.5**
baz=125,SNR=7.4
AQDB Aquidauana 55.67 129 *e*P **P 20 25 03.1 +3.5**
EYAK Cordova Ski Ar 55.72 334 P **P 20 25 00.9 +1.5**
baz=121
N25K Chitina, Valde 55.82 335 P **P 20 25 02.0 +1.7**
baz=123,SNR=9.1
G31M Satah River 55.83 344 IAmb IAmb 20 25 01.4
comp=Z,45nm,1.1s
G31M Satah River 55.83 344 P **P 20 25 00.7 +0.6**
baz=137,SNR=23
I29M Ogilvie Camp, 55.89 341 IAmb IAmb 20 26 20.2
comp=Z,21nm,0.6s
I29M Ogilvie Camp, 55.89 341 P **P 20 25 01.0 +0.4**
baz=132,SNR=15
ARAG Araguaiana, MT 55.98 122 *e*P **P 20 25 05.4 +3.4**
DIV Divide 56.04 335 IAmb IAmb 20 25 09.4
comp=Z,41nm,1.2s
F31M Tsiigehtchic 56.07 344 IAmb IAmb 20 25 04.8
comp=Z,82nm,1.6s
F31M Tsiigehtchic 56.07 344 P **P 20 25 02.5 +0.6**
baz=138,SNR=7.1
EPYK Eagle Plains 56.11 343 P **P 20 25 03.1 +0.9**
baz=134
L26K Log Cabin Wild 56.14 337 IAmb IAmb 20 25 09.1
comp=Z,46nm,1.4s
L26K Log Cabin Wild 56.14 337 P **P 20 25 03.8 +1.3**
baz=125
P23K Montague Islan 56.15 333 P **P 20 25 04.0 +1.4**
baz=119
SMTB Santa Maria do 56.27 113 *e*P **P 20 25 04.2 +0.1**
K27K Chicken 56.28 339 P **P 20 25 05.2 +1.8**
baz=127
KLU Klutina 56.29 335 IAmb IAmb 20 25 11.2
comp=Z,72nm,1.4s
KLU Klutina 56.29 335 P **P 20 25 05.2 +1.5**
baz=122,SNR=9.9
MT08 Bocatoma Ro 56.35 151 pP 20 25 10.6 +4.4
G30M tAoh Zraii Nji 56.40 343 P **P 20 25 04.4 +0.1**
baz=135
I28M Miner Creek 56.46 341 IAmb IAmb 20 25 13.9
comp=Z,50nm,1.8s
I28M Miner Creek 56.46 341 P **P 20 25 05.0 +0.1**
baz=130,SNR=8.5
GLI Glacier Island 56.46 334 P **P 20 25 05.5 +0.7**
baz=120
HARP HAARP 56.47 336 P **P 20 25 06.0 +1.1**
baz=123,SNR=6.7
H29M Whitestone 56.49 342 IAmb IAmb 20 25 06.3
comp=Z,36nm,1.1s
H29M Whitestone 56.49 342 P **P 20 25 05.8 +0.8**
baz=132,SNR=16
BO04 La Punta 56.54 152 IAmb IAmb 20 25 11.2
comp=Z,35nm,1.5s
LMEL Las Melosas 56.60 152 IAmb IAmb 20 25 12.4
comp=Z,35nm,1.4s
BO01 Tunca 56.67 153 IAmb IAmb 20 25 12.2
comp=Z,33nm,1.4s
INK Inuvik 56.67 345 P **P 20 25 06.6 +0.5**
baz=138,SNR=28
M24K Tolsona, Glenn 56.72 335 IAmb IAmb 20 25 09.1
comp=Z,56nm,1.2s
M24K Tolsona, Glenn 56.72 335 P **P 20 25 08.4 +1.8**
baz=122
F30M Barrier River 56.73 344 IAmb IAmb 20 25 13.0
comp=Z,47nm,1.2s
F30M Barrier River 56.73 344 P **P 20 25 07.3 +0.7**
baz=136,SNR=16
DOT Dot Lake 56.76 338 IAmb IAmb 20 25 14.2
comp=Z,63nm,1.2s
C2SB Chapadao do Su 56.85 126 *e*P **P 20 25 09.9 +1.8**
G29M Pine Creek 56.86 343 IAmb IAmb 20 25 08.9
comp=Z,27nm,1.1s
G29M Pine Creek 56.86 343 P **P 20 25 08.1 +0.6**
baz=133,SNR=11
PAX Paxson 56.91 337 IAmb IAmb 20 25 09.7
comp=Z,31nm,1.1s
PAX Paxson 56.91 337 P **P 20 25 09.1 +1.0**
baz=123,SNR=18
SCRK Sand Creek 56.92 338 IAmb IAmb 20 25 16.9
comp=Z,36nm,1.1s
SCRK Sand Creek 56.92 338 P **P 20 25 09.6 +1.4**
baz=125,SNR=30
PWL Port Wells 56.98 334 P **P 20 25 09.5 +1.0**
baz=119
SCM Sheep Creek Mo 57.04 335 P **P 20 25 09.8 +0.8**
baz=120
J26L Joseph Creek 57.08 339 P **P 20 25 10.8 +1.5**
baz=126,SNR=48
I27K Kandik River 57.10 340 P **P 20 25 10.1 +0.7**
baz=128,SNR=8.1
RIDG Independent Ri 57.10 338 P **P 20 25 10.8 +1.4**
baz=124,SNR=23
SEW Seward 57.11 332 IAmb IAmb 20 25 16.0
comp=Z,37nm,1.1s
SEW Seward 57.11 332 P **P 20 25 10.2 +0.9**
baz=117
RPRD Ribas do Rio P 57.17 128 *e*P **P 20 25 13.8 +3.4**
M23K Glacier View 57.18 335 P **P 20 25 11.2 +1.2**
baz=120
KNK Knik Glacier 57.30 334 P **P 20 25 11.8 +1.0**
baz=119,SNR=6.1
O22K Cooper Landing 57.40 333 P **P 20 25 12.4 +1.0**
baz=117
I26K Coal Creek Min 57.42 340 P **P 20 25 11.9 +0.4**
baz=127
SML Sawmill 57.44 335 P **P 20 25 12.6 +0.8**
baz=119,SNR=7.5
H27K Steamboat Moun 57.46 341 IAmb IAmb 20 25 14.4
comp=Z,59nm,1.4s
H27K Steamboat Moun 57.46 341 P **P 20 25 12.6 +0.7**
baz=129,SNR=17
K24K Donnelly Dome 57.48 337 IAmb IAmb 20 25 20.5
comp=Z,36nm,0.9s
K24K Donnelly Dome 57.48 337 P **P 20 25 12.9 +0.8**
baz=123,SNR=10
BRSE Bradley Lake S 57.52 332 P **P 20 25 13.0 +0.6**
baz=116
NUUK Nuuk 57.58 22 *i* P **P 20 25 11.8 -0.8**
NUUK IAmb IAmb 20 25 21.1
comp=Z,79nm,1.4s
KDAK Kodiak Island 57.58 329 LR LR 20 49 04.4
comp=Z,991nm,18.9s,baz=342,slow=35
KDAK Kodiak Island 57.58 329 P **P 20 25 13.7 +0.9**
baz=113
SLKM Skilak Lake 57.63 333 IAmb IAmb 20 25 16.4
comp=Z,34nm,1.0s
GHO Glory Hole Cre 57.67 334 IAmb IAmb 20 25 16.7
comp=Z,50nm,1.0s
PMR Palmer 57.67 334 IAmb IAmb 20 25 16.0
comp=Z,24nm,0.9s
PMR Palmer 57.67 334 P **P 20 25 14.0 +0.7**
baz=118,SNR=7.0
RC01 Rabbit Creek A 57.69 333 IAmb IAmb 20 25 19.3
comp=Z,29nm,1.0s
RC01 Rabbit Creek A 57.69 333 P **P 20 25 13.9 +0.4**
baz=117
OHAK Old Harbor 57.72 328 IAmb IAmb 20 25 17.2
comp=Z,60nm,1.2s
OHAK Old Harbor 57.72 328 P **P 20 25 14.8 +1.1**
baz=112
J25K Salcha River, 57.78 338 IAmb IAmb 20 25 21.2
comp=Z,26nm,1.0s
J25K Salcha River, 57.78 338 P **P 20 25 15.0 +0.8**
baz=124,SNR=28
Q20K Shuyak Island 57.82 330 P **P 20 25 15.1 +0.7**
baz=113
E29M Blow River 57.85 344 IAmb IAmb 20 25 22.6
comp=Z,44nm,1.1s
E29M Blow River 57.85 344 P **P 20 25 14.9 +0.4**
baz=134,SNR=20
G27K Doyon Strip 57.87 341 IAmb IAmb 20 25 17.9
comp=Z,85nm,2.0s
G27K Doyon Strip 57.87 341 P **P 20 25 15.1 +0.4**
baz=129,SNR=19
SII Sitkinak Islan 57.94 327 P **P 20 25 16.2 +0.9**
baz=110
A36M Sachs Harbour 58.00 351 P **P 20 25 15.4 -0.1**
baz=149,SNR=41
CAPN Captain Cook N 58.16 333 P **P 20 25 18.2 +1.5**
baz=116
M22K Willow 58.16 334 P **P 20 25 17.3 +0.5**
baz=117,SNR=5.3
SJPY San Joaquin 58.20 134 *e*P **P 20 25 21.1 +3.5**
CPUP Villa Florida 58.24 136 P **P 20 25 19.6 +1.8**
comp=Z,9.5nm,1.1s,baz=331,slow=9.3,SNR=9.6
CPUP LR LR 20 49 30.6
comp=Z,276nm,20.1s,baz=331,slow=35
comp=Z,9.5nm,1.1s
CPUP Villa Florida 58.24 136 *e*P **P 20 25 21.5 +3.7**
HDA Harding Lake 58.24 338 IAmb IAmb 20 25 18.5
comp=Z,32nm,1.1s
HDA Harding Lake 58.24 338 P **P 20 25 17.7 +0.4**
baz=122,SNR=15
SUA Susitna One 58.29 334 P **P 20 25 19.0 +1.1**
baz=117,SNR=22
PRP Porcupine Dome 58.35 339 IAmb IAmb 20 25 19.8
comp=Z,44nm,1.1s
PRP Porcupine Dome 58.35 339 P **P 20 25 19.1 +0.9**
baz=124,SNR=20
ILAR Eielson Array 58.42 338 P **P 20 25 17.7 -0.8**
ILAR Eielson Array 58.42 338 P **P 20 25 18.9 +0.3**
comp=Z,12nm,0.9s,baz=139,slow=4.6,SNR=99
ILAR LR LR 20 49 40.7
comp=Z,1µm,18.6s,baz=122,slow=35
comp=Z,12nm,0.9s
R18K Karluk 58.43 328 P **P 20 25 18.3 -0.4**
baz=111
E28M Babbage River 58.44 344 IAmb IAmb 20 25 26.2
comp=Z,25nm,1.1s
E28M Babbage River 58.44 344 P **P 20 25 18.9 +0.2**
baz=132,SNR=16
CHIR Chirikof Islan 58.44 326 P **P 20 25 20.4 +1.5**
baz=109
BI02 San Fabin de 58.52 154 IAmb IAmb 20 25 25.4
comp=Z,42nm,1.4s
CUT Chulitna 58.53 335 P **P 20 25 20.3 +1.0**
baz=118,SNR=9.5
Q19K Cape Douglas, 58.55 330 P **P 20 25 20.5 +0.9**
baz=112
RES Resolute Bay 58.58 1 LR LR 20 53 44.6
comp=Z,1µm,18.2s,baz=194,slow=40
NRS Narsarsuaq 58.60 27 *i* P **P 20 25 16.0 -3.9**
NRS IAmb IAmb 20 25 17.1
comp=Z,82nm,1.4s
G26K Porcupine Rive 58.62 341 P **P 20 25 20.3 +0.4**
baz=127,SNR=7.2
P19K Oil Pt 58.63 331 P **P 20 25 19.6 -0.5**
baz=113
MCK McKinley 58.64 336 IAmb IAmb 20 25 21.6
comp=Z,32nm,1.0s
MCK McKinley 58.64 336 P **P 20 25 21.0 +0.9**
baz=120,SNR=14
D28M Stokes Point 58.72 344 P **P 20 25 21.2 +0.7**
baz=133,SNR=13
ILSW Iliamna Southw 58.72 331 IAmb IAmb 20 25 28.5
comp=Z,42nm,1.3s
E27K Coleen River 58.73 343 P **P 20 25 21.6 +0.9**
baz=130,SNR=28
STLK Strandline Lak 58.78 333 IAmb IAmb 20 25 29.2
comp=Z,21nm,0.8s
POKR Poker Plat Res 58.80 338 IAmb IAmb 20 25 24.3
comp=Z,30nm,1.0s
POKR Poker Plat Res 58.80 338 P **P 20 25 21.9 +0.7**
baz=122,SNR=11
SPCR Spurr Chakacha 58.81 333 P **P 20 25 21.9 +0.5**
baz=115,SNR=6.8
COLA College 58.82 338 P **P 20 25 20.4 -0.9**
COLA College 58.82 338 *i* P **P 20 25 21.4 +0.1**
COLA pmax pmax
comp=Z,77nm,2.3s
COLA College 58.82 338 P **P 20 25 21.2 -0.1**
baz=121
SKT Skwentna 58.86 334 IAmb IAmb 20 25 29.7
comp=Z,34nm,0.9s
SKT Skwentna 58.86 334 P **P 20 25 22.1 +0.4**
baz=116,SNR=17
TRF Thorofare Moun 59.03 336 P **P 20 25 23.1 +0.1**
baz=118,SNR=37
BDFB Brasilia 59.08 120 P **P 20 25 24.6 +0.6**
BDFB IAmb IAmb 20 25 38.3
comp=Z,24nm,1.2s
BDFB Brasilia 59.08 120 P **P 20 25 24.2 +0.2**
comp=Z,13nm,0.9s,baz=303,slow=6.5,SNR=10.0
comp=Z,13nm,0.9s
BDFB Brasilia 59.08 120 P **P 20 25 24.6 +0.6**
BDFB pmax pmax
comp=Z,24nm,1.2s
Q18K Katmai Hardscr 59.10 329 P **P 20 25 23.1 -0.4**
baz=111
NEA2 Nenana 59.12 337 IAmb IAmb 20 25 25.5
comp=Z,61nm,1.5s
NEA2 Nenana 59.12 337 P **P 20 25 23.9 +0.5**

baz=120,SNR=16
BMAR Burnt Mountain 59.16 341 P P 20 25 23.1 -0.6
F26K Sheenjek River 59.18 342 IAmb IAmb 20 25 32.1
comp=Z,22nm,1.1s
F26K Sheenjek River 59.18 342 P P 20 25 24.8 +0.9
baz=127,SNR=13
D27M Malcolm River 59.25 344 IAmb IAmb 20 25 25.7
comp=Z,34nm,1.4s
D27M Malcolm River 59.25 344 P P 20 25 24.7 +0.4
baz=131,SNR=6.3
G25K Bearman Lake 59.25 340 P P 20 25 25.1 +0.8
baz=124,SNR=5.7
ITRB Iturama 59.31 125 eP P 20 25 27.3 +1.9
KTH Kantishna Hill 59.33 336 IAmb IAmb 20 25 32.5
comp=Z,35nm,1.0s
H24K Noodor Dome 59.34 339 P P 20 25 25.9 +0.9
baz=122,SNR=36
O19K Port Alsworth 59.35 331 IAmb IAmb 20 25 31.1
comp=Z,50nm,1.4s
O19K Port Alsworth 59.35 331 P P 20 25 25.3 +0.2
baz=112
Q17K Contact Creek 59.40 329 P P 20 25 25.3 -0.3
baz=110
P18K Big Mountain, 59.48 330 IAmb IAmb 20 25 26.8
comp=Z,28nm,1.0s
P18K Big Mountain, 59.48 330 P P 20 25 25.9 -0.1
baz=111
M20K Styx River 59.50 333 IAmb IAmb 20 25 27.5
comp=Z,39nm,1.0s
M20K Styx River 59.50 333 P P 20 25 26.8 +0.6
baz=114,SNR=17
I23K Minto, Yukon-K 59.51 338 P P 20 25 27.1 +1.0
baz=120,SNR=34
SFJD Kangerlussuaq 59.54 20 LR LR 20 52 30.7
comp=Z,538nm,21.1s,baz=236,slow=38
SFJD Kangerlussuaq 59.54 20 iP P 20 25 25.0 -1.3
SFJD IAmb IAmb 20 25 27.1
comp=Z,33nm,0.9s
PPLA Purkeypile 59.54 335 P P 20 25 26.9 +0.3
baz=116,SNR=11
F25K Christian Rive 59.58 341 IAmb IAmb 20 25 28.4
comp=Z,20nm,1.1s
F25K Christian Rive 59.58 341 P P 20 25 27.8 +1.1
baz=125,SNR=15
BPAW Bear Paw Mtn. 59.61 336 IAmb IAmb 20 25 27.9
comp=Z,26nm,1.0s
BPAW Bear Paw Mtn. 59.61 336 P P 20 25 27.1 +0.2
baz=118,SNR=15
O18K Koktuh Hills 59.63 331 IAmb IAmb 20 25 28.1
comp=Z,36nm,1.1s
O18K Koktuh Hills 59.63 331 P P 20 25 27.6 +0.5
baz=111
N19K Bonanza Creek 59.66 332 P P 20 25 27.7 +0.4
baz=112,SNR=18
G24K Hadweenzic Riv 59.67 340 IAmb IAmb 20 25 33.3
comp=Z,40nm,1.1s
G24K Hadweenzic Riv 59.67 340 P P 20 25 28.2 +0.9
baz=123,SNR=27
CAST Castle Rocks 59.73 335 IAmb IAmb 20 25 28.5
comp=Z,41nm,1.0s
CAST Castle Rocks 59.73 335 P P 20 25 27.8 +0.1
baz=116,SNR=32
E25K Arctic Village 59.87 342 P P 20 25 29.5 +0.9
baz=125,SNR=14
Q16K King Salmon 59.92 329 P P 20 25 29.2 +0.2
baz=109
H23K Yukon River 59.92 338 P P 20 25 29.8 +0.8
baz=120
P17K Kvichak River 59.99 330 P P 20 25 29.6 +0.1
baz=110
CHUM Lake Minchumin 60.03 336 P P 20 25 29.7 0.0
baz=116,SNR=7.0
M19K Big River Lodg 60.05 333 P P 20 25 30.7 +0.8
baz=113,SNR=16
L20K Farewell, AK 60.07 334 P P 20 25 30.2 +0.1
baz=114,SNR=21
IPMB Ipameri, GO 60.10 122 eP P 20 25 32.9 +1.9
SDBA SÃO DESIDERIO 60.20 115 eP P 20 25 32.5 +0.8
C27K Jago River 60.24 343 IAmb IAmb 20 25 39.3
comp=Z,27nm,1.1s
C27K Jago River 60.24 343 P P 20 25 31.8 +0.7
baz=128,SNR=19
F24K Squaw Lake 60.25 340 IAmb IAmb 20 25 46.7
comp=Z,31nm,1.5s
F24K Squaw Lake 60.25 340 P P 20 25 32.0 +0.7
baz=123,SNR=9.5
N18K Kilae Creek 60.25 332 P P 20 25 31.1 -0.3
N18K Kilae Creek 60.25 332 P P 20 25 31.5 +0.1
baz=111,SNR=12
CHNA Chernabura Isl 60.33 324 P P 20 25 31.8 0.0
baz=104
L19K White Mountain 60.36 333 P P 20 25 31.8 -0.3
L19K IAmb IAmb 20 25 38.4
comp=Z,46nm,1.3s
L19K White Mountain 60.36 333 P P 20 25 32.2 +0.1
baz=113,SNR=9.7
PPT Papeete 60.37 238 LR LR 20 45 04.1
comp=Z,529nm,18.2s,baz=35,slow=29
PPT2 Papeete2 60.38 238 eP P 20 25 31.6 -1.3
comp=Z,77nm,24.5s
PPT2 eS S 20 33 50.7 +2.0
comp=Z,381nm,26.0s
PPT2 eSS SS 20 37 49.1 +2.4
comp=Z,55nm,21.8s
PPT2 eLQ LQ 20 40 48.9
comp=Z,1μm,30.5s
PPT2 eLR LR 20 43 17.3
comp=Z,499nm,20.8s
PPT2 eLR LR 20 43 24.7
comp=Z,541nm,22.0s
I21K Tanana 60.50 337 P P 20 25 33.1 +0.2
baz=117
O17K Koliganek Bris 60.50 330 P P 20 25 33.4 +0.5
baz=109,SNR=7.9
K20K Telida 60.51 335 P P 20 25 33.0 0.0
baz=114
M18K Stony River 60.52 332 P P 20 25 33.4 +0.2
baz=112,SNR=14
G23K Bananza Creek 60.54 339 IAmb IAmb 20 25 39.9
comp=Z,53nm,1.4s
G23K Bananza Creek 60.54 339 P P 20 25 33.9 +0.7
baz=120,SNR=22
H22K Ishtalitna Cre 60.61 338 P P 20 25 33.9 +0.2
baz=118
P16K Nushagak River 60.69 329 P P 20 25 34.4 +0.1
baz=108
E24K Your Creek 60.75 341 IAmb IAmb 20 25 41.6
comp=Z,28nm,1.2s
E24K Your Creek 60.75 341 P P 20 25 35.5 +0.9
baz=122,SNR=25
C26K Camden Bay 60.75 343 P P 20 25 35.6 +1.1
baz=127,SNR=12
N17K Nushagak Hills 60.80 331 P P 20 25 35.2 +0.1
baz=110
D25K Kavik River 60.81 342 IAmb IAmb 20 25 43.1
comp=Z,39nm,1.1s
D25K Kavik River 60.81 342 P P 20 25 35.7 +0.7
baz=125,SNR=31
COLD Coldfoot 60.86 340 IAmb IAmb 20 25 44.0
comp=Z,48nm,1.4s
COLD Coldfoot 60.86 340 P P 20 25 36.6 +1.3
baz=120,SNR=22
J20K Nowinta River 60.89 336 IAmb IAmb 20 25 36.4
comp=Z,41nm,1.1s
J20K Nowinta River 60.89 336 P P 20 25 35.6 +0.1
baz=115,SNR=21
O16K Kokwok River B 60.92 330 IAmb IAmb 20 25 36.7
comp=Z,29nm,0.9s
O16K Kokwok River B 60.92 330 P P 20 25 36.1 +0.3
baz=108
ITQB Itaqui 60.94 138 P P 20 25 39.7 +3.3
ITQB IAmb IAmb 20 25 41.2
comp=Z,40nm,1.1s
ITQB Itaqui 60.94 138 eP P 20 25 40.1 +3.8
SDPT Sand Point 60.95 325 P P 20 25 36.1 -0.1
baz=104
H21K Melozitna Rive 61.02 337 IAmb IAmb 20 25 37.2
comp=Z,23nm,1.1s
H21K Melozitna Rive 61.02 337 P P 20 25 36.6 +0.1
baz=117,SNR=18
E23K Chandalar 61.10 341 P P 20 25 38.3 +1.3
baz=121,SNR=36
TTA Tatalina 61.15 334 P P 20 25 36.4 -1.1
TTA IAmb IAmb 20 25 38.0
comp=Z,31nm,1.1s
TTA Tatalina 61.15 334 P P 20 25 36.4 -1.1
TTA pmax pmax
comp=Z,31nm,1.1s
TTA Tatalina 61.15 334 P P 20 25 37.4 0.0
baz=112,SNR=16
G22K Bettles 61.16 339 P P 20 25 37.7 +0.4
baz=119
L18K Granite Mounta 61.17 333 IAmb IAmb 20 25 40.2
comp=Z,43nm,1.1s
L18K Granite Mounta 61.17 333 P P 20 25 37.8 +0.3
baz=111,SNR=14
M17K Holitna River 61.22 332 P P 20 25 38.1 +0.3
baz=110,SNR=8.0
UMMG Uummannaq 61.26 16 iP P 20 25 37.5 -0.4
UMMG IAmb IAmb 20 25 39.4
comp=Z,237nm,2.2s
I20K Naaghedeneel 61.28 336 P P 20 25 38.4 +0.3
baz=115,SNR=5.9
LR05 Currie 61.30 157 P P 20 25 40.8 +2.2
LR05 IAmb IAmb 20 25 44.0
comp=Z,22nm,1.2s
TOLK Toolik Lake Re 61.39 341 IAmb IAmb 20 25 44.9
comp=Z,46nm,1.3s
TOLK Toolik Lake Re 61.39 341 P P 20 25 39.8 +0.8
baz=122,SNR=21
J19K Poorman 61.40 335 P P 20 25 39.0 0.0
baz=113,SNR=29
D24K Happy Valley 61.44 342 IAmb IAmb 20 25 45.6
comp=Z,39nm,1.4s
D24K Happy Valley 61.44 342 P P 20 25 39.3 +0.1
baz=122
BB19B Bebedouro 61.49 125 eP P 20 25 42.3 +1.9
N16K Nishlik Lake 61.52 331 P P 20 25 40.1 +0.2
baz=108,SNR=10.0
O15K Ungalikthiuk R 61.63 329 P P 20 25 40.3 -0.4
baz=106
UPNV Upernavik 61.64 13 iP P 20 25 39.8 -0.8
UPNV IAmb IAmb 20 25 43.0
comp=Z,166nm,2.3s
J18K Innoko River 61.65 334 IAmb IAmb 20 25 46.6
comp=Z,33nm,1.1s
J18K Innoko River 61.65 334 P P 20 25 40.7 0.0
baz=112,SNR=11
F22K John River 61.67 339 P P 20 25 41.9 +1.1
baz=118,SNR=23
G21K Allakaket 61.67 338 P P 20 25 40.9 0.0
baz=116
C24K Franklin Bluff 61.71 342 P P 20 25 41.6 +0.6
baz=123
H20K Knottleneega Mo 61.73 337 P P 20 25 41.3 0.0
baz=114,SNR=24
M16K Timber Creek 61.78 331 P P 20 25 42.1 +0.4
baz=108,SNR=8.8
PMNB Patos De Minas 61.83 122 eP P 20 25 43.0 +0.2
E22K Anaktuvuk Pass 61.85 340 IAmb IAmb 20 25 47.9
comp=Z,48nm,1.4s
E22K Anaktuvuk Pass 61.85 340 P P 20 25 42.7 +0.6
baz=119,SNR=26
L17K Donlin 61.85 333 P P 20 25 42.1 0.0
baz=110,SNR=11
D23K Nanushuk River 61.91 341 P P 20 25 43.6 +1.2
baz=120,SNR=25
S12K Black Hills 61.91 325 P P 20 25 42.8 +0.1
baz=103
JANB Januaria 61.92 117 eP P 20 25 42.9 -0.5
F21K Alatna River 61.98 339 P P 20 25 43.9 +0.9
baz=117,SNR=45
K17K Iditarod 62.05 333 P P 20 25 43.2 -0.3
baz=110,SNR=12
N15K Kwethluk River 62.05 330 P P 20 25 43.4 -0.1
baz=107
GCSA Galena City Sc 62.20 336 P P 20 25 44.0 -0.3
baz=112
L16K Owhat River 62.24 332 P P 20 25 45.0 +0.3
baz=108,SNR=6.8
PLCA Paso Flores 62.29 156 IAmb IAmb 20 25 51.1
comp=Z,35nm,1.2s
PLCA Paso Flores 62.29 156 P P 20 25 46.2 +0.8
comp=Z,14nm,1.0s,baz=329,slow=8.1,SNR=6.2
PLCA LR LR 20 47 14.9
comp=Z,623nm,19.0s,baz=330,slow=31
comp=Z,14nm,1.0s
PLCA Paso Flores 62.29 156 eP P 20 25 50.0 +4.6
C23K Itkillik River 62.34 342 P P 20 25 45.7 +0.4
baz=121,SNR=23
H19K Roundabout Mou 62.34 337 IAmb IAmb 20 25 46.0
comp=Z,22nm,1.1s
H19K Roundabout Mou 62.34 337 P P 20 25 45.2 -0.1
baz=113,SNR=11
ITAB Concordia 62.38 133 P P 20 25 46.6 +0.4
ITAB IAmb IAmb 20 25 50.7
comp=Z,35nm,1.1s
ITAB Concordia 62.38 133 eP P 20 25 49.8 +3.6
M15K Kasigluk River 62.49 331 P P 20 25 46.5 0.0
baz=106
D22K Ayikyak River 62.49 341 P P 20 25 47.3 +0.9
baz=118,SNR=40
J17K VABM Dome 62.62 334 IAmb IAmb 20 26 33.4
comp=Z,28nm,1.2s
J17K VABM Dome 62.62 334 P P 20 25 47.0 -0.2
baz=109
KULLO Kullorsuaq 62.66 11 iP P 20 25 44.9 -2.4
KULLO IAmb IAmb 20 25 48.4
comp=Z,40nm,1.2s
F20K Avaraart Lake 62.69 338 IAmb IAmb 20 25 54.3
comp=Z,47nm,1.4s
F20K Avaraart Lake 62.69 338 P P 20 25 48.4 +0.7
baz=114,SNR=25
E21K Killik River 62.70 340 P P 20 25 48.1 +0.3
baz=117
TBOT Tacuaremb 62.74 139 eP P 20 25 52.1 +3.7
N14K Kuskokwak Cree 62.75 330 P P 20 25 47.6 -0.6
baz=105
G19K Purcell Mounta 62.82 337 P P 20 25 48.9 +0.3
baz=113,SNR=26
H18K Honhosa River 62.94 336 P P 20 25 49.6 +0.3
baz=111
ISOG Isortoq, Green 63.03 24 iP P 20 25 48.8 -1.1
ISOG IAmb IAmb 20 25 49.9
comp=Z,49nm,1.1s
LL01 San Ignacio de 63.03 158 pP 20 25 55.6 +3.9
M14K Bethel 63.11 331 P P 20 25 50.8 +0.3
baz=105,SNR=8.1
L15K Ungalak Mounta 63.14 332 P P 20 25 51.3 +0.6
baz=106,SNR=18
J16K Anvik River 63.23 333 P P 20 25 52.1 +0.7
baz=108,SNR=11
C21K Knifeblade Rid 63.29 341 P P 20 25 52.6 +0.9
baz=116,SNR=28
G18K Tagagawik 63.32 337 IAmb IAmb 20 26 00.1
comp=Z,34nm,1.4s
G18K Tagagawik 63.32 337 P P 20 25 52.6 +0.7
baz=111,SNR=13
K15K Wolf Creek Mou 63.34 332 P P 20 25 53.1 +1.1
baz=106,SNR=11
F19K Shaleruckik Mo 63.34 338 P P 20 25 52.7 +0.7
baz=112
TBI Tubuai 63.34 233 eP P 20 25 55.3 +2.6
comp=Z,505nm,43.5s
TBI eS S 20 34 27.2 +1.4
comp=Z,1μm,25.0s
TBI eSS SS 20 38 39.1 +6.3
comp=Z,748nm,33.5s
TBI eLQ LQ 20 42 01.7
comp=Z,4μm,28.0s
TBI eLR LR 20 44 41.2
comp=Z,1μm,24.0s
TBI eLR LR 20 44 52.0
comp=Z,5μm,25.2s
E20K Nigu River 63.36 339 P P 20 25 52.9 +0.7
baz=114
E19K Redstone River 63.39 338 P P 20 25 52.7 +0.3
baz=113
B22K Teshekpuk Lake 63.42 342 IAmb IAmb 20 25 58.6
comp=Z,39nm,1.2s
B22K Teshekpuk Lake 63.42 342 P P 20 25 52.8 +0.3
baz=118,SNR=12
B21K Ikpikpuk River 63.45 341 IAmb IAmb 20 25 59.0
comp=Z,31nm,1.2s
B21K Ikpikpuk River 63.45 341 P P 20 25 53.0 +0.4
baz=117,SNR=17
I17K Unalakleet 63.46 334 P P 20 25 53.8 +1.0
baz=108
H17K Granite Mounta 63.48 335 P P 20 25 54.0 +1.0
baz=109,SNR=18
CPSB Cacapava Do Su 63.49 137 eP P 20 25 57.2 +3.6
ANGG Ammassalik, Gr 63.57 24 P P 20 25 52.2 -1.3
ANGG Ammassalik, Gr 63.57 24 iP P 20 25 52.6 -0.9
ANGG IAmb IAmb 20 25 53.9
comp=Z,51nm,1.2s
L14K Kuka Creek 63.60 331 P P 20 25 54.1 +0.3
baz=105,SNR=11
M13K Dall Lake 63.68 330 P P 20 25 54.7 +0.4
baz=104
D20K Etivluk River 63.70 340 P P 20 25 55.0 +0.6
baz=114
VAO Valinhos 63.75 126 eP P 20 25 57.5 +2.0
TRQA Tornquist 63.94 148 P P 20 25 59.2 +2.8
TRQA IAmb IAmb 20 26 01.6
comp=Z,29nm,1.1s
TRQA Tornquist 63.94 148 P P 20 25 59.2 +2.8
TRQA pmax pmax
comp=Z,29nm,1.1s
LL02 Futaleuf 63.95 159 pP 20 26 01.4 +3.6
F18K Selawik 63.95 337 P P 20 25 56.8 +0.8
baz=110,SNR=13
G17K Kiwalik Mounta 63.96 336 P P 20 25 57.2 +1.1
baz=109,SNR=18
DIAM Diamantina, MG 63.99 120 eP P 20 25 58.0 +0.7
D19K Kuna River 64.11 339 P P 20 25 57.4 +0.3
baz=113
A22K Sinclair Lake 64.19 342 P P 20 25 58.3 +0.8
baz=117
PLTB Pedras Altas 64.27 138 IAmb IAmb 20 26 03.4
comp=Z,25nm,1.1s
PLTB Pedras Altas 64.27 138 eP P 20 26 02.5 +3.9
H16K Elim 64.33 335 P P 20 25 59.8 +1.3
baz=107,SNR=5.7
J14K Nanvaranak Lak 64.37 332 P P 20 25 60.0 +1.2
baz=105,SNR=12
B20K Meade River 64.41 341 P P 20 25 59.9 +0.9
baz=114
F17K Baldwin Pennin 64.50 337 P P 20 26 00.3 +0.7
baz=109,SNR=9.4
CNLB Canela 64.55 134 eP P 20 26 04.2 +3.7
E18K Tukpahlearik C 64.59 338 P P 20 26 00.4 +0.2
baz=110
G16K Koyuk River 64.60 335 IAmb IAmb 20 26 07.4
comp=Z,44nm,1.2s
G16K Koyuk River 64.60 335 P P 20 26 01.3 +1.0
baz=107,SNR=16
K13K Kusilvak Mount 64.66 331 P P 20 26 00.8 0.0
baz=103
AY01 Puyuhuapi 64.76 160 IAmb IAmb 20 26 07.1
comp=Z,22nm,1.0s
A21K Barrow 64.81 342 P P 20 26 01.6 +0.1
baz=116
E17K Hotham Inlet 64.92 337 P P 20 26 02.6 +0.2
baz=108,SNR=38
M11K Mekoryuk 65.06 330 P P 20 26 02.6 -0.7
baz=101
G15K Niukluk 65.17 335 P P 20 26 05.0 +1.0
baz=105,SNR=10.0
C18K Utukok River 65.22 339 IAmb IAmb 20 26 11.7
comp=Z,28nm,1.1s
C18K Utukok River 65.22 339 P P 20 26 04.2 -0.2
baz=110,SNR=16
NIKH Nikolski High 65.39 321 P P 20 26 05.6 -0.1
baz=95
D17K Noatak River 65.58 338 P P 20 26 07.2 +0.5
baz=107,SNR=12
F15K North Star Dit 65.61 335 P P 20 26 08.1 +1.2
baz=105,SNR=19
ANM Nome 65.61 334 P P 20 26 07.7 +0.8
baz=104
RDOG Red Dog Mine 65.63 338 IAmb IAmb 20 26 13.2
comp=Z,23nm,1.0s
RDOG Red Dog Mine 65.63 338 P P 20 26 07.1 +0.2
baz=108,SNR=6.6
B18K Kokolik River 65.67 340 P P 20 26 07.9 +0.7
baz=109,SNR=14
A19K Wainwright 65.72 341 P P 20 26 07.7 +0.2
baz=110
RCBR Riachuelo 65.75 104 P P 20 26 08.7 0.0
comp=Z,2.0nm,0.9s,baz=278,slow=18,SNR=4.1
RCBR LR LR 20 57 24.7
comp=Z,276nm,18.4s,baz=294,slow=38
comp=Z,2.0nm,0.9s
RCBR Riachuelo 65.75 104 eP P 20 26 08.7 0.0
SUMG Summit 65.94 17 P P 20 26 08.8 -0.6
SUMG Summit 65.94 17 P P 20 26 08.8 -0.6
SUMG pmax pmax
comp=Z,49nm,1.1s
SUMG Summit 65.94 17 iP P 20 26 09.0 -0.4
SUMG IAmb IAmb 20 26 11.9
comp=Z,56nm,1.1s
P08K Saint George I 66.19 325 P P 20 26 11.4 +0.7
baz=96
CMC01 Camacan, BA 66.19 115 eP P 20 26 12.1 +0.7
F14K Arctic Creek 66.23 335 P P 20 26 11.5 +0.7
baz=103,SNR=9.1
GUA01 Guaratinga, BA 66.48 117 eP P 20 26 14.3 +1.1
C16K Lisburne Hills 66.56 338 P P 20 26 12.9 0.0
baz=106
SPIA Saint Paul Isl 66.64 326 P P 20 26 13.5 0.0
baz=96
TNA Tin City 66.89 335 P P 20 26 15.5 +0.4
baz=102
RIB01 Linhares ES 67.21 119 eP P 20 26 19.7 +1.9
GAMB Gambell 68.18 333 P P 20 26 23.9 +0.7
baz=98
BORG Borgarnes 70.10 26 LR LR 20 57 55.6
comp=Z,410nm,20.8s,baz=293,slow=37
SCO Scoresbysund 70.44 20 P P 20 26 36.4 -0.7
SCO Scoresbysund 70.44 20 P P 20 26 36.4 -0.7
SCO pmax pmax
comp=Z,82nm,1.8s
SCO Scoresbysund 70.44 20 iP P 20 26 37.0 -0.1
SCO IAmb IAmb 20 26 46.5
comp=Z,96nm,1.9s
RAR Rarotonga 70.55 240 LR LR 20 52 42.5
comp=Z,313nm,18.0s,baz=94,slow=32
MG03 Isla Dawson 73.77 163 P P 20 26 59.2 +2.1
JMIC Jan Mayen 74.90 20 LR LR 21 02 41.5
comp=Z,594nm,18.1s,baz=261,slow=38
USHA Ushuaia 75.21 163 LR LR 20 54 45.1
comp=Z,546nm,18.4s,baz=3.0,slow=31
BILL Bilibino 77.07 337 P P 20 27 16.0 -0.2
BILL Bilibino 77.07 337 ceP P 20 27 16.1 0.0
BILL pmax pmax
comp=Z,57nm,1.3s
SPITS Spitsbergen Ar 79.24 11 P P 20 27 27.8 -0.2
comp=Z,9.0nm,1.0s,baz=248,slow=4.4,SNR=4.3
SPITS LR LR 21 05 12.9
comp=Z,801nm,18.6s,baz=302,slow=38
comp=Z,9.0nm,1.0s
EKA Eskdalemuir Ar 79.94 35 P P 20 27 31.3 -0.9
comp=Z,5.6nm,0.8s,baz=290,slow=5.9,SNR=14
comp=Z,5.6nm,0.8s
MORF Marmelete 80.36 54 eP P 20 27 34.7 -0.2
MORF IAMs_20 IAMs_20 20 58 11.1
comp=Z,918nm,27.9s
MORF Marmelete 80.36 54 eP P 20 27 34.7 -0.2
MESJ Messejana 80.57 53 eP P 20 27 35.8 -0.2
MESJ eS S 20 37 40.8 -2.9
MESJ IAMs_20 IAMs_20 20 58 47.6
comp=Z,574nm,18.0s
MESJ Messejana 80.57 53 eP P 20 27 35.8 -0.2
MESJ eS S 20 37 40.8 -2.9
PAB San Pablo 83.10 51 P P 20 27 48.2 -1.2
PAB IAmb IAmb 20 29 01.1
comp=Z,39nm,1.6s
PAB San Pablo 83.10 51 P P 20 27 48.2 -1.2
PAB pmax pmax
comp=Z,39nm,1.6s
ESDC Sonseca Array 83.35 51 P P 20 27 48.8 -1.9
ESDC Sonseca Array 83.35 51 P P 20 27 49.8 -0.8
comp=Z,2.4nm,0.8s,baz=291,slow=4.6,SNR=12
ESDC LR LR 21 02 13.5
comp=Z,537nm,18.7s,baz=290,slow=34
comp=Z,2.4nm,0.8s
ESBB Sonseca Array 83.35 51 P P 20 27 46.8 -3.9
ESBB IAmb IAmb 20 27 52.5
comp=Z,60nm,2.0s
SEY Seymchan 84.12 334 LR LR 21 06 31.1
comp=Z,575nm,18.9s,baz=60,slow=36
SEY Seymchan 84.12 334 ceP P 20 27 53.9 -0.1
SEY pmax pmax
comp=Z,5.0nm,0.8s
MDT Midelt 84.68 58 LR LR 21 00 33.8
comp=Z,225nm,21.2s,baz=314,slow=32
PET Petropavlovsk 84.72 324 eP P 20 27 53.0 -4.2
PET eS SKSac 20 38 17.8 -4.2
PET eSS SS 20 43 56.1 -0.1
PET pmax pmax
comp=Z,200nm,12.3s
PET pmax pmax
comp=Z,300nm,9.5s

PET MLR MLR
comp=Z,500nm,14.0s
PET MLR MLR
comp=Z,400nm,17.0s
PMSA Palmer Station 84.86 166 LR LR 20 57 28.1
comp=Z,242nm,18.0s,baz=342,slow=30
NBO00 NORSAR Array S 85.06 27 IAmb IAmb 20 28 05.6
comp=Z,51nm,1.6s
KONO Kongsberg 85.09 29 P **P 20 27 58.1 -0.8**
KONO Kongsberg 85.09 29 *ce*P **P 20 27 59.5 +0.6**
KONO pmax pmax
comp=Z,51nm,2.0s
CLF Chambon-Foret 85.22 41 P **P 20 27 59.4 -0.5**
PEA0B Petropavlovsk- 85.23 324 P **P 20 27 58.9 -0.9**
PEA0B Petropavlovsk- 85.23 324 *i* P **P 20 27 59.5 -0.3**
PETK Petropavlovsk- 85.23 324 P **P 20 27 59.9 0.0**
comp=Z,2.3nm,0.8s,baz=89,slow=7.9,SNR=8.3
PETK LR LR 21 06 04.9
comp=Z,397nm,18.9s,baz=43,slow=36
comp=Z,2.3nm,0.8s
NB2 NORSAR Subarra 85.25 27 P **P 20 28 00.5 +0.7**
comp=Z,181nm,2.5s,baz=300,slow=5.1
NB2 NORSAR Subarra 85.25 27 P **P 20 28 00.5 +0.7**
baz=300,slow=5.1
NOA NORSAR Array B 85.25 27 P **P 20 27 60.0 +0.2**
comp=Z,1.7nm,0.7s,baz=300,slow=5.1,SNR=14
comp=Z,1.7nm,0.7s
NOA NORSAR Array B 85.25 27 P **P 20 28 00.0 +0.2**
UCC Uccle 85.59 38 *d*P **P 20 28 01.2 -0.4**
DOU Dourbes 85.98 39 *d*P **P 20 28 03.5 -0.1**
BMRD Maredsous 86.01 39 *d*P **P 20 28 04.0 +0.2**
comp=Z,7.1nm,1.2s
ARCES ARCESS Array B 86.03 17 P **P 20 28 02.8 -0.8**
comp=Z,6.2nm,0.9s,baz=304,slow=2.2,SNR=4.8
ARCES LR LR 21 11 14.4
comp=Z,288nm,18.3s,baz=314,slow=39
comp=Z,6.2nm,0.9s
BGES Gesves 86.17 39 *d*P **P 20 28 04.7 +0.1**
MA2 Magadan 86.24 331 LR LR 21 06 06.1
comp=Z,488nm,21.6s,baz=61,slow=35
MA2 Magadan 86.24 331 *i* P **P 20 28 04.5 -0.2**
MA2 pmax pmax
comp=Z,55nm,1.6s
BCLA Clavier 86.29 38 *d*P **P 20 28 05.2 0.0**
MEM Membach 86.64 38 *d*P **P 20 28 06.7 -0.1**
BTNL Ternell 86.72 38 *d*P **P 20 28 07.3 0.0**
comp=Z,6.0nm,0.0s
HFS Hagfors 86.75 28 P **P 20 28 05.9 -1.3**
comp=Z,1.9nm,0.8s,baz=144,slow=1.3,SNR=3.8
comp=Z,1.9nm,0.8s
TIXI Tiksi 86.77 346 P **P 20 28 05.8 -1.2**
TIXI Tiksi 86.77 346 LR LR 21 11 23.4
comp=Z,313nm,18.1s,baz=86,slow=39
TIXI Tiksi 86.77 346 *ce*P **P 20 28 06.2 -0.9**
TIXI pmax pmax
comp=Z,54nm,1.5s
WLF Walferdange 87.08 39 *d*P **P 20 28 09.9 +0.9**
MSVF Nonsavu 88.72 251 LR LR 20 58 39.1
comp=Z,269nm,20.2s,baz=86,slow=29
DAVA Damuels 90.28 40 *e*P **P 20 28 23.6 -0.8**
comp=Z,4.6nm,0.8s
CLL Collm 90.40 36 *i* P **P 20 28 23.6 -1.1**
CLL *e* 20 31 58.0
CLL pmax pmax
comp=Z,65nm,2.6s
DAVOX Davos/Dischmat 90.49 41 LR LR 21 12 44.6
comp=Z,286nm,18.3s,baz=301,slow=38
RETA Reutte 90.75 40 *i* PcP **P 20 28 26.2 -0.3**
comp=Z,11nm,2.0s
FETA Feichten 90.92 40 *e*PcP **P 20 28 28.8 +1.4**
comp=Z,3.2nm,1.0s
MOTA Moosalm 91.02 40 *i* PcP **PcP 20 28 28.4 -0.4**
comp=Z,15nm,1.9s
BRG Berggiesshubel 91.12 36 *e*P **P 20 28 27.8 -0.3**
BRG Amp 20 28 30.0
comp=Z,5.3nm,1.0s
SQTA Sankt Quirin 91.13 40 *i* PcP **P 20 28 28.4 0.0**
comp=Z,13nm,1.9s
FINES FINESS Array B 91.17 23 P **P 20 28 26.9 -1.1**
comp=Z,4.9nm,1.1s,baz=151,slow=4.4,SNR=4.9
comp=Z,4.9nm,1.1s
WATA Walderalm 91.31 40 *i* PcP **P 20 28 30.4 +1.2**
comp=Z,10.0nm,1.8s
WTTA Wattenberg 91.38 40 *i* PcP **PcP 20 28 30.1 -0.4**
comp=Z,9.7nm,1.7s
KHC Kasperske Hory 91.72 37 *ce*P **P 20 28 30.1 -0.8**
KHC pmax pmax
comp=Z,4.0nm,1.1s
DBIC Dimbokro 91.74 83 P **P 20 28 32.7 +1.1**
comp=Z,5.8nm,0.9s,baz=146,slow=1.8,SNR=3.8
DBIC LR LR 21 05 09.3
comp=Z,229nm,21.6s,baz=282,slow=33
comp=Z,5.8nm,0.9s
GERES GERESS Array B 91.92 38 P **P 20 28 31.4 -0.5**
comp=Z,0.8nm,0.6s,baz=280,slow=7.6,SNR=3.3
GERES LR LR 21 11 42.8
comp=Z,220nm,18.5s,baz=270,slow=37
comp=Z,0.8nm,0.6s
LESA Schwarzleotal 91.94 39 *i* PcP **PcP 20 28 32.8 -0.1**
comp=Z,5.3nm,1.3s
ABTA Abfaltersbach 92.14 40 *e*PcP **P 20 28 33.0 0.0**
comp=Z,6.1nm,1.1s
BIOA Bad Ischl, Aus 92.41 39 *e*PcP **P 20 28 35.5 +1.3**
comp=Z,0.2nm,0.4s
KBA Koelnbreinsper 92.51 39 *e*PcP **P 20 28 34.1 -0.7**
comp=Z,3.5nm,1.1s
MOA Molln 92.71 38 *e*PcP **PcP 20 28 36.2 0.0**
comp=Z,3.6nm,1.1s
YAK Yakutsk 93.32 339 P **P 20 28 37.3 -0.6**
YAK Yakutsk 93.32 339 LR LR 21 14 07.0
comp=Z,610nm,18.8s,baz=41,slow=38
YAK Yakutsk 93.32 339 *e*P **P 20 28 37.7 -0.2**
YAK *e* 20 28 43.1
YAK *e* 20 32 17.9
YAK *e*S **SKSac 20 39 10.4 -2.3**
YAK *e*SS SS 20 46 11.3 +11
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.5s
YAK pmax pmax
comp=Z,8.0nm,0.8s
YAK pmax pmax
comp=E,16nm,2.5s
YAK pmax pmax
comp=N,20nm,2.3s
YAK smax smax
comp=N,137nm,5.7s
YAK smax smax
comp=E,84nm,3.8s
YAK MLR MLR
comp=Z,604nm,15.0s
YAK MLR MLR
comp=N,329nm,15.0s
YAK MLR MLR
comp=E,400nm,19.0s
VRAC Vranov 93.37 36 *e*P **P 20 28 37.4 -1.1**
VRAC *e*PP **PP 20 32 20.3 -1.7**
KRUC Moravsky 93.38 37 *e*P **P 20 28 37.3 -1.2**
KRUC *e*PP **PP 20 32 20.3 -1.7**
OBKA Obir 93.50 40 *i* PcP **P 20 28 38.4 -0.9**
comp=E,7.7nm,1.7s
CONA Conrad Observa 93.62 38 *i* PcP **PcP 20 28 40.5 +0.2**
comp=E,7.3nm,2.0s
MORC Moravsky Berou 93.68 36 *e*P **P 20 28 39.1 -0.9**
MORC *e*PP **PP 20 32 22.9 -1.5**
ARSA Arzberg 93.74 39 *e*PcP **P 20 28 39.6 -0.7**
comp=E,2.7nm,0.9s
RONA Rosalia, Austr 93.99 38 *e*P **P 20 28 38.4 -3.0**
comp=E,2.3nm,0.9s
KEST Kesra 94.60 51 LR LR 21 09 41.4
comp=E,321nm,18.8s,baz=357,slow=35
NRIK Noril'sk 94.63 358 IAmb IAmb 20 28 49.3
comp=Z,11nm,1.1s
NRIK Noril'sk 94.63 358 P **P 20 28 43.8 -0.1**
comp=Z,6.6nm,1.1s,baz=359,slow=5.9,SNR=7.1
NRIK LR LR 21 13 26.7
comp=Z,386nm,21.1s,baz=48,slow=37
comp=Z,6.6nm,1.1s
VYHS Vyhne 95.06 36 *e*PP **PP 20 32 35.9 +0.8**
URZ Urewera 95.46 232 LR LR 21 01 54.1
comp=Z,283nm,21.6s,baz=166,slow=29
TORD Torodi Ar. Bea 96.02 75 LR LR 21 09 05.6
comp=Z,498nm,19.8s,baz=292,slow=34
MNK Minsk 96.25 28 *i* P **P 20 28 49.3 -2.2**
MNK *i* 20 32 42.0
MNK *i* PPP PPP 20 34 51.8
MNK *i* S **SKSac 20 39 24.1 -4.7**
MNK *i* PS **PS 20 41 29.6 -1.6**
MNK *i* SS **SS 20 46 40.1 -2.4**
MNK *i* SSS SSS 20 50 24.0
MNK pmax pmax
comp=Z,7.0nm,1.5s
MNK pmax pmax
comp=E,10.0nm,1.3s
MNK pmax pmax
comp=N,7.0nm,0.7s
MNK MLR MLR
comp=N,252nm,18.0s
MNK MLR MLR
comp=Z,361nm,21.0s
MNK MLR MLR
comp=E,62nm,14.0s
KLMR Klimovskoe 96.28 19 *e*P **P 20 28 49.4 -2.1**
KLMR pmax pmax
comp=Z,29nm,1.3s
TAM Tamanrasset 96.31 64 P **P 20 28 49.5 -3.2**
TAM Tamanrasset 96.31 64 P **P 20 28 49.5 -3.2**
TAM pmax pmax
comp=Z,36nm,0.2s
YSS Yuzhno-Sakhali 96.56 323 *e*P **P 20 28 57.9 +4.8**
YSS *e* 20 32 52.0
YSS *e*S **S 20 40 17.2 +2.5**
YSS *e*SS **SS 20 46 56.8 +9.3**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=Z,500nm,19.0s
YSS MLR MLR
comp=N,600nm,16.0s
VAE Valguarnera 97.55 48 LR LR 21 09 28.6
comp=N,701nm,20.7s,baz=0.5,slow=33
AKASG Malin Array Be 99.30 31 PP **PP 20 33 06.3 -1.2**
comp=N,1.1nm,0.8s,baz=304,slow=7.3,SNR=6.9
ZEA Zeya 100.10 334 *e*P **Pdif 20 29 13.9 +5.0**
HEH HeiHe 102.51 332 *e*P **Pdif 20 29 23.3 +3.7**
HEH LR LR
comp=N,340nm,14.2s
HEH LR LR
comp=N,910nm,15.5s
HEH LR LR
comp=N,810nm,14.5s
ZALV Zalesovo Beam 110.13 358 PP **PP 20 34 25.9 -1.6**
comp=N,1.1nm,0.6s,baz=338,slow=12,SNR=4.0
BVAR Borovoye Array 110.46 7 PP **PP 20 34 27.8 -2.1**
comp=N,1.7nm,0.9s,baz=322,slow=4.1,SNR=6.4
KIV Kislovodsk 110.51 29 *i* PKIKP **PKiKP 20 33 54.0 -2.1**
KIV *e*PS **PS 20 43 59.2 -2.2**
KIV *e*SS SS 20 49 51.7 -7.6
KIV pmax pmax
comp=Z,3.0nm,1.1s
KSRS Korea Array 111.03 322 PKiKP **PKiKP 20 33 59.6 +2.5**
comp=Z,0.9nm,0.7s,baz=9.7,slow=1.3,SNR=5.2
SONM Songino Array 112.50 342 PP **PP 20 34 42.1 -2.7**
comp=Z,0.9nm,0.9s,baz=57,slow=5.5,SNR=3.6
MAK Makhachkala 113.45 27 *i* P **Pdif 20 30 01.7 -6.8**
MAK *e* 20 40 37.6
MAK *e*PS **PS 20 44 25.6 -2.5**
MAK *e*SSS SSS 20 54 46.9
MAK pmax pmax
comp=Z,43nm,0.9s
KURBB Kurchatov Arra 113.48 2 PP **PP 20 34 49.8 -1.6**
comp=Z,1.8nm,0.9s,baz=357,slow=6.4,SNR=8.4
KURBB PKKPbc **PKKPab 20 44 53.6 -1.7**
comp=Z,0.2nm,0.7s,baz=197,slow=3.9,SNR=4.6
HHC Hu-ho-hao-te 116.76 335 *e*PKP **PKPdf 20 34 05.3 -2.9**
HHC PP **PP 20 35 16.4 +1.3**
HHC LR LR
comp=Z,440nm,22.2s
HHC LR LR
comp=Z,530nm,17.6s
HHC LR LR
comp=Z,930nm,19.1s
MKAR Makanchi Array 117.35 359 PKP **PKiKP 20 34 11.6 +2.5**
comp=Z,0.5nm,0.8s,baz=26,slow=2.2,SNR=4.6
MKAR PP **PP 20 35 19.3 +0.6**
comp=Z,2.8nm,1.1s,baz=23,slow=6.6,SNR=5.1
BTO Baotou 117.59 336 *e*PKP **PKiKP 20 34 10.6 +0.8**
BTO PP **PP 20 35 25.5 +4.6**
BTO SS SS 20 51 35.6 +3.1
BTO AMB AMB
comp=Z,190nm,4.1s
BTO LR LR
comp=Z,830nm,21.3s
BTO LR LR
comp=Z,1μm,21.7s
BTO LR LR
comp=Z,1μm,19.6s
HNS HongShan 118.20 330 ⇓PKP **PKiKP 20 34 15.8 +4.9**
HNS LR LR
comp=Z,500nm,19.6s
HNS LR LR
comp=Z,450nm,17.0s
HNS LR LR
comp=Z,590nm,18.6s
SSE Sheshan 119.44 321 PKP **PKiKP 20 34 15.3 +1.8**
SSE PP **PP 20 35 39.9 +5.9**
SSE SS SS 20 51 54.6 -2.5
SSE AMB AMB
comp=Z,69nm,4.1s
SSE LR LR
comp=Z,170nm,17.2s
SSE LR LR
comp=Z,250nm,17.2s
WMQ Urumqi 120.05 355 *e*PKP **PKiKP 20 34 14.8 +0.3**
WMQ LR LR
comp=Z,590nm,20.7s
WMQ LR LR
comp=Z,460nm,20.7s
NJ2 Nanjing 120.13 323 *e*PKP **PKiKP 20 34 15.3 +0.5**
NJ2 LR LR
comp=Z,390nm,18.5s
NJ2 LR LR
comp=Z,440nm,15.2s
NJ2 LR LR
comp=Z,300nm,17.5s
SYO Syowa Base 121.06 164 ⇓*e*pPdiff pPdif 20 30 45.4 +2.3
SYO Syowa Base 121.06 164 ⇑*e*PKiKP **PKiKP 20 34 18.2 +2.8**
GTA Gaotai 122.12 343 *e*PKP **PKPdf 20 34 17.5 -1.1**
GTA LR LR
comp=Z,250nm,24.0s
GTA LR LR
comp=Z,420nm,23.6s
STKA Stephens Creek 123.48 242 PKP **PKiKP 20 34 23.9 +2.5**
comp=Z,5.8nm,0.7s,baz=100,slow=1.8,SNR=15
XAN Xi'an 123.63 333 Pdif **Pdif 20 30 51.4 -2.6**
XAN PKP **sPKPdf 20 34 25.3 +1.7**
XAN AMB AMB
comp=Z,290nm,10.4s
XAN LR LR
comp=Z,830nm,22.0s
XAN LR LR
comp=Z,810nm,19.9s
XAN LR LR
comp=Z,640nm,21.3s
LZH Lanzhou 123.88 338 PKP **PKiKP 20 34 22.4 0.0**
LZH PP **PP 20 36 05.8 +1.9**
LZH SS SS 20 52 51.8 -1.3
LZH AMB AMB
comp=Z,280nm,8.6s
LZH LR LR
comp=Z,270nm,16.8s
LZH LR LR
comp=Z,570nm,19.9s
LZH LR LR
comp=Z,650nm,17.9s
GOMU GeErMu 126.42 347 PKP **PKiKP 20 34 27.5 -0.2**
GOMU SS SS 20 53 22.8 -2.3
GOMU AMB AMB
comp=Z,400nm,8.1s
GOMU LR LR
comp=Z,750nm,18.8s
GOMU LR LR
comp=Z,170nm,18.9s
GOMU LR LR
comp=Z,690nm,18.2s
BOSA Boshof 127.04 114 PKP **PKiKP 20 34 30.9 +2.2**
comp=Z,5.0nm,0.9s,baz=40,slow=9.4,SNR=3.2
WRA Warramunga Arr 129.69 257 **PKiKP 20 34 33.9 -0.2**
WRA Warramunga Arr 129.69 257 PKP **PKiKP 20 34 36.4 +2.3**
comp=Z,3.6nm,1.1s,baz=83,slow=1.8,SNR=4.7
ASAR Alice Springs 130.29 252 **PKPdf 20 34 33.0 -1.4**
ASAR Alice Springs 130.29 252 PKhKP PKPpre 20 34 25.9
comp=Z,0.9nm,0.9s,baz=100,slow=2.0,SNR=5.0
ASAR PKP sPKPdf 20 34 37.1 +0.5
comp=Z,4.1nm,0.9s,baz=102,slow=1.9,SNR=25
GYA Guiyang 131.05 330 PKP **PKiKP 20 34 39.8 +2.9**
GYA PP **PP 20 36 55.9 +4.4**
GYA AMB AMB
comp=Z,180nm,8.4s
GYA LR LR
comp=Z,440nm,14.5s
GYA LR LR
comp=Z,340nm,15.0s
GYA LR LR
comp=Z,540nm,22.6s
PZH PanZhiHua 133.22 335 PKP **PKPdf 20 34 39.3 -0.8**
PZH PP **PP 20 37 08.8 +3.5**
PZH AMB AMB
comp=Z,150nm,6.3s
PZH LR LR
comp=Z,210nm,18.1s
PZH LR LR
comp=Z,330nm,17.7s
PZH LR LR
comp=Z,350nm,20.6s
QIZ Qiongzhong 135.23 320 PKP **PKPdf 20 34 43.1 -0.7**
QIZ SS SS 20 55 15.3 +1.4
QIZ LR LR
comp=Z,230nm,13.7s
QIZ LR LR
comp=Z,300nm,19.6s
QIZ LR LR
comp=Z,280nm,16.1s
TNCH TengChong 135.80 337 PKP **PKPdf 20 34 42.3 -2.7**
TNCH sPKP 20 34 49.6
TNCH PP **PP 20 37 23.8 +2.1**
TNCH AMB AMB
comp=Z,220nm,10.9s
TNCH LR LR
comp=Z,260nm,23.9s
TNCH LR LR
comp=Z,420nm,21.6s
CMAR Chiang Mai Arr 141.52 333 PKP **PKPdf 20 34 56.5 +1.1**
comp=Z,4.1nm,0.9s,baz=330,slow=2.0,SNR=10
KSM Kuching 146.51 299 **PKPdf 20 35 04.2 -0.1**
HYB Hyderabad 146.53 5 *e*PKPbc **PKPdf 20 35 04.4 +0.2**
KULM Kulim 151.43 317 **PKPbc 20 35 16.5 -1.8**
MYKOM Kota Tinggi 151.55 307 **PKPbc 20 35 17.8 -0.7**

IDC 22 20:19:12.6±14.0, 39°.68N×13°.55E, h483km±298km, mb2.9/3, mbtmp3.8/4, MS2.8/1, Error ellipse: s-maj=156.9km s-min=124.0km az=124.0, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**13.49**	**276**	P	P	20 22 07.0	-0.1
	1.2nm,0.5s,baz=75,slow=11,SNR=15						
MDT	**Midelt**	**16.16**	**251**	LR	LR	20 29 41.0	
	comp=Z,29nm,18.3s,baz=141,slow=39						
HFS	**Hagfors**	**20.48**	**0**	P	P	20 23 16.1	0.0
	2.6nm,1.1s,baz=182,slow=13,SNR=1.5						
	2.6nm,1.1s						
FINES	**FINESS Array B**	**23.11**	**15**	P	P	20 23 40.0	+0.1
	0.5nm,0.4s,baz=188,slow=9.1,SNR=9.0						
	0.5nm,0.4s						
ARCES	**ARCESS Array B**	**30.59**	**8**	P	P	20 24 45.2	-0.3
	4.0nm,1.2s,baz=186,slow=7.9,SNR=5.4						
	4.0nm,1.2s						

TAP ***22****20:23:47.1,23°.83N×121°.58E,h22km,ML2.7,C*
ISC 22 20:23:47.4±0.9, 23°.83N±0°.02×121°.59E±0°.03, h24km±4km, n74, σ0°70/126, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUL	**Shoufeng**	**0.05**	**210**	P	**Pb**	**20 23 51.5**	**-0.2**
SHUL				S	**Sb**	**20 23 54.8**	**+0.2**
TEGC	**Jichi Village**	**0.13**	**201**	P	**Pb**	**20 23 52.0**	**-0.3**
TEGC				*e*S	**Sb**	**20 23 57.2**	**+1.7**
HWA	**Hwalien**	**0.14**	**5**	*e*P	**Pb**	**20 23 52.3**	**-0.1**
HWA				*e*S	**Sb**	**20 23 56.9**	**+1.1**
ESL	**Shilin**	**0.15**	**262**	*i* P	**Pb**	**20 23 51.9**	**-0.6**
ESL				*e*S	**Sb**	**20 23 55.2**	**-0.6**
ETM	**Tongmen**	**0.16**	**325**	*i* P	**Pb**	**20 23 52.2**	**-0.4**
ETM				S	**Sb**	**20 23 55.8**	**-0.3**
WARBT	**Fenglin Townsh**	**0.22**	**238**	*i* P	**Pb**	**20 23 52.6**	**-0.7**
WARBT				*e*S	**Sb**	**20 23 56.4**	**-0.9**
EGFH	**Guangfu**	**0.22**	**223**	*e*P	**Pb**	**20 23 53.2**	**-0.1**
EGFH				*e*S	**Sb**	**20 23 57.3**	**0.0**
TWD	**Chiawan**	**0.24**	**1**	*e*P	**Pb**	**20 23 53.3**	**-0.3**
TWD				*e*S	**Sb**	**20 23 58.5**	**+0.7**
LXIB	**Xiulin Townshi**	**0.25**	**319**	*i* P	**Pb**	**20 23 53.2**	**-0.6**
LXIB				S	**Sb**	**20 23 57.8**	**-0.4**
ETL	**Fush Village**	**0.32**	**5**	*e*P	**Pb**	**20 23 54.8**	**0.0**
NACB	**Ninganchiao**	**0.34**	**0**	P	**Pb**	**20 23 54.5**	**-0.5**
NACB	**Ninganchiao**	**0.34**	**0**	P	**Pb**	**20 23 54.5**	**-0.5**
NACB				*e*S	**Sb**	**20 24 00.1**	**-0.1**
HGSD	**Ruisui**	**0.37**	**204**	*e*P	**Pb**	**20 23 56.2**	**+0.6**
HGSD				*e*S	**Sn**	**20 24 04.5**	**+0.8**
ETLH	**Xiulin Townshi**	**0.38**	**345**	*e*P	**Pb**	**20 23 55.3**	**-0.5**
ETLH				*e*S	**Sb**	**20 24 01.1**	**-0.4**
OWD	**Renai**	**0.40**	**288**	P	**Pb**	**20 23 55.5**	**-0.5**
OWD				*e*S	**Sb**	**20 24 01.4**	**-0.5**
EHY	**Hungye**	**0.41**	**217**	*e*P	**Pb**	**20 23 55.3**	**-0.9**
VWDT	**VWDT**	**0.42**	**259**	P	**Pb**	**20 23 56.0**	**-0.3**
VWDT				*e*S	**Sb**	**20 24 02.4**	**0.0**
WHF	**Hehuan Shan**	**0.43**	**316**	P	**Pb**	**20 23 56.1**	**-0.7**
WHF				*e*S	**Sb**	**20 24 02.4**	**-0.7**
WUSB	**Renai**	**0.46**	**290**	*i* P	**Pb**	**20 23 56.8**	**-0.3**
WUSB				*e*S	**Sb**	**20 24 03.4**	**-0.3**
EAHA	**Aohua**	**0.51**	**15**	*e*P	**Pb**	**20 23 57.5**	**-0.3**
EAHA				*e*S	**Sb**	**20 24 05.6**	**+0.8**
YULB	**Yu-li**	**0.52**	**212**	P	**Pb**	**20 23 58.0**	**+0.1**
YULB	**Yu-li**	**0.52**	**212**	*e*P	**Pb**	**20 23 56.8**	**-1.2**
FUSS	**Fushou**	**0.52**	**322**	P	**Pb**	**20 23 57.6**	**-0.5**
FUSS				*e*S	**Sb**	**20 24 05.4**	**-0.1**
ECBN	**Changbin**	**0.53**	**194**	*e*S	**Sn**	**20 24 07.0**	**-0.7**
EYUL	**Yuli**	**0.55**	**207**	*e*P	**Pn**	**20 23 59.0**	**-0.7**
TWF1	**Yuli**	**0.55**	**209**	*e*P	**Pb**	**20 23 57.7**	**-0.8**
TWT	**Tachien**	**0.56**	**318**	*e*P	**Pb**	**20 23 58.8**	**-0.1**
TWT				*e*S	**Sb**	**20 24 06.6**	**0.0**
TDCB	**Techi**	**0.57**	**317**	P	**Pb**	**20 23 58.7**	**-0.3**
TDCB				*e*S	**Sb**	**20 24 06.3**	**-0.6**
SSLB	**Suanglung**	**0.59**	**266**	P	**Pb**	**20 23 58.5**	**-0.6**
SSLB	**Suanglung**	**0.59**	**266**	P	**Pb**	**20 23 58.4**	**-0.7**
SSLB				S	**Sb**	**20 24 05.8**	**-1.2**
ENA	**Nanau**	**0.61**	**13**	*e*P	**Pb**	**20 23 59.3**	**-0.1**
ENA				*e*S	**Sb**	**20 24 08.2**	**+0.6**
NNSB	**Datong**	**0.62**	**342**	P	**Pb**	**20 23 59.3**	**-0.5**
NNSB				S	**Sb**	**20 24 07.4**	**-0.7**
EWUT	**Wuta**	**0.63**	**16**	*e*P	**Pb**	**20 23 59.6**	**-0.2**
EWUT				*e*S	**Sb**	**20 24 08.5**	**+0.2**
NNS	**Nan Shan**	**0.64**	**342**	P	**Pb**	**20 23 59.6**	**-0.4**
NNS				*e*S	**Sb**	**20 24 07.9**	**-0.7**
SMLT	**Sun Moon Lake**	**0.64**	**275**	*e*P	**Pb**	**20 23 58.2**	**-1.7**
SMLT				*e*S	**Sb**	**20 24 06.5**	**-2.0**
WCS	**Beigang Elemen**	**0.66**	**290**	P	**Pb**	**20 23 59.9**	**-0.4**
WCS				*e*S	**Sb**	**20 24 09.1**	**-0.1**
CHKH	**Chenggong**	**0.67**	**196**	*e*P	**Pb**	**20 23 59.4**	**-1.0**
CHKH				*e*S	**Sn**	**20 24 10.9**	**0.0**
TYC	**Yuchr**	**0.68**	**276**	P	**Pb**	**20 23 60.0**	**-0.6**
TYC				*e*S	**Sb**	**20 24 09.5**	**-0.1**
FULB	**Fuli**	**0.69**	**203**	*e*P	**Pb**	**20 24 00.5**	**-0.4**
WHYT	**Xinyi Township**	**0.69**	**259**	*e*P	**Pb**	**20 24 00.8**	**0.0**
WHYT				*e*S	**Sb**	**20 24 09.8**	**-0.3**
LATG	**Datong**	**0.70**	**355**	P	**Pb**	**20 24 00.4**	**-0.7**
LATG				S	**Sb**	**20 24 10.0**	**-0.4**
WHP	**Taichung City**	**0.74**	**307**	*e*P	**Pb**	**20 24 01.6**	**0.0**
WHP				*e*S	**Sb**	**20 24 11.4**	**0.0**
CHKT	**Chengkung**	**0.76**	**196**	*e*P	**Pb**	**20 24 01.4**	**-0.6**
CHKT				*e*S	**Sn**	**20 24 13.3**	**-0.1**
EHD	**Haiduan**	**0.77**	**208**	*e*P	**Pb**	**20 24 01.9**	**-0.3**
ALS	**Alishan**	**0.79**	**246**	P	**Pb**	**20 24 02.7**	**0.0**
ALS				*e*S	**Sb**	**20 24 13.4**	**+0.3**
WJS	**Zhushan**	**0.79**	**269**	*e*P	**Pn**	**20 24 03.0**	**-0.1**
WJS				*e*S	**Sn**	**20 24 14.6**	**+0.5**
ENTT	**Nioudou**	**0.80**	**358**	*e*P	**Pb**	**20 24 02.5**	**-0.3**
NDS	**Dongshan**	**0.80**	**8**	*e*P	**Pb**	**20 24 02.6**	**-0.2**
NDS				*e*S	**Sb**	**20 24 13.4**	**+0.1**
TWC	**Suao**	**0.81**	**17**	*e*P	**Pb**	**20 24 02.6**	**-0.2**

TWC			eS	Sn	20 24 14.7	+0.2
ELDTW	Lidau	0.83 220	eP	Pb	20 24 02.7	-0.6
ELDTW			eS	Sb	20 24 13.5	-0.6
WNT	Mingjian	0.83 273	eP	Pn	20 24 03.9	+0.3
WNT			S	Sn	20 24 16.0	+0.9
YHNB	Yeheng	0.85 347	P	Pb	20 24 03.6	-0.1
YHNB	Yeheng	0.85 347	P	Pb	20 24 03.3	-0.4
YHNB			S	Sb	20 24 14.6	-0.1
NSK	Sanguang	0.86 346	eP	Pb	20 24 03.6	-0.3
NSK			eS	Sb	20 24 14.9	-0.1
TWE	Neicheng	0.89 4	eP	Pn	20 24 04.3	0.0
EDH	Donghe	0.90 197	eP	Pb	20 24 03.1	-1.2
EDH			eS	Sn	20 24 17.5	+0.8
TWQ1	Liyutan	0.91 304	eP	Pn	20 24 05.2	+0.5
FUSB	Fushanzhiwuyua	0.92 360	eP	Pn	20 24 04.3	-0.6
FUSB			eS	Sb	20 24 16.5	-0.1
NWLT	Wulai	0.94 355	eP	Pn	20 24 05.0	-0.2
NWLT			eS	Sb	20 24 16.8	-0.5
NSTT	Nanjuang	0.96 326	eP	Pb	20 24 05.6	+0.2
LIOB	Emei	0.96 327	eP	Pb	20 24 05.9	+0.4
LIOB			eS	Sb	20 24 18.1	+0.3
WCKO	Fanlu	0.99 247	eP	Pb	20 24 06.3	+0.5
WCKO			eS	Sn	20 24 20.0	+1.0
STYH	Taoyuan	1.00 229	eP	Pn	20 24 04.2	-1.7
KSHI	Guanxi Townshi	1.01 338	eP	Pb	20 24 06.4	+0.1
TPUB	Ta-pu	1.03 239	P	Pb	20 24 07.0	+0.4
TPUB	Ta-pu	1.03 239	P	Pb	20 24 06.9	+0.2
TPUB			eS	Sn	20 24 20.7	+0.7
CHN4	Tsaushan	1.03 243	P	Pb	20 24 07.0	+0.4
CHN4			eS	Sn	20 24 22.8	+2.7
WTP	Ta-pu	1.07 237	eP	Pb	20 24 07.3	0.0
TWK	Hsinying	1.16 241	eP	Pb	20 24 09.3	+0.4
TWK			eS	Sb	20 24 24.6	+1.1
CHN1	Nanshi	1.17 237	eP	Pb	20 24 08.9	-0.1
CHN1			eS	Sb	20 24 25.2	+1.4
SNST	Tainan City	1.18 239	eP	Pb	20 24 08.8	-0.3
SNST			eS	Sb	20 24 25.8	+1.9
SGST	Jiashian	1.19 231	eP	Pn	20 24 08.7	+0.1
SGST			eS	Sb	20 24 25.9	+1.6
SXI1	Grass Mountain	1.28 12	eP	Pb	20 24 10.6	-0.3
ECL	Taimali	1.36 206	eP	Pn	20 24 10.1	-0.8

*IDC **22** 20:26:56.0±0.6,50.˙13N×130.˙31W,h0km,mb4.3/26, mbtmp4.3/36,ML3.9/10,MS4.1/27,Error ellipse: s-maj=16.1km s-min=9.3km az=47.0*

*NEIC **22** 20:26:56.4,50.˙17N×103.˙23W,h6km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.81; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$ 1.55; $M_{r\theta}$-0.39; $M_{r\phi}$0.07; $M_{\theta r}$-1.21; Fault plane solution: M_o2.10000×10^{16} NP1:ϕ_s174.00000°, δ28.00000°,λ-105.00000°. NP2:ϕ_s11.00000°,δ64.00000°, λ-82.00000°. Principal axes: T 2.0612, Plg18.0000°, Azm96.0000°; N 0.0845, Plg7.0000°, Azm188.0000°; P -2.1457, Plg70.0000°, Azm298.0000°;*

*PGC **22** 20:26:56.4±0.1,50.˙17N×130.˙23W,h10km,MLSn3.9/27, Mw4.8, 199km west of Port Alice, Bc Vancouver Island, Canada Region*

*GCMT **22** 20:26:58.4±0.3,50.˙12N±0.˙02×130.˙10W±0.˙03,h25km±1km, MW5.0/98,Moment Tensor Solution. s30,c34; s98,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.12±.21; $M_{\theta\theta}$-3.11±.15; $M_{\phi\phi}$3.23±.15; $M_{r\theta}$1.08±.43; $M_{r\phi}$1.61±.12; $M_{\theta r}$-2.87±.41; Best double couple: M_o4.66600×10^{16} NP1:ϕ_s240.00000°,δ50.00000°,λ1.00000°. NP2: ϕ_s150.00000°,δ89.00000°,λ140.00000°. Principal axes: T 4.9760, Plg28.0000°, Azm97.0000°; N -0.6150, Plg50.0000°, Azm328.0000°; P -4.3560, Plg26.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **22** 20:26:58.4±2.6,50.˙32N±0.˙07×130.˙1W±0.˙1,h8km±2km, mb4.7/303,Mww4.9/25,Mwr4.8(OTT) Error ellipse: s-maj=12.8km s-min=7.6km az=224.0*

*NEIC **22** 20:27:00.1,50.˙06N×130.˙00W,h12km,Moment Tensor Solution. Duration:1s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.88; $M_{\theta\theta}$-1.20; $M_{\phi\phi}$2.08; $M_{r\theta}$-0.95; $M_{r\phi}$0.73; $M_{\theta r}$1.03; Fault plane solution: M_o2.40000×10^{16} NP1:ϕ_s50.41000°, δ49.85000°,λ-21.15000°. NP2:ϕ_s154.42000°,δ73.99000°, λ-137.87000°. Principal axes: T 2.4541, Plg15.0000°, Azm277.0000°; N -0.1065, Plg45.0000°, Azm171.0000°; P -2.3476, Plg41.0000°, Azm21.0000°;*

*NEIC **22** 20:27:00.1,50.˙36N×130.˙08W,h12km*

*PMR **22** 20:27:01.0,50.˙36N×129.˙77W,h3km*

ISC 22 20:27:01.1±2.5,50.˙28N±0.˙05×130.˙01W±0.˙05, h26km±18km,n575,σ1§48/417,mb4.7/117,MS4.2/23,1C, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.25	72		Pn	20 27 20.6	-2.3
HOLB	Holberg	1.25	72	P	Pn	20 27 20.9	-2.0
HOLB				S	Sn	20 27 38.2	-0.7
BPEB	Brooks Peninsu	1.44	94	Pn	Pn	20 27 22.1	-3.4
BPEB				Sn	Sn	20 27 40.2	-3.4
PACB	Port Alice, BC	1.62	83	Pn	Pn	20 27 25.3	-2.6
PACB				Sn	Sn	20 27 45.8	-2.0
MAYB	Maynard	1.82	85	Pn	Pn	20 27 27.9	-2.9
MAYB				Sn	Sn	20 27 50.4	-2.7
HG4B	Hotspring	2.15	340		Pn	20 27 31.6	-3.7
JEDB	Jedway, Haida	2.15	340	Pn	Pn	20 27 31.1	-4.2
JEDB				Sn	Sn	20 27 57.6	-3.5
WOSB	Woss	2.21	92	Pn	Pn	20 27 33.8	-2.3
WOSB				Sn	Sn	20 28 01.4	-1.2
BBB	Bella Bella	2.25	31	Pn	Pn	20 27 36.0	-0.5
	135nm,0.3s,baz=225,slow=13,SNR=283						
BBB				Sn	Sn	20 28 03.0	-0.4
	101nm,0.3s,baz=336,slow=9.0,SNR=10						
BBB				LR	LR	20 28 38.5	
	comp=Z,889nm,20.3s,baz=350,slow=41 409nm,0.4s						
BBB	Bella Bella	2.25	31	Pn	Pn	20 27 35.7	-0.9
BBB				Sn	Sn	20 28 01.3	-2.2
NCSB	Newcastle Ridg	2.54	86	Pn	Pn	20 27 39.0	-1.6
NCSB				Sn	Sn	20 28 10.1	-0.6
BAIB	Barry Inlet	2.55	335	Pn	Pn	20 27 37.0	-3.7
BAIB				Sn	Sn	20 28 06.8	-4.1
BUTB	Butedale	2.95	18		Pn	20 27 45.8	-0.4
BUTB	Butedale	2.95	18	Pn	Pn	20 27 45.9	-0.4
MYRA	Myra Falls	2.96	103	Pn	Pn	20 27 43.8	-2.6
MYRA				Sn	Sn	20 28 20.0	-1.0
HG1B	Mitchell Dam	2.97	334	Pn	Pn	20 27 43.6	-2.9
CBB	Campbell River	3.00	93		Pn	20 27 45.3	-1.5
CBB	Campbell River	3.00	93	Pn	Pn	20 27 45.1	-1.7
CBB				Sn	Sn	20 28 20.5	-1.4
GRIB	Gribbell Islan	3.11	10	Pn	Pn	20 27 47.4	-1.1
MOBC	Moresby Island	3.12	338		Pn	20 27 45.8	-2.8
MOBC	Moresby Island	3.12	338	Pn	Pn	20 27 45.5	-3.1
B012	Ucluelet	3.20	113	Sn	Sn	20 28 25.1	-1.8
OZB	Mount Ozzard	3.22	112	Sn	Sn	20 28 24.8	-2.6
DI2B	Dawson Inlet	3.31	333	Pn	Pn	20 27 47.2	-3.9
DIB	Dawson Inlet,	3.31	333	Pn	Pn	20 27 47.6	-3.5
BFSB	Bamfield	3.48	113	Pn	Pn	20 27 52.3	-1.2
PABB	Port Alberni	3.53	105	Pn	Pn	20 27 53.6	-0.6
GRNB	Grenville Isla	3.58	0		Pn	20 27 53.5	-1.3
GRNB	Grenville Isla	3.58	0	Pn	Pn	20 27 53.5	-1.3
MGRB	Mount Grey	3.68	108	Pn	Pn	20 27 54.4	-2.0
SHB	Sechelt	4.02	97	Pn	Pn	20 27 59.0	-2.0
SHB				Sn	Sn	20 28 47.4	+0.2
NLLB	Nanaimo Lost L	4.04	103	Pn	Pn	20 28 00.8	-0.4
CLRS	Cowichan Lake	4.09	109	Pn	Pn	20 28 01.1	-0.8
WPB	Watts Point	4.43	95	Pn	Pn	20 28 05.9	-0.6
OBC	Olympics--Boni	4.49	118	Pn	Pn	20 28 06.6	-0.8
UBRB	Upper Baezaeko	4.53	52	Pn	Pn	20 28 09.1	+1.1
B010	North Saanich	4.58	108	Pn	Pn	20 28 07.5	-1.0
B011	North Saanich	4.58	108	Pn	Pn	20 28 07.8	-0.7
STW	Striped Peak	4.67	115	Pn	Pn	20 28 09.6	-0.2
NLWA	Neilton Lookou	4.98	123		Pn	20 28 13.2	-0.9
A04D	Lummi Island	5.01	105	Pn	Pn	20 28 13.8	-0.6
V35K	Ketchikan	5.15	350		Pn	20 28 15.6	-0.8
V35K	Ketchikan	5.15	350	P	Pn	20 28 15.2	-1.2
V35K	Ketchikan	5.15	350	P	Pn	20 28 16.2	-0.2
	baz=167						
WISH	Wishkah	5.20	125		Pn	20 28 17.4	+0.3
LLLB	Lillooet	5.20	83		Pn	20 28 15.9	-1.3
LLLB	Lillooet	5.20	83	P	Pn	20 28 16.5	-0.7
VDEB	Vedder Mountai	5.30	100	P	Pn	20 28 18.2	-0.3
GNW	Green Mountain	5.46	117		Pn	20 28 19.7	-0.9
HOPB	Hope	5.63	96	P	Pn	20 28 22.3	-0.7
RADR	Rader Ridge	5.66	131		Pn	20 28 21.8	-1.6
E03A	Lebam	5.69	129		Pn	20 28 23.6	-0.2
F03A	Seaside	6.13	133	Pn	Pn	20 28 30.3	+0.5
D05A	Enumclaw	6.14	117		Pn	20 28 30.4	+0.4
U33K	Whale Pass	6.14	343	P	Pn	20 28 28.8	-1.1
U33K	Whale Pass	6.14	343	P	Pn	20 28 30.6	+0.7
	baz=159						
WRAK	Wrangell Islan	6.31	348	P	Pn	20 28 32.7	+0.4
	baz=165						
FMW	Mount Fremont	6.46	118	P	Pn	20 28 35.0	+0.4
T35M	Bob Quinn	6.72	359	P	Pn	20 28 38.3	+0.4
T35M	Bob Quinn	6.72	359	P	Pn	20 28 38.0	0.0
	baz=177,SNR=7.1						
T33K	Petersburg	6.78	346	P	Pn	20 28 39.4	+0.7
	baz=162						
LTY	Liberty	6.87	112	P	Pn	20 28 40.8	+0.7
B08A	Colville Reser	7.24	101	P	Pn	20 28 44.9	-0.2
S34M	Telegraph Cree	7.68	356	P	Pn	20 28 51.4	+0.3
	baz=173						
BDMTA	Bald Mountain	8.14	52	P	Pn	20 28 59.9	+2.4
DLBC	Dease Lake	8.18	360	Pn	Pn	20 28 58.6	+0.6
	1.0nm,0.3s,baz=190,slow=14,SNR=16 14nm,0.7s						
DLBC	Dease Lake	8.18	360	P	Pn	20 28 59.9	+1.9
DLBC	Dease Lake	8.18	360	P	Pn	20 28 58.6	+0.6
	baz=179						
NEW	Newport	8.66	98	Pn	Pn	20 29 04.5	-0.1
	1.2nm,0.3s,baz=293,slow=11,SNR=15						
NEW				LR	LR	20 32 24.5	
	comp=Z,4μm,18.1s,baz=310,slow=37 13nm,0.7s						
Q32M	Nakina River	8.80	352	P	Pn	20 29 07.8	+1.2
TOAD	Toad River Com	9.03	16	P	Pn	20 29 09.5	-0.1
	baz=199,SNR=10.0						
R33M	Jennings River	9.15	357	P	Pn	20 29 13.2	+1.8
R33M	Jennings River	9.15	357	P	Pn	20 29 11.8	+0.4
	baz=175						
LIRD	Liard River Hi	9.43	12	P	Pn	20 29 17.6	+2.6
LIRD	Liard River Hi	9.43	12	P	Pn	20 29 15.3	+0.3
	baz=195						
FNSB	Fort Nelson	9.53	23	P	Pn	20 29 16.9	+0.4
P32M	Atlin	9.57	349	P	Pn	20 29 18.4	+1.3
	baz=165						
YBH	Yreka Blue Hor	9.93	147		Pn	20 29 23.4	+1.3
YBH	Yreka Blue Hor	9.93	147	Pn	Pn	20 29 22.7	+0.6
	0.1nm,0.3s,baz=324,slow=6.2,SNR=15 5.1nm,0.7s						
P33M	Teslin, Yukon	10.09	352	P	Pn	20 29 23.8	-0.3
P33M	Teslin, Yukon	10.09	352	P	Pn	20 29 25.6	+1.5
	baz=169						
BSMT	Bassoo Peak	10.28	98	P	Pn	20 29 26.6	-0.4
KOTAN	Kotaneelee Air	10.44	17	P	Pn	20 29 28.7	-0.2
	baz=201,SNR=10						
P30M	Million Dollar	10.63	341	P	Pn	20 29 31.4	-0.1
P30M	Million Dollar	10.63	341	P	Pn	20 29 32.2	+0.7
	baz=154						
JTMT	Jette	10.64	98	P	Pn	20 29 31.6	-0.1
WHY	Whitehorse	10.76	347	P	Pn	20 29 33.4	0.0
WHY	Whitehorse	10.76	347	P	Pn	20 29 34.4	+1.0
	baz=162						
PLID	Pearl Lake	10.77	113		Pn	20 29 34.3	+0.6
O30N	Mendenhall	11.06	344	P	Pn	20 29 37.7	+0.2
O30N	Mendenhall	11.06	344	P	Pn	20 29 38.5	+1.1
	baz=158						
MSO	Missoula	11.19	102		Pn	20 29 38.0	-1.4
TGTN	Hyland Airport	11.32	4	P	Pn	20 29 45.4	+4.5
TGTN	Hyland Airport	11.32	4	P	Pn	20 29 41.1	+0.1
	baz=185						
HYT	Haines Junctio	11.38	341	P	Pn	20 29 47.7	+5.8
N31M	Braeburn, Yuko	11.69	346	P	Pn	20 29 48.0	+2.0
N30M	Aishikik Lake	11.88	343	P	Pn	20 29 49.9	+1.2
	baz=157						
O28M	Mount Upton	11.98	335	P	Pn	20 29 51.8	+1.7
	baz=146						
M31M	Drury Creek, Y	12.20	350	P	Pn	20 29 55.7	+2.8
M31M	Drury Creek, Y	12.20	350	P	Pn	20 29 54.6	+1.7
	baz=166						
YUK8	Steele Glacier	12.30	337	P	Pn	20 29 53.9	-0.7
YUK8	Steele Glacier	12.30	337	P	Pn	20 29 55.5	+0.9
	baz=149						
MMPY	Sheldon Lake,	12.39	357	P	Pn	20 29 59.0	+3.4
MMPY	Sheldon Lake,	12.39	357	P	Pn	20 29 56.6	+1.0
	baz=176						
BGLC	Bering Glacier	12.41	328	P	Pn	20 29 58.0	+2.2
	baz=136						
HLID	Hailey	12.59	116		Pn	20 29 58.2	-0.2
M30M	Minto, Yukon	12.88	346	P	Pn	20 30 04.0	+1.8
	baz=159						
YUK3	Moose Creek	12.90	337	P	Pn	20 30 04.5	+1.8
YUK3	Moose Creek	12.90	337	P	Pn	20 30 04.9	+2.3
	baz=148						
M29M	Somme Creek	13.05	342	P	Pn	20 30 07.1	+2.5
	baz=155						
WRGLY	Wrigley	13.46	13		Pn	20 30 10.8	+0.7
WRGLY	Wrigley	13.46	13	P	Pn	20 30 10.5	+0.5
	baz=198,SNR=5.8						
BMRM	Bremner River	13.48	328	P	Pn	20 30 12.4	+2.0
	baz=135						
L29M	L29M	13.60	344	P	Pn	20 30 16.2	+4.2
L29M	L29M	13.60	344	P	Pn	20 30 13.2	+1.2
	baz=157						
M27K	Edge Creek, AK	13.75	336	P	Pn	20 30 16.3	+2.1
M27K	Edge Creek, AK	13.75	336	P	Pn	20 30 15.3	+1.1
	baz=146						
P23K	Montague Islan	13.87	321	P	Pn	20 30 17.1	+1.3
	baz=125						
N25K	Chitina, Valde	13.95	330	P	Pn	20 30 18.1	+1.3
	baz=137						
ELK	Elko	14.05	127		Pn	20 30 16.5	-2.0
ELK	Elko	14.05	127	Pn	Pn	20 30 19.2	+0.8
	0.1nm,0.3s,baz=291,slow=12,SNR=5.8 2.3nm,1.0s						
M26K	Nabesna, AK	14.09	335	P	Pn	20 30 19.6	+0.9
	baz=143						
K29M	Barlow Dome	14.19	346	P	Pn	20 30 20.3	+0.1
K29M	Barlow Dome	14.19	346	P	Pn	20 30 20.8	+0.6
	baz=159						
KLU	Klutina	14.30	328	P	Pn	20 30 23.5	+1.8
	baz=134						
GLI	Glacier Island	14.31	324	P	Pn	20 30 23.6	+2.0
	baz=130						
L27K	Beaver Creek,	14.33	338	P	Pn	20 30 23.4	+1.4
	baz=147						
NVAR	Mina Array Bea	14.48	140	Pn	Pn	20 30 24.2	-0.1
	0.1nm,0.3s,baz=318,slow=11,SNR=12 1.9nm,0.8s						
DAWY	Dawson	14.71	344	P	Pn	20 30 28.0	+0.9
	baz=155						
HARP	HAARP	14.71	331	P	Pn	20 30 28.9	+1.7
	baz=138						
J30M	Hart River	14.72	349	P	Pn	20 30 30.2	+2.8
J30M	Hart River	14.72	349	P	Pn	20 30 28.2	+0.7
	baz=163,SNR=7.9						
M24K	Tolsona, Glenn	14.82	329	P	Pn	20 30 30.6	+1.9
	baz=135						
YKA	Yellowknife Ar	14.86	29	Pn	Pn	20 30 28.4	-0.8
	0.4nm,0.3s,baz=222,slow=12,SNR=50 14nm,0.9s						
YKAW1	Yellowknife Wh	14.89	29		Pn	20 30 27.2	-2.4
YKAW1	Yellowknife Wh	14.89	29	P	Pn	20 30 27.4	-2.2
YKAW3	Yellowknife Wh	14.91	29		Pn	20 30 27.7	-2.1
YKAW3	Yellowknife Wh	14.91	29	P	Pn	20 30 28.1	-1.7
AHID	Auburn Hatcher	15.00	113	IAmb	IAmb	20 30 38.4	
	comp=Z,59nm,1.8s						
SCM	Sheep Creek Mo	15.02	327	P	Pn	20 30 33.1	+1.6
	baz=132						
M23K	Glacier View	15.14	326	P	Pn	20 30 35.4	+2.5
	baz=131						
BRSE	Bradley Lake S	15.14	317	P	Pn	20 30 35.5	+2.5
	baz=119						
KNK	Knik Glacier	15.16	324	P	P	20 30 35.7	-2.3
	baz=128						
KDAK	Kodiak Island	15.19	308	LR	LR	20 34 55.0	
	comp=Z,1μm,20.8s,baz=353,slow=32						
KDAK	Kodiak Island	15.19	308	P	Pn	20 30 36.1	+2.5
	baz=109						
K27K	Chicken	15.22	339	P	Pn	20 30 35.3	+1.3
	baz=149						
PAX	Paxson	15.24	332	P	Pn	20 30 36.6	+2.3
	baz=139						
SLKM	Skilak Lake	15.32	320		P	20 30 37.9	-1.9
SLKM				IAmb	IAmb	20 30 41.0	
	comp=Z,52nm,1.7s						
I30M	Mount Dempster	15.35	350	P	P	20 30 38.6	-1.7
I30M	Mount Dempster	15.35	350	P	Pn	20 30 36.8	+1.0
	baz=164,SNR=12						
SML	Sawmill	15.36	326	P	Pn	20 30 37.1	+1.2
	baz=130						
OHAK	Old Harbor	15.37	306	P	P	20 30 38.5	-1.8
	baz=106						
Q20K	Shuyak Island	15.40	311	P	P	20 30 38.7	-2.0
	baz=112						
HOM	Homer	15.50	316	P	P	20 30 40.0	-1.8
	baz=117						
PMR	Palmer	15.52	324	P	P	20 30 40.2	-1.8
	baz=128						
GHO	Glory Hole Cre	15.56	325	IAmb	IAmb	20 30 43.6	
	comp=Z,54nm,1.8s						
SCRK	Sand Creek	15.63	337		Pn	20 30 37.4	-2.0
SCRK	Sand Creek	15.63	337	P	Pn	20 30 41.1	+1.7
	baz=144						
RIDG	Independent Ri	15.67	335		P	20 30 45.5	+1.9
RIDG	Independent Ri	15.67	335	P	Pn	20 30 41.7	+1.9
	baz=142,SNR=16						
SII	Sitkinak Islan	15.68	303	P	P	20 30 43.1	-0.6
	baz=103						
DUG	Dugway, Tooele	15.72	123	IAmb	IAmb	20 30 47.3	
	comp=Z,69nm,1.2s						
I29M	Ogilvie Camp,	15.73	347	P	P	20 30 44.1	-0.3
I29M	Ogilvie Camp,	15.73	347	P	Pn	20 30 41.6	+1.0
	baz=159,SNR=14						
H31M	Peel River	15.73	353	P	P	20 30 44.6	+0.3
H31M	Peel River	15.73	353	P	Pn	20 30 41.7	+1.1
	baz=169,SNR=13						
BW06	Boulder Array	15.92	110	IAmb	IAmb	20 30 50.0	
	comp=Z,89nm,1.4s						
PD31	Pinedale Array	15.92	110	IAmb	IAmb	20 30 50.0	
	comp=Z,90nm,1.4s						
PDAR	Pinedale Array	15.92	110		Pn	20 30 43.5	+0.1
PDAR	Pinedale Array	15.92	110	Pn	Pn	20 30 44.6	+1.2
	comp=Z,0.3nm,0.3s,baz=310,slow=9.3,SNR=32 comp=Z,5.5nm,0.9s						
J26L	Joseph Creek	15.96	338	P	P	20 30 45.6	-1.5
	baz=146,SNR=12						
K24K	Donnelly Dome	15.97	334	P	P	20 30 46.1	-1.0
	baz=140						
M22K	Willow	15.99	324	P	P	20 30 46.4	-0.8
	baz=126						
SUA	Susitna One	16.07	322	IAmb	IAmb	20 30 51.2	
	comp=Z,127nm,1.8s						
SUA	Susitna One	16.07	322	P	Pn	20 30 46.5	+1.5
	baz=124,SNR=12						
I28M	Miner Creek	16.07	345	P	P	20 30 48.4	+0.2
I28M	Miner Creek	16.07	345	P	Pn	20 30 46.2	+1.2
	baz=156,SNR=7.0						
R18K	Karluk	16.08	306	P	P	20 30 47.1	-1.1
	baz=106						
GRAC	Grapevine Rang	16.09	141	IAmb	IAmb	20 30 53.0	
	comp=Z,39nm,1.0s						
Q19K	Cape Douglas,	16.13	312	P	P	20 30 48.4	-0.4
	baz=112						
LAO	LASA Array	16.15	94	IAmb	IAmb	20 30 50.4	
	comp=Z,109nm,1.4s						
P19K	Oil Pt	16.22	314	P	P	20 30 48.9	-0.9
	baz=114						
S11A	Rachel	16.24	136	IAmb	IAmb	20 30 51.8	
	comp=Z,58nm,1.2s						
CHIR	Chirikof Islan	16.32	300	P	P	20 30 51.2	+0.4
	baz=99						
PSUT	Pine Spring	16.42	129	IAmb	IAmb	20 30 56.9	
	comp=Z,86nm,1.6s						
CUT	Chulitna	16.45	325	P	P	20 30 51.7	-0.5
	baz=128						
EPYK	Eagle Plains	16.50	350	P	P	20 30 52.5	-0.4
EPYK	Eagle Plains	16.50	350	P	P	20 30 52.0	-0.9
	baz=164,SNR=8.0						
J25K	Salcha River,	16.50	336	P	Pn	20 30 51.7	+1.2
	baz=143,SNR=9.4						
I27K	Kandik River	16.51	343	P	P	20 30 51.9	-1.1
	baz=152						
SPCR	Spurr Chakacha	16.51	320	P	P	20 30 53.0	-0.1
	baz=121,SNR=5.9						
H29M	Whitestone	16.55	348	IAmb	IAmb	20 30 57.5	
	comp=Z,61nm,1.2s						
H29M	Whitestone	16.55	348	P	P	20 30 56.8	+3.4
H29M	Whitestone	16.55	348	P	P	20 30 52.4	-1.0
	baz=160,SNR=27						
I26K	Coal Creek Min	16.56	340	P	Pn	20 30 51.9	+0.8
	baz=149						
WCT	Wildcat Mounta	16.57	139	IAmb	IAmb	20 30 56.7	
	comp=Z,60nm,1.3s						
TPNV	Topopah Spring	16.60	138	IAmb	IAmb	20 31 00.9	
	comp=Z,67nm,1.4s						
SKT	Skwentna	16.67	323	P	P	20 30 54.3	-0.5
	baz=124						
Q18K	Katmai Hardscr	16.69	310	P	P	20 30 55.4	+0.3
	baz=109						
HDA	Harding Lake	16.77	334	P	P	20 30 55.0	-0.9
	baz=139						
G31M	Satah River	16.84	354	IAmb	IAmb	20 31 01.2	
	comp=Z,53nm,1.1s						
G31M	Satah River	16.84	354	P	P	20 30 57.3	+0.8
G31M	Satah River	16.84	354	P	P	20 30 56.7	+0.2
	baz=170,SNR=20						
MCK	McKinley	16.87	330	P	P	20 30 57.9	+1.0
	baz=134						
DGMT	Dagmar	16.88	86	IAmb	IAmb	20 30 59.9	
	comp=Z,132nm,1.4s						
Q19K	Port Alsworth	16.95	315	P	P	20 30 58.5	+0.7
	baz=114						
Q17K	Contact Creek	17.01	308	P	P	20 30 59.6	+1.0
	baz=106						
ILAR	Eielson Array	17.03	335		P	20 30 58.4	-0.3
ILAR	Eielson Array	17.03	335	P	Pn	20 30 57.8	+0.7
	comp=Z,0.1nm,0.3s,baz=151,slow=10,SNR=22						
ILAR				LR	LR	20 36 59.4	
	comp=Z,337nm,18.7s,baz=128,slow=35 comp=Z,3.3nm,0.8s						
G30M	tAoh Zraii Nji	17.05	352	P	P	20 30 58.9	-0.1
	baz=166						
H27K	Steamboat Moun	17.06	344	P	P	20 30 59.1	+0.1
	baz=154						
P18K	Big Mountain,	17.06	312	P	P	20 30 59.5	+0.4
	baz=111						
TRF	Thorofare Moun	17.12	328	P	P

baz=167,SNR=9.3
MTPU Mount Pierson 17.64 127 IAmb IAmb 20 31 13.4
comp=Z,156nm,1.9s
CAST Castle Rocks 17.73 326 P P 20 31 07.1 +0.6
baz=127,SNR=11
SRU San Rafael Swe 17.73 122 IAmb IAmb 20 31 15.3
comp=Z,91nm,1.2s
M19K Big River Lodg 17.77 320 IAmb IAmb 20 31 14.2
comp=Z,69nm,1.8s
M19K Big River Lodg 17.77 320 P P 20 31 08.5 +1.5
baz=119
BPAW Bear Paw Mtn. 17.79 329 P P 20 31 07.8 +0.7
baz=131,SNR=12
N18K Kilae Creek 17.86 316 IAmb IAmb 20 31 10.1
comp=Z,81nm,1.6s
N18K Kilae Creek 17.86 316 P P 20 31 08.8 +0.9
baz=114
L20K Farewell, AK 17.86 322 P P 20 31 09.5 +1.6
baz=122
LCMT Little Creek M 17.91 131 IAmb IAmb 20 31 17.8
comp=Z,47nm,1.3s
I23K Minto, Yukon-K 18.01 333 P P 20 31 10.0 +0.5
baz=136,SNR=5.7
PKCU Pink Cliffs 18.03 129 IAmb IAmb 20 31 19.9
comp=Z,52nm,1.1s
CHUM Lake Minchumin 18.10 327 P P 20 31 11.3 +0.9
baz=128,SNR=29
L19K White Mountain 18.10 321 P P 20 31 11.6 +1.0
baz=119,SNR=10
G26K Porcupine Rive 18.11 342 P P 20 31 10.8 +0.2
baz=150
KNB Kanab 18.12 130 IAmb IAmb 20 31 19.8
comp=Z,48nm,1.2s
H24K Noodor Dome 18.12 336 P P 20 31 11.9 +1.1
baz=140
INK Inuvik 18.17 356 P P 20 31 12.1 +0.9
comp=Z,0.1nm,0.3s,baz=162,slow=14,SNR=13
INK LR LR 20 37 41.6
comp=Z,350nm,20.8s,baz=210,slow=35
comp=Z,7.6nm,0.9s
INK Inuvik 18.17 356 P P 20 31 12.7 +1.5
INK Inuvik 18.17 356 P P 20 31 11.4 +0.2
baz=172,SNR=9.3
M18K Stony River 18.18 318 P P 20 31 12.4 +1.0
baz=116,SNR=8.6
P16K Nushagak River 18.29 309 P Pn 20 31 14.2 +1.6
baz=106
O20A White River Ci 18.32 115 IAmb IAmb 20 31 21.2
comp=Z,116nm,1.5s
N17K Nushagak Hills 18.39 314 IAmb IAmb 20 31 19.7
comp=Z,77nm,1.2s
N17K Nushagak Hills 18.39 314 P Pn 20 31 15.8 +1.9
baz=111
K20K Telida 18.42 324 P Pn 20 31 15.7 +1.5
baz=124
G25K Bearman Lake 18.44 340 P Pn 20 31 15.8 +1.4
baz=145
O16K Kokwok River B 18.50 311 P Pn 20 31 16.7 +1.5
baz=107
H23K Yukon River 18.56 334 P Pn 20 31 17.0 +1.1
baz=137
E29M Blow River 18.58 351 P Pn 20 31 17.9 +1.8
E29M Blow River 18.58 351 P Pn 20 31 17.0 +0.9
baz=164,SNR=17
BMAR Burnt Mountain 18.69 342 P P 20 31 17.3 +0.3
G24K Hadweenzic Riv 18.70 338 P Pn 20 31 18.0 +0.4
baz=143
I21K Tanana 18.83 331 IAmb IAmb 20 31 23.4
comp=Z,75nm,1.8s
I21K Tanana 18.83 331 P Pn 20 31 20.3 +1.2
baz=131
F26K Sheenjek River 18.84 343 P Pn 20 31 19.6 +0.3
baz=150,SNR=23
M17K Holitna River 18.84 317 P Pn 20 31 20.5 +1.2
baz=113,SNR=8.9
E27K Coleen River 18.85 347 P Pn 20 31 20.1 +0.6
baz=156,SNR=13
L18K Granite Mounta 18.87 319 IAmb IAmb 20 31 23.4
comp=Z,64nm,1.2s
L18K Granite Mounta 18.87 319 P Pn 20 31 21.3 +1.6
baz=116,SNR=13
J20K Nowinta River 18.92 326 P Pn 20 31 21.5 +1.2
baz=126,SNR=12
TTA Tatalina 18.94 322 P Pn 20 31 22.5 +2.0
baz=119,SNR=7.2
E28M Babbage River 18.97 349 P Pn 20 31 22.5 +1.7
E28M Babbage River 18.97 349 P Pn 20 31 21.4 +0.6
baz=160,SNR=29
PV21 Cone Mtn., Par 18.98 120 IAmb IAmb 20 31 25.4
comp=Z,37nm,1.1s
ELS Elsinore Mount 19.02 146 IAmb IAmb 20 31 25.1
comp=Z,88nm,1.9s
PV23 Carpenter Ridg 19.03 120 IAmb IAmb 20 31 30.2
comp=Z,46nm,0.8s
F25K Christian Rive 19.04 342 IAmb IAmb 20 31 28.9
comp=Z,64nm,1.5s
F25K Christian Rive 19.04 342 P Pn 20 31 23.0 +1.2
baz=148,SNR=16
N16K Nishlik Lake 19.11 313 P Pn 20 31 23.6 +1.1
baz=109
H22K Ishtalitna Cre 19.14 333 P Pn 20 31 23.8 +1.0
baz=134
PV16 Nyswonger Mesa 19.18 121 IAmb IAmb 20 31 29.1
comp=Z,90nm,1.2s
W13A Hualapai Mount 19.18 136 IAmb IAmb 20 31 30.7
comp=Z,33nm,1.1s
PV05 Paradox Valley 19.25 121 IAmb IAmb 20 31 31.0
comp=Z,98nm,1.1s
PV13 Radium Mtn., P 19.34 121 IAmb IAmb 20 31 29.3
comp=Z,105nm,1.1s
C36M Paulatuk 19.35 6 P P 20 31 24.7 +0.6
C36M Paulatuk 19.35 6 P Pn 20 31 24.8 -0.5
baz=191,SNR=12
J19K Poorman 19.35 325 IAmb IAmb 20 31 30.6
comp=Z,36nm,1.2s
J19K Poorman 19.35 325 P Pn 20 31 26.9 +1.5
baz=123,SNR=15
G23K Bananza Creek 19.35 336 P Pn 20 31 25.8 +0.3
baz=138,SNR=12
M16K Timber Creek 19.38 315 IAmb IAmb 20 31 34.7
comp=Z,82nm,1.6s
M16K Timber Creek 19.38 315 P Pn 20 31 27.1 +1.3
baz=110
I20K Naaghedeneel 19.40 328 IAmb IAmb 20 31 31.0
comp=Z,43nm,1.1s
I20K Naaghedeneel 19.40 328 P Pn 20 31 27.0 +1.0
baz=126
H21K Melozitna Rive 19.40 331 IAmb IAmb 20 31 34.2
comp=Z,28nm,1.0s
H21K Melozitna Rive 19.40 331 P Pn 20 31 27.2 +1.2
baz=131,SNR=23
PV15 Paradox Valley 19.40 120 IAmb IAmb 20 31 33.1
comp=Z,35nm,1.0s
PFO Pinyon Flats O 19.41 144 P Pn 20 31 26.3 -0.2
PFO IAmb IAmb 20 31 31.1
comp=Z,62nm,1.9s
F24K Squaw Lake 19.46 339 P Pn 20 31 28.0 +1.2
baz=143,SNR=6.7
E25K Arctic Village 19.48 342 P Pn 20 31 27.4 +0.4
baz=148
J18K Innoko River 19.48 323 IAmb IAmb 20 31 32.3
comp=Z,30nm,1.0s
J18K Innoko River 19.48 323 P Pn 20 31 28.6 +1.5
baz=120,SNR=21
L17K Donlin 19.52 318 P Pn 20 31 28.5 +1.1
baz=114
D28M Stokes Point 19.57 351 P P 20 31 26.4 -0.1
D28M Stokes Point 19.57 351 P Pn 20 31 28.5 +0.5
baz=163
N15K Kwethluk River 19.64 312 P Pn 20 31 30.0 +1.1
baz=106
D27M Malcolm River 19.75 348 IAmb IAmb 20 31 35.6
comp=Z,78nm,1.8s
D27M Malcolm River 19.75 348 P Pn 20 31 31.1 +0.9
baz=158
K17K Iditarod 19.77 320 IAmb IAmb 20 31 35.8
comp=Z,86nm,1.3s
K17K Iditarod 19.77 320 P Pn 20 31 32.0 +1.6
baz=116,SNR=11
COLD Coldfoot 19.79 337 IAmb IAmb 20 31 40.7
comp=Z,32nm,1.2s
COLD Coldfoot 19.79 337 P Pn 20 31 31.6 +1.0
baz=139,SNR=14
L16K Owhat River 19.86 316 P 20 31 27.7 -2.1
L16K IAmb IAmb 20 31 34.8
comp=Z,34nm,1.1s
L16K Owhat River 19.86 316 P Pn 20 31 32.7 +1.1
baz=111,SNR=8.6

G22K Bettles 19.91 335 P Pn 20 31 32.9 +0.9
baz=136
S12K Black Hills 19.93 298 P Pn 20 31 33.4 +1.1
baz=92
H20K Anotleneega Mo 19.96 329 P Pn 20 31 32.4 -0.3
baz=127,SNR=14
O14K Tigyukauivet M 19.97 309 P Pn 20 31 33.7 +0.9
baz=102
MDND Maddock 20.00 85 P Pn 20 31 34.2 +0.9
WUAZ Wupatki 20.02 130 P P 20 31 31.8 0.0
WUAZ IAmb IAmb 20 31 42.7
comp=Z,36nm,0.9s
E24K Your Creek 20.05 340 P Pn 20 31 33.2 -0.5
baz=143,SNR=11
BLYC Blythe 20.06 140 P 20 31 33.1 +1.0
BLYC IAmb IAmb 20 31 36.4
comp=Z,68nm,1.6s
M15K Kasigluk River 20.07 313 P Pn 20 31 34.5 +0.5
baz=107,SNR=9.8
G21K Allakaket 20.19 332 IAmb IAmb 20 31 38.2
comp=Z,42nm,1.1s
G21K Allakaket 20.19 332 P Pn 20 31 35.0 -0.4
baz=132
MVCO Mesa Verde 20.21 122 P 20 31 34.0 0.0
GCSA Galena City Sc 20.22 326 P Pn 20 31 36.0 +0.4
baz=122
E23K Chandalar 20.29 339 P 20 31 34.0 -0.5
E23K IAmb IAmb 20 31 42.8
comp=Z,33nm,1.2s
E23K Chandalar 20.29 339 P Pn 20 31 36.6 -0.1
baz=141
N14K Kuskokwak Cree 20.34 310 P Pn 20 31 37.7 +0.5
baz=104
BRIGG Briggsdale 20.38 109 P P 20 31 36.0 +0.2
J17K VABM Dome 20.39 321 IAmb IAmb 20 31 42.9
comp=Z,38nm,1.1s
J17K VABM Dome 20.39 321 P Pn 20 31 38.5 +0.9
baz=116,SNR=12
YUH Yuha Desert 20.47 144 IAmb IAmb 20 31 47.8
comp=Z,76nm,1.7s
C27K Jago River 20.49 346 P Pn 20 31 38.5 -0.4
baz=154,SNR=9.8
H19K Roundabout Mou 20.51 328 IAmb IAmb 20 31 45.8
comp=Z,71nm,1.4s
H19K Roundabout Mou 20.51 328 P Pn 20 31 39.1 +0.1
baz=125,SNR=22
F22K John River 20.51 336 P Pn 20 31 38.6 -0.6
baz=136,SNR=23
Y14A Wickenburg 20.55 136 IAmb IAmb 20 31 47.5
comp=Z,39nm,1.0s
D25K Kavik River 20.66 344 P Pn 20 31 41.1 +0.2
baz=149,SNR=11
F21K Alatna River 20.67 334 P Pn 20 31 40.9 -0.1
baz=133,SNR=11
M14K Bethel 20.69 313 P 20 31 39.1 +0.4
M14K IAmb IAmb 20 31 46.0
comp=Z,85nm,1.1s
M14K Bethel 20.69 313 P Pn 20 31 41.7 +0.5
baz=106,SNR=8.7
TOLK Toolik Lake Re 20.74 340 IAmb IAmb 20 31 52.4
comp=Z,35nm,1.2s
TOLK Toolik Lake Re 20.74 340 P Pn 20 31 41.9 0.0
baz=142,SNR=12
S22A 4UR Ranch, Cre 20.75 118 P 20 31 41.1 +1.1
S22A IAmb IAmb 20 31 47.6
comp=Z,80nm,1.3s
L15K Ungalak Mounta 20.75 315 P Pn 20 31 42.5 +0.5
baz=108,SNR=15
X16A Lo Mia Camp, P 20.87 132 IAmb IAmb 20 31 51.5
comp=Z,25nm,0.9s
E22K Anaktuvuk Pass 20.88 337 P Pn 20 31 43.0 -0.5
baz=138
C26K Camden Bay 20.94 346 P Pn 20 31 43.5 -0.5
baz=152,SNR=22
J16K Anvik River 20.96 320 P 20 31 41.3 -0.4
J16K Anvik River 20.96 320 P Pn 20 31 44.0 -0.4
baz=114,SNR=16
H18K Honhosa River 20.97 326 IAmb IAmb 20 31 49.4
comp=Z,77nm,1.2s
H18K Honhosa River 20.97 326 P Pn 20 31 44.0 -0.5
baz=121
K15K Wolf Creek Mou 20.98 317 P 20 31 40.5 -1.4
K15K Wolf Creek Mou 20.98 317 P Pn 20 31 44.6 0.0
baz=110,SNR=12
D24K Happy Valley 21.00 341 IAmb IAmb 20 31 55.0
comp=Z,38nm,1.2s
D24K Happy Valley 21.00 341 P Pn 20 31 44.0 -0.7
baz=144
ESJX Sierra Juarez 21.04 145 IAmb IAmb 20 31 50.6
comp=Z,43nm,1.5s
L14K Kuka Creek 21.19 314 P 20 31 45.5 +1.3
L14K IAmb IAmb 20 31 51.5
comp=Z,70nm,1.1s
L14K Kuka Creek 21.19 314 P P 20 31 47.4 +3.2
baz=106,SNR=5.4
F20K Avaraart Lake 21.21 332 IAmb IAmb 20 31 56.1
comp=Z,49nm,1.0s
F20K Avaraart Lake 21.21 332 P P 20 31 46.0 +1.7
baz=129,SNR=38
D23K Nanushuk River 21.25 339 P P 20 31 46.7 +2.0
baz=141,SNR=18
I17K Unalakleet 21.25 321 IAmb IAmb 20 31 54.5
comp=Z,48nm,1.1s
I17K Unalakleet 21.25 321 P P 20 31 47.8 +3.0
baz=115
M13K Dall Lake 21.27 311 P P 20 31 48.2 +3.2
baz=103
H17K Granite Mounta 21.43 324 IAmb IAmb 20 31 50.8
comp=Z,44nm,1.1s
H17K Granite Mounta 21.43 324 P P 20 31 48.2 +1.5
baz=118,SNR=16
C24K Franklin Bluff 21.44 342 IAmb IAmb 20 32 01.4
comp=Z,55nm,1.6s
C24K Franklin Bluff 21.44 342 P P 20 31 48.5 +1.7
baz=145
G18K Tagagawik 21.47 327 IAmb IAmb 20 32 00.6
comp=Z,46nm,1.3s
G18K Tagagawik 21.47 327 P P 20 31 48.6 +1.4
baz=122,SNR=20
SDCO Great Sand Dun 21.51 116 IAmb IAmb 20 31 55.6
comp=Z,22nm,0.9s
OGNE Ogallala 21.57 105 P 20 31 49.4 +0.9
D22K Ayikyak River 21.65 338 P 20 31 47.6 -1.5
D22K Ayikyak River 21.65 338 P P 20 31 51.0 +1.9
baz=138
E21K Killik River 21.66 336 P P 20 31 50.8 +1.6
baz=135
F19K Shaleruckik Mo 21.71 330 IAmb IAmb 20 32 01.2
comp=Z,23nm,1.0s
F19K Shaleruckik Mo 21.71 330 P P 20 31 50.6 +0.9
baz=126
ULM Lac du Bonnet 21.71 77 P 20 31 50.1 +0.2
ULM Lac du Bonnet 21.71 77 P P 20 31 51.1 +1.2
comp=Z,22nm,0.8s,baz=288,slow=10,SNR=17
comp=Z,22nm,0.8s
ULM Lac du Bonnet 21.71 77 P P 20 31 51.3 +1.4
A36M Sachs Harbour 21.89 4 P 20 31 52.5 +1.0
A36M IAmb IAmb 20 31 54.7
comp=Z,27nm,0.8s
A36M Sachs Harbour 21.89 4 P P 20 31 53.4 +1.8
A36M Sachs Harbour 21.89 4 P P 20 31 52.6 +1.0
baz=188,SNR=24
E19K Redstone River 21.92 332 IAmb IAmb 20 32 00.8
comp=Z,47nm,1.1s
E19K Redstone River 21.92 332 P P 20 31 53.6 +1.6
baz=128
C23K Itkillik River 21.92 341 IAmb IAmb 20 32 02.6
comp=Z,32nm,1.2s
C23K Itkillik River 21.92 341 P P 20 31 53.3 +1.4
baz=142,SNR=10
G17K Kiwalik Mounta 21.98 325 P P 20 31 54.6 +2.0
baz=119,SNR=15
J14K Nanvaranak Lak 22.02 317 IAmb IAmb 20 31 58.9
comp=Z,39nm,1.2s
J14K Nanvaranak Lak 22.02 317 P P 20 31 55.5 +2.5
baz=108
E20K Nigu River 22.13 334 P P 20 31 55.6 +1.3
baz=131
H16K Elim 22.18 323 P P 20 31 57.0 +2.2
baz=115
F18K Selawik 22.19 328 P P 20 31 57.0 +2.2
baz=122,SNR=27
AGMN Agassiz Nation 22.25 82 IAmb IAmb 20 32 02.4
comp=Z,49nm,1.2s
K13K Kusilvak Mount 22.26 315 P P 20 31 58.5 +2.8
baz=105
C21K Knifeblade Rid 22.38 337 P P 20 31 58.8 +2.0
baz=135,SNR=16

D20K Etivluk River 22.55 335 P P 20 32 00.3 +1.5
baz=131
G16K Koyuk River 22.56 324 P P 20 32 01.1 +2.3
baz=116
F17K Baldwin Pennin 22.66 327 IAmb IAmb 20 32 12.0
comp=Z,46nm,1.2s
F17K Baldwin Pennin 22.66 327 P P 20 32 02.1 +2.3
baz=120
B21K Ikpikpuk River 22.67 338 IAmb IAmb 20 32 09.2
comp=Z,41nm,1.2s
B21K Ikpikpuk River 22.67 338 P P 20 32 01.4 +1.5
baz=136,SNR=16
BLKN Baker Lake 22.76 39 P 20 32 01.2 +0.3
BLKN IAmb IAmb 20 32 18.8
comp=Z,41nm,1.4s
D19K Kuna River 22.83 333 IAmb IAmb 20 32 06.7
comp=Z,28nm,1.4s
D19K Kuna River 22.83 333 P P 20 32 03.3 +1.6
baz=128
F33A 5 Mile Ranch, 22.84 88 IAmb IAmb 20 32 05.2
comp=Z,37nm,1.1s
B22K Teshekpuk Lake 22.92 340 IAmb IAmb 20 32 17.4
comp=Z,26nm,0.9s
B22K Teshekpuk Lake 22.92 340 P P 20 32 04.1 +1.5
baz=139,SNR=15
TUC Tucson 22.92 134 P 20 32 03.7 +0.7
TUC IAmb IAmb 20 32 15.4
comp=Z,61nm,1.4s
E18K Tukpahlearik C 22.96 330 IAmb IAmb 20 32 11.4
comp=Z,25nm,1.1s
E18K Tukpahlearik C 22.96 330 P P 20 32 04.4 +1.4
baz=123
ANMO Albuquerque 22.99 123 P P 20 32 03.9 +0.1
ANMO IAmb IAmb 20 32 10.7
comp=Z,18nm,0.9s
ANMO Albuquerque 22.99 123 P P 20 32 03.9 +0.1
comp=Z,10nm,1.0s,baz=124,slow=10,SNR=13
ANMO LR LR 20 40 45.2
comp=Z,475nm,18.9s,baz=147,slow=36
comp=Z,10nm,1.0s
G15K Niukluk 23.03 323 P P 20 32 04.9 +1.2
baz=113
E17K Hotham Inlet 23.18 328 P P 20 32 06.7 +1.4
baz=120,SNR=7.9
EPLO Experimental L 23.20 77 P 20 32 05.4 -0.3
EPLO IAmb IAmb 20 32 09.5
comp=Z,27nm,1.0s
ECSD EROS Data Cent 23.55 93 IAmb IAmb 20 32 14.0
comp=Z,30nm,0.8s
F15K North Star Dit 23.55 324 IAmb IAmb 20 32 19.0
comp=Z,17nm,1.1s
F15K North Star Dit 23.55 324 P P 20 32 10.7 +1.7
baz=114,SNR=9.9
B20K Meade River 23.57 337 IAmb IAmb 20 32 19.6
comp=Z,30nm,1.2s
B20K Meade River 23.57 337 P P 20 32 10.4 +1.4
baz=132
A22K Sinclair Lake 23.77 340 P P 20 32 12.0 +1.1
baz=137
C18K Utukok River 23.83 332 IAmb IAmb 20 32 20.9
comp=Z,19nm,1.2s
C18K Utukok River 23.83 332 P P 20 32 12.7 +1.0
baz=124
D17K Noatak River 23.91 329 P P 20 32 13.9 +1.5
baz=120
RDOG Red Dog Mine 24.04 330 P P 20 32 13.4 -0.1
F14K Arctic Creek 24.11 323 P P 20 32 15.8 +1.6
baz=111
319A Douglas 24.40 133 IAmb IAmb 20 32 25.5
comp=Z,38nm,1.1s
B18K Kokolik River 24.42 333 P P 20 32 18.5 +1.5
baz=125,SNR=13
SPIA Saint Paul Isl 24.49 302 P P 20 32 20.7 +3.0
baz=89
A19K Wainwright 24.72 335 P P 20 32 21.5 +1.8
baz=127
C16K Lisburne Hills 24.94 329 P P 20 32 23.4 +1.7
baz=118
SPMN Marine on St. 25.33 87 IAmb IAmb 20 32 29.7
comp=Z,16nm,0.7s
GAMB Gambell 25.84 317 P P 20 32 32.1 +2.2
baz=101
MNTX Cornudas Mount 26.07 126 IAmb IAmb 20 32 40.7
comp=Z,28nm,1.2s
TBO Thunder Bay 26.21 78 P 20 32 33.6 +0.2
TBO IAmb IAmb 20 32 41.3
comp=Z,16nm,0.9s
VHRN Van Horn 27.00 127 IAmb IAmb 20 32 47.2
comp=Z,17nm,1.0s
DKNS Dickens 27.02 117 IAmb IAmb 20 32 46.7
comp=Z,20nm,1.0s
POST Post 27.13 118 IAmb IAmb 20 32 48.5
comp=Z,16nm,1.0s
I40A Norwalk 27.32 88 IAmb IAmb 20 32 48.4
comp=Z,41nm,1.3s
OK048 Pawnee Station 27.49 108 IAmb IAmb 20 32 49.3
comp=Z,20nm,0.9s
WMOK Wichita Mounta 27.51 112 IAmb IAmb 20 32 52.0
comp=Z,22nm,0.8s
SN05 Snyder 5 27.62 118 IAmb IAmb 20 32 49.2
comp=Z,11nm,0.9s
APMT Aspermont 27.73 116 IAmb IAmb 20 32 53.2
comp=Z,19nm,0.9s
ALPN Alpine 28.03 125 IAmb IAmb 20 32 59.4
comp=Z,8.5nm,1.0s
P40A Paris 28.66 97 IAmb IAmb 20 33 02.2
comp=Z,29nm,1.4s
N41A Harden Midland 28.77 94 IAmb IAmb 20 33 03.0
comp=Z,18nm,0.7s
RLO Rose Lookout 28.83 106 IAmb IAmb 20 33 03.9
comp=Z,22nm,0.9s
TX31 Lajitas Ar. Si 28.84 127 IAmb IAmb 20 33 03.5
comp=Z,17nm,1.2s
TXAR Lajitas Array 28.84 127 P 20 32 58.0 +0.7
TXAR Lajitas Array 28.84 127 P P 20 32 57.5 +0.3
comp=Z,4.1nm,0.9s,baz=328,slow=6.1,SNR=19
TXAR LR LR 20 45 15.5
comp=Z,441nm,18.9s,baz=342,slow=38
comp=Z,4.1nm,0.9s
U38A Gravette 29.05 105 IAmb IAmb 20 33 05.7
comp=Z,8.8nm,0.8s
SAND Sanderson 29.16 124 IAmb IAmb 20 33 06.7
comp=Z,18nm,1.0s
DRIO Del Rio 30.39 122 IAmb IAmb 20 33 16.4
comp=Z,12nm,0.9s
LCAR Lake Charles 31.30 102 IAmb IAmb 20 33 24.5
comp=Z,9.8nm,0.8s
O49A Covington 33.23 90 P P 20 33 35.4 -0.3
O49A IAmb IAmb 20 33 41.6
comp=Z,14nm,0.9s
WVT Waverly 33.36 99 P 20 33 36.7 -0.2
BILL Bilibino 35.16 324 P 20 33 51.7 -0.4
BILL IAmb IAmb 20 33 55.4
comp=Z,13nm,1.2s
FPAL Fort Paine 35.77 99 IAmb IAmb 20 34 03.8
comp=Z,14nm,1.0s
LRAL Lakeview Retre 35.88 102 IAmb IAmb 20 34 04.6
comp=Z,16nm,1.1s
TKL Tuckaleechee C 36.24 96 LR LR 20 49 13.1
comp=Z,877nm,19.0s,baz=290,slow=37
BG3 Lake Jocassee 37.19 96 IAmb IAmb 20 34 16.3
comp=Z,19nm,1.0s
152A Waverly Hall 37.55 100 IAmb IAmb 20 34 18.9
comp=Z,26nm,1.0s
GOGA Godfrey 37.86 98 IAmb IAmb 20 34 21.6
comp=Z,24nm,1.1s
S57A Dark Hollow, R 38.06 89 IAmb IAmb 20 34 24.2
comp=Z,39nm,1.4s
R58B Mineral 38.63 88 IAmb IAmb 20 34 28.3
comp=Z,42nm,1.4s
JSC Jenkinsville 38.71 95 IAmb IAmb 20 34 41.5
comp=Z,18nm,1.0s
PETK Petropavlovsk- 43.15 303 P P 20 34 57.4 -1.7
comp=Z,6.7nm,0.8s,baz=66,slow=15,SNR=4.9
comp=Z,6.7nm,0.8s
TIXI Tiksi 46.50 335 P 20 35 25.1 -0.3
TIXI IAmb IAmb 20 35 32.5
comp=Z,8.4nm,1.1s
ESPN Las Esperanzas 53.20 119 P P 20 36 18.2 +1.2
JTS Las Juntas de 54.40 121 LR LR 21 02 36.0
comp=Z,100nm,18.1s,baz=118,slow=39
NRIK Noril'sk 57.55 345 P 20 36 47.0 -0.6
NRIK IAmb IAmb 20 36 54.1
comp=Z,11nm,1.3s
NRIK Noril'sk 57.55 345 P P 20 36 48.1 +0.5
comp=Z,4.4nm,0.9s,baz=188,slow=0.8,SNR=4.6
comp=Z,4.4nm,0.9s
H11N2 WAKE ISLAND Hy 57.93 262 T T 21 39 23.6

baz=42,slow=76,SNR=251
H11N3 WAKE ISLAND Hy 57.93 262 T T 21 39 34.7
baz=42,slow=76,SNR=240
H11N1 WAKE ISLAND Hy 57.95 262 T T 21 39 34.7
baz=42,slow=76,SNR=143
H11S1 WAKE ISLAND Hy 58.96 262 T T 21 40 54.9
baz=35,slow=75,SNR=18
H11S2 WAKE ISLAND Hy 58.97 262 T T 21 40 48.1
baz=35,slow=75,SNR=20
H11S3 WAKE ISLAND Hy 58.98 262 T T 21 40 46.1
baz=35,slow=75,SNR=15
SJG San Juan 59.61 98 LR LR 21 05 26.2
comp=Z,112nm,18.1s,baz=304,slow=39
HEH HeiHe 60.10 314 *e*P **P** **20 37 04.3 -1.4**
HEH pmax pmax
comp=Z,9.0nm,1.0s
USRK Ussuriysk Ar. 62.05 306 P **P** **20 37 17.8 -1.2**
USRK Ussuriysk Ar. 62.05 306 P P 20 37 15.8 -3.2
comp=Z,2.4nm,0.8s,baz=57,slow=7.0,SNR=5.3
comp=Z,2.4nm,0.8s
SDV Santo Domingo 63.85 109 LR LR 21 07 17.5
comp=Z,105nm,20.8s,baz=32,slow=38
NOA NORSAR Array B 64.75 20 P **P** **20 37 37.5 +0.9**
comp=Z,1.1nm,0.8s,baz=336,slow=6.4,SNR=3.4
comp=Z,1.1nm,0.8s
RUSC La Rusia 64.75 113 **P** **20 37 37.8 +0.1**
EKA Eskdalemuir Ar 65.82 30 P **P** **20 37 43.6 +0.1**
comp=Z,0.9nm,0.7s,baz=306,slow=5.7,SNR=4.9
comp=Z,0.9nm,0.7s
HFS Hagfors 66.09 19 P **P** **20 37 46.0 +0.7**
comp=Z,2.2nm,0.7s,baz=15,slow=6.2,SNR=4.4
comp=Z,2.2nm,0.7s
FINES FINESS Array B 66.99 12 P **P** **20 37 50.7 -0.3**
comp=Z,4.3nm,0.8s,baz=5.7,slow=7.7,SNR=11
comp=Z,4.3nm,0.8s
KSRS Korea Array 69.04 304 P **P** **20 38 03.1 -1.1**
comp=Z,0.8nm,0.9s,baz=51,slow=6.6,SNR=4.4
comp=Z,0.8nm,0.9s
PPT Papeete 69.72 200 LR LR 21 03 34.3
comp=Z,119nm,19.4s,baz=352,slow=32
SONM Songino Array 70.88 324 P **P** **20 38 15.2 -0.3**
SONM IAmb IAmb 20 38 25.5
comp=Z,7.8nm,1.5s
SONM Songino Array 70.88 324 P **P** **20 38 15.4 -0.1**
comp=Z,1.4nm,1.1s,baz=72,slow=5.3,SNR=6.1
comp=Z,1.4nm,1.1s
ZAA0 Zalesovo Array 72.10 339 IAmb IAmb 20 38 33.1
comp=Z,11nm,1.3s
ZALV Zalesovo Beam 72.10 339 **P** **20 38 21.2 -1.3**
ZALV Zalesovo Beam 72.10 339 P **P** **20 38 22.1 -0.5**
comp=Z,1.3nm,0.6s,baz=28,slow=5.2,SNR=6.9
comp=Z,1.3nm,0.6s
ARTI Arti 73.47 355 P **P** **20 38 29.8 -0.9**
comp=Z,5.0nm,1.1s,baz=123,slow=3.7,SNR=4.1
comp=Z,5.0nm,1.1s
OBN Obninsk 74.38 8 P **P** **20 38 35.3 -0.6**
comp=Z,9.0nm,0.5s,baz=66,slow=12,SNR=3.5
comp=Z,9.0nm,0.5s
HHC Hu-ho-hao-te 74.45 316 *e*P **P** **20 38 39.8 +3.0**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,45nm,3.8s
HHC LR LR
comp=N,270nm,16.8s
HHC LR LR
comp=E,250nm,16.8s
HHC LR LR
comp=Z,85nm,16.0s
BRG Berggiesshubel 74.65 23 *e*P **P** **20 38 39.1 +1.5**
BRG Amp 20 38 46.4
comp=Z,3.8nm,1.0s
BRVK Borovoye 75.62 348 **P** **20 38 42.0 -1.2**
BRVK IAmb IAmb 20 38 49.3
comp=Z,6.3nm,1.2s
BVAR Borovoye Array 75.64 347 P **P** **20 38 43.1 -0.2**
comp=Z,3.4nm,1.2s,baz=46,slow=4.3,SNR=7.6
comp=Z,3.4nm,1.2s
HNS HongShan 75.78 312 ⇑P **P** **20 38 45.6 +1.2**
HNS pmax pmax
comp=Z,11nm,1.3s
GERES GERESS Array B 76.46 24 P **P** **20 38 47.6 -0.6**
comp=Z,0.9nm,0.6s,baz=352,slow=5.2,SNR=4.0
comp=Z,0.9nm,0.6s
KURK Kurchatov 76.46 342 **P** **20 38 46.3 -1.7**
KURK IAmb IAmb 20 38 53.6
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 76.53 21 *e*P **P** **20 38 49.4 +0.9**
KURBB Kurchatov Arra 76.57 342 P **P** **20 38 48.0 -0.6**
comp=Z,4.1nm,1.1s,baz=19,slow=5.4,SNR=10
comp=Z,4.1nm,1.1s
GUMO Guam 76.58 275 LR LR 21 04 25.1
comp=Z,127nm,21.1s,baz=46,slow=29
VRAC Vranov 76.74 22 P **P** **20 38 49.6 -0.1**
comp=Z,2.9nm,1.0s,baz=320,slow=8.2,SNR=3.8
comp=Z,2.9nm,1.0s
VRAC Vranov 76.74 22 *e*P **P** **20 38 50.5 +0.8**
DAVA Damuels 76.83 27 *i* PcP **PcP** **20 38 57.9 -3.7**
comp=Z,8.4nm,1.3s
RETA Reutte 76.91 26 *ep*P **P** **20 38 53.7 +3.0**
comp=Z,5.0nm,1.4s
KRUC Moravsky 76.93 22 *e*P **P** **20 38 50.8 +0.1**
MOTA Moosalm 77.13 26 *i* P P 20 38 47.5 -4.5
comp=Z,7.2nm,1.7s
WATA Walderalm 77.27 26 *i* pP **P** **20 38 55.7 +2.8**
comp=Z,7.4nm,1.7s
SQTA Sankt Quirin 77.27 26 *i* pP **P** **20 38 55.9 +3.1**
comp=Z,4.6nm,1.1s
FETA Feichten 77.32 26 *i* P **P** **20 38 50.3 -2.8**
comp=Z,6.3nm,1.3s
WTTA Wattenberg 77.35 26 *i* pP pP 20 38 60.0 -1.2
comp=Z,8.4nm,1.5s
LESA Schwarzleotal 77.49 25 *i* pP pP 20 38 60.0 -1.8
comp=Z,6.1nm,1.3s
BIOA Bad Ischl, Aus 77.50 24 *ep*P pP 20 39 00.6 -1.1
comp=Z,1.1nm,0.4s
MOA Molln 77.52 24 *i* pP pP 20 39 01.0 -0.8
comp=Z,2.6nm,1.3s
BELG Belogornoye 77.69 1 P **P** **20 38 55.0 +0.2**
comp=Z,6.0nm,0.8s,baz=35,slow=6.9,SNR=5.4
BELG LR LR 21 19 47.5
comp=Z,189nm,19.5s,baz=341,slow=41
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 77.85 13 P **P** **20 38 55.4 -0.5**
comp=Z,2.0nm,0.8s,baz=352,slow=5.6,SNR=12
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 77.85 13 **P** **20 38 55.6 -0.2**
AKBB IAmb IAmb 20 39 02.7
comp=Z,13nm,1.3s
CONA Conrad Observa 77.85 23 *ep*P **P** **20 38 57.8 +1.8**
comp=Z,3.5nm,1.1s
KIEV Kiev 77.86 13 **P** **20 38 55.2 -0.6**
KIEV IAmb IAmb 20 39 02.7
comp=Z,11nm,1.3s
NJ2 Nanjing 77.96 306 *e*P **P** **20 39 00.3 +3.6**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
KBA Koelnbreinsper 77.99 25 *i* pP **P** **20 39 00.0 +3.1**
comp=Z,5.8nm,1.1s
MDP Montagnes des 78.02 96 LR LR 21 13 21.5
comp=Z,63nm,21.9s,baz=314,slow=36
VYHS Vyhne 78.03 21 *e*P **P** **20 38 58.0 +1.1**
ABTA Abfaltersbach 78.07 25 *e*P P 20 38 51.9 -5.3
comp=Z,7.7nm,1.5s
RONA Rosalia, Austr 78.17 23 *e*PcP **PcP** **20 39 04.7 -2.5**
comp=Z,0.9nm,0.7s
ARSA Arzberg 78.40 23 *e*PcP **PcP** **20 39 07.1 -1.1**
comp=Z,3.9nm,0.9s
ESDC Sonseca Array 78.68 40 P **P** **20 39 00.6 -0.1**
comp=Z,0.4nm,0.5s,baz=329,slow=4.3,SNR=4.9
comp=Z,0.4nm,0.5s
SOKA Soboth 78.80 24 *e*P P 20 38 54.1 -7.2
comp=Z,2.9nm,0.7s
OBKA Obir 78.83 24 *e*P **P** **20 38 59.8 -1.6**
comp=Z,4.3nm,1.0s
MKAR Makanchi Array 79.36 338 **P** **20 39 03.0 -1.2**
MKAR Makanchi Array 79.36 338 P **P** **20 39 03.7 -0.6**
comp=Z,1.4nm,0.9s,baz=35,slow=4.4,SNR=8.2
comp=Z,1.4nm,0.9s
MAKZ Makanchi 79.42 338 **P** **20 39 02.9 -1.7**
MAKZ IAmb IAmb 20 39 10.8
comp=Z,19nm,1.4s
AB31 Akbulak array 80.48 353 IAmb IAmb 20 39 17.1
comp=Z,8.3nm,1.2s
ABKAR Akbulak array 80.48 353 **P** **20 39 09.5 -0.7**
ABKAR Akbulak array 80.48 353 IAmb IAmb 20 39 17.1
comp=Z,8.3nm,1.2s
WMQ Urumqi 80.69 333 *e*P P 20 39 18.0 +6.4
WMQ pmax pmax
comp=Z,23nm,0.7s
WHN Wuhan 81.47 308 P **P** **20 39 16.0 +0.2**
WHN pmax pmax
comp=Z,18nm,0.8s
LZH Lanzhou 81.77 319 *e*P **P** **20 39 19.1 +1.6**
LZH pmax pmax
comp=Z,17nm,1.3s
HNR Honiara 84.77 249 LR LR 21 07 33.8
comp=Z,99nm,21.7s,baz=60,slow=29
LPAZ La Paz 85.60 122 **P** **20 39 35.3 -2.5**
LPAZ IAmb IAmb 20 41 41.9
comp=Z,3.3nm,0.5s
LPAZ La Paz 85.60 122 P **P** **20 39 38.2 +0.5**
comp=Z,1.1nm,0.4s,baz=336,slow=5.6,SNR=5.0
comp=Z,1.1nm,0.4s
KBZ Khabaz 86.17 5 P **P** **20 39 40.9 +1.2**
comp=Z,2.9nm,1.0s,baz=337,slow=3.7,SNR=6.1
KBZ LR LR 21 21 16.9
comp=Z,113nm,20.7s,baz=331,slow=38
comp=Z,2.9nm,1.0s
KSH Kashi 87.71 340 P P 20 39 54.6 +7.2
KSH pmax pmax
comp=Z,5.0nm,1.4s
BRTR Keskin Array B 89.23 13 P **P** **20 39 55.6 +1.1**
comp=Z,1.1nm,1.0s,baz=296,slow=4.0,SNR=4.8
BRTR LR LR 21 22 47.7
comp=Z,126nm,19.2s,baz=308,slow=38
comp=Z,1.1nm,1.0s
GNI Garni 89.83 4 LR LR 21 24 52.2
comp=Z,106nm,21.4s,baz=344,slow=39
SIMJ Simiganj 89.87 345 **P** **20 39 55.9 -1.7**
PTLB Pontes e Lacer 90.02 114 **P** **20 39 57.2 -1.0**
PTLB IAmb IAmb 20 40 03.8
comp=Z,5.2nm,0.9s
PZH PanZhiHua 90.89 315 P **P** **20 40 06.3 +3.8**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,4.1s
JAY Jayapura 91.46 268 LR LR 21 12 23.6
comp=Z,204nm,21.6s,baz=37,slow=30
PMG Port Moresby 92.61 259 LR LR 21 15 04.1
comp=Z,231nm,19.7s,baz=7.0,slow=31
DAV Davao City (W) 93.71 286 LR LR 21 14 03.2
comp=Z,108nm,22.0s,baz=313,slow=30
MMAI Mount Meron Ar 96.07 12 LR LR 21 25 38.4
comp=Z,103nm,21.5s,baz=321,slow=37
RCBR Riachuelo 97.07 91 LR LR 21 21 24.6
comp=Z,54nm,19.1s,baz=269,slow=34
ASF Jabal al Asfar 97.10 11 LR LR 21 30 18.8
comp=Z,47nm,18.5s,baz=359,slow=39
EIL Elat 99.30 13 LR LR 21 29 09.4
comp=Z,85nm,18.4s,baz=244,slow=38
CPUP Villa Florida 99.61 120 LR LR 21 29 39.1
comp=Z,55nm,21.7s,baz=356,slow=38
QSPA South Pole Qui 140.08 180 PKP **PKPdf** **20 46 25.3 -0.5**
comp=Z,2.0nm,1.0s,baz=87,slow=3.4,SNR=3.1

NEIC ***22*** *20:45:22.4±2.3, 16°.05N±0°.05×98°.65W±0°.04, h8km±6km, mb4.6/222, Md4.6/146(MEX), Error ellipse: s-maj=7.6km s-min=4.9km az=182.0*
IDC ***22*** *20:45:24.6±0.8, 16°.48N×98°.25W, h0km, mb4.1/10, mbtmp4.1/13, MLJ3.6/4, MSJ3.7/5, Error ellipse: s-maj=34.7km s-min=14.0km az=57.0*
MEX ***22*** *20:45:25.0±0.8, 16°.05N×98°.68W, h17km±660km, MD4.6*
ISC 22 20:45:22.0±1.4**, 16°.00N**±0°.03×**98°.66W**±0°.02**, h3**km±8km**,**
n264, σ2$32/255**, mb4.6**/93**, MS3.8**/4**, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**52**		**Pg**	**20 45 35.0**	**+0.6**
PNIG					**Sg**	**20 45 43.0**	**+0.1**
PNIG	**Pinotepa**	**0.65**	**52**	*e*P	**Pg**	**20 45 35.0**	**+0.6**
PNIG				*e*S	**Sg**	**20 45 43.0**	**+0.1**
CRIG	**Cruz Grande**	**0.86**	**328**		**Pb**	**20 45 37.4**	**-2.4**
CRIG					**Sb**	**20 45 47.6**	**-4.1**
CRIG	**Cruz Grande**	**0.86**	**328**	*e*P	**Pb**	**20 45 37.4**	**-2.4**
CRIG				*e*S	**Sb**	**20 45 47.6**	**-4.1**
MGIG	**Malinaltepec**	**1.23**	**1**		**Pn**	**20 45 43.4**	**-2.9**
MGIG					**Sb**	**20 46 00.8**	**-1.6**
MGIG	**Malinaltepec**	**1.23**	**1**	*e*P	**Pn**	**20 45 43.4**	**-2.9**
MGIG				*i* S	**Sb**	**20 46 00.8**	**-1.6**
YOIG	**Yosondua**	**1.37**	**51**		**Pn**	**20 45 46.2**	**-2.1**
YOIG					**Sn**	**20 46 05.0**	**-2.1**
YOIG	**Yosondua**	**1.37**	**51**	*e*P	**Pn**	**20 45 46.2**	**-2.1**
YOIG				*e*S	**Sn**	**20 46 05.0**	**-2.1**
DAIG	**Los Arroyos**	**1.40**	**317**		**Pn**	**20 45 45.3**	**-3.1**
DAIG					**Sn**	**20 46 00.2**	**-7.2**
DAIG	**Los Arroyos**	**1.40**	**317**	*e*P	**Pn**	**20 45 45.3**	**-3.1**
DAIG				*e*S	**Sn**	**20 46 00.2**	**-7.2**
VNTA	**La Mica**	**1.44**	**310**	*e*P	**Pn**	**20 45 48.7**	**-0.3**
VNTA				*e*S	**Sn**	**20 46 07.0**	**-1.5**
PEIG	**Puerto Escondi**	**1.45**	**90**		**Pn**	**20 45 47.4**	**-1.8**
PEIG					**Sn**	**20 46 04.8**	**-4.0**
PEIG	**Puerto Escondi**	**1.45**	**90**	*e*P	**Pn**	**20 45 47.4**	**-1.8**
PEIG				*e*S	**Sn**	**20 46 04.8**	**-4.0**
ACP2	**Acapulco**	**1.47**	**307**		**Pn**	**20 45 48.1**	**-1.3**
ACP2					**Sn**	**20 46 05.2**	**-3.9**
ACP2	**Acapulco**	**1.47**	**307**	*e*P	**Pn**	**20 45 48.1**	**-1.3**
ACP2				*e*S	**Sn**	**20 46 05.2**	**-3.9**
TXIG	**Tlaxiaco**	**1.51**	**34**		**Pn**	**20 45 48.5**	**-1.8**
TXIG					**Sn**	**20 46 10.7**	**0.0**
TXIG	**Tlaxiaco**	**1.51**	**34**	*e*P	**Pn**	**20 45 48.5**	**-1.8**
TXIG				*e*S	**Sn**	**20 46 10.7**	**0.0**
TLIG	**Tlapa**	**1.56**	**3**		**Pn**	**20 45 48.6**	**-2.2**
TLIG	**Tlapa**	**1.56**	**3**	*e*P	**Pn**	**20 45 48.8**	**-2.0**
TLIG				*e*S	**Sn**	**20 46 10.9**	**-0.7**
HMTT	**Tlapaneco**	**1.79**	**3**		**Pb**	**20 45 56.7**	**+1.0**
HMTT					**Sg**	**20 46 20.9**	**+1.1**
HMTT	**Tlapaneco**	**1.79**	**3**	*e*P	**Pb**	**20 45 56.7**	**+1.0**
HMTT				*e*S	**Sg**	**20 46 20.9**	**+1.1**
CAIG	**El Cayaco**	**1.86**	**304**		**Pn**	**20 45 52.5**	**-2.4**
CAIG					**Sb**	**20 46 21.1**	**+0.6**
CAIG	**El Cayaco**	**1.86**	**304**	*e*P	**Pn**	**20 45 52.5**	**-2.4**
CAIG				*e*S	**Sb**	**20 46 21.1**	**+0.6**
FTIG	**Fresnillo de T**	**1.97**	**15**		**Pn**	**20 45 54.8**	**-1.6**
FTIG					**Sn**	**20 46 20.7**	**-1.0**
FTIG	**Fresnillo de T**	**1.97**	**15**	*e*P	**Pn**	**20 45 54.8**	**-1.6**
FTIG				*e*S	**Sn**	**20 46 20.7**	**-1.0**
HLIG	**Huajuapan de L**	**2.00**	**24**		**Pn**	**20 45 55.1**	**-1.8**
HLIG					**Sn**	**20 46 20.7**	**-1.9**
HLIG	**Huajuapan de L**	**2.00**	**24**	*e*P	**Pn**	**20 45 55.1**	**-1.8**
HLIG				*e*S	**Sn**	**20 46 20.7**	**-1.9**
ATYC	**Atoyac**	**2.09**	**306**	*e*S	**Sn**	**20 46 19.9**	**-4.6**
PANG	**Puerto Angel**	**2.13**	**99**		**Sn**	**20 46 19.1**	**-6.4**
PANG	**Puerto Angel**	**2.13**	**99**	*e*S	**Sn**	**20 46 19.1**	**-6.4**
MEIG	**Mezcala**	**2.13**	**335**		**Pn**	**20 45 56.9**	**-1.7**
MEIG					**Sb**	**20 46 26.9**	**-1.3**
MEIG	**Mezcala**	**2.13**	**335**	*e*P	**Pn**	**20 45 56.9**	**-1.7**
MEIG				*e*S	**Sb**	**20 46 26.9**	**-1.3**
VHO	**Vista Hermosa**	**2.13**	**60**	*e*P	**Pn**	**20 45 57.5**	**-1.3**
VHO				*e*S	**Sn**	**20 46 25.4**	**-0.6**
OXIG	**Oaxaca**	**2.13**	**60**		**Pn**	**20 45 57.5**	**-1.3**
OXIG					**Sn**	**20 46 25.4**	**-0.6**
OXBJ	**Oaxaca**	**2.14**	**60**		**Pn**	**20 45 56.5**	**-2.4**
OXBJ					**Sn**	**20 46 21.6**	**-4.4**
OXBJ	**Oaxaca**	**2.14**	**60**	*e*P	**Pn**	**20 45 56.5**	**-2.4**
OXBJ				*e*S	**Sn**	**20 46 21.6**	**-4.4**
OXLC	**Oaxaca**	**2.16**	**60**	*e*P	**Pn**	**20 45 59.3**	**+0.3**
OXLC				*e*S	**Sn**	**20 46 27.3**	**+0.8**
HUIG	**Huatulco**	**2.46**	**95**		**Pn**	**20 46 02.1**	**-1.1**
HUIG					**Sn**	**20 46 28.6**	**-5.2**
HUIG	**Huatulco**	**2.46**	**95**	*e*P	**Pn**	**20 46 02.1**	**-1.1**
HUIG				*e*S	**Sn**	**20 46 28.6**	**-5.2**
PLIG	**Platanillo**	**2.52**	**341**		**Pn**	**20 46 02.7**	**-1.3**
PLIG					**Sn**	**20 46 36.5**	**+1.3**
PLIG	**Platanillo**	**2.52**	**341**	*e*P	**Pn**	**20 46 02.7**	**-1.3**
PLIG				*e*S	**Sn**	**20 46 36.5**	**+1.3**
TOIG	**Toxpalan**	**2.59**	**36**		**Pn**	**20 46 03.3**	**-1.6**
TOIG					**Sb**	**20 46 40.3**	**-1.1**
TOIG	**Toxpalan**	**2.59**	**36**	*e*P	**Pn**	**20 46 03.3**	**-1.6**
TOIG				*e*S	**Sb**	**20 46 40.3**	**-1.1**
TPIG	**Tehuac#an**	**2.71**	**27**		**Pn**	**20 46 05.4**	**-1.3**
TPIG					**Sb**	**20 46 46.1**	**+1.0**
TPIG	**Tehuac#an**	**2.71**	**27**	*e*P	**Pn**	**20 46 05.4**	**-1.3**
TPIG				*e*S	**Sb**	**20 46 46.1**	**+1.0**
ARIG	**Puente Sto Nin**	**2.79**	**325**		**Pn**	**20 46 07.1**	**-0.6**
ARIG					**Sn**	**20 46 39.3**	**-2.5**
ARIG	**Puente Sto Nin**	**2.79**	**325**	*e*P	**Pn**	**20 46 07.1**	**-0.6**
ARIG				*e*S	**Sn**	**20 46 39.3**	**-2.5**
YAIG	**Yautepec**	**2.88**	**352**		**Pn**	**20 46 08.8**	**-0.1**
YAIG					**Sb**	**20 46 49.5**	**-0.3**
YAIG	**Yautepec**	**2.88**	**352**	*e*P	**Pn**	**20 46 08.8**	**-0.1**
YAIG				*e*S	**Sb**	**20 46 49.5**	**-0.3**
PET2	**Petatlan**	**2.93**	**302**	*e*S	**Sb**	**20 46 53.2**	**+2.1**
PPIG	**Popocatepetl**	**3.06**	**1**		**Pb**	**20 45 15.6**	**-1.8**
PPIG					**Sb**	**20 46 55.6**	**+0.3**
PPM	**Popocatepetl**	**3.06**	**1**	*e*P	**Pb**	**20 45 15.6**	**-1.8**
PPM				*e*S	**Sb**	**20 46 55.6**	**+0.3**
PHPU	**Puebla**	**3.07**	**9**		**Pb**	**20 46 19.3**	**+1.9**
PHPU					**Sb**	**20 46 54.4**	**-1.0**
PHPU	**Puebla**	**3.07**	**9**	*e*P	**Pb**	**20 46 19.3**	**+1.9**
PHPU				*e*S	**Sb**	**20 46 54.4**	**-1.0**
ZIIG	**Zihuatanejo**	**3.13**	**301**		**Pn**	**20 46 11.1**	**-1.2**
ZIIG					**Sb**	**20 46 54.1**	**-2.8**
ZIIG	**Zihuatanejo**	**3.13**	**301**	*e*P	**Pn**	**20 46 11.1**	**-1.2**
ZIIG				*e*S	**Sb**	**20 46 54.1**	**-2.8**
MPVM	**San Francisco**	**3.21**	**354**	*e*P	**Pb**	**20 46 20.0**	**+0.2**
MPVM				*e*S	**Sg**	**20 47 03.4**	**-1.8**
MZVM		**3.22**	**350**		**Pb**	**20 46 19.7**	**-0.2**
MZVM					**Sg**	**20 47 04.2**	**-1.4**
MZVM		**3.22**	**350**	*e*P	**Pb**	**20 46 19.7**	**-0.2**
MZVM				*e*S	**Sg**	**20 47 04.2**	**-1.4**
NEUV	**Arroyo Zacate**	**3.22**	**58**	*e*P	**Pn**	**20 46 12.7**	**-0.9**
NEUV				*e*S	**Sn**	**20 46 51.4**	**-1.1**
TLVM	**San Miguel Top**	**3.23**	**352**	*e*P	**Pb**	**20 46 18.2**	**-2.1**
TLVM				*e*S	**Sb**	**20 46 59.9**	**-0.4**
XCVM	**Xochimilco**	**3.27**	**352**	*e*P	**Pn**	**20 46 17.1**	**+2.6**
XCVM				*e*S	**Sn**	**20 46 54.7**	**+0.7**
THVM	**De Xico**	**3.31**	**355**	*e*P	**Pn**	**20 46 19.0**	**+4.0**
THVM				*e*S	**Sb**	**20 47 00.6**	**-1.8**
AOVM	**Tlapan**	**3.31**	**349**		**Pn**	**20 46 17.6**	**+2.3**
AOVM					**Sn**	**20 46 53.8**	**-1.6**
AOVM	**Tlapan**	**3.31**	**349**	*e*P	**Pn**	**20 46 17.6**	**+2.3**
AOVM				*e*S	**Sn**	**20 46 53.8**	**-1.6**
INVM	**La Marquesa**	**3.35**	**348**	*e*P	**Pb**	**20 46 20.6**	**-1.8**
INVM				*e*S	**Sb**	**20 47 04.3**	**+0.7**
UNM	**Universidad Na**	**3.35**	**352**		**Pn**	**20 46 18.4**	**+2.7**
UNM	**Universidad Na**	**3.35**	**352**	*e*P	**Pn**	**20 46 18.3**	**+2.7**
UNM				*e*S	**Sn**	**20 46 56.8**	**+0.7**
CUP5	**Mexico City**	**3.35**	**352**	*e*P	**Pb**	**20 46 22.0**	**-0.3**
CUP5				*e*S	**Sb**	**20 47 02.3**	**-1.4**
COVM	**Coyoacan**	**3.37**	**352**	*e*S	**Sb**	**20 47 03.9**	**-0.3**
COVM				*e*S	**Sg**	**20 47 07.8**	**-2.7**
BJVM	**Benito Juarez**	**3.40**	**352**	*e*P	**Pb**	**20 46 22.7**	**-0.4**
BJVM				*e*S	**Sg**	**20 47 09.7**	**-1.6**
CJVM	**Cuajimalpa**	**3.40**	**350**	*e*P	**Pb**	**20 46 22.3**	**-0.9**
CJVM				*e*S	**Sb**	**20 47 08.2**	**+3.2**
TXVM	**Universitario**	**3.43**	**356**	*e*S	**Sb**	**20 47 08.5**	**+2.6**
VRVM	**Mexico City**	**3.43**	**353**	*e*S	**Sb**	**20 47 06.0**	**0.0**
MHVM	**Bosque de Chap**	**3.43**	**351**	*e*P	**Pb**	**20 46 24.3**	**+0.6**
MHVM				*e*S	**Sb**	**20 47 06.3**	**+0.3**
PBVM	**Pinon**	**3.45**	**353**		**Pb**	**20 46 22.5**	**-1.3**
PBVM					**Sn**	**20 47 00.3**	**+2.2**
PBVM	**Pinon**	**3.45**	**353**	*e*P	**Pb**	**20 46 22.5**	**-1.3**
PBVM				*e*S	**Sn**	**20 47 00.3**	**+2.2**
CTVM	**Cuauhtemoc**	**3.46**	**352**	*e*S	**Sb**	**20 47 08.8**	**+2.0**
APVM	**Azcapotzalco**	**3.51**	**351**		**Pn**	**20 46 14.0**	**-3.8**
APVM					**Sn**	**20 46 59.3**	**-0.7**
APVM	**Azcapotzalco**	**3.51**	**351**	*e*P	**Pn**	**20 46 14.0**	**-3.8**
APVM				*e*S	**Sn**	**20 46 59.3**	**-0.7**
CMIG	**Matias Romero**	**3.78**	**73**		**Pn**	**20 46 19.7**	**-1.6**
CMIG					**Sn**	**20 47 02.8**	**-3.5**
CMIG	**Matias Romero**	**3.78**	**73**	*e*P	**Pn**	**20 46 19.7**	**-1.6**
CMIG				*e*S	**Sn**	**20 47 02.8**	**-3.5**
JAUV	**Jalcomulco**	**3.79**	**28**	*e*	**Pn**	**20 46 18.9**	**-2.6**
JAUV				*e*		20 47 20.0	
ACIG	**Acambay**	**4.13**	**344**	*e*	Pn	20 46 31.5	+5.3
ACIG				*e*		20 47 28.9	
PMUV	**Sontecomapan**	**4.22**	**53**	*e*	**Pn**	**20 46 24.5**	**-2.9**
PMUV				*e*		20 47 19.6	
LVIG	**Laguna Verde**	**4.28**	**30**	*e*P	**Pn**	**20 46 24.4**	**-3.6**
LVIG				*e*S	**Sn**	**20 47 18.2**	**-0.3**
CXUV	**Coxquihui**	**4.28**	**14**	*e*	**Pb**	**20 46 37.0**	**-1.0**
CXUV				*e*		20 47 22.4	
DEIG	**Demacu**	**4.30**	**355**	*e*	**Pb**	**20 46 41.7**	**+3.3**
DEIG				*e*		20 47 25.9	
MOIG	**Morelia**	**4.38**	**327**		**Pn**	**20 46 29.4**	**-0.3**
MOIG	**Morelia**	**4.38**	**327**	*e*P	**Pn**	**20 46 25.9**	**-3.8**
MOIG				*e*S	**Sn**	**20 47 15.2**	**-6.3**
TUIG	**Tuzandepetl**	**4.53**	**63**	*e*P	**Pn**	**20 46 29.1**	**-2.4**
TUIG				*e*S	Sn	20 47 16.1	-8.7
JRQG	**Juriquilla Cam**	**4.98**	**340**	*e*	**Pb**	**20 46 50.9**	**+0.8**
JRQG				*e*		20 47 56.7	
MMIG	**Aquila**	**5.03**	**298**		**Pn**	**20 46 37.1**	**-1.3**
MMIG	**Aquila**	**5.03**	**298**	*e*P	**Pn**	**20 46 37.1**	**-1.3**
MMIG				*e*		20 47 49.7	
PCIG		**5.24**	**92**	*e*	**Pn**	**20 46 41.0**	**-0.4**
PCIG				*e*		20 47 32.3	
CTUV	**Llano Grande**	**5.46**	**3**	*e*	Pb	20 47 03.6	+5.6
CTUV				*e*		20 48 17.3	
INCO	**Volcan de Coli**	**5.88**	**307**	*e*P	**Pn**	**20 46 53.0**	**+2.5**
INCO				*e*S	**Sn**	**20 48 03.2**	**+4.6**
CDAR	**Ciudad de Arme**	**5.89**	**301**	*e*	**Pn**	**20 46 54.3**	**+4.1**
CDAR				*e*		20 48 03.2	
SOMAC	**Volcano de Col**	**5.89**	**307**	*e*P	**Pn**	**20 46 54.0**	**+3.3**
SOMAC				*e*S	**Sn**	**20 48 03.0**	**+4.0**
RPIG	**Rio Verde**	**5.99**	**348**		**Pn**	**20 46 52.3**	**+0.5**
RPIG	**Rio Verde**	**5.99**	**348**	*e*P	**Pn**	**20 46 52.3**	**+0.5**
RPIG				*e*S	Sn	20 47 50.9	-10
CEGR	**Campo Tres**	**6.00**	**305**	*e*P	**Pn**	**20 46 54.1**	**+2.2**
CEGR				*e*S	**Sn**	**20 48 01.6**	**+0.4**
PATR	**El Naranjo**	**6.25**	**97**	*e*P	**Pn**	**20 46 55.9**	**+0.4**
PATR				*e*S	**Sn**	**20 48 02.1**	**-5.5**
CCIG	**Comitan**	**6.27**	**86**		**Pn**	**20 46 54.9**	**-0.9**
CCIG	**Comitan**	**6.27**	**86**	*e*	**Pn**	**20 46 56.5**	**+0.8**
CCIG				*e*		20 47 55.9	
PAVE	**Pavencul**	**6.30**	**96**	*e*P	**Pn**	**20 46 56.6**	**+0.6**
PAVE				*e*S	**Sn**	**20 48 01.8**	**-6.9**
CJM	**Chamela**	**7.01**	**301**	*e*	**Pn**	**20 47 08.5**	**+2.8**
CJM				*e*		20 48 37.6	
ZAIG	**Zacatecas**	**7.68**	**332**	*e*	Pb	20 47 44.1	+8.0
ZAIG				*e*		20 48 57.0	
LNIG	**Linares**	**8.89**	**355**	*e*	Pn	20 48 03.8	+32
LNIG				*e*		20 49 55.7	
MTO3	**Montecristo**	**9.12**	**99**		**Pn**	**20 47 35.4**	**+0.7**
TEIG	**Tepich**	**10.73**	**65**	Pn	**Pn**	**20 47 54.5**	**-2.1**
TEIG	**Tepich**	**10.73**	**65**	Pn	**Pn**	**20 47 53.9**	**-2.8**
	0.1nm,0.3s,baz=129,slow=23,

X34A	Smith Ranch, M	18.54	2		P		20 49 36.9	-3.0
AMTX	Amarillo	19.00	352	P	P		20 49 43.6	-1.4
DUN6	Lazy B Ranch	19.01	332	IAmb	IAmb		20 49 48.5	
	comp=Z,31nm,1.0s							
W35A	Tecumseh	19.14	4	P	P		20 49 43.7	-2.8
W35A				IAmb	IAmb		20 49 54.7	
	comp=Z,24nm,0.8s							
UALR	University of	19.54	16	P	P		20 49 49.4	-1.4
Y45A	Yeager Farm, C	19.60	23	P	P		20 49 49.7	-1.8
Y45A				IAmb	IAmb		20 49 53.2	
	comp=Z,36nm,1.1s							
TUC	Tucson	19.62	328		P		20 49 47.9	-4.0
DEOK	Depew	19.86	5	P	P		20 49 52.3	-2.0
DEOK				IAmb	IAmb		20 50 06.0	
	comp=Z,44nm,1.3s							
LRAL	Lakeview Retre	19.98	30		P		20 49 54.7	-0.9
OK052	Battle Ridge R	19.99	4	IAmb	IAmb		20 49 55.3	
	comp=Z,35nm,1.1s							
TUL3	Leonard	20.00	7	IAmb	IAmb		20 50 23.4	
	comp=Z,24nm,0.7s							
ANMO	Albuquerque	20.13	341	P	P		20 49 57.4	-0.1
ANMO	Albuquerque	20.13	341	P	P		20 49 58.5	+1.1
	comp=Z,0.6nm,0.3s,baz=315,slow=12,SNR=15							
ANMO				LR	LR		20 57 43.0	
	comp=Z,195nm,19.2s,baz=303,slow=37							
	comp=Z,6.6nm,0.7s							
OXF	Oxford	20.23	23		P		20 49 56.7	-1.6
OXF				IAmb	IAmb		20 50 33.7	
	comp=Z,29nm,0.9s							
OK048	Pawnee Station	20.40	4	IAmb	IAmb		20 50 01.9	
	comp=Z,30nm,0.9s							
OK038	West end E0370	20.40	360	IAmb	IAmb		20 50 00.4	
	comp=Z,32nm,1.1s							
OK051	E0350 and S346	20.49	4	IAmb	IAmb		20 50 03.0	
	comp=Z,26nm,1.0s							
U38A	Gravette	20.71	10	IAmb	IAmb		20 50 08.0	
	comp=Z,19nm,0.9s							
T35A	Sooner Cattle	20.93	5	IAmb	IAmb		20 50 05.5	
	comp=Z,27nm,0.8s							
Y49A	Blount Mountai	20.93	30		P		20 50 04.2	-1.8
Y49A				IAmb	IAmb		20 50 05.7	
	comp=Z,18nm,0.8s							
KAN17	Caldwell West	20.98	2	IAmb	IAmb		20 50 10.7	
	comp=Z,22nm,0.8s							
LCAR	Lake Charles	21.08	17		P		20 50 05.2	-2.3
PLAL	Pickwick Lake	21.16	25	IAmb	IAmb		20 50 17.8	
	comp=Z,25nm,0.9s							
X16A	Lo Mia Camp, P	21.65	330	IAmb	IAmb		20 50 27.7	
	comp=Z,17nm,0.9s							
T25A	Trinidad	21.67	347	P	P		20 50 13.0	-1.1
T25A				IAmb	IAmb		20 50 18.5	
	comp=Z,20nm,1.1s							
MGMO	Mountain Grove	21.82	14	IAmb	IAmb		20 50 19.6	
	comp=Z,19nm,0.8s							
T42A	Van Buren	22.00	16		P		20 50 15.7	-1.7
T42A				IAmb	IAmb		20 50 20.6	
	comp=Z,26nm,0.9s							
Y52A	Lilburn	22.13	34		P		20 50 17.4	-1.4
Y52A				IAmb	IAmb		20 50 18.8	
	comp=Z,24nm,1.0s							
WVT	Waverly	22.25	24		P		20 50 19.6	-0.6
SWET	Sewanee	22.28	28	IAmb	IAmb		20 50 19.6	
	comp=Z,20nm,0.8s							
V48A	Smith Brothers	22.32	26	IAmb	IAmb		20 50 22.6	
	comp=Z,20nm,0.9s							
W50A	Signal Mountai	22.55	30		P		20 50 20.3	-3.1
W50A				IAmb	IAmb		20 50 24.2	
	comp=Z,17nm,0.8s							
S22A	4UR Ranch, Cre	22.84	343		P		20 50 26.8	+0.1
MVCO	Mesa Verde	22.86	339		P		20 50 26.4	-0.5
MVCO				IAmb	IAmb		20 50 29.3	
	comp=Z,25nm,0.9s							
CCM	Cathedral Cave	22.93	15		P		20 50 22.9	-4.4
CCM				IAmb	IAmb		20 50 31.8	
	comp=Z,24nm,1.1s							
FVM	French Village	23.08	17	IAmb	IAmb		20 50 29.6	
	comp=Z,23nm,1.1s							
CPCT	Cooper Cave	23.13	31	IAmb	IAmb		20 50 37.4	
	comp=Z,21nm,1.1s							
HODGE	Hodges	23.40	36	IAmb	IAmb		20 50 32.3	
	comp=Z,11nm,0.8s							
U49A	Red Boiling Sp	23.43	27	IAmb	IAmb		20 50 33.0	
	comp=Z,26nm,1.1s							
BG3	Lake Jocassee	23.59	34	IAmb	IAmb		20 50 34.3	
	comp=Z,11nm,0.9s							
PV01	Paradox Valley	23.72	340	IAmb	IAmb		20 50 37.8	
	comp=Z,11nm,0.9s							
PV13	Radium Mtn., P	23.83	340	IAmb	IAmb		20 50 38.4	
	comp=Z,12nm,0.8s							
PV02	Paradox Valley	23.84	340	IAmb	IAmb		20 50 38.3	
	comp=Z,18nm,0.8s							
PV05	Paradox Valley	23.85	339	IAmb	IAmb		20 50 38.6	
	comp=Z,9.7nm,0.8s							
PV15	Paradox Valley	23.88	341	IAmb	IAmb		20 50 39.6	
	comp=Z,18nm,0.9s							
PV03	Paradox Valley	23.92	340	IAmb	IAmb		20 50 39.2	
	comp=Z,11nm,0.8s							
PV12	Saucer Basin,	23.96	340	IAmb	IAmb		20 50 39.0	
	comp=Z,18nm,0.8s							
P38A	Dawn	23.96	10	IAmb	IAmb		20 50 37.6	
	comp=Z,20nm,0.8s							
PV11	David Mesa, Pa	23.97	340	IAmb	IAmb		20 50 39.7	
	comp=Z,11nm,0.7s							
PV17	East Wray Mesa	23.98	340	IAmb	IAmb		20 50 39.8	
	comp=Z,11nm,0.8s							
PV16	Nyswonger Mesa	24.00	340	IAmb	IAmb		20 50 39.5	
	comp=Z,9.1nm,0.8s							
PV07	Paradox Valley	24.02	340	IAmb	IAmb		20 50 40.8	
	comp=Z,13nm,1.0s							
PV20	West Nyswonger	24.04	340	IAmb	IAmb		20 50 40.3	
	comp=Z,13nm,0.8s							
PV04	Paradox Valley	24.07	340	IAmb	IAmb		20 50 40.3	
	comp=Z,13nm,0.9s							
PV14	Lion Creek, Pa	24.09	340	IAmb	IAmb		20 50 50.2	
	comp=Z,14nm,1.3s							
PV10	Paradox Valley	24.09	340	IAmb	IAmb		20 50 39.6	
	comp=Z,19nm,1.0s							
PV23	Carpenter Ridg	24.16	340	IAmb	IAmb		20 50 43.0	
	comp=Z,19nm,0.8s							
T50A	Nancy	24.26	28	IAmb	IAmb		20 50 41.3	
	comp=Z,16nm,0.8s							
KNB	Kanab	24.42	332	IAmb	IAmb		20 50 46.1	
	comp=Z,9.7nm,0.9s							
TZTN	Tazewell	24.48	30	IAmb	IAmb		20 50 44.0	
	comp=Z,22nm,1.1s							
ISCO	Idaho Springs	24.48	347	IAmb	IAmb		20 50 45.0	
	comp=Z,13nm,0.9s							
PKCU	Pink Cliffs	24.54	333	IAmb	IAmb		20 50 47.2	
	comp=Z,13nm,1.0s							
KMSC	Kings Mountain	24.58	36	IAmb	IAmb		20 50 43.2	
	comp=Z,10nm,0.9s							
WCI	Wyandotte Cave	24.68	24	P	P		20 50 42.2	-2.0
MTPU	Mount Pierson	24.99	334	IAmb	IAmb		20 50 57.9	
	comp=Z,14nm,0.9s							
V55A	Taylorsville	25.16	35	IAmb	IAmb		20 50 49.2	
	comp=Z,11nm,0.9s							
R49A	Shelbyville	25.19	26	IAmb	IAmb		20 50 54.6	
	comp=Z,9.1nm,0.9s							
SRU	San Rafael Swe	25.27	338	IAmb	IAmb		20 50 59.1	
	comp=Z,17nm,1.0s							
O20A	White River Ci	25.46	343	IAmb	IAmb		20 50 55.4	
	comp=Z,19nm,1.0s							
R50A	Paris	25.54	27	IAmb	IAmb		20 50 51.9	
	comp=Z,11nm,1.0s							
P18A	Preston Nutter	25.63	339	IAmb	IAmb		20 51 05.0	
	comp=Z,20nm,1.1s							
TMUT	Trail Mountain	25.68	337	IAmb	IAmb		20 50 55.9	
	comp=Z,6.2nm,0.7s							
RDMU	Red Mountain	26.26	341	IAmb	IAmb		20 51 00.7	
	comp=Z,9.2nm,0.7s							
BLA	Blacksburg	26.60	34	IAmb	IAmb		20 51 05.1	
	comp=Z,19nm,1.1s							
BSUT	Blindstream Ca	26.62	339	IAmb	IAmb		20 51 07.8	
	comp=Z,8.9nm,0.8s							
T57A	Hurt	27.08	36	IAmb	IAmb		20 51 08.6	
	comp=Z,12nm,1.1s							
O49A	Covington	27.14	25	IAmb	IAmb		20 51 08.4	
	comp=Z,17nm,0.9s							
TCUT	Toone Canyon	27.36	339	IAmb	IAmb		20 51 11.3	
	comp=Z,15nm,1.0s							
ECSD	EROS Data Cent	27.70	3	IAmb	IAmb		20 51 16.5	
	comp=Z,11nm,1.1s							
NV11	Mina Array Sit	28.17	326	IAmb	IAmb		20 51 19.2	
	comp=Z,7.5nm,1.1s							
NVAR	Mina Array Bea	28.25	326	P	P		20 51 15.9	-0.8
NVAR	Mina Array Bea	28.25	326	P	P		20 51 18.6	+1.9
	comp=Z,2.7nm,0.8s,baz=159,slow=9.5,SNR=14							
	comp=Z,2.7nm,0.8s							
BW06	Boulder Array	28.27	343	IAmb	IAmb		20 51 26.9	
	comp=Z,7.3nm,1.1s							
PDAR	Pinedale Array	28.27	343		P		20 51 16.3	-0.5
PDAR	Pinedale Array	28.27	343	P	P		20 51 17.8	+0.9
	comp=Z,3.4nm,0.9s,baz=144,slow=8.2,SNR=23							
	comp=Z,3.4nm,0.9s							
HVU	Hansel Valley	28.43	337	IAmb	IAmb		20 51 28.8	
	comp=Z,7.5nm,0.9s							
ELK	Elko	28.55	333	LR	LR		21 05 00.8	
	comp=Z,96nm,19.8s,baz=100,slow=42							
RLMT	Red Lodge	30.38	345	IAmb	IAmb		20 51 39.0	
	comp=Z,5.0nm,0.8s							
WVOR	Wild Horse Val	31.43	331	IAmb	IAmb		20 51 48.1	
	comp=Z,9.2nm,1.4s							
J08A	Circle Bar Ran	32.08	332	IAmb	IAmb		20 51 53.0	
	comp=Z,8.7nm,1.0s							
PLID	Pearl Lake	32.47	337	IAmb	IAmb		20 51 56.1	
	comp=Z,4.3nm,0.8s							
F10A	Beach Ranch, E	33.69	336	IAmb	IAmb		20 52 06.2	
	comp=Z,8.8nm,0.8s							
EPLO	Experimental L	33.83	6	IAmb	IAmb		20 52 05.5	
	comp=Z,7.8nm,0.9s							
ULM	Lac du Bonnet	34.24	3	P	P		20 52 06.8	-2.2
	comp=Z,3.9nm,0.7s,baz=181,slow=9.3,SNR=4.5							
	comp=Z,3.9nm,0.7s							
FFC	Flin Flon	38.73	357	P	P		20 52 46.2	-1.1
FFC				IAmb	IAmb		20 52 55.1	
	comp=Z,11nm,1.1s							
LPAZ	La Paz	44.00	135	P	P		20 53 36.2	+4.4
	comp=Z,1.2nm,0.9s,baz=343,slow=11,SNR=4.7							
	comp=Z,1.2nm,0.9s							
YKA	Yellowknife Ar	47.78	350	P	P		20 54 00.2	-0.2
	comp=Z,1.4nm,0.8s,baz=160,slow=7.3,SNR=19							
	comp=Z,1.4nm,0.8s							
YKAW3	Yellowknife Wh	47.85	350	IAmb	IAmb		20 54 01.8	
	comp=Z,5.7nm,1.2s							
BLKN	Baker Lake	48.31	2		P		20 54 02.9	-1.4
H03N2	Juan Fernandez	52.64	159	T	T		21 51 26.9	
	baz=337,slow=77,SNR=878							
H03N1	Juan Fernandez	52.65	159	T	T		21 51 28.1	
	baz=337,slow=77,SNR=1169							
H03N3	Juan Fernandez	52.66	159	T	T		21 51 27.1	
	baz=337,slow=77,SNR=1439							
ILON	Igloolik, Nuna	54.39	7		P		20 54 47.8	-2.1
ILON				IAmb	IAmb		20 54 50.5	
	comp=Z,5.2nm,0.9s							
I29M	Ogilvie Camp,	56.01	341	IAmb	IAmb		20 55 03.0	
	comp=Z,4.7nm,0.9s							
RIDG	Independent Ri	57.22	338	P	P		20 55 10.0	-0.4
E29M	Blow River	57.97	344	IAmb	IAmb		20 55 23.4	
	comp=Z,6.5nm,1.1s							
A36M	Sachs Harbour	58.14	351	IAmb	IAmb		20 55 23.2	
	comp=Z,6.3nm,0.8s							
CPUP	Villa Florida	58.17	136	P	P		20 55 21.6	+4.1
	comp=Z,2.9nm,1.0s,baz=40,slow=8.8,SNR=4.1							
	comp=Z,2.9nm,1.0s							
PRP	Porcupine Dome	58.47	339	P	P		20 55 17.6	-1.6
PRP				IAmb	IAmb		20 55 21.2	
	comp=Z,7.0nm,1.0s							
ILAR	Eielson Array	58.53	338	P	P		20 55 18.4	-1.1
ILAR	Eielson Array	58.53	338	P	P		20 55 18.9	-0.6
	comp=Z,2.2nm,0.9s,baz=136,slow=4.7,SNR=15							
	comp=Z,2.2nm,0.9s							
E27K	Coleen River	58.86	343	IAmb	IAmb		20 55 23.7	
	comp=Z,6.2nm,1.1s							
BDFB	Brasilia	59.05	120	P	P		20 55 25.8	+1.7
	comp=Z,1.4nm,0.3s,baz=242,slow=5.9,SNR=4.7							
BDFB				LR	LR		21 18 39.8	
	comp=Z,141nm,21.4s,baz=293,slow=34							
	comp=Z,1.4nm,0.3s							
H24K	Noodor Dome	59.46	339	IAmb	IAmb		20 55 27.8	
	comp=Z,6.3nm,0.9s							
I23K	Minto, Yukon-K	59.63	338	IAmb	IAmb		20 55 28.6	
	comp=Z,4.0nm,0.7s							
G24K	Hadweenzic Riv	59.79	340		P		20 55 28.3	0.0
G24K				IAmb	IAmb		20 55 30.3	
	comp=Z,6.8nm,0.9s							
CAST	Castle Rocks	59.84	335		P		20 55 28.1	-0.5
K20K	Telida	60.62	335	IAmb	IAmb		20 55 35.3	
	comp=Z,5.3nm,0.9s							
D25K	Kavik River	60.93	343	P	P		20 55 34.3	-1.8
D25K				IAmb	IAmb		20 55 44.2	
	comp=Z,5.1nm,0.9s							
J20K	Nowinta River	61.00	336	IAmb	IAmb		20 55 37.8	
	comp=Z,5.7nm,0.8s							
J19K	Poorman	61.51	335		P		20 55 39.4	-0.6
D23K	Nanushuk River	62.03	341		P		20 55 44.5	+1.1
D23K				IAmb	IAmb		20 55 49.4	
	comp=Z,6.5nm,1.1s							
PLCA	Paso Flores	62.18	156	P	P		20 55 49.5	+4.6
	comp=Z,1.5nm,0.9s,baz=286,slow=7.0,SNR=3.9							
	comp=Z,1.5nm,0.9s							
C23K	Itkillik River	62.46	342	IAmb	IAmb		20 55 48.0	
	comp=Z,4.0nm,0.9s							
F20K	Avaraart Lake	62.81	338	IAmb	IAmb		20 55 50.5	
	comp=Z,4.3nm,1.1s							
F19K	Shaleruckik Mo	63.46	338	IAmb	IAmb		20 56 02.3	
	comp=Z,4.4nm,1.4s							
E19K	Redstone River	63.51	338	IAmb	IAmb		20 56 17.0	
	comp=Z,4.9nm,1.1s							
EUNU	Eureka	64.34	2	P	P		20 55 57.9	-0.8
EUNU				IAmb	IAmb		20 56 35.1	
	comp=Z,3.8nm,1.2s							
SUMG	Summit	66.10	17	P	P		20 56 07.0	-3.6
ESDC	Sonseca Array	83.49	51	LR	LR		21 30 58.5	
	comp=Z,118nm,19.9s,baz=351,slow=33							
NB2	NORSAR Subarra	85.41	27	P	P		20 58 00.5	-0.3
	comp=Z,2.6nm,0.9s,baz=300,slow=5.3							
NOA	NORSAR Array B	85.41	27	P	P		20 57 59.8	-1.1
	comp=Z,0.7nm,0.8s,baz=301,slow=5.2,SNR=4.8							
	comp=Z,0.7nm,0.8s							
WRA	Warramunga Arr	129.60	257	PKP	PKiKP		21 04 37.1	+3.0
	comp=Z,1.1nm,0.9s,baz=99,slow=1.2,SNR=5.7							
ASAR	Alice Springs	130.19	252	PKP	PKiKP		21 04 38.5	+3.2
	comp=Z,1.0nm,0.9s,baz=86,slow=1.3,SNR=7.5							
CMAR	Chiang Mai Arr	141.63	332	PKP	PKPdf		21 04 56.9	+1.0
	comp=Z,0.9nm,0.9s,baz=344,slow=4.1,SNR=4.6							

WEL 22 20:53:37.1±1.0, 32°S±6°×18°0W±1°5, h312km±15km, M4.1/10, mB4.4/6, ML4.7/10, MLv4.5/10, Mw(mB)3.6/6, Error ellipse: s-maj=20.4km s-min=5.5km az=107.1, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.88	36	P	Pn	20 54 29.7	-2.9
GLKZ				S	S	20 55 18.4	+1.5
MXZ	Matakoa Point	6.12	194	P	Pn	20 55 09.2	+1.2
WMGZ	Waiomatatini S	6.35	192	P	Pn	20 55 12.9	+2.1
WMGZ				S	S	20 56 29.3	+2.8
HAZ	Te Kaha	6.43	197	P	Pn	20 55 10.0	-1.7
HAZ				S	S	20 56 28.8	+0.7
PKGZ	Pakihiroa	6.46	195	P	Pn	20 55 14.1	+2.0
PKGZ				S	S	20 56 30.8	+1.8
WCZ	Waipu Caves	6.47	227	P	Pn	20 55 12.9	+0.7
OUZ	Omahuta	6.55	235	P	Pn	20 55 12.8	-0.3
PUZ	Puketiti	6.63	193	P	Pn	20 55 15.9	+1.8
PUZ				S	S	20 56 33.1	+0.5
ABAZ	Army Bay	6.64	220	P	Pn	20 55 16.8	+2.6
RUGZ	Raukumara Rang	6.65	197	P	Pn	20 55 14.9	+0.4
RUGZ				S	S	20 56 31.6	-1.7
TWGZ	Tauwhareparae	6.79	195	P	Pn	20 55 17.8	+1.8
TWGZ				S	S	20 56 38.3	+2.2
EPAZ	Eden Park BICE	6.89	219	P	Pn	20 55 16.8	-0.4
CNGZ	Carnagh Statio	7.04	192	P	Pn	20 55 19.2	+0.2
MWZ	Matawai	7.04	197	P	Pn	20 55 16.1	-3.0
MWZ				S	S	20 56 40.6	-1.0
TKGZ	Te Karaka	7.07	195	P	Pn	20 55 19.1	-0.2
URZ	Urewera	7.08	200	P	Pn	20 55 17.6	-1.9
RAGZ	Rawiri	7.22	197	P	Pn	20 55 21.6	+0.3
RAGZ				S	S	20 56 45.1	-0.6
MUGZ	Murupara	7.38	201	P	Pn	20 55 22.8	-0.4
RTZ	Ruatahuna	7.45	199	P	Pn	20 55 23.7	-0.3
SNGZ	Shannon Statio	7.51	197	P	Pn	20 55 24.6	-0.1
SNGZ				S	S	20 56 50.7	-1.3

IDC 22 20:57:05.5±67.0, 15°50S×165°39E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1120.0km s-min=110.0km az=66.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	27.12	229	P	P	21 02 50.4	0.0
	1.0nm,0.5s,baz=56,slow=11,SNR=5.4						
	1.0nm,0.5s						
WRA	Warramunga Arr	29.88	257	P	P	21 03 14.7	-0.4
	0.4nm,0.8s,baz=89,slow=8.9,SNR=2.1						
	0.4nm,0.8s						
ASAR	Alice Springs	30.70	250	P	P	21 03 22.6	+0.2
	0.7nm,0.6s,baz=77,slow=9.0,SNR=9.9						
	0.7nm,0.6s						

*NEIC **22** 20:59:45.3±2.6, 78°9N±0°2×4°2E±0°4, h10km±2km, mb4.3/12, Error ellipse: s-maj=26.2km s-min=13.4km az=191.0*
*IDC **22** 20:59:45.0±0.9, 78°97N×3°24E, h0km, mb3.7/12, mbtmp3.8/17, ML2.9/4, MS3.8/1, Error ellipse: s-maj=18.1km s-min=15.9km az=33.0*
*BER **22** 20:59:46.3±3.6, 78°94N×3°97E, h13km±13km, mb(Pn)4.4, Confirmed Earthquake*
*KOLA **22** 20:59:47.1, 78°83N×5°12E, h0km, ML2.9, Error ellipse: s-maj=32.1km s-min=18.4km az=140.0, Greenland sea, Knipovich ridge, north*
*FCIAR **22** 20:59:49.0, 78°77N×4°84E, h10km, station ZFI2 has station magnitude of 4.20 station OMEGA has station magnitude of 4.20*

ISC 22 20:59:44.8±0.5, 78°87N±0°05×3°37E±0°04, h10km, n65, σ3§38/82, mb3.8/15, 3C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.66	84		Pn	21 00 11.2	-2.6
KBS	Kingsbay	1.66	84	P	Pn	21 00 11.3	-2.5
KBS				S	Sn	21 00 29.0	-6.2
KBS	Kingsbay	1.66	84	⇑iP	Pn	21 00 11.9	-2.0
KBS				eS	Sn	21 00 29.1	-6.1
BRBB	Barentsburg B	2.31	104	P	Pn	21 00 21.1	-1.7
BRBB				S	Sn	21 00 46.8	-4.4
BRBB	Barentsburg B	2.31	104	eP	Pn	21 00 22.1	-0.7
BRBB				eS	Sn	21 00 46.5	-4.7
BRBA	Barentsburg A	2.33	105	eP	Pn	21 00 21.6	-1.4
BRBA				eS	Sn	21 00 45.9	-5.7
SPA0	Spitsbergen Ar	2.69	99	⇑iP	Pn	21 00 27.4	-0.6
SPA0				i S	Sn	21 00 56.0	-4.6
SPA0	Spitsbergen Ar	2.69	99	⇑iP	Pn	21 00 27.4	-0.6
SPA0				eS	Sn	21 00 55.7	-4.8
SPA0				IAML		21 01 00.6	
	comp=Z,173nm,0.6s						
SPITS	Spitsbergen Ar	2.69	99	Pn	Pn	21 00 27.4	-0.6
	comp=Z,77nm,0.3s,baz=286,slow=10,SNR=2198						
SPITS				Sn	Sn	21 00 55.9	-4.6
	baz=300,slow=8.6						
SPITS	Spitsbergen Ar	2.69	99	P	Pn	21 00 26.9	-1.2
SPITS				S	Sn	21 00 56.5	-4.0
SPB2	Spitsbergen Ar	2.69	99		Pn	21 00 27.3	-0.7
HSPB	Hornsund (broa	3.17	120	eP	Pn	21 00 33.6	-1.0
HSPB				eS	Sn	21 01 07.5	-4.8
HSPB				IAML		21 01 13.0	
	comp=Z,40nm,0.4s						
NOR	Nord	4.35	318	eP	Pn	21 00 49.5	-1.2
NOR				eS	Sn	21 01 37.7	-3.7
HOPEN	Hopen	5.17	106	eP	Pn	21 01 00.2	-1.9
HOPEN				eS	Sn	21 01 54.5	-7.1
HOPEN	Hopen	5.17	106	eP	Pn	21 01 00.4	-1.7
HOPEN				eS	Sn	21 01 55.2	-6.5
HOPEN				IAML		21 01 60.0	
	comp=Z,25nm,0.3s						
BJO1	Bjornoya	5.66	133	P	Pn	21 01 06.9	-1.8
BJO1				S	Sn	21 02 04.9	-8.7
DBG	Daneborg	7.08	242	eP	Pn	21 01 27.5	-0.8
DBG				eS	Sn	21 02 41.8	-6.9
ZFI2	Zemlya Franca-	7.88	55	eP	Pn	21 01 37.5	-1.7
ZFI2				eS	Sn	21 02 57.9	-10
	comp=Z,64nm,1.0s						
OMEGA	Omega	7.90	55	eP	Pn	21 01 37.7	-1.7
OMEGA				eS	Sn	21 02 57.9	-11
	comp=Z,73nm,0.9s						
JNW	Jan Mayen West	8.43	207	eP	Pn	21 01 48.2	+1.4
JNW				eS	Sn	21 03 15.9	-5.9
JNW				IAML		21 03 24.4	
	comp=Z,43nm,0.3s						
JNE	Jan Mayen East	8.46	207	eP	Pn	21 01 48.5	+1.4
JMIC	Jan Mayen	8.48	207	Pn	Pn	21 01 48.8	+1.4
	comp=Z,20nm,0.3s,baz=161,slow=12,SNR=11						
JMIC				Sn	Sn	21 03 17.6	-5.3
	comp=Z,13nm,0.3s,baz=201,slow=11,SNR=7.3						
JMIC	Jan Mayen	8.48	207	eP	Pn	21 01 48.0	+0.6
SCO	Scoresbysund	10.61	231	Pn	Pn	21 02 16.8	+0.2
SCO	Scoresbysund	10.61	231	i P	Pn	21 02 17.2	+0.7
SCO	Scoresbysund	10.61	231	i P	Pn	21 02 17.2	+0.7
ARCES	ARCESS Array B	11.02	136	Pn	Pn	21 02 23.4	+1.2
	comp=Z,0.1nm,0.3s,baz=347,slow=10,SNR=5.0						
	comp=Z,9.2nm,1.2s						
SUMG	Summit	11.77	260	Pn	Pn	21 02 32.0	-0.7
SUMG	Summit	11.77	260	i P	Pn	21 02 32.4	-0.3
SUMG	Summit	11.77	260	i P	Pn	21 02 32.4	-0.3
KULLO	Kullorsuaq	13.90	284	i P	Pn	21 02 56.7	-4.7
KULLO	Kullorsuaq	13.90	284	i P	Pn	21 02 56.7	-4.7
EUNU	Eureka	14.95	318	Pn	Pn	21 03 12.0	-3.8
EUNU				IAmb	IAmb	21 03 22.3	
	comp=Z,8.2nm,0.9s						
UPNV	Upernavik	15.03	278	i P	Pn	21 03 11.7	-5.0
UPNV	Upernavik	15.03	278	i P	Pn	21 03 11.7	-5.0
UMMG	Uummannaq	15.92	270	i P	Pn	21 03 22.9	-5.5
UMMG	Uummannaq	15.92	270	i P	Pn	21 03 22.9	-5.5
ILULI	Ilulissat	16.94	266	i P	Pn

comp=Z,2.2nm,0.2s
KBZ Khabaz 38.34 132 P P 21 07 08.6 +3.3
comp=Z,1.8nm,0.8s,baz=327,slow=6.5,SNR=5.8
comp=Z,1.8nm,0.8s
ESDC Sonseca Array 39.42 189 P P 21 07 17.3 +2.8
comp=Z,0.4nm,0.6s,baz=4.0,slow=8.8,SNR=6.5
comp=Z,0.4nm,0.6s
BRTR Keskin Array B 41.08 144 P P 21 07 30.9 +2.6
comp=Z,1.0nm,0.9s,baz=353,slow=7.8,SNR=4.4
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 42.40 89 P P 21 07 39.6 +0.7
comp=Z,0.2nm,0.6s,baz=354,slow=7.1,SNR=4.4
comp=Z,0.2nm,0.6s
ECSD EROS Data Cent 49.36 290 P P 21 08 35.2 +1.5

---

*ISK **22** 21:41:26.3, 36°.54N×38°.11E, h12km, ML3.3/9*
*AFAD **22** 21:41:29.6, 36°.71N×38°.13E, h16km±4km, ML3.2*
*GRAL **22** 21:41:32.5±0.6, 36°.63N×38°.00E, h0km±70km, MD3.6*
ISC 22 21:41:28.6±1.1, 36°.64N±0°.03×38°.07E±0°.02, h9km±9km, n40, σ1°82/64, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURC	**SANLIURFA_SURC**	**0.50**	**61**	P	**Pg**	**21 41 38.5**	**+0.3**
SURC				S	**Sg**	**21 41 43.7**	**-1.1**
SURC				*i* AML	AML	21 41 46.0	
	comp=E,2μm,0.2s						
SURC				*i* AML	AML	21 41 46.0	
	comp=N,2μm,0.3s						
NZIP	**Nizip/Gaziante**	**0.51**	**322**	P	**Pg**	**21 41 39.9**	**+1.3**
NZIP				S	**Sg**	**21 41 46.4**	**+1.1**
NZIP				*i* AML	AML	21 41 49.0	
	comp=E,1μm,0.7s						
KUZU	**Kuzuini**	**0.81**	**280**	P	**Pg**	**21 41 43.8**	**-0.5**
KUZU				S	**Sg**	**21 41 54.4**	**-0.4**
KUZU				*i* AML	AML	21 41 59.0	
	comp=N,2μm,0.3s						
KUZU				*i* AML	AML	21 41 59.0	
	comp=E,1μm,0.4s						
GZT	**Gaziantep**	**0.82**	**331**	P	**Pg**	**21 41 45.2**	**+0.8**
GZT				S	**Sg**	**21 41 55.6**	**+0.4**
GZT				*i* AML	AML	21 42 00.0	
	comp=N,614nm,0.2s						
GZT				*i* AML	AML	21 42 03.0	
	comp=E,532nm,0.3s						
ATAB	**Bozova**	**0.85**	**12**	P	**Pg**	**21 41 45.7**	**+0.8**
ATAB				S	**Sg**	**21 41 56.4**	**+0.4**
ATAB				*i* AML	AML	21 42 00.0	
	comp=N,542nm,0.1s						
ATAB				*i* AML	AML	21 42 00.0	
	comp=E,1μm,0.3s						
GAZ	**Gaziantep**	**0.87**	**308**	Pg	**Pg**	**21 41 45.1**	**-0.3**
GAZ				Sg	**Sg**	**21 41 58.9**	**+2.2**
SANL	**SANLIURFA_Merk**	**0.91**	**54**	P	**Pg**	**21 41 45.1**	**-1.0**
SANL				S	**Sg**	**21 41 56.2**	**-1.6**
SANL				*i* AML	AML	21 41 59.0	
	comp=N,2μm,0.3s						
SANL				*i* AML	AML	21 42 00.0	
	comp=E,1μm,0.4s						
URFA	**Urfa**	**1.00**	**37**	Pg	**Pg**	**21 41 47.2**	**-0.7**
URFA				Sg	**Sb**	**21 42 02.2**	**+0.7**
KHMN	**Narli-Kahraman**	**1.05**	**316**	Pn	**Pb**	**21 41 48.6**	**-0.4**
KHMN				Sn	**Sg**	**21 42 04.6**	**+2.3**
HANM	**anlurfa/Hi**	**1.14**	**34**	P	**Pb**	**21 41 50.2**	**-0.3**
HANM				S	**Sb**	**21 42 04.3**	**-1.1**
HANM				*i* AML	AML	21 42 07.0	
	comp=N,614nm,0.4s						
HANM				*i* AML	AML	21 42 07.0	
	comp=E,346nm,0.2s						
AKCA	**Adyaman/G¶l**	**1.19**	**345**	P	**Pn**	**21 41 50.0**	**-1.6**
RHAN	**Hatay/Reyhanl**	**1.24**	**253**	P	**Pn**	**21 41 49.6**	**-2.7**
RHAN				S	**Sb**	**21 42 03.4**	**-5.0**
KAMA	**Osmaniye**	**1.25**	**296**	P	**Pn**	**21 41 52.0**	**-0.4**
KAMA				S	**Sb**	**21 42 05.5**	**-3.2**
KMRS	**Kahramanmaras**	**1.27**	**313**	Pn	**Pn**	**21 41 51.8**	**-0.9**
HASA	**Hatay-Hassa-Ha**	**1.28**	**275**	P	**Pn**	**21 41 51.2**	**-1.5**
HASA				S	**Sb**	**21 42 05.9**	**-3.5**
NARI	**Adyaman-Kaht**	**1.36**	**24**	P	**Pn**	**21 41 53.1**	**-0.8**
NARI				S	**Sb**	**21 42 10.4**	**-1.4**
AKCD	**Akcadag**	**1.66**	**356**	P	**Pn**	**21 41 58.5**	**+0.4**
ANDN	**Andirin**	**1.67**	**305**	P	**Pb**	**21 42 00.4**	**+0.8**
ANDN				S	**Sn**	**21 42 21.2**	**+1.5**
ANDN				*i* AML	AML	21 42 28.0	
	comp=N,229nm,0.3s						
ANDN				*i* AML	AML	21 42 29.0	
	comp=E,259nm,0.4s						
MAYA	**Malatya/Merkez**	**1.70**	**9**	P	**Pn**	**21 41 58.3**	**-0.3**
MAYA				S	**Sb**	**21 42 21.9**	**+0.1**
DARE	**Darende-Malaty**	**1.98**	**347**	Pn	**Pn**	**21 42 02.0**	**-0.5**
ELZG	**Elazig**	**1.99**	**21**	P	**Pn**	**21 42 04.1**	**+1.4**
ELZG				S	**Sb**	**21 42 30.3**	**+0.1**
DIYA	**Diyarbakir**	**2.08**	**51**	P	**Pb**	**21 42 06.4**	**-0.2**
DIYA				S	**Sn**	**21 42 30.1**	**+0.3**
DIYA				*i* AML	AML	21 42 37.0	
	comp=N,190nm,0.3s						
DIYA				*i* AML	AML	21 42 41.0	
	comp=E,229nm,0.5s						
SARI	**SarD1z-Kayseri**	**2.20**	**324**	Pn	**Pn**	**21 42 05.0**	**-0.5**
HEKM	**Malatya_Hekimh**	**2.23**	**358**	P	**Pn**	**21 42 06.2**	**+0.1**
HEKM				S	**Sb**	**21 42 39.8**	**+2.5**
AKO	**Adana**	**2.25**	**292**	P	**Pn**	**21 42 03.0**	**-3.1**
AKO				S	**Sb**	**21 42 37.4**	**-0.2**
HANI	**Diyarbakir_Han**	**2.56**	**46**	P	**Pn**	**21 42 09.1**	**-1.3**
HANI				S	**Sb**	**21 42 46.2**	**-0.3**
BEIL	**Beino**	**2.60**	**217**	*e*P	**Pb**	**21 42 14.1**	**-1.3**
BEIL				*e*S	**Sn**	**21 42 44.4**	**+1.8**
FKH	**Fakeheh**	**2.75**	**210**	*e*P	**Pn**	**21 42 15.9**	**+2.9**
MIDY	**Mardin/Midyat-**	**2.77**	**73**	P	**Pn**	**21 42 12.1**	**-1.2**
MIDY				S	**Sn**	**21 42 47.5**	**+0.6**
HWQ	**Hawqa**	**2.93**	**217**	*e*P	**Pn**	**21 42 18.2**	**+2.7**
HWQ				*e*S	**Sn**	**21 42 52.8**	**+1.9**
BNGB	**Bingl**	**3.12**	**41**	Pn	**Pn**	**21 42 17.7**	**-0.5**
ZAHL	**Zahle**	**3.30**	**213**	*e*P	**Pn**	**21 42 24.1**	**+3.4**
BHL	**Bhannes**	**3.37**	**217**	*e*P	**Pn**	**21 42 24.7**	**+3.1**
DQRL	**Deir Qamar**	**3.57**	**216**	*e*P	**Pn**	**21 42 27.5**	**+3.1**
RCY	**Rachaya**	**3.63**	**211**	*e*P	**Pn**	**21 42 28.5**	**+3.3**
QRWL	**Qaraoun**	**3.66**	**213**	*e*P	**Pn**	**21 42 28.2**	**+2.7**
SHBL	**Chebaa**	**3.80**	**211**	*e*P	**Pn**	**21 42 30.7**	**+3.2**
CSS	**Mathiatis**	**4.20**	**248**	Pn	**Pn**	**21 42 32.1**	**-0.8**
MMLI	**Mount Malkishu**	**4.73**	**208**	Pn	**Pn**	**21 42 38.6**	**-1.6**
UJAP	**Al Uja**	**5.15**	**205**	Pn	**Pn**	**21 42 45.3**	**-0.6**

---

*IDC **22** 21:42:29.8±0.6, 11°.80N×143°.30E, h0km, mb4.4/21, mbtmp4.5/24, ML4.3/2, MS3.9/5, Error ellipse: s-maj=20.4km s-min=13.6km az=97.0*
*NEIC **22** 21:42:32.0±1.5, 11°.81N±0°.10×143°.3E±0°.1, h13km±3km, mb4.9/47, Error ellipse: s-maj=17.1km s-min=11.7km az=131.0*
ISC 22 21:42:33.5±0.5, 11°.76N±0°.06×143°.36E±0°.08, h25km, n91, σ0°96/90, mb4.7/53, MS4.3/5, 1C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.34**	**39**		**Pn**	**21 43 09.2**	**-1.2**
GUMO	**Guam**	**2.34**	**39**	Pn	**Pn**	**21 43 10.2**	**-0.2**
	120nm,0.3s,baz=181,slow=9.0,SNR=18						
GUMO				Sn	**Sn**	**21 43 38.5**	**0.0**
	104nm,0.3s,baz=13,slow=22,SNR=4.2						
GUMO				LR	LR	21 44 12.2	
	comp=Z,1μm,18.2s,baz=158,slow=44						
	385nm,0.4s						
JAY	**Jayapura**	**14.42**	**191**	Pn	**Pn**	**21 45 57.0**	**+0.7**
	0.7nm,0.3s,baz=271,slow=23,SNR=2.2						
JAY				LR	LR	21 51 14.1	
	comp=Z,414nm,18.1s,baz=357,slow=36						
	4.7nm,0.6s						
DAV	**Davao City (W)**	**18.15**	**257**	Pn	**Pn**	**21 46 41.6**	**-2.4**
DAV	**Davao City (W)**	**18.15**	**257**	P	**Pn**	**21 46 42.1**	**-1.8**
	255nm,0.5s,baz=344,slow=3.1,SNR=5.2						
JHJ	**Hachijo jima 2**	**21.52**	**352**	LR	LR	21 54 34.0	
	comp=Z,170nm,18.0s,baz=96,slow=34						
H11N1	**WAKE ISLAND Hy 23.97**	**68**		T	T	22 12 40.2	
	baz=255,slow=75,SNR=6.7						
H11N2	**WAKE ISLAND Hy 23.98**	**68**		T	T	22 12 34.7	
	baz=255,slow=75,SNR=8.0						
H11N3	**WAKE ISLAND Hy 23.99**	**68**		T	T	22 12 39.5	
	baz=255,slow=75,SNR=6.7						
NACB	**Ninganchiao**	**24.06**	**304**	P	**P**	**21 47 45.1**	**-1.9**
LUWI	**Luwuk**	**24.09**	**239**	P	**P**	**21 47 47.6**	**+0.3**
LUWI				IAmb	IAmb	21 48 03.1	
	comp=Z,40nm,0.9s						
JNU	**Nakatsue**	**24.15**	**334**	P	**P**	**21 47 47.2**	**-0.6**
JGF	**Kuroka**	**24.35**	**348**	P	**P**	**21 47 47.3**	**-2.3**
SSLB	**Suanglung**	**24.42**	**302**	P	**P**	**21 47 50.5**	**+0.1**
MJAR	**Matsushiro Arr**	**25.11**	**350**	P	**P**	**21 47 54.3**	**-2.1**
	comp=Z,3.7nm,0.6s,baz=177,slow=9.3,SNR=16						
	comp=Z,3.7nm,0.6s						
MAJO	**Matsushiro**	**25.11**	**350**	P	**P**	**21 47 54.7**	**-1.7**
MJB9	**Matsu-Tunnel**	**25.12**	**350**	P	**P**	**21 47 55.7**	**-0.8**
COEN	**Coen**	**25.55**	**180**	P	**P**	**21 47 59.7**	**-0.8**
COEN				IAmb	IAmb	21 48 25.3	
	comp=Z,24nm,1.5s						
JMM	**Marumori**	**26.10**	**355**	P	**P**	**21 48 03.6**	**-1.8**
JMM				IAmb	IAmb	21 48 07.8	
	comp=Z,17nm,0.9s						
JSD	**Sado**	**26.57**	**351**	P	**P**	**21 48 07.7**	**-1.9**
KSRS	**Korea Array**	**29.10**	**334**	P	**P**	**21 48 30.7**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=145,slow=9.8,SNR=2.1						
	comp=Z,0.7nm,0.6s						
NJ2	**Nanjing**	**30.28**	**316**	*e*P	**P**	**21 48 43.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WB0	**Warramunga Arr**	**32.55**	**196**	P	**P**	**21 49 02.5**	**-0.3**
WB0				IAmb	IAmb	21 49 07.8	
	comp=Z,14nm,1.4s						
WR8	**Warramunga Arr**	**32.70**	**196**	P	**P**	**21 49 03.6**	**-0.6**
WR8				IAmb	IAmb	21 49 10.9	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**32.73**	**196**	P	**P**	**21 49 04.2**	**-0.2**
WRA	**Warramunga Arr**	**32.73**	**196**	P	**P**	**21 49 04.7**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=19,slow=9.7,SNR=33						
WRA				LR	LR	22 02 44.7	
	comp=Z,205nm,19.8s,baz=72,slow=37						
	comp=Z,3.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**33.78**	**345**	P	**P**	**21 49 12.8**	**-0.5**
	comp=Z,4.9nm,0.9s,baz=162,slow=6.5,SNR=6.2						
	comp=Z,4.9nm,0.9s						
AS31	**Alice Springs**	**36.40**	**195**	P	**P**	**21 49 35.9**	**-0.2**
ASAR	**Alice Springs**	**36.40**	**195**	P	**P**	**21 49 36.0**	**-0.1**
ASAR	**Alice Springs**	**36.40**	**195**	P	**P**	**21 49 35.9**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=25,slow=11,SNR=34						
	comp=Z,0.9nm,0.4s						
BNX	**BinXian**	**36.49**	**341**	⇑P	**P**	**21 49 37.3**	**+0.6**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.2s						
DZM	**Mont Dzumac**	**40.53**	**146**	P	**P**	**21 50 11.8**	**+0.8**
DZM				IAmb	IAmb	21 50 28.3	
	comp=Z,50nm,1.5s						
HEH	**HeiHe**	**40.56**	**344**	*e*P	**P**	**21 50 10.4**	**-0.4**
HEH				pmax	pmax		
	comp=Z,27nm,0.7s						
PZH	**PanZhiHua**	**41.76**	**297**	P	**P**	**21 50 22.8**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
CMAR	**Chiang Mai Arr**	**43.31**	**284**	P	**P**	**21 50 33.8**	**0.0**
CMAR	**Chiang Mai Arr**	**43.31**	**284**	P	**P**	**21 50 34.5**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=93,slow=4.8,SNR=7.7						
	comp=Z,1.6nm,0.9s						
STKA	**Stephens Creek**	**43.42**	**182**	P	**P**	**21 50 33.5**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=3.3,slow=6.1,SNR=4.6						
	comp=Z,0.8nm,0.4s						
TNCH	**TengChong**	**44.35**	**294**	P	**P**	**21 50 43.0**	**+0.8**
TNCH				pP	sP	21 50 49.3	-1.3
TNCH				sP	pwP	21 50 53.4	-1.9
TNCH				S	**S**	**21 57 17.4**	**+1.9**
TNCH				sS	sS	21 57 29.6	+3.6
TNCH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TNCH				pmax	pmax		
	comp=Z,63nm,3.9s						
TNCH				LR	LR		
	comp=N,160nm,7.5s						
TNCH				LR	LR		
	comp=E,280nm,9.8s						
TNCH				LR	LR		
	comp=Z,230nm,14.2s						
BBOO	**Buckleboo**	**44.86**	**189**	P	**P**	**21 50 45.2**	**-0.7**
BBOO				IAmb	IAmb	21 50 52.6	
	comp=Z,14nm,1.1s						
GTA	**Gaotai**	**47.32**	**313**	*e*P	**P**	**21 51 06.8**	**+1.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**47.41**	**327**	P	**P**	**21 51 05.7**	**-0.4**
SONM	**Songino Array**	**47.41**	**327**	P	**P**	**21 51 05.6**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=147,slow=7.4,SNR=14						
SONM				PcP	**PcP**	**21 52 35.9**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=148,slow=5.0,SNR=3.7						
	comp=Z,1.5nm,0.5s						
WMQ	**Urumqi**	**57.35**	**315**	*e*P	**P**	**21 52 20.3**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				LR	LR		
	comp=Z,240nm,21.7s						
TIXI	**Tiksi**	**60.51**	**355**	P	**P**	**21 52 40.8**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=146,slow=6.8,SNR=9.9						
	comp=Z,0.9nm,0.3s						
MKAR	**Makanchi Array**	**61.80**	**317**	P	**P**	**21 52 49.5**	**-0.9**
MKAR	**Makanchi Array**	**61.80**	**317**	P	**P**	**21 52 50.0**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=94,slow=8.2,SNR=19						
	comp=Z,2.3nm,0.9s						
MAKZ	**Makanchi**	**62.01**	**317**	P	**P**	**21 52 52.2**	**+0.4**
MAKZ				IAmb	IAmb	21 52 53.1	
	comp=Z,4.5nm,0.9s						
ZAA0	**Zalesovo Array**	**62.26**	**325**	P	**P**	**21 52 52.3**	**-0.9**
ZALV	**Zalesovo Beam**	**62.26**	**325**	P	**P**	**21 52 52.6**	**-0.7**
ZALV	**Zalesovo Beam**	**62.26**	**325**	P	**P**	**21 52 52.7**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=108,slow=7.1,SNR=15						
ZALV				PcP	**PcP**	**21 53 32.1**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=132,slow=3.4,SNR=4.1						
	comp=Z,2.6nm,0.5s						
O15K	**Ungalikthiuk R**	**63.28**	**29**	P	**P**	**21 52 59.7**	**-0.3**
ANM	**Nome**	**63.44**	**22**	P	**P**	**21 53 00.8**	**-0.1**
ANM				IAmb	IAmb	21 53 01.1	
	comp=Z,18nm,1.2s						
K15K	**Wolf Creek Mou**	**63.84**	**25**	P	**P**	**21 53 03.3**	**-0.3**
KURK	**Kurchatov**	**65.04**	**321**	P	**P**	**21 53 11.3**	**-0.4**
KURK				IAmb	IAmb	21 53 12.4	
	comp=Z,9.7nm,0.8s						
KURBB	**Kurchatov Arra**	**65.08**	**321**	P	**P**	**21 53 11.8**	**-0.1**
	comp=Z,8.0nm,0.8s,baz=104,slow=6.8,SNR=60						
	comp=Z,8.0nm,0.8s						
K17K	**Iditarod**	**65.38**	**26**	P	**P**	**21 53 14.6**	**+1.0**
O18K	**Koktuh Hills**	**65.72**	**29**	P	**P**	**21 53 15.2**	**-0.7**
L18K	**Granite Mounta**	**65.88**	**26**	P	**P**	**21 53 16.8**	**-0.1**
L18K				IAmb	IAmb	21 53 30.4	
	comp=Z,17nm,1.5s						
N19K	**Bonanza Creek**	**66.38**	**28**	P	**P**	**21 53 20.0**	**-0.2**
N19K				IAmb	IAmb	21 53 37.8	
	comp=Z,17nm,1.4s						
G19K	**Purcell Mounta**	**67.25**	**22**	P	**P**	**21 53 25.3**	**-0.3**
G19K				IAmb	IAmb	21 53 26.6	
	comp=Z,11nm,0.7s						
NRIK	**Noril'sk**	**67.38**	**341**	P	**P**	**21 53 26.0**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=98,slow=7.1,SNR=6.5						
	comp=Z,2.9nm,0.6s						
CNPM	**China Poot**	**67.55**	**30**	P	**P**	**21 53 26.0**	**-1.7**
CAST	**Castle Rocks**	**68.28**	**26**	P	**P**	**21 53 32.2**	**0.0**
CAST				IAmb	IAmb	21 53 33.1	
	comp=Z,8.5nm,0.7s						
BPAW	**Bear Paw Mtn.**	**68.95**	**25**	P	**P**	**21 53 36.2**	**-0.1**
BPAW				IAmb	IAmb	21 53 37.5	
	comp=Z,7.3nm,0.8s						
B21K	**Ikpikpuk River**	**69.48**	**19**	P	**P**	**21 53 39.9**	**+0.4**
GAR	**Garm**	**69.55**	**307**	P	**P**	**21 53 40.3**	**-0.4**
GAR				IAmb	IAmb	21 53 41.2	
	comp=Z,6.5nm,0.4s						
E22K	**Anaktuvuk Pass**	**69.89**	**21**	P	**P**	**21 53 42.5**	**+0.4**
CCB	**Clear Creek Bu**	**70.43**	**25**	P	**P**	**21 53 44.3**	**-1.0**
CCB				IAmb	IAmb	21 53 45.9	
	comp=Z,10nm,1.1s						
BVAR	**Borovoye Array**	**70.45**	**322**	P	**P**	**21 53 45.9**	**+0.1**
	comp=Z,8.1nm,0.4s,baz=105,slow=8.1,SNR=69						
	comp=Z,8.1nm,0.4s						
BRVK	**Borovoye**	**70.52**	**322**	P	**P**	**21 53 46.5**	**+0.3**
BRVK				IAmb	IAmb	21 53 47.1	
	comp=Z,8.6nm,0.6s						
E23K	**Chandalar**	**70.65**	**22**	P	**P**	**21 53 47.8**	**+0.9**
ILAR	**Eielson Array**	**70.84**	**25**	P	**P**	**21 53 46.7**	**-1.2**
	comp=Z,5.7nm,0.5s,baz=253,slow=5.9,SNR=42						
	comp=Z,5.7nm,0.5s						
G24K	**Hadweenzic Riv**	**71.08**	**23**	P	**P**	**21 53 50.0**	**+0.7**
G24K				IAmb	IAmb	21 53 54.8	
	comp=Z,19nm,1.2s						
C24K	**Franklin Bluff**	**71.46**	**20**	P	**P**	**21 53 52.1**	**+0.5**
D25K	**Kavik River**	**72.14**	**21**	P	**P**	**21 53 55.9**	**+0.2**
D25K				IAmb	IAmb	21 53 58.7	
	comp=Z,14nm,1.1s						
BMAR	**Burnt Mountain**	**72.35**	**23**	P	**P**	**21 53 58.1**	**+1.1**
K27K	**Chicken**	**72.75**	**26**	P	**P**	**21 53 58.5**	**-1.0**
E27K	**Coleen River**	**73.61**	**22**	P	**P**	**21 54 05.3**	**+0.9**
E27K				IAmb	IAmb	21 54 07.7	
	comp=Z,11nm,1.2s						
E29M	**Blow River**	**75.00**	**22**	P	**P**	**21 54 12.3**	**-0.2**
E29M				IAmb	IAmb	21 54 14.8	
	comp=Z,12nm,1.2s						
F30M	**Barrier River**	**75.72**	**23**	P	**P**	**21 54 17.3**	**+0.6**
AB31	**Akbulak array**	**76.91**	**318**	P	**P**	**21 54 23.3**	**-0.4**
AB31				IAmb	IAmb	21 54 24.3	
	comp=Z,4.9nm,0.7s						
ABKAR	**Akbulak array**	**76.91**	**318**	P	**P**	**21 54 23.2**	**-0.5**
ABKAR				IAmb	IAmb	21 54 24.4	
	comp=Z,5.0nm,0.7s						
ARTI	**Arti**	**77.53**	**325**	P	**P**	**21 54 26.4**	**-0.6**
ARTI				IAmb	IAmb	21 54 27.4	
	comp=Z,16nm,1.3s						
R33M	**Jennings River**	**77.78**	**31**	P	**P**	**21 54 27.6**	**-0.9**
YKA	**Yellowknife Ar**	**85.15**	**27**	P	**P**	**21 55 07.7**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=314,slow=17,SNR=6.8						
	comp=Z,1.1nm,0.7s						
YBH	**Yreka Blue Hor**	**85.18**	**49**	P	**P**	**21 55 09.4**	**+1.3**
	comp=Z,3.8nm,0.8s,baz=234,slow=3.3,SNR=6.7						
	comp=Z,3.8nm,0.8s						
SPITS	**Spitsbergen Ar**	**85.61**	**350**	P	**P**	**21 55 11.1**	**+1.7**
	comp=Z,7.4nm,0.9s,baz=78,slow=4.4,SNR=8.2						
	comp=Z,7.4nm,0.9s						
ARCES	**ARCESS Array B**	**88.36**	**342**	P	**P**	**21 55 23.1**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=77,slow=6.4,SNR=12						
	comp=Z,2.3nm,0.6s						
GNI	**Garni**	**89.00**	**311**	LR	LR	22 40 57.9	
	comp=Z,156nm,18.1s,baz=12,slow=39						
NVAR	**Mina Array Bea**	**89.21**	**51**	P	**P**	**21 55 29.5**	**+1.7**
	comp=Z,3.6nm,0.8s,baz=263,slow=5.5,SNR=12						
	comp=Z,3.6nm,0.8s						
KBZ	**Khabaz**	**89.40**	**315**	P	**P**	**21 55 29.9**	**+1.7**
	comp=Z,1.6nm,0.9s,baz=197,slow=2.6,SNR=4.5						
	comp=Z,1.6nm,0.9s						

---

*PGC **22** 21:44:41.7±0.2, 50°.03N×130°.28W, h10km, MLSn4.7/39, Mw5.6, 205km west of Port Alice, Bc Vancouver Island, Canada Region*
*NEIC **22** 21:44:42.0±1.7, 50°.22N±0°.05×130°.17W±0°.07, h10km±1km, mb5.5/500, Ms_20 5.3/456, Mwb5.5/35, Mww5.5/127, Mwr5.6(OTT), Error ellipse: s-maj=9.0km s-min=6.4km az=315.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.09; $M_{\theta\theta}$-1.95; $M_{\phi\phi}$2.04; $M_{r\theta}$-0.13; $M_{\theta\phi}$0.24; $M_{\phi r}$-0.60; Fault plane solution: $M_0$2.10000×10^{17} NP1:ϕ_s229.34000°, δ81.71000°, λ12.61000°. NP2: ϕ_s137.50000°, δ77.53000°, λ171.51000°. Principal axes: T 2.2130, Plg15.0000°, Azm94.0000°; N -0.2472, Plg75.0000°, Azm262.0000°; P -1.9658, Plg3.0000°, Azm3.0000°;*
*NEIC **22** 21:44:41.7, 50°.03N×130°.28W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.31; $M_{\theta\theta}$-2.25; $M_{\phi\phi}$2.72; $M_{r\theta}$1.34; $M_{\theta\phi}$-0.16; $M_{\phi r}$-1.18; Fault plane solution: $M_0$3.10000×10^{17} NP1:ϕ_s222.00000°, δ54.00000°, λ-6.00000°. NP2:ϕ_s315.00000°, δ85.00000°, λ-144.00000°. Principal axes: T 3.1394, Plg21.0000°, Azm83.0000°; N -0.1240, Plg54.0000°, Azm322.0000°; P -3.0154, Plg28.0000°, Azm185.0000°;*
*MOS **22** 21:44:42.7±1.0, 50°.07N×130°.37W, h11km, mb5.4/72, MS5.2/37 Error ellipse: s-maj=10.3km s-min=4.3km az=103.6*
*IDC **22** 21:44:42.4±0.4, 50°.11N×130°.28W, h0km, mb4.8/33, mbtmp4.8/45, ML4.5/11, MS4.9/78, Error ellipse: s-maj=12.6km s-min=7.5km az=44.0*
*GCMT **22** 21:44:45.0±0.1, 50°.01N±0°.01×130°.32W±0°.01, h14km, MW5.6/154, Moment Tensor Solution. s127, c226; s154, c325; Duration: 1±5 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.43±.03; $M_{\theta\theta}$-2.54±.03; $M_{\phi\phi}$2.97±.03; $M_{r\theta}$0.37±.06; $M_{\theta\phi}$0.45±.03; $M_{\phi r}$-0.26±.06; Best double couple: $M_0$2.83400×10^{17} NP1:ϕ_s229.00000°, δ80.00000°, λ-4.00000°. NP2:ϕ_s320.00000°, δ86.00000°, λ-170.00000°. Principal axes: T 3.0230, Plg4.0000°, Azm94.0000°; N -0.3770, Plg79.0000°, Azm344.0000°; P -2.6460, Plg10.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **22** 21:44:45.6, 50°.30N×130°.11W, h10km*
*NEIC **22** 21:44:45.6, 50°.21N×130°.00W, h12km, Moment Tensor Solution. Duration: 3±1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.58; $M_{\theta\theta}$-2.05; $M_{\phi\phi}$2.62; $M_{r\theta}$-0.25; $M_{\theta\phi}$0.42; $M_{\phi r}$0.64; Fault plane solution: $M_0$2.46000×10^{17} NP1:ϕ_s50.41000°, δ74.26000°, λ-0.80000°. NP2:ϕ_s140.63000°, δ89.23000°, λ-164.26000°. Principal axes: T 2.7735, Plg11.0000°, Azm274.0000°; N -0.6265, Plg74.0000°, Azm143.0000°; P -2.1471, Plg12.0000°, Azm7.0000°;*
*NEIC **22** 21:44:45.6, 50°.31N×130°.11W, h12km*
*BGR **22** 21:44:51.3, 51°.51N×131°.83W, h10km, mb5.4, Hypocentre not reviewed by the ISC*
**ISC 22 21:44:44.1±0.4, 50°.07N±0°.03×130°.16W±0°.03, h15km±2km, h15km:pP-P, n1467,

PABB Sn Sn 21 46 21.0 0.0
MGRB Mount Grey 3.71 105 Pn Pn 21 45 40.7 -0.4
GRNB Grenville Isla 3.78 2 Pn 21 45 39.5 -2.4
GRNB Grenville Isla 3.78 2 Pn Pn 21 45 39.7 -2.2
PCLB Port Clements 3.93 339 Pn Pn 21 45 41.3 -2.6
PTRF Port Renfrew 4.06 110 Pn Pn 21 45 46.2 +0.5
MBLB Minette Bay Lo 4.08 13 Pn Pn 21 45 44.7 -1.2
SHB Sechelt 4.09 94 Pn Pn 21 45 45.5 -0.7
SHB Sn Sn 21 46 34.4 +0.5
NLLB Nanaimo Lost L 4.10 100 Pn Pn 21 45 46.9 +0.8
KITB Kitimat 4.12 13 Pn Pn 21 45 44.8 -1.7
B926 Mesachie Lake 4.13 105 Pn Pn 21 45 46.7 +0.1
CLRS Cowichan Lake 4.13 105 Pn Pn 21 45 44.4 -2.2
CLRS Cowichan Lake 4.13 105 Pn Pn 21 45 47.5 +0.9
C03A Quillayute Air 4.25 116 Pn Pn 21 45 50.8 +2.5
NDB Naden 4.25 337 Pn Pn 21 45 46.0 -2.3
RUBB Prince Rupert 4.26 359 Pn Pn 21 45 46.9 -1.5
SYMB Survey Mountai 4.43 108 Pn Pn 21 45 51.5 +0.7
OBC Olympics--Boni 4.49 115 Pn Pn 21 45 53.1 +1.5
WPB Watts Point 4.51 93 Pn Pn 21 45 51.5 -0.4
WPB Sn Sn 21 46 46.4 +2.3
B010 North Saanich 4.61 105 Pn Pn 21 45 53.7 +0.5
B010 Sn Sn 21 46 46.4 0.0
B009 North Saanich 4.61 105 Pn Pn 21 45 54.1 +0.9
PGC Sidney 4.61 105 Pn 21 45 54.1 +0.9
PGC Sidney 4.61 105 Pn Pn 21 45 53.0 -0.2
PGC Sn Sn 21 46 46.5 +0.1
B011 North Saanich 4.61 105 Pn Pn 21 45 54.0 +0.8
STW Striped Peak 4.67 112 Pn Pn 21 45 54.7 +0.6
UBRB Upper Baezaeko 4.73 51 Pn Pn 21 45 55.3 +0.3
SNB Saturna Island 4.74 103 Pn Pn 21 45 56.1 +1.1
VCZ Gonzales 4.77 108 Pn Pn 21 45 55.9 +0.5
NLWA Neilton Lookou 4.95 120 Pn Pn 21 45 58.6 +0.6
A04D Lummi Island 5.05 103 Pn Pn 21 45 58.6 -0.7
WISH Wishkah 5.17 122 Pn Pn 21 46 02.4 +1.5
WISH Wishkah 5.17 122 Pn Pn 21 46 03.3 +2.4
HDW Hoodsport 5.28 115 Pn Pn 21 46 04.6 +2.1
LLLB Lillooet 5.33 81 Pn Pn 21 46 01.9 -1.3
LLLB Lillooet 5.33 81 Pn Pn 21 46 02.5 -0.6
V35K Ketchikan 5.34 351 Pn Pn 21 46 00.3 -2.9
V35K Ketchikan 5.34 351 Pn Pn 21 46 01.2 -2.0
V35K Ketchikan 5.34 351 P Pn 21 46 02.0 -1.2
baz=169,SNR=11
VDEB Vedder Mountai 5.37 98 Pn Pn 21 46 04.0 +0.4
GNW Green Mountain 5.46 115 Pn Pn 21 46 05.6 +0.8
GNW Green Mountain 5.46 115 Pn Pn 21 46 06.3 +1.5
RADR Rader Ridge 5.60 128 Pn Pn 21 46 09.8 +2.9
E03A Lebam 5.64 126 Pn Pn 21 46 08.7 +1.3
E03A Lebam 5.64 126 P Pn 21 46 09.2 +1.9
FSJB Fort St James 5.68 37 Pn Pn 21 46 08.1 +0.1
HOPB Hope 5.71 94 Pn Pn 21 46 09.5 +1.2
HOPB Sn Sn 21 47 12.7 -0.8
JCW Jim Creek 5.72 106 Pn Pn 21 46 10.3 +1.8
U35K Hyder 5.86 1 P Pn 21 46 08.9 -1.4
baz=180
F03A Seaside 6.06 131 Pn Pn 21 46 16.3 +3.1
D05A Enumclaw 6.14 115 Pn Pn 21 46 15.6 +1.4
D05A Enumclaw 6.14 115 Pn Pn 21 46 16.6 +2.4
U33K Whale Pass 6.31 345 Pn Pn 21 46 14.9 -1.5
U33K Whale Pass 6.31 345 Pn Pn 21 46 14.8 -1.7
U33K Whale Pass 6.31 345 P Pn 21 46 15.0 -1.5
baz=162
FMW Mount Fremont 6.46 116 Pn Pn 21 46 21.2 +2.5
WRAK Wrangell Islan 6.49 349 Pn Pn 21 46 14.7 -4.3
WRAK Wrangell Islan 6.49 349 Pn Pn 21 46 18.5 -0.6
WRAK Wrangell Islan 6.49 349 P Pn 21 46 18.9 -0.1
baz=167
HEBO Mount Hebo 6.51 136 Pn Pn 21 46 23.8 +4.5
G03D McMinnville, O 6.73 134 Pn Pn 21 46 26.1 +3.7
LTY Liberty 6.88 111 Pn Pn 21 46 26.3 +1.8
LTY Liberty 6.88 111 Pn Pn 21 46 26.3 +1.8
T35M Bob Quinn 6.92 360 P Pn 21 46 25.2 +0.2
T35M Bob Quinn 6.92 360 P Pn 21 46 24.9 -0.1
baz=179,SNR=34
COR Corvallis 7.20 137 Pn Pn 21 46 32.4 +3.7
COR Corvallis 7.20 137 P Pn 21 46 32.4 +3.7
B08A Colville Reser 7.30 99 Pn Pn 21 46 30.9 +0.8
B08A Colville Reser 7.30 99 P Pn 21 46 30.7 +0.6
I02E Swisshome, OR 7.36 142 Pn Pn 21 46 32.2 +1.3
H04A Detroit Lake 7.63 132 Pn Pn 21 46 37.6 +2.8
SIT Sitka 7.64 338 P Pn 21 46 34.4 -0.3
baz=153
BUCK Buck Mountain 7.64 138 Pn Pn 21 46 38.9 +3.9
BMTB Bullhead Mount 7.69 36 P Pn 21 46 36.8 +1.2
S32K Killisnoo 7.86 342 P Pn 21 46 37.5 -0.2
baz=158
S34M Telegraph Cree 7.88 356 Pn Pn 21 46 34.9 -3.1
S34M Telegraph Cree 7.88 356 P Pn 21 46 39.9 +1.8
S34M Telegraph Cree 7.88 356 P Pn 21 46 39.0 +1.0
baz=175
E08A Dider Farm, El 8.22 112 Pn Pn 21 46 42.6 -0.2
DLBC Dease Lake 8.38 0 Pn Pn 21 46 45.6 +0.6
5.3nm,0.3s,baz=186,slow=12,SNR=38
DLBC LR LR 21 49 45.6
comp=Z,20µm,21.5s,baz=202,slow=36
68nm,0.6s
DLBC Dease Lake 8.38 0 P Pn 21 46 46.1 +1.0
DLBC Dease Lake 8.38 0 P Pn 21 46 45.3 +0.3
baz=180,SNR=25
R32K Eaglecrest 8.61 344 P Pn 21 46 47.8 -0.2
baz=160
K02D Willamette Mer 8.63 146 Pn Pn 21 46 51.7 +3.2
S31K Pelican 8.67 338 P Pn 21 46 47.6 -1.3
baz=152
NEW Newport 8.73 97 Pn Pn 21 46 49.2 -0.6
NEW Newport 8.73 97 Pn Pn 21 46 50.8 +1.0
4.3nm,0.3s,baz=293,slow=11,SNR=68
NEW LR LR 21 50 11.0
comp=Z,38µm,18.3s,baz=282,slow=37
101nm,0.9s
E09A Wood Farm, Sta 8.76 109 Pn Pn 21 46 50.5 +0.3
BRLDA Berland Lookou 8.82 58 P Pn 21 46 55.0 +3.9
Q32M Nakina River 8.99 353 P Pn 21 46 53.5 0.0
Q32M Nakina River 8.99 353 P Pn 21 46 53.3 -0.2
baz=171
LNOR Lincton Mounta 9.00 113 Pn Pn 21 46 54.7 +1.2
L02F Cave Junction 9.17 148 Pn Pn 21 46 59.3 +3.5
TOAD Toad River Com 9.25 16 P Pn 21 46 57.1 +0.3
baz=200,SNR=75
R33M Jennings River 9.36 357 P Pn 21 46 58.7 +0.3
R33M Jennings River 9.36 357 P Pn 21 46 59.6 +1.2
baz=176,SNR=42
LIRD Liard River Hi 9.65 12 P Pn 21 47 04.7 +2.5
LIRD Liard River Hi 9.65 12 P Pn 21 47 05.3 +3.1
baz=196,SNR=5.9
LGPLA Lodgepole 9.70 66 P Pn 21 47 07.2 +4.1
FNSB Fort Nelson 9.76 23 P Pn 21 47 03.6 -0.1
P32M Atlin 9.76 349 P Pn 21 47 03.8 0.0
P32M Atlin 9.76 349 P Pn 21 47 03.7 -0.1
baz=166
YBH Yreka Blue Hor 9.82 145 Pn Pn 21 47 08.8 +4.0
YBH Yreka Blue Hor 9.82 145 Pn Pn 21 47 07.4 +2.6
0.8nm,0.3s,baz=336,slow=14,SNR=45
36nm,1.1s
YBH Yreka Blue Hor 9.82 145 P Pn 21 47 08.8 +4.0
SKAG Skagway 9.87 344 P Pn 21 47 05.8 +0.6
baz=160
KRPM Rodgers 9.89 152 Pn Pn 21 47 09.3 +3.5
NBC6 NorthernBC 6 9.96 28 P Pn 21 47 06.8 +0.3
WTLY Watson Lake, Y 10.09 4 P Pn 21 47 11.2 +2.8
WTLY Watson Lake, Y 10.09 4 P Pn 21 47 08.8 +0.4
baz=185,SNR=9.1
BMO Blue Mountains 10.14 116 Pn Pn 21 47 10.8 +1.5
BMO Blue Mountains 10.14 116 P Pn 21 47 10.8 +1.5
P33M Teslin, Yukon 10.28 353 P Pn 21 47 11.1 +0.2
P33M Teslin, Yukon 10.28 353 P Pn 21 47 11.9 +1.0
baz=170,SNR=12
STPRA Salt Prairie L 10.30 52 P Pn 21 47 11.5 +0.2
BSMT Bassoo Peak 10.35 97 P Pn 21 47 12.3 +0.2
P29M Windy Craggy 10.52 338 P Pn 21 47 13.2 -1.0
baz=152
KMPM Mount Pierce 10.55 154 Pn Pn 21 47 19.0 +4.3
KOTAN Kotaneelee Air 10.66 17 P Pn 21 47 16.2 +0.1
baz=202,SNR=45
JTMT Jette 10.71 96 P Pn 21 47 18.0 +1.0
HSPGA Hill Springs, 10.72 87 P Pn 21 47 20.0 +3.0
PLID Pearl Lake 10.78 112 Pn Pn 21 47 19.1 +1.1
P30M Million Dollar 10.79 342 P Pn 21 47 13.9 -4.1
P30M Million Dollar 10.79 342 P Pn 21 47 18.1 +0.1
baz=155
YBMT Yellow Bay 10.85 96 P Pn 21 47 20.0 +1.1
WHY Whitehorse 10.94 348 Pn Pn 21 47 19.2 -0.9
WHY Whitehorse 10.94 348 P Pn 21 47 20.5 +0.4
WHY Whitehorse 10.94 348 P Pn 21 47 20.2 +0.1
baz=163,SNR=27
PNL Peninsula 10.98 335 P Pn 21 47 22.7 +2.2
baz=146
WVOR Wild Horse Val 11.04 129 Pn Pn 21 47 24.8 +3.3
WVOR Wild Horse Val 11.04 129 P Pn 21 47 24.8 +3.3
N32M Quiet Lake 11.23 353 P Pn 21 47 24.8 +0.9
N32M Quiet Lake 11.23 353 P Pn 21 47 25.5 +1.6
baz=170,SNR=14
O30N Mendenhall 11.23 345 P Pn 21 47 24.3 +0.3
O30N Mendenhall 11.23 345 P Pn 21 47 24.9 +0.9
baz=160
O29M Mount Kennedy 11.31 338 P Pn 21 47 29.4 +4.2
O29M Mount Kennedy 11.31 338 P Pn 21 47 26.8 +1.7
baz=151
YUK7 Dusty Glacier 11.41 340 P Pn 21 47 27.1 +0.5
TGTN Hyland Airport 11.53 5 P Pn 21 47 30.1 +2.0
TGTN Hyland Airport 11.53 5 P Pn 21 47 29.7 +1.6
baz=186,SNR=27
HYT Haines Junctio 11.55 342 P Pn 21 47 24.4 -4.0
HYT Haines Junctio 11.55 342 P Pn 21 47 30.6 +2.3
baz=155,SNR=8.0
SAMH Samovar Hills 11.75 333 P Pn 21 47 29.2 -1.9
OVMT Ovando 11.76 98 P Pn 21 47 32.1 +0.8
YUK6 Outpost Mounta 11.83 340 P Pn 21 47 32.5 +0.1
YUK6 Outpost Mounta 11.83 340 P Pn 21 47 33.3 +0.9
baz=153
N31M Braeburn, Yuko 11.86 347 P Pn 21 47 32.3 -0.3
N31M Braeburn, Yuko 11.86 347 P Pn 21 47 34.1 +1.5
baz=162
N30M Aishikik Lake 12.05 344 Pn Pn 21 47 32.8 -2.5
N30M Aishikik Lake 12.05 344 P Pn 21 47 35.3 +0.1
N30M Aishikik Lake 12.05 344 P Pn 21 47 36.8 +1.6
baz=158
RKAV Rock Avalanche 12.06 332 P Pn 21 47 33.6 -1.8
O28M Mount Upton 12.12 336 P Pn 21 47 35.2 -1.2
O28M Mount Upton 12.12 336 P Pn 21 47 37.4 +1.0
baz=147
MESA MESA 12.15 331 P Pn 21 47 37.7 +1.1
baz=141
LYMT Lyon Mountain 12.25 98 P Pn 21 47 39.6 +1.6
YUK4 Talbot Arm 12.26 340 P Pn 21 47 40.7 +2.6
YUK4 Talbot Arm 12.26 340 P Pn 21 47 38.7 +0.6
baz=153
FARO Faro, Yukon 12.31 353 P Pn 21 47 40.9 +2.1
FARO Faro, Yukon 12.31 353 P Pn 21 47 38.7 0.0
baz=170,SNR=7.1
M31M Drury Creek, Y 12.38 351 P Pn 21 47 42.0 +2.3
M31M Drury Creek, Y 12.38 351 P Pn 21 47 40.4 +0.7
baz=167
YUK8 Steele Glacier 12.46 338 P Pn 21 47 43.5 +2.6
YUK8 Steele Glacier 12.46 338 P Pn 21 47 40.9 -0.1
baz=150,SNR=6.4
MMPY Sheldon Lake, 12.59 358 P Pn 21 47 45.2 +2.7
MMPY Sheldon Lake, 12.59 358 P Pn 21 47 43.4 +0.8
baz=176,SNR=17
KAIM Kayak Island 12.79 326 P Pn 21 47 46.5 +1.3
baz=134
KIAG Kiagna River 12.86 332 P Pn 21 47 47.6 +1.3
BALM Baldy 12.94 333 P Pn 21 47 48.0 +0.6
YUK3 Moose Creek 13.05 338 P Pn 21 47 49.0 0.0
YUK3 Moose Creek 13.05 338 P Pn 21 47 49.9 +1.0
baz=149,SNR=11
M30M Minto, Yukon 13.05 346 Pn Pn 21 47 47.5 -1.4
M30M Minto, Yukon 13.05 346 P Pn 21 47 49.7 +0.9
M30M Minto, Yukon 13.05 346 P Pn 21 47 48.4 -0.4
baz=160
YUK2 White River 13.15 337 P Pn 21 47 48.5 -1.8
M29M Somme Creek 13.21 343 Pn Pn 21 47 48.2 -2.9
M29M Somme Creek 13.21 343 P Pn 21 47 52.1 +1.0
M29M Somme Creek 13.21 343 P Pn 21 47 52.1 +1.0
baz=156
VRDI Verde Repeater 13.43 331 Pn Pn 21 47 51.8 -2.3
BMRM Bremner River 13.60 329 P Pn 21 47 55.2 -1.1
baz=136
WRGLY Wrigley 13.68 13 P Pn 21 47 57.5 +0.1
baz=199,SNR=11
BVCY Beaver Creek 13.70 339 P Pn 21 47 59.0 +1.3
BVCY Beaver Creek 13.70 339 P Pn 21 47 56.3 -1.4
baz=149
EYAK Cordova Ski Ar 13.70 326 P Pn 21 47 59.2 +1.5
baz=132
GLB Gilahina Butte 13.70 331 Pn Pn 21 47 56.1 -1.7
L29M L29M 13.77 345 P Pn 21 47 59.9 +1.2
L29M L29M 13.77 345 P Pn 21 47 58.5 -0.1
baz=158,SNR=10
YHB Horse Butte 13.89 105 Pn Pn 21 48 01.6 +1.1
M27K Edge Creek, AK 13.90 337 P Pn 21 48 00.8 +0.3
M27K Edge Creek, AK 13.90 337 P Pn 21 47 59.6 -0.9
baz=146
P23K Montague Islan 13.97 322 Pn Pn 21 47 59.7 -1.6
P23K Montague Islan 13.97 322 P Pn 21 48 02.7 +1.4
baz=127
ELK Elko 14.01 126 Pn Pn 21 48 05.5 +3.3
8.2nm,0.9s,baz=316,slow=13,SNR=38
ELK LR LR 21 53 22.4
comp=Z,5µm,20.9s,baz=314,slow=37
N25K Chitina, Valde 14.07 331 P Pn 21 48 03.9 +1.0
N25K Chitina, Valde 14.07 331 P Pn 21 48 03.5 +0.7
baz=138,SNR=11
DIV Divide 14.12 328 P Pn 21 48 04.4 +1.0
YNM Yellowstone No 14.21 105 P Pn 21 48 06.5 +1.6
M26K Nabesna, AK 14.23 335 P Pn 21 48 06.6 +1.7
M26K Nabesna, AK 14.23 335 P Pn 21 48 05.5 +0.6
baz=144,SNR=7.3
K29M Barlow Dome 14.36 347 P Pn 21 48 07.6 +0.8
K29M Barlow Dome 14.36 347 P Pn 21 48 07.6 +0.8
baz=160,SNR=6.2
NVAR Mina Array Bea 14.39 140 Pn Pn 21 48 10.6 +3.2
NVAR Mina Array Bea 14.39 140 Pn Pn 21 48 10.2 +2.9
0.3nm,0.3s,baz=313,slow=12,SNR=30
33nm,1.0s
GLI Glacier Island 14.42 325 P Pn 21 48 06.7 -0.8
baz=130
KLU Klutina 14.43 328 Pn Pn 21 48 07.2 -0.4
KLU Klutina 14.43 328 P Pn 21 48 08.1 +0.4
baz=135
LHV Little Huntoon 14.46 140 P Pn 21 48 11.0 +3.0
BCAR Beaver Creek A 14.48 338 Pn Pn 21 48 02.7 -5.6
L27K Beaver Creek, 14.48 338 P Pn 21 48 09.7 +1.3
L27K Beaver Creek, 14.48 338 P Pn 21 48 07.2 -1.2
baz=148,SNR=11
Q09A Carvers 14.54 136 P P 21 48 13.4 -2.5
SNOW Snow King Moun 14.83 109 Pn Pn 21 48 14.9 +1.5
L26K Log Cabin Wild 14.84 336 P Pn 21 48 14.7 +1.6
L26K Log Cabin Wild 14.84 336 P Pn 21 48 12.0 -1.1
baz=144
LOHW Long Hollow 14.84 108 P Pn 21 48 16.6 +3.1
HARP HAARP 14.85 332 P Pn 21 48 13.5 +0.2
baz=139
MENT Mentasta 14.86 335 P Pn 21 48 14.5 +1.0
SEW Seward 14.87 320 P Pn 21 48 13.9 +0.3
SEW Seward 14.87 320 P Pn 21 48 14.6 +1.0
baz=123
PWL Port Wells 14.87 323 P Pn 21 48 15.1 +1.4
baz=128
DAWY Dawson 14.87 344 P Pn 21 48 15.2 +1.6
DAWY Dawson 14.87 344 P Pn 21 48 13.0 -0.7
baz=156,SNR=24
J30M Hart River 14.91 350 Pn Pn 21 48 09.1 -5.1
J30M Hart River 14.91 350 P Pn 21 48 16.2 +2.0
J30M Hart River 14.91 350 P Pn 21 48 15.3 +1.1
baz=164,SNR=13
M24K Tolsona, Glenn 14.95 330 P Pn 21 48 14.6 -0.2
baz=136
BBGB Big Mountain B 15.01 150 P Pn 21 48 18.6 +2.8
J29N Klondike Camp 15.04 346 P Pn 21 48 18.0 +2.1
J29N Klondike Camp 15.04 346 P Pn 21 48 17.4 +1.4
J29N Klondike Camp 15.04 346 P Pn 21 48 15.7 -0.2
baz=159
BGU Big Grassy Mou 15.07 121 P Pn 21 48 18.6 +2.1
YKA Yellowknife Ar 15.09 29 Pn Pn 21 48 14.2 -2.3
1.1nm,0.3s,baz=221,slow=12,SNR=207
YKA LR LR 21 54 26.0
comp=Z,6µm,18.3s,baz=218,slow=39
68nm,0.9s
YKAW1 Yellowknife Wh 15.12 29 Pn Pn 21 48 12.7 -4.2
YKAW1 Yellowknife Wh 15.12 29 P Pn 21 48 14.7 -2.2
YKAW3 Yellowknife Wh 15.14 28 Pn Pn 21 48 13.0 -4.2
YKAW3 IAmb IAmb 21 48 18.5
comp=Z,130nm,1.0s
YKAW3 Yellowknife Wh 15.14 28 P Pn 21 48 15.5 -1.7
SCM Sheep Creek Mo 15.14 328 P Pn 21 48 18.0 +0.7
baz=133,SNR=10
O22K Cooper Landing 15.20 321 P Pn 21 48 19.2 +1.3
baz=124
BRSE Bradley Lake S 15.23 317 P Pn 21 48 20.3 +2.0
baz=120
KDAK Kodiak Island 15.24 309 Pn Pn 21 48 14.6 -4.0
KDAK Kodiak Island 15.24 309 Pn Pn 21 48 17.0 -1.5
comp=Z,0.4nm,0.3s,baz=320,slow=15,SNR=3.8
KDAK LR LR 21 52 41.6
comp=Z,8µm,21.5s,baz=333,slow=32
comp=Z,33nm,1.2s
KDAK Kodiak Island 15.24 309 P Pn 21 48 19.6 +1.1
baz=110
M23K Glacier View 15.26 327 P Pn 21 48 20.4 +1.6
baz=132,SNR=15
KNK Knik Glacier 15.27 325 P Pn 21 48 20.4 +1.5
baz=129,SNR=31
K27K Chicken 15.38 340 P Pn 21 48 22.2 +1.9
K27K Chicken 15.38 340 P Pn 21 48 19.8 -0.5
baz=150
PAX Paxson 15.38 333 P Pn 21 48 21.2 +0.7
PAX Paxson 15.38 333 P Pn 21 48 20.7 +0.2
baz=140,SNR=8.3
SLKM Skilak Lake 15.41 320 P Pn 21 48 21.0 +0.2
OHAK Old Harbor 15.42 307 P Pn 21 48 20.5 -0.3
baz=107,SNR=6.2
PMPB Monarch Peak 15.42 150 IAmb IAmb 21 48 27.6
comp=Z,585nm,1.7s
SYI Shuyak Island 15.46 312 IAmb IAmb 21 48 23.3
comp=Z,326nm,1.6s
Q20K Shuyak Island 15.47 312 P Pn 21 48 22.5 +1.0
baz=113
SML Sawmill 15.48 326 P Pn 21 48 21.6 -0.1
baz=131,SNR=8.6
DOT Dot Lake 15.53 336 P Pn 21 48 22.8 +0.4
I30M Mount Dempster 15.54 350 P Pn 21 48 23.8 +1.2
I30M Mount Dempster 15.54 350 P P 21 48 25.4 -1.5
I30M Mount Dempster 15.54 350 P Pn 21 48 22.6 +0.1
baz=165,SNR=90
RC01 Rabbit Creek A 15.55 323 P Pn 21 48 22.9 +0.3
baz=126
HOM Homer 15.58 316 P Pn 21 48 23.7 +0.7
baz=118
PMR Palmer 15.63 325 P Pn 21 48 25.2 +1.6
baz=128
SII Sitkinak Islan 15.71 304 P Pn 21 48 24.8 +0.2
baz=104
SPR3 Spring Creek 3 15.77 129 P Pn 21 48 28.1 +2.2
SCRK Sand Creek 15.78 337 Pn Pn 21 48 23.1 -2.6
SCRK Sand Creek 15.78 337 P Pn 21 48 26.4 +0.7
baz=145,SNR=27
RIDG Independent Ri 15.81 336 P Pn 21 48 25.4 -0.6
baz=143,SNR=16
TCUT Toone Canyon 15.85 117 P Pn 21 48 28.8 +1.9
I29M Ogilvie Camp, 15.91 347 P P 21 48 30.4 -0.5
I29M Ogilvie Camp, 15.91 347 P Pn 21 48 27.8 +0.5
baz=160
H31M Peel River 15.93 354 P P 21 48 29.7 -1.4
H31M Peel River 15.93 354 P Pn 21 48 28.6 +1.1
baz=170,SNR=63
CAPN Captain Cook N 15.94 320 P Pn 21 48 28.6 +1.0
baz=122
BW06 Boulder Array 15.94 109 IAmb IAmb 21 48 34.6
comp=Z,851nm,1.6s
PD31 Pinedale Array 15.94 109 IAmb IAmb 21 48 33.7
comp=Z,1µm,2.0s
PDAR Pinedale Array 15.94 109 P 21 48 30.8 -0.8
PDAR Pinedale Array 15.94 109 Pn P 21 48 30.1 -1.5
comp=Z,1.1nm,0.3s,baz=317,slow=6.3,SNR=136
PDAR LR LR 21 54 46.0
comp=Z,5µm,19.8s,baz=300,slow=38
comp=Z,36nm,0.8s
GRAC Grapevine Rang 15.99 140 P P 21 48 31.0 -1.0
M22K Willow 16.10 324 P Pn 21 48 29.2 -0.5
M22K Willow 16.10 324 P P 21 48 32.9 0.0
baz=127,SNR=11
K24K Donnelly Dome 16.12 334 P P 21 48 33.2 0.0
baz=141,SNR=14
J26L Joseph Creek 16.12 339 P Pn 21 48 31.3 +1.3
baz=147,SNR=29
R18K Karluk 16.12 307 P Pn 21 48 30.0 +0.1
baz=107
S11A Rachel 16.16 135 IAmb IAmb 21 48 36.4
comp=Z,311nm,1.4s
SUA Susitna One 16.17 323 P P 21 48 33.2 -0.6
baz=125,SNR=21
Q19K Cape Douglas, 16.19 312 P Pn 21 48 30.7 -0.2
baz=112
LAO LASA Array 16.24 93 IAmb IAmb 21 48 35.1
comp=Z,469nm,1.1s
I28M Miner Creek 16.24 345 P P 21 48 33.6 -1.0
I28M Miner Creek 16.24 345 P Pn 21 48 31.8 +0.2
baz=157,SNR=77
P19K Oil Pt 16.30 315 P P 21 48 34.8 -0.4
baz=115,SNR=9.6
CHIR Chirikof Islan 16.34 300 P Pn 21 48 32.7 0.0
baz=99
ILSW Iliamna Southw 16.41 316 P Pn 21 48 32.6 -1.1
TPNV Topopah Spring 16.51 137 P Pn 21 48 36.7 +1.5
TPNV Topopah Spring 16.51 137 P Pn 21 48 36.7 +1.5
TPNV pmax pmax
comp=Z,123nm,1.2s
CUT Chulitna 16.56 326 Pn 21 48 35.8 +0.2
CUT Chulitna 16.56 326 P Pn 21 48 36.7 +1.2
baz=128,SNR=21
BSUT Blindstream Ca 16.60 118 P Pn 21 48 37.6 +1.0
SPCR Spurr Chakacha 16.61 321 P P 21 48 37.7 -0.9
baz=122,SNR=13
J25K Salcha River, 16.65 337 P Pn 21 48 36.8 0.0
baz=143,SNR=27
I27K Kandik River 16.68 343 P Pn 21 48 38.0 +0.9
baz=153,SNR=30
EPYK Eagle Plains 16.69 351 P P 21 48 39.8 +0.3
EPYK Eagle Plains 16.69 351 P Pn 21 48 38.0 +0.8
baz=165,SNR=49
I26K Coal Creek Min 16.72 341 P P 21 48 38.8 -1.0
baz=149
H29M Whitestone 16.74 348 P Pn 21 48 38.5 +0.7
H29M Whitestone 16.74 348 P P 21 48 39.4 -0.5
baz=161,SNR=85
Q18K Katmai Hardscr 16.75 310 P Pn 21 48 38.5 +0.5
baz=109,SNR=6.7
SKT Skwentna 16.77 323 P Pn 21 48 38.5 +0.2
SKT Skwentna 16.77 323 P Pn 21 48 39.3 +1.1
baz=125,SNR=20
HDA Harding Lake 16.91 334 P Pn 21 48 40.1 +0.2
baz=140,SNR=18
MCK McKinley 17.00 331 P P 21 48 42.4 -0.6
baz=134,SNR=34
Q19K Port Alsworth 17.03 316 P Pn 21 48 39.3 -2.1
Q19K Port Alsworth 17.03 316 P P 21 48 42.6 -0.6
baz=115,SNR=7.3
G31M Satah River 17.03 354 P P 21 48 42.5 -0.7
G31M Satah River 17.03 354 P Pn 21 48 42.1 +0.7
baz=171,SNR=100
Q17K Contact Creek 17.06 309 P Pn 21 48 42.7 +0.7
baz=107,SNR=22
P18K Big Mountain, 17.12 313 P P 21 48 44.7 +0.4
baz=111,SNR=7.8
ILAR Eielson Array 17.18 335 P Pn 21 48 41.9 -1.3
ILAR Eielson Array 17.18 335 P Pn 21 48 43.6 +0.3
comp=Z,0.2nm,0.3s,baz=151,slow=7.3,SNR=34
ILAR PcP PcP 21 53 26.9 +0.4
comp=Z,1.6nm,0.8s,baz=164,slow=0.7,SNR=4.2
ILAR LR LR 21 55 30.1
comp=Z,4µm,18.1s,baz=136,slow=38
comp=Z,4.2nm,0.8s
H27K Steamboat Moun 17.23 344 P Pn 21 48 42.8 -1.1
H27K Steamboat Moun 17.23 344 P Pn 21 48 44.7 +0.7
baz=154,SNR=61
G30M tAoh Zraii Nji 17.24 352 P P 21 48 45.7 +0.2
G30M tAoh Zraii Nji 17.24 352 P Pn 21 48 43.9 -0.2
baz=166,SNR=24
TRF Thorofare Moun 17.25 329 P Pn 21 48 45.1 +0.8
baz=131,SNR=34
O18K Koktuh Hills 17.29 314 P Pn 21 48 44.8 0.0
O18K IAmb IAmb 21 48 49.4
comp=Z,365nm,1.6s
O18K Koktuh Hills 17.29 314 P P 21 48 48.1 +2.0
baz=113,SNR=31
M20K Styx River 17.35 322 P P 21 48 48.0 +1.1
baz=122,SNR=30
G29M Pine Creek 17.36 350 P P 21 48 46.4 -0.4
baz=163,SNR=102
N19K Bonanza Creek 17.38 317 P P 21 48 46.7 -0.5
baz=117,SNR=44
PRP Porcupine Dome 17.43 338 P P 21 48 47.6 -0.2
baz=145,SNR=28

BWN	Browne	17.48	331	P	Pn	21 48 43.6 -3.4
Q16A	Castle Valley	17.49	122	IAmb	IAmb	21 48 55.5
	comp=Z,265nm,1.2s					
P18A	Preston Nutter	17.51	119	P	Pn	21 48 48.5 +0.7
P18A				IAmb	IAmb	21 48 54.6
	comp=Z,392nm,1.3s					
F31M	Tsiigehtchic	17.52	355	IAmb	IAmb	21 48 50.5
	comp=Z,311nm,1.4s					
F31M	Tsiigehtchic	17.52	355	P	P	21 48 49.0 +0.5
F31M	Tsiigehtchic	17.52	355	P	P	21 48 48.8 +0.3
	baz=172,SNR=59					
COLA	College	17.52	334	P	Pn	21 48 45.4 -2.1
COLA	College	17.52	334	*i* P	P	21 48 48.8 +0.2
COLA	College	17.52	334	P	P	21 48 48.4 -0.1
	baz=139					
PPLA	Purkeypile	17.57	325	P	P	21 48 50.7 +1.5
	baz=126,SNR=16					
Q16K	King Salmon	17.57	309	P	P	21 48 48.8 -0.4
	baz=107					
POKR	Poker Plat Res	17.59	335	P	Pn	21 48 46.3 -2.1
POKR	Poker Plat Res	17.59	335	P	P	21 48 49.5 0.0
	baz=140					
MTPU	Mount Pierson	17.59	126	IAmb	IAmb	21 48 56.4
	comp=Z,681nm,1.7s					
P17K	Kvichak River	17.63	311	P	P	21 48 49.9 0.0
	baz=109,SNR=7.7					
NEA2	Nenana	17.66	333	P	P	21 48 50.1 0.0
	baz=136,SNR=17					
SRU	San Rafael Swe	17.71	121	IAmb	IAmb	21 48 57.9
	comp=Z,267nm,1.0s					
FFC	Flin Flon	17.75	64	P	Pn	21 48 48.7 -1.8
FFC				IAmb	IAmb	21 48 56.5
	comp=Z,332nm,1.1s					
FFC	Flin Flon	17.75	64	P	Pn	21 48 48.7 -1.8
FFC				pmax	pmax	
	comp=Z,332nm,1.1s					
G27K	Doyon Strip	17.77	345	P	P	21 48 51.9 +0.5
	baz=155,SNR=93					
F30M	Barrier River	17.82	353	P	P	21 48 52.3 +0.4
F30M	Barrier River	17.82	353	P	P	21 48 52.3 +0.4
	baz=168,SNR=50					
CAST	Castle Rocks	17.85	327	P	P	21 48 53.6 +1.4
	baz=128,SNR=36					
M19K	Big River Lodg	17.87	321	IAmb	IAmb	21 48 57.3
	comp=Z,625nm,1.8s					
M19K	Big River Lodg	17.87	321	P	P	21 48 53.7 +1.2
	baz=120,SNR=36					
K22A	Casper	17.87	105	P	Pn	21 48 51.8 -0.4
K22A				IAmb	IAmb	21 48 59.8
	comp=Z,726nm,1.5s					
BPAW	Bear Paw Mtn.	17.91	329	P	P	21 48 53.1 +0.1
	baz=131,SNR=48					
N18K	Kilae Creek	17.94	316	IAmb	IAmb	21 48 55.3
	comp=Z,696nm,1.8s					
N18K	Kilae Creek	17.94	316	P	P	21 48 53.6 +0.3
	baz=114,SNR=42					
CHGN	Chignik	17.96	301	IAmb	IAmb	21 48 55.7
	comp=Z,801nm,1.7s					
L20K	Farewell, AK	17.97	323	P	P	21 48 54.5 +0.9
	baz=122,SNR=34					
PKCU	Pink Cliffs	17.98	128	IAmb	IAmb	21 49 01.7
	comp=Z,262nm,1.1s					
O17K	Koliganek Bris	18.15	313	P	P	21 48 55.7 +0.2
	baz=110,SNR=14					
I23K	Minto, Yukon-K	18.15	334	P	P	21 48 56.8 +1.2
	baz=137,SNR=30					
L19K	White Mountain	18.20	321	P	P	21 48 57.9 +1.8
	baz=120,SNR=30					
CHUM	Lake Minchumin	18.22	328	P	P	21 48 58.5 +2.2
	baz=128,SNR=85					
FYU	Fort Yukon	18.24	341		Pn	21 48 56.4 0.0
FYU				IAmb	IAmb	21 49 00.4
	comp=Z,478nm,1.8s					
M18K	Stony River	18.27	318	P	P	21 48 57.0 +0.1
	baz=116,SNR=40					
H24K	Noodor Dome	18.27	336	P	Pn	21 48 54.1 -2.7
H24K	Noodor Dome	18.27	336	P	P	21 48 58.8 +1.9
	baz=141,SNR=51					
G26K	Porcupine Rive	18.28	343	P	P	21 48 58.7 +1.8
	baz=151,SNR=31					
O20A	White River Ci	18.32	114	IAmb	IAmb	21 49 06.6
	comp=Z,736nm,1.5s					
P16K	Nushagak River	18.34	310	IAmb	IAmb	21 49 01.6
	comp=Z,1μm,1.7s					
P16K	Nushagak River	18.34	310	P	Pn	21 48 57.7 0.0
	baz=106					
INK	Inuvik	18.37	356	P	P	21 48 58.4 +0.5
	comp=Z,0.6nm,0.3s,baz=175,slow=13,SNR=44					
INK				LR	LR	21 55 58.1
	comp=Z,9μm,18.6s,baz=178,slow=37					
	comp=Z,34nm,1.0s					
INK	Inuvik	18.37	356	P	P	21 48 59.1 +1.2
INK	Inuvik	18.37	356	P	P	21 48 58.6 +0.7
	baz=173,SNR=49					
N17K	Nushagak Hills	18.46	315	P	P	21 48 56.4 -2.6
N17K				IAmb	IAmb	21 49 04.3
	comp=Z,597nm,1.6s					
N17K	Nushagak Hills	18.46	315	P	Pn	21 49 01.3 +2.1
	baz=112,SNR=33					
CNBA	Chernabura Isl	18.48	296	P	P	21 48 59.1 -0.1
CNBA				IAmb	IAmb	21 49 02.0
	comp=Z,463nm,1.8s					
CHNA	Chernabura Isl	18.48	296	P	Pn	21 48 60.0 +0.6
	baz=92					
K20K	Telida	18.53	325	P	Pn	21 49 01.1 +1.1
	baz=124					
O16K	Kokwok River B	18.56	312	P	Pn	21 49 00.5 +0.2
	baz=108,SNR=21					
S14K	Fog Glacier	18.59	301	P	Pn	21 49 03.2 +2.5
	baz=96					
G25K	Bearman Lake	18.60	340	P	Pn	21 49 01.7 +1.0
	baz=146,SNR=23					
H23K	Yukon River	18.70	335	P	Pn	21 49 03.6 +1.5
	baz=138,SNR=17					
E29M	Blow River	18.77	351	P	Pn	21 49 04.0 +1.2
E29M	Blow River	18.77	351	P	Pn	21 49 04.3 +1.6
	baz=164,SNR=103					
G24K	Hadweenzic Riv	18.86	339	P	Pn	21 49 05.1 +1.1
	baz=143,SNR=30					
ELS	Elsinore Mount	18.91	145	IAmb	IAmb	21 49 11.4
	comp=Z,536nm,1.8s					
M17K	Holitna River	18.93	317	IAmb	IAmb	21 49 12.1
	comp=Z,694nm,1.6s					
M17K	Holitna River	18.93	317	P	Pn	21 49 05.3 +0.6
	baz=114,SNR=31					
I21K	Tanana	18.96	331	P	P	21 49 02.4 -2.0
L18K	Granite Mounta	18.97	320	P	Pn	21 49 06.7 +1.4
	baz=117,SNR=47					
F26K	Sheenjek River	19.00	344	P	Pn	21 49 07.7 +2.0
	baz=151,SNR=92					
SDPT	Sand Point	19.02	298	P	Pn	21 49 07.9 +2.0
	baz=93,SNR=8.2					
E27K	Coleen River	19.03	347	P	Pn	21 49 07.2 +1.2
	baz=157,SNR=64					
J20K	Nowinta River	19.04	327	P	Pn	21 49 06.6 +0.5
	baz=126,SNR=55					
TTA	Tatalina	19.04	322	P	Pn	21 49 07.4 +1.2
	baz=120,SNR=40					
PV14	Lion Creek, Pa	19.06	120	IAmb	IAmb	21 49 15.8
	comp=Z,570nm,1.1s					
PV22	Blue Mesa, Par	19.08	119	IAmb	IAmb	21 49 14.3
	comp=Z,242nm,1.2s					
PV20	West Nyswonger	19.11	120	P	Pn	21 49 07.8 +0.4
PV19	Morning Glory	19.13	120	IAmb	IAmb	21 49 17.2
	comp=Z,533nm,1.2s					
E28M	Babbage River	19.15	350	P	Pn	21 49 08.5 +1.0
E28M	Babbage River	19.15	350	P	Pn	21 49 08.4 +1.0
	baz=161,SNR=97					
PV17	East Wray Mesa	19.16	120	IAmb	IAmb	21 49 16.1
	comp=Z,437nm,0.9s					
PV16	Nyswonger Mesa	19.16	120	IAmb	IAmb	21 49 14.7
	comp=Z,604nm,1.3s					
N16K	Nishlik Lake	19.18	314	P	Pn	21 49 09.6 +1.8
	baz=110,SNR=15					
PV11	David Mesa, Pa	19.20	120	IAmb	IAmb	21 49 18.1
	comp=Z,440nm,0.9s					
F25K	Christian Rive	19.20	342	P	Pn	21 49 10.3 +2.2
	baz=148,SNR=89					
PV12	Saucer Basin,	19.22	120	IAmb	IAmb	21 49 17.5
	comp=Z,399nm,1.1s					
PV05	Paradox Valley	19.23	121	IAmb	IAmb	21 49 15.4
	comp=Z,540nm,1.1s					
PV07	Paradox Valley	19.23	119	P	Pn	21 49 09.1 +0.3
PV07				IAmb	IAmb	21 49 15.7
	comp=Z,194nm,1.0s					
PV03	Paradox Valley	19.24	120	IAmb	IAmb	21 49 19.2
	comp=Z,742nm,1.5s					
H22K	Ishtalitna Cre	19.27	333	P	Pn	21 49 10.8 +1.9
	baz=135,SNR=29					
O15K	Ungalikthiuk R	19.29	310	P	Pn	21 49 09.7 +0.5
	baz=104,SNR=12					
PFO	Pinyon Flats O	19.30	143	P	Pn	21 49 09.6 0.0
PFO				IAmb	IAmb	21 49 16.5
	comp=Z,406nm,1.9s					
PFO	Pinyon Flats O	19.30	143	P	Pn	21 49 11.2 +1.6
	comp=Z,0.5nm,0.3s,baz=331,slow=10,SNR=34					
PFO				LR	LR	21 57 02.0
	comp=Z,3μm,18.3s,baz=319,slow=38					
	comp=Z,27nm,0.9s					
PFO	Pinyon Flats O	19.30	143	*i* P	Pn	21 49 11.2 +1.6
PFO				pmax	pmax	
	comp=Z,318nm,1.8s					
PV15	Paradox Valley	19.39	119	IAmb	IAmb	21 49 18.1
	comp=Z,254nm,1.1s					
M16K	Timber Creek	19.46	315	P	Pn	21 49 12.6 +1.4
	baz=111,SNR=18					
J19K	Poorman	19.46	325	P	Pn	21 49 13.3 +2.1
	baz=123,SNR=37					
G23K	Bananza Creek	19.50	336	P	Pn	21 49 12.7 +1.1
	baz=139,SNR=40					
I20K	Naaghedeneel	19.52	328	P	Pn	21 49 12.3 +0.4
	baz=127,SNR=13					
H21K	Melozitna Rive	19.54	331	IAmb	IAmb	21 49 19.6
	comp=Z,423nm,1.8s					
H21K	Melozitna Rive	19.54	331	P	Pn	21 49 12.7 +0.6
	baz=132,SNR=60					
C36M	Paulatuk	19.56	6	P	P	21 49 10.5 -0.4
C36M				IAmb	IAmb	21 49 17.1
	comp=Z,329nm,1.4s					
C36M	Paulatuk	19.56	6	P	Pn	21 49 12.5 +0.2
C36M	Paulatuk	19.56	6	P	Pn	21 49 12.0 -0.2
	baz=192,SNR=83					
J18K	Innoko River	19.59	323	P	P	21 49 10.2 -1.2
J18K				IAmb	IAmb	21 49 16.7
	comp=Z,436nm,1.6s					
J18K	Innoko River	19.59	323	P	Pn	21 49 13.2 +0.4
	baz=120,SNR=65					
L17K	Donlin	19.61	319	P	Pn	21 49 13.7 +0.8
	baz=115,SNR=22					
F24K	Squaw Lake	19.62	340	P	Pn	21 49 14.2 +1.1
	baz=144,SNR=74					
E25K	Arctic Village	19.64	343	P	Pn	21 49 15.2 +1.8
	baz=149,SNR=60					
N15K	Kwethluk River	19.70	312	P	Pn	21 49 15.7 +1.6
	baz=107,SNR=26					
D28M	Stokes Point	19.76	351	P	Pn	21 49 15.3 +0.7
D28M	Stokes Point	19.76	351	P	Pn	21 49 15.3 +0.7
	baz=163,SNR=37					
E28A	Huff	19.84	89	P	P	21 49 14.5 +0.3
K17K	Iditarod	19.86	320	P	Pn	21 49 15.8 -0.2
	baz=116,SNR=62					
D27M	Malcolm River	19.93	349	P	Pn	21 49 18.7 +2.0
D27M	Malcolm River	19.93	349	P	Pn	21 49 17.5 +0.8
	baz=159,SNR=30					
S12K	Black Hills	19.94	299	P	Pn	21 49 16.7 -0.2
	baz=92					
COLD	Coldfoot	19.94	337	P	Pn	21 49 18.3 +1.5
	baz=139,SNR=76					
L16K	Owhat River	19.94	317	P	Pn	21 49 17.2 +0.3
	baz=112,SNR=41					
WUAZ	Wupatki	19.96	130	P	Pn	21 49 18.6 +1.1
WUAZ				IAmb	IAmb	21 49 24.4
	comp=Z,223nm,1.2s					
BLYC	Blythe	19.97	139	P	Pn	21 49 18.2 +0.8
BLYC				IAmb	IAmb	21 49 22.8
	comp=Z,432nm,1.4s					
O14K	Tigyukauivet M	20.03	309	P	Pn	21 49 18.2 +0.3
	baz=103,SNR=13					
G22K	Bettles	20.05	335	P	Pn	21 49 18.2 0.0
	baz=136					
TJX	Tijuana	20.07	146	P	Pn	21 49 21.0 +2.4
H20K	Anotleneega Mo	20.09	329	P	Pn	21 49 18.5 -0.2
	baz=128,SNR=47					
ISCO	Idaho Springs	20.10	111	P	P	21 49 17.4 0.0
ISCO				IAMs_20	IAMs_20	21 57 22.6
	comp=Z,10μm,18.0s					
ISCO	Idaho Springs	20.10	111	P	P	21 49 17.4 0.0
ISCO				pmax	pmax	
	comp=Z,111nm,1.1s					
ISCO				MLR	MLR	
	comp=Z,10μm,18.0s					
MDND	Maddock	20.12	85		Pn	21 49 19.1 0.0
MDND				IAMs_20	IAMs_20	21 57 05.0
	comp=Z,19μm,18.0s					
M15K	Kasigluk River	20.14	313	P	Pn	21 49 19.9 +0.6
	baz=108,SNR=58					
MVCO	Mesa Verde	20.18	121	P	P	21 49 18.8 +0.6
E24K	Your Creek	20.20	340	P	P	21 49 18.4 +0.3
E24K	Your Creek	20.20	340	P	Pn	21 49 20.4 +0.4
	baz=144,SNR=53					
G21K	Allakaket	20.33	333	P	Pn	21 49 21.7 +0.3
	baz=132					
GCSA	Galena City Sc	20.33	326	P	Pn	21 49 22.3 +0.8
	baz=123,SNR=14					
YUH	Yuha Desert	20.36	143	IAmb	IAmb	21 49 28.0
	comp=Z,868nm,1.9s					
CBX	Cerro Bola	20.39	145	IAmb	IAmb	21 49 34.6
	comp=Z,318nm,1.3s					
N14K	Kuskokwak Cree	20.40	311	P	P	21 49 18.3 -1.8
N14K				IAmb	IAmb	21 49 25.3
	comp=Z,424nm,1.2s					
N14K				IAMs_20	IAMs_20	21 55 46.0
	comp=Z,7μm,20.0s					
N14K	Kuskokwak Cree	20.40	311	P	Pn	21 49 22.0 -0.2
	baz=104,SNR=11					
BRIGG	Briggsdale	20.41	108	P	P	21 49 21.5 +0.9
GLA	Glamis	20.44	141	IAmb	IAmb	21 49 31.3
	comp=Z,220nm,1.1s					
E23K	Chandalar	20.45	339	IAMs_20	IAMs_20	21 56 48.1
	comp=Z,7μm,19.0s					
E23K	Chandalar	20.45	339	P	Pn	21 49 23.6 +0.7
	baz=142,SNR=87					
Y14A	Wickenburg	20.47	135	IAmb	IAmb	21 49 31.1
	comp=Z,411nm,1.5s					
J17K	VABM Dome	20.48	322	P	P	21 49 18.9 -2.1
J17K	VABM Dome	20.48	322	P	Pn	21 49 22.6 -0.6
	baz=117,SNR=64					
H19K	Roundabout Mou	20.63	328	IAmb	IAmb	21 49 33.6
	comp=Z,284nm,1.6s					
H19K	Roundabout Mou	20.63	328	P	Pn	21 49 24.2 -0.8
	baz=126,SNR=45					
F22K	John River	20.66	336	P	Pn	21 49 24.9 -0.5
	baz=136,SNR=132					
C27K	Jago River	20.66	347	IAMs_20	IAMs_20	21 56 48.0
	comp=Z,7μm,19.0s					
C27K	Jago River	20.66	347	P	Pn	21 49 25.4 +0.1
	baz=154,SNR=67					
FALS	False Pass	20.70	296	P	P	21 49 20.9 -2.5
FALS				IAMs_20	IAMs_20	21 55 07.0
	comp=Z,8μm,21.0s					
FALS	False Pass	20.70	296	P	Pn	21 49 24.7 -1.0
	baz=89					
S22A	4UR Ranch, Cre	20.74	118	P	Pn	21 49 27.1 +0.3
S22A				IAmb	IAmb	21 49 31.5
	comp=Z,539nm,1.4s					
S22A				IAMs_20	IAMs_20	21 57 45.4
	comp=Z,6μm,18.0s					
M14K	Bethel	20.76	313	IAmb	IAmb	21 49 27.3
	comp=Z,255nm,1.1s					
M14K	Bethel	20.76	313	P	Pn	21 49 26.2 -0.3
	baz=106,SNR=25					
CCX	Cicese	20.79	146	P	P	21 49 24.9 +0.3
X16A	Lo Mia Camp, P	20.81	132	IAmb	IAmb	21 49 38.4
	comp=Z,165nm,1.1s					
F21K	Alatna River	20.81	334	P	P	21 49 25.2 +0.6
F21K				IAmb	IAmb	21 49 33.3
	comp=Z,330nm,1.9s					
F21K	Alatna River	20.81	334	P	Pn	21 49 27.3 +0.3
	baz=134,SNR=43					
L15K	Ungalak Mounta	20.83	316	P	Pn	21 49 27.4 +0.1
	baz=109,SNR=74					
D25K	Kavik River	20.83	344	IAMs_20	IAMs_20	21 57 23.6
	comp=Z,8μm,20.0s					
D25K	Kavik River	20.83	344	P	Pn	21 49 27.3 -0.1
	baz=149,SNR=50					
TOLK	Toolik Lake Re	20.90	340	IAMs_20	IAMs_20	21 57 03.1
	comp=Z,9μm,19.0s					
TOLK	Toolik Lake Re	20.90	340	P	Pn	21 49 28.2 +0.1
	baz=143,SNR=86					
ESJX	Sierra Juarez	20.93	144	IAmb	IAmb	21 49 33.3
	comp=Z,418nm,1.5s					
E22K	Anaktuvuk Pass	21.03	337	P	P	21 49 27.4 +0.4
E22K				IAmb	IAmb	21 49 40.5
	comp=Z,346nm,1.8s					
E22K	Anaktuvuk Pass	21.03	337	P	P	21 49 29.1 +2.0
	baz=138,SNR=33					
J16K	Anvik River	21.05	320	P	P	21 49 26.2 -1.1
J16K				IAmb	IAmb	21 49 34.4
	comp=Z,228nm,1.1s					
J16K	Anvik River	21.05	320	P	P	21 49 28.9 +1.7
	baz=114,SNR=43					
K15K	Wolf Creek Mou	21.06	317	IAmb	IAmb	21 49 35.1
	comp=Z,391nm,1.2s					
K15K	Wolf Creek Mou	21.06	317	P	P	21 49 29.4 +2.1
	baz=110,SNR=43					
H18K	Honhosa River	21.09	326	P	P	21 49 29.6 +2.0
	baz=122					
C26K	Camden Bay	21.11	346	P	P	21 49 30.6 +2.8
	baz=153,SNR=94					
D24K	Happy Valley	21.16	341	IAMs_20	IAMs_20	21 57 24.5
	comp=Z,8μm,19.0s					
D24K	Happy Valley	21.16	341	P	P	21 49 30.6 +2.3
	baz=145					
G19K	Purcell Mounta	21.21	329	P	P	21 49 27.2 -1.7
G19K				IAmb	IAmb	21 49 37.6
	comp=Z,460nm,1.8s					
G19K	Purcell Mounta	21.21	329	P	P	21 49 30.6 +1.7
	baz=126,SNR=77					
L14K	Kuka Creek	21.27	314	IAmb	IAmb	21 49 36.2
	comp=Z,148nm,1.0s					
L14K	Kuka Creek	21.27	314	P	P	21 49 32.4 +2.9
	baz=107,SNR=28					
M13K	Dall Lake	21.33	312	IAMs_20	IAMs_20	21 56 15.4
	comp=Z,7μm,21.0s					
M13K	Dall Lake	21.33	312	P	P	21 49 31.7 +1.5
	baz=104,SNR=13					
F20K	Avaraart Lake	21.34	332	P	P	21 49 31.1 +0.8
F20K				IAmb	IAmb	21 49 44.1
	comp=Z,118nm,0.9s					
F20K	Avaraart Lake	21.34	332	P	P	21 49 32.3 +2.0
	baz=130,SNR=134					
I17K	Unalakleet	21.35	322	P	P	21 49 29.1 -1.3
I17K				IAmb	IAmb	21 49 43.7
	comp=Z,295nm,1.6s					
I17K	Unalakleet	21.35	322	P	P	21 49 31.9 +1.5
	baz=116,SNR=15					
D23K	Nanushuk River	21.41	340	P	P	21 49 30.2 -0.8
D23K				IAMs_20	IAMs_20	21 57 29.1
	comp=Z,9μm,18.0s					
D23K	Nanushuk River	21.41	340	P	P	21 49 33.4 +2.4
	baz=142,SNR=84					
X18A	Snowflake	21.45	129	IAmb	IAmb	21 49 42.5
	comp=Z,360nm,1.0s					
SDCO	Great Sand Dun	21.50	116	IAMs_20	IAMs_20	21 58 12.1
	comp=Z,8μm,19.0s					
H17K	Granite Mounta	21.54	325	IAmb	IAmb	21 49 42.9
	comp=Z,160nm,1.1s					
H17K	Granite Mounta	21.54	325	P	P	21 49 34.5 +2.0
	baz=119,SNR=44					
G18K	Tagagawik	21.59	328	IAmb	IAmb	21 49 37.9
	comp=Z,231nm,1.6s					
G18K	Tagagawik	21.59	328	P	P	21 49 34.9 +1.9
	baz=123,SNR=71					
C24K	Franklin Bluff	21.61	342	IAMs_20	IAMs_20	21 58 07.1
	comp=Z,7μm,18.0s					
C24K	Franklin Bluff	21.61	342	P	P	21 49 35.1 +2.1
	baz=146					
OGNE	Ogallala	21.61	104	P	P	21 49 35.7 +2.1
D22K	Ayikyak River	21.80	338	P	P	21 49 37.4 +2.1
	baz=138,SNR=22					
E21K	Killik River	21.80	336	P	P	21 49 36.7 +1.4
	baz=135,SNR=13					
SUSD	Miller	21.81	93	IAmb	IAmb	21 49 43.5
	comp=Z,254nm,0.9s					
SUSD				IAMs_20	IAMs_20	21 58 05.0
	comp=Z,14μm,18.0s					
F19K	Shaleruckik Mo	21.84	330	P	P	21 49 37.3 +1.7
	baz=126					
ULM	Lac du Bonnet	21.86	76	P	P	21 49 33.9 -2.0
ULM	Lac du Bonnet	21.86	76	P	P	21 49 36.0 0.0
	comp=Z,147nm,0.9s,baz=285,slow=10,SNR=62					
	comp=Z,147nm,0.9s					
ULM	Lac du Bonnet	21.86	76	P	P	21 49 37.9 +2.0
ULM	Lac du Bonnet	21.86	76	*i* P	P	21 49 37.4 +1.5
E19K	Redstone River	22.06	332	P	P	21 49 40.0 +2.1
	baz=128					
C23K	Itkillik River	22.09	341	P	P	21 49 35.9 -2.4
C23K				IAmb	IAmb	21 49 47.9
	comp=Z,412nm,1.6s					
C23K				IAMs_20	IAMs_20	21 58 05.0
	comp=Z,8μm,20.0s					
C23K	Itkillik River	22.09	341	P	P	21 49 40.2 +2.0
	baz=143,SNR=70					
G17K	Kiwalik Mounta	22.09	326	P	P	21 49 40.1 +1.7
	baz=119,SNR=44					
AKUT	Akutan	22.10	294	P	P	21 49 38.7 +0.3
J14K	Nanvaranak Lak	22.10	318	IAmb	IAmb	21 49 47.5
	comp=Z,563nm,1.9s					
J14K	Nanvaranak Lak	22.10	318	P	P	21 49 40.4 +2.0
	baz=109,SNR=20					
A36M	Sachs Harbour	22.10	4	IAMs_20	IAMs_20	21 58 27.8
	comp=Z,11μm,21.0s					
A36M	Sachs Harbour	22.10	4	P	P	21 49 40.4 +2.0
A36M	Sachs Harbour	22.10	4	P	P	21 49 40.0 +1.7
	baz=188,SNR=107					
SFX	San Felipe	22.21	143	P	P	21 49 39.7 -0.1
SFX				IAmb	IAmb	21 49 49.3
	comp=Z,223nm,1.4s					
K30B	Basset	22.22	98	IAMs_20	IAMs_20	21 58 20.1
	comp=Z,14μm,22.0s					
E20K	Nigu River	22.27	334	P	P	21 49 41.8 +1.5
	baz=131					
H16K	Elim	22.29	323	P	P	21 49 42.5 +2.0
	baz=115,SNR=22					
F18K	Selawik	22.32	329	P	P	21 49 42.6 +1.9
	baz=123,SNR=60					
K13K	Kusilvak Mount	22.34	315	P	P	21 49 42.3 +1.3
	baz=106,SNR=7.8					
AGMN	Agassiz Nation	22.38	81	IAmb	IAmb	21 49 49.1
	comp=Z,260nm,1.0s					
AGMN				IAMs_20	IAMs_20	21 58 23.3
	comp=Z,15μm,20.0s					
C21K	Knifeblade Rid	22.52	337	P	P	21 49 44.7 +1.7
	baz=135,SNR=99					
T25A	Trinidad	22.55	115	IAMs_20	IAMs_20	21 58 56.3
	comp=Z,7μm,19.0s					
G16K	Koyuk River	22.67	325	P	P	21 49 46.5 +2.0
	baz=117,SNR=5.4					
D20K	Etivluk River	22.70	335	P	P	21 49 42.3 -2.6
D20K				IAMs_20	IAMs_20	21 57 55.7
	comp=Z,5μm,18.0s					
D20K	Etivluk River	22.70	335	P	P	21 49 46.1 +1.2
	baz=132					
M11K	Mekoryuk	22.70	311	P	P	21 49 47.9 +3.0
	baz=100					
F17K	Baldwin Pennin	22.78	328	IAmb	IAmb	21 49 55.7
	comp=Z,209nm,1.4s					
F17K	Baldwin Pennin	22.78	328	P	P	21 49 47.4 +1.8
	baz=120,SNR=46					
B21K	Ikpikpuk River	22.82	338	IAmb	IAmb	21 49 53.7
	comp=Z,171nm,1.2s					
B21K	Ikpikpuk River	22.82	338	P	P	21 49 47.5 +1.4
	baz=136,SNR=116					
TUC	Tucson	22.85	134	P	P	21 49 48.2 +1.4
TUC				IAmb	IAmb	21 49 54.8
	comp=Z,279nm,1.4s					
TUC	Tucson	22.85	134	P	P	21 49 48.2 +1.4
TUC				pmax	pmax	
	comp=Z,279nm,1.4s					
TUC				MLR	MLR	
	comp=Z,1μm,20.0s					
F33A	5 Mile Ranch,	22.95	88	IAMs_20	IAMs_20	21 58 40.8
	comp=Z,13μm,20.0s					
ANMO	Albuquerque	22.96	122	P	P	21 49 48.2 +0.1
ANMO				IAmb	IAmb	21 49 54.8
	comp=Z,189nm,1.2s					
ANMO	Albuquerque	22.96	122	IAmb	IAmb	21 49

BLKN IAmb IAmb 21 49 56.5
comp=Z,241nm,1.1s
B22K Teshekpuk Lake 23.08 340 IAMs_20 IAMs_20 21 58 44.3
comp=Z,7µm,19.0s
B22K Teshekpuk Lake 23.08 340 P **P** **21 49 50.9 +2.2**
baz=139,SNR=91
E18K Tukpahlearik C 23.09 330 P **P** **21 49 50.2 +1.3**
baz=123
G15K Niukluk 23.14 323 P **P** **21 49 51.0 +1.6**
baz=114,SNR=13
E17K Hotham Inlet 23.30 329 P **P** **21 49 53.0 +1.9**
baz=121,SNR=28
EPLO Experimental L 23.34 77 P **P** **21 49 50.5 -1.1**
Y22D IRIS PASSCAL I 23.37 124 IAMs_20 IAMs_20 21 59 21.9
comp=Z,5µm,19.0s
Y22D IRIS PASSCAL I 23.37 124 P **P** **21 49 56.4 +4.2**
baz=321
ANM Nome 23.50 321 IAmb IAmb 21 50 09.8
comp=Z,176nm,1.7s
ANM Nome 23.50 321 P **P** **21 49 54.1 +1.1**
baz=111
CRNM Carthage 23.57 124 P **P** **21 49 54.8 +0.6**
ECSD EROS Data Cent 23.64 93 IAmb IAmb 21 50 00.8
comp=Z,225nm,0.9s
F15K North Star Dit 23.66 324 P **P** **21 49 54.5 -0.2**
F15K North Star Dit 23.66 324 P **P** **21 49 56.5 +1.9**
baz=114,SNR=22
B20K Meade River 23.72 337 P **P** **21 49 56.4 +1.3**
baz=133,SNR=28
A22K Sinclair Lake 23.92 340 P **P** **21 49 58.3 +1.3**
baz=138
C18K Utukok River 23.96 332 IAmb IAmb 21 50 19.8
comp=Z,160nm,1.4s
C18K Utukok River 23.96 332 P **P** **21 49 59.1 +1.5**
baz=125,SNR=25
D17K Noatak River 24.04 329 P **P** **21 49 59.8 +1.6**
baz=120,SNR=9.2
NIKH Nikolski High 24.05 292 P **P** **21 49 59.5 +1.1**
baz=81
P08K Saint George I 24.14 301 P **P** **21 49 60.0 +0.8**
baz=88
RDOG Red Dog Mine 24.17 330 P **P** **21 49 57.2 -2.2**
RDOG IAmb IAmb 21 50 22.7
comp=Z,191nm,1.7s
RDOG Red Dog Mine 24.17 330 P **P** **21 50 01.0 +1.6**
baz=121
F14K Arctic Creek 24.21 323 P **P** **21 50 02.1 +2.3**
baz=112,SNR=12
319A Douglas 24.34 132 P **P** **21 50 01.5 +0.2**
319A IAmb IAmb 21 50 12.4
comp=Z,184nm,1.1s
SPIA Saint Paul Isl 24.52 302 P **P** **21 50 04.6 +2.0**
baz=89
A21K Barrow 24.52 340 P **P** **21 50 02.8 +0.2**
baz=136
B18K Kokolik River 24.56 333 P **P** **21 50 05.5 +2.6**
baz=125,SNR=38
L34A Svendsen Farm, 24.65 96 IAMs_20 IAMs_20 21 59 45.3
comp=Z,10µm,20.0s
TNA Tin City 24.86 323 P **P** **21 50 07.5 +1.9**
baz=110
A19K Wainwright 24.86 335 P **P** **21 50 07.3 +1.6**
baz=128
C16K Lisburne Hills 25.07 330 P **P** **21 50 05.6 -1.8**
C16K IAmb IAmb 21 50 20.5
comp=Z,66nm,1.1s
C16K Lisburne Hills 25.07 330 P **P** **21 50 09.2 +1.7**
baz=118,SNR=15
EYMN Ely 25.26 80 IAMs_20 IAMs_20 22 00 01.5
comp=Z,14µm,21.0s
SPMN Marine on St. 25.44 86 P **P** **21 50 10.4 -0.8**
SPMN IAmb IAmb 21 50 16.5
comp=Z,190nm,1.2s
SPMN IAMs_20 IAMs_20 22 00 09.7
comp=Z,12µm,22.0s
HSIG 25.58 138 P **P** **21 50 11.8 -0.6**
HSIG IAmb IAmb 21 50 20.1
comp=Z,263nm,1.8s
I37A Lemond, Waseca 25.58 89 IAMs_20 IAMs_20 22 00 20.6
comp=Z,13µm,18.0s
AMTX Amarillo 25.71 115 IAMs_20 IAMs_20 22 00 48.3
comp=Z,9µm,19.0s
MSTX Muleshoe 25.73 118 IAmb IAmb 21 50 22.9
comp=Z,259nm,1.4s
CPRX Cap Rock 25.82 121 P **P** **21 50 14.9 +0.1**
GAMB Gambell 25.93 318 P **P** **21 50 17.3 +2.0**
baz=102
MNTX Cornudas Mount 26.03 126 IAmb IAmb 21 50 27.5
comp=Z,134nm,1.1s
MNTX IAMs_20 IAMs_20 22 00 51.3
comp=Z,4µm,19.0s
KAN12 Harper NE Stat 26.31 107 P **P** **21 50 17.3 -1.8**
KAN08 Anthony NE Sta 26.37 107 P **P** **21 50 19.0 -0.6**
KAN08 IAmb IAmb 21 50 27.8
comp=Z,162nm,1.2s
OK038 West end E0370 26.38 109 IAMs_20 IAMs_20 22 01 43.8
comp=Z,5µm,18.0s
OK032 Salt Plains WL 26.49 108 P **P** **21 50 20.9 +0.2**
KAN05 Bluff City Nor 26.51 107 P **P** **21 50 20.1 -0.8**
KAN05 IAmb IAmb 21 50 46.0
comp=Z,264nm,1.8s
KAN13 South Haven SW 26.81 107 P **P** **21 50 22.6 -1.0**
KAN13 IAmb IAmb 21 50 31.6
comp=Z,186nm,1.3s
CSTR Hydro, Custer 26.96 110 P **P** **21 50 23.7 -1.3**
PECS Pecos 27.09 124 P **P** **21 50 25.0 -1.2**
G40A Rib Lake 27.10 85 IAmb IAmb 21 50 31.3
comp=Z,124nm,1.2s
N38A Joes South For 27.28 96 P **P** **21 50 26.5 -1.2**
N38A IAMs_20 IAMs_20 22 01 25.8
comp=Z,12µm,18.0s
ATKA Atka Island 27.40 292 P **P** **21 50 25.8 -2.9**
I40A Norwalk 27.43 88 IAMs_20 IAMs_20 22 02 24.4
comp=Z,4µm,19.0s
COWI Conover 27.44 82 IAmb IAmb 21 50 34.2
comp=Z,199nm,1.4s
OK048 Pawnee Station 27.52 107 P **P** **21 50 29.1 -0.8**
OK048 IAMs_20 IAMs_20 22 02 17.9
comp=Z,4µm,18.0s
WMOK Wichita Mounta 27.52 112 IAmb IAmb 21 50 38.3
comp=Z,219nm,1.3s
WMOK IAMs_20 IAMs_20 22 02 02.2
comp=Z,7µm,19.0s
OK029 Liberty Lake 27.61 109 IAMs_20 IAMs_20 22 02 36.4
comp=Z,4µm,18.0s
MNHN Monahans 27.71 122 IAmb IAmb 21 50 39.6
comp=Z,71nm,1.3s
APMT Aspermont 27.72 116 P **P** **21 50 31.6 -0.2**
P38A Dawn 27.73 98 IAmb IAmb 21 50 39.7
comp=Z,123nm,0.8s
OK052 Battle Ridge R 27.88 108 P **P** **21 50 33.1 -0.1**
L40A Anamosa 27.91 92 IAmb IAmb 21 50 41.1
comp=Z,140nm,1.0s
JFWS Jewell Farm 28.12 89 IAmb IAmb 21 50 45.2
comp=Z,142nm,1.1s
JFWS Jewell Farm 28.12 89 IAMs_20 IAMs_20 22 01 50.8
comp=Z,12µm,19.0s
SGCY Sterling City 28.18 119 IAmb IAmb 21 50 49.5
comp=Z,44nm,0.9s
X34A Smith Ranch, M 28.18 111 IAmb IAmb 21 50 49.0
comp=Z,187nm,1.3s
F42A Maple Grove Fa 28.22 82 P **P** **21 50 34.3 -1.8**
WTFS Witchita Falls 28.38 113 IAmb IAmb 21 50 45.5
comp=Z,146nm,1.2s
W35A Tecumseh 28.39 109 IAmb IAmb 21 50 45.8
comp=Z,116nm,1.1s
ABTX Abilene, Hawle 28.51 116 IAmb IAmb 21 50 46.7
comp=Z,106nm,1.1s
ABTX IAMs_20 IAMs_20 22 02 28.5
comp=Z,6µm,22.0s
I42A Draeger Farm, 28.53 86 IAmb IAmb 21 50 44.4
comp=Z,178nm,1.4s
RES Resolute Bay 28.71 19 LR LR 22 01 57.5
comp=Z,4µm,20.2s,baz=228,slow=36
P40A Paris 28.73 97 IAmb IAmb 21 50 48.4
comp=Z,133nm,1.2s
P40A IAMs_20 IAMs_20 22 02 13.3
comp=Z,11µm,22.0s
TX31 Lajitas Ar. Si 28.80 126 IAmb IAmb 21 50 50.5
comp=Z,98nm,1.3s
TXAR Lajitas Array 28.80 126 P **P** **21 50 40.7 -0.9**
TXAR Lajitas Array 28.80 126 P **P** **21 50 44.1 +2.5**
comp=Z,22nm,0.9s,baz=324,slow=6.2,SNR=66
TXAR PcP **PcP** **21 53 52.7 +1.6**
comp=Z,2.6nm,0.8s,baz=282,slow=2.4,SNR=4.0
TXAR LR LR 22 02 51.8
comp=Z,3µm,19.9s,baz=314,slow=38
comp=Z,22nm,0.9s
RLO Rose Lookout 28.87 105 P **P** **21 50 40.8 -1.2**
OZNA Ozona 28.93 120 IAmb IAmb 21 50 50.4
comp=Z,158nm,1.6s
L42A Oliver, Polo 28.95 90 IAMs_20 IAMs_20 22 02 15.7
comp=Z,9µm,20.0s
SAND Sanderson 29.13 123 IAmb IAmb 21 50 52.8
comp=Z,93nm,1.2s
PLPT Palo Pinto 29.15 114 P **P** **21 50 42.5 -2.0**
PLPT IAmb IAmb 21 50 52.0
comp=Z,78nm,1.1s
R40A Maddies Statio 29.30 99 P **P** **21 50 43.2 -2.6**
R40A IAmb IAmb 21 50 59.5
comp=Z,83nm,1.2s
Z35A Perchaven, San 29.41 112 IAMs_20 IAMs_20 22 02 40.2
comp=Z,5µm,21.0s
K43A Burlington 29.46 88 IAmb IAmb 21 50 54.9
comp=Z,94nm,0.9s
FW06 Azle 29.48 113 P **P** **21 50 46.7 -0.7**
FW06 IAmb IAmb 21 50 56.4
comp=Z,52nm,0.8s
FW07 Weatherford 29.54 114 IAmb IAmb 21 50 56.1
comp=Z,54nm,0.9s
ILON Igloolik, Nuna 29.90 32 P **P** **21 50 47.2 -3.6**
ILON IAMs_20 IAMs_20 22 02 20.5
comp=Z,3µm,18.0s
HDIL Hopedale 29.94 93 IAmb IAmb 21 50 59.3
comp=Z,76nm,0.8s
MGMO Mountain Grove 29.98 101 IAmb IAmb 21 51 00.4
comp=Z,131nm,1.1s
L44A Lake County Fo 29.99 89 P **P** **21 50 48.4 -3.4**
L44A IAmb IAmb 21 50 59.7
comp=Z,116nm,1.0s
FW13 Cleburne 30.00 114 IAmb IAmb 21 51 01.0
comp=Z,61nm,0.8s
JCT Junction City 30.01 119 IAmb IAmb 21 50 59.8
comp=Z,164nm,1.2s
CCM Cathedral Cave 30.09 99 P **P** **21 50 50.7 -2.1**
CCM IAmb IAmb 21 50 59.9
comp=Z,144nm,1.4s
CCM Cathedral Cave 30.09 99 P **P** **21 50 50.7 -2.1**
CCM pmax pmax
comp=Z,144nm,1.4s
CCM MLR MLR
comp=Z,12µm,18.0s
LPIG La Paz 30.19 142 P **P** **21 50 56.5 +2.8**
comp=Z,33nm,0.9s,baz=170,slow=6.3,SNR=5.6
LPIG LR LR 22 02 16.8
comp=Z,2µm,19.4s,baz=334,slow=35
comp=Z,33nm,0.9s
HQIL Hanson Quary C 30.22 89 P **P** **21 50 52.3 -1.6**
WHTX Lake Whitney, 30.24 114 P **P** **21 50 52.6 -1.6**
WHTX IAmb IAmb 21 51 02.5
comp=Z,83nm,0.9s
WHTX IAMs_20 IAMs_20 22 03 41.3
comp=Z,8µm,19.0s
M44A Midewin, Midew 30.31 90 IAMs_20 IAMs_20 22 03 08.6
comp=Z,10µm,18.0s
DRIO Del Rio 30.36 122 IAmb IAmb 21 51 03.4
comp=Z,52nm,1.0s
E46A Sault Ste Mari 30.40 79 IAmb IAmb 21 51 00.5
comp=Z,144nm,1.3s
FVM French Village 30.66 98 IAmb IAmb 21 51 02.6
comp=Z,107nm,1.4s
SLBS Sierra La Lagu 30.70 142 P **P** **21 50 57.6 -0.8**
SLBS IAmb IAmb 21 51 04.7
comp=Z,150nm,2.0s
T42A Van Buren 30.80 100 P **P** **21 50 56.3 -2.8**
T42A IAmb IAmb 21 51 58.3
comp=Z,154nm,1.9s
Z38A Mt. Pleasant 30.82 110 IAmb IAmb 21 51 05.6
comp=Z,135nm,1.2s
HNDO Hondo 31.02 120 P **P** **21 50 59.4 -1.7**
HNDO IAmb IAmb 21 51 08.4
comp=Z,48nm,1.1s
Q44A Meyer Farm, Va 31.03 95 IAmb IAmb 21 52 05.5
comp=Z,88nm,1.1s
Q44A IAMs_20 IAMs_20 22 03 43.0
comp=Z,11µm,20.0s
L46A Eue Claire 31.11 88 IAMs_20 IAMs_20 22 03 32.9
comp=Z,10µm,22.0s
X40A Basin Creek Fa 31.32 106 IAmb IAmb 21 51 12.9
comp=Z,46nm,1.0s
LCAR Lake Charles 31.36 102 IAmb IAmb 21 51 10.9
comp=Z,79nm,0.8s
UALR University of 31.44 105 IAmb IAmb 21 51 12.8
comp=Z,84nm,1.1s
SFIN Lafayette 31.45 91 IAmb IAmb 21 51 12.5
comp=Z,77nm,0.9s
CGM3 Cape Girardeau 31.55 98 P **P** **21 51 02.3 -3.4**
CGM3 IAmb IAmb 21 51 12.3
comp=Z,65nm,0.8s
SIUC Southern Illin 31.59 97 IAmb IAmb 21 51 13.1
comp=Z,97nm,0.9s
P46A Rosedale 31.79 93 IAmb IAmb 21 51 20.9
comp=Z,70nm,1.0s
NATX Nacogdoches 32.07 111 IAMs_20 IAMs_20 22 05 06.5
comp=Z,5µm,19.0s
N47A Urbana 32.08 89 IAmb IAmb 21 51 17.9
comp=Z,95nm,0.9s
MLDN Muldoon 32.09 117 P **P** **21 51 09.4 -1.0**
Z41A Richland Creek 32.16 107 P **P** **21 51 09.3 -1.7**
CCAR Cane Creek 32.36 105 P **P** **21 51 12.7 -0.1**
735A Kenedy 32.36 119 IAMs_20 IAMs_20 22 04 24.7
comp=Z,3µm,19.0s
GLAT Glass 32.41 99 P **P** **21 51 11.1 -2.1**
BLO Bloomington 32.48 93 IAmb IAmb 21 51 21.7
comp=Z,82nm,0.7s
AAM Ann Arbor 32.67 86 P **P** **21 51 14.1 -1.3**
AAM IAmb IAmb 21 51 27.7
comp=Z,167nm,1.6s
AAM Ann Arbor 32.67 86 P **P** **21 51 14.1 -1.3**
AAM pmax pmax
comp=Z,167nm,1.6s
AAM MLR MLR
comp=Z,2µm,22.0s
HKT Hockley 32.68 115 P **P** **21 51 14.2 -1.3**
HKT IAmb IAmb 21 51 25.3
comp=Z,158nm,1.4s
HKT Hockley 32.68 115 *i* P **P** **21 51 18.0 +2.5**
HKT pmax pmax
comp=Z,144nm,1.4s
N49A Columbus Grove 33.04 88 IAmb IAmb 21 51 26.0
comp=Z,82nm,0.9s
N49A IAMs_20 IAMs_20 22 04 42.8
comp=Z,9µm,22.0s
K50A Casco 33.09 84 P **P** **21 51 17.2 -2.0**
K50A IAmb IAmb 21 51 31.2
comp=Z,137nm,1.4s
WCI Wyandotte Cave 33.16 94 P **P** **21 51 18.5 -1.3**
WCI IAmb IAmb 21 51 26.9
comp=Z,45nm,1.1s
WCI Wyandotte Cave 33.16 94 P **P** **21 51 18.5 -1.3**
WCI pmax pmax
comp=Z,45nm,1.1s
WCI MLR MLR
comp=Z,11µm,19.0s
KVTX Kingsville 33.32 120 IAMs_20 IAMs_20 22 05 08.2
comp=Z,3µm,19.0s
O49A Covington 33.33 89 IAmb IAmb 21 51 27.9
comp=Z,91nm,0.8s
T47A Sharon Grove 33.37 96 IAmb IAmb 21 51 29.1
comp=Z,63nm,1.1s
T47A IAMs_20 IAMs_20 22 04 57.1
comp=Z,10µm,22.0s
143A Socs Landing, 33.40 106 IAMs_20 IAMs_20 22 06 05.5
comp=Z,5µm,18.0s
WVT Waverly 33.43 98 P **P** **21 51 21.0 -1.1**
WVT IAmb IAmb 21 51 29.2
comp=Z,58nm,0.9s
WVT Waverly 33.43 98 IAMs_20 IAMs_20 22 04 33.8
comp=Z,4µm,21.0s
WVT Waverly 33.43 98 P **P** **21 51 21.0 -1.1**
WVT pmax pmax
comp=Z,58nm,1.0s
WVT MLR MLR
comp=Z,4µm,21.0s
OXF Oxford 33.45 102 IAMs_20 IAMs_20 22 05 12.5
comp=Z,7µm,22.0s
M50A Fremont 33.52 87 IAMs_20 IAMs_20 22 04 59.4
comp=Z,9µm,22.0s
441A DeRidder 33.67 111 IAMs_20 IAMs_20 22 06 14.8
comp=Z,4µm,18.0s
Y45A Yeager Farm, C 33.78 103 IAMs_20 IAMs_20 22 05 24.4
comp=Z,4µm,22.0s
BUKO Buck Lake 33.90 78 P **P** **21 51 23.7 -2.4**
VLDQ Val d'Or 33.98 73 IAmb IAmb 21 51 30.0
comp=Z,120nm,1.4s
PLAL Pickwick Lake 33.99 100 IAmb IAmb 21 51 34.6
comp=Z,83nm,0.8s
PLAL IAMs_20 IAMs_20 22 05 55.7
comp=Z,7µm,18.0s
SHEM Shemya Is, Ala 34.14 296 P **P** **21 51 26.9 -1.3**
comp=Z,61nm,1.0s,baz=30,slow=11,SNR=4.2
SHEM LR LR 22 02 45.4
comp=Z,2µm,21.0s,baz=92,slow=32
comp=Z,61nm,1.0s
N51A Ashland 34.20 87 IAmb IAmb 21 51 40.5
comp=Z,141nm,1.3s
VBMS Vicksburg 34.27 106 P **P** **21 51 27.6 -1.9**
VBMS IAMs_20 IAMs_20 22 06 07.7
comp=Z,4µm,19.0s
V48A Smith Brothers 34.31 98 IAmb IAmb 21 51 36.9
comp=Z,45nm,1.1s
U49A Red Boiling Sp 34.51 96 IAmb IAmb 21 51 38.7
comp=Z,49nm,1.2s
M52A Chesterland 34.53 85 P **P** **21 51 29.8 -1.9**
Q51A Peebles 34.61 90 IAmb IAmb 21 51 45.0
comp=Z,103nm,0.9s
Q51A IAMs_20 IAMs_20 22 05 42.5
comp=Z,7µm,20.0s
ZAIG Zacatecas 34.78 131 IAmb IAmb 21 51 43.8
comp=Z,62nm,1.1s
FRB Frobisher Bay 34.80 43 LR LR 22 04 27.5
comp=Z,1µm,21.9s,baz=276,slow=34
SSFO Shawnee State 34.89 91 IAmb IAmb 21 51 42.5
comp=Z,105nm,1.0s
O52A Adamsville 34.98 88 IAmb IAmb 21 51 47.9
comp=Z,180nm,1.6s
P52A Corning 35.05 89 IAmb IAmb 21 51 43.2
comp=Z,105nm,1.0s
ERPA Erie 35.11 83 P **P** **21 51 34.3 -2.3**
ERPA IAmb IAmb 21 51 48.4
comp=Z,114nm,1.8s
SWET Sewanee 35.21 98 IAmb IAmb 21 52 57.2
comp=Z,74nm,1.3s
S51A Beattyville 35.24 93 IAmb IAmb 21 51 45.5
comp=Z,110nm,0.8s
N53A Lisbon 35.25 86 IAmb IAmb 21 51 42.4
comp=Z,133nm,1.4s
ALLY Alegheny Colle 35.25 84 IAmb IAmb 21 51 44.7
comp=Z,40nm,0.8s
BILL Bilibino 35.27 324 P **P** **21 51 34.4 -3.4**
BILL IAmb IAmb 21 51 54.5
comp=Z,82nm,1.5s
BILL Bilibino 35.27 324 *ce* P **P** **21 51 39.2 +1.5**
BILL pmax pmax
comp=Z,40nm,1.3s
TULEG Thule 35.33 21 IAMs_20 IAMs_20 22 04 22.4
comp=Z,4µm,20.0s
Q52A Bidwell 35.34 90 IAmb IAmb 21 51 45.1
comp=Z,84nm,1.0s
DELO Deloro Mine 35.44 78 IAmb IAmb 21 51 44.3
comp=Z,90nm,1.3s
MEDO Medina 35.56 81 P **P** **21 51 37.5 -3.1**
MEDO IAmb IAmb 21 51 48.6
comp=Z,45nm,1.0s
P53A Whipple 35.61 88 IAmb IAmb 21 51 49.4
comp=Z,67nm,1.0s
Y49A Blount Mountai 35.76 100 IAmb IAmb 21 51 49.4
comp=Z,75nm,1.1s
Y49A IAMs_20 IAMs_20 22 06 05.7
comp=Z,3µm,19.0s
FPAL Fort Paine 35.84 98 IAmb IAmb 21 51 50.7
comp=Z,73nm,0.9s
WVNY West Valley, N 35.85 82 IAmb IAmb 21 51 54.7
comp=Z,79nm,1.2s
TZTN Tazewell 35.92 94 IAmb IAmb 21 51 48.8
comp=Z,149nm,1.4s
J55A Hilton 35.92 80 IAmb IAmb 21 51 51.5
comp=Z,39nm,0.9s
LRAL Lakeview Retre 35.93 102 IAmb IAmb 21 51 56.1
comp=Z,68nm,1.1s
LRAL IAMs_20 IAMs_20 22 07 01.1
comp=Z,6µm,18.0s
CPCT Cooper Cave 35.96 96 IAmb IAmb 21 53 06.1
comp=Z,95nm,1.5s
KIP Kipapa 36.05 228 P **P** **21 51 43.2 -1.7**
KIP Kipapa 36.05 228 *ce* P **P** **21 51 46.2 +1.3**
KIP pmax pmax
comp=Z,47nm,0.6s
PECO Prince Edward 36.12 79 IAmb IAmb 21 51 50.3
comp=Z,175nm,1.7s
Q54A Coxs Mills 36.25 89 IAMs_20 IAMs_20 22 03 47.8
comp=Z,3µm,18.0s
X51A Calhoun 36.30 98 IAMs_20 IAMs_20 22 07 10.8
comp=Z,6µm,18.0s
TKL Tuckaleechee C 36.31 95 IAmb IAmb 21 51 53.9
comp=Z,60nm,0.9s
TKL Tuckaleechee C 36.31 95 P **P** **21 51 48.0 +0.9**
comp=Z,23nm,1.1s,baz=263,slow=4.7,SNR=8.5
TKL LR LR 22 06 59.5
comp=Z,10µm,19.0s,baz=309,slow=37
comp=Z,23nm,1.1s
TKL Tuckaleechee C 36.31 95 P **P** **21 51 48.0 +0.9**
MCWV Mont Chateau 36.51 87 IAmb IAmb 21 52 00.5
comp=Z,124nm,1.5s
WBO Williamsburg 36.69 76 P **P** **21 51 46.9 -3.2**
J57A Williamstown 37.00 79 IAMs_20 IAMs_20 22 04 38.1
comp=Z,3µm,20.0s
K57A Scipio Center 37.01 80 IAMs_20 IAMs_20 22 05 43.5
comp=Z,5µm,20.0s
250A Grady 37.09 102 IAMs_20 IAMs_20 22 07 41.0
comp=Z,5µm,18.0s
R55A Marlinton 37.11 89 IAMs_20 IAMs_20 22 07 10.6
comp=Z,8µm,20.0s
BRAL Brewton 37.15 104 P **P** **21 51 52.7 -1.5**
BRAL IAmb IAmb 21 52 02.5
comp=Z,177nm,1.1s
SSPA Standing Stone 37.23 84 IAMs_20 IAMs_20 22 06 33.6
comp=Z,5µm,20.0s
LONY Lake Ozonia 37.30 76 IAMs_20 IAMs_20 22 07 22.9
comp=Z,7µm,20.0s
M57A Sunshine Farm, 37.35 83 IAMs_20 IAMs_20 22 07 18.5
comp=Z,8µm,21.0s
MNTQ Montreal, Queb 37.48 75 P **P** **21 51 55.3 -1.6**
MNTQ IAmb IAmb 21 52 01.4
comp=Z,157nm,1.9s
152A Waverly Hall 37.61 100 P **P** **21 51 56.8 -1.4**
152A IAmb IAmb 21 52 05.7
comp=Z,142nm,0.9s
152A IAMs_20 IAMs_20 22 08 00.7
comp=Z,6µm,20.0s
BINY Binghamton 37.62 81 IAMs_20 IAMs_20 22 06 40.7
comp=Z,8µm,22.0s
P57A Homestead Farm 37.78 86 IAmb IAmb 21 52 12.1
comp=Z,89nm,1.1s
FRNY Flat Rock 37.82 76 IAMs_20 IAMs_20 22 06 00.7
comp=Z,4µm,19.0s
V55A Taylorsville 37.84 93 IAmb IAmb 21 52 07.5
comp=Z,71nm,1.0s
N58A Sunbury 37.88 83 IAMs_20 IAMs_20 22 06 25.5
comp=Z,6µm,22.0s
U56A King 38.08 92 IAMs_20 IAMs_20 22 08 08.4
comp=Z,6µm,21.0s
KSPA Keystone Colle 38.10 81 P **P** **21 52 01.0 -1.1**
KSPA IAmb IAmb 21 52 08.4
comp=Z,136nm,1.8s
L59A Walton 38.23 80 IAmb IAmb 21 52 07.0
comp=Z,106nm,1.7s
L59A IAMs_20 IAMs_20 22 06 45.6
comp=Z,6µm,20.0s
352A Blakely 38.27 102 P **P** **21 52 02.2 -1.5**
352A IAMs_20 IAMs_20 22 07 35.9
comp=Z,3µm,20.0s
451A Vernon 38.34 103 IAmb IAmb 21 52 12.2
comp=Z,206nm,1.1s
451A IAMs_20 IAMs_20 22 08 42.2
comp=Z,4µm,19.0s
LMQ La Malbaie 38.57 70 IAMs_20 IAMs_20 22 05 27.7
comp=Z,4µm,21.0s
JSC Jenkinsville 38.78 95 IAmb IAmb 21 52 15.0
comp=Z,65nm,1.1s
ODNJ Ogdensburg 39.09 81 IAmb IAmb 21 52 14.0
comp=Z,122nm,1.5s
TIGA Tifton 39.14 100 P **P** **21 52 09.3 -1.7**
TIGA IAmb IAmb 21 52 17.8
comp=Z,88nm,0.9s
TIGA IAMs_20 IAMs_20 22 08 58.3
comp=Z,6µm,18.0s
TRNY Table Rock, Ra 39.30 81 IAmb IAmb 21 52 23.7
comp=Z,117nm,1.6s
BRNJ Basking Ridge 39.33 82 IAmb IAmb 21 52 24.1
comp=Z,184nm,1.6s
UNM Universidad Na 39.35 130 IAMs_20 IAMs_20 22 09 41.3

comp=Z,3μm,18.0s
553A Crawfordville 39.46 103 IAmb IAmb 21 52 21.5
553A comp=Z,184nm,1.1s
IAMs_20 IAMs_20 22 09 22.7
comp=Z,4μm,19.0s
H62A Milan 39.46 75 IAMs_20 IAMs_20 22 06 60.0
comp=Z,5μm,22.0s
E62A Clayton Lake 39.48 71 IAMs_20 IAMs_20 22 06 42.0
comp=Z,4μm,18.0s
ICQ Pointe Anglais 39.52 66 IAMs_20 IAMs_20 22 07 01.4
comp=Z,4μm,20.0s
T59A Double "B" Far 39.52 89 IAmb IAmb 21 52 21.5
comp=Z,84nm,0.9s
G62A West of Eustis 39.53 73 IAMs_20 IAMs_20 22 06 56.7
comp=Z,4μm,20.0s
D62A Allapoint, All 39.55 70 P **P** **21 52 12.3 -1.9**
D62A IAmb IAmb 21 52 18.9
comp=Z,171nm,1.9s
IAMs_20 IAMs_20 22 05 54.8
comp=Z,4μm,22.0s
I62A Tamworth 39.70 76 IAMs_20 IAMs_20 22 08 54.4
comp=Z,7μm,22.0s
P61A Hammonton 39.74 83 IAMs_20 IAMs_20 22 07 48.0
comp=Z,6μm,22.0s
X58A Rowland 39.85 93 P **P** **21 52 14.9 -1.9**
X58A IAmb IAmb 21 52 24.3
comp=Z,65nm,0.7s
N62A Caumsett State 39.90 81 IAMs_20 IAMs_20 22 07 51.9
comp=Z,6μm,20.0s
UMMG Uummannaq 40.04 30 *i* P **P** **21 52 19.7 +1.7**
UMMG IAmb IAmb 21 52 28.8
comp=Z,98nm,1.3s
Y58A Scranton 40.04 94 P **P** **21 52 16.5 -2.0**
Y58A IAmb IAmb 21 52 26.2
comp=Z,102nm,0.8s
I63A Otisfield 40.08 75 IAMs_20 IAMs_20 22 07 58.4
comp=Z,3μm,19.0s
R61A Willards 40.16 85 IAMs_20 IAMs_20 22 07 32.0
comp=Z,4μm,22.0s
NHSC New Hope 40.23 96 P **P** **21 52 17.1 -2.9**
NHSC IAmb IAmb 21 52 27.2
comp=Z,140nm,1.0s
PKME Peaks-Kenny Pk 40.27 73 IAMs_20 IAMs_20 22 07 31.2
comp=Z,4μm,20.0s
WVL Waterville 40.40 74 P **P** **21 52 18.8 -2.4**
WVL IAMs_20 IAMs_20 22 07 36.5
comp=Z,3μm,21.0s
F64A Sherman 40.56 71 P **P** **21 52 20.8 -1.8**
F64A IAMs_20 IAMs_20 22 09 41.6
comp=Z,6μm,18.0s
456A Hilliard 40.62 100 IAMs_20 IAMs_20 22 09 54.2
comp=Z,5μm,19.0s
ILULI Ilulissat 40.71 33 IAMs_20 IAMs_20 22 09 30.0
comp=Z,2μm,19.0s
656A Willston 41.22 102 P **P** **21 52 26.9 -1.3**
656A IAMs_20 IAMs_20 22 10 25.2
comp=Z,4μm,19.0s
BATG Bathurst New B 41.26 68 P **P** **21 52 25.3 -3.1**
M65A Busby, Falmout 41.34 78 P **P** **21 52 31.9 +2.8**
baz=303
G65A Princeton 41.37 72 IAMs_20 IAMs_20 22 10 43.0
comp=Z,4μm,18.0s
SFJD Kangerlussuaq 41.48 36 P **P** **21 52 28.1 -1.8**
SFJD Kangerlussuaq 41.48 36 IAMs_20 IAMs_20 22 09 44.5
comp=Z,4μm,18.0s
SFJD Kangerlussuaq 41.48 36 LR LR 22 10 05.1
comp=Z,3μm,19.2s,baz=290,slow=37
SFJD Kangerlussuaq 41.48 36 P **P** **21 52 28.1 -1.8**
SFJD pmax pmax
comp=Z,49nm,1.1s
SFJD MLR MLR
comp=Z,4μm,18.0s
SFJD Kangerlussuaq 41.48 36 *i* P **P** **21 52 30.7 +0.8**
SFJD IAmb IAmb 21 52 38.4
comp=Z,46nm,1.1s
MIDW Midway 41.76 257 IAMs_20 IAMs_20 22 04 01.2
comp=Z,3μm,19.0s
GGN Saint George 41.85 71 IAMs_20 IAMs_20 22 10 16.7
comp=Z,7μm,22.0s
NUUK Nuuk 41.92 40 *i* P P 21 52 40.0 +6.5
NUUK IAmb IAmb 21 52 42.3
comp=Z,86nm,1.2s
SEY Seymchan 41.92 318 P **P** **21 52 34.5 +0.9**
comp=Z,12nm,0.8s,baz=87,slow=8.0,SNR=20
SEY LR LR 22 10 45.9
comp=Z,2μm,18.4s,baz=76,slow=37
comp=Z,12nm,0.8s
SEY Seymchan 41.92 318 *ce*P **P** **21 52 34.9 +1.3**
SEY pmax pmax
comp=Z,40nm,1.3s
PET Petropavlovsk 42.70 303 P **P** **21 52 37.0 -3.1**
PET IAmb IAmb 21 52 42.0
comp=Z,71nm,1.0s
PET Petropavlovsk 42.70 303 *e*P **P** **21 52 40.4 +0.4**
PET *e* 21 54 23.4
PET *e*S **S** **21 58 55.0 -7.6**
PET pmax pmax
comp=Z,82nm,1.1s
PET pmax pmax
comp=Z,200nm,9.5s
PET MLR MLR
comp=Z,400nm,14.0s
PET MLR MLR
comp=Z,500nm,12.0s
LMN Caledonia Moun 42.71 69 P **P** **21 52 37.2 -3.1**
LMN IAmb IAmb 21 52 47.3
comp=Z,185nm,2.0s
DWPF Disney Wildern 42.78 102 IAMs_20 IAMs_20 22 10 35.8
comp=Z,2μm,18.0s
PEA0B Petropavlovsk- 43.18 303 IAmb IAmb 21 52 51.1
comp=Z,278nm,1.8s
PEA0B Petropavlovsk- 43.18 303 *ce*P **P** **21 52 44.7 +0.8**
PETK Petropavlovsk- 43.18 303 P **P** **21 52 40.6 -3.4**
PETK Petropavlovsk- 43.18 303 P **P** **21 52 44.3 +0.3**
comp=Z,26nm,0.8s,baz=81,slow=9.3,SNR=27
PETK LR LR 22 08 40.5
comp=Z,1μm,20.2s,baz=67,slow=33
comp=Z,26nm,0.8s
SUMG Summit 43.66 26 P **P** **21 52 45.6 -2.5**
SUMG IAmb IAmb 21 52 53.2
comp=Z,64nm,1.3s
SUMG IAMs_20 IAMs_20 22 11 01.6
comp=Z,2μm,19.0s
SUMG Summit 43.66 26 P **P** **21 52 45.6 -2.5**
SUMG pmax pmax
comp=Z,64nm,1.3s
SUMG MLR MLR
comp=Z,2μm,19.0s
SUMG Summit 43.66 26 *i* P **P** **21 52 49.5 +1.4**
SUMG IAmb IAmb 21 52 52.9
comp=Z,51nm,1.2s
MA2 Magadan 43.91 314 P **P** **21 52 50.5 +0.7**
comp=Z,28nm,1.1s,baz=9.2,slow=9.6,SNR=3.6
comp=Z,28nm,1.1s
MA2 Magadan 43.91 314 *i* P **P** **21 52 50.7 +1.0**
MA2 pmax pmax
comp=Z,74nm,1.6s
HAL Halifax 44.08 70 IAMs_20 IAMs_20 22 09 58.5
comp=Z,3μm,19.0s
060A Indiantown 44.21 102 IAMs_20 IAMs_20 22 11 20.6
comp=Z,2μm,19.0s
TEIG Tepich 44.49 117 P **P** **21 52 54.1 -0.8**
TEIG IAmb IAmb 21 53 02.6
comp=Z,140nm,1.1s
061Z Ochoppi 44.70 104 IAMs_20 IAMs_20 22 12 56.7
comp=Z,3μm,18.0s
NRS Narsarsuaq 45.78 42 IAMs_20 IAMs_20 22 09 33.6
comp=Z,3μm,18.0s
PETF Flores 46.24 121 P **P** **21 53 06.7 -2.0**
PETF IAmb IAmb 21 53 16.6
comp=Z,64nm,1.2s
ISOG Isortoq, Green 46.39 35 *i* P **P** **21 53 11.1 +1.8**
ISOG IAmb IAmb 21 53 16.8
comp=Z,50nm,1.1s
TIXI Tiksi 46.65 335 P **P** **21 53 09.0 -2.3**
TIXI Tiksi 46.65 335 IAMs_20 IAMs_20 22 13 30.2
comp=Z,2μm,21.0s
TIXI Tiksi 46.65 335 P **P** **21 53 12.6 +1.3**
comp=Z,4.2nm,0.3s,baz=80,slow=11,SNR=17
TIXI LR LR 22 13 40.9
comp=Z,2μm,21.1s,baz=75,slow=37
comp=Z,4.2nm,0.3s
TIXI Tiksi 46.65 335 *ce*P **P** **21 53 12.6 +1.3**
TIXI pmax pmax
comp=Z,24nm,1.3s
ANGG Ammassalik, Gr 46.85 35 IAMs_20 IAMs_20 22 12 01.4
comp=Z,3μm,22.0s

ANGG Ammassalik, Gr 46.85 35 *i* P **P** **21 53 14.8 +1.9**
ANGG IAmb IAmb 21 53 20.2
comp=Z,49nm,1.1s
SCO Scoresbysund 49.26 25 P **P** **21 53 29.2 -2.3**
SCO IAmb IAmb 21 53 43.4
comp=Z,67nm,1.9s
SCO IAMs_20 IAMs_20 22 14 44.7
comp=Z,2μm,20.0s
SCO Scoresbysund 49.26 25 P **P** **21 53 29.2 -2.3**
SCO pmax pmax
comp=Z,67nm,1.9s
SCO MLR MLR
comp=Z,2μm,20.0s
SCO Scoresbysund 49.26 25 *i* P **P** **21 53 31.0 -0.5**
SCO IAmb IAmb 21 53 43.1
comp=Z,69nm,1.9s
KBS Kingsbay 49.31 9 IAMs_20 IAMs_20 22 14 59.6
comp=Z,3μm,18.0s
KBS Kingsbay 49.31 9 *ce*P **P** **21 53 35.2 +3.4**
KBS pmax pmax
comp=Z,59nm,1.7s
KBS Kingsbay 49.31 9 *i* P **P** **21 53 34.3 +2.5**
SPITS Spitsbergen Ar 50.40 8 P **P** **21 53 41.2 +1.1**
comp=Z,35nm,1.0s,baz=10,slow=9.6,SNR=7.5
SPITS LR LR 22 16 04.4
comp=Z,2μm,19.2s,baz=298,slow=37
comp=Z,35nm,1.0s
BBSR BB Station 50.66 84 IAMs_20 IAMs_20 22 15 05.1
comp=Z,4μm,20.0s
YAK Yakutsk 51.62 324 P **P** **21 53 47.3 -2.2**
YAK IAmb IAmb 21 53 56.6
comp=Z,59nm,0.7s
YAK Yakutsk 51.62 324 IAMs_20 IAMs_20 22 17 13.1
comp=Z,2μm,19.0s
YAK Yakutsk 51.62 324 LR LR 22 16 33.7
comp=Z,1μm,19.5s,baz=60,slow=37
YAK Yakutsk 51.62 324 *eP* **P** **21 53 50.0 +0.5**
YAK *e**PP **pP** **21 53 52.9 -0.6**
YAK *e*S **S** **22 01 15.4 +5.9**
YAK *e**SS **sS** **22 01 21.9 +5.8**
YAK *e*SS **SS** **22 04 49.6 +4.6**
YAK *e*SSS SSS 22 06 19.4
YAK pmax pmax
comp=Z,37nm,1.0s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=Z,86nm,2.6s
YAK pmax pmax
comp=E,47nm,2.1s
YAK pmax pmax
comp=N,41nm,2.2s
YAK smax smax
comp=E,84nm,3.1s
YAK smax smax
comp=N,141nm,4.3s
YAK MLR MLR
comp=Z,1μm,11.0s
YAK MLR MLR
comp=N,750nm,12.0s
YAK MLR MLR
comp=E,2μm,20.0s
MGAN Managua 52.13 121 P **P** **21 53 52.7 -1.1**
NMDO Nuevo Mundo 52.28 103 IAmb IAmb 21 54 03.3
comp=Z,89nm,1.0s
JMIC Jan Mayen 52.29 21 LR LR 22 14 36.0
comp=Z,1μm,18.2s,baz=329,slow=34
TYV Tymovskoe 52.29 307 *eP* **P** **21 53 54.8 +0.2**
TYV *eS* **S** **22 01 17.7 -1.3**
TYV pmax pmax
comp=Z,17nm,1.0s
TYV pmax pmax
comp=Z,200nm,4.2s
TYV smax smax
comp=N,400nm,8.9s
TYV smax smax
comp=E,600nm,8.9s
GTBY Guantanamo Bay 52.67 104 IAMs_20 IAMs_20 22 16 47.8
comp=Z,2μm,22.0s
ACON Acoyapa 52.88 120 P **P** **21 53 56.0 -3.4**
ACON IAmb IAmb 21 54 06.8
comp=Z,87nm,1.3s
BORG Borgarnes 53.02 31 P **P** **21 53 57.5 -2.3**
BORG IAmb IAmb 21 54 09.0
comp=Z,121nm,1.2s
BORG Borgarnes 53.02 31 LR LR 22 14 42.7
comp=Z,1μm,21.2s,baz=309,slow=34
BORG Borgarnes 53.02 31 P **P** **21 53 57.5 -2.3**
BORG pmax pmax
comp=Z,121nm,1.3s
GRTK Grand Turk 54.01 99 IAMs_20 IAMs_20 22 17 05.0
comp=Z,3μm,19.0s
YSS Yuzhno-Sakhali 54.58 303 P **P** **21 54 09.6 -1.9**
YSS IAmb IAmb 21 54 14.8
comp=Z,46nm,1.1s
YSS Yuzhno-Sakhali 54.58 303 *α i*P **P** **21 54 11.6 +0.1**
YSS *e* 21 56 20.3
YSS *e*S **S** **22 01 46.6 -3.6**
YSS *e* 22 03 59.0
YSS pmax pmax
comp=Z,200nm,4.4s
YSS pmax pmax
comp=Z,40nm,1.1s
YSS smax smax
comp=E,600nm,9.7s
YSS MLR MLR
comp=Z,800nm,15.0s
YSS MLR MLR
comp=N,600nm,16.0s
YSS MLR MLR
comp=E,600nm,15.0s
GRNR Gornyy 55.50 310 ⇑ *i*P **P** **21 54 18.0 -0.1**
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=E,770nm,18.0s
GRNR MLR MLR
comp=N,500nm,18.0s
GRNR MLR MLR
comp=Z,700nm,17.0s
SDDR Presa de Saban 55.77 102 P **P** **21 54 16.9 -3.6**
SDDR IAmb IAmb 21 54 27.7
comp=Z,91nm,1.3s
SDDR IAMs_20 IAMs_20 22 18 22.8
comp=Z,2μm,21.0s
JKA Kamikawa-asahi 56.44 300 IAmb IAmb 21 54 30.6
comp=Z,67nm,1.4s
ASAJ Asahikawa 56.44 300 LR LR 22 14 45.3
comp=Z,863nm,22.0s,baz=61,slow=32
NRIK Noril'sk 57.72 345 P **P** **21 54 30.0 -3.6**
NRIK IAmb IAmb 21 54 55.6
comp=Z,44nm,1.4s
NRIK Noril'sk 57.72 345 P **P** **21 54 33.9 +0.3**
comp=Z,5.5nm,0.7s,baz=58,slow=6.2,SNR=10
NRIK LR LR 22 19 06.9
comp=Z,485nm,21.4s,baz=44,slow=36
comp=Z,5.5nm,0.7s
H11N2 WAKE ISLAND Hy 57.81 262 T T 22 56 54.9
baz=42,slow=75,SNR=1549
H11N3 WAKE ISLAND Hy 57.81 262 T T 22 56 56.7
baz=42,slow=75,SNR=2970
H11N1 WAKE ISLAND Hy 57.83 262 T T 22 56 58.0
baz=42,slow=75,SNR=1244
ZEA Zeya 57.88 317 *eP* **P** **21 54 35.0 +0.1**
ZEA *eS* **S** **22 02 34.7 +0.9**
ZEA pmax pmax
comp=Z,100nm,3.6s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA smax smax
comp=N,200nm,15.2s
ZEA smax smax
comp=E,300nm,17.4s
ZEA MLR MLR
comp=Z,700nm,14.0s
KLR Kul'dur 58.80 311 LR LR 22 19 00.5
comp=Z,2μm,20.8s,baz=50,slow=35
KLR Kul'dur 58.80 311 *i* P **P** **21 54 40.7 -0.7**
KLR pmax pmax
comp=Z,3.0nm,1.1s
H11S1 WAKE ISLAND Hy 58.83 262 T T 22 58 35.9
baz=47,slow=74,SNR=88
H11S2 WAKE ISLAND Hy 58.84 262 T T 22 58 20.6
baz=47,slow=74,SNR=73
H11S3 WAKE ISLAND Hy 58.85 262 T T 22 58 31.9
baz=47,slow=74,SNR=61
TAOE Nuku Hiva Isla 59.32 191 *e*S **S** **22 02 49.2 -4.2**
comp=Z,409nm,31.0s
TAOE *e*SS **SS** **22 06 52.8 +4.2**
comp=Z,229nm,29.2s
TAOE *e*LR LR 22 12 14.3
comp=Z,3μm,26.2s
ARCES ARCESS Array B 59.38 10 P **P** **21 54 45.9 +0.7**
comp=Z,7.0nm,0.9s,baz=338,slow=9.5,SNR=5.3
ARCES LR LR 22 21 47.1
comp=Z,1μm,18.9s,baz=333,slow=38
comp=Z,7.0nm,0.9s
CELP Cerrillos 59.43 98 P **P** **21 54 44.8 -1.4**
GCPR Guaynabo City 59.58 98 P **P** **21 54 45.6 -1.6**
GCPR IAmb IAmb 21 54 53.9
comp=Z,62nm,1.1s
SJG San Juan 59.68 98 IAMs_20 IAMs_20 22 21 14.1
comp=Z,2μm,22.0s
SJG San Juan 59.68 98 LR LR 22 23 11.0
comp=Z,1μm,18.1s,baz=317,slow=39
IGPR InterUniversit 59.81 98 P **P** **21 54 45.5 -3.3**
HEH HeiHe 60.18 314 *eP* **P** **21 54 50.0 -0.9**
HEH pP **sP** **21 54 54.8 -1.7**
HEH S **S** **22 03 04.0 +0.4**
HEH pmax pmax
comp=Z,32nm,0.9s
HEH LR LR
comp=Z,660nm,18.1s
HEH LR LR
comp=Z,1μm,16.3s
HEH LR LR
comp=Z,2μm,16.9s
BOD Bodaibo 60.28 326 *eP* **P** **21 54 50.7 -0.8**
BOD pmax pmax
comp=Z,51nm,1.6s
SMRT St. Maarten 61.69 96 IAMs_20 IAMs_20 22 21 10.2
comp=Z,3μm,21.0s
SABA Saba 61.90 96 IAMs_20 IAMs_20 22 21 06.7
comp=Z,3μm,21.0s
APA Apatity 62.03 7 ⇓ *i*P **P** **21 55 00.3 -2.9**
APA pmax pmax
comp=Z,8.0nm,1.2s
APA MLR MLR
comp=Z,2μm,22.0s
USA0B Ussuriysk Arra 62.10 306 P **P** **21 55 00.4 -3.6**
USA0B IAmb IAmb 21 55 07.5
comp=Z,89nm,1.8s
USA0B Ussuriysk Arra 62.10 306 *i* P **P** **21 55 04.2 +0.2**
USRK Ussuriysk Ar. 62.10 306 P **P** **21 54 59.8 -4.2**
USRK Ussuriysk Ar. 62.10 306 P **P** **21 55 03.2 -0.8**
comp=Z,8.0nm,0.9s,baz=37,slow=5.0,SNR=16
USRK LR LR 22 21 42.3
comp=Z,878nm,20.0s,baz=48,slow=36
comp=Z,8.0nm,0.9s
SEUS St. Eustatius 62.16 96 IAMs_20 IAMs_20 22 21 13.6
comp=Z,3μm,20.0s
JSD Sado 62.92 298 P **P** **21 55 07.0 -2.6**
JSD IAmb IAmb 21 55 14.6
comp=Z,30nm,1.5s
MDJ Mudanjiang 63.04 308 IAMs_20 IAMs_20 22 19 56.7
comp=Z,1μm,20.0s
BNX BinXian 63.34 310 ⇑ P **P** **21 55 10.8 -1.5**
BNX S **S** **22 03 44.3 +0.5**
BNX pmax pmax
comp=Z,10.0nm,1.6s
BNX pmax pmax
comp=Z,210nm,3.8s
BNX LR LR
comp=Z,690nm,22.8s
BNX LR LR
comp=Z,980nm,23.6s
GDHS Morne Mazeau, 63.84 96 IAMs_20 IAMs_20 22 22 15.8
comp=Z,3μm,21.0s
ABD La Joyeuse, An 63.87 95 IAMs_20 IAMs_20 22 22 14.9
comp=Z,3μm,21.0s
SDV Santo Domingo 63.88 108 LR LR 22 27 16.9
comp=Z,596nm,18.4s,baz=336,slow=40
SDV Santo Domingo 63.88 108 *eP* **P** **21 55 18.1 +1.7**
MAJO Matsushiro 63.99 296 P **P** **21 55 14.3 -2.4**
MAJO IAmb IAmb 21 55 19.5
comp=Z,79nm,1.9s
MAJO Matsushiro 63.99 296 *i* P **P** **21 55 16.0 -0.7**
MAJO pmax pmax
comp=Z,38nm,1.7s
MJAR Matsushiro Arr 63.99 296 P **P** **21 55 15.7 -1.1**
comp=Z,4.2nm,0.9s,baz=28,slow=7.0,SNR=14
MJAR LR LR 22 18 55.9
comp=Z,676nm,21.9s,baz=41,slow=32
comp=Z,4.2nm,0.9s
MJB9 Matsu-Tunnel 63.99 296 P **P** **21 55 14.6 -2.2**
MJB9 IAmb IAmb 21 55 20.5
comp=Z,77nm,1.9s
GDSD La Dsirade Is 64.26 95 P **P** **21 55 16.5 -2.2**
GDSD IAMs_20 IAMs_20 22 22 35.2
comp=Z,3μm,21.0s
HIA Hailar 64.36 317 IAMs_20 IAMs_20 22 23 35.4
comp=Z,2μm,19.0s
NC204 NORSAR Array S 64.66 20 P **P** **21 55 18.7 -2.1**
NC204 IAmb IAmb 21 55 32.4
comp=Z,97nm,1.9s
NC303 NORSAR Array S 64.84 19 P **P** **21 55 19.2 -2.7**
ROSC El Rosal 64.87 114 P **P** **21 55 25.0 +1.8**
comp=Z,6.8nm,0.4s,baz=32,slow=8.7,SNR=16
ROSC LR LR 22 28 44.0
comp=Z,573nm,18.2s,baz=342,slow=41
comp=Z,6.8nm,0.4s
NBO00 NORSAR Array S 64.89 20 P **P** **21 55 20.8 -1.5**
NBO00 IAmb IAmb 21 55 24.1
comp=Z,29nm,1.2s
NB2 NORSAR Subarra 64.97 20 P **P** **21 55 23.7 +0.9**
comp=Z,75nm,1.7s,baz=335,slow=6.5
NB2 NORSAR Subarra 64.97 20 P **P** **21 55 23.7 +0.9**
baz=335,slow=6.5
NOA NORSAR Array B 64.97 20 P **P** **21 55 23.9 +1.1**
comp=Z,6.0nm,0.9s,baz=337,slow=6.3,SNR=16
NOA LR LR 22 23 30.2
comp=Z,1μm,20.6s,baz=330,slow=36
comp=Z,6.0nm,0.9s
NAO01 NORSAR Array S 65.08 20 P **P** **21 55 21.2 -2.2**
NAO01 IAmb IAmb 21 55 31.1
comp=Z,32nm,1.1s
BAUV El Baul 65.43 106 P **P** **21 55 23.2 -3.1**
JHJ Hachijo jima 2 65.46 293 LR LR 22 17 52.5
comp=Z,283nm,21.2s,baz=68,slow=30
CN2 Changchun 65.70 310 P **P** **21 55 26.8 -1.0**
CN2 pP pP 21 55 31.4 -0.5
CN2 S **S** **22 04 09.5 -3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,1μm,24.0s
CN2 LR LR
comp=Z,2μm,24.0s
CN2 LR LR
comp=Z,1μm,21.0s
KONO Kongsberg 65.86 21 IAMs_20 IAMs_20 22 28 27.1
comp=Z,989nm,18.0s
KONO Kongsberg 65.86 21 *ce*P **P** **21 55 29.1 +0.6**
KONO pmax pmax
comp=Z,35nm,1.4s
ESK Eskdalemuir 66.04 30 IAMs_20 IAMs_20 22 21 49.6
comp=Z,2μm,20.0s
EKA Eskdalemuir Ar 66.05 30 P **P** **21 55 30.5 +0.7**
comp=Z,3.3nm,0.8s,baz=301,slow=5.7,SNR=7.5
comp=Z,3.3nm,0.8s
OTAV Otavalo 66.27 121 P **P** **21 55 29.3 -3.0**
OTAV Otavalo 66.27 121 P **P** **21 55 29.3 -3.0**
OTAV pmax pmax
comp=Z,122nm,1.6s
OTAV MLR MLR
comp=Z,400nm,22.0s
OTAV Otavalo 66.27 121 *eP* **P** **21 55 35.0 +2.7**
HFS Hagfors 66.32 19 P **P** **21 55 32.8 +1.3**
comp=Z,7.5nm,0.8s,baz=0.0,slow=5.9,SNR=14
HFS LR LR 22 24 51.7
comp=Z,2μm,19.8s,baz=336,slow=36
comp=Z,7.5nm,0.8s
KEF Keuruu 66.35 12 *eP* **P** **21 55 32.5 +0.9**
JOF Joensuu 66.40 9 *eP* **P** **21 55 33.3 +1.4**
DSB Dublin 66.68 33 P **P** **21 55 31.4 -2.4**
RAF Rauma 66.98 14 *eP* **P** **21 55 37.0 +1.4**
GRGR Grenville 67.01 99 IAMs_20 IAMs_20 22 24 42.3
comp=Z,2μm,22.0s
FINES FINESS Array B 67.21 12 P **P** **21 55 35.1 -2.0**
FINES FINESS Array B 67.21 12 P **P** **21 55 38.2 +1.1**

comp=Z,13nm,0.8s,baz=1.4,slow=7.6,SNR=34
FINES LR LR 22 26 09.3
comp=Z,1μm,18.6s,baz=342,slow=37
comp=Z,13nm,0.8s
COHC Cochancay 68.08 123 P **P 21 55 41.1 -2.1**
IRK Irkutsk 68.12 327 *e*P **P 21 55 41.6 -1.5**
IRK pmax pmax
comp=Z,69nm,2.3s
MEF Metsahovi 68.15 13 *e*P **P 21 55 44.6 +1.6**
JCJ Chichijima 68.29 287 LR LR 22 18 38.2
comp=Z,897nm,21.9s,baz=69,slow=30
KSRS Korea Array 69.07 304 P **P 21 55 49.6 +0.4**
comp=Z,2.2nm,0.7s,baz=48,slow=6.1,SNR=9.7
comp=Z,2.2nm,0.7s
KSAR Wonju Array Be 69.10 304 P **P 21 55 47.1 -2.3**
KSAR Wonju Array Be 69.10 304 P **P 21 55 47.1 -2.3**
KLMR Klimovskoe 69.11 5 *e*P **P 21 55 48.7 -0.3**
KLMR *e* 21 56 13.1
KLMR S **S 22 04 50.1 -3.4**
KLMR 22 05 42.8
KLMR pmax pmax
comp=Z,113nm,1.5s
KLMR MLR MLR
comp=Z,1μm,17.0s
ARBE Arbavere 69.13 13 *e*P **P 21 55 49.3 +0.1**
MTSE Matsula 69.50 14 *e*P **P 21 55 53.3 +1.8**
PPT2 Papeete2 69.52 200 *e*S **S 22 04 57.2 -2.0**
comp=Z,233nm,27.8s
PPT2 *e*SS **SS 22 09 20.0 -7.4**
comp=Z,388nm,31.0s
PPT2 *e*LQ LQ 22 13 25.1
comp=Z,2μm,28.0s
PPT2 *e*LR LR 22 16 56.8
comp=Z,1μm,28.2s
PPT2 *e*LR LR 22 16 58.1
comp=Z,2μm,25.5s
MOY Mondy 69.72 329 *e*P **P 21 55 53.8 +0.7**
MOY pmax pmax
comp=Z,51nm,2.0s
ZAK Zakamensk 70.02 327 *e*P **P 21 55 54.9 -0.1**
ZAK pmax pmax
comp=Z,9.0nm,1.8s
XLT XiLinHaoTe 70.08 315 *e*P **P 21 55 54.5 -0.9**
XLT sP pwP 21 56 04.4 +1.8
XLT PcP **PcP 21 56 20.3 +2.8**
XLT S **S 22 05 01.3 -4.3**
XLT pmax pmax
comp=Z,7.0nm,1.0s
XLT pmax pmax
comp=Z,170nm,4.0s
XLT LR LR
comp=Z,1μm,15.7s
XLT LR LR
comp=Z,1μm,16.9s
VSU Vasula 70.18 13*ce*P **P 21 55 54.9 -0.7**
VSU pmax pmax
comp=Z,24nm,1.0s
VSU Vasula 70.18 13 *e*P **P 21 55 56.4 +0.8**
SLIT Slitere, Latvi 70.29 15 *e*P **P 21 55 57.7 +1.4**
JNU Nakatsue 70.63 299 LR LR 22 23 10.9
comp=Z,889nm,21.9s,baz=61,slow=33
ULN Ulaanbaatar 70.71 323 P **P 21 55 56.5 -2.8**
ULN Ulaanbaatar 70.71 323 IAMs_20 IAMs_20 22 27 05.8
comp=Z,2μm,20.0s
ULN Ulaanbaatar 70.71 323*ce*P **P 21 55 59.0 -0.3**
ULN pmax pmax
comp=Z,11nm,1.3s
SONM Songino Array 70.98 324 P **P 21 55 58.3 -2.6**
SONM IAmb IAmb 21 56 29.5
comp=Z,45nm,1.7s
SONM Songino Array 70.98 324 P **P 21 56 00.8 -0.2**
comp=Z,3.3nm,0.9s,baz=62,slow=3.7,SNR=19
SONM LR LR 22 28 21.1
comp=Z,1μm,18.2s,baz=33,slow=37
comp=Z,3.3nm,0.9s
BSEG Bad Segeberg 71.17 23 *e*P 21 56 03.4
comp=Z,39nm,1.0s,baz=334,slow=5.8
RGN Rugen 71.35 21 IAMs_20 IAMs_20 22 30 50.3
comp=Z,1μm,18.0s
KIRV Kirov 71.70 0*ce*P **P 21 56 06.3 +1.4**
IBBN Ibbenburen 71.94 26 *e*P 21 56 08.5
comp=Z,177nm,1.5s,baz=334,slow=5.8
VSVD Vaisvydziai 72.14 15 *e*P **P 21 56 09.3 +1.8**
ZAA0 Zalesovo Array 72.26 339 IAmb IAmb 21 56 12.9
comp=Z,40nm,1.3s
ZALV Zalesovo Beam 72.26 339 P **P 21 56 06.3 -2.0**
ZALV Zalesovo Beam 72.26 339 P **P 21 56 07.9 -0.4**
comp=Z,10nm,0.9s,baz=12,slow=6.1,SNR=18
ZALV LR LR 22 29 46.5
comp=Z,886nm,20.0s,baz=17,slow=38
comp=Z,10nm,0.9s
ZALV Zalesovo Beam 72.26 339 *i* P **P 21 56 08.6 +0.3**
ZALV pmax pmax
comp=Z,10.0nm,0.9s
UCC Uccle 72.28 28 IAMs_20 IAMs_20 22 29 29.5
comp=Z,2μm,18.0s
NRDL Niedersach Rie 72.41 24 *e*P 21 56 10.7
comp=Z,34nm,0.9s,baz=334,slow=5.8
ATAH Atahualpa 72.46 125 LR LR 22 28 40.9
comp=Z,616nm,19.4s,baz=344,slow=36
BUG Bochum--Univer 72.58 26 *e*P 21 56 12.2
comp=Z,59nm,1.3s,baz=334,slow=5.8
PABE Paberze 72.60 15 IAMs_20 IAMs_20 22 29 42.1
comp=Z,1μm,18.0s
PABE Paberze 72.60 15 *e*P **P 21 56 12.4 +2.1**
BSTI Sart Tilman 72.84 28 *d*P **P 21 56 13.8 +2.0**
comp=Z,7.6nm,1.0s
BMRD Maredsous 72.84 28 *d*P **P 21 56 13.8 +1.9**
comp=Z,32nm,1.1s
FLTG Flechtingen 72.86 24 *e*P 21 56 13.1
comp=Z,34nm,1.0s,baz=334,slow=5.8
BGES Gesves 72.87 28 *d*P **P 21 56 13.8 +1.7**
comp=Z,31nm,1.1s
ISAL Salakas 72.88 14 *e*P **P 21 56 13.1 +1.1**
ASSE Asse, Remlinge 72.89 24 *e*P 21 56 13.4
comp=Z,39nm,1.1s,baz=334,slow=5.8
BCLA Clavier 72.90 28 *d*P **P 21 56 13.1 +0.8**
comp=Z,29nm,1.1s
MEM Membach 72.95 27 *d*P **P 21 56 14.5 +2.0**
comp=Z,30nm,1.2s
DOU Dourbes 72.97 29 *d*P **P 21 56 12.9 +0.3**
comp=Z,21nm,1.2s
RKT Rikitea 72.99 185 *e*PP **PP 21 58 54.8 -1.0**
RKT *e*S **SKiKP 22 05 42.7 -2.3**
comp=Z,990nm,27.8s
RKT *e*SS **SS 22 10 17.9 -2.6**
comp=Z,1μm,33.2s
RKT *e*LQ LQ 22 15 26.6
comp=Z,3μm,27.2s
RKT *e*LR LR 22 18 32.6
comp=Z,14μm,28.2s
BTNL Ternell 73.00 27 *d*P **P 21 56 14.2 +1.4**
comp=Z,22nm,1.3s
BJI Beijing 73.06 313 P **P 21 56 13.9 +0.6**
BJI ScS SKiKP 22 06 23.3 +38
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI pmax pmax
comp=Z,56nm,3.9s
BJI LR LR
comp=Z,450nm,19.9s
BJI LR LR
comp=Z,350nm,18.5s
CLZ Clausthal 73.07 24 *e*P 21 56 15.5
comp=Z,45nm,1.0s,baz=334,slow=5.8
BJT Baijiatuan 73.08 313 IAMs_20 IAMs_20 22 29 32.8
comp=Z,791nm,18.0s
SVE Sverdlovsk 73.09 354 *e*P **P 21 56 14.2 +1.0**
SVE pmax pmax
comp=Z,52nm,1.8s
KASTN Kahler Asten 73.12 26 *e*P 21 56 15.6
comp=Z,27nm,1.3s,baz=334,slow=5.8
BHOU Houvegnez 73.17 28 *d*P **P 21 56 13.8 -0.1**
comp=Z,9.0nm,1.0s
GTTG Gottingen 73.23 25 *e*P 21 56 16.8
comp=Z,60nm,1.3s,baz=334,slow=5.8
ARTI Arti 73.67 355 P **P 21 56 14.1 -2.6**
ARTI IAmb IAmb 21 56 31.6
comp=Z,132nm,1.9s
ARTI IAMs_20 IAMs_20 22 32 13.4
comp=Z,954nm,20.0s
ARTI Arti 73.67 355*d* iP **P 21 56 16.2 -0.4**
ARTI S **SKiKP 22 05 46.1 +0.7**
ARTI SS **SS 22 10 26.3 -1.9**
ARTI pmax pmax
comp=Z,16nm,1.0s

WLF Walferdange 73.83 28 IAMs_20 IAMs_20 22 27 44.3
comp=Z,2μm,20.0s
WLF Walferdange 73.83 28 *d*P **P 21 56 20.1 +2.4**
comp=Z,12nm,0.0s
WLF Walferdange 73.83 28 *e*P 21 56 20.0
comp=Z,68nm,1.7s,baz=334,slow=5.8
SUW Suwalki 73.89 16 *e*P **P 21 56 19.5 +1.6**
SUW Suwalki 73.89 16 IAMs_20 IAMs_20 22 31 31.2
comp=Z,1μm,19.0s
SUW Suwalki 73.89 16 *e*P **P 21 56 19.5 +1.6**
UBBA Unterbreizbach 73.90 25 *e*P 21 56 19.7
comp=Z,76nm,1.8s,baz=334,slow=5.8
TNS Taunus Mts 74.00 26 *e*P 21 56 20.9
comp=Z,28nm,1.0s,baz=334,slow=5.8
CLF Chambon-Foret 74.03 31 IAMs_20 IAMs_20 22 28 21.0
comp=Z,2μm,21.0s
MOS Moscow 74.07 7 *e*P **P 21 56 18.8 -0.2**
MOS *e*S **S 22 05 49.0 -1.7**
MOS pmax pmax
comp=Z,61nm,1.4s
MOS MLR MLR
comp=Z,1μm,18.0s
MOS MLR MLR
comp=N,900nm,17.0s
MNK Minsk 74.18 13 *i* P **P 21 56 21.6 +2.0**
MNK *i* PPP PPP 22 00 51.4
MNK *i* S **S 22 05 53.4 +1.3**
MNK *i* SS **SS 22 10 40.0 +4.0**
MNK pmax pmax
comp=Z,28nm,0.8s
MNK pmax pmax
comp=N,12nm,1.1s
MNK pmax pmax
comp=E,21nm,1.0s
MNK MLR MLR
comp=N,826nm,18.0s
MNK MLR MLR
comp=Z,1μm,19.0s
MNK MLR MLR
comp=E,785nm,15.0s
CLL Collm 74.24 23 IAMs_20 IAMs_20 22 28 38.9
comp=Z,1μm,20.0s
CLL Collm 74.24 23 *i* P **P 21 56 21.5 +1.4**
CLL *i* 21 56 26.6
CLL *e*S **S 22 05 55.0 +2.1**
CLL pmax pmax
comp=Z,28nm,1.3s
CLL Collm 74.24 23 *e*SSS SSS 22 14 06.0
CLL Collm 74.24 23 *i* P **P 21 56 21.5 +1.4**
comp=Z,8.0nm,0.9s
CLL Collm 74.24 23 *i* Pmax 21 56 26.6
comp=Z,28nm,1.3s
CLL Collm 74.24 23 *i* PcP **PcP 21 56 31.4 -3.5**
CLL Collm 74.24 23 *e*PP PP 21 59 00.0 -5.1
CLL Collm 74.24 23 *e*S **S 22 05 55.0 +2.1**
CLL Collm 74.24 23 *e*SS SS 22 10 40.0 +2.9
CLL Collm 74.24 23 *e*P 21 56 21.6
comp=Z,16nm,1.0s,baz=334,slow=5.8
MOX Moxa 74.49 24 *e*P 21 56 23.0
comp=Z,24nm,0.9s,baz=334,slow=5.8
HHC Hu-ho-hao-te 74.53 316 *e*P **P 21 56 22.4 +0.3**
OBN Obninsk 74.60 8 P **P 21 56 20.2 -1.8**
OBN IAMs_20 IAMs_20 22 31 39.8
comp=Z,1μm,20.0s
OBN Obninsk 74.60 8 LR LR 22 32 09.7
comp=Z,883nm,18.5s,baz=302,slow=38
OBN Obninsk 74.60 8 ||P **P 21 56 23.6 +1.6**
OBN Obninsk 74.60 8*d* iP **P 21 56 23.0 +1.0**
OBN *e**PP **pP 21 56 26.0 -0.3**
OBN *i* *SP **pwP 21 56 28.5 -0.4**
OBN *i* 21 56 32.3
OBN *e*S **S 22 06 01.0 +4.3**
OBN *e* 22 06 40.6
OBN *i* SS **SS 22 10 47.4 +5.1**
OBN SSS SSS 22 14 02.0
OBN pmax pmax
comp=Z,54nm,1.2s
OBN MLR MLR
comp=Z,1μm,19.0s
TBTG Tabatinga, AM 74.72 116 *e*P **P 21 56 25.6 +2.3**
BRG Berggiesshubel 74.88 23 *e*P **P 21 56 25.6 +1.9**
BRG Amp 21 56 26.6
comp=Z,9.3nm,1.0s
BRG Berggiesshubel 74.88 23 Amp 21 56 31.8
comp=Z,25nm,1.0s
BRG Berggiesshubel 74.88 23 Amp 21 56 40.5
comp=Z,32nm,1.3s
BRG Berggiesshubel 74.88 23 P P 21 56 30.9 +7.2
BRG Berggiesshubel 74.88 23 P P 21 56 38.8 +15
BRG Berggiesshubel 74.88 23 *e*P 21 56 25.3
comp=Z,25nm,1.0s,baz=334,slow=5.8
HSKC Hora Svate Kat 74.99 23 *e*P **P 21 56 26.6 +2.1**
HSKC *e*S **S 22 06 10.0 +8.6**
HSKC AMS AMS 22 30 30.0
comp=Z,2μm,17.6s
TBI Tubuai 75.08 198 *e*S **S 22 06 06.5 +4.0**
comp=Z,1μm,31.8s
TBI *e*SS **SS 22 10 47.5 -4.8**
comp=Z,1μm,33.5s
TBI *e*LQ LQ 22 15 53.5
comp=Z,5μm,29.2s
TBI *e*LR LR 22 19 09.3
comp=Z,1μm,31.5s
TBI *e*LR LR 22 19 32.3
comp=Z,4μm,25.2s
NKC Novy Kostel 75.08 24 AMS AMS 22 30 30.0
comp=Z,2μm,15.2s
BOAV Boa Vista 75.18 104 P **P 21 56 24.7 -1.4**
BOAV IAmb IAmb 21 56 33.1
comp=Z,36nm,1.1s
BOAV Boa Vista 75.18 104 *e*P **P 21 56 29.7 +3.6**
R9F13 Warsaw-Wawer 75.22 18 *e*P **P 21 56 27.8 +2.1**
GRA1 Grafenberg Arr 75.25 25 P **P 21 56 23.1 -2.9**
GRA1 IAMs_20 IAMs_20 22 30 01.8
comp=Z,1μm,18.0s
GRF Grafenberg Arr 75.25 25 P **P 21 56 23.1 -2.9**
GRF MLR MLR
comp=Z,2μm,18.0s
GRFO Grafenberg 75.25 25 IAMs_20 IAMs_20 22 30 00.8
comp=Z,2μm,18.0s
GRF Grafenberg Arr 75.25 25 *e*P 21 56 28.4
comp=Z,55nm,1.3s,baz=334,slow=5.8
PVCC Panska Ves 75.35 22 *e*P P 21 56 31.4 +4.9
PVCC AMS AMS 22 29 30.0
comp=Z,1μm,17.7s
PVCC Panska Ves 75.35 22 *e*P P 21 56 31.4 +4.9
PVCC MLR MLR
comp=Z,1μm,17.7s
BTO Baotou 75.42 317 *e*P **P 21 56 26.8 -0.4**
BTO pP **sP 21 56 31.6 -1.3**
BTO sP **pwP 21 56 33.8 -0.6**
BTO S **S 22 06 05.4 -1.2**
BTO SS **SS 22 10 54.9 -0.9**
BTO pmax pmax
comp=Z,23nm,1.0s
BTO pmax pmax
comp=Z,330nm,3.9s
BTO LR LR
comp=Z,2μm,24.1s
ECH Echery 75.42 28 IAMs_20 IAMs_20 22 28 54.4
comp=Z,2μm,21.0s
STU Stuttgart 75.52 26 IAMs_20 IAMs_20 22 28 27.0
comp=Z,1μm,19.0s
STU Stuttgart 75.52 26 *e*P **P 21 56 28.1 +0.5**
TIA Tai'an 75.61 310 P **P 21 56 28.3 0.0**
TIA PP **PP 21 59 20.8 +3.6**
TIA S **S 22 06 13.4 +4.8**
TIA SKS **SKKSac 22 06 40.1 +2.1**
TIA SS **SS 22 10 59.6 +0.8**
TIA pmax pmax
comp=Z,18nm,1.1s
TIA pmax pmax
comp=Z,220nm,3.8s
TIA LR LR
comp=Z,850nm,19.6s
TIA LR LR
comp=Z,700nm,20.8s
TIA LR LR
comp=Z,1μm,21.2s
CHVC Chvalec 75.65 21 *e*P **P 21 56 30.3 +2.0**
CHVC AMS AMS 22 31 00.0
comp=Z,2μm,18.0s
CHVC Chvalec 75.65 21 *e*P **P 21 56 30.3 +2.0**
CHVC MLR MLR
comp=Z,2μm,18.0s

RAR Rarotonga 75.66 208 LR LR 22 21 13.0
comp=Z,498nm,19.6s,baz=41,slow=29
BFO Black Forest 75.67 27 P **P 21 56 25.9 -2.5**
BFO IAmb IAmb 21 56 36.2
comp=Z,42nm,1.0s
BFO IAMs_20 IAMs_20 22 28 17.9
comp=Z,2μm,20.0s
BFO Black Forest 75.67 27 P **P 21 56 25.9 -2.5**
BFO pmax pmax
comp=Z,42nm,1.0s
BFO MLR MLR
comp=Z,2μm,20.0s
BFO Black Forest 75.67 27 *e*P 21 56 30.2
comp=Z,46nm,1.0s,baz=334,slow=5.8
UPC Upice 75.71 22 *e*P P 21 56 34.4 +5.8
UPC *e*S **S 22 06 18.3 +9.0**
UPC AMS AMS 22 30 50.0
comp=Z,2μm,16.7s
UPC Upice 75.71 22 *e*P P 21 56 34.4 +5.8
UPC *e*S **S 22 06 18.3 +9.0**
UPC MLR MLR
comp=Z,2μm,16.7s
OSTC Ostas 75.72 21 AMS AMS 22 31 00.0
comp=Z,1μm,18.1s
PRA Prague 75.74 23 AMS AMS 22 32 00.0
comp=Z,2μm,14.8s
BRVK Borovoye 75.80 347 P **P 21 56 26.3 -2.7**
BRVK Borovoye 75.80 347*ce*P **P 21 56 30.1 +1.1**
BRVK pmax pmax
comp=Z,19nm,1.3s
BVAR Borovoye Array 75.82 347 P **P 21 56 29.8 +0.6**
comp=Z,9.8nm,1.1s,baz=40,slow=4.8,SNR=14
BVAR LR LR 22 33 13.4
comp=Z,497nm,19.7s,baz=17,slow=38
comp=Z,9.8nm,1.1s
PRU Pruhonice 75.84 23 *e*P **P 21 56 30.7 +1.4**
PRU *e*S **S 22 06 19.1 +8.4**
PRU AMS AMS 22 32 10.0
comp=Z,2μm,15.3s
PRU Pruhonice 75.84 23 *e*P **P 21 56 30.7 +1.4**
PRU *e*S **S 22 06 19.1 +8.4**
PRU MLR MLR
comp=Z,2μm,15.3s
HNS HongShan 75.85 312 ⇑P **P 21 56 30.0 +0.5**
HNS S **S 22 06 15.4 +4.3**
HNS SS **SS 22 11 03.3 +1.1**
HNS pmax pmax
comp=Z,18nm,1.4s
HNS LR LR
comp=Z,630nm,23.5s
HNS LR LR
comp=Z,1μm,20.0s
HNS LR LR
comp=Z,1μm,20.2s
DPC Dobruska-Polom 75.93 21 *e*P **P 21 56 31.7 +1.8**
DPC *e*S S 22 06 21.4 +10
DPC AMS AMS 22 31 10.0
comp=Z,2μm,18.3s
DPC Dobruska-Polom 75.93 21 *e*P **P 21 56 31.7 +1.8**
DPC *e*S S 22 06 21.4 +10
DPC MLR MLR
comp=Z,2μm,18.3s
GOPC GO Pecny, Ondr 75.97 23 AMS AMS 22 32 10.0
comp=Z,2μm,15.6s
CZSB Cruzeiro do Su 76.03 121 *e*P **P 21 56 32.5 +1.7**
WET Wettzell 76.19 24 *e*P 21 56 32.5
comp=Z,13nm,1.0s,baz=334,slow=5.8
ZVC Zvikov 76.26 23 *e*P **P 21 56 34.2 +2.5**
ZVC AMS AMS 22 30 50.0
comp=Z,1μm,18.3s
KRLC Kraliky 76.30 21 *e*P **P 21 56 34.2 +2.2**
KRLC Kraliky 76.30 21 *e*P P 21 56 26.6 -5.4
KRLC *e*S **S 22 06 10.0 -5.9**
KRLC MLR MLR
comp=Z,2μm,17.6s
KHC Kasperske Hory 76.39 24 *e*P **P 21 56 34.8 +2.3**
KHC *ex* x 21 56 39.5
KHC *e*S S 22 06 26.9 +10
KHC AMS AMS 22 32 40.0
comp=Z,1μm,14.2s
KHC Kasperske Hory 76.39 24 *e*P **P 21 56 34.8 +2.3**
KHC *e* 21 56 39.5
KHC *e*S S 22 06 26.9 +10
KHC MLR MLR
comp=Z,1μm,14.2s
GUMO Guam 76.50 275 IAMs_20 IAMs_20 22 22 12.7
comp=Z,1μm,22.0s
GUMO Guam 76.50 275 LR LR 22 23 08.9
comp=Z,707nm,21.3s,baz=48,slow=30
KURK Kurchatov 76.63 342 P **P 21 56 31.5 -2.3**
KURK Kurchatov 76.63 342 IAMs_20 IAMs_20 22 36 27.3
comp=Z,833nm,18.0s
KURK Kurchatov 76.63 342 P **P 21 56 34.8 +1.0**
STEB Steborice 76.66 21 *e*P **P 21 56 35.5 +1.5**
GERES GERESS Array B 76.68 24 P **P 21 56 35.1 +0.8**
comp=Z,2.5nm,0.7s,baz=320,slow=4.0,SNR=12
GERES LR LR 22 32 10.4
comp=Z,830nm,18.4s,baz=342,slow=37
comp=Z,2.5nm,0.7s
TREC Trest 76.72 22 *e*P **P 21 56 36.3 +2.0**
TREC AMS AMS 22 32 40.0
comp=Z,2μm,17.0s
TREC Trest 76.72 22 *e*P **P 21 56 36.3 +2.0**
TREC MLR MLR
comp=Z,2μm,17.0s
KURBB Kurchatov Arra 76.73 342 P **P 21 56 34.8 +0.4**
comp=Z,14nm,1.0s,baz=19,slow=5.4,SNR=26
KURBB LR LR 22 35 27.6
comp=Z,930nm,18.0s,baz=330,slow=40
comp=Z,14nm,1.0s
MORC Moravsky Berou 76.75 21 IAMs_20 IAMs_20 22 32 15.2
comp=Z,1μm,18.0s
MORC Moravsky Berou 76.75 21 *e*P **P 21 56 36.2 +1.6**
MORC Moravsky Berou 76.75 21 ⇑P **P 21 56 36.4 +1.8**
MORC Moravsky Berou 76.75 21 ⇑P **P 21 56 36.4 +1.8**
MTE Manteigas 76.79 41 IAMs_20 IAMs_20 22 24 29.0
comp=Z,1μm,21.0s
JOW Kunigami 76.83 296 LR LR 22 30 46.1
comp=Z,206nm,19.7s,baz=110,slow=36
OKC Ostrava-Krasne 76.83 20 *e*S **S 22 06 29.4 +7.8**
OJC Ojcow 76.83 19 *e*P **P 21 56 36.8 +1.8**
OJC *e*L L 22 31 30.7
comp=Z,2μm,19.7s
CKRC Cesky Krumlov 76.86 23 *e*P **P 21 56 36.9 +1.7**
CKRC *e*S **S 22 06 30.9 +8.9**
CKRC AMS AMS 22 34 20.0
comp=Z,1μm,14.8s
CKRC Cesky Krumlov 76.86 23 *e*P **P 21 56 36.9 +1.7**
CKRC *e*S **S 22 06 30.9 +8.9**
CKRC MLR MLR
comp=Z,1μm,14.8s
VRAC Vranov 76.97 22 LR LR 22 31 59.5
comp=Z,1μm,18.3s,baz=328,slow=37
VRAC Vranov 76.97 22 *e*P **P 21 56 37.4 +1.6**
VRAC Vranov 76.97 22 ⇑P **P 21 56 37.8 +2.1**
VRAC Vranov 76.97 22 ⇑P **P 21 56 37.8 +2.1**
DAVA Damuels 77.06 27 *i* P P 21 56 44.7 +8.2
SNR=6.7
DAVA Damuels 77.06 27 *i* pP pP 21 56 39.4 -1.4
comp=Z,49nm,1.2s
SENIN Lac Senin/Sane 77.12 29 P **P 21 56 32.7 -4.2**
SENIN IAmb IAmb 21 56 45.2
comp=Z,22nm,0.9s
RETA Reutte 77.13 26 *i* pP pP 21 56 41.0 0.0
comp=Z,13nm,1.3s
KRUC Moravsky 77.15 22 *e*P **P 21 56 38.0 +1.2**
SSB Saint Sauveur 77.20 31 P **P 21 56 33.4 -3.8**
SSB IAmb IAmb 21 56 44.9
comp=Z,30nm,1.2s
SSB Saint Sauveur 77.20 31 IAMs_20 IAMs_20 22 28 51.7
comp=Z,2μm,20.0s
SSB Saint Sauveur 77.20 31 P **P 21 56 33.4 -3.8**
SSB pmax pmax
comp=Z,29nm,1.2s
SSB MLR MLR
comp=Z,2μm,20.0s
MAUC Maruska 77.20 21 *e*P **P 21 56 38.7 +1.6**
LPSR Galich'ya Gora 77.28 7 *e*P **P 21 56 37.3 -0.1**
LPSR pmax pmax
comp=Z,13nm,0.5s
TEFE Tefe 77.29 111 *e*P **P 21 56 39.2 +1.2**
MOTA Moosalm 77.36 26 *i* pP pP 21 56 40.5 -1.9
comp=Z,27nm,1.2s
NNA Nana 77.36 126 LR LR 22 29 39.7
comp=Z,406nm,19.7s,baz=339,slow=35

NNA	**Nana**	**77.36**	**126**	*ce*P	**P**		**21 56 41.1**	**+2.8**
NNA				pmax	pmax			
	comp=Z,115nm,2.5s							
WATA	**Walderalm**	**77.50**	**26**	*i* P	P		21 56 46.4	+7.4
	SNR=7.9							
WATA	**Walderalm**	**77.50**	**26**	*i* pP	pP		21 56 41.4	-1.8
	comp=Z,29nm,1.0s							
SQTA	**Sankt Quirin**	**77.50**	**26**	*i* P	P		21 56 46.6	+7.7
	SNR=7.6							
SQTA	**Sankt Quirin**	**77.50**	**26**	*i* pP	pP		21 56 41.3	-1.9
	comp=Z,32nm,1.0s							
SSE	**Sheshan**	**77.51**	**304**	P	**P**		**21 56 39.3**	**+0.2**
SSE				S	**S**		**22 06 29.8**	**+0.2**
SSE				pmax	pmax			
	comp=Z,10.0nm,0.9s							
SSE				pmax	pmax			
	comp=Z,91nm,3.5s							
SSE				LR	LR			
	comp=Z,160nm,14.9s							
SSE				LR	LR			
	comp=Z,270nm,14.9s							
DAVOX	**Davos/Dischmat**	**77.52**	**27**	LR	LR		22 30 01.2	
	comp=Z,1μm,21.0s,baz=322,slow=35							
FETA	**Feichten**	**77.55**	**26**	*i* P	P		21 56 47.1	+7.8
	SNR=5.0							
FETA	**Feichten**	**77.55**	**26**	*i* pP	pP		21 56 42.1	-1.4
	comp=Z,23nm,1.0s							
WTTA	**Wattenberg**	**77.58**	**26**	*i* P	P		21 56 47.1	+7.6
	SNR=5.9							
WTTA	**Wattenberg**	**77.58**	**26**	*i* pP	pP		21 56 41.7	-2.0
	comp=Z,52nm,1.7s							
JAVC	**Velka Javorina**	**77.64**	**21**	*e*P	**P**		**21 56 42.1**	**+2.5**
LESA	**Schwarzleotal**	**77.72**	**25**	*i* pP	pP		21 56 42.1	-2.3
	comp=Z,15nm,1.0s							
BIOA	**Bad Ischl, Aus**	**77.73**	**24**	*i* PcP	**PcP**		**21 56 46.9**	**-3.2**
	comp=Z,14nm,1.3s							
MOA	**Molln**	**77.75**	**24**	*i* pP	pP		21 56 45.9	+1.5
	comp=Z,11nm,1.4s							
LANS	**Liptovska Anna**	**77.77**	**20**	*e*P	**P**		**21 56 43.2**	**+2.9**
LANS				*e*			21 56 48.2	
LANS				pmax	pmax			
	comp=Z,16nm,1.3s							
LANS	**Liptovska Anna**	**77.77**	**20**	*e*P	**P**		**21 56 43.2**	**+2.9**
LANS				*e*			21 56 48.1	
FUORN	**Ofenpass-Fuorn**	**77.78**	**27**	IAMs_20	IAMs_20		22 29 37.7	
	comp=Z,2μm,21.0s							
BELG	**Belogornoye**	**77.89**	**1**	*i* P	**P**		**21 56 41.0**	**+0.2**
SMOL	**Smolenice**	**77.91**	**21**	*e*P	**P**		**21 56 43.5**	**+2.5**
SMOL				*e*			21 56 48.7	
SMOL				pmax	pmax			
	comp=Z,19nm,1.4s							
NJ2	**Nanjing**	**78.00**	**306**	⇓P	**P**		**21 56 41.8**	**0.0**
NJ2				S	**S**		**22 06 38.4**	**+3.6**
NJ2				sS	**sS**		**22 06 42.8**	**+1.2**
NJ2				pmax	pmax			
	comp=Z,13nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,150nm,5.5s							
NJ2				LR	LR			
	comp=Z,560nm,18.9s							
NJ2				LR	LR			
	comp=Z,880nm,19.4s							
NJ2				LR	LR			
	comp=Z,1μm,23.6s							
MODS	**Modra-Piesok**	**78.00**	**22**	*e*P	**P**		**21 56 43.9**	**+2.3**
MODS				*e*			21 56 49.3	
MODS	**Modra-Piesok**	**78.00**	**22**	*e*P	**P**		**21 56 43.9**	**+2.3**
MODS				*e*			21 56 49.3	
PESTR	**Estremoz**	**78.05**	**42**	IAMs_20	IAMs_20		22 25 22.2	
	comp=Z,1μm,20.0s							
AKASG	**Malin Array Be**	**78.07**	**13**	P	**P**		**21 56 39.3**	**-2.5**
AKASG	**Malin Array Be**	**78.07**	**13**	P	**P**		**21 56 41.8**	**-0.1**
	comp=Z,7.2nm,0.8s,baz=348,slow=5.2,SNR=38							
AKASG				LR	LR		22 32 30.1	
	comp=Z,2μm,18.1s,baz=350,slow=37							
	comp=Z,7.2nm,0.8s							
AKASG	**Malin Array Be**	**78.07**	**13**	*i* P	**P**		**21 56 42.7**	**+0.8**
AKASG				pmax	pmax			
	comp=Z,7.0nm,0.8s							
AKBB	**Malin Array Si**	**78.07**	**13**	IAmb	IAmb		21 56 49.4	
	comp=Z,66nm,1.1s							
AKBB	**Malin Array Si**	**78.07**	**13**	*ce*P	**P**		**21 56 42.0**	**+0.1**
AKBB				pmax	pmax			
	comp=Z,13nm,1.0s							
CONA	**Conrad Observa**	**78.08**	**23**	*i* pP	pP		21 56 44.3	-2.1
	comp=Z,28nm,1.9s							
KIEV	**Kiev**	**78.08**	**13**	P	**P**		**21 56 39.5**	**-2.4**
KIEV				IAmb	IAmb		21 56 49.4	
	comp=Z,59nm,1.1s							
KIEV	**Kiev**	**78.08**	**13**	IAMs_20	IAMs_20		22 32 09.8	
	comp=Z,2μm,19.0s							
KIEV	**Kiev**	**78.08**	**13**	⇑P	**P**		**21 56 42.8**	**+0.9**
KIEV	**Kiev**	**78.08**	**13**	⇑P	**P**		**21 56 42.8**	**+0.9**
MDP	**Montagnes des**	**78.09**	**96**	LR	LR		22 35 04.9	
	comp=Z,578nm,18.9s,baz=322,slow=39							
BNI	**Bardonecchia**	**78.10**	**30**	IAMs_20	IAMs_20		22 29 16.4	
	comp=Z,2μm,20.0s							
KBA	**Koelnbreinsper**	**78.22**	**25**	*i* pP	**P**		**21 56 44.7**	**+1.8**
	comp=Z,30nm,1.2s							
VORR	**Voronezh**	**78.23**	**7**	*e*P	**P**		**21 56 43.3**	**+0.6**
VORR				pmax	pmax			
	comp=Z,24nm,0.3s							
VYHS	**Vyhne**	**78.25**	**20**	*e*P	**P**		**21 56 44.6**	**+1.7**
VYHS				*e*			21 56 50.1	
VYHS	**Vyhne**	**78.25**	**20**	*e*P	**P**		**21 56 44.6**	**+1.7**
VYHS				*e*			21 56 50.1	
ZSN	**Zaisan**	**78.26**	**337**	*e*P	**P**		**21 56 43.5**	**+0.5**
ZSN				pmax	pmax			
	comp=Z,18nm,1.1s							
ZSN	**Zaisan**	**78.26**	**337**	*e*P	**P**		**21 56 43.6**	**+0.5**
	comp=Z,18nm,1.1s							
ABTA	**Abfaltersbach**	**78.29**	**25**	*i* pP	pP		21 56 46.3	-1.3
	comp=Z,4.9nm,1.0s							
RONA	**Rosalia, Austr**	**78.40**	**22**	*i* pP	pP		21 56 48.5	+0.4
	comp=Z,8.4nm,1.0s							
CEST	**Esterri de Car**	**78.40**	**34**	IAMs_20	IAMs_20		22 29 46.9	
	comp=Z,2μm,19.0s							
BRZS	**Berezniki**	**78.42**	**345**	*e*P	**P**		**21 56 44.2**	**+0.4**
BRZS	**Berezniki**	**78.42**	**345**	*e*P	**P**		**21 56 44.3**	**+0.4**
KOLS	**Kolonicke sedl**	**78.57**	**18**	*e*P	**P**		**21 56 47.2**	**+2.5**
KOLS				*e*			21 56 52.1	
KOLS				pmax	pmax			
	comp=Z,13nm,0.9s							
KOLS	**Kolonicke sedl**	**78.57**	**18**	*e*P	**P**		**21 56 47.2**	**+2.5**
KOLS				*e*			21 56 52.1	
MESJ	**Messejana**	**78.62**	**43**	IAMs_20	IAMs_20		22 27 25.6	
	comp=Z,2μm,19.0s							
ARSA	**Arzberg**	**78.62**	**23**	P	**P**		**21 56 43.0**	**-2.0**
ARSA				IAmb	IAmb		21 57 01.5	
	comp=Z,49nm,1.4s							
ARSA	**Arzberg**	**78.62**	**23**	*i* pP	pP		21 56 47.8	-1.5
	comp=Z,22nm,1.5s							
KECS	**Kecovo**	**78.62**	**19**	*e*P	P		21 56 52.8	+7.8
VSR	**Storozhevoye**	**78.68**	**7**	*e*P	**P**		**21 56 44.4**	**-0.8**
VSR				pmax	pmax			
	comp=Z,30nm,1.0s							
CTI	**Castel Tesino**	**78.69**	**26**	IAMs_20	IAMs_20		22 32 52.9	
	comp=Z,2μm,18.0s							
MYKA	**Terra Mystica**	**78.71**	**25**	*i* PcP	**PcP**		**21 56 52.6**	**-1.8**
	comp=Z,14nm,1.1s							
PAB	**San Pablo**	**78.85**	**40**	P	**P**		**21 56 44.4**	**-2.1**
PAB				IAmb	IAmb		21 56 53.8	
	comp=Z,54nm,1.7s							
PAB	**San Pablo**	**78.85**	**40**	IAMs_20	IAMs_20		22 28 53.2	
	comp=Z,1μm,18.0s							
PAB	**San Pablo**	**78.85**	**40**	P	**P**		**21 56 44.4**	**-2.1**
PAB				pmax	pmax			
	comp=Z,54nm,1.7s							
PAB				MLR	MLR			
	comp=Z,1μm,18.0s							
PRED	**Cave del Predi**	**78.86**	**25**	IAMs_20	IAMs_20		22 32 32.2	
	comp=Z,1μm,19.0s							
VRH	**Novokhopyorsk**	**78.87**	**5**	*e*P	**P**		**21 56 46.5**	**+0.3**
VRH				pmax	pmax			
	comp=Z,22nm,1.5s							
MORF	**Marmelete**	**78.87**	**44**	IAMs_20	IAMs_20		22 27 27.3	
	comp=Z,1μm,19.0s							
ESDC	**Sonseca Array**	**78.90**	**39**	P	**P**		**21 56 47.4**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=310,slow=4.4,SNR=12							
ESDC				LR	LR		22 29 01.6	
	comp=Z,933nm,18.3s,baz=322,slow=34							
	comp=Z,2.8nm,0.8s							
PFVI	**Vila Bisbo**	**78.94**	**44**	IAMs_20	IAMs_20		22 28 13.0	
	comp=Z,1μm,18.0s							
VORD	**Divnogorie**	**78.94**	**7**	*e*P	**P**		**21 56 46.0**	**-0.6**
VORD				pmax	pmax			
	comp=Z,30nm,1.0s							
SOKA	**Soboth**	**79.03**	**24**	*i* P	P		21 56 54.4	+7.0
	SNR=6.4							
SOKA	**Soboth**	**79.03**	**24**	*i* pP	**P**		**21 56 49.2**	**+1.9**
	comp=Z,12nm,1.1s							
PSZ	**Piszkesteto**	**79.03**	**20**	IAMs_20	IAMs_20		22 34 43.4	
	comp=Z,2μm,18.0s							
PSZ	**Piszkesteto**	**79.03**	**20**	⇑P	**P**		**21 56 49.8**	**+2.5**
PSZ	**Piszkesteto**	**79.03**	**20**	⇑P	**P**		**21 56 49.8**	**+2.5**
PSZ	**Piszkesteto**	**79.03**	**20**	*e*P	**P**		**21 56 49.4**	**+2.1**
OBKA	**Obir**	**79.06**	**24**	*i* P	P		21 56 54.8	+7.3
	SNR=5.8							
OBKA	**Obir**	**79.06**	**24**	*i* pP	**P**		**21 56 48.9**	**+1.4**
	comp=Z,35nm,0.8s							
PVAQ	**Vaqueiros**	**79.21**	**43**	IAMs_20	IAMs_20		22 28 01.0	
	comp=Z,1μm,18.0s							
LYN	**LuoYang**	**79.21**	**312**	P	**P**		**21 56 48.8**	**+0.4**
LYN				sP	PcP		21 56 57.8	+1.1
LYN				S	**S**		**22 06 49.0**	**+1.3**
LYN				sS	sS		22 06 57.3	+2.8
LYN				pmax	pmax			
	comp=Z,34nm,0.9s							
LYN				LR	LR			
	comp=Z,900nm,18.5s							
LYN				LR	LR			
	comp=Z,870nm,20.3s							
LYN				LR	LR			
	comp=Z,2μm,19.2s							
SABO	**M.te Sabotino**	**79.30**	**25**	P	**P**		**21 56 46.5**	**-2.2**
SABO				IAmb	IAmb		21 56 56.1	
	comp=Z,49nm,1.0s							
SABO				IAMs_20	IAMs_20		22 32 43.8	
	comp=Z,2μm,18.0s							
MACA	**Manacapuru-AM**	**79.42**	**108**	*e*P	**P**		**21 56 52.7**	**+3.0**
MK31	**Makanchi Array**	**79.51**	**338**	*ce*P	**P**		**21 56 49.6**	**-0.3**
MKAR	**Makanchi Array**	**79.51**	**338**	P	**P**		**21 56 47.2**	**-2.7**
MKAR	**Makanchi Array**	**79.51**	**338**	P	**P**		**21 56 49.7**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=38,slow=4.6,SNR=22							
MKAR				PKKPbc	**PKKPbc**		**22 15 42.1**	**+5.7**
	comp=Z,0.6nm,1.0s,baz=218,slow=1.4,SNR=3.7							
MKAR				LR	LR		22 35 54.2	
	comp=Z,612nm,18.1s,baz=11,slow=39							
	comp=Z,4.7nm,0.8s							
MKAR	**Makanchi Array**	**79.51**	**338**	*i* P	**P**		**21 56 49.7**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MAKZ	**Makanchi**	**79.57**	**338**	P	**P**		**21 56 47.8**	**-2.5**
MAKZ				IAmb	IAmb		21 56 58.2	
	comp=Z,33nm,1.0s							
MAKZ				IAMs_20	IAMs_20		22 34 08.5	
	comp=Z,951nm,19.0s							
MAKZ	**Makanchi**	**79.57**	**338**	⇓P	**P**		**21 56 50.6**	**+0.4**
AKTO	**Aktyubinsk**	**79.63**	**355**	LR	LR		22 36 32.2	
	comp=Z,532nm,18.2s,baz=16,slow=39							
BEHE	**Becsehely**	**79.66**	**23**	IAMs_20	IAMs_20		22 32 31.3	
	comp=Z,1μm,18.0s							
BMR	**Baia Mare**	**80.01**	**18**	⇑P	**P**		**21 56 55.3**	**+2.8**
BMR	**Baia Mare**	**80.01**	**18**	⇑P	**P**		**21 56 55.3**	**+2.8**
MORH	**Mrgy, Hungar**	**80.35**	**21**	⇓P	**P**		**21 56 56.5**	**+2.1**
BURAR	**Bucovina Array**	**80.40**	**17**	⇑P	**P**		**21 56 56.4**	**+1.6**
BURAR	**Bucovina Array**	**80.40**	**17**	⇑P	**P**		**21 56 56.4**	**+1.6**
SORM	**Soroca**	**80.44**	**14**	⇓P	**P**		**21 56 55.9**	**+1.1**
SORM	**Soroca**	**80.44**	**14**	⇓P	**P**		**21 56 55.9**	**+1.1**
GTA	**Gaotai**	**80.65**	**323**	P	**P**		**21 56 56.3**	**0.0**
GTA				S	**S**		**22 07 04.1**	**+1.1**
GTA				SS	**SS**		**22 12 19.3**	**+4.8**
GTA				pmax	pmax			
	comp=Z,5.0nm,1.7s							
GTA				LR	LR			
	comp=Z,760nm,22.9s							
GTA				LR	LR			
	comp=Z,960nm,21.4s							
GTA				LR	LR			
	comp=Z,1μm,20.7s							
AB31	**Akbulak array**	**80.67**	**353**	IAmb	IAmb		21 57 11.2	
	comp=Z,41nm,1.4s							
ABKAR	**Akbulak array**	**80.67**	**353**	P	**P**		**21 56 54.2**	**-1.9**
ARCR	**ARCALIA**	**80.74**	**17**	⇓P	**P**		**21 56 58.9**	**+2.3**
WMQ	**Urumqi**	**80.83**	**333**	*e*P	**P**		**21 56 58.3**	**+1.2**
WMQ				PP	**PP**		**22 00 07.5**	**+7.0**
WMQ				pmax	pmax			
	comp=Z,13nm,1.7s							
WMQ				pmax	pmax			
	comp=Z,180nm,4.5s							
WMQ				LR	LR			
	comp=Z,990nm,17.3s							
WMQ				LR	LR			
	comp=Z,1μm,19.1s							
WMQ				LR	LR			
	comp=Z,850nm,22.5s							
MARR	**Marisel-Cluj**	**80.89**	**18**	⇓P	**P**		**21 56 58.3**	**+0.8**
SIRR	**Siria**	**80.98**	**19**	⇑P	**P**		**21 56 58.5**	**+0.7**
XAN	**Xi'an**	**81.31**	**314**	⇓P	**P**		**21 56 59.4**	**-0.4**
XAN				pP	PcP		21 57 05.3	-0.7
XAN				S	**S**		**22 07 10.9**	**+1.0**
XAN				pmax	pmax			
	comp=Z,25nm,1.6s							
XAN				pmax	pmax			
	comp=Z,230nm,3.6s							
XAN				LR	LR			
	comp=Z,1μm,17.2s							
XAN				LR	LR			
	comp=Z,2μm,16.5s							
XAN				LR	LR			
	comp=Z,1μm,17.9s							
CASP	**Castiglione de**	**81.44**	**28**	IAMs_20	IAMs_20		22 30 27.7	
	comp=Z,2μm,21.0s							
MSVF	**Nonsavu**	**81.47**	**229**	LR	LR		22 29 57.1	
	comp=Z,478nm,18.1s,baz=22,slow=33							
WHN	**Wuhan**	**81.52**	**308**	P	**P**		**21 57 00.6**	**-0.3**
WHN				S	**S**		**22 07 13.8**	**+1.8**
WHN				pmax	pmax			
	comp=Z,48nm,1.1s							
WHN				LR	LR			
	comp=Z,1μm,17.8s							
WHN				LR	LR			
	comp=Z,1μm,12.5s							
WHN				LR	LR			
	comp=Z,2μm,20.4s							
SURR	**Surduc**	**81.57**	**19**	⇑P	**P**		**21 57 02.7**	**+1.8**
BZS	**Buzias**	**81.59**	**20**	⇓P	**P**		**21 57 02.3**	**+1.3**
BZS	**Buzias**	**81.59**	**20**	⇓P	**P**		**21 57 02.3**	**+1.3**
KIS	**Kishinev**	**81.61**	**14**	*e*P	P		21 57 07.0	+5.9
KIS				*e*L	L		22 28 56.0	
KIS				LRM	MLR		22 31 28.0	
	comp=Z,300nm,23.0s							
KIS	**Kishinev**	**81.61**	**14**	*e*P	P		21 57 07.0	+5.9
KIS				MLR	MLR			
	comp=Z,300nm,23.0s							
MILM	**Milestii Mici**	**81.69**	**14**	⇑*i*P	P		21 57 07.0	+5.5
MILM				*i* S	**SKSac**		**22 07 19.0**	**-1.6**
MILM				*e*L	L		22 27 11.0	
MILM				LRM	MLR		22 31 22.0	
	comp=Z,900nm,24.0s							
MILM	**Milestii Mici**	**81.69**	**14**	⇓P	**P**		**21 57 02.3**	**+0.8**
MILM	**Milestii Mici**	**81.69**	**14**	*c*⇑*i*P	P		21 57 07.0	+5.5
MILM				*i* S	**SKSac**		**22 07 19.0**	**-1.6**
TESR	**Tescani**	**81.72**	**16**	⇑P	**P**		**21 57 03.2**	**+1.5**
ONER	**Baraj Valea Uz**	**81.85**	**16**	⇑P	**P**		**21 57 05.0**	**+2.6**
LZH	**Lanzhou**	**81.86**	**319**	*e*P	**P**		**21 57 02.4**	**-0.4**
LZH				pP	sP		21 57 07.8	-0.7
LZH				S	**S**		**22 07 16.5**	**+0.8**
LZH				pmax	pmax			
	comp=Z,18nm,1.4s							
LZH				LR	LR			
	comp=Z,1μm,18.2s							
LZH				LR	LR			
	comp=Z,2μm,19.2s							
LZH				LR	LR			
	comp=Z,2μm,19.2s							
CART	**Cartagena**	**81.88**	**38**	IAMs_20	IAMs_20		22 30 48.3	
	comp=Z,1μm,20.0s							
GZR	**Gura Zlata**	**82.05**	**19**	⇑P	**P**		**21 57 05.0**	**+1.4**
GZR	**Gura Zlata**	**82.05**	**19**	⇑P	**P**		**21 57 05.0**	**+1.4**
NRCA	**Norcia**	**82.06**	**26**	IAMs_20	IAMs_20		22 32 09.0	
	comp=Z,1μm,18.0s							
TDK	**Taldyqorghan**	**82.10**	**340**	*e*P	**P**		**21 57 04.4**	**+0.6**
TDK				pmax	pmax			
	comp=Z,33nm,1.3s							
TDK	**Taldygorghan**	**82.10**	**340**	*e*P	**P**		**21 57 04.4**	**+0.6**
	comp=Z,33nm,1.3s							
LOT	**Lotru**	**82.20**	**18**	⇓P	**P**		**21 57 05.5**	**+1.1**
PURM	**Purcari**	**82.24**	**14**	⇑P	**P**		**21 57 06.1**	**+1.7**
COVR	**Voineasa-Covas**	**82.28**	**16**	⇓P	**P**		**21 57 07.1**	**+2.3**
GHRR		**82.29**	**16**	⇑P	**P**		**21 57 06.7**	**+2.0**
PLOR	**Plostina**	**82.36**	**16**	⇑P	**P**		**21 57 07.0**	**+1.9**
PLOR	**Plostina**	**82.36**	**16**	⇑P	**P**		**21 57 07.0**	**+1.9**
VRI	**Vrincioaia**	**82.36**	**16**	⇑P	**P**		**21 57 06.8**	**+1.7**
VRI	**Vrincioaia**	**82.36**	**16**	⇑P	**P**		**21 57 06.8**	**+1.7**
MDVR	**Moldovita**	**82.41**	**20**	⇑P	**P**		**21 57 03.5**	**-1.9**
MACI	**Morro de la Ar**	**82.41**	**55**	IAMs_20	IAMs_20		22 28 57.4	
	comp=Z,1μm,19.0s							
YHNB	**Yeheng**	**82.43**	**299**	IAMs_20	IAMs_20		22 29 16.3	
	comp=Z,763nm,22.0s							
ARR	**Arges**	**82.45**	**18**	⇑P	**P**		**21 57 07.7**	**+2.0**
VOIR		**82.46**	**17**	⇑P	**P**		**21 57 07.3**	**+1.6**
VOIR		**82.46**	**17**	⇑P	**P**		**21 57 07.3**	**+1.6**
SAML	**Samuel**	**82.48**	**113**	IAMs_20	IAMs_20		22 37 36.6	
	comp=Z,804nm,20.0s							
ODBI	**Odobesti**	**82.52**	**16**	⇑P	**P**		**21 57 09.1**	**+3.2**
MLR	**Muntele Rosu**	**82.58**	**17**	IAMs_20	IAMs_20		22 34 08.2	
	comp=Z,2μm,20.0s							
MLR	**Muntele Rosu**	**82.58**	**17**	LR	LR		22 34 38.2	
	comp=Z,2μm,19.3s,baz=346,slow=36							
MLR	**Muntele Rosu**	**82.58**	**17**	⇑P	P		21 57 11.9	+5.5
MLR	**Muntele Rosu**	**82.58**	**17**	⇑P	P		21 57 11.9	+5.5
BISRR	**Bisoca**	**82.66**	**16**	⇑P	**P**		**21 57 10.1**	**+3.4**
NEHR	**Nehoiu**	**82.70**	**16**	⇓P	**P**		**21 57 10.8**	**+3.9**
AVE	**Averroes**	**82.76**	**45**	IAMs_20	IAMs_20		22 32 08.5	
	comp=Z,1μm,18.0s							
INTR	**Introdacqua**	**83.04**	**26**	IAMs_20	IAMs_20		22 36 35.0	
	comp=Z,2μm,19.0s							
CFR	**Carcaliu**	**83.27**	**15**	⇑P	**P**		**21 57 11.2**	**+1.4**
CFR	**Carcaliu**	**83.27**	**15**	⇑P	**P**		**21 57 11.2**	**+1.4**
HUMR	**Humele**	**83.32**	**18**	⇓P	**P**		**21 57 10.4**	**+0.3**
SSLB	**Suanglung**	**83.36**	**299**	IAMs_20	IAMs_20		22 37 57.9	
	comp=Z,839nm,20.0s							
ITTB	**Itaituba**	**83.42**	**105**	*e*P	**P**		**21 57 11.6**	**+0.7**
BOVS	**Bovan**	**83.50**	**20**	⇑P	**P**		**21 57 12.6**	**+1.6**
KPKS	**Kokpek**	**83.50**	**339**	*e*P	**P**		**21 57 11.5**	**+0.4**
KPKS	**Kokpek**	**83.50**	**339**	*e*P	**P**		**21 57 11.6**	**+0.4**
CHKK	**Chushkaly**	**83.50**	**341**	*e*P	**P**		**21 57 11.6**	**+0.6**
CHKK	**Chushkaly**	**83.50**	**341**	*e*P	**P**		**21 57 11.7**	**+0.6**
KUU	**Kurty**	**83.60**	**341**	*e*P	**P**		**21 57 12.0**	**+0.5**
KUU	**Kurty**	**83.60**	**341**	*e*P	**P**		**21 57 12.1**	**+0.5**
SHLS	**Shalkode**	**83.61**	**339**	*e*P	**P**		**21 57 11.8**	**0.0**
SHLS				pmax	pmax			
	comp=Z,22nm,1.3s							
SHLS	**Shalkode**	**83.61**	**339**	*e*P	**P**		**21 57 11.8**	**0.0**
	comp=Z,22nm,1.3s							
TPGR	**Topolog**	**83.63**	**15**	⇑P	**P**		**21 57 13.3**	**+1.6**
HARR	**Harsova**	**83.71**	**16**	⇓P	**P**		**21 57 13.4**	**+1.3**
HARR	**Harsova**	**83.71**	**16**	⇓P	**P**		**21 57 13.4**	**+1.3**
UZB	**Uzynbulak**	**83.72**	**339**	*e*P	**P**		**21 57 12.8**	**+0.4**
UZB				pmax	pmax			
	comp=Z,17nm,1.7s							
UZB	**Uzynbulak**	**83.72**	**339**	*e*P	**P**		**21 57 12.8**	**+0.4**
	comp=Z,17nm,1.7s							
QZH	**Quanzhou**	**83.76**	**302**	*e*P	**P**		**21 57 12.9**	**+0.3**
QZH				S	**S**		**22 07 37.6**	**+2.6**
QZH				LR	LR			
	comp=Z,480nm,14.1s							
QZH				LR	LR			
	comp=Z,510nm,12.5s							
QZH				LR	LR			
	comp=Z,500nm,16.2s							
ZHN	**Zhinishke**	**83.84**	**339**	*e*P	**P**		**21 57 13.3**	**+0.4**
ZHN				pmax	pmax			
	comp=Z,19nm,1.5s							
ZHN	**Zhinishke**	**83.84**	**339**	*e*P	**P**		**21 57 13.3**	**+0.4**
	comp=Z,20nm,1.5s							
TLBR	**Topalu**	**83.87**	**15**	⇑P	**P**		**21 57 17.3**	**+4.4**
TPUB	**Ta-pu**	**83.92**	**299**	IAMs_20	IAMs_20		22 30 04.9	
	comp=Z,808nm,22.0s							
SATY	**Saty**	**83.95**	**339**	*e*P	**P**		**21 57 13.9**	**+0.4**
SATY				pmax	pmax			
	comp=Z,18nm,1.4s							
SATY	**Saty**	**83.95**	**339**	*e*P	**P**		**21 57 14.0**	**+0.4**
	comp=Z,18nm,1.4s							
TIRR	**Tirgusor**	**84.02**	**15**	IAMs_20	IAMs_20		22 34 16.2	
	comp=Z,1μm,22.0s							
TIRR	**Tirgusor**	**84.02**	**15**	⇑P	**P**		**21 57 15.2**	**+1.6**
TIRR	**Tirgusor**	**84.02**	**15**	⇑P	**P**		**21 57 15.2**	**+1.6**
PDG	**Podgorica**	**84.07**	**22**	IAMs_20	IAMs_20		22 36 05.9	
	comp=Z,1μm,19.0s							
PDG	**Podgorica**	**84.07**	**22**	⇓P	P		21 57 20.2	+6.3
AAA	**Alma-Ata**	**84.13**	**340**	*e*P	**P**		**21 57 15.0**	**+0.6**
AAA				pmax	pmax			
	comp=Z,31nm,1.2s							
AAA	**Alma-Ata**	**84.13**	**340**	*e*P	**P**		**21 57 15.0**	**+0.6**
	comp=Z,31nm,1.2s							
MDOK	**Medeo**	**84.15**	**340**	*e*P	**P**		**21 57 14.9**	**+0.3**
MDOK	**Medeo**	**84.15**	**340**	*e*P	**P**		**21 57 14.9**	**+0.3**
ENH	**Enshi**	**84.15**	**311**	P	**P**		**21 57 11.8**	**-2.9**
ENH				IAmb	IAmb		21 57 17.6	
	comp=Z,35nm,1.4s							
ENH				IAMs_20	IAMs_20		22 34 14.1	
	comp=Z

LABN	Labinsk	85.33	7	eP	P	21 57 21.0	+0.7
LABN				MLR	MLR		
	comp=Z,1μm,13.0s						
CUC	Castrocucco	85.45	26	IAMs_20	IAMs_20	22 35 30.7	
	comp=Z,2μm,19.0s						
KK31	Karatay Array	85.46	345	P	P	21 57 17.7	-3.3
KK31	Karatay Array	85.46	345	P	P	21 57 17.7	-3.3
KK31				pmax	pmax		
	comp=Z,22nm,1.5s						
KKAR	Karatay Array	85.46	345	P	P	21 57 18.4	-2.6
KKAR	Karatay Array	85.46	345	P	P	21 57 18.4	-2.6
WUS	Wushi	85.52	338	IAMs_20	IAMs_20	22 38 17.3	
	comp=Z,788nm,19.0s						
DZA	Taraz	85.53	344	eP	P	21 57 21.8	+0.5
DZA	Taraz	85.53	344	eP	P	21 57 21.8	+0.5
LPAZ	La Paz	85.58	122	P	P	21 57 19.9	-2.6
LPAZ				IAmb	IAmb	21 57 28.9	
	comp=Z,28nm,1.1s						
LPAZ	La Paz	85.58	122	P	P	21 57 22.7	+0.2
	comp=Z,7.3nm,0.9s,baz=357,slow=5.7,SNR=19						
LPAZ				LR	LR	22 38 43.0	
	comp=Z,356nm,21.3s,baz=326,slow=38						
	comp=Z,7.3nm,0.9s						
LPAZ	La Paz	85.58	122	eP	P	21 57 23.7	+1.2
BRLS	Borolday	85.64	345	eP	P	21 57 23.7	+1.8
BRLS	Borolday	85.64	345	eP	P	21 57 23.7	+1.8
OHR	Ohrid	85.69	22	i P	P	21 57 29.7	+7.5
NPGB	Novo Progresso	85.73	106	eP	P	21 57 22.1	-0.5
AML	Almayashu	85.83	342	P	P	21 57 24.6	+1.3
	SNR=6.4						
VAY	Valandovo	85.89	20	i P	P	21 57 30.5	+7.4
PB18	Visviri	85.91	124	P	P	21 57 22.7	-1.4
PB18				IAmb	IAmb	21 57 32.2	
	comp=Z,52nm,1.0s						
SCTE	Santa Cesarea	86.09	24	IAMs_20	IAMs_20	22 33 57.4	
	comp=Z,1μm,20.0s						
KIV	Kislovodsk	86.15	5	P	P	21 57 21.4	-3.1
KIV				IAmb	IAmb	21 57 32.5	
	comp=Z,47nm,1.0s						
KIV				IAMs_20	IAMs_20	22 38 08.3	
	comp=Z,822nm,18.0s						
KIV	Kislovodsk	86.15	5	⇑P	P	21 57 26.0	+1.5
KIV	Kislovodsk	86.15	5	eP	P	21 57 25.2	+0.7
KIV				e		22 07 50.2	
KIV				eSS	SS	22 13 41.4	+6.2
KIV				pmax	pmax		
	comp=Z,43nm,1.1s						
KIV				pmax	pmax		
	comp=Z,15nm,4.1s						
KIV				MLR	MLR		
	comp=Z,623nm,20.0s						
CD2	Chengdu	86.29	316	P	P	21 57 24.9	-0.5
CD2				S	S	22 07 59.6	-0.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CD2				pmax	pmax		
	comp=Z,110nm,2.9s						
CD2				LR	LR		
	comp=Z,780nm,17.8s						
CD2				LR	LR		
	comp=Z,970nm,16.5s						
PB12	IPOC Station P	86.30	125	P	P	21 57 22.9	-2.5
PB12				IAmb	IAmb	21 57 31.9	
	comp=Z,71nm,1.3s						
SOC	Sochi	86.31	7	ceP	P	21 57 24.8	-0.3
SOC				e		22 00 45.9	
SOC				ePPP	PPP	22 02 42.7	
SOC				eS	SKSac	22 07 49.9	-0.8
SOC				eSSS	SSS	22 17 08.8	
SOC				pmax	pmax		
	comp=Z,49nm,1.1s						
SOC				MLR	MLR		
	comp=Z,838nm,17.0s						
SHA1	Shidzhatmaz	86.36	5	i P	P	21 57 26.6	+0.9
KBZ	Khabaz	86.39	5	P	P	21 57 26.4	+0.9
	comp=Z,9.4nm,1.0s,baz=323,slow=3.4,SNR=14						
	comp=Z,9.4nm,1.0s						
KBZ	Khabaz	86.39	5	ceP	P	21 57 26.9	+1.4
KBZ				pmax	pmax		
	comp=Z,22nm,1.0s						
IUG	Iuzhnay	86.47	345	eP	P	21 57 26.7	+0.6
IUG				pmax	pmax		
	comp=Z,29nm,1.5s						
IUG	Iuzhnay	86.47	345	eP	P	21 57 26.7	+0.6
	comp=Z,29nm,1.5s						
TIP	Timpagrande	86.47	25	IAMs_20	IAMs_20	22 33 52.7	
	comp=Z,1μm,22.0s						
PB16	IPOC Station P	86.51	124	P	P	21 57 25.0	-2.0
PB16				IAmb	IAmb	21 57 39.6	
	comp=Z,50nm,1.5s						
LIT	Litokhoron	87.04	21	IAMs_20	IAMs_20	22 38 04.3	
	comp=Z,921nm,18.0s						
MAK	Makhachkala	87.33	2	eP	P	21 57 22.2	-7.9
MAK				e		22 00 53.3	
MAK				eSSS	SSS	22 17 20.9	
MAK				pmax	pmax		
	comp=Z,83nm,1.1s						
MAK				MLR	MLR		
	comp=Z,1μm,17.0s						
KEST	Kesra	87.37	32	LR	LR	22 36 26.1	
	comp=Z,879nm,19.2s,baz=332,slow=36						
VAE	Valguarnera	87.38	27	LR	LR	22 38 03.6	
	comp=Z,810nm,18.7s,baz=147,slow=37						
DIKM	Dikmen	87.77	11	⇓P	P	21 57 34.1	+1.8
KSH	Kashi	87.87	340	P	P	21 57 35.6	+2.6
KSH				sP	pwP	21 57 42.8	+2.4
KSH				pmax	pmax		
	comp=Z,13nm,1.3s						
KSH				LR	LR		
	comp=Z,600nm,14.9s						
KSH				LR	LR		
	comp=Z,950nm,17.6s						
KSH				LR	LR		
	comp=Z,720nm,17.5s						
AGG	Agios Georgios	88.03	21	IAMs_20	IAMs_20	22 41 14.7	
	comp=Z,831nm,19.0s						
ILGA	Ilgaz	88.16	12	IAMs_20	IAMs_20	22 40 13.6	
	comp=Z,1μm,20.0s						
CLDB	Colider	88.44	109	eP	P	21 57 37.4	+1.6
PDRB	Porto dos Gac	88.45	110	eP	P	21 57 37.7	+2.0
PRPB	Paraupebas	88.52	101	eP	P	21 57 38.4	+2.2
GYA	Guiyang	88.69	311	⇑P	P	21 57 36.8	-0.3
GYA				sP	pwP	21 57 45.6	+1.2
GYA				SKS	SKSac	22 08 09.0	+3.0
GYA				S	S	22 08 25.1	+1.6
GYA				pmax	pmax		
	comp=Z,17nm,1.1s						
GYA				LR	LR		
	comp=Z,750nm,21.6s						
GYA				LR	LR		
	comp=Z,650nm,22.9s						
GYA				LR	LR		
	comp=Z,960nm,24.2s						
BORA	Eskisehir	88.82	15	IAMs_20	IAMs_20	22 38 51.1	
	comp=Z,1μm,21.0s						
SACV	Santiago Islan	88.92	68	IAMs_20	IAMs_20	22 33 17.6	
	comp=Z,1μm,21.0s						
ANTO	Ankara	89.19	13	IAMs_20	IAMs_20	22 42 28.0	
	comp=Z,988nm,18.0s						
SIV	San Ignacio	89.32	116	LR	LR	22 42 48.7	
	comp=Z,812nm,18.2s,baz=334,slow=39						
BR131	Keskin Array S	89.45	12	P	P	21 57 37.7	-2.7
BR131	Keskin Array S	89.45	12	P	P	21 57 37.7	-2.7
BR131				pmax	pmax		
	comp=Z,15nm,1.1s						
BRTR	Keskin Array B	89.45	12	P	P	21 57 37.5	-2.9
BRTR	Keskin Array B	89.45	12	P	P	21 57 40.9	+0.4
	comp=Z,2.9nm,1.0s,baz=349,slow=3.1,SNR=7.8						
BRTR				PKKPbc	PKKPbc	22 15 19.3	+5.8
	comp=Z,1.0nm,0.8s,baz=104,slow=4.0,SNR=5.0						
	comp=Z,2.9nm,1.0s						
BRTR	Keskin Array B	89.45	12	i P	P	21 57 41.5	+1.0
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MANT	Manisa	89.84	17	P	P	21 57 39.6	-2.8
PTLB	Pontes e Lacer	90.02	114	P	P	21 57 41.2	-1.9
PTLB				IAmb	IAmb	21 57 50.1	
	comp=Z,49nm,1.2s						
PTLB	Pontes e Lacer	90.02	114	eP	P	21 57 44.4	+1.3
SIMJ	Simiganj	90.04	345	P	P	21 57 40.5	-2.8
SIMJ				IAmb	IAmb	21 58 03.6	
	comp=Z,72nm,1.4s						
SIMJ				IAMs_20	IAMs_20	22 44 27.1	
	comp=Z,779nm,18.0s						
KIRS	Kirsehir-Merke	90.07	12	⇓P	P	21 57 44.4	+1.1
BBSD	Serra de San D	90.54	116	eP	P	21 57 46.0	+0.5
ISP	Isparta	90.83	15	IAMs_20	IAMs_20	22 39 20.0	
	comp=Z,1μm,22.0s						
ISP	Isparta	90.83	15	ceP	P	21 57 49.0	+2.1
ISP				pmax	pmax		
	comp=Z,43nm,1.3s						
PZH	PanZhiHua	90.97	315	P	P	21 57 47.6	-0.1
PZH				S	S	22 08 43.0	-1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,1.6s						
PZH				pmax	pmax		
	comp=Z,110nm,4.9s						
PZH				LR	LR		
	comp=Z,570nm,20.6s						
PZH				LR	LR		
	comp=Z,970nm,18.1s						
PZH				LR	LR		
	comp=Z,680nm,17.3s						
TGY	Tagaytay City	91.00	293	LR	LR	22 38 27.8	
	comp=Z,342nm,18.4s,baz=96,slow=36						
DZM	Mont Dzumac	91.03	236	ePP	PP	22 01 21.1	-3.5
	comp=Z,135nm,33.5s						
DZM	Mont Dzumac	91.03	236	eLQ	LQ	22 22 19.6	
	comp=Z,2μm,36.6s						
DZM				eLR	LR	22 26 55.2	
	comp=Z,846nm,22.5s						
DZM	Mont Dzumac	91.03	236	LR	LR	22 33 12.2	
	comp=Z,678nm,19.1s,baz=24,slow=32						
JAY	Jayapura	91.35	268	LR	LR	22 30 53.1	
	comp=Z,2μm,20.9s,baz=22,slow=30						
KMI	Kunming	91.69	314	P	P	21 57 53.5	+2.3
KMI				S	S	22 08 52.9	+1.5
KMI				pmax	pmax		
	comp=Z,8.0nm,2.2s						
KMI				pmax	pmax		
	comp=Z,120nm,3.5s						
KMI				LR	LR		
	comp=Z,400nm,13.8s						
KMI				LR	LR		
	comp=Z,1μm,14.8s						
KMI				LR	LR		
	comp=Z,720nm,21.9s						
SNDB	Serra Nova Dou	92.06	106	eP	P	21 57 54.7	+2.1
IDI	Anoyia	92.19	20	LR	LR	22 41 53.8	
	comp=Z,603nm,19.3s,baz=326,slow=37						
GAZ	Gaziantep	92.42	10	IAMs_20	IAMs_20	22 41 08.3	
	comp=Z,984nm,21.0s						
SALV	Santo Antonio	92.42	112	eP	P	21 57 56.9	+2.7
KARP	Karpathos	92.42	18	IAMs_20	IAMs_20	22 41 46.8	
	comp=Z,983nm,22.0s						
PMG	Port Moresby	92.47	258	IAMs_20	IAMs_20	22 33 10.9	
	comp=Z,933nm,21.0s						
PMG	Port Moresby	92.47	258	LR	LR	22 33 13.4	
	comp=Z,763nm,20.7s,baz=56,slow=32						
LSA	Lhasa	92.53	325	IAMs_20	IAMs_20	22 41 00.4	
	comp=Z,672nm,20.0s						
QIZ	Qiongzhong	93.26	305	IAMs_20	IAMs_20	22 45 19.5	
	comp=Z,521nm,18.0s						
QIZ	Qiongzhong	93.26	305	P	P	21 57 57.1	-1.2
QIZ				SKS	SKSac	22 08 28.3	-3.8
QIZ				SS	SS	22 15 22.3	+2.6
QIZ				LR	LR		
	comp=Z,340nm,17.9s						
QIZ				LR	LR		
	comp=Z,390nm,18.0s						
QIZ				LR	LR		
	comp=Z,430nm,19.2s						
MBO	M'Bour	93.28	63	IAMs_20	IAMs_20	22 34 53.4	
	comp=Z,1μm,20.0s						
BBTS	Babate	93.30	63	LR	LR	22 36 34.9	
	comp=Z,981nm,19.8s,baz=202,slow=33						
DAV	Davao City (W)	93.67	285	IAMs_20	IAMs_20	22 31 36.6	
	comp=Z,1μm,22.0s						
DAV	Davao City (W)	93.67	285	LR	LR	22 32 22.0	
	comp=Z,1μm,21.8s,baz=44,slow=31						
TNCH	TengChong	93.68	317	P	P	21 57 58.8	-1.6
TNCH				pP	pP	21 58 04.1	-0.5
TNCH				sP	pwP	21 58 06.3	-1.4
TNCH				S	S	22 09 05.1	-4.0
TNCH				pmax	pmax		
	comp=Z,21nm,1.5s						
TNCH				pmax	pmax		
	comp=Z,150nm,4.3s						
TNCH				LR	LR		
	comp=Z,600nm,17.8s						
TNCH				LR	LR		
	comp=Z,780nm,17.0s						
CSS	Mathiatis	94.08	14	IAMs_20	IAMs_20	22 42 09.5	
	comp=Z,810nm,22.0s						
NIL	Nilore	94.10	341	IAMs_20	IAMs_20	22 44 49.7	
	comp=Z,634nm,20.0s						
SLVN	Son La	94.36	311	IAMs_20	IAMs_20	22 40 55.8	
	comp=Z,532nm,19.0s						
ARAG	Araguaiana, MT	94.61	109	eP	P	21 58 06.9	+2.6
SDBA	SAO DESIDERIO	96.39	102	eP	P	21 58 14.3	+1.7
BDFB	Brasilia	96.89	106	LR	LR	22 46 51.0	
	comp=Z,462nm,18.8s,baz=325,slow=38						
FAKI	Fak Fak	97.11	274	IAMs_20	IAMs_20	22 38 00.9	
	comp=Z,693nm,20.0s						
RPRD	Ribas do Rio P	97.15	113	eP	Pdif	21 58 17.1	+1.1
RCBR	Riachuelo	97.16	90	IAMs_20	IAMs_20	22 41 16.8	
	comp=Z,1μm,20.0s						
RCBR	Riachuelo	97.16	90	LR	LR	22 39 11.7	
	comp=Z,487nm,19.9s,baz=353,slow=34						
TNTI	Ternate	97.41	280	IAMs_20	IAMs_20	22 33 10.2	
	comp=Z,774nm,22.0s						
TAM	Tamanrasset	97.52	41	IAMs_20	IAMs_20	22 40 42.9	
	comp=Z,769nm,20.0s						
GHAJ	Ghor Haditha	98.00	12	IAMs_20	IAMs_20	22 45 25.2	
	comp=Z,600nm,22.0s						
JANB	Januaria	98.76	103	eP	Pdif	21 58 25.9	+2.7
CHTO	Chiang Mai	98.89	314	IAMs_20	IAMs_20	22 44 22.1	
	comp=Z,601nm,20.0s						
CMAR	Chiang Mai Arr	99.19	313	P	Pdif	21 58 25.9	+0.6
	comp=Z,1.4nm,0.8s,baz=19,slow=3.7,SNR=8.0						
CMAR				LR	LR	22 46 17.1	
	comp=Z,505nm,18.0s,baz=5.0,slow=37						
	comp=Z,1.4nm,0.8s						
URZ	Urewera	99.46	219	LR	LR	22 36 52.3	
	comp=Z,189nm,19.5s,baz=114,slow=32						
MYLDM	Lahad Datu	99.50	290	IAMs_20	IAMs_20	22 40 20.0	
	comp=Z,880nm,20.0s						
CPUP	Villa Florida	99.59	120	LR	LR	22 49 24.6	
	comp=Z,256nm,18.6s,baz=345,slow=39						
CPUP	Villa Florida	99.59	120	eP	Pdif	21 58 29.2	+2.6
DLV	Lat	99.84	302	IAMs_20	IAMs_20	22 44 50.0	
	comp=Z,516nm,20.0s						
SOEI	Soe	107.41	276	IAMs_20	IAMs_20	22 39 18.9	
	comp=Z,1μm,22.0s						
HYB	Hyderabad	108.18	331	ePKiKP	PKiKP	22 03 09.9	-1.8
WRA	Warramunga Arr	108.51	261	PKiKP	PKiKP	22 03 12.1	0.0
	comp=Z,1.0nm,0.8s,baz=27,slow=1.7,SNR=5.2						
ASAR	Alice Springs	111.49	259	PKiKP	PKiKP	22 03 18.0	+0.3
	comp=Z,1.4nm,0.9s,baz=40,slow=2.5,SNR=8.6						
ASAR				PKKPbc	PKKPab	22 14 19.4	-0.9
	comp=Z,0.6nm,0.9s,baz=212,slow=3.5,SNR=4.9						
MBWA	Marble Bar	118.77	271	IAMs_20	IAMs_20	22 49 46.2	
	comp=Z,998nm,19.0s						
LODK	Lodwar	125.27	18	IAMs_20	IAMs_20	23 02 38.1	
	comp=Z,409nm,19.0s						
KMBO	Kilima Mbogo	130.07	17	IAMs_20	IAMs_20	23 05 56.2	
	comp=Z,585nm,20.0s						
KIBK	Kibwezi	131.40	16	IAMs_20	IAMs_20	23 01 13.8	
	comp=Z,429nm,22.0s						
VNDA	Vanda	133.94	196	PKPdf	PKPdf	22 03 58.0	-0.9
VNDA	Vanda	133.94	196	PKP	PKiKP	22 04 00.2	0.0
	comp=Z,2.1nm,0.8s,baz=89,slow=1.1,SNR=9.8						
QSPA	South Pole Qui	139.88	180	PKP	PKPdf	22 04 10.2	-0.1
	comp=Z,3.7nm,0.7s,baz=137,slow=0.4,SNR=12						
TSUM	Tsumeb	139.91	52	IAMs_20	IAMs_20	22 58 12.5	
	comp=Z,767nm,22.0s						
LSZ	Lusaka	141.10	35	PKPdf	PKPdf	22 04 10.9	-3.2
LSZ	Lusaka	141.10	35	IAMs_20	IAMs_20	23 04 55.1	
	comp=Z,801nm,20.0s						
LSZ	Lusaka	141.10	35	PKIKP	PKPdf	22 04 10.9	-3.2
LSZ				MLR	MLR		
	comp=Z,800nm,20.0s						
KOOLE	Kule	144.40	52	i P	PKiKP	22 04 25.1	+1.7
SOOWA	Sowa	145.11	41	i P	PKiKP	22 04 24.6	-0.3
KGCAE	Kacgae	145.27	49	PKPdf	PKPbc	22 04 19.5	-1.5
KGCAE	Kacgae	145.27	49	i P	PKiKP	22 04 25.4	+0.2
LKGWB	Lokgwabe	145.84	51	i P	PKiKP	22 04 27.1	+0.8
VNA3	Neumayer Olymp	146.03	150	⇑P	PKiKP	22 04 25.2	+0.1
	comp=Z,70nm,0.8s						
VNA1	Neumayer--Stat	146.56	149	⇑P	PKiKP	22 04 26.8	+0.7
	comp=Z,42nm,1.0s						
KDWAN	Kaudwane	146.88	46	PKPdf	PKPdf	22 04 20.8	-3.2
MREMI	Moremi	147.41	41	i P	PKPab	22 04 28.9	-0.4
LPHEP	Lephephe	147.41	44		PKPdf	22 04 24.8	0.0
LPHEP	Lephephe	147.41	44	i P	PKPab	22 04 28.9	-0.4
PHPEN	Phepeng	147.79	50	i P	PKiKP	22 04 30.6	+0.3
SNAA	Sanae	148.11	152	PKPbc	PKPbc	22 04 28.8	+1.1
	comp=Z,24nm,0.9s,baz=268,slow=2.5,SNR=8.1						
MAKGR	Makgori	149.02	48	i P	PKiKP	22 04 33.1	+0.3
TROLL	Troll, Antarti	149.61	153	⇑P	PKPbc	22 04 31.9	+0.3
	comp=Z,980nm,0.8s						
TROLL				⇑x	x	22 04 33.5	
	comp=E,647nm,0.7s						
BOSA	Boshof	151.58	50	PKPbc	PKPbc	22 04 35.5	-2.1
BOSA	Boshof	151.58	50	PKPbc	PKPbc	22 04 37.7	+0.1
	comp=E,26nm,0.8s,baz=331,slow=2.4,SNR=24						
SUR	Sutherland	152.16	62	PKPbc	PKPbc	22 04 37.6	-1.3
NVL	N'lazarevskaya	152.84	153	ePKIKP	PKiKP	22 04 43.4	+4.3
NVL				pmax	pmax		
	comp=Z,19nm,1.0s						
ELIB	Princess Elisa	155.01	161	dPKP	PKPab	22 05 05.6	+6.1

IDC 22 21:51:02.9±182.0, 49°.35S×70°.24E, h0km, Error ellipse: s-maj=0.0km s-min=0.0km az=71.0, Kerguelen Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23FR	KERGUELEN INFR	0.00	100	I	I	21 51 20.0	
	0.6nm,0.8s,baz=289,slow=308,SNR=4.5						
I03AU	Davis Base, An	19.68	171	I	I	23 44 00.0	
	baz=347,slow=334,SNR=1.7						
I04AU	SHANNON INFRAS	36.72	84	I	I	01 20 30.0	
	0.1nm,1.0s,baz=228,slow=318,SNR=1.0						

GCG 22 22:04:30.4±3.1, 15°.96N×94°.56W, h66km±999km, MD4.3
MEX 22 22:04:32.2±1.2, 15°.85N×94°.52W, h51km±36km, MD4.0

ISC 22 22:04:29.7±1.5, 15°.87N±0°.05×94°.52W±0°.03, h74km±26km, n17, σ1s72/29, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.26	97	eP	Pn	22 04 52.1	+0.4
PCIG				i S	Sn	22 05 07.9	-0.3
CMIG	Matias Romero	1.27	344	eP	Pn	22 04 52.0	+0.2
CMIG				i S	Sn	22 05 08.1	-0.3
UXUV	UXUV	1.49	14	i P	Pn	22 04 55.5	+0.9
UXUV				eS	Sn	22 05 13.5	+0.1
HUIG	Huatulco	1.53	267	eP	Pn	22 04 55.3	+0.2
HUIG				eS	Sn	22 05 13.2	-1.3
HUIG	Huatulco	1.53	267	eP	Pn	22 04 55.3	+0.2
HUIG				eS	Sn	22 05 13.1	-1.4
TGIG		1.62	56	i P	Pn	22 04 56.5	+0.1
TGIG				i S	Sn	22 05 14.5	-2.2
TGIG		1.62	56	eP	Pn	22 04 56.8	+0.3
NEUV	Arroyo Zacate	2.21	326	eP	Pn	22 05 05.7	+1.4
NEUV				eS	Sn	22 05 30.8	+0.2
PATR	El Naranjo	2.33	108	eP	Pn	22 05 07.2	+1.1
PATR				i S	Sn	22 05 34.4	+0.6
CCIG	Comitan	2.33	79	eP	Pn	22 05 07.2	+1.2
CCIG				i S	Sn	22 05 31.8	-2.0
CCIG	Comitan	2.33	79	eP	Pn	22 05 07.2	+1.2
PAVE	Pavencul	2.36	106	i P	Pn	22 05 08.5	+2.1
PAVE				eS	Sn	22 05 36.7	+2.1
VHO	Vista Hermosa	2.44	300	i P	Pn	22 05 12.1	+4.6
VHO				i S	Sn	22 05 37.5	+1.0
PEIG	Puerto Escondi	2.53	273	i P	Pn	22 05 09.0	+0.4
PEIG				i S	Sn	22 05 36.7	-1.8
STG8	El Palmar, Qui	3.37	114	eP	Pn	22 05 17.6	-2.6
STG0	El Palmar, Qui	3.39	115	eP	Pn	22 05 18.0	-2.4
JAUV	Jalcomulco	4.11	328	eP	Pn	22 05 29.8	-0.3
JAUV				i S	Sn	22 06 13.3	-3.7

NEIC 22 22:06:53.8±0.8, 38°.02N±0°.02×98°.02W±0°.02, h5km±2km, mb_Lg2.4/6, ML2.6/6, Error ellipse: s-maj=3.6km s-min=3.0km az=231.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	Long Quarter,	0.68	306	Pg	Pg	22 07 06.6	-0.2
R32A				Sg	Sg	22 07 16.0	+0.5
R32A				IAML		22 07 21.3	
	212nm,0.7s						
KAN12	Harper NE Stat	0.72	179	Pg	Pg	22 07 06.9	-0.8
KAN12				Sg	Sg	22 07 16.6	-0.5
KAN12				IAML		22 07 21.7	
	comp=N,240nm,0.4s						
KAN12				IAML		22 07 23.6	
	comp=E,229nm,0.4s						
KAN08	Anthony NE Sta	0.80	177	Pg	Pg	22 07 08.4	-0.7
KAN08				Sg	Sg	22 07 18.6	-0.7
KAN01	Argonia South	0.89	167	Pg	Pg	22 07 09.7	-1.2
KAN01				Sg	Sg	22 07 21.8	-0.6
KAN01				IAmb_Lg		22 07 22.9	
	comp=Z,14nm,1.0s						
KAN05	Bluff City Nor	0.92	173	Pg	Pg	22 07 10.3	-1.1
KAN05				Sg	Sg	22 07 23.0	-0.3
KAN09	Caldwell North	0.94	160	Pg	Pg	22 07 11.1	-0.8
KAN09				Sg	Sg	22 07 23.2	-0.8
KAN17	Caldwell West	1.00	168	Pg	Pg	22 07 11.9	-1.0
KAN17				Sg	Sg	22 07 25.4	-0.5
KAN14	Manchester OK	1.06	178	Pg	Pg	22 07 13.2	-1.0
KAN14				Sg	Sg	22 07 27.2	-0.8
KAN13	South Haven SW	1.10	157	Pg	Pg	22 07 13.7	-1.1
KAN13				Sg	Sg	22 07 27.4	-1.6
GC02	Grant County #	1.18	174	Pg	Pg	22 07 14.9	-1.4
GC02				Sg	Sg	22 07 31.0	-0.5
OK032	Salt Plains WL	1.23	187	Pg	Pg	22 07 15.9	-1.4
OK032				Sg	Sg	22 07 32.4	-0.8
OK032				IAML		22 07 41.7	
	comp=Z,128nm,0.2s						
KSU1	Kansas State U	1.54	45	Pg	Pn	22 07 20.6	-1.4
KSU1					Sn	22 07 41.9	-0.5
OK048	Pawnee Station	1.82	151	Pn	Pn	22 07 25.7	-0.1
OK052	Battle Ridge R	2.25	154	Pn	Pn	22 07 29.5	-2.1
P38A	Dawn	3.85	64	Pn	Pn	22 07 51.6	-2.1
RTBA	Rita Blanca	4.08	249	IAmb_Lg		22 09 11.0	
	comp=Z,5.9nm,1.1s						
L34A	Svendsen Farm,	4.14	17	IAmb_Lg		22 09 14.4	
	comp=Z,16nm,0.8s						

HEL 22 22:16:16.1±1.2, 67°.16N×20°.77E, h0km, ML0.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	Ertsjaerv	0.83	137	PG	Pg	22 16 30.2	-1.8
PAJU	Pajala	0.93	98	PG	Pg	22 16 32.3	-1.6
LANU	Lannavaara	1.00	27	PG	Pg	22 16 33.2	-2.1
LANU				SN	Sn	22 16 53.1	+0.8
KLF	Kolari	1.25	85	PG	Pg	22 16 37

*NEIC **22** 22:19:18.1±1.0, 31°.88N±0°.03×117°.28W±0°.03, h6km±6km, Error ellipse: s-maj=5.1km s-min=2.3km az=46.0*
*PAS **22** 22:19:19.5±1.1, 31°.90N±0°.02×117°.24W±0°.03, h6km±4km, ML3.4/221, ML3.1/40(NEIC), Error ellipse: s-maj=4.1km s-min=2.2km az=221.0*
*ECX **22** 22:19:20.5±0.5, 31°.90N×117°.20W, h13km±5km, MD3.2, ML3.4*
ISC 22 22:19:17.7±1.3,**31°.91N**±0°.03×**117°.28W**±0°.04,**h13**km±9km, **n69**,σ1§**02**/103,**9C-5D, Off west coast of Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBX	**Punta Banda**	**0.50**	**109**	⇑*i*P	**Pb**	**22 19 28.3**	**0.0**
PBX				*e*S	**Sg**	**22 19 34.5**	**+0.2**
CORX	**Isla Coronado**	**0.51**	**3**	*e*P	**Pn**	**22 19 29.3**	**-1.4**
CORX				IAML		22 19 43.5	
	comp=E,2μm,0.6s						
CORX				⇑*e*		22 19 43.5	
CCX	**Cicese**	**0.53**	**94**		**Pg**	**22 19 28.5**	**+0.4**
CCX					**Sg**	**22 19 35.2**	**+0.1**
CCX	**Cicese**	**0.53**	**94**	⇑*e*P	**Pb**	**22 19 28.9**	**+0.1**
CNAEN	**Presa Emilio L**	**0.58**	**91**	*e*P	**Pb**	**22 19 30.4**	**+0.7**
CNAEN				*e*S	**Sb**	**22 19 37.6**	**-0.2**
PLATJ	**Playas de Tiju**	**0.61**	**13**	*e*P	**Pn**	**22 19 32.7**	**+0.6**
PLATJ				*e*S	**Sn**	**22 19 40.4**	**-1.4**
TJX	**Tijuana**	**0.63**	**18**	Pg	**Pn**	**22 19 31.4**	**-1.0**
TJX				Sg	**Sb**	**22 19 39.8**	**+0.4**
TJX	**Tijuana**	**0.63**	**18**	*e*P	**Pn**	**22 19 32.4**	**0.0**
TJX				*e*S	**Sn**	**22 19 40.8**	**-1.5**
TJX	**Tijuana**	**0.63**	**18**	⇓*e*P	**Pn**	**22 19 32.2**	**-0.2**
TJX				*e*S	**Sn**	**22 19 40.7**	**-1.6**
TJX				IAML		22 19 49.4	
	comp=N,2μm,0.5s						
TJX				IAML		22 19 50.5	
	comp=E,2μm,0.6s						
CNATK	**Presa El Carri**	**0.65**	**29**	*e*P	**Pn**	**22 19 32.6**	**-0.1**
CNATK				*e*S	**Sn**	**22 19 41.9**	**-1.0**
CBX	**Cerro Bola**	**0.66**	**52**	Pg	**Pb**	**22 19 31.4**	**+0.1**
CBX				Sg	**Sb**	**22 19 40.2**	**-0.2**
CBX				IAML		22 19 42.6	
	comp=N,2μm,0.5s						
CBX	**Cerro Bola**	**0.66**	**52**	⇑*i*P	**Pb**	**22 19 31.7**	**+0.5**
CBX				*e*S	**Sb**	**22 19 40.4**	**0.0**
TJIG	**Tijuana**	**0.73**	**44**	⇑*e*P	**Pn**	**22 19 33.1**	**-0.7**
TJIG				*e*S	**Sb**	**22 19 42.2**	**-0.2**
TJIG				IAML		22 19 42.6	
	comp=E,2μm,0.1s						
OLP	**Otay Lakes Par**	**0.76**	**23**		**Pn**	**22 19 33.7**	**-0.4**
OLP					**Sn**	**22 19 44.2**	**-1.2**
OLP	**Otay Lakes Par**	**0.76**	**23**	⇑*e*P	**Pn**	**22 19 33.9**	**-0.2**
OLP				*e*S	**Sb**	**22 19 43.6**	**+0.5**
DUZA	**Dulzura**	**0.82**	**31**		**Pn**	**22 19 34.4**	**-0.6**
DUZA					**Sb**	**22 19 45.2**	**+0.4**
TKX	**Tecate**	**0.87**	**41**	Pg	**Pn**	**22 19 35.2**	**-0.5**
TKX				Sg	**Sb**	**22 19 45.8**	**-0.6**
TKX				IAML		22 19 47.3	
	comp=N,1μm,0.1s						
TKX				IAML		22 19 47.5	
	comp=E,817nm,0.3s						
SDRC	**San Diego Road**	**0.88**	**19**		**Pn**	**22 19 35.4**	**-0.4**
SDRC					**Sb**	**22 19 46.6**	**+0.2**
SDRC	**San Diego Road**	**0.88**	**19**	⇓*e*P	**Pn**	**22 19 35.4**	**-0.4**
SDRC				*e*S	**Sb**	**22 19 46.2**	**-0.2**
SDMC	**San Diego Miss**	**0.88**	**8**		**Pn**	**22 19 35.8**	**0.0**
SDMC					**Sn**	**22 19 47.8**	**-0.7**
BAR	**Barrett**	**0.93**	**34**		**Pn**	**22 19 36.1**	**-0.4**
BAR					**Sb**	**22 19 48.1**	**+0.1**
BAR	**Barrett**	**0.93**	**34**	⇓*e*P	**Pn**	**22 19 36.1**	**-0.4**
BAR				*e*S	**Sb**	**22 19 48.0**	**+0.1**
MTRP	**Mission Trails**	**0.93**	**12**		**Pn**	**22 19 37.3**	**+0.8**
MTRP					**Sn**	**22 19 49.1**	**-0.6**
CPE	**Camp Elliot**	**0.99**	**9**		**Pn**	**22 19 37.8**	**+0.5**
CPE					**Sn**	**22 19 50.3**	**-0.9**
EML	**El Monte Cty P**	**1.05**	**20**		**Pn**	**22 19 38.1**	**0.0**
EML					**Sg**	**22 19 51.2**	**-0.4**
EML	**El Monte Cty P**	**1.05**	**20**	⇓*e*P	**Pn**	**22 19 38.1**	**0.0**
EML				*e*S	**Sg**	**22 19 51.3**	**-0.4**
DPP	**Dos Picos Cty**	**1.13**	**15**		**Pg**	**22 19 39.6**	**+0.2**
DPP					**Sn**	**22 19 54.2**	**-0.4**
SJX	**San Joaquin**	**1.13**	**97**	⇑*i*P	**Pn**	**22 19 39.5**	**+0.2**
SJX				*e*S	**Sb**	**22 19 53.4**	**-0.4**
ESJX	**Sierra Juarez**	**1.14**	**85**	Pg	**Pb**	**22 19 39.4**	**0.0**
ESJX				Sg	**Sb**	**22 19 53.9**	**-0.2**
ESJX				IAML		22 19 55.4	
	comp=E,362nm,0.2s						
ESJX				IAML		22 19 59.8	
	comp=N,360nm,0.7s						
MONP2	**Monument Peak**	**1.22**	**36**		**Pg**	**22 19 41.0**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**1.24**	**53**		**Pg**	**22 19 41.3**	**-0.3**
IKP					**Sn**	**22 19 57.2**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**1.24**	**53**	⇑*e*P	**Pg**	**22 19 41.3**	**-0.3**
IKP				*e*S	**Sn**	**22 19 57.0**	**-0.4**
GORC	**Green Oak Ranc**	**1.25**	**2**		**Pg**	**22 19 42.0**	**+0.2**
JUEM	**Julian Eagle M**	**1.31**	**26**		**Pg**	**22 19 42.2**	**-0.7**
JUEM					**Sg**	**22 19 59.4**	**-0.5**
YUH	**Yuha Desert**	**1.37**	**57**		**Pb**	**22 19 43.4**	**+0.3**
YUH				IAML		22 20 07.9	
	comp=N,261nm,1.1s						
YUH				IAML		22 20 08.5	
	comp=E,306nm,0.8s						
YUH2	**Yuha Desert**	**1.37**	**57**	⇓*e*P	**Pg**	**22 19 43.5**	**-0.5**
YUH2				*e*S	**Sb**	**22 20 00.5**	**-0.1**
VTX	**Valle De La Tr**	**1.38**	**112**		**Pb**	**22 19 43.6**	**+0.3**
VTX	**Valle De La Tr**	**1.38**	**112**	*e*P	**Pn**	**22 19 43.1**	**+0.4**
MATG	**Mataguay Scout**	**1.40**	**22**		**Pg**	**22 19 44.0**	**-0.6**
MATG					**Sg**	**22 20 02.3**	**-0.5**
CRR	**Carrizo Plain**	**1.48**	**48**		**Pg**	**22 19 46.0**	**-0.2**
CRR					**Sg**	**22 20 05.3**	**-0.1**
PLM	**Palomar**	**1.49**	**14**		**Pg**	**22 19 46.0**	**-0.3**
SGL	**Mount Signal**	**1.51**	**60**		**Sg**	**22 20 05.7**	**-0.8**
WESC	**Westside Schoo**	**1.56**	**57**		**Sg**	**22 20 08.3**	**+0.2**
BZNA	**Buzz No.'s Pla**	**1.66**	**18**		**Pg**	**22 19 48.8**	**-0.9**
BACC	**Bachelor Mtn.**	**1.71**	**7**		**Pg**	**22 19 50.3**	**-0.3**
CRY	**Cary Ranch**	**1.72**	**15**		**Sg**	**22 20 11.8**	**-1.2**
SNDA	**J Saunders Pla**	**1.73**	**19**		**Pg**	**22 19 50.7**	**-0.3**
ELS	**Elsinore Mount**	**1.74**	**356**	Pn	**Pg**	**22 19 49.9**	**-1.3**
ELS				IAML		22 20 18.7	
	comp=E,176nm,0.6s						
CPBX	**Cerro Prieto**	**1.75**	**72**		**Pb**	**22 19 49.6**	**-0.1**
SPIG	**San Pedro Mart**	**1.77**	**118**	*e*P	**Pb**	**22 19 49.8**	**-0.5**
SQX	**San Quintin**	**1.79**	**137**	⇓*e*P	**Pn**	**22 19 49.2**	**+0.9**
SQX				*e*S	**Sn**	**22 20 09.6**	**-1.2**
POB	**Polly Butte**	**1.80**	**10**		**Pg**	**22 19 52.2**	**-0.1**
PFO	**Pinyon Flats O**	**1.84**	**22**	Pn	**Pb**	**22 19 51.6**	**+0.4**
PFO				IAML		22 20 23.7	
	comp=E,156nm,1.0s						
XPFO	**Pinon Flat**	**1.84**	**22**		**Pg**	**22 19 52.1**	**-0.9**
CLTC	**Calectric**	**2.18**	**359**		**Pn**	**22 19 54.3**	**+0.6**
SFX	**San Felipe**	**2.25**	**112**	Pn	**Pb**	**22 19 56.7**	**-1.5**
SFX				IAML		22 20 33.6	
	comp=N,128nm,0.9s						
SFX				IAML		22 20 35.2	
	comp=E,108nm,0.9s						
SNCC	**San Nicolas Is**	**2.32**	**306**	Pn	**Pb**	**22 19 58.6**	**-0.8**
SNCC				IAML		22 20 38.9	
	comp=E,95nm,1.2s						
GLA	**Glamis**	**2.37**	**61**	Pn	**Pn**	**22 19 57.2**	**+1.0**
GLA				IAML		22 20 45.9	
	comp=N,97nm,0.9s						
GLA				IAML		22 20 55.6	
	comp=E,128nm,0.8s						
PASC	**Pasadena Art C**	**2.38**	**342**		**Pn**	**22 19 56.9**	**+0.4**
MWC	**Mount Wilson**	**2.40**	**344**		**Pg**	**22 20 03.5**	**-0.3**
BLYC	**Blythe**	**2.96**	**51**	Pn	**Pn**	**22 20 05.4**	**+1.0**
BLYC				IAML		22 21 06.8	
	comp=E,52nm,0.9s						
113A	**Mohawk Valley,**	**3.10**	**73**	Pn	**Pn**	**22 20 07.4**	**+1.1**
GSC	**Goldstone, Bar**	**3.41**	**7**	Pn	**Pn**	**22 20 13.8**	**+3.1**
BCW	**Bitter Crk WRg**	**3.51**	**330**	Pn	**Pn**	**22 20 13.8**	**+1.7**
BCW				IAML		22 21 03.1	
	comp=N,56nm,3.1s						
BCW				IAML		22 21 29.4	
	comp=E,56nm,1.0s						
GWY	**Greenwater Val**	**4.30**	**7**	Pn	**Pn**	**22 20 25.7**	**+2.8**
SHPR	**Sheep Range**	**4.91**	**20**	Pn	**Pn**	**22 20 34.5**	**+3.1**
TPNV	**Topopah Spring**	**5.10**	**9**	Pn	**Pn**	**22 20 37.7**	**+3.7**
TPNV				IAML		22 22 11.1	
	comp=E,16nm,1.0s						
DSP	**Deep Springs**	**5.48**	**354**	Pn	**Pn**	**22 20 42.4**	**+3.4**
LCMT	**Little Creek M**	**6.09**	**32**	Pn	**Pn**	**22 20 50.5**	**+3.0**

*WEL **22** 22:20:20.2±0.3, 43°.3S±2°.×17°.3E±°, h12km, M3.1/12, ML3.3/12, MLv3.1/12, Error ellipse: s-maj=3.0km s-min=2.6km az=126.7, confirmed*
*NOU **22** 22:20:21.4, 42°.82S×173°.07E, h25km, MLv3.5/11, South Island, New Zealand*
ISC 22 22:20:20.7±0.9,**42°.73S**±0°.02×**172°.83E**±0°.02,**h18**km±2km, **n86**,σ1§**04**/98,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSES	**Hanmer Springs**	**0.21**	**0**	P	**Pb**	**22 20 24.5**	**-1.0**
HSES				S	**Sb**	**22 20 27.9**	**-0.7**
GVZ	**Greta Valley S**	**0.28**	**148**	P	**Pb**	**22 20 27.1**	**0.0**
GVZ				S	**Sb**	**22 20 32.5**	**+1.1**
CECS	**Cheviot Emerge**	**0.34**	**104**	P	**Pb**	**22 20 28.3**	**+0.1**
CECS				S	**Sb**	**22 20 34.6**	**+1.4**
LTZ	**Lake Taylor**	**0.41**	**263**	P	**Pg**	**22 20 28.5**	**-0.8**
LTZ				S	**Sg**	**22 20 34.7**	**-0.4**
AMCZ	**Amberley**	**0.47**	**196**	P	**Pb**	**22 20 30.6**	**+0.3**
KHZ	**Kahutara**	**0.61**	**59**	P	**Pg**	**22 20 32.7**	**-0.1**
KHZ	**Kahutara**	**0.61**	**59**	S	**Sg**	**22 20 42.0**	**+1.0**
KHZ	**Kahutara**	**0.61**	**59**	P	**Pg**	**22 20 32.7**	**-0.1**
KHZ				S	**Sg**	**22 20 41.8**	**+0.8**
SJFS	**Springs Juncti**	**0.62**	**309**	P	**Pb**	**22 20 32.0**	**-0.9**
SJFS				S	**Sb**	**22 20 39.8**	**-1.5**
SMHS	**Summerhill**	**0.64**	**214**	P	**Pg**	**22 20 33.9**	**+0.4**
SMHS				S	**Sn**	**22 20 43.4**	**-1.2**
CSTC	**Cust School**	**0.67**	**209**	P	**Pb**	**22 20 33.1**	**-0.7**
KIKS	**Kaikoura**	**0.70**	**64**	P	**Pn**	**22 20 35.4**	**-0.2**
KIKS				S	**Sn**	**22 20 46.1**	**+0.2**
MOLW	**Molesworth Sta**	**0.72**	**26**	P	**Pb**	**22 20 33.6**	**-1.0**
OXZ	**Oxford**	**0.83**	**224**	P	**Pb**	**22 20 36.6**	**+0.1**
OXZ				S	**Sg**	**22 20 48.5**	**+0.5**
MTPS	**Mount Pleasant**	**0.86**	**185**	P	**Pb**	**22 20 36.5**	**-0.5**
MTPS				S	**Sg**	**22 20 48.7**	**0.0**
HUNS	**Huntsbury**	**0.86**	**188**	P	**Pg**	**22 20 37.3**	**-0.2**
SHFC	**Sheffield Scho**	**0.89**	**221**	P	**Pb**	**22 20 36.5**	**-1.0**
SPRS	**Springfield Vo**	**0.90**	**227**	P	**Pg**	**22 20 38.0**	**-0.2**
THZ	**Tophouse**	**0.97**	**3**	P	**Pb**	**22 20 38.2**	**-0.8**
MQZ	**McQueen's Vall**	**0.98**	**187**	P	**Pb**	**22 20 38.6**	**-0.5**
MQZ				S	**Sg**	**22 20 52.5**	**-0.3**
OKCZ	**Okains Bay**	**1.01**	**170**	P	**Pb**	**22 20 39.7**	**+0.1**
INZ	**Inchbonnie**	**1.02**	**270**	P	**Pb**	**22 20 39.4**	**-0.4**
RACZ	**Rakaia**	**1.12**	**207**	P	**Pn**	**22 20 40.8**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.14**	**177**	P	**Pn**	**22 20 41.2**	**-0.6**
MHCZ	**Mount Hutt**	**1.22**	**229**	P	**Pn**	**22 20 42.4**	**-0.5**
DSZ	**Denniston Nort**	**1.25**	**322**	P	**Pb**	**22 20 43.5**	**-0.2**
DSZ				S	**Sn**	**22 20 59.8**	**+0.3**
BSWZ	**Blackbirch Sta**	**1.28**	**38**	P	**Pb**	**22 20 44.3**	**+0.1**
MRNZ	**Matariki Terra**	**1.33**	**358**	P	**Pn**	**22 20 44.5**	**+0.2**
TUWZ	**Tuamarina**	**1.54**	**33**	P	**Pn**	**22 20 47.7**	**+0.5**
NNZ	**Nelson**	**1.57**	**15**	P	**Pb**	**22 20 48.4**	**-0.7**
WVZ	**Waitaha Valley**	**1.58**	**257**	P	**Pn**	**22 20 47.9**	**+0.2**
RPZ	**Rata Peaks**	**1.63**	**232**	P	**Pb**	**22 20 50.8**	**+0.6**
RPZ	**Rata Peaks**	**1.63**	**232**	P	**Pn**	**22 20 49.0**	**+0.5**
TKNZ	**Takaka Hill**	**1.70**	**3**	P	**Pn**	**22 20 50.2**	**+0.8**
ARCZ	**Arundel**	**1.71**	**224**	P	**Pn**	**22 20 49.1**	**-0.5**
TCW	**Tory Channel**	**1.86**	**36**	P	**Pn**	**22 20 51.6**	**0.0**
QRZ	**Quartz Range**	**1.92**	**353**	P	**Pn**	**22 20 53.0**	**+0.6**
QRZ	**Quartz Range**	**1.92**	**353**	S	**Sb**	**22 21 18.8**	**+0.2**
QRZ	**Quartz Range**	**1.92**	**353**	P	**Pn**	**22 20 52.9**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**1.93**	**251**	P	**Pn**	**22 20 53.8**	**+1.3**
SNZO	**South Karori**	**1.99**	**45**	P	**Pn**	**22 20 53.1**	**-0.3**
BHW	**Baring Head**	**2.01**	**50**	P	**Pn**	**22 20 53.3**	**-0.3**
DUWZ	**D'Urville Isla**	**2.09**	**23**	P	**Pn**	**22 20 55.5**	**+0.7**
TMZ	**Timaru**	**2.12**	**218**	P	**Pn**	**22 20 54.6**	**-0.5**
MSWZ	**Moikau Station**	**2.23**	**55**	P	**Pn**	**22 20 55.6**	**-1.1**
CAW	**Cannon Point**	**2.33**	**47**	P	**Pn**	**22 20 57.5**	**-0.5**
FOZ	**Fox Glacier**	**2.35**	**249**	P	**Pn**	**22 20 60.0**	**+1.7**
PAWZ	**Paruwai Farm**	**2.36**	**56**	P	**Pn**	**22 20 57.2**	**-1.3**
KIW	**Kapiti Island**	**2.43**	**40**	P	**Pn**	**22 20 59.2**	**-0.3**
OGWZ	**Otaki Gorge**	**2.59**	**43**	P	**Pn**	**22 21 01.1**	**-0.6**
HOWZ	**Holdsworth Sta**	**2.72**	**49**	P	**Pb**	**22 21 08.0**	**-0.8**
ODZ	**Otahua Downs**	**2.80**	**214**	P	**Pn**	**22 21 03.4**	**-1.1**
ODZ	**Otahua Downs**	**2.80**	**214**	P	**Pn**	**22 21 03.4**	**-1.1**
MRZ	**Mangatainoka R**	**2.92**	**46**	P	**Pn**	**22 21 05.0**	**-1.2**
JCZ	**Jackson Bay**	**3.24**	**244**	P	**Pn**	**22 21 12.7**	**+2.1**
JCZ	**Jackson Bay**	**3.24**	**244**	P	**Pn**	**22 21 11.0**	**+0.4**
BFZ	**Birch Farm**	**3.28**	**52**	P	**Pn**	**22 21 09.5**	**-1.6**
NMEZ	**Namu Road**	**3.41**	**14**	P	**Pn**	**22 21 15.5**	**+2.7**
DVHZ	**Dannevirke**	**3.49**	**47**	P	**Pn**	**22 21 12.2**	**-1.8**
PREZ	**Palmer Road**	**3.53**	**17**	P	**Pn**	**22 21 17.2**	**+2.6**
NBEZ	**Newall Road No**	**3.55**	**13**	P	**Pn**	**22 21 16.8**	**+2.0**
KHEZ	**Kahui Hut**	**3.55**	**15**	P	**Pn**	**22 21 17.2**	**+2.3**
KHEZ	**Kahui Hut**	**3.55**	**15**	P	**Pn**	**22 21 17.2**	**+2.3**
NEZ	**North Egmont**	**3.59**	**16**	P	**Pn**	**22 21 18.7**	**+3.3**
PNHZ	**Pukenui**	**3.79**	**43**	P	**Pn**	**22 21 16.4**	**-1.7**
VRZ	**Vera Road**	**3.89**	**23**	P	**Pn**	**22 21 21.4**	**+2.0**
PKVZ	**Pokaka**	**3.93**	**30**	P	**Pn**	**22 21 21.0**	**+0.9**
WNVZ	**Wahianoa**	**3.99**	**33**	P	**Pn**	**22 21 21.5**	**+0.4**
TRVZ	**Turoa**	**4.00**	**32**	P	**Pn**	**22 21 21.5**	**+0.3**
WHVZ	**Whangaehu Hut**	**4.03**	**32**	P	**Pn**	**22 21 21.8**	**+0.2**
FWVZ	**Far West T-bar**	**4.04**	**32**	P	**Pn**	**22 21 22.0**	**+0.2**
TUVZ	**Tukino**	**4.07**	**33**	P	**Pn**	**22 21 22.4**	**+0.3**
NGZ	**Ngauruhoe**	**4.12**	**31**	P	**Pn**	**22 21 23.5**	**+0.6**
SNVZ	**South Ngauruho**	**4.13**	**32**	P	**Pn**	**22 21 23.1**	**+0.1**
TWVZ	**Taurewa**	**4.16**	**29**	P	**Pn**	**22 21 23.9**	**+0.6**
OTVZ	**Oturere**	**4.16**	**32**	P	**Pn**	**22 21 23.5**	**+0.1**
NNVZ	**North Ngauruho**	**4.17**	**31**	P	**Pn**	**22 21 23.9**	**+0.4**
WTVZ	**West Tongariro**	**4.17**	**31**	P	**Pn**	**22 21 23.9**	**+0.4**
ETVZ	**East Tongariro**	**4.20**	**32**	P	**Pn**	**22 21 23.9**	**0.0**
TMVZ	**Te Maari**	**4.22**	**32**	P	**Pn**	**22 21 24.1**	**0.0**
NTVZ	**North Tongarir**	**4.22**	**32**	P	**Pn**	**22 21 24.4**	**+0.2**
HIZ	**Hauiti**	**4.49**	**21**	P	**Pn**	**22 21 28.6**	**+0.9**
BKZ	**Black Stump Fm**	**4.51**	**39**	P	**Pn**	**22 21 27.7**	**-0.4**
TLZ	**Tolley Road**	**4.86**	**26**	P	**Pn**	**22 21 34.5**	**+1.7**
MKAZ	**Moumakai**	**5.90**	**18**	P	**Pn**	**22 21 47.9**	**+0.8**
PUZ	**Puketiti**	**6.23**	**43**	P	**Pn**	**22 21 54.0**	**+2.4**

WEL 22 22:21:22.2±0.6,**39°S**±4°×**17°7E**±°,**h18**km±5km,**M1.7**/5, **ML2.1**/12,**MLv1.7**/5,**Error ellipse: s-maj=4.7km s-min=4.1km az=159.5,confirmed,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.14**	**74**	P	Pg	22 21 26.7	+0.4
SNGZ	**Shannon Statio**	**0.30**	**337**	P	Pb	22 21 29.5	+0.3
SNGZ				S	Sb	22 21 35.8	+1.9
MHGZ	**Mahia Peninsul**	**0.33**	**106**	P	Pb	22 21 30.2	+0.5
PRGZ	**Paritu Road**	**0.33**	**65**	P	Pb	22 21 30.0	+0.3
PRGZ				S	Sn	22 21 37.8	-0.9
RAHZ	**Arahi**	**0.35**	**294**	P	Pb	22 21 30.3	+0.3
RAHZ				S	Sn	22 21 37.3	-1.8
RIGZ	**Rimuhau**	**0.41**	**30**	P	Pb	22 21 31.4	+0.3
RIGZ				S	Sn	22 21 39.4	-1.2
ARHZ	**Aropaoanui**	**0.44**	**243**	P	Pn	22 21 32.7	-0.9
NMHZ	**Naumai**	**0.54**	**266**	P	Pb	22 21 33.9	+0.7
NMHZ	**Naumai**	**0.54**	**266**	P	Pb	22 21 33.9	+0.7
MTHZ	**Maungataniwha**	**0.55**	**292**	P	Pb	22 21 33.5	+0.1
MTHZ	**Maungataniwha**	**0.55**	**292**	P	Pb	22 21 33.6	+0.2
RAGZ	**Rawiri**	**0.57**	**354**	P	Pb	22 21 33.9	+0.2
RAGZ				S	Sn	22 21 43.6	-0.9
RTZ	**Ruatahuna**	**0.60**	**318**	P	Pb	22 21 34.3	0.0
MWZ	**Matawai**	**0.73**	**2**	P	Pb	22 21 36.5	0.0
MWZ				S	Sn	22 21 47.8	-0.6
BKZ	**Black Stump Fm**	**0.79**	**262**	P	Pn	22 21 38.3	-0.2
URZ	**Urewera**	**0.86**	**339**	P	Pb	22 21 38.5	0.0
URZ				S	Sn	22 21 51.1	-0.4
MRHZ	**Matea Rd**	**0.87**	**285**	P	Pb	22 21 39.0	+0.2
KAHZ	**Kahuranaki**	**0.87**	**213**	P	Pn	22 21 39.6	-0.1
HAZ	**Te Kaha**	**1.32**	**10**	P	Pn	22 21 45.6	-0.2

*IDC **22** 22:28:55.5±1.4, 8°.59S×158°.58E, h175km±23km, mb4.0/3, mbtmp4.5/5, Error ellipse: s-maj=38.8km s-min=28.3km az=68.0*
ISC 22 22:28:55.8±1.4,**8°.5S**±0°.2×**158°.8E**±0°.2,**h200**km,**n7**, σ1§**98**/8,**mb4.2**/4,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.47**	**129**	P	**Pn**	**22 29 28.2**	**-0.9**
	605nm,0.3s,baz=298,slow=2.6,SNR=71						
HNR				S	**Sn**	**22 29 52.9**	**-2.2**
	1μm,0.3s,baz=336,slow=21,SNR=41						
DZM	**Mont Dzumac**	**15.37**	**152**	P	**P**	**22 32 25.5**	**+2.6**
	9.0nm,0.9s,baz=324,slow=22,SNR=5.1						
JAY	**Jayapura**	**18.96**	**287**	P	**Pn**	**22 33 03.4**	**-1.9**
	11nm,0.6s,baz=147,slow=6.2,SNR=6.6						
WRA	**Warramunga Arr**	**26.26**	**242**	P	**P**	**22 34 12.7**	**-0.1**
	2.8nm,0.3s,baz=66,slow=9.2,SNR=42						
	2.8nm,0.3s						
ASAR	**Alice Springs**	**28.21**	**235**	P	**P**	**22 34 29.4**	**-0.7**
	2.3nm,0.4s,baz=61,slow=9.7,SNR=57						
	2.3nm,0.4s						
STKA	**Stephens Creek**	**28.23**	**212**	P	**P**	**22 34 30.6**	**+0.4**
	1.8nm,0.4s,baz=48,slow=15,SNR=8.9						
	1.8nm,0.4s						
MKAR	**Makanchi Array**	**87.03**	**318**	P	**P**	**22 41 20.4**	**+1.7**
	0.1nm,0.4s,baz=90,slow=7.9,SNR=2.0						

*KRSC **22** 22:33:14.3±1.8, 51°.47N×160°.19E, h49km±28km, Ml4.2*
*IDC **22** 22:33:20.1±0.8, 51°.64N×159°.49E, h34km±4km, mb3.8/19, mbtmp4.0/22, ML3.6/3, MS4.3/1, Error ellipse: s-maj=18.7km s-min=14.5km az=111.0*
*MOS **22** 22:33:21.0±0.9, 51°.66N×159°.36E, h58km, mb4.4/4, Error ellipse: s-maj=15.6km s-min=9.6km az=102.6*
ISC 22 22:33:19.2±0.8,**51°.61N**±0°.05×**159°.79E**±0°.06,**h35**km±2km, **n66**,σ1§**39**/76,**mb4.0**/22,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.09**	**281**	*e*P	**Pb**	**22 33 38.4**	**-1.0**
KDTR				*e*S	**Sb**	**22 33 54.3**	**+0.9**
RUS	**Russkaya**	**1.14**	**317**	*e*P	**Pb**	**22 33 38.9**	**-1.6**
RUS				*e*S	**Sb**	**22 33 55.6**	**+0.6**
MTVR	**Mutnovka**	**1.32**	**312**	*e*P	**Pb**	**22 33 42.0**	**-1.6**
MTVR				*e*S	**Sb**	**22 34 00.7**	**+0.3**
GRL	**Gorelyy**	**1.42**	**312**	*e*P	**Pb**	**22 33 44.2**	**-1.0**
DALK	**Dalny**	**1.56**	**336**	*e*P	**Pn**	**22 33 45.1**	**+0.7**
DALK				*e*S	**Sb**	**22 34 07.2**	**+0.3**
PET	**Petropavlovsk**	**1.58**	**334**	*e*PN	**Pn**	**22 33 44.8**	**+0.1**
PET				*e*S	**Sb**	**22 34 07.7**	**+0.2**
PET				pmax	pmax		
	comp=Z,240nm,0.5s						
PET				smax	smax		
	comp=N,843nm,0.6s						
PET				smax	smax		
	comp=E,372nm,0.5s						
PET	**Petropavlovsk**	**1.58**	**334**	*e*P	**Pb**	**22 33 45.6**	**-2.3**
PET				*e*S	**Sb**	**22 34 06.4**	**-1.0**
NLC	**Nalytchevo**	**1.59**	**350**	*e*P	**Pn**	**22 33 44.9**	**+0.1**
KRMR	**Karymshinskiy**	**1.59**	**321**	*e*P	**Pb**	**22 33 45.6**	**-2.4**
INSR	**Institute**	**1.63**	**334**	*e*P	**Pb**	**22 33 46.3**	**-2.4**
INSR				*e*S	**Sb**	**22 34 10.6**	**+1.6**
UGLR	**Uglovaya**	**1.71**	**340**	*e*P	**Pn**	**22 33 47.3**	**+0.7**
SDLR	**Sedlovina**	**1.76**	**342**	*e*P	**Pn**	**22 33 47.8**	**+0.4**
AVH	**Avacha**	**1.78**	**339**	*e*P	**Pn**	**22 33 48.5**	**+0.9**
KOK	**Koryaka**	**1.83**	**338**	*e*P	**Pn**	**22 33 49.3**	**+1.1**
PAU	**Pauzhetka**	**1.87**	**267**	*e*P	**Pb**	**22 33 49.6**	**-3.1**
PAU				*e*S	**Sb**	**22 34 16.2**	**+0.6**
KRX	**Arik**	**1.89**	**339**	*e*P	**Pn**	**22 33 49.8**	**+0.7**
PEA0B	**Petropavlovsk-**	**1.98**	**320**	*i*PN	**Pn**	**22 33 50.8**	**+0.6**
**

comp=Z,4.0nm,0.6s
KBZ Khabaz 70.49 317 P **P 22 44 29.5 -0.4**
comp=Z,1.4nm,0.9s,baz=121,slow=5.9,SNR=3.7
comp=Z,1.4nm,0.9s
KBZ Khabaz 70.49 317 *i* P **P 22 44 30.0 +0.1**
KBZ pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 71.40 66 P **P 22 44 37.8 +2.0**
comp=Z,0.2nm,0.6s,baz=303,slow=4.4,SNR=5.4
comp=Z,0.2nm,0.6s
WRA Warramunga Arr 74.65 205 P **P 22 44 53.7 -1.2**
comp=Z,0.5nm,0.7s,baz=20,slow=6.4,SNR=2.5
WRA pP **pP 22 45 05.8 +1.2**
comp=Z,0.6nm,0.6s,baz=18,slow=6.3,SNR=2.9
comp=Z,0.5nm,0.7s
BRTR Keskin Array B 77.65 320 P **P 22 45 13.3 +1.3**
comp=Z,0.5nm,0.8s,baz=12,slow=7.4,SNR=2.2
comp=Z,0.5nm,0.8s
ASAR Alice Springs 78.33 204 P **P 22 45 15.9 +0.4**
comp=Z,0.3nm,0.6s,baz=14,slow=4.8,SNR=4.4
ASAR pP **sP 22 45 27.9 -1.1**
comp=Z,0.5nm,0.6s,baz=14,slow=5.2,SNR=4.2
comp=Z,0.3nm,0.6s
MMAI Mount Meron Ar 82.65 316 P **P 22 45 40.1 +1.2**
comp=Z,1.5nm,0.6s,baz=15,slow=6.0,SNR=2.0
comp=Z,1.5nm,0.6s

---

*IDC **22** 22:49:09.0±1.2, 46°.81N×152°.48E, h0km, mb4.0/8, mbtmp3.9/10, ML3.3/2, Error ellipse: s-maj=33.2km s-min=25.3km az=112.0*
*MOS **22** 22:49:16.6±3.4, 46°.67N×152°.54E, h62km, mb4.7/5, Error ellipse: s-maj=15.9km s-min=12.1km az=85.0*
*SKHL **22** 22:49:17.4±0.2, 46°.30N×152°.80E, h106km±5km, mb4.8/5, msha5.2/2*
ISC 22 22:49:18.7±1.1, 46°.4N±0°.1×152°.66E±0°.10, h100km, n24, σ1§46/28, mb4.0/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.54**	**253**	*e*PN	**Pn**	**22 50 12.3**	**+0.7**
KUR				*e*S	**Sn**	**22 50 55.9**	**+3.3**
KUR				pmax	pmax		
	comp=Z,74nm,0.4s						
KUR				pmax	pmax		
	comp=N,28nm,0.2s						
KUR				pmax	pmax		
	comp=E,18nm,0.2s						
KUR				smax	smax		
	comp=E,269nm,0.4s						
KUR				smax	smax		
	comp=N,152nm,0.5s						
KUR	**Kuril'sk**	**3.54**	**253**	*e*P	**Pn**	**22 50 11.3**	**-0.3**
KUR				AMB	AMB	22 50 13.9	
	comp=N,80nm,0.3s						
KUR				*e*S	**Sn**	**22 50 51.6**	**-1.0**
KUR				A	A	22 50 57.3	
	comp=N,150nm,0.4s						
KUR				A	A	22 50 57.3	
	comp=N,60nm,0.4s						
SHO	**Shikotan**	**4.83**	**241**	*e*P	**Pn**	**22 50 28.4**	**-0.6**
SHO				AMB	AMB	22 50 31.2	
	comp=N,20nm,0.3s						
SHO				*e*S	**Sn**	**22 51 21.8**	**-1.9**
SHO				A	A	22 51 26.9	
	comp=N,30nm,0.4s						
SHO				A	A	22 51 26.9	
	comp=N,40nm,0.4s						
SKR	**Severo-Kuril's**	**4.89**	**27**	*e*PN	**Pn**	**22 50 33.0**	**+3.2**
SKR				pmax	pmax		
	comp=Z,32nm,0.5s						
SKR	**Severo-Kuril's**	**4.89**	**27**	*e*P	**Pn**	**22 50 30.2**	**+0.4**
SKR				*e*S	**Sn**	**22 51 24.0**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**5.34**	**247**	*e*P	**Pn**	**22 50 36.1**	**+0.1**
YUK				AMB	AMB	22 50 39.6	
	comp=Z,80nm,0.4s						
NMR	**Nemuro--Hokkai**	**5.77**	**241**	*e*P	**Pn**	**22 50 41.3**	**-0.5**
NMR				*e*S	**Sn**	**22 51 45.2**	**-1.4**
PAU	**Pauzhetka**	**5.79**	**27**	*e*P	**Pn**	**22 50 42.9**	**+0.9**
PAU				AMB	AMB	22 50 45.5	
	comp=Z,20nm,0.5s						
AKK	**Akkeshi**	**6.50**	**242**	*e*P	**Pn**	**22 50 50.6**	**-1.2**
AKK				*e*S	**Sn**	**22 52 03.3**	**-1.1**
YSS	**Yuzhno-Sakhali**	**6.84**	**278**	*e*PN	**Pn**	**22 50 58.0**	**+1.7**
YSS				*e*S	**Sn**	**22 52 14.1**	**+1.4**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				smax	smax		
	comp=N,10.0nm,0.5s						
YSS	**Yuzhno-Sakhali**	**6.84**	**278**	*e*P	**Pn**	**22 50 58.0**	**+1.7**
ASAJ	**Asahikawa**	**7.45**	**256**	Pn	Pn	22 50 59.5	-5.2
	comp=N,1.1nm,0.3s,baz=278,slow=14,SNR=4.4						
	comp=N,2.8nm,0.4s						
PETK	**Petropavlovsk-**	**7.49**	**24**	Pn	Pn	22 50 55.8	-9.4
	comp=N,0.5nm,0.3s,baz=192,slow=13,SNR=5.1						
	comp=N,1.5nm,0.8s						
TYV	**Tymovskoe**	**8.01**	**308**	*e*P	**Pn**	**22 51 10.2**	**-1.9**
NKL	**Nikolayevsk**	**10.29**	**316**	*e*P	**Pn**	**22 51 41.5**	**-1.7**
MKAR	**Makanchi Array**	**46.84**	**297**	P	**P**	**22 57 37.6**	**-0.7**
	comp=N,0.4nm,0.6s,baz=66,slow=7.4,SNR=4.1						
	comp=N,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**58.11**	**341**	P	**P**	**22 59 00.7**	**-0.4**
	comp=N,2.9nm,1.0s,baz=18,slow=12,SNR=1.5						
	comp=N,2.9nm,1.0s						
FINES	**FINESS Array B**	**64.25**	**335**	P	**P**	**22 59 42.4**	**-0.2**
	comp=N,1.1nm,0.4s,baz=37,slow=7.5,SNR=21						
	comp=N,1.1nm,0.4s						
NB2	**NORSAR Subarra**	**68.48**	**341**	P	**P**	**23 00 09.5**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.48**	**341**	P	**P**	**23 00 09.8**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=27,slow=6.3,SNR=6.8						
	comp=Z,1.3nm,0.7s						
HFS	**Hagfors**	**68.70**	**339**	P	**P**	**23 00 10.8**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=55,slow=5.6,SNR=24						
	comp=Z,1.8nm,0.4s						
AKASG	**Malin Array Be**	**71.69**	**326**	P	**P**	**23 00 29.5**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=36,slow=6.2,SNR=5.0						
	comp=Z,1.1nm,0.4s						
ASAR	**Alice Springs**	**71.75**	**198**	P	P	23 00 35.4	+5.4
	comp=Z,0.4nm,0.5s,baz=11,slow=5.6,SNR=5.7						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**77.95**	**60**	P	**P**	**23 01 08.2**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=323,slow=7.3,SNR=3.7						
	comp=Z,0.2nm,0.5s						

---

*MOS **22** 22:49:29.0±0.8, 31°.15N×131°.35E, h40km, mb4.7/17, Error ellipse: s-maj=12.4km s-min=6.8km az=110.3*
*NIED **22** 22:49:29.9, 31°.08N×131°.53E, h30km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}2.74; $M_{\theta\theta}$-0.42; $M_{\phi\phi}$-2.32; $M_{r\theta}$1.12; $M_{\theta\phi}$-1.41; $M_{\phi r}$1.15; Fault plane solution: $M_0$3.33000×10^15^ NP1: ϕ_s199.00000°, δ32.00000°, λ75.00000°. NP2: ϕ_s37.00000°, δ60.00000°, λ99.00000°.*
*JMA **22** 22:49:29.9±0.1, 31°.1N±0°.4×131°.5E±0°.6, h30km±1km, MD4.0/39, MV4.0/39, SE OFF OSUMI PEN*
JMA Felt II J1 at SE OFF OSUMI PEN .
*IDC **22** 22:49:31.4±1.8, 31°.17N×131°.34E, h47km±16km, mb3.9/18, mbtmp4.0/23, ML3.5/5, MS3.7/5, Error ellipse: s-maj=18.9km s-min=14.7km az=102.0*
*NEIC **22** 22:49:32.5±2.6, 31°.10N±0°.07×131°.43E±0°.09, h51km±6km, mb4.5/50, Error ellipse: s-maj=11.5km s-min=9.1km az=114.0*
ISC 22 22:49:31.4±0.8, 31°.10N±0°.04×131°.42E±0°.05, h46km±7km, n159, σ1§14/143, mb4.5/58, 5C-8D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSR	**Tashiro 2**	**0.43**	**279**	⇓P	**Pn**	**22 49 40.5**	**-1.1**
JTSR				⇓*e*S	**Sn**	**22 49 48.9**	**0.0**
JTSR	**Tashiro 2**	**0.43**	**279**	A	A	22 49 40.5	
	comp=N,32nm,0.7s,comp=E,22nm,0.6s						
JNAR	**Kushima--Naru**	**0.45**	**343**	⇓P	**Pn**	**22 49 40.2**	**-1.6**
JNAR				⇓S	**Sn**	**22 49 47.6**	**-1.6**
JNAR	**Kushima--Naru**	**0.45**	**343**	A	A	22 49 40.2	
	comp=N,36nm,1.4s,comp=E,39nm,0.8s						
JNKG	**Nichinankitago**	**0.56**	**356**	⇓*i*P	**Pn**	**22 49 42.0**	**-1.2**
JNKG				⇓*e*S	**Sn**	**22 49 50.9**	**-0.8**
JNKG	**Nichinankitago**	**0.56**	**356**	A	A	22 49 42.0	
	comp=N,30nm,0.6s,comp=E,37nm,1.6s						
JTN	**Tanegashima 3**	**0.58**	**221**	P	**Pn**	**22 49 42.6**	**-0.8**
JTN	**Tanegashima 3**	**0.58**	**221**	A	A	22 49 42.6	
	comp=N,11nm,1.4s,comp=E,12nm,0.8s						
JMTN	**Minamitane**	**0.83**	**213**	P	**Pn**	**22 49 46.1**	**-0.6**
JTZ	**Takazaki**	**0.85**	**341**	P	**Pn**	**22 49 46.6**	**-0.4**
JTZ				*e*S	**Sn**	**22 49 59.9**	**+1.5**
JTZ	**Takazaki**	**0.85**	**341**	A	A	22 49 46.6	
	comp=N,13nm,1.4s,comp=E,13nm,2.5s						
JSU	**Suzuyama**	**0.92**	**296**	*e*P	**Pn**	**22 49 47.9**	**-0.1**
JSU				*e*S	**Sn**	**22 50 02.5**	**+2.3**
JSU	**Suzuyama**	**0.92**	**296**	A	A	22 49 47.9	
	comp=N,9.0nm,1.3s,comp=E,12nm,1.8s						
JTSN	**Tsuno**	**1.15**	**4**	*e*P	**Pn**	**22 49 49.6**	**-1.4**
JTSN				*e*S	**Sn**	**22 50 05.6**	**+0.1**
JTSN	**Tsuno**	**1.15**	**4**	A	A	22 49 49.6	
	comp=N,3.0nm,2.0s,comp=E,4.0nm,1.1s						
JYAK	**Yakushimahirau**	**1.16**	**223**	*e*P	**Pn**	**22 49 51.1**	**-0.1**
JYAK	**Yakushimahirau**	**1.16**	**223**	A	A	22 49 51.1	
	comp=N,5.0nm,3.8s,comp=E,5.0nm,0.7s						
JZO	**Okuchi**	**1.25**	**326**	P	**Pn**	**22 49 52.5**	**0.0**
JZO	**Okuchi**	**1.25**	**326**	A	A	22 49 52.5	
	comp=N,5.0nm,2.5s,comp=E,4.0nm,0.8s						
JHHC	**Hyugahichiya**	**1.35**	**8**	A	A	22 49 53.5	
	comp=N,4.0nm,1.8s,comp=E,5.0nm,2.3s						
JKIT	**Kitakata**	**1.52**	**1**	A	A	22 49 56.2	
	comp=N,5.0nm,1.1s,comp=E,6.0nm,1.3s						
JIU3	**Izumi3**	**1.54**	**340**	A	A	22 49 56.8	
	comp=N,4.0nm,2.9s,comp=E,4.0nm,3.3s						
JHD	**Hondo**	**1.75**	**322**	A	A	22 50 00.3	
	comp=N,2.0nm,3.2s,comp=E,4.0nm,1.7s						
JTA	**Tamana**	**2.01**	**338**	A	A	22 50 03.7	
	comp=N,2.0nm,4.9s,comp=E,3.0nm,3.2s						
JNU	**Nakatsue**	**2.07**	**347**	Pn	**Pn**	**22 50 03.9**	**+0.2**
JNU	**Nakatsue**	**2.07**	**347**	P	**Pn**	**22 50 02.4**	**-1.3**
	comp=E,137nm,0.7s,baz=195,slow=8.2,SNR=47						
JNU				S	**Sn**	**22 50 33.2**	**+4.9**
	comp=E,291nm,0.5s,baz=254,slow=22,SNR=11						
JNU				LR	LR	22 50 37.6	
	comp=E,325nm,20.6s,baz=224,slow=33						
JMN	**Monobe**	**3.35**	**38**	Pn	**Pn**	**22 50 19.9**	**-1.3**
JOW	**Kunigami**	**5.07**	**214**	Pn	**Pn**	**22 50 44.4**	**-0.4**
JOW	**Kunigami**	**5.07**	**214**	P	**Pn**	**22 50 44.0**	**-0.8**
	comp=E,11nm,0.3s,baz=91,slow=20,SNR=12						
	comp=E,20nm,0.3s						
JMZ	**Minamidaito 2**	**5.26**	**182**	Pn	**Pn**	**22 50 46.1**	**-1.4**
TJN	**Taejon**	**6.26**	**328**	Pn	**Pn**	**22 51 02.5**	**+1.5**
TJN	**Taejon**	**6.26**	**328**	*i* P	**Pn**	**22 51 01.9**	**+0.8**
INU	**Inuyama**	**6.32**	**46**	Pn	**Pn**	**22 51 03.5**	**+1.5**
JGF	**Kuroka**	**6.70**	**46**	Pn	**Pn**	**22 51 07.2**	**0.0**
KSRS	**Korea Array**	**6.97**	**336**	P	**Pn**	**22 51 09.6**	**-1.3**
	comp=E,0.4nm,0.3s,baz=177,slow=14,SNR=9.6						
KSRS				LR	LR	22 54 10.3	
	comp=E,542nm,18.1s,baz=165,slow=41						
	comp=E,1.0nm,0.5s						
MJAR	**Matsushiro Arr**	**7.83**	**44**	P	**Pn**	**22 51 22.6**	**-0.1**
	comp=E,0.1nm,0.3s,baz=245,slow=15,SNR=4.9						
	comp=E,1.3nm,0.7s						
JCJ	**Chichijima**	**10.22**	**110**	LR	LR	22 55 08.8	
	comp=E,253nm,20.3s,baz=12,slow=33						
NJ2	**Nanjing**	**10.76**	**278**	*e*P	**Pn**	**22 52 04.8**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**13.09**	**2**	P	**Pn**	**22 52 33.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=167,slow=7.2,SNR=1.7						
USRK				LR	LR	22 56 58.7	
	comp=Z,236nm,20.5s,baz=215,slow=34						
	comp=Z,0.7nm,0.6s						
ERM	**Erimo**	**14.39**	**38**	*i* P	**P**	**22 52 58.1**	**0.0**
BNX	**BinXian**	**14.95**	**349**	⇓P	**Pn**	**22 53 01.8**	**+2.2**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BJT	**Baijiatuau**	**15.26**	**310**	P	**P**	**22 53 07.5**	**-0.3**
BJT	**Baijiatuau**	**15.26**	**310**	P	**P**	**22 53 07.5**	**-0.3**
BJT				pmax	pmax		
	comp=Z,12nm,1.1s						
KLR	**Kul'dur**	**18.11**	**1**	P	**P**	**22 53 38.8**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=194,slow=7.9,SNR=11						
KLR				LR	LR	23 00 05.1	
	comp=Z,138nm,20.1s,baz=56,slow=35						
	comp=Z,2.7nm,0.5s						
KLR	**Kul'dur**	**18.11**	**1**	*ce*P	**P**	**22 53 39.2**	**-0.1**
KLR				pmax	pmax		
	comp=Z,11nm,1.7s						
ENH	**Enshi**	**18.88**	**273**	P	**P**	**22 53 48.0**	**+0.1**
ENH				IAmb	IAmb	22 53 50.9	
	comp=Z,19nm,0.6s						
LZH	**Lanzhou**	**23.47**	**290**	*e*P	**P**	**22 54 35.1**	**-1.9**
LZH				pP	pP	22 54 48.5	-0.1
LZH				sP	sP	22 54 54.3	0.0
LZH				pmax	pmax		
	comp=Z,27nm,1.2s						
ULN	**Ulaanbaatar**	**25.02**	**319**	P	**P**	**22 54 50.1**	**-1.0**
ULN				IAmb	IAmb	22 54 52.2	
	comp=Z,13nm,0.8s						
ULN	**Ulaanbaatar**	**25.02**	**319**	P	**P**	**22 54 50.1**	**-1.0**
ULN				pmax	pmax		
	comp=Z,13nm,0.9s						
SONM	**Songino Array**	**25.38**	**318**	P	**P**	**22 54 52.9**	**-1.4**
SONM	**Songino Array**	**25.38**	**318**	P	**P**	**22 54 53.3**	**-1.0**
	comp=Z,4.2nm,0.9s,baz=133,slow=9.3,SNR=21						
	comp=Z,4.2nm,0.9s						
SONM	**Songino Array**	**25.38**	**318**	P	**P**	**22 54 52.9**	**-1.4**
SONM				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA	**Gaotai**	**27.00**	**297**	*e*P	**P**	**22 55 09.0**	**-0.1**
GTA				pP	pP	22 55 16.9	-4.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CHTO	**Chiang Mai**	**31.76**	**255**	P	**P**	**22 55 51.9**	**+0.6**
CHTO	**Chiang Mai**	**31.76**	**255**	P	**P**	**22 55 51.9**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.94**	**254**	P	**P**	**22 55 53.2**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=53,slow=6.8,SNR=12						
	comp=Z,1.9nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**33.85**	**101**	T	T	23 32 03.5	
	baz=297,slow=75,SNR=39						
H11N1	**WAKE ISLAND Hy**	**33.85**	**101**	T	T	23 32 03.9	
	baz=297,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**33.86**	**101**	T	T	23 32 05.0	
	baz=297,slow=75,SNR=26						
SEY	**Seymchan**	**34.57**	**17**	P	**P**	**22 56 15.8**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=223,slow=8.9,SNR=5.1						
SEY				LR	LR	23 09 03.4	
	comp=Z,583nm,20.4s,baz=154,slow=34						
	comp=Z,1.7nm,0.3s						
SEY	**Seymchan**	**34.57**	**17**	*ce*P	**P**	**22 56 16.1**	**+0.8**
SEY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZALV	**Zalesovo Beam**	**40.28**	**318**	P	**P**	**22 57 02.6**	**-1.1**
ZALV	**Zalesovo Beam**	**40.28**	**318**	P	**P**	**22 57 02.7**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=101,slow=7.9,SNR=4.4						
	comp=Z,0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**40.28**	**318**	*e*P	**P**	**22 57 04.4**	**+0.7**
ZALV	**Zalesovo Beam**	**40.28**	**318**	P	**P**	**22 57 02.6**	**-1.1**
ZALV	**Zalesovo Beam**	**40.28**	**318**	pmax	pmax		
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	**40.62**	**307**	*ce*P	**P**	**22 57 06.6**	**-0.1**
MKAR	**Makanchi Array**	**40.62**	**307**	P	**P**	**22 57 06.1**	**-0.5**
MKAR	**Makanchi Array**	**40.62**	**307**	P	**P**	**22 57 06.0**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=98,slow=9.7,SNR=11						
MKAR				PcP	**PcP**	**22 59 07.5**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=72,slow=4.0,SNR=3.7						
	comp=Z,1.3nm,0.8s						
TIXI	**Tiksi**	**40.63**	**359**	*ce*P	**P**	**22 57 05.6**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.0s						
MAKZ	**Makanchi**	**40.83**	**307**	P	**P**	**22 57 07.5**	**-0.9**
MAKZ	**Makanchi**	**40.83**	**307**	P	**P**	**22 57 07.5**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BILL	**Bilibino**	**42.18**	**19**	*ce*P	**P**	**22 57 19.8**	**+0.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**43.41**	**313**	P	**P**	**22 57 27.9**	**-1.4**
KURK				IAmb	IAmb	22 57 29.4	
	comp=Z,6.5nm,0.7s						
KURK	**Kurchatov**	**43.41**	**313**	P	**P**	**22 57 27.9**	**-1.4**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KURBB	**Kurchatov Arra**	**43.46**	**312**	P	**P**	**22 57 28.9**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=98,slow=9.0,SNR=38						
	comp=Z,4.2nm,0.7s						
NRIK	**Noril'sk**	**45.57**	**340**	P	**P**	**22 57 45.0**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=112,slow=9.6,SNR=4.3						
	comp=Z,1.5nm,0.6s						
NRIK	**Noril'sk**	**45.57**	**340**	*e*P	**P**	**22 57 45.1**	**-1.2**
NRIK				pmax	pmax		
	comp=Z,12nm,2.8s						
AAK	**Ala-Archa**	**46.19**	**301**	*i* P	**P**	**22 57 52.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,2.6s						
BVAR	**Borovoye Array**	**48.66**	**315**	P	**P**	**22 58 10.0**	**-0.6**
	comp=Z,8.3nm,0.6s,baz=96,slow=9.2,SNR=76						
	comp=Z,8.3nm,0.6s						
BVAR	**Borovoye Array**	**48.66**	**315**	P	**P**	**22 58 10.0**	**-0.6**
BRVK	**Borovoye**	**48.72**	**315**	P	**P**	**22 58 09.8**	**-1.3**
BRVK	**Borovoye**	**48.72**	**315**	P	**P**	**22 58 09.8**	**-1.3**
BRVK	**Borovoye**	**48.72**	**315**	pmax	pmax		
	comp=Z,9.0nm,0.7s						
KK31	**Karatay Array**	**49.05**	**302**	P	**P**	**22 58 13.4**	**-0.4**
KK31	**Karatay Array**	**49.05**	**302**	P	**P**	**22 58 13.4**	**-0.4**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KKAR	**Karatay Array**	**49.05**	**302**	P	**P**	**22 58 13.1**	**-0.7**
KKAR	**Karatay Array**	**49.05**	**302**	P	**P**	**22 58 13.1**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GAR	**Garm**	**49.83**	**297**	P	**P**	**22 58 18.3**	**-1.6**
GAR				IAmb	IAmb	22 58 20.4	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**50.82**	**176**	P	**P**	**22 58 27.3**	**-0.1**
	comp=Z,1.4nm,1.1s,baz=358,slow=7.5,SNR=4.5						
	comp=Z,1.4nm,1.1s						
F15K	**North Star Dit**	**51.40**	**28**	P	**P**	**22 58 32.2**	**+1.0**
F15K				IAmb	IAmb	22 58 44.6	
	comp=Z,6.9nm,1.1s						
F17K	**Baldwin Pennin**	**52.88**	**28**	P	**P**	**22 58 43.6**	**+1.5**
F17K				IAmb	IAmb	22 58 55.7	
	comp=Z,4.8nm,0.8s						
E18K	**Tukpahlearik C**	**53.25**	**27**	P	**P**	**22 58 46.7**	**+1.8**
E18K				IAmb	IAmb	22 58 58.6	
	comp=Z,4.5nm,0.9s						
J17K	**VABM Dome**	**53.55**	**32**	P	**P**	**22 58 48.8**	**+1.7**
SVE	**Sverdlovsk**	**54.23**	**320**	*e*P	**P**	**22 58 51.8**	**-0.4**
SVE				pmax	pmax		
	comp=Z,7.0nm,0.6s						
D19K	**Kuna River**	**54.30**	**25**	P	**P**	**22 58 53.5**	**+0.9**
D19K				IAmb	IAmb	22 59 15.6	
	comp=Z,4.4nm,1.0s						
ASAR	**Alice Springs**	**54.51**	**177**	P	**P**	**22 58 55.8**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=360,slow=8.0,SNR=3.1						
	comp=Z,0.4nm,0.7s						
E19K	**Redstone River**	**54.55**	**27**	P	**P**	**22 58 55.5**	**+1.1**
H19K	**Roundabout Mou**	**54.77**	**29**	P	**P**	**22 58 57.6**	**+1.6**
H19K				IAmb	IAmb	22 59 09.8	
	comp=Z,5.3nm,0.9s						
AB31	**Akbulak array**	**55.47**	**311**	P	**P**	**22 59 00.4**	**-0.9**
AB31				IAmb	IAmb	22 59 03.6	
	comp=Z,5.6nm,1.4s						
ABKAR	**Akbulak array**	**55.47**	**311**	P	**P**	**22 59 00.6**	**-0.7**
ABKAR				IAmb	IAmb	22 59 03.6	
	comp=Z,5.6nm,1.4s						
ARTI	**Arti**	**55.51**	**320**	P	**P**	**22 59 00.5**	**-0.9**
ARTI	**Arti**	**55.51**	**320**	*d i*P	**P**	**22 59 00.6**	**-0.9**
ARTI						22 59 59.5	
ARTI				S	S	23 06 31.7	-11
ARTI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
B21K	**Ikpikpuk River**	**55.64**	**24**	P	**P**	**22 59 03.6**	**+1.4**
B21K				IAmb	IAmb	22 59 34.3	
	comp=Z,10nm,1.4s						
J20K	**Nowinta River**	**55.75**	**31**	P	**P**	**22 59 04.5**	**+1.5**
J20K				IAmb	IAmb	22 59 05.8	
	comp=Z,4.7nm,0.9s						
K20K	**Telida**	**55.80**	**32**	P	**P**	**22 59 05.6**	**+2.2**
K20K				IAmb	IAmb	22 59 06.0	
	comp=Z,3.5nm,0.8s						
B22K	**Teshekpuk Lake**	**56.08**	**23**	P	**P**	**22 59 06.3**	**+1.0**
B22K				IAmb	IAmb	22 59 22.2	
	comp=Z,9.9nm,1.4s						
D22K	**Ayikyak River**	**56.31**	**25**	P	**P**	**22 59 08.4**	**+1.4**
D22K				IAmb	IAmb	22 59 19.1	
	comp=Z,11nm,1.5s						
PPLA	**Purkeypile**	**56.68**	**32**	P	**P**	**22 59 11.0**	**+1.1**
D23K	**Nanushuk River**	**57.03**	**25**	P	**P**	**22 59 13.1**	**+1.0**
BPAW	**Bear Paw Mtn.**	**57.13**	**31**	P	**P**	**22 59 14.3**	**+1.3**
E23K	**Chandalar**	**57.45**	**26**	P	**P**	**22 59 16.9**	**+1.7**
E23K				IAmb	IAmb	22 59 27.7	
	comp=Z,4.1nm,1.0s						
E24K	**Your Creek**	**57.88**	**26**	P	**P**	**22 59 19.4**	**+1.3**
RND	**Reindeer**	**58.14**	**31**	P	**P**	**22 59 20.2**	**+0.1**
RND	**Reindeer**	**58.14**	**31**	P	**P**	**22 59 20.2**	**+0.1**
RND				pmax	pmax		
	comp=Z,8.0nm,1.1s						
F24K	**Squaw Lake**	**58.14**	**27**	P	**P**	**22 59 21.6**	**+1.6**
F24K				IAmb	IAmb	22 59 30.6	
	comp=Z,4.1nm,1.3s						
D25K	**Kavik River**	**58.55**	**24**	P	**P**	**22 59 23.7**	**+0.9**
ILAR	**Eielson Array**	**58.84**	**30**	P	**P**	**22 59 24.9**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=279,slow=7.1,SNR=7.3						
	comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**58.84**	**30**	P	**P**	**22 59 25.0**	**+0.1**
BMAR	**Burnt Mountain**	**59.42**	**26**	P	**P**	**22 59 31.3**	**+2.4**
C27K	**Jago River**	**59.45**	**24**	P	**P**	**22 59 30.7**	**+1.7**
SCRK	**Sand Creek**	**60.20**	**30**	P	**P**	**22 59 34.3**	**-0.1**
SCRK				IAmb	IAmb	22 59 46.4	
	comp=Z,3.8nm,1.1s						
WAX	**Waxell Ridge**	**61.44**	**34**	P	**P**	**22 59 43.2**	**+0.4**
I28M	**Miner

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULM	**Lac du Bonnet**	**88.82**	**28**	P	**P**	**23 02 19.1**	**-1.2**
	comp=Z,3.3nm,0.7s,baz=9.3,slow=6.1,SNR=3.7						
	comp=Z,3.3nm,0.7s						
ULM	**Lac du Bonnet**	**88.82**	**28**	*e*P	**P**	**23 02 21.4**	**+1.1**
ULM				pmax	pmax		
	comp=Z,3.0nm,0.5s						

IDC ***22*** *23:00:08.8±0.6, 51°.74N×159°.62E, h0km, mb4.4/29, mbtmp4.4/35, ML4.2/6, MS4.0/26, Error ellipse: s-maj=14.4km s-min=11.4km az=154.0*
KRSC ***22*** *23:00:08.6±1.9, 51°.50N×160°.15E, h50km±27km, Mc4.6, Ml4.7*
NEIC ***22*** *23:00:12.9±1.5, 51°.78N±0°.08×159°.4E±0°.1, h22km±5km, mb4.7/125, Error ellipse: s-maj=12.0km s-min=10.6km az=120.0*
BJI ***22*** *23:00:13.3, 51°.89N×159°.29E, h32km, mB4.8/15, mb4.6/49, Ms4.6/36, Ms7 4.5/38*
MOS ***22*** *23:00:14.0±1.3, 51°.68N×159°.52E, h51km, mb5.0/43, MS4.4/8, Error ellipse: s-maj=8.4km s-min=5.0km az=110.1*
ISC 22 23:00:13.1±0.6, 51°.64N±0°.04×159°.78E±0°.04, h33km±3km, n466, σ1§57/462, mb4.7/145, MS4.3/41, 34C-36D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.07**	**280**	*e*P	**Pn**	**23 00 32.3**	**+0.5**
KDTR				*e*S	**Sb**	**23 00 48.2**	**+1.3**
RUS	**Russkaya**	**1.12**	**316**	*e*P	**Pn**	**23 00 32.6**	**+0.2**
RUS				*e*S	**Sb**	**23 00 48.6**	**+0.6**
MTVR	**Mutnovka**	**1.30**	**311**	*e*P	**Pn**	**23 00 35.9**	**+0.9**
GRL	**Gorelyy**	**1.40**	**312**	*e*P	**Pb**	**23 00 37.9**	**-0.8**
SPN	**Mys Shipunski**	**1.47**	**6**	*e*P	**Pn**	**23 00 36.4**	**-0.8**
SPN				*e*S	**Sn**	**23 00 55.3**	**+0.1**
DALK	**Dalny**	**1.53**	**336**	*e*P	**Pn**	**23 00 38.4**	**+0.3**
DALK				*e*S	**Sb**	**23 00 59.6**	**-0.2**
PET	**Petropavlovsk**	**1.55**	**334**		**Pn**	**23 00 37.2**	**-1.1**
PET	**Petropavlovsk**	**1.55**	**334**	*e*PN	**Pn**	**23 00 38.8**	**+0.5**
PET				*e*S	**Sb**	**23 01 00.3**	**-0.1**
PET				pmax	pmax		
	comp=Z,892nm,0.5s						
PET				smax	smax		
	comp=N,5μm,0.9s						
PET	**Petropavlovsk**	**1.55**	**334**	*e*P	**Pn**	**23 00 38.7**	**+0.3**
PET				*e*S	**Sb**	**23 01 01.3**	**+0.9**
NLC	**Nalytchevo**	**1.56**	**350**	*e*P	**Pn**	**23 00 38.9**	**+0.5**
KRMR	**Karymshinskiy**	**1.57**	**320**	*e*P	**Pn**	**23 00 39.4**	**+0.8**
INSR	**Institute**	**1.60**	**334**	*e*P	**Pn**	**23 00 39.7**	**+0.7**
UGLR	**Uglovaya**	**1.68**	**340**	*e*P	**Pn**	**23 00 41.2**	**+1.0**
SDLR	**Sedlovina**	**1.73**	**342**	*e*P	**Pn**	**23 00 41.5**	**+0.6**
AVH	**Avacha**	**1.75**	**339**	*e*P	**Pn**	**23 00 42.3**	**+1.2**
KRER	**Koryakskii**	**1.78**	**340**	*e*P	**Pn**	**23 00 42.8**	**+1.0**
KOK	**Koryaka**	**1.80**	**337**	*e*P	**Pn**	**23 00 43.4**	**+1.6**
KRX	**Arik**	**1.86**	**338**	*e*P	**Pn**	**23 00 43.6**	**+0.9**
PAU	**Pauzhetka**	**1.86**	**266**	*e*P	**Pn**	**23 00 44.4**	**+1.7**
PEA0B	**Petropavlovsk-**	**1.95**	**320**		**Pn**	**23 00 43.8**	**0.0**
PEA0B	**Petropavlovsk-**	**1.95**	**320**	*c*ePN	**Pn**	**23 00 45.3**	**+1.5**
PETK	**Petropavlovsk-**	**1.95**	**320**		**Pn**	**23 00 43.9**	**+0.1**
PETK	**Petropavlovsk-**	**1.95**	**320**	Pn	**Pn**	**23 00 43.1**	**-0.8**
	comp=N,29nm,0.3s,baz=129,slow=18,SNR=407						
PETK				Sn	**Sb**	**23 01 15.8**	**+4.0**
	comp=N,86nm,0.3s,baz=101,slow=16,SNR=8.1						
PETK				LR	LR	23 01 19.0	
	comp=N,974nm,20.3s,baz=110,slow=39						
PETK	**Petropavlovsk-**	**1.95**	**320**	PN	**Pn**	**23 00 43.9**	**+0.1**
APC	**Apacha**	**2.06**	**310**	*e*P	**Pb**	**23 00 47.8**	**-2.0**
GNL	**Ganaly**	**2.34**	**332**	*e*P	**Pn**	**23 00 51.0**	**+1.6**
KII	**Karymskiy**	**2.41**	**355**	*e*P	**Pn**	**23 00 50.6**	**+0.3**
SKR	**Severo-Kuril's**	**2.50**	**249**	*e*PN	**Pn**	**23 00 52.0**	**+0.6**
SKR				*e*S	**Sn**	**23 01 21.6**	**+0.9**
SKR				pmax	pmax		
	comp=Z,285nm,0.6s						
SKR				smax	smax		
	comp=E,798nm,0.8s						
SKR				smax	smax		
	comp=N,2μm,0.7s						
SKR				MLR	MLR		
	comp=Z,6μm,14.0s						
SKR	**Severo-Kuril's**	**2.50**	**249**	*e*P	**Pn**	**23 00 51.6**	**+0.2**
MKZ	**Mys Kozlova**	**3.15**	**21**	*e*P	**Pn**	**23 00 58.8**	**-1.4**
TUMD	**Tumrok D**	**3.59**	**6**	*e*P	**Pn**	**23 01 06.2**	**-0.2**
KMNR	**Kamenistaya**	**4.13**	**4**	*e*P	**Pn**	**23 01 15.5**	**+1.6**
BZMR	**Bezymyannaya**	**4.32**	**5**	*e*P	**Pn**	**23 01 17.9**	**+1.3**
KIRR	**Kirishev**	**4.33**	**4**	*e*P	**Pn**	**23 01 18.2**	**+1.5**
ESO	**Esso**	**4.34**	**352**	*e*P	**Pn**	**23 01 18.0**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**4.34**	**7**	*e*P	**Pn**	**23 01 18.2**	**+1.4**
KPT	**Kopyto**	**4.34**	**3**	*e*P	**Pn**	**23 01 18.6**	**+1.8**
BZWR	**Bezymyannyi-We**	**4.35**	**5**	*e*P	**Pn**	**23 01 18.8**	**+1.8**
KOZ	**Kozyrevsk**	**4.43**	**1**	*e*P	**Pn**	**23 01 20.3**	**+2.4**
LGNR	**Loginova**	**4.48**	**7**	*e*P	**Pn**	**23 01 21.5**	**+2.6**
KRSR	**Krestovskiy**	**4.61**	**5**	*e*P	**Pn**	**23 01 21.8**	**+1.3**
KLY	**Klyuchi**	**4.71**	**6**	*e*P	**Pn**	**23 01 24.2**	**+2.5**
KBTR	**Krutoberegovo**	**4.92**	**20**	*e*P	**Pn**	**23 01 24.1**	**-0.5**
KBG	**Krutoberegovo**	**4.93**	**19**	*e*P	**Pn**	**23 01 22.9**	**-1.9**
SMKR	**Semkarok**	**5.05**	**11**	*e*P	**Pn**	**23 01 28.4**	**+2.0**
BKI	**Bering**	**5.14**	**44**	*e*S	**Sn**	**23 02 19.7**	**-6.0**
SHEM	**Shemya Is, Ala**	**8.87**	**77**	Pn	**Pn**	**23 02 16.9**	**-1.8**
SHEM	**Shemya Is, Ala**	**8.87**	**77**	Pn	**Pn**	**23 02 17.0**	**-1.8**
	comp=Z,14nm,0.3s,baz=354,slow=1.8,SNR=16						
SHEM				Sn	**Sn**	**23 03 50.8**	**-6.6**
	comp=Z,9.0nm,0.3s,baz=312,slow=22,SNR=8.2						
SHEM				LR	LR	23 05 26.9	
	comp=Z,362nm,20.9s,baz=266,slow=36						
	comp=Z,65nm,0.5s						
SMY	**Shemya**	**8.87**	**77**	Pn	**Pn**	**23 02 17.2**	**-1.5**
SMY	**Shemya**	**8.87**	**77**	PN	**Pn**	**23 02 17.2**	**-1.5**
MA2	**Magadan**	**9.44**	**331**	LR	LR	23 06 44.5	
	comp=Z,527nm,19.4s,baz=210,slow=42						
NKL	**Nikolayevsk**	**11.77**	**285**	*e*PN	Pn	23 03 10.6	+12
NKL				pmax	pmax		
	comp=E,41nm,0.9s						
NKL				pmax	pmax		
	comp=N,30nm,1.5s						
NKL				pmax	pmax		
	comp=Z,51nm,1.1s						
NKL				MLR	MLR		
	comp=E,8μm,18.0s						
NKL				MLR	MLR		
	comp=N,4μm,14.0s						
NKL				MLR	MLR		
	comp=Z,4μm,15.0s						
SEY	**Seymchan**	**12.00**	**344**	Pn	**Pn**	**23 03 00.4**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=136,slow=12,SNR=6.6						
	comp=Z,1.1nm,0.3s						
SEY	**Seymchan**	**12.00**	**344**	*e*PN	**Pn**	**23 03 04.0**	**+2.5**
SEY				pmax	pmax		
	comp=Z,11nm,1.5s						
YSS	**Yuzhno-Sakhali**	**12.06**	**254**	Pn	**Pn**	**23 03 00.0**	**-2.5**
YSS	**Yuzhno-Sakhali**	**12.06**	**254**	*e*PN	**Pn**	**23 03 02.3**	**-0.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				MLR	MLR		
	comp=Z,900nm,17.0s						
YSS				MLR	MLR		
	comp=N,1μm,16.0s						
YSS				MLR	MLR		
	comp=E,1μm,17.0s						
JKA	**Kamikawa-asahi**	**13.75**	**244**		**Pn**	**23 03 24.1**	**-1.5**
ASAJ	**Asahikawa**	**13.75**	**244**	Pn	**Pn**	**23 03 25.8**	**+0.2**
	comp=E,1.3nm,0.3s,baz=51,slow=17,SNR=12						
ASAJ				LR	LR	23 09 50.9	
	comp=E,777nm,18.1s,baz=53,slow=42						
	comp=E,12nm,0.7s						
ADK	**Adak**	**14.56**	**80**	Pn	**Pn**	**23 03 39.3**	**+2.7**
ADK	**Adak**	**14.56**	**80**	P	**Pn**	**23 03 39.3**	**+2.7**
GRNR	**Gornyy**	**14.66**	**276**	⇓*i*P	**P**	**23 03 45.7**	**+1.9**
GRNR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GRNR				MLR	MLR		
	comp=E,430nm,15.0s						
GRNR				MLR	MLR		
	comp=N,370nm,18.0s						
GRNR				MLR	MLR		
	comp=Z,470nm,14.0s						
ERM	**Erimo**	**14.87**	**236**	Pn	**Pn**	**23 03 36.5**	**-4.3**
ERM	**Erimo**	**14.87**	**236**	P	**Pn**	**23 03 36.5**	**-4.3**
TEY	**Ternei**	**16.73**	**256**	⇑*e*P	**P**	**23 04 06.8**	**+0.1**
TEY				pmax	pmax		
	comp=E,20nm,0.8s						
TEY				pmax	pmax		
	comp=N,10.0nm,1.0s						
TEY				pmax	pmax		
	comp=Z,20nm,0.8s						
BILL	**Biiibino**	**16.75**	**8**		**Pn**	**23 04 05.6**	**+0.7**
BILL	**Biiibino**	**16.75**	**8**	*c*e*c*P	**P**	**23 04 06.0**	**-0.9**
BILL				pmax	pmax		
	comp=Z,26nm,1.3s						
KLR	**Kul'dur**	**17.98**	**273**	P	**P**	**23 04 20.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=73,slow=11,SNR=31						
KLR				LR	LR	23 12 13.2	
	comp=Z,635nm,18.4s,baz=48,slow=40						
	comp=Z,15nm,1.0s						
KLR	**Kul'dur**	**17.98**	**273**	*c*e*c*P	**P**	**23 04 22.2**	**+1.7**
KLR				pmax	pmax		
	comp=Z,26nm,1.3s						
YAK	**Yakutsk**	**19.29**	**314**		**P**	**23 04 32.6**	**-2.1**
YAK				IAmb	IAmb	23 04 34.5	
	comp=Z,47nm,0.8s						
YAK	**Yakutsk**	**19.29**	**314**	P	**P**	**23 04 33.5**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=100,slow=5.0,SNR=12						
YAK				LR	LR	23 12 59.4	
	comp=Z,417nm,18.5s,baz=134,slow=40						
	comp=Z,42nm,0.9s						
YAK	**Yakutsk**	**19.29**	**314**	*e*P	**P**	**23 04 33.6**	**-1.1**
YAK				*e*S	**Sn**	**23 08 10.7**	**-0.2**
YAK				pmax	pmax		
	comp=Z,54nm,0.9s						
YAK				pmax	pmax		
	comp=E,24nm,1.2s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,19nm,0.5s						
YAK				smax	smax		
	comp=E,20nm,2.3s						
YAK				smax	smax		
	comp=N,60nm,2.5s						
YAK				MLR	MLR		
	comp=Z,884nm,14.0s						
YAK				MLR	MLR		
	comp=N,466nm,14.0s						
YAK				MLR	MLR		
	comp=E,417nm,13.0s						
ZEA	**Zeya**	**19.74**	**289**	*e*P	**P**	**23 04 39.9**	**+0.1**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZEA				MLR	MLR		
	comp=E,400nm,13.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,14.0s						
USA0B	**Ussuriysk Arra**	**19.97**	**259**	P	**P**	**23 04 40.4**	**-2.0**
USA0B	**Ussuriysk Arra**	**19.97**	**259**	*i*P	**P**	**23 04 41.5**	**-0.9**
USRK	**Ussuriysk Ar.**	**19.97**	**259**	P	**P**	**23 04 41.0**	**-1.4**
USRK	**Ussuriysk Ar.**	**19.97**	**259**	P	**P**	**23 04 40.3**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=58,slow=12,SNR=12						
	comp=Z,6.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**19.97**	**259**	P	**P**	**23 04 41.0**	**-1.4**
JSD	**Sado**	**20.34**	**236**	P	**P**	**23 04 46.3**	**-0.1**
JSD				IAmb	IAmb	23 04 48.7	
	comp=Z,20nm,0.9s						
HEH	**HeiHe**	**20.36**	**279**	*e*P	**P**	**23 04 46.8**	**+0.3**
HEH				pmax	pmax		
	comp=Z,13nm,1.0s						
HEH				LR	LR		
	comp=Z,690nm,15.2s						
HEH				LR	LR		
	comp=Z,830nm,14.7s						
HEH				LR	LR		
	comp=Z,1μm,15.0s						
MDJ	**Mudanjiang**	**21.23**	**263**		**P**	**23 04 54.2**	**-1.9**
MDJ				IAmb	IAmb	23 04 55.7	
	comp=Z,13nm,0.7s						
MDJ	**Mudanjiang**	**21.23**	**263**	P	**P**	**23 04 54.9**	**-1.1**
MDJ				pmax	pmax		
	comp=Z,21nm,0.9s						
MDJ				LR	LR		
	comp=Z,730nm,20.4s						
MDJ				LR	LR		
	comp=Z,410nm,21.7s						
MDJ				LR	LR		
	comp=Z,910nm,16.1s						
MJAR	**Matsushiro Arr**	**21.51**	**234**	P	**P**	**23 04 59.0**	**-0.1**
	comp=Z,8.4nm,0.8s,baz=26,slow=9.3,SNR=25						
MJAR				LR	LR	23 14 07.1	
	comp=Z,410nm,20.8s,baz=38,slow=39						
	comp=Z,8.4nm,0.8s						
MJB9	**Matsu-Tunnel**	**21.51**	**234**		**P**	**23 04 59.7**	**+0.6**
MJB9				IAmb	IAmb	23 05 04.6	
	comp=Z,23nm,0.9s						
MAJO	**Matsushiro**	**21.51**	**234**		**P**	**23 04 59.6**	**+0.5**
MAJO				IAmb	IAmb	23 05 03.6	
	comp=Z,25nm,0.9s						
MAJO	**Matsushiro**	**21.51**	**234**	P	**P**	**23 04 59.6**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,25nm,1.0s						
BNX	**BinXian**	**22.05**	**267**	⇑P	**P**	**23 05 04.5**	**-0.3**
BNX				pmax	pmax		
	comp=Z,14nm,1.4s						
JGF	**Kuroka**	**22.68**	**234**	P	**P**	**23 05 11.9**	**+0.3**
JGF				IAmb	IAmb	23 05 14.6	
	comp=Z,15nm,1.0s						
F15K	**North Star Dit**	**22.82**	**38**	P	**P**	**23 05 14.9**	**+2.1**
INU	**Inuyama**	**23.05**	**234**		**P**	**23 05 15.8**	**+0.5**
INU				IAmb	IAmb	23 05 18.7	
	comp=Z,31nm,0.9s						
JHJ	**Hachijo jima 2**	**23.55**	**226**	LR	LR	23 19 09.7	
	comp=Z,104nm,18.1s,baz=116,slow=48						
TIXI	**Tiksi**	**24.33**	**337**		**P**	**23 05 26.1**	**-1.2**
TIXI				IAmb	IAmb	23 05 39.1	
	comp=Z,16nm,1.0s						
TIXI	**Tiksi**	**24.33**	**337**	*c*e*c*P	**P**	**23 05 27.1**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,18nm,1.0s						
F17K	**Baldwin Pennin**	**24.37**	**38**	P	**P**	**23 05 29.9**	**+2.2**
H17K	**Granite Mounta**	**24.49**	**42**	P	**P**	**23 05 31.1**	**+2.3**
C18K	**Utukok River**	**25.17**	**33**	P	**P**	**23 05 36.5**	**+1.5**
H18K	**Honhosa River**	**25.18**	**42**	P	**P**	**23 05 37.0**	**+2.0**
G18K	**Tagagawik**	**25.23**	**40**	P	**P**	**23 05 37.9**	**+2.3**
HIA	**Hailar**	**25.39**	**281**		**P**	**23 05 35.7**	**-1.4**
HIA	**Hailar**	**25.39**	**281**	P	**P**	**23 05 35.7**	**-1.4**
HIA				pmax	pmax		
	comp=Z,42nm,0.7s						
L18K	**Granite Mounta**	**25.49**	**49**	P	**P**	**23 05 41.5**	**+3.5**
L18K				IAmb	IAmb	23 05 57.4	
	comp=Z,14nm,1.2s						
J18K	**Innoko River**	**25.61**	**46**	P	**P**	**23 05 42.7**	**+3.7**
F19K	**Shaleruckik Mo**	**25.81**	**38**	P	**P**	**23 05 42.3**	**+1.5**
JMN	**Monobe**	**25.92**	**236**	P	**P**	**23 05 43.1**	**+1.0**
JMN				IAmb	IAmb	23 06 00.0	
	comp=Z,12nm,0.8s						
H19K	**Roundabout Mou**	**26.04**	**41**		**P**	**23 05 45.2**	**+2.3**
H19K				IAmb	IAmb	23 06 02.9	
	comp=Z,16nm,1.4s						
J19K	**Poorman**	**26.15**	**45**	P	**P**	**23 05 46.4**	**+2.5**
D19K	**Kuna River**	**26.17**	**34**	P	**P**	**23 05 46.4**	**+2.3**
E19K	**Redstone River**	**26.18**	**37**	P	**P**	**23 05 45.4**	**+1.2**
KSRS	**Korea Array**	**26.52**	**250**	P	**P**	**23 05 48.8**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=47,slow=9.0,SNR=14						
	comp=Z,2.9nm,0.8s						
KSAR	**Wonju Array Be**	**26.55**	**250**	P	**P**	**23 05 47.4**	**-0.3**
KSAR	**Wonju Array Be**	**26.55**	**250**	P	**P**	**23 05 47.4**	**-0.3**
BOD	**Bodaibo**	**26.71**	**301**	*e*P	**P**	**23 05 47.3**	**-1.7**
BOD				pmax	pmax		
	comp=Z,22nm,1.5s						
D20K	**Etivluk River**	**26.76**	**34**	P	**P**	**23 05 49.8**	**+0.4**
J20K	**Nowinta River**	**26.82**	**44**	P	**P**	**23 05 52.5**	**+2.6**
B20K	**Meade River**	**27.00**	**31**	P	**P**	**23 05 52.2**	**+0.7**
B20K				IAmb	IAmb	23 06 09.0	
	comp=Z,17nm,1.1s						
SII	**Sitkinak Islan**	**27.02**	**61**		**P**	**23 05 54.5**	**+2.6**
ILSW	**Iliamna Southw**	**27.20**	**54**	P	**P**	**23 05 56.1**	**+2.7**
ILSW				IAmb	IAmb	23 06 04.8	
	comp=Z,32nm,1.4s						
H21K	**Melozitna Rive**	**27.56**	**41**	P	**P**	**23 05 58.9**	**+2.4**
TJN	**Taejon**	**27.58**	**249**	P	**P**	**23 05 56.7**	**-0.3**
TJN	**Taejon**	**27.58**	**249**	P	**P**	**23 05 56.7**	**-0.3**
TJN				pmax	pmax		
	comp=Z,48nm,1.0s						
B21K	**Ikpikpuk River**	**27.72**	**33**	P	**P**	**23 05 59.1**	**+1.2**
B21K				IAmb	IAmb	23 05 60.0	
	comp=Z,7.4nm,0.8s						
JNU	**Nakatsue**	**27.98**	**240**	P	**P**	**23 06 01.7**	**+1.1**
NEA2	**Nenana**	**29.05**	**44**	P	**P**	**23 06 11.9**	**+2.1**
C23K	**Itkillik River**	**29.12**	**33**		**P**	**23 06 11.2**	**+0.8**
E23K	**Chandalar**	**29.14**	**37**		**P**	**23 06 11.9**	**+1.2**
E24K	**Your Creek**	**29.56**	**37**	P	**P**	**23 06 15.3**	**+0.9**
D24K	**Happy Valley**	**29.60**	**34**	P	**P**	**23 06 16.2**	**+1.5**
ILAR	**Eielson Array**	**29.99**	**43**	P	**P**	**23 06 18.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=262,slow=8.0,SNR=12						
	comp=Z,1.1nm,0.8s						
XLT	**XiLinHaoTe**	**30.00**	**273**	*e*P	**P**	**23 06 18.3**	**-0.2**
XLT				pmax	pmax		
	comp=Z,11nm,1.1s						
XLT				pmax	pmax		
	comp=Z,140nm,6.0s						
XLT				LR	LR		
	comp=Z,620nm,16.9s						
XLT				LR	LR		
	comp=Z,630nm,16.7s						
D25K	**Kavik River**	**30.49**	**34**	IAmb	IAmb	23 06 24.4	
	comp=Z,5.6nm,0.8s						
PRP	**Porcupine Dome**	**30.57**	**42**	P	**P**	**23 06 24.1**	**+0.7**
PRP				IAmb	IAmb	23 06 26.4	
	comp=Z,5.3nm,0.8s						
C27K	**Jago River**	**31.46**	**34**	P	**P**	**23 06 31.8**	**+0.8**
K27K	**Chicken**	**32.11**	**45**	P	**P**	**23 06 39.0**	**+2.2**
K27K				IAmb	IAmb	23 06 50.4	
	comp=Z,6.5nm,1.1s						
L27K	**Beaver Creek,**	**32.32**	**47**	P	**P**	**23 06 40.8**	**+2.1**
L27K				IAmb	IAmb	23 06 52.4	
	comp=Z,5.1nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**32.33**	**167**	T	T	23 40 42.2	
	baz=352,slow=76,SNR=56						
H11N3	**WAKE ISLAND Hy**	**32.35**	**167**	T	T	23 40 38.0	
	baz=352,slow=76,SNR=53						
H11N1	**WAKE ISLAND Hy**	**32.35**	**167**	T	T	23 40 44.4	
	baz=352,slow=76,SNR=59						
D27M	**Malcolm River**	**32.40**	**35**	P	**P**	**23 06 40.7**	**+1.2**
H11S1	**WAKE ISLAND Hy**	**33.51**	**168**	T	T	23 42 24.2	
	baz=351,slow=76,SNR=8.1						
IRK	**Irkutsk**	**33.52**	**293**	*e*P	**P**	**23 06 48.0**	**-1.2**
IRK				pmax	pmax		
	comp=Z,18nm,1.5s						
E29M	**Blow River**	**33.52**	**36**		**P**	**23 06 50.1**	**+1.1**
E29M				IAmb	IAmb	23 07 05.4	
	comp=Z,8.0nm,1.5s						
H11S3	**WAKE ISLAND Hy**	**33.52**	**168**	T	T	23 42 37.0	
	baz=351,slow=76,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**33.53**	**168**	T	T	23 42 11.5	
	baz=351,slow=76,SNR=5.9						
ULN	**Ulaanbaatar**	**33.66**	**285**		**P**	**23 06 48.7**	**-2.1**
ULN	**Ulaanbaatar**	**33.66**	**285**	*c*e*c*P	**P**	**23 06 50.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**34.07**	**285**	P	**P**	**23 06 54.0**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=61,slow=8.3,SNR=10						
	comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**34.07**	**285**	P	**P**	**23 06 54.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**34.46**	**271**	*e*P	P	23 06 51.8	-5.8
HNS	**HongShan**	**34.57**	**264**	⇓P	**P**	**23 06 58.5**	**0.0**
HNS				pmax	pmax		
	comp=Z,11nm,1.3s						
HNS				LR	LR		
	comp=Z,500nm,15.7s						
HNS				LR	LR		
	comp=Z,540nm,17.3s						
HNS				LR	LR		
	comp=Z,610nm,18.1s						
ZAK	**Zakamensk**	**34.82**	**291**	*e*P	**P**	**23 07 00.1**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MOY	**Mondy**	**35.61**	**294**	*e*P	**P**	**23 07 07.0**	**-0.5**
MOY				pmax	pmax		
	comp=Z,13nm,1.3s						
NJ2	**Nanjing**	**35.63**	**253**	*e*P	**P**	**23 07 08.8**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NRIK	**Noril'sk**	**36.99**	**326**		**P**	**23 07 17.8**	**-1.1**
NRIK				IAmb	IAmb	23 07 20.1	
	comp=Z,9.1nm,1.1s						
NRIK	**Noril'sk**	**36.99**	**326**	P	**P**	**23 07 18.4**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=89,slow=8.4,SNR=9.2						
NRIK				LR	LR	23 24 21.6	
	comp=Z,356nm,18.2s,baz=79,slow=39						
	comp=Z,4.5nm,0.8s						
A36M	**Sachs Harbour**	**37.48**	**30**		**P**	**23 07 24.1**	**+1.1**
A36M				IAmb	IAmb	23 07 25.6	
	comp=Z,9.0nm,0.9s						
C36M	**Paulatuk**	**38.36**	**34**	P	**P**	**23 07 32.1**	**+1.7**
C36M				IAmb	IAmb	23 07 43.4	
	comp=Z,8.1nm,0.8s						
S34M	**Telegraph Cree**	**38.73**	**53**	P	**P**	**23 07 35.8**	**+2.1**
S34M				IAmb	IAmb	23 07 43.3	
	comp=Z,35nm,1.4s						
DLBC	**Dease Lake**	**39.08**	**52**	LR	LR	23 24 23.6	
	comp=Z,115nm,20.2s,baz=338,slow=37						
XAN	**Xi'an**	**40.33**	**264**	P	**P**	**23 07 48.4**	**+1.1**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
LZH	**Lanzhou**	**42.16**	**271**	*e*P	**P**	**23 08 03.3**	**+0.8**
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
LZH				LR	LR		
	comp=Z,540nm,16.5s						
LZH				LR	LR		
	comp=Z,520nm,15.8s						
LZH				LR	LR		
	comp=Z,540nm,16.8s						
ENH	**Enshi**	**42.55**	**260**	P	**P**	**23 08 04.9**	**-0.7**
ENH				IAmb	IAmb	23 08 08.4	
	comp=Z,19nm,0.8s						
GTA	**Gaotai**	**42.60**	**278**	*e*P	**P**	**23 08 05.8**	**-0.2**
GTA				pP	pP	23 08 12.9	-1.8
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				LR	LR		
	comp=Z,170nm,13.1s						
GTA				LR	LR		
	comp=Z,400nm,13.8s						
GTA				LR	LR		
	comp=Z,550nm,13.8s						
EUNU	**Eureka**	**43.41**	**13**	P	**P**	**23 08 12.4**	**+0.4**
EUNU				IAmb	IAmb	23 08 17.6	
	comp=Z,13nm,0.9s						
ZAA0	**Zalesovo Array**	**43.41**	**304**		**P**	**23 08 10.1**	**-2.1**

PZH pmax pmax
comp=Z,100nm,4.2s
PZH LR LR
comp=Z,190nm,14.5s
PZH LR LR
comp=Z,190nm,18.4s
PZH LR LR
comp=Z,240nm,17.3s
KMI Kunming 50.39 261 P **P 23 09 08.8 +1.4**
KMI pmax pmax
comp=Z,11nm,1.1s
KMI LR LR
comp=Z,280nm,17.9s
KMI LR LR
comp=Z,150nm,15.1s
KMI LR LR
comp=Z,210nm,21.6s
BLKN Baker Lake 50.41 33 **P 23 09 07.3 +0.6**
BLKN IAmb IAmb 23 09 08.4
comp=Z,8.8nm,0.8s
BBOR Butler Butte 51.01 67 P **P 23 09 14.3 +2.6**
BVAR Borovoye Array 51.15 309 P **P 23 09 10.9 -1.5**
comp=Z,10nm,0.4s,baz=55,slow=7.2,SNR=149
BVAR LR LR 23 33 01.7
comp=Z,502nm,18.8s,baz=64,slow=39
comp=Z,10nm,0.4s
BVAR Borovoye Array 51.15 309 P **P 23 09 11.0 -1.5**
YPT Yellepit 51.15 62 P **P 23 09 15.1 +2.6**
BRVK Borovoye 51.18 309 **P 23 09 11.1 -1.6**
BRVK IAmb IAmb 23 09 12.3
comp=Z,9.7nm,0.7s
BRVK Borovoye 51.18 309 P **P 23 09 11.1 -1.6**
BRVK pmax pmax
comp=Z,10.0nm,0.7s
ILON Igloolik, Nuna 51.22 24 **P 23 09 13.7 +1.0**
ILON IAmb IAmb 23 09 22.4
comp=Z,15nm,1.3s
YBH Yreka Blue Hor 51.72 69 LR LR 23 29 56.1
comp=Z,70nm,18.4s,baz=326,slow=34
SLVN Son La 52.50 257 **P 23 09 23.3 +0.3**
SLVN IAmb IAmb 23 09 28.8
comp=Z,14nm,1.1s
SVE Sverdlovsk 53.21 317 *eP* **P 23 09 27.5 -0.2**
SVE pmax pmax
comp=Z,17nm,1.0s
SVE MLR MLR
comp=Z,537nm,18.0s
PLID Pearl Lake 53.38 61 P **P 23 09 33.9 +4.5**
ARTI Arti 54.44 318 P **P 23 09 35.0 -1.7**
ARTI IAmb IAmb 23 09 38.1
comp=Z,9.1nm,1.0s
ARTI Arti 54.44 318 *d iP* **P 23 09 35.7 -1.0**
ARTI 23 11 35.7
ARTI S **S 23 17 13.6 +0.8**
ARTI SS **SS 23 20 56.4 +1.8**
ARTI pmax pmax
comp=Z,12nm,1.3s
ARCES ARCESS Array B 54.61 342 P **P 23 09 37.4 -0.4**
comp=Z,16nm,0.9s,baz=33,slow=7.3,SNR=21
ARCES LR LR 23 36 21.9
comp=Z,146nm,18.6s,baz=1.5,slow=40
comp=Z,16nm,0.9s
BOOM Boomskoye usch 54.85 296 P **P 23 09 38.6 -1.5**
BOOM IAmb IAmb 23 09 42.0
comp=Z,4.2nm,1.0s
BOOM Boomskoye usch 54.85 296 P **P 23 09 38.6 -1.5**
BOOM pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 55.43 7 **P 23 09 44.3 +0.2**
SUMG IAmb IAmb 23 09 56.7
comp=Z,14nm,1.1s
SUMG Summit 55.43 7 P **P 23 09 44.3 +0.2**
SUMG pmax pmax
comp=Z,14nm,1.1s
AAK Ala-Archa 55.56 297 **P 23 09 44.2 -1.0**
AAK IAmb IAmb 23 09 46.4
comp=Z,6.6nm,1.1s
AAK Ala-Archa 55.56 297 *ceP* **P 23 09 45.0 -0.1**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 55.56 297 *i* P **P 23 09 45.1 -0.1**
SNR=7.6
NVAR Mina Array Bea 56.43 69 P **P 23 09 53.4 +1.8**
comp=Z,0.2nm,0.3s,baz=290,slow=8.4,SNR=4.8
comp=Z,0.2nm,0.3s
ELK Elko 56.64 65 LR LR 23 30 52.9
comp=Z,58nm,21.1s,baz=332,slow=32
KSH Kashi 56.80 293 P **P 23 09 57.3 +3.3**
KSH pmax pmax
comp=Z,3.0nm,1.2s
KSH LR LR
comp=Z,270nm,14.1s
KSH LR LR
comp=Z,230nm,14.7s
KSH LR LR
comp=Z,360nm,14.5s
ARSB Arslanbob 57.27 297 P **P 23 09 55.5 -1.9**
ARSB IAmb IAmb 23 10 00.2
comp=Z,7.7nm,1.1s
ARSB Arslanbob 57.27 297 P **P 23 09 55.5 -1.9**
ARSB pmax pmax
comp=Z,8.0nm,1.1s
JMIC Jan Mayen 57.39 355 LR LR 23 34 48.7
comp=Z,74nm,18.1s,baz=62,slow=36
CHTO Chiang Mai 57.43 259 **P 23 09 58.9 +0.3**
CHTO IAmb IAmb 23 10 01.5
comp=Z,12nm,0.9s
CHTO Chiang Mai 57.43 259 P **P 23 09 58.9 +0.3**
CHTO pmax pmax
comp=Z,12nm,0.9s
KK31 Karatay Array 57.43 300 P **P 23 09 56.4 -1.9**
KK31 IAmb IAmb 23 09 58.9
comp=Z,7.9nm,0.9s
KK31 Karatay Array 57.43 300 P **P 23 09 56.4 -1.9**
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 57.43 300 P **P 23 09 56.4 -1.9**
KKAR Karatay Array 57.43 300 P **P 23 09 56.4 -1.9**
CMAR Chiang Mai Arr 57.70 259 P **P 23 10 00.7 +0.2**
CMAR Chiang Mai Arr 57.70 259 P **P 23 10 01.8 +1.3**
comp=Z,4.7nm,0.7s,baz=24,slow=7.4,SNR=26
CMAR LR LR 23 37 27.1
comp=Z,111nm,18.6s,baz=285,slow=39
comp=Z,4.7nm,0.7s
R11B Troy Canyon, C 58.05 67 P **P 23 10 06.0 +3.0**
KLMR Klimovskoe 58.11 330 *eP* P 23 09 57.0 -5.8
KLMR pmax pmax
comp=Z,23nm,1.6s
SPR3 Spring Creek 3 58.33 66 P **P 23 10 07.6 +2.5**
SPR3 IAmb IAmb 23 10 25.0
comp=Z,4.9nm,0.9s
BW06 Boulder Array 58.41 60 P **P 23 10 09.7 +4.2**
BW06 IAmb IAmb 23 10 13.7
comp=Z,13nm,1.4s
PD31 Pinedale Array 58.41 60 P **P 23 10 08.3 +2.9**
PD31 IAmb IAmb 23 10 13.7
comp=Z,13nm,1.4s
PDAR Pinedale Array 58.41 60 P **P 23 10 07.2 +1.8**
PDAR Pinedale Array 58.41 60 P **P 23 10 08.1 +2.6**
comp=Z,0.6nm,0.5s,baz=320,slow=3.7,SNR=11
comp=Z,0.6nm,0.5s
AB31 Akbulak array 58.60 311 P **P 23 10 04.5 -1.9**
AB31 IAmb IAmb 23 10 07.4
comp=Z,6.6nm,0.8s
ABKAR Akbulak array 58.60 311 P **P 23 10 04.8 -1.6**
ABKAR Akbulak array 58.60 311 P **P 23 10 04.6 -1.7**
ABKAR IAmb IAmb 23 10 07.4
comp=Z,6.6nm,0.8s
TPNV Topopah Spring 58.63 69 P **P 23 10 08.8 +1.8**
TPNV IAmb IAmb 23 10 26.1
comp=Z,3.8nm,0.9s
TPNV Topopah Spring 58.63 69 P **P 23 10 08.8 +1.8**
TPNV pmax pmax
comp=Z,4.0nm,0.9s
JOF Joensuu 58.81 335 *eP* **P 23 10 07.9 +0.3**
BRDH Bariadhala 59.06 268 LR LR 23 38 35.1
comp=Z,167nm,19.6s,baz=20,slow=39
BTK Batken 59.34 297 P **P 23 10 10.2 -1.5**
BTK IAmb IAmb 23 10 13.4
comp=Z,9.4nm,0.9s
BTK Batken 59.34 297 P **P 23 10 10.2 -1.5**
BTK pmax pmax
comp=Z,9.0nm,0.9s
GAR Garm 60.35 296 **P 23 10 17.9 -0.9**
VAF Ylistaro 60.79 339 *eP* **P 23 10 21.7 +0.5**
XMAS Kiritimati 61.00 129 P **P 23 10 25.1 +1.9**

KEF Keuruu 61.05 338 *eP* **P 23 10 23.4 +0.5**
LUWI Luwuk 61.09 223 P **P 23 10 22.0 -1.8**
SIMJ Simiganj 61.32 297 **P 23 10 23.0 -2.4**
SIMJ IAmb IAmb 23 10 26.7
comp=Z,5.7nm,1.0s
FIA1 FINESS Array S 61.38 337 **P 23 10 24.7 -0.5**
FINES FINESS Array B 61.38 337 **P 23 10 24.4 -0.8**
FINES FINESS Array B 61.38 337 P **P 23 10 25.3 +0.1**
comp=Z,14nm,0.8s,baz=35,slow=7.7,SNR=40
comp=Z,14nm,0.8s
FINES FINESS Array B 61.38 337 *i* P **P 23 10 25.7 +0.5**
FINES pmax pmax
comp=Z,14nm,0.8s
BELG Belogornoye 61.71 320 *i* P **P 23 10 27.3 -0.2**
BELG pmax pmax
comp=Z,4.0nm,0.9s
NIL Nilore 62.43 290 **P 23 10 32.2 -0.6**
NIL Nilore 62.43 290 P **P 23 10 32.2 -0.6**
NIL pmax pmax
comp=Z,11nm,1.0s
RAF Rauma 62.77 339 *eP* **P 23 10 35.2 +0.6**
MOS Moscow 62.78 327 *eP* **P 23 10 33.4 -1.3**
MOS *e* 23 10 45.3
MOS pmax pmax
comp=Z,31nm,1.3s
MEF Metsahovi 62.86 337 *eP* **P 23 10 36.2 +1.1**
ARBE Arbavere 63.14 336 *eP* **P 23 10 37.6 +0.7**
OBN Obninsk 63.64 328⇑ *eP* **P 23 10 39.7 -0.7**
OBN *SP **pwP 23 10 56.0 +2.4**
OBN 23 11 16.0
OBN 23 13 01.0
OBN SS SS 23 23 23.0 +4.4
OBN pmax pmax
comp=Z,27nm,1.5s
OBN MLR MLR
comp=Z,317nm,16.0s
VSU Vasula 63.78 335 *ceP* **P 23 10 39.9 -1.4**
VSU pmax pmax
comp=Z,42nm,1.3s
VSU Vasula 63.78 335 *eP* **P 23 10 41.2 0.0**
BORG Borgarnes 63.95 1 LR LR 23 39 05.6
comp=Z,76nm,19.4s,baz=13,slow=37
KBL Kabul 64.23 294 **P 23 10 42.8 -2.1**
KBL IAmb IAmb 23 10 46.0
comp=Z,6.1nm,0.9s
KBL Kabul 64.23 294 P **P 23 10 42.8 -2.1**
KBL pmax pmax
comp=Z,6.0nm,1.0s
MTSE Matsula 64.32 336 *eP* **P 23 10 45.4 +0.6**
NC204 NORSAR Array S 64.74 344 **P 23 10 47.2 -0.4**
LPSR Galich'ya Gora 64.86 325 *eP* **P 23 10 48.1 -0.3**
LPSR pmax pmax
comp=Z,16nm,0.9s
NB201 NORSAR Array S 64.86 344 P **P 23 10 47.9 -0.5**
KSM Kuching 64.86 237 P **P 23 10 49.9 +1.0**
NB2 NORSAR Subarra 64.89 344 P **P 23 10 48.3 -0.2**
comp=Z,6.6nm,0.9s,baz=23,slow=6.9
NOA NORSAR Array B 64.89 344 P **P 23 10 48.5 0.0**
comp=Z,2.7nm,0.8s,baz=25,slow=6.5,SNR=17
NOA LR LR 23 42 45.8
comp=Z,77nm,19.1s,baz=30,slow=40
comp=Z,2.7nm,0.8s
VRH Novokhopyorsk 64.94 322 *eP* **P 23 10 48.4 -0.6**
VRH pmax pmax
comp=Z,21nm,1.0s
SRIT Nakonsritamara 65.00 251 P **P 23 10 49.9 +0.1**
HFS Hagfors 65.28 342 P **P 23 10 51.4 +0.4**
comp=Z,4.6nm,0.4s,baz=46,slow=6.4,SNR=54
comp=Z,4.6nm,0.4s
VORR Voronezh 65.51 324 *eP* **P 23 10 52.5 -0.2**
VORR pmax pmax
comp=Z,11nm,0.5s
SLIT Slitere, Latvi 65.66 336 *eP* **P 23 10 53.8 +0.3**
VSR Storozhevoye 65.89 324 *eP* **P 23 10 52.4 -2.7**
VSR pmax pmax
comp=Z,8.0nm,1.1s
VORD Divnogorie 66.05 323 *eP* **P 23 10 53.0 -3.1**
VORD pmax pmax
comp=Z,10.0nm,1.0s
ISAL Salakas 66.46 333 *eP* **P 23 10 59.1 +0.4**
VSVD Vaisvydziai 66.70 335 *eP* **P 23 11 01.0 +0.8**
MNK Minsk 66.89 332 *i* P **P 23 11 01.4 0.0**
MNK *i* *PP **pwP 23 11 15.5 +0.8**
MNK *i* *SP **PcP 23 11 22.3 -7.6**
MNK *i* 23 13 28.7
MNK *i* PPP PPP 23 15 04.7
MNK *i* S **S 23 19 52.8 +1.2**
MNK *i* *SS sS 23 20 14.4 +7.7
MNK pmax pmax
comp=N,16nm,1.0s
MNK pmax pmax
comp=Z,53nm,0.9s
MNK pmax pmax
comp=E,31nm,1.1s
MNK MLR MLR
comp=E,200nm,16.0s
MNK MLR MLR
comp=Z,304nm,18.0s
MNK MLR MLR
comp=N,108nm,15.0s
PABE Paberze 67.11 335 **P 23 11 02.6 -0.2**
PABE Paberze 67.11 335 *eP* **P 23 11 03.7 +0.9**
PBUR Paburge 67.18 336 *eP* **P 23 11 04.7 +1.5**
SUW Suwalki 68.65 334 P **P 23 11 11.9 -0.6**
SUW Suwalki 68.65 334 P **P 23 11 11.9 -0.6**
SUW Suwalki 68.65 334 *eP* **P 23 11 13.4 +0.9**
MAK Makhachkala 69.04 313 *c i P* **P 23 11 15.0 -0.2**
MAK *e* *PP **pwP 23 11 28.4 -0.1**
MAK *e* *SP **PcP 23 11 34.6 -4.5**
MAK *e* 23 13 44.5
MAK *e* S **S 23 20 18.9 +1.2**
MAK *e* *SS sS 23 20 42.8 +10
MAK MLR MLR
comp=Z,766nm,16.0s
AK23 Malin Array Si 69.74 329 P **P 23 11 19.7 +0.3**
AK03 Malin Array Si 69.74 329 P **P 23 11 19.7 +0.3**
AKASG Malin Array Be 69.76 329 P **P 23 11 19.3 -0.2**
AKASG IAmb IAmb 23 11 20.7
comp=Z,7.8nm,0.9s
AKASG Malin Array Be 69.76 329 P **P 23 11 19.2 -0.3**
comp=Z,18nm,0.7s,baz=32,slow=6.1,SNR=64
AKASG LR LR 23 45 26.1
comp=Z,162nm,18.1s,baz=32,slow=39
comp=Z,18nm,0.7s
AKASG Malin Array Be 69.76 329 P **P 23 11 19.3 -0.2**
AKASG pmax pmax
comp=Z,8.0nm,1.0s
AKBB Malin Array Si 69.76 329 **P 23 11 18.7 -0.8**
AKBB Malin Array Si 69.76 329 *ceP* **P 23 11 19.0 -0.5**
AKBB pmax pmax
comp=Z,26nm,0.8s
AKBB Malin Array Si 69.76 329 P **P 23 11 19.7 +0.2**
KIEV Kiev 69.77 329 **P 23 11 19.0 -0.6**
KIEV Kiev 69.77 329 ⇓P **P 23 11 19.8 +0.3**
KIEV Kiev 69.77 329 ⇓P **P 23 11 19.8 +0.3**
KIEV Kiev 69.77 329 *i* P **P 23 11 19.4 -0.1**
SNR=12
MI28 Mi28,Pidlybu 70.05 330 P **P 23 11 21.7 +0.4**
RNPP9 Sopachiv 70.17 331 P **P 23 11 22.5 +0.5**
RNPP8 Varash 70.25 331 P **P 23 11 23.0 +0.5**
RNPP5 Staryi Chortor 70.34 331 P **P 23 11 23.5 +0.5**
KIV Kislovodsk 70.37 317 *eP* **P 23 11 20.5 -3.0**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,195nm,18.0s
KBZ Khabaz 70.46 317 P **P 23 11 24.3 +0.4**
comp=Z,6.3nm,1.1s,baz=88,slow=2.1,SNR=9.7
comp=Z,6.3nm,1.1s
LUBAR Lubar, Ukraine 70.91 329 P **P 23 11 26.0 -0.5**
TX31 Lajitas Ar. Si 71.39 66 **P 23 11 30.9 +1.0**
TXAR Lajitas Array 71.39 66 **P 23 11 30.9 +1.0**
TXAR Lajitas Array 71.39 66 P **P 23 11 31.1 +1.2**
comp=Z,1.1nm,0.7s,baz=295,slow=3.9,SNR=14
comp=Z,1.1nm,0.7s
LPIG La Paz 71.43 75 LR LR 23 37 49.7
comp=Z,29nm,19.6s,baz=355,slow=32
BAL3X Bal3x, Balta 72.03 327 P **P 23 11 33.4 +0.1**
SORM Soroca 72.27 328 ⇑P **P 23 11 35.3 +0.6**
SORM Soroca 72.27 328 ⇑P **P 23 11 35.3 +0.6**
SORM Soroca 72.27 328 P **P 23 11 34.9 +0.1**
comp=Z,36nm,0.9s
EKA Eskdalemuir Ar 72.45 350 P **P 23 11 34.8 -1.0**
comp=Z,0.7nm,0.6s,baz=213,slow=29,SNR=3.5

comp=Z,0.7nm,0.6s
OJC Ojcow 72.97 334 **P 23 11 39.2 +0.3**
OJC Ojcow 72.97 334 P **P 23 11 39.2 +0.3**
OJC Ojcow 72.97 334 P **P 23 11 39.7 +0.8**
comp=Z,12nm,1.3s
STNU Starunia 72.98 331 P **P 23 11 39.8 +0.8**
PURM Purcari 73.16 326 ⇓P **P 23 11 40.9 +0.9**
STHS Stebnicka Huta 73.30 333 *eP* **P 23 11 42.1 +1.2**
STHS *e* 23 11 52.5
STHS pmax pmax
comp=Z,7.0nm,0.8s
STHS Stebnicka Huta 73.30 333 *eP* **P 23 11 42.1 +1.2**
STHS *e* 23 11 52.5
KSP Ksiaz 73.31 337 P **P 23 11 41.8 +0.9**
KOLS Kolonicke sedl 73.45 332 *eP* **P 23 11 43.3 +1.5**
KOLS *e* 23 11 53.0
KOLS pmax pmax
comp=Z,10.0nm,0.8s
KOLS Kolonicke sedl 73.45 332 *eP* **P 23 11 43.2 +1.5**
KOLS *e* 23 11 53.0
CLL Collm 73.64 339 **P 23 11 42.1 -0.8**
CLL IAmb IAmb 23 11 55.0
comp=Z,9.6nm,1.0s
CLL Collm 73.64 339 *i* P **P 23 11 43.5 +0.7**
CLL *i* *PP **sP 23 11 54.0 -1.5**
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 73.64 339 *i* P **P 23 11 43.5 +0.7**
comp=Z,8.0nm,1.0s
CLL *i* sP **sP 23 11 54.0 -1.5**
comp=Z,10.0nm,1.0s
CLL *e*PcP **PcP 23 11 59.0 +0.5**
BUR08 Bucovina Ar. S 73.72 330 P **P 23 11 43.3 -0.2**
BURAR Bucovina Array 73.74 330 ⇓P **P 23 11 44.2 +0.6**
BURAR Bucovina Array 73.74 330 ⇓P **P 23 11 44.2 +0.6**
DPC Dobruska-Polom 73.75 337 *eP* **P 23 11 45.0 +1.4**
DPC *ex* x 23 11 54.9
DPC Dobruska-Polom 73.75 337 *eP* **P 23 11 45.0 +1.4**
DPC *e* *PP **sP 23 11 54.9 -1.3**
STEB Steborice 73.77 336 *eP* **P 23 11 45.2 +1.6**
STEB *ex* x 23 11 56.1
BRG Berggiesshubel 73.84 338 *eP* **P 23 11 45.4 +1.5**
BRG Amp 23 11 46.5
comp=Z,4.1nm,1.0s
MORC Moravsky Berou 73.97 336 **P 23 11 45.2 +0.3**
MORC IAmb IAmb 23 11 47.0
comp=Z,10nm,1.0s
MORC Moravsky Berou 73.97 336 *eP* **P 23 11 46.2 +1.3**
MORC *e* 23 11 56.4
MORC Moravsky Berou 73.97 336 ⇓P **P 23 11 46.6 +1.7**
MORC Moravsky Berou 73.97 336 ⇓P **P 23 11 46.6 +1.7**
PVCC Panska Ves 74.01 338 AMS AMS 23 49 50.0
comp=Z,400nm,13.1s
LANS Liptovska Anna 74.04 334 *eP* **P 23 11 47.6 +2.4**
LANS *e* 23 11 58.3
LANS pmax pmax
comp=Z,8.0nm,0.9s
LANS Liptovska Anna 74.04 334 *eP* **P 23 11 47.6 +2.4**
LANS *e* 23 11 58.3
TESR Tescani 74.25 328 ⇓P **P 23 11 47.0 +0.5**
VLDR Vladesti 74.37 327 ⇓P **P 23 11 48.0 +0.8**
PRA Prague 74.47 338 AMS AMS 23 50 10.0
comp=Z,500nm,16.0s
ONER Baraj Valea Uz 74.49 328 ⇓P **P 23 11 49.0 +1.1**
PRU Pruhonice 74.52 338 AMS AMS 23 50 00.0
comp=Z,400nm,11.9s
KOPT Kop Dagi 74.53 316 **P 23 11 48.6 0.0**
VRAC Vranov 74.65 336 *eP* **P 23 11 49.6 +0.8**
VRAC *e* 23 12 00.3
VRAC Vranov 74.65 336 ⇑P **P 23 11 49.5 +0.8**
VRAC Vranov 74.65 336 ⇑P **P 23 11 49.5 +0.8**
WRA Warramunga Arr 74.68 205 P **P 23 11 50.4 +1.2**
WRA Warramunga Arr 74.68 205 P **P 23 11 48.9 -0.3**
comp=Z,0.9nm,0.6s,baz=18,slow=6.0,SNR=5.1
comp=Z,0.9nm,0.6s
WRA Warramunga Arr 74.68 205 *i* P **P 23 11 50.0 +0.9**
WRA pmax pmax
comp=Z,2.0nm,0.9s
JAVC Velka Javorina 74.78 335 *eP* **P 23 11 51.9 +2.3**
VRI Vrincioaia 74.80 328 ⇓P **P 23 11 50.7 +1.0**
VRI Vrincioaia 74.80 328 ⇓P **P 23 11 50.7 +1.0**
VYHS Vyhne 74.81 334 *eP* **P 23 11 51.3 +1.6**
VYHS *e* 23 12 02.1
VYHS pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 74.81 334 *eP* **P 23 11 51.3 +1.6**
VYHS *e* 23 12 02.1
PLOR Plostina 74.84 328 ⇑P **P 23 11 51.4 +1.4**
PLOR Plostina 74.84 328 ⇑P **P 23 11 51.4 +1.4**
OZUR 74.90 329 ⇓P **P 23 11 51.8 +1.5**
KRUC Moravsky 74.92 336 *eP* **P 23 11 51.8 +1.5**
KRUC *e* 23 12 02.3
CFR Carcaliu 74.93 327 ⇓P **P 23 11 51.2 +0.8**
CFR Carcaliu 74.93 327 ⇓P **P 23 11 51.2 +0.8**
COVR Voineasa-Covas 74.99 328 ⇑P **P 23 11 52.6 +1.8**
OXF Oxford 75.03 53 P **P 23 11 51.1 0.0**
OXF Oxford 75.03 53 P **P 23 11 51.2 0.0**
OXF pmax pmax
comp=Z,33nm,1.5s
PSZ Piszkesteto 75.04 333 P **P 23 11 51.2 +0.1**
PSZ IAmb IAmb 23 12 04.1
comp=Z,11nm,1.0s
PSZ Piszkesteto 75.04 333 ⇑P **P 23 11 52.5 +1.4**
PSZ Piszkesteto 75.04 333 ⇑P **P 23 11 52.5 +1.4**
PSZ Piszkesteto 75.04 333 *eP* **P 23 11 52.7 +1.5**
GURO Guroymak-BITLI 75.06 314 P **P 23 11 50.2 -1.3**
GURO IAmb IAmb 23 11 54.5
comp=Z,15nm,1.2s
BISRR Bisoca 75.08 328 ⇑P **P 23 11 53.4 +2.0**
TPGR Topolog 75.11 326 ⇓P **P 23 11 52.7 +1.2**
ZVC Zvikov 75.11 338 *eP* **P 23 11 53.2 +1.8**
ZVC AMS AMS 23 50 40.0
comp=Z,400nm,16.1s
SMOL Smolenice 75.16 335 *eP* **P 23 11 54.2 +2.5**
SMOL pmax pmax
comp=Z,9.0nm,1.3s
MODS Modra-Piesok 75.33 335 *eP* **P 23 11 55.2 +2.5**
MODS *e* 23 12 05.8
MODS Modra-Piesok 75.33 335 *eP* **P 23 11 55.2 +2.5**
MODS *e* 23 12 05.8
MLR Muntele Rosu 75.39 328 **P 23 11 52.5 -0.8**
MLR IAmb IAmb 23 11 55.8
comp=Z,7.6nm,0.7s
MLR Muntele Rosu 75.39 328 LR LR 23 50 18.6
comp=Z,182nm,18.1s,baz=34,slow=40
MLR Muntele Rosu 75.39 328 ⇓P **P 23 11 54.6 +1.4**
MLR Muntele Rosu 75.39 328 ⇓P **P 23 11 54.6 +1.4**
HARR Harsova 75.43 327 ⇑P **P 23 11 53.8 +0.5**
HARR Harsova 75.43 327 ⇑P **P 23 11 53.8 +0.5**
TIRR Tirgusor 75.47 326 P **P 23 11 53.1 -0.4**
TIRR Tirgusor 75.47 326 ⇑P **P 23 11 54.4 +0.9**
TIRR Tirgusor 75.47 326 ⇑P **P 23 11 54.4 +0.9**
TLBR Topalu 75.52 327 ⇓P **P 23 11 54.8 +1.1**
ISR Istrita 75.52 328 ⇑P **P 23 11 55.5 +1.6**
ISR Istrita 75.52 328 ⇑P **P 23 11 55.5 +1.6**
KHC Kasperske Hory 75.55 338 *eP* **P 23 11 55.4 +1.4**
KHC *ex* x 23 12 06.0
KHC AMS AMS 23 51 00.0
comp=Z,400nm,14.7s
KHC Kasperske Hory 75.55 338 *eP* **P 23 11 55.4 +1.4**
KHC *e* *PP **sP 23 12 06.0 -0.7**
KHC MLR MLR
comp=Z,400nm,14.7s
CKRC Cesky Krumlov 75.66 337 *eP* **P 23 11 57.9 +3.3**
CKRC Cesky Krumlov 75.66 337 *eP* **P 23 11 57.9 +3.3**
BTNL Ternell 75.72 343 *dP* **P 23 11 55.6 +0.7**
comp=Z,7.6nm,1.0s
MEM Membach 75.72 343 *dP* **P 23 11 54.4 -0.5**
comp=Z,12nm,1.1s
VOIR 75.72 329 ⇑P **P 23 11 56.9 +1.8**
VOIR 75.72 329 ⇑P **P 23 11 56.9 +1.8**
GEC2 GERESS Array S 75.79 338 **P 23 11 54.6 -0.8**
GEC2 IAmb IAmb 23 12 07.8
comp=Z,5.4nm,1.0s
GERES GERESS Array B 75.79 338 P **P 23 11 55.2 -0.2**
GERES GERESS Array B 75.79 338 P **P 23 11 55.5 +0.1**
comp=Z,1.2nm,0.7s,baz=35,slow=4.9,SNR=6.2
GERES LR LR 23 50 24.0
comp=Z,157nm,18.3s,baz=58,slow=40
comp=Z,1.2nm,0.7s
ARR Arges 75.92 329 ⇑P **P 23 11 57.6 +1.4**
TOKA Tokat 75.97 319 P **P 23 11 57.2 +0.7**
ICOR Ion Corvin 75.98 327 ⇓P **P 23 11 57.7 +1.3**

SIRR	Siria	76.03 331	⇑P	P	23 11 56.8 +0.1
BCLA	Clavier	76.03 344	*d*P	P	23 11 56.3 -0.3
	comp=Z,4.5nm,1.0s				
BGES	Gesves	76.10 344	*d*P	P	23 11 55.5 -1.6
CONA	Conrad Observa	76.11 336	*e*P	P	23 11 59.3 +2.0
	comp=Z,6.0nm,1.0s				
RONA	Rosalia, Austr	76.21 336	*i* pP	pP	23 12 10.2 +3.2
	comp=Z,5.1nm,0.8s				
BMRD	Maredsous	76.24 344	*d*P	P	23 12 01.6 +3.8
	comp=Z,7.6nm,1.0s				
SURR	Surduc	76.35 331	⇓P	P	23 11 59.4 +0.9
ILGA	Ilgaz	76.45 321		P	23 11 59.7 +0.2
GZR	Gura Zlata	76.48 330	⇓P	P	23 11 59.5 +0.1
GZR	Gura Zlata	76.48 330	⇓P	P	23 11 59.5 +0.1
MOA	Molln	76.58 337	*e*P	P	23 12 01.2 +1.3
	comp=Z,5.5nm,1.1s				
BZS	Buzias	76.63 331	⇓P	P	23 12 00.8 +0.7
BZS	Buzias	76.63 331	⇓P	P	23 12 00.8 +0.7
ARSA	Arzberg	76.82 336	*e*P	P	23 12 03.4 +2.1
	comp=Z,7.1nm,1.3s				
BIOA	Bad Ischl, Aus	76.88 337	*i* P	P	23 12 03.7 +2.1
	comp=Z,4.5nm,1.0s				
HERR	Herculane	77.05 330	⇓P	P	23 12 02.9 +0.3
LESA	Schwarzleotal	77.36 338	*i* P	P	23 12 06.4 +2.1
	comp=Z,10nm,1.3s				
BNN	Bunyan	77.47 318		P	23 12 04.4 -0.7
SOKA	Soboth	77.48 336	*e*P	P	23 12 07.1 +2.1
	comp=Z,7.1nm,1.2s				
KBA	Koelnbreinsper	77.52 337	*i* P	P	23 12 07.6 +2.2
	comp=Z,11nm,0.9s				
PALK	Pallekele	77.56 266	LR	LR	23 50 45.7
	comp=Z,75nm,19.5s,baz=210,slow=39				
BR131	Keskin Array S	77.62 320	P	P	23 12 05.4 -0.6
BR131			IAmb	IAmb	23 12 07.8
	comp=Z,11nm,1.1s				
BR131	Keskin Array S	77.62 320	P	P	23 12 05.4 -0.6
BR131			pmax	pmax	
	comp=Z,11nm,1.2s				
BRTR	Keskin Array B	77.62 320	P	P	23 12 05.0 -1.0
BRTR	Keskin Array B	77.62 320	P	P	23 12 05.9 -0.1
	comp=Z,4.5nm,1.0s,baz=35,slow=3.0,SNR=19				
	comp=Z,4.5nm,1.0s				
BRTR	Keskin Array B	77.62 320	*i* P	P	23 12 06.9 +0.9
BRTR			pmax	pmax	
	comp=Z,5.0nm,1.0s				
WATA	Walderalm	77.70 338	*i* P	P	23 12 08.2 +1.9
	comp=Z,5.1nm,1.0s				
RETA	Reutte	77.74 339	*i* P	P	23 12 09.1 +2.7
	comp=Z,4.1nm,1.0s				
WTTA	Wattenberg	77.75 338	*i* P	P	23 12 10.2 +3.5
	comp=Z,10nm,1.0s				
OBKA	Obir	77.76 336	*e*P	P	23 12 09.2 +2.6
	comp=Z,7.6nm,1.1s				
MOTA	Moosalm	77.80 339	*e*P	P	23 12 07.9 +1.0
	comp=Z,6.8nm,1.1s				
ECH	Echery	77.80 342		P	23 12 06.8 +0.2
ECH			IAmb	IAmb	23 12 19.1
	comp=Z,7.5nm,1.1s				
ECH	Echery	77.80 342	P	P	23 12 06.9 +0.2
ECH			pmax	pmax	
	comp=Z,7.0nm,1.1s				
MYKA	Terra Mystica	77.87 337	*e*P	P	23 12 07.7 +0.5
	comp=Z,5.7nm,1.1s				
SQTA	Sankt Quirin	77.89 339	*i* P	P	23 12 08.9 +1.5
	comp=Z,8.1nm,1.0s				
SHME	Shamm	77.91 297	*i* P	P	23 12 07.6 0.0
	SNR=8.3				
BANOM	Banah	77.92 296	*i* P	P	23 12 08.1 +0.3
	SNR=20				
KIRS	Kirsehir-Merke	78.02 320	⇑P	P	23 12 09.1 +1.0
ABTA	Abfaltersbach	78.03 338	*e*P	P	23 12 09.0 +0.9
	comp=Z,7.8nm,1.1s				
DAVA	Damuels	78.12 340	*e*PcP	P	23 12 12.2 +3.5
	comp=Z,9.6nm,1.1s				
FETA	Feichten	78.19 339	*e*PcP	P	23 12 12.8 +3.8
	comp=Z,5.4nm,0.9s				
GAZ	Gaziantep	78.31 317		P	23 12 09.0 -0.8
AS31	Alice Springs	78.35 204	P	P	23 12 11.1 +1.2
ASAR	Alice Springs	78.35 204	P	P	23 12 10.7 +0.8
	comp=Z,0.9nm,0.6s,baz=15,slow=5.4,SNR=16				
	comp=Z,0.9nm,0.6s				
MSFE	Esma-Masafi	78.44 296	*i* P	P	23 12 10.5 -0.1
	SNR=5.7				
FUORN	Ofenpass-Fuorn	78.67 339	P	P	23 12 11.9 +0.1
FUORN			IAmb	IAmb	23 12 17.0
	comp=Z,5.4nm,0.9s				
BORA	Eskisehir	78.72 323	P	P	23 12 11.6 -0.5
BORA			IAmb	IAmb	23 12 24.6
	comp=Z,5.0nm,0.8s				
UOSS	Minazif	78.74 296	P	P	23 12 11.3 -1.0
UOSS	Minazif	78.74 296	*i* P	P	23 12 12.5 +0.2
	SNR=7.9				
HATD	Hatta, Dubai	78.88 296	*i* P	P	23 12 13.6 +0.6
	SNR=7.1				
TUE	Stuetta	79.01 340		P	23 12 13.9 +0.2
TUE			IAmb	IAmb	23 12 18.2
	comp=Z,10nm,1.0s				
NAZ	Nazwa, Dubai	79.01 296	P	P	23 12 14.0 +0.3
ASHO	Ashiyiah	79.03 296	*i* P	P	23 12 14.5 +0.6
	SNR=7.0				
TAOE	Nuku Hiva Isla	79.18 119	*e*LR	LR	23 37 04.3
	comp=Z,293nm,27.5s				
FAQ	Al Faqa, Dubai	79.24 296	P	P	23 12 14.9 -0.1
MANT	Manisa	80.65 323	P	P	23 12 21.6 -1.1
MANT			IAmb	IAmb	23 12 35.1
	comp=Z,13nm,1.3s				
NRCA	Norcia	81.56 336	P	P	23 12 26.9 -0.3
MZR	Muzera	81.80 297	P	P	23 12 28.5 -0.3
PPT	Papeete	81.81 132	LR	LR	23 43 59.3
	comp=Z,75nm,18.0s,baz=330,slow=32				
PPT2	Papeete2	81.83 132	*e*LR	LR	23 38 16.5
	comp=Z,103nm,23.5s				
PPT2			*e*LR	LR	23 38 16.8
	comp=Z,113nm,25.5s				
MMAI	Mount Meron Ar	82.62 316	P	P	23 12 34.3 +1.3
	comp=Z,9.9nm,0.8s,baz=40,slow=7.9,SNR=11				
	comp=Z,9.9nm,0.8s				
EIL	Elat	85.68 314	LR	LR	23 56 33.0
	comp=Z,112nm,19.3s,baz=206,slow=40				
RAYN	Ar Rayn	85.69 303	P	P	23 12 48.0 -0.7
RAYN			IAmb	IAmb	23 13 00.2
	comp=Z,3.7nm,0.7s				
RAYN	Ar Rayn	85.69 303	⇓P	P	23 12 49.2 +0.5
RAYN	Ar Rayn	85.69 303	P	P	23 12 48.6 -0.1
TBI	Tubuai	86.90 135	*e*LR	LR	23 40 04.5
	comp=Z,1μm,37.5s				
ESDC	Sonseca Array	87.96 348	P	P	23 12 58.9 -0.7
	comp=Z,0.8nm,0.7s,baz=3.0,slow=4.2,SNR=6.8				
	comp=Z,0.8nm,0.7s				
KEST	Kesra	89.21 336	P	P	23 13 06.7 +1.2
	comp=Z,8.4nm,1.1s,baz=62,slow=1.4,SNR=5.9				
	comp=Z,8.4nm,1.1s				
QSPA	South Pole Qui	141.38 180	PKP	PKPdf	23 19 40.2 +1.1
	comp=Z,0.9nm,0.6s,baz=68,slow=1.1,SNR=8.2				
ELIB	Princess Elisa	152.12 207	*d*PKP	PKiKP	23 20 06.7 +2.7

*IDC **22** 23:07:57.3±2.9, 51°.10N×159°.54E, h0km, mb3.7/5, mbtmp3.7/6, ML2.0/1, Error ellipse: s-maj=68.1km s-min=46.7km az=76.0*

*KRSC **22** 23:08:01.4±1.7, 51°.51N×160°.08E, h59km±23km, Ml3.8*

ISC 22 23:08:01.7±1.4, 51°.47N±0°.09×159°.98E±0°.07, h26km, n26, e0±97/30, mb3.9/5, Off east coast of Kamtchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	1.23	287	*e*P	Pb	23 08 24.4	+0.1
KDTR				*e*S	Sb	23 08 40.1	+0.4
RUS	Russkaya	1.33	318	*e*P	Pn	23 08 25.1	+0.5
RUS				*e*S	Sb	23 08 41.7	-0.8
MTVR	Mutnovka	1.51	313	*e*P	Pn	23 08 28.1	+0.9
MTVR				*e*S	Sb	23 08 47.3	-0.5
GRL	Gorelyy	1.60	314	*e*P	Pb	23 08 30.3	-0.4
SPN	Mys Shipunski	1.64	1	*e*P	Pn	23 08 29.5	+0.7
DALK	Dalny	1.74	335	*e*P	Pn	23 08 31.2	+1.0
NLC	Nalytchevo	1.75	348	*e*P	Pn	23 08 31.3	+0.9
PET	Petropavlovsk	1.76	333	*e*P	Pb	23 08 32.2	-1.1
KRMR	Karymshinskiy	1.78	321	*e*P	Pn	23 08 31.6	+0.8
UGLR	Uglovaya	1.88	338	*e*P	Pn	23 08 32.7	+0.4
SDLR	Sedlovina	1.94	340	*e*P	Pn	23 08 33.5	+0.5
AVH	Avacha	1.96	338	*e*P	Pn	23 08 34.8	+1.5
PAU	Pauzhetka	1.98	271	*e*P	Pb	23 08 36.3	-0.7
KOK	Koryaka	2.01	336	*e*P	Pb	23 08 37.1	-0.4
KRX	Arik	2.06	337	*e*P	Pn	23 08 35.9	+1.0
PETK	Petropavlovsk-	2.16	321	Pn	Pn	23 08 36.2	+0.2
	1.8nm,0.3s,baz=124,slow=15,SNR=31						
PETK				Sn	Sb	23 09 07.3	+0.8
	4.4nm,0.3s,baz=144,slow=14,SNR=6.5						
	11nm,0.8s						
APC	Apacha	2.27	311	*e*P	Pb	23 08 40.4	-1.6
GNL	Ganaly	2.56	332	*e*P	Pn	23 08 43.3	+1.8
KII	Karymskiy	2.59	353	*e*P	Pn	23 08 43.5	+1.4
MKZ	Mys Kozlova	3.27	18	*e*P	Pn	23 08 51.2	-0.1
KBTR	Krutoberegovo	5.04	18	*e*P	Pn	23 09 16.2	+0.7
KURBB	Kurchatov Arra	48.65	303	P	P	23 16 42.9	-0.2
	0.7nm,0.7s,baz=60,slow=7.9,SNR=5.7						
	0.7nm,0.7s						
MKAR	Makanchi Array	48.81	297	P	P	23 16 43.0	-1.4
	0.3nm,0.5s,baz=52,slow=6.5,SNR=6.0						
	0.3nm,0.5s						
BVAR	Borovoye Array	51.35	309	P	P	23 17 02.9	-0.7
	0.7nm,0.4s,baz=51,slow=7.8,SNR=7.9						
	0.7nm,0.4s						
FINES	FINESS Array B	61.59	337	P	P	23 18 17.4	+1.2
	1.2nm,1.0s,baz=29,slow=6.8,SNR=1.4						
	1.2nm,1.0s						
HFS	Hagfors	65.48	342	P	P	23 18 43.4	+1.5
	0.5nm,0.5s,baz=62,slow=12,SNR=5.2						
	0.5nm,0.5s						

*NEIC **22** 23:08:04.8±0.9, 19°.78N±0°.01×156°.12W±0°.03, h10km±1km, Error ellipse: s-maj=5.2km s-min=2.8km az=280.0*

HVO 22 23:08:04.2±1.4, 19°.83N±0°.01×156°.18W±0°.02, h8km±7km, ML2.7/21, ML2.8/26(NEIC), Error ellipse: s-maj=2.6km s-min=1.6km az=64.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	Kailua Kona	0.23	138		Pg	23 08 09.0	+0.3
KKH				Sg	Sg	23 08 12.0	+0.2
HUH	Hualalai	0.35	113		Pg	23 08 10.4	-0.8
HUH				Sg	Sg	23 08 14.2	-1.7
HUH				IAML		23 08 17.8	
	comp=N,1000nm,0.2s						
HUH				IAML		23 08 18.4	
	comp=E,1μm,0.2s						
CPH	Captain Cook	0.42	144		Pg	23 08 12.1	-0.2
MHA	Mahukona	0.44	36	Pg	Pb	23 08 13.5	-0.7
MHA				Sg	Sb	23 08 20.6	-0.3
HPAH	Hawaii Prepara	0.50	66		Pg	23 08 13.7	-0.1
HPAH					Sg	23 08 20.3	-0.1
HPAH				IAML		23 08 20.5	
	comp=E,885nm,0.3s						
ALEP	Alea Permanent	0.58	119		Pg	23 08 14.9	-0.6
ALEP					Sg	23 08 22.8	-0.3
POHA	Pohakuloa	0.61	96		Pg	23 08 15.1	-1.0
POHA					Sg	23 08 22.9	-1.2
POHA	Pohakuloa	0.61	96	IAML		23 08 30.9	
	comp=E,399nm,0.4s						
MWH	Mokuaweoweo	0.65	122		Pg	23 08 15.7	-1.0
MWH	Mokuaweoweo	0.65	122		Sg	23 08 24.3	-1.0
HMH	Humu'ula Sheep	0.69	109		Pg	23 08 16.5	-1.1
HMH				IAML		23 08 29.0	
	comp=N,369nm,0.2s						
HMH	Humu'ula Sheep	0.69	109		Sg	23 08 25.3	-1.3
KHU	Kahuku	0.79	137		Sg	23 08 27.7	-1.9
KHU	Kahuku	0.79	137		Pg	23 08 17.3	-2.0
KHU				IAML		23 08 37.0	
	comp=E,454nm,1.2s						
KHU				IAML		23 08 37.4	
	comp=N,284nm,0.6s						
MLH	Mauna Loa	0.82	114		Pg	23 08 17.8	-2.2
MLH					Sg	23 08 28.9	-1.7
MLH	Mauna Loa	0.82	114	IAML		23 08 29.2	
	comp=E,439nm,0.3s						
MLH				IAML		23 08 30.0	
	comp=N,398nm,0.2s						
RSD	Rainshed	0.92	113		Pg	23 08 19.2	-2.8
RSD					Sg	23 08 31.6	-2.3
UWE	Uwekahuna	0.93	116		Pg	23 08 19.1	-2.9
UWE	Uwekahuna	0.93	116	IAML		23 08 25.2	
	comp=N,348nm,2.3s						
UWE				IAML		23 08 46.8	
	comp=E,547nm,2.6s						
WRMHI	West Rim	0.93	117		Pg	23 08 19.0	-3.0
WRMHI					Sg	23 08 31.8	-2.4
OBL	Observatory Le	0.94	116		Pg	23 08 19.1	-3.0
HTC	Hot Caves	0.94	128		Pg	23 08 19.2	-3.1
SDHHI	Sand Hill	0.94	117		Pg	23 08 19.3	-3.0
SDHHI					Sg	23 08 31.3	-3.2
JOKA	Jonika Flow	1.17	109		Pb	23 08 22.0	-4.7
JOKA	Jonika Flow	1.17	109	IAML		23 08 44.5	
	comp=E,148nm,3.1s						
JOKA				IAML		23 09 04.8	
	comp=N,242nm,2.0s						

*AFAD **22** 23:10:15.6, 40°.22N×27°.03E, h7km±3km, ML1.7*

ISK 22 23:10:14.2, 40°.22N×27°.03E, h14km, ML1.8/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANM	Can-anakkale	0.21	175	Pg	Pb	23 10 19.8	-0.1
CANM				Sg	Sb	23 10 23.1	-0.5
LPK	Lapseki	0.26	306	Pg	Pb	23 10 20.3	-0.3
LPK				Sg	Sb	23 10 24.4	-0.5
KRBG	Karabiga-Canak	0.27	50	Pg	Pg	23 10 19.9	+0.1
KRBG				Sg	Sb	23 10 25.0	-0.3
YENI	Yenice-Canakka	0.33	150	Pg	Pg	23 10 21.2	+0.3
COMU	Canakkale	0.44	254	Pg	Pg	23 10 23.1	+0.1
GELI	Tayfur-Gelibol	0.46	293	Pg	Pb	23 10 23.9	-0.2
RKY	Sarkoy-Tekirda	0.48	14	Pg	Pb	23 10 24.3	-0.2
CNKL	anakkale-Mer	0.52	253	P	Pb	23 10 25.0	0.0
CNKL				S	Sg	23 10 31.1	-0.2
GONE	Gonen-Balikesi	0.53	109	Pg	Pb	23 10 25.2	-0.1
MRMT	Marmara Adasi	0.58	48	Pg	Pg	23 10 25.5	0.0
ERIK	Erikli-Kesan	0.60	319	Pg	Pb	23 10 26.4	-0.1
BAYC	CANAKKALE_Bayr	0.61	218	P	Pb	23 10 26.5	-0.1
BAYC				S	Sg	23 10 33.5	-0.5
YAYO	Edremit-Balk	0.61	177	Pg	Pg	23 10 26.3	+0.2
EDC	Edincik	0.65	79	Pg	Pg	23 10 26.6	-0.3
BUHA	Balikesir, Bur	0.72	177	P	Pn	23 10 29.3	-0.7
BUHA				S	Sg	23 10 37.5	-0.1
BUHA				*i* AML	AML	23 10 43.0	
	comp=E,28nm,0.3s						
BOZC	Bozcaada	0.84	243	P	Pb	23 10 30.9	+0.3
BOZC				S	Sg	23 10 40.9	-0.6
BOZC				*i* AML	AML	23 10 42.0	
	comp=E,31nm,0.3s						
BOZC				*i* AML	AML	23 10 42.0	
	comp=N,32nm,0.3s						
ENEZ	Enez	0.84	308	Pg	Pb	23 10 30.7	0.0
GOAD	anakkale-G¶	0.86	266	P	Pb	23 10 31.3	+0.4
GOAD				S	Sn	23 10 45.4	+1.1
GOAD				*i* AML	AML	23 10 48.0	
	comp=N,26nm,0.9s						
GOAD				*i* AML	AML	23 10 51.0	
	comp=E,25nm,0.4s						
GADA	Gvkgeada	0.87	268	Pg	Pg	23 10 30.9	-0.1
AYVA	Ayvalik	0.95	196	P	Pn	23 10 33.3	+0.1
AYVA				S	Sb	23 10 44.5	-0.3
AYVA				*i* AML	AML	23 10 51.0	
	comp=N,21nm,0.2s						
UKOP	Uzunkopru-Edir	0.95	342	Pg	Pn	23 10 33.3	+0.1
KOCA	Canakkale, Ayv	0.99	224	P	Pn	23 10 34.7	+0.9
KOCA				S	Sg	23 10 46.3	0.0
ALN	Alexandroupoli	1.01	312	Pg	Pn	23 10 33.9	-0.1
DKL	Dikili	1.15	185	Pn	Pg	23 10 36.3	-0.1
SIGR	SIGRI	1.36	222	Pn	Pb	23 10 39.2	-0.2

NNC 22 23:19:38.2±4.5, 37°.00N×70°.99E, h0km, mb3.9, mpv3.7, 2C-2D, Error ellipse: s-maj=36.2km s-min=33.0km az=164.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.11	357	P	Pn	23 21 10.7	+0.9
	2.4nm,0.3s,baz=179,slow=13,SNR=36						
KK31				⇓S	Sn	23 22 22.3	+1.9
	4.7nm,0.5s,baz=180,slow=22						
AAK	Ala-Archa	6.25	25	⇑P	Pn	23 21 12.0	+0.2
	2.7nm,0.3s						
AAK				⇓S	Sn	23 22 23.9	0.0
	2.5nm,0.5s						
TKM2	Tokmak 2	6.89	29	⇑P	Pn	23 21 20.0	-0.7
	1.8nm,0.5s						
AB31	Akbulak array	14.65	330	P	Pn	23 23 06.2	-0.4
	0.6nm,0.5s,baz=149,slow=12,SNR=17						

*NCEDC **22** 23:21:01.0±2.4, 40°.38N±0°.04×125°.19W±0°.05, h5km±7km, Error ellipse: s-maj=5.8km s-min=4.5km az=46.0*

NEIC 22 23:21:00.8±2.2, 40°.42N±0°.06×125°.20W±0°.05, h10km±1km, ML2.9/73, ML3.1/12(NCEDC), Error ellipse: s-maj=9.9km s-min=6.6km az=190.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	0.66	85		Pn	23 21 15.4	-0.9
PETL	Petrolia	0.67	101		Pb	23 21 14.8	+0.2
PETL					Sn	23 21 26.0	-0.7
KSMM	Slide Mountain	0.81	106		Pg	23 21 16.6	+0.1
KMPM	Mount Pierce	0.82	90	Pg	Pb	23 21 17.3	+0.1
KMPM					Sn	23 21 30.6	-0.1
JCC	Jacoby Creek,	0.97	66	Pg	Pg	23 21 18.9	-0.6
JCC				IAML		23 21 33.4	
	comp=E,295nm,0.6s						
BRIC	Briceland Vine	1.04	107		Pg	23 21 20.5	-0.4
KCRM	Chalk Rock	1.05	89		Pg	23 21 20.8	-0.2
KMRM	Mail Ridge	1.15	99	Pn	Pb	23 21 22.7	-0.2
KMRM				Sn	Sn	23 21 39.0	0.0
KRPM	Rodgers	1.16	50	Pn	Pb	23 21 21.1	-1.8
KHMM	Horse Mountain	1.20	67	Pn	Pb	23 21 22.6	-1.2
KHMM				IAML		23 21 40.0	
	comp=N,266nm,0.5s						
KHMM				IAML		23 21 42.0	
	comp=E,230nm,0.5s						
KPPM	Pickett Peak	1.40	92		Pn	23 21 26.4	-0.2
KCPM	Cahto Peak	1.44	120	Pn	Pn	23 21 25.6	-1.5
KIPM	Iron Peak	1.45	114		Pn	23 21 26.3	-1.0
KHBM	Hayfork Bally	1.52	80		Pn	23 21 27.5	-0.8
KHBM				IAML		23 21 48.4	
	comp=N,177nm,0.6s						
KHBM				IAML		23 21 48.7	
	comp=E,122nm,0.4s						
KFPM	Farley Peak	1.57	119		Pn	23 21 27.9	-0.9
KOMM	Orleans Mounta	1.58	57		Pn	23 21 27.4	-1.6
GTC	Three Chop Rid	1.62	128		Pn	23 21 27.2	-2.3
KBNM	Bluenose Ridge	1.62	108		Pn	23 21 29.2	-0.4
SIGP	Signal Peak, C	1.68	30		Pn	23 21 28.1	-2.2
WEAV	Weaverville	1.71	78		Pn	23 21 29.9	-0.9
DCMP	DeCamp, Califo	1.72	123		Pn	23 21 29.1	-1.7
LBPM	Beegum Peak	1.77	93		Pn	23 21 31.0	-0.6
O02D	Mt. Diablo Mer	1.86	97		Pn	23 21 32.3	-0.5
O02D	Mt. Diablo Mer	1.86	97		Pn	23 21 32.3	-0.4
O02D				IAML		23 22 00.8	
	comp=N,44nm,0.5s						
O02D				IAML		23 22 11.4	
	comp=E,39nm,1.0s						
GWRM	Wonder Ranch	1.90	129		Pn	23 21 32.2	-1.1
KBO	Bosley Butte	1.93	22		Pn	23 21 31.4	-2.4
N02D	Trinity Center	1.97	73		Pn	23 21 33.6	-0.7
N02D	Trinity Center	1.97	73	IAML		23 22 03.9	
	comp=E,119nm,0.3s						
N02D				IAML		23 22 03.9	
	comp=N,129nm,0.3s						
M02C	Callahan	2.02	61		Pn	23 21 33.8	-1.2
LBKM	Bonanza King	2.03	70		Pn	23 21 34.3	-0.9
GVV	Valley View	2.04	108		Pn	23 21 34.8	-0.5
GGUM	Gualala	2.04	139		Pn	23 21 33.5	-1.7
GSNM	Snow Mountain	2.14	133		Pn	23 21 34.0	-2.6
LAMM	Antelope Mount	2.28	58		Pn	23 21 37.7	-1.0
YBH	Yreka Blue Hor	2.29	54		Pn	23 21 38.1	-0.6
YBH	Yreka Blue Hor	2.29	54		Pn	23 21 38.6	-0.1
YBH				IAML		23 22 08.2	
	comp=N,20nm,0.6s						
YBH				IAML		23 22 19.2	
	comp=E,16nm,1.5s						
GCK	Clark Valley	2.29	112		Pn	23 21 39.0	+0.3
LTCM	Tuscan Springs	2.36	94		Pn	23 21 39.7	+0.1
GHCM	House Creek	2.38	139		Pn	23 21 39.0	-1.0
LGBM	Gray Butte	2.46	67		Pn	23 21 41.2	0.0
B040	Montague	2.52	55		Pn	23 21 41.9	0.0
LMPM	Military Pass	2.53	64		Pn	23 21 42.7	+0.5
LHEM	Herd Peak	2.55	61		Pn	23 21 42.6	+0.1
O03E	Paynes Creek	2.60	92	IAML		23 22 16.6	
	comp=N,33nm,0.5s						
O03E				IAML		23 22 18.6	
	comp=E,66nm,0.6s						
L04D	Klamath Falls	2.82	50		Pn	23 21 47.1	+1.0
L04D				IAML		23 22 30.5	
	comp=N,55nm,0.9s						
L04D				IAML		23 22 30.6	
	comp=E,41nm,0.6s						
HATC	Hat Creek Radi	2.87	81		Pn	23 21 47.2	+0.5
HATC				IAML		23 22 36.6	
	comp=N,43nm,2.7s						
HATC				IAML		23 22 46.4	
	comp=E,38nm,1.1s						
J01E	Myrtle Point	2.90	19	Pn	Pn	23 21 45.9	-1.0
J01E				IAML		23 22 22.4	
	comp=E,28nm,0.4s						
J01E				IAML		23 22 22.9	
	comp=N,37nm,0.4s						
MCCM	Marconi Confer	2.90	141	Pn	Pn	23 21 46.0	-1.0
ORV	Oroville	2.97	106	Pn	Pn	23 21 48.1	+0.1
BBOR	Butler Butte	3.10	37		Pn	23 21 50.2	+0.2
K04D	Chiloquin, OR	3.39	48	Pn	Pn	23 21 54.4	+0.4
K04D				IAML		23 23 13.7	
	comp=E,45nm,1.1s						
CMCM	Mills College	3.53	137		Pn	23 21 58.6	+2.9
I03D	Drain, OR	3.55	22		Pn	23 21 55.6	-0.3
I03D				IAML		23 22 47.9	
	comp=E,13nm,3.8s						
I03D				IAML		23 24 03.5	
	comp=N,17nm,3.7s						
AFDM	Forest Hills D	3.58	113		Pn	23 21 55.9	-0.5
J04A	Umpqua Nationa	3.64	38		Pn	23 21 58.2	+0.8
BUCK	Buck Mountain	4.11	23	Pn	Pn	23 22 04.0	+0.2
BUCK				IAML		23 22 47.1	
	comp=E,21nm,2.8s						
BUCK				IAML		23 24 17.4	
	comp=N,21nm,4.0s						
J05D	Fort Rock, OR	4.12	45		Pn	23 22 04.8	+0.9
J05D				IAML		23 22 56.7	
	comp=N,18nm,4.1s						
J05D				IAML		23 23 31.1	
	comp=E,16nm,4.9s						
MPK	Martis Peak	4.13	104	Pn	Pn	23 22 05.2	+0.9
MPK				IAML		23 22 44.5	
	comp=E,23nm,1.0s						
CMB	Columbia Colle	4.43	121		Pn	23 22 08.9	+0.8
H04D	Lebanon	4.48	23	Pn	Pn	23 22 09.1	+0.3
PNTR	Pine Nut	4.51	105	Pn	Pn	23 22 10.2	+0.8
PNTR	

*TEH **22** 23:50:12.7, 34°.29N×46°.59E, h12km±26km*
*ISN **22** 23:50:14.0±1.8, 34°.34N×46°.56E, h25km, ML2.8*
ISC 22 23:50:12.9±1.1, 34°.33N±0°.05×46°.58E±0°.04, h13km±9km, n9, σ0§70/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	Ghaleghazi	0.01	268	Pg	Pg	23 50 15.4	-0.2
KCHF	Cheshme Sefid,	0.39	98	Pg	Pg	23 50 20.9	+0.2
IDHR	Dehrash	0.40	337	Pg	Pg	23 50 21.5	+0.5
GLG1	Gilan-e-Gharb	0.59	249	Pg	Pb	23 50 24.3	-0.9
ILIN	Lien	0.67	28	Pg	Pb	23 50 26.2	-0.4
KGS1	Ghasr-e-Shirin	0.84	282	Pg	Pg	23 50 29.6	+0.5
SNQR	Sonqor, Kerman	1.01	58	Pg	Pn	23 50 33.0	-0.1
IKFM	Kafar-mosalman	1.33	127	Pg	Pb	23 50 37.4	-0.2
IBDR	Badra baz=23	1.33	204	*e*Pg	Pn	23 50 37.0	-0.2
IBDR				*e*Sg	Sg	23 50 57.0	+1.2
IBDR	comp=N,213nm,0.7s			AML	AML	23 51 10.1	
IBDR	comp=E,137nm,0.5s			AML	AML	23 51 11.7	

*ISK **22** 23:52:05.6, 37°.17N×28°.68E, h5km, ML3.1/23*
*IDC **22** 23:52:06.2±1.7, 37°.10N×28°.69E, h0km, mb3.0/2, mbtmp3.2/4, ML3.4/2, Error ellipse: s-maj=51.6km s-min=22.9km az=143.0*
*AFAD **22** 23:52:06.8, 37°.16N×28°.68E, h7km±3km, ML2.9*
ISC 22 23:52:06.7±1.1, 37°.15N±0°.02×28°.67E±0°.02, h4km±9km, n47, σ0§72/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	Mugla, Merkez-	0.30	291	P	Pg	23 52 12.9	+0.4
MULA				S	Sg	23 52 18.1	+1.7
MULA	comp=E,2μm,0.9s			*i* AML	AML	23 52 21.0	
MULA	comp=N,1μm,0.9s			*i* AML	AML	23 52 25.0	
YER	Yerkesik	0.31	267	Pg	Pg	23 52 12.9	+0.2
YER				Sg	Sb	23 52 18.9	-1.4
DNZT	Denizli-Tavas-	0.31	66	P	Pg	23 52 13.1	+0.3
DNZT				S	Sg	23 52 17.8	+0.8
DNZT	comp=N,967nm,1.0s			*i* AML	AML	23 52 25.0	
DALY	Dalyan (Mula)	0.33	182	Pg	Pg	23 52 13.4	+0.2
DALY				Sg	Sb	23 52 20.1	-0.9
TAVA	DENIZLI_Tavas	0.37	32	P	Pg	23 52 14.3	+0.3
TAVA				S	Sg	23 52 18.7	-0.1
SABU	Mula-Dalaman	0.41	143	P	Pg	23 52 14.4	-0.2
SABU				S	Sg	23 52 19.5	-0.4
TURN	Turunc	0.51	222	P	Pg	23 52 16.8	+0.3
TURN				S	Sb	23 52 26.0	+0.1
TURN	comp=E,543nm,1.1s			*i* AML	AML	23 52 29.0	
TURN	comp=N,510nm,1.1s			*i* AML	AML	23 52 29.0	
CAEL	Denizli, Camel	0.52	93	P	Pg	23 52 16.6	-0.2
CAEL				S	Sb	23 52 26.3	-0.3
CAEL	comp=E,2μm,1.0s			*i* AML	AML	23 52 45.0	
CAEL	comp=N,2μm,1.1s			*i* AML	AML	23 52 46.0	
CAME	Cameli-Denizli	0.55	112	Pg	Pg	23 52 17.9	+0.6
DNIZ	Denizli-Tavas-	0.56	32	P	Pg	23 52 17.8	+0.3
DNIZ				S	Sg	23 52 24.5	-0.3
DNIZ	comp=N,2μm,0.4s			*i* AML	AML	23 52 28.0	
DNIZ	comp=E,2μm,0.4s			*i* AML	AML	23 52 33.0	
APMY	Acipayam-Deniz	0.60	57	Pg	Pg	23 52 18.2	-0.1
FETY	Fethiye	0.61	147	Pg	Pg	23 52 18.7	+0.2
FETY	Fethiye	0.61	147	P	Pb	23 52 20.7	+0.6
ESEN	Aydn-Nazilli	0.69	339	P	Pg	23 52 20.5	+0.5
ESEN				S	Sg	23 52 28.2	-0.8
ESEN	comp=N,352nm,0.5s			*i* AML	AML	23 52 40.0	
GOLH	Golhisar	0.72	83	P	Pg	23 52 20.8	+0.3
GOLH				S	Sb	23 52 32.3	+0.1
GOLH	comp=E,423nm,0.5s			*i* AML	AML	23 52 38.0	
GOLH	comp=N,423nm,1.0s			*i* AML	AML	23 52 40.0	
MLSB	Milas	0.73	282	Pg	Pg	23 52 20.8	+0.1
KNIK	Mula-Seydike	0.79	113	P	Pg	23 52 21.4	-0.4
KNIK				S	Sg	23 52 31.2	-0.9
KNIK	comp=N,183nm,0.8s			*i* AML	AML	23 52 38.0	
AYDN	Tasoluk	0.81	309	P	Pg	23 52 22.8	+0.5
AYDN				S	Sb	23 52 33.9	-0.9
AYDN	comp=N,764nm,1.2s			*i* AML	AML	23 52 41.0	
AYDN	comp=E,942nm,0.9s			*i* AML	AML	23 52 41.0	
NAZL	Nazilli-Aydin	0.86	340	Pg	Pg	23 52 23.2	-0.1
INCE	Denizli-Bozkur	0.91	52	P	Pn	23 52 25.6	-0.9
INCE				S	Sb	23 52 37.1	-0.7
DAT	Datca	0.97	245	Pg	Pg	23 52 25.4	+0.1
BDRM	Kayabasi	0.98	265	P	Pg	23 52 25.9	+0.3
BDRM				S	Sn	23 52 40.6	-1.1
BDRM	comp=E,246nm,0.5s			*i* AML	AML	23 52 46.0	
AYDB	Zeytinkoy-Aydi	1.01	322	Pg	Pg	23 52 25.8	-0.3
KIRA	zmir-Kiraz	1.06	349	P	Pg	23 52 27.0	-0.2
KIRA				S	Sg	23 52 40.1	-0.9
KIRA	comp=N,306nm,0.5s			*i* AML	AML	23 52 48.0	
KIRA	comp=E,291nm,0.6s			*i* AML	AML	23 52 50.0	
ELL	Elmali	1.07	112	Pg	Pg	23 52 27.3	0.0
YAZI	Mula-Dat§a-	1.08	245	P	Pn	23 52 28.4	-0.3
YAZI				S	Sb	23 52 42.8	+0.3
YAZI	comp=N,117nm,0.9s			*i* AML	AML	23 52 51.0	
BODT	Bodrum	1.09	266	Pn	Pg	23 52 27.7	+0.1
YKAV	Yalikavak-Bodr	1.11	269	Pn	Pg	23 52 28.2	+0.2
IZMR	zmir-demi	1.14	330	P	Pg	23 52 28.4	-0.2
IZMR				S	Sg	23 52 42.1	-1.2
DDIM	Aydin, Didim	1.18	285	P	Pn	23 52 29.7	-0.3
DDIM				S	Sb	23 52 45.1	-0.2
DDIM	comp=E,686nm,0.8s			*i* AML	AML	23 52 57.0	
DDIM	comp=N,404nm,0.8s			*i* AML	AML	23 52 58.0	
ODEM	Odemis-Izmir	1.22	337	Pn	Pg	23 52 29.7	-0.4
GCAM	G?zelcaml?	1.27	296	P	Pg	23 52 32.5	+1.5
GCAM				S	Sn	23 52 49.1	+0.4
BASM	Basmaki-Afyon	1.34	55	Pn	Pn	23 52 31.9	-0.5
KULA	Kula-Manisa	1.36	360	Pn	Pb	23 52 32.4	-0.5
ANTB	Antalya	1.61	98	Pn	Pb	23 52 36.3	-0.7
ISP	Isparta	1.62	65	Pn	Pn	23 52 36.2	-0.1
BLCB	Balcova	1.78	314	Pn	Pn	23 52 38.3	-0.1
GORD	Gordes-Manisa	1.80	348	Pn	Pn	23 52 38.6	0.0
SIMA	Simav-Kutahya	1.94	7	Pn	Pn	23 52 40.7	0.0
GEDZ	Gediz	1.98	17	Pn	Pn	23 52 41.3	+0.1
SOMA	Soma-Manisa	2.19	336	Pn	Pn	23 52 44.3	+0.3
DKL	Dikili	2.37	325	Pn	Pn	23 52 47.1	+0.7
BRTR	Keskin Array B 0.9nm,0.3s,baz=243,slow=17,SNR=40	4.67	55	Pn	Pn	23 53 19.4	+1.2
BRTR	0.1nm,0.3s,baz=218,slow=22,SNR=6.4 4.7nm,0.7s			Sn	Sn	23 54 16.2	+3.2
MMAI	Mount Meron Ar 1.8nm,0.3s,baz=304,slow=12,SNR=9.5 1.6nm,0.4s	6.89	125	Pn	Pn	23 53 47.7	-1.0
TORD	Torodi Ar. Bea 31nm,0.3s,baz=34,slow=8.9,SNR=1.1	33.95	232	P	P	23 58 51.3	-0.1
KURBB	Kurchatov Arra 0.2nm,0.6s,baz=275,slow=8.8,SNR=2.9 0.2nm,0.6s	37.66	53	P	P	23 59 23.4	+0.5
MKAR	Makanchi Array 0.1nm,0.4s,baz=289,slow=9.0,SNR=3.5 0.1nm,0.4s	40.31	59	P	P	23 59 45.0	-0.2

*IDC **23** 00:09:58.8±1.5, 0°.38N×125°.52E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=200.8km s-min=22.6km az=65.0*
*DJA **23** 00:10:05.7±0.3, 0°.S±2°.×12°.5E±°, h10km, M4.1/13, mb4.4/2, MLv4.0/13*
ISC 23 00:10:02.2±0.8, 0°.00N±0°.07×124°.91E±0°.05, h10km, n14, σ1§34/17, mb3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.08	302	P	Pn	00 10 23.5	0.0
KMSI				S	Sb	00 10 37.8	+0.5
SANI	Sanana	2.31	152	P	Pn	00 10 40.7	+0.3
LUWI	Luwuk	2.37	244	P	Pn	00 10 41.7	+0.5
LUWI				S	Sn	00 11 09.9	-0.5
TNTI	Ternate	2.58	73	P	Pg	00 10 53.1	+1.4
APSI	Ampana	3.38	254	P	Pn	00 10 56.0	+0.9
NLAI	Namlea	3.90	146	P	Pn	00 11 03.8	+1.6
MPSI	Mapaga	5.02	274	P	Pn	00 11 20.0	+2.4
PCI	Palu	5.15	260	P	Pb	00 11 33.8	+1.4
SPSI	Sidrap Palu 0.1nm18nm,0.4s	6.47	232	P	Pn	00 11 38.4	+0.8
BNSI	Bone	6.49	228	P	Pn	00 11 38.1	+0.2
WRA	Warramunga Arr 0.6nm,0.5s,baz=336,slow=10,SNR=3.6 0.6nm,0.5s	21.87	156	P	P	00 14 53.9	-1.5
ASAR	Alice Springs 0.3nm,0.5s,baz=343,slow=12,SNR=5.4	25.10	160	P	P	00 15 27.1	-0.3
ASAR	0.3nm,0.4s,baz=353,slow=2.9,SNR=4.7 0.3nm,0.5s			PcP	PcP	00 19 00.7	-1.3
MKAR	Makanchi Array 0.4nm,0.3s,baz=129,slow=7.2,SNR=5.2 0.4nm,0.3s	59.62	327	P	P	00 20 04.8	-1.8
KURBB	Kurchatov Arra 0.6nm,0.6s,baz=118,slow=6.3,SNR=6.1 0.6nm,0.6s	63.93	329	P	P	00 20 33.5	-2.0

*IDC **23** 00:30:08.8±1.6, 37°.62N×20°.58E, h0km, mb3.2/4, mbtmp3.3/4, Error ellipse: s-maj=46.6km s-min=28.0km az=120.0*
*ATH **23** 00:30:11.7, 37°.60N×20°.35E, h14km±1km, ML3.3/11, Manual Solution by S.Koutrakis First location: 2019/04/23 00:31:12, This location: 2020/06/30 05:48:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **23** 00:30:11.9, 37°.59N×20°.39E, h3km±19km, ML3.1/4, Error ellipse: s-maj=19.9km s-min=0.8km az=57.0*
ISC 23 00:30:11.6±1.6, 37°.60N±0°.06×20°.42E±0°.05, h17km±8km, n31, σ0§63/48, mb3.2/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	Orthonies,Zaky	0.34	42	P	Pb	00 30 19.4	+0.3
ORTH				S	Sb	00 30 24.5	+0.3
LTHK	Lithakia	0.35	72	P	Pb	00 30 19.1	-0.2
LTHK	6μm,0.2s			S	Sb	00 30 24.4	-0.2
LTHK	Lithakia	0.35	72	P	Pb	00 30 19.2	-0.2
LTHK				S	Sb	00 30 24.3	-0.3
KYPS	Kipseli, Zakin	0.39	56	P	Pb	00 30 20.4	+0.4
KYPS				S	Sb	00 30 26.4	+0.7
PSDA	Pessada-Kefalo	0.53	15	P	Pb	00 30 22.2	-0.2
PSDA	2μm,0.3s			S	Sb	00 30 30.5	+0.8
PSDA	Pessada-Kefalo	0.53	15	P	Pb	00 30 22.5	+0.1
PSDA				S	Sb	00 30 29.9	+0.2
RTZL	Ratzakli, Kefa	0.55	31	P	Pb	00 30 22.9	+0.1
RTZL				S	Sb	00 30 31.1	+0.7
VLS	Valsamata	0.59	13	P	Pg	00 30 23.3	-0.1
VLS	1μm,0.3s			S	Sb	00 30 32.4	+0.8
VLS	Valsamata	0.59	13	P	Pb	00 30 23.4	0.0
VLS				S	Sg	00 30 31.3	0.0
DMLN	Damoulianata-K	0.64	357	P	Pb	00 30 24.4	+0.1
DMLN	Damoulianata-K	0.64	357	P	Pb	00 30 24.4	+0.1
DMLN				S	Sg	00 30 32.7	0.0
CLEM	Kyllini,Ilia,G	0.64	63	P	Pn	00 30 25.0	-0.8
CLEM				S	Sb	00 30 33.7	+0.8
SMHA	Samh	0.68	16	P	Pn	00 30 25.7	-0.6
SMHA				S	Sb	00 30 34.1	+0.2
FSK	Fiskardo	0.86	8	P	Pb	00 30 27.9	-0.2
FSK	1μm,0.8s			S	Sn	00 30 41.4	+0.3
FSK	Fiskardo	0.86	8	P	Pb	00 30 28.0	-0.1
FSK				S	Sg	00 30 39.9	+0.1
YRMI	Loutra Irminis	0.89	56	P	Pg	00 30 28.9	-0.1
YRMI				S	Sn	00 30 42.8	+1.0
AXS	Araxos	0.96	52	P	Pn	00 30 31.1	+0.8
AXS				S	Sn	00 30 43.7	+0.1
AMT	Artemida-Makis	1.03	93	P	Pg	00 30 31.9	+0.4
EVGI	Lefkada island	1.04	11	P	Pn	00 30 31.3	0.0
DRO	Drossia	1.08	71	P	Pg	00 30 32.8	+0.2
DRO	Drossia	1.08	71	P	Pg	00 30 32.7	+0.2
DRO				S	Sn	00 30 48.1	+1.5
DRAG	Dragano-Lefkad	1.09	7	P	Pg	00 30 33.1	+0.5
NYDR	Nydri-Lefkada	1.13	11	P	Pg	00 30 33.3	-0.2
LKD2	Lefkada island	1.20	9	P	Pg	00 30 34.5	-0.3
OHR	Ohrid	3.52	5	*i* Pn	Pg	00 31 20.3	+1.3
VAY	Valandovo	4.07	24	*i* Pn	Pg	00 31 27.8	-1.8
HFS	Hagfors 1.1nm,0.7s,baz=168,slow=8.8,SNR=4.7 1.1nm,0.7s	22.96	351	P	P	00 35 15.0	+0.2
FINES	FINESS Array B 0.6nm,0.5s,baz=178,slow=10,SNR=8.3 0.6nm,0.5s	24.13	7	P	P	00 35 25.2	-1.0
TORD	Torodi Ar. Bea 38nm,0.3s,baz=25,slow=9.4,SNR=1.4	29.53	219	P	P	00 36 15.9	+0.7
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=270,slow=8.9,SNR=2.3 0.1nm,0.3s	42.64	53	P	P	00 38 06.0	-0.8
MKAR	Makanchi Array 0.1nm,0.5s,baz=281,slow=7.6,SNR=2.2 0.1nm,0.5s	45.68	58	P	P	00 38 30.1	-1.2

*NEIC **23** 00:32:42.9±2.7, 20°.7S±0°.1×174°.74W±0°.10, h74km±4km, mb4.5/12, Error ellipse: s-maj=18.8km s-min=12.5km az=164.0*
*IDC **23** 00:32:50.2±3.5, 20°.73S×175°.36W, h147km±30km, mb3.8/10, mbtmp4.3/13, MS3.2/1, Error ellipse: s-maj=20.1km s-min=16.4km az=95.0*
ISC 23 00:32:43.8±0.5, 20°.67S±0°.09×174°.80W±0°.06, h100km, n43, σ2§00/38, mb4.2/13, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.85	72	P	Pn	00 33 53.2	-1.3
NIUE				Sn	Sn	00 34 44.9	-4.7
AFI	Afiamalu	7.31	24	Pn	Pn	00 34 25.8	-2.3
MSVF	Nonsavu	7.36	292	P	Pn	00 34 30.1	+1.4
MSVF	Nonsavu 85nm,0.8s,baz=127,slow=16,SNR=28	7.36	292	P	Pn	00 34 30.7	+2.0
RAR	Rarotonga	14.05	95	Pn	Pn	00 35 57.4	-1.0
PINNC	Pines Island,	16.62	260		P	00 36 31.2	-0.4
ONTNC	Ouen Toro	17.53	261	P	P	00 36 41.2	-0.4
ONTNC	comp=Z,25nm,0.9s			IAmb	IAmb	00 36 44.4	
DZM	Mont Dzumac	17.53	262	P	Pn	00 36 42.2	+0.2
DZM	comp=Z,30nm,1.1s			IAmb	IAmb	00 36 45.9	
DZM	Mont Dzumac comp=Z,12nm,0.9s,baz=76,slow=16,SNR=14	17.53	262	P	P	00 36 39.5	-2.2
URZ	Urewera comp=Z,5.3nm,0.3s,baz=4.2,slow=1.8,SNR=7.9	18.88	200	P	P	00 36 55.4	-0.9
URZ				S	S	00 40 08.1	-17
TOZ	Tahuroa Road comp=Z,10nm,0.4s,baz=188,slow=21,SNR=8.6	18.98	204	P	Pn	00 36 57.6	-1.5
STKA	Stephens Creek comp=Z,1.4nm,0.4s,baz=108,slow=8.2,SNR=6.0 comp=Z,1.4nm,0.4s	40.43	245	P	P	00 40 09.2	-3.3
ASAR	Alice Springs comp=Z,1.8nm,0.7s,baz=90,slow=8.5,SNR=19	47.40	256	P	P	00 41 05.1	-3.3
ASAR	comp=Z,0.7nm,0.5s,baz=96,slow=3.5,SNR=4.9			PcP	PcP	00 42 37.0	-0.7
ASAR	comp=Z,29nm,20.0s,baz=264,slow=34 comp=Z,1.8nm,0.7s			LR	LR	00 59 06.4	
WRA	Warramunga Arr comp=Z,0.8nm,0.4s,baz=96,slow=7.9,SNR=13 comp=Z,0.8nm,0.4s	47.55	261	P	P	00 41 05.4	-4.2
SBA	Scott Base comp=Z,4.1nm,0.8s	57.92	185	P	P	00 42 28.1	+3.1
SBA				IAmb	IAmb	00 42 29.0	
VNDA	Vanda	58.03	186	P	P	00 42 27.2	+1.4
VNDA	Vanda comp=Z,1.8nm,0.8s,baz=8.7,slow=5.4,SNR=13 comp=Z,1.8nm,0.8s	58.03	186	P	P	00 42 27.3	+1.5
QSPA	South Pole Qui	69.41	180	P	P	00 43 42.2	+1.3
QSPA	comp=Z,9.4nm,0.8s			IAmb	IAmb	00 43 43.1	
QSPA	South Pole Qui comp=Z,7.7nm,0.7s,baz=238,slow=0.8,SNR=58 comp=Z,7.7nm,0.7s	69.41	180	P	P	00 43 42.0	+1.2
PETK	Petropavlovsk- comp=Z,1.8nm,0.7s,baz=161,slow=6.2,SNR=4.2 comp=Z,1.8nm,0.7s	77.24	343	P	P	00 44 27.1	+0.4
BELA	Belgrano 2	79.00	172	P	P	00 44 36.6	+0.4
BELA	comp=Z,3.8nm,0.7s			IAmb	IAmb	00 44 37.5	
NVAR	Mina Array Bea comp=Z,1.3nm,0.7s,baz=225,slow=8.8,SNR=7.3 comp=Z,1.3nm,0.7s	79.11	42	P	P	00 44 40.1	+2.4
O18K	Koktuh Hills	81.81	10	P	P	00 44 52.8	+1.4
U15A	North Rim	81.88	46	P	P	00 44 54.5	+1.8
H03S2	Juan Fernandez baz=248,slow=75,SNR=16	83.41	124	T	T	02 17 23.4	
H03S1	Juan Fernandez baz=248,slow=75,SNR=17	83.42	124	T	T	02 17 28.3	
H03S3	Juan Fernandez baz=248,slow=75,SNR=26	83.43	124	T	T	02 17 27.2	
H03N2	Juan Fernandez baz=257,slow=71,SNR=18	83.55	123	T	T	02 17 30.1	
H03N3	Juan Fernandez baz=257,slow=71,SNR=15	83.55	123	T	T	02 17 33.3	
H03N1	Juan Fernandez baz=257,slow=71,SNR=12	83.56	123	T	T	02 17 35.9	
TXAR	Lajitas Array comp=Z,1.7nm,1.0s,baz=209,slow=7.6,SNR=8.7 comp=Z,1.7nm,1.0s	84.64	56	P	P	00 45 08.9	+2.2
BWN	Browne	86.83	11	P	P	00 45 20.5	+3.9
PLCA	Paso Flores comp=Z,1.2nm,0.6s,baz=273,slow=6.7,SNR=6.7 comp=Z,1.2nm,0.6s	86.97	132	P	P	00 45 20.2	+2.1
DRIO	Del Rio	87.06	57	P	P	00 45 19.6	+1.0
DRIO	comp=Z,3.5nm,0.9s			IAmb	IAmb	00 45 21.7	
TROLL	Troll, Antarti comp=Z,105nm,0.5s	87.55	179	⇑P	P	00 45 20.7	+0.3
SNAA	Sanae comp=Z,4.5nm,1.1s,baz=215,slow=16,SNR=2.2 comp=Z,4.5nm,1.1s	87.74	177	P	P	00 45 20.9	-0.3
MKAR	Makanchi Array comp=Z,0.2nm,0.4s,baz=206,slow=1.1,SNR=5.7	113.50	313	PKiKP	PKiKP	00 51 10.1	-0.1
ARCES	ARCESS Array B comp=Z,4.1nm,1.0s,baz=82,slow=1.1,SNR=5.1	129.59	351	PKP	PKiKP	00 51 40.7	-0.5
FINES	FINESS Array B comp=Z,1.7nm,1.0s,baz=41,slow=3.5,SNR=3.8	136.73	346	PKP	PKPdf	00 51 54.1	+0.1
AKASG	Malin Array Be comp=Z,1.1nm,0.3s,baz=42,slow=4.0,SNR=14	144.56	333	PKP	PKPbc	00 52 07.2	-0.2
BRTR	Keskin Array B comp=Z,0.7nm,0.6s,baz=122,slow=3.7,SNR=5.0	149.14	314	PKPbc	PKiKP	00 52 21.1	-1.1
MMAI	Mount Meron Ar comp=Z,0.8nm,0.4s,baz=80,slow=6.9,SNR=8.4	150.49	301	PKPbc	PKiKP	00 52 25.0	0.0
GERES	GERESS Array B comp=Z,1.3nm,0.9s,baz=188,slow=8.1,SNR=4.0	151.07	348	PKPbc	PKiKP	00 52 26.5	+0.7

*IDC **23** 00:36:50.5±0.5, 21°.35N×62°.04E, h0km, mb4.4/33, mbtmp4.3/34, MS3.7/44, Error ellipse: s-maj=12.3km s-min=11.2km az=139.0*
*MOS **23** 00:36:51.8±1.1, 21°.53N×61°.93E, h10km, mb4.7/34, Error ellipse: s-maj=13.0km s-min=6.4km az=109.8*
*DSN **23** 00:36:53.8±2.4, 21°.47N×61°.95E, h10km, mb5.1/4, ML4.3/16, Ms3.3/13, Error ellipse: s-maj=37.0km s-min=13.2km az=167.0*
*NEIC **23** 00:36:53.2±1.5, 21°.6N±0°.1×61°.97E±0°.09, h10km±1km, mb4.7/111, Error ellipse: s-maj=17.2km s-min=13.6km az=164.0*
*OMAN **23** 00:36:56.5±0.8, 21°.52N×62°.00E, h50km±32km, mb5.7/21, ml5.1/11, Error ellipse: s-maj=6.3km s-min=3.9km az=118.0*
*BGR **23** 00:36:58.6, 20°.94N×60°.77E, h10km, mb4.6, Hypocentre not reviewed by the ISC*
ISC 23 00:36:53.0±0.5, 21°.46N±0°.04×62°.03E±0°.04, h14km±2km, h13km:pP-P, n412, σ1§27/419, mb4.7/132, MS3.7/52, 36C-22D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	Jalan Bani Buh SNR=166	2.53	286	P	Pn	00 37 33.0	-0.7
WBK	Wadi Bani Khal SNR=1912	3.06	292	P	Pn	00 37 42.0	+1.0
WBK				S	Sn	00 38 17.5	0.0
WSAR	Wadi Sarin 9.0nm,0.5s	3.61	300	Pn	Pn	00 37 48.5	-0.1
WSAR	2.2nm,0.3s,baz=246,slow=24,SNR=11			Sn	Sn	00 38 28.2	-2.9
WSAR	comp=Z,16nm,18.4s,baz=92,slow=41			LR	LR	00 39 21.0	
WSAR	Wadi Sarin	3.61	300	P	Pn	00 37 49.4	+0.8
WSAR				S	Sn	00 38 28.7	-2.3
JMDO	Jabal Madar SNR=1286	3.76	285	P	Pn	00 37 51.7	+1.1
JMDO	SNR=12			S	Sn	00 38 35.0	+0.3
MHTO	MHTO SNR=457	3.82	264	P	Pn	00 37 51.4	0.0
MHTO	SNR=6.6			S	Sn	00 38 33.9	-2.3
NGCH	Negor - Chabah SNR=32	3.96	348	P	Pn	00 37 53.6	+0.1
NGCH				S	Sn	00 38 38.4	-1.4
SMDO	Samad SNR=833	4.01	294	P	Pn	00 37 55.7	+1.5
SMDO				S	Sn	00 38 41.6	+0.4
BIDO	Bidbid SNR=147	4.15	300	P	Pn	00 37 57.0	+1.0
BIDO	SNR=8.1			S	Sn	00 38 44.1	-0.2
DQM	DQM SNR=68	4.47	251	P	Pn	00 38 01.0	+0.5
DQM				S	Sn	00 38 50.7	-1.6
BSY	Bisya SNR=179	4.66	287	P	Pn	00 38 04.0	+1.0
BSY				S	Sn	00 38 56.5	-0.4
HOQ	Hoqain SNR=453	4.85	297	P	Pn	00 38 07.0	+1.4
HOQ				S	Sn	00 39 02.0	+0.5
ARQ	Araqi SNR=766	5.43	291	P	Pn	00 38 15.0	+1.4
ARQ				S	Sn	00 39 16.5	+0.6
SOHO	SOHO	5.73	299	P	Pn	00 38 17.8	+0.1
SOHO				S	Sn	00 39 22.4	-0.8
SOHO	SOHO SNR=106	5.73	299	*i* P	Pn	00 38 17.4	-0.3
ALNE	Al Ain SNR=46	6.34	295	P	Pn	00 38 28.1	+1.9
ALNE				S	Sn	00 39 38.1	-0.4
ALNE	Al Ain SNR=41	6.34	295	*i* P	Pn	00 38 27.6	+1.4
ASHO	Ashiyiah SNR=54	6.37	301	P	Pn	00 38 28.4	+2.0
ASHO				S	Sn	00 39 39.2	+0.1
ASHO	Ashiyiah SNR=80	6.37	301	*i* P	Pn	00 38 27.9	+1.4
HATD	Hatta, Dubai SNR=12	6.38	303	P	Pn	00 38 27.9	+1.2
HATD	Hatta, Dubai SNR=12	6.38	303	*i* P	Pn	00 38 26.6	0.0
UOSS	Minazif	6.38	304		Pn	00 38 25.0	-1.7
UOSS	Minazif	6.38	304	P	Pn	00 38 26.1	-0.6
UOSS	Minazif SNR=39	6.38	304	*i* P	Pn	00 38 25.5	-1.1
UMZA	Um Al Zommool	6.49	282	P	Pn	00 38 29.3	+1.2
UMZA				S	Sn	00 39 39.7	-2.3
MDH	Madha SNR=29	6.50	307	P	Pn	00 38 27.3	-1.1
MDH	Madha SNR=104	6.50	307	*i* P	Pn	00 38 27.2	-1.1
MSFE	Esma-Masafi SNR=9.8	6.64	307	*i* P	Pn	00 38 28.8	-1.5
MASF	Masafi SNR=9.8	6.65	307	P	Pn	00 38 29.4	-1.0
FAQ	Al Faqa, Dubai SNR=8.8	6.77	300	P	Pn	00 38 34.1	+2.1
FAQ	Al Faqa, Dubai SNR=5.5	6.77	300	*i* P	Pn	00 38 33.3	+1.3

BANOM Banah 6.88 311 *i* P **Pn 00 38 32.8 -0.7**
SNR=255
ASUD Al Ashush, Dub 6.93 298 P **Pn 00 38 36.4 +2.2**
SNR=44
ASUD S **Sn 00 39 53.0 +0.2**
ASUD Al Ashush, Dub 6.93 298 *i* P **Pn 00 38 36.2 +2.0**
SNR=44
SHME Shamm 7.07 311 P **Pn 00 38 36.2 +0.1**
SNR=861
SHME Shamm 7.07 311 *i* P **Pn 00 38 35.8 -0.3**
SNR=857
UMQ Umm Al-Quwin 7.11 306 P **Pn 00 38 37.5 +0.9**
AJN Ajban 7.18 297 P **Pn 00 38 39.4 +1.7**
SNR=12
AJN Ajban 7.18 297 *i* P **Pn 00 38 38.9 +1.2**
SNR=12
BHUJ Bhuj 7.28 74 *eP* Pn 00 38 32.8 -6.2
BHUJ *eS* Sn 00 39 50.7 -11
BHUJ IAML 00 39 55.3
comp=N,513nm,0.5s
BHUJ IAML 00 39 55.5
comp=E,616nm,0.6s
DMTO DMTO 7.64 242 P **Pn 00 38 45.0 +0.9**
SNR=140
MZWR Madinat Zayed 7.87 288 P **Pn 00 38 47.5 +0.4**
DOK Doka 7.95 251 P **Pn 00 38 49.0 +0.8**
SNR=41
DOK S **Sn 00 40 16.1 -1.9**
MZR Muzera 8.07 283 *i* P **Pn 00 38 50.3 +0.4**
SNR=13
RBK Rabkut 8.37 243 P **Pn 00 38 55.5 +1.5**
SNR=11
WHFO Wadi Hawf 8.54 247 P **Pn 00 38 57.0 +0.6**
SNR=108
ABTO Aybut 9.20 245 P **Pn 00 39 06.0 +0.6**
SNR=6.3
JASL Jaisalmer 9.75 54 *eP* Pn 00 39 05.9 -7.0
TRNA Turayna 10.48 290 P **Pn 00 39 23.1 +0.2**
SNR=9.7
KBL Kabul 14.42 24 **Pn 00 40 16.6 -0.4**
KBL Kabul 14.42 24 P **Pn 00 40 18.1 +1.2**
SNR=8.8
KUDL Kundal 14.71 60 *eP* Pn 00 40 14.6 -6.2
KUDL IAmb IAmb 00 41 04.0
comp=Z,51nm,1.2s
KUDL *eS* **Sn 00 42 58.7 -5.0**
KBD Kabd 15.06 304 P **Pn 00 40 25.3 -0.2**
RAYN Ar Rayn 15.41 281 **Pn 00 40 26.3 -4.0**
RAYN Ar Rayn 15.41 281 *i* P **Pn 00 40 26.2 -4.0**
SNR=116
NIL Nilore 15.68 37 **Pn 00 40 32.9 -0.8**
HYB Hyderabad 16.09 102 *eP* **Pn 00 40 40.7 +1.6**
SMLA Simla 16.62 52 *eP* Pn 00 40 39.0 -6.6
SMLA IAmb IAmb 00 40 46.0
comp=Z,88nm,1.1s
SMLA IAML 00 43 43.7
comp=N,41nm,1.3s
SMLA *eS* **Sn 00 43 45.0 -5.1**
SMLA IAML 00 43 48.6
comp=E,60nm,0.9s
DHRM DHARAMSHALA 16.64 47 *eP* Pn 00 40 39.3 -6.8
DHRM IAmb IAmb 00 41 16.4
comp=Z,64nm,0.6s
DHRM *eS* **Sn 00 43 46.0 -5.0**
DHRM IAML 00 43 51.9
comp=E,73nm,0.6s
DHRM IAML 00 43 56.6
comp=N,87nm,0.6s
SIMJ Simiganj 18.16 18 **Pn 00 41 03.6 -1.3**
GAR Garm 18.87 20 P **P 00 41 13.4 +0.4**
DRK Karamyk 19.81 23 P **P 00 41 23.7 +0.2**
BTK Batken 19.99 20 P **P 00 41 25.2 -0.1**
ATD Arta Tunnel 20.86 245 **P 00 41 35.8 +1.0**
ATD IAmb IAmb 00 41 49.7
comp=Z,30nm,1.1s
ATD Arta Tunnel 20.86 245 P **P 00 41 34.6 -0.1**
comp=Z,0.6nm,0.6s,baz=16,slow=7.2,SNR=9.1
ATD LR LR 00 48 07.3
comp=Z,7.2nm,21.3s,baz=23,slow=32
KSH Kashi 21.59 30 P **P 00 41 39.3 -3.2**
KSH sP pP 00 41 45.1 -0.8
KSH PP **PnPn 00 42 04.8 +1.6**
KSH S S 00 45 25.8 -16
KSH sS sS 00 45 36.3 -11
KSH pmax pmax
comp=Z,44nm,1.0s
KSH LR LR
comp=N,560nm,15.2s
KSH LR LR
comp=E,250nm,14.1s
KSH LR LR
comp=Z,310nm,17.3s
ARSB Arslanbob 21.86 23 P **P 00 41 45.0 -0.5**
KK31 Karatay Array 22.71 16 P **P 00 41 55.4 +0.9**
KKAR Karatay Array 22.71 16 P **P 00 41 55.6 +1.2**
KKAR Karatay Array 22.71 16 P **P 00 41 56.3 +1.9**
KKAR IAmb IAmb 00 42 32.2
comp=Z,9.3nm,0.8s
PALK Pallekele 22.90 125 LR LR 00 49 54.2
comp=Z,427nm,19.2s,baz=306,slow=34
NRN Naryn 23.15 28 P **P 00 42 00.2 +0.9**
AKT Akhty 23.33 332 *eP* **P 00 42 01.8 +0.9**
AKT *e* 00 42 28.2
AKT pmax pmax
comp=Z,29nm,1.1s
GEVA Gevas 23.43 320 P **P 00 42 01.1 -1.0**
AAK Ala-Archa 23.56 23 P **P 00 42 04.2 +1.0**
AAK Ala-Archa 23.56 23 P **P 00 42 04.4 +1.2**
comp=Z,4.7nm,0.8s,baz=199,slow=9.9,SNR=16
AAK LR LR 00 54 04.0
comp=Z,196nm,19.3s,baz=210,slow=44
comp=Z,4.7nm,0.8s
AAK Ala-Archa 23.56 23*ceP* **P 00 42 05.0 +1.8**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 23.56 23 P **P 00 42 05.0 +1.8**
GNI Garni 23.74 326 P **P 00 42 04.9 -0.1**
GNI Garni 23.74 326 P **P 00 42 06.5 +1.5**
comp=Z,29nm,0.9s,baz=160,slow=11,SNR=11
GNI LR LR 00 53 21.9
comp=Z,267nm,19.9s,baz=140,slow=42
comp=Z,29nm,0.9s
GNI Garni 23.74 326 *i* P **P 00 42 05.8 +0.7**
GNI pmax pmax
comp=Z,71nm,1.2s
GNI Garni 23.74 326 P **P 00 42 07.0 +2.0**
FRU1 Bishkek 23.76 23 P **P 00 42 06.4 +1.4**
FRU1 IAmb IAmb 00 42 28.3
comp=Z,29nm,1.1s
BOOM Boomskoye usch 24.00 26 P **P 00 42 07.8 +0.3**
GURO Guroymak-BITLI 24.20 319 P **P 00 42 10.2 +0.9**
KDJ Kajisay 24.23 28 P **P 00 42 10.7 +1.1**
KDJ IAmb IAmb 00 42 21.4
comp=Z,15nm,1.1s
ASF Jabal al Asfar 24.78 301 P **P 00 42 15.9 +1.3**
comp=Z,20nm,1.0s,baz=138,slow=3.0,SNR=16
ASF LR LR 00 53 49.5
comp=Z,219nm,21.8s,baz=144,slow=41
comp=Z,20nm,1.0s
KARS Kars 24.98 324 P **P 00 42 14.4 -2.0**
PRZ Przheval'sk 25.06 29 P **P 00 42 17.6 +0.5**
PRZ IAmb IAmb 00 42 33.8
comp=Z,13nm,0.8s
GHAJ Ghor Haditha 25.60 298 P **P 00 42 20.4 -1.5**
EIL Elat 25.71 294 LR LR 00 54 00.3
comp=Z,211nm,19.6s,baz=114,slow=40
KOPT Kop Dagi 26.05 320 P **P 00 42 25.7 -0.6**
MMAI Mount Meron Ar 26.25 302 P **P 00 42 29.8 +1.8**
comp=Z,8.5nm,0.7s,baz=99,slow=11,SNR=14
MMAI LR LR 00 54 56.5
comp=Z,341nm,19.0s,baz=109,slow=41
comp=Z,8.5nm,0.7s
GAZ Gaziantep 26.60 312 P **P 00 42 30.1 -1.0**
GAZ IAmb IAmb 00 42 46.3
comp=Z,25nm,0.9s
KBZ Khabaz 27.31 329 P **P 00 42 39.2 +2.0**
comp=Z,1.6nm,0.8s,baz=165,slow=7.0,SNR=5.2
KBZ LR LR 00 55 19.8
comp=Z,56nm,20.0s,baz=110,slow=40
comp=Z,1.6nm,0.8s
KBZ Khabaz 27.31 329 *i* P **P 00 42 38.9 +1.7**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
SHA1 Shidzhatmaz 27.43 329 *i* P **P 00 42 39.4 +0.7**
KIV Kislovodsk 27.58 329 P **P 00 42 39.9 +0.1**
KIV IAmb IAmb 00 43 07.8
comp=Z,18nm,0.9s
KIV Kislovodsk 27.58 329 ⇑P **P 00 42 41.4 +1.6**
KIV Kislovodsk 27.58 329 *eP* **P 00 42 40.2 +0.4**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 27.58 329 *i* P **P 00 42 41.6 +1.8**
SNR=5.7
SHL Shillong 27.65 76 P **P 00 42 40.4 -0.3**
SHL IAmb IAmb 00 43 02.9
comp=Z,22nm,1.2s
AB31 Akbulak array 27.78 357 P **P 00 42 41.8 +0.3**
AB31 IAmb IAmb 00 42 44.0
comp=Z,17nm,1.5s
ABKAR Akbulak array 27.78 357 P **P 00 42 41.2 -0.2**
ABKAR IAmb IAmb 00 42 44.0
comp=Z,17nm,1.5s
ABKAR Akbulak array 27.78 357 P **P 00 42 41.1 -0.4**
AKTO Aktyubinsk 29.09 355 P **P 00 42 53.4 +0.4**
comp=Z,1.2nm,0.6s,baz=185,slow=8.5,SNR=5.0
AKTO LR LR 00 57 28.6
comp=Z,114nm,18.1s,baz=234,slow=42
comp=Z,1.2nm,0.6s
KIRS Kirsehir-Merke 29.81 313 ⇑P **P 00 43 01.5 +1.8**
MAKZ Makanchi 30.02 28 P **P 00 43 02.4 +1.0**
MAKZ Makanchi 30.02 28 P **P 00 43 03.0 +1.6**
MK31 Makanchi Array 30.15 28*ceP* **P 00 43 03.5 +0.9**
MKAR Makanchi Array 30.15 28 P **P 00 43 02.6 0.0**
MKAR Makanchi Array 30.15 28 P **P 00 43 02.3 -0.2**
comp=Z,2.9nm,0.7s,baz=209,slow=9.1,SNR=19
MKAR LR LR 00 58 20.4
comp=Z,190nm,18.6s,baz=230,slow=43
comp=Z,2.9nm,0.7s
MKAR Makanchi Array 30.15 28 *i* P **P 00 43 03.9 +1.3**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
BR131 Keskin Array S 30.28 313 P **P 00 43 03.6 -0.3**
BRTR Keskin Array B 30.28 313 **P 00 43 03.0 -1.0**
BRTR Keskin Array B 30.28 313 P **P 00 43 03.9 -0.1**
comp=Z,2.8nm,0.8s,baz=135,slow=12,SNR=19
BRTR PcP **PcP 00 46 04.0 -0.4**
comp=Z,1.7nm,0.7s,baz=140,slow=5.6,SNR=5.1
BRTR LR LR 00 57 56.7
comp=Z,168nm,20.2s,baz=129,slow=42
comp=Z,2.8nm,0.8s
WMQ Urumqi 30.83 38 *eP* **P 00 43 11.3 +2.7**
WMQ pP pwP 00 43 16.1 +0.8
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ LR LR
comp=N,290nm,13.7s
WMQ LR LR
comp=E,340nm,14.5s
WMQ LR LR
comp=Z,120nm,16.1s
ANN Anapa 30.86 325 *eP* **P 00 43 10.6 +1.8**
ANN pmax pmax
comp=Z,42nm,1.0s
ILGA Ilgaz 30.89 316 P **P 00 43 08.1 -1.2**
LODK Lodwar 31.52 239 P **P 00 43 15.5 +0.5**
ISP Isparta 31.68 308 P **P 00 43 15.7 -0.6**
ISP IAmb IAmb 00 43 23.9
comp=Z,13nm,0.8s
ISP Isparta 31.68 308*ceP* **P 00 43 17.9 +1.7**
ISP pmax pmax
comp=Z,15nm,1.0s
ELL Elmali 31.75 306 P **P 00 43 16.5 -0.5**
KURBB Kurchatov Arra 31.86 20 P **P 00 43 17.8 +0.3**
comp=Z,2.7nm,0.7s,baz=216,slow=8.6,SNR=16
KURBB LR LR 00 58 04.0
comp=Z,97nm,20.6s,baz=166,slow=40
comp=Z,2.7nm,0.7s
KURK Kurchatov 31.97 20 P **P 00 43 17.8 -0.7**
KURK Kurchatov 31.97 20 *i* P **P 00 43 19.8 +1.3**
KURK pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 32.16 9 P **P 00 43 19.4 -0.7**
comp=Z,3.3nm,0.6s,baz=177,slow=7.7,SNR=18
BVAR LR LR 00 58 43.3
comp=Z,127nm,18.4s,baz=202,slow=41
comp=Z,3.3nm,0.6s
BRVK Borovoye 32.17 9 P **P 00 43 19.4 -0.9**
BRVK Borovoye 32.17 9*ceP* **P 00 43 22.0 +1.7**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BORA Eskisehir 32.54 311 P **P 00 43 23.7 -0.1**
BORA IAmb IAmb 00 43 25.7
comp=Z,6.7nm,1.0s
BELG Belogornoye 32.82 344 LR LR 01 01 03.2
comp=Z,74nm,18.1s,baz=125,slow=44
BELG Belogornoye 32.82 344 *i* P **P 00 43 26.1 +0.2**
BELG pmax pmax
comp=Z,5.0nm,1.5s
KIBK Kibwezi 33.32 228 P **P 00 43 31.9 +1.1**
KIBK IAmb IAmb 00 43 44.6
comp=Z,8.9nm,1.3s
MANT Manisa 33.36 308 P **P 00 43 29.3 -1.8**
VORD Divnogorie 34.41 334 *eP* **P 00 43 38.2 -1.5**
VORD pmax pmax
comp=Z,9.0nm,0.9s
VSR Storozhevoye 34.65 335 *eP* **P 00 43 40.4 -1.5**
VSR pmax pmax
comp=Z,6.0nm,1.1s
CHTO Chiang Mai 34.71 88 P **P 00 43 42.6 -0.2**
CMAR Chiang Mai Arr 34.77 88 P **P 00 43 43.4 0.0**
comp=Z,1.5nm,0.6s,baz=278,slow=9.2,SNR=12
CMAR PcP **PcP 00 46 17.2 +0.4**
comp=Z,0.8nm,0.3s,baz=269,slow=4.4,SNR=6.0
CMAR LR LR 01 01 08.0
comp=Z,53nm,18.1s,baz=270,slow=42
comp=Z,1.5nm,0.6s
CMAR Chiang Mai Arr 34.77 88 *i* P **P 00 43 44.4 +1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
ARTI Arti 34.98 356 P **P 00 43 43.5 -1.2**
ARTI IAmb IAmb 00 43 47.4
comp=Z,6.8nm,0.9s
ARTI Arti 34.98 356 P **P 00 43 45.2 +0.5**
comp=Z,6.5nm,1.0s,baz=184,slow=6.7,SNR=6.4
comp=Z,6.5nm,1.0s
ARTI Arti 34.98 356*c i* P **P 00 43 45.8 +1.1**
ARTI S **S 00 49 21.1 +5.1**
ARTI SS **SnSn 00 51 37.2 +5.8**
ARTI pmax pmax
comp=Z,8.0nm,1.0s
APE Apeiranthos 35.19 304 *i* P **P 00 43 47.6 +0.8**
APE pmax pmax
comp=Z,4.0nm,0.7s
LPSR Galich'ya Gora 35.82 336 *eP* **P 00 43 50.4 -1.5**
LPSR pmax pmax
comp=Z,9.0nm,0.8s
TIRR Tirgusor 35.96 318 P **P 00 43 51.6 -1.6**
TIRR IAmb IAmb 00 43 54.3
comp=Z,5.9nm,0.7s
TIRR Tirgusor 35.96 318 ⇓P **P 00 43 53.2 0.0**
TIRR Tirgusor 35.96 318 P **P 00 43 53.2 0.0**
ALN Alexandroupoli 36.04 311 P **P 00 43 54.2 +0.3**
TPGR Topolog 36.15 318 ⇓P **P 00 43 55.4 +0.5**
ICOR Ion Corvin 36.19 317 ⇓P **P 00 43 56.5 +1.2**
TLBR Topalu 36.23 317 ⇓P **P 00 43 56.1 +0.5**
HARR Harsova 36.38 318 ⇓P **P 00 43 57.2 +0.4**
HARR Harsova 36.38 318 P **P 00 43 57.2 +0.4**
CFR Carcaliu 36.48 318 ⇓P **P 00 43 58.0 +0.3**
CFR Carcaliu 36.48 318 P **P 00 43 57.9 +0.3**
PZH PanZhiHua 36.53 74 P **P 00 44 00.8 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.2s
ZAA0 Zalesovo Array 36.77 22 P **P 00 43 59.5 -0.6**
ZAA0 IAmb IAmb 00 44 02.7
comp=Z,7.3nm,0.7s
ZALV Zalesovo Beam 36.77 22 P **P 00 44 00.0 0.0**
comp=Z,8.2nm,0.7s,baz=226,slow=9.2,SNR=37
ZALV LR LR 01 02 13.6
comp=Z,146nm,18.1s,baz=218,slow=41
comp=Z,8.2nm,0.7s
ZALV Zalesovo Beam 36.77 22 *i* P **P 00 44 00.9 +0.9**
ZALV pmax pmax
comp=Z,8.0nm,0.7s
RAZG Razgrad 36.78 315 ⇑P **P 00 44 01.2 +0.9**
GTA Gaotai 36.84 52 P **P 00 44 02.0 +1.0**
GTA pP sP 00 44 05.5 -0.8
GTA sP pwP 00 44 08.3 +3.5
GTA pmax pmax
comp=Z,7.0nm,1.4s
GTA LR LR
comp=N,170nm,14.2s
GTA LR LR
comp=E,63nm,14.9s
GTA LR LR
comp=Z,150nm,16.4s
VLDR Vladesti 36.84 319 ⇑P **P 00 44 01.3 +0.6**
MILM Milestii Mici 36.96 321 *eP* **P 00 44 01.0 -0.7**
MILM Milestii Mici 36.96 321 ⇑P **P 00 44 01.8 +0.1**
MILM Milestii Mici 36.96 321 P **P 00 44 01.8 +0.1**
VARL Varlezi 37.01 319 ⇑P **P 00 44 03.1 +0.9**
GHRR 37.36 319 ⇑P **P 00 44 06.1 +0.9**
PANC Panciu 37.43 319 ⇓P **P 00 44 06.9 +1.2**
BISRR Bisoca 37.54 318 ⇑P **P 00 44 08.3 +1.5**
VRI Vrincioaia 37.68 319 ⇑P **P 00 44 09.1 +1.2**
VRI Vrincioaia 37.68 319 P **P 00 44 09.1 +1.2**
PLOR Plostina 37.72 319 ⇓P **P 00 44 10.0 +1.6**
PLOR Plostina 37.72 319 P **P 00 44 09.9 +1.6**
NEHR Nehoiu 37.75 318 ⇑P **P 00 44 10.3 +1.8**
SORM Soroca 37.88 323 ⇓P **P 00 44 09.2 -0.3**
SORM Soroca 37.88 323 P **P 00 44 09.2 -0.3**
MLR Muntele Rosu 37.99 318 P **P 00 44 11.6 +0.9**
MLR IAmb IAmb 00 44 21.4
comp=Z,12nm,1.0s
MLR Muntele Rosu 37.99 318 LR LR 01 02 08.9
comp=Z,102nm,19.7s,baz=102,slow=40
MLR Muntele Rosu 37.99 318 ⇓P **P 00 44 12.7 +2.0**
MLR Muntele Rosu 37.99 318 P **P 00 44 12.7 +2.0**
COVR Voineasa-Covas 38.00 318 ⇑P **P 00 44 12.2 +1.6**
TESR Tescani 38.04 320 ⇓P **P 00 44 11.5 +0.6**
ONER Baraj Valea Uz 38.11 319 ⇑P **P 00 44 12.8 +1.3**
KIRV Kirov 38.19 349 LR LR 01 03 09.8
comp=Z,173nm,18.8s,baz=154,slow=41
KIRV Kirov 38.19 349*ceP* **P 00 44 13.0 +1.1**
VOIR 38.53 317 ⇓P **P 00 44 15.7 +0.5**
VOIR 38.53 317 P **P 00 44 15.7 +0.5**
DOPR Dopca 38.56 318 ⇓P **P 00 44 15.7 +0.4**
OBN Obninsk 38.65 337 P **P 00 44 16.0 +0.1**
OBN IAmb IAmb 00 44 19.2
comp=Z,32nm,1.2s
OBN Obninsk 38.65 337 *eP* **P 00 44 16.8 +0.9**
OBN *e* 00 45 49.9
OBN *e*PPP PPP 00 46 07.2
OBN *e* 00 46 29.0
OBN pmax pmax
comp=Z,32nm,1.7s
OBN MLR MLR
comp=Z,44nm,20.0s
MOS Moscow 38.76 338 *eP* **P 00 44 17.1 +0.3**
MOS pmax pmax
comp=Z,31nm,1.4s
ARR Arges 38.77 317 ⇑P **P 00 44 18.3 +1.1**
AKASG Malin Array Be 38.87 327 P **P 00 44 17.4 -0.4**
comp=Z,2.7nm,0.8s,baz=130,slow=7.5,SNR=13
AKASG PcP **PcP 00 46 28.1 -0.5**
comp=Z,0.2nm,0.2s,baz=86,slow=3.0,SNR=6.0
AKASG LR LR 01 03 33.0
comp=Z,82nm,19.3s,baz=136,slow=41
comp=Z,2.7nm,0.8s
AKASG Malin Array Be 38.87 327 *i* P **P 00 44 17.3 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 38.87 327 **P 00 44 17.9 +0.1**
AKBB IAmb IAmb 00 44 18.8
comp=Z,7.8nm,0.7s
AKBB Malin Array Si 38.87 327*ceP* **P 00 44 17.7 -0.1**
AKBB pmax pmax
comp=Z,8.0nm,0.7s
KIEV Kiev 38.87 327 P **P 00 44 17.6 -0.2**
SLVN Son La 38.90 82 P **P 00 44 19.3 +0.8**
SLVN IAmb IAmb 00 44 50.0
comp=Z,23nm,1.5s
LOT Lotru 39.35 317 ⇑P **P 00 44 22.5 +0.4**
BURAR Bucovina Array 39.43 320 ⇓P **P 00 44 23.5 +0.8**
BURAR Bucovina Array 39.43 320 P **P 00 44 23.4 +0.8**
BUR08 Bucovina Ar. S 39.45 320 P **P 00 44 22.6 -0.3**
ARCR ARCALIA 39.70 319 ⇑P **P 00 44 26.0 +1.2**
GZR Gura Zlata 39.97 316 ⇑P **P 00 44 27.0 -0.2**
GZR Gura Zlata 39.97 316 P **P 00 44 27.0 -0.2**
HERR Herculane 40.01 315 ⇑P **P 00 44 27.9 +0.5**
BOVS Bovan 40.03 313 ⇑P **P 00 44 28.1 +0.5**
MARR Marisel-Cluj 40.28 318 ⇑P **P 00 44 30.4 +0.6**
MDVR Moldovita 40.43 315 ⇑P **P 00 44 31.9 +0.9**
RPSI Rantau Prapat 40.44 112 P **P 00 44 32.5 +1.2**
RPSI IAmb IAmb 00 44 44.5
comp=Z,10nm,0.8s
BMR Baia Mare 40.49 320 ⇓P **P 00 44 32.1 +0.8**
BMR Baia Mare 40.49 320 P **P 00 44 32.1 +0.8**
SURR Surduc 40.53 316 ⇑P **P 00 44 32.8 +1.0**
BZS Buzias 40.81 316 ⇓P **P 00 44 34.5 +0.4**
BZS Buzias 40.81 316 P **P 00 44 34.4 +0.4**
SIRR Siria 41.03 317 ⇓P **P 00 44 36.0 0.0**
KOLS Kolonicke sedl 41.78 321 *eP* **P 00 44 43.5 +1.5**
KOLS pmax pmax
comp=Z,22nm,0.9s
KOLS Kolonicke sedl 41.78 321 *eP* **P 00 44 43.5 +1.5**
OPO Ambohidratompo 42.36 201 P **P 00 44 46.7 -0.4**
comp=Z,7.1nm,0.9s,baz=24,slow=10,SNR=6.1
comp=Z,7.1nm,0.9s
KLMR Klimovskoe 42.40 344 *eP* **P 00 44 44.6 -2.2**
KLMR *e* 00 46 36.5
KLMR pmax pmax
comp=Z,26nm,1.0s
NACGM Naroch 42.58 330 *eP* **P 00 44 49.0 +0.6**
comp=Z,6.0nm,1.0s,baz=128
MOY Mondy 42.63 35 *eP* **P 00 44 51.1 +2.0**
MOY pmax pmax
comp=Z,8.0nm,1.9s
KECS Kecovo 42.66 319 *eP* **P 00 44 50.6 +1.5**
KECS pmax pmax
comp=Z,19nm,1.0s
KECS Kecovo 42.66 319 *eP* **P 00 44 50.6 +1.5**
PSZ Piszkesteto 42.79 318 P **P 00 44 50.1 -0.2**
MORH Mrgy, Hungar 42.96 316 ⇑P **P 00 44 52.2 +0.6**
XAN Xi'an 43.01 63 ⇓P **P 00 44 52.0 -0.2**
XAN pP pwP 00 44 58.5 +0.4
XAN pmax pmax
comp=Z,16nm,1.1s
LANS Liptovska Anna 43.54 320 *eP* **P 00 44 57.4 +1.0**
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 43.54 320 *eP* **P 00 44 57.4 +1.0**
VYHS Vyhne 43.67 319 *eP* **P 00 44 56.6 -0.7**
VYHS Vyhne 43.67 319 *eP* **P 00 44 56.6 -0.7**
OJC Ojcow 43.79 321 P **P 00 44 57.5 -0.8**
SUW Suwalki 43.80 328 P **P 00 44 57.2 -1.0**
SONM Songino Array 44.15 43 P **P 00 45 01.7 +0.3**
SONM Songino Array 44.15 43 P **P 00 45 02.2 +0.8**
comp=Z,1.3nm,0.6s,baz=258,slow=7.2,SNR=8.7
SONM LR LR 01 07 50.6
comp=Z,65nm,18.2s,baz=264,slow=42
comp=Z,1.3nm,0.6s
PABE Paberze 44.24 330 P **P 00 45 01.3 -0.4**
PABE IAmb IAmb 00 45 03.0
comp=Z,20nm,1.0s
JAVC Velka Javorina 44.52 319 *eP* **P 00 45 05.4 +1.2**
SMOL Smolenice 44.55 318 *eP* **P 00 45 05.6 +1.2**
SMOL pmax pmax
comp=Z,6.0nm,1.3s
ULN Ulaanbaatar 44.58 43*ceP* **P 00 45 06.8 +2.0**
ULN pmax pmax
comp=Z,3.0nm,1.0s
MODS Modra-Piesok 44.59 318 *eP* **P 00 45 05.7 +1.0**
MODS pmax pmax
comp=Z,16nm,1.1s
MODS Modra-Piesok 44.59 318 *eP* **P 00 45 05.7 +1.0**
BTO Baotou 44.73 54 *eP* **P 00 45 06.9 +0.8**
BTO pP **sP 00 45 11.4 +0.1**
BTO sP **pwP 00 45 14.3 +2.3**
BTO S **S 00 51 41.5 -1.1**
BTO sS **sS 00 51 50.3 +2.1**
BTO SS **SS 00 54 55.1 -8.0**
BTO pmax pmax
comp=Z,21nm,1.3s
BTO pmax pmax
comp=Z,210nm,4.3s
BTO LR LR
comp=N,350nm,16.9s
BTO LR LR
comp=E,250nm,15.3s
BTO LR LR
comp=Z,310nm,15.3s
VSU Vasula 44.84 334*ceP* **P 00 45 05.3 -1.2**
VSU pmax pmax
comp=Z,7.0nm,0.6s

STEB **Steborice** 44.87 320 *e*P P 00 45 06.7 -0.2
STEB *e*pP **pwP** 00 45 11.5 -1.6
MORC Moravsky Berou 44.95 320 P P 00 45 06.8 -0.7
MORC IAmb IAmb 00 45 12.5
comp=Z,8.1nm,0.9s
MORC Moravsky Berou 44.95 320 *e*P P 00 45 07.3 -0.3
MORC Moravsky Berou 44.95 320 ⇓P P 00 45 07.4 -0.2
MORC Moravsky Berou 44.95 320 P P 00 45 07.4 -0.2
RONA Rosalia, Austr 44.98 317 *i* P P 00 45 08.1 +0.3
comp=Z,3.3nm,0.6s
INTR Introdacqua 45.10 308 P P 00 45 08.5 -0.4
ARSA Arzberg 45.33 316 P P 00 45 10.1 -0.6
ARSA IAmb IAmb 00 45 17.6
comp=Z,5.8nm,0.9s
ARSA Arzberg 45.33 316 *i* P P 00 45 11.0 +0.4
comp=Z,2.5nm,0.5s
CONA Conrad Observa 45.33 317 *i* P P 00 45 10.9 +0.2
comp=Z,1.3nm,0.5s
VRAC Vranov 45.35 319 LR LR 01 08 19.0
comp=Z,60nm,18.0s,baz=105,slow=42
VRAC Vranov 45.35 319 *e*P P 00 45 11.0 +0.3
KRUC Moravsky 45.38 319 *e*P P 00 45 11.2 +0.2
KRLC Kraliky 45.51 320 *e*P P 00 45 12.0 -0.1
KRLC Kraliky 45.51 320 *e*P P 00 45 12.0 -0.1
CAMP Campotosto 45.56 309 P P 00 45 13.2 +0.5
OBKA Obir 45.74 315 *i* P P 00 45 14.0 0.0
comp=Z,2.0nm,0.7s
DPC Dobruska-Polom 45.89 320 *e*P P 00 45 14.0 -1.1
DPC Dobruska-Polom 45.89 320 *e*P P 00 45 14.0 -1.1
HHC Hu-ho-hao-te 45.92 53 *e*P P 00 45 16.3 +0.7
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,56nm,3.9s
HHC LR LR
comp=N,130nm,16.8s
HHC LR LR
comp=E,160nm,15.1s
HHC LR LR
comp=Z,150nm,16.8s
OSTC Ostas 46.03 321 *e*P P 00 45 16.6 +0.5
OSTC *e*pP **pwP** 00 45 20.9 -1.4
OSTC Ostas 46.03 321 *e*P P 00 45 16.6 +0.5
OSTC *e**PP **pwP** 00 45 20.9 -1.4
CHVC Chvalec 46.14 321 *e*P P 00 45 17.2 +0.2
CHVC *e*pP **pwP** 00 45 21.7 -1.5
CHVC Chvalec 46.14 321 *e*P P 00 45 17.2 +0.2
CHVC *e* 00 45 17.5
CHVC *e**PP **pwP** 00 45 21.7 -1.5
CESX Cesi 46.18 309 P P 00 45 17.2 -0.2
MOA Molln 46.32 316 *i* P P 00 45 18.7 +0.2
comp=Z,6.9nm,0.9s
MYKA Terra Mystica 46.38 315 *i* P P 00 45 19.8 +0.8
comp=Z,5.1nm,0.9s
PRED Cave del Predi 46.38 314 P P 00 45 18.8 -0.2
PRED IAmb IAmb 00 45 27.2
comp=Z,12nm,1.2s
CKRC Cesky Krumlov 46.59 318 *e*P P 00 45 20.9 +0.3
CKRC Cesky Krumlov 46.59 318 *e*P P 00 45 20.9 +0.3
BIOA Bad Ischl, Aus 46.68 316 *i* P P 00 45 21.1 -0.2
comp=Z,3.2nm,0.4s
BIOA Bad Ischl, Aus 46.68 316 *i* P P 00 45 21.7 +0.4
SNR=5.3
KBA Koelnbreinsper 46.70 315 *i* P P 00 45 21.8 +0.2
comp=Z,3.3nm,0.7s
ZVC Zvikov 46.87 318 *e*P P 00 45 22.3 -0.4
GEC2 GERESS Array S 46.98 318 P P 00 45 23.2 -0.5
GEC2 IAmb IAmb 00 45 48.0
comp=Z,13nm,1.4s
GERES GERESS Array B 46.98 318 P P 00 45 23.1 -0.6
GERES GERESS Array B 46.98 318 P P 00 45 23.3 -0.5
comp=Z,2.7nm,0.9s,baz=106,slow=9.8,SNR=10
GERES PcP **PcP** 00 46 56.0 0.0
comp=Z,1.3nm,0.8s,baz=160,slow=4.3,SNR=3.8
comp=Z,2.7nm,0.9s
GEC2 GERESS Array S 46.98 318 *e*P 00 45 23.6
comp=Z,3.1nm,0.8s,baz=108,slow=7.7
FINES FINESS Array B 47.05 337 P P 00 45 23.5 -0.4
FINES FINESS Array B 47.05 337 P P 00 45 23.8 -0.2
comp=Z,2.7nm,0.7s,baz=131,slow=8.6,SNR=10
FINES LR LR 01 10 11.1
comp=Z,50nm,18.5s,baz=161,slow=42
comp=Z,2.7nm,0.7s
FINES FINESS Array B 47.05 337 *i* P P 00 45 24.2 +0.3
FINES pmax pmax
comp=Z,3.0nm,0.7s
KHC Kasperske Hory 47.15 318 *e*P P 00 45 24.5 -0.5
KHC *e*pP **sP** 00 45 28.9 -0.9
KHC Kasperske Hory 47.15 318 *e*P P 00 45 24.5 -0.5
KHC *e**PP **sP** 00 45 28.9 -0.9
ABTA Abfaltersbach 47.16 314 *i* P P 00 45 25.3 +0.2
comp=Z,7.0nm,0.8s
LESA Schwarzleotal 47.23 315 *i* P P 00 45 25.4 -0.2
comp=Z,2.2nm,0.3s
LESA Schwarzleotal 47.23 315 *i* P P 00 45 25.5 -0.2
SNR=6.2
RJOB Jochberg 47.24 316 *e*P 00 45 25.0
comp=Z,7.8nm,0.8s,baz=108,slow=7.7
BRG Berggiesshubel 47.49 320 *e*P P 00 45 28.2 +0.7
BRG Amp 00 45 28.8
comp=Z,4.5nm,0.8s
BRG Berggiesshubel 47.49 320 P P 00 45 31.9 +4.4
BRG Amp 00 45 33.2
comp=Z,6.4nm,1.0s
BRG Berggiesshubel 47.49 320 *e*P 00 45 27.7
comp=Z,3.8nm,0.8s,baz=108,slow=7.7
WET Wettzell 47.59 318 *e*P 00 45 28.0
comp=Z,2.4nm,0.9s,baz=108,slow=7.7
KEST Kesra 47.86 299 LR LR 01 10 16.5
comp=Z,57nm,18.2s,baz=348,slow=42
WTTA Wattenberg 47.87 315 *e*P P 00 45 30.3 -0.5
comp=Z,5.1nm,0.7s
WTTA Wattenberg 47.87 315 *i* P P 00 45 30.3 -0.5
SNR=6.0
WATA Walderalm 47.93 315 *i* P P 00 45 30.2 -1.0
comp=Z,3.0nm,0.6s
HNS HongShan 47.95 59 ⇓P P 00 45 32.3 +1.0
HNS pmax pmax
comp=Z,7.0nm,1.2s
HNS LR LR
comp=N,69nm,12.6s
HNS LR LR
comp=E,120nm,12.2s
HNS LR LR
comp=Z,160nm,15.1s
SQTA Sankt Quirin 48.14 315 *i* P P 00 45 32.2 -0.6
comp=Z,3.6nm,0.6s
SQTA Sankt Quirin 48.14 315 *i* P P 00 45 32.2 -0.6
SNR=5.9
ROTZ Rotzenmuhle 48.20 318 *e*P 00 45 32.8
comp=Z,1.9nm,0.8s,baz=108,slow=7.7
CLL Collm 48.20 321 P P 00 45 33.1 +0.1
CLL Collm 48.20 321 ⇑*i*P P 00 45 33.6 +0.6
CLL *i* 00 45 36.7
CLL pmax pmax
comp=Z,21nm,1.0s
CLL Collm 48.20 321 ⇑*i*P P 00 45 33.6 +0.6
comp=Z,21nm,1.0s
CLL *i* x x 00 45 36.7
CLL Collm 48.20 321 *e*P 00 45 33.5
comp=Z,12nm,0.8s,baz=108,slow=7.7
MOTA Moosalm 48.24 315 *i* P P 00 45 32.7 -0.9
comp=Z,9.3nm,1.1s
MANZ Manzenberg 48.32 319 *e*P 00 45 33.8
comp=Z,0.6nm,0.8s,baz=108,slow=7.7
FETA Feichten 48.41 314 *i* P P 00 45 34.1 -0.8
comp=Z,7.1nm,0.8s
RETA Reutte 48.50 315 *i* P P 00 45 34.6 -0.9
comp=Z,4.1nm,0.8s
GRA1 Grafenberg Arr 48.78 318 P P 00 45 37.4 -0.2
GRFO Grafenberg 48.79 318 P P 00 45 37.5 -0.1
DAVOX Davos/Dischmat 48.92 314 LR LR 01 10 43.5
comp=Z,81nm,19.4s,baz=82,slow=42
UBR Ueberruh 48.98 315 *e*P 00 45 38.2
comp=Z,12nm,0.9s,baz=108,slow=7.7
DAVA Damuels 49.04 315 *i* P P 00 45 39.1 -0.7
comp=Z,13nm,0.7s
DAVA Damuels 49.04 315 *i* P P 00 45 39.2 -0.6
SNR=10
LSZ Lusaka 49.35 225 LR LR 01 06 32.3
comp=Z,110nm,18.4s,baz=51,slow=36
FLTG Flechtingen 49.57 321 *e*P 00 45 43.5
comp=Z,6.8nm,0.7s,baz=108,slow=7.7
XLT XiLinHaoTe 49.71 50 *e*P P 00 45 46.8 +2.0
XLT pmax pmax
comp=Z,64nm,4.4s

TIA Tai'an 49.83 60 P P 00 45 46.8 +1.0
TIA pmax pmax
comp=Z,15nm,1.1s
CLZ Clausthal 49.92 321 *e*P 00 45 46.4
comp=Z,6.9nm,0.8s,baz=108,slow=7.7
GTTG Gottingen 50.08 320 *e*P 00 45 47.5
comp=Z,7.2nm,1.0s,baz=108,slow=7.7
NRDL Niedersach Rie 50.28 321 *e*P 00 45 49.1
comp=Z,8.3nm,0.8s,baz=108,slow=7.7
NRIK Noril'sk 50.33 11 P P 00 45 48.3 -0.7
NRIK Noril'sk 50.33 11 P P 00 45 50.1 +1.1
comp=Z,3.9nm,1.0s,baz=217,slow=5.3,SNR=3.8
NRIK LR LR 01 10 40.2
comp=Z,66nm,20.7s,baz=190,slow=40
comp=Z,3.9nm,1.0s
NRIK Noril'sk 50.33 11 *ce*P P 00 45 50.1 +1.1
NRIK pmax pmax
comp=Z,8.0nm,1.1s
KASTN Kahler Asten 50.92 319 *e*P 00 45 54.3
comp=Z,4.2nm,0.8s,baz=108,slow=7.7
ECH Echery 51.03 315 P P 00 45 53.9 -0.8
ECH IAmb IAmb 00 45 55.0
comp=Z,11nm,1.1s
NJ2 Nanjing 51.32 66 *e*P P 00 45 57.8 +0.7
NJ2 pmax pmax
comp=Z,14nm,0.5s
HFS Hagfors 51.33 331 P P 00 45 56.8 +0.1
comp=Z,4.6nm,1.0s,baz=106,slow=4.8,SNR=5.8
comp=Z,4.6nm,1.0s
TAM Tamanrasset 52.09 283 P P 00 46 02.2 -0.9
TAM IAmb IAmb 00 46 06.4
comp=Z,9.5nm,0.7s
NC602 NORSAR Array S 52.55 331 P P 00 46 04.4 -1.4
NC602 IAmb IAmb 00 46 31.7
comp=Z,18nm,1.4s
NB2 NORSAR Subarra 52.83 332 P P 00 46 07.3 -0.6
comp=Z,5.3nm,1.1s,baz=113,slow=7.9
NOA NORSAR Array B 52.83 332 P P 00 46 07.2 -0.7
comp=Z,3.0nm,1.1s,baz=120,slow=7.4,SNR=5.6
NOA LR LR 01 12 09.3
comp=Z,42nm,20.4s,baz=105,slow=40
comp=Z,3.0nm,1.1s
ARCES ARCESS Array B 52.86 345 P P 00 46 08.5 +0.6
comp=Z,4.7nm,0.7s,baz=126,slow=6.2,SNR=18
ARCES LR LR 01 11 27.8
comp=Z,68nm,19.4s,baz=115,slow=39
comp=Z,4.7nm,0.7s
MATP Matopo 52.98 220 P P 00 46 08.5 -1.1
comp=Z,2.8nm,0.7s,baz=41,slow=9.3,SNR=12
comp=Z,2.8nm,0.7s
KHWEE KHWEE 56.00 222 P 00 46 31.3 -0.2
KHWEE IAmb IAmb 00 46 42.6
comp=Z,16nm,1.1s
XAUDM Khaudum 56.28 228 P P 00 46 33.9 +0.3
XAUDM IAmb IAmb 00 46 46.2
comp=Z,20nm,1.4s
CN2 Changchun 56.45 51 *e*P P 00 46 37.3 +2.9
CN2 pmax pmax
comp=Z,10.0nm,0.7s
LPHEP Lephephe 56.80 220 P P 00 46 37.4 +0.2
BNX BinXian 57.89 49 ⇓P P 00 46 45.1 +0.5
BNX pmax pmax
comp=Z,7.0nm,1.1s
TORD Torodi Ar. Bea 57.91 272 P 00 46 44.6 -0.5
GRTLG Ghanzi 58.30 226 P P 00 46 49.0 +1.1
GRTLG IAmb IAmb 00 46 50.1
comp=Z,10nm,0.8s
ESDC Sonseca Array 58.41 304 P P 00 46 47.9 -0.6
ESDC Sonseca Array 58.41 304 P P 00 46 48.4 -0.1
comp=Z,5.0nm,0.9s,baz=61,slow=6.4,SNR=18
comp=Z,5.0nm,0.9s
KSRS Korea Array 58.46 58 P P 00 46 48.8 +0.1
comp=Z,3.4nm,0.7s,baz=266,slow=6.8,SNR=12
KSRS LR LR 01 15 33.8
comp=Z,54nm,18.4s,baz=270,slow=40
comp=Z,3.4nm,0.7s
KGCAE Kacgae 58.71 224 P P 00 46 50.3 -0.4
PAB San Pablo 58.72 304 P 00 46 50.1 -0.5
MAKGR Makgori 59.27 219 P P 00 46 54.8 +0.2
TSUM Tsumeb 59.37 230 LR LR 01 11 55.4
comp=Z,98nm,18.4s,baz=18,slow=36
MDT Midelt 59.52 296 LR LR 01 16 30.3
comp=Z,51nm,18.7s,baz=115,slow=40
LKGWB Lokgwabe 60.24 223 P P 00 46 58.4 -2.8
SPITS Spitsbergen Ar 60.65 350 LR LR 01 18 06.3
comp=Z,100nm,18.1s,baz=110,slow=41
YAK Yakutsk 60.80 30 LR LR 01 16 18.9
comp=Z,50nm,18.1s,baz=236,slow=39
KLR Kul'dur 60.90 45 P P 00 47 06.1 +0.8
comp=Z,2.0nm,0.7s,baz=266,slow=9.2,SNR=6.1
comp=Z,2.0nm,0.7s
KLR Kul'dur 60.90 45 *ce*P P 00 47 05.2 -0.1
KLR pmax pmax
comp=Z,11nm,2.5s
BOSA Boshof 61.14 217 P P 00 47 05.3 -1.9
comp=Z,3.8nm,0.7s,baz=44,slow=5.4,SNR=9.7
BOSA LR LR 01 11 40.9
comp=Z,52nm,19.6s,baz=48,slow=34
comp=Z,3.8nm,0.7s
TIXI Tiksi 62.54 19 P 00 47 15.5 -0.4
TIXI IAmb IAmb 00 47 16.8
comp=Z,14nm,1.5s
TIXI Tiksi 62.54 19 P P 00 47 15.3 -0.7
comp=Z,2.2nm,0.3s,baz=329,slow=3.8,SNR=10
comp=Z,2.2nm,0.3s
TIXI Tiksi 62.54 19 *ce*P P 00 47 15.7 -0.3
TIXI pmax pmax
comp=Z,8.0nm,1.3s
JMIC Jan Mayen 63.55 340 LR LR 01 17 52.3
comp=Z,40nm,18.5s,baz=64,slow=39
DBIC Dimbokro 66.10 268 P P 00 47 39.1 -1.1
DBIC Dimbokro 66.10 268 P P 00 47 39.3 -0.9
comp=Z,5.7nm,0.7s,baz=59,slow=6.4,SNR=11
DBIC LR LR 01 18 02.9
comp=Z,316nm,18.1s,baz=71,slow=37
comp=Z,5.7nm,0.7s
MJAR Matsushiro Arr 66.74 58 LR LR 01 20 34.4
comp=Z,25nm,19.4s,baz=304,slow=39
H04N1 CROZET ISLANDS 67.94 188 T T 02 01 40.0
baz=10,slow=75,SNR=349
H04N2 CROZET ISLANDS 67.94 188 T T 02 01 35.1
baz=10,slow=75,SNR=449
H04N3 CROZET ISLANDS 67.96 188 T T 02 01 38.9
baz=10,slow=75,SNR=337
BORG Borgarnes 67.99 333 LR LR 01 24 31.1
comp=Z,26nm,18.4s,baz=352,slow=42
MA2 Magadan 71.12 33 LR LR 01 23 39.1
comp=Z,86nm,18.1s,baz=80,slow=39
SEY Seymchan 71.29 29 P P 00 48 13.1 +1.3
comp=Z,2.7nm,0.3s,baz=283,slow=6.4,SNR=9.5
comp=Z,2.7nm,0.3s
SEY Seymchan 71.29 29 *e*P P 00 48 12.2 +0.4
SEY pmax pmax
comp=Z,10.0nm,1.1s
SUMG Summit 72.79 342 P P 00 48 21.1 -0.1
H01W3 Cape Leeuwin H 74.74 138 T T 02 10 08.0
baz=310,slow=75,SNR=304
H01W2 Cape Leeuwin H 74.75 138 T T 02 10 08.6
baz=310,slow=75,SNR=253
H01W1 Cape Leeuwin H 74.75 138 T T 02 10 09.3
baz=310,slow=75,SNR=214
PETK Petropavlovsk- 76.42 38 LR LR 01 26 54.2
comp=Z,60nm,18.8s,baz=279,slow=39
GUMO Guam 78.59 80 LR LR 01 24 39.6
comp=Z,25nm,20.3s,baz=94,slow=36
WRA Warramunga Arr 81.78 115 P P 00 49 11.4 -0.6
comp=Z,1.4nm,0.9s,baz=311,slow=4.0,SNR=6.0
comp=Z,1.4nm,0.9s
WRA Warramunga Arr 81.78 115 *i* P P 00 49 12.3 +0.3
WRA pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 83.08 119 P P 00 49 17.4 -1.4
comp=Z,1.3nm,0.8s,baz=302,slow=5.4,SNR=12
comp=Z,1.3nm,0.8s
B22K Teshekpuk Lake 85.10 11 P 00 49 28.7 +0.6
B21K Ikpikpuk River 85.47 12 P 00 49 30.1 +0.1
B21K IAmb IAmb 00 49 31.8
comp=Z,7.8nm,1.1s
SHEM Shemya Is, Ala 85.65 34 LR LR 01 32 45.2
comp=Z,46nm,18.1s,baz=11,slow=39
D19K Kuna River 85.67 14 P 00 49 30.2 -0.8
D19K IAmb IAmb 00 49 32.4
comp=Z,5.3nm,1.0s
ILON Igloolik, Nuna 85.78 348 P 00 49 30.9 -0.7
ILON IAmb IAmb 00 49 32.3
comp=Z,9.3nm,1.1s
D20K Etivluk River 85.81 13 P P 00 49 31.6 -0.3
D20K IAmb IAmb 00 49 32.7
comp=Z,4.4nm,1.1s
C23K Itkillik River 86.03 11 P P 00 49 33.0 +0.3
F15K North Star Dit 86.17 18 P P 00 49 33.2 -0.4
F15K IAmb IAmb 00 49 43.4
comp=Z,5.8nm,1.1s
C24K Franklin Bluff 86.46 10 P P 00 49 34.4 -0.5
C24K IAmb IAmb 00 49 37.0
comp=Z,14nm,1.4s
D22K Ayikyak River 86.47 12 P P 00 49 34.9 -0.2
D22K IAmb IAmb 00 49 36.8
comp=Z,6.9nm,1.1s
F17K Baldwin Pennin 86.53 16 P P 00 49 35.5 +0.3
F17K IAmb IAmb 00 49 38.3
comp=Z,14nm,1.4s
E21K Killik River 86.59 13 P P 00 49 35.4 -0.2
E21K IAmb IAmb 00 49 36.7
comp=Z,5.2nm,1.1s
A36M Sachs Harbour 86.66 2 P P 00 49 35.7 -0.2
A36M IAmb IAmb 00 49 37.7
comp=Z,10nm,1.2s
D23K Nanushuk River 86.78 11 P P 00 49 35.9 -0.6
D23K IAmb IAmb 00 49 39.1
comp=Z,7.1nm,1.2s
D24K Happy Valley 86.94 11 P P 00 49 37.3 +0.1
D24K IAmb IAmb 00 49 38.9
comp=Z,13nm,1.4s
F19K Shaleruckik Mo 87.08 15 P P 00 49 37.6 -0.4
F19K IAmb IAmb 00 49 44.8
comp=Z,6.8nm,1.4s
D25K Kavik River 87.19 10 P P 00 49 38.8 +0.3
TOLK Toolik Lake Re 87.26 11 P 00 49 39.5 +0.5
TOLK Toolik Lake Re 87.26 11 P P 00 49 39.1 +0.1
TOLK IAmb IAmb 00 49 40.8
comp=Z,12nm,1.2s
C27K Jago River 87.31 9 P P 00 49 39.1 0.0
C27K IAmb IAmb 00 49 41.4
comp=Z,12nm,1.4s
F20K Avaraart Lake 87.38 14 P P 00 49 39.2 -0.2
F20K IAmb IAmb 00 49 56.9
comp=Z,8.0nm,1.4s
E23K Chandalar 87.76 11 P P 00 49 41.8 +0.4
E23K IAmb IAmb 00 49 49.3
comp=Z,7.7nm,1.2s
G19K Purcell Mounta 87.80 15 P P 00 49 41.4 -0.1
G19K IAmb IAmb 00 49 42.8
comp=Z,4.7nm,1.1s
E24K Your Creek 87.95 11 P P 00 49 42.7 +0.4
H17K Granite Mounta 88.05 17 P P 00 49 42.6 -0.1
H17K IAmb IAmb 00 49 43.9
comp=Z,5.6nm,1.1s
COLD Coldfoot 88.38 12 P P 00 49 44.3 +0.1
COLD IAmb IAmb 00 49 46.0
comp=Z,6.0nm,1.1s
E25K Arctic Village 88.41 10 P P 00 49 44.6 +0.2
E25K IAmb IAmb 00 49 51.6
comp=Z,6.7nm,1.1s
MAW Mawson 88.80 180 LR LR 01 22 28.1
comp=Z,56nm,20.0s,baz=58,slow=31
E28M Babbage River 88.82 8 P P 00 49 46.4 +0.1
G23K Bananza Creek 88.86 12 P P 00 49 46.9 +0.3
H21K Melozitna Rive 89.19 14 P P 00 49 48.1 0.0
H21K IAmb IAmb 00 49 49.5
comp=Z,2.6nm,0.8s
BMAR Burnt Mountain 89.19 10 P P 00 49 49.0 +0.9
CAST Castle Rocks 91.26 15 P P 00 49 57.6 -0.2
CAST IAmb IAmb 00 49 59.9
comp=Z,5.3nm,1.3s
KDAK Kodiak Island 95.94 18 LR LR 01 40 56.8
comp=Z,46nm,18.2s,baz=195,slow=40
YKA Yellowknife Ar 96.29 358 P P 00 50 20.4 -0.4
comp=Z,0.7nm,0.9s,baz=356,slow=4.8,SNR=13
YKA LR LR 01 38 19.9
comp=Z,35nm,18.8s,baz=304,slow=38
comp=Z,0.7nm,0.9s
ELIB Princess Elisa 96.83 191 *d*P P 00 50 25.0 +1.9
PDAR Pinedale Array 115.62 353 PKP **PKiKP** 00 55 34.1 -1.2
comp=Z,0.5nm,0.8s,baz=72,slow=4.8,SNR=4.2
NVAR Mina Array Bea 120.42 0 PKP **PKPdf** 00 55 45.5 +0.8
comp=Z,0.9nm,0.8s,baz=324,slow=1.5,SNR=5.5
CPUP Villa Florida 124.77 252 PKP **PKPdf** 00 55 51.9 -1.1
comp=Z,1.3nm,0.8s,baz=180,slow=6.1,SNR=2.1
TXAR Lajitas Array 127.65 344 PKP **PKPdf** 00 55 59.0 +0.3
comp=Z,1.7nm,0.8s,baz=157,slow=1.2,SNR=13
LPAZ La Paz 132.71 267 PKP **PKPdf** 00 56 08.5 -0.6
comp=Z,0.5nm,0.5s,baz=340,slow=5.1,SNR=2.3
PLCA Paso Flores 135.68 233 PKP **PKPdf** 00 56 13.5 +0.2
comp=Z,2.0nm,1.0s,baz=133,slow=4.2,SNR=5.6

---

*ISK **23** 01:15:10.6, 35°.88N×29°.68E, h9km, ML2.2/12*
*ATH **23** 01:15:11.8, 35°.92N×29°.82E, h20km±8km, ML2.5/1,*
Manual Solution by M.Charalampakis First location:
2019/04/23 01:24:08, This location: 2019/04/23 04:37:12
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty:
110 km; Longitude uncertainty: 387 km
*AFAD **23** 01:15:14.1, 36°.04N×29°.82E, h6km±4km, ML2.0*
ISC 23 01:15:11.5±1.4, 35°.91N±0°.06×29°.71E±0°.03, h18km±5km,
n34, σ1°.02/53, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.27**	**337**	P	**Pb**	**Pb**	**01 15 18.5**	**+0.8**
KSL				S	**Sg**	**Sg**	**01 15 23.4**	**+1.8**
AKAS	**Kas**	**0.34**	**345**	P	**Pb**	**Pb**	**01 15 19.4**	**+0.2**
AKAS				S	**Sb**	**Sb**	**01 15 24.2**	**-0.1**
AKAS				*i* AML	AML	AML	01 15 26.0	
comp=E,514nm,0.5s								
AKUM	**Antalya-Kumluc**	**0.66**	**51**	P	**Pg**	**Pg**	**01 15 24.3**	**-0.3**
AKUM				S	**Sg**	**Sg**	**01 15 32.1**	**-1.3**
AKUM				*i* AML	AML	AML	01 15 36.0	
comp=N,76nm,0.3s								
AKUM				*i* AML	AML	AML	01 15 38.0	
comp=E,82nm,0.4s								
ELL	**Elmali**	**0.86**	**11**	Pg	**Pg**	**Pg**	**01 15 27.4**	**-0.9**
ELL				Sg	**Sn**	**Sn**	**01 15 40.9**	**-0.1**
FETY	**Fethiye**	**0.89**	**325**	Pg	**Pb**	**Pb**	**01 15 28.2**	**-0.2**
FETY				Sg	**Sn**	**Sn**	**01 15 41.1**	**-0.5**
KNIK	**Mula-Seydike**	**0.94**	**353**	P	**Pb**	**Pb**	**01 15 29.7**	**+0.3**
KNIK				S	**Sb**	**Sb**	**01 15 41.8**	**+0.1**
KNIK				*i* AML	AML	AML	01 15 43.0	
comp=E,63nm,0.4s								
KNIK				*i* AML	AML	AML	01 15 44.0	
comp=N,65nm,0.5s								
CAME	**Cameli-Denizli**	**1.09**	**342**	Pn	**Pg**	**Pg**	**01 15 31.5**	**-1.1**
SABU	**Mula-Dalaman**	**1.10**	**327**	P	**Pn**	**Pn**	**01 15 32.4**	**+0.4**
SABU				S	**Sb**	**Sb**	**01 15 45.7**	**-0.3**
SABU				*i* AML	AML	AML	01 15 53.0	
comp=N,41nm,0.6s								
SABU				*i* AML	AML	AML	01 15 54.0	
comp=E,28nm,0.4s								
KORT	**Korkueli**	**1.21**	**25**	P	**Pb**	**Pb**	**01 15 33.1**	**-0.8**
KORT				S	**Sb**	**Sb**	**01 15 48.6**	**-0.7**
KORT				*i* AML	AML	AML	01 15 52.0	
comp=N,41nm,0.5s								
KORT				*i* AML	AML	AML	01 16 02.0	
comp=E,51nm,0.6s								
DALY	**Dalyan (Mula)**	**1.25**	**317**	Pn	**Pg**	**Pg**	**01 15 34.7**	**-0.9**
DALY				Sn	**Sn**	**Sn**	**01 15 52.2**	**+1.8**
ANTB	**Antalya**	**1.25**	**37**	Pn	**Pn**	**Pn**	**01 15 35.3**	**+1.2**
CAEL	**Denizli, Camel**	**1.26**	**346**	P	**Pg**	**Pg**	**01 15 37.4**	**+1.6**
ARG	**Arkhangelos**	**1.32**	**284**	Pn	**Pb**	**Pb**	**01 15 35.8**	**0.0**
ARG	**Arkhangelos**	**1.32**	**284**	P	**Pg**	**Pg**	**01 15 36.5**	**-0.5**
GOLH	**Golhisar**	**1.33**	**355**	P	**Pb**	**Pb**	**01 15 36.1**	**0.0**
GOLH				S	**Sb**	**Sb**	**01 15 52.3**	**-0.6**
GOLH				*i* AML	AML	AML	01 16 02.0	
comp=N,25nm,0.5s								
GOLH				*i* AML	AML	AML	01 16 06.0	
comp=E,27nm,1.0s								
TURN	**Turunc**	**1.47**	**307**	P	**Pg**	**Pg**	**01 15 38.7**	**-1.1**
TURN				S	**Sn**	**Sn**	**01 15 53.7**	**-2.2**
DNZT	**Denizli-Tavas-**	**1.48**	**338**	P	**Pb**	**Pb**	**01 15 38.5**	**0.0**
BUCA	**Burdur, Bucak-**	**1.57**	**25**	P	**Pb**	**Pb**	**01 15 40.3**	**+0.1**
BUCA				S	**Sn**	**Sn**	**01 15 57.5**	**-1.1**
BUCA				*i* AML	AML	AML	01 16 13.0	
comp=E,18nm,0.6s								
APMY	**Acipayam-Deniz**	**1.60**	**348**	Pn	**Pb**	**Pb**	**01 15 40.1**	**-0.5**
YER	**Yerkesik**	**1.68**	**317**	Pn	**Pb**	**Pb**	**01 15 41.1**	**-0.9**
TAVA	**DENIZLI_Tavas**	**1.69**	**338**	P	**Pg**	**Pg**	**01 15 42.9**	**-1.0**
TAVA				S	**Sn**	**Sn**	**01 16 01.7**	**+0.4**
MULA	**Mugla, Merkez-**	**1.75**	**321**	P	**Pg**	**Pg**	**01 15 43.9**	**-1.3**
MULA				S	**Sn**	**Sn**	**01 16 03.4**	**+0.4**
MULA				*i* AML	AML	AML	01 16 08.0	

comp=N,20nm,0.5s
MULA *i* AML AML 01 16 09.0
comp=E,29nm,0.4s
DNIZ Denizli-Tavas- 1.80 343 P **Pg** **01 15 45.0 -1.2**
DNIZ S **Sb** **01 16 06.3 0.0**
INCE Denizli-Bozkur 1.80 357 P **Pb** **01 15 44.6 +0.5**
INCE S **Sb** **01 16 06.5 +0.1**
INCE *i* AML AML 01 16 09.0
comp=E,19nm,0.5s
BRDR BURDUR-Merkez 1.81 9 P **Pb** **01 15 44.2 +0.1**
BRDR S **Sn** **01 16 04.4 0.0**
KEPZ Antalya-Kepez 1.82 56 P **Pn** **01 15 43.1 +1.1**
YAZI Mula-Dat§a- 1.98 294 P **Pb** **01 15 47.8 +0.7**
YAZI S **Sn** **01 16 05.9 -2.6**
BASM Basmaki-Afyon 2.03 8 Pn **Pn** **01 15 46.3 +1.4**
MLSB Milas 2.09 312 Pn **Pn** **01 15 46.9 +1.3**
KARP Karpathos 2.11 261 P **Pn** **01 15 47.1 +1.2**
ESEN Aydn-Nazilli 2.18 330 P **Pb** **01 15 50.0 -0.4**
ESEN S **Sb** **01 16 16.2 -1.0**
BODT Bodrum 2.25 302 Pn **Pn** **01 15 48.6 +0.7**
AYDB Zeytinkoy-Aydi 2.51 325 Pn **Pn** **01 15 52.9 +1.4**
IDI Anoyia 3.98 263 P **Pn** **01 16 13.4 +1.7**

*IDC **23** 01:31:16.1±4.2, 37°.47N×72°.30E, h191km±29km, mb3.3/10, mbtmp3.8/16, Error ellipse: s-maj=38.7km s-min=18.5km az=170.0*
*NEIC **23** 01:31:16.4±1.9, 37°.49N±0°.07×72°.31E±0°.09, h199km±2km, mb4.2/18, Error ellipse: s-maj=10.4km s-min=9.8km az=78.0*
*NNC **23** 01:31:19.0±2.5, 37°.71N×72°.12E, h164km±40km, mb3.1, mpv4.1, Error ellipse: s-maj=25.1km s-min=14.6km az=20.0*

ISC 23 01:31:14.1±0.5, 37°.40N±0°.05×72°.28E±0°.06, h176km, n84, σ1§55/92, mb4.0/18, 6C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**2.11**	**350**		**Pn**	**01 31 55.6**	**+3.3**
GAR	**Garm**	**2.22**	**317**		**Pn**	**01 31 56.5**	**+3.0**
SIMJ	**Simiganj**	**2.87**	**297**		**Pn**	**01 32 03.7**	**+2.6**
BTK	**Batken**	**2.89**	**337**	Pn	**Pn**	**01 32 04.9**	**+3.7**
NIL	**Nilore**	**3.83**	**168**		**Pn**	**01 32 17.1**	**+4.1**
KBL	**Kabul**	**3.88**	**224**		**Pn**	**01 32 17.4**	**+3.7**
ARSB	**Arslanbob**	**3.96**	**8**		**Pn**	**01 32 15.7**	**+1.1**
AML	**Almayashu**	**4.85**	**13**	P	**Pn**	**01 32 27.9**	**+1.6**
	SNR=307						
NRN	**Naryn**	**4.95**	**34**		**Pn**	**01 32 27.8**	**+0.2**
UCH	**Uchtor**	**5.12**	**19**	P	**Pn**	**01 32 31.9**	**+2.1**
	SNR=6.3						
JMU	**Jammu**	**5.14**	**155**	*e*S	**Sn**	**01 33 25.2**	**-4.1**
JMU				IAML		01 33 33.0	
	comp=N,191nm,0.6s						
JMU				IAML		01 33 34.8	
	comp=E,157nm,0.0s						
EKS2	**Erkin-Say**	**5.38**	**12**	P	**Pn**	**01 32 34.7**	**+1.8**
	SNR=54						
MRKS	**Merke**	**5.39**	**7**	Lg	Lg	01 33 33.5	
	comp=E,39nm,0.6s						
AAK	**Ala-Archa**	**5.50**	**17**		**Pn**	**01 32 35.7**	**+1.1**
AAK	**Ala-Archa**	**5.50**	**17**	P	**Pn**	**01 32 36.6**	**+1.9**
	comp=E,38nm,0.4s,baz=201,slow=4.0,SNR=133						
AAK				S	**Sn**	**01 33 37.7**	**-0.1**
	comp=E,14nm,0.6s,baz=146,slow=23,SNR=9.6						
AAK	**Ala-Archa**	**5.50**	**17**	P	**Pn**	**01 32 36.5**	**+1.9**
	SNR=70						
AAK	**Ala-Archa**	**5.50**	**17**	⇑P	**Pn**	**01 32 36.5**	**+1.9**
	comp=E,26nm,0.5s						
AAK				⇓S	**Sn**	**01 33 37.3**	**-0.5**
	comp=E,24nm,0.8s						
FRU1	**Bishkek**	**5.70**	**18**	Pn	**Pn**	**01 32 38.8**	**+1.8**
THN	**Thein Dam**	**5.71**	**149**	*e*P	**Pn**	**01 32 37.0**	**-0.2**
THN				*e*S	**Sn**	**01 33 41.8**	**-0.6**
THN				IAML		01 33 45.8	
	comp=E,199nm,0.2s						
THN				IAML		01 33 47.2	
	comp=N,144nm,0.3s						
ULHL	**Ulahol**	**5.72**	**31**	P	**Pn**	**01 32 38.8**	**+1.3**
	SNR=14						
BOOM	**Boomskoye usch**	**5.81**	**28**		**Pn**	**01 32 40.3**	**+1.6**
KK31	**Karatay Array**	**5.85**	**347**		**Pn**	**01 32 40.2**	**+1.1**
KK31	**Karatay Array**	**5.85**	**347**	⇓P	**Pn**	**01 32 40.2**	**+1.1**
	comp=N,18nm,0.5s,baz=179,slow=13,SNR=56						
KK31				S	**Sn**	**01 33 43.3**	**-2.7**
	comp=N,14nm,0.3s,baz=151,slow=17,SNR=11						
KKAR	**Karatay Array**	**5.85**	**347**		**Pn**	**01 32 40.1**	**+1.1**
KKAR	**Karatay Array**	**5.85**	**347**		**Pn**	**01 32 39.9**	**+0.8**
CHMS	**Chumysh**	**5.90**	**18**	P	**Pn**	**01 32 41.4**	**+1.6**
	SNR=17						
CHMS	**Chumysh**	**5.90**	**18**	⇑P	**Pn**	**01 32 41.1**	**+1.4**
	comp=N,23nm,0.7s						
CHMS				⇑S	**Sn**	**01 33 45.3**	**-1.8**
	comp=N,26nm,0.7s						
KDJ	**Kajisay**	**6.05**	**37**	Pn	**Pn**	**01 32 42.5**	**+0.7**
TKM2	**Tokmak 2**	**6.07**	**24**	P	**Pn**	**01 32 43.7**	**+1.6**
	SNR=25						
TKM2	**Tokmak 2**	**6.07**	**24**	⇓P	**Pn**	**01 32 43.6**	**+1.5**
	comp=N,14nm,0.6s						
USP	**Ospenovka**	**6.10**	**15**	P	**Pn**	**01 32 43.3**	**+1.0**
	SNR=12						
DHRM	**DHARAMSHALA**	**6.11**	**146**	*e*P	**Pn**	**01 32 40.0**	**-2.8**
DHRM				*e*S	**Sn**	**01 33 51.5**	**-1.0**
DHRM				IAML		01 33 54.2	
	comp=E,368nm,0.4s						
DHRM				IAML		01 33 55.0	
	comp=N,409nm,0.3s						
SGDS	**Sogindy**	**6.30**	**16**	P	**Pn**	**01 32 45.9**	**+0.8**
	comp=N,5.5nm,0.4s						
MTBS	**Maitube**	**6.54**	**28**	P	**Pn**	**01 32 50.0**	**+1.8**
	comp=N,21nm,0.6s						
TNSS	**Tian-Shan**	**6.67**	**31**	P	**Pn**	**01 32 51.4**	**+1.3**
	comp=N,7.5nm,0.7s						
MDOK	**Medeo**	**6.81**	**31**	⇑P	**Pn**	**01 32 53.3**	**+1.5**
	comp=N,14nm,0.6s						
BHK	**Bhakra**	**6.88**	**149**	*e*P	**Pn**	**01 32 55.3**	**+2.6**
BHK				*e*S	**Sn**	**01 34 11.9**	**+1.5**
BHK				IAML		01 34 12.3	
	comp=E,100nm,0.3s						
BHK				IAML		01 34 12.8	
	comp=N,97nm,0.4s						
KTBS	**Karatobe**	**7.14**	**27**	P	**Pn**	**01 32 58.8**	**+2.8**
	comp=N,2.3nm,0.5s						
HNLY	**HANLEY**	**7.17**	**128**	*e*P	**Pn**	**01 32 57.4**	**+0.5**
HNLY				*e*S	**Sn**	**01 34 18.0**	**0.0**
HNLY				IAML		01 34 20.3	
	comp=E,9.2nm,0.6s						
HNLY				IAML		01 34 20.5	
	comp=N,6.8nm,0.5s						
SMLA	**Simla**	**7.45**	**146**	*e*P	**Pn**	**01 33 01.0**	**+0.8**
SMLA				*e*S	**Sn**	**01 34 21.7**	**-2.2**
SMLA				IAML		01 34 22.3	
	comp=N,113nm,0.4s						
SMLA				IAML		01 34 22.3	
	comp=N,113nm,0.4s						
ARXS	**Arharly**	**8.00**	**30**	P	**Pn**	**01 33 08.4**	**+1.0**
	comp=N,3.6nm,0.5s						
MK31	**Makanchi Array**	**11.96**	**35**	P	**P**	**01 34 05.4**	**+0.7**
	comp=N,1.1nm,0.7s,baz=204,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**11.96**	**35**	P	**Pn**	**01 33 59.6**	**+0.5**
	comp=N,0.2nm,0.5s,baz=208,slow=9.1,SNR=6.7						
KURBB	**Kurchatov Arra**	**13.96**	**17**	P	**P**	**01 34 25.9**	**-0.8**
	comp=N,1.7nm,0.7s,baz=206,slow=11,SNR=19						
KURK	**Kurchatov**	**14.06**	**17**		**Pn**	**01 34 26.6**	**+1.1**
AB31	**Abkulak array**	**14.84**	**327**	Pn	**Pn**	**01 34 34.8**	**-0.4**
AB31	**Abkulak array**	**14.84**	**327**	⇑P	**Pn**	**01 34 35.8**	**+0.6**
	comp=N,0.9nm,0.5s,baz=134,slow=12,SNR=45						
ABKAR	**Abkulak array**	**14.84**	**327**		**Pn**	**01 34 34.7**	**-0.5**
BVA0	**Borovoye Array**	**15.68**	**356**	P	**P**	**01 34 46.0**	**+0.1**
	comp=N,0.1nm,0.5s,baz=154,slow=13,SNR=7.6						
BVAR	**Borovoye Array**	**15.68**	**356**	P	**Pn**	**01 34 45.1**	**-0.3**
	comp=N,1.2nm,0.7s,baz=163,slow=12,SNR=9.7						
AKTO	**Aktyubinsk**	**16.55**	**326**	P	**Pn**	**01 34 56.1**	**+0.1**
	comp=N,4.4nm,0.5s,baz=128,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**16.55**	**326**	⇑P	**Pn**	**01 34 56.7**	**+0.7**
	comp=N,1.8nm,0.5s						
ZAA0	**Zalesovo Array**	**18.68**	**24**		**P**	**01 35 18.3**	**-0.3**
ZAA0				IAmb	IAmb	01 35 19.8	
	comp=Z,7.7nm,0.8s						
ZALV	**Zalesovo Beam**	**18.68**	**24**		**P**	**01 35 18.6**	**0.0**
ZALV	**Zalesovo Beam**	**18.68**	**24**	P	**P**	**01 35 19.3**	**+0.7**
	comp=Z,12nm,0.8s,baz=220,slow=10,SNR=33						
BELG	**Belogornoye**	**22.86**	**319**	P	**P**	**01 36 02.2**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=120,slow=20,SNR=1.9						
	comp=Z,2.2nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**26.98**	**56**	P	**P**	**01 36 40.9**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=273,slow=10.0,SNR=2.9						
	comp=Z,0.4nm,0.5s						
CM31	**Chiang Mai Arr**	**30.02**	**122**	P	**P**	**01 37 08.0**	**+1.5**
BRTR	**Keskin Array B**	**30.15**	**286**	P	**P**	**01 37 09.1**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=90,slow=8.3,SNR=1.9						
	comp=Z,0.3nm,0.5s						
MLR	**Muntele Rosu**	**35.24**	**298**	P	**P**	**01 37 50.5**	**-1.3**
LVZ	**Lovozero**	**37.01**	**337**	P	**P**	**01 38 06.7**	**+0.3**
FIA1	**FINESS Array S**	**37.32**	**325**	P	**P**	**01 38 09.2**	**+0.3**
FINES	**FINESS Array B**	**37.32**	**325**	P	**P**	**01 38 09.4**	**+0.4**
FINES	**FINESS Array B**	**37.32**	**325**	P	**P**	**01 38 09.6**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=121,slow=9.1,SNR=10						
	comp=Z,0.6nm,0.3s						
ARCES	**ARCESS Array B**	**40.71**	**337**	P	**P**	**01 38 37.5**	**+0.5**
ARCES				IAmb	IAmb	01 38 59.4	
	comp=Z,8.5nm,1.2s						
ARCES	**ARCESS Array B**	**40.71**	**337**	P	**P**	**01 38 37.5**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=111,slow=8.0,SNR=17						
	comp=Z,0.8nm,0.4s						
HFS	**Hagfors**	**43.00**	**321**	P	**P**	**01 38 55.9**	**+0.3**
	comp=Z,2.2nm,0.4s,baz=98,slow=11,SNR=22						
	comp=Z,2.2nm,0.4s						
GEC2	**GERESS Array S**	**43.25**	**305**	P	**P**	**01 38 56.2**	**-1.8**
NC405	**NORSAR Array S**	**44.05**	**323**	P	**P**	**01 39 04.1**	**+0.1**
NC405				IAmb	IAmb	01 39 32.1	
	comp=Z,10nm,1.3s						
NC303	**NORSAR Array S**	**44.22**	**323**	P	**P**	**01 39 05.8**	**+0.4**
NC303				IAmb	IAmb	01 39 07.5	
	comp=Z,5.6nm,1.0s						
NB201	**NORSAR Array S**	**44.25**	**322**	P	**P**	**01 39 05.7**	**+0.1**
NB2	**NORSAR Subarra**	**44.28**	**322**	P	**P**	**01 39 05.9**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.28**	**322**	P	**P**	**01 39 06.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=94,slow=7.6,SNR=6.7						
	comp=Z,0.8nm,0.5s						
NBO00	**NORSAR Array S**	**44.49**	**322**	P	**P**	**01 39 04.8**	**-2.8**
NBO00				IAmb	IAmb	01 39 07.3	
	comp=Z,11nm,1.4s						
NC204	**NORSAR Array S**	**44.52**	**323**	P	**P**	**01 39 07.9**	**+0.1**
NC204				IAmb	IAmb	01 39 12.9	
	comp=Z,10nm,1.2s						
TIXI	**Tiksi**	**44.56**	**22**	P	**P**	**01 39 07.9**	**0.0**
KONO	**Kongsberg**	**45.04**	**320**	P	**P**	**01 39 11.8**	**-0.1**
KONO				IAmb	IAmb	01 39 35.8	
	comp=Z,7.4nm,1.1s						
CTI	**Castel Tesino**	**45.08**	**301**	P	**P**	**01 39 11.3**	**-1.3**
CTI				IAmb	IAmb	01 39 40.0	
	comp=Z,10nm,1.3s						
INU	**Inuyama**	**51.23**	**71**	P	**P**	**01 39 58.9**	**-0.8**
INU				IAmb	IAmb	01 40 24.8	
	comp=Z,12nm,1.1s						
ESDC	**Sonseca Array**	**57.94**	**298**	P	**P**	**01 40 48.1**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=59,slow=8.0,SNR=4.1						
	comp=Z,0.5nm,1.0s						
PAB	**San Pablo**	**58.27**	**298**	P	**P**	**01 40 49.6**	**-0.6**
PAB				IAmb	IAmb	01 41 25.8	
	comp=Z,19nm,1.4s						
TORD	**Torodi Ar. Bea**	**66.76**	**269**	P	**P**	**01 41 46.1**	**-0.7**
	comp=Z,64nm,0.4s,baz=43,slow=5.4,SNR=1.8						
ILAR	**Eielson Array**	**73.63**	**16**	P	**P**	**01 42 27.1**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=319,slow=5.2,SNR=3.0						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**80.29**	**3**	P	**P**	**01 43 04.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=355,slow=5.3,SNR=16						
	comp=Z,0.4nm,0.7s						

IDC 23 01:53:26.3±2.6, 17°.75S×168°.02E, h0km, mb3.5/2, mbtmp3.6/3, ML3.5/1, MS3.4/1, Error ellipse: s-maj=65.9km s-min=46.2km az=125.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.55**	**199**	Pn	Pn	01 54 36.0	-0.4
	2.2nm,0.3s,baz=59,slow=23,SNR=3.7						
DZM				Sn	Sn	01 55 24.0	-6.1
	6.1nm,0.3s,baz=309,slow=22,SNR=4.7						
	5.9nm,0.4s						
WRA	**Warramunga Arr**	**31.92**	**261**	P	P	01 59 53.9	0.0
	0.3nm,0.6s,baz=84,slow=6.1,SNR=1.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**32.40**	**254**	P	P	01 59 58.0	0.0
	0.8nm,0.7s,baz=76,slow=8.9,SNR=8.9						
ASAR				LR	LR	02 12 47.3	
	comp=Z,62nm,18.8s,baz=256,slow=36						
	0.8nm,0.7s						
ARCES	**ARCESS Array B**	**123.34**	**345**	PKP	PKPdf	02 12 24.5	-0.2
	5.0nm,1.1s,baz=26,slow=1.8,SNR=4.5						

*NAO **23** 01:57:32.5±0.7, 66°.67N×13°.59E, h3km±10km, ML2.4*
*UPP **23** 01:57:33.1±1.8, 66°.64N×13°.54E, h0km, ML2.0*
*HEL **23** 01:57:33.5±0.1, 66°.68N×13°.52E, h5km, ML2.0(UPP), ML2.1(BER), ML2.4(NAO), Confirmed Earthquake*
*IDC **23** 01:57:33.5±1.8, 66°.67N×13°.68E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=20.3km s-min=9.7km az=115.0*
*BER **23** 01:57:34.5±3.0, 66°.70N×13°.36E, h5km, ML2.1, ML2.4(NAO), Confirmed Earthquake*

ISC 23 01:57:32.9±0.8, 66°.69N±0°.02×13°.45E±0°.03, h16km±6km, n89, σ1§63/148, 5C-2D, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGH	**Vaagaholmen**	**0.08**	**302**	⇑*i*P	**Pg**	**01 57 35.9**	**-0.2**
VAGH				*e*S	**Sg**	**01 57 37.6**	**-0.7**
VAGH				IAML		01 57 37.7	
	comp=Z,2μm,0.3s						
KONS	**Konsvik**	**0.23**	**215**	Pg	**Pg**	**01 57 37.9**	**-0.2**
KONS				Lg	Lg	01 57 41.0	
KONS	**Konsvik**	**0.23**	**215**	⇑*i*P	**Pg**	**01 57 37.9**	**-0.2**
KONS				*e*S	**Sg**	**01 57 40.9**	**-0.7**
KONS				IAML		01 57 41.6	
	comp=Z,900nm,0.2s						
KONS	**Konsvik**	**0.23**	**215**	⇑*i*P	**Pg**	**01 57 37.9**	**-0.2**
KONS				*i* S	**Sg**	**01 57 40.9**	**-0.7**
KONS				IAML		01 57 41.6	
	comp=Z,900nm,0.2s						
STOK	**Stokkvaagen**	**0.40**	**206**	Pg	**Pg**	**01 57 40.7**	**-0.2**
STOK				Lg	Lg	01 57 46.1	
STOK	**Stokkvaagen**	**0.40**	**206**	⇓*i*P	**Pg**	**01 57 40.7**	**-0.2**
STOK				*e*S	**Sg**	**01 57 46.1**	**-0.3**
STOK				IAML		01 57 46.6	
	comp=Z,204nm,0.2s						
STOK	**Stokkvaagen**	**0.40**	**206**	⇓*i*P	**Pg**	**01 57 40.7**	**-0.2**
STOK				*i* S	**Sg**	**01 57 46.1**	**-0.3**
STOK				IAML		01 57 46.6	
	comp=Z,204nm,0.2s						
LEIR	**Leirfjorden**	**0.59**	**193**	*e*P	**Pg**	**01 57 44.2**	**-0.4**
LEIR				*e*S	**Sg**	**01 57 52.1**	**-0.4**
LEIR				IAML		01 57 52.6	
	comp=Z,146nm,0.4s						
MOR8	**Moi Rana**	**0.65**	**142**	Pg	**Pg**	**01 57 44.6**	**-1.2**
MOR8				Lg	Lg	01 57 52.3	
MOR8	**Moi Rana**	**0.65**	**142**	⇑*e*P	**Pg**	**01 57 44.5**	**-1.2**
MOR8				*e*S	**Sg**	**01 57 53.3**	**-1.1**
MOR8				IAML		01 57 54.0	
	comp=Z,78nm,0.2s						
MOR8	**Moi Rana**	**0.65**	**142**	⇑*i*P	**Pg**	**01 57 44.5**	**-1.2**
MOR8				*i* S	**Sg**	**01 57 53.3**	**-1.1**
MOR8				IAML		01 57 54.0	
	comp=Z,78nm,0.2s						
FAUS	**Fauske**	**1.00**	**45**	Pg	**Pg**	**01 57 51.1**	**-1.2**
FAUS				Lg	Lg	01 58 03.9	
FAUS	**Fauske**	**1.00**	**45**	*e*P	**Pg**	**01 57 51.1**	**-1.2**
FAUS				*e*S	**Sg**	**01 58 03.6**	**-1.9**
FAUS				*e*		01 58 06.3	
FAUS				IAML		01 58 07.5	
	comp=Z,61nm,0.3s						
FAUS	**Fauske**	**1.00**	**45**	*e*P	**Pg**	**01 57 51.1**	**-1.2**
FAUS				*e*S	**Sg**	**01 58 03.6**	**-1.9**
FAUS				*e*SB	**Sb**	**01 58 06.3**	**+1.5**
FAUS				IAML		01 58 07.5	
	comp=Z,61nm,0.3s						
STEI	**Steigen**	**1.43**	**28**	Pn	**Pn**	**01 57 58.2**	**0.0**
STEI				Lg	Lg	01 58 19.3	
STEI	**Steigen**	**1.43**	**28**	*e*P	**Pn**	**01 57 58.5**	**+0.4**
STEI				*e*S	**Sn**	**01 58 18.9**	**+2.3**
STEI				IAML		01 58 22.1	
	comp=Z,42nm,0.3s						
STEI	**Steigen**	**1.43**	**28**	*e*P	**Pn**	**01 57 58.5**	**+0.4**
STEI				*e*S	**Sn**	**01 58 18.9**	**+2.3**
STEI				IAML		01 58 22.1	
	comp=Z,42nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**1.45**	**1**	Pn	**Pn**	**01 57 57.8**	**-0.7**
LOF				Lg	Lg	01 58 19.9	
LOF	**Lofoten**	**1.45**	**1**	*e*P	**Pn**	**01 57 58.0**	**-0.5**
LOF				*e*S	**Sb**	**01 58 16.1**	**-1.6**
LOF				IAML		01 58 21.9	
	comp=Z,22nm,0.3s						
LOF	**Lofoten**	**1.45**	**1**	*e*P	**Pn**	**01 57 58.0**	**-0.5**
LOF				*e*S	**Sb**	**01 58 16.1**	**-1.6**
LOF				IAML		01 58 21.9	
	comp=Z,22nm,0.3s						
SALU	**Saltoluokta**	**2.10**	**68**	*e*P	**Pn**	**01 58 09.4**	**+1.9**
SALU				*e*Sg	**Sg**	**01 58 39.0**	**-1.5**
SALU	**Saltoluokta**	**2.10**	**68**	*e*P	**Pn**	**01 58 09.4**	**+1.9**
SALU				*e*SG	**Sg**	**01 58 39.0**	**-1.5**
NSS	**Namsos**	**2.25**	**197**	*e*Pg	**Pb**	**01 58 13.6**	**+0.5**
NSS				*e*Sg	**Sb**	**01 58 41.9**	**+1.2**
NSS				IAML		01 58 49.0	
	comp=Z,14nm,0.6s						
NSS	**Namsos**	**2.25**	**197**	*e*PG	**Pb**	**01 58 13.6**	**+0.5**
NSS				*e*SG	**Sb**	**01 58 41.9**	**+1.2**
NSS				IAML		01 58 49.0	
	comp=Z,14nm,0.6s						
DUNU	**Dundret**	**2.84**	**78**	P	**Pn**	**01 58 19.4**	**+1.8**
DUNU				S	**Sn**	**01 58 54.1**	**+2.6**
DUNU	**Dundret**	**2.84**	**78**	P	**Pn**	**01 58 19.4**	**+1.8**
DUNU				S	**Sn**	**01 58 54.1**	**+2.6**
DUNU	**Dundret**	**2.84**	**78**	*e*P	**Pn**	**01 58 19.4**	**+1.8**
DUNU				*e*S	**Sn**	**01 58 54.1**	**+2.6**
LILU	**Lilltraesk**	**2.97**	**115**	P	**Pn**	**01 58 20.8**	**+1.5**
LILU				S	**Sn**	**01 58 56.6**	**+2.1**
LILU	**Lilltraesk**	**2.97**	**115**	P	**Pn**	**01 58 20.8**	**+1.5**
LILU				S	**Sn**	**01 58 56.6**	**+2.1**
LILU	**Lilltraesk**	**2.97**	**115**	*e*P	**Pn**	**01 58 20.8**	**+1.5**
LILU				*e*S	**Sn**	**01 58 56.6**	**+2.1**
SVAU	**Svanoeiden**	**3.37**	**128**	P	**Pn**	**01 58 25.8**	**+1.1**
SVAU				S	**Sn**	**01 59 05.7**	**+1.4**
SVAU	**Svanoeiden**	**3.37**	**128**	P	**Pn**	**01 58 25.8**	**+1.1**
SVAU				S	**Sn**	**01 59 05.7**	**+1.4**
SVAU	**Svanoeiden**	**3.37**	**128**	*e*P	**Pn**	**01 58 25.8**	**+1.1**
SVAU				*e*S	**Sn**	**01 59 05.7**	**+1.4**
MASU	**Masugnsbyn**	**3.44**	**73**	P	**Pn**	**01 58 27.4**	**+1.6**
MASU				S	**Sn**	**01 59 08.3**	**+2.2**
MASU	**Masugnsbyn**	**3.44**	**73**	P	**Pn**	**01 58 27.4**	**+1.6**
MASU				S	**Sn**	**01 59 08.3**	**+2.2**
MASU	**Masugnsbyn**	**3.44**	**73**	*e*P	**Pn**	**01 58 27.4**	**+1.6**
MASU				*e*S	**Sn**	**01 59 08.3**	**+2.2**
ERTU	**Ertsjaerv**	**3.49**	**88**	P	**Pn**	**01 58 27.8**	**+1.4**
ERTU	**Ertsjaerv**	**3.49**	**88**	P	**Pn**	**01 58 27.8**	**+1.4**
ERTU	**Ertsjaerv**	**3.49**	**88**	*e*P	**Pn**	**01 58 27.8**	**+1.4**
SJUU	**Sjulsmark**	**3.53**	**106**	P	**Pn**	**01 58 28.0**	**+1.1**
SJUU				S	**Sn**	**01 59 09.7**	**+1.5**
SJUU	**Sjulsmark**	**3.53**	**106**	P	**Pn**	**01 58 28.0**	**+1.1**
SJUU				S	**Sn**	**01 59 09.7**	**+1.5**
SJUU	**Sjulsmark**	**3.53**	**106**	*e*P	**Pn**	**01 58 28.0**	**+1.1**
SJUU				*e*S	**Sn**	**01 59 09.7**	**+1.5**
BREU	**Bredtraesk**	**3.54**	**140**	P	**Pn**	**01 58 28.1**	**+1.0**
BREU	**Bredtraesk**	**3.54**	**140**	P	**Pn**	**01 58 28.1**	**+1.0**
BREU	**Bredtraesk**	**3.54**	**140**	*e*P	**Pn**	**01 58 28.1**	**+1.0**
LANU	**Lannavaara**	**3.58**	**64**	*e*P	**Pn**	**01 58 30.5**	**+2.9**
LANU				*e*S	**Sn**	**01 59 12.7**	**+3.2**
TRO	**Tromso**	**3.60**	**32**	*e*P	**Pn**	**01 58 30.3**	**+2.4**
TRO	**Tromso**	**3.60**	**32**	*e*P	**Pn**	**01 58 30.3**	**+2.4**
KIF	**Kilpisjarvi**	**3.63**	**47**	Pn	**Pn**	**01 58 30.5**	**+2.1**
KIF				Lg	Lg	01 59 27.8	
KIF	**Kilpisjarvi**	**3.63**	**47**	*e*P	**Pn**	**01 58 30.8**	**+2.5**
KIF	**Kilpisjarvi**	**3.63**	**47**	*e*P	**Pn**	**01 58 30.8**	**+2.5**
ODEU	**Stanfors**	**3.79**	**124**	P	**Pn**	**01 58 31.9**	**+1.3**
ODEU	**Stanfors**	**3.79**	**124**	P	**Pn**	**01 58 31.9**	**+1.3**
ODEU	**Stanfors**	**3.79**	**124**	*e*P	**Pn**	**01 58 31.9**	**+1.3**
PAJU	**Pajala**	**3.83**	**81**	P	**Pn**	**01 58 32.6**	**+1.4**
PAJU	**Pajala**	**3.83**	**81**	P	**Pn**	**01 58 32.6**	**+1.4**
PAJU	**Pajala**	**3.83**	**81**	*e*P	**Pn**	**01 58 32.6**	**+1.4**
BURU	**Burvik**	**3.91**	**119**	P	**Pn**	**01 58 33.4**	**+1.2**
BURU	**Burvik**	**3.91**	**119**	P	**Pn**	**01 58 33.4**	**+1.2**
BURU	**Burvik**	**3.91**	**119**	*e*P	**Pn**	**01 58 33.4**	**+1.2**
KALU	**Kalix**	**4.09**	**97**	P	**Pn**	**01 58 35.6**	**+0.9**
KALU	**Kalix**	**4.09**	**97**	P	**Pn**	**01 58 35.6**	**+0.9**
KALU	**Kalix**	**4.09**	**97**	*e*P	**Pn**	**01 58 35.6**	**+0.9**
UMAU	**Umeaa**	**4.14**	**129**	P	**Pn**	**01 58 36.5**	**+1.1**
UMAU	**Umeaa**	**4.14**	**129**	P	**Pn**	**01 58 36.5**	**+1.1**
UMAU	**Umeaa**	**4.14**	**129**	*e*P	**Pn**	**01 58 36.5**

FINES Sn **Sn** **02 00 47.9 -1.3**
comp=Z,0.2nm,0.3s,baz=317,slow=9.4,SNR=4.5
FINES Lg Lg 02 01 27.2
comp=Z,0.4nm,0.3s,baz=325,slow=28,SNR=5.9
comp=Z,0.5nm,0.7s

---

*AFAD **23** 02:12:58.8, 38°.46N×39°.29E, h7km±2km, MW3.7*
*ISK **23** 02:12:59.4, 38°.45N×39°.25E, h9km, ML3.4/16*
*IDC **23** 02:13:00.4±1.4, 38°.57N×39°.28E, h0km, mb3.5/3, mbtmp3.2/6, ML2.7/3, MS2.8/5, Error ellipse: s-maj=24.0km s-min=14.0km az=160.0*
ISC 23 02:12:59.2±1.2, 38°.46N±0°.02×39°.28E±0°.02, h1km±10km, n52, σ0§96/65, mb3.5/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.23**	**279**	P	**Pg**	**02 13 04.3**	**+0.5**
KOVA	**Elazig, Kovanc**	**0.48**	**60**	P	**Pg**	**02 13 08.1**	**-0.4**
TNCL	**Tunceli-Merkez**	**0.68**	**17**	P	**Pg**	**02 13 11.9**	**-0.5**
TNCL				S	**Sg**	**02 13 21.4**	**+0.1**
MAYA	**Malatya/Merkez**	**0.69**	**259**	P	**Pg**	**02 13 12.5**	**+0.1**
MAYA				S	**Sb**	**02 13 22.6**	**-1.5**
NARI	**Adyaman-Kaht**	**0.71**	**216**	P	**Pg**	**02 13 12.9**	**+0.1**
DIYA	**Diyarbakir**	**0.85**	**129**	P	**Pg**	**02 13 15.4**	**-0.1**
DIYA				S	**Sg**	**02 13 27.7**	**+1.1**
HANI	**Diyarbakir_Han**	**0.88**	**93**	P	**Pg**	**02 13 15.2**	**-0.9**
HANM	**anlurfa/Hi**	**0.94**	**200**	P	**Pg**	**02 13 17.0**	**-0.1**
HANM				S	**Sb**	**02 13 30.6**	**-0.6**
ARPR	**Arapgir-MALATY**	**0.97**	**311**	Pg	**Pg**	**02 13 17.4**	**-0.5**
ARPR				Sg	**Sb**	**02 13 32.2**	**-0.2**
KEMA	**Kemaliye**	**1.01**	**323**	P	**Pg**	**02 13 18.0**	**-0.7**
KEMA				S	**Sg**	**02 13 31.4**	**-0.5**
AZEY	**Adyaman-Merk**	**1.04**	**232**	P	**Pb**	**02 13 19.4**	**-0.8**
AZEY				S	**Sn**	**02 13 36.0**	**-0.3**
AKCD	**Akcadag**	**1.08**	**262**	P	**Pg**	**02 13 19.3**	**-0.6**
URFA	**Urfa**	**1.08**	**200**	Pg	**Pb**	**02 13 20.3**	**-0.5**
HEKM	**Malatya_Hekimh**	**1.11**	**292**	P	**Pg**	**02 13 20.1**	**-0.6**
HEKM				S	**Sn**	**02 13 36.5**	**-1.9**
BNGB	**Bingl**	**1.22**	**64**	Pn	**Pg**	**02 13 23.2**	**+0.7**
BNGB				Sn	**Sn**	**02 13 40.9**	**+0.2**
ATAB	**Bozova**	**1.26**	**218**	P	**Pg**	**02 13 23.5**	**+0.1**
ATAB				S	**Sn**	**02 13 39.7**	**-2.0**
EUZM	**Uzumlu**	**1.28**	**14**	P	**Pn**	**02 13 22.9**	**-1.7**
EUZM				S	**Sb**	**02 13 40.3**	**-1.2**
SANL	**SANLIURFA_Merk**	**1.31**	**190**	P	**Pb**	**02 13 24.0**	**-0.7**
SANL				S	**Sn**	**02 13 41.6**	**-1.3**
YEDI	**Yedisu-Bingol**	**1.39**	**45**	Pn	**Pg**	**02 13 26.4**	**+0.6**
DARE	**Darende-Malaty**	**1.41**	**275**	Pn	**Pn**	**02 13 25.2**	**-1.1**
AKCA	**Adyaman/G¶l**	**1.42**	**243**	P	**Pg**	**02 13 26.2**	**-0.3**
AKCA				S	**Sg**	**02 13 46.5**	**+1.6**
SLHN	**Bingol, Solhan**	**1.45**	**70**	P	**Pn**	**02 13 25.9**	**-0.9**
SLHN				S	**Sb**	**02 13 46.4**	**+0.2**
CUGUR	**Gurin_SVAS**	**1.60**	**280**	P	**Pg**	**02 13 30.9**	**+1.1**
KARO	**Karliova-Bingo**	**1.62**	**58**	Pn	**Pn**	**02 13 29.2**	**0.0**
CUKAN	**kangal_SIVAS**	**1.65**	**302**	P	**Pb**	**02 13 29.3**	**-1.3**
CUKAN				S	**Sb**	**02 13 51.0**	**-1.0**
SURC	**SANLIURFA_SURC**	**1.67**	**199**	P	**Pn**	**02 13 29.0**	**-0.7**
BTMN	**Batman**	**1.67**	**109**	P	**Pn**	**02 13 29.0**	**-0.7**
BTMN				S	**Sn**	**02 13 50.8**	**-1.1**
ECAT	**Cat-ERZURUM**	**1.75**	**49**	P	**Pb**	**02 13 32.0**	**-0.2**
GZT	**Gaziantep**	**1.75**	**231**	P	**Pn**	**02 13 30.2**	**-0.7**
MUSM	**Mu-Merkez**	**1.77**	**81**	P	**Pn**	**02 13 30.9**	**-0.3**
NZIP	**Nizip/Gaziante**	**1.90**	**222**	P	**Pn**	**02 13 32.5**	**-0.4**
MIDY	**Mardin/Midyat-**	**1.98**	**122**	P	**Pn**	**02 13 33.3**	**-0.7**
BAYT	**Aydıntepe-Bayb**	**2.04**	**19**	Pn	**Pb**	**02 13 35.9**	**-1.4**
GAZ	**Gaziantep**	**2.08**	**232**	Pn	**Pn**	**02 13 35.1**	**-0.3**
KMRS	**Kahramanmaras**	**2.11**	**244**	Pn	**Pn**	**02 13 35.4**	**-0.4**
SRTM	**Siirt_Merkez**	**2.13**	**102**	P	**Pn**	**02 13 35.1**	**-1.0**
SARI	**SarD1z-Kayseri**	**2.25**	**270**	Pn	**Pn**	**02 13 37.8**	**0.0**
SVSK	**Karacayir**	**2.29**	**310**	Pn	**Pn**	**02 13 38.6**	**+0.4**
RSDY	**Resadiye-TOKAT**	**2.46**	**323**	Pn	**Pn**	**02 13 40.9**	**+0.4**
ESPY	**Espiye-Giresun**	**2.49**	**350**	Pn	**Pn**	**02 13 41.4**	**+0.4**
KTUT	**Trabzon**	**2.55**	**8**	Pn	**Pn**	**02 13 42.3**	**+0.5**
BNN	**Bunyan**	**2.72**	**279**	Pn	**Pn**	**02 13 44.5**	**+0.3**
TOKT	**Tokat**	**2.82**	**312**	Pn	**Pn**	**02 13 45.8**	**+0.3**
BRTR	**Keskin Array B**	**4.57**	**288**	Pn	**Pn**	**02 14 11.7**	**+2.0**
	0.3nm,0.3s,baz=110,slow=11,SNR=11						
BRTR				Lg	Lg	02 15 26.7	
	0.1nm,0.3s,baz=105,slow=23,SNR=4.4						
BRTR				LR	LR	02 16 14.2	
	comp=Z,136nm,18.3s,baz=130,slow=43 1.3nm,0.6s						
KBZ	**Khabaz**	**5.93**	**26**	Pn	**Pn**	**02 14 29.3**	**+1.2**
	0.1nm,0.3s,baz=198,slow=9.6,SNR=2.7						
KBZ				LR	LR	02 17 11.9	
	comp=Z,83nm,19.4s,baz=215,slow=43 1.0nm,0.7s						
MMAI	**Mount Meron Ar**	**6.28**	**211**	Pn	**Pn**	**02 14 35.5**	**+2.3**
	0.7nm,0.3s,baz=36,slow=12,SNR=4.5						
MMAI				Lg	Lg	02 16 23.2	
	0.9nm,0.3s,baz=28,slow=25,SNR=2.0 0.6nm,0.4s						
EIL	**Elat**	**9.47**	**204**	LR	LR	02 19 16.8	
	comp=Z,52nm,20.6s,baz=72,slow=39						
MLR	**Muntele Rosu**	**12.15**	**310**	LR	LR	02 21 46.6	
	comp=Z,43nm,19.3s,baz=78,slow=44						
BELG	**Belogornoye**	**15.10**	**20**	LR	LR	02 23 04.8	
	comp=Z,30nm,19.3s,baz=119,slow=40						
FINES	**FINESS Array B**	**24.43**	**345**	P	**P**	**02 18 21.1**	**+2.0**
	1.1nm,0.9s,baz=173,slow=14,SNR=2.1 1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**30.15**	**53**	P	**P**	**02 19 11.7**	**+1.1**
	0.5nm,0.6s,baz=265,slow=8.9,SNR=6.7 0.5nm,0.6s						
MKAR	**Makanchi Array**	**32.38**	**61**	P	**P**	**02 19 31.7**	**+1.3**
	0.2nm,0.6s,baz=281,slow=11,SNR=3.0 0.2nm,0.6s						

---

*NEIC **23** 02:21:32.8±1.1, 21°.97S±0°.08×179°.5W±0°.1, h595km±8km, mb4.4/33, Error ellipse: s-maj=20.0km s-min=11.0km az=73.0*
*IDC **23** 02:21:32.3±2.0, 21°.97S×179°.47W, h591km±20km, mb3.6/6, mbtmp4.6/8, Error ellipse: s-maj=26.6km s-min=20.5km az=55.0*
ISC 23 02:21:32.5±0.7, 22°.06S±0°.09×179°.5W±0°.1, h592km, n56, σ1§02/52, mb4.4/22, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.89**	**331**		**P**	**02 23 03.8**	**-0.4**
MSVF	**Nonsavu**	**4.89**	**331**	P	**P**	**02 23 03.3**	**-0.9**
	109nm,0.4s,baz=184,slow=5.5,SNR=83						
PINNC	**Pines Island,**	**12.10**	**265**	P	**P**	**02 24 13.0**	**+0.7**
DZM	**Mont Dzumac**	**13.04**	**267**	P	**P**	**02 24 22.2**	**+0.2**
DZM	**Mont Dzumac**	**13.04**	**267**	P	**P**	**02 24 22.5**	**+0.6**
	10nm,0.7s,baz=83,slow=19,SNR=8.8						
URZ	**Urewera**	**16.41**	**190**	S	**S**	**02 27 33.4**	**-4.3**
	9.0nm,0.6s,baz=119,slow=23,SNR=7.3						
DSZ	**Denniston Nort**	**20.95**	**198**	P	**P**	**02 25 35.5**	**+0.5**
MQZ	**McQueen's Vall**	**22.55**	**195**	P	**P**	**02 25 51.8**	**+2.6**
WHZ	**Wether Hill Ro**	**25.89**	**200**	P	**P**	**02 26 19.2**	**+0.5**
WHZ				IAmb	IAmb	02 26 37.5	
	comp=Z,25nm,1.3s						
EIDS	**Eidsvold**	**27.12**	**257**	P	**P**	**02 26 29.8**	**0.0**
EIDS				IAmb	IAmb	02 26 30.8	
	comp=Z,7.8nm,0.7s						
ARMA	**Armidale**	**27.15**	**246**	P	**P**	**02 26 31.5**	**+1.3**
ARMA				IAmb	IAmb	02 26 32.2	
	comp=Z,9.2nm,0.8s						
CAN	**Canberra**	**30.50**	**237**	P	**P**	**02 26 59.4**	**+0.5**
CAN				IAmb	IAmb	02 27 01.0	
	comp=Z,11nm,1.1s						
TOO	**Toolangi**	**33.86**	**235**	P	**P**	**02 27 28.0**	**+0.7**
STKA	**Stephens Creek**	**35.87**	**246**		**P**	**02 27 44.4**	**+0.4**
STKA	**Stephens Creek**	**35.87**	**246**	P	**P**	**02 27 44.7**	**+0.6**
	comp=Z,5.9nm,0.5s,baz=95,slow=11,SNR=19 comp=Z,5.9nm,0.5s						
COEN	**Coen**	**36.33**	**276**	P	**P**	**02 27 47.9**	**-0.2**
COEN				IAmb	IAmb	02 28 01.8	
	comp=Z,12nm,1.1s						
BBOO	**Buckleboo**	**40.62**	**245**	P	**P**	**02 28 22.2**	**-0.2**
BBOO				IAmb	IAmb	02 28 22.5	
	comp=Z,6.5nm,0.6s						
AS31	**Alice Springs**	**42.83**	**259**		**P**	**02 28 39.8**	**-0.1**
ASAR	**Alice Springs**	**42.83**	**259**	P	**P**	**02 28 39.2**	**-0.7**
ASAR	**Alice Springs**	**42.83**	**259**	P	**P**	**02 28 39.7**	**-0.2**
	comp=Z,13nm,0.8s,baz=99,slow=8.0,SNR=89 comp=Z,13nm,0.8s						
WR8	**Warramunga Arr**	**42.88**	**264**	P	**P**	**02 28 39.2**	**-1.2**
WB0	**Warramunga Arr**	**43.02**	**264**		**P**	**02 28 40.6**	**-0.8**
WB0				IAmb	IAmb	02 28 41.4	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**43.03**	**264**		**P**	**02 28 40.6**	**-0.9**
WRA	**Warramunga Arr**	**43.03**	**264**	P	**P**	**02 28 40.7**	**-0.9**
	comp=Z,3.4nm,0.4s,baz=95,slow=7.8,SNR=56 comp=Z,3.4nm,0.4s						
FORT	**Forrest**	**47.41**	**248**	P	**P**	**02 29 14.2**	**-0.5**
MTN	**Manton Dam**	**47.81**	**272**	P	**P**	**02 29 16.8**	**-1.1**
MTN				IAmb	IAmb	02 29 25.7	
	comp=Z,30nm,1.4s						
KNRA	**Kununurra**	**49.19**	**268**	P	**P**	**02 29 27.6**	**-0.5**
KNRA				IAmb	IAmb	02 29 31.6	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.46**	**264**	P	**P**	**02 29 44.7**	**+0.2**
PSA00	**Pilbara Seismi**	**55.98**	**258**	P	**P**	**02 30 15.9**	**-0.4**
PSA00				IAmb	IAmb	02 30 16.6	
	comp=Z,14nm,1.1s						
PSA00	**Pilbara Seismi**	**55.98**	**258**	P	**P**	**02 30 15.8**	**-0.6**
MBWA	**Marble Bar**	**56.17**	**259**	P	**P**	**02 30 16.7**	**-0.9**
MBWA				IAmb	IAmb	02 30 17.4	
	comp=Z,13nm,0.6s						
VNDA	**Vanda**	**56.24**	**185**	P	**P**	**02 30 18.0**	**+0.8**
VNDA	**Vanda**	**56.24**	**185**	P	**P**	**02 30 16.9**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=2.7,slow=9.1,SNR=6.2 comp=Z,1.0nm,0.6s						
MORW	**Morawa**	**57.96**	**249**	P	**P**	**02 30 29.3**	**-0.5**
MORW				IAmb	IAmb	02 30 35.5	
	comp=Z,29nm,1.4s						
GIRL	**Giralia**	**60.81**	**256**	P	**P**	**02 30 49.8**	**+1.0**
TOLI2	**Tolitoli**	**62.59**	**283**	P	**P**	**02 31 01.4**	**+1.0**
JAGI	**Jajag, Banyuwa**	**65.00**	**271**	P	**P**	**02 31 14.6**	**-1.1**
QSPA	**South Pole Qui**	**68.02**	**180**	P	**P**	**02 31 34.4**	**+0.9**
QSPA	**South Pole Qui**	**68.02**	**180**	P	**P**	**02 31 34.6**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=289,slow=0.5,SNR=15 comp=Z,3.4nm,0.8s						
SMRI	**Semarang**	**68.94**	**271**	P	**P**	**02 31 38.8**	**-1.1**
PEA0B	**Petropavlovsk-**	**77.43**	**346**	P	**P**	**02 32 27.1**	**-0.2**
PEA0B				IAmb	IAmb	02 32 32.4	
	comp=Z,17nm,1.1s						
PETK	**Petropavlovsk-**	**77.43**	**346**	P	**P**	**02 32 27.3**	**-0.1**
ACHA	**Angle Creek He**	**82.46**	**13**	P	**P**	**02 32 53.3**	**-0.2**
ACHA				IAmb	IAmb	02 32 53.5	
	comp=Z,9.5nm,1.2s						
M16K	**Timber Creek**	**84.44**	**10**	P	**P**	**02 33 03.9**	**+0.8**
M16K				IAmb	IAmb	02 33 13.2	
	comp=Z,23nm,1.4s						
MOBC	**Moresby Island**	**85.45**	**26**	P	**P**	**02 33 07.6**	**-0.7**
L18K	**Granite Mounta**	**85.94**	**10**	P	**P**	**02 33 10.0**	**-0.3**
L18K				IAmb	IAmb	02 33 21.0	
	comp=Z,12nm,1.4s						
CMAR	**Chiang Mai Arr**	**89.33**	**290**	P	**P**	**02 33 28.9**	**+1.7**
	comp=Z,1.7nm,0.3s,baz=123,slow=3.1,SNR=9.2 comp=Z,1.7nm,0.3s						
E62A	**Clayton Lake**	**119.27**	**48**	PKPdf	**PKiKP**	**02 39 15.3**	**0.0**
FINES	**FINESS Array B**	**136.85**	**342**	PKPdf	**PKPdf**	**02 39 46.7**	**-1.3**
HFS	**Hagfors**	**140.83**	**350**	PKhKP	PKPpre	02 39 48.6	
	comp=Z,0.6nm,0.5s,baz=41,slow=2.9,SNR=7.7						
AKASG	**Malin Array Be**	**143.66**	**329**	PKP	PKPbc	02 39 58.5	-1.2
	comp=Z,0.9nm,0.4s,baz=45,slow=4.0,SNR=12						
AKBB	**Malin Array Si**	**143.66**	**329**	PKPbc	PKPbc	02 39 58.6	-1.1
KIEV	**Kiev**	**143.68**	**329**	PKPbc	PKPbc	02 39 58.9	-0.9
ILGA	**Ilgaz**	**146.23**	**312**	PKPbc	**PKPbc**	**02 40 08.1**	**+0.2**
BRTR	**Keskin Array B**	**146.81**	**310**	PKPbc	**PKPdf**	**02 40 07.3**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=108,slow=3.5,SNR=4.6						
MMAI	**Mount Meron Ar**	**147.33**	**297**	PKPbc	**PKPbc**	**02 40 10.9**	**0.0**
	comp=Z,0.6nm,0.4s,baz=111,slow=4.0,SNR=4.3						

---

*ASRS **23** 02:23:49.0±1.3, 53°.89N×90°.23E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 23 02:23:55.8±3.5, 53°.76N×89°.97E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=30.8km s-min=22.3km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.06**	**276**	I	I	02 43 40.0	
	0.1nm,0.9s,baz=92,slow=328,SNR=7.5						
ZALV	**Zalesovo Beam**	**3.06**	**276**	Pn	Pn	02 24 47.0	+1.7
	0.7nm,0.3s,baz=95,slow=12,SNR=16						
ZALV				Lg	Lg	02 25 31.0	
	0.9nm,0.3s,baz=94,slow=24,SNR=8.2 3.7nm,0.5s						
KURBB	**Kurchatov Arra**	**7.70**	**251**	Pn	Pn	02 25 48.8	-0.2
	0.1nm,0.3s,baz=64,slow=14,SNR=7.8						
KURBB				Lg	Lg	02 28 00.9	
	baz=65,slow=33,SNR=4.6 1.1nm,0.6s						
MKAR	**Makanchi Array**	**8.53**	**218**	Pn	Pn	02 26 01.0	+0.5
	0.1nm,0.3s,baz=36,slow=15,SNR=4.1						
MKAR				Sn	Sn	02 27 37.4	0.0
	0.1nm,0.3s,baz=39,slow=26,SNR=7.5						
MKAR				Lg	Lg	02 28 28.1	
	0.2nm,0.3s,baz=19,slow=27,SNR=6.7 0.3nm,0.6s						

WEL 23 02:24:25.8±0.7, 38°S±5°×17°6E±°, h181km±6km, M2.4/14, MLv2.4/14, Error ellipse: s-maj=6.6km s-min=4.8km az=139.3, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	**0.64**	**286**	IAmb	IAmb	02 24 53.1	
	comp=Z,14nm,0.6s						
TOZ	**Tahuroa Road**	**0.64**	**286**	P	Pn	02 24 52.5	+1.2
TOZ	**Tahuroa Road**	**0.64**	**286**	P	Pn	02 24 52.9	+1.6
MUGZ	**Murupara**	**0.68**	**146**	P	Pn	02 24 51.9	+0.4
MUGZ				S	Sn	02 25 12.3	+0.8
TLZ	**Tolley Road**	**0.72**	**234**	S	Sn	02 25 14.2	+2.4
URZ	**Urewera**	**0.74**	**118**	P	Pn	02 24 50.1	-1.7
URZ				S	Sn	02 25 12.6	+0.7
MTHZ	**Maungataniwha**	**1.03**	**155**	P	Pn	02 24 54.4	+0.6
MTHZ				S	Sn	02 25 16.4	+0.7
RAGZ	**Rawiri**	**1.07**	**123**	P	Pn	02 24 54.9	+0.8
RAGZ				S	Sn	02 25 17.3	+1.2
MWZ	**Matawai**	**1.07**	**114**	P	Pn	02 24 51.6	-2.4
MWZ				S	Sn	02 25 16.2	+0.2
RUGZ	**Raukumara Rang**	**1.10**	**93**	P	Pn	02 24 54.3	-0.1
RUGZ				S	Sn	02 25 15.8	-0.8
HAZ	**Te Kaha**	**1.20**	**83**	P	Pn	02 24 55.3	+0.3
HAZ				S	Sn	02 25 17.7	0.0
SNGZ	**Shannon Statio**	**1.20**	**136**	S	Sn	02 25 18.4	+0.4
MKAZ	**Moumakai**	**1.20**	**312**	P	Pn	02 24 54.9	-0.2
NMHZ	**Naumai**	**1.25**	**161**	P	Pn	02 24 56.8	+1.2
NMHZ				S	Sn	02 25 20.1	+1.3
BKZ	**Black Stump Fm**	**1.26**	**173**	P	Pn	02 24 55.9	+0.2
BKZ				S	Sn	02 25 18.7	-0.2
NTVZ	**North Tongarir**	**1.27**	**202**	P	Pn	02 24 54.5	-1.3
TMVZ	**Te Maari**	**1.28**	**200**	P	Pn	02 24 56.1	+0.2
ETVZ	**East Tongariro**	**1.30**	**200**	P	Pn	02 24 56.4	+0.3
WTVZ	**West Tongariro**	**1.32**	**204**	P	Pn	02 24 56.5	+0.3
TWVZ	**Taurewa**	**1.33**	**210**	P	Pn	02 24 56.5	+0.2
OTVZ	**Oturere**	**1.34**	**201**	P	Pn	02 24 56.7	+0.3
SNVZ	**South Ngauruho**	**1.37**	**201**	P	Pn	02 24 56.8	+0.1
SNVZ				S	Sn	02 25 21.1	+0.3
TWGZ	**Tauwhareparae**	**1.37**	**102**	S	Sn	02 25 21.9	+1.5
NGZ	**Ngauruhoe**	**1.37**	**203**	P	Pn	02 24 57.0	+0.3
RIGZ	**Rimuhau**	**1.41**	**125**	P	Pn	02 24 57.9	+0.9
RIGZ				S	Sn	02 25 21.9	+0.8
TUVZ	**Tukino**	**1.44**	**200**	P	Pn	02 24 57.4	+0.1
WIAZ	**Waiheke Island**	**1.45**	**320**	P	Pn	02 24 58.2	+0.9
ARHZ	**Aropaoanui**	**1.46**	**158**	P	Pn	02 24 58.1	+0.7
ARHZ				S	Sn	02 25 22.5	+0.5
WNVZ	**Wahianoa**	**1.51**	**201**	P	Pn	02 24 57.9	-0.1
WNVZ				S	Sn	02 25 23.6	+0.4
KWHZ	**Kaweka Forest**	**1.51**	**176**	P	Pn	02 24 58.3	+0.3
KWHZ				S	Sn	02 25 23.1	+0.1
MCHZ	**McNeill Hill**	**1.56**	**168**	P	Pn	02 24 59.1	+0.7
MCHZ				S	Sn	02 25 24.2	+0.4
MTVZ	**Mangateitei**	**1.60**	**203**	P	Pn	02 24 58.6	-0.2
WMGZ	**Waiomatatini S**	**1.69**	**87**	P	Pn	02 24 59.7	+0.1
WMGZ				S	Sn	02 25 27.4	+1.6
VRZ	**Vera Road**	**1.70**	**224**	P	Pn	02 25 00.0	+0.4
KRHZ	**Kereru**	**1.73**	**178**	P	Pn	02 24 59.8	-0.2
KRHZ				S	Sn	02 25 25.4	-1.4
MHGZ	**Mahia Peninsul**	**1.78**	**135**	P	Pn	02 25 00.6	+0.2
KAHZ	**Kahuranaki**	**1.94**	**166**	P	Pn	02 25 02.1	0.0
KAHZ				S	Sn	02 25 30.0	-0.6
PNHZ	**Pukenui**	**2.00**	**182**	P	Pn	02 25 02.0	-0.8
PRHZ	**Porangahau**	**2.37**	**173**	P	Pn	02 25 05.8	-1.1
DVHZ	**Dannevirke**	**2.38**	**182**	P	Pn	02 25 05.7	-1.4
BFZ	**Birch Farm**	**2.77**	**181**	P	Pn	02 25 09.7	-1.9
MRZ	**Mangatainoka R**	**2.80**	**191**	P	Pn	02 25 09.6	-2.3
TIWZ	**Tintock**	**2.88**	**186**	P	Pn	02 25 10.6	-2.3
OGWZ	**Otaki Gorge**	**3.02**	**196**	P	Pn	02 25 12.1	-2.5
HOWZ	**Holdsworth Sta**	**3.04**	**191**	P	Pn	02 25 12.3	-2.6
KIW	**Kapiti Island**	**3.13**	**199**	P	Pn	02 25 13.1	-2.9
CAW	**Cannon Point**	**3.33**	**196**	P	Pn	02 25 15.5	-2.9
DUWZ	**D'Urville Isla**	**3.42**	**212**	P	Pn	02 25 16.3	-3.2
TRWZ	**Traveller**	**3.51**	**187**	P	Pn	02 25 17.6	-3.1
PAWZ	**Paruwai Farm**	**3.53**	**191**	P	Pn	02 25 17.6	-3.3
MSWZ	**Moikau Station**	**3.59**	**193**	P	Pn	02 25 18.2	-3.5
TCW	**Tory Channel**	**3.64**	**205**	P	Pn	02 25 18.9	-3.3
PLWZ	**Palliser**	**3.74**	**192**	P	Pn	02 25 19.9	-3.7
TUWZ	**Tuamarina**	**3.95**	**206**	P	Pn	02 25 22.7	-3.4

---

*IDC **23** 02:57:02.1±2.1, 5°.90S×130°.51E, h0km, mb4.1/2, mbtmp4.0/5, ML4.1/3, Error ellipse: s-maj=107.8km s-min=25.2km az=78.0*
*NEIC **23** 02:57:19.0±1.2, 6°.52S±0°.08×129°.7E±0°.1, h145km±5km, mb4.1/11, Error ellipse: s-maj=17.8km s-min=10.9km az=93.0*
ISC 23 02:57:18.6±0.8, 6°.63S±0°.07×129°.8E±0°.1, h146km, n25, σ1§78/28, mb3.9/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.04**	**131**	Pn	**Pn**	**02 57 55.1**	**+1.1**
FAKI	**Fak Fak**	**4.45**	**34**		**Pn**	**02 58 23.1**	**-1.6**
MTN	**Manton Dam**	**6.32**	**168**		**Pn**	**02 58 51.6**	**+2.0**
KNRA	**Kununurra**	**9.04**	**186**		**Pn**	**02 59 27.6**	**+1.6**
KNRA					**Sn**	**03 01 03.6**	**-2.7**
FITZ	**Fitzroy Crossi**	**12.08**	**199**	Pn	**Pn**	**03 00 06.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**12.08**	**199**	Pn	**Pn**	**03 00 07.7**	**+1.6**
	1.6nm,0.3s,baz=22,slow=8.7,SNR=38						
FITZ				Sn	**Sn**	**03 02 16.1**	**-3.6**
	1.1nm,0.3s,baz=239,slow=19,SNR=3.8 3.5nm,0.3s						
WB0	**Warramunga Arr**	**13.81**	**161**	Pn	**Pn**	**03 00 26.0**	**-2.4**
WRA	**Warramunga Arr**	**13.96**	**162**	Pn	**Pn**	**03 00 27.8**	**-2.5**
WRA	**Warramunga Arr**	**13.96**	**162**	Pn	**Pn**	**03 00 28.5**	**-1.8**
	0.7nm,0.3s,baz=348,slow=12,SNR=17						
WRA				Sn	Sn	03 02 55.5	-10
	1.8nm,0.3s,baz=346,slow=24,SNR=12 0.7nm,0.3s						
WR8	**Warramunga Arr**	**14.02**	**161**	Pn	**Pn**	**03 00 30.0**	**-1.1**
COEN	**Coen**	**15.07**	**120**		**P**	**03 00 47.1**	**+1.0**
COEN				IAmb	IAmb	03 00 55.0	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**17.40**	**167**	P	**P**	**03 01 12.8**	**+1.0**
ASAR	**Alice Springs**	**17.40**	**167**	P	**Pn**	**03 01 13.6**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=341,slow=10,SNR=22						
ASAR				S	**S**	**03 04 21.7**	**-3.9**
	comp=Z,1.0nm,0.7s,baz=358,slow=26,SNR=4.9 comp=Z,1.1nm,0.5s						
PMG	**Port Moresby**	**17.46**	**100**	P	**Pn**	**03 01 13.1**	**-0.2**
PMG				IAmb	IAmb	03 01 15.9	
	comp=Z,24nm,1.2s						
PSA00	**Pilbara Seismi**	**17.67**	**212**	Pn	**Pn**	**03 01 17.2**	**+1.3**
PSA00				IAmb	IAmb	03 01 24.9	
	comp=Z,24nm,1.3s						
FORT	**Forrest**	**24.07**	**184**	P	**P**	**03 02 21.7**	**+1.2**
FORT				IAmb	IAmb	03 02 22.5	
	comp=Z,8.3nm,0.9s						
DZM	**Mont Dzumac**	**38.58**	**117**	P	**P**	**03 04 28.3**	**+0.6**
MKAR	**Makanchi Array**	**67.78**	**327**	P	**P**	**03 08 01.8**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=118,slow=6.8,SNR=22 comp=Z,1.9nm,0.5s						
ZAA0	**Zalesovo Array**	**71.15**	**334**	P	**P**	**03 08 20.8**	**-0.4**
ZALV	**Zalesovo Beam**	**71.15**	**334**	P	**P**	**03 08 20.9**	**-0.2**
KURBB	**Kurchatov Arra**	**72.07**	**329**	P	**P**	**03 08 25.4**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=128,slow=5.2,SNR=7.8 comp=Z,0.6nm,0

comp=N,0.4nm,0.5s
FINES FINESS Array B 29.93 341 P P 03 05 42.1 -1.0
comp=N,0.8nm,0.4s,baz=148,slow=9.6,SNR=14
comp=N,0.8nm,0.4s
MKAR Makanchi Array 30.21 55 P P 03 05 46.8 +0.9
comp=N,0.1nm,0.4s,baz=251,slow=12,SNR=2.5
comp=N,0.1nm,0.4s
HFS Hagfors 33.17 331 P P 03 06 11.3 -0.3
comp=N,2.4nm,0.5s,baz=132,slow=8.5,SNR=22
comp=N,2.4nm,0.5s
ZALV Zalesovo Beam 33.70 42 P P 03 06 17.1 +0.8
comp=N,0.3nm,0.3s,baz=254,slow=8.6,SNR=2.2
comp=N,0.3nm,0.3s
ARCES ARCESS Array B 37.02 348 P P 03 06 43.9 -0.9
comp=N,3.2nm,0.9s,baz=153,slow=6.1,SNR=28
comp=N,3.2nm,0.9s
EKA Eskdalemuir Ar 39.49 317 P P 03 07 04.8 -1.0
comp=N,0.2nm,0.3s,baz=101,slow=8.2,SNR=4.1
comp=N,0.2nm,0.3s
ESDC Sonseca Array 39.61 293 LR LR 03 24 04.2
comp=N,11nm,19.0s,baz=140,slow=37

---

*UPA **23** 03:04:27.0±1.6, 8°.65N×83°.18W, h10km±4km, MD3.6, MW3.7*
*UCR **23** 03:04:27.3±1.3, 8°.63N×83°.26W, h25km±2km, MW3.6*
ISC 23 03:04:26.9±1.0, 8°.64N±0°.02×83°.22W±0°.02, h17km±2km, n39, σ0°99/60, 2C-12D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIME	**Puerto Jimenez**	**0.15**	**227**	*eP*	**Pb**	**03 04 31.6**	**+0.4**
JIME				*eS*	**Sb**	**03 04 36.3**	**+2.2**
PIRO	**Carate, Puerto**	**0.27**	**207**	⇑*eP*	**Pg**	**03 04 33.0**	**+0.2**
PIRO				*eS*	**Sb**	**03 04 38.0**	**+0.6**
PIRO	**Carate, Puerto**	**0.27**	**207**	⇑*iP*	**Pg**	**03 04 32.8**	**0.0**
PIRO				*i* S	**Sb**	**03 04 37.7**	**+0.3**
NELY	**Ciudad Neily**	**0.27**	**88**	⇓*eP*	**Pb**	**03 04 34.1**	**+0.9**
NELY				*eS*	**Sn**	**03 04 40.2**	**-1.4**
VITO	**San Vito**	**0.30**	**54**	⇓*iP*	**Pb**	**03 04 35.0**	**+1.2**
VITO				*eS*	**Sn**	**03 04 42.0**	**-0.6**
FIMO	**Fila Mora**	**0.37**	**338**	*eP*	**Pg**	**03 04 35.2**	**+0.5**
EDP2	**Potrero Grande**	**0.37**	**6**	⇓*iP*	**Pb**	**03 04 35.6**	**+0.6**
EDP2				*eS*	**Sb**	**03 04 42.9**	**+2.3**
ALCO	**Alturas Coton,**	**0.49**	**51**	⇓*iP*	**Pg**	**03 04 37.2**	**+0.5**
ALCO				*eS*	**Sb**	**03 04 45.8**	**+1.8**
BRU2	**Volcan**	**0.54**	**74**	⇓*iP*	**Pb**	**03 04 38.2**	**+0.3**
BRU2				*eS*	**Sb**	**03 04 47.4**	**+1.9**
BRU2	**Volcan**	**0.54**	**74**	⇓*iP*	**Pb**	**03 04 38.2**	**+0.3**
BRU2				*eS*	**Sb**	**03 04 47.4**	**+1.9**
BURE	**Buenos Aires**	**0.54**	**347**	*eP*	**Pg**	**03 04 38.0**	**+0.2**
BURE				*eS*	**Sb**	**03 04 46.2**	**+0.8**
PTPM	**Petroterminale**	**0.55**	**143**	⇓*eP*	**Pg**	**03 04 37.9**	**+0.1**
PTPM				*i* S	**Sb**	**03 04 45.9**	**+0.4**
PTPM				*i* S	**Sg**	**03 04 46.4**	**+1.2**
BC3P	**Paso Ancho**	**0.62**	**74**	⇓*iP*	**Pg**	**03 04 39.3**	**0.0**
BC3P				*eS*	**Sb**	**03 04 48.5**	**+0.6**
PTAR3	**Potrerillos Ar**	**0.71**	**86**	⇓*iP*	**Pb**	**03 04 40.8**	**-0.1**
PTAR3				*i* S	**Sb**	**03 04 50.5**	**+0.1**
SAJE	**San Jernim**	**0.76**	**337**	*eP*	**Pb**	**03 04 40.7**	**-1.0**
SAJE				*eS*	**Sb**	**03 04 51.4**	**-0.4**
DVD	**David**	**0.78**	**105**	*eP*	**Pb**	**03 04 41.4**	**-0.6**
DVD				*i* S	**Sg**	**03 04 53.0**	**+0.4**
LOMA3	**Las Lomas, Chi**	**0.84**	**104**	*eP*	**Pb**	**03 04 41.4**	**-1.6**
LOMA3				*eS*	**Sb**	**03 04 54.1**	**0.0**
CEUA	**Cerro Uatsi, L**	**1.01**	**16**	*eP*	**Pb**	**03 04 46.4**	**+0.5**
CHGR2	**Aguacate**	**1.10**	**74**	*eP*	**Pb**	**03 04 46.0**	**-1.4**
CHGR2				*eS*	**Sb**	**03 05 01.4**	**0.0**
PISJ	**San Jernim**	**1.33**	**318**	⇓*eP*	**Pn**	**03 04 50.4**	**-0.4**
LCR2	**La Lucha 2**	**1.34**	**325**	*eP*	**Pn**	**03 04 49.8**	**-1.2**
PICV	**PH. Pirrs**	**1.38**	**315**	*eP*	**Pn**	**03 04 50.6**	**-0.7**
PICV				*eS*	**Sb**	**03 05 09.9**	**+0.3**
CVTQ	**Turrialba Volc**	**1.46**	**338**	*eP*	**Pn**	**03 04 52.2**	**-0.6**
ACOS	**Acosta**	**1.48**	**321**	*eS*	**Sb**	**03 05 13.2**	**+0.6**
CVTG	**V. Turrialba,**	**1.59**	**340**	*eP*	**Pn**	**03 04 54.4**	**+0.1**
BELE	**Belen**	**1.64**	**324**	*eP*	**Pn**	**03 04 55.4**	**+0.4**
VBV1	**V. Barva**	**1.70**	**329**	*eP*	**Pn**	**03 04 55.7**	**-0.4**
VBV1				*eS*	**Sn**	**03 05 17.7**	**+0.1**
GMAL	**Guarumal, Vera**	**2.15**	**114**	⇓*eP*	**Pn**	**03 05 02.1**	**+0.2**
GMAL				*i* S	**Sn**	**03 05 28.6**	**+0.5**
SOCE	**Pocosol**	**2.22**	**321**	*eP*	**Pn**	**03 05 04.1**	**+1.3**
JCR1	**Jicaral**	**2.23**	**303**	*eP*	**Pn**	**03 05 03.8**	**+0.8**
ARE1	**Arenal 1**	**2.34**	**321**	*eP*	**Pn**	**03 05 05.8**	**+1.2**
VARE2	**V. Arenal**	**2.34**	**321**	*eP*	**Pn**	**03 05 05.8**	**+1.2**
CALO3	**Calobre, Verag**	**2.37**	**98**	*eP*	**Pn**	**03 05 06.9**	**+2.0**
JTS	**Las Juntas de**	**2.37**	**314**	*eP*	**Pn**	**03 05 05.5**	**+0.5**
JTS	**Las Juntas de**	**2.37**	**314**	⇓*eP*	**Pn**	**03 05 05.8**	**+0.8**
CACAO	**El Cacao, Vera**	**2.66**	**119**	*eP*	**Pn**	**03 05 10.8**	**+1.8**
CHIT3	**Chitre**	**2.85**	**104**	*eP*	**Pn**	**03 05 10.1**	**-1.4**
PNME	**Penonome**	**2.86**	**93**	*eP*	**Pn**	**03 05 11.9**	**+0.2**
BCIP	**Isla Barro Col**	**3.38**	**81**	*eP*	**Pn**	**03 05 19.7**	**+0.9**

---

*CATAC **23** 03:06:53.4±0.5, 12°.N±3°.×8°.8W±°., h36km±4km, M3.1/18, MLv3.1/18, Error ellipse: s-maj=8.1km s-min=3.1km az=33.0, confirmed*
*SNET **23** 03:06:54.4±0.7, 12°.44N×87°.88W, h25km±12km, ML3.4*
ISC 23 03:06:53.1±1.6, 12°.4N±0°.1×87°.70W±0°.07, h65km±21km, n34, σ0°45/45, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.59**	**13**	P	**Pn**	**03 07 06.2**	**-0.3**
CSGN				S	**Sn**	**03 07 16.2**	**-0.1**
POTN	**Potosi Cosigui**	**0.62**	**17**	P	**Pn**	**03 07 06.7**	**-0.1**
POTN				S	**Sn**	**03 07 16.8**	**-0.1**
CRIN	**San Cristobal**	**0.70**	**65**	P	**Pn**	**03 07 08.2**	**+0.5**
CRIN	**San Cristobal**	**0.70**	**65**	S	**Sn**	**03 07 19.9**	**+1.4**
QUEN	**Al S del Volca**	**0.85**	**77**	P	**Pn**	**03 07 09.4**	**-0.1**
HERN	**Volcan Telica**	**0.87**	**76**	P	**Pn**	**03 07 09.7**	**-0.1**
CNCH	**Conchagua**	**0.88**	**351**	*eP*	**Pn**	**03 07 10.0**	**0.0**
CNCH				*eS*	**Sn**	**03 07 22.2**	**-0.2**
CNCH				IAML		03 07 25.4	
	comp=Z,1μm,0.2s						
CNCH	**Conchagua**	**0.88**	**351**	P	**Pn**	**03 07 10.0**	**0.0**
POLN	**Al Sur del Vol**	**0.90**	**74**	P	**Pn**	**03 07 09.9**	**-0.1**
POLN				S	**Sn**	**03 07 22.6**	**0.0**
PLRN	**Geotermica Pol**	**0.93**	**79**	P	**Pn**	**03 07 09.1**	**-1.3**
PLRN				S	**Sn**	**03 07 21.9**	**-1.3**
CNGA	**Al SSO del Vol**	**0.98**	**84**	P	**Pn**	**03 07 11.0**	**-0.1**
CNGN	**Cerro Negro**	**0.98**	**84**	P	**Pn**	**03 07 11.0**	**-0.1**
ILCN	**San Idelfonso**	**0.99**	**80**	P	**Pn**	**03 07 11.1**	**-0.1**
ILCN				S	**Sn**	**03 07 24.7**	**0.0**
LEVN	**Ruinas Leon Vi**	**1.06**	**90**	P	**Pn**	**03 07 11.9**	**-0.1**
LEVN				S	**Sn**	**03 07 26.3**	**+0.2**
COPN	**Copaltepe**	**1.10**	**101**	P	**Pn**	**03 07 12.5**	**-0.2**
MOMN	**Momotombo**	**1.13**	**89**	P	**Pn**	**03 07 12.9**	**-0.1**
MOMN				S	**Sn**	**03 07 27.7**	**-0.2**
RANC	**El Ranchito**	**1.18**	**331**	*eP*	**Pn**	**03 07 14.0**	**+0.2**
RANC	**El Ranchito**	**1.18**	**331**	P	**Pn**	**03 07 14.1**	**+0.2**
CHOHN	**Orocuina**	**1.20**	**26**	P	**Pn**	**03 07 13.9**	**-0.1**
CHOHN	**Orocuina**	**1.20**	**26**	S	**Sn**	**03 07 29.6**	**0.0**
PACA	**Pacayal**	**1.23**	**330**	*eP*	**Pn**	**03 07 14.9**	**+0.5**
PACA				*eS*	**Sn**	**03 07 30.5**	**+0.2**
PACA	**Pacayal**	**1.23**	**330**	P	**Pn**	**03 07 14.7**	**+0.3**
SAPS	**Ciudad Sandino**	**1.28**	**100**	P	**Pn**	**03 07 15.3**	**+0.3**
SAPS	**Ciudad Sandino**	**1.28**	**100**	S	**Sn**	**03 07 31.6**	**+0.1**
TISN	**Laguna Tiscapa**	**1.42**	**100**	P	**Pn**	**03 07 16.9**	**0.0**
UNAN	**Cigeo UNAN**	**1.42**	**102**	P	**Pn**	**03 07 17.6**	**+0.8**
UNAN				S	**Sn**	**03 07 34.8**	**0.0**
R4DEC	**Barrio San Lui**	**1.44**	**100**	P	**Pn**	**03 07 16.3**	**-0.8**
R4DEC	**Barrio San Lui**	**1.44**	**100**	S	**Sn**	**03 07 35.6**	**+0.5**
LIMN	**Finca el Limon**	**1.46**	**63**	P	**Pn**	**03 07 17.6**	**+0.2**
MAS3	**Al N del Volca**	**1.53**	**104**	P	**Pn**	**03 07 18.4**	**+0.1**
MAS3				S	**Sn**	**03 07 37.5**	**+0.1**
TECO	**Alcaldia de Te**	**1.55**	**317**	*eP*	**Pn**	**03 07 18.7**	**+0.1**
TECO	**Alcaldia de Te**	**1.55**	**317**	P	**Pn**	**03 07 18.5**	**0.0**
TECO	**Alcaldia de Te**	**1.55**	**317**	S	**Sn**	**03 07 37.5**	**-0.3**
COEG	**Centro de Oper**	**1.67**	**317**	*eP*	**Pn**	**03 07 19.8**	**-0.5**

---

*IDC **23** 03:11:13.1±3.1, 15°.21S×69°.84W, h119km±41km, mb2.8/2, mbtmp3.4/3, Error ellipse: s-maj=121.6km s-min=38.4km az=19.0*
ISC 23 03:11:04.9±5.0, 15°.S±1°.×69°.7W±0°.6, h35km, n6, σ0°01/4, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.03**	**133**	P	Pn	03 11 46.7	+9.5
	14nm,0.3s,baz=302,slow=5.4,SNR=109						
SIV	**San Ignacio**	**8.37**	**99**	P	Pn	03 13 13.2	+9.4
	6.2nm,0.5s,baz=274,slow=9.8,SNR=38						
TXAR	**Lajitas Array**	**54.87**	**323**	P	**P**	**03 20 32.2**	**0.0**
	0.1nm,0.5s,baz=120,slow=4.7,SNR=1.5						
	0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**75.93**	**72**	P	**P**	**03 22 48.7**	**0.0**
	47nm,0.3s,baz=260,slow=5.6,SNR=1.4						
YKA	**Yellowknife Ar**	**84.75**	**341**	P	**P**	**03 23 35.0**	**0.0**
	0.3nm,0.8s,baz=136,slow=4.8,SNR=6.0						
	0.3nm,0.8s						
SONM	**Songino Array**	**146.99**	**5**	PKPbc	**PKPdf**	**03 30 42.1**	**0.0**
	0.6nm,0.5s,baz=339,slow=1.3,SNR=5.0						

---

*MEX **23** 03:11:57.8±0.4, 32°.12N×115°.22W, h5km±2km, MD2.9*
*ECX **23** 03:11:57.1±0.6, 32°.15N×115°.20W, h11km±3km, MD2.7, ML2.9*
ISC 23 03:11:57.7±0.9, 32°.14N±0°.03×115°.22W±0°.03, h19km±6km, n19, σ0°95/27, 7C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHX	**Rio Hardy**	**0.06**	**263**	⇑*iP*	**Pg**	**03 12 01.0**	**-0.1**
RHX				*i* S	**Sg**	**03 12 02.8**	**-0.6**
RHX				*eS*		03 12 02.9	
GUVIX	**Guadalupe Vict**	**0.20**	**37**	*eP*	**Pb**	**03 12 03.0**	**+0.8**
GUVIX				*eS*	**Sg**	**03 12 06.8**	**+0.7**
RITX	**Riito Sonora**	**0.22**	**84**	*iP*	**Pb**	**03 12 03.2**	**+0.6**
RITX				*i* S	**Sg**	**03 12 07.1**	**+0.5**
MBIG	**Mexicali**	**0.27**	**4**	*eP*	**Pb**	**03 12 04.5**	**+0.8**
MBIG				*eS*	**Sb**	**03 12 10.1**	**+2.3**
MBIG	**Mexicali**	**0.27**	**4**	*eP*	**Pb**	**03 12 04.4**	**+0.6**
CPBX	**Cerro Prieto**	**0.29**	**345**	*eP*	**Pb**	**03 12 04.7**	**+0.5**
CPBX				*eS*	**Sb**	**03 12 09.9**	**+1.3**
CPBX				IAML		03 12 12.2	
	comp=E,5μm,0.1s						
PESCX	**Ej. Pescaderos**	**0.36**	**36**	*eP*	**Pb**	**03 12 05.5**	**-0.2**
ALAMX	**Rancho Alamar**	**0.44**	**252**	⇑*eP*	**Pb**	**03 12 07.8**	**+0.9**
ALAMX				IAML		03 12 15.6	
	comp=N,1μm,0.3s						
ALAMX				*e*		03 12 15.6	
ALAMX				IAML		03 12 15.8	
	comp=E,1μm,0.2s						
ALAMX				⇑*e*		03 12 15.8	
JARAX	**Ej. Heriberto**	**0.50**	**322**	⇑*eP*	**Pb**	**03 12 08.4**	**+0.5**
JARAX				*e*		03 12 21.0	
JARAX				IAML		03 12 21.0	
	comp=E,1μm,0.4s						
EMSC	**East Mesa**	**0.63**	**18**	*eP*	**Pb**	**03 12 09.9**	**-0.1**
SJX	**San Joaquin**	**0.73**	**239**	⇑*iP*	**Pg**	**03 12 11.3**	**-0.9**
YUH2	**Yuha Desert**	**0.78**	**310**	*eP*	**Pg**	**03 12 12.5**	**-0.5**
RMX	**La Rumorosa**	**0.86**	**302**	*eP*	**Pg**	**03 12 13.7**	**-0.9**
RMX				*eS*	**Sg**	**03 12 24.4**	**-1.6**
RMX				IAML		03 12 25.0	
	comp=N,135nm,0.2s						
RMX				⇑*e*		03 12 25.0	
RMX				⇑*e*		03 12 25.5	
RMX				IAML		03 12 25.5	
	comp=E,165nm,0.2s						
IKP	**In-Ko-Pah, Jac**	**0.91**	**304**	*eP*	**Pg**	**03 12 14.8**	**-0.7**
GLA	**Glamis**	**0.96**	**20**	*eP*	**Pg**	**03 12 14.6**	**-1.9**
SPIG	**San Pedro Mart**	**1.11**	**191**	*eP*	**Pb**	**03 12 18.2**	**-0.3**
SPIG				*eS*	**Sn**	**03 12 34.4**	**+0.7**
CBX	**Cerro Bola**	**1.24**	**278**	*eP*	**Pn**	**03 12 20.3**	**+0.1**
TJIG	**Tijuana**	**1.27**	**284**	*eP*	**Pn**	**03 12 20.5**	**0.0**
TJIG				*eS*	**Sb**	**03 12 36.8**	**-0.2**
BAR	**Barrett**	**1.34**	**294**	*eP*	**Pn**	**03 12 21.2**	**-0.3**

---

*IDC **23** 03:24:00.4±1.8, 32°.77N×115°.64W, h0km, mb3.3/1, mbtmp2.8/6, ML3.0/5, MS2.5/4, Error ellipse: s-maj=26.6km s-min=9.3km az=35.0*
*NEIC **23** 03:24:02.9±3.0, 32°.910N±0°.009×115°.53W±0°.01, h10km±1km, Error ellipse: s-maj=2.9km s-min=1.6km az=223.0*
*PAS **23** 03:24:03.1±2.5, 32°.904N±0°.007×115°.51W±0°.01, h17km±3km, Mwr3.7/4, ML3.7/30(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=110.0*
*ECX **23** 03:24:03.6±0.7, 32°.89N×115°.52W, h17km±2km, MD3.5, ML3.7, Fault plane solution: NP1.φs149.00000°, δ74.00000°, λ137.00000°.*
*CATAC **23** 03:24:03.2±0.7, 33°.N±4°.×11°.6W±°., h7km±3km, M4.0/9, MLv4.0/9, Error ellipse: s-maj=9.7km s-min=4.1km az=11.7, confirmed*
ISC 23 03:24:03.5±0.7, 32°.90N±0°.01×115°.53W±0°.01, h19km±4km, n163, σ1°04/212, 9C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMPE	**Imperial**	**0.03**	**272**		**Pg**	**03 24 06.8**	**0.0**
SNR	**Schaffner Ranc**	**0.09**	**116**		**Pg**	**03 24 07.9**	**+0.7**
DREC	**Desert Rsrch C**	**0.12**	**144**		**Pb**	**03 24 06.1**	**+1.2**
DREC	**Desert Rsrch C**	**0.12**	**144**	⇑*iP*	**Pb**	**03 24 06.1**	**+1.2**
DREC				*eS*	**Sg**	**03 24 09.6**	**-0.6**
WEMD	**Westmorland, C**	**0.14**	**342**		**Pg**	**03 24 07.1**	**-0.8**
WEMD					**Sg**	**03 24 10.8**	**+0.1**
WEMD	**Westmorland, C**	**0.14**	**342**	⇑*iP*	**Pg**	**03 24 07.1**	**-0.8**
COK2	**Cook Ranch 2**	**0.17**	**253**		**Pb**	**03 24 07.7**	**+0.5**
COK2					**Sg**	**03 24 11.5**	**+0.1**
COK2	**Cook Ranch 2**	**0.17**	**253**	⇑*iP*	**Pb**	**03 24 07.7**	**+0.5**
COK2				*i* S	**Sg**	**03 24 11.5**	**+0.1**
WESC	**Westside Schoo**	**0.22**	**230**		**Pb**	**03 24 08.3**	**-0.1**
WESC					**Sg**	**03 24 12.8**	**+0.3**
WESC	**Westside Schoo**	**0.22**	**230**	⇑*eP*	**Pb**	**03 24 08.3**	**-0.1**
CLI2	**Calipatria 2**	**0.22**	**349**		**Pb**	**03 24 08.7**	**+0.1**
CLI2					**Sg**	**03 24 13.8**	**+1.1**
5053	**Calexico**	**0.23**	**172**		**Pb**	**03 24 08.4**	**-0.4**
5053					**Sg**	**03 24 13.1**	**+0.2**
ICBC	**Inst. de Cultu**	**0.24**	**168**	*eP*	**Pb**	**03 24 08.5**	**-0.5**
5054	**Holtville Bond**	**0.26**	**142**		**Pb**	**03 24 08.9**	**-0.6**
5054					**Sg**	**03 24 14.0**	**+0.4**
CEA0	**Mexicali**	**0.27**	**205**	*eP*	**Pb**	**03 24 08.8**	**-1.0**
CEA0				*eS*	**Sb**	**03 24 13.5**	**-0.4**
UABX	**UABC, Campus M**	**0.28**	**164**		**Pg**	**03 24 09.4**	**-0.4**
UABX					**Sg**	**03 24 14.5**	**+0.4**
UABX	**UABC, Campus M**	**0.28**	**164**	*eP*	**Pg**	**03 24 09.3**	**-0.5**
UABX	**UABC, Campus M**	**0.28**	**164**	P	**Pg**	**03 24 09.3**	**-0.5**
UABX	**UABC, Campus M**	**0.28**	**164**	S	**Sg**	**03 24 14.4**	**+0.3**
POT2	**Potabilizadora**	**0.30**	**156**	*eP*	**Pg**	**03 24 09.1**	**-1.0**
POT2				*eP*	**Pb**	**03 24 09.6**	**-0.6**
SGL	**Mount Signal**	**0.30**	**213**		**Pg**	**03 24 09.2**	**-1.0**
SGL	**Mount Signal**	**0.30**	**213**	⇓*iP*	**Pg**	**03 24 09.2**	**-1.0**
SGL				*i* S	**Sg**	**03 24 13.7**	**-0.9**
ERRC	**Elmore Ranch**	**0.33**	**311**		**Pg**	**03 24 10.7**	**+0.1**
ERRC					**Sb**	**03 24 16.7**	**+1.0**
COA	**Coachella**	**0.34**	**96**		**Pg**	**03 24 10.0**	**-0.9**
COA					**Sg**	**03 24 15.8**	**-0.1**
COA	**Coachella**	**0.34**	**96**	⇑*iP*	**Pg**	**03 24 10.0**	**-0.9**
COA				*i* S	**Sg**	**03 24 15.8**	**-0.1**
JARAX	**Ej. Heriberto**	**0.36**	**187**	*eP*	**Pg**	**03 24 10.1**	**-1.2**
CRR	**Carrizo Plain**	**0.37**	**268**		**Pg**	**03 24 10.8**	**-0.5**
CRR					**Sg**	**03 24 16.0**	**-0.6**
CRR	**Carrizo Plain**	**0.37**	**268**	⇑*iP*	**Pg**	**03 24 10.8**	**-0.5**
SLVP	**Salvation Pass**	**0.39**	**29**		**Pg**	**03 24 10.5**	**-1.2**
SLVP					**Sg**	**03 24 15.9**	**-1.3**
YUH	**Yuha Desert**	**0.42**	**233**		**Pg**	**03 24 11.1**	**-1.1**
YUH				Sg	**Sg**	**03 24 17.1**	**-0.9**
YUH2	**Yuha Desert**	**0.42**	**233**	⇓*eP*	**Pg**	**03 24 11.3**	**-0.9**
RUN	**Ruthven**	**0.47**	**81**		**Pg**	**03 24 11.7**	**-1.4**
RUN					**Sg**	**03 24 18.3**	**-1.3**
5271	**Bombay Beach**	**0.48**	**339**		**Pg**	**03 24 12.8**	**-0.5**
EMSC	**East Mesa**	**0.49**	**109**		**Pg**	**03 24 12.5**	**-0.9**
EMSC					**Sb**	**03 24 20.2**	**0.0**
EMSC	**East Mesa**	**0.49**	**109**	⇑*eP*	**Pg**	**03 24 12.4**	**-0.9**
BOMB	**Bombay Beach**	**0.49**	**340**		**Pg**	**03 24 12.9**	**-0.6**
BOMB					**Sb**	**03 24 21.4**	**+1.0**
FRK	**Frink**	**0.51**	**350**		**Pb**	**03 24 12.7**	**-1.1**
FRK					**Sb**	**03 24 21.5**	**+0.6**
CPBX	**Cerro Prieto**	**0.52**	**158**		**Pb**	**03 24 13.0**	**-1.0**
CPBX	**Cerro Prieto**	**0.52**	**158**		**Sb**	**03 24 21.4**	**+0.4**
CPBX	**Cerro Prieto**	**0.52**	**158**	*eP*	**Pb**	**03 24 12.9**	**-1.0**
CPBX	**Cerro Prieto**	**0.52**	**158**	P	**Pb**	**03 24 13.1**	**-0.8**
CPBX	**Cerro Prieto**	**0.52**	**158**	S	**Sg**	**03 24 20.9**	**-0.1**
SALN	**Salton City**	**0.54**	**315**		**Pb**	**03 24 14.0**	**-0.3**
SALN					**Sg**	**03 24 22.5**	**+0.9**
IKP	**In-Ko-Pah, Jac**	**0.55**	**243**		**Pb**	**03 24 13.8**	**-0.7**
IKP					**Sg**	**03 24 22.4**	**+0.4**
IKP	**In-Ko-Pah, Jac**	**0.55**	**243**	⇑*eP*	**Pb**	**03 24 13.8**	**-0.7**
RMX	**La Rumorosa**	**0.55**	**237**		**Pb**	**03 24 13.7**	**-0.9**
RMX					**Sb**	**03 24 21.1**	**-0.9**
RMX	**La Rumorosa**	**0.55**	**237**	⇓*eP*	**Pb**	**03 24 13.6**	**-0.9**
MBIG	**Mexicali**	**0.57**	**150**	*eP*	**Pb**	**03 24 14.2**	**-0.6**
MBIG				*eS*	**Sg**	**03 24 23.6**	**+1.2**
GLA	**Glamis**	**0.61**	**76**		**Pb**	**03 24 14.1**	**-1.4**
GLA				IAML		03 24 22.7	
	comp=E,9μm,0.4s						
GLA	**Glamis**	**0.61**	**76**		**Sb**	**03 24 22.1**	**-1.6**
GLA	**Glamis**	**0.61**	**76**	*eP*	**Pb**	**03 24 14.1**	**-1.4**
PESCX	**Ej. Pescaderos**	**0.67**	**134**		**Pb**	**03 24 15.5**	**-1.0**
PESCX					**Sg**	**03 24 26.5**	**+0.8**
PESCX	**Ej. Pescaderos**	**0.67**	**134**	*eP*	**Pb**	**03 24 15.5**	**-1.0**
SLH	**Sleepy Hollow**	**0.67**	**296**		**Pb**	**03 24 16.0**	**-0.7**
SLH					**Sg**	**03 24 26.5**	**+0.6**
GUVIX	**Guadalupe Vict**	**0.71**	**147**		**Pb**	**03 24 16.7**	**-0.5**
GUVIX					**Sg**	**03 24 27.9**	**+0.9**
GUVIX	**Guadalupe Vict**	**0.71**	**147**	*e*		03 24 36.2	
GUVIX				IAML		03 24 36.2	
	comp=N,8μm,0.6s						
GUVIX				IAML		03 24 42.0	
	comp=E,9μm,0.5s						
GUVIX				*e*		03 24 42.0	
GUVIX	**Guadalupe Vict**	**0.71**	**147**	P	**Pb**	**03 24 16.7**	**-0.5**
GUVIX	**Guadalupe Vict**	**0.71**	**147**	S	**Sg**	**03 24 27.3**	**+0.4**
MONP2	**Monument Peak**	**0.75**	**270**		**Pb**	**03 24 17.4**	**-0.8**
MONP2					**Sb**	**03 24 28.0**	**-0.1**
MONP2	**Monument Peak**	**0.75**	**270**	*eP*	**Pb**	**03 24 17.4**	**-0.8**
MONP2				*eS*	**Sb**	**03 24 27.8**	**-0.3**
BC3	**Big Chuckawall**	**0.76**	**5**		**Pb**	**03 24 17.3**	**-0.9**
BC3					**Sb**	**03 24 27.9**	**-0.2**
RHX	**Rio Hardy**	**0.79**	**165**	*eP*	**Pb**	**03 24 16.9**	**-1.8**
RHX				IAML		03 24 30.4	
	comp=N,1μm,0.4s						
RHX				⇑*e*		03 24 30.4	
HAY	**Hayfield**	**0.81**	**351**		**Pb**	**03 24 18.0**	**-1.2**
HAY					**Sb**	**03 24 29.3**	**-0.4**
CTW	**Cottonwood Mou**	**0.83**	**340**		**Pb**	**03 24 17.9**	**-1.4**
CTW					**Sb**	**03 24 30.3**	**+0.2**
BORC	**Borrego Spring**	**0.83**	**296**		**Pb**	**03 24 18.1**	**-1.2**
BORC					**Sb**	**03 24 30.4**	**+0.2**
CTCC	**Cactus City**	**0.85**	**333**		**Pb**	**03 24 18.4**	**-1.2**
CTCC					**Sb**	**03 24 31.1**	**+0.4**
ALAMX	**Rancho Alamar**	**0.90**	**190**	⇓*iP*	**Pb**	**03 24 19.5**	**-1.1**
ALAMX				*eS*	**Sb**	**03 24 31.9**	**-0.4**
ALAMX				⇓*e*		03 24 34.5	
ALAMX				IAML		03 24 34.5	
	comp=N,3μm,0.3s						
ALAMX				*e*		03 24 34.6	
ALAMX				IAML		03 24 34.6	
	comp=E,3μm,0.2s						
JUEM	**Julian Eagle M**	**0.92**	**282**		**Pb**	**03 24 19.8**	**-1.1**
JUEM					**Sb**	**03 24 32.9**	**+0.2**
ESJX	**Sierra Juarez**	**0.96**	**202**		**Pb**	**03 24 20.4**	**-1.3**
ESJX				IAML		03 24 34.2	
	comp=E,2μm,0.3s						
ESJX				IAML		03 24 35.2	
	comp=N,1μm,0.2s						
ESJX	**Sierra Juarez**	**0.96**	**202**	P	**Pb**	**03 24 20.6**	**-1.1**
ESJX	**Sierra Juarez**	**0.96**	**202**	S	**Sb**	**03 24 33.6**	**-0.4**
TKX	**Tecate**	**0.97**	**250**		**Pb**	**03 24 20.6**	**-1.1**
TKX				IAML		03 24 34.5	
	comp=E,3μm,0.2s						
TKX				IAML		03 24 35.3	
	comp=N,4μm,0.5s						
TKX	**Tecate**	**0.97**	**250**		**Sb**	**03 24 34.0**	**-0.1**
TKX	**Tecate**	**0.97**	**250**	P	**Pb**	**03 24 21.1**	**-0.6**
TKX	**Tecate**	**0.

BCW	Bitter Crk WRg	3.82	303	Pn		Pn	03 25 01.8 +0.5
TUC	Tucson	4.05	97			Pn	03 25 02.8 -1.7
TUC	Tucson	4.05	97	IAML			03 26 30.4
	comp=E,59nm,0.9s						
TUC	Tucson	4.05	97	eP		Pn	03 25 02.6 -1.9
TPNV	Topopah Spring	4.08	352			Pn	03 25 04.7 -0.4
WUAZ	Wupatki	4.32	52			Pn	03 25 08.0 -0.4
U15A	North Rim	4.42	36			Pn	03 25 10.3 +0.5
PRN	Pahroc Range	4.51	5	Pn		Pn	03 25 10.6 -0.4
DSP	Deep Springs	4.89	337	Pn		Pn	03 25 16.2 +0.3
PKCU	Pink Cliffs	5.24	29	Pn		Pn	03 25 21.1 0.0
R11B	Troy Canyon, C	5.44	360	Pn		Pn	03 25 23.5 -0.2
DUN6	Lazy B Ranch	5.44	92			Pn	03 25 22.9 -0.8
319A	Douglas	5.51	104	Pn		Pn	03 25 24.0 -0.7
NVAR	Mina Array Bea	5.96	339	Pn		Pn	03 25 33.5 +2.5
	comp=E,0.1nm,0.3s,baz=145,slow=12,SNR=1.8						
	comp=E,0.2nm,0.6s						
SPR3	Spring Creek 3	6.16	9			Pn	03 25 32.9 -0.9
MSU	Marysvale	6.23	25	Pn		Pn	03 25 35.4 +0.8
PNTR	Pine Nut	7.00	333	Pn		Pn	03 25 45.8 +0.6
MVCO	Mesa Verde	7.19	51	Pn		Pn	03 25 47.1 -0.7
DUG	Dugway, Tooele	7.60	16	Pn		Pn	03 25 53.5 +0.1
ANMO	Albuquerque	7.81	72	Pn		Pn	03 25 55.1 -1.3
ANMO	Albuquerque	7.81	72	Pn		Pn	03 25 58.6 +2.3
	comp=E,0.1nm,0.3s,baz=49,slow=11,SNR=3.9						
ANMO				Lg		Lg	03 28 06.5
	comp=E,0.4nm,0.3s,baz=158,slow=23,SNR=3.7						
ANMO				LR		LR	03 28 37.0
	comp=E,30nm,21.3s,baz=64,slow=35						
	comp=E,0.2nm,0.3s						
ELK	Elko	7.83	2	Pn		Pn	03 25 59.6 +3.0
	baz=189,slow=19,SNR=1.4						
ELK				Lg		Lg	03 28 11.7
	comp=E,0.1nm,0.3s,baz=325,slow=7.3,SNR=6.3						
	comp=E,0.2nm,0.3s						
YBH	Yreka Blue Hor	10.50	329	LR		LR	03 30 58.4
	comp=E,22nm,19.7s,baz=93,slow=40						
TX31	Lajitas Ar. Si	10.77	106	Pn		Pn	03 26 37.5 +0.6
TXAR	Lajitas Array	10.77	106	Pn		Pn	03 26 37.1 +0.3
	comp=E,0.1nm,0.3s,baz=290,slow=15,SNR=6.7						
TXAR				Lg		Lg	03 29 44.5
	comp=E,0.1nm,0.3s,baz=304,slow=33,SNR=3.8						
TXAR				LR		LR	03 30 46.0
	comp=E,24nm,22.0s,baz=268,slow=38						
	comp=E,0.1nm,0.4s						
PDAR	Pinedale Array	10.92	24	Pn		Pn	03 26 42.6 +3.7
	baz=228,slow=18,SNR=4.0						
	comp=E,0.1nm,0.4s						
TKL	Tuckaleechee C	26.33	75	LR		LR	03 38 52.2
	comp=E,14nm,21.5s,baz=333,slow=34						
ILAR	Eielson Array	37.22	338	P		P	03 31 15.7 +2.3
	comp=E,0.4nm,0.8s,baz=140,slow=8.9,SNR=5.2						
	comp=E,0.4nm,0.8s						

*IDC **23** 03:28:05.3±23.0, 24°.15S×179°.48W, h474km±229km, mb3.4/6, mbtmp4.2/6, Error ellipse: s-maj=138.0km s-min=25.4km az=54.0*
*NEIC **23** 03:28:08.9±1.1, 24°.3S±0°.2×179°.6W±0°.1, h505km±12km, mb4.3/20, Error ellipse: s-maj=30.2km s-min=9.3km az=202.0*

ISC 23 03:28:09.2±1.1, 24°.6S±0°.1×179°.8W±0°.1, h500km, n52, σ1§34/60, mb4.3/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	4.96	161	P	P	03 29 37.3	+1.6
GLKZ	Green Lake	4.98	161	P	P	03 29 35.5	-0.3
GLKZ				S	S	03 30 44.7	-2.0
NIUE	Niue	10.63	61	P	P	03 30 39.6	+6.3
NIUE				S	S	03 32 37.8	+5.8
HAZ	Te Kaha	13.33	188	P	P	03 31 02.3	+0.7
HAZ				S	S	03 33 22.4	-1.5
PUZ	Puketiti	13.59	187	P	P	03 31 05.8	+1.4
PUZ				S	S	03 33 28.3	-0.6
URZ	Urewera	13.93	190	S	S	03 33 35.5	+0.2
	18nm,0.6s,baz=146,slow=21,SNR=13						
URZ	Urewera	13.93	190	P	P	03 31 08.0	+0.1
URZ				S	S	03 33 29.5	-5.8
MWZ	Matawai	13.94	189	P	P	03 31 09.9	+1.8
MWZ				S	S	03 33 36.5	+0.9
TMVZ	Te Maari	15.02	194	P	P	03 31 21.9	+2.3
TWVZ	Taurewa	15.04	195	P	P	03 31 21.5	+1.8
ETVZ	East Tongariro	15.04	194	P	P	03 31 21.5	+1.7
ETVZ				S	S	03 33 55.8	-1.1
OTVZ	Oturere	15.08	194	P	P	03 31 21.5	+1.3
OTVZ				S	S	03 33 55.9	-1.8
NGZ	Ngauruhoe	15.10	194	P	P	03 31 21.9	+1.5
SNVZ	South Ngauruho	15.11	194	P	P	03 31 21.6	+1.1
KWHZ	Kaweka Forest	15.18	191	P	P	03 31 21.4	+0.3
KWHZ				S	S	03 33 55.1	-4.4
WNVZ	Wahianoa	15.25	194	P	P	03 31 22.5	+0.6
WNVZ				S	S	03 34 01.4	+0.5
KAHZ	Kahuranaki	15.46	190	P	P	03 31 24.9	+0.8
KAHZ				S	S	03 34 02.4	-2.5
QRZ	Quartz Range	17.47	200	P	P	03 31 44.5	0.0
THZ	Tophouse	18.22	198	P	P	03 31 50.1	-1.3
THZ				S	S	03 34 49.0	-3.7
DSZ	Denniston Nort	18.53	200	P	P	03 31 53.6	-0.7
LTZ	Lake Taylor	19.34	198	P	P	03 32 01.4	-0.2
MQZ	McQueen's Vall	20.10	196	P	P	03 32 08.9	+0.5
RPZ	Rata Peaks	20.55	199	P	P	03 32 13.6	+1.0
JCZ	Jackson Bay	21.61	203	P	P	03 32 21.3	-1.0
ARMA	Armidale	26.00	251	P	P	03 33 01.6	-0.1
ARMA				IAmb	IAmb	03 33 06.3	
	comp=Z,16nm,1.3s						
EIDS	Eidsvold	26.42	262	P	P	03 33 05.4	+0.1
EIDS				IAmb	IAmb	03 33 18.4	
	comp=Z,16nm,1.2s						
TOO	Toolangi	32.28	238	P	P	03 33 57.1	+1.0
TAU	Tasmania Unive	32.66	228	P	P	03 33 58.7	-0.4
STKA	Stephens Creek	34.69	249	P	P	03 34 17.7	+1.3
STKA				IAmb	IAmb	03 34 18.0	
	comp=Z,11nm,0.8s						
STKA	Stephens Creek	34.69	249	P	P	03 34 17.5	+1.0
	comp=Z,2.1nm,0.4s,baz=91,slow=9.8,SNR=12						
	comp=Z,2.1nm,0.4s						
BBOO	Buckleboo	39.39	248	P	P	03 34 55.0	-0.2
BBOO				IAmb	IAmb	03 34 55.9	
	comp=Z,12nm,1.3s						
AS31	Alice Springs	42.14	261	P	P	03 35 17.4	+0.1
ASAR	Alice Springs	42.14	261	P	P	03 35 17.4	0.0
ASAR	Alice Springs	42.14	261	P	P	03 35 17.8	+0.4
	comp=Z,1.8nm,0.8s,baz=105,slow=8.5,SNR=25						
	comp=Z,1.8nm,0.8s						
WR8	Warramunga Arr	42.43	267	P	P	03 35 19.8	+0.2
WR8				IAmb	IAmb	03 35 21.2	
	comp=Z,3.8nm,0.5s						
WB0	Warramunga Arr	42.58	267	P	P	03 35 20.9	+0.1
WB0				IAmb	IAmb	03 35 21.5	
	comp=Z,6.1nm,0.6s						
WRA	Warramunga Arr	42.58	267	P	P	03 35 20.8	0.0
WRA	Warramunga Arr	42.58	267	P	P	03 35 20.9	0.0
	comp=Z,4.8nm,0.5s,baz=102,slow=8.1,SNR=40						
	comp=Z,4.8nm,0.5s						
FORT	Forrest	46.29	250	P	P	03 35 48.8	-0.5
KNRA	Kununurra	48.90	270	P	P	03 36 08.3	-0.9
FITZ	Fitzroy Crossi	50.99	266	P	P	03 36 24.1	-0.4
VNDA	Vanda	53.76	185	P	P	03 36 44.9	+1.4
VNDA	Vanda	53.76	185	P	P	03 36 44.6	+1.2
	comp=Z,0.5nm,0.6s,baz=3.0,slow=6.4,SNR=4.4						
	comp=Z,0.5nm,0.6s						
PSA00	Pilbara Seismi	55.26	260	P	P	03 36 54.7	-0.2
PSA00				IAmb	IAmb	03 37 10.7	
	comp=Z,23nm,1.3s						
MORW	Morawa	56.86	250	P	P	03 37 05.9	0.0
MORW				IAmb	IAmb	03 37 06.3	
	comp=Z,5.5nm,0.8s						
QSPA	South Pole Qui	65.54	180	P	P	03 38 03.4	+0.9
QSPA				IAmb	IAmb	03 38 07.9	
	comp=Z,5.8nm,1.1s						
QSPA	South Pole Qui	65.54	180	P	P	03 38 03.3	+0.9
	comp=Z,3.0nm,0.7s,baz=333,slow=1.1,SNR=21						
	comp=Z,3.0nm,0.7s						
MAW	Mawson	77.22	200	P	P	03 39 11.9	+1.1
MAW	Mawson	77.22	200	P	P	03 39 11.7	+0.9
	comp=Z,2.0nm,0.5s,baz=144,slow=6.9,SNR=1.7						
	comp=Z,2.0nm,0.5s						
BO02	Sierra Bellavi	90.52	129	P	P	03 40 16.6	-1.1
BO02				IAmb	IAmb	03 40 25.6	
	comp=Z,4.7nm,1.1s						
FINES	FINESS Array B	139.12	341	PKPdf	PKPdf	03 46 35.5	-2.5
HFS	Hagfors	143.22	349	PKP	PKPbc	03 46 43.3	-0.3
	comp=Z,1.0nm,0.4s,baz=45,slow=2.9,SNR=16						

*NEIC **23** 03:34:42.5±1.7, 13°.15S±0°.1×167°.1E±0°.1, h140km±7km, mb4.5/14, Error ellipse: s-maj=17.9km s-min=15.5km az=126.0*
*IDC **23** 03:34:51.3±5.0, 13°.28S×166°.95E, h226km±45km, mb3.2/4, mbtmp3.8/5, Error ellipse: s-maj=32.4km s-min=29.6km az=169.0*

ISC 23 03:34:45.6±0.6, 13°.15S±0°.10×167°.18E±0°.10, h180km, n25, σ1§37/25, mb4.5/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.90	184	Pn	Pn	03 36 49.1	-1.8
DZM	Mont Dzumac	8.90	184	P	Pn	03 36 54.4	+3.5
	6.3nm,0.9s,baz=62,slow=14,SNR=2.0						
MSVF	Nonsavu	11.43	115	Pn	Pn	03 37 21.1	-2.8
EIDS	Eidsvold	19.43	229	P	P	03 38 57.5	-0.9
EIDS				IAmb	IAmb	03 39 11.4	
	comp=Z,30nm,1.4s						
ARMA	Armidale	22.40	217	P	P	03 39 29.8	+0.4
ARMA				IAmb	IAmb	03 39 44.1	
	comp=Z,14nm,1.4s						
BKZ	Black Stump Fm	27.19	164	P	P	03 40 13.1	+0.5
BKZ				IAmb	IAmb	03 40 18.3	
	comp=Z,15nm,1.4s						
MRZ	Mangatainoka R	28.38	166	P	P	03 40 24.4	+1.4
MRZ				IAmb	IAmb	03 40 39.6	
	comp=Z,16nm,1.2s						
MSWZ	Moikau Station	29.03	167	P	P	03 40 29.1	+0.3
WB0	Warramunga Arr	32.08	254	P	P	03 40 55.2	-0.7
WRA	Warramunga Arr	32.15	253	P	P	03 40 55.6	-1.0
	comp=Z,0.6nm,0.9s,baz=86,slow=10,SNR=2.1						
	comp=Z,0.6nm,0.9s						
RAR	Rarotonga	32.53	109	P	P	03 41 01.2	+1.4
ASAR	Alice Springs	33.18	247	P	P	03 41 05.0	-0.4
ASAR	Alice Springs	33.18	247	P	P	03 41 04.8	-0.7
	comp=Z,0.6nm,0.5s,baz=76,slow=9.0,SNR=16						
	comp=Z,0.6nm,0.5s						
BBOO	Buckleboo	34.49	230	P	P	03 41 16.4	-0.3
BBOO				IAmb	IAmb	03 41 23.4	
	comp=Z,18nm,1.4s						
KNRA	Kununurra	37.26	261	P	P	03 41 38.9	-1.4
KNRA				IAmb	IAmb	03 41 44.8	
	comp=Z,12nm,1.1s						
FORT	Forrest	40.04	238	P	P	03 42 03.3	0.0
FORT				IAmb	IAmb	03 42 08.9	
	comp=Z,25nm,1.3s						
KIP	Kipapa	48.46	45	P	P	03 43 09.7	-0.6
KSAR	Wonju Array Be	62.41	325	P	P	03 44 49.1	-0.4
VNDA	Vanda	64.43	181	P	P	03 45 02.0	-0.1
AKUT	Akutan	70.87	16	P	P	03 45 43.3	+0.6
QSPA	South Pole Qui	76.87	180	P	P	03 46 18.2	+0.5
QSPA	South Pole Qui	76.87	180	P	P	03 46 17.6	-0.1
	comp=Z,1.2nm,0.6s,baz=318,slow=4.4,SNR=11						
	comp=Z,1.2nm,0.6s						
K15K	Wolf Creek Mou	79.09	14	P	P	03 46 31.9	+2.3
K15K				IAmb	IAmb	03 46 39.1	
	comp=Z,15nm,1.3s						
ILAR	Eielson Array	85.06	18	P	P	03 47 01.9	+1.3
	comp=Z,0.4nm,0.6s,baz=235,slow=5.5,SNR=12						
	comp=Z,0.4nm,0.6s						
ARCES	ARCESS Array B	118.71	346	PKP	PKiKP	03 53 12.1	+0.3
	comp=Z,1.2nm,0.6s,baz=68,slow=2.3,SNR=8.3						

IDC 23 03:45:22.6±1.3, 17°.61S×176°.08E, h0km, mb3.7/3, mbtmp3.7/3, MS3.3/5, Error ellipse: s-maj=45.6km s-min=20.9km az=180.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.88	94	Pn	Pn	03 45 56.0	-0.1
	9.8nm,0.3s,baz=269,slow=13,SNR=16						
MSVF				Sn	Sn	03 46 20.3	-0.3
	35nm,0.3s,baz=11,slow=20,SNR=5.9						
MSVF				LR	LR	03 46 39.5	
	comp=Z,407nm,19.7s,baz=296,slow=41						
HNR	Honiara	17.66	295	LR	LR	03 54 59.9	
	comp=Z,72nm,19.1s,baz=12,slow=33						
PPT	Papeete	32.71	95	LR	LR	04 01 45.3	
	comp=Z,53nm,19.8s,baz=203,slow=30						
STKA	Stephens Creek	34.22	239	LR	LR	04 04 31.4	
	comp=Z,49nm,18.1s,baz=187,slow=34						
WRA	Warramunga Arr	39.52	260	P	P	03 52 54.2	-1.3
	0.6nm,0.6s,baz=95,slow=9.1,SNR=1.8						
	0.6nm,0.6s						
ASAR	Alice Springs	39.82	254	P	P	03 52 58.0	+0.1
	0.4nm,0.6s,baz=95,slow=8.9,SNR=4.6						
ASAR				LR	LR	04 08 31.8	
	comp=Z,68nm,18.1s,baz=116,slow=35						
	0.4nm,0.6s						
QSPA	South Pole Qui	72.44	180	P	P	03 56 51.5	+0.8
	2.5nm,1.0s,baz=318,slow=1.0,SNR=6.9						
	2.5nm,1.0s						
KLR	Kul'dur	77.28	332	LR	LR	04 28 39.8	
	comp=Z,11nm,18.4s,baz=124,slow=34						
GERES	GERESS Array B	145.71	339	PKPbc	PKPdf	04 05 02.7	-0.5
	1.2nm,0.8s,baz=337,slow=1.5,SNR=5.9						

*KRNET **23** 03:45:21.6±0.1, 41°.49N×69°.78E, h17km, mb2.8*
*ISU **23** 03:45:23, 41°.49N×69°.78E, h18km*

ISC 23 03:45:23.7±1.0, 41°.50N±0°.03×69°.76E±0°.03, h25km±7km, n16, σ1§79/32, 17C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGS	TashGRES	0.19	248	P	Pn	03 45 30.8	-0.2
TGS				S	Sb	03 45 36.3	+3.1
CHMG	Chimgan	0.20	74	P	Pb	03 45 28.3	-1.2
CHMG				S	Sb	03 45 32.1	-1.4
NZBK	Nazarbek	0.56	241	P	Pb	03 45 34.4	-0.5
NZBK				S	Sn	03 45 42.7	-1.7
TRKS	Terek-Say	1.04	88	↑iP	Pn	03 45 41.1	-1.7
TRKS				↑iS	Sn	03 45 55.5	-1.1
BTK	Batken	1.65	150	↑iP	Pb	03 45 51.7	-1.7
BTK				↑eS	Sb	03 46 13.4	-0.4
ARK	Arkit	1.68	79	↓iP	Pb	03 45 52.3	-1.7
ARK				↓iS	Sb	03 46 14.6	-0.2
KK31	Karatay Array	1.70	19	↓iP	Pb	03 45 53.4	-0.9
	3.6nm,0.6s,baz=203,slow=19,SNR=20						
KK31				↑↑S	Sb	03 46 16.6	+1.3
	3.1nm,0.3s,baz=211,slow=28,SNR=13						
KKAR	Karatay Array	1.70	19	↑iP	Pb	03 45 52.8	-1.5
KKAR				↑iS	Sb	03 46 15.2	-0.1
CHMI	Chimion	1.81	132	P	Pb	03 45 56.2	0.0
CHMI				S	Sb	03 46 20.5	+1.9
FRG	Fergana	1.90	125	P	Pb	03 45 57.4	-0.3
FRG				S	Sb	03 46 22.9	+1.9
MNAS	Manas	2.27	63	↑iP	Pn	03 46 01.1	+1.3
MNAS				↑iS	Sb	03 46 29.7	-2.2
GAR	Garm	2.53	170	↑iP	Pn	03 46 04.7	+1.4
GAR				↑iS	Sb	03 46 36.0	-3.2
DRK	Karamyk	2.55	142	↑eP	Pn	03 46 04.9	+1.3
DRK				↑eS	Sb	03 46 36.3	-3.5
AML	Almayashu	3.01	77	↑iP	Pn	03 46 11.5	+1.4
AML				↑iS	Sn	03 46 47.7	+2.1
SALK	Salom-Alik	3.13	100	↓eP	Pn	03 46 12.7	+1.2
SALK				↓eS	Sn	03 46 50.4	+2.3
SFK	Sufi-Kurgan	3.21	116	↑eP	Pn	03 46 13.9	+1.2
SFK				↑eS	Sn	03 46 52.0	+1.8

*NOU **23** 04:12:12.3, 43°.69S×172°.54E, h0km, MLv3.9/10, South Island, New Zealand*
*WEL **23** 04:12:13.7±0.3, 44°.5±3°.×17°.2E±°, h11km±3km, M3.6/17, ML3.7/17, MLv3.6/17, Error ellipse: s-maj=3.8km s-min=2.7km az=162.6, confirmed*

ISC 23 04:12:13.8±0.8, 43°.61S±0°.03×172°.46E±0°.02, h12km±5km, n68, σ0§80/79, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LINC	Lincoln Crop a	0.01	144	P	Pg	04 12 15.0	-0.9
ROLC	Rolleston Scho	0.06	289	P	Pg	04 12 15.1	-1.1
TPLC	Templeton Scho	0.06	10	P	Pg	04 12 15.0	-1.2
RHSC	Riccarton High	0.11	46	P	Pg	04 12 16.6	-0.1
GOVS	Living Springs	0.14	108	P	Pb	04 12 18.3	-0.1
GOVS				S	Sg	04 12 21.3	+1.8
CACS	Harewood	0.14	23	P	Pg	04 12 16.3	-0.8
STKS	Sign of the Ki	0.14	88	P	Pg	04 12 17.0	-0.1
MOOR	Moorhouse Ave	0.14	59	P	Pg	04 12 17.1	-0.1
CBGS	Christchurch	0.14	56	P	Pg	04 12 16.8	-0.4
HUNS	Huntsbury	0.15	78	P	Pb	04 12 18.3	-0.2
SAGC	St Andrews Col	0.16	48	P	Pg	04 12 17.2	-0.2
PPHS	Papanui	0.16	43	P	Pg	04 12 17.1	-0.4
PPHS				S	Sg	04 12 20.8	+0.8
MQZ	McQueen's Vall	0.17	124	P	Pb	04 12 18.8	-0.1
MQZ				S	Sg	04 12 21.9	+1.6
DSLC	Dunsandel Scho	0.20	253	P	Pg	04 12 18.4	+0.3
RACZ	Rakaia	0.26	243	P	Pg	04 12 19.5	+0.4
RACZ				S	Sg	04 12 23.7	+1.0
OXZ	Oxford	0.42	313	P	Pg	04 12 21.7	-0.3
AKCZ	Akaroa Harbour	0.42	129	P	Pb	04 12 23.4	+0.2
OKCZ	Okains Bay	0.45	105	P	Pb	04 12 24.4	+0.7
OKCZ				S	Sb	04 12 31.4	+0.9
AMCZ	Amberley	0.46	18	P	Pb	04 12 23.8	0.0
AMCZ				S	Sb	04 12 31.0	+0.4
WACZ	Wakanui South	0.56	233	P	Pb	04 12 25.5	0.0
MHCZ	Mount Hutt	0.65	277	P	Pg	04 12 26.7	+0.2
MHCZ				S	Sb	04 12 35.5	-0.7
GVZ	Greta Valley S	0.77	33	P	Pb	04 12 29.8	+0.6
GVZ				S	Sn	04 12 41.6	-0.5
LTZ	Lake Taylor	0.84	351	P	Pb	04 12 30.4	+0.1
LTZ				P	Sb	04 12 41.4	-0.2
ARCZ	Arundel	0.99	250	P	Pg	04 12 32.5	-0.3
ARCZ				S	Sb	04 12 45.8	-0.1
RPZ	Rata Peaks	1.02	264	P	Pg	04 12 33.2	-0.3
RPZ	Rata Peaks	1.02	264	P	Pg	04 12 33.1	-0.3
RPZ				S	Sg	04 12 46.5	-0.3
INZ	Inchbonnie	1.16	320	P	Pn	04 12 35.9	+0.1
TMZ	Timaru	1.30	233	P	Pn	04 12 37.1	-0.8
WVZ	Waitaha Valley	1.36	293	P	Pn	04 12 38.1	-0.6
KHZ	Kahutara	1.44	34	P	Pn	04 12 38.8	-0.8
KHZ	Kahutara	1.44	34	S	Sn	04 12 58.2	-0.2
KHZ	Kahutara	1.44	34	P	Pn	04 12 38.8	-0.8
GCSZ	Gaunt Creek Bo	1.58	280	P	Pn	04 12 41.7	+0.1
LBZ	Lake Benmore	1.81	244	P	Pn	04 12 44.6	-0.3
THZ	Tophouse	1.88	10	P	Pn	04 12 45.1	-0.7
FOZ	Fox Glacier	1.92	271	P	Pn	04 12 47.2	+0.9
DSZ	Denniston Nort	1.93	345	P	Pn	04 12 45.4	-1.1
ODZ	Otahua Downs	1.93	222	P	Pn	04 12 45.6	-0.9
ODZ	Otahua Downs	1.93	222	P	Pn	04 12 45.8	-0.7
BSWZ	Blackbirch Sta	2.17	29	P	Pn	04 12 49.8	0.0
MRNZ	Matariki Terra	2.22	6	P	Pn	04 12 50.8	+0.3
NNZ	Nelson	2.49	16	P	Pn	04 12 54.0	-0.1
TKNZ	Takaka Hill	2.60	8	P	Pn	04 12 56.5	+0.7
HHSZ	Highcliff Hill	2.63	210	P	Pn	04 12 55.9	-0.2
JCZ	Jackson Bay	2.70	259	P	Pn	04 12 57.5	+0.4
JCZ	Jackson Bay	2.70	259	P	Pn	04 12 57.4	+0.3
TCW	Tory Channel	2.75	30	P	Pn	04 12 57.4	-0.3
WKZ	Wanaka	2.75	243	P	Pn	04 12 57.7	-0.2
EAZ	Earnscleugh	2.78	233	P	Pn	04 12 57.4	-0.8
QRZ	Quartz Range	2.79	1	P	Pn	04 12 59.4	+1.2
QRZ	Quartz Range	2.79	1	P	Pn	04 12 58.4	+0.2
PLWZ	Palliser	2.90	46	P	Pn	04 12 58.3	-1.6
MSWZ	Moikau Station	3.01	44	P	Pn	04 12 59.6	-1.8
TUZ	Tuapeka	3.09	220	P	Pn	04 13 01.9	-0.4
CAW	Cannon Point	3.16	39	P	Pn	04 13 02.3	-1.1
KIW	Kapiti Island	3.30	34	P	Pn	04 13 04.7	-0.6
OGWZ	Otaki Gorge	3.44	37	P	Pn	04 13 06.3	-0.9
MLZ	Mavora Lakes	3.57	239	P	Pn	04 13 07.8	-1.2
SYZ	Scrubby Hill	3.75	218	P	Pn	04 13 11.3	-0.2
SYZ	Scrubby Hill	3.75	218	P	Pn	04 13 11.4	-0.1
MRZ	Mangatainoka R	3.75	39	P	Pn	04 13 10.4	-1.2
WHZ	Wether Hill Ro	3.94	233	P	Pn	04 13 12.2	-1.8
BFZ	Birch Farm	4.06	45	P	Pn	04 13 15.3	-0.5
BFZ	Birch Farm	4.06	45	P	Pn	04 13 14.0	-1.8
KHEZ	Kahui Hut	4.47	16	P	Pn	04 13 22.9	+1.4
APZ	The Paps	4.51	223	P	Pn	04 13 21.6	-0.4
PRHZ	Porangahau	4.57	44	P	Pn	04 13 21.9	-0.9
WNVZ	Wahianoa	4.89	30	P	Pn	04 13 28.7	+1.4

*DJA **23** 04:17:07.4±0.5, 3°N±3°.×9°7E±°, h103km±9km, M4.5/12, mb4.7/3, MLv4.3/12*
*IDC **23** 04:17:07.3±3.3, 3°.49N×97°.51E, h91km±24km, mb3.6/8, mbtmp3.9/9, MS3.2/1, Error ellipse: s-maj=67.9km s-min=14.1km az=54.0*
*NEIC **23** 04:17:08.8±1.8, 3°.50N±0°.07×97°.55E±0°.06, h85km±8km, mb4.6/15, Error ellipse: s-maj=11.5km s-min=6.4km az=221.0*

ISC 23 04:17:09.0±0.6, 3°.44N±0°.06×97°.50E±0°.06, h100km, n59, σ1§58/46, mb4.3/18, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	Tuntungan	1.06	87	P	Pn	04 17 28.9	-1.2
MLSI	Meulaboh, Aceh	1.37	307	P	Pn	04 17 31.7	-2.0
PSI	Prapat	1.56	114	P	Pn	04 17 35.6	-0.4
	87nm,0.4s,baz=294,slow=10,SNR=108						
PSI				S	Sn	04 17 55.4	-1.2
	552nm,0.4s,baz=1.4,slow=20,SNR=26						
PSI				LR	LR	04 18 04.2	
	comp=Z,128nm,21.7s,baz=211,slow=35						
SNSI	Sinabang, Aceh	1.56	229	P	Pn	04 17 34.1	-1.9
RPSI	Rantau Prapat	1.60	118		Pn	04 17 35.3	-1.2
RPSI	Rantau Prapat	1.60	118		Pn	04 17 35.6	-0.8
RPSI					Sn	04 17 55.4	-2.0
LHMI	Lhok Sumawe	1.86	343		Pn	04 17 38.5	-1.2
L

FORT	**Forrest**	**44.81**	**142**	P	**P**	**04 25 13.7**	**+0.6**
FORT				IAmb	IAmb	04 25 29.2	
	comp=Z,11nm,0.9s						
MKAR	**Makanchi Array**	**45.16**	**345**	P	**P**	**04 25 14.7**	**-1.0**
MKAR	**Makanchi Array**	**45.16**	**345**	P	**P**	**04 25 14.8**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=163,slow=8.5,SNR=8.3						
	comp=Z,0.5nm,0.4s						
KKAR	**Karatay Array**	**46.21**	**333**	P	**P**	**04 25 25.7**	**+1.7**
COEN	**Coen**	**48.48**	**112**	P	**P**	**04 25 41.8**	**-0.2**
COEN				IAmb	IAmb	04 25 56.2	
	comp=Z,12nm,1.1s						
KURBB	**Kurchatov Arra**	**49.66**	**344**	P	**P**	**04 25 49.6**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=160,slow=7.1,SNR=5.6						
	comp=Z,0.6nm,0.4s						
BBOO	**Buckleboo**	**51.30**	**138**	P	**P**	**04 25 59.3**	**-3.8**
BBOO				IAmb	IAmb	04 26 21.1	
	comp=Z,15nm,1.4s						
ZALV	**Zalesovo Beam**	**51.41**	**350**	P	**P**	**04 26 01.1**	**-2.4**
	comp=Z,0.8nm,0.4s,baz=164,slow=5.9,SNR=3.8						
	comp=Z,0.8nm,0.4s						
BVAR	**Borovoye Array**	**54.25**	**340**	P	**P**	**04 26 23.6**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=148,slow=8.7,SNR=5.0						
	comp=Z,1.2nm,0.6s						
STKA	**Stephens Creek**	**54.65**	**133**	P	**P**	**04 26 28.5**	**+0.8**
STKA	**Stephens Creek**	**54.65**	**133**	P	**P**	**04 26 27.3**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=291,slow=8.8,SNR=6.0						
	comp=Z,1.5nm,0.6s						
ABKAR	**Akbulak array**	**55.70**	**331**	P	**P**	**04 26 33.4**	**-1.6**
ABKAR	**Akbulak array**	**55.70**	**331**	P	**P**	**04 26 36.1**	**+1.1**
ABKAR				IAmb	IAmb	04 26 47.5	
	comp=Z,2.7nm,1.3s						
H04N2	**CROZET ISLANDS**	**63.79**	**214**	T	T	05 35 10.9	
	baz=52,slow=75,SNR=13						
H04N1	**CROZET ISLANDS**	**63.80**	**214**	T	T	05 35 11.9	
	baz=52,slow=75,SNR=12						
H04N3	**CROZET ISLANDS**	**63.81**	**214**	T	T	05 35 11.4	
	baz=52,slow=75,SNR=12						
H04S1	**CROZET ISLANDS**	**64.14**	**213**	T	T	05 35 49.0	
	baz=48						
H04S3	**CROZET ISLANDS**	**64.15**	**213**	T	T	05 35 38.7	
	baz=48,SNR=3.8						
H04S2	**CROZET ISLANDS**	**64.16**	**213**	T	T	05 35 42.7	
	baz=48						
BRTR	**Keskin Array B**	**67.85**	**312**	P	**P**	**04 27 55.5**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=132,slow=6.1,SNR=4.6						
	comp=Z,0.6nm,0.6s						
BORA	**Eskisehir**	**70.27**	**311**	P	**P**	**04 28 13.2**	**+1.4**
BORA				IAmb	IAmb	04 28 20.9	
	comp=Z,3.2nm,0.8s						

*GCG **23** 04:18:55.2±1.1, 14°.21N×93°.82W, h35km±71km, MD4.4*
*MEX **23** 04:18:56.5±0.8, 14°.33N×93°.83W, h15km±102km, MD4.2*
*IDC **23** 04:18:58.8±6.7, 15°.08N×93°.84W, h0km, mb3.5/3, mbtmp3.3/4, ML2.8/2, MS2.9/1, Error ellipse: s-maj=123.4km s-min=37.6km az=165.0*
ISC 23 04:18:50.4±1.6,**14°.42N**±0°.06×**93°.85W**±0°.03,**h2**km±9km,
n36, σ=**41/55, mb3.5**/3,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.41**	**25**	*eP*	**Pn**	**04 19 19.2**	**+2.1**
PCIG				*eS*	**Sn**	**04 19 36.7**	**+0.3**
THIG		**1.60**	**72**	*eP*	**Pn**	**04 19 18.4**	**-1.3**
THIG				*eS*	**Sn**	**04 19 39.6**	**-1.4**
PATR	**El Naranjo**	**1.71**	**66**	*eP*	**Pg**	**04 19 23.0**	**-0.1**
PATR				*eS*	**Sb**	**04 19 43.8**	**-0.9**
PAVE	**Pavencul**	**1.79**	**64**	*eP*	**Pb**	**04 19 24.2**	**+0.2**
PAVE				*eS*	**Sb**	**04 19 45.9**	**-1.1**
RTAL	**Retalhuleu**	**2.09**	**87**	*eP*	**Pn**	**04 19 27.4**	**+1.0**
RTAL				*eS*	**Sn**	**04 19 51.2**	**-1.8**
STG8	**El Palmar, Qui**	**2.42**	**89**	*i P*	**Pn**	**04 19 30.0**	**-1.2**
STG5	**El Palmar, Qui**	**2.42**	**90**	*i P*	**Pn**	**04 19 30.4**	**-0.7**
STG0	**El Palmar, Qui**	**2.43**	**90**	*i P*	**Pn**	**04 19 30.2**	**-1.1**
HUEH	**Huehuetenango**	**2.44**	**68**	*eP*	**Pg**	**04 19 36.5**	**-0.6**
HUEH				*eS*	**Sb**	**04 20 05.0**	**-0.6**
TGIG		**2.44**	**16**	*eP*	**Pb**	**04 19 35.4**	**+0.2**
TGIG				*eS*	**Sb**	**04 20 04.6**	**-1.2**
TGIG		**2.44**	**16**	*i P*	**Pb**	**04 19 35.5**	**+0.4**
TGIG				*i S*	**Sg**	**04 20 07.0**	**-2.0**
CCIG	**Comitan**	**2.48**	**41**	*eP*	**Pg**	**04 19 36.6**	**-1.3**
CCIG				*eS*	**Sb**	**04 20 04.1**	**-2.7**
CCIG	**Comitan**	**2.48**	**41**	*i P*	**Pg**	**04 19 36.6**	**-1.3**
CCIG				*i S*	**Sg**	**04 20 07.8**	**-2.3**
HUIG	**Huatulco**	**2.56**	**302**	*eP*	**Pn**	**04 19 34.5**	**+1.6**
HUIG				*eS*	**Sn**	**04 20 03.1**	**-1.6**
CMIG	**Matias Romero**	**2.84**	**340**	*eP*	**Pb**	**04 19 39.9**	**-1.9**
CMIG				*eS*	**Sn**	**04 20 10.7**	**-0.8**
UXUV	**UXUV**	**2.89**	**354**	*eP*	**Pb**	**04 19 41.8**	**-1.0**
UXUV				*eS*	**Sb**	**04 20 17.9**	**-0.7**
PEIG	**Puerto Escondi**	**3.55**	**297**	*eP*	**Pn**	**04 19 49.4**	**+2.9**
PEIG				*eS*	Sn	04 20 21.9	-7.3
NEUV	**Arroyo Zacate**	**3.77**	**330**	*eP*	**Pn**	**04 19 52.8**	**+3.2**
NEUV				*eS*	**Sn**	**04 20 32.4**	**-2.2**
VHO	**Vista Hermosa**	**3.83**	**314**	*eP*	**Pn**	**04 19 51.9**	**+1.3**
VHO				*eS*	**Sn**	**04 20 32.4**	**-4.0**
PMUV	**Sontecomapan**	**4.28**	**344**	*eP*	**Pn**	**04 19 56.8**	**+0.1**
PMUV				*eS*	**Sn**	**04 20 49.8**	**+2.6**
YOIG	**Yosondua**	**4.31**	**305**	*eP*	Pn	04 20 01.8	+4.5
YOIG				*eS*	**Sn**	**04 20 50.3**	**+2.0**
PETF	**Flores**	**4.57**	**57**	*eP*	**Pn**	**04 20 03.3**	**+2.8**
PETF				*eS*	**Sn**	**04 20 56.7**	**+2.5**
PNIG	**Pinotepa**	**4.57**	**296**	*eP*	**Pn**	**04 20 03.6**	**+3.0**
PNIG				*eS*	**Sn**	**04 20 50.2**	**-4.2**
TXIG	**Tlaxiaco**	**4.71**	**307**	*eP*	Pn	04 20 06.9	+4.2
TXIG				*eS*	**Sn**	**04 20 51.2**	**-6.9**
TOIG	**Toxpalan**	**4.79**	**320**	*eP*	**Pb**	**04 20 13.4**	**-1.7**
TOIG				*eS*	**Sn**	**04 21 05.2**	**+5.5**
HLIG	**Huajuapan de L**	**5.09**	**312**	*eS*	**Sb**	**04 21 17.9**	**-4.3**
FTIG	**Fresnillo de T**	**5.38**	**311**	*eS*	**Sn**	**04 21 16.0**	**+1.4**
POHV	**Veracruz**	**5.67**	**325**	*eP*	Pb	04 20 26.1	-4.4
POHV				*eS*	**Sn**	**04 21 23.7**	**+1.5**
JAUV	**Jalcomulco**	**5.67**	**330**	*eP*	**Pn**	**04 20 19.5**	**+3.7**
JAUV				*eS*	**Sn**	**04 21 22.3**	**+0.7**
CXUV	**Coxquihui**	**6.75**	**329**	*eP*	**Pn**	**04 20 33.0**	**+2.5**
CXUV				*eS*	**Sn**	**04 21 45.1**	**-2.9**
TEIG	**Tepich**	**7.85**	**42**	Pn	**Pn**	**04 20 48.3**	**+2.7**
	baz=222,slow=23,SNR=7.9						
TEIG				Sn	**Sn**	**04 22 13.7**	**-1.5**
	0.1nm,0.3s,baz=188,slow=24,SNR=1.6						
TXAR	**Lajitas Array**	**17.40**	**330**	Pn	**Pn**	**04 22 55.4**	**+0.9**
	baz=138,slow=7.5,SNR=3.5						
	0.1nm,0.5s						
NVAR	**Mina Array Bea**	**32.23**	**322**	P	P	04 25 25.9	+5.4
	0.4nm,0.6s,baz=132,slow=7.8,SNR=4.1						
	0.4nm,0.6s						
NEW	**Newport**	**38.85**	**335**	LR	LR	04 44 58.6	
	comp=Z,19nm,20.5s,baz=289,slow=41						
YKA	**Yellowknife Ar**	**50.22**	**348**	P	**P**	**04 27 51.0**	**+3.4**
	0.4nm,0.6s,baz=155,slow=7.5,SNR=12						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**61.75**	**337**	P	P	04 29 14.6	+4.4
	0.3nm,0.7s,baz=158,slow=5.5,SNR=6.0						
	0.3nm,0.7s						

*MEX **23** 04:21:03.8±0.5, 14°.32N×93°.82W, h12km±17km, MD4.1*
*GCG **23** 04:21:03.3±2.1, 14°.23N×93°.78W, h36km±999km, MD4.3*
ISC 23 04:20:56.6±1.8,**14°.28N**±0°.07×**93°.82W**±0°.04,**h7**km±12km,
n18, σ=**9/06**/31,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.53**	**22**	*eP*	**Pg**	**04 21 26.6**	**+0.7**
PCIG				*eS*	**Sb**	**04 21 44.5**	**-0.3**
PATR	**El Naranjo**	**1.74**	**61**	*eP*	**Pg**	**04 21 30.3**	**+0.2**
PATR				*eS*	**Sg**	**04 21 51.4**	**-1.2**
PAVE	**Pavencul**	**1.83**	**60**	*eP*	**Pg**	**04 21 31.5**	**-0.2**
PAVE				*eS*	**Sb**	**04 21 52.9**	**-0.7**
RTAL	**Retalhuleu**	**2.07**	**83**	*eP*	**Pb**	**04 21 35.4**	**+0.9**
RTAL				*eS*	**Sb**	**04 21 59.6**	**-0.8**
STG5	**El Palmar, Qui**	**2.39**	**87**	*eP*	**Pn**	**04 21 38.1**	**+1.8**
STG8	**El Palmar, Qui**	**2.39**	**86**	*eP*	**Pn**	**04 21 37.2**	**+0.8**
STG0	**El Palmar, Qui**	**2.40**	**86**	*eP*	**Pn**	**04 21 37.4**	**+1.0**
HUEH	**Huehuetenango**	**2.46**	**65**	*eP*	**Pg**	**04 21 44.3**	**+0.4**
HUEH				*eS*	**Sb**	**04 22 10.2**	**-1.8**
CCIG	**Comitan**	**2.56**	**39**	*eP*	**Pb**	**04 21 41.7**	**-1.4**
CCIG				*eS*	**Sn**	**04 22 11.0**	**+0.7**
CCIG	**Comitan**	**2.56**	**39**	*eP*	**Pg**	**04 21 44.9**	**-0.9**
TGIG		**2.57**	**15**	*eP*	**Pb**	**04 21 42.8**	**-0.2**
TGIG				*eS*	**Sb**	**04 22 12.3**	**-2.6**
TGIG		**2.57**	**15**	*eP*	**Pb**	**04 21 42.9**	**-0.2**
TGIG				*i S*	**Sb**	**04 22 14.4**	**-0.5**
HUIG	**Huatulco**	**2.66**	**304**	*eP*	**Pn**	**04 21 43.4**	**+3.5**
HUIG				*eS*	**Sn**	**04 22 10.2**	**-2.3**
UXUV	**UXUV**	**3.03**	**354**	*eP*	**Pn**	**04 21 48.5**	**+3.4**
UXUV				*eS*	**Sn**	**04 22 22.4**	**+0.7**
PEIG	**Puerto Escondi**	**3.64**	**298**	*eP*	**Pn**	**04 21 55.6**	**+2.2**
PEIG				*eS*	**Sn**	**04 22 33.5**	**-3.1**
NEUV	**Arroyo Zacate**	**3.91**	**331**	*eP*	**Pn**	**04 22 01.6**	**+4.5**
NEUV				*eS*	**Sn**	**04 22 40.3**	**-2.9**
PNIG	**Pinotepa**	**4.66**	**297**	*eP*	**Pn**	**04 22 11.0**	**+3.6**
PNIG				*eS*	**Sn**	**04 23 01.4**	**-0.3**
TXIG	**Tlaxiaco**	**4.82**	**308**	*eP*	**Pb**	**04 22 19.1**	**-2.4**

*IDC **23** 04:25:51.8±1.0, 37°.66N×23°.62E, h0km, mb3.6/7, mbtmp3.6/9, ML4.0/1, MS2.5/1, Error ellipse: s-maj=22.0km s-min=20.1km az=122.0*
*THE **23** 04:25:52.5, 37°.55N×23°.58E, h8km, ML3.4/13, Error ellipse: s-maj=1.0km s-min=0.5km az=133.0*
*ATH **23** 04:25:52.7, 37°.57N×23°.57E, h11km±2km, ML3.4/36, Manual Solution by K.Orfanogiannaki First location: 2019/04/23 04:26:45, This location: 2019/04/23 04:39:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 23 04:25:52.8±0.8,**37°.57N**±0°.02×**23°.58E**±0°.02,**h11**km±5km,
n75, σ=**8/77**/106,**mb3.5**/7,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MET4	**Agioi Theodoro**	**0.15**	**291**	P	**Pg**	**04 25 56.3**	**0.0**
MET4				S	**Sg**	**04 25 58.7**	**0.0**
MET5	**Makryloggos,Me**	**0.18**	**287**	P	**Pg**	**04 25 56.8**	**-0.1**
MET5				S	**Sg**	**04 25 59.3**	**-0.3**
YDRA	**Hydra**	**0.24**	**203**	P	**Pg**	**04 25 57.7**	**0.0**
YDRA				S	**Sg**	**04 26 01.6**	**+0.6**
VLY	**Voula,Athens**	**0.33**	**31**	P	**Pg**	**04 25 59.2**	**-0.3**
VLY				S	**Sg**	**04 26 04.2**	**+0.3**
KRND	**KRANIDI**	**0.39**	**242**	P	**Pg**	**04 26 00.0**	**-0.5**
KRND				S	**Sg**	**04 26 06.0**	**+0.4**
	14μm,0.2s						
LVRA	**Laurium**	**0.40**	**69**	P	**Pg**	**04 26 01.1**	**+0.3**
LVRA				S	**Sg**	**04 26 06.9**	**+0.7**
ATH	**Athens Observa**	**0.42**	**15**	P	**Pg**	**04 26 01.1**	**0.0**
ATH				S	**Sb**	**04 26 07.6**	**-0.9**
	5μm,0.3s						
ATH	**Athens Observa**	**0.42**	**15**	P	**Pg**	**04 26 01.1**	**0.0**
ATH				S	**Sg**	**04 26 07.2**	**+0.6**
NOAC	**Athens-Thissio**	**0.42**	**15**	P	**Pg**	**04 26 01.1**	**0.0**
NOAC				S	**Sg**	**04 26 07.1**	**+0.4**
ATHU	**Athens Univers**	**0.43**	**22**	P	**Pg**	**04 26 01.2**	**-0.1**
ATHU				S	**Sg**	**04 26 07.5**	**+0.5**
ATHP	**Athens-Neo Psi**	**0.46**	**20**	P	**Pg**	**04 26 01.8**	**0.0**
ATHP				S	**Sb**	**04 26 08.8**	**-1.0**
ELFA	**Athens-Elefsin**	**0.48**	**356**	P	**Pg**	**04 26 01.6**	**-0.6**
ACHAR	**Athens-Acharne**	**0.52**	**14**	P	**Pg**	**04 26 03.1**	**+0.1**
PTL	**Penteli**	**0.53**	**25**	P	**Pg**	**04 26 03.0**	**-0.2**
PTL				S	**Sg**	**04 26 10.4**	**+0.2**
	4μm,0.3s						
PTL	**Penteli**	**0.53**	**25**	P	**Pg**	**04 26 03.0**	**-0.2**
PTL				S	**Sg**	**04 26 10.2**	**0.0**
DION	**Dionisos Attik**	**0.58**	**29**	P	**Pg**	**04 26 03.9**	**-0.2**
DION				S	**Sb**	**04 26 12.7**	**-0.6**
	3μm,0.2s						
DION	**Dionisos Attik**	**0.58**	**29**	P	**Pg**	**04 26 03.9**	**-0.2**
DION				S	**Sg**	**04 26 12.4**	**+0.6**
VILL	**Villia**	**0.63**	**341**	P	**Pg**	**04 26 04.8**	**-0.3**
VILL				S	**Sb**	**04 26 14.3**	**-0.5**
	8μm,0.4s						
LTK	**Loutraki**	**0.67**	**313**	P	**Pg**	**04 26 05.3**	**-0.4**
LTK				S	**Sg**	**04 26 14.7**	**+0.2**
VIL2	**Platees**	**0.69**	**339**	P	**Pg**	**04 26 04.8**	**-1.3**
VIL2				S	**Sg**	**04 26 13.7**	**-1.5**
KARY	**Karystos**	**0.82**	**55**	P	**Pg**	**04 26 08.6**	**-0.1**
KARY				S	**Sb**	**04 26 20.0**	**-0.2**
	6μm,0.4s						
KARY	**Karystos**	**0.82**	**55**	P	**Pg**	**04 26 08.6**	**-0.1**
KARY				S	**Sg**	**04 26 19.5**	**+0.1**
VLX	**Vlachokerasia**	**0.97**	**259**	P	**Pg**	**04 26 10.7**	**-0.9**
MNVA	**Monemvasia**	**0.98**	**206**	P	**Pn**	**04 26 12.3**	**-0.1**
VLI	**Veliai**	**0.99**	**211**	P	**Pg**	**04 26 10.5**	**-1.4**
VLI				S	**Sg**	**04 26 24.7**	**-0.1**
	3μm,0.6s						
VLI	**Veliai**	**0.99**	**211**	P	**Pg**	**04 26 10.9**	**-1.0**
VLI				S	**Sb**	**04 26 25.5**	**+0.5**
GUR	**Goura**	**1.05**	**291**	P	**Pb**	**04 26 11.8**	**-1.2**
GUR				S	**Sb**	**04 26 26.7**	**-0.1**
	3μm,0.4s						
GUR	**Goura**	**1.05**	**291**	P	**Pb**	**04 26 12.0**	**-1.0**
GUR				S	**Sg**	**04 26 26.4**	**-0.3**
MHLO	**Agia Marina, M**	**1.09**	**143**	P	**Pb**	**04 26 12.7**	**-1.0**
MHLO				S	**Sn**	**04 26 29.0**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.14**	**21**	P	**Pb**	**04 26 14.1**	**-0.4**
KYMI				S	**Sn**	**04 26 30.3**	**0.0**
	4μm,0.5s						
KYMI	**Kymi, Euboea I**	**1.14**	**21**	P	**Pb**	**04 26 14.1**	**-0.4**
LKR	**Lokris**	**1.17**	**337**	P	**Pb**	**04 26 14.2**	**-0.9**
LKR				S	**Sn**	**04 26 31.0**	**-0.1**
	3μm,0.2s						
LKR	**Lokris**	**1.17**	**337**	P	**Pb**	**04 26 14.2**	**-0.9**
KLV	**Kalavryta, Ach**	**1.23**	**293**	P	**Pn**	**04 26 15.5**	**-0.4**
KLV				S	**Sn**	**04 26 32.7**	**+0.2**
	645nm,0.6s						
KLV	**Kalavryta, Ach**	**1.23**	**293**	P	**Pn**	**04 26 15.5**	**-0.4**
TNSA	**Tinos**	**1.26**	**91**	P	**Pn**	**04 26 16.2**	**-0.1**
ADIA	**Aidipsos**	**1.35**	**342**	P	**Pb**	**04 26 18.3**	**+0.2**
ITM	**Ithomi**	**1.37**	**254**	P	**Pn**	**04 26 17.8**	**-0.1**
AXAR	**Agios Charalam**	**1.40**	**329**	P	**Pn**	**04 26 18.0**	**-0.2**
AXAR				S	**Sg**	**04 26 37.9**	**0.0**
AXAR	**Agios Charalam**	**1.40**	**329**	P	**Pn**	**04 26 18.0**	**-0.2**
KALE	**Kalithea**	**1.40**	**306**	P	**Pn**	**04 26 17.3**	**-1.1**
KALE	**Kalithea**	**1.40**	**306**	P	**Pb**	**04 26 18.9**	**-0.2**
SERG	**Sergoula**	**1.47**	**306**	P	**Pb**	**04 26 20.0**	**-0.1**
AMT	**Artemida-Makis**	**1.49**	**269**	P	**Pb**	**04 26 20.4**	**0.0**
SKY	**Skiros Island**	**1.52**	**30**	P	**Pn**	**04 26 18.7**	**-1.1**
DRO	**Drossia**	**1.53**	**285**	P	**Pn**	**04 26 20.2**	**+0.2**
APE	**Apeiranthos**	**1.63**	**107**	P	**Pn**	**04 26 21.0**	**-0.5**
APE				S	**Sn**	**04 26 41.5**	**-1.0**
	440nm,0.2s						
APE	**Apeiranthos**	**1.63**	**107**	P	**Pn**	**04 26 21.0**	**-0.5**
ANX	**Ano Chora**	**1.66**	**309**	P	**Pn**	**04 26 22.0**	**0.0**
ANKY	**Antikythira Is**	**1.71**	**188**	P	**Pn**	**04 26 22.1**	**-0.5**
RLS	**Riolos of Patr**	**1.74**	**287**	P	**Pn**	**04 26 23.4**	**+0.5**
AGG	**Agios Georgios**	**1.75**	**326**	P	**Pn**	**04 26 23.4**	**+0.3**
NEO	**Neokhori**	**1.76**	**351**	P	**Pn**	**04 26 22.9**	**-0.3**
XOR	**Xorichti**	**1.82**	**351**	P	**Pn**	**04 26 23.6**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.84**	**322**	P	**Pn**	**04 26 25.1**	**+0.8**
PVO	**Paravola**	**1.93**	**304**	P	**Pn**	**04 26 26.0**	**+0.5**
EVR	**Evrytania**	**1.94**	**315**	P	**Pn**	**04 26 26.9**	**+1.1**
THL	**Klokotos Trika**	**2.34**	**329**	P	**Pn**	**04 26 31.4**	**+0.3**
TYRN	**Tyrnavos**	**2.39**	**334**	P	**Pn**	**04 26 32.2**	**+0.4**
IDI	**Anoyia**	**2.51**	**155**	Pn	**Pn**	**04 26 34.8**	**+1.3**
	6.7nm,0.3s,baz=353,slow=8.2,SNR=22						
IDI				Sn	**Sn**	**04 27 02.9**	**-1.2**
	13nm,0.3s,baz=302,slow=19,SNR=11						
IDI	**Anoyia**	**2.51**	**155**	P	**Pn**	**04 26 33.8**	**+0.2**
LIT	**Litokhoron**	**2.67**	**342**	P	**Pn**	**04 26 35.3**	**-0.4**
OUR	**Ouranopolis**	**2.78**	**6**	P	**Pn**	**04 26 36.6**	**-0.6**
PLG	**Polygyros**	**2.80**	**358**	P	**Pn**	**04 26 37.1**	**-0.5**
VAY	**Valandovo**	**3.83**	**349**	*i Pn*	**Pb**	**04 26 57.4**	**-2.9**
OHR	**Ohrid**	**4.14**	**330**	*i Pn*	**Pn**	**04 26 59.5**	**+3.5**
MLR	**Muntele Rosu**	**8.11**	**12**	Pn	**Pn**	**04 27 51.2**	**+0.7**
	0.6nm,0.3s,baz=172,slow=10,SNR=6.6						
MLR				LR	LR	04 31 20.7	
	comp=Z,36nm,20.1s,baz=215,slow=41						
	2.8nm,0.5s						
ESDC	**Sonseca Array**	**21.59**	**284**	P	**P**	**04 30 42.9**	**+0.3**
	0.7nm,0.7s,baz=82,slow=11,SNR=6.1						
	0.7nm,0.7s						
HFS	**Hagfors**	**23.45**	**348**	P	**P**	**04 31 02.8**	**+1.0**
	0.4nm,0.4s,baz=140,slow=15,SNR=4.4						
	0.4nm,0.4s						
EKA	**Eskdalemuir Ar**	**25.35**	**323**	P	**P**	**04 31 19.9**	**+0.4**
	0.6nm,0.5s,baz=122,slow=9.2,SNR=3.5						
	0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**31.19**	**225**	P	**P**	**04 32 14.4**	**+2.4**
	135nm,0.3s,baz=32,slow=9.4,SNR=1.5						
KURBB	**Kurchatov Arra**	**40.65**	**53**	P	**P**	**04 33 33.1**	**+0.4**
	0.9nm,0.5s,baz=280,slow=8.8,SNR=5.6						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**43.56**	**58**	P	**P**	**04 33 56.4**	**-0.2**
	0.7nm,0.5s,baz=266,slow=8.1,SNR=11						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**44.30**	**48**	P	**P**	**04 34 02.0**	**-0.3**
	1.6nm,0.7s,baz=287,slow=10,SNR=6.6						
	1.6nm,0.7s						
YKA	**Yellowknife Ar**	**74.77**	**341**	P	**P**	**04 37 31.6**	**-0.9**
	0.2nm,0.7s,baz=35,slow=5.7,SNR=6.0						
	0.2nm,0.7s						

*MDD **23** 04:30:05.0±0.3, 33°.26N×13°.12W, h10km, Mb4.5/8, M_mb4.0/8, Error ellipse: s-maj=5.7km s-min=2.2km az=134.0*
*CNRM **23** 04:30:09.7, 33°.42N×13°.02W, h88km, ML4.1*
ISC 23 04:29:48.2±0.7,**33°.59N**±0°.04×**12°.67W**±0°.03,**h10**km,**n47,**
σ=**2/56**/48,**8C,Madeira Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAR	**Madeira**	**3.66**	**258**	P	**Pg**	**04 30 59.7**	**+1.4**
PMAR	**Madeira**	**3.66**	**258**	S	**Sb**	**04 31 39.1**	**+1.5**
PMOZ	**Porto Moniz, M**	**3.87**	**260**	Pn	**Pg**	**04 31 01.9**	**-0.4**
PMOZ				Sn	**Sb**	**04 31 41.1**	**-2.4**
PMOZ	**Porto Moniz, M**	**3.87**	**260**	P	**Pg**	**04 31 01.4**	**-0.9**
PMOZ	**Porto Moniz, M**	**3.87**	**260**	S	**Sb**	**04 31 42.0**	**-1.5**
AVE	**Averroes**	**4.41**	**92**	Pn	Pg	04 31 19.2	+6.6
AVE				Sn	**Sg**	**04 32 07.9**	**-1.7**
AVE	**Averroes**	**4.41**	**92**	P	Pg	04 31 19.3	+6.7
AVE	**Averroes**	**4.41**	**92**	S	**Sg**	**04 32 11.7**	**+2.0**
PFVI	**Vila Bisbo**	**4.73**	**41**	Sn	**Sg**	**04 32 16.2**	**-3.9**
ZHG	**ZHG**	**5.04**	**90**	P	**Pg**	**04 31 26.0**	**+1.3**
ZHG	**ZHG**	**5.04**	**90**	S	**Sg**	**04 32 25.3**	**-4.7**
CFUE	**Fuerteventura**	**5.04**	**193**	⇑*i Vmb_V*		04 31 16.2	
	388nm,SNR=1.6						
CFUE				P	**Pb**	**04 31 16.5**	**0.0**
CFUE				S	**Sn**	**04 32 05.7**	**+3.5**
TIO	**Tiouine**	**5.30**	**119**	Sn	**Sb**	**04 32 25.5**	**+0.9**
TIO				Pn	**Pg**	**04 31 29.2**	**-0.4**
CGIN	**Giniginamar, F**	**5.50**	**193**	P	**Pb**	**04 31 22.7**	**-1.6**
CGIN				⇑*i Vmb_V*		04 31 23.9	
	80nm,SNR=0.2						
CGIN				S	**Sn**	**04 32 14.0**	**+0.5**
PCVE	**Castro Verde**	**5.52**	**42**	Sn	**Sb**	**04 32 36.1**	**+5.1**
PVAQ	**Vaqueiros**	**5.55**	**45**	Pn	**Pg**	**04 31 35.3**	**+0.8**
PVAQ	**Vaqueiros**	**5.55**	**45**	P	**Pg**	**04 31 34.7**	**+0.2**
PVAQ	**Vaqueiros**	**5.55**	**45**	S	**Sg**	**04 32 40.2**	**-6.2**
OUZM	**OUZ**	**5.68**	**116**	P	**Pg**	**04 31 33.7**	**-3.2**
OUZM	**OUZ**	**5.68**	**116**	S	**Sb**	**04 32 38.5**	**+2.9**
EGRO	**El Granado**	**5.78**	**46**	Sn	**Sb**	**04 32 42.6**	**+4.3**
PMAFR	**Mafra**	**6.01**	**26**	Pn	**Pg**	**04 31 42.3**	**-1.0**
EOSO	**Osorio**	**6.03**	**205**	Sn	**Sn**	**04 32 29.2**	**+2.5**
CGUI	**Guimar, Teneri**	**6.17**	**213**	⇑*i Vmb_V*		04 31 30.2	
	245nm,SNR=0.5						
CGUI				S	**Sn**	**04 32 29.8**	**-0.2**
MACI	**Morro de la Ar**	**6.26**	**213**	S	**Sn**	**04 32 30.3**	**-2.1**
CLUM	**San Bartolome**	**6.30**	**205**	P	Pb	04 31 32.7	-5.2
CLUM				S	**Sn**	**04 32 32.4**	**-0.7**
IFR	**Ifrane**	**6.30**	**89**	Sn	**Sb**	**04 32 52.1**	**-1.4**
IFR				Pn	Pg	04 31 43.7	-5.1
CCAN	**Las Canadas**	**6.33**	**213**	S	**Sn**	**04 32 30.8**	**-3.4**
EMIN	**Mina Concepcio**	**6.42**	**48**	Sn	**Sb**	**04 32 56.9**	**+0.1**
CADE	**Adeje, Tenerif**	**6.44**	**214**	⇑*i Vmb_V*		04 31 32.9	

comp=Z,366nm,1.7s
YATNC **Mamie plateau,** 18.70 261 P Pn 04 56 22.0 +0.5
comp=Z,58nm,0.7s
OUENC **Ouen Island, N** 18.77 260 P P 04 56 21.2 -0.6
GRZ **Great Barrier** 18.84 210 P Pn 04 56 25.2 +2.1
VLAKA **Lakatoro** 18.90 279 P P 04 56 22.0 -1.2
ONTNC **Ouen Toro** 19.12 260 P P 04 56 24.8 -0.9
ONTNC IAmb IAmb 04 56 27.9
comp=Z,161nm,1.4s
DZM **Mont Dzumac** 19.12 261 P P 04 56 24.0 -1.7
DZM IAmb IAmb 04 56 27.3
comp=Z,262nm,1.6s
DZM **Mont Dzumac** 19.12 261 *e*P P 04 56 23.7 -2.1
comp=Z,281nm,1.4s
DZM *e*S Sn 05 00 00.8 0.0
comp=Z,5µm,24.9s
DZM *e*LR LR 05 00 51.8
comp=Z,2µm,24.1s
DZM **Mont Dzumac** 19.12 261 P P 04 56 24.6 -1.2
comp=Z,1.2nm,0.3s,baz=105,slow=15,SNR=10.0
comp=Z,46nm,1.0s
DZM **Mont Dzumac** 19.12 261 P P 04 56 25.0 -0.8
KUZ **Kuaotunu** 19.13 208 P Pn 04 56 30.2 +3.7
MKAZ **Moumakai** 19.68 209 P Pn 04 56 35.0 +1.9
URZ **Urewera** 19.87 203 P Pn 04 56 35.1 -0.2
comp=Z,2.5nm,0.3s,baz=69,slow=2.8,SNR=14
comp=Z,74nm,1.2s
TOZ **Tahuroa Road** 20.05 207 P Pn 04 56 38.2 +0.8
TOZ **Tahuroa Road** 20.05 207 P Pn 04 56 40.1 +2.6
RTZ **Ruatahuna** 20.23 203 P Pn 04 56 39.5 -0.2
BKZ **Black Stump Fm** 20.89 203 P Pn 04 56 50.7 +3.3
HIZ **Hauiti** 20.98 207 P P 04 56 49.1 +3.3
KWHZ **Kaweka Forest** 21.15 203 P P 04 56 49.5 +1.9
KOUNC **Koumac, New Ca** 21.15 265 P P 04 56 47.3 -0.5
OTVZ **Oturere** 21.20 205 P P 04 56 49.9 +1.5
SNVZ **South Ngauruho** 21.23 205 P P 04 56 51.6 +2.9
NGZ **Ngauruhoe** 21.24 205 P P 04 56 50.4 +1.7
KAHZ **Kahuranaki** 21.31 202 P P 04 56 52.3 +2.9
KAHZ S S 05 00 44.1 -1.7
WNVZ **Wahianoa** 21.37 205 P P 04 56 51.8 +1.6
PNHZ **Pukenui** 21.66 203 P P 04 56 55.0 +1.9
PRHZ **Porangahau** 21.82 201 P P 04 56 59.0 +4.2
TBI **Tubuai** 22.22 102 *e*P P 04 57 01.0 +1.8
comp=Z,2µm,36.0s
TBI *e*S S 05 00 59.0 -4.5
comp=Z,3µm,25.8s
TBI *e*LR LR 05 02 06.4
comp=Z,9µm,32.5s
TBI *e*LR LR 05 02 10.4
comp=Z,2µm,28.2s
BFZ **Birch Farm** 22.32 202 P P 04 57 04.7 +4.5
PPT2 **Papeete2** 22.46 87 *e*P P 04 56 59.1 -2.8
comp=Z,160nm,26.5s
PPT2 *e*S S 05 01 01.0 -7.2
comp=Z,2µm,25.0s
PPT2 *e*LR LR 05 02 16.9
comp=Z,1µm,30.5s
PPT2 *e*LR LR 05 02 17.7
comp=Z,2µm,27.2s
PPT **Papeete** 22.46 87 LR LR 05 04 26.2
comp=Z,1µm,18.0s,baz=258,slow=33
QRZ **Quartz Range** 23.90 208 P P 04 57 18.3 +2.0
QRZ IAmb IAmb 04 57 28.2
comp=Z,34nm,0.6s
QRZ **Quartz Range** 23.90 208 P P 04 57 20.5 +4.2
KHZ **Kahutara** 24.82 204 P P 04 57 27.7 +3.1
LTZ **Lake Taylor** 25.63 205 P 04 57 32.1 0.0
LTZ IAmb IAmb 04 57 44.6
comp=Z,35nm,0.9s
INZ **Inchbonnie** 25.92 207 P 04 57 34.8 +0.1
INZ IAmb IAmb 04 57 56.0
comp=Z,111nm,1.4s
OXZ **Oxford** 26.18 205 P 04 57 37.6 +0.6
OXZ IAmb IAmb 04 57 54.9
comp=Z,38nm,0.7s
RPZ **Rata Peaks** 26.90 206 P 04 57 44.1 +0.6
NGOA **Tingoa Renbel** 27.13 284 P P 04 57 43.0 -2.8
FOZ **Fox Glacier** 27.28 208 P 04 57 47.6 +0.8
FOZ IAmb IAmb 04 58 04.3
comp=Z,49nm,1.0s
LHI **Lord Howe Isla** 27.34 240 P P 04 57 46.7 -0.9
comp=Z,90nm,1.8s
HNR **Honiara** 28.08 288 LR LR 05 07 30.9
comp=Z,377nm,19.1s,baz=138,slow=34
JCZ **Jackson Bay** 28.16 208 P P 04 57 57.1 +2.2
ARMA **Armidale** 33.30 245 P P 04 58 39.0 -1.4
ARMA IAmb IAmb 04 58 40.8
comp=Z,28nm,1.1s
ARMA **Armidale** 33.30 245 P P 04 58 38.7 -1.7
comp=Z,29nm,1.2s
ARMA **Armidale** 33.30 245 P P 04 58 39.2 -1.3
EIDS **Eidsvold** 33.30 254 P P 04 58 33.5 -6.9
TAOE **Nuku Hiva Isla** 33.81 75 *e*LR LR 05 07 27.3
comp=Z,957nm,26.2s
RKT **Rikitea** 35.54 102 *e*P P 04 59 02.9 +3.1
comp=Z,289nm,34.8s
RKT *e*S S 05 04 34.7 -0.4
comp=Z,644nm,26.0s
RKT *e*LQ LQ 05 06 55.2
comp=Z,917nm,29.5s
RKT *e*LR LR 05 08 15.3
comp=Z,6µm,28.5s
CNB **Canberra Magne** 36.18 237 P P 04 59 04.5 -0.8
comp=Z,48nm,1.4s
CNB **Canberra Magne** 36.18 237 P P 04 59 04.3 -1.0
CAN **Canberra** 36.47 238 P P 04 59 06.8 -1.0
CAN IAmb IAmb 04 59 08.4
comp=Z,42nm,1.0s
CAN **Canberra** 36.47 238 P P 04 59 06.7 -1.0
comp=Z,43nm,1.5s
CAN **Canberra** 36.47 238 P P 04 59 06.4 -1.4
CAN **Canberra** 36.47 238 P P 04 59 06.8 -1.0
CAN pmax pmax
comp=Z,42nm,1.0s
MILA **Mila** 36.81 235 P P 04 59 09.9 -0.8
comp=Z,10nm,1.5s
TV1H **Townsville Har** 37.65 264 P P 04 59 15.2 -2.6
CMSA **Cobar Meteorol** 38.50 244 P P 04 59 22.6 -2.3
comp=Z,61nm,0.9s
QLP **Quilpie** 39.48 252 P P 04 59 30.7 -2.5
comp=Z,37nm,1.3s
CORO **Coronation Par** 39.67 229 P P 04 59 35.9 +1.3
PMG **Port Moresby** 39.74 280 P P 04 59 33.1 -2.4
PMG IAmb IAmb 04 59 34.9
comp=Z,90nm,1.1s
PMG **Port Moresby** 39.74 280 LR LR 05 15 04.9
comp=Z,829nm,18.3s,baz=156,slow=35
PMG **Port Moresby** 39.74 280 P P 04 59 33.1 -2.4
PMG pmax pmax
comp=Z,90nm,1.1s
TOO **Toolangi** 39.76 235 P P 04 59 34.4 -1.1
TOO **Toolangi** 39.76 235 P P 04 59 34.6 -0.8
comp=Z,12nm,1.1s
TOO **Toolangi** 39.76 235 P P 04 59 34.4 -1.1
TOO pmax pmax
comp=Z,33nm,1.6s
MTSU **Mount Surprise** 40.15 266 P P 04 59 35.8 -3.0
comp=Z,31nm,0.9s
STKA **Stephens Creek** 42.01 245 P P 04 59 52.3 -1.8
STKA **Stephens Creek** 42.01 245 P P 04 59 52.1 -1.9
comp=Z,129nm,1.2s
STKA **Stephens Creek** 42.01 245 P P 04 59 51.5 -2.6
comp=Z,16nm,0.9s,baz=88,slow=9.6,SNR=24
STKA LR LR 05 15 16.6
comp=Z,546nm,19.3s,baz=68,slow=33
comp=Z,16nm,0.9s
STKA **Stephens Creek** 42.01 245 P P 04 59 52.3 -1.8
STKA pmax pmax
comp=Z,179nm,1.2s
COEN **Coen** 42.11 271 P P 04 59 52.6 -2.5
COEN **Coen** 42.11 271 P P 04 59 52.3 -2.7
comp=Z,24nm,0.9s
ARPS **Mount Arapiles** 42.45 237 P P 04 59 56.2 -1.3
comp=Z,29nm,1.3s
ARPS **Mount Arapiles** 42.45 237 P P 04 59 56.3 -1.3
MANU **Manus Island** 42.55 290 P P 04 59 55.9 -2.7
MANU IAmb IAmb 04 59 58.2
comp=Z,29nm,0.9s
INKA **Innaminka** 42.59 251 P P 04 59 57.7 -1.1
KIP **Kipapa** 43.95 21 *ce*P P 05 00 12.9 +3.2
KIP pmax pmax
comp=Z,62nm,2.5s
QIS **Mount Isa** 44.16 261 P P 05 00 08.1 -3.5
comp=Z,11nm,1.4s
HTT **Hallett** 44.39 243 P P 05 00 11.3 -2.0
comp=Z,5.8nm,1.3s

WHYH **Whyalla** 45.48 243 P P 05 00 20.8 -1.1
BBOO **Buckleboo** 46.75 244 P P 05 00 29.9 -2.1
BBOO IAmb IAmb 05 00 30.8
comp=Z,45nm,1.3s
BBOO **Buckleboo** 46.75 244 P P 05 00 29.6 -2.4
comp=Z,30nm,1.2s
OOD **Oodnadatta** 47.07 250 P P 05 00 33.0 -1.5
JAY **Jayapura** 48.31 285 LR LR 05 20 48.3
comp=Z,264nm,18.4s,baz=187,slow=36
AS31 **Alice Springs** 49.00 256 P P 05 00 46.6 -3.0
AS31 **Alice Springs** 49.00 256 P P 05 00 47.2 -2.4
comp=Z,4.6nm,0.8s
ASAR **Alice Springs** 49.00 256 P P 05 00 46.8 -2.8
comp=Z,14nm,0.8s,baz=88,slow=8.4,SNR=60
ASAR PcP PcP 05 02 13.6 0.0
comp=Z,7.4nm,0.9s,baz=99,slow=4.3,SNR=7.7
ASAR S S 05 07 49.7 -4.2
comp=Z,0.9nm,0.9s,baz=99,slow=15,SNR=4.5
ASAR LR LR 05 20 30.1
comp=Z,639nm,19.2s,baz=98,slow=35
comp=Z,14nm,0.8s
WB0 **Warramunga Arr** 49.12 261 P 05 00 48.1 -2.3
WRAB **Tennant Creek** 49.13 261 P P 05 00 47.3 -3.3
WRAB **Tennant Creek** 49.13 261 P P 05 00 47.3 -3.3
WRAB pmax pmax
comp=Z,98nm,1.5s
WRA **Warramunga Arr** 49.14 261 P P 05 00 48.1 -2.5
WRA **Warramunga Arr** 49.14 261 P P 05 00 47.8 -2.9
comp=Z,21nm,1.0s,baz=99,slow=7.9,SNR=40
WRA PcP PcP 05 02 13.7 -0.4
comp=Z,8.0nm,1.0s,baz=93,slow=3.8,SNR=4.8
WRA LR LR 05 20 17.3
comp=Z,447nm,19.6s,baz=112,slow=35
comp=Z,21nm,1.0s
FORT **Forrest** 53.58 246 P P 05 01 21.5 -2.2
FORT **Forrest** 53.58 246 P P 05 01 21.6 -2.2
comp=Z,66nm,1.4s
MTN **Manton Dam** 53.71 269 P 05 01 22.6 -2.4
MTN **Manton Dam** 53.71 269 P P 05 01 22.3 -2.7
comp=Z,52nm,0.8s
WRKA **Wakurna** 53.91 253 P P 05 01 24.0 -2.4
comp=Z,25nm,0.8s
KNRA **Kununurra** 55.21 265 P P 05 01 34.4 -1.5
KNRA **Kununurra** 55.21 265 P P 05 01 33.0 -2.9
comp=Z,29nm,1.1s
FITZ **Fitzroy Crossi** 57.57 261 P P 05 01 50.2 -2.4
FITZ **Fitzroy Crossi** 57.57 261 P P 05 01 50.7 -2.0
comp=Z,6.7nm,1.4s
SBA **Scott Base** 58.50 185 P P 05 02 00.4 +2.2
SBA IAmb IAmb 05 02 05.0
comp=Z,18nm,0.8s
SBA **Scott Base** 58.50 185 P P 05 02 00.4 +2.2
SBA pmax pmax
comp=Z,18nm,0.9s
VNDA **Vanda** 58.64 186 P P 05 01 58.3 -0.9
VNDA **Vanda** 58.64 186 P P 05 02 02.2 +2.9
comp=Z,6.0nm,0.9s,baz=2.7,slow=6.1,SNR=29
VNDA LR LR 05 26 09.1
comp=Z,181nm,18.0s,baz=10,slow=35
comp=Z,6.0nm,0.9s
KMBL **Kambalda** 58.81 245 P P 05 01 59.5 -1.7
comp=Z,19nm,1.1s
NLAI **Namlea** 60.55 278 P P 05 02 11.6 -1.7
comp=Z,76nm,1.6s
SOEI **Soe** 61.04 270 P P 05 02 16.0 -0.9
SOEI **Soe** 61.04 270 P P 05 02 16.4 -0.5
TNTI **Ternate** 61.81 282 P P 05 02 20.1 -1.8
SANI **Sanana** 62.01 279 P P 05 02 21.4 -1.9
comp=Z,842nmcomp=Z,65nm,1.2s
PSA00 **Pilbara Seismi** 62.15 256 P P 05 02 22.3 -1.9
KLBR **Kellerberrin** 62.28 244 P P 05 02 24.3 -0.7
comp=Z,57nm,0.8s
MBWA **Marble Bar** 62.34 256 P P 05 02 23.8 -1.6
MBWA IAmb IAmb 05 02 35.6
comp=Z,18nm,0.9s
NWAO **Narrogin (SRO)** 62.55 243 P P 05 02 25.9 -0.7
NWAO **Narrogin (SRO)** 62.55 243 P P 05 02 25.9 -0.7
NWAO pmax pmax
comp=Z,48nm,1.2s
RKGY **Rocky Gully** 62.56 241 P P 05 02 24.1 -2.6
comp=Z,23nm,1.2s
BLDU **Ballidu** 63.31 245 P P 05 02 30.3 -1.4
comp=Z,16nm,1.1s
EDFI **Ende, Flores** 63.77 270 P P 05 02 32.8 -2.3
MORW **Morawa** 64.13 247 P P 05 02 35.5 -1.7
MORW IAmb IAmb 05 02 54.8
comp=Z,17nm,1.1s
LUWI **Luwuk** 65.37 278 P P 05 02 44.5 -1.0
LUWI **Luwuk** 65.37 278 P P 05 02 44.6 -0.9
CASY **Casey** 66.17 205 P P 05 02 50.2 +0.5
APSI **Ampana** 66.46 278 P P 05 02 51.9 -0.6
comp=Z,80nm,1.1s
BNSI **Bone** 66.67 274 P P 05 02 52.5 -1.3
comp=Z,61nm,1.3s
SPSI **Sidrap Palu** 67.14 274 P P 05 02 54.6 -2.2
comp=Z,711nmcomp=Z,29nm,1.0s
TOLI2 **Tolitoli** 68.02 280 P P 05 03 00.3 -2.0
PCI **Palu** 68.15 277 P P 05 03 03.3 +0.1
MPSI **Mapaga** 68.55 279 P P 05 03 04.0 -1.7
comp=Z,65nm,0.8s
QSPA **South Pole Qui** 69.86 180 P P 05 03 13.1 -0.1
QSPA IAmb IAmb 05 03 18.1
comp=Z,19nm,1.1s
QSPA **South Pole Qui** 69.86 180 P P 05 03 17.3 +4.2
comp=Z,12nm,0.9s,baz=28,slow=2.3,SNR=22
comp=Z,12nm,0.9s
INU **Inuyama** 72.69 319 P P 05 03 29.2 -1.3
INU IAmb IAmb 05 03 31.5
comp=Z,36nm,1.3s
MJAR **Matsushiro Arr** 72.77 321 P P 05 03 30.5 -0.5
comp=Z,22nm,1.1s,baz=158,slow=5.7,SNR=28
comp=Z,22nm,1.1s
MAJO **Matsushiro** 72.77 321 P P 05 03 29.4 -1.6
MAJO IAmb IAmb 05 03 31.8
comp=Z,37nm,1.2s
MAJO **Matsushiro** 72.77 321 P P 05 03 29.4 -1.6
MAJO pmax pmax
comp=Z,37nm,1.3s
MJB9 **Matsu-Tunnel** 72.77 321 P 05 03 29.7 -1.3
MJB9 IAmb IAmb 05 03 32.8
comp=Z,34nm,1.2s
JMN **Monobe** 73.64 316 P 05 03 34.4 -1.8
JMN IAmb IAmb 05 03 38.6
comp=Z,35nm,0.9s
JSD **Sado** 73.75 322 P P 05 03 35.7 -0.9
JSD IAmb IAmb 05 03 38.2
comp=Z,26nm,1.2s
ERM **Erimo** 73.91 328 *i* P P 05 03 39.5 +2.0
ERM pmax pmax
comp=Z,20nm,1.1s
JNU **Nakatsue** 75.27 314 P 05 03 43.9 -1.8
JNU IAmb IAmb 05 03 46.7
comp=Z,39nm,1.2s
JNU **Nakatsue** 75.27 314 P P 05 03 45.2 -0.4
comp=Z,20nm,1.0s,baz=137,slow=4.6,SNR=6.3
comp=Z,20nm,1.0s
JKA **Kamikawa-asahi** 75.74 329 P 05 03 47.3 -0.8
ASAJ **Asahikawa** 75.74 329 P P 05 03 48.1 0.0
comp=Z,12nm,0.8s,baz=289,slow=26,SNR=6.5
comp=Z,12nm,0.8s
ISA **Isabella, Lake** 75.95 43 P P 05 03 49.5 -0.1
ISA IAmb IAmb 05 03 53.7
comp=Z,22nm,1.4s
ISA **Isabella, Lake** 75.95 43 P P 05 03 49.5 -0.1
ISA pmax pmax
comp=Z,22nm,1.4s
PFO **Pinyon Flats O** 76.05 46 P P 05 03 49.5 -0.7
PFO **Pinyon Flats O** 76.05 46 *i* P P 05 03 51.4 +1.2
PFO pmax pmax
comp=Z,19nm,1.4s
O02D **Mt. Diablo Mer** 76.21 37 P P 05 03 51.1 +0.2
O02D IAmb IAmb 05 05 16.7
comp=Z,28nm,1.5s
CMB **Columbia Colle** 76.23 40 P 05 03 50.9 -0.2
STKI **Sintang** 76.30 275 P P 05 03 52.7 +0.7
YOJ **Yonaguni jima** 76.35 303 P 05 03 50.5 -1.5
YOJ **Yonaguni jima** 76.35 303 P P 05 03 50.5 -1.5
YOJ pmax pmax
comp=Z,246nm,1.3s
SBUM **Sibu** 76.45 278 P 05 03 51.5 -1.3
TWG **Pinlang** 77.11 300 P P 05 03 54.4 -1.9
WAKR **Walker** 77.11 40 P P 05 03 55.0 -1.2
WAKR IAmb IAmb 05 04 20.3
comp=Z,29nm,1.6s
YULB **Yu-li** 77.20 301 P P 05 03 54.9 -1.9
CHGN **Chignik** 77.22 8 P P 05 03 57.5 +1.3

baz=194
MPK **Martis Peak** 77.25 40 P P 05 03 55.4 -1.7
MPK IAmb IAmb 05 04 00.9
comp=Z,20nm,1.1s
PEA0B **Petropavlovsk-** 77.26 342 P 05 03 55.8 -0.7
PEA0B **Petropavlovsk-** 77.26 342 *ce*P P 05 03 57.3 +0.8
PETK **Petropavlovsk-** 77.26 342 P 05 03 55.8 -0.7
PETK **Petropavlovsk-** 77.26 342 P P 05 03 56.2 -0.2
comp=Z,27nm,0.9s,baz=111,slow=8.1,SNR=24
comp=Z,27nm,0.9s
DSP **Deep Springs** 77.31 42 P P 05 03 57.1 0.0
NACB **Ninganchiao** 77.33 302 P P 05 03 56.2 -1.3
PNTR **Pine Nut** 77.38 40 P P 05 03 55.9 -1.9
PNTR IAmb IAmb 05 04 01.6
comp=Z,15nm,1.0s
BEKR **Beckworth** 77.42 39 P P 05 03 57.2 -0.8
NVAR **Mina Array Bea** 77.76 41 P P 05 03 59.6 -0.3
NVAR **Mina Array Bea** 77.76 41 P P 05 04 02.8 +2.9
comp=Z,5.2nm,0.8s,baz=225,slow=9.2,SNR=34
comp=Z,5.2nm,0.8s
YSS **Yuzhno-Sakhali** 77.77 331 P 05 03 59.0 -0.4
YSS **Yuzhno-Sakhali** 77.77 331 ⇑ *i* P P 05 04 00.5 +1.1
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR 05 04 04.2
comp=Z,200nm,17.0s
NV11 **Mina Array Sit** 77.85 41 IAmb IAmb 05 04 04.2
comp=Z,15nm,1.1s
SII **Sitkinak Islan** 78.13 11 P P 05 04 01.6 +0.3
baz=198
OHAK **Old Harbor** 78.91 11 P P 05 04 05.1 -0.5
baz=199
R18K **Karluk** 79.04 10 P P 05 04 05.2 -1.0
baz=198
PRN **Pahroc Range** 79.20 43 IAmb IAmb 05 04 12.3
comp=Z,22nm,1.2s
BELA **Belgrano 2** 79.23 172 P 05 04 06.8 -0.4
TUC **Tucson** 79.27 50 P 05 04 08.4 +0.1
TUC **Tucson** 79.27 50 P P 05 04 08.4 +0.1
TUC pmax pmax
comp=Z,15nm,1.1s
Q17K **Contact Creek** 79.48 9 P P 05 04 08.1 -0.7
baz=196
PINE **Pine Mountain** 79.64 36 P P 05 04 09.7 -0.4
KSRS **Korea Array** 79.75 316 P P 05 04 12.0 +1.4
comp=Z,17nm,1.1s,baz=136,slow=5.9,SNR=40
comp=Z,17nm,1.1s
Q16K **King Salmon** 79.77 9 P P 05 04 10.2 0.0
baz=196
KSAR **Wonju Array Be** 79.77 316 P P 05 04 10.3 -0.4
KSAR **Wonju Array Be** 79.77 316 P P 05 04 10.3 -0.4
O14K **Tigyukauivet M** 79.77 6 P P 05 04 10.2 +0.1
baz=191
O15K **Ungalikthiuk R** 79.85 7 P P 05 04 11.0 +0.4
baz=193
319A **Douglas** 79.88 51 P P 05 04 11.0 -0.6
319A IAmb IAmb 05 04 16.3
comp=Z,19nm,1.0s
Q18K **Katmai Hardscr** 79.99 10 P P 05 04 12.4 +0.8
baz=197
P17K **Kvichak River** 80.30 9 P P 05 04 13.6 +0.6
baz=196
Q20K **Shuyak Island** 80.38 11 P P 05 04 14.1 +0.6
baz=200
N14K **Kuskokwak Cree** 80.39 6 P P 05 04 13.9 +0.4
baz=191
KNB **Kanab** 80.43 45 P P 05 04 14.7 +0.2
KNB **Kanab** 80.43 45 P P 05 04 14.7 +0.2
KNB pmax pmax
comp=Z,17nm,1.1s
U15A **North Rim** 80.46 46 P P 05 04 15.1 +0.3
O16K **Kokwok River B** 80.47 8 P P 05 04 14.5 +0.6
baz=194
Q19K **Cape Douglas,** 80.47 10 P P 05 04 14.8 +0.8
baz=198
M11K **Mekoryuk** 80.50 3 P P 05 04 14.3 +0.2
baz=186
WUAZ **Wupatki** 80.58 47 P 05 04 14.4 -0.9
WUAZ IAmb IAmb 05 04 20.0
comp=Z,25nm,1.5s
SPR3 **Spring Creek 3** 80.58 43 P P 05 04 14.7 -0.8
I07A **Izee** 80.61 36 P P 05 04 15.9 +0.7
DUN6 **Lazy B Ranch** 80.62 50 P 05 04 14.9 -0.7
P18K **Big Mountain,** 80.67 9 P 05 04 14.6 -0.4
P18K IAmb IAmb 05 04 17.3
comp=Z,27nm,0.9s
P18K **Big Mountain,** 80.67 9 P P 05 04 15.1 0.0
baz=197
TYV **Tymovskoe** 80.73 333 *e*P P 05 04 16.3 +0.8
TYV pmax pmax
comp=Z,200nm,3.9s
TYV pmax pmax
comp=Z,26nm,1.1s
M13K **Dall Lake** 80.73 5 P P 05 04 15.8 +0.5
baz=189
J08A **Circle Bar Ran** 80.73 37 P 05 04 14.9 -0.9
O17K **Koliganek Bris** 80.77 8 P P 05 04 15.6 +0.1
baz=195
N15K **Kwethluk River** 80.79 7 P P 05 04 15.8 +0.1
baz=192
PKCU **Pink Cliffs** 81.01 45 IAmb IAmb 05 04 23.1
comp=Z,25nm,1.1s
X18A **Snowflake** 81.04 48 P P 05 04 16.5 -1.3
ELK **Elko** 81.04 41 P P 05 04 16.9 -0.9
ELK **Elko** 81.04 41 P P 05 04 16.9 -0.9
ELK pmax pmax
comp=Z,7.0nm,1.3s
O18K **Koktuh Hills** 81.11 9 P P 05 04 18.0 +0.6
baz=197
M14K **Bethel** 81.18 6 P P 05 04 18.3 +0.6
baz=191
P19K **Oil Pt** 81.23 10 P P 05 04 18.4 +0.3
baz=199
N16K **Nishlik Lake** 81.24 7 P P 05 04 18.5 +0.4
baz=194
M15K **Kasigluk River** 81.25 6 P P 05 04 18.0 -0.1
baz=192
USA0B **Ussuriysk Arra** 81.36 323 *i* P P 05 04 19.7 +0.6
USRK **Ussuriysk Ar.** 81.36 323 P 05 04 17.0 -2.0
USRK **Ussuriysk Ar.** 81.36 323 P P 05 04 20.3 +1.3
comp=Z,2.6nm,0.7s,baz=90,slow=3.8,SNR=7.4
comp=Z,2.6nm,0.7s
N17K **Nushagak Hills** 81.49 8 P P 05 04 20.0 +0.7
baz=195
HOM **Homer** 81.50 11 P P 05 04 19.6 +0.2
baz=200
ILSW **Iliamna Southw** 81.56 10 IAmb IAmb 05 04 22.1
comp=Z,33nm,1.0s
O19K **Port Alsworth** 81.57 9 IAmb IAmb 05 04 21.6
comp=Z,27nm,1.1s
O19K **Port Alsworth** 81.57 9 P P 05 04 20.2 +0.4
baz=198
L14K **Kuka Creek** 81.70 5 P P 05 04 20.5 +0.1
baz=190
BRSE **Bradley Lake S** 81.75 11 P P 05 04 20.8 0.0
baz=201
M16K **Timber Creek** 81.75 7 P P 05 04 20.7 0.0
baz=193
N18K **Kilae Creek** 81.81 8 P P 05 04 21.4 +0.3
baz=196
L15K **Ungalak Mounta** 82.14 6 P P 05 04 23.8 +1.0
baz=191
N19K **Bonanza Creek** 82.14 9 P P 05 04 23.6 +0.7
baz=198
K13K **Kusilvak Mount** 82.14 4 P P 05 04 23.4 +0.6
baz=188
M17K **Holitna River** 82.30 8 P P 05 04 24.9 +1.2
baz=195
SEW **Seward** 82.33 12 P P 05 04 25.3 +1.5
baz=202
L16K **Owhat River** 82.37 7 P P 05 04 25.7 +1.7
baz=193
SLKM **Skilak Lake** 82.56 11 IAmb IAmb 05 04 27.1
comp=Z,30nm,1.1s
K15K **Wolf Creek Mou** 82.74 5 P P 05 04 27.3 +1.4
baz=191
SPCR **Spurr Chakacha** 82.86 10 P P 05 04 27.4 +0.7
baz=200
L17K **Donlin** 82.91 7 P P 05 04 28.4 +1.6
baz=194
MDJ **Mudanjiang** 82.97 323 P P 05 04 28.6 +1.1
MDJ pmax pmax
comp=Z,28nm,1.3s
MDJ pmax pmax
comp=Z,260nm,5.3s
MDJ LR LR
comp=Z,160nm,15.9s

MDJ				LR	LR	
	comp=Z,160nm,12.3s					
MDJ				LR	LR	
	comp=Z,330nm,21.9s					
J14K	**Nanvaranak Lak**	**83.03**	**4**	P	**P**	**05 04 28.2 +0.8**
	baz=189					
F10A	**Beach Ranch, E**	**83.06**	**36**	IAmb	IAmb	05 04 30.9
	comp=Z,15nm,1.1s					
TX31	**Lajitas Ar. Si**	**83.11**	**55**	IAmb	IAmb	05 04 33.4
	comp=Z,14nm,1.2s					
TXAR	**Lajitas Array**	**83.11**	**55**	P	**P**	**05 04 32.4 +3.6**
	comp=Z,8.0nm,1.2s,baz=205,slow=5.5,SNR=26					
	comp=Z,8.0nm,1.2s					
V35K	**Ketchikan**	**83.11**	**22**	P	**P**	**05 04 27.7 -0.2**
	baz=219					
RC01	**Rabbit Creek A**	**83.19**	**11**	P	**P**	**05 04 28.6 +0.3**
	baz=202					
L18K	**Granite Mounta**	**83.19**	**8**	P	**P**	**05 04 28.0 -0.2**
	baz=196					
M19K	**Big River Lodg**	**83.19**	**9**	P	**P**	**05 04 27.7 -0.6**
	baz=198					
PLID	**Pearl Lake**	**83.20**	**37**	IAmb	IAmb	05 04 32.2
	comp=Z,22nm,1.6s					
HLID	**Hailey**	**83.20**	**39**	IAmb	IAmb	05 04 32.9
	comp=Z,12nm,1.0s					
KAIM	**Kayak Island**	**83.22**	**14**	P	**P**	**05 04 27.8 -0.6**
	baz=207					
PWL	**Port Wells**	**83.24**	**12**	P	**P**	**05 04 29.4 +0.9**
	baz=203					
SIT	**Sitka**	**83.24**	**20**	P	**P**	**05 04 29.6 +1.0**
	baz=215					
NJ2	**Nanjing**	**83.25**	**308**	*e*P	**P**	**05 04 30.0 +0.7**
NJ2				pmax	pmax	
	comp=Z,15nm,0.5s					
MAW	**Mawson**	**83.33**	**199**		**P**	**05 04 31.1 +2.0**
MAW	**Mawson**	**83.33**	**199**	P	**P**	**05 04 32.7 +3.6**
MAW	**Mawson**	**83.33**	**199**	P	**P**	**05 04 31.6 +2.5**
	comp=Z,16nm,1.2s,baz=70,slow=2.6,SNR=5.4					
	comp=Z,16nm,1.2s					
SUA	**Susitna One**	**83.36**	**11**	P	**P**	**05 04 29.1 -0.2**
	baz=201					
M20K	**Styx River**	**83.36**	**9**	P	**P**	**05 04 29.0 -0.2**
	baz=199					
L19K	**White Mountain**	**83.39**	**9**	P	**P**	**05 04 29.5 +0.1**
	baz=197					
EYAK	**Cordova Ski Ar**	**83.48**	**13**	P	**P**	**05 04 29.7 0.0**
	baz=206					
GLI	**Glacier Island**	**83.50**	**12**	P	**P**	**05 04 30.1 +0.2**
	baz=204					
ALPN	**Alpine**	**83.61**	**55**	IAmb	IAmb	05 04 35.7
	comp=Z,24nm,1.6s					
S31K	**Pelican**	**83.70**	**19**	P	**P**	**05 04 31.2 +0.2**
	baz=214					
SKT	**Skwentna**	**83.71**	**10**	P	**P**	**05 04 30.7 -0.3**
	baz=200					
WRAK	**Wrangell Islan**	**83.71**	**21**	P	**P**	**05 04 31.4 +0.4**
	baz=218					
GAMB	**Gambell**	**83.72**	**1**	P	**P**	**05 04 31.0 +0.2**
	baz=181					
ANMO	**Albuquerque**	**83.72**	**49**	IAmb	IAmb	05 04 36.6
	comp=Z,28nm,1.3s					
ANMO	**Albuquerque**	**83.72**	**49**	*ce*P	**P**	**05 04 34.8 +2.9**
ANMO				pmax	pmax	
	comp=Z,14nm,1.4s					
KNK	**Knik Glacier**	**83.72**	**12**	IAmb	IAmb	05 04 35.1
	comp=Z,25nm,1.4s					
KNK	**Knik Glacier**	**83.72**	**12**	P	**P**	**05 04 30.7 -0.4**
	baz=203					
M22K	**Willow**	**83.74**	**11**	P	**P**	**05 04 31.6 +0.6**
	baz=202					
PMR	**Palmer**	**83.76**	**11**	P	**P**	**05 04 31.8 +0.6**
	baz=202					
J16K	**Anvik River**	**83.80**	**6**	P	**P**	**05 04 31.7 +0.3**
	baz=192					
HWUT	**Hardware Ranch**	**83.81**	**42**	IAmb	IAmb	05 05 00.9
	comp=Z,32nm,1.9s					
S32K	**Killisnoo**	**83.81**	**20**	P	**P**	**05 04 31.1 -0.4**
	baz=216					
L20K	**Farewell, AK**	**83.82**	**9**	P	**P**	**05 04 30.5 -1.0**
	baz=198					
DIV	**Divide**	**84.00**	**13**	IAmb	IAmb	05 04 34.8
	comp=Z,22nm,1.2s					
MESA	**MESA**	**84.03**	**15**	P	**P**	**05 04 32.4 -0.5**
	baz=209					
J17K	**VABM Dome**	**84.06**	**6**	P	**P**	**05 04 33.1 +0.4**
	baz=193					
BMRM	**Bremner River**	**84.11**	**14**	P	**P**	**05 04 33.4 +0.3**
	baz=207					
SML	**Sawmill**	**84.11**	**12**	P	**P**	**05 04 33.5 +0.5**
	baz=203					
U35K	**Hyder**	**84.14**	**23**	P	**P**	**05 04 33.0 -0.2**
	baz=220					
M23K	**Glacier View**	**84.21**	**12**	P	**P**	**05 04 34.7 +1.2**
	baz=204					
R31K	**City Hall, Gus**	**84.22**	**19**	P	**P**	**05 04 34.3 +0.7**
	baz=215					
PNL	**Peninsula**	**84.24**	**16**	P	**P**	**05 04 33.5 -0.2**
	baz=212					
KLU	**Klutina**	**84.30**	**13**	P	**P**	**05 04 34.8 +0.7**
	baz=206					
CUT	**Chulitna**	**84.32**	**10**	P	**P**	**05 04 34.4 +0.4**
	baz=202					
SCM	**Sheep Creek Mo**	**84.33**	**12**	P	**P**	**05 04 34.3 +0.1**
	baz=204					
PINM	**Pinnacle**	**84.38**	**16**	P	**P**	**05 04 34.3 -0.2**
	baz=211					
I17K	**Unalakleet**	**84.38**	**6**	P	**P**	**05 04 34.8 +0.6**
	baz=192					
J18K	**Innoko River**	**84.39**	**7**	IAmb	IAmb	05 04 37.2
	comp=Z,14nm,1.2s					
J18K	**Innoko River**	**84.39**	**7**	P	**P**	**05 04 34.3 -0.1**
	baz=195					
PPLA	**Purkeypile**	**84.47**	**9**	P	**P**	**05 04 34.7 -0.3**
	baz=200					
K20K	**Telida**	**84.63**	**9**	P	**P**	**05 04 35.4 -0.2**
	baz=198					
P29M	**Windy Craggy**	**84.66**	**17**	P	**P**	**05 04 36.9 +1.1**
	baz=213					
KLR	**Kul'dur**	**84.67**	**327**	P	**P**	**05 04 37.2 +1.1**
	comp=Z,4.9nm,1.1s,baz=108,slow=4.7,SNR=8.1					
	comp=Z,4.9nm,1.1s					
N25K	**Chitina, Valde**	**84.68**	**13**	IAmb	IAmb	05 04 38.5
	comp=Z,14nm,1.1s					
N25K	**Chitina, Valde**	**84.68**	**13**	P	**P**	**05 04 36.4 +0.4**
	baz=207					
ANM	**Nome**	**84.72**	**3**	P	**P**	**05 04 36.9 +0.9**
	baz=187					
MA2	**Magadan**	**84.80**	**342**	*ce*P	**P**	**05 04 37.2 +0.7**
MA2				pmax	pmax	
	comp=Z,18nm,1.3s					
M24K	**Tolsona, Glenn**	**84.81**	**12**	P	**P**	**05 04 37.5 +0.9**
	baz=205					
S22A	**4UR Ranch, Cre**	**84.86**	**47**	IAmb	IAmb	05 04 42.4
	comp=Z,27nm,1.0s					
BNX	**BinXian**	**84.88**	**323**	⇓P	**P**	**05 04 38.3 +1.1**
BNX				S	**S**	**05 15 04.8 -0.4**
BNX				pmax	pmax	
	comp=Z,32nm,1.1s					
BNX				pmax	pmax	
	comp=Z,190nm,9.0s					
BNX				LR	LR	
	comp=Z,200nm,18.7s					
T35M	**Bob Quinn**	**84.88**	**22**	P	**P**	**05 04 37.6 +0.6**
	baz=220					
CN2	**Changchun**	**84.91**	**320**	*e*P	**P**	**05 04 36.3 -1.1**
CN2				*e*S	**SKSac**	**05 15 01.0 -0.4**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
CN2				pmax	pmax	
	comp=Z,200nm,5.0s					
CN2				LR	LR	
	comp=Z,200nm,11.0s					
CN2				LR	LR	
	comp=Z,300nm,11.0s					
CN2				LR	LR	
	comp=Z,200nm,10.0s					
CAST	**Castle Rocks**	**84.98**	**9**	P	**P**	**05 04 37.3 -0.1**
	baz=200					
O28M	**Mount Upton**	**84.98**	**16**	P	**P**	**05 04 37.2 -0.6**
	baz=211					
H16K	**Elim**	**85.00**	**5**	P	**P**	**05 04 38.5 +1.1**
	baz=190					
O29M	**Mount Kennedy**	**85.00**	**16**	P	**P**	**05 04 38.4 +0.7**
	baz=212					
J19K	**Poorman**	**85.03**	**8**	IAmb	IAmb	05 05 13.5
	comp=Z,16nm,1.4s					
J19K	**Poorman**	**85.03**	**8**	P	**P**	**05 04 39.0 +1.4**
	baz=196					
O20A	**White River Ci**	**85.14**	**44**	IAmb	IAmb	05 04 42.8
	comp=Z,14nm,1.1s					
SKAG	**Skagway**	**85.21**	**18**	P	**P**	**05 04 39.3 +0.8**
	baz=215					
G15K	**Niukluk**	**85.22**	**4**	P	**P**	**05 04 39.4 +0.9**
	baz=188,SNR=6.5					
HARP	**HAARP**	**85.28**	**13**	P	**P**	**05 04 39.8 +0.9**
	baz=206					
P30M	**Million Dollar**	**85.28**	**17**	P	**P**	**05 04 39.1 +0.1**
	baz=214					
TRF	**Thorofare Moun**	**85.29**	**10**	IAmb	IAmb	05 04 42.6
	comp=Z,18nm,1.0s					
TRF	**Thorofare Moun**	**85.29**	**10**	P	**P**	**05 04 40.1 +1.0**
	baz=201,SNR=8.3					
S34M	**Telegraph Cree**	**85.30**	**21**	P	**P**	**05 04 39.1 0.0**
	baz=219					
LR05	**Currie**	**85.30**	**131**	P	**P**	**05 04 39.8 +0.1**
CHUM	**Lake Minchumin**	**85.38**	**9**	P	**P**	**05 04 40.2 +0.9**
	baz=200,SNR=5.0					
J20K	**Nowinta River**	**85.40**	**8**	IAmb	IAmb	05 04 42.0
	comp=Z,21nm,1.1s					
J20K	**Nowinta River**	**85.40**	**8**	P	**P**	**05 04 40.3 +0.9**
	baz=198,SNR=10					
H17K	**Granite Mounta**	**85.49**	**6**	P	**P**	**05 04 40.6 +0.7**
	baz=192					
RND	**Reindeer**	**85.49**	**11**	IAmb	IAmb	05 04 42.9
	comp=Z,24nm,1.0s					
DRIO	**Del Rio**	**85.52**	**57**	IAmb	IAmb	05 04 44.8
	comp=Z,15nm,1.1s					
YUK8	**Steele Glacier**	**85.53**	**15**	P	**P**	**05 04 41.7 +1.3**
	baz=211					
F14K	**Arctic Creek**	**85.57**	**3**	P	**P**	**05 04 42.3 +2.0**
	baz=186					
TNA	**Tin City**	**85.59**	**2**	P	**P**	**05 04 42.5 +2.2**
	baz=185					
YUK6	**Outpost Mounta**	**85.60**	**16**	P	**P**	**05 04 41.8 +1.0**
	baz=212					
GCSA	**Galena City Sc**	**85.61**	**7**	P	**P**	**05 04 42.1 +1.7**
	baz=195					
PDAR	**Pinedale Array**	**85.69**	**41**		**P**	**05 04 41.4 -0.3**
PDAR	**Pinedale Array**	**85.69**	**41**	P	**P**	**05 04 43.9 +2.2**
	comp=Z,4.5nm,0.9s,baz=216,slow=3.7,SNR=28					
	comp=Z,4.5nm,0.9s					
HYT	**Haines Junctio**	**85.72**	**17**	P	**P**	**05 04 41.5 +0.2**
	baz=213					
PAX	**Paxson**	**85.73**	**12**	P	**P**	**05 04 42.2 +0.9**
	baz=206					
G16K	**Koyuk River**	**85.73**	**5**	P	**P**	**05 04 42.1 +1.1**
	baz=190					
M26K	**Nabesna, AK**	**85.74**	**14**	IAmb	IAmb	05 04 44.0
	comp=Z,26nm,1.4s					
M26K	**Nabesna, AK**	**85.74**	**14**	P	**P**	**05 04 42.2 +1.0**
	baz=208,SNR=7.0					
Q32M	**Nakina River**	**85.75**	**20**	P	**P**	**05 04 42.3 +0.8**
	baz=218					
YUK3	**Moose Creek**	**85.78**	**15**	P	**P**	**05 04 42.0 +0.4**
	baz=210,SNR=7.1					
MCK	**McKinley**	**85.78**	**11**	IAmb	IAmb	05 04 44.0
	comp=Z,22nm,1.0s					
MCK	**McKinley**	**85.78**	**11**	P	**P**	**05 04 41.5 +0.1**
	baz=203,SNR=14					
BPAW	**Bear Paw Mtn.**	**85.79**	**10**	P	**P**	**05 04 42.2 +0.8**
	baz=201					
P32M	**Atlin**	**85.80**	**19**	P	**P**	**05 04 41.4 -0.2**
	baz=217					
H18K	**Honhosa River**	**85.85**	**6**	IAmb	IAmb	05 04 44.1
	comp=Z,16nm,1.3s					
H18K	**Honhosa River**	**85.85**	**6**	P	**P**	**05 04 42.6 +0.9**
	baz=194,SNR=5.6					
YUK4	**Talbot Arm**	**85.86**	**16**	P	**P**	**05 04 43.3 +1.2**
	baz=212					
F15K	**North Star Dit**	**85.89**	**4**	P	**P**	**05 04 43.3 +1.4**
	baz=188					
I20K	**Naaghedeneel**	**85.95**	**8**	P	**P**	**05 04 42.7 +0.6**
	baz=198					
M27K	**Edge Creek, AK**	**85.95**	**14**	IAmb	IAmb	05 04 45.5
	comp=Z,31nm,1.2s					
M27K	**Edge Creek, AK**	**85.95**	**14**	P	**P**	**05 04 42.8 +0.4**
	baz=209,SNR=9.3					
G17K	**Kiwalik Mounta**	**85.97**	**5**	P	**P**	**05 04 43.0 +0.7**
	baz=192,SNR=6.9					
WHN	**Wuhan**	**85.98**	**304**	P	**P**	**05 04 44.5 +1.4**
WHN				pmax	pmax	
	comp=Z,64nm,1.2s					
O30N	**Mendenhall**	**86.07**	**17**	P	**P**	**05 04 43.8 +0.9**
	baz=214					
DLBC	**Dease Lake**	**86.08**	**21**	P	**P**	**05 04 43.5 +0.5**
	baz=220					
PLCA	**Paso Flores**	**86.13**	**132**	P	**P**	**05 04 46.7 +2.8**
	comp=Z,9.3nm,1.1s,baz=258,slow=5.8,SNR=7.2					
	comp=Z,9.3nm,1.1s					
L26K	**Log Cabin Wild**	**86.22**	**13**	P	**P**	**05 04 44.8 +1.3**
	baz=208					
BVCY	**Beaver Creek**	**86.24**	**14**	P	**P**	**05 04 44.5 +0.9**
	baz=210					
WHY	**Whitehorse**	**86.32**	**18**	P	**P**	**05 04 45.4 +1.2**
	baz=216					
N30M	**Aishikik Lake**	**86.37**	**16**	P	**P**	**05 04 45.6 +1.2**
	baz=214					
H19K	**Roundabout Mou**	**86.42**	**7**	IAmb	IAmb	05 04 47.5
	comp=Z,18nm,1.2s					
H19K	**Roundabout Mou**	**86.42**	**7**	P	**P**	**05 04 44.9 +0.5**
	baz=196,SNR=7.9					
K24K	**Donnelly Dome**	**86.42**	**12**	P	**P**	**05 04 45.9 +1.4**
	baz=206					
TIA	**Tai'an**	**86.49**	**311**	P	**P**	**05 04 46.4 +0.9**
TIA				S	**SKSac**	**05 15 15.6 +3.9**
TIA				pmax	pmax	
	comp=Z,34nm,1.1s					
TIA				pmax	pmax	
	comp=Z,280nm,5.1s					
TIA				LR	LR	
	comp=Z,100nm,15.7s					
TIA				LR	LR	
	comp=Z,130nm,18.2s					
R33M	**Jennings River**	**86.50**	**20**	P	**P**	**05 04 45.4 +0.3**
	baz=219					
G18K	**Tagagawik**	**86.54**	**6**	P	**P**	**05 04 46.2 +1.1**
	baz=194,SNR=7.3					
RIDG	**Independent Ri**	**86.55**	**12**	IAmb	IAmb	05 04 47.7
	comp=Z,17nm,1.2s					
RIDG	**Independent Ri**	**86.55**	**12**	P	**P**	**05 04 46.6 +1.4**
	baz=206					
NEA2	**Nenana**	**86.56**	**10**	P	**P**	**05 04 46.3 +1.2**
	baz=202					
P33M	**Teslin, Yukon**	**86.57**	**19**	P	**P**	**05 04 46.3 +0.9**
	baz=217					
H20K	**Anotleneega Mo**	**86.57**	**8**	P	**P**	**05 04 47.4 +2.2**
	baz=197,SNR=6.2					
L27K	**Beaver Creek,**	**86.58**	**14**	IAmb	IAmb	05 04 50.3
	comp=Z,23nm,1.6s					
L27K	**Beaver Creek,**	**86.58**	**14**	P	**P**	**05 04 47.0 +1.6**
	baz=209					
BCAR	**Beaver Creek A**	**86.59**	**14**	P	**P**	**05 04 44.6 -0.8**
DOT	**Dot Lake**	**86.62**	**13**	IAmb	IAmb	05 04 48.1
	comp=Z,14nm,1.0s					
I21K	**Tanana**	**86.66**	**9**	P	**P**	**05 04 45.7 +0.2**
	baz=200					
N31M	**Braeburn, Yuko**	**86.74**	**17**	P	**P**	**05 04 47.2 +1.0**
	baz=215					
HDA	**Harding Lake**	**86.75**	**11**	IAmb	IAmb	05 04 48.3
	comp=Z,15nm,1.1s					
HDA	**Harding Lake**	**86.75**	**11**	P	**P**	**05 04 47.5 +1.3**
	baz=204,SNR=9.2					
CCB	**Clear Creek Bu**	**86.82**	**11**	IAmb	IAmb	05 04 48.4
	comp=Z,22nm,1.2s					
M29M	**Somme Creek**	**86.84**	**15**	IAmb	IAmb	05 04 49.5
	comp=Z,13nm,1.1s					
M29M	**Somme Creek**	**86.84**	**15**	P	**P**	**05 04 48.4 +1.6**
	baz=212					
F17K	**Baldwin Pennin**	**86.85**	**5**	IAmb	IAmb	05 04 51.5
	comp=Z,16nm,1.1s					
F17K	**Baldwin Pennin**	**86.85**	**5**	P	**P**	**05 04 48.6 +2.1**
	baz=191					
SN07	**Snyder 07**	**86.93**	**53**	IAmb	IAmb	05 07 51.6
	comp=Z,10.0nm,0.7s					
SCRK	**Sand Creek**	**86.93**	**12**	P	**P**	**05 04 48.6 +1.5**
	baz=207,SNR=6.6					
G19K	**Purcell Mounta**	**86.94**	**6**	IAmb	IAmb	05 04 49.9
	comp=Z,11nm,1.1s					
G19K	**Purcell Mounta**	**86.94**	**6**	P	**P**	**05 04 47.8 +0.8**
	baz=195,SNR=8.9					
H21K	**Melozitna Rive**	**86.99**	**8**	IAmb	IAmb	05 04 50.1
	comp=Z,16nm,1.2s					
H21K	**Melozitna Rive**	**86.99**	**8**	P	**P**	**05 04 49.0 +1.8**
	baz=199,SNR=10.0					
COLA	**College**	**87.02**	**11**	P	**P**	**05 04 46.1 -1.2**
COLA				IAmb	IAmb	05 04 49.4
	comp=Z,25nm,1.1s					
COLA	**College**	**87.02**	**11**	*i* P	**P**	**05 04 48.5 +1.1**
COLA				pmax	pmax	
	comp=Z,4.0nm,1.0s					
COLA	**College**	**87.02**	**11**	P	**P**	**05 04 48.2 +0.8**
	baz=204					
I23K	**Minto, Yukon-K**	**87.02**	**10**	P	**P**	**05 04 48.6 +1.2**
	baz=202,SNR=5.9					
RTBA	**Rita Blanca**	**87.09**	**50**	IAmb	IAmb	05 05 17.3
	comp=Z,39nm,1.8s					
IL31		**87.10**	**11**	IAmb	IAmb	05 05 09.2
	comp=Z,20nm,1.3s					
ILAR	**Eielson Array**	**87.10**	**11**	P	**P**	**05 04 46.5 -1.3**
ILAR	**Eielson Array**	**87.10**	**11**	P	**P**	**05 04 48.4 +0.6**
	comp=Z,2.7nm,0.9s,baz=216,slow=6.9,SNR=24					
	comp=Z,2.7nm,0.9s					
F18K	**Selawik**	**87.14**	**5**	P	**P**	**05 04 48.0 +0.1**
	baz=193,SNR=6.9					
SEY	**Seymchan**	**87.20**	**345**	*ce*P	**P**	**05 04 49.3 +1.0**
SEY				pmax	pmax	
	comp=Z,49nm,1.3s					
BI02	**San Fabin de**	**87.21**	**128**	IAmb	IAmb	05 04 54.4
	comp=Z,9.3nm,0.9s					
J25K	**Salcha River,**	**87.23**	**12**	P	**P**	**05 04 49.1 +0.6**
	baz=206,SNR=8.7					
N32M	**Quiet Lake**	**87.24**	**18**	P	**P**	**05 04 48.7 +0.1**
	baz=217					
POKR	**Poker Plat Res**	**87.32**	**11**	IAmb	IAmb	05 04 51.0
	comp=Z,12nm,1.1s					
POKR	**Poker Plat Res**	**87.32**	**11**	P	**P**	**05 04 49.9 +1.0**
	baz=204					
K27K	**Chicken**	**87.37**	**13**	P	**P**	**05 04 50.4 +1.2**
	baz=209					
M30M	**Minto, Yukon**	**87.38**	**16**	P	**P**	**05 04 50.3 +1.0**
	baz=214					
ELIB	**Princess Elisa**	**87.39**	**185**	*d*P	**P**	**05 04 52.2 +2.7**
	comp=Z,6.5nm,1.4s					
H22K	**Ishtalitna Cre**	**87.42**	**9**	P	**P**	**05 04 51.0 +1.7**
	baz=200,SNR=6.0					
E17K	**Hotham Inlet**	**87.44**	**4**	P	**P**	**05 04 50.8 +1.4**
	baz=191,SNR=5.5					
ML02	**Panimavida**	**87.45**	**127**	IAmb	IAmb	05 04 57.6
	comp=Z,28nm,1.2s					
J26L	**Joseph Creek**	**87.48**	**12**	IAmb	IAmb	05 04 53.0
	comp=Z,24nm,1.1s					
J26L	**Joseph Creek**	**87.48**	**12**	P	**P**	**05 04 50.6 +0.8**
	baz=208,SNR=20					
L29M	**L29M**	**87.49**	**15**	IAmb	IAmb	05 04 53.5
	comp=Z,24nm,1.1s					
L29M	**L29M**	**87.49**	**15**	P	**P**	**05 04 50.1 +0.3**
	baz=213,SNR=9.8					
HEH	**HeiHe**	**87.52**	**326**	*e*P	**P**	**05 04 50.8 +0.7**
HEH				pP	**PcP**	**05 04 54.4 +2.3**
HEH				S	**S**	**05 15 31.3 +0.5**
HEH				pmax	pmax	
	comp=Z,23nm,1.4s					
HEH				pmax	pmax	
	comp=Z,220nm,3.6s					
HEH				LR	LR	
	comp=Z,200nm,17.8s					
HEH				LR	LR	
	comp=Z,160nm,17.1s					
HEH				LR	LR	
	comp=Z,320nm,19.0s					
F19K	**Shaleruckik Mo**	**87.54**	**6**	P	**P**	**05 04 50.4 +0.6**
	baz=194,SNR=7.1					
H23K	**Yukon River**	**87.62**	**10**	P	**P**	**05 04 51.1 +0.8**
	baz=202					
M31M	**Drury Creek, Y**	**87.71**	**17**	P	**P**	**05 04 51.4 +0.5**
	baz=216					
G21K	**Allakaket**	**87.72**	**8**	P	**P**	**05 04 52.7 +2.0**
	baz=198					
E18K	**Tukpahlearik C**	**87.87**	**5**	IAmb	IAmb	05 04 57.7
	comp=Z,16nm,1.2s					
E18K	**Tukpahlearik C**	**87.87**	**5**	P	**P**	**05 04 53.1 +1.7**
	baz=192,SNR=7.4					
H24K	**Noodor Dome**	**87.90**	**10**	P	**P**	**05 04 52.7 +1.0**
	baz=204					
SYO	**Syowa Base**	**87.95**	**191**	⇑*e*PcP	**PcP**	**05 04 53.8 -0.1**
D17K	**Noatak River**	**87.97**	**4**	P	**P**	**05 04 52.8 +0.9**
	baz=189					
F20K	**Avaraart Lake**	**87.97**	**7**	P	**P**	**05 04 53.1 +1.3**
	baz=196,SNR=8.0					
TROLL	**Troll, Antarti**	**87.97**	**179**	⇓P	**P**	**05 04 55.5 +3.2**
	comp=Z,339nm,0.9s					
DAWY	**Dawson**	**88.00**	**14**	IAmb	IAmb	05 04 55.3
	comp=Z,18nm,1.1s					
DAWY	**Dawson**	**88.00**	**14**	P	**P**	**05 04 53.1 +0.9**
	baz=211,SNR=11					
PRP	**Porcupine Dome**	**88.02**	**11**	IAmb	IAmb	05 04 57.9
	comp=Z,23nm,1.6s					
PRP	**Porcupine Dome**	**88.02**	**11**	P	**P**	**05 04 54.1 +1.8**
	baz=206					
FARO	**Faro, Yukon**	**88.02**	**17**	P	**P**	**05 04 54.4 +2.0**
	baz=217					
TOAD	**Toad River Com**	**88.06**	**23**	P	**P**	**05 04 53.4 +0.8**
	baz=224					
SNAA	**Sanae**	**88.12**	**177**	P	**P**	**05 04 54.2 +1.3**
	comp=Z,4.6nm,0.9s,baz=189,slow=8.4,SNR=4.4					
	comp=Z,4.6nm,0.9s					
LIRD	**Liard River Hi**	**88.16**	**22**	P	**P**	**05 04 53.8 +0.8**
	baz=223					
E19K	**Redstone River**	**88.20**	**6**	IAmb	IAmb	05 04 58.1
	comp=Z,14nm,1.2s					
E19K	**Redstone River**	**88.20**	**6**	P	**P**	**05 04 53.2 +0.2**
	baz=195,SNR=9.4					
K29M	**Barlow Dome**	**88.25**	**15**	IAmb	IAmb	05 04 56.8
	comp=Z,14nm,1.1s					
K29M	**Barlow Dome**	**88.25**	**15**	P	**P**	**05 04 53.5 0.0**
	baz=213,SNR=8.1					
I26K	**Coal Creek Min**	**88.28**	**12**	P	**P**	**05 04 54.7 +1.3**
	baz=208					
BO02	**Sierra Bellavi**	**88.31**	**126**		**P**	**05 04 54.8 +0.2**
BO02				IAmb	IAmb	05 04 59.3
	comp=Z,14nm,0.9s					
G23K	**Bananza Creek**	**88.38**	**9**	IAmb	IAmb	05 04 56.8
	comp=Z,14nm,1.6s					
G23K	**Bananza Creek**	**88.38**	**9**	P	**P**	**05 04 55.5 +1.6**
	baz=202					
F21K	**Alatna River**	**88.39**	**8**	P	**P**	**05 04 54.9 +0.9**
	baz=198					
C16K	**Lisburne Hills**	**88.41**	**3**	P	**P**	**05 04 54.9 +0.9**
	baz=187					
J29N	**Klondike Camp**	**88.60**	**14**	P	**P**	**05 04 54.6 -0.5**
	baz=212,SNR=6.8					
H25L	**Birch Creek**	**88.64**	**11**	P	**P**	**05 04 56.2 +1.1**
	baz=206					
HNS	**HongShan**	**88.75**	**311**	⇑P	**P**	**05 04 57.4 +1.1**
HNS				pmax	pmax	
	comp=Z,21nm,1.4s					
F22K	**John River**	**88.83**	**8**	P	**P**	**05 04 56.1 +0.1**
	baz=200					
COLD	**Coldfoot**	**88.83**	**9**	P	**P**	**05 04 56.4 +0.4**
	baz=201					
I27K	**Kandik River**	**88.85**	**13**	P	**P**	**05 04 57.2 +1.0**
	baz=209					
MMPY	**Sheldon Lake,**	**88.93**	**18**	P	**P**	**05 04 57.0 +0.3**
	baz=219					
BJI	**Beijing**	**88.93**	**314**	P	**P**	**05 04 58.0 +0.9**
BJI				S	**S**	**05 15 45.9 +1.2**
BJI				pmax	pmax	
	comp=Z,11nm,1.4s					
BJI				pmax	pmax	
	comp=Z,94nm,3.9s					
RPSI	**Rantau Prapat**	**88.97**	**273**	IAmb	IAmb	05 04 59.2
	comp=Z,36nm,1.5s					
C18K	**Utukok River**	**89.03**	**4**	P	**P**	**05 04 58.1 +1.1**
	baz=191					
G25K	**Bearman Lake**	**89.05**	**10**	P	**P**	**05 04 58.6 +1.7**
	baz=205					
I28M	**Miner Creek**	**89.07**	**13**	IAmb	IAmb	05 04 59.9
	comp=Z,13nm,1.4s					
I28M	**Miner Creek**	**89.07**	**13**	P	**P**	**05 04 58.8 +1.5**
	baz=211,SNR=5.4					
E20K	**Nigu River**	**89.08**

BILL pmax pmax
comp=Z,15nm,1.1s
I29M Ogilvie Camp, 89.35 14 IAmb IAmb 05 05 24.0
comp=Z,17nm,1.6s
I29M Ogilvie Camp, 89.35 14 P **P 05 05 00.1 +1.6**
baz=212
KOTAN Kotaneelee Air 89.40 22 P **P 05 05 01.0 +2.1**
baz=225
H27K Steamboat Moun 89.42 12 P **P 05 05 01.1 +2.3**
baz=209,SNR=5.2
F24K Squaw Lake 89.45 9 P **P 05 05 00.6 +1.7**
baz=204
E22K Anaktuvuk Pass 89.47 8 P **P 05 04 59.7 +0.7**
baz=200
D20K Etivluk River 89.48 6 IAmb IAmb 05 05 06.8
comp=Z,22nm,1.6s
D20K Etivluk River 89.48 6 P **P 05 05 00.7 +1.6**
baz=195
E21K Killik River 89.50 7 P **P 05 05 00.8 +1.6**
baz=198
G26K Porcupine Rive 89.62 11 P **P 05 05 01.6 +2.0**
baz=207
ZEA Zeya 89.65 329 *e*P **P 05 05 01.6 +1.5**
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,30nm,1.2s
I30M Mount Dempster 89.68 15 IAmb IAmb 05 05 03.8
comp=Z,19nm,1.4s
I30M Mount Dempster 89.68 15 P **P 05 05 02.0 +1.8**
baz=214
E23K Chandalar 89.69 9 P **P 05 05 01.3 +1.2**
baz=202
B18K Kokolik River 89.70 4 P **P 05 05 01.1 +1.1**
baz=191
E24K Your Creek 89.87 9 P **P 05 05 01.2 +0.3**
baz=203
F25K Christian Rive 89.88 10 P **P 05 05 01.7 +0.7**
baz=206
G27K Doyon Strip 89.90 12 P **P 05 05 02.9 +1.8**
baz=209
H29M Whitestone 90.06 13 IAmb IAmb 05 05 48.8
comp=Z,24nm,1.5s
H29M Whitestone 90.06 13 P **P 05 05 03.8 +2.0**
baz=212
D22K Ayikyak River 90.07 7 P **P 05 05 03.0 +1.3**
baz=199
C21K Knifeblade Rid 90.09 6 P **P 05 05 02.6 +0.7**
baz=197
F26K Sheenjek River 90.22 11 P **P 05 05 03.4 +0.8**
baz=207
TOLK Toolik Lake Re 90.24 8 P **P 05 05 03.7 +1.1**
baz=202
E25K Arctic Village 90.37 10 P **P 05 05 04.5 +1.3**
baz=206
D23K Nanushuk River 90.40 8 IAmb IAmb 05 08 05.0
comp=Z,24nm,1.9s
D23K Nanushuk River 90.40 8 P **P 05 05 05.8 +2.5**
baz=201
EPYK Eagle Plains 90.56 14 P **P 05 05 05.7 +1.6**
baz=214
B21K Ikpikpuk River 90.56 6 P **P 05 05 04.1 +0.1**
baz=197
A19K Wainwright 90.57 4 P **P 05 05 04.2 +0.1**
baz=191
H31M Peel River 90.65 15 P **P 05 05 06.2 +1.7**
baz=216
B20K Meade River 90.69 5 P **P 05 05 06.8 +2.3**
baz=195
G29M Pine Creek 90.73 13 P **P 05 05 06.6 +1.7**
baz=213
XLT XiLinHaoTe 90.78 317 *e*P **P 05 05 07.0 +1.2**
XLT sP pwP 05 05 15.8 -3.9
XLT pmax pmax
comp=Z,13nm,0.9s
W35A Tecumseh 90.82 53 IAmb IAmb 05 05 10.1
comp=Z,23nm,1.2s
D24K Happy Valley 90.82 8 P **P 05 05 06.6 +1.3**
baz=203
SLVN Son La 90.95 292 IAmb IAmb 05 05 10.2
comp=Z,22nm,1.5s
AC05 El Transito 91.08 121 **P 05 05 07.5 -0.2**
E27K Coleen River 91.11 11 P **P 05 05 07.6 +0.9**
baz=209
G30M tAoh Zraii Nji 91.18 14 P **P 05 05 08.3 +1.3**
baz=214
C23K Itkillik River 91.22 8 P **P 05 05 08.4 +1.3**
baz=201
ZON Zonda 91.24 124 IAmb IAmb 05 05 15.0
comp=Z,18nm,1.2s
D25K Kavik River 91.33 9 P **P 05 05 08.5 +0.8**
baz=205
C24K Franklin Bluff 91.36 8 P **P 05 05 10.0 +2.2**
baz=203
B22K Teshekpuk Lake 91.37 7 P **P 05 05 09.3 +1.6**
baz=198
G31M Satah River 91.57 14 IAmb IAmb 05 05 11.5
comp=Z,16nm,1.2s
G31M Satah River 91.57 14 P **P 05 05 10.0 +1.3**
baz=216
XAN Xi'an 91.61 306 ⇑P **P 05 05 10.8 +1.0**
XAN pmax pmax
comp=Z,36nm,1.2s
XAN pmax pmax
comp=Z,180nm,4.7s
WRGLY Wrigley 91.78 20 P **P 05 05 11.1 +1.3**
baz=226
F30M Barrier River 91.79 13 P **P 05 05 10.5 +0.7**
baz=215
A22K Sinclair Lake 91.85 6 P **P 05 05 09.9 0.0**
baz=197
E28M Babbage River 91.86 12 P **P 05 05 11.7 +1.5**
baz=211
E29M Blow River 92.00 12 P **P 05 05 11.0 +0.3**
baz=213
A21K Barrow 92.01 5 P **P 05 05 11.7 +1.0**
baz=195
C27K Jago River 92.02 10 IAmb IAmb 05 06 11.9
comp=Z,14nm,1.7s
C27K Jago River 92.02 10 P **P 05 05 11.1 +0.3**
baz=207
C26K Camden Bay 92.09 9 P **P 05 05 12.4 +1.3**
baz=206
F31M Tsiigehtchic 92.11 14 P **P 05 05 13.1 +1.9**
baz=217
D27M Malcolm River 92.15 11 P **P 05 05 12.7 +1.2**
baz=210
HHC Hu-ho-hao-te 92.45 313 ⇑*i*P **P 05 05 15.3 +1.7**
HHC S **S 05 16 13.8 -3.4**
HHC sS ScS 05 16 27.8 +8.4
HHC pmax pmax
comp=Z,37nm,0.9s
HHC pmax pmax
comp=Z,100nm,4.1s
D28M Stokes Point 92.63 12 P **P 05 05 15.2 +1.6**
baz=212
AC02 Maricunga 92.82 120 P **P 05 05 15.4 -0.9**
AC02 IAmb IAmb 05 05 24.2
comp=Z,13nm,1.1s
INK Inuvik 92.86 14 P **P 05 05 15.3 +0.6**
baz=217
KMI Kunming 93.30 295 P **P 05 05 18.6 +0.5**
KMI pmax pmax
comp=Z,21nm,1.2s
BTO Baotou 93.42 312 *e*P **P 05 05 20.8 +2.7**
BTO pP **pwP 05 05 25.8 -6.2**
BTO sP sP 05 05 28.0 +7.3
BTO sS **sS 05 16 33.6 +4.7**
BTO SS **SS 05 22 43.8 +0.8**
BTO pmax pmax
comp=Z,30nm,1.1s
BTO pmax pmax
comp=Z,260nm,5.6s
YAK Yakutsk 93.60 337 *i* P **P 05 05 19.1 +0.9**
YAK pmax pmax
comp=Z,20nm,0.8s
CMAR Chiang Mai Arr 94.33 288 **P 05 05 21.5 -1.2**
CMAR Chiang Mai Arr 94.33 288 P **P 05 05 23.8 +1.1**
comp=Z,11nm,1.0s,baz=117,slow=2.7,SNR=34
CMAR PP **PP 05 09 12.7 +2.6**
comp=Z,2.0nm,0.3s,baz=122,slow=6.1,SNR=4.8
comp=Z,11nm,1.0s
YKA Yellowknife Ar 94.40 23 P **P 05 05 23.6 +1.7**
comp=Z,0.9nm,0.9s,baz=235,slow=4.2,SNR=15
comp=Z,0.9nm,0.9s
CHTO Chiang Mai 94.44 288 P **P 05 05 22.2 -0.9**
CHTO IAmb IAmb 05 05 27.0
comp=Z,13nm,1.1s

CHTO Chiang Mai 94.44 288 P **P 05 05 22.3 -0.9**
CHTO pmax pmax
comp=Z,13nm,1.1s
PZH PanZhiHua 94.62 296 P **P 05 05 25.5 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.9s
F33A 5 Mile Ranch, 95.53 43 IAmb IAmb 05 05 30.5
comp=Z,15nm,1.0s
C36M Paulatuk 95.90 16 P **P 05 05 29.7 +1.0**
baz=226
LZH Lanzhou 96.24 306 *e*P **P 05 05 33.4 +2.2**
LZH sP pwP 05 05 44.4 -0.7
LZH pmax pmax
comp=Z,22nm,1.7s
AGMN Agassiz Nation 96.76 41 IAmb IAmb 05 05 35.4
comp=Z,11nm,1.1s
A36M Sachs Harbour 97.50 13 P Pdif 05 05 37.0 +1.1
baz=225
ULM Lac du Bonnet 97.50 39 P Pdif 05 05 38.3 +1.9
comp=Z,1.7nm,0.4s,baz=267,slow=4.4,SNR=3.4
comp=Z,1.7nm,0.4s
SONM Songino Array 98.56 318 P Pdif 05 05 41.9 +0.6
comp=Z,1.6nm,1.0s,baz=105,slow=3.5,SNR=5.3
comp=Z,1.6nm,1.0s
EPLO Experimental L 98.58 40 P Pdif 05 05 41.7 +0.4
EPLO IAmb IAmb 05 05 43.6
comp=Z,8.2nm,1.1s
TIXI Tiksi 99.67 344 P **Pdif 05 05 44.4 -1.2**
TIXI IAmb IAmb 05 05 47.8
comp=Z,8.3nm,1.4s
TIXI Tiksi 99.67 344 *ce*P **Pdif 05 05 45.9 +0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.1s
GTA Gaotai 100.34 308 *e*P **Pdif 05 05 55.3 +5.8**
GTA sP pwP 05 06 01.5 -1.9
GTA pmax pmax
comp=Z,2.0nm,0.9s
WMQ Urumqi 110.19 310 *e*PKP **PKiKP 05 10 33.8 -0.7**
M65A Busby, Falmout 112.31 52 P **PKiKP 05 10 38.3 -0.2**
baz=262
ZALV Zalesovo Beam 113.12 321 PKiKP **PKiKP 05 10 39.3 -0.3**
comp=Z,0.3nm,0.3s,baz=195,slow=4.5,SNR=3.6
MKAR Makanchi Array 114.31 313 PKP **PKiKP 05 10 42.6 +0.4**
comp=Z,1.0nm,0.7s,baz=93,slow=1.0,SNR=8.9
MKAR PKKPbc **PKKPab 05 21 27.9 +0.6**
comp=Z,0.4nm,0.7s,baz=252,slow=2.4,SNR=3.9
KURK Kurchatov 116.86 317 **PKPdf 05 10 46.8 -0.1**
KURK Kurchatov 116.86 317 PKIKP **PKiKP 05 10 47.1 +0.2**
KURBB Kurchatov Arra 116.92 317 PKP **PKPdf 05 10 47.1 0.0**
comp=Z,1.0nm,0.6s,baz=91,slow=1.9,SNR=10
BVAR Borovoye Array 121.77 321 PKP **PKiKP 05 10 57.0 +0.5**
comp=Z,2.5nm,0.6s,baz=101,slow=3.0,SNR=11
BVAR PP **PP 05 12 33.0 +3.4**
comp=Z,1.4nm,0.6s,baz=103,slow=11,SNR=3.7
SPITS Spitsbergen Ar 121.81 358 PKP **PKiKP 05 10 57.0 +1.1**
comp=Z,7.2nm,0.9s,baz=57,slow=6.1,SNR=5.3
KKAR Karatay Array 122.61 309 PKPdf **PKPdf 05 10 57.9 -0.4**
KKAR Karatay Array 122.61 309 PKIKP **PKPdf 05 10 57.9 -0.4**
SCO Scoresbysund 126.87 12 **PKiKP 05 11 06.3 +0.2**
SCO Scoresbysund 126.87 12 PKIKP **PKiKP 05 11 06.3 +0.2**
ARTI Arti 127.61 327 PKPdf **PKPdf 05 11 07.3 -0.1**
ARTI Arti 127.61 327 *i* PKIKP **PKiKP 05 11 08.9 +0.9**
ARTI 05 13 12.5
ARTI 05 18 19.7
ARTI SS SS 05 30 19.0 0.0
ARCES ARCESS Array B 129.38 352 PKP **PKPdf 05 11 10.1 -0.4**
comp=Z,5.4nm,1.0s,baz=348,slow=5.3,SNR=8.3
FINES FINESS Array B 136.66 347 PKP **PKPdf 05 11 24.0 -0.3**
comp=Z,2.4nm,1.0s,baz=106,slow=6.2,SNR=4.1
OBN Obninsk 138.56 335 *e*PKIKP **PKPdf 05 11 28.1 +0.1**
OBN *e* 05 14 18.4
OBN *e*PPP PPP 05 17 21.8
OBN pmax pmax
comp=Z,6.0nm,1.0s
NOA NORSAR Array B 139.09 357 PKP **PKPdf 05 11 29.0 +0.1**
comp=Z,1.8nm,0.9s,baz=13,slow=4.0,SNR=3.6
HFS Hagfors 139.82 355 PKhKP PKPpre 05 11 21.9
comp=Z,1.7nm,0.8s,baz=27,slow=6.8,SNR=4.8
SOC Sochi 144.01 318 *e*PKIKP PKPab 05 11 35.4 -0.1
SOC *e* 05 14 49.4
SOC *e*SSS SSS 05 38 53.4
SUW Suwalki 144.01 344 *e*PKP **PKPdf 05 11 38.1 +0.3**
RAYN Ar Rayn 144.04 282 **PKPdf 05 11 38.4 -0.5**
RAYN Ar Rayn 144.04 282 ⇑PKIKP **PKPdf 05 11 38.4 -0.5**
EKA Eskdalemuir Ar 144.13 10 PKP PKPbc 05 11 36.8 +0.8
comp=Z,3.8nm,1.1s,baz=3.2,slow=5.9,SNR=5.1
EDMD Edmundbyers 144.79 9 *e*P **PKPdf 05 11 39.0 -0.2**
AKASG Malin Array Be 144.81 335 PKPdf **PKPab 05 11 37.6 -0.6**
AKASG Malin Array Be 144.81 335 PKP PKPbc 05 11 38.6 +0.3
comp=Z,24nm,1.0s,baz=36,slow=4.1,SNR=77
KIEV Kiev 144.83 335 PKPdf **PKPab 05 11 37.6 -0.7**
KIEV Kiev 144.83 335 ⇑P PKPbc 05 11 38.6 +0.2
KIEV Kiev 144.83 335 ⇑PKIKP PKPbc 05 11 38.6 +0.2
GDLE Glaisdale, N Y 145.35 8 *e*P **PKPdf 05 11 41.9 +1.7**
WPS Cemaes, Angles 145.74 12 *e*P **PKPab 05 11 42.0 +0.5**
WME Myndd Eilian 145.78 12 *e*P **PKPab 05 11 42.8 +1.1**
WLF1 Llynfaes 145.86 12 *e*P **PKPab 05 11 42.5 +0.5**
BSEG Bad Segeberg 146.23 356 *e*PKPbc 05 11 44.6
baz=7.0,slow=2.6
LLW Llanuwychllyn 146.42 12 *e*P **PKPab 05 11 44.4 +0.2**
FOEL Foel Wylfa 146.47 11 *e*P **PKPab 05 11 44.8 +0.4**
SIM Simferopol' 146.57 324 *e*PKP2 **PKPbc 05 11 43.5 -0.5**
SIM pmax pmax
comp=Z,47nm,1.2s
HLM1 Long Mynd 146.88 11 *e*P **PKPab 05 11 45.5 -0.5**
SORM Soroca 147.17 333 ⇑P **PKPbc 05 11 46.4 +0.8**
SORM Soroca 147.17 333 ⇑PKP2 **PKPbc 05 11 46.4 +0.8**
RUE Ruedersdorf 147.34 352 *e*PKPbc 05 11 47.8
baz=7.0,slow=2.6
MCH1 Michaelchurch 147.36 11 *e*P **PKPbc 05 11 45.9 -0.1**
LODK Lodwar 147.58 243 **PKiKP 05 11 49.7 -0.3**
NRDL Niedersach Rie 147.68 356 *e*PKPbc 05 11 48.2
baz=7.0,slow=2.6
FLTG Flechtingen 147.76 355 *e*PKPbc 05 11 48.5
baz=7.0,slow=2.6
IBBN Ibbenburen 147.96 359 *e*PKPbc 05 11 49.3
baz=7.0,slow=2.6
ASSE Asse, Remlinge 148.00 356 *e*PKPbc 05 11 49.2
baz=7.0,slow=2.6
CLZ Clausthal 148.31 356 *e*PKPbc 05 11 50.0
baz=7.0,slow=2.6
OJC Ojcow 148.34 344 *e*PKP **PKiKP 05 11 50.2 -0.2**
KSP Ksiaz 148.53 348 *e*PKP **PKiKP 05 11 51.2 +0.4**
CLL Collm 148.59 353 **PKiKP 05 11 50.1 -0.7**
CLL Collm 148.59 353 *i* PKP2 **PKiKP 05 11 50.9 +0.1**
CLL pmax pmax
comp=Z,42nm,1.1s
CLL Collm 148.59 353 *i* PKPbc **PKiKP 05 11 50.9 +0.1**
comp=Z,42nm,1.1s
CLL *i* pPKPab **sPKPab 05 11 56.7 +1.1**
CLL Collm 148.59 353 *e*PKPbc 05 11 50.8
baz=7.0,slow=2.6
GTTG Gottingen 148.63 356 *e*PKPbc 05 11 50.7
baz=7.0,slow=2.6
GAZ Gaziantep 148.64 309 PKPdf **PKPdf 05 11 45.3 -1.0**
STHS Stebnicka Huta 148.67 342 *e*PKP2 **PKiKP 05 11 51.3 +0.2**
STHS Stebnicka Huta 148.67 342 *e*PKP **PKiKP 05 11 51.3 +0.2**
KOLS Kolonicke sedl 148.78 340 *e*PKP2 **PKiKP 05 11 51.2 -0.2**
KOLS Kolonicke sedl 148.78 340 *e*PKP **PKiKP 05 11 51.2 -0.2**
KOLS *e* 05 11 54.5
OSTC Ostas 148.82 348 ⇑*e*PKP **PKiKP 05 11 52.4 +1.0**
OSTC Ostas 148.82 348 *e*PKP2 **PKiKP 05 11 52.4 +1.0**
NEUB Neuenburg 148.82 354 *e*PKPbc 05 11 51.7
baz=7.0,slow=2.6
BUG Bochum-Univer 148.83 359 *e*PKPbc 05 11 51.8
baz=7.0,slow=2.6
BURAR Bucovina Array 148.86 336 ⇓P **PKiKP 05 11 52.1 +0.4**
BURAR Bucovina Array 148.86 336 ⇓PKP2 **PKiKP 05 11 52.1 +0.4**
BRG Berggiesshubel 148.89 351 *e*PKP **PKiKP 05 11 51.8 +0.3**
BRG Amp 05 11 53.3
comp=Z,14nm,0.8s
BRG Berggiesshubel 148.89 351 *e*PKPbc 05 11 52.2
baz=7.0,slow=2.6
NIE Niedzica 148.94 343 *e*PKP **PKiKP 05 11 52.7 +1.0**
DPC Dobruska-Polom 149.00 348 ⇑*e*PKP **PKiKP 05 11 52.6 +0.8**
DPC Dobruska-Polom 149.00 348 *e*PKP2 **PKiKP 05 11 52.6 +0.8**
KASTN Kahler Asten 149.05 358 *e*PKPbc 05 11 52.0
baz=7.0,slow=2.6
STEB Steborice 149.09 346 ⇑*e*PKP **PKiKP 05 11 52.2 +0.2**
ILGA Ilgaz 149.12 318 PKPbc **PKPdf 05 11 48.9 +1.7**
PVCC Panska Ves 149.13 350 ⇑*e*PKP **PKiKP 05 11 53.1 +1.1**
PVCC Panska Ves 149.13 350 *e*PKP2 **PKiKP 05 11 53.1 +1.1**

TESR Tescani 149.16 333 ⇓P **PKiKP 05 11 52.7 +0.4**
TLCR 149.18 329 ⇓P **PKPbc 05 11 51.3 +0.3**
TLCR 149.18 329 ⇓PKP2 **PKPbc 05 11 51.3 +0.3**
SCTR Scanteiesti 149.21 330 ⇓P **PKiKP 05 11 53.3 +1.0**
MORC Moravsky Berou 149.29 346 *e*PKP **PKiKP 05 11 52.9 +0.5**
MORC Moravsky Berou 149.29 346 ⇓P **PKiKP 05 11 53.3 +0.9**
MORC Moravsky Berou 149.29 346 ⇓PKP2 **PKiKP 05 11 53.3 +0.9**
UBBA Unterbreizbach 149.35 356 *e*PKPbc 05 11 53.1
baz=7.0,slow=2.6
MOX Moxa 149.40 354 *e*PKPbc 05 11 53.3
baz=7.0,slow=2.6
LANS Liptovska Anna 149.40 344 *e*PKP2 **PKiKP 05 11 54.0 +1.3**
LANS Liptovska Anna 149.40 344 *e*PKP **PKiKP 05 11 54.0 +1.3**
ONER Baraj Valea Uz 149.41 333 ⇓P **PKiKP 05 11 53.2 +0.4**
UCC Uccle 149.41 3 PKPbc **PKPdf 05 11 49.0 +2.0**
UCC Uccle 149.41 3 PKIKP **PKPdf 05 11 49.0 +2.0**
CFR Carcaliu 149.51 330 ⇑P **PKiKP 05 11 52.7 -0.3**
TANN Tannenbergstha 149.53 353 *e*PKPbc 05 11 53.6
baz=7.0,slow=2.6
TPGR Topolog 149.61 329 ⇑P **PKiKP 05 11 52.8 -0.4**
MAUC Maruska 149.61 346 ⇑*e*PKP **PKiKP 05 11 54.1 +1.0**
ARCR ARCALIA 149.63 336 ⇓P **PKiKP 05 11 53.9 +0.8**
VRI Vrincioaia 149.63 332 ⇓P **PKiKP 05 11 53.7 +0.5**
VRI Vrincioaia 149.63 332 ⇓PKP2 **PKiKP 05 11 53.7 +0.5**
MEM Membach 149.66 1 *d*PKP **PKiKP 05 11 54.0 +0.9**
BSTI Sart Tilman 149.67 2 *d*PKP **PKiKP 05 11 54.2 +1.1**
PLOR Plostina 149.68 332 ⇑P **PKiKP 05 11 53.2 -0.2**
BTNL Ternell 149.68 1 *d*PKP **PKiKP 05 11 53.3 +0.1**
GOPC GO Pecny, Ondr 149.69 350 ⇑*e*PKP **PKiKP 05 11 53.8 +0.6**
GOPC GO Pecny, Ondr 149.69 350 *e*PKP2 **PKiKP 05 11 53.8 +0.6**
BGES Gesves 149.86 2 *d*PKP **PKiKP 05 11 55.2 +1.7**
OZUR 149.86 333 ⇓P **PKiKP 05 11 54.3 +0.6**
COVR Voineasa-Covas 149.88 333 ⇑P **PKiKP 05 11 54.5 +0.7**
BRTR Keskin Array B 149.90 316 PKPdf **PKPdf 05 11 47.1 -1.3**
BRTR Keskin Array B 149.90 316 PKP **PKPdf 05 11 47.6 -0.8**
comp=Z,3.4nm,1.0s,baz=79,slow=2.6,SNR=5.1
BRTR PKPbc **pPKPbc 05 11 53.6 -1.7**
comp=Z,9.4nm,1.0s,baz=126,slow=3.6,SNR=25
TIRR Tirgusor 149.90 328 ⇓P **PKPbc 05 11 53.2 +0.4**
TIRR Tirgusor 149.90 328 ⇓PKP2 **PKPbc 05 11 53.2 +0.4**
BMRD Maredsous 149.93 3 *d*PKP **PKiKP 05 11 55.0 +1.4**
VRAC Vranov 149.94 347 *e*PKP **PKiKP 05 11 55.0 +1.3**
VRAC Vranov 149.94 347 ⇑P **PKiKP 05 11 54.7 +1.0**
VRAC Vranov 149.94 347 ⇑PKP2 **PKiKP 05 11 54.7 +1.0**
HARR Harsova 149.97 329 ⇑P **PKiKP 05 11 54.9 +1.0**
HARR Harsova 149.97 329 ⇑PKP2 **PKiKP 05 11 54.9 +1.0**
MANZ Manzenberg 150.00 353 *e*PKPbc 05 11 54.8
baz=7.0,slow=2.6
TNS Taunus Mts 150.03 358 *e*PKPbc 05 11 54.8
baz=7.0,slow=2.6
KIRS Kirsehir-Merke 150.03 315 ⇓P **PKiKP 05 11 54.3 0.0**
JAVC Velka Javorina 150.12 346 *e*PKP **PKiKP 05 11 56.2 +2.0**
DOU Dourbes 150.12 3 *d*PKP **PKiKP 05 11 55.0 +1.0**
NEHR Nehoiu 150.16 332 ⇑P **PKiKP 05 11 55.5 +1.2**
VYHS Vyhne 150.17 344 *e*PKIKP **PKiKP 05 11 55.4 +1.2**
VYHS Vyhne 150.17 344 *e*PKP **PKiKP 05 11 55.4 +1.2**
ROTZ Rotzenmuhle 150.20 353 *e*PKPbc 05 11 55.5
baz=7.0,slow=2.6
KRUC Moravsky 150.21 347 *e*PKP **PKiKP 05 11 55.1 +0.8**
ZVC Zvikov 150.25 350 ⇑*e*PKP **PKiKP 05 11 55.4 +1.0**
MLR Muntele Rosu 150.27 332 ⇓P **PKiKP 05 11 55.3 +0.6**
MLR Muntele Rosu 150.27 332 ⇓PKIKP **PKiKP 05 11 55.3 +0.6**
MANR Mangalia 150.28 327 ⇑P **PKiKP 05 11 55.6 +1.1**
ISR Istrita 150.29 331 ⇑P **PKiKP 05 11 55.7 +1.0**
ISR Istrita 150.29 331 ⇑PKIKP **PKiKP 05 11 55.7 +1.0**
ANTO Ankara 150.37 317 PKPbc **PKPdf 05 11 50.2 +1.2**
ANTO Ankara 150.37 317 ⇓P **PKiKP 05 11 56.1 +1.1**
ANTO Ankara 150.37 317 PKIKP **PKPdf 05 11 50.2 +1.2**
GRF Grafenberg Arr 150.38 354 *e*PKPbc 05 11 55.9
baz=7.0,slow=2.6
PSZ Piszkesteto 150.41 342 ⇑P **PKiKP 05 11 56.5 +1.7**
PSZ Piszkesteto 150.41 342 ⇑PKIKP **PKiKP 05 11 56.5 +1.7**
MARR Marisel-Cluj 150.44 337 ⇓P **PKiKP 05 11 56.0 +1.1**
DRGR 150.49 338 ⇓P **PKiKP 05 11 56.1 +1.1**
DRGR 150.49 338 ⇓PKIKP **PKiKP 05 11 56.1 +1.1**
WLF Walferdange 150.61 1 PKPbc **PKPbc 05 11 51.7 -2.7**
WLF Walferdange 150.61 1 *d*PKP **PKiKP 05 11 56.9 +1.8**
WLF Walferdange 150.61 1 PKIKP **PKPbc 05 11 51.7 -2.7**
WLF Walferdange 150.61 1 *e*PKPbc 05 11 56.8
baz=7.0,slow=2.6
KHC Kasperske Hory 150.64 351 ⇑*e*PKP **PKiKP 05 11 56.5 +1.3**
KHC Kasperske Hory 150.64 351 *e*PKIKP **PKiKP 05 11 56.5 +1.3**
MODS Modra-Piesok 150.67 346 *e*PKIKP **PKiKP 05 11 56.8 +1.5**
MODS Modra-Piesok 150.67 346 *e*PKP **PKiKP 05 11 56.8 +1.5**
VOIR 150.70 333 ⇓P **PKiKP 05 11 56.0 +0.5**
VOIR 150.70 333 ⇓PKIKP **PKiKP 05 11 56.0 +0.5**
WET Wettzell 150.73 352 *e*PKPbc 05 11 56.8
baz=7.0,slow=2.6
CKRC Cesky Krumlov 150.83 350 ⇑*e*PKP **PKiKP 05 11 56.7 +1.1**
CKRC Cesky Krumlov 150.83 350 *e*PKIKP **PKiKP 05 11 56.7 +1.1**
GEC2 GERESS Array S 150.90 351 *e*PKPbc 05 11 56.9
baz=7.0,slow=2.6
GERES GERESS Array B 150.90 351 PKPdf **PKPdf 05 11 48.5 -1.1**
GERES GERESS Array B 150.90 351 PKP **PKPdf 05 11 49.4 -0.2**
comp=Z,7.5nm,0.9s,baz=39,slow=8.7,SNR=3.4
GERES PKPbc **sPKPbc 05 11 56.6 -1.5**
comp=Z,2.7nm,0.8s,baz=48,slow=2.0,SNR=7.6
ARR Arges 150.93 334 ⇓P **PKiKP 05 11 58.0 +2.1**
SIRR Siria 151.31 338 ⇑P **PKiKP 05 11 57.4 +0.7**
CONA Conrad Observa 151.40 347 *i* pPKP **PKiKP 05 11 58.0 +1.1**
comp=Z,15nm,1.1s
RONA Rosalia, Austr 151.53 347 *i* PKiKP **PKiKP 05 11 57.4 +0.3**
comp=Z,18nm,0.9s
MMAI Mount Meron Ar 151.56 302 PKPbc **PKiKP 05 11 58.3 +0.6**
comp=Z,12nm,0.9s,baz=76,slow=3.5,SNR=9.2
SURR Surduc 151.59 337 ⇑P **PKiKP 05 11 58.1 +0.8**
MOA Molln 151.78 349 *i* pPKP **PKiKP 05 11 58.6 +1.0**
comp=Z,11nm,1.2s
BZS Buzias 151.88 338 ⇑P **PKiKP 05 11 58.7 +0.9**
BZS Buzias 151.88 338 ⇑PKIKP **PKiKP 05 11 58.7 +0.9**
BFO Black Forest 151.92 358 *e*PKPbc 05 11 59.6
baz=7.0,slow=2.6
BIOA Bad Ischl, Aus 152.04 350 *i* pPKP **PKPab 05 12 09.4 +2.3**
comp=Z,16nm,1.1s
ARSA Arzberg 152.12 347 *i* pPKP **PKiKP 05 11 59.9 +1.6**
comp=Z,4.8nm,0.9s
RJOB Jochberg 152.12 351 *e*PKPbc 05 11 59.8
baz=7.0,slow=2.6
MORH Mrgy, Hungar 152.31 342 ⇑P **PKiKP 05 11 59.6 +0.9**
LESA Schwarzleotal 152.44 351 *i* pPKP **PKiKP 05 12 00.5 +1.5**
comp=Z,4.2nm,0.9s
UBR Ueberruh 152.47 355 *e*PKPbc 05 12 00.2
baz=7.0,slow=2.6
RETA Reutte 152.60 354 *i* pPKP **PKiKP 05 12 01.4 +2.0**
comp=Z,5.7nm,0.8s
WATA Walderalm 152.67 353 *i* pPKP **PKiKP 05 12 00.6 +1.0**
comp=Z,11nm,1.2s
KBA Koelnbreinsper 152.68 350 *e*PKiKP **PKPbc 05 11 59.3 -0.2**
comp=Z,12nm,1.1s
MOTA Moosalm 152.71 354 *i* pPKP **PKiKP 05 12 01.0 +1.2**
comp=Z,14nm,1.1s
WTTA Wattenberg 152.73 353 *i* pPKP **PKiKP 05 12 00.9 +1.1**
comp=Z,20nm,1.3s
SOKA Soboth 152.76 348 *i* pPKP **PKiKP 05 12 00.6 +0.9**
comp=Z,12nm,1.0s
SQTA Sankt Quirin 152.82 353 *e*pPKP **PKiKP 05 12 01.1 +1.2**
comp=Z,4.5nm,0.6s
DAVA Damuels 152.88 355 *i* pPKP **PKiKP 05 12 01.7 +1.7**
comp=Z,16nm,1.1s
OBKA Obir 153.02 348 *e*pPKiKP **PKiKP 05 12 03.7 +3.4**
comp=Z,15nm,1.4s
MYKA Terra Mystica 153.07 350 *i* PKiKP **PKiKP 05 12 01.0 +0.6**
comp=Z,8.0nm,1.0s
FETA Feichten 153.07 354 *i* pPKP **PKiKP 05 12 02.0 +1.5**
comp=Z,14nm,1.0s
ABTA Abfaltersbach 153.13 351 *i* pPKP **PKiKP 05 12 01.3 +0.8**
comp=Z,17nm,0.9s

ATH 23 05:09:40.5, 37°52N×20°87E, h8km↓2km, ML1.6/1, Manual Solution by K.Orfanogiannaki First location: 2019/04/23 05:10:06, This location: 2019/04/23 05:25:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.20**	**351**	P	Pg		05 09 44.5	0.0
LTHK				S	Sg		05 09 47.4	+0.1
KYPS	**Kipseli, Zakin**	**0.31**	**352**	P	Pg		05 09 46.7	+0.1
KYPS				S	Sg		05 09 51.2	+0.5

ORTH	**Orthonies,Zaky**	**0.36**	**337**	P	Pg	05 09 47.2	-0.5
ORTH				S	Sg	05 09 53.0	+0.5
CLEM	**Kyllini,Ilia,G**	**0.43**	**29**	P	Pg	05 09 49.5	+0.7
CLEM				S	Sg	05 09 55.2	+0.7
AMT	**Artemida-Makis**	**0.66**	**88**	P	Pg	05 09 53.4	+0.1
YRMI	**Loutra Irminis**	**0.70**	**33**	P	Pg	05 09 54.2	+0.2
VLS	**Valsamata**	**0.70**	**341**	P	Pg	05 09 53.0	-1.0
RLS	**Riolos of Patr**	**0.72**	**41**	P	Pg	05 09 54.0	-0.4
DRO	**Drossia**	**0.79**	**56**	P	Pg	05 09 55.8	+0.1
ITM	**Ithomi**	**0.90**	**111**	P	Pg	05 09 57.3	-0.5
FSK	**Fiskardo**	**0.97**	**345**	P	Pg	05 09 59.3	0.0
EVGI	**Lefkada island**	**1.12**	**351**	P	Pg	05 10 01.9	-0.1
KLV	**Kalavryta, Ach**	**1.14**	**62**	P	Pg	05 10 01.8	-0.6
PVO	**Paravola**	**1.22**	**25**	P	Pb	05 10 03.6	-0.2
LKD2	**Lefkada island**	**1.28**	**352**	P	Pg	05 10 05.4	+0.3

*IDC **23** 05:15:21.1±1.6,0.″86S×131.″04E, h0km, mb3.8/6, mbtmp3.8/8, ML3.7/2, Error ellipse: s-maj=105.3km s-min=20.4km az=72.0*
*NEIC **23** 05:15:22.5±1.1,0.″85S±0.″08×131.″2E±0.″2, h10km±2km, mb4.0/10, Error ellipse: s-maj=26.9km s-min=12.2km az=81.0*
*DJA **23** 05:15:23.2±0.7, 1.″S±6.″×13.″1E±.″, h12km±5km, M4.3/5, MLv4.3/5*
ISC 23 05:15:24.5±0.8, 1.″01S±0.″09×131.″06E±0.″09, h22km±4km, n25, σ1.″63/28, mb3.8/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.25**	**54**	P	**Pb**	**05 15 29.8**	**-0.9**
SWI				S	**Sb**	**05 15 36.1**	**+1.2**
FAKI	**Fak Fak**	**2.24**	**148**		**Pn**	**05 16 00.6**	**+0.2**
FAKI	**Fak Fak**	**2.24**	**148**	P	**Pn**	**05 16 00.8**	**+0.5**
RKPI	**Ransiki, Papua**	**3.16**	**99**	P	**Pn**	**05 16 12.0**	**-1.0**
RKPI				S	**Sn**	**05 16 51.3**	**+1.2**
KMPI	**Kaimana, Papua**	**3.73**	**135**	P	**Pn**	**05 16 19.3**	**-1.6**
KNRA	**Kununurra**	**14.75**	**189**	Pn	**Pn**	**05 18 53.0**	**+1.1**
COEN	**Coen**	**17.58**	**138**		**Pn**	**05 19 27.5**	**-0.9**
COEN				IAmb	IAmb	05 19 38.1	
	comp=Z,21nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.79**	**197**		**Pn**	**05 19 32.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**17.79**	**197**	P	**Pn**	**05 19 31.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=282,slow=21,SNR=1.5						
	comp=Z,2.0nm,0.8s						
WB0	**Warramunga Arr**	**18.92**	**170**	P	**P**	**05 19 44.5**	**+0.4**
WB0				IAmb	IAmb	05 20 18.9	
	comp=Z,5.5nm,1.0s						
WRA	**Warramunga Arr**	**19.09**	**171**	P	**P**	**05 19 44.8**	**-1.0**
WRA	**Warramunga Arr**	**19.09**	**171**	P	**P**	**05 19 46.2**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=351,slow=11,SNR=13						
WRA				S	**Sn**	**05 23 14.2**	**-5.9**
	comp=Z,0.7nm,0.8s,baz=346,slow=23,SNR=2.1						
	comp=Z,2.0nm,0.6s						
WB2	**Warramunga Arr**	**19.09**	**170**	P	**P**	**05 19 47.2**	**+1.3**
WB2				IAmb	IAmb	05 19 55.4	
	comp=Z,10nm,1.1s						
WR8	**Warramunga Arr**	**19.13**	**170**	P	**P**	**05 19 46.8**	**+0.4**
WR8				IAmb	IAmb	05 19 50.1	
	comp=Z,5.4nm,0.8s						
ASAR	**Alice Springs**	**22.69**	**173**	P	**P**	**05 20 26.4**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=356,slow=11,SNR=11						
	comp=Z,1.7nm,0.7s						
STKA	**Stephens Creek**	**32.27**	**163**	P	**P**	**05 21 52.8**	**+1.0**
STKA	**Stephens Creek**	**32.27**	**163**	P	**P**	**05 21 52.9**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=333,slow=11,SNR=3.4						
	comp=Z,1.3nm,0.6s						
GSI	**Gunungsitoli**	**33.56**	**274**	P	**P**	**05 22 02.3**	**-1.0**
MKAR	**Makanchi Array**	**63.89**	**325**	P	**P**	**05 25 54.4**	**-1.4**
MKAR	**Makanchi Array**	**63.89**	**325**	P	**P**	**05 25 55.1**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=113,slow=8.3,SNR=4.0						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**68.04**	**327**	P	**P**	**05 26 21.3**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=123,slow=6.4,SNR=4.0						
	comp=Z,0.3nm,0.5s						
VNDA	**Vanda**	**78.23**	**173**	P	**P**	**05 27 23.3**	**+1.3**
VNDA				IAmb	IAmb	05 28 00.9	
	comp=Z,3.2nm,1.4s						
VNDA	**Vanda**	**78.23**	**173**	P	**P**	**05 27 23.7**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=337,slow=3.8,SNR=3.5						
	comp=Z,0.6nm,0.9s						
QSPA	**South Pole Qui**	**88.92**	**180**	P	**P**	**05 28 17.6**	**+0.4**
QSPA				IAmb	IAmb	05 28 33.8	
	comp=Z,4.6nm,1.4s						
QSPA	**South Pole Qui**	**88.92**	**180**	P	**P**	**05 28 18.0**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=3.5,slow=0.6,SNR=6.9						
	comp=Z,1.2nm,0.7s						

*GCG **23** 05:26:56.7±1.6, 14.″18N×93.″82W, h37km±999km, MD4.4*
*MEX **23** 05:26:56.6±0.6, 14.″30N×93.″92W, h12km±25km, MD4.1*
ISC 23 05:26:51.3±2.1, 14.″32N±0.″07×93.″78W±0.05, h3km±14km, n17, σ1.″77/31, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.48**	**21**	*e*P	**Pg**	**05 27 20.9**	**+1.2**
PCIG				*e*S	**Sg**	**05 27 38.7**	**-0.2**
THIG		**1.57**	**68**	*e*P	**Pg**	**05 27 22.1**	**+0.6**
THIG				*e*S	**Sg**	**05 27 41.7**	**-0.3**
PATR	**El Naranjo**	**1.69**	**62**	*e*P	**Pg**	**05 27 24.5**	**+0.8**
PATR				*e*S	**Sg**	**05 27 45.4**	**-0.3**
PAVE	**Pavencul**	**1.77**	**60**	*e*P	**Pg**	**05 27 25.2**	**-0.2**
PAVE				*e*S	**Sg**	**05 27 49.1**	**+0.7**
RTAL	**Retalhuleu**	**2.03**	**84**	*e*P	**Pb**	**05 27 28.8**	**-0.1**
RTAL				*e*S	**Sg**	**05 27 56.4**	**-0.2**
STG8	**El Palmar, Qui**	**2.35**	**87**	*i* P	**Pn**	**05 27 31.6**	**+0.5**
STG0	**El Palmar, Qui**	**2.36**	**87**	*i* P	**Pn**	**05 27 31.8**	**+0.6**
HUEH	**Huehuetenango**	**2.41**	**65**	*e*P	**Pn**	**05 27 32.7**	**+0.7**
HUEH				*e*S	**Sg**	**05 28 08.4**	**-0.5**
CCIG	**Comitan**	**2.51**	**39**	*e*P	**Pb**	**05 27 38.0**	**+0.8**
CCIG				*e*S	**Sg**	**05 28 10.3**	**-1.8**
CCIG	**Comitan**	**2.51**	**39**	*i* P	**Pg**	**05 27 38.6**	**-0.9**
CCIG				*i* S	**Sg**	**05 28 10.3**	**-1.8**
TGIG		**2.52**	**14**	*e*P	**Pn**	**05 27 34.4**	**+1.0**
TGIG				*e*S	**Sb**	**05 28 06.3**	**-2.6**
TGIG		**2.52**	**14**	*i* P	**Pb**	**05 27 38.0**	**+0.6**
TGIG				*i* S	**Sb**	**05 28 08.6**	**-0.3**
HUIG	**Huatulco**	**2.67**	**303**	*e*P	**Pn**	**05 27 34.7**	**-0.7**
HUIG				*e*S	**Sn**	**05 28 04.2**	**-4.1**
CMIG	**Matias Romero**	**2.95**	**339**	*e*P	**Pn**	**05 27 41.4**	**+2.2**
CMIG				*e*S	**Sn**	**05 28 14.5**	**-0.8**
UXUV	**UXUV**	**3.00**	**353**	*e*P	**Pb**	**05 27 44.3**	**-1.2**
UXUV				*e*S	**Sb**	**05 28 20.5**	**-2.1**
PEIG	**Puerto Escondi**	**3.66**	**298**	*e*P	**Pn**	**05 27 50.9**	**+1.9**
NEUV	**Arroyo Zacate**	**3.90**	**330**	*e*P	**Pn**	**05 27 55.5**	**+3.3**
NEUV				*e*S	**Sn**	**05 28 43.0**	**+4.5**

*MAN **23** 05:37:50.9, 11.″79N×125.″40E, h68km, mb6.6, ML5.7, MS6.5*
MAN INTENSITY VI - BORONGAN CITY; MAYDOLONG AND SAN JULIAN EASTERN SAMAR; INTENSITY V - CATBALOGAN CITY SAMAR; TACLOBAN CITY; BABATNGON PALO AND PASTRANA LEYTE; GENERAL MACARTHUR GIPORLOS GUIUAN LAWAAN AND SALCEDO EASTERN SAMAR; ; NAVAL BILIRAN; CATARMAN NORTHERN SAMAR; INTENSITY IV - BAYBAY CITY; ABUYOG BARUGO CAPOOCAN HILONGOS JARO JAVIER JULITA MACARTHUR MATALOM AND VILLABA LEYTE; PALAPAG NORTHERN SAMAR; SULAT AND LLORENTE ; EASTERN SAMAR; NAGA CITY CAMARINES SUR; MASBATE CITY MASBATE; SORSOGON CITY SORSOGON; HINUNDAYAN SAN FRANCISCO AND SILAGO SOUTHERN LEYTE; PANGANIBAN AND VIGA ; CATANDUANES; BISLIG CITY SURIGAO DEL SUR; ILOILO CITY; INTENSITY III - CEBU CITY; MANDAUE CITY; SAN FRANCISCO CEBU; SAINT BERNARD AND SAN JUAN SOUTHERN LEYTE; DIMASALANG SAN FERNANDO AND SAN JACINTO MASBATE; SAGAY ; CAMARINES SUR; BUTUAN CITY; CABADBARAN CITY AGUSAN DEL NORTE; ROXAS CITY; CUARTERO CAPIZ; BINALBAGAN NEGROS OCCIDENTAL; INTENSITY II - BACOLOD CITY; BAGO CITY NEGROS OCCIDENTAL; GUIHULNGAN CITY; TAYASAN NEGROS ORIENTAL; TAPAZ CAPIZ; KALIBO MAKATAO AND MALINAO AKLAN; CAGAYAN DE ORO ; CITY; GINGOOG CITY MISAMIS ORIENTAL; CARMEN BOHOL; DAVAO CITY.
*MOS **23** 05:37:51.8±1.1, 11.″71N×125.″12E, h68km, mb6.5/76, MS6.2/38, Error ellipse: s-maj=6.4km s-min=3.6km az=114.6*
*IDC **23** 05:37:52.8±0.4, 11.″70N×125.″06E, h64km±3km, mb5.8/41, mbtmp6.1/43, MS5.9/78, Error ellipse: s-maj=10.5km s-min=7.6km az=86.0*
*DJA **23** 05:37:52.8±0.1, 12.″N±.1″×12.″5E±.″, h59km±1km, M6.4/309, mB6.8/289, mb6.3/309, ML7.1/3, Mw6.4/14, Mw(mB)6.6/289, MwMwp6.2/252, Mwp6.2/252*
*NEIC **23** 05:37:53, 11.″85N×125.″18E, h54km*
*NEIC **23** 05:37:53.1±2.2, 11.″76N±0.″06×125.″20E±0.″07, h56km±1km, mb6.4/558, Mwb6.4/66, Mww6.4/54, Error ellipse: s-maj=12.1km s-min=9.3km az=236.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.56; $M_{\theta\theta}$-1.10; $M_{\phi\phi}$-0.45; $M_{r\theta}$-0.84; $M_{\phi\theta}$-1.27; $M_{\phi r}$-4.92; Fault plane solution: $M_0$5.33000×10^{18} NP1:ϕ_s76.55000°, δ16.16000°, λ151.80000°. NP2:ϕ_s193.79000°, δ82.44000°, λ75.68000°. Principal axes: T 5.5724, Plg51.0000°, Azm88.0000°; N -0.5238, Plg14.0000°, Azm196.0000°; P -5.0486, Plg36.0000°, Azm296.0000°;*
*BJI **23** 05:37:53.7, 11.″90N×125.″20E, h80km, mB6.4/73, mb6.1/90, Ms6.3/94, Ms7 6.1/92*
*IPGP **23** 05:37:54.0, 11.″83N×125.″19E, h64km, Mw6.4, Fault plane solution: NP1:ϕ_s78.00000°, δ18.00000°, λ153.00000°. NP2:ϕ_s194.00000°, δ82.00000°, λ74.00000°.*
*NEIC **23** 05:37:54.5, 11.″83N×125.″00E, h46km, Moment Tensor Solution. Duration: 7s6 Moment tensor: Scale 10^{18}Nm; M_{rr}2.76; $M_{\theta\theta}$-0.96; $M_{\phi\phi}$-1.80; $M_{r\theta}$-0.55; $M_{\phi\theta}$-1.61; $M_{\phi r}$-3.92; Fault plane solution: $M_0$4.91000×10^{18} NP1: ϕ_s57.45000°, δ22.66000°, λ130.46000°. NP2: ϕ_s194.70000°, δ72.95000°, λ74.84000°. Principal axes: T 5.0370, Plg59.0000°, Azm83.0000°; N -0.2518, Plg14.0000°, Azm199.0000°; P -4.7852, Plg26.0000°, Azm297.0000°;*
*NEIC **23** 05:37:54.5, 11.″83N×125.″19E, h46km*
*GCMT **23** 05:37:55.2±0.0, 11.″88N×125.″16E, h54km, MW6.5/168, Moment Tensor Solution. s168,c444; s166,c712; Duration: 4s1 Moment tensor: Scale 10^{18}Nm; M_{rr}2.51±.02; $M_{\theta\theta}$-1.29±.02; $M_{\phi\phi}$-1.21±.02; $M_{r\theta}$-0.72±.02; $M_{\phi\theta}$-1.88±.01; $M_{\phi r}$-5.12±.03; Best double couple: $M_0$5.90100×10^{18} NP1:ϕ_s70.00000°, δ21.00000°, λ144.00000°. NP2:ϕ_s194.00000°, δ78.00000°, λ73.00000°. Principal axes: T 6.1310, Plg54.0000°, Azm83.0000°; N -0.4490, Plg17.0000°, Azm198.0000°; P -5.6720, Plg31.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 23 05:37:53.2±0.2, 11.″77N±0.″02×125.″15E±0.″03, h68km±1km, h68km:pP-P, n2042, σ1.″67/2495, mb6.3/463, 137C-124D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.69**	**175**		**Pn**	**05 39 02.6**	**+1.1**
DAV	**Davao City (W)**	**4.69**	**175**	P	**Pn**	**05 39 03.9**	**+2.4**
	2μm,0.4s,baz=345,slow=3.7,SNR=21						
DAV				LR	LR	05 41 27.6	
	comp=Z,413μm,18.8s,baz=110,slow=46						
DAV	**Davao City (W)**	**4.69**	**175**	P	Pn	05 39 07.2	+5.7
DAV	**Davao City (W)**	**4.69**	**175**	P	**Pn**	**05 39 05.0**	**+3.5**
DAV	**Davao City (W)**	**4.69**	**175**	⇑P	**Pn**	**05 39 03.1**	**+1.6**
DAV	**Davao City (W)**	**4.69**	**175**	P	**Pn**	**05 39 05.5**	**+4.0**
TGY	**Tagaytay City**	**4.72**	**300**	P	**Pn**	**05 39 04.9**	**+2.9**
	23μm,0.9s,baz=152,slow=2.7,SNR=194						
MYLDM	**Lahad Datu**	**9.28**	**226**		**Pn**	**05 40 08.3**	**+4.0**
MYLDM	**Lahad Datu**	**9.28**	**226**	⇓P	**Pn**	**05 40 08.7**	**+4.4**
I39PW	**PALAU INFRASON**	**10.17**	**114**	P	**Pn**	**05 40 12.0**	**-4.5**
	baz=267,slow=36,SNR=0.8						
I39PW				S	Sn	05 41 57.0	-12
	baz=259,slow=13						
I39PW				T	T	05 49 20.0	
	baz=284,slow=43,SNR=0.3						
I39PW				I	I	06 37 00.0	
	baz=295,slow=318,SNR=1.6						
KKM	**Kota Kinabalu**	**10.50**	**238**		**Pn**	**05 40 22.0**	**+0.9**
KKM	**Kota Kinabalu**	**10.50**	**238**	⇓P	**Pn**	**05 40 24.7**	**+3.6**
TNTI	**Ternate**	**11.14**	**168**		**Pn**	**05 40 31.7**	**+1.9**
TNTI	**Ternate**	**11.14**	**168**	P	**Pn**	**05 40 30.6**	**+0.8**
TNTI	**Ternate**	**11.14**	**168**	⇓P	**Pn**	**05 40 28.9**	**-0.9**
TOLI2	**Tolitoli**	**11.44**	**203**		**Pn**	**05 40 35.8**	**+2.0**
TOLI2	**Tolitoli**	**11.44**	**203**	P	**Pn**	**05 40 35.2**	**+1.3**
TWG	**Pinlang**	**11.66**	**341**		**Pn**	**05 40 37.3**	**+0.5**
YULB	**Yu-li**	**12.13**	**343**		**Pn**	**05 40 42.8**	**-0.4**
TPUB	**Ta-pu**	**12.25**	**340**		**Pn**	**05 40 44.8**	**-0.1**
SSLB	**Suanglung**	**12.60**	**342**		**Pn**	**05 40 49.7**	**0.0**
YOJ	**Yonaguni jima**	**12.79**	**351**		**Pn**	**05 40 53.8**	**+1.6**
YOJ	**Yonaguni jima**	**12.79**	**351**	P	**Pn**	**05 40 53.8**	**+1.6**
YOJ	**Yonaguni jima**	**12.79**	**351**	⇓P	**Pn**	**05 40 52.5**	**+0.4**
NACB	**Ninganchiao**	**12.79**	**345**		**Pn**	**05 40 52.7**	**+0.5**
LUWI	**Luwuk**	**12.94**	**191**		**Pn**	**05 40 56.4**	**+2.0**
LUWI	**Luwuk**	**12.94**	**191**	P	**Pn**	**05 40 58.2**	**+3.8**
LUWI				S	**Sn**	**05 43 25.0**	**+8.3**
LUWI	**Luwuk**	**12.94**	**191**	P	**Pn**	**05 40 55.3**	**+0.9**
LUWI	**Luwuk**	**12.94**	**191**	⇑P	**Pn**	**05 40 56.1**	**+1.7**
TATO	**Taipei**	**13.59**	**346**		**Pn**	**05 41 03.6**	**+0.7**
TATO	**Taipei**	**13.59**	**346**	P	**Pn**	**05 41 05.6**	**+2.7**
TATO				P	**Pn**	**05 41 05.6**	**+2.7**
SANI	**Sanana**	**13.75**	**176**	P	**Pn**	**05 41 02.7**	**-2.5**
SANI	**Sanana**	**13.75**	**176**	P	**Pn**	**05 41 04.0**	**-1.2**
KNMB	**Chin-men Tao**	**14.16**	**334**		**Pn**	**05 41 11.5**	**+1.0**
HKC	**Hong Kong Obse**	**14.82**	**316**	⇑P	**Pn**	**05 41 20.0**	**+0.9**
HKPS	**Hong Kong Po S**	**14.82**	**316**		**Pn**	**05 41 19.7**	**+0.5**
JMZ	**Minamidaito 2**	**15.11**	**21**	P	**P**	**05 41 25.4**	**-1.2**
JMZ	**Minamidaito 2**	**15.11**	**21**	⇑P	**Pn**	**05 41 23.9**	**+1.2**
MCO	**Taipa Grande**	**15.12**	**314**	P	**Pn**	**05 41 23.0**	**0.0**
JOW	**Kunigami**	**15.27**	**11**	P	**P**	**05 41 27.2**	**-1.2**
JOW	**Kunigami**	**15.27**	**11**	P	**Pn**	**05 41 26.4**	**+1.5**
	1μm,1.0s,baz=192,slow=13,SNR=98						
JOW				S	**Sn**	**05 44 04.5**	**-8.6**
	69nm,0.4s,baz=148,slow=28,SNR=9.1						
JOW				LR	LR	05 46 26.2	
	comp=Z,51μm,21.0s,baz=178,slow=33						
JOW				ScP	**ScP**	**05 49 55.0**	**-0.1**
	166nm,1.0s,baz=174,slow=2.9,SNR=12						
JOW	**Kunigami**	**15.27**	**11**	⇓P	**Pn**	**05 41 26.6**	**+1.7**
BKB	**Balikpapan**	**15.32**	**213**		**P**	**05 41 28.9**	**-0.1**
BKB	**Balikpapan**	**15.32**	**213**	P	**Pn**	**05 41 24.0**	**-1.6**
BKB	**Balikpapan**	**15.32**	**213**	⇓P	**P**	**05 41 28.1**	**-0.9**
SBUM	**Sibu**	**15.81**	**235**	⇑P	**P**	**05 41 34.1**	**-0.3**
GZH	**Guangzhou**	**15.91**	**317**	P	**P**	**05 41 36.6**	**+1.1**
GZH				pmax	pmax		
	comp=Z,450nm,1.6s						
GZH				LR	LR		
	comp=N,131μm,21.5s						
GZH				LR	LR		
	comp=E,82μm,23.8s						
GZH				LR	LR		
	comp=Z,228μm,23.1s						
FAKI	**Fak Fak**	**16.21**	**154**		**Pn**	**05 41 36.8**	**-0.1**
FAKI	**Fak Fak**	**16.21**	**154**	P	**Pn**	**05 41 37.2**	**+0.3**
FAKI	**Fak Fak**	**16.21**	**154**	⇑P	**Pn**	**05 41 32.8**	**-4.1**
DLV	**Lat**	**16.31**	**272**		**P**	**05 41 41.8**	**+1.6**
DLV	**Lat**	**16.31**	**272**	⇓P	**P**	**05 41 41.2**	**+1.0**
QIZ	**Qiongzhong**	**16.42**	**298**	P	**P**	**05 41 41.0**	**-0.2**
QIZ				sP	**sP**	**05 41 59.8**	**-3.9**
QIZ				S	**Sn**	**05 44 43.3**	**+2.2**
QIZ				pmax	pmax		
	comp=Z,590nm,1.7s						
QIZ				pmax	pmax		
	comp=Z,43μm,7.6s						
QIZ				LR	LR		
	comp=N,36μm,17.0s						
QIZ				LR	LR		
	comp=E,54μm,18.9s						
QIZ				LR	LR		
	comp=Z,147μm,26.8s						
KAPI	**Kappang**	**17.52**	**198**	P	**P**	**05 41 56.2**	**+3.0**
KAPI	**Kappang**	**17.52**	**198**	P	**P**	**05 41 55.0**	**+1.7**
	439nm,1.1s,baz=7.9,slow=8.1,SNR=67						
KAPI				LR	LR	05 49 08.8	
	comp=Z,43μm,22.0s,baz=27,slow=39						
KAPI				ScP	**ScP**	**05 49 58.4**	**-1.1**
	20nm,0.4s,baz=283,slow=2.7,SNR=4.8						
KAPI	**Kappang**	**17.52**	**198**	P	**P**	**05 41 57.3**	**+4.0**
KAPI				P	**P**	**05 41 57.3**	**+4.0**
KAPI	**Kappang**	**17.52**	**198**	P	**P**	**05 41 56.3**	**+3.0**
KAPI				pmax	pmax		
	comp=Z,2μm,1.8s						
KAPI	**Kappang**	**17.52**	**198**	⇑P	**P**	**05 41 55.2**	**+2.0**
KAPI	**Kappang**	**17.52**	**198**	P	**P**	**05 41 55.0**	**+1.7**
KAPI				S	**S**	**05 45 12.0**	**+0.6**
KSM	**Kuching**	**17.93**	**236**	⇑P	**Pn**	**05 41 59.7**	**+1.6**
GUMO	**Guam**	**19.32**	**83**	P	**P**	**05 42 13.1**	**0.0**
GUMO	**Guam**	**19.32**	**83**	P	**Pn**	**05 42 15.1**	**+0.3**
	comp=Z,4μm,1.2s,baz=276,slow=1.8,SNR=56						
GUMO				LR	LR	05 48 14.8	
	comp=Z,43μm,20.1s,baz=262,slow=32						
GUMO	**Guam**	**19.32**	**83**	⇑P	**P**	**05 42 13.5**	**+0.3**
GULI	**GuiLin**	**19.40**	**316**	P	**Pn**	**05 42 16.4**	**+0.7**
GULI				S	**S**	**05 45 45.6**	**-4.3**
SSE	**Sheshan**	**19.58**	**350**	P	**Pn**	**05 42 17.8**	**+0.1**
SSE				S	**S**	**05 45 49.3**	**-4.0**
SSE				pmax	pmax		
	comp=Z,1μm,1.3s						
CNSH	**ChangSha**	**19.94**	**327**	P	**Pn**	**05 42 21.5**	**-0.4**
CNSH				pmax	pmax		
	comp=Z,940nm,2.3s						
CNSH				LR	LR		
	comp=Z,27μm,24.4s						
CNSH				LR	LR		
	comp=Z,46μm,23.2s						
CNSH				LR	LR		
	comp=Z,50μm,30.1s						
MMRI	**Maumere**	**20.48**	**188**	P	Pn	05 42 28.1	-0.3
MMRI	**Maumere**	**20.48**	**188**	P	**P**	**05 42 26.0**	**+0.4**
SAUI	**Saumlaki**	**20.55**	**162**	P	**P**	**05 42 26.5**	**0.0**
SAUI				IAmb	IAmb	05 42 33.7	
	comp=Z,2μm,0.8s						
SAUI	**Saumlaki**	**20.55**	**162**	P	Pn	05 42 27.9	-1.4
SAUI	**Saumlaki**	**20.55**	**162**	⇑P	**P**	**05 42 27.0**	**+0.5**
GENI	**Genyem**	**20.65**	**133**	P	**P**	**05 42 28.1**	**+0.5**
GENI	**Genyem**	**20.65**	**133**	⇑P	**P**	**05 42 27.0**	**-0.5**
JAY	**Jayapura**	**20.99**	**132**	P	**P**	**05 42 31.0**	**-0.2**
	comp=Z,481nm,0.8s,baz=317,slow=4.8,SNR=71						
JAY				LR	LR	05 50 00.7	
	comp=Z,49μm,21.0s,baz=322,slow=35						
JAY				ScP	**ScP**	**05 50 06.9**	**-0.6**
	comp=Z,73nm,1.1s,baz=318,slow=2.9,SNR=5.8						
	comp=Z,481nm,0.8s						
JAY	**Jayapura**	**20.99**	**132**	P	**P**	**05 42 31.0**	**-0.2**
NJ2	**Nanjing**	**21.00**	**345**	⇓P	**P**	**05 42 32.9**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,2μm,1.5s						
NJ2				pmax	pmax		
	comp=Z,18μm,4.0s						
NJ2				LR	LR		
	comp=Z,27μm,17.9s						
NJ2				LR	LR		
	comp=Z,22μm,12.6s						
NJ2				LR	LR		
	comp=Z,37μm,21.8s						
WHN	**Wuhan**	**21.20**	**333**	P	**P**	**05 42 35.0**	**+1.7**
WHN				pP	**sP**	**05 42 54.8**	**-1.3**
WHN				LR	LR		
	comp=Z,110μm,18.0s						
WHN				LR	LR		
	comp=Z,96μm,17.6s						
WHN				LR	LR		
	comp=Z,218μm,24.1s						
SOEI	**Soe**	**21.40**	**182**	P	**P**	**05 42 36.9**	**+1.2**
SOEI	**Soe**	**21.40**	**182**	P	**P**	**05 42 34.6**	**-1.1**
SOEI				S	**S**	**05 46 30.0**	**+0.2**
SOEI	**Soe**	**21.40**	**182**	P	**P**	**05 42 36.4**	**+0.7**
SOEI	**Soe**	**21.40**	**182**	⇑P	**P**	**05 42 36.1**	**+0.4**
PLAI	**Plampang**	**21.73**	**200**	P	**P**	**05 42 41.3**	**+2.2**
JNU	**Nakatsue**	**21.89**	**13**	IAmb	IAmb	05 43 02.6	
	comp=Z,1μm,1.2s						
JNU	**Nakatsue**	**21.89**	**13**	LR	LR	05 51 34.6	
	comp=Z,7μm,20.3s,baz=188,slow=37						
JNU	**Nakatsue**	**21.89**	**13**	⇑P	**P**	**05 42 41.0**	**+0.2**
JCJ	**Chichijima**	**22.11**	**44**	P	**P**	**05 42 43.0**	**-0.1**
JCJ	**Chichijima**	**22.11**	**44**	P	**P**	**05 42 42.6**	**-0.4**
	comp=Z,4μm,1.2s,baz=191,slow=4.7,SNR=29						
JCJ				LR	LR	05 49 26.5	
	comp=Z,39μm,21.9s,baz=226,slow=31						
	comp=Z,4μm,1.2s						
JCJ	**Chichijima**	**22.11**	**44**	⇑P	**P**	**05 42 42.5**	**-0.6**
SLVN	**Son La**	**22.45**	**298**	P	**P**	**05 42 47.0**	**+0.1**
GYA	**Guiyang**	**22.73**	**313**	⇓P	**P**	**05 42 50.9**	**+1.0**
GYA				pP	pP	05 43 05.1	+0.8
GYA				S	**S**	**05 46 50.8**	**-2.9**
GYA				ScP	**ScP**	**05 50 10.8**	**-1.0**
GYA				pmax	pmax		
	comp=Z,380nm,1.5s						
GYA				pmax	pmax		
	comp=Z,23μm,6.4s						
GYA				LR	LR		
	comp=Z,37μm,17.5s						
GYA				LR	LR		
	comp=Z,27μm,18.5s						
GYA				LR	LR		
	comp=Z,66μm,16.0s						
JAGI	**Jajag, Banyuwa**	**22.89**	**209**	P	**P**	**05 42 52.0**	**+0.5**
JAGI	**Jajag, Banyuwa**	**22.89**	**209**	P	**P**	**05 42 53.5**	**+2.0**
JAGI	**Jajag, Banyuwa**	**22.89**	**209**	⇑P	**P**	**05 42 52.8**	**+1.3**
JTU	**Tsushima**	**22.98**	**9**	⇑P	**P**	**05 42 52.6**	**+0.4**
JMN	**Monobe**	**23.27**	**19**	IAmb	IAmb	05 43 16.1	
	comp=Z,1μm,1.2s						
JMN	**Monobe**	**23.27**	**19**	⇑P	**P**	**05 42 55.6**	**+0.6**
MYKOM	**Kota Tinggi**	**23.33**	**246**	⇓P	**P**	**05 42 56.2**	**+0.3**
**SMRI

comp=Z,760nm,1.5s
LYN pmax pmax
comp=Z,24μm,7.5s
LYN LR LR
comp=Z,43μm,24.9s
LYN LR LR
comp=Z,21μm,17.9s
LYN LR LR
comp=Z,82μm,23.0s
INCN Inchon 25.64 3 P **P 05 43 18.1 +1.5**
INCN Inchon 25.64 3 P **P 05 43 17.4 +0.9**
INCN P **P 05 43 17.4 +0.9**
INCN Inchon 25.64 3 P **P 05 43 18.1 +1.5**
INCN pmax pmax
comp=Z,1μm,1.9s
KSAR Wonju Array Be 25.68 5 P **P 05 43 17.4 +0.5**
KSAR Wonju Array Be 25.68 5 P **P 05 43 17.4 +0.5**
KSRS Korea Array 25.70 5 P **P 05 43 18.0 +1.0**
comp=Z,121nm,0.7s,baz=183,slow=9.9,SNR=245
KSRS ScP **ScP 05 50 19.2 -0.3**
comp=Z,8.4nm,0.8s,baz=192,slow=3.5,SNR=5.3
KSRS LR LR 05 52 43.9
comp=Z,28μm,22.0s,baz=175,slow=35
comp=Z,121nm,0.7s
JSG Sagara 25.70 25 ⇑P **P 05 43 18.8 +1.7**
INU Inuyama 25.83 23 P **P 05 43 19.3 +1.1**
INU Inuyama 25.83 23 ⇑P **P 05 43 18.1 -0.2**
BBJI Bungbulang 25.84 223 P **P 05 43 20.2 +1.5**
MANU Manus Island 26.00 120 P **P 05 43 20.0 0.0**
MANU Manus Island 26.00 120 ⇑P **P 05 43 19.5 -0.5**
CM31 Chiang Mai Arr 26.14 288 IAmb IAmb 05 43 40.6
comp=Z,2μm,1.8s
CM31 Chiang Mai Arr 26.14 288 P **P 05 43 22.9 +1.6**
SNR=194
CM31 P **P 05 43 22.9 +1.6**
SNR=194
CMAR Chiang Mai Arr 26.14 288 P **P 05 43 22.3 +1.0**
CMAR Chiang Mai Arr 26.14 288 P **P 05 43 22.4 +1.1**
comp=Z,110nm,0.8s,baz=96,slow=6.8,SNR=278
CMAR ScP **ScP 05 50 19.5 -1.8**
comp=Z,34nm,0.6s,baz=115,slow=1.1,SNR=32
CMAR LR LR 05 54 02.2
comp=Z,23μm,20.3s,baz=110,slow=37
CMAR PKiKP **PKiKP 05 54 27.3 +0.5**
comp=Z,2.1nm,0.5s,baz=281,slow=1.5,SNR=4.1
CMAR P3KPbc 06 16 12.3
comp=Z,5.4nm,0.9s,baz=279,slow=6.2,SNR=22
comp=Z,110nm,0.8s
HJU Haeju 26.17 1 P **P 05 43 23.6 +2.4**
HJU S **S 05 47 47.8 -0.5**
HJU AmB
comp=Z,4μm,3.0s
HJU AMS AMS
comp=Z,34μm,22.0s
JGF Kuroka 26.18 23 ⇓P **P 05 43 20.9 -0.5**
CHTO Chiang Mai 26.21 289 P **P 05 43 22.5 +0.6**
CHTO Chiang Mai 26.21 289 P **P 05 43 23.0 +1.1**
CHTO P **P 05 43 23.0 +1.1**
CHTO Chiang Mai 26.21 289 P **P 05 43 22.5 +0.6**
CHTO pmax pmax
comp=Z,261nm,1.1s
CHTO Chiang Mai 26.21 289 ⇓P **P 05 43 21.6 -0.3**
CHTO Chiang Mai 26.21 289 P **P 05 43 21.3 -0.7**
CHTO S **S 05 47 51.5 +2.1**
PZH PanZhiHua 26.46 307 P **P 05 43 24.6 +0.3**
PZH S **S 05 47 50.4 -3.1**
PZH sS **sS 05 48 19.3 -2.1**
PZH SS **SnSn 05 49 10.1 +9.0**
PZH ScP **ScP 05 50 20.8 -1.5**
PZH ScS **ScS 05 54 08.9 -4.0**
PZH pmax pmax
comp=Z,630nm,0.8s
PZH pmax pmax
comp=Z,8μm,7.7s
PZH LR LR
comp=Z,27μm,24.0s
PZH LR LR
comp=Z,34μm,20.6s
PZH LR LR
comp=Z,71μm,27.3s
BKNI Bangkinang 26.50 246 P **P 05 43 24.5 0.0**
BKNI S **S 05 47 52.3 -1.7**
BKNI Bangkinang 26.50 246 P **P 05 43 26.9 +2.4**
XAN Xi'an 26.66 329 ⇓P **P 05 43 25.6 -0.3**
XAN S **S 05 47 54.8 -1.6**
XAN pmax pmax
comp=Z,1μm,1.2s
XAN pmax pmax
comp=Z,11μm,4.4s
XAN LR LR
comp=Z,45μm,18.6s
XAN LR LR
comp=Z,38μm,15.1s
XAN LR LR
comp=Z,53μm,24.7s
PYAG Pyongyang 27.18 1 P **P 05 43 32.4 +2.0**
PYAG S **S 05 48 04.2 0.0**
PYAG AmB
comp=Z,3μm,2.4s
PYAG AMS AMS
comp=Z,3μm,21.3s
HNS HongShan 27.19 342 ⇓P **P 05 43 30.8 +0.3**
HNS pP **pP 05 43 46.9 +0.2**
HNS PP PP 05 44 15.1 -18
HNS S **S 05 48 04.8 +0.4**
HNS ScP **ScP 05 50 24.3 +0.3**
HNS ScS **ScS 05 54 16.0 +0.7**
HNS pmax pmax
comp=Z,610nm,1.6s
HNS pmax pmax
comp=Z,12μm,10.8s
HNS LR LR
comp=Z,21μm,14.7s
HNS LR LR
comp=Z,17μm,14.5s
HNS LR LR
comp=Z,22μm,16.7s
DL2 Dalian 27.21 354 ⇑*i*P **P 05 43 32.0 +1.4**
DL2 pP **sP 05 43 54.3 -0.6**
DL2 S **S 05 48 04.5 -0.2**
DL2 pmax pmax
comp=Z,390nm,1.1s
DL2 pmax pmax
comp=Z,8μm,8.0s
DL2 LR LR
comp=Z,26μm,20.6s
DL2 LR LR
comp=Z,20μm,19.1s
DL2 LR LR
comp=Z,28μm,20.6s
MNAI Manna 27.28 235 P **P 05 43 33.8 +2.3**
MAJO Matsushiro 27.33 23 P **P 05 43 31.0 -0.8**
MAJO Matsushiro 27.33 23 P **P 05 43 31.0 -0.8**
MAJO pmax pmax
comp=Z,503nm,1.6s
MAJO Matsushiro 27.33 23 ⇑P **P 05 43 30.0 -1.9**
MAJO Matsushiro 27.33 23 P **P 05 43 29.9 -1.9**
MAJO S **S 05 48 01.8 -5.0**
MJAR Matsushiro Arr 27.33 23 P **P 05 43 30.9 -1.0**
comp=Z,73nm,0.9s,baz=197,slow=8.5,SNR=63
MJAR PcP **PcP 05 46 51.8 +2.0**
comp=Z,21nm,0.8s,baz=165,slow=2.2,SNR=4.6
MJAR pPcP 05 47 08.9
comp=Z,53nm,1.0s,baz=200,slow=2.8,SNR=7.7
MJAR ScP **ScP 05 50 23.2 -1.3**
comp=Z,48nm,1.0s,baz=198,slow=2.6,SNR=14
MJAR LR LR 05 52 51.9
comp=Z,37μm,21.8s,baz=206,slow=33
comp=Z,73nm,0.9s
CD2 Chengdu 27.47 317 ⇓P **P 05 43 34.0 +0.8**
CD2 S **S 05 48 10.6 +1.4**
CD2 SS **SnSn 05 49 33.6 +8.1**
CD2 pmax pmax
comp=Z,320nm,1.3s
CD2 pmax pmax
comp=Z,8μm,5.4s
CD2 LR LR
comp=Z,67μm,17.8s
CD2 LR LR
comp=Z,94μm,19.7s
PSI Prapat 27.47 253 P **P 05 43 33.4 -0.1**
comp=Z,61nm,0.4s,baz=68,slow=5.0,SNR=57
PSI PcP **PcP 05 46 51.4 +0.7**
comp=Z,64nm,0.8s,baz=4.6,slow=4.4,SNR=5.4
PSI ScP **ScP 05 50 22.9 -2.6**
comp=Z,245nm,1.0s,baz=158,slow=5.4,SNR=21
PSI ScS **ScS 05 54 16.3 -1.3**
comp=Z,5.1nm,0.7s,baz=298,slow=20,SNR=11
PSI LR LR 05 55 51.1
comp=Z,65μm,18.7s,baz=82,slow=39
comp=Z,61nm,0.4s
KNRA Kununurra 27.50 172 IAmb IAmb 05 44 07.6
comp=Z,3μm,2.0s
RPSI Rantau Prapat 27.51 253 P **P 05 43 34.2 +0.6**
RPSI IAmb IAmb 05 43 54.1
comp=Z,2μm,1.6s
HHU Hamhung 28.12 4 P **P 05 43 40.6 +1.8**
HHU S **S 05 48 19.0 -0.1**
HHU AmB
comp=Z,4μm,2.1s
HHU AMS AMS
comp=Z,18μm,18.9s
SUJ Sinuiju 28.23 359 P **P 05 43 41.9 +2.2**
SUJ pP **sP 05 44 05.5 +1.5**
SUJ S **S 05 48 20.7 0.0**
SUJ AmB
comp=Z,5μm,4.8s
SUJ AMS AMS
comp=Z,22μm,15.3s
TIY Taiyuan 28.24 338 P **P 05 43 41.9 +1.9**
TIY S **S 05 48 20.1 -1.0**
TIY pmax pmax
comp=Z,200nm,1.4s
TIY pmax pmax
comp=Z,5μm,5.3s
TIY LR LR
comp=Z,12μm,24.0s
TIY LR LR
comp=Z,23μm,23.4s
TIY LR LR
comp=Z,34μm,27.5s
TNCH TengChong 28.43 301 ⇓P **P 05 43 42.9 +0.9**
TNCH pP pP 05 43 58.6 +0.4
TNCH sP sP 05 44 11.3 +5.1
TNCH PP **PnPn 05 44 34.9 +0.4**
TNCH S **S 05 48 19.1 -5.6**
TNCH sS sS 05 48 50.3 -2.4
TNCH SS **SnSn 05 49 57.3 +8.1**
TNCH ScS **ScS 05 54 19.8 -2.0**
TNCH pmax pmax
comp=Z,360nm,1.0s
TNCH pmax pmax
comp=Z,10μm,8.1s
TNCH LR LR
comp=Z,14μm,18.4s
TNCH LR LR
comp=Z,21μm,32.8s
TNCH LR LR
comp=Z,75μm,33.2s
LHMI Lhok Sumawe 28.62 259 P **P 05 43 46.1 +2.5**
LHMI Lhok Sumawe 28.62 259 ⇓P **P 05 43 45.0 +1.4**
JSD Sado 28.67 22 ⇑P **P 05 43 41.5 -2.1**
BJT Baijiatuau 29.24 346 IAmb IAmb 05 43 52.4
comp=Z,1μm,1.6s
BJI Beijing 29.26 346 P **P 05 43 49.5 +0.6**
BJI S **S 05 48 36.9 0.0**
BJI ScP **ScP 05 50 30.8 +0.4**
BJI pmax pmax
comp=Z,190nm,1.5s
BJI pmax pmax
comp=Z,3μm,9.7s
GSI Gunungsitoli 29.26 251 P **P 05 43 49.1 -0.2**
GSI IAmb IAmb 05 44 08.4
comp=Z,1μm,1.3s
GSI Gunungsitoli 29.26 251 P **P 05 43 49.2 -0.1**
GSI Gunungsitoli 29.26 251 ⇑P **P 05 43 49.3 +0.1**
XMI Christmas Isla 29.35 222 P **P 05 43 51.0 +1.1**
XMIS Christmas Isla 29.39 222 P **P 05 43 52.2 +1.8**
JMM Marumori 29.52 26 IAmb IAmb 05 43 54.2
comp=Z,798nm,1.3s
JMM Marumori 29.52 26 ⇓P **P 05 43 50.9 -0.4**
FITZ Fitzroy Crossi 29.68 179 P **P 05 43 51.2 -1.6**
comp=Z,258nm,0.8s,baz=3.8,slow=7.7,SNR=81
comp=Z,258nm,0.8s
FITZ Fitzroy Crossi 29.68 179 P **P 05 43 50.9 -1.9**
SNY Shenyang 29.98 358 ⇑P **P 05 43 56.8 +1.6**
SNY S **S 05 48 48.8 +0.6**
SNY pmax pmax
comp=Z,32nm,0.6s
SNY pmax pmax
comp=Z,3μm,3.5s
SNY LR LR
comp=Z,20μm,20.0s
SNY LR LR
comp=Z,12μm,22.7s
SNY LR LR
comp=Z,24μm,23.1s
PMG Port Moresby 30.35 133 P **P 05 43 58.1 -0.7**
PMG IAmb IAmb 05 44 00.3
comp=Z,514nm,0.9s
PMG Port Moresby 30.35 133 ScP **ScP 05 50 33.4 -0.9**
comp=Z,107nm,1.0s,baz=360,slow=2.3,SNR=6.4
PMG LR LR 05 58 43.5
comp=Z,8μm,19.1s,baz=312,slow=41
PMG Port Moresby 30.35 133 P **P 05 43 58.0 -0.8**
PMG Port Moresby 30.35 133 *ce*P **P 05 43 58.2 -0.7**
PMG pmax pmax
comp=Z,652nm,1.1s
PMG MLR MLR
comp=Z,15μm,20.0s
PMG Port Moresby 30.35 133 ⇑P **P 05 43 57.1 -1.8**
PMG Port Moresby 30.35 133 P **P 05 43 58.1 -0.7**
PMG pP **pP 05 44 13.5 -1.7**
PMG sP **sP 05 44 21.5 -1.6**
PMG ScP **ScP 05 50 33.5 -0.9**
LZH Lanzhou 30.93 325 ⇓P **P 05 44 05.4 +1.5**
LZH pP pP 05 44 22.6 +2.3
LZH S **S 05 48 57.3 -6.3**
LZH sS sS 05 49 33.9 +2.3
LZH ScP **ScP 05 50 36.3 +0.1**
LZH ScS **ScS 05 54 33.3 +0.1**
LZH pmax pmax
comp=Z,510nm,1.4s
LZH pmax pmax
comp=Z,10μm,5.9s
LZH LR LR
comp=Z,46μm,17.2s
LZH LR LR
comp=Z,43μm,16.2s
LZH LR LR
comp=Z,82μm,18.5s
MSHR Mys Shultsa 31.14 9 *i* P **P 05 44 06.6 +1.1**
MSHR pmax pmax
comp=Z,84nm,0.7s
MSHR MLR MLR
comp=Z,10μm,18.0s
CMBY CAMPBELL BAY 31.15 264 *e*P **P 05 44 04.0 -1.9**
PSTR Posyet 31.16 8 *i* P **P 05 44 07.7 +2.1**
COEN Coen 31.19 145 P **P 05 44 04.6 -1.6**
COEN Coen 31.19 145 P **P 05 44 04.6 -1.6**
COEN Coen 31.19 145 ⇑P **P 05 44 04.1 -2.1**
RABL Rabaul 31.20 119 P **P 05 44 07.7 +1.3**
HHC Hu-ho-hao-te 31.34 340 ⇑*i*P **P 05 44 09.5 +2.1**
HHC pP pP 05 44 24.9 +1.1
HHC PP **PP 05 45 16.8 -2.5**
HHC S **S 05 49 11.4 +1.6**
HHC SS **SnSn 05 51 01.6 +2.1**
HHC pmax pmax
comp=Z,290nm,1.6s
HHC pmax pmax
comp=Z,3μm,3.8s
HHC LR LR
comp=Z,22μm,22.7s
HHC LR LR
comp=Z,21μm,19.3s
HHC LR LR
comp=Z,33μm,21.9s
DGPR DIGLIPUR 31.48 276 *e*P **P 05 44 06.6 -2.2**
DGPR *e*P **P 05 44 06.7 -2.2**
BTO Baotou 31.67 338 *e*P **P 05 44 12.6 +2.3**
BTO pP **pP 05 44 27.5 +0.8**
BTO sP **sP 05 44 34.9 +0.2**
BTO PP **PP 05 45 22.8 -0.1**
BTO sS **sS 05 49 46.1 +3.1**
BTO pmax pmax
comp=Z,430nm,2.0s
BTO pmax pmax
comp=Z,14μm,9.4s
BTO LR LR
comp=Z,48μm,24.7s
BTO LR LR
comp=Z,49μm,18.8s
BTO LR LR
comp=Z,83μm,23.7s
PBA Port Blair 31.72 273 P **P 05 44 11.8 +0.9**
SNR=7.3
PBA Port Blair 31.72 273 *e*P **P 05 44 06.7 -4.3**
PBA *e*P **P 05 44 09.2 -1.7**
CN2 Changchun 31.92 0 *e*P **P 05 44 12.9 +0.6**
CN2 PP **PP 05 45 21.4 -4.2**
CN2 *e*S **S 05 49 17.8 -0.7**
CN2 pmax pmax
comp=Z,60nm,0.9s
CN2 pmax pmax
comp=Z,2μm,4.0s
CN2 LR LR
comp=Z,10μm,23.0s
CN2 LR LR
comp=Z,17μm,23.0s
CN2 LR LR
comp=Z,15μm,20.1s
JTM Tenmabayashi 32.12 23 ⇑P **P 05 44 14.9 +0.8**
IMP Imphal 32.26 298 *e*P **P 05 44 14.2 -1.5**
IMP IAmb IAmb 05 44 19.2
comp=Z,381nm,1.3s
SAIH SAIHA 32.46 293 *e*P **P 05 44 16.9 -0.7**
SAIH IAmb IAmb 05 44 21.6
comp=Z,629nm,0.9s
WRAB Tennant Creek 32.78 164 P **P 05 44 18.5 -1.5**
WRAB Tennant Creek 32.78 164 *i* P **P 05 44 18.6 -1.5**
WRAB pmax pmax
comp=Z,125nm,1.0s
WRAB MLR MLR
comp=Z,19μm,20.0s
WRA Warramunga Arr 32.78 164 P **P 05 44 18.1 -2.1**
comp=Z,152nm,1.0s,baz=343,slow=9.6,SNR=114
WRA PcP **PcP 05 47 05.2 +1.0**
comp=Z,47nm,0.6s,baz=344,slow=3.1,SNR=5.9
WRA S **S 05 49 27.5 -4.9**
comp=Z,56nm,1.0s,baz=341,slow=15,SNR=5.3
WRA ScP **ScP 05 50 41.1 -1.3**
comp=Z,44nm,1.0s,baz=346,slow=3.6,SNR=7.0
WRA LR LR 05 58 55.4
comp=Z,15μm,21.4s,baz=336,slow=39
WRA P3KPbc 06 15 42.7
comp=Z,1.9nm,0.8s,baz=164,slow=4.0,SNR=7.3
WRA PKPPKP **P'P'df 06 17 49.0 -1.1**
comp=Z,1.9nm,0.9s,baz=115,slow=1.4,SNR=4.7
comp=Z,152nm,1.0s
USA0B Ussuriysk Arra 32.85 9 *i* P **P 05 44 21.3 +0.9**
USRK Ussuriysk Ar. 32.85 9 P **P 05 44 20.8 +0.4**
USRK Ussuriysk Ar. 32.85 9 P **P 05 44 21.4 +0.9**
comp=Z,189nm,0.7s,baz=190,slow=7.8,SNR=164
USRK LR LR 05 56 28.9
comp=Z,12μm,21.6s,baz=183,slow=34
comp=Z,189nm,0.7s
MDJ Mudanjiang 32.95 6 IAmb IAmb 05 44 25.9
comp=Z,528nm,1.2s
MDJ Mudanjiang 32.95 6 P **P 05 44 22.3 +0.9**
MDJ S **S 05 49 35.0 +0.4**
MDJ pmax pmax
comp=Z,1μm,3.6s
MDJ LR LR
comp=Z,16μm,18.7s
MDJ LR LR
comp=Z,8μm,17.6s
MDJ LR LR
comp=Z,29μm,18.7s
MDJ Mudanjiang 32.95 6 P **P 05 44 23.3 +1.9**
MDJ pP **pP 05 44 38.8 +1.0**
MDJ sP **sP 05 44 46.9 +1.2**
XLT XiLinHaoTe 32.96 348 *e*P **P 05 44 21.0 -0.6**
XLT pP pP 05 44 37.8 -0.2
XLT sP sP 05 44 46.9 +1.0
XLT PP **PP 05 45 35.3 -1.9**
XLT S **S 05 49 34.6 -0.3**
XLT SS **SnSn 05 51 40.6 +1.9**
XLT pmax pmax
comp=Z,330nm,1.6s
XLT pmax pmax
comp=Z,3μm,5.5s
XLT LR LR
comp=Z,23μm,23.4s
XLT LR LR
comp=Z,19μm,22.1s
AZL Aizawl 33.04 296 *e*P **P 05 44 19.1 -3.4**
AZL *e*P **P 05 44 20.9 -1.7**
AZL IAmb IAmb 05 44 26.3
comp=Z,428nm,0.9s
PATS Pohnpei 33.07 96 P **P 05 44 22.7 -0.1**
MBWA Marble Bar 33.15 189 P **P 05 44 22.1 -1.2**
MBWA Marble Bar 33.15 189 ⇓P **P 05 44 21.9 -1.4**
ZIRO ZIRO 33.26 303 *e*P **P 05 44 22.4 -2.1**
ZIRO IAmb IAmb 05 44 28.5
comp=Z,802nm,1.0s
PSA00 Pilbara Seismi 33.54 189 P **P 05 44 26.3 -0.4**
PSA00 Pilbara Seismi 33.54 189 P **P 05 44 25.8 -0.9**
BRDH Bariadhala 33.71 293 LR LR 05 58 54.7
comp=Z,54μm,21.8s,baz=146,slow=38
BNX BinXian 33.91 3 ⇓P **P 05 44 30.8 +1.1**
BNX pP **pP 05 44 46.1 0.0**
BNX S **S 05 49 48.0 -1.4**
BNX pmax pmax
comp=Z,54nm,0.8s
BNX pmax pmax
comp=Z,2μm,8.9s
ERM Erimo 33.99 24 P **P 05 44 31.2 +0.8**
ERM Erimo 33.99 24 *ce*P **P 05 44 32.4 +2.0**
ERM pmax pmax
comp=Z,149nm,1.3s
ERM Erimo 33.99 24 ⇑P **P 05 44 31.9 +1.5**
ERM Erimo 33.99 24 P **P 05 44 30.2 -0.2**
ERM S **S 05 49 48.5 -2.2**
SHL Shillong 34.26 298 P **P 05 44 33.6 +0.4**
SNR=325
SHL Shillong 34.26 298 *e*P **P 05 44 29.6 -3.6**
AGT Agartala 34.35 295 *e*P **P 05 44 34.2 +0.5**
TEY Ternei 34.57 14 ⇑*e*P **P 05 44 35.7 +0.3**
TEY pmax pmax
comp=N,10.0nm,1.0s
TEY pmax pmax
comp=N,100nm,2.5s
TEY pmax pmax
comp=Z,200nm,2.5s
QIS Mount Isa 35.13 156 P **P 05 44 37.9 -2.6**
MTSU Mount Surprise 35.22 147 P **P 05 44 39.3 -2.0**
GTA Gaotai 35.53 325 P **P 05 44 45.3 +1.4**
GTA pP pP 05 45 02.8 +2.3
GTA PP **PP 05 46 07.8 +2.1**
GTA PcP **PcP 05 47 13.1 +1.2**
GTA S **S 05 50 17.5 +2.7**
GTA ScP **ScP 05 50 51.6 -0.5**
GTA ScS **ScS 05 54 54.1 -2.8**
GTA pmax pmax
comp=Z,450nm,1.9s
GTA pmax pmax
comp=Z,7μm,10.0s
GTA LR LR
comp=Z,24μm,21.4s
GTA LR LR
comp=Z,21μm,23.6s
GTA LR LR
comp=Z,49μm,21.8s
ASAJ Asahikawa 35.57 22 P **P 05 44 44.6 +0.7**
comp=Z,75nm,0.6s,baz=234,slow=15,SNR=38
ASAJ LR LR 05 59 12.2
comp=Z,13μm,21.1s,baz=217,slow=36
comp=Z,75nm,0.6s
JKA Kamikawa-asahi 35.57 22 IAmb IAmb 05 45 02.0
comp=Z,464nm,1.4s
GIRL Giralia 35.83 197 IAmb IAmb 05 45 15.0
comp=Z,818nm,1.4s
GIRL Giralia 35.83 197 P **P 05 44 46.5 0.0**
GIRL Giralia 35.83 197 ⇓P **P 05 44 46.8 +0.3**
AS31 Alice Springs 36.24 166 P **P 05 44 48.9 -1.1**
ASAR Alice Springs 36.24 166 P **P 05 44 48.1 -1.9**
comp=Z,216nm,0.8s,baz=351,slow=7.2,SNR=132
ASAR PcP **PcP 05 47 13.3 -0.7**
comp=Z,25nm,0.4s,baz=342,slow=2.8,SNR=4.3
ASAR S **S 05 50 21.8 -4.0**
comp=Z,59nm,1.0s,baz=1.0,slow=28,SNR=8.5
ASAR ScP **ScP 05 50 54.2 -0.5**
comp=Z,44nm,0.9s,baz=340,slow=3.5,SNR=7.1
ASAR LR LR 06 01 09.4
comp=Z,20μm,21.8s,baz=358,slow=39
ASAR P3KPbc 06 15 27.9
comp=Z,0.5nm,0.5s,baz=166,slow=4.5,SNR=8.0

ASAR PKPPKP **P'P'df** **06 17 46.0 -0.6**
comp=Z,3.6nm,1.1s,baz=131,slow=3.1,SNR=5.2
ASAR P4KPbc 06 23 16.8
comp=Z,0.7nm,0.8s,baz=356,slow=3.7,SNR=5.3
comp=Z,216nm,0.8s
AS01 Alice Springs 36.25 166 P **P** **05 44 49.6 -0.5**
LSA Lhasa 36.27 305 IAmb IAmb 05 45 23.7
comp=Z,1μm,1.4s
LSA Lhasa 36.27 305 P **P** **05 44 52.8 +2.0**
LSA S **S** **05 50 26.9 -0.1**
LSA pmax pmax
comp=Z,400nm,1.1s
LSA LR LR
comp=Z,15μm,23.0s
LSA LR LR
comp=Z,42μm,31.6s
LSA Lhasa 36.27 305 P **P** **05 44 52.7 +2.0**
LSA Lhasa 36.27 305 P **P** **05 44 52.6 +1.8**
LSA pP **pP** **05 45 08.9 +1.6**
GOMU GeErMu 36.60 317 P **P** **05 44 54.8 +1.4**
GOMU S **S** **05 50 28.3 -3.5**
GOMU pmax pmax
comp=Z,490nm,1.1s
GOMU LR LR
comp=Z,17μm,19.2s
GOMU LR LR
comp=Z,82μm,19.6s
GOMU LR LR
comp=Z,168μm,19.8s
CAL Calcutta 36.68 292 *e*P **P** **05 44 52.4 -1.4**
WRKA Warakurna 36.71 175 P **P** **05 44 52.8 -1.2**
WRKA Warakurna 36.71 175 ⇑P **P** **05 44 52.3 -1.7**
YUK Yuzh-Kuril'sk 36.77 25*d i*P **P** **05 44 55.8 +1.5**
YUK *i* 05 46 22.1
YUK *i* S **S** **05 50 34.7 +1.3**
YUK *e*SSS SSS 05 53 34.8
YUK pmax pmax
comp=Z,916nm,1.5s
YUK pmax pmax
comp=E,328nm,1.2s
YUK pmax pmax
comp=N,208nm,0.8s
YUK pmax pmax
comp=Z,2μm,2.0s
JPG JALPAIGURI 37.27 299 *e*P **P** **05 44 56.3 -2.5**
JPG IAmb IAmb 05 45 03.7
comp=Z,346nm,0.6s
TV1H Townsville Har 37.49 145 P **P** **05 45 00.5 -0.1**
GTK Tadong 37.59 300 *e*P **P** **05 44 58.9 -2.7**
HIA Hailar 37.65 354 P **P** **05 45 03.4 +1.7**
HIA pP **pP** **05 45 19.4 +1.0**
KLR Kul'dur 37.75 7 P **P** **05 45 03.3 +0.9**
comp=Z,130nm,1.0s,baz=203,slow=6.7,SNR=162
KLR LR LR 05 59 14.2
comp=Z,9μm,21.6s,baz=196,slow=34
comp=Z,130nm,1.0s
KLR Kul'dur 37.75 7*c e*P **P** **05 45 03.6 +1.1**
KLR pmax pmax
comp=Z,271nm,1.1s
KLR MLR MLR
comp=Z,10μm,19.0s
SHBG Sahibganj 37.84 296 *e*P **P** **05 45 04.8 +1.2**
YSS Yuzhno-Sakhali 38.09 20 P **P** **05 45 05.8 +0.5**
YSS IAmb IAmb 05 45 09.2
comp=Z,559nm,1.4s
YSS Yuzhno-Sakhali 38.09 20*α e*P **P** **05 45 05.9 +0.5**
YSS *e* 05 45 26.7
YSS *e* 05 46 54.2
YSS *i* S **S** **05 50 52.4 -0.9**
YSS pmax pmax
comp=Z,240nm,1.3s
YSS pmax pmax
comp=Z,2μm,3.2s
YSS pmax pmax
comp=N,1μm,3.9s
YSS pmax pmax
comp=E,1μm,2.8s
YSS smax smax
comp=N,6μm,8.0s
YSS smax smax
comp=E,7μm,8.3s
YSS MLR MLR
comp=N,6μm,17.0s
YSS MLR MLR
comp=E,7μm,18.0s
YSS Yuzhno-Sakhali 38.09 20 ⇑P **P** **05 45 06.1 +0.7**
HEH HeiHe 38.42 2 *e*P **P** **05 45 09.3 +1.2**
HEH pP **pP** **05 45 24.5 -0.2**
HEH PP **PP** **05 46 40.8 +3.7**
HEH S **S** **05 51 00.0 +1.9**
HEH ScP **ScP** **05 51 01.3 -1.1**
HEH pmax pmax
comp=E,440nm,1.0s
HEH pmax pmax
comp=E,2μm,4.6s
HEH LR LR
comp=E,15μm,18.9s
HEH LR LR
comp=E,19μm,21.9s
HEH LR LR
comp=E,23μm,19.1s
KUR Kuril'sk 38.59 26*c i*P **P** **05 45 11.1 +1.5**
KUR *i* S **S** **05 51 01.4 +0.6**
KUR pmax pmax
comp=Z,3μm,1.7s
KUR pmax pmax
comp=E,524nm,1.5s
KUR pmax pmax
comp=N,863nm,1.6s
MEEK Meekatharra 38.70 189 P **P** **05 45 09.1 -1.6**
ULN Ulaanbaatar 39.05 341 P **P** **05 45 14.4 +0.8**
ULN IAmb IAmb 05 45 17.0
comp=Z,985nm,1.6s
ULN Ulaanbaatar 39.05 341 P **P** **05 45 14.9 +1.2**
ULN P **P** **05 45 14.9 +1.2**
ULN Ulaanbaatar 39.05 341 P **P** **05 45 14.4 +0.8**
ULN pmax pmax
comp=Z,985nm,1.6s
ULN Ulaanbaatar 39.05 341 ⇓P **P** **05 45 14.4 +0.8**
ULN Ulaanbaatar 39.05 341 P **P** **05 45 15.0 +1.4**
ULN pP **pP** **05 45 31.1 +0.6**
BOK Bokaro 39.12 293 *e*P **P** **05 45 11.3 -3.1**
SONM Songino Array 39.24 340 P **P** **05 45 15.6 +0.4**
SONM IAmb IAmb 05 45 19.1
comp=Z,824nm,1.5s
SONM Songino Array 39.24 340 P **P** **05 45 15.8 +0.6**
comp=Z,97nm,0.6s,baz=161,slow=8.4,SNR=245
SONM ScP **ScP** **05 51 04.8 -1.0**
comp=Z,28nm,1.1s,baz=178,slow=4.7,SNR=5.0
SONM LR LR 06 02 26.8
comp=Z,14μm,20.0s,baz=147,slow=38
SONM PKPPKP **P'P'df** **06 17 44.4 -2.8**
comp=Z,0.6nm,0.6s,baz=305,slow=5.1,SNR=3.7
comp=Z,97nm,0.6s
EVN Everest 39.29 300 ⇓P **P** **05 45 18.7 +2.3**
KNTI KHUNTI 39.54 292 *e*P **P** **05 45 18.9 +1.0**
KNTI IAmb IAmb 05 45 38.9
comp=Z,751nm,0.9s
UGL Uglegorsk 39.76 17 *e*P **P** **05 45 20.6 +1.3**
UGL *e* 05 45 41.5
UGL *e*S **S** **05 51 16.2 -2.1**
UGL *e* 05 55 17.0
UGL pmax pmax
comp=Z,3μm,3.0s
UGL pmax pmax
comp=Z,400nm,1.0s
UGL smax smax
comp=E,18μm,7.8s
UGL smax smax
comp=N,20μm,6.4s
UGL MLR MLR
comp=E,12μm,15.0s
TATA Tatamba Isabel 39.85 119 P **P** **05 45 20.4 -0.1**
GRNR Gornyy 39.97 11 ⇓*i*P **P** **05 45 22.2 +1.1**
GRNR *e*S **S** **05 51 26.2 +4.7**
GRNR pmax pmax
comp=N,20nm,1.1s
GRNR pmax pmax
comp=E,5.0nm,1.1s
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR smax smax
comp=E,10.0nm,1.1s
SAVO Savo Central 40.24 120 P **P** **05 45 22.6 -1.2**
HNR Honiara 40.50 120 P **P** **05 45 26.1 +0.2**

HNR IAmb IAmb 05 45 28.8
comp=Z,672nm,1.1s
HNR Honiara 40.50 120 LR LR 06 00 03.6
comp=Z,28μm,21.9s,baz=298,slow=33
HNR Honiara 40.50 120 P **P** **05 45 26.1 +0.2**
HNR pmax pmax
comp=Z,672nm,1.1s
HNR Honiara 40.50 120 ⇑P **P** **05 45 23.3 -2.5**
HNR Honiara 40.50 120 P **P** **05 45 26.1 +0.2**
HNR pP **pP** **05 45 42.5 -0.1**
H11S3 WAKE ISLAND Hy 40.58 75 T T 06 28 37.3
baz=272,slow=70,SNR=876
H11S1 WAKE ISLAND Hy 40.59 75 T T 06 28 35.2
baz=272,slow=70,SNR=1028
H11S2 WAKE ISLAND Hy 40.60 75 T T 06 28 36.8
baz=272,slow=70,SNR=866
OOD Oodnadatta 40.63 166 P **P** **05 45 25.3 -1.4**
RAGD RAYAGADA 40.78 286 *e*P **P** **05 45 25.5 -2.7**
ALEG Aligegeo Malai 40.80 118 P **P** **05 45 28.2 -0.2**
VIS Vishakhapatnam 40.81 283 *e*P **P** **05 45 25.9 -2.5**
H11N1 WAKE ISLAND Hy 40.86 73 P **P** **05 45 29.5 +1.0**
baz=250,slow=10,SNR=16
H11N1 T T 06 28 58.5
baz=265,slow=75,SNR=4106
H11N2 WAKE ISLAND Hy 40.87 73 P **P** **05 45 29.9 +1.3**
baz=250,slow=10,SNR=13
H11N2 T T 06 28 57.3
baz=265,slow=75,SNR=5120
H11N3 WAKE ISLAND Hy 40.88 73 P **P** **05 45 29.8 +1.1**
baz=250,slow=10,SNR=9.4
H11N3 T T 06 28 58.3
baz=265,slow=75,SNR=4547
CIT Chita 41.23 349 *e*P **P** **05 45 33.9 +2.4**
CIT *e* 05 45 49.1
CIT *e* 05 45 59.7
CIT *e* 05 47 16.5
CIT *e* 05 47 31.3
CIT *e* 05 47 44.9
CIT *e*S **S** **05 51 39.5 -0.8**
CIT pmax pmax
comp=Z,1μm,2.5s
TYV Tymovskoe 41.53 17 *e*P **P** **05 45 35.9 +2.0**
TYV *e*S **S** **05 51 48.5 +3.9**
TYV pmax pmax
comp=Z,274nm,1.5s
TYV pmax pmax
comp=Z,3μm,4.8s
TYV smax smax
comp=N,17μm,8.8s
TYV smax smax
comp=E,21μm,8.8s
MORW Morawa 41.54 192 P **P** **05 45 33.2 -1.0**
MORW Morawa 41.54 192 ⇑P **P** **05 45 32.3 -1.9**
VLK Valmikinagar 41.65 298 *e*P **P** **05 45 34.2 -1.0**
NGOA Tingoa Renbel 41.70 123 P **P** **05 45 35.7 0.0**
KWJN Gagan, Kwajale 41.73 89 P **P** **05 45 37.9 +1.9**
ZEA Zeya 41.90 2 *e*P **P** **05 45 38.0 +1.2**
ZEA *e* 05 47 19.1
ZEA *e*S **S** **05 51 49.6 -0.4**
ZEA pmax pmax
comp=E,60nm,1.0s
ZEA pmax pmax
comp=N,90nm,1.3s
ZEA pmax pmax
comp=Z,130nm,1.4s
ZEA pmax pmax
comp=N,700nm,6.6s
ZEA pmax pmax
comp=Z,1μm,6.3s
ZEA smax smax
comp=N,3μm,11.1s
ZEA smax smax
comp=E,4μm,10.4s
ZEA MLR MLR
comp=N,8μm,18.0s
INKA Innaminka 42.08 159 P **P** **05 45 37.2 -1.4**
BLSP Bilaspur 42.29 290 *e*P **P** **05 45 37.7 -2.9**
BLSP IAmb IAmb 05 46 10.5
comp=Z,1μm,1.5s
FORT Forrest 42.39 176 P **P** **05 45 40.0 -1.1**
FORT Forrest 42.39 176 P **P** **05 45 39.9 -1.2**
FORT Forrest 42.39 176 ⇑P **P** **05 45 39.5 -1.6**
QLP Quilpie 42.39 154 P **P** **05 45 38.8 -2.4**
QLP Quilpie 42.39 154 ⇑P **P** **05 45 40.2 -1.0**
ZAK Zakamensk 42.48 339 *e*P **P** **05 45 40.8 -1.0**
ZAK pmax pmax
comp=Z,164nm,1.4s
RK1H Rockhampton Ha 42.85 145 P **P** **05 45 45.7 +0.8**
BLDU Ballidu 42.91 191 P **P** **05 45 45.7 +0.4**
KMBL Kambalda 43.00 184 P **P** **05 45 44.4 -1.7**
ALBI Allahabad 43.05 294 *e*P **P** **05 45 45.2 -1.4**
NKL Nikolayevsk 43.11 14 *e*P **P** **05 45 45.0 -1.6**
NKL *e*S **S** **05 52 06.6 -1.2**
NKL pmax pmax
comp=N,532nm,1.6s
NKL pmax pmax
comp=E,366nm,1.6s
NKL pmax pmax
comp=Z,1μm,1.6s
NKL smax smax
comp=E,3μm,3.9s
NKL smax smax
comp=N,2μm,3.4s
NKL MLR MLR
comp=E,6μm,10.0s
NKL MLR MLR
comp=N,32μm,22.0s
NKL MLR MLR
comp=Z,38μm,21.0s
VJD Vijayawada 43.34 282 IAmb IAmb 05 45 54.1
comp=Z,534nm,0.8s
GD1S Gladstone Soft 43.59 144 P **P** **05 45 52.3 +1.5**
BRCI Bahraich 43.68 298 *e*P **P** **05 45 49.4 -2.3**
KLBR Kellerberrin 43.69 189 P **P** **05 45 49.9 -1.7**
IRK Irkutsk 43.75 342 *e*P **P** **05 45 52.7 +0.9**
IRK pmax pmax
comp=Z,1μm,1.7s
LCRK Leigh Creek 43.81 164 P **P** **05 45 52.3 -0.3**
MDRS Chennai 43.83 277 *e*P **P** **05 45 52.0 -1.0**
MDRS *e*P P 05 45 58.0 +5.0
PALK Pallekele 44.03 268 P **P** **05 45 54.9 +0.3**
PALK Pallekele 44.03 268 LR LR 06 05 03.8
comp=Z,12μm,19.3s,baz=86,slow=37
PALK Pallekele 44.03 268 P **P** **05 45 55.3 +0.7**
PALK Pallekele 44.03 268 *i* P **P** **05 45 55.0 +0.3**
PALK pmax pmax
comp=Z,202nm,1.4s
PALK MLR MLR
comp=Z,13μm,19.0s
PALK Pallekele 44.03 268 ⇓P **P** **05 45 55.1 +0.4**
PALK Pallekele 44.03 268 P **P** **05 45 55.8 +1.2**
PALK pP **pP** **05 46 12.5 +0.9**
PALK ScP **ScP** **05 51 24.8 -0.7**
PALK Pallekele 44.03 268 P **P** **05 45 55.4 +0.7**
PALK S **S** **05 52 22.1 -0.3**
MUN Mundaring 44.33 191 P **P** **05 45 57.4 +0.7**
MOY Mondy 44.36 339 *e*P **P** **05 45 58.1 +1.2**
MOY pmax pmax
comp=Z,2μm,2.2s
EIDS Eidsvold 44.73 146 P **P** **05 45 59.2 -0.8**
EIDS Eidsvold 44.73 146 P **P** **05 46 00.5 +0.5**
EIDS Eidsvold 44.73 146 ⇑P **P** **05 46 00.1 +0.1**
NGP Nagpur 45.05 288 *e*P **P** **05 46 01.2 -1.5**
NWAO Narrogin (SRO) 45.08 189 P **P** **05 46 01.2 -1.4**
NWAO IAmb IAmb 05 46 28.3
comp=Z,592nm,1.5s
NWAO Narrogin (SRO) 45.08 189 P **P** **05 46 01.7 -1.0**
NWAO Narrogin (SRO) 45.08 189 P **P** **05 46 01.2 -1.4**
NWAO pmax pmax
comp=Z,592nm,1.5s
NWAO Narrogin (SRO) 45.08 189 P **P** **05 46 00.8 -1.9**
NWAO ScP **ScP** **05 51 26.0 -3.2**
LGTI Lohaghat 45.24 300 *e*P **P** **05 46 03.6 -0.5**
PTH Pithoragarh 45.29 300 *e*P **P** **05 46 00.4 -4.3**
HYB Hyderabad 45.36 283 *e*P **P** **05 46 06.0 +0.7**
HYB *e*pP **pP** **05 46 22.4 +0.1**
HYB IVmB_BB 05 46 26.1
comp=Z,8μm,1.9s
HYB *e*PcP **PcP** **05 47 44.0 +0.2**
HYB *e*PP **PP** **05 47 52.9 +0.4**
HYB *e*ScP **ScP** **05 51 32.1 +1.3**
HYB *e*S **S** **05 52 43.9 +2.3**
HYB *e*sS **sS** **05 53 11.8 +1.3**
HYB *e*ScS **ScS** **05 55 54.6 -1.6**

HYB IVMs_BB IVMs_BB 06 01 08.1
comp=Z,6μm,41.0s
WMQ Urumqi 45.37 322 ⇓P **P** **05 46 06.6 +1.6**
WMQ pP pP 05 46 22.0 -0.1
WMQ ScP **ScP** **05 51 28.6 -1.8**
WMQ ScS **ScS** **05 55 53.0 -2.4**
WMQ pmax pmax
comp=Z,380nm,1.7s
WMQ pmax pmax
comp=Z,6μm,5.3s
WMQ LR LR
comp=Z,32μm,20.3s
WMQ LR LR
comp=Z,28μm,18.9s
WMQ LR LR
comp=Z,32μm,24.7s
WMQ Urumqi 45.37 322 P **P** **05 46 07.2 +2.2**
WMQ pP **pP** **05 46 23.0 +0.9**
WMQ sP **sP** **05 46 30.6 +0.7**
WMQ ScP **ScP** **05 51 28.9 -1.6**
FRKB FARRUKHABAD 45.40 297 *e*P **P** **05 46 02.3 -3.0**
BBOO Buckleboo 45.54 167 P **P** **05 46 05.1 -1.2**
BBOO Buckleboo 45.54 167 P **P** **05 46 04.8 -1.5**
JHNI Jhansi 45.99 294 *e*P **P** **05 46 06.4 -3.7**
WHYH Whyalla 46.10 165 P **P** **05 46 09.8 -0.9**
STKA Stephens Creek 46.17 160 P **P** **05 46 09.9 -1.4**
STKA Stephens Creek 46.17 160 P **P** **05 46 09.8 -1.5**
comp=Z,657nm,0.8s,baz=336,slow=7.9,SNR=178
STKA S **S** **05 52 50.2 -2.4**
comp=Z,69nm,1.1s,baz=126,slow=18,SNR=5.5
STKA LR LR 06 08 05.0
comp=Z,12μm,20.4s,baz=330,slow=39
STKA PKPPKP 06 17 35.4
comp=Z,1.0nm,0.3s,baz=17,slow=2.0,SNR=3.0
comp=Z,657nm,0.8s
STKA Stephens Creek 46.17 160 P **P** **05 46 10.9 -0.4**
STKA Stephens Creek 46.17 160 *i* P **P** **05 46 09.9 -1.4**
LUES Luesalemba Tem 46.23 117 P **P** **05 46 11.7 -0.3**
SKR Severo-Kuril's 46.33 27 *e*P **P** **05 46 13.4 +1.1**
SKR *e*S **S** **05 52 51.9 -2.6**
SKR *e*SS **ScS** **05 55 57.2 -3.9**
SKR pmax pmax
comp=Z,3μm,4.7s
SKR MLR MLR
comp=Z,8μm,18.0s
PTPS Port Pirie 46.34 165 P **P** **05 46 13.4 +0.9**
TKRD Thakurdwara 46.37 299 *e*P **P** **05 46 10.6 -2.4**
BHPL Bhopal 46.73 291 *e*P **P** **05 46 15.8 -0.2**
BHPL IAmb IAmb 05 46 16.8
comp=Z,143nm,0.9s
BOD Bodaibo 46.74 352 *e*P **P** **05 46 16.8 +1.4**
BOD pmax pmax
comp=Z,866nm,1.8s
AGRA Agra 46.80 296 *e*P **P** **05 46 11.7 -4.6**
HTT Hallett 46.82 164 P **P** **05 46 15.4 -1.1**
HTT Hallett 46.82 164 ⇑P **P** **05 46 15.3 -1.1**
AKL Akola 46.92 287 *e*P **P** **05 46 15.3 -2.2**
AKL IAmb IAmb 05 46 18.7
comp=Z,242nm,1.1s
NRDN NARMADA NAGAR 46.92 290 *e*P P 05 46 22.3 +4.9
UGON Onchagaon 47.02 298 *e*P **P** **05 46 15.8 -2.3**
HNLY HANLEY 47.13 304 *e*P **P** **05 46 17.2 -2.3**
HNLY IAmb IAmb 05 46 22.0
comp=Z,548nm,1.1s
MERT Meerut 47.29 299 *e*P **P** **05 46 15.5 -4.7**
DDI Dehra Dun 47.29 300 *e*P **P** **05 46 17.5 -2.8**
CMSA Cobar Meteorol 47.35 156 P **P** **05 46 19.8 -0.7**
PWAL Palwal 47.49 297 *e*P **P** **05 46 19.6 -2.2**
TRD Trivandrum 47.51 271 *e*P **P** **05 46 19.8 -2.2**
NPLP NPLP New Delhi 47.72 298 *e*P **P** **05 46 19.3 -4.2**
SONA Sohna 47.72 297 *e*P **P** **05 46 21.9 -1.6**
AYAN Aya Nagar 47.73 298 *e*P **P** **05 46 21.9 -1.6**
BHGR Bahadurgarh 47.92 298 *e*P **P** **05 46 23.0 -2.1**
UJWA Ujwa (Najafgar 47.93 298 *e*P **P** **05 46 21.1 -4.1**
GHSS Government Hou 48.15 165 P **P** **05 46 27.9 +1.3**
SMLA Simla 48.22 301 *e*P **P** **05 46 22.9 -4.5**
SMLA *e*P **P** **05 46 25.2 -2.1**
KKR Kurukshetra 48.27 300 *e*P **P** **05 46 27.0 -0.7**
SDNR Sundarnagar 48.46 302 *e*P **P** **05 46 25.8 -3.5**
PEA0B Petropavlovsk- 48.75 26*c e*P **P** **05 46 32.3 +1.2**
PETK Petropavlovsk- 48.75 26 P **P** **05 46 31.9 +0.8**
PETK Petropavlovsk- 48.75 26 P **P** **05 46 31.7 +0.6**
comp=Z,687nm,1.0s,baz=224,slow=2.6,SNR=56
PETK ScP **ScP** **05 51 43.8 -0.6**
comp=Z,46nm,1.0s,baz=202,slow=3.2,SNR=9.8
PETK LR LR 06 04 51.8
comp=Z,16μm,21.4s,baz=221,slow=33
comp=Z,687nm,1.0s
BHK Bhakra 48.91 301 *e*P **P** **05 46 32.9 +0.2**
ZSN Zaisan 49.02 324 *e*P **P** **05 46 34.0 +0.8**
ZSN *e*S **S** **05 53 34.5 +1.7**
ZSN pmax pmax
comp=Z,775nm,2.0s
ZSN Zaisan 49.02 324 *e*P **P** **05 46 34.0 +0.8**
comp=Z,775nm,2.0s
ZSN *e*S **S** **05 53 34.5 +1.7**
ARMA Armidale 49.07 149 IAmb IAmb 05 47 00.6
comp=Z,772nm,1.4s
ARMA Armidale 49.07 149 P **P** **05 46 34.0 0.0**
ARMA Armidale 49.07 149 ⇓P **P** **05 46 33.4 -0.6**
PET Petropavlovsk 49.10 26 P **P** **05 46 34.4 +0.7**
PET Petropavlovsk 49.10 26 *e*P **P** **05 46 34.1 +0.4**
PET *e**SP **sP** **05 46 58.2 -0.5**
PET *e*S **S** **05 53 34.7 +1.0**
PET *e**SS **sS** **05 54 01.0 -1.9**
PET pmax pmax
comp=Z,7μm,4.5s
PET pmax pmax
comp=Z,2μm,11.2s
PET pmax pmax
comp=Z,1μm,1.7s
PET MLR MLR
comp=Z,5μm,18.0s
PET MLR MLR
comp=Z,5μm,19.0s
PET Petropavlovsk 49.10 26 ⇑P **P** **05 46 34.9 +1.2**
DHRM DHARAMSHALA 49.19 303 *e*P **P** **05 46 32.4 -2.7**
TSSA Tissa 49.44 303 *e*P **P** **05 46 35.2 -1.7**
KAD Karad 49.53 283 *e*P **P** **05 46 36.4 -1.3**
AJM Ajmer 49.60 295 *e*P **P** **05 46 36.0 -2.1**
AJM IAmb IAmb 05 46 39.7
comp=Z,207nm,0.8s
WUS Wushi 49.69 315 P **P** **05 46 40.3 +1.6**
WUS pP **pP** **05 46 56.9 +1.0**
WUS ScP **ScP** **05 51 47.4 -1.4**
GOA Goa 49.93 280 *e*P **P** **05 46 38.4 -2.2**
KOUNC Koumac, New Ca 50.13 130 P **P** **05 46 42.9 +0.9**
KOUNC Koumac, New Ca 50.13 130 ⇓P **P** **05 46 42.6 +0.7**
VLAKA Lakatoro 50.16 123 P **P** **05 46 43.0 +0.7**
MK31 Makanchi Array 50.18 323 *i* P **P** **05 46 42.9 +0.8**
MK31 pmax pmax
comp=Z,812nm,0.8s
MKAR Makanchi Array 50.18 323 P **P** **05 46 42.9 +0.8**
MKAR Makanchi Array 50.18 323 P **P** **05 46 42.7 +0.6**
comp=Z,530nm,0.6s,baz=118,slow=7.0,SNR=551
MKAR ScP **ScP** **05 51 48.9 -1.8**
comp=Z,76nm,1.1s,baz=144,slow=4.3,SNR=8.0
MKAR LR LR 06 09 40.5
comp=Z,24μm,21.4s,baz=117,slow=38
MKAR PKPPKP **P'P'df** **06 17 31.4 -2.7**
comp=Z,2.1nm,0.9s,baz=262,slow=2.5,SNR=6.7
MKAR P4KPbc 06 24 16.2
comp=Z,2.6nm,0.8s,baz=104,slow=4.7,SNR=15
comp=Z,530nm,0.8s
UDPR Udaipur 50.24 292 *e*P **P** **05 46 42.3 -0.7**
YAK Yakutsk 50.29 3 LR LR 06 09 29.7
comp=Z,9μm,20.4s,baz=180,slow=38
YAK Yakutsk 50.29 3 *e*P **P** **05 46 44.2 +1.6**
YAK *e**PP **pP** **05 47 00.1 +0.3**
YAK *e* 05 48 06.5
YAK *e* 05 48 38.5
YAK *e*S **S** **05 53 44.9 -5.1**
YAK *e**SS **sS** **05 54 14.0 -5.3**
YAK *e* 05 56 21.2
YAK *e*SS **SS** **05 57 18.3 -5.9**
YAK pmax pmax
comp=Z,371nm,1.0s
YAK pmax pmax
comp=N,288nm,1.3s
YAK pmax pmax
comp=E,183nm,1.3s
YAK pmax pmax
comp=Z,358nm,1.8s
YAK pmax pmax

comp=N,357nm,1.7s
YAK pmax pmax
comp=E,304nm,1.5s
YAK smax smax
comp=E,12μm,7.2s
YAK smax smax
comp=N,7μm,6.3s
YAK Yakutsk 50.29 3 ⇓P **P 05 46 43.9 +1.3**
YAK Yakutsk 50.29 3 P **P 05 46 44.1 +1.5**
YAK pP **pP 05 47 00.2 +0.3**
SHLS Shalkode 50.31 317 *e*P **P 05 46 41.5 -1.8**
SHLS *e*S **S 05 53 48.0 -3.1**
SHLS pmax pmax
comp=Z,325nm,1.5s
SHLS Shalkode 50.31 317 *e*P **P 05 46 41.5 -1.8**
comp=Z,325nm,1.5s
SHLS *e*S **S 05 53 48.1 -3.1**
MAKZ Makanchi 50.37 322 P **P 05 46 44.1 +0.6**
MAKZ Makanchi 50.37 322 P **P 05 46 44.1 +0.6**
MAKZ pmax pmax
comp=Z,808nm,1.2s
MAKZ Makanchi 50.37 322 ⇑P **P 05 46 44.1 +0.6**
MAKZ Makanchi 50.37 322 P **P 05 46 44.7 +1.2**
MAKZ pP **pP 05 47 01.6 +0.7**
MAKZ sP **sP 05 47 09.3 +0.7**
MAKZ ScP **ScP 05 51 49.7 -1.8**
JMU Jammu 50.44 303 *e*P **P 05 46 41.7 -2.6**
UZB Uzynbulak 50.59 317 *e*P **P 05 46 45.7 +0.2**
UZB *e*S **S 05 53 56.0 +0.8**
UZB pmax pmax
comp=Z,841nm,2.5s
UZB Uzynbulak 50.59 317 *e*P **P 05 46 45.7 +0.2**
comp=Z,841nm,2.5s
UZB *e*S **S 05 53 56.1 +0.8**
SRGN SRI GANGA NAGA 50.76 299 *e*P **P 05 46 44.4 -2.4**
ARPS Mount Arapiles 50.77 163 P **P 05 46 45.8 -0.8**
SRNI Srinagar 50.79 305 *e*P **P 05 46 44.0 -2.8**
SRNI IAmb IAmb 05 46 55.2
comp=Z,728nm,0.7s
TARG Taragay, Kyrgy 50.87 315 IAmb IAmb 05 47 20.9
comp=Z,612nm,1.5s
SATY Saty 50.97 317 *e*P **P 05 46 48.6 +0.3**
SATY *e*S **S 05 54 01.3 +0.9**
SATY pmax pmax
comp=Z,719nm,2.5s
SATY Saty 50.97 317 *e*P **P 05 46 48.6 +0.3**
comp=Z,719nm,2.5s
SATY *e*S **S 05 54 01.3 +0.9**
ZHN Zhinishke 51.00 317 *e*P **P 05 46 48.7 +0.3**
ZHN pmax pmax
comp=Z,400nm,1.9s
ZHN Zhinishke 51.00 317 *e*P **P 05 46 48.7 +0.3**
comp=Z,400nm,1.9s
MGCD Mangrove Creek 51.12 152 P **P 05 46 51.6 +2.3**
NTLH Newcastle Hard 51.14 151 P **P 05 46 50.4 +1.0**
MA2 Magadan 51.40 16 P **P 05 46 51.9 +0.9**
MA2 IAmb IAmb 05 46 55.1
comp=Z,532nm,1.3s
MA2 Magadan 51.40 16 P **P 05 46 51.7 +0.7**
comp=Z,201nm,0.9s,baz=208,slow=8.3,SNR=43
MA2 ScP **ScP 05 51 55.1 -0.5**
comp=Z,58nm,1.1s,baz=180,slow=2.3,SNR=5.8
MA2 LR LR 06 06 31.0
comp=Z,5μm,20.9s,baz=210,slow=33
comp=Z,201nm,0.9s
MA2 Magadan 51.40 16 ⇑P **P 05 46 51.9 +0.9**
MA2 Magadan 51.40 16 P **P 05 46 52.2 +1.2**
MA2 ScP **ScP 05 51 56.7 +1.1**
SYDH Sydney Hard Ro 51.42 153 P **P 05 46 53.8 +2.4**
KSH Kashi 51.42 312 P **P 05 46 54.4 +2.7**
KSH pP pP 05 47 11.8 +2.8
KSH PP **PP 05 48 50.8 +1.4**
KSH ScP **ScP 05 51 56.0 -0.3**
KSH S **S 05 54 09.8 +3.1**
KSH pmax pmax
comp=Z,320nm,3.5s
KSH LR LR
comp=Z,20μm,22.1s
KSH LR LR
comp=Z,18μm,22.1s
KSH LR LR
comp=Z,39μm,22.2s
KDJ Kajisay 51.45 315 IAmb IAmb 05 47 11.7
comp=Z,381nm,1.2s
HMDM Hanimaadhoo 51.47 269 P **P 05 46 52.9 +0.6**
DVP Devils Point 51.62 124 P **P 05 46 53.9 +0.7**
RIV Riverview 51.66 152 P **P 05 46 55.1 +1.8**
RIV Riverview 51.66 152 ⇑P **P 05 46 54.8 +1.5**
TDK Taldyqorghan 51.77 319 *e*P **P 05 46 54.4 +0.4**
TDK pmax pmax
comp=Z,327nm,1.0s
TDK Taldyqorghan 51.77 319 *e*P **P 05 46 54.5 +0.4**
comp=Z,327nm,1.0s
ARXS Arharly 51.82 318 *e*P **P 05 46 55.1 +0.6**
MDOK Medeo 51.93 316 *e*P **P 05 46 55.8 +0.4**
MDOK *e*S **S 05 54 14.5 +0.9**
MDOK Medeo 51.93 316 *e*P **P 05 46 55.9 +0.4**
MDOK *e*S **S 05 54 14.6 +0.9**
TNSS Tian-Shan 51.95 316 *e*P **P 05 46 56.0 +0.1**
TNSS Tian-Shan 51.95 316 *e*P **P 05 46 56.0 +0.1**
NIL Nilore 51.99 304 P **P 05 46 55.8 -0.1**
NIL Nilore 51.99 304 P **P 05 46 56.2 +0.3**
NIL Nilore 51.99 304 P **P 05 46 55.8 -0.1**
NIL pmax pmax
comp=Z,1μm,0.9s
NIL Nilore 51.99 304 P **P 05 46 57.0 +1.1**
NIL pP **pP 05 47 13.9 +0.6**
CAN Canberra 51.99 155 IAmb IAmb 05 47 00.4
comp=Z,503nm,0.9s
CAN Canberra 51.99 155 P **P 05 46 55.8 0.0**
CAN Canberra 51.99 155 ⇑P **P 05 46 55.6 -0.1**
CAN Canberra 51.99 155 P **P 05 46 56.8 +1.0**
CAN sP **sP 05 47 21.6 +0.7**
CAN ScP **ScP 05 51 58.3 -0.3**
WOLH Wollongong Har 52.02 153 P **P 05 46 56.2 +0.3**
NRN Naryn 52.03 314 IAmb IAmb 05 47 16.0
comp=Z,516nm,1.2s
AAA Alma-Ata 52.04 316 *e*P **P 05 46 57.3 +1.1**
AAA Alma-Ata 52.04 316 *e*P **P 05 46 56.7 +0.5**
comp=Z,436nm,1.3s
CNB Canberra Magne 52.14 155 P **P 05 46 57.0 +0.1**
ULHL Ulahol 52.15 315 P **P 05 46 58.0 +0.8**
SNR=156
CHKK Chushkaly 52.23 317 *e*P **P 05 46 57.9 +0.4**
CHKK Chushkaly 52.23 317 *e*P **P 05 46 57.1 -0.4**
BOOM Boomskoye usch 52.44 315 IAmb IAmb 05 48 29.1
comp=Z,633nm,1.7s
DZM Mont Dzumac 52.64 130 P **P 05 46 59.7 -1.2**
DZM Mont Dzumac 52.64 130 LR LR 06 08 25.6
comp=Z,8μm,21.7s,baz=314,slow=35
DZM Mont Dzumac 52.64 130 P **P 05 47 00.7 -0.2**
DZM Mont Dzumac 52.64 130 ⇓P **P 05 47 00.1 -0.8**
DZM Mont Dzumac 52.64 130 P **P 05 47 01.6 +0.7**
DZM pP **pP 05 47 19.1 +0.7**
DZM ScP **ScP 05 52 02.3 +0.5**
TOO Toolangi 52.66 160 IAmb IAmb 05 47 04.2
comp=Z,223nm,0.9s
TOO Toolangi 52.66 160 ⇓P **P 05 47 00.3 -0.4**
KUU Kurty 52.68 317 *e*P **P 05 47 01.2 +0.4**
KUU *e*S **S 05 54 24.7 +1.1**
KUU Kurty 52.68 317 *e*P **P 05 47 01.3 +0.4**
KUU *e*S **S 05 54 24.7 +1.1**
MLBS Spotswood, Mel 52.70 160 P **P 05 47 01.8 +1.0**
ONTNC Ouen Toro 52.79 130 IAmb IAmb 05 47 04.2
comp=Z,367nm,0.8s
ONTNC Ouen Toro 52.79 130 P **P 05 47 02.5 +0.6**
ONTNC Ouen Toro 52.79 130 ⇓P **P 05 47 02.2 +0.4**
ZAA0 Zalesovo Array 52.79 331 IAmb IAmb 05 47 05.7
comp=Z,384nm,0.8s
ZALV Zalesovo Beam 52.79 331 P **P 05 47 01.3 -0.2**
comp=Z,374nm,0.7s,baz=121,slow=5.4,SNR=243
ZALV ScP **ScP 05 51 59.8 -1.9**
comp=Z,37nm,1.1s,baz=50,slow=2.3,SNR=4.3
ZALV S **S 05 54 25.8 +1.1**
comp=Z,17nm,1.1s,baz=118,slow=12,SNR=3.9
ZALV LR LR 06 10 56.0
comp=Z,16μm,20.1s,baz=128,slow=38
ZALV PKPPKP **P'P'df 06 17 29.7 -0.4**
comp=Z,1.7nm,0.8s,baz=302,slow=3.3,SNR=4.0
comp=Z,374nm,0.7s
TKM2 Tokmak 2 52.83 315 P **P 05 47 02.6 +0.4**
SNR=159
GEXS Deakin Univers 52.84 161 P **P 05 47 03.7 +1.8**
KAAM Kaadhehdhoo 52.95 262 P **P 05 47 04.4 +1.2**

YATNC Mamie plateau, 52.98 129 P **P 05 47 04.2 +0.9**
OUENC Ouen Island, N 53.14 130 P **P 05 47 05.9 +1.4**
SEM Semipalatinsk 53.16 326 *e*P **P 05 47 05.0 +0.5**
SEM pmax pmax
comp=Z,664nm,1.8s
SEM Semipalatinsk 53.16 326 *e*P **P 05 47 05.0 +0.5**
comp=Z,664nm,1.8s
KBK Karagaybulak 53.19 315 P **P 05 47 06.1 +1.3**
SNR=154
UCH Uchtor 53.35 314 P **P 05 47 07.8 +1.5**
SNR=114
CHMS Chumysh 53.44 315 P **P 05 47 06.8 +0.3**
SNR=78
INH Isangel 53.45 125 P **P 05 47 08.1 +1.3**
FRU1 Bishkek 53.46 315 IAmb IAmb 05 47 26.2
comp=Z,313nm,1.1s
AAK Ala-Archa 53.50 315 P **P 05 47 08.2 +1.1**
AAK IAmb IAmb 05 47 12.6
comp=Z,653nm,1.8s
AAK Ala-Archa 53.50 315 LR LR 06 12 47.4
comp=Z,29μm,21.8s,baz=99,slow=39
AAK Ala-Archa 53.50 315 P **P 05 47 08.4 +1.3**
AAK P **P 05 47 08.4 +1.3**
AAK Ala-Archa 53.50 315 P **P 05 47 08.4 +1.3**
SNR=107
AAK Ala-Archa 53.50 315 *d* *i* P **P 05 47 08.2 +1.1**
AAK pmax pmax
comp=Z,237nm,1.1s
AAK MLR MLR
comp=Z,43μm,25.0s
AAK Ala-Archa 53.50 315 *i* P **P 05 47 08.0 +1.0**
SNR=153
AAK Ala-Archa 53.50 315 ⇓P **P 05 47 08.3 +1.2**
AAK Ala-Archa 53.50 315 P **P 05 47 08.1 +1.1**
AAK S **S 05 54 37.4 +2.4**
MARNC Mare, Loyalty 53.52 128 P **P 05 47 08.4 +1.2**
MILA Mila 53.55 156 ⇓P **P 05 47 07.6 +0.3**
SGDS Sogindy 53.68 316 *e*P **P 05 47 08.6 +0.4**
SGDS Sogindy 53.68 316 *e*P **P 05 47 08.6 +0.4**
USP Ospenovka 53.71 316 P **P 05 47 08.9 +0.4**
SNR=198
PINNC Pines Island, 53.71 130 P **P 05 47 09.7 +1.1**
AML Almayashu 53.89 314 P **P 05 47 12.6 +2.3**
SNR=19
LHI Lord Howe Isla 53.94 144 ⇑P **P 05 47 12.1 +1.9**
EKS2 Erkin-Say 54.00 315 P **P 05 47 11.9 +1.2**
SNR=175
KURK Kurchatov 54.22 325 P **P 05 47 12.4 +0.4**
KURK Kurchatov 54.22 325 P **P 05 47 12.9 +1.0**
KURK P **P 05 47 12.9 +1.0**
KURK Kurchatov 54.22 325 P **P 05 47 12.6 +0.7**
KURK Kurchatov 54.22 325 ⇓P **P 05 47 12.3 +0.4**
KURK Kurchatov 54.22 325 P **P 05 47 12.9 +1.0**
KURK pP **pP 05 47 29.9 +0.4**
KURBB Kurchatov Arra 54.22 325 P **P 05 47 12.4 +0.5**
comp=Z,605nm,0.7s,baz=127,slow=7.0,SNR=572
KURBB S **S 05 54 40.4 -3.8**
comp=Z,9.2nm,1.0s,baz=124,slow=14,SNR=5.0
KURBB LR LR 06 12 05.3
comp=Z,14μm,22.0s,baz=122,slow=38
KURBB PKPPKP **P'P'df 06 17 28.1 -0.1**
comp=Z,2.8nm,0.9s,baz=307,slow=2.9,SNR=5.2
KURBB P4KPbc 06 24 32.2
comp=Z,0.6nm,0.8s,baz=108,slow=3.8,SNR=3.5
comp=Z,605nm,0.7s
DRK Karamyk 54.50 310 IAmb IAmb 05 47 19.1
comp=Z,289nm,0.7s
SEY Seymchan 54.65 15 P **P 05 47 16.9 +2.0**
comp=Z,88nm,0.7s,baz=228,slow=6.8,SNR=132
SEY LR LR 06 09 29.7
comp=Z,12μm,21.8s,baz=212,slow=35
comp=Z,88nm,0.7s
BTK Batken 55.38 311 IAmb IAmb 05 47 40.1
comp=Z,681nm,1.1s
KBU Kabul Universi 55.51 304 P **P 05 47 19.9 -1.9**
KBU S **S 05 55 00.2 -2.2**
KBL Kabul 55.59 304 P **P 05 47 22.6 +0.2**
KBL Kabul 55.59 304 P **P 05 47 22.3 -0.1**
SNR=145
KBL P **P 05 47 22.3 -0.1**
SNR=145
KBL Kabul 55.59 304 P **P 05 47 22.6 +0.2**
KBL pmax pmax
comp=Z,685nm,1.1s
DZA Taraz 55.79 314 *e*P **P 05 47 23.9 +0.5**
DZA pmax pmax
comp=Z,716nm,1.3s
DZA Taraz 55.79 314 *e*P **P 05 47 24.0 +0.5**
comp=Z,716nm,1.3s
H08S2 Diego Garcia H 55.80 252 P **P 05 47 24.5 +0.8**
baz=40,slow=11,SNR=27
H08S3 Diego Garcia H 55.81 252 P **P 05 47 24.3 +0.7**
baz=40,slow=11,SNR=32
H08S1 Diego Carcia H 55.82 252 P **P 05 47 24.7 +0.9**
baz=40,slow=11,SNR=30
MIDW Midway 55.95 64 P **P 05 47 25.7 +0.9**
SIMJ Simiganj 56.41 309 P **P 05 47 28.0 -0.2**
SIMJ IAmb IAmb 05 47 48.8
comp=Z,503nm,1.1s
SIMJ Simiganj 56.41 309 P **P 05 47 28.6 +0.4**
SIMJ pP **pP 05 47 45.6 -0.1**
KK31 Karatay Array 56.42 314 *i* P **P 05 47 28.0 0.0**
KKAR Karatay Array 56.42 314 P **P 05 47 27.9 -0.1**
KKAR Karatay Array 56.42 314 P **P 05 47 27.9 -0.1**
KKAR Karatay Array 56.42 314 ⇓P **P 05 47 27.9 -0.1**
SHEM Shemya Is, Ala 56.50 33 P **P 05 47 29.7 +1.4**
comp=Z,726nm,1.0s,baz=342,slow=7.7,SNR=40
SHEM LR LR 06 07 55.0
comp=Z,3μm,21.1s,baz=240,slow=32
comp=Z,726nm,1.0s
SMY Shemya 56.50 33 ⇑P **P 05 47 29.7 +1.4**
GLAD Gladstone 56.58 159 P **P 05 47 29.5 +0.5**
CORO Coronation Par 56.71 160 P **P 05 47 31.1 +1.3**
BRLS Borolday 56.88 314 *e*P **P 05 47 32.1 +0.9**
BRLS *e*S **S 05 55 21.7 +1.8**
BRLS pmax pmax
comp=Z,392nm,1.5s
BRLS Borolday 56.88 314 *e*P **P 05 47 32.2 +0.9**
comp=Z,392nm,1.5s
BRLS *e*S **S 05 55 21.8 +1.8**
BRZS Berezniki 57.33 323 *e*P **P 05 47 34.9 +0.7**
BRZS *e*S **S 05 55 26.9 +1.3**
BRZS Berezniki 57.33 323 *e*P **P 05 47 34.9 +0.7**
BRZS *e*S **S 05 55 27.0 +1.3**
MOO Moorlands 57.61 161 P **P 05 47 37.3 +1.1**
TAU Tasmania Unive 58.08 161 P **P 05 47 40.0 +0.6**
TAU IAmb IAmb 05 47 42.6
comp=Z,243nm,1.0s
TAU Tasmania Unive 58.08 161 P **P 05 47 40.1 +0.6**
TAU pmax pmax
comp=Z,243nm,1.0s
TAU Tasmania Unive 58.08 161 ⇑P **P 05 47 39.9 +0.4**
BVA0 Borovoye Array 59.82 325 *i* P **P 05 47 52.0 +0.5**
BVAR Borovoye Array 59.82 325 P **P 05 47 51.8 +0.3**
comp=Z,391nm,0.9s,baz=116,slow=6.9,SNR=315
BVAR pP **pP 05 48 09.4 +0.2**
comp=Z,264nm,1.0s,baz=90,slow=7.4,SNR=5.2
BVAR S **S 05 55 57.0 -0.7**
comp=Z,32nm,1.3s,baz=106,slow=14,SNR=5.6
BVAR LR LR 06 16 28.8
comp=Z,11μm,20.0s,baz=114,slow=39
BVAR PKPPKP **P'P'df 06 17 20.8 +1.0**
comp=Z,2.2nm,0.9s,baz=316,slow=4.0,SNR=4.2
BVAR P4KPbc 06 24 56.9
comp=Z,3.0nm,0.7s,baz=101,slow=4.6,SNR=5.6
comp=Z,391nm,0.9s
TIXI Tiksi 59.88 1 P **P 05 47 53.4 +1.8**
TIXI Tiksi 59.88 1 LR LR 06 13 55.7
comp=Z,16μm,21.5s,baz=200,slow=36
TIXI Tiksi 59.88 1 P **P 05 47 53.4 +1.8**
TIXI pmax pmax
comp=Z,820nm,1.4s
TIXI Tiksi 59.88 1 ⇑P **P 05 47 51.7 +0.1**
TIXI Tiksi 59.88 1 P **P 05 47 52.4 +0.8**
TIXI pP **pP 05 48 09.3 -0.2**
BRVK Borovoye 59.89 325 P **P 05 47 52.0 0.0**
BRVK Borovoye 59.89 325 P **P 05 47 52.1 +0.2**
BRVK Borovoye 59.89 325 P **P 05 47 52.0 0.0**
BRVK pmax pmax
comp=Z,658nm,0.9s
BRVK Borovoye 59.89 325 ⇓P **P 05 47 51.9 0.0**
BRVK Borovoye 59.89 325 P **P 05 47 52.4 +0.4**
BRVK pP **pP 05 48 09.9 +0.1**
MSVF Nonsavu 59.89 119 P **P 05 47 53.8 +1.2**
MSVF Nonsavu 59.89 119 P **P 05 47 53.8 +1.2**

MSVF pmax pmax
comp=Z,1μm,1.0s
MSVF Nonsavu 59.89 119 ⇑P **P 05 47 53.9 +1.3**
DGTI Dogotuki 60.76 116 P **P 05 47 59.6 +1.1**
KIWB Kanaga Island 61.09 37 P **P 05 48 00.3 +0.1**
HRA Herat 61.13 303 P **P 05 48 00.7 -0.4**
HRA IAmb IAmb 05 48 20.7
comp=Z,643nm,1.4s
NGCH Negor - Chabah 61.67 292 P **P 05 48 06.0 +1.5**
SNR=6.5
FUTU Fugatoga 61.90 113 P **P 05 48 07.2 +1.0**
BILL Bilibino 62.27 16 P **P 05 48 08.5 +0.7**
NRIK Noril'sk 62.30 346 P **P 05 48 08.6 +0.6**
NRIK Noril'sk 62.30 346 P **P 05 48 08.8 +0.8**
comp=Z,322nm,1.1s,baz=134,slow=6.6,SNR=211
NRIK LR LR 06 16 09.7
comp=Z,13μm,21.2s,baz=144,slow=37
NRIK PKPPKP **P'P'df 06 17 16.5 +1.5**
comp=Z,1.9nm,0.4s,baz=68,slow=2.6,SNR=4.4
comp=Z,322nm,1.1s
LKBA Tubou, Lakemba 62.81 118 P **P 05 48 13.4 +1.2**
ATKA Atka Island 62.93 37 P **P 05 48 12.6 +0.1**
ATKA Atka Island 62.93 37 ⇑P **P 05 48 12.4 -0.1**
JOHN Johnston Islan 63.27 77 P **P 05 48 17.6 +2.3**
JLN Jalan Bani Buh 63.32 289 P **P 05 48 14.5 -1.1**
SNR=26
WBK Wadi Bani Khal 63.71 289 P **P 05 48 17.2 -1.0**
SNR=25
WBK P **P 05 48 17.2 -1.0**
SNR=25
WSAR Wadi Sarin 64.00 290 LR LR 06 17 29.0
comp=Z,48nm,21.7s,baz=108,slow=37
WSAR Wadi Sarin 64.00 290 P **P 05 48 18.9 -1.2**
SNR=36
BIDO Bidbid 64.45 291 P **P 05 48 23.2 +0.2**
SNR=78
JMDO Jabal Madar 64.52 289 P **P 05 48 23.0 -0.5**
SNR=43
JMDO P **P 05 48 23.0 -0.5**
SNR=43
SMDO Samad 64.54 290 P **P 05 48 23.3 -0.5**
SNR=40
SMDO P **P 05 48 23.3 -0.5**
SNR=40
MHTO MHTO 64.72 288 P **P 05 48 23.4 -1.4**
SNR=104
MHTO P **P 05 48 23.4 -1.4**
SNR=104
AB31 Akbulak array 65.03 319 IAmb IAmb 05 48 45.3
comp=Z,673nm,1.1s
AB31 Akbulak array 65.03 319 *i* P **P 05 48 26.2 -0.1**
ABKAR Akbulak array 65.03 319 P **P 05 48 26.1 -0.3**
ABKAR IAmb IAmb 05 48 45.3
comp=Z,676nm,1.1s
ABKAR Akbulak array 65.03 319 P **P 05 48 25.8 -0.5**
ABKAR Akbulak array 65.03 319 ⇓P **P 05 48 25.9 -0.5**
DQM DQM 65.19 287 P **P 05 48 27.6 -0.3**
SNR=65
HOQ Hoqain 65.20 291 P **P 05 48 27.7 -0.3**
SNR=79
HOQ P **P 05 48 27.7 -0.3**
SNR=79
BSY Bisya 65.34 290 P **P 05 48 28.3 -0.6**
SNR=62
BSY P **P 05 48 28.3 -0.6**
SNR=62
OUZ Omahuta 65.45 138 P **P 05 48 31.3 +2.1**
OUZ Omahuta 65.45 138 P **P 05 48 31.7 +2.5**
OUZ Omahuta 65.45 138 ⇓P **P 05 48 31.2 +2.0**
SOHO SOHO 65.88 291 P **P 05 48 31.7 -0.6**
SOHO P **P 05 48 31.7 -0.6**
SOHO SOHO 65.88 291 *i* P **P 05 48 31.5 -0.8**
SNR=36
ARQ Araqi 65.93 290 P **P 05 48 32.1 -0.6**
SNR=41
ARQ P **P 05 48 32.1 -0.6**
SNR=41
BANOM Banah 66.03 293 P **P 05 48 33.3 0.0**
BANOM Banah 66.03 293 *i* P **P 05 48 33.4 +0.1**
SNR=60
MDH Madha 66.05 293 P **P 05 48 32.7 -0.7**
SNR=8.5
MDH Madha 66.05 293 *i* P **P 05 48 33.0 -0.4**
SNR=15
UOSS Minazif 66.15 292 P **P 05 48 34.2 +0.1**
UOSS Minazif 66.15 292 P **P 05 48 34.0 0.0**
UOSS Minazif 66.15 292 *i* P **P 05 48 32.9 -1.1**
SNR=14
UOSS Minazif 66.15 292 P **P 05 48 34.0 0.0**
UOSS pP **pP 05 48 51.5 -0.6**
UOSS Minazif 66.15 292 P **P 05 48 32.5 -1.5**
UOSS S **S 05 57 13.2 -4.7**
SHME Shamm 66.17 293 P **P 05 48 34.4 +0.3**
SNR=13
SHME P **P 05 48 34.4 +0.3**
SNR=13
SHME Shamm 66.17 293 *i* P **P 05 48 34.0 -0.1**
SNR=19
MASF Masafi 66.17 293 P **P 05 48 34.4 +0.2**
SNR=19
MSFE Esma-Masafi 66.17 293 *i* P **P 05 48 34.3 +0.1**
SNR=23
HATD Hatta, Dubai 66.22 292 P **P 05 48 34.4 -0.1**
SNR=50
HATD P **P 05 48 34.4 -0.1**
SNR=50
HATD Hatta, Dubai 66.22 292 *i* P **P 05 48 34.1 -0.4**
SNR=31
NIKH Nikolski High 66.28 37 P **P 05 48 34.5 +0.2**
NIKH Nikolski High 66.28 37 P **P 05 48 35.0 +0.8**
baz=258,SNR=17
NIKH S **S 05 57 18.1 -0.3**
baz=258
ASHO Ashiyiah 66.29 292 P **P 05 48 34.9 -0.1**
SNR=49
ASHO P **P 05 48 34.9 -0.1**
SNR=49
ASHO Ashiyiah 66.29 292 *i* P **P 05 48 34.0 -1.0**
SNR=101
SVE Sverdlovsk 66.36 327 *ce*P **P 05 48 35.4 +0.6**
SVE *e* 05 51 02.2
SVE *e*PPP PPP 05 52 35.6
SVE *e*S **S 05 57 18.9 -0.5**
SVE *e*SS **SS 06 01 39.1 +2.3**
SVE pmax pmax
comp=Z,1μm,1.4s
SVE pmax pmax
comp=Z,4μm,13.4s
SVE MLR MLR
comp=Z,22μm,24.0s
SVE MLR MLR
comp=E,13μm,22.0s
WCZ Waipu Caves 66.36 138 P **P 05 48 37.2 +2.1**
AIS Amsterdam Isla 66.45 220 P **P 05 48 37.0 +1.4**
AIS IAmb IAmb 05 48 40.9
comp=Z,778nm,1.3s
AKTO Aktyubinsk 66.48 320 PKPPKP **P'P'df 06 17 09.1 -0.1**
comp=Z,1.4nm,0.3s,baz=265,slow=2.0,SNR=4.1
AKTO LR LR 06 19 48.8
comp=Z,35μm,21.7s,baz=107,slow=38
SPIA Saint Paul Isl 66.50 32 P **P 05 48 36.8 +1.2**
baz=255
SPIA S **S 05 57 23.1 +2.1**
baz=255
ALNE Al Ain 66.60 291 P **P 05 48 37.1 +0.2**
SNR=42
ALNE P **P 05 48 37.1 +0.2**
SNR=42
ALNE Al Ain 66.60 291 *i* P **P 05 48 36.1 -0.8**
SNR=57
UMQ Umm Al-Quwin 66.62 293 P **P 05 48 37.3 +0.3**
SNR=6.7
UMQ P **P 05 48 37.3 +0.3**
SNR=6.7
UMQ Umm Al-Quwin 66.62 293 *i* P **P 05 48 37.9 +0.9**
SNR=6.3
NAZ Nazwa, Dubai 66.64 292 P **P 05 48 37.3 +0.1**
SNR=15
NAZ P **P 05 48 37.3 +0.1**
SNR=15
NAZ Nazwa, Dubai 66.64 292 *i* P **P 05 48 36.4 -0.8**
SNR=14
FAQ Al Faqa, Dubai 66.71 292 P **P 05 48 37.2 -0.4**
SNR=9.7
FAQ P **P 05 48 37.2 -0.4**
SNR=9.7

FAQ	**Al Faqa, Dubai**	**66.71 292**	*i* P	**P**	**05 48 36.8**	**-0.8**
	SNR=18					
P08K	**Saint George I**	**66.73 33**	P	**P**	**05 48 38.2**	**+1.2**
	baz=256					
P08K			S	**S**	**05 57 24.8**	**+1.1**
	baz=256					
ASUD	**Al Ashush, Dub**	**66.96 292**	P	**P**	**05 48 39.2**	**+0.1**
	SNR=14					
ASUD			P	**P**	**05 48 39.2**	**+0.1**
	SNR=14					
ASUD	**Al Ashush, Dub**	**66.96 292**	*i* P	**P**	**05 48 38.3**	**-0.8**
	SNR=27					
ABAZ	**Army Bay**	**67.07 138**	P	**P**	**05 48 42.4**	**+2.8**
MBAZ	**Motutapu North**	**67.21 138**	P	**P**	**05 48 43.1**	**+2.7**
UMZA	**Um Al Zommool**	**67.22 290**	P	**P**	**05 48 40.8**	**0.0**
UMZA			P	**P**	**05 48 40.8**	**0.0**
AJN	**Ajban**	**67.27 292**	P	**P**	**05 48 41.4**	**+0.2**
	SNR=7.1					
AJN			P	**P**	**05 48 41.4**	**+0.2**
	SNR=7.1					
AJN	**Ajban**	**67.27 292**	*i* P	**P**	**05 48 40.4**	**-0.8**
	SNR=12					
GRZ	**Great Barrier**	**67.28 138**	P	**P**	**05 48 43.0**	**+2.1**
WIAZ	**Waiheke Island**	**67.38 138**	P	**P**	**05 48 43.1**	**+1.6**
ARTI	**Arti**	**67.46 326**	P	**P**	**05 48 42.5**	**+0.7**
ARTI	**Arti**	**67.46 326**	PKPPKP	**P'P'df**	**06 17 07.9**	**+0.8**
	comp=Z,8.7nm,1.0s,baz=289,slow=3.4,SNR=9.5					
ARTI			LR	LR	06 20 29.6	
	comp=Z,8μm,20.2s,baz=107,slow=38					
ARTI	**Arti**	**67.46 326**	*c i* P	**P**	**05 48 41.3**	**-0.5**
ARTI			*PP	**pP**	**05 48 58.4**	**-1.5**
ARTI					05 49 08.6	
ARTI					05 51 11.7	
ARTI			S	**S**	**05 57 33.1**	**+0.4**
ARTI			*SS	**sS**	**05 57 59.1**	**-4.2**
ARTI					05 58 29.5	
ARTI			pmax	pmax		
	comp=Z,321nm,0.9s					
ARTI			MLR	MLR		
	comp=Z,10μm,18.0s					
ARTI	**Arti**	**67.46 326**	P	**P**	**05 48 41.6**	**-0.2**
ARTI			pP	**pP**	**05 48 59.2**	**-0.7**
ARTI			sP	**sP**	**05 49 07.0**	**-0.4**
AFI	**Afiamalu**	**67.53 110**	P	**P**	**05 48 43.8**	**+0.9**
AFI	**Afiamalu**	**67.53 110**	P	**P**	**05 48 43.8**	**+0.9**
AFI			pmax	pmax		
	comp=Z,3μm,2.0s					
AFI	**Afiamalu**	**67.53 110**	⇑P	**P**	**05 48 45.2**	**+2.2**
AFI	**Afiamalu**	**67.53 110**	P	**P**	**05 48 45.2**	**+2.2**
MKAZ	**Moumakai**	**67.58 138**	P	**P**	**05 48 44.4**	**+1.7**
KUZ	**Kuaotunu**	**67.74 138**	P	**P**	**05 48 45.5**	**+1.7**
KUZ	**Kuaotunu**	**67.74 138**	P	**P**	**05 48 45.9**	**+2.1**
GAMB	**Gambell**	**67.79 25**	IAmb	IAmb	05 48 48.1	
	comp=Z,793nm,1.7s					
GAMB	**Gambell**	**67.79 25**	P	**P**	**05 48 44.8**	**+1.2**
	baz=251,SNR=21					
GAMB			S	**S**	**05 57 37.8**	**+1.6**
	baz=251					
DMTO	**DMTO**	**67.83 284**	P	**P**	**05 48 44.8**	**0.0**
	SNR=20					
DMTO			P	**P**	**05 48 44.8**	**0.0**
	SNR=20					
KHEZ	**Kahui Hut**	**68.16 141**	P	**P**	**05 48 48.5**	**+2.0**
KHEZ	**Kahui Hut**	**68.16 141**	P	**P**	**05 48 49.0**	**+2.6**
LVA	**Lava Point**	**68.16 36**	IAmb	IAmb	05 48 50.1	
	comp=Z,692nm,1.3s					
TOZ	**Tahuroa Road**	**68.17 139**	IAmb	IAmb	05 48 50.5	
	comp=Z,281nm,0.9s					
TOZ	**Tahuroa Road**	**68.17 139**	P	**P**	**05 48 48.0**	**+1.6**
NEZ	**North Egmont**	**68.19 141**	P	**P**	**05 48 49.9**	**+3.2**
QRZ	**Quartz Range**	**68.21 143**	P	**P**	**05 48 47.3**	**+0.6**
QRZ	**Quartz Range**	**68.21 143**	P	**P**	**05 48 47.6**	**+1.0**
QRZ	**Quartz Range**	**68.21 143**	P	**P**	**05 48 47.9**	**+1.3**
HIZ	**Hauiti**	**68.21 140**	P	**P**	**05 48 48.6**	**+1.9**
HIZ	**Hauiti**	**68.21 140**	P	**P**	**05 48 49.0**	**+2.3**
JCZ	**Jackson Bay**	**68.26 148**	P	**P**	**05 48 47.6**	**+0.6**
AKUT	**Akutan**	**68.31 36**	⇑P	**P**	**05 48 47.7**	**+0.6**
MZWR	**Madinat Zayed**	**68.33 291**	P	**P**	**05 48 48.1**	**+0.3**
DSZ	**Denniston Nort**	**68.37 144**	IAmb	IAmb	05 48 50.5	
	comp=Z,373nm,0.8s					
DSZ	**Denniston Nort**	**68.37 144**	P	**P**	**05 48 49.2**	**+1.5**
DCZ	**Deep Cove**	**68.40 150**	IAmb	IAmb	05 48 52.1	
	comp=Z,497nm,0.9s					
FOZ	**Fox Glacier**	**68.44 147**	IAmb	IAmb	05 48 51.7	
	comp=Z,348nm,0.8s					
FOZ	**Fox Glacier**	**68.44 147**	P	**P**	**05 48 49.5**	**+1.5**
DOK	**Doka**	**68.51 285**	P	**P**	**05 48 48.5**	**-0.5**
	SNR=168					
DOK			P	**P**	**05 48 48.5**	**-0.5**
	SNR=168					
VRZ	**Vera Road**	**68.52 140**	P	**P**	**05 48 50.3**	**+1.7**
TLZ	**Tolley Road**	**68.54 139**	P	**P**	**05 48 51.2**	**+2.4**
RBK	**Rabkut**	**68.55 284**	P	**P**	**05 48 49.6**	**+0.2**
	SNR=56					
RBK			P	**P**	**05 48 49.6**	**+0.2**
	SNR=56					
WVZ	**Waitaha Valley**	**68.64 146**	P	**P**	**05 48 49.8**	**+0.5**
PYZ	**Puysegur Point**	**68.67 150**	IAmb	IAmb	05 48 53.9	
	comp=Z,459nm,0.9s					
PYZ	**Puysegur Point**	**68.67 150**	P	**P**	**05 48 50.6**	**+1.2**
MZR	**Muzera**	**68.75 290**	P	**P**	**05 48 50.7**	**+0.2**
	SNR=27					
MZR			P	**P**	**05 48 50.7**	**+0.2**
	SNR=27					
MZR	**Muzera**	**68.75 290**	*i* P	**P**	**05 48 49.7**	**-0.8**
	SNR=41					
INZ	**Inchbonnie**	**68.80 145**	IAmb	IAmb	05 48 53.7	
	comp=Z,386nm,0.8s					
INZ	**Inchbonnie**	**68.80 145**	P	**P**	**05 48 50.8**	**+0.6**
MLZ	**Mavora Lakes**	**68.81 149**	P	**P**	**05 48 49.9**	**-0.4**
WKZ	**Wanaka**	**68.90 148**	IAmb	IAmb	05 49 17.2	
	comp=Z,471nm,1.2s					
WHFO	**Wadi Hawf**	**68.92 285**	P	**P**	**05 48 51.0**	**-0.7**
	SNR=118					
WHFO			P	**P**	**05 48 51.0**	**-0.7**
	SNR=118					
NNZ	**Nelson**	**68.95 143**	P	**P**	**05 48 51.4**	**+0.1**
THZ	**Tophouse**	**69.02 144**	P	**P**	**05 48 50.6**	**-1.2**
THZ	**Tophouse**	**69.02 144**	P	**P**	**05 48 51.7**	**0.0**
WAZ	**Wanganui**	**69.03 141**	P	**P**	**05 48 54.0**	**+2.2**
NGZ	**Ngauruhoe**	**69.07 140**	P	**P**	**05 48 53.0**	**+0.7**
WIZ	**White Island**	**69.15 138**	P	**P**	**05 48 54.3**	**+1.8**
JRN	**Qarnain Island**	**69.19 292**	P	**P**	**05 48 53.3**	**+0.2**
	SNR=6.9					
RPZ	**Rata Peaks**	**69.23 146**	LR	LR	06 20 47.0	
	comp=Z,5μm,18.9s,baz=304,slow=37					
RPZ	**Rata Peaks**	**69.23 146**	P	**P**	**05 48 52.4**	**-0.6**
RPZ	**Rata Peaks**	**69.23 146**	P	**P**	**05 48 52.7**	**-0.3**
LTZ	**Lake Taylor**	**69.30 145**	IAmb	IAmb	05 48 56.5	
	comp=Z,438nm,0.7s					
LTZ	**Lake Taylor**	**69.30 145**	P	**P**	**05 48 54.1**	**+0.7**
M11K	**Mekoryuk**	**69.33 30**	P	**P**	**05 48 54.2**	**+0.9**
	baz=257					
M11K			S	**S**	**05 57 58.7**	**+4.1**
	baz=257					
ABTO	**Aybut**	**69.43 284**	P	**P**	**05 48 54.1**	**-0.8**
ABTO			P	**P**	**05 48 54.1**	**-0.8**
ABTO			P	**P**	**05 48 55.0**	**+0.1**
	SNR=138					
ABTO			P	**P**	**05 48 55.0**	**+0.1**
	SNR=138					
URZ	**Urewera**	**69.51 139**	P	**P**	**05 48 55.1**	**+0.4**
URZ	**Urewera**	**69.51 139**	P	**P**	**05 48 55.2**	**+0.4**
URZ	**Urewera**	**69.51 139**	⇑P	**P**	**05 48 53.8**	**-1.0**
OXZ	**Oxford**	**69.52 145**	IAmb	IAmb	05 48 56.6	
	comp=Z,420nm,0.8s					
OXZ	**Oxford**	**69.52 145**	P	**P**	**05 48 55.0**	**+0.2**
RTZ	**Ruatahuna**	**69.63 139**	P	**P**	**05 48 55.6**	**0.0**
BKZ	**Black Stump Fm**	**69.63 140**	P	**P**	**05 48 54.8**	**-0.8**
BKZ	**Black Stump Fm**	**69.63 140**	P	**P**	**05 48 56.3**	**+0.7**
TMZ	**Timaru**	**69.65 147**	P	**P**	**05 48 56.4**	**+0.9**
HAZ	**Te Kaha**	**69.66 138**	P	**P**	**05 48 56.4**	**+0.6**
RUGZ	**Raukumara Rang**	**69.71 138**	P	**P**	**05 48 56.8**	**+0.7**
FALS	**False Pass**	**69.78 36**	P	**P**	**05 48 57.3**	**+1.1**
	baz=262,SNR=6.9					
FALS			S	**S**	**05 57 59.6**	**-0.5**
	baz=262					
KHZ	**Kahutara**	**69.80 144**	IAmb	IAmb	05 48 58.4	
	comp=Z,497nm,0.8s					
KHZ	**Kahutara**	**69.80 144**	P	**P**	**05 48 54.6**	**-1.8**
KHZ	**Kahutara**	**69.80 144**	P	**P**	**05 48 56.1**	**-0.3**
KHZ	**Kahutara**	**69.80 144**	⇓P	**P**	**05 48 54.6**	**-1.8**
SNZO	**South Karori**	**69.80 142**	P	**P**	**05 48 55.1**	**-1.4**
SNZO	**South Karori**	**69.80 142**	⇓P	**P**	**05 48 54.7**	**-1.7**
SNZO	**South Karori**	**69.80 142**	P	**P**	**05 48 54.8**	**-1.7**
SNZO			S	**S**	**05 57 57.5**	**-3.1**
TSZ	**Takapari Road**	**69.82 141**	P	**P**	**05 48 57.6**	**+0.9**
MWZ	**Matawai**	**69.82 138**	P	**P**	**05 48 57.3**	**+0.6**
GVZ	**Greta Valley S**	**69.85 145**	P	**P**	**05 48 57.4**	**+0.6**
TNA	**Tin City**	**69.88 24**	IAmb	IAmb	05 49 01.1	
	comp=Z,661nm,1.8s					
TNA	**Tin City**	**69.88 24**	P	**P**	**05 48 57.8**	**+1.2**
	baz=254,SNR=9.8					
TNA			S	**S**	**05 58 03.5**	**+2.5**
	baz=254					
ODZ	**Otahua Downs**	**69.90 147**	P	**P**	**05 48 57.6**	**+0.6**
ODZ	**Otahua Downs**	**69.90 147**	⇓P	**P**	**05 48 57.6**	**+0.6**
MXZ	**Matakaoa Point**	**69.90 137**	P	**P**	**05 48 58.2**	**+1.0**
MXZ	**Matakaoa Point**	**69.90 137**	P	**P**	**05 48 58.5**	**+1.3**
MRZ	**Mangatainoka R**	**69.94 141**	IAmb	IAmb	05 49 01.0	
	comp=Z,336nm,0.8s					
MRZ	**Mangatainoka R**	**69.94 141**	P	**P**	**05 48 57.3**	**-0.1**
BHW	**Baring Head**	**69.96 142**	IAmb	IAmb	05 48 58.9	
	comp=Z,430nm,0.7s					
MQZ	**McQueen's Vall**	**70.11 145**	P	**P**	**05 48 59.3**	**+1.0**
SYZ	**Scrubby Hill**	**70.14 149**	P	**P**	**05 49 00.1**	**+1.7**
PUZ	**Puketiti**	**70.15 138**	P	**P**	**05 48 59.4**	**+0.6**
MNZS	**Menzies Bay Ba**	**70.24 145**	P	**P**	**05 49 00.5**	**+1.3**
KNZ	**Kokohu**	**70.30 139**	P	**P**	**05 49 00.4**	**+0.8**
BFZ	**Birch Farm**	**70.36 141**	P	**P**	**05 49 00.3**	**+0.3**
BFZ	**Birch Farm**	**70.36 141**	P	**P**	**05 49 00.6**	**+0.7**
PWZ	**Pawanui**	**70.36 140**	P	**P**	**05 49 01.5**	**+1.5**
PXZ	**Pawanui**	**70.36 140**	P	**P**	**05 49 01.1**	**+1.1**
K13K	**Kusilvak Mount**	**70.40 28**	IAmb	IAmb	05 49 04.4	
	comp=Z,915nm,1.7s					
K13K	**Kusilvak Mount**	**70.40 28**	P	**P**	**05 49 01.5**	**+1.7**
	baz=258,SNR=56					
K13K			S	**S**	**05 58 09.3**	**+2.2**
	baz=258					
F14K	**Arctic Creek**	**70.50 24**	P	**P**	**05 49 02.3**	**+1.8**
	baz=255,SNR=80					
F14K			S	**S**	**05 58 11.9**	**+3.6**
	baz=255					
S12K	**Black Hills**	**70.67 35**	P	**P**	**05 49 02.6**	**+0.9**
	baz=262					
S12K			S	**S**	**05 58 08.8**	**-1.7**
	baz=262					
ANM	**Nome**	**70.67 25**	P	**P**	**05 49 02.9**	**+1.5**
	baz=256,SNR=15					
ANM			S	**S**	**05 58 13.7**	**+3.5**
	baz=256					
TRNA	**Turayna**	**70.69 292**	P	**P**	**05 49 03.0**	**+0.6**
	SNR=13					
M13K	**Dall Lake**	**70.72 30**	IAmb	IAmb	05 49 06.7	
	comp=Z,735nm,1.6s					
M13K	**Dall Lake**	**70.72 30**	P	**P**	**05 49 03.3**	**+1.4**
	baz=260,SNR=15					
M13K			S	**S**	**05 58 14.3**	**+3.4**
	baz=260					
NIUE	**Niue**	**70.93 115**	P	**P**	**05 49 05.5**	**+1.7**
SMRA	**Abu-Samra**	**71.04 292**	P	**P**	**05 49 04.7**	**+0.2**
	SNR=18					
J14K	**Nanvaranak Lak**	**71.07 27**	IAmb	IAmb	05 49 08.3	
	comp=Z,542nm,1.6s					
J14K	**Nanvaranak Lak**	**71.07 27**	P	**P**	**05 49 05.1**	**+1.2**
	baz=259					
J14K			S	**S**	**05 58 17.5**	**+2.6**
	baz=259					
MSEY	**Mahe Island**	**71.17 261**	P	**P**	**05 49 06.4**	**+0.9**
MSEY	**Mahe Island**	**71.17 261**	P	**P**	**05 49 06.1**	**+0.6**
MSEY	**Mahe Island**	**71.17 261**	P	**P**	**05 49 06.4**	**+0.9**
MSEY			pmax	pmax		
	comp=Z,219nm,1.3s					
MSEY	**Mahe Island**	**71.17 261**	*i* P	**P**	**05 49 05.0**	**-0.5**
	SNR=7.6					
MSEY	**Mahe Island**	**71.17 261**	P	**P**	**05 49 06.1**	**+0.6**
MSEY			pP	**pP**	**05 49 23.3**	**-0.4**
SAKB	**Bahrain**	**71.21 294**	P	**P**	**05 49 05.4**	**0.0**
L14K	**Kuka Creek**	**71.21 29**	IAmb	IAmb	05 49 10.3	
	comp=Z,1μm,1.4s					
L14K	**Kuka Creek**	**71.21 29**	P	**P**	**05 49 06.1**	**+1.3**
	baz=260					
L14K			S	**S**	**05 58 19.7**	**+3.1**
	baz=260					
F15K	**North Star Dit**	**71.23 24**	IAmb	IAmb	05 49 10.3	
	comp=Z,452nm,1.3s					
F15K	**North Star Dit**	**71.23 24**	P	**P**	**05 49 06.2**	**+1.3**
	baz=257,SNR=124					
F15K			S	**S**	**05 58 19.8**	**+3.1**
	baz=257					
G15K	**Niukluk**	**71.32 25**	P	**P**	**05 49 06.3**	**+0.9**
	baz=258,SNR=61					
G15K			S	**S**	**05 58 19.3**	**+1.5**
	baz=258					
M14K	**Bethel**	**71.46 30**	IAmb	IAmb	05 49 11.6	
	comp=Z,1μm,1.5s					
M14K	**Bethel**	**71.46 30**	P	**P**	**05 49 07.1**	**+0.8**
	baz=261,SNR=47					
M14K			S	**S**	**05 58 21.1**	**+1.8**
	baz=261					
N14K	**Kuskokwak Cree**	**71.46 31**	IAmb	IAmb	05 49 11.4	
	comp=Z,598nm,1.2s					
N14K	**Kuskokwak Cree**	**71.46 31**	P	**P**	**05 49 07.4**	**+1.1**
	baz=261,SNR=22					
N14K			S	**S**	**05 58 20.9**	**+1.4**
	baz=261					
SDPT	**Sand Point**	**71.52 35**	P	**P**	**05 49 07.5**	**+0.7**
	baz=264,SNR=11					
SDPT			S	**S**	**05 58 19.3**	**-1.0**
	baz=264					
O14K	**Tigyukauivet M**	**71.58 31**	IAmb	IAmb	05 49 12.0	
	comp=Z,442nm,1.4s					
O14K	**Tigyukauivet M**	**71.58 31**	P	**P**	**05 49 07.6**	**+0.6**
	baz=262,SNR=13					
O14K			S	**S**	**05 58 22.7**	**+1.8**
	baz=262					
C16K	**Lisburne Hills**	**71.60 22**	IAmb	IAmb	05 49 29.0	
	comp=Z,499nm,1.1s					
C16K	**Lisburne Hills**	**71.60 22**	P	**P**	**05 49 08.1**	**+1.1**
	baz=255,SNR=28					
C16K			S	**S**	**05 58 24.2**	**+3.4**
	baz=255					
L15K	**Ungalak Mounta**	**71.83 29**	P	**P**	**05 49 09.3**	**+0.8**
	baz=261,SNR=35					
L15K			S	**S**	**05 58 25.3**	**+1.6**
	baz=261					
K15K	**Wolf Creek Mou**	**71.91 28**	IAmb	IAmb	05 49 13.7	
	comp=Z,832nm,1.7s					
K15K	**Wolf Creek Mou**	**71.91 28**	P	**P**	**05 49 10.5**	**+1.5**
	baz=261,SNR=34					
K15K			S	**S**	**05 58 27.4**	**+2.8**
	baz=261					
CNBA	**Chernabura Isl**	**71.97 36**	IAmb	IAmb	05 49 13.8	
	comp=Z,359nm,1.1s					
CHNA	**Chernabura Isl**	**71.97 36**	P	**P**	**05 49 10.8**	**+1.3**
	baz=265,SNR=13					
CHNA			S	**S**	**05 58 26.1**	**+0.6**
	baz=265					
H16K	**Elim**	**72.00 26**	P	**P**	**05 49 10.3**	**+0.8**
	baz=259,SNR=29					
H16K			S	**S**	**05 58 28.0**	**+2.3**
	baz=259					
M15K	**Kasigluk River**	**72.07 30**	P	**P**	**05 49 11.0**	**+1.0**
	baz=262,SNR=39					
M15K			S	**S**	**05 58 27.5**	**+1.1**
	baz=262					
G16K	**Koyuk River**	**72.10 25**	IAmb	IAmb	05 49 14.4	
	comp=Z,599nm,1.8s					
G16K	**Koyuk River**	**72.10 25**	P	**P**	**05 49 11.2**	**+1.1**
	baz=259					
G16K			S	**S**	**05 58 28.8**	**+2.1**
	baz=259					
S14K	**Fog Glacier**	**72.13 35**	P	**P**	**05 49 10.7**	**+0.1**
	baz=264					
S14K			S	**S**	**05 58 28.2**	**+0.6**
	baz=264					
D17K	**Noatak River**	**72.29 22**	P	**P**	**05 49 12.1**	**+0.9**
	baz=258,SNR=114					
D17K			S	**S**	**05 58 31.5**	**+2.8**
	baz=258					
N15K	**Kwethluk River**	**72.29 30**	IAmb	IAmb	05 49 16.5	
	comp=Z,416nm,1.1s					
N15K	**Kwethluk River**	**72.29 30**	P	**P**	**05 49 12.4**	**+1.1**
	baz=263,SNR=58					
N15K			S	**S**	**05 58 29.1**	**0.0**
	baz=263					
O15K	**Ungalikthiuk R**	**72.30 31**	IAmb	IAmb	05 49 15.5	
	comp=Z,944nm,1.7s					
O15K	**Ungalikthiuk R**	**72.30 31**	P	**P**	**05 49 12.5**	**+1.1**
	baz=263,SNR=22					
O15K			S	**S**	**05 58 30.5**	**+1.3**
	baz=263					
RDOG	**Red Dog Mine**	**72.43 22**	P	**P**	**05 49 13.3**	**+1.3**
RDOG			IAmb	IAmb	05 49 41.5	
	comp=Z,466nm,1.3s					
RDOG	**Red Dog Mine**	**72.43 22**	P	**P**	**05 49 13.4**	**+1.3**
	baz=258,SNR=43					
RDOG			S	**S**	**05 58 32.7**	**+2.2**
	baz=258					
J16K	**Anvik River**	**72.49 27**	IAmb	IAmb	05 49 17.1	
	comp=Z,769nm,1.8s					
J16K	**Anvik River**	**72.49 27**	P	**P**	**05 49 13.3**	**+0.8**
	baz=261,SNR=49					
J16K			S	**S**	**05 58 33.8**	**+2.6**
	baz=261					
I17K	**Unalakleet**	**72.54 27**	IAmb	IAmb	05 49 17.5	
	comp=Z,538nm,1.4s					
I17K	**Unalakleet**	**72.54 27**	P	**P**	**05 49 14.2**	**+1.5**
	baz=261,SNR=101					
I17K			S	**S**	**05 58 33.6**	**+1.9**
	baz=261					
KIRV	**Kirov**	**72.60 328**	LR	LR	06 23 33.2	
	comp=Z,24μm,21.5s,baz=98,slow=38					
KIRV	**Kirov**	**72.60 328**	*ce*P	**P**	**05 49 13.2**	**0.0**
E17K	**Hotham Inlet**	**72.64 23**	P	**P**	**05 49 14.3**	**+1.1**
	baz=259,SNR=166					
E17K			S	**S**	**05 58 36.1**	**+3.3**
	baz=259					
F17K	**Baldwin Pennin**	**72.74 24**	IAmb	IAmb	05 49 44.1	
	comp=Z,772nm,1.3s					
F17K	**Baldwin Pennin**	**72.74 24**	P	**P**	**05 49 14.8**	**+0.9**
	baz=260,SNR=149					
F17K			S	**S**	**05 58 36.9**	**+3.0**
	baz=260					
CHGN	**Chignik**	**72.77 35**	IAmb	IAmb	05 49 17.8	
	comp=Z,813nm,1.3s					
CHGN	**Chignik**	**72.77 35**	P	**P**	**05 49 15.0**	**+0.8**
	baz=265,SNR=9.1					
CHGN			S	**S**	**05 58 32.5**	**-2.1**
	baz=265					
L16K	**Owhat River**	**72.78 29**	IAmb	IAmb	05 49 18.6	
	comp=Z,1μm,1.9s					
L16K	**Owhat River**	**72.78 29**	P	**P**	**05 49 15.5**	**+1.3**
	baz=263,SNR=67					
L16K			S	**S**	**05 58 36.4**	**+1.8**
	baz=263					
G17K	**Kiwalik Mounta**	**72.82 25**	P	**P**	**05 49 15.7**	**+1.3**
	baz=260,SNR=231					
G17K			S	**S**	**05 58 36.3**	**+1.4**
	baz=260					
AKT	**Akhty**	**72.90 310**	*e*P	**P**	**05 49 15.6**	**+0.1**
AKT			*e**PP	**sP**	**05 49 38.7**	**-2.6**
AKT			*e*		05 52 04.4	
AKT			*e*PPP	PPP	05 53 43.6	
AKT			*e*S	**S**	**05 58 32.7**	**-4.3**
AKT			*e*		05 59 04.6	
AKT			*e**SS	**SKSac**	**05 59 12.6**	**-2.8**
AKT			pmax	pmax		
	comp=Z,423nm,1.0s					
AKT			pmax	pmax		
	comp=E,91nm,0.8s					
AKT			pmax	pmax		
	comp=Z,347nm,1.0s					
AKT			pmax	pmax		
	comp=N,59nm,0.8s					
AKT			smax	smax		
	comp=E,4μm,5.8s					
AKT			smax	smax		
	comp=N,2μm,4.5s					
AKT			MLR	MLR		
	comp=E,19μm,21.0s					
AKT			MLR	MLR		
	comp=N,10μm,22.0s					
AKT			MLR	MLR		
	comp=Z,25μm,21.0s					
M16K	**Timber Creek**	**72.95 30**	IAmb	IAmb	05 49 19.6	
	comp=Z,880nm,1.8s					
M16K	**Timber Creek**	**72.95 30**	P	**P**	**05 49 16.1**	**+0.9**
	baz=263,SNR=35					
M16K			S	**SKiKP**	**05 58 39.5**	**-2.5**
	baz=263					
N16K	**Nishlik Lake**	**72.98 30**	P	**P**	**05 49 16.5**	**+1.1**
	baz=264,SNR=44					
N16K			S	**S**	**05 58 39.2**	**+2.2**
	baz=264					
H17K	**Granite Mounta**	**73.04 25**	P	**P**	**05 49 16.9**	**+1.2**
	baz=261,SNR=141					
H17K			S	**SKiKP**	**05 58 39.8**	**-2.3**
	baz=261					
MAK	**Makhachkala**	**73.06 311**	*c i* P	**P**	**05 49 15.5**	**-0.7**
MAK			*e**PP	**pP**	**05 49 34.8**	**+0.3**
MAK			*e**SP	**sP**	**05 49 44.0**	**+2.0**
MAK			*e*S	**S**	**05 58 35.6**	**-2.8**
MAK			*e**SS	**sS**	**05 59 10.6**	**+1.2**
MAK			*e*SS	**SS**	**06 03 14.7**	**-5.6**
MAK			pmax	pmax		
	comp=Z,192nm,0.9s					
B18K	**Kokolik River**	**73.10 21**	P	**P**	**05 49 16.9**	**+0.9**
	baz=258,SNR=120					
B18K			S	**SKiKP**	**05 58 40.4**	**-1.6**
	baz=258					
BELG	**Belogornoye**	**73.16 321**	LR	LR	06 25 02.1	
	comp=Z,7μm,19.1s,baz=94,slow=39					
BELG	**Belogornoye**	**73.16 321**	*d i* P	**P**	**05 49 16.1**	**-0.5**
BELG			pmax	pmax		
	comp=Z,140nm,1.0s					
BELG			MLR	MLR		
	comp=Z,2μm,23.0s					
E18K	**Tukpahlearik C**	**73.17 23**	IAmb	IAmb	05 49 41.5	
	comp=Z,434nm,0.9s					
E18K	**Tukpahlearik C**	**73.17 23**	P	**P**	**05 49 17.5**	**+1.1**
	baz=260,SNR=200					
E18K			S	**SKiKP**	**05 58 41.4**	**-0.8**
	baz=260					
C18K	**Utukok River**	**73.17 22**	P	**P**	**05 49 17.3**	**+0.8**
	baz=259,SNR=121					
C18K			S	**S**	**05 58 40.0**	**+1.1**
	baz=259					
J17K	**VABM Dome**	**73.18 27**	IAmb	IAmb	05 49 22.1	
	comp=Z,761nm,1.4s					
J17K	**VABM Dome**	**73.18 27**	P	**P**	**05 49 17.6**	**+1.0**
	baz=263,SNR=130					
J17K			S	**SKiKP**	**05 58 42.0**	**-0.3**
	baz=263					
O16K	**Kokwok River B**	**73.23 31**	IAmb	IAmb	05 49 21.9	
	comp=Z,534nm,1.1s					
O16K	**Kokwok River B**	**73.23 31**	P	**P**	**05 49 17.4**	**+0.5**
	baz=265,SNR=53					
O16K			S	**S**	**05 58 40.9**	**+1.2**
	baz=265					
P16K	**Nushagak River**	**73.23 32**	P	**P**	**05 49 17.6**	**+0.8**
	baz=265					
P16K			S	**SKiKP**	**05 58 41.4**	**-1.0**
	baz=265					
R16K	**Pilot Point**	**73.33 33**	P	**P**	**05 49 17.7**	**+0.3**
	baz=266					
R16K			S	**S**	**05 58 40.6**	**-0.2**
	baz=266					
L17K	**Donlin**	**73.39 28**	P	**P**	**05 49 19.0**	**+1.2**
	baz=264,SNR=108					
L17K			S	**SKiKP**	**05 58 44.8**	**+2.2**
	baz=264					
F18K	**Selawik**	**73.40 24**	P	**P**	**05 49 18.6**	**+0.9**
	baz=261,SNR=188					
F18K			S	**SKiKP**	**05 58 43.5**	**+1.1**
	baz=261					
K17K	**Iditarod**	**73.45 28**	IAmb	IAmb	05 49 23.8	
	comp=Z,980nm,1.4s					
K17K	**Iditarod**	**73.45 28**	P	**P**	**

H18K	**Honhosa River**	**73.72**	**25**	P	**P**	**05 49 20.2**	**+0.5**
	baz=263,SNR=122						
H18K				S	**S**	**05 58 46.8**	**+1.6**
	baz=263						
M17K	**Holitna River**	**73.72**	**29**	IAmb	IAmb	05 49 25.5	
	comp=Z,331nm,1.1s						
M17K	**Holitna River**	**73.72**	**29**	P	**P**	**05 49 20.2**	**+0.4**
	baz=265,SNR=48						
M17K				S	**S**	**05 58 47.6**	**+2.3**
	baz=265						
O17K	**Koliganek Bris**	**73.75**	**31**	P	**P**	**05 49 20.6**	**+0.6**
	baz=265,SNR=40						
O17K				S	**S**	**05 58 47.7**	**+2.2**
	baz=265						
N17K	**Nushagak Hills**	**73.76**	**30**	IAmb	IAmb	05 49 25.7	
	comp=Z,391nm,1.1s						
N17K	**Nushagak Hills**	**73.76**	**30**	P	**P**	**05 49 20.6**	**+0.6**
	baz=265,SNR=49						
N17K				S	**S**	**05 58 47.8**	**+2.0**
	baz=265						
Q16K	**King Salmon**	**73.89**	**32**	P	**P**	**05 49 21.7**	**+1.0**
	baz=266,SNR=8.1						
Q16K				S	**S**	**05 58 46.7**	**-0.5**
	baz=266						
P17K	**Kvichak River**	**74.04**	**32**	P	**P**	**05 49 22.4**	**+0.8**
	baz=266,SNR=81						
P17K				S	**S**	**05 58 50.0**	**+1.1**
	baz=266						
L18K	**Granite Mounta**	**74.15**	**28**	IAmb	IAmb	05 49 27.0	
	comp=Z,1μm,2.0s						
L18K	**Granite Mounta**	**74.15**	**28**	P	**P**	**05 49 22.9**	**+0.7**
	baz=265,SNR=63						
L18K				S	**S**	**05 58 52.2**	**+2.2**
	baz=265						
F19K	**Shaleruckik Mo**	**74.17**	**24**	IAmb	IAmb	05 49 26.3	
	comp=Z,596nm,1.7s						
F19K	**Shaleruckik Mo**	**74.17**	**24**	P	**P**	**05 49 22.7**	**+0.4**
	baz=263,SNR=87						
F19K				S	**S**	**05 58 50.7**	**+0.6**
	baz=263						
J18K	**Innoko River**	**74.25**	**27**	IAmb	IAmb	05 49 26.9	
	comp=Z,585nm,1.7s						
J18K	**Innoko River**	**74.25**	**27**	P	**P**	**05 49 23.2**	**+0.4**
	baz=265,SNR=100						
J18K				S	**S**	**05 58 51.7**	**+0.6**
	baz=265						
D19K	**Kuna River**	**74.26**	**22**	IAmb	IAmb	05 49 44.9	
	comp=Z,470nm,0.9s						
D19K	**Kuna River**	**74.26**	**22**	P	**P**	**05 49 23.4**	**+0.6**
	baz=262,SNR=299						
D19K				S	**S**	**05 58 52.4**	**+1.2**
	baz=262						
Q17K	**Contact Creek**	**74.27**	**33**	P	**P**	**05 49 23.6**	**+0.4**
	baz=267						
Q17K				S	**S**	**05 58 49.4**	**-2.3**
	baz=267						
GCSA	**Galena City Sc**	**74.30**	**26**	P	**P**	**05 49 23.7**	**+0.6**
	baz=264,SNR=50						
GCSA				S	**S**	**05 58 53.1**	**+1.5**
	baz=264						
CHIR	**Chirikof Islan**	**74.30**	**35**	P	**P**	**05 49 24.4**	**+1.1**
	baz=268						
CHIR				S	**S**	**05 58 53.9**	**+2.0**
	baz=268						
G19K	**Purcell Mounta**	**74.36**	**24**	P	**P**	**05 49 24.0**	**+0.6**
	baz=264,SNR=238						
G19K				S	**S**	**05 58 53.8**	**+1.4**
	baz=264						
N18K	**Kilae Creek**	**74.41**	**30**	P	**P**	**05 49 24.5**	**+0.7**
	baz=266,SNR=47						
N18K				S	**S**	**05 58 55.4**	**+2.3**
	baz=266						
E19K	**Redstone River**	**74.46**	**23**	IAmb	IAmb	05 49 49.0	
	comp=Z,665nm,1.0s						
E19K	**Redstone River**	**74.46**	**23**	P	**P**	**05 49 24.2**	**+0.3**
	baz=263,SNR=336						
E19K				S	**S**	**05 58 54.6**	**+1.2**
	baz=263						
M18K	**Stony River**	**74.50**	**29**	P	**P**	**05 49 24.4**	**+0.1**
	baz=266,SNR=79						
M18K				S	**S**	**05 58 55.9**	**+1.9**
	baz=266						
H19K	**Roundabout Mou**	**74.56**	**25**	IAmb	IAmb	05 49 46.8	
	comp=Z,466nm,0.9s						
H19K	**Roundabout Mou**	**74.56**	**25**	P	**P**	**05 49 24.8**	**+0.3**
	baz=264,SNR=319						
H19K				S	**S**	**05 58 57.6**	**+3.1**
	baz=264						
P18K	**Big Mountain,**	**74.67**	**31**	IAmb	IAmb	05 49 29.0	
	comp=Z,1μm,2.0s						
P18K	**Big Mountain,**	**74.67**	**31**	P	**P**	**05 49 25.9**	**+0.5**
	baz=267,SNR=21						
P18K				S	**S**	**05 58 56.9**	**+0.8**
	baz=267						
O18K	**Koktuh Hills**	**74.70**	**31**	P	**P**	**05 49 26.1**	**+0.6**
	baz=267,SNR=130						
O18K				S	**S**	**05 58 59.0**	**+2.6**
	baz=267						
Q18K	**Katmai Hardscr**	**74.75**	**32**	P	**P**	**05 49 25.6**	**-0.4**
	baz=268,SNR=24						
Q18K				S	**S**	**05 58 55.2**	**-1.9**
	baz=268						
J19K	**Poorman**	**74.78**	**27**	IAmb	IAmb	05 49 30.2	
	comp=Z,686nm,1.8s						
J19K	**Poorman**	**74.78**	**27**	P	**P**	**05 49 26.5**	**+0.7**
	baz=266,SNR=93						
J19K				S	**S**	**05 58 58.0**	**+1.0**
	baz=266						
B20K	**Meade River**	**74.81**	**20**	IAmb	IAmb	05 49 48.1	
	comp=Z,701nm,0.9s						
B20K	**Meade River**	**74.81**	**20**	P	**P**	**05 49 26.5**	**+0.6**
	baz=262,SNR=90						
B20K				S	**S**	**05 58 59.6**	**+2.5**
	baz=262						
D20K	**Etivluk River**	**74.84**	**22**	P	**P**	**05 49 26.6**	**+0.5**
	baz=263,SNR=336						
D20K				S	**S**	**05 58 59.5**	**+1.9**
	baz=263						
E20K	**Nigu River**	**74.94**	**22**	P	**P**	**05 49 27.2**	**+0.4**
	baz=264,SNR=179						
E20K				S	**S**	**05 58 59.5**	**+0.7**
	baz=264						
F20K	**Avaraart Lake**	**75.00**	**23**	IAmb	IAmb	05 49 49.2	
	comp=Z,434nm,1.0s						
F20K	**Avaraart Lake**	**75.00**	**23**	P	**P**	**05 49 27.6**	**+0.5**
	baz=265,SNR=274						
F20K				S	**S**	**05 59 01.5**	**+2.2**
	baz=265						
L19K	**White Mountain**	**75.00**	**29**	IAmb	IAmb	05 49 49.9	
	comp=Z,354nm,1.1s						
L19K	**White Mountain**	**75.00**	**29**	P	**P**	**05 49 28.2**	**+0.9**
	baz=267,SNR=106						
L19K				S	**S**	**05 59 01.8**	**+2.1**
	baz=267						
R18K	**Karluk**	**75.00**	**33**	P	**P**	**05 49 27.8**	**+0.6**
	baz=268						
R18K				S	**S**	**05 58 59.1**	**-0.6**
	baz=268						
N19K	**Bonanza Creek**	**75.11**	**30**	IAmb	IAmb	05 49 33.4	
	comp=Z,399nm,1.0s						
N19K	**Bonanza Creek**	**75.11**	**30**	P	**P**	**05 49 28.6**	**+0.6**
	baz=267,SNR=110						
N19K				S	**S**	**05 59 03.2**	**+2.2**
	baz=267						
SII	**Sitkinak Islan**	**75.13**	**34**	P	**P**	**05 49 28.9**	**+0.9**
SII	**Sitkinak Islan**	**75.13**	**34**	P	**P**	**05 49 28.4**	**+0.4**
	baz=269						
SII				S	**S**	**05 59 02.5**	**+1.3**
	baz=269						
A21K	**Barrow**	**75.16**	**19**	P	**P**	**05 49 28.9**	**+1.1**
	baz=263						
A21K				S	**S**	**05 59 02.9**	**+2.0**
	baz=263						
O19K	**Port Alsworth**	**75.17**	**31**	IAmb	IAmb	05 49 33.0	
	comp=Z,425nm,1.1s						
O19K	**Port Alsworth**	**75.17**	**31**	P	**P**	**05 49 28.4**	**+0.3**
	baz=268,SNR=57						
O19K				S	**S**	**05 59 03.3**	**+1.9**
	baz=268						
M19K	**Big River Lodg**	**75.21**	**29**	P	**P**	**05 49 28.6**	**+0.3**
	baz=267,SNR=52						
M19K				S	**S**	**05 59 04.6**	**+2.7**
	baz=267						
H20K	**Anotleneega Mo**	**75.21**	**25**	P	**P**	**05 49 29.4**	**+1.1**
	baz=266,SNR=221						
H20K				S	**S**	**05 59 04.0**	**+2.3**
	baz=266						
GNI	**Garni**	**75.21**	**309**	P	**P**	**05 49 30.4**	**+1.4**
GNI	**Garni**	**75.21**	**309**	LR	LR	06 27 52.7	
	comp=Z,9μm,21.6s,baz=81,slow=40						
GNI	**Garni**	**75.21**	**309**	P	**P**	**05 49 29.6**	**+0.5**
GNI	**Garni**	**75.21**	**309**	P	**P**	**05 49 30.5**	**+1.4**
GNI				pmax	pmax		
	comp=Z,2μm,1.9s						
GNI	**Garni**	**75.21**	**309**	P	**P**	**05 49 29.6**	**+0.5**
I20K	**Naaghedeneel**	**75.33**	**26**	IAmb	IAmb	05 49 51.5	
	comp=Z,711nm,1.0s						
I20K	**Naaghedeneel**	**75.33**	**26**	P	**P**	**05 49 29.9**	**+0.9**
	baz=266,SNR=103						
I20K				S	**S**	**05 59 06.1**	**+3.1**
	baz=266						
K20K	**Telida**	**75.43**	**27**	IAmb	IAmb	05 49 34.3	
	comp=Z,1μm,1.9s						
K20K	**Telida**	**75.43**	**27**	P	**P**	**05 49 30.4**	**+0.7**
	baz=267,SNR=71						
K20K				S	**S**	**05 59 05.8**	**+1.6**
	baz=267						
J20K	**Nowinta River**	**75.44**	**27**	P	**P**	**05 49 30.5**	**+0.9**
	baz=267,SNR=150						
J20K				S	**S**	**05 59 06.2**	**+1.9**
	baz=267						
Q19K	**Cape Douglas,**	**75.47**	**32**	IAmb	IAmb	05 49 33.6	
	comp=Z,708nm,1.2s						
Q19K	**Cape Douglas,**	**75.47**	**32**	P	**P**	**05 49 31.1**	**+1.1**
	baz=269,SNR=15						
Q19K				S	**S**	**05 59 02.5**	**-2.4**
	baz=269						
L20K	**Farewell, AK**	**75.47**	**28**	P	**P**	**05 49 31.0**	**+1.0**
	baz=268						
L20K				S	**S**	**05 59 07.2**	**+2.3**
	baz=268						
C21K	**Knifeblade Rid**	**75.54**	**21**	P	**P**	**05 49 31.1**	**+1.0**
	baz=265,SNR=144						
C21K				S	**S**	**05 59 07.9**	**+2.5**
	baz=265						
OHAK	**Old Harbor**	**75.63**	**34**	P	**P**	**05 49 31.7**	**+0.9**
OHAK				IAmb	IAmb	05 49 35.4	
	comp=Z,394nm,1.2s						
OHAK	**Old Harbor**	**75.63**	**34**	P	**P**	**05 49 31.5**	**+0.7**
	baz=269,SNR=30						
OHAK				S	**S**	**05 59 06.4**	**-0.2**
	baz=269						
B21K	**Ikpikpuk River**	**75.64**	**21**	P	**P**	**05 49 31.4**	**+0.7**
	baz=265,SNR=269						
B21K				S	**S**	**05 59 07.6**	**+1.3**
	baz=265						
A22K	**Sinclair Lake**	**75.65**	**19**	P	**P**	**05 49 31.9**	**+1.2**
	baz=264,SNR=113						
A22K				S	**S**	**05 59 07.4**	**+1.0**
	baz=264						
P19K	**Oil Pt**	**75.70**	**31**	IAmb	IAmb	05 49 34.5	
	comp=Z,848nm,1.9s						
P19K	**Oil Pt**	**75.70**	**31**	P	**P**	**05 49 31.6**	**+0.3**
	baz=269,SNR=8.2						
P19K				S	**S**	**05 59 06.3**	**-1.1**
	baz=269						
ILSW	**Iliamna Southw**	**75.75**	**31**	P	**P**	**05 49 31.7**	**+0.1**
E21K	**Killik River**	**75.78**	**22**	IAmb	IAmb	05 49 53.5	
	comp=Z,530nm,1.1s						
E21K	**Killik River**	**75.78**	**22**	P	**P**	**05 49 32.5**	**+0.9**
	baz=266						
E21K				S	**S**	**05 59 07.0**	**-1.0**
	baz=266						
M20K	**Styx River**	**75.80**	**29**	P	**P**	**05 49 32.5**	**+0.6**
	baz=268,SNR=70						
M20K				S	**S**	**05 59 10.7**	**+2.1**
	baz=268						
G21K	**Allakaket**	**75.83**	**24**	IAmb	IAmb	05 49 54.1	
	comp=Z,589nm,1.0s						
G21K	**Allakaket**	**75.83**	**24**	P	**P**	**05 49 32.7**	**+0.8**
	baz=267,SNR=313						
G21K				S	**S**	**05 59 10.3**	**+1.7**
	baz=267						
F21K	**Alatna River**	**75.88**	**23**	P	**P**	**05 49 32.8**	**+0.7**
	baz=267,SNR=25						
F21K				S	**S**	**05 59 10.9**	**+1.7**
	baz=267						
NCK	**Nalchik**	**75.90**	**312**	*c iP*	**P**	**05 49 33.3**	**+0.6**
NCK				pmax	pmax		
	comp=Z,167nm,0.8s						
NCK				MLR	MLR		
	comp=Z,9μm,21.0s						
HPAH	**Hawaii Prepara**	**75.98**	**72**	IAmb	IAmb	05 50 04.0	
	comp=Z,341nm,1.1s						
RAYN	**Ar Rayn**	**76.00**	**291**	P	**P**	**05 49 33.6**	**-0.1**
RAYN	**Ar Rayn**	**76.00**	**291**	P	**P**	**05 49 33.5**	**-0.2**
RAYN	**Ar Rayn**	**76.00**	**291**	P	**P**	**05 49 33.7**	**-0.1**
RAYN	**Ar Rayn**	**76.00**	**291**	*i* P	**P**	**05 49 33.6**	**-0.1**
	SNR=61						
KDAK	**Kodiak Island**	**76.01**	**33**	P	**P**	**05 49 33.4**	**+0.4**
KDAK				IAmb	IAmb	05 49 37.7	
	comp=Z,794nm,1.4s						
KDAK	**Kodiak Island**	**76.01**	**33**	P	**P**	**05 49 32.7**	**-0.3**
	comp=Z,107nm,0.7s,baz=109,slow=3.3,SNR=46						
KDAK				LR	LR	06 20 12.2	
	comp=Z,3μm,21.9s,baz=110,slow=33						
	comp=Z,107nm,0.7s						
KDAK	**Kodiak Island**	**76.01**	**33**	P	**P**	**05 49 33.4**	**+0.4**
KDAK				pmax	pmax		
	comp=Z,794nm,1.4s						
KDAK	**Kodiak Island**	**76.01**	**33**	P	**P**	**05 49 33.7**	**+0.7**
	baz=270						
KDAK				S	**S**	**05 59 11.3**	**+0.5**
	baz=270						
H21K	**Melozitna Rive**	**76.08**	**25**	IAmb	IAmb	05 49 38.8	
	comp=Z,498nm,1.2s						
H21K	**Melozitna Rive**	**76.08**	**25**	P	**P**	**05 49 33.9**	**+0.6**
	baz=268,SNR=238						
H21K				S	**S**	**05 59 13.3**	**+1.9**
	baz=268						
B22K	**Teshekpuk Lake**	**76.11**	**20**	IAmb	IAmb	05 49 57.6	
	comp=Z,535nm,1.0s						
B22K	**Teshekpuk Lake**	**76.11**	**20**	P	**P**	**05 49 34.3**	**+1.0**
	baz=266,SNR=162						
B22K				S	**S**	**05 59 12.4**	**+1.0**
	baz=266						
Q20K	**Shuyak Island**	**76.12**	**32**	P	**P**	**05 49 33.9**	**+0.4**
	baz=270,SNR=7.2						
Q20K				S	**S**	**05 59 10.3**	**-1.6**
	baz=270						
SYI	**Shuyak Island**	**76.12**	**32**	IAmb	IAmb	05 50 02.0	
	comp=Z,895nm,1.6s						
MWH	**Mokuaweoweo**	**76.14**	**73**	IAmb	IAmb	05 49 40.3	
	comp=Z,607nm,1.1s						
POHA	**Pohakuloa**	**76.17**	**72**	P	**P**	**05 49 34.8**	**-0.2**
POHA				IAmb	IAmb	05 50 01.8	
	comp=Z,579nm,1.1s						
GOF	**Gofitskoye**	**76.22**	**314**	*ceP*	**P**	**05 49 34.6**	**+0.1**
GOF				*eS*	**S**	**05 59 12.1**	**-1.5**
SPCR	**Spurr Chakacha**	**76.23**	**30**	P	**P**	**05 49 34.7**	**+0.4**
	baz=269,SNR=30						
SPCR				S	**S**	**05 59 11.8**	**-1.6**
	baz=269						
CHUM	**Lake Minchumin**	**76.23**	**27**	P	**P**	**05 49 35.1**	**+1.0**
	baz=269,SNR=52						
CHUM				S	**S**	**05 59 13.9**	**+0.9**
	baz=269						
PPLA	**Purkeypile**	**76.27**	**28**	IAmb	IAmb	05 50 02.7	
	comp=Z,1μm,2.0s						
PPLA	**Purkeypile**	**76.27**	**28**	P	**P**	**05 49 35.3**	**+0.8**
	baz=269,SNR=40						
PPLA				S	**S**	**05 59 13.3**	**-0.5**
	baz=269						
D22K	**Ayikyak River**	**76.28**	**22**	IAmb	IAmb	05 49 59.8	
	comp=Z,632nm,1.4s						
D22K	**Ayikyak River**	**76.28**	**22**	P	**P**	**05 49 35.2**	**+0.8**
	baz=267,SNR=197						
D22K				S	**S**	**05 59 15.3**	**+1.8**
	baz=267						
CAST	**Castle Rocks**	**76.32**	**27**	IAmb	IAmb	05 49 39.6	
	comp=Z,427nm,1.0s						
CAST	**Castle Rocks**	**76.32**	**27**	P	**P**	**05 49 35.6**	**+0.8**
	baz=269,SNR=233						
CAST				S	**S**	**05 59 13.6**	**-0.5**
	baz=269						
KBZ	**Khabaz**	**76.39**	**312**	P	**P**	**05 49 35.5**	**0.0**
	comp=Z,143nm,0.8s,baz=107,slow=3.5,SNR=128						
KBZ				S	**S**	**05 59 16.5**	**+1.0**
	comp=Z,13nm,1.1s,baz=34,slow=23,SNR=15						
KBZ				PKPPKP		06 16 50.2	
	comp=Z,3.0nm,1.0s,baz=202,slow=4.7,SNR=3.9						
KBZ				LR	LR	06 27 35.6	
	comp=Z,12μm,20.6s,baz=78,slow=39						
	comp=Z,143nm,0.8s						
F22K	**John River**	**76.40**	**23**	P	**P**	**05 49 36.4**	**+1.3**
	baz=268						
F22K				S	**S**	**05 59 16.5**	**+1.6**
	baz=268						
I21K	**Tanana**	**76.41**	**26**	IAmb	IAmb	05 49 57.4	
	comp=Z,415nm,0.9s						
I21K	**Tanana**	**76.41**	**26**	P	**P**	**05 49 35.9**	**+0.8**
	baz=268						
I21K				S	**S**	**05 59 15.8**	**+0.8**
	baz=268						
HOM	**Homer**	**76.50**	**31**	P	**P**	**05 49 36.1**	**+0.3**
	baz=270						
HOM				S	**S**	**05 59 13.5**	**-2.6**
	baz=270						
KVAR	**Kislovodsk Arr**	**76.53**	**313**	LR	LR	06 26 37.6	
	comp=Z,9μm,21.7s,baz=224,slow=38						
KIV	**Kislovodsk**	**76.53**	**313**	P	**P**	**05 49 37.9**	**+1.5**
KIV	**Kislovodsk**	**76.53**	**313**	P	**P**	**05 49 36.2**	**-0.2**
KIV	**Kislovodsk**	**76.53**	**313**	⇑P	**P**	**05 49 37.4**	**+1.0**
KIV	**Kislovodsk**	**76.53**	**313**	*eP*	**P**	**05 49 36.5**	**+0.1**
KIV				*e*		05 52 27.6	
KIV				*eS*	**S**	**05 59 17.8**	**+0.5**
KIV				*eSS*	**SS**	**06 04 14.6**	**+1.4**
KIV				pmax	pmax		
	comp=Z,546nm,3.9s						
KIV				pmax	pmax		
	comp=Z,657nm,1.1s						
KIV				MLR	MLR		
	comp=Z,9μm,18.0s						
KIV	**Kislovodsk**	**76.53**	**313**	*i* P	**P**	**05 49 36.8**	**+0.4**
	SNR=73						
KIV	**Kislovodsk**	**76.53**	**313**	P	**P**	**05 49 36.5**	**+0.1**
KIV				S	**S**	**05 59 17.5**	**+0.2**
SKT	**Skwentna**	**76.56**	**29**	P	**P**	**05 49 36.6**	**+0.4**
	baz=270,SNR=104						
SKT				S	**S**	**05 59 13.3**	**-3.4**
	baz=270						
E22K	**Anaktuvuk Pass**	**76.56**	**22**	IAmb	IAmb	05 49 58.3	
	comp=Z,429nm,1.2s						
E22K	**Anaktuvuk Pass**	**76.56**	**22**	P	**P**	**05 49 36.6**	**+0.5**
	baz=268						
E22K				S	**S**	**05 59 17.2**	**+0.5**
	baz=268						
SHA1	**Shidzhatmaz**	**76.56**	**312**	*i* P	**P**	**05 49 36.6**	**-0.2**
STCH	**Steam Cracks**	**76.60**	**73**	IAmb	IAmb	05 49 41.7	
	comp=Z,500nm,0.8s						
GEVA	**Gevas**	**76.64**	**307**	IAmb	IAmb	05 50 09.8	
	comp=Z,711nm,1.3s						
G22K	**Bettles**	**76.64**	**24**	P	**P**	**05 49 37.4**	**+0.9**
	baz=269						
G22K				S	**S**	**05 59 19.0**	**+1.5**
	baz=269						
H22K	**Ishtalitna Cre**	**76.67**	**25**	P	**P**	**05 49 37.4**	**+0.7**
	baz=269,SNR=252						
H22K				S	**S**	**05 59 20.0**	**+2.0**
	baz=269						
CNPM	**China Poot**	**76.71**	**31**	IAmb	IAmb	05 49 40.7	
	comp=Z,349nm,1.1s						
CAPN	**Captain Cook N**	**76.74**	**30**	P	**P**	**05 49 37.8**	**+0.7**
	baz=270						
CAPN				S	**S**	**05 59 18.4**	**-0.2**
	baz=270						
BPAW	**Bear Paw Mtn.**	**76.82**	**27**	P	**P**	**05 49 38.9**	**+1.4**
BPAW	**Bear Paw Mtn.**	**76.82**	**27**	P	**P**	**05 49 38.2**	**+0.7**
	baz=270,SNR=184						
BPAW				S	**S**	**05 59 19.7**	**+0.1**
	baz=270						
VRH	**Novokhopyorsk**	**76.82**	**320**	*eP*	**P**	**05 49 35.8**	**-1.9**
VRH				*e*PP*	**pP**	**05 49 53.0**	**-3.1**
VRH				*eS*	**S**	**05 59 12.4**	**-7.5**
VRH				pmax	pmax		
	comp=Z,1μm,1.6s						
VRH				pmax	pmax		
	comp=Z,650nm,0.8s						
VRH				smax	smax		
	comp=N,4μm,9.6s						
VRH				MLR	MLR		
	comp=Z,10μm,24.0s						
KTH	**Kantishna Hill**	**76.85**	**27**	IAmb	IAmb	05 49 41.4	
	comp=Z,844nm,2.0s						
BRLK	**Bradley Lake**	**76.89**	**31**	IAmb	IAmb	05 50 00.7	
	comp=Z,292nm,1.0s						
SUA	**Susitna One**	**76.94**	**29**	P	**P**	**05 49 38.7**	**+0.3**
SUA				IAmb	IAmb	05 49 42.1	
	comp=Z,369nm,0.9s						
SUA	**Susitna One**	**76.94**	**29**	P	**P**	**05 49 38.7**	**+0.3**
	baz=270,SNR=40						
SUA				S	**S**	**05 59 17.9**	**-3.2**
	baz=270						
BRSE	**Bradley Lake S**	**76.96**	**31**	P	**P**	**05 49 38.8**	**+0.4**
	baz=271,SNR=50						
BRSE				S	**S**	**05 59 19.1**	**-2.1**
	baz=271						
D23K	**Nanushuk River**	**77.00**	**22**	IAmb	IAmb	05 50 01.7	
	comp=Z,780nm,1.3s						
D23K	**Nanushuk River**	**77.00**	**22**	P	**P**	**05 49 39.0**	**+0.6**
	baz=269,SNR=308						
D23K				S	**S**	**05 59 23.7**	**+2.3**
	baz=269						
C23K	**Itkillik River**	**77.05**	**21**	P	**P**	**05 49 39.4**	**+0.7**
	baz=269,SNR=310						
C23K				S	**S**	**05 59 22.0**	**+0.3**
	baz=269						
TRF	**Thorofare Moun**	**77.13**	**27**	IAmb	IAmb	05 49 43.7	
	comp=Z,566nm,1.2s						
TRF	**Thorofare Moun**	**77.13**	**27**	P	**P**	**05 49 39.4**	**-0.1**
	baz=270,SNR=121						
TRF				S	**S**	**05 59 20.3**	**-2.9**
	baz=270						
CUT	**Chulitna**	**77.15**	**28**	IAmb	IAmb	05 50 18.5	
	comp=Z,790nm,1.4s						
CUT	**Chulitna**	**77.15**	**28**	P	**P**	**05 49 39.4**	**+0.1**
	baz=271,SNR=28						
CUT				S	**S**	**05 59 21.3**	**-1.8**
	baz=271						
COLD	**Coldfoot**	**77.16**	**23**	IAmb	IAmb	05 50 01.7	
	comp=Z,350nm,1.0s						
COLD	**Coldfoot**	**77.16**	**23**	P	**P**	**05 49 40.0**	**+0.7**
	baz=270,SNR=231						
COLD				S	**S**	**05 59 24.8**	**+1.7**
	baz=270						
SLKM	**Skilak Lake**	**77.21**	**30**	IAmb	IAmb	05 49 43.4	
	comp=Z,576nm,1.4s						
G23K	**Bananza Creek**	**77.23**	**24**	IAmb	IAmb	05 50 02.3	
	comp=Z,535nm,1.2s						
G23K	**Bananza Creek**	**77.23**	**24**	P	**P**	**05 49 40.3**	**+0.5**
	baz=270,SNR=228						
G23K				S	**S**	**05 59 25.8**	**+1.8**
	baz=270						
M22K	**Willow**	**77.23**	**29**	P	**P**	**05 49 39.5**	**-0.3**
	baz=271,SNR=55						
M22K				S	**S**	**05 59 21.4**	**-2.5**
	baz=271						
E23K	**Chandalar**	**77.39**	**23**	IAmb	IAmb	05 50 03.9	
	comp=Z,615nm,1.1s						
E23K	**Chandalar**	**77.39**	**23**	P	**P**	**05 49 41.4**	**+0.7**
	baz=270,SNR=310						
E23K				S	**S**	**05 59 27.5**	**+1.7**
	baz=270						
TOLK	**Toolik Lake Re**	**77.40**	**22**	P	**P**	**05 49 41.9**	**+1.1**
TOLK				IAmb	IAmb	05 50 03.0	
	comp=Z,280nm,1.0s						
TOLK	**Toolik Lake Re**	**77.40**	**22**	P	**P**	**05 49 41.4**	**+0.6**
	baz=270,SNR=228						
TOLK				S	**S**	**05 59 27.6**	**+1.7**
	baz=270						
GURO	**Guroymak-BITLI**	**77.42**	**307**	IAmb	IAmb	05 49 46.6	
	comp=Z,429nm,0.7s						
H23K	**Yukon River**	**77.43**	**25**	IAmb	IAmb	05 49 46.5	
	comp=Z,719nm,1.4s						
H23K	**Yukon River**	**77.43**	**25**	P	**P**	**05 49 41.2**	**+0.3**
	baz=271						
H23K				S	**S**	**05 59 28.2**	**+2.1**
	baz=271						
RC01	**Rabbit Creek A**	**77.43**	**30**	P	**P**	**05 49 41.3**	**+0.3**
	baz=272,SNR=11						
RC01				S	**S**	**05 59 23.4**	**-2.9**
	baz=272						
O22K	**Cooper Landing**	**77.45**	**30**	IAmb	IAmb	05 50 06.6	
	comp=Z,754nm,1.2s						
O22K	**Cooper Landing**	**77.45**	**30**	P	**P**	**05 49 41.4**	**+0.4**
	baz=272,SNR=26						
O22K				S	**S**	**05 59 24.9**	**-1.6**
	baz=272						
BWN	**Browne**	**77.49**	**27**	IAmb	IAmb	05 50 06.3	
	comp=Z

I23K				S	S	05 59 27.4	+0.4
	baz=271						
SEW	**Seward**	**77.60**	**31**	IAmb	IAmb	05 49 46.0	
	comp=Z,340nm,1.1s						
SEW	**Seward**	**77.60**	**31**	P	P	05 49 41.8	-0.1
	baz=272,SNR=26						
SEW				S	S	05 59 27.0	-1.0
	baz=272						
NEA2	**Nenana**	**77.65**	**26**	IAmb	IAmb	05 50 04.2	
	comp=Z,372nm,0.9s						
NEA2	**Nenana**	**77.65**	**26**	P	P	05 49 42.4	+0.3
	baz=271,SNR=80						
NEA2				S	S	05 59 28.1	-0.4
	baz=271						
D24K	**Happy Valley**	**77.67**	**21**	IAmb	IAmb	05 50 04.5	
	comp=Z,358nm,0.9s						
D24K	**Happy Valley**	**77.67**	**21**	P	P	05 49 43.0	+0.8
	baz=270,SNR=197						
D24K				S	S	05 59 29.6	+1.0
	baz=270						
KLMR	**Klimovskoe**	**77.69**	**330**	*c iP*	P	05 49 31.8	-11
KLMR				*e*PP*	pP	05 49 58.0	-2.9
KLMR				*SS	sS	05 59 56.5	-3.8
KLMR				SSS	SSS	06 07 54.8	
KLMR				MLR	MLR		
	comp=Z,16μm,25.0s						
PMR	**Palmer**	**77.71**	**29**	P	P	05 49 42.5	0.0
PMR				IAmb	IAmb	05 49 46.3	
	comp=Z,359nm,1.1s						
PMR	**Palmer**	**77.71**	**29**	P	P	05 49 42.5	0.0
PMR				pmax	pmax		
	comp=Z,359nm,1.1s						
PMR	**Palmer**	**77.71**	**29**	P	P	05 49 42.5	0.0
	baz=272,SNR=95						
PMR				S	S	05 59 27.1	-2.1
	baz=272						
C24K	**Franklin Bluff**	**77.71**	**21**	IAmb	IAmb	05 50 05.0	
	comp=Z,658nm,1.2s						
C24K	**Franklin Bluff**	**77.71**	**21**	P	P	05 49 43.1	+0.7
	baz=270						
C24K				S	S	05 59 29.3	+0.3
	baz=270						
MCK	**McKinley**	**77.73**	**27**	P	P	05 49 42.7	+0.1
	baz=272,SNR=315						
MCK				S	S	05 59 26.1	-3.3
	baz=272						
RND	**Reindeer**	**77.78**	**27**	IAmb	IAmb	05 49 46.8	
	comp=Z,616nm,1.2s						
E24K	**Your Creek**	**77.81**	**23**	IAmb	IAmb	05 50 07.6	
	comp=Z,323nm,1.1s						
E24K	**Your Creek**	**77.81**	**23**	P	P	05 49 43.3	+0.2
	baz=271,SNR=326						
E24K				S	S	05 59 32.0	+1.7
	baz=271						
LABN	**Labinsk**	**77.89**	**313**	*e*P	P	05 49 43.4	-0.5
LABN				*e*PP*	pP	05 50 00.0	-2.4
LABN				pmax	pmax		
	comp=E,27nm,1.2s						
LABN				pmax	pmax		
	comp=N,8.0nm,0.5s						
LABN				pmax	pmax		
	comp=Z,1μm,2.5s						
LABN				pmax	pmax		
	comp=Z,119nm,0.9s						
LABN				pmax	pmax		
	comp=N,37nm,0.9s						
LABN				MLR	MLR		
	comp=N,27μm,19.0s						
LABN				MLR	MLR		
	comp=E,25μm,22.0s						
LABN				MLR	MLR		
	comp=Z,22μm,19.0s						
ERBR	**Yeremizino-Bor**	**77.97**	**314**	*e*P	P	05 49 43.0	-1.3
ERBR				*e*PP*	pP	05 49 59.5	-3.3
ERBR				*e*S	S	05 59 33.0	+0.3
ERBR				pmax	pmax		
	comp=Z,272nm,0.8s						
ERBR				pmax	pmax		
	comp=Z,3μm,2.6s						
ERBR				pmax	pmax		
	comp=N,31nm,0.7s						
ERBR				pmax	pmax		
	comp=E,78nm,0.7s						
ERBR				pmax	pmax		
	comp=N,216nm,2.4s						
ERBR				pmax	pmax		
	comp=E,313nm,1.4s						
ERBR				smax	smax		
	comp=E,9μm,3.8s						
ERBR				smax	smax		
	comp=N,8μm,3.1s						
ERBR				MLR	MLR		
	comp=Z,16μm,24.0s						
KNK	**Knik Glacier**	**78.03**	**29**	IAmb	IAmb	05 49 48.7	
	comp=Z,569nm,1.1s						
KNK	**Knik Glacier**	**78.03**	**29**	P	P	05 49 44.9	+0.5
	baz=273,SNR=93						
KNK				S	S	05 59 31.9	-0.9
	baz=273						
F24K	**Squaw Lake**	**78.05**	**23**	IAmb	IAmb	05 50 09.1	
	comp=Z,292nm,0.8s						
F24K	**Squaw Lake**	**78.05**	**23**	P	P	05 49 44.7	+0.4
	baz=272,SNR=210						
F24K				S	S	05 59 34.1	+1.3
	baz=272						
WRH	**Wood River Hil**	**78.08**	**26**	IAmb	IAmb	05 49 48.6	
	comp=Z,547nm,1.5s						
SML	**Sawmill**	**78.08**	**29**	P	P	05 49 44.7	0.0
	baz=273,SNR=107						
SML				S	S	05 59 32.4	-0.9
	baz=273						
H24K	**Noodor Dome**	**78.11**	**25**	IAmb	IAmb	05 50 06.5	
	comp=Z,321nm,1.1s						
H24K	**Noodor Dome**	**78.11**	**25**	P	P	05 49 45.3	+0.6
	baz=272,SNR=162						
H24K				S	S	05 59 35.6	+2.0
	baz=272						
PWL	**Port Wells**	**78.12**	**30**	P	P	05 49 44.9	+0.1
	baz=273,SNR=71						
PWL				S	S	05 59 32.1	-1.7
	baz=273						
COLA	**College**	**78.16**	**26**	P	P	05 49 44.8	-0.1
COLA	**College**	**78.16**	**26**	P	P	05 49 45.3	+0.4
COLA	**College**	**78.16**	**26**	P	P	05 49 45.0	+0.1
	baz=272						
COLA				S	S	05 59 31.2	-2.7
	baz=272						
COLA	**College**	**78.16**	**26**	P	P	05 49 45.0	+0.1
COLA				S	S	05 59 30.9	-3.0
CCB	**Clear Creek Bu**	**78.19**	**26**	IAmb	IAmb	05 49 49.0	
	comp=Z,443nm,1.5s						
G24K	**Hadweenzic Riv**	**78.24**	**24**	IAmb	IAmb	05 50 07.8	
	comp=Z,306nm,0.9s						
G24K	**Hadweenzic Riv**	**78.24**	**24**	P	P	05 49 45.5	0.0
	baz=272,SNR=206						
G24K				S	S	05 59 36.3	+1.4
	baz=272						
POKR	**Poker Plat Res**	**78.33**	**26**	P	P	05 49 46.9	+1.0
POKR	**Poker Plat Res**	**78.33**	**26**	P	P	05 49 46.3	+0.4
	baz=273,SNR=76						
POKR				S	S	05 59 34.3	-1.5
	baz=273						
VORD	**Divnogorie**	**78.36**	**320**	*e*P	P	05 49 44.7	-1.6
VORD				*e*PP*	pP	05 50 01.2	-3.6
VORD				*e*S	S	05 59 28.6	-8.0
VORD				pmax	pmax		
	comp=Z,320nm,0.7s						
VORD				pmax	pmax		
	comp=Z,330nm,0.8s						
VORD				smax	smax		
	comp=N,2μm,9.9s						
VORR	**Voronezh**	**78.36**	**321**	*e*P	P	05 49 45.1	-1.2
VORR				*e*PP*	pP	05 50 01.6	-3.2
VORR				*e*S	S	05 59 28.6	-8.0
VORR				pmax	pmax		
	comp=Z,540nm,0.7s						
VORR				pmax	pmax		
	comp=Z,500nm,0.7s						
VORR				smax	smax		
	comp=E,940nm,5.4s						
M23K	**Glacier View**	**78.37**	**29**	P	P	05 49 46.4	+0.2
	baz=273,SNR=66						
M23K				S	S	05 59 35.9	-0.5
	baz=273						
VSR	**Storozhevoye**	**78.42**	**320**	*e*P	P	05 49 44.0	-2.7
VSR				*e*PP*	pP	05 50 01.2	-3.9
VSR				*e*		05 52 41.9	
VSR				*e*S	S	05 59 29.5	-7.7
VSR				pmax	pmax		
	comp=Z,530nm,1.0s						
VSR				pmax	pmax		
	comp=Z,390nm,0.8s						
VSR				smax	smax		
	comp=N,2μm,9.1s						
VSR				MLR	MLR		
	comp=Z,12μm,22.0s						
LPSR	**Galich'ya Gora**	**78.47**	**322**	*e*P	P	05 49 45.1	-1.8
LPSR				*e*PP*	pP	05 50 02.1	-3.3
LPSR				*e*S	S	05 59 28.6	-9.0
LPSR				pmax	pmax		
	comp=Z,850nm,0.8s						
LPSR				pmax	pmax		
	comp=Z,890nm,0.8s						
LPSR				smax	smax		
	comp=N,2μm,7.6s						
LPSR				MLR	MLR		
	comp=Z,7μm,19.0s						
KOPT	**Kop Dagi**	**78.47**	**309**	IAmb	IAmb	05 50 08.4	
	comp=Z,599nm,1.2s						
VSLR	**Vesyoloye**	**78.49**	**312**	*i* P	P	05 49 46.7	-0.5
VSLR				pmax	pmax		
	comp=Z,572nm,0.9s						
VSLR				MLR	MLR		
	comp=Z,8μm,19.0s						
D25K	**Kavik River**	**78.54**	**21**	IAmb	IAmb	05 50 09.7	
	comp=Z,460nm,1.1s						
D25K	**Kavik River**	**78.54**	**21**	P	P	05 49 47.4	+0.4
	baz=273,SNR=315						
D25K				S	S	05 59 38.4	+0.4
	baz=273						
SCM	**Sheep Creek Mo**	**78.55**	**29**	P	P	05 49 47.4	+0.1
	baz=273,SNR=95						
SCM				S	S	05 59 37.2	-1.3
	baz=273						
HDA	**Harding Lake**	**78.57**	**26**	IAmb	IAmb	05 50 14.8	
	comp=Z,1μm,2.0s						
HDA	**Harding Lake**	**78.57**	**26**	P	P	05 49 46.9	-0.3
	baz=273,SNR=116						
HDA				S	S	05 59 34.6	-3.9
	baz=273						
CASY	**Casey**	**78.58**	**186**	P	P	05 49 46.5	-0.5
ILAR	**Eielson Array**	**78.58**	**26**	P	P	05 49 47.0	-0.2
	comp=Z,46nm,0.8s,baz=240,slow=5.9,SNR=46						
ILAR				PKKPbc	**PKKPbc**	06 08 44.8	-0.3
	comp=Z,1.8nm,0.7s,baz=120,slow=1.6,SNR=12						
ILAR				PKPPKP	**P'P'df**	06 16 48.8	+1.4
	comp=Z,1.1nm,1.0s,baz=93,slow=0.5,SNR=5.0						
ILAR				LR	LR	06 23 20.0	
	comp=Z,4μm,21.5s,baz=273,slow=35						
	comp=Z,46nm,0.8s						
P23K	**Montague Islan**	**78.63**	**31**	IAmb	IAmb	05 49 52.2	
	comp=Z,787nm,1.1s						
P23K	**Montague Islan**	**78.63**	**31**	P	P	05 49 47.7	+0.1
	baz=274,SNR=32						
P23K				S	S	05 59 40.0	+0.9
	baz=274						
SOC	**Sochi**	**78.70**	**312**	*e*P	P	05 49 46.2	-2.2
SOC				*e*		05 52 51.0	
SOC				*e*S	S	05 59 37.9	-2.7
SOC				*e*SS	SS	06 04 40.2	-5.6
SOC				*e*SSS	SSS	06 08 05.7	
SOC				pmax	pmax		
	comp=Z,200nm,0.7s						
SOC				MLR	MLR		
	comp=Z,10μm,18.0s						
GLI	**Glacier Island**	**78.72**	**30**	IAmb	IAmb	05 49 52.4	
	comp=Z,611nm,1.2s						
GLI	**Glacier Island**	**78.72**	**30**	P	P	05 49 48.3	+0.2
	baz=274,SNR=32						
GLI				S	S	05 59 40.0	-0.2
	baz=274						
G25K	**Bearman Lake**	**78.78**	**24**	P	P	05 49 48.7	+0.3
	baz=274,SNR=44						
G25K				S	S	05 59 43.9	+3.3
	baz=274						
E25K	**Arctic Village**	**78.90**	**22**	IAmb	IAmb	05 50 13.9	
	comp=Z,522nm,1.3s						
E25K	**Arctic Village**	**78.90**	**22**	P	P	05 49 49.8	+0.7
	baz=274,SNR=246						
E25K				S	S	05 59 43.1	+1.2
	baz=274						
F25K	**Christian Rive**	**78.91**	**23**	P	P	05 49 49.8	+0.7
	baz=274,SNR=139						
F25K				S	S	05 59 45.1	+3.0
	baz=274						
H25L	**Birch Creek**	**78.93**	**24**	P	P	05 49 49.9	+0.8
	baz=274						
H25L				S	S	05 59 44.4	+2.3
	baz=274						
MOS	**Moscow**	**78.99**	**325**	*e*P	P	05 49 46.8	-2.8
MOS				*e*		05 49 55.7	
MOS				*e*		05 50 05.9	
MOS				*e*S	S	05 59 39.3	-3.8
MOS				*e*SSS	SSS	06 08 06.9	
MOS				pmax	pmax		
	comp=Z,700nm,0.8s						
MOS				pmax	pmax		
	comp=Z,557nm,0.7s						
MOS				smax	smax		
	comp=E,4μm,4.4s						
MOS				smax	smax		
	comp=N,4μm,3.2s						
MOS				MLR	MLR		
	comp=E,13μm,23.0s						
MOS				MLR	MLR		
	comp=Z,16μm,23.0s						
C26K	**Camden Bay**	**79.02**	**21**	P	P	05 49 50.6	+1.0
	baz=274,SNR=234						
C26K				S	S	05 59 44.0	+1.1
	baz=274						
FID	**Port Fidalgo**	**79.04**	**30**	IAmb	IAmb	05 49 54.3	
	comp=Z,644nm,1.4s						
HIN	**Hinchinbrook I**	**79.05**	**30**	IAmb	IAmb	05 49 54.6	
	comp=Z,574nm,1.4s						
M24K	**Tolsona, Glenn**	**79.08**	**29**	IAmb	IAmb	05 49 55.2	
	comp=Z,623nm,1.1s						
M24K	**Tolsona, Glenn**	**79.08**	**29**	P	P	05 49 50.8	+0.7
	baz=274,SNR=48						
M24K				S	S	05 59 44.6	+0.6
	baz=274						
PRP	**Porcupine Dome**	**79.11**	**25**	P	P	05 49 50.7	+0.3
	baz=274,SNR=24						
PRP				S	S	05 59 42.6	-1.7
	baz=274						
K24K	**Donnelly Dome**	**79.13**	**27**	IAmb	IAmb	05 50 13.6	
	comp=Z,656nm,1.1s						
K24K	**Donnelly Dome**	**79.13**	**27**	P	P	05 49 51.0	+0.6
	baz=274						
K24K				S	S	05 59 41.9	-2.5
	baz=274						
FYU	**Fort Yukon**	**79.14**	**24**	IAmb	IAmb	05 50 13.4	
	comp=Z,589nm,1.2s						
J25K	**Salcha River,**	**79.24**	**26**	P	P	05 49 50.8	-0.2
	baz=275,SNR=46						
J25K				S	S	05 59 42.3	-3.4
	baz=275						
KLU	**Klutina**	**79.25**	**29**	P	P	05 49 51.4	+0.3
	baz=275,SNR=43						
KLU				S	S	05 59 45.8	0.0
	baz=275						
BMAR	**Burnt Mountain**	**79.33**	**23**	P	P	05 49 52.6	+1.2
PAX	**Paxson**	**79.33**	**28**	P	P	05 49 51.6	+0.1
	baz=275,SNR=99						
PAX				S	S	05 59 45.5	-1.3
	baz=275						
DIV	**Divide**	**79.35**	**30**	IAmb	IAmb	05 49 56.4	
	comp=Z,785nm,1.2s						
LVZ	**Lovozero**	**79.38**	**337**	P	P	05 49 51.8	+0.1
LVZ				IAmb	IAmb	05 50 11.7	
	comp=Z,1μm,1.5s						
LVZ	**Lovozero**	**79.38**	**337**	P	P	05 49 51.8	+0.1
LVZ				pmax	pmax		
	comp=Z,1μm,1.5s						
EYAK	**Cordova Ski Ar**	**79.41**	**30**	IAmb	IAmb	05 50 21.1	
	comp=Z,442nm,1.4s						
EYAK	**Cordova Ski Ar**	**79.41**	**30**	P	P	05 49 52.5	+0.7
	baz=275,SNR=28						
EYAK				S	S	05 59 47.5	+0.2
	baz=275						
C27K	**Jago River**	**79.46**	**21**	IAmb	IAmb	05 50 17.3	
	comp=Z,488nm,1.3s						
C27K	**Jago River**	**79.46**	**21**	P	P	05 49 52.6	+0.6
	baz=275,SNR=291						
C27K				S	S	05 59 48.6	+0.9
	baz=275						
F26K	**Sheenjek River**	**79.47**	**23**	P	P	05 49 53.0	+0.8
	baz=275,SNR=188						
F26K				S	S	05 59 51.1	+3.2
	baz=275						
HARP	**HAARP**	**79.53**	**28**	P	P	05 49 53.3	+0.7
	baz=275,SNR=38						
HARP				S	S	05 59 48.2	-0.5
	baz=275						
RIDG	**Independent Ri**	**79.55**	**27**	IAmb	IAmb	05 49 56.8	
	comp=Z,613nm,1.1s						
RIDG	**Independent Ri**	**79.55**	**27**	P	P	05 49 52.6	-0.1
	baz=275,SNR=175						
RIDG				S	S	05 59 47.2	-1.7
	baz=275						
OBN	**Obninsk**	**79.64**	**324**	P	P	05 49 53.3	+0.1
OBN	**Obninsk**	**79.64**	**324**	LR	LR	06 27 16.8	
	comp=Z,18μm,22.0s,baz=35,slow=37						
OBN	**Obninsk**	**79.64**	**324**	⇑P	P	05 49 53.0	-0.2
OBN	**Obninsk**	**79.64**	**324**	*d iP*	P	05 49 52.7	-0.5
OBN				*e*		05 49 58.5	
OBN				*i *PP*	pP	05 50 09.7	-2.1
OBN				*i *SP*	sP	05 50 17.6	-1.7
OBN				*e*		05 52 54.0	
OBN				*e*PPP	PPP	05 54 45.0	
OBN				*i* S	S	05 59 45.2	-4.8
OBN				*e*SS	SS	06 05 00.8	+1.6
OBN				*e*SSS	SSS	06 08 26.8	
OBN				pmax	pmax		
	comp=Z,675nm,1.7s						
OBN				MLR	MLR		
	comp=Z,20μm,22.0s						
G26K	**Porcupine Rive**	**79.68**	**24**	P	P	05 49 53.9	+0.6
	baz=276,SNR=67						
G26K				S	S	05 59 52.5	+2.5
	baz=276						
N25K	**Chitina, Valde**	**79.87**	**29**	P	P	05 49 54.6	+0.2
	baz=276,SNR=58						
N25K				S	S	05 59 51.1	-1.3
	baz=276						
APA	**Apatity**	**79.88**	**337**	*i iP*	P	05 49 54.0	-0.3
APA				*i*		05 50 11.0	
APA				*i*		05 53 01.0	
APA				*i* PPP	PPP	05 54 49.0	
APA				*i*		06 00 13.0	
APA				*i* SS	SS	06 05 06.0	+3.8
APA				*i* SSS	SSS	06 08 29.0	
APA				pmax	pmax		
	comp=Z,205nm,0.9s						
APA				MLR	MLR		
	comp=Z,14μm,18.0s						
SCRK	**Sand Creek**	**79.90**	**27**	P	P	05 49 54.7	0.0
	baz=276,SNR=103						
SCRK				S	S	05 59 51.3	-1.5
	baz=276						
BMRM	**Bremner River**	**79.93**	**30**	P	P	05 49 55.6	+0.9
BMRM				IAmb	IAmb	05 49 59.5	
	comp=Z,446nm,1.2s						
BMRM	**Bremner River**	**79.93**	**30**	P	P	05 49 55.2	+0.4
	baz=276,SNR=42						
BMRM				S	S	05 59 52.2	-0.8
	baz=276						
RAGM	**Ragged Mountai**	**79.96**	**30**	IAmb	IAmb	05 50 17.5	
	comp=Z,517nm,1.3s						
J26L	**Joseph Creek**	**80.03**	**26**	P	P	05 49 55.7	+0.4
	baz=276,SNR=70						
J26L				S	S	05 59 51.1	-2.9
	baz=276						
I26K	**Coal Creek Min**	**80.11**	**25**	P	P	05 49 55.7	+0.1
	baz=276						
I26K				S	S	05 59 54.3	-0.4
	baz=276						
KAIM	**Kayak Island**	**80.13**	**31**	IAmb	IAmb	05 50 00.9	
	comp=Z,652nm,1.2s						
KAIM	**Kayak Island**	**80.13**	**31**	P	P	05 49 56.4	+0.6
	baz=276						
KAIM				S	S	05 59 56.6	+1.5
	baz=276						
ANN	**Anapa**	**80.21**	**314**	*e*P	P	05 49 55.5	-1.0
ANN				*e*SS	SS	06 05 15.1	+6.9
ANN				pmax	pmax		
	comp=Z,521nm,0.8s						
ANN				pmax	pmax		
	comp=N,104nm,0.7s						
ANN				pmax	pmax		
	comp=E,80nm,0.9s						
ANN				smax	smax		
	comp=N,4μm,3.1s						
ANN				smax	smax		
	comp=E,1μm,2.6s						
ANN				MLR	MLR		
	comp=E,8μm,18.0s						
ANN				MLR	MLR		
	comp=N,12μm,19.0s						
ANN				MLR	MLR		
	comp=Z,15μm,19.0s						
GLB	**Gilahina Butte**	**80.26**	**29**	IAmb	IAmb	05 50 18.9	
	comp=Z,479nm,1.2s						
ATD	**Arta Tunnel**	**80.28**	**280**	LR	LR	06 22 26.4	
	comp=Z,156nm,21.8s,baz=70,slow=33						
ATD	**Arta Tunnel**	**80.28**	**280**	P	P	05 49 58.3	+0.7
	SNR=16						
L26K	**Log Cabin Wild**	**80.29**	**28**	P	P	05 49 57.3	+0.6
	baz=277,SNR=33						
L26K				S	S	05 59 57.2	+0.4
	baz=277						
E27K	**Coleen River**	**80.38**	**22**	P	P	05 49 57.5	+0.4
	baz=277,SNR=249						
E27K				S	S	05 59 57.3	-0.1
	baz=277						
BERG	**Berg Lake**	**80.44**	**30**	IAmb	IAmb	05 50 02.4	
	comp=Z,797nm,1.4s						
D27M	**Malcolm River**	**80.46**	**21**	IAmb	IAmb	05 50 22.8	
	comp=Z,528nm,1.2s						
D27M	**Malcolm River**	**80.46**	**21**	P	P	05 49 57.9	+0.4
	baz=278,SNR=331						
D27M				S	S	05 59 58.9	+0.5
	baz=278						
M26K	**Nabesna, AK**	**80.53**	**28**	IAmb	IAmb	05 50 02.8	
	comp=Z,435nm,1.2s						
M26K	**Nabesna, AK**	**80.53**	**28**	P	P	05 49 58.2	+0.2
	baz=277,SNR=125						
M26K				S	S	05 59 59.0	-0.3
	baz=277						
G27K	**Doyon Strip**	**80.53**	**24**	P	P	05 49 58.4	+0.5
	baz=278,SNR=151						
G27K				S	S	06 00 01.4	+2.3
	baz=278						
RAR	**Rarotonga**	**80.65**	**114**	P	P	05 50 00.6	+1.3
RAR	**Rarotonga**	**80.65**	**114**	LR	LR	06 20 53.3	
	comp=Z,7μm,22.0s,baz=284,slow=32						
RAR	**Rarotonga**	**80.65**	**114**	P	P	05 50 00.6	+1.3
RAR				pmax	pmax		
	comp=Z,113nm,1.0s						
H27K	**Steamboat Moun**	**80.66**	**24**	P	P	05 49 59.1	+0.5
	baz=278,SNR=121						
H27K				S	S	06 00 02.7	+2.1
	baz=278						
BGLC	**Bering Glacier**	**80.68**	**30**	P	P	05 49 59.1	+0.4
	baz=277						
I27K	**Kandik River**	**80.71**	**25**	P	P	05 49 59.2	+0.2
	baz=278,SNR=340						
I27K				S	S	06 00 02.1	+1.0
	baz=278						
K27K	**Chicken**	**80.73**	**26**	IAmb	IAmb	05 50 04.6	
	comp=Z,520nm,1.1s						
K27K	**Chicken**	**80.73**	**26**	P	P	05 49 59.5	+0.5
	baz=278						
K27K				S	S	06 00 01.4	+0.2
	baz=278						
WAX	**Waxell Ridge**	**80.85**	**30**	IAmb	IAmb	05 50 04.9	
	comp=Z,815nm,1.5s						
L27K	**Beaver Creek,**	**80.97**	**27**	P	P	05 50 01.1	+0.8
	baz=278,SNR=103						
L27K				S	S	06 00 05.1	+1.3
	baz=278						
VADS	**Vadso**	**80.99**	**340**	*e*P	P	05 50 02.0	+1.8
VADS				*e*S	S	06 00 05.3	+1.7
HOPEN	**Hopen**	**81.00**	**346**	*e*P	P	05 50 02.8	+2.7
HOPEN				*e*PP	PP	05 53 11.2	+5.9
HOPEN				*e*S	S	06 00 05.9	+2.4
HOPEN				IVMs_BB	IVMs_BB	06 30 25.3	
	comp=Z,5μm,16.4s						
M27K	**Edge Creek, AK**	**81.05**	**28**	P	P	05 50 01.3	+0.4
	baz=278,SNR=50						
M27K				S	S	06 00 05.8	+0.9
	baz=278						

E28M	**Babbage River**	**81.07**	**22**	IAmb	IAmb	05 50 25.9	
	comp=Z,558nm,1.4s						
E28M	**Babbage River**	**81.07**	**22**	P	**P**	**05 50 01.3**	**+0.6**
	baz=279,SNR=228						
E28M				S	**S**	**06 00 05.4**	**+0.7**
	baz=279						
D28M	**Stokes Point**	**81.23**	**21**	P	**P**	**05 50 02.2**	**+0.8**
	baz=280,SNR=60						
D28M				S	**S**	**06 00 07.3**	**+1.1**
	baz=280						
MESA	**MESA**	**81.33**	**30**	P	**P**	**05 50 02.7**	**+0.2**
	baz=278						
MESA				S	**S**	**06 00 08.6**	**+0.7**
	baz=278						
GAZ	**Gaziantep**	**81.37**	**306**	IAmb	IAmb	05 50 22.8	
	comp=Z,647nm,1.2s						
YAH	**Yahtse**	**81.40**	**30**	IAmb	IAmb	05 50 07.5	
	comp=Z,696nm,1.5s						
I28M	**Miner Creek**	**81.43**	**25**	IAmb	IAmb	05 50 32.6	
	comp=Z,686nm,1.2s						
I28M	**Miner Creek**	**81.43**	**25**	P	**P**	**05 50 03.4**	**+0.6**
	baz=279,SNR=288						
I28M				S	**S**	**06 00 10.8**	**+2.2**
	baz=279						
TOKA	**Tokat**	**81.49**	**309**	IAmb	IAmb	05 50 22.9	
	comp=Z,464nm,1.4s						
BVCY	**Beaver Creek**	**81.51**	**28**	P	**P**	**05 50 03.8**	**+0.7**
	baz=279,SNR=68						
BVCY				S	**S**	**06 00 10.9**	**+1.5**
	baz=279						
E29M	**Blow River**	**81.70**	**22**	P	**P**	**05 50 04.8**	**+0.8**
	baz=281,SNR=139						
E29M				S	**S**	**06 00 11.4**	**+0.3**
	baz=281						
YUK3	**Moose Creek**	**81.80**	**29**	P	**P**	**05 50 05.5**	**+0.5**
	baz=280,SNR=102						
YUK3				S	**S**	**06 00 13.6**	**+0.7**
	baz=280						
KEV	**Kevo**	**81.86**	**340**	P	**P**	**05 50 04.8**	**+0.1**
KEV				IAmb	IAmb	05 50 24.3	
	comp=Z,793nm,1.3s						
KEV	**Kevo**	**81.86**	**340**	P	**P**	**05 50 04.8**	**+0.1**
KEV				pmax	pmax		
	comp=Z,793nm,1.3s						
KEV	**Kevo**	**81.86**	**340**	P	**P**	**05 50 05.3**	**+0.6**
KEV				S	**S**	**06 00 12.0**	**-0.6**
DAWY	**Dawson**	**81.89**	**26**	P	**P**	**05 50 06.3**	**+1.1**
DAWY	**Dawson**	**81.89**	**26**	P	**P**	**05 50 05.9**	**+0.8**
	baz=280,SNR=151						
DAWY				S	**S**	**06 00 14.3**	**+0.9**
	baz=280						
H29M	**Whitestone**	**81.93**	**24**	IAmb	IAmb	05 50 34.7	
	comp=Z,862nm,1.6s						
H29M	**Whitestone**	**81.93**	**24**	P	**P**	**05 50 06.4**	**+1.1**
	baz=281,SNR=100						
H29M				S	**S**	**06 00 15.0**	**+1.5**
	baz=281						
G29M	**Pine Creek**	**81.94**	**23**	IAmb	IAmb	05 50 28.1	
	comp=Z,535nm,1.1s						
G29M	**Pine Creek**	**81.94**	**23**	P	**P**	**05 50 06.0**	**+0.7**
	baz=281,SNR=179						
G29M				S	**S**	**06 00 15.9**	**+2.2**
	baz=281						
O28M	**Mount Upton**	**82.10**	**30**	P	**P**	**05 50 06.9**	**+0.3**
	baz=280,SNR=93						
O28M				S	**S**	**06 00 18.1**	**+2.0**
	baz=280						
I29M	**Ogilvie Camp,**	**82.11**	**25**	IAmb	IAmb	05 50 10.6	
	comp=Z,444nm,1.6s						
I29M	**Ogilvie Camp,**	**82.11**	**25**	P	**P**	**05 50 06.8**	**+0.5**
	baz=281,SNR=82						
I29M				S	**S**	**06 00 16.5**	**+1.0**
	baz=281						
PCA	**Pinnacle**	**82.18**	**30**	IAmb	IAmb	05 50 12.1	
	comp=Z,342nm,1.0s						
PINM	**Pinnacle**	**82.18**	**30**	P	**P**	**05 50 06.9**	**+0.1**
	baz=280						
PINM				S	**S**	**06 00 18.5**	**+2.0**
	baz=280						
DIKM	**Dikmen**	**82.21**	**311**	⇓P	**P**	**05 50 07.2**	**-0.1**
YUK8	**Steele Glacier**	**82.21**	**29**	P	**P**	**05 50 07.5**	**+0.3**
	baz=280,SNR=52						
YUK8				S	**S**	**06 00 19.5**	**+2.3**
	baz=280						
J29N	**Klondike Camp**	**82.33**	**26**	IAmb	IAmb	05 50 12.4	
	comp=Z,953nm,1.8s						
J29N	**Klondike Camp**	**82.33**	**26**	P	**P**	**05 50 07.7**	**+0.3**
	baz=281,SNR=93						
J29N				S	**S**	**06 00 18.7**	**+0.9**
	baz=281						
SPA0	**Spitsbergen Ar**	**82.34**	**349**	*e*P	**P**	**05 50 08.4**	**+1.2**
SPA0				*e*S	**S**	**06 00 17.8**	**+0.4**
SPA0				IVMs_BB	IVMs_BB	06 28 42.2	
	comp=Z,3μm,25.4s						
SPITS	**Spitsbergen Ar**	**82.34**	**349**	P	**P**	**05 50 08.3**	**+1.1**
	comp=Z,332nm,0.8s,baz=95,slow=8.5,SNR=120						
SPITS				PKKPbc	**PKKPbc**	**06 08 34.6**	**-2.3**
	comp=Z,9.9nm,0.9s,baz=119,slow=4.9,SNR=8.0						
SPITS				LR	LR	06 29 52.5	
	comp=Z,10μm,21.8s,baz=25,slow=38						
	comp=Z,332nm,0.8s						
PUL	**Pulkovo**	**82.35**	**329**	*ce*P	**P**	**05 50 08.7**	**+1.2**
PUL				pmax	pmax		
	comp=Z,369nm,0.7s						
PUL				MLR	MLR		
	comp=Z,17μm,19.0s						
ASF	**Jabal al Asfar**	**82.37**	**301**	LR	LR	06 31 43.0	
	comp=Z,6μm,21.8s,baz=96,slow=39						
ARA0	**ARCESS Array S**	**82.42**	**340**	*e*P	**P**	**05 50 07.6**	**-0.1**
ARA0				*ep*P	**pP**	**05 50 25.9**	**-0.5**
ARA0				*e*S	**S**	**06 00 19.0**	**+0.6**
ARCES	**ARCESS Array B**	**82.42**	**340**	P	**P**	**05 50 07.3**	**-0.5**
	comp=Z,215nm,0.7s,baz=54,slow=2.1,SNR=127						
ARCES				pP	**pP**	**05 50 25.9**	**-0.5**
	comp=Z,552nm,1.1s,baz=60,slow=7.2,SNR=14						
ARCES				PKKPbc	**PKKPbc**	**06 08 34.9**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=264,slow=3.4,SNR=7.3						
ARCES				LR	LR	06 31 34.0	
	comp=Z,8μm,19.4s,baz=82,slow=39						
	comp=Z,215nm,0.7s						
FKH	**Fakeheh**	**82.45**	**303**	*e*P	**P**	**05 50 09.4**	**+0.6**
SIM	**Simferopol'**	**82.52**	**314**	*i* P	**P**	**05 50 09.0**	**+0.2**
SIM				*e*S	**S**	**06 00 17.5**	**-2.9**
SIM				pmax	pmax		
	comp=Z,600nm,0.9s						
SIM				smax	smax		
	comp=E,3μm,7.0s						
EPYK	**Eagle Plains**	**82.55**	**24**	IAmb	IAmb	05 50 30.8	
	comp=Z,322nm,1.1s						
EPYK	**Eagle Plains**	**82.55**	**24**	P	**P**	**05 50 08.9**	**+0.3**
	baz=282,SNR=96						
EPYK				S	**S**	**06 00 19.6**	**-0.4**
	baz=282						
OPO	**Ambohidratompo**	**82.56**	**249**	LR	LR	06 27 15.4	
	comp=Z,2μm,18.1s,baz=188,slow=36						
BEIL	**Beino**	**82.59**	**304**	*e*P	**P**	**05 50 09.6**	**+0.2**
M29M	**Somme Creek**	**82.60**	**28**	P	**P**	**05 50 09.5**	**+0.5**
	baz=281,SNR=117						
M29M				S	**S**	**06 00 22.6**	**+1.8**
	baz=281						
G30M	**tAoh Zraii Nji**	**82.61**	**23**	P	**P**	**05 50 09.3**	**+0.5**
	baz=282,SNR=51						
G30M				S	**S**	**06 00 18.9**	**-1.8**
	baz=282						
L29M	**L29M**	**82.62**	**27**	IAmb	IAmb	05 50 14.9	
	comp=Z,747nm,1.3s						
L29M	**L29M**	**82.62**	**27**	P	**P**	**05 50 09.9**	**+0.8**
	baz=281,SNR=142						
L29M				S	**S**	**06 00 22.7**	**+1.8**
	baz=281						
ABPO	**Ambohimpanom**	**82.63**	**249**	P	**P**	**05 50 10.2**	**+0.2**
ABPO	**Ambohimpanom**	**82.63**	**249**	P	**P**	**05 50 10.2**	**+0.2**
ABPO				pmax	pmax		
	comp=Z,68nm,0.9s						
F30M	**Barrier River**	**82.64**	**22**	P	**P**	**05 50 08.9**	**0.0**
	baz=283,SNR=111						
F30M				S	**S**	**06 00 20.4**	**-0.4**
	baz=283						
PNL	**Peninsula**	**82.68**	**31**	P	**P**	**05 50 09.9**	**+0.6**
	baz=281						
PNL				S	**S**	**06 00 23.0**	**+1.5**
	baz=281						
YUK4	**Talbot Arm**	**82.73**	**29**	P	**P**	**05 50 10.6**	**+0.8**
	baz=281,SNR=36						
YUK4				S	**S**	**06 00 23.7**	**+1.4**
	baz=281						
K29M	**Barlow Dome**	**82.75**	**26**	IAmb	IAmb	05 50 14.4	
	comp=Z,668nm,1.7s						
K29M	**Barlow Dome**	**82.75**	**26**	P	**P**	**05 50 10.5**	**+0.8**
	baz=282,SNR=137						
K29M				S	**S**	**06 00 23.9**	**+1.6**
	baz=282						
HAMF	**Hammerfest**	**82.75**	**341**	*e*P	**P**	**05 50 11.0**	**+1.6**
HAMF				*ep*P	**pP**	**05 50 26.1**	**-2.0**
HAMF				*ep*P	**PP**	**05 53 19.9**	**+0.1**
HAMF				*e*S	**S**	**06 00 24.1**	**+2.4**
BRBB	**Barentsburg B**	**82.79**	**349**	*e*P	**P**	**05 50 10.7**	**+1.2**
BRBA	**Barentsburg A**	**82.80**	**349**	*e*P	**P**	**05 50 11.0**	**+1.4**
BRBA				*ep*P	**pP**	**05 50 27.7**	**-0.6**
HWQ	**Hawqa**	**82.83**	**303**	*e*P	**P**	**05 50 10.9**	**+0.1**
KBS	**Kingsbay**	**82.86**	**350**	P	**P**	**05 50 10.8**	**+0.9**
KBS				IAmb	IAmb	05 50 30.2	
	comp=Z,631nm,1.2s						
KBS	**Kingsbay**	**82.86**	**350**	*ce*P	**P**	**05 50 11.4**	**+1.4**
KBS				pmax	pmax		
	comp=Z,298nm,1.3s						
KBS	**Kingsbay**	**82.86**	**350**	*e*P	**P**	**05 50 12.7**	**+2.8**
KBS				*e*S	**S**	**06 00 23.7**	**+1.0**
KBS				IVMs_BB	IVMs_BB	06 33 57.0	
	comp=Z,3μm,15.5s						
KBS	**Kingsbay**	**82.86**	**350**	*i* P	**P**	**05 50 11.3**	**+1.4**
HSPB	**Hornsund (broa**	**82.94**	**348**	*e*P	**P**	**05 50 11.7**	**+1.4**
HSPB				*ep*P	**pP**	**05 50 28.3**	**-0.6**
HSPB				*e*S	**S**	**06 00 22.4**	**-1.0**
HSPB				*e*L	L	06 31 15.5	
	comp=Z,18μm,21.4s						
I30M	**Mount Dempster**	**82.94**	**25**	P	**P**	**05 50 10.9**	**+0.2**
	baz=283,SNR=90						
I30M				S	**S**	**06 00 23.8**	**-0.4**
	baz=283						
YUK6	**Outpost Mounta**	**82.94**	**29**	P	**P**	**05 50 11.0**	**0.0**
	baz=281						
YUK6				S	**S**	**06 00 26.3**	**+1.7**
	baz=281						
O29M	**Mount Kennedy**	**82.97**	**30**	IAmb	IAmb	05 50 15.9	
	comp=Z,804nm,1.8s						
O29M	**Mount Kennedy**	**82.97**	**30**	P	**P**	**05 50 10.9**	**-0.1**
	baz=281,SNR=31						
O29M				S	**S**	**06 00 26.9**	**+2.3**
	baz=281						
BJO1	**Bjornoya**	**83.00**	**345**	*e*P	**P**	**05 50 11.5**	**+0.8**
BJO1				*ep*P	**pP**	**05 50 27.6**	**-1.7**
BJO1				*e*S	**S**	**06 00 24.7**	**+0.6**
RCY	**Rachaya**	**83.04**	**303**	*e*P	**P**	**05 50 12.3**	**+0.3**
BZK	**Bozkurt**	**83.09**	**311**	⇑P	**P**	**05 50 12.3**	**+0.5**
J30M	**Hart River**	**83.10**	**25**	IAmb	IAmb	05 50 16.1	
	comp=Z,843nm,1.9s						
J30M	**Hart River**	**83.10**	**25**	P	**P**	**05 50 12.0**	**+0.4**
	baz=283,SNR=103						
J30M				S	**S**	**06 00 27.3**	**+1.5**
	baz=283						
BHL	**Bhannes**	**83.13**	**303**	*e*P	**P**	**05 50 12.6**	**+0.3**
SHBL	**Chebaa**	**83.14**	**303**	*e*P	**P**	**05 50 12.9**	**+0.5**
QRWL	**Qaraoun**	**83.16**	**303**	*e*P	**P**	**05 50 13.2**	**+0.7**
DQRL	**Deir Qamar**	**83.23**	**303**	*e*P	**P**	**05 50 13.5**	**+0.7**
INK	**Inuvik**	**83.30**	**22**	P	**P**	**05 50 12.3**	**0.0**
	comp=Z,86nm,1.0s,baz=288,slow=5.6,SNR=69						
INK				LR	LR	06 28 58.4	
	comp=Z,1μm,21.3s,baz=275,slow=37						
	comp=Z,86nm,1.0s						
INK	**Inuvik**	**83.30**	**22**	P	**P**	**05 50 12.8**	**+0.5**
	baz=285,SNR=106						
INK				S	**S**	**06 00 25.9**	**-1.5**
	baz=285						
M30M	**Minto, Yukon**	**83.33**	**27**	IAmb	IAmb	05 50 18.5	
	comp=Z,750nm,1.4s						
M30M	**Minto, Yukon**	**83.33**	**27**	P	**P**	**05 50 13.2**	**+0.5**
	baz=283,SNR=129						
M30M				S	**S**	**06 00 30.7**	**+2.6**
	baz=283						
G31M	**Satah River**	**83.38**	**23**	IAmb	IAmb	05 50 16.3	
	comp=Z,457nm,1.4s						
G31M	**Satah River**	**83.38**	**23**	P	**P**	**05 50 12.8**	**+0.1**
	baz=284,SNR=64						
G31M				S	**S**	**06 00 27.1**	**-1.0**
	baz=284						
HYT	**Haines Junctio**	**83.38**	**29**	IAmb	IAmb	05 50 18.7	
	comp=Z,361nm,1.1s						
HYT	**Haines Junctio**	**83.38**	**29**	P	**P**	**05 50 13.2**	**+0.1**
	baz=282,SNR=63						
HYT				S	**S**	**06 00 30.1**	**+1.3**
	baz=282						
N30M	**Aishikik Lake**	**83.44**	**29**	IAmb	IAmb	05 50 19.1	
	comp=Z,450nm,1.1s						
N30M	**Aishikik Lake**	**83.44**	**29**	P	**P**	**05 50 14.2**	**+0.9**
	baz=282,SNR=94						
N30M				S	**S**	**06 00 31.4**	**+2.1**
	baz=282						
F31M	**Tsiigehtchic**	**83.44**	**22**	IAmb	IAmb	05 50 16.6	
	comp=Z,383nm,1.4s						
F31M	**Tsiigehtchic**	**83.44**	**22**	P	**P**	**05 50 13.5**	**+0.4**
	baz=285,SNR=78						
F31M				S	**S**	**06 00 27.4**	**-1.4**
	baz=285						
ILGA	**Ilgaz**	**83.45**	**310**	P	**P**	**05 50 13.8**	**-0.1**
MMAI	**Mount Meron Ar**	**83.48**	**302**	P	**P**	**05 50 14.0**	**-0.1**
	comp=Z,218nm,0.9s,baz=80,slow=6.9,SNR=50						
MMAI				pP	**pP**	**05 50 32.1**	**-0.6**
	comp=Z,70nm,0.7s,baz=83,slow=3.6,SNR=8.0						
MMAI				LR	LR	06 32 34.9	
	comp=Z,4μm,21.7s,baz=77,slow=39						
	comp=Z,218nm,0.9s						
P29M	**Windy Craggy**	**83.52**	**30**	IAmb	IAmb	05 50 19.6	
	comp=Z,622nm,1.1s						
P29M	**Windy Craggy**	**83.52**	**30**	P	**P**	**05 50 14.5**	**+0.8**
	baz=282,SNR=62						
P29M				S	**S**	**06 00 31.8**	**+1.8**
	baz=282						
H31M	**Peel River**	**83.62**	**24**	IAmb	IAmb	05 50 18.8	
	comp=Z,465nm,1.4s						
H31M	**Peel River**	**83.62**	**24**	P	**P**	**05 50 14.8**	**+0.7**
	baz=284,SNR=98						
H31M				S	**S**	**06 00 29.8**	**-1.0**
	baz=284						
KIRS	**Kirsehir-Merke**	**83.63**	**309**	⇓P	**P**	**05 50 14.4**	**-0.3**
BR131	**Keskin Array S**	**83.74**	**309**	P	**P**	**05 50 14.9**	**-0.5**
SNR=101							
BR131	**Keskin Array S**	**83.74**	**309**	*d i* P	**P**	**05 50 14.6**	**-0.8**
BRTR	**Keskin Array B**	**83.74**	**309**	P	**P**	**05 50 15.6**	**+0.2**
BRTR	**Keskin Array B**	**83.74**	**309**	*e*P	**P**	**05 50 14.2**	**-1.1**
	comp=Z,96nm,0.7s,baz=117,slow=4.3,SNR=107						
BRTR				pP	**pP**	**05 50 33.0**	**-1.0**
	comp=Z,40nm,0.9s,baz=116,slow=5.6,SNR=4.4						
BRTR				PKKPbc	**PKKPbc**	**06 08 32.5**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=197,slow=3.8,SNR=7.2						
BRTR				PKPPKP	**P'P'df**	**06 16 40.9**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=191,slow=5.9,SNR=3.9						
BRTR				LR	LR	06 32 38.1	
	comp=Z,5μm,21.4s,baz=74,slow=39						
	comp=Z,96nm,0.7s						
VOI	**Vohitsoka**	**83.78**	**246**	P	**P**	**05 50 15.9**	**+0.1**
SNR=7.9							
P30M	**Million Dollar**	**83.79**	**30**	P	**P**	**05 50 15.5**	**+0.4**
	baz=283						
P30M				S	**SKSac**	**06 00 34.7**	**+2.6**
	baz=283						
CIDE	**Kastamonu/Cide**	**83.88**	**311**	⇑P	**P**	**05 50 16.1**	**+0.3**
N31M	**Braeburn, Yuko**	**84.05**	**28**	P	**P**	**05 50 17.2**	**+0.8**
	baz=284,SNR=77						
N31M				S	**SKSac**	**06 00 36.5**	**+2.8**
	baz=284						
FINES	**FINESS Array B**	**84.06**	**332**	P	**P**	**05 50 16.4**	**0.0**
FINES	**FINESS Array B**	**84.06**	**332**	P	**P**	**05 50 15.4**	**-0.9**
	comp=Z,158nm,0.8s,baz=81,slow=4.2,SNR=261						
FINES				pP	**pP**	**05 50 34.3**	**-0.8**
	comp=Z,405nm,1.1s,baz=74,slow=6.8,SNR=12						
FINES				S	**SKSac**	**06 00 31.3**	**-2.2**
	comp=Z,9.9nm,1.1s,baz=54,slow=9.7,SNR=5.6						
FINES				PKKPbc	**PKKPbc**	**06 08 32.0**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=231,slow=1.2,SNR=7.2						
FINES				LR	LR	06 31 37.8	
	comp=Z,6μm,19.2s,baz=77,slow=38						
	comp=Z,158nm,0.8s						
O30N	**Mendenhall**	**84.07**	**29**	IAmb	IAmb	05 50 22.0	
	comp=Z,269nm,1.1s						
O30N	**Mendenhall**	**84.07**	**29**	P	**P**	**05 50 17.1**	**+0.7**
	baz=283,SNR=66						
O30N				S	**SKSac**	**06 00 36.6**	**+2.8**
	baz=283						
JETT	**Jettan, Norway**	**84.14**	**340**	*e*P	**P**	**05 50 17.9**	**+1.2**
JETT				IVmB_BB		05 50 20.1	
	comp=Z,4μm,0.4s						
JETT				*es*P	**pP**	**05 50 38.5**	**+3.1**
JETT				*e*SKSac	**SKSac**	**06 00 31.6**	**-2.3**
ANTO	**Ankara**	**84.35**	**309**	P	**P**	**05 50 19.2**	**+0.8**
ANTO				IAmb	IAmb	05 50 37.4	
	comp=Z,627nm,1.2s						
ANTO	**Ankara**	**84.35**	**309**	⇓P	**P**	**05 50 18.2**	**-0.2**
ANTO	**Ankara**	**84.35**	**309**	P	**P**	**05 50 19.2**	**+0.8**
ANTO				pmax	pmax		
	comp=Z,627nm,1.3s						
ANTO	**Ankara**	**84.35**	**309**	P	**P**	**05 50 18.0**	**-0.4**
ANTO				S	**SKSac**	**06 00 33.9**	**-2.7**
VSU	**Vasula**	**84.43**	**329**	*i* P	**P**	**05 50 17.0**	**-1.2**
VSU				pmax	pmax		
	comp=Z,436nm,0.7s						
VSU				MLR	MLR		
	comp=Z,22μm,20.0s						
EIL	**Elat**	**84.44**	**299**	LR	LR	06 35 04.6	
	comp=Z,6μm,19.9s,baz=85,slow=41						
M31M	**Drury Creek, Y**	**84.51**	**28**	IAmb	IAmb	05 50 23.7	
	comp=Z,402nm,1.4s						
M31M	**Drury Creek, Y**	**84.51**	**28**	P	**P**	**05 50 19.1**	**+0.5**
	baz=285,SNR=101						
M31M				S	**SKSac**	**06 00 40.3**	**+3.7**
	baz=285						
TRO	**Tromso**	**84.60**	**340**	*e*P	**P**	**05 50 19.6**	**+0.7**
TRO				*e*SKSac	**SKSac**	**06 00 34.6**	**-2.2**
S31K	**Pelican**	**84.65**	**32**	P	**P**	**05 50 19.5**	**+0.2**
	baz=284						
S31K				S	**S**	**06 00 44.0**	**+2.8**
	baz=284						
WHY	**Whitehorse**	**84.67**	**29**	P	**P**	**05 50 20.0**	**+0.3**
	baz=284,SNR=153						
WHY				S	**S**	**06 00 44.6**	**+2.9**
	baz=284						
MNK	**Minsk**	**84.70**	**324**	*i* P	**P**	**05 50 20.5**	**+0.8**
MNK				*i* *PP	**pP**	**05 50 37.3**	**-1.2**
MNK				*i* *SP	**sP**	**05 50 44.8**	**-1.1**
MNK				*i*		05 53 36.6	
MNK				*i* PPP	PPP	05 55 30.3	
MNK				*i* S	**SKSac**	**06 00 38.5**	**+0.5**
MNK				*i* SS	**SS**	**06 06 16.9**	**+2.6**
MNK				*i* SSS	SSS	06 09 48.1	
MNK				pmax	pmax		
	comp=N,423nm,1.3s						
MNK				pmax	pmax		
	comp=Z,720nm,0.8s						
MNK				pmax	pmax		
	comp=E,135nm,1.0s						
MNK				MLR	MLR		
	comp=N,20μm,22.0s						
MNK				MLR	MLR		
	comp=Z,23μm,23.0s						
MNK				MLR	MLR		
	comp=E,6μm,20.0s						
AKASG	**Malin Array Be**	**84.72**	**321**	P	**P**	**05 50 19.1**	**-0.8**
AKASG	**Malin Array Be**	**84.72**	**321**	P	**P**	**05 50 18.5**	**-1.3**
	comp=E,243nm,0.8s,baz=67,slow=4.8,SNR=256						
AKASG				pP	**pP**	**05 50 36.8**	**-1.8**
	comp=E,245nm,0.9s,baz=65,slow=4.9,SNR=7.9						
AKASG				PP	**PP**	**05 53 35.0**	**-1.3**
	comp=E,13nm,0.9s,baz=71,slow=7.6,SNR=4.9						
AKASG				S	**SKSac**	**06 00 34.4**	**-3.8**
	comp=E,11nm,1.1s,baz=74,slow=10,SNR=7.4						
AKASG				PKPPKP	**P'P'df**	**06 16 41.1**	**+4.4**
	comp=E,0.8nm,0.7s,baz=264,slow=2.7,SNR=4.4						
AKASG				LR	LR	06 31 29.3	
	comp=E,8μm,22.0s,baz=81,slow=38						
	comp=E,243nm,0.8s						
AKASG	**Malin Array Be**	**84.72**	**321**	P	**P**	**05 50 19.1**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,974nm,1.3s						
AKBB	**Malin Array Si**	**84.72**	**321**	*ce*P	**P**	**05 50 18.7**	**-1.2**
AKBB				pmax	pmax		
	comp=Z,419nm,0.9s						
AKBB				MLR	MLR		
	comp=Z,12μm,21.0s						
KIEV	**Kiev**	**84.73**	**321**	P	**P**	**05 50 18.9**	**-1.0**
KIEV	**Kiev**	**84.73**	**321**	⇑P	**P**	**05 50 19.9**	**-0.1**
KIEV	**Kiev**	**84.73**	**321**	P	**P**	**05 50 19.8**	**-0.1**
KIEV	**Kiev**	**84.73**	**321**	*i* P	**P**	**05 50 19.4**	**-0.5**
SNR=40							
SKAG	**Skagway**	**84.75**	**30**	IAmb	IAmb	05 50 25.4	
	comp=Z,524nm,1.0s						
SKAG	**Skagway**	**84.75**	**30**	P	**P**	**05 50 20.1**	**+0.3**
	baz=284						
SKAG				S	**S**	**06 00 44.5**	**+2.3**
	baz=284						
R31K	**City Hall, Gus**	**84.80**	**31**	P	**P**	**05 50 20.7**	**+0.6**
	baz=284						
R31K				S	**S**	**06 00 43.8**	**+1.1**
	baz=284						
A36M	**Sachs Harbour**	**84.81**	**17**	IAmb	IAmb	05 50 39.7	
	comp=Z,697nm,1.6s						
A36M	**Sachs Harbour**	**84.81**	**17**	P	**P**	**05 50 20.6**	**+0.6**
	baz=292,SNR=78						
A36M				S	**SKSac**	**06 00 36.8**	**-1.2**
	baz=292						
FARO	**Faro, Yukon**	**84.97**	**27**	P	**P**	**05 50 21.7**	**+0.7**
	baz=286,SNR=379						
FARO				S	**S**	**06 00 45.6**	**+1.1**
	baz=286						
NOR	**Nord**	**85.00**	**355**	*i* P	**P**	**05 50 21.7**	**+1.0**
NOR				IAmb	IAmb	05 50 39.9	
	comp=Z,501nm,1.3s						
KDZE	**Karadeniz Ereo**	**85.09**	**311**	⇑P	**P**	**05 50 22.2**	**+0.2**
SIT	**Sitka**	**85.34**	**33**	P	**P**	**05 50 22.9**	**+0.1**
SIT	**Sitka**	**85.34**	**33**	P	**P**	**05 50 22.9**	**+0.1**
SIT				pmax	pmax		
	comp=Z,811nm,1.5s						
SIT	**Sitka**	**85.34**	**33**	P	**P**	**05 50 23.4**	**+0.6**
	baz=284,SNR=12						
SIT				S	**S**	**06 00 50.5**	**+2.3**
	baz=284						
N32M	**Quiet Lake**	**85.39**	**28**	P	**P**	**05 50 23.9**	**+0.8**
	baz=286						
N32M				S	**S**	**06 00 48.2**	**-0.5**
	baz=286						
R32K	**Eaglecrest**	**85.45**	**31**	IAmb	IAmb	05 50 28.4	
	comp=Z,254nm,0.8s						
R32K	**Eaglecrest**	**85.45**	**31**	P	**P**	**05 50 24.0**	**+0.6**
	baz=285,SNR=24						
R32K				S	**S**	**06 00 51.5**	**+2.2**
	baz=285						
P32M	**Atlin**	**85.51**	**30**	P	**P**	**05 50 23.8**	**+0.1**
	baz=286,SNR=9.8						
P32M				S	**S**	**06 00 52.8**	**+2.9**
	baz=286						
S32K	**Killisnoo**	**85.63**	**32**	IAmb	IAmb	05 50 54.1	
	comp=Z,490nm,1.6s						
S32K	**Killisnoo**	**85.63**	**32**	P	**P**	**05 50 24.6**	**+0.4**
	baz=285,SNR=9.3						
S32K				S	**S**	**06 00 53.4**	**+2.4**
	baz=285						
KIS	**Kishinev**	**85.77**	**317**	*e*P	**P**	**05 50 24.0**	**-1.2**
KIS	**Kishinev**	**85.77**	**317**	*e*PP	PP	05 53 42.0	-3.0
KIS	**Kishinev**	**85.77**	**317**

SORM Soroca 85.83 318 P **P 05 50 25.4 0.0**
TLCR 86.17 315 ⇓P **P 05 50 27.8 +0.5**
TLCR 86.17 315 P **P 05 50 27.7 +0.5**
C36M Paulatuk 86.20 19 P **P 05 50 27.6 +0.7**
baz=293,SNR=126
C36M S **S 06 00 54.2 -2.0**
baz=293
JURR Jurilovca 86.22 315 ⇓P **P 05 50 27.1 -0.3**
Q32M Nakina River 86.40 30 IAmb IAmb 05 50 33.1
comp=Z,326nm,1.4s
Q32M Nakina River 86.40 30 P **P 05 50 28.5 +0.2**
baz=287,SNR=22
Q32M S **S 06 01 00.2 +1.2**
baz=287
STEI Steigen 86.47 339 *e*P **P 05 50 29.6 +1.5**
STEI *e*PP **PP 05 53 52.2 +2.2**
STEI *e*SKSac **SKSac 06 00 50.8 +2.3**
STEI IVMs_BB IVMs_BB 06 34 27.9
comp=Z,4μm,18.8s
ISP Isparta 86.49 308 *c e*P **P 05 50 28.6 -0.5**
ISP pmax pmax
comp=Z,226nm,1.7s
TSCT Constanta Port 86.50 314 ⇑P **P 05 50 30.0 +1.1**
TPGR Topolog 86.51 315 ⇑P **P 05 50 29.5 +0.5**
VLDR Vladesti 86.52 316 ⇑P **P 05 50 29.0 +0.1**
EFOR EFORIE 86.54 314 ⇑P **P 05 50 29.5 +0.4**
IASR Iasi 86.55 317 ⇓P **P 05 50 30.2 +1.1**
TIRR Tirgusor 86.61 315 ⇑P **P 05 50 29.3 -0.1**
TIRR Tirgusor 86.61 315 P **P 05 50 29.3 -0.1**
SCTR Scanteiesti 86.62 316 ⇓P **P 05 50 30.7 +1.2**
MANR Mangalia 86.63 314 ⇓P **P 05 50 29.3 -0.2**
CFR Carcaliu 86.64 315 ⇑P **P 05 50 29.5 -0.1**
CFR Carcaliu 86.64 315 P **P 05 50 29.4 -0.1**
PABE Paberze 86.64 326 IAmb IAmb 05 50 32.5
comp=Z,292nm,0.8s
T33K Petersburg 86.66 33 P **P 05 50 29.8 +0.5**
baz=286
T33K S **S 06 01 04.9 +3.9**
baz=286
MFTR Murfatlar 86.66 314 ⇑P **P 05 50 29.8 +0.2**
FAUS Fauske 86.67 339 *e*P **P 05 50 29.0 -0.2**
FAUS IVmB_BB 05 50 33.9
comp=Z,3μm,3.8s
FAUS *e*SKSac **SKSac 06 00 46.5 -3.3**
FAUS IVMs_BB IVMs_BB 06 34 38.3
comp=Z,4μm,18.8s
VARL Varlezi 86.67 316 ⇓P **P 05 50 30.5 +0.8**
NEGRR Negrea 86.73 316 ⇓P **P 05 50 31.0 +1.0**
U33K Whale Pass 86.77 33 IAmb IAmb 05 50 58.7
comp=Z,355nm,1.6s
U33K Whale Pass 86.77 33 P **P 05 50 30.3 +0.4**
baz=286
U33K S **S 06 01 05.0 +2.9**
baz=286
SCHL Schela 86.77 316 ⇓P **P 05 50 31.2 +1.0**
SCHLR Schela 86.78 316 ⇓P **P 05 50 30.3 +0.1**
IZVR Izvoarele 86.81 316 ⇓P **P 05 50 31.3 +1.0**
TLBR Topalu 86.84 315 ⇓P **P 05 50 31.5 +1.0**
TUDR 86.86 316 ⇑P **P 05 50 31.0 +0.4**
HARR Harsova 86.89 315 ⇓P **P 05 50 31.2 +0.4**
HARR Harsova 86.89 315 P **P 05 50 31.1 +0.4**
CVDA Cernavoda 86.90 315 ⇓P **P 05 50 31.9 +1.1**
ISK Istanbul-Kandi 86.90 311 P **P 05 50 29.1 -1.8**
R33M Jennings River 86.91 30 IAmb IAmb 05 50 36.4
comp=Z,265nm,1.4s
R33M Jennings River 86.91 30 P **P 05 50 31.2 +0.5**
baz=288,SNR=38
R33M S **S 06 01 06.6 +2.9**
baz=288
GHRR 86.93 316 ⇑P **P 05 50 31.7 +0.8**
LOF Lofoten 86.97 340 *e*P **P 05 50 32.3 +1.6**
LOF *e*PP **PP 05 53 55.3 +1.2**
LOF *e*SKSac **SKSac 06 00 51.4 -0.3**
LOF *e*S **S 06 01 07.3 +3.6**
PSN Preselentsi 86.99 314 *i* P **P 05 50 31.4 +0.1**
COSR Cosmesti PH 87.04 316 ⇑P **P 05 50 32.9 +1.4**
WRAK Wrangell Islan 87.10 33 IAmb IAmb 05 50 36.6
comp=Z,286nm,1.4s
WRAK Wrangell Islan 87.10 33 P **P 05 50 32.0 +0.5**
baz=287,SNR=8.2
WRAK S **S 06 01 09.0 +3.8**
baz=287
ICOR Ion Corvin 87.11 314 ⇓P **P 05 50 32.9 +1.0**
PANC Panciu 87.15 316 ⇑P **P 05 50 33.0 +1.0**
ODBI Odobesti 87.24 316 ⇑P **P 05 50 33.7 +1.3**
S34M Telegraph Cree 87.28 31 P **P 05 50 32.9 +0.5**
baz=288
S34M S **S 06 01 08.9 +1.9**
baz=288
AMRR Amara 87.32 315 ⇑P **P 05 50 33.5 +0.7**
AMRR Amara 87.32 315 P **P 05 50 33.5 +0.7**
TESR Tescani 87.33 317 ⇑P **P 05 50 33.4 +0.5**
GRER 87.39 316 ⇑P **P 05 50 34.5 +1.3**
PRAR RASCA 87.40 318 ⇓P **P 05 50 33.7 +0.5**
VRI Vrincioaia 87.44 316 ⇑P **P 05 50 33.9 +0.4**
VRI Vrincioaia 87.44 316 P **P 05 50 33.8 +0.4**
MOR8 Moi Rana 87.45 338 *e*P **P 05 50 33.0 -0.1**
MOR8 *e*PP **PP 05 53 57.9 -0.2**
MOR8 *e*SKSac **SKSac 06 00 56.7 +1.9**
MOR8 *e* 06 02 01.8
TGTN Hyland Airport 87.48 27 P **P 05 50 34.2 +0.8**
baz=290,SNR=20
TGTN S **S 06 01 09.4 +0.4**
baz=290
PLOR Plostina 87.49 316 ⇑P **P 05 50 34.4 +0.6**
PLOR Plostina 87.49 316 P **P 05 50 34.3 +0.6**
PGOR Pogoanele 87.49 315 ⇑P **P 05 50 35.1 +1.5**
SUW Suwalki 87.49 325 *e*P **P 05 50 32.8 -0.7**
SUW *e*pP **pP 05 50 49.8 -2.5**
SUW *e*S **S 06 01 05.1 -4.1**
SUW *e*L L 06 31 51.8
comp=Z,25μm,24.0s
BISRR Bisoca 87.53 316 ⇑P **P 05 50 34.8 +0.9**
ONER Baraj Valea Uz 87.55 317 ⇓P **P 05 50 34.2 +0.3**
KSL Kastellorizon 87.58 306 P **P 05 50 32.7 -1.6**
PRD Provadia 87.61 313 *i* P **P 05 50 35.0 +0.7**
KIBK Kibwezi 87.64 267 P **P 05 50 33.9 -1.2**
KIBK Kibwezi 87.64 267 P **P 05 50 34.8 -0.3**
SNR=16
VAGH Vaagaholmen 87.65 338 *e*P **P 05 50 35.3 +1.3**
VAGH *e*PP **PP 05 54 04.2 +4.7**
VAGH *e*SKSac **SKSac 06 00 57.2 +1.4**
DLBC Dease Lake 87.67 31 P **P 05 50 34.6 +0.2**
comp=Z,54nm,1.1s,baz=275,slow=4.7,SNR=24
DLBC LR LR 06 24 34.3
comp=Z,2μm,21.5s,baz=294,slow=32
comp=Z,54nm,1.1s
DLBC Dease Lake 87.67 31 P **P 05 50 34.9 +0.5**
baz=289,SNR=21
DLBC S **S 06 01 14.3 +3.3**
baz=289
LEHL Lehliu 87.71 315 ⇑P **P 05 50 35.6 +0.8**
WTLY Watson Lake, Y 87.72 29 P **P 05 50 35.1 +0.6**
baz=290,SNR=26
WTLY S **S 06 01 12.0 +0.7**
baz=290
ISR Istrita 87.75 316 ⇓P **P 05 50 36.2 +1.2**
ISR Istrita 87.75 316 P **P 05 50 36.2 +1.2**
BAND Balkesir-Ban 87.77 311 ⇑P **P 05 50 34.7 -0.4**
COVR Voineasa-Covas 87.80 316 ⇑P **P 05 50 36.1 +0.9**
KONS Konsvik 87.80 338 *e*P **P 05 50 34.7 0.0**
KONS *e*SKSac **SKSac 06 00 57.7 +0.9**
V35K Ketchikan 87.81 34 P **P 05 50 35.0 +0.1**
baz=288
V35K S **S 06 01 14.0 +1.8**
baz=288
NEHR Nehoiu 87.84 316 ⇑P **P 05 50 36.2 +0.9**
MANT Manisa 87.86 309 IAmb IAmb 05 50 54.1
comp=Z,320nm,1.4s
STOK Stokkvaagen 87.91 338 *e*P **P 05 50 36.6 +1.5**
H02S1 DAWSON INLET T 87.96 36 P **P 05 50 36.9 +1.2**
SNR=7.4
LEIR Leirfjorden 87.97 338 *e*P **P 05 50 35.7 +0.2**
LEIR *e*SKSac **SKSac 06 00 56.4 -1.3**
LEIR IVMs_BB IVMs_BB 06 32 34.4
comp=Z,3μm,20.0s
BURAR Bucovina Array 88.00 318 ⇓P **P 05 50 37.3 +1.0**
BURAR Bucovina Array 88.00 318 P **P 05 50 37.2 +1.0**
BUR08 Bucovina Ar. S 88.00 318 IAmb IAmb 05 50 55.5
comp=Z,465nm,1.2s
OZUR 88.01 317 ⇓P **P 05 50 37.1 +0.9**
T35M Bob Quinn 88.03 32 P **P 05 50 36.6 +0.6**
baz=289,SNR=15
T35M S **S 06 01 16.0 +1.7**
baz=289
SULR 88.05 315 ⇓P **P 05 50 37.4 +1.1**
MLR Muntele Rosu 88.06 316 IAmb IAmb 05 51 29.3
comp=Z,539nm,1.4s
MLR Muntele Rosu 88.06 316 LR LR 06 35 15.6
comp=Z,9μm,21.6s,baz=72,slow=39
MLR Muntele Rosu 88.06 316 ⇑P **P 05 50 36.8 +0.2**
MLR Muntele Rosu 88.06 316 P **P 05 50 36.7 +0.2**
RAZG Razgrad 88.15 314 ⇓P **P 05 50 37.1 +0.2**
KMBO Kilima Mbogo 88.17 268 P **P 05 50 37.8 0.0**
KMBO Kilima Mbogo 88.17 268 LR LR 06 26 23.2
comp=Z,9μm,21.5s,baz=117,slow=33
KMBO Kilima Mbogo 88.17 268 P **P 05 50 37.2 -0.6**
KMBO Kilima Mbogo 88.17 268 P **P 05 50 37.8 0.0**
KMBO pmax pmax
comp=Z,170nm,1.5s
KMBO Kilima Mbogo 88.17 268 *i* P **P 05 50 37.5 -0.4**
SNR=18
DOPR Dopca 88.31 317 ⇓P **P 05 50 38.6 +1.0**
EDRB Edirne 88.41 312 P **P 05 50 37.5 -0.6**
U35K Hyder 88.49 33 P **P 05 50 39.0 +0.9**
baz=289
U35K S **S 06 01 19.6 +1.1**
baz=289
VOIR 88.68 316 ⇑P **P 05 50 39.3 -0.2**
VOIR 88.68 316 P **P 05 50 39.2 -0.2**
ARCR ARCALIA 88.70 318 ⇓P **P 05 50 40.3 +0.9**
ARG Arkhangelos 88.72 307 P **P 05 50 38.5 -1.2**
ARG Arkhangelos 88.72 307 IAmb IAmb 05 51 11.4
comp=Z,391nm,1.3s
COPA Copaceanca 88.91 315 ⇑P **P 05 50 40.3 -0.1**
WRGLY Wrigley 88.92 25 P **P 05 50 40.8 +0.8**
baz=294,SNR=31
WRGLY S **S 06 01 21.1 -1.2**
baz=294
HG4B Hotspring 88.97 37 IAmb IAmb 05 51 01.6
comp=Z,307nm,1.5s
HUMR Humele 88.97 315 ⇓P **P 05 50 40.9 +0.2**
ARR Arges 88.98 316 ⇑P **P 05 50 40.6 -0.2**
PPT Papeete 89.07 108 P **P 05 50 43.4 +1.8**
comp=Z,391nm,1.0s,baz=294,slow=7.8,SNR=28
PPT LR LR 06 23 53.2
comp=Z,3μm,21.8s,baz=271,slow=31
comp=Z,391nm,1.0s
NSS Namsos 89.08 337 *e*P **P 05 50 40.4 -0.4**
NSS *e*SKSac **SKSac 06 01 04.1 -0.4**
NSS IVMs_BB IVMs_BB 06 33 27.9
comp=Z,4μm,19.5s
PPTF Pamatai, Papee 89.09 108 P **P 05 50 43.1 +1.3**
BMR Baia Mare 89.10 319 ⇓P **P 05 50 42.5 +1.3**
BMR Baia Mare 89.10 319 P **P 05 50 42.5 +1.3**
ENEZ Enez 89.12 311 P **P 05 50 40.9 -0.6**
ALN Alexandroupoli 89.16 312 P **P 05 50 40.0 -1.6**
GRNB Grenville Isla 89.19 35 IAmb IAmb 05 50 45.8
comp=Z,277nm,1.5s
R9F13 Warsaw-Wawer 89.20 323 *e*P **P 05 50 42.0 +0.4**
R9F13 *e*pP **pP 05 50 59.5 -1.0**
R9F13 *e*SKSac **SKSac 06 01 05.3 -0.4**
R9F13 *e*S **S 06 01 26.1 +0.7**
PVL Pavlikeni 89.21 314 *i* P **P 05 50 42.1 +0.3**
EZN Ezine 89.22 310 P **P 05 50 41.5 -0.5**
LIRD Liard River Hi 89.25 29 P **P 05 50 42.7 +1.0**
baz=292,SNR=40
LIRD S **S 06 01 25.6 0.0**
baz=292
CJR Cluj-Napoca 89.31 318 ⇓P **P 05 50 42.7 +0.3**
CJR Cluj-Napoca 89.31 318 P **P 05 50 42.6 +0.3**
CBBR Cluj-Babes-Bol 89.32 318 ⇑P **P 05 50 43.5 +1.2**
PRK Paraskevi 89.41 310 P **P 05 50 41.3 -1.5**
RDO Rodhopi 89.47 312 P **P 05 50 41.5 -1.6**
RDO Rodhopi 89.47 312 IAmb IAmb 05 51 01.1
comp=Z,192nm,1.4s
VLAD Vladila 89.51 315 ⇓P **P 05 50 43.9 +0.6**
KOLS Kolonicke sedl 89.52 320 *e*P **P 05 50 43.7 +0.5**
KOLS *e* 05 51 00.3
KOLS pmax pmax
comp=Z,53nm,0.7s
KOLS Kolonicke sedl 89.52 320 *e*P **P 05 50 43.7 +0.5**
KOLS *e* 05 51 00.3
BEL Belsk 89.53 323 *e*P **P 05 50 44.1 +1.0**
BEL *e*pP **pP 05 51 00.4 -1.6**
BEL *e*S **S 06 01 25.9 -2.6**
BEL *e*L L 06 33 47.6
comp=Z,15μm,22.5s
LOT Lotru 89.55 316 ⇓P **P 05 50 44.2 +0.6**
MARR Marisel-Cluj 89.63 318 ⇑P **P 05 50 44.0 +0.1**
KARP Karpathos 89.64 306 P **P 05 50 42.1 -2.0**
DRGR 89.87 318 ⇑P **P 05 50 45.2 +0.2**
DRGR 89.87 318 P **P 05 50 45.2 +0.2**
TOAD Toad River Com 89.87 29 P **P 05 50 45.2 +0.5**
baz=293,SNR=44
TOAD S **S 06 01 31.1 -0.5**
baz=293
KOTAN Kotaneelee Air 89.92 28 P **P 05 50 45.6 +0.8**
baz=294,SNR=6.8
KOTAN S **S 06 01 31.8 -0.1**
baz=294
DEV Deva 90.00 317 ⇑P **P 05 50 46.4 +0.8**
DEV Deva 90.00 317 P **P 05 50 46.3 +0.8**
STHS Stebnicka Huta 90.01 321 *e*P **P 05 50 45.3 -0.2**
STHS *e* 05 51 03.0
STHS *e* 05 54 23.4
STHS pmax pmax
comp=Z,60nm,1.1s
STHS Stebnicka Huta 90.01 321 *e*P **P 05 50 45.3 -0.2**
STHS *e* 05 51 03.0
STHS *e*PP **PP 05 54 23.4 +4.4**
MPEP Malo Peshtene 90.15 314 *i* P **P 05 50 46.7 +0.4**
THAS Thassos island 90.21 312 P **P 05 50 45.1 -1.4**
HFS Hagfors 90.22 332 P **P 05 50 44.7 -1.5**
comp=Z,81nm,0.8s,baz=98,slow=4.5,SNR=92
HFS pP **pP 05 51 03.3 -1.8**
comp=Z,148nm,1.1s,baz=90,slow=5.9,SNR=8.8
HFS PP **PP 05 54 17.8 -2.5**
comp=Z,27nm,0.8s,baz=79,slow=7.7,SNR=4.8
HFS PKKPbc **PKKPdf 06 08 14.4 +1.8**
comp=Z,3.9nm,0.6s,baz=243,slow=2.7,SNR=11
HFS LR LR 06 34 45.4
comp=Z,11μm,20.6s,baz=67,slow=38
comp=Z,81nm,0.8s
RES Resolute Bay 90.22 10 LR LR 06 35 01.7
comp=Z,2μm,20.2s,baz=317,slow=38
GZR Gura Zlata 90.23 317 ⇑P **P 05 50 46.4 -0.3**
GZR Gura Zlata 90.23 317 P **P 05 50 46.3 -0.3**
KAVA Kavala 90.25 312 P **P 05 50 45.5 -1.3**
VALD Valchedram 90.27 315 *i* P **P 05 50 44.5 -2.3**
BUTB Butedale 90.30 35 IAmb IAmb 05 50 51.0
comp=Z,270nm,1.5s
TBLU Trondheim 90.33 336 *e*P **P 05 50 46.7 +0.1**
BORR Bors 90.38 318 ⇑P **P 05 50 48.7 +1.4**
PUNG Punghina 90.45 315 ⇓P **P 05 50 48.8 +1.2**
APE Apeiranthos 90.53 308 ⇑P **P 05 50 47.2 -1.0**
APE Apeiranthos 90.53 308 P **P 05 50 47.2 -1.0**
SURR Surduc 90.56 317 ⇑P **P 05 50 47.9 -0.2**
NIE Niedzica 90.60 321 *e*P **P 05 50 48.6 +0.3**
NIE *e*pP **pP 05 51 06.0 -1.2**
NIE *e*PP **PP 05 54 24.4 +0.7**
NIE *e*S **S 06 01 38.3 -0.3**
NIE *e*L L 06 35 46.2
comp=Z,9μm,24.2s
HERR Herculane 90.63 316 ⇓P **P 05 50 48.6 +0.2**
OJC Ojcow 90.64 322 *e*P **P 05 50 48.3 -0.1**
OJC *e*pP **pP 05 51 05.9 -1.4**
OJC *e*PP **PP 05 54 23.9 -0.1**
OJC *e*S **S 06 01 36.2 -2.7**
BLEU Blekinge 90.72 328 *i* P **P 05 50 47.9 -0.6**
SIRR Siria 90.72 318 ⇑P **P 05 50 49.3 +0.4**
VTS Vitosha 90.72 314 *i* P **P 05 50 49.2 +0.1**
MAW Mawson 90.72 200 P **P 05 50 46.0 -2.1**
comp=Z,13nm,0.8s,baz=72,slow=7.4,SNR=12
MAW PKKPbc **PKKPbc 06 08 16.3 -0.9**
comp=Z,5.7nm,0.9s,baz=241,slow=3.5,SNR=3.5
KECS Kecovo 90.78 320 *e*P **P 05 50 49.3 +0.2**
KECS *e* 05 51 07.8
KECS *e* 05 54 29.5
KECS pmax pmax
comp=Z,153nm,0.8s
KECS Kecovo 90.78 320 *e*P **P 05 50 49.3 +0.2**
KECS *e* 05 51 07.8
KECS *e*PP **PP 05 54 29.5 +4.4**
NC303 NORSAR Array S 90.79 334 IAmb IAmb 05 51 07.0
comp=Z,271nm,1.2s
BBB Bella Bella 90.80 36 P **P 05 50 47.7 -1.3**
comp=Z,43nm,1.1s,baz=288,slow=6.1,SNR=8.2
BBB LR LR 06 23 00.4
comp=Z,3μm,22.0s,baz=291,slow=30
SRS Serrai 90.89 312 P **P 05 50 47.7 -2.1**
NB201 NORSAR Array S 90.90 334 IAmb IAmb 05 51 07.4
comp=Z,187nm,1.2s
NEEM North Greenlan 90.92 359 *i* P **P 05 50 51.3 +1.8**
NEEM IAmb IAmb 05 51 11.3
comp=Z,249nm,1.0s
NC602 NORSAR Array S 90.93 333 *e*P **P 05 50 48.7 -0.8**
NC602 *e*SKSac **SKSac 06 01 12.5 -2.9**
NC602 *e* 06 01 38.8
NC602 IVMs_BB IVMs_BB 06 32 37.8
comp=Z,5μm,22.4s
NB2 NORSAR Subarra 90.94 334 P **P 05 50 48.1 -1.5**
comp=Z,385nm,1.4s,baz=65,slow=4.6
NB2 PKKP **PKKPdf 06 08 13.5 +2.0**
comp=Z,5.9nm,0.9s,baz=244,slow=2.4
NB2 NORSAR Subarra 90.94 334 P **P 05 50 48.1 -1.5**
baz=65,slow=4.6
NOA NORSAR Array B 90.94 334 P **P 05 50 48.1 -1.5**
comp=Z,34nm,0.7s,baz=64,slow=4.6,SNR=122
NOA pP **pP 05 51 06.1 -2.4**
comp=Z,59nm,1.2s,baz=68,slow=5.7,SNR=11
NOA PP **PP 05 54 22.9 -3.0**
comp=Z,8.7nm,0.9s,baz=75,slow=6.3,SNR=4.0
NOA PKKPbc **PKKPbc 06 08 13.8 -2.1**
comp=Z,4.0nm,0.9s,baz=239,slow=2.6,SNR=7.8
NOA LR LR 06 35 08.1
comp=Z,12μm,20.6s,baz=70,slow=38
comp=Z,34nm,0.7s
BZS Buzias 90.94 317 ⇑P **P 05 50 49.4 -0.5**
BZS Buzias 90.94 317 P **P 05 50 49.4 -0.5**
NC204 NORSAR Array S 91.03 334 IAmb IAmb 05 51 08.2
comp=Z,232nm,1.3s
GKP Gorka Klasztor 91.08 325 *e*P **P 05 50 50.7 +0.3**
GKP *e*pP **pP 05 51 07.2 -2.0**
GKP *e*S **S 06 01 40.7 -2.0**
GKP *e*L L 06 34 24.8
comp=Z,24μm,23.1s
NBO00 NORSAR Array S 91.13 334 IAmb IAmb 05 51 08.6
comp=Z,131nm,1.2s
MDVR Moldovita 91.14 316 ⇓P **P 05 50 51.3 +0.4**
NAO01 NORSAR Array S 91.17 333 IAmb IAmb 05 51 08.5
comp=Z,136nm,1.2s
LANS Liptovska Anna 91.20 321 *e*P **P 05 50 52.2 +1.1**
LANS *e* 05 51 10.0
LANS *e* 05 54 30.9
LANS pmax pmax
comp=Z,24nm,1.0s
LANS Liptovska Anna 91.20 321 *e*P **P 05 50 52.2 +1.1**
LANS *e* 05 51 10.0
LANS *e*PP **PP 05 54 30.9 +2.5**
KYMI Kymi, Euboea I 91.20 310 P **P 05 50 49.7 -1.6**
PLG Polygyros 91.20 312 P **P 05 50 48.9 -2.4**
AOS Alonnisos 91.22 310 P **P 05 50 49.1 -2.2**
PSZ Piszkesteto 91.34 320 ⇓P **P 05 50 52.3 +0.5**
PSZ Piszkesteto 91.34 320 P **P 05 50 52.3 +0.5**
KNT Kendrikon 91.38 312 P **P 05 50 50.7 -1.3**
DOMB Dombas 91.39 335 *e*P **P 05 50 51.9 +0.3**
DOMB *e*pP **pP 05 51 08.4 -2.2**
DOMB *e*PP **PP 05 54 31.6 +2.1**
DOMB *e*SKSac **SKSac 06 01 17.8 -0.3**
DOMB *e* 06 01 43.7
DOMB *e*SP SP 06 02 55.9 +2.5
DOMB IVMs_BB IVMs_BB 06 34 13.9
comp=Z,4μm,26.5s
DBG Daneborg 91.39 351 *i* P **P 05 50 52.3 +0.9**
DBG IAmb IAmb 05 51 10.2
comp=Z,431nm,1.5s
HORT Hortiatis 91.39 312 P **P 05 50 50.2 -2.0**
TULEG Thule 91.47 3 *i* P **P 05 50 53.2 +1.5**
TULEG IAmb IAmb 05 51 13.2
comp=Z,139nm,1.3s
BOVS Bovan 91.49 315 ⇑P **P 05 50 52.3 -0.1**
IDI Anoyia 91.50 306 P **P 05 50 51.9 -0.8**
IDI Anoyia 91.50 306 P **P 05 50 52.0 -0.8**
IDI Anoyia 91.50 306 LR LR 06 38 28.3
comp=Z,5μm,21.0s,baz=74,slow=40
VNDA Vanda 91.55 173 IAmb IAmb 05 50 56.8
comp=Z,139nm,0.9s
VNDA Vanda 91.55 173 P **P 05 50 51.7 -0.2**
comp=Z,128nm,0.9s,baz=320,slow=6.0,SNR=69
VNDA PKKPbc **PKKPbc 06 08 15.1 -0.3**
comp=Z,1.9nm,0.8s,baz=225,slow=1.8,SNR=6.4
VNDA PKPPKP 06 16 27.0
comp=Z,3.4nm,1.2s,baz=168,slow=5.3,SNR=4.0
VNDA LR LR 06 33 56.8
comp=Z,7μm,19.3s,baz=336,slow=37
comp=Z,128nm,0.9s
VAY Valandovo 91.57 313 *i* P **P 05 50 51.6 -1.2**
DEL Delary 91.64 329 *i* P **P 05 50 52.4 -0.5**
BSD Bornholm Skovb 91.65 327 *i* P **P 05 50 52.7 -0.2**
BSD IAmb IAmb 05 51 10.8
comp=Z,272nm,1.2s
OSL Oslo 91.65 333 *e*P **P 05 50 52.5 -0.3**
OSL *e*SKSac **SKSac 06 01 16.0 -3.4**
OSL *e* 06 01 47.4
OSL IVMs_BB IVMs_BB 06 33 23.3
comp=Z,5μm,24.8s
JNE Jan Mayen East 91.67 346 *e*P **P 05 50 54.6 +1.9**
JNE *e*PP **PP 05 54 33.0 +1.6**
JNE *e*SKSac **SKSac 06 01 22.1 +2.9**
JNE *e*SS **SS 06 07 58.6 +3.9**
JNW Jan Mayen West 91.68 346 *e*P **P 05 50 54.0 +1.2**
JNW IVmB_BB 05 51 12.8
comp=Z,7μm,1.2s
JNW *e*SKSac **SKSac 06 01 16.5 -2.7**
JNW *e* 06 01 47.6
BORU Boraas 91.70 330 *i* P **P 05 50 53.0 -0.1**
JMIC Jan Mayen 91.72 346 LR LR 06 35 30.9
comp=Z,6μm,21.7s,baz=48,slow=38
JMIC Jan Mayen 91.72 346 *e*P **P 05 50 54.8 +1.9**
JMIC *e*PP **PP 05 54 33.2 +1.4**
JMIC *e*SKSac **SKSac 06 01 21.6 +2.1**
JMIC *e*SS **SS 06 08 00.4 +4.9**
MOL Molde 91.75 336 *e*P **P 05 50 53.2 0.0**
MOL *e*PP **PP 05 54 37.4 +5.2**
OKC Ostrava-Krasne 91.78 322 *e*P **P 05 50 55.5 +1.9**
OKC *e*SKS **SKSac 06 01 17.4 -3.2**
OKC AMS AMS 06 35 10.0
comp=Z,7μm,19.3s
OKC Ostrava-Krasne 91.78 322 *e*P **P 05 50 55.5 +1.9**
OKC *e* 06 01 17.4
OKC MLR MLR
comp=Z,7μm,19.3s
GRG Griva 91.80 312 P **P 05 50 52.1 -1.9**
VYHS Vyhne 91.81 320 *e*P **P 05 50 54.1 +0.2**
VYHS *e* 05 51 11.9
VYHS *e* 05 54 36.6
VYHS pmax pmax
comp=Z,548nm,2.6s
VYHS Vyhne 91.81 320 *e*P **P 05 50 54.1 +0.2**
VYHS *e* 05 51 11.9
VYHS *e*PP **PP 05 54 36.6 +3.3**
JMI Jan Mayen 91.82 346 *e*P P 05 50 59.6 +6.2
JMI *e*SKSac **SKSac 06 01 23.0 +2.9**
JMI *e* 06 01 49.5
JMI *e* 06 03 01.1
STRU Stroemstad 91.85 332 *i* P **P 05 50 53.1 -0.6**
STEB Steborice 91.97 322 *e*P **P 05 50 55.0 +0.5**
LIT Litokhoron 91.98 312 P **P 05 50 52.9 -2.0**
FABU Falkenberg 92.00 330 *i* P **P 05 50 54.2 -0.3**
TJOU Tjoern 92.08 331 *i* P **P 05 50 54.4 -0.5**
MAUC Maruska 92.14 321 *e*P **P 05 50 57.5 +2.1**
MORC Moravsky Berou 92.16 322 IAmb IAmb 05 51 14.9
comp=Z,319nm,1.7s
MORC Moravsky Berou 92.16 322 *e*P **P 05 50 55.8 +0.3**
MORC *e*pP **pP 05 51 13.5 -1.0**
MORC Moravsky Berou 92.16 322 *e*S **S 06 01 54.3 +1.5**
MORC Moravsky Berou 92.16 322 ⇓P **P 05 50 55.2 -0.4**
MORC Moravsky Berou 92.16 322 P **P 05 50 55.1 -0.4**
IMMV Iera Moni Meta 92.17 307 P **P 05 50 55.1 -0.7**
AKN Aaknes 92.17 336 *e*P **P 05 50 55.2 0.0**
AKN *e*pP **pP 05 51 11.7 -2.5**
AKN *e*PP **PP 05 54 36.4 +0.8**
AKN *e*SKSac **SKSac 06 01 23.0 +0.6**
AKN *e*SP SP 06 03 04.9 +2.9
AKN IVMs_BB IVMs_BB 06 34 14.4
comp=Z,4μm,21.9s
ONAU Onsala 92.22 330 *i* P **P 05 50 54.6 -0.9**
BJUU Bjuv 92.24 329 *i* P **P 05 50 55.2 -0.4**
KRND KRANIDI 92.27 309 P **P 05 50 53.6 -2.6**
KONO Kongsberg 92.29 333 P **P 05 50 54.9 -0.9**

KONO IAmb IAmb 05 51 14.0
comp=Z,148nm,1.3s
KONO Kongsberg 92.29 333 P **P 05 50 55.4 -0.4**
KONO Kongsberg 92.29 333 *e*P **P 05 50 57.4 +1.6**
KONO *e*PP **PP 05 54 37.5 +0.9**
KONO *e*SKSac **SKSac 06 01 23.9 +0.8**
KONO *e* 06 01 51.9
KONO IVMs_BB IVMs_BB 06 33 55.1
comp=Z,4μm,20.9s
FRGS Fruska Gora 92.30 317 *e*P **P 05 50 55.9 -0.3**
SKAR Skarslia 92.36 334 *e*P **P 05 50 56.7 +0.5**
SKAR *e*SKSac **SKSac 06 01 24.9 +1.3**
SKAR *e* 06 01 55.9
SKAR *e*SS **SS 06 08 04.2 -1.1**
SKAR IVMs_BB IVMs_BB 06 33 32.7
comp=Z,5μm,25.9s
SRO Srobarova 92.38 320 *e*P **P 05 50 57.6 +1.1**
SRO *e* 05 51 15.1
SRO *e* 05 54 42.7
SRO pmax pmax
comp=Z,55nm,0.7s
SRO Srobarova 92.38 320 *e*P **P 05 50 57.6 +1.1**
SRO *e* 05 51 15.1
SRO *e*PP **PP 05 54 42.7 +5.1**
JAVC Velka Javorina 92.41 321 *e*P **P 05 50 57.8 +1.1**
JAVC *e*pP **pP 05 51 15.3 -0.3**
AGG Agios Georgios 92.42 311 P **P 05 50 54.2 -2.7**
SBA Scott Base 92.46 172 P **P 05 50 57.0 +0.9**
SBA IAmb IAmb 05 51 54.1
comp=Z,121nm,1.2s
SBA Scott Base 92.46 172 P **P 05 50 57.0 +0.9**
SBA pmax pmax
comp=Z,121nm,1.2s
KRLC Kraliky 92.51 322 *e*SKS **SKSac 06 01 20.1 -4.8**
KRLC AMS AMS 06 35 30.0
comp=Z,9μm,19.0s
KRLC Kraliky 92.51 322 *e*P P 05 51 07.5 +10
KRLC *e* 06 01 28.8
KRLC MLR MLR
comp=Z,14μm,22.2s
KSP Ksiaz 92.52 323 *e*P **P 05 50 58.2 +1.1**
KSP *e*pP **pP 05 51 14.3 -1.7**
KSP *e*S **S 06 01 60.0 +4.2**
KSP *e*L L 06 35 28.1
comp=Z,17μm,22.6s
OSTC Ostas 92.67 323 *e*P **P 05 51 00.9 +3.1**
OSTC *e*SKS **SKSac 06 01 22.1 -3.6**
OSTC AMS AMS 06 35 10.0
comp=Z,13μm,20.7s
OSTC Ostas 92.67 323 *e*P **P 05 51 00.9 +3.1**
OSTC *e* 06 01 22.1
OSTC MLR MLR
comp=Z,13μm,20.7s
SMOL Smolenice 92.69 321 *e*P **P 05 50 58.9 +1.0**
SMOL *e* 05 51 16.6
SMOL *e* 05 54 42.4
SMOL pmax pmax
comp=Z,24nm,1.2s
DPC Dobruska-Polom 92.69 323 *e*P **P 05 50 59.2 +1.3**
DPC AMS AMS 06 35 20.0
comp=Z,9μm,19.5s
DPC Dobruska-Polom 92.69 323 *e*P **P 05 50 59.2 +1.3**
DPC MLR MLR
comp=Z,9μm,19.5s
TEKS Tekeris 92.69 316 *e*P **P 05 50 57.2 -0.8**
MORH Mrgy, Hungar 92.72 318 ⇑P **P 05 50 57.9 -0.2**
GUR Goura 92.73 309 P **P 05 50 55.3 -3.2**
CHVC Chvalec 92.75 323 *e*P **P 05 51 00.3 +2.1**
CHVC AMS AMS 06 35 20.0
comp=Z,14μm,21.1s
CHVC Chvalec 92.75 323 *e*P **P 05 51 00.3 +2.1**
CHVC MLR MLR
comp=Z,14μm,21.1s
YKAW3 Yellowknife Wh 92.80 24 IAmb IAmb 05 51 02.6
comp=Z,285nm,1.4s
SJES Sjenica 92.80 315 ⇑*i*P **P 05 50 59.1 +0.4**
UPC Upice 92.81 323 *e*SKS **SKSac 06 01 22.3 -4.1**
UPC AMS AMS 06 35 20.0
comp=Z,14μm,20.9s
MODS Modra-Piesok 92.83 321 *e*P **P 05 50 59.3 +0.7**
MODS *e* 05 51 17.3
MODS *e* 05 54 45.5
MODS pmax pmax
comp=Z,174nm,1.4s
MODS Modra-Piesok 92.83 321 *e*P **P 05 50 59.2 +0.7**
MODS *e* 05 51 17.3
MODS *e*PP **PP 05 54 45.5 +4.3**
YKA Yellowknife Ar 92.84 24 P **P 05 50 58.5 +0.2**
comp=Z,49nm,1.0s,baz=302,slow=4.4,SNR=60
YKA PKKPbc **PKKPdf 06 08 07.0 -1.1**
comp=Z,0.3nm,0.4s,baz=128,slow=2.5,SNR=12
YKA PKPPKP 06 16 24.0
comp=Z,0.5nm,1.0s,baz=114,slow=2.4,SNR=4.1
YKA LR LR 06 38 30.9
comp=Z,2μm,18.8s,baz=305,slow=39
comp=Z,49nm,1.0s
YKA Yellowknife Ar 92.84 24 *i* P **P 05 50 58.5 +0.2**
YKA pmax pmax
comp=Z,50nm,1.0s
KLV Kalavryta, Ach 92.84 310 P **P 05 50 56.4 -2.5**
ANX Ano Chora 92.85 310 P **P 05 50 57.6 -1.4**
YKAW1 Yellowknife Wh 92.89 24 IAmb IAmb 05 51 03.0
comp=Z,301nm,1.4s
OHR Ohrid 92.91 313 *i* P **P 05 50 58.3 -0.8**
VRAC Vranov 92.91 322 LR LR 06 36 06.7
comp=Z,9μm,21.5s,baz=70,slow=38
VRAC Vranov 92.91 322 *e*P **P 05 50 59.1 +0.2**
VRAC *e*pP **pP 05 51 17.2 -0.7**
VRAC Vranov 92.91 322 *e*S **S 06 01 57.6 -1.8**
VRAC Vranov 92.91 322 ⇑P **P 05 50 59.9 +1.0**
VRAC Vranov 92.91 322 P **P 05 50 59.9 +1.0**
IVA Berane 92.98 315 ⇓*i*P **P 05 50 58.3 -1.2**
BBLS Lazi&#263i 93.00 316 ⇑*i*P **P 05 50 59.6 +0.1**
HYA Hoyanger 93.02 335 *e*P **P 05 51 01.4 +2.4**
HYA *e*SKSac **SKSac 06 01 28.5 +1.4**
HYA *e* 06 02 01.9
HYA *e* **SP 06 03 10.6 -0.7**
HYA *e*SP **SP 06 03 10.6 -0.7**
HYA *e*SS **SS 06 08 21.2 +6.8**
HYA IVMs_BB IVMs_BB 06 35 05.5
comp=Z,5μm,19.2s
RUDO Rudo 93.10 316 *e*P **P 05 50 58.4 -1.5**
KRUC Moravsky 93.12 321 *e*P **P 05 51 00.3 +0.4**
KRUC *e*pP **pP 05 51 18.2 -0.6**
KRUC Moravsky 93.12 321 *e*S **S 06 01 57.8 -3.4**
PLE Pljevlja 93.18 315 ⇓*i*P **P 05 50 59.5 -1.0**
CBB Campbell River 93.20 38 IAmb IAmb 05 51 05.3
comp=Z,172nm,1.4s
HAPS Han Pijesak,Bl 93.23 316 *e*P **P 05 51 00.2 -0.5**
KOME Kolasin 93.25 315 ⇓*i*P **P 05 50 59.5 -1.3**
FOO Floro 93.26 336 *e*P **P 05 51 00.5 +0.3**
FOO *e*pP **pP 05 51 17.2 -1.9**
FOO *e*SKSac **SKSac 06 01 29.4 +1.1**
FOO *e* 06 02 00.9
FOO *e*SP **SP 06 03 17.4 +3.5**
FOO IVMs_BB IVMs_BB 06 37 48.2
comp=Z,4μm,16.3s
HOMB Homborsund 93.44 332 *e*P **P 05 51 01.8 +0.6**
HOMB *e*PP **PP 05 54 44.9 -0.7**
HOMB *e* 05 56 49.0
HOMB *e*SKSac **SKSac 06 01 27.7 -1.8**
HOMB *e* 06 02 05.5
HOMB *e* 06 03 12.9
HOMB IVMs_BB IVMs_BB 06 36 59.5
comp=Z,3μm,18.1s
HOMB Homborsund 93.44 332 *i* P **P 05 51 00.7 -0.4**
ODD1 Odda 93.47 334 *e*P **P 05 51 01.5 +0.2**
ODD1 *e*PP **PP 05 54 48.5 +2.6**
ODD1 *e*SKSac **SKSac 06 01 29.3 -0.4**
TIR Tirane 93.50 313 ⇑P **P 05 51 02.1 +0.3**
TIR Tirane 93.50 313 P **P 05 51 02.1 +0.3**
UPM Unac-Piva 93.56 315 *e*P **P 05 51 02.0 -0.3**
UPM Unac-Piva 93.56 315 ⇓*i*P **P 05 51 01.1 -1.2**
PDG Podgorica 93.57 314 *e*P **P 05 51 01.3 -0.8**
PDG Podgorica 93.57 314 ⇑P **P 05 51 01.6 -0.5**
PDG Podgorica 93.57 314 ⇓*i*P **P 05 51 01.3 -0.8**
TREC Trest 93.59 322 *e*P **P 05 51 04.2 +2.1**
TREC AMS AMS 06 36 40.0
comp=Z,7μm,19.9s
TREC Trest 93.59 322 *e*P **P 05 51 04.2 +2.1**
TREC MLR MLR
comp=Z,7μm,19.9s
PVCC Panska Ves 93.65 323 *e*P **P 05 51 04.6 +2.3**
PVCC Panska Ves 93.65 323 *e*P **P 05 51 04.6 +2.3**
SUE Sulen 93.67 335 *e*P **P 05 51 02.2 +0.1**
SUE *e*pP **pP 05 51 19.0 -2.0**
SUE *e*SKSac **SKSac 06 01 31.3 +0.8**
SUE IVMs_BB IVMs_BB 06 37 02.2
comp=Z,4μm,21.5s
NKME Niksic 93.67 315 ⇓*i*P **P 05 51 01.6 -1.0**
RONA Rosalia, Austr 93.69 320 *e*PcP **P 05 51 02.6 0.0**
comp=Z,66nm,1.4s,SNR=15
RONA *e*pP **pP 05 51 20.4 -1.0**
RONA *e*PP **PP 05 54 49.2 +1.2**
comp=Z,38nm,1.5s
DRME Dracevica, Mon 93.70 314 ⇑*i*P **P 05 51 02.1 -0.6**
DRME Dracevica, Mon 93.70 314 ⇓*i*P **P 05 51 00.5 -2.2**
ULC Ulcinj 93.74 314 ⇓*i*P **P 05 51 01.6 -1.3**
GOPC GO Pecny, Ondr 93.77 323 *e*P **P 05 51 04.9 +2.0**
GOPC AMS AMS 06 35 50.0
comp=Z,11μm,20.7s
GOPC GO Pecny, Ondr 93.77 323 *e*P **P 05 51 04.9 +2.0**
GOPC MLR MLR
comp=Z,11μm,20.7s
CEME Cevo 93.77 315 ⇓*i*P **P 05 51 02.1 -1.0**
BER Bergen 93.78 334 *e*P **P 05 51 02.9 +0.3**
BER *e*pP **pP 05 51 19.0 -2.5**
BER *e*PP **PP 05 54 51.8 +3.6**
BER *e*SKSac **SKSac 06 01 30.8 -0.5**
BER *e* 06 02 04.7
BER IVMs_BB IVMs_BB 06 36 01.1
comp=Z,4μm,22.6s
ASK Askoy 93.79 335 *e*P **P 05 51 00.1 -2.5**
ASK *e*pP **pP 05 51 19.6 -2.0**
ASK *e*PP **PP 05 54 50.7 +2.5**
ASK *e*SKSac **SKSac 06 01 33.1 +1.9**
ASK *e* 06 02 08.4
ASK IVMs_BB IVMs_BB 06 35 50.2
comp=Z,5μm,23.2s
BLS5 Blasjo 93.80 333 *e*P **P 05 51 02.5 -0.3**
BLS5 *e*pP **pP 05 51 20.2 -1.5**
BLS5 *e*PP **PP 05 54 52.8 +4.4**
BLS5 *e*SKSac **SKSac 06 01 30.9 -0.6**
BLS5 *e* 06 02 08.9
BLS5 *e*SP **SP 06 03 22.8 +2.8**
BLS5 IVMs_BB IVMs_BB 06 34 25.6
comp=Z,5μm,28.3s
KULLO Kullorsuaq 93.81 1 *i* P **P 05 51 04.1 +1.5**
KULLO IAmb IAmb 05 51 25.1
comp=Z,349nm,1.1s
BUM Brajici-Budva 93.87 314 ⇓*i*P **P 05 51 02.3 -1.3**
CONA Conrad Observa 93.88 320 *e*PcP **P 05 51 03.6 +0.1**
comp=Z,86nm,1.2s,SNR=34
CONA *e*pP **pP 05 51 21.8 -0.6**
comp=Z,265nm,1.5s
CONA *e*PP **PP 05 54 50.0 +0.5**
comp=Z,114nm,1.5s
BRG Berggiesshubel 93.88 324 *e*P **P 05 51 03.7 +0.4**
BRG Amp 05 51 07.1
comp=Z,29nm,0.9s
BRG Berggiesshubel 93.88 324 S **S 06 02 06.0 -1.8**
PRU Pruhonice 93.88 323 *e*P **P 05 51 05.1 +1.7**
PRU *e*pP **pP 05 51 21.1 -1.2**
PRU *e*PP **PP 05 54 50.8 +1.4**
PRU *e*SKS **SKSac 06 01 27.3 -5.0**
PRU AMS AMS 06 36 00.0
comp=Z,11μm,20.1s
PRU Pruhonice 93.88 323 *e*P **P 05 51 05.1 +1.7**
PRU *e* 05 51 21.1
PRU *e* 05 54 50.8
PRU *e* 06 01 27.3
PRU MLR MLR
comp=Z,11μm,20.1s
BRY Bratogost 93.91 315 *e*P **P 05 51 02.8 -1.1**
BRY Bratogost 93.91 315 ⇓*i*P **P 05 51 02.8 -1.1**
PRA Prague 93.91 323 AMS AMS 06 36 10.0
comp=Z,12μm,19.3s
RICC Richard 93.92 323 AMS AMS 06 36 00.0
comp=Z,12μm,21.6s
MUD Monsted U'grnd 93.99 330 *i* P **P 05 51 03.9 +0.2**
MUD IAmb IAmb 05 51 22.0
comp=Z,270nm,1.6s
SNART Snartemo 94.00 332 *e*SKSac **SKSac 06 01 29.6 -3.0**
SNART *e* 06 02 02.5
SNART *i* 06 03 19.9
SNART IVMs_BB IVMs_BB 06 34 57.4
comp=Z,6μm,21.4s
SNART Snartemo 94.00 332 *i* P **P 05 51 03.9 +0.1**
HCY Herceg Novi 94.10 315 *e*P **P 05 51 03.1 -1.4**
HCY Herceg Novi 94.10 315 ⇓*i*P **P 05 51 03.1 -1.4**
TREB Trebinje 94.11 315 *e*P **P 05 51 03.3 -1.3**
KOGS Kog 94.18 319 *i* P **P 05 51 04.1 -0.7**
KOGS *i* 05 51 04.8
KOGS *i* pP **pP 05 51 22.8 -0.9**
KOGS *e* 05 58 38.0
KOGS *e*SKSac **SKSac 06 01 29.9 -4.2**
KOGS *e*S **ScS 06 02 13.3 +1.5**
KOGS *e*SP **SP 06 03 20.9 -4.1**
BLY Banja Luka 94.19 317 *e*P **P 05 51 04.9 0.0**
SSRD Sdr. Stenderup 94.22 329 *i* P **P 05 51 05.9 +1.2**
SSRD IAmb IAmb 05 51 24.3
comp=Z,133nm,0.8s
CLL Collm 94.24 324 IAmb IAmb 05 51 23.8
comp=Z,232nm,1.6s
CLL Collm 94.24 324 *i* P **P 05 51 04.4 -0.6**
CLL *i* *PP **pP 05 51 22.7 -1.2**
CLL *e* 06 01 30.0
CLL *e*S **S 06 02 10.0 -0.9**
CLL pmax pmax
comp=Z,82nm,1.5s
A051A Mrakovica 94.28 318 ⇑*i*P **P 05 51 05.4 0.0**
HSKC Hora Svate Kat 94.28 324 *e*P **P 05 51 07.5 +2.3**
HSKC *e*SKS **SKSac 06 01 28.8 -5.7**
HSKC AMS AMS 06 36 00.0
comp=Z,14μm,22.2s
ZVC Zvikov 94.31 322 *e*P **P 05 51 05.9 +0.6**
ZVC *ex* x 05 51 22.6
ZVC *e*SKS **SKSac 06 01 29.3 -5.4**
ZVC AMS AMS 06 37 00.0
comp=Z,9μm,19.7s
ARSA Arzberg 94.34 320 IAmb IAmb 05 51 24.6
comp=Z,217nm,1.4s
ARSA Arzberg 94.34 320 *e*PcP **P 05 51 05.3 -0.2**
comp=Z,61nm,1.1s,SNR=17
ARSA *e*pP **pP 05 51 23.3 -1.1**
comp=Z,151nm,1.4s
ARSA *e*PP **PP 05 54 53.1 0.0**
comp=Z,36nm,1.4s
KMY Karmoy 94.44 333 *e*P **P 05 51 07.0 +1.3**
KMY *e*PP **PP 05 54 55.4 +2.0**
KMY *e*SKSac **SKSac 06 01 36.8 +1.9**
KMY *e* 06 02 11.6
KMY *e*SP **SP 06 03 29.4 +2.4**
KMY IVMs_BB IVMs_BB 06 32 15.9
comp=Z,4μm,31.3s
CKRC Cesky Krumlov 94.48 322 *e*P **P 05 51 07.1 +0.9**
CKRC AMS AMS 06 37 30.0
comp=Z,11μm,23.7s
CKRC Cesky Krumlov 94.48 322 *e*P **P 05 51 07.1 +0.9**
CKRC MLR MLR
comp=Z,11μm,23.7s
STON Ston 94.50 315 *e*P **P 05 51 02.7 -3.6**
A050A Klekovaca 94.72 317 *e*P **P 05 51 06.7 -0.7**
KHC Kasperske Hory 94.80 322 *e*P **P 05 51 07.9 +0.2**
KHC *e*pP **pP 05 51 25.5 -1.1**
KHC *e*PP **PP 05 54 53.1 -3.5**
KHC *e*SKS 06 01 15.7
KHC AMS AMS 06 36 10.0
comp=Z,11μm,19.9s
KHC Kasperske Hory 94.80 322 *e*P **P 05 51 07.9 +0.2**
KHC *e* 05 51 25.5
KHC *e* 05 54 53.1
KHC MLR MLR
comp=Z,11μm,19.9s
PERS Pernice 94.84 319 *i* P **P 05 51 06.8 -1.1**
PERS *i* 05 51 08.0
PERS *i* pP **pP 05 51 24.6 -2.2**
PERS PP **PP 05 55 02.7 +5.7**
PERS *e* 05 58 44.8
PERS *i* SKSac **SKSac 06 01 32.4 -5.3**
PERS *e*SP **SP 06 03 28.0 -4.2**
GEC2 GERESS Array S 94.84 322 IAmb IAmb 05 51 27.0
comp=Z,246nm,1.5s
GERES GERESS Array B 94.84 322 P **P 05 51 08.9 +1.0**
GERES GERESS Array B 94.84 322 P **P 05 51 07.3 -0.6**
comp=Z,26nm,0.7s,baz=72,slow=4.3,SNR=57
GERES PP **PP 05 54 56.0 -1.0**
comp=Z,10nm,1.0s,baz=64,slow=6.1,SNR=3.7
GERES PKKPbc **PKKPbc 06 08 05.3 -0.2**
comp=Z,6.3nm,1.0s,baz=225,slow=3.2,SNR=8.8
GERES PKPPKP 06 16 14.4
comp=Z,0.5nm,0.4s,baz=195,slow=9.5,SNR=5.0
GERES LR LR 06 37 06.4
comp=Z,10μm,21.3s,baz=88,slow=38
comp=Z,26nm,0.7s
GERES GERESS Array B 94.84 322 P **P 05 51 08.9 +1.0**
SOKA Soboth 94.87 320 *i* PcP **P 05 51 07.5 -0.6**
comp=Z,84nm,0.9s,SNR=23
SOKA *i* pP **pP 05 51 26.0 -1.0**
comp=Z,149nm,1.2s
SOKA *i* PP **PP 05 54 56.3 -1.0**
PGC Sidney 94.89 38 IAmb IAmb 05 51 12.1
comp=Z,203nm,1.7s
MOA Molln 94.90 321 *e*PcP **P 05 51 08.2 +0.1**
comp=Z,173nm,0.9s,SNR=53
MOA *i* pP **pP 05 51 26.6 -0.4**
comp=Z,364nm,1.3s
MOA *e*PP **PP 05 54 56.2 -1.1**
comp=Z,61nm,2.1s
SCO Scoresbysund 94.90 349 *i* P **P 05 51 08.9 +1.4**
SCO IAmb IAmb 05 51 27.2
comp=Z,458nm,1.5s
CRES Cresnjevec Ost 94.93 319 ⇑*i*P **P 05 51 08.6 +0.3**
NKC Novy Kostel 95.01 324 *e*P **P 05 51 10.8 +2.2**
NKC AMS AMS 06 36 30.0
comp=Z,14μm,20.7s
NKC Novy Kostel 95.01 324 *e*P **P 05 51 10.8 +2.2**
NKC MLR MLR
comp=Z,14μm,20.7s
NLWA Neilton Lookou 95.14 40 IAmb IAmb 05 51 14.6
comp=Z,185nm,1.4s
SUMG Summit 95.15 355 P **P 05 51 11.3 +2.0**
SUMG PP **PP 05 54 60.0 +1.0**
SUMG Summit 95.15 355 *i* P **P 05 51 11.6 +2.4**
SUMG IAmb IAmb 05 51 30.2
comp=Z,250nm,1.3s
BOJS Bojanci 95.18 318 *e*P **P 05 51 09.5 +0.1**
OBKA Obir 95.25 320 ⇑*i*P **P 05 51 09.6 -0.2**
OBKA Obir 95.25 320 *e*PcP **P 05 51 09.3 -0.6**
comp=Z,102nm,1.8s,SNR=12
OBKA *e*pP **pP 05 51 28.0 -0.7**
comp=Z,134nm,1.3s
OBKA *e*PP **PP 05 55 01.2 +1.0**
comp=Z,48nm,1.5s
BIOA Bad Ischl, Aus 95.35 321 *e*PcP **P 05 51 09.8 -0.3**
comp=Z,42nm,0.9s,SNR=16
BIOA *i* pP **pP 05 51 28.3 -0.8**
BIOA *e*PP **PP 05 55 01.6 +0.8**
comp=Z,66nm,1.5s
LJU Ljubljana 95.44 319 *e*P **P 05 51 09.9 -0.7**
LJU *i* pP **pP 05 51 28.7 -0.8**
LJU *i* sP **sP 05 51 40.6 +3.8**
LJU *e*PP **PP 05 55 07.3 +5.7**
LJU *e* 05 55 27.7
LJU *e* 05 58 47.9
LJU *e*SKSac **SKSac 06 01 36.2 -4.7**
LJU *i* S **ScS 06 02 22.9 +0.5**
LJU *e*SS **SS 06 08 54.6 +4.7**
CEY Cerknica 95.63 319 ⇑*i*P **P 05 51 11.6 +0.1**
UPNV Upernavik 95.63 0 *i* P **P 05 51 12.1 +1.2**
UPNV IAmb IAmb 05 51 33.5
comp=Z,211nm,1.0s
E03A Lebam 95.67 40 IAmb IAmb 05 51 16.6
comp=Z,283nm,1.4s
GNW Green Mountain 95.72 39 IAmb IAmb 05 51 17.0
comp=Z,190nm,1.5s
MYKA Terra Mystica 95.77 320 *i* PcP **P 05 51 11.8 -0.4**
comp=Z,37nm,1.0s,SNR=8.6
MYKA *i* pP **pP 05 51 29.0 -2.1**
comp=Z,112nm,1.6s
MYKA *e*PP **PP 05 55 04.1 -0.2**
KBA Koelnbreinsper 95.78 320 *e*PcP **P 05 51 12.0 -0.4**
comp=Z,72nm,0.8s,SNR=28
KBA *i* pP **pP 05 51 30.2 -1.0**
comp=Z,110nm,1.1s
KBA *i* PP PP 05 54 56.2 -8.2
comp=Z,43nm,1.5s
PRED Cave del Predi 95.90 320 IAmb IAmb 05 51 30.9
comp=Z,152nm,1.3s
SKDS Skadanscina 95.97 319 ⇑*i*P **P 05 51 12.6 -0.4**
LESA Schwarzleotal 96.05 321 *e*PcP **P 05 51 12.8 -0.7**
comp=Z,61nm,0.8s,SNR=32
LESA *i* pP **pP 05 51 31.1 -1.2**
comp=Z,142nm,1.3s
LESA *e*PP **PP 05 55 05.7 -0.7**
comp=Z,98nm,1.7s
D05A Enumclaw 96.39 39 IAmb IAmb 05 51 20.1
comp=Z,245nm,1.5s
ABTA Abfaltersbach 96.43 320 *i* P **P 05 51 14.1 -1.1**
comp=Z,85nm,0.8s,SNR=22
ABTA *i* pP **pP 05 51 32.2 -1.9**
comp=Z,193nm,1.3s
ABTA *e*PP **PP 05 55 10.8 +1.5**
I02E Swisshome, OR 96.45 43 IAmb IAmb 05 51 20.3
comp=Z,169nm,1.5s
LRW Lerwick 96.60 336 *e*P **P 05 51 15.8 +0.3**
LRW IAmb IAmb 05 51 33.8
comp=Z,258nm,1.1s
COR Corvallis 96.62 42 P **P 05 51 17.5 +1.6**
COR Corvallis 96.62 42 P **P 05 51 17.5 +1.6**
COR pmax pmax
comp=Z,324nm,1.6s
J01E Myrtle Point 96.76 43 IAmb IAmb 05 51 21.3
comp=Z,109nm,1.1s
WTTA Wattenberg 96.76 321 *e*PcP **P 05 51 16.3 -0.5**
comp=Z,131nm,0.8s,SNR=37
WTTA *e*pP **pP 05 51 34.6 -1.1**
WTTA *e*PP **PP 05 55 11.6 -0.3**
comp=Z,80nm,1.7s
WATA Walderalm 96.77 321 *e*PcP **P 05 51 16.0 -0.8**
comp=Z,97nm,1.0s,SNR=22
WATA *i* pP **pP 05 51 34.3 -1.3**
WATA *e*PP **PP 05 55 13.7 +1.8**
NUUG Nuugaatsiaq 96.88 359 *i* P **P 05 51 18.9 +2.3**
NUUG IAmb IAmb 05 51 39.4
comp=Z,71nm,1.0s
ILON Igloolik, Nuna 96.88 9 IAmb IAmb 05 51 38.0
comp=Z,103nm,1.2s
G04A Mulino 96.90 41 IAmb IAmb 05 51 21.9
comp=Z,173nm,1.1s
KBO Bosley Butte 96.93 44 IAmb IAmb 05 51 22.4
comp=Z,248nm,1.5s
I03D Drain, OR 96.94 43 IAmb IAmb 05 51 22.2
comp=Z,242nm,1.5s
H04D Lebanon 97.01 42 IAmb IAmb 05 51 22.7
comp=Z,132nm,1.2s
SQTA Sankt Quirin 97.04 321 *e*P **P 05 51 16.9 -1.1**
comp=Z,102nm,0.8s,SNR=28
SQTA *e*pP **pP 05 51 35.7 -1.2**
comp=Z,228nm,1.4s
SQTA *e*PP **PP 05 55 14.3 +0.2**
MOTA Moosalm 97.05 321 *e*P **P 05 51 17.1 -1.0**
comp=Z,64nm,0.9s
MOTA *i* pP **pP 05 51 35.7 -1.3**
comp=Z,117nm,1.3s
MOTA *e*PP **PP 05 55 08.4 -5.8**
LTY Liberty 97.17 39 IAmb IAmb 05 51 39.1
comp=Z,190nm,1.8s
RETA Reutte 97.20 321 *e*PcP **P 05 51 18.5 -0.2**
comp=Z,11nm,1.0s
RETA *i* pP **pP 05 51 36.2 -1.4**
RETA *e*PP **PP 05 55 15.1 -0.1**
comp=Z,51nm,1.3s
CTI Castel Tesino 97.27 320 IAmb IAmb 05 51 38.3
comp=Z,254nm,1.5s
H04A Detroit Lake 97.31 42 IAmb IAmb 05 51 23.4
comp=Z,180nm,1.6s
HOOD Mount Hood Mea 97.38 41 IAmb IAmb 05 51 24.2
comp=Z,171nm,1.3s
FETA Feichten 97.42 321 *e*PcP **P 05 51 19.3 -0.5**
comp=Z,41nm,1.0s,SNR=22
FETA *i* pP **pP 05 51 37.6 -1.1**
comp=Z,172nm,1.4s
FETA *e*PP **PP 05 55 11.3 -5.7**
INTR Introdacqua 97.43 316 IAmb IAmb 05 51 51.6
comp=Z,214nm,1.4s
KRPM Rodgers 97.47 45 IAmb IAmb 05 51 26.1
comp=Z,123nm,1.3s
B08A Colville Reser 97.49 37 IAmb IAmb 05 51 24.5
comp=Z,240nm,1.8s
CAMP Campotosto 97.56 316 IAmb IAmb 05 51 53.9
comp=Z,239nm,1.5s

FDMO Fiordimonte 97.58 317 IAmb IAmb 05 51 39.4
comp=Z,102nm,1.1s
JCC Jacoby Creek, 97.60 46 IAmb IAmb 05 51 25.3
comp=Z,219nm,1.5s
AQU L'Aquila 97.64 316 PP **PP 05 55 22.0 +3.2**
NRCA Norcia 97.64 317 IAmb IAmb 05 51 39.5
comp=Z,145nm,1.3s
MXC Moxie City 97.70 39 IAmb IAmb 05 51 25.7
comp=Z,159nm,1.5s
UMMG Ummannaq 97.73 359 *i* P Pdif 05 51 22.3 +1.9
UMMG IAmb IAmb 05 51 42.2
comp=Z,55nm,1.1s
DAVA Damuels 97.83 322 *e*PcP **P 05 51 21.4 -0.2**
comp=Z,52nm,1.5s,SNR=12
DAVA *i* pP **pP 05 51 39.7 -0.7**
DAVA *i* PP **PP 05 55 20.5 +0.4**
comp=Z,54nm,1.8s
J04A Umpqua Nationa 97.95 43 IAmb IAmb 05 51 26.7
comp=Z,244nm,1.3s
I05D Terrebonne, OR 98.00 42 IAmb IAmb 05 51 27.0
comp=Z,137nm,1.6s
DAVOX Davos/Dischmat 98.05 321 LR LR 06 40 22.8
comp=Z,11μm,20.3s,baz=64,slow=38
G06A Carlson Farm, 98.07 41 IAmb IAmb 05 51 27.5
comp=Z,320nm,1.9s
WAH2 Wahluke Slope 98.07 39 IAmb IAmb 05 51 27.2
comp=Z,312nm,1.7s
YBH Yreka Blue Hor 98.15 44 IAmb IAmb 05 51 27.8
comp=Z,156nm,1.7s
F07A Phinny Hill Vi 98.23 40 IAmb IAmb 05 51 28.1
comp=Z,216nm,1.6s
BFO Black Forest 98.28 323 P **P 05 51 22.4 -1.0**
BFO Black Forest 98.28 323 P **P 05 51 22.4 -1.0**
BFO pmax pmax
comp=Z,101nm,1.4s
BTNL Ternell 98.44 326 *d*P **P 05 51 23.9 -0.2**
comp=Z,36nm,1.4s
BTNL *d*pP **pP 05 51 42.0 -1.1**
K04D Chiloquin, OR 98.44 43 IAmb IAmb 05 51 51.6
comp=Z,93nm,0.9s
MEM Membach 98.49 326 *d*P **P 05 51 24.2 0.0**
comp=Z,43nm,1.4s
MEM *d*pP **pP 05 51 42.1 -1.2**
E08A Dider Farm, El 98.50 39 IAmb IAmb 05 51 29.3
comp=Z,186nm,1.7s
J05D Fort Rock, OR 98.51 43 IAmb IAmb 05 51 29.5
comp=Z,156nm,1.6s
TUE Stuetta 98.52 321 IAmb IAmb 05 51 43.8
comp=Z,191nm,1.4s
BEBN Eben Emael 98.58 326 *d*P Pdif 05 51 25.8 +1.1
BEBN *d*pP pP 05 51 42.0 -1.6
BEBN *d*sP sP 05 51 47.3 -3.6
BHOU Houvegnez 98.62 326 *d*P Pdif 05 51 25.8 +0.9
comp=Z,36nm,1.4s
BHOU *d*x x 05 51 26.9
BHOU *d*pP pP 05 51 43.0 -0.8
ICESG Greenland Ices 98.63 355 *i* P Pdif 05 51 26.4 +1.5
ICESG IAmb IAmb 05 51 45.2
comp=Z,96nm,1.3s
BIGH Upper Bighouse 98.72 336 *e*P Pdif 05 51 25.1 0.0
YPT Yellepit 98.76 39 IAmb IAmb 05 51 30.6
comp=Z,152nm,1.5s
VAE Valguarnera 98.81 311 LR LR 06 45 07.4
comp=Z,2μm,18.4s,baz=47,slow=41
NEW Newport 98.84 37 LR LR 06 31 32.7
comp=Z,3μm,21.2s,baz=301,slow=32
WLF Walferdange 98.88 325 IAmb IAmb 05 51 45.7
comp=Z,226nm,1.2s
WLF Walferdange 98.88 325 P **P 05 51 24.3 -1.7**
WLF Walferdange 98.88 325 *d*P Pdif 05 51 26.5 +0.4
comp=Z,84nm,1.3s
WLF *d*pP pP 05 51 44.7 -0.3
VLC Villacollemand 98.89 319 PP **PP 05 55 30.2 +2.0**
BCLA Clavier 98.98 326 *d*P Pdif 05 51 26.7 +0.3
comp=Z,26nm,1.6s
BCLA *d*pP pP 05 51 44.1 -1.3
MCD Coleburn Disti 99.03 335 *e*P **Pdif 05 51 26.9 +0.4**
MCD IAmb IAmb 05 51 44.9
comp=Z,312nm,1.1s
E09A Wood Farm, Sta 99.05 39 IAmb IAmb 05 51 31.8
comp=Z,258nm,1.7s
BGES Gesves 99.11 326 *d*P **Pdif 05 51 27.5 +0.4**
comp=Z,20nm,1.6s
BGES *d*pP **pP 05 51 44.7 -1.4**
DRUM Mains of Drumt 99.12 334 *e*P **Pdif 05 51 26.9 0.0**
DRUM IAmb IAmb 05 51 45.4
comp=Z,263nm,1.3s
UCC Uccle 99.29 326 *d*P **Pdif 05 51 27.9 +0.1**
UCC *d*pP **pP 05 51 45.5 -1.3**
SYO Syowa Base 99.31 201 ‖ *e*Pdiff **Pdif 05 51 28.3 +1.0**
SYO Syowa Base 99.31 201 ‖ *ep*PKiKP PKiKP 05 56 17.0 +20
BMRD Maredsous 99.33 326 *d*P **Pdif 05 51 27.8 -0.2**
comp=Z,29nm,1.3s
BMRD *d*pP **pP 05 51 45.9 -1.1**
HATC Hat Creek Radi 99.39 45 IAmb IAmb 05 51 32.4
comp=Z,76nm,0.9s
LINV Loch Inver, As 99.46 336 *e*P **Pdif 05 51 28.1 -0.2**
LINV IAmb IAmb 05 51 46.9
comp=Z,178nm,1.3s
DOU Dourbes 99.53 326 *d*P **Pdif 05 51 29.5 +0.6**
comp=Z,29nm,1.4s
DOU *d*pP **pP 05 51 46.9 -1.0**
BORG Borgarnes 99.62 346 LR LR 06 39 41.4
comp=Z,6μm,21.4s,baz=36,slow=37
LSZ Lusaka 99.65 256 LR LR 06 33 28.9
comp=Z,10μm,20.9s,baz=82,slow=34
ESY Stoneypath 99.80 333 *e*P **Pdif 05 51 30.0 +0.1**
INVG Invergeldie, C 100.10 334 *e*P **Pdif 05 51 31.4 +0.1**
INVG IAmb IAmb 05 51 49.9
comp=Z,47nm,1.2s
LEWI Lewis, Hebride 100.13 336 *e*P **Pdif 05 51 31.1 -0.3**
LEWI IAmb IAmb 05 51 50.6
comp=Z,191nm,1.4s
EDMD Edmundbyers 100.17 332 *e*P **Pdif 05 51 31.4 -0.3**
EDMD IAmb IAmb 05 51 49.9
comp=Z,257nm,1.4s
KPL Plockton 100.18 335 *e*P **Pdif 05 51 31.5 -0.1**
KPL IAmb IAmb 05 51 50.3
comp=Z,229nm,1.2s
EKA Eskdalemuir Ar 100.40 333 P **Pdif 05 51 32.4 -0.2**
comp=Z,19nm,0.9s,baz=54,slow=3.5,SNR=23
EKA pP **pPdif 05 51 50.7 -0.9**
comp=Z,57nm,1.1s,baz=57,slow=3.1,SNR=12
EKA PP **PP 05 55 36.1 -3.0**
comp=Z,6.6nm,0.7s,baz=57,slow=8.1,SNR=3.9
EKA PKKPbc **PKKPbc 06 07 47.5 -2.8**
comp=Z,3.0nm,0.7s,baz=251,slow=2.6,SNR=5.6
LAWE Loch Awe, Argy 100.78 334 *e*P **Pdif 05 51 33.9 -0.4**
LBWR Ladybower, Pea 100.93 331 *e*P **Pdif 05 51 34.9 -0.1**
QSPA South Pole Qui 101.62 180 P **Pdif 05 51 38.0 +0.1**
comp=Z,9.2nm,0.9s,baz=299,slow=2.0,SNR=22
QSPA PP **PP 05 55 48.4 -0.4**
comp=Z,11nm,0.7s,baz=348,slow=1.7,SNR=5.1
QSPA PKKPbc **PKKPbc 06 07 48.5 +0.3**
comp=Z,4.0nm,0.7s,baz=11,slow=1.4,SNR=3.6
WME Myndd Eilian 102.14 332 *e*P **Pdif 05 51 40.8 +0.3**
WPS Cemaes, Angles 102.23 332 *e*P **Pdif 05 51 40.2 -0.7**
WPS IAmb IAmb 05 51 59.4
comp=Z,142nm,1.4s
IDGL Inch Island, C 102.47 334 P **Pdif 05 51 41.7 -0.1**
NVAR Mina Array Bea 102.61 46 P **Pdif 05 51 43.9 +0.7**
comp=Z,9.7nm,0.7s,baz=275,slow=5.4,SNR=52
NVAR PP **PP 05 55 57.2 +0.5**
comp=Z,7.9nm,0.9s,baz=276,slow=8.0,SNR=5.5
NVAR PKKPbc **PKKPbc 06 07 40.3 -3.4**
comp=Z,1.7nm,0.7s,baz=144,slow=3.7,SNR=3.5
NVAR PKKP PKKPdf 06 07 59.7 +9.1
comp=Z,3.9nm,0.7s,baz=133,slow=4.5,SNR=7.2
NVAR SKKPbc SKKPbc 06 11 20.8 +2.4
comp=Z,0.9nm,0.8s,baz=129,slow=1.4,SNR=2.7
ILTH Belurgan, Co L 102.66 333 P **Pdif 05 51 43.5 +0.8**
DSB Dublin 103.19 332 PP **PKiKP 05 56 03.4 -0.9**
DSB Dublin 103.19 332 P **Pdif 05 51 47.5 +2.4**
KEST Kesra 103.24 311 PP **PP 05 56 03.4 +2.1**
comp=Z,15nm,1.1s,baz=44,slow=13,SNR=3.7
IWEX Carrickbyrne, 103.95 332 P **Pdif 05 51 49.5 +1.0**
BOSA Boshof 104.15 243 Pdiff **Pdif 05 51 53.5 +3.5**
comp=Z,4.4nm,0.8s,baz=88,slow=1.9,SNR=4.8
BOSA PKiKP **PKiKP 05 56 07.1 +0.2**
comp=Z,3.5nm,0.7s,baz=65,slow=1.1,SNR=7.3
IGLA Glengowla, Co 104.40 334 P **Pdif 05 51 50.0 -0.5**
VAL Valentia 105.81 333 PP **PP 05 56 21.4 +1.9**
PDAR Pinedale Array 106.23 39 Pdiff **Pdif 05 51 59.6 +0.4**
comp=Z,1.6nm,0.9s,baz=270,slow=1.5,SNR=12
PDAR PKiKP **PKiKP 05 56 09.8 -0.8**
comp=Z,3.0nm,0.8s,baz=180,slow=1.2,SNR=6.6
PDAR PP **PP 05 56 22.9 -0.5**
comp=Z,6.6nm,0.9s,baz=316,slow=6.2,SNR=14
PDAR PKKPbc **PKKPbc 06 07 32.5 -0.6**
comp=Z,1.2nm,0.8s,baz=118,slow=5.8,SNR=5.2
PDAR PKKP **PKKPab 06 07 47.1 -2.7**
comp=Z,2.1nm,0.7s,baz=120,slow=5.4,SNR=8.6
ULM Lac du Bonnet 108.60 26 Pdiff **Pdif 05 52 10.8 +1.6**
comp=Z,2.7nm,0.7s,baz=324,slow=5.6,SNR=4.4
ULM PKiKP **PKiKP 05 56 14.6 +0.2**
comp=Z,5.9nm,0.6s,baz=17,slow=1.7,SNR=4.9
ULM PKKPbc **PKKPbc 06 07 25.0 -0.6**
comp=Z,2.3nm,0.5s,baz=181,slow=5.5,SNR=3.0
ESDC Sonseca Array 110.36 320 PP **PP 05 56 53.5 +0.3**
comp=Z,13nm,0.9s,baz=49,slow=5.7,SNR=7.5
ESDC PKKPbc **PKKPbc 06 07 21.7 +2.1**
comp=Z,1.5nm,0.9s,baz=236,slow=3.8,SNR=3.3
EMAL Malaga-Limoner 112.35 318 PP **PP 05 57 07.7 +0.1**
SNAA Sanae 112.52 196 PP **PP 05 57 09.4 +1.1**
comp=Z,12nm,1.0s,baz=165,slow=3.7,SNR=4.2
SNAA PKKPbc **PKKPbc 06 07 13.4 -0.2**
comp=Z,5.3nm,0.6s,baz=280,slow=4.4,SNR=13
Y22D IRIS PASSCAL I 112.75 45 P **PKiKP 05 56 22.9 -0.1**
baz=303
MESJ Messejana 114.12 321 *e*PKPdf PKPdf 05 56 24.6 -0.7
MESJ *e*PP **PP 05 57 19.6 -0.4**
MESJ IAMs_20 IAMs_20 06 38 57.2
comp=Z,7μm,30.6s
MESJ Messejana 114.12 321 *e*PKIKP PKPdf 05 56 24.6 -0.7
MESJ *e* 05 57 19.6
LIS Lisbon 114.13 322 *e*PP **PP 05 57 19.6 -0.5**
LIS IAMs_20 IAMs_20 06 40 25.9
comp=E,12μm,20.6s
IFR Ifrane 114.68 315 PP **PP 05 57 26.2 +1.8**
MORF Marmelete 114.72 321 *e*PKPdf **PKiKP 05 56 25.8 -0.7**
MORF *e*PP **PP 05 57 23.9 -0.4**
MORF IAMs_20 IAMs_20 06 41 23.3
comp=E,11μm,36.8s
MORF Marmelete 114.72 321 *e*PKIKP **PKiKP 05 56 25.8 -0.7**
MORF *e* 05 57 23.9
HTMS Hat Mesa 115.92 45 P **PKPdf 05 56 30.8 +1.8**
AVE Averroes 116.36 316 PP PP 05 57 36.6 +0.6
H06S1 SOCORRO T 116.92 62 T T 08 04 15.9
SNR=48
TIO Tiouine 117.64 314 PP PP 05 57 44.7 -0.4
TXAR Lajitas Array 117.66 48 Pdiff **Pdif 05 52 53.3 +3.2**
comp=E,0.5nm,0.7s,baz=284,slow=1.0,SNR=6.2
TXAR PKP **PKiKP 05 56 33.4 +0.9**
comp=E,2.9nm,1.0s,baz=262,slow=2.5,SNR=3.9
TXAR pPKP **pPKPdf 05 56 51.4 -0.7**
comp=E,7.9nm,0.5s,baz=332,slow=0.3,SNR=6.9
TXAR PKKPbc **PKKPbc 06 06 54.3 -0.4**
comp=E,2.3nm,0.7s,baz=146,slow=5.3,SNR=13
TXAR SKKPbc SKKPbc 06 10 35.8 +1.0
comp=E,1.4nm,1.0s,baz=150,slow=5.2,SNR=4.6
WTFS Witchita Falls 118.59 41 **PKiKP 05 56 35.0 +0.9**
TORD Torodi Ar. Bea 118.69 292 **PKPdf 05 56 33.6 -1.0**
CCM Cathedral Cave 119.86 33 **PKPdf 05 56 35.2 -1.1**
CCM Cathedral Cave 119.86 33 PKIKP **PKPdf 05 56 35.2 -1.1**
WCI Wyandotte Cave 122.21 29 **PKiKP 05 56 41.3 +0.3**
WCI Wyandotte Cave 122.21 29 PKIKP **PKiKP 05 56 41.3 +0.3**
SSPA Standing Stone 123.67 21 **PKPdf 05 56 43.6 +0.1**
DBIC Dimbokro 127.01 288 PKP **PKPdf 05 56 48.8 -1.8**
comp=E,23nm,0.9s,baz=88,slow=2.3,SNR=11
DBIC PP **PP 05 58 47.4 -2.0**
comp=E,27nm,1.0s,baz=40,slow=5.9,SNR=3.4
DBIC SKKPbc SKKPbc 06 10 07.0 +3.1
comp=E,7.2nm,1.0s,baz=268,slow=4.7,SNR=3.0
USHA Ushuaia 135.72 169 PKP **PKPdf 05 57 03.7 -2.1**
comp=E,41nm,0.9s,baz=207,slow=2.2,SNR=11
USHA SKPbc **SKPbc 06 00 30.7 -0.9**
comp=E,52nm,1.1s,baz=312,slow=3.6,SNR=4.5
SOR Soroa 135.95 39 *e*P **PKiKP 05 57 08.9 -0.1**
HLGC Holguin 141.43 33 *e*P **PKPdf 05 57 17.9 +0.4**
PILO Pilon 141.48 35 *e*P **PKPdf 05 57 14.2 -3.3**
LMGC Las Mercedes 141.58 35 *e*P **PKPdf 05 57 12.7 -5.0**
PINC Pinares de May 141.90 33 *e*P **PKPdf 05 57 15.2 -3.0**
CHIV Chivirico 141.98 34 *e*P **PKPdf 05 57 13.6 -4.8**
MOAC Moa 142.19 32 *e*P **PKPdf 05 57 14.4 -4.3**
MARVS Santiago de Cu 142.24 33 ‖ *e*P **PKPdf 05 57 14.9 -4.0**
NMDO Nuevo Mundo 142.26 32 ‖ *e*P **PKPdf 05 57 15.0 -3.9**
RCC Rio Carpintero 142.35 33 *e*P **PKPdf 05 57 15.8 -3.2**
VMAR Armenia, Volca 142.49 54 *e*P **PKPdf 05 57 15.3 -4.2**
HORNC Hornillas 142.49 55 *e*P **PKPdf 05 57 16.1 -3.5**
HORNC Hornillas 142.49 55 *e*P **PKPdf 05 57 14.5 -5.0**
COLC Colonia 142.50 55 *e*P **PKPdf 05 57 16.4 -3.1**
COLC Colonia 142.50 55 *e*P **PKPdf 05 57 15.3 -4.2**
CUI Cuipilapa 142.54 55 *e*P **PKPdf 05 57 16.5 -3.1**
QMBU Quimbuelo 142.65 32 *e*P **PKPdf 05 57 15.0 -4.6**
VERA Finca Concepci 142.66 54 *e*P **PKPdf 05 57 16.0 -3.8**
CMARA Lajas Hojancha 142.69 56 *e*P **PKPdf 05 57 16.1 -3.8**
GTBY Guantanamo Bay 142.72 33 *e*P **PKPdf 05 57 17.2 -2.5**
MTDJ Mount Denham 142.72 37 *e*P **PKPdf 05 57 14.9 -5.0**
QUEB Quebradon, Cot 142.77 54 *e*P **PKPdf 05 57 16.8 -3.2**
JTS Las Juntas de 142.92 55 PKP **PKPdf 05 57 17.5 -2.7**
comp=E,27nm,0.7s,baz=173,slow=22,SNR=12
JTS Las Juntas de 142.92 55 *e*P **PKPdf 05 57 15.1 -5.1**
JTS Las Juntas de 142.92 55 *e*P **PKPdf 05 57 14.3 -6.0**
JUNT Juntas 142.92 55 *e*P **PKPdf 05 57 17.1 -3.2**
JUNT Juntas 142.92 55 *e*P **PKPdf 05 57 16.9 -3.3**
TABAC Tabacon 142.94 54 *e*P **PKPdf 05 57 17.3 -3.0**
MASC Masc 142.97 31 *e*P **PKPdf 05 57 15.0 -5.1**
ARE1 Arenal 1 143.00 54 *e*P PKPbc 05 57 17.2 -0.1
ARE1 Arenal 1 143.00 54 *e*P PKPab 05 57 16.3 +0.6
VARE2 V. Arenal 143.00 54 *e*P PKPbc 05 57 16.7 -0.7
FORC Fortuna 143.04 54 *e*P PKPbc 05 57 17.4 0.0
FORC Fortuna 143.04 54 *e*P PKPbc 05 57 17.7 +0.3
TUNA La Fortuna 143.06 54 *e*P PKPbc 05 57 17.4 0.0
SOCE Pocosol 143.13 55 *e*P PKPbc 05 57 17.1 -0.6
SOCE Pocosol 143.13 55 *e*P PKPbc 05 57 17.1 -0.5
PAYG Puerto Ayora 143.15 75 **PKPdf 05 57 21.1 +0.4**
PAQE Paquera 143.20 56 *e*P **PKPdf 05 57 20.0 -0.7**
CBL1 Cabuya 143.21 56 *e*P **PKPdf 05 57 19.3 -1.4**
CBL1 Cabuya 143.21 56 *e*P **PKPdf 05 57 19.3 -1.4**
GRTK Grand Turk 143.26 26 *e*P PKPbc 05 57 19.1 +1.4
STH Stony Hill 143.27 36 *e*P PKPab 05 57 16.9 +0.3
TRB2 Turrubares 143.54 55 *e*P PKPbc 05 57 19.6 +0.8
TRB2 Turrubares 143.54 55 *e*P PKPbc 05 57 19.9 +1.1
TCS1 Tacares 143.58 55 *e*P PKPab 05 57 18.5 +0.4
HEME Heredia, Merce 143.74 55 *e*P **PKPdf 05 57 20.8 -1.1**
HEME Heredia, Merce 143.74 55 *e*P PKPab 05 57 15.6 -3.1
ACOS Acosta 143.84 55 *e*P **PKPdf 05 57 21.6 -0.4**
ACOS Acosta 143.84 55 ‖ *e*P **PKPdf 05 57 21.6 -0.4**
AMPA Desamparados 143.86 55 *e*P **PKPdf 05 57 22.2 +0.1**
RITA Parrita 143.86 55 *e*P **PKPdf 05 57 22.8 +0.9**
PILE Guapiles 143.89 54 *e*P **PKPdf 05 57 21.7 -0.2**
PICV PH. PIrrs 143.91 55 *e*P **PKPdf 05 57 21.7 -0.3**
PICV PH. PIrrs 143.91 55 *e*P **PKPdf 05 57 21.8 -0.2**
CVTG V. Turrialba, 143.94 54 *e*P PKPab 05 57 19.2 -0.2
PISJ San Jernim 143.96 55 *e*P PKPbc 05 57 21.1 +0.9
PISJ San Jernim 143.96 55 *e*P **PKPdf 05 57 21.5 -0.8**
LCR2 La Lucha 2 143.99 55 *e*P PKPab 05 57 19.0 -0.8
LCR2 La Lucha 2 143.99 55 *e*P PKPbc 05 57 21.2 +0.8
CVTR Volcan Turrial 144.03 54 *e*P **PKPab 05 57 20.3 +0.1**
VTR0 Volcan Turrial 144.03 54 *e*P **PKPab 05 57 20.0 -0.2**
VTR0 Volcan Turrial 144.03 54 *e*P PKPbc 05 57 20.5 -0.2
CVTQ Turrialba Volc 144.03 54 *e*P **PKPab 05 57 19.7 -0.4**
CVTQ Turrialba Volc 144.03 54 *e*P PKPbc 05 57 20.6 0.0
CVTV Tajo 144.04 54 *e*P PKPbc 05 57 21.5 +0.9
CVTV Tajo 144.04 54 *e*P PKPbc 05 57 21.6 +0.9
QUEP Quepos 144.04 55 *e*P **PKPdf 05 57 22.3 +0.1**
PCAYA Pacayas 144.05 54 *e*P **PKPdf 05 57 21.8 -0.7**
PCAYA Pacayas 144.05 54 *e*P **PKPdf 05 57 22.4 -0.1**
REPA Paraso 144.05 55 *e*P **PKPdf 05 57 21.7 -0.7**
REPA Paraso 144.05 55 *e*P **PKPdf 05 57 21.9 -0.5**
RVSTA Santa Teresita 144.14 54 *e*P **PKPdf 05 57 22.1 -0.4**
RVSTA Santa Teresita 144.14 54 *e*P **PKPdf 05 57 22.9 +0.4**
IRES Siquirres 144.18 54 *e*P **PKPdf 05 57 21.6 -0.9**
BUS1 Rivas 144.31 55 *e*P PKPbc 05 57 22.1 +0.4
SAJE San Jernim 144.62 55 *e*P PKPbc 05 57 22.8 +0.5
BURE Buenos Aires 144.86 55 *e*P **PKPdf 05 57 24.6 +0.9**
BURE Buenos Aires 144.86 55 *e*P **PKPdf 05 57 24.6 +0.9**
CEUA Cerro Uatsi, L 144.91 54 *e*P **PKPdf 05 57 24.9 +1.1**
CEUA Cerro Uatsi, L 144.91 54 *e*P **PKPdf 05 57 24.5 +0.7**
FIMO Fila Mora 144.95 55 *e*P **PKPdf 05 57 25.6 +1.6**
EDP2 Potrero Grande 145.08 55 *e*P **PKPdf 05 57 25.4 +1.4**
EDP2 Potrero Grande 145.08 55 *e*P **PKiKP 05 57 26.0 -1.8**
JIME Puerto Jimenez 145.23 56 *e*P **PKPdf 05 57 26.2 +1.9**
PIRO Carate, Puerto 145.30 56 *e*P **PKPab 05 57 25.0 +0.7**
PIRO Carate, Puerto 145.30 56 *e*P **PKPab 05 57 25.7 +1.3**
PAPH Port-au-Prince 145.33 30 *e*P **PKPab 05 57 25.6 +1.3**
VITO San Vito 145.36 55 *e*P **PKPab 05 57 25.9 +1.2**
ALCO Alturas Coton, 145.39 55 *e*P **PKPab 05 57 25.3 +0.4**
SDDR Presa de Saban 145.41 28 *e*P **PKPab 05 57 25.6 +0.9**
SDDR Presa de Saban 145.41 28 *e*P **PKPbc 05 57 24.1 -0.4**
NELY Ciudad Neily 145.47 55 *e*P **PKPab 05 57 26.4 +1.4**
NELY Ciudad Neily 145.47 55 *e*P **PKPab 05 57 26.6 +1.6**
BRU2 Volcan 145.60 55 *e*P **PKPab 05 57 27.2 +1.5**
BRU2 Volcan 145.60 55 *e*P **PKPab 05 57 26.9 +1.2**
GMAL Guarumal, Vera 147.37 55 *e*P **PKPdf 05 57 28.5 +0.6**
GMAL Guarumal, Vera 147.37 55 *e*P **PKPbc 05 57 29.4 -0.9**
LR04 Corral 147.53 153 *e*P **PKPdf 05 57 27.6 +0.2**
ZANG Zanguenga, Cho 147.71 51 *e*P **PKPbc 05 57 31.1 -0.2**
PLCA Paso Flores 148.01 157 PKPbc **PKPbc 05 57 30.9 -0.5**
comp=E,174nm,1.0s,baz=218,slow=3.1,SNR=126
PLCA Paso Flores 148.01 157 *e*P **PKPdf 05 57 29.4 +1.1**
PLCA *e*P **PKPbc 05 57 31.5 +0.1**
PLCA Paso Flores 148.01 157 *e*P **PKPdf 05 57 29.2 +0.9**
PLCA Paso Flores 148.01 157 PKP **PKPbc 05 57 30.8 -0.7**
AZU Azuero 148.11 54 *e*P **PKPdf 05 57 29.3 +0.3**
AZU Azuero 148.11 54 *e*P **PKPdf 05 57 29.4 +0.3**
SJG San Juan 148.28 21 **PKPbc 05 57 32.4 -0.2**
SJG San Juan 148.28 21 PKPbc **PKPbc 05 57 31.9 -0.8**
comp=E,77nm,0.8s,baz=313,slow=3.0,SNR=27
SJG San Juan 148.28 21 PKP2 **PKPbc 05 57 32.4 -0.2**
SJG San Juan 148.28 21 *e*P **PKPdf 05 57 27.9 -1.4**
H03S2 Juan Fernandez 148.92 139 PKPbc **PKiKP 05 57 34.4 -0.4**
baz=349,slow=10,SNR=4.4
H03S1 Juan Fernandez 148.93 139 PKPbc **PKPbc 05 57 34.2 +0.7**
baz=349,slow=10,SNR=6.0
H03S3 Juan Fernandez 148.94 139 PKPbc **PKiKP 05 57 34.8 -0.2**
baz=349,slow=10,SNR=5.8
H03N3 Juan Fernandez 149.16 138 PKPbc **PKiKP 05 57 35.2 -0.3**
baz=165,slow=17,SNR=13
H03N2 Juan Fernandez 149.17 138 PKPbc **PKiKP 05 57 35.0 -0.3**
baz=165,slow=17,SNR=15
H03N1 Juan Fernandez 149.18 138 PKPbc **PKiKP 05 57 35.6 +0.2**
baz=165,slow=17,SNR=17
SKI Saint Kitts 150.05 15 *e*P **PKPdf 05 57 33.9 +1.7**
SKOC St. Kitts, UWI 150.09 15 *e*P **PKPbc 05 57 36.6 -0.6**
BI05 Punta Hualpn 150.15 149 *e*P **PKPbc 05 57 34.4 -2.5**
CANA Caviahue 150.22 154 *e*P **PKPdf 05 57 34.4 +2.3**
ANBD Bethesda, Anti 150.56 14 *e*P **PKPdf 05 57 34.9 +2.0**
MBFL Flemmings, Mon 150.75 15 *e*P **PKPdf 05 57 35.9 +2.6**
MBWH 150.76 15 *e*P **PKPdf 05 57 34.4 +1.1**
MLYT Lee's Yard 150.78 15 *e*P **PKPdf 05 57 35.4 +2.1**
BI02 San Fabin de 151.13 152 *e*P **PKPdf 05 57 34.0 +0.6**
MDN Morne-Daniel 152.32 14 *e*P **PKPdf 05 57 37.1 +1.5**
DLPL La Plaine 152.34 13 *e*P **PKPdf 05 57 31.5 -4.2**
EDS3 Malargue 152.72 154 *e*P **PKPdf 05 57 35.1 -0.8**
SVN Savane Anatole 152.83 13 *e*P **PKPdf 05 57 35.4 -1.0**
TRQA Tornquist 153.06 168 PKP **PKPdf 05 57 36.5 +0.4**
BIM Bigot 153.17 13 *e*P **PKPdf 05 57 34.6 -2.3**
OTAV Otavalo 153.70 65 *e*P **PKPdf 05 57 37.0 -1.3**
OTAV Otavalo 153.70 65 PKP **PKPdf 05 57 40.4 +2.0**
SDV Santo Domingo 154.17 38 PKP **PKPdf 05 57 39.2 +0.6**
comp=E,57nm,0.9s,baz=357,slow=0.3,SNR=33
SDV PKPbc **PKiKP 05 57 48.2 +1.3**
comp=E,145nm,0.8s,baz=85,slow=1.3,SNR=16
SDV Santo Domingo 154.17 38 *e*P **PKPdf 05 57 39.5 +0.9**
SDV Santo Domingo 154.17 38 PKP **PKPdf 05 57 40.4 +1.7**
ROC1 El Roble 154.20 147 *e*P **PKPdf 05 57 38.6 +0.4**
PEL Peldehue 154.25 148 *e*P PKPdf 05 57 28.3 -10
ROSC El Rosal 154.56 51 PKP **PKPdf 05 57 39.7 +0.3**
comp=E,40nm,0.8s,baz=317,slow=0.7,SNR=23
ROSC PP **PP 06 01 37.9 +0.4**
comp=E,70nm,1.3s,baz=352,slow=4.9,SNR=6.3
VA03 San Esteban 154.61 148 *e*P **PKPdf 05 57 39.0 +0.4**
BBGH Gun Hill 154.81 11 *e*P PKPdf 05 57 31.0 -8.2
GCMP Grenada, Carri 155.03 15 *e*P **PKPdf 05 57 42.3 +2.8**
GRSS Sisters 155.16 16 *e*P **PKPab 05 58 01.8 -2.6**
AAGR Agrelo 155.21 151 *e*P **PKPdf 05 57 41.8 +2.4**
ARCO CERRO ARCO 155.36 151 *e*P **PKPdf 05 57 40.0 +0.3**
BAUV El Baul 155.60 33 *e*P **PKPdf 05 57 36.9 -3.5**
AUSP Uspallata 155.64 149 *e*P **PKPdf 05 57 41.8 +1.5**
RTLS Leoncito 156.02 148 *e*P **PKPdf 05 57 42.2 +1.4**
ATAH Atahualpa 156.33 81 PKP **PKPdf 05 57 42.6 +0.8**
comp=E,8.0nm,0.8s,baz=318,slow=2.6,SNR=19
ATAH PKPab **PKPab 05 58 12.1 +1.8**
comp=E,217nm,0.8s,baz=236,slow=2.7,SNR=28
ZON Zonda 156.54 149 *e*P **PKPdf 05 57 41.1 -0.1**
CFA Coronel Fontan 156.71 150 PKP **PKPdf 05 57 41.5 +0.1**
comp=E,17nm,1.0s,baz=240,slow=2.5,SNR=26
TRN Trinidad (W) 156.80 17 *e*P **PKPdf 05 57 40.0 -1.8**
TBH Brigand Hill 157.05 16 *e*P **PKPdf 05 57 45.3 +3.1**
ACCO Cerro Coronel 157.10 147 *e*P **PKPdf 05 57 45.4 +3.1**
AROD Rodeo 157.21 146 *e*P **PKPdf 05 57 43.2 +0.8**
ACDV Cuesta del Vie 157.40 146 *e*P **PKPdf 05 57 43.6 +1.1**
AGUA GUANDACOL 158.27 146 *e*P **PKPdf 05 57 44.6 +1.2**
NNA Nana 158.48 93 PKP **PKPdf 05 57 44.1 +0.1**
comp=E,17nm,0.9s,baz=350,slow=2.4,SNR=8.0
NNA PKPab **PKPab 05 58 21.0 +1.9**
comp=E,84nm,0.8s,baz=257,slow=6.6,SNR=18
APLL PUNTA DE LOS L 158.53 151 *e*P **PKPdf 05 57 44.3 +0.6**
GO03 Copiapo 158.64 140 *e*P **PKPdf 05 57 44.3 +0.4**
VCA Vinchina 159.01 146 *e*P **PKPdf 05 57 44.6 +0.2**
VCA *e*P **PKPdf 05 57 45.7 +1.3**
ACLC CERRO LA CRUZ 159.13 149 *e*P **PKPdf 05 57 44.6 +0.1**
AC02 Maricunga 159.88 140 *e*P **PKPdf 05 57 41.8 -4.1**
PLTB Pedras Altas 160.07 183 *e*P **PKPdf 05 57 45.7 +0.4**
PLTB Pedras Altas 160.07 183 PKP **PKPdf 05 57 46.3 +0.9**
TBOT Tacuaremb 160.16 177 *e*P **PKPdf 05 57 47.0 +1.6**
RCBR Riachuelo 160.37 286 PKP **PKPdf 05 57 46.4 +0.2**
PB14 IPOC Station P 160.49 133 PKP **PKPdf 05 57 44.6 -1.8**
CYA Choya 160.50 150 *e*P **PKPdf 05 57 45.7 -0.3**
CYA *e*P **PKPdf 05 57 46.4 +0.4**
GO02 Mina Guanaco 160.71 136 *e*P **PKPdf 05 57 47.1 +0.5**
CPSB Cacapava Do Su 161.41 184 *e*P **PKPdf 05 57 48.6 +1.8**
CPSB Cacapava Do Su 161.41 184 PKP **PKPdf 05 57 48.3 +1.4**
NBAN Anadia - AL 161.63 275 *e*P **PKPdf 05 57 47.4 -0.1**
NBAN Anadia - AL 161.63 275 PKP **PKPdf 05 57 48.5 +1.0**
CZSB Cruzeiro do Su 161.95 79 *e*P **PKPdf 05 57 48.6 +0.8**
CZSB Cruzeiro do Su 161.95 79 PKP **PKPdf 05 57 49.4 +1.5**
FSA Cafayete 162.29 145 *e*P **PKPdf 05 57 48.9 +0.8**
NBMO Morrinhos-CE 163.10 299 PKP **PKPdf 05 57 49.9 +0.8**
MDP Montagnes des 163.10 352 PKP **PKPdf 05 57 49.5 +0.5**
comp=E,46nm,1.2s,baz=360,slow=4.9,SNR=4.2
MDP PKPab **PKPab 05 58 40.0 +1.2**
comp=E,38nm,0.7s,baz=345,slow=3.3,SNR=9.6
TBTG Tabatinga, AM 163.30 64 *e*P **PKPdf 05 57 49.9 +0.7**
TBTG Tabatinga, AM 163.30 64 PKP **PKPdf 05 57 50.0 +0.8**
SGC2 Sao Gabriel da 163.32 47 PKP **PKPdf 05 57 50.3 +1.1**
SBBR Sobral 163.51 298 PKP **PKPdf 05 57 48.6 -0.9**
SLA San Lorenzo 163.63 143 *e*P **PKPdf 05 57 49.3 -0.2**
NBPB Pedra_Branca-C 163.70 291 *e*P **PKPdf 05 57 50.3 +0.7**
NBPB Pedra_Branca-C 163.70 291 PKP **PKPdf 05 57 50.7 +1.1**
**CAM01 Campos-R

LPAZ	La Paz	166.35 111	PKP	PKPdf	05 57 53.7	+1.2
VAO	Valinhos	166.54 213	eP	PKPdf	05 57 53.3	+1.5
VABB	Valinhos	166.54 213	PKP	PKPdf	05 57 54.1	+2.3
SJPY	San Joaquin	166.79 175	eP	PKPdf	05 57 53.3	+1.4
PTGB	Pitanga	166.85 191	eP	PKPdf	05 57 54.1	+2.1
PTGB	Pitanga	166.85 191	PKP	PKPdf	05 57 54.0	+2.0
TEFE	Tefe	167.30 51	eP	PKPdf	05 57 53.7	+1.2
TEFE	Tefe	167.30 51	PKP	PKPdf	05 57 53.4	+0.9
DIAM	Diamantina, MG	167.41 238	eP	PKPdf	05 57 53.7	+1.1
DIAM	Diamantina, MG	167.41 238	PKP	PKPdf	05 57 53.3	+0.7
LDASE	Londrina, Braz	167.91 197	eP	PKPdf	05 57 54.0	+1.2
JQT1	Jequitai-MG	168.48 241	PKP	PKPdf	05 57 54.4	+1.2
TMAB	Tom-Au,PA,Br	168.51 324	eP	PKPdf	05 57 55.2	+1.8
TMAB	Tom-Au,PA,Br	168.51 324	PKP	PKPdf	05 57 55.2	+1.8
BB19B	Bebedouro	168.95 212	eP	PKPdf	05 57 54.8	+1.3
BB19B	Bebedouro	168.95 212	PKP	PKPdf	05 57 55.2	+1.7
JANB	Januaria	169.24 251	eP	PKPdf	05 57 54.4	+0.5
JANB	Januaria	169.24 251	PKP	PKPdf	05 57 53.8	0.0
PMNB	Patos De Minas	169.46 229	eP	PKPdf	05 57 53.7	-0.2
MACA	Manacapuru-AM	169.68 35	eP	PKPdf	05 57 55.6	+1.5
MACA	Manacapuru-AM	169.68 35	PKP	PKPdf	05 57 54.3	+0.1
MURT	Porto Murtinho	169.82 165	eP	PKPdf	05 57 55.4	+1.5
SDBA	SAO DESIDERIO	170.25 265	eP	PKPdf	05 57 54.1	-0.3
SDBA	SAO DESIDERIO	170.25 265	PKP	PKPdf	05 57 53.7	-0.7
MAL2	Monte Alegre,	170.29 356	PKP	PKPdf	05 57 55.6	+1.1
ITRB	Iturama	171.00 208	eP	PKPdf	05 57 56.2	+1.5
ITRB	Iturama	171.00 208	PKP	PKPdf	05 57 55.9	+1.2
PAL2	UHE Estreito -	171.06 303	PKP	PKPdf	05 57 56.3	+1.4
IPMB	Ipameri, GO	171.09 225	eP	PKPdf	05 57 56.0	+1.2
IPMB	Ipameri, GO	171.09 225	PKP	PKPdf	05 57 54.3	-0.6
BMO2	UHE Belo Monte	171.17 341	PKP	PKPdf	05 57 55.7	+0.8
BDQN	Bodoquena, MS	171.18 168	eP	PKPdf	05 57 55.8	+1.1
ATM1	UHE Belo Monte	171.18 343	PKP	PKPdf	05 57 55.6	+0.6
PAL01	Palmeiras do T	171.18 305	PKP	PKPdf	05 57 55.8	+0.9
RPRD	Ribas do Rio P	171.27 187	eP	PKPdf	05 57 55.2	+0.4
AQDB	Aquidauana	171.30 175	eP	PKPdf	05 57 56.2	+1.4
AQDB	Aquidauana	171.30 175	PKP	PKPdf	05 57 54.8	0.0
ITU3	Corumbazu	171.37 221	PKP	PKPdf	05 57 55.4	+0.4
BBSD	Serra de San D	172.25 135	eP	PKPdf	05 57 55.8	+0.5
SMTB	Santa Maria do	172.29 291	eP	PKPdf	05 57 55.2	-0.3
SMTB	Santa Maria do	172.29 291	PKP	PKPdf	05 57 56.6	+1.1
BDFB	Brasilia	172.32 239		PKPdf	05 57 55.5	-0.1
BDFB	Brasilia	172.32 239	PKP	PKPdf	05 57 54.8	-0.7
	comp=E,16nm,0.9s,baz=24,slow=4.2,SNR=16					
BDFB			PKPab	PKPab	05 59 18.9	-1.1
	comp=E,30nm,0.8s,baz=166,slow=7.2,SNR=11					
BDFB	Brasilia	172.32 239	PKP	PKPdf	05 57 56.5	+0.9
PRPB	Parauapebas	172.54 318	eP	PKPdf	05 57 55.2	-0.4
PRPB	Parauapebas	172.54 318	PKP	PKPdf	05 57 54.9	-0.7
ITTB	Itaituba	172.59 7	eP	PKPdf	05 57 55.6	0.0
ITTB	Itaituba	172.59 7	PKP	PKPdf	05 57 55.2	-0.4
C2SB	Chapadao do Su	172.77 195	eP	PKPdf	05 57 57.1	+1.6
LAJE	UHE Lajeado	173.34 285	PKP	PKPdf	05 57 55.4	-0.5
PTLB	Pontes e Lacer	174.46 132		PKPdf	05 57 55.7	-0.5
PTLB	Pontes e Lacer	174.46 132	eP	PKPdf	05 57 56.2	+0.1
PTLB	Pontes e Lacer	174.46 132	PKP	PKPdf	05 57 56.5	+0.3
ARAG	Araguaiana, MT	175.10 217	eP	PKPdf	05 57 56.0	-0.4
ARAG	Araguaiana, MT	175.10 217	PKP	PKPdf	05 57 56.7	+0.3
NPGB	Novo Progresso	175.28 6	eP	PKPdf	05 57 56.2	-0.3
NPGB	Novo Progresso	175.28 6	PKP	PKPdf	05 57 56.4	-0.2
SALV	Santo Antonio	175.81 169	eP	PKPdf	05 57 56.2	-0.3
SALV	Santo Antonio	175.81 169	PKP	PKPdf	05 57 57.0	+0.5
SNDB	Serra Nova Dou	176.51 266	eP	PKPdf	05 57 58.1	+1.3
SNDB	Serra Nova Dou	176.51 266	PKP	PKPdf	05 57 56.6	-0.2
PDRB	Porto dos Gac	178.15 85	eP	PKPdf	05 57 58.5	+1.5
PDRB	Porto dos Gac	178.15 85	PKP	PKPdf	05 57 57.0	0.0

MEX ***23*** *05:45:34.0±0.5, 14°.35N×93°.89W, h16km±.999km, MD4.1*
GCG ***23*** *05:45:35.2±1.3, 14°.32N×93°.65W, h36km±.999km, MD4.4*
ISC 23 05:45:26.6±2.1, 14°.33N±0°.08×94°.01W±0°.05, h12km±14km, n16, σ1°.60/27, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.57	29	eP	Pg	05 45 56.8	+0.1
PCIG				eS	Sn	05 46 14.4	-0.1
PATR	El Naranjo	1.89	65	eP	Pb	05 46 00.6	-0.7
PATR				eS	Sn	05 46 21.7	-1.2
PAVE	Pavencul	1.97	64	eP	Pb	05 46 02.2	-0.4
PAVE				eS	Sn	05 46 23.7	-1.2
RTAL	Retalhuleu	2.25	85	eP	Pn	05 46 03.7	0.0
RTAL				eS	Sb	05 46 34.9	-0.3
HUIG	Huatulco	2.48	306	eP	Pb	05 46 12.8	+1.7
TGIG		2.58	19	eP	Pb	05 46 13.0	+0.1
TGIG				eS	Sb	05 46 44.1	-0.5
TGIG		2.58	19	i P	Pb	05 46 13.3	+0.4
TGIG				eS	Sb	05 46 43.3	-1.3
STG8	El Palmar, Qui	2.58	87	eP	Pn	05 46 07.5	-1.0
STG0	El Palmar, Qui	2.59	88	eP	Pn	05 46 07.8	-0.7
HUEH	Huehuetenango	2.62	68	eP	Pn	05 46 11.2	+2.2
HUEH				eS	Sb	05 46 45.6	-0.3
CCIG	Comitan	2.66	43	eP	Pb	05 46 14.2	0.0
CCIG				eS	Sn	05 46 44.0	+2.4
CCIG	Comitan	2.66	43	i P	Pb	05 46 14.2	0.0
CMIG	Matias Romero	2.87	343	eP	Pb	05 46 17.3	-0.5
CMIG				eS	Sn	05 46 49.1	+2.4
UXUV	UXUV	2.98	358	eP	Pb	05 46 20.2	+0.6
UXUV				eS	Sb	05 46 54.6	-1.3
NEUV	Arroyo Zacate	3.78	333	eP	Pb	05 46 32.5	-0.7
NEUV				eS	Sn	05 47 05.0	-4.1
PETF	Flores	4.75	57	eP	Pn	05 46 44.2	+6.1
PETF				eS	Sn	05 47 36.7	+3.6

SDD ***23*** *05:47:49.2±3.3, 18°.96N×65°.40W, h185km±.99km, MD3.5, ML3.0, MW3.4*
NEIC ***23*** *05:47:52.3±1.5, 19°.36N±0°.09×65°.69W±0°.07, h13km±18km, ML3.0/30, Md3.3/16(RSPR), Error ellipse: s-maj=15.7km s-min=3.9km az=213.0*
RSPR ***23*** *05:47:53.2, 19°.51N×65°.61W, h18km±11km, MD3.3/16*
ISC 23 05:47:49.0±2.3, 19°.50N±0°.07×65°.66W±0°.08, h15km±10km, n83, σ1°.47/94, 10C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	Guaynabo City	1.25	199		Pb	05 48 12.9	+0.6
GCPR					Sg	05 48 29.4	-0.1
GCPR	Guaynabo City	1.25	199	⇑eP	Pb	05 48 12.9	+0.6
GCPR	Guaynabo City	1.25	199	eS	Sg	05 48 29.4	-0.1
EMPR	Esperanza - Ma	1.31	219		Pg	05 48 14.2	0.0
EMPR					Sg	05 48 31.0	-0.3
EMPR	Esperanza - Ma	1.31	219	IAML		05 48 33.9	
	comp=N,381nm,0.6s						
EMPR				IAML		05 48 38.4	
	comp=E,510nm,0.7s						
EMPR	Esperanza - Ma	1.31	219	⇑eP	Pg	05 48 14.2	0.0
EMPR	Esperanza - Ma	1.31	219	eS	Sg	05 48 31.0	-0.3
ECPR	Experimental S	1.35	210	⇑eP	Pb	05 48 14.4	+0.3
ECPR	Experimental S	1.35	210	eS	Sg	05 48 32.4	-0.3
HUMP	Col San Antoni	1.37	188		Pn	05 48 14.3	+0.8
HUMP					Sg	05 48 32.2	-0.9
HUMP	Col San Antoni	1.37	188	⇑eP	Pn	05 48 14.3	+0.8
HUMP	Col San Antoni	1.37	188	eS	Sg	05 48 32.2	-0.9
SJG	San Juan	1.46	199		Pb	05 48 16.1	+0.2
SJG	San Juan	1.46	199		Pb	05 48 16.2	+0.4
SJG				IAML		05 48 36.8	
	comp=E,276nm,0.4s						
SJG				IAML		05 48 41.4	
	comp=E,230nm,0.6s						
SJG	San Juan	1.46	199	⇑eP	Pb	05 48 16.1	+0.2
SJG	San Juan	1.46	199	eS	Sg	05 48 34.2	-1.9
PDPR	Patillas Dam,	1.52	193		Pb	05 48 17.1	+0.3
PDPR				IAML		05 48 37.5	
	comp=N,140nm,0.5s						
PDPR				IAML		05 48 42.5	
	comp=E,115nm,0.7s						
PDPR	Patillas Dam,	1.52	193	⇓eP	Pb	05 48 16.8	0.0
PDPR	Patillas Dam,	1.52	193	eS	Sb	05 48 35.5	-0.4
AOPR	Arecibo Observ	1.55	222		Pb	05 48 17.4	+0.1
AOPR					Sn	05 48 35.2	-0.7
AOPR	Arecibo Observ	1.55	222	IAML		05 48 44.1	
	comp=N,531nm,0.3s						
AOPR	Arecibo Observ	1.55	222	ePg	Pb	05 48 17.5	+0.1
AOPR				IAML		05 48 47.4	
	comp=N,430nm,0.3s						
AOPR	Arecibo Observ	1.55	222	⇓eP	Pb	05 48 17.4	+0.1
AOPR	Arecibo Observ	1.55	222	eS	Sn	05 48 35.2	-0.7
IGPR	InterUniversit	1.59	196		Pb	05 48 18.0	0.0
IGPR					Sb	05 48 37.8	-0.2
IGPR	InterUniversit	1.59	196	IAML		05 48 39.2	
	comp=E,315nm,0.6s						
IGPR				IAML		05 48 40.2	
	comp=N,302nm,0.4s						
IGPR	InterUniversit	1.59	196	⇓eP	Pb	05 48 18.0	0.0
IGPR	InterUniversit	1.59	196	eS	Sb	05 48 37.8	-0.2
UUPR	Utuado, UPR, P	1.60	219		Pn	05 48 18.0	+1.2
UUPR					Sb	05 48 36.9	-1.4
UUPR	Utuado, UPR, P	1.60	219	⇑eP	Pn	05 48 18.0	+1.2
UUPR	Utuado, UPR, P	1.60	219	eS	Sb	05 48 36.9	-1.4
CELP	Cerrillos	1.67	212		Pn	05 48 18.9	+1.2
CELP					Sb	05 48 39.5	-0.7
CELP	Cerrillos	1.67	212	IAML		05 48 47.0	
	comp=E,95nm,0.5s						
CELP				IAML		05 48 52.1	
	comp=N,99nm,0.5s						
CELP	Cerrillos	1.67	212	ePg	Pn	05 48 18.9	+1.2
CELP				eSg	Sg	05 48 43.6	+0.9
CELP				IAML		05 48 47.3	
	comp=N,90nm,0.8s						
CELP	Cerrillos	1.67	212	⇑eP	Pn	05 48 18.9	+1.2
CELP	Cerrillos	1.67	212	eS	Sb	05 48 39.5	-0.7
OBIP	Obispado Ponce	1.71	212		Pn	05 48 18.9	+0.6
OBIP					Sn	05 48 39.6	-0.3
OBIP	Obispado Ponce	1.71	212	IAML		05 48 46.3	
	comp=E,116nm,0.8s						
OBIP	Obispado Ponce	1.71	212	⇓eP	Pn	05 48 18.9	+0.6
OBIP	Obispado Ponce	1.71	212	eS	Sn	05 48 39.6	-0.3
AGPR	Aguadilla, PR	1.72	233		Pb	05 48 21.2	+1.0
AGPR					Sb	05 48 40.9	-0.8
AGPR	Aguadilla, PR	1.72	233	IAML		05 48 45.2	
	comp=N,116nm,1.6s						
AGPR				IAML		05 48 51.6	
	comp=E,133nm,1.0s						
AGPR	Aguadilla, PR	1.72	233	ePg	Pg	05 48 22.8	+0.8
AGPR				IAML		05 48 54.0	
	comp=N,86nm,0.5s						
AGPR	Aguadilla, PR	1.72	233	⇓eP	Pb	05 48 21.2	+1.0
AGPR	Aguadilla, PR	1.72	233	eS	Sb	05 48 40.9	-0.8
LSP	Las Mesas	1.89	226		Pb	05 48 23.4	+0.2
LSP					Sb	05 48 46.0	-0.7
LSP	Las Mesas	1.89	226	⇓eP	Pb	05 48 23.4	+0.2
LSP	Las Mesas	1.89	226	eS	Sb	05 48 46.0	-0.7
PRSN	Puerto Rico Se	1.90	228		Pb	05 48 23.5	+0.1
PRSN					Sb	05 48 45.5	-1.5
PRSN	Puerto Rico Se	1.90	228	IAML		05 48 52.2	
	comp=N,334nm,0.3s						
PRSN	Puerto Rico Se	1.90	228	⇑eP	Pb	05 48 23.5	+0.1
PRSN	Puerto Rico Se	1.90	228	eS	Sb	05 48 45.5	-1.5
GBPR	Guanica, Bosqu	1.91	217		Pb	05 48 23.3	-0.2
GBPR					Sb	05 48 46.2	-1.0
GBPR	Guanica, Bosqu	1.91	217	⇑eP	Pb	05 48 23.3	-0.2
GBPR	Guanica, Bosqu	1.91	217	eS	Sb	05 48 46.2	-1.0
MLPR	Magueyes Islan	2.01	221	ePg	Pn	05 48 24.2	+1.8
MLPR				eSg	Sn	05 48 46.7	-0.6
MLPR				IAML		05 48 57.9	
	comp=N,22nm,0.9s						
MLPR	Magueyes Islan	2.01	221	⇓eP	Pn	05 48 24.0	+1.6
MLPR	Magueyes Islan	2.01	221	eS	Sb	05 48 49.2	-1.0
CRPR	Cabo Rojo, PR	2.03	223		Pb	05 48 24.9	-0.6
CRPR					Sb	05 48 50.2	-0.3
CRPR	Cabo Rojo, PR	2.03	223	ePg	Pn	05 48 24.5	+1.9
CRPR				eSg	Sb	05 48 49.9	-0.7
CRPR				IAML		05 49 00.5	
	comp=N,68nm,0.8s						
CRPR	Cabo Rojo, PR	2.03	223	⇓eP	Pb	05 48 24.9	-0.6
CRPR	Cabo Rojo, PR	2.03	223	eS	Sb	05 48 50.2	-0.3
IDE	Isla Desecheo	2.04	237		Pb	05 48 25.3	-0.6
IDE					Sb	05 48 49.6	-1.5
IDE	Isla Desecheo	2.04	237	⇑eP	Pb	05 48 25.3	-0.6
IDE	Isla Desecheo	2.04	237	eS	Sb	05 48 49.6	-1.5
PCDR	Punta Cana, DR	2.76	250		Pn	05 48 35.4	+2.7
PCDR					Sn	05 49 06.6	+0.9
PCDR	Punta Cana, DR	2.76	250	IAML		05 49 42.8	
	comp=E,88nm,2.0s						
PCDR	Punta Cana, DR	2.76	250	⇓eP	Pn	05 48 35.4	+2.7
PCDR	Punta Cana, DR	2.76	250	eS	Sn	05 49 06.6	+0.9
SMDR	Samana, DR	3.34	267	eS	Sn	05 49 21.1	+1.0
DR12	Loma Pena Alta	3.59	259	Pn	Pn	05 48 46.1	+2.0
HATOM	Hato Mayor del	3.59	259	ePg	Pn	05 48 46.0	+1.3
BANI	BANI	4.58	257	Pn	Pn	05 49 03.2	+5.4
SC01	Santiago de lo	4.78	270		Sn	05 49 59.2	+3.5
SC01	Santiago de lo	4.78	270	eS	Sn	05 49 59.2	+3.5
SDDR	Presa de Saban	5.34	265		Pn	05 49 11.8	+3.5
SDDR	Presa de Saban	5.34	265	⇑eP	Pn	05 49 11.4	+3.1
SDDR				eS	Sn	05 50 10.0	+0.3
SDDR				IAML		05 50 13.2	
	comp=E,26nm,0.4s						
SDDR				IAML		05 50 14.0	
	comp=E,20nm,0.2s						
SDDR	Presa de Saban	5.34	265	⇓eP	Pn	05 49 11.8	+3.5
MASC	Masc	8.10	276	eP	Pn	05 49 45.6	-0.4
MASC				eS	Sn	05 51 10.0	-7.3
QMBU	Quimbuelo	8.64	276	eP	Pn	05 49 52.9	-0.7
QMBU				eS	Sn	05 51 22.1	-8.8
QMBU				IAML		05 51 27.2	
	comp=N,11nm,0.2s						
QMBU				IAML		05 51 27.4	
	comp=E,9.4nm,0.3s						
MOAC	Moa	8.81	279	eP	Pn	05 49 54.5	-1.5
GTBY	Guantanamo Bay	8.91	274	eP	Pn	05 49 57.3	+0.1
GTBY				eS	Sn	05 51 29.2	-8.3
PINC	Pinares de May	9.58	278	eP	Pn	05 50 04.3	-2.1
PINC				eS	Sn	05 51 44.2	-10
PINC				IAML		05 51 50.1	
	comp=N,0.2nm,0.3s						
PINC				IAML		05 51 50.2	
	comp=E,2.0nm,0.1s						

BUC 23 06:01:01.4±0.3, 45°.55N×26°.53E, h123km±2km, ml3.5/31, 27C-29D, Error ellipse: s-maj=1.9km s-min=1.5km az=179.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	Bisoca	0.13	90	⇑P	Pn	06 01 18.8	+0.4
BISRR				⇑S	Sn	06 01 32.4	+1.3
NEHR	Nehoiu	0.20	234	⇑P	Pn	06 01 18.3	-0.1
NEHR				⇓S	Sn	06 01 32.2	+0.9
SPBR	Spulber	0.25	37	⇑P	Pn	06 01 19.4	+0.8
SPBR				⇓S	Sn	06 01 31.4	-0.2
PLOR	Plostina	0.32	15	⇑P	Pn	06 01 19.1	+0.3
PLOR				⇑S	Sn	06 01 32.1	+0.1
VRI	Vrincioaia	0.35	23	⇑P	Pn	06 01 19.5	+0.5
VRI				⇓S	Sn	06 01 32.4	+0.2
COVR	Voineasa-Covas	0.38	323	⇑P	Pn	06 01 19.2	+0.1
COVR				⇓S	Sn	06 01 32.3	-0.2
MLR	Muntele Rosu	0.41	262	⇑P	Pn	06 01 20.1	+0.7
MLR				⇓S	Sn	06 01 34.2	+1.2
ISR	Istrita	0.43	179	⇓P	Pn	06 01 19.7	+0.3
ISR				⇑S	Sn	06 01 33.7	+0.8
OZUR		0.76	317	⇑P	Pn	06 01 21.3	-0.3
ONER	Baraj Valea Uz	0.79	353	⇑P	Pn	06 01 22.0	+0.2
ONER				⇓S	Sn	06 01 37.9	+0.6
GHRR		0.80	50	⇑S	Sn	06 01 37.8	+0.5
TUDR		0.80	86	⇑P	Pn	06 01 22.0	+0.2
TUDR				⇑S	Sn	06 01 37.9	+0.6
IZVR	Izvoarele	0.87	90	⇑S	Sn	06 01 38.0	-0.3
SULR		0.89	193	⇑S	Sn	06 01 40.3	+1.6
DOPR	Dopca	0.90	298	⇑P	Pn	06 01 22.7	-0.1
DOPR				⇓S	Sn	06 01 38.6	-0.4
SCHLR	Schela	0.92	94	⇓P	Pn	06 01 23.0	+0.1
NEGRR	Negrea	0.95	90	⇑S	Sn	06 01 39.8	+0.2
TESR	Tescani	0.97	5	⇑P	Pn	06 01 23.2	-0.2
SCTR	Scanteiesti	1.04	82	⇓S	Sn	06 01 41.6	+0.5
VOIR		1.05	264	⇓P	Pn	06 01 24.2	0.0
VOIR				⇓S	Sn	06 01 41.2	-0.3
LEHL	Lehliu	1.09	169	⇑S	Sn	06 01 43.0	+0.9
VLDR	Vladesti	1.13	74	⇓P	Pn	06 01 25.4	+0.5
VLDR				⇓S	Sn	06 01 43.1	+0.4
CFR	Carcaliu	1.19	107	⇓P	Pn	06 01 25.7	+0.1
CFR				⇑S	Sn	06 01 43.8	-0.1
CIOR	Ciorogarla	1.19	203	⇓S	Sn	06 01 44.8	+0.9
HARR	Harsova	1.31	130	⇓P	Pn	06 01 27.3	+0.4
ARR	Arges	1.35	263	⇓P	Pn	06 01 28.3	+1.0
ARR				⇑S	Sn	06 01 46.8	-0.3
SGRR	Singureni	1.38	197	⇑S	Sn	06 01 47.9	+0.3
CICN	Ciocanesti	1.40	165	⇓P	Pn	06 01 27.2	-0.6
CICN				⇓S	Sn	06 01 48.6	+0.7
TLBR	Topalu	1.47	132	⇓P	Pn	06 01 29.1	+0.4
TLBR				⇓S	Sn	06 01 49.3	0.0
HUMR	Humele	1.50	228	⇓P	Pn	06 01 29.0	0.0
HUMR				⇓S	Sn	06 01 50.1	+0.1
TPGR	Topolog	1.50	117	⇓P	Pn	06 01 29.0	-0.1
TPGR				⇑S	Sn	06 01 49.7	-0.4
TLCR		1.65	102	⇓P	Pn	06 01 31.2	+0.5
TLCR				⇑S	Sn	06 01 53.1	0.0
COPA	Copaceanca	1.69	214	⇓S	Sn	06 01 53.9	-0.1
TIRR	Tirgusor	1.72	129	⇓P	Pn	06 01 31.9	+0.3
TIRR				⇓S	Sn	06 01 54.2	-0.5
LOT	Lotru	1.94	268	⇑S	Sn	06 01 59.7	0.0
MILM	Milestii Mici	2.10	48	eS	Sn	06 02 00.8	-2.0
	40nm,0.1s						

ASRS ***23*** *06:04:25.0±1.2, 53°.94N×86°.57E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 23 06:04:27.5±2.6, 53°.96N×86°.61E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=21.1km s-min=12.9km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.06	270	I	I	06 12 00.0	
	baz=89,slow=325,SNR=4.4						
ZALV	Zalesovo Beam	1.06	270	Pg	Pg	06 04 46.6	-1.2
	1.0nm,0.3s,baz=89,slow=16,SNR=9.3						
ZALV				Lg	Lg	06 05 02.7	
	3.3nm,0.3s,baz=91,slow=30,SNR=14						
KURBB	Kurchatov Arra	5.98	239	Pn	Pn	06 05 58.5	+1.3
	0.2nm,0.3s,baz=56,slow=13,SNR=6.9						
KURBB				Lg	Lg	06 07 38.0	
	baz=46,slow=32,SNR=5.4						
	0.9nm,0.4s						
MKAR	Makanchi Array	7.69	203	Pn	Pn	06 06 21.3	+0.7
	0.2nm,0.3s,baz=26,slow=14,SNR=5.8						
MKAR				Lg	Lg	06 08 32.9	
	baz=27,slow=9.9						
	0.2nm,0.3s						

ASRS ***23*** *06:10:17.0±1.0, 54°.12N×87°.16E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 23 06:10:16.7±3.8, 54°.21N×87°.52E, h0km, mbtmp2.5/2, ML2.1/1, Error ellipse: s-maj=33.0km s-min=20.2km az=41.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.61	262	I	I	06 19 50.0	
	baz=81,slow=329,SNR=0.3						
ZALV	Zalesovo Beam	1.61	262	Pg	Pn	06 10 44.9	-1.5
	1.0nm,0.3s,baz=80,slow=14,SNR=6.4						
ZALV				Lg	Lg	06 11 08.2	
	3.5nm,0.3s,baz=76,slow=24,SNR=9.1						
KURBB	Kurchatov Arra	6.57	240	Pn	Pn	06 11 55.8	+1.3
	baz=57,slow=16,SNR=2.3						
	0.2nm,0.3s						
MKAR	Makanchi Array	8.14	206	Pn	Pn	06 12 16.9	+0.8
	0.1nm,0.3s,baz=23,slow=13,SNR=1.6						

NOU ***23*** *06:13:58.0, 35°.45S×179°.51W, h142km, mb4.2/7, East of North Island, N.Z.*
IDC ***23*** *06:14:00.3±3.0, 35°.42S×179°.81E, h0km, mb3.7/2, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=69.4km s-min=44.3km az=122.0*
WEL ***23*** *06:14:11.0±1.0, 36°.5±7°.×17°.9E±°, h134km±15km, M4.0/26, ML4.3/25, MLv4.0/26, Error ellipse: s-maj=12.2km s-min=8.2km az=64.3, confirmed*
ISC 23 06:14:10.7±2.0, 35°.98S±0°.09×179°.4E±0°.1, h150km, n64, σ1°.02/72, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.81	209	P	Pn	06 14 42.3	-1.3
MXZ	Matakaoa Point	1.81	209	P	Pn	06 14 42.3	-1.3
MXZ				S	Sn	06 15 07.0	-1.8
WMGZ	Waiomatatini S	2.00	203	P	Pn	06 14 45.7	0.0
WMGZ				S	Sn	06 15 12.8	0.0
PKGZ	Pakihiroa	2.16	209	P	Pn	06 14 47.6	-0.1
PKGZ				S	Sn	06 15 16.3	+0.1
HAZ	Te Kaha	2.19	216	P	Pn	06 14 47.5	-0.6
HAZ				S	Sn	06 15 17.7	+0.8
PUZ	Puketiti	2.28	203	P	Pn	06 14 48.8	-0.4
WIZ	White Island	2.35	228	P	Pn	06 14 48.8	-1.1
WSRZ	White Island S	2.35	229	P	Pn	06 14 49.1	-0.8
RUGZ	Raukumara Rang	2.41	214	P	Pn	06 14 50.6	-0.3
TWGZ	Tauwhareparae	2.47	207	P	Pn	06 14 51.5	0.0
CNGZ	Carnagh Statio	2.67	200	P	Pn	06 14 54.1	+0.2
WHRZ	Wh

earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 23 06:15:44.6±3.3, 54°.30N×87°.12E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=30.8km s-min=19.2km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.40	256	I	I	06 24 38.0	
	baz=75,slow=328						
ZALV	Zalesovo Beam	1.40	256	Pg	Pn	06 16 08.8	-2.5
	1.5nm,0.3s,baz=74,slow=16,SNR=13						
ZALV				Lg	Lg	06 16 29.5	
	0.8nm,0.3s,baz=78,slow=30,SNR=5.3						
KURBB	Kurchatov Arra	6.41	238	Pn	Pn	06 17 21.1	+0.9
	baz=54,slow=14,SNR=6.1						
	0.3nm,0.3s						
MKAR	Makanchi Array	8.12	204	Pn	Pn	06 17 45.3	+1.6
	0.1nm,0.3s,baz=27,slow=14,SNR=3.6						
	0.6nm,0.9s						

ISK 23 06:19:37.9, 35°.48N×28°.54E, h14km, ML3.0/17
THE 23 06:19:37.1, 35°.38N×28°.54E, h0km±2km, ML2.9/2, Error ellipse: s-maj=4.1km s-min=1.4km az=132.0
ATH 23 06:19:37.8, 35°.42N×28°.56E, h12km±8km, ML2.8/4, Manual Solution by I.Dede First location: 2019/04/23 06:21:10, This location: 2019/04/23 06:39:14 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 11 km; Longitude uncertainty: 7 km
IDC 23 06:19:39.6±4.5, 36°.13N×28°.15E, h0km, mb3.7/2, mbtmp3.4/4, ML1.8/2, Error ellipse: s-maj=105.2km s-min=22.4km az=150.0

ISC 23 06:19:37.8±3.2, 35°.47N±0°.06×28°.54E±0°.04, h13km±22km, n36, σ0°.98/43, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.82	336	P	Pb	06 19 54.3	+0.4
ARG				S	Sn	06 20 09.5	+2.5
	825nm,0.5s						
ARG	Arkhangelos	0.82	336	Pg	Pb	06 19 54.0	+0.1
ARG	Arkhangelos	0.82	336	P	Pb	06 19 54.5	+0.6
ARG				S	Sn	06 20 06.5	-0.5
KSL	Kastellorizon	1.09	51	P	Pn	06 19 59.0	+0.2
KSL	Kastellorizon	1.09	51	P	Pn	06 19 59.1	+0.4
KARP	Karpathos	1.12	274	P	Pb	06 19 58.9	-0.2
KARP				S	Sn	06 20 15.4	+0.8
	598nm,0.8s						
KARP	Karpathos	1.12	274	Pn	Pn	06 19 59.8	+0.5
KARP				Sn	Sn	06 20 15.9	+1.3
KARP	Karpathos	1.12	274	P	Pb	06 19 59.1	-0.1
KARP				S	Sn	06 20 15.1	+0.5
FETY	Fethiye	1.25	21	Pn	Pb	06 20 01.3	+0.1
FETY				Sn	Sn	06 20 18.2	+0.6
DALY	Dalyan (Mula)	1.35	4	Pn	Pb	06 20 02.8	-0.2
DATC	Datca-Mugla	1.47	331	Pn	Pb	06 20 04.7	-0.3
DAT	Datca	1.48	329	Pn	Pn	06 20 04.5	+0.3
CAME	Cameli-Denizli	1.60	23	Pn	Pb	06 20 06.6	-0.7
YER	Yerkesik	1.68	353	Pn	Pn	06 20 07.5	+0.6
ELL	Elmali	1.69	41	Pn	Pn	06 20 07.8	+0.6
ELL	Elmali	1.69	41	P	Pn	06 20 07.7	+0.6
BODT	Bodrum	1.88	328	Pn	Pn	06 20 09.9	+0.3
MLSB	Milas	1.93	342	Pn	Pn	06 20 10.8	+0.5
ZKR	Zakros	1.93	260	Pn	Pn	06 20 11.2	+0.9
ZKR	Zakros	1.93	260	P	Pn	06 20 11.2	+0.9
YKAV	Yalikavak-Bodr	1.94	329	Pn	Pn	06 20 11.4	+0.9
APMY	Acipayam-Deniz	2.09	17	Pn	Pn	06 20 13.5	+0.8
NAZL	Nazilli-Aydin	2.50	356	Pn	Pn	06 20 19.0	+0.8
AYDB	Zeytinkoy-Aydi	2.53	348	Pn	Pn	06 20 19.4	+0.7
ODEM	Odemis-Izmir	2.83	353	Pn	Pn	06 20 23.9	+1.2
APE	Apeiranthos	2.91	304	Pn	Pn	06 20 24.3	+0.5
APE	Apeiranthos	2.91	304	P	Pn	06 20 24.2	+0.5
IDI	Anoyia	2.98	268	Pn	Pn	06 20 26.2	+1.3
IDI	Anoyia	2.98	268	Pn	Pn	06 20 26.2	+1.3
	1.2nm,0.3s,baz=77,slow=18,SNR=13						
	4.4nm,0.3s						
IDI	Anoyia	2.98	268	P	Pn	06 20 25.9	+1.0
GORD	Gordes-Manisa	3.45	355	Pn	Pn	06 20 32.5	+1.3
HDMB	Hadim	3.53	64	Pn	Pn	06 20 33.8	+1.3
TVSB	Tavsanli	4.04	10	Pn	Pn	06 20 39.9	+0.4
BRTR	Keskin Array B	5.87	42	Pn	Pn	06 21 06.2	+1.6
	0.1nm,0.3s,baz=219,slow=14,SNR=1.9						
BRTR				Sn	Sn	06 22 13.6	+1.8
	0.2nm,0.3s,baz=211,slow=26,SNR=5.0						
	0.3nm,0.3s						
ESDC	Sonseca Array	26.02	289	P	P	06 25 09.4	-1.2
	0.8nm,0.7s,baz=80,slow=10,SNR=5.2						
	0.8nm,0.7s						
ARCES	ARCESS Array B	34.16	358	P	P	06 26 20.2	-2.1
	1.5nm,0.8s,baz=171,slow=9.7,SNR=4.9						
	1.5nm,0.8s						

ASRS 23 06:35:23.0±0.8, 53°.82N×88°.23E, h0km, M3.1, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.
IDC 23 06:35:27.9±3.0, 53°.70N×88°.11E, h0km, mbtmp3.3/2, ML2.8/2, Error ellipse: s-maj=26.3km s-min=16.7km az=62.0
NNC 23 06:35:28.6±2.9, 53°.58N×88°.09E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=22.7km s-min=11.3km az=57.0, Suspected Mining explosion.

ISC 23 06:35:29.7±3.7, 53°.7N±0°.1×87°.9E±0°.2, h0km, n9, σ0°.87/12, 4C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.85	279	I	I	06 48 40.0	
	0.4nm,0.9s,baz=92,slow=330,SNR=40						
ZAA0	Zalesovo Array	1.85	279	⇓P	Pn	06 36 02.1	-0.5
	3.1nm,0.7s						
ZAA0				⇑S	Sg	06 36 30.2	+1.2
	6.0nm,0.6s						
ZALV	Zalesovo Beam	1.85	279	Pn	Pn	06 36 02.4	-0.1
	2.1nm,0.3s,baz=94,slow=13,SNR=63						
ZALV				Lg	Lg	06 36 29.9	
	6.6nm,0.3s,baz=94,slow=23,SNR=24						
KURK	Kurchatov	6.44	246	⇑Pn	Pn	06 37 05.7	+0.1
	2.3nm,0.7s						
KURK				⇓Lg	Lg	06 38 53.0	
	5.4nm,0.7s						
KURBB	Kurchatov Arra	6.54	246	Pn	Pn	06 37 07.2	+0.2
	0.2nm,0.3s,baz=62,slow=14,SNR=13						
KURBB				Lg	Lg	06 38 58.4	
	baz=66,slow=31,SNR=5.3						
	2.4nm,0.5s						
KURBB	Kurchatov Arra	6.54	246	⇓Pn	Pn	06 37 07.3	+0.3
	3.3nm,0.6s						
KURBB				⇓Sn	Sn	06 38 21.3	-0.8
	6.5nm,0.6s						
KURBB				⇑Lg	Lg	06 38 56.6	
	8.1nm,0.7s						
MK31	Makanchi Array	7.79	210	Pn	Pn	06 37 25.1	+0.9
	0.1nm,0.3s,baz=42,slow=13,SNR=5.8						
MK31				⇓Sn	Sn	06 38 51.7	-1.3
	0.9nm,0.6s,baz=121,slow=39,SNR=3.0						
MK31				⇑Lg	Lg	06 39 35.0	
	3.2nm,0.8s,baz=30,slow=29,SNR=4.4						
MKAR	Makanchi Array	7.79	210	Pn	Pn	06 37 24.8	+0.6
	0.1nm,0.3s,baz=32,slow=14,SNR=7.1						
MKAR				Sn	Sn	06 38 51.9	-1.1
	0.1nm,0.3s,baz=32,slow=27,SNR=4.1						
MKAR				Lg	Lg	06 39 36.0	
	0.1nm,0.3s,baz=29,slow=31,SNR=5.0						
	0.6nm,0.5s						
MAKZ	Makanchi	7.87	211	⇓Sn	Sn	06 38 54.6	-0.4
	2.6nm,0.9s						
MAKZ				⇓Lg	Lg	06 39 36.2	
	4.7nm,0.9s						

IDC 23 06:39:32.5±4.5, 31°.70S×179°.92W, h294km±40km, mb3.8/4, mbtmp4.4/6, Error ellipse: s-maj=36.0km s-min=20.1km az=40.0
NEIC 23 06:39:39.3±1.6, 32°.11S±0°.09×179°.7E±0°.2, h343km±9km, mb4.0/11, Error ellipse: s-maj=25.9km s-min=6.9km az=116.0
WEL 23 06:39:41.3±0.9, 32°S±6°×18°0W±1°5, h299km±15km, mB4.7/8, ML5.0/6, MLv4.7/11, Mw(mB)3.9/8, Error ellipse: s-maj=21.3km s-min=4.5km az=108.8, confirmed

NOU 23 06:40:23.6, 36°.45S×179°.43E, h321km, MLv4.3/8, Off E. Coast of N. Island, N.Z.

ISC 23 06:39:37.9±0.7, 32°.20S±0°.07×179°.8W±0°.1, h350km, n61, σ2°.07/76, mb3.9/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.36	30	P	Pn	06 40 40.9	+0.3
GLKZ				S	S	06 41 28.2	-3.0
MXZ	Matakaoa Point	5.56	195	Pn	Pn	06 41 05.2	+1.6
MXZ	Matakaoa Point	5.56	195	P	Pn	06 41 08.0	+4.4
MXZ	Matakaoa Point	5.56	195	P	Pn	06 41 05.4	+1.8
MXZ				S	S	06 42 12.5	-0.6
GRZ	Great Barrier	5.61	223	P	Pn	06 41 07.6	+3.4
WMGZ	Waiomatatini S	5.79	194	P	Pn	06 41 07.1	+1.0
WMGZ				S	S	06 42 18.4	+0.7
KUZ	Kuaotunu	5.83	218	P	Pn	06 41 10.1	+3.4
HAZ	Te Kaha	5.88	199	P	Pn	06 41 08.6	+1.5
HAZ				S	S	06 42 19.5	-0.1
PKGZ	Pakihiroa	5.91	196	P	Pn	06 41 07.5	0.0
PKGZ				S	S	06 42 18.0	-2.3
PUZ	Puketiti	6.06	194	P	Pn	06 41 11.7	+2.4
PUZ				S	S	06 42 21.4	-2.1
WCZ	Waipu Caves	6.10	231	P	Pn	06 41 12.9	+3.2
RUGZ	Raukumara Rang	6.10	199	P	Pn	06 41 10.4	+0.5
RUGZ				S	S	06 42 23.2	-1.3
WIAZ	Waiheke Island	6.18	221	P	Pn	06 41 13.7	+3.0
MBAZ	Motutapu North	6.30	222	P	Pn	06 41 15.9	+3.9
CNGZ	Carnagh Statio	6.47	194	P	Pn	06 41 15.9	+1.9
CNGZ				S	S	06 42 33.1	+1.1
MWZ	Matawai	6.49	199	P	Pn	06 41 13.8	-0.4
MWZ				S	S	06 42 31.3	-1.2
TKGZ	Te Karaka	6.51	196	P	Pn	06 41 14.5	+0.1
TKGZ				S	S	06 42 30.8	-2.0
URZ	Urewera	6.54	202	P	Pn	06 41 13.5	-1.3
	17nm,0.3s,baz=351,slow=5.1,SNR=78						
URZ				S	S	06 42 31.7	-1.8
	50nm,0.6s,baz=310,slow=24,SNR=16						
URZ	Urewera	6.54	202	P	Pn	06 41 13.6	-1.2
URZ				S	S	06 42 31.1	-2.4
TOZ	Tahuroa Road	6.71	213	Pn	Pn	06 41 16.7	-0.1
TOZ	Tahuroa Road	6.71	213	P	Pn	06 41 19.6	+2.8
RTZ	Ruatahuna	6.91	201	P	Pn	06 41 19.1	0.0
RTZ				S	S	06 42 38.4	-3.1
BKZ	Black Stump Fm	7.56	202	P	Pn	06 41 26.6	-0.2
BKZ	Black Stump Fm	7.56	202	P	Pn	06 41 26.0	-0.8
BKZ				S	S	06 42 52.4	-3.1
HIZ	Hauiti	7.64	213	P	Pn	06 41 32.4	+4.7
HIZ	Hauiti	7.64	213	P	Pn	06 41 32.2	+4.5
OTVZ	Oturere	7.85	206	P	Pn	06 41 29.3	-1.0
OTVZ				S	S	06 43 00.1	-1.8
VRZ	Vera Road	8.19	211	P	P	06 41 37.6	+0.5
KHEZ	Kahui Hut	8.66	213	P	P	06 41 43.6	+1.2
BFZ	Birch Farm	9.03	199	P	Pn	06 41 42.1	-2.1
SNZO	South Karori	10.09	204	P	Pn	06 41 54.1	-2.6
BHW	Baring Head	10.12	203	Pn	Pn	06 41 56.6	-0.5
KHZ	Kahutara	11.47	205	P	Pn	06 42 10.5	-2.7
INZ	Inchbonnie	12.57	211		P	06 42 24.8	-0.8
RPZ	Rata Peaks	13.54	209	P	P	06 42 36.7	+0.3
	3.0nm,0.4s,baz=30,slow=8.1,SNR=2.8						
STKA	Stephens Creek	32.58	260	P	P	06 45 37.9	+0.1
STKA	Stephens Creek	32.58	260	P	P	06 45 38.1	+0.4
	1.7nm,0.4s,baz=102,slow=9.6,SNR=7.7						
	1.7nm,0.4s						
BBOO	Buckleboo	36.99	257	P	P	06 46 14.2	-1.0
BBOO				IAmb	IAmb	06 46 20.0	
	comp=Z,12nm,1.4s						
COEN	Coen	38.32	290	P	P	06 46 24.1	-2.3
AS31	Alice Springs	41.48	270	P	P	06 46 50.7	-1.4
ASAR	Alice Springs	41.48	270	P	P	06 46 50.2	-2.0
ASAR	Alice Springs	41.48	270	P	P	06 46 50.6	-1.5
	comp=Z,1.7nm,0.3s,baz=106,slow=7.2,SNR=49						
	comp=Z,1.7nm,0.3s						
WR8	Warramunga Arr	42.50	275	P	P	06 46 58.3	-1.9
WB2	Warramunga Arr	42.63	275	P	P	06 46 59.7	-1.6
WB2				IAmb	IAmb	06 47 04.5	
	comp=Z,17nm,1.5s						
WRAB	Tennant Creek	42.63	275	P	P	06 46 59.0	-2.3
WRAB				IAmb	IAmb	06 47 07.2	
	comp=Z,12nm,1.1s						
WRA	Warramunga Arr	42.64	275	P	P	06 46 58.7	-2.7
WRA	Warramunga Arr	42.64	275	P	P	06 46 59.6	-1.7
	comp=Z,4.0nm,0.3s,baz=112,slow=8.0,SNR=93						
	comp=Z,4.0nm,0.3s						
WB0	Warramunga Arr	42.67	275	P	P	06 47 00.0	-1.6
WB0				IAmb	IAmb	06 47 00.4	
	comp=Z,5.0nm,0.7s						
QSPA	South Pole Qui	57.92	180	P	P	06 48 57.8	+3.6
QSPA				IAmb	IAmb	06 49 36.6	
	comp=Z,6.0nm,1.4s						
QSPA	South Pole Qui	57.92	180	P	P	06 48 57.7	+3.6
	comp=Z,2.9nm,0.7s,baz=212,slow=1.7,SNR=22						
	comp=Z,2.9nm,0.7s						
BELA	Belgrano 2	68.22	173	P	P	06 50 03.7	+2.7
BELA				IAmb	IAmb	06 50 39.8	
	comp=Z,3.4nm,1.3s						
KURBB	Kurchatov Arra	121.17	313	PKP	PKPdf	06 57 47.6	-1.4
	comp=Z,0.7nm,0.7s,baz=103,slow=2.1,SNR=5.7						
FIA1	FINESS Array S	146.25	338		PKPdf	06 58 36.4	+1.3
FINES	FINESS Array B	146.25	338	PKPdf	PKPdf	06 58 36.5	+1.4
FINES	FINESS Array B	146.25	338	PKPbc	PKPdf	06 58 36.4	+1.2
	comp=Z,5.6nm,0.4s,baz=41,slow=4.7,SNR=49						
NC303	NORSAR Array S	150.05	349	PKPbc	PKPbc	06 58 46.7	0.0
NC405	NORSAR Array S	150.10	349	PKPbc	PKPbc	06 58 47.2	+0.4
NB2	NORSAR Subarra	150.25	349	PKP	PKPbc	06 58 47.0	-0.2
	comp=Z,0.9nm,0.5s,baz=18,slow=2.6						
NOA	NORSAR Array B	150.25	349	PKPbc	PKPbc	06 58 46.9	-0.4
	comp=Z,1.5nm,0.6s,baz=16,slow=4.2,SNR=7.0						
HFS	Hagfors	150.65	346	PKPbc	PKPbc	06 58 47.5	-0.6
	comp=Z,2.4nm,0.6s,baz=294,slow=1.5,SNR=10						
AKASG	Malin Array Be	151.70	319	PKPbc	PKPbc	06 58 49.8	-1.0
	comp=Z,0.9nm,0.5s,baz=60,slow=2.2,SNR=5.6						

ASRS 23 06:40:08.0±1.0, 54°.23N×87°.11E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 23 06:40:09.6±3.5, 54°.31N×87°.17E, h0km, mbtmp2.7/2, ML2.1/2, Error ellipse: s-maj=31.8km s-min=19.8km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.43	256	I	I	06 49 30.0	
	baz=76,slow=327,SNR=1.7						
ZALV	Zalesovo Beam	1.43	256	Pg	Pn	06 40 34.9	-1.9
	0.4nm,0.3s,baz=72,slow=17,SNR=7.0						
ZALV				Lg	Lg	06 40 55.1	
	0.6nm,0.3s,baz=75,slow=26,SNR=4.1						
KURBB	Kurchatov Arra	6.44	238	Pn	Pn	06 41 46.6	+1.0
	baz=53,slow=14,SNR=2.9						
	0.6nm,0.7s						
MKAR	Makanchi Array	8.14	204	Pn	Pn	06 42 10.3	+1.3
	baz=23,slow=12,SNR=1.6						
	0.3nm,0.6s						

BJI 23 06:41:10.6, 11°.66N×125°.36E, h63km, mB5.2/8, mb4.6/36, Ms4.7/1, Ms7 4.4/1
IDC 23 06:41:12.1±0.5, 11°.75N×125°.21E, h56km±4km, mb4.2/33, mbtmp4.5/33, Error ellipse: s-maj=17.9km s-min=8.9km az=63.0
NEIC 23 06:41:13.0±1.2, 11°.73N±0°.08×125°.2E±0°.1, h57km±7km, mb4.8/86, Error ellipse: s-maj=15.8km s-min=10.8km az=59.0
DJA 23 06:41:31.0±1.3, 12°N±6°×12°6E±°, h265km±14km, M4.8/14, mb4.8/14, mB5.4/2, Mw(mB)4.9/2

ISC 23 06:41:12.3±0.4, 11°.73N±0°.06×125°.20E±0°.07, h57km±3km, h57km: pP-P, n412, σ0°.81/404, mb4.7/86, 1C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	4.77	300	P	Pn	06 42 23.2	+1.4
	294nm,0.4s,baz=139,slow=6.6,SNR=7.1						
MYLDM	Lahad Datu	9.29	226	Pn	Pn	06 43 25.3	+1.6
SBUM	Sibu	15.83	235		Pn	06 44 52.2	+0.5
SPSI	Sidrap Palu	16.50	199	P	P	06 45 27.3	+25
SMPI	Sarmi	19.14	135	P	Pn	06 45 33.0	+0.5
	4μm75nm,1.2s						
GENI	Genyem	20.60	133	P	Pn	06 45 48.6	-1.1
	57nm,1.0s						
JAY	Jayapura	20.93	132	P	P	06 45 51.1	+0.5
	7.8nm,0.7s,baz=287,slow=6.5,SNR=4.3						
	7.8nm,0.7s						
JAY	Jayapura	20.93	132	P	Pn	06 45 52.1	-1.6
	19nm,0.9s						
NJ2	Nanjing	21.05	345	eP	P	06 45 53.0	+1.4
NJ2				pmax	pmax		
	comp=Z,14nm,0.7s						
WHN	Wuhan	21.25	333	P	P	06 45 55.8	+2.0
WHN				pmax	pmax		
	comp=Z,44nm,0.9s						
SLVN	Son La	22.51	298		P	06 46 06.7	-0.8
JMN	Monobe	23.29	19	P	P	06 46 15.6	+0.3
MTN	Manton Dam	25.12	166	P	P	06 46 32.4	+0.2
MTN				IAmb	IAmb	06 46 34.5	
	comp=Z,47nm,1.6s						
LYN	LuoYang	25.50	335	P	P	06 46 36.3	+0.8
LYN				pP	pP	06 46 50.9	+1.3
LYN				pmax	pmax		
	comp=Z,24nm,0.6s						
KSRS	Korea Array	25.73	5	P	P	06 46 37.8	+0.4
	comp=Z,2.4nm,0.6s,baz=184,slow=9.9,SNR=11						
	comp=Z,2.4nm,0.6s						
CMAR	Chiang Mai Arr	26.19	288	P	P	06 46 41.8	-0.1
CMAR					pP	06 46 55.8	-0.2
CMAR	Chiang Mai Arr	26.19	288	P	P	06 46 42.0	+0.1
	comp=Z,3.4nm,0.8s,baz=93,slow=7.7,SNR=17						
	comp=Z,3.4nm,0.8s						
PZH	PanZhiHua	26.52	307	P	P	06 46 45.3	+0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,700nm,10.6s						
XAN	Xi'an	26.71	329	⇑P	P	06 46 44.8	-1.7
XAN				pmax	pmax		
	comp=Z,30nm,1.0s						
XAN				pmax	pmax		
	comp=Z,2μm,10.8s						
HNS	HongShan	27.23	342	⇓P	P	06 46 51.0	-0.1
HNS				sP	sP	06 47 11.5	-0.5
HNS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MJAR	Matsushiro Arr	27.35	23	P	P	06 46 50.9	-1.2
	comp=Z,1.0nm,0.4s,baz=202,slow=9.2,SNR=2.0						
	comp=Z,1.0nm,0.4s						
CD2	Chengdu	27.52	317	P	P	06 46 59.3	+5.5
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
MNSI	Mandailing Nat	27.65	249	P	P	06 47 13.8	+19
FITZ	Fitzroy Crossi	29.65	179	P	P	06 47 12.7	0.0
COEN	Coen	31.13	145	P	P	06 47 24.8	-1.1
COEN				IAmb	IAmb	06 47 35.3	
	comp=Z,29nm,1.4s						
HHC	Hu-ho-hao-te	31.39	340	eP	P	06 47 30.5	+2.5
WB0	Warramunga Arr	32.59	164	P	P	06 47 37.8	-0.8
WB0				IAmb	IAmb	06 48 52.5	
	comp=Z,35nm,1.9s						
WRA	Warramunga Arr	32.74	164	P	P	06 47 39.4	-0.6
WRA	Warramunga Arr	32.74	164	P	P	06 47 39.0	-0.9
	comp=Z,3.1nm,0.9s,baz=349,slow=8.8,SNR=7.5						
WRA				PcP	PcP	06 50 23.5	-1.0
	comp=Z,2.4nm,0.6s,baz=346,slow=3.2,SNR=8.1						
	comp=Z,3.1nm,0.9s						
WR8	Warramunga Arr	32.80	164	P	P	06 47 39.9	-0.6
WR8				IAmb	IAmb	06 47 40.8	
	comp=Z,13nm,1.2s						
USRK	Ussuriysk Ar.	32.88	9	P	P	06 47 40.5	-0.3
	comp=Z,6.0nm,0.7s,baz=200,slow=9.2,SNR=8.1						
	comp=Z,6.0nm,0.7s						
XLT	XiLinHaoTe	33.00	348	eP	P	06 47 43.0	+0.9
XLT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MBWA	Marble Bar	33.13	189	P	P	06 47 43.0	-0.3
BNX	BinXian	33.94	3	⇓P	P	06 47 49.8	-0.3
BNX				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SHL	Shillong	34.31	298		P	06 47 53.2	-0.7
GTA	Gaotai	35.58	325	eP	P	06 48 05.8	+1.2
GTA				pP	pP	06 48 21.9	+2.9
GTA				ScP	ScP	06 54 11.9	-2.0
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AS31	Alice Springs	36.20	166		P	06 48 09.2	-0.6
AS31				IAmb	IAmb	06 48 12.3	
	comp=Z,5.4nm,0.3s						
ASAR	Alice Springs	36.20	166	P	P	06 48 09.7	-0.2
	comp=Z,7.5nm,0.4s,baz=349,slow=7.5,SNR=81						
ASAR				PcP	PcP	06 50 33.5	-0.9
	comp=Z,1.9nm,0.5s,baz=343,slow=2.8,SNR=8.3						
ASAR				ScP	ScP	06 54 13.3	-2.9
	comp=Z,0.7nm,0.6s,baz=343,slow=3.1,SNR=8.2						
	comp=Z,7.5nm,0.4s						
ULN	Ulaanbaatar	39.10	341		P	06 48 34.2	0.0
ULN	Ulaanbaatar	39.10	341	P	P	06 48 34.8	+0.6
ULN				pP	pP	06 48 49.6	+0.7
ULN				sP	sP	06 48 56.5	+1.0
SONM	Songino Array	39.29	340	P	P	06 48 35.6	-0.2
SONM	Songino Array	39.29	340	P	P	06 48 35.3	-0.5
	comp=Z,1.5nm,0.5s,baz=157,slow=10,SNR=7.4						
SONM				pP	pP	06 48 51.0	+0.5
	comp=Z,2.3nm,0.6s,baz=159,slow=9.7,SNR=6.3						
	comp=Z,1.5nm,0.5s						
H11S3	WAKE ISLAND Hy	40.55	75	T	T	07 32 10.6	
	baz=265,slow=77,SNR=40						
H11S1	WAKE ISLAND Hy	40.56	75	T	T	07 31 57.4	
	baz=265,slow=77,SNR=20						
H11S2	WAKE ISLAND Hy	40.56	75	T	T	07 32 02.1	
	baz=265,slow=77,SNR=26						
H11N1	WAKE ISLAND Hy	40.83	73	T	T	07 32 24.3	
	baz=265,slow=74,SNR=96						
H11N2	WAKE ISLAND Hy	40.83	73	T	T	07 32 24.8	
	baz=265,slow=74,SNR=66						
H11N3	WAKE ISLAND Hy	40.84	73	T	T	07 32 25.6	
	baz=265,slow=74,SNR=100						
FORT	Forrest	42.36	176		P	06 49 01.2	+0.2
WMQ	Urumqi	45.43	322	eP	P	06 49 27.8	+2.1
BBOO	Buckleboo	45.49	167		P	06 49 26.3	+0.1
STKA	Stephens Creek	46.12	161		P	06 49 30.6	-0.6
STKA	Stephens Creek	46.12	161	P	P	06 49 31.6	+0.4
	comp=Z,14nm,0.7s,baz=334,slow=8.2,SNR=32						
	comp=Z,14nm,0.7s						
PEA0B	Petropavlovsk-	48.76	26		P	06 49 52.0	+0.6
PETK	Petropavlovsk-	48.76	26		P	06 49 51.9	+0.5
PETK	Petropavlovsk-	48.76	26	P	P	06 49 50.9	-0.6
	comp=Z,8.9nm,0.6s

SIMJ				IAmb	IAmb	06 51 06.2	
	comp=Z,7.2nm,1.1s						
KK31	Karatay Array	56.48	314		P	06 50 48.1	-0.6
KKAR	Karatay Array	56.48	314		P	06 50 48.0	-0.7
KKAR	Karatay Array	56.48	314	IAmb	IAmb	06 51 21.1	
	comp=Z,7.6nm,1.1s						
MSVF	Nonsavu	59.84	119	P	P	06 51 13.2	+0.6
	comp=Z,17nm,0.8s,baz=263,slow=11,SNR=4.1						
	comp=Z,17nm,0.8s						
BVAR	Borovoye Array	59.87	325	P	P	06 51 12.3	+0.1
	comp=Z,3.6nm,0.8s,baz=113,slow=9.8,SNR=15						
BVAR				pP	pP	06 51 27.7	+0.1
	comp=Z,5.8nm,0.8s,baz=120,slow=8.7,SNR=8.4						
	comp=Z,3.6nm,0.8s						
TIXI	Tiksi	59.92	1	P	P	06 51 11.4	-0.7
TIXI				IAmb	IAmb	06 51 28.0	
	comp=Z,9.8nm,1.1s						
TIXI	Tiksi	59.92	1	P	P	06 51 11.5	-0.6
TIXI				pP	pP	06 51 27.1	-0.4
BRVK	Borovoye	59.94	325		P	06 51 12.5	-0.1
BRVK				IAmb	IAmb	06 51 29.8	
	comp=Z,7.2nm,0.8s						
BRVK	Borovoye	59.94	325	P	P	06 51 12.8	+0.1
BRVK				pP	pP	06 51 28.1	0.0
BRVK				sP	sP	06 51 35.0	+0.5
BILL	Bilibino	62.29	16	P	P	06 51 28.5	+0.2
NRIK	Noril'sk	62.34	346	P	P	06 51 29.1	+0.5
	comp=Z,1.4nm,0.3s,baz=117,slow=6.9,SNR=5.0						
	comp=Z,1.4nm,0.3s						
AB31	Akbulak array	65.08	319	IAmb	IAmb	06 52 02.6	
	comp=Z,6.2nm,0.8s						
ABKAR	Akbulak array	65.08	319		P	06 51 46.4	-0.6
ABKAR	Akbulak array	65.08	319		P	06 51 46.2	-0.8
ABKAR				IAmb	IAmb	06 52 02.6	
	comp=Z,6.2nm,0.8s						
NIKH	Nikolski High	66.28	37	P	P	06 51 55.1	+0.5
	baz=258						
SPIA	Saint Paul Isl	66.51	32	P	P	06 51 56.9	+0.9
	baz=255						
AKTO	Aktyubinsk	66.53	320	P	P	06 51 55.5	-0.9
	comp=Z,1.4nm,0.3s,baz=99,slow=8.4,SNR=5.3						
	comp=Z,1.4nm,0.3s						
P08K	Saint George I	66.73	33	P	P	06 51 58.0	+0.6
	baz=256						
ARTI	Arti	67.52	326	P	P	06 52 01.8	-0.6
	comp=Z,1.6nm,0.4s,baz=85,slow=3.5,SNR=4.3						
	comp=Z,1.6nm,0.4s						
ARTI	Arti	67.52	326	P	P	06 52 01.6	-0.8
ARTI				pP	pP	06 52 16.6	-1.5
ARTI				sP	sP	06 52 23.5	-1.1
QRZ	Quartz Range	68.16	143	P	P	06 52 08.1	+1.5
MSZ	Milford Sound	68.18	149	P	P	06 52 08.5	+1.8
JCZ	Jackson Bay	68.21	148	P	P	06 52 08.8	+1.8
VRZ	Vera Road	68.46	140	P	P	06 52 11.1	+2.5
WVZ	Waitaha Valley	68.58	146	P	P	06 52 09.7	+0.4
WKZ	Wanaka	68.85	148	P	P	06 52 11.2	+0.3
TWVZ	Taurewa	68.86	140	P	P	06 52 13.8	+2.6
NNZ	Nelson	68.90	143	P	P	06 52 11.9	+0.6
THZ	Tophouse	68.97	144	P	P	06 52 11.8	0.0
THZ	Tophouse	68.97	144	P	P	06 52 11.9	+0.1
DUWZ	D'Urville Isla	68.97	142	P	P	06 52 12.5	+0.7
WTVZ	West Tongariro	68.98	140	P	P	06 52 14.0	+2.1
WAZ	Wanganui	68.98	141	P	P	06 52 11.3	-0.5
NNVZ	North Ngauruho	69.00	140	P	P	06 52 14.2	+2.0
NGZ	Ngauruhoe	69.02	140	P	P	06 52 14.2	+1.9
TMVZ	Te Maari	69.05	140	P	P	06 52 14.3	+1.9
SNVZ	South Ngauruho	69.05	140	P	P	06 52 14.5	+2.0
OTVZ	Oturere	69.05	140	P	P	06 52 14.4	+1.9
ETVZ	East Tongariro	69.06	140	P	P	06 52 14.4	+1.8
WNVZ	Wahianoa	69.11	140	P	P	06 52 15.0	+2.1
LBZ	Lake Benmore	69.16	147	P	P	06 52 13.8	+0.9
RPZ	Rata Peaks	69.18	146		P	06 52 13.4	+0.4
RPZ	Rata Peaks	69.18	146	P	P	06 52 12.9	-0.1
	comp=Z,24nm,0.5s,baz=279,slow=2.4,SNR=22						
	comp=Z,24nm,0.5s						
RPZ	Rata Peaks	69.18	146	P	P	06 52 13.6	+0.6
LTZ	Lake Taylor	69.25	145	IAmb	IAmb	06 52 14.7	
	comp=Z,17nm,0.9s						
LTZ	Lake Taylor	69.25	145	P	P	06 52 14.3	+0.8
MOVZ	Moawhango	69.25	140	P	P	06 52 14.6	+1.0
EAZ	Earnscleugh	69.28	148	P	P	06 52 14.5	+1.0
M11K	Mekoryuk	69.34	30	P	P	06 52 14.6	+0.9
	baz=257						
TCW	Tory Channel	69.43	142	P	P	06 52 14.3	-0.2
OXZ	Oxford	69.47	145	P	P	06 52 15.1	+0.3
BKZ	Black Stump Fm	69.58	140		P	06 52 16.4	+0.8
BKZ	Black Stump Fm	69.58	140	P	P	06 52 16.3	+0.8
HAZ	Te Kaha	69.61	138	P	P	06 52 17.7	+2.0
OGWZ	Otaki Gorge	69.73	142	P	P	06 52 16.3	-0.1
KHZ	Kahutara	69.74	144	P	P	06 52 16.3	-0.1
MWZ	Matawai	69.77	138	P	P	06 52 16.9	+0.1
KRHZ	Kereru	69.78	140	P	P	06 52 17.4	+0.6
FALS	False Pass	69.78	36	P	P	06 52 17.2	+0.7
	baz=262						
GVZ	Greta Valley S	69.80	145	P	P	06 52 17.7	+0.9
PNHZ	Pukenui	69.83	140	P	P	06 52 17.5	+0.4
MCHZ	McNeill Hill	69.87	140	P	P	06 52 18.7	+1.4
MRZ	Mangatainoka R	69.88	141	P	P	06 52 16.8	-0.6
TNA	Tin City	69.89	24	P	P	06 52 17.4	+0.3
	baz=254						
TUZ	Tuapeka	69.94	149	P	P	06 52 18.1	+0.5
MQZ	McQueen's Vall	70.06	145	P	P	06 52 18.9	+0.6
BFZ	Birch Farm	70.31	141	P	P	06 52 20.6	+0.6
PXZ	Pawanui	70.31	140	P	P	06 52 21.3	+1.3
K13K	Kusilvak Mount	70.41	28	P	P	06 52 20.8	+0.6
	baz=258						
F14K	Arctic Creek	70.51	24	P	P	06 52 21.1	+0.3
	baz=255						
S12K	Black Hills	70.67	35	P	P	06 52 21.6	-0.4
	baz=262						
ANM	Nome	70.68	25	P	P	06 52 21.8	-0.1
	baz=256						
M13K	Dall Lake	70.73	30	P	P	06 52 22.5	+0.2
	baz=260						
J14K	Nanvaranak Lak	71.08	27	P	P	06 52 24.7	+0.4
	baz=259						
L14K	Kuka Creek	71.22	29	P	P	06 52 25.7	+0.6
	baz=260						
F15K	North Star Dit	71.25	24	P	P	06 52 25.6	+0.2
	baz=257						
G15K	Niukluk	71.33	25	P	P	06 52 26.8	+0.9
	baz=257						
M14K	Bethel	71.47	30	P	P	06 52 27.6	+0.9
	baz=261						
N14K	Kuskokwak Cree	71.47	31	P	P	06 52 27.1	+0.4
	baz=261						
SDPT	Sand Point	71.52	35	P	P	06 52 26.6	-0.5
	baz=264						
O14K	Tigyukauivet M	71.58	31	P	P	06 52 27.2	-0.2
	baz=262						
C16K	Lisburne Hills	71.61	22	P	P	06 52 28.3	+0.9
	baz=255						
L15K	Ungalak Mounta	71.84	29	P	P	06 52 29.2	+0.3
	baz=261						
K15K	Wolf Creek Mou	71.92	28	P	P	06 52 29.7	+0.3
	baz=261						
CHNA	Chernabura Isl	71.98	36	P	P	06 52 30.1	+0.2
	baz=265						
H16K	Elim	72.02	26	P	P	06 52 30.7	+0.8
	baz=259						
M15K	Kasigluk River	72.07	30	P	P	06 52 30.9	+0.5
	baz=262						
G16K	Koyuk River	72.11	25	P	P	06 52 31.5	+1.0
	baz=259						
S14K	Fog Glacier	72.14	35	P	P	06 52 30.9	-0.1
	baz=264						
N15K	Kwethluk River	72.30	30	P	P	06 52 32.2	+0.4
	baz=263						
D17K	Noatak River	72.30	22	P	P	06 52 32.0	+0.4
	baz=258						
O15K	Ungalikthiuk R	72.31	31	P	P	06 52 31.8	0.0
	baz=263						
RDOG	Red Dog Mine	72.44	22	P	P	06 52 32.9	+0.5
	baz=258						
J16K	Anvik River	72.50	27	P	P	06 52 33.4	+0.5
	baz=261						
I17K	Unalakleet	72.55	26	P	P	06 52 33.7	+0.6
	baz=261						
E17K	Hotham Inlet	72.65	23	P	P	06 52 34.5	+0.8
	baz=259						
F17K	Baldwin Pennin	72.75	24	P	P	06 52 35.1	+0.8
	baz=260						
CHGN	Chignik	72.77	35	P	P	06 52 34.3	-0.3
	baz=265						
L16K	Owhat River	72.79	29	P	P	06 52 34.6	-0.1
	baz=263						
G17K	Kiwalik Mounta	72.83	25	P	P	06 52 35.5	+0.7
	baz=260						
M16K	Timber Creek	72.96	30	P	P	06 52 35.4	-0.2
	baz=263						
N16K	Nishlik Lake	72.99	30	P	P	06 52 36.3	+0.4
	baz=264						
H17K	Granite Mounta	73.05	25	P	P	06 52 37.2	+1.1
	baz=261						
B18K	Kokolik River	73.12	21	P	P	06 52 37.5	+1.1
	baz=258						
E18K	Tukpahlearik C	73.18	23	P	P	06 52 37.4	+0.6
	baz=260						
C18K	Utukok River	73.19	22	P	P	06 52 37.8	+0.8
	baz=259						
J17K	VABM Dome	73.19	27	P	P	06 52 37.3	+0.3
	baz=262						
O16K	Kokwok River B	73.23	31	P	P	06 52 37.4	+0.1
	baz=265						
L17K	Donlin	73.40	28	P	P	06 52 38.7	+0.5
	baz=264						
F18K	Selawik	73.41	24	P	P	06 52 38.8	+0.6
	baz=261						
K17K	Iditarod	73.46	28	P	P	06 52 38.8	+0.2
	baz=263						
A19K	Wainwright	73.53	20	P	P	06 52 39.2	+0.4
	baz=259						
G18K	Tagagawik	73.71	25	P	P	06 52 40.6	+0.6
	baz=262						
M17K	Holitna River	73.73	29	P	P	06 52 40.4	+0.2
	baz=265						
H18K	Honhosa River	73.73	25	P	P	06 52 40.6	+0.5
	baz=263						
O17K	Koliganek Bris	73.75	31	P	P	06 52 40.5	+0.2
	baz=265						
N17K	Nushagak Hills	73.77	30	P	P	06 52 40.9	+0.4
	baz=265						
Q16K	King Salmon	73.90	32	P	P	06 52 41.1	0.0
	baz=266						
P17K	Kvichak River	74.04	32	P	P	06 52 41.9	-0.1
	baz=266						
L18K	Granite Mounta	74.16	28	P	P	06 52 43.1	+0.5
	baz=265						
F19K	Shaleruckik Mo	74.19	24	P	P	06 52 43.2	+0.4
	baz=263						
J18K	Innoko River	74.26	27	P	P	06 52 43.3	+0.1
	baz=265						
Q17K	Contact Creek	74.27	33	P	P	06 52 43.5	-0.1
	baz=267						
D19K	Kuna River	74.28	22	IAmb	IAmb	06 52 45.0	
	comp=Z,7.9nm,0.8s						
CHIR	Chirikof Islan	74.30	35	P	P	06 52 43.6	0.0
	baz=268						
GCSA	Galena City Sc	74.31	26	P	P	06 52 43.9	+0.4
	baz=264						
G19K	Purcell Mounta	74.38	24	IAmb	IAmb	06 52 45.4	
	comp=Z,36nm,1.9s						
G19K	Purcell Mounta	74.38	24	P	P	06 52 44.5	+0.6
	baz=264,SNR=6.9						
N18K	Kilae Creek	74.42	30	P	P	06 52 44.5	+0.3
	baz=266						
E19K	Redstone River	74.47	23	P	P	06 52 45.3	+0.9
E19K				IAmb	IAmb	06 52 46.4	
	comp=Z,17nm,1.4s						
E19K	Redstone River	74.47	23	P	P	06 52 45.0	+0.6
	baz=263,SNR=7.2						
M18K	Stony River	74.51	29	P	P	06 52 45.7	+1.0
	baz=266						
H19K	Roundabout Mou	74.57	25	IAmb	IAmb	06 52 46.8	
	comp=Z,14nm,1.2s						
H19K	Roundabout Mou	74.57	25	P	P	06 52 46.0	+1.0
	baz=264,SNR=7.2						
O18K	Koktuli Hills	74.71	31	P	P	06 52 46.9	+0.9
	baz=267						
Q18K	Katmai Hardscr	74.75	32	P	P	06 52 46.5	+0.1
	baz=268						
J19K	Poorman	74.79	27	P	P	06 52 47.3	+1.0
	baz=266						
B20K	Meade River	74.82	20	P	P	06 52 46.9	+0.6
	baz=262						
D20K	Etivluk River	74.85	22	IAmb	IAmb	06 52 48.3	
	comp=Z,9.8nm,0.8s						
D20K	Etivluk River	74.85	22	P	P	06 52 47.3	+0.7
	baz=263,SNR=10						
E20K	Nigu River	74.96	22	P	P	06 52 47.8	+0.6
	baz=264,SNR=5.8						
R18K	Karluk	75.01	33	P	P	06 52 48.7	+1.1
	baz=268						
F20K	Avaraart Lake	75.01	23	P	P	06 52 48.4	+0.9
	baz=265						
L19K	White Mountain	75.01	29	P	P	06 52 48.5	+0.8
	baz=267						
N19K	Bonanza Creek	75.12	30	P	P	06 52 49.0	+0.6
	baz=267						
SII	Sitkinak Islan	75.13	34	P	P	06 52 49.0	+0.5
	baz=269						
O19K	Port Alsworth	75.17	31	P	P	06 52 48.8	+0.3
	baz=268						
M19K	Big River Lodg	75.21	29	P	P	06 52 49.8	+1.0
	baz=267						
H20K	Anotleneega Mo	75.22	25	P	P	06 52 49.1	+0.3
	baz=266						
I20K	Naaghedeneel	75.34	26	IAmb	IAmb	06 52 51.3	
	comp=Z,25nm,1.2s						
I20K	Naaghedeneel	75.34	26	P	P	06 52 49.6	+0.2
	baz=266						
K20K	Telida	75.44	27	P	P	06 52 50.8	+0.7
	baz=267						
J20K	Nowinta River	75.45	27	P	P	06 52 50.8	+0.7
	baz=267						
Q19K	Cape Douglas,	75.47	32	P	P	06 52 50.5	+0.1
	baz=269						
L20K	Farewell, AK	75.48	28	P	P	06 52 50.7	+0.4
	baz=268						
C21K	Knifeblade Rid	75.56	21	P	P	06 52 50.3	-0.4
	baz=265						
B21K	Ikpikpuk River	75.66	21	P	P	06 52 52.0	+0.8
B21K				IAmb	IAmb	06 53 10.0	
	comp=Z,7.2nm,0.8s						
B21K	Ikpikpuk River	75.66	21	P	P	06 52 51.3	+0.1
	baz=265						
A22K	Sinclair Lake	75.67	19	P	P	06 52 51.4	+0.3
	baz=264						
E21K	Killik River	75.79	22	P	P	06 52 52.5	+0.5
	baz=266						
M20K	Styx River	75.81	29	P	P	06 52 52.4	+0.1
	baz=268						
G21K	Allakaket	75.85	24	IAmb	IAmb	06 52 54.1	
	comp=Z,9.0nm,0.9s						
G21K	Allakaket	75.85	24	P	P	06 52 52.8	+0.5
	baz=267						
F21K	Alatna River	75.90	23	P	P	06 52 53.1	+0.4
	baz=267						
RAYN	Ar Rayn	76.05	291		P	06 52 54.0	-0.4
RAYN				IAmb	IAmb	06 53 11.1	
	comp=Z,11nm,0.9s						
H21K	Melozitna Rive	76.09	25	IAmb	IAmb	06 52 55.8	
	comp=Z,13nm,1.4s						
H21K	Melozitna Rive	76.09	25	P	P	06 52 54.2	+0.4
	baz=268						
Q20K	Shuyak Island	76.12	32	P	P	06 52 54.8	+0.8
	baz=270						
B22K	Teshekpuk Lake	76.13	20	P	P	06 52 54.9	+1.1
	baz=266						
SPCR	Spurr Chakacha	76.24	30	P	P	06 52 55.7	+1.0
	baz=269						
CHUM	Lake Minchumin	76.24	27	P	P	06 52 55.7	+1.1
	baz=268						
PPLA	Purkeypile	76.27	28	P	P	06 52 55.8	+0.8
	baz=269						
D22K	Ayikyak River	76.29	22	P	P	06 52 56.2	+1.4
	baz=267						
CAST	Castle Rocks	76.33	27		P	06 52 55.6	+0.4
CAST				IAmb	IAmb	06 52 56.6	
	comp=Z,17nm,1.3s						
CAST	Castle Rocks	76.33	27	P	P	06 52 55.9	+0.7
	baz=269,SNR=8.9						
F22K	John River	76.42	23	P	P	06 52 56.4	+0.8
	baz=268						
I21K	Tanana	76.42	26	IAmb	IAmb	06 53 29.6	
	comp=Z,8.4nm,1.0s						
I21K	Tanana	76.42	26	P	P	06 52 56.7	+1.1
	baz=268						
KBZ	Khabaz	76.45	312	P	P	06 52 56.2	+0.1
	comp=Z,1.7nm,0.8s,baz=125,slow=8.7,SNR=4.4						
	comp=Z,1.7nm,0.8s						
HOM	Homer	76.51	31	P	P	06 52 56.6	+0.5
	baz=270						
SKT	Skwentna	76.57	29	P	P	06 52 57.2	+0.7
	baz=270						
E22K	Anaktuvuk Pass	76.58	22	P	P	06 52 57.4	+0.9
	baz=268						
G22K	Bettles	76.66	24	P	P	06 52 57.4	+0.5
	baz=268						
H22K	Ishtalitna Cre	76.69	25	P	P	06 52 57.3	+0.2
	baz=269						
CAPN	Captain Cook N	76.75	30	P	P	06 52 58.0	+0.5
	baz=270						
BPAW	Bear Paw Mtn.	76.83	27	P	P	06 52 58.1	+0.1
	baz=270						
SUA	Susitna One	76.94	29	P	P	06 52 58.8	0.0
	baz=270						
BRSE	Bradley Lake S	76.97	31	P	P	06 52 59.2	+0.4
	baz=271						
D23K	Nanushuk River	77.02	22	P	P	06 52 59.7	+0.7
	baz=269						
C23K	Itkillik River	77.06	21	IAmb	IAmb	06 53 00.8	
	comp=Z,24nm,1.4s						
C23K	Itkillik River	77.06	21	P	P	06 52 59.0	-0.2
	baz=269,SNR=7.6						
TRF	Thorofare Moun	77.14	27	P	P	06 52 59.3	-0.6
	baz=270						
CUT	Chulitna	77.16	28	P	P	06 52 59.5	-0.3
	baz=271						
COLD	Coldfoot	77.17	23	P	P	06 52 59.7	-0.1
	baz=270						
M22K	Willow	77.24	29	P	P	06 53 00.2	0.0
	baz=271						
G23K	Bananza Creek	77.24	24	P	P	06 53 01.0	+0.7
	baz=270						
E23K	Chandalar	77.40	23	P	P	06 53 01.9	+0.7
	baz=270						
TOLK	Toolik Lake Re	77.42	22	P	P	06 53 01.7	+0.5
	baz=270						
H23K	Yukon River	77.44	25	P	P	06 53 01.9	+0.5
	baz=271						
I23K	Minto, Yukon-K	77.53	26	P	P	06 53 02.5	+0.7
	baz=271						
SEW	Seward	77.61	31	P	P	06 53 02.3	0.0
	baz=272						
NEA2	Nenana	77.66	26	IAmb	IAmb	06 53 03.8	
	comp=Z,6.6nm,0.9s						
NEA2	Nenana	77.66	26	P	P	06 53 03.0	+0.4
	baz=271						
D24K	Happy Valley	77.69	21	IAmb	IAmb	06 53 04.5	
	comp=Z,19nm,1.4s						
D24K	Happy Valley	77.69	21	P	P	06 53 03.0	+0.4
	baz=270						
PMR	Palmer	77.71	29	P	P	06 53 02.9	+0.1
	baz=272						
C24K	Franklin Bluff	77.73	21	P	P	06 53 02.3	-0.5
	baz=270						
MCK	McKinley	77.74	27		P	06 53 02.9	-0.2
MCK				IAmb	IAmb	06 53 04.2	
	comp=Z,13nm,0.9s						
MCK	McKinley	77.74	27	P	P	06 53 02.8	-0.2
	baz=272,SNR=9.0						
RND	Reindeer	77.79	27	IAmb	IAmb	06 53 04.3	
	comp=Z,12nm,1.1s						
E24K	Your Creek	77.83	23	P	P	06 53 03.1	-0.4
	baz=271						
KNK	Knik Glacier	78.04	29	P	P	06 53 04.2	-0.6
	baz=272						
F24K	Squaw Lake	78.07	23	P	P	06 53 04.6	-0.2
	baz=272						
SML	Sawmill	78.09	29	P	P	06 53 04.7	-0.4
	baz=272						
H24K	Noodor Dome	78.13	25	P	P	06 53 05.5	+0.3
	baz=272						
PWL	Port Wells	78.13	30	P	P	06 53 05.7	+0.4
	baz=273						
COLA	College	78.17	26	P	P	06 53 05.9	+0.5
	baz=272						
G24K	Hadweenzic Riv	78.26	24	IAmb	IAmb	06 53 07.8	
	comp=Z,9.8nm,1.1s						
G24K	Hadweenzic Riv	78.26	24	P	P	06 53 06.1	+0.3
	baz=272						
POKR	Poker Plat Res	78.34	26	P	P	06 53 06.7	+0.4
	baz=273						
M23K	Glacier View	78.37	29	P	P	06 53 07.0	+0.4
	baz=273						
D25K	Kavik River	78.56	21	IAmb	IAmb	06 53 09.1	
	comp=Z,13nm,1.4s						
D25K	Kavik River	78.56	21	P	P	06 53 08.1	+0.6
	baz=273,SNR=7.9						
SCM	Sheep Creek Mo	78.56	29	P	P	06 53 08.1	+0.3
	baz=273						
HDA	Harding Lake	78.58	26	P	P	06 53 07.3	-0.4
	baz=273						
ILAR	Eielson Array	78.59	26	P	P	06 53 06.8	-0.9
	comp=Z,1.3nm,0.7s,baz=239,slow=5.6,SNR=16						
	comp=Z,1.3nm,0.7s						
P23K	Montague Islan	78.64	31	P	P	06 53 07.4	-0.7
	baz=274						
GLI	Glacier Island	78.73	30	P	P	06 53 08.5	0.0
	baz=274						
G25K	Bearman Lake	78.80	24	P	P	06 53 08.7	-0.1
	baz=274						
E25K	Arctic Village	78.92	22	P	P	06 53 09.6	+0.1
	baz=274						
F25K	Christian Rive	78.92	23	P	P	06 53 09.6	0.0
	baz=274						
H25L	Birch Creek	78.94	24	P	P	06 53 09.9	+0.3
	baz=274						
C26K	Camden Bay	79.03	21	P	P	06 53 10.4	+0.4
	baz=274,SNR=6.4						
M24K	Tolsona, Glenn	79.09	29	P	P	06 53 10.7	+0.1
	baz=274						
PRP	Porcupine Dome	79.12	25	P	P	06 53 10.6	-0.2
	baz=274						
J25K	Salcha River,	79.25	26	P	P	06 53 11.3	-0.2
	baz=275						
KLU	Klutina	79.25	29	P	P	06 53 12.0	+0.4
	baz=275						
BMAR	Burnt Mountain	79.34	23		P	06 53 13.0	+1.1
PAX	Paxson	79.34	28	P	P	06 53 12.4	+0.4
	baz=275						
EYAK	Cordova Ski Ar	79.42	30	P	P	06 53 13.0	+0.7
	baz=275						
C27K	Jago River	79.47	21	P	P	06 53 13.5	+1.0
	baz=275,SNR=5.7						
F26K	Sheenjek River	79.49	23	P	P	06 53 12.6	0.0
	baz=275						
HARP	HAARP	79.54	28	P	P	06 53 13.4	+0.4
	baz=275						
RIDG	Independent Ri	79.56	27	IAmb	IAmb	06 53 13.8	
	comp=Z,12nm,1.0s						
RIDG	Independent Ri	79.56	27	P	P	06 53 13.0	-0.1
	baz=275						
N25K	Chitina, Valde	79.88	29	P	P	06 53 14.9	-0.1
	baz=276						
SCRK	Sand Creek	79.91	27	P	P	06 53 15.5	+0.4
	baz=276						
DOT	Dot Lake	79.91	27	IAmb	IAmb	06 53 16.3	
	comp=Z,11nm,1.3s						
BMRM	Bremner River	79.94	30	P	P	06 53 15.6	+0.4
	baz=276						
J26L	Joseph Creek	80.04	26	P	P	06 53 15.8	+0.1
	baz=276						
I26K	Coal Creek Min	80.12	25	P	P	06 53 15.9	-0.2
	baz=276						
KAIM	Kayak Island	80.14	31	P	P	06 53 15.6	-0.7
	baz=276						
E27K	Coleen River	80.39	22	P	P	06 53 17.7	+0.2
	baz=277,SNR=5.5						
D27M	Malcolm River	80.48	21	IAmb	IAmb	06 53 19.9	
	comp=Z,13nm,1.4s						
D27M	Malcolm River	80.48	21	P	P	06 53 18.2	+0.2
	baz=278,SNR=7.4						
M26K	Nabesna, AK	80.54	28	P	P	06 53 18.6	+0.2
	baz=277						
G27K	Doyon Strip	80.55	24	P	P	06 53 18.7	+0.3
	baz=278						
H27K	Steamboat Moun	80.68	24	P	P	06 53 19.5	+0.4
	baz=278						
I27K	Kandik River	80.72	25	P	P	06 53 20.4	+1.0
	baz=278,SNR=8.1						
K27K	Chicken	80.74	26	IAmb	IAmb	06 53 21.4	
	comp=Z,12nm,1.1s						
K27K	Chicken	80.74	26	P

baz=278
E28M Babbage River 81.08 22 IAmb IAmb 06 53 23.5
comp=Z,24nm,1.8s
E28M Babbage River 81.08 22 P **P 06 53 21.8 +0.7**
baz=279
D28M Stokes Point 81.25 21 P **P 06 53 22.1 +0.2**
baz=280
I28M Miner Creek 81.44 25 **P 06 53 24.2 +0.9**
I28M IAmb IAmb 06 53 25.1
comp=Z,25nm,1.7s
I28M Miner Creek 81.44 25 P **P 06 53 23.5 +0.3**
baz=279,SNR=8.2
BVCY Beaver Creek 81.52 28 P **P 06 53 23.7 +0.1**
baz=279
E29M Blow River 81.72 22 P **P 06 53 24.8 +0.3**
baz=281
YUK3 Moose Creek 81.81 29 P **P 06 53 25.4 +0.1**
baz=279
DAWY Dawson 81.90 26 P **P 06 53 26.5 +0.9**
DAWY IAmb IAmb 06 56 21.8
comp=Z,20nm,1.8s
DAWY Dawson 81.90 26 P **P 06 53 26.0 +0.4**
baz=280
H29M Whitestone 81.94 24 P **P 06 53 26.4 +0.6**
baz=281
G29M Pine Creek 81.95 23 P **P 06 53 25.7 -0.1**
baz=281
O28M Mount Upton 82.10 30 P **P 06 53 26.7 -0.4**
baz=280
I29M Ogilvie Camp, 82.13 25 P **P 06 53 26.9 +0.1**
baz=281
YUK8 Steele Glacier 82.22 29 P **P 06 53 27.3 -0.4**
baz=280
J29N Klondike Camp 82.34 26 IAmb IAmb 06 53 30.0
comp=Z,14nm,1.4s
J29N Klondike Camp 82.34 26 P **P 06 53 27.7 -0.2**
baz=281
SPITS Spitsbergen Ar 82.38 349 P **P 06 53 27.5 -0.4**
comp=Z,6.6nm,0.7s,baz=96,slow=7.9,SNR=14
comp=Z,6.6nm,0.7s
ARCES ARCESS Array B 82.46 340 P **P 06 53 28.1 -0.3**
comp=Z,5.3nm,0.8s,baz=74,slow=5.0,SNR=12
comp=Z,5.3nm,0.8s
EPYK Eagle Plains 82.56 24 P **P 06 53 29.0 0.0**
baz=282
M29M Somme Creek 82.61 28 P **P 06 53 30.2 +0.7**
baz=281
G30M tAoh Zraii Nji 82.63 23 P **P 06 53 29.5 +0.1**
baz=282
L29M L29M 82.64 27 P **P 06 53 29.4 -0.1**
baz=281
F30M Barrier River 82.66 22 P **P 06 53 29.9 +0.5**
baz=283
PNL Peninsula 82.69 31 P **P 06 53 30.0 +0.2**
baz=281
YUK4 Talbot Arm 82.74 29 P **P 06 53 29.9 -0.4**
baz=281
K29M Barlow Dome 82.76 26 P **P 06 53 29.8 -0.4**
baz=282
I30M Mount Dempster 82.95 25 P **P 06 53 30.8 -0.4**
baz=283
YUK6 Outpost Mounta 82.95 29 P **P 06 53 31.5 +0.1**
baz=281
O29M Mount Kennedy 82.97 30 P **P 06 53 31.6 +0.2**
baz=281
J30M Hart River 83.11 25 P **P 06 53 32.4 +0.4**
baz=283
INK Inuvik 83.32 22 P **P 06 53 32.0 -0.8**
comp=Z,2.3nm,0.8s,baz=326,slow=7.3,SNR=6.2
comp=Z,2.3nm,0.8s
INK Inuvik 83.32 22 P **P 06 53 32.7 -0.1**
baz=285
M30M Minto, Yukon 83.34 27 P **P 06 53 33.2 0.0**
baz=282
HYT Haines Junctio 83.39 29 P **P 06 53 33.3 -0.2**
baz=282
G31M Satah River 83.39 23 P **P 06 53 33.6 +0.4**
baz=284
N30M Aishikik Lake 83.45 29 P **P 06 53 33.6 -0.1**
baz=282
F31M Tsiigehtchic 83.46 22 P **P 06 53 33.6 +0.1**
baz=285
P29M Windy Craggy 83.52 30 P **P 06 53 34.1 0.0**
baz=282
H31M Peel River 83.64 24 P **P 06 53 34.5 0.0**
baz=284
BRTR Keskin Array B 83.79 309 P **P 06 53 35.2 -0.9**
comp=Z,0.9nm,0.8s,baz=95,slow=4.0,SNR=4.7
BRTR pP **pP 06 53 51.2 -0.9**
comp=Z,0.8nm,0.6s,baz=90,slow=7.4,SNR=3.6
comp=Z,0.9nm,0.8s
P30M Million Dollar 83.80 30 P **P 06 53 36.1 +0.6**
baz=283
N31M Braeburn, Yuko 84.06 28 P **P 06 53 37.4 +0.6**
baz=284
O30N Mendenhall 84.08 29 P **P 06 53 36.7 -0.3**
baz=283
FINES FINESS Array B 84.11 332 P **P 06 53 35.6 -1.4**
comp=Z,2.5nm,0.7s,baz=76,slow=4.2,SNR=9.4
FINES pP **pP 06 53 52.3 -0.8**
comp=Z,7.3nm,1.0s,baz=64,slow=4.4,SNR=6.6
comp=Z,2.5nm,0.7s
M31M Drury Creek, Y 84.52 28 P **P 06 53 39.5 +0.3**
baz=285
S31K Pelican 84.66 32 P **P 06 53 39.8 0.0**
baz=284
WHY Whitehorse 84.68 29 P **P 06 53 39.8 -0.3**
baz=284
SKAG Skagway 84.76 30 P **P 06 53 40.5 +0.3**
baz=284
AKASG Malin Array Be 84.77 321 P **P 06 53 39.6 -0.9**
comp=Z,1.8nm,0.7s,baz=68,slow=5.0,SNR=6.6
AKASG pP **pP 06 53 55.2 -1.5**
comp=Z,8.5nm,0.9s,baz=67,slow=4.4,SNR=8.2
comp=Z,1.8nm,0.7s
A36M Sachs Harbour 84.83 17 P **P 06 53 40.8 +0.3**
baz=292
FARO Faro, Yukon 84.98 27 P **P 06 53 41.4 0.0**
baz=286
N32M Quiet Lake 85.40 28 P **P 06 53 43.5 -0.1**
baz=286
R32K Eaglecrest 85.46 31 P **P 06 53 43.9 +0.1**
baz=285
P32M Atlin 85.52 30 P **P 06 53 44.0 -0.2**
baz=286
P33M Teslin, Yukon 85.78 29 P **P 06 53 45.3 -0.2**
baz=286
MMPY Sheldon Lake, 85.81 27 P **P 06 53 45.4 -0.2**
baz=287
C36M Paulatuk 86.22 19 IAmb IAmb 06 53 47.8
comp=Z,11nm,1.1s
C36M Paulatuk 86.22 19 P **P 06 53 47.7 +0.4**
baz=293
Q32M Nakina River 86.41 30 P **P 06 53 48.4 -0.4**
baz=287
R33M Jennings River 86.92 30 P **P 06 53 51.1 -0.1**
baz=288
WRAK Wrangell Islan 87.10 33 P **P 06 53 52.2 +0.3**
baz=287
V35K Ketchikan 87.82 34 P **P 06 53 55.5 +0.1**
baz=288
TOAD Toad River Com 89.88 29 P **P 06 54 05.4 +0.2**
baz=293
RES Resolute Bay 90.25 10 P **P 06 54 06.2 -0.2**
comp=Z,1.4nm,0.8s,baz=103,slow=16,SNR=5.1
comp=Z,1.4nm,0.8s
HFS Hagfors 90.27 332 P **P 06 54 06.3 -0.5**
comp=Z,1.0nm,0.5s,baz=69,slow=10,SNR=5.3
HFS pP **pP 06 54 21.0 -2.1**
comp=Z,2.2nm,0.7s,baz=64,slow=6.8,SNR=4.2
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 90.98 334 P **P 06 54 10.4 +0.1**
comp=Z,0.5nm,0.7s,baz=65,slow=4.4,SNR=1.9
NOA pP **pP 06 54 25.2 -1.3**
comp=Z,0.7nm,0.7s,baz=61,slow=4.7,SNR=3.4
comp=Z,0.5nm,0.7s
VNDA Vanda 91.51 173 P **P 06 54 12.0 -0.1**
VNDA IAmb IAmb 06 54 12.9
comp=Z,6.8nm,1.4s
VNDA Vanda 91.51 173 P **P 06 54 12.2 +0.1**
comp=Z,2.2nm,0.8s,baz=310,slow=4.5,SNR=15
comp=Z,2.2nm,0.8s
YKA Yellowknife Ar 92.85 24 P **P 06 54 18.4 -0.3**
comp=Z,1.3nm,0.8s,baz=301,slow=4.7,SNR=18
comp=Z,1.3nm,0.8s
GERES GERESS Array B 94.90 322 pP pP 06 54 43.1 -1.7
comp=Z,0.4nm,0.4s,baz=5.7,slow=1.3,SNR=4.3
TXAR Lajitas Array 117.65 48 PKP **PKiKP 06 59 52.9 -0.1**
comp=Z,0.9nm,0.6s,baz=23,slow=0.7,SNR=18

PLCA Paso Flores 147.96 157 PKPbc **PKPbc 07 00 51.5 -0.3**
comp=Z,3.0nm,0.5s,baz=212,slow=3.8,SNR=26

RSNC 23 06:49:40.6±0.0, 7°N±1°×77°W±°, h46km±6km, M2.9, mb3.7, ML2.7, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APAC	**Apartado, Choc**	**0.71**	**38**	P	Pn	06 49 53.7	-0.6
APAC				S	Sn	06 50 04.8	+0.6
PTAC	**Punta Ardita,**	**0.81**	**256**	P	Pn	06 49 54.8	-0.8
PTAC				S	Sn	06 50 06.3	-0.2
DBBC	**Dabeiba**	**0.87**	**112**	P	Pn	06 49 54.6	-1.9
DBBC				S	Sn	06 50 06.0	-2.1
SOLC	**Bahia Solano**	**1.17**	**199**	P	Pn	06 50 00.2	-0.4
SOLC				S	Sn	06 50 15.3	-0.1
CAPC	**Capurgana**	**1.33**	**346**	P	Pn	06 50 01.5	-1.2
CAPC				S	Sn	06 50 18.2	-1.1
UREC	**San Jos de Ur**	**1.53**	**74**	P	Pn	06 50 04.9	-0.6
UREC				S	Sn	06 50 24.2	-0.1
LCBC	**Los crdobas,**	**1.64**	**23**	P	Pn	06 50 07.6	+0.6
LCBC				S	Sn	06 50 29.8	+2.9
CBOC	**Ciudad Bolivar**	**1.78**	**146**	P	Pn	06 50 07.1	-1.9
CBOC				S	Sn	06 50 28.3	-2.2
ZARC	**Zaragoza, Cauc**	**2.15**	**86**	P	Pn	06 50 13.6	-0.4
ZARC				S	Sn	06 50 38.6	-0.9
PTBC	**PUERTO BERRIO,**	**2.67**	**107**	P	Pn	06 50 21.3	+0.2
PTBC				S	Sn	06 50 52.7	+0.5
GUY2C	**Guyana, Caldas**	**2.67**	**142**	P	Pn	06 50 21.7	+0.1
GUY2C				S	Sn	06 50 52.5	-0.4
NIZA	**Niza - Manizal**	**2.74**	**146**	P	Pn	06 50 22.5	+0.1
NIZA				S	Sn	06 50 54.6	+0.2
NORC	**Norcasia**	**2.77**	**129**	P	Pn	06 50 23.9	+1.3
NORC				S	Sn	06 50 52.3	-2.6
SJCC	**San Jacinto, C**	**3.12**	**35**	P	Pn	06 50 27.3	-0.2
SJCC				S	Sn	06 51 01.7	-1.9
ANIL	**Santa Ana**	**3.25**	**150**	P	Pn	06 50 30.3	+0.8
ANIL				S	Sn	06 51 06.8	-0.3
AZU	**Azuero**	**3.26**	**278**	P	Pn	06 50 30.0	+0.8
AZU				S	Sn	06 51 05.7	-1.0
BRJC	**Barrancabermej**	**3.27**	**96**	P	Pn	06 50 26.4	-3.0
BRJC				S	Sn	06 51 08.1	+1.0
MALC	**Bahia Malaga**	**3.32**	**185**	P	Pn	06 50 30.3	+0.2
MALC				S	Sn	06 51 07.8	-0.5
BCIP	**Isla Barro Col**	**3.33**	**303**	P	Pn	06 50 29.9	-0.3
BCIP				S	Sn	06 51 08.0	-0.5
YOTC	**Yotoco, Valle**	**3.40**	**169**	P	Pn	06 50 28.9	-2.4
YOTC				S	Sn	06 51 05.9	-4.6
ROSC	**El Rosal**	**3.66**	**133**	P	Pn	06 50 37.0	+1.9
OCAC	**Ocana**	**3.77**	**76**	P	Pn	06 50 37.2	+0.7
OCAC				S	Sn	06 51 19.6	-0.1
BARC	**Barichara**	**3.88**	**101**	P	Pn	06 50 39.4	+1.4
JAMC	**Jamundi, Valle**	**4.11**	**175**	P	Pn	06 50 39.9	-1.3
JAMC				S	Sn	06 51 23.6	-4.6
RUSC	**La Rusia**	**4.17**	**110**	P	Pn	06 50 43.0	+0.9
RUSC				S	Sn	06 51 31.2	+1.3
PRAC	**Prado**	**4.18**	**149**	P	Pn	06 50 43.2	+1.2
GMAL	**Guarumal, Vera**	**4.20**	**276**	P	Pn	06 50 43.6	+1.5
GMAL				S	Sn	06 51 30.7	+0.7
PAMC	**Pamplona, Colo**	**4.29**	**90**	P	Pn	06 50 44.8	+1.0
PAMC				S	Sn	06 51 31.8	-1.0
GR1C	**Gorgona, Isla**	**4.46**	**195**	P	Pn	06 50 46.1	+0.4
POPC	**Popayan, Colom**	**4.78**	**176**	P	Pn	06 50 49.9	-0.5
POPC				S	Sn	06 51 40.8	-3.8
TAMC	**Tame, Arauca**	**5.27**	**100**	P	Pn	06 50 58.8	+1.9
TAMC				S	Sn	06 51 57.0	+0.6
BBAC	**Balboa, Cauca**	**5.29**	**182**	P	Pn	06 50 59.4	+2.1
CRJC	**Cerrejon, Guaj**	**5.48**	**48**	P	Pn	06 50 58.6	-1.3
	14nm,0.9s						
CRJC				S	Sn	06 51 56.9	-4.8
	14nm,0.9s						
FLOC	**Florencia**	**5.88**	**167**	P	Pn	06 51 05.6	+0.3
	3.6nm,0.9s						
URIC	**Uribia, Colomb**	**6.58**	**48**	P	Pn	06 51 13.2	-1.7
	11nm,0.8s						
URIC				S	Sn	06 52 24.8	-3.9
	11nm,0.8s						
OTAV	**Otavalo**	**7.20**	**191**	P	Pn	06 51 24.3	+0.5

*ISN **23** 07:13:46.0±0.4, 33°.65N×45°.69E, h8km±39km, ML3.9*
*TEH **23** 07:13:46.0, 33°.61N×45°.67E, h8km±39km*
*IDC **23** 07:13:46.0±2.4, 33°.64N×45°.61E, h0km, mb3.9/12, mbtmp4.0/14, ML2.9/2, MS4.1/1, Error ellipse: s-maj=47.3km s-min=23.5km az=18.0*
ISC 23 07:13:47.3±0.7, 33°.59N±0°.04×45°.56E±0°.06, h13km, n46, σ1§10/48, mb4.0/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.57**	**147**	*e*Pg	**Pg**	**07 13 57.3**	**-1.2**
IBDR				*e*Sg	**Sg**	**07 14 05.2**	**-0.8**
GLG1	**Gilan-e-Gharb**	**0.60**	**29**	Pg	**Pg**	**07 13 57.1**	**-1.9**
KGS1	**Ghasr-e-Shirin**	**0.91**	**1**	Pg	**Pb**	**07 14 04.2**	**-0.9**
IGHG	**Ghaleghazi**	**1.11**	**48**	Pg	**Pb**	**07 14 07.4**	**-1.2**
IDHR	**Dehrash**	**1.30**	**32**	Pg	**Pn**	**07 14 10.2**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.41**	**61**	Pg	**Pn**	**07 14 12.1**	**-0.8**
ILIN	**Lien**	**1.76**	**41**	Pg	**Pn**	**07 14 18.3**	**+0.5**
IKFM	**Kafar-mosalman**	**1.91**	**91**	Pn	**Pb**	**07 14 21.6**	**-0.4**
RAFI	**Al-Rafai**	**1.92**	**166**	*e*Pn	**Pb**	**07 14 21.0**	**-1.2**
RAFI				*e*Sn	**Sg**	**07 14 47.0**	**-2.1**
IKRK	**Kirkuk**	**2.07**	**331**	*e*Pn	**Pb**	**07 14 23.0**	**-1.7**
IKRK				*e*Sn	**Sb**	**07 14 50.0**	**-0.3**
IKRK				AML	AML	07 14 58.2	
	comp=E,1μm,0.4s						
IKRK				AML	AML	07 15 01.6	
	comp=N,1μm,0.3s						
SNQR	**Sonqor, Kerman**	**2.13**	**53**	Pn	**Pn**	**07 14 23.7**	**+0.9**
HSAM	**Samen**	**2.60**	**75**	Pn	**Pn**	**07 14 30.1**	**+0.7**
BDRS	**Dareh Seyedi**	**2.79**	**82**	Pn	**Pn**	**07 14 33.1**	**+1.2**
MAHB	**Mahabad**	**3.17**	**2**	Pn	**Pn**	**07 14 38.6**	**+1.6**
HAGD	**Aghdareh**	**3.21**	**67**	Pn	**Pn**	**07 14 38.8**	**+1.2**
HGHA	**Hamedan- Ghaye**	**3.31**	**54**	Pn	**Pn**	**07 14 40.4**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.93**	**56**	Pn	**Pn**	**07 14 48.4**	**+0.8**
IAZR	**Azarshahr**	**4.09**	**5**	Pn	**Pn**	**07 14 51.1**	**+1.3**
JHBN	**Jahan bin**	**4.50**	**106**	Pn	**Pn**	**07 14 56.7**	**+1.2**
ZNGN	**Zangian**	**4.69**	**107**	Pn	**Pn**	**07 14 58.8**	**+0.7**
IQOM	**Qom**	**4.73**	**73**	Pn	**Pn**	**07 14 59.0**	**+0.4**
QAMS	**Qamsar**	**4.87**	**87**	Pn	**Pn**	**07 15 01.7**	**+1.3**
IKLH	**Kolahrood**	**5.04**	**91**	Pn	**Pn**	**07 15 04.6**	**+1.8**
IVRN	**Varamin**	**5.29**	**73**	Pn	**Pn**	**07 15 06.3**	**+0.2**
KRSH	**Karshahi**	**5.49**	**84**	Pn	**Pn**	**07 15 10.0**	**+1.1**
GRMI	**Germi**	**5.54**	**19**	Pn	**Pn**	**07 15 10.7**	**+1.1**
MZPU	**Pul - Mazandar**	**5.69**	**58**	Pn	**Pn**	**07 15 13.2**	**+1.5**
IZEF	**Zefreh**	**5.71**	**95**	Pn	**Pn**	**07 15 13.7**	**+1.6**
IRAM	**Ramesheh**	**6.02**	**105**	Pn	**Pn**	**07 15 17.3**	**+1.0**
WSAR	**Wadi Sarin**	**15.43**	**129**	Pn	**Pn**	**07 17 24.6**	**-0.2**
	baz=10.0,slow=24,SNR=4.1						
BELG	**Belogornoye**	**18.85**	**4**	P	**P**	**07 18 06.9**	**0.0**
	comp=N,9.9nm,0.7s,baz=160,slow=9.3,SNR=4.4						
AKTO	**Aktyubinsk**	**19.16**	**25**	P	**P**	**07 18 09.7**	**-0.6**
	comp=N,0.3nm,0.3s,baz=214,slow=8.4,SNR=5.5						
	comp=N,1.4nm,0.5s						
AKASG	**Malin Array Be**	**20.87**	**330**	P	**P**	**07 18 29.1**	**+0.2**
	comp=N,1.7nm,0.4s,baz=140,slow=9.9,SNR=21						
	comp=N,1.7nm,0.4s						
ARTI	**Arti**	**24.45**	**17**	P	**P**	**07 19 06.6**	**+1.0**
	comp=N,1.8nm,0.5s,baz=214,slow=9.9,SNR=3.8						
	comp=N,1.8nm,0.5s						
NACGM	**Naroch**	**25.05**	**334**	*e*P	**P**	**07 19 12.8**	**+1.8**
	comp=Z,9.0nm,0.9s,baz=140						
BVAR	**Borovoye Array**	**26.30**	**35**	P	**P**	**07 19 22.1**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=232,slow=9.2,SNR=13						
	comp=Z,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**29.47**	**45**	P	**P**	**07 19 50.9**	**0.0**
	comp=Z,1.4nm,0.8s,baz=252,slow=9.0,SNR=9.9						
	comp=Z,1.4nm,0.8s						
FINES	**FINESS Array B**	**30.57**	**342**	P	**P**	**07 20 01.2**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=149,slow=9.3,SNR=1.2						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**30.71**	**54**	P	**P**	**07 20 02.5**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=250,slow=8.0,SNR=12						
	comp=Z,1.6nm,0.6s						
HFS	**Hagfors**	**33.74**	**332**	P	**P**	**07 20 27.9**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=123,slow=9.4,SNR=14						
	comp=Z,2.1nm,0.3s						
ZALV	**Zalesovo Beam**	**34.29**	**42**	P	**P**	**07 20 32.5**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=264,slow=9.3,SNR=6.6						
	comp=Z,0.9nm,0.3s						
ARCES	**ARCESS Array B**	**37.70**	**349**	P	**P**	**07 21 02.2**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=161,slow=8.3,SNR=5.4						
	comp=Z,2.8nm,1.0s						
SPITS	**Spitsbergen Ar**	**46.44**	**352**	P	**P**	**07 22 14.5**	**+1.1**
	comp=Z,5.5nm,0.8s,baz=138,slow=11,SNR=12						
	comp=Z,5.5nm,0.8s						
MATP	**Matopo**	**56.13**	**199**	LR	LR	07 50 23.5	
	comp=Z,148nm,18.2s,baz=263,slow=39						
ILAR	**Eielson Array**	**81.48**	**5**	P	**P**	**07 26 05.2**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=350,slow=4.9,SNR=6.7						
	comp=Z,0.6nm,0.9s						
YKA	**Yellowknife Ar**	**82.93**	**351**	P	**P**	**07 26 11.8**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=22,slow=5.2,SNR=4.5						
	comp=Z,0.2nm,0.7s						

*NNC **23** 07:14:20.7±5.7, 54°.30N×87°.11E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=46.4km s-min=35.3km az=174.0, Suspected Mining explosion.*
*IDC **23** 07:14:20.2±3.2, 54°.41N×87°.20E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=27.7km s-min=21.0km az=48.0.*
ASRS 23 07:14:22.0±0.5, 54°.25N×86°.84E, h0km, M2.5, 4C-2D, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**257**	I	I	07 23 00.0	
	baz=74,slow=326,SNR=0.6						
ZAA0	**Zalesovo Array**	**1.23**	**257**	⇓P	Pg	07 14 45.8	+0.2
	0.4nm,0.3s,baz=74,slow=17						
ZAA0				⇑S	Sn	07 15 05.9	+2.2
	0.6nm,0.2s						
ZALV	**Zalesovo Beam**	**1.23**	**257**	Pg	Pb	07 14 46.0	0.0
	3.2nm,0.3s,baz=72,slow=17,SNR=39						
ZALV				Lg	Lg	07 15 07.8	
	1.5nm,0.3s,baz=69,slow=11,SNR=5.8						
KURK	**Kurchatov**	**6.14**	**238**	⇓Pn	Pn	07 15 58.5	+4.6
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**6.25**	**238**	Pn	Pn	07 15 57.2	+1.9
	0.1nm,0.3s,baz=52,slow=14,SNR=8.9						
KURBB				Lg	Lg	07 17 44.9	
	baz=49,slow=27,SNR=2.0						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**6.25**	**238**	⇑Pn	Pn	07 15 58.0	+2.7
	3.3nm,0.8s						
KURBB				⇑Sn	Sn	07 17 08.8	+1.5
	1.2nm,0.3s						
KURBB				⇑Lg	Lg	07 17 39.4	
	3.0nm,0.8s						
MKAR	**Makanchi Array**	**8.01**	**203**	Pn	Pn	07 16 22.9	+3.3
	0.1nm,0.3s,baz=21,slow=13,SNR=2.8						
MKAR				Lg	Lg	07 18 44.6	
	0.1nm,0.3s,baz=25,slow=31,SNR=6.3						
	0.2nm,0.3s						

*MEX **23** 07:28:22.5±0.6, 14°.37N×93°.00W, h16km±28km, MD4.1*
*GCG **23** 07:28:24.0±1.2, 14°.27N×92°.65W, h50km±16km, MD4.1*
ISC 23 07:28:18.1±1.7, 14°.15N±0°.07×92°.86W±0°.04, h30km±14km, n17, σ2§07/31, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.94**	**37**	*e*P	**Pb**	**07 28 36.1**	**+0.1**
THIG				*e*S	**Sb**	**07 28 45.5**	**-2.6**
PATR	**El Naranjo**	**1.13**	**32**	*e*P	**Pb**	**07 28 39.0**	**-0.3**
PATR				*e*S	**Sn**	**07 28 51.8**	**-1.0**
RTAL	**Retalhuleu**	**1.19**	**72**	*e*P	**Pb**	**07 28 41.2**	**+1.2**
RTAL				*e*S	**Sb**	**07 28 56.8**	**+1.8**
PAVE	**Pavencul**	**1.23**	**32**	*e*P	**Pb**	**07 28 40.5**	**-0.3**
PAVE				*e*S	**Sn**	**07 28 53.6**	**-1.5**
STG5	**El Palmar, Qui**	**1.48**	**80**	*e*P	**Pn**	**07 28 43.4**	**+0.5**
STG5				*i* S	**Sn**	**07 28 59.5**	**-1.8**
STG8	**El Palmar, Qui**	**1.49**	**78**	*e*P	**Pn**	**07 28 43.5**	**+0.4**
STG8				*e*S	**Sn**	**07 28 60.0**	**-1.7**
PCIG		**1.58**	**347**	*e*P	**Pn**	**07 28 42.6**	**-1.6**
PCIG				*e*S	**Sn**	**07 29 00.9**	**-2.6**
HUEH	**Huehuetenango**	**1.75**	**48**	*e*P	**Pb**	**07 28 49.1**	**-0.6**
HUEH				*e*S	**Sb**	**07 29 10.3**	**-1.1**
CCIG	**Comitan**	**2.23**	**18**	*e*P	**Pb**	**07 28 56.5**	**-1.3**
CCIG				*e*S	**Sn**	**07 29 22.6**	**+2.7**
CCIG	**Comitan**	**2.23**	**18**	*i* P	**Pb**	**07 28 57.3**	**-0.5**
TGIG		**2.62**	**354**	*e*P	**Pn**	**07 29 00.9**	**+2.3**
TGIG				*e*S	**Sn**	**07 29 30.1**	**+0.7**
UXUV	**UXUV**	**3.38**	**339**	*e*P	**Pn**	**07 29 12.1**	**+3.2**
UXUV				*e*S	**Sn**	**07 29 51.0**	**+2.9**
CMIG	**Matias Romero**	**3.51**	**326**	*e*P	**Pn**	**07 29 12.5**	**+1.8**
CMIG				*e*S	**Sn**	**07 29 50.3**	**-1.1**
HUIG	**Huatulco**	**3.53**	**297**	*e*P	**Pn**	**07 29 12.4**	**+1.5**
HUIG				*e*S	**Sn**	**07 29 49.6**	**-2.1**
PEIG	**Puerto Escondi**	**4.53**	**294**	*e*P	**Pn**	**07 29 26.7**	**+2.0**
PEIG				*e*S	**Sn**	**07 30 11.5**	**-5.0**
NEUV	**Arroyo Zacate**	**4.53**	**322**	*e*P	**Pn**	**07 29 26.6**	**+1.9**
NEUV				*e*S	Sn	07 30 03.9	-13
PNIG	**Pinotepa**	**5.55**	**294**	*e*P	**Pn**	**07 29 41.2**	**+2.4**

ISC 23 07:46:23.9±1.2, 48°.97N±0°.05×18°.09E±0°.05, h10km, n5, σ0§55/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.30**	**248**	*e*PG	**Pg**	**07 46 29.4**	**-0.5**
JAVC				*e*SG	**Sg**	**07 46 34.5**	**+0.5**
VYHS	**Vyhne**	**0.69**	**134**	*e*PG	**Pg**	**07 46 36.8**	**-0.3**
VYHS				*e*SG	**Sb**	**07 46 47.2**	**-0.3**
MODS	**Modra-Piesok**	**0.81**	**222**	*e*PG	**Pn**	**07 46 41.7**	**+0.4**
MODS				*e*SG	**Sn**	**07 46 53.8**	**+0.4**
MORC	**Moravsky Berou**	**0.88**	**336**	*e*PG	**Pg**	**07 46 41.0**	**+0.1**
MORC				*e*SG	**Sn**	**07 46 55.1**	**-0.2**
VRAC	**Vranov**	**1.04**	**289**	*e*PG	**Pg**	**07 46 43.1**	**-0.8**

*JMA **23** 07:49:44.4±0.5, 37°N±1°×13°5E±°, h399km±4km, MV2.8/25, SEA OF JAPAN*
*IDC **23** 07:49:45.8±1.0, 37°.32N×134°.91E, h388km±14km, mb2.5/3, mbtmp3.6/9, Error ellipse: s-maj=21.3km s-min=18.4km az=120.0*
ISC 23 07:49:45.3±0.8, 37°.39N±0°.08×134°.88E±0°.07, h378km, n17, σ0§95/20, mb2.7/3, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**2.15**	**169**	*e*P	**Pn**	**07 50 41.2**	**+0.9**
JWT				S	**S**	**07 51 25.4**	**+0.8**
JSD	**Sado**	**2.75**	**75**	*e*P	**Pn**	**07 50 45.4**	**+0.7**
JNG	**Nsakai**	**2.76**	**110**	*e*P	**Pn**	**07 50 46.3**	**+1.3**
MAT	**Matsushiro**	**2.79**	**107**	*e*P	**Pn**	**07 50 45.8**	**+0.7**
MJAR	**Matsushiro Arr**	**2.79**	**107**	P	**Pn**	**07 50 46.6**	**+1.5**
	17nm,0.7s,baz=285,slow=8.6,SNR=41						
JIE	**Ise**	**3.34**	**153**	*e*P	**Pn**	**07 50 50.8**	**+0.9**
JTNC	**Tanabenakahech**	**3.61**	**170**	*e*P	**Pn**	**07 50 52.4**	**-0.1**
JAG	**Ashikaga**	**3.79**	**103**	*e*P	**Pn**	**07 50 54.6**	**+0.6**
JAG				*e*S	**S**	**07 51 50.1**	**+0.6**
JOD2	**Odawara 2**	**4.00**	**121**	*e*P	**Pn**	**07 50 56.5**	**+0.4**
JOD2				*e*S	**S**	**07 51 53.7**	**+0.3**
JNU	**Nakatsue**	**5.37**	**219**	P	**Pn**	**07 51 11.2**	**+0.8**
	7.3nm,0.5s,baz=22,slow=4.7,SNR=10						
KSRS	**Korea Array**	**5.54**	**273**	P	**Pn**	**07 51 13.7**	**+1.7**
	8.2nm,0.6s,baz=92,slow=12,SNR=22						
USRK	**Ussuriysk Ar.**	**7.15**	**343**	P	**P**	**07 51 30.9**	**0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**262**	I	I	08 15 00.0	
	baz=81,slow=324,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.56**	**262**	Pg	Pn	08 05 54.8	-1.5
	2.7nm,0.3s,baz=80,slow=15,SNR=22						
ZALV				Lg	Lg	08 06 17.5	
	2.5nm,0.3s,baz=80,slow=27,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.52**	**240**	Pn	Pn	08 07 04.8	+0.4
	0.1nm,0.3s,baz=53,slow=13,SNR=7.7						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**8.11**	**206**	Pn	Pn	08 07 27.8	+1.6
	0.1nm,0.3s,baz=33,slow=15,SNR=1.9						
	0.1nm,0.4s						

*ASRS **23** 08:06:02.0±1.7,53°.76N×91°.11E, h0km, M3.2, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **23** 08:06:07.1±3.2,53°.71N×90°.89E, h0km, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=26.5km s-min=22.9km az=57.0*
*NNC **23** 08:06:10.8±2.2,53°.60N×90°.51E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=18.3km s-min=14.5km az=110.0, Suspected Mining explosion.*

ISC 23 08:06:10.8±4.3, 53°.6N±0°.1×90°.6E±0°.2, h0km, n9, σ0§97/11, 6C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.42**	**278**	I	I	08 28 50.0	
	0.1nm,1.0s,baz=91,slow=331,SNR=2.6						
ZALV	**Zalesovo Beam**	**3.42**	**278**	Pn	Pn	08 07 05.9	+0.6
	2.0nm,0.3s,baz=88,slow=16,SNR=4.5						
ZALV				Lg	Lg	08 08 00.8	
	3.3nm,0.3s,baz=87,slow=25,SNR=6.4						
	3.9nm,0.3s						
KURK	**Kurchatov**	**7.89**	**253**	⇑Pn	Pn	08 08 06.4	-0.3
	2.7nm,1.0s						
KURK				⇓Lg	Lg	08 10 23.4	
	24nm,0.9s						
KURBB	**Kurchatov Arra**	**7.98**	**253**	Pn	Pn	08 08 06.9	-1.1
	0.2nm,0.3s,baz=67,slow=15,SNR=11						
KURBB				Sn	Sn	08 09 38.5	-0.4
	0.1nm,0.3s,baz=69,slow=27,SNR=13						
KURBB				Lg	Lg	08 10 28.9	
	0.1nm,0.3s,baz=64,slow=33,SNR=6.5						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**7.98**	**253**	⇓Pn	Pn	08 08 07.3	-0.6
	1.5nm,0.4s						
KURBB				⇑Sn	Sn	08 09 38.9	+0.1
	23nm,0.7s						
KURBB				⇑Lg	Lg	08 10 23.4	
	29nm,0.8s						
MK31	**Makanchi Array**	**8.64**	**221**	⇑Pn	Pn	08 08 16.8	-0.2
	0.5nm,0.5s,baz=38,slow=13,SNR=7.0						
MK31				⇑Sn	Sn	08 09 54.1	-1.0
	1.0nm,0.5s,baz=35,slow=26,SNR=3.5						
MK31				⇓Lg	Lg	08 10 45.2	
	22nm,1.8s,baz=42,slow=33,SNR=3.7						
MKAR	**Makanchi Array**	**8.64**	**221**	Pn	Pn	08 08 16.6	-0.4
	0.3nm,0.3s,baz=39,slow=13,SNR=8.3						
MKAR				Sn	Sn	08 09 56.3	+1.2
	0.2nm,0.3s,baz=33,slow=25,SNR=6.3						
MKAR				Lg	Lg	08 10 44.5	
	0.1nm,0.3s,baz=37,slow=29,SNR=3.0						
	0.7nm,0.5s						
MAKZ	**Makanchi**	**8.75**	**222**	⇓Sn	Sn	08 09 59.5	+1.7
	3.5nm,1.1s						
MAKZ				⇑Lg	Lg	08 10 49.2	
	8.3nm,1.0s						
SONM	**Songino Array**	**11.58**	**114**	Lg	Lg	08 12 01.7	
	0.2nm,0.3s,baz=302,slow=22,SNR=3.9						

*ASRS **23** 08:14:17.0±1.5,54°.29N×86°.78E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 23 08:14:15.2±3.4, 54°.37N×87°.20E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=30.8km s-min=19.9km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**254**	I	I	08 22 55.0	
	baz=74,slow=324,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.47**	**254**	Pg	Pn	08 14 41.0	-1.8
	1.8nm,0.3s,baz=72,slow=16,SNR=17						
ZALV				Lg	Lg	08 15 01.6	
	3.4nm,0.3s,baz=69,slow=28,SNR=12						
KURBB	**Kurchatov Arra**	**6.49**	**238**	Pn	Pn	08 15 53.2	+1.3
	0.1nm,0.3s,baz=55,slow=14,SNR=5.6						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**8.20**	**204**	Pn	Pn	08 16 16.1	+0.7
	0.1nm,0.3s,baz=23,slow=10,SNR=4.6						
	0.1nm,0.4s						

*SJA **23** 08:17:57.8±0.7,32°.58S×69°.30W, h130km±2km, ML3.9, MW3.9*
*GUC **23** 08:17:59.6±0.8,32°.53S×69°.56W, h138km±4km, ML4.1*
*IDC **23** 08:17:59.1±1.6,32°.55S×69°.36W, h115km±11km, mb3.7/6, mbtmp4.0/10, Error ellipse: s-maj=26.5km s-min=17.0km az=104.0*
*NEIC **23** 08:17:59.4±1.9,32°.57S±0°.05×69°.44W±0°.08, h130km±7km, mb4.5/19, Error ellipse: s-maj=10.3km s-min=7.0km az=100.0*

ISC 23 08:17:58.8±0.6, 32°.56S±0°.02×69°.38W±0°.03, h127km±5km, n160, σ1§50/226, mb4.4/17, 10C-7D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.47**	**126**	*e*P	Pn	08 18 17.1	-0.5
ARCO				*e*S	Sn	08 18 31.1	-0.6
ARCO				IAML		08 18 31.7	
	comp=Z,4μm,0.4s						
AAGR	**Agrelo**	**0.70**	**138**	*e*P	Pn	08 18 18.9	-0.1
RTLS	**Leoncito**	**0.77**	**5**	*e*P	Pn	08 18 19.6	-0.2
RTLS				*e*S	Sn	08 18 35.2	-0.3
RTLS				IAML		08 18 35.6	
	comp=Z,3μm,0.3s						
VA03	**San Esteban**	**1.00**	**258**		Pn	08 18 21.8	+0.2
VA03				Sn	Sn	08 18 39.2	+0.4
VA03	**San Esteban**	**1.00**	**258**	⇑*e*P	Pn	08 18 21.7	+0.2
VA03				*e*S	Sn	08 18 37.9	-0.9
VA03				IAML		08 18 40.6	
	comp=E,8μm,0.1s						
VA03	**San Esteban**	**1.00**	**258**	*e*P	Pn	08 18 21.7	+0.2
VA03				*e*S	Sn	08 18 39.8	+1.0
VA03				IAML		08 18 40.9	
	comp=Z,3μm,0.3s						
MT08	**Bocatoma Ro**	**1.03**	**211**		Pn	08 18 22.4	+0.5
MT08				Sn	Sn	08 18 39.9	+0.4
MT08	**Bocatoma Ro**	**1.03**	**211**	⇑*e*P	Pn	08 18 22.4	+0.5
MT08				*e*S	Sn	08 18 39.9	+0.4
MT08				IAML		08 18 45.0	
	comp=N,916nm,0.6s						
MT08	**Bocatoma Ro**	**1.03**	**211**	*e*P	Pn	08 18 22.5	+0.6
MT08				*e*S	Sn	08 18 40.6	+1.1
MT08				IAML		08 18 44.8	
	comp=Z,529nm,0.6s						
MT04	**Ro Olivares**	**1.05**	**217**	⇑*e*P	Pn	08 18 22.6	+0.5
MT04				IAML		08 18 54.5	
	comp=N,1μm,0.1s						
MT04	**Ro Olivares**	**1.05**	**217**	*e*P	Pn	08 18 22.6	+0.5
MT04				*e*S	Sn	08 18 41.1	+1.2
FCH	**Farellones**	**1.08**	**225**	⇑*e*P	Pn	08 18 23.0	+0.5
FCH				*e*S	Sn	08 18 41.5	+1.0
FCH				IAML		08 18 42.6	
	comp=N,2μm,0.2s						
AVIZ	**Vizcacheras**	**1.16**	**141**	*e*P	Pn	08 18 23.5	+0.4
ZON	**Zonda**	**1.18**	**31**		Pn	08 18 22.9	-0.4
ZON	**Zonda**	**1.18**	**31**	*e*P	Pn	08 18 22.9	-0.4
ZON				*e*S	Sn	08 18 41.7	-0.1
MT10	**Hacienda Santa**	**1.20**	**234**	⇑*e*P	Pn	08 18 24.1	+0.6
MT10				*e*S	Sn	08 18 42.0	-0.3
MT10				IAML		08 18 45.4	
	comp=E,7μm,0.4s						
PEL	**Peldehue**	**1.24**	**242**		Pn	08 18 23.9	+0.1
PEL				Sn	Sn	08 18 43.2	+0.3
PEL	**Peldehue**	**1.24**	**242**	⇑*e*P	Pn	08 18 23.9	+0.1
PEL				*e*S	Sn	08 18 42.4	-0.5
PEL				IAML		08 18 44.2	
	comp=N,3μm,0.5s						
PEL	**Peldehue**	**1.24**	**242**	*e*P	Pn	08 18 23.9	+0.1
PEL				*e*S	Sn	08 18 43.7	+0.8
SJA	**San Juan**	**1.25**	**34**	*e*P	Pn	08 18 11.2	-13
MT14	**Cerro Cal¡n**	**1.28**	**229**	*e*P	Pn	08 18 24.9	+0.6
MT14				*e*S	Sn	08 18 43.2	-0.4
MT14				IAML		08 18 46.1	
	comp=E,6μm,0.6s						
MT16	**CCHEN**	**1.29**	**228**		Pn	08 18 24.8	+0.4
MT16	**CCHEN**	**1.29**	**228**	*e*P	Pn	08 18 24.6	+0.2
MT16				*e*S	Sn	08 18 43.4	-0.5
MT16				IAML		08 18 48.2	
	comp=E,1μm,0.2s						
MT03	**Universidad Ad**	**1.32**	**225**		Pn	08 18 25.2	+0.4
MT03	**Universidad Ad**	**1.32**	**225**	⇓*e*P	Pn	08 18 25.3	+0.4
MT03				*e*S	Sn	08 18 45.2	+0.6
MT03				IAML		08 18 49.2	
	comp=E,7μm,0.3s						
MT03	**Universidad Ad**	**1.32**	**225**	*e*P	Pn	08 18 25.3	+0.4
MT03				*e*S	Sn	08 18 44.8	+0.2
MT03				IAML		08 18 49.3	
	comp=Z,2μm,0.3s						
CFA	**Coronel Fontan**	**1.36**	**46**	P	Pn	08 18 24.6	-0.6
	comp=Z,174nm,0.3s,baz=238,slow=8.9,SNR=3567						
CFA				S	Sn	08 18 43.3	-2.0
	comp=Z,98nm,0.3s,baz=206,slow=23,SNR=5.9						
CFA	**Coronel Fontan**	**1.36**	**46**	*e*P	Pn	08 18 24.6	-0.6
CFA				*e*S	Sn	08 18 44.4	-0.9
MT15	**Las Vizcachas**	**1.40**	**222**	⇑*e*P	Pn	08 18 26.4	+0.8
MT15				*e*S	Sn	08 18 46.1	+0.1
MT15				IAML		08 18 50.4	
	comp=N,4μm,0.2s						
MT13	**San Alfonso**	**1.40**	**213**		Pn	08 18 26.2	+0.5
MT13	**San Alfonso**	**1.40**	**213**	⇓*e*P	Pn	08 18 26.2	+0.5
MT13				*e*S	Sn	08 18 46.4	+0.2
MT13				IAML		08 18 53.3	
	comp=N,1μm,0.2s						
MT13	**San Alfonso**	**1.40**	**213**	*e*P	Pn	08 18 26.2	+0.5
MT13				*e*S	Sn	08 18 49.6	+3.5
MT05	**Renca**	**1.41**	**234**		Pn	08 18 26.0	+0.3
MT05	**Renca**	**1.41**	**234**	*i* P	Pn	08 18 26.0	+0.3
MT05				*i* S	Sn	08 18 45.8	-0.4
MT05				IAML		08 18 49.0	
	comp=N,8μm,0.3s						
MT05	**Renca**	**1.41**	**234**	*e*P	Pn	08 18 26.1	+0.5
MT05				*e*S	Sn	08 18 47.4	+1.3
MT05				IAML		08 18 50.4	
	comp=Z,2μm,0.2s						
ROC1	**El Roble**	**1.44**	**253**	*e*P	Pn	08 18 25.7	-0.5
ROC1				*e*S	Sn	08 18 46.8	-0.2
LMEL	**Las Melosas**	**1.45**	**208**		Pn	08 18 26.9	+0.6
LMEL	**Las Melosas**	**1.45**	**208**	⇓*e*P	Pn	08 18 26.9	+0.6
LMEL				*e*S	Sn	08 18 46.5	-0.8
LMEL				IAML		08 18 59.5	
	comp=N,2μm,0.1s						
LMEL	**Las Melosas**	**1.45**	**208**	*e*P	Pn	08 18 26.5	+0.2
LMEL				*e*S	Sn	08 18 57.2	+10
RTLL	**Cerro Villicun**	**1.45**	**32**	*e*P	Pn	08 18 25.9	-0.3
RTLL				*e*S	Sn	08 18 46.9	-0.2
MT12	**Pirque**	**1.52**	**220**	*e*P	Pn	08 18 27.4	+0.5
MT12				*e*S	Sn	08 18 49.0	+0.5
MT12				IAML		08 18 55.0	
	comp=N,3μm,0.4s						
VA06	**Catapilco**	**1.62**	**270**		Pn	08 18 27.1	-0.8
VA06	**Catapilco**	**1.62**	**270**	⇑*e*P	Pn	08 18 27.1	-0.8
VA06				*e*S	Sn	08 18 48.6	-1.6
VA06				IAML		08 18 53.4	
	comp=E,2μm,0.5s						
DOCA	**Reserva Natura**	**1.63**	**9**	*e*P	Pn	08 18 28.4	-0.2
DOCA				*e*S	Sn	08 18 51.8	+0.6
MT02	**Curacav**	**1.63**	**244**		Pn	08 18 27.7	-0.4
MT02	**Curacav**	**1.63**	**244**	⇓*e*P	Pn	08 18 27.7	-0.4
MT02				*e*S	Sn	08 18 49.6	-0.9
MT02				IAML		08 18 50.7	
	comp=E,1μm,0.1s						
MT02	**Curacav**	**1.63**	**244**	*e*P	Pn	08 18 27.1	-1.1
MT02				*e*S	Sn	08 18 49.3	-1.3
MT02				IAML		08 18 50.2	
	comp=Z,1μm,0.7s						
BO04	**La Punta**	**1.75**	**216**		Pn	08 18 29.3	-0.4
BO04	**La Punta**	**1.75**	**216**	*e*P	Pn	08 18 30.1	+0.4
BO04				*e*S	Sn	08 18 52.9	-0.3
BO04				IAML		08 18 58.8	
	comp=E,1μm,0.3s						
MT09	**Talagante**	**1.81**	**228**		Pn	08 18 30.2	-0.2
MT09	**Talagante**	**1.81**	**228**	⇓*e*P	Pn	08 18 30.2	-0.2
MT09				*e*S	Sn	08 18 54.1	-0.5
MT09				IAML		08 18 56.3	
	comp=N,4μm,0.3s						
CO02	**Combarbal**	**1.93**	**314**		Pn	08 18 31.9	0.0
CO02	**Combarbal**	**1.93**	**314**	⇓*e*P	Pn	08 18 31.9	0.0
CO02				*e*S	Sn	08 18 55.2	-1.9
CO02	**Combarbal**	**1.93**	**314**	*e*P	Pn	08 18 31.9	0.0
CO02				*e*S	Sn	08 18 57.5	+0.3
CO02				IAML		08 18 59.5	
	comp=Z,2μm,0.2s						
VA01	**Torpederas**	**1.96**	**256**		Pn	08 18 31.1	-0.9
VA01	**Torpederas**	**1.96**	**256**	⇓*e*P	Pn	08 18 31.2	-0.9
VA01				*e*S	Sn	08 18 55.3	-2.2
VA01				IAML		08 19 05.0	
	comp=E,1μm,0.1s						
VA01	**Torpederas**	**1.96**	**256**	*e*P	Pn	08 18 20.6	-11
VA01				*e*S	Sn	08 18 55.9	-1.7
VA01				IAML		08 19 00.5	
	comp=Z,409nm,0.2s						
ACCO	**Cerro Coronel**	**1.99**	**8**	*e*P	Pn	08 18 35.3	+2.5
ACCO				*e*S	Sn	08 19 03.8	+5.0
MT01	**Popeta**	**2.03**	**230**		Pn	08 18 32.2	-0.8
MT01	**Popeta**	**2.03**	**230**	*e*P	Pn	08 18 32.2	-0.8
MT01				*e*S	Sn	08 18 57.9	-1.3
MT01				IAML		08 18 58.6	
	comp=E,2μm,0.2s						
MT01	**Popeta**	**2.03**	**230**	*e*P	Pn	08 18 31.6	-1.4
MT01				*e*S	Sn	08 18 58.5	-0.7
MT01				IAML		08 19 00.1	
	comp=Z,1μm,0.1s						
CO03	**El Pedregal**	**2.05**	**327**		Pn	08 18 33.8	+0.5
CO03	**El Pedregal**	**2.05**	**327**	⇓*e*P	Pn	08 18 33.7	+0.5
CO03				*e*S	Sn	08 18 58.0	-1.6
CO03				IAML		08 19 04.1	
	comp=E,2μm,0.2s						
CO03	**El Pedregal**	**2.05**	**327**	*e*P	Pn	08 18 33.9	+0.5
CO03				*e*S	Sn	08 19 00.8	+1.2
CO03				*e*S		08 19 01.0	
CO03				IAML		08 19 01.8	
	comp=Z,558nm,0.1s						
VA05	**Santo Domingo**	**2.17**	**239**		Pn	08 18 33.8	-0.8
VA05	**Santo Domingo**	**2.17**	**239**	*i* P	Pn	08 18 33.9	-0.8
VA05				*i* S	Sn	08 19 00.2	-1.9
VA05				IAML		08 19 08.6	
	comp=E,2μm,0.2s						
BO01	**Tunca**	**2.31**	**218**		Pn	08 18 36.0	-0.4
BO01	**Tunca**	**2.31**	**218**	*e*P	Pn	08 18 36.1	-0.4
BO01				*e*S	Sn	08 19 04.4	-1.0
BO01				IAML		08 19 08.4	
	comp=N,545nm,0.2s						
BO01	**Tunca**	**2.31**	**218**	*e*P	Pn	08 18 33.8	-2.6
BO01				*e*S	Sn	08 19 05.2	-0.2
BO01				IAML		08 19 08.3	
	comp=Z,373nm,0.2s						
AROD	**Rodeo**	**2.39**	**358**	*e*P	Pn	08 18 38.8	+1.0
AROD				*e*S	Sn	08 19 09.5	+1.8
ACDV	**Cuesta del Vie**	**2.40**	**5**	*e*P	Pn	08 18 38.3	+0.6
ACDV				*e*S	Sn	08 19 09.1	+1.5
ACDV				IAML		08 19 10.8	
	comp=Z,269nm,0.3s						
BO02	**Sierra Bellavi**	**2.51**	**207**	Pn	Pn	08 18 39.9	+0.8
BO02	**Sierra Bellavi**	**2.51**	**207**	⇑*e*P	Pn	08 18 39.7	+0.6
BO02				*e*S	Sn	08 19 09.7	-0.3
BO02				IAML		08 19 17.3	
	comp=E,1μm,0.3s						
BO02	**Sierra Bellavi**	**2.51**	**207**	*e*S	Sn	08 19 13.5	+3.5
BO02				IAML		08 19 17.8	
	comp=Z,850nm,0.1s						
CO01	**Juntas del Tor**	**2.65**	**347**		Pn	08 18 42.6	+1.6
CO01	**Juntas del Tor**	**2.65**	**347**	*e*P	Pn	08 18 42.7	+1.6
CO01				*e*S	Sn	08 19 12.4	-1.1
CO01				IAML		08 19 18.8	
	comp=N,316nm,0.4s						
CO01	**Juntas del Tor**	**2.65**	**347**	*e*P	Pn	08 18 42.7	+1.6
CO01				*e*S	Sn	08 19 15.6	+2.2
CO01				IAML		08 19 16.5	
	comp=Z,232nm,0.5s						
GO04	**Tololo Observa**	**2.67**	**333**		Pn	08 18 41.2	-0.1
GO04	**Tololo Observa**	**2.67**	**333**	*e*P	Pn	08 18 41.0	-0.3
GO04				*i* S	Sn	08 19 12.1	-1.9
GO04				IAML		08 19 16.9	
	comp=N,3μm,0.4s						
GO04	**Tololo Observa**	**2.67**	**333**	*e*P	Pn	08 18 41.5	+0.1
GO04				*e*S	Sn	08 19 15.0	+1.0
CO06	**Fray Jorge**	**2.69**	**314**		Pn	08 18 40.2	-1.1
CO06	**Fray Jorge**	**2.69**	**314**	*e*P	Pn	08 18 40.1	-1.2
CO06				*i* S	Sn	08 19 10.6	-3.4
CO06				IAML		08 19 20.1	
	comp=E,566nm,0.2s						
BO03	**Pichilemu**	**2.89**	**227**	*e*P	Pn	08 18 42.1	-1.7
BO03				*e*S	Sn	08 19 15.6	-3.0
BO03				IAML		08 19 28.0	
	comp=N,383nm,0.5s						
CO05	**La Serena**	**3.08**	**328**		Pn	08 18 45.5	-0.9
CO05	**La Serena**	**3.08**	**328**	*i* P	Pn	08 18 45.4	-0.9
CO05				*i* S	Sn	08 19 19.9	-3.1
CO05				IAML		08 19 25.7	
	comp=E,1μm,0.3s						
MRA	**San Martin**	**3.10**	**88**	*e*P	Pn	08 18 46.2	-0.5
MRA				IAML		08 19 41.8	
	comp=Z,252nm,0.3s						
AGUA	**GUANDACOL**	**3.16**	**14**	*e*P	Pn	08 18 47.9	+0.3
AGUA				*e*S	Sn	08 19 16.9	-8.2
AGUA				IAML		08 19 29.8	
	comp=Z,246nm,0.3s						
EDS3	**Malargue**	**3.20**	**180**	*e*P	Pn	08 18 48.9	+0.8
EDS3				*e*S	Sn	08 19 21.1	-5.0
APLL	**PUNTA DE LOS L**	**3.26**	**49**	*e*P	Pn	08 18 48.0	-0.7
APLL				*e*S	Sn	08 19 25.8	-1.5
ML02	**Panimavida**	**3.61**	**207**		Pn	08 18 52.5	-0.7
ML02	**Panimavida**	**3.61**	**207**	*e*P	Pn	08 18 53.0	-0.2
ML02				*e*S	Sn	08 19 35.0	-0.4
ML02				IAML		08 19 38.5	
	comp=Z,134nm,0.6s						
LCO	**Las Campanas**	**3.72**	**342**		Pn	08 18 54.5	-0.5
LCO	**Las Campanas**	**3.72**	**342**	*e*P	Pn	08 18 54.7	-0.4
LCO				*e*S	Sn	08 19 36.9	-1.6
ACLC	**CERRO LA CRUZ**	**3.76**	**34**	*e*P	Pn	08 18 54.5	-1.0
ACLC				*e*S	Sn	08 19 39.7	+0.3
ACLC				IAML		08 20 08.3	
	comp=Z,99nm,0.5s						
ACLC				IAML		08 20 08.3	
	comp=Z,99nm,0.5s						
AC05	**El Transito**	**3.79**	**348**		Pn	08 18 56.3	+0.4
AC05	**El Transito**	**3.79**	**348**	*e*P	Pn	08 18 56.4	+0.4
AC05				*e*P	Pn	08 18 56.4	+0.4
AC05				*e*S	Sn	08 19 40.0	-0.1
AC05				IAML		08 19 40.7	
	comp=Z,143nm,0.3s						
VCA	**Vinchina**	**3.95**	**15**	*e*P	Pn	08 18 58.0	+0.1
VCA				*e*S	Sn	08 19 44.7	+0.9
VCA				IAML		08 19 47.4	
	comp=Z,287nm,0.4s						
TCA	**Tanti**	**4.25**	**75**	*e*P	Pn	08 19 01.0	-0.9
TCA				*e*S	Sn	08 19 48.1	-2.7
TCA				IAML		08 20 04.0	
	comp=Z,95nm,0.4s						
BI02	**San Fabin de**	**4.38**	**200**		Pn	08 19 03.1	-0.4
BI02	**San Fabin de**	**4.38**	**200**	*e*P	Pn	08 19 02.5	-1.0
BI02				IAML		08 20 44.2	
	comp=Z,62nm,1.4s						
AC04	**Llanos de Chal**	**4.58**	**341**		Pn	08 19 05.5	-0.8
AC04	**Llanos de Chal**	**4.58**	**341**	*e*P	Pn	08 19 05.3	-1.0
AC04				*e*S	Sn	08 19 57.4	-1.3
AC04				IAML		08 20 03.2	
	comp=Z,76nm,0.3s						
GO03	**Copiapo**	**5.01**	**351**		Pn	08 19 11.2	-0.8
GO03	**Copiapo**	**5.01**	**351**	*e*P	Pn	08 19 11.3	-0.7
BI05	**Punta Hualpn**	**5.22**	**216**		Pn	08 19 11.5	-3.2
AC06	**Mina Casimiro**	**5.26**	**351**		Pn	08 19 14.3	-1.0
AC02	**Maricunga**	**5.71**	**2**		Pn	08 19 21.7	-0.2
AC01	**Pan de Azucar**	**6.48**	**350**	Pn	Pn	08 19 29.4	-2.5
LC02	**Puerto Saavedr**	**7.01**	**207**	Pn	Pn	08 19 34.0	-4.8
GO02	**Mina Guanaco**	**7.38**	**359**		Pn	08 19 43.5	-0.7
LR03	**Panguipulli**	**7.45**	**198**	Pn	Pn	08 19 40.8	-3.9
LR05	**Currie**	**7.94**	**195**		Pn	08 19 48.9	-2.4
PB14	**IPOC Station P**	**7.96**	**353**		Pn	08 19 49.1	-2.9
LR04	**Corral**	**8.00**	**203**		Pn	08 19 47.5	-4.6
TRQA	**Tornquist**	**8.16**	**134**		Pn	08 19 53.4	-0.9
PLCA	**Paso Flores**	**8.21**	**186**	Pn	Pn	08 19 53.0	-2.0
PLCA	**Paso Flores**	**8.21**	**186**	P	Pn	08 19 54.6	-0.4
	comp=Z,3.3nm,0.4s,baz=359,slow=11,SNR=50						
LL03	**Petrohue**	**8.89**	**195**	Pn	Pn	08 20 02.0	-2.1
AF01	**San Pedro de A**	**9.63**	**7**	Pn	Pn	08 20 12.6	-2.0
LL01	**San Ignacio de**	**10.09**	**193**		Pn	08 20 17.0	-3.2
LL06	**Loncomilla**	**10.21**	**198**	Pn	Pn	08 20 17.1	-4.7
PB09	**IPOC Station P**	**10.73**	**1**	Pn	Pn	08 20 26.7	-2.4
LL07	**Hotel Espejo d**	**10.75**	**196**	Pn	Pn	08 20 24.4	-4.6
ITQB	**Itaqui**	**11.31**	**79**	Pn	Pn	08 20 34.2	-2.5
PB01	**IPOC Station P**	**11.47**	**360**	Pn	Pn	08 20 35.1	-4.0
CPUP	**Villa Florida**	**12.20**	**62**	Pn	Pn	08 20 46.1	-2.3
CPUP	**Villa Florida**	**12.20**	**62**	P	Pn	08 20 48.9	+0.5
	comp=Z,0.6nm,0.4s,baz=234,slow=6.3,SNR=3.5						
LPAZ	**La Paz**	**16.25**	**4**		P	08 21 42.2	+1.1
LPAZ	**La Paz**	**16.25**	**4**	P	P	08 21 41.8	+0.7
	comp=Z,4.3nm,0.6s,baz=175,slow=5.6,SNR=25						
SIV	**San Ignacio**	**18.14**	**27**	P	Pn	08 22 02.5	-0.2
	comp=Z,4.2nm,0.7s,baz=202,slow=10.0,SNR=26						
MG04	**Isla Riesco**	**20.34**	**184**	P	P	08 22 22.8	-2.1
EFI	**East Falkland**	**20.82**	**160**	P	P	08 22 29.3	-0.7
MG03	**Isla Dawson**	**21.29**	**182**	P	P	08 22 34.9	-0.1
MG03				IAmb	IAmb	08 23 13.1	
	comp=Z,61nm,1.5s						
NNA	**Nana**	**21.60**	**340**	P	P	08 22 37.9	-0.8
BDFB	**Brasilia**	**25.69**	**54**	P	P	08

comp=Z,1.6nm,0.4s,baz=303,slow=3.2,SNR=19
ZALV Zalesovo Beam 151.82 33 PKPbc **PKiKP 08 37 39.3 +0.9**
comp=Z,6.3nm,0.4s,baz=302,slow=3.9,SNR=19
MKAR Makanchi Array 154.15 48 PKPbc **PKiKP 08 37 44.1 +0.6**
comp=Z,0.5nm,0.7s,baz=270,slow=3.3,SNR=4.1
MKAR PKPab **PKPab 08 37 59.1 +1.4**
comp=Z,0.5nm,0.6s,baz=308,slow=2.8,SNR=4.3

---

*GCG **23** 08:22:20.1±0.8, 15°.52N×93°.48W, h50km±95km, MD4.1*
*MEX **23** 08:22:20.4±1.0, 15°.52N×93°.56W, h84km±11km, MD4.0*
ISC 23 08:22:17.2±1.3, 15°.42N±0°.05×93°.53W±0°.03, h96km±12km, n24, σ2°39/43, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.41**	**47**	*eP*	**Pn**	**08 22 31.7**	**-0.2**
PCIG				*eS*	**Sn**	**08 22 41.9**	**-1.0**
PATR	**El Naranjo**	**1.29**	**103**	*eP*	**Pn**	**08 22 42.4**	**+1.5**
PATR				*eS*	**Sn**	**08 23 00.2**	**+1.4**
THIG		**1.33**	**112**	*eP*	**Pn**	**08 22 42.1**	**+1.1**
THIG				*eS*	**Sn**	**08 23 01.0**	**+1.8**
PAVE	**Pavencul**	**1.33**	**100**	*eP*	**Pn**	**08 22 43.1**	**+1.8**
PAVE				*eS*	**Sn**	**08 23 01.5**	**+2.0**
TGIG		**1.41**	**16**	*eP*	**Pn**	**08 22 42.5**	**+0.3**
TGIG				*eS*	**Sn**	**08 22 58.5**	**-2.5**
TGIG		**1.41**	**16**	*eP*	**Pn**	**08 22 42.2**	**+0.1**
TGIG				*eS*	**Sn**	**08 22 58.5**	**-2.5**
CCIG	**Comitan**	**1.59**	**57**	*eP*	**Pn**	**08 22 45.9**	**+1.4**
CCIG				*eS*	**Sn**	**08 23 04.5**	**-0.7**
CCIG	**Comitan**	**1.59**	**57**	*eP*	**Pn**	**08 22 45.8**	**+1.3**
CCIG				*eS*	**Sn**	**08 23 05.0**	**-0.3**
HUEH	**Huehuetenango**	**1.96**	**93**	*eS*	**Sn**	**08 23 14.6**	**+0.8**
UXUV	**UXUV**	**1.98**	**343**	*eP*	**Pn**	**08 22 51.0**	**+1.7**
UXUV				*eS*	**Sn**	**08 23 14.4**	**+0.6**
RTAL	**Retalhuleu**	**1.99**	**116**	*eP*	**Pn**	**08 22 52.5**	**+3.1**
RTAL				*eS*	**Sn**	**08 23 17.3**	**+3.2**
CMIG	**Matias Romero**	**2.11**	**322**	*eP*	**Pn**	**08 22 51.8**	**+0.8**
CMIG				*eS*	**Sn**	**08 23 12.8**	**-4.1**
STG8	**El Palmar, Qui**	**2.32**	**114**	*eP*	**Pn**	**08 22 51.9**	**-2.1**
STG8				*eS*	**Sn**	**08 23 17.2**	**-5.0**
STG0	**El Palmar, Qui**	**2.34**	**115**	*eP*	**Pn**	**08 22 52.2**	**-2.0**
STG0				*i* S	**Sn**	**08 23 17.1**	**-5.4**
STG5	**El Palmar, Qui**	**2.34**	**115**	*eP*	**Pn**	**08 22 52.3**	**-1.8**
STG5				*i* S	**Sn**	**08 23 17.1**	**-5.4**
HUIG	**Huatulco**	**2.50**	**278**	*eP*	**Pn**	**08 22 57.6**	**+1.4**
HUIG				*eS*	**Sn**	**08 23 23.8**	**-2.4**
NEUV	**Arroyo Zacate**	**3.15**	**317**	*eP*	**Pn**	**08 23 05.7**	**+0.9**
NEUV				*eS*	**Sn**	**08 23 39.0**	**-2.6**
VHO	**Vista Hermosa**	**3.48**	**299**	*eP*	Pn	08 23 15.8	+6.3
VHO				*eS*	**Sn**	**08 23 49.7**	**-0.3**
PEIG	**Puerto Escondi**	**3.53**	**280**	*eP*	**Pn**	**08 23 11.4**	**+1.5**
PEIG				*eS*	**Sn**	**08 23 50.0**	**-0.7**
PETF	**Flores**	**3.82**	**67**	*eP*	**Pn**	**08 23 16.5**	**+2.6**
PETF				*eS*	**Sn**	**08 23 57.2**	**-0.7**
YOIG	**Yosondua**	**4.11**	**291**	*eS*	**Sn**	**08 24 08.2**	**+2.9**
TOIG	**Toxpalan**	**4.30**	**309**	*eS*	**Sn**	**08 24 07.5**	**-2.1**
TXIG	**Tlaxiaco**	**4.46**	**295**	*eS*	**Sn**	**08 24 13.2**	**-0.4**
PNIG	**Pinotepa**	**4.52**	**283**	*eP*	**Pn**	**08 23 26.0**	**+2.5**
PNIG				*eS*	**Sn**	**08 24 11.8**	**-3.1**

---

*ASRS **23** 08:26:25.0±1.1, 54°.14N×86°.47E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 23 08:26:27.5±4.3, 54°.12N×86°.48E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=44.1km s-min=17.7km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**260**	I	I	08 33 40.0	
	baz=79,slow=320,SNR=2.8						
ZALV	**Zalesovo Beam**	**0.99**	**260**	Pg	Pg	08 26 45.6	-0.8
	baz=79,slow=17						
KURBB	**Kurchatov Arra**	**6.00**	**237**	Pn	Pn	08 27 58.4	+1.0
	baz=54,slow=13,SNR=2.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.81**	**202**	Pn	Pn	08 28 23.2	+1.0
	0.1nm,0.3s,baz=24,slow=11,SNR=2.6						
	0.1nm,0.3s						

---

*ASRS **23** 08:29:26.0±1.4, 53°.71N×86°.87E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 23 08:29:28.0±2.9, 53°.70N×86°.98E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=27.7km s-min=16.5km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**282**	I	I	08 38 10.0	
	baz=100,slow=323,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.30**	**282**	Pg	Pg	08 29 51.4	-1.6
	1.0nm,0.3s,baz=104,slow=18,SNR=6.3						
ZALV				Lg	Lg	08 30 11.1	
	1.1nm,0.3s,baz=103,slow=29,SNR=5.9						
KURBB	**Kurchatov Arra**	**6.04**	**243**	Pn	Pn	08 30 58.2	-0.2
	0.1nm,0.3s,baz=57,slow=13,SNR=5.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.53**	**205**	Pn	Pn	08 31 21.5	+2.5
	0.1nm,0.3s,baz=26,slow=13,SNR=2.3						
	0.1nm,0.3s						

---

*ASRS **23** 08:37:01.0±1.8, 53°.67N×87°.89E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 23 08:37:03.6±3.1, 53°.58N×88°.03E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=28.1km s-min=18.3km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**282**	I	I	08 49 40.0	
	baz=98,slow=330,SNR=13						
ZALV	**Zalesovo Beam**	**1.94**	**282**	Pn	Pn	08 37 36.9	-0.9
	2.6nm,0.3s,baz=102,slow=15,SNR=9.7						
ZALV				Lg	Lg	08 38 04.6	
	2.7nm,0.3s,baz=103,slow=26,SNR=9.7						
KURBB	**Kurchatov Arra**	**6.55**	**247**	Pn	Pn	08 38 42.7	+1.5
	0.1nm,0.3s,baz=62,slow=14,SNR=6.1						
KURBB				Lg	Lg	08 40 31.9	
	baz=55,slow=32,SNR=4.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.72**	**211**	Pn	Pn	08 38 57.7	+0.5
	0.1nm,0.3s,baz=30,slow=14,SNR=4.5						
MKAR				Lg	Lg	08 41 07.8	
	0.1nm,0.3s,baz=26,slow=34,SNR=2.0						
	0.2nm,0.3s						

---

*NEIC **23** 08:50:33.4±1.5, 6°.21S±0°.09×151°.1E±0°.1, h38km±5km, mb4.7/40, Error ellipse: s-maj=19.3km s-min=9.3km az=125.0*
*IDC **23** 08:50:34.9±5.8, 6°.16S×151°.01E, h56km±49km, mb3.8/8, mbtmp4.1/9, ML2.4/1, MS3.7/2, Error ellipse: s-maj=44.5km s-min=26.4km az=103.0*
ISC 23 08:50:33.2±0.6, 6°.2S±0°.1×151°.1E±0°.1, h43km, n60, σ0°77/54, mb4.5/25, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.24**	**28**		**Pn**	**08 51 07.9**	**0.0**
PMG	**Port Moresby**	**5.06**	**231**		**Pn**	**08 51 45.8**	**-0.8**
PMG				Sn	**Sn**	**08 52 43.2**	**-0.7**
PMG	**Port Moresby**	**5.06**	**231**	P	**Pn**	**08 51 47.3**	**+0.7**
	9.6nm,0.3s,baz=70,slow=20,SNR=11						
PMG				S	**Sn**	**08 52 44.9**	**+1.1**
	97nm,0.6s,baz=148,slow=19,SNR=11						
	18nm,0.3s						
COEN	**Coen**	**10.98**	**225**	Pn	**Pn**	**08 53 06.5**	**-1.5**
MTN	**Manton Dam**	**20.78**	**250**	P	**P**	**08 55 11.2**	**+0.3**
MTN				IAmb	IAmb	08 55 24.5	
	comp=Z,25nm,1.3s						
WB0	**Warramunga Arr**	**21.13**	**229**		**P**	**08 55 14.3**	**-0.3**
WR8	**Warramunga Arr**	**21.16**	**228**	P	**P**	**08 55 15.0**	**0.0**
WRAB	**Tennant Creek**	**21.26**	**228**	P	**P**	**08 55 15.8**	**-0.3**
WRA	**Warramunga Arr**	**21.27**	**228**	P	**P**	**08 55 14.7**	**-1.5**
WRA	**Warramunga Arr**	**21.27**	**228**	P	**P**	**08 55 15.6**	**-0.6**
	comp=Z,8.1nm,0.7s,baz=51,slow=10,SNR=18						
	comp=Z,8.1nm,0.7s						

KNRA	**Kununurra**	**23.86**	**245**	P	**P**	**08 55 42.3**	**-0.6**
KNRA				IAmb	IAmb	08 56 07.3	
	comp=Z,36nm,1.5s						
AS31	**Alice Springs**	**24.00**	**222**		**P**	**08 55 43.8**	**-0.4**
ASAR	**Alice Springs**	**24.00**	**222**		**P**	**08 55 44.2**	**0.0**
ASAR	**Alice Springs**	**24.00**	**222**	P	**P**	**08 55 43.5**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=58,slow=8.6,SNR=27						
	comp=Z,1.1nm,0.4s						
STKA	**Stephens Creek**	**27.06**	**198**	P	**P**	**08 56 12.5**	**+0.8**
STKA				IAmb	IAmb	08 56 29.1	
	comp=Z,32nm,1.2s						
STKA	**Stephens Creek**	**27.06**	**198**	P	**P**	**08 56 12.7**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=0.3,slow=10,SNR=7.5						
	comp=Z,3.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.53**	**242**	P	**P**	**08 56 16.0**	**-0.1**
MBWA	**Marble Bar**	**33.83**	**241**	P	**P**	**08 57 12.2**	**+0.4**
PSA00	**Pilbara Seismi**	**33.89**	**240**	P	**P**	**08 57 12.9**	**+0.7**
TGY	**Tagaytay City**	**36.11**	**304**	LR	LR	09 13 06.4	
	comp=Z,127nm,18.9s,baz=127,slow=38						
NIUE	**Niue**	**40.00**	**112**	P	**P**	**08 58 04.4**	**+0.2**
KS19	**Wonju Array Si**	**48.59**	**335**	P	**P**	**08 59 11.9**	**-0.7**
RAR	**Rarotonga**	**49.77**	**113**	LR	LR	09 19 45.0	
	comp=Z,58nm,18.5s,baz=280,slow=35						
SONM	**Songino Array**	**66.63**	**329**	P	**P**	**09 01 20.7**	**+1.3**
SONM	**Songino Array**	**66.63**	**329**	P	**P**	**09 01 19.8**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=154,slow=4.8,SNR=4.4						
	comp=Z,0.8nm,0.6s						
SDPT	**Sand Point**	**73.20**	**26**	P	**P**	**09 01 59.8**	**+0.4**
O15K	**Ungalikthiuk R**	**75.90**	**24**	P	**P**	**09 02 16.5**	**+1.4**
K15K	**Wolf Creek Mou**	**77.28**	**21**		**P**	**09 02 24.2**	**+1.3**
M16K	**Timber Creek**	**77.40**	**22**	P	**P**	**09 02 24.7**	**+1.1**
MKAR	**Makanchi Array**	**80.28**	**319**	P	**P**	**09 02 39.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=116,slow=6.0,SNR=8.3						
	comp=Z,0.7nm,0.6s						
MAKZ	**Makanchi**	**80.49**	**319**		**P**	**09 02 40.7**	**-0.2**
CAST	**Castle Rocks**	**81.42**	**22**		**P**	**09 02 45.6**	**+0.1**
CAST				IAmb	IAmb	09 02 46.3	
	comp=Z,6.2nm,1.1s						
F19K	**Shaleruckik Mo**	**81.46**	**18**	P	**P**	**09 02 46.0**	**+0.5**
E19K	**Redstone River**	**82.01**	**18**	P	**P**	**09 02 48.5**	**+0.1**
I21K	**Tanana**	**82.41**	**21**	P	**P**	**09 02 51.2**	**+0.6**
I21K				IAmb	IAmb	09 02 52.5	
	comp=Z,3.5nm,0.9s						
RND	**Reindeer**	**82.65**	**23**		**P**	**09 02 51.2**	**-0.8**
RND				IAmb	IAmb	09 02 52.9	
	comp=Z,5.9nm,0.8s						
MCK	**McKinley**	**82.78**	**23**		**P**	**09 02 52.8**	**+0.3**
MCK				IAmb	IAmb	09 02 53.2	
	comp=Z,10.0nm,1.0s						
NEA2	**Nenana**	**83.17**	**22**	P	**P**	**09 02 54.6**	**+0.1**
NEA2				IAmb	IAmb	09 02 55.3	
	comp=Z,4.8nm,0.9s						
QSPA	**South Pole Qui**	**83.78**	**180**	P	**P**	**09 02 57.1**	**-0.7**
QSPA				IAmb	IAmb	09 03 11.8	
	comp=Z,9.6nm,1.4s						
KURBB	**Kurchatov Arra**	**83.87**	**322**	P	**P**	**09 02 57.4**	**-1.0**
	comp=Z,1.2nm,1.0s,baz=106,slow=4.3,SNR=5.0						
	comp=Z,1.2nm,1.0s						
IL31		**84.07**	**22**	P	**P**	**09 02 58.7**	**-0.3**
IL31				IAmb	IAmb	09 02 59.1	
	comp=Z,4.7nm,0.9s						
ILAR	**Eielson Array**	**84.07**	**22**		**P**	**09 02 58.5**	**-0.6**
ILAR	**Eielson Array**	**84.07**	**22**	P	**P**	**09 02 58.8**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=246,slow=5.3,SNR=29						
	comp=Z,2.2nm,0.7s						
J25K	**Salcha River,**	**84.58**	**23**	IAmb	IAmb	09 03 02.7	
	comp=Z,5.4nm,0.8s						
DOT	**Dot Lake**	**84.67**	**24**	IAmb	IAmb	09 03 03.6	
	comp=Z,6.2nm,1.0s						
D23K	**Nanushuk River**	**84.88**	**18**	P	**P**	**09 03 04.8**	**+1.6**
D23K				IAmb	IAmb	09 03 05.6	
	comp=Z,7.0nm,0.8s						
F24K	**Squaw Lake**	**85.04**	**20**	P	**P**	**09 03 05.1**	**+1.1**
F24K				IAmb	IAmb	09 03 20.8	
	comp=Z,3.5nm,1.1s						
TOLK	**Toolik Lake Re**	**85.06**	**18**	P	**P**	**09 03 05.1**	**+1.0**
TOLK				IAmb	IAmb	09 03 06.0	
	comp=Z,3.2nm,1.0s						
D25K	**Kavik River**	**86.40**	**18**	P	**P**	**09 03 11.6**	**+0.9**
D25K				IAmb	IAmb	09 03 12.9	
	comp=Z,4.6nm,1.4s						
M29M	**Somme Creek**	**86.55**	**26**	P	**P**	**09 03 11.7**	**0.0**
H27K	**Steamboat Moun**	**86.72**	**22**		**P**	**09 03 13.6**	**+1.2**
H27K				IAmb	IAmb	09 03 37.5	
	comp=Z,8.1nm,1.4s						
C27K	**Jago River**	**87.37**	**19**	IAmb	IAmb	09 03 17.5	
	comp=Z,2.7nm,0.8s						
KKAR	**Karatay Array**	**87.37**	**314**	P	**P**	**09 03 15.6**	**-0.4**
K29M	**Barlow Dome**	**87.43**	**25**		**P**	**09 03 16.1**	**+0.1**
E27K	**Coleen River**	**87.47**	**20**	IAmb	IAmb	09 03 18.0	
	comp=Z,9.3nm,1.5s						
D27M	**Malcolm River**	**88.10**	**19**	IAmb	IAmb	09 03 35.8	
	comp=Z,7.7nm,1.4s						
EPYK	**Eagle Plains**	**88.58**	**23**	P	**P**	**09 03 22.1**	**+0.8**
YKA	**Yellowknite Ar**	**97.43**	**28**	P	Pdif	09 04 02.9	+0.7
	comp=Z,0.5nm,0.7s,baz=270,slow=4.8,SNR=5.0						
	comp=Z,0.5nm,0.7s						
GERES	**GERESS Array B**	**124.34**	**327**	PKP	**PKPdf**	**09 09 27.7**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=186,slow=1.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.10**	**285**	PKPbc	**PKPbc**	**09 10 17.3**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=73,slow=3.3,SNR=3.0						

---

*IDC **23** 08:58:10.7±1.0, 41°.56N×19°.32E, h0km, mb4.1/11, mbtmp4.0/18, ML3.3/6, MS3.1/2, Error ellipse: s-maj=17.4km s-min=16.6km az=5.0*
*MOS **23** 08:58:10.8±1.1, 41°.47N×19°.32E, h11km, mb4.6/4, Error ellipse: s-maj=9.0km s-min=5.6km az=63.8*
*PRU **23** 08:58:11.6, 40°.99N×19°.24E, h10km, M4.5*
*SKO **23** 08:58:13.2, 41°.37N×19°.38E, h7km, ML3.8*
*PDG **23** 08:58:13.9±0.7, 41°.48N×19°.50E, h7km±1km, MD3.7/7, ML3.6/13, Error ellipse: s-maj=0.8km s-min=1.4km az=0.0*
*RHSSO **23** 08:58:13.0±0.6, 41°.33N×19°.45E, h8km±2km, ML3.8/12*
*NEIC **23** 08:58:14.2±1.2, 41°.55N±0°.03×19°.52E±0°.06, h10km±1km, mb4.5/5, Error ellipse: s-maj=7.8km s-min=4.0km az=245.0*
*TIR **23** 08:58:14.1, 41°.51N×19°.60E, h25km±1km, Ml3.8/4*
*BEO **23** 08:58:14.9±0.3, 41°.50N×19°.53E, h9km±1km, ML3.4/12*
*THE **23** 08:58:17.9, 41°.39N×19°.62E, h10km±12km, ML3.5/3, Error ellipse: s-maj=16.5km s-min=1.5km az=331.0*
ISC 23 08:58:14.2±0.8, 41°.49N±0°.02×19°.52E±0°.02, h16km±5km, n257, σ1°40/334, mb4.3/13, 32C-30D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**118**	Pg	**Pg**	**08 58 20.1**	**-0.3**
TIR				Sg	**Sg**	**08 58 25.2**	**+0.6**
TIR	**Tirane**	**0.29**	**118**	*i* Pg	**Pg**	**08 58 20.3**	**-0.1**
TIR				AML	AML	08 58 24.7	
	265nm,0.5s						
TIR				Sg	**Sg**	**08 58 25.2**	**+0.6**
TIR	**Tirane**	**0.29**	**118**	⇑S	**Sg**	**08 58 25.1**	**+0.4**
TIR	**Tirane**	**0.29**	**118**	⇓*i* Pg	**Pg**	**08 58 20.3**	**-0.1**
TIR				*i* Sg	**Sb**	**08 58 25.4**	**-0.3**
TIR	**Tirane**	**0.29**	**118**	*e*Pg	**Pg**	**08 58 20.1**	**-0.3**
TIR				*e*Sg	**Sg**	**08 58 25.3**	**+0.6**
ULC	**Ulcinj**	**0.52**	**337**	⇓*i* Pg	**Pg**	**08 58 24.5**	**0.0**
ULC	**Ulcinj**	**0.52**	**337**	⇓*e*Pg	**Pg**	**08 58 24.5**	**0.0**
ULC	**Ulcinj**	**0.52**	**337**	*e*Pg	**Pg**	**08 58 23.5**	**-1.0**
ULC				*i* Sg	**Sg**	**08 58 31.7**	**+0.2**
PUK	**Puka**	**0.62**	**27**	Pg	**Pg**	**08 58 25.5**	**-1.0**
PUK	**Puka**	**0.62**	**27**	⇓*i* Pg	**Pg**	**08 58 25.4**	**-1.0**
PUK				Sg	**Sg**	**08 58 34.5**	**-0.3**
PUK				AML	AML	08 58 41.2	
	10nm,0.2s						
DRME	**Dracevica, Mon**	**0.74**	**340**	⇓*e*Pn	**Pg**	**08 58 28.5**	**-0.2**
DRME	**Dracevica, Mon**	**0.74**	**340**	*e*Pg	**Pg**	**08 58 28.3**	**-0.4**
DRME				*e*Sg	**Sn**	**08 58 41.4**	**+0.3**
DRME	**Dracevica, Mon**	**0.74**	**340**	*e*Pg	**Pg**	**08 58 27.7**	**-1.0**
DRME				*i* Sg	**Sb**	**08 58 39.3**	**+0.6**
BUM	**Brajici-Budva**	**0.94**	**330**	⇓*e*Pn	**Pb**	**08 58 32.5**	**+0.4**
BUM	**Brajici-Budva**	**0.94**	**330**	*e*Pg	**Pg**	**08 58 31.2**	**-1.2**
BUM				*i* Sg	**Sn**	**08 58 45.8**	**-0.2**
PDG	**Podgorica**	**0.96**	**348**	Pg	**Pg**	**08 58 31.1**	**-1.7**
PDG	**Podgorica**	**0.96**	**348**	*e*Pg	**Pg**	**08 58 32.3**	**-0.5**
PDG				*e*Sg	**Sn**	**08 58 48.4**	**+1.9**
PDG	**Podgorica**	**0.96**	**348**	⇑P	**Pb**	**08 58 33.0**	**+0.5**
PDG				⇓S	**Sn**	**08 58 47.5**	**+1.0**
PDG	**Podgorica**	**0.96**	**348**	*e*Pg	**Pb**	**08 58 32.6**	**+0.1**
PDG	**Podgorica**	**0.96**	**348**	⇓*i* Pg	**Pg**	**08 58 31.7**	**-1.1**
PDG				*i* Sg	**Sn**	**08 58 46.9**	**+0.4**
BCI	**Bajram Curri**	**0.97**	**25**	⇓*i* Pn	**Pg**	**08 58 31.4**	**-1.6**

BCI				Sn	**Sg**	**08 58 45.4**	**-0.3**
BCI				AML	AML	08 58 57.9	
	14nm,0.8s						
VLO	**Vlora**	**1.02**	**181**	⇑*i* Pg	**Pn**	**08 58 35.3**	**+1.5**
VLO				Sg	**Sb**	**08 58 47.7**	**+1.2**
OHR	**Ohrid**	**1.03**	**111**	⇑*i* Pg	**Pg**	**08 58 33.1**	**-1.0**
OHR				*i* Sg	**Sn**	**08 58 49.5**	**+1.2**
OHR				*e*Lg	Lg	08 58 50.2	
	comp=N,2μm,0.8s						
OHR				*e*Lg	Lg	08 58 51.0	
	comp=E,2μm,0.7s						
OHR	**Ohrid**	**1.03**	**111**	*e*Pg	**Pg**	**08 58 32.9**	**-1.3**
OHR				*e*Sg	**Sb**	**08 58 48.6**	**+1.5**
CEME	**Cevo**	**1.15**	**337**	⇑*e*Pn	**Pn**	**08 58 36.1**	**+0.3**
CEME	**Cevo**	**1.15**	**337**	⇓*i* Pg	**Pb**	**08 58 35.1**	**-0.7**
CEME				*i* Sg	**Sn**	**08 58 53.1**	**+1.9**
PVY	**Plav**	**1.16**	**16**	⇓*e*Pn	**Pb**	**08 58 35.7**	**-0.2**
PVY	**Plav**	**1.16**	**16**	*e*Pg	**Pb**	**08 58 35.5**	**-0.4**
PVY				*i* Sg	**Sn**	**08 58 53.8**	**+2.4**
HCY	**Herceg Novi**	**1.23**	**322**	⇓*e*Pn	**Pg**	**08 58 38.4**	**+0.6**
HCY	**Herceg Novi**	**1.23**	**322**	*e*Pg	**Pg**	**08 58 37.3**	**-0.5**
HCY				*e*Sg	**Sn**	**08 58 54.5**	**+1.5**
HCY	**Herceg Novi**	**1.23**	**322**	*e*Pg	**Pn**	**08 58 36.4**	**-0.3**
HCY				*i* Sg	**Sn**	**08 58 55.4**	**+2.4**
NKME	**Niksic**	**1.35**	**342**	⇓*e*Pn	**Pg**	**08 58 40.0**	**-0.1**
NKME	**Niksic**	**1.35**	**342**	*e*Pg	**Pn**	**08 58 38.8**	**+0.4**
NKME				*i* Sg	**Sg**	**08 58 59.9**	**+2.2**
KOME	**Kolasin**	**1.36**	**360**	⇓*e*Pn	**Pb**	**08 58 39.9**	**+0.3**
KOME	**Kolasin**	**1.36**	**360**	*e*Pg	**Pn**	**08 58 39.3**	**+0.6**
KOME				*i* Sg	**Sg**	**08 59 00.6**	**+2.4**
BEY	**Berane**	**1.41**	**11**	*i* Pg	**Pn**	**08 58 39.6**	**+0.3**
IVA	**Berane**	**1.41**	**11**	*e*Pg	**Pn**	**08 58 40.2**	**+0.8**
IVA				*i* Sg	**Sg**	**08 59 02.5**	**+2.7**
TREB	**Trebinje**	**1.51**	**325**	⇑*i* Pn	**Pb**	**08 58 41.6**	**-0.2**
TREB				*e*Sn	**Sg**	**08 59 03.0**	**+0.2**
TREB	**Trebinje**	**1.51**	**325**	*e*Pg	**Pn**	**08 58 40.5**	**-0.1**
TREB				*e*Sg	**Sg**	**08 59 04.2**	**+1.4**
SKO	**Skopje**	**1.52**	**71**	⇑*i* Pn	**Pb**	**08 58 42.1**	**+0.2**
SKO				*i* Sn	**Sg**	**08 59 03.7**	**+0.6**
NEST	**Nestorio**	**1.58**	**132**	P	**Pb**	**08 58 43.6**	**+0.6**
NEST				S	**Sb**	**08 59 03.4**	**+0.6**
	comp=E,1μm,0.6s						
BRY	**Bratogost**	**1.59**	**333**	⇑*i* Pn	**Pb**	**08 58 43.1**	**-0.2**
BRY				*e*Sn	**Sg**	**08 59 04.4**	**-1.1**
BRY	**Bratogost**	**1.59**	**333**	*e*Pn	**Pb**	**08 58 43.2**	**-0.1**
BRY				*i* Sn	**Sg**	**08 59 06.9**	**+1.4**
SCTE	**Santa Cesarea**	**1.62**	**210**	Pn	**Pb**	**08 58 43.5**	**-0.2**
SRN	**Sarande**	**1.65**	**167**	⇑*i* Pn	**Pb**	**08 58 43.6**	**-0.5**
SRN				Sn	**Sg**	**08 59 08.3**	**+1.1**
SRN				AML	AML	08 59 17.9	
	comp=E,2.4nm,0.6s						
UPM	**Unac-Piva**	**1.78**	**345**	*e*Pn	**Pb**	**08 58 46.5**	**0.0**
UPM				*e*Sn	**Sb**	**08 59 09.9**	**+1.3**
UPM	**Unac-Piva**	**1.78**	**345**	⇓*i* Pn	**Pb**	**08 58 46.0**	**-0.5**
UPM				*i* Sn	**Sg**	**08 59 11.4**	**0.0**
KEK	**Kerkira**	**1.78**	**173**	P	**Pb**	**08 58 46.9**	**+0.4**
KEK				S	**Sb**	**08 59 09.0**	**+0.4**
	comp=E,1μm,0.4s						
KEK	**Kerkira**	**1.78**	**173**	*e*P	**Pn**	**08 58 45.2**	**+0.8**
KEK	**Kerkira**	**1.78**	**173**	Pn	**Pb**	**08 58 46.8**	**+0.3**
SJES	**Sjenica**	**1.81**	**11**	⇑*i* Pn	**Pb**	**08 58 47.2**	**+0.2**
SJES				*e*Sn	**Sg**	**08 59 11.3**	**-1.0**
SJES	**Sjenica**	**1.81**	**11**	*e*Pn	**Pb**	**08 58 46.9**	**-0.1**
KLINJ	**Klinje**	**1.82**	**338**	*e*Pn	**Pb**	**08 58 46.5**	**-0.7**
KLINJ				*e*Sn	**Sb**	**08 59 11.0**	**+1.2**
PLE	**Pljevlja**	**1.85**	**357**	⇓*i* Pn	**Pb**	**08 58 47.0**	**-0.6**
PLE				*i* Sn	**Sg**	**08 59 13.3**	**-0.3**
STON	**Ston**	**1.94**	**316**	*e*Pn	**Pn**	**08 58 47.3**	**+0.9**
STON				*e*Sn	**Sn**	**08 59 12.0**	**+1.6**
STON	**Ston**	**1.94**	**316**	*e*Pn	**Pn**	**08 58 47.7**	**+1.3**
STON				*e*Sn	**Sb**	**08 59 12.6**	**-0.4**
IGT	**Igoumenitsa**	**2.05**	**162**	P	**Pn**	**08 58 49.8**	**+1.8**
IGT				S	**Sb**	**08 59 15.6**	**-0.6**
	comp=E,930nm,0.7s						
IGT	**Igoumenitsa**

BLY *e*Sn **Sn** **08 59 56.1 +2.6**
A050A Klekovaca 3.71 325 *e*Pn **Pn** **08 59 12.4 +1.5**
A050A *e*Sn **Sn** **08 59 56.4 +2.0**
PAOL Paolisi 3.76 265 **Pn** **08 59 13.3 +1.7**
PLD Plovdiv 3.96 79 *e*P **Pn** **08 59 13.6 -0.7**
PLD Plovdiv 3.96 79 *i* Pn **Pn** **08 59 16.3 +2.0**
PLD Plovdiv 3.96 79 *e*Pn **Pn** **08 59 16.1 +1.8**
HERR Herculane 4.00 31 ⇓P **Pn** **08 59 16.3 +1.5**
A051A Mrakovica 4.01 332 *e*Pn **Pn** **08 59 15.6 +0.6**
A051A *e*Sn **Sn** **09 00 03.1 +1.4**
INTR Introdacqua 4.23 279 **Pn** **08 59 18.6 +0.5**
CEL Celeste 4.26 222 Pn **Pn** **08 59 18.3 -0.1**
KDZ Kurdzhali 4.37 86 *e*P **Pn** **08 59 19.9 0.0**
BZS Buzias 4.40 20 ⇑P **Pn** **08 59 21.7 +1.4**
BZS Buzias 4.40 20 P **Pn** **08 59 21.7 +1.4**
BZS Buzias 4.40 20 *e*Pn **Pn** **08 59 21.3 +1.0**
BZS *e*Sn **Sn** **09 00 09.9 -1.4**
RDO Rodhopi 4.54 92 *e*P **Pn** **08 59 22.4 +0.1**
RDO Rodhopi 4.54 92 **Pn** **08 59 23.3 +1.0**
SURR Surduc 4.67 23 ⇓P **Pn** **08 59 25.1 +1.1**
CAMP Campotosto 4.67 285 **Pn** **08 59 25.4 +1.2**
ITM Ithomi 4.69 156 *e*P **Pn** **08 59 24.8 +0.5**
ITM Ithomi 4.69 156 Pn **Pn** **08 59 25.4 +1.1**
MORH Mrgy, Hungar 4.77 353 ⇑P **Pn** **08 59 27.3 +1.9**
GUMA Gualdo di Mace 4.85 291 **Pn** **08 59 27.1 +0.5**
NRCA Norcia 4.95 288 **Pn** **08 59 28.9 +0.9**
ALN Alexandroupoli 4.96 95 *e*P **Pn** **08 59 28.1 +0.1**
ALN Alexandroupoli 4.96 95 Pn **Pn** **08 59 29.6 +1.6**
ALN Alexandroupoli 4.96 95 P **Pn** **08 59 29.6 +1.6**
FDMO Fiordimonte 5.02 290 **Pn** **08 59 30.0 +1.2**
SIRR Siria 5.02 17 ⇑P **Pn** **08 59 30.2 +1.3**
SIRR Siria 5.02 17 *e*Pn **Pn** **08 59 29.2 +0.3**
SIRR *e*Sn **Sn** **09 00 25.0 -1.6**
LOT Lotru 5.03 37 *e*P **Pn** **08 59 29.5 +0.5**
LOT Lotru 5.03 37 ⇑P **Pn** **08 59 30.8 +1.8**
BOJS Bojanci 5.08 324 *e*Pn **Pn** **08 59 30.5 +0.9**
BOJS *e*Sn **Sn** **09 00 28.6 +0.7**
BOJS Bojanci 5.08 324 *e*Pn **Pn** **08 59 30.8 +1.2**
BOJS *e*Sn **Sn** **09 00 27.6 -0.3**
CRES Cresnjevec Ost 5.24 327 *e*Pn **Pn** **08 59 32.8 +0.9**
CRES *e*Sn **Sn** **09 00 31.8 -0.3**
CESX Cesi 5.29 285 **Pn** **08 59 33.4 +0.9**
ARR Arges 5.38 42 ⇑P **Pn** **08 59 36.1 +2.3**
GELI Tayfur-Gelibol 5.38 99 *e*P **Pn** **08 59 34.3 +0.6**
EDRB Edirne 5.42 84 *e*P **Pn** **08 59 35.1 +0.7**
COMU Canakkale 5.46 102 *e*P **Pn** **08 59 35.3 +0.4**
RAZG Razgrad 5.57 66 ⇑P **Pn** **08 59 38.5 +2.1**
CEY Cerknica 5.63 321 *e*Pn **Pn** **08 59 37.2 -0.1**
CEY *e*Sn **Sn** **09 00 41.4 -0.3**
CEY Cerknica 5.63 321 *e*Pn **Pn** **08 59 38.4 +1.1**
CEY *e*Sn **Sn** **09 00 40.9 -0.8**
VOIR 5.64 44 ⇑P **Pn** **08 59 39.5 +2.1**
VOIR 5.64 44 P **Pn** **08 59 39.5 +2.1**
SKDS Skadanscina 5.70 317 *e*Pn **Pn** **08 59 37.9 -0.3**
SKDS *e*Sn **Sn** **09 00 42.2 -1.1**
SKDS Skadanscina 5.70 317 *e*Pn **Pn** **08 59 38.2 0.0**
SKDS *e*Sn **Sn** **09 00 40.9 -2.4**
MARR Marisel-Cluj 5.80 25 ⇑P **Pn** **08 59 41.0 +1.3**
SOKA Soboth 6.11 330 *e*Pn **Pn** **08 59 45.3 +1.4**
comp=N,1.1nm,0.2s
MLR Muntele Rosu 6.15 47 *e*P **Pn** **08 59 45.8 +1.3**
MLR Muntele Rosu 6.15 47 **Pn** **08 59 46.4 +1.9**
MLR Muntele Rosu 6.15 47 Pn **Pn** **08 59 45.6 +1.1**
comp=N,1.3nm,0.3s,baz=157,slow=11,SNR=16
MLR LR LR 09 02 35.7
comp=N,168nm,20.2s,baz=262,slow=43
comp=N,16nm,0.8s
MLR Muntele Rosu 6.15 47 ⇑P **Pn** **08 59 46.9 +2.3**
MLR Muntele Rosu 6.15 47 P **Pn** **08 59 46.8 +2.3**
OBKA Obir 6.17 326 *e*Pn **Pn** **08 59 45.3 +0.6**
OBKA *e*Sn **Sn** **09 00 54.4 -0.6**
OBKA Obir 6.17 326 *i* Pn **Pn** **08 59 46.9 +2.2**
comp=N,1.7nm,0.2s
SABO M.te Sabotino 6.21 318 Pn **Pn** **08 59 45.1 -0.1**
ISR Istrita 6.28 52 ⇑P **Pn** **08 59 48.7 +2.5**
ISR Istrita 6.28 52 P **Pn** **08 59 48.6 +2.5**
NEHR Nehoiu 6.31 49 ⇑P **Pn** **08 59 49.0 +2.4**
APE Apeiranthos 6.42 131 ⇓P **Pn** **08 59 48.7 +0.6**
APE Apeiranthos 6.42 131 P **Pn** **08 59 48.7 +0.6**
ARSA Arzberg 6.43 335 Pn **Pn** **08 59 47.9 -0.4**
ARSA Arzberg 6.43 335 *e*Pn **Pn** **08 59 49.4 +1.1**
comp=N,0.4nm,0.2s
PSZ Piszkesteto 6.44 2 **Pn** **08 59 48.1 -0.3**
PSZ Piszkesteto 6.44 2 ⇑P **Pn** **08 59 50.8 +2.5**
PSZ Piszkesteto 6.44 2 P **Pn** **08 59 50.8 +2.5**
OSSC Osservatorio P 6.45 291 Pn **Pn** **08 59 48.6 +0.1**
PRED Cave del Predi 6.56 321 Pn **Pn** **08 59 50.0 0.0**
ICOR Ion Corvin 6.63 64 ⇓P **Pn** **08 59 53.6 +2.6**
SPBR Spulber 6.76 48 ⇑P **Pn** **08 59 55.0 +2.3**
PLOR Plostina 6.76 47 ⇑P **Pn** **08 59 55.4 +2.5**
PLOR Plostina 6.76 47 P **Pn** **08 59 55.3 +2.5**
VRI Vrincioaia 6.82 48 ⇑P **Pn** **08 59 55.9 +2.4**
VRI Vrincioaia 6.82 48 P **Pn** **08 59 55.9 +2.4**
STAL STALIGIAL 6.85 316 Pn **Pn** **08 59 53.6 -0.4**
TEOL Teolo 6.90 307 Pn **Pn** **08 59 54.8 +0.1**
CONA Conrad Observa 6.95 339 *e*Pn **Pn** **08 59 56.9 +1.5**
comp=N,0.5nm,0.2s
KECS Kecovo 7.03 5 *e*P Pn 09 00 02.4 +6.0
KECS *e* 09 01 14.5
KECS Kecovo 7.03 5 *e*PN Pn 09 00 02.4 +6.0
KECS *e*SN **Sn** **09 01 14.5 -1.5**
KBA Koelnbreinsper 7.13 324 *i* Pn **Pn** **08 59 59.5 +1.5**
comp=N,2.2nm,0.4s
TIRR Tirgusor 7.17 63 Pn **Pn** **08 59 57.9 -0.4**
TIRR Tirgusor 7.17 63 P **Pn** **08 59 57.9 -0.4**
CFR Carcaliu 7.29 57 ⇓P **Pn** **09 00 01.4 +1.4**
CFR Carcaliu 7.29 57 P **Pn** **09 00 01.3 +1.4**
CTI Castel Tesino 7.29 311 **Pn** **08 59 59.9 -0.3**
TPGR Topolog 7.33 60 ⇓P **Pn** **09 00 02.8 +2.3**
BURAR Bucovina Array 7.35 32 **Pn** **09 00 00.7 -0.3**
BUR08 Bucovina Ar. S 7.37 31 **Pn** **09 00 00.4 -0.8**
MOA Molln 7.38 331 *e*Pn **Pn** **09 00 04.0 +2.8**
comp=N,1.6nm,0.5s
IDI Anoyia 7.49 144 Pn **Pn** **09 00 03.1 +0.3**
IDI Anoyia 7.49 144 Pn **Pn** **09 00 01.6 -1.2**
comp=N,6.3nm,0.8s,baz=10,slow=4.9,SNR=3.1
IDI Sn **Sn** **09 01 21.0 -6.4**
comp=N,2.0nm,0.3s,baz=104,slow=21,SNR=9.1
MANT Manisa 7.56 110 Pn **Pn** **09 00 02.4 -1.5**
TLCR 7.72 58 ⇓P **Pn** **09 00 08.2 +2.4**
TLCR 7.72 58 P **Pn** **09 00 08.2 +2.4**
MSSA Maissana 7.87 294 Pn **Pn** **09 00 07.9 -0.1**
WTTA Wattenberg 8.07 318 *e*Pn **Pn** **09 00 13.5 +2.6**
comp=N,2.4nm,0.4s
WATA Walderalm 8.15 318 *e*Pn **Pn** **09 00 12.5 +0.5**
comp=N,3.8nm,0.4s
FETA Feichten 8.39 314 *e*Pn Pn 09 00 22.5 +7.3
comp=N,5.3nm,0.8s
KARP Karpathos 8.43 132 Pn **Pn** **09 00 16.8 +1.2**
GERES GERESS Array B 8.43 333 Pn **Pn** **09 00 12.5 -3.2**
baz=152,slow=15,SNR=4.7
comp=N,0.8nm,0.5s
KHC Kasperske Hory 8.71 333 *e*PN **Pn** **09 00 20.9 +1.4**
KHC *e*SN **Sn** **09 01 59.1 +1.7**
KHC Kasperske Hory 8.71 333 *e*P **Pn** **09 00 20.9 +1.4**
KHC *e* 09 01 59.1
TUE Stuetta 8.87 308 Pn **Pn** **09 00 21.3 -0.5**
KEST Kesra 9.81 237 LR LR 09 05 14.7
comp=N,132nm,21.5s,baz=83,slow=44
BNI Bardonecchia 10.02 295 Pn **Pn** **09 00 37.3 -0.3**
BNI Bardonecchia 10.02 295 P **Pn** **09 00 37.3 -0.3**
SENIN Lac Senin/Sane 10.07 303 Pn **Pn** **09 00 38.5 +0.2**
AKASG Malin Array Be 11.41 33 Pn **Pn** **09 00 55.6 -0.8**
comp=N,0.5nm,0.3s,baz=216,slow=9.5,SNR=5.8
comp=N,0.4nm,0.5s
AKASG Malin Array Be 11.41 33 *ce*P **Pn** **09 00 58.2 +1.9**
AKBB Malin Array Si 11.41 33 *i* P **Pn** **09 00 57.9 +1.6**
AKBB pmax pmax
comp=Z,10.0nm,1.8s
MAHO Mahon 11.69 267 Pn **Pn** **09 00 59.7 -0.5**
MMAI Mount Meron Ar 15.20 119 Pn **Pn** **09 01 50.0 +1.8**
comp=Z,0.5nm,0.3s,baz=342,slow=10,SNR=4.1
comp=Z,1.3nm,0.4s
KBZ Khabaz 17.35 75 P **P** **09 02 17.4 +0.6**
comp=Z,0.1nm,0.3s,baz=231,slow=6.2,SNR=4.1
comp=Z,1.2nm,0.6s
VSU Vasula 17.60 13 *ce*P **Pn** **09 02 18.9 +0.4**
VSU pmax pmax
comp=Z,13nm,0.6s
OBN Obninsk 17.67 34 *e*P **Pn** **09 02 19.0 -0.4**
OBN pmax pmax
comp=Z,8.0nm,0.5s

HFS Hagfors 19.02 351 P **P** **09 02 34.5 -0.6**
comp=Z,0.2nm,0.3s,baz=162,slow=15,SNR=5.9
comp=Z,1.6nm,0.6s
NC405 NORSAR Array S 20.22 349 P **P** **09 02 48.7 +0.4**
FINES FINESS Array B 20.38 9 P **P** **09 02 49.6 -0.3**
FINES FINESS Array B 20.38 9 P **P** **09 02 48.1 -1.8**
comp=Z,4.6nm,0.6s,baz=165,slow=7.9,SNR=9.1
comp=Z,4.6nm,0.6s
FINES FINESS Array B 20.38 9 P **P** **09 02 49.6 -0.3**
FIA1 FINESS Array S 20.38 9 P **P** **09 02 50.2 +0.2**
FIA1 IAmb IAmb 09 03 01.9
comp=Z,23nm,1.3s
BELG Belogornoye 21.93 51 P **P** **09 03 06.1 -0.6**
comp=Z,12nm,0.9s,baz=325,slow=2.9,SNR=4.6
comp=Z,12nm,0.9s
KLMR Klimovskoe 22.92 25 *e*P **P** **09 03 12.7 -4.4**
KLMR pmax pmax
comp=Z,17nm,1.3s
ARTI Arti 29.10 46 P **P** **09 04 12.7 -1.1**
ARTI Arti 29.10 46 P **P** **09 04 12.6 -1.1**
comp=Z,3.7nm,0.5s,baz=250,slow=7.5,SNR=9.9
comp=Z,3.7nm,0.5s
ARTI Arti 29.10 46 *d i*P **P** **09 04 12.7 -1.1**
ARTI 09 05 05.3
ARTI S **S** **09 09 07.8 +3.0**
ARTI SS **SnSn** **09 10 33.3 +4.5**
ARTI pmax pmax
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 29.16 61 P **P** **09 04 13.7 -0.7**
TORD Torodi Ar. Bea 32.23 214 P **P** **09 04 42.1 +0.3**
comp=Z,1.0nm,0.3s,baz=21,slow=8.5,SNR=2.5
comp=Z,1.0nm,0.3s
BRVK Borovoye 35.61 53 P **P** **09 05 11.4 +0.5**
BRVK IAmb IAmb 09 05 11.9
comp=Z,5.1nm,0.6s
BRVK Borovoye 35.61 53 *ce*P **P** **09 05 11.4 +0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 35.67 53 P **P** **09 05 10.6 -0.8**
comp=Z,1.8nm,0.7s,baz=264,slow=6.0,SNR=6.2
comp=Z,1.8nm,0.7s
AAK Ala-Archa 40.22 69 P **P** **09 05 49.8 -0.3**
comp=Z,1.6nm,0.4s,baz=219,slow=11,SNR=5.7
comp=Z,1.6nm,0.4s
KURBB Kurchatov Arra 40.96 56 P **P** **09 05 55.0 -0.9**
comp=Z,0.6nm,0.7s,baz=286,slow=9.9,SNR=4.2
comp=Z,0.6nm,0.7s
KURK Kurchatov 41.00 56 P **P** **09 05 55.0 -1.2**
ZALV Zalesovo Beam 44.12 50 P **P** **09 06 21.1 -0.5**
comp=Z,4.3nm,0.6s,baz=285,slow=9.1,SNR=15
comp=Z,4.3nm,0.6s
MK31 Makanchi Array 44.30 61 *ce*P **P** **09 06 22.8 -0.3**
MKAR Makanchi Array 44.30 61 P **P** **09 06 23.0 -0.2**
MKAR Makanchi Array 44.30 61 P **P** **09 06 22.7 -0.4**
comp=Z,4.1nm,0.6s,baz=283,slow=7.0,SNR=52
comp=Z,4.1nm,0.6s
MKAR Makanchi Array 44.30 61 P **P** **09 06 23.0 -0.2**
SONM Songino Array 58.99 52 P **P** **09 08 11.6 -1.4**
comp=Z,1.2nm,0.8s,baz=291,slow=7.8,SNR=6.1
comp=Z,1.2nm,0.8s
ULN Ulaanbaatar 59.36 51 *i* P **P** **09 08 15.3 -0.3**
ULN pmax pmax
comp=Z,7.0nm,2.5s
YKA Yellowknife Ar 70.02 339 P **P** **09 09 23.7 -1.0**
comp=Z,0.1nm,0.7s,baz=115,slow=4.5,SNR=7.2
comp=Z,0.1nm,0.7s
ASAR Alice Springs 123.22 93 PKP **PKPdf** **09 17 08.4 -2.0**
comp=Z,0.3nm,0.8s,baz=347,slow=2.5,SNR=5.3

*IDC **23** 08:58:19.0s 1.2, 43.°77N×127.°69W, h0km, mb3.6/8, mbtmp3.5/15, ML3.2/6, MS3.1/5, Error ellipse: s-maj=26.1km s-min=12.9km az=45.0*
*NEIC **23** 08:58:22.8s 2.4, 43.°68N±0.°07×127.°5W±0.°1, h10km±2km, mb3.9/44, ML3.1/64, Error ellipse: s-maj=12.3km s-min=11.7km az=281.0*
ISC 23 08:58:21.2±0.9, 43.°60N±0.°08×127.°7W±0.°1, h15km, n103, σ1 S 47/92, mb3.9/20, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**2.80**	**98**	Pn	**Pn**	**08 59 04.1**	**-1.2**
J01E				IAML		08 59 41.5	
comp=E,81nm,0.3s							
J01E				IAML		08 59 42.3	
comp=N,55nm,0.3s							
I02E	**Swisshome, OR**	**2.84**	**78**		**Pn**	**08 59 05.5**	**-0.5**
K02D	**Willamette Mer**	**3.10**	**106**		**Pn**	**08 59 08.0**	**-1.6**
I03D	**Drain, OR**	**3.17**	**87**		**Pn**	**08 59 09.5**	**-1.0**
I03D				IAML		08 59 54.3	
comp=N,37nm,0.9s							
HEBO	**Mount Hebo**	**3.27**	**59**	Pn	**Pn**	**08 59 11.2**	**-0.6**
HEBO				IAML		08 59 53.5	
comp=E,86nm,0.5s							
DBO	**Dodson Butte**	**3.30**	**97**		**Pn**	**08 59 11.5**	**-0.9**
DBO				IAML		09 00 07.0	
comp=N,32nm,1.4s							
COR	**Corvallis**	**3.33**	**71**		**Pn**	**08 59 12.9**	**+0.3**
COR				IAML		08 59 55.7	
comp=N,40nm,0.8s							
COR				IAML		08 59 57.9	
comp=N,50nm,1.1s							
L02F	**Cave Junction**	**3.39**	**115**		**Pn**	**08 59 13.5**	**-0.1**
BUCK	**Buck Mountain**	**3.47**	**79**		**Pn**	**08 59 14.5**	**-0.2**
BUCK				IAML		09 00 02.4	
comp=E,37nm,1.4s							
G03D	**McMinnville, O**	**3.57**	**62**		**Pn**	**08 59 16.1**	**+0.1**
H04D	**Lebanon**	**3.71**	**74**		**Pn**	**08 59 18.3**	**+0.5**
H04D				IAML		09 00 07.5	
comp=N,44nm,1.2s							
H04D				IAML		09 00 14.2	
comp=E,50nm,0.8s							
BBOR	**Butler Butte**	**3.75**	**99**		**Pn**	**08 59 18.4**	**-0.2**
BBOR				IAML		09 00 10.8	
comp=N,25nm,0.7s							
BBOR				IAML		09 00 15.4	
comp=E,25nm,0.9s							
F03A	**Seaside**	**3.77**	**50**		**Pn**	**08 59 18.7**	**0.0**
JCC	**Jacoby Creek,**	**3.91**	**134**	Pn	**Pn**	**08 59 20.8**	**+0.2**
JCC				IAML		09 01 12.3	
comp=N,25nm,1.9s							
JCC				IAML		09 01 38.4	
comp=E,20nm,3.7s							
G04A	**Mulino**	**4.08**	**65**		**Pn**	**08 59 23.5**	**+0.5**
J04A	**Umpqua Nationa**	**4.10**	**93**		**Pn**	**08 59 24.5**	**+1.0**
H04A	**Detroit Lake**	**4.13**	**73**		**Pn**	**08 59 24.6**	**+0.9**
H04A				IAML		08 59 55.3	
comp=E,25nm,0.5s							
H04A				IAML		09 00 22.3	
comp=N,30nm,0.4s							
YBH	**Yreka Blue Hor**	**4.14**	**115**	Pn	**Pn**	**08 59 24.8**	**+0.9**
comp=N,1.1nm,0.3s,baz=308,slow=12,SNR=27							
YBH				LR	LR	09 01 01.9	
comp=N,169nm,21.7s,baz=352,slow=39							
comp=Z,8.8nm,0.3s							
E03A	**Lebam**	**4.16**	**44**		**Pn**	**08 59 23.7**	**-0.4**
E03A				IAML		09 00 22.7	
comp=N,37nm,1.3s							
L04D	**Klamath Falls**	**4.21**	**107**		**Pn**	**08 59 26.5**	**+1.5**
L04D				IAML		09 00 20.2	
comp=E,24nm,1.2s							
L04D				IAML		09 00 34.4	
comp=N,15nm,1.3s							
NLWA	**Neilton Lookou**	**4.66**	**34**		**Pn**	**08 59 31.3**	**+0.4**
NLWA				IAML		09 00 29.9	
comp=N,24nm,1.3s							
NLWA				IAML		09 00 35.9	
comp=N,18nm,1.4s							
I05D	**Terrebonne, OR**	**4.66**	**79**		**Pn**	**08 59 31.9**	**+0.8**
I05D				IAML		09 00 11.7	
comp=E,18nm,0.9s							
I05D				IAML		09 01 05.8	
comp=N,15nm,1.5s							
J05D	**Fort Rock, OR**	**4.73**	**92**		**Pn**	**08 59 34.0**	**+1.9**
PINE	**Pine Mountain**	**4.92**	**85**		**Pn**	**08 59 35.7**	**+1.0**
PINE				IAML		09 00 10.6	
comp=E,12nm,1.1s							
PINE				IAML		09 00 19.1	
comp=N,9.6nm,1.1s							
GNW	**Green Mountain**	**5.24**	**39**	IAML		09 00 43.7	
comp=E,14nm,0.7s							
GNW				IAML		09 00 50.4	
comp=N,21nm,0.9s							
ORV	**Oroville**	**6.17**	**129**		**Pn**	**08 59 50.5**	**-1.3**
A04D	**Lummi Island**	**6.19**	**32**		**Pn**	**08 59 53.5**	**+1.7**
E07A	**Sunnyside**	**6.30**	**59**	Pn	**Pn**	**08 59 52.0**	**-1.5**
CBB	**Campbell River**	**6.63**	**13**		**Pn**	**08 59 59.3**	**+1.3**
AFDM	**Forest Hills D**	**6.89**	**130**		**Pn**	**09 00 03.8**	**+2.2**
MPK	**Martis Peak**	**7.20**	**124**		**Pn**	**09 00 07.6**	**+1.4**
CMB	**Columbia Colle**	**7.86**	**133**		**Pn**	**09 00 18.5**	**+3.5**
BBB	**Bella Bella**	**8.59**	**358**	LR	LR	09 03 08.6	
comp=N,350nm,18.4s,baz=186,slow=34							
NEW	**Newport**	**8.73**	**54**		**Pn**	**09 00 27.1**	**+0.3**
NEW	**Newport**	**8.73**	**54**	Pn	**Pn**	**09 00 25.0**	**-1.8**
comp=N,0.4nm,0.3s,baz=234,slow=8.8,SNR=6.5							
comp=N,1.2nm,0.4s							
NVAR	**Mina Array Bea**	**8.79**	**123**	Pn	**Pn**	**09 00 30.3**	**+2.4**
comp=N,0.1nm,0.3s,baz=296,slow=12,SNR=12							
comp=N,2.5nm,0.9s							
ELK	**Elko**	**9.70**	**103**	Pn	**Pn**	**09 00 43.1**	**+2.8**
comp=N,0.1nm,0.3s,baz=283,slow=12,SNR=5.9							
ELK				LR	LR	09 03 25.0	
comp=N,41nm,21.7s,baz=237,slow=32							
comp=N,0.4nm,0.4s							
WCT	**Wildcat Mounta**	**10.87**	**125**		**Pn**	**09 00 55.5**	**-0.8**
AHID	**Auburn Hatcher**	**12.16**	**88**		**Pn**	**09 01 15.1**	**+1.1**
MVU	**Marysvale**	**12.76**	**108**	Pn	**Pn**	**09 01 19.9**	**-2.3**
PDAR	**Pinedale Array**	**13.28**	**87**	Pn	**Pn**	**09 01 32.2**	**+2.9**
comp=N,0.8nm,0.9s,baz=285,slow=14,SNR=5.7							
PDAR				LR	LR	09 06 55.2	
comp=N,66nm,19.0s,baz=306,slow=39							
PFO	**Pinyon Flats O**	**13.29**	**135**	LR	LR	09 06 15.0	
comp=N,151nm,20.8s,baz=292,slow=36							
W13A	**Hualapai Mount**	**13.65**	**124**		**Pn**	**09 01 32.8**	**-1.5**
U15A	**North Rim**	**13.81**	**116**	Pn	**Pn**	**09 01 34.3**	**-2.3**
DLBC	**Dease Lake**	**14.92**	**355**	Pn	**Pn**	**09 01 50.4**	**-1.0**
comp=N,0.1nm,0.3s,baz=205,slow=11,SNR=4.1							
comp=N,2.2nm,1.1s							
PV12	**Saucer Basin,**	**15.23**	**104**	IAmb	IAmb	09 02 19.1	
comp=Z,3.5nm,1.1s							
LAO	**LASA Array**	**15.47**	**71**	P	**P**	**09 02 01.6**	**-1.5**
X16A	**Lo Mia Camp, P**	**15.61**	**121**	IAmb	IAmb	09 02 17.6	
comp=Z,3.8nm,1.0s							
TUC	**Tucson**	**17.44**	**125**	P	**P**	**09 02 26.3**	**+1.1**
SDCO	**Great Sand Dun**	**17.82**	**102**	P	**P**	**09 02 29.8**	**+0.3**
ANMO	**Albuquerque**	**18.56**	**111**	P	**P**	**09 02 35.6**	**-1.9**
ANMO	**Albuquerque**	**18.56**	**111**	P	**P**	**09 02 36.5**	**-1.0**
ANMO				IAmb	IAmb	09 02 50.6	
comp=Z,2.4nm,1.0s							
ANMO	**Albuquerque**	**18.56**	**111**	P	**Pn**	**09 02 38.8**	**+1.1**
comp=Z,0.1nm,0.3s,baz=118,slow=9.3,SNR=3.5							
comp=Z,0.2nm,0.3s							
Y22D	**IRIS PASSCAL I**	**18.75**	**114**	P	**Pn**	**09 02 40.9**	**+0.9**
T25A	**Trinidad**	**18.87**	**102**	P	**P**	**09 02 41.3**	**+0.3**
CRNM	**Carthage**	**18.94**	**114**	P	**Pn**	**09 02 42.8**	**+0.3**
E28A	**Huff**	**19.28**	**72**	P	**Pn**	**09 02 46.6**	**+0.4**
FFC	**Flin Flon**	**20.05**	**47**	P	**Pn**	**09 02 54.8**	**-0.5**
YKA	**Yellowknife Ar**	**20.42**	**18**	P	**P**	**09 02 56.0**	**-1.4**
YKA	**Yellowknife Ar**	**20.42**	**18**	P	**P**	**09 02 57.5**	**0.0**
comp=Z,2.9nm,1.0s,baz=206,slow=11,SNR=16							
comp=Z,2.9nm,1.0s							
YKAW1	**Yellowknife Wh**	**20.44**	**18**		**P**	**09 02 58.3**	**+0.7**
YKAW1				IAmb	IAmb	09 03 08.2	
comp=Z,4.9nm,1.1s							
YKAW3	**Yellowknife Wh**	**20.48**	**17**		**P**	**09 02 58.3**	**+0.2**
YKAW3				IAmb	IAmb	09 03 08.7	
comp=Z,6.4nm,1.0s							
BCAR	**Beaver Creek A**	**21.14**	**342**	P	**P**	**09 03 07.4**	**+2.2**
L27K	**Beaver Creek,**	**21.14**	**342**	P	**P**	**09 03 07.7**	**+2.4**
DAWY	**Dawson**	**21.56**	**346**	P	**P**	**09 03 11.9**	**+2.2**
DAWY				IAmb	IAmb	09 03 29.3	
comp=Z,6.8nm,1.2s							
J30M	**Hart River**	**21.57**	**350**	P	**P**	**09 03 12.7**	**+2.7**
J30M				IAmb	IAmb	09 03 24.7	
comp=Z,7.8nm,1.1s							
I30M	**Mount Dempster**	**22.20**	**350**		**P**	**09 03 18.7**	**+2.0**
H31M	**Peel River**	**22.55**	**353**		**P**	**09 03 22.4**	**+2.0**
ULM	**Lac du Bonnet**	**22.62**	**62**	P	**P**	**09 03 21.4**	**+0.2**
comp=Z,1.7nm,0.6s,baz=279,slow=4.9,SNR=2.9							
comp=Z,1.7nm,0.6s							
ALPN	**Alpine**	**23.23**	**117**	P	**P**	**09 03 29.9**	**+2.0**
ALPN				IAmb	IAmb	09 03 40.8	
comp=Z,3.7nm,1.0s							
H29M	**Whitestone**	**23.41**	**349**		**P**	**09 03 30.8**	**+1.6**
G31M	**Satah River**	**23.64**	**354**	P	**P**	**09 03 32.4**	**+1.0**
G31M				IAmb	IAmb	09 03 44.8	
comp=Z,3.4nm,0.9s							
CROK	**Carrier**	**23.75**	**97**	P	**P**	**09 03 33.0**	**+0.1**
ILAR	**Eielson Array**	**23.80**	**340**	P	**P**	**09 03 33.0**	**0.0**
comp=Z,0.5nm,0.8s,baz=146,slow=8.7,SNR=4.1							
comp=Z,0.5nm,0.8s							
TX31	**Lajitas Ar. Si**	**23.91**	**119**	P	**P**	**09 03 34.7**	**+0.3**
TX31				IAmb	IAmb	09 03 42.7	
comp=Z,2.2nm,1.0s							
TXAR	**Lajitas Array**	**23.91**	**119**	P	**P**	**09 03 34.7**	**+0.2**
TXAR	**Lajitas Array**	**23.91**	**119**	P	**P**	**09 03 36.1**	**+1.7**
comp=Z,0.6nm,0.7s,baz=298,slow=8.4,SNR=9.3							
comp=Z,0.6nm,0.7s							
G29M	**Pine Creek**	**24.02**	**350**	P	**P**	**09 03 35.3**	**+0.2**
WMOK	**Wichita Mounta**	**24.02**	**102**	P	**P**	**09 03 35.4**	**0.0**
F31M	**Tsiigehtchic**	**24.11**	**354**	P	**P**	**09 03 35.9**	**+0.1**
F31M				IAmb	IAmb	09 03 37.3	
comp=Z,5.1nm,1.1s							
HPIG		**24.40**	**126**	P	**P**	**09 03 41.1**	**+2.0**
SAND	**Sanderson**	**24.50**	**115**	P	**P**	**09 03 40.3**	**+0.5**
OZNA	**Ozona**	**24.54**	**112**	P	**P**	**09 03 41.0**	**+0.8**
OZNA				IAmb	IAmb	09 03 55.8	
comp=Z,3.0nm,1.1s							
ABTX	**Abilene, Hawle**	**24.55**	**107**	P	**P**	**09 03 41.0**	**+0.7**
E29M	**Blow River**	**25.42**	**351**		**P**	**09 03 51.1**	**+3.4**
E27K	**Coleen River**	**25.71**	**348**		**P**	**09 03 52.4**	**+1.9**
BRDY	**Brady**	**25.77**	**109**	P	**P**	**09 03 52.5**	**+1.2**
BRDY				IAmb	IAmb	09 04 05.2	
comp=Z,3.5nm,1.2s							
J18K	**Innoko River**	**25.92**	**330**	P	**P**	**09 03 53.7**	**+1.3**
J18K				IAmb	IAmb	09 03 59.4	
comp=Z,3.8nm,1.1s							
K17K	**Iditarod**	**26.09**	**328**	P	**P**	**09 03 57.1**	**+3.2**
H19K	**Roundabout Mou**	**27.11**	**334**	P	**P**	**09 04 04.0**	**+0.9**
H19K				IAmb	IAmb	09 04 08.4	
comp=Z,2.2nm,0.9s							
BLKN	**Baker Lake**	**27.40**	**30**	P	**P**	**09 04 05.7**	**+0.1**
BLKN				IAmb	IAmb	09 04 23.3	
comp=Z,2.1nm,1.2s							
F21K	**Alatna River**	**27.41**	**338**	P	**P**	**09 04 08.2**	**+2.4**
F21K				IAmb	IAmb	09 04 24.9	
comp=Z,2.1nm,0.7s							
G18K	**Tagagawik**	**28.05

baz=55,slow=13,SNR=2.3
0.1nm,0.3s
MKAR Makanchi Array 8.01 205 Pn Pn 09 07 23.6 +1.1
baz=26,slow=14,SNR=1.1
0.1nm,0.6s

*ASRS **23** 09:13:29.0±1.7, 54.°30N×86.°74E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 23 09:13:26.7±3.2, 54.°38N×87.°09E, h0km, mbtmp2.4/2, ML2.6/2, Error ellipse: s-maj=29.1km s-min=18.4km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**253**	I	I	09 22 23.4	
	baz=75,slow=328,SNR=6.0						
ZALV	**Zalesovo Beam**	**1.40**	**253**	Pg	Pn	09 13 51.1	-2.4
	1.2nm,0.3s,baz=72,slow=16,SNR=9.0						
ZALV				Lg	Lg	09 14 11.9	
	2.5nm,0.3s,baz=72,slow=29,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.44**	**238**	Pn	Pn	09 15 02.7	+0.1
	0.1nm,0.3s,baz=53,slow=13,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**8.18**	**204**	Pn	Pn	09 15 28.6	+1.9
	0.2nm,0.3s,baz=24,slow=15,SNR=5.7						
MKAR				Lg	Lg	09 17 47.5	
	baz=34,slow=31,SNR=5.3						
	0.1nm,0.3s						

*NEIC **23** 09:13:46.0±0.7, 61.°82N±0.°03×151.°19W±0.°06, h74km±4km, Error ellipse: s-maj=4.5km s-min=4.4km az=196.0*

AEIC 23 09:13:46.4±1.3, 61.°80N±0.°02×151.°13W±0.°06, h71km±4km, ML2.4, ML2.7/186(NEIC), Error ellipse: s-maj=4.5km s-min=1.7km az=117.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.26**	**314**		Pn	09 13 57.0	-0.5
SKT				Sn	Sn	09 14 05.3	-0.4
SKT				IAML		09 14 06.1	
	comp=E,374nm,0.3s						
SUA	**Susitna One**	**0.38**	**151**	Pn	Pn	09 13 58.5	0.0
SUA				Sn	Sn	09 14 08.1	+0.8
SUA				IAML		09 14 08.7	
	comp=E,369nm,0.8s						
SUA				IAML		09 14 10.5	
	comp=N,321nm,0.9s						
STLK	**Strandline Lak**	**0.45**	**228**		Pn	09 13 58.6	-0.4
STLK				Sn	Sn	09 14 07.9	-0.3
STLK				IAML		09 14 08.3	
	comp=N,353nm,0.2s						
STLK				IAML		09 14 09.0	
	comp=E,257nm,0.2s						
M22K	**Willow**	**0.48**	**95**		Pn	09 13 58.8	-0.3
M22K				Sn	Sn	09 14 09.3	+0.8
CUT	**Chulitna**	**0.73**	**33**		Pn	09 14 01.6	-0.1
CUT				Sn	Sn	09 14 13.5	+0.6
FIS	**Fire Island**	**0.79**	**146**	Pn	Pn	09 14 03.7	+1.3
M20K	**Styx River**	**0.95**	**276**	Pn	Pn	09 14 03.8	-0.7
M20K				Sn	Sn	09 14 17.0	-0.8
M20K				IAML		09 14 18.4	
	comp=E,134nm,0.4s						
PMR	**Palmer**	**0.97**	**101**		Pn	09 14 04.4	-0.1
PMR				Sn	Sn	09 14 18.8	+0.7
PMR				IAML		09 14 19.9	
	comp=E,172nm,0.2s						
RC01	**Rabbit Creek A**	**0.98**	**136**		Pn	09 14 04.7	+0.1
RC01				Sn	Sn	09 14 19.3	+1.1
RC01				IAML		09 14 20.1	
	comp=N,166nm,0.5s						
GHO	**Glory Hole Cre**	**1.05**	**91**		Pn	09 14 05.8	+0.2
GHO				IAML		09 14 23.5	
	comp=E,229nm,0.5s						
PPLA	**Purkeypile**	**1.21**	**336**		Pn	09 14 06.8	-0.8
PPLA				IAML		09 14 23.4	
	comp=E,100nm,0.4s						
PPLA				IAML		09 14 25.4	
	comp=N,96nm,0.3s						
SML	**Sawmill**	**1.33**	**88**		Pn	09 14 09.1	-0.1
SML				IAML		09 14 28.4	
	comp=N,84nm,0.3s						
SML				IAML		09 14 31.2	
	comp=E,102nm,0.9s						
KNK	**Knik Glacier**	**1.33**	**106**		Pn	09 14 09.2	0.0
SLKM	**Skilak Lake**	**1.37**	**161**		Pn	09 14 09.4	-0.3
SLKM				IAML		09 14 29.9	
	comp=N,109nm,0.2s						
SLKM				IAML		09 14 31.7	
	comp=E,111nm,0.4s						
O22K	**Cooper Landing**	**1.49**	**152**	Pn	Pn	09 14 11.2	0.0
M19K	**Big River Lodg**	**1.55**	**275**		Pn	09 14 11.3	-0.7
M19K				IAML		09 14 30.7	
	comp=N,47nm,0.8s						
PWL	**Port Wells**	**1.65**	**124**		Pn	09 14 12.6	-0.7
PWL				IAML		09 14 42.0	
	comp=E,100nm,0.4s						
CAST	**Castle Rocks**	**1.68**	**345**		Pn	09 14 13.1	-0.7
CAST				IAML		09 14 34.9	
	comp=N,42nm,0.5s						
CAST				IAML		09 14 35.1	
	comp=E,42nm,0.4s						
TRF	**Thorofare Moun**	**1.70**	**13**		Pn	09 14 13.9	-0.3
TRF				IAML		09 14 37.1	
	comp=E,94nm,0.4s						
KTH	**Kantishna Hill**	**1.76**	**3**		Pn	09 14 14.7	-0.1
L19K	**White Mountain**	**1.80**	**284**		Pn	09 14 14.9	-0.5
L19K				IAML		09 14 37.0	
	comp=N,72nm,0.7s						
L19K				IAML		09 14 37.9	
	comp=E,61nm,0.5s						
SCM	**Sheep Creek Mo**	**1.81**	**87**		Pn	09 14 15.2	-0.2
SCM				IAML		09 14 39.2	
	comp=E,90nm,0.7s						
SCM				IAML		09 14 46.2	
	comp=N,54nm,0.5s						
SEW	**Seward**	**1.89**	**154**	Pn	Pn	09 14 15.8	-0.6
SEW				IAML		09 14 47.6	
	comp=E,90nm,0.7s						
N19K	**Bonanza Creek**	**1.90**	**240**	Pn	Pn	09 14 16.1	-0.6
RND	**Reindeer**	**1.93**	**32**		Pn	09 14 16.8	-0.3
RND				IAML		09 14 42.9	
	comp=E,33nm,0.5s						
BRLK	**Bradley Lake**	**2.05**	**177**		Pn	09 14 18.3	-0.3
BRLK				IAML		09 14 45.7	
	comp=E,77nm,0.1s						
ILSW	**Iliamna Southw**	**2.07**	**209**	Pn	Pn	09 14 16.3	-2.8
ILSW				IAML		09 14 47.6	
	comp=E,28nm,0.8s						
K20K	**Telida**	**2.07**	**320**		Pn	09 14 18.2	-0.8
K20K				IAML		09 14 42.3	
	comp=E,31nm,0.7s						
GLI	**Glacier Island**	**2.15**	**114**	Pn	Pn	09 14 18.7	-1.4
GLI				IAML		09 14 45.8	
	comp=N,62nm,0.3s						
GLI				IAML		09 14 48.0	
	comp=E,72nm,0.4s						
HOM	**Homer**	**2.16**	**187**	Pn	Pn	09 14 20.3	+0.1
MCK	**McKinley**	**2.19**	**27**		Pn	09 14 20.5	0.0
MCK				IAML		09 14 52.6	
	comp=E,28nm,0.7s						
O19K	**Port Alsworth**	**2.24**	**225**	Pn	Pn	09 14 21.0	-0.2
O19K				IAML		09 14 49.0	
	comp=N,44nm,0.4s						
O19K				IAML		09 14 49.2	
	comp=E,46nm,0.4s						
CNPM	**China Poot**	**2.28**	**181**	Pn	Pn	09 14 21.6	-0.2
BPAW	**Bear Paw Mtn.**	**2.31**	**2**		Pn	09 14 21.4	-0.7
BPAW				IAML		09 14 48.5	
	comp=N,26nm,0.5s						
BPAW				IAML		09 14 48.6	
	comp=E,55nm,0.4s						
M24K	**Tolsona, Glenn**	**2.36**	**80**		Pn	09 14 23.3	+0.4
M24K				IAML		09 15 02.1	
	comp=N,36nm,0.8s						
M24K				IAML		09 15 07.2	
	comp=E,47nm,1.1s						
P19K	**Oil Pt**	**2.39**	**207**	Pn	Pn	09 14 24.0	+0.7
P19K				IAML		09 14 57.5	
	comp=E,59nm,0.7s						
FID	**Port Fidalgo**	**2.48**	**113**	Pn	Pn	09 14 22.7	-1.8
FID				IAML		09 14 54.4	
	comp=N,53nm,0.4s						
KLU	**Klutina**	**2.50**	**95**	Pn	Pn	09 14 24.0	-0.8
KLU				IAML		09 14 55.7	
	comp=E,42nm,0.2s						
KLU				IAML		09 14 56.0	
	comp=N,40nm,0.3s						
N18K	**Kilae Creek**	**2.56**	**246**	Pn	Pn	09 14 24.7	-0.9
P23K	**Montague Islan**	**2.57**	**133**	Pn	Pn	09 14 24.1	-1.5
HIN	**Hinchinbrook I**	**2.65**	**120**	Pn	Pn	09 14 25.7	-1.2
HIN				IAML		09 15 09.9	
	comp=N,45nm,0.8s						
L18K	**Granite Mounta**	**2.66**	**282**	Pn	Pn	09 14 26.2	-0.7
L18K				IAML		09 15 18.4	
	comp=N,16nm,0.9s						
J20K	**Nowinta River**	**2.75**	**331**		Pn	09 14 27.3	-0.8
J20K				IAML		09 14 58.7	
	comp=E,34nm,0.6s						
O18K	**Koktuh Hills**	**2.79**	**227**	Pn	Pn	09 14 28.6	-0.1
O18K				IAML		09 15 03.9	
	comp=N,16nm,1.1s						
PAX	**Paxson**	**2.89**	**64**		Pn	09 14 30.2	+0.2
PAX				IAML		09 15 14.6	
	comp=N,16nm,0.5s						
PAX				IAML		09 15 15.1	
	comp=E,17nm,0.3s						
EYAK	**Cordova Ski Ar**	**2.89**	**113**	Pn	Pn	09 14 30.1	+0.1
EYAK				IAML		09 15 15.3	
	comp=E,19nm,0.6s						
EYAK				IAML		09 15 15.9	
	comp=N,34nm,0.5s						
NEA2	**Nenana**	**2.96**	**18**		Pn	09 14 30.1	-0.8
J19K	**Poorman**	**3.01**	**319**		Pn	09 14 30.9	-0.8
J19K				IAML		09 15 04.4	
	comp=E,12nm,0.6s						
J19K				IAML		09 15 22.6	
	comp=N,14nm,0.7s						
M17K	**Holitna River**	**3.04**	**265**	Pn	Pn	09 14 31.5	-0.6
M17K				IAML		09 15 08.0	
	comp=N,14nm,0.6s						
M17K				IAML		09 15 21.9	
	comp=E,22nm,1.1s						
J18K	**Innoko River**	**3.07**	**305**		Pn	09 14 32.0	-0.6
N25K	**Chitina, Valde**	**3.12**	**91**	Pn	Pn	09 14 32.5	-0.7
N25K				IAML		09 15 13.1	
	comp=N,18nm,0.4s						
N25K				IAML		09 15 21.2	
	comp=E,12nm,0.5s						
P18K	**Big Mountain,**	**3.15**	**222**	Pn	Pn	09 14 33.6	0.0
N17K	**Nushagak Hills**	**3.20**	**249**	Pn	Pn	09 14 33.5	-0.7
CCB	**Clear Creek Bu**	**3.23**	**26**		Pn	09 14 34.2	-0.4
HDA	**Harding Lake**	**3.23**	**34**		Pn	09 14 34.8	+0.1
HDA				IAML		09 15 15.3	
	comp=E,19nm,0.3s						
HDA				IAML		09 15 20.4	
	comp=N,23nm,0.8s						
BMRM	**Bremner River**	**3.25**	**102**	Pn	Pn	09 14 33.4	-1.5
BMRM				IAML		09 15 17.7	
	comp=N,20nm,1.0s						
BMRM				IAML		09 15 24.8	
	comp=E,19nm,1.0s						
SYI	**Shuyak Island**	**3.26**	**192**	Pn	Pn	09 14 35.0	-0.1
I21K	**Tanana**	**3.42**	**354**	Pn	Pn	09 14 36.5	-0.6
I21K				IAML		09 15 15.2	
	comp=E,9.9nm,0.8s						
I21K				IAML		09 15 32.8	
	comp=N,10nm,0.9s						
COLA	**College**	**3.42**	**24**	Pn	Pn	09 14 37.0	-0.1
COLA				IAML		09 15 50.6	
	comp=N,19nm,0.6s						
I23K	**Minto, Yukon-K**	**3.45**	**13**		Pn	09 14 37.0	-0.6
K17K	**Iditarod**	**3.48**	**288**	Pn	Pn	09 14 37.5	-0.5
K17K				IAML		09 15 16.6	
	comp=E,14nm,0.9s						
K17K				IAML		09 15 39.5	
	comp=N,10nm,0.8s						
RIDG	**Independent Ri**	**3.48**	**53**		Pn	09 14 38.7	+0.5
RIDG				IAML		09 15 30.1	
	comp=N,15nm,0.4s						
GLB	**Gilahina Butte**	**3.51**	**93**	Pn	Pn	09 14 38.9	+0.3
GLB				IAML		09 15 28.1	
	comp=E,8.1nm,1.1s						
GLB				IAML		09 15 34.6	
	comp=N,10nm,0.7s						
IL31		**3.54**	**31**		Pn	09 14 38.8	-0.1
ILAR	**Eielson Array**	**3.54**	**31**		Pn	09 14 38.3	-0.7
HMT	**Hamilton**	**3.65**	**111**	Pn	Pn	09 14 39.9	-0.4
POKR	**Poker Flat Res**	**3.72**	**25**	Pn	Pn	09 14 41.2	-0.1
DOT	**Dot Lake**	**3.75**	**57**	Pn	Pn	09 14 41.4	-0.3
DOT				IAML		09 15 37.1	
	comp=E,11nm,0.9s						
DOT				IAML		09 15 37.3	
	comp=N,10nm,0.6s						
J25K	**Salcha River,**	**3.84**	**40**		Pn	09 14 43.5	+0.4
J25K				IAML		09 15 34.8	
	comp=E,15nm,0.6s						
J25K				IAML		09 15 35.9	
	comp=N,14nm,0.6s						
M16K	**Timber Creek**	**3.84**	**262**	Pn	Pn	09 14 42.6	-0.4
M16K				IAML		09 15 29.6	
	comp=E,6.6nm,1.1s						
M16K				IAML		09 16 04.7	
	comp=N,6.7nm,1.1s						
M26K	**Nabesna, AK**	**3.87**	**77**	Pn	Pn	09 14 43.1	-0.4
SCRK	**Sand Creek**	**3.93**	**53**	Pn	Pn	09 14 43.9	-0.4
SCRK				IAML		09 15 36.5	
	comp=N,8.8nm,0.9s						
SCRK				IAML		09 15 36.7	
	comp=E,9.0nm,0.5s						
H21K	**Melozitna Rive**	**3.94**	**350**		Pn	09 14 43.8	-0.6
H21K				IAML		09 15 27.2	
	comp=E,6.4nm,0.9s						
L16K	**Owhat River**	**3.97**	**272**	Pn	Pn	09 14 44.0	-0.6
L16K				IAML		09 16 13.2	
	comp=N,5.6nm,1.1s						
J17K	**VABM Dome**	**4.01**	**297**	Pn	Pn	09 14 44.3	-1.0
H23K	**Yukon River**	**4.10**	**9**		Pn	09 14 46.4	-0.2
H23K				IAML		09 15 33.6	
	comp=E,6.3nm,1.0s						
H24K	**Noodor Dome**	**4.30**	**18**		Pn	09 14 49.1	-0.2
J26L	**Joseph Creek**	**4.37**	**48**	Pn	Pn	09 14 50.3	0.0
J26L				IAML		09 15 47.7	
	comp=E,7.3nm,0.6s						
J26L				IAML		09 15 50.1	
	comp=N,9.3nm,0.5s						
M27K	**Edge Creek, AK**	**4.39**	**79**	Pn	Pn	09 14 50.5	0.0
H19K	**Roundabout Mou**	**4.43**	**330**		Pn	09 14 50.5	-0.4
H19K				IAML		09 15 56.4	
	comp=N,4.3nm,1.2s						
H19K				IAML		09 16 03.4	
	comp=E,5.7nm,1.2s						
PRP	**Porcupine Dome**	**4.49**	**31**		Pn	09 14 52.2	+0.3
PRP				IAML		09 15 44.7	
	comp=E,3.9nm,0.8s						
PRP				IAML		09 16 03.4	
	comp=N,3.8nm,0.8s						
J16K	**Anvik River**	**4.63**	**293**	Pn	Pn	09 14 52.8	-0.9
H18K	**Honhosa River**	**4.67**	**319**		Pn	09 14 54.1	-0.2
H18K				IAML		09 15 47.8	
	comp=E,5.0nm,0.8s						
G21K	**Allakaket**	**4.85**	**349**		Pn	09 14 56.0	-0.6
G21K				IAML		09 15 50.0	
	comp=E,6.8nm,0.6s						
G21K				IAML		09 15 52.0	
	comp=N,5.0nm,0.6s						
I17K	**Unalakleet**	**4.86**	**300**	Pn	Pn	09 14 56.7	-0.1
I17K				IAML		09 15 48.5	
	comp=E,3.4nm,0.7s						
I17K				IAML		09 17 53.6	
	comp=N,3.0nm,0.8s						
K15K	**Wolf Creek Mou**	**4.92**	**280**	Pn	Pn	09 14 57.9	+0.2
K15K				IAML		09 17 07.6	
	comp=N,3.3nm,1.1s						
G23K	**Bananza Creek**	**4.95**	**5**		Pn	09 14 58.4	+0.2
I26K	**Coal Creek Min**	**5.01**	**42**		Pn	09 14 59.2	+0.3
I26K				IAML		09 16 16.9	
	comp=N,4.9nm,0.9s						
I26K				IAML		09 16 40.7	
	comp=E,4.2nm,1.1s						
H17K	**Granite Mounta**	**5.05**	**312**	Pn	Pn	09 14 59.6	+0.1
H17K				IAML		09 15 57.0	
	comp=E,3.0nm,1.1s						
G19K	**Purcell Mounta**	**5.09**	**332**	Pn	Pn	09 14 59.6	-0.4
G18K	**Tagagawik**	**5.29**	**324**		Pn	09 15 02.4	-0.2
F21K	**Alatna River**	**5.54**	**350**	Pn	Pn	09 15 06.3	+0.2
F20K	**Avaraart Lake**	**5.63**	**341**		Pn	09 15 07.4	+0.1
F19K	**Shaleruckik Mo**	**5.82**	**333**	Pn	Pn	09 15 09.8	-0.1
F24K	**Squaw Lake**	**5.91**	**12**	Pn	Pn	09 15 11.4	+0.2
H27K	**Steamboat Moun**	**6.13**	**39**	Pn	Pn	09 15 14.4	+0.3
G16K	**Koyuk River**	**6.17**	**311**	Pn	Pn	09 15 14.2	-0.4
I28M	**Miner Creek**	**6.18**	**49**	Pn	Pn	09 15 15.3	+0.3
E19K	**Redstone River**	**6.25**	**338**		Pn	09 15 16.0	+0.2
F25K	**Christian Rive**	**6.27**	**20**	Pn	Pn	09 15 16.5	+0.3
BMAR	**Burnt Mountain**	**6.31**	**24**	Pn	Pn	09 15 17.0	+0.4
E23K	**Chandalar**	**6.32**	**5**		Pn	09 15 18.1	+1.3
E22K	**Anaktuvuk Pass**	**6.37**	**358**	Pn	Pn	09 15 18.4	+0.9
E24K	**Your Creek**	**6.40**	**9**	Pn	Pn	09 15 18.7	+0.8
F17K	**Baldwin Pennin**	**6.42**	**321**	Pn	Pn	09 15 19.4	+1.3
F26K	**Sheenjek River**	**6.62**	**24**	Pn	Pn	09 15 21.6	+0.6
TOLK	**Toolik Lake Re**	**6.90**	**5**	Pn	Pn	09 15 26.5	+1.8
D22K	**Ayikyak River**	**7.14**	**355**	Pn	Pn	09 15 27.6	-0.4
D20K	**Etivluk River**	**7.31**	**344**	Pn	Pn	09 15 30.6	+0.3

*CATAC **23** 09:24:23.9±0.7, 14.°N±3.°×9.°2W±.°, h27km±5km, M3.2/10, MLv3.2/10, Error ellipse: s-maj=9.9km s-min=5.9km az=55.9, confirmed*
*GCG **23** 09:24:24.4±1.4, 14.°10N×91.°72W, h67km±14km, MD4.0*

ISC 23 09:24:25.5±2.4, 14.°0N±0.°1×91.°7W±0.°1, h59km±16km, n19, σ2.°04/25, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.51**	**0**	P	**Pn**	**09 24 36.2**	**-1.4**
RTAL				S	**Sn**	**09 24 45.5**	**-0.8**
STG5	**El Palmar, Qui**	**0.52**	**41**	*i* P	**Pn**	**09 24 37.8**	**+0.1**
STG5				*i* S	**Sn**	**09 24 48.8**	**+2.2**
STG8	**El Palmar, Qui**	**0.55**	**37**	*i* P	**Pn**	**09 24 38.8**	**+0.5**
STG8				*i* S	**Sn**	**09 24 50.4**	**+3.0**
SOKI	**Kika Raxquin**	**0.85**	**19**	*i* P	**Pn**	**09 24 41.1**	**-1.0**
SOKI				*i* S	**Sn**	**09 24 54.5**	**+0.3**
SMCA	**Catarina**	**0.92**	**336**	*i* P	**Pn**	**09 24 40.8**	**-1.7**
ESSG	**Sabana Grande**	**0.92**	**66**	*i* P	**Pn**	**09 24 41.7**	**-0.9**
ESSG				*i* S	**Sn**	**09 24 55.4**	**+0.3**
FG8	**Yepocapa, Chim**	**1.13**	**77**	*i* P	**Pn**	**09 24 41.2**	**-4.2**
FG16	**Alotenango, Sa**	**1.18**	**77**	*i* P	**Pn**	**09 24 42.5**	**-3.6**
FG16				*i* S	**Sn**	**09 24 56.6**	**-4.9**
HUEH	**Huehuetenango**	**1.31**	**8**	*i* P	**Pn**	**09 24 48.2**	**+0.3**
HUEH	**Huehuetenango**	**1.31**	**8**	P	**Pn**	**09 24 48.3**	**+0.3**
HUEH	**Huehuetenango**	**1.31**	**8**	S	**Sn**	**09 25 05.6**	**+1.0**
SLOZ	**Alcaldia de Sa**	**1.86**	**89**	S	**Sn**	**09 25 19.2**	**+1.7**
SLOZ	**Alcaldia de Sa**	**1.86**	**89**	P	**Pn**	**09 24 55.0**	**-0.1**
CEVE	**Cerro Verde**	**2.02**	**95**	P	**Pn**	**09 24 57.3**	**-0.2**
CEVE	**Cerro Verde**	**2.02**	**95**	S	**Sn**	**09 25 23.6**	**+1.8**
UNIC	**Universidad Ca**	**2.08**	**91**	P	**Pn**	**09 24 59.0**	**+0.8**
COEG	**Centro de Oper**	**2.76**	**98**	P	**Pn**	**09 25 06.6**	**-0.9**
SCLA	**Alcaldia de Sa**	**2.90**	**96**	P	**Pn**	**09 25 10.2**	**+0.9**
CNCH	**Conchagua**	**3.83**	**101**	P	**Pn**	**09 25 23.6**	**+1.5**

MEX 23 09:25:49.0±0.5, 15.°63N×94.°79W, h17km±8km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.28**	**277**	*e*P	Pn	09 26 08.7	-3.4
HUIG				*e*S	Sb	09 26 23.4	-5.5
HUIG	**Huatulco**	**1.28**	**277**	*i* S	Sb	09 26 23.5	-5.4
HUIG	**Huatulco**	**1.28**	**277**	*i* P	Pn	09 26 08.8	-3.4
CMIG	**Matias Romero**	**1.46**	**356**	*e*P	Pn	09 26 11.2	-3.4
CMIG				*e*S	Sn	09 26 28.3	-5.2
PCIG		**1.52**	**87**	*e*P	Pn	09 26 11.6	-3.8
PCIG				*e*S	Sn	09 26 29.3	-5.4
UXUV	**UXUV**	**1.79**	**20**	*e*P	Pn	09 26 16.4	-2.8
UXUV				*e*S	Sn	09 26 37.4	-4.3
TGIG		**1.97**	**54**	*e*P	Pn	09 26 18.2	-3.5
TGIG				*e*S	Sn	09 26 41.6	-4.5
NEUV	**Arroyo Zacate**	**2.29**	**335**	*e*P	Pn	09 26 23.1	-3.0
NEUV				*e*S	Sn	09 26 50.2	-3.8
PEIG	**Puerto Escondi**	**2.30**	**280**	*e*P	Pn	09 26 23.1	-3.2
PEIG				*e*S	Sn	09 26 46.9	-7.4
VHO	**Vista Hermosa**	**2.36**	**308**	*e*S	Sn	09 26 51.6	-4.3
PATR	**El Naranjo**	**2.52**	**101**	*e*P	Pn	09 26 25.8	-3.6
PATR				*e*S	Sn	09 26 53.7	-6.1
PAVE	**Pavencul**	**2.56**	**99**	*e*P	Pn	09 26 27.4	-2.5
PAVE				*e*S	Sn	09 26 55.8	-5.0
CCIG	**Comitan**	**2.63**	**75**	*e*P	Pn	09 26 28.4	-2.6
CCIG				*e*S	Sn	09 26 58.2	-4.4
YOIG	**Yosondua**	**2.92**	**295**	*e*P	Pn	09 26 33.8	-1.2
YOIG				*e*S	Sn	09 27 04.1	-5.7
TOIG	**Toxpalan**	**3.28**	**319**	*e*P	Pn	09 26 39.5	-0.3
TOIG				*e*S	Sn	09 27 12.5	-6.2
TXIG	**Tlaxiaco**	**3.29**	**300**	*e*P	Pn	09 26 38.9	-1.1
TXIG				*e*S	Sn	09 27 13.4	-5.5
PNIG	**Pinotepa**	**3.30**	**284**	*e*P	Pn	09 26 37.1	-2.9
PNIG				*e*S	Sn	09 27 08.8	-10

IDC 23 09:36:28.8±13.0, 6.°02S×128.°93E, h299km±161km, mb2.9/2, mbtmp3.8/5, Error ellipse: s-maj=89.4km s-min=54.2km az=40.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.43**	**195**	P	Pn	09 39 17.1	+0.4
	1.5nm,0.7s,baz=31,slow=10,SNR=7.7						
FITZ				S		09 41 35.2	+0.5
	3.8nm,0.9s,baz=322,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**14.81**	**160**	P	P	09 39 44.3	+0.4
	1.2nm,0.4s,baz=333,slow=12,SNR=31						
ASAR	**Alice Springs**	**18.19**	**165**	P	P	09 40 20.4	-0.2
	2.5nm,0.5s,baz=344,slow=11,SNR=47						
MKAR	**Makanchi Array**	**66.83**	**327**	P	P	09 46 48.6	-0.2
	0.3nm,0.4s,baz=115,slow=8.0,SNR=4.1						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**71.12**	**329**	P	P	09 47 15.4	+0.3
	0.1nm,0.3s,baz=113,slow=7.1,SNR=2.0						
	0.1nm,0.3s						

*HEL **23** 10:02:25.5±0.1, 64.°77N×30.°73E, h0km, ML2.0, Suspected explosion*
*IDC **23** 10:02:26.7±2.1, 64.°78N×30.°70E, h0km, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=28.2km s-min=10.2km az=102.0*
*KOLA **23** 10:02:26.5, 64.°79N×30.°74E, h0km, ML2.2, Error ellipse: s-maj=13.7km s-min=9.8km az=150.0, Kostomuksha, Karelia*
*UPP **23** 10:02:26.5±3.0, 64.°62N×30.°55E, h0km, ML1.7*

ISC 23 10:02:25.3±0.9, 64.°82N±0.°02×30.°95E±0.°04, h0km, n52, σ1.°53/81, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.75**	**217**	PB	**Pg**	**10 02 38.3**	**-1.2**
RMF				MSG		10 02 46.3	
	comp=Z,28nm,0.2s						
KU1	**Kurvinen**	**0.95**	**323**	PG	**Pg**	**10 02 42.7**	**-0.8**
KU6	**Riekki**	**1.29**	**340**	PG	**Pg**	**10 02 49.0**	**-1.0**
	baz=163						
KU6				MSG		10 03 04.9	
	comp=Z,11nm,0.2s						
KU6				SG	**Sg**	**10 03 06.0**	**-0.7**
MSF	**Maaselka**	**1.36**	**325**	PG	**Pg**	**10 02 49.5

OUF			MSG			10 03 42.7
	comp=Z,13nm,0.2s					
OUF			SG		Sn	10 03 45.2 +1.5
RNF	Rovaniemi	2.72 314	PN		Pn	10 03 10.3 +0.1
RNF			SG		Sn	10 03 46.4 +2.7
OBF0	Syolatti, Pyha	2.91 267	PB		Pn	10 03 13.0 +0.3
OBF0			MSG			10 03 48.2
	comp=Z,8.2nm,0.2s					
OBF0			SG		Sn	10 03 50.4 +2.2
APA0	Apatity Array	2.92 16	P		Pn	10 03 15.0 +2.1
APA0			S		Sn	10 03 49.3 +0.7
VRF	Varrio	2.99 350	PB		Pn	10 03 15.2 +1.3
	baz=174					
VRF			MSG			10 03 54.4
	comp=Z,3.3nm,0.2s					
VRF			SG		Sb	10 03 57.9 +1.4
SUF	Sumiainen	3.00 228	PB		Pn	10 03 15.3 +1.3
SUF			MSG			10 03 50.8
	comp=Z,4.2nm,0.2s					
TOF	Tornio	3.04 298	PB		Pn	10 03 15.5 +0.9
TOF			MSG			10 03 53.1
	comp=Z,3.3nm,0.2s					
TOF			SB		Sn	10 03 53.7 +2.1
KALU	Kalix	3.35 292	P		Pn	10 03 19.0 +0.2
KALU	Kalix	3.35 292	PN		Pn	10 03 19.2 +0.5
KALU			SB		Sn	10 04 03.1 +3.9
KAF	Kangasniemi	3.42 220	PB		Pn	10 03 21.1 +1.3
KAF			SB		Sb	10 04 05.8 -2.9
LVZ	Lovozero	3.43 24	S		Sn	10 04 00.9 -0.4
LVZ	Lovozero	3.43 24	PN		Pn	10 03 21.7 +1.7
RUF	Ruokolahti	3.52 196	PN		Pn	10 03 22.1 +0.9
KLF	Kolari	3.75 314	PN		Pn	10 03 24.3 +0.1
KLF			SG		Sb	10 04 20.5 +2.5
KEF	Keuruu	3.81 228	PB		Pn	10 03 26.7 +1.6
KEF			SG		Sb	10 04 19.7 -0.2
RAJF	Raja-Jooseppi	3.82 345	PN		Pn	10 03 26.0 +0.8
PAJU	Pajala	3.90 308	P		Pn	10 03 26.9 +0.6
PAJU			S		Sn	10 04 13.1 +0.3
PAJU	Pajala	3.90 308	PN		Pn	10 03 27.0 +0.6
PAJU			SG		Sb	10 04 23.0 +0.5
SJUU	Sjulsmark	4.00 284	P		Pn	10 03 27.1 -0.7
ERTU	Ertsjaerv	4.02 300	P		Pn	10 03 28.2 +0.3
ERTU	Ertsjaerv	4.02 300	PN		Pn	10 03 28.3 +0.3
ERTU			SG		Sb	10 04 27.7 +1.7
FIA0	FINESS Array S	4.04 215	PN		Pn	10 03 29.6 +1.3
	baz=28					
FIA0			SN		Sn	10 04 15.5 -0.8
FINES	FINESS Array B	4.04 215	Pn		Pn	10 03 28.2 -0.1
	comp=Z,0.2nm,0.3s,baz=34,slow=13,SNR=6.8					
FINES			Sn		Sn	10 04 15.2 -1.1
	comp=Z,0.6nm,0.3s,baz=31,slow=24,SNR=7.5					
FINES			Lg		Lg	10 04 23.4
	comp=Z,0.9nm,0.3s,baz=35,slow=27,SNR=6.2					
	comp=Z,0.7nm,0.4s					
VAF	Ylistaro	4.07 248	PB		Pn	10 03 32.9 +4.3
VAF			SG		Sb	10 04 29.2 +2.0
BURU	Burvik	4.12 271	P		Pn	10 03 27.8 -1.5
BURU	Burvik	4.12 271	PN		Pn	10 03 28.5 -0.8
BURU			SG		Sb	10 04 30.5 +1.8
ODEU	Stanfors	4.43 269	P		Pn	10 03 31.7 -1.9
UMAU	Umeaa	4.56 263	P		Pn	10 03 33.6 -1.8
UMAU	Umeaa	4.56 263	PN		Pn	10 03 33.7 -1.7
	baz=72					
UMAU			SG		Sb	10 04 43.0 +1.5
VJF	Virojoki	4.57 202	SG		Sb	10 04 45.0 +3.3
HEF	Hetta	4.63 324	PG		Pb	10 03 47.8 +0.6
	baz=136					
HEF			SG		Sb	10 04 45.8 +2.3
LILU	Lilltraesk	4.73 281	P		Pn	10 03 36.8 -0.9
SVAU	Svanoeiden	4.90 271	P		Pn	10 03 38.6 -1.5
ARCES	ARCESS Array B	5.19 338	Pn		Pn	10 03 43.8 -0.3
	comp=Z,0.5nm,0.3s,baz=153,slow=12,SNR=107					
ARCES			Sn		Sn	10 04 40.4 -4.1
	comp=Z,0.3nm,0.3s,baz=153,slow=24,SNR=6.4					
ARCES			Lg		Lg	10 05 02.6
	comp=Z,1.0nm,0.3s,baz=157,slow=28,SNR=15					
	comp=Z,0.9nm,0.3s					
ARCES	ARCESS Array B	5.19 338	P		Pn	10 03 44.0 0.0
ARCES			S		Sn	10 04 42.5 -2.0
KUA	Kurravaara	5.30 311	P		Pn	10 03 46.1 +0.5
VADS	Vadso	5.36 354	P		Pn	10 03 47.5 +1.2
VADS			S		Sn	10 04 46.8 -1.9
RATU	Laukkuluspa	5.48 308	P		Pn	10 03 48.3 +0.2
I37NO	I37NO	6.45 317	I		I	10 44 15.0
	baz=124,slow=328,SNR=5.3					
NOA	NORSAR Array B	9.74 256	Pn		Pn	10 04 41.6 -4.8
	baz=56,slow=11,SNR=1.3					
NOA			Sn		Sn	10 06 26.6 -10
	baz=39,slow=22,SNR=1.1					
NOA			Lg		Lg	10 07 20.8
	baz=54,slow=24,SNR=1.7					
	comp=Z,0.3nm,0.6s					

KRNET ***23*** *10:05:46.8±0.1, 42°.44N×78°.68E, h16km, mb2.1*
NNC ***23*** *10:05:47.0±0.8, 42°.57N×78°.69E, h0km, mb2.9, mpv2.9,*
Error ellipse: s-maj=6.5km s-min=2.8km az=159.0
SOME ***23*** *10:05:47.0, 42°.53N×78°.62E, h10km*
ISC 23 10:05:46.5±1.1, 42°.51N±0°.04×78°.66E±0°.03, h10km±8km, n30, σ1§23/57, 9C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.19 264		⇑*iP*	Pg	10 05 51.4	+0.7
PRZ				⇑*iS*	Sg	10 05 54.7	+1.1
SATY	Saty	0.58 341		P	Pg	10 05 57.6	-0.4
	3.1nm,0.1s						
SATY				S	Sg	10 06 04.9	-0.7
	16nm,0.1s						
ZHN	Zhinishke	0.68 346		*eP*	Pg	10 05 59.5	-0.3
	2.7nm,0.1s						
ZHN				*eS*	Sg	10 06 08.5	-0.3
	27nm,0.2s						
UZB	Uzynbulak	0.69 22		P	Pg	10 05 59.5	-0.5
	5.5nm,0.1s						
UZB				S	Sg	10 06 08.5	-0.6
	7.9nm,0.1s						
UZB	Uzynbulak	0.69 22		*eP*	Pg	10 05 59.5	-0.5
	5.5nm,0.1s						
UZB				*eS*	Sg	10 06 08.5	-0.6
	7.9nm,0.1s						
SHLS	Shalkode	0.88 42		*eP*	Pn	10 06 07.9	+2.8
	6.3nm,0.1s						
SHLS				*eS*	Sn	10 06 23.1	+5.0
	6.8nm,0.2s						
KPKS	Kokpek	0.96 1		P	Pb	10 06 03.8	-1.6
	5.8nm,0.1s						
KPKS				S	Sb	10 06 15.7	-2.6
	8.3nm,0.2s						
KPKS	Kokpek	0.96 1		*eP*	Pb	10 06 03.8	-1.6
	5.8nm,0.1s						
KPKS				*eS*	Sb	10 06 15.7	-2.6
	8.3nm,0.2s						
TARG	Taragay, Kyrgy	1.00 220		⇓*iP*	Pb	10 06 05.1	-1.2
TARG				⇓*iS*	Sg	10 06 18.2	-0.8
PDGK	Podgornoye	1.02 36		⇑P	Pb	10 06 05.2	-1.3
	0.8nm,0.3s						
PDGK				⇑S	Sb	10 06 18.8	-1.3
	1.6nm,0.5s						
KDJ	Kajisay	1.16 252		⇑*iP*	Pn	10 06 08.2	-0.9
KDJ				⇑*iS*	Sn	10 06 23.8	-1.3
KOTS	Kotyrbulak	1.35 303		*eP*	Pn	10 06 12.0	+0.3
	1.2nm,0.1s						
KOTS				*eS*	Sn	10 06 29.8	0.0
	10nm,0.3s						
MDOK	Medeo	1.36 300		Pg	Pn	10 06 11.3	-0.5
	2.3nm,0.3s						
MDOK				Lg	Lg	10 06 28.7	
	1.9nm,0.3s						
TNSS	Tian-Shan	1.37 293		P	Pn	10 06 11.8	-0.3
	1.4nm,0.2s						
TNSS				S	Sn	10 06 29.5	-1.1
	4.5nm,0.2s						
TNSS	Tian-Shan	1.37 293		*eP*	Pn	10 06 11.8	-0.3
	1.4nm,0.2s						
TNSS				*eS*	Sn	10 06 29.5	-1.1
	4.5nm,0.2s						
BLB	Baldybastay	1.60 355		P	Pn	10 06 16.1	+1.0
	28nm,0.1s						
BLB				S	Sn	10 06 37.0	+1.2
	12nm,0.3s						
MTBS	Maitube	1.76 292		P	Pb	10 06 18.7	-0.2
	1.8nm,0.2s						
MTBS				S	Sb	10 06 41.5	+0.3
	6.9nm,0.3s						
MTBS	Maitube	1.76 292		*eP*	Pb	10 06 18.7	-0.2
	1.8nm,0.2s						
MTBS				*eS*	Sb	10 06 41.5	+0.3
	6.9nm,0.3s						
ULHL	Ulahol	1.81 263		⇓*iP*	Pb	10 06 20.0	0.0
ULHL				⇓*iS*	Sg	10 06 44.4	-0.4
ARXS	Arharly	1.81 341		P	Pb	10 06 19.9	0.0
	3.0nm,0.2s						
ARXS				S	Sb	10 06 43.7	+0.9
	7.9nm,0.1s						
CHKK	Chushkaly	1.82 318		P	Pb	10 06 19.9	-0.1
	2.3nm,0.2s						
CHKK				S	Sb	10 06 43.6	+0.7
	10nm,0.2s						
CHKK	Chushkaly	1.82 318		*eP*	Pb	10 06 19.9	-0.1
	2.3nm,0.2s						
CHKK				*eS*	Sb	10 06 43.6	+0.7
	10nm,0.2s						
KTBS	Karatobe	1.89 310		P	Pb	10 06 21.0	-0.1
	1.6nm,0.2s						
KTBS				S	Sb	10 06 45.4	+0.6
	10nm,0.3s						
BOOM	Boomskoye usch	2.01 270		⇑*iP*	Pb	10 06 23.0	-0.4
BOOM				⇑*iS*	Sb	10 06 49.7	+1.1
KST	Kastek	2.06 286		Pg	Pb	10 06 24.3	+0.2
	1.8nm,0.2s						
KST				Lg	Lg	10 06 50.9	
	3.5nm,0.3s						
KST	Kastek	2.06 286		*eP*	Pb	10 06 24.3	+0.2
	1.8nm,0.2s						
KST				*eS*	Sb	10 06 50.9	+1.1
	3.5nm,0.3s						
KUU	Kurty	2.19 310		Pg	Pb	10 06 26.6	+0.3
	1.6nm,0.3s						
KUU				Lg	Lg	10 06 54.8	
	17nm,0.4s						
KUU	Kurty	2.19 310		*eP*	Pb	10 06 26.6	+0.3
	1.6nm,0.3s						
KUU				*eS*	Sb	10 06 54.8	+1.2
	17nm,0.4s						
TKM2	Tokmak 2	2.30 281		⇑Pn	Pb	10 06 26.9	-1.3
	0.4nm,0.3s						
TKM2				⇓Sn	Sb	10 06 58.4	+1.6
	3.7nm,0.5s						
TKM2	Tokmak 2	2.30 281		⇓*iP*	Pb	10 06 27.3	-0.9
TKM2				⇓*iS*	Sb	10 06 56.8	0.0

NEIC ***23*** *10:06:45.3±1.2, 56°.26N±0°.09×148°.8W±0°.1, h10km±2km, ML3.5/80, Error ellipse: s-maj=17.0km s-min=12.4km az=149.0*
ISC 23 10:06:45.8±1.7, 56°.34N±0°.10×148°.83W±0°.07, h10km, n123, σ1§25/130, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.51 307		Pn	Pn	10 07 27.1	+0.5
OHAK	Old Harbor	2.61 292			Pn	10 07 27.9	-0.1
OHAK				Sn	Sn	10 07 56.6	-3.0
OHAK	Old Harbor	2.61 292		P	Pn	10 07 27.8	-0.1
SII	Sitkinak Islan	2.98 277		Pn	Pn	10 07 32.8	-0.3
SII				Sn	Sn	10 08 06.9	-2.0
SII				IAML		10 08 08.2	
	comp=E,130nm,1.1s						
SII				IAML		10 08 16.0	
	comp=N,110nm,1.2s						
SII	Sitkinak Islan	2.98 277		P	Pn	10 07 31.1	-2.0
SYI	Shuyak Island	2.98 321		Pn	Pn	10 07 33.9	+0.8
SYI				Sn	Sn	10 08 07.6	-1.2
CNPM	China Poot	3.45 339			Pn	10 07 39.8	+0.4
CNPM				Sn	Sn	10 08 18.6	-1.7
BRLK	Bradley Lake	3.61 343			Pn	10 07 41.9	+0.2
BRLK				IAML		10 08 25.5	
	comp=N,67nm,0.1s						
BRLK				IAML		10 08 28.4	
	comp=E,54nm,0.4s						
HOM	Homer	3.65 337		Pn	Pn	10 07 43.6	+1.3
HOM				Sn	Sn	10 08 25.7	+0.4
Q19K	Cape Douglas,	3.67 317		Pn	Pn	10 07 43.8	+1.3
Q19K				Sn	Sn	10 08 26.7	+0.9
Q19K				IAML		10 08 34.1	
	comp=E,110nm,1.0s						
Q19K				IAML		10 08 39.2	
	comp=N,88nm,1.1s						
P23K	Montague Islan	3.75 11		Pn	Pn	10 07 43.8	+0.2
P23K				Sn	Sn	10 08 24.5	-3.3
P23K				IAML		10 08 26.1	
	comp=N,87nm,0.3s						
P23K				IAML		10 08 26.2	
	comp=E,104nm,0.3s						
SEW	Seward	3.79 355		Pn	Pn	10 07 44.4	+0.2
CHIR	Chirikof Islan	3.84 265		Pn	Pn	10 07 45.0	+0.1
CHIR				IAML		10 08 44.8	
	comp=E,62nm,1.1s						
CHIR				IAML		10 09 33.1	
	comp=N,72nm,1.2s						
CHIR	Chirikof Islan	3.84 265		P	Pn	10 07 45.0	+0.1
ACHA	Angle Creek He	4.00 301			Pn	10 07 48.9	+1.9
P19K	Oil Pt	4.07 327		Pn	Pn	10 07 49.5	+1.5
O22K	Cooper Landing	4.18 354		Pn	Pn	10 07 50.7	+1.1
SLKM	Skilak Lake	4.25 351		Pn	Pn	10 07 50.5	+0.1
SLKM				IAML		10 08 40.8	
	comp=E,84nm,0.2s						
HIN	Hinchinbrook I	4.25 16		Pn	Pn	10 07 51.0	+0.4
HIN				IAML		10 08 38.7	
	comp=E,61nm,0.7s						
HIN				IAML		10 08 38.9	
	comp=N,87nm,0.4s						
KAIM	Kayak Island	4.29 31		Pn	Pn	10 07 51.5	+0.5
KAIM				IAML		10 08 44.4	
	comp=E,56nm,0.6s						
KAIM				IAML		10 08 44.9	
	comp=N,66nm,0.4s						
ILSW	Iliamna Southw	4.31 330		Pn	Pn	10 07 52.2	+0.8
ILSW				IAML		10 08 44.1	
	comp=N,35nm,0.6s						
ILSW				IAML		10 08 47.2	
	comp=E,43nm,0.6s						
EYAK	Cordova Ski Ar	4.52 20			Pn	10 07 54.8	+0.5
EYAK				IAML		10 08 44.7	
	comp=N,31nm,0.6s						
EYAK				IAML		10 08 47.9	
	comp=E,30nm,0.6s						
EYAK	Cordova Ski Ar	4.52 20		P	Pn	10 07 54.6	+0.4
PWL	Port Wells	4.54 3		Pn	Pn	10 07 54.9	+0.4
PWL				IAML		10 08 46.2	
	comp=N,42nm,0.3s						
P18K	Big Mountain,	4.59 315		Pn	Pn	10 07 56.0	+0.8
FID	Port Fidalgo	4.59 15		Pn	Pn	10 07 55.2	0.0
FID				IAML		10 08 45.7	
	comp=E,49nm,0.3s						
FID				IAML		10 08 46.9	
	comp=N,34nm,0.3s						
SUCK	Suckling Hills	4.60 33		Pn	Pn	10 07 56.1	+0.8
SUCK				IAML		10 09 13.8	
	comp=N,33nm,1.2s						
SUCK				IAML		10 09 51.8	
	comp=E,39nm,1.1s						
RAGM	Ragged Mountai	4.61 27		Pn	Pn	10 07 56.5	+1.0
RAGM				IAML		10 08 58.9	
	comp=E,51nm,0.8s						
GLI	Glacier Island	4.65 11		Pn	Pn	10 07 55.6	-0.3
GLI				IAML		10 08 48.5	
	comp=N,39nm,0.7s						
GLI				IAML		10 08 48.9	
	comp=E,43nm,0.5s						
HMT	Hamilton	4.68 29		Pn	Pn	10 07 55.9	-0.5
RC01	Rabbit Creek A	4.79 355		Pn	Pn	10 07 57.6	-0.3
RC01				IAML		10 08 53.5	
	comp=E,60nm,0.4s						
RC01				IAML		10 08 55.1	
	comp=N,37nm,0.4s						
O19K	Port Alsworth	4.83 325			Pn	10 07 58.8	+0.3
BERG	Berg Lake	4.88 31		Pn	Pn	10 07 59.2	+0.1
BERG				IAML		10 08 58.6	
	comp=N,48nm,0.8s						
O18K	Koktuh Hills	4.89 319		Pn	Pn	10 07 59.9	+0.7
SNH	Sunshine Point	4.99 37		Pn	Pn	10 08 01.4	+0.8
SNH				IAML		10 08 42.0	
	comp=N,44nm,1.0s						
DIV	Divide	5.06 17		Pn	Pn	10 08 03.2	+1.5
KNK	Knik Glacier	5.10 2		Pn	Pn	10 08 01.5	-0.6
KNK				IAML		10 09 03.9	
	comp=E,26nm,0.6s						
KNK				IAML		10 09 06.1	
	comp=N,23nm,1.1s						
BMRM	Bremner River	5.14 24			Pn	10 08 03.6	+0.8
BMRM				IAML		10 09 01.4	
	comp=E,21nm,0.3s						
WAX	Waxell Ridge	5.18 35		Pn	Pn	10 08 04.0	+0.7
WAX				IAML		10 09 01.8	
	comp=E,39nm,0.5s						
SUA	Susitna One	5.24 350		Pn	Pn	10 08 05.1	+1.0
SUA				IAML		10 09 06.7	
	comp=E,19nm,0.6s						
SUA				IAML		10 09 26.5	
	comp=N,20nm,1.1s						
PMR	Palmer	5.28 358		Pn	Pn	10 08 03.1	-1.4
PMR				IAML		10 09 06.0	
	comp=E,16nm,0.6s						
PMR	Palmer	5.28 358		P	Pn	10 08 02.6	-1.9
CHGN	Chignik	5.34 274		Pn	Pn	10 08 07.7	+2.3
N19K	Bonanza Creek	5.38 329		Pn	Pn	10 08 06.5	+0.5
KLU	Klutina	5.39 15		Pn	Pn	10 08 05.7	-0.5
STLK	Strandline Lak	5.41 345		Pn	Pn	10 08 04.9	-1.5
GHO	Glory Hole Cre	5.45 360		Pn	Pn	10 08 06.0	-1.1
SML	Sawmill	5.49 2		Pn	Pn	10 08 05.5	-2.1
YAH	Yahtse	5.50 40		Pn	Pn	10 08 08.2	+0.5
SCM	Sheep Creek Mo	5.57 7		Pn	Pn	10 08 06.7	-2.0
P16K	Nushagak River	5.61 303		Pn	Pn	10 08 10.6	+1.5
VRDI	Verde Repeater	5.64 27		Pn	Pn	10 08 10.5	+0.7
N18K	Kilae Creek	5.71 323		Pn	Pn	10 08 10.9	+0.3
N25K	Chitina, Valde	5.72 21			Pn	10 08 11.6	+0.9
GLB	Gilahina Butte	5.74 25			Pn	10 08 11.8	+0.8
SKT	Skwentna	5.83 347		Pn	Pn	10 08 12.9	+0.7
PCA	Pinnacle	5.89 47		Pn	Pn	10 08 14.2	+1.1
O16K	Kokwok River B	5.91 307		Pn	Pn	10 08 14.2	+0.9
M24K	Tolsona, Glenn	5.95 12		Pn	Pn	10 08 12.0	-1.8
M20K	Styx River	5.99 340		Pn	Pn	10 08 14.2	-0.2
PNL	Peninsula	6.02 52		P	Pn	10 08 15.7	+0.9
BCPM	Bancas Point	6.07 50		Pn	Pn	10 08 16.4	+0.9
N17K	Nushagak Hills	6.08 317		Pn	Pn	10 08 15.9	+0.3
M19K	Big River Lodg	6.27 335		Pn	Pn	10 08 18.4	+0.2
CHNA	Chernabura Isl	6.29 261		P	Pn	10 08 18.9	+0.5
O28M	Mount Upton	6.34 42		Pn	Pn	10 08 20.5	+1.1
O15K	Ungalikthiuk R	6.54 300		Pn	Pn	10 08 23.4	+1.6
L19K	White Mountain	6.62 335			Pn	10 08 23.1	0.0
SDPT	Sand Point	6.64 266		Pn	Pn	10 08 24.6	+1.4
SDPT	Sand Point	6.64 266		P	Pn	10 08 24.3	+1.1
O29M	Mount Kennedy	6.70 49			Pn	10 08 25.8	+1.5
P29M	Windy Craggy	6.76 56			Pn	10 08 25.9	+1.0
M17K	Holitna River	6.76 322			Pn	10 08 25.5	+0.6
M26K	Nabesna, AK	6.77 24		Pn	Pn	10 08 27.0	+1.9
PAX	Paxson	6.87 13		Pn	Pn	10 08 26.2	-0.3
M27K	Edge Creek, AK	7.00 28		Pn	Pn	10 08 29.8	+1.4
M16K	Timber Creek	7.07 316		Pn	Pn	10 08 29.9	+0.8
N15K	Kwethluk River	7.08 308		Pn	Pn	10 08 31.7	+2.4
RND	Reindeer	7.09 360		Pn	Pn	10 08 31.4	+1.8
L18K	Granite Mounta	7.14 329		Pn	Pn	10 08 31.0	+0.9
TRF	Thorofare Moun	7.17 355		Pn	Pn	10 08 31.9	+1.1
O14K	Tigyukauivet M	7.26 299		Pn	Pn	10 08 33.6	+1.8
CAST	Castle Rocks	7.29 348		Pn	Pn	10 08 33.5	+1.3
KTH	Kantishna Hill	7.32 353		Pn	Pn	10 08 33.1	+0.5
MCK	McKinley	7.42 360		Pn	Pn	10 08 36.6	+2.6
HYT	Haines Junctio	7.43 48		Pn	Pn	10 08 35.6	+1.4
SIT	Sitka	7.47 79		P	Pn	10 08 32.6	-2.0
K20K	Telida	7.52 342		Pn	Pn	10 08 35.3	-0.1
L27K	Beaver Creek,	7.61 25		Pn	Pn	10 08 37.3	+0.7
BCAR	Beaver Creek A	7.63 25		Pn	Pn	10 08 38.4	+1.5
L16K	Owhat River	7.69 319		Pn	Pn	10 08 38.7	+1.1
RIDG	Independent Ri	7.69 13		Pn	Pn	10 08 39.6	+1.9
N14K	Kuskokwak Cree	7.70 303		Pn	Pn	10 08 39.5	+1.8
DOT	Dot Lake	7.71 16		Pn	Pn	10 08 40.2	+2.2
BPAW	Bear Paw Mtn.	7.86 353		Pn	Pn	10 08 38.7	-1.4
N30M	Aishikik Lake	7.95 45		Pn	Pn	10 08 42.7	+1.4
K17K	Iditarod	8.00 327		Pn	Pn	10 08 42.1	+0.2
O30N	Mendenhall	8.00 51		Pn	Pn	10 08 43.4	+1.4
JIS	Juneau Island	8.06 70		P	Pn	10 08 43.0	+0.3
M29M	Somme Creek	8.09 37			Pn	10 08 44.6	+1.5
M14K	Bethel	8.17 308		Pn	Pn	10 08 46.7	+2.6
J18K	Innoko River	8.17 334		Pn	Pn	10 08 44.1	-0.2
J20K	Nowinta River	8.29 344		Pn	Pn	10 08 46.1	+0.1
J19K	Poorman	8.39 339		Pn	Pn	10 08 46.8	-0.5
FALS	False Pass	8.40 266		P	Pn	10 08 48.6	+1.3
K27K	Chicken	8.41 21		Pn	Pn	10 08 48.2	+0.6
J25K	Salcha River,	8.48 10		Pn	Pn	10 08 49.5	+1.0
WHY	Whitehorse	8.49 54		Pn	Pn	10 08 50.3	+1.6
N31M	Braeburn, Yuko	8.49 47		Pn	Pn	10 08 50.4	+1.7
IL31		8.52 6		Pn	Pn	10 08 49.6	+0.7
ILAR	Eielson Array	8.52 6		Pn	Pn	10 08 49.5	+0.5
J26L	Joseph Creek	8.59 15		Pn	Pn	10 08 52.1	+2.0
M13K	Dall Lake	8.65 304		Pn	Pn	10 08 53.3	+2.5
L29M	L29M	8.67 34			Pn	10 08 53.1	+1.9
M30M	Minto, Yukon	8.75 39		Pn	Pn	10 08 53.4	+1.2
J17K	VABM Dome	8.75 328		Pn	Pn	10 08 52.7	+0.5
L14K	Kuka Creek	8.75 311		Pn	Pn	10 08 53.5	+1.3
K15K	Wolf Creek Mou	8.81 318		Pn	Pn	10 08 52.9	-0.1
I23K	Minto, Yukon-K	8.85 359		Pn	Pn	10 08 54.4	+0.9
I21K	Tanana	9.01 351		Pn	Pn	10 08 56.4	+0.8
J16K	Anvik River	9.14 324		Pn	Pn	10 08 57.3	-0.1
K29M	Barlow Dome	9.40 32		Pn	Pn	10 09 02.9	+1.7
I26K	Coal Creek Min	9.41 15		Pn	Pn	10 09 01.4	+0.2

IDC 23 10:16:06.6±1.1, 5°.06N×125°.33E, h0km, mb3.4/4, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=60.6km s-min=19.0km az=78.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.02 7		Pn	Pn	10 16 41.8	-0.1
	32nm,0.3s,baz=86,slow=21,SNR=1.9						
DAV				Sn	Sb	10 17 10.1	+0.3
	38nm,0.3s,baz=272,slow=22,SNR=7.1						
	146nm,0.3s						
WRA	Warramunga Arr	26.37 161		P	P	10 21 45.2	+0.4
	0.5nm,0.7s,baz=341,slow=10,SNR=8.0						
	0.5nm,0.7s						
ASAR	Alice Springs	29.75 164		P	P	10 22 14.8	-0.2
	0.1nm,0.6s,baz=346,slow=8.8,SNR=1.2						
	0.1nm,0.6s						
MKAR	Makanchi Array	55.68 325		P	P	10 25 45.6	+0.9
	0.2nm,0.3s,baz=121,slow=7.2,SNR=5.0						
MKAR				PcP	PcP	10 26 43.4	-0.9
	0.3nm,0.6s,baz=134,slow=4.2,SNR=3.7						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	59.88 328		P	P	10 26 13.1	-1.1
	0.5nm,0.5s,baz=123,slow=5.8,SNR=1.7						
	0.5nm,0.5s						

GCG 23 10:16:11.8±2.5, 15°.00N×93°.17W, h0km±496km, MD4.0, Near coast of Chiapas

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

PB12	IPOC Station P	0.24 181	Sn		Sn	10 16 36.9	+0.6
PB12	IPOC Station P	0.24 181⇓	eP		Pn	10 16 28.2	+0.8
PB12			eS		Sn	10 16 36.9	+0.6
PB12			IAML			10 16 37.8	
	comp=N,17μm,0.2s						
PB12	IPOC Station P	0.24 181	eP		Pn	10 16 28.0	+0.6
PB12			eS		Sn	10 16 37.4	+1.1
PB12			IAML			10 16 38.1	
	comp=Z,6μm,0.4s						
PX02	IPOC Station P	0.60 169	eP		Pn	10 16 30.0	-0.1
PX02			eS		Sn	10 16 40.7	-0.3
PX02			IAML			10 16 42.2	
	comp=N,6μm,0.2s						
PB16	IPOC Station P	0.77 87	Pn		Pn	10 16 31.4	-0.9
PB16			Sn		Sn	10 16 44.0	-0.9
PB16	IPOC Station P	0.77 87⇓	eP		Pn	10 16 32.0	-0.3
PB16			eS		Sn	10 16 43.6	-1.4
PB16	IPOC Station P	0.77 87	eP		Pn	10 16 31.9	-0.3
PB16			eS		Sn	10 16 44.7	-0.3
PB16			IAML			10 16 46.1	
	comp=Z,3μm,0.3s						
PB18	Visviri	1.12 46			Pn	10 16 38.3	+2.0
PB18			Sn		Sn	10 16 54.2	+2.2
PB18	Visviri	1.12 46⇓	eP		Pn	10 16 38.3	+2.0
PB18			eS		Sn	10 16 50.9	-1.1
PB18			IAML			10 16 56.6	
	comp=E,2μm,0.3s						
PB11	IPOC Station P	1.52 156			Pn	10 16 41.6	+0.7
PB11			Sn		Sn	10 17 01.4	+1.0
PB11	IPOC Station P	1.52 156⇑	eP		Pn	10 16 41.6	+0.7
PB11			eS		Sn	10 16 59.1	-1.3
PB11			IAML			10 17 02.5	
	comp=E,3μm,0.6s						
GO01	Chusmiza	1.67 141			Pn	10 16 45.1	+1.9
GO01			Sn		Sn	10 17 06.5	+2.1
GO01	Chusmiza	1.67 141⇓	eP		Pn	10 16 44.9	+1.6
GO01			eS		Sn	10 17 03.7	-0.7
GO01	Chusmiza	1.67 141	eP		Pn	10 16 45.0	+1.8
GO01			eS		Sn	10 17 07.1	+2.7
TA02	Huaiquique	1.89 175			Pn	10 16 46.7	+1.0
TA02	Huaiquique	1.89 175⇑	eP		Pn	10 16 47.4	+1.6
TA02			eS		Sn	10 17 09.4	+0.5
TA02			IAML			10 17 17.4	
	comp=N,4μm,0.2s						
TA02	Huaiquique	1.89 175	eP		Pn	10 16 47.1	+1.3
TA02			eS		Sn	10 17 10.6	+1.7
TA02			IAML			10 17 17.2	
	comp=Z,1μm,0.1s						
PB08	IPOC Station P	2.08 148	Pn		Pn	10 16 49.6	+1.1
PB08			Sn		Sn	10 17 15.1	+1.3
PB08	IPOC Station P	2.08 148⇑	eP		Pn	10 16 50.0	+1.5
PB08			eS		Sn	10 17 13.6	-0.2
PB08			IAML			10 17 17.5	
	comp=N,2μm,0.1s						
PB08			IAML			10 17 21.4	
	comp=E,2μm,0.3s						
PX03	IPOC Station P	2.12 162	eP		Pn	10 16 49.6	+0.7
PX03			eS		Sn	10 17 14.2	-0.3
PX03			IAML			10 17 23.4	
	comp=N,2μm,0.2s						
TA01	Diego Aracena	2.18 177			Pn	10 16 50.7	+1.1
TA01	Diego Aracena	2.18 177⇑	eP		Pn	10 16 50.5	+0.9
TA01			eS		Sn	10 17 15.8	0.0
TA01			IAML			10 17 25.0	
	comp=E,962nm,0.2s						
TA01	Diego Aracena	2.18 177	eP		Pn	10 16 50.7	+1.1
TA01			eS		Sn	10 17 00.6	-15
TA01			IAML			10 17 36.5	
	comp=Z,437nm,0.3s						
PATCX	Punta Patache	2.44 176			Pn	10 16 53.8	+0.7
PATCX	Punta Patache	2.44 176	eP		Pn	10 16 54.1	+0.9
PATCX			eS		Sn	10 17 22.9	+0.8
PATCX			IAML			10 17 39.3	
	comp=E,729nm,0.2s						
PATCX	Punta Patache	2.44 176	eP		Pn	10 16 54.0	+0.9
PATCX			IAML			10 17 39.4	
	comp=Z,419nm,0.3s						
PB01	IPOC Station P	2.77 164			Pn	10 16 58.3	+0.7
PB01	IPOC Station P	2.77 164⇑	eP		Pn	10 16 58.2	+0.7
PB01			i S		Sn	10 17 29.3	-0.8
PB01			IAML			10 17 43.5	
	comp=N,1μm,0.3s						
PB01	IPOC Station P	2.77 164	eP		Pn	10 16 58.5	+1.0
PB01			eS		Sn	10 17 31.6	+1.6
PB01			IAML			10 17 43.4	
	comp=Z,540nm,0.3s						
LPAZ	La Paz	2.95 46			Pn	10 17 02.8	+2.4
LPAZ	La Paz	2.95 46	P		Pn	10 17 03.2	+2.8
	comp=Z,18nm,0.4s,baz=236,slow=3.8,SNR=107						
LPAZ	La Paz	2.95 46	eP		Pn	10 17 03.3	+2.8
PB09	IPOC Station P	3.55 164			Pn	10 17 08.4	+0.1
PB09	IPOC Station P	3.55 164	eP		Pn	10 17 10.1	+1.9
PB09			eS		Sn	10 17 49.6	+0.4
PB09			IAML			10 18 07.7	
	comp=Z,508nm,0.7s						
PB05	IPOC Station P	4.46 179			Pn	10 17 20.1	-0.4
AF01	San Pedro de A	4.98 157	Pn		Pn	10 17 27.2	-0.6
PB10	IPOC Station P	5.12 182	Pn		Pn	10 17 27.4	-2.0
PB10	IPOC Station P	5.12 182	eP		Pn	10 17 29.3	-0.1
PB10			eS		Sn	10 18 26.4	-0.8
PB14	IPOC Station P	6.22 181	Pn		Pn	10 17 43.0	-1.7
GO02	Mina Guanaco	6.79 174			Pn	10 17 50.5	-2.0
AC01	Pan de Azucar	7.74 182	Pn		Pn	10 18 03.6	-1.6
AC02	Maricunga	8.49 173			Pn	10 18 16.1	+0.2
NNA	Nana	8.94 314	P		Pn	10 18 27.6	+5.9
	comp=Z,3.4nm,0.3s,baz=154,slow=11,SNR=3.9						
AC06	Mina Casimiro	8.94 180	Pn		Pn	10 18 19.8	-1.8
SIV	San Ignacio	9.15 76	P		Pn	10 18 23.1	-1.4
	comp=Z,2.5nm,0.3s,baz=253,slow=8.3,SNR=24						
AC04	Llanos de Chal	9.81 184	Pn		Pn	10 18 31.9	-1.5
AC05	El Transito	10.41 180	Pn		Pn	10 18 40.4	-1.4
LCO	Las Campanas	10.59 182	Pn		Pn	10 18 41.6	-2.8
CZSB	Cruzeiro do Su	10.83 347	Pn		Pn	10 18 46.9	-0.6
CO01	Juntas del Tor	11.55 179	Pn		Pn	10 18 56.0	-1.4
GO04	Tololo Observa	11.75 182	Pn		Pn	10 18 56.8	-3.4
CO06	Fray Jorge	12.30 185	Pn		Pn	10 19 03.5	-3.9
CO03	El Pedregal	12.41 181	Pn		Pn	10 19 05.5	-3.4
CO02	Combarbal	12.79 183	Pn		Pn	10 19 13.6	-0.4
MT02	Curacav	14.84 183	Pn		Pn	10 19 40.1	-0.7
MT13	San Alfonso	15.31 180	Pn		Pn	10 19 45.7	-1.2
MT13			IAmb		IAmb	10 19 54.8	
	comp=Z,9.3nm,0.7s						
MT09	Talagante	15.35 182	Pn		Pn	10 19 45.6	-1.8
MT09			IAmb		IAmb	10 20 23.1	
	comp=Z,20nm,1.5s						
LMEL	Las Melosas	15.41 180	Pn		Pn	10 19 47.1	-1.1
MT01	Popeta	15.45 183	Pn		Pn	10 19 48.2	-0.3
MT01			IAmb		IAmb	10 19 55.5	
	comp=Z,8.6nm,0.9s						
BO04	La Punta	15.55 181			Pn	10 19 50.7	+0.8
H03N1	Juan Fernandez	16.86 206	T		T	10 37 42.6	
	baz=28,slow=73,SNR=217						
H03N2	Juan Fernandez	16.87 206	T		T	10 37 43.2	
	baz=28,slow=73,SNR=67						
H03N3	Juan Fernandez	16.88 206	T		T	10 37 41.9	
	baz=28,slow=73,SNR=128						
SLOR	San Lorenzo -	19.29 334	P		P	10 20 34.4	+0.2
PLTB	Pedras Altas	20.14 135	P		P	10 20 41.3	-1.6
PLTB			IAmb		IAmb	10 21 06.4	
	comp=Z,16nm,1.4s						
FLOC	Florencia	20.51 345	P		P	10 20 46.2	-0.9
TRQA	Tornquist	20.92 161	P		P	10 20 50.7	-0.6
TRQA			IAmb		IAmb	10 20 52.8	
	comp=Z,12nm,1.1s						
PLCA	Paso Flores	22.28 180	P		P	10 21 04.8	-1.1
PLCA	Paso Flores	22.28 180	P		P	10 21 07.0	+1.1
	comp=Z,3.0nm,0.9s,baz=2.1,slow=11,SNR=5.3						
	comp=Z,3.0nm,0.9s						
BOAV	Boa Vista	22.78 26	P		P	10 21 10.1	-1.2
BOAV			IAmb		IAmb	10 21 15.3	
	comp=Z,10nm,1.3s						
RUSC	La Rusia	24.27 353	P		P	10 21 23.3	-2.2
RUSC			IAmb		IAmb	10 21 28.0	
	comp=Z,8.1nm,1.0s						
PAYG	Puerto Ayora	26.34 310	P		P	10 21 41.9	-2.0
BAUV	El Baul	27.24 5	P		P	10 21 51.0	-0.9
CELP	Cerrillos	36.41 6	P		P	10 23 11.4	-0.7
PDPR	Patillas Dam,	36.41 7	P		P	10 23 11.3	-0.9
SNAA	Sanae	65.65 161	P		P	10 26 51.5	+0.9
	comp=Z,2.7nm,1.1s,baz=275,slow=12,SNR=1.1						
	comp=Z,2.7nm,1.1s						
QSPA	South Pole Qui	71.80 180	P		P	10 27 29.5	+0.5
QSPA			IAmb		IAmb	10 27 32.2	
	comp=Z,5.0nm,1.2s						
QSPA	South Pole Qui	71.80 180	P		P	10 27 31.1	+2.1
	comp=Z,0.9nm,0.5s,baz=209,slow=1.1,SNR=21						
	comp=Z,0.9nm,0.5s						
TORD	Torodi Ar. Bea	77.60 72	P		P	10 28 04.3	+1.0
	comp=Z,1.7nm,0.5s,baz=254,slow=5.3,SNR=1.3						
	comp=Z,1.7nm,0.5s						
YKA	Yewlowknife Ar	87.81 341	P		P	10 28 56.3	+1.2
	comp=Z,0.4nm,0.6s,baz=158,slow=10.0,SNR=20						
YKA			pP		pP	10 29 17.1	+0.3
	comp=Z,0.4nm,0.6s,baz=159,slow=11,SNR=9.0						
	comp=Z,0.4nm,0.6s						
H11S2	WAKE ISLAND Hyl	26.10 280	T		T	12 54 16.3	
	baz=100,slow=75,SNR=37						
H11N3	WAKE ISLAND Hyl	26.11 281	T		T	12 54 17.8	
	baz=100,slow=75,SNR=6.6						
H11S1	WAKE ISLAND Hyl	26.11 280	T		T	12 54 20.9	
	baz=100,slow=75,SNR=40						
H11N2	WAKE ISLAND Hyl	26.12 281	T		T	12 54 24.1	
	baz=100,slow=75,SNR=7.2						
H11S3	WAKE ISLAND Hyl	26.12 280	T		T	12 54 17.3	
	baz=100,slow=75,SNR=35						
H11N1	WAKE ISLAND Hyl	26.12 281	T		T	12 54 22.3	
	baz=100,slow=75,SNR=5.7						
ASAR	Alice Springs	131.99 210	PKP		PKPdf	10 35 21.7	+1.4
	comp=Z,0.1nm,0.5s,baz=132,slow=1.8,SNR=1.1						
WRA	Warramunga Arr	134.88 214	PKP		PKPdf	10 35 27.3	+1.5
	comp=Z,0.4nm,0.5s,baz=145,slow=1.6,SNR=4.9						

*TAP **23** 10:18:29.0,23°.91N×121°.78E,h46km,ML3.5,C*
*JMA **23** 10:18:28.4±0.1,23°.9N±0°.2×121°.8E±0°.4,h46km±1km,*
MV3.2/18,TAIWAN REGION
ISC 23 10:18:29.1±1.2,23°.89N±0°.02×121°.81E±0°.02,h42km±5km,
n159,σ1§19/281,15C-22D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.21	295	P		Pn	10 18 37.0	+0.4
HWA				S		Sn	10 18 43.2	+1.4
SHUL	Shoufeng	0.25	246	↑iP		Pn	10 18 37.5	+0.6
SHUL				S		Sn	10 18 43.6	+1.1
TWD	Chiawan	0.27	314	↑iP		Pn	10 18 37.2	+0.1
TWD				S		Sn	10 18 43.1	+0.3
ETM	Tongmen	0.30	285	P		Pn	10 18 37.5	+0.1
ETM				S		Sn	10 18 42.6	-0.7
TEGC	Jichi Village	0.31	234	P		Pn	10 18 37.8	+0.3
TEGC				S		Sn	10 18 44.5	+1.1
ETL	Fush Village	0.32	327	P		Pn	10 18 37.6	-0.1
ETL				S		Sn	10 18 44.1	+0.3
NACB	Ninganchiao	0.34	325	P		Pn	10 18 37.8	-0.2
NACB	Ninganchiao	0.34	325	↑iP		Pn	10 18 37.8	-0.2
NACB				S		Sn	10 18 44.5	+0.3
ESL	Shilin	0.35	258	P		Pn	10 18 38.0	0.0
ESL				S		Sn	10 18 44.5	+0.2
LXIB	Xiulin Townshi	0.39	290	⇓iP		Pn	10 18 38.4	-0.2
LXIB				S		Sn	10 18 45.0	-0.2
EGFH	Guangfu	0.41	238	eP		Pn	10 18 39.0	+0.2
EGFH				S		Sn	10 18 46.1	+0.5
EHP	Heping Village	0.42	351	P		Pn	10 18 38.9	0.0
EHP				S		Sn	10 18 45.9	0.0
WARBT	Fenglin Townsh	0.42	246	⇓iP		Pn	10 18 38.6	-0.4
WARBT				S		Sn	10 18 45.8	-0.1
ETLH	Xiulin Townshi	0.44	316	P		Pn	10 18 39.1	0.0
ETLH				eS		Sn	10 18 46.2	0.0
EAHA	Aohua	0.44	352	P		Pn	10 18 39.0	-0.1
EAHA				S		Sn	10 18 46.6	+0.4
EOS4	EOS4	0.52	64	↑P		Pn	10 18 40.1	+0.4
EOS4				S		Sn	10 18 48.1	+0.8
HGSD	Ruisui	0.53	222	P		Pn	10 18 40.2	0.0
HGSD				S		Sn	10 18 49.6	+1.4
ENA	Nanau	0.54	353	↑iP		Pn	10 18 40.2	-0.2
ENA				S		Sn	10 18 48.7	+0.2
EWUT	Wuta	0.55	357	P		Pn	10 18 40.6	0.0
EWUT				S		Sn	10 18 49.0	+0.2
WHF	Hehuan Shan	0.56	297	⇓iP		Pn	10 18 40.8	-0.2
WHF				S		Sn	10 18 49.3	-0.2
EHYH	Wanrong	0.58	227	P		Pn	10 18 40.5	-0.4
EHYH				S		Sn	10 18 48.7	-0.7
OWD	Renai	0.58	276	⇓iP		Pn	10 18 41.1	0.0
OWD				S		Sn	10 18 49.6	-0.1
EHY	Hungye	0.59	230	⇓P		Pn	10 18 40.3	-0.7
EHY				eS		Sn	10 18 48.9	-0.7
EOS3	EOS3	0.61	49	↑iP		Pn	10 18 41.9	+0.7
EOS3				eS		Sn	10 18 51.4	+1.6
VWDT	VWDT	0.63	258	⇓iP		Pn	10 18 41.7	+0.2
VWDT				S		Sn	10 18 49.8	-0.6
FUSS	Fushou	0.63	305	⇓P		Pn	10 18 41.8	+0.1
FUSS				eS		Sn	10 18 51.0	+0.1
WUSB	Renai	0.64	279	⇓P		Pn	10 18 42.1	+0.2
WUSB				S		Sn	10 18 51.0	-0.1
EOS2	EOS2	0.65	36	↑iP		Pn	10 18 42.7	+0.9
EOS2				S		Sn	10 18 52.6	+1.7
ECBN	Changbin	0.66	210	P		Pn	10 18 41.9	-0.1
ECBN				S		Sn	10 18 51.5	+0.3
NNSB	Datong	0.66	324	⇓iP		Pn	10 18 42.2	+0.1
NNSB				S		Sn	10 18 51.3	-0.3
NNS	Nan Shan	0.68	324	⇓P		Pn	10 18 42.4	+0.1
NNS				S		Sn	10 18 51.8	-0.1
YULB	Yu-li	0.68	224	P		Pn	10 18 41.7	-0.7
YULB	Yu-li	0.68	224	⇓iP		Pn	10 18 41.7	-0.7
YULB				S		Sn	10 18 50.5	-1.4
ESAO	Su ao	0.68	3	↑iP		Pn	10 18 42.5	+0.1
ESAO				S		Sn	10 18 52.2	+0.4
TWT	Tachien	0.68	302	⇓P		Pn	10 18 42.9	+0.4
TWT				S		Sn	10 18 51.5	-0.6
LATG	Datong	0.69	338	↑iP		Pn	10 18 42.4	-0.2
LATG				S		Sn	10 18 52.2	-0.1
TDCB	Techi	0.70	301	⇓P		Pn	10 18 42.9	+0.2
TDCB				S		Sn	10 18 51.9	-0.5
EYUL	Yuli	0.70	220	P		Pn	10 18 42.1	-0.5
TWF1	Yuli	0.71	221	⇓P		Pn	10 18 42.2	-0.6
TWC	Suao	0.72	3	↑iP		Pn	10 18 43.1	+0.3
TWC				S		Sn	10 18 53.3	+0.7
NDS	Dongshan	0.75	353	eP		Pn	10 18 42.2	-1.0
ENTT	Nioudou	0.78	343	↑iP		Pn	10 18 43.7	+0.1
SSLB	Suanglung	0.79	263	P		Pn	10 18 43.8	-0.1
SSLB	Suanglung	0.79	263	⇓iP		Pn	10 18 43.7	-0.1
CHKH	Chenggong	0.79	209	eP		Pn	10 18 44.1	+0.4
CHKH				S		Sn	10 18 54.4	0.0
SMLT	Sun Moon Lake	0.83	270	⇓P		Pn	10 18 43.6	-0.9
FULB	Fuli	0.83	215	eP		Pn	10 18 44.9	+0.4
FULB				eS		Sn	10 18 56.7	+1.1
TWE	Neicheng	0.84	351	P		Pn	10 18 44.8	+0.3
TWE				eS		Sn	10 18 56.1	+0.6
WCS	Beigang Elemen	0.84	282	P		Pn	10 18 44.8	+0.4
YHNB	Yeheng	0.87	333	P		Pn	10 18 45.2	+0.3
YHNB	Yeheng	0.87	333	↑iP		Pn	10 18 45.3	+0.3
YHNB				eS		Sn	10 18 56.0	-0.5
TYC	Yuchr	0.87	271	eP		Pn	10 18 45.2	+0.4
ILA	Ilan	0.87	356	eS		Sn	10 18 57.4	+0.9
WHP	Taichung City	0.88	296	⇓P		Pn	10 18 45.5	+0.5
WHP				eS		Sn	10 18 57.2	+0.4
NSK	Sanguang	0.89	332	⇓P		Pn	10 18 45.5	+0.3
NSK				eS		Sn	10 18 56.5	-0.3
CHKT	Chengkung	0.89	208	eS		Sn	10 18 55.4	-1.4
FUSB	Fushanzhiwuyua	0.89	347	P		Pn	10 18 45.4	+0.1
FUSB				S		Sn	10 18 57.4	+0.4
WHYT	Xinyi Township	0.90	258	eP		Pn	10 18 45.7	+0.5
WHYT				eS		Sn	10 18 58.0	+0.9
EHD	Haiduan	0.92	217	eP		Pn	10 18 44.8	-0.8
EHD				eS		Sn	10 18 56.5	-1.2
NWLT	Wulai	0.93	342	eP		Pn	10 18 45.8	+0.1
NWLT				eS		Sn	10 18 57.7	-0.2
EGS		0.96	7	eP		Pn	10 18 46.8	+0.8
ECS	Chishang	0.96	215	eS		Sn	10 18 58.7	+0.2
NFF	Wufeng Townshi	0.97	320	eP		Pn	10 18 47.0	+0.6
NFF				eS		Sn	10 18 59.4	+0.4
WJS	Zhushan	0.99	266	eP		Pn	10 18 47.6	+1.1
WJS				eS		Sn	10 19 01.7	+2.3
ALS	Alishan	1.00	248	⇓P		Pn	10 18 47.3	+0.5
ALS				eS		Sn	10 18 59.9	0.0
ELDTW	Lidau	1.01	226	eP		Pn	10 18 46.2	-0.6
ELDTW				eS		Sn	10 18 58.9	-1.0
EDH	Donghe	1.02	207	eP		Pn	10 18 46.5	-0.5
EDH				eS		Sn	10 18 59.1	-1.0
WNT	Mingjian	1.03	270	eP		Pn	10 18 48.3	+1.2
WNT				eS		Sn	10 19 02.4	+2.1
NSTT	Nanjuang	1.04	315	⇓P		Pn	10 18 48.5	+1.2
NSTT				eS		Sn	10 19 01.5	+0.8
LIOB	Emei	1.04	316	P		Pn	10 18 48.7	+1.4
LIOB				S		Sn	10 19 01.6	+0.9
TWQ1	Liyutan	1.05	296	⇓P		Pn	10 18 48.4	+1.0
TWQ1				eS		Sn	10 19 02.1	+1.2
KSHI	Guanxi Townshi	1.06	327	eP		Pn	10 18 48.8	+1.4
KSHI				eS		Sn	10 19 02.6	+1.6
TCU	Taichung	1.07	284	eP		Pn	10 18 49.0	+1.5
TCU				eS		Sn	10 19 03.8	+2.6
CHN5	Tsauling	1.08	255	eP		Pn	10 18 48.8	+1.0
CHN5				eS		Sn	10 19 02.9	+1.3
TIPB	Shuangxi	1.08	1	↑iP		Pn	10 18 48.6	+0.9
TIPB				eS		Sn	10 19 02.4	+0.9
NSY	Sanyi	1.09	299	eP		Pn	10 18 45.4	-2.5
NHDH	Xindian Distri	1.10	346	P		Pn	10 18 48.9	+0.9
NHDH				S		Sn	10 19 02.8	+0.8
TWA	Mucha	1.10	349	P		Pn	10 18 49.9	+1.8
TWA				S		Sn	10 19 03.7	+1.5
TATO	Taipei	1.12	345	P		Pn	10 18 49.5	+1.2
TWB1	Santiao Chiao	1.12	8	↑iP		Pn	10 18 48.8	+0.5
TWB1				eS		Sn	10 19 03.1	+0.5
NMLH	Miaoli	1.13	305	eP		Pn	10 18 49.4	+0.9
LONT	Longtian	1.16	213	eP		Pn	10 18 47.5	-1.3
LONT				eS		Sn	10 19 02.3	-1.2
WCHH	Zhanghua	1.16	280	eP		Pn	10 18 49.9	+1.1
WCHH				eS		Sn	10 19 05.5	+2.0
WGK	Gukeng	1.16	260	eP		Pn	10 18 49.9	+1.0
WGK				eS		Sn	10 19 06.3	+2.8
WDJ	Dajia District	1.16	293	eP		Pn	10 18 49.7	+0.9
WCH1	Changhua City	1.17	279	eS		Sn	10 19 06.5	+2.8
SBCB	Hsinchu	1.17	320	eP		Pn	10 18 49.2	+0.2
SBCB				eS		Sn	10 19 05.5	+1.7
WFSB	Wu-fen Shan	1.18	359	eP		Pn	10 18 50.3	+1.3
WFSB				eS		Sn	10 19 05.1	+1.2
JYNG	Yonagunijimaku	1.18	61	eP		Pn	10 18 49.4	+0.4
JYNG				S		Sn	10 19 04.2	+0.3
WDLH	Douliu	1.18	261	eP		Pn	10 18 50.2	+1.0
WDLH				eS		Sn	10 19 06.3	+2.2
HSN	Hsinchu	1.19	320	eP		Pn	10 18 50.1	+0.9
HSN				eS		Sn	10 19 05.7	+1.5
STYH	Taoyuan	1.19	233	eP		Pn	10 18 48.4	-0.9
STYH				eS		Sn	10 19 03.3	-0.9
WCKO	Fanlu	1.19	248	eP		Pn	10 18 50.7	+1.4
WCKO				eS		Sn	10 19 06.4	+2.0
SXI1	Grass Mountain	1.20	3	↑iP		Pn	10 18 50.2	+0.7
SXI1				eS		Sn	10 19 05.5	+0.9
NCUH	Zhongli	1.22	332	eP		Pn	10 18 50.1	+0.5
NCUH				eS		Sn	10 19 06.2	+1.3
TPUB	Ta-pu	1.23	242	P		Pn	10 18 51.0	+1.2
TPUB	Ta-pu	1.23	242	eP		Pn	10 18 51.1	+1.2
TPUB				eS		Sn	10 19 07.3	+2.0
YOJ	Yonaguni jima	1.23	62	eP		Pn	10 18 50.2	+0.4
YOJ				eS		Sn	10 19 05.4	+0.1
YOJ	Yonaguni jima	1.23	62	eP		Pn	10 18 50.2	+0.4
YOJ				eS		Sn	10 19 05.5	+0.1
CHN4	Tsaushan	1.24	245	eP		Pn	10 18 51.2	+1.3
CHN4				eS		Sn	10 19 08.1	+2.6
TWS1	Kuangyinshan	1.26	344	eP		Pn	10 18 50.4	+0.2
TWS1				eS		Sn	10 19 05.9	0.0
TWGBT	Beinan	1.26	212	P		Pn	10 18 52.6	+2.4
TWGBT	Beinan	1.26	212	eP		Pn	10 18 49.0	-1.3
TWGBT				eS		Sn	10 19 04.2	-1.7
TWG	Pinlang	1.26	213	eP		Pn	10 18 49.2	-1.0
TWG				eS		Sn	10 19 04.2	-1.8
YM01	YM01	1.27	350	eP		Pn	10 18 51.1	+0.7
YM01				eS		Sn	10 19 06.2	-0.1
WTP	Ta-pu	1.27	240	eP		Pn	10 18 51.5	+1.1
WTP				eS		Sn	10 19 08.1	+1.8
TTN	Taitung	1.28	208	eS		Sn	10 19 07.9	+1.4
ZUZH	Zhuzihu	1.29	349	eP		Pn	10 18 50.6	+0.2
ZUZH				eS		Sn	10 19 06.5	-0.3
YM08	YM08	1.31	351	eP		Pn	10 18 51.0	+0.2
NTST	Danshui	1.31	346	eS		Sn	10 19 08.3	+1.1
WTK	Tuku	1.32	262	eP		Pn	10 18 52.1	+1.1
WTK				eS		Sn	10 19 09.9	+2.6
CHY	Chiayi	1.33	253	eP		Pn	10 18 52.2	+1.1
CHY				eS		Sn	10 19 09.6	+2.0
TWK	Hsinying	1.36	243	eP		Pn	10 18 52.7	+1.0
TWK				eS		Sn	10 19 11.0	+2.4
CHN1	Nanshi	1.37	239	eP		Pn	10 18 52.6	+0.9
CHN1				eS		Sn	10 19 10.4	+1.8
SNST	Tainan City	1.38	241	eS		Sn	10 19 10.9	+2.0
SGST	Jiashian	1.38	235	P		Pn	10 18 52.6	+0.7
SGST				S		Sn	10 19 10.7	+1.7
WTCT	Ta-ch'eng	1.40	269	eP		Pn	10 18 52.8	+0.7
WTCT				eS		Sn	10 19

KRSC 23 10:19:16.4±1.4, 51°.42N×160°.49E, h62km±27km, MI3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.56**	**285**	*e*P	Pn	10 19 43.8	+1.9
KDTR				*e*S	Sn	10 20 01.9	+0.9
RUS	**Russkaya**	**1.59**	**310**	*e*P	Pn	10 19 44.1	+1.8
RUS				*e*S	Sn	10 20 03.3	+1.5
SPN	**Mys Shipunski**	**1.70**	**350**	*e*P	Pn	10 19 45.9	+2.0
SPN				*e*S	Sn	10 20 05.1	+0.4
MTVR	**Mutnovka**	**1.78**	**308**	*e*P	Pn	10 19 47.4	+2.3
MTVR				*e*S	Sn	10 20 08.9	+2.1
GRL	**Gorelyy**	**1.88**	**308**	*e*P	Pn	10 19 49.3	+3.0
GRL				*e*S	Sn	10 20 10.7	+1.7
NLC	**Nalytchevo**	**1.89**	**339**	*e*P	Pn	10 19 49.1	+2.8
DALK	**Dalny**	**1.94**	**327**	*e*P	Pn	10 19 49.5	+2.5
DALK				*e*S	Sn	10 20 12.0	+1.8
PET	**Petropavlovsk**	**1.96**	**326**	*e*P	Pn	10 19 49.5	+2.1
PET				*e*S	Sn	10 20 12.7	+1.8
KRMR	**Karymshinskiy**	**2.03**	**315**	*e*P	Pn	10 19 50.7	+2.5
KRMR				*e*S	Sn	10 20 14.8	+2.3
UGLR	**Uglovaya**	**2.06**	**331**	*e*P	Pn	10 19 51.8	+3.0
SDLR	**Sedlovina**	**2.10**	**333**	*e*P	Pn	10 19 51.9	+2.4
AVH	**Avacha**	**2.14**	**330**	*e*P	Pn	10 19 53.3	+3.5
AVH				*e*S	Sn	10 20 19.2	+4.0
KRER	**Koryakskii**	**2.17**	**331**	*e*S	Sn	10 20 19.1	+2.9
KOK	**Koryaka**	**2.19**	**329**	*e*P	Pn	10 19 53.6	+3.1
KOK				*e*S	Sn	10 20 20.6	+4.0
KRX	**Arik**	**2.25**	**331**	*e*P	Pn	10 19 54.1	+2.8
KRX				*e*S	Sn	10 20 21.3	+3.3
PAU	**Pauzhetka**	**2.30**	**273**	*e*S	Sn	10 20 21.9	+2.8
APC	**Apacha**	**2.55**	**308**	*e*P	Pn	10 19 58.7	+3.4
APC				*e*S	Sn	10 20 28.3	+3.2
KII	**Karymskiy**	**2.69**	**347**	*e*P	Pn	10 20 00.2	+2.8
KII				*e*S	Sn	10 20 31.1	+2.2
GNL	**Ganaly**	**2.76**	**327**	*e*P	Pn	10 20 02.0	+3.7
GNL				*e*S	Sn	10 20 33.7	+3.2
SKR	**Severo-Kuril's**	**2.86**	**257**	*e*P	Pn	10 20 01.6	+2.1
MKZ	**Mys Kozlova**	**3.23**	**13**	*e*P	Pn	10 20 06.6	+2.1
TUMD	**Tumrok D**	**3.79**	**359**	*e*P	Pn	10 20 14.1	+1.8
KMNR	**Kamenistaya**	**4.35**	**358**	*e*P	Pn	10 20 23.1	+3.1
KMNR				*e*S	Sn	10 21 12.4	+3.1
KBTR	**Krutoberegovo**	**4.99**	**15**	*e*P	Pn	10 20 31.6	+2.9

TEH ***23*** *10:24:38.1, 33°.63N×45°.64E, h9km±24km*
IDC ***23*** *10:24:38.5±1.3, 33°.65N×45°.71E, h0km, mb4.0/12, mbtmp4.0/16, ML3.6/3, MS2.8/3, Error ellipse: s-maj=28.2km s-min=14.9km az=176.0*
THR ***23*** *10:24:39.7±0.0, 33°.60N×45°.65E, h11km±4km, ML4.2*
MOS ***23*** *10:24:39.2±1.2, 33°.83N×45°.59E, h11km, mb4.2/13, Error ellipse: s-maj=10.5km s-min=6.0km az=85.8*
ISN ***23*** *10:24:39.4±0.3, 33°.68N×45°.73E, h9km±1km, ML4.0*
NEIC ***23*** *10:24:40.2±1.6, 33°.54N±0°.05×45°.7E±0°.1, h10km±1km, mb4.3/45, Error ellipse: s-maj=14.2km s-min=8.9km az=101.0*

ISC 23 10:24:39.9±0.4, 33°.60N±0°.03×45°.65E±0°.04, h10km, n141, σ1°.14/143, mb4.2/43, 6C-1D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.54**	**154**	*e*Pg	**Pb**	**10 24 51.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**10 24 59.5**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.56**	**23**	Pg	**Pg**	**10 24 49.3**	**-1.5**
KGS1	**Ghasr-e-Shirin**	**0.91**	**357**	Pg	**Pg**	**10 24 55.9**	**-1.5**
IGHG	**Ghaleghazi**	**1.06**	**46**	Pg	**Pg**	**10 24 59.2**	**-1.1**
BHD	**Baghdad**	**1.11**	**253**	*e*Pg	**Pn**	**10 25 02.5**	**+1.1**
BHD				*e*Sg	**Sn**	**10 25 19.0**	**+2.3**
BHD				AML	AML	10 25 25.5	
	comp=E,4μm,0.5s						
IDHR	**Dehrash**	**1.26**	**29**	Pg	**Pn**	**10 25 02.1**	**-1.7**
KCHF	**Cheshme Sefid,**	**1.34**	**59**	Pg	**Pn**	**10 25 04.7**	**-0.2**
ILIN	**Lien**	**1.71**	**39**	Pg	**Pn**	**10 25 10.6**	**+0.6**
IKFM	**Kafar-mosalman**	**1.84**	**92**	Pn	**Pb**	**10 25 13.2**	**-0.4**
RAFI	**Al-Rafai**	**1.91**	**168**	*e*Pn	**Pg**	**10 25 15.0**	**-1.5**
RAFI				*e*Sn	**Sg**	**10 25 41.0**	**-0.3**
SNGE	**Sanandaj**	**2.05**	**43**	*e*Pn	**Pn**	**10 25 15.4**	**+0.7**
SNGE				*e*Sg	**Sb**	**10 25 43.5**	**+0.5**
SNGE				IAML		10 25 46.2	
	comp=Z,3μm,1.0s						
SNQR	**Sonqor, Kerman**	**2.07**	**52**	Pn	**Pn**	**10 25 16.3**	**+1.4**
IKRK	**Kirkuk**	**2.10**	**329**	*e*Pn	**Pn**	**10 25 16.3**	**+1.2**
IKRK				*e*Sn	**Sn**	**10 25 43.0**	**+1.7**
IKRK				AML	AML	10 25 53.6	
	comp=N,2μm,0.4s						
IKRK				AML	AML	10 25 56.5	
	comp=E,1μm,0.6s						
HSAM	**Samen**	**2.54**	**75**	Pn	**Pn**	**10 25 22.6**	**+1.2**
SRSL	**SARDASHT**	**2.62**	**356**	*e*PnA		10 25 24.0	
SRSL				*e*Sg	**Sn**	**10 25 57.3**	**+3.0**
SRSL				IAML		10 26 07.0	
	comp=Z,1μm,1.0s						
BDRS	**Dareh Seyedi**	**2.72**	**82**	Pn	**Pn**	**10 25 25.1**	**+1.2**
GTMR	**Gotvand**	**3.12**	**110**	*e*Pn	**Pn**	**10 25 30.7**	**+1.5**
GTMR				IAML		10 26 43.0	
	comp=Z,250nm,1.0s						
HAGD	**Aghdareh**	**3.14**	**66**	Pn	**Pn**	**10 25 30.7**	**+1.0**
MAHB	**Mahabad**	**3.16**	**1**	Pn	**Pn**	**10 25 30.8**	**+1.0**
HGHA	**Hamedan- Ghaye**	**3.25**	**54**	Pn	**Pn**	**10 25 32.3**	**+1.1**
KHMZ	**Khomeyn**	**3.60**	**87**	*e*PnA		10 25 37.5	
KHMZ				IAML		10 26 42.4	
	comp=Z,160nm,1.0s						
ASAO	**Ashtian**	**3.76**	**74**	*e*PnA		10 25 40.3	
ASAO				IAML		10 26 54.7	
	comp=Z,240nm,1.0s						
QABG	**Abgarm-Qazvin**	**3.87**	**56**	Pn	**Pn**	**10 25 41.0**	**+1.3**
IHSH	**Hashtrud**	**3.93**	**19**	Pn	**Pn**	**10 25 41.4**	**+0.8**
ZNJK	**Zanjan**	**3.95**	**38**	*e*Pn	**Pn**	**10 25 42.6**	**+1.8**
ZNJK				IAML		10 25 56.4	
	comp=Z,100nm,1.0s						
IRAZ	**Razeghan**	**3.97**	**62**	Pn	**Pn**	**10 25 42.3**	**+1.2**
IAZR	**Azarshahr**	**4.08**	**4**	Pn	**Pn**	**10 25 44.1**	**+1.5**
ZNGN	**Zangian**	**4.63**	**107**	Pn	**Pn**	**10 25 51.3**	**+1.2**
IQOM	**Qom**	**4.66**	**73**	Pn	**Pn**	**10 25 51.7**	**+1.1**
ISHB	**Shabestar**	**4.68**	**360**	Pn	**Pn**	**10 25 50.6**	**-0.1**
IMRD	**Marand**	**5.11**	**1**	Pn	**Pn**	**10 25 57.2**	**+0.6**
GEVA	**Gevas**	**5.15**	**337**		**Pn**	**10 25 58.2**	**+1.0**
KRSH	**Karshahi**	**5.42**	**84**	Pn	**Pn**	**10 26 02.3**	**+1.4**
GRMI	**Germi**	**5.51**	**19**	Pn	**Pn**	**10 26 03.2**	**+1.1**
ISFB	**Sefidab**	**5.53**	**80**	Pn	**Pn**	**10 26 03.4**	**+1.0**
IZEF	**Zefreh**	**5.64**	**95**	Pn	**Pn**	**10 26 05.6**	**+1.5**
GURO	**Guroymak-BITLI**	**5.74**	**330**	Pn	**Pn**	**10 26 04.5**	**-0.8**
GNI	**Garni**	**6.58**	**354**	Pn	**Pn**	**10 26 16.5**	**-0.3**
GNI	**Garni**	**6.58**	**354**	P	**Pn**	**10 26 16.5**	**-0.3**
ANAR	**Anarak**	**6.77**	**91**	Pn	**Pn**	**10 26 21.3**	**+1.8**
ASF	**Jabal al Asfar**	**7.49**	**261**	Pn	**Pn**	**10 26 30.8**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=96,slow=12,SNR=4.3						
ASF				Lg	Lg	10 28 40.0	
	comp=Z,1.4nm,0.3s,baz=105,slow=22,SNR=11						
ASF				LR	LR	10 30 17.6	
	comp=Z,38nm,18.8s,baz=110,slow=45						
	comp=Z,2.0nm,0.5s						
GAZ	**Gaziantep**	**7.75**	**300**	Pn	**Pn**	**10 26 33.4**	**+0.5**
MMAI	**Mount Meron Ar**	**8.59**	**269**	Pn	**Pn**	**10 26 46.0**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=85,slow=16,SNR=1.7						
MMAI				Lg	Lg	10 29 15.4	
	comp=Z,3.4nm,0.3s,baz=111,slow=31,SNR=3.5						
MMAI				LR	LR	10 31 01.2	
	comp=Z,57nm,20.3s,baz=88,slow=44						
	comp=Z,0.6nm,0.3s						
GHAJ	**Ghor Haditha**	**8.82**	**258**	Pn	**Pn**	**10 26 47.1**	**-0.3**
EIL	**Elat**	**9.92**	**250**	LR	LR	10 32 03.3	
	comp=Z,69nm,18.9s,baz=65,slow=44						
RAYN	**Ar Rayn**	**10.04**	**181**	Pn	**Pn**	**10 27 03.8**	**-0.4**
RAYN	**Ar Rayn**	**10.04**	**181**	P	**Pn**	**10 27 03.8**	**-0.4**
KBZ	**Khabaz**	**10.34**	**349**	*e*P	**Pn**	**10 27 05.9**	**-2.3**
SHA1	**Shidzhatmaz**	**10.39**	**348**	*i*P	**Pn**	**10 27 06.3**	**-2.9**
KIV	**Kislovodsk**	**10.60**	**348**	*e*P	**Pn**	**10 27 09.4**	**-2.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,18nm,13.0s						
WSAR	**Wadi Sarin**	**15.38**	**129**	Pn	**Pn**	**10 28 15.6**	**-1.4**
	baz=324,slow=24,SNR=4.5						
VSR	**Storozhevoye**	**18.23**	**347**	*e*P	**Pn**	**10 28 50.5**	**-2.4**
VSR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BELG	**Belogornoye**	**18.84**	**4**	P	**P**	**10 28 58.1**	**-1.7**
	comp=Z,14nm,0.8s,baz=267,slow=5.3,SNR=5.0						
AB31	**Akbulak array**	**18.91**	**30**		**P**	**10 29 00.7**	**+0.1**
ABKAR	**Akbulak array**	**18.91**	**30**	P	**P**	**10 29 00.7**	**+0.1**
AKTO	**Aktyubinsk**	**19.13**	**25**	P	**P**	**10 29 01.4**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=212,slow=9.3,SNR=6.8						
	comp=Z,1.9nm,0.5s						
KBL	**Kabul**	**19.40**	**81**	P	**P**	**10 29 06.7**	**+0.3**
KBL				IAmb	IAmb	10 29 09.2	
	comp=Z,17nm,1.3s						
KBL	**Kabul**	**19.40**	**81**	P	**P**	**10 29 06.7**	**+0.3**
KBL				pmax	pmax		
	comp=Z,17nm,1.3s						
LPSR	**Galich'ya Gora**	**19.60**	**348**	*e*P	**P**	**10 29 04.1**	**-4.0**
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
GAR	**Garm**	**20.58**	**68**	P	Pn	10 29 21.3	+0.1
BURAR	**Bucovina Array**	**20.81**	**318**	P	**P**	**10 29 22.3**	**+0.9**
BUR08	**Bucovina Ar. S**	**20.84**	**318**		**P**	**10 29 21.8**	**+0.1**
AKASG	**Malin Array Be**	**20.90**	**330**	P	**P**	**10 29 22.3**	**0.0**
AKASG	**Malin Array Be**	**20.90**	**330**	P	**P**	**10 29 21.5**	**-0.8**
	comp=Z,3.7nm,0.6s,baz=140,slow=9.8,SNR=23						
	comp=Z,3.7nm,0.6s						
AKASG	**Malin Array Be**	**20.90**	**330**	P	**P**	**10 29 22.3**	**0.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKBB	**Malin Array Si**	**20.90**	**330**		**P**	**10 29 21.8**	**-0.5**
AKBB				IAmb	IAmb	10 29 22.0	
	comp=Z,6.2nm,0.7s						
AKBB	**Malin Array Si**	**20.90**	**330**	P	**P**	**10 29 21.8**	**-0.5**
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KIEV	**Kiev**	**20.91**	**330**		**P**	**10 29 21.3**	**-1.0**
KIEV	**Kiev**	**20.91**	**330**	P	**P**	**10 29 21.3**	**-1.0**
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KK31	**Karatay Array**	**21.62**	**57**		**P**	**10 29 30.4**	**+0.3**
KK31	**Karatay Array**	**21.62**	**57**	P	**P**	**10 29 30.4**	**+0.3**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KKAR	**Karatay Array**	**21.62**	**57**	P	**P**	**10 29 30.2**	**+0.1**
KKAR	**Karatay Array**	**21.62**	**57**		**P**	**10 29 30.4**	**+0.2**
KKAR	**Karatay Array**	**21.62**	**57**	P	**P**	**10 29 30.2**	**+0.1**
KKAR						10 29 30.4	
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
OBN	**Obninsk**	**22.43**	**346**	*e*P	**P**	**10 29 36.8**	**-1.8**
OBN				*e*PPP	PPP	10 30 07.9	
OBN				*e*		10 33 37.5	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,28nm,15.0s						
AAK	**Ala-Archa**	**24.33**	**60**	*e*P	**P**	**10 29 58.6**	**+0.6**
AAK				pmax	pmax		
	comp=Z,6.0nm,2.1s						
ARTI	**Arti**	**24.43**	**17**	P	**P**	**10 29 57.8**	**-0.7**
ARTI				IAmb	IAmb	10 30 32.9	
	comp=Z,5.2nm,0.5s						
ARTI	**Arti**	**24.43**	**17**	P	**P**	**10 29 58.2**	**-0.3**
ARTI						10 30 28.0	
ARTI				S	**S**	**10 34 20.0**	**+1.9**
ARTI				SS	**SnSn**	**10 35 02.2**	**+0.4**
BOOM	**Boomskoye usch**	**25.35**	**61**	P	**P**	**10 30 05.7**	**-1.5**
BOOM	**Boomskoye usch**	**25.35**	**61**	P	**P**	**10 30 05.7**	**-1.5**
BOOM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRVK	**Borovoye**	**26.23**	**35**	⇑*i*P	**P**	**10 30 14.5**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**26.26**	**35**	P	**P**	**10 30 15.7**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=230,slow=8.6,SNR=9.0						
	comp=Z,1.3nm,0.5s						
KLMR	**Klimovskoe**	**27.56**	**354**	*e*P	**P**	**10 30 23.2**	**-3.5**
KLMR				pmax	pmax		
	comp=Z,17nm,1.8s						
KURBB	**Kurchatov Arra**	**29.42**	**45**	P	**P**	**10 30 43.6**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=252,slow=9.0,SNR=8.2						
	comp=Z,1.5nm,0.8s						
KURK	**Kurchatov**	**29.51**	**45**	*d*⇑*i*P	**P**	**10 30 44.9**	**+0.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**30.65**	**54**	*c*⇑*i*P	**P**	**10 30 54.4**	**0.0**
MKAR	**Makanchi Array**	**30.65**	**54**		**P**	**10 30 54.8**	**+0.4**
MKAR	**Makanchi Array**	**30.65**	**54**	P	**P**	**10 30 54.5**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=251,slow=7.7,SNR=15						
	comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**30.65**	**54**	P	**P**	**10 30 54.8**	**+0.4**
BNI	**Bardonecchia**	**31.95**	**303**	P	**P**	**10 31 07.1**	**+1.1**
BNI	**Bardonecchia**	**31.95**	**303**	P	**P**	**10 31 07.1**	**+1.1**
BNI				pmax	pmax		
	comp=Z,12nm,1.3s						
HFS	**Hagfors**	**33.77**	**332**	P	**P**	**10 31 21.2**	**-0.3**
	comp=Z,2.8nm,0.4s,baz=136,slow=9.4,SNR=23						
	comp=Z,2.8nm,0.4s						
ZAA0	**Zalesovo Array**	**34.24**	**42**	P	**P**	**10 31 25.6**	**-0.1**
ZAA0				IAmb	IAmb	10 31 25.8	
	comp=Z,3.1nm,0.6s						
ZALV	**Zalesovo Beam**	**34.24**	**42**	P	**P**	**10 31 25.1**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=247,slow=7.8,SNR=8.5						
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**35.29**	**332**	P	**P**	**10 31 33.5**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=137,slow=7.9,SNR=1.5						
	comp=Z,0.5nm,0.6s						
PALK	**Pallekele**	**41.66**	**121**	⇑*i*P	P	10 32 34.1	+5.3
NRIK	**Noril'sk**	**42.66**	**20**	P	**P**	**10 32 37.5**	**+1.2**
NRIK				IAmb	IAmb	10 32 42.7	
	comp=Z,8.6nm,1.4s						
NRIK	**Noril'sk**	**42.66**	**20**	P	**P**	**10 32 37.2**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=231,slow=7.4,SNR=3.8						
	comp=Z,2.4nm,0.7s						
NRIK	**Noril'sk**	**42.66**	**20**	P	**P**	**10 32 37.5**	**+1.2**
NRIK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
SPB2	**Spitsbergen Ar**	**46.44**	**352**	P	**P**	**10 33 06.9**	**+0.6**
SPITS	**Spitsbergen Ar**	**46.44**	**352**	P	**P**	**10 33 06.8**	**+0.4**
	comp=Z,11nm,0.9s,baz=131,slow=11,SNR=10						
	comp=Z,11nm,0.9s						
SPITS	**Spitsbergen Ar**	**46.44**	**352**	P	**P**	**10 33 07.0**	**+0.6**
SPITS				pmax	pmax		
	comp=Z,23nm,1.2s						
ULN	**Ulaanbaatar**	**47.46**	**53**	⇑*e*P	**P**	**10 33 15.4**	**+0.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PZH	**PanZhiHua**	**48.58**	**83**	P	**P**	**10 33 24.9**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
CMAR	**Chiang Mai Arr**	**49.70**	**94**	P	**P**	**10 33 31.6**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=283,slow=8.2,SNR=4.8						
	comp=Z,0.9nm,0.4s						
BORG	**Borgarnes**	**50.39**	**329**	*c*e*P	**P**	**10 33 35.8**	**-1.1**
HHC	**Hu-ho-hao-te**	**51.89**	**62**	*e*P	**P**	**10 33 49.4**	**+0.7**
TIXI	**Tiksi**	**56.38**	**22**	⇑*i*P	**P**	**10 34 20.8**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
EUNU	**Eureka**	**63.57**	**352**	P	**P**	**10 35 11.0**	**+0.8**
EUNU				IAmb	IAmb	10 35 11.9	
	comp=Z,3.8nm,1.1s						
ILON	**Igloolik, Nuna**	**70.42**	**343**	P	**P**	**10 35 54.1**	**+0.4**
A36M	**Sachs Harbour**	**74.51**	**357**	P	**P**	**10 36 19.0**	**+0.9**
B21K	**Ikpikpuk River**	**76.02**	**7**	P	**P**	**10 36 27.7**	**+0.8**
C18K	**Utukok River**	**76.13**	**10**	P	**P**	**10 36 28.1**	**+0.5**
D19K	**Kuna River**	**76.69**	**9**	P	**P**	**10 36 30.8**	**+0.1**
D19K				IAmb	IAmb	10 36 32.4	
	comp=Z,4.8nm,1.0s						
D22K	**Ayikyak River**	**76.93**	**7**	P	**P**	**10 36 31.3**	**-0.7**
D22K				IAmb	IAmb	10 36 33.9	
	comp=Z,1.7nm,0.9s						
D23K	**Nanushuk River**	**77.03**	**6**	P	**P**	**10 36 33.3**	**+0.6**
D23K				IAmb	IAmb	10 36 35.7	
	comp=Z,6.6nm,1.4s						
TOLK	**Toolik Lake Re**	**77.44**	**6**	P	**P**	**10 36 36.3**	**+1.3**
E22K	**Anaktuvuk Pass**	**77.74**	**7**	P	**P**	**10 36 36.6**	**0.0**
E22K				IAmb	IAmb	10 36 42.1	
	comp=Z,1.7nm,0.9s						
E19K	**Redstone River**	**77.78**	**9**	P	**P**	**10 36 37.4**	**+0.6**
E19K				IAmb	IAmb	10 36 38.6	
	comp=Z,4.6nm,1.1s						
E23K	**Chandalar**	**78.01**	**6**	P	**P**	**10 36 38.7**	**+0.5**
E23K				IAmb	IAmb	10 36 40.3	
	comp=Z,2.0nm,0.9s						
F17K	**Baldwin Pennin**	**78.16**	**11**	P	**P**	**10 36 40.0**	**+1.0**
F17K				IAmb	IAmb	10 36 40.2	
	comp=Z,2.8nm,1.0s						
E25K	**Arctic Village**	**78.24**	**4**	P	**P**	**10 36 39.3**	**-0.1**
E25K				IAmb	IAmb	10 36 44.5	
	comp=Z,6.8nm,1.4s						
E29M	**Blow River**	**78.29**	**1**	P	**P**	**10 36 40.9**	**+1.3**
E29M				IAmb	IAmb	10 36 41.9	
	comp=Z,3.5nm,1.0s						
F19K	**Shaleruckik Mo**	**78.30**	**9**	P	**P**	**10 36 39.7**	**0.0**
F19K				IAmb	IAmb	10 36 41.0	
	comp=Z,3.5nm,1.0s						
F24K	**Squaw Lake**	**78.68**	**5**	P	**P**	**10 36 41.5**	**-0.4**
F24K				IAmb	IAmb	10 37 03.0	
	comp=Z,2.9nm,1.3s						
G18K	**Tagagawik**	**79.06**	**10**	P	**P**	**10 36 44.8**	**+0.8**
G18K				IAmb	IAmb	10 36 45.5	
	comp=Z,2.2nm,0.9s						
F30M	**Barrier River**	**79.10**	**1**	P	**P**	**10 36 45.6**	**+1.4**
F30M				IAmb	IAmb	10 36 52.6	
	comp=Z,3.1nm,0.9s						
G21K	**Allakaket**	**79.13**	**8**	P	**P**	**10 36 45.6**	**+1.3**
G21K				IAmb	IAmb	10 36 53.9	
	comp=Z,2.4nm,0.9s						
H18K	**Honhosa River**	**79.80**	**10**	P	**P**	**10 36 49.5**	**+1.4**
H21K	**Melozitna Rive**	**80.03**	**8**	P	**P**	**10 36 50.5**	**+1.2**
H21K				IAmb	IAmb	10 36 51.3	
	comp=Z,2.1nm,0.8s						
H29M	**Whitestone**	**80.45**	**2**	P	**P**	**10 36 52.2**	**+0.7**
I26K	**Coal Creek Min**	**81.18**	**4**	P	**P**	**10 36 55.6**	**+0.2**
ILAR	**Eielson Array**	**81.46**	**5**	P	**P**	**10 36 56.5**	**-0.4**
ILAR	**Eielson Array**	**81.46**	**5**	P	**P**	**10 36 56.1**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=335,slow=3.9,SNR=6.2						
	comp=Z,0.6nm,0.9s						
ILAR	**Eielson Array**	**81.46**	**5**	P	**P**	**10 36 56.5**	**-0.4**
I30M	**Mount Dempster**	**81.49**	**1**	P	**P**	**10 36 57.7**	**+0.4**
I30M				IAmb	IAmb	10 37 40.6	
	comp=Z,2.3nm,1.2s						
YKA	**Yellowknife Ar**	**82.93**	**351**	P	**P**	**10 37 04.3**	**-0.3**
YKA	**Yellowknife Ar**	**82.93**	**351**	P	**P**	**10 37 03.5**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=26,slow=5.9,SNR=5.8						
	comp=Z,0.5nm,0.9s						
YKA	**Yellowknife Ar**	**82.93**	**351**	*i*P	**P**	**10 37 04.5**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
PMR	**Palmer**	**84.39**	**7**	P	**P**	**10 37 12.7**	**+0.6**
PMR	**Palmer**	**84.39**	**7**	P	**P**	**10 37 12.7**	**+0.6**
PMR				pmax	pmax		
	comp=Z,10.0nm,1.4s						

KRSC 23 10:42:37.2±1.6, 48°.28N×156°.98E, h16km±30km, MI3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**3.19**	**358**	*e*S	Sb	10 44 08.3	-3.7
KDTR	**Khodutka, Kamc**	**3.60**	**11**	*e*P	Pn	10 43 35.5	+3.3
KDTR				*e*S	Sb	10 44 19.3	-4.5
RUS	**Russkaya**	**4.27**	**13**	*e*P	Pn	10 43 44.5	+3.1
RUS				*e*S	Sn	10 44 36.9	+6.1
MTVR	**Mutnovka**	**4.28**	**10**	*e*P	Pn	10 43 45.4	+3.7
MTVR				*e*S	Sb	10 44 37.5	-5.9
GRL	**Gorelyy**	**4.33**	**9**	*e*P	Pn	10 43 46.3	+3.9
GRL				*e*S	Sn	10 44 37.9	+5.3
KRMR	**Karymshinskiy**	**4.61**	**9**	*e*P	Pn	10 43 50.3	+4.2
DALK	**Dalny**	**4.89**	**13**	*e*P	Pn	10 43 53.7	+3.8
DALK				*e*S	Sn	10 44 51.2	+5.2
UGLR	**Uglovaya**	**5.07**	**13**	*e*P	Pn	10 43 57.0	+4.5
AVH	**Avacha**	**5.11**	**12**	*e*P	Pn	10 43 58.0	+4.9
KOK	**Koryaka**	**5.12**	**11**	*e*P	Pn	10 43 58.3	+5.0
SDLR	**Sedlovina**	**5.15**	**13**	*e*P	Pn	10 43 57.3	+3.8
KRX	**Arik**	**5.19**	**11**	*e*P	Pn	10 43 58.8	+4.5
KBTR	**Krutoberegovo**	**8.71**	**22**	*e*P	Pn	10 44 47.4	+5.1

ISN ***23*** *10:43:49.4±0.3, 33°.79N×45°.65E, h9km±1km, ML2.7*
TEH ***23*** *10:43:49.8, 33°.79N×45°.65E, h14km±34km*

ISC 23 10:43:49.6±0.9, 33°.77N±0°.03×45°.65E±0°.05, h10km, n11, σ0°.57/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.41**	**32**	Pg	**Pb**	**10 43 58.6**	**-0.4**
IBDR	**Badra**	**0.70**	**160**	*e*Pg	**Pg**	**10 44 03.5

*ISK **23** 11:02:37.9, 37.°19N×36.°15E, h9km, ML2.3/12*
*AFAD **23** 11:02:38.3, 37.°17N×36.°20E, h7km±2km, ML2.6*
ISC 23 11:02:38.2±1.0, 37.°18N±0.°03×36.°18E±0.°02, h8km±10km, n21, σ0.°60/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.38**	**244**	Pg	**Pg**	**11 02 46.2**	**+0.6**
CEYT				Sg	**Sg**	**11 02 51.1**	**+0.4**
KAMA	**Osmaniye**	**0.39**	**89**	P	**Pg**	**11 02 45.5**	**-0.4**
KAMA				S	**Sg**	**11 02 49.1**	**-2.0**
KOZT	**Kozan**	**0.41**	**317**	Pg	**Pg**	**11 02 46.2**	**0.0**
KOZT				Sg	**Sg**	**11 02 52.1**	**+0.4**
ANDN	**Andirin**	**0.42**	**18**	P	**Pg**	**11 02 46.6**	**+0.1**
ANDN				S	**Sg**	**11 02 52.9**	**+0.8**
ANDN				*i* AML	AML	11 02 54.0	
	comp=E,438nm,0.3s						
ANDN				*i* AML	AML	11 02 56.0	
	comp=N,329nm,0.5s						
HASA	**Hatay-Hassa-Ha**	**0.49**	**150**	P	**Pg**	**11 02 47.8**	**+0.1**
HASA				S	**Sg**	**11 02 54.8**	**+0.6**
HASA				*i* AML	AML	11 02 55.0	
	comp=E,716nm,0.2s						
HASA				*i* AML	AML	11 02 56.0	
	comp=N,456nm,0.1s						
KMRS	**Kahramanmaras**	**0.66**	**60**	Pg	**Pg**	**11 02 50.8**	**-0.2**
TAHT	**Tahtakopru-Hat**	**0.80**	**180**	Pg	**Pb**	**11 02 54.0**	**-0.3**
KHMN	**Narli-Kahraman**	**0.81**	**74**	Pg	**Pb**	**11 02 54.5**	**-0.1**
KUZU	**Kuzuini**	**0.82**	**119**	P	**Pb**	**11 02 54.4**	**-0.4**
KUZU				S	**Sg**	**11 03 05.2**	**+0.4**
KUZU				*i* AML	AML	11 03 07.0	
	comp=E,361nm,0.2s						
KUZU				*i* AML	AML	11 03 10.0	
	comp=N,323nm,0.3s						
GAZ	**Gaziantep**	**0.83**	**90**	Pg	**Pb**	**11 02 54.9**	**+0.1**
KARA	**Karaisali**	**0.90**	**276**	Pg	**Pg**	**11 02 55.0**	**-0.5**
RHAN	**Hatay/Reyhanl**	**0.98**	**159**	P	**Pn**	**11 02 58.1**	**-0.1**
RHAN				S	**Sb**	**11 03 11.1**	**+0.6**
RHAN				*i* AML	AML	11 03 13.0	
	comp=N,263nm,0.3s						
RHAN				*i* AML	AML	11 03 15.0	
	comp=E,140nm,0.4s						
CMRD	**Camardi-Nigde**	**1.06**	**297**	Pg	**Pg**	**11 02 57.6**	**-1.0**
GZT	**Gaziantep**	**1.12**	**80**	P	**Pn**	**11 03 00.1**	**-0.2**
GZT				S	**Sb**	**11 03 15.1**	**+0.3**
GZT				*i* AML	AML	11 03 17.0	
	comp=N,189nm,0.4s						
GZT				*i* AML	AML	11 03 19.0	
	comp=E,168nm,0.2s						
NZIP	**Nizip/Gaziante**	**1.20**	**96**	P	**Pn**	**11 03 01.8**	**+0.3**
NZIP				S	**Sn**	**11 03 18.1**	**+0.2**
NZIP				*i* AML	AML	11 03 19.0	
	comp=E,211nm,0.4s						
NZIP				*i* AML	AML	11 03 27.0	
	comp=N,117nm,0.3s						
SARI	**SarD1z-Kayseri**	**1.24**	**9**	Pn	**Pn**	**11 03 02.1**	**+0.1**
MERS	**Mersin**	**1.36**	**257**	Pn	**Pn**	**11 03 02.5**	**-1.0**
BNN	**Bunyan**	**1.69**	**351**	Pn	**Pn**	**11 03 08.3**	**+0.1**
DARE	**Darende-Malaty**	**1.73**	**36**	Pn	**Pn**	**11 03 09.1**	**+0.4**
GULA	**Gulagac**	**1.93**	**308**	Pn	**Pn**	**11 03 11.4**	**0.0**
KEBE	**Keben-Mersin**	**2.11**	**251**	Pn	**Pn**	**11 03 14.1**	**+0.3**

*IDC **23** 11:11:11.9±1.2, 7.°76N×126.°37E, h162km±10km, mb3.6/11, mbtmp4.0/11, Error ellipse: s-maj=33.0km s-min=13.0km az=73.0*
ISC 23 11:11:10.6±0.7, 7.°8N±0.°1×126.°5E±0.°2, h150km, n13, σ0.°91/17, mb3.9/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.22**	**232**	P	**Pn**	**11 11 37.8**	**+0.4**
	305nm,0.4s,baz=33,slow=2.6,SNR=7.3						
DAV				S	**Sn**	**11 11 58.6**	**+0.8**
	322nm,0.6s,baz=100,slow=23,SNR=19						
FITZ	**Fitzroy Crossi**	**25.78**	**182**	P	**P**	**11 16 27.6**	**-0.1**
	2.8nm,0.8s,baz=4.0,slow=8.8,SNR=6.1						
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**28.65**	**165**	P	**P**	**11 16 51.8**	**-1.6**
	0.4nm,0.6s,baz=344,slow=8.6,SNR=2.0						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**32.12**	**167**	P	**P**	**11 17 23.4**	**-0.5**
	0.4nm,0.5s,baz=348,slow=7.4,SNR=8.6						
ASAR				PcP	**PcP**	**11 20 10.1**	**+0.4**
	0.4nm,0.4s,baz=350,slow=2.3,SNR=9.0						
	0.4nm,0.5s						
PETK	**Petropavlovsk-**	**51.74**	**23**	P	**P**	**11 20 04.2**	**+1.8**
	2.4nm,1.0s,baz=224,slow=8.0,SNR=6.8						
	2.4nm,1.0s						
MKAR	**Makanchi Array**	**54.13**	**324**	P	**P**	**11 20 20.4**	**+0.2**
	2.8nm,0.4s,baz=118,slow=7.0,SNR=34						
MKAR				PcP	**PcP**	**11 21 22.8**	**-0.1**
	1.8nm,0.7s,baz=112,slow=3.6,SNR=12						
	2.8nm,0.4s						
KURBB	**Kurchatov Arra**	**58.23**	**326**	P	**P**	**11 20 48.3**	**-0.7**
	1.1nm,0.5s,baz=125,slow=6.2,SNR=7.9						
	1.1nm,0.5s						
BVAR	**Borovoye Array**	**63.82**	**326**	P	**P**	**11 21 26.4**	**-0.3**
	1.6nm,0.8s,baz=116,slow=8.4,SNR=6.7						
BVAR				PcP	**PcP**	**11 22 00.8**	**-0.5**
	1.2nm,0.7s,baz=90,slow=3.0,SNR=5.8						
	1.6nm,0.8s						
ILAR	**Eielson Array**	**81.50**	**26**	P	**P**	**11 23 11.2**	**+0.2**
	0.2nm,0.5s,baz=275,slow=5.0,SNR=5.8						
	0.2nm,0.5s						
VNDA	**Vanda**	**87.49**	**173**	P	**P**	**11 23 41.1**	**+0.3**
	0.6nm,0.5s,baz=310,slow=8.6,SNR=6.1						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**88.15**	**332**	P	**P**	**11 23 43.0**	**-1.2**
	1.3nm,0.5s,baz=68,slow=5.1,SNR=7.2						
	1.3nm,0.5s						
HFS	**Hagfors**	**94.32**	**332**	P	**P**	**11 24 11.5**	**-1.4**
	1.1nm,0.7s,baz=60,slow=9.0,SNR=1.8						
	1.1nm,0.7s						
TXAR	**Lajitas Array**	**119.19**	**50**	PKP	**PKPdf**	**11 29 43.2**	**+0.6**
	0.2nm,0.6s,baz=311,slow=3.1,SNR=2.4						

*RSNC **23** 11:28:45.4±0.3, 9.°N±3.°×7.°1W±.°, h0km, M2.0, ML1.9*
*FUNV **23** 11:28:48.7, 8.°78N×71.°12W, h17km, MW3.2*
ISC 23 11:28:46.3±1.6, 9.°04N±0.°06×71.°21W±0.°04, h14km±12km, n11, σ1.°9±30/20, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.59**	**105**	P	**Pg**	**11 28 57.5**	**-0.4**
SDV				S	**Sg**	**11 29 05.8**	**0.0**
CAPV	**Capacho**	**1.60**	**223**	*e*P	**Pn**	**11 29 15.1**	**+0.8**
CAPV				*e*S	**Sn**	**11 29 33.8**	**-1.0**
TEPV	**Terepaima**	**2.19**	**65**	*e*P	**Pn**	**11 29 24.5**	**+2.1**
TEPV				*e*S	**Sn**	**11 29 51.1**	**+1.7**
OCAC	**Ocana**	**2.23**	**249**	P	**Pn**	**11 29 22.8**	**-0.2**
OCAC				S	**Sn**	**11 29 51.4**	**+1.0**
PAMC	**Pamplona, Colo**	**2.24**	**221**	P	**Pn**	**11 29 24.5**	**+1.1**
PAMC				S	**Sb**	**11 29 55.0**	**+0.4**
CRJC	**Cerrejon, Guaj**	**2.57**	**320**	P	**Pn**	**11 29 27.7**	**+0.2**
URIC	**Uribia, Colomb**	**2.76**	**344**	P	**Pn**	**11 29 29.9**	**-0.2**
BAUV	**El Baul**	**3.13**	**91**	*e*P	**Pn**	**11 29 35.4**	**+0.2**
BAUV				*e*S	**Sn**	**11 30 09.5**	**-2.9**
RUSC	**La Rusia**	**3.63**	**211**	P	**Pn**	**11 29 43.0**	**+0.4**
RUSC				S	**Sn**	**11 30 25.1**	**-0.4**
BENV	**Beln**	**3.68**	**75**	*e*P	**Pn**	**11 29 43.9**	**+1.1**
BENV				*e*S	**Sn**	**11 30 24.2**	**-1.9**
ZARC	**Zaragoza, Cauc**	**3.92**	**247**	P	**Pn**	**11 29 46.8**	**+0.7**
ZARC				S	**Sn**	**11 30 30.9**	**-1.1**

*NEIC **23** 11:29:03.3±2.3, 29.°02N±0.°05×97.°59W±0.°04, h5km±2km, mb_Lg2.1/14, Error ellipse: s-maj=11.0km s-min=3.0km az=145.0*
*TXNET **23** 11:29:04.2, 29.°N±.°×97.°6W±0.°9, h6km±2km, ML2.2/9, Error ellipse: s-maj=1.8km s-min=1.2km az=158.9, final*
ISC 23 11:29:04.5±0.9, 29.°11N±0.°03×97.°64W±0.°03, h10km±6km, n35, σ1.°9±13/47, 1C, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EF05	**Yorktown**	**0.16**	**140**	⇑P	**Pg**	**11 29 07.6**	**-0.4**
EF05				S	**Sg**	**11 29 11.8**	**+1.3**
EF53	**Gillett**	**0.16**	**249**	P	**Pg**	**11 29 07.8**	**-0.2**
EF53				S	**Sg**	**11 29 12.4**	**+2.0**
EF04	**Eagle Ford 04**	**0.17**	**306**	P	**Pg**	**11 29 07.1**	**-1.0**
EF04				S	**Sg**	**11 29 10.2**	**-0.5**
EF73	**North Karnes**	**0.26**	**241**	P	**Pb**	**11 29 10.4**	**-0.9**
735A	**Kenedy**	**0.30**	**211**	P	**Pb**	**11 29 10.7**	**-1.1**
735A				S	**Sb**	**11 29 16.5**	**-0.3**
EF61	**Poth**	**0.30**	**272**	P	**Pg**	**11 29 10.3**	**-0.3**
EF61				S	**Sg**	**11 29 15.3**	**+0.5**
EF75	**Tulsita**	**0.45**	**203**	P	**Pn**	**11 29 15.1**	**-1.9**
EF75				S	**Sb**	**11 29 23.9**	**+2.6**
EF68	**Kenedy**	**0.46**	**222**	P	**Pn**	**11 29 15.9**	**-1.2**
EF68				S	**Sb**	**11 29 24.6**	**+3.1**
EF66	**Yoakum**	**0.51**	**62**	P	**Pg**	**11 29 13.7**	**-0.7**
EF66				S	**Sb**	**11 29 22.1**	**-0.8**
EF71	**Pawnee**	**0.60**	**217**	P	**Pn**	**11 29 17.2**	**-1.8**
EF71				S	**Sn**	**11 29 28.2**	**-0.6**
EF59	**Coughran**	**0.71**	**257**	P	**Pg**	**11 29 17.5**	**-0.6**
EF59				S	**Sb**	**11 29 28.4**	**-0.2**
EF65	**Schulenburg**	**0.80**	**46**	P	**Pg**	**11 29 19.7**	**-0.2**
EF65				S	**Sb**	**11 29 31.7**	**+0.5**
EF51	**Christine**	**0.82**	**247**	P	**Pn**	**11 29 21.5**	**-0.5**
MLDN	**Muldoon**	**0.83**	**36**	**Pg**	**11 29 19.6**	**-1.0**
MLDN				IAmb_Lg		11 29 30.6	
	comp=Z,17nm,0.7s						
MLDN				Sg	**Sg**	**11 29 32.1**	**+0.7**
MLDN	**Muldoon**	**0.83**	**36**	P	**Pg**	**11 29 20.4**	**-0.1**
MLDN				S	**Sg**	**11 29 32.2**	**+0.8**
EF74	**Calliham**	**0.97**	**226**	P	**Pn**	**11 29 24.1**	**+0.1**
EF74				S	**Sn**	**11 29 39.9**	**+2.1**
HNDO	**Hondo**	**1.50**	**286**		**Pn**	**11 29 29.8**	**-1.6**
HNDO					**Sn**	**11 29 51.2**	**+0.2**
HNDO	**Hondo**	**1.50**	**286**	P	**Pn**	**11 29 29.9**	**-1.5**
HNDO				S	**Sn**	**11 29 51.0**	**0.0**
435B	**Jarrell**	**1.67**	**1**	Pn	**Pn**	**11 29 33.1**	**-0.6**
435B	**Jarrell**	**1.67**	**1**	P	**Pn**	**11 29 33.5**	**-0.2**
435B				S	**Sn**	**11 29 56.2**	**+1.1**
JCT	**Junction City**	**2.33**	**306**	Pn	**Pn**	**11 29 42.8**	**0.0**
JCT				IAmb_Lg		11 30 24.3	
	comp=Z,8.5nm,0.8s						
JCT	**Junction City**	**2.33**	**306**	P	**Pn**	**11 29 43.8**	**+0.9**
BRDY	**Brady**	**2.47**	**332**	Pn	**Pn**	**11 29 44.4**	**-0.4**
BRDY				IAmb_Lg		11 30 30.8	
	comp=Z,6.5nm,0.7s						
BRDY	**Brady**	**2.47**	**332**	P	**Pn**	**11 29 44.4**	**-0.4**
DRIO	**Del Rio**	**2.63**	**277**	Pn	**Pn**	**11 29 46.8**	**-0.2**
WHTX	**Lake Whitney,**	**2.87**	**3**	Pn	**Pn**	**11 29 50.9**	**+0.6**
OZNA	**Ozona**	**3.52**	**302**	Pn	**Pn**	**11 29 59.9**	**+0.6**
ABTX	**Abilene, Hawle**	**3.90**	**334**	IAmb_Lg		11 31 14.7	
	comp=Z,3.7nm,0.7s						
SAND	**Sanderson**	**4.00**	**283**	IAmb_Lg		11 31 19.3	
	comp=Z,5.9nm,1.2s						
APMT	**Aspermont**	**4.71**	**334**	Pn	**Pn**	**11 30 15.7**	**+0.1**
SN07	**Snyder 07**	**4.85**	**326**	IAmb_Lg		11 31 43.2	
	comp=Z,5.6nm,0.9s						
POST	**Post**	**5.15**	**321**	Pn	**Pn**	**11 30 20.2**	**-1.5**
ALPN	**Alpine**	**5.37**	**285**	IAmb_Lg		11 32 01.1	
	comp=Z,2.9nm,0.8s						
WMOK	**Wichita Mounta**	**5.69**	**350**	Pn	**Pn**	**11 30 29.8**	**+0.7**
SMWD	**Samnorwood**	**6.37**	**340**	IAmb_Lg		11 32 41.7	
	comp=Z,3.8nm,0.8s						

TEH 23 11:33:35.0, 33.°76N×45.°62E, h5km, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.43**	**35**	Pg	Pg	11 33 43.8	+0.5
GLG1				Sg	Sb	11 33 50.8	-1.1
IGHG	**Ghaleghazi**	**0.97**	**54**	Pg	Pn	11 33 55.1	-0.4
IDHR	**Dehrash**	**1.14**	**34**	Pg	Pn	11 33 58.6	+0.9
ILIN	**Lien**	**1.61**	**44**	Pg	Pg	11 34 05.6	-0.2

ISN 23 11:33:55.2±0.4, 33.°94N×45.°89E, h6km±2km, ML2.7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.83**	**178**	*e*Pg	Pg	11 34 11.0	-0.1
IBDR				*e*Sg	Sb	11 34 23.0	-0.3
IBDR				AML	AML	11 34 30.2	
	comp=N,254nm,0.4s						
IBDR				AML	AML	11 34 31.0	
	comp=E,205nm,0.3s						
BHD	**Baghdad**	**1.43**	**243**	*e*Pn	Pg	11 34 23.5	+0.9
BHD				*e*Sn	Sg	11 34 43.7	+2.6
IKRK	**Kirkuk**	**1.94**	**319**	*e*Pn	Pb	11 34 30.5	-0.5
IKRK				*e*Sn	Sg	11 34 56.5	-1.1
IKRK				AML	AML	11 35 08.9	
	comp=N,93nm,0.5s						
IKRK				AML	AML	11 35 14.6	
	comp=E,111nm,0.5s						
RAFI	**Al-Rafai**	**2.22**	**175**	*e*Pn	Pb	11 34 34.2	-1.5
RAFI				*e*Sn	Sb	11 35 03.0	-0.3

IDC 23 12:01:27.4±1.9, 18.°32S×177.°97W, h622km±21km, mb2.7/4, mbtmp3.7/5, Error ellipse: s-maj=38.4km s-min=25.4km az=172.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.83**	**278**	P	P	12 02 53.0	-0.4
	45nm,0.6s,baz=136,slow=18,SNR=26						
WRA	**Warramunga Arr**	**44.97**	**260**	P	P	12 08 49.4	0.0
	0.2nm,0.2s,baz=97,slow=7.6,SNR=12						
WRA				PcP	PcP	12 10 15.6	-1.2
	0.1nm,0.5s,baz=98,slow=3.2,SNR=1.5						
	0.2nm,0.2s						
ASAR	**Alice Springs**	**45.08**	**255**	P	P	12 08 50.6	+0.4
	0.3nm,0.4s,baz=93,slow=7.6,SNR=12						
ASAR				PcP	PcP	12 10 16.6	-0.7
	0.1nm,0.4s,baz=94,slow=3.6,SNR=5.9						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**71.73**	**180**	P	P	12 11 48.2	+0.2
	0.7nm,0.6s,baz=86,slow=2.1,SNR=8.6						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**85.87**	**57**	P	P	12 13 03.5	+0.3
	0.7nm,0.8s,baz=223,slow=4.6,SNR=6.9						
	0.7nm,0.8s						

IDC 23 12:19:25.7±1.7, 21.°64S×179.°64E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=163.3km s-min=26.1km az=172.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**29.25**	**87**	P	P	12 25 29.7	0.0
	29nm,0.6s,baz=143,slow=8.3,SNR=4.3						
STKA	**Stephens Creek**	**35.31**	**245**	P	P	12 26 22.0	-0.7
	1.6nm,0.7s,baz=80,slow=6.1,SNR=3.1						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**42.12**	**258**	P	P	12 27 19.8	-0.2
	0.5nm,0.7s,baz=100,slow=7.7,SNR=6.7						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**42.28**	**264**	P	P	12 27 21.6	+0.3
	0.4nm,0.9s,baz=96,slow=8.4,SNR=11						
	0.4nm,0.9s						

RSNC 23 12:49:25.4±0.0, 7.°N±1.°×7.°3W±.°, h144km±2km, M2.6, mb3.6, ML2.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**197**	P	Pn	12 49 45.0	-0.3
BARC				S	Sn	12 49 59.7	-0.7
BRJC	**Barrancabermej**	**0.64**	**286**	P	Pn	12 49 46.8	-0.1
BRJC				S	Sn	12 50 02.9	-0.3
PAMC	**Pamplona, Colo**	**0.68**	**38**	P	Pn	12 49 47.8	+0.1
PAMC				S	Sn	12 50 04.6	0.0
RUSC	**La Rusia**	**0.90**	**178**	P	Pn	12 49 49.1	-0.3
RUSC				S	Sn	12 50 07.1	-0.5
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	P	Pn	12 49 51.9	-1.1
PTBC				S	Sn	12 50 12.3	-1.7
TAMC	**Tame, Arauca**	**1.37**	**105**	P	Pn	12 49 53.3	+0.1
TAMC				S	Sn	12 50 13.9	-0.5
OCAC	**Ocana**	**1.44**	**352**	P	Pn	12 49 53.3	-0.8
OCAC				S	Sn	12 50 15.3	-0.8
ZARC	**Zaragoza, Cauc**	**1.86**	**292**	P	Pn	12 49 57.7	-0.8
ZARC				S	Sn	12 50 23.2	-0.7
NORC	**Norcasia**	**2.13**	**235**	P	Pn	12 50 02.3	+0.5
NORC				S	Sn	12 50 29.2	-0.5
CHIC	**Chingaza**	**2.24**	**196**	P	Pn	12 50 01.6	-1.9
CHIC				S	Sn	12 50 31.8	-0.9
ROSC	**El Rosal**	**2.28**	**212**	P	Pn	12 50 04.7	+0.7
ROSC				S	Sn	12 50 37.4	+3.8
BOG	**Bogota**	**2.36**	**204**	P	Pn	12 50 10.1	+5.2
BOG				S	Sn	12 50 34.1	-1.1
UREC	**San Jos de Ur**	**2.57**	**292**	P	Pn	12 50 05.8	-1.4
UREC				S	Sn	12 50 36.6	-2.8
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	12 50 10.4	+0.8
GUY2C				S	Sn	12 50 45.6	+2.1
PTGC	**Puerto Gaitan,**	**2.76**	**159**	P	Pn	12 50 07.7	-1.9
PTGC				S	Sn	12 50 41.7	-2.0
CBOC	**Ciudad Bolivar**	**3.02**	**252**	P	Pn	12 50 12.8	-0.2
CBOC				S	Sn	12 50 48.9	-0.8
DBBC	**Dabeiba**	**3.08**	**274**	P	Pn	12 50 13.1	-0.5
SDV	**Santo Domingo**	**3.22**	**50**	P	Pn	12 50 14.6	-1.0
SDV				S	Sn	12 50 51.5	-2.8
PRAC	**Prado**	**3.53**	**210**	P	Pn	12 50 19.2	-0.3
PRAC				S	Sn	12 51 00.3	-1.1
APAC	**Apartado, Choc**	**3.60**	**288**	P	Pn	12 50 18.9	-1.4
APAC				S	Sn	12 51 02.1	-0.8
SJCC	**San Jacinto, C**	**3.69**	**327**	P	Pn	12 50 19.4	-2.1
SJCC				S	Sn	12 51 00.5	-4.6
URMC	**La Uribe, Meta**	**3.75**	**200**	P	Pn	12 50 21.9	-0.4
URMC				S	Sn	12 51 07.1	+0.7
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	P	Pn	12 50 25.7	-2.5
CRJC				S	Sn	12 51 12.1	-5.0
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	12 50 35.6	-3.1

*IDC **23** 12:51:35.4±9.0, 4.°91N×125.°27E, h347km±103km, mb2.7/6, mbtmp3.6/7, Error ellipse: s-maj=44.4km s-min=24.8km az=84.0*
ISC 23 12:51:35.8±1.1, 4.°9N±0.°2×125.°3E±0.°3, h350km, n7, σ0.°91/7, mb2.9/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**17.08**	**115**	P	**P**	**12 55 13.2**	**0.0**
	9.0nm,0.6s,baz=6.3,slow=18,SNR=4.7						
FITZ	**Fitzroy Crossi**	**22.89**	**179**	P	**P**	**12 56 10.4**	**+0.2**
	3.0nm,1.1s,baz=116,slow=11,SNR=2.2						
	3.0nm,1.1s						
WRA	**Warramunga Arr**	**26.27**	**160**	P	**P**	**12 56 39.0**	**-1.7**
	0.4nm,0.7s,baz=342,slow=9.7,SNR=5.7						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**29.64**	**164**	P	**P**	**12 57 10.4**	**+0.1**
	0.2nm,0.5s,baz=350,slow=8.8,SNR=6.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**55.76**	**325**	P	**P**	**13 00 36.8**	**-0.6**
	0.2nm,0.5s,baz=121,slow=7.4,SNR=2.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**59.96**	**328**	P	**P**	**13 01 06.2**	**0.0**
	0.2nm,0.4s,baz=130,slow=7.2,SNR=2.0						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**84.64**	**25**	P	**P**	**13 03 31.0**	**+0.5**
	0.1nm,0.5s,baz=248,slow=6.1,SNR=1.4						
	0.1nm,0.5s						

WEL 23 13:03:30.0±0.8, 31.°S±9.°×18.°0E±2.°3, h356km±15km, mB4.4/14, MLv4.5/8, Mw(mB)3.5/14, Error ellipse: s-maj=31.3km s-min=5.3km az=109.2, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.88**	**42**	S	S	13 05 15.4	-0.8
WCZ	**Waipu Caves**	**6.44**	**224**	P	Pn	13 05 07.4	+1.5
WMGZ	**Waiomatatini S**	**6.47**	**190**	P	Pn	13 05 08.5	+2.2
WMGZ				S	S	13 06 26.5	+1.9
HAZ	**Te Kaha**	**6.53**	**195**	P	P	13 05 07.8	-0.5
HAZ				S	S	13 06 26.6	+0.8
PKGZ	**Pakihiroa**	**6.58**	**193**	P	P	13 05 09.8	+0.9
PKGZ				S	S	13 06 28.4	+1.5
PUZ	**Puketiti**	**6.75**	**191**	P	P	13 05 10.2	-0.6
PUZ				S	S	13 06 28.8	-1.6
RUGZ	**Raukumara Rang**	**6.75**	**195**	P	Pn	13 05 09.8	+0.1
RUGZ				S	S	13 06 31.4	+0.6
TWGZ	**Tauwhareparae**	**6.90**	**193**	P	P	13 05 13.4	+0.8
TWGZ				S	S	13 06 36.5	+2.9
MWZ	**Matawai**	**7.14**	**195**	P	Pn	13 05 14.5	+0.4
MWZ				S	S	13 06 39.9	+1.0
CNGZ	**Carnagh Statio**	**7.16**	**191**	P	Pn	13 05 12.7	-1.5
CNGZ				S	S	13 06 42.2	+3.1
URZ	**Urewera**	**7.17**	**198**	P	Pn	13 05 13.7	-0.7
URZ				S	S	13 06 40.2	+0.8
RAGZ	**Rawiri**	**7.32**	**195**	P	Pn	13 05 16.0	-0.2
RAGZ				S	S	13 06 43.5	+0.7
RIGZ	**Rimuhau**	**7.45**	**193**	P	Pn	13 05 17.6	-0.1
RIGZ				S	S	13 06 45.6	+0.1
RTZ	**Ruatahuna**	**7.54**	**198**	P	Pn	13 05 18.7	-0.1
RTZ				S	S	13 06 46.5	-1.0
SNGZ	**Shannon Statio**	**7.61**	**195**	P	Pn	13 05 20.0	+0.5
SNGZ				S	S	13 06 49.4	+0.5
PRGZ	**Paritu Road**	**7.64**	**192**	P	Pn	13 05 20.1	+0.2
PRGZ				S	S	13 06 47.4	-2.1
MTHZ	**Maungataniwha**	**7.80**	**198**	P	Pn	13 05 21.4	-0.4
MTHZ				S	S	13 06 53.0	0.0
MHGZ	**Mahia Peninsul**	**7.86**	**191**	P	P	13 05 23.6	0.0
NMHZ	**Naumai**	**8.04**	**197**	P	Pn	13 05 24.2	-0.5
NMHZ				S	S	13 06 58.8	+0.5
ARHZ	**Aropaoanui**	**8.15**	**196**	P	Pn	13 05 25.6	-0.3
ARHZ				S	S	13 07 01.3	+0.8
MCHZ	**McNeill Hill**	**8.39**	**197**	P	Pn	13 05 27.7	-1.1
MCHZ				S	S	13 07 05.1	-0.7
KWHZ	**Kaweka Forest**	**8.45**	**199**	P	Pn	13 05 27.7	-1.8
KWHZ				S	S	13 07 04.0	-3.1
KRHZ	**Kereru**	**8.67**	**198**	P	Pn	13 05 29.5	-2.5
KRHZ				S	S	13 07 06.8	-5.0
KAHZ	**Kahuranaki**

UZB	**Uzynbulak**	**2.10 261**	*e*P	Pn	13 28 30.4	+0.6
	13nm,0.2s					
UZB			*e*S	Sb	13 28 58.7	-0.2
	15nm,0.4s					
KPKS	**Kokpek**	**2.30 270**	Pg	Pb	13 28 35.5	-0.3
	6.2nm,0.4s					
KPKS			Lg	Lg	13 29 07.5	
	23nm,0.3s					
KPKS	**Kokpek**	**2.30 270**	*e*P	Pb	13 28 35.5	-0.3
	6.2nm,0.4s					
KPKS			*e*S	Sg	13 29 07.5	+0.3
	23nm,0.3s					
SATY	**Saty**	**2.56 261**	Pg	Pb	13 28 39.0	-1.1
	6.8nm,0.2s					
SATY			Lg	Lg	13 29 13.6	
	22nm,0.3s					
ARXS	**Arharly**	**2.99 285**	Pg	Pb	13 28 48.8	+1.3
	2.1nm,0.4s					
ARXS			Lg	Lg	13 29 30.3	
	5.2nm,0.3s					
TNSS	**Tian-Shan**	**3.61 264**	Pg	Pb	13 28 57.7	-0.6
	1.1nm,0.1s					
TNSS			Lg	Lg	13 29 45.3	
	1.7nm,0.4s					
TNSS	**Tian-Shan**	**3.61 264**	*e*P	Pb	13 28 57.7	-0.6
	1.1nm,0.1s					
TNSS			*e*S	Sb	13 29 45.3	+2.5
	1.7nm,0.4s					
KTBS	**Karatobe**	**3.76 275**	Pg	Pb	13 29 01.7	+1.2
	1.1nm,0.3s					
KTBS			Lg	Lg	13 29 52.8	
	2.4nm,0.3s					
KST	**Kastek**	**4.32 266**	*e*P	Pb	13 29 11.7	+1.5
	0.7nm,0.2s					
KST			*e*S	Sg	13 30 09.3	-2.9
	3.0nm,0.3s					

*AFAD **23** 13:33:41.2,34°.90N×31°.90E,h7km±2km,ML2.0*
*NIC **23** 13:33:41.9,34°.83N×32°.07E,h22km,Ml2.6/8*
*ISK **23** 13:33:42.1,34°.78N×32°.17E,h20km,ML2.8/11*
*ATH **23** 13:33:42.7,34°.79N×32°.12E,h15km±6km,ML2.6/6,*
Manual Solution by A.Andreou First location: 2019/04/23 13:34:15, This location: 2019/04/23 13:48:27 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 7 km

ISC 23 13:33:43.2±1.7,34°.83N±0°.06×32°.16E±0°.07,h23km±7km, n33,σ1§24/58,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.24**	**38**	P	**Pb**	**13 33 48.8**	**-0.4**
AKMS				S	**Sb**	**13 33 53.7**	**+0.5**
AKMS				AML	AML	13 33 55.6	
	4.7nm,0.3s						
AKMS				AML	AML	13 33 57.0	
	5.0nm,0.2s						
AKMS	**Akamas**	**0.24**	**38**	P	**Pb**	**13 33 49.0**	**-0.2**
AKMS				S	**Sb**	**13 33 53.1**	**-0.1**
NATA	**Nata**	**0.34**	**98**	P	**Pb**	**13 33 50.3**	**-0.4**
NATA				S	**Sn**	**13 33 58.0**	**-1.1**
NATA				AML	AML	13 33 59.8	
	8.1nm,0.3s						
NATA				AML	AML	13 34 03.8	
	7.6nm,0.4s						
NATA	**Nata**	**0.34**	**98**	P	**Pb**	**13 33 50.2**	**-0.5**
NATA				S	**Sb**	**13 33 55.7**	**-0.2**
ALFC	**Alefka**	**0.49**	**48**	P	**Pb**	**13 33 52.9**	**-0.2**
ALFC				S	**Sn**	**13 34 01.9**	**-0.8**
ALFC				AML	AML	13 34 03.8	
	1.8nm,0.4s						
ALFC				AML	AML	13 34 05.1	
	2.4nm,0.4s						
ALFC	**Alefka**	**0.49**	**48**	P	**Pb**	**13 33 53.4**	**+0.3**
ALFC				S	**Sn**	**13 34 01.5**	**-1.2**
TROD	**Troodos**	**0.59**	**78**	P	**Pb**	**13 33 53.9**	**-1.2**
TROD				S	**Sn**	**13 34 04.5**	**-1.1**
TROD				AML	AML	13 34 12.8	
	0.6nm,0.3s						
TROD				AML	AML	13 34 13.2	
	0.5nm,0.3s						
TROD	**Troodos**	**0.59**	**78**	P	**Pb**	**13 33 53.9**	**-1.2**
TROD				S	**Sn**	**13 34 04.4**	**-1.1**
APOL	**The Sanctuary**	**0.60**	**105**	P	**Pb**	**13 33 55.2**	**+0.1**
APOL				S	**Sn**	**13 34 05.7**	**+0.3**
APOL				AML	AML	13 34 11.1	
	0.8nm,0.5s						
APOL				AML	AML	13 34 11.5	
	0.9nm,0.3s						
LEF	**Lefka**	**0.67**	**64**	Pg	**Pb**	**13 33 55.4**	**-0.8**
LEF				Sg	**Sb**	**13 34 05.2**	**+0.2**
LEF	**Lefka**	**0.67**	**64**	P	**Pn**	**13 33 57.0**	**-0.3**
LEF				S	**Sn**	**13 34 08.1**	**+1.1**
AKDN	**Akdeniz- Kıbrı**	**0.81**	**55**	Pg	**Pn**	**13 33 58.7**	**-0.6**
AKDN				Sg	**Sn**	**13 34 11.3**	**+0.7**
ASGA	**Asgata**	**0.90**	**92**	P	**Pb**	**13 33 59.8**	**-0.3**
ASGA				S	**Sn**	**13 34 13.0**	**+0.3**
ASGA				AML	AML	13 34 15.1	
	1.5nm,0.4s						
ASGA				AML	AML	13 34 15.1	
	1.7nm,0.4s						
ASGA	**Asgata**	**0.90**	**92**	P	**Pb**	**13 33 60.0**	**-0.1**
ASGA				S	**Sn**	**13 34 12.8**	**+0.1**
CSS	**Mathiatis**	**0.97**	**82**	Pg	**Pn**	**13 34 01.1**	**-0.4**
CSS				Sg	**Sn**	**13 34 14.5**	**-0.1**
CSS	**Mathiatis**	**0.97**	**82**	P	**Pn**	**13 34 00.8**	**-0.7**
CSS				S	**Sn**	**13 34 15.6**	**+0.9**
CSS				AML	AML	13 34 16.5	
	0.5nm,0.7s						
CSS				AML	AML	13 34 22.6	
	0.4nm,0.3s						
CSS	**Mathiatis**	**0.97**	**82**	P	**Pn**	**13 34 00.9**	**-0.6**
CSS				S	**Sn**	**13 34 15.5**	**+0.9**
MVOU	**Mavrovouni**	**1.23**	**81**	P	**Pn**	**13 34 05.0**	**+0.1**
MVOU				S	**Sb**	**13 34 22.6**	**+1.6**
MVOU				AML	AML	13 34 25.1	
	0.2nm,0.4s						
MVOU				AML	AML	13 34 30.2	
	0.2nm,0.5s						
MVOU	**Mavrovouni**	**1.23**	**81**	P	**Pb**	**13 34 05.1**	**-0.5**
MVOU				S	**Sb**	**13 34 22.6**	**+1.6**
GAZI	**Gazipasa**	**1.41**	**5**	P	**Pn**	**13 34 06.8**	**-0.7**
GAZI				S	**Sb**	**13 34 27.0**	**+0.6**
GAZI				*i* AML	AML	13 34 28.0	
	comp=N,37nm,0.6s						
GAZI				*i* AML	AML	13 34 31.0	
	comp=E,35nm,0.7s						
TEKE	**Tekeli-Mersin**	**1.52**	**30**	Pn	**Pb**	**13 34 09.4**	**-1.4**
TEKE				Sn	**Sb**	**13 34 28.9**	**-0.8**
BERE	**Bereket-Mersin**	**1.75**	**29**	Pn	**Pn**	**13 34 12.7**	**+0.4**
GULN	**MERSIN_Gulnar**	**1.76**	**40**	P	**Pb**	**13 34 15.7**	**+0.9**
GULN				S	**Sb**	**13 34 38.2**	**+1.7**
GULN				*i* AML	AML	13 34 49.0	
	comp=N,14nm,0.6s						
GULN				*i* AML	AML	13 34 50.0	
	comp=E,12nm,0.3s						
EREN	**Erenkoy**	**1.79**	**66**	Pn	**Pn**	**13 34 13.1**	**+0.4**
IKL	**Isikli**	**1.88**	**41**	Pn	**Pn**	**13 34 14.3**	**+0.4**
TEVE	**Tevekalti-Mers**	**1.91**	**33**	Pn	**Pn**	**13 34 14.9**	**+0.4**
KEBE	**Keben-Mersin**	**2.05**	**38**	Pn	**Pn**	**13 34 17.0**	**+0.6**
KEPZ	**Antalya-Kepez**	**2.12**	**348**	P	**Pb**	**13 34 18.8**	**-2.1**
KEPZ				*i* AML	AML	13 34 52.0	
	comp=N,13nm,0.6s						
KEPZ				*i* AML	AML	13 34 54.0	
	comp=E,13nm,0.7s						
HDMB	**Hadim**	**2.15**	**7**	Pn	**Pn**	**13 34 18.5**	**+0.7**
KKBE	**Karaman, Kazim**	**2.47**	**15**	P	**Pb**	**13 34 25.9**	**-1.0**
KKBE				S	**Sb**	**13 35 00.2**	**+3.3**
KKBE				*i* AML	AML	13 35 04.0	
	comp=N,11nm,0.8s						
KKBE				*i* AML	AML	13 35 09.0	
	comp=E,17nm,0.9s						
SEDI	**Konya, Seydise**	**2.64**	**353**	P	**Pb**	**13 34 28.7**	**-1.1**
SEDI				S	**Sb**	**13 35 06.4**	**+4.6**
MERS	**Mersin**	**2.80**	**43**	Pn	**Pn**	**13 34 27.6**	**+1.0**
KERG	**Konya-Eregli**	**3.03**	**31**	P	**Pb**	**13 34 32.8**	**-3.7**
KERG				S	**Sb**	**13 35 12.3**	**-0.9**

*NOU **23** 13:35:15.9,22°.37S×171°.07E,h0km,mb4.2/9,Southeast of Loyalty Islands*
*IDC **23** 13:35:32.4±2.7,20°.05S×168°.80E,h0km,mb3.6/4,*
mbtmp3.6/5,ML3.3/1,Error ellipse: s-maj=54.0km s-min=40.9km az=60.0

ISC 23 13:35:22.4±2.3,22°.1S±0°.1×170°.5E±0°.2,h10km,n13, σ1§50/13,mb3.6/4,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**2.80**	**335**	P	**Pn**	**13 36 08.0**	**+0.7**
PINNC	**Pines Island,**	**2.90**	**259**	P	**Pn**	**13 36 09.7**	**+1.1**
YATNC	**Mamie plateau,**	**3.37**	**270**	P	**Pn**	**13 36 16.8**	**+1.6**
OUENC	**Ouen Island, N**	**3.43**	**264**	P	**Pn**	**13 36 17.1**	**+1.2**
ONTNC	**Ouen Toro**	**3.78**	**266**	P	**Pn**	**13 36 22.0**	**+1.2**
DZM	**Mont Dzumac**	**3.79**	**270**	Pn	**Pn**	**13 36 21.9**	**+1.0**
	4.1nm,0.3s,baz=170,slow=22,SNR=43						
DZM				Sn	**Sn**	**13 37 03.5**	**-2.1**
	2.2nm,0.3s,baz=119,slow=22,SNR=6.1						
	20nm,0.5s						
DZM	**Mont Dzumac**	**3.79**	**270**	P	**Pn**	**13 36 22.4**	**+1.4**
DVP	**Devils Point**	**4.88**	**333**	P	**Pn**	**13 36 37.2**	**+1.3**
KOUNC	**Koumac, New Ca**	**6.02**	**284**	P	**Pn**	**13 36 53.8**	**+2.2**
ASAR	**Alice Springs**	**33.72**	**260**	P	**P**	**13 42 04.5**	**+0.2**
	0.7nm,0.8s,baz=88,slow=8.9,SNR=9.0						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**33.80**	**267**	P	**P**	**13 42 04.3**	**-0.6**
	0.4nm,0.5s,baz=99,slow=8.6,SNR=5.0						
	0.4nm,0.5s						
VNDA	**Vanda**	**55.63**	**182**	P	P	13 45 23.9	+26
	0.4nm,0.7s,baz=329,slow=5.0,SNR=3.6						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**80.77**	**294**	P	**P**	**13 47 35.7**	**-0.9**
	0.3nm,0.3s,baz=125,slow=5.8,SNR=4.1						
	0.3nm,0.3s						

*NEIC **23** 13:39:51.8,66°.29N×157°.20W,h4km*
*NEIC **23** 13:39:51.6±1.0,66°.29N±0°.01×157°.17W±0°.02,h5km±5km, Error ellipse: s-maj=2.1km s-min=1.4km az=179.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.02; $M_{\theta\theta}$0.92; $M_{\phi\phi}$-0.94; $M_{r\theta}$0.44; $M_{\theta\phi}$-3.69; $M_{\phi r}$-0.09; Fault plane solution: $M_0$3.83000×10^{14} NP1: ϕ_s173.05000°,δ83.56000°,λ2.13000°. NP2:ϕ_s82.82000°, δ87.88000°,λ173.55000°. Principal axes: T 3.8361, Plg6.0000°, Azm38.0000°; N -0.0123, Plg83.0000°, Azm245.0000°; P -3.8238, Plg3.0000°, Azm128.0000°;*

AEIC 23 13:39:51.8±1.4,66°.29N±0°.01×157°.20W±0°.04,h4km±7km, ML3.6,ML3.9/150(NEIC),Mwr3.7/92(NEIC) Error ellipse: s-maj=2.6km s-min=2.0km az=95.0,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.15**	**163**		Pg	13 39 55.1	+0.4
G19K				IAML		13 39 58.0	
	comp=N,48μm,0.7s						
F19K	**Shaleruckik Mo**	**0.59**	**337**		Sg	13 40 11.4	+0.6
F19K	**Shaleruckik Mo**	**0.59**	**337**		Pg	13 40 02.9	-0.3
F19K				IAML		13 40 17.5	
	comp=N,2μm,0.8s						
F19K				IAML		13 40 18.5	
	comp=E,2μm,0.7s						
G18K	**Tagagawik**	**0.71**	**237**		Pg	13 40 05.5	+0.1
G18K	**Tagagawik**	**0.71**	**237**		Sb	13 40 16.0	-0.8
H19K	**Roundabout Mou**	**0.82**	**158**		Pg	13 40 07.5	-0.1
H19K				IAML		13 40 23.4	
	comp=N,5μm,0.3s						
H19K	**Roundabout Mou**	**0.82**	**158**		Sg	13 40 18.8	+0.7
F20K	**Avaraart Lake**	**0.96**	**37**		Pg	13 40 09.6	-0.6
F20K					Sg	13 40 22.6	0.0
F18K	**Selawik**	**1.03**	**289**		Pg	13 40 11.2	-0.4
F18K					Sg	13 40 25.3	+0.4
E19K	**Redstone River**	**1.17**	**359**		Sg	13 40 28.5	-1.0
E19K	**Redstone River**	**1.17**	**359**		Pg	13 40 13.6	-0.6
E19K				IAML		13 40 31.9	
	comp=N,2μm,0.5s						
E19K				IAML		13 40 32.1	
	comp=E,2μm,0.7s						
H18K	**Honhosa River**	**1.24**	**203**		Pg	13 40 14.6	-0.9
H18K	**Honhosa River**	**1.24**	**203**		Sg	13 40 31.4	-0.1
H20K	**Anotleneega Mo**	**1.24**	**129**		Pg	13 40 14.6	-0.9
H20K					Sb	13 40 32.2	+0.1
G21K	**Allakaket**	**1.50**	**80**		Sn	13 40 39.2	-0.3
G21K	**Allakaket**	**1.50**	**80**		Pn	13 40 18.7	-0.8
GCSA	**Galena City Sc**	**1.56**	**175**		Pn	13 40 20.3	+0.2
GCSA					Sn	13 40 40.6	-0.1
F17K	**Baldwin Pennin**	**1.64**	**277**		Pn	13 40 21.2	-0.1
F21K	**Alatna River**	**1.75**	**56**		Pn	13 40 22.3	-0.5
F21K				IAML		13 40 49.3	
	comp=N,966nm,0.4s						
F21K				IAML		13 40 50.0	
	comp=E,1μm,0.5s						
E18K	**Tukpahlearik C**	**1.76**	**312**		Pn	13 40 23.5	+0.5
H17K	**Granite Mounta**	**1.76**	**221**		Pn	13 40 22.5	-0.6
H17K				IAML		13 40 49.0	
	comp=E,869nm,0.5s						
H17K				IAML		13 40 53.4	
	comp=N,1μm,0.5s						
I20K	**Naaghedeneel**	**1.88**	**142**		Pn	13 40 24.7	+0.1
H21K	**Melozitna Rive**	**1.91**	**107**		Pn	13 40 24.4	-0.6
H21K				IAML		13 40 55.2	
	comp=E,1μm,0.8s						
E17K	**Hotham Inlet**	**2.01**	**296**		Pn	13 40 26.1	-0.3
E20K	**Nigu River**	**2.02**	**11**		Pn	13 40 27.7	+1.1
D19K	**Kuna River**	**2.25**	**351**		Pn	13 40 30.5	+0.8
D19K				IAML		13 41 04.0	
	comp=E,461nm,0.8s						
D19K				IAML		13 41 05.7	
	comp=N,606nm,0.9s						
J19K	**Poorman**	**2.40**	**163**		Pn	13 40 31.8	0.0
J19K				IAML		13 41 12.0	
	comp=E,586nm,0.9s						
J19K				IAML		13 41 15.4	
	comp=N,528nm,0.9s						
H22K	**Ishtalitna Cre**	**2.40**	**97**		Pn	13 40 31.6	-0.2
D20K	**Etivluk River**	**2.45**	**5**		Pn	13 40 33.1	+0.7
D20K				IAML		13 41 10.0	
	comp=E,480nm,0.7s						
D20K				IAML		13 41 10.3	
	comp=N,509nm,0.8s						
J20K	**Nowinta River**	**2.48**	**147**		Pn	13 40 32.3	-0.6
J20K				IAML		13 41 16.3	
	comp=E,477nm,0.9s						
J20K				IAML		13 41 20.8	
	comp=N,367nm,0.7s						
D17K	**Noatak River**	**2.71**	**304**		Pn	13 40 36.0	0.0
E22K	**Anaktuvuk Pass**	**2.80**	**46**		Pn	13 40 38.0	+0.7
C18K	**Utukok River**	**2.83**	**329**		Pn	13 40 37.6	0.0
I17K	**Unalakleet**	**2.83**	**213**		Pn	13 40 37.4	-0.3
I17K				IAML		13 41 21.1	
	comp=N,487nm,0.5s						
J18K	**Innoko River**	**2.84**	**176**		Pn	13 40 37.5	-0.4
J18K				IAML		13 41 27.6	
	comp=N,269nm,0.8s						
RDOG	**Red Dog Mine**	**2.85**	**311**		Pn	13 40 38.6	+0.7
G23K	**Bananza Creek**	**2.91**	**78**		Pn	13 40 38.0	-0.8
G23K				IAML		13 41 28.9	
	comp=E,400nm,0.5s						
COLD	**Coldfoot**	**2.93**	**68**		Pn	13 40 38.5	-0.6
COLD				IAML		13 41 28.7	
	comp=E,313nm,0.4s						
COLD				IAML		13 41 31.2	
	comp=N,361nm,0.9s						
J17K	**VABM Dome**	**3.01**	**196**	IAML		13 41 33.3	
	comp=E,393nm,0.9s						
J17K				IAML		13 41 35.9	
	comp=N,274nm,0.9s						
F15K	**North Star Dit**	**3.10**	**263**	IAML		13 41 39.2	
	comp=E,261nm,0.8s						
F15K				IAML		13 41 42.2	
	comp=N,268nm,1.2s						
D22K	**Ayikyak River**	**3.12**	**32**	IAML		13 41 41.2	
	comp=E,310nm,0.8s						
D22K				IAML		13 41 50.8	
	comp=N,274nm,0.8s						
H23K	**Yukon River**	**3.16**	**95**		Pn	13 40 40.8	-1.4
H23K				IAML		13 41 37.5	
	comp=N,389nm,0.5s						
J16K	**Anvik River**	**3.35**	**207**	IAML		13 41 43.0	
	comp=E,314nm,0.7s						
BPAW	**Bear Paw Mtn.**	**3.42**	**127**	IAML		13 41 45.9	
	comp=N,180nm,0.6s						
E23K	**Chandalar**	**3.45**	**56**	IAML		13 41 54.8	
	comp=N,244nm,0.8s						
B21K	**Ikpikpuk River**	**3.49**	**15**	IAML		13 41 49.5	
	comp=N,230nm,0.8s						
B21K				IAML		13 41 53.0	
	comp=E,291nm,1.0s						
K17K	**Iditarod**	**3.62**	**188**	IAML		13 41 51.8	
	comp=N,172nm,0.9s						
K17K				IAML		13 41 56.0	
	comp=E,155nm,1.1s						
D23K	**Nanushuk River**	**3.67**	**40**	IAML		13 41 55.0	
	comp=N,202nm,1.0s						
D23K				IAML		13 42 00.7	
	comp=E,177nm,0.8s						
TOLK	**Toolik Lake Re**	**3.77**	**48**	IAML		13 42 00.2	
	comp=E,245nm,1.0s						
TOLK				IAML		13 42 07.0	
	comp=N,212nm,0.9s						
NEA2	**Nenana**	**3.80**	**113**	IAML		13 41 55.0	
	comp=N,159nm,1.2s						
NEA2				IAML		13 42 01.7	
	comp=E,191nm,1.0s						
H24K	**Noodor Dome**	**3.83**	**93**	IAML		13 41 56.7	
	comp=E,207nm,0.7s						
ANM	**Nome**	**3.83**	**247**	IAML		13 42 02.8	
	comp=N,127nm,0.9s						
KTH	**Kantishna Hill**	**3.83**	**133**	IAML		13 42 02.3	
	comp=N,139nm,1.0s						
KTH				IAML		13 42 05.3	
	comp=E,146nm,1.1s						
F24K	**Squaw Lake**	**3.87**	**67**	IAML		13 42 04.3	
	comp=E,222nm,0.5s						
PPLA	**Purkeypile**	**4.03**	**145**	IAML		13 42 19.3	
	comp=E,100nm,1.0s						
L18K	**Granite Mounta**	**4.09**	**177**	IAML		13 42 04.6	
	comp=N,97nm,1.1s						
L18K				IAML		13 42 14.8	
	comp=E,95nm,0.8s						
TRF	**Thorofare Moun**	**4.10**	**131**	IAML		13 42 06.7	
	comp=E,123nm,1.2s						
WRH	**Wood River Hil**	**4.22**	**111**	IAML		13 42 07.8	
	comp=E,94nm,0.8s						
L19K	**White Mountain**	**4.25**	**165**	IAML		13 41 48.9	
	comp=E,132nm,0.8s						
L19K				IAML		13 41 49.2	
	comp=N,124nm,0.8s						
CCB	**Clear Creek Bu**	**4.25**	**108**	IAML		13 42 07.8	
	comp=E,90nm,0.5s						
CCB				IAML		13 42 09.0	
	comp=N,110nm,0.6s						
B22K	**Teshekpuk Lake**	**4.30**	**17**	IAML		13 42 14.4	
	comp=N,112nm,1.0s						
B22K				IAML		13 42 24.1	
	comp=E,151nm,1.0s						
C23K	**Itkillik River**	**4.33**	**32**	IAML		13 42 21.0	
	comp=N,120nm,0.9s						
C23K				IAML		13 42 39.8	
	comp=E,91nm,1.1s						
MCK	**McKinley**	**4.34**	**122**	IAML		13 42 15.8	
	comp=N,79nm,1.0s						
K15K	**Wolf Creek Mou**	**4.43**	**207**	IAML		13 42 23.0	
	comp=N,111nm,1.0s						
K15K				IAML		13 42 23.0	
	comp=E,94nm,0.8s						
J14K	**Nanvaranak Lak**	**4.49**	**221**	IAML		13 42 30.9	
	comp=N,110nm,0.8s						
HDA	**Harding Lake**	**4.69**	**109**	IAML		13 42 20.0	
	comp=N,112nm,0.6s						
HDA				IAML		13 42 22.7	
	comp=E,94nm,1.1s						
F25K	**Christian Rive**	**4.73**	**69**	IAML		13 42 25.2	
	comp=N,104nm,0.9s						
PRP	**Porcupine Dome**	**4.85**	**94**	IAML		13 42 37.7	
	comp=N,111nm,1.0s						
E25K	**Arctic Village**	**4.88**	**63**	IAML		13 42 31.6	
	comp=N,108nm,1.1s						
M17K	**Holitna River**	**4.91**	**181**	IAML		13 42 32.4	
	comp=E,96nm,1.0s						
CUT	**Chulitna**	**4.92**	**139**	IAML		13 42 32.6	
	comp=N,93nm,1.1s						
SKT	**Skwentna**	**4.99**	**148**	IAML		13 42 37.4	
	comp=E,54nm,1.2s						
J25K	**Salcha River,**	**5.21**	**103**	IAML		13 42 37.5	
	comp=E,77nm,0.7s						
J25K				IAML		13 42 37.9	
	comp=N,81nm,0.8s						
F26K	**Sheenjek River**	**5.31**	**69**	IAML		13 42 46.7	
	comp=E,77nm,1.0s						
M16K	**Timber Creek**	**5.34**	**189**	IAML		13 43 00.5	
	comp=N,46nm,1.0s						

IDC 23 13:49:20.1±7.9,29°.74S×178°.24W,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=204.4km s-min=35.2km az=39.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.43**	**256**	P	P	13 56 09.3	-0.1
	1.1nm,0.5s,baz=105,slow=11,SNR=3.3						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**42.94**	**266**	P	P	13 57 20.9	-0.1
	0.4nm,0.5s,baz=104,slow=7.3,SNR=22						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.87**	**272**	P	P	13 57 28.4	-0.2
	1.2nm,0.5s,baz=110,slow=8.1,SNR=17						
	1.2nm,0.5s						
QSPA	**South Pole Qui**	**60.37**	**180**	P	P	13 59 30.9	0.0
	0.7nm,0.6s,baz=301,slow=0.7,SNR=7.6						
	0.7nm,0.6s						

*NOU **23** 13:56:54.5,23°.66S×179°.34W,h557km,mb4.3/44,South of Fiji Islands*
*NEIC **23** 13:56:55.7±1.4,23°.6S±0°.1×179°.7W±0°.1,h542km±7km, mb4.5/38,Error ellipse: s-maj=18.0km s-min=16.1km az=116.0*
*IDC **23** 13:56:58.3±1.9,23°.66S×179°.89W,h564km±20km, mb3.5/11,mbtmp4.4/12,Error ellipse: s-maj=14.0km s-min=13.8km az=56.0*

ISC 23 13:56:54.9±0.4,23°.69S±0°.06×179°.68W±0°.07,h536km, n142,σ1§43/151,mb4.4/30,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.77**	**165**	P	**P**	**13 58 31.4**	**+0.8**
GLKZ				S	**S**	**13 59 49.8**	**+0.8**
MSVF	**Nonsavu**	**6.29**	**340**	P	**P**	**13 58 37.5**	**+1.7**
NIUE	**Niue**	**10.18**	**65**	P	**P**	**13 59 15.1**	**+0.6**
PINNC	**Pines Island,**	**11.89**	**273**	P	**P**	**13 59 34.9**	**+2.5**
PINNC	**Pines Island,**	**11.89**	**273**	P	**P**	**13 59 35.6**	**+3.2**
AFI	**Afiamalu**	**12.27**	**39**	P	**P**	**13 59 33.5**	**-3.0**
AFI	**Afiamalu**	**12.27**	**39**	P	**P**	**13 59 33.8**	**-2.6**
AFI	**Afiamalu**	**12.27**	**39**	P	**P**	**13 59 33.4**	**-3.0**
OUZ	**Omahuta**	**12.89**	**205**	P	**P**	**13 59 44.8**	**+2.2**
OUZ	**Omahuta**	**12.89**	**205**	P	**P**	**13 59 44.5**	**+1.9**
DZM	**Mont Dzumac**	**12.89**	**274**	P	**P**	**13 59 45.4**	**+2.4**
	8.1nm,0.9s,baz=113,slow=15,SNR=2.5						
WCZ	**Waipu Caves**	**13.26**	**202**	P	**P**	**13 59 48.4**	**+2.0**
KUZ	**Kuaotunu**	**13.61**	**196**	P	**P**	**13 59 50.7**	**+0.8**
KUZ	**Kuaotunu**	**13.61**	**196**	P	**P**	**13 59 50.7**	**+0.8**
WMGZ	**Waiomatatini S**	**14.18**	**186**	P	**P**	**13 59 55.6**	**-0.3**
HAZ	**Te Kaha**	**14.19**	**188**	P	**P**	**13 59 55.7**	**-0.3**
HAZ				S	**S**	**14 02 23.9**	**-1.4**
PKGZ	**Pakihiroa**	**14.26**	**187**	P	**P**	**13 59 59.4**	**+2.6**
RUGZ	**Raukumara Rang**	**14.41**	**188**	P	**P**	**13 59 59.6**	**+1.2**
RUGZ				S	**S**	**14 02 29.5**	**-0.3**
PUZ	**Puketiti**	**14.45**	**187**	P	**P**	**14 00 00.6**	**+1.9**
TWGZ	**Tauwhareparae**	**14.58**	**187**	P	**P**	**14 00 00.4**	**+0.2**
TWGZ				S	**S**	**14 02 31.7**	**-1.2**
URZ	**Urewera**	**14.78**	**190**	P	**P**	**13 59 59.3**	**-

KWHZ **Kaweka Forest** 16.03 191 P **P** 14 00 12.9 -2.2
KAHZ **Kahuranaki** 16.32 189 P **P** 14 00 16.5 -1.4
PNHZ **Pukenui** 16.55 191 P **P** 14 00 17.1 -2.8
DVHZ **Dannevirke** 16.93 191 P **P** 14 00 21.3 -2.2
BFZ **Birch Farm** 17.29 190 P **P** 14 00 25.1 -1.7
BFZ **Birch Farm** 17.29 190 S **S** 14 03 19.3 -0.3
MRZ **Mangatainoka R** 17.39 192 P **P** 14 00 24.8 -2.9
MRZ IAmb IAmb 14 00 26.2
comp=Z,12nm,0.9s
SNZO **South Karori** 18.19 194 P **P** 14 00 34.7 -0.3
TCW **Tory Channel** 18.19 195 P **P** 14 00 33.1 -2.0
QRZ **Quartz Range** 18.30 199 P **P** 14 00 37.0 +1.0
NNZ **Nelson** 18.42 197 P **P** 14 00 36.2 -0.9
DSZ **Denniston Nort** 19.36 200 P **P** 14 00 46.3 +0.5
KHZ **Kahutara** 19.51 195 P **P** 14 00 47.2 +0.2
RPZ **Rata Peaks** 21.38 199 P **P** 14 01 04.7 +0.7
comp=Z,6.1nm,0.4s,baz=78,slow=0.5,SNR=8.8
comp=Z,6.1nm,0.4s
JCZ **Jackson Bay** 22.43 202 P **P** 14 01 13.6 +0.1
ODZ **Otahua Downs** 22.72 198 P **P** 14 01 16.7 +0.8
HNR **Honiara** 24.08 303 P **P** 14 01 26.5 -2.0
EIDS **Eidsvold** 26.63 260 P **P** 14 01 51.6 +0.7
EIDS IAmb IAmb 14 01 52.6
comp=Z,24nm,1.3s
CAN **Canberra** 29.50 240 P **P** 14 02 16.7 +0.8
CAN IAmb IAmb 14 02 47.5
comp=Z,14nm,1.4s
TV1H **Townsville Har** 31.46 272 P **P** 14 02 33.8 +0.9
CMSA **Cobar Meteorol** 31.57 248 P **P** 14 02 34.4 +0.8
TOO **Toolangi** 32.81 237 P **P** 14 02 44.8 +0.6
MTSU **Mount Surprise** 34.02 272 P **P** 14 02 55.4 +0.8
PMG **Port Moresby** 34.70 289 P **P** 14 03 00.3 0.0
STKA **Stephens Creek** 35.08 248 P **P** 14 03 03.8 +0.5
STKA **Stephens Creek** 35.08 248 P **P** 14 03 03.8 +0.5
comp=Z,2.3nm,0.4s,baz=88,slow=12,SNR=7.8
comp=Z,2.3nm,0.4s
STKA **Stephens Creek** 35.08 248 P **P** 14 03 04.2 +1.0
INKA **Innaminka** 35.78 255 P **P** 14 03 10.6 +1.5
COEN **Coen** 36.37 279 P **P** 14 03 14.7 +0.5
COEN IAmb IAmb 14 03 15.7
comp=Z,25nm,1.4s
COEN **Coen** 36.37 279 P **P** 14 03 14.8 +0.6
HTT **Hallett** 37.43 245 P **P** 14 03 23.1 +0.4
QIS **Mount Isa** 37.76 267 P **P** 14 03 25.6 0.0
LCRK **Leigh Creek** 37.93 250 P **P** 14 03 27.0 +0.2
BBOO **Buckleboo** 39.80 247 P **P** 14 03 41.6 -0.3
BBOO **Buckleboo** 39.80 247 P **P** 14 03 41.5 -0.3
OOD **Oodnadatta** 40.25 254 P **P** 14 03 46.5 +1.0
AS01 **Alice Springs** 42.32 260 P **P** 14 04 02.1 +0.1
AS31 **Alice Springs** 42.36 260 P **P** 14 04 02.3 -0.1
ASAR **Alice Springs** 42.36 260 P **P** 14 04 01.7 -0.7
ASAR **Alice Springs** 42.36 260 P **P** 14 04 02.4 0.0
comp=Z,4.9nm,0.5s,baz=93,slow=7.0,SNR=219
ASAR PcP **pwP** 14 05 43.0 -0.2
comp=Z,0.9nm,0.6s,baz=95,slow=4.8,SNR=3.5
ASAR ScP **ScP** 14 08 42.8 -0.4
comp=Z,0.2nm,0.8s,baz=100,slow=5.1,SNR=1.3
ASAR S **S** 14 09 42.6 -2.5
comp=Z,0.5nm,0.6s,baz=96,slow=14,SNR=6.2
comp=Z,4.9nm,0.5s
WR8 **Warramunga Arr** 42.56 266 P **P** 14 04 03.4 -0.6
WR8 IAmb IAmb 14 04 04.1
comp=Z,11nm,0.9s
WB0 **Warramunga Arr** 42.71 266 P **P** 14 04 04.5 -0.6
WB0 IAmb IAmb 14 04 05.3
comp=Z,15nm,0.7s
WRAB **Tennant Creek** 42.71 266 P **P** 14 04 04.4 -0.7
WRA **Warramunga Arr** 42.72 266 P **P** 14 04 04.7 -0.4
comp=Z,12nm,0.5s,baz=96,slow=8.4,SNR=406
WRA S **S** 14 09 45.7 -4.4
comp=Z,1.4nm,0.8s,baz=104,slow=14,SNR=6.2
comp=Z,12nm,0.5s
KDU **Kakadu** 46.56 275 P **P** 14 04 34.3 -0.5
FORT **Forrest** 46.66 249 P **P** 14 04 34.7 -0.6
FORT **Forrest** 46.66 249 P **P** 14 04 34.9 -0.4
WRKA **Warakurna** 47.17 257 P **P** 14 04 39.1 -0.2
MTN **Manton Dam** 47.73 274 P **P** 14 04 42.6 -1.0
MTN IAmb IAmb 14 05 00.5
comp=Z,28nm,1.4s
MTN **Manton Dam** 47.73 274 P **P** 14 04 43.1 -0.5
DRS **Darwin Rock St** 48.09 274 P **P** 14 04 46.1 -0.2
KNRA **Kununurra** 48.98 269 P **P** 14 04 52.9 0.0
KNRA IAmb IAmb 14 04 53.8
comp=Z,14nm,0.9s
FAKI **Fak Fak** 50.80 287 P **P** 14 05 05.9 -0.4
FAKI IAmb IAmb 14 05 12.7
comp=Z,33nm,1.4s
FAKI **Fak Fak** 50.80 287 P **P** 14 05 06.3 0.0
FITZ **Fitzroy Crossi** 51.14 265 P **P** 14 05 08.8 +0.2
FITZ **Fitzroy Crossi** 51.14 265 P **P** 14 05 09.0 +0.3
VNDA **Vanda** 54.61 185 P **P** 14 05 34.4 +1.9
VNDA **Vanda** 54.61 185 P **P** 14 05 34.5 +1.9
comp=Z,0.6nm,0.6s,baz=1.3,slow=6.6,SNR=6.0
VNDA PcP **PcP** 14 06 28.1 +0.9
comp=Z,0.5nm,0.6s,baz=304,slow=9.3,SNR=2.4
comp=Z,0.6nm,0.6s
SOEI **Soe** 55.12 275 P **P** 14 05 35.9 -1.3
SOEI **Soe** 55.12 275 P **P** 14 05 37.6 +0.4
KLBR **Kellerberrin** 55.34 247 P **P** 14 05 38.3 -0.1
MEEK **Meekatharra** 55.46 253 P **P** 14 05 38.8 -0.5
PSA00 **Pilbara Seismi** 55.49 259 P **P** 14 05 39.0 -0.6
PSA00 **Pilbara Seismi** 55.49 259 P **P** 14 05 39.3 -0.3
NWAO **Narrogin (SRO)** 55.59 245 P **P** 14 05 39.6 -0.5
NWAO IAmb IAmb 14 06 11.2
comp=Z,17nm,1.1s
MBWA **Marble Bar** 55.70 260 P **P** 14 05 40.4 -0.6
MBWA **Marble Bar** 55.70 260 P **P** 14 05 40.6 -0.4
BLDU **Ballidu** 56.38 248 P **P** 14 05 45.4 -0.2
MUN **Mundaring** 56.59 246 P **P** 14 05 47.1 +0.1
MORW **Morawa** 57.22 250 P **P** 14 05 51.1 -0.3
MORW IAmb IAmb 14 05 51.9
comp=Z,16nm,0.6s
MORW **Morawa** 57.22 250 P **P** 14 05 51.4 0.0
GIRL **Giralia** 60.25 257 P **P** 14 06 13.1 +1.3
CASY **Casey** 60.43 206 P **P** 14 06 12.3 +0.1
CASY IAmb IAmb 14 06 26.4
comp=Z,30nm,1.5s
PLAI **Plampang** 61.41 273 P **P** 14 06 19.4 -0.1
TOLI2 **Tolitoli** 62.81 284 P **P** 14 06 28.1 -0.6
TOLI2 IAmb IAmb 14 06 53.2
comp=Z,23nm,1.1s
TOLI2 **Tolitoli** 62.81 284 P **P** 14 06 30.1 +1.4
JAGI **Jajag, Banyuwa** 64.86 272 P **P** 14 06 40.5 -1.2
QSPA **South Pole Qui** 66.39 180 P **P** 14 06 51.9 +1.3
QSPA **South Pole Qui** 66.39 180 P **P** 14 06 51.9 +1.3
comp=Z,3.3nm,0.7s,baz=82,slow=6.5,SNR=28
comp=Z,3.3nm,0.7s
KKM **Kota Kinabalu** 69.12 287 P **P** 14 07 06.8 -1.3
KKM IAmb IAmb 14 07 35.0
comp=Z,27nm,1.2s
MJAR **Matsushiro Arr** 71.89 325 P **P** 14 07 23.2 -0.7
comp=Z,2.1nm,0.8s,baz=169,slow=5.4,SNR=5.7
comp=Z,2.1nm,0.8s
NACB **Ninganchiao** 74.22 306 P **P** 14 07 37.2 -0.2
NACB IAmb IAmb 14 08 01.9
comp=Z,12nm,1.0s
BELA **Belgrano 2** 76.61 173 P **P** 14 07 50.2 +0.4
KSRS **Korea Array** 78.27 320 P **P** 14 08 00.3 +0.9
comp=Z,1.2nm,0.6s,baz=138,slow=6.5,SNR=8.5
comp=Z,1.2nm,0.6s
PEA0B **Petropavlovsk-** 78.96 346 P **P** 14 08 02.9 +0.1
PEA0B IAmb IAmb 14 08 19.3
comp=Z,17nm,1.2s
PETK **Petropavlovsk-** 78.96 346 P **P** 14 08 02.8 0.0
comp=Z,2.1nm,0.6s,baz=116,slow=6.5,SNR=8.4
comp=Z,2.1nm,0.6s
USRK **Ussuriysk Ar.** 80.75 327 P **P** 14 08 13.5 +1.2
comp=Z,1.3nm,0.5s,baz=152,slow=3.9,SNR=2.2
comp=Z,1.3nm,0.5s
TROLL **Troll, Antarti** 84.55 181 ⇓P **P** 14 08 31.5 +0.1
comp=Z,244nm,0.6s
SNAA **Sanae** 84.87 179 P **P** 14 08 32.4 -0.4
comp=Z,1.1nm,0.3s,baz=349,slow=15,SNR=1.8
comp=Z,1.1nm,0.3s
N15K **Kwethluk River** 85.08 10 P **P** 14 08 34.9 +1.2
N15K IAmb IAmb 14 08 56.4
comp=Z,28nm,1.4s
O18K **Koktuh Hills** 85.63 12 P **P** 14 08 36.6 +0.3
O18K IAmb IAmb 14 08 51.2
comp=Z,15nm,1.2s
L19K **White Mountain** 87.85 11 P **P** 14 08 47.7 +0.9
L19K IAmb IAmb 14 08 49.5
comp=Z,10nm,1.4s
CMAR **Chiang Mai Arr** 89.73 290 P **P** 14 08 58.2 +1.7
comp=Z,2.3nm,0.9s,baz=120,slow=4.4,SNR=4.2
MKAR **Makanchi Array** 112.23 313 PKiKP **PKiKP** 14 14 28.6 -1.0
comp=Z,0.5nm,0.5s,baz=76,slow=0.9,SNR=7.0
KURBB **Kurchatov Arra** 115.30 316 PKP **PKPdf** 14 14 34.2 -1.1
comp=Z,0.4nm,0.3s,baz=135,slow=1.8,SNR=3.8
BVAR **Borovoye Array** 120.47 319 PKP **PKPdf** 14 14 44.8 -0.5
comp=Z,1.0nm,0.3s,baz=114,slow=2.3,SNR=8.8
SPITS **Spitsbergen Ar** 124.33 356 PKP **PKPdf** 14 14 52.8 -0.4
comp=Z,2.4nm,0.9s,baz=69,slow=4.6,SNR=1.3
ARTI **Arti** 126.99 324 PKP **PKPdf** 14 14 56.6 -1.0
comp=Z,1.1nm,0.4s,baz=352,slow=7.1,SNR=2.3
ARCES **ARCESS Array B** 131.74 348 PKP **PKPdf** 14 15 06.6 +0.3
comp=Z,0.8nm,0.5s,baz=90,slow=1.3,SNR=9.7
FINES **FINESS Array B** 138.34 342 PKhKP PKPpre 14 15 10.0
comp=Z,1.1nm,0.7s,baz=46,slow=4.0,SNR=3.8
FINES PKP **PKPdf** 14 15 18.6 -0.1
comp=Z,1.8nm,0.9s,baz=48,slow=2.1,SNR=4.4
NOA **NORSAR Array B** 141.92 351 PKhKP PKPpre 14 15 21.2
comp=Z,0.5nm,0.6s,baz=32,slow=3.2,SNR=3.4
HFS **Hagfors** 142.40 349 PKhKP PKPpre 14 15 22.4
comp=Z,3.5nm,0.6s,baz=98,slow=3.2,SNR=5.4
AKASG **Malin Array Be** 144.95 328 PKP **PKPdf** 14 15 30.3 -0.5
comp=Z,1.2nm,0.3s,baz=43,slow=4.3,SNR=16
KIEV **Kiev** 144.96 328 PKPdf **PKPdf** 14 15 30.5 -0.3
BR131 **Keskin Array S** 147.68 308 **PKPbc** 14 15 39.0 -0.7
BRTR **Keskin Array B** 147.68 308 PKPbc **PKPbc** 14 15 39.3 -0.3
comp=Z,1.4nm,0.6s,baz=134,slow=5.0,SNR=7.5
MMAI **Mount Meron Ar** 147.88 295 PKPbc **PKiKP** 14 15 41.1 -0.6
comp=Z,3.0nm,0.4s,baz=75,slow=6.3,SNR=12
EKA **Eskdalemuir Ar** 148.29 4 PKPbc **PKPbc** 14 15 39.8 -0.6
comp=Z,0.4nm,0.4s,baz=3.0,slow=2.9,SNR=5.8

*IDC **23** 14:08:21.7±2.7, 6°.47S×147°.56E, h66km±24km, mb3.6/13, mbtmp3.9/16, MS2.6/2, Error ellipse: s-maj=35.4km s-min=13.7km az=81.0*
*NEIC **23** 14:08:23.8±1.2, 6°.59S±0°.06×147°.40E±0°.09, h63km±5km, mb4.4/19, Error ellipse: s-maj=12.9km s-min=9.0km az=88.0*
ISC 23 14:08:23.1±0.5, 6°.49S±0°.05×147°.29E±0°.07, h63km, n59, σ1§33/61, mb4.2/19, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	2.90	183		**Pn**	14 09 06.2	-0.7
PMG	**Port Moresby**	2.90	183	P	**Pn**	14 09 06.7	-0.1
133nm,0.5s,baz=24,slow=4.9,SNR=81							
PMG				S	**Sn**	14 09 40.5	0.0
146nm,0.7s,baz=245,slow=6.7,SNR=4.3							
PMG				LR	LR	14 10 03.3	
comp=Z,81nm,19.6s,baz=349,slow=34							
PMG	**Port Moresby**	2.90	183	P	**Pn**	14 09 06.7	-0.1
PMG	**Port Moresby**	2.90	183	P	**Pn**	14 09 06.6	-0.2
PMG	**Port Moresby**	2.90	183	S	**Sn**	14 09 42.9	+2.4
MANU	**Manus Island**	4.42	1	Pn	**Pn**	14 09 29.4	+1.7
RABL	**Rabaul**	5.37	65	Pn	**Pn**	14 09 40.5	-0.2
JAY	**Jayapura**	7.66	301	P	**Pn**	14 10 14.4	+2.3
4.5nm,0.3s,baz=158,slow=6.9,SNR=9.2							
JAY				LR	LR	14 12 56.8	
comp=Z,55nm,20.2s,baz=228,slow=35							
COEN	**Coen**	8.45	208	Pn	**Pn**	14 10 23.1	+0.2
COEN	**Coen**	8.45	208	P	**Pn**	14 10 23.2	+0.3
MTSU	**Mount Surprise**	11.93	194	P	**Pn**	14 11 11.0	+0.6
TATA	**Tatamba Isabel**	12.55	99	P	**Pn**	14 11 21.0	+2.0
QIS	**Mount Isa**	15.84	207	P	**Pn**	14 12 03.4	+1.1
KDU	**Kakadu**	15.85	246	Pn	**Pn**	14 12 01.3	-1.1
SAUI	**Saumlaki**	15.93	264	Pn	**P**	14 12 05.4	-0.6
WB0	**Warramunga Arr**	18.19	222	P	**P**	14 12 30.5	-0.4
WR8	**Warramunga Arr**	18.26	222	P	**P**	14 12 31.3	-0.3
WRA	**Warramunga Arr**	18.35	222	P	**P**	14 12 32.5	-0.2
WRA	**Warramunga Arr**	18.35	222	P	**P**	14 12 32.2	-0.5
0.9nm,0.4s,baz=51,slow=11,SNR=17							
WRA				S	Sn	14 15 47.0	-11
0.2nm,0.6s,baz=31,slow=23,SNR=1.1							
QLP	**Quilpie**	20.19	188	P	**P**	14 12 53.8	+1.1
KNRA	**Kununurra**	20.32	242	P	**P**	14 12 54.0	-0.2
KNRA				IAmb	IAmb	14 13 35.4	
comp=Z,16nm,1.4s							
AS01	**Alice Springs**	21.35	216	P	**P**	14 13 05.6	+0.3
AS31	**Alice Springs**	21.38	216	P	**P**	14 13 05.4	-0.2
ASAR	**Alice Springs**	21.38	216	P	**P**	14 13 05.5	0.0
comp=Z,2.1nm,0.4s,baz=52,slow=9.3,SNR=44							
ASAR				S	**S**	14 16 56.3	-3.4
comp=Z,0.4nm,0.6s,baz=36,slow=23,SNR=4.2							
comp=Z,2.1nm,0.4s							
INKA	**Innaminka**	22.02	196	P	**P**	14 13 14.0	+1.6
OOD	**Oodnadatta**	23.87	206	P	**P**	14 13 31.0	+0.1
FITZ	**Fitzroy Crossi**	24.06	239	P	**P**	14 13 32.6	0.0
FITZ	**Fitzroy Crossi**	24.06	239	P	**P**	14 13 33.1	+0.5
ARMA	**Armidale**	24.15	171	P	**P**	14 13 32.4	-1.0
ARMA				IAmb	IAmb	14 13 33.1	
comp=Z,20nm,1.4s							
ARMA	**Armidale**	24.15	171	P	**P**	14 13 34.7	+1.2
ONTNC	**Ouen Toro**	24.27	132	P	**P**	14 13 36.6	+2.0
LCRK	**Leigh Creek**	25.31	199	P	**P**	14 13 45.1	+1.2
STKA	**Stephens Creek**	25.81	191	P	**P**	14 13 49.0	+0.6
STKA				IAmb	IAmb	14 13 49.8	
comp=Z,9.4nm,0.6s							
STKA	**Stephens Creek**	25.81	191	P	**P**	14 13 48.5	+0.1
comp=Z,2.1nm,0.5s,baz=346,slow=6.9,SNR=7.1							
comp=Z,2.1nm,0.5s							
STKA	**Stephens Creek**	25.81	191	P	**P**	14 13 49.9	+1.5
WRKA	**Warakurna**	25.89	223	P	**P**	14 13 49.7	+0.3
HTT	**Hallett**	27.91	195	P	**P**	14 14 09.4	+2.1
BBOO	**Buckleboo**	28.19	200	P	**P**	14 14 10.2	+0.3
BBOO				IAmb	IAmb	14 14 10.8	
comp=Z,9.7nm,1.1s							
CAN	**Canberra**	28.73	177	P	**P**	14 14 13.9	-0.7
CAN				IAmb	IAmb	14 14 23.5	
comp=Z,12nm,1.4s							
MYLDM	**Lahad Datu**	30.99	291	P	**P**	14 14 37.3	+2.5
MYLDM				IAmb	IAmb	14 14 48.5	
comp=Z,25nm,1.5s							
BFZ	**Birch Farm**	42.76	147	P	**P**	14 16 12.8	-1.6
MSWZ	**Moikau Station**	42.76	149	P	**P**	14 16 13.3	-1.1
KSRS	**Korea Array**	47.31	339	P	**P**	14 16 49.4	-1.1
comp=Z,0.8nm,0.6s,baz=139,slow=9.9,SNR=6.3							
comp=Z,0.8nm,0.6s							
KULM	**Kulim**	48.00	283	P	**P**	14 16 57.1	+0.9
LHMI	**Lhok Sumawe**	51.58	282	P	**P**	14 17 24.5	+1.0
USRK	**Ussuriysk Ar.**	52.32	346	P	**P**	14 17 26.6	-1.7
comp=Z,1.2nm,0.6s,baz=180,slow=5.2,SNR=2.3							
comp=Z,1.2nm,0.6s							
CMAR	**Chiang Mai Arr**	53.73	298	P	**P**	14 17 40.1	+0.8
comp=Z,1.0nm,0.6s,baz=117,slow=6.0,SNR=5.1							
comp=Z,1.0nm,0.6s							
PETK	**Petropavlovsk-**	60.03	7	P	**P**	14 18 22.2	-1.0
comp=Z,1.1nm,0.7s,baz=201,slow=7.7,SNR=2.1							
comp=Z,1.1nm,0.7s							
SONM	**Songino Array**	64.97	331	P	**P**	14 18 56.0	-0.5
comp=Z,0.5nm,0.6s,baz=120,slow=5.2,SNR=2.1							
comp=Z,0.5nm,0.6s							
VNDA	**Vanda**	71.41	177	P	**P**	14 19 35.7	-0.4
VNDA				IAmb	IAmb	14 19 37.1	
comp=Z,3.5nm,1.3s							
VNDA	**Vanda**	71.41	177	P	**P**	14 19 35.2	-0.9
comp=Z,0.5nm,0.6s,baz=343,slow=8.3,SNR=2.8							
comp=Z,0.5nm,0.6s							
L14K	**Kuka Creek**	77.92	22	P	**P**	14 20 15.1	+1.2
L14K				IAmb	IAmb	14 20 18.5	
comp=Z,14nm,1.4s							
MKAR	**Makanchi Array**	78.06	320	P	**P**	14 20 14.3	-0.9
comp=Z,0.3nm,0.4s,baz=100,slow=7.5,SNR=4.6							
comp=Z,0.3nm,0.4s							
ZALV	**Zalesovo Beam**	79.58	328	P	**P**	14 20 21.1	-2.2
comp=Z,1.7nm,0.5s,baz=104,slow=6.1,SNR=7.3							
comp=Z,1.7nm,0.5s							
J18K	**Innoko River**	81.42	22	P	**P**	14 20 34.7	+1.8
J18K				IAmb	IAmb	14 21 10.3	
comp=Z,6.0nm,1.4s							
QSPA	**South Pole Qui**	83.48	180	P	**P**	14 20 42.8	-1.0
QSPA				IAmb	IAmb	14 21 15.4	
comp=Z,6.9nm,1.5s							
QSPA	**South Pole Qui**	83.48	180	P	**P**	14 20 42.4	-1.5
comp=Z,0.9nm,0.6s,baz=27,slow=2.3,SNR=13							
comp=Z,0.9nm,0.6s							
ILAR	**Eielson Array**	85.82	23	P	**P**	14 20 51.9	-3.5
comp=Z,0.2nm,0.6s,baz=262,slow=5.5,SNR=4.0							
comp=Z,0.2nm,0.6s							
BVAR	**Borovoye Array**	87.33	324	P	**P**	14 21 00.8	-2.3
comp=Z,0.8nm,0.5s,baz=107,slow=6.6,SNR=5.7							
comp=Z,0.8nm,0.5s							

*NDI **23** 14:14:41.9±0.6, 10°.23N×92°.54E, h10km, ML4.0, MW4.1, mb4.5(NEIC)*
*NEIC **23** 14:14:41.0±1.8, 10°.23N±0°.08×92°.4E±0°.2, h10km±1km, mb4.5/7, Error ellipse: s-maj=29.3km s-min=12.7km az=277.0*
*IDC **23** 14:14:42.2±1.6, 10°.55N×92°.58E, h0km, mb3.5/5, mbtmp3.5/6, ML3.8/1, MS4.1/2, Error ellipse: s-maj=62.9km s-min=22.4km az=57.0*
ISC 23 14:14:40.6±0.7, 10°.16N±0°.05×92°.6E±0°.1, h10km, n25, σ1§23/22, mb3.7/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	1.49	5	Pn	**Pb**	14 15 08.6	+0.2
PBA				Sn	**Sn**	14 15 26.1	-0.9
PBA	**Port Blair**	1.49	5	eP	**Pg**	14 15 08.9	-0.2
PBA				eS	**Sg**	14 15 27.8	-0.7
PBA				IAML		14 15 30.6	
comp=N,1μm,0.3s							
PBA				IAML		14 15 33.0	
comp=E,1μm,0.2s							
PBA	**Port Blair**	1.49	5	eP	**Pg**	14 15 11.7	+2.6
DGPR	**DIGLIPUR**	3.01	6	eP	**Pn**	14 15 28.9	+0.5
DGPR				eS	**Sn**	14 16 03.4	-1.2
DGPR				AMP		14 16 06.3	
comp=N,2μm,0.4s							
DGPR				AMP		14 16 07.7	
comp=E,1μm,0.3s							
CMBY	**CAMPBELL BAY**	3.40	157	eP	**Pn**	14 15 33.8	+0.2
CMBY				eS	**Sn**	14 16 12.4	-1.6
CMAR	**Chiang Mai Arr**	10.28	36	Pn	**Pn**	14 17 07.3	-1.0
comp=E,0.2nm,0.3s,baz=226,slow=15,SNR=3.8							
comp=E,0.7nm,0.5s							
H08S3	**Diego Garcia H**	26.71	229	T	T	14 48 50.2	
baz=47							
H08S2	**Diego Garcia H**	26.72	229	T	T	14 48 55.1	
baz=47							
H08S1	**Diego Carcia H**	26.73	229	T	T	14 48 40.4	
baz=47							
MKAR	**Makanchi Array**	37.54	348	P	**P**	14 21 53.9	-1.0
MKAR	**Makanchi Array**	37.54	348	P	**P**	14 21 54.2	-0.7
comp=E,0.3nm,0.5s,baz=170,slow=7.3,SNR=3.8							
comp=E,0.3nm,0.5s							
BVAR	**Borovoye Array**	46.35	342	P	**P**	14 23 06.8	0.0
comp=E,0.3nm,0.4s,baz=160,slow=8.8,SNR=3.1							
comp=E,0.3nm,0.4s							
AKTO	**Aktyubinsk**	49.22	331	LR	LR	14 44 42.2	
comp=E,133nm,21.3s,baz=320,slow=37							
WRA	**Warramunga Arr**	50.83	126	P	P	14 23 46.7	+5.0
comp=E,0.4nm,0.7s,baz=298,slow=8.9,SNR=5.0							
comp=E,0.4nm,0.7s							
WRAB	**Tennant Creek**	50.83	126	P	**P**	14 23 43.3	+1.6
WRAB				IAmb	IAmb	14 23 44.2	
comp=Z,10nm,1.5s							
WR0	**Warramunga Arr**	51.00	126	P	**P**	14 23 44.5	+1.5
ASAR	**Alice Springs**	52.55	130	P	P	14 24 00.1	+5.6
comp=Z,0.3nm,0.9s,baz=302,slow=7.7,SNR=5.0							
comp=Z,0.3nm,0.9s							
PATS	**Pohnpei**	64.99	87	P	**P**	14 25 21.4	0.0
TIXI	**Tiksi**	65.31	12	P	**P**	14 25 19.8	-2.6
FINES	**FINESS Array B**	69.99	332	P	**P**	14 25 51.3	-0.8
ARCES	**ARCESS Array B**	72.61	340	P	**P**	14 26 09.0	+1.1
comp=Z,1.6nm,0.9s,baz=103,slow=7.7,SNR=6.0							
comp=Z,1.6nm,0.9s							
CUC	**Castrocucco**	73.43	309	P	**P**	14 26 13.2	-0.2
SHEM	**Shemya Is, Ala**	76.84	38	LR	LR	15 03 48.3	
comp=Z,175nm,18.6s,baz=248,slow=38							
E19K	**Redstone River**	88.23	21	P	**P**	14 27 31.1	-0.7
E19K				IAmb	IAmb	14 27 56.9	
comp=Z,3.9nm,1.4s							
B22K	**Teshekpuk Lake**	88.31	18	P	**P**	14 27 31.6	-0.5

*BJI **23** 14:20:12.2, 24°.46S×178°.50W, h349km, mB5.8/69, mb5.5/76*
*IPGP **23** 14:20:13.0, 24°.86S×178°.82W, h387km, Mw6.0, Fault plane solution: NP1:φs134.00000°, δ18.00000°, λ-140.00000°. NP2:φs5.00000°, δ78.00000°, λ-76.00000°.*
*MOS **23** 14:20:15.3±0.9, 24°.67S×178°.95W, h368km, mb5.7/28, Error ellipse: s-maj=9.7km s-min=6.6km az=120.2*
*NEIC **23** 14:20:16.6, 24°.76S×178°.78W, h400km*
*NEIC **23** 14:20:16.6, 24°.66S×179°.00W, h400km, Moment Tensor Solution. Duration: 4§6 Moment tensor: Scale 10^18Nm; Mrr-0.26; Mθθ0.00; Mφφ0.25; Mrθ-0.07; Mθφ-0.17; Mφr-1.07; Fault plane solution: M0 1.12000×10^18 NP1: φs127.10000°, δ11.37000°, λ-145.01000°. NP2:φs2.65000°, δ83.51000°, λ-80.65000°. Principal axes: T 1.1065, Plg38.0000°, Azm84.0000°; N 0.0172, Plg9.0000°, Azm182.0000°; P -1.1237, Plg51.0000°, Azm283.0000°;*
*NEIC **23** 14:20:17.8±2.0, 24°.71S±0°.07×178°.76W±0°.08, h386km±3km, mb5.4/539, Mwb6.0/69, Mww6.0/40 Error ellipse: s-maj=11.6km s-min=7.9km az=47.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr-0.52; Mθθ0.03; Mφφ0.49; Mrθ-0.17; Mθφ0.02; Mφr-1.08; Fault plane solution: M0 1.21000×10^18 NP1: φs177.65000°, δ12.51000°, λ-100.28000°. NP2:φs8.17000°, δ77.69000°, λ-87.73000°. Principal axes: T 1.1907, Plg33.0000°, Azm96.0000°; N 0.0337, Plg2.0000°, Azm188.0000°; P -1.2243, Plg57.0000°, Azm281.0000°;*
*NOU **23** 14:20:17.3, 24°.81S×178°.71W, h384km, ML5.7/180, South of Fiji Islands*
*IDC **23** 14:20:17.6±0.3, 24°.73S×178°.93W, h382km±3km, mb5.0/23, mbtmp5.8/26, Error ellipse: s-maj=8.0km s-min=7.4km az=103.0*
*NEIC **23** 14:20:18.2, 24°.75S×178°.86W, h388km*
*GCMT **23** 14:20:19.8±0.1, 24°.71S±0°.01×178°.78W±0°.01, h384km, MW6.0/154, Moment Tensor Solution. s154, c339; s125, c166; Duration: 2§4 Moment tensor: Scale 10^18Nm; Mrr-0.39±.01; Mθθ-0.04±.01; Mφφ0.43±.01; Mrθ-0.09±.01; Mθφ-0.14±.01; Mφr-1.04±.01; Best double couple: M0 1.13100×10^18 NP1:φs143.00000°, δ14.00000°, λ-129.00000°. NP2:φs3.00000°, δ79.00000°, λ-81.00000°. Principal axes: T 1.1420, Plg34.0000°, Azm86.0000°; N -0.0210, Plg9.0000°, Azm182.0000°; P -1.1200, Plg55.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
*BGR **23** 14:20:19.4, 22°.64S×178°.85W, h377km±6km, Hypocentre not reviewed by the ISC*
ISC 23 14:20:16.6±0.3, 24°.71S±0°.03×178°.83W±0°.03, h377km±2km, h378km; pP-P, n1568, σ1§36/1544, mb5.5/412, 117C-138D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	4.59	170	P	**Pn**	14 21 32.4	-0.7
RIZ				S	**S**	14 22 34.8	-0.3
GLKZ	**Green Lake**	4.61	170	P	**Pn**	14 21 32.8	-0.4
LKBA	**Tubou, Lakemba**	6.45	0	P	**Pn**	14 21 54.5	+1.0
MSVF	**Nonsavu**	7.53	337		**Pn**	14 22 06.6	+0.7
MSVF	**Nonsavu**	7.53	337	P	**P**

MXZ	Matakaoa Point	13.04 190		P	14 23 04.4 -4.0
MXZ	Matakaoa Point	13.04 190	P	P	14 23 04.9 -3.5
MXZ			S	S	14 25 24.4 -6.3
WIZ	White Island	13.22 194	P	P	14 23 10.8 +0.5
WMGZ	Waiomatatini S	13.28 190	P	P	14 23 07.2 -3.7
HAZ	Te Kaha	13.32 192	P	P	14 23 08.5 -2.9
HAZ			S	S	14 25 32.1 -4.2
OUENC	Ouen Island, N	13.34 277	P	Pn	14 23 15.1 +1.5
YATNC	Mamie plateau,	13.37 278	P	Pn	14 23 14.2 +0.1
PKGZ	Pakihiroa	13.38 191	P	P	14 23 08.8 -3.3
PKGZ			S	S	14 25 32.8 -4.6
RUGZ	Raukumara Rang	13.54 192	P	P	14 23 11.2 -2.9
PUZ	Puketiti	13.55 190	P	P	14 23 10.2 -3.8
PUZ			S	S	14 25 34.4 -6.5
TWGZ	Tauwhareparae	13.70 191	P	P	14 23 12.2 -3.5
ONTNC	Ouen Toro	13.71 277	P	Pn	14 23 18.6 +0.6
DZM	Mont Dzumac	13.77 278		P	14 23 17.6 +0.9
DZM	Mont Dzumac	13.77 278	P	Pn	14 23 19.2 +0.4
	comp=Z,528nm,0.7s,baz=85,slow=14,SNR=123				
DZM			ScP	ScP	14 31 10.9 +2.6
	comp=Z,96nm,1.1s,baz=101,slow=5.2,SNR=12				
DZM	Mont Dzumac	13.77 278	P	Pn	14 23 20.0 +1.2
MWZ	Matawai	13.93 192	P	P	14 23 14.3 -3.8
URZ	Urewera	13.94 193	P	P	14 23 17.3 -0.9
	comp=Z,284nm,0.4s,baz=90,slow=2.4,SNR=119				
URZ			S	S	14 25 45.7 -3.0
	comp=Z,386nm,0.5s,baz=353,slow=0.6,SNR=10				
URZ			ScP	ScP	14 31 07.8 -0.3
	comp=Z,18nm,0.8s,baz=237,slow=20,SNR=4.5				
URZ	Urewera	13.94 193	P	P	14 23 16.4 -1.8
DVP	Devils Point	13.95 297	P	Pn	14 23 20.9 +0.1
CNGZ	Carnagh Statio	13.96 190	P	P	14 23 14.4 -4.1
TKGZ	Te Karaka	13.97 191	P	P	14 23 14.3 -4.3
RAGZ	Rawiri	14.11 192	P	P	14 23 16.5 -3.7
MUGZ	Murupara	14.22 194	P	P	14 23 19.3 -2.0
RIGZ	Rimuhau	14.25 191	P	P	14 23 16.5 -5.2
RTZ	Ruatahuna	14.31 193		P	14 23 19.3 -3.1
SNGZ	Shannon Statio	14.40 192	P	P	14 23 20.4 -2.9
PRGZ	Paritu Road	14.44 190	P	P	14 23 20.5 -3.2
MTHZ	Maungataniwha	14.57 194	P	P	14 23 22.7 -2.4
RAHZ	Arahi	14.58 193	P	P	14 23 22.4 -2.8
MRHZ	Matea Rd	14.64 195	P	P	14 23 23.6 -2.4
MHGZ	Mahia Peninsul	14.66 190	P	P	14 23 22.8 -3.4
WHHZ	Waihua	14.71 192	P	P	14 23 25.1 -1.5
HIZ	Hauiti	14.77 200	P	Pn	14 23 29.1 -0.7
NMHZ	Naumai	14.81 193	P	P	14 23 24.9 -2.9
ARHZ	Aropaoanui	14.93 193	P	P	14 23 25.6 -3.4
BKZ	Black Stump Fm	14.95 194		P	14 23 24.9 -4.4
BKZ	Black Stump Fm	14.95 194	P	P	14 23 26.6 -2.7
MCHZ	McNeill Hill	15.17 193	P	P	14 23 27.8 -3.8
KWHZ	Kaweka Forest	15.21 194	P	P	14 23 29.2 -2.9
CKHZ	Cape Kidnapper	15.30 192	P	P	14 23 30.9 -2.1
KRHZ	Kereru	15.43 194	P	P	14 23 30.2 -4.3
VLAKA	Lakatoro	15.46 301	P	P	14 23 36.0 +1.0
KAHZ	Kahuranaki	15.47 192	P	P	14 23 31.2 -3.8
PNHZ	Pukenui	15.72 194	P	P	14 23 34.0 -3.7
KHEZ	Kahui Hut	15.75 201	P	P	14 23 38.5 +0.5
KOUNC	Koumac, New Ca	16.12 282	P	Pn	14 23 44.5 -1.2
BFZ	Birch Farm	16.45 193		P	14 23 41.6 -3.8
BFZ	Birch Farm	16.45 193	P	P	14 23 44.0 -1.5
MRZ	Mangatainoka R	16.58 195		P	14 23 42.9 -4.0
MSWZ	Moikau Station	17.37 195	P	P	14 23 50.8 -4.5
SNZO	South Karori	17.41 196	P	P	14 23 51.4 -4.2
SNZO	South Karori	17.41 196	P	P	14 23 54.4 -1.2
TCW	Tory Channel	17.43 198	P	P	14 23 51.7 -4.2
BHW	Baring Head	17.46 196	P	P	14 23 52.3 -3.9
PLWZ	Palliser	17.52 195	P	P	14 23 53.0 -3.9
QRZ	Quartz Range	17.62 202		P	14 23 55.1 -2.8
QRZ	Quartz Range	17.62 202	P	P	14 23 56.9 -1.0
TKNZ	Takaka Hill	17.66 201	P	P	14 23 56.2 -2.2
NNZ	Nelson	17.70 200		P	14 23 55.2 -3.5
TUWZ	Tuamarina	17.73 198	P	P	14 23 54.9 -4.1
RAR	Rarotonga	17.89 83		P	14 23 59.3 -1.7
RAR	Rarotonga	17.89 83	P	P	14 24 00.9 -0.1
	comp=Z,561nm,1.1s,baz=236,slow=5.0,SNR=24				
RAR			ScP	ScP	14 31 17.5 +1.4
	comp=Z,80nm,1.1s,baz=341,slow=9.8,SNR=3.5				
RAR	Rarotonga	17.89 83	P	P	14 24 01.5 +0.4
RAR	Rarotonga	17.89 83	⇑P	P	14 24 01.1 +0.1
CMWZ	Cape Campbell	17.95 197	P	P	14 23 59.8 -1.6
BSWZ	Blackbirch Sta	18.01 198	P	P	14 23 59.5 -2.5
THZ	Tophouse	18.34 200		P	14 24 02.5 -3.1
DSZ	Dennistoun Nort	18.69 202		P	14 24 09.0 -0.3
KHZ	Kahutara	18.75 198		P	14 24 05.9 -4.1
KHZ	Kahutara	18.75 198	P	P	14 24 07.4 -2.5
CTZ	Chatham Island	19.07 175		P	14 24 15.0 +1.8
CTZ	Chatham Island	19.07 175	P	P	14 24 13.9 +0.7
GVZ	Greta Valley S	19.40 198		P	14 24 13.9 -2.8
LTZ	Lake Taylor	19.46 200		P	14 24 13.1 -4.2
INZ	Inchbonnie	19.68 202		P	14 24 16.8 -2.5
AMCZ	Amberley	19.71 199	P	P	14 24 17.7 -1.9
OXZ	Oxford	20.03 200		P	14 24 17.7 -5.0
MQZ	McQueen's Vall	20.19 198	P	P	14 24 21.9 -2.3
LHI	Lord Howe Isla	20.62 246		P	14 24 27.8 -0.5
LHI	Lord Howe Isla	20.62 246	P	P	14 24 30.5 +2.2
	comp=Z,0.0nmcomp=Z,2μm,0.8s				
LHI	Lord Howe Isla	20.62 246	⇓P	P	14 24 30.5 +2.2
RPZ	Rata Peaks	20.69 201		P	14 24 26.6 -2.2
RPZ	Rata Peaks	20.69 201	P	P	14 24 27.6 -1.1
	comp=Z,97nm,0.5s,baz=22,slow=4.3,SNR=96				
RPZ			S	S	14 27 51.0 -3.6
	comp=Z,45nm,0.7s,baz=69,slow=17,SNR=3.3				
RPZ			ScP	ScP	14 31 22.7 +0.5
	comp=Z,52nm,1.0s,baz=4.5,slow=5.2,SNR=5.8				
	comp=Z,97nm,0.5s				
RPZ	Rata Peaks	20.69 201	P	P	14 24 27.6 -1.1
FOZ	Fox Glacier	20.96 204		P	14 24 28.3 -2.8
JCZ	Jackson Bay	21.80 205	P	P	14 24 37.7 -1.2
ODZ	Otahua Downs	22.01 200	P	P	14 24 39.2 -1.5
ODZ	Otahua Downs	22.01 200	P	P	14 24 40.4 -0.3
WKZ	Wanaka	22.37 203		P	14 24 42.0 -1.9
WKZ			IAmb	IAmb	14 24 49.3
	comp=Z,105nm,0.6s				
MLZ	Mavora Lakes	23.16 204		P	14 24 49.8 -1.3
MLZ			IAmb	IAmb	14 24 55.0
	comp=Z,107nm,0.7s				
DCZ	Deep Cove	23.60 205		P	14 24 54.7 -0.4
WHZ	Wether Hill Ro	23.67 203		P	14 24 54.1 -1.5
WHZ			IAmb	IAmb	14 24 57.1
	comp=Z,177nm,0.6s				
SYZ	Scrubby Hill	23.82 201	P	P	14 24 56.3 -0.7
NGOA	Tingoa Renbel	23.90 299	P	P	14 25 00.4 +2.3
GC1S	Gold Coast 1 S	24.98 256	P	P	14 25 09.4 +1.7
HNR	Honiara	25.29 303		P	14 25 10.2 -0.3
HNR	Honiara	25.29 303	P	P	14 25 10.4 -0.1
HNR	Honiara	25.29 303	P	P	14 25 10.2 -0.3
HNR			pmax	pmax	
	comp=Z,1μm,0.8s				
HNR	Honiara	25.29 303	⇓P	P	14 25 09.4 -1.2
SAVO	Savo Central	25.57 304	P	P	14 25 12.3 -0.8
TATA	Tatamba Isabel	26.06 305	P	P	14 25 16.3 -1.2
ARMA	Armidale	26.75 251		P	14 25 24.5 +1.0
ARMA	Armidale	26.75 251	P	P	14 25 24.9 +1.3
	comp=Z,0.0nmcomp=Z,504nm,1.1s				
ARMA	Armidale	26.75 251	P	P	14 25 25.4 +1.8
ARMA	Armidale	26.75 251	⇓P	P	14 25 25.1 +1.5
NTLH	Newcastle Hard	27.01 246	P	P	14 25 26.9 +1.2
EIDS	Eidsvold	27.24 262		P	14 25 27.9 +0.1
EIDS	Eidsvold	27.24 262	P	P	14 25 28.8 +0.9
	comp=Z,0.0nmcomp=Z,1μm,1.2s				
EIDS	Eidsvold	27.24 262	P	P	14 25 28.9 +1.1
EIDS	Eidsvold	27.24 262	⇓P	P	14 25 28.8 +0.9
GD1S	Gladstone Soft	27.34 266	P	P	14 25 29.7 +1.1
MGCD	Mangrove Creek	27.56 245	P	P	14 25 31.3 +0.8
	comp=Z,427nm,0.9s				
MGCD	Mangrove Creek	27.56 245	P	P	14 25 32.9 +2.4
MGCD	Mangrove Creek	27.56 245	P	P	14 25 32.5 +2.0
RIV	Riverview	27.63 244	P	P	14 25 32.6 +1.5
	comp=Z,534nm,1.3s				
RIV	Riverview	27.63 244	P	P	14 25 32.3 +1.2
RIV	Riverview	27.63 244	⇓P	P	14 25 32.8 +1.7
SYDH	Sydney Hard Ro	27.96 244	P	P	14 25 34.9 +0.9
WOLH	Wollongong Har	27.98 243	P	P	14 25 35.2 +1.0
PPT	Papeete	28.16 81	P	P	14 25 35.4 -0.6
	comp=Z,225nm,0.9s,baz=240,slow=4.3,SNR=18				
PPT			ScP	ScP	14 31 43.8 +0.3
	comp=Z,120nm,1.1s,baz=232,slow=2.4,SNR=5.0				
	comp=Z,225nm,0.9s				
PPTF	Pamatai, Papee	28.16 81	P	P	14 25 34.5 -1.6
PPTF	Pamatai, Papee	28.16 81	P	P	14 25 36.3 +0.2
PPTF	Pamatai, Papee	28.16 81	⇓P	P	14 25 36.8 +0.7
RMQ	Roma	29.24 260	P	P	14 25 47.0 +1.5
	comp=Z,450nm,1.3s				
RMQ	Roma	29.24 260	P	P	14 25 47.8 +2.3
CNB	Canberra Magne	29.38 241	P	P	14 25 47.5 +0.8
	comp=Z,0.0nmcomp=Z,356nm,1.9s				
CNB	Canberra Magne	29.38 241	P	P	14 25 48.2 +1.5
CAN	Canberra	29.68 242	P	P	14 25 50.1 +0.9
CAN	Canberra	29.68 242	P	P	14 25 50.2 +1.0
	comp=Z,0.0nmcomp=Z,380nm,1.6s				
CAN	Canberra	29.68 242	P	P	14 25 50.6 +1.4
CAN	Canberra	29.68 242	P	P	14 25 50.1 +0.9
CAN			pmax	pmax	
	comp=Z,1μm,1.7s				
CAN	Canberra	29.68 242	⇑P	P	14 25 50.0 +0.9
MILA	Mila	29.96 238	P	P	14 25 52.7 +1.1
	comp=Z,298nm,1.3s				
MILA	Mila	29.96 238	⇓P	P	14 25 52.7 +1.1
CMSA	Cobar Meteorol	31.92 250	P	P	14 26 09.3 +0.6
	comp=Z,0.0nmcomp=Z,611nm,1.2s				
CMSA	Cobar Meteorol	31.92 250	P	P	14 26 09.3 +0.6
GLAD	Gladstone	32.00 231	P	P	14 26 09.7 +0.5
TV1H	Townsville Har	32.27 273	P	P	14 26 13.0 +1.1
CORO	Coronation Par	32.77 231	P	P	14 26 17.1 +1.2
TOO	Toolangi	32.92 239		P	14 26 17.4 +0.1
TOO	Toolangi	32.92 239	P	P	14 26 17.9 +0.6
	comp=Z,0.0nmcomp=Z,168nm,1.4s				
TOO	Toolangi	32.92 239	P	P	14 26 17.4 +0.1
TOO			pmax	pmax	
	comp=Z,87nm,0.7s				
TOO	Toolangi	32.92 239	⇑P	P	14 26 17.6 +0.4
MOO	Moorlands	33.09 229	P	P	14 26 19.1 +0.5
	comp=Z,84nm,0.7s				
MOO	Moorlands	33.09 229	P	P	14 26 19.3 +0.7
TAU	Tasmania Unive	33.18 228		P	14 26 18.9 -0.4
TAU	Tasmania Unive	33.18 228	P	P	14 26 20.3 +1.0
TAU	Tasmania Unive	33.18 228	P	P	14 26 18.9 -0.4
TAU			pmax	pmax	
	comp=Z,63nm,0.7s				
TAU	Tasmania Unive	33.18 228	⇑P	P	14 26 19.7 +0.4
TAU	Tasmania Unive	33.18 228	P	P	14 26 19.8 +0.5
TAU			PcP	PcP	14 28 53.0 +1.0
TAU			ScP	ScP	14 32 01.6 +1.8
QLP	Quilpie	33.28 259	P	P	14 26 20.8 +0.4
	comp=Z,2μm,0.5s				
QLP	Quilpie	33.28 259	P	P	14 26 21.6 +1.2
QLP	Quilpie	33.28 259	⇓P	P	14 26 20.7 +0.4
MLBS	Spotswood, Mel	33.44 238	P	P	14 26 23.0 +1.4
XMAS	Kiritimati	33.74 41	P	P	14 26 24.3 -0.1
XMAS	Kiritimati	33.74 41	P	P	14 26 25.8 +1.4
XMAS	Kiritimati	33.74 41	P	P	14 26 25.4 +1.0
XMAS			ScP	ScP	14 32 03.6 +1.4
GEXS	Deakin Univers	33.98 238	P	P	14 26 26.8 +0.5
RABL	Rabaul	34.56 302	P	P	14 26 30.8 -0.7
RABL	Rabaul	34.56 302	⇓P	P	14 26 29.6 -1.9
MTSU	Mount Surprise	34.85 274	P	P	14 26 34.7 +0.8
	comp=Z,2μm,0.7s				
MTSU	Mount Surprise	34.85 274	P	P	14 26 35.1 +1.2
STKA	Stephens Creek	35.42 249	P	P	14 26 38.8 +0.3
	comp=Z,0.0nmcomp=Z,2μm,1.3s				
STKA	Stephens Creek	35.42 249	S	S	14 31 42.6 -2.5
STKA	Stephens Creek	35.42 249	P	P	14 26 38.8 +0.3
	comp=Z,177nm,0.5s,baz=94,slow=9.7,SNR=738				
STKA			PcP	PcP	14 28 59.8 +1.0
	comp=Z,37nm,0.5s,baz=120,slow=7.1,SNR=4.0				
STKA			ScP	ScP	14 32 08.5 +0.4
	comp=Z,75nm,1.0s,baz=68,slow=2.2,SNR=11				
	comp=Z,177nm,0.5s				
STKA	Stephens Creek	35.42 249	P	P	14 26 39.2 +0.6
ARPS	Mount Arapiles	35.64 241	P	P	14 26 40.2 -0.2
	comp=Z,349nm,1.2s				
ARPS	Mount Arapiles	35.64 241	S	S	14 31 48.8 +0.5
ARPS	Mount Arapiles	35.64 241	P	P	14 26 41.0 +0.7
PMG	Port Moresby	35.77 289		P	14 26 42.1 +0.5
PMG	Port Moresby	35.77 289	S	S	14 31 50.3 -0.3
	comp=Z,5.7nm,0.3s,baz=360,slow=22,SNR=7.0				
PMG			ScP	ScP	14 32 11.5 +2.0
	comp=Z,139nm,0.9s,baz=72,slow=4.7,SNR=14				
PMG	Port Moresby	35.77 289	P	P	14 26 42.3 +0.6
PMG	Port Moresby	35.77 289	P	P	14 26 42.1 +0.5
PMG			pmax	pmax	
	comp=Z,2μm,0.8s				
PMG	Port Moresby	35.77 289	⇓P	P	14 26 41.8 +0.2
PMG	Port Moresby	35.77 289	P	P	14 26 42.2 +0.6
PMG			PcP	PcP	14 29 01.2 +1.2
PMG			ScP	ScP	14 32 12.7 +3.1
INKA	Innaminka	36.28 256	P	P	14 26 47.1 +1.3
MGBR	Mount Gambier	36.78 240	P	P	14 26 49.8 0.0
COEN	Coen	37.30 280	P	P	14 26 55.1 +0.7
	comp=Z,0.0nmcomp=Z,1μm,1.0s				
COEN	Coen	37.30 280	P	P	14 26 55.7 +1.3
COEN	Coen	37.30 280	⇑P	P	14 26 55.2 +0.7
HTT	Hallett	37.72 247	P	P	14 26 57.6 -0.3
	comp=Z,127nm,1.1s				
HTT	Hallett	37.72 247	P	P	14 26 58.1 +0.3
HTT	Hallett	37.72 247	⇑P	P	14 26 57.6 -0.3
GHSS	Government Hou	38.06 244	P	P	14 27 01.0 +0.5
LCRK	Leigh Creek	38.33 252	P	P	14 27 03.1 +0.3
PATS	Pohnpei	38.46 322		P	14 27 04.7 +0.7
PATS	Pohnpei	38.46 322	P	P	14 27 04.2 +0.2
	comp=Z,393nm,1.7s				
QIS	Mount Isa	38.48 268	P	P	14 27 04.3 +0.1
	comp=Z,0.0nmcomp=Z,725nm,1.4s				
QIS	Mount Isa	38.48 268	P	P	14 27 04.1 -0.1
PTPS	Port Pirie	38.49 247	P	P	14 27 04.6 +0.5
WHYH	Whyalla	38.84 247	P	P	14 27 07.2 +0.2
MANU	Manus Island	39.65 299	⇓P	P	14 27 13.5 -0.3
TAOE	Nuku Hiva Isla	40.08 74		P	14 27 16.7 -0.6
TAOE	Nuku Hiva Isla	40.08 74	P	P	14 27 17.4 0.0
TAOE	Nuku Hiva Isla	40.08 74	⇑P	P	14 27 17.7 +0.4
TAOE	Nuku Hiva Isla	40.08 74	P	P	14 27 17.9 +0.5
BBOO	Buckleboo	40.12 248		P	14 27 16.5 -0.9
BBOO	Buckleboo	40.12 248	P	P	14 27 16.7 -0.7
	comp=Z,0.0nmcomp=Z,336nm,1.7s				
BBOO	Buckleboo	40.12 248	P	P	14 27 16.7 -0.7
OOD	Oodnadatta	40.73 255	P	P	14 27 23.3 +0.9
MMPI	Merauke	42.09 285	P	P	14 27 35.0 +1.5
	comp=Z,7μmcomp=Z,1μm,1.8s				
AS01	Alice Springs	42.92 261	P	P	14 27 40.3 +0.3
AS31	Alice Springs	42.96 261	IAmb	IAmb	14 27 43.3
	comp=Z,169nm,0.8s				
AS31	Alice Springs	42.96 261	P	P	14 27 40.2 -0.2
	comp=Z,0.0nmcomp=Z,275nm,1.1s				
ASAR	Alice Springs	42.96 261	P	P	14 27 39.9 -0.5
	comp=Z,629nm,0.9s,baz=96,slow=6.6,SNR=5727				
ASAR			pP	pP	14 28 55.8 +2.7
	comp=Z,83nm,0.9s,baz=99,slow=8.6,SNR=0.7				
ASAR			PcP	PcP	14 29 22.8 -0.3
	comp=Z,18nm,0.6s,baz=105,slow=3.8,SNR=4.2				
ASAR			ScP	ScP	14 32 38.8 +1.3
	comp=Z,56nm,1.1s,baz=114,slow=4.3,SNR=13				
ASAR			S	S	14 33 34.2 -2.7
	comp=Z,26nm,0.8s,baz=104,slow=15,SNR=8.7				
ASAR			ScS	ScS	14 36 59.5 +0.7
	comp=Z,12nm,0.9s,baz=94,slow=6.3,SNR=8.7				
ASAR			P4KPbc		15 05 34.2
	comp=Z,0.3nm,0.5s,baz=105,slow=5.0,SNR=7.8				
	comp=Z,629nm,0.9s				
WRAB	Tennant Creek	43.41 267	P	P	14 27 43.5 -0.4
WRAB	Tennant Creek	43.41 267	P	P	14 27 43.5 -0.4
WRAB			pmax	pmax	
	comp=Z,2μm,1.5s				
WRA	Warramunga Arr	43.42 267	P	P	14 27 43.6 -0.4
	comp=Z,791nm,0.5s,baz=104,slow=8.0,SNR=785				
WRA			pP	pP	14 28 59.3 +2.2
	comp=Z,24nm,0.8s,baz=105,slow=7.1,SNR=0.6				
WRA			PcP	PcP	14 29 24.4 -0.2
	comp=Z,49nm,0.8s,baz=109,slow=3.3,SNR=5.8				
WRA			ScP	ScP	14 32 41.0 +1.6
	comp=Z,193nm,1.0s,baz=107,slow=4.0,SNR=43				
WRA			S	S	14 33 40.8 -2.7
	comp=Z,65nm,1.0s,baz=102,slow=14,SNR=13				
WRA			ScS	ScS	14 37 02.6 +0.9
	comp=Z,9.9nm,1.2s,baz=108,slow=3.9,SNR=5.2				
WRA			P4KPbc		15 05 36.2
	comp=Z,0.5nm,0.5s,baz=92,slow=4.2,SNR=8.5				
PTCN	Pitcairn Islan	44.02 101	P	P	14 27 48.0 -0.6
JAY	Jayapura	44.81 293	ScP	ScP	14 32 45.6 +0.4
	comp=Z,32nm,1.0s,baz=103,slow=5.9,SNR=3.8				
JAY			S	S	14 34 03.6 +0.1
	comp=Z,29nm,1.0s,baz=107,slow=19,SNR=4.9				
JAY	Jayapura	44.81 293	P	P	14 27 55.1 +0.1
	comp=Z,6μmcomp=Z,10μmcomp=Z,583nm,0.7s				
GENI	Genyem	45.22 293	P	P	14 27 59.8 +1.7
GENI	Genyem	45.22 293	P	P	14 27 58.0 -0.1
	comp=Z,8μmcomp=Z,14μmcomp=Z,745nm,1.9s				
GENI	Genyem	45.22 293	⇓P	P	14 27 57.9 -0.2
SMPI	Sarmi	46.77 292	P	P	14 28 09.5 -0.5
	comp=Z,5μmcomp=Z,7μmcomp=Z,349nm,1.8s				
FORT	Forrest	47.03 250	P	P	14 28 10.5 -1.4
	comp=Z,706nm,0.6s				
FORT	Forrest	47.03 250	P	P	14 28 11.5 -0.4
FORT	Forrest	47.03 250	⇓P	P	14 28 10.6 -1.4
KDU	Kakadu	47.42 275	P	P	14 28 14.3 -0.7
	comp=Z,0.0nmcomp=Z,631nm,1.0s				
KDU	Kakadu	47.42 275	P	P	14 28 14.7 -0.3
WRKA	Warakurna	47.70 258	P	P	14 28 16.4 -0.8
	comp=Z,0.0nmcomp=Z,1μm,1.1s				
WRKA	Warakurna	47.70 258	P	P	14 28 16.8 -0.4
WRKA	Warakurna	47.70 258	⇓P	P	14 28 16.1 -1.0
MTN	Manton Dam	48.58 275	IAmb	IAmb	14 28 24.5
	comp=Z,136nm,0.7s				
MTN	Manton Dam	48.58 275	P	P	14 28 22.8 -1.0
	comp=Z,0.0nmcomp=Z,289nm,0.7s				
MTN	Manton Dam	48.58 275	P	P	14 28 23.4 -0.4
MTN	Manton Dam	48.58 275	⇑P	P	14 28 22.6 -1.2
SRPI	Serui, Papua	48.92 291	P	P	14 28 26.6 +0.2
	comp=Z,4μmcomp=Z,8μmcomp=Z,622nm,1.2s				
DRS	Darwin Rock St	48.94 275	P	P	14 28 26.0 -0.5
DRV	Dumont d'Urvil	49.15 200	P	P	14 28 27.2 -0.1
DRV			PcP	PcP	14 29 44.1 0.0
DRV			ScP	ScP	14 33 02.2 -0.2
BAKI	Biak	49.39 291	P	P	14 28 31.4 +1.5
	comp=Z,7μmcomp=Z,11μmcomp=Z,826nm,1.6s				
PUH	Pauahi	49.49 30	IAmb	IAmb	14 28 33.5
	comp=Z,172nm,1.1s				
HMH	Humu'ula Sheep	49.57 29	P	P	14 28 33.0 +1.6
KNRA	Kununurra	49.75 270	P	P	14 28 32.5 0.0
	comp=Z,0.0nmcomp=Z,1μm,0.9s				
HPAH	Hawaii Prepara	49.85 29	IAmb	IAmb	14 28 35.5
	comp=Z,237nm,1.0s				
KEKH	Kekaha	49.99 23	P	P	14 28 35.3 +1.1
KIP	Kipapa	50.12 26	P	P	14 28 35.6 +0.5
KIP			IAmb	IAmb	14 28 38.1
	comp=Z,289nm,1.4s				
KIP	Kipapa	50.12 26	P	P	14 28 35.7 +0.5
KIP	Kipapa	50.12 26*ce*	P	P	14 28 36.5 +1.4
KIP			pmax	pmax	
	comp=Z,58nm,1.5s				
KIP	Kipapa	50.12 26	P	P	14 28 37.3 +2.2
KIP			ScP	ScP	14 33 10.2 +2.9
KMPI	Kaimana, Papua	50.21 287	P	P	14 28 37.6 +1.6
	comp=Z,5μmcomp=Z,10μmcomp=Z,823nm,0.8s				
SAUI	Saumlaki	50.36 280	P	P	14 28 37.0 -0.1
SAUI	Saumlaki	50.36 280	P	P	14 28 38.3 +1.2
SAUI	Saumlaki	50.36 280	P	P	14 28 39.1 +2.0
	comp=Z,7μmcomp=Z,18μmcomp=Z,1μm,1.3s				
RKPI	Ransiki, Papua	50.87 290	P	P	14 28 40.6 -0.3
FITZ	Fitzroy Crossi	51.83 266	IAmb	IAmb	14 28 50.3
	comp=Z,420nm,1.4s				
FITZ	Fitzroy Crossi	51.83 266	P	P	14 28 47.8 -0.1
	comp=Z,304nm,1.0s				
FITZ	Fitzroy Crossi	51.83 266	S	S	14 35 40.2 -0.6
FITZ	Fitzroy Crossi	51.83 266	pP	pP	14 30 05.5 +1.5
FITZ	Fitzroy Crossi	51.83 266	ScP	ScP	14 33 15.7 +0.7
	comp=Z,61nm,1.0s,baz=92,slow=3.4,SNR=5.8				
FITZ			S	S	14 35 40.0 -0.9
	comp=Z,18nm,1.0s,baz=192,slow=15,SNR=17				
FITZ	Fitzroy Crossi	51.83 266	P	P	14 28 48.3 +0.4
FITZ	Fitzroy Crossi	51.83 266	⇓P	P	14 28 47.6 -0.2
FAKI	Fak Fak	51.84 287	P	P	14 28 47.4 -0.5
FAKI	Fak Fak	51.84 287	P	P	14 28 48.1 +0.1
FAKI	Fak Fak	51.84 287	P	P	14 28 47.3 -0.7
	comp=Z,6μmcomp=Z,7μmcomp=Z,420nm,1.6s				
GUMO	Guam	52.00 313	P	P	14 28 48.9 -0.2
GUMO	Guam	52.00 313	P	P	14 28 49.6 +0.6
GUMO	Guam	52.00 313	P	P	14 28 48.9 -0.2
GUMO			pmax	pmax	
	comp=Z,602nm,0.7s				
GUMO	Guam	52.00 313	⇓P	P	14 28 48.7 -0.3
GUMO	Guam	52.00 313	P	P	14 28 49.1 +0.1
GUMO			ScP	ScP	14 33 16.4 +0.9
KMBL	Kambalda	52.22 249	P	P	14 28 49.6 -0.9
	comp=Z,175nm,1.2s				
KMBL	Kambalda	52.22 249	P	P	14 28 50.0 -0.5
BNDI	Bandanaira	53.14 284	P	P	14 28 58.2 +0.8
BNDI	Bandanaira	53.14 284	P	P	14 28 57.7 +0.3
	comp=Z,1μm,1.5s				
BNDI	Bandanaira	53.14 284	⇑P	P	14 28 56.9 -0.5
SBA	Scott Base	53.64 184	P	P	14 29 02.0 +2.0
SBA			IAmb	IAmb	14 29 04.0
	comp=Z,134nm,0.9s				
SBA	Scott Base	53.64 184	P	P	14 29 02.0 +2.0
SBA			pmax	pmax	
	comp=Z,134nm,0.9s				
SBA	Scott Base	53.64 184	P	P	14 29 03.0 +3.0
SBA			PcP	PcP	14 30 02.7 +1.9
SBA			pP	pwP	14 30 24.4 +4.6
SBA			ScP	ScP	14 33 23.3 +1.6
VNDA	Vanda	53.67 185	P	P	14 29 01.8 +1.5
VNDA	Vanda	53.67 185	P	P	14 29 01.7 +1.5
	comp=Z,35nm,0.7s,baz=1.8,slow=8.1,SNR=210				
VNDA			ScP	ScP	14 33 23.0 +1.1
	comp

baz=114,slow=6.3,SNR=3.2
H01W2 **Cape Leeuwin H** 58.10 243 P **P** **14 29 33.1 +1.3**
baz=114,slow=6.3,SNR=3.8
H01W3 **Cape Leeuwin H** 58.10 243 P **P** **14 29 33.3 +1.5**
baz=114,slow=6.3,SNR=4.5
CCD **Concordia, Ant** 58.22 195 P **P** **14 29 33.1 +0.5**
CCD PcP **PcP** **14 30 19.7 +0.4**
CCD pP **pP** **14 30 57.0 +5.5**
CCD ScP **ScP** **14 33 41.9 -0.6**
MMRI **Maumere** 58.26 275 P **P** **14 29 33.6 +0.2**
MMRI **Maumere** 58.26 275 P **P** **14 29 33.0 -0.4**
comp=Z,6μmcomp=Z,12μmcomp=Z,745nm,1.4s
MMRI **Maumere** 58.26 275 ⇑P **P** **14 29 32.7 -0.7**
EDFI **Ende, Flores** 58.71 275 P **P** **14 29 35.8 -0.8**
BBSI **Bau Bau** 59.25 279 P **P** **14 29 40.8 +0.6**
comp=Z,5μmcomp=Z,7μmcomp=Z,258nm,0.8s
WSI **Waingapu** 59.61 273 P **P** **14 29 42.7 +0.1**
CASY **Casey** 59.85 206 **P** **14 29 43.0 -0.3**
CASY IAmb IAmb 14 29 44.1
comp=Z,147nm,0.7s
CASY **Casey** 59.85 206 ⇓P **P** **14 29 43.1 -0.3**
CASY **Casey** 59.85 206 P **P** **14 29 43.0 -0.3**
WBSI **Waikabubak, Su** 60.44 273 P **P** **14 29 48.1 -0.1**
KMSI **Cibinong** 60.74 286 P **P** **14 29 49.7 -0.5**
comp=Z,4μmcomp=Z,6μmcomp=Z,428nm,1.5s
GIRL **Giralia** 60.77 257 **P** **14 29 50.7 +0.5**
GIRL **Giralia** 60.77 257 P **P** **14 29 50.6 +0.4**
comp=Z,904nm,1.6s
GIRL **Giralia** 60.77 257 P **P** **14 29 51.8 +1.6**
BSSI **Bau Bau, Buton** 60.85 277 P **P** **14 29 50.8 -0.1**
comp=Z,4μmcomp=Z,6μmcomp=Z,354nm,1.7s
LUWI **Luwuk** 61.05 283 P **P** **14 29 48.3 -4.0**
LUWI **Luwuk** 61.05 283 P **P** **14 29 53.0 +0.8**
LUWI **Luwuk** 61.05 283 P **P** **14 29 52.4 +0.2**
comp=Z,5μmcomp=Z,10μmcomp=Z,556nm,1.7s
LUWI **Luwuk** 61.05 283 ⇓P **P** **14 29 52.1 -0.1**
BKSI **Bulukumba** 61.53 278 P **P** **14 29 54.7 -0.7**
comp=Z,6μmcomp=Z,499nm,1.0s
RPN **Rapa Nui** 61.81 109 P **P** **14 29 58.8 +1.8**
BNSI **Bone** 61.93 279 P **P** **14 29 57.8 -0.3**
comp=Z,4μmcomp=Z,9μmcomp=Z,477nm,1.9s
KAPI **Kappang** 61.99 278 **P** **14 29 58.2 -0.3**
KAPI **Kappang** 61.99 278 P **P** **14 29 58.0 -0.4**
KAPI S **S** **14 37 49.7 -3.0**
KAPI **Kappang** 61.99 278 P **P** **14 29 59.4 +0.9**
KAPI **Kappang** 61.99 278 P **P** **14 29 58.2 -0.3**
KAPI pmax pmax
comp=Z,693nm,1.6s
KAPI **Kappang** 61.99 278 P **P** **14 29 58.4 -0.1**
KAPI PP **PP** **14 32 17.1 -3.3**
APSI **Ampana** 62.10 283 P **P** **14 29 59.6 +0.4**
comp=Z,5μmcomp=Z,444nm,1.5s
PLAI **Plampang** 62.23 273 P **P** **14 29 59.9 -0.1**
PLAI **Plampang** 62.23 273 P **P** **14 29 59.7 -0.3**
SPSI **Sidrap Palu** 62.42 279 P **P** **14 30 00.0 -1.3**
comp=Z,3μmcomp=Z,175nm,0.9s
DAV **Davao City (W)** 62.66 293 P **P** **14 30 01.8 -1.0**
TWSI **Taliwang, Sumb** 63.07 273 P **P** **14 30 05.3 -0.2**
comp=Z,4μmcomp=Z,9μmcomp=Z,508nm,0.7s
PCI **Palu** 63.72 282 P **P** **14 30 10.7 +1.0**
comp=Z,9μmcomp=Z,442nm,1.9s
JCJ **Chichijima** 63.77 321 P **P** **14 30 09.4 -0.3**
TOLI2 **Tolitoli** 63.81 284 **P** **14 30 09.0 -1.3**
TOLI2 **Tolitoli** 63.81 284 P **P** **14 30 10.5 +0.2**
MPSI **Mapaga** 64.23 283 P **P** **14 30 12.0 -1.0**
comp=Z,3μmcomp=Z,5μmcomp=Z,342nm,1.0s
DNP **Denpasar** 64.62 272 P **P** **14 30 16.8 +1.3**
SRBI **Singaraja** 64.85 273 P **P** **14 30 16.7 -0.3**
comp=Z,5μmcomp=Z,10μmcomp=Z,599nm,2.3s
QSPA **South Pole Qui** 65.38 180 P **P** **14 30 20.5 +0.9**
comp=Z,153nm,0.8s,baz=32,slow=1.9,SNR=528
QSPA pP **pwP** **14 31 43.8 +0.7**
comp=Z,165nm,1.1s,baz=44,slow=5.7,SNR=7.0
comp=Z,153nm,0.8s
QSPA **South Pole Qui** 65.38 180 P **P** **14 30 21.0 +1.3**
QSPA pP **pwP** **14 31 45.2 +2.1**
JAGI **Jajag, Banyuwa** 65.66 272 P **P** **14 30 22.0 -0.2**
JAGI **Jajag, Banyuwa** 65.66 272 P **P** **14 30 21.1 -1.1**
comp=Z,4μmcomp=Z,7μmcomp=Z,501nm,1.3s
JAGI **Jajag, Banyuwa** 65.66 272 ⇑P **P** **14 30 20.6 -1.5**
BKB **Balikpapan** 66.18 280 **P** **14 30 26.0 +0.5**
BKB IAmb IAmb 14 30 31.2
comp=Z,126nm,1.0s
BKB **Balikpapan** 66.18 280 P **P** **14 30 26.9 +1.5**
BKB **Balikpapan** 66.18 280 P **P** **14 30 28.5 +3.1**
comp=Z,5μmcomp=Z,6μmcomp=Z,122nm,0.8s
SMKI **Samarinda** 66.27 281 P **P** **14 30 28.1 +2.1**
comp=Z,5μmcomp=Z,487nm,1.0s
GMJI **Gumukmas** 66.38 272 P **P** **14 30 26.1 -0.6**
comp=Z,5μmcomp=Z,353nm,0.9s
KMMI **Kalianget** 66.39 273 P **P** **14 30 27.5 +0.8**
comp=Z,9μmcomp=Z,514nm,1.1s
MYLDM **Lahad Datu** 67.75 287 IAmb IAmb 14 30 48.6
comp=Z,110nm,0.9s
MYLDM **Lahad Datu** 67.75 287 P **P** **14 30 38.2 +3.0**
GRJI **Gresik** 67.80 273 P **P** **14 30 36.0 +0.5**
PCJI **Pacitan** 68.47 271 P **P** **14 30 39.8 +0.2**
NGJI **Ngawi** 68.54 272 P **P** **14 30 42.1 +2.0**
comp=Z,195nm,1.2s
UGM **Wanagama** 69.18 271 P **P** **14 30 43.7 -0.3**
UGM **Wanagama** 69.18 271 P **P** **14 30 45.5 +1.5**
comp=Z,376nm,1.0s
SMRI **Semarang** 69.60 272 **P** **14 30 45.9 -0.7**
SMRI **Semarang** 69.60 272 P **P** **14 30 47.3 +0.8**
SMRI **Semarang** 69.60 272 P **P** **14 30 47.5 +1.0**
comp=Z,164nm,0.6s
JHJ **Hachijo jima 2** 69.72 324 P **P** **14 30 46.9 +0.1**
comp=Z,111nm,0.6s,baz=219,slow=20,SNR=14
comp=Z,111nm,0.6s
KKM **Kota Kinabalu** 70.16 287 P **P** **14 30 50.7 +0.7**
TGY **Tagaytay City** 70.28 297 P **P** **14 30 50.5 -0.1**
comp=Z,189nm,0.4s,baz=117,slow=4.5,SNR=4.9
comp=Z,189nm,0.4s
CMJI **Cimerak** 71.12 270 P **P** **14 30 55.4 -0.2**
comp=Z,5μmcomp=Z,363nm,1.1s
STKI **Sintang** 71.63 279 P **P** **14 30 59.1 +0.5**
comp=Z,4μmcomp=Z,10μmcomp=Z,285nm,1.1s
JSG **Sagara** 71.76 324 P **P** **14 31 00.8 +1.9**
JCJI **Jatiwangi** 71.79 271 P **P** **14 30 59.8 +0.2**
comp=Z,648nm,1.1s
BBJI **Bungbulang** 71.97 270 P **P** **14 31 00.0 -0.7**
SBUM **Sibu** 72.02 281 P **P** **14 31 01.7 +0.8**
JOW **Kunigami** 72.32 312 P **P** **14 31 02.5 +0.1**
comp=Z,76nm,0.3s,baz=128,slow=11,SNR=26
comp=Z,76nm,0.3s
JOW **Kunigami** 72.32 312 P **P** **14 31 03.4 +1.0**
CNJI **Cibinong** 72.50 270 P **P** **14 31 03.7 -0.1**
comp=Z,203nm,1.0s
XMI **Christmas Isla** 72.59 266 P **P** **14 31 04.8 +0.5**
XMIS **Christmas Isla** 72.61 266 P **P** **14 31 05.1 +0.7**
JMM **Marumori** 72.89 328 P **P** **14 31 06.1 +0.7**
INU **Inuyama** 72.90 323 P **P** **14 31 05.2 -0.4**
INU **Inuyama** 72.90 323 P **P** **14 31 06.3 +0.7**
JGF **Kuroka** 72.91 324 P **P** **14 31 05.6 -0.1**
SKJI **Sukabumi** 73.15 270 P **P** **14 31 07.1 -0.4**
MJAR **Matsushiro Arr** 73.17 325 P **P** **14 31 06.7 -0.5**
comp=Z,41nm,0.8s,baz=159,slow=5.6,SNR=86
comp=Z,41nm,0.8s
MAJO **Matsushiro** 73.17 325 P **P** **14 31 06.7 -0.5**
MAJO IAmb IAmb 14 31 08.4
comp=Z,63nm,0.9s
MAJO **Matsushiro** 73.17 325 P **P** **14 31 07.4 +0.3**
MAJO **Matsushiro** 73.17 325 ⇓P **P** **14 31 06.8 -0.3**
MJB9 **Matsu-Tunnel** 73.17 325 IAmb IAmb 14 31 09.4
comp=Z,62nm,0.9s
KSM **Kuching** 73.29 280 P **P** **14 31 08.5 +0.1**
JMN **Monobe** 73.48 320 IAmb IAmb 14 31 11.2
comp=Z,130nm,1.2s
JMN **Monobe** 73.48 320 P **P** **14 31 10.3 +1.3**
TPI **Tanjungpandan** 73.88 274 P **P** **14 31 12.3 +0.6**
comp=Z,3μmcomp=Z,3μmcomp=Z,155nm,1.2s
CGJI **Cibinong** 74.09 270 P **P** **14 31 11.3 -1.6**
comp=Z,8μmcomp=Z,519nm,0.6s
JSD **Sado** 74.28 326 IAmb IAmb 14 31 17.8
comp=Z,43nm,0.6s
JSD **Sado** 74.28 326 P **P** **14 31 14.2 +0.8**
YOJ **Yonaguni jima** 74.57 307 P **P** **14 31 16.2 +0.8**
JNU **Nakatsue** 74.84 318 IAmb IAmb 14 31 18.4
comp=Z,156nm,1.2s
JNU **Nakatsue** 74.84 318 P **P** **14 31 16.7 -0.1**
comp=Z,58nm,0.9s,baz=62,slow=1.3,SNR=17
comp=Z,58nm,0.9s
JNU **Nakatsue** 74.84 318 P **P** **14 31 17.4 +0.6**
SMAI **San Martin Ant** 74.97 159 IAmb IAmb 14 31 19.2
comp=Z,98nm,0.8s

BLSI **Bandar Lampung** 75.00 271 P **P** **14 31 19.1 +1.0**
comp=Z,6μmcomp=Z,201nm,1.2s
TWGBT **Beinan** 75.04 304 P **P** **14 31 16.7 -1.4**
TWG **Pinlang** 75.05 304 IAmb IAmb 14 31 19.8
comp=Z,49nm,0.5s
JTM **Tenmabayashi** 75.06 330 P **P** **14 31 19.0 +1.2**
ERM **Erimo** 75.12 332 P **P** **14 31 19.3 +1.2**
ERM IAmb IAmb 14 31 23.9
comp=Z,161nm,1.4s
ERM **Erimo** 75.12 332 P **P** **14 31 19.8 +1.7**
ERM **Erimo** 75.12 332 P **P** **14 31 19.3 +1.2**
ERM pmax pmax
comp=Z,161nm,1.4s
JEM **Erimo** 75.12 332 P **P** **14 31 19.9 +1.8**
YULB **Yu-li** 75.21 305 IAmb IAmb 14 31 27.1
comp=Z,140nm,1.8s
YULB **Yu-li** 75.21 305 P **P** **14 31 19.3 +0.2**
NACB **Ninganchiao** 75.44 306 P **P** **14 31 21.2 +0.9**
BELA **Belgrano 2** 75.50 173 P **P** **14 31 19.6 -0.3**
PPBI **Pangkal Pinang** 75.50 274 P **P** **14 31 22.6 +1.6**
TPUB **Ta-pu** 75.65 304 IAmb IAmb 14 31 27.7
comp=Z,65nm,0.9s
TPUB **Ta-pu** 75.65 304 P **P** **14 31 21.6 0.0**
SSLB **Suanglung** 75.69 305 IAmb IAmb 14 31 21.7
comp=Z,75nm,1.0s
SSLB **Suanglung** 75.69 305 P **P** **14 31 20.9 -0.9**
YHNB **Yeheng** 75.89 306 IAmb IAmb 14 31 23.9
comp=Z,95nm,1.0s
YHNB **Yeheng** 75.89 306 P **P** **14 31 23.8 +0.8**
TATO **Taipei** 75.99 306 P **P** **14 31 22.7 -0.6**
TATO **Taipei** 75.99 306 P **P** **14 31 22.8 -0.6**
TATO S **S** **14 40 31.4 -3.4**
TATO **Taipei** 75.99 306 P **P** **14 31 23.4 0.0**
LWLI **Liwa** 76.22 271 P **P** **14 31 24.2 -0.9**
comp=Z,7μmcomp=Z,507nm,0.7s
MDSI **Maura Dua** 76.32 271 P **P** **14 31 23.9 -1.7**
comp=Z,5μmcomp=Z,364nm,1.1s
ATKA **Atka Island** 76.69 3 P **P** **14 31 27.0 +0.4**
SMY **Shemya** 77.36 356 P **P** **14 31 30.9 +0.6**
MAW **Mawson** 77.36 200 P **P** **14 31 31.1 +0.8**
MAW IAmb IAmb 14 31 32.8
comp=Z,151nm,1.6s
MAW **Mawson** 77.36 200 P **P** **14 31 31.1 +0.8**
comp=Z,62nm,1.4s
MAW **Mawson** 77.36 200 P **P** **14 31 31.7 +1.4**
comp=Z,112nm,0.6s,baz=134,slow=6.3,SNR=168
comp=Z,112nm,0.6s
NIKH **Nikolski High** 77.84 6 P **P** **14 31 34.1 +1.2**
NIKH **Nikolski High** 77.84 6 P **P** **14 31 33.3 +0.4**
baz=189,SNR=10.0
KSI **Kapahiang** 78.11 271 P **P** **14 31 34.8 -0.7**
QZH **Quanzhou** 78.12 305 ⇓*i*P **P** **14 31 35.3 +0.2**
QZH pP **pP** **14 32 59.6 +0.2**
QZH S **S** **14 40 56.4 -1.2**
QZH pmax pmax
comp=Z,110nm,0.9s
QZH pmax pmax
comp=Z,2μm,5.6s
SKR **Severo-Kuril's** 78.26 344 *e*P **P** **14 31 31.8 -3.5**
SKR pmax pmax
comp=Z,400nm,7.3s
UNV **Unalaska Valle** 78.95 7 P **P** **14 31 39.6 +0.7**
UNV **Unalaska Valle** 78.95 7 P **P** **14 31 39.0 +0.1**
baz=191
TJN **Taejon** 79.17 318 P **P** **14 31 41.5 +1.0**
TJN **Taejon** 79.17 318 *i*P **P** **14 31 39.0 -1.5**
MYKOM **Kota Tinggi** 79.24 277 P **P** **14 31 42.0 +0.5**
YSS **Yuzhno-Sakhali** 79.32 334 P **P** **14 31 42.2 +1.1**
YSS **Yuzhno-Sakhali** 79.32 334 P **P** **14 31 42.4 +1.4**
YSS **Yuzhno-Sakhali** 79.32 334 *de*P **P** **14 31 42.5 +1.4**
YSS *e**PP **pwP** **14 33 09.2 +0.4**
YSS *e*S **S** **14 41 12.6 +3.3**
YSS *e* 14 41 29.0
YSS pmax pmax
comp=Z,140nm,1.1s
YSS pmax pmax
comp=Z,2μm,6.1s
YSS pmax pmax
comp=N,400nm,5.3s
YSS smax smax
comp=N,1μm,7.7s
YSS smax smax
comp=E,2μm,8.4s
YSS MLR MLR
comp=N,300nm,16.0s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=E,200nm,15.0s
KSRS **Korea Array** 79.55 320 P **P** **14 31 43.4 +0.8**
comp=E,31nm,0.6s,baz=132,slow=5.8,SNR=142
comp=E,31nm,0.6s
KSAR **Wonju Array Be** 79.56 320 P **P** **14 31 43.2 +0.6**
KSAR **Wonju Array Be** 79.56 320 P **P** **14 31 43.2 +0.6**
KS19 **Wonju Array Si** 79.61 320 IAmb IAmb 14 31 44.4
comp=Z,48nm,0.8s
DLV **Lat** 79.66 288 P **P** **14 31 44.5 +0.6**
SSE **Sheshan** 79.82 311 P **P** **14 31 43.3 -0.8**
SSE PP **PP** **14 34 49.3 -2.7**
SSE S **S** **14 41 18.0 +2.7**
SSE pmax pmax
comp=Z,20nm,0.9s
SSE pmax pmax
comp=Z,390nm,8.9s
PET **Petropavlovsk** 79.85 346 P **P** **14 31 43.5 -0.3**
PET **Petropavlovsk** 79.85 346 P **P** **14 31 44.0 +0.3**
PET **Petropavlovsk** 79.85 346 *d*i P **P** **14 31 43.2 -0.5**
PET *e*S **S** **14 41 13.9 -0.6**
PET pmax pmax
comp=Z,69nm,2.0s
PET pmax pmax
comp=Z,900nm,6.8s
PET pmax pmax
comp=Z,500nm,14.8s
PET pmax pmax
comp=Z,400nm,5.3s
HKPS **Hong Kong Po S** 80.09 300 IAmb IAmb 14 33 19.8
comp=Z,79nm,1.2s
PEA0B **Petropavlovsk-** 80.14 346 *ce*P **P** **14 31 46.3 +1.0**
PETK **Petropavlovsk-** 80.14 346 P **P** **14 31 44.8 -0.5**
PETK **Petropavlovsk-** 80.14 346 P **P** **14 31 45.4 +0.1**
comp=Z,40nm,0.6s,baz=114,slow=5.1,SNR=184
comp=Z,40nm,0.6s
INCN **Inchon** 80.33 319 P **P** **14 31 47.5 +0.7**
INCN IAmb IAmb 14 31 49.0
comp=Z,72nm,0.9s
INCN **Inchon** 80.33 319 P **P** **14 31 47.0 +0.2**
INCN S **S** **14 41 22.8 +2.4**
INCN **Inchon** 80.33 319 P **P** **14 31 48.0 +1.2**
INCN **Inchon** 80.33 319 P **P** **14 31 47.5 +0.7**
INCN pmax pmax
comp=Z,72nm,1.0s
FALS **False Pass** 80.34 9 P **P** **14 31 46.5 +0.3**
FALS **False Pass** 80.34 9 P **P** **14 31 46.6 +0.3**
baz=194
TEY **Ternei** 80.43 330 ⇓*ep*P **P** **14 31 47.8 +0.8**
TEY *e* 14 33 52.8
TEY *e* 14 41 24.4
TEY pmax pmax
comp=Z,10.0nm,2.5s
TEY pmax pmax
comp=N,10.0nm,1.3s
TEY pmax pmax
comp=Z,100nm,5.4s
TEY pmax pmax
comp=Z,100nm,8.9s
TEY pmax pmax
comp=E,100nm,13.6s
TEY pmax pmax
comp=N,100nm,8.0s
MG05 **Puerto Natales** 80.44 143 IAmb IAmb 14 31 49.6
comp=Z,85nm,1.2s
MG03 **Isla Dawson** 80.50 145 IAmb IAmb 14 33 15.2
comp=Z,70nm,1.3s
CNBA **Chnabura Isl** 80.91 11 IAmb IAmb 14 31 51.2
comp=Z,106nm,1.1s
CHNA **Chernabura Isl** 80.92 11 P **P** **14 31 49.9 +0.6**
CHNA **Chernabura Isl** 80.92 11 P **P** **14 31 50.0 +0.6**
baz=198
ESPZ **Base Esperanza** 81.07 157 IAmb IAmb 14 31 54.0
comp=Z,89nm,1.0s
GZH **Guangzhou** 81.14 300 P **P** **14 31 51.6 +0.4**
GZH pP **pP** **14 33 17.1 +0.8**
GZH PP **PP** **14 35 06.1 +3.2**
GZH S **S** **14 41 30.9 +1.8**

GZH pmax pmax
comp=Z,90nm,1.1s
GZH pmax pmax
comp=Z,2μm,3.6s
BKNI **Bangkinang** 81.17 274 P **P** **14 31 49.2 -2.5**
SDPT **Sand Point** 81.27 10 P **P** **14 31 51.7 +0.5**
SDPT **Sand Point** 81.27 10 P **P** **14 31 51.8 +0.7**
SDPT **Sand Point** 81.27 10 P **P** **14 31 51.7 +0.5**
baz=197
MSHR **Mys Shultsa** 81.29 325 *ce*P **P** **14 31 53.4 +1.8**
MSHR pmax pmax
comp=Z,108nm,1.3s
VLA **Vladivostok** 81.30 326 *c i*P **P** **14 31 52.6 +1.0**
VLA pmax pmax
comp=Z,79nm,1.6s
S12K **Black Hills** 81.36 10 P **P** **14 31 52.1 +0.5**
baz=195
P08K **Saint George I** 81.37 5 P **P** **14 31 52.5 +0.9**
baz=188
PPI **Padang Panjang** 81.42 273 P **P** **14 31 52.2 -0.8**
SAO **San Andreas Ge** 81.61 43 IAmb IAmb 14 31 56.7
comp=Z,71nm,1.3s
PMPB **Monarch Peak** 81.67 44 IAmb IAmb 14 31 57.3
comp=Z,114nm,1.4s
BBGB **Big Mountain B** 81.75 43 IAmb IAmb 14 31 58.1
comp=Z,167nm,1.5s
BCW **Bitter Crk WRg** 81.77 46 IAmb IAmb 14 31 58.0
comp=Z,125nm,1.1s
SPIA **Saint Paul Isl** 81.89 5 P **P** **14 31 55.5 +1.2**
baz=188
QIZ **Qiongzhong** 81.91 295 P **P** **14 31 55.3 0.0**
QIZ S **S** **14 41 37.5 +0.4**
QIZ pmax pmax
comp=Z,20nm,1.0s
QIZ pmax pmax
comp=Z,910nm,5.3s
NJ2 **Nanjing** 81.99 311 ⇓P **P** **14 31 56.3 +0.8**
NJ2 PP **PP** **14 35 08.1 -1.6**
NJ2 S **SKSac** **14 41 38.9 -0.2**
NJ2 pmax pmax
comp=Z,85nm,0.7s
NJ2 pmax pmax
comp=Z,1μm,3.8s
USRK **Ussuriysk Ar.** 82.02 327 P **P** **14 31 56.2 +0.9**
USRK **Ussuriysk Ar.** 82.02 327 P **P** **14 31 56.0 +0.7**
comp=Z,37nm,0.5s,baz=151,slow=4.4,SNR=85
USRK pP **pwP** **14 33 24.0 +0.1**
comp=Z,17nm,1.1s,baz=112,slow=3.8,SNR=2.6
comp=Z,37nm,0.5s
USA0B **Ussuriysk Arra** 82.02 327 *d i*P **P** **14 31 55.8 +0.5**
VTX **Valle De La Tr** 82.12 50 IAmb IAmb 14 31 59.7
comp=Z,174nm,1.4s
KCPM **Cahto Peak** 82.20 40 IAmb IAmb 14 32 00.0
comp=Z,84nm,1.1s
SLBS **Sierra La Lagu** 82.28 60 P **P** **14 31 58.6 +1.3**
ELS **Elsinore Mount** 82.31 48 IAmb IAmb 14 32 00.4
comp=Z,114nm,1.3s
S14K **Fog Glacier** 82.32 11 P **P** **14 31 57.9 +1.2**
baz=198
KMPM **Mount Pierce** 82.38 39 IAmb IAmb 14 32 01.8
comp=Z,132nm,1.1s
ELIB **Princess Elisa** 82.39 187 *d*P **P** **14 31 57.4 +0.3**
comp=Z,132nm,1.0s
SYO **Syowa Base** 82.47 193 ⇓*i*P **P** **14 31 57.4 +0.1**
SYO **Syowa Base** 82.47 193 ⇓*i*PcP **PcP** **14 32 01.5 +0.1**
SYO **Syowa Base** 82.47 193 ⇑*i*pP pP 14 33 23.9 +0.8
SYO **Syowa Base** 82.47 193 ⇓*i*sP sP 14 34 03.8 +1.2
KMRM **Mail Ridge** 82.48 39 IAmb IAmb 14 32 02.3
comp=Z,157nm,1.2s
CHGN **Chignik** 82.53 11 IAmb IAmb 14 32 03.4
comp=Z,91nm,0.8s
CHGN **Chignik** 82.53 11 P **P** **14 31 58.4 +0.8**
baz=199
TYV **Tymovskoe** 82.56 337 *e*P **P** **14 31 58.8 +0.9**
TYV *e*S **SKSac** **14 41 39.0 -2.9**
TYV pmax pmax
comp=Z,130nm,1.7s
TYV pmax pmax
comp=Z,2μm,6.1s
TYV smax smax
comp=N,12nm,1.7s
TYV smax smax
comp=N,700nm,8.6s
TYV smax smax
comp=E,2μm,8.6s
SFX **San Felipe** 82.58 51 IAmb IAmb 14 32 01.5
comp=Z,99nm,1.4s
CHIR **Chirikof Islan** 82.61 13 P **P** **14 31 59.1 +1.0**
baz=201
MNSI **Mandailing Nat** 82.69 274 P **P** **14 31 58.1 -1.4**
comp=Z,3μmcomp=Z,2μmcomp=Z,94nm,1.4s
CCAC **Calif City Air** 82.81 46 IAmb IAmb 14 32 02.9
comp=Z,120nm,1.6s
ISA **Isabella, Lake** 82.82 46 IAmb IAmb 14 32 03.0
comp=Z,75nm,1.0s
KHMM **Horse Mountain** 82.90 39 IAmb IAmb 14 32 03.8
comp=Z,83nm,1.4s
KRPM **Rodgers** 82.92 38 IAmb IAmb 14 32 04.0
comp=Z,100nm,1.3s
PFO **Pinyon Flats O** 82.94 48 P **P** **14 32 01.6 +1.1**
PFO IAmb IAmb 14 32 03.8
comp=Z,138nm,1.5s
PFO **Pinyon Flats O** 82.94 48 *c i*P **P** **14 32 01.8 +1.3**
PFO pmax pmax
comp=Z,169nm,1.5s
O02D **Mt. Diablo Mer** 82.99 40 IAmb IAmb 14 32 04.3
comp=Z,134nm,1.2s
CMB **Columbia Colle** 83.06 43 IAmb IAmb 14 32 03.7
comp=Z,51nm,0.9s
MDJ **Mudanjiang** 83.53 326 P **P** **14 32 04.8 +1.8**
MDJ SKS **SKSac** **14 41 47.3 -1.2**
MDJ S **SKKSac** **14 41 56.8 +2.6**
MDJ pmax pmax
comp=Z,130nm,0.8s
MDJ pmax pmax
comp=Z,2μm,6.1s
MDJ **Mudanjiang** 83.53 326 P **P** **14 32 04.9 +1.9**
TROLL **Troll, Antarti** 83.54 180 ⇑P **P** **14 32 03.2 +0.3**
comp=Z,9μm,0.7s
TROLL ⇑x x 14 33 31.8
TROLL ⇑S **S** **14 41 53.7 +1.7**
COYC **Coyhaique** 83.58 137 IAmb IAmb 14 32 06.8
comp=Z,130nm,1.2s
SII **Sitkinak Islan** 83.60 13 P **P** **14 32 04.7 +1.6**
SII **Sitkinak Islan** 83.60 13 P **P** **14 32 04.5 +1.4**
SII **Sitkinak Islan** 83.60 13 P **P** **14 32 04.2 +1.2**
baz=202
KULM **Kulim** 83.62 279 P **P** **14 32 05.0 +0.8**
GSC **Goldstone, Bar** 83.70 47 IAmb IAmb 14 32 07.3
comp=Z,108nm,1.2s
AY01 **Puyuhuapi** 83.78 136 IAmb IAmb 14 32 07.3
comp=Z,134nm,1.7s
UBPT **Khong Chiam** 83.80 290 P **P** **14 32 05.7 +0.7**
SNAA **Sanae** 83.84 179 P **P** **14 32 04.1 -0.2**
comp=Z,52nm,0.8s,baz=202,slow=5.1,SNR=70
SNAA pP **pwP** **14 33 32.9 +0.3**
comp=Z,74nm,1.1s,baz=203,slow=4.6,SNR=10.0
comp=Z,52nm,0.8s
R16K **Pilot Point** 83.88 11 P **P** **14 32 05.8 +1.4**
baz=199
WAKR **Walker** 83.94 43 IAmb IAmb 14 32 08.7
comp=Z,136nm,1.3s
VNA3 **Neumayer Olymp** 84.01 176 ⇑P **P** **14 32 05.2 +0.1**
comp=Z,315nm,0.7s
VNA3 ⇑x x 14 33 36.4
comp=Z,77nm,0.9s
VNA3 ⇑S **S** **14 41 56.1 -0.4**
MPK **Martis Peak** 84.07 42 IAmb IAmb 14 32 10.0
comp=Z,177nm,1.4s
RPSI **Rantau Prapat** 84.08 276 IAmb IAmb 14 32 08.8
comp=Z,168nm,1.4s
PSI **Prapat** 84.12 276 P **P** **14 32 06.9 0.0**
CNSH **ChangSha** 84.12 304 P **P** **14 32 06.9 +0.5**
CNSH S **SKSac** **14 41 51.8 -1.3**
CNSH pmax pmax
comp=Z,59nm,1.3s
K02D **Willamette Mer** 84.14 37 IAmb IAmb 14 32 09.7
comp=Z,88nm,1.6s
PAF **Port-aux-Franc** 84.16 218 P **P** **14 32 06.8 +0.6**
PAF **Port-aux-Franc** 84.16 218 P **P** **14 32 06.9 +0.6**
PAF pmax pmax
comp=Z,772nm,1.3s
DSP **Deep Springs** 84.17 44 IAmb IAmb 14 32 09.6
comp=Z,66nm,1.2s
HATC **Hat Creek Radi** 84.17 40 IAmb IAmb 14 32 09.6
comp=Z,163nm,1.3s

PNTR	Pine Nut	84.20	42	IAmb	IAmb	14 32 09.9	
	comp=Z,79nm,0.8s						
BEKR	Beckworth	84.23	41	IAmb	IAmb	14 32 09.7	
	comp=Z,114nm,1.6s						
DL2	Dalian	84.28	317	⇓*i*P	P	14 32 07.3	+0.4
DL2				SKS	SKSac	14 41 50.4	-3.1
DL2				S	SKKSac	14 42 01.6	+1.5
DL2				pmax	pmax		
	comp=Z,120nm,1.1s						
DL2				pmax	pmax		
	comp=Z,2μm,6.2s						
HSIG		84.30	55	IAmb	IAmb	14 32 10.2	
	comp=Z,95nm,1.0s						
GWY	Greenwater Val	84.31	46	IAmb	IAmb	14 32 10.0	
	comp=Z,135nm,1.6s						
WHN	Wuhan	84.34	307	P	P	14 32 08.0	+0.6
WHN				S	SKSac	14 41 52.5	-1.8
WHN				pmax	pmax		
	comp=Z,290nm,0.8s						
WHN				pmax	pmax		
	comp=Z,4μm,4.7s						
BLYC	Blythe	84.34	49	IAmb	IAmb	14 32 10.9	
	comp=Z,157nm,1.4s						
LHV	Little Huntoon	84.37	43	IAmb	IAmb	14 32 10.7	
	comp=Z,65nm,1.1s						
OHAK	Old Harbor	84.40	14	IAmb	IAmb	14 32 09.5	
	comp=Z,171nm,1.7s						
OHAK	Old Harbor	84.40	14	P	P	14 32 07.9	+0.9
OHAK	Old Harbor	84.40	14	P	P	14 32 08.2	+1.1
	baz=203						
VNA2	Neumayer--Watz	84.44	177	⇑P	P	14 32 07.7	+0.5
	comp=Z,139nm,0.6s,baz=180,slow=4.6						
VNA2				⇑x	x	14 33 36.7	
	comp=Z,163nm,1.1s,baz=194,slow=4.3						
VNA2				⇓S	S	14 42 00.1	-0.6
	baz=153,slow=2.7						
R18K	Karluk	84.48	13	P	P	14 32 08.4	+1.1
	baz=202						
NVL	N'lazarevskaya	84.49	184	*e*P	P	14 32 07.8	+0.3
NVL				*e*S	S	14 42 02.1	+1.0
NVL				pmax	pmax		
	comp=Z,86nm,0.7s						
NVL				MLR	MLR		
	comp=Z,340nm,17.0s						
RYN	Ryan	84.58	43	IAmb	IAmb	14 32 11.6	
	comp=Z,99nm,1.6s						
L04D	Klamath Falls	84.59	38	IAmb	IAmb	14 32 11.6	
	comp=Z,102nm,1.4s						
NVAR	Mina Array Bea	84.60	43	P	P	14 32 09.8	+1.0
NVAR	Mina Array Bea	84.60	43	P	P	14 32 09.6	+0.8
	comp=Z,18nm,0.9s,baz=220,slow=7.2,SNR=82						
NVAR				pP	pwP	14 33 37.1	-0.3
	comp=Z,9.7nm,0.9s,baz=224,slow=8.5,SNR=4.6						
NVAR				S	S	14 41 59.6	-4.0
	comp=Z,0.3nm,0.7s,baz=300,slow=20,SNR=4.1						
NVAR				PKPPKP	P'P'df	14 58 23.6	+1.9
	comp=Z,0.9nm,0.6s,baz=32,slow=3.6,SNR=4.0						
	comp=Z,18nm,0.9s						
VNA1	Neumayer--Stat	84.67	177	⇑P	P	14 32 09.1	+0.8
	comp=Z,226nm,0.9s						
VNA1				⇑x	x	14 33 38.0	
WCT	Wildcat Mounta	84.69	45	IAmb	IAmb	14 32 12.1	
	comp=Z,105nm,1.6s						
NV11	Mina Array Sit	84.69	43	IAmb	IAmb	14 32 12.1	
	comp=Z,64nm,1.2s						
GSI	Gunungsitoli	84.72	274	P	P	14 32 10.5	+0.8
GSI	Gunungsitoli	84.72	274	P	P	14 32 12.7	+3.0
	comp=Z,7μmcomp=Z,300nm,1.6s						
TSI	Tuntungan	84.74	276	P	P	14 32 10.8	+1.0
	comp=Z,4μmcomp=Z,4μmcomp=Z,64nm,0.7s						
Q17K	Contact Creek	84.85	12	P	P	14 32 10.0	+0.7
	baz=201						
LL02	Futaleuf	84.88	135	IAmb	IAmb	14 32 13.7	
	comp=Z,135nm,1.2s						
GRNR	Gornyy	84.89	333	⇓*i*P	P	14 32 11.1	+1.4
GRNR				pmax	pmax		
	comp=N,20nm,1.1s						
GRNR				pmax	pmax		
	comp=E,10.0nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,80nm,1.2s						
O14K	Tigyukauivet M	84.90	9	P	P	14 32 10.4	+0.9
	baz=196						
ACHA	Angle Creek He	84.91	12	IAmb	IAmb	14 32 12.9	
	comp=Z,74nm,1.5s						
LL01	San Ignacio de	84.91	134	IAmb	IAmb	14 32 12.7	
	comp=Z,94nm,1.6s						
SNY	Shenyang	84.94	321	⇓P	P	14 32 11.0	+0.9
SNY				pmax	pmax		
	comp=Z,78nm,0.5s						
I03D	Drain, OR	84.97	37	IAmb	IAmb	14 32 14.3	
	comp=Z,102nm,1.6s						
TPNV	Topopah Spring	85.03	46	IAmb	IAmb	14 32 13.9	
	comp=Z,51nm,1.1s						
O15K	Ungalikthiuk R	85.04	10	IAmb	IAmb	14 32 11.4	
	comp=Z,44nm,0.9s						
O15K	Ungalikthiuk R	85.04	10	P	P	14 32 10.6	+0.4
	baz=197,SNR=5.3						
KDAK	Kodiak Island	85.07	14	P	P	14 32 12.1	+1.8
KDAK	Kodiak Island	85.07	14	P	P	14 32 12.1	+1.8
KDAK				pmax	pmax		
	comp=Z,231nm,1.7s						
KDAK	Kodiak Island	85.07	14	P	P	14 32 11.4	+1.1
	baz=204						
Q16K	King Salmon	85.09	11	P	P	14 32 11.2	+0.8
	baz=200						
CN2	Changchun	85.17	323	*e*P	P	14 32 11.4	+0.2
CN2				PP	PP	14 35 33.3	-2.0
CN2				LR	LR		
	comp=Z,800nm,14.0s						
CN2				LR	LR		
	comp=Z,700nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
P16K	Nushagak River	85.20	11	P	P	14 32 11.6	+0.7
	baz=199						
V12A	Nelson	85.24	47	IAmb	IAmb	14 32 15.2	
	comp=Z,125nm,1.6s						
Q18K	Katmai Hardscr	85.38	12	P	P	14 32 12.6	+0.6
	baz=202,SNR=26						
M11K	Mekoryuk	85.41	6	P	P	14 32 13.9	+2.0
	baz=191,SNR=5.4						
BNX	BinXian	85.42	325	⇑P	P	14 32 13.3	+0.9
BNX				PP	PP	14 35 40.0	+2.7
BNX				SKS	SKSac	14 41 57.0	-3.5
BNX				S	ScS	14 42 16.3	-2.3
BNX				pmax	pmax		
	comp=Z,110nm,1.0s						
BNX				pmax	pmax		
	comp=Z,1μm,7.5s						
N14K	Kuskokwak Cree	85.49	9	P	P	14 32 13.8	+1.5
	baz=196,SNR=27						
Y14A	Wickenburg	85.49	50	IAmb	IAmb	14 32 16.3	
	comp=Z,67nm,1.3s						
BUCK	Buck Mountain	85.50	37	IAmb	IAmb	14 33 46.2	
	comp=Z,83nm,1.4s						
W13A	Hualapai Mount	85.54	48	IAmb	IAmb	14 32 16.8	
	comp=Z,60nm,1.3s						
TIA	Tai'an	85.56	313	P	P	14 32 14.1	+0.8
TIA				PP	PP	14 35 35.1	-3.5
TIA				SKS	SKSac	14 42 00.8	-1.0
TIA				S	S	14 42 15.4	+2.9
TIA				pmax	pmax		
	comp=Z,200nm,1.1s						
TIA				pmax	pmax		
	comp=Z,2μm,4.2s						
TIA				LR	LR		
	comp=Z,340nm,18.2s						
TIA				LR	LR		
	comp=Z,270nm,20.6s						
TIA				LR	LR		
	comp=Z,380nm,20.4s						
P17K	Kvichak River	85.62	11	P	P	14 32 13.2	+0.3
	baz=200,SNR=15						
O16K	Kokwok River B	85.71	10	IAmb	IAmb	14 32 14.7	
	comp=Z,56nm,0.8s						
O16K	Kokwok River B	85.71	10	P	P	14 32 13.3	-0.1
	baz=199,SNR=9.9						
M13K	Dall Lake	85.75	8	P	P	14 32 15.2	+1.6
	baz=194,SNR=5.9						
S11A	Rachel	85.76	45	IAmb	IAmb	14 32 16.5	
	comp=Z,58nm,1.2s						
KLR	Kul'dur	85.76	330	PKKPbc	PKKPbc	14 50 12.6	-3.0
	comp=Z,0.9nm,0.6s,baz=338,slow=3.3,SNR=5.1						
KLR	Kul'dur	85.76	330	*ce*P	P	14 32 15.0	+1.1
KLR				pmax	pmax		
	comp=Z,190nm,1.7s						
H04D	Lebanon	85.85	37	IAmb	IAmb	14 33 44.5	
	comp=Z,108nm,1.4s						
Q20K	Shuyak Island	85.87	14	P	P	14 32 15.2	+1.0
	baz=204						
J05D	Fort Rock, OR	85.88	38	IAmb	IAmb	14 33 49.8	
	comp=Z,46nm,1.1s						
Q19K	Cape Douglas,	85.90	13	P	P	14 32 14.9	+0.5
	baz=203						
N15K	Kwethluk River	85.95	9	P	P	14 32 16.3	+1.7
	baz=197,SNR=39						
P18K	Big Mountain,	86.03	12	IAmb	IAmb	14 32 20.5	
	comp=Z,68nm,0.7s						
P18K	Big Mountain,	86.03	12	P	P	14 32 15.3	+0.3
	baz=201,SNR=12						
O17K	Koliganek Bris	86.05	11	P	P	14 32 15.5	+0.5
	baz=200						
PRN	Pahroc Range	86.07	46	IAmb	IAmb	14 32 19.3	
	comp=Z,65nm,1.1s						
TUC	Tucson	86.17	52	P	P	14 32 17.1	+0.7
TUC	Tucson	86.17	52	P	P	14 32 17.1	+0.7
TUC				pmax	pmax		
	comp=Z,170nm,1.3s						
LR05	Currie	86.22	133	P	P	14 32 17.9	+1.3
LR05				IAmb	IAmb	14 32 19.5	
	comp=Z,79nm,0.8s						
H04A	Detroit Lake	86.25	37	IAmb	IAmb	14 32 20.1	
	comp=Z,93nm,1.5s						
M14K	Bethel	86.26	8	P	P	14 32 17.4	+1.4
	baz=195,SNR=10						
M15K	Kasigluk River	86.37	9	P	P	14 32 17.8	+1.2
	baz=196,SNR=19						
N16K	Nishlik Lake	86.44	10	P	P	14 32 18.6	+1.6
	baz=198,SNR=26						
O18K	Koktuh Hills	86.46	12	P	P	14 32 17.6	+0.5
	baz=201,SNR=41						
I05D	Terrebonne, OR	86.49	37	IAmb	IAmb	14 32 20.8	
	comp=Z,83nm,1.4s						
P19K	Oil Pt	86.66	13	P	P	14 32 18.6	+0.5
	baz=203						
L14K	Kuka Creek	86.74	8	P	P	14 32 19.5	+1.2
	baz=195,SNR=12						
N17K	Nushagak Hills	86.75	11	P	P	14 32 18.9	+0.5
	baz=200,SNR=5.8						
X16A	Lo Mia Camp, P	86.84	50	IAmb	IAmb	14 32 23.4	
	comp=Z,80nm,1.3s						
LHMI	Lhok Sumawe	86.93	277	P	P	14 32 21.1	+0.7
LHMI	Lhok Sumawe	86.93	277	P	P	14 32 23.3	+2.9
	comp=Z,4μmcomp=Z,198nm,0.8s						
M16K	Timber Creek	86.94	10	P	P	14 32 21.2	+1.9
	baz=198,SNR=14						
PLCA	Paso Flores	86.94	134	P	P	14 32 20.8	+0.7
PLCA				IAmb	IAmb	14 32 23.1	
	comp=Z,95nm,1.3s						
PLCA	Paso Flores	86.94	134	P	P	14 32 21.1	+0.9
	comp=Z,23nm,0.8s,baz=237,slow=5.1,SNR=33						
PLCA				pP	pP	14 33 48.5	+1.8
	comp=Z,14nm,1.0s,baz=209,slow=2.3,SNR=6.1						
PLCA				PKKPbc	PKKPbc	14 50 07.6	-3.6
	comp=Z,3.8nm,0.7s,baz=250,slow=23,SNR=3.5						
PLCA				PKPPKP	P'P'df	14 58 18.8	-2.9
	comp=Z,4.9nm,1.1s,baz=110,slow=3.3,SNR=4.1						
	comp=Z,23nm,0.8s						
PLCA	Paso Flores	86.94	134	*e*P	P	14 32 20.5	+0.4
NAYO	Nakonayok	86.95	287	P	P	14 32 22.3	+1.9
O19K	Port Alsworth	86.95	12	P	P	14 32 19.8	+0.5
	baz=202,SNR=61						
HOOD	Mount Hood Mea	86.95	36	IAmb	IAmb	14 32 23.7	
	comp=Z,131nm,1.8s						
HOM	Homer	86.99	13	P	P	14 32 20.8	+1.2
	baz=204						
MLSI	Meulaboh, Aceh	87.02	276	P	P	14 32 20.9	+0.1
	comp=Z,4μmcomp=Z,278nm,0.7s						
LCMT	Little Creek M	87.04	47	IAmb	IAmb	14 33 54.6	
	comp=Z,45nm,1.1s						
NONG	Nongkai	87.05	291	P	P	14 32 21.7	+0.9
K13K	Kusilvak Mount	87.09	7	IAmb	IAmb	14 32 22.6	
	comp=Z,36nm,0.8s						
K13K	Kusilvak Mount	87.09	7	P	P	14 32 21.4	+1.4
	baz=193,SNR=14						
BI05	Punta Hualpn	87.09	129	IAmb	IAmb	14 32 23.1	
	comp=Z,157nm,1.6s						
N18K	Kilae Creek	87.11	11	IAmb	IAmb	14 32 21.8	
	comp=Z,168nm,1.9s						
N18K	Kilae Creek	87.11	11	P	P	14 32 20.5	+0.3
	baz=201,SNR=9.7						
L15K	Unalaska Mounta	87.21	8	P	P	14 32 21.6	+1.1
	baz=196,SNR=20						
BRLK	Bradley Lake	87.25	14	IAmb	IAmb	14 32 22.9	
	comp=Z,109nm,1.2s						
BRSE	Bradley Lake S	87.26	14	P	P	14 32 22.0	+1.2
	baz=205,SNR=17						
HPIG		87.26	59	IAmb	IAmb	14 32 24.6	
	comp=Z,67nm,1.2s						
KNB	Kanab	87.32	47	IAmb	IAmb	14 33 56.3	
	comp=Z,76nm,1.2s						
I07A	Izee	87.36	38	IAmb	IAmb	14 32 25.0	
	comp=Z,70nm,1.4s						
G06A	Carlson Farm,	87.45	37	IAmb	IAmb	14 32 25.1	
	comp=Z,68nm,1.4s						
WUAZ	Wupatki	87.48	49	IAmb	IAmb	14 32 26.0	
	comp=Z,56nm,1.2s						
N19K	Bonanza Creek	87.49	12	IAmb	IAmb	14 32 23.3	
	comp=Z,69nm,0.9s						
N19K	Bonanza Creek	87.49	12	P	P	14 32 22.1	+0.1
	baz=202,SNR=17						
J08A	Circle Bar Ran	87.50	39	IAmb	IAmb	14 32 25.4	
	comp=Z,70nm,1.4s						
L16K	Owhat River	87.52	9	IAmb	IAmb	14 32 24.6	
	comp=Z,74nm,1.1s						
L16K	Owhat River	87.52	9	P	P	14 32 23.4	+1.4
	baz=198,SNR=22						
M17K	Holitna River	87.53	10	P	P	14 32 23.7	+1.7
	baz=199,SNR=23						
MA2	Magadan	87.63	345	P	P	14 32 22.7	+0.1
MA2	Magadan	87.63	345	P	P	14 32 23.2	+0.6
MA2	Magadan	87.63	345	*ce*P	P	14 32 23.2	+0.6
MA2				pmax	pmax		
	comp=Z,524nm,2.5s						
ZAIG	Zacatecas	87.75	64	IAmb	IAmb	14 32 27.8	
	comp=Z,83nm,1.2s						
ENH	Enshi	87.78	305	P	P	14 32 25.3	+1.3
GNW	Green Mountain	87.79	34	IAmb	IAmb	14 33 57.4	
	comp=Z,76nm,1.6s						
K15K	Wolf Creek Mou	87.80	8	P	P	14 32 24.9	+1.6
	baz=196,SNR=28						
LYN	LuoYang	87.82	310	⇓P	P	14 32 25.5	+1.4
LYN				SKS	SKSac	14 42 13.0	-2.6
LYN				S	ScS	14 42 37.4	-1.6
LYN				sS	sS	14 45 04.3	-2.8
LYN				pmax	pmax		
	comp=Z,180nm,1.5s						
LYN				pmax	pmax		
	comp=Z,3μm,6.0s						
HNS	HongShan	87.83	313	⇓P	P	14 32 25.3	+1.3
HNS				SKS	SKSac	14 42 14.6	-0.9
HNS				S	ScS	14 42 38.8	-0.1
HNS				sS	sS	14 45 02.0	-5.0
HNS				pmax	pmax		
	comp=Z,120nm,1.6s						
HNS				LR	LR		
	comp=Z,330nm,17.0s						
HNS				LR	LR		
	comp=Z,250nm,18.2s						
HNS				LR	LR		
	comp=Z,470nm,18.8s						
SEW	Seward	87.87	14	IAmb	IAmb	14 32 29.5	
	comp=Z,87nm,1.4s						
SEW	Seward	87.87	14	P	P	14 32 24.4	+0.7
	baz=206						
M18K	Stony River	87.89	11	P	P	14 32 24.9	+1.2
	baz=201,SNR=24						
PKCU	Pink Cliffs	87.90	47	IAmb	IAmb	14 33 59.9	
	comp=Z,120nm,1.2s						
SLVN	Son La	87.90	294	IAmb	IAmb	14 32 28.0	
	comp=Z,93nm,1.5s						
SLVN	Son La	87.90	294	P	P	14 32 26.7	+1.8
X18A	Snowflake	87.94	50	IAmb	IAmb	14 32 28.4	
	comp=Z,190nm,1.9s						
EFI	East Falkland	87.96	148	P	P	14 32 25.2	+0.7
EFI				IAmb	IAmb	14 32 27.0	
	comp=Z,67nm,0.9s						
EFI	East Falkland	87.96	148	*ce*P	P	14 32 25.5	+1.0
EFI				pmax	pmax		
	comp=Z,50nm,1.3s						
D05A	Enumclaw	87.98	35	IAmb	IAmb	14 32 28.8	
	comp=Z,90nm,1.1s						
J14K	Nanvaranak Lak	88.00	7	P	P	14 32 25.2	+1.0
	baz=194,SNR=9.9						
GYA	Guiyang	88.07	300	P	P	14 32 25.8	+0.2
GYA				PP	PP	14 35 58.4	-0.5
GYA				SKS	SKSac	14 42 17.5	-0.2
GYA				S	S	14 42 33.6	-3.5
GYA				sS	sS	14 45 07.5	-2.6
GYA				pmax	pmax		
	comp=Z,1μm,4.0s						
L17K	Donlin	88.10	9	P	P	14 32 26.6	+1.9
	baz=198,SNR=20						
P23K	Montague Islan	88.25	15	IAmb	IAmb	14 32 27.6	
	comp=Z,105nm,1.1s						
P23K	Montague Islan	88.25	15	P	P	14 32 26.5	+1.0
	baz=208,SNR=5.5						
SPCR	Spurr Chakacha	88.28	13	P	P	14 32 25.8	+0.1
	baz=204,SNR=21						
BJT	Baijiatuau	88.34	316	P	P	14 32 27.6	+1.2
BJI	Beijing	88.35	316	P	P	14 32 26.9	+0.5
BJI				pP	pP	14 33 54.0	+0.8
BJI				SKS	SKSac	14 42 16.3	-2.1
BJI				S	ScS	14 42 42.8	-0.3
BJI				sS	sS	14 45 06.3	-5.7
BJI				pmax	pmax		
	comp=Z,38nm,1.7s						
BJI				pmax	pmax		
	comp=Z,700nm,4.4s						
GAMB	Gambell	88.37	3	P	P	14 32 27.4	+1.6
	baz=186,SNR=8.2						
G08A	Pilot Rock	88.41	38	IAmb	IAmb	14 32 29.6	
	comp=Z,109nm,1.5s						
L18K	Granite Mounta	88.43	10	P	P	14 32 27.6	+1.3
	baz=200,SNR=27						
TCRU	Three Creeks R	88.45	46	IAmb	IAmb	14 32 30.7	
	comp=Z,114nm,1.7s						
BI02	San Fabin de	88.48	130	IAmb	IAmb	14 32 29.8	
	comp=Z,53nm,0.9s						
HEH	HeiHe	88.48	329	*e*P	P	14 32 27.0	+0.2
HEH				PP	PP	14 35 58.5	-3.1
HEH				SKS	SKSac	14 42 17.3	-1.4
HEH				S	ScS	14 42 44.3	+0.5
HEH				SS	SS	14 48 38.8	-2.2
HEH				pmax	pmax		
	comp=Z,140nm,1.2s						
HEH				pmax	pmax		
	comp=Z,1μm,4.3s						
M19K	Big River Lodg	88.52	11	IAmb	IAmb	14 32 28.5	
	comp=Z,35nm,0.8s						
M19K	Big River Lodg	88.52	11	P	P	14 32 27.3	+0.6
	baz=202						
BSI	Banda Aceh	88.53	277	P	P	14 32 27.5	-0.4
	comp=Z,3μmcomp=Z,140nm,1.5s						
JRQG	Juriquilla Cam	88.55	67	IAmb	IAmb	14 32 31.8	
	comp=Z,88nm,1.5s						
STLK	Strandline Lak	88.63	13	IAmb	IAmb	14 32 28.2	
	comp=Z,46nm,0.8s						
K17K	Iditarod	88.65	9	IAmb	IAmb	14 32 29.8	
	comp=Z,117nm,1.4s						
K17K	Iditarod	88.65	9	P	P	14 32 28.4	+1.2
	baz=198,SNR=19						
RC01	Rabbit Creek A	88.69	14	P	P	14 32 28.4	+0.8
	baz=206,SNR=25						
L19K	White Mountain	88.70	11	P	P	14 32 28.7	+1.1
	baz=202,SNR=75						
E07A	Sunnyside	88.71	36	IAmb	IAmb	14 32 31.9	
	comp=Z,202nm,2.0s						
M20K	Styx River	88.73	12	P	P	14 32 27.8	-0.1
	baz=203						
HAWA	Hanford	88.78	37	IAmb	IAmb	14 32 32.2	
	comp=Z,132nm,1.8s						
PWL	Port Wells	88.79	14	IAmb	IAmb	14 32 29.9	
	comp=Z,90nm,0.9s						
PWL	Port Wells	88.79	14	P	P	14 32 28.6	+0.6
	baz=207,SNR=13						
HIN	Hinchinbrook I	88.81	15	IAmb	IAmb	14 32 30.3	
	comp=Z,106nm,1.2s						
SUA	Susitna One	88.82	13	P	P	14 32 28.6	+0.3
	baz=205,SNR=40						
ML02	Panimavida	88.83	129	IAmb	IAmb	14 32 31.1	
	comp=Z,106nm,1.4s						
J16K	Anvik River	88.88	8	IAmb	IAmb	14 32 30.8	
	comp=Z,66nm,0.9s						
J16K	Anvik River	88.88	8	P	P	14 32 29.9	+1.6
	baz=196,SNR=24						
KAIM	Kayak Island	88.93	17	P	P	14 32 29.8	+1.1
	baz=211						
WAH2	Wahluke Slope	88.99	36	IAmb	IAmb	14 32 32.0	
	comp=Z,81nm,1.6s						
GLI	Glacier Island	89.10	15	P	P	14 32 30.1	+0.7
	baz=208						
SKT	Skwentna	89.13	13	IAmb	IAmb	14 32 30.4	
	comp=Z,46nm,1.1s						
SKT	Skwentna	89.13	13	P	P	14 32 29.1	-0.4
	baz=205,SNR=14						
EYAK	Cordova Ski Ar	89.13	16	IAmb	IAmb	14 32 31.8	
	comp=Z,67nm,1.0s						
EYAK	Cordova Ski Ar	89.13	16	P	P	14 32 30.2	+0.7
EYAK	Cordova Ski Ar	89.13	16	P	P	14 32 30.5	+1.0
	baz=210,SNR=10						
FID	Port Fidalgo	89.13	15	IAmb	IAmb	14 32 31.5	
	comp=Z,101nm,1.2s						
L20K	Farewell, AK	89.15	11	P	P	14 32 30.1	+0.5
	baz=202,SNR=24						
J17K	VABM Dome	89.19	9	IAmb	IAmb	14 32 32.2	
	comp=Z,52nm,0.8s						
J17K	VABM Dome	89.19	9	P	P	14 32 30.9	+1.2
	baz=198,SNR=28						
M22K	Willow	89.21	13	P	P	14 32 30.6	+0.8
	baz=206,SNR=14						
KNK	Knik Glacier	89.26	14	IAmb	IAmb	14 32 32.3	
	comp=Z,68nm,1.0s						
KNK	Knik Glacier	89.26	14	P	P	14 32 31.0	+0.8
	baz=207,SNR=19						
PMR	Palmer	89.27	14	IAmb	IAmb	14 32 32.1	
	comp=Z,69nm,1.0s						
PMR	Palmer	89.27	14	P	P	14 32 30.4	+0.2
PMR	Palmer	89.27	14	P	P	14 32 30.8	+0.7
	baz=207,SNR=28						
SIT	Sitka	89.30	22	P	P	14 32 30.7	+0.3
	baz=219						
I17K	Unalakleet	89.44	8	IAmb	IAmb	14 32 33.4	
	comp=Z,39nm,0.9s						
I17K	Unalakleet	89.44	8	P	P	14 32 32.4	+1.4
	baz=196,SNR=7.8						
Q16A	Castle Valley	89.45	46	IAmb	IAmb	14 32 36.2	
	comp=Z,162nm,1.7s						
TIY	Taiyuan	89.52	312	*e*P	P	14 32 33.8	+1.7
TIY				SKS	SKSac	14 42 25.1	-0.5
TIY				S	ScS	14 42 53.5	+0.3
TIY				pmax	pmax		
	comp=Z,170nm,0.6s						
TIY				pmax	pmax		
	comp=Z,1μm,3.8s						
D08A	Wollman Farm,	89.52	36	IAmb	IAmb	14 34 07.0	
	comp=Z,90nm,1.4s						
ANM	Nome	89.60	6	P	P	14 32 32.8	+1.2
	baz=192,SNR=5.1						
J18K	Innoko River	89.60	10	P	P	14 32 32.6	+0.9
	baz=200,SNR=83						
DIV	Divide	89.63	15	IAmb	IAmb	14 32 34.1	
	comp=Z,85nm,1.1s						
SML	Sawmill	89.64	14	P	P	14 32 32.7	+0.7
	baz=207,SNR=7.9						
VHRN	Van Horn	89.66	56	IAmb	IAmb	14 32 36.2	
	comp=Z,86nm,1.2s						
M23K	Glacier View	89.76	14	P	P	14 32 33.2	+0.7
	baz=208,SNR=9.6						
BO02	Sierra Bellavi	89.76	129	IAmb	IAmb	14 32 35.6	
	comp=Z,53nm,1.1s						
CUT	Chulitna	89.77	13	P	P	14 32 33.1	+0.7
	baz=206						
BMRM	Bremner River	89.78	16	IAmb	IAmb	14 32 35.0	
	comp=Z,107nm,1.1s						
BMRM	Bremner River	89.78	16	P	P	14 32 33.8	+1.1
	baz=211,SNR=13						
WAX	Waxell Ridge	89.78	17	IAmb	IAmb	14 32 39.9	
	comp=Z,62

baz=219
SCM Sheep Creek Mo 89.89 14 IAmb IAmb 14 32 35.4
comp=Z,81nm,0.9s
SCM Sheep Creek Mo 89.89 14 P **P 14 32 34.1 +0.9**
baz=208,SNR=17
MT01 Popeta 89.89 128 IAmb IAmb 14 32 35.9
comp=Z,144nm,1.6s
KLU Klutina 89.91 15 IAmb IAmb 14 32 35.6
comp=Z,50nm,1.1s
KLU Klutina 89.91 15 P **P 14 32 34.5 +1.2**
baz=210,SNR=11
K20K Telida 89.93 11 IAmb IAmb 14 32 35.3
comp=Z,78nm,1.1s
K20K Telida 89.93 11 P **P 14 32 34.0 +0.8**
baz=202
PLID Pearl Lake 89.96 39 IAmb IAmb 14 32 37.4
comp=Z,98nm,1.6s
TX31 Lajitas Ar. Si 89.96 58 IAmb IAmb 14 32 37.6
comp=Z,127nm,1.4s
TXAR Lajitas Array 89.96 58 P **P 14 32 35.3 +0.9**
TXAR Lajitas Array 89.96 58 P **P 14 32 35.7 +1.4**
comp=Z,19nm,0.9s,baz=213,slow=4.8,SNR=113
TXAR pP **pwP 14 34 04.8 +0.9**
comp=Z,22nm,1.1s,baz=224,slow=5.2,SNR=12
TXAR S **SKSac 14 42 29.8 +1.2**
comp=Z,2.0nm,1.1s,baz=284,slow=1.0,SNR=10
TXAR PKKPbc **PKKPbc 14 50 04.6 +0.4**
comp=Z,1.7nm,0.5s,baz=159,slow=2.1,SNR=18
TXAR PKPPKP **P'P'df 14 58 10.3 -1.8**
comp=Z,0.6nm,0.8s,baz=80,slow=1.4,SNR=3.7
comp=Z,19nm,0.9s
SRU San Rafael Swe 89.98 46 IAmb IAmb 14 32 37.0
comp=Z,58nm,1.1s
H16K Elim 89.99 7 P **P 14 32 34.5 +1.0**
baz=195,SNR=9.9
YAH Yahtse 90.01 17 IAmb IAmb 14 32 41.6
comp=Z,49nm,0.7s
XAN Xi'an 90.08 308 ⇓P **P 14 32 35.8 +1.1**
XAN PP **PP 14 36 12.3 -2.3**
XAN SKS **SKSac 14 42 28.5 -0.4**
XAN S **S 14 42 55.8 +0.8**
XAN sS sS 14 45 18.8 -11
XAN pmax pmax
comp=Z,200nm,0.8s
XAN pmax pmax
comp=Z,2μm,6.2s
XAN LR LR
comp=Z,460nm,15.8s
XAN LR LR
comp=Z,630nm,15.1s
XAN LR LR
comp=Z,1μm,23.4s
PNL Peninsula 90.10 19 P **P 14 32 34.9 +0.8**
baz=215
G15K Niukluk 90.14 6 P **P 14 32 35.2 +1.0**
baz=193,SNR=35
PINM Pinnacle 90.20 18 P **P 14 32 35.9 +1.2**
baz=214
LLLB Lillooet 90.25 32 IAmb IAmb 14 34 08.9
comp=Z,68nm,1.4s
J19K Poorman 90.27 10 IAmb IAmb 14 32 37.2
comp=Z,40nm,1.0s
J19K Poorman 90.27 10 P **P 14 32 36.0 +1.2**
baz=201,SNR=19
BO04 La Punta 90.29 128 IAmb IAmb 14 32 37.8
comp=Z,77nm,1.9s
SEY Seymchan 90.29 347 *ce*P **P 14 32 35.3 +0.4**
SEY pmax pmax
comp=Z,153nm,1.1s
VRDI Verde Repeater 90.29 16 IAmb IAmb 14 32 37.6
comp=Z,87nm,1.3s
N25K Chitina, Valde 90.33 16 IAmb IAmb 14 32 37.6
comp=Z,85nm,1.2s
N25K Chitina, Valde 90.33 16 P **P 14 32 36.4 +1.2**
baz=211,SNR=17
CAST Castle Rocks 90.34 12 IAmb IAmb 14 32 35.9
comp=Z,93nm,1.2s
CAST Castle Rocks 90.34 12 P **P 14 32 34.5 -0.7**
baz=204,SNR=61
TNA Tin City 90.37 5 P **P 14 32 36.0 +0.8**
baz=190
GLB Gilahina Butte 90.38 16 IAmb IAmb 14 32 37.8
comp=Z,86nm,1.3s
PV05 Paradox Valley 90.38 48 IAmb IAmb 14 32 39.3
comp=Z,65nm,1.6s
M24K Tolsona, Glenn 90.39 15 IAmb IAmb 14 32 38.3
comp=Z,98nm,1.4s
M24K Tolsona, Glenn 90.39 15 P **P 14 32 36.8 +1.3**
baz=209,SNR=6.0
F14K Arctic Creek 90.41 5 P **P 14 32 36.5 +1.1**
baz=191,SNR=11
ALPN Alpine 90.47 57 IAmb IAmb 14 32 39.5
comp=Z,78nm,1.2s
H17K Granite Mounta 90.55 8 IAmb IAmb 14 32 37.9
comp=Z,33nm,0.8s
H17K Granite Mounta 90.55 8 P **P 14 32 36.7 +0.6**
baz=197,SNR=21
P29M Windy Craggy 90.56 20 P **P 14 32 38.0 +1.7**
baz=217
PV10 Paradox Valley 90.58 48 IAmb IAmb 14 32 39.4
comp=Z,83nm,1.5s
KMI Kunming 90.58 297 ⇓P **P 14 32 38.8 +1.3**
KMI PP **PP 14 36 24.6 +5.7**
KMI SKS **SKSac 14 42 33.3 +0.7**
KMI S **ScS 14 43 02.4 -0.5**
KMI pmax pmax
comp=Z,110nm,0.8s
KMI pmax pmax
comp=Z,830nm,3.5s
KMI LR LR
comp=Z,280nm,22.3s
KMI LR LR
comp=Z,310nm,19.9s
KMI LR LR
comp=Z,270nm,24.6s
PV17 East Wray Mesa 90.58 48 IAmb IAmb 14 32 39.6
comp=Z,82nm,1.8s
BSUT Blindstream Ca 90.59 45 IAmb IAmb 14 32 40.3
comp=Z,56nm,1.1s
XLT XiLinHaoTe 90.59 319 *e*P **P 14 32 37.3 +0.4**
XLT PP **PP 14 36 14.3 -4.1**
XLT SKS **SKSac 14 42 28.1 -3.4**
XLT S **ScS 14 43 01.8 0.0**
XLT pmax pmax
comp=Z,92nm,1.2s
XLT pmax pmax
comp=Z,440nm,4.9s
PV18 Skein Mesa, Pa 90.60 48 IAmb IAmb 14 32 39.7
comp=Z,155nm,2.0s
PV20 West Nyswonger 90.61 48 IAmb IAmb 14 32 39.7
comp=Z,112nm,1.7s
PV13 Radium Mtn., P 90.61 48 IAmb IAmb 14 32 39.8
comp=Z,72nm,1.8s
ANMO Albuquerque 90.62 52 P **P 14 32 37.6 +0.2**
ANMO Albuquerque 90.62 52 *ce*P **P 14 32 38.5 +1.1**
ANMO pmax pmax
comp=Z,15nm,1.0s
PV16 Nyswonger Mesa 90.63 48 IAmb IAmb 14 32 39.9
comp=Z,71nm,1.8s
PV23 Carpenter Ridg 90.64 47 IAmb IAmb 14 32 40.1
comp=Z,138nm,1.9s
MT13 San Alfonso 90.64 128 IAmb IAmb 14 32 41.0
comp=Z,76nm,1.6s
PEL Peldehue 90.66 127 IAmb IAmb 14 32 39.8
comp=Z,122nm,1.7s
J20K Nowinta River 90.68 11 IAmb IAmb 14 32 38.8
comp=Z,67nm,1.1s
J20K Nowinta River 90.68 11 P **P 14 32 37.3 +0.6**
baz=202,SNR=28
KTH Kantishna Hill 90.68 12 IAmb IAmb 14 32 37.6
comp=Z,44nm,1.0s
PV04 Paradox Valley 90.68 48 IAmb IAmb 14 32 40.2
comp=Z,90nm,1.8s
PV02 Paradox Valley 90.69 48 IAmb IAmb 14 32 40.2
comp=Z,121nm,1.7s
TRF Thorofare Moun 90.71 12 P **P 14 32 36.9 -0.1**
baz=206,SNR=27
G16K Koyuk River 90.71 7 IAmb IAmb 14 32 39.0
comp=Z,41nm,1.1s
G16K Koyuk River 90.71 7 P **P 14 32 37.7 +1.0**
baz=195,SNR=18
PV12 Saucer Basin, 90.71 48 IAmb IAmb 14 32 39.4
comp=Z,114nm,1.7s
PV21 Cone Mtn., Par 90.72 47 IAmb IAmb 14 32 40.4
comp=Z,113nm,1.8s
CHUM Lake Minchumin 90.72 11 P **P 14 32 36.9 0.0**
baz=204,SNR=23
PECS Pecos 90.78 56 IAmb IAmb 14 32 40.7
comp=Z,75nm,1.7s
O28M Mount Upton 90.78 18 IAmb IAmb 14 32 40.2
comp=Z,66nm,1.6s
O28M Mount Upton 90.78 18 P **P 14 32 38.7 +1.1**
baz=214,SNR=7.0
GCSA Galena City Sc 90.78 9 P **P 14 32 38.3 +1.2**
baz=200,SNR=29
F15K North Star Dit 90.78 6 IAmb IAmb 14 32 39.2
comp=Z,81nm,1.6s
F15K North Star Dit 90.78 6 P **P 14 32 38.0 +0.9**
baz=193,SNR=10
CM31 Chiang Mai Arr 90.80 290 P **P 14 32 39.4 +1.0**
CM31 S **SKSac 14 42 35.3 +1.7**
CMAR Chiang Mai Arr 90.80 290 P **P 14 32 39.5 +1.1**
CMAR Chiang Mai Arr 90.80 290 P **P 14 32 39.8 +1.4**
comp=Z,42nm,0.8s,baz=134,slow=3.2,SNR=234
CMAR pP **pwP 14 34 08.9 +0.5**
comp=Z,5.4nm,1.0s,baz=111,slow=6.2,SNR=2.9
CMAR PP **PP 14 36 20.8 +0.4**
comp=Z,14nm,1.0s,baz=128,slow=5.4,SNR=7.5
CMAR PKiKP **PKiKP 14 37 29.6 -0.2**
comp=Z,1.7nm,0.7s,baz=224,slow=1.2,SNR=4.3
CMAR PKKPbc **PKKPbc 14 50 02.0 +0.5**
comp=Z,0.8nm,0.6s,baz=286,slow=4.4,SNR=5.0
CMAR SKKPbc SKKPbc 14 53 02.4 -1.8
comp=Z,1.3nm,0.9s,baz=289,slow=5.0,SNR=4.9
comp=Z,42nm,0.8s
O29M Mount Kennedy 90.85 19 P **P 14 32 39.3 +1.5**
baz=216
PV07 Paradox Valley 90.87 48 IAmb IAmb 14 32 41.0
comp=Z,78nm,1.8s
HARP HAARP 90.88 15 P **P 14 32 38.8 +1.1**
baz=210
ZEA Zeya 90.93 331 *e*P **P 14 32 38.7 +0.6**
ZEA *e* 14 42 32.9
ZEA *e*S **S 14 43 01.7 0.0**
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,60nm,0.9s
ZEA pmax pmax
comp=Z,200nm,3.7s
ZEA smax smax
comp=E,800nm,11.6s
ZEA smax smax
comp=N,1μm,12.1s
RND Reindeer 90.95 13 IAmb IAmb 14 32 39.8
comp=Z,64nm,1.0s
CHTO Chiang Mai 90.96 290 P **P 14 32 40.5 +1.4**
CHTO Chiang Mai 90.96 290 P **P 14 32 40.2 +1.1**
CHTO S **SKSac 14 42 36.7 +2.3**
CHTO Chiang Mai 90.96 290 P **P 14 32 40.2 +1.1**
CHTO Chiang Mai 90.96 290 P **P 14 32 40.5 +1.4**
CHTO pmax pmax
comp=Z,117nm,1.1s
H18K Honhosa River 90.96 8 IAmb IAmb 14 32 39.6
comp=Z,79nm,1.4s
H18K Honhosa River 90.96 8 P **P 14 32 38.4 +0.4**
baz=198,SNR=13
G17K Kiwalik Mounta 91.00 7 P **P 14 32 38.9 +0.8**
baz=196,SNR=28
T35M Bob Quinn 91.06 24 P **P 14 32 41.6 +2.9**
baz=223
BPAW Bear Paw Mtn. 91.16 12 P **P 14 32 38.3 -0.7**
baz=205,SNR=5.8
SKAG Skagway 91.18 21 P **P 14 32 41.2 +2.2**
baz=219
P30M Million Dollar 91.19 20 P **P 14 32 40.7 +1.4**
baz=217
I20K Naaghedeneel 91.20 10 IAmb IAmb 14 32 41.4
comp=Z,84nm,1.1s
I20K Naaghedeneel 91.20 10 P **P 14 32 40.3 +1.3**
baz=202,SNR=9.9
MCK McKinley 91.23 13 IAmb IAmb 14 34 15.6
comp=Z,55nm,1.2s
MCK McKinley 91.23 13 P **P 14 32 39.6 +0.3**
baz=207,SNR=14
PAX Paxson 91.30 15 P **P 14 32 40.0 +0.2**
baz=210,SNR=9.9
YUK8 Steele Glacier 91.32 18 P **P 14 32 41.6 +1.5**
baz=215,SNR=8.3
M26K Nabesna, AK 91.40 16 IAmb IAmb 14 32 47.6
comp=Z,77nm,1.6s
M26K Nabesna, AK 91.40 16 P **P 14 32 41.4 +1.2**
baz=212,SNR=13
S34M Telegraph Cree 91.42 23 P **P 14 32 42.1 +1.9**
baz=222
YUK6 Outpost Mounta 91.44 18 P **P 14 32 42.1 +1.5**
baz=216
SAND Sanderson 91.44 58 IAmb IAmb 14 32 43.4
comp=Z,39nm,1.1s
BWN Browne 91.52 12 IAmb IAmb 14 32 40.8
comp=Z,51nm,0.7s
YUK3 Moose Creek 91.53 17 P **P 14 32 42.3 +1.3**
baz=214,SNR=21
AHID Auburn Hatcher 91.57 43 IAmb IAmb 14 32 44.5
comp=Z,118nm,1.7s
H19K Roundabout Mou 91.58 9 IAmb IAmb 14 32 43.1
comp=Z,70nm,1.1s
H19K Roundabout Mou 91.58 9 P **P 14 32 41.7 +0.9**
baz=200,SNR=46
HYT Haines Junctio 91.59 19 P **P 14 32 42.2 +1.1**
baz=217
G18K Tagagawik 91.63 8 IAmb IAmb 14 32 42.8
comp=Z,52nm,1.2s
G18K Tagagawik 91.63 8 P **P 14 32 41.5 +0.4**
baz=198,SNR=26
M27K Edge Creek, AK 91.65 16 IAmb IAmb 14 32 44.1
comp=Z,40nm,1.1s
M27K Edge Creek, AK 91.65 16 P **P 14 32 42.9 +1.5**
baz=213,SNR=19
HIA Hailar 91.67 325 P **P 14 32 42.3 +0.6**
YUK4 Talbot Arm 91.68 18 P **P 14 32 42.9 +1.2**
baz=216
MENT Mentasta 91.69 15 P **P 14 32 43.2 +1.8**
HHC Hu-ho-hao-te 91.74 315 ⇓*i*P **P 14 32 43.4 +1.1**
HHC PP **PP 14 36 25.8 -1.8**
HHC SKS **SKSac 14 42 38.3 +0.1**
HHC S **ScS 14 43 16.1 +4.5**
HHC pmax pmax
comp=Z,67nm,1.0s
HHC pmax pmax
comp=Z,450nm,5.1s
S22A 4UR Ranch, Cre 91.76 49 IAmb IAmb 14 32 45.6
comp=Z,48nm,1.2s
H20K Anotlesegga Mo 91.78 10 P **P 14 32 42.7 +0.9**
baz=202,SNR=34
P32M Atlin 91.80 21 P **P 14 32 43.4 +1.4**
baz=220
Q32M Nakina River 91.81 22 P **P 14 32 43.9 +1.7**
baz=221
F17K Baldwin Pennin 91.84 7 IAmb IAmb 14 32 44.1
comp=Z,67nm,1.1s
F17K Baldwin Pennin 91.84 7 P **P 14 32 42.8 +0.8**
baz=196,SNR=34
L26K Log Cabin Wild 91.85 15 P **P 14 32 43.1 +0.9**
baz=212,SNR=11
BVCY Beaver Creek 91.96 17 P **P 14 32 44.0 +1.3**
baz=214,SNR=12
K24K Donnelly Dome 91.96 14 P **P 14 32 43.6 +0.9**
baz=210
I21K Tanana 91.97 11 P **P 14 32 42.9 +0.3**
baz=204
O30N Mendenhall 91.97 19 P **P 14 32 44.3 +1.5**
baz=218
NEA2 Nenana 91.97 12 P **P 14 32 42.4 -0.3**
baz=207,SNR=9.7
PZH PanZhiHua 92.00 298 P **P 14 32 44.4 +0.5**
PZH PP **PP 14 36 34.3 +4.4**
PZH SKS **SKSac 14 42 38.1 -2.2**
PZH S **S 14 43 12.0 -0.7**
PZH pmax pmax
comp=Z,70nm,0.8s
PZH pmax pmax
comp=Z,680nm,7.1s
PZH LR LR
comp=Z,310nm,20.2s
PZH LR LR
comp=Z,220nm,22.0s
PZH LR LR
comp=Z,300nm,23.0s
WRH Wood River Hil 92.06 13 IAmb IAmb 14 34 19.4
comp=Z,47nm,1.1s
G19K Purcell Mounta 92.07 9 IAmb IAmb 14 32 45.2
comp=Z,54nm,1.1s
G19K Purcell Mounta 92.07 9 P **P 14 32 43.9 +0.8**
baz=200,SNR=31
FXWY Fox Creek 92.09 42 IAmb IAmb 14 32 46.9
comp=Z,66nm,1.9s
RIDG Independent Ri 92.11 14 IAmb IAmb 14 34 20.1
comp=Z,36nm,1.1s
RIDG Independent Ri 92.11 14 P **P 14 32 44.3 +0.9**
baz=210,SNR=15
ODSA Odessa 92.12 56 IAmb IAmb 14 34 18.5
comp=Z,72nm,1.1s
F18K Selawik 92.18 8 P **P 14 32 44.1 +0.5**
baz=197,SNR=20
N30M Aishikik Lake 92.22 19 P **P 14 32 44.9 +0.9**
baz=217
HDA Harding Lake 92.24 13 IAmb IAmb 14 32 49.4
comp=Z,22nm,0.6s
HDA Harding Lake 92.24 13 P **P 14 32 44.2 +0.3**
baz=209,SNR=25
L27K Beaver Creek, 92.25 16 P **P 14 32 45.1 +1.0**
baz=213,SNR=12
BCAR Beaver Creek A 92.27 16 P **P 14 32 45.0 +0.9**
H21K Melozitna Rive 92.27 10 IAmb IAmb 14 32 46.4
comp=Z,129nm,1.9s
H21K Melozitna Rive 92.27 10 P **P 14 32 44.9 +0.9**
baz=203,SNR=19
DRIO Del Rio 92.36 59 IAmb IAmb 14 32 47.6
comp=Z,59nm,0.9s
E17K Hotham Inlet 92.40 7 P **P 14 32 45.4 +0.8**
baz=195,SNR=50
CD2 Chengdu 92.41 303 ⇓P **P 14 32 46.9 +1.3**
CD2 pP pP 14 34 12.8 +0.1
CD2 PP **PP 14 36 30.4 -2.5**
CD2 SKS **SKSac 14 42 41.4 -0.8**
CD2 S **ScS 14 43 17.3 -0.2**
CD2 pmax pmax
comp=Z,150nm,1.3s
CD2 pmax pmax
comp=Z,1μm,3.4s
CD2 LR LR
comp=Z,260nm,15.9s
CD2 LR LR
comp=Z,280nm,17.8s
I23K Minto, Yukon-K 92.42 12 IAmb IAmb 14 32 45.9
comp=Z,80nm,2.0s
I23K Minto, Yukon-K 92.42 12 P **P 14 32 44.5 -0.2**
baz=206,SNR=7.5
COLA College 92.47 13 P **P 14 32 46.0 +1.1**
COLA IAmb IAmb 14 32 51.1
comp=Z,29nm,0.6s
COLA College 92.47 13 P **P 14 32 45.3 +0.4**
COLA College 92.47 13 P **P 14 32 46.0 +1.1**
COLA pmax pmax
comp=Z,29nm,0.6s
COLA College 92.47 13 P **P 14 32 45.0 +0.1**
baz=208
SCRK Sand Creek 92.51 15 P **P 14 32 46.1 +0.8**
baz=211,SNR=12
PDAR Pinedale Array 92.53 44 P **P 14 32 46.7 +0.6**
comp=Z,11nm,0.8s,baz=196,slow=2.9,SNR=75
PDAR pP **pwP 14 34 16.0 -0.4**
comp=Z,14nm,1.0s,baz=204,slow=3.3,SNR=11
PDAR PP **PP 14 36 32.5 -1.3**
comp=Z,8.8nm,1.1s,baz=243,slow=6.5,SNR=12
PDAR S **SKSac 14 42 43.1 +0.3**
comp=Z,1.8nm,1.1s,baz=225,slow=33,SNR=7.4
PDAR PKKPbc **PKKPdf 14 49 57.1 +0.8**
comp=Z,1.6nm,0.8s,baz=78,slow=3.8,SNR=7.8
PDAR PKPPKP **P'P'df 14 58 08.0 +1.0**
comp=Z,1.5nm,1.1s,baz=103,slow=3.2,SNR=5.3
comp=Z,11nm,0.8s
P33M Teslin, Yukon 92.57 21 P **P 14 32 46.9 +1.3**
baz=221
IL31 92.57 13 IAmb IAmb 14 32 46.7
comp=Z,48nm,1.6s
ILAR Eielson Array 92.57 13 P **P 14 32 45.3 -0.1**
ILAR Eielson Array 92.57 13 P **P 14 32 45.1 -0.3**
comp=Z,6.8nm,0.6s,baz=221,slow=5.5,SNR=119
ILAR pP **pwP 14 34 15.3 +2.4**
comp=Z,13nm,1.1s,baz=226,slow=5.3,SNR=4.1
ILAR PKiKP **PKiKP 14 37 30.9 -0.5**
comp=Z,1.0nm,0.8s,baz=282,slow=2.6,SNR=4.1
ILAR S **SKSac 14 42 40.9 -0.6**
comp=Z,0.7nm,1.0s,baz=207,slow=5.0,SNR=6.3
ILAR PKKPbc **PKKPbc 14 49 59.0 -0.2**
comp=Z,0.5nm,0.5s,baz=359,slow=1.9,SNR=7.3
ILAR SKKS **SKKSdf 14 56 26.6 -5.9**
comp=Z,1.8nm,1.1s,baz=7.6,slow=2.7,SNR=12
comp=Z,6.8nm,0.6s
R33M Jennings River 92.58 22 P **P 14 32 47.2 +1.5**
baz=222
BTO Baotou 92.62 314 *e*P **P 14 32 48.6 +2.2**
BTO pP **pP 14 34 11.3 -2.2**
BTO sP **sP 14 34 46.0 -6.2**
BTO SKS **SKSac 14 42 42.6 -0.4**
BTO S **S 14 43 17.4 -0.1**
BTO sS **sS 14 45 46.6 -5.8**
BTO pmax pmax
comp=Z,100nm,1.7s
BTO pmax pmax
comp=Z,2μm,9.5s
BTO LR LR
comp=Z,550nm,21.4s
BTO LR LR
comp=Z,740nm,22.4s
BTO LR LR
comp=Z,1μm,20.4s
M29M Somme Creek 92.62 18 P **P 14 32 47.2 +1.3**
baz=216,SNR=7.7
N31M Braeburn, Yuko 92.63 19 P **P 14 32 47.3 +1.5**
baz=218
F19K Shaleruckik Mo 92.64 8 IAmb IAmb 14 32 47.5
comp=Z,43nm,1.1s
F19K Shaleruckik Mo 92.64 8 P **P 14 32 46.3 +0.7**
baz=199,SNR=40
OZNA Ozona 92.64 57 IAmb IAmb 14 32 48.2
comp=Z,24nm,0.6s
YHL Hebgen Lake 92.65 41 IAmb IAmb 14 34 22.8
comp=Z,39nm,1.0s
H22K Ishtalitna Cre 92.73 11 P **P 14 32 46.5 +0.3**
baz=205,SNR=20
J25K Salcha River, 92.75 14 P **P 14 32 46.6 +0.2**
baz=210,SNR=14
POKR Poker Plat Res 92.76 13 P **P 14 32 46.1 -0.2**
baz=208,SNR=9.7
MSTX Muleshoe 92.81 54 IAmb IAmb 14 34 23.4
comp=Z,57nm,1.4s
E18K Tukpahlearik C 92.86 7 IAmb IAmb 14 32 48.8
comp=Z,43nm,0.9s
E18K Tukpahlearik C 92.86 7 P **P 14 32 47.6 +0.9**
baz=196,SNR=36
D17K Noatak River 92.88 6 P **P 14 32 47.8 +1.1**
baz=194,SNR=17
ZON Zonda 92.93 127 IAmb IAmb 14 32 50.1
comp=Z,60nm,1.9s
G21K Allakaket 92.95 10 IAmb IAmb 14 32 49.2
comp=Z,96nm,1.7s
G21K Allakaket 92.95 10 P **P 14 32 47.8 +0.6**
baz=203,SNR=24
H23K Yukon River 92.99 12 P **P 14 32 47.4 0.0**
baz=206
K27K Chicken 93.00 15 P **P 14 32 48.9 +1.4**
baz=213
J26L Joseph Creek 93.06 14 IAmb IAmb 14 32 50.3
comp=Z,51nm,0.9s
J26L Joseph Creek 93.06 14 P **P 14 32 49.1 +1.4**
baz=212,SNR=34
SGCY Sterling City 93.10 56 IAmb IAmb 14 32 50.7
comp=Z,53nm,1.1s
F20K Avaraart Lake 93.11 9 P **P 14 32 48.7 +0.8**
baz=201
BILL Bilibino 93.13 354 P **P 14 32 48.4 +0.5**
BILL Bilibino 93.13 354 *ce*P **P 14 32 48.2 +0.3**
BILL pmax pmax
comp=Z,126nm,1.3s
M30M Minto, Yukon 93.19 18 P **P 14 32 49.3 +0.9**
baz=218,SNR=15
N32M Quiet Lake 93.20 20 P **P 14 32 49.5 +1.1**
baz=221
CFA Coronel Fontan 93.22 127 pP pP 14 34 18.3 +1.5
comp=Z,5.9nm,0.9s,baz=249,slow=4.5,SNR=6.5
RDOG Red Dog Mine 93.24 6 IAmb IAmb 14 32 50.6
comp=Z,30nm,0.9s
RDOG Red Dog Mine 93.24 6 P **P 14 32 49.5 +1.1**
baz=194,SNR=7.1
C16K Lisburne Hills 93.24 5 IAmb IAmb 14 32 50.4
comp=Z,46nm,1.0s
C16K Lisburne Hills 93.24 5 P **P 14 32 49.1 +0.7**
baz=192,SNR=14
L29M L29M 93.25 17 IAmb IAmb 14 34 22.4
comp=Z,42nm,1.2s

L29M	**L29M**	93.25	17	P		**P**	14 32 50.1 +1.4
	baz=216,SNR=13						
E19K	**Redstone River**	93.30	8	IAmb		IAmb	14 32 50.8
	comp=Z,46nm,1.1s						
E19K	**Redstone River**	93.30	8	P		**P**	14 32 49.5 +0.8
	baz=200,SNR=42						
H24K	**Noodor Dome**	93.31	12	P		**P**	14 32 49.8 +0.9
	baz=208						
YNE	**Yellowstone No**	93.44	42	IAmb		IAmb	14 34 28.4
	comp=Z,26nm,1.0s						
HNDO	**Hondo**	93.45	59	IAmb		IAmb	14 34 24.1
	comp=Z,42nm,1.2s						
JCT	**Junction City**	93.46	58	IAmb		IAmb	14 32 52.2
	comp=Z,79nm,1.5s						
PRP	**Porcupine Dome**	93.51	13	P		**P**	14 32 50.2 +0.3
	baz=210,SNR=14						
ISCO	**Idaho Springs**	93.60	48	IAmb		IAmb	14 32 53.6
	comp=Z,51nm,2.0s						
M31M	**Drury Creek, Y**	93.60	19	P		**P**	14 32 50.6 +0.4
	baz=220						
F21K	**Alatna River**	93.61	10	IAmb		IAmb	14 32 52.2
	comp=Z,67nm,1.9s						
F21K	**Alatna River**	93.61	10	P		**P**	14 32 50.8 +0.6
	baz=203,SNR=6.2						
G22K	**Bettles**	93.64	10	P		**P**	14 32 51.1 +0.8
	baz=205						
DAWY	**Dawson**	93.70	16	P		**P**	14 32 51.7 +1.0
	baz=215,SNR=14						
G23K	**Bananza Creek**	93.70	11	P		**P**	14 32 51.1 +0.5
	baz=206,SNR=8.6						
SN05	**Snyder 5**	93.72	56	IAmb		IAmb	14 32 53.3
	comp=Z,29nm,1.0s						
I26K	**Coal Creek Min**	93.84	14	P		**P**	14 32 52.0 +0.8
	baz=212						
WTLY	**Watson Lake, Y**	93.86	23	P		**P**	14 32 52.8 +1.3
	baz=224						
FARO	**Faro, Yukon**	93.94	20	P		**P**	14 32 52.4 +0.6
	baz=220						
TNCH	**TengChong**	93.97	296	⇓P		**P**	14 32 53.8 +0.7
TNCH				PP		**PP**	14 36 47.5 +2.2
TNCH				SKS		**SKSac**	14 42 50.5 -0.7
TNCH				S		**S**	14 43 28.4 -1.8
TNCH				pmax		pmax	
	comp=Z,55nm,1.5s						
TNCH				pmax		pmax	
	comp=Z,540nm,3.6s						
C18K	**Utukok River**	93.98	6	IAmb		IAmb	14 32 53.8
	comp=Z,59nm,1.4s						
C18K	**Utukok River**	93.98	6	P		**P**	14 32 52.6 +0.7
	baz=196,SNR=13						
RTBA	**Rita Blanca**	93.99	52	IAmb		IAmb	14 34 23.5
	comp=Z,59nm,1.7s						
K29M	**Barlow Dome**	94.01	17	IAmb		IAmb	14 32 54.8
	comp=Z,30nm,1.2s						
K29M	**Barlow Dome**	94.01	17	P		**P**	14 32 53.6 +1.4
	baz=217,SNR=11						
F22K	**John River**	94.07	10	P		**P**	14 32 52.7 +0.4
	baz=204						
COLD	**Coldfoot**	94.14	11	P		**P**	14 32 53.4 +0.8
	baz=206,SNR=16						
G24K	**Hadweenzic Riv**	94.16	12	P		**P**	14 32 52.6 -0.1
	baz=208						
D19K	**Kuna River**	94.17	8	IAmb		IAmb	14 32 54.7
	comp=Z,77nm,1.4s						
D19K	**Kuna River**	94.17	8	P		**P**	14 32 53.5 +0.8
	baz=199,SNR=26						
E20K	**Nigu River**	94.19	8	P		**P**	14 32 53.9 +1.0
	baz=200,SNR=31						
TOAD	**Toad River Com**	94.28	25	P		**P**	14 32 54.6 +1.2
	baz=227						
J29N	**Klondike Camp**	94.31	16	IAmb		IAmb	14 33 00.5
	comp=Z,16nm,0.7s						
J29N	**Klondike Camp**	94.31	16	P		**P**	14 32 54.9 +1.4
	baz=216						
I27K	**Kandik River**	94.44	15	P		**P**	14 32 54.7 +0.7
	baz=213,SNR=11						
BRDY	**Brady**	94.44	58	IAmb		IAmb	14 32 56.7
	comp=Z,67nm,1.5s						
G25K	**Bearman Lake**	94.48	12	P		**P**	14 32 54.9 +0.8
	baz=209						
APMT	**Aspermont**	94.49	55	IAmb		IAmb	14 34 28.4
	comp=Z,35nm,1.1s						
D20K	**Etivluk River**	94.56	8	P		**P**	14 32 55.6 +1.1
	baz=200,SNR=19						
B18K	**Kokolik River**	94.61	6	P		**P**	14 32 56.0 +1.3
	baz=195,SNR=16						
E21K	**Killik River**	94.66	9	P		**P**	14 32 55.4 +0.4
	baz=202						
E22K	**Anaktuvuk Pass**	94.70	10	IAmb		IAmb	14 32 57.3
	comp=Z,46nm,1.6s						
E22K	**Anaktuvuk Pass**	94.70	10	P		**P**	14 32 56.0 +0.8
	baz=204,SNR=16						
I28M	**Miner Creek**	94.70	15	P		**P**	14 32 56.0 +0.7
	baz=215,SNR=18						
LZH	**Lanzhou**	94.71	308	⇓P		**P**	14 32 57.8 +1.7
LZH				SKS		**SKSac**	14 42 53.5 -1.2
LZH				S		**ScS**	14 43 40.9 +4.2
LZH				pmax		pmax	
	comp=Z,68nm,1.5s						
LZH				pmax		pmax	
	comp=Z,570nm,5.8s						
LZH				LR		LR	
	comp=Z,470nm,17.5s						
LZH				LR		LR	
	comp=Z,380nm,17.9s						
LZH				LR		LR	
	comp=Z,1μm,17.5s						
F24K	**Squaw Lake**	94.81	11	IAmb		IAmb	14 32 58.2
	comp=Z,50nm,1.8s						
F24K	**Squaw Lake**	94.81	11	P		**P**	14 32 56.6 +1.0
	baz=208,SNR=18						
J30M	**Hart River**	94.91	17	P		**P**	14 32 57.2 +0.9
	baz=218						
H27K	**Steamboat Moun**	94.98	14	P		**P**	14 32 57.5 +1.0
	baz=214,SNR=16						
E23K	**Chandalar**	94.99	11	P		**P**	14 32 57.4 +0.9
	baz=206,SNR=11						
I29M	**Ogilvie Camp,**	95.03	16	IAmb		IAmb	14 34 41.5
	comp=Z,16nm,0.6s						
I29M	**Ogilvie Camp,**	95.03	16	P		**P**	14 32 57.3 +0.6
	baz=216,SNR=8.5						
G26K	**Porcupine Rive**	95.10	13	P		**P**	14 32 57.9 +0.9
	baz=212						
E24K	**Your Creek**	95.19	11	P		**P**	14 32 58.4 +1.0
	baz=207						
C21K	**Knifeblade Rid**	95.22	8	P		**P**	14 32 58.6 +1.1
	baz=202,SNR=19						
D22K	**Ayikyak River**	95.25	9	IAmb		IAmb	14 32 59.4
	comp=Z,30nm,1.4s						
D22K	**Ayikyak River**	95.25	9	P		**P**	14 32 58.7 +1.0
	baz=204,SNR=11						
F25K	**Christian Rive**	95.29	12	P		**P**	14 32 58.9 +1.0
	baz=210,SNR=6.6						
BMAR	**Burnt Mountain**	95.35	13	P		**P**	14 32 59.4 +1.2
I30M	**Mount Dempster**	95.41	17	P		**P**	14 32 59.2 +0.7
	baz=218,SNR=11						
G27K	**Doyon Strip**	95.44	14	P		**P**	14 32 59.4 +0.9
	baz=213						
A19K	**Wainwright**	95.50	6	P		**P**	14 32 59.4 +0.8
	baz=196						
TOLK	**Toolik Lake Re**	95.52	10	P		**P**	14 32 58.9 +0.1
	baz=206,SNR=6.8						
D23K	**Nanushuk River**	95.63	10	P		**P**	14 33 00.6 +1.3
	baz=205,SNR=14						
F26K	**Sheenjek River**	95.67	13	P		**P**	14 33 00.8 +1.2
	baz=211,SNR=8.4						
B21K	**Ikpikpuk River**	95.67	8	P		**P**	14 33 00.2 +0.7
	baz=202						
NNA	**Nana**	95.69	106	*c*eP		**P**	14 33 01.5 +0.5
NNA				pmax		pmax	
	comp=Z,55nm,1.8s						
H29M	**Whitestone**	95.70	15	IAmb		IAmb	14 33 01.8
	comp=Z,26nm,1.1s						
H29M	**Whitestone**	95.70	15	P		**P**	14 33 00.2 +0.5
	baz=216,SNR=12						
YAK	**Yakutsk**	95.72	338	P		**P**	14 32 60.0 +0.2
YAK	**Yakutsk**	95.72	338	*e*P		**P**	14 32 57.9 -1.9
YAK				*e*			14 36 53.6
YAK				*e*S		**SKSac**	14 42 58.6 +0.3
YAK				*e*			14 43 37.4
YAK				*e*SS		**SS**	14 50 20.5 -3.0
YAK				*e*SSS		SSS	14 54 06.9
YAK				pmax		pmax	
	comp=Z,18nm,1.6s						
YAK				pmax		pmax	
	comp=N,10.0nm,1.3s						
YAK				pmax		pmax	
	comp=E,9.0nm,1.0s						
YAK				pmax		pmax	
	comp=Z,385nm,4.6s						
YAK				pmax		pmax	
	comp=N,106nm,4.3s						
YAK				pmax		pmax	
	comp=E,128nm,4.6s						
YAK				smax		smax	
	comp=N,63nm,1.7s						
YAK				smax		smax	
	comp=E,107nm,1.9s						
B20K	**Meade River**	95.72	7	P		**P**	14 33 00.5 +0.8
	baz=200						
E25K	**Arctic Village**	95.76	12	P		**P**	14 33 00.9 +0.9
	baz=210,SNR=9.3						
WTFS	**Witchita Falls**	95.92	56	IAmb		IAmb	14 34 35.6
	comp=Z,47nm,1.4s						
D24K	**Happy Valley**	96.10	10	P		**P**	14 33 02.4 +1.0
	baz=207						
EPYK	**Eagle Plains**	96.23	16	IAmb		IAmb	14 33 04.1
	comp=Z,23nm,1.1s						
EPYK	**Eagle Plains**	96.23	16	P		**P**	14 33 02.7 +0.6
	baz=218,SNR=9.3						
HKT	**Hockley**	96.33	60	*i* P		**P**	14 33 02.6 -0.7
HKT				pmax		pmax	
	comp=Z,26nm,1.9s						
G29M	**Pine Creek**	96.35	15	P		**P**	14 33 03.2 +0.6
	baz=217,SNR=9.1						
H31M	**Peel River**	96.39	17	P		**P**	14 33 03.1 +0.3
	baz=220						
C23K	**Itkillik River**	96.43	9	P		**P**	14 33 04.2 +1.3
	baz=206,SNR=9.6						
ATAH	**Atahualpa**	96.44	101	PP		**PP**	14 37 04.8 +0.4
	comp=Z,9.4nm,1.0s,baz=256,slow=7.8,SNR=13						
CIT	**Chita**	96.48	325	*e*P		**P**	14 33 03.0 -0.6
CIT				*e*			14 34 28.2
CIT				pmax		pmax	
	comp=Z,64nm,1.8s						
B22K	**Teshekpuk Lake**	96.50	8	P		**P**	14 33 03.9 +0.7
	baz=203						
OGNE	**Ogallala**	96.55	48	IAmb		IAmb	14 34 39.1
	comp=Z,31nm,1.2s						
E27K	**Coleen River**	96.60	13	P		**P**	14 33 04.6 +0.8
	baz=214,SNR=12						
C24K	**Franklin Bluff**	96.62	10	P		**P**	14 33 04.7 +0.9
	baz=207						
D25K	**Kavik River**	96.66	11	P		**P**	14 33 04.4 +0.3
	baz=209,SNR=11						
X34A	**Smith Ranch, M**	96.75	55	IAmb		IAmb	14 34 40.0
	comp=Z,38nm,1.1s						
G30M	**tAoh Zraii Nji**	96.83	16	IAmb		IAmb	14 33 06.7
	comp=Z,30nm,1.1s						
G30M	**tAoh Zraii Nji**	96.83	16	P		**P**	14 33 05.2 +0.4
	baz=218,SNR=14						
A22K	**Sinclair Lake**	96.92	8	P		**P**	14 33 05.8 +0.8
	baz=202						
G31M	**Satah River**	97.27	16	IAmb		IAmb	14 33 07.9
	comp=Z,26nm,1.4s						
G31M	**Satah River**	97.27	16	P		Pdif	14 33 07.1 +0.4
	baz=220						
E28M	**Babbage River**	97.38	14	IAmb		IAmb	14 33 09.4
	comp=Z,19nm,1.1s						
E28M	**Babbage River**	97.38	14	P		Pdif	14 33 08.2 +0.9
	baz=215,SNR=10						
C27K	**Jago River**	97.40	12	P		Pdif	14 33 08.1 +0.8
	baz=212,SNR=17						
F30M	**Barrier River**	97.43	15	P		Pdif	14 33 07.7 +0.3
	baz=219						
C26K	**Camden Bay**	97.44	11	P		Pdif	14 33 08.7 +1.3
	baz=211,SNR=19						
E29M	**Blow River**	97.56	14	P		Pdif	14 33 08.5 +0.5
	baz=217,SNR=6.4						
D27M	**Malcolm River**	97.61	13	IAmb		IAmb	14 33 10.8
	comp=Z,27nm,1.5s						
D27M	**Malcolm River**	97.61	13	P		Pdif	14 33 09.3 +1.0
	baz=214,SNR=15						
HMBC	**Humberstone**	97.70	116	P		**P**	14 33 09.1 -0.9
W35A	**Tecumseh**	97.70	55	IAmb		IAmb	14 34 40.9
	comp=Z,51nm,1.6s						
F31M	**Tsiigehtchic**	97.80	16	IAmb		IAmb	14 33 11.0
	comp=Z,41nm,1.4s						
F31M	**Tsiigehtchic**	97.80	16	P		Pdif	14 33 09.8 +0.7
	baz=220						
ULN	**Ulaanbaatar**	98.03	319	P		**P**	14 33 11.1 +0.3
ULN	**Ulaanbaatar**	98.03	319	P		Pdif	14 33 10.5 -0.3
ULN				S		**SKSac**	14 43 10.8 -0.5
ULN	**Ulaanbaatar**	98.03	319	⇑P		**P**	14 33 11.3 +0.5
D28M	**Stokes Point**	98.14	13	P		**P**	14 33 11.2 +0.7
	baz=216,SNR=9.5						
SONM	**Songino Array**	98.41	319			Pdif	14 33 12.2 -0.2
SONM				IAmb		IAmb	14 33 13.9
	comp=Z,28nm,1.4s						
SONM	**Songino Array**	98.41	319	P		Pdif	14 33 12.3 -0.2
	comp=Z,3.2nm,0.6s,baz=149,slow=3.1,SNR=29						
SONM				pP		pwP	14 34 42.4 -0.5
	comp=Z,4.4nm,1.0s,baz=104,slow=5.8,SNR=4.2						
SONM				PP		**PP**	14 37 15.6 -3.1
	comp=Z,5.4nm,1.1s,baz=138,slow=4.0,SNR=5.2						
SONM				S		**SKSac**	14 43 12.2 -0.9
	comp=Z,1.3nm,1.0s,baz=93,slow=3.3,SNR=3.7						
SONM				SKKP		**SKKPdf**	14 52 44.4 0.0
	comp=Z,1.7nm,1.0s,baz=261,slow=0.9,SNR=4.3						
	comp=Z,3.2nm,0.6s						
INK	**Inuvik**	98.52	16	P		**P**	14 33 12.7 +0.5
	baz=221						
GTA	**Gaotai**	99.03	309	*e*P		**Pdif**	14 33 16.3 +0.9
GTA				PP		**PP**	14 37 21.3 -2.3
GTA				SKS		**SKSac**	14 43 15.3 -1.3
GTA				S		**S**	14 44 17.8 +5.2
GTA				pmax		pmax	
	comp=Z,14nm,1.4s						
GTA				pmax		pmax	
	comp=Z,220nm,10.3s						
YKA	**Yellowknife Ar**	100.64	25	P		**Pdif**	14 33 22.5 +0.7
	comp=Z,0.6nm,0.7s,baz=243,slow=4.1,SNR=5.7						
YKA				pP		pP	14 34 51.4 +2.1
	comp=Z,2.4nm,1.0s,baz=237,slow=4.2,SNR=5.0						
LPAZ	**La Paz**	101.12	114	P		**Pdif**	14 33 28.0 +2.1
	comp=Z,3.0nm,0.6s,baz=235,slow=3.1,SNR=9.8						
LPAZ				PP		**PP**	14 37 36.8 -3.0
	comp=Z,1.6nm,0.7s,baz=251,slow=5.9,SNR=4.1						
LPAZ				PKKPbc		**PKKPbc**	14 49 33.5 -0.9
	comp=Z,1.3nm,0.5s,baz=22,slow=5.0,SNR=4.7						
LPAZ	**La Paz**	101.12	114	P		**Pdif**	14 33 28.0 +2.1
ZAK	**Zakamensk**	101.37	320	*e*P		**Pdif**	14 33 25.0 -0.5
ZAK				pmax		pmax	
	comp=Z,4.0nm,1.7s						
GOMU	**GeErMu**	101.40	305	P		**Pdif**	14 33 27.6 +1.2
GOMU				PP		**PP**	14 37 43.9 +2.2
GOMU				SKS		**SKSac**	14 43 29.1 +0.4
GOMU				SS		**SS**	14 51 46.4 +2.0
GOMU				LR		LR	
	comp=Z,140nm,18.6s						
GOMU				LR		LR	
	comp=Z,260nm,18.1s						
GOMU				LR		LR	
	comp=Z,320nm,18.2s						
C36M	**Paulatuk**	101.68	17	P		**Pdif**	14 33 26.4 +0.1
	baz=229						
TIXI	**Tiksi**	102.60	345	⇓P		**Pdif**	14 33 30.0 -0.3
A36M	**Sachs Harbour**	103.13	15	P		**Pdif**	14 33 33.4 +0.8
	baz=229						
WMQ	**Urumqi**	109.07	310	Pdif		**Pdif**	14 34 00.1 +0.2
WMQ				AMB		AMB	
	comp=Z,220nm,7.5s						
WMQ				LR		LR	
	comp=Z,350nm,23.9s						
ZSN	**Zaisan**	111.91	313	*i* P		**Pdif**	14 34 12.0 -0.3
ZSN				*i*			14 38 06.5
ZSN	**Zaisan**	111.91	313	*e*Pdif		**Pdif**	14 34 12.1 -0.3
ZSN				*e*PKiKP		**PKiKP**	14 38 06.5 -0.6
ZALV	**Zalesovo Beam**	113.25	320	Pdiff		**Pdif**	14 34 18.9 +0.8
	comp=Z,0.9nm,0.5s,baz=101,slow=7.7,SNR=3.6						
ZALV				PKiKP		**PKiKP**	14 38 08.5 -1.0
	comp=Z,15nm,0.5s,baz=143,slow=0.7,SNR=65						
ZALV				SKP		**SKPdf**	14 41 08.3 0.0
	comp=Z,5.8nm,0.7s,baz=135,slow=0.4,SNR=7.2						
ZALV				S		**SKSac**	14 44 16.5 -1.7
	comp=Z,5.4nm,0.9s,baz=103,slow=6.4,SNR=9.0						
MK31	**Makanchi Array**	113.48	312	*i* PKiKP		**PKiKP**	14 38 09.3 -0.9
MKAR	**Makanchi Array**	113.48	312	Pdiff		**Pdif**	14 34 20.1 +0.7
	comp=Z,1.3nm,0.5s,baz=88,slow=6.0,SNR=15						
MKAR				PKiKP		**PKiKP**	14 38 09.3 -0.9
	comp=Z,22nm,0.6s,baz=86,slow=1.1,SNR=100						
MKAR				SKP		**SKPdf**	14 41 08.6 -0.5
	comp=Z,5.3nm,0.9s,baz=73,slow=5.0,SNR=4.8						
MKAR				S		**SKSac**	14 44 19.2 -0.3
	comp=Z,2.8nm,0.9s,baz=99,slow=7.5,SNR=5.5						
MKAR				PKKPbc		**PKKPbc**	14 48 55.2 -1.2
	comp=Z,3.4nm,0.7s,baz=279,slow=4.1,SNR=15						
MKAR				SKKPbc		**SKKPbc**	14 52 03.0 -2.9
	comp=Z,3.2nm,0.9s,baz=280,slow=3.3,SNR=9.1						
MAKZ	**Makanchi**	113.70	312	⇓PKiKP		**PKiKP**	14 38 09.8 -0.8
NRIK	**Noril'sk**	114.14	337	PKP		PKPdf	14 38 10.0 -0.7
	comp=Z,17nm,0.8s,baz=93,slow=2.9,SNR=30						
NRIK				SKP		**SKPdf**	14 41 09.2 -0.3
	comp=Z,6.7nm,1.0s,baz=72,slow=3.4,SNR=3.7						
SHLS	**Shalkode**	114.73	308	*i* P		**Pdif**	14 34 23.0 -2.1
SHLS				*e*			14 38 11.2
SHLS				*e*			14 39 15.2
SHLS	**Shalkode**	114.73	308	*e*Pdif		**Pdif**	14 34 23.0 -2.1
SHLS				*e*PKP		PKPdf	14 38 11.3 -1.6
SHLS				*e*PP		**PP**	14 39 15.2 -2.4
UZB	**Uzynbulak**	115.05	308	*i* P		**Pdif**	14 34 25.7 -0.9
UZB				*e*			14 38 12.4
UZB				*e*			14 39 19.3
UZB	**Uzynbulak**	115.05	308	*e*Pdif		**Pdif**	14 34 25.8 -0.9
UZB				*e*PKP		**PKPdf**	14 38 12.5 -1.0
UZB				*e*PP		**PP**	14 39 19.4 -0.4
KPKS	**Kokpek**	115.35	308	*i* P		**Pdif**	14 34 27.1 -0.7
KPKS				*e*			14 38 13.0
KPKS				*e*			14 39 21.4
KPKS	**Kokpek**	115.35	308	*e*Pdif		**Pdif**	14 34 27.1 -0.7
KPKS				*e*PKP		**PKPdf**	14 38 13.1 -0.9
KPKS				*e*PP		**PP**	14 39 21.5 -0.4
SEM	**Semipalatinsk**	115.45	316	*e*PKiKP		**PKPdf**	14 38 13.0 -1.1
SEM	**Semipalatinsk**	115.45	316	*e*PKP		**PKPdf**	14 38 13.1 -1.1
TDK	**Taldyqorghan**	115.82	310	*e*PKiKP		**PKPdf**	14 38 13.9 -0.8
TDK	**Taldyqorghan**	115.82	310	*e*PKP		**PKPdf**	14 38 14.0 -0.8
MDOK	**Medeo**	116.47	308	*e*PKiKP		**PKPdf**	14 38 15.2 -1.0
MDOK	**Medeo**	116.47	308	*e*PKP		**PKPdf**	14 38 15.3 -1.0
KURK	**Kurchatov**	116.52	316	P		**PKPdf**	14 38 14.5 -1.3
KURK	**Kurchatov**	116.52	316	PKiKP		**PKPdf**	14 38 15.2 -0.6
TNSS	**Tian-Shan**	116.52	307	*e*PKiKP		**PKPdf**	14 38 15.3 -1.3
TNSS	**Tian-Shan**	116.52	307	*e*PKP		**PKPdf**	14 38 15.4 -1.3
KURBB	**Kurchatov Arra**	116.56	316	PKP		**PKPdf**	14 38 15.2 -0.7
	comp=Z,33nm,0.7s,baz=100,slow=1.9,SNR=170						
KURBB				SKP		**SKPdf**	14 41 14.6 -0.2
	comp=Z,8.6nm,1.0s,baz=88,slow=1.4,SNR=5.9						
KURBB				S		**SKSac**	14 44 28.8 -2.1
	comp=Z,1.6nm,1.0s,baz=92,slow=6.7,SNR=5.2						
KURBB				PKKPbc		**PKKPbc**	14 48 40.8 -5.2
	comp=Z,0.7nm,0.7s,baz=271,slow=4.7,SNR=4.1						
KURBB				SKKPbc		**SKKPbc**	14 51 54.5 -2.1
	comp=Z,5.2nm,1.1s,baz=275,slow=3.8,SNR=12						
KURBB	**Kurchatov Arra**	116.56	316	PKiKP		**PKPdf**	14 38 14.9 -1.0
AAA	**Alma-Ata**	116.57	308	*e*PKiKP		**PKPdf**	14 38 15.4 -0.9
AAA	**Alma-Ata**	116.57	308	*e*PKP		**PKPdf**	14 38 15.4 -0.9
KSH	**Kashi**	116.61	303	PKP		**PKPdf**	14 38 16.1 -0.5
KSH				PP		**PP**	14 39 31.4 +0.7
KSH				SKKS			14 45 51.0
KSH				AMB		AMB	
	comp=Z,450nm,6.9s						
CHKK	**Chushkaly**	116.63	308	*e*PKiKP		**PKPdf**	14 38 15.4 -0.9
CHKK	**Chushkaly**	116.63	308	*e*PKP		**PKPdf**	14 38 15.5 -0.9
KUU	**Kurty**	117.10	308	*e*PKiKP		**PKPdf**	14 38 16.4 -0.8
KUU	**Kurty**	117.10	308	*e*PKP		**PKPdf**	14 38 16.4 -0.8
BDFB	**Brasilia**	117.48	125	PKP		**PKPdf**	14 38 18.0 -1.0
	comp=Z,3.5nm,0.8s,baz=339,slow=2.8,SNR=4.7						
BDFB				SKP		**SKPdf**	14 41 17.7 -0.2
	comp=Z,7.1nm,0.7s,baz=185,slow=3.8,SNR=5.6						
BDFB				PKKPbc		**PKKPbc**	14 48 41.1 -1.2
	comp=Z,5.0nm,0.5s,baz=108,slow=2.3,SNR=7.3						
BDFB	**Brasilia**	117.48	125	PKiKP		**PKPdf**	14 38 18.0 -1.0
NIL	**Nilore**	117.56	296	P		**PKPdf**	14 38 17.6 -0.9
NIL				P		**PKPdf**	14 38 17.6 -0.9
AAK	**Ala-Archa**	118.24	307	S		**SKSac**	14 44 38.0 +0.2
	comp=Z,2.2nm,0.9s,baz=226,slow=22,SNR=5.8						
AAK				PKKPbc		PKKPbc	14 48 38.8 -1.2
	comp=Z,4.5nm,0.5s,baz=212,slow=3.3,SNR=15						
AAK				SKKPbc		**SKKPbc**	14 51 48.9 -2.1
	comp=Z,4.0nm,1.0s,baz=239,slow=4.3,SNR=4.6						
AAK	**Ala-Archa**	118.24	307	P		**PKPdf**	14 38 19.2 -0.4
AAK	**Ala-Archa**	118.24	307	*i* PKiKP		**PKPdf**	14 38 19.1 -0.6
AAK	**Ala-Archa**	118.24	307	PKPdf		**PKPdf**	14 38 19.2 -0.4
SGDS	**Sogindy**	118.26	308	*e*PKiKP		**PKPdf**	14 38 18.6 -1.0
SGDS	**Sogindy**	118.26	308	*e*PKP		**PKPdf**	14 38 18.7 -0.9
BRZS	**Berezniki**	120.24	315	*e*PKiKP		**PKPdf**	14 38 22.4 -0.6
BRZS	**Berezniki**	120.24	315	*e*PKP		**PKPdf**	14 38 22.5 -0.6
DZA	**Taraz**	120.58	307	*e*PKiKP		**PKPdf**	14 38 23.0 -1.0
DZA	**Taraz**	120.58	307	*e*PKP		**PKPdf**	14 38 23.0 -1.0
KBU	**Kabul Universi**	121.08	297	PKP		**PKPdf**	14 38 23.6 -1.9
KBL	**Kabul**	121.16	297	P		**PKPdf**	14 38 24.9 -0.7
KK31	**Karatay Array**	121.20	307	*i* PKiKP		**PKPdf**	14 38 24.6 -0.6
BRLS	**Borolday**	121.69	307	*e*PKiKP		**PKPdf**	14 38 25.2 -0.9
BRLS	**Borolday**	121.69	307	*e*PKP		**PKPdf**	14 38 25.2 -0.9
BVA0	**Borovoye Array**	121.75	318	*i* PKiKP		**PKPdf**	14 38 25.4 -0.5
BVAR	**Borovoye Array**	121.75	318	PKP		**PKPdf**	14 38 25.4 -0.5
	comp=Z,58nm,0.5s,baz=99,slow=1.3,SNR=3.7						
BVAR				SKP		**SKPdf**	14 41 24.2 -0.5
	comp=Z,9.7nm,0.8s,baz=70,slow=1.7,SNR=4.3						
BVAR				S		**SKSac**	14 44 48.8 -0.2
	comp=Z,4.2nm,1.0s,baz=108,slow=4.8,SNR=4.1						
BVAR				PKKPbc		**PKKPbc**	14 48 26.6 -

SNR=13
MDH Madha 130.34 283 P **PKPdf 14 38 42.4 -0.8**
MDH Madha 130.34 283 PKPdf **PKPdf 14 38 42.1 -1.0**
UOSS Minazif 130.35 283 P **PKPdf 14 38 42.6 -0.6**
UOSS Minazif 130.35 283 *i* PKPdf **PKPdf 14 38 42.5 -0.6**
SNR=5.6
HATD Hatta, Dubai 130.39 282 P **PKPdf 14 38 43.0 -0.3**
SNR=5.3
HATD Hatta, Dubai 130.39 282 *i* PKPdf **PKPdf 14 38 42.7 -0.6**
SNR=12
ASHO Ashiyiah 130.43 282 P **PKPdf 14 38 43.2 -0.2**
SNR=6.7
ASHO Ashiyiah 130.43 282 *i* PKPdf **PKPdf 14 38 42.8 -0.6**
SNR=16
BANOM Banah 130.47 284 P **PKPdf 14 38 43.4 0.0**
MSFE Esma-Masafi 130.48 283 PKPdf **PKPdf 14 38 43.5 0.0**
MASF Masafi 130.48 283 P **PKPdf 14 38 43.7 +0.2**
ALNE Al Ain 130.57 281 P **PKPdf 14 38 43.5 -0.1**
SNR=7.0
ALNE Al Ain 130.57 281 *i* PKPdf **PKPdf 14 38 43.4 -0.1**
SNR=9.6
SHME Shamm 130.63 284 P **PKPdf 14 38 43.5 -0.1**
SHME Shamm 130.63 284 PKPdf **PKPdf 14 38 43.4 -0.3**
DOK Doka 130.65 274 P **PKPdf 14 38 43.8 -0.1**
SNR=8.0
WHFO Wadi Hawf 130.77 273 P **PKPdf 14 38 44.0 -0.1**
SNR=9.4
UMZA Um Al Zommool 130.79 279 P **PKPdf 14 38 43.3 -0.7**
NAZ Nazwa, Dubai 130.84 282 P **PKPdf 14 38 44.2 +0.1**
NAZ Nazwa, Dubai 130.84 282 *i* PKPdf **PKPdf 14 38 43.8 -0.3**
SNR=6.6
FAQ Al Faqa, Dubai 130.85 282 P **PKPdf 14 38 44.5 +0.4**
FAQ Al Faqa, Dubai 130.85 282 PKPdf **PKPdf 14 38 44.2 +0.1**
ABTO Aybut 131.03 272 P **PKPdf 14 38 45.0 +0.3**
SNR=13
ASUD Al Ashush, Dub 131.06 282 P **PKiKP 14 38 45.2 -0.3**
ASUD Al Ashush, Dub 131.06 282 PKPdf **PKPdf 14 38 44.7 +0.1**
AJN Ajban 131.36 282 P **PKPdf 14 38 45.5 +0.5**
ISOG Isortoq, Green 131.87 21 *i* P **PKPdf 14 38 44.5 -0.2**
QNGWA Qangwa 131.91 206 PKPpre 14 38 36.3
QNGWA Qangwa 131.91 206 *i* P **PKiKP 14 38 47.2 -0.3**
KIRV Kirov 132.17 328 *i* PKIKP **PKPdf 14 38 45.3 -0.2**
LVZ Lovozero 132.21 344 *i* PKIKP **PKPdf 14 38 44.3 -1.1**
HAMF Hammerfest 132.23 350 *eP* **PKPdf 14 38 44.6 -0.7**
SCO Scoresbysund 132.27 10 *i* P **PKPdf 14 38 45.6 +0.2**
MZR Muzera 132.37 279 P **PKiKP 14 38 48.0 -0.2**
MZR Muzera 132.37 279 *i* PKPdf **PKiKP 14 38 47.7 -0.5**
SNR=12
APA Apatity 132.77 344 ⇓*i* PKIKP **PKPdf 14 38 44.2 -2.2**
APA pmax pmax
comp=Z,23nm,0.7s
RCBR Riachuelo 132.85 125 *eP* **PKPdf 14 38 48.6 +0.3**
ARCES ARCESS Array B 132.89 349 PKhKP PKPpre 14 38 30.8
comp=Z,1.0nm,0.7s,baz=2.4,slow=2.9,SNR=7.4
ARCES PKP **PKPdf 14 38 46.6 0.0**
comp=Z,46nm,0.7s,baz=15,slow=1.5,SNR=31
ARCES SKPbc **SKPab 14 41 39.2 -1.0**
comp=Z,77nm,0.8s,baz=46,slow=3.5,SNR=31
JETT Jettan, Norway 133.70 351 *eP* **PKPdf 14 38 47.1 -1.1**
KIBK Kibwezi 135.24 238 PKPpre 14 38 45.2
KIBK Kibwezi 135.24 238 PKP **PKPdf 14 38 51.8 -1.0**
KLMR Klimovskoe 135.37 334 *i* PKIKP **PKPdf 14 38 50.2 -1.3**
KLMR *e*PPP PPP 14 44 30.7
BELG Belogornoye 135.44 321 *i* PKIKP **PKPdf 14 38 51.1 -0.7**
KMBO Kilima Mbogo 136.61 239 PKP **PKPdf 14 38 56.5 +0.9**
comp=Z,24nm,0.9s,baz=66,slow=2.6,SNR=12
KMBO PP **PP 14 41 42.1 +0.2**
comp=Z,8.5nm,0.3s,baz=120,slow=7.8,SNR=4.2
KMBO SKPbc **SKPbc 14 41 52.6 +0.6**
comp=Z,110nm,1.0s,baz=111,slow=3.1,SNR=36
MAK Makhachkala 138.01 307 *eP* **Pdif 14 36 09.5 +1.0**
MAK *i* 14 38 55.5
MAK *e* 14 41 55.7
MAK *e* 14 45 27.7
MAK *e*SS SS 14 59 28.6 -1.5
MAK *e*SSS SSS 15 04 44.9
MAK pmax pmax
comp=Z,163nm,0.9s
AKT Akhty 138.09 305 *e*PKIKP **PKPdf 14 38 56.8 -0.5**
AKT *e* 14 41 54.3
AKT *e*PPP PPP 14 44 50.6
AKT pmax pmax
comp=Z,135nm,1.0s
MOS Moscow 139.16 329 *i* PKHKP PKPpre 14 38 48.9
MOS *e*PPP PPP 14 45 03.7
MOS pmax pmax
comp=Z,159nm,1.4s
MOS pmax pmax
comp=Z,300nm,1.9s
VRH Novokhopyorsk 139.28 321 *e*PKHKP PKPpre 14 38 51.2
VRH *e* 14 41 55.7
VRH pmax pmax
comp=Z,90nm,0.9s
FIA1 FINESS Array S 139.55 342 PKPpre 14 38 50.2
FINES FINESS Array B 139.55 342 PKhKP PKPpre 14 38 49.7
comp=Z,12nm,0.5s,baz=51,slow=3.2,SNR=54
FINES SKPbc **SKPbc 14 41 59.4 +1.1**
comp=Z,109nm,0.9s,baz=46,slow=5.5,SNR=34
RAYN Ar Rayn 139.65 278 PKPpre 14 38 53.4
RAYN Ar Rayn 139.65 278 ⇓PKHKP PKPpre 14 38 53.2
RAYN Ar Rayn 139.65 278 PKPdf PKPpre 14 38 53.1
OBN Obninsk 140.01 329 *de*PKIKP **PKPdf 14 38 59.2 -0.9**
OBN *i* 14 41 58.1
OBN pmax pmax
comp=Z,74nm,1.3s
LPSR Galich'ya Gora 140.17 324 *e*PKIKP **PKPdf 14 38 59.4 -1.1**
LPSR pmax pmax
comp=Z,58nm,1.0s
VORR Voronezh 140.47 323 *e*PKHKP PKPpre 14 38 54.2
VORR pmax pmax
comp=Z,130nm,1.0s
GNI Garni 140.54 304 *i* PKIKP **PKPdf 14 39 00.3 -1.6**
GNI Garni 140.54 304 PKPdf **PKPdf 14 39 01.4 -0.5**
GOF Gofitskoye 140.65 312 *ce*PKHKP PKPpre 14 38 55.5
VSR Storozhevoye 140.71 322 *e*PKHKP PKPpre 14 38 54.3
VSR pmax pmax
comp=Z,60nm,1.0s
VORD Divnogorie 140.76 322 *e*PKHKP PKPpre 14 38 54.2
VORD pmax pmax
comp=Z,60nm,1.0s
LODK Lodwar 140.86 243 PKPpre 14 38 56.7
KBZ Khabaz 141.11 310 PKhKP PKPpre 14 38 57.6
comp=Z,9.6nm,0.8s,baz=88,slow=3.0,SNR=16
KBZ SKPbc **SKiKP 14 42 04.8 0.0**
comp=Z,19nm,1.0s,baz=99,slow=7.7,SNR=8.0
KIV Kislovodsk 141.20 310 PKPpre 14 38 58.7
KIV Kislovodsk 141.20 310 *e*PKHKP PKPpre 14 38 56.2
KIV *i* 14 39 03.8
KIV *e* 14 42 09.0
KIV *e*SS SS 15 00 04.2 -3.2
KIV pmax pmax
comp=Z,38nm,1.1s
KIV Kislovodsk 141.20 310 *i* PKPdf **PKPdf 14 38 58.5 -4.3**
SNR=8.0
MOL Molde 141.91 355 *eP* **PKPdf 14 38 59.1 -4.2**
GEVA Gevas 142.12 301 PKPpre 14 39 00.9
ERBR Yeremizino-Bor 142.15 314 *i* PKHKP PKPpre 14 39 00.1
ERBR pmax pmax
comp=Z,82nm,0.7s
DOMB Dombas 142.30 354 *eP* **PKPdf 14 38 59.8 -4.3**
LABN Labinsk 142.34 312 *i* PKIKP **PKPdf 14 39 06.2 +1.5**
LABN pmax pmax
comp=Z,56nm,0.6s
NC303 NORSAR Array S 142.84 352 PKPpre 14 39 02.0
NC204 NORSAR Array S 142.86 352 PKPpre 14 39 01.8
NC405 NORSAR Array S 142.90 352 PKPpre 14 39 02.1
NB201 NORSAR Array S 143.02 352 PKPpre 14 39 02.6
FOO Floro 143.03 357 *eP* PKPab 14 39 02.4 +0.4
NB2 NORSAR Subarra 143.04 352 PKP PKPab 14 39 02.1 -0.1
comp=Z,237nm,1.2s,baz=10,slow=3.2
NB2 pPKP **SKPbc 14 42 08.4 +1.1**
comp=Z,70nm,1.2s,baz=13,slow=2.6
NB2 NORSAR Subarra 143.04 352 PKP PKPab 14 39 02.1 -0.1
baz=10,slow=3.2
NOA NORSAR Array B 143.04 352 PKhKP PKPpre 14 39 02.0
comp=Z,90nm,0.7s,baz=13,slow=2.3,SNR=386
NOA SKPbc **SKiKP 14 42 08.7 +0.3**
comp=Z,20nm,0.8s,baz=15,slow=4.2,SNR=11
NBO00 NORSAR Array S 143.10 352 PKPbc 14 39 03.0 -0.3
NAO01 NORSAR Array S 143.27 352 PKPpre 14 39 03.2
NC602 NORSAR Array S 143.29 351 PKPab 14 39 03.3 +0.2
NC602 NORSAR Array S 143.29 351 *eP* PKPab 14 39 02.9 -0.2
SOC Sochi 143.37 311 *e*PKHKP PKPpre 14 39 03.3
SOC *e* 14 42 19.7
SOC *e*PPP PPP 14 45 39.1
SOC *e*SSS SSS 15 05 52.9
SOC pmax pmax
comp=Z,37nm,0.7s
HYA Hoyanger 143.40 356 *eP* PKPab 14 39 02.5 -0.9
HFS Hagfors 143.54 349 PKP PKPab 14 39 03.8 -0.3
comp=Z,242nm,0.5s,baz=54,slow=3.7,SNR=1622
HFS SKPbc **SKiKP 14 42 08.8 -0.6**
comp=Z,37nm,0.8s,baz=0.0,slow=0.0,SNR=8.0
SUE Sulen 143.59 357 *eP* PKPbc 14 39 04.5 -0.2
SKAR Skarslia 143.71 354 *eP* PKPab 14 39 04.8 +0.1
KOPT Kop Dagi 143.76 305 PKPbc 14 39 06.9 +0.6
ASK Askoy 144.14 357 *eP* PKPbc 14 39 06.7 +0.3
OSL Oslo 144.17 352 *eP* **PKPab 14 39 06.4 0.0**
BER Bergen 144.23 356 *eP* PKPbc 14 39 06.9 +0.3
MNK Minsk 144.25 333 *i* PKIKP PKPbc 14 39 07.1 +0.2
MNK *i* 14 42 25.1
MNK *i* PPP PPP 14 45 41.4
MNK *i* SS SS 15 00 37.4 -3.2
MNK *i* SSS SSS 15 06 16.8
MNK pmax pmax
comp=Z,1μm,0.9s
MNK pmax pmax
comp=E,398nm,1.0s
MNK pmax pmax
comp=N,210nm,1.1s
ANN Anapa 144.49 314 *i* PKIKP **PKiKP 14 39 11.8 -0.4**
ANN pmax pmax
comp=Z,908nm,0.9s
KONO Kongsberg 144.59 353 PKPbc 14 39 07.5 -0.4
KONO Kongsberg 144.59 353 ⇓PKIKP **PKPab 14 39 08.0 0.0**
KONO Kongsberg 144.59 353 *eP* PKPbc 14 39 07.8 -0.1
ODD1 Odda 144.61 355 *eP* PKPbc 14 39 08.0 0.0
STRU Stroemstad 144.98 351 *i* P PKPbc 14 39 09.0 -0.1
BLS5 Blasjo 145.11 355 *eP* **PKPbc 14 39 09.8 +0.2**
KMY Karmoy 145.40 356 *eP* **PKPbc 14 39 10.6 +0.3**
TJOU Tjoern 145.88 355 *i* P **PKPbc 14 39 11.4 -0.4**
HOMB Homborsund 146.06 353 *eP* **PKPbc 14 39 12.3 0.0**
HOMB Homborsund 146.06 353 *i* P **PKPab 14 39 13.1 -0.6**
BORU Boraas 146.06 349 *i* P **PKPbc 14 39 11.9 -0.4**
SNART Snartemo 146.12 354 *eP* **PKPbc 14 39 12.6 +0.1**
SNART Snartemo 146.12 354 *i* P **PKPbc 14 39 12.7 +0.2**
AKASG Malin Array Be 146.22 327 PKPbc **PKPdf 14 39 11.8 +0.6**
comp=Z,80nm,0.5s,baz=44,slow=4.1,SNR=389
AKASG SKPbc **SKiKP 14 42 15.2 0.0**
comp=Z,23nm,0.8s,baz=45,slow=2.5,SNR=7.1
KIEV Kiev 146.24 327 ⇓P **PKPdf 14 39 11.4 +0.3**
KIEV Kiev 146.24 327 ⇓PKIKP **PKPdf 14 39 11.5 +0.3**
KIEV Kiev 146.24 327 *i* PKPdf **PKPdf 14 39 11.1 -0.2**
SNR=132
SUW Suwalki 146.43 336 *e*PKPbc **PKPbc 14 39 13.7 +0.2**
ONAU Onsala 146.44 349 *i* P **PKPbc 14 39 13.0 -0.4**
SIM Simferopol' 146.58 315 *e*PKP2 **PKPbc 14 39 14.9 +0.7**
SIM 14 54 55.0
SIM pmax pmax
comp=Z,350nm,0.9s
SIM pmax pmax
comp=Z,500nm,12.0s
SIM pmax pmax
comp=E,270nm,18.0s
FABU Falkenberg 146.67 348 *i* P **PKPbc 14 39 13.7 -0.3**
BLEU Blekinge 146.68 345 *i* P **PKPbc 14 39 13.4 -0.7**
OVD Ostervraa, Den 146.78 351 *i* P **PKPbc 14 39 15.1 +0.8**
DEL Delary 146.95 347 *i* P **PKPbc 14 39 14.8 0.0**
DIKM Dikmen 147.11 309 ⇑P **PKPbc 14 39 16.0 +0.3**
BJUU Bjuv 147.49 348 *i* P **PKPbc 14 39 16.5 +0.2**
MUD Monsted U'grnd 147.75 352 *i* P **PKPbc 14 39 17.6 +0.7**
LUNU Lund 147.82 347 *i* P **PKPbc 14 39 17.4 +0.2**
BZK Bozkurt 147.87 310 ⇑P **PKPdf 14 39 14.8 +0.6**
COP Copenhagen 147.97 348 *i* P **PKiKP 14 39 18.3 -0.7**
BSD Bornholm Skovb 147.97 345 *i* P **PKPbc 14 39 17.4 -0.2**
FKH Fakeheh 148.02 296 *eP* **PKPdf 14 39 15.5 +0.6**
BEIL Beino 148.16 296 *eP* **PKPdf 14 39 15.2 +0.1**
SORM Soroca 148.28 324 ⇑P **PKPdf 14 39 14.4 -0.3**
SORM Soroca 148.28 324 ⇑PKIKP **PKPdf 14 39 14.4 -0.3**
PURM Purcari 148.38 321 ⇓P **PKPbc 14 39 19.2 +0.4**
HWQ Hawqa 148.39 296 *eP* **PKPdf 14 39 15.0 -0.5**
RCY Rachaya 148.59 294 *eP* **PKPdf 14 39 16.4 +0.5**
R9F13 Warsaw-Wawer 148.60 336 *e*PKPdf **PKPbc 14 39 19.7 +0.4**
CIDE Kastamonu/Cide 148.63 311 ⇑P **PKPbc 14 39 19.6 -0.1**
SSRD Sdr. Stenderup 148.64 351 *i* P **PKPbc 14 39 19.1 -0.1**
SHBL Chebaa 148.68 294 *eP* **PKPdf 14 39 16.7 +0.6**
BHL Bhannes 148.68 295 *eP* **PKPdf 14 39 15.9 -0.1**
KIS Kishinev 148.71 322 ⇓*i* PKP **PKPbc 14 39 19.8 +0.1**
comp=E,340nm,1.3s
KIS Kishinev 148.71 322 *di* PKP2 **PKPbc 14 39 19.8 +0.1**
KIS pmax pmax
comp=Z,340nm,1.3s
QRWL Qaraoun 148.71 294 *eP* **PKPdf 14 39 16.6 +0.6**
MILM Milestii Mici 148.75 322 ⇓*e*PKP **PKPdf 14 39 14.5 -1.0**
comp=Z,2μm,2.1s
MILM Milestii Mici 148.75 322 *i* PKIKP **PKPbc 14 39 19.0 -0.8**
MILM Milestii Mici 148.75 322 ⇓P **PKPbc 14 39 19.4 -0.4**
MILM Milestii Mici 148.75 322 ⇓PKHKP PKPpre 14 39 19.4
DQRL Deir Qamar 148.78 295 *eP* **PKPdf 14 39 16.7 +0.6**
KIRS Kirsehir-Merke 148.90 305 ⇓P **PKPdf 14 39 16.1 -0.1**
BRTR Keskin Array B 148.91 307 PKP **PKPdf 14 39 15.2 -1.0**
comp=Z,24nm,1.1s,baz=122,slow=1.6,SNR=69
BRTR PKPbc **PKPbc 14 39 20.5 -0.2**
comp=Z,63nm,0.6s,baz=140,slow=4.7,SNR=96
BRTR *p*PKPbc **pPKPab 14 40 54.2 -0.5**
comp=Z,14nm,1.1s,baz=104,slow=3.0,SNR=2.0
IDGL Inch Island, C 149.00 10 PKP **PKPbc 14 39 19.9 -0.2**
MMAI Mount Meron Ar 149.00 293 PKPbc **PKiKP 14 39 21.7 -0.4**
comp=Z,165nm,0.5s,baz=76,slow=4.7,SNR=172
GKP Gorka Klasztor 149.01 341 *e*PKPbc **PKPbc 14 39 20.7 +0.4**
GKP *e*PKPab **PKPab 14 39 26.6 +0.8**
BEL Belsk 149.04 336 *e*PKPbc **PKiKP 14 39 21.0 -0.4**
BEL *e*PKPab **PKPab 14 39 27.2 +1.2**
EKA Eskdalemuir Ar 149.25 5 PKP **PKPdf 14 39 14.7 -1.3**
comp=Z,3.7nm,0.8s,baz=318,slow=1.0,SNR=4.2
EKA PKPbc **PKPbc 14 39 20.8 +0.1**
comp=Z,46nm,0.8s,baz=326,slow=1.5,SNR=27
EKA *p*PKPbc **pPKPbc 14 40 53.3 +0.6**
comp=Z,19nm,0.9s,baz=338,slow=2.0,SNR=5.1
IASR Iasi 149.28 324 ⇑P **PKiKP 14 39 21.8 -0.3**
ANTO Ankara 149.48 307 ⇓P **PKPdf 14 39 17.8 +0.8**
ANTO Ankara 149.48 307 ⇓PKHKP PKPpre 14 39 17.8
TLCR 149.73 319 ⇑P **PKPdf 14 39 17.9 +0.8**
TLCR 149.73 319 ⇑PKHKP PKPpre 14 39 17.9
VLDR Vladesti 149.79 321 ⇑P **PKiKP 14 39 23.3 +0.1**
BIR Birlad 149.80 322 ⇑P **PKiKP 14 39 23.8 +0.7**
BIR Birlad 149.80 322 ⇑PKP2 **PKiKP 14 39 23.8 +0.7**
PRAR RASCA 149.88 325 ⇓P **PKPbc 14 39 22.4 -0.2**
VARL Varlezi 149.89 321 ⇓P **PKiKP 14 39 23.2 -0.2**
KDZE Karadeniz Ereo 149.89 311 ⇓P **PKPbc 14 39 21.9 -0.9**
GIUM Giurgiulesti 149.92 320 ⇑P **PKiKP 14 39 23.2 -0.2**
JURR Jurilovca 149.92 319 ⇑P **PKiKP 14 39 23.3 -0.2**
SCTR Scanteiesti 149.94 321 ⇑P **PKiKP 14 39 23.6 +0.1**
BSEG Bad Segeberg 150.02 349 *e*PKPbc 14 39 23.9
baz=18,slow=2.1
BSEG *e*PKPab 14 39 31.4
baz=18,slow=4.2
BSEG *e*PKPbc 14 40 56.7
baz=18,slow=2.8
GHRR 150.04 322 ⇑P **PKiKP 14 39 24.4 +0.8**
NEGRR Negrea 150.08 321 ⇑P **PKiKP 14 39 24.0 +0.2**
SCHL Schela 150.13 321 ⇑P **PKiKP 14 39 23.7 -0.1**
CFR Carcaliu 150.13 320 ⇓P **PKiKP 14 39 23.7 -0.2**
CFR Carcaliu 150.13 320 ⇓PKIKP **PKiKP 14 39 23.7 -0.2**
HLG Helgoland 150.14 352 *e*PKPbc 14 39 24.3
baz=18,slow=2.1
HLG *e*PKPab 14 39 31.7
baz=18,slow=4.2
IZVR Izvoarele 150.14 321 ⇑P **PKiKP 14 39 23.6 -0.3**
TPGR Topolog 150.15 319 ⇓P **PKiKP 14 39 23.8 -0.1**
SCHLR Schela 150.15 321 ⇓P **PKiKP 14 39 24.2 +0.3**
TUDR 150.17 321 ⇑P **PKiKP 14 39 24.4 +0.5**
ILTH Belurgan, Co L 150.19 9 PKP **PKPbc 14 39 22.7 -0.3**
TESR Tescani 150.19 323 ⇑P **PKPdf 14 39 17.9 +0.1**
COSR Cosmesti PH 150.22 322 ⇓P **PKiKP 14 39 24.6 +0.5**
BURAR Bucovina Array 150.23 326 ⇓P **PKPdf 14 39 19.1 +1.1**
BURAR Bucovina Array 150.23 326 ⇓PKIKP **PKPdf 14 39 19.1 +1.1**
IGLA Glengowla, Co 150.25 13 PKP **PKPbc 14 39 22.5 -0.7**
PANC Panciu 150.30 322 ⇑P **PKiKP 14 39 23.9 -0.3**
TIRR Tirgusor 150.37 318 ⇑P **PKiKP 14 39 24.4 0.0**
TIRR Tirgusor 150.37 318 ⇑PKIKP **PKiKP 14 39 24.4 0.0**
TSCT Constanta Port 150.38 318 ⇑P **PKiKP 14 39 24.3 -0.1**
ODBI Odobesti 150.42 322 ⇑P **PKiKP 14 39 25.1 +0.6**
EFOR EFORIE 150.44 318 ⇑P **PKiKP 14 39 24.5 0.0**
ONER Baraj Valea Uz 150.44 323 ⇑P **PKPdf 14 39 19.2 +1.0**
MFTR Murfatlar 150.51 318 ⇑P **PKiKP 14 39 24.7 0.0**
HARR Harsova 150.53 319 ⇓P **PKiKP 14 39 24.8 +0.1**
HARR Harsova 150.53 319 ⇓PKIKP **PKiKP 14 39 24.8 +0.1**
TLBR Topalu 150.54 319 ⇓P **PKiKP 14 39 24.7 0.0**
VRI Vrincioaia 150.54 322 ⇓P **PKPdf 14 39 18.4 0.0**
VRI Vrincioaia 150.54 322 ⇓PKIKP **PKPdf 14 39 18.4 0.0**
PLOR Plostina 150.59 322 ⇑P **PKPdf 14 39 18.5 0.0**
PLOR Plostina 150.59 322 ⇑PKIKP **PKPdf 14 39 18.5 0.0**
MANR Mangalia 150.60 317 ⇓P **PKiKP 14 39 25.2 +0.3**
TSMN Mangalia Port- 150.60 317 ⇑P **PKiKP 14 39 25.5 +0.6**
CVDA Cernavoda 150.66 319 ⇓P **PKiKP 14 39 24.9 -0.1**
RUE Ruedersdorf 150.66 344 *e*PKPbc 14 39 25.8
baz=18,slow=2.1
GRER 150.69 321 ⇑P **PKiKP 14 39 26.0 +1.0**
KOLS Kolonicke sedl 150.70 331 *e*PKIKP **PKPdf 14 39 19.6 +1.1**
KOLS Kolonicke sedl 150.70 331 *e*PKP **PKPdf 14 39 19.6 +1.1**
KOLS *e* 14 39 26.1
OJC Ojcow 150.72 335 *e*PKPbc **PKiKP 14 39 24.9 -0.1**
OJC *e*PKPab **PKPab 14 39 33.7 +0.7**
STHS Stebnicka Huta 150.77 333 *e*PKIKP **PKPdf 14 39 19.0 +0.3**
STHS Stebnicka Huta 150.77 333 *e*PKP **PKPdf 14 39 19.0 +0.3**
STHS *e* 14 39 24.7
COVR Voineasa-Covas 150.84 323 ⇑P **PKPbc 14 39 24.9 0.0**
OZUR 150.92 323 ⇓P **PKiKP 14 39 26.2 +0.6**
ICOR Ion Corvin 150.92 318 ⇑P **PKPbc 14 39 22.1 -3.0**
AMRR Amara 150.93 320 ⇓P **PKPbc 14 39 25.2 +0.1**
AMRR Amara 150.93 320 ⇓PKIKP **PKPbc 14 39 25.2 +0.1**
DSB Dublin 150.94 9 PKP **PKPbc 14 39 24.4 -0.4**
PGOR Pogoanele 150.96 320 ⇓P **PKiKP 14 39 25.4 -0.2**
PSN Preselentsi 150.97 317 *i* P **PKPbc 14 39 25.0 -0.2**
ARCR ARCALIA 151.02 326 ⇑P **PKiKP 14 39 26.1 +0.4**
BMR Baia Mare 151.04 328 ⇓P **PKiKP 14 39 26.0 +0.3**
BMR Baia Mare 151.04 328 ⇓PKIKP **PKiKP 14 39 26.0 +0.3**
NEHR Nehoiu 151.05 322 ⇑P **PKiKP 14 39 25.6 -0.2**
ISR Istrita 151.09 321 ⇓P **PKiKP 14 39 26.1 +0.1**
ISR Istrita 151.09 321 ⇓PKIKP **PKiKP 14 39 26.1 +0.1**
NIE Niedzica 151.16 334 *e*PKPbc **PKiKP 14 39 26.8 +0.9**
NIE *e*PKPab **PKPab 14 39 36.3 +1.4**
MLR Muntele Rosu 151.20 322 ⇑P **PKPdf 14 39 19.5 -0.1**
MLR Muntele Rosu 151.20 322 ⇑PKIKP **PKPdf 14 39 19.5 -0.1**
DOPR Dopca 151.21 324 ⇑P **PKiKP 14 39 26.7 +0.6**
LEHL Lehliu 151.31 320 ⇑P **PKiKP 14 39 26.5 +0.2**
CICN Ciocanesti 151.34 319 ⇓P **PKiKP 14 39 27.1 +0.7**
FLTG Flechtingen 151.37 347 *e*PKPdf 14 39 19.9
baz=18,slow=1.4
FLTG *e*PKPbc 14 39 26.7
baz=18,slow=2.1
FLTG *e*PKPab 14 39 36.4
baz=18,slow=4.2
FLTG *e*pPKPbc 14 40 57.5
baz=18,slow=2.8
KSP Ksiaz 151.42 340 *e*PKPbc **PKiKP 14 39 26.9 +0.5**
KSP *e*PKPab **PKPab 14 39 37.2 +1.4**
NRDL Niedersach Rie 151.44 349 *e*PKPbc 14 39 26.8
baz=18,slow=2.1
VAL Valentia 151.45 15 PKP **PKPdf 14 39 16.2 -3.3**
PLAR PLOIESTI 151.51 321 ⇑P **PKiKP 14 39 27.1 +0.4**
SULR 151.52 321 ⇓P **PKPbc 14 39 26.0 -0.5**
MDB Medias 151.54 325 ⇑P **PKiKP 14 39 27.8 +0.8**
CBBR Cluj-Babes-Bol 151.64 327 ⇑P **PKiKP 14 39 27.6 +0.6**
OKC Ostrava-Krasne 151.65 337 ⇑*e*PKP **PKiKP 14 39 27.2 +0.3**
OKC Ostrava-Krasne 151.65 337 *e*PKIKP **PKiKP 14 39 27.2 +0.3**
CJR Cluj-Napoca 151.66 326 ⇑P **PKiKP 14 39 27.6 +0.5**
CJR Cluj-Napoca 151.66 326 ⇑PKIKP **PKiKP 14 39 27.6 +0.5**
PRD Provadia 151.67 317 *i* P **PKiKP 14 39 27.9 +0.8**
MESR Meseseni 151.68 328 ⇓P **PKiKP 14 39 27.8 +0.8**
ASSE Asse, Remlinge 151.68 348 *e*PKPbc 14 39 27.5
baz=18,slow=2.1
OSTC Ostas 151.69 340 ⇑*e*PKP **PKiKP 14 39 27.6 +0.6**
OSTC Ostas 151.69 340 *e*PKIKP **PKiKP 14 39 27.6 +0.6**
STEB Steborice 151.70 337 ⇑*e*PKP **PKiKP 14 39 27.4 +0.4**
STEB *e*PKPAB **PKPab 14 39 38.1 +1.0**
LANS Liptovska Anna 151.70 334 *e*PKIKP **PKPdf 14 39 21.5 +1.4**
LANS Liptovska Anna 151.70 334 *e*PKP **PKPdf 14 39 21.5 +1.4**
LANS *e* 14 39 28.3
LANS *e* 14 39 38.8
CHVC Chvalec 151.71 340 *e*PKPDF **PKPdf 14 39 21.0 +0.9**
CHVC ⇑*e*PKP **PKiKP 14 39 27.5 +0.5**
CHVC Chvalec 151.71 340 *e*PKIKP **PKPdf 14 39 21.0 +0.9**
IWEX Carrickbyrne, 151.72 10 PKP **PKiKP 14 39 26.8 -0.1**
VOIR 151.73 323 ⇓P **PKPdf 14 39 21.7 +1.4**
VOIR 151.73 323 ⇓PKIKP **PKPdf 14 39 21.7 +1.4**
UPC Upice 151.80 340 ⇑*e*PKP **PKiKP 14 39 27.7 +0.5**
UPC Upice 151.80 340 *e*PKIKP **PKiKP 14 39 27.7 +0.5**
KECS Kecovo 151.81 332 *e*PKIKP **PKiKP 14 39 28.0 +0.7**
KECS *e* 14 39 38.3
KECS Kecovo 151.81 332 *e*PKP **PKiKP 14 39 28.0 +0.7**
KECS *e* 14 39 38.3
DPC Dobruska-Polom 151.84 339 *e*PKPDF **PKPdf 14 39 22.1 +1.8**
DPC ⇑*e*PKP **PKiKP 14 39 27.9 +0.6**
DPC Dobruska-Polom 151.84 339 *e*PKIKP **PKPdf 14 39 22.1 +1.8**
MORC Moravsky Berou 151.91 337 *e*PKP **PKPdf 14 39 20.5 +0.1**
MORC *e* 14 39 27.6
MORC Moravsky Berou 151.91 337 ⇓P **PKPdf 14 39 21.4 +1.0**
MORC Moravsky Berou 151.91 337 ⇓PKIKP **PKPdf 14 39 21.4 +1.0**
KRLC Kraliky 151.92 338 ⇑*e*PKP **PKiKP 14 39 28.0 +0.5**
KRLC Kraliky 151.92 338 *e*PKIKP **PKiKP 14 39 28.0 +0.5**
MARR Marisel-Cluj 151.92 327 ⇑P **PKPdf 14 39 20.4 -0.2**
CLL Collm 151.93 344 ⇓*e*PKIKP **PKPdf 14 39 20.0 -0.3**
CLL *i* 14 39 38.4
CLL pmax pmax
comp=Z,73nm,1.4s
CLL pmax pmax
comp=Z,347nm,0.8s
CLL pmax pmax
comp=Z,152nm,0.8s
CLL Collm 151.93 344 *e*PKPbc 14 39 28.0
baz=18,slow=2.1
IBBN Ibbenburen 151.99 351 *e*PKPbc 14 39 28.2
baz=18,slow=2.1
ARR Arges 152.00 323 ⇓P **PKPdf 14 39 21.5 +0.8**
RAZG Razgrad 152.00 318 ⇑P **PKPbc 14 39 27.7 +0.1**
CLZ Clausthal 152.01 348 *e*PKPdf 14 39 21.5
baz=18,slow=1.4
CLZ *e*PKPbc 14 39 28.0
baz=18,slow=2.1
DRGR 152.04 327 ⇑P **PKiKP 14 39 28.4 +0.5**
DRGR 152.04 327 ⇑PKIKP **PKiKP 14 39 28.4 +0.5**
BRG Berggiesshubel 152.08 343 *e*PKP **PKPdf 14 39 21.3 +0.8**
BRG Amp 14 39 22.3
comp=Z,72nm,1.3s
BRG Berggiesshubel 152.08 343 P **PKiKP 14 39 28.2 +0.4**
BRG Amp 14 39 29.0
comp=Z,150nm,0.7s
BRG Berggiesshubel 152.08 343 P **PKPab 14 39 39.6 +1.0**
BRG Amp 14 39 40.2
comp=Z,98nm,0.7s
BRG Berggiesshubel 152.08 343 *e*PKPdf 14 39 20.8
baz=18,slow=1.4
BRG *e*PKPbc 14 39 28.5
baz=18,slow=2.1
MAUC Maruska 152.15 336 *e*PKPDF **PKPdf 14 39 21.8 +1.0**
MAUC ⇑*e*PKP **PKiKP 14 39 28.9 +0.9**
PVCC Panska Ves 152.22 341 ⇑*e*PKP **PKiKP 14 39 28.6 +0.6**
PVCC *e*PKPAB **PKPab 14 39 40.3 +1.1**
PVCC Panska Ves 152.22 341 *e*PKIKP **PKiKP 14 39 28.6 +0.6**
PVCC *e* 14 39 40.3
BORR Bors 152.27 329 ⇑P **PKPbc 14 39 27.8 -0.2**
NEUB Neuenburg 152.31 346 *e*PKPdf 14 39 21.6
baz=18,slow=1.4
NEUB *e*PKPbc 14 39 28.8
baz=18,slow=2.1
HUMR Humele 152.33 322 ⇑P **PKPbc 14 39 28.3 0.0**
RICC Richard 152.34 342 ⇑*e*PKP **PKiKP 14 39 28.9 +0.6**
GTTG Gottingen 152.37 348 *e*PKPdf 14 39 21.9
baz=18,slow=1.4
GTTG *e*PKPbc 14 39 28.7
baz=18,slow=2.1
GTTG *e*PKPab 14 39 40.8
baz=18,slow=4.2
LOT Lotru 152.41 324 ⇑P **PKPdf 14 39 20.5 -0.9**
COPA Copaceanca 152.44 321 ⇓P **PKPbc 14 39 28.5 0.0**
HSKC Hora Svate Kat 152.46 343 ⇑*e*PKP **PKiKP 14 39 28.9 +0.3**
VYHS Vyhne 152.48 334 *e*PKIKP **PKPdf 14 39 21.4 +0.2**
VYHS *e* 14 39 41.2
VYHS Vyhne 152.48 334 *e*PKP **PKPdf 14 39 21.3 +0.1**
VYHS *e* 14 39 29.0
VYHS *e* 14 39 41.2
PSZ Piszkesteto 152.50 332 ⇓P **PKPdf 14 39 21.6 +0.3**
PSZ Piszkesteto 152.50 332 ⇓PKIKP **PKPdf 14 39 21.6 +0.3**
DEV Deva 152.57 326 ⇑P **PKiKP 14 39 29.6 +0.7**
**

JAVC	**Velka Javorina**	**152.63 336**	*e*PKP	**PKPdf**	**14 39 22.6**	**+1.1**
JAVC			*e*		14 39 30.8	
VRAC	**Vranov**	**152.64 338**	*e*PKP	**PKPdf**	**14 39 21.5**	**+0.1**
VRAC			*e*		14 39 29.4	
VRAC			*e*		14 39 41.4	
VRAC	**Vranov**	**152.64 338**	⇑P	**PKiKP**	**14 39 29.9**	**+0.9**
VRAC	**Vranov**	**152.64 338**	⇑PKIKP	**PKiKP**	**14 39 29.9**	**+0.9**
GOPC	**GO Pecny, Ondr**	**152.70 341**	⇑*e*PKP	**PKiKP**	**14 39 29.1**	**0.0**
GOPC	**GO Pecny, Ondr**	**152.70 341**	*e*PKIKP	**PKiKP**	**14 39 29.1**	**0.0**
PRU	**Pruhonice**	**152.70 341**	⇑*e*PKP	**PKiKP**	**14 39 29.4**	**+0.3**
PRU	**Pruhonice**	**152.70 341**	*e*PKIKP	**PKiKP**	**14 39 29.4**	**+0.3**
MOX	**Moxa**	**152.88 345**	*e*PKPdf		14 39 22.3	
	baz=18,slow=1.4					
MOX			*e*PKPbc		14 39 30.1	
	baz=18,slow=2.1					
MOX			*e*PKPab		14 39 42.8	
	baz=18,slow=4.2					
TANN	**Tannenbergstha**	**152.89 344**	*e*PKPdf		14 39 22.3	
	baz=18,slow=1.4					
TANN			*e*PKPbc		14 39 30.3	
	baz=18,slow=2.1					
TANN			*e*PKPab		14 39 42.9	
	baz=18,slow=4.2					
BUG	**Bochum--Univer**	**152.90 352**	*e*PKPbc		14 39 29.8	
	baz=18,slow=2.1					
KRUC	**Moravsky**	**152.92 338**	*e*PKP	**PKPdf**	**14 39 21.8**	**0.0**
KRUC			*e*		14 39 29.9	
KRUC			*e*		14 39 42.8	
SIRR	**Siria**	**152.93 328**	⇓P	**PKPdf**	**14 39 21.9**	**-0.1**
KASTN	**Kahler Asten**	**152.97 350**	*e*PKPdf		14 39 22.9	
	baz=18,slow=1.4					
KASTN			*e*PKPbc		14 39 30.0	
	baz=18,slow=2.1					
KASTN			*e*pPKPbc		14 41 02.8	
	baz=18,slow=2.8					
GZR	**Gura Zlata**	**152.97 325**	⇑P	**PKPdf**	**14 39 21.7**	**-0.4**
GZR	**Gura Zlata**	**152.97 325**	⇑PKIKP	**PKPdf**	**14 39 21.7**	**-0.4**
SMOL	**Smolenice**	**153.01 336**	*e*PKP2	**PKPab**	**14 39 44.3**	**+1.6**
UBBA	**Unterbreizbach**	**153.06 348**	*e*PKPdf		14 39 22.6	
	baz=18,slow=1.4					
UBBA			*e*PKPbc		14 39 30.3	
	baz=18,slow=2.1					
UBBA			*e*PKPab		14 39 42.9	
	baz=18,slow=4.2					
NKC	**Novy Kostel**	**153.06 344**	⇑*e*PKP	**PKiKP**	**14 39 30.5**	**+0.7**
NKC			*e*PKPAB	**PKPab**	**14 39 43.5**	**+0.6**
NKC	**Novy Kostel**	**153.06 344**	*e*PKIKP	**PKiKP**	**14 39 30.5**	**+0.7**
NKC			*e*		14 39 43.5	
PVL	**Pavlikeni**	**153.06 319**	*i* P	**PKiKP**	**14 39 30.4**	**+0.4**
SURR	**Surduc**	**153.06 326**	⇓P	**PKiKP**	**14 39 29.9**	**0.0**
MODS	**Modra-Piesok**	**153.18 336**	*e*PKIKP	**PKPdf**	**14 39 23.2**	**+0.9**
MODS	**Modra-Piesok**	**153.18 336**	*e*PKP	**PKPdf**	**14 39 23.2**	**+0.9**
MODS			*e*		14 39 31.5	
MODS			*e*		14 39 45.2	
SRE	**Strehaia**	**153.23 324**	⇓P	**PKiKP**	**14 39 31.2**	**+0.9**
SRE	**Strehaia**	**153.23 324**	⇓PKIKP	**PKiKP**	**14 39 31.2**	**+0.9**
SRO	**Srobarova**	**153.24 334**	*e*PKIKP	**PKiKP**	**14 39 30.8**	**+0.6**
SRO	**Srobarova**	**153.24 334**	*e*PKP	**PKiKP**	**14 39 30.8**	**+0.6**
SRO			*e*		14 39 45.2	
ZVC	**Zvikov**	**153.30 341**	*e*PKPDF	**PKPdf**	**14 39 23.0**	**+0.6**
ZVC			⇑*e*PKP	**PKiKP**	**14 39 30.9**	**+0.6**
MANZ	**Manzenberg**	**153.37 344**	*e*PKPdf		14 39 23.1	
	baz=18,slow=1.4					
MANZ			*e*PKPbc		14 39 31.6	
	baz=18,slow=2.1					
BZS	**Buzias**	**153.41 327**	⇑P	**PKPdf**	**14 39 22.4**	**-0.2**
BZS	**Buzias**	**153.41 327**	⇑PKIKP	**PKPdf**	**14 39 22.4**	**-0.2**
HERR	**Herculane**	**153.51 325**	⇓P	**PKPdf**	**14 39 21.6**	**-1.2**
ROTZ	**Rotzenmuhle**	**153.55 344**	*e*PKPdf		14 39 22.8	
	baz=18,slow=1.4					
ROTZ			*e*PKPbc		14 39 31.7	
	baz=18,slow=2.1					
ROTZ			*e*PKPab		14 39 46.4	
	baz=18,slow=4.2					
DJES	**Djerdap**	**153.60 324**	⇑P	**PKPbc**	**14 39 30.7**	**-0.3**
BEBN	**Eben Emael**	**153.72 354**	*d*PKP	**PKiKP**	**14 39 31.6**	**+0.5**
BEBN			*d*PKPab	**PKPab**	**14 39 44.9**	**-0.6**
VALD	**Valchedram**	**153.73 322**	P	**PKPdf**	**14 39 23.2**	**+0.1**
KHC	**Kasperske Hory**	**153.75 341**	*e*PKPDF	**PKPdf**	**14 39 23.2**	**+0.1**
KHC			⇑*e*PKP	**PKiKP**	**14 39 31.8**	**+0.5**
KHC			*e*PKPAB	**PKPab**	**14 39 46.6**	**+0.7**
KHC			*ex*	x	15 02 14.6	
KHC	**Kasperske Hory**	**153.75 341**	*e*PKIKP	**PKPdf**	**14 39 23.2**	**+0.1**
KHC			*e*		14 39 46.6	
MPEP	**Malo Peshtene**	**153.76 321**	*i* P	**PKPdf**	**14 39 23.2**	**0.0**
CKRC	**Cesky Krumlov**	**153.81 340**	*ex*	x	15 02 20.2	
UCC	**Uccle**	**153.84 355**	*d*PKP	**PKiKP**	**14 39 31.9**	**+0.5**
UCC			*d*PKPab	**PKPab**	**14 39 46.2**	**+0.1**
GRF	**Grafenberg Arr**	**153.86 345**	*e*PKPdf		14 39 23.2	
	baz=18,slow=1.4					
GRF			*e*PKPbc		14 39 32.1	
	baz=18,slow=2.1					
MEM	**Membach**	**153.87 353**	*d*PKPdf	**PKPdf**	**14 39 23.0**	**-0.2**
MEM			*d*PKP	**PKiKP**	**14 39 31.5**	**0.0**
MEM			*d*PKPab	**PKPab**	**14 39 46.5**	**+0.2**
BTNL	**Ternell**	**153.88 353**	*d*PKPdf	**PKPdf**	**14 39 23.4**	**+0.2**
BTNL			*d*PKP	**PKiKP**	**14 39 32.1**	**+0.6**
BTNL			*d*PKPab	**PKPab**	**14 39 47.1**	**+0.8**
TNS	**Taunus Mts**	**153.91 349**	*e*PKPdf		14 39 24.1	
	baz=18,slow=1.4					
TNS			*e*PKPbc		14 39 32.5	
	baz=18,slow=2.1					
WET	**Wettzell**	**153.94 342**	*e*PKPbc		14 39 32.7	
	baz=18,slow=2.1					
BSTI	**Sart Tilman**	**153.95 354**	*d*PKPdf	**PKPdf**	**14 39 23.5**	**+0.3**
BSTI			*d*PKP	**PKiKP**	**14 39 32.3**	**+0.8**
BSTI			*d*PKPab	**PKPab**	**14 39 47.4**	**+0.9**
GEC2	**GERESS Array S**	**153.97 341**	*e*PKPdf		14 39 23.3	
	baz=18,slow=1.4					
GEC2			*e*PKPbc		14 39 32.6	
	baz=18,slow=2.1					
GERES	**GERESS Array B**	**153.97 341**	PKP	**PKPdf**	**14 39 23.6**	**+0.1**
	comp=Z,9.5nm,0.8s,baz=72,slow=0.4,SNR=44					
GERES			PKPbc	**PKPbc**	**14 39 31.8**	**0.0**
	comp=Z,16nm,0.7s,baz=40,slow=2.3,SNR=28					
GERES			PKPab	**PKPab**	**14 39 46.7**	**-0.2**
	comp=Z,13nm,0.6s,baz=34,slow=4.6,SNR=13					
CONA	**Conrad Observa**	**154.07 337**	*i* PKP	**PKPdf**	**14 39 23.3**	**-0.3**
	comp=Z,32nm,1.2s,SNR=13					
CONA			*e*PKP	**PKiKP**	**14 39 32.6**	**+0.6**
	comp=Z,62nm,1.0s					
CONA			*i* PKP	**PKPab**	**14 39 48.7**	**+1.4**
	comp=Z,68nm,0.7s					
RONA	**Rosalia, Austr**	**154.10 336**	*i* PKP	**PKPdf**	**14 39 23.3**	**-0.3**
	comp=Z,32nm,1.1s,SNR=11					
RONA			*e*PKP	**PKiKP**	**14 39 32.6**	**+0.5**
	comp=Z,61nm,0.9s					
RONA			*i* PKP	**PKPab**	**14 39 48.8**	**+1.3**
	comp=Z,80nm,0.8s,SNR=5.1					
RONA	**Rosalia, Austr**	**154.10 336**	*i* P	**PKPab**	**14 39 48.8**	**+1.3**
	comp=Z,80nm,0.8s,SNR=5.1					
BHOU	**Houvegnez**	**154.13 353**	*d*PKPdf	**PKPdf**	**14 39 23.8**	**+0.2**
BHOU			*d*PKP	**PKiKP**	**14 39 32.5**	**+0.5**
BHOU			*d*PKPab	**PKPab**	**14 39 48.1**	**+0.8**
BCLA	**Clavier**	**154.13 354**	*d*PKP	**PKiKP**	**14 39 32.4**	**+0.4**
BCLA			*d*PKPab	**PKPab**	**14 39 47.3**	**0.0**
BGES	**Gesves**	**154.19 354**	*d*P	**PKiKP**	**14 39 32.4**	**+0.3**
BGES			*d*PKPab	**PKPab**	**14 39 47.9**	**+0.3**
BMRD	**Maredsous**	**154.30 355**	*d*PKPdf	**PKPdf**	**14 39 23.9**	**+0.2**
BMRD			*d*PKP	**PKiKP**	**14 39 33.0**	**+0.6**
BMRD			*d*PKPab	**PKPab**	**14 39 48.6**	**+0.6**
MORH	**Mrgy, Hungar**	**154.36 331**	⇓P	**PKPdf**	**14 39 23.7**	**-0.2**
VTS	**Vitosha**	**154.50 320**	*i* P	**PKPab**	**14 39 51.1**	**+1.6**
DOU	**Dourbes**	**154.52 355**	*d*PKPdf	**PKPdf**	**14 39 24.5**	**+0.4**
DOU			*d*PKP	**PKPbc**	**14 39 33.2**	**+0.4**
DOU			*d*PKPab	**PKPab**	**14 39 49.5**	**+0.4**
MOA	**Molln**	**154.68 339**	*i* PKP	**PKPdf**	**14 39 23.8**	**-0.6**
	comp=Z,20nm,1.1s,SNR=8.8					
MOA			*e*PKP	**PKPbc**	**14 39 33.3**	**+0.1**
	comp=Z,8.0nm,0.6s					
MOA			*i* PKP	**PKPab**	**14 39 50.8**	**+1.0**
	comp=Z,82nm,1.1s,SNR=5.7					
MOA	**Molln**	**154.68 339**	*i* P	**PKPab**	**14 39 50.8**	**+1.0**
	comp=Z,82nm,1.1s,SNR=5.7					
BOVS	**Bovan**	**154.72 323**	⇑P	**PKPbc**	**14 39 33.6**	**+0.2**
ARSA	**Arzberg**	**154.77 337**	*i* PKP	**PKPdf**	**14 39 23.9**	**-0.7**
	comp=Z,25nm,1.3s,SNR=8.4					
ARSA			*e*PKP	**PKPbc**	**14 39 33.9**	**+0.4**
	comp=Z,18nm,1.3s					
ARSA			*i* PKP	**PKPab**	**14 39 51.1**	**+0.9**
	comp=Z,32nm,0.8s					
WLF	**Walferdange**	**154.79 352**	PKP	**PKPdf**	**14 39 24.0**	**-0.4**
WLF	**Walferdange**	**154.79 352**	*d*PKPdf	**PKPdf**	**14 39 24.6**	**+0.2**
WLF			*d*PKP	**PKPbc**	**14 39 34.1**	**+0.7**
WLF			*d*PKPab	**PKPab**	**14 39 51.0**	**+0.8**
WLF	**Walferdange**	**154.79 352**	*e*PKPbc		14 39 34.4	
	baz=18,slow=2.1					
BIOA	**Bad Ischl, Aus**	**155.02 340**	*i* PKP	**PKPdf**	**14 39 24.3**	**-0.5**
	comp=Z,31nm,1.2s,SNR=8.5					
BIOA			*e*PKP	**PKPab**	**14 39 52.4**	**+1.1**
	comp=Z,90nm,0.8s,SNR=7.9					
BIOA	**Bad Ischl, Aus**	**155.02 340**	*e*P	**PKPab**	**14 39 52.4**	**+1.1**
	comp=Z,90nm,0.8s,SNR=7.9					
KOGS	**Kog**	**155.16 335**	*i* PKPdf	**PKPdf**	**14 39 24.4**	**-0.6**
KOGS			*i* PKPdif	PKPab	14 39 33.9	-18
KOGS			*i* PKPab	PKPab	14 39 52.2	+0.2
STU	**Stuttgart**	**155.17 347**	*e*PKPdf		14 39 25.3	
	baz=18,slow=1.4					
STU			*e*PKPbc		14 39 34.6	
	baz=18,slow=2.1					
STU			*e*PKPab		14 39 52.5	
	baz=18,slow=4.2					
RJOB	**Jochberg**	**155.24 341**	*e*PKPbc		14 39 35.4	
	baz=18,slow=2.1					
RJOB			*e*PKPab		14 39 53.9	
	baz=18,slow=4.2					
FUR	**Furstenfeldbru**	**155.26 344**	*e*PKPbc		14 39 35.2	
	baz=18,slow=2.1					
FUR			*e*PKPab		14 39 53.5	
	baz=18,slow=4.2					
SOKA	**Soboth**	**155.43 337**	*e*PKP	**PKPdf**	**14 39 25.0**	**-0.5**
	comp=Z,38nm,1.2s,SNR=11					
SOKA			*i* PKP	**PKPab**	**14 39 53.7**	**+0.5**
	comp=Z,89nm,1.2s,SNR=5.6					
SOKA	**Soboth**	**155.43 337**	*i* P	**PKPab**	**14 39 53.7**	**+0.5**
	comp=Z,89nm,1.2s,SNR=5.6					
LESA	**Schwarzleotal**	**155.55 341**	*e*PKP	**PKPdf**	**14 39 24.9**	**-0.7**
	comp=Z,69nm,1.3s,SNR=19					
LESA			*e*PKP	**PKPab**	**14 39 54.7**	**+1.0**
	comp=Z,125nm,1.4s,SNR=5.2					
LESA	**Schwarzleotal**	**155.55 341**	*e*P	**PKPab**	**14 39 54.7**	**+1.0**
	comp=Z,125nm,1.4s,SNR=5.2					
KBA	**Koelnbreinsper**	**155.66 340**	*e*PKP	**PKPdf**	**14 39 24.9**	**-1.1**
	comp=Z,49nm,1.2s,SNR=12					
KBA			*e*PKP	**PKPab**	**14 39 54.5**	**+0.3**
	comp=Z,27nm,0.7s					
VAY	**Valandovo**	**155.68 318**	*i* P	**PKPab**	**14 39 55.3**	**+0.9**
OBKA	**Obir**	**155.75 337**	*e*PKP	**PKPdf**	**14 39 25.1**	**-0.8**
	comp=Z,17nm,1.1s					
OBKA			*e*PKP	**PKPab**	**14 39 54.9**	**+0.3**
	comp=Z,39nm,0.8s					
BFO	**Black Forest**	**155.76 348**	*e*PKPbc		14 39 36.1	
	baz=18,slow=2.1					
WATA	**Walderalm**	**155.95 342**	*i* PKP	**PKPdf**	**14 39 25.6**	**-0.6**
	comp=Z,31nm,1.2s,SNR=9.5					
WATA			*e*PKP	**PKPab**	**14 39 56.3**	**+0.8**
	comp=Z,55nm,0.7s,SNR=8.8					
WATA	**Walderalm**	**155.95 342**	*e*P	**PKPab**	**14 39 56.3**	**+0.8**
	comp=Z,55nm,0.7s,SNR=8.8					
MYKA	**Terra Mystica**	**155.95 339**	*e*PKPdf	**PKPdf**	**14 39 25.7**	**-0.5**
	comp=Z,44nm,1.5s,SNR=9.6					
MYKA			*i* PKP	**PKPab**	**14 39 55.4**	**0.0**
	comp=Z,24nm,0.7s,SNR=5.6					
MYKA	**Terra Mystica**	**155.95 339**	*i* P	**PKPab**	**14 39 55.4**	**0.0**
	comp=Z,24nm,0.7s,SNR=5.6					
WTTA	**Wattenberg**	**156.00 342**	*e*PKP	**PKPdf**	**14 39 25.9**	**-0.5**
	comp=Z,47nm,1.3s,SNR=14					
WTTA			*i* PKP	**PKPab**	**14 39 56.7**	**+1.0**
	comp=Z,101nm,0.6s,SNR=5.7					
WTTA	**Wattenberg**	**156.00 342**	*i* P	**PKPab**	**14 39 56.7**	**+1.0**
	comp=Z,101nm,0.6s,SNR=5.7					
UBR	**Ueberruh**	**156.00 345**	*e*PKPdf		14 39 26.1	
	baz=18,slow=1.4					
UBR			*e*PKPbc		14 39 36.5	
	baz=18,slow=2.1					
RETA	**Reutte**	**156.02 344**	*e*PKP	**PKPdf**	**14 39 25.7**	**-0.6**
	comp=Z,15nm,1.1s					
RETA			*e*PKP	**PKPab**	**14 39 56.6**	**+0.9**
	comp=Z,58nm,0.6s,SNR=12					
RETA	**Reutte**	**156.02 344**	*e*P	**PKPab**	**14 39 56.6**	**+0.9**
	comp=Z,58nm,0.6s,SNR=12					
MOTA	**Moosalm**	**156.06 343**	*e*PKP	**PKPdf**	**14 39 25.9**	**-0.5**
	comp=Z,40nm,1.2s					
MOTA			*e*PKP	**PKPab**	**14 39 56.9**	**+0.9**
	comp=Z,70nm,0.7s					
SQTA	**Sankt Quirin**	**156.15 343**	*i* PKP	**PKPdf**	**14 39 26.0**	**-0.5**
	comp=Z,31nm,1.2s,SNR=9.0					
SQTA			*e*PKP	**PKPab**	**14 39 57.1**	**+0.8**
	comp=Z,108nm,1.1s,SNR=6.6					
SQTA	**Sankt Quirin**	**156.15 343**	*e*P	**PKPab**	**14 39 57.1**	**+0.8**
	comp=Z,108nm,1.1s,SNR=6.6					
LJU	**Ljubljana**	**156.15 337**	*e*PKPdf	**PKPdf**	**14 39 26.2**	**-0.2**
LJU			*i* PKPdif	PKPab	14 39 36.8	-19
LJU			*e*PKPab	PKPab	14 39 56.4	+0.2
ABTA	**Abfaltersbach**	**156.21 340**	*e*PKP	**PKPdf**	**14 39 25.6**	**-1.0**
	comp=Z,49nm,1.2s,SNR=17					
ABTA			*e*PKP	**PKPab**	**14 39 56.5**	**0.0**
	comp=Z,95nm,1.3s					
BOJS	**Bojanci**	**156.34 335**	*e*PKPdf	**PKPdf**	**14 39 26.5**	**-0.1**
BOJS			*i* PKPdif	PKPab	14 39 37.3	-20
BOJS			*i* PKPab	PKPab	14 39 57.5	+0.5
DAVA	**Damuels**	**156.42 345**	*e*PKP	**PKPdf**	**14 39 26.8**	**-0.1**
	comp=Z,31nm,1.3s,SNR=6.0					
DAVA			*e*PKP	**PKPab**	**14 39 58.4**	**+0.8**
	comp=Z,125nm,0.8s,SNR=9.4					
DAVA	**Damuels**	**156.42 345**	*e*P	**PKPab**	**14 39 58.4**	**+0.8**
	comp=Z,125nm,0.8s,SNR=9.4					
FETA	**Feichten**	**156.46 343**	*e*PKP	**PKPdf**	**14 39 26.6**	**-0.4**
	comp=Z,39nm,1.1s,SNR=15					
FETA			*i* PKP	**PKPab**	**14 39 58.6**	**+0.9**
	comp=Z,32nm,0.6s					
PDG	**Podgorica**	**156.86 324**	⇓P	**PKPab**	**14 39 59.9**	**+0.6**
OHR	**Ohrid**	**156.87 320**	*i* P	**PKPab**	**14 40 00.9**	**+1.3**
IDI	**Anoyia**	**156.96 303**	PKP	**PKPdf**	**14 39 27.0**	**-0.8**
VLC	**Villacollemand**	**159.19 341**	PKP	**PKPdf**	**14 39 28.3**	**-1.9**
MATE	**Matera**	**159.47 324**	⇑P	**PKPdf**	**14 39 30.6**	**0.0**
DBIC	**Dimbokro**	**161.16 161**	PKP	**PKPdf**	**14 39 32.8**	**-0.4**
	comp=Z,27nm,0.9s,baz=145,slow=0.9,SNR=16					
DBIC			PKPab	**PKPab**	**14 40 18.5**	**-0.2**
	comp=Z,22nm,0.9s,baz=198,slow=3.1,SNR=10					
PESTR	**Estremoz**	**164.06 26**	PKP	**PKPdf**	**14 39 35.2**	**-0.1**
ESDC	**Sonseca Array**	**164.47 15**	PKP	**PKPdf**	**14 39 35.6**	**-0.1**
	comp=Z,2.3nm,1.1s,baz=347,slow=4.6,SNR=7.6					
ESDC			PKPab	**PKPab**	**14 40 33.3**	**+0.5**
	comp=Z,4.4nm,0.6s,baz=346,slow=4.7,SNR=15					
ESDC			pPKPab	**pPKPab**	**14 42 01.5**	**+0.9**
	comp=Z,5.7nm,1.0s,baz=326,slow=4.4,SNR=4.0					
ESDC			PP	**PP**	**14 44 19.8**	**+0.7**
	comp=Z,3.4nm,1.1s,baz=353,slow=7.5,SNR=5.0					
KEST	**Kesra**	**166.94 329**	PKP	**PKPdf**	**14 39 37.4**	**-0.5**
	comp=Z,11nm,0.9s,baz=8.9,slow=1.7,SNR=5.9					
KEST			PKPab	**PKPab**	**14 40 44.8**	**+0.9**
	comp=Z,36nm,0.9s,baz=355,slow=2.2,SNR=15					
TORD	**Torodi Ar. Bea**	**168.49 183**	PKP	**PKPdf**	**14 39 39.1**	**-0.3**
	comp=Z,29nm,0.9s,baz=354,slow=3.4,SNR=23					
TORD			PKPab	**PKPab**	**14 40 50.9**	**0.0**
	comp=Z,19nm,0.7s,baz=166,slow=2.1,SNR=11					
TORD			pPKP	**pPKPdf**	**14 41 14.8**	**+2.0**
	comp=Z,12nm,0.9s,baz=197,slow=3.0,SNR=2.3					
TORD			pPKPab	**pPKPab**	**14 42 20.7**	**+1.9**
	comp=Z,12nm,0.9s,baz=129,slow=2.1,SNR=3.1					
TORD			PP	**PP**	**14 44 39.3**	**0.0**
	comp=Z,1.5nm,0.3s,baz=205,slow=3.0,SNR=1.7					

IDC ***23*** *15:07:13.8±1.3, 1°.70N×126°.31E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=151.4km s-min=18.3km az=66.0*

DJA ***23*** *15:07:20.5±1.5, 2°.N±3°×12°.6E±°, h12km±14km, M3.9/11, mb3.8/1, MLv3.9/11*

ISC 23 15:07:21.2±0.9, 1°.65N±0°.07×126°.40E±0°.08, h47km, n12, σ1°70/15, mb3.7/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.31**	**132**	P	**Pn**	**15 07 44.4**	**+1.4**
TNTI				S	**Sn**	**15 08 01.8**	**+2.5**
SGSI	**Sangihe**	**2.20**	**337**	P	**Pn**	**15 07 57.5**	**+2.3**
KMSI	**Cibinong**	**2.64**	**246**	P	**Pn**	**15 08 02.9**	**+1.6**
SANI	**Sanana**	**3.70**	**186**	P	**Pn**	**15 08 16.0**	**+0.1**
LUWI	**Luwuk**	**4.51**	**234**	P	**Pn**	**15 08 29.2**	**+2.3**
NLAI	**Namlea**	**4.91**	**172**	P	**Pn**	**15 08 34.3**	**+1.8**
WRA	**Warramunga Arr**	**22.83**	**160**	P	**P**	**15 12 18.7**	**-1.8**
	1.5nm,0.4s,baz=338,slow=10,SNR=24						
WRA				PcP	**PcP**	**15 16 08.7**	**-1.8**
	0.5nm,0.9s,baz=336,slow=1.9,SNR=1.6						
	1.5nm,0.4s						
ASAR	**Alice Springs**	**26.21**	**164**	P	**P**	**15 12 51.9**	**+0.1**
	1.0nm,0.5s,baz=344,slow=7.7,SNR=86						
ASAR				PcP	**PcP**	**15 16 17.8**	**-0.1**
	0.2nm,0.4s,baz=346,slow=2.2,SNR=7.7						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**59.07**	**326**	P	**P**	**15 17 15.2**	**-1.5**
	0.3nm,0.3s,baz=111,slow=7.1,SNR=6.5						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**63.30**	**328**	P	**P**	**15 17 44.0**	**-1.1**
	0.5nm,0.5s,baz=128,slow=6.1,SNR=11						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**68.87**	**328**	P	**P**	**15 18 20.1**	**-0.8**
	0.2nm,0.4s,baz=126,slow=7.3,SNR=2.7						
	0.2nm,0.4s						
VNDA	**Vanda**	**81.42**	**173**	P	**P**	**15 19 32.6**	**0.0**
	0.4nm,0.7s,baz=342,slow=6.4,SNR=2.0						
	0.4nm,0.7s						

UPA ***23*** *15:19:33.5±0.7, 8°.34N×83°.07W, h14km±3km, MD3.6*

UCR ***23*** *15:19:34.5±1.1, 8°.34N×82°.99W, h3km±14km, MW3.5*

ISC 23 15:19:33.5±1.6, 8°.30N±0°.08×83°.01W±0°.04, h20km±4km, n24, σ0°61/26, 1C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.16**	**125**	⇑*i*P	**Pb**	**15 19 38.8**	**-0.2**
LPPC	**Paso Canoas**	**0.29**	**36**	*e*P	**Pb**	**15 19 40.5**	**+0.5**
PIRO	**Carate, Puerto**	**0.34**	**288**	*e*P	**Pb**	**15 19 42.2**	**+1.3**
NELY	**Ciudad Neily**	**0.36**	**10**	⇓*i*P	**Pb**	**15 19 41.8**	**+0.7**
JIME	**Puerto Jimenez**	**0.39**	**308**	*e*P	**Pn**	**15 19 43.8**	**-0.3**
DVD	**David**	**0.57**	**76**	*e*P	**Pn**	**15 19 46.0**	**-0.4**
BRU2	**Volcan**	**0.59**	**32**	*e*P	**Pb**	**15 19 45.8**	**+0.5**
BRU2	**Volcan**	**0.59**	**32**	*e*P	**Pb**	**15 19 45.8**	**+0.5**
BRU2				*e*S	**Sn**	**15 19 55.1**	**-0.8**
LOMA3	**Las Lomas, Chi**	**0.63**	**78**	*e*P	**Pn**	**15 19 47.2**	**-0.1**
BC3P	**Paso Ancho**	**0.65**	**37**	⇓*i*P	**Pb**	**15 19 46.9**	**+0.5**
ALCO	**Alturas Coton,**	**0.67**	**15**	⇓*i*P	**Pb**	**15 19 47.0**	**+0.2**
EDP2	**Potrero Grande**	**0.73**	**347**	*e*P	**Pn**	**15 19 48.6**	**-0.2**
FIMO	**Fila Mora**	**0.77**	**334**	*e*P	**Pn**	**15 19 48.9**	**-0.4**
DRK0	**Durika**	**0.99**	**346**	*e*P	**Pn**	**15 19 52.3**	**-0.1**
CHGR2	**Aguacate**	**1.07**	**53**	*e*P	**Pb**	**15 19 53.0**	**-0.4**
CHGR2				*e*S	**Sn**	**15 20 07.6**	**0.0**
SAJE	**San Jernim**	**1.15**	**335**	*e*P	**Pb**	**15 19 55.1**	**+0.3**
PIEC	**Cerro El Cedra**	**1.62**	**325**	*e*P	**Pb**	**15 20 03.3**	**+0.5**
LCR2	**La Lucha 2**	**1.74**	**326**	*e*P	**Pb**	**15 20 04.7**	**-0.2**
PICV	**PH. Pirrs**	**1.77**	**319**	*e*P	**Pb**	**15 20 05.3**	**+0.1**
VERB	**Verbena**	**1.77**	**338**	⇓*i*P	**Pb**	**15 20 06.1**	**+0.7**
GMAL	**Guarumal, Vera**	**1.84**	**107**	*e*P	**Pn**	**15 20 04.1**	**+0.2**
CVTV	**Tajo**	**1.85**	**337**	*e*P	**Pb**	**15 20 07.4**	**+0.6**
CVTQ	**Turrialba Volc**	**1.85**	**336**	*e*P	**Pb**	**15 20 07.5**	**+0.5**
JTS	**Las Juntas de**	**2.76**	**316**	*e*P	**Pb**	**15 20 20.7**	**-1.5**

IDC ***23*** *15:22:52.1±1.1, 23°.69S×179°.96E, h526km±10km, mb3.8/12, mbtmp4.7/15, Error ellipse: s-maj=15.5km s-min=10.9km az=145.0*

NOU ***23*** *15:22:53.5, 23°.65S×179°.82W, h561km, mb4.9/45, South of Fiji Islands*

NEIC ***23*** *15:22:54.4±1.6, 23°.8S±0°.1×180°.0E±0°.1, h551km±10km, mb4.6/121, Error ellipse: s-maj=20.7km s-min=15.3km az=149.0*

ISC 23 15:22:53.6±0.4, 23°.83S±0°.07×179°.95W±0°.06, h550km, n199, σ1°32/162, mb4.6/74, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.71**	**162**	P	**P**	**15 24 28.2**	**-1.3**
MSVF	**Nonsavu**	**6.35**	**343**	P	**P**	**15 24 33.9**	**-1.8**
MSVF	**Nonsavu**	**6.35**	**343**	P	**P**	**15 24 31.8**	**-3.9**
	11nm,0.8s,baz=270,slow=8.2,SNR=5.5

comp=Z,16nm,0.9s,baz=96,slow=11,SNR=30
comp=Z,16nm,0.9s
STKA Stephens Creek 34.79 248 P **P 15 28 59.2 +0.5**
ARPS Mount Arapiles 35.19 240 P **P 15 29 02.4 +0.4**
INKA Innaminka 35.50 255 P **P 15 29 05.8 +1.2**
COEN Coen 36.15 279 P **P 15 29 10.2 +0.1**
COEN IAmb IAmb 15 29 11.5
comp=Z,16nm,0.8s
HTT Hallett 37.14 246 P **P 15 29 18.5 +0.3**
QIS Mount Isa 37.50 267 P **P 15 29 21.1 -0.2**
LCRK Leigh Creek 37.64 251 P **P 15 29 22.7 +0.5**
WHYH Whyalla 38.24 246 P **P 15 29 27.1 0.0**
MANU Manus Island 38.33 300 P **P 15 29 26.7 -1.3**
MANU IAmb IAmb 15 29 27.7
comp=Z,12nm,0.6s
BBOO Buckleboo 39.51 247 **P 15 29 36.5 -0.8**
BBOO Buckleboo 39.51 247 P **P 15 29 36.9 -0.4**
OOD Oodnadatta 39.97 255 P **P 15 29 42.1 +1.0**
AS01 Alice Springs 42.05 261 P **P 15 29 57.5 -0.2**
AS31 Alice Springs 42.09 261 **P 15 29 57.6 -0.4**
AS31 IAmb IAmb 15 29 58.9
comp=Z,10nm,0.6s
ASAR Alice Springs 42.09 261 P **P 15 29 57.8 -0.3**
comp=Z,38nm,0.8s,baz=96,slow=7.4,SNR=654
ASAR ScP **ScP 15 34 41.4 +3.2**
comp=Z,8.4nm,0.7s,baz=108,slow=4.0,SNR=28
ASAR S **S 15 35 38.4 +0.3**
comp=Z,0.8nm,0.9s,baz=98,slow=18,SNR=4.1
comp=Z,38nm,0.8s
WRA Warramunga Arr 42.45 266 P **P 15 29 59.9 -1.0**
comp=Z,51nm,0.6s,baz=93,slow=8.4,SNR=255
WRA ScP **ScP 15 34 44.0 +4.3**
comp=Z,7.0nm,0.9s,baz=99,slow=3.5,SNR=18
WRA S **S 15 35 42.8 -0.6**
comp=Z,1.5nm,1.1s,baz=90,slow=12,SNR=2.9
comp=Z,51nm,0.6s
GENI Genyem 43.94 293 P **P 15 30 12.1 -0.4**
GENI Genyem 43.94 293 P **P 15 30 12.6 +0.1**
comp=Z,94nm,0.9s
KDU Kakadu 46.33 275 P **P 15 30 29.9 -0.8**
FORT Forrest 46.38 250 **P 15 30 30.1 -0.8**
FORT Forrest 46.38 250 P **P 15 30 31.1 +0.2**
WRKA Warakurna 46.89 257 P **P 15 30 34.6 -0.4**
MTN Manton Dam 47.49 274 IAmb IAmb 15 30 39.2
comp=Z,17nm,0.6s
MTN Manton Dam 47.49 274 P **P 15 30 39.4 -0.1**
DRS Darwin Rock St 47.85 275 P **P 15 30 41.5 -0.7**
BAKI Biak 48.12 291 P **P 15 30 45.6 +1.4**
comp=Z,882nmcomp=Z,98nm,0.8s
KNRA Kununurra 48.73 270 P **P 15 30 48.5 -0.2**
HPAH Hawaii Prepara 49.59 30 P **P 15 30 55.4 +0.3**
FITZ Fitzroy Crossi 50.88 266 P **P 15 31 04.7 +0.3**
SWI Sorong 52.46 288 P **P 15 31 15.4 -0.5**
SOEI Soe 54.88 275 P **P 15 31 33.8 +0.6**
SOEI Soe 54.88 275 P **P 15 31 35.1 +1.9**
KLBR Kellerberrin 55.05 247 P **P 15 31 34.0 0.0**
PSA00 Pilbara Seismi 55.22 260 P **P 15 31 33.6 -1.7**
NWAO Narrogin (SRO) 55.30 245 P **P 15 31 35.0 -0.7**
NWAO IAmb IAmb 15 31 36.3
comp=Z,57nm,1.4s
MBWA Marble Bar 55.43 260 **P 15 31 35.9 -0.9**
MBWA IAmb IAmb 15 31 37.0
comp=Z,28nm,1.0s
MBWA Marble Bar 55.43 260 P **P 15 31 36.3 -0.5**
TNTI Ternate 56.65 288 P **P 15 31 44.2 -1.0**
TNTI IAmb IAmb 15 31 45.7
comp=Z,30nm,1.0s
MORW Morawa 56.94 250 IAmb IAmb 15 31 47.2
comp=Z,18nm,0.6s
EDFI Ende, Flores 57.62 275 P **P 15 31 51.6 -0.4**
comp=Z,53nm,0.9s
TOLI2 Tolitoli 62.60 285 P **P 15 32 23.3 -1.6**
TOLI2 IAmb IAmb 15 32 24.9
comp=Z,25nm,0.8s
TOLI2 Tolitoli 62.60 285 P **P 15 32 24.3 -0.6**
MPSI Mapaga 63.04 283 P **P 15 32 26.9 -0.8**
comp=Z,360nmcomp=Z,37nm,0.9s
QSPA South Pole Qui 66.25 180 P **P 15 32 48.1 +0.9**
comp=Z,4.2nm,1.0s,baz=9.6,slow=1.7,SNR=16
comp=Z,4.2nm,1.0s
KSM Kuching 72.14 280 P **P 15 33 22.4 -0.9**
KSM IAmb IAmb 15 33 24.2
comp=Z,19nm,0.7s
KSM Kuching 72.14 280 P **P 15 33 23.2 -0.1**
KSRS Korea Array 78.22 320 P **P 15 33 57.0 +0.4**
comp=Z,1.1nm,0.7s,baz=142,slow=5.5,SNR=6.2
comp=Z,1.1nm,0.7s
PETK Petropavlovsk- 79.04 346 P **P 15 34 00.5 -0.1**
comp=Z,3.3nm,0.6s,baz=112,slow=7.0,SNR=26
comp=Z,3.3nm,0.6s
NJ2 Nanjing 80.65 311 *e*P **P 15 34 10.3 +0.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
BCW Bitter Crk WRg 81.90 46 IAmb IAmb 15 34 18.7
comp=Z,16nm,0.8s
KHMM Horse Mountain 82.87 39 IAmb IAmb 15 34 23.8
comp=Z,14nm,0.8s
O02D Mt. Diablo Mer 82.98 40 IAmb IAmb 15 34 24.5
comp=Z,29nm,1.1s
CMB Columbia Colle 83.12 43 IAmb IAmb 15 34 24.1
comp=Z,12nm,0.9s
ELIB Princess Elisa 83.14 187 *d*P **P 15 34 22.8 +1.1**
AFDM Forest Hills D 83.31 42 IAmb IAmb 15 34 25.1
comp=Z,11nm,0.9s
WAKR Walker 84.00 43 IAmb IAmb 15 34 29.2
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 84.01 39 **P 15 34 27.7 +1.3**
YBH IAmb IAmb 15 34 29.2
comp=Z,10nm,1.1s
MPK Martis Peak 84.11 42 IAmb IAmb 15 34 30.1
comp=Z,20nm,1.1s
HATC Hat Creek Radi 84.17 41 IAmb IAmb 15 34 29.7
comp=Z,20nm,0.8s
PNTR Pine Nut 84.25 43 IAmb IAmb 15 34 30.2
comp=Z,18nm,1.0s
L04D Klamath Falls 84.55 39 **P 15 34 30.0 +0.8**
L04D IAmb IAmb 15 34 31.5
comp=Z,16nm,1.1s
DBO Dodson Butte 84.58 38 IAmb IAmb 15 34 32.3
comp=Z,9.2nm,1.0s
NVAR Mina Array Bea 84.67 44 P **P 15 34 30.5 +0.5**
NVAR Mina Array Bea 84.67 44 P **P 15 34 30.8 +0.9**
comp=Z,3.4nm,0.7s,baz=225,slow=7.9,SNR=18
comp=Z,3.4nm,0.7s
TPNV Topopah Spring 85.15 46 IAmb IAmb 15 34 33.9
comp=Z,6.8nm,0.7s
H04A Detroit Lake 86.17 37 IAmb IAmb 15 34 38.9
comp=Z,17nm,1.3s
PRN Pahroc Range 86.20 46 IAmb IAmb 15 34 39.8
comp=Z,9.4nm,1.0s
PINE Pine Mountain 86.31 38 IAmb IAmb 15 34 39.9
comp=Z,11nm,0.8s
TUC Tucson 86.44 52 **P 15 34 39.1 +0.7**
TUC IAmb IAmb 15 34 41.6
comp=Z,12nm,0.9s
WVOR Wild Horse Val 86.83 41 IAmb IAmb 15 34 42.4
comp=Z,11nm,1.1s
I07A Izee 87.31 39 IAmb IAmb 15 34 44.8
comp=Z,18nm,1.0s
J08A Circle Bar Ran 87.47 40 IAmb IAmb 15 34 45.4
comp=Z,25nm,1.3s
KNB Kanab 87.48 48 IAmb IAmb 15 34 46.0
comp=Z,6.0nm,0.9s
U15A North Rim 87.53 48 IAmb IAmb 15 34 46.4
comp=Z,11nm,0.9s
P23K Montague Islan 87.68 16 **P 15 34 42.7 -0.7**
DUN6 Lazy B Ranch 87.80 53 IAmb IAmb 15 34 48.0
comp=Z,13nm,0.8s
PKCU Pink Cliffs 88.05 47 IAmb IAmb 15 34 49.4
comp=Z,13nm,0.8s
G08A Pilot Rock 88.35 38 IAmb IAmb 15 34 50.0
comp=Z,18nm,1.3s
MXC Moxie City 88.38 37 IAmb IAmb 15 34 49.3
comp=Z,7.6nm,0.8s
MTPU Mount Pierson 88.45 47 IAmb IAmb 15 34 51.1
comp=Z,7.4nm,0.8s
LTY Liberty 88.60 36 IAmb IAmb 15 34 49.6
comp=Z,7.5nm,0.7s
MFID Camas Ranch 89.08 41 IAmb IAmb 15 34 52.7
comp=Z,12nm,1.0s
SEY Seymchan 89.21 348 P **P 15 34 50.8 +0.3**
comp=Z,2.3nm,0.6s,baz=180,slow=4.0,SNR=21
comp=Z,2.3nm,0.6s
CMAR Chiang Mai Arr 89.54 290 P **P 15 34 54.0 +0.9**
CMAR Chiang Mai Arr 89.54 290 P **P 15 34 54.7 +1.6**
comp=Z,2.6nm,0.9s,baz=143,slow=3.7,SNR=20
comp=Z,2.6nm,0.9s
Q16A Castle Valley 89.59 47 IAmb IAmb 15 34 56.6
comp=Z,6.6nm,0.7s
CHTO Chiang Mai 89.69 291 P **P 15 34 53.7 -0.1**
CHTO IAmb IAmb 15 34 56.3
comp=Z,5.2nm,1.0s
F10A Beach Ranch, E 89.73 38 IAmb IAmb 15 34 54.5
comp=Z,6.3nm,0.8s
VHRN Van Horn 90.01 56 IAmb IAmb 15 34 57.8
comp=Z,5.1nm,1.0s
HLID Hailey 90.02 41 IAmb IAmb 15 34 57.4
comp=Z,5.3nm,1.0s
HVU Hansel Valley 90.06 44 IAmb IAmb 15 34 57.3
comp=Z,9.0nm,0.7s
MNTX Cornudas Mount 90.14 55 IAmb IAmb 15 34 58.0
comp=Z,4.6nm,0.9s
TX31 Lajitas Ar. Si 90.36 58 IAmb IAmb 15 34 59.4
comp=Z,6.4nm,0.8s
TXAR Lajitas Array 90.36 58 **P 15 34 57.9 +1.1**
TXAR Lajitas Array 90.36 58 P **P 15 34 58.1 +1.4**
comp=Z,4.5nm,0.7s,baz=215,slow=6.6,SNR=53
comp=Z,4.5nm,0.7s
HHC Hu-ho-hao-te 90.40 315 *e*P **P 15 34 59.9 +3.2**
P18A Preston Nutter 90.57 46 IAmb IAmb 15 34 59.9
comp=Z,5.6nm,0.9s
PZH PanZhiHua 90.69 299 P **P 15 34 59.4 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,6.5s
PV10 Paradox Valley 90.75 48 IAmb IAmb 15 35 01.9
comp=Z,6.4nm,1.0s
PV23 Carpenter Ridg 90.80 48 IAmb IAmb 15 35 00.7
comp=Z,6.5nm,0.8s
ALPN Alpine 90.85 57 IAmb IAmb 15 35 01.3
comp=Z,7.0nm,1.1s
PV02 Paradox Valley 90.87 48 IAmb IAmb 15 35 00.6
comp=Z,5.0nm,0.8s
ANMO Albuquerque 90.88 52 **P 15 34 59.8 +0.6**
PV01 Paradox Valley 90.95 48 IAmb IAmb 15 35 00.5
comp=Z,3.8nm,0.9s
PV22 Blue Mesa, Par 91.00 48 IAmb IAmb 15 35 02.0
comp=Z,3.3nm,0.9s
SAND Sanderson 91.84 58 IAmb IAmb 15 35 05.2
comp=Z,4.2nm,0.8s
BILL Bilibino 92.16 355 P **P 15 35 03.3 -0.7**
PDAR Pinedale Array 92.61 44 P **P 15 35 07.2 +0.1**
comp=Z,1.9nm,0.7s,baz=222,slow=3.9,SNR=19
comp=Z,1.9nm,0.7s
SDCO Great Sand Dun 92.89 50 IAmb IAmb 15 35 10.0
comp=Z,2.5nm,0.8s
L42A Oliver, Polo 105.74 51 **Pdif 15 36 03.0 -2.5**
TIGA Tifton 107.17 63 **Pdif 15 36 05.3 -6.8**
ZALV Zalesovo Beam 111.93 321 PKiKP **PKiKP 15 40 24.7 -1.3**
comp=Z,0.5nm,0.4s,baz=120,slow=5.8,SNR=2.6
MKAR Makanchi Array 112.14 313 PKiKP **PKiKP 15 40 26.2 -0.6**
comp=Z,0.4nm,0.6s,baz=130,slow=1.7,SNR=5.5
MKAR PKKPab **PKKPab 15 51 30.3 +1.2**
comp=Z,0.3nm,0.5s,baz=265,slow=5.3,SNR=4.4
KURBB Kurchatov Arra 115.23 316 PKP **PKPdf 15 40 31.3 -1.2**
comp=Z,0.7nm,0.6s,baz=106,slow=1.9,SNR=12
BVAR Borovoye Array 120.42 319 PKP **PKPdf 15 40 41.9 -0.6**
comp=Z,1.5nm,0.5s,baz=80,slow=1.8,SNR=12
SPITS Spitsbergen Ar 125.06 356 PKP **PKPdf 15 40 50.6 -0.1**
comp=Z,3.8nm,0.8s,baz=49,slow=2.5,SNR=5.7
ARCES ARCESS Array B 131.83 348 PKP **PKPdf 15 41 03.2 -0.6**
comp=Z,3.3nm,0.8s,baz=0.3,slow=2.4,SNR=14
ARCES ARCESS Array B 131.83 348 *e*P **PKPdf 15 41 03.1 -0.6**
ARCES ARCESS Array B 131.83 348 pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 138.40 341 PKhKP PKPpre 15 41 05.2
comp=Z,0.7nm,0.5s,baz=318,slow=2.6,SNR=3.5
FINES PKP **PKPdf 15 41 16.7 +0.6**
comp=Z,0.8nm,0.5s,baz=45,slow=2.2,SNR=4.9
FINES SKPbc **SKPbc 15 44 00.9 +1.8**
comp=Z,3.3nm,0.6s,baz=93,slow=2.8,SNR=9.2
NB2 NORSAR Subarra 142.02 351 PKP **PKPdf 15 41 18.7 -4.1**
comp=Z,0.9nm,0.6s,baz=12,slow=3.1
NOA NORSAR Array B 142.02 351 PKhKP PKPpre 15 41 19.0
comp=Z,1.6nm,0.7s,baz=16,slow=4.9,SNR=7.9
HFS Hagfors 142.49 349 PKhKP PKPpre 15 41 20.2
comp=Z,6.5nm,0.4s,baz=72,slow=4.8,SNR=49
HFS SKPbc **SKiKP 15 44 11.5 +0.6**
comp=Z,2.7nm,0.9s,baz=5.2,slow=1.6,SNR=3.7
AKASG Malin Array Be 144.94 327 PKP **PKPdf 15 41 27.4 -0.7**
comp=Z,2.3nm,0.5s,baz=42,slow=4.2,SNR=18
AKASG SKPbc **SKiKP 15 44 18.4 +2.1**
comp=Z,3.5nm,0.7s,baz=44,slow=2.7,SNR=12
KIEV Kiev 144.95 327 **PKPdf 15 41 28.3 +0.2**
BR131 Keskin Array S 147.57 307 PKPbc **PKPbc 15 41 36.5 -0.2**
BRTR Keskin Array B 147.57 307 PKPbc **PKPbc 15 41 36.4 -0.3**
comp=Z,1.2nm,0.6s,baz=155,slow=4.4,SNR=4.6
BRTR SKPbc **SKiKP 15 44 24.5 +2.2**
comp=Z,1.0nm,0.8s,baz=61,slow=3.2,SNR=4.4
MMAI Mount Meron Ar 147.71 294 PKPbc **PKPbc 15 41 38.0 +0.9**
comp=Z,2.4nm,0.5s,baz=96,slow=3.4,SNR=5.6
EKA Eskdalemuir Ar 148.45 4 PKPbc **PKPbc 15 41 37.5 -0.6**
comp=Z,1.3nm,0.4s,baz=346,slow=2.7,SNR=13
KOLS Kolonicke sedl 149.44 331 *e*PKP **PKiKP 15 41 42.4 +0.9**
OJC Ojcow 149.49 335 *e*PKPbc **PKPbc 15 41 41.3 +0.4**
STHS Stebnicka Huta 149.53 332 *e*PKP **PKPbc 15 41 40.3 -0.7**
KSP Ksiaz 150.24 339 *e*PKPbc **PKPbc 15 41 43.5 +0.9**
MORC Moravsky Berou 150.71 337 *e*PKP **PKiKP 15 41 45.0 +0.8**
CLL Collm 150.80 343 *i* PKPbc **PKPbc 15 41 43.8 0.0**
comp=Z,10.0nm,0.7s
VYHS Vyhne 151.25 334 *e*PKP **PKPbc 15 41 45.5 +0.5**
VRAC Vranov 151.44 337 *e*PKP **PKiKP 15 41 46.5 +0.8**
MODS Modra-Piesok 151.96 335 *e*PKP **PKiKP 15 41 47.6 +0.8**
GERES GERESS Array B 152.81 340 PKPbc **PKPbc 15 41 48.4 -0.1**
comp=Z,1.2nm,0.9s,baz=44,slow=4.1,SNR=4.0
ESDC Sonseca Array 163.84 11 PKPab **PKPab 15 42 49.6 -0.8**
comp=Z,1.2nm,0.9s,baz=349,slow=5.7,SNR=3.2

NEIC ***23*** *15:32:43.4, 66.30N×157.21W, h12km*
NEIC ***23*** *15:32:43.6±0.9, 66.30N±0.01×157.19W±0.04, h8km±3km, Error ellipse: s-maj=2.2km s-min=1.7km az=60.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=0.02; Mθθ1.29; Mφφ-1.27; Mrθ0.86; Mθφ-4.05; Mφr0.29; Fault plane solution: M0=4.35000×10^15 NP1: φs=171.01000°, δ78.09000°, λ-1.99000°. NP2:φs=261.42000°, δ88.06000°, λ-168.09000°. Principal axes: T 4.3290, Plg7.0000°, Azm36.0000°; N 0.0395, Plg78.0000°, Azm271.0000°; P -4.3685, Plg10.0000°, Azm127.0000°;*
NEIC ***23*** *15:32:43.4, 66.30N×157.21W, h7km*
NEIC ***23*** *15:32:43.4, 66.00N×157.00W, h12km, Moment Tensor Solution. Duration: 0 Moment tensor: Scale 10^15Nm; Mrr=0.42; Mθθ2.00; Mφφ-1.59; Mrθ-0.85; Mθφ-4.95; Mφr1.50; Fault plane solution: M0=5.52000×10^15 NP1: φs=259.32000°, δ73.41000°, λ176.54000°. NP2: φs=350.31000°, δ86.69000°, λ16.62000°. Principal axes: T 5.8584, Plg14.0000°, Azm216.0000°; N -0.6848, Plg73.0000°, Azm1.0000°; P -5.1736, Plg9.0000°, Azm124.0000°;*
AEIC ***23*** *15:32:43.4±1.2, 66.30N±0.02×157.21W±0.05, h7km, ML4.5, mb4.5/11(NEIC), ML4.7/156(NEIC), Mwr4.4/95(NEIC), Mww4.4/57(NEIC) Error ellipse: s-maj=2.7km s-min=2.1km az=109.0*
MOS ***23*** *15:32:44.1±1.1, 66.25N×157.04W, h12km, mb4.7/20, Error ellipse: s-maj=25.7km s-min=9.6km az=105.4*
IDC ***23*** *15:32:49.6±2.2, 66.36N×157.25W, h38km±22km, mb3.9/23, mbtmp4.1/28, ML4.3/6, MS3.6/18, Error ellipse: s-maj=14.9km s-min=10.6km az=179.0*
ISC 23 15:32:44.4±0.7,**66.29N**±0.02×**157.15W**±0.03,**h6**km±4km, **n176,** σ1.9**76**/158,**mb4.4**/52,**MS3.7**/22,**12C-1D, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
G19K	**Purcell Mounta**	**0.15**	**171**		**Pg**	**15 32 46.9**		**-0.6**
G19K				Sg	**Sg**	**15 32 49.4**		**-0.1**
G19K				IAML		15 32 50.3		
comp=N,219μm,0.8s								
F19K	**Shaleruckik Mo**	**0.60**	**335**		**Pg**	**15 32 54.5**		**-1.4**
F19K	**Shaleruckik Mo**	**0.60**	**335**		**Sg**	**15 33 02.4**		**-1.3**
G18K	**Tagagawik**	**0.73**	**238**		**Pg**	**15 32 57.2**		**-1.3**
G18K	**Tagagawik**	**0.73**	**238**		**Sg**	**15 33 07.3**		**-0.7**
H19K	**Roundabout Mou**	**0.82**	**159**		**Pg**	**15 32 59.2**		**-0.9**
H19K	**Roundabout Mou**	**0.82**	**159**		**Sg**	**15 33 10.6**		**-0.2**
F20K	**Avaraart Lake**	**0.95**	**36**		**Sg**	**15 33 14.2**		**-0.7**
F20K	**Avaraart Lake**	**0.95**	**36**		**Pg**	**15 33 01.3**		**-1.2**
F20K				IAML		15 33 15.4		
comp=N,15μm,0.5s								
F20K				IAML		15 33 18.2		
comp=E,31μm,0.7s								
F18K	**Selawik**	**1.05**	**288**		**Pg**	**15 33 02.7**		**-1.9**
F18K					**Sg**	**15 33 17.0**		**-1.3**
E19K	**Redstone River**	**1.17**	**358**		**Pg**	**15 33 05.1**		**-1.7**
E19K				IAML		15 33 23.5		
comp=E,11μm,0.7s								
E19K				IAML		15 33 26.6		
comp=N,11μm,0.7s								
E19K	**Redstone River**	**1.17**	**358**		**Sg**	**15 33 19.7**		**-2.3**
H20K	**Anotleneega Mo**	**1.23**	**130**		**Pb**	**15 33 06.3**		**-1.8**
H20K					**Sb**	**15 33 24.5**		**+0.3**
H18K	**Honhosa River**	**1.25**	**204**		**Sb**	**15 33 22.8**		**-2.0**
H18K	**Honhosa River**	**1.25**	**204**		**Pn**	**15 33 06.3**		**-2.2**
H18K				IAML		15 33 26.2		
comp=E,17μm,0.9s								
H18K				IAML		15 33 27.4		
comp=N,20μm,0.8s								
G21K	**Allakaket**	**1.48**	**80**		**Pn**	**15 33 10.4**		**-1.2**
G21K	**Allakaket**	**1.48**	**80**		**Sn**	**15 33 31.1**		**-0.2**
GCSA	**Galena City Sc**	**1.56**	**176**		**Pn**	**15 33 12.0**		**-0.7**
GCSA					**Sn**	**15 33 32.2**		**-1.0**
G17K	**Kiwalik Mounta**	**1.65**	**243**		**Pn**	**15 33 11.8**		**-2.0**
F17K	**Baldwin Pennin**	**1.66**	**277**		**Pn**	**15 33 12.4**		**-1.7**
F17K				IAML		15 33 37.2		
comp=N,6μm,0.8s								
F17K				IAML		15 33 42.3		
comp=E,8μm,0.8s								
F21K	**Alatna River**	**1.73**	**56**		**Pn**	**15 33 14.1**		**-0.9**
F21K				IAML		15 33 41.3		
comp=E,9μm,0.6s								
F21K				IAML		15 33 41.7		
comp=N,6μm,0.8s								
E18K	**Tukpahlearik C**	**1.77**	**311**		**Pn**	**15 33 14.8**		**-0.9**
H17K	**Granite Mounta**	**1.78**	**221**		**Pn**	**15 33 14.1**		**-1.6**
H17K				IAML		15 33 54.1		
comp=E,5μm,0.9s								
H21K	**Melozitna Rive**	**1.89**	**108**		**Pn**	**15 33 16.0**		**-1.3**
H21K				IAML		15 33 47.1		
comp=E,7μm,0.8s								
E20K	**Nigu River**	**2.01**	**10**		**Pn**	**15 33 19.2**		**+0.3**
G16K	**Koyuk River**	**2.33**	**250**		**Pn**	**15 33 20.7**		**-2.5**
G16K				IAML		15 34 00.8		
comp=E,3μm,0.8s								
G16K				IAML		15 34 03.1		
comp=N,4μm,0.9s								
H22K	**Ishtalitna Cre**	**2.38**	**97**		**Pn**	**15 33 23.2**		**-0.8**
J19K	**Poorman**	**2.40**	**164**		**Pn**	**15 33 23.3**		**-0.9**
J19K				IAML		15 34 03.8		
comp=E,3μm,1.0s								
D20K	**Etivluk River**	**2.44**	**5**		**Pn**	**15 33 24.7**		**-0.2**
D20K				IAML		15 34 01.5		
comp=E,3μm,0.7s								
D20K				IAML		15 34 02.3		
comp=N,4μm,1.1s								
J20K	**Nowinta River**	**2.47**	**148**		**Pn**	**15 33 24.1**		**-1.1**
H16K	**Elim**	**2.70**	**234**		**Pn**	**15 33 25.8**		**-2.5**
E22K	**Anaktuvuk Pass**	**2.78**	**46**		**Pn**	**15 33 29.7**		**+0.2**
E22K				IAML		15 34 21.4		
comp=N,2μm,1.0s								
C18K	**Utukok River**	**2.83**	**328**		**Pn**	**15 33 28.9**		**-1.3**
I17K	**Unalakleet**	**2.85**	**213**		**Pn**	**15 33 29.2**		**-1.1**
I17K				IAML		15 34 18.9		
comp=E,3μm,0.8s								
I17K				IAML		15 34 19.4		
comp=N,3μm,1.1s								
J18K	**Innoko River**	**2.85**	**176**		**Pn**	**15 33 29.6**		**-0.8**
RDOG	**Red Dog Mine**	**2.86**	**311**		**Pn**	**15 33 30.2**		**-0.3**
G23K	**Bananza Creek**	**2.88**	**78**		**Pn**	**15 33 30.8**		**-0.2**
G23K				IAML		15 34 25.0		
comp=E,2μm,1.0s								
COLD	**Coldfoot**	**2.91**	**68**		**Pn**	**15 33 30.2**		**-1.1**
COLD				IAML		15 34 20.9		
comp=E,2μm,0.8s								
COLD				IAML		15 34 22.8		
comp=N,3μm,0.9s								
J17K	**VABM Dome**	**3.02**	**197**	IAML		15 34 25.1		
comp=E,2μm,0.9s								
J17K				IAML		15 34 27.7		
comp=N,2μm,1.0s								
D22K	**Ayikyak River**	**3.11**	**31**		**Pn**	**15 33 34.0**		**0.0**
D22K				IAML		15 34 30.2		
comp=N,2μm,0.8s								
D22K				IAML		15 34 37.0		
comp=E,2μm,0.7s								
F15K	**North Star Dit**	**3.12**	**263**		**Pn**	**15 33 31.8**		**-2.4**
F15K				IAML		15 34 28.3		
comp=E,2μm,0.7s								
F15K				IAML		15 34 31.4		
comp=N,2μm,0.8s								
J16K	**Anvik River**	**3.36**	**208**		**Pn**	**15 33 36.0**		**-1.4**
J16K				IAML		15 34 34.5		
comp=N,2μm,1.0s								
J16K				IAML		15 34 37.5		
comp=E,2μm,0.9s								
BPAW	**Bear Paw Mtn.**	**3.40**	**127**		**Pn**	**15 33 37.0**		**-1.0**
BPAW				IAML		15 34 42.5		
comp=N,1μm,1.0s								
E23K	**Chandalar**	**3.43**	**55**	IAML		15 34 36.3		
comp=E,2μm,0.9s								
E23K				IAML		15 34 45.9		
comp=N,2μm,0.9s								
B21K	**Ikpikpuk River**	**3.48**	**15**		**Pn**	**15 33 37.5**		**-1.5**
B21K				IAML		15 34 51.7		
comp=N,2μm,0.8s								
CAST	**Castle Rocks**	**3.60**	**141**		**Pn**	**15 33 39.9**		**-0.9**
K17K	**Iditarod**	**3.63**	**188**		**Pn**	**15 33 39.3**		**-1.8**
K17K				IAML		15 34 48.4		
comp=E,1μm,1.0s								
K17K				IAML		15 34 56.2		
comp=N,1μm,1.1s								
D23K	**Nanushuk River**	**3.65**	**40**		**Pn**	**15 33 41.2**		**-0.1**
TOLK	**Toolik Lake Re**	**3.75**	**48**	IAML		15 35 01.5		
comp=N,2μm,1.1s								
C16K	**Lisburne Hills**	**3.75**	**306**		**Pn**	**15 33 41.7**		**-1.0**
C16K				IAML		15 34 48.7		
comp=N,987nm,1.1s								
NEA2	**Nenana**	**3.78**	**113**	IAML		15 34 47.4		
comp=N,2μm,1.0s								
H24K	**Noodor Dome**	**3.81**	**93**		**Pn**	**15 33 42.2**		**-1.3**
E24K	**Your Creek**	**3.82**	**58**	IAML		15 34 56.4		
comp=N,2μm,1.1s								
E24K				IAML		15 34 58.4		
comp=E,1μm,1.1s								
KTH	**Kantishna Hill**	**3.82**	**133**	IAML		15 34 54.2		
comp=N,1μm,0.9s								
KTH				IAML		15 34 57.1		
comp=E,1μm,1.2s								
ANM	**Nome**	**3.85**	**247**		**Pn**	**15 33 41.2**		**-2.9**
ANM				IAML		15 34 54.0		
comp=N,1μm,1.0s								
F24K	**Squaw Lake**	**3.85**	**67**	IAML		15 34 50.1		
comp=E,1μm,0.6s								
PPLA	**Purkeypile**	**4.02**	**146**	IAML		15 35 05.1		
comp=E,916nm,1.1s								
TRF	**Thorofare Moun**	**4.09**	**131**		**Pn**	**15 33 46.9**		**-0.6**
TRF				IAML		15 35 02.8		
comp=N,760nm,1.0s								
TRF				IAML		15 35 03.9		
comp=E,824nm,0.8s								
L18K	**Granite Mounta**	**4.10**	**177**	IAML		15 35 10.2		
comp=N,632nm,1.1s								
L18K				IAML		15 35 10.6		
comp=E,648nm,1.2s								
COLA	**College**	**4.11**	**106**		**Pn**	**15 33 46.7**		**-1.0**
COLA	**College**	**4.11**	**106**	*i* P	**Pn**	**15 33 46.9**		**-0.8**
WRH	**Wood River Hil**	**4.21**	**112**		**Pn**	**15 33 47.2**		**-1.9**
WRH				IAML		15 34 59.6		
comp=E,802nm,1.1s								
WRH				IAML		15 35 05.1		
comp=N,646nm,1.1s								
CCB	**Clear Creek Bu**	**4.23**	**109**	IAML		15 35 01.1		
comp=E,762nm,0.9s								
CCB				IAML		15 35 07.5		
comp=N,633nm,1.0s								
L19K	**White Mountain**	**4.25**	**165**	IAML		15 34 40.8		
comp=E,562nm,0.8s								
B22K	**Teshekpuk Lake**	**4.29**	**17**	IAML		15 35 05.5		
comp=N,1μm,1.1s								
C23K	**Itkillik River**	**4.32**	**32**	IAML		15 35 21.4		
comp=E,821nm,0.9s								
MCK	**McKinley**	**4.33**	**123**	IAML		15 35 07.7		
comp=N,641nm,1.1s								
K15K	**Wolf Creek Mou**	**4.45**	**207**		**Pn**	**15 33 51.3**		**-1.0**
K15K				IAML		15 35 14.8		

comp=E,644nm,0.9s
K15K IAML 15 35 14.9
comp=N,841nm,1.1s
J14K Nanvaranak Lak 4.51 221 IAML 15 35 16.6
comp=E,963nm,0.9s
J14K IAML 15 35 22.3
comp=N,930nm,0.9s
ILAR Eielson Array 4.53 105 Pn 15 33 51.8 -1.7
ILAR Eielson Array 4.53 105 Pn **Pn 15 33 52.3 -1.2**
comp=N,24nm,0.3s,baz=291,slow=13,SNR=1585
ILAR Sn **Sn 15 34 42.5 -3.9**
comp=N,24nm,0.3s,baz=292,slow=24,SNR=9.2
ILAR Lg Lg 15 35 03.2
comp=N,33nm,0.3s,baz=158,slow=16,SNR=7.7
M19K Big River Lodg 4.57 163 Pn 15 33 53.1 -1.0
M19K IAML 15 35 14.9
comp=E,703nm,1.1s
HDA Harding Lake 4.67 109 IAML 15 35 11.7
comp=N,695nm,1.0s
HDA IAML 15 35 14.5
comp=E,679nm,1.1s
F25K Christian Rive 4.71 69 IAML 15 35 17.0
comp=N,868nm,0.9s
M20K Styx River 4.77 156 IAML 15 35 25.8
comp=E,447nm,1.1s
PRP Porcupine Dome 4.83 94 IAML 15 35 29.4
comp=N,712nm,1.1s
CUT Chulitna 4.92 139 IAML 15 35 38.0
comp=N,665nm,1.2s
SKT Skwentna 4.98 148 IAML 15 35 29.3
comp=E,402nm,1.0s
SKT IAML 15 35 38.2
comp=N,360nm,1.2s
BMAR Burnt Mountain 5.08 71 Pn 15 33 59.8 -1.3
D25K Kavik River 5.09 48 IAML 15 35 32.9
comp=E,462nm,1.1s
D25K IAML 15 35 48.0
comp=N,519nm,0.9s
J25K Salcha River, 5.19 104 IAML 15 35 29.3
comp=E,578nm,0.7s
F26K Sheenjek River 5.29 69 IAML 15 35 38.4
comp=E,577nm,1.1s
M16K Timber Creek 5.35 190 IAML 15 35 50.4
comp=N,297nm,1.2s
BCAR Beaver Creek A 7.33 109 Pn 15 34 29.5 -2.5
KDAK Kodiak Island 8.80 164 Pn **Pn 15 34 52.1 +0.1**
comp=N,2.1nm,0.3s,baz=352,slow=7.1,SNR=15
KDAK Lg Lg 15 37 28.2
comp=N,0.1nm,0.3s,baz=34,slow=18,SNR=2.6
comp=N,17nm,0.7s
KDAK Kodiak Island 8.80 164 *i* P **Pn 15 34 53.1 +1.0**
INK Inuvik 9.32 67 Pn **Pn 15 34 59.3 +0.2**
comp=N,1.6nm,0.3s,baz=282,slow=16,SNR=32
INK Sn **Sn 15 36 38.0 -6.2**
comp=N,0.5nm,0.3s,baz=166,slow=26,SNR=2.2
INK Lg Lg 15 37 39.3
comp=N,0.3nm,0.3s,baz=174,slow=23,SNR=4.5
comp=N,15nm,0.7s
N30M Aishikik Lake 10.06 109 Pn 15 35 08.4 -0.9
O30N Mendenhall 10.87 111 Pn 15 35 18.7 -1.6
MMPY Sheldon Lake, 11.71 96 Pn 15 35 31.6 -0.4
A36M Sachs Harbour 12.57 49 Pn 15 35 41.0 -2.5
C36M Paulatuk 12.76 61 Pn 15 35 43.6 -2.5
BILL Bilibino 14.17 294 Pn 15 36 03.1 -2.3
BILL Bilibino 14.17 294 *ce*P **Pn 15 36 05.2 -0.2**
BILL pmax pmax
comp=Z,22nm,1.7s
DLBC Dease Lake 14.72 109 Pn **Pn 15 36 15.1 +2.0**
comp=Z,0.6nm,0.3s,baz=316,slow=12,SNR=4.3
DLBC Lg Lg 15 40 29.2
comp=Z,0.5nm,0.3s,baz=198,slow=14,SNR=10.0
DLBC LR LR 15 42 36.8
comp=Z,171nm,20.5s,baz=322,slow=40
comp=Z,5.3nm,0.6s
YKAW3 Yellowknife Wh 18.45 82 IAmb IAmb 15 37 05.5
comp=Z,14nm,0.9s
YKA Yellowknife Ar 18.49 82 P **Pn 15 37 01.4 +0.5**
comp=Z,0.5nm,0.3s,baz=302,slow=11,SNR=29
YKA S Sn 15 40 14.2 -13
comp=Z,0.6nm,0.8s,baz=304,slow=23,SNR=2.4
comp=Z,4.7nm,0.9s
YKA Yellowknife Ar 18.49 82 *i* P **Pn 15 37 01.7 +0.8**
YKA pmax pmax
comp=Z,5.0nm,0.9s
YKAW1 Yellowknife Wh 18.55 82 IAmb IAmb 15 37 05.8
comp=Z,14nm,1.1s
SHEM Shemya Is, Ala 19.68 240 P **P 15 37 14.2 +0.4**
comp=Z,2.4nm,0.3s,baz=75,slow=20,SNR=5.4
SHEM LR LR 15 44 40.0
comp=Z,141nm,18.8s,baz=332,slow=36
comp=Z,7.9nm,0.3s
BBB Bella Bella 20.22 120 LR LR 15 44 35.0
comp=Z,178nm,18.3s,baz=314,slow=35
RES Resolute Bay 21.29 40 P **P 15 37 31.4 +0.3**
comp=Z,6.0nm,1.0s,baz=290,slow=8.7,SNR=18
RES S **S 15 41 18.2 -9.3**
comp=Z,10.0nm,1.1s,baz=336,slow=19,SNR=5.9
RES LR LR 15 48 17.3
comp=Z,112nm,18.9s,baz=232,slow=44
comp=Z,6.0nm,1.0s
SEY Seymchan 21.41 285 P **P 15 37 32.1 -0.4**
comp=Z,6.7nm,0.9s,baz=79,slow=9.0,SNR=20
SEY LR LR 15 45 59.6
comp=Z,149nm,18.4s,baz=44,slow=37
comp=Z,6.7nm,0.9s
SEY Seymchan 21.41 285 *ce*P **P 15 37 34.8 +2.3**
SEY pmax pmax
comp=Z,34nm,1.0s
EUNU Eureka 22.50 25 P **P 15 37 43.2 -0.9**
EUNU IAmb IAmb 15 38 01.3
comp=Z,19nm,1.2s
MA2 Magadan 23.97 279 P 15 37 58.0 -1.2
BLKN Baker Lake 24.73 66 P **P 15 38 05.8 -0.3**
BLKN IAmb IAmb 15 38 10.5
comp=Z,15nm,0.9s
PET Petropavlovsk 25.31 260 *i* P **P 15 38 13.2 +1.8**
PET pmax pmax
comp=Z,18nm,1.5s
TIXI Tiksi 25.46 315 *ce*P **P 15 38 13.8 +1.2**
TIXI pmax pmax
comp=Z,10.0nm,1.3s
PEA0B Petropavlovsk- 25.63 261 *i* P **P 15 38 15.1 +0.8**
PETK Petropavlovsk- 25.63 261 P **P 15 38 13.5 -0.8**
comp=Z,2.1nm,0.7s,baz=66,slow=13,SNR=11
PETK LR LR 15 47 55.0
comp=Z,125nm,19.0s,baz=13,slow=35
comp=Z,2.1nm,0.7s
ILON Igloolik, Nuna 26.93 49 P **P 15 38 24.5 -1.4**
NEW Newport 27.46 111 LR LR 15 49 06.9
comp=Z,75nm,19.7s,baz=52,slow=36
YAK Yakutsk 30.48 297 LR LR 15 52 40.2
comp=Z,155nm,18.7s,baz=17,slow=39
YAK Yakutsk 30.48 297 *eP* **P 15 38 58.3 +0.7**
YAK pmax pmax
comp=Z,9.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.6s
YBH Yreka Blue Hor 31.11 125 LR LR 15 49 52.0
comp=E,95nm,21.6s,baz=304,slow=33
ULM Lac du Bonnet 34.31 87 P **P 15 39 30.6 -0.6**
comp=E,2.0nm,0.4s,baz=323,slow=9.6,SNR=3.4
comp=E,2.0nm,0.4s
FRB Frobisher Bay 34.55 52 LR LR 15 54 49.6
comp=E,166nm,19.4s,baz=312,slow=38
PDAR Pinedale Array 34.95 108 P **P 15 39 37.6 +0.4**
comp=E,0.7nm,0.9s,baz=322,slow=9.4,SNR=4.6
PDAR LR LR 15 53 29.9
comp=E,118nm,18.1s,baz=324,slow=35
comp=E,0.7nm,0.9s
NVAR Mina Array Bea 35.56 122 P **P 15 39 43.1 +0.7**
comp=E,1.4nm,0.7s,baz=313,slow=6.4,SNR=8.9
NVAR LR LR 15 53 18.6
comp=E,84nm,20.0s,baz=189,slow=34
comp=E,1.4nm,0.7s
AGMN Agassiz Nation 35.85 89 P 15 39 43.6 -0.9
AGMN IAmb IAmb 15 39 48.1
comp=Z,6.8nm,1.1s
SFJD Kangerlussuaq 37.27 38 LR LR 15 58 17.9
comp=Z,80nm,18.2s,baz=356,slow=41
ZEA Zeya 37.30 288 *eP* **P 15 39 57.7 +0.9**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=Z,100nm,16.0s
NRIK Noril'sk 37.46 328 P **P 15 39 55.3 -2.7**
NRIK IAmb IAmb 15 40 00.7
comp=Z,10nm,1.2s
NRIK Noril'sk 37.46 328 P **P 15 39 58.5 +0.6**
comp=Z,3.9nm,0.8s,baz=50,slow=9.8,SNR=6.9
NRIK LR LR 15 58 28.5
comp=Z,81nm,18.4s,baz=30,slow=41
comp=Z,3.9nm,0.8s
NRIK Noril'sk 37.46 328 *ce*P **P 15 39 58.3 +0.3**
NRIK pmax pmax
comp=Z,10.0nm,1.3s
BOD Bodaibo 39.02 302 *eP* **P 15 40 11.6 +0.4**
BOD pmax pmax
comp=Z,23nm,1.2s
KLR Kul'dur 39.06 280 *ce*P **P 15 40 11.2 -0.4**
KLR pmax pmax
comp=Z,3.0nm,0.8s
HEH HeiHe 39.96 285 *eP* **P 15 40 18.3 -0.8**
HEH pmax pmax
comp=Z,4.0nm,0.8s
HEH LR LR
comp=N,400nm,14.2s
HEH LR LR
comp=E,510nm,13.4s
HEH LR LR
comp=Z,170nm,12.2s
MJAR Matsushiro Arr 47.03 264 P **P 15 41 15.6 -0.7**
comp=Z,2.1nm,0.8s,baz=12,slow=9.1,SNR=4.8
comp=Z,2.1nm,0.8s
TXAR Lajitas Array 49.01 112 P **P 15 41 32.2 +0.3**
comp=Z,1.3nm,0.8s,baz=331,slow=6.4,SNR=11
comp=Z,1.3nm,0.8s
ULN Ulaanbaatar 49.56 298 *ce*P **P 15 41 38.1 +2.2**
ULN pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 49.82 299 P **P 15 41 38.7 +0.9**
comp=Z,4.3nm,0.8s,baz=35,slow=7.0,SNR=20
comp=Z,4.3nm,0.8s
KSRS Korea Array 50.40 274 P **P 15 41 42.2 +0.1**
comp=Z,2.0nm,0.9s,baz=23,slow=7.5,SNR=6.4
comp=Z,2.0nm,0.9s
ZAA0 Zalesovo Array 51.29 318 IAmb IAmb 15 41 50.4
comp=Z,10nm,1.3s
ZALV Zalesovo Beam 51.29 318 P 15 41 47.6 -1.0
ZALV Zalesovo Beam 51.29 318 P **P 15 41 47.9 -0.8**
comp=Z,2.7nm,0.6s,baz=26,slow=7.7,SNR=15
ZALV LR LR 16 05 28.6
comp=Z,69nm,18.7s,baz=340,slow=38
comp=Z,2.7nm,0.6s
ZALV Zalesovo Beam 51.29 318 *i* P **P 15 41 49.5 +0.9**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 52.54 358 P **P 15 41 58.7 +0.9**
comp=Z,1.8nm,1.0s,baz=8.6,slow=6.6,SNR=2.0
comp=Z,1.8nm,1.0s
KLMR Klimovskoe 52.56 350 *eP* **P 15 42 01.5 +3.5**
KLMR pmax pmax
comp=Z,19nm,1.8s
NOA NORSAR Array B 52.68 7 P **P 15 41 60.0 +1.0**
comp=Z,1.0nm,0.9s,baz=353,slow=7.4,SNR=2.8
comp=Z,1.0nm,0.9s
HHC Hu-ho-hao-te 53.91 290 *eP* **P 15 42 06.8 -1.6**
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,89nm,4.5s
ARTI Arti 54.75 337 *c i* P **P 15 42 15.0 +0.9**
ARTI 15 43 14.8
ARTI 15 44 15.0
ARTI S **S 15 49 54.1 -0.4**
ARTI SS **SS 15 53 33.2 -3.4**
ARTI pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 55.66 327 *ce*P **P 15 42 22.2 +1.5**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BVAR Borovoye Array 55.67 327 P **P 15 42 20.5 -0.3**
comp=Z,1.6nm,0.5s,baz=36,slow=7.9,SNR=14
BVAR LR LR 16 08 51.5
comp=Z,81nm,21.6s,baz=35,slow=39
comp=Z,1.6nm,0.5s
HNS HongShan 55.70 286 ⇓P **P 15 42 22.8 +1.6**
HNS pmax pmax
comp=Z,8.0nm,0.9s
HNS LR LR
comp=N,130nm,16.7s
HNS LR LR
comp=E,160nm,16.5s
KURK Kurchatov 55.85 321 **P 15 42 21.0 -1.1**
KURK IAmb IAmb 15 42 24.1
comp=Z,7.1nm,0.9s
KURK Kurchatov 55.85 321 *ce*P **P 15 42 23.3 +1.2**
KURK pmax pmax
comp=Z,11nm,1.3s
KURBB Kurchatov Arra 55.95 321 P **P 15 42 22.2 -0.7**
comp=Z,3.0nm,0.8s,baz=27,slow=6.8,SNR=15
comp=Z,3.0nm,0.8s
EKA Eskdalemuir Ar 57.11 17 P **P 15 42 31.1 +0.1**
comp=Z,4.1nm,0.5s,baz=334,slow=4.8,SNR=16
comp=Z,4.1nm,0.5s
MOS Moscow 57.78 350 *eP* **P 15 42 39.3 +3.6**
MK31 Makanchi Array 58.45 316 *ce*P **P 15 42 41.5 +0.9**
MKAR Makanchi Array 58.45 316 P **P 15 42 38.4 -2.2**
MKAR Makanchi Array 58.45 316 P **P 15 42 40.7 +0.1**
comp=Z,2.2nm,0.8s,baz=33,slow=5.6,SNR=17
MKAR LR LR 16 09 30.0
comp=Z,88nm,21.4s,baz=338,slow=38
comp=Z,2.2nm,0.8s
MKAR Makanchi Array 58.45 316 *i* P **P 15 42 41.0 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 58.47 351 *eP* **P 15 42 40.2 -0.3**
OBN *e**PP **sP 15 42 46.2 +2.9**
OBN *e* 15 43 31.8
OBN *e* 15 44 52.1
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN MLR MLR
comp=Z,57nm,21.0s
MAKZ Makanchi 58.52 316 P 15 42 40.1 -1.0
MAKZ IAmb IAmb 15 42 42.7
comp=Z,3.8nm,1.1s
NJ2 Nanjing 58.74 279 *eP* **P 15 42 41.8 -1.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MNK Minsk 59.47 357 *i* P **P 15 42 48.7 +1.2**
comp=E,10.0nm,0.8s
MNK *i* P **P 15 42 48.7 +1.2**
comp=N,18nm,0.8s
MNK *i* P **P 15 42 48.7 +1.2**
comp=Z,7.0nm,0.8s,baz=2.3
MNK *i* PP **PP 15 45 00.2 +2.1**
MNK *i* PPP PPP 15 46 21.4
MNK *i* S **S 15 50 59.4 +2.7**
MNK *i* SS **SS 15 54 55.5 +4.9**
MNK *i* SSS SSS 15 57 36.1
MNK *i* LQ LQ 16 02 49.4
MNK *i* LR LR 16 06 44.5
MNK *i* LRM MLR 16 09 05.0
comp=N,48nm,16.2s
MNK *i* LRM MLR 16 09 31.6
comp=Z,64nm,18.1s
MNK *i* LRM MLR 16 10 27.8
comp=E,58nm,17.1s
MNK Minsk 59.47 357 *i* P **P 15 42 48.6 +1.1**
MNK *i* 15 45 00.2
MNK *i* PPP PPP 15 46 21.3
MNK *i* S **S 15 50 59.3 +2.6**
MNK *i* SS **SS 15 54 55.4 +4.8**
MNK pmax pmax
comp=N,18nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK MLR MLR
comp=N,48nm,16.0s
MNK MLR MLR
comp=Z,64nm,18.0s
MNK MLR MLR
comp=E,58nm,17.0s
GTA Gaotai 59.49 299 P **P 15 42 49.6 +1.5**
GTA pP sP 15 42 52.5 +1.6
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA LR LR
comp=N,110nm,14.9s
GTA LR LR
comp=E,150nm,16.7s
GTA LR LR
comp=Z,150nm,16.7s
ABKAR Akbulak array 61.34 333 P **P 15 42 58.4 -2.0**
AKASG Malin Array Be 63.23 355 P **P 15 43 13.1 +0.1**
comp=Z,0.6nm,0.5s,baz=7.1,slow=6.3,SNR=5.0
comp=Z,0.6nm,0.5s
AKBB Malin Array Si 63.23 355 *i* P **P 15 43 14.6 +1.6**
AKBB pmax pmax
comp=Z,18nm,2.7s
AAK Ala-Archa 64.40 320 *ce*P **P 15 43 23.0 +1.9**
AAK pmax pmax
comp=Z,4.0nm,0.8s
KHC Kasperske Hory 64.69 7 *ce*P **P 15 43 22.9 +0.2**
KHC pmax pmax
comp=Z,18nm,2.5s
GERES GERESS Array B 64.98 7 P **P 15 43 25.0 +0.3**
comp=Z,0.5nm,0.5s,baz=10,slow=8.1,SNR=5.2
comp=Z,0.5nm,0.5s
KSH Kashi 66.92 318 P P 15 43 42.4 +5.0
KSH pmax pmax
comp=Z,3.0nm,0.7s
KIV Kislovodsk 69.03 345 *eP* **P 15 43 49.5 -1.0**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 69.23 345 P **P 15 43 52.5 +1.0**
comp=Z,1.4nm,0.8s,baz=18,slow=3.2,SNR=4.9
comp=Z,1.4nm,0.8s
KBZ Khabaz 69.23 345 *i* P **P 15 43 52.7 +1.1**
KBZ pmax pmax
comp=Z,9.0nm,2.9s
PZH PanZhiHua 70.36 291 P **P 15 43 58.0 -1.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,6.2s
ESDC Sonseca Array 72.36 21 P **P 15 44 11.7 +0.9**
comp=Z,3.0nm,0.8s,baz=346,slow=6.0,SNR=12
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 78.72 290 P **P 15 44 47.5 0.0**
comp=Z,1.1nm,0.8s,baz=7.9,slow=7.2,SNR=11
CMAR LR LR 16 22 23.3
comp=Z,65nm,18.1s,baz=35,slow=38
comp=Z,1.1nm,0.8s
CMAR Chiang Mai Arr 78.72 290 *i* P **P 15 44 49.0 +1.5**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
VNDA Vanda 145.72 195 PKPbc **PKPab 15 52 23.9 +1.4**
comp=Z,1.3nm,0.9s,baz=19,slow=2.5,SNR=4.1

IDC 23 15:44:34.6±2.1, 2°.39N×126°.34E, h0km, mb3.2/4, mbtmp3.3/4, Error ellipse: s-maj=133.5km s-min=26.9km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.37**	**182**	P	Pn	15 49 14.4	-0.5
	0.8nm,0.6s,baz=0.0,slow=12,SNR=1.2						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**23.54**	**161**	P	P	15 49 46.1	-0.6
	0.5nm,0.3s,baz=336,slow=10,SNR=21						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**26.92**	**165**	P	P	15 50 17.6	-0.2
	0.4nm,1.0s,baz=350,slow=15,SNR=8.4						
	0.4nm,1.0s						
MKAR	**Makanchi Array**	**58.44**	**326**	P	P	15 54 32.4	+0.1
	0.1nm,0.5s,baz=114,slow=7.0,SNR=1.2						
	0.1nm,0.5s						

---

*NEIC **23** 16:05:21.1±1.0, 56°.5N±0°.1×148°.7W±0°.2, h20km±10km, ML3.5/40, Error ellipse: s-maj=19.9km s-min=10.3km az=149.0*

ISC 23 16:05:19.3±1.9, 56°.5N±0°.1×148°.66W±0°.06, h10km, n40, σ1§27/37, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.48**	**302**		**Pn**	**16 05 59.6**	**-0.1**
KDAK				IAML		16 06 30.4	
	106nm,0.3s						
OHAK	**Old Harbor**	**2.64**	**287**		**Pn**	**16 06 01.3**	**-0.5**
OHAK	**Old Harbor**	**2.64**	**287**	P	**Pn**	**16 06 01.4**	**-0.4**
SII	**Sitkinak Islan**	**3.06**	**273**	P	**Pn**	**16 06 07.8**	**+0.1**
CNPM	**China Poot**	**3.30**	**337**		**Pn**	**16 06 11.2**	**+0.2**
BRLK	**Bradley Lake**	**3.45**	**341**		**Pn**	**16 06 13.1**	**0.0**
BRLK				IAML		16 06 54.1	
	comp=N,72nm,0.2s						
BRLK				IAML		16 06 54.8	
	comp=E,60nm,0.2s						
P23K	**Montague Islan**	**3.54**	**10**		**Pn**	**16 06 14.5**	**+0.2**
P23K				IAML		16 06 54.2	
	comp=N,88nm,0.3s						
P23K				IAML		16 06 54.4	
	comp=E,113nm,0.3s						
Q19K	**Cape Douglas,**	**3.60**	**314**		**Sn**	**16 07 00.5**	**+2.8**
SEW	**Seward**	**3.61**	**354**		**Pn**	**16 06 15.1**	**-0.1**
CHIR	**Chirikof Islan**	**3.96**	**263**	P	**Pn**	**16 06 20.1**	**+0.1**
P19K	**Oil Pt**	**3.96**	**324**	Pn	**Pn**	**16 06 21.1**	**+1.0**
ACHA	**Angle Creek He**	**3.99**	**298**		**Pn**	**16 06 21.9**	**+1.5**
O22K	**Cooper Landing**	**4.00**	**352**		**Pn**	**16 06 21.4**	**+0.8**
SLKM	**Skilak Lake**	**4.08**	**349**		**Sn**	**16 07 06.0**	**-3.3**
KAIM	**Kayak Island**	**4.08**	**32**		**Sn**	**16 07 08.7**	**-0.7**
ILSW	**Iliamna Southw**	**4.20**	**327**		**Sn**	**16 07 11.2**	**-1.3**
EYAK	**Cordova Ski Ar**	**4.31**	**19**		**Pn**	**16 06 25.3**	**+0.5**
EYAK				IAML		16 07 13.6	
	comp=N,69nm,0.7s						
EYAK				IAML		16 07 15.3	
	comp=E,43nm,0.5s						
EYAK	**Cordova Ski Ar**	**4.31**	**19**	P	**Pn**	**16 06 25.8**	**+1.0**
RAGM	**Ragged Mountai**	**4.40**	**27**		**Sn**	**16 07 16.6**	**-0.8**
HMT	**Hamilton**	**4.46**	**29**		**Pn**	**16 06 28.1**	**+1.1**
RC01	**Rabbit Creek A**	**4.61**	**353**		**Pn**	**16 06 29.6**	**+0.6**
RC01				IAML		16 07 21.2	
	comp=N,26nm,0.4s						
RC01				IAML		16 07 22.6	
	comp=E,42nm,0.3s						
BERG	**Berg Lake**	**4.67**	**32**		**Pn**	**16 06 30.6**	**+0.9**
BERG					**Sn**	**16 07 23.1**	**-0.8**
O19K	**Port Alsworth**	**4.73**	**323**		**Sn**	**16 07 23.1**	**-2.4**
DIV	**Divide**	**4.85**	**17**		**Pn**	**16 06 32.9**	**+0.6**
DIV				IAML		16 07 33.5	
	comp=N,16nm,0.6s						
BMRM	**Bremner River**	**4.93**	**24**		**Pn**	**16 06 34.1**	**+0.8**
BMRM				IAML		16 07 29.6	
	comp=N,41nm,0.4s						
BMRM				IAML		16 07 30.2	
	comp=E,42nm,0.6s						
WAX	**Waxell Ridge**	**4.97**	**35**		**Pn**	**16 06 35.0**	**+1.0**
KLU	**Klutina**	**5.17**	**15**	IAML		16 07 35.0	
	comp=N,41nm,0.3s						
KLU				IAML		16 07 37.3	
	comp=E,28nm,0.4s						
STLK	**Strandline Lak**	**5.25**	**343**	IAML		16 07 38.5	
	comp=N,27nm,0.7s						
STLK				IAML		16 07 41.4	
	comp=E,18nm,0.6s						
GHO	**Glory Hole Cre**	**5.26**	**359**	IAML		16 07 38.1	
	comp=E,22nm,0.5s						
GHO				IAML		16 07 46.4	
	comp=N,32nm,0.5s						
SML	**Sawmill**	**5.30**	**2**	IAML		16 07 42.8	
	comp=E,26nm,0.5s						
SML				IAML		16 07 46.4	
	comp=N,20nm,1.2s						
GLB	**Gilahina Butte**	**5.53**	**25**		**Pn**	**16 06 42.5**	**+0.9**
PNL	**Peninsula**	**5.83**	**53**	P	**Pn**	**16 06 47.6**	**+1.9**
CHNA	**Chernabura Isl**	**6.42**	**259**	P	**Pn**	**16 06 54.4**	**+0.7**
O15K	**Ungalikthiuk R**	**6.53**	**299**		**Pn**	**16 06 56.5**	**+1.2**
P29M	**Windy Craggy**	**6.57**	**57**		**Pn**	**16 06 57.4**	**+1.5**
SDPT	**Sand Point**	**6.75**	**265**	P	**Pn**	**16 06 59.5**	**+1.2**
N15K	**Kwethluk River**	**7.04**	**306**		**Pn**	**16 07 03.4**	**+1.2**
SIT	**Sitka**	**7.34**	**80**	P	**Pn**	**16 07 05.8**	**-0.6**
RIDG	**Independent Ri**	**7.48**	**13**		**Pn**	**16 07 09.5**	**+1.2**
M29M	**Somme Creek**	**7.87**	**37**		**Pn**	**16 07 15.6**	**+1.8**

---

*IDC **23** 16:28:05.1±1.0, 3°.04S×118°.43E, h0km, mb3.5/8, mbtmp3.5/9, ML3.3/1, MS3.3/1, Error ellipse: s-maj=70.1km s-min=14.9km az=58.0*

*DJA **23** 16:28:07.3±0.8, 3°.5S±3°.×11°.9E±°, h22km±8km, M4.2/14, mb4.5/3, MLv4.1/14*

ISC 23 16:28:10.0±0.8, 2°.89S±0°.05×118°.65E±0°.08, h35km, n22, σ1§19/22, mb3.6/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPSI	**Sidrap Palu**	**1.54**	**134**	P	**Pn**	**16 28 34.1**	**-0.9**
BNSI	**Bone**	**2.08**	**136**	P	**Pn**	**16 28 41.9**	**-0.6**
PCI	**Palu**	**2.30**	**31**	P	**Pn**	**16 28 44.0**	**-1.5**
KAPI	**Kappang**	**2.38**	**153**	Pn	**Pn**	**16 28 45.7**	**-0.7**
	7.0nm,0.3s,baz=333,slow=11,SNR=6.3						
KAPI				Sn	**Sn**	**16 29 14.2**	**-0.2**
	17nm,0.3s,baz=26,slow=11,SNR=7.1 14nm,0.3s						
BKB	**Balikpapan**	**2.39**	**313**	P	**Pn**	**16 28 45.7**	**-1.0**
BKSI	**Bulukumba**	**2.82**	**149**	P	**Pn**	**16 28 52.5**	**-0.1**
MPSI	**Mapaga**	**3.44**	**21**	P	**Pn**	**16 28 59.5**	**-1.6**
APSI	**Ampana**	**3.58**	**57**	P	**Pn**	**16 29 03.0**	**-0.1**
BSSI	**Bau Bau, Buton**	**3.71**	**151**	P	**Pn**	**16 29 02.2**	**-2.7**
LUWI	**Luwuk**	**4.51**	**66**	P	**Pn**	**16 29 14.3**	**-1.5**
BBSI	**Bau Bau**	**4.68**	**124**	P	**Pn**	**16 29 18.1**	**-0.1**
KMSI	**Cibinong**	**6.34**	**57**	P	**Pn**	**16 29 39.0**	**-2.0**
	62nm,0.5s						
WBSI	**Waikabubak, Su**	**6.74**	**174**	P	**Pn**	**16 29 45.7**	**-0.9**
	0.2nm39nm,0.9s						
WRA	**Warramunga Arr**	**22.84**	**139**	P	**P**	**16 33 10.2**	**-0.1**
	1.1nm,0.5s,baz=318,slow=11,SNR=9.3 1.1nm,0.5s						
ASAR	**Alice Springs**	**25.38**	**146**	P	**P**	**16 33 34.5**	**+0.3**
	0.2nm,0.9s,baz=341,slow=16,SNR=9.1 0.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**28.76**	**318**	P	**P**	**16 34 03.9**	**-0.7**
	0.2nm,0.5s,baz=132,slow=7.9,SNR=2.5 0.2nm,0.5s						
JHJ	**Hachijo jima 2**	**41.02**	**27**	LR	LR	16 52 02.9	
	comp=Z,42nm,20.4s,baz=302,slow=35						
KSRS	**Korea Array**	**41.06**	**11**	P	**P**	**16 35 51.7**	**+1.6**
	0.8nm,0.8s,baz=187,slow=8.8,SNR=4.3 0.8nm,0.8s						
MKAR	**Makanchi Array**	**58.92**	**332**	P	**P**	**16 38 06.5**	**+0.8**
	0.3nm,0.5s,baz=143,slow=7.0,SNR=5.8 0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**63.26**	**338**	P	**P**	**16 38 34.9**	**0.0**
	0.3nm,0.3s,baz=143,slow=3.7,SNR=3.7 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**63.40**	**333**	P	**P**	**16 38 36.8**	**+0.9**
	0.4nm,0.6s,baz=138,slow=6.3,SNR=6.8 0.4nm,0.6s						
BVAR	**Borovoye Array**	**68.80**	**331**	P	**P**	**16 39 11.5**	**+0.9**
	0.7nm,0.8s,baz=127,slow=6.2,SNR=4.3 0.7nm,0.8s						

*NEIC **23** 16:37:09.9±0.5, 40.°30S±0.°04×176.°01E±0.°07, h35km±2km, mb4.4/6, Error ellipse: s-maj=9.2km s-min=5.7km az=109.0*
*IDC **23** 16:37:09.4±2.9, 40.°16S×176.°03E, h38km±23km, mb4.1/8, mbtmp4.3/11, ML4.0/3, MS3.7/15, Error ellipse: s-maj=22.3km s-min=16.4km az=94.0*
*NOU **23** 16:37:09.3, 40.°41S×176.°03E, h39km, MLv4.7/32, North Island, New Zealand*
*WEL **23** 16:37:10.3, 40.°26S×175.°97E, h30km, ML4.8, Mw4.4, Moment Tensor Solution. s6 Moment tensor: Scale 10^{15} Nm; M_{rr}=4.65; $M_{\theta\theta}$3.97; $M_{\phi\phi}$0.68; $M_{r\theta}$0.26; $M_{\theta\phi}$ 1.26; $M_{\phi r}$2.02; Fault plane solution: M_0=4.91000×10^{15} NP1: ϕ_s=233.00000°, δ54.00000°, λ-112.00000°. NP2: ϕ_s=88.00000°, δ42.00000°, λ-63.00000°. Principal axes: T 4.4906, Plg6.0000°, Azm339.0000°; N 0.8383, Plg18.0000°, Azm246.0000°; P -5.3289, Plg71.0000°, Azm87.0000°; Stations used: BFZ MRZ PXZ WHVZ BKZ VRZ NORMAL FAULTING*
*WEL **23** 16:37:10.0±0.3, 40.°3S±2.°×17.°6E±.°, h25km±3km, M4.8/98, ML5.3/19, MLv4.8/98 Error ellipse: s-maj=3.3km s-min=2.3km az=127.4, confirmed*

ISC 23 16:37:09.3±0.4, 40.°27S±0.°02×175.°97E±0.°02, h33km, n245, $_{\sigma}$1°25/251, mb4.3/13, MS3.7/13, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDPS	**Woodville Poli**	**0.10**	**228**	P	**Pb**	**16 37 16.2**	**+1.2**
WDPS				S	**Sb**	**16 37 20.9**	**+1.9**
DVHZ	**Dannevirke**	**0.15**	**100**	P	**Pb**	**16 37 16.3**	**+0.9**
DVHZ				S	**Sb**	**16 37 20.9**	**+1.2**
POWZ	**Post Office Ro**	**0.19**	**232**	P	**Pb**	**16 37 16.9**	**+1.1**
POWZ				S	**Sb**	**16 37 22.0**	**+1.7**
TSZ	**Takapari Road**	**0.21**	**359**	P	**Pb**	**16 37 16.8**	**+0.7**
TSZ				S	**Sb**	**16 37 21.5**	**+0.9**
PRWZ	**Pori Road**	**0.28**	**179**	P	**Pn**	**16 37 18.3**	**+1.3**
PRWZ				S	**Sb**	**16 37 24.4**	**+2.5**
PNHZ	**Pukenui**	**0.40**	**27**	P	**Pn**	**16 37 19.3**	**+0.5**
PNHZ				S	**Sn**	**16 37 25.9**	**+0.7**
WPHZ	**Waipukurau**	**0.42**	**60**	P	**Pn**	**16 37 19.9**	**+0.9**
WPHZ				S	**Sn**	**16 37 27.2**	**+1.7**
ANWZ	**Angora Road**	**0.43**	**116**	P	**Pn**	**16 37 20.4**	**+1.2**
ANWZ				S	**Sn**	**16 37 28.8**	**+2.9**
BFZ	**Birch Farm**	**0.46**	**153**	P	**Pn**	**16 37 20.4**	**+0.7**
BFZ	**Birch Farm**	**0.46**	**153**	P	**Pn**	**16 37 20.3**	**+0.7**
BFZ	**Birch Farm**	**0.46**	**153**	P	**Pn**	**16 37 20.5**	**+0.9**
BFZ				S	**Sn**	**16 37 29.3**	**+2.7**
MNGS	**Mangaweka Scho**	**0.48**	**344**	P	**Pn**	**16 37 20.8**	**+0.9**
MNGS				S	**Sn**	**16 37 28.2**	**+1.0**
MRZ	**Mangatainoka R**	**0.49**	**217**		**Pn**	**16 37 20.9**	**+1.0**
MRZ				Sn	**Sn**	**16 37 28.5**	**+1.2**
MRZ	**Mangatainoka R**	**0.49**	**217**	P	**Pn**	**16 37 21.0**	**+1.0**
MRZ				S	**Sn**	**16 37 28.9**	**+1.6**
OHWZ	**Ohakea**	**0.50**	**277**	P	**Pn**	**16 37 22.0**	**+1.8**
OHWZ				S	**Sn**	**16 37 31.0**	**+3.3**
TIWZ	**Tintock**	**0.51**	**187**	P	**Pn**	**16 37 21.5**	**+1.2**
TIWZ				S	**Sn**	**16 37 30.0**	**+2.1**
PRHZ	**Porangahau**	**0.51**	**90**	P	**Pn**	**16 37 21.5**	**+1.3**
PRHZ				S	**Sn**	**16 37 30.6**	**+2.7**
WPWS	**Waipawa Distri**	**0.58**	**55**	P	**Pn**	**16 37 22.3**	**+1.2**
WPWS				S	**Sn**	**16 37 31.6**	**+2.2**
CPWZ	**Castlepoint**	**0.66**	**164**	P	**Pb**	**16 37 23.8**	**+1.4**
KRHZ	**Kereru**	**0.70**	**26**	P	**Pb**	**16 37 23.9**	**+0.8**
KRHZ				S	**Sn**	**16 37 34.6**	**+2.1**
HOWZ	**Holdsworth Sta**	**0.71**	**209**	P	**Pb**	**16 37 24.1**	**+0.8**
HOWZ				S	**Sb**	**16 37 34.8**	**+1.9**
PXZ	**Pawanui**	**0.73**	**71**	P	**Pb**	**16 37 24.2**	**+0.7**
PXZ				S	**Sn**	**16 37 36.0**	**+2.8**
OGWZ	**Otaki Gorge**	**0.81**	**228**	P	**Pb**	**16 37 25.7**	**+0.7**
TMWZ	**Te Maipa**	**0.84**	**184**	P	**Pb**	**16 37 25.5**	**+0.1**
KAHZ	**Kahuranaki**	**0.85**	**56**	P	**Pb**	**16 37 26.1**	**+0.6**
WAZ	**Wanganui**	**0.91**	**304**	P	**Pb**	**16 37 28.4**	**+1.7**
KWHZ	**Kaweka Forest**	**0.92**	**23**	P	**Pb**	**16 37 27.3**	**+0.6**
MTW	**Mount Morrison**	**0.95**	**202**	P	**Pn**	**16 37 27.0**	**+0.6**
MTVZ	**Mangateitei**	**0.96**	**336**	P	**Pb**	**16 37 28.5**	**+1.0**
WNVZ	**Wahianoa**	**0.99**	**343**	P	**Pb**	**16 37 28.8**	**+0.8**
KIW	**Kapiti Island**	**1.00**	**234**	P	**Pb**	**16 37 28.4**	**+0.4**
MCHZ	**McNeill Hill**	**1.00**	**34**	P	**Pb**	**16 37 28.5**	**+0.4**
TRVZ	**Turoa**	**1.02**	**341**	P	**Pb**	**16 37 29.5**	**+0.8**
MAVZ	**Matarangi**	**1.05**	**343**	P	**Pb**	**16 37 29.8**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.05**	**55**	P	**Pb**	**16 37 28.4**	**-0.5**
FWVZ	**Far West T-bar**	**1.06**	**342**	P	**Pb**	**16 37 30.0**	**+0.7**
CAW	**Cannon Point**	**1.08**	**219**	P	**Pn**	**16 37 29.1**	**+1.0**
PKVZ	**Pokaka**	**1.09**	**334**	P	**Pb**	**16 37 30.4**	**+0.7**
SNVZ	**South Ngauruho**	**1.11**	**347**	P	**Pb**	**16 37 30.8**	**+0.7**
COVZ	**Chateau Observ**	**1.12**	**343**	P	**Pb**	**16 37 30.8**	**+0.7**
NGZ	**Ngauruhoe**	**1.13**	**345**	P	**Pb**	**16 37 31.1**	**+0.7**
TRWZ	**Traveller**	**1.15**	**191**	P	**Pn**	**16 37 29.4**	**+0.4**
ETVZ	**East Tongariro**	**1.15**	**350**	P	**Pb**	**16 37 31.3**	**+0.5**
NNVZ	**North Ngauruho**	**1.17**	**346**	P	**Pb**	**16 37 31.8**	**+0.7**
TMVZ	**Te Maari**	**1.17**	**350**	P	**Pb**	**16 37 31.5**	**+0.5**
BKZ	**Black Stump Fm**	**1.18**	**20**		**Pb**	**16 37 30.7**	**-0.4**
BKZ	**Black Stump Fm**	**1.18**	**20**	P	**Pb**	**16 37 30.5**	**-0.6**
BKZ	**Black Stump Fm**	**1.18**	**20**	P	**Pb**	**16 37 30.7**	**-0.4**
PAWZ	**Paruwai Farm**	**1.18**	**200**	P	**Pn**	**16 37 29.9**	**+0.4**
WTVZ	**West Tongariro**	**1.19**	**346**	P	**Pb**	**16 37 31.9**	**+0.6**
NTVZ	**North Tongarir**	**1.19**	**349**	P	**Pb**	**16 37 31.8**	**+0.4**
KRVZ	**Karewarewa**	**1.20**	**348**	P	**Pb**	**16 37 32.1**	**+0.5**
MSWZ	**Moikau Station**	**1.27**	**205**		**Pn**	**16 37 30.7**	**+0.1**
MSWZ	**Moikau Station**	**1.27**	**205**	P	**Pn**	**16 37 30.8**	**+0.1**
TWVZ	**Taurewa**	**1.27**	**341**	P	**Pb**	**16 37 32.7**	**+0.1**
ARHZ	**Aropaoanui**	**1.28**	**39**	P	**Pb**	**16 37 31.8**	**-1.0**
RITZ	**Rihia Road**	**1.30**	**356**	P	**Pb**	**16 37 33.3**	**+0.2**
KATZ	**Kakaramea**	**1.31**	**351**	P	**Pb**	**16 37 33.5**	**0.0**
NMHZ	**Naumai**	**1.34**	**29**	P	**Pb**	**16 37 33.0**	**-0.9**
WEL	**Wellington**	**1.36**	**222**	P	**Pn**	**16 37 32.6**	**+0.7**
HATZ	**Hinemaiaia**	**1.38**	**4**	P	**Pb**	**16 37 33.9**	**-0.7**
PLWZ	**Palliser**	**1.40**	**202**		**Pn**	**16 37 32.5**	**-0.1**
PLWZ	**Palliser**	**1.40**	**202**	P	**Pn**	**16 37 32.6**	**-0.1**
BHW	**Baring Head**	**1.41**	**216**		**Pn**	**16 37 32.8**	**+0.3**
BHW	**Baring Head**	**1.41**	**216**	P	**Pn**	**16 37 32.9**	**+0.3**
RATZ	**Rangitukua**	**1.41**	**354**	P	**Pb**	**16 37 34.5**	**-0.5**
SNZO	**South Karori**	**1.41**	**222**		**Pn**	**16 37 33.0**	**+0.4**
SNZO	**South Karori**	**1.41**	**222**	P	**Pn**	**16 37 32.9**	**+0.3**
LREZ	**Lake Rotokare**	**1.45**	**303**	P	**Pb**	**16 37 36.0**	**+0.3**
MRHZ	**Matea Rd**	**1.48**	**14**	P	**Pb**	**16 37 34.8**	**-1.4**
VRZ	**Vera Road**	**1.48**	**320**	P	**Pb**	**16 37 35.7**	**-0.4**
WHHZ	**Waihua**	**1.54**	**40**	P	**Pn**	**16 37 35.1**	**+0.6**
MTHZ	**Maungataniwha**	**1.57**	**26**	P	**Pn**	**16 37 35.6**	**+0.7**
WATZ	**Wairara**	**1.57**	**353**	P	**Pb**	**16 37 36.4**	**-1.3**
TCW	**Tory Channel**	**1.59**	**233**		**Pn**	**16 37 35.6**	**+0.5**
TCW	**Tory Channel**	**1.59**	**233**	P	**Pn**	**16 37 35.6**	**+0.5**
WHTZ	**Whakaora**	**1.60**	**360**	P	**Pb**	**16 37 37.2**	**-1.1**
RAHZ	**Arahi**	**1.61**	**33**	P	**Pn**	**16 37 35.9**	**+0.5**
DUWZ	**D'Urville Isla**	**1.65**	**251**	P	**Pn**	**16 37 36.8**	**+0.9**
PREZ	**Palmer Road**	**1.67**	**303**	P	**Pb**	**16 37 39.6**	**+0.1**
ALRZ	**Allen Road**	**1.73**	**10**	P	**Pb**	**16 37 37.9**	**+0.8**
DREZ	**Durham Road**	**1.74**	**308**	P	**Pb**	**16 37 40.1**	**-0.5**
MHEZ	**Mangahewa**	**1.74**	**313**	P	**Pb**	**16 37 40.8**	**+0.2**
NEZ	**North Egmont**	**1.76**	**304**	P	**Pb**	**16 37 40.5**	**-0.4**
WPRZ	**Whakapapatarin**	**1.76**	**5**	P	**Pn**	**16 37 38.5**	**+1.1**
KUTZ	**Kaahu Road**	**1.78**	**356**	P	**Pn**	**16 37 39.2**	**+1.4**
KHEZ	**Kahui Hut**	**1.79**	**302**	P	**Pb**	**16 37 40.7**	**-0.8**
KHEZ	**Kahui Hut**	**1.79**	**302**	P	**Pb**	**16 37 40.9**	**-0.6**
PRRZ	**Plateau Road**	**1.80**	**11**	P	**Pn**	**16 37 38.9**	**+0.9**
KNZ	**Kokohu**	**1.81**	**47**	P	**Pn**	**16 37 37.9**	**-0.3**
NMEZ	**Namu Road**	**1.82**	**297**	P	**Pb**	**16 37 41.5**	**-0.5**
SNGZ	**Shannon Statio**	**1.83**	**36**	P	**Pn**	**16 37 38.6**	**+0.2**
RTZ	**Ruatahuna**	**1.83**	**26**		**Pn**	**16 37 38.8**	**+0.4**
RTZ	**Ruatahuna**	**1.83**	**26**	P	**Pn**	**16 37 38.9**	**+0.4**
MHGZ	**Mahia Peninsul**	**1.87**	**54**	P	**Pn**	**16 37 38.8**	**-0.1**
HRRZ	**Handcock Road**	**1.90**	**8**	P	**Pn**	**16 37 40.5**	**+1.2**
MUGZ	**Murupara**	**1.90**	**19**	P	**Pn**	**16 37 39.6**	**+0.3**
NBEZ	**Newall Road No**	**1.90**	**301**	P	**Pb**	**16 37 42.6**	**-0.7**
TUWZ	**Tuamarina**	**1.92**	**232**		**Pn**	**16 37 39.7**	**+0.1**
TUWZ	**Tuamarina**	**1.92**	**232**	P	**Pn**	**16 37 39.9**	**+0.3**
GRRZ	**Galatos Road**	**1.92**	**3**	P	**Pn**	**16 37 41.2**	**+1.5**
HIZ	**Hauiti**	**1.96**	**334**		**Pn**	**16 37 42.0**	**+1.8**
HIZ	**Hauiti**	**1.96**	**334**	P	**Pn**	**16 37 41.9**	**+1.8**
HIZ	**Hauiti**	**1.96**	**334**	P	**Pn**	**16 37 41.9**	**+1.8**
TLZ	**Tolley Road**	**1.97**	**350**	P	**Pn**	**16 37 41.4**	**+1.1**
HSRZ	**Hossack Road**	**1.97**	**6**	P	**Pn**	**16 37 41.4**	**+1.0**
RRRZ	**Republican Roa**	**1.98**	**13**	P	**Pn**	**16 37 41.0**	**+0.6**
CMWZ	**Cape Campbell**	**1.98**	**221**		**Pn**	**16 37 40.8**	**+0.3**
CMWZ	**Cape Campbell**	**1.98**	**221**	P	**Pn**	**16 37 40.9**	**+0.4**
PRGZ	**Paritu Road**	**2.00**	**48**	P	**Pn**	**16 37 40.5**	**-0.2**
HLRZ	**Highlands Stat**	**2.04**	**9**	P	**Pn**	**16 37 43.2**	**+1.9**
TARZ	**Mount Tarawera**	**2.08**	**12**	P	**Pn**	**16 37 42.7**	**+0.9**
RIGZ	**Rimuhau**	**2.09**	**42**	P	**Pn**	**16 37 41.7**	**-0.3**
RAGZ	**Rawiri**	**2.10**	**33**	P	**Pn**	**16 37 42.1**	**-0.1**
UTU	**Utuhina**	**2.10**	**5**	P	**Pn**	**16 37 43.6**	**+1.5**
BSWZ	**Blackbirch Sta**	**2.14**	**227**		**Pn**	**16 37 42.4**	**-0.3**
BSWZ	**Blackbirch Sta**	**2.14**	**227**	P	**Pn**	**16 37 42.7**	**+0.1**
NGRZ	**Ngongotaha**	**2.17**	**5**	P	**Pn**	**16 37 44.5**	**+1.3**
NNZ	**Nelson**	**2.18**	**244**		**Pn**	**16 37 43.6**	**+0.4**
NNZ	**Nelson**	**2.18**	**244**	P	**Pn**	**16 37 43.9**	**+0.7**
OMRZ	**Omania**	**2.19**	**8**	P	**Pn**	**16 37 44.1**	**+0.8**
URZ	**Urewera**	**2.20**	**24**	Pn	**Pn**	**16 37 42.3**	**-1.1**
	62nm,0.3s,baz=320,slow=4.1,SNR=350						
URZ				Sn	**Sn**	**16 38 05.4**	**-4.1**
	141nm,0.3s,baz=236,slow=19,SNR=4.5 114nm,0.3s						
URZ	**Urewera**	**2.20**	**24**	P	**Pn**	**16 37 42.9**	**-0.5**
URZ	**Urewera**	**2.20**	**24**	P	**Pn**	**16 37 43.1**	**-0.3**
KARZ	**Kaharoa**	**2.26**	**6**	P	**Pn**	**16 37 45.3**	**+1.0**
MWZ	**Matawai**	**2.28**	**33**	P	**Pn**	**16 37 44.3**	**-0.4**
TKGZ	**Te Karaka**	**2.34**	**39**	P	**Pn**	**16 37 44.8**	**-0.6**
TKNZ	**Takaka Hill**	**2.41**	**251**		**Pn**	**16 37 47.3**	**+0.9**
TKNZ	**Takaka Hill**	**2.41**	**251**	P	**Pn**	**16 37 47.3**	**+0.9**
CNGZ	**Carnagh Statio**	**2.49**	**45**	P	**Pn**	**16 37 46.8**	**-0.6**
WHRZ	**Whale Island**	**2.54**	**18**	P	**Pn**	**16 37 48.7**	**+0.6**
TOZ	**Tahuroa Road**	**2.56**	**352**		**Pn**	**16 37 49.4**	**+1.0**
TOZ	**Tahuroa Road**	**2.56**	**352**	P	**Pn**	**16 37 49.9**	**+1.5**
TWGZ	**Tauwhareparae**	**2.61**	**37**	P	**Pn**	**16 37 48.6**	**-0.6**
RUGZ	**Raukumara Rang**	**2.66**	**31**	P	**Pn**	**16 37 49.4**	**-0.5**
QRZ	**Quartz Range**	**2.68**	**257**		**Pn**	**16 37 50.5**	**+0.5**
QRZ	**Quartz Range**	**2.68**	**257**	P	**Pn**	**16 37 50.3**	**+0.3**
QRZ	**Quartz Range**	**2.68**	**257**	P	**Pn**	**16 37 50.5**	**+0.5**
MRNZ	**Matariki Terra**	**2.68**	**244**		**Pn**	**16 37 50.6**	**+0.5**
MRNZ	**Matariki Terra**	**2.68**	**244**	P	**Pn**	**16 37 50.9**	**+0.8**
THZ	**Tophouse**	**2.75**	**236**		**Pn**	**16 37 51.0**	**-0.2**
THZ	**Tophouse**	**2.75**	**236**	P	**Pn**	**16 37 50.8**	**-0.4**
KHZ	**Kahutara**	**2.82**	**220**		**Pn**	**16 37 50.8**	**-1.2**
KHZ	**Kahutara**	**2.82**	**220**	P	**Pn**	**16 37 50.7**	**-1.2**
KHZ	**Kahutara**	**2.82**	**220**	P	**Pn**	**16 37 50.9**	**-1.0**
PUZ	**Puketiti**	**2.83**	**40**	P	**Pn**	**16 37 50.9**	**-1.2**
HAZ	**Te Kaha**	**2.88**	**30**	P	**Pn**	**16 37 51.5**	**-1.4**
WIZ	**White Island**	**2.90**	**20**	P	**Pn**	**16 37 52.9**	**-0.2**
PKGZ	**Pakihiroa**	**2.91**	**35**	P	**Pn**	**16 37 52.3**	**-0.9**
WMGZ	**Waiomatatini S**	**3.10**	**39**	P	**Pn**	**16 37 54.7**	**-1.2**
MKAZ	**Moumakai**	**3.23**	**348**	P	**Pn**	**16 37 59.1**	**+1.6**
MXZ	**Matakaoa Point**	**3.26**	**35**		**Pn**	**16 37 57.5**	**-0.6**
MXZ	**Matakaoa Point**	**3.26**	**35**	P	**Pn**	**16 37 57.2**	**-0.9**
MXZ	**Matakaoa Point**	**3.26**	**35**	P	**Pn**	**16 37 57.5**	**-0.6**
GVZ	**Greta Valley S**	**3.48**	**218**		**Pn**	**16 37 59.8**	**-1.2**
GVZ	**Greta Valley S**	**3.48**	**218**	P	**Pn**	**16 37 59.5**	**-1.5**
DSZ	**Denniston Nort**	**3.48**	**244**	P	**Pn**	**16 38 00.8**	**-0.2**
KUZ	**Kuaotunu**	**3.53**	**357**	P	**Pn**	**16 38 02.9**	**+1.2**
KUZ	**Kuaotunu**	**3.53**	**357**	P	**Pn**	**16 38 03.0**	**+1.2**
WIAZ	**Waiheke Island**	**3.54**	**349**	P	**Pn**	**16 38 03.3**	**+1.5**
HBAZ	**Herne Bay Bore**	**3.55**	**344**	P	**Pn**	**16 38 05.1**	**+3.1**
MBAZ	**Motutapu North**	**3.60**	**346**	P	**Pn**	**16 38 04.3**	**+1.6**
RVAZ	**Riverhead Bore**	**3.66**	**342**	P	**Pn**	**16 38 06.0**	**+2.4**
LTZ	**Lake Taylor**	**3.74**	**227**		**Pn**	**16 38 03.5**	**-1.2**
ABAZ	**Army Bay**	**3.77**	**346**	P	**Pn**	**16 38 07.3**	**+2.2**
AMCZ	**Amberley**	**3.82**	**219**		**Pn**	**16 38 08.7**	**+3.0**
AMCZ	**Amberley**	**3.82**	**219**	P	**Pn**	**16 38 03.8**	**-1.9**
OKCZ	**Okains Bay**	**4.07**	**211**	P	**Pn**	**16 38 07.1**	**-2.1**
INZ	**Inchbonnie**	**4.19**	**233**		**Pn**	**16 38 12.7**	**+1.9**
MQZ	**McQueen's Vall**	**4.23**	**215**		**Pn**	**16 38 09.1**	**-2.2**
OXZ	**Oxford**	**4.24**	**223**		**Pn**	**16 38 09.9**	**-1.5**
RPZ	**Rata Peaks**	**5.02**	**225**		**Pn**	**16 38 25.7**	**+3.4**
RPZ	**Rata Peaks**	**5.02**	**225**	Pn	**Pn**	**16 38 21.8**	**-0.5**
	1.7nm,0.3s,baz=221,slow=1.3,SNR=13						
RPZ				Sn	**Sn**	**16 39 14.9**	**-4.3**
	24nm,0.3s,baz=341,slow=22,SNR=15						
RPZ				LR	LR	16 40 45.3	
	comp=Z,873nm,21.2s,baz=110,slow=42 12nm,0.5s						
RPZ	**Rata Peaks**	**5.02**	**225**	P	**Pn**	**16 38 21.3**	**-1.0**
OUZ	**Omahuta**	**5.38**	**339**	P	**Pn**	**16 38 29.5**	**+2.3**
LBZ	**Lake Benmore**	**5.94**	**224**		**Pn**	**16 38 38.1**	**+3.3**
ODZ	**Otahua Downs**	**6.17**	**218**		**Pn**	**16 38 38.2**	**+0.1**
ODZ	**Otahua Downs**	**6.17**	**218**	P	**Pn**	**16 38 36.0**	**-2.1**
ODZ	**Otahua Downs**	**6.17**	**218**	S	**Sn**	**16 39 44.2**	**-3.3**
CTZ	**Chatham Island**	**6.52**	**124**		**Pn**	**16 38 42.2**	**-0.6**
CTZ	**Chatham Island**	**6.52**	**124**	P	**Pn**	**16 38 42.5**	**-0.3**
JCZ	**Jackson Bay**	**6.55**	**232**	P	**Pn**	**16 38 42.2**	**-1.1**
SYZ	**Scrubby Hill**	**7.99**	**216**	P	**Pn**	**16 39 01.7**	**-1.3**
SYZ	**Scrubby Hill**	**7.99**	**216**	S	**Sn**	**16 40 29.3**	**-2.9**
DZM	**Mont Dzumac**	**19.87**	**333**	*e*LR	LR	16 46 22.7	
	384nm,24.6s						
DZM	**Mont Dzumac**	**19.87**	**333**	P	**P**	**16 41 36.7**	**-1.0**
	1.0nm,0.3s,baz=180,slow=12,SNR=8.4						
DZM				LR	LR	16 48 33.5	
	comp=Z,204nm,19.8s,baz=209,slow=35 7.6nm,0.9s						
DZM	**Mont Dzumac**	**19.87**	**333**	P	**Pn**	**16 41 39.2**	**-0.3**
INH	**Isangel**	**21.44**	**342**	P	**P**	**16 41 55.8**	**+1.2**
STKA	**Stephens Creek**	**28.88**	**276**	P	**P**	**16 43 05.4**	**+0.6**
	1.4nm,0.6s,baz=90,slow=15,SNR=3.9						
STKA				LR	LR	16 53 58.4	
	comp=Z,98nm,19.1s,baz=61,slow=35 1.4nm,0.6s						
LCRK	**Leigh Creek**	**32.10**	**276**	P	**P**	**16 43 34.7**	**+1.3**
BBOO	**Buckleboo**	**32.70**	**270**	P	**P**	**16 43 39.0**	**+0.4**
TBI	**Tubuai**	**33.62**	**70**	*e*LR	LR	16 52 38.2	
	837nm,28.2s						
HNR	**Honiara**	**33.86**	**331**	LR	LR	16 57 52.9	
	comp=Z,76nm,18.3s,baz=224,slow=37						
TATA	**Tatamba Isabel**	**34.87**	**331**	P	**P**	**16 43 56.7**	**-0.8**
OOD	**Oodnadatta**	**35.34**	**278**	P	**P**	**16 44 02.3**	**+0.8**
QIS	**Mount Isa**	**36.66**	**291**	P	**P**	**16 44 13.2**	**+0.2**
PPT2	**Papeete2**	**37.33**	**63**	*e*LR	LR	16 54 23.5	
	92nm,23.8s						
PPT	**Papeete**	**37.34**	**63**	LR	LR	16 56 14.7	
	comp=Z,95nm,19.0s,baz=236,slow=31						
AS01	**Alice Springs**	**38.90**	**282**	P	**P**	**16 44 31.7**	**-0.2**
AS31	**Alice Springs**	**38.94**	**282**		**P**	**16 44 32.0**	**-0.2**
ASAR	**Alice Springs**	**38.94**	**282**		**P**	**16 44 31.7**	**-0.4**
ASAR	**Alice Springs**	**38.94**	**282**	P	**P**	**16 44 31.9**	**-0.3**
	4.8nm,0.7s,baz=128,slow=7.6,SNR=150						
ASAR				PcP	**PcP**	**16 46 41.0**	**-1.4**
	1.4nm,0.8s,baz=134,slow=3.8,SNR=4.6						
ASAR				LR	LR	17 01 45.3	
	comp=Z,120nm,18.0s,baz=103,slow=38 4.8nm,0.7s						
FORT	**Forrest**	**39.71**	**268**	P	**P**	**16 44 38.4**	**-0.1**
PMG	**Port Moresby**	**40.00**	**312**	LR	LR	17 00 33.8	
	comp=Z,109nm,19.4s,baz=124,slow=35						
WR8	**Warramunga Arr**	**40.73**	**287**		**P**	**16 44 46.9**	**-0.1**
WR8				IAmb	IAmb	16 44 47.7	
	comp=Z,5.3nm,0.9s						
WRAB	**Tennant Creek**	**40.85**	**287**	P	**P**	**16 44 48.0**	**0.0**
WRAB				IAmb	IAmb	16 44 49.6	
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**40.86**	**287**	P	**P**	**16 44 47.8**	**-0.3**
	comp=Z,6.5nm,0.4s,baz=125,slow=8.3,SNR=82						
WRA				LR	LR	17 01 14.2	
	comp=Z,91nm,20.3s,baz=346,slow=35 comp=Z,6.5nm,0.4s						
WB0	**Warramunga Arr**	**40.93**	**287**	IAmb	IAmb	16 44 50.3	
	comp=Z,12nm,0.9s						
WRKA	**Warakurna**	**42.41**	**276**	P	**P**	**16 45 00.0**	**-0.8**
RKT	**Rikitea**	**44.52**	**83**	*e*LR	LR	16 57 42.9	
	comp=Z,402nm,27.8s						
NWAO	**Narrogin (SRO)**	**46.98**	**260**	LR	LR	17 03 33.6	
	comp=Z,81nm,19.0s,baz=100,slow=34						
KDU	**Kakadu**	**46.99**	**293**	P	**P**	**16 45 36.9**	**-0.4**
KLBR	**Kellerberrin**	**47.19**	**261**	P	**P**	**16 45 39.0**	**+0.2**
MTN	**Manton Dam**	**47.83**	**292**	P	**P**	**16 45 43.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**48.44**

SFJD	Kangerlussuaq	53.40	358	LR	LR	17 09 29.5
	comp=Z,47nm,19.4s,baz=132,slow=32					
ULM	Lac du Bonnet	54.65	323	P	P	16 50 59.6 +0.8
ULM				IAmb	IAmb	16 51 02.5
	comp=Z,6.7nm,1.2s					
ULM	Lac du Bonnet	54.65	323	LR	LR	17 10 47.6
	comp=Z,34nm,21.6s,baz=90,slow=32					
GERES	GERESS Array B	59.73	41	P	P	16 51 34.2 -0.7
PV02	Paradox Valley	60.63	306	P	P	16 51 41.0 -0.5
PV02				IAmb	IAmb	16 51 43.3
	comp=Z,7.6nm,1.1s					
PDAR	Pinedale Array	61.78	311	P	P	16 51 48.9 -0.3
	comp=Z,0.3nm,0.7s,baz=59,slow=7.0,SNR=4.0					
PDAR				LR	LR	17 15 51.8
	comp=Z,14nm,21.4s,baz=118,slow=34					
	comp=Z,0.3nm,0.7s					
HWUT	Hardware Ranch	63.13	310	P	P	16 51 58.5 +0.3
HWUT				IAmb	IAmb	16 52 06.2
	comp=Z,2.8nm,0.8s					
YHB	Horse Butte	63.21	313	P	P	16 51 59.8 +1.1
YHB				IAmb	IAmb	16 52 08.7
	comp=Z,4.3nm,0.8s					
YHL	Hebgen Lake	63.22	313	P	P	16 51 59.1 +0.3
YHL				IAmb	IAmb	16 52 00.9
	comp=Z,3.0nm,1.2s					
U15A	North Rim	63.33	304	P	P	16 52 00.1 +0.4
PKCU	Pink Cliffs	63.40	305	P	P	16 52 00.9 +0.7
PKCU				IAmb	IAmb	16 52 34.5
	comp=Z,16nm,1.5s					
BGU	Big Grassy Mou	64.17	309	P	P	16 52 04.9 -0.1
BGU				IAmb	IAmb	16 52 08.3
	comp=Z,4.4nm,1.1s					
ELK	Elko	65.83	309	P	P	16 52 16.6 +0.6
ELK				IAmb	IAmb	16 52 17.5
	comp=Z,2.3nm,1.1s					
NEW	Newport	67.65	317	LR	LR	17 21 35.5
	comp=Z,25nm,18.4s,baz=109,slow=36					
YKA	Yellowknife Ar	68.32	332	P	P	16 52 29.8 -1.2
	comp=Z,0.7nm,1.0s,baz=104,slow=7.1,SNR=6.8					
	comp=Z,0.7nm,1.0s					
FINES	FINESS Array B	69.35	29	P	P	16 52 38.0 +0.5
SPB2	Spitsbergen Ar	71.11	11	P	P	16 52 48.4 +0.4
I02E	Swisshome, OR	72.23	312	P	P	16 52 54.0 -1.2
BRTR	Keskin Array B	73.18	52	P	P	16 53 01.1 -0.1
BRTR	Keskin Array B	73.18	52	P	P	16 53 01.6 +0.4
	comp=Z,1.1nm,0.9s,baz=268,slow=6.1,SNR=5.8					
	comp=Z,1.1nm,0.9s					
KBZ	Khabaz	79.62	47	LR	LR	17 29 06.3
	comp=Z,8.6nm,19.2s,baz=185,slow=36					
BCAR	Beaver Creek A	80.73	333	P	P	16 53 43.2 0.0
F25K	Christian Rive	81.28	338	P	P	16 53 46.6 +0.6
ILAR	Eielson Array	82.51	335	P	P	16 53 52.7 +0.2
	comp=Z,1.1nm,0.9s,baz=64,slow=6.1,SNR=6.0					
	comp=Z,1.1nm,0.9s					
KDAK	Kodiak Island	87.37	329	LR	LR	17 33 46.4
	comp=Z,28nm,18.3s,baz=4.4,slow=36					
L18K	Granite Mounta	87.52	334	P	P	16 54 16.8 -0.9
L18K				IAmb	IAmb	16 54 23.1
	comp=Z,6.1nm,1.4s					

*SKO **23** 16:46:37.6, 41°.34N×19°.36E, h0km, ML3.0*
*TIR **23** 16:46:37.9, 41°.50N×19°.62E, h25km, Md3.0/12, Ml3.3/5*
*PDG **23** 16:46:38.7±0.1, 41°.51N×19°.63E, h12km, MD3.3/3, ML3.2/13, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
*IDC **23** 16:46:38.1±6.7, 41°.73N×19°.75E, h0km, mb3.6/5, mbtmp3.6/7, ML2.0/2, MS3.1/3, Error ellipse: s-maj=129.1km s-min=24.5km az=32.0*
*RHSSO **23** 16:46:39.7±0.6, 41°.46N×19°.37E, h8km±2km, ML3.3/13*
*BEO **23** 16:46:40.1±0.2, 41°.63N×19°.83E, h3km±2km, ML2.8/15*
*THE **23** 16:46:40.1, 41°.41N×19°.51E, h1km±4km, ML3.0/3, Error ellipse: s-maj=7.4km s-min=2.2km az=346.0*
*ATH **23** 16:46:41.0, 41°.50N×19°.42E, h39km±12km, Manual Solution by A.Andreou First location: 2019/04/23 16:47:55, This location: 2020/08/10 13:41:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*

ISC 23 16:46:38.7±0.9, **41°.47N**±0°.02×**19°.51E**±0°.02, **h14**km±6km, **n140**, σ1°**29**/203, **mb3.8**/4, **7C-3D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.30	115	P	Pg	16 46 44.5	-0.4
TIR				S	Sg	16 46 49.6	+0.5
	8μm,0.2s						
TIR	Tirane	0.30	115	Pg	Pg	16 46 44.1	-0.8
TIR				Sg	Sg	16 46 48.2	-1.0
TIR				AML	AML	16 46 48.7	
	32nm,0.2s						
TIR				AMd		16 47 20.8	
TIR	Tirane	0.30	115	*i* Pg	Pg	16 46 44.7	-0.2
TIR				*i* Sg	Sg	16 46 49.8	+0.6
TIR	Tirane	0.30	115	*e*Pg	Pg	16 46 44.6	-0.4
TIR				*e*Sg	Sg	16 46 49.7	+0.6
TIR	Tirane	0.30	115	P	Pn	16 46 49.9	+1.3
ULC	Ulcinj	0.53	338	Pg	Pb	16 46 48.8	-0.9
ULC				AMd		16 47 48.4	
ULC	Ulcinj	0.53	338	*i* Pg	Pb	16 46 48.8	-0.9
ULC	Ulcinj	0.53	338	*e*Pg	Pb	16 46 48.8	-0.9
ULC				*i* Sg	Sg	16 46 57.6	+1.4
PUK	Puka	0.64	27	Pg	Pb	16 46 49.6	-2.0
PUK				Sg	Sb	16 46 58.4	-2.0
PUK				AML	AML	16 47 03.4	
	4.8nm,0.3s						
PUK				AMd		16 47 45.4	
PHP	Peshkopia	0.73	73	Pg	Pb	16 46 50.5	-2.7
DRME	Dracevica, Mon	0.75	341	Pg	Pb	16 46 53.0	-0.6
DRME				AMd		16 47 51.3	
DRME	Dracevica, Mon	0.75	341	*e*Pg	Pb	16 46 52.9	-0.7
DRME				*e*Sg	Sb	16 47 03.7	0.0
DRME	Dracevica, Mon	0.75	341	*e*Pg	Pb	16 46 52.8	-0.8
DRME				*i* Sg	Sg	16 47 04.6	+1.3
BUM	Brajici-Budva	0.94	331	*e*Pg	Pb	16 46 56.6	-0.3
BUM				*i* Sg	Sn	16 47 11.8	+0.9
PDG	Podgorica	0.97	349	⇓*i*Pg	Pb	16 46 56.5	-0.8
PDG				*e*Sg	Sb	16 47 11.2	+1.2
PDG	Podgorica	0.97	349	*e*Pg	Pb	16 46 57.0	-0.3
PDG				*e*Sg	Sb	16 47 10.3	+0.3
PDG	Podgorica	0.97	349	*e*Pg	Pb	16 46 56.5	-0.8
PDG				*i* Sg	Sn	16 47 11.6	+0.1
PDG	Podgorica	0.97	349	P	Pb	16 46 57.9	+0.5
BCI	Bajram Curri	0.99	25	Pg	Pb	16 46 55.9	-1.7
BCI				Sg	Sb	16 47 09.2	-1.2
BCI				AML	AML	16 47 19.2	
	3.9nm,0.6s						
VLO	Vlora	1.00	180	Pg	Pb	16 46 57.1	-0.7
VLO				Sg	Sg	16 47 11.5	+0.3
VLO				AML	AML	16 47 22.1	
	6.6nm,0.2s						
VLO				AMd		16 48 05.2	
OHR	Ohrid	1.04	110	*i* Pg	Pn	16 46 57.5	-1.3
OHR				*i* Sg	Sb	16 47 13.3	+1.4
OHR				*e*Lg	Lg	16 47 16.9	
	comp=N,491nm,0.9s						
OHR				*e*Lg	Lg	16 47 19.2	
	comp=E,348nm,0.6s						
OHR	Ohrid	1.04	110	*e*Pg	Pn	16 46 56.0	-2.8
OHR				*e*Sg	Sb	16 47 09.0	-2.9
CEME	Cevo	1.16	338	Pg	Pn	16 47 00.2	-0.3
CEME				AMd		16 47 52.7	
CEME	Cevo	1.16	338	*e*Pg	Pn	16 47 00.3	-0.3
CEME				*i* Sg	Sg	16 47 18.5	+2.3
PVY	Plav	1.17	17	Pg	Pn	16 46 58.0	-2.8
PVY				AMd		16 47 50.6	
PVY	Plav	1.17	17	*e*Pg	Pn	16 46 59.3	-1.4
PVY				*i* Sg	Sb	16 47 16.5	+0.7
HCY	Herceg Novi	1.23	323	*e*Pg	Pn	16 47 00.9	-0.6
HCY				*e*Sg	Sn	16 47 17.4	-0.5
HCY	Herceg Novi	1.23	323	⇓*i*Pg	Pb	16 47 02.0	+0.3
HCY				*i* Sg	Sg	16 47 21.1	+2.6
KBN	Korca	1.29	131	P	Pb	16 47 03.4	+0.7
KBN				S	Sg	16 47 21.9	+1.6
	comp=E,620nm,0.6s						
NKME	Niksic	1.36	343	Pn	Pn	16 47 03.6	+0.4
NKME				AMd		16 48 07.8	
NKME	Niksic	1.36	343	*e*Pg	Pn	16 47 03.7	+0.4
NKME				*i* Sg	Sg	16 47 24.8	+2.3
KOME	Kolasin	1.38	0	Pn	Pn	16 47 03.4	-0.1
KOME				AMd		16 48 14.7	
KOME	Kolasin	1.38	0	*e*Pg	Pn	16 47 03.6	+0.1
KOME				*i* Sg	Sg	16 47 24.5	+1.4
BEY	Berane	1.43	11	Pn	Pn	16 47 04.2	-0.1
BEY				AMd		16 48 10.5	
BEY	Berane	1.43	11	*i* Pn	Pn	16 47 04.2	-0.1
IVA	Berane	1.43	11	⇑*i*Pg	Pn	16 47 04.1	-0.1
IVA				*i* Sg	Sb	16 47 25.5	+2.3
TREB	Trebinje	1.51	326	⇑*i*Pg	Pn	16 47 05.3	0.0
TREB				*e*Sg	Sb	16 47 25.9	+0.4
SKO	Skopje	1.53	70	*i* Pn	Pb	16 47 06.8	+1.2
SKO				*i* Sn	Sb	16 47 28.0	+2.0
MESG	Mesagne	1.53	235	P	Pb	16 47 05.7	-1.2
LSK	Leskovik	1.56	148	P	Pb	16 47 07.8	+0.4
NEST	Nestorio	1.58	132	P	Pb	16 47 08.4	+0.8
NEST				S	Sb	16 47 29.8	+2.4
	comp=E,268nm,0.9s						
NEST	Nestorio	1.58	132	P	Pn	16 47 07.4	+1.1
NEST				S	Sb	16 47 28.4	+1.0
BRY	Bratogost	1.60	334	Pn	Pb	16 47 07.9	-0.2
BRY				AMd		16 48 14.9	
BRY	Bratogost	1.60	334	⇑*i*Pn	Pb	16 47 08.2	+0.1
BRY				*e*Sn	Sb	16 47 28.3	+0.2
BRY	Bratogost	1.60	334	*e*Pn	Pb	16 47 08.0	-0.1
BRY				*i* Sn	Sg	16 47 31.2	+1.0
SRN	Sarande	1.64	167	P	Pb	16 47 07.9	-0.7
SRN				S	Sb	16 47 29.6	+0.6
SRN	Sarande	1.64	167	Pn	Pb	16 47 08.2	-0.4
SRN				Sn	Sg	16 47 31.7	+0.3
SRN				AML	AML	16 47 38.0	
	comp=E,0.5nm,0.4s						
SRN				AMd		16 48 17.3	
KEK	Kerkira	1.77	173	P	Pb	16 47 11.2	+0.3
KEK	Kerkira	1.77	173	P	Pb	16 47 09.8	-1.2
PENT	Pentalofos	1.78	135	P	Pn	16 47 10.0	+0.9
UPM	Unac-Piva	1.79	346	*e*Pn	Pb	16 47 11.1	-0.2
UPM				*e*Sn	Sb	16 47 33.7	+0.1
UPM	Unac-Piva	1.79	346	⇓*i*Pn	Pn	16 47 10.3	+1.1
UPM				*i* Sn	Sb	16 47 35.2	+1.6
SJES	Sjenica	1.82	11	⇑*i*Pn	Pn	16 47 11.6	+1.9
SJES				*e*Sn	Sb	16 47 35.2	+0.7
SJES	Sjenica	1.82	11	*e*Pg	Pb	16 47 11.9	+0.1
SJES				*e*Sg	Sn	16 47 32.6	0.0
KLINJ	Klinje	1.83	338	*e*Pn	Pb	16 47 11.1	-0.8
KLINJ				*e*Sn	Sb	16 47 33.7	-1.0
PLE	Pljevlja	1.86	357	*e*Pn	Pn	16 47 10.9	+0.7
PLE				*i* Sn	Sb	16 47 36.3	+0.7
STON	Ston	1.94	317	*e*Pn	Pn	16 47 11.6	+0.5
STON				*e*Sn	Sb	16 47 36.4	-1.3
STON	Ston	1.94	317	*e*Pn	Pb	16 47 14.1	+0.4
STON				*e*Sg	Sg	16 47 42.5	+1.5
IGT	Igoumenitsa	2.04	162	*i* Pn	Pn	16 47 13.8	+1.2
IGT	Igoumenitsa	2.04	162	*e*Pn	Pb	16 47 14.0	-1.5
IGT	Igoumenitsa	2.04	162	P	Pb	16 47 14.1	-1.3
JAN	Janina	2.08	150	P	Pn	16 47 14.2	+1.0
SELS	Selova	2.12	34	*e*Pg	Pn	16 47 14.4	+0.8
SELS				*e*Sg	Sn	16 47 38.4	-1.3
RUDO	Rudo	2.15	357	⇑*i*Pn	Pn	16 47 16.1	+2.1
RUDO				*e*Sn	Sn	16 47 42.5	+2.1
IVAS	Ivanjica	2.15	13	*e*Pg	Pn	16 47 14.9	+0.7
IVAS				*e*Sg	Sn	16 47 41.8	+1.0
KALIN	Kalinovik	2.17	339	*e*Pn	Pn	16 47 15.8	+1.3
KALIN				*e*Sn	Sn	16 47 42.9	+1.6
BARS	Barje	2.18	51	*i* Pn	Pb	16 47 17.9	+0.1
BARS	Barje	2.18	51	*e*Pg	Pn	16 47 13.5	-1.0
BARS				*e*Sg	Sn	16 47 39.8	-1.5
GRG	Griva	2.24	102	*i* Pn	Pn	16 47 16.9	+1.5
VAY	Valandovo	2.31	93	*i* Pn	Pn	16 47 18.0	+1.8
VAY				*i* Sn	Sn	16 47 46.5	+2.1
VAY				*e*Lg	Lg	16 47 48.0	
	comp=E,133nm,1.2s						
VAY				*e*Lg	Lg	16 47 48.3	
	comp=N,73nm,1.0s						
VAY	Valandovo	2.31	93	*e*Pg	Pn	16 47 17.3	+1.0
VAY				*e*Sg	Sn	16 47 46.8	+2.4
BBLS	Lazi&#263i	2.39	358	⇑*i*Pn	Pn	16 47 19.2	+1.7
BBLS				*e*Sn	Sn	16 47 49.2	+2.6
BBLS	Lazi&#263i	2.39	358	*e*Pg	Pn	16 47 19.7	+2.2
BBLS				*e*Sg	Sb	16 47 52.3	+1.4
BOSS	Bosilegrad	2.44	64	*e*Pg	Pn	16 47 18.7	+0.6
BOSS				*e*Sg	Sn	16 47 48.0	+0.3
GRUS	Gruza	2.57	20	*e*Pg	Pn	16 47 21.0	+1.1
GRUS				*e*Sg	Sn	16 47 53.9	+2.9
KNT	Kendrikon	2.57	96	*i* Pn	Pn	16 47 20.8	+0.8
KNT	Kendrikon	2.57	96	P	Pn	16 47 20.8	+0.8
HAPS	Han Pijesak,Bl	2.64	351	*e*Pn	Pn	16 47 22.2	+1.2
DIVS	Divibare	2.65	8	*e*Pn	Pn	16 47 22.6	+1.6
DIVS				*e*Sg	Sb	16 47 57.6	-0.7
LIT	Litokhoron	2.65	120	P	Pn	16 47 22.5	+1.6
THL	Klokotos Trika	2.70	134	P	Pn	16 47 23.5	+1.8
BOVS	Bovan	2.70	36	*e*Pg	Pn	16 47 23.9	+2.2
BOVS				*e*Sg	Sn	16 47 56.3	+2.1
TYRN	Tyrnavos	2.72	129	P	Pn	16 47 24.0	+2.1
KKB	Krupnik	2.74	81	*i* Pn	Pn	16 47 23.3	+1.1
THE	Thessaloniki	2.75	107	P	Pn	16 47 23.1	+0.8
TSLK	Tsoukalades, L	2.79	161	P	Pn	16 47 23.6	+0.8
LKD2	Lefkada island	2.82	161	P	Pn	16 47 23.9	+0.6
TRUS	Trudelj	2.83	13	*e*Pg	Pb	16 47 27.2	-1.7
HORT	Hortiatis	2.85	107	P	Pn	16 47 24.5	+0.7
NYDR	Nydri-Lefkada	2.90	161	P	Pn	16 47 24.8	+0.4
ZAPS	Zavoj	2.93	51	*e*Pn	Pn	16 47 24.3	-0.6
ZAPS				*e*Sg	Sn	16 48 03.0	+3.1
EVGI	Lefkada island	2.98	162	P	Pn	16 47 25.5	0.0
VTS	Vitosha	3.00	66	*e*Pn	Pn	16 47 24.4	-1.5
VTS				*e*Sg	Sn	16 48 05.3	+3.5
TEKS	Tekeris	3.08	0	*e*Pn	Pn	16 47 29.5	+2.7
ZAGS	Zajecar	3.08	40	*e*Pn	Pn	16 47 25.7	-1.2
ZAGS				*e*Sg	Sb	16 48 09.5	-1.2
SRS	Serrai	3.10	95	*i* Pn	Pn	16 47 27.9	+0.8
SRS	Serrai	3.10	95	*e*Pn	Pn	16 47 27.9	+0.8
TIP	Timpagrande	3.11	223	P	Pn	16 47 27.3	-0.1
FSK	Fiskardo	3.12	165	P	Pn	16 47 27.1	-0.2
MAKR	Makrakomi, Fth	3.17	140	P	Pn	16 47 29.8	+1.6
BLKB	Belogradchik	3.18	46	*e*Pn	Pn	16 47 27.1	-1.1
PLG	Polygyros	3.18	109	P	Pn	16 47 29.7	+1.4
MMB	Musomishta	3.19	87	*i* Pn	Pn	16 47 29.6	+1.2
BORS2	Bor- Borsko je	3.20	34	*e*Pn	Pn	16 47 27.8	-0.8
PVO	Paravola	3.25	151	P	Pn	16 47 31.0	+1.9
AGG	Agios Georgios	3.27	138	P	Pn	16 47 30.9	+1.4
KUBS	Kucevo	3.34	28	*e*Pn	Pn	16 47 29.6	-0.9
VLS	Valsamata	3.40	165	P	Pn	16 47 30.9	-0.3
ANX	Ano Chora	3.42	146	P	Pn	16 47 32.7	+1.1
EFP	Efpalio	3.56	148	P	Pn	16 47 34.5	+1.1
OUR	Ouranopolis	3.58	107	P	Pn	16 47 34.9	+1.2
BLY	Banja Luka	3.69	333	*e*Pn	Pn	16 47 37.0	+1.8
BLY				*e*Sn	Sn	16 48 19.4	+0.9
FRGS	Fruska Gora	3.69	3	*e*Pn	Pn	16 47 36.7	+1.4
FRGS				*e*Sn	Sn	16 48 20.2	+1.7
A050A	Klekovaca	3.72	325	⇑*i*Pn	Pn	16 47 36.3	+0.6
A050A				*e*Sn	Sn	16 48 19.3	+0.1
KAVA	Kavala	3.81	96	P	Pn	16 47 37.8	+1.0
DRO	Drossia	3.91	153	P	Pn	16 47 39.7	+1.5
A051A	Mrakovica	4.01	333	*e*Pn	Pn	16 47 40.4	+0.6
A051A				*e*Sn	Sn	16 48 26.4	-0.2
KNYS	Krupa na Uni	4.13	327	*e*Pn	Pn	16 47 42.8	+1.4
KNYS				*e*Sn	Sn	16 48 29.8	+0.3
CEL	Celeste	4.25	222	P	Pn	16 47 42.5	-0.4
MORH	Mrgy, Hungar	4.78	353	*e*Pn	Pn	16 47 51.9	+1.7
MORH				*e*Sn	Sn	16 48 45.2	-0.2
BOJS	Bojanci	5.08	324	*e*Pn	Pn	16 47 54.8	+0.5
BOJS				*e*Sn	Sn	16 48 51.7	-1.0
CRES	Cresnjevec Ost	5.25	327	*e*Pn	Pn	16 47 57.0	+0.3
CRES				*e*Sn	Sn	16 48 55.5	-1.5
CEY	Cerknica	5.64	321	*e*Pn	Pn	16 48 02.1	+0.1
CEY				*e*Sn	Sn	16 49 04.6	-1.9
SKDS	Skadanscina	5.70	317	*e*Pn	Pn	16 48 02.8	-0.1
SKDS				*e*Sn	Sn	16 49 05.8	-2.3
SOKA	Soboth	6.12	330	*e*Pn	Pn	16 48 08.9	+0.3
	comp=N,0.7nm,0.3s						
OBKA	Obir	6.17	326	*e*Pn	Pn	16 48 10.7	+1.2
	comp=N,0.7nm,0.2s						
KBA	Koelnbreinsper	7.14	324	*e*Pn	Pn	16 48 23.6	+0.9
	comp=N,0.3nm,0.2s						
ABTA	Abfaltersbach	7.29	319	*e*Pn	Pn	16 48 25.0	+0.3
	comp=N,0.7nm,0.4s						
WTTA	Wattenberg	8.08	318	*e*Pn	Pn	16 48 36.1	+0.5
	comp=N,0.8nm,0.3s						
MOTA	Moosalm	8.40	317	*e*Pn	Pn	16 48 42.8	+2.8
	comp=N,1.9nm,0.4s						
GERES	GERESS Array B	8.43	333	Pn	Pn	16 48 40.7	+0.2
	baz=148,slow=14,SNR=1.6						
	comp=N,0.2nm,0.3s						
ASF	Jabal al Asfar	16.71	118	LR	LR	16 57 34.1	
	comp=N,45nm,18.3s,baz=289,slow=39						
HFS	Hagfors	19.03	351	P	P	16 50 59.0	-1.0
	comp=N,0.1nm,0.3s,baz=162,slow=10,SNR=2.6						
	comp=N,1.6nm,0.7s						
NOA	NORSAR Array B	20.24	348	LR	LR	16 58 42.6	
	comp=N,16nm,18.3s,baz=125,slow=36						
FINES	FINESS Array B	20.39	9	P	P	16 51 13.5	-1.3
	comp=N,1.3nm,0.7s,baz=187,slow=9.8,SNR=6.3						
	comp=N,1.3nm,0.7s						
BVAR	Borovoye Array	35.69	53	P	P	16 53 35.9	-0.4
	comp=N,0.2nm,0.4s,baz=255,slow=5.7,SNR=2.1						
	comp=N,0.2nm,0.4s						
ZALV	Zalesovo Beam	44.13	50	P	P	16 54 45.2	-1.1
	comp=N,0.9nm,0.5s,baz=274,slow=8.6,SNR=4.4						
	comp=N,0.9nm,0.5s						
MKAR	Makanchi Array	44.31	61	P	P	16 54 47.0	-0.9
	comp=N,0.8nm,0.5s,baz=283,slow=7.1,SNR=12						
	comp=N,0.8nm,0.5s						
SONM	Songino Array	59.00	52	P	P	16 56 37.2	-0.6
	comp=N,0.3nm,0.3s,baz=286,slow=5.8,SNR=2.4						
	comp=N,0.3nm,0.3s						
SEY	Seymchan	69.34	21	LR	LR	17 29 40.9	
	comp=N,47nm,21.5s,baz=168,slow=37						

*NNC **23** 17:05:29.4±3.0, 36°.47N×70°.56E, h53km±74km, mb4.0, mpv4.0, Error ellipse: s-maj=27.0km s-min=21.9km az=79.0*
*IDC **23** 17:05:35.4±8.6, 36°.75N×71°.29E, h148km±55km, mb3.4/6, mbtmp3.7/12, MS3.4/2, Error ellipse: s-maj=74.7km s-min=34.4km az=177.0*

ISC 23 17:05:36.8±1.6, **36°.9N**±0°.1×**70°.9E**±0°.1, **h150**km, **n33**, σ1°**64**/33, **mb3.7**/6, **6C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.67	21	P	Pn	17 06 57.8	-1.7
	SNR=108						
EKS2	Erkin-Say	6.19	20	P	Pn	17 07 04.9	-1.1
	SNR=14						
KK31	Karatay Array	6.24	357	P	Pn	17 07 05.7	-1.0
	12nm,0.5s,baz=186,slow=21,SNR=75						
KK31				⇑S	Sn	17 08 19.1	+2.1
	20nm,0.7s						
AAK	Ala-Archa	6.38	24	P	Pn	17 07 07.4	-1.2
	6.4nm,0.4s,baz=193,slow=6.5,SNR=40						
AAK				S	Sn	17 08 19.0	-1.6
	3.0nm,0.4s,baz=141,slow=23,SNR=8.9						
AAK	Ala-Archa	6.38	24	P	Pn	17 07 08.3	-0.3
	SNR=7.0						
AAK	Ala-Archa	6.38	24	⇑P	Pn	17 07 07.1	-1.5
	4.9nm,0.5s						
AAK				⇑S	Sn	17 08 25.6	+5.0
	15nm,0.8s						
CHMS	Chumysh	6.79	24	P	Pn	17 07 13.8	-0.2
	SNR=8.2						
CHMS	Chumysh	6.79	24	⇑P	Pn	17 07 12.3	-1.7
	3.7nm,0.3s						
USP	Ospenovka	6.95	22	P	Pn	17 07 14.5	-1.6
	SNR=6.4						
TKM2	Tokmak 2	7.03	29	P	Pn	17 07 19.1	+1.8
	SNR=11						
TKM2	Tokmak 2	7.03	29	⇑P	Pn	17 07 15.7	-1.6
	5.7nm,0.5s						
MDOK	Medeo	7.84	35	⇑P	Pn	17 07 26.8	-1.3
	2.7nm,0.6s						
MK31	Makanchi Array	13.03	37	⇓P	P	17 08 41.2	+0.2
	0.8nm,0.7s,baz=205,slow=10,SNR=8.6						
MKAR	Makanchi Array	13.03	37	P	Pn	17 08 34.1	-2.1
	0.3nm,0.6s,baz=224,slow=7.6,SNR=3.6						
PYUN	Piuthan	13.40	127	Pn	Pn	17 08 29.6	-12
	baz=124,slow=0.0						
PYUN				Sn	Sn	17 10 44.9	-25
	19nm,0.5s,baz=124,slow=0.0						
AB31	Akbulak array	14.74	331	P	Pn	17 08 57.5	-0.3
	1.2nm,0.7s,baz=143,slow=11,SNR=22						
AB31				S	Sn	17 11 38.5	-2.7
	0.4nm,0.4s,baz=150,slow=21,SNR=5.3						
KURBB	Kurchatov Arra	14.79	19	P	Pn	17 08 57.2	-1.2
	0.3nm,0.5s,baz=206,slow=10,SNR=6.8						
PKIN	Phulchoki	15.33	123	Sn	Sn	17 11 30.9	-25
	baz=120,slow=0.0						
PKI	Pulchoki	15.35	123	Sn	Sn	17 11 32.5	-24
	6.6nm,0.6s,baz=120,slow=0.0						
BVA0	Borovoye Array	16.16	359	P	P	17 09 16.4	+0.7
	1.9nm,0.9s,baz=174,slow=10,SNR=6.3						
BVAR	Borovoye Array	16.16	359	P	Pn	17 09 15.2	-0.1
	0.6nm,0.4s,baz=167,slow=11,SNR=6.5						
AKTO	Aktyubinsk	16.44	330	P	Pn	17 09 20.4	+1.8
	2.9nm,0.5s,baz=147,slow=5.9,SNR=11						
AKTO				S	S	17 12 20.6	-0.5
	0.8nm,0.6s,baz=44,slow=19,SNR=1.8						
AKTO	Aktyubinsk	16.44	330	⇓P	P	17 09 19.8	+1.1
	2.

SCST	**Cishan**	**0.37 257**	*i* P	**Pb**	**17 19 58.0**	**-1.0**
SCST			*i* S	**Sb**	**17 20 03.7**	**-1.4**
ECL	**Taimali**	**0.38 171**	*i* P	**Pg**	**17 19 57.7**	**0.0**
ECL			S	**Sg**	**17 20 03.0**	**+0.4**
EDH	**Donghe**	**0.38 90**	P	**Pb**	**17 19 58.6**	**-0.7**
EDH			S	**Sb**	**17 20 04.8**	**-0.5**
CHN1	**Nanshi**	**0.39 303**	*i* P	**Pb**	**17 19 58.9**	**-0.5**
CHN1			*i* S	**Sb**	**17 20 06.6**	**+0.9**
TPUB	**Ta-pu**	**0.40 324⇑**	*i* P	**Pb**	**17 19 59.1**	**-0.6**
TPUB			S	**Sb**	**17 20 05.5**	**-0.5**
MASBT	**Mashibuluo**	**0.43 213⇑**	*i* P	**Pg**	**17 19 58.1**	**-0.4**
MASBT			S	**Sg**	**17 20 03.9**	**-0.3**
SNST	**Tainan City**	**0.44 305**	P	**Pb**	**17 20 00.3**	**+0.2**
FULB	**Fuli**	**0.44 59⇑**	*i* P	**Pb**	**17 19 59.6**	**-0.6**
FULB			S	**Sb**	**17 20 06.5**	**-0.5**
SGLT	**Jiouru**	**0.44 236⇑**	*i* P	**Pb**	**17 19 59.7**	**-0.6**
SGLT			*i* S	**Sb**	**17 20 08.2**	**+1.2**
TWM1	**Shoushan**	**0.45 251**	*i* P	**Pb**	**17 20 00.3**	**-0.2**
TWM1			*i* S	**Sb**	**17 20 08.9**	**+1.6**
CHKT	**Chengkung**	**0.46 74**	*i* P	**Pb**	**17 20 00.5**	**-0.1**
CHKT			*i* S	**Sb**	**17 20 08.3**	**+0.8**
CHN4	**Tsaushan**	**0.46 324**	P	**Pb**	**17 20 00.5**	**-0.2**
CHN4			S	**Sb**	**17 20 08.9**	**+1.2**
TWK	**Hsinying**	**0.47 309⇓**	*i* P	**Pb**	**17 20 01.0**	**+0.2**
TWK			*i* S	**Sb**	**17 20 08.6**	**+0.7**
CHN3	**Shinhua**	**0.49 282**	*i* P	**Pn**	**17 20 02.4**	**-1.2**
SHHT	**Tainan City**	**0.50 276**	*e*P	**Pb**	**17 20 02.0**	**+0.8**
CHKH	**Chenggong**	**0.52 65**	P	**Pb**	**17 20 01.0**	**-0.5**
CHKH			S	**Sb**	**17 20 09.5**	**+0.3**
WCKO	**Fanlu**	**0.53 331**	P	**Pb**	**17 20 01.7**	**-0.1**
WCKO			S	**Sb**	**17 20 10.5**	**+0.8**
TWF1	**Yuli**	**0.53 45**	*i* P	**Pg**	**17 20 00.6**	**0.0**
TWF1			*i* S	**Sg**	**17 20 07.9**	**+0.3**
ALS	**Alishan**	**0.54 352**	*i* P	**Pb**	**17 20 01.2**	**-1.0**
ALS			*i* S	**Sb**	**17 20 10.1**	**-0.1**
EYUL	**Yuli**	**0.55 47**	P	**Pg**	**17 20 00.8**	**0.0**
EYUL			S	**Sg**	**17 20 07.8**	**-0.1**
SNJT	**Kaohsiung City**	**0.55 247**	*e*P	**Pb**	**17 20 02.7**	**+0.5**
YULB	**Yu-li**	**0.56 42⇑**	*i* P	**Pg**	**17 20 00.9**	**-0.2**
YULB			*i* S	**Sg**	**17 20 08.1**	**-0.4**
SSPT	**Xinbi**	**0.57 211**	P	**Pb**	**17 20 02.6**	**+0.2**
SSPT			S	**Sb**	**17 20 11.4**	**+0.8**
SSHA	**Shanhua**	**0.58 287**	P	**Pn**	**17 20 04.5**	**-0.2**
SSHA			S	**Sn**	**17 20 14.7**	**+0.4**
EAST	**Anshuo**	**0.59 184**	P	**Pg**	**17 20 01.5**	**-0.1**
EAST			S	**Sg**	**17 20 09.7**	**+0.4**
TAI1	**Yung-k'ang**	**0.61 276**	P	**Pn**	**17 20 05.2**	**0.0**
TAW	**Tawu**	**0.61 179⇓**	*i* P	**Pg**	**17 20 02.1**	**+0.1**
TAW			*i* S	**Sg**	**17 20 10.1**	**0.0**
LDUT	**Ludao**	**0.61 119**	P	**Pb**	**17 20 02.9**	**-0.3**
LDUT			S	**Sb**	**17 20 12.7**	**+0.7**
ECBN	**Changbin**	**0.62 56**	P	**Pb**	**17 20 03.4**	**0.0**
ECBN			S	**Sb**	**17 20 13.8**	**+1.6**
TAWH	**Dawu Township**	**0.63 180**	*i* P	**Pg**	**17 20 02.4**	**+0.1**
TAWH			S	**Sg**	**17 20 10.7**	**+0.1**
SCZT	**Fangliau**	**0.65 203⇑**	*i* P	**Pg**	**17 20 02.4**	**-0.3**
SCZT			*i* S	**Sg**	**17 20 10.8**	**-0.4**
CHN5	**Tsauling**	**0.65 343**	*i* P	**Pb**	**17 20 03.7**	**-0.2**
CHN5			S	**Sb**	**17 20 13.9**	**+0.7**
WSSB	**Gushan**	**0.66 240**	*e*P	**Pn**	**17 20 06.2**	**+0.2**
EHY	**Hungye**	**0.67 37**	*i* P	**Pg**	**17 20 02.7**	**-0.4**
EHY			*i* S	**Sb**	**17 20 12.5**	**-1.0**
EHYH	**Wanrong**	**0.67 39**	P	**Pg**	**17 20 03.0**	**-0.2**
EHYH			S	**Sb**	**17 20 12.6**	**-1.0**
KAU	**Kaohsiung**	**0.67 233**	*e*P	**Pn**	**17 20 05.2**	**-0.8**
SCLT	**Jiali**	**0.67 288**	P	**Pn**	**17 20 05.4**	**-0.6**
SCLT			S	**Sn**	**17 20 17.8**	**+1.1**
CHN2	**Minshiung**	**0.67 326**	P	**Pn**	**17 20 05.4**	**-0.7**
CHN2			S	**Sn**	**17 20 16.6**	**-0.2**
CHY	**Chiayi**	**0.68 321**	P	**Pb**	**17 20 04.5**	**+0.2**
CHY			S	**Sn**	**17 20 15.8**	**-1.0**
ICHU	**Yijhu**	**0.68 305**	*e*P	**Pn**	**17 20 05.4**	**-0.7**
ICHU			*e*S	**Sn**	**17 20 16.2**	**-0.7**
HGSD	**Ruisui**	**0.71 44**	P	**Pb**	**17 20 04.9**	**-0.1**
HGSD			S	**Sb**	**17 20 15.7**	**+0.8**
WHYT	**Xinyi Township**	**0.72 358**	P	**Pb**	**17 20 04.8**	**-0.3**
WHYT			S	**Sb**	**17 20 14.9**	**-0.3**
CHN8	**Yiju**	**0.72 301**	P	**Pn**	**17 20 06.1**	**-0.6**
CHN8			S	**Sn**	**17 20 17.8**	**-0.2**
SLIU	**Shizi**	**0.76 186**	P	**Pb**	**17 20 05.0**	**-0.7**
SLIU			*e*S	**Sg**	**17 20 14.5**	**-0.2**
TSCK	**Chigu Township**	**0.76 283**	P	**Pb**	**17 20 06.0**	**+0.3**
TSCK			S	**Sn**	**17 20 19.4**	**+0.5**
WGK	**Gukeng**	**0.77 337**	P	**Pn**	**17 20 07.1**	**-0.3**
WGK			S	**Sn**	**17 20 19.8**	**+0.6**
WLCH	**Liuqiu**	**0.78 217**	*e*P	**Pn**	**17 20 08.8**	**+1.4**
WDLH	**Douliu**	**0.78 336**	*e*P	**Pn**	**17 20 07.5**	**0.0**
WDLH			*e*S	**Sn**	**17 20 19.5**	**0.0**
TWP	**Hsiaoliuchiu**	**0.79 218**	P	**Pn**	**17 20 08.8**	**+1.2**
WDL	**Douliou City**	**0.81 337**	*e*P	**Pn**	**17 20 07.6**	**-0.2**
VWDT	**VWDT**	**0.81 17**	*e*P	**Pg**	**17 20 05.3**	**-0.6**
SSLB	**Suanglung**	**0.81 4**	P	**Pg**	**17 20 05.4**	**-0.5**
WSL	**Shuilin Townsh**	**0.82 312**	*e*P	**Pb**	**17 20 06.9**	**+0.2**
WSL			*e*S	**Sn**	**17 20 21.2**	**+0.8**
WTK	**Tuku**	**0.85 327**	*e*P	**Pn**	**17 20 08.5**	**+0.1**
WTK			*i* S	**Sn**	**17 20 21.9**	**+0.9**
EGFH	**Guangfu**	**0.85 35**	*e*P	**Pg**	**17 20 06.4**	**-0.3**
WJS	**Zhushan**	**0.86 350**	*e*P	**Pn**	**17 20 08.6**	**0.0**
WARBT	**Fenglin Townsh**	**0.87 32**	P	**Pg**	**17 20 06.2**	**-0.8**
WARBT			S	**Sg**	**17 20 18.7**	**+0.3**
WSF	**Szhu**	**0.90 317**	P	**Pn**	**17 20 08.7**	**-0.5**
WSF			S	**Sn**	**17 20 22.8**	**+0.4**
SMLT	**Sun Moon Lake**	**0.91 1**	P	**Pb**	**17 20 08.3**	**+0.1**
SMLT			S	**Sn**	**17 20 22.5**	**-0.2**
WNT	**Mingjian**	**0.92 348**	P	**Pn**	**17 20 09.7**	**+0.2**
WNT			S	**Sn**	**17 20 23.2**	**+0.3**
TYC	**Yuchr**	**0.93 358**	P	**Pn**	**17 20 09.8**	**+0.3**
SMST	**Manzhou Townsh**	**0.95 183**	*e*P	**Pn**	**17 20 09.9**	**+0.1**
TEGC	**Jichi Village**	**0.95 39**	*e*P	**Pn**	**17 20 09.6**	**-0.2**
HEN	**Hengchun**	**0.97 188**	*e*P	**Pn**	**17 20 10.7**	**+0.6**
ESL	**Shilin**	**0.98 31**	P	**Pg**	**17 20 08.1**	**-0.9**
OWD	**Renai**	**1.01 15**	*e*P	**Pg**	**17 20 09.5**	**-0.2**
SHUL	**Shoufeng**	**1.02 37**	*e*P	**Pb**	**17 20 10.2**	**0.0**
TWK1	**Hengchun**	**1.03 184**	*e*P	**Pb**	**17 20 10.3**	**0.0**
TWKBT	**Hengchun**	**1.03 184**	P	**Pb**	**17 20 10.5**	**+0.2**
WUSB	**Renai**	**1.04 12**	*e*P	**Pg**	**17 20 09.3**	**-0.8**
TSEB	**Hengchuen, Pin**	**1.07 179**	*e*P	**Pn**	**17 20 12.2**	**+0.8**
WCS	**Beigang Elemen**	**1.08 1**	P	**Pn**	**17 20 12.1**	**+0.4**
WCS			S	**Sn**	**17 20 29.1**	**+2.3**
LAY	**Lan-yu**	**1.11 146**	*e*P	**Pg**	**17 20 09.9**	**-1.8**
ETM	**Tongmen**	**1.13 29**	*e*P	**Pb**	**17 20 11.9**	**-0.2**
WCHH	**Zhanghua**	**1.14 345**	*e*P	**Pn**	**17 20 13.6**	**+1.0**
WCHH			*e*S	**Sn**	**17 20 30.9**	**+2.5**
LXIB	**Xiulin Townshi**	**1.15 25**	*e*P	**Pg**	**17 20 11.1**	**-1.3**
LXIB			*e*S	**Sn**	**17 20 30.0**	**+1.2**
LYUB	**Lan-yu**	**1.16 146**	*e*P	**Pg**	**17 20 09.5**	**-3.0**
WDGT	**Dungji**	**1.17 284**	P	**Pn**	**17 20 12.8**	**0.0**
WDGT			S	**Sn**	**17 20 29.6**	**+0.7**
WHF	**Hehuan Shan**	**1.22 16**	*e*P	**Pg**	**17 20 12.9**	**-0.8**
WHF			*e*S	**Sn**	**17 20 32.2**	**+1.3**
TWD	**Chiawan**	**1.28 30**	*e*P	**Pn**	**17 20 14.4**	**0.0**
TDCB	**Techi**	**1.30 11**	*e*P	**Pb**	**17 20 14.9**	**-0.1**
WHP	**Taichung City**	**1.30 2**	*i* P	**Pb**	**17 20 16.3**	**+1.3**
FUSS	**Fushou**	**1.31 14**	*e*P	**Pn**	**17 20 15.0**	**0.0**
FUSS			*e*S	**Sn**	**17 20 34.8**	**+1.9**
PHUB	**P'eng-hu**	**1.32 294**	*e*P	**Pn**	**17 20 14.0**	**-1.0**
PHUB			*e*S	**Sn**	**17 20 32.8**	**0.0**
ETLH	**Xiulin Townshi**	**1.34 24**	*e*P	**Pn**	**17 20 15.2**	**-0.2**
ETL	**Fush Village**	**1.36 30**	*e*P	**Pg**	**17 20 16.2**	**-0.2**
NACB	**Ninganchiao**	**1.36 28**	*i* P	**Pb**	**17 20 15.7**	**-0.3**
PNG	**Penghu**	**1.36 296**	*e*P	**Pn**	**17 20 15.3**	**-0.2**
PNG			*e*S	**Sn**	**17 20 33.8**	**0.0**
VCHM	**Qimei**	**1.36 280**	*e*P	**Pn**	**17 20 15.5**	**0.0**
NNSB	**Datong**	**1.52 17**	*e*P	**Pb**	**17 20 18.4**	**-0.3**
NNS	**Nan Shan**	**1.53 17**	*e*P	**Pg**	**17 20 19.5**	**0.0**
EAHA	**Aohua**	**1.56 30**	*e*P	**Pg**	**17 20 19.6**	**-0.6**
NMLH	**Miaoli**	**1.56 357**	*e*P	**Pg**	**17 20 21.7**	**+1.5**
ENA	**Nanau**	**1.65 28**	*e*P	**Pg**	**17 20 21.1**	**-0.7**
NSTT	**Nanjuang**	**1.66 4**	*e*P	**Pg**	**17 20 22.3**	**+0.3**
NSTT			*e*S	**Sg**	**17 20 45.0**	**+1.5**
LATG	**Datong**	**1.66 20**	*e*P	**Pg**	**17 20 21.4**	**-0.8**
NFF	**Wufeng Townshi**	**1.67 7**	*e*P	**Pg**	**17 20 22.2**	**0.0**
NFF			S	**Sg**	**17 20 45.7**	**+1.9**
LIOB	**Emei**	**1.67 4**	*e*P	**Pg**	**17 20 22.3**	**0.0**
EWUT	**Wuta**	**1.68 29**	*e*P	**Pb**	**17 20 21.5**	**+0.1**
YHNB	**Yeheng**	**1.75 15**	P	**Pg**	**17 20 23.1**	**-0.6**
NSK	**Sanguang**	**1.75 14**	P	**Pg**	**17 20 23.6**	**-0.3**
NSK			S	**Sg**	**17 20 47.5**	**+1.0**
ENTT	**Nioudou**	**1.77 20**	*e*P	**Pg**	**17 20 23.8**	**-0.5**
KSHI	**Guanxi Townshi**	**1.82 8**	*e*P	**Pb**	**17 20 23.9**	**+0.2**
NDS	**Dongshan**	**1.82 24**	*e*P	**Pb**	**17 20 23.0**	**-0.8**
ESAO	**Su ao**	**1.82 29**	*e*P	**Pg**	**17 20 24.2**	**-0.9**
TWC	**Suao**	**1.85 28**	*i* P	**Pg**	**17 20 24.8**	**-1.0**
TWE	**Neicheng**	**1.88 22**	*e*P	**Pg**	**17 20 25.8**	**-0.6**
NWLT	**Wulai**	**1.88 17**	P	**Pg**	**17 20 25.6**	**-0.8**
FUSB	**Fushanzhiwuyua**	**1.89 20**	*e*P	**Pg**	**17 20 25.8**	**-0.7**
TWA	**Mucha**	**2.10 18**	*e*P	**Pg**	**17 20 30.1**	**-0.3**
TIPB	**Shuangxi**	**2.17 23**	*e*P	**Pb**	**17 20 28.3**	**-1.4**
YM01	**YM01**	**2.25 16**	*e*P	**Pb**	**17 20 30.2**	**-0.9**
JIJ	**Ishigaki jima**	**3.29 64**	*e*S	**Sn**	**17 21 18.9**	**-2.5**
JISG	**Ishigakijimahi**	**3.52 62**	*e*P	**Pn**	**17 20 45.1**	**-0.1**
JISG			*e*S	**Sn**	**17 21 26.4**	**-0.7**

*IDC **23** 17:22:16.8±2.0, 6".54S×130".33E, h0km, mb3.5/2, mbtmp3.4/5, ML3.5/3, Error ellipse: s-maj=101.6km s-min=26.2km az=80.0*
ISC 23 17:22:28.1±0.9, **7.17S**±0.07×**129.9E**±0.1, **h100**km, **n9**, σ2$77/9, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.83**	**29**	P	**Pn**	**17 23 39.7**	**+1.0**
DRS	**Darwin Rock St**	**5.33**	**169**	P	Pn	17 23 51.8	+6.5
MTN	**Manton Dam**	**5.78**	**168**	P	Pn	17 23 58.1	+6.7
KDU	**Kakadu**	**6.05**	**155**	P	Pn	17 24 00.9	+5.8
FITZ	**Fitzroy Crossi**	**11.62**	**200**	Pn	**Pn**	**17 25 13.3**	**+2.5**
	0.4nm,0.3s,baz=26,slow=11,SNR=20						
FITZ				Sn	**Sn**	**17 27 16.1**	**-2.6**
	0.1nm,0.3s,baz=305,slow=18,SNR=1.3						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**13.42**	**162**	Pn	**Pn**	**17 25 35.1**	**+0.5**
	0.2nm,0.3s,baz=346,slow=7.4,SNR=16						
WRA				Sn	**Sn**	**17 27 59.4**	**-2.8**
	0.3nm,0.3s,baz=308,slow=16,SNR=5.8						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**16.86**	**167**	P	**P**	**17 26 21.6**	**+3.1**
	0.1nm,0.3s,baz=341,slow=9.9,SNR=4.5						
ASAR				S	**Sn**	**17 29 24.3**	**-1.0**
	0.3nm,0.7s,baz=346,slow=26,SNR=2.6						
	0.2nm,0.5s						
SONM	**Songino Array**	**58.56**	**342**	P	**P**	**17 32 10.8**	**-3.6**
	0.2nm,0.5s,baz=145,slow=5.3,SNR=1.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**68.30**	**327**	P	**P**	**17 33 19.3**	**+0.8**
	0.2nm,0.4s,baz=118,slow=7.5,SNR=4.1						
	0.2nm,0.4s						

*IDC **23** 17:29:35.3±2.4, 37".63N×20".80E, h0km, mb3.6/9, mbtmp3.6/14, ML3.1/4, MS2.8/4, Error ellipse: s-maj=45.3km s-min=17.3km az=39.0*
*ATH **23** 17:29:37.8, 37".62N×20".62E, h15km±1km, ML3.9/25, Manual Solution by A.Andreou First location: 2019/04/23 17:30:30, This location: 2020/08/10 13:43:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **23** 17:29:38.0, 37".61N×20".66E, h8km±1km, ML3.7/12, Error ellipse: s-maj=1.4km s-min=0.5km az=37.0*
*NAO **23** 17:29:42.2, 37".57N×20".66E, h10km, mb3.7*
*AFAD **23** 17:29:44.0, 37".21N×20".70E, h56km, MW3.9*
ISC 23 17:29:37.6±1.0, **37".62N**±0.04×**20.66E**±0.03, **h16**km±5km, **n101**, σ1$58/129, **mb3.7**/9, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.17**	**57**	P	**Pg**	**17 29 41.6**	**-0.2**
LTHK				S	**Sg**	**17 29 43.8**	**-0.8**
	92μm,0.2s						
LTHK	**Lithakia**	**0.17**	**57**	P	**Pg**	**17 29 41.6**	**-0.2**
LTHK				S	**Sg**	**17 29 44.2**	**-0.5**
ORTH	**Orthonies,Zaky**	**0.23**	**7**	P	**Pg**	**17 29 43.3**	**+0.4**
ORTH				S	**Sg**	**17 29 46.9**	**+0.3**
KYPS	**Kipseli, Zakin**	**0.24**	**33**	P	**Pb**	**17 29 43.5**	**-0.1**
KYPS				S	**Sb**	**17 29 47.2**	**-0.4**
CLEM	**Kyllini,Ilia,G**	**0.46**	**54**	P	**Pb**	**17 29 47.7**	**+0.4**
CLEM				S	**Sb**	**17 29 54.2**	**+0.1**
RTZL	**Ratzakli, Kefa**	**0.47**	**11**	P	**Pg**	**17 29 46.9**	**0.0**
RTZL				S	**Sb**	**17 29 53.9**	**-0.2**
	10μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.50**	**353**	P	**Pg**	**17 29 47.7**	**+0.2**
PSDA				S	**Sb**	**17 29 55.2**	**+0.1**
	7μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.50**	**353**	P	**Pg**	**17 29 47.7**	**+0.2**
VLS	**Valsamata**	**0.56**	**354**	P	**Pg**	**17 29 48.6**	**-0.1**
VLS				S	**Sb**	**17 29 57.6**	**+0.7**
	6μm,0.3s						
VLS	**Valsamata**	**0.56**	**354**	P	**Pg**	**17 29 48.6**	**-0.1**
VLS				S	**Sg**	**17 29 56.3**	**0.0**
SMHA	**Samh**	**0.63**	**359**	P	**Pg**	**17 29 49.2**	**-0.8**
SMHA				S	**Sg**	**17 29 58.6**	**+0.1**
DMLN	**Damoulianata-K**	**0.66**	**340**	P	**Pg**	**17 29 50.6**	**+0.1**
DMLN				S	**Sb**	**17 30 00.3**	**+0.6**
	11μm,0.4s						
DMLN	**Damoulianata-K**	**0.66**	**340**	P	**Pg**	**17 29 50.7**	**+0.1**
DMLN				S	**Sg**	**17 29 59.6**	**+0.3**
YRMI	**Loutra Irminis**	**0.73**	**48**	P	**Pg**	**17 29 51.7**	**-0.1**
RLS	**Riolos of Patr**	**0.78**	**55**	P	**Pg**	**17 29 52.3**	**-0.4**
RLS				S	**Sb**	**17 30 03.5**	**+0.5**
	10μm,0.5s						
RLS	**Riolos of Patr**	**0.78**	**55**	P	**Pg**	**17 29 52.5**	**-0.2**
RLS				S	**Sb**	**17 30 03.4**	**+0.4**
VSK1	**VASILIKIADES**	**0.79**	**355**	P	**Pg**	**17 29 52.7**	**-0.4**
VSK1				S	**Sb**	**17 30 04.8**	**+1.2**
	6μm,0.6s						
ZARO	**Zacharo**	**0.80**	**99**	P	**Pn**	**17 29 54.0**	**-0.2**
ZARO				S	**Sn**	**17 30 05.2**	**-0.5**
AXS	**Araxos**	**0.81**	**44**	P	**Pg**	**17 29 53.1**	**-0.3**
AXS				S	**Sb**	**17 30 04.6**	**+0.6**
AMT	**Artemida-Makis**	**0.84**	**95**	P	**Pb**	**17 29 54.2**	**+0.4**
AMT				S	**Sn**	**17 30 06.7**	**-0.1**
FSK	**Fiskardo**	**0.84**	**355**	P	**Pb**	**17 29 53.2**	**-0.7**
FSK				S	**Sg**	**17 30 06.0**	**+0.9**
	4μm,0.7s						
FSK	**Fiskardo**	**0.84**	**355**	P	**Pb**	**17 29 53.5**	**-0.4**
FSK				S	**Sb**	**17 30 05.1**	**+0.1**
DRO	**Drossia**	**0.90**	**68**	P	**Pg**	**17 29 55.0**	**0.0**
DRO				S	**Sn**	**17 30 08.0**	**-0.3**
	12μm,0.5s						
DRO	**Drossia**	**0.90**	**68**	P	**Pg**	**17 29 55.2**	**+0.2**
DRO				S	**Sn**	**17 30 08.3**	**+0.1**
EVGI	**Lefkada island**	**1.00**	**360**	P	**Pb**	**17 29 56.4**	**-0.2**
EVGI				S	**Sn**	**17 30 11.8**	**+1.0**
	3μm,0.3s						
EVGI	**Lefkada island**	**1.00**	**360**	P	**Pb**	**17 29 56.5**	**0.0**
PATG	**Patra B**	**1.05**	**53**	P	**Pn**	**17 29 57.7**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.07**	**356**	P	**Pb**	**17 29 57.9**	**+0.2**
PATC	**Patra C**	**1.09**	**53**	P	**Pg**	**17 29 58.7**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.09**	**2**	P	**Pb**	**17 29 57.9**	**-0.2**
NYDR				S	**Sn**	**17 30 15.3**	**+2.2**
	2μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.09**	**2**	P	**Pb**	**17 29 57.9**	**-0.2**
ITM	**Ithomi**	**1.10**	**113**	P	**Pn**	**17 29 58.5**	**+0.1**
ITM				S	**Sn**	**17 30 14.8**	**+1.6**
	3μm,0.7s						
ITM	**Ithomi**	**1.10**	**113**	P	**Pn**	**17 29 58.5**	**+0.1**
UPR	**University Cam**	**1.11**	**53**	P	**Pg**	**17 29 59.3**	**+0.2**
UPR				S	**Sn**	**17 30 15.0**	**+1.5**
UPR	**University Cam**	**1.11**	**53**	P	**Pg**	**17 29 59.5**	**+0.5**
MTHA	**Methoni**	**1.15**	**133**	P	**Pg**	**17 30 00.0**	**+0.2**
LKD2	**Lefkada island**	**1.17**	**360**	P	**Pn**	**17 29 59.2**	**-0.1**
LKD2	**Lefkada island**	**1.17**	**360**	P	**Pn**	**17 29 59.5**	**+0.2**
TSLK	**Tsoukalades, L**	**1.21**	**360**	P	**Pn**	**17 30 00.3**	**+0.5**
TSLK	**Tsoukalades, L**	**1.21**	**360**	P	**Pb**	**17 30 00.5**	**+0.4**
PVO	**Paravola**	**1.21**	**34**	P	**Pb**	**17 30 00.5**	**+0.4**
KLV	**Kalavryta, Ach**	**1.25**	**70**	P	**Pb**	**17 30 00.9**	**0.0**
KLV	**Kalavryta, Ach**	**1.25**	**70**	P	**Pb**	**17 30 00.9**	**0.0**
EFP	**Efpalio**	**1.27**	**50**	P	**Pb**	**17 30 01.1**	**-0.1**
EFP				S	**Sg**	**17 30 19.1**	**+0.4**
EFP	**Efpalio**	**1.27**	**50**	P	**Pb**	**17 30 01.4**	**+0.2**
EFP				S	**Sg**	**17 30 17.9**	**-0.8**
SERG	**Sergoula**	**1.36**	**54**	P	**Pb**	**17 30 02.6**	**0.0**
GUR	**Goura**	**1.37**	**76**	P	**Pb**	**17 30 03.2**	**+0.3**
GUR	**Goura**	**1.37**	**76**	P	**Pb**	**17 30 03.3**	**+0.3**
VLX	**Vlachokerasia**	**1.39**	**100**	P	**Pb**	**17 30 03.1**	**-0.1**
ANX	**Ano Chora**	**1.39**	**45**	P	**Pb**	**17 30 03.0**	**-0.3**
ANX	**Ano Chora**	**1.39**	**45**	P	**Pb**	**17 30 03.0**	**-0.3**
KALE	**Kalithea**	**1.40**	**56**	P	**Pn**	**17 30 02.9**	**+0.4**
KALE	**Kalithea**	**1.40**	**56**	P	**Pn**	**17 30 02.9**	**+0.4**
EVR	**Evrytania**	**1.58**	**35**	P	**Pb**	**17 30 06.8**	**+0.3**
TETR	**Tetrakomo, Epi**	**1.79**	**15**	P	**Pn**	**17 30 08.5**	**+0.5**
IGT	**Igoumenitsa**	**1.93**	**352**	P	**Pn**	**17 30 11.1**	**+1.3**
IGT	**Igoumenitsa**	**1.93**	**352**	P	**Pn**	**17 30 11.4**	**+1.7**
OHR	**Ohrid**	**3.49**	**2**	*i* Pn	**Pg**	**17 30 45.9**	**+1.5**
VAY	**Valandovo**	**3.98**	**21**	*i* Pn	**Pn**	**17 30 40.8**	**+2.8**
VAY				*i* Sn	**Sn**	**17 31 25.8**	**+1.5**
IDI	**Anoyia**	**4.13**	**123**	Pn	**Pn**	**17 30 37.7**	**-2.3**
	11nm,1.0s,baz=268,slow=10,SNR=8.9						
IDI				Sn	**Sn**	**17 31 27.6**	**-0.5**
	10nm,0.3s,baz=290,slow=18,SNR=14						
IDI				LR	LR	17 32 10.9	
	comp=Z,60nm,20.1s,baz=216,slow=38						
ZEYE	**Izmir, Urla-Ze**	**4.66**	**81**	P	Pn	17 30 52.9	+5.6
DRME	**Dracevica, Mon**	**4.70**	**347**	*e*Pn	**Pn**	**17 30 48.4**	**+0.5**
URLA	**Izmir**	**4.75**	**79**	P	**Pn**	**17 30 52.7**	**+4.2**
URLA				S	**Sn**	**17 31 49.2**	**+5.9**
PDG	**Podgorica**	**4.93**	**348**	*e*Pn	**Pn**	**17 30 49.6**	**-1.3**
VAE	**Valguarnera**	**4.97**	**270**	Sn	**Sn**	**17 31 55.9**	**+7.2**
	4.0nm,0.3s,baz=206,slow=21,SNR=3.6						
TREB	**Trebinje**	**5.39**	**342**	*e*Pn	**Pn**	**17 30 57.1**	**-0.2**
SJES	**Sjenica**	**5.66**	**355**	*e*Pn	**Pn**	**17 31 01.5**	**+0.4**
STON	**Ston**	**5.71**	**338**	*e*Pn	**Pn**	**17 31 01.1**	**-0.6**
RUDO	**Rudo**	**6.07**	**351**	*e*Pn	Pn	17 30 56.8	-10
KIRA	**zmir-Kiraz**	**6.15**	**82**	P	Pn	17 31 13.8	+5.9
BBLS	**Lazi&#263i**	**6.32**	**352**	*e*Pn	**Pn**	**17 31 09.5**	**-0.6**
DNZT	**Denizli-Tavas-**	**6.66**	**90**	P	Pn	17 31 23.8	+8.9
SABU	**Mula-Dalaman**	**6.68**	**94**	P	Pn	17 31 20.0	+4.9
SABU				S	**Sn**	**17 32 35.4**	**+4.6**
IZZE	**Mula-Seydike**	**6.95**	**97**	P	**Pn**	**17 31 22.3**	**+3.5**
GOLH	**Golhisar**	**7.09**	**90**	P	Pn	17 31 28.1	+7.3
KNIK	**Mula-Seydike**	**7.15**	**93**	P	Pn	17 31 27.1	+5.4
KNIK				S	**Sn**	**17 32 45.3**	**+2.7**
AKAS	**Kas**	**7.30**	**98**	P	**Pn**	**17 31 26.8**	**+3.1**
A050A	**Klekovaca**	**7.53**	**337**	*e*Pn	**Pn**	**17 31 28.4**	**+1.6**
BLY	**Banja Luka**	**7.59**	**341**	*e*Pn	**Pn**	**17 31 30.1**	**+2.6**
A051A	**Mrakovica**	**7.91**	**340**	*e*Pn	**Pn**	**17 31 31.4**	**-0.5**
MLR	**Muntele Rosu**	**8.81**	**25**	Pn	**Pn**	**17 31 44.4**	**+0.1**
	0.2nm,0.3s,baz=158,slow=11,SNR=3.6						
MLR				LR	LR	17 35 15.7	
	comp=Z,47nm,20.1s,baz=82,slow=39						
	1.6nm,0.7s						
BOJS	**Bojanci**	**8.86**	**335**	*e*Pn	**Pn**	**17 31 44.0**	**-0.9**
CRES	**Cresnjevec Ost**	**9.07**	**336**	*e*Pn	**Pn**	**17 31 46.4**	**-1.5**
CEY	**Cerknica**	**9.36**	**332**	*e*Pn	**Pn**	**17 31 52.5**	**+0.8**
**SO

comp=Z,806nm,0.7s
AF01 San Pedro de A 2.22 110 ⇓*i*P **Pb 17 35 50.3 +0.3**
AF01 San Pedro de A 2.22 110 *e*P **Pn 17 35 47.2 +0.7**
AF01 *e*S **Sn 17 36 15.1 +1.2**
PB08 IPOC Station P 2.37 31 *e*P **Pn 17 35 49.9 +1.3**
PB08 *i* S **Sb 17 36 21.2 -0.5**
PB08 IAML 17 36 27.9
comp=N,625nm,0.4s
PB08 IPOC Station P 2.37 31 *e*P **Pn 17 35 44.7 -3.9**
PB08 IAML 17 36 25.5
comp=Z,382nm,0.5s
PB14 IPOC Station P 2.42 179 *e*P **Pn 17 35 48.7 -0.6**
PB14 *e*S **Sn 17 36 19.1 +0.2**
PB14 IAML 17 36 35.6
comp=Z,290nm,0.7s
PB11 IPOC Station P 2.53 17 *e*P **Pn 17 35 50.8 +0.3**
PB11 IAML 17 36 34.0
comp=Z,402nm,0.9s
GO01 Chusmiza 2.77 25 *e*P **Pn 17 35 56.4 +2.3**
GO01 *i* S **Sb 17 36 32.4 -1.0**
GO01 IAML 17 36 40.1
comp=N,577nm,0.4s
GO01 Chusmiza 2.77 25 *e*P **Pn 17 35 57.1 +3.0**
GO02 Mina Guanaco 3.06 165 *e*P **Pn 17 35 58.8 +0.8**
GO02 *e*S **Sn 17 36 37.6 +3.1**
PB16 IPOC Station P 3.94 13 *e*P **Pn 17 36 11.4 +1.0**
PB16 *e*S **Sb 17 37 08.1 +1.0**
PB16 IAML 17 37 18.7
comp=Z,156nm,0.7s
AC01 Pan de Azucar 3.94 182 *e*P **Pn 17 36 08.6 -1.2**
AC01 *e*S **Sn 17 36 55.1 -0.8**
AC01 IAML 17 37 24.0
comp=Z,83nm,0.4s
AC02 Maricunga 4.77 166 *e*P **Pn 17 36 23.5 +1.7**
AC02 *e*S **Sn 17 37 11.7 -5.5**
AC02 IAML 17 37 43.2
comp=Z,98nm,1.3s

---

*CNRM **23** 17:50:51.9, 35°.64N×1°.40W, h77km*
*MDD **23** 17:50:53.0±1.7, 35°.86N×1°.41W, h30km, mb_Lg2.5/7,*
Error ellipse: s-maj=11.5km s-min=10.6km az=152.0
ISC 23 17:50:49.4±1.8, 35°.76N±0°.04×1°.39W±0°.07, h11km±12km, n17, σ1§02/25, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAF	**Taforalt**	**1.26**	**222**	P	**Pb**	**17 51 13.3**	**0.0**
TAF	**Taforalt**	**1.26**	**222**	S	**Sb**	**17 51 29.3**	**-0.3**
ENIJ	**Nijar**	**1.37**	**332**	Pg	**Pg**	**17 51 16.1**	**+0.2**
ENIJ				Sg	**Sg**	**17 51 33.3**	**-0.4**
ENIJ	**Nijar**	**1.37**	**332**	Pg	**Pg**	**17 51 16.0**	**+0.2**
ENIJ				Sg	**Sb**	**17 51 32.7**	**-0.1**
ENIJ				*i* Vmb_Lg		17 51 34.5	
GOG	**Mont Gurugu**	**1.41**	**248**	P	**Pn**	**17 51 15.4**	**+0.2**
GOG	**Mont Gurugu**	**1.41**	**248**	S	**Sn**	**17 51 33.6**	**-0.3**
JBK	**JBK**	**1.72**	**214**	P	**Pn**	**17 51 20.1**	**+0.6**
JBK	**JBK**	**1.72**	**214**	S	**Sn**	**17 51 41.9**	**+0.4**
CART	**Cartagena**	**1.85**	**10**	Pn	**Pn**	**17 51 21.4**	**+0.4**
CART				Sn	**Sn**	**17 51 44.6**	**+0.2**
EMUR	**La Murta**	**2.08**	**3**	Pn	**Pn**	**17 51 25.2**	**+0.8**
EMUR	**La Murta**	**2.08**	**3**	Pg	**Pn**	**17 51 25.0**	**+0.7**
EMUR				*i* Vmb_Lg		17 51 26.9	
EMUR				Sg	**Sn**	**17 51 48.2**	**-2.0**
ELGU	**Los Guajares,**	**2.11**	**302**	Sn	**Sb**	**17 51 52.7**	**-1.4**
ELGU				Pn	**Pn**	**17 51 26.1**	**+1.3**
ELGU	**Los Guajares,**	**2.11**	**302**	*i* Vmb_Lg		17 51 23.4	
ELGU				Pg	**Pn**	**17 51 26.2**	**+1.3**
ELGU				Sg	**Sb**	**17 51 52.9**	**-1.3**
AKLM	**AKL**	**2.38**	**239**	P	**Pn**	**17 51 28.3**	**-0.2**
AKLM	**AKL**	**2.38**	**239**	S	**Sn**	**17 51 57.4**	**-0.3**
EQES	**Quesada**	**2.44**	**327**	Pg	**Pb**	**17 51 33.8**	**+0.3**
EQES				Sg	**Sb**	**17 52 02.2**	**-1.4**
EQES				*i* Vmb_Lg		17 52 04.8	
JAND	**Jandula**	**3.21**	**321**	Pg	**Pb**	**17 51 46.0**	**-0.4**
JAND				Sg	**Sn**	**17 52 20.5**	**+2.4**
JAND				*i* Vmb_Lg		17 53 51.0	

---

*IDC **23** 17:51:49.2±1.9, 21°.62N×143°.11E, h293km±18km,*
mb3.1/11, mbtmp3.8/12, Error ellipse: s-maj=24.3km
s-min=13.2km az=87.0
ISC 23 17:51:51.0±0.9, 21°.7N±0°.1×143°.0E±0°.2, h311km, n12, σ0§98/13, mb3.4/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.43**	**352**	P	**Pn**	**17 53 13.5**	**-0.4**
	37nm,0.4s,baz=274,slow=22,SNR=11						
JCJ				S	**S**	**17 54 18.7**	**-1.9**
	52nm,0.7s,baz=264,slow=23,SNR=1.5						
KSRS	**Korea Array**	**20.44**	**324**	P	**P**	**17 56 06.6**	**+1.1**
	0.7nm,0.5s,baz=147,slow=8.6,SNR=6.7						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**42.25**	**192**	P	**P**	**17 59 14.0**	**-0.7**
	1.1nm,0.4s,baz=18,slow=9.3,SNR=20						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**45.96**	**192**	P	**P**	**17 59 42.6**	**-1.3**
	0.1nm,0.4s,baz=10,slow=6.9,SNR=5.0						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**54.60**	**313**	P	**P**	**18 00 48.3**	**+0.3**
	0.2nm,0.6s,baz=95,slow=7.8,SNR=2.6						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**57.44**	**317**	P	**P**	**18 01 08.4**	**+0.7**
	0.7nm,0.4s,baz=92,slow=7.3,SNR=13						
	0.7nm,0.4s						
ILAR	**Eielson Array**	**62.10**	**27**	P	**P**	**18 01 38.9**	**-0.2**
	0.3nm,0.6s,baz=247,slow=4.8,SNR=4.4						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**62.59**	**319**	P	**P**	**18 01 43.2**	**+0.7**
	1.6nm,0.3s,baz=99,slow=7.7,SNR=20						
	1.6nm,0.3s						
YKA	**Yellowknife Ar**	**76.52**	**28**	P	**P**	**18 03 07.6**	**+0.7**
	0.4nm,0.7s,baz=293,slow=5.4,SNR=7.8						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**78.88**	**341**	P	**P**	**18 03 20.5**	**+0.8**
	0.6nm,0.4s,baz=68,slow=6.9,SNR=7.8						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**83.12**	**334**	P	**P**	**18 03 41.6**	**-0.6**
	1.0nm,0.6s,baz=70,slow=4.6,SNR=9.8						
	1.0nm,0.6s						
NVAR	**Mina Array Bea**	**83.24**	**51**	P	**P**	**18 03 43.9**	**+0.3**
	0.3nm,0.5s,baz=314,slow=4.0,SNR=1.9						
	0.3nm,0.5s						

---

*NEIC **23** 17:53:49.0±1.8, 40°.52N±0°.07×127°.0W±0°.1, h10km±2km,*
ML3.1/66, Mwr3.7/21, Error ellipse: s-maj=13.3km
s-min=11.5km az=250.0, Moment Tensor Solution.
Moment tensor: Scale 10^{14}Nm; M_{rr}3.71; $M_{\theta\theta}$-2.29;
$M_{\phi\phi}$-1.42; $M_{r\theta}$-0.97; $M_{\theta\phi}$2.18; $M_{\phi r}$-2.03; Fault plane
solution: M_o4.51000×10^{14} NP1:ϕ_s153.86000°, δ54.69000°,
λ122.33000°. NP2:ϕ_s286.26000°, δ46.41000°, λ52.95000°.
Principal axes: T 4.8158, Plg64.0000°, Azm122.0000°;
N -0.6898, Plg26.0000°, Azm314.0000°; P -4.1260,
Plg5.0000°, Azm222.0000°;
*NEIC **23** 17:53:49.3, 40°.53N×126°.97W, h10km*
*IDC **23** 17:53:51.1±1.9, 40°.88N×126°.80W, h0km, mb3.1/4,*
mbtmp3.0/7, ML3.4/3, MS2.7/7, Error ellipse: s-maj=32.9km
s-min=17.0km az=20.0
ISC 23 17:53:51.3±1.1, 40°.53N±0°.06×126°.79W±0°.07, h16km, n71, σ1§55/69, mb3.1/4, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPM	**Mount Pierce**	**2.04**	**92**		**Pn**	**17 54 25.6**	**+0.6**
KMPM				IAML		17 54 44.9	
	comp=E,119nm,1.3s						
KMPM				IAML		17 54 56.7	
	comp=N,128nm,0.7s						
JCC	**Jacoby Creek,**	**2.12**	**81**	Pn	**Pn**	**17 54 26.4**	**+0.5**
JCC				Sn	**Sb**	**17 54 54.0**	**-1.2**
KRPM	**Rodgers**	**2.19**	**73**		**Pn**	**17 54 27.6**	**+0.6**
KRPM				Sn	**Sb**	**17 54 54.7**	**-2.7**
KRPM				IAML		17 55 06.4	
	comp=E,79nm,1.5s						
KRPM				IAML		17 55 22.6	
	comp=N,57nm,2.2s						
KHMM	**Horse Mountain**	**2.35**	**81**		**Pn**	**17 54 29.9**	**+0.6**
KHMM				Sn	**Sb**	**17 55 01.2**	**-0.9**
KHMM				IAML		17 55 35.7	
	comp=E,43nm,2.5s						
KMRM	**Mail Ridge**	**2.37**	**97**		**Pn**	**17 54 29.8**	**+0.2**
KMRM				IAML		17 54 50.5	
	comp=N,71nm,0.9s						
KMRM				IAML		17 54 53.9	
	comp=E,84nm,0.8s						
KBO	**Bosley Butte**	**2.55**	**48**	Pn	**Pn**	**17 54 31.9**	**-0.2**
KBO				IAML		17 54 56.6	
	comp=E,72nm,1.6s						
KBO				IAML		17 56 15.5	
	comp=N,67nm,2.2s						
KCPM	**Cahto Peak**	**2.60**	**108**		**Pn**	**17 54 33.4**	**+0.6**
KCPM				Sn	**Sb**	**17 55 06.9**	**-2.4**
KCPM				IAML		17 55 07.3	
	comp=N,86nm,0.8s						
KCPM				IAML		17 55 15.1	
	comp=E,89nm,0.6s						
L02F	**Cave Junction**	**2.89**	**56**		**Pn**	**17 54 37.5**	**+0.8**
L02F				IAML		17 54 59.9	
	comp=E,28nm,1.0s						
O02D	**Mt. Diablo Mer**	**3.08**	**95**		**Pn**	**17 54 39.5**	**+0.2**
K02D	**Willamette Mer**	**3.18**	**46**		**Pn**	**17 54 41.2**	**+0.5**
HOPS	**Hopland Field**	**3.25**	**117**	Pn	**Pn**	**17 54 42.1**	**+0.5**
YBH	**Yreka Blue Hor**	**3.30**	**67**		**Pn**	**17 54 44.7**	**+2.3**
YBH	**Yreka Blue Hor**	**3.30**	**67**	Pn	**Pn**	**17 54 44.3**	**+1.9**
	comp=E,4.8nm,0.3s,baz=270,slow=9.7,SNR=52						
YBH				Sn	**Sn**	**17 55 21.5**	**+0.1**
	comp=E,2.0nm,0.3s,baz=144,slow=11,SNR=4.2						
YBH				LR	LR	17 55 51.9	
	comp=E,86nm,21.9s,baz=270,slow=38						
	comp=E,12nm,0.3s						
J01E	**Myrtle Point**	**3.38**	**38**	Pn	**Pn**	**17 54 43.1**	**-0.2**
J01E				IAML		17 55 19.9	
	comp=E,23nm,3.9s						
J01E				IAML		17 55 36.0	
	comp=N,24nm,2.6s						
GDXM	**Geysers**	**3.53**	**118**	Pn	**Pn**	**17 54 46.9**	**+1.4**
GDXM				IAML		17 55 14.8	
	comp=E,18nm,3.2s						
GDXM				IAML		17 56 06.0	
	comp=N,21nm,2.7s						
DBO	**Dodson Butte**	**3.70**	**45**		**Pn**	**17 54 48.6**	**+0.8**
DBO				IAML		17 55 29.4	
	comp=N,15nm,3.2s						
DBO				IAML		17 55 58.0	
	comp=E,19nm,3.1s						
L04D	**Klamath Falls**	**3.77**	**62**		**Pn**	**17 54 52.2**	**+3.4**
L04D				IAML		17 55 16.9	
	comp=E,48nm,0.6s						
L04D				IAML		17 55 43.3	
	comp=N,32nm,0.7s						
MCCM	**Marconi Confer**	**3.85**	**127**	Pn	**Pn**	**17 54 50.0**	**+0.1**
BBOR	**Butler Butte**	**3.87**	**51**		**Pn**	**17 54 52.1**	**+1.8**
BBOR				IAML		17 55 19.9	
	comp=E,16nm,1.2s						
BBOR				IAML		17 55 46.0	
	comp=N,14nm,2.8s						
HATC	**Hat Creek Radi**	**4.06**	**84**		**Pn**	**17 54 52.3**	**-0.5**
HATC				IAML		17 56 37.9	
	comp=E,40nm,3.2s						
I03D	**Drain, OR**	**4.07**	**38**		**Pn**	**17 54 53.2**	**+0.4**
I03D				IAML		17 55 29.0	
	comp=E,14nm,4.2s						
I03D				IAML		17 56 34.1	
	comp=N,14nm,4.2s						
I02E	**Swisshome, OR**	**4.18**	**30**	Pn	**Pn**	**17 54 55.0**	**+0.6**
I02E				IAML		17 55 48.5	
	comp=N,33nm,4.7s						
I02E				IAML		17 57 14.3	
	comp=E,33nm,4.6s						
K04D	**Chiloquin, OR**	**4.31**	**59**		**Pn**	**17 54 57.3**	**+1.0**
J04A	**Umpqua Nationa**	**4.42**	**51**		**Pn**	**17 54 58.4**	**+0.6**
BUCK	**Buck Mountain**	**4.62**	**36**	Pn	**Pn**	**17 55 00.3**	**-0.2**
BUCK				IAML		17 55 41.8	
	comp=N,26nm,3.9s						
AFDM	**Forest Hills D**	**4.75**	**108**		**Pn**	**17 55 01.9**	**-0.4**
COR	**Corvallis**	**4.80**	**31**	Pn	**Pn**	**17 55 01.4**	**-1.4**
BEKR	**Beckworth**	**4.97**	**96**		**Pn**	**17 55 08.4**	**+3.0**
J05D	**Fort Rock, OR**	**4.97**	**55**		**Pn**	**17 55 07.6**	**+2.2**
J05D				IAML		17 55 53.7	
	comp=E,17nm,3.9s						
J05D				IAML		17 56 47.6	
	comp=N,14nm,4.0s						
H04D	**Lebanon**	**4.98**	**36**	Pn	**Pn**	**17 55 06.5**	**+1.1**
H04D				IAML		17 57 00.9	
	comp=N,21nm,1.8s						
H04D				IAML		17 58 11.8	
	comp=E,19nm,2.1s						
HEBO	**Mount Hebo**	**5.18**	**24**	Pn	**Pn**	**17 55 08.9**	**+0.8**
MPK	**Martis Peak**	**5.34**	**101**		**Pn**	**17 55 11.0**	**+0.4**
H04A	**Detroit Lake**	**5.36**	**38**		**Pn**	**17 55 09.4**	**-1.2**
PINE	**Pine Mountain**	**5.43**	**51**		**Pn**	**17 55 13.1**	**+1.3**
CMB	**Columbia Colle**	**5.56**	**115**		**Pn**	**17 55 14.2**	**+0.8**
SAO	**San Andreas Ge**	**5.62**	**130**	Pn	**Pn**	**17 55 13.1**	**-1.1**
G04A	**Mulino**	**5.64**	**33**	Pn	**Pn**	**17 55 14.1**	**-0.3**
PAHR	**Pah Rah Range**	**5.73**	**96**		**Pn**	**17 55 15.5**	**-0.3**
BBGB	**Big Mountain B**	**5.99**	**129**	Pn	**Pn**	**17 55 18.6**	**-0.8**
WAKR	**Walker**	**6.03**	**107**	Pn	**Pn**	**17 55 19.7**	**-0.4**
HOOD	**Mount Hood Mea**	**6.09**	**37**	Pn	**Pn**	**17 55 19.6**	**-1.1**
PMPB	**Monarch Peak**	**6.38**	**131**	Pn	**Pn**	**17 55 24.2**	**-0.4**
WVOR	**Wild Horse Val**	**6.41**	**70**		**Pn**	**17 55 24.5**	**-0.6**
I07A	**Izee**	**6.46**	**54**		**Pn**	**17 55 25.2**	**-0.6**
G06A	**Carlson Farm,**	**6.52**	**42**	Pn	**Pn**	**17 55 24.8**	**-1.7**
LHV	**Little Huntoon**	**6.81**	**107**	Pn	**Pn**	**17 55 29.9**	**-0.5**
J08A	**Circle Bar Ran**	**6.81**	**63**	Pn	**Pn**	**17 55 30.3**	**-0.3**
NVAR	**Mina Array Bea**	**6.89**	**105**	Pn	**Pn**	**17 55 35.6**	**+3.8**
	comp=E,0.1nm,0.3s,baz=309,slow=9.0,SNR=1.4						
NVAR				LR	LR	17 57 47.4	
	comp=E,34nm,18.2s,baz=312,slow=33						
	comp=E,0.1nm,0.3s						
G08A	**Pilot Rock**	**7.45**	**48**	Pn	**Pn**	**17 55 40.1**	**+0.6**
ELK	**Elko**	**8.78**	**85**	LR	LR	17 59 38.6	
	comp=E,54nm,18.2s,baz=273,slow=40						
PLID	**Pearl Lake**	**9.14**	**57**	Pn	**Pn**	**17 56 04.2**	**+1.6**
PRN	**Pahroc Range**	**9.66**	**105**	Pn	**Pn**	**17 56 11.1**	**+1.4**
SHPR	**Sheep Range**	**9.96**	**110**		**Pn**	**17 56 15.7**	**+1.8**
NEW	**Newport**	**10.36**	**39**	LR	LR	17 59 23.5	
	comp=E,25nm,21.7s,baz=209,slow=33						
PFO	**Pinyon Flats O**	**10.76**	**127**	LR	LR	18 00 37.2	
	comp=E,27nm,21.4s,baz=255,slow=37						
PDAR	**Pinedale Array**	**13.08**	**75**	Pn	**Pn**	**17 57 00.9**	**+4.3**
	comp=E,0.1nm,0.3s,baz=152,slow=14,SNR=1.7						
PDAR				LR	LR	18 02 29.4	
	comp=E,42nm,19.0s,baz=265,slow=40						
	comp=E,0.1nm,0.5s						
TXAR	**Lajitas Array**	**21.94**	**113**	P	**P**	**17 58 47.4**	**+3.3**
	comp=E,0.3nm,0.8s,baz=319,slow=8.4,SNR=4.1						
	comp=E,0.3nm,0.8s						
ECSD	**EROS Data Cent**	**22.54**	**72**	P	**P**	**17 58 51.0**	**+0.5**
YKA	**Yellowknife Ar**	**23.18**	**14**	P	**P**	**17 58 54.9**	**-2.0**
	comp=E,0.1nm,0.3s,baz=203,slow=10,SNR=1.8						
	comp=E,0.1nm,0.3s						
OK051	**E0350 and S346**	**23.72**	**90**	P	**P**	**17 59 02.3**	**-0.2**
H31M	**Peel River**	**25.68**	**353**	P	**P**	**17 59 18.5**	**-1.7**
H29M	**Whitestone**	**26.55**	**350**	P	**P**	**17 59 26.5**	**-1.6**
M20K	**Styx River**	**26.66**	**332**	P	**P**	**17 59 27.1**	**-2.1**
ILAR	**Eielson Array**	**26.92**	**341**	P	**P**	**17 59 29.6**	**-1.8**
	comp=E,0.6nm,0.7s,baz=147,slow=7.3,SNR=6.9						
	comp=E,0.6nm,0.7s						
G29M	**Pine Creek**	**27.16**	**350**	P	**P**	**17 59 31.2**	**-2.4**
L19K	**White Mountain**	**27.47**	**331**	P	**P**	**17 59 34.8**	**-1.7**
TKL	**Tuckaleechee C**	**33.95**	**84**	LR	LR	18 15 20.5	
	comp=E,36nm,19.4s,baz=304,slow=38						
H11N3	**WAKE ISLAND Hy**	**59.62**	**271**	T	T	19 08 00.4	
	baz=53,slow=75,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**59.63**	**271**	T	T	19 07 59.3	
	baz=53,slow=75,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**59.64**	**271**	T	T	19 08 00.8	
	baz=53,slow=75,SNR=4.0						
KURBB	**Kurchatov Arra**	**86.55**	**344**	P	**P**	**18 06 35.6**	**+2.3**
	comp=E,0.1nm,0.4s,baz=24,slow=5.4,SNR=2.4						
	comp=E,0.1nm,0.4s						

---

*IDC **23** 18:02:54.0±0.5, 14°.97N×120°.33E, h0km, mb4.3/23,*
mbtmp4.3/24, ML4.7/1, MS3.5/34, Error ellipse:
s-maj=21.5km s-min=7.8km az=61.0
*NEIC **23** 18:02:59.6±1.3, 14°.91N±0°.06×120°.61E±0°.10, h50km±7km,*
mb4.7/144, Error ellipse: s-maj=13.8km s-min=8.6km
az=79.0
*BJI **23** 18:03:00.0, 14°.87N×120°.60E, h64km, mB4.7/14, mb4.4/54,*
Ms3.9/26, Ms7 3.7/31
*DJA **23** 18:03:15.1±1.1, 15°N±5°×12°0E±°, h160km±11km, M4.6/25,*
mb4.5/25, mB5.2/6, Mw(mB)4.6/6, MwMwp6.1/1, Mwp6.1/1
ISC 23 18:02:59.1±0.3, 14°.91N±0°.04×120°.61E±0°.06, h43km, n388,
σ1§23/338, mb4.6/112, MS3.6/42, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.86**	**158**	Pg	**Pn**	**18 03 15.9**	**+1.1**
	2μm,0.3s,baz=281,slow=2.3,SNR=70						
TGY				Lg	Lg	18 03 30.7	
	7μm,0.3s,baz=248,slow=19,SNR=15						
TWG	**Pinlang**	**7.88**	**3**	Pn	**Pn**	**18 04 52.3**	**+1.0**
TPUB	**Ta-pu**	**8.35**	**0**		**Pn**	**18 04 57.8**	**+0.2**
YULB	**Yu-li**	**8.46**	**4**		**Pn**	**18 04 58.9**	**-0.4**
SSLB	**Suanglung**	**8.84**	**2**		**Pn**	**18 05 04.1**	**-0.3**
NACB	**Ninganchiao**	**9.27**	**6**	Pn	**Pn**	**18 05 10.5**	**+0.4**
MYLDM	**Lahad Datu**	**9.89**	**192**		**Pn**	**18 05 20.8**	**+2.1**
QIZ	**Qiongzhong**	**11.08**	**293**	P	**Pn**	**18 05 36.4**	**+1.3**
QIZ				S	**Sn**	**18 07 40.8**	**+3.1**
QIZ				pmax	pmax		
	comp=Z,18nm,1.2s						
QIZ				LR	LR		
	comp=N,230nm,15.5s						
QIZ				LR	LR		
	comp=E,210nm,11.1s						
QIZ				LR	LR		
	comp=Z,230nm,24.7s						
TOLI2	**Tolitoli**	**13.71**	**179**	Pn	**Pn**	**18 06 11.7**	**+0.7**
JOW	**Kunigami**	**13.85**	**30**	LR	LR	18 12 05.4	
	comp=Z,212nm,18.3s,baz=106,slow=40						
MPSI	**Mapaga**	**14.49**	**183**	P	P	18 06 34.9	+7.5
	17nm,1.1s						
UBPT	**Khong Chiam**	**14.62**	**273**		**Pn**	**18 06 24.5**	**+1.2**
SBUM	**Sibu**	**14.89**	**215**		**Pn**	**18 06 25.4**	**-1.5**
TNTI	**Ternate**	**15.55**	**154**	Pn	**Pn**	**18 06 36.3**	**+0.8**
LUWI	**Luwuk**	**15.99**	**172**		**P**	**18 06 42.1**	**-1.9**
LUWI				IAmb	IAmb	18 07 12.8	
	comp=Z,43nm,0.8s						
WHN	**Wuhan**	**16.59**	**341**	P	**P**	**18 06 54.8**	**+4.2**
WHN				pmax	pmax		
	comp=Z,40nm,0.9s						
KSM	**Kuching**	**16.78**	**218**		**Pn**	**18 06 50.0**	**-1.2**
SLVN	**Son La**	**17.11**	**294**	P	**Pn**	**18 06 52.6**	**-2.7**
NJ2	**Nanjing**	**17.14**	**355**	*e*P	**P**	**18 06 57.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
NJ2				LR	LR		
	comp=Z,250nm,18.9s						
NJ2				LR	LR		
	comp=Z,200nm,13.7s						
NJ2				LR	LR		
	comp=Z,310nm,17.1s						
STKI	**Sintang**	**17.29**	**212**	P	**P**	**18 07 01.4**	**+2.9**
	comp=Z,29nm,0.9s						
ENH	**Enshi**	**18.40**	**328**	P	**P**	**18 07 09.2**	**-1.5**
SPSI	**Sidrap Palu**	**18.77**	**183**	P	Pn	18 07 24.1	+8.6
	comp=Z,1μmcomp=Z,29nm,1.2s						
KMI	**Kunming**	**19.60**	**304**	P	Pn	18 07 34.4	+8.7
KMI				pmax	pmax		
	comp=Z,12nm,1.4s						
KMI				LR	LR		
	comp=N,170nm,16.7s						
KMI				LR	LR		
	comp=E,190nm,17.6s						
KMI				LR	LR		
	comp=Z,200nm,20.8s						
KAPI	**Kappang**	**19.81**	**183**		**P**	**18 07 24.8**	**-1.4**
KAPI				IAmb	IAmb	18 07 33.9	
	comp=Z,66nm,1.2s						
KAPI	**Kappang**	**19.81**	**183**	P	**Pn**	**18 07 26.4**	**-1.6**
	comp=Z,2.3nm,0.3s,baz=315,slow=5.3,SNR=8.5						
KAPI				LR	LR	18 15 24.1	
	comp=Z,109nm,20.7s,baz=2.5,slow=38						
	comp=Z,7.2nm,0.5s						
JNU	**Nakatsue**	**20.39**	**25**	P	**P**	**18 07 32.8**	**+0.4**
JNU				IAmb	IAmb	18 07 48.0	
	comp=Z,83nm,1.5s						
JNU	**Nakatsue**	**20.39**	**25**	LR	LR	18 15 20.8	
	comp=Z,158nm,21.8s,baz=197,slow=36						
LYN	**LuoYang**	**20.89**	**341**	⇑P	Pn	18 07 40.8	+0.2
LYN				S	S	18 11 14.8	-14
LYN				pmax	pmax		
	comp=Z,36nm,0.5s						
LYN				LR	LR		
	comp=Z,210nm,11.3s						
LYN				LR	LR		
	comp=Z,280nm,10.7s						
LYN				LR	LR		
	comp=Z,230nm,12.3s						
CM31	**Chiang Mai Arr**	**21.05**	**283**	P	**P**	**18 07 39.0**	**-0.6**
CM31				IAmb	IAmb	18 07 46.2	
	comp=Z,46nm,1.4s						
CMAR	**Chiang Mai Arr**	**21.05**	**283**		**P**	**18 07 39.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**21.05**	**283**	P	**P**	**18 07 38.2**	**-1.4**
	comp=Z,5.9nm,0.8s,baz=90,slow=9.3,SNR=48						
CMAR				PcP	**PcP**	**18 11 47.9**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=98,slow=2.4,SNR=9.8						
CMAR				LR	LR	18 16 33.1	
	comp=Z,68nm,18.1s,baz=100,slow=39						
	comp=Z,5.9nm,0.8s						
PZH	**PanZhiHua**	**21.05**	**306**	P	**P**	**18 07 41.8**	**+2.1**
PZH				S	**S**	**18 11 25.6**	**-6.3**
PZH				pmax	pmax		
	comp=Z,30nm,1.3s						
PZH				pmax	pmax		
	comp=Z,70nm,3.9s						
PZH				LR	LR		
	comp=Z,140nm,11.3s						
PZH				LR	LR		
	comp=Z,90nm,10.8s						
PZH				LR	LR		
	comp=Z,190nm,15.2s						
CHTO	**Chiang Mai**	**21.09**	**284**		**P**	**18 07 39.8**	**-0.3**
RKPI	**Ransiki, Papua**	**21.13**	**139**	P	P	18 08 05.6	+25
TIA	**Tai'an**	**21.44**	**352**	P	**P**	**18 07 45.3**	**+1.6**
TIA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TIA				LR	LR		
	comp=Z,220nm,17.1s						
TIA				LR	LR		
	comp=Z,160nm,12.6s						
TIA				LR	LR		
	comp=Z,300nm,19.0s						
SRIT	**Nakonsritamara**	**21.49**	**255**	P	**P**	**18 07 43.9**	**-0.5**
XAN	**Xi'an**	**21.78**	**333**	P	**P**	**18 07 46.9**	**-0.5**
XAN				pmax	pmax		
	comp=Z,46nm,1.1s						
BAKI	**Biak**	**22.16**	**135**	P	P	18 07 58.9	+7.3
	comp=Z,35nm,1.9s						
CD2	**Chengdu**	**22.19**	**319**	P	**P**	**18 07 51.6**	**-0.2**
CD2				pmax

comp=Z,31nm,0.9s
SAUI Saumlaki 25.09 154 P P 18 08 18.3 -1.6
INU Inuyama 25.13 33 P P 18 08 17.9 -2.2
INU IAmb IAmb 18 08 35.6
comp=Z,38nm,1.4s
JHJ Hachijo jima 2 25.13 40 LR LR 18 17 21.9
comp=Z,101nm,20.7s,baz=230,slow=34
MDSI Maura Dua 25.23 221 P P 18 08 23.7 +2.5
comp=Z,22nm,1.1s
JSG Sagara 25.26 36 P P 18 08 19.4 -1.9
BJT Baijiatuau 25.32 352 P P 18 08 19.1 -2.6
BJI Beijing 25.34 352 P P 18 08 23.3 +1.4
BJI pmax pmax
comp=Z,5.0nm,1.1s
BJI LR LR
comp=Z,51nm,17.0s
BJI LR LR
comp=Z,61nm,17.3s
BJI LR LR
comp=Z,77nm,15.4s
JGF Kuroka 25.50 33 P P 18 08 21.7 -1.8
JGF IAmb IAmb 18 08 37.5
comp=Z,23nm,1.3s
LWLI Liwa 25.71 221 P P 18 08 27.2 +1.5
LZH Lanzhou 25.88 328 *e*P **P 18 08 29.4 +2.3**
LZH pP pP 18 08 41.0 +2.2
LZH pmax pmax
comp=Z,38nm,1.3s
LZH LR LR
comp=Z,320nm,14.8s
LZH LR LR
comp=Z,340nm,16.1s
LZH LR LR
comp=Z,310nm,15.8s
JAY Jayapura 26.38 129 LR LR 18 21 01.6
comp=Z,107nm,18.6s,baz=358,slow=41
GSI Gunungsitoli 26.46 241 P P 18 08 31.0 -1.3
MAJO Matsushiro 26.66 33 P P 18 08 33.3 -0.8
MJAR Matsushiro Arr 26.66 33 P P 18 08 34.9 +0.9
comp=Z,0.9nm,0.7s,baz=214,slow=8.1,SNR=1.8
comp=Z,0.9nm,0.7s
HHC Hu-ho-hao-te 27.02 345 *e*P **P 18 08 38.3 +1.0**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,92nm,5.0s
HHC LR LR
comp=Z,200nm,19.3s
HHC LR LR
comp=Z,120nm,16.2s
HHC LR LR
comp=Z,180nm,17.8s
GTA Gaotai 30.48 327 P P 18 09 10.1 +2.0
GTA pP sP 18 09 23.6 -1.5
GTA PcP **PcP 18 12 08.3 +1.6**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA LR LR
comp=Z,77nm,12.4s
GTA LR LR
comp=Z,110nm,13.8s
GTA LR LR
comp=Z,220nm,15.3s
LSA Lhasa 30.86 303 P P 18 09 12.0 0.0
LSA IAmb IAmb 18 09 18.5
comp=Z,14nm,1.3s
FITZ Fitzroy Crossi 33.17 171 P P 18 09 29.9 -1.9
ASAJ Asahikawa 34.61 28 LR LR 18 23 49.7
comp=Z,86nm,21.5s,baz=210,slow=36
JKA Kamikawa-asahi 34.61 28 P P 18 09 42.9 -1.2
ULN Ulaanbaatar 34.73 344 P P 18 09 43.1 -2.1
SONM Songino Array 34.88 343 P P 18 09 45.0 -1.4
SONM Songino Array 34.88 343 P P 18 09 47.5 +1.0
comp=Z,1.0nm,0.7s,baz=167,slow=10.0,SNR=7.8
SONM LR LR 18 25 29.7
comp=Z,139nm,19.6s,baz=136,slow=39
comp=Z,1.0nm,0.7s
KLR Kul'dur 35.43 13 LR LR 18 24 10.2
comp=Z,110nm,21.0s,baz=218,slow=36
HEH HeiHe 35.68 7 *e*P **P 18 09 56.0 +2.8**
HEH pmax pmax
comp=Z,3.0nm,1.2s
MBWA Marble Bar 35.85 181 P P 18 09 53.4 -1.6
PSA00 Pilbara Seismi 36.26 181 P P 18 09 57.0 -1.4
WB0 Warramunga Arr 37.03 158 P 18 10 04.1 -0.9
WB0 IAmb IAmb 18 10 14.4
comp=Z,10nm,0.8s
WRAB Tennant Creek 37.17 158 P P 18 10 05.7 -0.5
WRAB IAmb IAmb 18 10 16.1
comp=Z,9.2nm,0.9s
WRA Warramunga Arr 37.17 158 P 18 10 05.3 -0.9
WRA Warramunga Arr 37.17 158 P P 18 10 06.4 +0.2
comp=Z,6.1nm,0.8s,baz=337,slow=8.8,SNR=20
comp=Z,6.1nm,0.8s
WR8 Warramunga Arr 37.24 158 P 18 10 06.0 -0.8
WR8 IAmb IAmb 18 10 16.8
comp=Z,9.7nm,0.9s
PALK Pallekele 39.84 263 P P 18 10 27.2 -1.6
PALK IAmb IAmb 18 10 46.1
comp=Z,20nm,1.4s
WMQ Urumqi 40.19 322 *e*P **P 18 10 33.0 +1.6**
WMQ LR LR
comp=Z,97nm,21.5s
AS31 Alice Springs 40.48 161 P 18 10 32.9 -1.1
ASAR Alice Springs 40.48 161 P P 18 10 33.2 -0.7
ASAR Alice Springs 40.48 161 P P 18 10 34.1 +0.2
comp=Z,1.6nm,0.4s,baz=334,slow=7.0,SNR=96
comp=Z,1.6nm,0.4s
MORW Morawa 43.94 186 P P 18 11 01.8 -0.2
MORW IAmb IAmb 18 11 13.8
comp=Z,15nm,1.2s
WUS Wushi 44.35 314 P P 18 11 04.1 -1.3
MKAR Makanchi Array 45.02 323 P 18 11 09.6 -0.8
MKAR Makanchi Array 45.02 323 P P 18 11 10.4 0.0
comp=Z,8.7nm,0.9s,baz=128,slow=8.2,SNR=41
MKAR PcP **PcP 18 12 51.6 +0.6**
comp=Z,0.9nm,0.7s,baz=112,slow=3.5,SNR=3.8
comp=Z,8.7nm,0.9s
MAKZ Makanchi 45.21 323 P 18 11 10.3 -1.7
MAKZ IAmb IAmb 18 11 14.7
comp=Z,6.6nm,0.8s
TARG Taragay, Kyrgy 45.53 315 P P 18 11 13.0 -2.1
HNR Honiara 45.88 119 LR LR 18 27 43.3
comp=Z,38nm,21.6s,baz=212,slow=32
FORT Forrest 45.98 171 P P 18 11 17.7 -0.5
FORT IAmb IAmb 18 11 41.5
comp=Z,11nm,0.8s
KSH Kashi 46.04 311 P P 18 11 21.8 +3.0
KSH pmax pmax
comp=Z,8.0nm,1.4s
KDJ Kajisay 46.12 315 P 18 11 17.4 -2.1
KDJ IAmb IAmb 18 11 23.0
comp=Z,10nm,1.3s
NIL Nilore 46.58 302 P P 18 11 22.0 -1.1
NRN Naryn 46.68 313 P 18 11 23.2 -0.8
ULHL Ulahol 46.81 315 P P 18 11 26.7 +1.7
SNR=29
BOOM Boomskoye usch 47.11 315 P 18 11 26.7 -0.5
BOOM IAmb IAmb 18 11 30.9
comp=Z,8.0nm,1.1s
TKM2 Tokmak 2 47.50 315 P P 18 11 31.9 +1.5
SNR=6.7
YAK Yakutsk 47.50 6 P P 18 11 30.0 +0.3
YAK IAmb IAmb 18 11 33.1
comp=Z,6.6nm,0.8s
YAK Yakutsk 47.50 6 LR LR 18 33 45.9
comp=Z,57nm,18.2s,baz=188,slow=39
KBK Karagaybulak 47.85 315 P P 18 11 35.0 +2.1
SNR=12
ZAA0 Zalesovo Array 47.95 332 P 18 11 32.9 -0.4
ZAA0 IAmb IAmb 18 11 35.7
comp=Z,8.2nm,0.9s
ZALV Zalesovo Beam 47.95 332 P 18 11 32.6 -0.7
ZALV Zalesovo Beam 47.95 332 P P 18 11 33.7 +0.4
comp=Z,9.0nm,0.9s,baz=131,slow=6.5,SNR=28
ZALV LR LR 18 32 43.5
comp=Z,48nm,18.2s,baz=112,slow=38
comp=Z,9.0nm,0.9s
PETK Petropavlovsk- 48.02 29 P 18 11 33.5 -0.4
PETK Petropavlovsk- 48.02 29 P P 18 11 35.6 +1.8
comp=Z,4.6nm,0.9s,baz=231,slow=8.6,SNR=7.3
PETK LR LR 18 31 04.8
comp=Z,39nm,21.2s,baz=258,slow=35
comp=Z,4.6nm,0.9s
FRU1 Bishkek 48.12 315 P P 18 11 33.8 -1.2
AAK Ala-Archa 48.16 314 P 18 11 34.7 -0.6
AAK IAmb IAmb 18 11 46.5
comp=Z,6.1nm,0.9s
AAK Ala-Archa 48.16 314 LR LR 18 34 53.5
comp=Z,47nm,19.1s,baz=92,slow=40
AAK Ala-Archa 48.16 314 P P 18 11 37.5 +2.1
SNR=6.3
USP Ospenovka 48.38 315 P P 18 11 38.1 +1.2
SNR=10
AML Almayashu 48.54 314 P P 18 11 40.4 +1.9
SNR=25
EKS2 Erkin-Say 48.66 314 P P 18 11 40.8 +1.6
SNR=25
ARSB Arslanbob 48.78 312 P P 18 11 38.1 -2.0
ARSB IAmb IAmb 18 11 43.8
comp=Z,11nm,1.0s
DRK Karamyk 49.10 310 IAmb IAmb 18 11 49.4
comp=Z,8.9nm,0.9s
KURK Kurchatov 49.14 326 P 18 11 42.2 -0.3
KURBB Kurchatov Arra 49.14 326 P P 18 11 42.3 -0.3
comp=Z,20nm,0.9s,baz=121,slow=8.1,SNR=90
KURBB LR LR 18 34 18.8
comp=Z,51nm,19.6s,baz=172,slow=38
comp=Z,20nm,0.9s
MA2 Magadan 49.80 20 P P 18 11 47.1 -0.3
MA2 Magadan 49.80 20 LR LR 18 32 49.5
comp=Z,99nm,21.0s,baz=213,slow=36
BTK Batken 49.99 310 P P 18 11 48.1 -1.2
BTK IAmb IAmb 18 11 52.4
comp=Z,15nm,1.3s
GAR Garm 50.09 309 P 18 11 48.8 -1.4
KBL Kabul 50.18 303 P 18 11 49.7 -1.3
STKA Stephens Creek 50.69 157 P P 18 11 54.4 0.0
STKA Stephens Creek 50.69 157 P P 18 11 55.5 +1.0
comp=Z,3.6nm,0.9s,baz=342,slow=6.1,SNR=5.3
comp=Z,3.6nm,0.9s
SIMJ Simiganj 51.01 308 P 18 11 56.2 -0.9
SIMJ IAmb IAmb 18 12 00.7
comp=Z,12nm,1.2s
KKAR Karatay Array 51.08 314 P 18 11 56.5 -0.9
KKAR Karatay Array 51.08 314 P 18 11 56.9 -0.4
KKAR IAmb IAmb 18 12 00.7
comp=Z,25nm,1.1s
SEY Seymchan 52.89 18 LR LR 18 35 29.6
comp=Z,78nm,19.4s,baz=206,slow=37
BVAR Borovoye Array 54.73 325 P P 18 12 24.1 -0.1
comp=Z,16nm,0.9s,baz=119,slow=7.5,SNR=49
comp=Z,16nm,0.9s
BRVK Borovoye 54.80 325 P 18 12 24.3 -0.3
SHEM Shemya Is, Ala 56.45 36 LR LR 18 34 06.4
comp=Z,14nm,21.9s,baz=299,slow=33
TIXI Tiksi 56.94 3 P 18 12 39.2 -0.4
TIXI IAmb IAmb 18 12 42.2
comp=Z,9.6nm,1.1s
TIXI Tiksi 56.94 3 LR LR 18 38 24.5
comp=Z,62nm,21.7s,baz=198,slow=38
DZM Mont Dzumac 58.04 128 *e*LR LR 18 29 50.5
comp=Z,52nm,22.4s
NRIK Noril'sk 58.22 347 P P 18 12 49.0 +0.3
NRIK Noril'sk 58.22 347 P P 18 12 50.6 +2.0
comp=Z,7.0nm,0.9s,baz=138,slow=7.3
NRIK LR LR 18 41 23.2
comp=Z,56nm,19.6s,baz=141,slow=40
comp=Z,7.0nm,0.9s
ABKAR Abkulak array 59.77 319 P 18 12 59.1 -0.6
ABKAR Abkulak array 59.77 319 P 18 12 59.1 -0.6
ABKAR IAmb IAmb 18 13 02.4
comp=Z,10nm,0.9s
BILL Bilibino 60.59 18 P 18 13 05.9 +0.8
BILL IAmb IAmb 18 13 08.2
comp=Z,6.4nm,1.2s
ARTI Arti 62.42 326 P 18 13 16.3 -1.2
NIKH Nikolski High 66.52 38 P P 18 13 44.0 -0.4
baz=264
KIRV Kirov 67.60 328 LR LR 18 45 49.0
comp=Z,64nm,19.9s,baz=101,slow=38
UNV Unalaska Valle 68.01 38 P P 18 13 53.9 +0.1
baz=265
F14K Arctic Creek 69.52 25 P P 18 14 03.5 +0.5
baz=261
GNI Garni 69.81 308 P 18 14 04.0 -1.5
GNI IAmb IAmb 18 14 13.5
comp=Z,11nm,1.1s
F15K North Star Dit 70.25 25 P P 18 14 07.7 +0.2
baz=262
C16K Lisburne Hills 70.36 22 P P 18 14 08.3 +0.2
C16K IAmb IAmb 18 14 12.1
comp=Z,8.0nm,1.2s
C16K Lisburne Hills 70.36 22 P P 18 14 08.3 +0.2
baz=261
L14K Kuka Creek 70.66 30 P P 18 14 09.9 -0.2
L14K IAmb IAmb 18 14 19.7
comp=Z,12nm,1.3s
RAYN Ar Rayn 70.76 290 P 18 14 09.7 -1.8
KBZ Khabaz 71.02 311 P P 18 14 13.1 +0.5
comp=Z,10nm,1.1s,baz=143,slow=1.2,SNR=16
comp=Z,10nm,1.1s
N14K Kuskokwak Cree 71.06 31 P P 18 14 11.6 -0.9
D17K Noatak River 71.12 23 P P 18 14 13.8 +1.0
baz=263
G16K Koyuk River 71.16 26 P P 18 14 13.4 +0.3
G16K IAmb IAmb 18 14 54.9
comp=Z,12nm,1.4s
KIV Kislovodsk 71.16 312 P P 18 14 12.0 -1.6
E17K Hotham Inlet 71.53 24 P P 18 14 15.5 +0.2
baz=264
F17K Baldwin Pennin 71.70 24 P P 18 14 16.1 -0.2
F17K Baldwin Pennin 71.70 24 P P 18 14 16.6 +0.3
baz=265
B18K Kokolik River 71.78 21 P P 18 14 17.6 +0.9
baz=264
N15K Kwethluk River 71.87 31 P P 18 14 17.5 +0.1
baz=268
G17K Kiwalik Mounta 71.88 25 P P 18 14 17.6 +0.2
baz=266
C18K Utukok River 71.92 22 P P 18 14 18.1 +0.4
C18K Utukok River 71.92 22 P P 18 14 18.3 +0.6
baz=265
GURO Guroymak-BITLI 72.01 306 P P 18 14 17.6 -1.3
GURO IAmb IAmb 18 14 22.6
comp=Z,13nm,1.2s
CHNA Chernabura Isl 72.09 37 P P 18 14 19.2 +0.4
baz=270
H17K Granite Mounta 72.15 26 P P 18 14 19.8 +0.7
baz=267
F18K Selawik 72.35 24 P P 18 14 20.9 +0.7
baz=267
M16K Timber Creek 72.45 30 P P 18 14 21.3 +0.4
baz=269
J17K VABM Dome 72.45 28 P P 18 14 21.4 +0.6
baz=268
G18K Tagagawik 72.72 25 P P 18 14 22.9 +0.5
baz=268
L17K Donlin 72.78 29 P P 18 14 22.8 0.0
baz=269
K17K Iditarod 72.79 28 P P 18 14 22.8 -0.1
baz=269
D19K Kuna River 73.04 22 P P 18 14 25.6 +1.2
baz=268
E19K Redstone River 73.34 23 P P 18 14 27.3 +1.2
baz=269
D20K Etivluk River 73.60 22 IAmb IAmb 18 14 31.6
comp=Z,8.1nm,1.1s
D20K Etivluk River 73.60 22 P P 18 14 27.9 +0.3
baz=269
H19K Roundabout Mou 73.63 26 IAmb IAmb 18 14 31.6
comp=Z,10nm,1.4s
H19K Roundabout Mou 73.63 26 P P 18 14 27.8 0.0
baz=270
E20K Nigu River 73.75 23 P P 18 14 30.1 +1.6
baz=269
F20K Avaraart Lake 73.92 24 P P 18 14 29.6 +0.1
F20K Avaraart Lake 73.92 24 P P 18 14 28.8 -0.6
baz=270
C21K Knifeblade Rid 74.26 22 P P 18 14 30.9 -0.6
baz=270
H20K Anotleneega Mo 74.28 26 P P 18 14 30.3 -1.3
baz=271
B21K Ikpikpuk River 74.32 21 P P 18 14 31.0 -0.7
baz=270
O18K Koktuh Hills 74.33 31 P P 18 14 30.5 -1.5
baz=273
Q18K Katmai Hardscr 74.49 33 P P 18 14 32.8 -0.3
baz=273
E21K Killik River 74.57 22 P P 18 14 33.5 +0.2
baz=271
M19K Big River Lodg 74.63 29 P P 18 14 32.3 -1.5
baz=273
J20K Nowinta River 74.64 27 P P 18 14 33.1 -0.6
baz=272
N19K Bonanza Creek 74.64 30 P P 18 14 33.1 -0.8
baz=273
K20K Telida 74.71 28 P P 18 14 34.6 +0.5
baz=273
B22K Teshekpuk Lake 74.72 20 P P 18 14 34.2 +0.2
baz=271
O19K Port Alsworth 74.75 31 P P 18 14 34.5 0.0
baz=273
F21K Alatna River 74.79 24 P P 18 14 34.6 +0.1
baz=272
G21K Allakaket 74.81 24 IAmb IAmb 18 14 38.9
comp=Z,8.9nm,1.2s
G21K Allakaket 74.81 24 P P 18 14 36.3 +1.6
baz=272
L20K Farewell, AK 74.84 29 P P 18 14 35.0 +0.1
baz=273
R18K Karluk 74.85 34 P P 18 14 34.2 -0.8
baz=274
D22K Ayikyak River 75.03 22 P P 18 14 35.0 -0.9
baz=272
H21K Melozitna Rive 75.14 25 IAmb IAmb 18 14 41.1
comp=Z,8.2nm,1.2s
H21K Melozitna Rive 75.14 25 P P 18 14 36.1 -0.5
baz=273,SNR=5.4
M20K Styx River 75.23 29 P P 18 14 37.8 +0.6
baz=274
F22K John River 75.28 23 P P 18 14 37.0 -0.4
baz=273
P19K Oil Pt 75.34 32 P P 18 14 38.0 +0.2
baz=274
E22K Anaktuvuk Pass 75.39 23 P P 18 14 37.8 -0.2
baz=274
CHUM Lake Minchumin 75.46 27 P P 18 14 38.5 +0.1
baz=274
OHAK Old Harbor 75.51 34 P P 18 14 38.6 -0.2
baz=275
I21K Tanana 75.51 26 IAmb IAmb 18 14 43.4
comp=Z,8.2nm,1.2s
I21K Tanana 75.51 26 P P 18 14 39.9 +1.2
baz=274
G22K Bettles 75.58 24 P P 18 14 39.4 +0.3
baz=274
CAST Castle Rocks 75.60 28 P P 18 14 38.3 -1.0
CAST IAmb IAmb 18 14 43.4
comp=Z,11nm,1.1s
CAST Castle Rocks 75.60 28 P P 18 14 39.3 0.0
baz=274
C23K Itkillik River 75.70 21 P P 18 14 39.4 -0.3
baz=274
H22K Ishtalitna Cre 75.71 25 P P 18 14 40.1 +0.2
baz=274
D23K Nanushuk River 75.74 22 IAmb IAmb 18 14 44.5
comp=Z,11nm,1.3s
D23K Nanushuk River 75.74 22 P P 18 14 40.3 +0.3
baz=274,SNR=5.6
KDAK Kodiak Island 75.84 33 LR LR 18 50 22.9
comp=Z,14nm,19.4s,baz=99,slow=38
BPAW Bear Paw Mtn. 76.03 27 P P 18 14 41.2 -0.5
BPAW IAmb IAmb 18 14 45.9
comp=Z,14nm,1.3s
BPAW Bear Paw Mtn. 76.03 27 P P 18 14 42.0 +0.3
baz=275,SNR=6.3
COLD Coldfoot 76.07 24 P P 18 14 41.3 -0.5
baz=275
KTH Kantishna Hill 76.11 27 IAmb IAmb 18 14 46.4
comp=Z,9.3nm,1.2s
TOLK Toolik Lake Re 76.17 22 P P 18 14 41.8 -0.7
baz=275
G23K Bananza Creek 76.18 24 IAmb IAmb 18 14 47.7
comp=Z,13nm,1.4s
G23K Bananza Creek 76.18 24 P P 18 14 42.5 -0.1
baz=276
E23K Chandalar 76.21 23 P P 18 14 42.6 -0.2
baz=276
CAPN Captain Cook N 76.27 30 P P 18 14 43.1 0.0
baz=276
C24K Franklin Bluff 76.38 21 P P 18 14 45.2 +1.7
baz=276
SUA Susitna One 76.40 30 P P 18 14 43.7 -0.3
baz=276
TRF Thorofare Moun 76.40 28 P P 18 14 43.9 -0.1
baz=276
H23K Yukon River 76.47 25 IAmb IAmb 18 14 49.5
comp=Z,14nm,1.4s
H23K Yukon River 76.47 25 P P 18 14 43.8 -0.4
baz=276
BRLK Bradley Lake 76.51 31 P P 18 14 42.4 -2.2
BRSE Bradley Lake S 76.59 31 P P 18 14 44.0 -1.0
baz=276
I23K Minto, Yukon-K 76.62 26 IAmb IAmb 18 14 49.1
comp=Z,6.8nm,1.2s
I23K Minto, Yukon-K 76.62 26 P P 18 14 44.0 -1.0
baz=276
E24K Your Creek 76.63 23 P P 18 14 44.9 -0.3
baz=276
NEA2 Nenana 76.80 26 P P 18 14 45.6 -0.5
baz=277
F24K Squaw Lake 76.93 23 P P 18 14 46.5 -0.2
baz=277
MCK McKinley 76.97 27 IAmb IAmb 18 14 50.4
comp=Z,12nm,1.1s
MCK McKinley 76.97 27 P P 18 14 46.7 -0.4
baz=277,SNR=5.7
RND Reindeer 77.05 28 P P 18 14 46.4 -1.2
RND IAmb IAmb 18 14 54.9
comp=Z,8.1nm,1.2s
H24K Noodor Dome 77.15 25 IAmb IAmb 18 14 57.3
comp=Z,7.3nm,1.2s
H24K Noodor Dome 77.15 25 P P 18 14 47.8 -0.3
baz=278
PMR Palmer 77.15 29 P P 18 14 47.9 -0.1
baz=278
G24K Hadweenzic Riv 77.19 24 IAmb IAmb 18 14 53.2
comp=Z,12nm,1.5s
G24K Hadweenzic Riv 77.19 24 P P 18 14 48.0 -0.2
baz=278
D25K Kavik River 77.24 21 IAmb IAmb 18 14 52.3
comp=Z,8.9nm,1.2s
D25K Kavik River 77.24 21 P P 18 14 48.8 +0.3
baz=278,SNR=12
POKR Poker Plat Res 77.43 26 P P 18 14 49.1 -0.5
baz=278
SML Sawmill 77.50 29 P P 18 14 49.2 -0.9
baz=278
PWL Port Wells 77.63 30 P P 18 14 50.0 -0.8
baz=278
C26K Camden Bay 77.65 21 P P 18 14 50.1 -0.6
baz=279,SNR=7.1
ILAR Eielson Array 77.71 26 P P 18 14 52.5 +1.3
comp=Z,1.3nm,1.0s,baz=272,slow=5.3,SNR=7.7
ILAR LR LR 18 51 23.5
comp=Z,22nm,19.0s,baz=241,slow=37
comp=Z,1.3nm,1.0s
E25K Arctic Village 77.71 23 P P 18 14 51.0 -0.1
baz=279
G25K Bearman Lake 77.72 24 P P 18 14 51.0 -0.2
baz=279
F25K Christian Rive 77.77 23 IAmb IAmb 18 14 56.0
comp=Z,8.9nm,1.2s
F25K Christian Rive 77.77 23 P P 18 14 50.8 -0.8
baz=279
ARCES ARCESS Array B 77.93 339 P P 18 14 51.8 -0.5
comp=Z,1.6nm,0.7s,baz=73,slow=5.9,SNR=7.7
ARCES LR LR 18 51 31.3
comp=Z,24nm,19.8s,baz=18,slow=38
comp=Z,1.6nm,0.7s
SCM Sheep Creek Mo 77.97 29 P P 18 14 52.0 -0.7
SCM Sheep Creek Mo 77.97 29 P P 18 14 51.6 -1.1
baz=279
C27K Jago River 78.11 21 IAmb IAmb 18 14 57.0
comp=Z,6.7nm,1.1s
C27K Jago River 78.11 21 P P 18 14 53.1 -0.2
baz=281,SNR=7.5
BMAR Burnt Mountain 78.20 23 P P 18 14 53.4 -0.5
GLI Glacier Island 78.23 30 P P 18 14 54.7 +0.6
baz=279
F26K Sheenjek River 78.31 23 P P 18 14 55.2 +0.7
baz=281
BRTR Keskin Array B 78.33 308 P P 18 14 55.3 0.0
comp=Z,1.3nm,1.0s,baz=98,slow=3.1,SNR=5.8
comp=Z,1.3nm,1.0s
K24K Donnelly Dome 78.34 27 P P 18 14 54.2 -0.6
baz=280
J25K Salcha River, 78.38 26 P P 18 14 55.2 +0.2
baz=280
SPITS Spitsbergen Ar 78.40 348 P P 18 14 54.4 -0.4

comp=Z,5.5nm,1.0s,baz=75,slow=17,SNR=5.5
SPITS LR LR 18 53 07.2
comp=Z,62nm,19.9s,baz=5.0,slow=38
comp=Z,5.5nm,1.0s
M24K Tolsona, Glenn 78.46 29 P **P** 18 14 55.3 -0.2
baz=280
G26K Porcupine Rive 78.59 24 P **P** 18 14 56.5 +0.6
baz=281
PAX Paxson 78.63 28 P **P** 18 14 56.2 -0.2
baz=280
RIDG Independent Ri 78.76 27 P **P** 18 14 56.8 -0.3
baz=281,SNR=9.4
HARP HAARP 78.87 28 P **P** 18 14 57.5 -0.1
baz=281
EYAK Cordova Ski Ar 78.94 30 P **P** 18 14 57.4 -0.5
baz=281
SCRK Sand Creek 79.09 27 P **P** 18 14 58.6 -0.4
SCRK IAmb IAmb 18 15 02.4
comp=Z,8.3nm,1.2s
SCRK Sand Creek 79.09 27 P **P** 18 14 58.1 -0.8
baz=282,SNR=6.1
DOT Dot Lake 79.12 27 IAmb IAmb 18 15 02.4
comp=Z,9.5nm,1.2s
D27M Malcolm River 79.14 21 P **P** 18 14 59.0 -0.1
baz=283,SNR=6.8
E27K Coleen River 79.16 22 IAmb IAmb 18 15 04.0
comp=Z,8.7nm,1.2s
E27K Coleen River 79.16 22 P **P** 18 14 58.5 -0.6
baz=283
J26L Joseph Creek 79.17 26 P **P** 18 14 58.7 -0.7
baz=282
I26K Coal Creek Min 79.17 25 IAmb IAmb 18 15 02.7
comp=Z,9.1nm,1.1s
I26K Coal Creek Min 79.17 25 P **P** 18 14 59.6 +0.4
baz=282
FINES FINESS Array B 79.19 331 P **P** 18 14 59.9 +0.5
comp=Z,1.8nm,0.6s,baz=95,slow=6.1,SNR=9.6
FINES LR LR 18 53 48.0
comp=Z,23nm,18.4s,baz=84,slow=39
comp=Z,1.8nm,0.6s
N25K Chitina, Valde 79.28 29 P **P** 18 14 59.0 -1.0
baz=281
BMRM Bremner River 79.41 30 P **P** 18 15 00.3 -0.3
baz=282
G27K Doyon Strip 79.44 24 P **P** 18 14 59.9 -0.8
G27K Doyon Strip 79.44 24 P **P** 18 15 00.8 +0.1
baz=283
AKASG Malin Array Be 79.49 320 P **P** 18 15 00.5 -0.7
comp=Z,1.7nm,0.8s,baz=68,slow=5.0,SNR=8.5
comp=Z,1.7nm,0.8s
L26K Log Cabin Wild 79.57 27 P **P** 18 15 01.6 +0.2
baz=282
H27K Steamboat Moun 79.63 24 P **P** 18 15 01.5 -0.2
baz=283
GLB Gilahina Butte 79.69 29 IAmb IAmb 18 15 06.2
comp=Z,14nm,1.3s
KAIM Kayak Island 79.71 31 P **P** 18 15 02.4 +0.2
baz=282
I27K Kandik River 79.73 25 P **P** 18 15 02.0 -0.4
baz=283
E28M Babbage River 79.80 22 P **P** 18 15 02.2 -0.4
baz=285
M26K Nabesna, AK 79.86 28 P **P** 18 15 02.1 -1.0
M26K IAmb IAmb 18 15 06.6
comp=Z,13nm,1.2s
M26K Nabesna, AK 79.86 28 P **P** 18 15 02.6 -0.4
baz=283
D28M Stokes Point 79.89 21 P **P** 18 15 02.4 -0.6
baz=285
K27K Chicken 79.90 26 IAmb IAmb 18 15 07.9
comp=Z,11nm,1.1s
K27K Chicken 79.90 26 P **P** 18 15 04.2 +1.0
baz=283
BGLC Bering Glacier 80.22 30 P **P** 18 15 04.6 -0.3
baz=283
L27K Beaver Creek, 80.23 27 IAmb IAmb 18 15 09.1
comp=Z,10nm,1.3s
L27K Beaver Creek, 80.23 27 P **P** 18 15 03.6 -1.4
baz=284,SNR=5.3
BCAR Beaver Creek A 80.25 27 P **P** 18 15 04.6 -0.6
M27K Edge Creek, AK 80.38 28 P **P** 18 15 05.1 -0.9
baz=284
E29M Blow River 80.44 22 **P** 18 15 05.0 -1.1
E29M Blow River 80.44 22 P **P** 18 15 05.5 -0.5
baz=286,SNR=5.5
I28M Miner Creek 80.45 25 P **P** 18 15 05.3 -1.0
I28M IAmb IAmb 18 15 10.7
comp=Z,7.5nm,1.1s
I28M Miner Creek 80.45 25 P **P** 18 15 05.7 -0.6
baz=285
G29M Pine Creek 80.81 23 IAmb IAmb 18 15 12.0
comp=Z,9.0nm,1.1s
G29M Pine Creek 80.81 23 P **P** 18 15 07.2 -0.8
baz=286,SNR=5.5
BVCY Beaver Creek 80.82 28 P **P** 18 15 08.5 +0.2
baz=284
H29M Whitestone 80.87 24 IAmb IAmb 18 15 12.4
comp=Z,7.3nm,1.0s
H29M Whitestone 80.87 24 P **P** 18 15 08.1 -0.2
baz=286
DAWY Dawson 81.04 26 P **P** 18 15 09.3 -0.1
DAWY IAmb IAmb 18 15 12.8
comp=Z,7.8nm,1.2s
DAWY Dawson 81.04 26 P **P** 18 15 09.0 -0.3
baz=286
I29M Ogilvie Camp, 81.13 25 P **P** 18 15 09.6 -0.2
baz=286
YUK3 Moose Creek 81.17 28 P **P** 18 15 09.5 -0.8
baz=285
J29N Klondike Camp 81.42 25 P **P** 18 15 11.4 0.0
baz=286
F30M Barrier River 81.43 22 P **P** 18 15 12.2 +0.9
F30M IAmb IAmb 18 15 15.1
comp=Z,8.9nm,1.1s
F30M Barrier River 81.43 22 P **P** 18 15 11.5 +0.2
baz=288,SNR=5.8
EPYK Eagle Plains 81.46 23 P **P** 18 15 11.3 -0.3
EPYK IAmb IAmb 18 15 14.3
comp=Z,12nm,1.3s
EPYK Eagle Plains 81.46 23 P **P** 18 15 11.5 -0.1
baz=288
G30M tAoh Zraii Nji 81.47 23 P **P** 18 15 11.7 +0.1
G30M IAmb IAmb 18 15 14.1
comp=Z,5.9nm,0.9s
G30M tAoh Zraii Nji 81.47 23 P **P** 18 15 11.5 -0.1
baz=288
O28M Mount Upton 81.56 29 P **P** 18 15 12.4 -0.1
baz=285
YUK8 Steele Glacier 81.62 29 P **P** 18 15 12.3 -0.4
baz=286
PINM Pinnacle 81.70 30 P **P** 18 15 12.5 -0.5
baz=285
L29M L29M 81.85 27 IAmb IAmb 18 15 18.6
comp=Z,11nm,1.1s
L29M L29M 81.85 27 P **P** 18 15 13.5 -0.1
baz=287
M29M Somme Creek 81.89 27 P **P** 18 15 13.3 -0.7
M29M IAmb IAmb 18 15 18.9
comp=Z,6.2nm,1.0s
M29M Somme Creek 81.89 27 P **P** 18 15 13.8 -0.2
baz=287
K29M Barlow Dome 81.89 26 P **P** 18 15 14.2 +0.2
K29M IAmb IAmb 18 15 18.4
comp=Z,6.5nm,1.1s
K29M Barlow Dome 81.89 26 P **P** 18 15 15.0 +1.0
baz=287
I30M Mount Dempster 81.95 24 P **P** 18 15 15.1 +0.8
I30M IAmb IAmb 18 15 17.9
comp=Z,5.4nm,1.0s
I30M Mount Dempster 81.95 24 P **P** 18 15 13.7 -0.6
baz=288,SNR=5.1
INK Inuvik 82.01 21 LR LR 18 56 23.4
comp=Z,30nm,18.4s,baz=241,slow=39
INK Inuvik 82.01 21 P **P** 18 15 15.2 +1.0
baz=290
YUK4 Talbot Arm 82.12 29 P **P** 18 15 14.5 -0.8
baz=287
J30M Hart River 82.17 25 P **P** 18 15 14.6 -0.8
baz=288
G31M Satah River 82.21 23 P **P** 18 15 14.7 -0.7
G31M IAmb IAmb 18 15 19.5
comp=Z,12nm,1.5s
G31M Satah River 82.21 23 P **P** 18 15 13.9 -1.5
baz=290
F31M Tsiigehtchic 82.23 22 P **P** 18 15 15.1 -0.4
F31M Tsiigehtchic 82.23 22 P **P** 18 15 14.4 -1.1
baz=290
H31M Peel River 82.56 24 IAmb IAmb 18 15 20.8
comp=Z,13nm,1.1s
H31M Peel River 82.56 24 P **P** 18 15 17.1 -0.2
baz=290,SNR=8.0
M30M Minto, Yukon 82.59 27 P **P** 18 15 17.1 -0.5
baz=288
BURAR Bucovina Array 82.71 317 P **P** 18 15 18.1 -0.4
N30M Aishikik Lake 82.80 28 P **P** 18 15 18.5 -0.2
baz=288
HYT Haines Junctio 82.80 29 P **P** 18 15 18.5 -0.3
baz=288
P29M Windy Craggy 83.05 30 P **P** 18 15 19.2 -0.8
baz=288
A36M Sachs Harbour 83.11 17 P **P** 18 15 19.2 -0.7
A36M IAmb IAmb 18 15 23.0
comp=Z,9.2nm,1.1s
A36M Sachs Harbour 83.11 17 P **P** 18 15 19.2 -0.7
baz=297
N31M Braeburn, Yuko 83.39 28 P **P** 18 15 21.0 -0.8
baz=289
O30N Mendenhall 83.48 29 P **P** 18 15 21.8 -0.5
baz=289
M31M Drury Creek, Y 83.77 27 P **P** 18 15 22.1 -1.6
baz=290
WHY Whitehorse 84.08 29 P **P** 18 15 25.1 -0.2
baz=290
FARO Faro, Yukon 84.22 27 P **P** 18 15 24.8 -1.1
baz=291
C36M Paulatuk 84.70 19 P **P** 18 15 28.0 -0.2
baz=299
N32M Quiet Lake 84.73 28 P **P** 18 15 28.2 -0.4
baz=291
STHS Stebnicka Huta 84.78 320 *e*P **P** 18 15 29.3 +0.3
MMPY Sheldon Lake, 84.97 26 P **P** 18 15 29.4 -0.4
baz=293
P32M Atlin 85.00 29 P **P** 18 15 29.4 -0.5
baz=291
S32K Killisnoo 85.32 32 P **P** 18 15 31.1 -0.4
baz=290
HFS Hagfors 85.38 331 P **P** 18 15 31.1 -0.6
comp=Z,2.5nm,0.7s,baz=101,slow=6.0,SNR=4.5
HFS LR LR 18 58 17.6
comp=Z,40nm,18.8s,baz=66,slow=39
comp=Z,2.5nm,0.7s
NC405 NORSAR Array S 85.90 333 P **P** 18 15 33.5 -0.8
Q32M Nakina River 85.92 30 P **P** 18 15 33.3 -1.4
baz=292
NB2 NORSAR Subarra 86.15 333 P **P** 18 15 34.7 -0.9
comp=Z,4.7nm,0.9s,baz=68,slow=5.1
NOA NORSAR Array B 86.15 333 P **P** 18 15 34.8 -0.9
comp=Z,3.0nm,0.9s,baz=67,slow=4.7,SNR=9.8
NOA LR LR 18 56 44.7
comp=Z,49nm,19.0s,baz=80,slow=38
comp=Z,3.0nm,0.9s
NC204 NORSAR Array S 86.25 333 P **P** 18 15 35.2 -0.9
R33M Jennings River 86.37 29 P **P** 18 15 35.7 -1.1
baz=293
V35K Ketchikan 87.64 33 P **P** 18 15 42.7 -0.2
baz=293
WRGLY Wrigley 87.91 24 P **P** 18 15 43.8 -0.2
baz=300
GERES GERESS Array B 89.64 321 P **P** 18 15 52.6 -0.1
comp=Z,0.4nm,0.6s,baz=83,slow=4.6,SNR=2.4
comp=Z,0.4nm,0.6s
YKA Yellowknife Ar 91.70 22 P **P** 18 16 02.6 +0.8
comp=Z,1.0nm,0.8s,baz=316,slow=4.5,SNR=17
comp=Z,1.0nm,0.8s
DAVOX Davos/Dischmat 92.83 320 LR LR 19 01 23.3
comp=Z,16nm,19.5s,baz=80,slow=38
PPT2 Papeete2 94.23 107 *e*LR LR 18 46 34.4
comp=Z,40nm,24.0s
ILON Igloolik, Nuna 94.45 8 P **P** 18 16 13.4 -0.9
BORG Borgarnes 95.48 345 LR LR 19 03 06.2
comp=Z,15nm,20.8s,baz=2.1,slow=38
YBH Yreka Blue Hor 98.94 43 LR LR 18 53 43.5
comp=Z,40nm,22.0s,baz=288,slow=31

*AZER **23** 18:28:54.5,40°.86N×48°.27E,h11km,ml2.6*
*MOS **23** 18:28:57.2,41°.02N×48°.16E,h2km,MPVA3.5*
*DRS **23** 18:28:57.5,40°.99N×48°.10E,h18km*
ISC 23 18:28:56.6±0.8,40°.84N±0°.02×48°.26E±0°.02,h10km±6km,
n44,σ6°79/86,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IML	**Ismayilli**	**0.08**	**232**	P	**Pg**	**18 28 58.6**	**-0.4**
IML				S	**Sg**	**18 29 00.9**	**+0.1**
PQL	**Pirkuli**	**0.26**	**101**	P	**Pg**	**18 29 01.6**	**-0.4**
PQL				S	**Sg**	**18 29 06.7**	**+1.1**
QBL	**Gabala**	**0.34**	**288**	P	**Pg**	**18 29 03.1**	**-0.3**
QBL				S	**Sg**	**18 29 09.4**	**+1.4**
XNQ	**Khinaliq**	**0.34**	**345**	P	**Pg**	**18 29 02.9**	**-0.7**
XNQ				S	**Sg**	**18 29 08.0**	**-0.2**
KDMR	**Kurdemir**	**0.47**	**187**	P	**Pg**	**18 29 06.1**	**+0.3**
KDMR				S	**Sb**	**18 29 15.4**	**+1.6**
ATGJ	**Altiaghaj**	**0.52**	**87**	P	**Pg**	**18 29 06.5**	**-0.2**
ATGJ				S	**Sb**	**18 29 14.9**	**-0.4**
SIZA	**Siyzn**	**0.54**	**64**	P	**Pg**	**18 29 07.1**	**0.0**
SIZA				S	**Sb**	**18 29 15.3**	**-0.7**
QUBA	**Quba, Azerbaij**	**0.54**	**19**	P	**Pg**	**18 29 07.5**	**+0.3**
QUBA				S	**Sb**	**18 29 16.3**	**+0.1**
GBS	**Qobustan**	**0.60**	**120**	P	**Pb**	**18 29 09.2**	**-0.1**
GBS				S	**Sn**	**18 29 20.2**	**-0.9**
QSAR	**Qusar**	**0.67**	**0**	P	**Pg**	**18 29 09.6**	**-0.1**
QSAR				S	**Sg**	**18 29 19.0**	**+0.4**
ZRD	**Zardab**	**0.71**	**218**	P	**Pb**	**18 29 11.0**	**-0.1**
ZRD				S	**Sn**	**18 29 23.8**	**+0.2**
AKT	**Akhty**	**0.75**	**328**	*i*Pg	**Pg**	**18 29 10.3**	**-0.9**
67nm,0.2s							
AKT				*e*Sg	**Sg**	**18 29 20.7**	**-0.4**
427nm,0.4s							
KSMR	**Kasumkent**	**0.77**	**353**	*e*Pg	**Pg**	**18 29 11.2**	**-0.3**
56nm,0.2s							
KSMR				*e*Sg	**Sg**	**18 29 21.9**	**+0.3**
483nm,0.4s							
SEKA	**Sheki**	**0.88**	**295**	P	**Pg**	**18 29 12.3**	**-1.4**
SEKA				S	**Sg**	**18 29 26.1**	**+0.8**
MNGR	**Mingechevir, A**	**0.89**	**266**	P	**Pg**	**18 29 14.1**	**+0.2**
MNGR				S	**Sn**	**18 29 28.9**	**+0.7**
SAAT	**Saatly**	**0.99**	**173**	S	**Sn**	**18 29 30.5**	**+0.1**
BRDA	**Brd**	**1.00**	**235**	P	**Pg**	**18 29 15.7**	**-0.3**
BRDA				S	**Sb**	**18 29 30.4**	**+1.0**
ALIB	**&Aumlli-Bayram**	**1.05**	**147**	P	**Pg**	**18 29 16.0**	**-0.8**
AGDM	**Agdam**	**1.14**	**231**	P	**Pb**	**18 29 17.7**	**-0.8**
AGDM				S	**Sn**	**18 29 35.3**	**+0.9**
DRN	**Derbent**	**1.19**	**3**	*e*Pg	**Pn**	**18 29 18.6**	**-0.6**
DRN				*e*Sg	**Sg**	**18 29 35.2**	**+0.2**
DRN	**Derbent**	**1.19**	**3**	*e*Pg	**Pn**	**18 29 18.7**	**-0.6**
37nm,0.4s							
DRN				*e*Sg	**Sg**	**18 29 35.2**	**+0.2**
176nm,0.3s							
BLQ	**Beylaqan**	**1.24**	**206**	P	**Pn**	**18 29 18.8**	**-1.2**
BLQ				S	**Sn**	**18 29 37.0**	**+0.3**
URKR	**Urkarakh**	**1.41**	**341**	*e*Pg	**Pb**	**18 29 23.3**	**+0.3**
URKR				*e*Sg	**Sn**	**18 29 41.2**	**+0.2**
URKR	**Urkarakh**	**1.41**	**341**	*e*Pg	**Pn**	**18 29 21.3**	**-1.1**
44nm,0.1s							
URKR				*e*Sg	**Sn**	**18 29 40.4**	**-0.6**
48nm,0.1s							
ZKTA	**Zakatala**	**1.47**	**303**	Pn	**Pn**	**18 29 22.8**	**-0.4**
ZKTA				Sn	**Sb**	**18 29 43.8**	**+1.0**
GANJ	**Ganja**	**1.48**	**263**	Pn	**Pn**	**18 29 22.1**	**-1.3**
GANJ				Sn	**Sn**	**18 29 41.5**	**-1.4**
QRD	**Qoradiz**	**1.55**	**208**	Pn	**Pn**	**18 29 23.5**	**-0.8**
QRD				Sn	**Sn**	**18 29 45.0**	**+0.5**
KMKR	**Kumukh**	**1.56**	**326**	*e*Pg	**Pb**	**18 29 25.6**	**-0.1**
KMKR				*e*Sg	**Sg**	**18 29 46.9**	**+0.2**
GLBA	**Clilabad**	**1.60**	**176**	Pn	**Pn**	**18 29 24.4**	**-0.5**
GLBA				Sn	**Sb**	**18 29 46.0**	**-0.4**
SGKR	**Sergokala**	**1.68**	**345**	*e*Pg	**Pb**	**18 29 27.9**	**+0.3**
SGKR				*e*Sg	**Sb**	**18 29 50.0**	**+1.2**
GNBR	**Gunib**	**1.83**	**328**	*e*Pg	**Pb**	**18 29 31.3**	**+1.1**
GNBR				*e*Sg	**Sg**	**18 29 55.5**	**+0.1**
GDB	**GEDABAY**	**1.91**	**267**	Pn	**Pn**	**18 29 28.1**	**-1.2**
GDB				Sn	**Sn**	**18 29 52.7**	**-0.7**
YRD	**Yardimli**	**1.92**	**180**	Pn	**Pn**	**18 29 28.3**	**-1.2**
YRD				Sn	**Sn**	**18 29 54.0**	**+0.1**
ARKR	**Arakani**	**2.00**	**332**	*e*Pg	**Pb**	**18 29 34.0**	**+0.9**
ARKR				*e*Sg	**Sg**	**18 30 00.3**	**-0.6**
XNZR	**Khunzakh**	**2.06**	**326**	*e*Pg	**Pb**	**18 29 34.6**	**+0.4**
XNZR				*e*Sg	**Sg**	**18 30 03.2**	**+0.3**
UNCR	**Uncukul**	**2.17**	**330**	*e*Pg	**Pb**	**18 29 35.6**	**-0.4**
UNCR				*e*Sg	**Sg**	**18 30 05.9**	**-0.5**
LRK	**Lerik**	**2.19**	**178**	Pn	**Pn**	**18 29 32.9**	**-0.4**
LRK				Sn	**Sn**	**18 30 01.5**	**+1.0**
QZX	**Qazax, Azerbai**	**2.20**	**277**	Pn	**Pn**	**18 29 32.6**	**-0.6**
QZX				Sn	**Sn**	**18 30 00.9**	**+0.5**
KRNR	**Karanay**	**2.23**	**333**	*e*Pg	**Pn**	**18 29 35.6**	**+1.9**
KRNR				*e*Sg	**Sb**	**18 30 05.9**	**+1.2**
ASTR	**Astara**	**2.31**	**170**	Pn	**Pn**	**18 29 35.4**	**+0.7**
ASTR				Sn	**Sn**	**18 30 04.3**	**+1.1**
BTLR	**Botlikh**	**2.38**	**321**	*e*Pg	**Pb**	**18 29 39.5**	**0.0**
BTLR				*e*Sg	**Sg**	**18 30 12.4**	**-0.6**
DBC	**Dubki**	**2.43**	**334**	*e*Pg	**Pb**	**18 29 39.1**	**-1.3**
DBC				*e*Sg	**Sb**	**18 30 11.9**	**+1.6**
SBZ	**Shahbuz**	**2.53**	**236**	Pn	**Pn**	**18 29 38.5**	**+0.7**
SBZ				Sn	**Sb**	**18 30 11.7**	**-1.6**
ORD	**Ordubad**	**2.59**	**223**	Pn	**Pn**	**18 29 39.0**	**+0.4**
ORD				Sn	**Sn**	**18 30 11.0**	**+0.9**

*IDC **23** 19:03:31.0±0.9,2°.35S×120°.73E,h0km,mb3.8/7,*
mbtmp3.9/9,ML3.8/2,MS3.0/2,Error ellipse: s-maj=38.8km
s-min=14.9km az=68.0
*DJA **23** 19:03:33.0±0.2,2°.S±2°×12°.1E±°,h10km,M4.2/15,mB4.8/1,*
mb4.3/4,MLv4.1/15,Mw(mB)4.1/1
ISC 23 19:03:32.6±0.8,2°.40S±0°.04×120°.75E±0°.06,h10km,n23,
σ1°00/24,mb3.8/7,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.73**	**31**	P	**Pn**	**19 04 03.2**	**+0.4**
PCI	**Palu**	**1.74**	**329**	P	**Pn**	**19 04 02.8**	**-0.1**
PCI				S	**Sn**	**19 04 26.9**	**+1.7**
SPSI	**Sidrap Palu**	**1.83**	**212**	P	**Pn**	**19 04 03.7**	**-0.4**
BNSI	**Bone**	**2.09**	**198**	P	**Pn**	**19 04 07.2**	**-0.4**
LUWI	**Luwuk**	**2.44**	**56**	P	**Pn**	**19 04 11.6**	**-0.8**
KAPI	**Kappang**	**2.78**	**201**	Pn	**Pn**	**19 04 17.4**	**+0.3**
23nm,0.3s,baz=251,slow=0.5,SNR=16							
KAPI				Sn	**Sn**	**19 04 51.7**	**+0.9**
12nm,0.3s,baz=0.0,slow=20,SNR=6.2							
113nm,0.5s							
MPSI	**Mapaga**	**2.85**	**343**	P	**Pn**	**19 04 18.8**	**+0.7**
BKSI	**Bulukumba**	**2.97**	**192**	P	**Pn**	**19 04 19.1**	**-0.6**
MRSI	**Marisa**	**3.10**	**23**	P	**Pn**	**19 04 21.6**	**0.0**
BBSI	**Bau Bau**	**3.57**	**149**	P	**Pn**	**19 04 28.0**	**0.0**
BSSI	**Bau Bau, Buton**	**3.73**	**184**	P	**Pn**	**19 04 31.1**	**+0.9**
KMSI	**Cibinong**	**4.38**	**48**	P	**Pn**	**19 04 41.5**	**+2.3**
SANI	**Sanana**	**5.25**	**86**	P	**Pn**	**19 04 50.3**	**-0.9**
0.1nm37nm,0.8s							
EDFI	**Ende, Flores**	**6.38**	**172**	P	**Pn**	**19 05 07.8**	**+1.0**
0.1nm9.2nm,1.2s							
DAV	**Davao City (W)**	**10.57**	**27**	LR	LR	19 11 11.3	
comp=Z,52nm,18.5s,baz=314,slow=44							
FITZ	**Fitzroy Crossi**	**16.32**	**163**	Pn	**P**	**19 07 24.5**	**-0.5**
0.2nm,0.3s,baz=351,slow=6.6,SNR=6.2							
2.9nm,0.9s							
WRA	**Warramunga Arr**	**21.92**	**144**	P	**P**	**19 08 26.1**	**-0.2**
2.7nm,0.7s,baz=321,slow=11,SNR=18							
2.7nm,0.7s							
ASAR	**Alice Springs**	**24.68**	**150**	P	**P**	**19 08 54.0**	**0.0**
1.9nm,0.9s,baz=319,slow=7.7,SNR=16							
ASAR				LR	LR	19 18 44.6	
comp=Z,54nm,19.9s,baz=306,slow=37							
1.9nm,0.9s							
CMAR	**Chiang Mai Arr**	**29.84**	**315**	P	**P**	**19 09 39.1**	**-1.1**
1.1nm,0.8s,baz=128,slow=8.4,SNR=10							
1.1nm,0.8s							
STKA	**Stephens Creek**	**35.29**	**148**	P	**P**	**19 10 28.5**	**+0.7**
3.0nm,0.8s,baz=315,slow=9.7,SNR=7.1							
3.0nm,0.8s							
SONM	**Songino Array**	**51.58**	**348**	P	**P**	**19 12 37.2**	**-1.9**
1.1nm,0.9s,baz=168,slow=8.3,SNR=6.3							
1.1nm,0.9s							
MKAR	**Makanchi Array**	**59.51**	**330**	P	**P**	**19 13 37.0**	**+0.9**
0.6nm,0.7s,baz=133,slow=6.1,SNR=6.4							
0.6nm,0.7s							
ZALV	**Zalesovo Beam**	**63.60**	**337**	P	**P**	**19 14 04.4**	**+1.0**
0.3nm,0.3s,baz=147,slow=8.6,SNR=2.1							
0.3nm,0.3s							

TRN 23 19:08:53.9,15°.90N×60°.84W,h39km,MD3.7,North-east
of Dominica.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	**Wesley**	**0.56**	**234**	*e*P	Pn	19 09 07.1	+1.6
DWS				*e*S	Sn	19 09 16.0	+2.4
DLPL	**La Plaine**	**0.69**	**215**	*e*P	Pn	19 09 09.0	+1.8
DLPL				*e*S	Sn	19 09 19.5	+2.8
DSLB	**Salisbury**	**0.72**	**231**	*e*P	Pn	19 09 09.4	+1.7
DSLB				*e*S	Sn	19 09 20.0	+2.4
TBG	**Guadaloupe-3**	**0.78**	**267**	*e*P	Pn	19 09 09.9	+1.6
TBG				*e*S	Sn	19 09 21.6	+2.8
MDN	**Morne-Daniel**	**0.79**	**223**	*e*P	Pn	19 09 10.2	+1.7
MDN				*e*S	Sn	19 09 21.8	+2.7
SVN	**Savane Anatole**	**1.10**	**197**	*e*P	Pn	19 09 14.3	+1.5
SVN				*e*S	Sn	19 09 28.8	+2.0
ILAM	**Ilet Lapin Mar**	**1.12**	**182**	*e*P	Pn	19 09 15.2	+2.1
ILAM				*e*S	Sn	19 09 29.3	+2.1
ANBD	**Bethesda, Anti**	**1.45**	**322**	*e*P	Pn	19 09 18.9	+1.4
ANBD				*e*S	Sn	19 09 37.6	+2.3
MBWH		**1.54**	**303**	*e*P	Pn	19 09 20.6	+1.7
MBWH				*e*S	Sn	19 09 39.6	+1.8
MBFL	**Flemmings, Mon**	**1.56**	**303**	*e*P	Pn	19 09 20.6	+1.4
SLBI	**Saint Lucia, B**	**1.87**	**184**	*e*P	Pn	19 09 25.1	+1.7
SLBI				*e*S	Sn	19 09 47.8	+2.0
SLAC	**Saint Lucia, A**	**1.99**	**182**	*e*P	Pn	19 09 26.8	+1.7
SLAC				*e*S	Sn	19 09 50.8	+2.0
SVB	**Belmont**	**2.64**	**189**	*e*P	Pn	19 09 35.9	+1.8
SVB				*e*S	Sn	19 10 06.5	+1.6

*IDC **23** 19:16:41.3±2.7,43°.23N×105°.23W,h0km,mbtmp3.5/2,*
ML3.3/2,Error ellipse: s-maj=55.0km s-min=10.6km
az=156.0
*NEIC **23** 19:16:42.7±1.5,43°.52N±0°.03×105°.26W±0°.05,h0km±1km,*
ML3.3/59,Error ellipse: s-maj=7.9km s-min=2.8km
az=46.0
ISC 23 19:16:43.2±1.2,43°.56N±0°.06×105°.32W±0°.07,h0km,n53,
σ1°48/52,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.27**	**225**		**Pg**	**19 17 06.9**	**-0.7**
BRIGG	**Briggsdale**	**3.07**	**166**		**Pn**	**19 17 32.6**	**-0.4**
BRIGG				IAML		19 18 30.5	
comp=E,101nm,0.8s							
BRIGG				IAML		19 18 30.5	
comp=N,95nm,0.9s							
LAO	**LASA Array**	**3.19**	**349**		**Pn**	**19 17 36.6**	**+1.9**
LAO				IAML		19 18 36.7	
comp=N,98nm,0.7s							
LAO				IAML		19 18 36.7	
comp=N,91nm,0.9s							
PD31	**Pinedale Array**	**3.20**	**257**		**Pn**	**19 17 36.5**	**+1.4**
PDAR	**Pinedale Array**	**3.20**	**257**		**Pn**	**19 17 36.6**	**+1.5**
PDAR	**Pinedale Array**	**3.20**	**257**	Pn	**Pn**	**19 17 36.3**	**+1.3**
comp=N,3.4nm,0.3s,baz=73,slow=16,SNR=16							
PDAR				Lg	Lg	19 18 21.4	
comp=N,8.9nm,0.3s,baz=82,slow=31,SNR=9.7							
comp=N,2.2nm,0.3s							
BW06	**Boulder Array**	**3.20**	**257**		**Pn**	**19 17 36.8**	**+1.8**
RLMT	**Red Lodge**	**3.24**	**300**		**Pn**	**19 17 36.2**	**+0.7**
RLMT				IAML		19 18 38.5	
comp=N,50nm,0.6s							
RLMT				IAML		19 19 24.4	
comp=N,44nm,4.0s							
OGNE	**Ogallala**	**3.57**	**136**		**Pn**	**19 17 41.3**	**+1.3**
OGNE				IAML		19 18 43.0	
comp=N,76nm,0.5s							
YNE	**Yellowstone No**	**3.67**	**295**		**Pn**	**19 17 42.7**	**+1.3**
YNE				IAML		19 18 50.1	
comp=N,42nm,0.4s							
YNE				IAML		19 18 53.1	
comp=E,67nm,0.7s							
YMP	**Mirror Lake Pl**	**3.68**	**290**		**Pn**	**19 17 43.0**	**+1.3**
ISCO	**Idaho Springs**	**3.76**	**183**		**Pn**	**19 17 43.7**	**+0.9**
LOHW	**Long Hollow**	**3.84**	**273**		**Pn**	**19 17 45.5**	**+1.6**
LOHW				IAML		19 19 04.2	
comp=E,27nm,0.7s							
H17A	**Grant Village**	**3.89**	**284**		**Pn**	**19 17 46.8**	**+2.3**
H17A				IAML		19 18 56.8	
comp=N,39nm,1.8s							
MOOW	**Moose Ponds**	**3.94**	**275**		**Pn**	**19 17 47.6**	**+2.4**
SNOW	**Snow King Moun**	**3.96**	**270**		**Pn**	**19 17 48.3**	**+2.9**
O20A	**White River Ci**	**4.06**	**214**		**Pn**	**19 17 48.3**	**+1.5**

O20A			IAML		19 19 04.8	
	comp=N,48nm,1.1s					
O20A			IAML		19 19 44.3	
	comp=N,50nm,2.2s					
TPAW	**Teton Pass**	**4.10 271**		**Pn**	**19 17 49.2**	**+1.8**
TPAW			IAML		19 19 21.4	
	comp=N,23nm,0.8s					
TPAW			IAML		19 19 28.7	
	comp=N,34nm,2.0s					
FXWY	**Fox Creek**	**4.15 273**		**Pn**	**19 17 48.9**	**+0.9**
YHH	**Holmes Hill**	**4.17 289**		**Pn**	**19 17 49.2**	**+0.9**
K30B	**Basset**	**4.27 100**	Pn	**Pn**	**19 17 50.3**	**+0.8**
AHID	**Auburn Hatcher**	**4.31 261**		**Pn**	**19 17 52.3**	**+2.1**
AHID			IAML		19 19 11.2	
	comp=N,23nm,1.4s					
AHID			IAML		19 19 14.4	
	comp=N,31nm,1.6s					
RDMU	**Red Mountain**	**4.35 228**		**Pn**	**19 17 47.7**	**-3.1**
RDMU			IAML		19 19 13.1	
	comp=E,28nm,1.0s					
RDMU			IAML		19 19 17.1	
	comp=N,20nm,2.1s					
YHB	**Horse Butte**	**4.39 288**	Pn	**Pn**	**19 17 50.6**	**-0.8**
YHB			IAML		19 19 10.9	
	comp=N,23nm,2.7s					
YHL	**Hebgen Lake**	**4.41 289**		**Pn**	**19 17 51.5**	**-0.3**
YHL			IAML		19 19 16.0	
	comp=N,34nm,1.5s					
YHL			IAML		19 19 22.7	
	comp=E,28nm,0.9s					
DGMT	**Dagmar**	**4.97 9**		**Pn**	**19 18 00.2**	**+1.0**
HWUT	**Hardware Ranch**	**5.01 249**		**Pn**	**19 17 60.0**	**+0.1**
HWUT			IAML		19 19 49.8	
	comp=E,24nm,2.0s					
HWUT			IAML		19 19 55.7	
	comp=E,20nm,1.4s					
BSUT	**Blindstream Ca**	**5.06 235**	Pn	**Pn**	**19 18 01.5**	**+0.9**
BSUT			IAML		19 21 09.2	
	comp=E,14nm,3.2s					
BSUT			IAML		19 21 13.1	
	comp=N,17nm,3.7s					
TCUT	**Toone Canyon**	**5.13 244**		**Pn**	**19 18 02.0**	**+0.5**
P18A	**Preston Nutter**	**5.39 225**	Pn	**Pn**	**19 18 05.8**	**+0.6**
PV22	**Blue Mesa, Par**	**5.66 209**	Pn	**Pn**	**19 18 09.1**	**+0.3**
PV07	**Paradox Valley**	**5.70 207**	Pn	**Pn**	**19 18 09.3**	**0.0**
PV21	**Cone Mtn., Par**	**5.71 210**	Pn	**Pn**	**19 18 10.2**	**+0.7**
BGNE	**Belgrade**	**5.72 110**	Pn	**Pn**	**19 18 11.2**	**+1.8**
PV15	**Paradox Valley**	**5.74 206**	Pn	**Pn**	**19 18 11.8**	**+1.9**
HVU	**Hansel Valley**	**5.78 255**		**Pn**	**19 18 11.5**	**+1.1**
SDCO	**Great Sand Dun**	**5.81 181**	Pn	**Pn**	**19 18 12.3**	**+1.4**
PV23	**Carpenter Ridg**	**5.82 210**		**Pn**	**19 18 11.1**	**+0.1**
PV04	**Paradox Valley**	**5.83 209**	Pn	**Pn**	**19 18 12.8**	**+1.7**
PV12	**Saucer Basin,**	**5.86 208**	Pn	**Pn**	**19 18 12.4**	**+0.8**
PV14	**Lion Creek, Pa**	**5.89 210**	Pn	**Pn**	**19 18 13.2**	**+1.2**
PV10	**Paradox Valley**	**5.89 210**	Pn	**Pn**	**19 18 14.2**	**+2.2**
PV20	**West Nyswonger**	**5.90 209**	Pn	**Pn**	**19 18 13.1**	**+1.0**
SRU	**San Rafael Swe**	**5.92 223**	Pn	**Pn**	**19 18 13.5**	**+1.1**
PV03	**Paradox Valley**	**5.94 208**	Pn	**Pn**	**19 18 14.6**	**+2.0**
PV02	**Paradox Valley**	**5.94 207**		**Pn**	**19 18 14.9**	**+2.2**
PV18	**Skein Mesa, Pa**	**5.96 208**	Pn	**Pn**	**19 18 14.6**	**+1.6**
PV05	**Paradox Valley**	**6.18 209**	Pn	**Pn**	**19 18 14.0**	**-2.0**
ECSD	**EROS Data Cent**	**6.32 85**		**Pn**	**19 18 18.2**	**+0.6**
MSU	**Marysvale**	**7.23 228**	Pn	**Pn**	**19 18 30.1**	**-0.3**
RTBA	**Rita Blanca**	**7.38 164**		**Pn**	**19 18 33.1**	**+0.8**
ULM	**Lac du Bonnet**	**9.30 41**	Pn	**Pn**	**19 18 57.1**	**-1.3**
	comp=N,0.5nm,0.3s,baz=228,slow=13,SNR=2.0					
ULM			Lg	Lg	19 21 33.8	
	comp=N,0.3nm,0.3s,baz=310,slow=22,SNR=1.7					
	comp=N,2.0nm,0.4s					
I56US	**NEWPORT INFRAS**	**9.48 304**	I	I	20 15 50.0	
	baz=115,slow=316,SNR=2.5					

*NOU **23** 19:17:31.2, 39˚.00S×179˚.05E, h0km, MLv3.7/7, Off E. Coast of N. Island, N.Z.*
*WEL **23** 19:17:35.7±1.1, 39˚S±7˚×17˚9E±˚, h33km, M3.3/31, ML3.6/31, MLv3.3/31, Error ellipse: s-maj=10.6km s-min=7.7km az=123.1, confirmed*
ISC 23 19:17:36.1±2.3, 38˚.80S±0˚.05×179˚.0E±0˚.1, h45km±33km, n55, σ0°80/61, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.67 298**		P	**Pn**	**19 17 48.0**	**-1.3**
TBAS	**Tolaga Bay Are**	**0.67 310**		P	**Pn**	**19 17 48.8**	**-0.5**
GKAS	**Kaiti Beach**	**0.74 279**		P	**Pn**	**19 17 49.4**	**-0.6**
GKBS				S	**Sn**	**19 18 01.2**	**+0.9**
PRGZ	**Paritu Road**	**0.85 262**		P	**Pn**	**19 17 51.3**	**-0.4**
MHGZ	**Mahia Peninsul**	**0.89 247**		P	**Pn**	**19 17 52.6**	**+0.4**
MHGZ				S	**Sn**	**19 18 06.3**	**+2.2**
PUZ	**Puketiti**	**0.92 323**		P	**Pn**	**19 17 51.6**	**-1.0**
RIGZ	**Rimuhau**	**0.94 276**		P	**Pn**	**19 17 52.4**	**-0.5**
TKGZ	**Te Karaka**	**0.94 292**		P	**Pn**	**19 17 52.1**	**-0.8**
TKGZ				S	**Sn**	**19 18 05.2**	**0.0**
TWGZ	**Tauwhareparae**	**0.99 309**		P	**Pn**	**19 17 53.1**	**-0.5**
TWGZ				S	**Sn**	**19 18 07.0**	**+0.5**
KNZ	**Kokohu**	**1.03 257**		P	**Pn**	**19 17 53.7**	**-0.3**
WMGZ	**Waiomatatini S**	**1.07 336**		P	**Pn**	**19 17 55.0**	**+0.4**
PKGZ	**Pakihiroa**	**1.16 323**		P	**Pn**	**19 17 55.6**	**-0.3**
MWZ	**Matawai**	**1.22 292**		P	**Pn**	**19 17 56.0**	**-0.7**
MWZ				S	**Sn**	**19 18 11.7**	**-0.3**
RAGZ	**Rawiri**	**1.25 284**		P	**Pn**	**19 17 56.6**	**-0.6**
RAGZ				S	**Sn**	**19 18 13.0**	**+0.1**
SNGZ	**Shannon Statio**	**1.27 270**		P	**Pn**	**19 17 57.0**	**-0.4**
RUGZ	**Raukumara Rang**	**1.31 309**		P	**Pn**	**19 17 57.3**	**-0.7**
MXZ	**Matakaoa Point**	**1.34 337**		P	**Pn**	**19 17 59.1**	**+0.7**
MXZ	**Matakaoa Point**	**1.34 337**		P	**Pn**	**19 17 59.0**	**+0.7**
HAZ	**Te Kaha**	**1.40 318**		P	**Pn**	**19 17 58.7**	**-0.4**
RAHZ	**Arahi**	**1.47 265**		P	**Pn**	**19 17 60.0**	**-0.1**
URZ	**Urewera**	**1.55 290**		P	**Pn**	**19 18 01.3**	**+0.1**
URZ	**Urewera**	**1.55 290**		P	**Pn**	**19 18 00.9**	**-0.3**
RTZ	**Ruatahuna**	**1.56 276**		P	**Pn**	**19 18 01.0**	**-0.4**
ARHZ	**Aropaoanui**	**1.60 253**		P	**Pn**	**19 18 02.4**	**+0.6**
MTHZ	**Maungataniwha**	**1.66 268**		P	**Pn**	**19 18 02.3**	**-0.4**
CKHZ	**Cape Kidnapper**	**1.69 239**		P	**Pn**	**19 18 04.0**	**+0.8**
NMHZ	**Naumai**	**1.71 259**		P	**Pn**	**19 18 03.5**	**+0.1**
MUGZ	**Murupara**	**1.75 280**		P	**Pn**	**19 18 03.9**	**0.0**
MCHZ	**McNeill Hill**	**1.87 249**		P	**Pn**	**19 18 06.3**	**+0.7**
KAHZ	**Kahuranaki**	**1.90 238**		P	**Pn**	**19 18 06.7**	**+0.7**
BKZ	**Black Stump Fm**	**1.96 259**		P	**Pn**	**19 18 06.6**	**-0.2**
BKZ	**Black Stump Fm**	**1.96 259**		P	**Pn**	**19 18 06.7**	**-0.1**
TARZ	**Mount Tarawera**	**2.01 286**		P	**Pn**	**19 18 07.9**	**+0.3**
PXZ	**Pawanui**	**2.04 232**		P	**Pn**	**19 18 07.8**	**-0.1**
KWHZ	**Kaweka Forest**	**2.07 252**		P	**Pn**	**19 18 08.7**	**+0.3**
KRHZ	**Kereru**	**2.18 247**		P	**Pn**	**19 18 10.0**	**+0.1**
PRHZ	**Porangahau**	**2.32 230**		P	**Pn**	**19 18 11.4**	**-0.3**
PNHZ	**Pukenui**	**2.41 242**		P	**Pn**	**19 18 12.9**	**-0.1**
KATZ	**Kakaramea**	**2.55 265**		P	**Pn**	**19 18 15.7**	**+0.6**
MOVZ	**Moawhango**	**2.57 255**		P	**Pn**	**19 18 16.0**	**+0.7**
KRVZ	**Karewarewa**	**2.60 263**		P	**Pn**	**19 18 16.2**	**+0.4**
SNVZ	**South Ngauruho**	**2.62 261**		P	**Pn**	**19 18 16.4**	**+0.5**
TUVZ	**Tukino**	**2.62 259**		P	**Pn**	**19 18 16.7**	**+0.7**
DVHZ	**Dannevirke**	**2.63 234**		P	**Pn**	**19 18 15.5**	**-0.5**
NNVZ	**North Ngauruho**	**2.63 262**		P	**Pn**	**19 18 17.8**	**+1.6**
WHVZ	**Whangaehu Hut**	**2.67 259**		P	**Pn**	**19 18 17.2**	**+0.5**
WNVZ	**Wahianoa**	**2.67 258**		P	**Pn**	**19 18 17.0**	**+0.3**
MAVZ	**Matarangi**	**2.69 259**		P	**Pn**	**19 18 17.4**	**+0.4**
FWVZ	**Far West T-bar**	**2.69 259**		P	**Pn**	**19 18 17.4**	**+0.4**
BFZ	**Birch Farm**	**2.81 227**		P	**Pn**	**19 18 16.8**	**-1.7**
BFZ	**Birch Farm**	**2.81 227**		P	**Pn**	**19 18 16.9**	**-1.6**
POWZ	**Post Office Ro**	**2.93 236**		P	**Pn**	**19 18 20.1**	**-0.1**
HIZ	**Hauiti**	**3.23 274**		P	**Pn**	**19 18 24.7**	**+0.5**
KHEZ	**Kahui Hut**	**3.88 261**		P	**Pn**	**19 18 31.9**	**-1.4**
QRZ	**Quartz Range**	**5.35 246**		P	**Pn**	**19 18 50.7**	**-2.6**

*IDC **23** 19:23:37.7±0.5, 54˚.77N×164˚.65E, h0km, mb4.3/27, mbtmp4.3/31, ML4.0/4, MS3.3/27, Error ellipse: s-maj=14.3km s-min=11.1km az=159.0*
*KRSC **23** 19:23:38.3±1.9, 54˚.69N×164˚.58E, h53km±24km, Mc4.6, Ml4.6*
*NEIC **23** 19:23:39.2±1.5, 54˚.73N±0˚.09×164˚.6E±0˚.1, h10km±1km, mb4.6/224, Error ellipse: s-maj=15.0km s-min=10.2km az=172.0*
*MOS **23** 19:23:41.6±1.0, 54˚.74N×164˚.52E, h44km, mb4.7/29, MS3.1/4, Error ellipse: s-maj=5.7km s-min=4.6km az=96.6*
ISC 23 19:23:40.9±0.7, 54˚.68N±0˚.04×164˚.65E±0˚.03, h23km±5km, n586, σ1°06/542, mb4.6/148, MS3.4/27, 10C-6D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.93**	**55**	PN	**Pn**	**19 23 56.9**	**-1.5**
BKI				S	**Sb**	**19 24 08.8**	**-1.3**
BKI	**Bering**	**0.93**	**55**	*e*P	**Pn**	**19 23 57.0**	**-1.5**
BKI				*e*S	**Sb**	**19 24 08.8**	**-1.3**
MKZ	**Mys Kozlova**	**1.70**	**267**	PN	**Pn**	**19 24 07.6**	**-1.4**
MKZ				S	**Sn**	**19 24 26.7**	**-3.3**
MKZ	**Mys Kozlova**	**1.70**	**267**	*e*P	**Pn**	**19 24 07.7**	**-1.4**
MKZ				*e*S	**Sn**	**19 24 26.8**	**-3.3**
KBTR	**Krutoberegovo**	**1.85**	**327**	PN	**Pn**	**19 24 08.4**	**-2.8**
KBTR				S	**Sn**	**19 24 29.8**	**-4.0**
KBTR	**Krutoberegovo**	**1.85**	**327**	*e*P	**Pn**	**19 24 08.4**	**-2.8**
KBTR				*e*S	**Sn**	**19 24 29.9**	**-4.0**
KBG	**Krutoberegovo**	**1.93**	**326**	PN	**Pn**	**19 24 10.0**	**-2.2**
KBG				S	**Sn**	**19 24 32.4**	**-3.2**
KBG	**Krutoberegovo**	**1.93**	**326**	*e*P	**Pn**	**19 24 10.0**	**-2.2**
KBG				*e*S	**Sn**	**19 24 32.4**	**-3.2**
TUMD	**Tumrok D**	**2.51**	**284**	PN	**Pn**	**19 24 18.3**	**-1.8**
TUMD				S	**Sn**	**19 24 46.3**	**-3.7**
TUMD	**Tumrok D**	**2.51**	**284**	*e*P	**Pn**	**19 24 18.4**	**-1.8**
TUMD				*e*S	**Sn**	**19 24 46.4**	**-3.7**
ZLN	**Zelenaya**	**2.57**	**303**	PN	**Pn**	**19 24 20.9**	**-0.2**
ZLN				S	**Sn**	**19 24 51.9**	**+0.2**
ZLN	**Zelenaya**	**2.57**	**303**	*e*P	**Pn**	**19 24 21.0**	**-0.2**
ZLN				*e*S	**Sn**	**19 24 51.9**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**2.59**	**301**	PN	**Pn**	**19 24 20.9**	**-0.5**
BZGR				S	**Sn**	**19 24 51.9**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**2.59**	**301**	*e*P	**Pn**	**19 24 21.0**	**-0.5**
BZGR				*e*S	**Sn**	**19 24 51.9**	**-0.2**
SMKR	**Semkarok**	**2.62**	**318**	PN	**Pn**	**19 24 21.3**	**-0.5**
SMKR				S	**Sn**	**19 24 52.9**	**-0.1**
SMKR	**Semkarok**	**2.62**	**318**	*e*P	**Pn**	**19 24 21.3**	**-0.5**
SMKR				*e*S	**Sn**	**19 24 52.9**	**-0.1**
CIRR	**Tsirk**	**2.65**	**304**	PN	**Pn**	**19 24 21.4**	**-0.8**
CIRR	**Tsirk**	**2.65**	**304**	*e*P	**Pn**	**19 24 21.4**	**-0.8**
LGNR	**Loginova**	**2.66**	**304**	PN	**Pn**	**19 24 22.8**	**+0.3**
LGNR				S	**Sn**	**19 24 55.0**	**+0.9**
LGNR	**Loginova**	**2.66**	**304**	*e*P	**Pn**	**19 24 22.9**	**+0.3**
LGNR				*e*S	**Sn**	**19 24 55.1**	**+0.9**
BZMR	**Bezymyannaya**	**2.69**	**300**	PN	**Pn**	**19 24 22.5**	**-0.3**
BZMR	**Bezymyannaya**	**2.69**	**300**	*e*P	**Pn**	**19 24 22.6**	**-0.3**
BZWR	**Bezymyannyi-We**	**2.70**	**300**	PN	**Pn**	**19 24 22.7**	**-0.2**
BZWR	**Bezymyannyi-We**	**2.70**	**300**	*e*P	**Pn**	**19 24 22.8**	**-0.2**
KMNR	**Kamenistaya**	**2.75**	**295**	PN	**Pn**	**19 24 23.3**	**-0.3**
KMNR	**Kamenistaya**	**2.75**	**295**	*e*P	**Pn**	**19 24 23.3**	**-0.3**
KIRR	**Kirishev**	**2.77**	**299**	PN	**Pn**	**19 24 23.4**	**-0.5**
KIRR				S	**Sn**	**19 24 56.3**	**-0.4**
KIRR	**Kirishev**	**2.77**	**299**	*e*P	**Pn**	**19 24 23.4**	**-0.5**
KIRR				*e*S	**Sn**	**19 24 56.4**	**-0.4**
KRSR	**Krestovskiy**	**2.79**	**305**	PN	**Pn**	**19 24 23.9**	**-0.8**
KRSR				S	**Sn**	**19 24 56.3**	**-0.8**
KRSR	**Krestovskiy**	**2.79**	**305**	*e*P	**Pn**	**19 24 23.4**	**-0.8**
KRSR				*e*S	**Sn**	**19 24 56.4**	**-0.8**
KPT	**Kopyto**	**2.84**	**299**	PN	**Pn**	**19 24 24.8**	**0.0**
KPT	**Kopyto**	**2.84**	**299**	*e*P	**Pn**	**19 24 24.8**	**0.0**
KOZ	**Kozyrevsk**	**3.06**	**299**	PN	**Pn**	**19 24 27.7**	**0.0**
KOZ				S	**Sn**	**19 25 03.4**	**-0.1**
KOZ	**Kozyrevsk**	**3.06**	**299**	*e*P	**Pn**	**19 24 27.7**	**0.0**
KOZ				*e*S	**Sn**	**19 25 03.4**	**-0.1**
KII	**Karymskiy**	**3.11**	**260**	PN	**Pn**	**19 24 27.9**	**-0.6**
KII				S	**Sn**	**19 25 03.5**	**-1.4**
KII	**Karymskiy**	**3.11**	**260**	*e*P	**Pn**	**19 24 27.9**	**-0.6**
KII				*e*S	**Sn**	**19 25 03.6**	**-1.4**
SPN	**Mys Shipunski**	**3.16**	**242**	PN	**Pn**	**19 24 28.0**	**-1.1**
SPN	**Mys Shipunski**	**3.16**	**242**	*e*P	**Pn**	**19 24 28.0**	**-1.1**
SPN				*e*S	**Sn**	**19 25 01.3**	**-4.8**
SRDR	**Sredinnyy**	**3.25**	**302**	PN	**Pn**	**19 24 30.9**	**+0.5**
SRDR	**Sredinnyy**	**3.25**	**302**	*e*P	**Pn**	**19 24 31.0**	**+0.5**
NLC	**Nalytchevo**	**3.48**	**246**	PN	**Pn**	**19 24 33.6**	**+0.1**
NLC	**Nalytchevo**	**3.48**	**246**	*e*P	**Pn**	**19 24 33.6**	**+0.1**
NLC				*e*S	**Sn**	**19 25 10.4**	**-3.5**
ESO	**Esso**	**3.62**	**293**	PN	**Pn**	**19 24 34.7**	**-0.8**
ESO	**Esso**	**3.62**	**293**	*e*P	**Pn**	**19 24 34.7**	**-0.8**
SDLR	**Sedlovina**	**3.68**	**250**	PN	**Pn**	**19 24 35.8**	**-0.6**
SDLR	**Sedlovina**	**3.68**	**250**	*e*P	**Pn**	**19 24 35.9**	**-0.6**
UGLR	**Uglovaya**	**3.74**	**249**	PN	**Pn**	**19 24 37.6**	**+0.4**
UGLR	**Uglovaya**	**3.74**	**249**	*e*P	**Pn**	**19 24 37.6**	**+0.4**
AVH	**Avacha**	**3.77**	**250**	PN	**Pn**	**19 24 38.1**	**+0.6**
AVH	**Avacha**	**3.77**	**250**	*e*P	**Pn**	**19 24 38.2**	**+0.6**
KRX	**Arik**	**3.78**	**252**	PN	**Pn**	**19 24 37.4**	**-0.3**
KRX	**Arik**	**3.78**	**252**	*e*P	**Pn**	**19 24 37.5**	**-0.3**
KOK	**Koryaka**	**3.81**	**251**	PN	**Pn**	**19 24 37.9**	**-0.3**
KOK	**Koryaka**	**3.81**	**251**	*e*P	**Pn**	**19 24 37.9**	**-0.3**
DALK	**Dalny**	**3.86**	**247**	*e*S	**Sn**	**19 25 20.4**	**-2.9**
PET	**Petropavlovsk**	**3.92**	**247**		**Pn**	**19 24 39.1**	**-0.4**
PET	**Petropavlovsk**	**3.92**	**247**	*e*PN	**Pn**	**19 24 39.7**	**+0.2**
PET				MLR	MLR		
	comp=Z,200nm,13.0s						
PET	**Petropavlovsk**	**3.92**	**247**	*e*P	**Pn**	**19 24 40.6**	**+1.1**
PET				*e*S	**Sn**	**19 25 20.2**	**-4.5**
GNL	**Ganaly**	**4.06**	**259**	PN	**Pn**	**19 24 42.2**	**+0.6**
GNL	**Ganaly**	**4.06**	**259**	*e*P	**Pn**	**19 24 42.3**	**+0.6**
KRMR	**Karymshinskiy**	**4.29**	**247**	PN	**Pn**	**19 24 44.5**	**-0.1**
KRMR	**Karymshinskiy**	**4.29**	**247**	*e*P	**Pn**	**19 24 44.5**	**-0.1**
KRMR				*e*S	**Sn**	**19 25 29.9**	**-4.0**
RUS	**Russkaya**	**4.29**	**241**	PN	**Pn**	**19 24 44.1**	**-0.6**
RUS	**Russkaya**	**4.29**	**241**	*e*P	**Pn**	**19 24 44.1**	**-0.6**
PEA0B	**Petropavlovsk-**	**4.40**	**252**		**Pn**	**19 24 46.3**	**+0.1**
PEA0B	**Petropavlovsk-**	**4.40**	**252**	*c i*PN	**Pn**	**19 24 46.3**	**+0.1**
PEA0B				*i* S	**Sn**	**19 25 36.4**	**-0.3**
PETK	**Petropavlovsk-**	**4.40**	**252**		**Pn**	**19 24 45.2**	**-1.0**
PETK	**Petropavlovsk-**	**4.40**	**252**	Pn	**Pn**	**19 24 45.9**	**-0.3**
	comp=Z,4.5nm,0.3s,baz=78,slow=16,SNR=63						
PETK				Sn	**Sn**	**19 25 35.5**	**-1.2**
	comp=Z,6.3nm,0.3s,baz=65,slow=21,SNR=5.7						
	comp=Z,9.4nm,0.5s						
MTVR	**Mutnovka**	**4.44**	**243**	PN	**Pn**	**19 24 46.9**	**+0.1**
MTVR	**Mutnovka**	**4.44**	**243**	*e*P	**Pn**	**19 24 47.0**	**+0.1**
MTVR				*e*S	**Sn**	**19 25 34.6**	**-3.1**
GRL	**Gorelyy**	**4.46**	**244**	PN	**Pn**	**19 24 47.8**	**+0.7**
GRL	**Gorelyy**	**4.46**	**244**	*e*P	**Pn**	**19 24 47.8**	**+0.7**
OSSR	**Ossora**	**4.67**	**350**	PN	**Pn**	**19 24 48.7**	**-1.0**
OSSR	**Ossora**	**4.67**	**350**	*e*P	**Pn**	**19 24 48.8**	**-1.0**
OSSR				*e*S	**Sn**	**19 25 38.5**	**-4.6**
KDTR	**Khodutka, Kamc**	**4.88**	**237**	PN	**Pn**	**19 24 51.9**	**-0.8**
KDTR	**Khodutka, Kamc**	**4.88**	**237**	*e*P	**Pn**	**19 24 51.9**	**-0.8**
KDTR				*e*S	**Sn**	**19 25 43.5**	**-4.9**
PALN	**Palana**	**5.11**	**332**	PN	**Pn**	**19 24 55.6**	**-0.3**
PALN	**Palana**	**5.11**	**332**	*e*P	**Pn**	**19 24 55.6**	**-0.3**
PAU	**Pauzhetka**	**5.71**	**239**	PN	**Pn**	**19 25 06.2**	**+2.0**
PAU	**Pauzhetka**	**5.71**	**239**	*e*P	**Pn**	**19 25 06.3**	**+2.0**
SHEM	**Shemya Is, Ala**	**5.94**	**105**	Pn	**Pn**	**19 25 06.2**	**-1.2**
	comp=Z,5.2nm,0.3s,baz=302,slow=9.5,SNR=7.0						
SHEM				Sn	**Sn**	**19 26 09.8**	**-4.8**
	comp=Z,1.8nm,0.3s,baz=290,slow=15,SNR=2.0						
SHEM				LR	LR	19 27 33.5	
	comp=Z,233nm,19.2s,baz=332,slow=40						
	comp=Z,13nm,0.3s						
SMY	**Shemya**	**5.94**	**105**	Pn	**Pn**	**19 25 08.2**	**+0.9**
SMY	**Shemya**	**5.94**	**105**	PN	**Pn**	**19 25 08.2**	**+0.9**
SKR	**Severo-Kuril's**	**6.55**	**236**	*e*PN	**Pn**	**19 25 15.2**	**-0.5**
SKR				pmax	pmax		
	comp=Z,49nm,0.6s						
SKR				MLR	MLR		
	comp=Z,200nm,14.0s						
SKR	**Severo-Kuril's**	**6.55**	**236**	*e*P	**Pn**	**19 25 16.0**	**+0.4**
KMSK	**Kamenskaya**	**7.85**	**5**	PN	**Pn**	**19 25 34.2**	**+0.7**
KMSK	**Kamenskaya**	**7.85**	**5**	*e*P	**Pn**	**19 25 34.2**	**+0.7**
SEY	**Seymchan**	**10.42**	**327**	Pn	**Pn**	**19 26 08.1**	**-0.6**
	baz=128,slow=14,SNR=4.5						
SEY				LR	LR	19 30 30.5	
	comp=Z,149nm,19.2s,baz=118,slow=40						
SEY	**Seymchan**	**10.42**	**327**	*i* PN	**Pn**	**19 26 08.7**	**+0.1**
KIWB	**Kanaga Island**	**11.26**	**97**	Pn	**Pn**	**19 26 21.9**	**+1.7**
ATKA	**Atka Island**	**12.85**	**92**	Pn	**Pn**	**19 26 41.9**	**+0.1**
BILL	**Bilibino**	**13.43**	**3**	*e*PN	**Pn**	**19 26 50.3**	**+0.6**
BILL				MLR	MLR		
	comp=Z,143nm,14.0s						
GAMB	**Gambell**	**15.05**	**43**		**Pn**	**19 27 11.2**	**-0.6**
GAMB				IAmb	IAmb	19 27 19.2	
	comp=Z,15nm,0.8s						
NIKH	**Nikolski High**	**15.71**	**85**	P	**Pn**	**19 27 20.5**	**+0.1**
	baz=287						
M11K	**Mekoryuk**	**16.57**	**58**		**P**	**19 27 34.1**	**+0.4**
M11K				IAmb	IAmb	19 28 05.6	
	comp=Z,40nm,1.1s						
UNV	**Unalaska Valle**	**16.82**	**81**	P	**Pn**	**19 27 34.2**	**-0.4**
	baz=285						
AKUT	**Akutan**	**17.17**	**80**	P	**P**	**19 27 42.0**	**+1.6**
TNA	**Tin City**	**17.30**	**40**	P	**Pn**	**19 27 40.4**	**-0.2**
TNA	**Tin City**	**17.30**	**40**	P	**Pn**	**19 27 38.0**	**-2.5**
	baz=244						
K13K	**Kusilvak Mount**	**17.55**	**53**	P	**Pn**	**19 27 43.0**	**-0.6**
K13K	**Kusilvak Mount**	**17.55**	**53**	P	**Pn**	**19 27 42.2**	**-1.4**
	baz=260						
JKA	**Kamikawa-asahi**	**17.74**	**243**	Pn	**Pn**	**19 27 45.0**	**-1.1**
ASAJ	**Asahikawa**	**17.75**	**243**	P	**Pn**	**19 27 44.8**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=72,slow=9.6,SNR=6.3						
ASAJ				LR	LR	19 34 09.7	
	comp=Z,44nm,18.2s,baz=22,slow=36						
	comp=Z,8.7nm,0.7s						
ASAJ	**Asahikawa**	**17.75**	**243**	P	**Pn**	**19 27 45.0**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,25nm,1.2s						
ANM	**Nome**	**17.92**	**45**	P	**Pn**	**19 27 47.2**	**-1.0**
ANM	**Nome**	**17.92**	**45**	P	**Pn**	**19 27 47.2**	**-1.0**
ANM				pmax	pmax		
	comp=Z,12nm,1.2s						
ANM	**Nome**	**17.92**	**45**	P	**Pn**	**19 27 46.5**	**-1.7**
	baz=251						
M13K	**Dall Lake**	**17.98**	**58**	P	**P**	**19 27 51.5**	**+2.2**
M13K	**Dall Lake**	**17.98**	**58**	P	**Pn**	**19 27 48.6**	**-0.3**
	baz=266						
J14K	**Nanvaranak Lak**	**18.21**	**51**		**P**	**19 27 52.3**	**+0.4**
J14K	**Nanvaranak Lak**	**18.21**	**51**	P	**Pn**	**19 27 51.2**	**-0.5**
	baz=259						
L14K	**Kuka Creek**	**18.39**	**56**	P	**Pn**	**19 27 56.1**	**+2.1**
L14K	**Kuka Creek**	**18.39**	**56**	P	**P**	**19 27 53.2**	**-0.7**
	baz=264						
G15K	**Niukluk**	**18.60**	**44**	P	**P**	**19 27 55.5**	**-0.6**
	baz=252						
F15K	**North Star Dit**	**18.61**	**41**	P	**Pn**	**19 27 58.0**	**+1.5**
F15K	**North Star Dit**	**18.61**	**41**	P	**P**	**19 27 55.5**	**-0.7**
	baz=249						
M14K	**Bethel**	**18.69**	**58**	P	**Pn**	**19 27 58.5**	**+1.0**
N14K	**Kuskokwak Cree**	**18.79**	**60**	P	**Pn**	**19 27 59.6**	**+0.9**
N14K				IAmb	IAmb	19 28 29.5	
	comp=Z,31nm,1.1s						
N14K	**Kuskokwak Cree**	**18.79**	**60**	P	**P**	**19 27 57.8**	**-0.3**
	baz=269						
S12K	**Black Hills**	**18.93**	**73**	P	**P**	**19 27 59.9**	**0.0**
S12K	**Black Hills**	**18.93**	**73**	P	**P**	**19 27 59.7**	**-0.2**
	baz=281						
ERM	**Erimo**	**19.00**	**237**	P	**P**	**19 27 58.0**	**-2.6**
ERM				IAmb	IAmb	19 28 30.6	
	comp=Z,47nm,1.1s						
ERM	**Erimo**	**19.00**	**237**	*e*P	**Pn**	**19 28 02.8**	**+1.4**
L15K	**Ungalak Mounta**	**19.00**	**55**	P	**P**	**19 27 59.7**	**-0.8**
	baz=264						
K15K	**Wolf Creek Mou**	**19.06**	**53**	P	**Pn**	**

baz=246,SNR=6.0
G18K Tagagawik 21.01 43 P P 19 28 22.9 +0.5
baz=256,SNR=14
N17K Nushagak Hills 21.03 58 P P 19 28 23.1 +0.4
baz=271
O17K Koliganek Bris 21.10 60 P P 19 28 24.0 +0.6
baz=273
B18K Kokolik River 21.12 33 P P 19 28 23.8 +0.2
baz=243,SNR=7.5
L18K Granite Mounta 21.30 54 P P 19 28 25.9 +0.3
baz=267
J18K Innoko River 21.39 50 IAmb IAmb 19 28 29.1
comp=Z,18nm,1.1s
J18K Innoko River 21.39 50 P P 19 28 27.2 +0.7
baz=264,SNR=9.8
P17K Kvichak River 21.48 62 P P 19 28 27.7 +0.3
baz=275
F19K Shaleruckik Mo 21.60 41 P P 19 28 28.8 +0.2
baz=254
N18K Kilae Creek 21.67 58 P P 19 28 29.7 +0.2
baz=272
M18K Stony River 21.69 56 P P 19 28 29.7 0.0
baz=270
G19K Purcell Mounta 21.70 43 P P 19 28 29.5 -0.2
baz=257,SNR=11
A19K Wainwright 21.74 31 P P 19 28 29.8 -0.3
baz=242
H19K Roundabout Mou 21.82 45 IAmb IAmb 19 28 34.8
comp=Z,18nm,0.9s
H19K Roundabout Mou 21.82 45 P P 19 28 30.8 -0.2
baz=259,SNR=11
Q17K Contact Creek 21.87 64 P P 19 28 31.8 +0.1
baz=278
J19K Poorman 21.93 49 P 19 28 32.1 -0.2
J19K Poorman 21.93 49 P P 19 28 32.1 -0.2
baz=264,SNR=7.9
E19K Redstone River 21.98 39 P P 19 28 33.0 +0.2
baz=254
D19K Kuna River 22.00 37 P P 19 28 33.3 +0.3
baz=250
O18K Koktuh Hills 22.05 60 P P 19 28 33.6 0.0
baz=275
P18K Big Mountain, 22.08 61 P P 19 28 33.4 -0.5
baz=276
L19K White Mountain 22.16 54 P P 19 28 34.0 -0.8
baz=269
Q18K Katmai Hardscr 22.27 63 P P 19 28 35.7 -0.4
baz=278
N19K Bonanza Creek 22.35 57 P P 19 28 36.6 -0.3
baz=273
M19K Big River Lodg 22.38 55 P P 19 28 36.6 -0.4
baz=270
F20K Avaraart Lake 22.44 41 IAmb IAmb 19 28 39.9
comp=Z,13nm,0.9s
F20K Avaraart Lake 22.44 41 P P 19 28 36.7 -0.9
baz=256,SNR=15
H20K Anotleneega Mo 22.46 45 P P 19 28 37.7 -0.2
baz=261,SNR=11
I20K Naaghedeneel 22.52 47 P P 19 28 37.3 -1.3
I20K IAmb IAmb 19 28 41.1
comp=Z,28nm,0.8s
I20K Naaghedeneel 22.52 47 P P 19 28 37.7 -0.9
baz=263,SNR=5.1
K20K Telida 22.57 51 P P 19 28 38.6 -0.6
baz=267
D20K Etivluk River 22.59 37 P P 19 28 39.2 -0.1
baz=251
E20K Nigu River 22.60 38 P P 19 28 39.9 +0.5
baz=253
J20K Nowinta River 22.60 49 P 19 28 39.1 -0.3
J20K IAmb IAmb 19 28 41.7
comp=Z,38nm,1.4s
J20K Nowinta River 22.60 49 P P 19 28 39.2 -0.3
baz=265,SNR=12
L20K Farewell, AK 22.62 53 P P 19 28 39.5 -0.2
baz=269
B20K Meade River 22.87 33 P P 19 28 41.8 -0.4
baz=248
TIXI Tiksi 22.87 332 P 19 28 40.6 -1.5
TIXI IAmb IAmb 19 28 53.5
comp=Z,16nm,1.0s
TIXI Tiksi 22.87 332 LR LR 19 37 53.0
comp=Z,60nm,21.2s,baz=190,slow=38
TIXI Tiksi 22.87 332 *ce*P P 19 28 42.0 -0.1
TIXI pmax pmax
comp=Z,10.0nm,0.9s
TIXI MLR MLR
comp=Z,50nm,14.0s
M20K Styx River 22.97 55 P P 19 28 43.8 +0.4
baz=271
P19K Oil Pt 23.07 60 P P 19 28 42.9 -1.5
baz=277
SII Sitkinak Islan 23.08 68 P P 19 28 43.4 -1.1
baz=283
G21K Allakaket 23.19 43 P P 19 28 45.7 +0.2
baz=260
F21K Alatna River 23.33 41 P P 19 28 46.9 0.0
F21K IAmb IAmb 19 28 49.0
comp=Z,14nm,1.1s
F21K Alatna River 23.33 41 P P 19 28 46.5 -0.5
baz=258,SNR=13
H21K Melozitna Rive 23.34 45 P P 19 28 47.0 0.0
H21K IAmb IAmb 19 28 49.0
comp=Z,39nm,1.5s
H21K Melozitna Rive 23.34 45 P P 19 28 46.8 -0.2
baz=263,SNR=15
C21K Knifeblade Rid 23.36 36 P P 19 28 46.7 -0.4
baz=253,SNR=14
JMM Marumori 23.37 234 P P 19 28 50.8 +3.3
JMM IAmb IAmb 19 29 10.9
comp=Z,37nm,1.3s
CHUM Lake Minchumin 23.38 50 P P 19 28 46.7 -0.7
baz=267,SNR=7.4
PPLA Purkeypile 23.41 52 P P 19 28 47.9 0.0
baz=270
OHAK Old Harbor 23.42 66 P P 19 28 48.2 +0.4
baz=282
E21K Killik River 23.44 38 P P 19 28 47.8 -0.2
baz=255
CAST Castle Rocks 23.47 51 P 19 28 48.8 +0.5
CAST Castle Rocks 23.47 51 P P 19 28 48.8 +0.5
baz=269,SNR=8.0
B21K Ikpikpuk River 23.56 35 P P 19 28 48.6 -0.5
baz=252
A21K Barrow 23.56 30 P P 19 28 48.5 -0.5
baz=246
I21K Tanana 23.62 46 P P 19 28 49.7 0.0
baz=265
Q20K Shuyak Island 23.63 63 P P 19 28 49.9 0.0
baz=280
KDAK Kodiak Island 23.68 65 LR LR 19 38 05.3
comp=Z,38nm,18.2s,baz=96,slow=37
KDAK Kodiak Island 23.68 65 P P 19 28 50.2 -0.1
baz=281
SKT Skwentna 23.73 54 P 19 28 51.0 +0.2
SKT Skwentna 23.73 54 P P 19 28 50.4 -0.4
baz=272
F22K John River 23.88 41 P P 19 28 52.0 -0.3
baz=259,SNR=26
A22K Sinclair Lake 23.93 32 P P 19 28 51.5 -1.1
baz=248,SNR=7.5
H22K Ishtalitna Cre 23.95 45 P P 19 28 52.4 -0.5
baz=264,SNR=25
BPAW Bear Paw Mtn. 23.98 49 P 19 28 53.1 -0.1
BPAW IAmb IAmb 19 28 55.4
comp=Z,24nm,1.1s
BPAW Bear Paw Mtn. 23.98 49 P P 19 28 52.5 -0.6
baz=268,SNR=11
KTH Kantishna Hill 23.99 50 IAmb IAmb 19 28 56.4
comp=Z,23nm,1.2s
D22K Ayikyak River 24.01 37 P 19 28 53.0 -0.4
D22K IAmb IAmb 19 28 55.2
comp=Z,16nm,1.1s
D22K Ayikyak River 24.01 37 P P 19 28 52.7 -0.8
baz=256,SNR=6.8
G22K Bettles 24.04 42 P P 19 28 53.3 -0.4
baz=261
SUA Susitna One 24.13 56 P 19 28 54.5 -0.3
SUA IAmb IAmb 19 28 56.1
comp=Z,17nm,0.7s
SUA Susitna One 24.13 56 P P 19 28 54.4 -0.3
baz=274,SNR=8.8
E22K Anaktuvuk Pass 24.14 39 P P 19 28 54.0 -0.8
baz=258,SNR=54
B22K Teshekpuk Lake 24.18 34 P P 19 28 53.9 -1.0
baz=252,SNR=17
TRF Thorofare Moun 24.27 51 P 19 28 56.0 -0.2
TRF IAmb IAmb 19 28 57.9
comp=Z,20nm,0.8s
TRF Thorofare Moun 24.27 51 P P 19 28 55.3 -0.8
baz=270,SNR=15
CUT Chulitna 24.30 53 P P 19 28 55.6 -0.5
baz=273
BRSE Bradley Lake S 24.31 60 P P 19 28 55.9 -0.3
baz=278
JSD Sado 24.45 238 P 19 28 58.3 +0.6
MDJ Mudanjiang 24.59 260 P P 19 28 58.6 -0.3
COLD Coldfoot 24.59 42 P P 19 28 58.4 -0.4
baz=262,SNR=30
G23K Bananza Creek 24.59 43 IAmb IAmb 19 29 00.2
comp=Z,10nm,0.7s
G23K Bananza Creek 24.59 43 P P 19 28 58.0 -0.8
baz=263,SNR=22
RC01 Rabbit Creek A 24.65 56 P P 19 28 59.2 -0.1
baz=276
H23K Yukon River 24.69 45 P P 19 28 59.4 -0.3
baz=266,SNR=36
O22K Cooper Landing 24.72 58 P P 19 28 59.8 -0.1
baz=277
I23K Minto, Yukon-K 24.72 47 P P 19 28 59.5 -0.4
I23K Minto, Yukon-K 24.72 47 P P 19 28 59.6 -0.3
baz=267,SNR=40
D23K Nanushuk River 24.73 37 P P 19 28 59.6 -0.4
baz=258,SNR=7.6
NEA2 Nenana 24.83 48 P P 19 29 00.9 0.0
baz=269,SNR=25
MCK McKinley 24.88 50 P P 19 29 01.0 -0.4
MCK IAmb IAmb 19 29 04.6
comp=Z,15nm,1.0s
MCK McKinley 24.88 50 P P 19 29 01.0 -0.4
MCK pmax pmax
comp=Z,15nm,1.0s
MCK McKinley 24.88 50 P P 19 29 01.0 -0.4
baz=271,SNR=10.0
PMR Palmer 24.89 55 P P 19 29 01.8 +0.3
baz=275
SEW Seward 24.90 59 P P 19 29 01.3 -0.3
baz=278
RND Reindeer 24.92 51 IAmb IAmb 19 29 03.2
comp=Z,13nm,0.9s
E23K Chandalar 24.94 40 P P 19 29 01.4 -0.6
baz=261,SNR=34
C23K Itkillik River 24.96 35 P 19 29 01.1 -0.9
C23K IAmb IAmb 19 29 04.5
comp=Z,15nm,1.0s
C23K Itkillik River 24.96 35 P P 19 29 01.1 -0.9
baz=256,SNR=16
MSHR Mys Shultsa 24.97 255 *i*P P 19 29 03.8 +1.5
MSHR pmax pmax
comp=Z,5.0nm,0.6s
TOLK Toolik Lake Re 25.06 38 P P 19 29 02.2 -0.8
baz=260,SNR=26
PSTR Posyet 25.12 255 *e*P P 19 29 05.1 +1.4
KNK Knik Glacier 25.23 55 IAmb IAmb 19 29 15.4
comp=Z,17nm,1.0s
KNK Knik Glacier 25.23 55 P P 19 29 04.3 -0.3
baz=276
SML Sawmill 25.25 55 IAmb IAmb 19 29 15.3
comp=Z,13nm,0.7s
SML Sawmill 25.25 55 P P 19 29 04.8 0.0
baz=276
PWL Port Wells 25.35 57 P P 19 29 05.1 -0.6
baz=278,SNR=5.4
COLA College 25.36 47 P P 19 29 04.7 -0.9
COLA College 25.36 47 *d i*P P 19 29 05.7 +0.1
COLA pmax pmax
comp=Z,15nm,0.6s
COLA College 25.36 47 P P 19 29 05.2 -0.4
baz=269
E24K Your Creek 25.36 40 P P 19 29 05.3 -0.4
baz=262,SNR=50
CCB Clear Creek Bu 25.37 48 P 19 29 05.2 -0.6
H24K Noodor Dome 25.38 45 P P 19 29 05.9 0.0
baz=267,SNR=10
D24K Happy Valley 25.42 37 P P 19 29 06.2 -0.1
baz=259
F24K Squaw Lake 25.52 41 IAmb IAmb 19 29 07.8
comp=Z,12nm,0.6s
F24K Squaw Lake 25.52 41 P P 19 29 06.5 -0.6
baz=264,SNR=28
POKR Poker Plat Res 25.54 47 P P 19 29 06.7 -0.7
POKR IAmb IAmb 19 29 19.4
comp=Z,9.4nm,0.7s
POKR Poker Plat Res 25.54 47 P P 19 29 07.3 0.0
baz=269,SNR=8.5
M23K Glacier View 25.54 55 P P 19 29 06.8 -0.6
baz=276
C24K Franklin Bluff 25.58 36 P P 19 29 07.4 -0.2
baz=258
G24K Hadweenzic Riv 25.60 43 P P 19 29 08.0 +0.1
baz=266,SNR=22
MJAR Matsushiro Arr 25.66 236 P P 19 29 10.0 +1.3
comp=Z,3.4nm,0.8s,baz=28,slow=8.6,SNR=9.9
comp=Z,3.4nm,0.8s
MJAR Matsushiro Arr 25.66 236 P P 19 29 10.0 +1.3
MJB9 Matsu-Tunnel 25.66 236 P 19 29 09.2 +0.5
MJB9 IAmb IAmb 19 29 20.9
comp=Z,16nm,1.1s
MAJO Matsushiro 25.66 236 P P 19 29 09.3 +0.6
MAJO IAmb IAmb 19 29 19.9
comp=Z,17nm,1.1s
MAJO Matsushiro 25.66 236 ⇓ *i*P P 19 29 10.1 +1.4
MAJO pmax pmax
comp=Z,7.0nm,0.8s
SCM Sheep Creek Mo 25.72 54 P P 19 29 09.5 +0.4
baz=276,SNR=6.0
HDA Harding Lake 25.74 48 IAmb IAmb 19 29 19.5
comp=Z,8.7nm,0.8s
HDA Harding Lake 25.74 48 P P 19 29 09.2 0.0
baz=271,SNR=12
IL31 25.77 48 IAmb IAmb 19 29 19.8
comp=Z,11nm,0.8s
ILAR Eielson Array 25.77 48 P P 19 29 08.5 -0.9
ILAR Eielson Array 25.77 48 P P 19 29 07.9 -1.5
comp=Z,7.6nm,0.8s,baz=261,slow=8.9,SNR=87
comp=Z,7.6nm,0.8s
ILAR Eielson Array 25.77 48 P P 19 29 08.5 -0.9
P23K Montague Islan 25.93 59 P P 19 29 11.6 +0.7
baz=280
GLI Glacier Island 25.95 57 P P 19 29 11.6 +0.5
baz=278
G25K Bearman Lake 26.15 43 P P 19 29 12.9 +0.1
baz=267
M24K Tolsona, Glenn 26.23 54 P P 19 29 13.8 0.0
baz=277
K24K Donnelly Dome 26.28 50 IAmb IAmb 19 29 24.9
comp=Z,11nm,0.8s
K24K Donnelly Dome 26.28 50 P P 19 29 14.2 +0.1
baz=273
D25K Kavik River 26.31 37 P P 19 29 13.6 -0.7
baz=262,SNR=38
PRP Porcupine Dome 26.34 46 P P 19 29 14.3 -0.5
baz=270,SNR=33
F25K Christian Rive 26.38 41 IAmb IAmb 19 29 19.5
comp=Z,7.1nm,0.8s
F25K Christian Rive 26.38 41 P P 19 29 14.3 -0.7
baz=266,SNR=14
J25K Salcha River, 26.42 48 P 19 29 13.6 -1.8
J25K Salcha River, 26.42 48 P P 19 29 14.2 -1.3
baz=272,SNR=8.3
KLU Klutina 26.43 55 P P 19 29 14.8 -0.7
baz=278
E25K Arctic Village 26.45 40 IAmb IAmb 19 29 16.9
comp=Z,12nm,0.6s
E25K Arctic Village 26.45 40 P P 19 29 14.1 -1.6
baz=265,SNR=28
PAX Paxson 26.48 52 IAmb IAmb 19 29 21.6
comp=Z,6.5nm,0.7s
PAX Paxson 26.48 52 P P 19 29 15.2 -0.8
baz=275
EYAK Cordova Ski Ar 26.65 57 P P 19 29 15.6 -1.9
baz=280
HARP HAARP 26.68 53 P P 19 29 17.4 -0.3
baz=277
RIDG Independent Ri 26.70 50 IAmb IAmb 19 29 17.6
comp=Z,16nm,1.3s
RIDG Independent Ri 26.70 50 P P 19 29 17.2 -0.7
baz=274,SNR=5.8
BMAR Burnt Mountain 26.78 42 P 19 29 18.1 -0.5
C26K Camden Bay 26.91 36 P P 19 29 19.6 0.0
baz=262,SNR=14
F26K Sheenjek River 26.96 41 P P 19 29 19.6 -0.6
baz=267,SNR=6.4
N25K Chitina, Valde 27.04 55 P P 19 29 20.7 -0.3
baz=279
SCRK Sand Creek 27.06 49 IAmb IAmb 19 29 31.0
comp=Z,8.0nm,0.9s
SCRK Sand Creek 27.06 49 P P 19 29 20.5 -0.7
baz=275,SNR=6.7
G26K Porcupine Rive 27.07 43 IAmb IAmb 19 29 22.6
comp=Z,11nm,0.7s
G26K Porcupine Rive 27.07 43 P P 19 29 21.0 -0.1
baz=269,SNR=6.5
J26L Joseph Creek 27.21 48 P P 19 29 21.7 -0.8
baz=274
C27K Jago River 27.28 37 IAmb IAmb 19 29 24.0
comp=Z,16nm,1.2s
C27K Jago River 27.28 37 P P 19 29 22.8 -0.3
baz=264,SNR=18
I26K Coal Creek Min 27.34 46 P P 19 29 23.5 -0.1
baz=273
L26K Log Cabin Wild 27.43 51 P P 19 29 24.2 -0.3
baz=277
M26K Nabesna, AK 27.67 53 P P 19 29 26.5 -0.2
baz=278
K27K Chicken 27.89 49 P P 19 29 28.4 -0.2
baz=276
G27K Doyon Strip 27.91 43 P P 19 29 28.6 -0.1
G27K Doyon Strip 27.91 43 P P 19 29 28.5 -0.2
baz=271
E27K Coleen River 27.94 40 P P 19 29 28.6 -0.4
baz=269
I27K Kandik River 27.97 46 P P 19 29 29.6 +0.4
baz=274
H27K Steamboat Moun 27.98 44 IAmb IAmb 19 29 40.4
comp=Z,7.0nm,0.8s
H27K Steamboat Moun 27.98 44 P P 19 29 29.5 +0.1
baz=272,SNR=14
L27K Beaver Creek, 28.12 51 IAmb IAmb 19 29 32.2
comp=Z,10nm,0.8s
L27K Beaver Creek, 28.12 51 P P 19 29 30.8 +0.2
baz=278,SNR=14
BCAR Beaver Creek A 28.14 51 P 19 29 31.1 +0.3
M27K Edge Creek, AK 28.20 52 IAmb IAmb 19 29 47.4
comp=Z,11nm,1.2s
M27K Edge Creek, AK 28.20 52 P P 19 29 31.8 +0.4
baz=279
D27M Malcolm River 28.22 38 IAmb IAmb 19 29 32.5
comp=Z,12nm,0.7s
D27M Malcolm River 28.22 38 P P 19 29 31.5 0.0
baz=267,SNR=22
MESA MESA 28.58 57 P P 19 29 34.9 0.0
baz=283
BVCY Beaver Creek 28.66 52 P P 19 29 35.3 -0.1
baz=280,SNR=5.5
I28M Miner Creek 28.68 46 P P 19 29 35.5 -0.1
baz=275
E28M Babbage River 28.71 39 IAmb IAmb 19 29 37.7
comp=Z,11nm,1.4s
E28M Babbage River 28.71 39 P P 19 29 36.1 +0.3
baz=270
YUK3 Moose Creek 28.96 53 P P 19 29 38.3 0.0
baz=281
D28M Stokes Point 29.01 38 P P 19 29 38.3 -0.1
baz=269
DAWY Dawson 29.06 49 P P 19 29 39.4 +0.4
baz=278
H29M Whitestone 29.25 44 IAmb IAmb 19 29 52.0
comp=Z,10nm,0.7s
H29M Whitestone 29.25 44 P P 19 29 40.2 -0.4
baz=275,SNR=12
O28M Mount Upton 29.29 55 P P 19 29 41.2 -0.2
baz=283
E29M Blow River 29.32 40 IAmb IAmb 19 29 42.2
comp=Z,5.1nm,0.5s
E29M Blow River 29.32 40 P P 19 29 40.8 -0.4
baz=272,SNR=13
G29M Pine Creek 29.34 43 P P 19 29 41.4 0.0
G29M Pine Creek 29.34 43 P P 19 29 41.6 +0.2
baz=274,SNR=10
I29M Ogilvie Camp, 29.36 46 IAmb IAmb 19 29 42.5
comp=Z,6.6nm,1.1s
I29M Ogilvie Camp, 29.36 46 P P 19 29 41.2 -0.5
baz=277
YUK8 Steele Glacier 29.38 54 P P 19 29 41.1 -1.0
baz=283
J29N Klondike Camp 29.52 48 P P 19 29 43.1 0.0
baz=278
M29M Somme Creek 29.75 52 IAmb IAmb 19 29 46.9
comp=Z,6.1nm,0.7s
M29M Somme Creek 29.75 52 P P 19 29 45.3 +0.2
baz=282,SNR=6.9
L29M L29M 29.77 50 P P 19 29 45.4 +0.1
baz=281,SNR=13
YUK4 Talbot Arm 29.89 54 P P 19 29 46.8 +0.2
baz=283
EPYK Eagle Plains 29.90 44 IAmb IAmb 19 29 57.2
comp=Z,7.7nm,0.7s
EPYK Eagle Plains 29.90 44 P P 19 29 46.3 -0.2
baz=276,SNR=8.0
K29M Barlow Dome 29.91 49 IAmb IAmb 19 29 47.6
comp=Z,11nm,1.4s
K29M Barlow Dome 29.91 49 P P 19 29 46.5 -0.1
baz=280
G30M tAoh Zraii Nji 30.04 42 IAmb IAmb 19 29 48.6
comp=Z,6.1nm,0.7s
G30M tAoh Zraii Nji 30.04 42 P P 19 29 47.3 -0.3
baz=276,SNR=6.3
YUK6 Outpost Mounta 30.12 55 P P 19 29 47.8 -0.8
baz=284
F30M Barrier River 30.15 41 P 19 29 49.5 +0.9
F30M IAmb IAmb 19 29 59.8
comp=Z,7.5nm,1.1s
F30M Barrier River 30.15 41 P P 19 29 48.8 +0.2
baz=275
O29M Mount Kennedy 30.18 56 P P 19 29 48.8 -0.2
baz=285
I30M Mount Dempster 30.18 46 IAmb IAmb 19 30 00.0
comp=Z,7.0nm,0.8s
I30M Mount Dempster 30.18 46 P P 19 29 48.8 -0.2
baz=278,SNR=8.7
KSRS Korea Array 30.30 251 P P 19 29 52.0 +1.9
comp=Z,3.4nm,0.7s,baz=44,slow=8.6,SNR=14
KSRS LR LR 19 43 22.7
comp=Z,11nm,18.4s,baz=215,slow=39
comp=Z,3.4nm,0.7s
KSRS Korea Array 30.30 251 P P 19 29 52.0 +1.9
J30M Hart River 30.30 47 P P 19 29 49.6 -0.4
baz=280
M30M Minto, Yukon 30.48 51 P P 19 29 51.7 +0.2
baz=283
HYT Haines Junctio 30.56 55 P P 19 29 52.5 +0.2
baz=285
G31M Satah River 30.81 42 P P 19 29 53.8 -0.6
baz=277
H31M Peel River 30.94 45 IAmb IAmb 19 29 57.6
comp=Z,4.1nm,0.5s
H31M Peel River 30.94 45 P P 19 29 55.0 -0.5
baz=279
INK Inuvik 30.94 40 P P 19 29 55.3 -0.2
baz=276,SNR=16
F31M Tsiigehtchic 30.95 41 P P 19 29 55.4 -0.1
baz=277
N31M Braeburn, Yuko 31.20 53 P P 19 29 58.0 +0.1
baz=285
M31M Drury Creek, Y 31.65 51 P P 19 30 02.5 +0.6
baz=285,SNR=9.1
N32M Quiet Lake 32.54 53 P P 19 30 10.0 +0.2
baz=287
P32M Atlin 32.73 56 P P 19 30 10.7 -0.7
baz=289
SIT Sitka 32.82 61 P P 19 30 12.1 0.0
baz=292
XLT XiLinHaoTe 32.83 271 *e*P P 19 30 14.0 +1.6
XLT sP pwP 19 30 26.8 +2.6
XLT PP PnPn 19 31 22.5 +1.4
XLT pmax pmax
comp=Z,6.0nm,1.0s
MMPY Sheldon Lake, 32.95 50 IAmb IAmb 19 30 25.3
comp=Z,5.3nm,0.7s
MMPY Sheldon Lake, 32.95 50 P P 19 30 13.8 +0.6
baz=286
P33M Teslin, Yukon 32.96 55 P P 19 30 13.3 -0.1
baz=289
R33M Jennings River 34.11 55 P P 19 30 23.3 -0.2
baz=291
C36M Paulatuk 34.18 37 P P 19 30 23.4 -0.4
baz=282,SNR=8.7
TGTN Hyland Airport 34.62 51 P P 19 30 28.1 +0.3
baz=290
WTLY Watson Lake, Y 34.88 53 P P 19 30 30.9 +0.9
baz=292
H11N2 WAKE ISLAND Hy 34.93 176 T T 20 09 03.3

baz=359,slow=76,SNR=288
H11N3 WAKE ISLAND Hy 34.94 176 T T 20 09 04.8
baz=359,slow=76,SNR=140
H11N1 WAKE ISLAND Hy 34.95 176 T T 20 09 07.4
baz=359,slow=76,SNR=202
ULN Ulaanbaatar 35.76 283 *eP* **P** **19 30 38.4 +0.5**
ULN pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 36.15 284 P **P** **19 30 42.6 +1.4**
comp=Z,1.7nm,0.8s,baz=57,slow=8.0,SNR=14
SONM PcP **PcP** **19 33 06.5 +0.1**
comp=Z,0.8nm,0.8s,baz=67,slow=3.7,SNR=4.3
SONM LR LR 19 46 04.6
comp=Z,35nm,18.5s,baz=96,slow=37
comp=Z,1.7nm,0.8s
NRIK Noril'sk 36.18 324 P **P** **19 30 41.1 0.0**
comp=Z,1.1nm,0.4s,baz=96,slow=7.7,SNR=4.5
NRIK LR LR 19 46 27.8
comp=Z,66nm,20.2s,baz=93,slow=38
comp=Z,1.1nm,0.4s
NRIK Noril'sk 36.18 324*ceP* **P** **19 30 41.6 +0.6**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
TOAD Toad River Com 37.05 54 P **P** **19 30 49.5 +0.9**
baz=295
HHC Hu-ho-hao-te 37.34 271 *eP* **P** **19 30 51.5 +0.1**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,71nm,3.5s
HNS HongShan 37.81 264 ⇓P **P** **19 30 57.3 +2.1**
HNS pmax pmax
comp=Z,7.0nm,1.0s
BBB Bella Bella 38.76 65 LR LR 19 46 44.9
comp=Z,23nm,18.3s,baz=265,slow=36
NJ2 Nanjing 39.30 254 *eP* **P** **19 31 06.3 -1.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
EUNU Eureka 39.74 15 IAmb IAmb 19 31 12.4
comp=Z,10nm,0.7s
YKAW3 Yellowknife Wh 40.12 45 **P** **19 31 14.6 +0.4**
YKAW3 IAmb IAmb 19 31 15.9
comp=Z,13nm,1.5s
YKA Yellowknife Ar 40.15 45 P **P** **19 31 14.9 +0.5**
comp=Z,1.4nm,0.6s,baz=304,slow=7.9,SNR=15
YKA PcP **PcP** **19 33 18.8 +0.5**
comp=Z,0.4nm,0.7s,baz=307,slow=3.8,SNR=4.2
comp=Z,1.4nm,0.6s
YKA Yellowknife Ar 40.15 45 *i* P **P** **19 31 15.0 +0.5**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKAW1 Yellowknife Wh 40.20 45 **P** **19 31 14.9 0.0**
YKAW1 IAmb IAmb 19 31 25.8
comp=Z,2.8nm,0.7s
ZALV Zalesovo Beam 44.17 303 LR LR 19 51 57.0
comp=Z,56nm,18.6s,baz=62,slow=38
GTA Gaotai 45.08 278 P **P** **19 31 56.4 +1.4**
GTA pP pP 19 32 01.1 +0.4
GTA pmax pmax
comp=Z,11nm,0.9s
GTA LR LR
comp=N,86nm,16.0s
GTA LR LR
comp=E,97nm,17.4s
GTA LR LR
comp=Z,83nm,13.8s
B08A Colville Reser 45.56 65 **P** **19 31 59.2 +0.6**
B08A IAmb IAmb 19 32 00.5
comp=Z,4.6nm,0.8s
SPITS Spitsbergen Ar 45.99 351 P **P** **19 32 01.8 +0.2**
comp=Z,21nm,0.8s,baz=60,slow=8.5,SNR=34
comp=Z,21nm,0.8s
SPITS Spitsbergen Ar 45.99 351 P **P** **19 32 01.6 0.0**
SPITS 19 33 37.9
SPB2 Spitsbergen Ar 46.00 351 P **P** **19 32 01.2 -0.4**
SPB2 PcP **PcP** **19 33 38.9 +1.1**
BLKN Baker Lake 46.24 37 **P** **19 32 03.3 -0.3**
YBH Yreka Blue Hor 47.97 74 LR LR 19 49 43.8
comp=Z,28nm,20.4s,baz=324,slow=33
WMQ Urumqi 48.96 291 *eP* **P** **19 32 26.8 +1.7**
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ LR LR
comp=Z,66nm,21.5s
KURK Kurchatov 49.16 303 **P** **19 32 25.8 -0.6**
KURK PcP **PcP** **19 33 49.8 +0.4**
KURK Kurchatov 49.16 303*ceP* **P** **19 32 26.3 -0.1**
KURK *i* *PP **sP** **19 32 35.9 +1.4**
KURK pmax pmax
comp=Z,14nm,0.9s
KURBB Kurchatov Arra 49.26 303 P **P** **19 32 27.1 -0.1**
comp=Z,5.7nm,0.4s,baz=56,slow=7.8,SNR=38
comp=Z,5.7nm,0.4s
MK31 Makanchi Array 49.87 297*d iP* **P** **19 32 31.4 -0.6**
MKAR Makanchi Array 49.87 297 **P** **19 32 31.2 -0.8**
MKAR PcP **PcP** **19 33 52.4 +0.2**
MKAR Makanchi Array 49.87 297 P **P** **19 32 31.6 -0.4**
comp=Z,3.1nm,0.7s,baz=57,slow=7.5,SNR=36
MKAR LR LR 19 54 45.8
comp=Z,67nm,18.9s,baz=72,slow=38
comp=Z,3.1nm,0.7s
MKAR Makanchi Array 49.87 297 P **P** **19 32 31.2 -0.8**
MKAR 19 33 52.4
MAKZ Makanchi 50.02 297 **P** **19 32 32.8 -0.3**
MAKZ IAmb IAmb 19 32 33.5
comp=Z,5.1nm,0.9s
MAKZ Makanchi 50.02 297 P **P** **19 32 32.8 -0.3**
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 51.48 310 P **P** **19 32 43.8 -0.3**
comp=Z,5.0nm,0.7s,baz=57,slow=7.5,SNR=30
BVAR LR LR 19 56 58.4
comp=Z,44nm,18.4s,baz=88,slow=39
comp=Z,5.0nm,0.7s
BRVK Borovoye 51.51 310 **P** **19 32 43.9 -0.3**
BRVK IAmb IAmb 19 32 45.5
comp=Z,6.3nm,0.8s
BRVK Borovoye 51.51 310*ceP* **P** **19 32 44.5 +0.3**
BRVK *i* *PP **pwP** **19 32 55.2 -0.9**
BRVK pmax pmax
comp=Z,12nm,1.7s
ARCES ARCESS Array B 52.58 343 P **P** **19 32 51.4 -0.6**
comp=Z,4.1nm,0.9s,baz=27,slow=10,SNR=7.2
comp=Z,4.1nm,0.9s
NVAR Mina Array Bea 52.69 74 P **P** **19 32 54.4 +1.0**
comp=Z,1.1nm,0.7s,baz=308,slow=7.3,SNR=5.4
comp=Z,1.1nm,0.7s
LHV Little Huntoon 52.70 75 IAmb IAmb 19 32 57.8
comp=Z,10nm,1.4s
YMP Mirror Lake Pl 52.72 63 IAmb IAmb 19 32 56.6
comp=Z,8.5nm,1.3s
ELK Elko 52.77 70 LR LR 19 52 58.2
comp=Z,17nm,20.1s,baz=296,slow=33
RLMT Red Lodge 52.91 62 P **P** **19 32 55.5 +0.4**
RLMT IAmb IAmb 19 32 57.4
comp=Z,7.9nm,1.0s
SVE Sverdlovsk 52.93 318 *eP* **P** **19 32 55.8 +1.1**
SVE pmax pmax
comp=Z,8.0nm,1.0s
PZH PanZhiHua 53.25 265 P **P** **19 32 58.8 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.0s
ARTI Arti 54.12 319 **P** **19 33 02.7 -0.7**
ARTI IAmb IAmb 19 33 04.1
comp=Z,6.2nm,0.7s
ARTI Arti 54.12 319 LR LR 19 58 25.4
comp=Z,50nm,20.4s,baz=52,slow=39
ARTI Arti 54.12 319*d iP* **P** **19 33 03.6 +0.2**
ARTI 19 34 06.6
ARTI 19 34 59.6
ARTI S **S** **19 40 38.9 +0.7**
ARTI SS **SS** **19 44 17.9 -1.2**
ARTI pmax pmax
comp=Z,7.0nm,0.9s
BW06 Boulder Array 54.40 65 IAmb IAmb 19 33 08.6
comp=Z,7.6nm,1.5s
PD31 Pinedale Array 54.40 65 IAmb IAmb 19 33 18.1
comp=Z,5.1nm,1.3s
PDAR Pinedale Array 54.40 65 P **P** **19 33 05.9 -0.1**
PDAR Pinedale Array 54.40 65 P **P** **19 33 06.5 +0.5**
comp=Z,2.0nm,0.9s,baz=338,slow=3.5,SNR=12
comp=Z,2.0nm,0.9s
DUG Dugway, Tooele 54.47 69 IAmb IAmb 19 33 08.9
comp=Z,4.5nm,1.1s
SPR3 Spring Creek 3 54.49 71 P **P** **19 33 07.8 +1.1**
SPR3 IAmb IAmb 19 33 10.1
comp=Z,4.7nm,0.8s
TPNV Topopah Spring 54.89 74 IAmb IAmb 19 33 12.2
comp=Z,9.4nm,1.3s
PSUT Pine Spring 55.08 71 IAmb IAmb 19 33 13.3
comp=Z,7.9nm,1.5s
GWY Greenwater Val 55.20 75 IAmb IAmb 19 33 23.6
comp=Z,4.8nm,0.8s
PRN Pahroc Range 55.23 73 **P** **19 33 12.4 +0.5**
PRN IAmb IAmb 19 33 23.8
comp=Z,4.0nm,0.8s
BSUT Blindstream Ca 55.34 67 IAmb IAmb 19 33 19.1
comp=Z,10.0nm,1.4s
KIRV Kirov 55.68 325 LR LR 19 57 59.8
comp=Z,39nm,20.9s,baz=46,slow=37
KIRV Kirov 55.68 325*ceP* **P** **19 33 15.0 +0.4**
KDJ Kajisay 55.73 296 IAmb IAmb 19 33 26.6
comp=Z,4.9nm,0.9s
RDMU Red Mountain 55.95 66 IAmb IAmb 19 33 20.4
comp=Z,13nm,1.3s
TMUT Trail Mountain 55.98 69 P **P** **19 33 18.6 +1.1**
TMUT IAmb IAmb 19 33 30.0
comp=Z,4.5nm,0.8s
BOOM Boomskoye usch 56.11 297 IAmb IAmb 19 33 29.7
comp=Z,5.1nm,1.1s
SRU San Rafael Swe 56.48 68 IAmb IAmb 19 33 23.5
comp=Z,6.5nm,0.7s
AAK Ala-Archa 56.75 298 **P** **19 33 22.4 -0.4**
AAK IAmb IAmb 19 33 34.0
comp=Z,6.5nm,1.0s
AAK Ala-Archa 56.75 298 LR LR 19 59 03.7
comp=Z,72nm,19.6s,baz=144,slow=38
AAK Ala-Archa 56.75 298*ceP* **P** **19 33 23.1 +0.3**
AAK pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 56.89 331 *eP* **P** **19 33 21.6 -1.6**
KLMR pmax pmax
comp=Z,7.0nm,0.8s
PV11 David Mesa, Pa 57.96 68 IAmb IAmb 19 33 44.3
comp=Z,5.5nm,0.6s
PV18 Skein Mesa, Pa 57.98 68 P **P** **19 33 32.5 +0.9**
PV12 Saucer Basin, 57.98 68 IAmb IAmb 19 33 44.6
comp=Z,3.5nm,0.8s
PV05 Paradox Valley 58.00 68 IAmb IAmb 19 33 43.6
comp=Z,5.4nm,0.7s
PV03 Paradox Valley 58.01 68 P **P** **19 33 32.6 +0.9**
PV13 Radium Mtn., P 58.09 68 IAmb IAmb 19 33 44.2
comp=Z,5.6nm,0.7s
KSH Kashi 58.24 295 P P 19 33 37.8 +4.5
KSH sP pwP 19 33 47.8 +2.6
KSH pmax pmax
comp=Z,5.0nm,1.3s
KK31 Karatay Array 58.43 301 IAmb IAmb 19 33 45.4
comp=Z,7.3nm,1.2s
KKAR Karatay Array 58.43 301 **P** **19 33 33.7 -0.7**
KKAR Karatay Array 58.43 301 IAmb IAmb 19 33 45.4
comp=Z,7.7nm,1.2s
KKAR Karatay Array 58.43 301 P **P** **19 33 33.7 -0.7**
ARSB Arslanbob 58.48 298 IAmb IAmb 19 33 38.1
comp=Z,5.3nm,1.2s
AKTO Aktyubinsk 58.70 314 LR LR 20 01 36.0
comp=Z,61nm,19.2s,baz=112,slow=39
AB31 Akbulak array 58.77 312 IAmb IAmb 19 33 38.1
comp=Z,9.6nm,1.2s
ABKAR Akbulak array 58.77 312 **P** **19 33 36.4 -0.2**
ABKAR PcP **PcP** **19 34 25.5 -0.6**
ABKAR Akbulak array 58.77 312 IAmb IAmb 19 33 38.1
comp=Z,9.7nm,1.2s
EYMN Ely 59.39 49 IAmb IAmb 19 33 42.3
comp=Z,5.4nm,0.8s
S22A 4UR Ranch, Cre 59.46 67 IAmb IAmb 19 33 45.0
comp=Z,3.5nm,1.1s
SHL Shillong 59.68 272 **P** **19 33 42.9 -0.6**
SHL Shillong 59.68 272 P **P** **19 33 42.9 -0.6**
SHL pmax pmax
comp=Z,6.0nm,0.5s
FINES FINESS Array B 59.69 338 P **P** **19 33 42.9 +0.1**
comp=Z,2.6nm,0.6s,baz=28,slow=8.7,SNR=20
FINES LR LR 20 02 07.7
comp=Z,24nm,20.0s,baz=70,slow=39
comp=Z,2.6nm,0.6s
BTK Batken 60.52 298 IAmb IAmb 19 33 50.1
comp=Z,5.2nm,0.7s
BORG Borgarnes 60.81 3 LR LR 20 01 19.4
comp=Z,14nm,18.4s,baz=357,slow=37
CHTO Chiang Mai 60.84 261 **P** **19 33 51.6 +0.4**
CHTO IAmb IAmb 19 34 04.2
comp=Z,3.9nm,0.8s
CHTO Chiang Mai 60.84 261 P **P** **19 33 51.6 +0.4**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CM31 Chiang Mai Arr 61.12 261 IAmb IAmb 19 34 06.5
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 61.12 261 P **P** **19 33 54.1 +0.9**
comp=Z,2.2nm,0.9s,baz=21,slow=7.2,SNR=19
comp=Z,2.2nm,0.9s
CMAR Chiang Mai Arr 61.12 261 *i* P **P** **19 33 54.5 +1.3**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
BELG Belogornoye 61.21 321 LR LR 20 04 01.6
comp=Z,34nm,18.2s,baz=78,slow=40
BELG Belogornoye 61.21 321 ⇑*i*P **P** **19 33 53.1 -0.2**
BELG pmax pmax
comp=Z,2.0nm,1.0s
GAR Garm 61.57 298 **P** **19 33 55.2 -0.9**
ANMO Albuquerque 61.74 69 LR LR 19 58 21.2
comp=Z,17nm,21.4s,baz=146,slow=34
ANMO Albuquerque 61.74 69*ceP* **P** **19 33 58.7 +1.3**
ANMO pmax pmax
comp=Z,1.0nm,1.1s
OBN Obninsk 62.58 329 *eP* **P** **19 34 02.9 +0.5**
OBN *e* 19 34 40.1
OBN *e* 19 36 20.9
OBN *e*PPP PPP 19 37 47.8
OBN pmax pmax
comp=Z,18nm,1.2s
OBN MLR MLR
comp=Z,38nm,15.0s
RTBA Rita Blanca 62.61 65 IAmb IAmb 19 34 05.6
comp=Z,4.1nm,0.9s
NB201 NORSAR Array S 62.70 346 P **P** **19 34 02.8 -0.5**
NB2 NORSAR Subarra 62.72 346 P **P** **19 34 03.0 -0.4**
comp=Z,5.2nm,0.7s,baz=17,slow=6.9
NOA NORSAR Array B 62.72 346 P **P** **19 34 03.0 -0.4**
comp=Z,4.7nm,0.7s,baz=18,slow=6.7,SNR=24
NOA LR LR 20 06 21.4
comp=Z,8.5nm,18.1s,baz=350,slow=41
comp=Z,4.7nm,0.7s
NOA NORSAR Array B 62.72 346 P **P** **19 34 03.0 -0.4**
HFS Hagfors 63.21 344 P **P** **19 34 06.1 -0.5**
comp=Z,3.8nm,0.6s,baz=8.1,slow=2.1,SNR=13
comp=Z,3.8nm,0.6s
HNR Honiara 63.99 185 LR LR 20 00 34.3
comp=Z,30nm,18.1s,baz=37,slow=35
MNTX Cornudas Mount 64.79 70 P **P** **19 34 18.0 +0.6**
MNTX IAmb IAmb 19 34 29.4
comp=Z,2.9nm,0.8s
VLDQ Val d'Or 65.03 41 P **P** **19 34 16.8 -1.9**
P40A Paris 65.62 56 **P** **19 34 22.3 -0.4**
VHRN Van Horn 65.71 71 IAmb IAmb 19 34 35.4
comp=Z,3.0nm,0.8s
CCM Cathedral Cave 67.17 56 P **P** **19 34 32.2 -0.4**
CCM Cathedral Cave 67.17 56 P **P** **19 34 32.2 -0.4**
CCM pmax pmax
comp=Z,13nm,1.4s
TXAR Lajitas Array 67.55 71 **P** **19 34 36.0 +0.7**
TXAR Lajitas Array 67.55 71 P **P** **19 34 36.5 +1.2**
comp=Z,3.1nm,0.7s,baz=300,slow=4.3,SNR=33
comp=Z,3.1nm,0.7s
LPIG La Paz 67.89 79 LR LR 19 59 26.1
comp=Z,8.9nm,18.5s,baz=246,slow=32
SIUC Southern Illin 68.41 55 P **P** **19 34 40.7 +0.3**
BRDY Brady 68.55 66 IAmb IAmb 19 34 52.3
comp=Z,3.2nm,0.7s
AKASG Malin Array Be 68.58 331 P **P** **19 34 40.7 -0.6**
comp=Z,1.3nm,0.4s,baz=29,slow=6.2,SNR=11
comp=Z,1.3nm,0.4s
AKASG Malin Array Be 68.58 331 *i* P **P** **19 34 40.9 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 68.58 331 ⇑*i*P **P** **19 34 41.1 -0.2**
AKBB pmax pmax
comp=Z,26nm,3.7s
EKA Eskdalemuir Ar 69.89 353 P **P** **19 34 48.9 -0.5**
comp=Z,3.6nm,0.7s,baz=20,slow=6.6,SNR=8.5
comp=Z,3.6nm,0.7s
KIV Kislovodsk 70.06 319 *eP* **P** **19 34 50.5 -0.2**
KIV pmax pmax
comp=Z,2.0nm,1.0s
KIV MLR MLR
comp=Z,22nm,17.0s
AKT Akhty 70.14 315 *eP* **P** **19 34 51.4 +0.1**
AKT pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 70.17 319 P **P** **19 34 51.8 +0.6**
comp=Z,4.1nm,0.8s,baz=43,slow=2.3,SNR=6.7
comp=Z,4.1nm,0.8s
KBZ Khabaz 70.17 319*d iP* **P** **19 34 52.0 +0.8**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
WVT Waverly 70.34 55 **P** **19 34 52.7 +0.3**
WVT Waverly 70.34 55 P **P** **19 34 52.7 +0.3**
WVT pmax pmax
comp=Z,8.0nm,0.6s
CLTN Cedars of Leba 71.08 54 IAmb IAmb 19 35 07.9
comp=Z,5.3nm,0.7s
CLL Collm 71.76 342 *i* P **P** **19 35 01.1 +0.3**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 71.76 342 *i* P **P** **19 35 01.1 +0.3**
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 72.32 338 *eP* **P** **19 35 04.6 +0.4**
BUR08 Bucovina Ar. S 72.46 333 IAmb IAmb 19 35 06.4
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 72.48 337 *eP* **P** **19 35 07.1 +1.9**
LANS Liptovska Anna 72.48 337 *eP* **P** **19 35 07.1 +1.9**
VRAC Vranov 72.96 339 *eP* **P** **19 35 08.5 +0.5**
JAVC Velka Javorina 73.16 338 *eP* **P** **19 35 11.7 +2.5**
KRUC Moravsky 73.24 339 *eP* **P** **19 35 10.9 +1.3**
GERES GERESS Array B 73.99 341 P **P** **19 35 14.1 -0.1**
comp=Z,1.1nm,0.5s,baz=23,slow=6.1,SNR=8.0
comp=Z,1.1nm,0.5s
MLR Muntele Rosu 74.23 331 P **P** **19 35 16.0 +0.3**
MLR IAmb IAmb 19 35 17.6
comp=Z,5.0nm,0.6s
MLR Muntele Rosu 74.23 331 P **P** **19 35 16.0 +0.3**
MLR pmax pmax
comp=Z,5.0nm,0.6s
KOPT Kop Dagi 74.27 319 **P** **19 35 17.0 +0.8**
KBA Koelnbreinsper 75.75 340 *epP* **P** **19 35 26.2 +1.7**
comp=Z,2.6nm,0.6s
WTTA Wattenberg 75.90 341 *epP* **P** **19 35 26.7 +1.4**
comp=Z,1.0nm,0.4s
SQTA Sankt Quirin 76.02 342 *eP* **P** **19 35 26.4 +0.5**
comp=Z,1.0nm,0.3s
OBKA Obir 76.05 339 *epP* **P** **19 35 27.5 +1.4**
comp=Z,3.9nm,0.8s
ABTA Abfaltersbach 76.23 341 *epP* **P** **19 35 28.1 +1.0**
comp=Z,0.8nm,0.4s
BR131 Keskin Array S 77.04 323 IAmb IAmb 19 35 33.1
comp=Z,3.5nm,0.9s
BRTR Keskin Array B 77.04 323 **P** **19 35 31.5 -0.3**
BRTR Keskin Array B 77.04 323 P **P** **19 35 31.6 -0.2**
comp=Z,1.7nm,0.8s,baz=50,slow=3.7,SNR=13
comp=Z,1.7nm,0.8s
BRTR Keskin Array B 77.04 323 *i* P **P** **19 35 32.2 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
TUE Stuetta 77.07 343 **P** **19 35 32.5 +0.5**
WRAB Tennant Creek 78.71 209 *i* P **P** **19 35 41.2 +0.2**
WRAB pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 78.72 209 P **P** **19 35 41.4 +0.4**
comp=Z,0.7nm,0.4s,baz=12,slow=5.7,SNR=20
comp=Z,0.7nm,0.4s
WRA Warramunga Arr 78.72 209 *i* P **P** **19 35 42.2 +1.2**
PPT2 Papeete2 81.85 136 *e*LR LR 20 01 35.3
comp=Z,46nm,22.8s
ASAR Alice Springs 82.38 208 P **P** **19 36 01.4 +0.8**
ASAR Alice Springs 82.38 208 P **P** **19 36 01.7 +1.1**
comp=Z,1.9nm,0.8s,baz=23,slow=4.8,SNR=15
comp=Z,1.9nm,0.8s
ESDC Sonseca Array 85.51 351 **P** **19 36 16.8 +0.1**
ESDC Sonseca Array 85.51 351 P **P** **19 36 17.6 +0.9**
comp=Z,4.2nm,0.8s,baz=357,slow=5.1,SNR=20
comp=Z,4.2nm,0.8s
QSPA South Pole Qui 144.43 180 PKP PKPbc 19 43 11.7 -0.5
comp=Z,4.5nm,0.7s,baz=17,slow=3.0,SNR=31
TRQA Tornquist 144.54 82 PKPdf **PKPab** **19 43 12.7 -0.5**
TRQA Tornquist 144.54 82 PKIKP **PKPab** **19 43 12.7 -0.5**

NOU 23 20:14:42.4, 15°.64S×167°.35E, h7km, MLv4.4/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.22**	**159**	P	Pn	20 15 18.3	-1.4
LUES	**Luesalemba Tem**	**5.14**	**344**	P	Pn	20 16 00.7	+0.8
YATNC	**Mamie plateau,**	**6.40**	**184**	P	Pn	20 16 16.4	-0.8
DZM	**Mont Dzumac**	**6.45**	**187**	P	Pn	20 16 17.9	-0.1
OUENC	**Ouen Island, N**	**6.76**	**184**	P	Pn	20 16 22.6	+0.5

BJI ***23*** *20:15:49.2, 28°.40N×94°.55E, h10km, mB6.2/62, mb5.6/75, ML6.4/6, Ms6.3/71, Ms7 6.3/66*

ISC-PP ***23*** *20:15:50, 28°.41N×94°.56E, h4km, Mwppsm6.3, Moment Tensor Solution. s48 Moment tensor: Scale 10^18Nm; Mrr=0.58±.07; Mθθ0.65±.14; Mφφ=-0.02±.19; Mrθ0.32±.12; Mrφ0.10±.09; Mθφ0.09±.23; Fault plane solution: M0=3.89000×10^18 NP1:φs=257.60000°, δ59.20000°, λ265.10000°. NP2:φs=87.20000°, δ31.10000°, λ=-81.80000°.*

IPGP ***23*** *20:15:50.0, 28°.46N×94°.56E, h15km, Mw6.1, Fault plane solution: NP1:φs=201.00000°, δ8.00000°, λ19.00000°. NP2:φs92.00000°, δ87.00000°, λ97.00000°.*

NEIC ***23*** *20:15:50.8±1.7, 28°.41N±0°.06×94°.56E±0°.08, h14km±1km, mb6.0/449, Ms_20 6.2/1021, Mwb5.9/74, Mww5.9/25, Error ellipse: s-maj=12.0km s-min=9.5km az=53.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=-0.20; Mθθ0.45; Mφφ=-0.24; Mrθ8.85; Mθφ=-0.77; Mφr-0.83; Fault plane solution: M0=8.93000×10^17 NP1: φs=169.42000°, δ4.62000°, λ=-15.79000°. NP2:φs=275.15000°, δ88.75000°, λ=-94.44000°. Principal axes: T 9.1152, Plg44.0000°, Azm9.0000°; N -0.3780, Plg4.0000°, Azm275.0000°; P -8.7372, Plg46.0000°, Azm181.0000°;*

MOS ***23*** *20:15:50.3±0.9, 28°.43N×94°.54E, h26km, mb6.0/83, MS6.1/71 Error ellipse: s-maj=5.2km s-min=3.1km az=121.1*

NEIC ***23*** *20:15:51, 28°.44N×94°.57E, h13km*

NEIC ***23*** *20:15:51, 28°.43N×94°.60E, h14km*

NEIC ***23*** *20:15:51, 28°.54N×94°.00E, h14km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10^17Nm; Mrr3.34; Mθθ=-3.02; Mφφ=-0.32; Mrθ6.66; Mθφ=-1.33; Mφr0.74; Fault plane solution: M0=7.54000×10^17 NP1: φs=233.53000°, δ14.98000°, λ62.49000°. NP2:φs=81.87000°, δ76.75000°, λ97.05000°. Principal axes: T 7.5367, Plg58.0000°, Azm1.0000°; N -0.0003, Plg7.0000°, Azm260.0000°; P -7.5364, Plg31.0000°, Azm166.0000°;*

IDC ***23*** *20:15:52.6±1.7, 28°.47N×94°.60E, h26km±10km, mb5.4/36, mbtmp5.5/38, ML5.3/2, MS5.9/83 Error ellipse: s-maj=11.9km s-min=9.8km az=39.0*

GCMT ***23*** *20:15:52.8±0.1, 28°.35N±0°.01×94°.67E±0°.01, h16km, MW6.1/158, Moment Tensor Solution. s150, c340; s158, c500; Duration: 2s7 Moment tensor: Scale 10^18 Nm; Mrr0.22±.01; Mθθ=-0.25±.00; Mφφ0.03±.00; Mrθ1.72±.04; Mθφ=-0.24±.00; Mφr=-0.24±.01; Best double couple: M0=1.76900×10^18 NP1:φs=208.00000°, δ9.00000°, λ21.00000°. NP2:φs97.00000°, δ87.00000°, λ99.00000°. Principal axes: T 1.7830, Plg48.0000°, Azm16.0000°; N -0.0290, Plg9.0000°, Azm277.0000°; P -1.7540, Plg41.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BGR ***23*** *20:15:52.8, 28°.55N×94°.80E, h33km, mb5.9, mB_BB6.7, Ms6.1, Hypocentre not reviewed by the ISC*

NDI ***23*** *20:15:54.6±1.2, 28°.42N×94°.62E, h10km, mb5.8, ML5.7, MW5.9*

ISC 23 20:15:51.2±0.4, 28°.44N±0°.02×94°.52E±0°.02, h19km±1km, h19km:pP-P, n1883, s1971/1566, mb5.9/497, MS6.2/671, 256C-99D, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOHI	**KOHIMA**	**2.73**	**188**	*eP*	**Pb**	**20 16 38.4**	**-1.2**
KOHI				*eS*	**Sb**	**20 17 10.4**	**-2.5**

KOHI				IAML		20 17 36.4	
	comp=N,97μm,1.1s						
KOHI				IAML		20 17 37.7	
	comp=E,114μm,1.6s						
LSA	**Lhasa**	**3.21 294**			**Pb**	**20 16 45.0**	**-2.8**
LSA				Sg	**Sb**	**20 17 29.4**	**+2.8**
LSA	**Lhasa**	**3.21 294**		Pn	**Pb**	**20 16 45.5**	**-2.3**
LSA				Sn	**Sb**	**20 17 24.6**	**-2.1**
LSA				LR	LR		
	comp=E,245μm,10.1s						
LSA				LR	LR		
	comp=E,257μm,9.7s						
LSA	**Lhasa**	**3.21 294**	*i* P		**Pb**	**20 16 45.3**	**-2.5**
	SNR=1639						
GUWA	**GUWAHATI**	**3.37 229**	*e*P		**Pb**	**20 16 48.1**	**-2.2**
GUWA			*e*S		**Sb**	**20 17 27.4**	**-3.6**
GUWA				IAML		20 17 46.2	
	comp=E,27μm,0.9s						
GUWA				IAML		20 17 47.3	
	comp=N,23μm,0.9s						
IMP	**Imphal**	**3.63 188**	*e*P		**Pb**	**20 16 51.5**	**-3.4**
IMP			*e*S		**Sn**	**20 17 32.3**	**+3.3**
SHL	**Shillong**	**3.71 220**			**Pn**	**20 16 47.3**	**-0.3**
SHL	**Shillong**	**3.71 220**	P		**Pb**	**20 16 52.5**	**-3.7**
	SNR=582						
SHL	**Shillong**	**3.71 220**	*e*P		**Pb**	**20 16 52.4**	**-3.8**
SHL			*e*S		**Sn**	**20 17 33.9**	**+3.0**
SHL	**Shillong**	**3.71 220**	P		**Pn**	**20 16 47.3**	**-0.3**
TNCH	**TengChong**	**4.93 133**	⇓Pn		**Pn**	**20 17 05.6**	**+1.1**
TNCH			Sn		**Sn**	**20 18 05.8**	**+4.6**
TNCH			LR		LR		
	comp=N,231μm,7.1s						
COBR	**COOCHBEHAR**	**4.98 246**	*e*P		Pn	20 17 10.5	+5.5
GTK	**Tadong**	**5.36 259**	*e*P		Pn	20 17 15.4	+5.1
GTK			*e*S		**Sn**	**20 18 14.3**	**+2.8**
GTK				IAML		20 18 46.2	
	comp=E,14μm,1.3s						
GTK				IAML		20 18 48.3	
	comp=N,11μm,1.7s						
AGT	**Agartala**	**5.41 214**	*e*P		**Pn**	**20 17 15.0**	**+4.2**
AGT			*e*S		**Sn**	**20 18 14.7**	**+2.1**
AGT				IAML		20 18 51.2	
	comp=N,26μm,1.7s						
AGT				IAML		20 19 03.5	
	comp=E,29μm,1.2s						
JPG	**JALPAIGURI**	**5.49 251**	*e*P		Pn	20 17 18.9	+7.0
JPG			*e*S		**Sn**	**20 18 18.3**	**+3.7**
JPG				IAML		20 18 49.4	
	comp=E,9μm,1.4s						
JPG				IAML		20 18 50.1	
	comp=N,13μm,1.0s						
BRDH	**Bariadhala**	**6.30 205**	Pn		**Pn**	**20 17 22.8**	**-0.3**
	comp=N,235nm,0.3s,baz=52,slow=13,SNR=15						
BRDH			Sn		**Sn**	**20 18 33.7**	**-0.9**
	comp=N,506nm,0.3s,baz=344,slow=22,SNR=7.4						
BRDH			LR		LR	20 21 06.3	
	comp=N,302μm,19.8s,baz=24,slow=49						
	comp=N,546nm,0.3s						
PZH	**PanZhiHua**	**6.70 105**	Pn		**Pn**	**20 17 30.1**	**+1.4**
PZH			Sn		**Sn**	**20 18 43.0**	**-1.6**
PZH			LR		LR		
	comp=N,55μm,7.8s						
PZH			LR		LR		
	comp=N,47μm,7.4s						
PZH			LR		LR		
	comp=N,48μm,9.0s						
EVN	**Everest**	**6.81 268**	⇓P		**Pn**	**20 17 34.2**	**+3.5**
GOMU	**GeErMu**	**7.74 2**	Pn		**Pn**	**20 17 44.4**	**+1.2**
GOMU			Sn		**Sn**	**20 19 05.6**	**-4.9**
GOMU			LR		LR		
	comp=N,124μm,12.9s						
KMI	**Kunming**	**8.05 112**	⇓P		**Pn**	**20 17 48.1**	**+0.7**
KMI			S		**Sn**	**20 19 18.4**	**+0.3**
KMI			LR		LR		
	comp=N,105μm,8.6s						
KMI			LR		LR		
	comp=N,195μm,13.3s						
CAL	**Calcutta**	**8.11 225**	*e*P		Pn	20 17 52.7	+4.7
CAL			*e*S		**Sn**	**20 19 18.3**	**-0.9**
CAL				IAML		20 20 45.0	
	comp=N,32μm,1.5s						
CAL				IAML		20 20 53.5	
	comp=E,27μm,2.0s						
CD2	**Chengdu**	**8.40 71**	P		**Pn**	**20 17 53.3**	**+1.2**
CD2			S		**Sn**	**20 19 25.4**	**-1.1**
CD2			pmax		pmax		
	comp=E,70nm,1.0s						
CD2			pmax		pmax		
	comp=E,4μm,7.6s						
CD2			LR		LR		
	comp=E,171μm,8.9s						
CD2			LR		LR		
	comp=E,309μm,10.2s						
VLK	**Valmikinagar**	**9.49 266**	*e*P		**Pn**	**20 18 09.5**	**+2.6**
VLK			IAmb		IAmb	20 18 25.4	
	comp=Z,1μm,0.5s						
VLK				IAML		20 19 57.6	
	comp=E,4μm,0.6s						
VLK				IAML		20 19 59.5	
	comp=N,4μm,1.1s						
KNTI	**KHUNTI**	**9.90 239**	*e*P		**Pn**	**20 18 13.0**	**+0.4**
KNTI			IAmb		IAmb	20 18 25.9	
	comp=Z,840nm,1.5s						
KNTI			*e*S		**Sn**	**20 19 54.6**	**-8.7**
CHTO	**Chiang Mai**	**10.40 156**			**Pn**	**20 18 20.4**	**+0.9**
CHTO	**Chiang Mai**	**10.40 156**	P		**Pn**	**20 18 21.4**	**+1.9**
CHTO	**Chiang Mai**	**10.40 156**	P		**Pn**	**20 18 20.8**	**+1.3**
	comp=Z,235nm,1.2s						
CHTO	**Chiang Mai**	**10.40 156**	P		**Pn**	**20 18 20.4**	**+0.9**
CHTO	**Chiang Mai**	**10.40 156**	⇓P		**Pn**	**20 18 20.4**	**+0.9**
CM31	**Chiang Mai Arr**	**10.73 157**			**Pn**	**20 18 24.9**	**+0.9**
CM31	**Chiang Mai Arr**	**10.73 157**	P		**Pn**	**20 18 25.3**	**+1.3**
	SNR=266						
CMAR	**Chiang Mai Arr**	**10.73 157**			**Pn**	**20 18 24.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**10.73 157**	Pn		**Pn**	**20 18 25.1**	**+1.1**
	comp=Z,2.5nm,0.3s,baz=332,slow=11,SNR=334						
CMAR			LR		LR	20 23 02.5	
	comp=Z,104μm,20.9s,baz=330,slow=40						
	comp=Z,208nm,1.0s						
CMAR	**Chiang Mai Arr**	**10.73 157**	*c i*P		**Pn**	**20 18 25.1**	**+1.1**
CMAR			pmax		pmax		
	comp=Z,279nm,1.1s						
GYA	**Guiyang**	**10.97 98**	⇓P		**Pn**	**20 18 27.1**	**-0.2**
GYA			S		**Sn**	**20 20 23.8**	**-5.7**
GYA			pmax		pmax		
	comp=Z,170nm,0.8s						
GYA			LR		LR		
	comp=Z,42μm,12.4s						
GYA			LR		LR		
	comp=Z,53μm,8.8s						
GYA			LR		LR		
	comp=Z,48μm,9.5s						
LZH	**Lanzhou**	**10.97 44**	⇑P		**Pn**	**20 18 27.4**	**+0.1**
LZH			sP			20 18 42.1	
LZH			S		**Sn**	**20 20 27.9**	**-1.6**
LZH			pmax		pmax		
	comp=Z,380nm,1.5s						
LZH			pmax		pmax		
	comp=Z,5μm,4.6s						
SLVN	**Son La**	**11.07 128**			**Pn**	**20 18 29.2**	**+0.6**
SLVN	**Son La**	**11.07 128**	P		**Pn**	**20 18 30.9**	**+2.3**
	comp=Z,449nm,1.2s						
ALBI	**Allahabad**	**11.77 258**	*e*P		Pn	20 18 42.5	+4.4
ALBI			IAmb		IAmb	20 18 48.2	
	comp=Z,492nm,1.0s						
GTA	**Gaotai**	**11.79 20**	P		**Pn**	**20 18 37.8**	**-0.7**
GTA			sP			20 18 44.5	
GTA			ScP		**ScP**	**20 27 59.3**	**+0.9**
GTA			ScS		**ScS**	**20 31 33.5**	**-0.7**
GTA			pmax		pmax		
	comp=Z,240nm,2.0s						
GTA			pmax		pmax		
	comp=Z,5μm,6.5s						
GTA			LR		LR		
	comp=Z,226μm,11.6s						
GTA			LR		LR		
	comp=Z,92μm,12.4s						
GTA			LR		LR		
	comp=Z,245μm,11.6s						
LKN	**LUCKNOW**	**12.21 265**	*e*P		Pn	20 18 48.9	+4.8
LKN			IAmb		IAmb	20 18 52.0	
	comp=Z,510nm,0.5s						
LKN			*e*S		**Sn**	**20 20 55.6**	**-4.1**
BLSP	**Bilaspur**	**12.85 243**	*e*P		Pn	20 18 57.1	+4.3
NONG	**Nongkai**	**13.01 141**	P		**Pn**	**20 18 56.6**	**+1.4**
	comp=Z,932nm,1.2s						
ENH	**Enshi**	**13.18 78**			**Pn**	**20 18 54.5**	**-3.0**
ENH	**Enshi**	**13.18 78**	P		**Pn**	**20 18 57.9**	**+0.4**
	comp=Z,417nm,1.4s						
XAN	**Xi'an**	**13.52 62**	⇑P		**Pn**	**20 18 59.8**	**-2.3**
XAN			S		**Sn**	**20 21 29.3**	**-2.6**
XAN			pmax		pmax		
	comp=Z,300nm,1.2s						
XAN			pmax		pmax		
	comp=Z,7μm,5.9s						
DDI	**Dehra Dun**	**14.48 281**	*ex*		**Pn**	**20 19 12.7**	**-2.5**
DDI			IAmb		IAmb	20 19 30.4	
	comp=Z,564nm,0.8s						
DDI			*e*S		**Sn**	**20 21 49.0**	**-6.3**
GULI	**GuiLin**	**14.49 99**	P		**Pn**	**20 19 13.4**	**-1.9**
GULI			pmax		pmax		
	comp=Z,190nm,1.2s						
GULI			pmax		pmax		
	comp=Z,1μm,4.3s						
GULI			LR		LR		
	comp=Z,46μm,8.1s						
GULI			LR		LR		
	comp=Z,26μm,9.2s						
GULI			LR		LR		
	comp=Z,29μm,9.8s						
VIS	**Vishakhapatnam**	**14.82 226**	*e*P		**P**	**20 19 23.4**	**-2.1**
VIS			IAmb		IAmb	20 19 48.1	
	comp=Z,334nm,1.1s						
VIS			*ex*		x	20 21 55.6	
DGPR	**DIGLIPUR**	**15.26 186**	*ex*		**Pn**	**20 19 23.5**	**-2.2**
NRLA	**Narela**	**15.31 275**	*e*P		**P**	**20 19 31.1**	**+0.1**
SONA	**Sohna**	**15.36 273**	*e*P		**P**	**20 19 32.3**	**+0.8**
SONA			IAmb		IAmb	20 19 47.3	
	comp=Z,392nm,0.4s						
SONA			*e*S		**Sn**	**20 22 09.6**	**-6.9**
NAYO	**Nakonayok**	**15.41 154**	P		**Pn**	**20 19 28.0**	**+0.3**
	comp=Z,8μm,1.1s						
GUNA	**GUNA**	**15.84 260**	*e*P		**P**	**20 19 37.8**	**+0.8**
GUNA			IAmb		IAmb	20 20 29.3	
	comp=Z,365nm,1.0s						
GUNA			*e*S		**Sn**	**20 22 21.4**	**-7.0**
BHK	**Bhakra**	**15.97 285**	*e*P		**Pn**	**20 19 33.5**	**-1.5**
BHK			*e*S		Sn	20 22 13.2	-18
CNSH	**ChangSha**	**16.22 87**	P		**Pn**	**20 19 34.3**	**-3.8**
CNSH			S		**Sn**	**20 22 40.6**	**+3.1**
CNSH			pmax		pmax		
	comp=Z,120nm,0.9s						
CNSH			LR		LR		
	comp=Z,23μm,7.5s						
CNSH			LR		LR		
	comp=Z,34μm,10.0s						
CNSH			LR		LR		
	comp=Z,39μm,9.9s						
WMQ	**Urumqi**	**16.30 342**	⇑P		**Pn**	**20 19 37.5**	**-1.6**
WMQ			pmax		pmax		
	comp=Z,2μm,1.1s						
WMQ			LR		LR		
	comp=Z,70μm,11.1s						
WMQ			LR		LR		
	comp=Z,96μm,16.7s						
LYN	**LuoYang**	**16.47 64**	⇑*i*P		**Pn**	**20 19 38.0**	**-3.2**
LYN			pP		P	20 19 44.5	+0.7
LYN			S		**Sn**	**20 22 36.4**	**-7.1**
LYN			pmax		pmax		
	comp=Z,5μm,4.0s						
LYN			LR		LR		
	comp=Z,54μm,8.4s						
LYN			LR		LR		
	comp=Z,117μm,11.4s						
LYN			LR		LR		
	comp=Z,112μm,12.2s						
UBPT	**Khong Chiam**	**16.56 140**			**Pn**	**20 19 41.4**	**-1.1**
UBPT			IAmb		IAmb	20 19 46.6	
	comp=Z,1μm,1.1s						
UBPT	**Khong Chiam**	**16.56 140**	P		**Pn**	**20 19 42.0**	**-0.5**
	comp=Z,1μm,1.2s						
UBPT	**Khong Chiam**	**16.56 140**	⇓P		**Pn**	**20 19 41.5**	**-1.1**
PBA	**Port Blair**	**16.78 186**			**Pn**	**20 19 41.7**	**-3.6**
PBA			IAmb		IAmb	20 19 54.6	
	comp=Z,2μm,1.1s						
PBA	**Port Blair**	**16.78 186**	P		**Pn**	**20 19 42.5**	**-2.8**
	SNR=45						
PBA	**Port Blair**	**16.78 186**	⇑P		**Pn**	**20 19 41.1**	**-4.2**
QIZ	**Qiongzhong**	**16.86 120**	P		**Pn**	**20 19 43.4**	**-2.8**
QIZ	**Qiongzhong**	**16.86 120**	P		**Pn**	**20 19 44.8**	**-1.4**
QIZ			S		**Sn**	**20 22 54.3**	**+1.2**
QIZ			pmax		pmax		
	comp=Z,4μm,8.6s						
QIZ			LR		LR		
	comp=Z,26μm,12.4s						
QIZ			LR		LR		
	comp=Z,32μm,12.0s						
QIZ			LR		LR		
	comp=Z,54μm,17.9s						
QIZ	**Qiongzhong**	**16.86 120**	P		**P**	**20 19 48.3**	**+0.1**
	comp=Z,175nm,1.2s						
WHN	**Wuhan**	**17.39 78**	P		**Pn**	**20 19 50.3**	**-2.6**
WHN			pP		**P**	**20 19 56.6**	**+2.5**
WHN			sP		**sP**	**20 20 01.0**	**-2.0**
WHN			sS		**S**	**20 23 11.3**	**-2.9**
WHN			pmax		pmax		
	comp=Z,13μm,4.2s						
WHN			LR		LR		
	comp=Z,101μm,9.9s						
WHN			LR		LR		
	comp=Z,156μm,12.1s						
VJD	**Vijayawada**	**17.45 230**	*e*P		**P**	**20 19 58.4**	**+3.6**
VJD			IAmb		IAmb	20 20 02.0	
	comp=Z,2μm,1.5s						
BTO	**Baotou**	**17.59 42**	⇑*i*P		**Pn**	**20 19 53.0**	**-2.3**
BTO			pP		**pP**	**20 20 00.8**	**-1.2**
BTO			sP		**sP**	**20 20 05.4**	**+0.2**
BTO			PP		**PnPn**	**20 20 07.8**	**+2.0**
BTO			S		**Sn**	**20 23 04.6**	**-6.1**
BTO			sS		**S**	**20 23 18.1**	**-0.1**
BTO			pmax		pmax		
	comp=Z,480nm,2.2s						
BTO			pmax		pmax		
	comp=Z,25μm,7.0s						
TIY	**Taiyuan**	**17.61 54**	*e*P		**Pn**	**20 19 52.6**	**-3.0**
TIY			S		**Sn**	**20 23 01.5**	**-10**
TIY			pmax		pmax		
	comp=Z,250nm,1.9s						
TIY			pmax		pmax		
	comp=Z,5μm,5.9s						
GZH	**Guangzhou**	**17.77 103**	P		**Pn**	**20 19 57.6**	**0.0**
GZH			S		**Sn**	**20 23 15.3**	**+0.1**
GZH			LR		LR		
	comp=Z,26μm,8.4s						
GZH			LR		LR		
	comp=Z,73μm,10.0s						
GZH			LR		LR		
	comp=Z,100μm,11.4s						
WUS	**Wushi**	**17.85 319**	IAmb		IAmb	20 20 02.2	
	comp=Z,3μm,1.8s						
SRGN	**SRI GANGA NAGA**	**18.08 280**	*e*P		**P**	**20 20 07.8**	**+6.1**
SRGN			IAmb		IAmb	20 20 28.2	
	comp=Z,687nm,1.3s						
SRGN			*e*S		**Sn**	**20 23 13.0**	**-10**
MCO	**Taipa Grande**	**18.32 106**	P		**P**	**20 20 05.0**	**+0.6**
HYB	**Hyderabad**	**18.33 237**	⇓*e*P		**Pn**	**20 20 01.6**	**-3.0**
HYB			*e*			20 23 27.1	
HYB			IVMs_BB		IVMs_BB	20 26 58.2	
	comp=Z,30μm,11.8s						
HHC	**Hu-ho-hao-te**	**18.66 44**	⇑*i*P		**P**	**20 20 06.5**	**-1.7**
HHC			pP		pP	20 20 13.3	-0.6
HHC			S		**Sn**	**20 23 28.8**	**-8.0**
HHC			SS		**SnSn**	**20 23 58.1**	**+7.3**
HHC			pmax		pmax		
	comp=Z,160nm,1.8s						
HHC			pmax		pmax		
	comp=Z,10μm,6.9s						
HHC			LR		LR		
	comp=Z,185μm,10.9s						
HHC			LR		LR		
	comp=Z,115μm,13.5s						
HHC			LR		LR		
	comp=Z,225μm,13.5s						
HKPS	**Hong Kong Po S**	**18.75 105**	P		**P**	**20 20 07.5**	**-1.7**
HKC	**Hong Kong Obse**	**18.77 105**	⇑P		**P**	**20 20 08.0**	**-1.3**
KSH	**Kashi**	**18.90 311**	P		**Pn**	**20 20 11.8**	**+0.4**
KSH			sP		sP	20 20 19.5	+0.6
KSH			S		**Sn**	**20 23 38.0**	**-4.5**
KSH			pmax		pmax		
	comp=Z,420nm,1.4s						
KSH			pmax		pmax		
	comp=Z,16μm,4.5s						
KSH			LR		LR		
	comp=Z,31μm,18.0s						
KSH			LR		LR		
	comp=Z,94μm,16.1s						
KSH			LR		LR		
	comp=Z,120μm,16.3s						
NIL	**Nilore**	**18.94 291**	P		**P**	**20 20 07.5**	**-3.7**
NIL	**Nilore**	**18.94 291**	P		**P**	**20 20 07.5**	**-3.7**
NIL			pmax		pmax		
	comp=Z,698nm,1.3s						
TARG	**Taragay, Kyrgy**	**19.00 319**	P		**Pn**	**20 20 12.7**	**-0.3**
TARG	**Taragay, Kyrgy**	**19.00 319**	P		**Pn**	**20 20 12.7**	**-0.3**
TARG			pmax		pmax		
	comp=Z,501nm,1.1s						
SHLS	**Shalkode**	**19.05 324**	*c i*P		**P**	**20 20 10.4**	**-2.0**
SHLS			*e*S		**Sn**	**20 23 43.1**	**-3.1**
SHLS	**Shalkode**	**19.05 324**	⇑*i*P		**P**	**20 20 10.4**	**-2.0**
SHLS			*e*S		**Sn**	**20 23 43.2**	**-3.1**
HNS	**HongShan**	**19.13 57**	⇑P		**P**	**20 20 12.4**	**-0.7**
HNS			S		**Sn**	**20 23 40.4**	**-7.5**
HNS			SS		**SnSn**	**20 24 07.1**	**+5.2**
HNS			pmax		pmax		
	comp=Z,250nm,1.2s						
HNS			pmax		pmax		
	comp=Z,11μm,9.4s						
HNS			LR		LR		
	comp=Z,48μm,14.5s						
HNS			LR		LR		
	comp=Z,88μm,18.8s						
UZB	**Uzynbulak**	**19.27 324**	*c i*P		**Pn**	**20 20 15.5**	**-0.4**
UZB			*e*S		**S**	**20 23 53.5**	**+1.0**
UZB	**Uzynbulak**	**19.27 324**	⇑*i*P		**Pn**	**20 20 15.5**	**-0.4**
UZB			*e*S		**S**	**20 23 53.5**	**+1.0**
SATY	**Saty**	**19.54 323**	*e*P		**Pn**	**20 20 18.7**	**-0.4**
SATY			*e*S		**Sn**	**20 23 59.7**	**+1.8**
SATY	**Saty**	**19.54 323**	*e*P		**Pn**	**20 20 18.7**	**-0.4**
SATY			*e*S		**Sn**	**20 23 59.8**	**+1.8**
ZHN	**Zhinishke**	**19.60 323**	*e*P		**Pn**	**20 20 19.2**	**-0.6**
ZHN			*e*S		**Sn**	**20 24 00.7**	**+1.4**
ZHN	**Zhinishke**	**19.60 323**	*e*P		**Pn**	**20 20 19.3**	**-0.6**
ZHN			*e*S		**Sn**	**20 24 00.8**	**+1.4**
KDJ	**Kajisay**	**19.62 319**			**Pn**	**20 20 20.0**	**-0.1**
KDJ			IAmb		IAmb	20 20 23.8	
	comp=Z,721nm,1.1s						
KDJ	**Kajisay**	**19.62 319**	P		**Pn**	**20 20 20.0**	**-0.1**
KDJ			pmax		pmax		
	comp=Z,721nm,1.1s						
KPKS	**Kokpek**	**19.67 324**	*c i*P		**Pn**	**20 20 20.0**	**-0.7**
KPKS			*e*S		**Sn**	**20 24 02.5**	**+1.4**
KPKS			pmax		pmax		
	comp=Z,559nm,1.3s						
KPKS	**Kokpek**	**19.67 324**	⇑*i*P		**Pn**	**20 20 20.0**	**-0.7**
	comp=Z,559nm,1.3s						
KPKS			*e*S		**Sn**	**20 24 02.5**	**+1.4**
NRN	**Naryn**	**19.91 315**	P		**Pn**	**20 20 23.0**	**-0.7**
NRN	**Naryn**	**19.91 315**	P		**Pn**	**20 20 23.0**	**-0.7**
NRN			pmax		pmax		
	comp=Z,574nm,1.2s						
ULHL	**Ulahol**	**20.24 318**	P		Pn	20 20 27.2	-0.3
	SNR=295						
SRIT	**Nakonsritamara**	**20.32 165**	P		**P**	**20 20 26.5**	**+0.3**
SRIT			IAmb		IAmb	20 20 35.0	
	comp=Z,795nm,1.1s						
SRIT			IAMs_20		IAMs_20	20 29 02.5	
	comp=Z,93μm,18.0s						
TNSS	**Tian-Shan**	**20.33 320**	*e*P		**P**	**20 20 27.2**	**+0.6**
TNSS	**Tian-Shan**	**20.33 320**	*e*P		**P**	**20 20 27.2**	**+0.6**
MDOK	**Medeo**	**20.35 321**	*e*P		**P**	**20 20 27.5**	**+0.9**
MDOK			*e*S		Sn	20 24 16.7	-0.8
MDOK			MLR		MLR		
	comp=Z,47μm,15.0s						
MDOK	**Medeo**	**20.35 321**	*e*P		**P**	**20 20 27.6**	**+0.9**
MDOK			*e*S		Sn	20 24 16.7	-0.8
MDOK			LR		LR	20 28 57.8	
	comp=Z,47μm,15.2s						
ZSN	**Zaisan**	**20.42 341**	*e*P		**P**	**20 20 28.2**	**+1.0**
ZSN			*e*S		Sn	20 24 18.0	-0.8
ZSN			pmax		pmax		
	comp=Z,964nm,1.5s						
ZSN	**Zaisan**	**20.42 341**	*e*P		**P**	**20 20 28.2**	**+1.0**
	comp=Z,964nm,1.5s						
ZSN			*e*S		Sn	20 24 18.1	-0.8
AAA	**Alma-Ata**	**20.45 321**	*e*P		**P**	**20 20 28.6**	**+0.9**
AAA			pmax		pmax		
	comp=Z,506nm,0.7s						
AAA			MLR		MLR		
	comp=Z,62μm,15.0s						
AAA	**Alma-Ata**	**20.45 321**	*e*P		**P**	**20 20 28.6**	**+0.9**
	comp=Z,506nm,0.7s						
AAA			LR		LR	20 29 09.6	
	comp=Z,62μm,14.9s						
BOOM	**Boomskoye usch**	**20.57 318**			Pn	20 20 30.3	-1.0
BOOM			IAmb		IAmb	20 20 38.2	
	comp=Z,2μm,1.6s						
BOOM	**Boomskoye usch**	**20.57 318**	P		Pn	20 20 30.3	-1.0
BOOM			pmax		pmax		
	comp=Z,2μm,1.6s						
BOOM			MLR		MLR		
	comp=Z,52μm,21.0s						
TIA	**Tai'an**	**20.58 62**	P		**P**	**20 20 29.1**	**0.0**
TIA			PP		**PnPn**	**20 20 48.6**	**+1.8**
TIA			S		**S**	**20 24 11.8**	**-6.6**
TIA			pmax		pmax		
	comp=Z,300nm,1.4s						
TIA			pmax		pmax		
	comp=Z,11μm,9.7s						
TIA			LR		LR		
	comp=Z,34μm,12.2s						
TIA			LR		LR		
	comp=Z,20μm,12.6s						
TIA			LR		LR		
	comp=Z,58μm,12.0s						
MK31	**Makanchi Array**	**20.68 336**	*c i*P		**P**	**20 20 30.4**	**+0.4**
MKAR	**Makanchi Array**	**20.68 336**			**P**	**20 20 30.1**	**+0.1**
MKAR	**Makanchi Array**	**20.68 336**	P		**P**	**20 20 30.4**	**+0.4**
	comp=Z,280nm,0.9s,baz=146,slow=12,SNR=712						
MKAR			LR		LR	20 30 20.6	
	comp=Z,28μm,19.3s,baz=147,slow=42						
MKAR			P3KPbc			20 54 33.4	
	comp=Z,2.0nm,1.0s,baz=337,slow=2.2,SNR=7.9						
	comp=Z,280nm,0.9s						
MAKZ	**Makanchi**	**20.80 335**			**P**	**20 20 31.7**	**+0.3**
MAKZ			IAmb		IAmb	20 20 39.1	
	comp=Z,1μm,1.4s						
MAKZ			IAMs_20		IAMs_20	20 29 20.6	
	comp=Z,135μm,22.0s						
MAKZ	**Makanchi**	**20.80 335**	P		**P**	**20 20 31.9**	**+0.5**
MAKZ	**Makanchi**	**20.80 335**	⇑P		**P**	**20 20 31.8**	**+0.4**
CHKK	**Chushkaly**	**20.84 322**	⇑*i*P		**P**	**20 20 32.6**	**+0.8**
CHKK	**Chushkaly**	**20.84 322**	⇑*i*P		**P**	**20 20 32.6**	**+0.8**
TDK	**Taldyqorghan**	**20.91 327**	*c i*P		**P**	**20 20 33.5**	**+1.0**
TDK			pmax		pmax		
	comp=Z,978nm,1.3s						
TDK			MLR		MLR		
	comp=Z,52μm,16.0s						
TDK	**Taldyqorghan**	**20.91 327**	⇑*i*P		**P**	**20 20 33.6**	**+1.0**
	comp=Z,978nm,1.3s						
TDK			LR		LR	20 29 37.6	
	comp=Z,52μm,15.6s						
DLV	**Lat**	**20.97 139**	P		**P**	**20 20 33.6**	**0.0**
DLV			IAmb		IAmb	20 20 46.8	
	comp=Z,1μm,1.2s						
DLV	**Lat**	**20.97 139**	P		**P**	**20 20 34.3**	**+0.8**
	comp=Z,957nm,1.3s						
DLV	**Lat**	**20.97 139**	⇑P		**P**	**20 20 34.3**	**+0.8**
TKM2	**Tokmak 2**	**21.03 318**	P		**P**	**20 20 35.6**	**+1.6**
	SNR=413						
BJT	**Baijiatuau**	**21.24 51**	P		**P**	**20 20 36.7**	**+0.6**
BJT	**Baijiatuau**	**21.24 51**	P		**P**	**20 20 36.7**	**+0.6**
	comp=Z,426nm,1.9s						
BJT	**Baijiatuau**	**21.24 51**	P		**P**	**20 20 36.7**	**+0.6**
BJT			pmax		pmax		
	comp=Z,452nm,1.2s						
BJT			MLR		MLR		
	comp=Z,52μm,22.0s						
KBK	**Karagaybulak**	**21.25 317**	P		**P**	**20 20 38.5**	**+2.0**
	SNR=270						
BJI	**Beijing**	**21.26 51**	P		**P**	**20 20 36.9**	**+0.7**
BJI			S		**S**	**20 24 31.3**	**-0.4**
B

BJI LR LR
comp=Z,70μm,10.9s
BJI LR LR
comp=Z,41μm,10.7s
BJI LR LR
comp=Z,90μm,11.2s
UCH Uchtor 21.27 316 P **P 20 20 38.4 +1.4**
SNR=48
NJ2 Nanjing 21.32 74⇑ *i*P **P 20 20 37.0 0.0**
NJ2 S **S 20 24 29.3 -3.7**
NJ2 pmax pmax
comp=Z,260nm,1.8s
NJ2 LR LR
comp=Z,33μm,8.6s
NJ2 LR LR
comp=Z,30μm,9.9s
NJ2 LR LR
comp=Z,38μm,12.8s
SONM Songino Array 21.45 22 P 20 20 38.4 0.0
SONM Songino Array 21.45 22 P **P 20 20 38.5 +0.1**
comp=Z,476nm,1.0s,baz=200,slow=8.0,SNR=1481
SONM ScP **ScP 20 28 16.6 -0.7**
comp=Z,41nm,1.2s,baz=202,slow=1.6,SNR=9.9
SONM LR LR 20 29 55.1
comp=Z,110μm,20.1s,baz=211,slow=39
SONM P3KPbc 20 54 26.3
comp=Z,0.3nm,0.8s,baz=98,slow=2.9,SNR=3.5
comp=Z,476nm,1.0s
AAK Ala-Archa 21.52 316 P 20 20 40.7 +1.5
AAK Ala-Archa 21.52 316 P **P 20 20 41.0 +1.7**
comp=Z,428nm,0.9s,baz=129,slow=9.3,SNR=296
AAK LR LR 20 30 41.5
comp=Z,35μm,20.8s,baz=120,slow=41
comp=Z,428nm,0.9s
AAK Ala-Archa 21.52 316 P **P 20 20 41.4 +2.2**
AAK P **P 20 20 41.4 +2.2**
AAK S Sn 20 24 42.2 -3.4
AAK S Sn 20 24 42.2 -3.4
AAK Ala-Archa 21.52 316 P **P 20 20 41.0 +1.7**
SNR=353
AAK Ala-Archa 21.52 316 *ce*P **P 20 20 41.0 +1.7**
AAK pmax pmax
comp=Z,1μm,1.2s
AAK MLR MLR
comp=Z,30μm,17.0s
AAK Ala-Archa 21.52 316 *i*P **P 20 20 40.6 +1.3**
SNR=963
AAK Ala-Archa 21.52 316 ⇑P **P 20 20 41.0 +1.7**
FRU1 Bishkek 21.54 317 P **P 20 20 40.8 +1.5**
FRU1 IAmb IAmb 20 20 53.9
comp=Z,1μm,1.2s
FRU1 Bishkek 21.54 317 P **P 20 20 40.8 +1.5**
FRU1 pmax pmax
comp=Z,1μm,1.2s
FRU1 MLR MLR
comp=Z,48μm,21.0s
CHMS Chumysh 21.57 318 P **P 20 20 40.9 +1.2**
SNR=254
ULN Ulaanbaatar 21.70 23 P 20 20 40.8 -0.3
ULN Ulaanbaatar 21.70 23 IAMs_20 IAMs_20 20 29 50.9
comp=Z,110μm,20.0s
ULN Ulaanbaatar 21.70 23 P **P 20 20 40.9 -0.3**
ULN S **S 20 24 41.9 +1.4**
ULN Ulaanbaatar 21.70 23 P **P 20 20 41.0 -0.1**
ULN Ulaanbaatar 21.70 23 ⇑P **P 20 20 40.9 -0.3**
KNMB Chin-men Tao 21.72 95 P 20 20 40.8 -0.6
AML Almayashu 21.73 314 P **P 20 20 43.0 +1.2**
SNR=224
DRK Karamyk 21.77 306 P **P 20 20 42.2 +0.1**
DRK IAmb IAmb 20 20 53.5
comp=Z,934nm,1.1s
DRK Karamyk 21.77 306 P **P 20 20 42.2 +0.1**
DRK pmax pmax
comp=Z,934nm,1.1s
DRK MLR MLR
comp=Z,22μm,20.0s
ARSB Arslanbob 21.78 312 P **P 20 20 42.5 +0.5**
ARSB Arslanbob 21.78 312 P **P 20 20 42.5 +0.5**
ARSB pmax pmax
comp=Z,412nm,1.1s
ARSB MLR MLR
comp=Z,42μm,21.0s
QZH Quanzhou 21.78 94 P **P 20 20 39.8 -2.2**
QZH S **S 20 24 39.8 -2.4**
QZH pmax pmax
comp=Z,330nm,1.3s
QZH LR LR
comp=Z,96μm,9.6s
QZH LR LR
comp=Z,36μm,9.0s
USP Ospenovka 21.88 318 P **P 20 20 43.9 +0.9**
SNR=394
SGDS Sogindy 21.91 318 *c i*P **P 20 20 44.1 +0.7**
SGDS Sogindy 21.91 318 ⇑*i*P **P 20 20 44.2 +0.8**
EKS2 Erkin-Say 21.97 316 P **P 20 20 45.6 +1.6**
SNR=434
KBU Kabul Universi 22.45 292 P **P 20 20 48.0 -1.4**
KBL Kabul 22.53 292 P 20 20 49.5 -0.7
KBL Kabul 22.53 292 P **P 20 20 50.6 +0.4**
SNR=368
KBL S **S 20 24 54.5 -2.2**
KBL Kabul 22.53 292 P **P 20 20 49.6 -0.7**
KBL pmax pmax
comp=Z,1μm,1.4s
BSI Banda Aceh 22.83 178 P **P 20 20 50.2 -3.1**
comp=Z,8μmcomp=Z,425nm,1.4s
ZAK Zakamensk 22.90 15 *e*P **P 20 20 53.8 -0.1**
ZAK *e* 20 32 05.5
ZAK pmax pmax
comp=Z,643nm,1.5s
XLT XiLinHaoTe 23.16 42 *e*P **P 20 20 56.3 -0.3**
XLT pP sP 20 21 06.9 +1.4
XLT PP **PnPn 20 21 29.5 +7.4**
XLT S **S 20 25 02.5 -4.7**
XLT pmax pmax
comp=Z,200nm,1.3s
XLT pmax pmax
comp=Z,9μm,3.9s
LHMI Lhok Sumawe 23.20 174 P **P 20 20 57.0 -0.1**
LHMI Lhok Sumawe 23.20 174 P **P 20 20 58.0 +0.9**
comp=Z,949nm,1.8s
LHMI Lhok Sumawe 23.20 174 P **P 20 20 57.9 +0.9**
comp=Z,19μmcomp=Z,951nm,1.8s
LHMI Lhok Sumawe 23.20 174 ⇓P **P 20 20 57.2 +0.2**
SSE Sheshan 23.28 77 P **P 20 20 57.3 -0.5**
SSE S **S 20 25 08.9 -0.4**
SSE pmax pmax
comp=Z,67nm,1.0s
SSE pmax pmax
comp=Z,2μm,3.7s
SIMJ Simiganj 23.51 302 P **P 20 20 59.5 -0.7**
DZA Taraz 23.62 314 *e*P **P 20 21 02.2 +1.1**
DZA pmax pmax
comp=Z,872nm,1.6s
DZA Taraz 23.62 314 *e*P **P 20 21 02.2 +1.1**
comp=Z,872nm,1.6s
MOY Mondy 23.70 10 *e*P **P 20 21 03.1 +1.2**
MOY pmax pmax
comp=Z,2μm,3.2s
KULM Kulim 23.75 165 P **P 20 21 01.7 -0.8**
KULM IAmb IAmb 20 21 10.4
comp=Z,950nm,1.5s
KULM IAMs_20 IAMs_20 20 31 07.0
comp=Z,62μm,19.0s
KULM Kulim 23.75 165 P **P 20 21 02.0 -0.5**
comp=Z,520nm,2.4s
KULM Kulim 23.75 165 ⇓P **P 20 21 01.8 -0.7**
MALK Mahakanadarawa 23.90 216 P **P 20 21 03.2 -0.7**
TPUB Ta-pu 24.02 96 P **P 20 21 05.2 +0.1**
TPUB IAmb IAmb 20 21 30.1
comp=Z,513nm,1.6s
TPUB Ta-pu 24.02 96 P **P 20 21 07.1 +2.0**
comp=Z,178nm,1.6s
MLSI Meulaboh, Aceh 24.11 175 P **P 20 21 03.7 -2.2**
comp=Z,13μmcomp=Z,7μmcomp=Z,686nm,0.9s
SSLB Suanglung 24.16 95 P **P 20 21 06.6 +0.2**
SSLB Suanglung 24.16 95 P **P 20 21 08.0 +1.6**
comp=Z,138nm,1.3s
KK31 Karatay Array 24.25 313 P **P 20 21 07.6 +0.6**
KK31 Karatay Array 24.25 313 P **P 20 21 07.6 +0.6**
KK31 pmax pmax
comp=Z,200nm,1.0s
KKAR Karatay Array 24.25 313 P **P 20 21 07.4 +0.4**
KKAR Karatay Array 24.25 313 P **P 20 21 07.4 +0.4**
KKAR Karatay Array 24.25 313 ⇑P **P 20 21 07.8 +0.7**

YHNB Yeheng 24.30 93 P **P 20 21 07.6 -0.1**
YHNB Yeheng 24.30 93 P **P 20 21 09.4 +1.7**
comp=Z,247nm,1.1s
TATO Taipei 24.32 92 P **P 20 21 08.6 +0.8**
TATO IAmb IAmb 20 21 25.5
comp=Z,371nm,1.3s
TATO Taipei 24.32 92 P **P 20 21 09.1 +1.3**
TATO Taipei 24.32 92 P **P 20 21 09.5 +1.7**
comp=Z,321nm,1.4s
SEM Semipalatinsk 24.47 338 *e*P **P 20 21 09.3 +0.2**
SEM *e*S **S 20 25 31.0 +2.6**
SEM pmax pmax
comp=Z,395nm,1.5s
SEM MLR MLR
comp=Z,41μm,13.0s
SEM Semipalatinsk 24.47 338 *e*P **P 20 21 09.3 +0.2**
comp=Z,395nm,1.5s
SEM *e*S **S 20 25 31.1 +2.6**
SEM LR LR 20 31 08.2
comp=Z,41μm,12.7s
TWG Pinlang 24.56 97 P **P 20 21 11.3 +1.4**
TWGBT Beinan 24.57 97 P **P 20 21 12.3 +2.2**
comp=Z,165nm,0.9s
YULB Yu-li 24.58 96 P **P 20 21 10.0 -0.2**
YULB IAmb IAmb 20 21 35.6
comp=Z,722nm,1.7s
YULB Yu-li 24.58 96 P **P 20 21 12.5 +2.3**
comp=Z,233nm,1.8s
NACB Ninganchiao 24.62 94 P **P 20 21 10.3 -0.2**
NACB IAmb IAmb 20 21 30.8
comp=Z,648nm,1.2s
NACB Ninganchiao 24.62 94 P **P 20 21 12.5 +2.0**
comp=Z,521nm,1.2s
BRLS Borolday 24.65 313 *c i*P **P 20 21 11.4 +0.8**
BRLS Borolday 24.65 313 ⇑*i*P **P 20 21 11.5 +0.8**
DL2 Dalian 24.77 58 ⇑*i*P **P 20 21 12.0 +0.2**
DL2 S **S 20 25 32.8 -0.4**
DL2 pmax pmax
comp=Z,640nm,1.6s
DL2 pmax pmax
comp=Z,10μm,4.6s
DL2 LR LR
comp=Z,28μm,12.0s
DL2 LR LR
comp=Z,63μm,14.7s
PALK Pallekele 24.78 214 P **P 20 21 12.7 +0.7**
PALK Pallekele 24.78 214 LR LR 20 31 16.9
comp=Z,22μm,21.7s,baz=32,slow=37
PALK Pallekele 24.78 214 P **P 20 21 13.8 +1.7**
PALK P **P 20 21 13.8 +1.7**
PALK S **S 20 25 35.8 +2.2**
PALK S **S 20 25 35.8 +2.2**
PALK Pallekele 24.78 214 P **P 20 21 13.3 +1.3**
PALK Pallekele 24.78 214 ⇓P **P 20 21 13.0 +0.9**
IRK Irkutsk 24.86 14 *e*P **P 20 21 13.5 +1.0**
IRK *e*S **S 20 25 24.2 -10**
IRK pmax pmax
comp=Z,3μm,3.3s
TSI Tuntungan 25.10 170 P **P 20 21 15.6 +0.7**
KURBB Kurchatov Arra 25.25 336 P **P 20 21 16.4 +0.5**
comp=Z,251nm,1.0s,baz=142,slow=9.9,SNR=624
KURBB ScP **ScP 20 28 25.4 -1.7**
comp=Z,5.3nm,0.8s,baz=153,slow=2.5,SNR=4.0
KURBB LR LR 20 32 42.1
comp=Z,52μm,18.8s,baz=136,slow=40
KURBB P3KPbc 20 54 13.1
comp=Z,1.4nm,0.9s,baz=321,slow=5.0,SNR=15
comp=Z,251nm,1.0s
KURK Kurchatov 25.29 336 P **P 20 21 16.5 +0.2**
KURK Kurchatov 25.29 336 P **P 20 21 17.4 +1.1**
KURK S **S 20 25 44.4 +3.2**
KURK Kurchatov 25.29 336 P **P 20 21 16.4 +0.1**
KURK Kurchatov 25.29 336 ⇑P **P 20 21 16.9 +0.6**
PSI Prapat 25.84 170 P **P 20 21 21.5 -0.2**
comp=Z,244nm,1.9s
PSI Prapat 25.84 170 P **P 20 21 20.5 -1.2**
PSI pmax pmax
comp=Z,380nm,1.5s
SNSI Sinabang, Aceh 25.95 176 P **P 20 21 22.3 -0.2**
comp=Z,13μmcomp=Z,1μm,1.1s
RPSI Rantau Prapat 25.95 170 P **P 20 21 20.5 -2.0**
RPSI IAmb IAmb 20 21 49.2
comp=Z,380nm,1.5s
SZP Santa 26.16 109 P **P 20 21 26.6 +2.1**
comp=Z,401nm,0.9s
ZAA0 Zalesovo Array 26.46 347 P **P 20 21 26.9 +0.1**
ZALV Zalesovo Beam 26.46 347 P **P 20 21 27.2 +0.3**
ZALV Zalesovo Beam 26.46 347 P **P 20 21 27.4 +0.6**
comp=Z,236nm,0.9s,baz=168,slow=7.6,SNR=216
ZALV LR LR 20 32 46.3
comp=Z,26μm,18.5s,baz=166,slow=38
ZALV P3KPbc 20 54 09.5
comp=Z,3.0nm,0.9s,baz=328,slow=5.2,SNR=9.0
comp=Z,236nm,0.9s
SNY Shenyang 27.11 53 ⇑P **P 20 21 32.9 0.0**
SNY S **S 20 26 09.3 -0.9**
SNY pmax pmax
comp=Z,85nm,1.1s
SNY pmax pmax
comp=Z,4μm,8.0s
SNY LR LR
comp=Z,23μm,12.0s
SNY LR LR
comp=Z,27μm,13.7s
SNY LR LR
comp=Z,48μm,10.6s
GSI Gunungsitoli 27.14 173 P **P 20 21 32.5 -0.9**
GSI Gunungsitoli 27.14 173 P **P 20 21 32.8 -0.6**
comp=Z,1μm,1.0s
GSI Gunungsitoli 27.14 173 P **P 20 21 33.1 -0.3**
GSI Gunungsitoli 27.14 173 ⇓P **P 20 21 33.0 -0.4**
BRZS Berezniki 27.19 328 *e*P **P 20 21 34.6 +1.1**
BRZS pmax pmax
comp=Z,240nm,1.6s
BRZS Berezniki 27.19 328 *e*P **P 20 21 34.7 +1.1**
comp=Z,240nm,1.6s
SUJ Sinuiju 27.24 57 P **P 20 21 33.5 -0.6**
SUJ S **S 20 26 10.8 -1.3**
SUJ AmB
comp=Z,2μm,2.2s
SUJ AMS AMS
comp=Z,71μm,13.8s
CIT Chita 27.51 26 *e*P **P 20 21 36.5 +0.1**
CIT *e* 20 21 48.7
CIT *e* 20 22 33.9
CIT *e* 20 27 30.9
CIT pmax pmax
comp=Z,811nm,3.0s
HJU Haeju 27.69 62 P **P 20 21 37.6 -0.6**
HJU S **S 20 26 17.9 -1.5**
HJU AmB
comp=Z,3μm,3.4s
HJU AMS AMS
comp=Z,49μm,9.8s
MNSI Mandailing Nat 27.91 169 P **P 20 21 39.1 -1.2**
comp=Z,12μmcomp=Z,177nm,1.0s
PYAG Pyongyang 27.92 60 P **P 20 21 39.5 -0.6**
PYAG S **S 20 26 21.2 -1.8**
PYAG AmB
comp=Z,3μm,4.5s
PYAG AMS AMS
comp=Z,55μm,14.5s
MYKOM Kota Tinggi 27.96 160 P **P 20 21 42.2 +1.5**
comp=Z,90nm,1.1s
MYKOM Kota Tinggi 27.96 160 ⇓P **P 20 21 40.4 -0.3**
INCN Inchon 28.30 63 P **P 20 21 42.8 -0.9**
INCN Inchon 28.30 63 P **P 20 21 43.1 -0.6**
INCN S **S 20 26 28.1 -1.0**
INCN Inchon 28.30 63 P **P 20 21 43.9 +0.3**
comp=Z,94nm,1.6s
INCN Inchon 28.30 63 P **P 20 21 42.8 -0.9**
INCN pmax pmax
comp=Z,184nm,1.2s
INCN MLR MLR
comp=Z,18μm,18.0s
TGY Tagaytay City 28.37 115 LR LR 20 33 54.4
comp=Z,19μm,18.1s,baz=317,slow=38
HIA Hailar 28.38 36 IAmb IAmb 20 21 56.7
comp=Z,578nm,1.9s
HIA Hailar 28.38 36 IAMs_20 IAMs_20 20 34 12.1
comp=Z,76μm,19.0s
HIA Hailar 28.38 36 P **P 20 21 45.1 +0.9**
comp=Z,136nm,1.2s
BKNI Bangkinang 28.64 166 P **P 20 21 44.9 -1.9**
BKNI IAmb IAmb 20 21 55.2

comp=Z,447nm,1.3s
BKNI IAMs_20 IAMs_20 20 34 28.0
comp=Z,40μm,19.0s
BKNI Bangkinang 28.64 166 P **P 20 21 44.2 -2.5**
BKNI Bangkinang 28.64 166 P **P 20 21 47.8 +1.0**
comp=Z,291nm,1.2s
BKNI Bangkinang 28.64 166 P **P 20 21 49.9 +3.1**
comp=Z,13μmcomp=Z,5μmcomp=Z,289nm,1.2s
TJN Taejon 28.73 66 P **P 20 21 45.4 -2.1**
TJN IAmb IAmb 20 22 46.2
comp=Z,554nm,1.4s
TJN Taejon 28.73 66 P **P 20 21 49.3 +1.9**
comp=Z,261nm,1.2s
TJN Taejon 28.73 66 ⇑*i*P **P 20 21 46.0 -1.4**
CN2 Changchun 29.10 50 *e*P **P 20 21 50.4 -0.2**
CN2 PP **PnPn 20 22 42.8 -0.3**
CN2 *e*S **S 20 26 38.5 -3.0**
CN2 pmax pmax
comp=Z,100nm,1.5s
CN2 pmax pmax
comp=Z,2μm,3.0s
CN2 LR LR
comp=Z,44μm,14.0s
CN2 LR LR
comp=Z,62μm,14.0s
CN2 LR LR
comp=Z,83μm,14.6s
KS19 Wonju Array Si 29.27 63 P **P 20 21 50.9 -1.4**
KSAR Wonju Array Be 29.28 64 P **P 20 21 50.8 -1.5**
KSAR Wonju Array Be 29.28 64 P **P 20 21 50.8 -1.5**
PPI Padang Panjang 29.28 168 P **P 20 21 51.2 -1.2**
KSRS Korea Array 29.31 63 P **P 20 21 51.3 -1.3**
comp=Z,36nm,0.9s,baz=254,slow=8.1,SNR=64
KSRS ScP **ScP 20 28 38.0 -1.6**
comp=Z,13nm,1.2s,baz=256,slow=3.2,SNR=9.6
KSRS LR LR 20 33 59.3
comp=Z,10μm,18.5s,baz=260,slow=37
comp=Z,36nm,0.9s
HHU Hamhung 29.45 58 P **P 20 21 53.1 -0.7**
HHU S **S 20 26 45.3 -1.7**
HHU AmB
comp=Z,1μm,2.8s
HHU AMS AMS
comp=Z,32μm,11.7s
HMDM Hanimaadhoo 29.53 227 P **P 20 21 55.4 +0.8**
NGCH Negor - Chabah 29.88 272 P **P 20 22 00.3 +2.6**
NGCH S **S 20 26 54.9 +0.9**
JOW Kunigami 29.89 85 LR LR 20 35 27.9
comp=Z,18μm,18.6s,baz=270,slow=39
SISI Saibi 29.92 171 P **P 20 22 01.7 +3.6**
comp=Z,209nm,1.2s
KKM Kota Kinabalu 30.31 133 P **P 20 22 01.7 0.0**
KKM IAmb IAmb 20 22 11.2
comp=Z,392nm,1.5s
KKM Kota Kinabalu 30.31 133 P **P 20 22 03.4 +1.7**
comp=Z,146nm,1.3s
KKM Kota Kinabalu 30.31 133 ⇑P **P 20 22 02.9 +1.2**
BVAR Borovoye Array 30.34 331 P **P 20 22 02.5 +1.0**
comp=Z,113nm,0.8s,baz=132,slow=10,SNR=351
BVAR LR LR 20 35 44.0
comp=Z,57μm,19.5s,baz=124,slow=39
BVAR P3KPbc 20 53 54.4
comp=Z,0.9nm,0.7s,baz=354,slow=2.9,SNR=5.6
comp=Z,113nm,0.8s
BRVK Borovoye 30.41 331 P **P 20 22 02.9 +0.8**
BRVK IAmb IAmb 20 22 04.4
comp=Z,214nm,0.9s
BRVK Borovoye 30.41 331 IAMs_20 IAMs_20 20 35 35.4
comp=Z,57μm,18.0s
BRVK Borovoye 30.41 331 P **P 20 22 03.4 +1.3**
BRVK S **S 20 27 07.3 +5.5**
BRVK Borovoye 30.41 331 *c i*P **P 20 22 03.2 +1.1**
BRVK pmax pmax
comp=Z,229nm,0.9s
BRVK Borovoye 30.41 331 ⇑P **P 20 22 03.2 +1.1**
KSM Kuching 30.77 148 P **P 20 22 05.3 -0.3**
KSM IAmb IAmb 20 22 14.6
comp=Z,228nm,1.1s
KSM Kuching 30.77 148 P **P 20 22 06.7 +1.1**
comp=Z,219nm,1.7s
KSM Kuching 30.77 148 ⇓P **P 20 22 06.4 +0.8**
SBUM Sibu 30.87 144 P **P 20 22 06.6 +0.1**
SBUM Sibu 30.87 144 P **P 20 22 07.8 +1.3**
comp=Z,50nm,2.2s
SBUM Sibu 30.87 144 ⇓P **P 20 22 07.3 +0.8**
BNX BinXian 31.12 47 ⇑P **P 20 22 09.0 +0.6**
BNX S **S 20 27 11.6 -1.5**
BNX pmax pmax
comp=Z,330nm,1.2s
BNX pmax pmax
comp=Z,6μm,7.4s
BNX LR LR
comp=Z,53μm,11.3s
JNU Nakatsue 31.48 72 P **P 20 22 11.2 -0.6**
JNU IAMs_20 IAMs_20 20 36 06.1
comp=Z,35μm,20.0s
JNU Nakatsue 31.48 72 LR LR 20 36 04.9
comp=Z,19μm,20.3s,baz=274,slow=39
JNU Nakatsue 31.48 72 P **P 20 22 13.0 +1.1**
comp=Z,78nm,1.2s
JNU Nakatsue 31.48 72 ⇑P **P 20 22 12.2 +0.3**
MDJ Mudanjiang 32.18 50 P **P 20 22 17.8 0.0**
MDJ S **S 20 27 32.8 +3.1**
MDJ sS sS 20 27 39.8 -0.2
MDJ pmax pmax
comp=Z,63nm,1.7s
MDJ pmax pmax
comp=Z,3μm,10.0s
MDJ LR LR
comp=Z,35μm,11.7s
MDJ LR LR
comp=Z,23μm,10.7s
MDJ LR LR
comp=Z,36μm,12.1s
MDJ Mudanjiang 32.18 50 P **P 20 22 18.0 +0.2**
comp=Z,80nm,1.2s
JLN Jalan Bani Buh 32.28 267 P **P 20 22 19.5 +0.6**
SNR=14
JLN P **P 20 22 19.5 +0.6**
SNR=14
JLN S **S 20 27 34.2 +2.6**
JLN S **S 20 27 34.2 +2.6**
BOD Bodaibo 32.38 19 ⇓*i*P **P 20 22 19.9 +0.5**
BOD pmax pmax
comp=Z,353nm,1.7s
MYLDM Lahad Datu 32.45 131 P **P 20 22 20.3 -0.1**
MYLDM Lahad Datu 32.45 131 P **P 20 22 22.5 +2.1**
comp=Z,245nm,1.5s
MYLDM Lahad Datu 32.45 131 ⇓P **P 20 22 21.9 +1.5**
PSTR Posyet 32.48 54 *e*P **P 20 22 21.0 +0.5**
WBK Wadi Bani Khal 32.52 268 P **P 20 22 22.7 +1.6**
SNR=11
WBK P **P 20 22 22.7 +1.6**
SNR=11
WBK S **S 20 27 34.3 -1.2**
WBK S **S 20 27 34.3 -1.2**
STKI Sintang 32.55 147 P **P 20 22 22.7 +1.4**
comp=Z,8μmcomp=Z,167nm,1.4s
WSAR Wadi Sarin 32.63 269 LR LR 20 36 58.2
comp=Z,107nm,19.5s,baz=112,slow=39
WSAR Wadi Sarin 32.63 269 P **P 20 22 23.9 +1.9**
SNR=8.8
WSAR S **S 20 27 33.9 -3.4**
JMZ Minamidaito 2 32.69 86 IAMs_20 IAMs_20 20 34 05.3
comp=Z,52μm,22.0s
MSHR Mys Shultsa 32.72 55 ⇑*i*P **P 20 22 22.1 -0.4**
MSHR pmax pmax
comp=Z,81nm,1.4s
MSHR MLR MLR
comp=Z,22μm,11.0s
KSI Kapahiang 32.84 165 P **P 20 22 23.1 -0.8**
comp=Z,8μmcomp=Z,7μmcomp=Z,186nm,1.0s
BIDO Bidbid 33.00 270 P **P 20 22 26.4 +1.2**
SNR=12
BIDO P **P 20 22 26.4 +1.2**
SNR=12
BIDO S **S 20 27 42.7 -0.1**
BIDO S **S 20 27 42.7 -0.1**
HEH HeiHe 33.07 40 *e*P **P 20 22 26.0 +0.4**
HEH PP **PnPn 20 23 35.3 +0.1**
HEH S **S 20 27 41.6 -1.9**
HEH pmax pmax
comp=Z,150nm,1.2s
HEH pmax pmax
comp=Z,4μm,5.5s
SMDO Samad 33.20 269 P **P 20 22 27.6 +0.5**

	SNR=21					
SMDO				P	**P**	**20 22 27.6 +0.5**
	SNR=21					
SMDO				S	**S**	**20 27 44.5 -1.7**
SMDO				S	**S**	**20 27 44.5 -1.7**
JMDO	**Jabal Madar**	**33.36**	**268**	P	P	20 22 33.7 +5.3
JMDO				P	P	20 22 33.7 +5.3
JMDO				S	**S**	**20 27 47.4 -1.1**
JMDO				S	**S**	**20 27 47.4 -1.1**
VLA	**Vladivostok**	**33.37**	**54***d i*	P	**P**	**20 22 28.5 +0.3**
VLA				pmax	pmax	
	comp=Z,156nm,1.3s					
VLA				MLR	MLR	
	comp=Z,7μm,14.0s					
TPI	**Tanjungpandan**	**33.49**	**156**	P	**P**	**20 22 33.5 +4.0**
	comp=Z,9μmcomp=Z,4μmcomp=Z,149nm,1.8s					
AB31	**Akbulak array**	**33.59**	**318**	P	**P**	**20 22 30.8 +0.7**
AB31				IAmb	IAmb	20 22 32.1
	comp=Z,156nm,1.0s					
ABKAR	**Akbulak array**	**33.59**	**318**	P	**P**	**20 22 30.9 +0.8**
ABKAR	**Akbulak array**	**33.59**	**318**	IAmb	IAmb	20 22 32.1
	comp=Z,157nm,1.0s					
ABKAR	**Akbulak array**	**33.59**	**318**	⇑P	**P**	**20 22 31.2 +1.1**
HOQ	**Hoqain**	**33.70**	**270**	P	**P**	**20 22 34.7 +3.3**
HOQ				P	**P**	**20 22 34.7 +3.3**
HOQ				S	**S**	**20 27 52.7 -1.1**
HOQ				S	**S**	**20 27 52.7 -1.1**
USA0B	**Ussuriysk Arra**	**33.71**	**52***c i*	P	**P**	**20 22 31.3 +0.1**
USRK	**Ussuriysk Ar.**	**33.71**	**52**	P	**P**	**20 22 31.1 -0.1**
USRK	**Ussuriysk Ar.**	**33.71**	**52**	P	**P**	**20 22 30.8 -0.4**
	comp=Z,22nm,1.0s,baz=256,slow=7.7,SNR=31					
USRK				LR	LR	20 37 36.4
	comp=Z,17μm,21.0s,baz=253,slow=39					
	comp=Z,22nm,1.0s					
USRK	**Ussuriysk Ar.**	**33.71**	**52**	P	**P**	**20 22 31.1 -0.1**
MHTO	**MHTO**	**33.92**	**266**	P	**P**	**20 22 34.6 +1.3**
	SNR=19					
MHTO				P	**P**	**20 22 34.6 +1.3**
	SNR=19					
MHTO				S	**S**	**20 27 58.8 +1.6**
MHTO				S	**S**	**20 27 58.8 +1.6**
BANOM	**Banah**	**34.00**	**275**	P	**P**	**20 22 37.4 +3.4**
BANOM				S	**S**	**20 27 59.4 +0.9**
BANOM	**Banah**	**34.00**	**275**	P	**P**	**20 22 37.5 +3.6**
MDSI	**Maura Dua**	**34.03**	**163**	P	**P**	**20 22 32.1 -2.1**
	comp=Z,10μmcomp=Z,68nm,1.1s					
BSY	**Bisya**	**34.04**	**269**	P	**P**	**20 22 36.0 +1.6**
	SNR=16					
BSY				P	**P**	**20 22 36.0 +1.6**
	SNR=16					
SHME	**Shamm**	**34.11**	**275**	P	**P**	**20 22 35.5 +0.6**
SHME				S	**S**	**20 28 00.7 +0.6**
MDH	**Madha**	**34.15**	**274**	P	**P**	**20 22 37.9 +2.7**
MDH				S	**S**	**20 28 00.1 -0.5**
MDH	**Madha**	**34.15**	**274**	P	**P**	**20 22 35.9 +0.7**
SOHO	**SOHO**	**34.23**	**272**	P	P	20 22 41.7 +5.7
SOHO				P	P	20 22 41.7 +5.7
SOHO				S	**S**	**20 28 00.5 -1.5**
SOHO				S	**S**	**20 28 00.5 -1.5**
SOHO	**SOHO**	**34.23**	**272**	P	**P**	**20 22 36.9 +1.0**
MASF	**Masafi**	**34.25**	**274**	P	P	20 22 42.7 +6.5
MASF				P	P	20 22 42.7 +6.5
MASF				S	**S**	**20 28 00.6 -1.7**
MASF				S	**S**	**20 28 00.6 -1.7**
MSFE	**Esma-Masafi**	**34.25**	**274**	P	**P**	**20 22 37.5 +1.3**
UOSS	**Minazif**	**34.31**	**273**	P	P	20 22 42.9 +6.3
UOSS				P	P	20 22 42.9 +6.3
UOSS				S	**S**	**20 28 00.7 -2.5**
UOSS				S	**S**	**20 28 00.7 -2.5**
UOSS	**Minazif**	**34.31**	**273**	P	**P**	**20 22 38.2 +1.5**
HATD	**Hatta, Dubai**	**34.41**	**273**	P	P	20 22 43.5 +6.0
HATD				P	P	20 22 43.5 +6.0
HATD				S	**S**	**20 28 04.1 -0.6**
HATD				S	**S**	**20 28 04.1 -0.6**
HATD	**Hatta, Dubai**	**34.41**	**273**	P	**P**	**20 22 38.1 +0.6**
ARQ	**Araqi**	**34.46**	**270**	P	**P**	**20 22 39.7 +1.6**
ARQ				P	**P**	**20 22 39.7 +1.6**
ARQ				S	**S**	**20 28 05.5 -0.1**
ARQ				S	**S**	**20 28 05.5 -0.1**
ASHO	**Ashiyiah**	**34.51**	**273**	P	**P**	**20 22 38.9 +0.5**
	SNR=7.0					
ASHO				P	**P**	**20 22 38.9 +0.5**
	SNR=7.0					
ASHO				S	**S**	**20 28 06.4 +0.1**
ASHO				S	**S**	**20 28 06.4 +0.1**
ASHO	**Ashiyiah**	**34.51**	**273**	*i* P	**P**	**20 22 39.2 +0.8**
	SNR=8.1					
LWLI	**Liwa**	**34.51**	**163**	P	**P**	**20 22 37.4 -1.1**
	comp=Z,9μmcomp=Z,203nm,0.7s					
KAAM	**Kaadhehdhoo**	**34.59**	**220**	P	P	20 22 45.8 +6.7
DQM	**DQM**	**34.67**	**264**	P	**P**	**20 22 43.3 +3.5**
	SNR=5.1					
DQM				P	**P**	**20 22 43.3 +3.5**
	SNR=5.1					
DQM				S	**S**	**20 28 06.9 -1.9**
DQM				S	**S**	**20 28 06.9 -1.9**
NAZ	**Nazwa, Dubai**	**34.78**	**274**	P	**P**	**20 22 40.4 -0.3**
NAZ				S	**S**	**20 28 09.5 -0.9**
NAZ	**Nazwa, Dubai**	**34.78**	**274**	P	**P**	**20 22 42.9 +2.2**
ZEA	**Zeya**	**34.79**	**34**	*e* P	**P**	**20 22 41.8 +1.3**
ZEA				*e* S	**S**	**20 28 08.5 -1.5**
ZEA				*e*		20 30 45.2
ZEA				pmax	pmax	
	comp=N,100nm,1.2s					
ZEA				pmax	pmax	
	comp=E,90nm,1.1s					
ZEA				pmax	pmax	
	comp=Z,220nm,1.1s					
ZEA				pmax	pmax	
	comp=E,800nm,2.9s					
ZEA				pmax	pmax	
	comp=N,800nm,3.8s					
ZEA				pmax	pmax	
	comp=Z,2μm,4.2s					
ZEA				smax	smax	
	comp=N,1μm,17.0s					
ZEA				smax	smax	
	comp=E,2μm,10.3s					
ZEA				MLR	MLR	
	comp=N,18μm,9.0s					
ZEA				MLR	MLR	
	comp=E,13μm,9.0s					
ZEA				MLR	MLR	
	comp=Z,24μm,9.0s					
ALNE	**Al Ain**	**34.94**	**272**	P	P	20 22 47.0 +4.9
ALNE				P	P	20 22 47.0 +4.9
ALNE				S	**S**	**20 28 10.7 -2.3**
ALNE				S	**S**	**20 28 10.7 -2.3**
KLR	**Kul'dur**	**35.17**	**44**	LR	LR	20 38 36.6
	comp=Z,70μm,18.3s,baz=256,slow=39					
KLR	**Kul'dur**	**35.17**	**44***c i*	P	**P**	**20 22 44.0 +0.2**
KLR				pmax	pmax	
	comp=Z,158nm,1.1s					
KLR				MLR	MLR	
	comp=Z,96μm,16.0s					
AKTO	**Aktyubinsk**	**35.22**	**319**	LR	LR	20 37 59.4
	comp=Z,12μm,19.1s,baz=126,slow=38					
UMZA	**Um Al Zommool**	**35.84**	**270**	P	**P**	**20 22 49.7 -0.2**
UMZA				P	**P**	**20 22 49.7 -0.2**
UMZA				S	**S**	**20 28 24.1 -2.7**
UMZA				S	**S**	**20 28 24.1 -2.7**
SMKI	**Samarinda**	**36.02**	**139**	P	P	20 22 58.1 +6.7
	comp=Z,14μmcomp=Z,8μmcomp=Z,140nm,0.9s					
DAV	**Davao City (W)**	**36.23**	**120**	LR	LR	20 39 46.5
	comp=Z,16μm,18.1s,baz=297,slow=40					
DAV	**Davao City (W)**	**36.23**	**120**	P	**P**	**20 22 55.9 +2.7**
DAV				S	**S**	**20 28 36.3 +3.5**
DAV	**Davao City (W)**	**36.23**	**120**	P	**P**	**20 22 55.0 +1.8**
CGJI	**Cibinong**	**36.48**	**161**	P	P	20 23 03.9 +8.6
BKB	**Balikpapan**	**36.51**	**140**	P	**P**	**20 22 55.0 -0.5**
BKB	**Balikpapan**	**36.51**	**140**	P	**P**	**20 22 56.2 +0.7**
	comp=Z,233nm,1.1s					
BKB	**Balikpapan**	**36.51**	**140**	P	**P**	**20 22 57.0 +1.5**
	comp=Z,12μmcomp=Z,6μmcomp=Z,235nm,1.2s					
INU	**Inuyama**	**36.52**	**68**	P	**P**	**20 22 54.0 -1.5**
INU	**Inuyama**	**36.52**	**68**	P	**P**	**20 22 57.0 +1.5**
	comp=Z,46nm,1.2s					
INU	**Inuyama**	**36.52**	**68**	⇑P	**P**	**20 22 54.7 -0.8**
MZWR	**Madinat Zayed**	**36.67**	**272**	P	**P**	**20 23 00.5 +3.6**
MZWR				S	**S**	**20 28 37.2 -2.2**
JGF	**Kuroka**	**36.79**	**68**	P	**P**	**20 22 58.9 +1.0**
	comp=Z,46nm,1.0s					
JGF	**Kuroka**	**36.79**	**68**	⇑P	**P**	**20 22 56.8 -1.1**
TOLI2	**Tolitoli**	**36.99**	**133**	P	**P**	**20 22 59.8 +0.1**
TOLI2				IAmb	IAmb	20 23 07.4
	comp=Z,220nm,1.1s					
TOLI2	**Tolitoli**	**36.99**	**133**	P	**P**	**20 23 00.2 +0.5**
	comp=Z,226nm,1.2s					
MPSI	**Mapaga**	**37.02**	**135**	P	**P**	**20 23 00.9 +1.0**
	comp=Z,6μmcomp=Z,3μmcomp=Z,74nm,1.1s					
SVE	**Sverdlovsk**	**37.09**	**329***d i*	P	**P**	**20 23 01.5 +1.4**
SVE				*e* S	**S**	**20 28 46.4 +1.3**
SVE				pmax	pmax	
	comp=Z,511nm,1.1s					
SVE				MLR	MLR	
	comp=Z,40μm,17.0s					
TEY	**Ternei**	**37.11**	**52**⇑	*e* P	**P**	**20 23 00.7 +0.3**
TEY				*e*		20 24 29.4
TEY				pmax	pmax	
	comp=E,30nm,1.3s					
TEY				pmax	pmax	
	comp=N,30nm,1.1s					
TEY				pmax	pmax	
	comp=Z,60nm,1.1s					
TEY				MLR	MLR	
	comp=E,2μm,12.0s					
TEY				MLR	MLR	
	comp=Z,2μm,11.0s					
MZR	**Muzera**	**37.24**	**271**	P	**P**	**20 23 02.4 +0.6**
MZR				P	**P**	**20 23 02.4 +0.6**
MZR				S	**S**	**20 28 44.3 -3.8**
MZR				S	**S**	**20 28 44.3 -3.8**
MZR	**Muzera**	**37.24**	**271**	P	**P**	**20 23 01.8 0.0**
LEM	**Lembang**	**37.27**	**158**	LR	LR	20 40 03.2
	comp=Z,11μm,20.9s,baz=326,slow=39					
MJB9	**Matsu-Tunnel**	**37.46**	**66**	P	**P**	**20 23 03.1 -0.5**
MAJO	**Matsushiro**	**37.47**	**66**	P	**P**	**20 23 02.5 -1.1**
MAJO	**Matsushiro**	**37.47**	**66**	P	**P**	**20 23 05.0 +1.4**
	comp=Z,47nm,1.0s					
MAJO	**Matsushiro**	**37.47**	**66**	P	**P**	**20 23 03.0 -0.6**
MAJO	**Matsushiro**	**37.47**	**66**	⇑P	**P**	**20 23 02.7 -0.9**
MJAR	**Matsushiro Arr**	**37.47**	**66**	P	**P**	**20 23 03.1 -0.5**
	comp=Z,33nm,1.1s,baz=274,slow=8.7,SNR=62					
MJAR				PcP	**PcP**	**20 25 21.6 -0.3**
	comp=Z,29nm,1.1s,baz=262,slow=3.0,SNR=4.7					
MJAR				ScP	**ScP**	**20 29 05.6 -2.6**
	comp=Z,14nm,1.1s,baz=284,slow=3.9,SNR=7.6					
MJAR				LR	LR	20 38 32.9
	comp=Z,6μm,19.8s,baz=264,slow=36					
	comp=Z,33nm,1.1s					
JSG	**Sagara**	**37.50**	**69**	IAmb	IAmb	20 23 07.2
	comp=Z,300nm,1.1s					
JSG	**Sagara**	**37.50**	**69**	P	**P**	**20 23 05.3 +1.4**
	comp=Z,345nm,1.4s					
JSD	**Sado**	**37.52**	**64**	P	**P**	**20 23 05.4 +1.4**
	comp=Z,40nm,1.2s					
JSD	**Sado**	**37.52**	**64**	⇑P	**P**	**20 23 02.4 -1.6**
DMTO	**DMTO**	**37.78**	**262**	P	P	20 23 11.2 +4.7
DMTO				P	P	20 23 11.2 +4.7
DMTO				S	**S**	**20 28 54.1 -2.4**
DMTO				S	**S**	**20 28 54.1 -2.4**
ARTI	**Arti**	**37.88**	**328**		**P**	**20 23 07.5 +0.8**
ARTI				IAmb	IAmb	20 23 13.3
	comp=Z,183nm,0.5s					
ARTI				IAMs_20	IAMs_20	20 40 12.1
	comp=Z,51μm,20.0s					
ARTI	**Arti**	**37.88**	**328**	LR	LR	20 40 33.4
	comp=Z,49μm,18.8s,baz=120,slow=39					
ARTI	**Arti**	**37.88**	**328***c i*	P	**P**	**20 23 07.6 +0.8**
ARTI						20 24 34.4
ARTI						20 25 23.1
ARTI				S	**S**	**20 29 01.0 +3.9**
ARTI				pmax	pmax	
	comp=Z,388nm,1.5s					
ARTI				MLR	MLR	
	comp=Z,44μm,18.0s					
ARTI	**Arti**	**37.88**	**328**	⇑P	**P**	**20 23 07.6 +0.8**
PCI	**Palu**	**37.95**	**136**	P	**P**	**20 23 09.5 +1.7**
	comp=Z,8μmcomp=Z,5μmcomp=Z,317nm,1.4s					
DOK	**Doka**	**38.15**	**264**	P	**P**	**20 23 10.2 +0.7**
	SNR=23					
DOK				P	**P**	**20 23 10.2 +0.7**
	SNR=23					
DOK				S	**S**	**20 28 58.2 -3.8**
DOK				S	**S**	**20 28 58.2 -3.8**
MRSI	**Marisa**	**38.23**	**132**	P	**P**	**20 23 12.1 +2.0**
	comp=Z,6μmcomp=Z,5μmcomp=Z,207nm,1.3s					
SMRI	**Semarang**	**38.48**	**154**	P	**P**	**20 23 12.2 -0.1**
SMRI				IAmb	IAmb	20 23 47.2
	comp=Z,214nm,1.0s					
SMRI	**Semarang**	**38.48**	**154**	P	**P**	**20 23 13.7 +1.4**
	comp=Z,205nm,0.8s					
SMRI	**Semarang**	**38.48**	**154**	P	P	20 23 17.3 +5.0
	comp=Z,3μmcomp=Z,205nm,0.9s					
SLWR	**Sila**	**38.51**	**274**	P	**P**	**20 23 13.3 +0.8**
SLWR				P	**P**	**20 23 13.3 +0.8**
SLWR				S	**S**	**20 29 04.3 -3.0**
SLWR				S	**S**	**20 29 04.3 -3.0**
RBK	**Rabkut**	**38.52**	**262**	P	**P**	**20 23 14.3 +1.6**
	SNR=26					
RBK				P	**P**	**20 23 14.3 +1.6**
	SNR=26					
RBK				S	**S**	**20 29 05.0 -2.7**
RBK				S	**S**	**20 29 05.0 -2.7**
GRNR	**Gornyy**	**38.54**	**43**⇑	*i* P	**P**	**20 23 12.5 +0.1**
GRNR				pmax	pmax	
	comp=E,40nm,1.1s					
GRNR				pmax	pmax	
	comp=N,20nm,1.2s					
GRNR				pmax	pmax	
	comp=Z,80nm,1.1s					
GRNR				MLR	MLR	
	comp=E,41μm,15.0s					
GRNR				MLR	MLR	
	comp=N,25μm,11.0s					
GRNR				MLR	MLR	
	comp=Z,64μm,15.0s					
SHMA	**Al-Shehemyia**	**38.69**	**277**	P	**P**	**20 23 14.4 +0.4**
SHMA				S	**S**	**20 29 07.9 -2.1**
WHFO	**Wadi Hawf**	**38.73**	**263**	P	**P**	**20 23 15.0 +0.5**
	SNR=38					
WHFO				P	**P**	**20 23 15.0 +0.5**
	SNR=38					
WHFO				S	**S**	**20 29 06.8 -4.2**
WHFO				S	**S**	**20 29 06.8 -4.2**
TRNA	**Turayna**	**38.75**	**275**	P	**P**	**20 23 15.6 +1.0**
TRNA				S	**S**	**20 29 09.3 -1.7**
JHJ	**Hachijo jima 2**	**38.94**	**72**	LR	LR	20 40 53.0
	comp=Z,14μm,19.1s,baz=284,slow=39					
SAKB	**Bahrain**	**39.03**	**277**	P	**P**	**20 23 17.4 +0.5**
SAKB				S	**S**	**20 29 13.6 -1.6**
APSI	**Ampana**	**39.09**	**134**	P	**P**	**20 23 19.3 +1.9**
	comp=Z,4μmcomp=Z,356nm,1.1s					
SMRA	**Abu-Samra**	**39.09**	**275**	P	**P**	**20 23 17.8 +0.5**
SMRA				S	**S**	**20 29 13.3 -2.8**
ABTO	**Aybut**	**39.37**	**263**	P	**P**	**20 23 20.1 +0.2**
	SNR=27					
ABTO				P	**P**	**20 23 20.1 +0.2**
	SNR=27					
ABTO				S	**S**	**20 29 16.2 -4.4**
ABTO				S	**S**	**20 29 16.2 -4.4**
KMSI	**Cibinong**	**39.52**	**129**	P	**P**	**20 23 22.2 +1.2**
JMM	**Marumori**	**39.52**	**64**	P	**P**	**20 23 22.1 +1.3**
	comp=Z,171nm,1.1s					
JMM	**Marumori**	**39.52**	**64**	⇑P	**P**	**20 23 19.6 -1.3**
JTM	**Tenmabayashi**	**39.81**	**59**	P	**P**	**20 23 23.9 +0.7**
	comp=Z,156nm,1.0s					
JTM	**Tenmabayashi**	**39.81**	**59**	⇑P	**P**	**20 23 21.5 -1.7**
LUWI	**Luwuk**	**39.91**	**132**	P	**P**	**20 23 23.8 -0.5**
LUWI	**Luwuk**	**39.91**	**132**	P	**P**	**20 23 22.8 -1.5**
LUWI	**Luwuk**	**39.91**	**132**	P	**P**	**20 23 25.5 +1.3**
	comp=Z,631nm,1.2s					
LUWI	**Luwuk**	**39.91**	**132**	P	**P**	**20 23 24.7 +0.5**
	comp=Z,6μmcomp=Z,624nm,1.2s					
LUWI	**Luwuk**	**39.91**	**132**	⇓P	**P**	**20 23 24.5 +0.3**
KMMI	**Kalianget**	**39.97**	**149**	P	**P**	**20 23 27.4 +2.8**
	comp=Z,8μmcomp=Z,274nm,1.0s					
AKT	**Akhty**	**40.03**	**302***c i*	P	**P**	**20 23 25.7 +0.5**
AKT				*e*		20 25 00.9
AKT				*e*		20 25 30.7
AKT				*e* S	**S**	**20 29 30.3 +0.1**
AKT				pmax	pmax	
	comp=Z,188nm,1.3s					
MAK	**Makhachkala**	**40.31**	**304**	*e* P	**P**	**20 23 25.9 -1.4**
MAK				*e*		20 24 56.9
MAK				*e* S	**S**	**20 29 33.0 -1.1**
MAK				*e* SS	**SS**	**20 32 30.2 -2.5**
MAK				pmax	pmax	
	comp=Z,111nm,1.1s					
MAK				MLR	MLR	
	comp=Z,24μm,16.0s					
SPSI	**Sidrap Palu**	**40.35**	**139**	P	**P**	**20 23 28.7 +0.8**
	comp=Z,7μmcomp=Z,530nm,2.0s					
YAK	**Yakutsk**	**40.78**	**25**		**P**	**20 23 30.3 -0.5**
YAK				IAmb	IAmb	20 23 32.6
	comp=Z,464nm,1.2s					
YAK	**Yakutsk**	**40.78**	**25**	LR	LR	20 41 37.2
	comp=Z,54μm,18.4s,baz=227,slow=38					
YAK	**Yakutsk**	**40.78**	**25**	*e* P	**P**	**20 23 30.8 -0.1**
YAK				*e** PP	**sP**	**20 23 45.2 +4.9**
YAK				*e*		20 25 31.7
YAK				*e* S	**S**	**20 29 43.6 +3.2**
YAK				*e* SSS	SSS	20 33 07.9
YAK				*e*		20 33 37.0
YAK				pmax	pmax	
	comp=Z,198nm,1.1s					
YAK				pmax	pmax	
	comp=N,90nm,1.0s					
YAK				pmax	pmax	
	comp=E,98nm,1.0s					
YAK				smax	smax	
	comp=N,1μm,4.5s					
YAK				smax	smax	
	comp=E,962nm,5.4s					
YAK				MLR	MLR	
	comp=Z,4μm,8.0s					
YAK				MLR	MLR	
	comp=N,9μm,10.0s					
YAK				MLR	MLR	
	comp=E,9μm,9.0s					
YAK	**Yakutsk**	**40.78**	**25**	⇑P	**P**	**20 23 31.2 +0.3**
GMJI	**Gumukmas**	**40.82**	**151**	P	**P**	**20 23 35.3 +3.6**
	comp=E,5μmcomp=E,92nm,1.1s					
KBD	**Kabd**	**40.82**	**283**	P	**P**	**20 23 32.5 +0.8**
KBD				S	**S**	**20 29 39.0 -3.0**
BNSI	**Bone**	**40.90**	**139**	P	**P**	**20 23 33.2 +0.8**
	comp=E,7μmcomp=E,4μmcomp=E,133nm,1.2s					
NRIK	**Noril'sk**	**41.13**	**356**	P	**P**	**20 23 34.1 +0.4**
NRIK				IAmb	IAmb	20 23 35.2
	comp=Z,213nm,1.1s					
NRIK	**Noril'sk**	**41.13**	**356**	P	**P**	**20 23 34.1 +0.4**
	comp=Z,141nm,1.1s,baz=163,slow=6.3,SNR=187					
NRIK				ScP	**ScP**	**20 29 21.6 -0.1**
	comp=Z,49nm,1.3s,baz=156,slow=4.8,SNR=4.2					
NRIK				LR	LR	20 43 00.9
	comp=Z,11μm,18.1s,baz=180,slow=40					
	comp=Z,141nm,1.1s					
KAPI	**Kappang**	**41.20**	**140**		**P**	**20 23 34.6 -0.3**
KAPI	**Kappang**	**41.20**	**140**	LR	LR	20 42 12.3
	comp=Z,12μm,20.8s,baz=310,slow=38					
KAPI	**Kappang**	**41.20**	**140**	P	**P**	**20 23 35.4 +0.6**
KAPI				P	**P**	**20 23 35.4 +0.6**
KAPI				S	**S**	**20 29 47.1 -0.5**
KAPI				S	**S**	**20 29 47.1 -0.5**
KAPI	**Kappang**	**41.20**	**140**	P	**P**	**20 23 35.6 +0.8**
	comp=Z,57nm,1.7s					
KAPI	**Kappang**	**41.20**	**140***d i*	P	**P**	**20 23 35.0 +0.2**
KAPI				pmax	pmax	
	comp=Z,180nm,2.7s					
KAPI				MLR	MLR	
	comp=Z,11μm,19.0s					
ASAJ	**Asahikawa**	**41.20**	**54**	LR	LR	20 41 51.4
	comp=Z,22μm,19.0s,baz=274,slow=38					
JKA	**Kamikawa-asahi**	**41.20**	**54**	IAmb	IAmb	20 23 44.0
	comp=Z,443nm,1.1s					
JKA				IAMs_20	IAMs_20	20 41 40.1
	comp=Z,24μm,19.0s					
JKA	**Kamikawa-asahi**	**41.20**	**54**	⇑P	**P**	**20 23 34.7 +0.1**
JAGI	**Jajag, Banyuwa**	**41.31**	**150**		**P**	**20 23 35.0 -0.7**
JAGI				IAmb	IAmb	20 23 45.8
	comp=Z,269nm,1.2s					
JAGI	**Jajag, Banyuwa**	**41.31**	**150**	P	**P**	**20 23 37.1 +1.3**
	comp=Z,185nm,1.0s					
JAGI	**Jajag, Banyuwa**	**41.31**	**150**	P	**P**	**20 23 36.2 +0.4**
	comp=Z,7μmcomp=Z,4μmcomp=Z,183nm,1.0s					
JAGI	**Jajag, Banyuwa**	**41.31**	**150**	⇓P	**P**	**20 23 35.3 -0.5**
ERM	**Erimo**	**41.44**	**58**		**P**	**20 23 36.6 0.0**
ERM				IAmb	IAmb	20 23 43.0
	comp=Z,329nm,1.0s					
ERM	**Erimo**	**41.44**	**58**	P	**P**	**20 23 37.5 +0.9**
	comp=Z,468nm,1.1s					
ERM	**Erimo**	**41.44**	**58***c i*	P	**P**	**20 23 37.2 +0.6**
ERM				pmax	pmax	
	comp=Z,417nm,1.1s					
ERM				MLR	MLR	
	comp=Z,25μm,15.0s					
ERM	**Erimo**	**41.44**	**58**	⇑P	**P**	**20 23 35.8 -0.8**
JEM	**Erimo**	**41.44**	**58**	P	**P**	**20 23 37.6 +1.0**
	comp=Z,215nm,1.1s					
SRBI	**Singaraja**	**41.45**	**148**	P	**P**	**20 23 38.5 +1.6**
	comp=Z,11μmcomp=Z,8μmcomp=Z,264nm,2.2s					
UGL	**Uglegorsk**	**41.60**	**47**⇑	*i* P	**P**	**20 23 37.1 -0.7**
UGL				*e*		20 25 10.7
UGL				*e* S	**S**	**20 29 50.3 -2.7**
UGL				pmax	pmax	
	comp=Z,200nm,0.9s					
UGL				pmax	pmax	
	comp=Z,4μm,5.1s					
UGL				smax	smax	
	comp=E,3μm,10.0s					
UGL				smax	smax	
	comp=N,6μm,14.0s					
UGL				MLR	MLR	
	comp=E,63μm,13.0s					
UGL				MLR	MLR	
	comp=N,50μm,12.0s					
UGL				MLR	MLR	
	comp=E,65μm,13.0s					
BKSI	**Bulukumba**	**41.66**	**140**	P	**P**	**20 23 39.0 +0.4**
	comp=Z,7μmcomp=Z,3μmcomp=Z,186nm,1.4s					
YSS	**Yuzhno-Sakhali**	**41.67**	**50**		**P**	**20 23 38.3 -0.1**
YSS				IAmb	IAmb	20 23 58.0
	comp=Z,403nm,1.2s					
YSS				IAMs_20	IAMs_20	20 42 38.8
	comp=Z,23μm,20.0s					
YSS	**Yuzhno-Sakhali**	**41.67**	**50**	P	**P**	**20 23 40.0 +1.6**
	comp=Z,324nm,1.1s					
YSS	**Yuzhno-Sakhali**	**41.67**	**50**α *i*	P	P	20 23 29.1 -9.3
YSS				*e*		20 25 14.5
YSS				*i* S	**S**	**20 29 54.0 -0.1**
YSS				*e* SS	**SS**	**20 32 56.3 -3.2**
YSS				*e* SSS	SSS	20 33 40.0
YSS				pmax	pmax	
	comp=Z,230nm,1.1s					
YSS				pmax	pmax	
	comp=Z,4μm,3.5s					
YSS				pmax	pmax	
	comp=N,600nm,2.6s					
YSS				pmax	pmax	
	comp=E,2μm,3.4s					
YSS				pmax	pmax	
	comp=N,500nm,5.5s					
YSS				pmax	pmax	
	comp=E,900nm,6.6s					
YSS				smax	smax	
	comp=N,8μm,9.2s					
YSS				smax	smax	
	comp=E,3μm,9.5s					
YSS				MLR	MLR	
	comp=N,11μm,14.0s					
YSS				MLR	MLR	
	comp=E,33μm,14.0s					
YSS				MLR	MLR	
	comp=Z,24μm,14.0s					
YSS	**Yuzhno-Sakhali**	**41.67**	**50**	⇑P	**P**	**20 23 39.0 +0.6**
TNTI	**Ternate**	**41.74**	**125**		**P**	**20 23 38.4 -1.0**
TNTI				IAmb	IAmb	20 23 48.1
	comp=Z,320nm,1.2s					
TNTI	**Ternate**	**41.74**	**125**	P	**P**	**20 23 39.8 +0.4**
	comp=Z,231nm,1.7s					
TNTI	**Ternate**	**41.74**	**125**	P	**P**	**20 23 39.5 +0.1**
	comp=Z,3μmcomp=Z,233nm,1.6s					
TNTI	**Ternate**	**41.74**	**125**	⇓P	**P**	**20 23 39.3 -0.1**
NKL	**Nikolayevsk**	**41.79**	**41**	*e* P	**P**	**20 23 39.3 0.0**
NKL				*e* S	**S**	**20 29 55.4 -0.3**
NKL				pmax	pmax	
	comp=N,221nm,1.0s					
NKL				p

NKL MLR MLR
comp=E,73μm,10.0s
JCJ Chichijima 41.98 80 LR LR 20 42 14.3
comp=E,5μm,18.4s,baz=284,slow=38
BELG Belogornoye 42.00 318 LR LR 20 43 12.1
comp=E,24μm,20.8s,baz=97,slow=39
BELG Belogornoye 42.00 318*c i*P **P 20 23 41.2 +0.2**
BELG pmax pmax
comp=Z,58nm,1.1s
GNI Garni 42.25 299 **P 20 23 44.6 +1.1**
GNI Garni 42.25 299 LR LR 20 43 48.7
comp=Z,8μm,20.0s,baz=103,slow=40
GNI Garni 42.25 299 P **P 20 23 45.1 +1.6**
GNI S **S 20 30 06.0 +2.7**
GNI Garni 42.25 299*c i*P **P 20 23 45.2 +1.6**
GNI pmax pmax
comp=Z,414nm,1.5s
GNI MLR MLR
comp=Z,6μm,16.0s
GNI Garni 42.25 299 P **P 20 23 44.9 +1.3**
GNI Garni 42.25 299 ⇑P **P 20 23 45.2 +1.6**
TYV Tymovskoe 42.36 44 *e*P **P 20 23 45.1 +1.1**
TYV *e*S **S 20 30 06.3 +2.1**
TYV pmax pmax
comp=Z,66nm,1.4s
TYV pmax pmax
comp=Z,3μm,6.9s
TYV smax smax
comp=N,6μm,10.9s
TYV smax smax
comp=E,3μm,10.9s
TYV MLR MLR
comp=E,94μm,12.0s
TYV MLR MLR
comp=Z,139μm,13.0s
BSSI Bau Bau, Buton 42.53 140 P P 20 23 55.0 +9.2
SANI Sanana 42.79 130 P **P 20 23 45.6 -2.3**
SANI Sanana 42.79 130 P **P 20 23 49.5 +1.6**
comp=Z,108nm,1.3s
SANI Sanana 42.79 130 P **P 20 23 51.2 +3.3**
comp=Z,3μmcomp=Z,108nm,1.3s
KIRV Kirov 43.18 327 LR LR 20 43 39.4
comp=Z,30μm,18.7s,baz=114,slow=39
KIRV Kirov 43.18 327*c i*P **P 20 23 51.5 +0.9**
NCK Nalchik 43.20 304⇑*i*P **P 20 23 51.0 0.0**
BBSI Bau Bau 43.23 137 P **P 20 23 55.1 +3.7**
comp=Z,7μmcomp=Z,6μmcomp=Z,217nm,1.2s
PLAI Plampang 43.33 145 P **P 20 23 52.1 -0.2**
comp=Z,131nm,0.9s
PLAI Plampang 43.33 145 P **P 20 23 54.1 +1.8**
comp=Z,7μmcomp=Z,3μmcomp=Z,130nm,0.9s
KARS Kars 43.52 300 ⇑P **P 20 23 55.7 +1.9**
YUK Yuzh-Kuril'sk 43.53 55⇓*i*P **P 20 23 51.0 -2.6**
YUK *i* 20 25 35.3
YUK *i*S **S 20 30 21.4 -0.2**
YUK *i*SS **ScS 20 33 48.4 -4.0**
YUK *e*SSS SSS 20 34 20.8
YUK pmax pmax
comp=N,274nm,1.1s
YUK pmax pmax
comp=Z,574nm,1.1s
YUK pmax pmax
comp=E,156nm,0.9s
YUK pmax pmax
comp=Z,1μm,2.7s
GOF Gofitskoye 43.70 307*c i*P **P 20 23 55.3 +0.3**
KBZ Khabaz 43.72 305 P **P 20 23 55.1 0.0**
comp=Z,11nm,0.9s,baz=105,slow=5.1,SNR=19
KBZ LR LR 20 45 12.9
comp=Z,12μm,21.0s,baz=90,slow=40
comp=Z,11nm,0.9s
KBZ Khabaz 43.72 305*c i*P **P 20 23 55.1 0.0**
KBZ pmax pmax
comp=Z,28nm,1.4s
KBZ MLR MLR
comp=Z,13μm,16.0s
KIV Kislovodsk 43.89 305 P **P 20 23 56.0 -0.6**
KIV IAmb IAmb 20 24 06.9
comp=Z,335nm,1.7s
KIV Kislovodsk 43.89 305 P **P 20 23 57.2 +0.5**
KIV S **S 20 30 25.7 -1.3**
KIV Kislovodsk 43.89 305 ⇑P **P 20 23 57.3 +0.7**
KIV Kislovodsk 43.89 305 *e*P **P 20 23 54.7 -1.9**
KIV *e* 20 25 34.7
KIV *e*S **S 20 30 26.8 -0.2**
KIV *e*SS **SS 20 33 44.0 +0.7**
KIV pmax pmax
comp=Z,73nm,1.1s
KIV MLR MLR
comp=Z,7μm,16.0s
KIV Kislovodsk 43.89 305 *i* P **P 20 23 56.7 +0.1**
SNR=29
KIV Kislovodsk 43.89 305 ⇑P **P 20 23 57.0 +0.4**
SHA1 Shidzhatmaz 43.90 305*c i*P **P 20 23 57.3 +0.4**
RAYN Ar Rayn 44.10 275 P **P 20 23 58.5 +0.1**
RAYN Ar Rayn 44.10 275 P **P 20 23 58.4 -0.1**
RAYN S **S 20 30 28.0 -2.5**
RAYN Ar Rayn 44.10 275 P **P 20 23 58.6 +0.1**
RAYN pmax pmax
comp=Z,45nm,0.8s
RAYN MLR MLR
comp=Z,9μm,20.0s
RAYN Ar Rayn 44.10 275 *i* P **P 20 23 58.6 +0.1**
SNR=52
RAYN Ar Rayn 44.10 275 ⇑P **P 20 23 58.9 +0.3**
GURO Guroymak-BITLI 44.40 297 IAmb IAmb 20 24 04.6
comp=Z,219nm,1.2s
GURO Guroymak-BITLI 44.40 297 ⇑P **P 20 24 02.5 +1.6**
NLAI Namlea 44.41 130 P **P 20 24 03.0 +2.0**
comp=Z,6μmcomp=Z,4μmcomp=Z,270nm,1.2s
WBSI Waikabubak, Su 44.85 144 P **P 20 24 02.9 -1.6**
comp=Z,5μmcomp=Z,4μmcomp=Z,417nm,1.1s
KUR Kuril'sk 45.03 53*c i*P **P 20 24 05.3 -0.3**
KUR pmax pmax
comp=Z,392nm,1.0s
KUR MLR MLR
comp=Z,11μm,14.0s
VRH Novokhopyorsk 45.31 315 *e*P **P 20 24 07.3 -0.4**
VRH *e* 20 25 52.4
VRH *e*S **S 20 30 40.0 -7.3**
VRH *e* 20 34 01.0
VRH pmax pmax
comp=Z,220nm,1.2s
VRH smax smax
comp=E,4μm,13.1s
VRH MLR MLR
comp=Z,16μm,14.0s
LABN Labinsk 45.32 306 *e*P **P 20 24 08.5 +0.5**
LABN *e* 20 25 57.2
LABN *e*PPP PPP 20 26 33.5
LABN *e*S **S 20 30 49.5 +1.8**
LABN pmax pmax
comp=Z,62nm,0.8s
EDFI Ende, Flores 45.34 141 P **P 20 24 06.7 -1.8**
comp=Z,6μmcomp=Z,3μmcomp=Z,116nm,1.0s
WSI Waingapu 45.35 143 P **P 20 24 09.0 +0.6**
AAI Ambon 45.48 129 P **P 20 24 14.0 +4.5**
comp=Z,5μmcomp=Z,361nm,1.3s
ERBR Yeremizino-Bor 45.54 307 *e*P **P 20 24 08.5 -1.2**
ERBR *e* 20 25 56.1
ERBR *e*S **S 20 30 50.0 -0.8**
ERBR *e*SS **ScS 20 34 04.1 -1.0**
ERBR *e*SSS SSS 20 35 01.1
ERBR pmax pmax
comp=Z,60nm,0.9s
MMRI Maumere 45.56 140 P **P 20 24 09.8 -0.3**
comp=Z,441nm,1.0s
MMRI Maumere 45.56 140 P **P 20 24 09.2 -0.9**
comp=Z,6μmcomp=Z,5μmcomp=Z,437nm,1.0s
MMRI Maumere 45.56 140 ⇓P **P 20 24 09.0 -1.1**
SWI Sorong 45.69 123 P **P 20 24 11.3 +0.1**
comp=Z,4μmcomp=Z,204nm,1.2s
MSAI Masohi 45.74 128 P P 20 24 16.6 +5.0
comp=Z,6μmcomp=Z,6μmcomp=Z,301nm,1.1s
VSLR Vesyoloye 45.80 304*c i*P **P 20 24 12.0 +0.3**
VSLR pmax pmax
comp=Z,185nm,1.2s
SOC Sochi 46.03 304 *e*P **P 20 24 11.4 -2.1**
SOC *e* 20 26 00.7
SOC *e*PPP PPP 20 26 40.4
SOC *e*S **S 20 30 55.3 -2.5**
SOC *e*SSS SSS 20 35 16.6
SOC pmax pmax
comp=Z,90nm,1.3s
VORD Divnogorie 46.79 315 *e*P **P 20 24 18.7 -0.7**
VORD *e* 20 26 08.6
VORD *e*S S 20 30 59.0 -10
VORD *e* 20 34 06.7
VORD pmax pmax
comp=Z,240nm,1.2s
VORD smax smax
comp=E,1μm,9.8s
VORD MLR MLR
comp=Z,5μm,12.0s
VSR Storozhevoye 46.90 315 *e*P **P 20 24 19.1 -1.2**
VSR *e* 20 26 05.7
VSR *e*S **S 20 31 02.9 -7.3**
VSR *e* 20 34 10.5
VSR pmax pmax
comp=Z,140nm,1.2s
VSR smax smax
comp=N,3μm,12.2s
VSR MLR MLR
comp=Z,20μm,14.0s
VORR Voronezh 46.94 316 *e*P **P 20 24 20.2 -0.3**
VORR *e* 20 26 09.5
VORR *e*S **S 20 31 05.7 -4.9**
VORR *e* 20 34 08.6
VORR pmax pmax
comp=Z,270nm,1.1s
VORR smax smax
comp=E,11μm,16.9s
VORR MLR MLR
comp=Z,5μm,10.0s
TIXI Tiksi 47.18 14 P **P 20 24 21.4 -0.7**
TIXI Tiksi 47.18 14 LR LR 20 45 30.2
comp=Z,31μm,19.4s,baz=246,slow=38
TIXI Tiksi 47.18 14⇑*i*P **P 20 24 22.0 -0.1**
TIXI pmax pmax
comp=Z,291nm,1.5s
TIXI MLR MLR
comp=Z,45μm,12.0s
TIXI Tiksi 47.18 14 ⇑P **P 20 24 21.8 -0.3**
LPSR Galich'ya Gora 47.24 317 *e*P **P 20 24 22.7 -0.1**
LPSR *e* 20 26 07.6
LPSR *e*S **S 20 31 07.6 -7.2**
LPSR *e* 20 34 13.3
LPSR pmax pmax
comp=Z,310nm,1.0s
LPSR smax smax
comp=N,3μm,11.9s
LPSR MLR MLR
comp=Z,17μm,19.0s
SOEI Soe 47.63 139 P **P 20 24 23.4 -3.1**
SOEI Soe 47.63 139 P **P 20 24 27.0 +0.5**
comp=Z,1μm,1.1s
SOEI Soe 47.63 139 P **P 20 24 25.6 -0.9**
SOEI Soe 47.63 139 ⇓P **P 20 24 25.5 -0.9**
ANN Anapa 47.67 306 *e*P **P 20 24 22.8 -3.5**
ANN *e*S **S 20 31 19.9 -1.3**
ANN pmax pmax
comp=Z,136nm,1.4s
ANN MLR MLR
comp=N,7μm,15.0s
ANN MLR MLR
comp=E,16μm,17.0s
ANN MLR MLR
comp=Z,10μm,16.0s
FAKI Fak Fak 47.81 124 IAmb IAmb 20 24 36.6
comp=Z,179nm,0.9s
FAKI Fak Fak 47.81 124 P **P 20 24 29.0 +1.3**
comp=Z,225nm,1.3s
FAKI Fak Fak 47.81 124 P **P 20 24 29.7 +2.0**
comp=Z,4μmcomp=Z,4μmcomp=Z,225nm,1.3s
FAKI Fak Fak 47.81 124 ⇓P **P 20 24 27.5 -0.3**
GAZ Gaziantep 48.32 296 P **P 20 24 31.8 +0.2**
GAZ IAmb IAmb 20 24 33.9
comp=Z,144nm,1.0s
GAZ Gaziantep 48.32 296 ⇑P **P 20 24 31.9 +0.2**
MOS Moscow 48.49 321 *e*P **P 20 24 30.5 -2.0**
MOS *e* 20 25 55.9
MOS *e* 20 26 23.3
MOS *e*S **S 20 31 30.5 -2.0**
MOS *e*SS **ScS 20 34 24.4 +0.3**
MOS pmax pmax
comp=Z,729nm,1.4s
MOS pmax pmax
comp=Z,1μm,1.4s
MOS pmax pmax
comp=E,341nm,1.3s
MOS MLR MLR
comp=E,19μm,17.0s
MOS MLR MLR
comp=Z,23μm,17.0s
MOS MLR MLR
comp=N,10μm,18.0s
KLMR Klimovskoe 48.67 328*d i*P **P 20 24 30.4 -3.4**
KLMR *e* 20 26 25.3
KLMR S **S 20 31 31.1 -3.8**
KLMR *SS **pS 20 31 39.6 -3.2**
KLMR 20 34 22.4
KLMR pmax pmax
comp=Z,713nm,1.3s
KLMR MLR MLR
comp=Z,21μm,14.0s
GUMO Guam 48.93 97 LR LR 20 46 25.2
comp=Z,4μm,18.8s,baz=300,slow=38
MA2 Magadan 48.94 34 LR LR 20 47 26.0
comp=Z,25μm,21.3s,baz=254,slow=39
OBN Obninsk 48.98 320 P **P 20 24 36.1 -0.2**
OBN Obninsk 48.98 320 LR LR 20 47 09.4
comp=Z,11μm,20.8s,baz=42,slow=38
OBN Obninsk 48.98 320 ⇑P **P 20 24 36.7 +0.4**
OBN Obninsk 48.98 320*c i*P **P 20 24 36.5 +0.2**
OBN *e*PP **pP 20 24 40.3 -2.8**
OBN *e* 20 26 01.1
OBN *e* 20 26 30.2
OBN *e*PPP PPP 20 27 19.0
OBN *e*S **S 20 31 35.0 -4.5**
OBN *e*SS **SS 20 35 11.0 +0.9**
OBN pmax pmax
comp=Z,410nm,1.3s
OBN MLR MLR
comp=Z,15μm,13.0s
OBN Obninsk 48.98 320 ⇑P **P 20 24 36.5 +0.2**
BNN Bunyan 49.19 298 IAMs_20 IAMs_20 20 49 00.7
comp=Z,18μm,20.0s
BNN Bunyan 49.19 298 ⇑P **P 20 24 39.3 +0.9**
DIKM Dikmen 49.38 302 ⇑P **P 20 24 40.2 +0.6**
ASF Jabal al Asfar 49.38 289 LR LR 20 50 36.2
comp=Z,10μm,18.4s,baz=117,slow=42
FKH Fakeheh 49.40 292 *e*P **P 20 24 41.3 +1.3**
BEIL Beino 49.53 293 *e*P **P 20 24 42.0 +1.1**
BAKI Biak 49.55 119 P **P 20 24 43.1 +1.9**
comp=Z,4μmcomp=Z,4μmcomp=Z,132nm,1.1s
HWQ Hawqa 49.77 292 *e*P **P 20 24 43.9 +1.1**
ZAHL Zahle 49.90 292 *e*P **P 20 24 45.3 +1.5**
MSEY Mahe Island 49.95 235 P **P 20 24 43.4 -0.9**
MSEY Mahe Island 49.95 235 P **P 20 24 45.1 +0.8**
MSEY P **P 20 24 45.1 +0.8**
MSEY S **S 20 31 53.8 -0.3**
MSEY S **S 20 31 53.8 -0.3**
MSEY Mahe Island 49.95 235 P **P 20 24 43.4 -0.9**
MSEY pmax pmax
comp=Z,98nm,1.3s
MSEY Mahe Island 49.95 235 *i* P **P 20 24 45.1 +0.8**
SNR=16
RCY Rachaya 50.00 291 *e*P **P 20 24 45.7 +1.1**
SIM Simferopol' 50.03 306*c i*P **P 20 24 44.4 -0.1**
SIM *e* 20 26 40.0
SIM *e*S **S 20 31 52.6 -1.8**
SIM pmax pmax
comp=Z,1μm,5.2s
SIM pmax pmax
comp=Z,670nm,8.4s
SIM smax smax
comp=N,2μm,12.0s
BHL Bhannes 50.08 292 *e*P **P 20 24 45.8 +0.7**
SHBL Chebaa 50.11 291 *e*P **P 20 24 46.7 +1.2**
QRWL Qaraoun 50.12 291 *e*P **P 20 24 46.7 +1.2**
DQRL Deir Qamar 50.18 292 *e*P **P 20 24 47.3 +1.4**
BZK Bozkurt 50.29 302 ⇑P **P 20 24 47.2 +0.7**
BZK Bozkurt 50.29 302 ⇑P **P 20 24 46.9 +0.4**
MMAI Mount Meron Ar 50.45 291 P **P 20 24 49.1 +1.2**
comp=N,52nm,1.0s,baz=80,slow=11,SNR=41
MMAI LR LR 20 51 16.9
comp=N,14μm,19.1s,baz=78,slow=42
comp=N,52nm,1.0s
SEY Seymchan 50.53 30 LR LR 20 47 42.6
comp=N,25μm,18.9s,baz=251,slow=38
SEY Seymchan 50.53 30*c i*P **P 20 24 48.3 +0.3**
SEY pmax pmax
comp=Z,152nm,2.0s
SEY MLR MLR
comp=Z,37μm,13.0s
KIRS Kirsehir-Merke 50.65 299 ⇑P **P 20 24 49.8 +0.4**
GHAJ Ghor Haditha 50.67 289 IAmb IAmb 20 25 06.2
comp=Z,238nm,1.4s
BR131 Keskin Array S 50.80 300 P **P 20 24 50.8 +0.2**
SNR=47
BR131 S **S 20 32 05.2 -0.4**
BR131 Keskin Array S 50.80 300*c i*P **P 20 24 50.4 -0.1**
BRTR Keskin Array B 50.80 300 P **P 20 24 49.8 -0.8**
BRTR Keskin Array B 50.80 300 P **P 20 24 50.6 +0.1**
comp=Z,16nm,0.9s,baz=103,slow=5.3,SNR=97
BRTR LR LR 20 50 15.2
comp=Z,6μm,21.3s,baz=98,slow=41
comp=Z,16nm,0.9s
SKR Severo-Kuril's 50.80 46 *e*P **P 20 24 50.9 +0.7**
SKR *e* 20 26 48.9
SKR *e*S **S 20 32 05.4 +0.4**
SKR *e*SS **ScS 20 34 41.2 +1.3**
SKR pmax pmax
comp=Z,2μm,4.5s
SALP Salfit 50.82 290 ⇑P **P 20 24 52.0 +1.3**
ATD Arta Tunnel 51.00 262 P **P 20 24 52.4 +0.1**
ATD IAmb IAmb 20 25 18.1
comp=Z,120nm,1.0s
ATD Arta Tunnel 51.00 262 LR LR 20 44 52.8
comp=Z,528nm,21.8s,baz=78,slow=34
ATD Arta Tunnel 51.00 262 P **P 20 24 54.5 +2.2**
SNR=21
ATD S **S 20 32 11.4 +2.6**
ATD Arta Tunnel 51.00 262 ⇓P **P 20 24 54.0 +1.8**
CIDE Kastamonu/Cide 51.09 302 ⇑P **P 20 24 52.7 +0.2**
AMAZ Amatzia 51.17 289 ⇑P **P 20 24 54.6 +1.3**
ANTO Ankara 51.42 300 P **P 20 24 54.9 -0.3**
ANTO IAmb IAmb 20 24 57.8
comp=Z,404nm,1.4s
ANTO Ankara 51.42 300 P **P 20 24 55.6 +0.4**
ANTO P **P 20 24 55.6 +0.4**
ANTO Ankara 51.42 300 ⇑P **P 20 24 56.1 +0.9**
ANTO Ankara 51.42 300 P **P 20 24 56.0 +0.9**
ANTO Ankara 51.42 300 ⇑P **P 20 24 55.6 +0.4**
EIL Elat 51.57 287 LR LR 20 50 42.3
comp=Z,13μm,19.1s,baz=79,slow=40
EIL Elat 51.57 287 ⇑P **P 20 24 56.8 +0.4**
KZIT Kziot 51.74 288 ⇑P **P 20 24 58.5 +0.9**
CSS Mathiatis 51.77 294 ⇑P **P 20 24 57.6 -0.1**
PEA0B Petropavlovsk- 51.86 43*c i*P **P 20 24 58.0 -0.1**
PETK Petropavlovsk- 51.86 43 P **P 20 24 57.6 -0.5**
PETK Petropavlovsk- 51.86 43 P **P 20 24 58.0 -0.1**
comp=Z,27nm,0.9s,baz=221,slow=3.4,SNR=35
PETK LR LR 20 49 23.6
comp=Z,38μm,18.1s,baz=263,slow=39
comp=Z,27nm,0.9s
SMPI Sarmi 52.07 118 P **P 20 25 02.1 +2.0**
comp=Z,5μmcomp=Z,4μmcomp=Z,218nm,1.2s
PET Petropavlovsk 52.44 43 P **P 20 25 01.0 -1.4**
PET Petropavlovsk 52.44 43 P **P 20 25 03.3 +0.9**
comp=Z,288nm,2.4s
PET Petropavlovsk 52.44 43*c i*P **P 20 25 01.2 -1.2**
PET *e* 20 26 11.9
PET *e* 20 27 02.2
PET *e*S **S 20 32 24.4 -3.0**
PET pmax pmax
comp=Z,2μm,11.8s
PET pmax pmax
comp=Z,50nm,1.4s
PET pmax pmax
comp=Z,1μm,16.1s
PET MLR MLR
comp=Z,40μm,16.0s
PET MLR MLR
comp=Z,42μm,15.0s
MDUB Mudurnu 52.56 301 ⇑P **P 20 25 03.9 +0.3**
LVZ Lovozero 52.71 336 P **P 20 25 03.9 -0.4**
LVZ IAmb IAmb 20 25 05.9
comp=Z,159nm,1.1s
LVZ IAMs_20 IAMs_20 20 50 11.8
comp=Z,30μm,20.0s
LVZ Lovozero 52.71 336 P **P 20 25 04.7 +0.4**
LVZ Lovozero 52.71 336 ⇑P **P 20 25 04.6 +0.3**
PURM Purcari 52.91 309 ⇑P **P 20 25 06.1 +0.1**
JOF Joensuu 52.92 329 *e*P **P 20 25 07.4 +1.6**
PUL Pulkovo 52.94 325*c i*P **P 20 25 07.1 +1.1**
PUL pmax pmax
comp=Z,878nm,1.6s
PUL MLR MLR
comp=Z,37μm,16.0s
APA Apatity 53.08 335⇓*i*P **P 20 25 05.9 -1.0**
APA *i* 20 26 22.8
APA *i* 20 27 11.0
APA *i* PPP PPP 20 28 14.0
APA *i*S **S 20 32 35.0 -0.8**
APA *i* 20 34 52.0
APA *i*SS **SS 20 36 12.0 -2.7**
APA *i*SSS SSS 20 38 02.0
APA pmax pmax
comp=Z,38nm,1.0s
APA MLR MLR
comp=Z,30μm,14.0s
AKASG Malin Array Be 53.15 314 P **P 20 25 06.6 -1.1**
AKASG Malin Array Be 53.15 314 P **P 20 25 07.1 -0.6**
comp=Z,22nm,0.8s,baz=78,slow=6.5,SNR=137
AKASG LR LR 20 50 14.9
comp=Z,15μm,20.9s,baz=102,slow=39
comp=Z,22nm,0.8s
AKBB Malin Array Si 53.15 314*c i*P **P 20 25 06.9 -0.8**
AKBB pmax pmax
comp=Z,132nm,1.5s
AKBB MLR MLR
comp=Z,17μm,17.0s
KIEV Kiev 53.16 314 P **P 20 25 06.7 -1.1**
KIEV Kiev 53.16 314 IAMs_20 IAMs_20 20 50 03.6
comp=Z,16μm,21.0s
KIEV Kiev 53.16 314 ⇓P **P 20 25 07.0 -0.8**
KIEV Kiev 53.16 314 P **P 20 25 07.0 -0.8**
KIEV Kiev 53.16 314 *i* P **P 20 25 06.6 -1.2**
SNR=46
KIEV Kiev 53.16 314 ⇑P **P 20 25 07.1 -0.7**
BORA Eskisehir 53.21 300 IAmb IAmb 20 25 09.5
comp=Z,159nm,1.3s
ISP Isparta 53.48 298 IAmb IAmb 20 25 13.7
comp=Z,332nm,1.4s
ISP Isparta 53.48 298*c i*P **P 20 25 10.1 -0.4**
ISP pmax pmax
comp=Z,263nm,1.4s
ISP Isparta 53.48 298 *e*P **P 20 25 10.1 -0.4**
ISP Isparta 53.48 298 ⇑P **P 20 25 09.9 -0.6**
GENI Genyem 53.58 117 P **P 20 25 13.0 +1.7**
comp=Z,182nm,1.3s
GENI Genyem 53.58 117 P **P 20 25 13.0 +1.7**
comp=Z,4μmcomp=Z,5μmcomp=Z,186nm,1.3s
GENI Genyem 53.58 117 ⇓P **P 20 25 12.8 +1.5**
MILM Milestii Mici 53.61 309⇑*i*P **P 20 25 10.0 -1.1**
comp=Z,310nm,1.1s
MILM Milestii Mici 53.61 309 *e*PP PP 20 27 13.0 +1.3
MILM *i*S **S 20 32 39.0 -4.6**
MILM Milestii Mici 53.61 309 *i* PS **PKiKP 20 32 51.0 -2.8**
MILM LQM 20 40 48.0
comp=Z,6μm,21.0s
MILM *e*L L 20 42 12.0
MILM LRM MLR 20 51 57.0
comp=Z,4μm,13.0s
MILM Milestii Mici 53.61 309 ⇓P **P 20 25 10.6 -0.5**
MILM Milestii Mici 53.61 309*c i*P **P 20 25 10.0 -1.1**
MILM *e* 20 27 13.0
MILM *i*S **S 20 32 39.0 -4.6**
MILM *i*PS **PKiKP 20 32 51.0 -2.8**
MILM pmax pmax
comp=E,840nm,3.6s
MILM pmax pmax
comp=Z,2μm,3.6s
MILM MLR MLR
comp=Z,4μm,13.0s
DRS Darwin Rock St 53.75 134 P **P 20 25 13.1 +0.6**
comp=Z,93nm,1.1s
JURR Jurilovca 53.76 306 ⇑P **P 20 25 12.6 +0.4**
TLCR 53.76 307 ⇑P **P 20 25 11.9 -0.3**
TLCR 53.76 307 P **P 20 25 11.9 -0.3**
SORM Soroca 53.83 311 ⇑P **P 20 25 12.0 -0.7**
SORM Soroca 53.83 311 P **P 20 25 12.0 -0.7**
MNK Minsk 53.95 319 *i* P **P 20 25 13.5 0.0**

MNK *i* 20 27 14.8
MNK *i* PPP PPP 20 28 23.0
MNK *i* S **S** **20 32 50.1 +2.1**
MNK *i* SS **SS** **20 36 33.9 +5.0**
MNK *i* SSS SSS 20 38 19.8
MNK pmax pmax
comp=N,181nm,1.1s
MNK pmax pmax
comp=Z,196nm,1.0s
MNK pmax pmax
comp=E,90nm,1.2s
MNK MLR MLR
comp=E,8µm,16.0s
MNK MLR MLR
comp=Z,9µm,15.0s
MNK MLR MLR
comp=N,7µm,15.0s
JAY Jayapura 53.95 117 LR LR 20 47 30.6
comp=N,6µm,21.1s,baz=312,slow=35
JAY Jayapura 53.95 117 P **P** **20 25 18.5 +4.4**
EFOR EFORIE 54.00 306 ⇓P **P** **20 25 15.0 +1.0**
TPGR Topolog 54.07 307 ⇑P **P** **20 25 14.5 -0.1**
TIRR Tirgusor 54.12 306 ⇑P **P** **20 25 14.7 -0.3**
TIRR Tirgusor 54.12 306 P **P** **20 25 14.6 -0.3**
TIRR Tirgusor 54.12 306 ⇑P **P** **20 25 14.6 -0.3**
MFTR Murfatlar 54.14 306 ⇑P **P** **20 25 15.5 +0.4**
ELL Elmali 54.16 296 P **P** **20 25 15.3 -0.2**
ELL Elmali 54.16 296 P **P** **20 25 15.3 -0.2**
ELL Elmali 54.16 296 ⇑P **P** **20 25 15.6 0.0**
VLDR Vladesti 54.21 308 ⇓P **P** **20 25 15.8 +0.3**
MTN Manton Dam 54.21 134 IAmb IAmb 20 25 23.7
comp=Z,218nm,1.8s
MTN Manton Dam 54.21 134 P **P** **20 25 16.9 +1.0**
comp=Z,57nm,2.0s
MTN Manton Dam 54.21 134 ⇑P **P** **20 25 15.1 -0.8**
GIRL Giralia 54.23 157 IAMs_20 IAMs_20 20 51 35.8
comp=Z,22µm,18.0s
CFR Carcaliu 54.23 307 ⇑P **P** **20 25 15.4 -0.3**
CFR Carcaliu 54.23 307 P **P** **20 25 15.4 -0.3**
SCTR Scanteiesti 54.28 308 ⇑P **P** **20 25 16.2 +0.2**
VARL Varlezi 54.36 308 ⇓P **P** **20 25 17.2 +0.6**
TLBR Topalu 54.37 306 ⇓P **P** **20 25 17.0 +0.3**
PSN Preselentsi 54.41 305 P **P** **20 25 16.8 -0.3**
HARR Harsova 54.43 306 ⇓P **P** **20 25 17.7 +0.4**
HARR Harsova 54.43 306 P **P** **20 25 17.6 +0.4**
TUDR 54.52 308 ⇑P **P** **20 25 18.4 +0.6**
ICOR Ion Corvin 54.59 306 ⇑P **P** **20 25 18.8 +0.4**
GHRR 54.65 308 ⇓P **P** **20 25 19.8 +1.0**
VSU Vasula 54.69 323*c i*P **P** **20 25 18.4 -0.4**
VSU pmax pmax
comp=Z,441nm,1.1s
VSU MLR MLR
comp=Z,54µm,18.0s
VSU Vasula 54.69 323 *e*P **P** **20 25 19.1 +0.3**
VSU Vasula 54.69 323 ⇑P **P** **20 25 18.4 -0.4**
BAND Balkesir-Ban 54.91 301 ⇑P **P** **20 25 21.4 +0.6**
ODBI Odobesti 54.93 308 ⇓P **P** **20 25 21.7 +0.9**
KDU Kakadu 54.95 133 P **P** **20 25 23.0 +1.8**
comp=Z,102nm,1.2s
KDU Kakadu 54.95 133 ⇓P **P** **20 25 20.7 -0.6**
ISAL Salakas 54.96 320 *e*P **P** **20 25 21.3 +0.5**
KNRA Kununurra 54.97 139 IAmb IAmb 20 25 29.9
comp=Z,214nm,1.4s
MBWA Marble Bar 54.99 151 P **P** **20 25 21.3 -0.1**
MBWA IAmb IAmb 20 25 32.2
comp=Z,125nm,0.8s
MBWA Marble Bar 54.99 151 P **P** **20 25 22.2 +0.7**
MBWA Marble Bar 54.99 151 P **P** **20 25 21.8 +0.4**
comp=Z,109nm,0.9s
MBWA Marble Bar 54.99 151 ⇓P **P** **20 25 21.6 +0.1**
PRD Provadia 55.00 305 P **P** **20 25 21.6 +0.3**
NEF NEVSHA 55.08 305 P **P** **20 25 22.1 +0.1**
ARBE Arbavere 55.12 325 *e*P **P** **20 25 23.1 +1.2**
VADS Vadso 55.13 338 *e*P **P** **20 25 23.0 +1.2**
TESR Tescani 55.13 309 ⇓P **P** **20 25 21.9 -0.4**
VRI Vrincioaia 55.14 308 ⇑P **P** **20 25 23.0 +0.6**
VRI Vrincioaia 55.14 308 P **P** **20 25 22.9 +0.6**
FINES FINESS Array B 55.18 327 P **P** **20 25 22.5 +0.2**
FINES FINESS Array B 55.18 327 P **P** **20 25 22.9 +0.5**
comp=Z,52nm,0.9s,baz=102,slow=8.8,SNR=122
FINES LR LR 20 50 28.3
comp=Z,17µm,18.3s,baz=90,slow=38
comp=Z,52nm,0.9s
BISRR Bisoca 55.19 308 ⇑P **P** **20 25 23.2 +0.4**
FITZ Fitzroy Crossi 55.20 143 LR LR 20 52 41.2
comp=Z,7µm,18.7s,baz=318,slow=40
PLOR Plostina 55.20 308 ⇓P **P** **20 25 23.4 +0.5**
PLOR Plostina 55.20 308 P **P** **20 25 23.3 +0.5**
LEHL Lehliu 55.25 306 ⇓P **P** **20 25 23.6 +0.5**
ONER Baraj Valea Uz 55.32 309 ⇑P **P** **20 25 24.1 +0.4**
PRAR RASCA 55.33 310 ⇓P **P** **20 25 23.0 -0.6**
ISR Istrita 55.36 307 ⇑P **P** **20 25 25.3 +1.2**
ISR Istrita 55.36 307 P **P** **20 25 25.2 +1.2**
PSA00 Pilbara Seismi 55.41 151 P **P** **20 25 24.2 -0.3**
PSA00 IAmb IAmb 20 25 33.2
comp=Z,195nm,1.4s
PSA00 Pilbara Seismi 55.41 151 IAmb IAmb 20 25 33.1
comp=Z,300nm,1.4s
PSA00 Pilbara Seismi 55.41 151 P **P** **20 25 24.8 +0.4**
comp=Z,147nm,1.0s
NEHR Nehoiu 55.50 307 ⇑P **P** **20 25 25.3 +0.3**
COVR Voineasa-Covas 55.51 308 ⇓P **P** **20 25 25.6 +0.6**
RAZG Razgrad 55.59 305 ⇓P **P** **20 25 26.2 +0.6**
SULR 55.62 307 ⇓P **P** **20 25 25.7 -0.1**
ARG Arkhangelos 55.67 296 ⇑P **P** **20 25 25.9 -0.4**
MLR Muntele Rosu 55.73 308 IAmb IAmb 20 25 29.0
comp=Z,240nm,1.1s
MLR Muntele Rosu 55.73 308 LR LR 20 53 29.2
comp=Z,7µm,18.5s,baz=55,slow=40
MLR Muntele Rosu 55.73 308 ⇑P **P** **20 25 27.4 +0.6**
MLR Muntele Rosu 55.73 308 P **P** **20 25 27.3 +0.6**
JMB Yambol 55.74 304 P **P** **20 25 26.5 -0.2**
OZUR 55.77 308 ⇑P **P** **20 25 27.7 +0.8**
KEF Keuruu 55.80 328 *e*P **P** **20 25 27.9 +1.1**
KEV Kevo 55.85 337 P **P** **20 25 26.9 -0.1**
KEV IAmb IAmb 20 25 29.2
comp=Z,173nm,1.3s
KEV IAMs_20 IAMs_20 20 50 59.7
comp=Z,17µm,22.0s
KEV Kevo 55.85 337 P **P** **20 25 26.9 -0.1**
KEV pmax pmax
comp=Z,173nm,1.3s
KEV MLR MLR
comp=Z,17µm,22.0s
KEV Kevo 55.85 337 ⇑P **P** **20 25 27.5 +0.5**
MEF Metsahovi 55.95 325 *e*P **P** **20 25 28.8 +0.9**
BURAR Bucovina Array 55.98 310 ⇓P **P** **20 25 28.1 -0.4**
BURAR Bucovina Array 55.98 310 P **P** **20 25 28.0 -0.4**
SZH Strazhitsa 56.02 305 P **P** **20 25 28.6 -0.1**
DKL Dikili 56.05 300 ⇑P **P** **20 25 28.7 -0.3**
DOPR Dopca 56.06 308 ⇑P **P** **20 25 29.5 +0.5**
PABE Paberze 56.19 320 IAMs_20 IAMs_20 20 51 13.6
comp=Z,20µm,20.0s
PABE Paberze 56.19 320 *e*P **P** **20 25 30.3 +0.6**
MTSE Matsula 56.22 324 *e*P **P** **20 25 30.6 +0.8**
ARA0 ARCESS Array S 56.33 337 *e*P **P** **20 25 31.5 +1.1**
ARCES ARCESS Array B 56.33 337 P **P** **20 25 31.0 +0.6**
comp=Z,47nm,1.0s,baz=87,slow=6.4,SNR=39
ARCES LR LR 20 51 25.4
comp=Z,17µm,21.5s,baz=102,slow=38
comp=Z,47nm,1.0s
ALN Alexandroupoli 56.36 302 IAmb IAmb 20 25 32.7
comp=Z,176nm,1.3s
ALN Alexandroupoli 56.36 302 ⇑P **P** **20 25 31.0 -0.1**
VOIR 56.37 308 ⇓P **P** **20 25 30.8 -0.5**
VOIR 56.37 308 P **P** **20 25 30.7 -0.5**
COPA Copaceanca 56.44 306 ⇓P **P** **20 25 32.0 +0.4**
DIM Dimitrovgrad 56.51 304 P **P** **20 25 32.7 +0.5**
HUMR Humele 56.54 307 ⇓P **P** **20 25 32.7 +0.3**
KARP Karpathos 56.59 296 P **P** **20 25 32.6 -0.3**
KARP Karpathos 56.59 296 *e*P **P** **20 25 33.4 +0.5**
KARP Karpathos 56.59 296 ⇑P **P** **20 25 32.8 -0.1**
ARCR ARCALIA 56.63 310 ⇑P **P** **20 25 34.1 +1.1**
RDO Rodhopi 56.70 302 IAmb IAmb 20 25 35.0
comp=Z,142nm,1.4s
RDO Rodhopi 56.70 302 ⇑P **P** **20 25 33.4 -0.2**
SUW Suwalki 56.72 318 *e*P **P** **20 25 33.2 -0.2**
SUW *e*PP **PP** **20 27 43.7 +4.3**
SUW *e*S **S** **20 33 22.9 -2.1**
SUW *e*L L 20 55 40.9
comp=Z,14µm,18.6s
SUW Suwalki 56.72 318 *e*P **P** **20 25 34.0 +0.6**
SUW Suwalki 56.72 318 ⇑P **P** **20 25 33.3 -0.2**

VAF Ylistaro 56.85 329 *e*P **P** **20 25 35.4 +1.2**
VLAD Vladila 57.03 306 ⇓P **P** **20 25 36.2 +0.3**
SLIT Slitere, Latvi 57.05 322 *e*P **P** **20 25 35.8 +0.1**
SLIT Slitere, Latvi 57.05 322 ⇑P **P** **20 25 35.2 -0.4**
PLD Plovdiv 57.10 304 P **P** **20 25 36.8 +0.4**
HAMF Hammerfest 57.11 338 *e*P **P** **20 25 37.0 +1.1**
BMR Baia Mare 57.13 310 ⇓P **P** **20 25 37.1 +0.5**
BMR Baia Mare 57.13 310 P **P** **20 25 37.0 +0.5**
BILL Bilibino 57.13 25 P **P** **20 25 36.9 +0.7**
BILL IAMs_20 IAMs_20 20 51 44.2
comp=Z,25µm,21.0s
BILL Bilibino 57.13 25*ce*P **P** **20 25 37.1 +0.9**
BILL pmax pmax
comp=Z,270nm,1.2s
BILL MLR MLR
comp=Z,24µm,13.0s
RZN Rozhen 57.19 303 P **P** **20 25 36.2 -1.1**
CJR Cluj-Napoca 57.19 309 ⇓P **P** **20 25 37.5 +0.4**
CJR Cluj-Napoca 57.19 309 P **P** **20 25 37.4 +0.4**
RAF Rauma 57.25 326 *e*P **P** **20 25 37.5 +0.4**
LOT Lotru 57.26 308 ⇑P **P** **20 25 37.8 +0.2**
PBUR Paburge 57.32 320 *e*P **P** **20 25 38.5 +0.8**
PGB Panagyurishte 57.45 304 P **P** **20 25 39.3 +0.4**
MARR Marisel-Cluj 57.52 309 ⇑P **P** **20 25 40.0 +0.6**
APE Apeiranthos 57.53 298 ⇑P **P** **20 25 39.2 -0.3**
APE Apeiranthos 57.53 298 P **P** **20 25 39.2 -0.3**
APE Apeiranthos 57.53 298 ⇑P **P** **20 25 38.8 -0.7**
MESR Meseseni 57.57 310 ⇓P **P** **20 25 40.3 +0.7**
MPEP Malo Peshtene 57.62 305 P **P** **20 25 40.8 +0.8**
KOLS Kolonicke sedl 57.77 312 *e*P **P** **20 25 41.0 -0.1**
KOLS pmax pmax
comp=Z,46nm,1.7s
KOLS Kolonicke sedl 57.77 312 *e*P **P** **20 25 41.0 -0.1**
KOLS *e*PP **PP** **20 27 53.2 +4.2**
VALD Valchedram 57.78 306 P **P** **20 25 41.6 +0.5**
DRGR 57.78 310 ⇓P **P** **20 25 41.5 +0.2**
DRGR 57.78 310 P **P** **20 25 41.4 +0.2**
BAIL Bailesti 57.78 306 ⇓P **P** **20 25 41.9 +0.7**
DEV Deva 57.79 308 ⇑P **P** **20 25 42.3 +1.1**
DEV Deva 57.79 308 P **P** **20 25 42.3 +1.1**
HOPEN Hopen 57.80 345 *e*P **P** **20 25 41.8 +1.1**
MMB Musomishta 57.94 303 P **P** **20 25 41.6 -0.8**
PLNA Plana 58.00 304 P **P** **20 25 43.4 +0.5**
R9F13 Warsaw-Wawer 58.10 316 *e*P **P** **20 25 42.9 -0.3**
JETT Jettan, Norway 58.11 337 *e*P **P** **20 25 44.0 +0.9**
VTS Vitosha 58.12 305 P **P** **20 25 43.9 +0.2**
HERR Herculane 58.29 307 ⇑P **P** **20 25 44.7 0.0**
KKB Krupnik 58.34 304 P **P** **20 25 44.7 -0.5**
SURR Surduc 58.35 308 ⇓P **P** **20 25 45.7 +0.6**
BEL Belsk 58.36 316 *e*P **P** **20 25 45.3 +0.2**
BEL *e*PcP **PcP** **20 26 35.5 -0.3**
BEL *e*PP **PP** **20 27 53.8 -0.2**
BEL *e*S **S** **20 33 45.3 -1.3**
BEL *e*L L 20 53 29.3
comp=Z,20µm,20.0s
BORR Bors 58.36 310 ⇓P **P** **20 25 46.7 +1.5**
STHS Stebnicka Huta 58.38 313 *e*P **P** **20 25 44.4 -0.9**
STHS pmax pmax
comp=Z,27nm,1.1s
STHS Stebnicka Huta 58.38 313 *e*P **P** **20 25 44.4 -0.9**
STHS *e*PP **PP** **20 27 56.4 +2.1**
IDI Anoyia 58.45 296 IAmb IAmb 20 26 07.2
comp=Z,162nm,1.0s
IDI Anoyia 58.45 296 P **P** **20 25 44.9 -1.2**
IDI Anoyia 58.45 296 LR LR 20 55 54.7
comp=Z,3µm,21.1s,baz=88,slow=41
TRAN Tran 58.50 305 P **P** **20 25 46.7 +0.4**
SIRR Siria 58.58 309 ⇑P **P** **20 25 47.5 +0.8**
TRO Tromso 58.63 337 *e*P **P** **20 25 47.1 +0.4**
BZS Buzias 58.72 308 ⇓P **P** **20 25 48.1 +0.4**
BZS Buzias 58.72 308 P **P** **20 25 48.1 +0.4**
BZS Buzias 58.72 308 ⇑P **P** **20 25 46.2 -1.5**
MDVR Moldovita 58.80 307 ⇓P **P** **20 25 49.3 +0.9**
VAY Valandovo 58.86 303 *i* P **P** **20 25 48.3 -0.4**
NIE Niedzica 58.99 313 *e*P **P** **20 25 50.3 +0.8**
NIE *e*S **S** **20 33 56.0 +0.9**
NIE *e*L L 20 53 55.9
comp=Z,11µm,23.8s
KECS Kecovo 59.01 312 *e*P **P** **20 25 50.3 +0.6**
KECS pmax pmax
comp=Z,72nm,1.6s
KECS Kecovo 59.01 312 *e*P **P** **20 25 50.3 +0.6**
MANU Manus Island 59.02 112 P **P** **20 25 50.0 -0.2**
MANU IAmb IAmb 20 26 06.1
comp=Z,70nm,0.9s
MANU Manus Island 59.02 112 ⇓P **P** **20 25 54.3 +4.1**
BOVS Bovan 59.02 306 ⇓P **P** **20 25 49.6 -0.2**
LIT Litokhoron 59.18 302 IAmb IAmb 20 25 52.2
comp=Z,156nm,1.1s
LIT Litokhoron 59.18 302 ⇑P **P** **20 25 50.1 -0.9**
OJC Ojcow 59.19 314 *e*P **P** **20 25 50.6 -0.3**
OJC *e*PP **PP** **20 28 01.8 +0.3**
OJC *e*S **S** **20 33 57.0 -0.5**
OJC *e*L L 20 53 52.1
comp=Z,17µm,19.7s
OJC Ojcow 59.19 314 ⇑P **P** **20 25 50.8 -0.1**
MEEK Meekatharra 59.45 155 P **P** **20 25 53.5 +0.6**
comp=Z,252nm,1.4s
PSZ Piszkesteto 59.49 311 IAmb IAmb 20 26 29.5
comp=Z,160nm,1.7s
PSZ IAMs_20 IAMs_20 20 54 34.5
comp=Z,12µm,19.0s
PSZ Piszkesteto 59.49 311 ⇓P **P** **20 25 53.6 +0.4**
PSZ Piszkesteto 59.49 311 P **P** **20 25 53.5 +0.4**
PSZ Piszkesteto 59.49 311 *e*P **P** **20 25 53.9 +0.8**
PSZ Piszkesteto 59.49 311 ⇑P **P** **20 25 53.1 0.0**
AGG Agios Georgios 59.54 301 ⇑P **P** **20 25 52.3 -1.3**
SKO Skopje 59.55 304 *i* P **P** **20 25 53.7 +0.2**
LANS Liptovska Anna 59.57 313 *e*P **P** **20 25 54.4 +0.8**
LANS pmax pmax
comp=Z,17nm,1.5s
LANS Liptovska Anna 59.57 313 *e*P **P** **20 25 54.4 +0.8**
SPB2 Spitsbergen Ar 59.94 347 IAmb IAmb 20 26 17.8
comp=Z,147nm,1.1s
SPA0 Spitsbergen Ar 59.94 347 *e*P **P** **20 25 56.6 +0.9**
SPITS Spitsbergen Ar 59.94 347 P **P** **20 25 56.0 +0.4**
comp=Z,43nm,1.1s,baz=105,slow=5.3,SNR=10
SPITS LR LR 20 56 36.0
comp=Z,23µm,19.6s,baz=66,slow=41
comp=Z,43nm,1.1s
STEI Steigen 59.96 335 *e*P **P** **20 25 56.3 +0.4**
FAUS Fauske 59.96 334 *e*P **P** **20 25 56.2 +0.3**
HSPB Hornsund (broa 60.03 345 *e*P **P** **20 25 56.3 +0.1**
HSPB *e*PP **PP** **20 28 10.5 +2.2**
HSPB *e*S **S** **20 34 10.0 +2.4**
HSPB *e*L L 20 56 34.1
comp=Z,19µm,21.0s
FRGS Fruska Gora 60.06 308 ⇑*i* P **P** **20 25 56.7 -0.3**
VYHS Vyhne 60.09 312 *e*P **P** **20 25 57.2 0.0**
VYHS pmax pmax
comp=Z,52nm,1.3s
VYHS Vyhne 60.09 312 *e*P **P** **20 25 57.2 0.0**
VYHS *e*PP **PP** **20 28 15.3 +5.8**
OHR Ohrid 60.21 303 *i* P **P** **20 25 58.7 +0.6**
ITM Ithomi 60.30 299 ⇑P **P** **20 25 57.1 -1.6**
OKC Ostrava-Krasne 60.30 314 *e*P **P** **20 25 58.9 +0.4**
OKC *e*S **S** **20 34 11.9 0.0**
OKC AMS AMS 20 55 50.0
comp=Z,13µm,13.1s
OKC Ostrava-Krasne 60.30 314 *e*P **P** **20 25 58.9 +0.4**
OKC *e*S **S** **20 34 11.9 0.0**
OKC MLR MLR
comp=Z,13µm,13.1s
GKP Gorka Klasztor 60.31 318 *e*P **P** **20 25 58.0 -0.6**
GKP *e*PcP **PcP** **20 26 41.4 -2.2**
GKP *e*S **S** **20 34 10.7 -1.2**
GKP *e*L L 20 57 03.8
comp=Z,16µm,17.8s
GKP Gorka Klasztor 60.31 318 *e*P **P** **20 25 59.7 +1.2**
SJES Sjenica 60.33 306 ⇑*i*P **P** **20 25 59.4 +0.4**
MOR8 Moi Rana 60.36 333 *e*P **P** **20 25 58.2 -0.5**
TEKS Tekeris 60.38 307 *e*P **P** **20 25 58.4 -0.8**
IVA Berane 60.47 305 ⇑*i*P **P** **20 26 00.2 +0.2**
STEB Steborice 60.52 314 *e*P **P** **20 26 00.5 +0.4**
SRO Srobarova 60.56 311 *e*P **P** **20 26 00.8 +0.5**
SRO pmax pmax
comp=Z,68nm,1.2s
SRO Srobarova 60.56 311 *e*P **P** **20 26 00.8 +0.5**
MAUC Maruska 60.59 313 *e*P **P** **20 26 01.7 +1.1**
LOF Lofoten 60.59 335 *e*P **P** **20 25 59.9 -0.3**
BBLS Lazi&#263i 60.61 307 *e*P **P** **20 26 00.9 +0.1**
RUDO Rudo 60.69 306 *e*P **P** **20 26 00.5 -0.8**

BLEU Blekinge 60.69 321 *i* P **P** **20 26 00.3 -0.8**
MORC Moravsky Berou 60.70 314 P **P** **20 26 00.7 -0.6**
MORC IAmb IAmb 20 26 03.2
comp=Z,130nm,1.4s
MORC IAMs_20 IAMs_20 20 54 39.3
comp=Z,14µm,21.0s
MORC Moravsky Berou 60.70 314 *e*P **P** **20 26 01.7 +0.4**
MORC *e*S **S** **20 34 14.9 -2.2**
MORC Moravsky Berou 60.70 314 ⇑P **P** **20 26 01.6 +0.2**
MORC Moravsky Berou 60.70 314 P **P** **20 26 01.5 +0.2**
MORC Moravsky Berou 60.70 314 ⇑P **P** **20 26 01.6 +0.2**
PLE Pljevlja 60.73 306 *e*P **P** **20 26 02.4 +0.6**
KOME Kolasin 60.75 305 ⇑*i*P **P** **20 26 01.5 -0.4**
MORW Morawa 60.78 158 P **P** **20 26 02.5 +0.5**
comp=Z,304nm,1.3s
MORW Morawa 60.78 158 ⇓P **P** **20 26 02.4 +0.5**
JAVC Velka Javorina 60.78 313 *e*P **P** **20 26 03.2 +1.3**
JAVC *e*S **S** **20 34 20.3 +2.1**
VAGH Vaagaholmen 60.79 333 *e*P **P** **20 26 01.6 0.0**
TIR Tirane 60.84 304 P **P** **20 26 00.7 -1.7**
TIR Tirane 60.84 304 P **P** **20 26 00.7 -1.7**
TIR pmax pmax
comp=Z,211nm,1.0s
TIR MLR MLR
comp=Z,8µm,18.0s
TIR Tirane 60.84 304 ⇓P **P** **20 26 01.7 -0.7**
KBS Kingsbay 60.87 347 ⇑*i*P **P** **20 26 02.1 +0.2**
KBS pmax pmax
comp=Z,121nm,2.4s
KBS MLR MLR
comp=Z,34µm,16.0s
KBS Kingsbay 60.87 347 *i* P **P** **20 26 06.3 +4.4**
KONS Konsvik 60.87 333 *e*P **P** **20 26 02.5 +0.5**
LEIR Leirfjorden 60.90 333 *e*P **P** **20 26 02.8 +0.4**
STOK Stokkvaagen 60.92 333 *e*P **P** **20 26 02.5 0.0**
SMOL Smolenice 61.01 312 *e*P **P** **20 26 03.9 +0.5**
SMOL pmax pmax
comp=Z,23nm,1.4s
PDG Podgorica 61.03 305 IAmb IAmb 20 26 10.2
comp=Z,196nm,1.2s
PDG Podgorica 61.03 305 *e*P **P** **20 26 02.7 -0.9**
PDG Podgorica 61.03 305 ⇓P **P** **20 26 03.6 -0.1**
PDG Podgorica 61.03 305 ⇑*i*P **P** **20 26 03.3 -0.3**
PDG Podgorica 61.03 305 ⇓P **P** **20 26 03.6 -0.1**
UPM Unac-Piva 61.11 306 *e*P **P** **20 26 03.0 -1.4**
KRLC Kraliky 61.13 314 AMS AMS 20 56 10.0
comp=Z,13µm,12.3s
MODS Modra-Piesok 61.13 312 *e*P **P** **20 26 04.7 +0.4**
MODS pmax pmax
comp=Z,110nm,1.3s
MODS Modra-Piesok 61.13 312 *e*P **P** **20 26 04.7 +0.4**
MODS *e*PP **PP** **20 28 25.0 +6.3**
DRME Dracevica, Mon 61.14 305 *e*P **P** **20 26 03.1 -1.3**
DRME Dracevica, Mon 61.14 305 ⇑*i*P **P** **20 26 04.2 -0.2**
ULC Ulcinj 61.15 305 ⇑*i*P **P** **20 26 03.7 -0.8**
NKME Niksic 61.17 306 ⇑*i*P **P** **20 26 04.1 -0.6**
CEME Cevo 61.25 305 ⇑*i*P **P** **20 26 02.9 -2.3**
HFS Hagfors 61.28 326 P **P** **20 26 05.5 +0.5**
comp=Z,93nm,0.8s,baz=87,slow=6.1,SNR=136
HFS LR LR 20 54 55.4
comp=Z,10µm,19.7s,baz=84,slow=38
comp=Z,93nm,0.8s
KSP Ksiaz 61.29 315 *e*P **P** **20 26 05.6 +0.3**
KSP *e*PP **PP** **20 28 20.3 +0.3**
KSP *e*S **S** **20 34 22.8 -1.8**
KSP *e*SS **SS** **20 38 25.2 +0.7**
KSP *e*L L 20 55 14.0
comp=Z,18µm,20.7s
KSP Ksiaz 61.29 315 ⇑P **P** **20 26 05.7 +0.4**
BUM Brajici-Budva 61.32 305 ⇑*i*P **P** **20 26 05.3 -0.4**
DPC Dobruska-Polom 61.37 314 *e*P **P** **20 26 06.4 +0.5**
DPC AMS AMS 20 56 20.0
comp=Z,14µm,12.8s
DPC Dobruska-Polom 61.37 314 *e*P **P** **20 26 06.4 +0.5**
DPC MLR MLR
comp=Z,14µm,12.8s
BSD Bornholm Skovb 61.38 320 *i* P **P** **20 26 04.7 -1.0**
BSD IAmb IAmb 20 26 06.2
comp=Z,92nm,1.1s
LODK Lodwar 61.40 257 P **P** **20 26 08.7 +2.1**
SNR=47
VRAC Vranov 61.40 313 LR LR 20 55 15.7
comp=Z,14µm,20.1s,baz=83,slow=38
VRAC Vranov 61.40 313 *e*P **P** **20 26 06.6 +0.6**
VRAC *e*PP **PP** **20 28 21.9 +0.9**
VRAC *e*S **S** **20 34 24.1 -1.8**
VRAC Vranov 61.40 313 ⇑P **P** **20 26 06.8 +0.8**
VRAC Vranov 61.40 313 P **P** **20 26 06.8 +0.8**
OSTC Ostas 61.40 315 *e*P **P** **20 26 06.8 +0.8**
OSTC *e*S **S** **20 34 24.9 -1.0**
OSTC AMS AMS 20 56 20.0
comp=Z,17µm,14.8s
OSTC Ostas 61.40 315 *e*P **P** **20 26 06.8 +0.8**
OSTC *e*S **S** **20 34 24.9 -1.0**
OSTC MLR MLR
comp=Z,17µm,14.8s
BRY Bratogost 61.44 306 *e*P **P** **20 26 06.5 -0.1**
BRY Bratogost 61.44 306 *e*P **P** **20 26 05.4 -1.2**
CHVC Chvalec 61.49 315 *e*P **P** **20 26 07.4 +0.7**
CHVC AMS AMS 20 56 20.0
comp=Z,18µm,14.9s
CHVC Chvalec 61.49 315 *e*P **P** **20 26 07.4 +0.7**
CHVC MLR MLR
comp=Z,18µm,14.9s
UPC Upice 61.53 315 *e*P **P** **20 26 07.7 +0.8**
UPC *e*S **S** **20 34 27.3 -0.3**
UPC AMS AMS 20 56 20.0
comp=Z,18µm,14.6s
UPC Upice 61.53 315 *e*P **P** **20 26 07.7 +0.8**
UPC *e*S **S** **20 34 27.3 -0.3**
UPC MLR MLR
comp=Z,18µm,14.6s
NSS Namsos 61.54 331 *e*P **P** **20 26 06.7 +0.1**
KRUC Moravsky 61.57 313 *e*P **P** **20 26 07.7 +0.5**
KRUC *e*PP **PP** **20 28 23.0 +0.5**
KRUC *e*S **S** **20 34 26.3 -1.8**
WRA Warramunga Arr 61.60 137 P **P** **20 26 07.2 -0.4**
WRA Warramunga Arr 61.60 137 P **P** **20 26 07.7 +0.1**
comp=Z,64nm,0.8s,baz=326,slow=7.2,SNR=99
WRA LR LR 20 55 25.0
comp=Z,5µm,21.5s,baz=303,slow=38
WRA PKP2ab **P'P'ab** **20 55 35.2 +1.9**
comp=Z,3.1nm,0.9s,baz=147,slow=2.0,SNR=5.2
comp=Z,64nm,0.8s
WRAB Tennant Creek 61.60 137 P **P** **20 26 07.3 -0.4**
WRAB Tennant Creek 61.60 137*d i*P **P** **20 26 08.1 +0.4**
WRAB pmax pmax
comp=Z,167nm,0.9s
WRAB MLR MLR
comp=Z,5µm,20.0s
TREB Trebinje 61.62 306 *e*P **P** **20 26 07.5 -0.1**
WR8 Warramunga Arr 61.70 137 IAmb IAmb 20 26 16.1
comp=Z,160nm,0.9s
DEL Delary 61.74 322 *i* P **P** **20 26 08.0 -0.1**
SHEM Shemya Is, Ala 61.77 43 P **P** **20 26 08.2 -0.2**
comp=Z,120nm,1.0s,baz=359,slow=5.3,SNR=9.8
SHEM LR LR 20 54 31.3
comp=Z,20µm,20.5s,baz=278,slow=38
comp=Z,120nm,1.0s
SMY Shemya 61.77 43 P **P** **20 26 07.9 -0.5**
SMY IAmb IAmb 20 26 11.7
comp=Z,188nm,1.1s
SMY IAMs_20 IAMs_20 20 54 20.4
comp=Z,20µm,20.0s
SMY Shemya 61.77 43 P **P** **20 26 09.4 +1.0**
comp=Z,166nm,1.1s
SMY Shemya 61.77 43 P **P** **20 26 07.9 -0.5**
SMY pmax pmax
comp=Z,188nm,1.1s
SMY MLR MLR
comp=Z,20µm,20.0s
SMY Shemya 61.77 43 ⇑P **P** **20 26 08.7 +0.3**
RONA Rosalia, Austr 61.92 311 *e*P **P** **20 26 09.7 +0.1**
comp=Z,14nm,0.9s,SNR=17
BLY Banja Luka 61.97 308 ⇑*i*P **P** **20 26 10.0 0.0**
BLY Banja Luka 61.97 308 ⇑P **P** **20 26 09.9 0.0**
STON Ston 62.04 306 *e*P **P** **20 26 08.0 -2.4**
A051A Mrakovica 62.10 308 *e*P **P** **20 26 09.7 -1.2**
TREC Trest 62.11 313 AMS AMS 20 56 40.0
comp=Z,14µm,13.8s
LUNU Lund 62.11 321 *i* P **P** **20 26 10.5 -0.2**
BORU Boraas 62.14 323 *i* P **P** **20 26 11.0 +0.2**
CONA Conrad Observa 62.15 312 *e*P **P** **20 26 11.5 +0.2**
comp=Z,33nm,1.0s,SNR=62

KMBO Kilima Mbogo 62.17 252 P **P 20 26 11.4 -0.6**
KMBO IAmb IAmb 20 26 23.6
comp=Z,294nm,1.9s
KMBO Kilima Mbogo 62.17 252 P P 20 26 16.9 +4.9
KMBO Kilima Mbogo 62.17 252 P **P 20 26 11.4 -0.6**
KMBO pmax pmax
comp=Z,294nm,2.0s
KMBO MLR MLR
comp=Z,8µm,19.0s
KMBO Kilima Mbogo 62.17 252 *i* P **P 20 26 13.1 +1.1**
SNR=9.6
KMBO Kilima Mbogo 62.17 252 ⇓P **P 20 26 12.4 +0.4**
KIBK Kibwezi 62.17 250 P **P 20 26 11.4 -0.4**
KIBK Kibwezi 62.17 250 P **P 20 26 15.0 +3.2**
SNR=12
KOGS Kog 62.22 310 *e*P **P 20 26 11.4 -0.2**
NC602 NORSAR Array S 62.25 327 IAmb IAmb 20 26 19.4
comp=Z,191nm,1.1s
NC602 NORSAR Array S 62.25 327 *e*P **P 20 26 11.8 +0.2**
BJUU Bjuv 62.27 321 *i* P **P 20 26 10.6 -1.1**
FABU Falkenberg 62.27 322 *i* P **P 20 26 11.3 -0.5**
WRKA Warakurna 62.31 145 P **P 20 26 13.3 +0.8**
comp=Z,288nm,1.2s
WRKA Warakurna 62.31 145 ⇓P **P 20 26 13.2 +0.8**
NB2 NORSAR Subarra 62.36 327 P **P 20 26 12.2 -0.2**
comp=Z,207nm,1.2s,baz=80,slow=6.9
NB2 NORSAR Subarra 62.36 327 P **P 20 26 12.2 -0.2**
baz=80,slow=6.9
NOA NORSAR Array B 62.36 327 P **P 20 26 12.3 0.0**
comp=Z,42nm,0.8s,baz=81,slow=6.7,SNR=145
NOA PP **PP 20 28 28.8 -0.5**
comp=Z,94nm,1.3s,baz=84,slow=8.9,SNR=3.4
NOA LR LR 20 56 30.6
comp=Z,14µm,19.0s,baz=85,slow=39
comp=Z,42nm,0.8s
RGN Rugen 62.38 319 IAms_20 IAms_20 20 55 09.4
comp=Z,14µm,20.0s
GOPC GO Pecny, Ondr 62.42 314 *e*P **P 20 26 13.6 +0.7**
GOPC *e*S **S 20 34 37.3 -1.6**
GOPC AMS AMS 20 57 00.0
comp=Z,15µm,12.2s
GOPC GO Pecny, Ondr 62.42 314 *e*P **P 20 26 13.6 +0.7**
GOPC *e*S **S 20 34 37.3 -1.6**
GOPC MLR MLR
comp=Z,15µm,12.2s
BLDU Ballidu 62.43 158 P **P 20 26 13.3 +0.3**
comp=Z,251nm,1.7s
PVCC Panska Ves 62.43 315 *e*P **P 20 26 13.9 +1.0**
PVCC Panska Ves 62.43 315 *e*P **P 20 26 13.9 +1.0**
A050A Klekovaca 62.48 308 *e*P **P 20 26 11.6 -1.9**
RUE Ruedersdorf 62.52 317 *e*P **P 20 26 14.1 +0.6**
RUE Ruedersdorf 62.52 317 *e*P 20 26 13.6
comp=Z,62nm,0.9s,baz=76,slow=6.5
ARSA Arzberg 62.53 311 P **P 20 26 13.1 -0.5**
ARSA Arzberg 62.53 311 *e*P **P 20 26 13.5 -0.2**
comp=Z,12nm,0.9s,SNR=15
ARSA Arzberg 62.53 311 ⇑P **P 20 26 13.5 -0.2**
NC204 NORSAR Array S 62.54 327 IAmb IAmb 20 26 21.5
comp=Z,208nm,1.2s
NAO01 NORSAR Array S 62.55 327 IAmb IAmb 20 26 21.3
comp=Z,180nm,1.2s
PRU Pruhonice 62.56 314 *e*P **P 20 26 14.8 +1.0**
PRU *e*PP **PP 20 28 36.1 +4.9**
PRU *e*PPP PPP 20 30 11.7
PRU *e*S **S 20 34 36.2 -4.4**
PRU *ex* x 20 36 05.0
PRU AMS AMS 20 57 00.0
comp=Z,16µm,12.9s
PRU Pruhonice 62.56 314 *e*P **P 20 26 14.8 +1.0**
PRU *e* 20 28 36.1
PRU *e*PPP PPP 20 30 11.7
PRU *e*S **S 20 34 36.2 -4.4**
PRU *e* 20 36 05.0
PRU MLR MLR
comp=Z,16µm,12.9s
PRA Prague 62.61 314 AMS AMS 20 57 00.0
comp=Z,17µm,13.1s
ONAU Onsala 62.63 323 *i* P **P 20 26 13.9 -0.2**
COP Copenhagen 62.67 321 *i* P **P 20 26 14.4 0.0**
COP IAmb IAmb 20 26 16.4
comp=Z,546nm,1.5s
STRU Stroemstad 62.72 325 *i* P **P 20 26 15.0 +0.4**
RICC Richard 62.72 315 *e*P **P 20 26 15.8 +0.9**
RICC *e*S **S 20 34 42.9 +0.3**
RICC AMS AMS 20 55 20.0
comp=Z,13µm,15.2s
BRG Berggiesshubel 62.75 315 *e*P **P 20 26 15.5 +0.5**
BRG Amp 20 26 17.8
comp=Z,66nm,1.1s
BRG Berggiesshubel 62.75 315 S **S 20 34 45.0 +2.1**
BRG Berggiesshubel 62.75 315 SS SS 20 38 43.0 -4.3
BRG Berggiesshubel 62.75 315 *e*P 20 26 15.0
comp=Z,41nm,1.1s,baz=76,slow=6.5
OSL Oslo 62.79 326 *e*P **P 20 26 15.9 +0.8**
CRES Cresnjevec Ost 62.90 310 ⇑*i*P **P 20 26 16.4 +0.2**
ZVC Zvikov 62.90 314 *e*P **P 20 26 16.6 +0.5**
ZVC *e*S **S 20 34 46.3 +1.4**
ZVC AMS AMS 20 57 20.0
comp=Z,12µm,11.5s
CKRC Cesky Krumlov 62.97 313 *e*P **P 20 26 17.3 +0.7**
CKRC *e*S **S 20 34 41.4 -4.4**
CKRC AMS AMS 20 57 00.0
comp=Z,14µm,15.7s
CKRC Cesky Krumlov 62.97 313 *e*P **P 20 26 17.3 +0.7**
CKRC *e*S **S 20 34 41.4 -4.4**
CKRC MLR MLR
comp=Z,14µm,15.7s
SOKA Soboth 62.98 311 *e*P **P 20 26 16.7 -0.1**
comp=Z,79nm,1.2s,SNR=28
BOJS Bojanci 63.12 309 *e*P **P 20 26 14.3 -3.3**
BOJS Bojanci 63.12 309 P **P 20 26 14.2 -3.3**
BOJS *e*PP **PP 20 28 41.2 +5.0**
BOJS *i* S **S 20 34 46.2 -1.5**
BOJS *e* 20 36 14.4
BOJS *e* 20 41 55.8
HSKC Hora Svate Kat 63.12 315 *e*P **P 20 26 18.3 +0.7**
HSKC *e*S **S 20 34 46.4 -1.3**
HSKC AMS AMS 20 55 40.0
comp=Z,15µm,14.9s
COEN Coen 63.18 125 P **P 20 26 20.4 +2.1**
comp=Z,38nm,1.8s
COEN Coen 63.18 125 ⇑P **P 20 26 18.6 +0.3**
DOMB Dombas 63.21 328 *e*P **P 20 26 18.4 +0.4**
MOA Molln 63.22 312 *i* P **P 20 26 18.2 -0.1**
comp=Z,19nm,0.9s,SNR=31
PMG Port Moresby 63.23 119 P **P 20 26 17.6 -1.1**
PMG IAmb IAmb 20 26 32.7
comp=Z,146nm,1.1s
PMG Port Moresby 63.23 119 P **P 20 26 19.9 +1.2**
comp=Z,110nm,0.9s
PMG Port Moresby 63.23 119 P **P 20 26 19.7 +1.0**
comp=Z,110nm,0.9s
PMG Port Moresby 63.23 119 *e*P **P 20 26 19.4 +0.7**
PMG pmax pmax
comp=Z,154nm,2.5s
PMG Port Moresby 63.23 119 ⇑P P 20 26 25.0 +6.3
CLL Collm 63.23 316 IAmb IAmb 20 26 19.9
comp=Z,98nm,1.3s
CLL IAms_20 IAms_20 20 58 03.1
comp=Z,11µm,19.0s
CLL Collm 63.23 316 ⇑*i*P **P 20 26 18.3 +0.1**
CLL *i* *PP **sP 20 26 26.9 -0.6**
CLL *e*S **S 20 34 49.0 +0.1**
CLL *e* 20 36 06.0
CLL pmax pmax
comp=Z,88nm,1.3s
CLL MLR MLR
comp=Z,9µm,20.3s
CLL Collm 63.23 316 *e*P 20 26 18.0
comp=Z,74nm,1.2s,baz=76,slow=6.5
MATE Matera 63.33 304 ⇓P **P 20 26 18.8 -0.2**
MATE Matera 63.33 304 *e*P **P 20 26 16.1 -2.9**
MATE Matera 63.33 304 ⇓P **P 20 26 18.9 -0.2**
OBKA Obir 63.35 310 *e*P **P 20 26 18.8 -0.4**
OBKA Obir 63.35 310 *e*P **P 20 26 19.2 -0.1**
comp=Z,53nm,1.4s,SNR=11
GEC2 GERESS Array S 63.35 313 IAmb IAmb 20 26 21.2
comp=Z,183nm,1.3s
GERES GERESS Array B 63.35 313 P **P 20 26 19.0 -0.3**
GERES GERESS Array B 63.35 313 P **P 20 26 19.6 +0.4**
comp=Z,40nm,0.9s,baz=83,slow=5.5,SNR=163
GERES LR LR 20 57 40.9
comp=Z,13µm,19.7s,baz=78,slow=40
comp=Z,40nm,0.9s
GEC2 GERESS Array S 63.35 313 *e*P 20 26 19.6
comp=Z,117nm,1.2s,baz=76,slow=6.5
MTKN Mount Kenneth 63.36 160 P **P 20 26 20.2 +1.1**
comp=Z,353nm,1.1s
KHC Kasperske Hory 63.36 313 *e*P **P 20 26 19.5 +0.3**
KHC *ex* x 20 26 30.0
KHC *e*S **S 20 34 51.4 +0.6**
KHC *ex* x 20 38 54.2
KHC AMS AMS 20 58 50.0
comp=Z,14µm,16.9s
KHC Kasperske Hory 63.36 313 *e*P **P 20 26 19.5 +0.3**
KHC *e* 20 26 30.0
KHC *e*S **S 20 34 51.4 +0.6**
KHC *e* 20 38 54.2
KHC MLR MLR
comp=Z,14µm,16.9s
KHC Kasperske Hory 63.36 313 ⇑P **P 20 26 19.6 +0.4**
KONO Kongsberg 63.40 326 P **P 20 26 19.0 -0.1**
KONO IAmb IAmb 20 26 21.0
comp=Z,217nm,1.4s
KONO Kongsberg 63.40 326 IAms_20 IAms_20 20 55 39.0
comp=Z,20µm,18.0s
KONO Kongsberg 63.40 326 P **P 20 26 19.1 -0.1**
KONO Kongsberg 63.40 326 *e*P **P 20 26 19.7 +0.5**
KONO Kongsberg 63.40 326 ⇑P **P 20 26 19.5 +0.3**
LJU Ljubljana 63.48 310 *i* P **P 20 26 20.1 +0.2**
LJU *e*S **S 20 34 52.2 0.0**
LJU *e* 20 36 18.2
LJU *e*SS **SS 20 39 05.1 +6.2**
LJU *e* 20 42 01.5
MUN Mundaring 63.53 159 P **P 20 26 20.7 +0.4**
comp=Z,348nm,1.3s
OVD Ostervraa, Den 63.55 323 *i* P **P 20 26 20.1 -0.1**
OVD IAmb IAmb 20 26 22.0
comp=Z,379nm,1.0s
MRVN Minervino Murg 63.59 304 ⇓P **P 20 26 20.5 -0.4**
CEY Cerknica 63.62 310 ⇑*i*P **P 20 26 21.0 0.0**
BIOA Bad Ischl, Aus 63.67 312 *i* P **P 20 26 21.0 -0.3**
comp=Z,4.9nm,0.5s,SNR=12
KLBR Kellerberrin 63.67 158 P **P 20 26 21.3 +0.1**
comp=Z,199nm,0.9s
TIP Timpagrande 63.69 302 IAmb IAmb 20 26 28.3
comp=Z,132nm,1.2s
TIP Timpagrande 63.69 302 ⇓P **P 20 26 21.5 -0.1**
TIP Timpagrande 63.69 302 ⇑P **P 20 26 20.9 -0.7**
TANN Tannenbergstha 63.77 315 *e*P 20 26 22.4
comp=Z,58nm,1.1s,baz=76,slow=6.5
MOL Molde 63.80 329 *e*P **P 20 26 22.6 +0.9**
WET Wettzell 63.81 314 *e*P 20 26 22.5
comp=Z,118nm,1.3s,baz=76,slow=6.5
NKC Novy Kostel 63.82 315 *e*P **P 20 26 23.0 +0.8**
NKC *e*S **S 20 34 56.2 -0.2**
NKC AMS AMS 20 56 10.0
comp=Z,18µm,16.3s
NKC Novy Kostel 63.82 315 *e*P **P 20 26 23.0 +0.8**
NKC *e*S **S 20 34 56.2 -0.2**
NKC MLR MLR
comp=Z,18µm,16.3s
SKAR Skarsla 63.83 327 *e*P **P 20 26 23.4 +1.3**
MYKA Terra Mystica 63.93 311 *e*P **P 20 26 22.8 -0.3**
comp=Z,24nm,1.3s,SNR=6.5
SKDS Skadanscina 63.95 310 *e*P **P 20 26 21.1 -2.0**
CADS Cadrg 63.96 310 *i* P **P 20 26 22.6 -0.7**
NEUB Neuenburg 64.01 316 *e*P 20 26 23.8
comp=Z,85nm,1.0s,baz=76,slow=6.5
KBA Koelnbreinsper 64.01 311 *e*P **P 20 26 23.1 -0.6**
comp=Z,33nm,1.1s,SNR=20
KBA Koelnbreinsper 64.01 311 ⇑P **P 20 26 23.3 -0.4**
PRED Cave del Predi 64.02 311 IAmb IAmb 20 26 31.1
comp=Z,102nm,1.5s
PRED IAms_20 IAms_20 20 59 00.4
comp=Z,12µm,19.0s
FLTG Flechtingen 64.07 317 ⇑P **P 20 26 23.7 0.0**
FLTG Flechtingen 64.07 317 *e*P 20 26 23.7
comp=Z,135nm,1.2s,baz=76,slow=6.5
ROTZ Rotzenmuhle 64.08 314 *e*P 20 26 24.6
comp=Z,73nm,1.3s,baz=76,slow=6.5
MANZ Manzenberg 64.09 315 *e*P 20 26 24.5
comp=Z,28nm,1.3s,baz=76,slow=6.5
SABO M.te Sabotino 64.12 310 P **P 20 26 23.3 -1.0**
SABO IAmb IAmb 20 26 31.7
comp=Z,228nm,1.4s
SABO IAms_20 IAms_20 20 57 53.3
comp=Z,12µm,20.0s
AKN Aaknes 64.13 329 *e*P **P 20 26 24.8 +0.7**
CUC Castrocucco 64.16 303 P **P 20 26 23.0 -1.6**
CUC IAmb IAmb 20 26 32.6
comp=Z,122nm,1.0s
CUC Castrocucco 64.16 303 ⇑P **P 20 26 23.8 -0.8**
RJOB Jochberg 64.21 312 *e*P 20 26 24.9
comp=Z,40nm,1.1s,baz=76,slow=6.5
ASAR Alice Springs 64.22 140 P **P 20 26 25.8 +0.7**
comp=Z,92nm,0.9s,baz=323,slow=6.1,SNR=269
ASAR LR LR 20 57 55.9
comp=Z,8µm,19.2s,baz=312,slow=39
comp=Z,92nm,0.9s
BSEG Bad Segeberg 64.23 319 *e*P 20 26 25.7
comp=Z,140nm,1.1s,baz=76,slow=6.5
MOX Moxa 64.24 315 *e*P 20 26 24.8
comp=Z,87nm,1.3s,baz=76,slow=6.5
MOX *e*L 20 57 46.8
comp=Z,10µm,19.1s
AS01 Alice Springs 64.24 140 P **P 20 26 26.0 +0.8**
comp=Z,133nm,1.0s
HOMB Homborsund 64.24 324 *e*P **P 20 26 25.4 +0.6**
HOMB Homborsund 64.24 324 *i* P **P 20 26 24.9 +0.2**
SSRD Sdr. Stenderup 64.27 321 *i* P **P 20 26 26.3 +1.3**
SSRD IAmb IAmb 20 26 28.6
comp=Z,247nm,0.8s
MUD Monsted U'grnd 64.30 322 *i* P **P 20 26 26.1 +1.0**
MUD IAmb IAmb 20 26 33.8
comp=Z,253nm,1.4s
LESA Schwarzleotal 64.36 312 *e*P **P 20 26 25.7 -0.2**
comp=Z,126nm,1.4s,SNR=37
ASSE Asse, Remlinge 64.45 317 *e*P 20 26 26.6
comp=Z,46nm,1.1s,baz=76,slow=6.5
CEL Celeste 64.60 301 ⇑P **P 20 26 27.5 -0.1**
STAL STALIGIAL 64.64 311 IAmb IAmb 20 26 37.9
comp=Z,90nm,1.0s
ABTA Abfaltersbach 64.65 311 *e*P **P 20 26 26.7 -1.1**
comp=Z,34nm,1.1s,SNR=12
NRDL Niedersach Rie 64.70 318 *e*P 20 26 28.6
comp=Z,277nm,1.2s,baz=76,slow=6.5
CLZ Clausthal 64.70 317 *e*P 20 26 28.7
comp=Z,92nm,1.0s,baz=76,slow=6.5
GRA1 Grafenberg Arr 64.72 314 IAmb IAmb 20 26 30.6
comp=Z,225nm,1.3s
GRA1 IAms_20 IAms_20 20 57 07.6
comp=Z,17µm,20.0s
GRF Grafenberg Arr 64.72 314 *e*P 20 26 28.7
comp=Z,239nm,1.3s,baz=76,slow=6.5
GRF *e*L 20 57 07.8
comp=Z,15µm,21.6s
GRFO Grafenberg 64.72 314 P **P 20 26 28.9 +0.8**
GRFO IAmb IAmb 20 26 30.6
comp=Z,227nm,1.3s
GRFO IAms_20 IAms_20 20 57 07.6
comp=Z,17µm,20.0s
GRFO Grafenberg 64.72 314 P **P 20 26 28.9 +0.8**
GRFO pmax pmax
comp=Z,227nm,1.3s
GRFO MLR MLR
comp=Z,17µm,20.0s
NWAO Narrogin (SRO) 64.73 159 P **P 20 26 27.6 -0.6**
NWAO Narrogin (SRO) 64.73 159 LR LR 20 54 20.9
comp=Z,9µm,21.9s,baz=330,slow=36
NWAO Narrogin (SRO) 64.73 159 P **P 20 26 28.2 +0.1**
NWAO Narrogin (SRO) 64.73 159 P **P 20 26 28.3 +0.1**
comp=Z,137nm,2.1s
NWAO Narrogin (SRO) 64.73 159 P **P 20 26 28.4 +0.2**
comp=Z,137nm,2.1s
NWAO Narrogin (SRO) 64.73 159 P **P 20 26 27.6 -0.6**
NWAO pmax pmax
comp=Z,536nm,1.5s
NWAO MLR MLR
comp=Z,9µm,22.0s
PAOL Paolisi 64.78 305 IAmb IAmb 20 26 38.8
comp=Z,207nm,1.7s
CIMO Cimolais 64.81 311 IAmb IAmb 20 26 35.1
comp=Z,98nm,1.1s
CIMO IAms_20 IAms_20 20 59 44.2
comp=Z,12µm,20.0s
ODD1 Odda 64.81 326 *e*P **P 20 26 29.6 +1.1**
SNART Snartemo 64.89 324 *e*P **P 20 26 29.9 +0.9**
SNART Snartemo 64.89 324 *i* P **P 20 26 29.4 +0.4**
KMBL Kambalda 64.94 154 P **P 20 26 29.9 +0.3**
comp=Z,156nm,1.0s
INTR Introdacqua 64.98 306 P **P 20 26 28.8 -1.2**
BLS5 Blasjo 65.01 326 *e*P **P 20 26 30.8 +1.0**
GTTG Gottingen 65.03 317 *e*P 20 26 30.8
comp=Z,215nm,1.2s,baz=76,slow=6.5
FUR Furstenfeldbru 65.08 313 *e*P 20 26 31.1
comp=Z,125nm,1.0s,baz=76,slow=6.5
WTTA Wattenberg 65.09 312 *e*P **P 20 26 30.2 -0.6**
comp=Z,56nm,1.0s,SNR=19
WATA Walderalm 65.11 312 *e*P **P 20 26 30.1 -0.7**
comp=Z,43nm,1.2s,SNR=17
FOO Floro 65.17 328 *e*P **P 20 26 31.2 +0.5**
UBBA Unterbreizbach 65.19 316 *e*P 20 26 31.4
comp=Z,25nm,1.1s,baz=76,slow=6.5
AQU L'Aquila 65.24 306 P **P 20 26 31.6 -0.1**
AQU L'Aquila 65.24 306 ⇑P **P 20 26 31.7 +0.1**
FDMO Fiordimonte 65.27 307 IAmb IAmb 20 26 39.6
comp=Z,180nm,1.2s
NRCA Norcia 65.31 307 IAmb IAmb 20 26 50.2
comp=Z,127nm,1.0s
BER Bergen 65.33 327 *e*P **P 20 26 32.5 +0.7**
QIS Mount Isa 65.34 133 P **P 20 26 33.2 +0.8**
comp=Z,159nm,1.0s
ASK Askoy 65.37 327 *e*P **P 20 26 32.5 +0.5**
SQTA Sankt Quirin 65.38 312 *e*P **P 20 26 31.9 -0.6**
comp=Z,25nm,0.9s,SNR=25
CTI Castel Tesino 65.41 311 IAms_20 IAms_20 20 59 52.1
comp=Z,11µm,20.0s
MOTA Moosalm 65.42 312 *e*P **P 20 26 32.1 -0.7**
comp=Z,62nm,1.1s
SUE Sulen 65.43 328 *e*P **P 20 26 33.2 +0.7**
TEOL Teolo 65.59 310 IAmb IAmb 20 27 07.1
comp=Z,101nm,0.9s
RETA Reutte 65.60 312 *i* P **P 20 26 33.6 -0.3**
comp=Z,65nm,1.1s,SNR=23
KMY Karmoy 65.67 326 *e*P **P 20 26 34.6 +0.6**
ABPO Ambohimpanom 65.69 230 ⇑P P 20 26 39.9 +5.0
CESX Cesi 65.75 307 P **P 20 26 33.7 -1.2**
CESX IAmb IAmb 20 26 35.7
comp=Z,195nm,1.6s
FETA Feichten 65.75 312 *e*P **P 20 26 34.4 -0.6**
comp=Z,94nm,1.3s,SNR=29
VAE Valguarnera 65.96 301 LR LR 21 01 15.7
comp=Z,3µm,18.7s,baz=61,slow=41
UBR Ueberruh 65.97 313 *e*P 20 26 35.9
comp=Z,62nm,1.1s,baz=76,slow=6.5
MGAB Montegabbione 65.99 307 ⇑P **P 20 26 35.6 -0.9**
KASTN Kahler Asten 66.05 317 *e*P 20 26 36.9
comp=Z,52nm,1.1s,baz=76,slow=6.5
IBBN Ibbenburen 66.14 318 ⇑P **P 20 26 37.9 +0.7**
IBBN Ibbenburen 66.14 318 *e*P 20 26 37.5
comp=Z,175nm,1.2s,baz=76,slow=6.5
FUORN Ofenpass-Fuorn 66.17 311 IAmb IAmb 20 27 38.8
comp=Z,132nm,1.4s
FUORN IAms_20 IAms_20 21 00 05.2
comp=Z,12µm,19.0s
DAVA Damuels 66.23 312 *e*P **P 20 26 37.5 -0.6**
comp=Z,83nm,1.1s,SNR=33
DAVA Damuels 66.23 312 ⇑P **P 20 26 37.7 -0.4**
STU Stuttgart 66.25 314 P **P 20 26 37.6 -0.4**
STU IAms_20 IAms_20 20 58 04.0
comp=Z,14µm,19.0s
STU Stuttgart 66.25 314 P **P 20 26 37.6 -0.4**
STU pmax pmax
comp=Z,225nm,1.2s
STU MLR MLR
comp=Z,14µm,19.0s
STU Stuttgart 66.25 314 *e*P **P 20 26 38.7 +0.7**
STU Stuttgart 66.25 314 ⇑P **P 20 26 38.5 +0.6**
STU Stuttgart 66.25 314 *e*P 20 26 38.3
comp=Z,385nm,1.1s,baz=76,slow=6.5
TNS Taunus Mts 66.31 316 *e*P 20 26 38.6
comp=Z,232nm,1.4s,baz=76,slow=6.5
DAVOX Davos/Dischmat 66.38 312 LR LR 21 00 04.9
comp=Z,9µm,18.6s,baz=72,slow=40
OSSC Osservatorio P 66.41 308 IAmb IAmb 20 27 03.9
comp=Z,141nm,1.1s
GAMB Gambell 66.50 29 IAms_20 IAms_20 20 59 33.1
comp=Z,16µm,18.0s
BUG Bochum--Univer 66.67 317 *e*P 20 26 40.7
comp=Z,131nm,1.1s,baz=76,slow=6.5
PRMA PARMA 66.68 309 IAmb IAmb 20 26 45.2
comp=Z,142nm,1.0s
PRMA IAms_20 IAms_20 20 59 14.9
comp=Z,10µm,19.0s
MTSU Mount Surprise 66.80 128 P **P 20 26 43.4 +1.5**
comp=Z,30nm,1.1s
VLC Villacollemand 66.81 309 P **P 20 26 41.1 -0.7**
VLC Villacollemand 66.81 309 ⇑P **P 20 26 42.2 +0.5**
TUE Stuetta 66.82 311 IAmb IAmb 20 26 59.2
comp=Z,69nm,0.9s
TUE IAms_20 IAms_20 21 00 01.3
comp=Z,15µm,20.0s
TUE Stuetta 66.82 311 ⇑P **P 20 26 41.5 -0.4**
BFO Black Forest 66.93 314 P **P 20 26 41.9 -0.4**
BFO IAmb IAmb 20 26 49.5
comp=Z,106nm,1.2s
BFO IAms_20 IAms_20 20 58 35.0
comp=Z,14µm,20.0s
BFO Black Forest 66.93 314 P **P 20 26 41.9 -0.4**
BFO pmax pmax
comp=Z,106nm,1.2s
BFO MLR MLR
comp=Z,14µm,20.0s
BFO Black Forest 66.93 314 ⇑P **P 20 26 42.3 -0.1**
BFO Black Forest 66.93 314 *e*P 20 26 42.2
comp=Z,79nm,1.2s,baz=76,slow=6.5
FORT Forrest 67.02 149 P **P 20 26 44.0 +1.1**
comp=Z,359nm,0.9s
FORT Forrest 67.02 149 ⇓P **P 20 26 43.5 +0.6**
ADK Adak 67.46 42 IAms_20 IAms_20 20 56 25.0
comp=Z,13µm,22.0s
TNA Tin City 67.50 27 P **P 20 26 45.5 -0.1**
TNA IAmb IAmb 20 26 55.5
comp=Z,164nm,1.5s
JMIC Jan Mayen 67.51 340 LR LR 21 00 47.5
comp=Z,11µm,18.7s,baz=75,slow=40
C16K Lisburne Hills 67.54 23 IAms_20 IAms_20 20 59 40.5
comp=Z,12µm,18.0s
BTNL Ternell 67.62 316 *d*P **P 20 26 47.0 +0.4**
comp=Z,47nm,1.2s
MEM Membach 67.68 316 *d*P **P 20 26 47.3 +0.3**
comp=Z,52nm,1.1s
ECH Echery 67.71 314 IAms_20 IAms_20 20 58 58.6
comp=Z,13µm,19.0s
ECH Echery 67.71 314 ⇑P **P 20 26 47.2 -0.1**
BHOU Houvegnez 67.76 316 *d*P **P 20 26 46.8 -0.9**
comp=Z,41nm,1.1s
BEBN Eben Emael 67.83 317 *d*P **P 20 26 48.5 +0.6**
WLF Walferdange 67.89 315 IAms_20 IAms_20 21 01 41.3
comp=Z,10µm,20.0s
WLF Walferdange 67.89 315 P **P 20 26 48.9 +0.5**
WLF Walferdange 67.89 315 *d*P **P 20 26 49.4 +1.0**
comp=Z,202nm,1.1s
WLF Walferdange 67.89 315 ⇑P **P 20 26 49.5 +1.2**
WLF Walferdange 67.89 315 *e*P 20 26 49.3
comp=Z,338nm,1.1s,baz=76,slow=6.5
BSTI Sart Tilman 67.96 317 *d*P **P 20 26 49.5 +0.7**
comp=Z,12nm,1.2s
BSTI *d*PP **PP 20 29 20.3 +1.9**
VOI Vohitsoka 68.02 228 P **P 20 26 48.9 -0.7**
VOI IAmb IAmb 20 27 08.0
comp=Z,85nm,1.1s
BCLA Clavier 68.17 316 *d*P **P 20 26 50.9 +0.8**
comp=Z,46nm,1.2s
MONC Moncucco Torin 68.20 310 ⇑P **P 20 26 50.4 -0.1**
PGF Pioggiola 68.28 308 ⇑P **P 20 26 51.1 0.0**
BGES Gesves 68.31 316 *d*P **P 20 26 51.4 +0.4**
comp=Z,42nm,1.2s
OOD Oodnadatta 68.44 141 P **P 20 26 52.8 +0.8**
comp=Z,212nm,1.7s
RDOG Red Dog Mine 68.47 23 IAms_20 IAms_20 20 58 39.0
comp=Z,16µm,22.0s
BMRD Maredsous 68.53 316 *d*P **P 20 26 52.8 +0.4**
comp=Z,50nm,1.2s
UCC Uccle 68.62 317 IAms_20 IAms_20 21 00 50.5
comp=Z,11µm,19.0s
UCC Uccle 68.62 317 *d*P **P 20 26 52.6 -0.3**
comp=Z,33nm,1.1s
DOU Dourbes 68.70 316 *d*P **P 20 26 53.4 -0.1**
comp=Z,28nm,1.3s
F15K North Star Dit 68.72 26 P **P 20 26 53.9 +0.6**
ANM Nome 68.86 27 IAms_20 IAms_20 21 00 36.5
comp=Z,15µm,19.0s
VSL Villasalto 69.03 304 IAmb IAmb 20 27 06.8
comp=Z,151nm,1.3s
VSL Villasalto 69.03 304 ⇓P **P 20 26 55.9 +0.2**

BNI	Bardonecchia	69.04	311	IAmb	IAmb	20	27	28.5
	comp=Z,103nm,1.2s							
BNI				IAms_20	IAms_20	21	01	17.2
	comp=Z,11µm,21.0s							
BNI	Bardonecchia	69.04	311	⇑P	P	20	26	55.8 -0.1
TV1H	Townsville Har	69.29	127	P	P	20	26	58.5 +1.1
	comp=Z,66nm,0.9s							
E18K	Tukpahlearik C	69.53	23	IAms_20	IAms_20	21	00	21.2
	comp=Z,14µm,19.0s							
M11K	Mekoryuk	70.08	31	IAms_20	IAms_20	20	59	12.7
	comp=Z,9µm,18.0s							
LOR	Lormes	70.12	314	⇑P	P	20	27	02.1 -0.3
WACR	West Acre	70.14	320⇑	eP	P	20	27	02.9 +0.6
WACR				IAmb	IAmb	20	27	04.5
	comp=Z,479nm,1.3s							
WACR				IAms_20	IAms_20	21	00	38.3
	comp=Z,27µm,16.6s							
ELMS	Elmsett, Ipswi	70.16	319⇑	eP	P	20	27	03.0 +0.6
ELMS				IAmb	IAmb	20	27	04.1
	comp=Z,214nm,1.2s							
ELMS				IAms_20	IAms_20	21	00	51.4
	comp=Z,23µm,16.1s							
K13K	Kusilvak Mount	70.17	30	IAms_20	IAms_20	21	02	27.2
	comp=Z,18µm,18.0s							
RUSF	Rustrel	70.22	310	⇑P	P	20	27	05.9 +2.9
DRUM	Mains of Drumt	70.29	325	eP	P	20	27	03.6 +0.5
DRUM				IAmb	IAmb	20	27	04.8
	comp=Z,144nm,1.1s							
DRUM				IAms_20	IAms_20	21	04	51.3
	comp=Z,12µm,18.0s							
J14K	Nanvaranak Lak	70.32	29	P	P	20	27	03.2 +0.1
J14K				IAmb	IAmb	20	27	11.8
	comp=Z,230nm,1.5s							
SSB	Saint Sauveur	70.38	311	IAms_20	IAms_20	21	01	04.6
	comp=Z,9µm,19.0s							
SSB	Saint Sauveur	70.38	311	⇑P	P	20	27	04.0 0.0
KEST	Kesra	70.38	301	P	P	20	27	04.6 +0.4
	comp=Z,134nm,1.1s,baz=357,slow=2.2,SNR=40							
KEST				LR	LR	21	03	53.3
	comp=Z,4µm,20.6s,baz=49,slow=41							
	comp=Z,134nm,1.1s							
KEST	Kesra	70.38	301	P	P	20	27	05.2 +1.0
	SNR=24							
BIGH	Upper Bighouse	70.40	327	eP	P	20	27	04.7 +0.9
ELSH	Elham, Standar	70.41	318⇑	eP	P	20	27	04.6 +0.6
ELSH				IAmb	IAmb	20	27	06.3
	comp=Z,240nm,1.1s							
ELSH				IAms_20	IAms_20	21	01	03.3
	comp=Z,20µm,16.3s							
LMK	Market Rasen	70.41	321	eP	P	20	27	04.2 +0.3
LMK				IAms_20	IAms_20	21	00	45.4
	comp=Z,25µm,15.7s							
MCD	Coleburn Disti	70.43	325	eP	P	20	27	04.1 +0.2
MCD				IAmb	IAmb	20	27	06.3
	comp=Z,90nm,0.9s							
MCD				IAms_20	IAms_20	21	00	17.3
	comp=Z,18µm,16.9s							
B21K	Ikpikpuk River	70.50	20	IAmb	IAmb	20	27	06.3
	comp=Z,155nm,1.2s							
ESY	Stoneypath	70.73	324	eP	P	20	27	06.3 +0.4
F19K	Shaleruckik Mo	70.78	24	IAms_20	IAms_20	21	00	04.3
	comp=Z,14µm,19.0s							
EDMD	Edmundbyers	70.80	323⇑	eP	P	20	27	06.5 +0.2
EDMD				IAmb	IAmb	20	27	07.7
	comp=Z,108nm,1.0s							
EDMD				IAms_20	IAms_20	21	01	08.1
	comp=Z,32µm,17.6s							
H17K	Granite Mounta	70.85	26	IAms_20	IAms_20	21	00	51.0
	comp=Z,13µm,20.0s							
CLF	Chambon-Foret	70.86	315	IAms_20	IAms_20	21	00	55.0
	comp=Z,15µm,18.0s							
CLF	Chambon-Foret	70.86	315	⇑P	P	20	27	07.0 +0.2
G18K	Tagagawik	70.89	25	P	P	20	27	06.7 -0.1
G18K				IAmb	IAmb	20	27	15.2
	comp=Z,153nm,1.5s							
HPK	Haverah Park	70.94	322	eP	P	20	27	07.8 +0.6
HPK				IAmb	IAmb	20	27	08.3
	comp=Z,99nm,1.1s							
HPK				IAms_20	IAms_20	21	01	07.2
	comp=Z,30µm,18.1s							
HMNX	Herstmonceux	70.98	318⇑	eP	P	20	27	08.3 +0.8
HMNX				IAmb	IAmb	20	27	10.5
	comp=Z,283nm,1.3s							
EDI	Edinburgh	71.03	324⇑	eP	P	20	27	08.2 +0.5
EDI				IAmb	IAmb	20	27	09.2
	comp=Z,264nm,1.4s							
EDI				IAms_20	IAms_20	21	00	54.5
	comp=Z,14µm,17.0s							
LINV	Loch Inver, As	71.16	326	eP	P	20	27	08.6 +0.2
LINV				IAms_20	IAms_20	21	01	40.4
	comp=Z,13µm,15.9s							
LBWR	Ladybower, Pea	71.21	321⇑	eP	P	20	27	09.1 +0.3
LBWR				IAmb	IAmb	20	27	11.6
	comp=Z,79nm,1.0s							
LBWR				IAms_20	IAms_20	21	01	17.6
	comp=Z,25µm,16.5s							
CWF	Charnwood Fore	71.23	320	eP	P	20	27	09.3 +0.3
CWF				IAms_20	IAms_20	21	01	20.7
	comp=Z,22µm,15.7s							
EKA	Eskdalemuir Ar	71.24	323	P	P	20	27	09.2 +0.3
	comp=Z,53nm,0.9s,baz=70,slow=5.8,SNR=47							
	comp=Z,53nm,0.9s							
ESK	Eskdalemuir	71.27	323	P	P	20	27	09.5 +0.4
ESK				IAmb	IAmb	20	27	11.1
	comp=Z,128nm,1.1s							
ESK	Eskdalemuir	71.27	323	IAms_20	IAms_20	21	00	57.2
	comp=Z,20µm,20.0s							
ESK	Eskdalemuir	71.27	323⇑	eP	P	20	27	09.6 +0.4
ESK				IAmb	IAmb	20	27	10.2
	comp=Z,106nm,1.0s							
ESK				IAms_20	IAms_20	21	01	31.2
	comp=Z,21µm,15.4s							
ESK	Eskdalemuir	71.27	323	P	P	20	27	09.5 +0.4
ESK				pmax	pmax			
	comp=Z,128nm,1.2s							
ESK				MLR	MLR			
	comp=Z,20µm,20.0s							
ESK	Eskdalemuir	71.27	323	⇑P	P	20	27	09.7 +0.6
INVG	Invergeldie, C	71.27	325⇑	eP	P	20	27	09.4 +0.3
INVG				IAmb	IAmb	20	27	10.7
	comp=Z,46nm,1.3s							
INVG				IAms_20	IAms_20	21	03	13.9
	comp=Z,6µm,17.5s							
L14K	Kuka Creek	71.27	30	IAmb	IAmb	20	27	11.5
	comp=Z,131nm,1.1s							
L14K				IAms_20	IAms_20	21	00	25.2
	comp=Z,13µm,19.0s							
E21K	Killik River	71.28	21	IAmb	IAmb	20	27	17.7
	comp=Z,258nm,1.3s							
INKA	Innaminka	71.30	137	P	P	20	27	10.8 +1.2
	comp=Z,472nm,1.1s							
J16K	Anvik River	71.31	27	IAmb	IAmb	20	27	11.9
	comp=Z,171nm,1.1s							
J16K				IAms_20	IAms_20	21	01	17.2
	comp=Z,17µm,20.0s							
H18K	Honhosa River	71.34	25	IAms_20	IAms_20	21	00	28.1
	comp=Z,14µm,18.0s							
G19K	Purcell Mounta	71.35	24	IAmb	IAmb	20	27	30.9
	comp=Z,134nm,1.4s							
G19K				IAms_20	IAms_20	21	02	47.1
	comp=Z,17µm,18.0s							
M13K	Dall Lake	71.37	31	IAms_20	IAms_20	21	01	02.7
	comp=Z,17µm,20.0s							
F20K	Avaraart Lake	71.39	23	IAmb	IAmb	20	27	18.3
	comp=Z,211nm,1.6s							
F20K				IAms_20	IAms_20	21	01	27.2
	comp=Z,19µm,19.0s							
CMAH	Djebel Manchou	71.50	302	P	P	20	27	09.8 -1.2
KESW	Keswick, Cumbr	71.50	323⇑	eP	P	20	27	11.2 +0.7
KESW				IAmb	IAmb	20	27	12.3
	comp=Z,188nm,1.2s							
KESW				IAms_20	IAms_20	21	01	29.9
	comp=Z,32µm,15.9s							
NIKH	Nikolski High	71.59	39	IAms_20	IAms_20	21	00	37.8
	comp=Z,14µm,19.0s							
ABSA	Djebel Ababsia	71.59	302	P	P	20	27	11.8 +0.2
SCO	Scoresbysund	71.68	342	P	P	20	27	12.0 +0.7
SCO				IAms_20	IAms_20	21	00	37.8
	comp=Z,10µm,20.0s							
SCO	Scoresbysund	71.68	342	P	P	20	27	12.0 +0.7
SCO				pmax	pmax			
	comp=Z,56nm,1.2s							
SCO				MLR	MLR			
	comp=Z,10µm,20.0s							
SCO	Scoresbysund	71.68	342	i P	P	20	27	12.7 +1.4
SCO				IAmb	IAmb	20	27	13.2
	comp=Z,68nm,1.3s							
SCO	Scoresbysund	71.68	342	⇑P	P	20	27	12.3 +1.0
WOL	Wolverton	71.73	319⇑	eP	P	20	27	12.7 +0.7
WOL				IAmb	IAmb	20	27	13.7
	comp=Z,483nm,1.4s							
PGBU	Glenifferbraes	71.74	324	eP	P	20	27	12.5 +0.5
PGBU				IAmb	IAmb	20	27	13.3
	comp=Z,202nm,1.0s							
PGBU				IAms_20	IAms_20	21	01	51.7
	comp=Z,34µm,16.1s							
M14K	Bethel	71.84	30	IAmb	IAmb	20	27	14.8
	comp=Z,212nm,1.2s							
M14K				IAms_20	IAms_20	21	00	52.3
	comp=Z,19µm,19.0s							
CAEH	'Ain El Ouahch	71.87	302	P	P	20	27	12.9 -0.2
H19K	Roundabout Mou	71.87	24	IAms_20	IAms_20	21	01	05.0
	comp=Z,17µm,19.0s							
J17K	VABM Dome	71.88	27	IAms_20	IAms_20	21	00	45.1
	comp=Z,13µm,18.0s							
LCRK	Leigh Creek	71.88	141	P	P	20	27	14.3 +1.2
	comp=Z,183nm,1.2s							
NEWG	New Galloway	71.89	323⇑	eP	P	20	27	13.4 +0.6
NEWG				IAmb	IAmb	20	27	14.2
	comp=Z,91nm,1.1s							
NEWG				IAms_20	IAms_20	21	01	41.1
	comp=Z,17µm,17.6s							
LEWI	Lewis, Hebride	71.97	327	eP	P	20	27	14.0 +0.7
LEWI				IAms_20	IAms_20	21	00	27.7
	comp=Z,10µm,17.5s							
SWN1	Swindon	71.98	319⇑	eP	P	20	27	13.9 +0.4
SWN1				IAms_20	IAms_20	21	01	56.4
	comp=Z,27µm,15.6s							
LAWE	Loch Awe, Argy	72.03	325⇑	eP	P	20	27	14.4 +0.8
LAWE				IAmb	IAmb	20	27	15.5
	comp=Z,35nm,0.9s							
LAWE				IAms_20	IAms_20	21	01	16.8
	comp=Z,14µm,17.6s							
F21K	Alatna River	72.06	22	IAmb	IAmb	20	27	22.6
	comp=Z,275nm,1.6s							
STRD	Stroud	72.09	320⇑	eP	P	20	27	14.5 +0.4
STRD				IAmb	IAmb	20	27	15.6
	comp=Z,380nm,1.5s							
STRD				IAms_20	IAms_20	21	01	58.0
	comp=Z,16µm,18.1s							
CKFL	Kef-Lekhel	72.11	302	P	P	20	27	13.8 -0.9
E22K	Anaktuvuk Pass	72.13	21	P	P	20	27	14.7 +0.5
HLM1	Long Mynd	72.20	320⇑	eP	P	20	27	15.5 +0.7
HLM1				IAmb	IAmb	20	27	18.6
	comp=Z,231nm,1.3s							
HLM1				IAms_20	IAms_20	21	01	51.3
	comp=Z,22µm,15.7s							
FOEL	Foel Wylfa	72.23	321⇑	eP	P	20	27	15.6 +0.6
FOEL				IAmb	IAmb	20	27	16.9
	comp=Z,189nm,1.2s							
FOEL				IAms_20	IAms_20	21	01	59.1
	comp=Z,25µm,17.2s							
GAL1	Galloway	72.25	323⇑	eP	P	20	27	15.6 +0.6
GAL1				IAms_20	IAms_20	21	02	01.2
	comp=Z,22µm,15.9s							
N14K	Kuskokwak Cree	72.33	31	IAmb	IAmb	20	27	17.8
	comp=Z,212nm,1.2s							
N14K				IAms_20	IAms_20	21	01	42.3
	comp=Z,14µm,21.0s							
CASM	Ain Smara	72.33	302	P	P	20	27	16.3 +0.3
IOMK	Kirk Michael	72.42	323⇑	eP	P	20	27	16.9 +0.8
IOMK				IAmb	IAmb	20	27	18.0
	comp=Z,150nm,1.3s							
IOMK				IAms_20	IAms_20	21	01	47.9
	comp=Z,13µm,18.2s							
MONM	Monmouth	72.43	320⇑	eP	P	20	27	16.4 +0.3
MONM				IAmb	IAmb	20	27	18.9
	comp=Z,310nm,1.6s							
MONM				IAms_20	IAms_20	21	02	07.2
	comp=Z,15µm,15.4s							
MCH1	Michaelchurch	72.47	320⇑	eP	P	20	27	16.6 +0.2
MCH1				IAmb	IAmb	20	27	18.1
	comp=Z,32nm,0.9s							
MCH1				IAms_20	IAms_20	21	02	08.7
	comp=Z,19µm,15.0s							
MCH1	Michaelchurch	72.47	320	⇑P	P	20	27	16.9 +0.4
L16K	Owhat River	72.49	29	IAmb	IAmb	20	27	25.2
	comp=Z,208nm,1.6s							
K17K	Iditarod	72.50	27	IAms_20	IAms_20	21	03	00.9
	comp=Z,12µm,20.0s							
BBOO	Buckleboo	72.57	144	IAmb	IAmb	20	27	26.0
	comp=Z,243nm,1.1s							
BBOO	Buckleboo	72.57	144	P	P	20	27	17.4 +0.3
	comp=Z,206nm,1.0s							
QLP	Quilpie	72.60	134	P	P	20	27	19.1 +1.7
	comp=Z,165nm,1.2s							
QLP	Quilpie	72.60	134	⇓P	P	20	27	18.9 +1.5
WME	Myndd Eilian	72.63	322	eP	P	20	27	17.6 +0.3
LVA	Lava Point	72.65	37	IAms_20	IAms_20	21	01	51.8
	comp=Z,11µm,18.0s							
MTLF	Montolieu	72.65	310	⇑P	P	20	27	18.0 +0.3
DFRA	Djebel Bou Aff	72.68	303	P	P	20	27	11.4 -6.7
WLF1	Llynfaes	72.72	322	eP	P	20	27	18.6 +0.7
WLF1				IAms_20	IAms_20	21	02	28.4
	comp=Z,51µm,17.2s							
WPS	Cemaes, Angles	72.73	322	eP	P	20	27	17.6 -0.3
WPS				IAmb	IAmb	20	27	19.1
	comp=Z,100nm,1.2s							
WPS				IAms_20	IAms_20	21	02	28.1
	comp=Z,23µm,16.7s							
J18K	Innoko River	72.78	26	P	P	20	27	18.3 +0.3
J18K				IAmb	IAmb	20	27	26.7
	comp=Z,221nm,1.4s							
J18K				IAms_20	IAms_20	21	02	08.9
	comp=Z,12µm,18.0s							
AKUT	Akutan	72.80	37	IAms_20	IAms_20	21	02	06.8
	comp=Z,10µm,19.0s							
TATA	Tatamba Isabel	72.80	110	P	P	20	27	20.4 +1.5
	comp=Z,201nm,1.1s							
O14K	Tigyukauivet M	72.82	31	IAmb	IAmb	20	27	36.1
	comp=Z,198nm,1.4s							
E23K	Chandalar	72.86	21	IAmb	IAmb	20	27	37.0
	comp=Z,162nm,1.4s							
N15K	Kwethluk River	72.93	30	IAmb	IAmb	20	27	27.9
	comp=Z,304nm,1.6s							
J19K	Poorman	72.94	26	IAmb	IAmb	20	27	28.1
	comp=Z,242nm,1.4s							
M16K	Timber Creek	73.03	29	P	P	20	27	20.3 +0.7
M16K				IAmb	IAmb	20	27	28.5
	comp=Z,251nm,1.4s							
M16K				IAms_20	IAms_20	21	03	38.6
	comp=Z,17µm,18.0s							
D25K	Kavik River	73.10	19	IAmb	IAmb	20	27	41.2
	comp=Z,130nm,1.1s							
H21K	Melozitna Rive	73.11	24	IAms_20	IAms_20	21	02	49.8
	comp=Z,14µm,18.0s							
JSA	Saint Aubin	73.13	317⇑	eP	P	20	27	20.2 -0.2
JSA				IAmb	IAmb	20	27	21.6
	comp=Z,190nm,1.5s							
JSA				IAms_20	IAms_20	21	02	22.9
	comp=Z,8µm,14.2s							
JSA	Saint Aubin	73.13	317	⇑P	P	20	27	20.5 +0.1
COLD	Coldfoot	73.14	22	IAmb	IAmb	20	27	29.1
	comp=Z,356nm,1.8s							
CKHR	Kef el Ahmar	73.16	302	P	P	20	27	11.6 -9.4
E24K	Your Creek	73.20	20	IAmb	IAmb	20	27	29.6
	comp=Z,245nm,1.4s							
SAVO	Savo Central	73.22	110	P	P	20	27	22.2 +0.7
	comp=Z,28nm,1.5s							
L18K	Granite Mounta	73.40	28	IAmb	IAmb	20	27	30.8
	comp=Z,352nm,1.9s							
L18K				IAms_20	IAms_20	21	03	58.4
	comp=Z,15µm,20.0s							
J20K	Nowinta River	73.40	25	IAmb	IAmb	20	27	31.0
	comp=Z,387nm,1.7s							
J20K				IAms_20	IAms_20	21	02	35.4
	comp=Z,15µm,20.0s							
ILTH	Belurgan, Co L	73.46	323	P	P	20	27	22.6 +0.4
RSBS	Rosebush, Pemb	73.48	320⇑	eP	P	20	27	22.5 +0.2
RSBS				IAmb	IAmb	20	27	23.5
	comp=Z,103nm,1.0s							
G23K	Bananza Creek	73.49	22	IAmb	IAmb	20	27	31.2
	comp=Z,346nm,2.0s							
HNR	Honiara	73.49	111	LR	LR	20	57	38.1
	comp=Z,3µm,21.5s,baz=283,slow=34							
HNR	Honiara	73.49	111	P	P	20	27	24.5 +1.5
	comp=Z,123nm,1.0s							
O15K	Ungalikthiuk R	73.51	31	P	P	20	27	22.6 +0.1
O15K				IAmb	IAmb	20	27	30.8
	comp=Z,187nm,1.4s							
O15K				IAms_20	IAms_20	21	02	06.6
	comp=Z,13µm,19.0s							
WHYH	Whyalla	73.53	143	P	P	20	27	23.5 +0.7
	comp=Z,134nm,0.9s							
CEST	Esterri de Car	73.59	310	IAmb	IAmb	20	27	30.8
	comp=Z,188nm,1.2s							
IDGL	Inch Island, C	73.62	324	eP	P	20	27	24.0 +0.9
IDGL	Inch Island, C	73.62	324	P	P	20	27	24.3 +1.2
DYA	Yadsworthy	73.65	319⇑	eP	P	20	27	23.5 +0.1
DYA				IAmb	IAmb	20	27	24.2
	comp=Z,50nm,1.0s							
DYA				IAms_20	IAms_20	21	02	50.3
	comp=Z,20µm,17.2s							
C27K	Jago River	73.66	18	IAms_20	IAms_20	21	04	35.0
	comp=Z,17µm,18.0s							
I21K	Tanana	73.66	24	IAms_20	IAms_20	21	02	35.7
	comp=Z,10µm,21.0s							
HTL	Hartland	73.73	319	eP	P	20	27	24.7 +0.8
HTL				IAmb	IAmb	20	27	25.0
	comp=Z,89nm,1.1s							
HTL				IAms_20	IAms_20	21	02	59.8
	comp=Z,16µm,16.3s							
ALEG	Aligegeo Malai	73.74	110	P	P	20	27	26.1 +1.6
	comp=Z,103nm,0.8s							
DSB	Dublin	73.82	322	P	P	20	27	24.6 +0.2
DSB	Dublin	73.82	322	⇑P	P	20	27	24.4 +0.1
K20K	Telida	73.86	26	IAmb	IAmb	20	27	27.4
	comp=Z,118nm,1.1s							
K20K				IAms_20	IAms_20	21	03	44.5
	comp=Z,14µm,18.0s							
S12K	Black Hills	74.05	35	IAms_20	IAms_20	21	04	06.6
	comp=Z,8µm,18.0s							
E25K	Arctic Village	74.06	20	P	P	20	27	26.0 +0.5
E25K				IAmb	IAmb	20	27	34.6
	comp=Z,282nm,1.6s							
O16K	Kokwok River B	74.09	30	IAmb	IAmb	20	27	28.3
	comp=Z,130nm,1.1s							
O16K				IAms_20	IAms_20	21	02	38.8
	comp=Z,15µm,20.0s							
ROSF	Rostrenen	74.14	317	⇑P	P	20	27	27.0 +0.6
H23K	Yukon River	74.15	23	IAms_20	IAms_20	21	02	56.5
	comp=Z,15µm,19.0s							
L19K	White Mountain	74.16	27	IAmb	IAmb	20	27	35.5
	comp=Z,385nm,1.6s							
L19K				IAms_20	IAms_20	21	05	22.6
	comp=Z,16µm,18.0s							
SUMG	Summit	74.28	347	IAms_20	IAms_20	21	03	14.3
	comp=Z,16µm,21.0s							
SUMG	Summit	74.28	347	P	P	20	27	25.9 -1.3
SUMG	Summit	74.28	347	i P	P	20	27	27.0 -0.2
SUMG				IAmb	IAmb	20	27	28.5
	comp=Z,69nm,1.1s							
SUMG	Summit	74.28	347	⇑P	P	20	27	27.3 +0.1
G24K	Hadweenzic Riv	74.32	21	IAmb	IAmb	20	27	36.4
	comp=Z,382nm,1.9s							
F25K	Christian Rive	74.36	20	IAmb	IAmb	20	27	30.0
	comp=Z,114nm,1.1s							
P16K	Nushagak River	74.42	31	IAmb	IAmb	20	27	29.8
	comp=Z,120nm,1.1s							
P16K				IAms_20	IAms_20	21	05	15.4
	comp=Z,10µm,18.0s							
IWEX	Carrickbyrne,	74.42	321	eP	P	20	27	28.6 +0.7
IWEX	Carrickbyrne,	74.42	321	P	P	20	27	29.1 +1.2
M19K	Big River Lodg	74.50	27	P	P	20	27	28.9 +0.7
M19K				IAmb	IAmb	20	27	37.7
	comp=Z,386nm,1.9s							
M19K				IAms_20	IAms_20	21	03	33.3
	comp=Z,15µm,19.0s							
N18K	Kilae Creek	74.51	29	IAmb	IAmb	20	27	37.4
	comp=Z,167nm,1.5s							
N18K				IAms_20	IAms_20	21	06	23.7
	comp=Z,12µm,18.0s							
HTT	Hallett	74.55	143	P	P	20	27	30.3 +1.4
	comp=Z,183nm,1.2s							
HTT	Hallett	74.55	143	⇓P	P	20	27	29.4 +0.5
CAST	Castle Rocks	74.58	25	IAmb	IAmb	20	27	37.7
	comp=Z,297nm,1.4s							
CAST				IAms_20	IAms_20	21	04	32.6
	comp=Z,14µm,18.0s							
I23K	Minto, Yukon-K	74.60	23	IAmb	IAmb	20	27	37.8
	comp=Z,464nm,2.0s							
I23K				IAms_20	IAms_20	21	04	27.0
	comp=Z,18µm,19.0s							
BPAW	Bear Paw Mtn.	74.61	24	IAmb	IAmb	20	27	32.2
	comp=Z,156nm,1.1s							
BPAW				IAms_20	IAms_20	21	03	24.4
	comp=Z,15µm,19.0s							
D27M	Malcolm River	74.65	18	IAmb	IAmb	20	27	38.1
	comp=Z,308nm,1.9s							
D27M				IAms_20	IAms_20	21	04	18.2
	comp=Z,14µm,19.0s							
H24K	Noodor Dome	74.70	22	P	P	20	27	29.6 +0.3
BORG	Borgarnes	74.73	336	LR	LR	21	01	49.5
	comp=Z,6µm,21.1s,baz=43,slow=37							
TULEG	Thule	74.76	356	i P	P	20	27	28.9 -0.5
TULEG				IAmb	IAmb	20	27	31.4
	comp=Z,124nm,1.4s							
BMAR	Burnt Mountain	74.78	20	P	P	20	27	31.1 +1.3
PPLA	Purkeypile	74.83	26	IAms_20	IAms_20	21	05	04.2
	comp=Z,12µm,20.0s							
STKA	Stephens Creek	74.86	140	P	P	20	27	30.8 +0.2
	comp=Z,67nm,0.8s,baz=320,slow=6.5,SNR=35							
STKA				LR	LR	21	07	15.9
	comp=Z,4µm,18.5s,baz=304,slow=41							
	comp=Z,67nm,0.8s							
STKA	Stephens Creek	74.86	140	P	P	20	27	31.4 +0.8
	comp=Z,28nm,1.1s							
STKA	Stephens Creek	74.86	140	d i P	P	20	27	30.9 +0.3
KTH	Kantishna Hill	74.94	25	IAms_20

comp=Z,11µm,20.0s
ILAR Eielson Array 75.67 23 P **P 20 27 34.0 -0.9**
ILAR Eielson Array 75.67 23 P **P 20 27 34.5 -0.5**
comp=Z,59nm,1.0s,baz=294,slow=4.2,SNR=200
ILAR PP **PP 20 30 23.1 -1.0**
comp=Z,16nm,1.0s,baz=312,slow=8.6,SNR=5.2
ILAR PKPPKP **P'P'df 20 54 53.5 -7.4**
comp=Z,1.5nm,1.2s,baz=243,slow=1.6,SNR=4.7
ILAR LR LR 21 03 52.8
comp=Z,12µm,19.3s,baz=305,slow=38
comp=Z,59nm,1.0s
CHNA Chernabura Isl 75.70 35 P **P 20 27 37.1 +1.9**
comp=Z,110nm,1.2s
CNBA Chernabura Isl 75.71 35 IAmb IAmb 20 27 42.4
comp=Z,121nm,1.2s
CNBA IAMs_20 IAMs_20 21 03 27.5
comp=Z,11µm,19.0s
STLK Strandline Lak 75.74 27 IAMs_20 IAMs_20 21 03 10.2
comp=Z,9µm,20.0s
RND Reindeer 75.79 25 IAmb IAmb 20 27 37.2
comp=Z,138nm,1.2s
CUT Chulitna 75.84 26 IAMs_20 IAMs_20 21 04 58.9
comp=Z,13µm,18.0s
HDA Harding Lake 75.87 23 P **P 20 27 35.2 -0.9**
HDA IAMs_20 IAMs_20 21 05 24.6
comp=Z,13µm,19.0s
ACHA Angle Creek He 76.03 31 IAMs_20 IAMs_20 21 05 46.1
comp=Z,10µm,18.0s
ILSW Iliamna Southw 76.04 29 IAMs_20 IAMs_20 21 05 26.2
comp=Z,8µm,18.0s
E29M Blow River 76.05 18 IAMs_20 IAMs_20 21 05 14.4
comp=Z,10µm,20.0s
G27K Doyon Strip 76.06 20 P **P 20 27 37.6 +0.4**
G27K IAmb IAmb 20 27 46.4
comp=Z,218nm,1.6s
P19K Oil Pt 76.18 29 IAmb IAmb 20 27 39.1
comp=Z,163nm,1.1s
P19K IAMs_20 IAMs_20 21 05 40.2
comp=Z,9µm,19.0s
SUA Susitna One 76.19 27 IAmb IAmb 20 27 46.1
comp=Z,283nm,1.6s
SUA IAMs_20 IAMs_20 21 03 25.5
comp=Z,14µm,20.0s
M22K Willow 76.27 26 IAmb IAmb 20 27 40.4
comp=Z,172nm,1.1s
M22K IAMs_20 IAMs_20 21 04 39.4
comp=Z,11µm,20.0s
EIDS Eidsvold 76.28 129 IAmb IAmb 20 27 48.9
comp=Z,242nm,1.8s
EIDS Eidsvold 76.28 129 P **P 20 27 40.4 +1.5**
comp=Z,61nm,1.2s
J25K Salcha River, 76.29 23 IAMs_20 IAMs_20 21 05 11.8
comp=Z,16µm,18.0s
ECHE Chera 76.37 308 P **P 20 27 39.1 -0.3**
Q19K Cape Douglas, 76.40 30 IAMs_20 IAMs_20 21 03 43.9
comp=Z,15µm,19.0s
CAPN Captain Cook N 76.42 27 IAMs_20 IAMs_20 21 07 07.6
comp=Z,8µm,18.0s
H27K Steamboat Moun 76.48 20 IAmb IAmb 20 27 42.5
comp=Z,168nm,1.1s
VAL Valentia 76.52 322 P **P 20 27 41.4 +1.5**
VAL Valentia 76.52 322 P **P 20 27 41.3 +1.4**
VAL Valentia 76.52 322 ⇓P **P 20 27 41.7 +1.8**
FIS Fire Island 76.58 27 IAMs_20 IAMs_20 21 03 47.7
comp=Z,10µm,22.0s
K24K Donnelly Dome 76.65 23 P **P 20 27 39.9 -0.6**
K24K IAMs_20 IAMs_20 21 05 49.4
comp=Z,12µm,20.0s
GHO Glory Hole Cre 76.72 26 IAmb IAmb 20 28 59.4
comp=Z,124nm,1.3s
GHO IAMs_20 IAMs_20 21 05 36.5
comp=Z,13µm,19.0s
PMR Palmer 76.75 26 IAmb IAmb 20 27 42.7
comp=Z,122nm,1.1s
PMR Palmer 76.75 26 P **P 20 27 42.0 +1.0**
comp=Z,110nm,1.1s
RC01 Rabbit Creek A 76.81 27 IAmb IAmb 20 27 43.0
comp=Z,110nm,1.1s
RC01 IAMs_20 IAMs_20 21 03 55.7
comp=Z,14µm,20.0s
HOM Homer 76.85 28 IAMs_20 IAMs_20 21 04 42.6
comp=Z,8µm,20.0s
SML Sawmill 76.93 26 IAMs_20 IAMs_20 21 05 41.8
comp=Z,11µm,19.0s
RES Resolute Bay 76.94 3 LR LR 21 02 51.0
comp=Z,8µm,21.7s,baz=346,slow=37
RES Resolute Bay 76.94 3 ⇑P **P 20 27 42.3 +0.4**
J26L Joseph Creek 76.96 22 IAmb IAmb 20 27 50.6
comp=Z,206nm,1.5s
CMSA Cobar Meteorol 77.01 137 P **P 20 27 44.4 +1.5**
comp=Z,126nm,1.0s
RIDG Independent Ri 77.01 23 P **P 20 27 41.9 -0.7**
G29M Pine Creek 77.05 19 IAMs_20 IAMs_20 21 05 58.8
comp=Z,12µm,18.0s
UPNV Upernavik 77.08 351 *i* P **P 20 27 42.0 -0.7**
UPNV IAmb IAmb 20 27 51.3
comp=Z,71nm,1.1s
BRLK Bradley Lake 77.11 28 IAmb IAmb 20 27 45.0
comp=Z,91nm,0.9s
KNK Knik Glacier 77.12 26 IAMs_20 IAMs_20 21 06 15.7
comp=Z,15µm,18.0s
SYI Shuyak Island 77.12 30 IAMs_20 IAMs_20 21 05 08.8
comp=Z,12µm,19.0s
CHIR Chirikof Islan 77.16 33 IAMs_20 IAMs_20 21 07 34.9
comp=Z,13µm,18.0s
SCRK Sand Creek 77.16 23 IAMs_20 IAMs_20 21 05 38.7
comp=Z,14µm,18.0s
F30M Barrier River 77.16 18 IAmb IAmb 20 27 52.4
comp=Z,260nm,1.4s
F30M IAMs_20 IAMs_20 21 07 29.9
comp=Z,12µm,19.0s
O22K Cooper Landing 77.17 27 IAmb IAmb 20 28 11.9
comp=Z,126nm,1.1s
O22K IAMs_20 IAMs_20 21 08 05.1
comp=Z,11µm,18.0s
INK Inuvik 77.24 16 P **P 20 27 44.1 +0.5**
comp=Z,57nm,1.0s,baz=330,slow=6.9,SNR=41
INK LR LR 21 07 50.5
comp=Z,8µm,18.6s,baz=277,slow=40
comp=Z,57nm,1.0s
INK Inuvik 77.24 16 ⇑P **P 20 27 44.3 +0.6**
CART Cartagena 77.26 306 P **P 20 27 44.0 -0.4**
PAX Paxson 77.28 24 P **P 20 27 43.7 -0.4**
PAX IAMs_20 IAMs_20 21 06 51.0
comp=Z,7µm,18.0s
PAX Paxson 77.28 24 P **P 20 27 43.7 -0.4**
PAX pmax pmax
comp=Z,53nm,1.0s
PAX MLR MLR
comp=Z,7µm,18.0s
SCM Sheep Creek Mo 77.30 25 IAmb IAmb 20 27 52.9
comp=Z,226nm,1.4s
SCM IAMs_20 IAMs_20 21 07 26.5
comp=Z,9µm,19.0s
EMUR La Murta 77.32 306 P **P 20 27 44.4 -0.4**
DOT Dot Lake 77.34 23 IAMs_20 IAMs_20 21 04 43.6
comp=Z,7µm,18.0s
H29M Whitestone 77.43 19 IAmb IAmb 20 28 02.9
comp=Z,210nm,1.4s
SII Sitkinak Islan 77.44 32 IAmb IAmb 20 28 37.0
comp=Z,130nm,1.3s
SII Sitkinak Islan 77.44 32 P **P 20 27 45.8 +0.7**
comp=Z,81nm,1.3s
LSZ Lusaka 77.46 245 P **P 20 27 45.3 -0.6**
LSZ Lusaka 77.46 245 IAMs_20 IAMs_20 21 00 57.2
comp=Z,9µm,18.0s
LSZ Lusaka 77.46 245 LR LR 21 00 07.8
comp=Z,7µm,18.7s,baz=64,slow=34
LSZ Lusaka 77.46 245 P **P 20 27 49.9 +4.0**
LSZ Lusaka 77.46 245 P **P 20 27 45.3 -0.6**
LSZ pmax pmax
comp=Z,32nm,0.9s
LSZ MLR MLR
comp=Z,9µm,18.0s
LSZ Lusaka 77.46 245 *i* P **P 20 27 46.5 +0.6**
LSZ Lusaka 77.46 245 ⇑P **P 20 27 48.7 +2.8**
OHAK Old Harbor 77.49 31 IAmb IAmb 20 27 53.0
comp=Z,224nm,1.6s
OHAK IAMs_20 IAMs_20 21 06 51.7
comp=Z,15µm,18.0s
OHAK Old Harbor 77.49 31 P **P 20 27 47.1 +1.8**
comp=Z,100nm,1.4s
I28M Miner Creek 77.49 20 IAmb IAmb 20 27 54.1
comp=Z,359nm,1.8s
KDAK Kodiak Island 77.50 30 P **P 20 27 44.7 -0.6**
KDAK IAmb IAmb 20 27 46.8
comp=Z,122nm,1.1s

KDAK Kodiak Island 77.50 30 IAMs_20 IAMs_20 21 06 33.8
comp=Z,17µm,19.0s
KDAK Kodiak Island 77.50 30 P **P 20 27 45.2 -0.1**
comp=Z,58nm,1.0s,baz=164,slow=3.1,SNR=30
KDAK LR LR 21 06 45.6
comp=Z,14µm,18.0s,baz=140,slow=39
comp=Z,58nm,1.0s
KDAK Kodiak Island 77.50 30 *ce*P **P 20 27 45.3 -0.1**
KDAK pmax pmax
comp=Z,165nm,1.2s
KDAK MLR MLR
comp=Z,25µm,16.0s
KDAK Kodiak Island 77.50 30 ⇑P **P 20 27 45.1 -0.1**
PWL Port Wells 77.50 26 IAmb IAmb 20 27 47.1
comp=Z,133nm,1.2s
PWL IAMs_20 IAMs_20 21 04 16.8
comp=Z,15µm,20.0s
SEW Seward 77.50 27 IAmb IAmb 20 27 48.2
comp=Z,108nm,1.2s
SEW IAMs_20 IAMs_20 21 06 21.8
comp=Z,9µm,18.0s
M24K Tolsona, Glenn 77.56 25 IAmb IAmb 20 27 48.5
comp=Z,212nm,1.1s
M24K IAMs_20 IAMs_20 21 05 08.4
comp=Z,12µm,20.0s
UCM Universidad Co 77.62 309 P **P 20 27 46.4 -0.1**
TLOR Lorca, Murcia 77.72 306 P **P 20 27 44.7 -2.3**
EPYK Eagle Plains 77.80 19 IAMs_20 IAMs_20 21 08 24.7
comp=Z,11µm,20.0s
F31M Tsiigehtchic 77.83 17 IAmb IAmb 20 27 55.5
comp=Z,361nm,1.7s
F31M IAMs_20 IAMs_20 21 05 38.4
comp=Z,9µm,21.0s
MENT Mentasta 77.92 23 P **P 20 27 49.3 +1.7**
comp=Z,60nm,2.2s
GLI Glacier Island 77.97 26 IAMs_20 IAMs_20 21 07 02.2
comp=Z,14µm,18.0s
L26K Log Cabin Wild 77.99 23 IAmb IAmb 20 27 58.9
comp=Z,206nm,1.9s
L26K IAMs_20 IAMs_20 21 05 03.8
comp=Z,8µm,19.0s
KLU Klutina 78.04 25 IAmb IAmb 20 27 51.8
comp=Z,183nm,1.2s
KLU IAMs_20 IAMs_20 21 05 30.0
comp=Z,16µm,20.0s
G31M Satah River 78.07 18 IAmb IAmb 20 27 49.5
comp=Z,106nm,1.1s
G31M IAMs_20 IAMs_20 21 08 16.9
comp=Z,12µm,19.0s
FID Port Fidalgo 78.29 26 IAmb IAmb 20 27 58.2
comp=Z,173nm,1.4s
DIV Divide 78.32 25 P **P 20 27 50.2 +0.3**
DIV IAMs_20 IAMs_20 21 05 37.5
comp=Z,13µm,18.0s
UMMG Uummannaq 78.35 349 *i* P **P 20 27 49.2 -0.6**
UMMG IAmb IAmb 20 28 04.8
comp=Z,39nm,0.9s
P23K Montague Islan 78.39 27 IAmb IAmb 20 27 58.8
comp=Z,261nm,1.4s
P23K IAMs_20 IAMs_20 21 04 30.3
comp=Z,9µm,19.0s
ENIJ Nijar 78.40 306 P **P 20 27 50.4 -0.4**
ESDC Sonseca Array 78.40 309 P **P 20 27 50.9 0.0**
ESDC Sonseca Array 78.40 309 P **P 20 27 51.1 +0.3**
comp=Z,40nm,1.1s,baz=50,slow=5.8,SNR=70
ESDC LR LR 21 06 41.8
comp=Z,7µm,21.9s,baz=48,slow=39
comp=Z,40nm,1.1s
N25K Chitina, Valde 78.46 25 IAmb IAmb 20 27 55.1
comp=Z,160nm,1.2s
N25K IAMs_20 IAMs_20 21 05 37.2
comp=Z,12µm,21.0s
L27K Beaver Creek, 78.49 23 IAMs_20 IAMs_20 21 06 20.0
comp=Z,12µm,20.0s
HIN Hinchinbrook I 78.50 26 IAmb IAmb 20 27 53.3
comp=Z,181nm,1.1s
HIN IAMs_20 IAMs_20 21 04 58.2
comp=Z,14µm,20.0s
BCAR Beaver Creek A 78.50 23 P **P 20 27 51.9 +1.0**
M26K Nabesna, AK 78.52 24 IAMs_20 IAMs_20 21 07 06.8
comp=Z,13µm,18.0s
C36M Paulatuk 78.53 13 IAmb IAmb 20 27 52.4
comp=Z,189nm,1.1s
ARPS Mount Arapiles 78.64 143 P **P 20 27 53.1 +1.3**
comp=Z,243nm,0.9s
TAM Tamanrasset 78.66 290 ⇑P **P 20 27 52.2 -0.4**
EYAK Cordova Ski Ar 78.69 26 P **P 20 27 54.0 +2.1**
comp=Z,75nm,1.1s
MGBR Mount Gambier 78.70 144 P **P 20 27 50.8 -1.3**
J29N Klondike Camp 78.71 21 IAmb IAmb 20 27 54.8
comp=Z,125nm,1.2s
I30M Mount Dempster 78.72 19 IAmb IAmb 20 27 54.1
comp=Z,108nm,1.1s
GLB Gilahina Butte 78.85 25 P **P 20 27 53.5 +0.7**
GLB IAmb IAmb 20 28 01.7
comp=Z,141nm,1.4s
BMRM Bremner River 78.86 25 IAmb IAmb 20 27 55.8
comp=Z,165nm,1.0s
BMRM IAMs_20 IAMs_20 21 05 56.9
comp=Z,14µm,19.0s
H31M Peel River 78.88 18 IAmb IAmb 20 27 54.9
comp=Z,166nm,1.1s
H31M IAMs_20 IAMs_20 21 08 58.2
comp=Z,8µm,18.0s
M27K Edge Creek, AK 78.94 23 IAmb IAmb 20 27 58.3
comp=Z,177nm,1.1s
M27K IAMs_20 IAMs_20 21 07 36.0
comp=Z,11µm,18.0s
LUES Luesalemba Tem 79.10 108 P **P 20 27 56.2 +1.3**
comp=Z,103nm,1.5s
VRDI Verde Repeater 79.12 25 IAMs_20 IAMs_20 21 06 07.8
comp=Z,14µm,18.0s
ANGG Ammassalik, Gr 79.30 342 *i* P **P 20 27 53.3 -1.8**
ANGG IAmb IAmb 20 28 10.1
comp=Z,126nm,1.4s
K29M Barlow Dome 79.36 21 P **P 20 27 56.3 +0.6**
ILULI Ilulissat 79.45 348 IAmb IAmb 20 28 03.7
comp=Z,200nm,1.6s
ILULI Ilulissat 79.45 348 *i* P **P 20 27 55.5 -0.4**
ILULI IAmb IAmb 20 28 03.3
comp=Z,201nm,1.6s
EADA Adamuz 79.52 308 P **P 20 27 53.8 -3.2**
BERG Berg Lake 79.57 25 IAmb IAmb 20 28 05.7
comp=Z,162nm,1.3s
BERG IAMs_20 IAMs_20 21 06 50.7
comp=Z,14µm,19.0s
KAIM Kayak Island 79.60 26 IAMs_20 IAMs_20 21 08 03.4
comp=Z,18µm,21.0s
L29M L29M 79.69 22 IAmb IAmb 20 28 06.7
comp=Z,477nm,1.9s
MOPA Mopani 79.78 236 *i* P **P 20 27 58.1 -0.3**
WAX Waxell Ridge 79.86 25 P **P 20 27 59.3 +0.9**
WAX IAmb IAmb 20 28 07.7
comp=Z,308nm,1.6s
BLWY Bulawayo 79.89 241 *i* P **P 20 27 54.7 -4.5**
ARMA Armidale 79.95 133 P **P 20 28 00.9 +1.6**
comp=Z,58nm,1.0s
SNH Sunshine Point 80.04 25 IAmb IAmb 20 28 03.4
comp=Z,143nm,1.1s
M29M Somme Creek 80.05 22 IAMs_20 IAMs_20 21 06 40.1
comp=Z,16µm,19.0s
MUSN Musina, Limpop 80.19 238 *i* P **P 20 27 57.3 -3.4**
YAH Yahtse 80.33 25 IAMs_20 IAMs_20 21 06 54.6
comp=Z,15µm,20.0s
MESA MESA 80.37 25 IAmb IAmb 20 28 10.2
comp=Z,154nm,1.0s
MESA IAMs_20 IAMs_20 21 09 27.8
comp=Z,8µm,20.0s
PAF Port-aux-Franc 80.42 196 IAMs_20 IAMs_20 21 00 02.7
comp=Z,12µm,21.0s
MTE Manteigas 80.48 311 *e*P **P 20 28 03.8 +1.7**
MTE Manteigas 80.48 311 ⇓P **P 20 28 03.5 +1.4**
M30M Minto, Yukon 80.50 21 IAmb IAmb 20 28 10.8
comp=Z,238nm,1.9s
M30M IAMs_20 IAMs_20 21 06 57.1
comp=Z,15µm,20.0s
O28M Mount Upton 80.61 24 P **P 20 28 03.8 +1.1**
O28M IAmb IAmb 20 28 12.2
comp=Z,270nm,1.6s
O28M IAMs_20 IAMs_20 21 08 26.1
comp=Z,10µm,18.0s
EBAD Badajoz 80.93 309 P **P 20 28 01.7 -2.8**
GEXS Deakin Univers 81.01 142 P **P 20 28 05.7 +1.1**
comp=Z,92nm,0.9s
ESPR Espera 81.03 307 P **P 20 28 06.3 +1.2**
PCA Pinnacle 81.05 24 IAmb IAmb 20 28 11.5
comp=Z,136nm,1.2s

PCA IAMs_20 IAMs_20 21 07 20.8
comp=Z,13µm,18.0s
CEU Ceuta 81.16 306 P **P 20 28 08.3 +2.6**
N30M Aishikik Lake 81.20 22 IAmb IAmb 20 28 15.1
comp=Z,444nm,1.9s
N30M IAMs_20 IAMs_20 21 08 44.7
comp=Z,14µm,19.0s
PBAR Barrancos 81.23 309 P **P 20 28 05.1 -0.9**
PESTR Estremoz 81.26 309 IAMs_20 IAMs_20 21 10 38.2
comp=Z,9µm,18.0s
SFJD Kangerlussuaq 81.28 347 P **P 20 28 05.1 -0.7**
SFJD Kangerlussuaq 81.28 347 IAMs_20 IAMs_20 21 09 40.5
comp=Z,11µm,20.0s
SFJD Kangerlussuaq 81.28 347 LR LR 21 10 21.2
comp=Z,11µm,18.9s,baz=28,slow=40
SFJD Kangerlussuaq 81.28 347 P **P 20 28 05.1 -0.7**
SFJD pmax pmax
comp=Z,100nm,1.1s
SFJD MLR MLR
comp=Z,11µm,20.0s
SFJD Kangerlussuaq 81.28 347 *i* P **P 20 28 05.0 -0.8**
SFJD IAmb IAmb 20 28 06.5
comp=Z,107nm,1.1s
BCPM Bancas Point 81.38 24 IAmb IAmb 20 30 33.0
comp=Z,276nm,1.8s
BCPM IAMs_20 IAMs_20 21 07 48.3
comp=Z,12µm,18.0s
CNIL Conil 81.41 307 P **P 20 28 06.4 -0.7**
MGCD Mangrove Creek 81.47 135 P **P 20 28 09.1 +1.9**
comp=Z,66nm,0.9s
O29M Mount Kennedy 81.51 24 IAmb IAmb 20 28 16.6
comp=Z,191nm,1.5s
O29M IAMs_20 IAMs_20 21 08 42.0
comp=Z,9µm,19.0s
HYT Haines Junctio 81.52 23 IAmb IAmb 20 28 10.2
comp=Z,142nm,1.1s
M31M Drury Creek, Y 81.54 21 IAmb IAmb 20 28 16.2
comp=Z,217nm,1.5s
SYDH Sydney Hard Ro 81.62 136 P **P 20 28 09.7 +1.8**
comp=Z,43nm,0.9s
N31M Braeburn, Yuko 81.62 22 IAmb IAmb 20 28 12.3
comp=Z,208nm,1.1s
N31M IAMs_20 IAMs_20 21 07 31.7
comp=Z,14µm,19.0s
CAN Canberra 81.62 138 IAmb IAmb 20 28 17.9
comp=Z,380nm,1.8s
CAN Canberra 81.62 138 P **P 20 28 09.7 +1.7**
comp=Z,179nm,2.4s
CAN Canberra 81.62 138 ⇓P **P 20 28 08.8 +0.7**
PNL Peninsula 81.66 24 P **P 20 28 09.1 +1.1**
comp=Z,127nm,1.1s
YKU2 Yakutat 81.67 25 IAMs_20 IAMs_20 21 07 59.1
comp=Z,11µm,19.0s
EVO Evora 81.72 309 P **P 20 28 08.7 0.0**
CNB Canberra Magne 81.83 138 P **P 20 28 11.0 +1.8**
comp=Z,93nm,1.4s
FARO Faro, Yukon 81.84 21 P **P 20 28 09.6 +0.7**
FARO IAmb IAmb 20 28 17.9
comp=Z,138nm,1.5s
RIV Riverview 81.92 135 P **P 20 28 11.1 +1.6**
comp=Z,79nm,1.4s
O30N Mendenhall 82.04 23 IAmb IAmb 20 28 13.0
comp=Z,211nm,1.1s
O30N IAMs_20 IAMs_20 21 08 48.8
comp=Z,14µm,19.0s
MDT Midelt 82.07 303 LR LR 21 08 47.7
comp=Z,2µm,20.9s,baz=56,slow=39
IFR Ifrane 82.12 304 P **P 20 28 11.4 +0.3**
MMPY Sheldon Lake, 82.17 20 IAmb IAmb 20 28 13.8
comp=Z,135nm,1.2s
MESJ Messejana 82.20 309 *e*P **P 20 28 11.8 +0.6**
MESJ *e*PP **PP 20 31 19.9 +0.7**
MESJ *e*S **S 20 38 27.4 +1.7**
MESJ IAMs_20 IAMs_20 21 11 06.2
comp=Z,5µm,12.9s
MESJ Messejana 82.20 309 IAmb IAmb 20 28 23.3
comp=Z,274nm,1.9s
MESJ Messejana 82.20 309 *e*P **P 20 28 11.8 +0.6**
MESJ *e* 20 31 19.9
MESJ *e*S **S 20 38 27.4 +1.7**
P29M Windy Craggy 82.29 24 IAMs_20 IAMs_20 21 08 34.4
comp=Z,9µm,18.0s
LIS Lisbon 82.40 310 *e*P **P 20 28 12.8 +0.6**
LIS *e*PP **PP 20 31 21.6 +0.8**
LIS *e*S **S 20 38 29.2 +1.6**
LIS IAMs_20 IAMs_20 21 15 43.4
comp=N,7µm,24.4s
LIS Lisbon 82.40 310 *e*P **P 20 28 12.8 +0.6**
LIS *e* 20 31 21.5
LIS *e*S **S 20 38 29.2 +1.6**
ILON Igloolik, Nuna 82.44 359 IAMs_20 IAMs_20 21 06 20.6
comp=Z,14µm,20.0s
WHY Whitehorse 82.53 22 IAmb IAmb 20 28 27.9
comp=Z,147nm,1.2s
MORF Marmelete 82.77 308 *e*P **P 20 28 14.7 +0.5**
MORF *e*PP **PP 20 31 24.6 +0.7**
MORF *e*S **S 20 38 33.5 +2.0**
MORF IAMs_20 IAMs_20 21 08 44.6
comp=Z,7µm,22.3s
VLAKA Lakatoro 83.21 112 P **P 20 28 17.8 +1.2**
comp=Z,84nm,1.0s
SKAG Skagway 83.26 23 IAMs_20 IAMs_20 21 08 56.1
comp=Z,9µm,19.0s
SKAG Skagway 83.26 23 P **P 20 28 17.3 +1.0**
comp=Z,199nm,1.3s
KHWEE KHWEE 83.34 241 *i* P **P 20 28 19.9 +2.5**
P32M Atlin 83.71 22 IAMs_20 IAMs_20 21 10 12.1
comp=Z,13µm,20.0s
WRGLY Wrigley 83.80 16 P **P 20 28 19.3 +0.4**
WRGLY IAmb IAmb 20 28 27.9
comp=Z,148nm,1.5s
LPHEP Lephephe 83.82 239 *i* P **P 20 28 22.6 +2.8**
AVE Averroes 83.89 305 P **P 20 28 20.3 +0.2**
NUUK Nuuk 83.96 346 *i* P **P 20 28 18.7 -1.0**
NUUK IAmb IAmb 20 28 20.6
comp=Z,75nm,1.1s
S31K Pelican 84.04 25 IAmb IAmb 20 28 25.8
comp=Z,152nm,1.2s
S31K IAMs_20 IAMs_20 21 09 31.7
comp=Z,14µm,19.0s
BESE Bessie Mountai 84.08 24 IAmb IAmb 20 28 25.5
comp=Z,156nm,1.3s
BESE IAMs_20 IAMs_20 21 09 07.7
comp=Z,13µm,20.0s
R32K Eaglecrest 84.42 24 IAmb IAmb 20 28 31.2
comp=Z,100nm,1.1s
R32K IAMs_20 IAMs_20 21 08 44.8
comp=Z,10µm,20.0s
JIS Juneau Island 84.47 24 P **P 20 28 24.2 +1.8**
comp=Z,115nm,1.2s
KDWAN Kaudwane 84.74 240 P **P 20 28 23.8 -0.7**
KDWAN IAmb IAmb 20 28 35.9
comp=Z,78nm,1.2s
R33M Jennings River 84.77 21 IAMs_20 IAMs_20 21 09 29.0
comp=Z,14µm,22.0s
CORO Coronation Par 84.87 143 P **P 20 28 26.7 +2.2**
comp=Z,41nm,0.9s
WTLY Watson Lake, Y 84.88 20 IAmb IAmb 20 28 26.8
comp=Z,73nm,1.1s
TIO Tiouine 84.96 302 P **P 20 28 24.7 -1.0**
NRS Narsarsuaq 84.98 342 IAMs_20 IAMs_20 21 10 15.6
comp=Z,11µm,19.0s
GLAD Gladstone 85.00 142 P **P 20 28 26.3 +1.1**
comp=Z,28nm,0.9s
S32K Killisnoo 85.00 24 IAmb IAmb 20 28 28.3
comp=Z,85nm,1.3s
S32K IAMs_20 IAMs_20 21 10 19.2
comp=Z,9µm,19.0s
SIT Sitka 85.04 25 IAMs_20 IAMs_20 21 10 09.1
comp=Z,12µm,18.0s
SIT Sitka 85.04 25 P **P 20 28 27.1 +1.8**
comp=Z,127nm,1.2s
QNGWA Qangwa 85.38 245 *i* P **P 20 28 29.1 +1.3**
MOO Moorlands 85.60 144 P **P 20 28 30.2 +2.0**
comp=Z,93nm,1.2s
DZM Mont Dzumac 85.61 118 *e*P **P 20 28 31.1 +2.2**
comp=Z,145nm,1.3s
DZM Mont Dzumac 85.61 118 *e*PP PP 20 31 38.1 -10
comp=Z,179nm,22.9s
DZM *e*S **SKSac 20 38 54.0 +0.3**
comp=Z,1µm,24.9s
DZM *e*SS **SS 20 44 34.6 -2.5**
comp=Z,2µm,32.2s
DZM *e*LQ LQ 20 51 21.2
comp=Z,2µm,31.8s
DZM *e*LR LR 20 55 30.5
comp=Z,4µm,24.1s

DZM Mont Dzumac 85.61 118 P P 20 28 30.0 +1.1
comp=Z,66nm,1.4s
DLBC Dease Lake 85.82 22 P P 20 28 30.6 +1.2
comp=Z,79nm,1.1s,baz=320,slow=5.1,SNR=25
DLBC LR LR 21 10 11.2
comp=Z,15µm,21.5s,baz=320,slow=38
comp=Z,79nm,1.1s
S34M Telegraph Cree 85.87 23 IAmb IAmb 20 28 32.9
comp=Z,102nm,1.1s
S34M IAMs_20 IAMs_20 21 13 06.0
comp=Z,13µm,19.0s
YATNC Mamie plateau, 85.96 118 P **P 20 28 31.6 +1.1**
comp=Z,74nm,1.1s
MAKGR Makgori 85.99 238 IAmb IAmb 20 28 39.7
comp=Z,238nm,1.6s
TAU Tasmania Unive 86.00 144 P **P 20 28 30.5 +0.3**
TAU IAmb IAmb 20 28 40.1
comp=Z,316nm,1.9s
TAU Tasmania Unive 86.00 144 P **P 20 28 32.2 +2.0**
comp=Z,87nm,2.4s
TAU Tasmania Unive 86.00 144 P **P 20 28 30.5 +0.3**
TAU pmax pmax
comp=Z,316nm,1.9s
TAU MLR MLR
comp=Z,6µm,20.0s
TORD Torodi Ar. Bea 86.28 283 P **P 20 28 32.1 -0.3**
TORD Torodi Ar. Bea 86.28 283 P **P 20 28 32.3 -0.1**
comp=Z,28nm,1.2s,baz=33,slow=6.2,SNR=59
TORD LR LR 21 11 52.2
comp=Z,7µm,18.6s,baz=56,slow=39
comp=Z,28nm,1.2s
GRTLG Ghanzi 86.32 243 *i* P **P 20 28 33.9 +1.5**
KGCAE Kacgae 86.34 242 IAmb IAmb 20 28 44.3
comp=Z,97nm,1.2s
KGCAE Kacgae 86.34 242 *i* P **P 20 28 34.4 +1.8**
YKAW3 Yellowknife Wh 86.36 13 IAmb IAmb 20 28 35.2
comp=Z,76nm,1.2s
YKA Yellowknife Ar 86.42 13 P **P 20 28 32.1 0.0**
comp=Z,38nm,1.1s,baz=338,slow=4.6,SNR=102
YKA PKKPbc **PKKPbc 20 46 28.6 -1.2**
comp=Z,0.4nm,0.6s,baz=160,slow=2.1,SNR=7.0
YKA PKPPKP **P'P'df 20 54 35.7 -5.3**
comp=Z,0.5nm,1.0s,baz=161,slow=3.0,SNR=3.9
YKA LR LR 21 10 18.6
comp=Z,7µm,19.3s,baz=332,slow=38
comp=Z,38nm,1.1s
YKAW1 Yellowknife Wh 86.45 13 IAmb IAmb 20 28 35.6
comp=Z,74nm,1.1s
U33K Whale Pass 86.55 24 IAMs_20 IAMs_20 21 11 04.2
comp=Z,10µm,18.0s
WRAK Wrangell Islan 86.60 24 IAmb IAmb 20 28 42.6
comp=Z,125nm,1.2s
WRAK Wrangell Islan 86.60 24 IAMs_20 IAMs_20 21 11 48.4
comp=Z,12µm,21.0s
WRAK Wrangell Islan 86.60 24 ⇓P **P 20 28 35.1 +2.1**
T35M Bob Quinn 86.89 23 IAmb IAmb 20 28 44.6
comp=Z,174nm,1.5s
T35M IAMs_20 IAMs_20 21 12 31.2
comp=Z,10µm,19.0s
FRB Frobisher Bay 87.15 353 LR LR 21 09 48.5
comp=Z,8µm,22.0s,baz=0.5,slow=37
BLKN Baker Lake 87.18 5 P **P 20 28 34.8 -1.0**
BOSA Boshof 87.22 235 P **P 20 28 37.0 +0.3**
comp=Z,44nm,1.1s,baz=59,slow=6.0,SNR=11
BOSA LR LR 21 06 35.4
comp=Z,5µm,19.7s,baz=67,slow=35
BOSA Boshof 87.22 235 P **P 20 28 37.0 +0.3**
PHPEN Phepeng 87.26 239 IAmb IAmb 20 28 48.7
comp=Z,69nm,1.1s
PHPEN Phepeng 87.26 239 *i* P **P 20 28 39.5 +2.5**
V35K Ketchikan 87.70 24 IAMs_20 IAMs_20 21 13 06.6
comp=Z,7µm,18.0s
U35K Hyder 87.81 23 IAMs_20 IAMs_20 21 11 32.4
comp=Z,9µm,18.0s
KOOLE Kule 87.98 243 IAmb IAmb 20 28 52.8
comp=Z,68nm,1.3s
KOOLE Kule 87.98 243 *i* P **P 20 28 42.7 +2.2**
TSUM Tsumeb 88.10 247 IAMs_20 IAMs_20 21 10 50.0
comp=Z,8µm,19.0s
TSUM Tsumeb 88.10 247 LR LR 21 06 08.5
comp=Z,5µm,21.3s,baz=55,slow=34
MOBC Moresby Island 89.26 26 IAMs_20 IAMs_20 21 12 22.8
comp=Z,9µm,20.0s
BBB Bella Bella 91.46 25 LR LR 21 13 39.4
comp=Z,7µm,18.7s,baz=332,slow=38
SUR Sutherland 92.49 234 LR LR 21 07 23.2
comp=Z,11µm,21.5s,baz=66,slow=33
HOLB Holberg 92.70 26 IAMs_20 IAMs_20 21 15 32.7
comp=Z,7µm,19.0s
MSVF Nonsavu 92.80 109 LR LR 21 09 36.9
comp=Z,1µm,19.5s,baz=283,slow=35
CMLA Cha da Macela 93.47 317 IAMs_20 IAMs_20 21 13 31.5
comp=Z,11µm,20.0s
CBB Campbell River 94.22 24 IAMs_20 IAMs_20 21 18 25.1
comp=Z,6µm,19.0s
LLLB Lillooet 94.96 22 P **P 20 29 12.9 +0.5**
LLLB IAmb IAmb 20 29 22.9
comp=Z,83nm,1.1s
DBIC Dimbokro 95.04 280 P **P 20 29 14.0 +0.6**
comp=Z,5.9nm,0.9s,baz=67,slow=3.5,SNR=3.2
DBIC LR LR 21 16 27.4
comp=Z,7µm,18.2s,baz=44,slow=38
comp=Z,5.9nm,0.9s
CLRS Cowichan Lake 95.68 25 IAMs_20 IAMs_20 21 17 30.6
comp=Z,8µm,19.0s
FFC Flin Flon 95.96 10 P **P 20 29 16.3 -0.5**
FFC Flin Flon 95.96 10 P **P 20 29 16.3 -0.5**
FFC pmax pmax
comp=Z,33nm,1.1s
FFC MLR MLR
comp=Z,15µm,19.0s
PGC Sidney 96.07 24 IAMs_20 IAMs_20 21 17 50.9
comp=Z,8µm,20.0s
C03A Quillayute Air 96.25 25 IAMs_20 IAMs_20 21 18 17.6
comp=Z,8µm,20.0s
NLWA Neilton Lookou 96.97 25 IAmb IAmb 20 29 33.0
comp=Z,46nm,1.4s
NLWA IAMs_20 IAMs_20 21 18 57.8
comp=Z,10µm,18.0s
GNW Green Mountain 97.21 24 IAMs_20 IAMs_20 21 18 27.1
comp=Z,8µm,20.0s
WISH Wishkah 97.24 25 IAMs_20 IAMs_20 21 19 06.8
comp=Z,9µm,19.0s
B08A Colville Reser 97.74 22 IAMs_20 IAMs_20 21 17 15.1
comp=Z,8µm,19.0s
E03A Lebam 97.79 25 IAMs_20 IAMs_20 21 20 50.5
comp=Z,5µm,18.0s
RADR Rader Ridge 97.81 26 IAMs_20 IAMs_20 21 15 51.9
comp=Z,6µm,20.0s
D05A Enumclaw 97.83 24 IAMs_20 IAMs_20 21 18 46.5
comp=Z,7µm,19.0s
LTY Liberty 98.24 23 IAMs_20 IAMs_20 21 17 12.4
comp=Z,7µm,21.0s
LON Longmire 98.27 24 IAMs_20 IAMs_20 21 19 08.1
comp=Z,7µm,20.0s
F04D Rainier, OR 98.39 25 IAMs_20 IAMs_20 21 19 12.3
comp=Z,5µm,20.0s
NEW Newport 98.54 21 P **P 20 29 28.0 -0.6**
comp=Z,7.8nm,1.0s,baz=331,slow=5.5,SNR=8.4
NEW LR LR 21 18 31.6
comp=Z,11µm,19.3s,baz=330,slow=38
comp=Z,7.8nm,1.0s
MAW Mawson 98.65 192 LR LR 21 11 23.5
comp=Z,5µm,19.2s,baz=6.5,slow=34
HEBO Mount Hebo 98.83 26 IAMs_20 IAMs_20 21 16 38.0
comp=Z,6µm,19.0s
D08A Wollman Farm, 99.01 22 IAMs_20 IAMs_20 21 20 53.7
comp=Z,7µm,18.0s
G03D McMinnville, O 99.02 26 IAMs_20 IAMs_20 21 16 56.1
comp=Z,5µm,19.0s
E07A Sunnyside 99.13 23 IAMs_20 IAMs_20 21 17 04.8
comp=Z,7µm,21.0s
FOZ Fox Glacier 99.36 135 IAMs_20 IAMs_20 21 18 54.6
comp=Z,6µm,20.0s
HAWA Hanford 99.38 23 IAMs_20 IAMs_20 21 17 56.5
comp=Z,6µm,21.0s
WHZ Wether Hill Ro 99.42 137 IAMs_20 IAMs_20 21 17 39.2
comp=Z,5µm,20.0s
E08A Dider Farm, El 99.46 23 IAMs_20 IAMs_20 21 21 09.6
comp=Z,6µm,18.0s
HOOD Mount Hood Mea 99.54 25 IAMs_20 IAMs_20 21 19 20.8
comp=Z,8µm,19.0s
F07A Phinny Hill Vi 99.67 24 IAMs_20 IAMs_20 21 20 56.3
comp=Z,6µm,18.0s
DSZ Denniston Nort 99.74 132 IAMs_20 IAMs_20 21 18 56.9
comp=Z,6µm,20.0s
E09A Wood Farm, Sta 99.75 22 IAMs_20 IAMs_20 21 20 57.2
comp=Z,6µm,19.0s

H04A Detroit Lake 99.88 26 IAMs_20 IAMs_20 21 19 34.8
comp=Z,6µm,19.0s
G06A Carlson Farm, 99.99 24 IAMs_20 IAMs_20 21 18 36.6
comp=Z,7µm,20.0s
LBZ Lake Benmore 100.02 135 IAMs_20 IAMs_20 21 18 58.1
comp=Z,6µm,20.0s
RPZ Rata Peaks 100.23 134 IAMs_20 IAMs_20 21 19 35.7
comp=Z,5µm,20.0s
THZ Tophouse 100.47 132 IAMs_20 IAMs_20 21 19 22.2
comp=Z,7µm,21.0s
I05D Terrebonne, OR 100.50 25 IAMs_20 IAMs_20 21 20 03.0
comp=Z,5µm,20.0s
F10A Beach Ranch, E 100.53 22 IAMs_20 IAMs_20 21 18 49.8
comp=Z,6µm,21.0s
G08A Pilot Rock 100.54 23 IAMs_20 IAMs_20 21 17 57.1
comp=Z,7µm,21.0s
ICQ Pointe Anglais 100.71 348 IAMs_20 IAMs_20 21 19 10.1
comp=Z,8µm,20.0s
EGMT Eaglelton 100.82 16 IAMs_20 IAMs_20 21 22 27.4
comp=Z,5µm,18.0s
PINE Pine Mountain 101.11 25 IAMs_20 IAMs_20 21 18 34.3
comp=Z,6µm,20.0s
KBO Bosley Butte 101.13 28 IAMs_20 IAMs_20 21 19 22.0
comp=Z,5µm,18.0s
I07A Izee 101.39 24 IAMs_20 IAMs_20 21 19 28.7
comp=Z,6µm,20.0s
J05D Fort Rock, OR 101.43 26 IAMs_20 IAMs_20 21 20 22.8
comp=Z,5µm,20.0s
SNZO South Karori 101.45 131 IAMs_20 IAMs_20 21 20 16.0
comp=Z,5µm,21.0s
L02F Cave Junction 101.48 28 IAMs_20 IAMs_20 21 19 36.2
comp=Z,6µm,19.0s
BMO Blue Mountains 101.49 23 IAMs_20 IAMs_20 21 19 00.2
comp=Z,7µm,21.0s
DGMT Dagmar 101.62 13 IAMs_20 IAMs_20 21 18 35.6
comp=Z,10µm,19.0s
BKZ Black Stump Fm 101.68 128 IAMs_20 IAMs_20 21 19 24.2
comp=Z,7µm,22.0s
PLID Pearl Lake 101.71 22 IAMs_20 IAMs_20 21 20 41.1
comp=Z,10µm,19.0s
K04D Chiloquin, OR 101.79 26 IAMs_20 IAMs_20 21 21 16.3
comp=Z,5µm,20.0s
EPLO Experimental L 101.89 5 IAMs_20 IAMs_20 21 17 59.7
comp=Z,10µm,20.0s
J08A Circle Bar Ran 102.39 24 IAMs_20 IAMs_20 21 18 57.2
comp=Z,5µm,22.0s
BATG Bathurst New B 102.62 347 IAMs_20 IAMs_20 21 21 58.9
comp=Z,6µm,19.0s
KMPM Mount Pierce 102.66 29 IAMs_20 IAMs_20 21 17 54.5
comp=Z,5µm,19.0s
LDAQ Lac Daran 102.88 350 IAMs_20 IAMs_20 21 22 00.4
comp=Z,7µm,20.0s
KMRM Mail Ridge 103.00 29 IAMs_20 IAMs_20 21 18 06.9
comp=Z,6µm,19.0s
AGMN Agassiz Station 103.05 7 IAMs_20 IAMs_20 21 19 14.3
comp=Z,10µm,19.0s
WVOR Wild Horse Val 103.14 25 IAMs_20 IAMs_20 21 21 18.9
comp=Z,6µm,19.0s
MFID Camas Ranch 103.26 22 IAMs_20 IAMs_20 21 20 04.0
comp=Z,6µm,20.0s
GBN Guysborough 103.33 343 IAMs_20 IAMs_20 21 19 23.0
comp=Z,7µm,22.0s
D62A Allapoint, All 103.38 349 IAMs_20 IAMs_20 21 22 08.8
comp=Z,8µm,19.0s
VLDQ Val d'Or 103.46 354 IAMs_20 IAMs_20 21 20 03.2
comp=Z,7µm,20.0s
KCPM Cahto Peak 103.50 29 IAMs_20 IAMs_20 21 20 05.6
comp=Z,5µm,19.0s
RLMT Red Lodge 103.64 17 IAMs_20 IAMs_20 21 23 07.1
comp=Z,8µm,18.0s
LMN Caledonia Moun 103.71 345 IAMs_20 IAMs_20 21 23 33.7
comp=Z,6µm,19.0s
E62A Clayton Lake 103.91 349 IAMs_20 IAMs_20 21 19 57.7
comp=Z,10µm,22.0s
E28A Huff 104.08 11 IAMs_20 IAMs_20 21 20 17.5
comp=Z,10µm,18.0s
F64A Sherman 104.43 348 IAMs_20 IAMs_20 21 21 00.6
comp=Z,7µm,19.0s
GDXM Geysers 104.57 29 IAMs_20 IAMs_20 21 24 22.9
comp=Z,5µm,18.0s
HAL Halifax 104.57 344 IAMs_20 IAMs_20 21 24 57.7
comp=Z,6µm,18.0s
GGN Saint George 104.85 346 IAMs_20 IAMs_20 21 20 12.8
comp=Z,5µm,20.0s
G65A Princeton 104.91 347 IAMs_20 IAMs_20 21 19 13.5
comp=Z,6µm,21.0s
TRQ Mont Tremblant 105.03 352 IAMs_20 IAMs_20 21 21 15.4
comp=Z,8µm,20.0s
SYO Syowa Base 105.05 198 ⇓*e*Pdiff **Pdif 20 29 59.0 +2.2**
SYO Syowa Base 105.05 198 ⇑*e*PKPdiff PKPdif 20 30 04.2 +0.6
PKME Peaks-Kenny Pk 105.18 348 IAMs_20 IAMs_20 21 22 08.4
comp=Z,8µm,19.0s
PAHR Pah Rah Range 105.21 26 IAMs_20 IAMs_20 21 22 22.7
comp=Z,6µm,19.0s
E46A Sault Ste Mari 105.54 359 IAMs_20 IAMs_20 21 25 40.4
comp=Z,7µm,19.0s
PNTR Pine Nut 105.66 27 IAMs_20 IAMs_20 21 22 16.6
comp=Z,6µm,20.0s
COWI Conover 105.74 3 IAMs_20 IAMs_20 21 25 08.5
comp=Z,11µm,21.0s
PDAR Pinedale Array 105.75 18 PKiKP **PKiKP 20 34 13.6 -0.3**
comp=Z,4.9nm,1.1s,baz=331,slow=4.8,SNR=7.3
PDAR PKKPbc **PKKPbc 20 45 36.0 -1.8**
comp=Z,1.6nm,1.0s,baz=138,slow=5.1,SNR=5.4
ELK Elko 105.83 23 IAMs_20 IAMs_20 21 24 11.2
comp=Z,7µm,19.0s
WVL Waterville 105.92 348 IAMs_20 IAMs_20 21 21 13.1
comp=Z,7µm,21.0s
F42A Maple Grove Fa 106.11 2 IAMs_20 IAMs_20 21 24 59.5
comp=Z,7µm,19.0s
H62A Milan 106.17 349 IAMs_20 IAMs_20 21 20 40.5
comp=Z,12µm,22.0s
WAKR Walker 106.22 27 IAMs_20 IAMs_20 21 25 05.6
comp=Z,5µm,19.0s
HWUT Hardware Ranch 106.24 20 IAMs_20 IAMs_20 21 26 45.0
comp=Z,7µm,18.0s
FRNY Flat Rock 106.27 351 IAMs_20 IAMs_20 21 21 33.2
comp=Z,8µm,20.0s
WBO Williamsburg 106.32 352 IAMs_20 IAMs_20 21 21 53.4
comp=Z,7µm,20.0s
RYN Ryan 106.48 26 IAMs_20 IAMs_20 21 26 04.4
comp=Z,5µm,18.0s
G40A Rib Lake 106.52 3 IAMs_20 IAMs_20 21 20 53.2
comp=Z,10µm,20.0s
I63A Otisfield 106.58 349 IAMs_20 IAMs_20 21 21 17.5
comp=Z,11µm,22.0s
LONY Lake Ozonia 106.61 352 IAMs_20 IAMs_20 21 25 28.2
comp=Z,7µm,19.0s
LBNH Lisbon 106.61 350 IAMs_20 IAMs_20 21 21 55.7
comp=Z,6µm,20.0s
VT1 Waterbury 106.65 351 IAMs_20 IAMs_20 21 24 36.5
comp=Z,6µm,19.0s
K22A Casper 106.65 16 IAMs_20 IAMs_20 21 24 33.7
comp=Z,8µm,18.0s
NVAR Mina Array Bea 106.73 26 PKiKP **PKiKP 20 34 16.1 +0.2**
comp=Z,1.4nm,0.9s,baz=354,slow=6.0,SNR=3.7
NVAR PKKPbc **PKKPbc 20 45 33.2 -1.4**
comp=Z,1.3nm,0.8s,baz=163,slow=5.3,SNR=3.6
LHV Little Huntoon 106.81 27 IAMs_20 IAMs_20 21 26 27.2
comp=Z,6µm,18.0s
Q09A Carvers 106.81 25 IAMs_20 IAMs_20 21 20 46.3
comp=Z,5µm,20.0s
SAO San Andreas Ge 106.86 30 IAMs_20 IAMs_20 21 21 45.6
comp=Z,4µm,18.0s
I62A Tamworth 106.88 349 IAMs_20 IAMs_20 21 21 24.3
comp=Z,10µm,22.0s
DELO Deloro Mine 107.04 354 IAMs_20 IAMs_20 21 22 32.3
comp=Z,6µm,19.0s
GLMI Grayling 107.08 359 IAMs_20 IAMs_20 21 27 58.0
comp=Z,7µm,18.0s
DUG Dugway, Tooele 107.14 22 IAMs_20 IAMs_20 21 24 13.7
comp=Z,6µm,18.0s
HNH Hanover 107.19 350 IAMs_20 IAMs_20 21 22 02.6
comp=Z,9µm,21.0s
NCB Newcomb 107.21 352 IAMs_20 IAMs_20 21 25 45.8
comp=Z,10µm,19.0s
H43A Windswept, Lux 107.41 2 IAMs_20 IAMs_20 21 22 06.9
comp=Z,7µm,19.0s
PECO Prince Edward 107.56 354 IAMs_20 IAMs_20 21 23 02.1
comp=Z,9µm,20.0s
J61A Chester 107.58 350 IAMs_20 IAMs_20 21 22 35.0
comp=Z,7µm,21.0s
SPR3 Spring Creek 3 107.70 23 IAMs_20 IAMs_20 21 22 39.7
comp=Z,5µm,20.0s
ACCN Adirondack Com 107.71 351 IAMs_20 IAMs_20 21 24 57.2
comp=Z,7µm,22.0s
J59A Piesco 107.74 352 IAMs_20 IAMs_20 21 22 05.0
comp=Z,9µm,21.0s

DSP Deep Springs 107.78 27 IAMs_20 IAMs_20 21 26 48.0
comp=Z,7µm,18.0s
I40A Norwalk 107.87 4 IAMs_20 IAMs_20 21 21 24.9
comp=Z,10µm,20.0s
I49A Point Hope 107.93 358 IAMs_20 IAMs_20 21 21 32.7
comp=Z,9µm,20.0s
I42A Draeger Farm, 107.95 3 IAMs_20 IAMs_20 21 21 39.2
comp=Z,9µm,20.0s
J57A Williamstown 107.97 353 IAMs_20 IAMs_20 21 22 52.1
comp=Z,8µm,20.0s
K62A Royalston 108.20 350 IAMs_20 IAMs_20 21 22 30.3
comp=Z,7µm,22.0s
HRV Adam Dziewonsk 108.25 349 IAMs_20 IAMs_20 21 22 03.6
comp=Z,7µm,22.0s
CTZ Chatham Island 108.28 130 IAMs_20 IAMs_20 21 24 22.0
comp=Z,6µm,21.0s
J55A Hilton 108.30 354 IAMs_20 IAMs_20 21 20 50.6
comp=Z,9µm,22.0s
WES Weston 108.33 349 IAMs_20 IAMs_20 21 21 55.7
comp=Z,9µm,22.0s
BCX Boston College 108.35 349 IAMs_20 IAMs_20 21 21 56.3
comp=Z,8µm,22.0s
TRY Troy 108.35 351 IAMs_20 IAMs_20 21 22 44.1
comp=Z,6µm,20.0s
S11A Rachel 108.40 25 IAMs_20 IAMs_20 21 24 59.1
comp=Z,5µm,20.0s
MEDO Medina 108.45 355 IAMs_20 IAMs_20 21 21 38.7
comp=Z,9µm,20.0s
L61B Northampton 108.48 350 IAMs_20 IAMs_20 21 22 48.7
comp=Z,8µm,21.0s
J47A Sunmer 108.67 359 IAMs_20 IAMs_20 21 24 25.3
comp=Z,7µm,19.0s
L64A Middleborough 108.68 349 IAMs_20 IAMs_20 21 22 41.0
comp=Z,10µm,22.0s
TCRU Three Creeks R 108.69 22 IAMs_20 IAMs_20 21 26 17.9
comp=Z,5µm,18.0s
K57A Scipio Center 108.70 353 IAMs_20 IAMs_20 21 26 45.3
comp=Z,5µm,18.0s
MMNY Mt. Morris Dam 108.84 354 IAMs_20 IAMs_20 21 21 06.9
comp=Z,9µm,22.0s
MVU Marysvale 108.86 22 IAMs_20 IAMs_20 21 24 08.4
comp=Z,4µm,20.0s
M65A Busby, Falmout 109.01 348 IAMs_20 IAMs_20 21 22 51.8
comp=Z,10µm,22.0s
UCCT U. Connecticut 109.05 350 IAMs_20 IAMs_20 21 23 27.8
comp=Z,6µm,20.0s
ISA Isabella, Lake 109.05 28 IAMs_20 IAMs_20 21 28 09.7
comp=Z,6µm,18.0s
L59A Walton 109.06 352 IAMs_20 IAMs_20 21 26 23.0
comp=Z,7µm,18.0s
K50A Casco 109.09 358 IAMs_20 IAMs_20 21 22 09.4
comp=Z,8µm,21.0s
BRIGG Briggsdale 109.13 15 IAMs_20 IAMs_20 21 26 37.4
comp=Z,8µm,18.0s
K43A Burlington 109.16 2 IAMs_20 IAMs_20 21 26 34.1
comp=Z,8µm,20.0s
WVNY West Valley, N 109.22 355 IAMs_20 IAMs_20 21 21 51.0
comp=Z,11µm,22.0s
M63A Gales Ferry 109.40 349 IAMs_20 IAMs_20 21 24 47.1
comp=Z,7µm,20.0s
AAM Ann Arbor 109.59 359 IAMs_20 IAMs_20 21 26 49.6
comp=Z,7µm,19.0s
CCAC Calif City Air 109.68 28 IAMs_20 IAMs_20 21 28 09.3
comp=Z,6µm,19.0s
L44A Lake County Fo 109.70 2 IAMs_20 IAMs_20 21 23 36.3
comp=Z,6µm,20.0s
KSPA Keystone Colle 109.78 352 IAMs_20 IAMs_20 21 26 25.8
comp=Z,8µm,20.0s
PKCU Pink Cliffs 109.79 22 IAMs_20 IAMs_20 21 26 31.0
comp=Z,5µm,18.0s
L42A Oliver, Polo 109.80 3 IAMs_20 IAMs_20 21 22 35.0
comp=Z,8µm,20.0s
TRNY Table Rock, Ra 109.98 351 IAMs_20 IAMs_20 21 23 42.4
comp=Z,7µm,20.0s
KNB Kanab 110.00 23 IAMs_20 IAMs_20 21 24 00.6
comp=Z,5µm,21.0s
GSC Goldstone, Bar 110.04 27 IAMs_20 IAMs_20 21 29 09.8
comp=Z,4µm,18.0s
PAL Palisades 110.08 351 IAMs_20 IAMs_20 21 26 30.9
comp=Z,8µm,19.0s
N62A Caumsett State 110.08 350 IAMs_20 IAMs_20 21 26 29.1
comp=Z,6µm,20.0s
ODNJ Ogdensburg 110.10 351 IAMs_20 IAMs_20 21 23 02.4
comp=Z,10µm,22.0s
M57A Sunshine Farm, 110.14 353 IAMs_20 IAMs_20 21 24 37.5
comp=Z,6µm,20.0s
M50A Fremont 110.47 358 IAMs_20 IAMs_20 21 29 02.9
comp=Z,7µm,20.0s
Q24A Divide 110.47 16 IAMs_20 IAMs_20 21 26 40.8
comp=Z,6µm,18.0s
M44A Midewin, Midew 110.48 2 IAMs_20 IAMs_20 21 27 31.1
comp=Z,6µm,19.0s
BRNJ Basking Ridge 110.48 351 IAMs_20 IAMs_20 21 24 07.6
comp=Z,9µm,20.0s
N58A Sunbury 110.59 353 IAMs_20 IAMs_20 21 27 44.4
comp=Z,9µm,19.0s
LUPA Lehigh Univers 110.67 352 IAMs_20 IAMs_20 21 23 19.6
comp=Z,10µm,22.0s
U15A North Rim 110.72 23 IAMs_20 IAMs_20 21 26 30.5
comp=Z,4µm,19.0s
N51A Ashland 110.93 357 IAMs_20 IAMs_20 21 23 16.2
comp=Z,8µm,20.0s
N49A Columbus Grove 110.98 359 IAMs_20 IAMs_20 21 27 13.3
comp=Z,7µm,19.0s
KSCO Kaye Shedlock' 111.01 14 IAMs_20 IAMs_20 21 25 49.1
comp=Z,7µm,19.0s
ELIB Princess Elisa 111.20 198 *d*PKP **PKiKP 20 34 27.4 +4.5**
MVCO Mesa Verde 111.21 20 IAMs_20 IAMs_20 21 27 44.7
comp=Z,7µm,18.0s
ELS Elsinore Mount 111.22 28 IAMs_20 IAMs_20 21 28 58.2
comp=Z,4µm,18.0s
P61A Hammonton 111.51 351 IAMs_20 IAMs_20 21 23 44.7
comp=Z,6µm,21.0s
SFIN Lafayette 111.51 1 IAMs_20 IAMs_20 21 25 28.4
comp=Z,9µm,19.0s
ACSO Alum Creek Sta 111.64 358 IAMs_20 IAMs_20 21 28 08.8
comp=Z,6µm,19.0s
O48B Farmland 111.65 360 IAMs_20 IAMs_20 21 24 31.1
comp=Z,9µm,20.0s
O49A Covington 111.71 359 IAMs_20 IAMs_20 21 28 50.8
comp=Z,8µm,18.0s
WUAZ Wupatki 111.86 23 IAMs_20 IAMs_20 21 28 03.6
comp=Z,6µm,18.0s
SDMD Soldier's Deli 112.02 353 IAMs_20 IAMs_20 21 25 05.2
comp=Z,5µm,21.0s
P57A Homestead Farm 112.07 354 IAMs_20 IAMs_20 21 26 54.4
comp=Z,8µm,20.0s
P52A Corning 112.20 357 IAMs_20 IAMs_20 21 24 04.8
comp=Z,8µm,20.0s
P46A Rosedale 112.27 1 IAMs_20 IAMs_20 21 26 00.5
comp=Z,7µm,18.0s
T25A Trinidad 112.39 16 IAMs_20 IAMs_20 21 27 54.9
comp=Z,9µm,20.0s
P51A Williamsport 112.39 358 IAMs_20 IAMs_20 21 24 02.7
comp=Z,6µm,20.0s
P48A Milroy 112.45 360 IAMs_20 IAMs_20 21 24 55.2
comp=Z,8µm,20.0s
CBX Cerro Bola 112.70 28 IAMs_20 IAMs_20 21 29 41.2
comp=Z,5µm,19.0s
Y14A Wickenburg 112.70 25 IAMs_20 IAMs_20 21 24 52.2
comp=Z,6µm,21.0s
YUH Yuha Desert 112.71 28 IAMs_20 IAMs_20 21 30 02.6
comp=Z,4µm,18.0s
BLO Bloomington 112.73 1 IAMs_20 IAMs_20 21 24 44.6
comp=Z,9µm,21.0s
X16A Lo Mia Camp, P 112.83 23 IAMs_20 IAMs_20 21 28 46.4
comp=Z,5µm,19.0s
Q51A Peebles 112.85 358 IAMs_20 IAMs_20 21 24 16.0
comp=Z,8µm,21.0s
Q52A Bidwell 112.88 357 IAMs_20 IAMs_20 21 24 35.7
comp=Z,6µm,20.0s
R61A Willards 112.90 351 IAMs_20 IAMs_20 21 23 51.6
comp=Z,6µm,22.0s
Q44A Meyer Farm, Va 112.92 3 IAMs_20 IAMs_20 21 24 51.7
comp=Z,9µm,20.0s
OLIL Olney 113.13 2 IAMs_20 IAMs_20 21 23 47.2
comp=Z,8µm,22.0s
ESJX Sierra Juarez 113.27 28 IAMs_20 IAMs_20 21 29 23.2
comp=Z,4µm,18.0s
CBN Corbin Frederi 113.27 353 IAMs_20 IAMs_20 21 25 30.2
comp=Z,10µm,21.0s
113A Mohawk Valley, 113.46 26 IAMs_20 IAMs_20 21 24 55.3
comp=Z,5µm,21.0s
R58B Mineral 113.56 353 IAMs_20 IAMs_20 21 26 39.9
comp=Z,9µm,19.0s
S61A Accomac 113.58 352 IAMs_20 IAMs_20 21 29 00.7
comp=Z,8µm,19.0s
R49A Shelbyville 113.61 360 IAMs_20 IAMs_20 21 25 42.1

	comp=Z,7μm,21.0s								
FVM	French Village	113.76	4	IAMs_20	IAMs_20	21 25 08.9			
	comp=Z,9μm,21.0s								
S57A	Dark Hollow, R	113.86	354	IAMs_20	IAMs_20	21 25 06.9			
	comp=Z,8μm,20.0s								
VTX	Valle De La Tr	113.87	28	IAMs_20	IAMs_20	21 29 42.1			
	comp=Z,4μm,19.0s								
USIN	University of	113.91	2	IAMs_20	IAMs_20	21 24 34.8			
	comp=Z,7μm,22.0s								
ANMO	Albuquerque	113.91	19	IAMs_20	IAMs_20	21 26 20.9			
	comp=Z,8μm,22.0s								
ANMO	Albuquerque	113.91	19	IAMs_20	IAMs_20	21 26 09.9			
	comp=Z,8μm,21.0s								
ANMO	Albuquerque	113.91	19	IAMs_20	IAMs_20	21 26 09.9			
	comp=Z,8μm,21.0s								
ANMO	Albuquerque	113.91	19	*c i*PKIKP	PKiKP	20 34 30.1	+0.7		
ANMO				pmax	pmax				
	comp=Z,4.0nm,1.2s								
SIUC	Southern Illin	114.10	3	IAMs_20	IAMs_20	21 25 48.8			
	comp=Z,9μm,20.0s								
NVL	N'lazarevskaya	114.20	201	*e*PKIKP	PKiKP	20 34 32.7	+4.3		
NVL				*e*S	SKSac	20 41 12.3	-1.3		
NVL				pmax	pmax				
	comp=Z,24nm,0.9s								
S51A	Beattyville	114.24	358	IAMs_20	IAMs_20	21 28 26.8			
	comp=Z,8μm,20.0s								
T59A	Double "B" Far	114.51	353	IAMs_20	IAMs_20	21 26 17.0			
	comp=Z,9μm,22.0s								
Y22D	IRIS PASSCAL I	114.59	19	IAMs_20	IAMs_20	21 30 01.0			
	comp=Z,5μm,18.0s								
T42A	Van Buren	114.66	5	IAMs_20	IAMs_20	21 26 33.7			
	comp=Z,9μm,19.0s								
T50A	Nancy	114.88	359	IAMs_20	IAMs_20	21 30 45.6			
	comp=Z,7μm,19.0s								
T47A	Sharon Grove	114.90	1	IAMs_20	IAMs_20	21 32 59.0			
	comp=Z,5μm,19.0s								
PBMO	Poplar Bluff	114.96	4	IAMs_20	IAMs_20	21 25 44.6			
	comp=Z,10μm,21.0s								
HHAR	Hobbs	115.13	8	IAMs_20	IAMs_20	21 28 08.1			
	comp=Z,7μm,20.0s								
AMTX	Amarillo	115.18	15	IAMs_20	IAMs_20	21 27 37.5			
	comp=Z,7μm,18.0s								
U54A	Nelsons Funny	115.29	357	IAMs_20	IAMs_20	21 26 29.6			
	comp=Z,7μm,18.0s								
DUN6	Lazy B Ranch	115.32	22		PKiKP	20 34 29.8	-2.3		
V61A	Roper	115.56	352	IAMs_20	IAMs_20	21 29 10.0			
	comp=Z,8μm,18.0s								
PEBM	Pemiscott Bayo	115.66	4	IAMs_20	IAMs_20	21 26 16.1			
	comp=Z,9μm,20.0s								
WVT	Waverly	115.73	2	IAMs_20	IAMs_20	21 25 41.2			
	comp=Z,7μm,22.0s								
GNAR	Gosnell	115.79	4	IAMs_20	IAMs_20	21 26 30.7			
	comp=Z,8μm,20.0s								
MSTX	Muleshoe	115.80	16		PKiKP	20 34 30.6	-2.4		
MSTX				IAMs_20	IAMs_20	21 29 40.9			
	comp=Z,8μm,20.0s								
CLTN	Cedars of Leba	115.81	1	IAMs_20	IAMs_20	21 26 17.1			
	comp=Z,6μm,22.0s								
V48A	Smith Brothers	116.15	1	IAMs_20	IAMs_20	21 25 54.2			
	comp=Z,9μm,22.0s								
HBAR	Harrisburg	116.16	5	IAMs_20	IAMs_20	21 26 42.3			
	comp=Z,9μm,21.0s								
319A	Douglas	116.34	23	IAMs_20	IAMs_20	21 32 26.4			
	comp=Z,4μm,18.0s								
BBSR	BB Station	116.38	340	IAMs_20	IAMs_20	21 27 29.4			
	comp=Z,5μm,20.0s								
CPCT	Cooper Cave	116.44	359	IAMs_20	IAMs_20	21 31 53.0			
	comp=Z,7μm,20.0s								
DKNS	Dickens	116.52	14		PKPdf	20 34 32.8	-1.5		
KMSC	Kings Mountain	116.64	356	IAMs_20	IAMs_20	21 27 05.3			
	comp=Z,7μm,19.0s								
MET	Memphis--Engin	116.64	4	IAMs_20	IAMs_20	21 26 47.0			
	comp=Z,9μm,21.0s								
W50A	Signal Mountai	116.70	360	IAMs_20	IAMs_20	21 27 38.8			
	comp=Z,8μm,20.0s								
BG3	Lake Jocassee	116.86	358	IAMs_20	IAMs_20	21 26 53.1			
	comp=Z,9μm,20.0s								
EPT	El Paso	116.86	20	IAMs_20	IAMs_20	21 28 40.1			
	comp=Z,7μm,20.0s								
PLAL	Pickwick Lake	116.87	2	IAMs_20	IAMs_20	21 27 23.2			
	comp=Z,8μm,21.0s								
PAULI	Pauline	116.98	357	IAMs_20	IAMs_20	21 27 58.4			
	comp=Z,7μm,18.0s								
MNTX	Cornudas Mount	117.26	19	IAMs_20	IAMs_20	21 29 55.7			
	comp=Z,6μm,19.0s								
SN05	Snyder 5	117.29	15		PKPdf	20 34 34.2	-1.6		
X51A	Calhoun	117.33	359	IAMs_20	IAMs_20	21 29 42.5			
	comp=Z,8μm,20.0s								
FPAL	Fort Paine	117.36	0	IAMs_20	IAMs_20	21 27 26.2			
	comp=Z,5μm,22.0s								
TROLL	Troll, Antarti	117.38	200	⇑P	PKiKP	20 34 35.7	+0.9		
	comp=Z,2μm,1.0s								
X48A	Hartselle	117.43	1	IAMs_20	IAMs_20	21 28 26.0			
	comp=Z,7μm,19.0s								
Y60A	Bolivia	117.51	353	IAMs_20	IAMs_20	21 28 17.6			
	comp=Z,7μm,19.0s								
HODGE	Hodges	117.59	357	IAMs_20	IAMs_20	21 27 24.5			
	comp=Z,9μm,20.0s								
Y49A	Blount Mountai	118.03	1	IAMs_20	IAMs_20	21 29 04.0			
	comp=Z,8μm,18.0s								
QSPA	South Pole Qui	118.23	180	PKP	PKiKP	20 34 36.7	+0.2		
	comp=Z,25nm,1.0s,baz=96,slow=1.0,SNR=18								
QSPA				PKKPbc	PKKPab	20 44 55.4	-0.5		
	comp=Z,7.5nm,1.1s,baz=299,slow=1.2,SNR=11								
GOGA	Godfrey	118.45	358	IAMs_20	IAMs_20	21 27 41.3			
	comp=Z,8μm,21.0s								
FW14	Alvarado	118.48	11	IAMs_20	IAMs_20	21 29 01.7			
	comp=Z,7μm,19.0s								
Z47A	Carrollton	118.65	2	IAMs_20	IAMs_20	21 28 27.3			
	comp=Z,9μm,21.0s								
143A	Socs Landing,	118.93	6	IAMs_20	IAMs_20	21 28 29.7			
	comp=Z,8μm,20.0s								
SNAA	Sanae	119.02	201	PKP	PKPdf	20 34 37.9	+0.1		
	comp=Z,12nm,0.9s,baz=196,slow=2.3,SNR=12								
SNAA				PKKPbc	PKKPab	20 44 52.2	-0.1		
	comp=Z,7.0nm,1.0s,baz=355,slow=9.9,SNR=3.8								
OZNA	Ozona	119.11	15		PKPdf	20 34 38.4	-1.0		
152A	Waverly Hall	119.22	359	IAMs_20	IAMs_20	21 31 57.6			
	comp=Z,6μm,18.0s								
154A	Montrose	119.24	358	IAMs_20	IAMs_20	21 28 15.1			
	comp=Z,9μm,21.0s								
TXAR	Lajitas Array	119.97	18		PKPdf	20 34 40.1	-1.0		
TXAR	Lajitas Array	119.97	18	PKP	PKPdf	20 34 40.9	-0.2		
	comp=Z,8.1nm,0.9s,baz=243,slow=0.3,SNR=34								
TXAR				PP	PP	20 36 03.0	-0.9		
	comp=Z,12nm,1.1s,baz=340,slow=6.1,SNR=5.6								
TXAR				SKP	SKPdf	20 38 15.0	-0.7		
	comp=Z,7.5nm,1.1s,baz=337,slow=3.5,SNR=4.1								
TXAR				PKKPbc	PKKPbc	20 44 48.6	-1.2		
	comp=Z,1.9nm,1.0s,baz=164,slow=5.1,SNR=5.5								
346A	Big Creek Wild	120.38	4	IAMs_20	IAMs_20	21 29 14.2			
	comp=Z,7μm,21.0s								
352A	Blakely	120.41	359	IAMs_20	IAMs_20	21 29 55.0			
	comp=Z,7μm,20.0s								
TIGA	Tifton	120.42	358	IAMs_20	IAMs_20	21 29 01.5			
	comp=Z,8μm,20.0s								
VNA2	Neumayer--Watz	120.48	202	⇑P	PKiKP	20 34 41.0	+0.3		
	comp=Z,54nm,0.7s,baz=57,slow=1.2								
PPT2	Papeete2	120.61	94	*e*PP	PP	20 36 07.8	-2.4		
	comp=Z,74nm,24.8s								
PPT2	Papeete2	120.61	94	*e*SS	SS	20 52 38.9	-1.0		
	comp=Z,1μm,25.2s								
PPT2	Papeete2	120.61	94	*e*LQ	LQ	21 06 27.9			
	comp=Z,2μm,25.2s								
PPT2				*e*LR	LR	21 11 38.1			
	comp=Z,2μm,24.0s								
PPT2				*e*LR	LR	21 11 41.0			
	comp=Z,1μm,24.8s								
BRAL	Brewton	120.70	2	IAMs_20	IAMs_20	21 28 44.7			
	comp=Z,9μm,22.0s								
VNA1	Neumayer--Stat	120.77	202	⇑P	PKiKP	20 34 42.3	+1.2		
	comp=Z,39nm,0.8s								
VNA3	Neumayer Olymp	121.21	202	⇑P	PKiKP	20 34 43.7	+1.6		
	comp=Z,48nm,0.7s								
451A	Vernon	121.27	0	IAMs_20	IAMs_20	21 32 50.8			
	comp=Z,6μm,20.0s								
HPIG		121.63	21	IAMs_20	IAMs_20	21 34 45.4			
	comp=Z,7μm,18.0s								
553A	Crawfordville	121.69	359	IAMs_20	IAMs_20	21 35 12.9			
	comp=Z,8μm,19.0s								
TBI	Tubuai	122.80	101	*e*SS	SS	20 53 02.2	-5.4		
	comp=Z,13μm,26.8s								
TBI	Tubuai	122.80	101	*e*LQ	LQ	21 07 23.7			
	comp=Z,13μm,46.2s								
TBI				*e*LR	LR	21 12 36.9			
	comp=Z,2μm,24.5s								
TBI				*e*LR	LR	21 12 41.1			
	comp=Z,8μm,23.5s								
SLBS	Sierra La Lagu	123.06	27	IAMs_20	IAMs_20	21 37 18.7			
	comp=Z,4μm,19.0s								
DWPF	Disney Wildern	123.64	356	IAMs_20	IAMs_20	21 30 52.6			
	comp=Z,7μm,20.0s								
TAOE	Nuku Hiva Isla	125.15	80	*e*PP	PP	20 36 29.4	-11		
	comp=Z,170nm,25.6s								
TAOE	Nuku Hiva Isla	125.15	80	*e*SS	SS	20 53 34.1	-3.3		
	comp=Z,2μm,27.3s								
TAOE	Nuku Hiva Isla	125.15	80	*e*LR	LR	21 13 46.2			
	comp=Z,3μm,24.6s								
BELA	Belgrano 2	125.49	192		PKPdf	20 34 48.9	-1.1		
BELA				IAMs_20	IAMs_20	21 27 05.7			
	comp=Z,6μm,20.0s								
ZAIG	Zacatecas	126.49	20	IAMs_20	IAMs_20	21 35 14.0			
	comp=Z,7μm,19.0s								
GRTK	Grand Turk	128.44	343	IAMs_20	IAMs_20	21 34 00.8			
	comp=Z,5μm,20.0s								
SMRT	St. Maarten	128.95	332	IAMs_20	IAMs_20	21 34 46.4			
	comp=Z,4μm,20.0s								
SABA	Saba	129.41	332	IAMs_20	IAMs_20	21 34 48.5			
	comp=Z,5μm,21.0s								
SEUS	St. Eustatius	129.41	332	IAMs_20	IAMs_20	21 34 27.7			
	comp=Z,5μm,22.0s								
EMPR	Esperanza - Ma	129.88	336	IAMs_20	IAMs_20	21 34 35.7			
	comp=Z,4μm,21.0s								
GDHS	Morne Mazeau,	129.97	330	IAMs_20	IAMs_20	21 36 29.4			
	comp=Z,4μm,20.0s								
MAGL	Barre de l'ile	130.04	329	IAMs_20	IAMs_20	21 35 56.7			
	comp=Z,4μm,21.0s								
SJG	San Juan	130.09	336	IAMs_20	IAMs_20	21 33 30.1			
	comp=Z,4μm,22.0s								
NMDO	Nuevo Mundo	130.24	347	IAMs_20	IAMs_20	21 39 18.1			
	comp=Z,3μm,19.0s								
TDBA	Terre de Bas,	130.29	329	IAMs_20	IAMs_20	21 37 23.0			
	comp=Z,4μm,20.0s								
UNM	Universidad Na	130.70	17	IAMs_20	IAMs_20	21 39 06.5			
	comp=Z,7μm,19.0s								
GTBY	Guantanamo Bay	130.88	347	IAMs_20	IAMs_20	21 33 42.1			
	comp=Z,4μm,22.0s								
SDDR	Presa de Saban	130.90	342	IAMs_20	IAMs_20	21 35 17.9			
	comp=Z,5μm,21.0s								
SVN	Savane Anatole	130.96	328	IAMs_20	IAMs_20	21 36 19.0			
	comp=Z,4μm,20.0s								
NBPB	Pedra_Branca-C	130.96	289	*e*P	PKPdf	20 35 02.5	+0.2		
FDF	Fort de France	131.04	328	IAMs_20	IAMs_20	21 33 23.3			
	comp=Z,3μm,20.0s								
CHIV	Chiviricо	131.07	349	IAMs_20	IAMs_20	21 36 56.1			
	comp=Z,6μm,20.0s								
TEIG	Tepich	131.54	4	IAMs_20	IAMs_20	21 38 41.8			
	comp=Z,4μm,20.0s								
BBGH	Gun Hill	131.65	325	IAMs_20	IAMs_20	21 38 49.6			
	comp=Z,4μm,20.0s								
TLIG	Tlapa	132.55	17	IAMs_20	IAMs_20	21 42 13.5			
	comp=Z,5μm,19.0s								
MTDJ	Mount Denham	132.97	350	IAMs_20	IAMs_20	21 38 26.4			
	comp=Z,5μm,19.0s								
CCIG	Comitan	135.08	9	IAMs_20	IAMs_20	21 47 10.4			
	comp=Z,4μm,19.0s								
RKT	Rikitea	135.36	95	*e*LR	LR	21 18 34.3			
	comp=Z,5μm,23.2s								
ESQI	Esquipulas	137.09	5	IAMs_20	IAMs_20	21 39 17.8			
	comp=Z,6μm,22.0s								
MTO3	Montecristo	137.25	6	IAMs_20	IAMs_20	21 41 33.9			
	comp=Z,6μm,21.0s								
TGUH	Tegucigalpa,Un	137.72	3	IAMs_20	IAMs_20	21 39 14.4			
	comp=Z,7μm,22.0s								
SMAI	San Martin Ant	138.80	190	IAMs_20	IAMs_20	21 45 28.1			
	comp=Z,5μm,21.0s								
BAUV	El Baul	139.19	333		PKPdf	20 35 15.1	-2.6		
SDV	Santo Domingo	140.21	337		PKPpre	20 35 09.9			
SDV				IAMs_20	IAMs_20	21 40 26.4			
	comp=Z,6μm,22.0s								
MAL2	Monte Alegre,	140.23	306	IAMs_20	IAMs_20	21 42 27.6			
	comp=Z,4μm,20.0s								
ESPZ	Base Esperanza	140.49	200	IAMs_20	IAMs_20	21 30 22.6			
	comp=Z,4μm,22.0s								
BOAV	Boa Vista	141.08	318		PKPdf	20 35 17.7	-3.4		
JTS	Las Juntas de	141.49	359	IAMs_20	IAMs_20	21 45 49.6			
	comp=Z,3μm,20.0s								
HDC	Heredia	141.76	358	IAMs_20	IAMs_20	21 41 15.1			
	comp=Z,4μm,22.0s								
LCR2	La Lucha 2	142.01	358	IAMs_20	IAMs_20	21 41 22.5			
	comp=Z,4μm,22.0s								
BRU2	Volcan	142.88	355	IAMs_20	IAMs_20	21 44 07.6			
	comp=Z,4μm,19.0s								
BDFB	Brasilia	143.16	282	PKhKP	PKPpre	20 35 20.9			
	comp=Z,4.8nm,0.7s,baz=58,slow=5.1,SNR=6.5								
RUSC	La Rusia	143.83	339		PKPab	20 35 23.0	-0.5		
VAO	Valinhos	144.99	270	IAMs_20	IAMs_20	21 45 04.4			
	comp=Z,3μm,19.0s								
ROSC	El Rosal	145.21	340	PKPbc	PKPdf	20 35 28.8	-0.1		
	comp=Z,398nm,1.2s,baz=73,slow=2.0,SNR=92								
MACA	Manacapuru-AM	145.51	312	IAMs_20	IAMs_20	21 49 15.7			
	comp=Z,4μm,20.0s								
EFI	East Falkland	149.04	214		PKPbc	20 35 37.6	-0.1		
EFI	East Falkland	149.04	214	*c i*PKP2	PKPbc	20 35 38.1	+0.4		
EFI				pmax	pmax				
	comp=Z,103nm,1.0s								
OTAV	Otavalo	150.70	346	IAMs_20	IAMs_20	21 47 37.4			
	comp=Z,3μm,21.0s								
SAML	Samuel	151.43	308	IAMs_20	IAMs_20	21 45 07.9			
	comp=Z,4μm,22.0s								
TBTG	Tabatinga, AM	151.70	326	IAMs_20	IAMs_20	21 54 30.0			
	comp=Z,3μm,20.0s								
MG03	Isla Dawson	152.33	199	PKPdf	PKPdf	20 35 36.6	-1.9		
MG03					pPKPdf	20 35 42.2	-3.5		
PTLB	Pontes e Lacer	152.43	292	IAMs_20	IAMs_20	21 50 00.5			
	comp=Z,5μm,19.0s								
SIV	San Ignacio	154.29	294	PKP	PKPdf	20 35 42.0	-0.6		
	comp=Z,11nm,1.1s,baz=25,slow=1.6,SNR=11								
SIV				PKPbc	sPKPdf	20 35 51.6	-0.5		
	comp=Z,12nm,1.1s,baz=45,slow=1.3,SNR=8.7								
SIV				PKPab	PKPab	20 36 05.0	+0.1		
	comp=Z,14nm,0.8s,baz=92,slow=4.1,SNR=8.4								
CPUP	Villa Florida	154.94	268	PKP	PKPdf	20 35 43.0	-0.2		
	comp=Z,14nm,1.1s,baz=84,slow=3.0,SNR=9.7								
CPUP				PKPab	PKPab	20 36 07.8	+0.3		
	comp=Z,7.5nm,0.8s,baz=77,slow=3.8,SNR=4.3								
LPA	La Plata	155.73	248	PKIKP	PKPdf	20 35 49.3	+5.3		
LPA	La Plata	155.73	248	PKP	PKPab	20 36 05.2	-5.3		
LPA				SKIKP	SKPdf	20 39 16.3	+0.4		
LPA				PKIKS	PKSdf	20 39 22.7	+4.7		
LPA				PP	PP	20 39 38.2	-10		
LPA				pPP		20 39 52.2			
LPA				SKIKS	SKSdf	20 42 45.3	-4.2		
LPA				PPP	PPP	20 43 06.7			
LPA				SDIFF		20 48 51.3			
LPA				PPS	PPS	20 53 03.2			
LPA				PSP	PSP	20 53 10.9			
LPA				SS	SS	20 59 33.2	-1.4		
CZSB	Cruzeiro do Su	156.13	327	IAMs_20	IAMs_20	21 53 49.2			
	comp=Z,4μm,22.0s								
ATAH	Atahualpa	157.77	341	PKP	PKPdf	20 35 47.3	-0.6		
	comp=Z,5.6nm,0.8s,baz=298,slow=2.1,SNR=4.2								
ATAH				PKPab	PKPab	20 36 21.4	+1.3		
	comp=Z,22nm,1.1s,baz=295,slow=1.4,SNR=4.2								
TRQA	Tornquist	158.18	238	IAMs_20	IAMs_20	21 59 57.0			
	comp=Z,5μm,21.0s								
AY03	Cochrane	158.69	205	IAMs_20	IAMs_20	21 49 23.4			
	comp=Z,5μm,20.0s								
COYC	Coyhaique	159.88	208	IAMs_20	IAMs_20	22 05 07.2			
	comp=Z,3μm,19.0s								
LPAZ	La Paz	159.94	303	PKP	PKPdf	20 35 50.1	-0.5		
	comp=Z,7.8nm,1.1s,baz=17,slow=5.4,SNR=13								
LPAZ				PKPab	PKPab	20 36 31.1	+1.2		
	comp=Z,11nm,1.1s,baz=351,slow=17,SNR=3.8								
PLCA	Paso Flores	162.67	221	PKP	PKPdf	20 35 52.8	+0.7		
	comp=Z,28nm,1.2s,baz=93,slow=0.9,SNR=14								
PLCA				PKPab	PKPab	20 36 42.3	+1.8		
	comp=Z,17nm,1.1s,baz=132,slow=7.0,SNR=5.2								
PB08	IPOC Station P	162.99	295	PKP	PKPdf	20 35 49.6	-3.7		
CFA	Coronel Fontan	164.74	254	PKP	PKPdf	20 35 54.7	+0.5		
	comp=Z,14nm,1.1s,baz=133,slow=1.0,SNR=15								
AC02	Maricunga	165.42	272		PKPdf	20 35 52.3	-3.2		

TAP ***23*** *20:39:00.6, 24.°16N×122.°42E, h28km, ML2.8, C*
JMA ***23*** *20:39:00.1±0.2, 24.°N±1.°×122.°4E±0.°5, h26km±3km,*
MV2.1/12, NW OFF ISHIGAKIJIMA IS

ISC 23 20:39:00.3±0.9, 24.°07N±0.°03×122.°42E±0.°02, h32km±6km, n71, σ0.°71/118, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.10	300	P	Pb	20 39 05.5	0.0
EOS4				S	Sb	20 39 09.1	0.0
EOS3	EOS3	0.23	337	*i* P	Pb	20 39 06.7	-0.3
EOS3				S	Sb	20 39 11.5	0.0
EOS2	EOS2	0.39	334	P	Pb	20 39 09.0	-0.1
EOS2				*e*S	Sn	20 39 15.7	-0.1
JYNG	Yonagunijimaku	0.61	52	P	Pb	20 39 12.2	-0.5
JYNG				S	Sb	20 39 20.1	-1.1
YOJ	Yonaguni jima	0.67	54	P	Pb	20 39 13.1	-0.5
YOJ				*e*S	Sb	20 39 22.1	-0.6
YOJ	Yonaguni jima	0.67	54	P	Pb	20 39 13.0	-0.6
YOJ				*e*S	Sb	20 39 22.1	-0.6
EAHA	Aohua	0.67	293	*e*P	Pb	20 39 13.2	-0.4
EWUT	Wuta	0.69	303	*e*P	Pb	20 39 13.3	-0.6
EWUT				*e*S	Sb	20 39 23.2	0.0
ENA	Nanau	0.71	300	*e*P	Pb	20 39 13.8	-0.5
ENA				*e*S	Sb	20 39 23.6	-0.3
ESAO	Su ao	0.72	314	*e*P	Pb	20 39 13.7	-0.9
ESAO				*e*S	Sb	20 39 23.0	-1.2
ETL	Fush Village	0.73	277	*e*P	Pb	20 39 14.6	0.0
ETL				*e*S	Sn	20 39 25.4	+0.9
TWC	Suao	0.75	316	P	Pb	20 39 13.8	-1.1
TWC				*e*S	Sb	20 39 23.2	-1.6
TWD	Chiawan	0.75	271	*e*S	Sb	20 39 24.6	-0.2
NACB	Ninganchiao	0.76	278	P	Pb	20 39 14.5	-0.6
NACB				*e*S	Sb	20 39 25.2	+0.1
SHUL	Shoufeng	0.83	250	*e*P	Pn	20 39 16.5	+0.8
SHUL				*e*S	Sn	20 39 27.7	+0.9
ETM	Tongmen	0.85	263	*e*P	Pb	20 39 16.2	-0.4
ETM				*e*S	Sb	20 39 27.2	-0.6
NDS	Dongshan	0.85	311	*e*P	Pb	20 39 15.1	-1.5
ETLH	Xiulin Townshi	0.86	279	P	Pb	20 39 16.1	-0.8
ETLH				*e*S	Sn	20 39 28.4	+0.5
EGS		0.89	330	*e*P	Pb	20 39 16.9	-0.4
EGS				*e*S	Sb	20 39 28.2	-0.6
LXIB	Xiulin Townshi	0.92	267	*e*P	Pn	20 39 16.8	-0.3
LXIB				*e*S	Sb	20 39 29.1	-0.8
LATG	Datong	0.94	300	*e*P	Pn	20 39 17.5	+0.3
LATG				*e*S	Sn	20 39 30.6	+1.0
TWE	Neicheng	0.94	314	*e*P	Pn	20 39 17.3	+0.1
TWE				*e*S	Sb	20 39 29.5	-0.8
ENTT	Nioudou	0.96	306	*e*P	Pn	20 39 17.8	+0.3
ENTT				*e*S	Sn	20 39 30.8	+0.6
EGFH	Guangfu	0.99	246	*e*S	Sb	20 39 31.7	0.0
WARBT	Fenglin Townsh	1.00	250	*e*P	Pn	20 39 17.8	-0.4
WARBT				*e*S	Sn	20 39 30.7	-0.6
NNSB	Datong	1.01	291	*e*P	Pn	20 39 18.6	+0.3
NNSB				*e*S	Sb	20 39 32.0	-0.3
FUSB	Fushanzhiwuyua	1.02	312	*e*P	Pb	20 39 19.1	-0.4
FUSB				*e*S	Sn	20 39 33.0	+1.3
NNS	Nan Shan	1.02	291	*e*P	Pn	20 39 18.8	+0.4
TIPB	Shuangxi	1.05	329	*e*P	Pb	20 39 19.3	-0.7
TIPB				*e*S	Sn	20 39 32.4	+0.1
WHF	Hehuan Shan	1.05	274	*e*P	Pn	20 39 19.1	-0.1
WHF				*e*S	Sn	20 39 33.4	+0.4
HGSD	Ruisui	1.07	238	*e*P	Pn	20 39 18.8	-0.3
HGSD				*e*S	Sn	20 39 32.4	-0.6
FUSS	Fushou	1.08	280	*e*P	Pn	20 39 19.9	+0.5
FUSS				*e*S	Sn	20 39 34.1	+0.6
NWLT	Wulai	1.09	310	P	Pn	20 39 19.9	+0.6
NWLT				*e*S	Sb	20 39 34.1	-0.5
YHNB	Yeheng	1.12	302	P	Pn	20 39 20.3	+0.5
YHNB				*e*S	Sb	20 39 35.2	-0.3
SXI1	Grass Mountain	1.13	334	P	Pn	20 39 19.8	-0.1
SXI1				*e*S	Sb	20 39 34.9	-1.0
NSK	Sanguang	1.14	302	P	Pn	20 39 20.5

KNRA				IAmb	IAmb	20 56 26.0	
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.92**	**263**	P	**P**	**20 56 20.6**	**-0.1**
MBWA	**Marble Bar**	**57.69**	**258**	P	**P**	**20 56 52.9**	**-1.2**
MBWA				IAmb	IAmb	20 57 16.9	
	comp=Z,15nm,1.2s						
QSPA	**South Pole Qui**	**68.94**	**180**	P	**P**	**20 58 06.5**	**+0.4**
KDAK	**Kodiak Island**	**81.43**	**13**	P	**P**	**20 59 15.5**	**-0.4**
AKASG	**Malin Array Be**	**143.54**	**331**	PKP	PKPab	21 06 25.6	-2.4
	comp=Z,1.1nm,0.7s,baz=49,slow=3.1,SNR=5.8						

*VIE **23** 21:35:37.7±0.3, 50.°11N×18.°39E, h0km, mb2.4/3, ml2.6/2, Error ellipse: s-maj=4.6km s-min=2.0km az=155.0 32 km NNE of Ostrava Suspected Mining induced.*
*IPEC **23** 21:35:38.4±0.2, 50.°06N×18.°45E, h1km, ML2.2/4, Error ellipse: s-maj=1.9km s-min=1.0km az=163.0*
*PRU **23** 21:35:40.8, 50.°05N×18.°30E, h0km*
ISC 23 21:35:38.1±0.8, 50.°04N±0.°03×18.°44E±0.°02, h0km, n31, σ0.°95/54, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.16**	**286**	*e*PG	**Pg**	**21 35 42.5**	**+1.2**
RAC				*e*SG	**Sg**	**21 35 45.6**	**+2.2**
OKC	**Ostrava-Krasne**	**0.28**	**223**	*e*PG	**Pg**	**21 35 44.5**	**+1.1**
OKC				*e*SG	**Sg**	**21 35 48.6**	**+1.6**
	comp=Z,188nm,0.4s						
STEB	**Steborice**	**0.44**	**256**	*e*PG	**Pg**	**21 35 47.5**	**+0.9**
STEB				*e*SG	**Sg**	**21 35 53.3**	**+1.0**
MORC	**Moravsky Berou**	**0.64**	**246**	*e*Pg	**Pg**	**21 35 50.6**	**+0.3**
	baz=64						
MORC				*e*Sg	**Sg**	**21 35 58.6**	**0.0**
	58nm,0.5s,baz=64						
OJC	**Ojcow**	**0.89**	**78**	*e*Pg	**Pg**	**21 35 55.2**	**-0.1**
OJC				*e*Sg	**Sg**	**21 36 07.5**	**+0.7**
KRLC	**Kraliky**	**1.07**	**273**	*e*PG	**Pg**	**21 35 58.5**	**-0.1**
KRLC				*e*SG	**Sg**	**21 36 12.0**	**-0.5**
	comp=Z,56nm,0.6s						
LANS	**Liptovska Anna**	**1.11**	**143**	*e*PG	**Pb**	**21 36 00.2**	**-0.1**
LANS				*e*SG	**Sn**	**21 36 16.6**	**-0.5**
LANS				*e*LG	Lg	21 36 20.2	
JAVC	**Velka Javorina**	**1.28**	**203**	*e*Pg	**Pn**	**21 36 03.4**	**0.0**
	baz=22						
NIE	**Niedzica**	**1.36**	**117**	*e*Pg	**Pb**	**21 36 05.0**	**+0.5**
NIE				*e*Sg	**Sn**	**21 36 24.6**	**+1.5**
DPC	**Dobruska-Polom**	**1.40**	**284**	*e*PG	**Pg**	**21 36 04.3**	**-0.6**
DPC				*e*SG	**Sg**	**21 36 22.7**	**-0.2**
	comp=Z,49nm,0.6s						
VRAC	**Vranov**	**1.41**	**239**	*e*Pg	**Pn**	**21 36 04.6**	**-0.4**
	baz=57						
VRAC				*e*Sg	**Sg**	**21 36 22.9**	**-0.3**
	21nm,0.2s,baz=57						
VRAC	**Vranov**	**1.41**	**239**	*e*PG	**Pn**	**21 36 04.7**	**-0.3**
VRAC				*e*SG	**Sg**	**21 36 23.0**	**-0.3**
OSTC	**Ostas**	**1.52**	**291**	*e*PG	**Pn**	**21 36 06.4**	**-0.2**
OSTC				*e*SG	**Sn**	**21 36 26.7**	**-0.3**
	comp=Z,29nm,0.7s						
VYHS	**Vyhne**	**1.57**	**170**	*e*PG	**Pn**	**21 36 07.2**	**-0.1**
VYHS				*e*SG	**Sg**	**21 36 30.0**	**+1.5**
KSP	**Ksiaz**	**1.59**	**301**	*e*Pg	**Pn**	**21 36 06.7**	**-0.8**
KSP				*e*Sg	**Sn**	**21 36 28.4**	**-0.5**
CHVC	**Chvalec**	**1.62**	**291**	*e*PG	**Pn**	**21 36 07.9**	**-0.1**
UPC	**Upice**	**1.63**	**288**	*e*PG	**Pg**	**21 36 09.0**	**-0.3**
UPC				*e*SG	**Sb**	**21 36 29.6**	**-0.5**
KRUC	**Moravsky**	**1.65**	**234**	*e*Pn	**Pn**	**21 36 08.3**	**-0.1**
	baz=52						
KRUC				*e*Sg	**Sb**	**21 36 30.7**	**-0.1**
	21nm,0.4s,baz=52						
MODS	**Modra-Piesok**	**1.83**	**205**	*e*PG	**Pn**	**21 36 10.8**	**-0.1**
MODS				*e*SG	**Sb**	**21 36 36.1**	**+0.1**
STHS	**Stebnicka Huta**	**1.92**	**108**	*e*PG	**Pg**	**21 36 14.7**	**-0.3**
STHS				*e*SG	**Sg**	**21 36 39.3**	**-0.6**
STHS				*e*LG	Lg	21 36 46.7	
KECS	**Kecovo**	**2.06**	**139**	*e*PN	**Pn**	**21 36 13.8**	**-0.1**
KECS				*e*LG	Lg	21 36 45.6	
GOPC	**GO Pecny, Ondr**	**2.36**	**268**	*e*SG	**Sb**	**21 36 51.6**	**+0.4**
	comp=Z,23nm,0.7s						
PRU	**Pruhonice**	**2.52**	**270**	*e*SG	**Sb**	**21 36 55.7**	**+0.1**
	comp=Z,19nm,0.8s						
CONA	**Conrad Observa**	**2.71**	**220**	Pn	**Pn**	**21 36 22.5**	**-0.5**
	0.2nm,0.2s						
CONA				Sn	**Sn**	**21 36 56.4**	**-0.2**
	1.6nm,0.3s						
KOLS	**Kolonicke sedl**	**2.73**	**112**	*e*PG	**Pg**	**21 36 30.0**	**-0.5**
KOLS				*e*SN	**Sn**	**21 36 56.0**	**-1.0**
KOLS				*e*LG	Lg	21 37 16.8	
ZVC	**Zvikov**	**2.82**	**259**	*e*PG	**Pg**	**21 36 30.9**	**-1.2**
CKRC	**Cesky Krumlov**	**2.96**	**247**	*e*SG	**Sg**	**21 37 13.1**	**-0.1**
BRG	**Berggiesshubel**	**2.99**	**288**	*e*Pg	**Pb**	**21 36 33.3**	**+1.0**
BRG				Sg	**Sg**	**21 37 12.2**	**-2.0**
BRG				Amp		21 37 14.1	
	comp=Z,6.0nm,0.4s						
KHC	**Kasperske Hory**	**3.29**	**256**	*e*PG	**Pg**	**21 36 39.1**	**-2.1**
KHC				*e*SG	**Sg**	**21 37 23.3**	**-0.5**
	comp=Z,12nm,0.5s						
MOA	**Molln**	**3.52**	**233**	*i* Pn	**Pn**	**21 36 33.3**	**-0.8**
	comp=Z,0.1nm,0.1s						
MOA				Sg	**Sg**	**21 37 29.0**	**-2.0**
	comp=Z,13nm,0.9s						
CLL	**Collm**	**3.68**	**292**	*e*Sg	**Sb**	**21 37 32.0**	**+2.8**
	comp=Z,6.0nm,0.5s						

*DJA **23** 21:40:20.7±0.6, 10.°S±5.°×111.°3E±.°, h10km, M3.7/10, MLv3.7/10*
*IDC **23** 21:40:28.0±8.0, 11.°95S×113.°63E, h0km, mb3.5/3, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=229.0km s-min=87.3km az=16.0*
ISC 23 21:40:18.0±1.3, 10.°49S±0.°08×113.°15E±0.°09, h10km, n11, σ1.°78/13, mb3.4/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.22**	**8**	P	**Pn**	**21 40 55.5**	**+0.6**
GMJI				S	**Sb**	**21 41 23.9**	**-2.0**
JAGI	**Jajag, Banyuwa**	**2.24**	**26**	P	**Pn**	**21 40 56.1**	**+0.9**
JAGI				S	**Sn**	**21 41 23.7**	**+0.8**
PCJI	**Pacitan**	**3.00**	**319**	P	**Pn**	**21 41 08.2**	**+2.6**
PCJI				S	**Sn**	**21 41 39.4**	**-2.3**
SRBI	**Singaraja**	**3.14**	**41**	P	**Pn**	**21 41 09.8**	**+2.2**
UGM	**Wanagama**	**3.65**	**314**	P	**Pn**	**21 41 17.5**	**+2.9**
PLAI	**Plampang**	**4.85**	**70**	P	**Pn**	**21 41 31.3**	**+0.2**
EDFI	**Ende, Flores**	**8.60**	**79**	P	**Pn**	**21 42 22.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**14.27**	**123**	Pn	Pn	21 43 35.2	-5.0
	0.1nm,0.3s,baz=338,slow=5.4,SNR=1.4						
FITZ				Sn	Sn	21 46 02.2	-16
	0.1nm,0.3s,baz=161,slow=20,SNR=6.4						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**22.48**	**117**	P	**P**	**21 45 17.9**	**+0.1**
	0.8nm,0.6s,baz=292,slow=9.6,SNR=3.9						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**23.73**	**126**	P	**P**	**21 45 30.5**	**-0.1**
	0.7nm,0.6s,baz=301,slow=9.2,SNR=16						
	0.7nm,0.6s						
STKA	**Stephens Creek**	**33.82**	**133**	P	**P**	**21 46 59.9**	**-0.6**
	0.7nm,0.4s,baz=297,slow=13,SNR=4.5						
	0.7nm,0.4s						

*WEL **23** 21:40:49.9±0.4, 42.°S±2.°×177.°4E±.°, h10km±4km, M3.1/42, ML3.3/13, MLv3.1/42, Error ellipse: s-maj=3.4km s-min=2.9km az=129.3, confirmed*
*NOU **23** 21:40:49.1, 41.°75S×174.°47E, h22km, MLv3.5/9, Cook Strait, New Zealand*
ISC 23 21:40:49.4±0.9, 41.°71S±0.°03×174.°33E±0.°02, h18km±3km, n88, σ0.°92/97, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.10**	**248**	P	**Pg**	**21 40 53.1**	**0.0**
CMWZ				S	**Sb**	**21 40 56.0**	**+0.6**
WDFS	**Ward Fire Stat**	**0.18**	**232**	P	**Pg**	**21 40 54.3**	**+0.2**
SEDS	**Seddon Fire St**	**0.20**	**282**	P	**Pg**	**21 40 53.8**	**-0.5**
SEDS				S	**Sg**	**21 40 57.3**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.34**	**270**	P	**Pg**	**21 40 56.2**	**-0.4**
BSWZ				S	**Sg**	**21 41 01.3**	**-0.3**
KEKS	**Kekerengu Vall**	**0.36**	**227**	P	**Pg**	**21 40 57.3**	**+0.4**
TUWZ	**Tuamarina**	**0.41**	**314**	P	**Pg**	**21 40 57.6**	**-0.2**
TUWZ				S	**Sg**	**21 41 03.1**	**-0.3**
BWRS	**Waikakaho Road**	**0.42**	**310**	P	**Pg**	**21 40 57.6**	**-0.4**
BWRS				S	**Sg**	**21 41 03.3**	**-0.6**
SNZO	**South Karori**	**0.49**	**35**	P	**Pb**	**21 40 59.7**	**+0.2**

TCW	**Tory Channel**	**0.51**	**355**	P	**Pg**	**21 40 59.3**	**-0.3**
BHW	**Baring Head**	**0.51**	**53**	P	**Pb**	**21 41 00.6**	**+0.9**
WEL	**Wellington**	**0.54**	**37**	P	**Pb**	**21 41 00.9**	**+0.6**
HAVS	**Havelock**	**0.60**	**317**	P	**Pg**	**21 41 00.5**	**-0.9**
PLWZ	**Palliser**	**0.71**	**78**	P	**Pn**	**21 41 04.7**	**+0.2**
MSWZ	**Moikau Station**	**0.75**	**67**	P	**Pn**	**21 41 05.4**	**+0.3**
MSWZ				S	**Sn**	**21 41 17.6**	**+1.6**
CAW	**Cannon Point**	**0.82**	**43**	P	**Pn**	**21 41 05.7**	**-0.3**
KIKS	**Kaikoura**	**0.86**	**214**	P	**Pg**	**21 41 06.5**	**+0.3**
KIKS				S	**Sn**	**21 41 19.9**	**+1.3**
NNZ	**Nelson**	**0.87**	**304**	P	**Pb**	**21 41 05.4**	**-0.6**
NNZ				S	**Sb**	**21 41 16.5**	**-0.8**
PAWZ	**Paruwai Farm**	**0.89**	**68**	P	**Pn**	**21 41 07.2**	**+0.2**
KHZ	**Kahutara**	**0.92**	**220**	P	**Pb**	**21 41 07.2**	**+0.5**
KHZ	**Kahutara**	**0.92**	**220**	P	**Pb**	**21 41 07.3**	**+0.6**
KHZ				S	**Sn**	**21 41 20.8**	**+0.8**
KIW	**Kapiti Island**	**0.96**	**27**	P	**Pg**	**21 41 07.7**	**-0.3**
DUWZ	**D'Urville Isla**	**0.96**	**341**	P	**Pb**	**21 41 07.1**	**-0.4**
MTW	**Mount Morrison**	**1.04**	**58**	P	**Pg**	**21 41 09.3**	**-0.3**
TRWZ	**Traveller**	**1.07**	**73**	P	**Pn**	**21 41 09.5**	**+0.1**
THZ	**Tophouse**	**1.07**	**267**	P	**Pb**	**21 41 09.1**	**-0.3**
OGWZ	**Otaki Gorge**	**1.10**	**35**	P	**Pg**	**21 41 10.2**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.21**	**48**	P	**Pb**	**21 41 11.7**	**0.0**
MRNZ	**Matariki Terra**	**1.22**	**284**	P	**Pn**	**21 41 11.9**	**+0.4**
TKNZ	**Takaka Hill**	**1.24**	**303**	P	**Pn**	**21 41 11.9**	**+0.1**
MATW	**Matariki Wadsw**	**1.25**	**283**	P	**Pb**	**21 41 12.9**	**+0.4**
TMWZ	**Te Maipa**	**1.32**	**63**	P	**Pn**	**21 41 12.9**	**0.0**
MRZ	**Mangatainoka R**	**1.41**	**42**	P	**Pn**	**21 41 14.6**	**+0.4**
TIWZ	**Tintock**	**1.50**	**52**	P	**Pn**	**21 41 15.4**	**0.0**
GVZ	**Greta Valley S**	**1.58**	**217**	P	**Pn**	**21 41 16.1**	**-0.4**
QRZ	**Quartz Range**	**1.62**	**303**	P	**Pn**	**21 41 18.0**	**+0.9**
QRZ	**Quartz Range**	**1.62**	**303**	S	**Sb**	**21 41 39.8**	**+0.9**
QRZ	**Quartz Range**	**1.62**	**303**	P	**Pn**	**21 41 18.2**	**+1.1**
PRWZ	**Port Road**	**1.70**	**47**	P	**Pn**	**21 41 18.2**	**+0.1**
POWZ	**Post Office Ro**	**1.71**	**40**	P	**Pn**	**21 41 18.7**	**+0.4**
BFZ	**Birch Farm**	**1.77**	**55**	P	**Pn**	**21 41 18.1**	**-1.1**
BFZ	**Birch Farm**	**1.77**	**55**	P	**Pn**	**21 41 18.5**	**-0.7**
LTZ	**Lake Taylor**	**1.86**	**234**	P	**Pn**	**21 41 20.3**	**-0.1**
DSZ	**Denniston Nort**	**1.89**	**268**	P	**Pn**	**21 41 21.7**	**+0.9**
AMCZ	**Amberley**	**1.92**	**220**	P	**Pg**	**21 41 26.0**	**-0.3**
DVHZ	**Dannevirke**	**1.98**	**45**	P	**Pn**	**21 41 21.5**	**-0.5**
WAZ	**Wanganui**	**2.02**	**14**	P	**Pb**	**21 41 26.5**	**+1.0**
TSZ	**Takapari Road**	**2.06**	**37**	P	**Pn**	**21 41 23.3**	**+0.1**
OKCZ	**Okains Bay**	**2.22**	**205**	P	**Pn**	**21 41 24.0**	**-1.2**
PRHZ	**Porangahau**	**2.27**	**51**	P	**Pn**	**21 41 25.0**	**-0.9**
PNHZ	**Pukenui**	**2.29**	**39**	P	**Pn**	**21 41 25.9**	**-0.4**
NMEZ	**Namu Road**	**2.32**	**351**	P	**Pb**	**21 41 31.3**	**+0.6**
OXZ	**Oxford**	**2.34**	**226**	P	**Pn**	**21 41 26.0**	**-1.0**
MQZ	**McQueen's Vall**	**2.34**	**211**	P	**Pn**	**21 41 25.1**	**-1.9**
PREZ	**Palmer Road**	**2.37**	**357**	P	**Pb**	**21 41 31.4**	**-0.2**
AKCZ	**Akaroa Harbour**	**2.40**	**205**	P	**Pn**	**21 41 25.5**	**-2.3**
KHEZ	**Kahui Hut**	**2.43**	**354**	P	**Pb**	**21 41 31.9**	**-0.7**
NEZ	**North Egmont**	**2.45**	**356**	P	**Pb**	**21 41 31.9**	**-1.0**
PKVZ	**Pokaka**	**2.54**	**18**	P	**Pb**	**21 41 34.5**	**0.0**
MOVZ	**Moawhango**	**2.55**	**26**	P	**Pb**	**21 41 34.2**	**-0.3**
WNVZ	**Wahianoa**	**2.57**	**22**	P	**Pn**	**21 41 31.8**	**+1.5**
KRHZ	**Kereru**	**2.58**	**38**	P	**Pn**	**21 41 30.0**	**-0.3**
TRVZ	**Turoa**	**2.58**	**21**	P	**Pb**	**21 41 35.1**	**-0.3**
VRZ	**Vera Road**	**2.61**	**7**	P	**Pb**	**21 41 33.9**	**-1.7**
WHVZ	**Whangaehu Hut**	**2.61**	**22**	P	**Pn**	**21 41 32.7**	**+1.8**
MAVZ	**Matarangi**	**2.62**	**21**	P	**Pb**	**21 41 37.2**	**+1.3**
FWVZ	**Far West T-bar**	**2.63**	**21**	P	**Pb**	**21 41 35.8**	**-0.3**
TUVZ	**Tukino**	**2.64**	**23**	P	**Pn**	**21 41 33.3**	**+2.0**
COVZ	**Chateau Observ**	**2.68**	**21**	P	**Pb**	**21 41 36.8**	**0.0**
NGZ	**Ngauruhoe**	**2.71**	**21**	P	**Pb**	**21 41 38.7**	**+1.2**
SNVZ	**South Ngauruho**	**2.71**	**22**	P	**Pn**	**21 41 34.0**	**+1.7**
OTVZ	**Oturere**	**2.74**	**22**	P	**Pn**	**21 41 34.2**	**+1.6**
NNVZ	**North Ngauruho**	**2.76**	**21**	P	**Pb**	**21 41 38.5**	**+0.2**
WTVZ	**West Tongariro**	**2.77**	**21**	P	**Pb**	**21 41 37.8**	**-0.6**
TWVZ	**Taurewa**	**2.77**	**18**	P	**Pb**	**21 41 36.6**	**-1.9**
KWHZ	**Kaweka Forest**	**2.79**	**36**	P	**Pg**	**21 41 40.8**	**-2.0**
TMVZ	**Te Maari**	**2.80**	**22**	P	**Pb**	**21 41 38.6**	**-0.3**
NTVZ	**North Tongarir**	**2.81**	**22**	P	**Pb**	**21 41 38.8**	**-0.2**
KATZ	**Kakaramea**	**2.93**	**21**	P	**Pb**	**21 41 41.7**	**+0.6**
WVZ	**Waitaha Valley**	**2.99**	**242**	P	**Pn**	**21 41 37.2**	**+1.4**
BKZ	**Black Stump Fm**	**3.03**	**34**	P	**Pb**	**21 41 44.1**	**+1.2**
RPZ	**Rata Peaks**	**3.13**	**229**	P	**Pn**	**21 41 36.9**	**-1.0**
RPZ	**Rata Peaks**	**3.13**	**229**	P	**Pn**	**21 41 36.7**	**-1.2**
HIZ	**Hauiti**	**3.22**	**7**	P	**Pb**	**21 41 43.4**	**-2.6**
TMZ	**Timaru**	**3.61**	**221**	P	**Pn**	**21 41 43.9**	**-0.6**
ODZ	**Otahua Downs**	**4.28**	**218**	P	**Pn**	**21 41 52.8**	**-0.8**
ODZ	**Otahua Downs**	**4.28**	**218**	P	**Pn**	**21 41 52.3**	**-1.3**
JCZ	**Jackson Bay**	**4.71**	**238**	P	**Pn**	**21 42 00.0**	**+0.4**
JCZ	**Jackson Bay**	**4.71**	**238**	P	**Pn**	**21 41 59.1**	**-0.4**

*AFAD **23** 21:49:43.0, 37.°26N×22.°79E, h15km, MW4.1*
*IDC **23** 21:49:48.1±1.4, 37.°62N×23.°37E, h0km, mb3.4/6, mbtmp3.4/8, ML3.3/1, Error ellipse: s-maj=29.1km s-min=24.6km az=49.0*
*THE **23** 21:49:50.8, 37.°56N×23.°56E, h3km±1km, ML3.4/8, Error ellipse: s-maj=1.9km s-min=0.6km az=34.0*
*ATH **23** 21:49:50.7, 37.°57N×23.°57E, h13km±2km, ML3.4/14, Manual Solution by F.Xalaris First location: 2019/04/23 21:50:43, This location: 2019/04/24 04:58:17 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
ISC 23 21:49:50.7±0.8, 37.°57N±0.°02×23.°57E±0.°02, h18km±5km, n75, σ1.°20/102, mb3.5/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MET4	**Agioi Theodoro**	**0.15**	**291**	P	**Pg**	**21 49 54.3**	**-0.5**
MET4				S	**Sg**	**21 49 57.3**	**-0.3**
MET5	**Makryloggos,Me**	**0.18**	**287**	P	**Pg**	**21 49 54.9**	**-0.4**
MET5				S	**Sg**	**21 49 58.2**	**-0.2**
YDRA	**Hydra**	**0.24**	**201**	P	**Pg**	**21 49 55.8**	**-0.3**
YDRA				S	**Sg**	**21 49 59.7**	**-0.1**
VLY	**Voula,Athens**	**0.33**	**32**	P	**Pg**	**21 49 57.2**	**-0.5**
VLY				S	**Sg**	**21 50 02.4**	**-0.2**
KRND	**KRANIDI**	**0.38**	**241**	P	**Pg**	**21 49 58.1**	**-0.5**
KRND				S	**Sg**	**21 50 04.0**	**0.0**
	13μm,0.3s						
ATH	**Athens Observa**	**0.42**	**16**	P	**Pg**	**21 49 59.3**	**0.0**
ATH				S	**Sb**	**21 50 05.4**	**-0.2**
	5μm,0.4s						
ATH	**Athens Observa**	**0.42**	**16**	P	**Pg**	**21 49 59.2**	**0.0**
ATH				S	**Sg**	**21 50 05.2**	**+0.2**
NOAC	**Athens-Thissio**	**0.42**	**16**	P	**Pg**	**21 49 59.2**	**0.0**
ATHU	**Athens Univers**	**0.43**	**23**	P	**Pg**	**21 49 59.3**	**-0.2**
ATHU				S	**Sg**	**21 50 05.7**	**+0.3**
ATHP	**Athens-Neo Psi**	**0.46**	**20**	P	**Pg**	**21 49 59.9**	**-0.1**
PTL	**Penteli**	**0.53**	**26**	P	**Pg**	**21 50 01.1**	**-0.3**
PTL				S	**Sg**	**21 50 08.7**	**+0.2**
	3μm,0.2s						
PTL	**Penteli**	**0.53**	**26**	P	**Pg**	**21 50 01.0**	**-0.3**
PTL				S	**Sg**	**21 50 08.8**	**+0.2**
DION	**Dionisos Attik**	**0.58**	**29**	P	**Pg**	**21 50 01.8**	**-0.5**
DION	**Dionisos Attik**	**0.58**	**29**	P	**Pg**	**21 50 02.1**	**-0.1**
VILL	**Villia**	**0.63**	**341**	P	**Pg**	**21 50 02.8**	**-0.3**
VILL				S	**Sb**	**21 50 12.1**	**+0.4**
	6μm,0.4s						
LTK	**Loutraki**	**0.66**	**314**	P	**Pg**	**21 50 03.5**	**-0.1**
VIL2	**Platees**	**0.68**	**340**	P	**Pg**	**21 50 03.0**	**-1.2**
VIL2				S	**Sg**	**21 50 12.3**	**-0.9**
KARY	**Karystos**	**0.83**	**56**	P	**Pg**	**21 50 06.7**	**-0.1**
KARY				S	**Sb**	**21 50 18.6**	**+1.3**
	3μm,0.2s						
KARY	**Karystos**	**0.83**	**56**	P	**Pg**	**21 50 06.7**	**-0.1**
VLI	**Veliai**	**0.99**	**211**	P	**Pb**	**21 50 08.8**	**-0.5**
VLI				S	**Sb**	**21 50 22.0**	**0.0**
	2μm,0.5s						
VLI	**Veliai**	**0.99**	**211**	P	**Pb**	**21 50 09.1**	**-0.2**
GUR	**Goura**	**1.04**	**291**	P	**Pb**	**21 50 10.1**	**-0.1**
GUR				S	**Sn**	**21 50 24.9**	**+0.2**
	2μm,0.5s						
GUR	**Goura**	**1.04**	**291**	P	**Pb**	**21 50 10.2**	**0.0**
MHLO	**Agia Marina, M**	**1.10**	**143**	P	**Pg**	**21 50 12.6**	**+0.6**
MHLO	**Agia Marina, M**	**1.10**	**143**	P	**Pg**	**21 50 12.8**	**+0.8**
KYMI	**Kymi, Euboea I**	**1.14**	**21**	P	**Pn**	**21 50 12.4**	**+0.6**
KYMI				S	**Sn**	**21 50 28.2**	**+1.2**
	4μm,0.6s						
KYMI	**Kymi, Euboea I**	**1.14**	**21**	P	**Pn**	**21 50 12.4**	**+0.6**
LKR	**Lokris**	**1.17**	**337**	P	**Pb**	**21 50 12.5**	**+0.2**
KLV	**Kalavryta, Ach**	**1.22**	**293**	P	**Pb**	**21 50 13.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.22**	**293**	P	**Pb**	**21 50 13.6**	**+0.3**
TNSA	**Tinos**	**1.27**	**91**	P	**Pb**	**21 50 14.4**	**+0.4**
ITM	**Ithomi**	**1.37**	**254**	P	**Pb**	**21 50 16.0**	**+0.2**

ITM	**Ithomi**	**1.37**	**254**	P	**Pb**	**21 50 16.0**	**+0.2**
AXAR	**Agios Charalam**	**1.39**	**329**	P	**Pn**	**21 50 16.2**	**+0.9**
AXAR	**Agios Charalam**	**1.39**	**329**	P	**Pn**	**21 50 16.1**	**+0.9**
KALE	**Kalithea**	**1.40**	**306**	P	**Pb**	**21 50 16.5**	**+0.2**
KALE	**Kalithea**	**1.40**	**306**	P	**Pb**	**21 50 16.9**	**+0.6**
AMT	**Artemida-Makis**	**1.48**	**269**	P	**Pg**	**21 50 18.6**	**-0.6**
DRO	**Drossia**	**1.52**	**285**	P	**Pb**	**21 50 18.2**	**-0.2**
DRO	**Drossia**	**1.52**	**285**	P	**Pb**	**21 50 18.6**	**+0.2**
EFP	**Efpalio**	**1.57**	**304**	P	**Pb**	**21 50 18.8**	**-0.4**
AOS	**Alonnisos**	**1.61**	**9**	P	**Pn**	**21 50 18.7**	**+0.4**
APE	**Apeiranthos**	**1.64**	**107**	P	**Pn**	**21 50 19.1**	**+0.4**
APE	**Apeiranthos**	**1.64**	**107**	P	**Pn**	**21 50 19.2**	**+0.4**
ANX	**Ano Chora**	**1.65**	**309**	P	**Pn**	**21 50 20.2**	**+1.2**
ANX	**Ano Chora**	**1.65**	**309**	P	**Pn**	**21 50 19.9**	**+0.9**
ANKY	**Antikythira Is**	**1.71**	**187**	P	**Pn**	**21 50 20.2**	**+0.6**
ANKY	**Antikythira Is**	**1.71**	**187**	P	**Pn**	**21 50 20.3**	**+0.6**
AGG	**Agios Georgios**	**1.75**	**326**	P	**Pn**	**21 50 21.2**	**+1.0**
NEO	**Neokhori**	**1.75**	**351**	P	**Pn**	**21 50 21.0**	**+0.7**
NEO	**Neokhori**	**1.75**	**351**	P	**Pn**	**21 50 20.9**	**+0.7**
XOR	**Xorichti**	**1.82**	**351**	P	**Pn**	**21 50 21.6**	**+0.5**
XOR	**Xorichti**	**1.82**	**351**	P	**Pn**	**21 50 21.7**	**+0.6**
ZEYE	**Izmir, Urla-Ze**	**2.41**	**73**	P	**Pn**	**21 50 30.5**	**+1.2**
ZEYE				S	**Sg**	**21 51 07.7**	**-0.6**
SIGR	**SIGRI**	**2.43**	**47**	P	**Pn**	**21 50 31.0**	**+1.5**
KARB	**zmir-Karabur**	**2.49**	**63**	P	**Pb**	**21 50 35.0**	**0.0**
KARB				S	**Sg**	**21 51 08.6**	**-2.2**
IDI	**Anoyia**	**2.51**	**155**	Pn	**Pn**	**21 50 32.6**	**+1.9**
	5.7nm,0.3s,baz=272,slow=19,SNR=16						
IDI				Sn	**Sn**	**21 50 58.8**	**-2.2**
	7.3nm,0.3s,baz=286,slow=18,SNR=7.3						
URLA	**Izmir**	**2.52**	**71**	P	**Pn**	**21 50 31.5**	**+0.7**
URLA				S	**Sg**	**21 51 11.4**	**-0.2**
KOCA	**Canakkale, Ayv**	**2.79**	**45**	P	**Pn**	**21 50 36.1**	**+1.7**
IZMD	**zmir-Dikili-**	**3.00**	**61**	P	**Pg**	**21 50 46.4**	**-1.7**
IZMD				S	**Sg**	**21 51 24.5**	**-2.4**
ZEDA	**zmir-Bergama**	**3.09**	**62**	P	**Pn**	**21 50 41.3**	**+2.7**
ZEDA				S	**Sg**	**21 51 28.6**	**-1.4**
BDRM	**Kayabasi**	**3.13**	**98**	P	**Pn**	**21 50 39.2**	**+0.1**
BDRM				S	**Sg**	**21 51 30.2**	**-0.9**
GOAD	**anakkale-G¶**	**3.17**	**34**	P	**Pn**	**21 50 39.6**	**0.0**
BUHA	**Balikesir, Bur**	**3.36**	**54**	P	**Pb**	**21 50 47.8**	**-1.9**
AYDN	**Tasoluk**	**3.42**	**87**	P	**Pn**	**21 50 45.2**	**+2.0**
AYDN				S	**Sg**	**21 51 37.4**	**-3.2**
IZMR	**zmir-demi**	**3.51**	**79**	P	**Pb**	**21 50 49.9**	**-2.5**
IZMR				S	**Sb**	**21 51 38.8**	**+4.1**
ESEN	**Aydn-Nazilli**	**3.80**	**85**	P	**Pn**	**21 50 50.7**	**+2.4**
ESEN				S	**Sb**	**21 51 47.5**	**+4.6**
KIRA	**zmir-Kiraz**	**3.87**	**79**	P	**Pn**	**21 50 51.0**	**+1.5**
KIRA				S	**Sg**	**21 51 53.2**	**-1.8**
**

s-min=1.6km az=85.0

NEIC 23 22:07:25.3±2.0, 37°24N±0°01×114°974W±0°006, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.0km az=11.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRN	**Pahroc Range**	**0.18**	**340**		Pg	22 07 29.2	+0.3
PRN					Sg	22 07 32.1	+0.8
S11A	**Rachel**	**0.74**	**304**		Pg	22 07 38.6	-0.8
S11A					Sg	22 07 49.2	+0.1
S11A				IAML		22 07 53.0	
	comp=N,119nm,0.3s						
SHPR	**Sheep Range**	**0.74**	**192**		Pg	22 07 39.1	-0.5
SHPR				Sg	Sg	22 07 48.6	-0.7
CPY	**CP-1**	**0.92**	**251**		Pg	22 07 43.2	+0.3
MCY	**Mercury**	**0.98**	**234**		Pb	22 07 44.6	-0.2
TPNV	**Topopah Spring**	**1.06**	**255**		Pg	22 07 45.8	+0.1
TPNV				Sg	Sb	22 08 00.2	-0.3
NSP	**Numbskull Pass**	**1.11**	**243**		Pg	22 07 46.8	+0.1
R11B	**Troy Canyon, C**	**1.21**	**337**		Pg	22 07 48.1	-0.5
R11B				Sg	Sg	22 08 04.3	0.0
SDH	**Striped Hills**	**1.24**	**242**		Pg	22 07 48.7	-0.4
AMDNV	**Amargosa**	**1.31**	**234**		Pn	22 07 50.2	0.0
WCT	**Wildcat Mounta**	**1.40**	**252**		Pn	22 07 50.9	-0.6
WCT					Sn	22 08 10.3	0.0
WCT				IAML		22 08 15.8	
	comp=E,25nm,1.0s						
LCMT	**Little Creek M**	**1.40**	**99**		Pn	22 07 51.8	+0.2
LCMT				IAML		22 08 12.6	
	comp=N,34nm,0.6s						
LCMT				IAML		22 08 13.7	
	comp=E,23nm,0.4s						
V12A	**Nelson**	**1.51**	**176**		Pn	22 07 53.2	+0.1
V12A				IAML		22 08 15.3	
	comp=E,29nm,1.0s						
V12A				IAML		22 08 16.3	
	comp=N,24nm,0.8s						
PSUT	**Pine Spring**	**1.57**	**34**		Pn	22 07 54.1	+0.1
PSUT				IAML		22 08 20.7	
	comp=E,26nm,0.5s						
PSUT				IAML		22 08 23.5	
	comp=N,28nm,0.8s						
SGV	**South Grapevin**	**1.67**	**262**		Pn	22 07 55.0	-0.3
GWY	**Greenwater Val**	**1.72**	**233**		Pn	22 07 55.3	-0.7
GWY				IAML		22 08 24.9	
	comp=N,17nm,0.3s						
GWY				IAML		22 08 25.5	
	comp=E,17nm,0.4s						
KNB	**Kanab**	**1.73**	**97**		Pn	22 07 56.8	+0.5
KNB				IAML		22 08 22.1	
	comp=E,16nm,0.6s						
KNB				IAML		22 08 25.5	
	comp=N,16nm,0.7s						
SPR3	**Spring Creek 3**	**1.83**	**16**		Pn	22 07 56.9	-0.9
SPR3				IAML		22 08 23.2	
	comp=N,18nm,0.4s						
SPR3				IAML		22 08 27.4	
	comp=E,18nm,0.5s						
MZP	**Montezuma Peak**	**1.97**	**284**		Pn	22 07 59.8	+0.2
MZP				IAML		22 08 28.9	
	comp=E,20nm,0.4s						
PKCU	**Pink Cliffs**	**2.13**	**84**	Pn	Pn	22 08 02.4	+0.5
W13A	**Hualapai Mount**	**2.31**	**157**	Pn	Pn	22 08 03.9	-0.3
W13A				IAML		22 08 39.7	
	comp=E,8.6nm,0.6s						
MTPU	**Mount Pierson**	**2.35**	**69**		Pn	22 08 06.3	+1.3
MTPU				IAML		22 08 43.3	
	comp=N,7.9nm,0.8s						
NV11	**Mina Array Sit**	**2.79**	**296**		Pn	22 08 10.5	-0.2
NV11				IAML		22 08 56.0	
	comp=N,8.5nm,0.4s						
NVAR	**Mina Array Bea**	**2.89**	**295**		Pn	22 08 11.6	-0.6
LHV	**Little Huntoon**	**2.98**	**291**		Pn	22 08 13.2	+0.1
RYN	**Ryan**	**3.13**	**297**	Pn	Pn	22 08 14.9	-0.5
ELK	**Elko**	**3.51**	**357**	Pn	Pn	22 08 20.5	-0.2
ELK				IAML		22 09 46.1	
	comp=N,3.3nm,1.2s						

RSNC 23 22:22:29.7±0.0, 6°N±1°×7°4W±°, h110km±2km, M2.5, mb3.7, ML2.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.47**	**65**	P	Pn	22 22 45.9	-0.7
BARC				S	Sn	22 22 58.7	-0.7
BRJC	**Barrancabermej**	**0.59**	**347**	P	Pn	22 22 45.9	-1.4
BRJC				S	Sn	22 22 59.2	-1.2
RUSC	**La Rusia**	**0.72**	**133**	P	Pn	22 22 47.7	-1.1
RUSC				S	Sn	22 23 01.9	-1.2
VMM09	**Lebrija**	**0.80**	**23**	P	Pn	22 22 48.3	-0.8
VMM09				S	Sn	22 23 02.9	-0.8
PTBC	**PUERTO BERRIO,**	**0.85**	**280**	P	Pn	22 22 46.9	-2.6
PTBC				S	Sn	22 23 00.9	-3.5
VMM07	**Puerto Wilches**	**0.99**	**346**	P	Pn	22 22 49.8	-1.1
VMM07				S	Sn	22 23 06.5	-0.3
EZNC	**La Esperanza**	**1.26**	**13**	P	Pn	22 22 52.9	-0.9
EZNC				S	Sn	22 23 12.4	+0.3
PAMC	**Pamplona, Colo**	**1.31**	**44**	P	Pn	22 22 54.1	-0.7
PAMC				S	Sn	22 23 13.4	-0.3
NORC	**Norcasia**	**1.50**	**237**	P	Pn	22 22 54.2	-2.4
NORC				S	Sn	22 23 14.9	-2.0
ZARC	**Zaragoza, Cauc**	**1.65**	**312**	P	Pn	22 22 57.0	-1.4
ZARC				S	Sn	22 23 19.1	-1.1
ROSC	**El Rosal**	**1.69**	**205**	P	Pn	22 22 59.1	-0.2
ROSC				S	Sn	22 23 20.5	-1.2
CHIC	**Chingaza**	**1.75**	**184**	P	Pn	22 22 58.7	-1.3
CHIC				S	Sn	22 23 22.0	-1.1
TAMC	**Tame, Arauca**	**1.81**	**88**	P	Pn	22 22 59.8	-0.5
TAMC				S	Sn	22 23 22.3	-1.4
OCAC	**Ocana**	**1.86**	**9**	P	Pn	22 23 00.0	-1.1
OCAC				S	Sn	22 23 24.7	-0.3
CVER	**Cruz Verde, Cu**	**1.91**	**194**	P	Pn	22 23 02.1	0.0
CVER				S	Sn	22 23 27.0	+0.3
GUY2C	**Guyana, Caldas**	**2.10**	**237**	P	Pn	22 23 03.2	-1.2
GUY2C				S	Sn	22 23 29.7	-1.1
AGCC	**Aguachica**	**2.11**	**1**	P	Pn	22 23 02.7	-1.5
AGCC				S	Sn	22 23 29.8	-0.7
UREC	**San Jos de Ur**	**2.34**	**305**	P	Pn	22 23 01.6	-5.5
UREC				S	Sn	22 23 33.2	-2.5
CBOC	**Ciudad Bolivar**	**2.44**	**258**	P	Pn	22 23 07.9	-0.7
CBOC				S	Sn	22 23 37.0	-1.4
ANIL	**Santa Ana**	**2.60**	**224**	P	Pn	22 23 10.0	-0.7
ANIL				S	Sn	22 23 41.4	-0.8
PTGC	**Puerto Gaitan,**	**2.63**	**146**	P	Pn	22 23 09.1	-1.7
DBBC	**Dabeiba**	**2.66**	**284**	P	Pn	22 23 09.7	-1.6
DBBC				S	Sn	22 23 40.0	-3.2
PRAC	**Prado**	**2.95**	**206**	P	Pn	22 23 13.3	-1.8
PRAC				S	Sn	22 23 48.7	-1.3
ORTC	**Ortega, Tolima**	**2.96**	**214**	P	Pn	22 23 13.9	-1.3
ORTC				S	Sn	22 23 49.8	-0.4
URMC	**La Uribe, Meta**	**3.21**	**194**	P	Pn	22 23 17.3	-1.4
URMC				S	Sn	22 23 55.6	-0.8
ARGC	**Ariguani, Magd**	**3.50**	**350**	P	Pn	22 23 20.3	-2.1
YOTC	**Yotoco, Valle**	**3.62**	**229**	P	Pn	22 23 23.3	-0.9
SJCC	**San Jacinto, C**	**3.81**	**336**	P	Pn	22 23 24.8	-1.9
SJCC				S	Sn	22 24 06.9	-3.9
SDV	**Santo Domingo**	**3.85**	**50**	P	Pn	22 23 26.4	-0.9
SDV				S	Sn	22 24 09.4	-2.5
CRJC	**Cerrejon, Guaj**	**4.66**	**9**	P	Pn	22 23 36.0	-2.0
CRJC				S	Sn	22 24 29.4	-1.7
URIC	**Uribia, Colomb**	**5.51**	**17**	P	Pn	22 23 47.1	-2.4
URIC				S	Sn	22 24 48.9	-2.8

*ATH **23** 22:25:39.8, 37°59N×23°58E, h9km±3km, ML3.2/15, Manual Solution by F.Xalaris First location: 2019/04/23 22:26:32, This location: 2019/04/24 05:30:38 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*

*THE **23** 22:25:40.0, 37°57N×23°56E, h10km±1km, ML3.3/9, Error ellipse: s-maj=1.5km s-min=0.6km az=331.0*

ISC 23 22:25:39.9±0.9, 37°58N±0°02×23°56E±0°02, h13km±6km, n38, σ0°48/59, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MET4	**Agioi Theodoro**	**0.14**	**289**	P	**Pg**	**22 25 43.2**	**-0.1**
MET4				S	**Sg**	**22 25 45.7**	**-0.1**
MET5	**Makryloggos,Me**	**0.17**	**285**	P	**Pg**	**22 25 43.8**	**0.0**
MET5				S	**Sg**	**22 25 46.6**	**0.0**
YDRA	**Hydra**	**0.24**	**199**	P	**Pg**	**22 25 44.7**	**-0.3**
YDRA				S	**Sg**	**22 25 49.0**	**+0.6**
VLY	**Voula,Athens**	**0.33**	**34**	P	**Pg**	**22 25 46.2**	**-0.4**
VLY				S	**Sg**	**22 25 50.7**	**-0.4**
KRND	**KRANIDI**	**0.38**	**240**	P	**Pg**	**22 25 47.0**	**-0.5**
KRND				S	**Sg**	**22 25 53.1**	**+0.4**
	10μm,0.3s						
ATH	**Athens Observa**	**0.41**	**17**	P	**Pg**	**22 25 48.2**	**+0.1**
ATH				S	**Sb**	**22 25 54.7**	**-0.6**
	5μm,0.5s						
ATH	**Athens Observa**	**0.41**	**17**	P	**Pg**	**22 25 48.3**	**+0.2**
ATH				S	**Sg**	**22 25 53.5**	**-0.2**
NOAC	**Athens-Thissio**	**0.41**	**17**	P	**Pg**	**22 25 48.2**	**+0.1**
ATHU	**Athens Univers**	**0.43**	**24**	P	**Pg**	**22 25 48.1**	**-0.2**
ATHU				S	**Sg**	**22 25 53.6**	**-0.5**
ATHP	**Athens-Neo Psi**	**0.45**	**21**	P	**Pg**	**22 25 48.9**	**0.0**
PTL	**Penteli**	**0.53**	**27**	P	**Pg**	**22 25 50.0**	**-0.3**
PTL				S	**Sg**	**22 25 57.8**	**+0.5**
	2μm,0.2s						
PTL	**Penteli**	**0.53**	**27**	P	**Pg**	**22 25 50.0**	**-0.3**
PTL				S	**Sg**	**22 25 57.0**	**-0.2**
DION	**Dionisos Attik**	**0.58**	**30**	P	**Pg**	**22 25 50.9**	**-0.3**
DION				S	**Sb**	**22 26 00.3**	**+0.2**
	2μm,0.2s						
DION	**Dionisos Attik**	**0.58**	**30**	P	**Pg**	**22 25 51.0**	**-0.3**
VILL	**Villia**	**0.62**	**341**	P	**Pg**	**22 25 52.0**	**0.0**
VILL				S	**Sb**	**22 26 01.9**	**+0.6**
	4μm,0.5s						
LTK	**Loutraki**	**0.65**	**313**	P	**Pg**	**22 25 52.3**	**-0.2**
VIL2	**Platees**	**0.68**	**340**	P	**Pg**	**22 25 52.0**	**-1.0**
KARY	**Karystos**	**0.83**	**56**	P	**Pg**	**22 25 55.6**	**-0.3**
KARY				S	**Sb**	**22 26 07.2**	**0.0**
	2μm,0.4s						
KARY	**Karystos**	**0.83**	**56**	P	**Pg**	**22 25 55.6**	**-0.3**
KARY				S	**Sb**	**22 26 07.3**	**0.0**
VLI	**Veliai**	**0.99**	**210**	P	**Pg**	**22 25 57.6**	**-1.4**
VLI				S	**Sb**	**22 26 12.3**	**+0.3**
	1μm,0.5s						
VLI	**Veliai**	**0.99**	**210**	P	**Pg**	**22 25 58.1**	**-0.9**
GUR	**Goura**	**1.03**	**291**	P	**Pg**	**22 25 58.9**	**-0.9**
GUR				S	**Sn**	**22 26 14.8**	**+0.2**
	1μm,0.4s						
GUR	**Goura**	**1.03**	**291**	P	**Pg**	**22 25 59.2**	**-0.6**
GUR				S	**Sb**	**22 26 13.8**	**+0.6**
MHLO	**Agia Marina, M**	**1.11**	**143**	P	**Pb**	**22 26 01.0**	**0.0**
MHLO				S	**Sn**	**22 26 17.6**	**+1.2**
	2μm,0.2s						
KYMI	**Kymi, Euboea I**	**1.14**	**22**	P	**Pb**	**22 26 01.3**	**-0.1**
KYMI				S	**Sb**	**22 26 16.9**	**+0.8**
KYMI	**Kymi, Euboea I**	**1.14**	**22**	P	**Pb**	**22 26 01.4**	**-0.1**
LKR	**Lokris**	**1.16**	**338**	P	**Pb**	**22 26 01.4**	**-0.4**
LKR				S	**Sn**	**22 26 17.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.21**	**293**	P	**Pb**	**22 26 02.4**	**-0.4**
KLV				S	**Sb**	**22 26 18.4**	**0.0**
KLV	**Kalavryta, Ach**	**1.21**	**293**	P	**Pb**	**22 26 02.4**	**-0.4**
TNSA	**Tinos**	**1.27**	**91**	P	**Pn**	**22 26 03.3**	**-0.1**
ITM	**Ithomi**	**1.36**	**254**	P	**Pn**	**22 26 04.8**	**+0.1**
AXAR	**Agios Charalam**	**1.39**	**329**	P	**Pn**	**22 26 05.1**	**+0.1**
AXAR	**Agios Charalam**	**1.39**	**329**	P	**Pn**	**22 26 05.2**	**+0.1**
KALE	**Kalithea**	**1.39**	**306**	P	**Pb**	**22 26 05.9**	**+0.1**
AMT	**Artemida-Makis**	**1.48**	**269**	P	**Pb**	**22 26 07.5**	**+0.2**
SKY	**Skiros Island**	**1.51**	**31**	P	**Pn**	**22 26 06.1**	**-0.7**
DRO	**Drossia**	**1.52**	**285**	P	**Pn**	**22 26 07.5**	**+0.7**
EFP	**Efpalio**	**1.56**	**303**	P	**Pb**	**22 26 08.4**	**-0.2**

*IDC **23** 22:35:36.6±1.0, 12°91S×45°29E, h0km, mb3.9/6, mbtmp3.9/6, MS3.3/1, Error ellipse: s-maj=37.4km s-min=27.9km az=116.0*

*NEIC **23** 22:35:37.4±1.9, 12°76S±0°07×45°45E±0°07, h10km±1km, mb4.5/19, Error ellipse: s-maj=16.7km s-min=3.4km az=133.0*

ISC 23 22:35:37.1±0.5, 12°91S±0°05×45°45E±0°07, h10km, n52, σ2°04/57, mb4.6/21, 1C-2D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.39**	**98**	P	**Pn**	**22 36 44.4**	**+0.5**
SBV				S	**Sn**	**22 37 30.5**	**-4.7**
OPO	**Ambohidratompo**	**5.88**	**164**	LR	LR	22 39 36.1	
	comp=Z,256nm,18.6s,baz=64,slow=40						
OPO	**Ambohidratompo**	**5.88**	**164**	P	**Pn**	**22 37 06.4**	**+1.8**
OPO				S	**Sn**	**22 38 08.2**	**-3.8**
FIRM	**Firavahana**	**5.92**	**167**	P	**Pn**	**22 37 07.0**	**+1.8**
FIRM				S	**Sn**	**22 38 10.1**	**-3.2**
ATG	**Ambohiby**	**5.98**	**173**	P	**Pn**	**22 37 07.3**	**+1.3**
ABPO	**Ambohimpanom**	**6.31**	**164**		**Pn**	**22 37 11.8**	**+1.3**
ABPO	**Ambohimpanom**	**6.31**	**164**	P	**Pn**	**22 37 12.0**	**+1.5**
ABPO				S	**Sn**	**22 38 17.4**	**-5.5**
MDSM	**Mandiavato**	**6.33**	**166**	P	**Pn**	**22 37 12.6**	**+1.8**
MDSM				S	**Sn**	**22 38 19.4**	**-3.8**
AVY	**Angavokely**	**6.38**	**160**	P	**Pn**	**22 37 12.7**	**+1.2**
AVY				S	Sn	22 38 18.1	-6.5
DGRM	**Ambatolahisoa**	**6.39**	**172**	P	**Pn**	**22 37 13.0**	**+1.5**
DGRM				S	**Sn**	**22 38 21.1**	**-3.5**
ABM	**Ambohimiarambe**	**7.08**	**165**	P	**Pn**	**22 37 22.7**	**+1.6**
VOI	**Vohitsoka**	**9.04**	**172**	Pn	**Pn**	**22 37 49.2**	**+1.2**
FOMA	**Nahampoana Res**	**12.09**	**173**	Pn	**Pn**	**22 38 30.3**	**+0.7**
KIBK	**Kibwezi**	**12.80**	**324**		**Pn**	**22 38 36.0**	**-3.4**
RER	**Riviere de l'E**	**12.82**	**131**		**Pn**	**22 38 39.9**	**+0.3**
MSEY	**Mahe Island**	**12.85**	**51**	Pn	**Pn**	**22 38 37.4**	**-2.6**
KMBO	**Kilima Mbogo**	**14.24**	**325**	Pn	**Pn**	**22 38 56.4**	**-2.9**
LSZ	**Lusaka**	**16.90**	**260**		**Pn**	**22 39 33.2**	**-1.0**
LSZ				IAmb	IAmb	22 39 39.0	
	comp=Z,35nm,0.9s						
LODK	**Lodwar**	**19.06**	**328**		**P**	**22 39 58.7**	**-1.2**
MREMI	**Moremi**	**19.63**	**238**		**P**	**22 40 06.9**	**+0.7**
MREMI				IAmb	IAmb	22 40 13.5	
	comp=Z,17nm,1.0s						
KHWEE	**KHWEE**	**21.07**	**242**	P	**P**	**22 40 21.7**	**-0.1**
KHWEE				IAmb	IAmb	22 40 26.4	
	comp=Z,16nm,0.7s						
LPHEP	**Lephephe**	**21.30**	**238**		**P**	**22 40 24.5**	**+0.3**
LPHEP				IAmb	IAmb	22 40 30.4	
	comp=Z,29nm,1.1s						
KDWAN	**Kaudwane**	**22.30**	**239**	P	**P**	**22 40 35.7**	**+0.7**
KDWAN				IAmb	IAmb	22 40 46.0	
	comp=Z,29nm,1.1s						
GMARE	**Gumare**	**23.26**	**251**	P	**P**	**22 40 45.2**	**0.0**
GMARE				IAmb	IAmb	22 40 48.4	
	comp=Z,12nm,0.8s						
MAKGR	**Makgori**	**23.28**	**234**	P	**P**	**22 40 45.0**	**-0.4**
MAKGR				IAmb	IAmb	22 40 47.2	
	comp=Z,27nm,1.5s						
QNGWA	**Qangwa**	**24.20**	**251**	P	**P**	**22 40 54.7**	**+0.4**
BOSA	**Boshof**	**24.45**	**227**	P	**P**	**22 40 56.9**	**+0.5**
BOSA				IAmb	IAmb	22 41 39.9	
	comp=Z,16nm,1.4s						
BOSA	**Boshof**	**24.45**	**227**	P	**P**	**22 40 56.6**	**+0.2**
	comp=Z,4.8nm,0.6s,baz=52,slow=11,SNR=18						
	comp=Z,4.8nm,0.6s						
GRTLG	**Ghanzi**	**24.61**	**247**		**P**	**22 40 58.5**	**+0.5**
GRTLG				IAmb	IAmb	22 41 00.7	
	comp=Z,5.9nm,0.7s						
LKGWB	**Lokgwabe**	**25.49**	**241**		**P**	**22 41 03.0**	**-2.9**
KOOLE	**Kule**	**25.99**	**244**	P	**P**	**22 41 10.6**	**+0.1**
SUR	**Sutherland**	**29.75**	**225**	P	**P**	**22 41 45.0**	**+0.9**
BRTR	**Keskin Array B**	**53.50**	**349**	P	**P**	**22 44 57.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=165,slow=6.0,SNR=1.6						
	comp=Z,0.1nm,0.3s						
KKAR	**Karatay Array**	**60.28**	**21**	P	**P**	**22 45 44.7**	**-1.2**
KKAR	**Karatay Array**	**60.28**	**21**	P	**P**	**22 45 44.1**	**-1.7**
KKAR				IAmb	IAmb	22 45 58.7	
	comp=Z,1.9nm,0.8s						
ELIB	**Princess Elisa**	**60.49**	**188**	dP	**P**	**22 45 47.7**	**+0.6**
AB31	**Akbulak array**	**63.20**	**11**		**P**	**22 46 03.9**	**-1.5**
AB31				IAmb	IAmb	22 46 08.4	
	comp=Z,4.4nm,0.8s						
ABKAR	**Akbulak array**	**63.20**	**11**		**P**	**22 46 05.5**	**0.0**
ABKAR	**Akbulak array**	**63.20**	**11**		**P**	**22 46 04.6**	**-0.8**
ABKAR				IAmb	IAmb	22 46 08.4	
	comp=Z,4.4nm,0.8s						
PZH	**PanZhiHua**	**67.27**	**54**	P	**P**	**22 46 34.8**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
BVAR	**Borovoye Array**	**69.07**	**16**	P	**P**	**22 46 45.1**	**+2.1**
	comp=Z,1.0nm,0.9s,baz=205,slow=6.4,SNR=6.0						
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**69.66**	**22**	P	**P**	**22 46 46.8**	**0.0**
ARTI	**Arti**	**69.88**	**8**	P	**P**	**22 46 46.8**	**-1.2**
GTA	**Gaotai**	**72.56**	**41**	*e*P	**P**	**22 47 08.1**	**+3.3**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
XAN	**Xi'an**	**76.24**	**50**	⇓P	**P**	**22 47 28.0**	**+1.8**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	**Songino Array**	**81.08**	**37**	P	**P**	**22 47 55.2**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=227,slow=3.6,SNR=3.8						
	comp=Z,0.6nm,0.7s						
HHC	**Hu-ho-hao-te**	**81.09**	**45**	*e*P	**P**	**22 47 53.1**	**+0.2**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,78nm,4.4s						
HNS	**HongShan**	**81.91**	**49**	⇑P	**P**	**22 48 00.5**	**+3.4**
HNS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NJ2	**Nanjing**	**83.15**	**55**	*e*P	**P**	**22 48 04.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ASAR	**Alice Springs**	**83.53**	**113**	P	**P**	**22 48 07.8**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=262,slow=4.8,SNR=10.0						
	comp=Z,1.2nm,0.6s						
WRA	**Warramunga Arr**	**84.67**	**109**	P	**P**	**22 48 13.3**	**+1.4**
	comp=Z,2.5nm,1.0s,baz=259,slow=2.8,SNR=7.2						
	comp=Z,2.5nm,1.0s						
XLT	**XiLinHaoTe**	**85.39**	**43**	*e*P	**P**	**22 48 14.3**	**-0.7**
XLT				sP	sP	22 48 22.0	+3.4
XLT				pmax	pmax		
	comp=Z,6.0nm,0.7s						

*IDC **23** 22:38:24.3±1.2, 25°01N×128°32E, h0km, mb3.8/10, mbtmp3.7/11, ML3.8/1, MS3.8/1, Error ellipse: s-maj=49.3km s-min=18.4km az=75.0*

*NEIC **23** 22:38:26.0±2.1, 24°89N±0°06×128°15E±0°07, h10km±1km, mb4.3/15, Error ellipse: s-maj=10.9km s-min=10.0km az=195.0*

*JMA **23** 22:38:27.6±0.3, 25°N±1°×12°8E±°, h70km, MV3.5/26, FAR S OFF OKINAWAJIMA*

ISC 23 22:38:25.2±1.8, 24°90N±0°05×128°17E±0°04, h10km±11km, n61, σ1°83/76, mb4.1/19, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.29**	**344**	P	**Pg**	**22 38 49.8**	**-0.2**
JJT3				S	**Sg**	**22 39 05.9**	**-0.9**
JNTH	**Nagotoyohara**	**1.62**	**355**	P	**Pn**	**22 38 53.7**	**-0.2**
JNTH				*e*S	**Sn**	**22 39 13.3**	**-1.5**
JAGN	**Aguni-jima**	**1.88**	**334**	P	**Pn**	**22 38 57.9**	**+0.4**
JAGN				S	**Sn**	**22 39 19.4**	**-1.8**
JKE	**Kume jima 2**	**1.89**	**319**	*i* P	**Pn**	**22 38 57.7**	**+0.1**
JKE				*e*S	**Sn**	**22 39 19.4**	**-2.2**
JOW	**Kunigami**	**1.93**	**3**	Pn	**Pn**	**22 38 58.0**	**-0.2**
JOW					**Sn**	**22 39 19.2**	**-3.3**
JOW	**Kunigami**	**1.93**	**3**	Pn	**Pn**	**22 38 57.9**	**-0.2**
	37nm,0.3s,baz=157,slow=16,SNR=47						
JOW				Sn	**Sn**	**22 39 18.1**	**-4.3**
	26nm,0.3s,baz=171,slow=27,SNR=11						
JOW	**Kunigami**	**1.93**	**3**	P	**Pn**	**22 38 58.5**	**+0.4**
JYRO	**Yoronjima**	**2.13**	**7**	*e*P	**Pn**	**22 39 01.0**	**+0.1**
JYRO				*e*S	**Sn**	**22 39 23.6**	**-3.8**
JIH	**Iheya**	**2.14**	**355**	*e*P	**Pn**	**22 39 01.6**	**+0.7**
JOKE	**Okinoerabujima**	**2.48**	**8**	*e*P	**Pn**	**22 39 06.6**	**+0.9**
JOGS	**Gusukube**	**2.52**	**267**	P	**Pn**	**22 39 06.7**	**+0.5**
JOGS				*e*S	**Sn**	**22 39 34.9**	**-2.0**
JMJ2	**Miyako jima3**	**2.59**	**267**	*e*P	**Pn**	**22 39 07.6**	**+0.4**
JIKM	**Ikemajima**	**2.66**	**271**	P	**Pn**	**22 39 08.6**	**+0.4**
JIRB	**Irabujima**	**2.73**	**269**	P	**Pn**	**22 39 09.1**	**+0.1**
JMZ	**Minamidaito 2**	**2.91**	**71**	Pn	**Pn**	**22 39 10.8**	**-0.8**
JMZ				Sn	**Sn**	**22 39 43.1**	**-3.5**
JMZ	**Minamidaito 2**	**2.91**	**71**	P	**Pn**	**22 39 11.0**	**-0.6**
JMZ				*e*S	**Sn**	**22 39 42.6**	**-4.0**
JTK	**Tokunoshima**	**2.96**	**13**	P	**Pn**	**22 39 12.9**	**+0.6**
JTK				*e*S	**Sn**	**22 39 43.4**	**-4.5**
JKDJ	**Kitadaitoujima**	**3.01**	**69**	P	**Pn**	**22 39 12.3**	**-0.7**
JKDJ				*e*S	**Sn**	**22 39 47.1**	**-2.1**
JTJ	**Tarama**	**3.17**	**266**	P	**Pn**	**22 39 15.3**	**+0.1**
JTJ				*e*S	**Sn**	**22 39 49.3**	**-3.6**
JAMN	**Amaminishikomi**	**3.45**	**15**	*e*P	**Pn**	**22 39 20.4**	**+1.3**
JAMN				*e*S	**Sn**	**22 39 56.8**	**-3.2**
JISG	**Ishigakijimahi**	**3.52**	**266**	*e*P	**Pn**	**22 39 19.8**	**-0.3**
JIJ	**Ishigaki jima**	**3.71**	**263**	P	**Pn**	**22 39 22.2**	**-0.3**
JIJ				*e*S	**Sn**	**22 40 00.9**	**-5.4**
JAM	**Amami Oshima**	**3.73**	**20**	P	**Pn**	**22 39 23.9**	**+1.0**
JAM				*e*S	**Sn**	**22 40 02.1**	**-4.7**
JZK	**Kikaishima**	**3.76**	**25**	*e*P	**Pn**	**22 39 24.8**	**+1.4**
JKRS	**Kuro-shima**	**3.85**	**261**	*e*P	**Pn**	**22 39 24.9**	**+0.4**
YOJ	**Yonaguni jima**	**4.72**	**266**	Pn	**Pn**	**22 39 34.9**	**-1.5**
NACB	**Ninganchiao**	**6.03**	**265**	Pn	**Pn**	**22 39 53.2**	**-1.4**
YHNB	**Yeheng**	**6.18**	**269**		**Pn**	**22 39 56.9**	**+0.2**
SSLB	**Suanglung**	**6.68**	**262**		**Pn**	**22 40 01.8**	**-1.7**
TPUB	**Ta-pu**	**7.07**	**259**		**Pn**	**22 40 08.0**	**-0.9**
JHJ2	**Mitsune**	**13.06**	**49**	Pn	**Pn**	**22 41 31.4**	**+0.6**
USA0B	**Ussuriysk Arra**	**19.51**	**8**	P	**P**	**22 42 53.2**	**+0.6**
USRK	**Ussuriysk Ar.**	**19.51**	**8**	P	**P**	**22 42 54.0**	**+1.4**
USRK	**Ussuriysk Ar.**	**19.51**	**8**	P	**P**	**22 42 49.8**	**-2.8**
	0.3nm,0.3s,baz=135,slow=5.7,SNR=6.3						
	0.6nm,0.7s						
SONM	**Songino Array**	**28.65**	**329**	P	**P**	**22 44 21.5**	**-0.7**
	0.2nm,0.3

comp=Z,0.1nm,0.2s,baz=71,slow=0.9,SNR=4.2
comp=Z,0.1nm,0.2s

*IDC **23** 22:47:36.6±1.3,3″.35S×140″.31E,h62km±16km,mb3.3/5, mbtmp3.8/6,Error ellipse: s-maj=38.8km s-min=17.7km az=108.0*
*DJA **23** 22:47:37.7±1.4,3″S±9″×14″0E±″,h30km±9km,M3.7/4, MLv3.7/4*
ISC 23 22:47:35.4±0.8,3″.46S±0″.07×140″.31E±0″.08,h50km,n11, σ1§80/16,mb3.7/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.88**	**351**	P	**Pn**	**22 47 51.6**	**+0.2**
GENI				S	**Sn**	**22 48 01.8**	**-1.4**
JAY	**Jayapura**	**1.02**	**23**	P	**Pn**	**22 47 54.3**	**+0.9**
	212nm,0.3s,baz=206,slow=11,SNR=56						
JAY				S	**Sn**	**22 48 07.0**	**+0.3**
	597nm,0.5s,baz=112,slow=19,SNR=16						
JAY				LR	LR	22 48 27.8	
	comp=Z,254nm,19.0s,baz=248,slow=56						
JAY	**Jayapura**	**1.02**	**23**	P	**Pn**	**22 47 54.0**	**+0.6**
JAY				S	**Sn**	**22 48 06.2**	**-0.5**
SMPI	**Sarmi**	**2.17**	**312**	P	**Pn**	**22 48 09.7**	**+0.7**
SMPI				S	**Sn**	**22 48 34.4**	**-0.2**
BAKI	**Biak**	**4.76**	**298**	P	**Pn**	**22 48 45.6**	**+0.9**
WRA	**Warramunga Arr**	**17.39**	**199**	P	**Pn**	**22 51 35.7**	**+1.2**
	1.7nm,0.3s,baz=21,slow=13,SNR=15						
WRA				S	Sn	22 54 38.6	-8.6
	3.3nm,0.8s,baz=20,slow=22,SNR=4.8						
FITZ	**Fitzroy Crossi**	**20.45**	**224**	P	**P**	**22 52 09.8**	**+1.0**
	1.9nm,0.8s,baz=45,slow=10.0,SNR=1.6						
FITZ				S	S	22 55 46.2	-8.9
	2.9nm,0.7s,baz=175,slow=12,SNR=4.2						
	1.9nm,0.8s						
ASAR	**Alice Springs**	**21.02**	**197**	P	**P**	**22 52 16.6**	**+1.6**
	1.8nm,0.6s,baz=30,slow=9.9,SNR=26						
ASAR				S	**S**	**22 56 00.9**	**-5.5**
	1.4nm,0.7s,baz=12,slow=27,SNR=5.1						
	1.8nm,0.6s						
MKAR	**Makanchi Array**	**71.36**	**322**	P	**P**	**22 58 49.3**	**-0.8**
	0.1nm,0.4s,baz=98,slow=10,SNR=2.4						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**85.86**	**24**	P	**P**	**23 00 08.7**	**-0.8**
	0.4nm,0.7s,baz=261,slow=5.2,SNR=5.5						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**86.49**	**180**	P	**P**	**23 00 13.4**	**+0.7**
	0.9nm,0.9s,baz=225,slow=1.4,SNR=5.2						
	0.9nm,0.9s						

IDC 23 22:48:16.3±2.1,76°.67S×168°.06E,h0km,Error ellipse: s-maj=390.4km s-min=27.7km az=145.0,Ross Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**1.64**	**236**	Pn	Pn	22 48 46.5	+0.3
	0.1nm,0.3s,baz=194,slow=4.2,SNR=1.3						
VNDA				Sn	Sb	22 49 08.4	0.0
	0.2nm,0.3s,baz=86,slow=9.2,SNR=5.8						
MKAR	**Makanchi Array**	**134.03**	**288**	PKP	PKPdf	23 07 33.4	-0.6
	1.2nm,1.1s,baz=127,slow=3.8,SNR=4.9						
ILAR	**Eielson Array**	**143.96**	**31**	PKP	PKPdf	23 07 51.4	-0.1
	0.7nm,1.1s,baz=191,slow=1.8,SNR=4.0						
YKA	**Yellowknife Ar**	**146.92**	**56**	PKPbc	PKPbc	23 07 57.6	-1.0
	0.3nm,0.9s,baz=205,slow=2.7,SNR=4.2						

NOU 23 23:03:21.0,17°.11S×167°.25E,h0km,MLv4.4/14,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**1.01**	**9**	P	Pb	23 03 41.3	-0.1
VLAKA	**Lakatoro**	**1.01**	**9**	S	Sg	23 03 52.7	-0.9
DVP	**Devils Point**	**1.08**	**125**	P	Pg	23 03 41.1	-0.7
DVP	**Devils Point**	**1.08**	**125**	S	Sg	23 03 55.6	-0.3
KOUNC	**Koumac, New Ca**	**4.43**	**219**	P	Pn	23 04 29.5	0.0
YATNC	**Mamie plateau,**	**4.94**	**184**	P	Pn	23 04 35.6	-0.9
DZM	**Mont Dzumac**	**4.99**	**189**	P	Pn	23 04 37.4	+0.1
ONTNC	**Ouen Toro**	**5.22**	**188**	P	Pn	23 04 40.2	-0.2
OUENC	**Ouen Island, N**	**5.29**	**184**	P	Pn	23 04 41.6	+0.2
LUES	**Luesalemba Tem**	**6.54**	**348**	P	Pn	23 04 58.1	-0.4

*IDC **23** 23:04:07.3±1.3,3″.59S×135″.51E,h0km,mb3.8/4, mbtmp3.9/5,ML4.1/1,MS3.7/2,Error ellipse: s-maj=32.9km s-min=29.4km az=23.0*
*DJA **23** 23:04:12.6±0.5,4″S±4″×13″5E±″,h26km±5km,M4.5/10, mb4.6/5,mB5.6/3,MLv4.5/10,Mw(mB)5.1/3*
ISC 23 23:04:11.2±0.7,3″.74S±0″.07×135″.51E±0″.05,h22km,n28, σ1§84/27,mb3.9/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.80**	**273**	P	**Pn**	**23 04 42.7**	**+1.8**
SRPI	**Serui, Papua**	**2.00**	**21**	P	**Pn**	**23 04 44.8**	**+1.1**
BAKI	**Biak**	**2.60**	**13**	P	**Pn**	**23 04 54.2**	**+2.2**
FAKI	**Fak Fak**	**3.36**	**284**	P	**Pn**	**23 05 04.6**	**+2.3**
FAKI	**Fak Fak**	**3.36**	**284**	P	**Pn**	**23 05 04.1**	**+1.8**
FAKI				S	**Sn**	**23 05 42.2**	**+0.7**
SMPI	**Sarmi**	**3.64**	**62**	P	**Pn**	**23 05 08.7**	**+2.5**
GENI	**Genyem**	**4.79**	**76**	P	**Pn**	**23 05 25.1**	**+3.0**
SWI	**Sorong**	**5.12**	**304**	P	**Pn**	**23 05 27.8**	**+1.2**
	0.6nm2μm60nm,0.6s						
JAY	**Jayapura**	**5.33**	**77**	Pn	**Pn**	**23 05 28.9**	**-0.6**
	6.0nm,0.3s,baz=216,slow=9.7,SNR=14						
JAY				Sn	**Sn**	**23 06 30.4**	**+0.1**
	2.2nm,0.3s,baz=120,slow=20,SNR=2.1						
	6.2nm,0.3s						
JAY	**Jayapura**	**5.33**	**77**	P	**Pn**	**23 05 30.4**	**+0.9**
BNDI	**Bandanaira**	**5.64**	**262**	P	**Pn**	**23 05 35.0**	**+1.2**
KDU	**Kakadu**	**9.38**	**198**	P	**Pn**	**23 06 25.1**	**0.0**
DRS	**Darwin Rock St**	**9.76**	**208**	P	**Pn**	**23 06 32.4**	**+2.1**
MTN	**Manton Dam**	**10.02**	**205**	P	**Pn**	**23 06 34.8**	**+0.9**
COEN	**Coen**	**12.66**	**144**	P	**Pn**	**23 07 09.0**	**-1.0**
WRA	**Warramunga Arr**	**16.14**	**184**	Pn	**Pn**	**23 07 52.8**	**-4.0**
	0.7nm,0.3s,baz=4.6,slow=13,SNR=15						
WRA				Sn	Sn	23 10 41.2	-14
	1.7nm,0.3s,baz=11,slow=22,SNR=10						
FITZ	**Fitzroy Crossi**	**17.23**	**213**	P	**Pn**	**23 08 07.7**	**-2.9**
	4.1nm,0.4s,baz=36,slow=10,SNR=21						
FITZ				S	Sn	23 11 05.6	-16
	8.5nm,0.6s,baz=191,slow=13,SNR=6.6						
AS01	**Alice Springs**	**19.86**	**184**	P	**Pn**	**23 08 42.3**	**-0.3**
ASAR	**Alice Springs**	**19.87**	**184**	P	**P**	**23 08 42.0**	**+0.9**
	4.7nm,0.4s,baz=8.5,slow=12,SNR=58						
ASAR				S	S	23 12 11.8	-12
	1.6nm,0.5s,baz=6.1,slow=30,SNR=6.0						
	4.7nm,0.4s						
WRKA	**Warakurna**	**22.28**	**197**	P	**P**	**23 09 07.3**	**+0.2**
QLP	**Quilpie**	**24.20**	**161**	P	**P**	**23 09 27.9**	**+1.6**
LCRK	**Leigh Creek**	**26.68**	**175**	P	**P**	**23 09 48.1**	**-0.6**
STKA	**Stephens Creek**	**28.57**	**169**	LR	LR	23 22 58.0	
	comp=Z,121nm,22.0s,baz=202,slow=39						
XLT	**XiLinHaoTe**	**50.55**	**342**	*e*P	P	23 13 14.5	+6.4
XLT				pP	sP	23 13 18.6	+0.8
XLT				sP	pP	23 13 21.9	+6.9
XLT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**68.69**	**324**	P	**P**	**23 15 13.2**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=112,slow=8.1,SNR=16						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**72.76**	**326**	P	**P**	**23 15 35.4**	**-2.3**
	comp=Z,0.4nm,0.6s,baz=117,slow=4.7,SNR=4.5						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**88.10**	**25**	P	**P**	**23 16 58.0**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=265,slow=5.9,SNR=3.0						
	comp=Z,0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**99.42**	**349**	LR	LR	00 07 08.5	
	comp=Z,48nm,20.1s,baz=41,slow=38						

*NEIC **23** 23:05:50.5±2.1,44°.417N±0°.007×124°.46W±0°.02, h10km±2km,Error ellipse: s-maj=3.0km s-min=2.2km az=273.0*
SEA 23 23:05:51.1±2.1,44°.414N±0°.008×124°.48W±0°.02, h8km±2km,ML2.5/7,ML2.5/14(NEIC),Error ellipse: s-maj=3.0km s-min=2.3km az=260.0,Near coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEWO	**Newport DOGAMI**	**0.38**	**56**		Sb	23 06 05.5	-0.6
I02E	**Swisshome, OR**	**0.55**	**124**	Pg	Pg	23 06 00.9	-0.8
MPOR	**Mary's Peak**	**0.67**	**82**		Pg	23 06 03.1	-1.0
MPOR					Sg	23 06 12.9	-0.1
RNO	**Roman Nose**	**0.73**	**133**		Pg	23 06 04.5	-0.7
COR	**Corvallis**	**0.86**	**78**	Pg	Pg	23 06 06.5	-1.2
COR	**Corvallis**	**0.86**	**78**	IAML		23 06 20.6	
	203nm,0.6s						
HEBO	**Mount Hebo**	**0.95**	**33**	Pg	Pg	23 06 08.1	-1.4
HEBO				IAML		23 06 23.2	
	comp=N,118nm,0.9s						
I03D	**Drain, OR**	**1.09**	**131**	Pg	Pg	23 06 09.8	-2.2
BUCK	**Buck Mountain**	**1.10**	**101**	Pg	Pg	23 06 10.1	-2.1
G03D	**McMinnville, O**	**1.18**	**47**		Pb	23 06 11.3	-2.4
H04D	**Lebanon**	**1.25**	**84**		Pn	23 06 12.9	-2.1
J01E	**Myrtle Point**	**1.31**	**162**	Pn	Pn	23 06 13.7	-2.1
BROR	**Big Rock Looko**	**1.46**	**95**		Pn	23 06 16.4	-1.4
DBO	**Dodson Butte**	**1.57**	**145**	Pn	Pn	23 06 17.7	-1.8
G04A	**Mulino**	**1.63**	**60**	Pn	Pn	23 06 18.6	-1.6
F03A	**Seaside**	**1.65**	**23**	Pn	Pn	23 06 16.4	-4.0
H04A	**Detroit Lake**	**1.66**	**80**	Pn	Pn	23 06 19.4	-1.3
K02D	**Willamette Mer**	**1.82**	**161**	Pn	Pn	23 06 22.4	-0.4
PRLK	**Prince Lake**	**1.82**	**96**	Pn	Pn	23 06 22.4	-0.4
PRLK				IAML		23 06 54.0	
	comp=N,44nm,0.8s						
PRLK				IAML		23 06 55.5	
	comp=E,48nm,1.7s						
BBOR	**Butler Butte**	**2.01**	**139**	Pn	Pn	23 06 25.1	-0.5
J04A	**Umpqua Nationa**	**2.08**	**124**	Pn	Pn	23 06 25.7	-0.9
TDH	**Tom, Dick, Har**	**2.10**	**64**		Pn	23 06 26.1	-0.7
I05D	**Terrebonne, OR**	**2.25**	**91**	Pn	Pn	23 06 29.1	+0.3
B019	**Raymond**	**2.31**	**14**		Pn	23 06 30.8	+1.3
AWST	**Adams West**	**2.58**	**47**		Pn	23 06 32.9	-0.4
PINE	**Pine Mountain**	**2.63**	**102**	Pn	Pn	23 06 32.6	-1.4
I07A	**Izee**	**3.59**	**94**	Pn	Pn	23 06 45.9	-1.4
MXC	**Moxie City**	**3.65**	**52**	IAML		23 07 54.3	
	comp=N,9.9nm,4.2s						
MXC				IAML		23 07 55.9	
	comp=E,9.7nm,4.9s						
LTY	**Liberty**	**3.90**	**42**	Pn	Pn	23 06 50.4	-1.0

STR 23 23:15:45.6±1.4,50°N±7°×°±°,h5km,MLv2.0/7,Error ellipse: s-maj=0.0km s-min=0.0km az=165.4, preliminary,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABH	**Alteburg**	**0.15**	**127**	Pg	Pg	23 15 48.5	-0.2
ABH				Sg	Sg	23 15 51.3	+0.6
WLF	**Walferdange**	**0.84**	**249**	Pg	Pg	23 16 00.5	-1.2
WLF				Sg	Sb	23 16 14.5	+0.3
LEMB	**Lembach**	**0.97**	**164**	Pn	Pg	23 16 04.5	+0.2
LEMB				Sg	Sg	23 16 17.0	+0.1
VOEL	**Voellerdingen**	**1.02**	**189**	Pn	Pb	23 16 05.5	-0.3
NEEW	**Neewiller pres**	**1.13**	**154**	Pn	Pg	23 16 06.5	-0.7
NEEW				Sn	Sn	23 16 23.2	-0.6
CIEL	**Dossenheim-sur**	**1.14**	**180**	Pn	Pg	23 16 07.3	-0.2
CIEL				Sg	Sb	23 16 23.1	+0.2

DJA 23 23:23:50.1±0.7,8°S±3°×10°8E±°,h29km±7km,M4.1/14, mb4.6/4,MLv3.9/14,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.89**	**48**	P	Pn	23 24 06.8	+0.1
CMJI				S	Sb	23 24 17.5	-1.0
CNJI	**Cibinong**	**1.24**	**329**	P	Pn	23 24 11.6	+0.1
CNJI				S	Sn	23 24 27.7	+0.3
LEM	**Lembang**	**1.55**	**354**	P	Pb	23 24 18.8	+0.5
SKJI	**Sukabumi**	**1.83**	**318**	P	Pn	23 24 20.4	+0.8
SKJI				S	Sn	23 24 42.7	+0.9
YOGI	**Yogyakarta**	**2.55**	**78**	P	Pn	23 24 29.6	0.0
YOGI				S	Sn	23 24 58.9	-0.8
CGJI	**Cibinong**	**2.71**	**310**	P	Pn	23 24 31.6	-0.2
CGJI				S	Sn	23 25 03.1	-0.6
UGM	**Wanagama**	**2.75**	**80**	P	Pn	23 24 32.3	-0.1
SMRI	**Semarang**	**2.95**	**64**	P	Pn	23 24 34.7	-0.4
SMRI				S	Sn	23 25 11.3	+1.8
PCJI	**Pacitan**	**3.37**	**87**	P	Pn	23 24 41.6	+0.8
GMJI	**Gumukmas**	**5.61**	**89**	P	Pn	23 25 11.0	-0.6
	0.2nm21nm,1.5s						
MNAI	**Manna**	**6.24**	**309**	P	Pn	23 25 18.0	-2.3
	119nm,0.9s						
JAGI	**Jajag, Banyuwa**	**6.30**	**91**	P	Pn	23 25 21.9	+0.7

*NEIC **23** 23:36:20.2±2.0,25°.2S±0°.1×177°.4W±0°.2,h106km±5km, mb4.6/26,Error ellipse: s-maj=24.4km s-min=14.4km az=113.0*
*IDC **23** 23:36:27.4±0.9,25°.18S×177°.58W,h170km±7km,mb3.8/13, mbtmp4.3/15,MS3.2/2,Error ellipse: s-maj=17.8km s-min=12.4km az=81.0*
ISC 23 23:36:27.8±0.5,25°.22S±0°.07×177°.6W±0°.1,h176km,n76, σ1§14/74,mb4.5/27,3C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.47**	**331**	P	**Pn**	**23 38 27.2**	**-0.4**
	80nm,0.9s,baz=147,slow=11,SNR=17						
MSVF				S	**Sn**	**23 39 59.6**	**-2.8**
	6.3nm,0.3s,baz=131,slow=22,SNR=24						
MSVF				LR	LR	23 40 38.0	
	comp=Z,128nm,21.5s,baz=73,slow=30						
NIUE	**Niue**	**9.39**	**51**	Pn	Pn	23 38 32.2	-7.3
AFI	**Afiamalu**	**12.52**	**27**	Pn	Pn	23 39 11.3	-8.9
URZ	**Urewera**	**13.74**	**198**	P	**Pn**	**23 39 34.8**	**-0.6**
	2.2nm,0.3s,baz=359,slow=3.6,SNR=1.5						
MRZ	**Mangatainoka R**	**16.41**	**199**	P	**P**	**23 40 04.6**	**-3.2**
KHZ	**Kahutara**	**18.64**	**201**	P	**P**	**23 40 27.8**	**-4.3**
STKA	**Stephens Creek**	**36.28**	**250**	P	**P**	**23 43 14.3**	**-0.1**
	0.6nm,0.4s,baz=117,slow=13,SNR=4.5						
	0.6nm,0.4s						
COEN	**Coen**	**38.47**	**279**	P	**P**	**23 43 35.7**	**+2.7**
COEN				IAmb	IAmb	23 43 50.3	
	comp=Z,12nm,1.1s						
BBOO	**Buckleboo**	**40.95**	**248**	P	**P**	**23 43 53.6**	**+0.3**
BBOO				IAmb	IAmb	23 44 22.4	
	comp=Z,6.7nm,1.1s						
AS31	**Alice Springs**	**43.97**	**261**	P	**P**	**23 44 18.4**	**+0.5**
ASAR	**Alice Springs**	**43.97**	**261**	P	**P**	**23 44 18.1**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=102,slow=8.2,SNR=8.9						
ASAR				pP	**pP**	**23 44 55.7**	**-0.2**
	comp=Z,4.8nm,1.0s,baz=101,slow=8.5,SNR=8.4						
ASAR				ScP	**ScP**	**23 49 38.2**	**+2.6**
	comp=Z,0.9nm,1.0s,baz=99,slow=7.1,SNR=3.1						
	comp=Z,1.0nm,0.8s						
WR8	**Warramunga Arr**	**44.34**	**267**	P	**P**	**23 44 20.7**	**-0.1**
WB0	**Warramunga Arr**	**44.49**	**267**	P	**P**	**23 44 21.3**	**-0.7**
WB0				IAmb	IAmb	23 44 37.5	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**44.49**	**267**	P	**P**	**23 44 21.6**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=100,slow=7.8,SNR=5.6						
WRA				pP	**pP**	**23 45 00.4**	**+0.2**
	comp=Z,5.5nm,0.8s,baz=103,slow=8.2,SNR=8.4						
WRA				ScP	**ScP**	**23 49 38.9**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=116,slow=3.3,SNR=6.1						
	comp=Z,1.6nm,0.7s						
FORT	**Forrest**	**47.90**	**250**	P	**P**	**23 44 47.0**	**-1.4**
FORT				IAmb	IAmb	23 44 51.3	
	comp=Z,11nm,1.0s						
KNRA	**Kununurra**	**50.85**	**270**	P	**P**	**23 45 11.8**	**+0.9**
KNRA				IAmb	IAmb	23 45 28.7	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.90**	**266**	P	**P**	**23 45 26.1**	**+0.1**
VNDA	**Vanda**	**53.26**	**185**	P	**P**	**23 45 29.1**	**+1.3**
VNDA				IAmb	IAmb	23 45 44.3	
	comp=Z,2.8nm,1.1s						
VNDA	**Vanda**	**53.26**	**185**	P	**P**	**23 45 28.9**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=351,slow=5.5,SNR=1.8						
	comp=Z,0.7nm,0.5s						
QSPA	**South Pole Qui**	**64.87**	**180**	P	**P**	**23 46 48.6**	**+0.8**
QSPA				IAmb	IAmb	23 46 49.9	
	comp=Z,14nm,0.9s						
QSPA	**South Pole Qui**	**64.87**	**180**	P	**P**	**23 46 48.7**	**+0.8**
	comp=Z,12nm,0.9s,baz=11,slow=1.1,SNR=49						
QSPA				pP	**pP**	**23 47 28.6**	**0.0**
	comp=Z,4.0nm,1.0s,baz=340,slow=3.4,SNR=2.4						
	comp=Z,12nm,0.9s						
BELA	**Belgrano 2**	**74.85**	**172**	P	**P**	**23 47 47.2**	**-1.3**
BELA				IAmb	IAmb	23 47 49.1	
	comp=Z,6.3nm,0.7s						
ADK	**Adak**	**76.78**	**1**	P	**P**	**23 47 58.9**	**-0.6**
MAW	**Mawson**	**77.26**	**200**	P	**P**	**23 48 03.4**	**+1.2**
MAW	**Mawson**	**77.26**	**200**	P	**P**	**23 48 02.4**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=142,slow=6.7,SNR=9.6						
	comp=Z,2.7nm,0.5s						
SMY	**Shemya**	**77.96**	**355**	P	**P**	**23 48 06.0**	**0.0**
PEA0B	**Petropavlovsk-**	**80.91**	**345**	P	**P**	**23 48 22.2**	**+0.3**
PEA0B				IAmb	IAmb	23 48 22.9	
	comp=Z,12nm,0.7s						
PETK	**Petropavlovsk-**	**80.91**	**345**	P	**P**	**23 48 21.3**	**-0.7**
PETK	**Petropavlovsk-**	**80.91**	**345**	P	**P**	**23 48 21.7**	**-0.2**
	comp=Z,9.1nm,0.6s,baz=125,slow=7.2,SNR=14						
	comp=Z,9.1nm,0.6s						
TROLL	**Troll, Antarti**	**83.03**	**180**	⇑P	**P**	**23 48 33.4**	**+0.2**
	comp=Z,801nm,0.6s						
SNAA	**Sanae**	**83.30**	**178**	P	**P**	**23 48 34.0**	**-0.5**
	comp=Z,7.0nm,0.8s,baz=202,slow=9.5,SNR=11						
	comp=Z,7.0nm,0.8s						
VNA3	**Neumayer Olymp**	**83.43**	**176**	⇑P	**P**	**23 48 34.6**	**-0.5**
	comp=Z,19nm,0.7s						
VNA2	**Neumayer--Watz**	**83.87**	**177**	⇑P	**P**	**23 48 37.6**	**+0.3**
	comp=Z,18nm,0.6s,baz=178,slow=4.2						
NVAR	**Mina Array Bea**	**84.22**	**43**	P	**P**	**23 48 39.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=222,slow=8.0,SNR=6.8						
	comp=Z,1.0nm,0.7s						
PLCA	**Paso Flores**	**85.78**	**133**	P	**P**	**23 48 47.9**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=217,slow=4.4,SNR=5.1						
	comp=Z,1.7nm,0.7s						
N15K	**Kwethluk River**	**86.28**	**9**	P	**P**	**23 48 49.7**	**+0.5**
P18K	**Big Mountain,**	**86.31**	**11**	P	**P**	**23 48 49.1**	**-0.3**
P18K				IAmb	IAmb	23 48 50.8	
	comp=Z,8.2nm,0.8s						
O18K	**Koktuh Hills**	**86.75**	**11**	P	**P**	**23 48 51.5**	**0.0**
ILSW	**Iliamna Southw**	**87.24**	**12**	P	**P**	**23 48 52.2**	**-1.7**
K15K	**Wolf Creek Mou**	**88.16**	**7**	P	**P**	**23 48 58.5**	**+0.3**
K15K				IAmb	IAmb	23 49 01.4	
	comp=Z,6.8nm,0.8s						
STLK	**Strandline Lak**	**88.89**	**12**	P	**P**	**23 49 00.8**	**-0.8**
STLK				IAmb	IAmb	23 49 02.0	
	comp=Z,4.6nm,1.0s						
GHO	**Glory Hole Cre**	**89.72**	**13**	P	**P**	**23 49 05.4**	**-0.2**
CAST	**Castle Rocks**	**90.62**	**11**	P	**P**	**23 49 09.0**	**-0.6**
CAST				IAmb	IAmb	23 49 09.9	
	comp=Z,6.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**92.02**	**289**	P	**P**	**23 49 18.9**	**+1.8**
	comp=Z,1.5nm,0.3s,baz=118,slow=4.2,SNR=12						
	comp=Z,1.5nm,0.3s						
PDAR	**Pinedale Array**	**92.15**	**43**	P	**P**	**23 49 17.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=249,slow=5.0,SNR=5.4						
PDAR				LR	LR	00 23 33.5	
	comp=Z,14nm,19.7s,baz=341,slow=31						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**92.82**	**13**	P	**P**	**23 49 19.1**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=229,slow=5.1,SNR=6.8						
	comp=Z,0.8nm,0.8s						
J26L	**Joseph Creek**	**93.28**	**14**	P	**P**	**23 49 22.6**	**+0.6**
J26L				IAmb	IAmb	23 49 23.6	
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**140.37**	**342**	PKhKP	PKPpre	23 55 27.7	
	comp=Z,0.9nm,0.7s,baz=342,slow=12,SNR=2.3						
NB201	**NORSAR Array S**	**143.67**	**353**	PKPdf	PKPab	23 55 38.2	-0.2
NB2	**NORSAR Subarra**	**143.69**	**353**	PKP	PKPab	23 55 38.6	+0.2
	comp=Z,1.2nm,0.7s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**143.69**	**353**	PKhKP	PKPpre	23 55 37.0	
	comp=Z,2.7nm,0.8s,baz=16,slow=4.7,SNR=11						
NC602	**NORSAR Array S**	**143.95**	**352**	PKPdf	PKPab	23 55 39.5	+0.2
HFS	**Hagfors**	**144.24**	**350**	PKhKP	PKPpre	23 55 39.9	
	comp=Z,11nm,0.7s,baz=66,slow=3.7,SNR=34						
KONO	**Kongsberg**	**145.23**	**354**		**PKPdf**	**23 55 43.8**	**-0.1**
AKASG	**Malin Array Be**	**147.25**	**328**	PKPbc	**PKPbc**	**23 55 49.6**	**-0.5**
	comp=Z,8.0nm,0.7s,baz=43,slow=4.3,SNR=24						
AKBB	**Malin Array Si**	**147.25**	**328**	PKPdf	**PKPdf**	**23 55 47.2**	**-0.3**
KIEV	**Kiev**	**147.26**	**328**		**PKPdf**	**23 55 48.8**	**+1.3**
SUW	**Suwalki**	**147.34**	**337**	PKPbc	**PKPbc**	**23 55 49.1**	**-1.2**
BNN	**Bunyan**	**148.74**	**304**	PKPbc	**PKPbc**	**23 55 54.7**	**0.0**
EKA	**Eskdalemuir Ar**	**149.65**	**6**	PKPbc	**PKiKP**	**23 55 56.8**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=343,slow=1.9,SNR=1.6						
BR131	**Keskin Array S**	**150.11**	**307**	PKPbc	**PKPbc**	**23 55 55.9**	**-2.1**
BRTR	**Keskin Array B**	**150.11**	**307**	PKPbc	**PKPbc**	**23 55 57.6**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=146,slow=3.1,SNR=10						
MMAI	**Mount Meron Ar**	**150.22**	**293**	PKPbc	**PKiKP**	**23 55 59.4**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=62,slow=3.4,SNR=5.5						
BUR08	**Bucovina Ar. S**	**151.26**	**327**	PKPbc	**PKPbc**	**23 55 59.5**	**-0.9**
BURAR	**Bucovina Array**	**151.27**	**327**	PKPbc	**PKPbc**	**23 56 00.2**	**-0.2**
GERES	**GERESS Array B**	**154.81**	**342**	PKPab	**PKPab**	**23 56 23.3**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=21,slow=3.5,SNR=6.9						
**CONA

CRJC	**Cerrejon, Guaj**	**2.60 320**	P	**Pn**	**00 07 43.4**	**0.0**
CRJC			S	**Sn**	**00 08 14.7**	**-1.0**
TAMC	**Tame, Arauca**	**2.64 193**	P	**Pn**	**00 07 45.7**	**+1.7**
TAMC			S	**Sn**	**00 08 17.6**	**+0.9**
URIC	**Uribia, Colomb**	**2.78 343**	P	**Pn**	**00 07 45.3**	**-0.5**
URIC			S	**Sn**	**00 08 19.4**	**-0.6**
BAUV	**El Baul**	**3.10 91**	*e*P	**Pn**	**00 07 52.5**	**+2.3**
BAUV			*e*S	**Sn**	**00 08 28.2**	**+0.3**
BENV	**Beln**	**3.65 75**	*e*P	**Pn**	**00 08 01.0**	**+3.1**
BENV			*e*S	**Sn**	**00 08 41.7**	**+0.1**
SJCC	**San Jacinto, C**	**4.04 283**	P	**Pn**	**00 08 04.8**	**+1.5**
SJCC			S	**Sn**	**00 08 53.0**	**+1.7**
PTBC	**PUERTO BERRIO,**	**4.08 233**	P	**Pn**	**00 08 04.8**	**+1.0**
PTBC			S	**Sn**	**00 08 55.1**	**+2.9**
TACV	**Tcata**	**4.24 75**	*e*P	**Pn**	**00 08 08.7**	**+2.7**
TACV			*e*S	**Sn**	**00 08 55.2**	**-0.9**
CACV	**CAICARA DEL OR**	**4.81 107**	*e*P	**Pb**	**00 08 21.7**	**-3.7**
CACV			*e*S	**Sb**	**00 09 18.3**	**-5.5**

*IDC **24** 00:07:38.2±7.3, 32°.04S×179°.52E, h513km±94km, mb2.9/2, mbtmp4.0/3, Error ellipse: s-maj=121.6km s-min=31.8km az=8.0*
*WEL **24** 00:07:39.1±1.4, 32°.S±.8°×18°.0E±2°.3, h387km±21km, M4.5/4, mB4.5/3, MLv4.6/4, Mw(mB)3.7/3, Error ellipse: s-maj=31.8km s-min=6.0km az=106.8, confirmed*
ISC 24 00:07:33.6±0.9, 31°.23S±0°.08×178°.9E±0°.1, h400km, n21, σ1°.63/31, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.37**	**55**	P	**Pn**	**00 08 41.0**	**+1.1**
GLKZ				S	**S**	**00 09 33.1**	**-0.5**
WCZ	**Waipu Caves**	**6.05**	**218**	P	Pn	00 09 14.8	+8.1
MXZ	**Matakaoa Point**	**6.33**	**184**	P	**Pn**	**00 09 11.2**	**+1.4**
HAZ	**Te Kaha**	**6.58**	**188**	P	**P**	**00 09 14.1**	**+1.1**
HAZ				S	**S**	**00 10 31.9**	**-1.2**
WMGZ	**Waiomatatini S**	**6.58**	**183**	P	**P**	**00 09 13.6**	**+0.5**
WMGZ				S	**S**	**00 10 33.7**	**+0.5**
MKAZ	**Moumakai**	**6.63**	**207**	P	P	00 09 19.8	+6.1
RUGZ	**Raukumara Rang**	**6.79**	**188**	P	**P**	**00 09 16.7**	**+1.1**
RUGZ				S	**S**	**00 10 37.9**	**+0.1**
PUZ	**Puketiti**	**6.84**	**184**	P	**Pn**	**00 09 15.9**	**+0.5**
PUZ				S	**S**	**00 10 35.3**	**-3.4**
TWGZ	**Tauwhareparae**	**6.97**	**186**	P	**P**	**00 09 19.1**	**+1.6**
TWGZ				S	**S**	**00 10 40.6**	**-0.7**
URZ	**Urewera**	**7.17**	**191**	P	**P**	**00 09 20.6**	**+1.0**
	28nm,0.4s,baz=70,slow=2.1,SNR=44						
URZ				S	**S**	**00 10 42.6**	**-2.6**
	16nm,0.5s,baz=132,slow=23,SNR=12						
URZ	**Urewera**	**7.17**	**191**	P	**Pn**	**00 09 19.3**	**+0.3**
URZ				S	**S**	**00 10 42.1**	**-3.1**
MWZ	**Matawai**	**7.18**	**189**	P	**Pn**	**00 09 19.4**	**+0.2**
MWZ				S	**S**	**00 10 44.0**	**-1.5**
TKGZ	**Te Karaka**	**7.24**	**187**	P	**P**	**00 09 21.7**	**+1.3**
TKGZ				S	**S**	**00 10 44.9**	**-1.8**
CNGZ	**Carnagh Statio**	**7.26**	**184**	P	**P**	**00 09 22.2**	**+1.6**
CNGZ				S	**S**	**00 10 46.0**	**-1.1**
RAGZ	**Rawiri**	**7.35**	**189**	P	**P**	**00 09 22.9**	**+1.2**
RIGZ	**Rimuhau**	**7.52**	**187**	P	**P**	**00 09 24.2**	**+0.7**
RIGZ				S	**S**	**00 10 51.9**	**-0.6**
ASAR	**Alice Springs**	**40.43**	**269**	P	**P**	**00 14 36.0**	**+0.7**
	0.4nm,0.5s,baz=109,slow=7.0,SNR=7.1						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**41.50**	**275**	P	**P**	**00 14 44.5**	**+0.6**
	0.9nm,0.3s,baz=111,slow=8.1,SNR=11						
	0.9nm,0.3s						
FINES	**FINESS Array B**	**144.96**	**338**	PKPbc	**PKPdf**	**00 26 18.8**	**-4.3**
	1.7nm,0.6s,baz=42,slow=4.3,SNR=21						
NOA	**NORSAR Array B**	**149.10**	**348**	PKPbc	**PKPdf**	**00 26 28.6**	**-1.5**
	0.1nm,0.4s,baz=6.6,slow=3.5,SNR=1.4						
HFS	**Hagfors**	**149.46**	**345**	PKPbc	**PKPdf**	**00 26 30.1**	**-0.6**
	0.5nm,0.4s,baz=66,slow=3.6,SNR=1.4						

IDC 24 00:37:10.8±2.2, 23°.86S×176°.71W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=57.2km s-min=45.1km az=23.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.53**	**248**	P	P	00 44 26.9	+0.1
	0.8nm,0.5s,baz=76,slow=8.3,SNR=2.9						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**45.01**	**260**	P	P	00 45 28.0	-0.4
	0.4nm,0.4s,baz=95,slow=7.1,SNR=5.5						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**45.41**	**265**	P	P	00 45 31.6	0.0
	0.9nm,0.5s,baz=103,slow=8.1,SNR=6.0						
	0.9nm,0.5s						
QSPA	**South Pole Qui**	**66.23**	**180**	P	P	00 48 00.4	0.0
	1.1nm,1.1s,baz=22,slow=5.4,SNR=1.6						
	1.1nm,1.1s						
AKASG	**Malin Array Be**	**146.51**	**330**	PKPbc	PKPbc	00 56 53.2	-0.7
	0.7nm,0.4s,baz=49,slow=3.4,SNR=6.1						

*IDC **24** 00:44:27.3±0.5, 27°.69N×85°.08E, h0km, mb4.5/35, mbtmp4.5/39, ML4.5/4, MS3.5/12, Error ellipse: s-maj=14.0km s-min=10.6km az=52.0*
*DMN **24** 00:44:28.8±0.0, 27°.69N×85°.17E, h10km, Ml5.3/4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*MOS **24** 00:44:30.3±1.2, 27°.82N×84°.98E, h28km, mb4.7/24, Error ellipse: s-maj=7.9km s-min=3.9km az=116.2*
*BJI **24** 00:44:30.6, 28°.01N×85°.21E, h21km, mB4.7/18, mb4.7/60, Ms4.1/34, Ms7 3.9/37*
*NEIC **24** 00:44:32.0±1.4, 27°.77N±0°.07×85°.07E±0°.06, h27km±3km, mb4.7/165, Error ellipse: s-maj=10.3km s-min=8.0km az=177.0*
*NDI **24** 00:44:44.7±0.3, 27°.77N×85°.09E, h25km, ML4.6, MW4.5, mb4.7(NEIC)*
ISC 24 00:44:30.0±0.5, 27°.73N±0°.03×85°.13E±0°.02, h18km±2km, n563, σ1°.77/539, mb4.6/146, MS3.8/15, 28C-25D, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMN	**Daman**	**0.12**	**192**	Pg	**Pg**	**00 44 31.4**	**-2.7**
	baz=216,slow=0.0						
DMN	**Daman**	**0.12**	**192**	Pg	**Pg**	**00 44 31.5**	**-2.7**
	baz=216,slow=0.0						
DMN				Sg	**Sg**	**00 44 34.9**	**-2.0**
	baz=216,slow=0.0						
KKN	**Kakani**	**0.14**	**66**	Pg	**Pg**	**00 44 32.5**	**-1.8**
	baz=40,slow=0.0						
KKN				Sg	**Sg**	**00 44 34.9**	**-2.3**
	baz=40,slow=0.0						
PKIN	**Phulchoki**	**0.28**	**123**	Pg	**Pg**	**00 44 33.9**	**-2.4**
	baz=118,slow=0.0						
PKIN				Sg	**Sg**	**00 44 38.2**	**-2.4**
	75μm,0.4s,baz=118,slow=0.0						
PKI	**Pulchoki**	**0.29**	**123**	Pg	**Pg**	**00 44 34.1**	**-2.5**
	baz=118,slow=0.0						
PKI				Sg	**Sg**	**00 44 38.1**	**-2.9**
	31μm,0.4s,baz=118,slow=0.0						
GUN	**Gumba**	**0.68**	**75**	Pg	**Pg**	**00 44 41.7**	**-1.8**
	baz=70,slow=0.0						
GUN				Sg	**Sg**	**00 44 51.4**	**-1.3**
	baz=70,slow=0.0						
KOLN	**Koldanda**	**1.36**	**272**	Pg	**Pn**	**00 44 55.1**	**+0.8**
	baz=274,slow=0.0						
KOLN				Sg	**Sn**	**00 45 12.7**	**+0.7**
	3μm,0.2s,baz=274,slow=0.0						
KOLN				Sg	**Sb**	**00 45 13.1**	**+0.9**
	4μm,0.2s,baz=274,slow=0.0						
KOLN				Sg	Sg	00 45 13.6	-0.5
	4μm,0.3s,baz=274,slow=0.0						
PYUN	**Piuthan**	**1.93**	**281**	Pg	**Pb**	**00 45 04.6**	**-0.2**
	baz=283,slow=0.0						
PYUN				Sg	**Sb**	**00 45 31.3**	**+2.6**
	8μm,0.4s,baz=283,slow=0.0						
VAR	**Varanasi**	**3.08**	**219**	*e*P	**Pg**	**00 45 32.4**	**+3.5**
VAR				*e*S	**Sg**	**00 46 07.3**	**-1.5**
VAR				IAML		00 46 17.9	
	comp=N,4μm,0.7s						
VAR				IAML		00 46 19.6	
	comp=E,5μm,0.7s						
GTK	**Tadong**	**3.11**	**97**	*e*P	**Pg**	**00 45 32.9**	**+3.3**
GTK				IAML		00 46 05.4	
	comp=E,2μm,0.2s						
GTK				IAML		00 46 06.3	
	comp=N,2μm,0.4s						
GTK				*e*S	**Sg**	**00 46 08.3**	**-1.6**
BRCI	**Bahraich**	**3.15**	**268**	*e*P	**Pg**	**00 45 32.3**	**+1.8**
BRCI				*e*S	**Sb**	**00 46 07.0**	**+3.3**
BRCI				IAML		00 46 14.2	
	comp=N,3μm,0.6s						
BRCI				IAML		00 46 15.2	
	comp=E,3μm,0.4s						
ALBI	**Allahabad**	**3.83**	**232**	*e*P	**Pg**	**00 45 42.0**	**-1.4**
ALBI				*e*S	**Sb**	**00 46 24.0**	**+0.7**
BOK	**Bokaro**	**3.98**	**170**	*e*P	**Pg**	**00 45 44.8**	**-1.5**
BOK				*e*S	**Sb**	**00 46 28.7**	**+1.3**
BOK				IAML		00 46 35.3	
	comp=E,2μm,1.3s						
BOK				IAML		00 46 42.1	
	comp=N,1μm,0.2s						
LGTI	**Lohaghat**	**4.63**	**293**	*e*P	**Pb**	**00 45 54.0**	**+3.3**
LGTI				*e*S	**Sb**	**00 46 44.2**	**-1.9**
LGTI				IAML		00 46 59.0	
	comp=E,1μm,0.2s						
LGTI				IAML		00 46 59.1	
	comp=N,1μm,0.3s						
JOSI	**Joshimath**	**5.63**	**301**	*e*P	**Pb**	**00 46 05.8**	**-2.1**
JOSI				IAmb	IAmb	00 47 03.3	
	comp=E,506nm,0.7s						
JOSI				IAML		00 47 06.9	
	comp=N,506nm,0.0s						
LSA	**Lhasa**	**5.63**	**68**		**Pn**	**00 45 55.8**	**+2.4**
LSA	**Lhasa**	**5.63**	**68**	Pn	**Pn**	**00 45 56.3**	**+3.0**
LSA				Sn	**Sn**	**00 46 52.5**	**-5.4**
LSA				LR	LR		
	comp=N,550nm,6.8s						
LSA				LR	LR		
	comp=N,1μm,9.0s						
LSA	**Lhasa**	**5.63**	**68**	P	**Pn**	**00 45 55.8**	**+2.4**
GUWA	**GUWAHATI**	**6.05**	**103**	*e*P	**Pb**	**00 46 12.6**	**-2.3**
GUWA				IAML		00 47 08.8	
	comp=N,1μm,0.0s						
GUWA				IAML		00 47 09.3	
	comp=E,1μm,1.2s						
GUWA				*e*S	Sn	00 47 17.3	+10
JHNI	**Jhansi**	**6.32**	**251**	*e*P	Pb	00 46 14.7	-4.8
JHNI				IAML		00 47 09.4	
	comp=N,993nm,0.2s						
JHNI				IAML		00 47 13.8	
	comp=E,1μm,0.1s						
JHNI				*e*S	**Sn**	**00 47 20.5**	**+6.4**
SHL	**Shillong**	**6.41**	**108**	Pn	**Pn**	**00 46 03.1**	**-0.7**
SHL	**Shillong**	**6.41**	**108**	*e*P	**Pb**	**00 46 19.1**	**-2.1**
SHL				*e*S	Sb	00 47 27.9	-10
SHL				IAML		00 48 06.1	
	comp=E,252nm,0.7s						
SHL				IAML		00 48 06.5	
	comp=N,395nm,1.4s						
SHL	**Shillong**	**6.41**	**108**	P	**Pn**	**00 46 03.1**	**-0.7**
AGT	**Agartala**	**6.71**	**123**	*e*P	Pb	00 46 21.8	-4.4
AGT				*e*S	Sn	00 47 32.8	+9.1
AGT				IAML		00 48 17.8	
	comp=N,398nm,0.0s						
AGT				IAML		00 48 18.8	
	comp=E,600nm,0.9s						
DDI	**Dehra Dun**	**6.71**	**294**	*e*P	Pb	00 46 20.6	-5.6
DDI				IAML		00 47 28.0	
	comp=E,564nm,0.8s						
DDI				IAML		00 47 30.4	
	comp=N,871nm,0.5s						
DDI				*e*S	**Sn**	**00 47 30.6**	**+6.7**
SONA	**Sohna**	**7.14**	**276**	*e*P	Pb	00 46 26.6	-6.8
SONA				*e*S	**Sn**	**00 47 41.1**	**+6.9**
SONA				IAML		00 48 27.4	
	comp=N,808nm,0.6s						
SONA				IAML		00 48 36.5	
	comp=E,834nm,0.6s						
SMLA	**Simla**	**7.73**	**298**	*e*P	Pb	00 46 34.1	-9.3
SMLA				IAML		00 47 50.4	
	comp=E,372nm,0.9s						
SMLA				IAML		00 47 52.6	
	comp=N,313nm,0.8s						
SMLA				*e*S	**Sn**	**00 47 54.3**	**+5.6**
ZIRO	**ZIRO**	**7.73**	**89**	*e*P	Pb	00 46 35.5	-8.2
ZIRO				*e*S	**Sn**	**00 47 56.9**	**+7.7**
ZIRO				IAML		00 48 08.4	
	comp=N,833nm,0.4s						
ZIRO				IAML		00 48 10.3	
	comp=E,814nm,0.4s						
BRDH	**Bariadhala**	**7.75**	**129**	Pn	**Pn**	**00 46 23.3**	**+1.3**
	comp=E,26nm,0.3s,baz=270,slow=20,SNR=1.3						
BRDH				Sn	**Sn**	**00 47 47.1**	**-2.2**
	comp=E,52nm,0.3s,baz=269,slow=16,SNR=1.9						
	comp=E,74nm,0.3s						
BHPL	**Bhopal**	**8.28**	**239**	*e*P	Pb	00 46 42.5	-10
BHPL				IAML		00 47 58.8	
	comp=N,205nm,0.1s						
BHPL				IAML		00 48 05.7	
	comp=E,209nm,0.6s						
BHPL				*e*S	**Sn**	**00 48 08.1**	**+5.7**
IMP	**Imphal**	**8.42**	**108**	*e*P	Pb	00 46 45.2	-10
IMP				IAML		00 48 09.9	
	comp=N,806nm,0.5s						
IMP				IAML		00 48 10.3	
	comp=E,778nm,0.8s						
IMP				*e*S	**Sn**	**00 48 13.2**	**+7.2**
BHK	**Bhakra**	**8.43**	**298**	*e*P	Pn	00 46 38.4	+7.0
BHK				*e*S	**Sn**	**00 48 01.2**	**-4.9**
BHK				IAML		00 48 06.8	
	comp=E,897nm,0.7s						
BHK				IAML		00 48 07.4	
	comp=N,875nm,0.9s						
NRDN	**NARMADA NAGAR**	**8.77**	**237**	*e*P	Pn	00 46 49.2	+13
NRDN				*e*S	**Sn**	**00 48 19.9**	**+5.4**
NRDN				IAML		00 48 29.1	
	comp=N,227nm,0.0s						
NRDN				IAML		00 48 30.0	
	comp=E,842nm,0.8s						
NIL	**Nilore**	**11.80**	**303**	Pn	**Pn**	**00 47 15.4**	**-2.0**
NIL	**Nilore**	**11.80**	**303**	P	**Pn**	**00 47 15.5**	**-2.0**
HYB	**Hyderabad**	**11.93**	**212**	*e*P	**Pn**	**00 47 16.9**	**-2.4**
HYB				*e*		00 49 21.8	
HYB				*e*S	**Sn**	**00 49 29.6**	**-2.4**
HYB				IVMs_BB	IVMs_BB	00 53 21.4	
	comp=Z,983nm,5.8s						
KSH	**Kashi**	**14.00**	**329**	P	**Pn**	**00 47 43.4**	**-4.2**
KSH				pP	P	00 47 50.5	-5.0
KSH				pmax	pmax		
	comp=Z,21nm,0.7s						
PZH	**PanZhiHua**	**14.84**	**91**	P	**P**	**00 48 03.3**	**-1.6**
PZH				pmax	pmax		
	comp=Z,20nm,0.7s						
PZH				pmax	pmax		
	comp=Z,80nm,4.1s						
TARG	**Taragay, Kyrgy**	**15.20**	**339**	Pn	**Pn**	**00 48 02.2**	**-1.9**
TARG	**Taragay, Kyrgy**	**15.20**	**339**	P	**Pn**	**00 48 02.2**	**-1.9**
TARG				pmax	pmax		
	comp=Z,14nm,0.7s						
KBL	**Kabul**	**15.35**	**300**	Pn	**Pn**	**00 48 00.8**	**-5.2**
KBL	**Kabul**	**15.35**	**300**	P	**Pn**	**00 48 00.8**	**-5.2**
KBL				pmax	pmax		
	comp=Z,28nm,1.0s						
CHTO	**Chiang Mai**	**15.47**	**122**	Pn	**Pn**	**00 48 08.4**	**+0.9**
CHTO				IAmb	IAmb	00 48 45.2	
	comp=Z,15nm,0.3s						
CHTO	**Chiang Mai**	**15.47**	**122**	P	**Pn**	**00 48 08.4**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,15nm,0.3s						
NRN	**Naryn**	**15.59**	**334**	Pn	**Pn**	**00 48 06.4**	**-2.7**
NRN	**Naryn**	**15.59**	**334**	P	**Pn**	**00 48 06.4**	**-2.7**
NRN				pmax	pmax		
	comp=Z,13nm,0.6s						
CM31	**Chiang Mai Arr**	**15.69**	**123**	Pn	**Pn**	**00 48 11.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**15.69**	**123**	Pn	**Pn**	**00 48 11.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**15.69**	**123**	Pn	**Pn**	**00 48 10.8**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=314,slow=11,SNR=17						
CMAR				LR	LR	00 56 08.1	
	comp=Z,46nm,19.7s,baz=300,slow=45						
	comp=Z,3.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.69**	**123**	*i*P	**P**	**00 48 14.1**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KDJ	**Kajisay**	**15.76**	**338**	Pn	**Pn**	**00 48 08.9**	**-2.4**
KDJ	**Kajisay**	**15.76**	**338**	P	**Pn**	**00 48 08.9**	**-2.4**
KDJ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMI	**Kunming**	**15.98**	**95**	P	**P**	**00 48 18.9**	**+1.2**
KMI				pmax	pmax		
	comp=Z,22nm,0.9s						
DRK	**Karamyk**	**16.12**	**320**	Pn	**Pn**	**00 48 12.2**	**-3.8**
DRK				IAmb	IAmb	00 48 22.7	
	comp=Z,38nm,0.5s						
DRK	**Karamyk**	**16.12**	**320**	P	**Pn**	**00 48 12.2**	**-3.8**
DRK				pmax	pmax		
	comp=Z,38nm,0.5s						
WMQ	**Urumqi**	**16.19**	**7**	*e*P	**P**	**00 48 21.6**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
BOOM	**Boomskoye usch**	**16.52**	**335**	Pn	**Pn**	**00 48 18.2**	**-2.7**
BOOM	**Boomskoye usch**	**16.52**	**335**	P	**Pn**	**00 48 18.2**	**-2.7**
BOOM				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KPKS	**Kokpek**	**16.54**	**343**	*e*P	**Pn**	**00 48 19.4**	**-1.8**
CD2	**Chengdu**	**16.55**	**75**	P	**P**	**00 48 22.8**	**-1.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				LR	LR		
	comp=Z,280nm,9.5s						
CD2				LR	LR		
	comp=Z,370nm,10.2s						
GAR	**Garm**	**16.69**	**316**	Pn	**Pn**	**00 48 19.6**	**-3.5**
GAR				IAmb	IAmb	00 48 29.0	
	comp=Z,99nm,1.1s						
ARSB	**Arslanbob**	**16.83**	**327**	Pn	**Pn**	**00 48 21.2**	**-3.7**
ARSB	**Arslanbob**	**16.83**	**327**	P	**Pn**	**00 48 21.2**	**-3.7**
ARSB				pmax	pmax		
	comp=Z,18nm,0.7s						
GTA	**Gaotai**	**16.87**	**43**	P	**P**	**00 48 27.9**	**+0.6**
GTA				pP	pP	00 48 32.8	+0.2
GTA				pmax	pmax		
	comp=Z,43nm,1.2s						
GTA				LR	LR		
	comp=Z,99nm,11.3s						
GTA				LR	LR		
	comp=Z,180nm,10.2s						
GTA				LR	LR		
	comp=Z,160nm,9.8s						
BTK	**Batken**	**17.07**	**320**	Pn	**Pn**	**00 48 23.3**	**-4.6**
BTK	**Batken**	**17.07**	**320**	P	**Pn**	**00 48 23.3**	**-4.6**
BTK				pmax	pmax		
	comp=Z,34nm,1.0s						
AAK	**Ala-Archa**	**17.20**	**333**	Pn	**Pn**	**00 48 26.9**	**-2.6**
AAK	**Ala-Archa**	**17.20**	**333**	P	**Pn**	**00 48 30.3**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=143,slow=16,SNR=7.6						
	comp=Z,5.4nm,0.7s						
FRU1	**Bishkek**	**17.29**	**333**	Pn	**Pn**	**00 48 28.7**	**-1.9**
FRU1	**Bishkek**	**17.29**	**333**	P	**Pn**	**00 48 28.7**	**-1.9**
FRU1				pmax	pmax		
	comp=Z,43nm,1.1s						
SIMJ	**Simiganj**	**17.32**	**313**	Pn	**Pn**	**00 48 28.4**	**-2.6**
SIMJ				IAmb	IAmb	00 48 36.9	
	comp=Z,112nm,1.3s						
ARXS	**Arharly**	**17.46**	**342**	*e*P	**Pn**	**00 48 30.9**	**-1.8**
LZH	**Lanzhou**	**17.92**	**58**	*e*P	**Pn**	**00 48 38.3**	**-0.1**
LZH				pP	pP	00 48 44.9	+0.6
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
LZH				LR	LR		
	comp=Z,270nm,11.7s						
LZH				LR	LR		
	comp=Z,380nm,13.4s						
LZH				LR	LR		
	comp=Z,300nm,13.1s						
MK31	**Makanchi Array**	**19.16**	**354**	*i*P	**P**	**00 48 52.9**	**+0.5**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MKAR	**Makanchi Array**	**19.16**	**354**		**P**	**00 48 52.0**	**-0.4**
MKAR	**Makanchi Array**	**19.16**	**354**	P	**P**	**00 48 53.0**	**+0.6**
	comp=Z,2.4nm,0.3s,baz=172,slow=12,SNR=109						
MKAR				S	**Sn**	**00 52 24.7**	**-2.9**
	comp=Z,1.0nm,0.3s,baz=174,slow=14,SNR=8.8						
MKAR				LR	LR	00 57 31.8	
	comp=Z,141nm,18.1s,baz=223,slow=41						
	comp=Z,12nm,0.6s						
MAKZ	**Makanchi**	**19.20**	**353**	P	**P**	**00 48 51.1**	**-1.8**
MAKZ	**Makanchi**	**19.20**	**353**	P	**P**	**00 48 51.1**	**-1.8**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
GYA	**Guiyang**	**19.21**	**89**	⇓P	**Pn**	**00 48 54.8**	**+0.6**
GYA				pmax	pmax		
	comp=Z,64nm,0.8s						
GYA				LR	LR		
	comp=Z,140nm,18.0s						
KK31	**Karatay Array**	**19.38**	**326**	P	**P**	**00 48 52.9**	**-1.9**
KK31	**Karatay Array**	**19.38**	**326**	*e*P	**P**	**00 48 53.3**	**-1.5**
KKAR	**Karatay Array**	**19.38**	**326**	P	**P**	**00 48 52.7**	**-2.1**
KKAR	**Karatay Array**	**19.38**	**326**	P	**P**	**00 48 52.4**	**-2.5**
KKAR				IAmb	IAmb	00 48 59.0	
	comp=Z,11nm,0.7s						
KKAR	**Karatay Array**	**19.38**	**326**	P	**P**	**00 48 52.4**	**-2.5**
KKAR				pmax	pmax		
	comp=Z,11nm,0.7s						
BRLS	**Borolday**	**19.66**	**325**	*e*P	**P**	**00 48 54.3**	**-3.7**
HRA	**Herat**	**20.68**	**294**	P	**P**	**00 49 07.4**	**-1.9**
PALK	**Pallekele**	**20.78**	**192**	P	**P**	**00 49 11.3**	**+1.0**
PALK	**Pallekele**	**20.78**	**192**	P	**P**	**00 49 11.6**	**+1.3**
	comp=Z,4.7nm,0.7s,baz=28,slow=14,SNR=3.7						
	comp=Z,4.7nm,0.7s						
PALK	**Pallekele**	**20.78**	**192**	P	**P**	**00 49 11.3**	**+1.0**
PALK				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN	**Xi'an**	**21.34**	**67**	⇑P	**P**	**00 49 15.5**	**-0.7**
XAN				pP	sP	00 49 24.4	+0.2
XAN				pmax	pmax		
	comp=Z,25nm,0.7s						
ENH	**Enshi**	**21.44**	**77**	P	**P**	**00 49 16.7**	**-0.7**
ENH				IAmb	IAmb	00 49 23.0	
	comp=Z,33nm,1.0s						
UBPT	**Khong Chiam**	**22.57**	**119**	P	**P**	**00 49 30.2**	**+0.7**
KURBB	**Kurchatov Arra**	**23.41**	**349**	P	**P**	**00 49 38.3**	**+0.5**
	comp=Z,8.8nm,0.8s,baz=173,slow=9.8,SNR=45						
KURBB				LR	LR	01 00 06.2	
	comp=Z,135nm,19.4s,baz=174,slow=40						
	comp=Z,8.8nm,0.8s						
KURBB	**Kurchatov Arra**	**23.41**	**349**	P	**P**	**00 49 37.4**	**-0.4**
KURK	**Kurchatov**	**23.48**	**350**	P	**P**	**00 49 38.6**	**+0.1**
KURK				IAmb	IAmb	00 49 41.6	
	comp=Z,22nm,0.8s						
KURK	**Kurchatov**	**23.48**	**350**	*ce*P	**P**	**00 49 38.9**	**+0.3**
KURK				pmax	pmax		
	comp=Z,29nm,1.0s						
BTO	**Baotou**	**24.17**	**51**	*e*P	**P**	**00 49 46.8**	**+1.4**
BTO				pP	**sP**	**00 49 56.1**	**+2.7**
BTO				sP	pP	00 50 00.3	+9.1
BTO				PP	**PnPn**	**00 50 21.6**	**+6.7**
BTO				S	**S**	**00 53 58.5**	**-4.3**
BTO				SS	**SnSn**	**00 54 50.4**	**+5.6**
BTO				pmax	pmax		
	comp=Z,30nm,1.5s						
BTO				pmax	pmax		
	comp=Z,230nm,7.3s						
BTO				LR	LR		
	comp=Z,310nm,9.8s						
BTO				LR	LR		
	comp=Z,390nm,10

comp=Z,12nm,0.8s
ZALV Zalesovo Beam 26.19 360 P **P 00 50 03.3 -0.1**
ZALV Zalesovo Beam 26.19 360 P **P 00 50 04.4 +1.0**
comp=Z,6.5nm,0.3s,baz=184,slow=8.9,SNR=50
ZALV LR LR 01 00 55.7
comp=Z,42nm,18.2s,baz=190,slow=38
comp=Z,6.5nm,0.3s
ZALV Zalesovo Beam 26.19 360 *i* P **P 00 50 04.4 +1.0**
ZALV pmax pmax
comp=Z,6.0nm,0.3s
ULN Ulaanbaatar 26.37 34 P **P 00 50 05.6 +0.3**
ULN Ulaanbaatar 26.37 34 *ce*P **P 00 50 06.8 +1.5**
ULN pmax pmax
comp=Z,58nm,0.8s
ZAK Zakamensk 26.51 27 *e*P **P 00 50 07.6 +1.1**
ZAK pmax pmax
comp=Z,8.0nm,0.9s
HNS HongShan 26.63 61 ⇑P **P 00 50 08.9 +1.3**
HNS pmax pmax
comp=Z,38nm,0.9s
HNS LR LR
comp=Z,170nm,13.7s
HNS LR LR
comp=Z,170nm,11.4s
HNS LR LR
comp=Z,260nm,12.6s
MOY Mondy 26.72 22 *e*P **P 00 50 10.8 +2.4**
MOY pmax pmax
comp=Z,11nm,2.1s
BVAR Borovoye Array 27.54 341 P **P 00 50 16.0 +0.4**
comp=Z,1.6nm,0.4s,baz=148,slow=10.0,SNR=17
comp=Z,1.6nm,0.4s
BVAR Borovoye Array 27.54 341 P **P 00 50 16.0 +0.4**
BRVK Borovoye 27.60 340 P **P 00 50 16.0 -0.1**
BRVK Borovoye 27.60 340 *i* P **P 00 50 16.6 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
AB31 Akbulak array 28.93 325 P **P 00 50 26.4 -1.6**
AB31 Akbulak array 28.93 325 *i* P **P 00 50 28.4 +0.4**
ABKAR Akbulak array 28.93 325 P **P 00 50 28.0 0.0**
NJ2 Nanjing 29.48 73 *e*P **P 00 50 34.1 +1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
AKTO Aktyubinsk 30.64 325 P **P 00 50 43.5 +0.4**
comp=Z,1.6nm,0.5s,baz=130,slow=4.6,SNR=6.0
AKTO LR LR 01 04 50.9
comp=Z,24nm,20.0s,baz=9.0,slow=40
comp=Z,1.6nm,0.5s
AKT Akhty 33.43 304 *e*P **P 00 51 08.6 +0.6**
AKT *e* 00 52 17.3
AKT pmax pmax
comp=Z,9.0nm,1.1s
SVE Sverdlovsk 33.89 336 *e*P **P 00 51 12.4 +0.8**
ARTI Arti 34.42 334 P **P 00 51 16.3 +0.1**
ARTI IAmb IAmb 00 51 19.5
comp=Z,8.0nm,0.5s
ARTI Arti 34.42 334 P **P 00 51 16.7 +0.5**
comp=Z,3.5nm,0.5s,baz=156,slow=3.2,SNR=8.2
ARTI LR LR 01 06 39.0
comp=Z,61nm,19.4s,baz=144,slow=39
comp=Z,3.5nm,0.5s
ARTI Arti 34.42 334 *c i*P **P 00 51 16.3 +0.1**
ARTI 00 52 24.5
ARTI 00 53 48.8
ARTI S **S 00 56 42.2 -1.1**
ARTI SS **SnSn 00 58 47.9 -6.0**
ARTI pmax pmax
comp=Z,4.0nm,0.6s
GNI Garni 35.44 301 P **P 00 51 27.0 +1.7**
comp=Z,2.3nm,0.7s,baz=69,slow=8.6,SNR=3.7
comp=Z,2.3nm,0.7s
RAYN Ar Rayn 35.87 272 P **P 00 51 28.9 -0.2**
RAYN Ar Rayn 35.87 272 P **P 00 51 28.9 -0.2**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
CN2 Changchun 36.03 53 P **P 00 51 29.1 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KSRS Korea Array 37.06 64 P **P 00 51 38.4 -0.7**
comp=Z,1.3nm,0.5s,baz=271,slow=7.4,SNR=6.6
comp=Z,1.3nm,0.5s
GURO Guroymak-BITLI 37.37 298 P **P 00 51 41.2 -0.7**
KBZ Khabaz 37.38 307 P **P 00 51 41.5 -0.2**
comp=Z,1.7nm,0.8s,baz=118,slow=3.7,SNR=5.4
comp=Z,1.7nm,0.8s
KBZ Khabaz 37.38 307 *ce*P **P 00 51 41.6 -0.1**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 37.58 307 *e*P **P 00 51 41.5 -2.0**
KIV pmax pmax
comp=Z,2.0nm,1.0s
BNX BinXian 37.84 50 ⇑P **P 00 51 45.6 +0.1**
BNX pmax pmax
comp=Z,6.0nm,1.1s
HEH HeiHe 39.11 43 *e*P **P 00 51 57.6 +1.4**
HEH pmax pmax
comp=Z,8.0nm,0.8s
MDJ Mudanjiang 39.12 52 P **P 00 52 00.6 +4.3**
MDJ pmax pmax
comp=Z,7.0nm,0.5s
KIRV Kirov 39.53 331 P **P 00 52 00.1 +0.5**
comp=Z,6.4nm,0.4s,baz=60,slow=10,SNR=4.7
comp=Z,6.4nm,0.4s
VRH Novokhopyorsk 40.10 318 *e*P **P 00 52 04.1 -0.3**
VRH pmax pmax
comp=Z,16nm,1.8s
ZEA Zeya 40.27 38 *e*P **P 00 52 07.6 +1.8**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=Z,100nm,14.0s
USRK Ussuriysk Ar. 40.75 54 P **P 00 52 10.5 +0.6**
comp=Z,2.7nm,0.5s,baz=264,slow=7.1,SNR=4.9
comp=Z,2.7nm,0.5s
GAZ Gaziantep 41.15 296 P **P 00 52 13.2 -0.3**
GAZ IAmb IAmb 00 52 18.6
comp=Z,11nm,0.8s
VORD Divnogorie 41.49 317 *e*P **P 00 52 14.2 -1.7**
VORD pmax pmax
comp=Z,6.0nm,1.0s
KLR Kul'dur 41.52 46 *ce*P **P 00 52 17.4 +1.2**
KLR pmax pmax
comp=Z,2.0nm,0.6s
VSR Storozhevoye 41.64 317 *e*P **P 00 52 14.8 -2.3**
VSR pmax pmax
comp=Z,4.0nm,0.9s
NRIK Noril'sk 41.66 1 P **P 00 52 17.3 +0.3**
NRIK Noril'sk 41.66 1 P **P 00 52 18.3 +1.2**
comp=Z,20nm,0.6s,baz=172,slow=6.2,SNR=68
NRIK LR LR 01 11 52.9
comp=Z,59nm,18.8s,baz=178,slow=40
comp=Z,20nm,0.6s
VORR Voronezh 41.74 318 *e*P **P 00 52 17.3 -0.6**
VORR pmax pmax
comp=Z,16nm,1.7s
TOKA Tokat 41.75 300 P **P 00 52 19.5 +1.2**
LPSR Galich'ya Gora 42.19 319 *e*P **P 00 52 20.8 -0.7**
LPSR pmax pmax
comp=Z,13nm,1.8s
KIRS Kirsehir-Merke 43.72 299 ⇓P **P 00 52 35.3 +1.0**
SIM Simferopol' 43.79 307 P **P 00 52 35.9 +1.2**
SIM pmax pmax
comp=Z,17nm,0.9s
ILGA Ilgaz 43.87 301 P **P 00 52 35.5 -0.2**
ILGA IAmb IAmb 00 52 40.4
comp=Z,20nm,1.2s
MOS Moscow 43.91 323 *e*P **P 00 52 35.1 -0.4**
MOS *e* 00 54 16.4
BR131 Keskin Array S 43.92 300 P **P 00 52 35.0 -1.0**
BR131 Keskin Array S 43.92 300 *i* P **P 00 52 35.9 -0.1**
BRTR Keskin Array B 43.92 300 P **P 00 52 35.9 -0.1**
BRTR Keskin Array B 43.92 300 P **P 00 52 36.5 +0.5**
comp=Z,5.0nm,1.2s,baz=110,slow=7.1,SNR=14
comp=Z,5.0nm,1.2s
OBN Obninsk 44.28 322 *de*P **P 00 52 38.7 +0.3**
OBN *e* 00 54 22.9
OBN *e*PPP PPP 00 55 01.9
OBN pmax pmax
comp=Z,30nm,1.7s
CSS Mathiatis 44.42 293 P **P 00 52 40.0 +0.1**
CSS IAmb IAmb 00 52 49.8
comp=Z,7.1nm,0.8s
ANTO Ankara 44.57 300 P **P 00 52 39.5 -1.6**
ANTO IAmb IAmb 00 52 43.7
comp=Z,6.0nm,0.8s
ANTO Ankara 44.57 300 P **P 00 52 39.5 -1.6**
ANTO pmax pmax
comp=Z,6.0nm,0.8s
YAK Yakutsk 45.09 28 P **P 00 52 44.7 -0.1**
YAK Yakutsk 45.09 28 *e*P **P 00 52 44.4 -0.3**
YAK *e**PP **sP 00 52 54.5 +1.6**
YAK *e* 00 54 28.6
YAK *e*PPP PPP 00 55 12.2
YAK *e*S **S 00 59 19.6 -3.2**
YAK *e**SS **sS 00 59 36.8 +4.4**
YAK *e* 01 02 35.7
YAK pmax pmax
comp=Z,14nm,0.7s
YAK pmax pmax
comp=N,3.0nm,0.7s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,227nm,5.0s
YAK pmax pmax
comp=N,74nm,4.9s
YAK pmax pmax
comp=E,94nm,5.4s
YAK smax smax
comp=E,27nm,2.7s
YAK smax smax
comp=N,19nm,3.0s
BORA Eskisehir 46.37 300 P **P 00 52 54.7 -0.7**
ELL Elmali 47.01 296 P **P 00 53 00.4 -0.1**
ELL Elmali 47.01 296 P **P 00 53 00.4 -0.1**
ELL pmax pmax
comp=Z,139nm,0.8s
AKAS Kas 47.31 295 P **P 00 53 01.9 -0.9**
TLCR 47.55 307 ⇓P **P 00 53 04.7 +0.3**
TLCR 47.55 307 ⇓P **P 00 53 04.7 +0.3**
MILM Milestii Mici 47.63 309 ⇑*i*P **P 00 53 04.5 -0.4**
comp=Z,24nm,0.8s
MILM Milestii Mici 47.63 309 ⇓P **P 00 53 04.9 0.0**
MILM Milestii Mici 47.63 309 ⇓P **P 00 53 04.9 0.0**
AKASG Malin Array Be 47.69 315 P **P 00 53 04.8 -0.6**
comp=Z,2.0nm,0.5s,baz=80,slow=7.3,SNR=25
comp=Z,2.0nm,0.5s
KIEV Kiev 47.70 315 P **P 00 53 04.2 -1.2**
KIEV IAmb IAmb 00 53 06.4
comp=Z,9.0nm,0.7s
KIEV Kiev 47.70 315 ⇓P **P 00 53 05.2 -0.2**
KIEV Kiev 47.70 315 ⇓P **P 00 53 05.2 -0.2**
SORM Soroca 48.01 311 ⇑P **P 00 53 07.6 -0.3**
SORM Soroca 48.01 311 ⇑P **P 00 53 07.6 -0.3**
CFR Carcaliu 48.03 307 ⇑P **P 00 53 08.4 +0.3**
CFR Carcaliu 48.03 307 ⇑P **P 00 53 08.4 +0.3**
ICOR Ion Corvin 48.26 306 ⇓P **P 00 53 11.1 +1.2**
VRI Vrincioaia 49.03 308 ⇑P **P 00 53 16.7 +0.8**
VRI Vrincioaia 49.03 308 ⇑P **P 00 53 16.7 +0.8**
PLOR Plostina 49.09 308 ⇑P **P 00 53 17.7 +1.4**
PLOR Plostina 49.09 308 ⇑P **P 00 53 17.7 +1.4**
TESR Tescani 49.10 309 ⇑P **P 00 53 16.6 +0.3**
ONER Baraj Valea Uz 49.27 309 ⇓P **P 00 53 19.0 +1.3**
NEHR Nehoiu 49.33 307 ⇑P **P 00 53 20.0 +1.8**
JOF Joensuu 49.38 331 *e*P **P 00 53 18.5 +0.3**
MLR Muntele Rosu 49.58 307 P **P 00 53 21.4 +1.2**
MLR Muntele Rosu 49.58 307 P **P 00 53 21.3 +1.1**
comp=Z,11nm,0.6s,baz=180,slow=3.1,SNR=22
comp=Z,11nm,0.6s
MLR Muntele Rosu 49.58 307 ⇓P **P 00 53 22.0 +1.8**
MLR Muntele Rosu 49.58 307 ⇓P **P 00 53 22.0 +1.8**
NACGM Naroch 49.72 320 *e*P **P 00 53 21.2 +0.2**
comp=Z,9.0nm,0.9s,baz=98
TIXI Tiksi 50.06 17 P **P 00 53 23.4 +0.1**
TIXI Tiksi 50.06 17 LR LR 01 18 16.2
comp=Z,35nm,18.6s,baz=214,slow=40
TIXI Tiksi 50.06 17 ⇓P **P 00 53 24.0 +0.7**
BURAR Bucovina Array 50.10 310 ⇑P **P 00 53 24.4 +0.3**
BURAR Bucovina Array 50.10 310 ⇑P **P 00 53 24.4 +0.3**
BUR08 Bucovina Ar. S 50.11 310 P **P 00 53 23.5 -0.7**
ISAL Salakas 50.19 321 *e*P **P 00 53 24.3 -0.2**
VOIR 50.21 307 ⇑P **P 00 53 24.8 -0.1**
VOIR 50.21 307 ⇑P **P 00 53 25.0 +0.1**
VSU Vasula 50.36 324 *e*P **P 00 53 24.8 -1.0**
ARCR ARCALIA 50.68 310 ⇓P **P 00 53 29.3 +1.0**
ARBE Arbavere 50.94 326 *e*P **P 00 53 30.1 0.0**
FIA1 FINESS Array S 51.32 328 P **P 00 53 32.3 -0.6**
FINES FINESS Array B 51.32 328 P **P 00 53 32.8 -0.1**
comp=Z,3.6nm,0.5s,baz=107,slow=7.6,SNR=43
comp=Z,3.6nm,0.5s
PABE Paberze 51.40 320 P **P 00 53 33.4 -0.2**
PABE Paberze 51.40 320 *e*P **P 00 53 33.7 +0.2**
MARR Marisel-Cluj 51.53 309 ⇓P **P 00 53 36.0 +1.1**
DRGR 51.81 309 ⇑P **P 00 53 37.6 +0.7**
DRGR 51.81 309 ⇑P **P 00 53 37.6 +0.7**
MEF Metsahovi 51.88 326 *e*P **P 00 53 37.2 +0.2**
MTSE Matsula 51.91 324 *e*P **P 00 53 37.6 +0.2**
KEF Keuruu 52.04 329 *e*P **P 00 53 38.2 -0.1**
KOLS Kolonicke sedl 52.08 312 *e*P **P 00 53 37.6 -1.2**
KOLS Kolonicke sedl 52.08 312 *e*P **P 00 53 37.6 -1.2**
SURR Surduc 52.25 308 ⇑P **P 00 53 41.1 +0.9**
AGG Agios Georgios 52.71 299 P **P 00 53 40.7 -3.0**
AGG Agios Georgios 52.71 299 P **P 00 53 40.7 -3.0**
LODK Lodwar 53.21 252 P **P 00 53 47.3 -0.4**
VAF Ylistaro 53.22 330 *e*P **P 00 53 47.2 +0.2**
KEV Kevo 53.35 338 P **P 00 53 48.1 +0.3**
KEV Kevo 53.35 338 P **P 00 53 48.2 +0.3**
KEV pmax pmax
comp=Z,23nm,1.3s
ARCES ARCESS Array B 53.78 338 P **P 00 53 50.9 -0.2**
comp=Z,2.3nm,0.5s,baz=92,slow=7.1,SNR=28
comp=Z,2.3nm,0.5s
VYHS Vyhne 54.36 311 *e*P **P 00 53 55.5 -0.2**
VYHS Vyhne 54.36 311 *e*P **P 00 53 55.5 -0.2**
PDG Podgorica 54.59 304 P **P 00 53 56.9 -0.5**
SEY Seymchan 55.36 31 *ce*P **P 00 54 04.1 +1.5**
SEY pmax pmax
comp=Z,3.0nm,0.7s
BLEU Blekinge 56.03 321 *i* P **P 00 54 06.6 -0.9**
BSD Bornholm Skovb 56.55 320 *i* P **P 00 54 10.3 -0.9**
BSD IAmb IAmb 00 54 35.8
comp=Z,41nm,1.0s
DEL Delary 57.11 321 *i* P **P 00 54 14.9 -0.2**
HFS Hagfors 57.18 326 P **P 00 54 15.4 -0.3**
comp=Z,6.2nm,0.4s,baz=97,slow=7.6,SNR=86
HFS LR LR 01 20 05.3
comp=Z,72nm,18.9s,baz=79,slow=37
comp=Z,6.2nm,0.4s
CUC Castrocucco 57.53 302 P **P 00 54 17.7 -0.8**
BJUU Bjuv 57.59 321 *i* P **P 00 54 18.3 -0.3**
BORU Boraas 57.68 323 *i* P **P 00 54 18.9 -0.2**
FABU Falkenberg 57.73 322 *i* P **P 00 54 19.3 -0.2**
GERES GERESS Array B 57.73 312 P **P 00 54 19.3 -0.5**
GERES GERESS Array B 57.73 312 P **P 00 54 19.6 -0.2**
comp=Z,0.7nm,0.4s,baz=79,slow=6.9,SNR=6.7
comp=Z,0.7nm,0.4s
ONAU Onsala 58.15 322 *i* P **P 00 54 21.7 -0.7**
NC405 NORSAR Array S 58.16 327 P **P 00 54 22.1 -0.4**
NC405 IAmb IAmb 00 54 25.3
comp=Z,16nm,1.4s
NB2 NORSAR Subarra 58.41 327 P **P 00 54 23.4 -0.9**
comp=Z,1.0nm,0.4s,baz=87,slow=7.9
NOA NORSAR Array B 58.41 327 P **P 00 54 23.7 -0.6**
comp=Z,1.6nm,0.6s,baz=88,slow=7.3,SNR=13
NOA LR LR 01 20 51.0
comp=Z,44nm,18.3s,baz=100,slow=37
comp=Z,1.6nm,0.6s
STRU Stroemstad 58.47 324 *i* P **P 00 54 24.2 -0.4**
SPITS Spitsbergen Ar 58.73 347 P **P 00 54 27.1 +0.9**
comp=Z,1.3nm,0.3s,baz=120,slow=9.9,SNR=28
comp=Z,1.3nm,0.3s
MUD Monsted U'grnd 59.71 321 *i* P **P 00 54 32.4 -0.9**
MUD IAmb IAmb 00 54 45.8
comp=Z,22nm,1.2s
HOMB Homborsund 59.91 324 *i* P **P 00 54 34.9 +0.2**
FITZ Fitzroy Crossi 60.12 135 LR LR 01 26 11.8
comp=Z,127nm,18.4s,baz=294,slow=42
FUORN Ofenpass-Fuorn 60.34 310 P **P 00 54 37.0 -1.2**
DAVOX Davos/Dischmat 60.57 310 P **P 00 54 38.3 -1.4**
comp=Z,1.2nm,0.5s,baz=118,slow=3.9,SNR=3.9
comp=Z,1.2nm,0.5s
BILL Bilibino 61.30 25 P **P 00 54 44.4 +0.4**
BILL IAmb IAmb 00 54 46.5
comp=Z,11nm,1.4s
BILL Bilibino 61.30 25 *ce*P **P 00 54 46.1 +2.1**
BILL pmax pmax
comp=Z,6.0nm,1.3s
BTNL Ternell 62.33 315 *d*PcP **PcP 00 55 30.3 -0.6**
MEM Membach 62.40 315 *d*PcP **PcP 00 55 29.7 -1.4**
SENIN Lac Senin/Sane 62.40 310 P **P 00 54 51.5 -0.5**
SENIN IAmb IAmb 00 55 00.5
comp=Z,6.5nm,1.0s
BHOU Houvegnez 62.45 315 *d*P **P 00 54 54.0 +1.9**
BCLA Clavier 62.88 315 *d*P **P 00 54 54.5 -0.3**
BGES Gesves 63.02 315 *d*P **P 00 54 54.1 -1.8**
BMRD Maredsous 63.24 315 *d*P **P 00 54 56.7 -0.6**
DOU Dourbes 63.39 315 *d*P **P 00 54 58.4 +0.1**
UCC Uccle 63.39 316 *d*P **P 00 54 57.3 -0.9**
KEST Kesra 63.50 298 P **P 00 54 59.3 -0.1**
KEST Kesra 63.50 298 P **P 00 54 59.6 +0.2**
comp=Z,11nm,0.8s,baz=56,slow=2.2,SNR=15
comp=Z,11nm,0.8s
EKA Eskdalemuir Ar 66.74 322 P **P 00 55 19.7 -0.3**
comp=Z,2.8nm,0.6s,baz=81,slow=6.4,SNR=13
comp=Z,2.8nm,0.6s
WB0 Warramunga Arr 67.09 129 P **P 00 55 22.6 -0.1**
WRA Warramunga Arr 67.18 129 P **P 00 55 23.3 +0.1**
WRA Warramunga Arr 67.18 129 P **P 00 55 23.9 +0.6**
comp=Z,3.4nm,0.7s,baz=322,slow=6.4,SNR=22
comp=Z,3.4nm,0.7s
WR8 Warramunga Arr 67.30 129 P **P 00 55 24.5 +0.5**
WR8 IAmb IAmb 00 55 30.8
comp=Z,6.0nm,0.8s
CEST Esterri de Car 67.55 307 P **P 00 55 24.8 -0.7**
ASAR Alice Springs 69.46 133 P **P 00 55 37.1 -0.4**
ASAR Alice Springs 69.46 133 P **P 00 55 38.0 +0.5**
comp=Z,3.4nm,0.6s,baz=317,slow=6.5,SNR=23
ASAR LR LR 01 29 28.8
comp=Z,105nm,18.3s,baz=272,slow=39
comp=Z,3.4nm,0.6s
ASAR Alice Springs 69.46 133 P **P 00 55 38.0 +0.5**
LSZ Lusaka 69.79 240 P **P 00 55 39.1 -0.7**
LSZ IAmb IAmb 00 55 42.1
comp=Z,4.0nm,0.7s
LSZ Lusaka 69.79 240 P **P 00 55 39.4 -0.4**
comp=Z,3.0nm,0.5s,baz=56,slow=5.6,SNR=11
comp=Z,3.0nm,0.5s
TAM Tamanrasset 70.98 286 P **P 00 55 46.9 -0.3**
TAM Tamanrasset 70.98 286 P **P 00 55 46.9 -0.3**
TAM pmax pmax
comp=Z,8.0nm,0.5s
C16K Lisburne Hills 71.38 22 P **P 00 55 49.3 +0.8**
C16K IAmb IAmb 00 55 50.7
comp=Z,7.5nm,0.8s
C16K Lisburne Hills 71.38 22 P **P 00 55 50.1 +1.6**
baz=298,SNR=5.6
B18K Kokolik River 71.96 20 P **P 00 55 53.6 +1.6**
baz=301
ESDC Sonseca Array 72.23 306 P **P 00 55 53.8 -0.5**
ESDC Sonseca Array 72.23 306 P **P 00 55 54.1 -0.2**
comp=Z,2.8nm,0.8s,baz=54,slow=5.4,SNR=16
comp=Z,2.8nm,0.8s
EUNU Eureka 72.34 358 P **P 00 55 54.5 +0.3**
EUNU IAmb IAmb 00 55 55.6
comp=Z,5.2nm,0.9s
F14K Arctic Creek 72.36 25 P **P 00 55 55.6 +1.1**
baz=298
D17K Noatak River 72.40 22 P **P 00 55 56.6 +1.9**
baz=300,SNR=7.3
C18K Utukok River 72.52 21 P **P 00 55 56.4 +0.9**
C18K IAmb IAmb 00 56 19.6
comp=Z,7.3nm,1.4s
C18K Utukok River 72.52 21 P **P 00 55 56.7 +1.2**
baz=302
F15K North Star Dit 72.86 24 P **P 00 55 58.8 +1.3**
baz=300
B20K Meade River 72.97 19 P **P 00 55 58.8 +0.8**
B20K IAmb IAmb 00 56 08.1
comp=Z,17nm,1.2s
A22K Sinclair Lake 72.98 17 P **P 00 55 58.9 +0.9**
baz=307
E17K Hotham Inlet 73.14 22 P **P 00 56 00.7 +1.6**
baz=302,SNR=7.6
ANM Nome 73.16 25 P **P 00 56 01.1 +1.9**
baz=299
E18K Tukpahlearik C 73.36 22 P **P 00 56 01.3 +0.9**
E18K IAmb IAmb 00 56 02.9
comp=Z,5.5nm,0.8s
E18K Tukpahlearik C 73.36 22 P **P 00 56 02.1 +1.7**
baz=303,SNR=5.9
D19K Kuna River 73.55 20 IAmb IAmb 00 56 03.8
comp=Z,6.6nm,0.9s
D19K Kuna River 73.55 20 P **P 00 56 03.0 +1.4**
baz=304,SNR=6.0
F17K Baldwin Pennin 73.67 23 P **P 00 56 04.1 +1.9**
baz=302,SNR=11
B22K Teshekpuk Lake 73.80 17 P **P 00 56 03.8 +0.9**
B22K IAmb IAmb 00 56 04.8
comp=Z,13nm,1.1s
B22K Teshekpuk Lake 73.80 17 P **P 00 56 04.3 +1.4**
baz=308
G16K Koyuk River 73.84 24 P **P 00 56 04.8 +1.6**
baz=302
D20K Etivluk River 73.88 20 IAmb IAmb 00 56 05.8
comp=Z,6.5nm,0.8s
D20K Etivluk River 73.88 20 P **P 00 56 04.9 +1.4**
baz=306,SNR=7.2
B21K Ikpikpuk River 73.91 18 IAmb IAmb 00 56 05.8
comp=Z,9.5nm,0.8s
B21K Ikpikpuk River 73.91 18 P **P 00 56 05.2 +1.6**
baz=307,SNR=5.2
F18K Selawik 74.12 22 P **P 00 56 06.3 +1.5**
baz=304
C21K Knifeblade Rid 74.14 19 P **P 00 56 06.4 +1.4**
baz=307,SNR=5.9
E20K Nigu River 74.27 20 P **P 00 56 07.2 +1.4**
baz=306,SNR=7.1
G17K Kiwalik Mounta 74.39 23 P **P 00 56 08.0 +1.5**
baz=303
E19K Redstone River 74.42 21 IAmb IAmb 00 56 08.6
comp=Z,4.6nm,0.8s
E19K Redstone River 74.42 21 P **P 00 56 07.9 +1.3**
baz=306,SNR=6.8
F19K Shaleruckik Mo 74.61 21 P **P 00 56 08.7 +1.0**
baz=305
J14K Nanvaranak Lak 74.77 26 P **P 00 56 10.0 +1.4**
baz=301
E21K Kiliik River 74.82 19 P **P 00 56 10.2 +1.2**
baz=308,SNR=11
G18K Tagagawik 74.86 22 P **P 00 56 10.7 +1.5**
baz=305
C23K Itkillik River 74.86 17 P **P 00 56 10.1 +1.0**
C23K Itkillik River 74.86 17 P **P 00 56 10.7 +1.5**
baz=311,SNR=17
M11K Mekoryuk 74.88 29 P **P 00 56 11.4 +2.0**
baz=300
D22K Ayikyak River 74.91 19 IAmb IAmb 00 56 11.3
comp=Z,4.8nm,0.8s
D22K Ayikyak River 74.91 19 P **P 00 56 10.9 +1.5**
baz=309
H17K Granite Mounta 74.96 24 P **P 00 56 11.5 +1.7**
baz=304
F20K Avaraart Lake 75.14 21 P **P 00 56 11.7 +1.0**
baz=307
G19K Purcell Mounta 75.24 22 IAmb IAmb 00 56 28.1
comp=Z,7.1nm,1.3s
H18K Honhosa River 75.38 23 IAmb IAmb 00 56 24.7
comp=Z,4.9nm,0.9s
H18K Honhosa River 75.38 23 P **P 00 56 13.7 +1.5**
baz=305
D23K Nanushuk River 75.41 18 IAmb IAmb 00 56 14.2
comp=Z,5.3nm,0.6s
D23K Nanushuk River 75.41 18 P **P 00 56 13.9 +1.6**
baz=311,SNR=5.7
C24K Franklin Bluff 75.44 17 IAmb IAmb 00 56 14.4
comp=Z,7.2nm,0.7s
C24K Franklin Bluff 75.44 17 P **P 00 56 13.7 +1.3**
baz=312
J16K Anvik River 75.62 25 P **P 00 56 15.6 +2.0**
baz=304
E22K Anaktuvuk Pass 75.64 19 P **P 00 56 14.6 +0.9**
baz=310
F21K Alatna River 75.72 20 IAmb IAmb 00 56 16.3
comp=Z,6.1nm,0.8s
F21K Alatna River 75.72 20 P **P 00 56 15.4 +1.2**
baz=309,SNR=14
D24K Happy Valley 75.79 17 IAmb IAmb 00 56 16.3
comp=Z,5.6nm,0.8s
D24K Happy Valley 75.79 17 P **P 00 56 15.9 +1.5**
baz=312
K15K Wolf Creek Mou 75.81 26 P **P 00 56 16.3 +1.6**
baz=303
H19K Roundabout Mou 75.81 22 P **P 00 56 16.3 +1.6**
baz=307
L14K Kuka Creek 75.86 27 P **P 00 56 16.4 +1.4**
baz=302
TOLK Toolik Lake Re 75.93 18 P **P 00 56 16.8 +1.4**

baz=312,SNR=11
F22K John River 75.93 20 P P 00 56 16.9 +1.6
baz=310,SNR=12
J17K VABM Dome 76.13 25 P P 00 56 18.1 +1.6
baz=305
G21K Allakaket 76.16 21 IAmb IAmb 00 56 18.2
comp=Z,4.9nm,0.8s
G21K Allakaket 76.16 21 P P 00 56 17.5 +0.9
baz=309,SNR=8.4
L15K Ungalak Mounta 76.17 27 P P 00 56 18.0 +1.3
baz=303
C26K Camden Bay 76.25 16 P P 00 56 19.1 +2.0
baz=316,SNR=5.5
D25K Kavik River 76.31 17 IAmb IAmb 00 56 19.7
comp=Z,5.7nm,0.9s
D25K Kavik River 76.31 17 P P 00 56 19.1 +1.6
baz=315,SNR=8.0
E23K Chandalar 76.31 18 P P 00 56 18.4 +0.8
E23K IAmb IAmb 00 56 19.3
comp=Z,3.6nm,0.7s
E23K Chandalar 76.31 18 P P 00 56 18.8 +1.2
baz=312
H20K Anotleneega Mo 76.36 22 P P 00 56 19.5 +1.7
baz=308
M14K Bethel 76.48 28 P P 00 56 20.0 +1.6
baz=303
G22K Bettles 76.51 20 P P 00 56 20.0 +1.4
baz=311
E24K Your Creek 76.61 18 IAmb IAmb 00 56 21.5
comp=Z,8.1nm,0.8s
E24K Your Creek 76.61 18 P P 00 56 20.7 +1.5
baz=313,SNR=14
COLD Coldfoot 76.70 19 IAmb IAmb 00 56 21.9
comp=Z,5.0nm,1.0s
COLD Coldfoot 76.70 19 P P 00 56 21.1 +1.5
baz=312,SNR=6.4
C27K Jago River 76.75 16 P P 00 56 21.6 +1.7
baz=317,SNR=17
K17K Iditarod 76.81 25 P P 00 56 22.0 +1.6
K17K IAmb IAmb 00 57 03.8
comp=Z,14nm,1.4s
K17K Iditarod 76.81 25 P P 00 56 22.0 +1.6
baz=306
I20K Naaghedeneel 76.92 22 P P 00 56 22.5 +1.6
baz=308
H21K Melozitna Rive 76.93 21 IAmb IAmb 00 56 23.2
comp=Z,4.4nm,0.8s
H21K Melozitna Rive 76.93 21 P P 00 56 22.4 +1.4
baz=310,SNR=5.9
J18K Innoko River 76.95 24 P P 00 56 22.4 +1.1
J18K IAmb IAmb 00 56 23.2
comp=Z,4.1nm,0.8s
J18K Innoko River 76.95 24 P P 00 56 22.7 +1.4
baz=307
J19K Poorman 77.02 23 P P 00 56 23.4 +1.9
J19K IAmb IAmb 00 56 24.4
comp=Z,9.1nm,1.1s
J19K Poorman 77.02 23 P P 00 56 23.1 +1.6
baz=308,SNR=5.4
M15K Kasigluk River 77.03 27 P P 00 56 23.4 +1.7
baz=304
N14K Kuskokwak Cree 77.05 28 P P 00 56 23.6 +1.9
baz=303
G23K Bananza Creek 77.09 20 IAmb IAmb 00 56 23.8
comp=Z,4.4nm,0.8s
G23K Bananza Creek 77.09 20 P P 00 56 23.5 +1.5
baz=312,SNR=6.4
L17K Donlin 77.15 26 P P 00 56 23.8 +1.5
baz=306
F24K Squaw Lake 77.16 18 P P 00 56 23.5 +1.1
baz=314
H22K Ishtalitna Cre 77.22 21 P P 00 56 23.9 +1.2
baz=311
E25K Arctic Village 77.37 17 IAmb IAmb 00 56 25.6
comp=Z,5.3nm,0.8s
E25K Arctic Village 77.37 17 P P 00 56 24.8 +1.3
baz=316,SNR=5.9
J20K Nowinta River 77.42 23 P P 00 56 25.8 +2.0
baz=309
I21K Tanana 77.50 21 P P 00 56 25.8 +1.6
baz=310
M16K Timber Creek 77.54 27 P P 00 56 26.1 +1.6
M16K IAmb IAmb 00 56 26.3
comp=Z,14nm,1.3s
M16K Timber Creek 77.54 27 P P 00 56 26.3 +1.8
baz=305
N15K Kwethluk River 77.58 28 P P 00 56 26.1 +1.3
baz=305
D27M Malcolm River 77.68 15 P P 00 56 26.8 +1.5
baz=319
L18K Granite Mounta 77.71 25 P P 00 56 25.6 +0.1
L18K IAmb IAmb 00 56 41.7
comp=Z,10nm,1.4s
L18K Granite Mounta 77.71 25 P P 00 56 27.3 +1.8
baz=307
F25K Christian Rive 77.72 18 IAmb IAmb 00 56 27.8
comp=Z,4.4nm,0.7s
F25K Christian Rive 77.72 18 P P 00 56 27.3 +1.8
baz=316,SNR=9.3
H23K Yukon River 77.83 20 P P 00 56 28.0 +1.8
baz=312
G24K Hadweenzic Riv 77.84 19 IAmb IAmb 00 56 28.8
comp=Z,5.6nm,0.9s
G24K Hadweenzic Riv 77.84 19 P P 00 56 28.1 +1.9
baz=314,SNR=5.9
M17K Holitna River 77.92 26 P P 00 56 28.5 +1.9
baz=307
K20K Telida 77.96 23 IAmb IAmb 00 56 29.3
comp=Z,6.7nm,0.7s
K20K Telida 77.96 23 P P 00 56 28.8 +2.0
baz=309
F26K Sheenjek River 78.05 17 P P 00 56 29.0 +1.7
baz=317
D28M Stokes Point 78.12 15 P P 00 56 29.6 +2.0
baz=321,SNR=14
BMAR Burnt Mountain 78.13 18 P P 00 56 29.2 +1.5
G25K Bearman Lake 78.19 18 P P 00 56 30.0 +2.0
baz=315
CHUM Lake Minchumin 78.23 22 P P 00 56 30.0 +1.7
baz=310
TORD Torodi Ar. Bea 78.27 279 P P 00 56 28.2 -1.1
TORD Torodi Ar. Bea 78.27 279 P P 00 56 29.1 -0.3
comp=Z,3.0nm,0.7s,baz=44,slow=4.4,SNR=2.0
comp=Z,3.0nm,0.7s
H24K Noodor Dome 78.33 20 P P 00 56 29.5 +0.6
H24K Noodor Dome 78.33 20 P P 00 56 30.2 +1.3
baz=314
E27K Coleen River 78.33 16 IAmb IAmb 00 56 31.1
comp=Z,9.3nm,1.4s
E27K Coleen River 78.33 16 P P 00 56 30.4 +1.6
baz=319
A36M Sachs Harbour 78.35 9 P P 00 56 29.9 +1.1
baz=333,SNR=8.4
I23K Minto, Yukon-K 78.35 21 P P 00 56 30.2 +1.3
baz=313
L19K White Mountain 78.42 24 P P 00 56 31.1 +1.7
baz=309
M18K Stony River 78.48 25 P P 00 56 31.3 +1.6
baz=308
E28M Babbage River 78.50 15 IAmb IAmb 00 56 32.0
comp=Z,7.2nm,0.7s
E28M Babbage River 78.50 15 P P 00 56 31.4 +1.6
baz=321,SNR=8.8
BPAW Bear Paw Mtn. 78.53 22 IAmb IAmb 00 56 32.3
comp=Z,4.2nm,0.7s
BPAW Bear Paw Mtn. 78.53 22 P P 00 56 31.3 +1.3
baz=312,SNR=5.6
N17K Nushagak Hills 78.54 27 P P 00 56 31.9 +1.8
baz=307
L20K Farewell, AK 78.58 24 P P 00 56 32.3 +2.0
baz=309,SNR=5.5
CAST Castle Rocks 78.61 23 P P 00 56 32.1 +1.7
baz=311,SNR=16
G26K Porcupine Rive 78.69 18 IAmb IAmb 00 56 33.4
comp=Z,6.3nm,1.1s
G26K Porcupine Rive 78.69 18 P P 00 56 32.8 +2.0
baz=317
O16K Kokwok River B 78.73 28 P P 00 56 33.2 +2.0
baz=306
M19K Big River Lodg 78.76 25 P P 00 56 33.0 +1.7
M19K IAmb IAmb 00 57 11.0
comp=Z,9.7nm,1.4s
M19K Big River Lodg 78.76 25 P P 00 56 33.3 +2.0
baz=309
NEA2 Nenana 78.82 21 IAmb IAmb 00 56 33.4
comp=Z,7.3nm,0.7s
NEA2 Nenana 78.82 21 P P 00 56 32.5 +1.0
baz=313,SNR=8.8

PPLA Purkeypile 78.92 23 IAmb IAmb 00 56 38.3
comp=Z,5.0nm,0.8s
PPLA Purkeypile 78.92 23 P P 00 56 33.5 +1.2
baz=311
POKR Poker Plat Res 78.96 20 P P 00 56 33.6 +1.3
baz=314
E29M Blow River 79.05 15 P P 00 56 33.7 +1.0
E29M Blow River 79.05 15 P P 00 56 34.2 +1.5
baz=322,SNR=18
TRF Thorofare Moun 79.20 22 P P 00 56 35.6 +1.8
baz=312
M20K Styx River 79.24 24 P P 00 56 35.6 +1.6
baz=310
PRP Porcupine Dome 79.25 19 IAmb IAmb 00 56 36.6
comp=Z,6.3nm,0.8s
PRP Porcupine Dome 79.25 19 P P 00 56 35.9 +1.9
baz=316,SNR=9.0
G27K Doyon Strip 79.36 17 P P 00 56 36.1 +1.6
baz=319
IL31 79.37 20 IAmb IAmb 00 56 35.5
comp=Z,3.6nm,0.7s
ILAR Eielson Array 79.37 20 P P 00 56 34.4 -0.2
comp=Z,2.8nm,0.7s,baz=306,slow=4.7,SNR=31
comp=Z,2.8nm,0.7s
N19K Bonanza Creek 79.41 25 P P 00 56 36.1 +1.1
baz=309
MCK McKinley 79.45 21 P P 00 56 35.7 +0.7
MCK IAmb IAmb 00 56 36.3
comp=Z,3.4nm,0.6s
MCK McKinley 79.45 21 P P 00 56 35.7 +0.7
MCK pmax pmax
comp=Z,3.0nm,0.6s
MCK McKinley 79.45 21 P P 00 56 35.7 +0.7
baz=313
HDA Harding Lake 79.61 20 P P 00 56 35.7 -0.2
baz=315
P17K Kvichak River 79.65 27 P P 00 56 38.0 +1.9
baz=308
RND Reindeer 79.70 22 IAmb IAmb 00 56 37.5
comp=Z,4.5nm,0.6s
O18K Koktuh Hills 79.73 26 IAmb IAmb 00 56 39.3
comp=Z,9.8nm,0.9s
O18K Koktuh Hills 79.73 26 P P 00 56 38.3 +1.6
baz=309
SKT Skwentna 79.75 24 P P 00 56 37.6 +1.0
baz=311,SNR=10
H27K Steamboat Moun 79.83 17 P P 00 56 38.2 +1.1
baz=319
O19K Port Alsworth 79.87 26 P P 00 56 38.3 +1.0
baz=309
Q16K King Salmon 79.88 28 P P 00 56 38.1 +0.8
baz=308
J25K Salcha River, 79.94 20 P P 00 56 38.1 +0.4
baz=316
STLK Strandline Lak 79.96 24 P P 00 56 38.8 +0.9
P18K Big Mountain, 80.01 27 P P 00 56 39.6 +1.4
baz=309
STKA Stephens Creek 80.01 134 P P 00 56 38.4 -0.1
comp=Z,1.5nm,0.5s,baz=297,slow=2.9,SNR=4.7
comp=Z,1.5nm,0.5s
SPCR Spurr Chakacha 80.02 24 P P 00 56 39.5 +1.3
baz=311
INK Inuvik 80.08 14 P P 00 56 39.4 +1.1
baz=326,SNR=9.3
I26K Coal Creek Min 80.08 19 IAmb IAmb 00 56 40.7
comp=Z,6.3nm,1.1s
I26K Coal Creek Min 80.08 19 P P 00 56 39.8 +1.4
baz=318
F30M Barrier River 80.16 15 P P 00 56 40.1 +1.4
baz=324,SNR=11
BOSA Boshof 80.18 231 P P 00 56 40.2 +0.6
comp=Z,3.8nm,0.9s,baz=38,slow=3.4,SNR=11
comp=Z,3.8nm,0.9s
G29M Pine Creek 80.19 16 P P 00 56 39.6 +0.6
G29M IAmb IAmb 00 56 40.7
comp=Z,5.1nm,0.8s
G29M Pine Creek 80.19 16 P P 00 56 40.0 +0.9
baz=322,SNR=5.6
I27K Kandik River 80.28 18 P P 00 56 41.4 +1.8
baz=319,SNR=7.2
SUA Susitna One 80.37 24 P P 00 56 41.2 +1.0
baz=312
M22K WW 80.40 23 P P 00 56 40.8 +0.6
baz=312
K24K Donnelly Dome 80.40 20 P P 00 56 40.5 +0.3
baz=316,SNR=8.0
J26L Joseph Creek 80.56 19 P P 00 56 41.5 +0.3
J26L IAmb IAmb 00 56 42.3
comp=Z,4.0nm,0.7s
J26L Joseph Creek 80.56 19 P P 00 56 42.0 +0.9
baz=318,SNR=7.5
G30M tAoh Zraii Nji 80.57 15 IAmb IAmb 00 56 42.6
comp=Z,9.9nm,0.8s
G30M tAoh Zraii Nji 80.57 15 P P 00 56 42.1 +1.1
baz=324,SNR=8.0
Q18K Katmai Hardscr 80.57 27 P P 00 56 41.4 +0.1
baz=309
H29M Whitestone 80.65 16 IAmb IAmb 00 56 43.3
comp=Z,7.6nm,0.8s
H29M Whitestone 80.65 16 P P 00 56 42.7 +1.2
baz=322
CAPN Captain Cook N 80.69 24 P P 00 56 43.4 +1.7
baz=312
RIDG Independent Ri 80.73 20 IAmb IAmb 00 56 42.8
comp=Z,5.8nm,0.6s
RIDG Independent Ri 80.73 20 P P 00 56 42.7 +0.7
baz=317
F31M Tsiigehtchic 80.75 14 IAmb IAmb 00 56 43.6
comp=Z,15nm,1.1s
F31M Tsiigehtchic 80.75 14 P P 00 56 42.8 +0.9
baz=326
SCRK Sand Creek 80.82 20 IAmb IAmb 00 56 44.3
comp=Z,7.4nm,0.7s
SCRK Sand Creek 80.82 20 P P 00 56 43.4 +0.9
baz=317,SNR=10
I28M Miner Creek 80.85 17 IAmb IAmb 00 56 44.1
comp=Z,4.0nm,0.7s
I28M Miner Creek 80.85 17 P P 00 56 43.4 +0.8
baz=321
PMR Palmer 80.85 23 P P 00 56 43.4 +0.8
baz=313
C36M Paulatuk 80.89 10 P P 00 56 42.5 -0.2
C36M Paulatuk 80.89 10 P P 00 56 43.6 +0.9
baz=334,SNR=8.5
EPYK Eagle Plains 80.94 16 IAmb IAmb 00 56 44.4
comp=Z,8.9nm,0.8s
EPYK Eagle Plains 80.94 16 P P 00 56 43.6 +0.6
baz=323,SNR=6.6
SML Sawmill 80.98 23 P P 00 56 44.5 +1.2
baz=314,SNR=6.7
RC01 Rabbit Creek A 80.98 24 P P 00 56 44.5 +1.1
baz=313
DOT Dot Lake 81.04 20 IAmb IAmb 00 56 44.9
comp=Z,4.1nm,0.6s
G31M Satah River 81.06 15 P P 00 56 44.3 +0.8
baz=325,SNR=11
PAX Paxson 81.10 21 P P 00 56 45.4 +1.3
baz=316
M23K Glacier View 81.20 23 P P 00 56 45.6 +1.1
baz=314
KNK Knik Glacier 81.21 23 P P 00 56 45.5 +1.0
KNK Knik Glacier 81.21 23 P P 00 56 46.0 +1.4
baz=314
SCM Sheep Creek Mo 81.31 22 P P 00 56 46.4 +1.3
baz=315
K27K Chicken 81.34 19 IAmb IAmb 00 56 47.7
comp=Z,7.1nm,1.0s
K27K Chicken 81.34 19 P P 00 56 46.8 +1.6
baz=319,SNR=6.2
O22K Cooper Landing 81.40 24 P P 00 56 47.3 +1.7
baz=313
M24K Tolsona, Glenn 81.49 22 P P 00 56 47.6 +1.5
baz=316
HARP HAARP 81.61 21 P P 00 56 48.2 +1.5
baz=317
PWL Port Wells 81.64 23 P P 00 56 47.7 +0.9
baz=314
L26K Log Cabin Wild 81.72 20 P P 00 56 49.0 +1.8
L26K Log Cabin Wild 81.72 20 P P 00 56 48.8 +1.5
baz=318
SEW Seward 81.76 24 P P 00 56 48.6 +1.2
baz=313
I30M Mount Dempster 81.95 16 IAmb IAmb 00 56 49.6
comp=Z,6.9nm,0.7s
I30M Mount Dempster 81.95 16 P P 00 56 49.3 +0.8
baz=324,SNR=12
H31M Peel River 81.97 15 P P 00 56 49.2 +0.7
baz=325,SNR=14

KLU Klutina 82.02 22 P P 00 56 49.8 +0.9
baz=316
GLI Glacier Island 82.06 23 P P 00 56 49.8 +0.8
baz=315
DAWY Dawson 82.08 18 P P 00 56 50.0 +0.9
baz=321
J29N Klondike Camp 82.09 17 IAmb IAmb 00 56 51.4
comp=Z,6.6nm,0.7s
J29N Klondike Camp 82.09 17 P P 00 56 50.7 +1.4
baz=322
KDAK Kodiak Island 82.11 27 P P 00 56 50.5 +1.2
baz=311
L27K Beaver Creek, 82.15 20 IAmb IAmb 00 56 52.0
comp=Z,4.9nm,0.9s
L27K Beaver Creek, 82.15 20 P P 00 56 51.0 +1.5
baz=319
BCAR Beaver Creek A 82.16 20 P P 00 56 50.8 +1.2
OHAK Old Harbor 82.19 28 P P 00 56 50.9 +1.2
baz=310
M26K Nabesna, AK 82.29 20 P P 00 56 52.0 +1.7
baz=318
N25K Chitina, Valde 82.37 22 P P 00 56 52.1 +1.3
baz=317
J30M Hart River 82.48 17 IAmb IAmb 00 56 53.2
comp=Z,5.1nm,0.8s
J30M Hart River 82.48 17 P P 00 56 52.3 +0.9
baz=324,SNR=6.0
P23K Montague Islan 82.58 24 P P 00 56 53.3 +1.6
baz=315
M27K Edge Creek, AK 82.67 20 P P 00 56 54.0 +1.6
baz=319
ILON Igloolik, Nuna 82.72 355 P P 00 56 51.6 -0.6
K29M Barlow Dome 82.76 18 IAmb IAmb 00 56 54.9
comp=Z,6.6nm,0.9s
K29M Barlow Dome 82.76 18 P P 00 56 54.3 +1.5
baz=323,SNR=5.7
BMRM Bremner River 82.84 22 P P 00 56 54.6 +1.5
baz=317
BVCY Beaver Creek 82.94 20 P P 00 56 55.1 +1.5
baz=320
L29M L29M 83.18 18 IAmb IAmb 00 56 56.5
comp=Z,5.0nm,0.9s
L29M L29M 83.18 18 P P 00 56 56.4 +1.6
baz=322
M29M Somme Creek 83.61 19 P P 00 56 58.2 +1.0
M29M IAmb IAmb 00 56 59.7
comp=Z,4.7nm,0.8s
M29M Somme Creek 83.61 19 P P 00 56 58.9 +1.7
baz=322
KAIM Kayak Island 83.67 23 P P 00 56 58.2 +0.9
baz=317
MESA MESA 84.31 22 P P 00 57 02.2 +1.4
baz=319
O28M Mount Upton 84.41 21 P P 00 57 02.1 +0.6
baz=321
YUK4 Talbot Arm 84.43 20 P P 00 57 02.7 +1.2
baz=322
N30M Aishikik Lake 84.79 19 P P 00 57 04.4 +1.3
baz=323
YUK6 Outpost Mounta 84.83 20 P P 00 57 04.6 +1.1
baz=322
PINM Pinnacle 84.91 21 P P 00 57 05.2 +1.4
baz=321
M31M Drury Creek, Y 84.93 17 P P 00 57 05.0 +1.2
baz=326
N31M Braeburn, Yuko 85.14 18 P P 00 57 06.2 +1.3
baz=324
HYT Haines Junctio 85.18 19 P P 00 57 06.5 +1.3
HYT Haines Junctio 85.18 19 P P 00 57 06.6 +1.4
baz=323
MMPY Sheldon Lake, 85.38 16 P P 00 57 07.4 +1.4
baz=328
PNL Peninsula 85.52 21 P P 00 57 08.0 +1.2
baz=322
O30N Mendenhall 85.64 19 P P 00 57 08.8 +1.4
baz=324
WHY Whitehorse 86.07 19 P P 00 57 10.6 +1.0
baz=325
N32M Quiet Lake 86.16 18 P P 00 57 11.0 +1.0
baz=327
DBIC Dimbokro 86.93 276 P P 00 57 14.3 -0.2
comp=Z,5.5nm,0.8s,baz=54,slow=4.6,SNR=7.4
comp=Z,5.5nm,0.8s
P33M Teslin, Yukon 87.02 18 P P 00 57 15.1 +0.9
baz=327
TGTN Hyland Airport 87.04 15 P P 00 57 15.8 +1.6
baz=331
YKAW3 Yellowknife Wh 88.64 9 IAmb IAmb 00 57 22.9
comp=Z,6.7nm,0.8s
YKA Yellowknife Ar 88.71 9 P P 00 57 22.2 +0.1
comp=Z,2.9nm,0.7s,baz=339,slow=4.8,SNR=57
comp=Z,2.9nm,0.7s
YKAW1 Yellowknife Wh 88.73 9 P 00 57 22.4 +0.1
YKAW1 IAmb IAmb 00 57 23.4
comp=Z,7.7nm,0.8s
TOAD Toad River Com 90.12 15 P P 00 57 29.9 +1.0
baz=334
ELIB Princess Elisa 108.01 197 *d*PKiKP **PKiKP 01 02 54.7 -1.2**
CBX Cerro Bola 116.79 21 PKPdf **PKPdf 01 03 13.9 -0.1**
QSPA South Pole Qui 117.54 180 PKPdf **PKPdf 01 03 11.9 -2.2**
QSPA South Pole Qui 117.54 180 PKP **PKPdf 01 03 13.0 -1.1**
comp=Z,0.7nm,0.8s,baz=308,slow=2.1,SNR=3.5
TXAR Lajitas Array 122.64 9 PKP **PKPdf 01 03 24.3 -0.9**
comp=Z,0.3nm,0.5s,baz=345,slow=3.5,SNR=2.7
PLTB Pedras Altas 144.10 253 PKPdf **PKPab 01 04 02.8 +0.2**
CPUP Villa Florida 146.62 264 PKPbc **PKPdf 01 04 10.1 +0.7**
CPUP Villa Florida 146.62 264 PKPbc **PKPdf 01 04 09.7 +0.3**
comp=Z,2.5nm,0.9s,baz=77,slow=3.5,SNR=4.3
CPUP Villa Florida 146.62 264 PKP2 **PKPdf 01 04 10.1 +0.7**
TRQA Tornquist 150.66 241 PKPbc **PKPbc 01 04 19.3 -1.9**
TRQA Tornquist 150.66 241 PKIKP **PKPbc 01 04 19.3 -1.9**

*IDC **24** 00:55:45.8±24.0, 27°53N×85°08E, h0km, mb3.4/3, mbtmp3.3/4, ML3.0/1, MS4.2/1, Error ellipse: s-maj=411.5km s-min=71.8km az=21.0*
*DMN **24** 00:55:47.5±0.0, 27°70N×85°14E, h10km, Ml4.3/2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 24 00:55:48.5±1.0, 27°69N±0°05×85°16E±0°04, h6km±8km, n12, σ0°74/18, mb3.5/3, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMN	**Daman**	**0.10**	**208**	Pg	**Pg**	**00 55 50.7**	**-0.2**
DMN	baz=197,slow=0.0			Sg	**Sg**	**00 55 52.4**	**-0.1**
KKN	**Kakani**	**0.15**	**49**	Pg	**Pg**	**00 55 51.4**	**-0.2**
KKN	baz=52,slow=0.0			Sg	**Sg**	**00 55 54.4**	**+0.6**
PKIN	**Phulchoki**	**0.24**	**119**	Pg	**Pg**	**00 55 53.1**	**-0.3**
PKIN	baz=118,slow=0.0			Sg	**Sg**	**00 55 57.6**	**+0.9**
PKI	**Pulchoki**	**0.26**	**119**	Pg	**Pg**	**00 55 53.3**	**-0.3**
PKI	baz=118,slow=0.0			Sg	**Sg**	**00 55 57.4**	**+0.3**
GUN	**Gumba**	**0.68**	**71**	Pg	**Pg**	**00 56 00.9**	**-0.7**
GUN	baz=72,slow=0.0			Sg	**Sg**	**00 56 10.7**	**+0.3**
KOLN	**Koldanda**	**1.38**	**274**	Pg	**Pn**	**00 56 13.9**	**-0.6**
KOLN	baz=273,slow=0.0			Sg	**Sb**	**00 56 31.7**	**-1.2**
PYUN	**Piuthan**	**1.96**	**282**	Pg	**Pn**	**00 56 23.8**	**+1.3**
PYUN	baz=282,slow=0.0			Sg	**Sn**	**00 56 48.8**	**+1.3**
MKAR	**Makanchi Array**	**19.20**	**354**	P	**P**	**01 00 12.9**	**-0.1**
	baz=178,slow=12,SNR=3.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**23.45**	**349**	P	**P**	**01 00 58.1**	**-0.4**
	0.2nm,0.6s,baz=168,slow=9.4,SNR=2.0						
	0.2nm,0.6s						
SONM	**Songino Array**	**26.04**	**34**	P	**P**	**01 01 22.4**	**-0.2**
	0.7nm,0.6s,baz=220,slow=9.7,SNR=4.9						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**26.23**	**360**	P	**P**	**01 01 23.9**	**-0.2**
	0.5nm,0.5s,baz=188,slow=8.7,SNR=2.2						
	0.5nm,0.5s						
PSI	**Prapat**	**28.03**	**150**	LR	LR	01 14 37.1	
	comp=Z,413nm,18.4s,baz=38,slow=40						

*NOU **24** 01:03:03.0, 17°.14S×121°.81E, h0km, mb4.2/14, Western Australia*
*IDC **24** 01:03:03.8±1.7, 16°.98S×122°.11E, h0km, mb3.5/2, mbtmp3.8/6, ML3.4/4, Error ellipse: s-maj=48.1km s-min=23.4km az=36.0*
ISC 24 01:03:05.2±1.1, 17°.3S±0°.1×122°.03E±0°.08, h10km, n20, σ1§64/21, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**3.53**	**103**	Pn	**Pn**	**01 04 01.9**	**+1.8**
	2.8nm,0.3s,baz=293,slow=8.6,SNR=108						
FITZ				Sn	**Sn**	**01 04 42.0**	**0.0**
	9.1nm,0.3s,baz=32,slow=21,SNR=13 14nm,0.5s						
FITZ	**Fitzroy Crossi**	**3.53**	**103**	P	**Pn**	**01 04 02.1**	**+1.9**
MBWA	**Marble Bar**	**4.40**	**209**	P	**Pn**	**01 04 12.2**	**0.0**
PSA00	**Pilbara Seismi**	**4.72**	**206**	P	**Pn**	**01 04 17.1**	**+0.6**
GIRL	**Giralia**	**9.05**	**233**	P	**Pn**	**01 05 15.5**	**-0.5**
WRKA	**Warakurna**	**9.66**	**144**	P	**Pn**	**01 05 26.0**	**+1.6**
MEEK	**Meekatharra**	**9.81**	**198**	P	**Pn**	**01 05 26.8**	**+0.3**
DRS	**Darwin Rock St**	**9.85**	**62**	P	**Pn**	**01 05 28.2**	**+1.2**
JAGI	**Jajag, Banyuwa**	**11.66**	**318**	P	Pn	01 05 46.2	-5.6
WRA	**Warramunga Arr**	**11.96**	**105**	Pn	**Pn**	**01 05 54.9**	**-1.0**
	0.4nm,0.3s,baz=286,slow=14,SNR=9.9						
WRA				Sn	Sn	01 07 59.3	-10
	1.2nm,0.3s,baz=295,slow=25,SNR=8.8 0.4nm,0.3s						
ASAR	**Alice Springs**	**12.80**	**122**	Pn	**Pn**	**01 06 08.9**	**+1.5**
	0.4nm,0.3s,baz=305,slow=14,SNR=13						
ASAR				Sn	**Sn**	**01 08 25.4**	**-4.7**
	0.6nm,0.3s,baz=306,slow=27,SNR=7.7 2.3nm,0.7s						
AS01	**Alice Springs**	**12.84**	**121**	P	**Pn**	**01 06 09.8**	**+1.9**
MORW	**Morawa**	**12.93**	**204**	P	**Pn**	**01 06 08.2**	**-1.0**
BLDU	**Ballidu**	**14.11**	**199**	P	**Pn**	**01 06 24.1**	**-1.1**
KLBR	**Kellerberrin**	**14.74**	**194**	P	**Pn**	**01 06 34.1**	**+0.2**
NWAO	**Narrogin (SRO)**	**16.14**	**195**	Pn	**P**	**01 06 55.9**	**+0.3**
	1.2nm,0.3s,baz=17,slow=10,SNR=6.4						
NWAO				Sn	Sn	01 09 39.8	-12
	0.5nm,0.3s,baz=263,slow=5.5,SNR=1.9 6.3nm,0.7s						
NWAO	**Narrogin (SRO)**	**16.14**	**195**	P	**Pn**	**01 06 53.0**	**+0.7**
LCRK	**Leigh Creek**	**19.72**	**134**	P	**Pn**	**01 07 38.0**	**+1.5**
STKA	**Stephens Creek**	**22.90**	**133**	P	**P**	**01 08 10.6**	**+1.3**
	0.7nm,0.5s,baz=312,slow=12,SNR=3.0 0.7nm,0.5s						
MKAR	**Makanchi Array**	**73.15**	**333**	P	**P**	**01 14 34.7**	**-1.3**
	0.4nm,0.6s,baz=139,slow=6.4,SNR=4.9 0.4nm,0.6s						

*NAO **24** 01:04:31.2±1.8, 72°.70N×3°.48E, ML3.3*
*BER **24** 01:04:35.3±2.7, 72°.74N×3°.75E, h10km, mb(Pn)4.0, ML3.3(NAO), Confirmed Earthquake*
*IDC **24** 01:04:35.9±2.2, 72°.53N×4°.86E, h0km, mb3.0/1, mbtmp3.3/6, ML2.8/5, MS3.0/6, Error ellipse: s-maj=28.5km s-min=21.1km az=87.0*
ISC 24 01:04:33.1±0.9, 72°.68N±0°.06×4°.07E±0°.07, h10km, n56, σ1§85/59, MS3.2/4, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**4.24**	**253**	*e*P	**Pn**	**01 05 36.8**	**-0.8**
JNW				IAML		01 05 43.2	
	comp=Z,13nm,0.6s						
BJO1	**Bjornoya**	**4.61**	**60**	Pn	**Pn**	**01 05 43.1**	**+0.5**
BJO1	**Bjornoya**	**4.61**	**60**	*e*P	**Pn**	**01 05 43.3**	**+0.7**
HSPB	**Hornsund (broa**	**5.28**	**29**	Pn	**Pn**	**01 05 52.1**	**+0.3**
HSPB	**Hornsund (broa**	**5.28**	**29**	*e*P	**Pn**	**01 05 52.4**	**+0.6**
HSPB				IAML		01 05 55.3	
	comp=Z,2.8nm,0.4s						
LOF	**Lofoten**	**5.56**	**140**	Pn	**Pn**	**01 05 57.2**	**+1.5**
LOF				Sn	**Sn**	**01 06 55.7**	**-3.9**
LOF	**Lofoten**	**5.56**	**140**	*e*P	**Pn**	**01 05 56.8**	**+1.1**
LOF				IAML		01 05 58.8	
	comp=Z,4.4nm,0.2s						
TRO	**Tromso**	**5.69**	**115**	Pn	**Pn**	**01 05 58.7**	**+1.1**
TRO				Sn	**Sn**	**01 07 00.1**	**-2.7**
TRO	**Tromso**	**5.69**	**115**	*e*P	**Pn**	**01 05 58.6**	**+1.1**
TRO				IAML		01 05 60.0	
	comp=Z,10nm,0.3s						
BRBB	**Barentsburg B**	**6.01**	**20**	*e*P	**Pn**	**01 06 04.2**	**+2.5**
STEI	**Steigen**	**6.07**	**136**	*e*P	**Pn**	**01 06 04.3**	**+1.6**
STEI				IAML		01 06 05.6	
	comp=Z,3.2nm,0.1s						
JETT	**Jettan, Norway**	**6.15**	**113**	Pn	**Pn**	**01 06 05.4**	**+1.6**
JETT				Sn	**Sn**	**01 07 11.5**	**-2.5**
JETT	**Jettan, Norway**	**6.15**	**113**	Pn	**Pn**	**01 06 05.4**	**+1.6**
JETT				Sn	**Sn**	**01 07 11.5**	**-2.5**
SPA0	**Spitsbergen Ar**	**6.32**	**24**	Pn	**Pn**	**01 06 07.8**	**+1.7**
	baz=213,slow=16						
SPA0	**Spitsbergen Ar**	**6.32**	**24**	Pn	**Pn**	**01 06 07.8**	**+1.7**
	baz=213,slow=16						
SPITS	**Spitsbergen Ar**	**6.32**	**24**	Pn	**Pn**	**01 06 08.0**	**+1.8**
	baz=207,slow=16						
SPITS				Sn	**Sn**	**01 07 16.6**	**-1.7**
	baz=204,slow=28 comp=Z,0.5nm,0.3s						
HAMF	**Hammerfest**	**6.50**	**99**	Pn	**Pn**	**01 06 09.1**	**+0.5**
HAMF	**Hammerfest**	**6.50**	**99**	*e*P	**Pn**	**01 06 09.7**	**+1.1**
FAUS	**Fauske**	**6.55**	**139**	Pn	**Pn**	**01 06 10.8**	**+1.5**
FAUS				Sn	Sn	01 07 19.3	-4.5
KBS	**Kingsbay**	**6.57**	**13**	Pn	**Pn**	**01 06 09.9**	**+0.5**
KBS	**Kingsbay**	**6.57**	**13**	*e*P	**Pn**	**01 06 10.0**	**+0.5**
KIF	**Kilpisjarvi**	**6.61**	**116**	Pn	**Pn**	**01 06 11.5**	**+1.4**
KIF				Sn	**Sn**	**01 07 22.3**	**-3.0**
KIF	**Kilpisjarvi**	**6.61**	**116**	*e*P	**Pn**	**01 06 11.6**	**+1.6**
VAGH	**Vaagaholmen**	**6.77**	**147**	*e*P	**Pn**	**01 06 14.2**	**+2.0**
VAGH				*e*S	Sn	01 07 23.1	-6.0
VAGH				IAML		01 07 30.2	
	comp=Z,2.8nm,0.7s						
KONS	**Konsvik**	**6.96**	**149**	Pn	**Pn**	**01 06 15.2**	**+0.4**
KONS	**Konsvik**	**6.96**	**149**	*e*P	**Pn**	**01 06 15.8**	**+1.0**
DBG	**Daneborg**	**7.08**	**295**	Pn	Pn	01 06 12.2	-4.3
DBG				Sn	Sn	01 07 24.1	-13
DBG	**Daneborg**	**7.08**	**295**	*e*P	**Pn**	**01 06 13.6**	**-2.9**
DBG	**Daneborg**	**7.08**	**295**	*i* P	**Pn**	**01 06 13.2**	**-3.3**
DBG				*i* S	**sPn**	**01 06 19.1**	**-0.2**
STOK	**Stokkvaagen**	**7.09**	**149**	Pn	**Pn**	**01 06 18.1**	**+1.4**
STOK				Sn	Sn	01 07 31.9	-5.4
STOK	**Stokkvaagen**	**7.09**	**149**	*e*P	**Pn**	**01 06 18.1**	**+1.4**
SALU	**Saltoluokta**	**7.24**	**130**	*e*P	**Pn**	**01 06 20.9**	**+2.1**
LEIR	**Leirfjorden**	**7.32**	**150**	*e*P	**Pn**	**01 06 21.4**	**+1.7**
MOR8	**Moi Rana**	**7.47**	**146**	*e*P	**Pn**	**01 06 23.3**	**+1.3**
ARA0	**ARCESS Array S**	**7.61**	**104**	Pn	**Pn**	**01 06 24.7**	**+0.9**
	baz=305,slow=11						
ARA0	**ARCESS Array S**	**7.61**	**104**	Pn	**Pn**	**01 06 24.7**	**+0.9**
	baz=305,slow=11						
ARCES	**ARCESS Array B**	**7.61**	**104**	Pn	**Pn**	**01 06 24.9**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=307,slow=11,SNR=26						
ARCES				Sn	**Sn**	**01 07 46.2**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=302,slow=22,SNR=1.5						
ARCES				LR	LR	01 08 37.0	
	comp=Z,40nm,20.6s,baz=5.0,slow=33 comp=Z,1.1nm,0.3s						
HEF	**Hetta**	**7.79**	**114**	Pn	**Pn**	**01 06 27.9**	**+1.7**
HEF	**Hetta**	**7.79**	**114**	*e*P	**Pn**	**01 06 28.0**	**+1.7**
VADS	**Vadso**	**8.44**	**95**	Pn	**Pn**	**01 06 38.6**	**+3.4**
APA0	**Apatity Array**	**10.97**	**103**	Pn	**Pn**	**01 07 11.6**	**+1.9**
	baz=307,slow=11						
APA0	**Apatity Array**	**10.97**	**103**	Pn	**Pn**	**01 07 11.6**	**+1.9**
	baz=307,slow=11						
NB2	**NORSAR Subarra**	**12.01**	**163**	Pn	**Pn**	**01 07 25.4**	**+1.4**
NB2	**NORSAR Subarra**	**12.01**	**163**	Pn	**Pn**	**01 07 25.4**	**+1.4**
NOA	**NORSAR Array B**	**12.01**	**163**	Pn	**Pn**	**01 07 26.0**	**+2.0**
	baz=348,slow=14,SNR=2.1						
NOA				LR	LR	01 11 47.8	
	comp=Z,32nm,19.0s,baz=345,slow=37 comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**13.14**	**158**	Pn	**Pn**	**01 07 40.4**	**+0.9**
	baz=352,slow=14						
HFS	**Hagfors**	**13.14**	**158**	Pn	**Pn**	**01 07 40.6**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=354,slow=13,SNR=5.9						
HFS				Sn	Sn	01 09 56.8	-8.7
	comp=Z,0.1nm,0.3s,baz=354,slow=28,SNR=1.8 comp=Z,0.6nm,0.5s						
HFS	**Hagfors**	**13.14**	**158**	Pn	**Pn**	**01 07 40.4**	**+0.9**
	baz=352,slow=14						
FIA0	**FINESS Array S**	**14.03**	**132**	Pn	**Pn**	**01 07 52.3**	**+0.8**
	baz=346,slow=12						
FIA0	**FINESS Array S**	**14.03**	**132**	Pn	**Pn**	**01 07 52.3**	**+0.8**
	baz=346,slow=12						
FINES	**FINESS Array B**	**14.03**	**132**	Pn	**Pn**	**01 07 52.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=338,slow=14,SNR=9.6						
FINES				Sn	Sn	01 10 18.9	-8.1
	baz=337,slow=25,SNR=1.6 comp=Z,2.4nm,0.8s						
GERES	**GERESS Array B**	**24.30**	**164**	P	**P**	**01 09 54.2**	**+3.8**
	comp=Z,0.2nm,0.4s,baz=359,slow=11,SNR=5.0 comp=Z,0.2nm,0.4s						
AKASG	**Malin Array Be**	**24.66**	**140**	LR	LR	01 19 27.1	
	comp=Z,74nm,18.1s,baz=49,slow=36						
DAVOX	**Davos/Dischmat**	**26.12**	**171**	LR	LR	01 20 26.8	
	comp=Z,32nm,19.0s,baz=85,slow=37						
AKTO	**Aktyubinsk**	**32.20**	**104**	LR	LR	01 24 13.3	
	comp=Z,56nm,18.1s,baz=267,slow=37						
INK	**Inuvik**	**36.54**	**335**	LR	LR	01 28 46.0	
	comp=Z,29nm,18.1s,baz=246,slow=39						

*GII **24** 01:08:11.5±0.0, 35°.65N×27°.59E, h20km, Mws2.9, confirmed*
*AFAD **24** 01:08:18.5, 35°.51N×27°.48E, h27km±2km, MW3.5*
*ISK **24** 01:08:19.8, 35°.63N×27°.60E, h25km, ML2.9/12*
*ATH **24** 01:08:20.9, 35°.58N×27°.61E, h28km±5km, ML3.1/7, Manual Solution by I.Dede First location: 2019/04/24 01:09:40, This location: 2019/04/24 06:13:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 10 km; Longitude uncertainty: 6 km*
*THE **24** 01:08:21.6, 35°.64N×27°.61E, h15km±1km, ML2.8/6, Error ellipse: s-maj=1.7km s-min=0.6km az=153.0*
ISC 24 01:08:19.6±1.2, 35°.48N±0°.04×27°.68E±0°.03, h34km±3km, n70, σ1§60/85, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.43**	**279**	P	**Pb**	**01 08 29.1**	**-0.2**
KARP				S	**Sb**	**01 08 35.5**	**-0.4**
	5μm,0.3s						
KARP	**Karpathos**	**0.43**	**279**	Pg	**Pb**	**01 08 28.0**	**-1.3**
KARP				Sg	**Sb**	**01 08 34.9**	**-1.0**
KARP	**Karpathos**	**0.43**	**279**	P	**Pb**	**01 08 29.1**	**-0.2**
KARP				S	**Sb**	**01 08 35.3**	**-0.6**
ARG	**Arkhangelos**	**0.82**	**26**	P	**Pn**	**01 08 35.3**	**+0.6**
ARG				S	**Sn**	**01 08 45.9**	**+0.3**
	1μm,0.4s						
ARG	**Arkhangelos**	**0.82**	**26**	Pg	**Pn**	**01 08 34.8**	**+0.1**
ARG				Sg	**Sn**	**01 08 45.6**	**0.0**
ARG	**Arkhangelos**	**0.82**	**26**	P	**Pn**	**01 08 35.5**	**+0.8**
ARG				S	**Sn**	**01 08 45.9**	**+0.3**
RODB	**Rodos**	**1.06**	**24**	P	**Pn**	**01 08 39.3**	**+1.3**
RODB				S	**Sn**	**01 08 53.0**	**+1.4**
YAZI	**Mula-Dat§a-**	**1.22**	**351**	P	**Pn**	**01 08 39.4**	**-0.7**
YAZI				S	**Sn**	**01 08 53.6**	**-1.7**
DAT	**Datca**	**1.25**	**356**	Pn	**Pn**	**01 08 39.8**	**-0.9**
ZKR	**Zakros**	**1.25**	**254**	P	**Pb**	**01 08 43.3**	**+0.5**
ZKR				S	**Sb**	**01 08 59.9**	**+1.3**
	470nm,0.7s						
ZKR	**Zakros**	**1.25**	**254**	Pn	**Pn**	**01 08 42.2**	**+1.5**
ZKR	**Zakros**	**1.25**	**254**	P	**Pb**	**01 08 43.2**	**+0.5**
TURN	**Turunc**	**1.37**	**19**	P	**Pn**	**01 08 43.3**	**+1.0**
TURN				S	**Sn**	**01 09 00.8**	**+1.6**
DALY	**Dalyan (Mula)**	**1.55**	**30**	Pn	**Pn**	**01 08 45.7**	**+1.0**
BDRM	**Kayabasi**	**1.59**	**353**	P	**Pn**	**01 08 44.8**	**-0.6**
BDRM				S	**Sn**	**01 09 03.0**	**-1.8**
BODT	**Bodrum**	**1.61**	**349**	Pn	**Pn**	**01 08 45.4**	**-0.2**
BODT				Sn	**Sn**	**01 09 03.5**	**-1.6**
FETY	**Fethiye**	**1.62**	**44**	Pn	**Pn**	**01 08 47.1**	**+1.4**
KSL	**Kastellorizon**	**1.68**	**66**	P	**Pn**	**01 08 48.2**	**+1.7**
KSL				S	**Sb**	**01 09 10.2**	**-0.6**
	68nm,0.8s						
KSL	**Kastellorizon**	**1.68**	**66**	P	**Pn**	**01 08 48.3**	**+1.8**
KSL				S	**Sn**	**01 09 09.2**	**+2.3**
SABU	**Mula-Dalaman**	**1.70**	**37**	P	**Pn**	**01 08 47.7**	**+0.9**
SABU				S	**Sb**	**01 09 12.9**	**+1.6**
YER	**Yerkesik**	**1.72**	**16**	Pn	**Pn**	**01 08 47.8**	**+0.6**
AKAS	**Kas**	**1.73**	**64**	P	**Pn**	**01 08 47.8**	**+0.4**
MLSB	**Milas**	**1.81**	**2**	Pn	**Pn**	**01 08 48.5**	**+0.1**
CAME	**Cameli-Denizli**	**1.96**	**41**	Pn	**Pn**	**01 08 50.9**	**+0.4**
KNIK	**Mula-Seydike**	**2.05**	**48**	P	**Pn**	**01 08 52.5**	**+0.8**
THR6	**Thira Island,**	**2.05**	**296**	P	**Pn**	**01 08 51.7**	**+0.1**
THR3	**Thira Island,**	**2.07**	**297**	P	**Pn**	**01 08 51.9**	**0.0**
CMBO	**Columbo, Santo**	**2.10**	**299**	P	**Pn**	**01 08 52.7**	**+0.5**
CMBO				S	**Sn**	**01 09 16.9**	**-0.2**
CMBO	**Columbo, Santo**	**2.10**	**299**	P	**Pn**	**01 08 52.7**	**+0.5**
DNZT	**Denizli-Tavas-**	**2.10**	**31**	P	**Pn**	**01 08 53.6**	**+1.2**
DNZT				S	**Sn**	**01 09 20.5**	**+3.2**
CAEL	**Denizli, Camel**	**2.11**	**38**	P	**Pn**	**01 08 54.1**	**+1.6**
AYDN	**Tasoluk**	**2.18**	**4**	P	**Pn**	**01 08 54.0**	**+0.5**
AYDN				S	**Sn**	**01 09 18.8**	**-0.6**
TAVA	**DENIZLI_Tavas**	**2.22**	**26**	P	**Pn**	**01 08 53.9**	**-0.1**
TAVA				S	**Sb**	**01 09 24.9**	**-1.2**
IDI	**Anoyia**	**2.29**	**266**	P	**Pn**	**01 08 56.9**	**+1.9**
IDI				S	**Sn**	**01 09 24.8**	**+2.8**
	62nm,0.5s						
IDI	**Anoyia**	**2.29**	**266**	Pn	**Pn**	**01 08 56.4**	**+1.4**
IDI	**Anoyia**	**2.29**	**266**	P	**Pn**	**01 08 56.8**	**+1.9**
AKUM	**Antalya-Kumluc**	**2.32**	**68**	P	**Pn**	**01 08 56.0**	**+0.8**
GOLH	**Golhisar**	**2.32**	**40**	P	**Pn**	**01 08 56.9**	**+1.5**
GOLH				S	**Sb**	**01 09 33.8**	**+4.7**
APE	**Apeiranthos**	**2.35**	**313**	P	**Pn**	**01 08 55.5**	**-0.4**
APE				S	**Sn**	**01 09 23.4**	**-0.2**
	80nm,0.3s						
APE	**Apeiranthos**	**2.35**	**313**	Pn	**Pn**	**01 08 55.9**	**+0.1**
APE	**Apeiranthos**	**2.35**	**313**	P	**Pn**	**01 08 55.4**	**-0.4**
APE	**Apeiranthos**	**2.35**	**313**	P	**Pn**	**01 08 55.4**	**-0.4**
ESEN	**Aydn-Nazilli**	**2.38**	**13**	P	**Pn**	**01 08 56.0**	**-0.1**
ESEN				S	**Sn**	**01 09 23.9**	**-0.1**
DNIZ	**Denizli-Tavas-**	**2.40**	**27**	P	**Pn**	**01 08 57.1**	**+0.5**
DNIZ				S	**Sb**	**01 09 30.2**	**-1.3**
TMBK	**Timbaki Herakl**	**2.42**	**261**	P	**Pn**	**01 08 58.5**	**+1.8**
IZMR	**zmir-demi**	**2.66**	**5**	P	**Pn**	**01 08 59.8**	**-0.2**
IZMR				S	**Sn**	**01 09 28.5**	**-2.6**
INCE	**Denizli-Bozkur**	**2.70**	**34**	P	**Pn**	**01 09 01.0**	**+0.4**
INCE				S	**Sb**	**01 09 41.3**	**+1.4**
KIRA	**zmir-Kiraz**	**2.77**	**12**	P	**Pn**	**01 09 02.1**	**+0.4**
CSS	**Mathiatis**	**4.65**	**95**	P	Pn	01 09 22.2	-5.2
CSS	**Mathiatis**	**4.65**	**95**	S	**Sn**	**01 10 15.4**	**-4.8**
MMA0	**Mount Meron ar**	**6.85**	**109**	P	Pn	01 09 52.3	-5.3
MMA0	**Mount Meron ar**	**6.85**	**109**	S	**Sn**	**01 11 11.5**	**-2.9**
NATI	**Neve Ativ**	**7.02**	**106**	P	Pn	01 09 54.8	-5.0
NATI	**Neve Ativ**	**7.02**	**106**	S	**Sn**	**01 11 15.4**	**-3.0**
KZIT	**Kziot**	**7.24**	**127**	P	Pn	01 09 59.0	-4.0
KZIT	**Kziot**	**7.24**	**127**	S	**Sn**	**01 11 21.2**	**-2.8**
HMDT	**Nahal Hemdat**	**7.27**	**114**	P	Pn	01 09 58.0	-5.4
HMDT	**Nahal Hemdat**	**7.27**	**114**	S	**Sn**	**01 11 22.3**	**-2.5**
YTIR	**Yattir**	**7.45**	**121**	P	Pn	01 10 00.9	-4.9
YTIR	**Yattir**	**7.45**	**121**	S	**Sn**	**01 11 27.0**	**-2.2**
DSI	**Dead Sea**	**7.51**	**119**	P	Pn	01 10 02.1	-4.6
DSI	**Dead Sea**	**7.51**	**119**	S	**Sn**	**01 11 28.1**	**-2.6**
MSBI	**Mazada**	**7.64**	**121**	P	Pn	01 10 04.2	-4.3
MSBI	**Mazada**	**7.64**	**121**	S	**Sn**	**01 11 31.5**	**-2.3**
GHAJ	**Ghor Haditha**	**7.80**	**120**	P	Pn	01 10 05.2	-5.3
GHAJ	**Ghor Haditha**	**7.80**	**120**	S	**Sn**	**01 11 35.1**	**-2.5**
PRNI	**Paran**	**8.00**	**128**	P	Pn	01 10 09.1	-4.3
PRNI	**Paran**	**8.00**	**128**	S	**Sn**	**01 11 40.4**	**-2.2**
EIL	**Elat**	**8.43**	**131**	P	Pn	01 10 14.4	-4.9
EIL	**Elat**	**8.43**	**131**	S	**Sn**	**01 11 50.9**	**-2.4**

*UCR **24** 01:19:14.4±0.9, 8°.11N×82°.44W, h35km±84km, MW3.9*
*UPA **24** 01:19:18.0±1.4, 8°.36N×82°.81W, h16km±2km, MD4.0, MW4.0*
ISC 24 01:19:17.9±1.0, 8°.28N±0°.05×82°.77W±0°.03, h26km±7km, n27, σ1§23/38, 2C-6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.13**	**236**	↑*i* P	**Pb**	**01 19 22.1**	**-0.9**
PTPM				*i* S	**Sb**	**01 19 26.6**	**+0.3**
PTPM				*e*S	**Sb**	**01 19 26.7**	**+0.3**
DVD	**David**	**0.36**	**63**	↓*e*P	**Pb**	**01 19 25.8**	**-0.1**
DVD				*i* S	**Sb**	**01 19 31.1**	**-0.2**
BRU2	**Volcan**	**0.52**	**9**	↓*i* P	**Pb**	**01 19 27.7**	**-1.0**
BRU2				*e*S	**Sb**	**01 19 36.2**	**+0.2**
PIRO	**Carate, Puerto**	**0.57**	**283**	↓*i* P	**Pb**	**01 19 27.1**	**-2.3**
PIRO				*e*S	**Sb**	**01 19 36.6**	**-0.6**
CHGR2	**Aguacate**	**0.91**	**43**	↑*e*P	**Pn**	**01 19 33.6**	**-1.3**
CHGR2				*e*S	**Sb**	**01 19 46.0**	**-0.7**
CEUA	**Cerro Uatsi, L**	**1.35**	**353**	*e*P	**Pn**	**01 19 41.9**	**+0.8**
GMAL	**Guarumal, Vera**	**1.61**	**108**	↓*e*P	**Pn**	**01 19 44.5**	**-0.1**
GMAL				*i* S	**Sb**	**01 20 05.9**	**-1.0**
ABE2	**San Pablo**	**1.90**	**318**	*e*P	**Pn**	**01 19 49.5**	**+0.6**
ABE2				*e*S	**Sb**	**01 20 14.9**	**-0.6**
PICV	**PH. Pirrs**	**1.94**	**314**	*e*P	**Pn**	**01 19 50.0**	**+0.7**
PICV				*e*S	**Sn**	**01 20 15.2**	**+2.3**
CVTV	**Tajo**	**1.97**	**331**	*e*P	**Pn**	**01 19 50.1**	**+0.2**
CVTQ	**Turrialba Volc**	**1.98**	**330**	*e*P	**Pn**	**01 19 50.3**	**+0.2**
CVTQ				*e*S	**Sn**	**01 20 16.2**	**+2.0**
CVTR	**Volcan Turrial**	**1.99**	**331**	*e*P	**Pn**	**01 19 50.4**	**+0.1**
CORON	**Coronado**	**2.08**	**324**	*e*S	**Sb**	**01 20 20.3**	**-0.3**
CVTG	**V. Turrialba,**	**2.10**	**332**	*e*P	**Pn**	**01 19 52.1**	**+0.6**
CACAO	**El Cacao, Vera**	**2.11**	**116**	*i* P	**Pb**	**01 19 53.9**	**-1.5**
HEME	**Heredia, Merce**	**2.18**	**322**	*e*P	**Pn**	**01 19 54.2**	**+1.6**
PURI	**Puriscal**	**2.18**	**316**	*e*S	**Sb**	**01 20 22.1**	**-1.3**
CHIT3	**Chitre**	**2.35**	**98**	*e*P	**Pn**	**01 19 56.4**	**+1.5**
PNME	**Penonome**	**2.43**	**85**	*e*P	**Pn**	**01 19 56.4**	**+0.5**
AZU	**Azuero**	**2.52**	**101**	↓*e*P	**Pn**	**01 19 59.6**	**+2.4**
ARE1	**Arenal 1**	**2.90**	**319**	*e*P	**Pn**	**01 20 04.4**	**+2.0**
JTS	**Las Juntas de**	**2.94**	**313**	↓*e*P	**Pn**	**01 20 02.5**	**-0.5**
JTS				*e*S	**Sn**	**01 20 36.5**	**-1.0**
BCIP	**Isla Barro Col**	**3.03**	**73**	*e*P	**Pn**	**01 20 05.2**	**+0.9**
CHOR3	**La Chorrera**	**3.04**	**78**	*e*P	**Pn**	**01 20 03.6**	**-0.7**
NICO	**Nicoya**	**3.22**	**305**	*e*P	**Pn**	**01 20 07.8**	**+1.0**
UPA	**Univ. de Panam**	**3.28**	**77**	*e*P	**Pn**	**01 20 08.7**	**+1.1**
CUI	**Cuipilapa**	**3.34**	**315**	*e*P	**Pn**	**01 20 10.9**	**+2.4**

TXNET 24 01:27:28.4, 31°.6N±0°.6×104°.4W±0°.6, h5km±1km, ML1.9/5, 1C, Error ellipse: s-maj=1.0km s-min=0.9km az=130.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.45**	**45**	P	Pg	01 27 37.0	-0.1
TPB11				S	Sg	01 27 43.3	+0.3
PECS	**Pecos**	**0.52**	**118**	S	Sg	01 27 45.7	+0.4
TPB12	**Southwest of T**	**0.56**	**136**	S	Sg	01 27 46.7	+0.3
GDL2	**Guadalupe Moun**	**0.58**	**4**	P	Pg	01 27 39.7	+0.1
TPB07	**Mentone**	**0.63**	**93**	P	Pg	01 27 41.1	+0.5
CLNB	**Carlsbad**	**0.79**	**35**	P	Pg	01 27 43.7	+0.2
CLNB	**Carlsbad**	**0.79**	**35**	S	Sg	01 27 54.6	+0.9
MNTX	**Cornudas Mount**	**0.84**	**276**	P	Pg	01 27 44.5	0.0
MNTX				S	Sg	01 27 56.1	+0.8
TPB01	**Permian Basin**	**0.86**	**141**	P	Pg	01 27 44.6	-0.3
TPB01				S	Sg	01 27 56.1	0.0
TPB03	**Saragosa**	**0.93**	**125**	P	Pg	01 27 46.5	+0.2
TPB03				S	Sg	01 27 59.0	+0.7
CLN7	**Carlsbad 7**	**0.94**	**33**	P	Pg	01 27 46.6	+0.1
VHRN	**Van Horn**	**0.97**	**211**	⇑P	Pg	01 27 46.8	-0.1
VHRN				S	Sb	01 28 00.6	-0.3
HTMS	**Hat Mesa**	**1.08**	**37**	P	Pg	01 27 49.1	0.0
HTMS	**Hat Mesa**	**1.08**	**37**	S	Sg	01 28 03.2	+0.2
TPB16	**Coyonosa**	**1.10**	**116**	S	Sb	01 28 04.8	+0.1
NM01	**Eunice**	**1.13**	**49**	S	Sg	01 28 04.8	+0.1
TPB05	**Hovey Rd**	**1.16**	**127**	S	Sb	01 28 06.0	-0.3
ALPN	**Alpine**	**1.40**	**152**	P	Pn	01 27 54.0	-0.8
ALPN				S	Sb	01 28 12.8	-0.7
MNHN	**Monahans**	**1.43**	**101**	S	Sn	01 28 14.4	0.0
CPRX	**Cap Rock**	**1.48**	**18**	P	Pn	01 27 55.9	0.0
ODSA	**Odessa**	**1.66**	**72**	P	Pb	01 27 59.5	0.0
ODSA				S	Sn	01 28 20.3	+0.4
TMB01	**Midkiff**	**1.98**	**88**	S	Sn	01 28 28.5	+0.5
TMB02	**

OBL	**Observatory Le**	**0.91**	**68**		Pn	02 02 42.8	-2.3
RIM	**Rim**	**0.91**	**70**		Pn	02 02 42.8	-2.3
RIM					Sn	02 02 53.7	-3.6
UWB	**Uwekahuna Bluf**	**0.92**	**68**		Pn	02 02 42.9	-2.4
KKO	**Keanakako'i**	**0.92**	**70**		Pn	02 02 42.9	-2.4
KKO					Sn	02 02 53.7	-3.8
SBLHI	**Steaming Bluff**	**0.93**	**68**		Pn	02 02 42.9	-2.5
SBLHI					Sn	02 02 54.0	-3.7
BYL	**Byron's Ledge**	**0.93**	**69**	Pn	Pn	02 02 43.1	-2.3
BYL				Sn	Sn	02 02 54.3	-3.4
HATHI	**Halema'uma'u T**	**0.94**	**69**	Pn	Pn	02 02 42.9	-2.5
HATHI				IAML		02 03 05.2	
	comp=N,682nm,0.7s						
HATHI				IAML		02 03 14.9	
	comp=E,643nm,1.1s						
RSD	**Rainshed**	**0.94**	**66**	Pn	Pn	02 02 41.6	-3.9
PUH	**Pauahi**	**0.96**	**72**	Pn	Pn	02 02 43.2	-2.6
PUH				Sn	Sn	02 02 54.0	-4.4
KNHH	**Kane Nui o Ham**	**1.00**	**73**	Pn	Pn	02 02 45.2	-1.2
HPAH	**Hawaii Prepara**	**1.05**	**26**	Pn	Pn	02 02 44.6	-2.4
HPAH				IAML		02 02 56.6	
	comp=E,812nm,0.4s						
HPAH				IAML		02 02 57.6	
	comp=N,431nm,0.3s						
MHA	**Mahukona**	**1.13**	**13**		Pn	02 02 46.4	-1.7
MHA				Pn	Pn	02 02 46.4	-1.7
MHA				Sn	Sn	02 02 58.6	-3.9
JOKA	**Jonika Flow**	**1.17**	**72**	Pn	Pn	02 02 47.5	-1.0
HLK	**Haleakala**	**1.67**	**358**	Pn	Pn	02 02 53.7	-2.0
HLK				IAML		02 03 16.9	
	comp=E,316nm,3.2s						
HLK				IAML		02 03 18.5	
	comp=N,294nm,3.0s						
KHLH	**Kahului Airpor**	**1.82**	**353**	Pn	Pn	02 02 56.3	-1.3
KHLH				Sn	Sn	02 03 15.6	-4.0
WMR	**Waimanalo Ridg**	**2.63**	**328**		Pn	02 03 06.8	-1.9
DHH	**Diamond Head**	**2.65**	**325**	Pn	Pn	02 03 06.7	-2.2
HON	**Honolulu**	**2.81**	**323**	Pn	Pn	02 03 09.5	-1.6
HON				Sn	Sn	02 03 38.1	-5.8
KIP	**Kipapa**	**2.90**	**324**	Pn	Pn	02 03 10.8	-1.5

*IDC **24** 02:03:56.9±0.5, 6.°12S×149.°81E, h0km, mb4.6/22, mbtmp4.6/24, ML4.5/2, MS4.5/49, Error ellipse: s-maj=17.3km s-min=10.7km az=99.0*

*GCMT **24** 02:04:05.8±0.1, 6.°40S±0.°01×149.°67E±0.°01, h42km, MW5.3/130, Moment Tensor Solution. s130, c225; s105, c165; Duration: 1s1 Moment tensor: Scale 1017 Nm; Mrr0.99±.02; Mθθ-1.12±.01; Mφφ0.12±.01; Mrθ0.38±.02; Mθφ0.00±.01; Mφr0.03±.02; Best double couple: M0 1.12500×1017 NP1:φs272.00000°, δ35.00000°, λ93.00000°. NP2:φs88.00000°, δ55.00000°, λ88.00000°. Principal axes: T 1.0630, Plg80.0000°, Azm348.0000°; N 0.1250, Plg2.0000°, Azm89.0000°; P -1.1870, Plg10.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **24** 02:04:06.7±1.8, 6.°13S±0.°06×149.°66E±0.°08, h70km±7km, mb4.9/108 Error ellipse: s-maj=11.9km s-min=9.2km az=99.0*

*DJA **24** 02:04:10.3±1.0, 6.°S±4.°×14.°9E±.°, h66km±8km, M5.3/22, mb5.1/22, mB5.5/7, MLv5.6/1, Mw(mB)5.0/7, MwMwp5.2/4, Mwp5.4/4*

ISC 24 02:04:04.5±0.4, 6.°19S±0.°04×149.°76E±0.°04, h53km±3km, h53km; pP-P, n237, σ1s70/220, mb4.9/96, MS4.6/57, 2C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.12**	**50**		**Pn**	**02 04 52.9**	**+1.7**
PMG	**Port Moresby**	**4.10**	**219**	Pn	**Pn**	**02 05 06.1**	**+1.5**
PMG	**Port Moresby**	**4.10**	**219**	Pn	**Pn**	**02 05 05.7**	**+1.1**
	159nm,0.3s,baz=37,slow=5.6,SNR=137						
PMG				Sn	**Sn**	**02 05 51.8**	**+0.4**
	167nm,0.3s,baz=216,slow=22,SNR=17						
MANU	**Manus Island**	**4.76**	**330**	Pn	**Pn**	**02 05 13.9**	**+0.1**
JAY	**Jayapura**	**9.73**	**292**	Pn	**Pn**	**02 06 18.8**	**-3.2**
	5.3nm,0.3s,baz=155,slow=2.0,SNR=12						
JAY				Sn	**Sn**	**02 08 09.6**	**-0.4**
	baz=82,slow=17						
JAY				LR	LR	02 10 46.7	
	comp=Z,3μm,18.1s,baz=38,slow=42						
	6.8nm,0.7s						
JAY	**Jayapura**	**9.73**	**292**	P	Pn	02 06 33.0	+11
COEN	**Coen**	**10.07**	**220**	Pn	**Pn**	**02 06 26.6**	**0.0**
COEN	**Coen**	**10.07**	**220**	P	**Pn**	**02 06 26.5**	**0.0**
	comp=Z,0.0nmcomp=Z,24nm,0.5s						
GENI	**Genyem**	**10.21**	**290**	P	Pn	02 06 34.0	+5.6
HNR	**Honiara**	**10.60**	**108**	Pn	Pn	02 06 29.6	-4.1
	comp=Z,3.5nm,0.3s,baz=184,slow=22,SNR=0.9						
HNR				LR	LR	02 09 13.6	
	comp=Z,674nm,20.5s,baz=286,slow=30						
	comp=Z,16nm,0.3s						
SMPI	**Sarmi**	**11.78**	**290**	P	Pn	02 07 05.7	+16
MTSU	**Mount Surprise**	**13.00**	**204**	P	**Pn**	**02 07 07.8**	**+1.1**
	comp=Z,26nm,1.2s						
QIS	**Mount Isa**	**17.34**	**214**	P	**Pn**	**02 08 03.0**	**-0.1**
	comp=Z,57nm,0.9s						
KDU	**Kakadu**	**18.22**	**248**	P	**P**	**02 08 13.0**	**-0.4**
	comp=Z,49nm,0.6s						
EIDS	**Eidsvold**	**19.11**	**176**	P	**P**	**02 08 24.7**	**+1.6**
EIDS	**Eidsvold**	**19.11**	**176**	P	**P**	**02 08 24.9**	**+1.8**
	comp=Z,33nm,0.8s						
SWI	**Sorong**	**19.20**	**285**	P	Pn	02 08 43.8	+18
MTN	**Manton Dam**	**19.51**	**249**	P	**P**	**02 08 27.4**	**-0.2**
MTN	**Manton Dam**	**19.51**	**249**	P	**P**	**02 08 27.4**	**-0.2**
	comp=Z,87nm,0.6s						
WB0	**Warramunga Arr**	**20.12**	**226**	P	**P**	**02 08 34.6**	**+0.4**
WB0				IAmb	IAmb	02 08 48.5	
	comp=Z,88nm,0.9s						
WR8	**Warramunga Arr**	**20.17**	**226**	P	**P**	**02 08 34.7**	**-0.1**
WR8				IAmb	IAmb	02 08 46.0	
	comp=Z,59nm,0.7s						
GUMO	**Guam**	**20.24**	**346**	P	**P**	**02 08 32.9**	**-2.6**
	comp=Z,86nm,0.8s,baz=279,slow=4.9,SNR=5.0						
GUMO				LR	LR	02 16 25.0	
	comp=Z,1μm,18.4s,baz=153,slow=37						
	comp=Z,86nm,0.8s						
WRAB	**Tennant Creek**	**20.26**	**226**	P	**P**	**02 08 36.2**	**+0.4**
WRAB				IAmb	IAmb	02 08 46.9	
	comp=Z,72nm,0.8s						
WRA	**Warramunga Arr**	**20.28**	**226**	P	**P**	**02 08 34.9**	**-1.0**
WRA	**Warramunga Arr**	**20.28**	**226**	P	**P**	**02 08 36.6**	**+0.7**
	comp=Z,33nm,0.5s,baz=52,slow=11,SNR=106						
WRA				S	**S**	**02 12 17.1**	**-3.5**
	comp=Z,17nm,1.2s,baz=47,slow=22,SNR=8.0						
WRA				PcP	**PcP**	**02 12 49.1**	**+0.9**
	comp=Z,7.5nm,0.9s,baz=35,slow=1.8,SNR=6.5						
WRA				ScP	**ScP**	**02 16 26.2**	**+5.9**
	comp=Z,3.0nm,0.8s,baz=50,slow=2.8,SNR=5.5						
WRA				LR	LR	02 17 36.1	
	comp=Z,3μm,18.8s,baz=42,slow=40						
	comp=Z,33nm,0.5s						
QLP	**Quilpie**	**20.95**	**194**	P	**P**	**02 08 44.8**	**+1.8**
	comp=Z,219nm,0.6s						
DZM	**Mont Dzumac**	**22.57**	**136**	P	**P**	**02 09 01.3**	**+0.7**
DZM	**Mont Dzumac**	**22.57**	**136**	*e*P	**P**	**02 09 01.4**	**+0.8**
	comp=Z,97nm,1.7s						
DZM				*e*S	**S**	**02 13 00.3**	**-4.2**
	comp=Z,2μm,24.6s						
DZM				*e*LR	LR	02 14 34.0	
	comp=Z,6μm,23.0s						
KNRA	**Kununurra**	**22.64**	**244**	P	**P**	**02 09 00.1**	**-1.2**
KNRA	**Kununurra**	**22.64**	**244**	P	**P**	**02 09 00.6**	**-0.7**
	comp=Z,103nm,1.2s						
AS17	**Alice Springs**	**23.06**	**219**	P	**P**	**02 09 06.2**	**+0.6**
	comp=Z,68nm,0.8s						
AS31	**Alice Springs**	**23.11**	**220**	P	**P**	**02 09 05.8**	**-0.4**
AS31				IAmb	IAmb	02 09 29.8	
	comp=Z,15nm,0.6s						
AS31	**Alice Springs**	**23.11**	**220**	P	**P**	**02 09 06.8**	**+0.6**
	comp=Z,22nm,0.6s						
ASAR	**Alice Springs**	**23.11**	**220**	P	**P**	**02 09 06.8**	**+0.6**
	comp=Z,17nm,0.8s,baz=55,slow=9.1,SNR=72						
ASAR				S	**S**	**02 13 17.9**	**+4.3**
	comp=Z,9.6nm,1.0s,baz=38,slow=20,SNR=6.2						
ASAR				ScP	**ScP**	**02 16 33.9**	**+6.5**
	comp=Z,1.8nm,0.8s,baz=37,slow=3.5,SNR=5.0						
ASAR				LR	LR	02 18 13.5	
	comp=Z,2μm,21.6s,baz=30,slow=37						
	comp=Z,17nm,0.8s						
ARMA	**Armidale**	**24.16**	**176**	P	**P**	**02 09 16.8**	**+0.9**
ARMA				IAmb	IAmb	02 09 41.2	
	comp=Z,36nm,1.2s						
ARMA	**Armidale**	**24.16**	**176**	P	**P**	**02 09 17.1**	**+1.1**
	comp=Z,35nm,1.1s						
SOEI	**Soe**	**25.48**	**260**	P	P	02 09 42.0	+14
CMSA	**Cobar Meteorol**	**25.50**	**188**	P	**P**	**02 09 29.0**	**+1.1**
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**26.33**	**241**	P	**P**	**02 09 35.9**	**+0.1**
FITZ				IAmb	IAmb	02 09 57.6	
	comp=Z,22nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.33**	**241**	P	**P**	**02 09 35.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**26.33**	**241**	LR	LR	02 20 29.1	
	comp=Z,1μm,19.8s,baz=58,slow=38						
STKA	**Stephens Creek**	**26.67**	**196**	P	**P**	**02 09 40.0**	**+1.4**
STKA	**Stephens Creek**	**26.67**	**196**	P	**P**	**02 09 40.5**	**+2.0**
	comp=Z,132nm,1.0s						
STKA	**Stephens Creek**	**26.67**	**196**	P	**P**	**02 09 39.3**	**+0.8**
	comp=Z,18nm,0.9s,baz=354,slow=9.4,SNR=35						
STKA				LR	LR	02 20 31.3	
	comp=Z,2μm,20.3s,baz=36,slow=37						
	comp=Z,18nm,0.9s						
MMRI	**Maumere**	**27.39**	**263**	P	**P**	**02 09 43.5**	**-1.8**
MMRI	**Maumere**	**27.39**	**263**	P	**P**	**02 09 44.7**	**-0.6**
WRKA	**Warakurna**	**27.81**	**225**	P	**P**	**02 09 49.1**	**+0.1**
	comp=Z,49nm,0.7s						
EDFI	**Ende, Flores**	**27.94**	**263**	P	**P**	**02 09 48.3**	**-2.0**
	comp=Z,56nm,1.0s						
HTT	**Hallett**	**28.91**	**199**	P	**P**	**02 09 59.3**	**+0.7**
	comp=Z,3.6nm,0.9s						
BBOO	**Buckleboo**	**29.39**	**204**	P	**P**	**02 10 01.4**	**-1.5**
BBOO				IAmb	IAmb	02 10 59.4	
	comp=Z,34nm,1.4s						
BBOO	**Buckleboo**	**29.39**	**204**	P	**P**	**02 10 03.5**	**+0.6**
	comp=Z,14nm,0.7s						
KAPI	**Kappang**	**29.88**	**271**	LR	LR	02 25 02.8	
	comp=Z,471nm,20.9s,baz=81,slow=42						
MSVF	**Nonsavu**	**29.91**	**115**	LR	LR	02 20 14.2	
	comp=Z,720nm,21.6s,baz=265,slow=33						
ARPS	**Mount Arapiles**	**31.28**	**192**	P	**P**	**02 10 20.9**	**+1.4**
	comp=Z,36nm,0.9s						
TOO	**Toolangi**	**31.47**	**186**	P	**P**	**02 10 22.6**	**+1.4**
FORT	**Forrest**	**31.83**	**217**	P	**P**	**02 10 24.7**	**+0.3**
FORT	**Forrest**	**31.83**	**217**	P	**P**	**02 10 22.3**	**-2.1**
	comp=Z,86nm,0.7s						
MGBR	**Mount Gambier**	**32.48**	**194**	P	**P**	**02 10 30.9**	**+0.9**
MBWA	**Marble Bar**	**32.65**	**240**	P	**P**	**02 10 31.7**	**-0.1**
MBWA				IAmb	IAmb	02 10 40.3	
	comp=Z,29nm,0.9s						
MBWA	**Marble Bar**	**32.65**	**240**	P	**P**	**02 10 31.6**	**-0.1**
	comp=Z,34nm,1.1s						
MBWA	**Marble Bar**	**32.65**	**240**	P	**P**	**02 10 31.7**	**-0.1**
MBWA				pP	**pP**	**02 10 42.3**	**-2.2**
MBWA				PcP	**PcP**	**02 13 17.6**	**+0.7**
PSAC2	**Pilbara Seismi**	**32.67**	**239**	P	**P**	**02 10 31.7**	**-0.1**
	comp=Z,48nm,0.8s						
PSAD1	**Pilbara Seismi**	**32.68**	**239**	P	**P**	**02 10 31.9**	**-0.2**
	comp=Z,44nm,0.7s						
PSA00	**Pilbara Seismi**	**32.72**	**239**	P	**P**	**02 10 32.0**	**-0.3**
PSA00				IAmb	IAmb	02 10 51.0	
	comp=Z,37nm,1.1s						
PSA00	**Pilbara Seismi**	**32.72**	**239**	P	**P**	**02 10 32.3**	**0.0**
	comp=Z,26nm,0.8s						
JCJ	**Chichijima**	**33.89**	**348**	LR	LR	02 24 12.6	
	comp=Z,332nm,18.3s,baz=98,slow=36						
TGY	**Tagaytay City**	**34.99**	**305**	LR	LR	02 24 25.0	
	comp=Z,374nm,21.9s,baz=122,slow=35						
MEEK	**Meekatharra**	**35.96**	**232**	P	**P**	**02 11 00.5**	**+0.1**
	comp=Z,49nm,0.5s						
KMBL	**Kambalda**	**36.16**	**223**	P	**P**	**02 11 02.4**	**+0.3**
	comp=Z,49nm,0.7s						
TAU	**Tasmania Unive**	**36.63**	**183**	P	**P**	**02 11 07.6**	**+1.8**
GIRL	**Giralia**	**37.95**	**241**	P	**P**	**02 11 16.0**	**-1.2**
JOW	**Kunigami**	**38.87**	**329**	P	**P**	**02 11 23.1**	**-1.8**
JOW	**Kunigami**	**38.87**	**329**	LR	LR	02 24 05.9	
	comp=Z,1μm,21.7s,baz=130,slow=31						
MORW	**Morawa**	**39.12**	**230**	P	**P**	**02 11 26.6**	**-0.4**
MORW	**Morawa**	**39.12**	**230**	P	**P**	**02 11 27.2**	**+0.2**
	comp=Z,24nm,1.5s						
KLBR	**Kellerberrin**	**39.16**	**226**	P	**P**	**02 11 27.3**	**0.0**
	comp=Z,141nm,0.7s						
JHJ	**Hachijo jima 2**	**40.23**	**347**	LR	LR	02 27 20.8	
	comp=Z,433nm,19.0s,baz=111,slow=35						
NWAO	**Narrogin (SRO)**	**40.27**	**224**	P	**P**	**02 11 35.2**	**-1.3**
NWAO	**Narrogin (SRO)**	**40.27**	**224**	P	**P**	**02 11 36.2**	**-0.4**
	comp=Z,44nm,0.7s						
NWAO	**Narrogin (SRO)**	**40.27**	**224**	LR	LR	02 29 39.5	
	comp=Z,2μm,18.6s,baz=44,slow=38						
NWAO	**Narrogin (SRO)**	**40.27**	**224**	P	**P**	**02 11 36.1**	**-0.4**
NWAO				pP	**pP**	**02 11 46.9**	**-3.2**
URZ	**Urewera**	**40.42**	**146**	LR	LR	02 26 25.9	
	comp=Z,1μm,20.6s,baz=36,slow=33						
YULB	**Yu-li**	**40.47**	**318**	P	**P**	**02 11 38.7**	**+0.4**
YULB				IAmb	IAmb	02 11 47.9	
	comp=Z,21nm,0.7s						
RTZ	**Ruatahuna**	**40.61**	**147**	P	**P**	**02 11 38.7**	**-0.6**
RTZ				IAmb	IAmb	02 11 53.0	
	comp=Z,35nm,1.2s						
NACB	**Ninganchiao**	**40.80**	**319**		**P**	**02 11 40.6**	**-0.4**
TPUB	**Ta-pu**	**40.85**	**317**	P	**P**	**02 11 42.1**	**+0.6**
SSLB	**Suanglung**	**40.96**	**318**	P	**P**	**02 11 41.9**	**-0.5**
SSLB				IAmb	IAmb	02 11 49.0	
	comp=Z,21nm,0.6s						
TCW	**Tory Channel**	**41.16**	**152**	P	**P**	**02 11 45.1**	**+1.3**
YHNB	**Yeheng**	**41.29**	**319**	P	**P**	**02 11 45.8**	**+0.7**
LTZ	**Lake Taylor**	**41.52**	**155**	P	**P**	**02 11 48.4**	**+1.7**
LTZ				IAmb	IAmb	02 11 59.6	
	comp=Z,12nm,1.0s						
MSWZ	**Moikau Station**	**41.79**	**151**	P	**P**	**02 11 49.9**	**+1.0**
RPZ	**Rata Peaks**	**41.80**	**157**	LR	LR	02 27 17.8	
	comp=Z,1μm,20.3s,baz=326,slow=34						
LEM	**Lembang**	**41.86**	**267**	LR	LR	02 33 45.8	
	comp=Z,306nm,19.5s,baz=142,slow=43						
CNJI	**Cibinong**	**42.33**	**266**	P	**P**	**02 11 53.3**	**-0.4**
	comp=Z,1μmcomp=Z,89nm,1.1s						
JMN	**Monobe**	**42.46**	**340**	P	**P**	**02 11 54.7**	**+0.2**
JNU	**Nakatsue**	**43.01**	**337**	P	**P**	**02 11 59.0**	**0.0**
JNU	**Nakatsue**	**43.01**	**337**	LR	LR	02 28 11.8	
	comp=Z,472nm,20.9s,baz=147,slow=34						
INU	**Inuyama**	**43.03**	**345**	P	**P**	**02 11 58.7**	**-0.2**
JGF	**Kuroka**	**43.18**	**345**	P	**P**	**02 12 01.6**	**+1.3**
JGF				IAmb	IAmb	02 12 34.7	
	comp=Z,47nm,1.6s						
MJAR	**Matsushiro Arr**	**43.87**	**347**	P	**P**	**02 12 04.9**	**-0.9**
	comp=Z,8.5nm,0.8s,baz=169,slow=8.7,SNR=13						
MJAR				LR	LR	02 28 34.3	
	comp=Z,524nm,19.7s,baz=170,slow=34						
	comp=Z,8.5nm,0.8s						
MAJO	**Matsushiro**	**43.87**	**347**	P	**P**	**02 12 04.6**	**-1.2**
MAJO	**Matsushiro**	**43.87**	**347**	P	**P**	**02 12 05.3**	**-0.4**
MAJO				pP	**pP**	**02 12 16.8**	**-3.1**
MJB9	**Matsu-Tunnel**	**43.87**	**347**	P	**P**	**02 12 06.3**	**+0.5**
JSD	**Sado**	**45.29**	**347**	P	**P**	**02 12 16.0**	**-1.0**
JSD				IAmb	IAmb	02 12 18.4	
	comp=Z,17nm,1.0s						
MDSI	**Maura Dua**	**45.40**	**270**	P	**P**	**02 12 18.0**	**-0.3**
	comp=Z,21nm,1.8s						
SSE	**Sheshan**	**46.05**	**325**	P	**P**	**02 12 23.1**	**-0.1**
SSE				S	**S**	**02 19 05.1**	**+0.1**
SSE				pmax	pmax		
	comp=Z,12nm,0.5s						
SSE				pmax	pmax		
	comp=Z,110nm,3.5s						
SSE				LR	LR		
	comp=N,350nm,18.5s						
SSE				LR	LR		
	comp=E,410nm,17.9s						
QIZ	**Qiongzhong**	**46.63**	**303**	P	**P**	**02 12 28.3**	**+0.4**
QIZ				S	**S**	**02 19 11.5**	**-2.1**
QIZ				LR	LR		
	comp=N,240nm,17.6s						
QIZ				LR	LR		
	comp=E,270nm,20.4s						
QIZ				LR	LR		
	comp=Z,310nm,18.6s						
JTM	**Tenmabayashi**	**47.43**	**351**	P	**P**	**02 12 33.5**	**-0.2**
KSRS	**Korea Array**	**47.97**	**337**	P	**P**	**02 12 38.0**	**0.0**
	comp=Z,4.8nm,0.7s,baz=154,slow=8.1,SNR=18						
KSRS				LR	LR	02 32 41.0	
	comp=Z,195nm,19.2s,baz=160,slow=36						
	comp=Z,4.8nm,0.7s						
KSAR	**Wonju Array Be**	**47.97**	**336**	P	**P**	**02 12 37.7**	**-0.3**
NJ2	**Nanjing**	**48.10**	**324**	*e*P	**P**	**02 12 39.3**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				LR	LR		
	comp=N,700nm,21.1s						
NJ2				LR	LR		
	comp=E,560nm,23.5s						
NJ2				LR	LR		
	comp=Z,1μm,21.8s						
RAR	**Rarotonga**	**51.02**	**112**	LR	LR	02 30 29.2	
	comp=Z,125nm,21.9s,baz=279,slow=31						
PSI	**Prapat**	**51.54**	**279**	LR	LR	02 39 37.4	
	comp=Z,345nm,18.5s,baz=146,slow=42						
DL2	**Dalian**	**51.90**	**332**	P	**P**	**02 13 08.3**	**+0.5**
DL2				pmax	pmax		
	comp=Z,23nm,1.0s						
TIA	**Tai'an**	**52.11**	**326**	P	**P**	**02 13 08.9**	**-0.6**
TIA				S	**S**	**02 20 27.9**	**-2.0**
USA0B	**Ussuriysk Arra**	**52.66**	**344**	P	**P**	**02 13 13.0**	**-0.4**
USA0B				IAmb	IAmb	02 13 15.4	
	comp=Z,17nm,1.0s						
USRK	**Ussuriysk Ar.**	**52.66**	**344**	P	**P**	**02 13 12.8**	**-0.6**
USRK	**Ussuriysk Ar.**	**52.66**	**344**	P	**P**	**02 13 12.9**	**-0.5**
	comp=Z,11nm,0.9s,baz=178,slow=8.1,SNR=18						
USRK				LR	LR	02 33 14.0	
	comp=Z,704nm,21.6s,baz=156,slow=33						
	comp=Z,11nm,0.9s						
LYN	**LuoYang**	**53.67**	**322**	P	**P**	**02 13 24.1**	**+3.1**
LYN				S	S	02 20 58.9	+7.7
LYN				sS	sS	02 21 19.8	+5.4
LYN				pmax	pmax		
	comp=Z,20nm,0.6s						
LYN				pmax	pmax		
	comp=Z,150nm,4.5s						
LYN				LR	LR		
	comp=N,1μm,21.0s						
LYN				LR	LR		
	comp=E,1μm,21.0s						
LYN				LR	LR		
	comp=Z,2μm,19.6s						
MDJ	**Mudanjiang**	**53.73**	**342**	P	**P**	**02 13 22.5**	**+1.2**
MDJ				S	**S**	**02 20 55.4**	**+3.7**
MDJ				sS	pS	02 21 10.8	+3.2
MDJ	**Mudanjiang**	**53.73**	**342**	SS	**SKiKP**	**02 24 34.4**	**+3.3**
MDJ				pmax	pmax		
	comp=Z,18nm,0.9s						
MDJ				LR	LR		
	comp=N,270nm,21.9s						
MDJ				LR	LR		
	comp=E,270nm,19.9s						
MDJ				LR	LR		
	comp=Z,770nm,22.8s						
MDJ	**Mudanjiang**	**53.73**	**342**	P	**P**	**02 13 22.7**	**+1.4**
HNS	**HongShan**	**54.31**	**326**	⇑P	**P**	**02 13 26.3**	**+0.7**
HNS				pP	**pP**	**02 13 44.3**	**+4.2**
HNS				S	**S**	**02 20 56.8**	**-2.9**
HNS				sS	**pS**	**02 21 20.5**	**+5.1**
HNS				pmax	pmax		
	comp=Z,32nm,0.6s						
HNS				LR	LR		
	comp=N,700nm,19.6s						
HNS				LR	LR		
	comp=E,630nm,20.0s						
HNS				LR	LR		
	comp=Z,1μm,20.4s						
BNX	**BinXian**	**55.43**	**341**	⇑P	**P**	**02 13 34.9**	**+1.4**
BNX				pmax	pmax		
	comp=Z,14nm,0.9s						
XAN	**Xi'an**	**55.60**	**319**	P	**P**	**02 13 35.3**	**+0.2**
XAN				sP	pP	02 13 55.0	+5.4
XAN				S	**S**	**02 21 20.3**	**+3.0**
XAN				sS	pS	02 21 37.1	+3.7
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
XAN				pmax	pmax		
	comp=Z,110nm,3.6s						
XAN				LR	LR		
	comp=N,500nm,22.7s						
XAN				LR	LR		
	comp=E,340nm,23.4s						
XAN				LR	LR		
	comp=Z,1μm,19.2s						
CMAR	**Chiang Mai Arr**	**55.77**	**297**	P	**P**	**02 13 34.3**	**-2.1**
CMAR	**Chiang Mai Arr**	**55.77**	**297**	P	**P**	**02 13 36.2**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=121,slow=5.8,SNR=5.6						
CMAR				LR	LR	02 38 22.7	
	comp=Z,85nm,19.6s,baz=105,slow=37						
CMAR				PKP2bc		02 43 52.8	
	comp=Z,0.9nm,0.3s,baz=303,slow=4.4,SNR=4.4						
	comp=Z,0.8nm,0.3s						
PZH	**PanZhiHua**	**56.74**	**307**	P	**P**	**02 13 44.6**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,4.5s						
KLR	**Kul'dur**	**57.39**	**346**	LR	LR	02 36 49.6	
	comp=Z,281nm,19.2s,baz=167,slow=34						
HHC	**Hu-ho-hao-te**	**58.47**	**327**	*e*P	**P**	**02 13 59.0**	**+3.7**
HHC				S	S	02 22 07.3	+12
PEA0B	**Petropavlovsk-**	**59.46**	**6**	P	**P**	**02 14 01.5**	**-0.3**
PETK	**Petropavlovsk-**	**59.46**	**6**	P	**P**	**02 14 01.2**	**-0.5**
PETK	**Petropavlovsk-**	**59.46**	**6**	P	**P**	**02 14 00.9**	**-0.9**
	comp=Z,25nm,0.8s,baz=168,slow=7.0,SNR=51						
PETK				LR	LR	02 36 48.1	
	comp=Z,328nm,20.5s,baz=199,slow=33						
	comp=Z,25nm,0.8s						
HEH	**HeiHe**	**59.46**	**344**	*e*P	**P**	**02 14 03.0**	**+1.2**
HEH				sP	**sP**	**02 14 26.3**	**+3.6**
HEH				S	**S**	**02 22 06.3**	**-0.9**
HEH				sS	**pS**	**02 22 27.6**	**+3.5**
HEH				pmax	pmax		
	comp=Z,13nm,0.8s						
HEH				pmax	pmax		
	comp=Z,160nm,4.9s						
HEH				LR	LR		
	comp=N,350nm,17.5s						
HEH				LR	LR		
	comp=E,270nm,17.4s						
HEH				LR	LR		
	comp=Z,400nm,24.2s						
PET	**Petropavlovsk**	**59.47**	**6**	P	**P**	**02 14 01.1**	**-0.7**
PET	**Petropavlovsk**	**59.47**	**6**	P	**P**	**02 14 02.1**	**+0.3**
LZH	**Lanzhou**	**60.17**	**318**	*e*P	P	02

SONM Songino Array 65.93 330 P P 02 14 45.3 +0.1
SONM IAmb IAmb 02 15 06.7
comp=Z,16nm,1.3s
SONM Songino Array 65.93 330 P P 02 14 45.5 +0.3
comp=Z,3.5nm,0.5s,baz=148,slow=5.3,SNR=17
SONM LR LR 02 41 01.8
comp=Z,412nm,21.7s,baz=90,slow=34
SONM PKP2bc 02 43 25.4
comp=Z,1.1nm,0.9s,baz=7.4,slow=4.6,SNR=3.7
comp=Z,3.5nm,0.5s
TAOE Nuku Hiva Isla 69.46 97 *e*P **P 02 15 07.6 -0.4**
comp=Z,96nm,26.9s
TAOE *e*S **S 02 24 05.1 -7.0**
comp=Z,55nm,24.1s
TAOE *e*SS **SS 02 28 42.8 +2.3**
comp=Z,48nm,25.5s
TAOE *e*LR LR 02 36 14.9
comp=Z,236nm,23.1s
CCD Concordia, Ant 70.50 187 P P 02 15 14.9 +1.2
CCD pP **pP 02 15 26.6 -1.6**
CCD PcP **PcP 02 15 34.3 -0.4**
VNDA Vanda 71.57 177 P P 02 15 20.9 +1.2
VNDA IAmb IAmb 02 15 36.6
comp=Z,46nm,2.0s
VNDA Vanda 71.57 177 P P 02 15 20.6 +1.0
comp=Z,4.1nm,0.6s,baz=328,slow=6.7,SNR=26
VNDA LR LR 02 43 20.4
comp=Z,311nm,19.4s,baz=12,slow=33
comp=Z,4.1nm,0.6s
VNDA Vanda 71.57 177 P P 02 15 21.2 +1.6
VNDA pP **pP 02 15 32.8 -1.3**
VNDA PcP **PcP 02 15 40.5 +1.8**
RKT Rikitea 74.06 112 *e*P **P 02 15 35.5 +0.1**
comp=Z,449nm,28.2s
RKT *e*S **S 02 25 02.3 -2.4**
comp=Z,655nm,32.2s
RKT Rikitea 74.06 112 *e*LR LR 02 38 26.2
comp=Z,3μm,32.8s
WMQ Urumqi 74.74 318 *e*P **P 02 15 40.3 +1.3**
WMQ LR LR
comp=Z,170nm,19.1s
BILL Bilibino 74.97 6 P P 02 15 40.2 +0.5
M14K Bethel 76.61 22 P P 02 15 49.8 +0.6
M14K IAmb IAmb 02 16 04.4
comp=Z,15nm,1.1s
L14K Kuka Creek 76.73 21 IAmb IAmb 02 16 31.6
comp=Z,29nm,1.5s
O16K Kokwok River B 77.41 24 P P 02 15 52.8 -0.9
O16K IAmb IAmb 02 17 26.2
comp=Z,24nm,1.6s
M16K Timber Creek 77.92 23 P P 02 15 56.1 -0.5
M16K IAmb IAmb 02 17 36.0
comp=Z,42nm,1.7s
KDAK Kodiak Island 78.79 27 LR LR 02 47 33.0
comp=Z,289nm,19.8s,baz=97,slow=33
TIXI Tiksi 78.90 353 LR LR 02 47 50.8
comp=Z,119nm,21.6s,baz=185,slow=33
Q19K Cape Douglas, 78.92 26 P P 02 16 00.7 -1.4
J17K VABM Dome 79.34 21 P P 02 16 04.1 -0.2
J17K IAmb IAmb 02 16 37.5
comp=Z,7.4nm,0.9s
MKAR Makanchi Array 79.40 320 P P 02 16 03.6 -1.4
MKAR Makanchi Array 79.40 320 P P 02 16 05.2 +0.2
comp=Z,0.9nm,0.4s,baz=100,slow=7.5,SNR=12
MKAR PKKPbc **PKKPbc 02 34 54.4 -2.1**
comp=Z,0.5nm,0.7s,baz=299,slow=1.2,SNR=4.6
MKAR LR LR 02 51 36.5
comp=Z,324nm,19.1s,baz=81,slow=36
comp=Z,0.9nm,0.4s
MAKZ Makanchi 79.61 320 P P 02 16 05.1 -1.1
CNPM China Poot 80.29 26 P P 02 16 08.7 -0.8
ZALV Zalesovo Beam 80.65 327 P P 02 16 10.3 -1.3
ZALV Zalesovo Beam 80.65 327 P P 02 16 10.9 -0.6
comp=Z,3.3nm,0.5s,baz=118,slow=5.4,SNR=16
ZALV LR LR 02 52 09.7
comp=Z,361nm,19.4s,baz=123,slow=36
comp=Z,3.3nm,0.5s
G18K Tagagawik 81.03 19 IAmb IAmb 02 17 13.3
comp=Z,17nm,1.9s
KSH Kashi 81.55 311 P P 02 16 18.4 +1.5
KSH pmax pmax
comp=Z,5.0nm,0.9s
KSH LR LR
comp=N,330nm,15.3s
KSH LR LR
comp=E,290nm,20.0s
KSH LR LR
comp=Z,260nm,20.6s
NIL Nilore 82.27 305 P P 02 16 19.1 -1.7
NIL IAmb IAmb 02 16 58.6
comp=Z,13nm,0.9s
KURK Kurchatov 83.01 323 P P 02 16 23.1 -0.9
KURK IAmb IAmb 02 16 50.5
comp=Z,11nm,1.2s
KURBB Kurchatov Arra 83.04 323 P P 02 16 23.8 -0.4
comp=Z,0.5nm,0.3s,baz=110,slow=4.1,SNR=9.2
KURBB PKKP **PKKPdf 02 34 39.2 -0.1**
comp=Z,0.3nm,0.2s,baz=81,slow=13,SNR=4.6
KURBB PKPPKP **P'P'df 02 42 51.6 +0.9**
comp=Z,0.2nm,0.5s,baz=276,slow=2.6,SNR=5.0
KURBB LR LR 02 51 52.0
comp=Z,327nm,20.9s,baz=162,slow=35
comp=Z,0.5nm,0.3s
MAW Mawson 83.12 203 P P 02 16 24.9 +0.6
comp=Z,2.7nm,2.0s
MAW Mawson 83.12 203 P P 02 16 24.9 +0.6
comp=Z,3.8nm,0.6s,baz=113,slow=5.4,SNR=3.6
MAW LR LR 02 51 24.0
comp=Z,526nm,20.8s,baz=79,slow=34
comp=Z,3.8nm,0.6s
RND Reindeer 83.19 23 IAmb IAmb 02 16 36.7
comp=Z,6.7nm,0.7s
MCK McKinley 83.32 23 IAmb IAmb 02 16 36.9
comp=Z,8.2nm,0.8s
AAK Ala-Archa 83.44 314 P P 02 16 24.5 -2.2
AAK Ala-Archa 83.44 314 LR LR 02 53 20.2
comp=Z,393nm,20.9s,baz=92,slow=36
QSPA South Pole Qui 83.78 180 P P 02 16 28.0 +0.1
QSPA IAmb IAmb 02 16 53.6
comp=Z,28nm,1.4s
QSPA South Pole Qui 83.78 180 P P 02 16 27.7 -0.2
comp=Z,7.5nm,0.7s,baz=290,slow=0.6,SNR=42
QSPA LR LR 02 51 47.3
comp=Z,346nm,21.0s,baz=15,slow=34
comp=Z,7.5nm,0.7s
HDA Harding Lake 84.41 23 IAmb IAmb 02 17 35.7
comp=Z,9.4nm,1.3s
ILAR Eielson Array 84.59 23 P P 02 16 29.1 -2.8
ILAR Eielson Array 84.59 23 P P 02 16 29.4 -2.4
comp=Z,2.9nm,0.7s,baz=257,slow=3.6,SNR=38
ILAR LR LR 02 54 19.1
comp=Z,194nm,18.8s,baz=248,slow=36
comp=Z,2.9nm,0.7s
J25K Salcha River, 85.11 23 IAmb IAmb 02 16 35.5
comp=Z,5.4nm,0.7s
DOT Dot Lake 85.22 24 IAmb IAmb 02 18 44.1
comp=Z,26nm,2.0s
D23K Nanushuk River 85.30 18 IAmb IAmb 02 16 48.1
comp=Z,7.3nm,1.0s
F24K Squaw Lake 85.50 20 IAmb IAmb 02 16 40.1
comp=Z,4.5nm,0.8s
M27K Edge Creek, AK 85.63 26 IAmb IAmb 02 16 40.9
comp=Z,6.8nm,0.8s
D24K Happy Valley 85.98 18 IAmb IAmb 02 19 01.4
comp=Z,5.3nm,0.6s
I26K Coal Creek Min 86.25 23 IAmb IAmb 02 17 30.0
comp=Z,15nm,1.7s
NRIK Noril'sk 86.31 342 IAmb IAmb 02 17 07.5
comp=Z,13nm,1.4s
NRIK Noril'sk 86.31 342 P P 02 16 39.9 -0.5
comp=Z,3.0nm,0.5s,baz=96,slow=4.1,SNR=5.7
NRIK LR LR 02 54 37.8
comp=Z,169nm,21.4s,baz=120,slow=35
comp=Z,3.0nm,0.5s
KK31 Karatay Array 86.39 314 IAmb IAmb 02 17 10.1
comp=Z,9.5nm,1.2s
KKAR Karatay Array 86.39 314 P P 02 16 39.9 -1.5
KKAR IAmb IAmb 02 17 10.1
comp=Z,10.0nm,1.2s
G26K Porcupine Rive 86.68 21 IAmb IAmb 02 16 46.0
comp=Z,6.0nm,0.7s
D25K Kavik River 86.83 19 IAmb IAmb 02 17 27.2
comp=Z,12nm,1.6s
M29M Somme Creek 87.15 26 IAmb IAmb 02 17 18.9
comp=Z,5.0nm,0.9s
H27K Steamboat Moun 87.23 22 IAmb IAmb 02 16 48.6
comp=Z,5.3nm,0.8s

DAWY Dawson 87.30 25 P P 02 16 46.5 +1.2
DAWY IAmb IAmb 02 17 31.1
comp=Z,11nm,1.2s
L29M L29M 87.51 26 IAmb IAmb 02 17 31.8
comp=Z,13nm,1.3s
I28M Miner Creek 87.56 23 IAmb IAmb 02 19 36.2
comp=Z,22nm,1.9s
C27K Jago River 87.81 19 IAmb IAmb 02 17 32.5
comp=Z,20nm,1.6s
E27K Coleen River 87.94 20 IAmb IAmb 02 17 33.2
comp=Z,11nm,1.4s
I29M Ogilvie Camp, 88.17 24 P P 02 16 49.2 -0.2
I29M IAmb IAmb 02 17 28.1
comp=Z,4.9nm,0.6s
BVAR Borovoye Array 88.54 324 P P 02 16 50.6 -0.8
comp=Z,2.5nm,0.6s,baz=80,slow=9.8,SNR=14
BVAR LR LR 02 58 19.9
comp=Z,157nm,18.7s,baz=90,slow=37
comp=Z,2.5nm,0.6s
BBB Bella Bella 90.04 38 LR LR 02 51 29.5
comp=Z,425nm,19.8s,baz=249,slow=32
DLBC Dease Lake 90.13 31 LR LR 02 51 36.9
comp=Z,420nm,20.1s,baz=268,slow=32
INK Inuvik 90.83 21 LR LR 02 55 02.9
comp=Z,379nm,20.6s,baz=244,slow=34
SYO Syowa Base 91.35 200[] *e*PcP **PcP 02 17 07.3 +2.2**
YBH Yreka Blue Hor 92.24 48 LR LR 02 51 37.2
comp=Z,512nm,21.1s,baz=262,slow=31
AB31 Akbulak array 94.52 319 P P 02 17 18.8 -0.5
ABKAR Akbulak array 94.52 319 P P 02 17 18.1 -1.2
ELIB Princess Elisa 94.71 195 *d*P **P 02 17 20.5 +0.6**
NVAR Mina Array Bea 95.32 52 P P 02 17 23.4 -0.1
comp=Z,0.4nm,0.6s,baz=240,slow=7.6,SNR=4.7
comp=Z,0.4nm,0.6s
AKTO Aktyubinsk 95.84 320 LR LR 02 59 56.0
comp=Z,408nm,21.4s,baz=45,slow=35
ARTI Arti 95.87 326 LR LR 03 00 13.2
comp=Z,650nm,21.9s,baz=90,slow=35
BELA Belgrano 2 96.02 179 P P 02 17 25.1 -0.5
BELA IAmb IAmb 02 17 27.4
comp=Z,4.5nm,0.7s
NEW Newport 96.66 42 LR LR 02 54 12.5
comp=Z,235nm,22.0s,baz=274,slow=31
YKA Yellowknife Ar 98.06 28 P P 02 17 32.6 -2.4
comp=Z,0.1nm,0.5s,baz=282,slow=5.1,SNR=4.7
YKA PKKPbc **PKKPbc 02 34 08.5 -2.1**
comp=Z,0.1nm,0.6s,baz=92,slow=2.7,SNR=4.4
YKA LR LR 02 58 02.5
comp=Z,388nm,21.1s,baz=293,slow=33
comp=Z,0.1nm,0.5s
PDAR Pinedale Array 102.02 48 P Pdif 02 17 52.3 -1.2
comp=Z,0.1nm,0.4s,baz=150,slow=14,SNR=2.1
ARCES ARCESS Array B 107.28 342 PKKPbc PKKPbc 02 33 40.7 -2.8
comp=Z,1.3nm,0.8s,baz=250,slow=2.9,SNR=6.1
PLCA Paso Flores 120.43 145 PKP **PKPdf 02 22 50.6 +0.1**
comp=Z,2.6nm,0.6s,baz=274,slow=1.7,SNR=11
GERES GERESS Array B 123.60 327 PKP **PKPdf 02 22 54.7 -1.7**
comp=Z,0.9nm,0.6s,baz=48,slow=2.0,SNR=10
ROSC El Rosal 136.12 89 PKP **PKPdf 02 23 22.4 +0.9**
comp=Z,6.9nm,0.5s,baz=70,slow=6.5,SNR=4.7
LPAZ La Paz 136.36 121 PKP **PKPdf 02 23 22.9 +0.7**
comp=Z,7.7nm,0.8s,baz=5.8,slow=0.6,SNR=14
CPUP Villa Florida 138.34 142 PKP **PKPdf 02 23 23.6 -1.2**
comp=Z,2.7nm,0.7s,baz=0.6,slow=2.9,SNR=7.9
TORD Torodi Ar. Bea 147.79 285 PKPbc **PKPbc 02 23 44.3 -0.3**
comp=Z,8.0nm,0.6s,baz=59,slow=4.7,SNR=9.4
BDFB Brasilia 152.06 141 PKP **PKPdf 02 23 48.6 +0.1**
comp=Z,8.8nm,0.8s,baz=188,slow=2.7,SNR=18
BDFB PKPbc **PKiKP 02 23 55.9 +0.5**
comp=Z,18nm,0.7s,baz=162,slow=1.4,SNR=21
DBIC Dimbokro 154.77 272 PKPbc **PKiKP 02 24 01.5 +0.5**
comp=Z,2.1nm,0.6s,baz=96,slow=2.7,SNR=4.4
DBIC PKPab **PKPab 02 24 15.6 -0.6**
comp=Z,4.1nm,0.7s,baz=77,slow=6.2,SNR=5.7

---

*IDC **24** 02:09:14.2±6.2, 28°.88N×140°.07E, h0km, mb4.0/9, mbtmp4.0/9, Error ellipse: s-maj=164.7km s-min=49.7km az=170.0*
*JMA **24** 02:09:38.0±0.1, 29°.7N±0°.9×14°.1E±°, h196km, MV4.0/31, NEAR TORISHIMA IS*
ISC 24 02:09:40.1±0.8, 29°.73N±0°.06×140°.6E±0°.1, h200km, n24, σ3$15/31, mb3.8/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.99**	**151**	*e*P	**Pn**	**02 10 27.5**	**-2.2**
CBIJ				*e*S	**Sn**	**02 11 04.9**	**-3.5**
JHH2	**Haha-jima-NKT2**	**3.40**	**155**	*e*S	**Sn**	**02 11 14.2**	**-3.1**
JHJ2	**Mitsune**	**3.43**	**350**	*e*P	**Pn**	**02 10 33.9**	**-0.9**
JMKN	**Mikurajimanish**	**4.23**	**349**	*e*P	**Pn**	**02 10 43.7**	**-1.0**
BSO1	**Boso 1**	**4.92**	**4**	*e*P	**Pn**	**02 10 51.9**	**-1.0**
BSO1				*e*S	**Sn**	**02 11 48.4**	**-2.1**
TTO1	**TONANKAI O.B.S**	**5.04**	**321**	*e*P	**Pn**	**02 10 53.0**	**-1.6**
BSO3	**Boso 3**	**5.05**	**360**	*e*P	**Pn**	**02 10 53.9**	**-0.9**
BSO3				*e*S	**Sn**	**02 11 50.9**	**-3.1**
BSO4	**Boso 4**	**5.25**	**358**	*e*P	**Pn**	**02 10 56.5**	**-1.0**
BSO4				*e*S	**Sn**	**02 11 55.8**	**-2.8**
JOD2	**Odawara 2**	**5.65**	**348**	*e*P	**Pn**	**02 11 02.4**	**-0.5**
JTNC	**Tanabenakahech**	**5.86**	**315**	*e*P	**Pn**	**02 11 03.6**	**-1.9**
JNY	**Yasuok**	**6.05**	**339**	*e*P	**Pn**	**02 11 06.4**	**-1.6**
JRY	**Ryogami san**	**6.42**	**348**	*e*P	**Pn**	**02 11 11.6**	**-1.2**
JAG	**Ashikaga**	**6.74**	**352**	*e*P	**Pn**	**02 11 14.0**	**-2.8**
JAG				*e*S	**Sn**	**02 12 25.9**	**-7.8**
JHO	**Hitachi**	**6.86**	**0**	*e*P	**Pn**	**02 11 16.5**	**-1.9**
JHO				*e*S	**Sn**	**02 12 28.0**	**-8.6**
JMK	**Ichinoseki**	**9.21**	**3**	*e*P	**Pn**	**02 11 47.7**	**-1.3**
JMK				*e*S	**Sn**	**02 13 27.4**	**-4.8**
BVAR	**Borovoye Array**	**55.15**	**316**	P	**P**	**02 18 50.7**	**-1.0**
	1.1nm,0.5s,baz=88,slow=8.3,SNR=2.8						
	1.1nm,0.5s						
SPITS	**Spitsbergen Ar**	**67.54**	**349**	P	**P**	**02 20 16.9**	**+2.7**
	3.0nm,0.8s,baz=91,slow=6.7,SNR=7.5						
	3.0nm,0.8s						
RES	**Resolute Bay**	**69.84**	**13**	P	**P**	**02 20 32.2**	**+3.7**
	0.9nm,0.9s,baz=305,slow=5.8,SNR=3.7						
	0.9nm,0.9s						
YKA	**Yellowknife Ar**	**70.51**	**28**	P	**P**	**02 20 36.2**	**+3.5**
	0.4nm,0.8s,baz=297,slow=6.4,SNR=4.4						
	0.4nm,0.8s						
ARCES	**ARCESS Array B**	**70.59**	**340**	P	**P**	**02 20 34.9**	**+1.8**
	1.4nm,0.7s,baz=69,slow=6.9,SNR=7.8						
	1.4nm,0.7s						
FINES	**FINESS Array B**	**74.96**	**333**	P	**P**	**02 20 60.0**	**+1.1**
	2.4nm,1.1s,baz=72,slow=4.2,SNR=8.1						
	2.4nm,1.1s						
HFS	**Hagfors**	**80.44**	**336**	P	**P**	**02 21 30.5**	**+1.3**
	2.2nm,0.8s,baz=90,slow=4.3,SNR=11						
	2.2nm,0.8s						
NOA	**NORSAR Array B**	**80.64**	**338**	P	**P**	**02 21 32.0**	**+1.7**
	0.4nm,0.6s,baz=45,slow=5.0,SNR=3.4						
	0.4nm,0.6s						
BRTR	**Keskin Array B**	**83.17**	**312**	P	**P**	**02 21 44.5**	**+0.4**
	0.6nm,0.7s,baz=124,slow=3.8,SNR=5.3						
	0.6nm,0.7s						

---

*BJI **24** 02:17:11.6, 1°.75N×128°.80E, h107km, mB4.9/20, mb5.1/69*
*NEIC **24** 02:17:18.3±1.7, 2°.35N±0°.07×128°.29E±0°.09, h100km±5km, mb4.9/11, Error ellipse: s-maj=12.8km s-min=10.6km az=78.0*
*IDC **24** 02:17:18.4±1.5, 2°.31N×128°.30E, h111km±13km, mb4.4/26, mbtmp4.8/28, MS4.0/9, Error ellipse: s-maj=18.0km s-min=8.3km az=78.0*
*DJA **24** 02:17:19.7±0.2, 2°.7N±2°.×12°.8E±°, h107km±2km, M5.0/62, mb5.0/62, mB5.5/25, MLv5.3/18, Mw(mB)5.0/25, MwMwp5.2/3, Mwp5.4/3*
ISC 24 02:17:18.1±0.4, 2°.34N±0°.04×128°.36E±0°.05, h103km±3km, h103km:pP-P, n496, σ1$19/489, mb4.9/118, 3C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.84**	**213**		**Pn**	**02 17 49.0**	**+0.1**
TNTI				Sn	**Sn**	**02 18 11.4**	**-0.9**
TNTI	**Ternate**	**1.84**	**213**	P	**Pn**	**02 17 49.6**	**+0.7**
TNTI	**Ternate**	**1.84**	**213**	P	**Pn**	**02 17 49.4**	**+0.5**
SGSI	**Sangihe**	**3.13**	**295**	P	**Pn**	**02 18 05.4**	**-0.3**
SWI	**Sorong**	**4.30**	**138**	P	**Pn**	**02 18 24.1**	**+2.6**
KMSI	**Cibinong**	**4.71**	**248**	P	**Pn**	**02 18 26.4**	**-0.6**
SANI	**Sanana**	**4.96**	**209**	P	**Pn**	**02 18 29.6**	**-0.8**
SANI	**Sanana**	**4.96**	**209**	P	**Pn**	**02 18 29.3**	**-1.1**
DAV	**Davao City (W)**	**5.46**	**330**	P	**Pn**	**02 18 36.8**	**-0.3**
	424nm,0.4s,baz=246,slow=22,SNR=2.2						
DAV				S	**Sn**	**02 19 38.5**	**-0.2**
	252nm,0.3s,baz=326,slow=14,SNR=1.6						

MSAI Masohi 5.67 174 P Pn 02 18 43.1 +3.0
1.3nm6μm268nm,0.5s
NLAI Namlea 5.68 193 P Pn 02 18 41.5 +1.4
1.1nm3μm290nm,0.8s
AAI Ambon 5.99 182 P Pn 02 18 45.4 +1.1
68nm,0.7s
FAKI Fak Fak 6.51 143 Pn **Pn 02 18 53.7 +2.3**
FAKI Fak Fak 6.51 143 P Pn 02 18 53.9 +2.5
FAKI Fak Fak 6.51 143 S **Sn 02 20 06.4 +2.1**
FAKI Fak Fak 6.51 143 P Pn 02 18 54.1 +2.7
0.8nm179nm,0.7s
LUWI Luwuk 6.52 239 Pn **Pn 02 18 49.6 -1.9**
LUWI Luwuk 6.52 239 P Pn 02 18 52.2 +0.7
LUWI Luwuk 6.52 239 P Pn 02 18 49.6 -1.9
MRSI Marisa 6.68 254 P Pn 02 18 53.2 -0.5
APSI Ampana 7.45 244 P Pn 02 19 02.4 -1.7
1.5nm4μm355nm,0.7s
TOLI2 Tolitoli 7.67 261 Pn **Pn 02 19 04.8 -2.4**
TOLI2 Tolitoli 7.67 261 P Pn 02 19 06.0 -1.2
KDI Kendari 8.49 223 P Pn 02 19 17.3 -1.0
BAKI Biak 8.50 114 P Pn 02 19 24.8 +6.3
4μm389nm,1.1s
MPSI Mapaga 8.69 257 P Pn 02 19 20.3 -0.7
6μm2μm163nm,0.8s
PCI Palu 9.11 249 P Pn 02 19 25.2 -1.6
211nm,0.7s
BBSI Bau Bau 9.69 217 P Pn 02 19 34.5 -0.1
MYLDM Lahad Datu 10.23 286 Pn **Pn 02 19 42.6 +0.6**
MYLDM Lahad Datu 10.23 286 P Pn 02 19 43.3 +1.3
MYLDM Lahad Datu 10.23 286 S **Sn 02 21 37.4 +2.5**
BNSI Bone 10.62 231 P Pn 02 19 45.5 -1.8
SPSI Sidrap Palu 10.62 234 P Pn 02 19 46.1 -1.3
SMPI Sarmi 11.21 112 P P 02 20 02.2 -3.1
4μm45nm,0.7s
BKSI Bulukumba 11.21 227 P Pn 02 19 54.1 -1.1
2μm131nm,0.8s
KAPI Kappang 11.28 230 Pn **Pn 02 19 53.9 -2.4**
KAPI Kappang 11.28 230 P Pn 02 19 55.0 -1.2
166nm,0.4s,baz=43,slow=4.9,SNR=40
KAPI S **Sn 02 21 59.1 -1.3**
11nm,0.3s,baz=37,slow=20,SNR=1.5
KAPI Kappang 11.28 230 P Pn 02 19 57.8 +1.6
SMKI Samarinda 11.49 256 P Pn 02 19 58.4 -0.6
BSSI Bau Bau, Buton 11.52 223 P Pn 02 20 00.7 +1.3
89nm,0.6s
BKB Balikpapan 12.01 253 P Pn 02 20 04.9 -1.0
165nm,0.7s
SOEI Soe 12.69 199 P Pn 02 20 17.4 +2.4
EDFI Ende, Flores 12.87 211 P Pn 02 20 16.3 -1.0
58nm,0.6s
TGY Tagaytay City 13.80 328 P Pn 02 20 29.3 -0.1
140nm,0.3s,baz=160,slow=18,SNR=3.3
WSI Waingapu 14.38 214 P Pn 02 20 37.2 +0.3
243nm,1.2s
WBSI Waikabubak, Su 14.88 217 P Pn 02 20 42.9 -0.4
99nm,0.8s
PLAI Plampang 15.31 223 P P 02 20 50.5 -0.6
PLAI Plampang 15.31 223 P Pn 02 20 48.6 -0.1
1μm138nm,1.1s
MTN Manton Dam 15.33 170 Pn **Pn 02 20 48.9 -0.1**
MTN Manton Dam 15.33 170 P P 02 20 50.9 -0.5
comp=Z,42nm,0.7s
MTN Manton Dam 15.33 170 P P 02 20 51.0 -0.4
KDU Kakadu 15.48 165 P P 02 20 52.2 -0.8
comp=Z,22nm,0.5s
KDU Kakadu 15.48 165 P P 02 20 53.7 +0.7
TWSI Taliwang, Sumb 15.87 226 P P 02 20 56.2 -1.2
comp=Z,78nm,1.0s
SBUM Sibu 16.13 271 P P 02 20 59.1 -1.1
SBUM Sibu 16.13 271 P P 02 21 01.7 +1.5
SRBI Singaraja 16.71 232 P P 02 21 07.2 +0.6
comp=Z,91nm,0.8s
KMMI Kalianget 17.13 237 P P 02 21 13.0 +1.7
comp=Z,172nm,0.8s
JAGI Jajag, Banyuwa 17.77 233 P Pn 02 21 18.3 -0.8
JAGI Jajag, Banyuwa 17.77 233 P Pn 02 21 21.4 +2.3
JAGI Jajag, Banyuwa 17.77 233 P Pn 02 21 19.8 +0.7
comp=Z,114nm,0.9s
KNRA Kununurra 17.90 179 P P 02 21 19.8 0.0
KNRA Kununurra 17.90 179 P Pn 02 21 20.3 -0.2
comp=Z,30nm,0.8s
KSM Kuching 18.06 268 P P 02 21 20.9 -0.7
GMJI Gumukmas 18.23 235 P Pn 02 21 25.9 +1.4
comp=Z,64nm,1.3s
NGJI Ngawi 19.42 240 P Pn 02 21 38.3 -0.3
comp=Z,160nm,1.3s
GUMO Guam 19.79 55 LR LR 02 28 05.7
comp=Z,66nm,18.6s,baz=81,slow=33
PCJI Pacitan 20.08 238 P P 02 21 43.8 +0.3
comp=Z,199nm,0.8s
SMRI Semarang 20.17 242 P P 02 21 44.9 +0.3
FITZ Fitzroy Crossi 20.48 187 P P 02 21 46.3 -1.5
FITZ Fitzroy Crossi 20.48 187 P Pn 02 21 49.2 -1.8
FITZ Fitzroy Crossi 20.48 187 P P 02 21 46.8 -1.1
comp=Z,2.0nm,0.4s,baz=9.3,slow=9.3,SNR=14
FITZ PcP **PcP 02 25 55.2 -0.6**
comp=Z,2.6nm,0.6s,baz=236,slow=3.6,SNR=2.1
comp=Z,2.0nm,0.4s
UGM Wanagama 20.50 240 P P 02 21 46.8 -1.3
UGM Wanagama 20.50 240 P Pn 02 21 51.2 0.0
UGM Wanagama 20.50 240 P P 02 21 48.2 +0.1
comp=Z,71nm,1.7s
TPI Tanjungpandan 21.31 256 P P 02 21 55.7 -1.1
TWGBT Beinan 21.55 341 P P 02 21 59.1 -0.2
TWG Pinlang 21.55 341 P P 02 21 57.6 -1.7
COEN Coen 21.86 138 P P 02 22 03.9 +1.3
COEN Coen 21.86 138 P P 02 22 04.5 +1.8
comp=Z,15nm,1.5s
COEN Coen 21.86 138 P P 02 22 05.5 +2.8
YULB Yu-li 22.02 342 P P 02 22 02.2 -2.1
YULB Yu-li 22.02 342 P P 02 22 04.1 -0.2
TPUB Ta-pu 22.14 341 P P 02 22 04.0 -1.6
TPUB Ta-pu 22.14 341 P P 02 22 06.7 +1.1
SSLB Suanglung 22.50 342 P P 02 22 08.0 -1.3
SSLB Suanglung 22.50 342 P P 02 22 11.8 +2.6
YOJ Yonaguni jima 22.59 347 P P 02 22 10.5 +0.3
YOJ Yonaguni jima 22.59 347 P P 02 22 11.3 +1.1
NACB Ninganchiao 22.67 344 P P 02 22 10.3 -0.6
WB0 Warramunga Arr 22.75 165 P P 02 22 11.4 -0.4
WRA Warramunga Arr 22.91 165 P P 02 22 12.1 -1.3
WRA Warramunga Arr 22.91 165 P P 02 22 13.1 -0.3
comp=Z,13nm,0.6s,baz=345,slow=10,SNR=90
WRA ScP **ScP 02 29 26.2 -3.0**
comp=Z,2.0nm,0.8s,baz=340,slow=3.0,SNR=7.1
comp=Z,13nm,0.6s
WR8 Warramunga Arr 22.96 165 P P 02 22 13.6 -0.3
YHNB Yeheng 23.20 344 P P 02 22 15.6 -0.6
YHNB Yeheng 23.20 344 P P 02 22 17.4 +1.2
CNJI Cibinong 23.25 245 P P 02 22 15.2 -1.5
comp=Z,32nm,1.3s
HKPS Hong Kong Po S 24.16 326 P P 02 22 25.5 +0.6
CGJI Cibinong 24.31 248 P P 02 22 24.9 -1.4
comp=Z,40nm,0.8s
QZH Quanzhou 24.37 338 P P 02 22 28.3 +1.6
QZH pmax pmax
comp=Z,64nm,0.8s
QIZ Qiongzhong 24.57 314 P P 02 22 28.6 0.0
QIZ sP **sP 02 23 01.4 -0.5**
QIZ S **S 02 26 42.6 +0.3**
QIZ pmax pmax
comp=Z,22nm,1.0s
QIZ LR LR
comp=Z,250nm,11.1s
QIZ LR LR
comp=Z,240nm,13.7s
QIZ LR LR
comp=Z,310nm,17.0s
MBWA Marble Bar 24.83 199 P P 02 22 29.8 -1.1
KASI Kota Agung 25.08 252 P P 02 22 32.0 -1.3
MDSI Maura Dua 25.09 254 P P 02 22 34.6 +1.2
comp=Z,17nm,1.1s
PSAA1 Pilbara Seismi 25.19 199 P P 02 22 33.6 -0.6
comp=Z,18nm,1.5s
QIS Mount Isa 25.28 155 P P 02 22 35.4 +0.4
comp=Z,26nm,0.7s
QIS Mount Isa 25.28 155 P P 02 22 36.1 +1.0
UBPT Khong Chiam 25.98 301 P P 02 22 41.9 +0.5
UBPT IAmb IAmb 02 22 43.8
comp=Z,16nm,0.8s
UBPT Khong Chiam 25.98 301 P P 02 22 41.8 +0.4
AS15 Alice Springs 26.38 168 P P 02 22 44.5 -0.5
comp=Z,26nm,0.8s
AS31 Alice Springs 26.40 169 P P 02 22 44.9 -0.3
ASAR Alice Springs 26.41 169 P P 02 22 44.2 -1.0
ASAR Alice Springs 26.41 169 P P 02 22 44.8 -0.4

comp=Z,2.5nm,0.6s,baz=354,slow=8.2,SNR=30
ASAR PcP **PcP** **02 26 07.8 -0.6**
comp=Z,3.2nm,0.5s,baz=348,slow=2.1,SNR=13
ASAR ScP **ScP** **02 29 36.0 -3.0**
comp=Z,3.0nm,0.9s,baz=356,slow=2.4,SNR=15
comp=Z,2.5nm,0.6s
AS01 Alice Springs 26.41 168 P **P** **02 22 45.1 -0.2**
WRKA Warakurna 27.21 180 P **P** **02 22 51.5 -0.9**
comp=Z,11nm,0.7s
GULI GuiLin 28.66 324 P **P** **02 23 07.1 +1.8**
NONG Nongkai 29.25 304 P **P** **02 23 11.6 +1.0**
JNU Nakatsue 30.71 4 P **P** **02 23 22.5 -0.9**
JNU IAmb IAmb 02 23 25.3
comp=Z,26nm,0.9s
NJ2 Nanjing 30.88 344 *eP* **P** **02 23 27.3 +2.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
WHN Wuhan 31.03 336 P **P** **02 23 28.5 +2.3**
GYA Guiyang 31.77 321 P **P** **02 23 33.9 +1.1**
GYA pmax pmax
comp=Z,15nm,0.7s
FORT Forrest 32.93 180 P **P** **02 23 41.6 -1.2**
FORT IAmb IAmb 02 24 09.4
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 32.98 301 P **P** **02 23 42.9 -0.5**
comp=Z,1.6nm,0.4s,baz=116,slow=6.9,SNR=18
CMAR PcP **PcP** **02 26 24.4 -0.9**
comp=Z,0.8nm,0.3s,baz=174,slow=1.4,SNR=5.0
CMAR ScP **ScP** **02 29 59.0 -1.3**
comp=Z,0.8nm,0.3s,baz=174,slow=2.2,SNR=4.6
comp=Z,1.6nm,0.4s
CHTO Chiang Mai 33.13 302 P **P** **02 23 44.2 -0.6**
CHTO IAmb IAmb 02 23 47.3
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 33.13 302 P **P** **02 23 45.9 +1.1**
CHTO Chiang Mai 33.13 302 P **P** **02 23 44.7 -0.1**
MORW Morawa 33.39 200 P **P** **02 23 45.4 -1.5**
MORW IAmb IAmb 02 24 47.2
comp=Z,38nm,1.6s
KMI Kunming 33.51 315 P **P** **02 23 49.9 +1.7**
KMI pmax pmax
comp=Z,32nm,1.1s
INU Inuyama 33.82 13 P **P** **02 23 50.3 -0.1**
INU IAmb IAmb 02 23 51.5
comp=Z,18nm,0.6s
INU Inuyama 33.82 13 P **P** **02 23 50.5 +0.1**
LCRK Leigh Creek 33.93 165 P **P** **02 23 52.1 +0.6**
JGF Kuroka 34.13 13 P **P** **02 23 52.6 -0.6**
JGF IAmb IAmb 02 25 01.9
comp=Z,23nm,1.4s
KSAR Wonju Array Be 34.94 359 P **P** **02 23 59.4 -0.7**
KSRS Korea Array 34.95 359 P **P** **02 23 59.8 -0.4**
comp=Z,6.3nm,0.8s,baz=177,slow=10,SNR=23
KSRS PcP **PcP** **02 26 29.9 -0.7**
comp=Z,1.3nm,0.7s,baz=178,slow=2.4,SNR=4.7
comp=Z,6.3nm,0.8s
KS19 Wonju Array Si 35.00 359 P **P** **02 23 59.4 -1.2**
KS19 IAmb IAmb 02 24 46.5
comp=Z,45nm,1.7s
PZH PanZhiHua 35.07 316 P **P** **02 24 02.3 +0.7**
PZH S **S** **02 29 34.3 +7.6**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,110nm,5.4s
PZH LR LR
comp=Z,190nm,19.6s
PZH LR LR
comp=Z,210nm,20.6s
PZH LR LR
comp=Z,240nm,19.2s
KLBR Kellerberrin 35.22 196 P **P** **02 24 05.0 +2.4**
MAJO Matsushiro 35.23 14 P **P** **02 24 00.9 -1.7**
MAJO IAmb IAmb 02 24 03.2
comp=Z,14nm,0.7s
MAJO Matsushiro 35.23 14 P **P** **02 24 02.0 -0.7**
MAJO Matsushiro 35.23 14 P **P** **02 24 01.3 -1.4**
MJAR Matsushiro Arr 35.23 14 P **P** **02 24 01.8 -0.9**
comp=Z,11nm,0.7s,baz=182,slow=9.5,SNR=25
comp=Z,11nm,0.7s
MJB9 Matsu-Tunnel 35.23 14 P **P** **02 24 02.2 -0.5**
MJB9 IAmb IAmb 02 24 04.2
comp=Z,13nm,0.7s
LYN LuoYang 35.31 337 P **P** **02 24 04.6 +1.3**
LYN pmax pmax
comp=Z,34nm,0.6s
BBOO Buckleboo 35.71 169 P **P** **02 24 06.1 -0.7**
comp=Z,9.9nm,0.7s
STKA Stephens Creek 36.27 161 P **P** **02 24 11.4 -0.2**
STKA Stephens Creek 36.27 161 P **P** **02 24 11.3 -0.2**
comp=Z,8.8nm,0.6s,baz=340,slow=8.6,SNR=23
comp=Z,8.8nm,0.6s
STKA Stephens Creek 36.27 161 P **P** **02 24 11.7 +0.1**
XAN Xi'an 36.39 332 ⇑P **P** **02 24 12.9 +0.3**
XAN S **S** **02 29 49.5 +2.9**
XAN pmax pmax
comp=Z,44nm,0.8s
XAN pmax pmax
comp=Z,140nm,3.7s
XAN LR LR
comp=Z,410nm,16.5s
XAN LR LR
comp=Z,530nm,22.0s
XAN LR LR
comp=Z,960nm,24.5s
XAN Xi'an 36.39 332 P **P** **02 24 13.0 +0.4**
JSD Sado 36.67 13 P **P** **02 24 13.7 -1.2**
JSD IAmb IAmb 02 24 15.0
comp=Z,8.4nm,0.6s
JSD Sado 36.67 13 P **P** **02 24 14.4 -0.5**
CD2 Chengdu 36.72 323 P **P** **02 24 16.5 +1.0**
CD2 pmax pmax
comp=Z,80nm,0.7s
DL2 Dalian 36.91 351 P **P** **02 24 17.4 +0.5**
DL2 pmax pmax
comp=Z,23nm,0.9s
HTT Hallett 36.95 165 P **P** **02 24 17.4 0.0**
HTT Hallett 36.95 165 P **P** **02 24 17.9 +0.5**
HNS HongShan 37.08 342 ⇑P **P** **02 24 18.9 +0.5**
HNS PcP **PcP** **02 26 37.9 +1.0**
HNS pmax pmax
comp=Z,16nm,0.7s
JMM Marumori 37.16 16 P **P** **02 24 19.5 +0.5**
JMM Marumori 37.16 16 P **P** **02 24 21.4 +2.4**
CMSA Cobar Meteorol 37.50 155 P **P** **02 24 24.7 +2.7**
BJT Baijiatuau 39.11 345 P **P** **02 24 35.3 -0.1**
BJT IAmb IAmb 02 24 37.5
comp=Z,14nm,0.6s
BJT Baijiatuau 39.11 345 P **P** **02 24 35.6 +0.3**
BJI Beijing 39.12 345 P **P** **02 24 35.5 0.0**
BJI pmax pmax
comp=Z,9.0nm,0.8s
ARMA Armidale 39.42 147 P **P** **02 24 38.7 +0.4**
ARMA IAmb IAmb 02 25 09.7
comp=Z,14nm,1.1s
LZH Lanzhou 40.52 329 *eP* **P** **02 24 49.3 +1.9**
LZH pP pP 02 25 12.9 +2.8
LZH sP sP 02 25 27.8 +6.3
LZH pmax pmax
comp=Z,68nm,1.8s
LZH pmax pmax
comp=Z,220nm,4.9s
H11S3 WAKE ISLAND Hy 40.83 64 T T 03 08 32.6
baz=251,slow=75,SNR=18
H11S2 WAKE ISLAND Hy 40.85 64 T T 03 08 35.5
baz=251,slow=75,SNR=34
H11S1 WAKE ISLAND Hy 40.85 64 T T 03 08 35.9
baz=251,slow=75,SNR=16
ARPS Mount Arapiles 40.88 163 P **P** **02 24 50.4 +0.3**
comp=Z,32nm,0.8s
ARPS Mount Arapiles 40.88 163 P **P** **02 24 50.9 +0.8**
HHC Hu-ho-hao-te 41.23 341 *eP* **P** **02 24 54.0 +1.0**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,55nm,3.9s
H11N1 WAKE ISLAND Hy 41.41 63 T T 03 09 08.6
baz=250,slow=75,SNR=44
H11N2 WAKE ISLAND Hy 41.42 63 T T 03 09 09.3
baz=250,slow=75,SNR=28
H11N3 WAKE ISLAND Hy 41.43 63 T T 03 09 03.0
baz=250,slow=75,SNR=28
USA0B Ussuriysk Arra 41.81 4 P **P** **02 24 57.9 +0.4**
USA0B IAmb IAmb 02 24 59.2
comp=Z,21nm,1.2s
USRK Ussuriysk Ar. 41.81 4 P **P** **02 24 57.0 -0.6**
USRK Ussuriysk Ar. 41.81 4 P **P** **02 24 57.6 +0.1**
comp=Z,6.6nm,0.7s,baz=186,slow=7.6,SNR=10
comp=Z,6.6nm,0.7s
SHL Shillong 42.01 307 P **P** **02 24 59.7 0.0**
MDJ Mudanjiang 42.12 1 P **P** **02 25 01.1 +1.1**
MDJ pmax pmax
comp=Z,11nm,1.3s
XLT XiLinHaoTe 42.80 347 *eP* **P** **02 25 06.1 +0.4**
XLT S **S** **02 31 26.1 +3.9**
XLT SS **SS** **02 34 32.5 -4.6**
XLT pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 44.57 311 P **P** **02 25 21.3 +0.6**
LSA Lhasa 44.57 311 P **P** **02 25 22.6 +2.0**
LSA pmax pmax
comp=Z,69nm,0.7s
LSA Lhasa 44.57 311 P **P** **02 25 22.4 +1.8**
LSA PcP **PcP** **02 27 02.3 +0.2**
GTA Gaotai 45.12 329 P **P** **02 25 26.3 +1.9**
GTA pP pP 02 25 49.0 +1.5
GTA PcP **PcP** **02 27 04.5 +1.2**
GTA pmax pmax
comp=Z,20nm,1.2s
GTA LR LR
comp=Z,140nm,18.5s
GTA LR LR
comp=Z,130nm,14.9s
GTA LR LR
comp=Z,120nm,20.4s
GOMU GeErMu 45.78 321 P **P** **02 25 30.3 +0.3**
GOMU S **S** **02 32 09.3 +3.0**
GOMU pmax pmax
comp=Z,16nm,0.9s
GOMU LR LR
comp=Z,410nm,16.8s
GOMU LR LR
comp=Z,600nm,16.5s
GOMU LR LR
comp=Z,1μm,16.3s
HEH HeiHe 47.75 359 *eP* **P** **02 25 44.3 -0.3**
HEH pmax pmax
comp=Z,13nm,0.5s
ULN Ulaanbaatar 48.95 341 P **P** **02 25 54.2 +0.2**
ULN Ulaanbaatar 48.95 341 P **P** **02 25 54.6 +0.5**
SONM Songino Array 49.14 341 P **P** **02 25 55.4 -0.1**
SONM IAmb IAmb 02 25 56.9
comp=Z,9.5nm,0.8s
SONM Songino Array 49.14 341 P **P** **02 25 55.2 -0.3**
comp=Z,11nm,0.7s,baz=154,slow=8.6,SNR=47
SONM PcP **PcP** **02 27 16.8 -0.6**
comp=Z,3.3nm,0.7s,baz=152,slow=4.3,SNR=6.5
comp=Z,11nm,0.7s
WMQ Urumqi 54.79 325 *eP* **P** **02 26 38.5 +1.1**
WMQ pmax pmax
comp=Z,52nm,0.7s
WMQ pmax pmax
comp=Z,56nm,3.7s
WMQ LR LR
comp=Z,260nm,21.5s
WMQ LR LR
comp=Z,350nm,21.5s
WMQ LR LR
comp=Z,190nm,18.5s
PEA0B Petropavlovsk- 56.12 21 P **P** **02 26 46.9 +0.2**
PEA0B IAmb IAmb 02 27 45.1
comp=Z,28nm,1.4s
PETK Petropavlovsk- 56.12 21 P **P** **02 26 46.9 +0.2**
PETK Petropavlovsk- 56.12 21 P **P** **02 26 46.5 -0.2**
comp=Z,7.0nm,0.8s,baz=197,slow=4.6,SNR=12
comp=Z,7.0nm,0.8s
ZSN Zaisan 58.55 327 *eP* **P** **02 27 03.4 -0.5**
comp=Z,10.0nm,0.9s
WUS Wushi 58.68 318 P **P** **02 27 04.2 -0.9**
WUS IAmb IAmb 02 27 06.2
comp=Z,13nm,0.7s
WUS Wushi 58.68 318 P **P** **02 27 05.6 +0.5**
SHLS Shalkode 59.45 320 *eP* **P** **02 27 08.3 -2.1**
comp=Z,14nm,0.8s
YAK Yakutsk 59.56 1 P **P** **02 27 10.3 -0.2**
MKAR Makanchi Array 59.62 325 P **P** **02 27 10.9 -0.4**
MKAR Makanchi Array 59.62 325 P **P** **02 27 11.6 +0.3**
comp=Z,31nm,0.7s,baz=119,slow=8.2,SNR=234
MKAR PcP **PcP** **02 27 57.2 -0.2**
comp=Z,12nm,0.7s,baz=122,slow=4.6,SNR=12
comp=Z,31nm,0.7s
MA2 Magadan 59.67 13 P **P** **02 27 11.5 +0.1**
MA2 IAmb IAmb 02 27 13.6
comp=Z,12nm,0.9s
RPZ Rata Peaks 59.70 145 P **P** **02 27 15.0 +3.1**
UZB Uzynbulak 59.73 320 *eP* **P** **02 27 12.0 -0.3**
comp=Z,11nm,0.7s
MAKZ Makanchi 59.81 325 P **P** **02 27 12.2 -0.4**
MAKZ Makanchi 59.81 325 P **P** **02 27 12.7 +0.1**
MAKZ sP **sP** **02 27 47.5 -0.7**
MAKZ PcP **PcP** **02 27 57.6 -0.7**
TARG Taragay, Kyrgy 59.87 318 IAmb IAmb 02 27 17.4
comp=Z,9.8nm,0.7s
NIL Nilore 60.06 308 P **P** **02 27 14.4 -0.2**
KPKS Kokpek 60.10 320 *eP* **P** **02 27 14.6 -0.2**
comp=Z,7.5nm,0.5s
ZHN Zhinishke 60.12 320 *eP* **P** **02 27 14.7 -0.2**
comp=Z,8.5nm,0.9s
KSH Kashi 60.17 315 P **P** **02 27 17.0 +1.6**
KSH pmax pmax
comp=Z,17nm,1.0s
KSH LR LR
comp=Z,330nm,15.1s
KSH LR LR
comp=Z,290nm,19.6s
KSH LR LR
comp=Z,240nm,20.2s
KHZ Kahutara 60.38 143 P **P** **02 27 18.9 +2.4**
URZ Urewera 60.42 137 P **P** **02 27 19.3 +2.4**
KDJ Kajisay 60.46 318 P **P** **02 27 17.5 +0.2**
NRN Naryn 60.95 317 P **P** **02 27 20.8 -0.1**
NRN IAmb IAmb 02 27 21.9
comp=Z,10nm,0.6s
TDK Taldyqorghan 61.01 322 *eP* **P** **02 27 20.8 0.0**
comp=Z,13nm,0.7s
MDOK Medeo 61.01 319 *eP* **P** **02 27 20.7 -0.3**
TNSS Tian-Shan 61.02 319 *eP* **P** **02 27 20.8 -0.6**
AAA Alma-Ata 61.12 319 *eP* **P** **02 27 21.5 -0.2**
ULHL Ulahol 61.14 318 P **P** **02 27 22.4 +0.5**
SNR=10
CHKK Chushkaly 61.37 320 *eP* **P** **02 27 23.2 -0.1**
TKM2 Tokmak 2 61.86 318 P **P** **02 27 27.3 +0.5**
SNR=21
KBK Karagaybulak 62.18 318 P **P** **02 27 29.7 +0.8**
SNR=5.2
CHMS Chumysh 62.45 318 P **P** **02 27 30.7 +0.1**
SNR=5.0
AAK Ala-Archa 62.48 318 P **P** **02 27 31.1 +0.2**
AAK IAmb IAmb 02 27 32.6
comp=Z,40nm,1.9s
AAK Ala-Archa 62.48 318 P **P** **02 27 31.3 +0.4**
SNR=7.0
AAK Ala-Archa 62.48 318 P **P** **02 27 31.2 +0.4**
AAK PcP **PcP** **02 28 09.2 -0.1**
ZAA0 Zalesovo Array 62.56 333 P **P** **02 27 29.6 -1.4**
ZAA0 IAmb IAmb 02 27 31.1
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 62.56 333 P **P** **02 27 29.4 -1.6**
ZALV Zalesovo Beam 62.56 333 P **P** **02 27 30.1 -0.9**
comp=Z,3.6nm,0.5s,baz=111,slow=8.1,SNR=20
ZALV PcP **sP** **02 28 07.9 +1.5**
comp=Z,4.0nm,0.6s,baz=168,slow=4.9,SNR=7.2
comp=Z,3.6nm,0.5s
SGDS Sogindy 62.73 319 *eP* **P** **02 27 32.2 -0.2**
USP Osgenovka 62.73 318 P **P** **02 27 32.8 +0.3**
SNR=29
AML Almayashu 62.81 317 P **P** **02 27 34.2 +0.7**
SNR=34
EKS2 Erkin-Say 62.97 318 P **P** **02 27 34.9 +0.7**
SNR=24
KBL Kabul 63.66 308 P **P** **02 27 37.6 -1.3**
KBL IAmb IAmb 02 27 39.5
comp=Z,17nm,1.1s
KURBB Kurchatov Arra 63.78 327 P **P** **02 27 38.9 -0.2**
comp=Z,29nm,0.6s,baz=128,slow=6.1,SNR=281
KURBB PcP **PcP** **02 28 13.2 -1.0**
comp=Z,4.1nm,0.7s,baz=123,slow=5.5,SNR=6.5
comp=Z,29nm,0.6s
KURK Kurchatov 63.78 327 P **P** **02 27 38.4 -0.7**
KURK Kurchatov 63.78 327 P **P** **02 27 38.9 -0.2**
KURK pP **pP** **02 28 04.1 +0.1**
GAR Garm 64.06 313 P **P** **02 27 40.8 -0.5**
DZA Taraz 64.72 317 *eP* **P** **02 27 45.4 -0.1**
comp=Z,13nm,0.8s
SIMJ Simiganj 64.91 312 P **P** **02 27 46.2 -0.8**
SIMJ IAmb IAmb 02 27 47.8
comp=Z,24nm,1.3s
SIMJ Simiganj 64.91 312 P **P** **02 27 46.7 -0.3**
SIMJ pP **pP** **02 28 11.1 -1.0**
KK31 Karatay Array 65.35 317 P **P** **02 27 48.8 -0.8**
KKAR Karatay Array 65.35 317 P **P** **02 27 48.8 -0.8**
BRLS Borolday 65.79 317 *eP* **P** **02 27 52.3 -0.1**
comp=Z,12nm,0.6s
BRZS Berezniki 66.76 325 *eP* **P** **02 27 58.2 -0.2**
TIXI Tiksi 69.21 0 P **P** **02 28 12.1 -1.2**
TIXI IAmb IAmb 02 28 13.7
comp=Z,13nm,0.6s
TIXI Tiksi 69.21 0 P **P** **02 28 12.8 -0.5**
BVAR Borovoye Array 69.37 327 P **P** **02 28 14.3 -0.3**
comp=Z,37nm,0.9s,baz=123,slow=7.3,SNR=105
BVAR PcP **PcP** **02 28 36.5 -0.9**
comp=Z,5.1nm,0.8s,baz=126,slow=3.8,SNR=4.8
comp=Z,37nm,0.9s
BRVK Borovoye 69.44 327 P **P** **02 28 14.6 -0.4**
BRVK IAmb IAmb 02 28 15.8
comp=Z,34nm,0.9s
BRVK Borovoye 69.44 327 P **P** **02 28 14.7 -0.4**
BRVK PcP **PcP** **02 28 37.1 -0.7**
BRVK sP **sP** **02 28 50.7 -0.5**
NRIK Noril'sk 72.16 346 P **P** **02 28 30.4 -0.8**
NRIK IAmb IAmb 02 28 32.1
comp=Z,16nm,1.1s
NRIK Noril'sk 72.16 346 P **P** **02 28 31.1 -0.2**
comp=Z,8.7nm,0.8s,baz=134,slow=6.4,SNR=15
comp=Z,8.7nm,0.8s
UNV Unalaska Valle 73.65 34 P **P** **02 28 41.7 +1.4**
baz=251
AB31 Akbulak array 74.25 321 P **P** **02 28 42.9 -1.0**
AB31 IAmb IAmb 02 28 44.3
comp=Z,20nm,0.8s
ABKAR Akbulak array 74.25 321 P **P** **02 28 43.2 -0.7**
ABKAR IAmb IAmb 02 28 44.3
comp=Z,21nm,0.8s
GAMB Gambell 75.01 23 P **P** **02 28 49.1 +1.1**
baz=244
S12K Black Hills 76.66 33 P **P** **02 28 58.4 +0.8**
baz=254
ARTI Arti 77.06 328 P **P** **02 28 58.0 -1.8**
TNA Tin City 77.24 22 P **P** **02 29 01.3 +0.7**
baz=247
K13K Kusilvak Mount 77.26 27 P **P** **02 29 01.7 +0.8**
K13K Kusilvak Mount 77.26 27 P **P** **02 29 02.0 +1.2**
baz=251
M13K Dall Lake 77.37 28 P **P** **02 29 02.5 +1.1**
baz=252
SDPT Sand Point 77.44 34 P **P** **02 29 03.0 +1.1**
baz=256
F14K Arctic Creek 77.82 23 P **P** **02 29 04.9 +1.0**
baz=248
L14K Kuka Creek 77.97 27 IAmb IAmb 02 29 46.4
comp=Z,14nm,1.1s
L14K Kuka Creek 77.97 27 P **P** **02 29 05.9 +1.2**
baz=252
O14K Tigyukauivet M 78.04 30 P **P** **02 29 06.2 +1.0**
baz=254
M14K Bethel 78.13 28 P **P** **02 29 06.8 +1.2**
baz=253
G15K Niukluk 78.55 24 P **P** **02 29 09.1 +1.2**
baz=250
F15K North Star Dit 78.55 23 P **P** **02 29 08.9 +1.0**
baz=250
L15K Ungalak Mounta 78.62 27 P **P** **02 29 09.6 +1.3**
baz=254
M15K Kasigluk River 78.72 28 P **P** **02 29 09.9 +1.0**
baz=254
O15K Ungalikthiuk R 78.74 30 P **P** **02 29 09.9 +0.8**
baz=256
K15K Wolf Creek Mou 78.77 27 P **P** **02 29 09.7 +0.6**
baz=253
N15K Kwethluk River 78.86 29 P **P** **02 29 10.4 +0.7**
baz=255
H16K Elim 79.17 24 P **P** **02 29 12.2 +0.9**
baz=252
C16K Lisburne Hills 79.21 20 P **P** **02 29 12.3 +0.9**
baz=249
G16K Koyuk River 79.35 23 P **P** **02 29 13.4 +1.2**
baz=252
J16K Anvik River 79.46 26 P **P** **02 29 13.6 +0.7**
baz=254
R16K Pilot Point 79.52 32 P **P** **02 29 13.9 +0.6**
baz=258
L16K Owhat River 79.55 27 P **P** **02 29 14.3 +0.9**
baz=255
N16K Nishlik Lake 79.58 29 P **P** **02 29 14.5 +0.9**
baz=256
I17K Unalakleet 79.59 25 P **P** **02 29 14.6 +1.0**
baz=254
M16K Timber Creek 79.62 28 P **P** **02 29 14.8 +0.9**
baz=256
P16K Nushagak River 79.62 30 P **P** **02 29 15.2 +1.3**
baz=257
O16K Kokwok River B 79.70 30 P **P** **02 29 15.6 +1.3**
baz=257
D17K Noatak River 79.81 21 P **P** **02 29 16.0 +1.3**
baz=251
RDOG Red Dog Mine 79.99 21 P **P** **02 29 16.8 +1.0**
baz=251
G17K Kiwalik Mounta 80.06 24 P **P** **02 29 17.5 +1.4**
baz=254
E17K Hotham Inlet 80.08 22 P **P** **02 29 17.4 +1.3**
baz=252
F17K Baldwin Pennin 80.10 23 P **P** **02 29 17.6 +1.3**
baz=253
J17K VABM Dome 80.16 26 P **P** **02 29 17.4 +0.8**
J17K VABM Dome 80.16 26 P **P** **02 29 17.5 +0.8**
baz=255
L17K Donlin 80.19 27 P **P** **02 29 17.6 +0.7**
baz=256
H17K Granite Mounta 80.21 24 P **P** **02 29 17.9 +1.0**
baz=254
CHIR Chirikof Islan 80.23 34 P **P** **02 29 18.2 +1.0**
baz=260
O17K Koliganek Bris 80.23 30 P **P** **02 29 18.3 +1.2**
baz=258
K17K Iditarod 80.33 27 IAmb IAmb 02 30 42.6
comp=Z,40nm,1.8s
K17K Iditarod 80.33 27 P **P** **02 29 18.5 +0.8**
baz=256
M17K Holitna River 80.42 28 P **P** **02 29 18.9 +0.8**
baz=257
P17K Kvichak River 80.44 30 P **P** **02 29 19.2 +1.0**
baz=258
Q17K Contact Creek 80.54 31 P **P** **02 29 19.7 +0.7**
baz=259
E18K Tukpahlearik C 80.63 22 IAmb IAmb 02 29 21.5
comp=Z,7.2nm,0.8s
E18K Tukpahlearik C 80.63 22 P **P** **02 29 20.1 +0.9**
baz=253,SNR=14
F18K Selawik 80.76 23 P **P** **02 29 21.1 +1.3**
baz=254
C18K Utukok River 80.78 20 P **P** **02 29 20.8 +0.8**
baz=253
B18K Kokolik River 80.80 20 P **P** **02 29 21.1 +1.2**
baz=252
H18K Honhosa River 80.90 24 P **P** **02 29 21.8 +1.2**
baz=256
L18K Granite Mounta 80.95 27 P **P** **02 29 21.7 +0.8**
baz=258
G18K Tagagawik 80.97 23 P **P** **02 29 21.4 +0.5**
baz=255
P18K Big Mountain, 81.09 30 P **P** **02 29 22.5 +0.7**
baz=260
SII Sitkinak Islan 81.15 33 P **P** **02 29 22.8 +0.7**
baz=261
R18K Karluk 81.17 32 P **P** **02 29 23.1 +1.0**
baz=260
O18K Koktuh Hills 81.18 30 P **P** **02 29 23.2 +0.9**
baz=259
M18K Stony River 81.20 28 P **P** **02 29 23.3 +1.0**
baz=259
J18K Innoko River 81.20 26 P **P** **02 29 23.4 +1.2**
baz=258,SNR=5.1
GCSA Galena City Sc 81.42 25 P **P** **02 29 24.9 +1.6**
baz=257
F19K Shaleruckik Mo 81.54 23 P **P** **02 29 25.0 +1.0**
baz=256
G19K Purcell Mounta 81.65 23 IAmb IAmb 02 30 11.5
comp=Z,8.0nm,0.6s
G19K Purcell Mounta 81.65 23 P **P** **02 29 25.4 +0.8**
baz=257,SNR=12

N19K	Bonanza Creek	81.71	29	P	P	02 29 25.7	+0.6
	baz=260						
OHAK	Old Harbor	81.74	33	P	P	02 29 26.0	+0.8
	baz=262						
H19K	Roundabout Mou	81.77	24	P	P	02 29 26.0	+0.9
	baz=258,SNR=8.4						
L19K	White Mountain	81.78	27	P	P	02 29 26.1	+0.7
	baz=259						
J19K	Poorman	81.79	26	P	P	02 29 26.0	+0.7
	baz=258						
D19K	Kuna River	81.83	21	IAmb	IAmb	02 30 04.6	
	comp=Z,9.0nm,0.9s						
D19K	Kuna River	81.83	21	P	P	02 29 26.1	+0.6
	baz=256,SNR=6.3						
VNDA	Vanda	81.85	173	P	P	02 29 24.6	-0.8
	comp=Z,2.4nm,0.5s,baz=310,slow=7.8,SNR=10						
	comp=Z,2.4nm,0.5s						
E19K	Redstone River	81.90	22	IAmb	IAmb	02 29 28.4	
	comp=Z,11nm,0.9s						
E19K	Redstone River	81.90	22	P	P	02 29 26.2	+0.4
	baz=256,SNR=15						
M19K	Big River Lodg	81.95	28	IAmb	IAmb	02 29 35.0	
	comp=Z,38nm,2.0s						
M19K	Big River Lodg	81.95	28	P	P	02 29 26.8	+0.6
	baz=260						
KDAK	Kodiak Island	82.19	32	P	P	02 29 27.8	+0.3
KDAK	Kodiak Island	82.19	32	P	P	02 29 28.1	+0.6
	baz=262						
L20K	Farewell, AK	82.28	27	P	P	02 29 28.5	+0.5
	baz=260						
K20K	Telida	82.35	26	P	P	02 29 28.8	+0.5
	baz=260						
F20K	Avaraart Lake	82.38	23	P	P	02 29 28.8	+0.5
	baz=258,SNR=9.8						
H20K	Anotleneega Mo	82.40	24	P	P	02 29 28.8	+0.3
	baz=259,SNR=6.3						
Q20K	Shuyak Island	82.41	31	P	P	02 29 28.9	+0.3
	baz=262						
D20K	Etivluk River	82.42	21	IAmb	IAmb	02 29 31.0	
	comp=Z,9.1nm,0.8s						
D20K	Etivluk River	82.42	21	P	P	02 29 28.8	+0.2
	baz=257,SNR=8.7						
I20K	Naaghedeneel	82.43	25	IAmb	IAmb	02 29 31.8	
	comp=Z,15nm,0.9s						
I20K	Naaghedeneel	82.43	25	P	P	02 29 28.9	+0.3
	baz=259						
J20K	Nowinta River	82.46	26	IAmb	IAmb	02 29 31.4	
	comp=Z,6.9nm,0.8s						
J20K	Nowinta River	82.46	26	P	P	02 29 29.2	+0.3
	baz=260,SNR=7.4						
E20K	Nigu River	82.47	21	P	P	02 29 29.2	+0.3
	baz=257						
BELG	Belogornoye	82.50	322	LR	LR	03 07 29.4	
	comp=Z,127nm,18.9s,baz=73,slow=36						
RAYN	Ar Rayn	82.52	293	P	P	02 29 28.6	-1.5
B20K	Meade River	82.53	20	P	P	02 29 29.6	+0.6
	baz=256						
G21K	Allakaket	83.14	23	P	P	02 29 33.0	+0.6
	baz=260,SNR=8.3						
C21K	Knifeblade Rid	83.16	21	P	P	02 29 33.2	+0.8
	baz=259						
CHUM	Lake Minchumin	83.21	26	P	P	02 29 33.1	+0.4
	baz=262,SNR=9.7						
CAST	Castle Rocks	83.24	26	IAmb	IAmb	02 30 10.0	
	comp=Z,5.3nm,0.8s						
CAST	Castle Rocks	83.24	26	P	P	02 29 33.3	+0.3
	baz=262						
F21K	Alatna River	83.27	23	P	P	02 29 34.1	+1.1
	baz=260						
H21K	Melozitna Rive	83.28	24	P	P	02 29 33.4	+0.4
	baz=261,SNR=8.3						
B21K	Ikpikpuk River	83.31	20	IAmb	IAmb	02 29 35.4	
	comp=Z,12nm,0.8s						
B21K	Ikpikpuk River	83.31	20	P	P	02 29 33.8	+0.7
	baz=259,SNR=6.5						
E21K	Killik River	83.31	21	IAmb	IAmb	02 29 35.3	
	comp=Z,6.3nm,0.8s						
E21K	Killik River	83.31	21	P	P	02 29 33.8	+0.6
	baz=259,SNR=8.3						
BRSE	Bradley Lake S	83.40	30	P	P	02 29 34.7	+0.9
	baz=263						
A22K	Sinclair Lake	83.47	19	P	P	02 29 34.6	+0.8
	baz=258						
I21K	Tanana	83.54	25	IAmb	IAmb	02 30 28.9	
	comp=Z,26nm,1.9s						
I21K	Tanana	83.54	25	P	P	02 29 35.5	+1.1
	baz=262						
F22K	John River	83.82	22	P	P	02 29 36.6	+0.8
	baz=261,SNR=6.5						
BPAW	Bear Paw Mtn.	83.82	26	P	P	02 29 36.4	+0.5
BPAW	Bear Paw Mtn.	83.82	26	P	P	02 29 37.0	+1.1
	baz=263						
B22K	Teshekpuk Lake	83.85	19	P	P	02 29 37.5	+1.6
	baz=260,SNR=5.2						
D22K	Ayikyak River	83.85	21	P	P	02 29 37.5	+1.5
	baz=261						
H22K	Ishtalitna Cre	83.89	24	P	P	02 29 37.4	+1.2
	baz=262						
O22K	Cooper Landing	83.99	30	P	P	02 29 37.0	+0.3
	baz=264						
G22K	Bettles	83.99	23	P	P	02 29 38.1	+1.4
	baz=262						
TRF	Thorofare Moun	84.05	27	P	P	02 29 37.3	+0.1
	baz=263						
E22K	Anaktuvuk Pass	84.05	22	IAmb	IAmb	02 30 07.8	
	comp=Z,15nm,1.4s						
E22K	Anaktuvuk Pass	84.05	22	P	P	02 29 38.3	+1.3
	baz=262,SNR=10						
SEW	Seward	84.08	30	P	P	02 29 38.0	+0.8
	baz=264						
PMR	Palmer	84.38	28	IAmb	IAmb	02 29 39.9	
	comp=Z,7.6nm,0.7s						
COLD	Coldfoot	84.54	23	P	P	02 29 40.2	+0.8
	baz=263						
G23K	Bananza Creek	84.54	23	P	P	02 29 40.7	+1.2
	baz=263,SNR=5.9						
D23K	Nanushuk River	84.58	21	P	P	02 29 40.5	+0.9
D23K				IAmb	IAmb	02 30 10.6	
	comp=Z,23nm,1.6s						
D23K	Nanushuk River	84.58	21	P	P	02 29 40.8	+1.2
	baz=262						
H23K	Yukon River	84.64	24	P	P	02 29 41.3	+1.3
	baz=264						
I23K	Minto, Yukon-K	84.64	25	P	P	02 29 40.9	+1.0
	baz=264						
MCK	McKinley	84.68	26	IAmb	IAmb	02 30 09.9	
	comp=Z,34nm,1.8s						
MCK	McKinley	84.68	26	P	P	02 29 41.4	+1.2
	baz=265						
RND	Reindeer	84.69	27	IAmb	IAmb	02 30 21.1	
	comp=Z,10nm,1.2s						
PWL	Port Wells	84.70	29	P	P	02 29 41.1	+0.7
	baz=265						
NEA2	Nenana	84.70	25	P	P	02 29 41.2	+0.9
	baz=264						
C23K	Itkillik River	84.72	20	IAmb	IAmb	02 29 42.4	
	comp=Z,6.9nm,0.8s						
C23K	Itkillik River	84.72	20	P	P	02 29 40.8	+0.5
	baz=262,SNR=7.6						
SML	Sawmill	84.78	28	P	P	02 29 41.6	+0.8
	baz=265						
E23K	Chandalar	84.86	22	IAmb	IAmb	02 29 43.8	
	comp=Z,5.2nm,0.7s						
E23K	Chandalar	84.86	22	P	P	02 29 41.8	+0.7
	baz=264,SNR=9.2						
TOLK	Toolik Lake Re	84.94	21	P	P	02 29 42.5	+1.0
	baz=264						
M23K	Glacier View	85.07	28	P	P	02 29 43.1	+0.9
	baz=266						
KBZ	Khabaz	85.11	314	P	P	02 29 42.3	-0.4
	comp=Z,6.4nm,0.9s,baz=46,slow=1.5,SNR=15						
	comp=Z,6.4nm,0.9s						
COLA	College	85.25	25	P	P	02 29 43.5	+0.5
	baz=265						
SCM	Sheep Creek Mo	85.26	28	P	P	02 29 44.1	+0.8
	baz=266						
D24K	Happy Valley	85.27	21	IAmb	IAmb	02 29 45.5	
	comp=Z,6.0nm,0.7s						
D24K	Happy Valley	85.27	21	P	P	02 29 43.5	+0.5
	baz=264,SNR=8.1						
E24K	Your Creek	85.28	22	P	P	02 29 44.0	+0.8
	baz=265						
H24K	Noodor Dome	85.32	24	P	P	02 29 44.0	+0.6
	baz=265						
C24K	Franklin Bluff	85.37	20	P	P	02 29 44.2	+0.8
	baz=264						
F24K	Squaw Lake	85.46	23	P	P	02 29 44.6	+0.5
F24K	Squaw Lake	85.46	23	P	P	02 29 44.6	+0.5
	baz=265						
G24K	Hadweenzic Riv	85.55	23	P	P	02 29 45.2	+0.6
	baz=266						
ILAR	Eielson Array	85.66	25	P	P	02 29 44.2	-0.8
	comp=Z,0.4nm,0.4s,baz=249,slow=4.7,SNR=14						
	comp=Z,0.4nm,0.4s						
KLU	Klutina	85.91	29	P	P	02 29 46.8	+0.4
	baz=267						
DIV	Divide	85.97	29	IAmb	IAmb	02 30 16.7	
	comp=Z,14nm,1.0s						
D25K	Kavik River	86.15	21	P	P	02 29 48.1	+0.6
	baz=266						
PAX	Paxson	86.19	27	P	P	02 29 48.2	+0.3
	baz=268						
J25K	Salcha River,	86.30	26	P	P	02 29 48.5	+0.2
	baz=268						
HARP	HAARP	86.31	28	P	P	02 29 48.8	+0.4
	baz=268						
F25K	Christian Rive	86.32	23	P	P	02 29 49.2	+0.8
	baz=267						
E25K	Arctic Village	86.38	22	P	P	02 29 49.2	+0.6
	baz=267						
RIDG	Independent Ri	86.50	26	P	P	02 29 49.7	+0.4
	baz=268						
BMRM	Bremner River	86.53	29	P	P	02 29 49.7	+0.2
	baz=269						
C26K	Camden Bay	86.69	20	P	P	02 29 51.4	+1.4
	baz=268						
SCRK	Sand Creek	86.88	26	P	P	02 29 52.0	+0.7
	baz=269						
F26K	Sheenjek River	86.90	22	P	P	02 29 52.0	+0.9
	baz=269						
G26K	Porcupine Rive	87.02	23	P	P	02 29 52.8	+1.1
	baz=269						
J26L	Joseph Creek	87.08	26	P	P	02 29 52.7	+0.5
	baz=269						
C27K	Jago River	87.10	21	IAmb	IAmb	02 32 45.9	
	comp=Z,16nm,1.8s						
C27K	Jago River	87.10	21	P	P	02 29 53.1	+1.1
	baz=269						
M26K	Nabesna, AK	87.31	28	P	P	02 29 54.3	+1.0
	baz=270						
K27K	Chicken	87.72	26	P	P	02 29 56.2	+1.1
	baz=271						
MESA	MESA	87.83	30	P	P	02 29 56.9	+0.9
	baz=271						
M27K	Edge Creek, AK	87.84	28	P	P	02 29 56.6	+0.8
	baz=271						
L27K	Beaver Creek,	87.85	27	P	P	02 29 56.3	+0.6
	baz=271						
E27K	Coleen River	87.86	22	P	P	02 29 56.0	+0.3
	baz=271						
I27K	Kandik River	87.90	25	P	P	02 29 56.6	+0.6
	baz=271						
H27K	Steamboat Moun	87.92	24	P	P	02 29 56.7	+0.6
	baz=271						
D27M	Malcolm River	88.07	21	P	P	02 29 57.6	+0.9
	baz=272						
YUK3	Moose Creek	88.52	28	P	P	02 29 59.7	+0.5
	baz=272						
I28M	Miner Creek	88.60	25	IAmb	IAmb	02 30 00.2	
	comp=Z,20nm,1.8s						
I28M	Miner Creek	88.60	25	P	P	02 29 59.6	+0.2
	baz=273						
PINM	Pinnacle	88.69	30	P	P	02 30 00.4	+0.6
	baz=272						
O28M	Mount Upton	88.69	29	P	P	02 30 00.4	+0.3
	baz=272						
D28M	Stokes Point	88.86	21	P	P	02 30 01.2	+0.8
	baz=274						
YUK8	Steele Glacier	88.87	29	P	P	02 30 01.4	+0.4
	baz=273						
DAWY	Dawson	88.90	26	P	P	02 30 01.2	+0.4
	baz=273						
G29M	Pine Creek	89.29	23	P	P	02 30 02.8	+0.3
	baz=274						
L29M	L29M	89.53	27	P	P	02 30 04.5	+0.8
	baz=274						
EPYK	Eagle Plains	89.86	24	P	P	02 30 05.7	+0.5
	baz=276						
ASF	Jabal al Asfar	90.01	302	LR	LR	03 18 22.4	
	comp=Z,62nm,19.0s,baz=99,slow=41						
G31M	Satah River	90.76	23	P	P	02 30 08.5	-0.8
	baz=278						
KMBO	Kilima Mbogo	91.15	269	LR	LR	03 09 59.5	
	comp=Z,110nm,20.0s,baz=118,slow=35						
MMAI	Mount Meron Ar	91.22	303	P	P	02 30 11.1	-1.2
	comp=Z,4.1nm,0.9s,baz=30,slow=4.0,SNR=3.7						
MMAI				LR	LR	03 15 11.3	
	comp=Z,63nm,21.9s,baz=61,slow=38						
	comp=Z,4.1nm,0.9s						
SYO	Syowa Base	91.72	201⇑	ePcP	PcP	02 30 17.6	+3.2
FARO	Faro, Yukon	91.82	28	P	P	02 30 15.3	+1.0
	baz=278						
EIL	Elat	91.82	300	LR	LR	03 14 49.1	
	comp=Z,90nm,21.9s,baz=68,slow=38						
SPITS	Spitsbergen Ar	92.15	349	P	P	02 30 13.9	-1.7
	comp=Z,3.4nm,0.8s,baz=109,slow=7.1,SNR=9.3						
	comp=Z,3.4nm,0.8s						
BRTR	Keskin Array B	92.16	310	P	P	02 30 14.9	-1.6
	comp=Z,1.0nm,0.8s,baz=108,slow=4.4,SNR=9.0						
BRTR				PP	PP	02 34 02.3	+4.4
	comp=Z,1.0nm,1.0s,baz=110,slow=6.7,SNR=5.5						
BRTR				LR	LR	03 15 20.6	
	comp=Z,60nm,21.0s,baz=82,slow=38						
	comp=Z,1.0nm,0.8s						
QSPA	South Pole Qui	92.25	180	P	P	02 30 15.0	-1.3
	comp=Z,1.6nm,0.6s,baz=259,slow=0.9,SNR=22						
	comp=Z,1.6nm,0.6s						
ARA0	ARCESS Array S	92.31	340	eP	P	02 30 15.3	-1.1
ARCES	ARCESS Array B	92.31	340	P	P	02 30 15.3	-1.1
	comp=Z,10nm,0.7s,baz=79,slow=6.3,SNR=22						
ARCES				PKiKP	PKiKP	02 35 04.4	-0.8
	comp=Z,2.0nm,1.0s,baz=17,slow=1.3,SNR=4.0						
	comp=Z,10nm,0.7s						
HAMF	Hammerfest	92.65	341	eP	P	02 30 17.0	-1.0
FINES	FINESS Array B	93.82	332	P	P	02 30 22.1	-1.4
	comp=Z,3.3nm,0.6s,baz=53,slow=5.7,SNR=21						
FINES				PKiKP	PKiKP	02 35 06.7	-1.3
	comp=Z,0.5nm,0.7s,baz=253,slow=1.5,SNR=3.4						
	comp=Z,3.3nm,0.6s						
AKASG	Malin Array Be	93.99	321	P	P	02 30 22.5	-2.0
	comp=Z,2.1nm,0.7s,baz=74,slow=3.3,SNR=7.8						
AKASG				LR	LR	03 14 47.9	
	comp=Z,206nm,19.3s,baz=52,slow=37						
	comp=Z,2.1nm,0.7s						
JETT	Jettan, Norway	94.03	340	eP	P	02 30 24.2	-0.2
STEI	Steigen	96.36	340	eP	P	02 30 33.4	-1.5
FAUS	Fauske	96.55	339	eP	P	02 30 34.6	-1.2
MLR	Muntele Rosu	97.03	316	IAmb	IAmb	02 30 38.4	
	comp=Z,5.1nm,0.8s						
MLR	Muntele Rosu	97.03	316	LR	LR	03 18 52.8	
	comp=Z,144nm,19.7s,baz=62,slow=38						
BUR08	Bucovina Ar. S	97.12	318	P	P	02 30 37.7	-1.4
BUR08				IAmb	IAmb	02 30 38.9	
	comp=Z,3.1nm,0.8s						
LEIR	Leirfjorden	97.85	338	eP	P	02 30 40.2	-1.5
HFS	Hagfors	100.00	332	P	Pdif	02 30 49.9	-1.6
	comp=Z,5.8nm,0.9s,baz=105,slow=5.2,SNR=11						
	comp=Z,5.8nm,0.9s						
YKA	Yellowknife Ar	100.08	25	P	Pdif	02 30 50.7	-1.1
	comp=Z,0.3nm,0.8s,baz=304,slow=4.2,SNR=7.2						
YKA				PKiKP	PKiKP	02 35 18.4	-0.5
	comp=Z,0.1nm,0.6s,baz=296,slow=1.2,SNR=5.4						
NB2	NORSAR Subarra	100.75	334	P	Pdif	02 30 53.0	-1.8
	comp=Z,4.1nm,0.9s,baz=66,slow=4.4						
NB2	NORSAR Subarra	100.75	334	P	Pdif	02 30 53.0	-1.8
	baz=66,slow=4.4						
NOA	NORSAR Array B	100.75	334	P	Pdif	02 30 53.2	-1.6
	comp=Z,1.9nm,0.7s,baz=66,slow=4.5,SNR=12						
AKN	Aaknes	102.02	336	eP	Pdif	02 30 60.0	-0.5
CLL	Collm	103.71	324	ePP	PKiKP	02 35 26.0	+0.2
GERES	GERESS Array B	104.18	322	Pdiff	Pdif	02 31 09.3	-1.1
	comp=Z,0.6nm,0.7s,baz=52,slow=6.6,SNR=5.1						
GERES				PKiKP	PKiKP	02 35 25.9	-1.0
	comp=Z,0.4nm,0.5s,baz=32,slow=3.8,SNR=2.7						
ECSD	EROS Data Cent	118.98	36	PKPdf	PKPdf	02 35 54.5	-0.5
ESDC	Sonseca Array	119.57	319	PKPdf	PKPdf	02 35 55.7	-0.6
ESDC	Sonseca Array	119.57	319	PKP	PKPdf	02 35 55.2	-1.1
	comp=Z,0.3nm,0.6s,baz=3.6,slow=1.6,SNR=4.6						
TXAR	Lajitas Array	121.14	54	PKPdf	PKiKP	02 35 60.0	+0.2
TXAR	Lajitas Array	121.14	54	PKP	PKPdf	02 35 58.4	-1.3
	comp=Z,0.7nm,0.6s,baz=282,slow=2.4,SNR=3.8						
TXAR				PP	PP	02 37 30.1	-0.6
	comp=Z,0.3nm,0.4s,baz=150,slow=5.8,SNR=4.2						
WMOK	Wichita Mounta	122.46	46	PKPdf	PKPdf	02 36 01.4	-0.6
E46A	Sault Ste Mari	123.59	27	PKPdf	PKPdf	02 36 03.1	-0.6
BRDY	Brady	123.95	49	PKPdf	PKPdf	02 36 03.7	-1.3
R40A	Maddies Statio	124.87	39	PKPdf	PKPdf	02 36 04.8	-1.6
TORD	Torodi Ar. Bea	124.89	288	PKPdf	PKPdf	02 36 05.6	-1.5
TORD	Torodi Ar. Bea	124.89	288	PKP	PKPdf	02 36 06.2	-0.9
	comp=Z,1.8nm,0.4s,baz=56,slow=3.7,SNR=4.4						
BO02	Sierra Bellavi	143.12	153	PKPpre	PKPpre	02 36 34.7	
MT01	Popeta	143.67	152	PKPpre	PKPpre	02 36 36.8	
MT09	Talagante	143.87	152	PKPdf	PKPbc	02 36 39.9	-0.1
MT02	Curacav	144.22	151	PKPdf	PKPab	02 36 40.2	-0.3
VA03	San Esteban	144.91	152	PKPdf	PKPbc	02 36 43.3	0.0
CO03	El Pedregal	146.41	150	PKPbc	PKPdf	02 36 46.8	+0.2
GO04	Tololo Observa	146.89	149	PKPbc	PKPdf	02 36 47.8	+0.2
AC04	Llanos de Chal	148.28	146	PKPbc	PKPbc	02 36 52.6	-0.4
GO02	Mina Guanaco	151.46	144	PKPbc	PKPbc	02 37 01.2	0.0
CPUP	Villa Florida	155.53	168	PKP	PKPdf	02 36 59.0	-1.4
	comp=Z,1.7nm,1.0s,baz=299,slow=16,SNR=2.4						
LPAZ	La Paz	158.66	132	PKPab	PKPab	02 37 41.1	+0.1
	comp=Z,1.1nm,0.6s,baz=289,slow=2.5,SNR=5.4						

TEH ***24*** *02:19:04.4,33.°40N×53.°73E,h6km±84km*
THR ***24*** *02:19:06.1±0.0,33.°40N×53.°79E,h10km±8km,ML4.2*
OMAN ***24*** *02:20:13.1±0.3,28.°21N×54.°03E,h10km,mb4.1/4,ml3.0/2,*
Error ellipse: s-maj=15.0km s-min=4.4km az=34.0

ISC 24 02:19:06.7±1.0,33.°41N±0.°05×53.°73E±0.°04,h10km,n91,
σ1§66/83,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANAR	Anarak	0.22	181	Pg	Pg	02 19 09.8	-1.5
NASN	Na'in	0.99	232	ePg	Pg	02 19 24.4	-1.3
NASN				IAML		02 19 40.9	
	comp=Z,3.1nm,1.0s						
YZKH	Yazd	1.25	144	ePg	Pn	02 19 28.8	-1.4
YZKH				eSg	Sb	02 19 45.6	-0.9
YZKH				IAML		02 19 54.8	
	comp=Z,4.1nm,1.0s						
IZEF	Zefreh	1.28	247	Pg	Pn	02 19 29.5	-1.5
KRSH	Karshahi	1.45	293	Pg	Pn	02 19 32.8	-0.2
ISAD	Sadrabad	1.49	182	Pg	Pn	02 19 33.6	-0.2
ISFB	Sefidab	1.56	308	Pg	Pn	02 19 35.4	+0.9
IKLH	Kolahrood	1.81	268	Pg	Pn	02 19 38.9	+0.8
IRAM	Ramesheh	1.96	216	Pn	Pn	02 19 41.4	+1.2
QAMS	Qamsar	1.98	280	Pn	Pn	02 19 41.5	+1.0
IANJ	Anjilo	2.06	4	Pn	Pn	02 19 42.6	+1.0
ILAS	Lasjerd	2.07	342	Pn	Pn	02 19 43.0	+1.2
IMEH	Mehriz	2.15	159	Pn	Pn	02 19 43.6	+0.8
IVRN	Varamin	2.30	314	Pn	Pn	02 19 46.0	+1.3
TNSJ	Nastanj	2.46	76	Pn	Pn	02 19 47.6	+0.6
IPIR	Pirpir	2.49	254	Pn	Pn	02 19 49.8	+2.2
TPRV	Parvadeh(Tabas	2.50	98	Pn	Pn	02 19 48.5	+0.9
IBRJ	Brojen	2.57	235	Pn	Pn	02 19 50.3	+1.7
IDMV	Damavand	2.58	327	Pn	Pn	02 19 50.0	+1.2
IQOM	Qom	2.63	304	Pn	Pn	02 19 50.8	+1.3
DAMV	Damavand	2.65	327	ePnA		02 19 50.4	
DAMV				IAML		02 20 46.6	
	comp=Z,0.0nm,1.0s						
ZNGN	Zangian	2.75	243	Pn	Pn	02 19 52.6	+1.5
IALA	Alasht	2.77	344	Pn	Pn	02 19 52.8	+1.3
IKIA	Kiasar	2.79	359	Pn	Pn	02 19 53.4	+1.7
JHBN	Jahan bin	2.84	246	Pn	Pn	02 19 54.2	+1.8
TABS	Tabas	2.84	84	ePnA		02 19 53.1	
TABS				IAML		02 20 49.3	
	comp=Z,0.6nm,1.0s						
TKDS	Koohdasht(Taba	2.84	85	Pn	Pn	02 19 53.2	+1.0
KLNJ	Kolanjah	3.00	218	Pn	Pn	02 19 56.1	+1.5
KLNJ	Kolanjah	3.00	218	ePn	Pn	02 19 57.2	+2.5
KLNJ				IAML		02 20 55.2	
	comp=Z,0.8nm,1.0s						
IPRN	Peran	3.05	338	Pn	Pn	02 19 56.7	+1.6
IGLO	Ghaloghah	3.09	1	Pn	Pn	02 19 57.4	+1.7
KHMZ	Khomeyn	3.17	277	ePnA		02 19 59.9	
KHMZ				IAML		02 21 00.8	
	comp=Z,0.3nm,1.0s						
SHRO	Shahrood	3.19	35	ePnA		02 19 58.4	
SHRO				IAML		02 21 07.2	
	comp=Z,0.3nm,1.0s						
TAPT	Tabas- Tapeh t	3.20	62	Pn	Pn	02 19 57.9	+0.7
ASAO	Ashtian	3.28	291	ePnA		02 20 00.6	
ASAO				IAML		02 21 06.5	
	comp=Z,0.5nm,1.0s						
CHTH	Charan	3.29	320	ePnA		02 20 00.0	
CHTH				IAML		02 21 39.4	
	comp=Z,0.3nm,1.0s						
ZRDN	Zarand Kerman	3.40	135	Pn	Pn	02 20 01.5	+1.5
IMHD	Mahdasht	3.40	313	Pn	Pn	02 20 01.6	+1.7
THKV	Tehran--Karaj	3.44	318	ePn	Pn	02 20 02.2	+1.7
THKV				IAML		02 21 07.3	
	comp=Z,0.8nm,1.0s						
MZPU	Pul - Mazandar	3.51	330	Pn	Pn	02 20 03.9	+2.4
IRAZ	Razeghan	3.72	303	Pn	Pn	02 20 06.2	+1.7
KLST	Kelardasht - M	3.80	325	Pn	Pn	02 20 07.6	+2.0
KHGB	Koh Gabri	3.82	142	Pn	Pn	02 20 06.7	+1.0
GTMR	Gotvand	4.00	258	ePnA		02 20 10.5	
GTMR				IAML		02 21 23.0	
	comp=Z,0.3nm,1.0s						
HAGD	Aghdareh	4.06	292	Pn	Pn	02 20 11.0	+1.8
IMND	Minoodasht	4.08	19	Pn	Pn	02 20 10.1	+1.0
QABG	Abgarm-Qazvin	4.12	305	Pn	Pn	02 20 11.6	+1.6
IGZV	Ghazvin	4.14	317	Pn	Pn	02 20 12.1	+1.9
KRM1	Kerman Provinc	4.17	133	Pn	Pn	02 20 11.8	+1.1
ITEG	Tejag	4.24	96	Pn	Pn	02 20 13.0	+1.5
KRBR	Kerman	4.28	142	Pn	Pn	02 20 13.3	+1.2
KRBR	Kerman	4.28	142	ePn	Pn	02 20 13.5	+1.3
KRBR				IAML		02 21 30.0	
	comp=Z,1.0nm,1.0s						
HSAM	Samen	4.35	282	Pn	Pn	02 20 14.9	+1.9
AFRZ	Afriz	4.42	88	Pn	Pn	02 20 14.9	+0.9
HGHA	Hamedan- Ghaye	4.53	299	Pn	Pn	02 20 17.7	+2.1
IKOO	Kooshah	4.54	101	Pn	Pn	02 20 16.9	+1.1
NGRK	Negar Kerman	4.54	145	Pn	Pn	02 20 17.1	+1.3
MRVT	Maraveh tapeh	4.66	24	Pn	Pn	02 20 18.1	+1.0
MRVT

ABTO Aybut 15.99 182 P Pn 02 22 48.2 -3.7
SNR=18

*NEIC **24** 02:40:01.6±1.3, 66°.30N±0°.01×157°.11W±0°.04, h2km±5km, Error ellipse: s-maj=2.6km s-min=1.9km az=104.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.02; $M_{\theta\theta}$0.96; $M_{\phi\phi}$-0.98; $M_{r\theta}$-0.53; $M_{\phi\phi}$-1.35; $M_{\phi r}$1.46; Fault plane solution: $M_0$2.28000×10^{14} NP1: ϕ_s251.50000°, δ46.85000°, λ179.19000°. NP2: ϕ_s342.06000°, δ89.41000°, λ43.15000°. Principal axes: T 2.3029, Plg29.0000°, Azm216.0000°; N -0.0539, Plg47.0000°, Azm343.0000°; P -2.2490, Plg28.0000°, Azm108.0000°;*
*NEIC **24** 02:40:02, 66°.30N×157°.17W, h5km*
AEIC 24 02:40:02.0±1.4, 66°.30N±0°.02×157°.17W±0°.05, h5km±6km, ML3.4, mb3.8/3(NEIC), ML3.6/162(NEIC), Mwr3.5/36(NEIC), Error ellipse: s-maj=2.7km s-min=2.3km az=64.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.17**	**169**		Pg	02 40 05.3	0.0
G19K				Sg	Sg	02 40 07.4	0.0
G19K				IAML		02 40 08.5	
	comp=E,19μm,0.9s						
G19K				IAML		02 40 08.7	
	comp=N,23μm,0.8s						
F19K	**Shaleruckik Mo**	**0.58**	**336**	Pg	Pg	02 40 12.8	-0.5
F19K				Sg	Sg	02 40 20.8	0.0
G18K	**Tagagawik**	**0.73**	**237**	Pg	Pg	02 40 15.6	-0.4
G18K				Sg	Sg	02 40 25.4	-0.1
H19K	**Roundabout Mou**	**0.83**	**159**	Pg	Pg	02 40 17.1	-0.9
H19K				Sg	Sg	02 40 28.2	-0.6
H19K				IAML		02 40 33.4	
	comp=E,2μm,0.2s						
F20K	**Avaraart Lake**	**0.94**	**37**	Pg	Pg	02 40 19.3	-0.8
F20K				Sg	Sg	02 40 31.8	-0.5
F18K	**Selawik**	**1.04**	**288**		Pg	02 40 21.3	-0.7
F18K					Sg	02 40 35.4	0.0
E19K	**Redstone River**	**1.16**	**359**	Pg	Pg	02 40 23.3	-0.9
E19K				Sg	Sg	02 40 37.9	-1.3
E19K				IAML		02 40 42.1	
	comp=N,2μm,0.6s						
E19K				IAML		02 40 42.6	
	comp=E,1μm,0.6s						
H20K	**Anotleneega Mo**	**1.24**	**130**		Pg	02 40 25.1	-0.7
H20K					Sb	02 40 42.2	0.0
H18K	**Honhosa River**	**1.26**	**204**	Pg	Pg	02 40 24.7	-1.4
H18K				Sg	Sg	02 40 41.3	-1.0
H18K				IAML		02 40 45.0	
	comp=N,2μm,1.0s						
H18K				IAML		02 40 50.5	
	comp=E,768nm,0.4s						
G21K	**Allakaket**	**1.49**	**80**	Pn	Pn	02 40 28.1	-1.3
GCSA	**Galena City Sc**	**1.57**	**175**		Pn	02 40 30.1	-0.3
GCSA					Sg	02 40 52.0	-0.4
G17K	**Kiwalik Mounta**	**1.64**	**242**		Pn	02 40 30.1	-1.4
F17K	**Baldwin Pennin**	**1.65**	**277**	Pn	Pn	02 40 30.7	-0.8
F17K				IAML		02 40 58.4	
	comp=N,612nm,1.1s						
F17K				IAML		02 41 00.2	
	comp=E,528nm,0.6s						
F17K	**Baldwin Pennin**	**1.65**	**277**		Sg	02 40 54.8	-0.2
F21K	**Alatna River**	**1.73**	**56**	Pn	Pn	02 40 32.1	-0.6
F21K				IAML		02 41 00.2	
	comp=N,713nm,0.7s						
E18K	**Tukpahlearik C**	**1.76**	**311**	Pn	Pn	02 40 32.9	-0.1
H17K	**Granite Mounta**	**1.78**	**221**	Pn	Pn	02 40 32.4	-1.0
H17K				IAML		02 41 01.2	
	comp=E,460nm,0.9s						
H17K				IAML		02 41 01.6	
	comp=N,524nm,0.8s						
I20K	**Naaghedeneel**	**1.88**	**142**	Pn	Pn	02 40 34.4	-0.4
H21K	**Melozitna Rive**	**1.90**	**108**	Pn	Pn	02 40 34.0	-1.0
H21K				IAML		02 41 05.0	
	comp=E,403nm,0.8s						
E20K	**Nigu River**	**2.00**	**11**		Pn	02 40 37.2	+0.7
E17K	**Hotham Inlet**	**2.01**	**295**		Pn	02 40 36.0	-0.5
D19K	**Kuna River**	**2.23**	**351**	Pn	Pn	02 40 40.1	+0.6
D19K				IAML		02 41 14.1	
	comp=E,363nm,0.8s						
D19K				IAML		02 41 21.9	
	comp=N,401nm,0.9s						
F22K	**John River**	**2.31**	**56**		Pn	02 40 40.7	+0.1
G16K	**Koyuk River**	**2.32**	**249**	Pn	Pn	02 40 42.0	+1.2
G16K				IAML		02 41 21.0	
	comp=N,319nm,0.9s						
G16K				IAML		02 41 21.1	
	comp=E,254nm,0.8s						
G22K	**Bettles**	**2.34**	**72**		Pn	02 40 40.3	-0.7
H22K	**Ishtalitna Cre**	**2.39**	**97**		Pn	02 40 41.6	-0.2
J19K	**Poorman**	**2.41**	**164**	Pn	Pn	02 40 41.6	-0.4
D20K	**Etivluk River**	**2.43**	**5**	Pn	Pn	02 40 43.0	+0.7
D20K				IAML		02 41 24.9	
	comp=N,253nm,1.1s						
D20K				IAML		02 41 26.2	
	comp=E,339nm,0.8s						
E21K	**Killik River**	**2.48**	**28**	Pn	Pn	02 40 43.1	+0.2
E21K				IAML		02 41 22.6	
	comp=E,336nm,0.7s						
E21K				IAML		02 41 26.6	
	comp=N,353nm,0.8s						
J20K	**Nowinta River**	**2.49**	**148**	Pn	Pn	02 40 43.2	+0.2
J20K				IAML		02 41 28.6	
	comp=E,213nm,0.7s						
J20K				IAML		02 41 30.5	
	comp=N,196nm,0.7s						
D17K	**Noatak River**	**2.71**	**304**		Pn	02 40 46.0	-0.2
E22K	**Anaktuvuk Pass**	**2.78**	**46**	Pn	Pn	02 40 47.6	+0.5
E22K				IAML		02 41 33.4	
	comp=E,267nm,0.9s						
E22K				IAML		02 41 34.9	
	comp=N,166nm,0.7s						
C18K	**Utukok River**	**2.82**	**328**	Pn	Pn	02 40 47.8	+0.1
RDOG	**Red Dog Mine**	**2.84**	**311**	Pn	Pn	02 40 48.8	+0.8
I17K	**Unalakleet**	**2.85**	**213**	Pn	Pn	02 40 48.1	+0.1
I17K				IAML		02 41 38.2	
	comp=N,248nm,0.8s						
I17K				IAML		02 41 42.9	
	comp=E,316nm,0.8s						
J18K	**Innoko River**	**2.86**	**176**	Pn	Pn	02 40 47.6	-0.6
G23K	**Bananza Creek**	**2.89**	**79**	Pn	Pn	02 40 48.1	-0.6
G23K				IAML		02 41 36.0	
	comp=E,161nm,0.7s						
G23K				IAML		02 41 41.4	
	comp=N,316nm,0.8s						
COLD	**Coldfoot**	**2.91**	**68**	Pn	Pn	02 40 48.0	-0.9
COLD				IAML		02 41 41.1	
	comp=E,152nm,0.7s						
COLD				IAML		02 41 41.2	
	comp=N,265nm,0.8s						
C21K	**Knifeblade Rid**	**3.01**	**16**		Pn	02 40 50.6	+0.4
J17K	**VABM Dome**	**3.03**	**196**	Pn	Pn	02 40 50.3	-0.3
D22K	**Ayikyak River**	**3.10**	**32**	Pn	Pn	02 40 51.6	+0.1
F15K	**North Star Dit**	**3.12**	**262**	Pn	Pn	02 40 53.3	+1.6
F15K				IAML		02 41 47.5	
	comp=E,151nm,0.9s						
F15K				IAML		02 41 47.9	
	comp=N,150nm,1.0s						
K20K	**Telida**	**3.24**	**154**	Pn	Pn	02 40 53.4	0.0
J16K	**Anvik River**	**3.37**	**207**	Pn	Pn	02 40 55.0	-0.2
J16K				IAML		02 41 52.8	
	comp=E,161nm,1.7s						
J16K				IAML		02 41 57.1	
	comp=N,160nm,0.7s						
BPAW	**Bear Paw Mtn.**	**3.42**	**128**	Pn	Pn	02 40 55.8	-0.1
BPAW				IAML		02 41 58.5	
	comp=N,122nm,1.2s						
BPAW				IAML		02 42 03.4	
	comp=E,103nm,1.1s						
I23K	**Minto, Yukon-K**	**3.43**	**106**	Pn	Pn	02 40 56.0	0.0
I23K				IAML		02 41 55.5	
	comp=N,159nm,1.2s						
I23K				IAML		02 41 58.5	
	comp=E,204nm,0.8s						
E23K	**Chandalar**	**3.43**	**56**	Pn	Pn	02 40 56.4	+0.3
E23K				IAML		02 41 58.4	
	comp=N,169nm,0.7s						
B21K	**Ikpikpuk River**	**3.47**	**15**		Pn	02 40 56.7	+0.2
CAST	**Castle Rocks**	**3.62**	**141**	Pn	Pn	02 40 59.1	+0.5
K17K	**Iditarod**	**3.64**	**188**	Pn	Pn	02 40 57.8	-1.0
K17K				IAML		02 42 09.1	
	comp=E,107nm,1.3s						
K17K				IAML		02 42 10.6	
	comp=N,104nm,1.0s						
D23K	**Nanushuk River**	**3.65**	**40**	Pn	Pn	02 40 59.4	+0.4
C16K	**Lisburne Hills**	**3.74**	**306**	Pn	Pn	02 41 00.4	+0.2
TOLK	**Toolik Lake Re**	**3.75**	**48**	Pn	Pn	02 41 00.7	+0.3
NEA2	**Nenana**	**3.79**	**113**	Pn	Pn	02 41 00.0	-1.0
NEA2				IAML		02 42 06.1	
	comp=N,72nm,0.8s						
H24K	**Noodor Dome**	**3.81**	**93**	Pn	Pn	02 41 00.4	-1.0
H24K				IAML		02 42 09.3	
	comp=N,124nm,0.8s						
H24K				IAML		02 42 14.6	
	comp=E,134nm,1.2s						
E24K	**Your Creek**	**3.82**	**58**	Pn	Pn	02 41 01.1	-0.2
E24K				IAML		02 42 12.5	
	comp=E,122nm,0.7s						
E24K				IAML		02 42 16.2	
	comp=N,122nm,0.6s						
KTH	**Kantishna Hill**	**3.83**	**133**	Pn	Pn	02 41 01.4	-0.2
KTH				IAML		02 42 13.6	
	comp=E,76nm,1.0s						
KTH				IAML		02 42 20.9	
	comp=N,100nm,1.1s						
ANM	**Nome**	**3.85**	**247**	Pn	Pn	02 41 03.6	+1.8
ANM				IAML		02 42 12.9	
	comp=E,66nm,0.9s						
ANM				IAML		02 42 16.1	
	comp=N,69nm,0.7s						
F24K	**Squaw Lake**	**3.85**	**67**	Pn	Pn	02 41 01.9	0.0
F24K				IAML		02 42 17.0	
	comp=E,144nm,0.7s						
BWN	**Browne**	**3.88**	**120**	Pn	Pn	02 41 02.6	+0.4
BWN				IAML		02 42 26.4	
	comp=E,138nm,0.9s						
BWN				IAML		02 42 29.3	
	comp=N,122nm,0.8s						
G24K	**Hadweenzic Riv**	**3.90**	**80**	Pn	Pn	02 41 01.4	-1.1
PPLA	**Purkeypile**	**4.04**	**146**	Pn	Pn	02 41 04.5	0.0
PPLA				IAML		02 42 17.4	
	comp=E,88nm,1.9s						
PPLA				IAML		02 42 24.5	
	comp=N,75nm,1.7s						
L20K	**Farewell, AK**	**4.10**	**158**		Pn	02 41 06.2	+0.9
TRF	**Thorofare Moun**	**4.10**	**131**	Pn	Pn	02 41 05.7	+0.3
TRF				IAML		02 42 15.3	
	comp=N,90nm,1.3s						
L18K	**Granite Mounta**	**4.11**	**177**	Pn	Pn	02 41 05.9	+0.6
L18K				IAML		02 42 22.6	
	comp=E,57nm,1.0s						
L18K				IAML		02 42 22.6	
	comp=N,56nm,1.4s						
COLA	**College**	**4.12**	**106**	Pn	Pn	02 41 05.4	-0.1
POKR	**Poker Plat Res**	**4.19**	**102**	Pn	Pn	02 41 05.8	-0.7
POKR				IAML		02 42 16.7	
	comp=N,69nm,0.9s						
POKR				IAML		02 42 18.4	
	comp=E,74nm,0.8s						
L17K	**Donlin**	**4.22**	**187**		Pn	02 41 06.7	-0.1
WRH	**Wood River Hil**	**4.22**	**112**	Pn	Pn	02 41 06.5	-0.4
WRH				IAML		02 42 17.6	
	comp=E,49nm,1.0s						
CCB	**Clear Creek Bu**	**4.24**	**109**	Pn	Pn	02 41 06.3	-0.8
CCB				IAML		02 42 19.8	
	comp=E,49nm,0.9s						
L19K	**White Mountain**	**4.26**	**165**	Pn	Pn	02 41 07.4	-0.1
L19K				IAML		02 42 24.2	
	comp=N,50nm,0.9s						
D24K	**Happy Valley**	**4.27**	**44**	Pn	Pn	02 41 07.3	-0.3
B22K	**Teshekpuk Lake**	**4.29**	**17**	Pn	Pn	02 41 07.9	+0.2
C23K	**Itkillik River**	**4.31**	**32**	Pn	Pn	02 41 07.8	-0.3
C23K				IAML		02 42 31.9	
	comp=E,103nm,0.8s						
MCK	**McKinley**	**4.34**	**123**	Pn	Pn	02 41 08.3	-0.3
K15K	**Wolf Creek Mou**	**4.45**	**207**	Pn	Pn	02 41 10.6	+0.5
K15K				IAML		02 42 34.4	
	comp=N,52nm,1.9s						
K15K				IAML		02 42 35.3	
	comp=E,45nm,1.9s						
TNA	**Tin City**	**4.47**	**265**	Pn	Pn	02 41 11.6	+1.4
TNA				IAML		02 42 34.5	
	comp=E,46nm,1.2s						
J14K	**Nanvaranak Lak**	**4.51**	**221**	Pn	Pn	02 41 12.0	+1.2
J14K				IAML		02 42 45.2	
	comp=N,89nm,1.4s						
IL31		**4.54**	**105**	Pn	Pn	02 41 10.5	-0.7
ILAR	**Eielson Array**	**4.54**	**105**	Pn	Pn	02 41 10.5	-0.8
M19K	**Big River Lodg**	**4.58**	**163**	Pn	Pn	02 41 12.2	+0.4
M19K				IAML		02 42 36.9	
	comp=E,48nm,1.4s						
RND	**Reindeer**	**4.59**	**126**	Pn	Pn	02 41 12.0	0.0
C24K	**Franklin Bluff**	**4.68**	**39**	Pn	Pn	02 41 12.1	-1.0
HDA	**Harding Lake**	**4.68**	**109**	Pn	Pn	02 41 12.3	-0.9
HDA				IAML		02 42 32.6	
	comp=E,33nm,1.2s						
HDA				IAML		02 42 41.6	
	comp=N,45nm,0.8s						
F25K	**Christian Rive**	**4.71**	**69**	Pn	Pn	02 41 13.0	-0.6
L16K	**Owhat River**	**4.72**	**193**	Pn	Pn	02 41 13.2	-0.5
M20K	**Styx River**	**4.78**	**156**	Pn	Pn	02 41 14.7	+0.1
M20K				IAML		02 42 40.4	
	comp=E,38nm,1.5s						
A22K	**Sinclair Lake**	**4.79**	**9**		Pn	02 41 14.6	-0.1
FYU	**Fort Yukon**	**4.80**	**81**	Pn	Pn	02 41 14.2	-0.5
PRP	**Porcupine Dome**	**4.84**	**94**	Pn	Pn	02 41 14.2	-1.3
PRP				IAML		02 42 38.5	
	comp=E,52nm,1.0s						
PRP				IAML		02 42 44.2	
	comp=N,52nm,0.8s						
E25K	**Arctic Village**	**4.86**	**63**	Pn	Pn	02 41 15.3	-0.4
E25K				IAML		02 42 40.2	
	comp=N,58nm,1.0s						
M18K	**Stony River**	**4.87**	**172**		Pn	02 41 15.7	-0.1
M17K	**Holitna River**	**4.92**	**182**	Pn	Pn	02 41 16.6	+0.1
M17K				IAML		02 42 58.4	
	comp=E,55nm,1.4s						
M17K				IAML		02 42 60.0	
	comp=N,61nm,0.9s						
CUT	**Chulitna**	**4.93**	**139**	Pn	Pn	02 41 16.1	-0.5
SKT	**Skwentna**	**4.99**	**148**	Pn	Pn	02 41 18.5	+1.0
SKT				IAML		02 42 49.1	
	comp=E,42nm,0.8s						
D25K	**Kavik River**	**5.09**	**49**	Pn	Pn	02 41 19.1	+0.3
BMAR	**Burnt Mountain**	**5.09**	**71**	Pn	Pn	02 41 19.1	+0.2
J25K	**Salcha River,**	**5.20**	**104**	Pn	Pn	02 41 19.6	-0.8
J25K				IAML		02 42 53.2	
	comp=N,34nm,0.8s						
J25K				IAML		02 42 55.7	
	comp=E,32nm,0.9s						
M16K	**Timber Creek**	**5.36**	**189**	Pn	Pn	02 41 22.4	-0.2
M16K				IAML		02 43 17.6	
	comp=E,24nm,1.7s						
STLK	**Strandline Lak**	**5.37**	**152**	Pn	Pn	02 41 22.9	+0.3
K24K	**Donnelly Dome**	**5.43**	**112**	Pn	Pn	02 41 22.9	-0.6
N19K	**Bonanza Creek**	**5.64**	**166**	Pn	Pn	02 41 26.6	+0.1
N18K	**Kilae Creek**	**5.68**	**174**	Pn	Pn	02 41 26.7	-0.1
N17K	**Nushagak Hills**	**5.80**	**180**	Pn	Pn	02 41 28.0	-0.6
RIDG	**Independent Ri**	**5.82**	**111**	Pn	Pn	02 41 28.5	-0.3
C26K	**Camden Bay**	**5.84**	**46**		Pn	02 41 29.6	+0.6
N16K	**Nishlik Lake**	**5.90**	**188**		Pn	02 41 29.6	-0.4
SML	**Sawmill**	**5.95**	**135**	Pn	Pn	02 41 30.3	-0.3
J26L	**Joseph Creek**	**5.96**	**101**	Pn	Pn	02 41 30.1	-0.8
SCRK	**Sand Creek**	**6.03**	**107**	Pn	Pn	02 41 30.4	-1.4
PAX	**Paxson**	**6.04**	**118**	Pn	Pn	02 41 31.5	-0.3
C27K	**Jago River**	**6.06**	**51**	Pn	Pn	02 41 31.9	-0.1
DOT	**Dot Lake**	**6.16**	**110**	Pn	Pn	02 41 31.9	-1.6
SCM	**Sheep Creek Mo**	**6.22**	**132**	Pn	Pn	02 41 34.5	+0.1
KNK	**Knik Glacier**	**6.23**	**138**	Pn	Pn	02 41 35.7	+1.2
N15K	**Kwethluk River**	**6.30**	**193**	Pn	Pn	02 41 34.5	-0.9
H27K	**Steamboat Moun**	**6.31**	**84**	Pn	Pn	02 41 36.1	+0.4
E27K	**Coleen River**	**6.33**	**66**	Pn	Pn	02 41 35.0	-0.8
O18K	**Koktuh Hills**	**6.54**	**171**	Pn	Pn	02 41 38.3	-0.4
O17K	**Koliganek Bris**	**6.56**	**180**		Pn	02 41 38.9	0.0
ILSW	**Iliamna Southw**	**6.60**	**162**	Pn	Pn	02 41 40.1	+0.5
O16K	**Kokwok River B**	**6.75**	**184**	Pn	Pn	02 41 40.5	-1.0
L26K	**Log Cabin Wild**	**6.78**	**113**	Pn	Pn	02 41 41.3	-0.6
D27M	**Malcolm River**	**6.81**	**57**	Pn	Pn	02 41 43.2	+0.8
P18K	**Big Mountain,**	**7.00**	**172**	Pn	Pn	02 41 44.0	-1.0
I28M	**Miner Creek**	**7.11**	**89**	Pn	Pn	02 41 45.6	-1.0
N25K	**Chitina, Valde**	**7.26**	**125**	Pn	Pn	02 41 50.5	+1.8
L27K	**Beaver Creek,**	**7.33**	**109**	Pn	Pn	02 41 48.6	-1.0
BCAR	**Beaver Creek A**	**7.34**	**109**	Pn	Pn	02 41 48.5	-1.2
H29M	**Whitestone**	**7.58**	**82**	Pn	Pn	02 41 53.1	+0.2
G29M	**Pine Creek**	**7.64**	**77**	Pn	Pn	02 41 53.4	-0.4
E29M	**Blow River**	**7.72**	**66**	Pn	Pn	02 41 55.8	+1.0
M27K	**Edge Creek, AK**	**7.72**	**114**	Pn	Pn	02 41 53.6	-1.4
DAWY	**Dawson**	**7.80**	**98**	Pn	Pn	02 41 55.0	-1.0
I30M	**Mount Dempster**	**8.61**	**88**	Pn	Pn	02 42 06.7	-0.5
L29M	**L29M**	**8.74**	**103**	Pn	Pn	02 42 08.9	0.0
J30M	**Hart River**	**8.84**	**92**	Pn	Pn	02 42 10.0	-0.3
M29M	**Somme Creek**	**8.96**	**107**	Pn	Pn	02 42 10.3	-1.7
O30N	**Mendenhall**	**10.88**	**111**	Pn	Pn	02 42 38.8	+0.7
A36M	**Sachs Harbour**	**12.57**	**49**	Pn	Pn	02 42 58.9	-2.2
YKAW3	**Yellowknife Wh**	**18.46**	**82**		P	02 44 18.0	-0.1
YKAW3				IAmb	IAmb	02 44 24.9	
	comp=Z,3.9nm,1.1s						
EUNU	**Eureka**	**22.49**	**25**		P	02 45 02.0	+0.3
EUNU				IAmb	IAmb	02 45 33.4	
	comp=Z,5.9nm,1.5s						
BLKN	**Baker Lake**	**24.74**	**66**	P	P	02 45 23.3	-0.4
BLKN				IAmb	IAmb	02 45 26.3	
	comp=Z,3.0nm,1.1s						

*NEIC **24** 02:39:59.9±2.0, 9°.86N±0°.08×126°.44E±0°.10, h10km±1km, mb4.7/46, Error ellipse: s-maj=16.3km s-min=12.9km az=79.0*
*DJA **24** 02:40:00.0±1.4, 11°N±10°×12°7E±°, h44km±13km, M4.7/12, mb4.7/12, mB6.2/2, Mw(mB)5.9/2*
*GCMT **24** 02:40:03.9±0.4, 9°.63N±0°.03×126°.78E±0°.03, h28km±1km, MW4.9/70, Moment Tensor Solution. s29,c30; s70,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.32±.16; $M_{\theta\theta}$-0.20±.09; $M_{\phi\phi}$-2.11±.10; $M_{r\theta}$-0.27±.16; $M_{\phi\theta}$0.20±.07; $M_{\phi r}$1.59±.15; Best double couple: $M_0$2.74800×10^{16} NP1:ϕ_s176.00000°, δ27.00000°, λ94.00000°. NP2: ϕ_s352.00000°, δ63.00000°, λ88.00000°. Principal axes: T 2.8450, Plg72.0000°, Azm258.0000°; N -0.1860, Plg2.0000°, Azm353.0000°; P -2.6520, Plg18.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **24** 02:40:10.9±2.1, 9°.66N×126°.31E, h107km±21km, mb3.8/22, mbtmp4.2/23, MS3.9/25 Error ellipse: s-maj=24.3km s-min=12.5km az=70.0*
ISC 24 02:40:09.9±0.4, 9°.68N±0°.05×126°.31E±0°.09, h100km, n113, σ1§17/91, mb4.4/47, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.69**	**196**	Pn	Pn	02 40 46.9	-4.7
DAV	**Davao City (W)**	**2.69**	**196**	P	**Pn**	**02 40 53.2**	**+1.6**
	192nm,0.3s,baz=68,slow=11,SNR=5.2						
DAV				S	**Sn**	**02 41 25.5**	**+1.9**
	310nm,0.5s,baz=182,slow=20,SNR=4.1						
DAV				LR	LR	02 41 58.5	
	comp=Z,4μm,19.7s,baz=12,slow=40						
DAV	**Davao City (W)**	**2.69**	**196**	P	**Pn**	**02 40 49.0**	**-2.6**
TGY	**Tagaytay City**	**6.85**	**310**	P	Pn	02 41 54.2	+6.4
	255nm,0.3s,baz=221,slow=7.2,SNR=2.3						
TGY				LR	LR	02 44 46.0	
	comp=Z,1μm,20.4s,baz=212,slow=40						
TNTI	**Ternate**	**8.91**	**173**	Pn	**Pn**	**02 42 13.3**	**-2.6**
TNTI	**Ternate**	**8.91**	**173**	P	**Pn**	**02 42 15.3**	**-0.6**
	39nm,0.8s						
MYLDM	**Lahad Datu**	**8.94**	**241**	Pn	**Pn**	**02 42 12.4**	**-3.8**
FAKI	**Fak Fak**	**13.85**	**154**	Pn	**Pn**	**02 43 18.1**	**-3.8**
TPUB	**Ta-pu**	**14.59**	**339**		**Pn**	**02 43 31.8**	**+0.3**
BNSI	**Bone**	**15.29**	**204**	P	**P**	**02 43 45.6**	**+2.6**
	41nm,1.5s						
SBUM	**Sibu**	**15.73**	**244**		**Pn**	**02 43 47.6**	**+1.6**
KAPI	**Kappang**	**15.99**	**204**	LR	LR	02 50 29.4	
	comp=Z,229nm,20.3s,baz=37,slow=39						
SMPI	**Sarmi**	**16.94**	**133**	P	**Pn**	**02 44 00.6**	**-0.3**
	56nm,1.7s						
GUMO	**Guam**	**18.59**	**76**	LR	LR	02 51 33.8	
	comp=Z,397nm,18.2s,baz=251,slow=37						
JAY	**Jayapura**	**18.77**	**129**	LR	LR	02 50 57.4	
	comp=Z,459nm,19.0s,baz=315,slow=34						
SOEI	**Soe**	**19.41**	**186**	P	**P**	**02 44 28.1**	**-0.3**
SOEI	**Soe**	**19.41**	**186**	P	Pn	02 44 51.0	+20
UBPT	**Khong Chiam**	**21.08**	**287**	P	**P**	**02 44 44.7**	**-1.7**
MTN	**Manton Dam**	**22.88**	**168**	P	**P**	**02 45 03.2**	**-2.0**
MTN				IAmb	IAmb	02 45 23.2	
	comp=Z,45nm,1.2s						
JCJ	**Chichijima**	**22.91**	**39**	LR	LR	02 54 31.4	
	comp=Z,232nm,19.0s,baz=109,slow=38						
MYKOM	**Kota Tinggi**	**23.66**	**252**	P	**P**	**02 45 13.8**	**+1.3**
MYKOM				IAmb	IAmb	02 45 15.9	
	comp=Z,17nm,0.7s						
KNRA	**Kununurra**	**25.31**	**174**	P	**P**	**02 45 26.9**	**-0.4**
KNRA				IAmb	IAmb	02 45 57.2	
	comp=Z,18nm,0.8s						
MDSI	**Maura Dua**	**26.16**	**238**	P	**P**	**02 45 37.7**	**+2.6**
	comp=Z,18nm,1.1s						
JHJ	**Hachijo jima 2**	**26.43**	**26**	LR	LR	02 55 38.1	
	comp=Z,234nm,20.0s,baz=66,slow=35						
FITZ	**Fitzroy Crossi**	**27.61**	**181**	P	**P**	**02 45 47.8**	**-0.2**
KSRS	**Korea Array**	**27.69**	**3**	P	**P**	**02 45 48.6**	**0.0**
	comp=Z,0.6nm,0.5s,baz=178,slow=11,SNR=4.1						
KSRS				LR	LR	02 58 41.8	
	comp=Z,184nm,18.6s,baz=175,slow=40						
	comp=Z,0.6nm,0.5s						
CM31	**Chiang Mai Arr**	**27.91**	**291**	P	**P**	**02 45 51.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**27.91**	**291**	P	**P**	**02 45 50.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**27.91**	**291**	P	**P**	**02 45 51.2**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=101,slow=6.8,SNR=7.9						
CMAR				LR	LR	02 58 31.6	
	comp=Z,228nm,18.4s,baz=235,slow=39						
	comp=Z,1.2nm,0.3s						
PMG	**Port Moresby**	**28.11**	**132**	LR	LR	02 58 38.8	
	comp=Z,137nm,18.4s,baz=244,slow=39						
MJAR	**Matsushiro Arr**	**28.84**	**20**	LR	LR	02 57 44.8	
	comp=Z,232nm,18.8s,baz=204,slow=36						
WB0	**Warramunga Arr**	**30.32**	**165**	P	**P**	**02 46 10.2**	**-2.0**
WB0				IAmb	IAmb	02 46 48.1	
	comp=Z,11nm,1.1s	

PEA0B IAmb IAmb 02 49 15.8
comp=Z,17nm,1.2s
PETK Petropavlovsk- 50.16 24 P **P 02 48 55.5 +0.4**
comp=Z,2.9nm,0.9s,baz=209,slow=3.6,SNR=11
PETK LR LR 03 10 28.6
comp=Z,118nm,19.4s,baz=227,slow=36
comp=Z,2.9nm,0.9s
YAK Yakutsk 52.31 2 LR LR 03 13 04.6
comp=Z,127nm,20.0s,baz=206,slow=38
MKAR Makanchi Array 52.52 323 P **P 02 49 12.7 -0.2**
MKAR Makanchi Array 52.52 323 P **P 02 49 13.1 +0.2**
comp=Z,1.6nm,0.6s,baz=121,slow=8.1,SNR=25
MKAR LR LR 03 11 16.1
comp=Z,138nm,18.6s,baz=94,slow=36
comp=Z,1.6nm,0.6s
MAKZ Makanchi 52.71 323 P **P 02 49 14.4 0.0**
BOOM Boomskoye usch 54.72 316 P **P 02 49 29.2 0.0**
ZALV Zalesovo Beam 55.16 332 P **P 02 49 31.0 -1.0**
ZALV Zalesovo Beam 55.16 332 P **P 02 49 31.6 -0.3**
comp=Z,0.7nm,0.3s,baz=134,slow=11,SNR=4.7
comp=Z,0.7nm,0.3s
AAK Ala-Archa 55.77 315 LR LR 03 16 42.5
comp=Z,115nm,18.0s,baz=96,slow=39
KURK Kurchatov 56.57 326 P **P 02 49 41.9 -0.2**
KURK IAmb IAmb 02 49 45.0
comp=Z,5.0nm,0.6s
KURBB Kurchatov Arra 56.58 326 P **P 02 49 42.2 +0.1**
comp=Z,1.5nm,0.6s,baz=126,slow=6.7,SNR=14
comp=Z,1.5nm,0.6s
SHEM Shemya Is, Ala 57.63 32 LR LR 03 09 34.6
comp=Z,41nm,21.6s,baz=162,slow=31
KBL Kabul 57.70 305 P **P 02 49 50.0 -0.6**
KBL IAmb IAmb 02 49 51.4
comp=Z,4.8nm,0.7s
KK31 Karatay Array 58.69 315 P **P 02 49 56.8 -0.4**
KKAR Karatay Array 58.69 315 P **P 02 49 56.9 -0.2**
TIXI Tiksi 61.94 1 P **P 02 50 18.0 -0.7**
TIXI IAmb IAmb 02 50 23.6
comp=Z,8.5nm,1.1s
BVAR Borovoye Array 62.17 326 P **P 02 50 21.0 +0.4**
comp=Z,1.3nm,0.7s,baz=116,slow=3.4,SNR=7.1
comp=Z,1.3nm,0.7s
BRVK Borovoye 62.24 326 P **P 02 50 19.7 -1.4**
BRVK IAmb IAmb 02 50 26.2
comp=Z,7.8nm,1.4s
NRIK Noril'sk 64.59 346 P **P 02 50 36.3 0.0**
NRIK Noril'sk 64.59 346 P **P 02 50 37.0 +0.8**
comp=Z,5.8nm,0.6s,baz=125,slow=6.0,SNR=12
NRIK LR LR 03 21 05.3
comp=Z,87nm,20.4s,baz=159,slow=38
comp=Z,5.8nm,0.6s
THZ Tophouse 66.67 144 P **P 02 50 51.6 +1.4**
RPZ Rata Peaks 66.88 146 P **P 02 50 52.6 +1.3**
URZ Urewera 67.20 139 LR LR 03 22 25.7
comp=Z,107nm,18.1s,baz=21,slow=38
AB31 Akbulak array 67.34 319 P **P 02 50 53.7 -0.6**
ABKAR Akbulak array 67.34 319 P **P 02 50 54.5 +0.2**
ARTI Arti 69.82 327 P **P 02 51 09.6 +0.1**
ARTI IAmb IAmb 02 51 43.9
comp=Z,3.5nm,0.6s
ARTI Arti 69.82 327 LR LR 03 25 49.2
comp=Z,79nm,18.7s,baz=110,slow=39
M16K Timber Creek 74.20 29 P **P 02 51 33.7 -1.9**
M16K IAmb IAmb 02 51 34.8
comp=Z,13nm,1.4s
C18K Utukok River 74.69 21 P **P 02 51 39.3 +0.9**
C18K IAmb IAmb 02 51 50.1
comp=Z,11nm,1.4s
D19K Kuna River 75.77 22 P **P 02 51 43.6 -1.0**
D19K IAmb IAmb 02 51 50.6
comp=Z,6.5nm,1.1s
D20K Etivluk River 76.35 21 P **P 02 51 48.1 +0.2**
D20K IAmb IAmb 02 51 53.9
comp=Z,6.2nm,1.0s
KDAK Kodiak Island 77.14 33 LR LR 03 22 16.9
comp=Z,50nm,20.2s,baz=106,slow=33
B21K Ikpikpuk River 77.18 21 P **P 02 51 52.8 +0.3**
RAYN Ar Rayn 77.82 292 P **P 02 51 56.7 -0.3**
KBZ Khabaz 78.63 313 P **P 02 52 00.4 -0.6**
comp=Z,1.9nm,0.9s,baz=16,slow=5.7,SNR=3.9
comp=Z,1.9nm,0.9s
F24K Squaw Lake 79.52 23 P **P 02 52 04.9 -0.5**
ILAR Eielson Array 79.95 26 P **P 02 52 07.4 -0.4**
comp=Z,0.5nm,0.8s,baz=237,slow=5.0,SNR=9.2
comp=Z,0.5nm,0.8s
D27M Malcolm River 81.99 21 P **P 02 52 19.2 +0.6**
D27M IAmb IAmb 02 52 29.6
comp=Z,8.0nm,1.5s
F30M Barrier River 84.13 22 P **P 02 52 30.1 +0.5**
F30M IAmb IAmb 02 52 58.2
comp=Z,7.9nm,1.2s
SPB2 Spitsbergen Ar 84.60 349 P **P 02 52 33.1 +1.3**
SPITS Spitsbergen Ar 84.60 349 P **P 02 52 32.6 +0.8**
comp=Z,2.8nm,0.6s,baz=88,slow=7.1,SNR=14
comp=Z,2.8nm,0.6s
ARCES ARCESS Array B 84.76 340 P **P 02 52 33.4 +0.8**
comp=Z,2.5nm,0.6s,baz=81,slow=7.0,SNR=24
comp=Z,2.5nm,0.6s
N31M Braeburn, Yuko 85.33 28 P **P 02 52 35.2 -0.5**
N31M IAmb IAmb 02 52 39.3
comp=Z,8.5nm,1.1s
BRTR Keskin Array B 85.93 309 P **P 02 52 39.9 +0.6**
comp=Z,0.6nm,0.7s,baz=110,slow=4.7,SNR=5.2
comp=Z,0.6nm,0.7s
FINES FINESS Array B 86.42 332 P **P 02 52 41.9 +0.8**
comp=Z,2.1nm,0.5s,baz=80,slow=4.7,SNR=27
comp=Z,2.1nm,0.5s
AKASG Malin Array Be 87.04 321 P **P 02 52 44.6 +0.3**
comp=Z,0.7nm,0.6s,baz=73,slow=2.9,SNR=6.0
comp=Z,0.7nm,0.6s
PPT Papeete 87.35 108 LR LR 03 27 26.2
comp=Z,60nm,19.3s,baz=305,slow=32
HFS Hagfors 92.59 332 P **P 02 53 09.8 -0.3**
comp=Z,2.6nm,0.6s,baz=99,slow=4.7,SNR=16
comp=Z,2.6nm,0.6s
NB2 NORSAR Subarra 93.30 334 P **P 02 53 12.8 -0.6**
comp=Z,1.0nm,0.8s,baz=64,slow=4.8
NOA NORSAR Array B 93.30 334 P **P 02 53 13.1 -0.3**
comp=Z,0.5nm,0.6s,baz=64,slow=4.5,SNR=5.1
comp=Z,0.5nm,0.6s
YKA Yellowknife Ar 94.28 24 P **P 02 53 18.9 +1.1**
comp=Z,0.9nm,0.9s,baz=302,slow=4.3,SNR=13
comp=Z,0.9nm,0.9s
YBH Yreka Blue Hor 98.83 45 LR LR 03 38 36.2
comp=Z,21nm,18.4s,baz=330,slow=36
TORD Torodi Ar. Bea 120.52 291 PKPdf **PKPdf 02 58 49.7 -1.2**
SHEL Horse Pasture 132.91 257 PKPdf **PKPdf 02 59 13.1 -1.4**
PLCA Paso Flores 145.65 157 PKPdf **PKPbc 02 59 38.5 +1.0**
PLCA Paso Flores 145.65 157 PKPbc **PKPab 02 59 39.1 +1.2**
comp=Z,1.6nm,0.9s,baz=230,slow=4.5,SNR=4.7
DR12 Loma Pena Alta 147.76 29 PKPbc **PKPdf 02 59 41.9 +0.7**
PDPR Patillas Dam, 149.91 24 PKPbc **PKPbc 02 59 50.2 +0.7**
LPAZ La Paz 164.48 117 PKP **PKPdf 03 00 04.4 +0.8**
comp=Z,1.5nm,1.0s,baz=280,slow=2.1,SNR=3.6

*SSNC **24** 02:56:53.8±4.2, 19°.02N×72°.09W, h120km±181km, MD3.3, ML1.7*
*SDD **24** 02:56:54.3±2.2, 18°.60N×72°.64W, h15km±200km, MD3.0, ML2.2, MW2.5*
*OSPL **24** 02:56:55.9±1.2, 18°.56N×72°.55W, h12km±4km, ML1.9*
ISC 24 02:56:54.9±1.3, 18°.67N±0°.05×72°.50W±0°.03, h17km±11km, n18, σ1.9 25/33, 11C-1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**0.24**	**127**	*i* P	**Pb**	**02 57 00.6**	**-0.3**
PAPH				*e*S	**Sb**	**02 57 04.6**	**-0.3**
PAPH				IAML		02 57 05.2	
comp=Z,276nm,0.3s							
JIDR	**Jimani**	**0.64**	**106**	⇑*e*Pg	**Pg**	**02 57 07.2**	**-0.4**
JIDR				⇑*e*Sg	**Sb**	**02 57 16.6**	**+0.1**
JIDR				IAML		02 57 25.7	
comp=N,43nm,0.5s							
LONE3	**El Aguacate, B**	**0.99**	**94**	*i* P	**Pb**	**02 57 13.1**	**-0.6**
LONE3				IAML		02 57 27.2	
comp=Z,19nm,3.6s							
LOBH	**Bahia de las A**	**1.15**	**134**	*i* P	**Pb**	**02 57 14.7**	**-1.7**
LOBH				*e*S	**Sb**	**02 57 29.4**	**-1.5**
LOBH				IAML		02 57 33.2	
comp=Z,18nm,0.8s							
REDR	**Restauracion**	**1.16**	**65**	⇑*e*Pg	**Pb**	**02 57 14.2**	**-2.3**
REDR				⇑*e*Sg	**Sb**	**02 57 28.4**	**-2.9**
REDR				IAML		02 57 32.9	
comp=N,39nm,0.1s							
SDDR	**Presa de Saban**	**1.19**	**75**	⇑*e*Pg	**Pg**	**02 57 18.6**	**+0.6**
SDDR				⇑*e*Sg	**Sn**	**02 57 34.8**	**+1.9**
SDDR				IAML		02 57 41.8	
comp=N,15nm,0.5s							
SDDR	**Presa de Saban**	**1.19**	**75**	*i* P	**Pg**	**02 57 17.8**	**-0.2**
SDDR				*e*S	**Sn**	**02 57 34.6**	**+1.9**
SDDR				IAML		02 57 37.3	
comp=Z,11nm,0.3s							
PODR	**Polo**	**1.26**	**113**	⇑*e*Pg	**Pn**	**02 57 17.9**	**-0.1**
PODR				⇑*e*Sg	**Sg**	**02 57 37.6**	**+1.7**
PODR				IAML		02 57 47.5	
comp=N,30nm,1.1s							
LOVI	**El Cajuil, Ovi**	**1.38**	**129**	*i* P	**Pn**	**02 57 18.8**	**-0.7**
LOVI				IAML		02 57 39.8	
comp=Z,33nm,0.6s							
ABDR	**Alto Bandera**	**1.78**	**85**	⇑*e*Pg	**Pb**	**02 57 27.2**	**-0.1**
ABDR				⇑*e*Sg	**Sg**	**02 57 52.8**	**+0.3**
ABDR				IAML		02 58 37.2	
comp=N,32nm,4.8s							
BANI	**BANI**	**2.05**	**97**	⇑*e*Pg	**Pb**	**02 57 31.3**	**-0.6**
BANI				⇑*e*Sg	**Sb**	**02 57 58.5**	**+1.3**
BANI				IAML		02 58 44.1	
comp=N,52nm,3.0s							
MASC	**Masc**	**2.21**	**313**	*e*P	**Pn**	**02 57 31.1**	**+0.2**
MASC				*e*S	**Sn**	**02 57 57.6**	**-0.3**
MASC				IAML		02 58 04.0	
comp=E,2.8nm,0.1s							
MASC	**Masc**	**2.21**	**313**	*i* P	**Pn**	**02 57 31.3**	**+0.4**
MASC				IAML		02 58 08.8	
comp=Z,13nm,1.0s							
QMBU	**Quimbuelo**	**2.66**	**305**	*e*P	**Pn**	**02 57 36.8**	**-0.3**
QMBU				*e*S	**Sn**	**02 58 08.0**	**-1.0**
GTBY	**Guantanamo Bay**	**2.76**	**297**	*e*P	**Pn**	**02 57 40.7**	**+2.2**
GTBY				*e*S	**Sb**	**02 58 17.2**	**-0.3**
RCC	**Rio Carpintero**	**3.29**	**294**	*e*P	**Pn**	**02 57 45.8**	**+0.1**
RCC				*e*S	**Sn**	**02 58 24.6**	**0.0**
MARVS	**Santiago de Cu**	**3.47**	**293**	*e*P	**Pn**	**02 57 48.2**	**0.0**
MARVS				*e*S	**Sn**	**02 58 29.3**	**+0.3**
PINC	**Pinares de May**	**3.59**	**301**	*e*P	**Pn**	**02 57 51.7**	**+1.9**
PINC				*e*S	**Sn**	**02 58 33.3**	**+1.5**

*BJI **24** 03:28:19.0, 1°.81N×128°.83E, h115km, mB5.0/19, mb5.2/64*
*GCMT **24** 03:28:25.0±0.4, 2°.29N±0°.03×128°.19E±0°.03, h105km±5km, MW4.8/75, Moment Tensor Solution. s19,c19; s75,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.59±.08; $M_{\theta\theta}$0.24±.09; $M_{\phi\phi}$-1.83±.10; $M_{r\theta}$0.38±.06; $M_{r\phi}$0.65±.10; $M_{\theta\phi}$0.69±.09; Best double couple: $M_0$1.99400×10^{16} NP1:ϕ_s3.00000°, δ57.00000°, λ114.00000°. Principal axes: T 1.8820, Plg68.0000°, Azm323.0000°; N 0.2220, Plg20.0000°, Azm169.0000°; P -2.1060, Plg9.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **24** 03:28:25.9±0.2, 2°N±2°×12°8E±°, h106km±2km, M5.1/54, mB5.5/20, mb5.1/54, MLv5.2/17, Mw(mB)5.0/20, MwMwp5.8/1, Mwp5.9/1*
*NEIC **24** 03:28:26.0±1.6, 2°.30N±0°.07×128°.23E±0°.09, h112km±5km, mb4.9/103, Error ellipse: s-maj=12.7km s-min=10.0km az=77.0*
*IDC **24** 03:28:25.3±1.3, 2°.28N×128°.23E, h114km±10km, mb4.4/28, mbtmp4.8/30, MS3.1/1, Error ellipse: s-maj=18.3km s-min=7.2km az=77.0*
ISC 24 03:28:25.4±0.4, 2°.29N±0°.04×128°.29E±0°.06, h113km±3km, h114km; pP-P, n488, σ0.9 99/503, mb4.9/104, 4C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.76**	**211**		**Pn**	**03 28 55.8**	**+0.3**
TNTI				Sn	**Sn**	**03 29 19.5**	**+0.9**
TNTI	**Ternate**	**1.76**	**211**	P	**Pn**	**03 28 55.9**	**+0.3**
TNTI	**Ternate**	**1.76**	**211**	P	**Pn**	**03 28 55.9**	**+0.3**
SGSI	**Sangihe**	**3.08**	**297**	P	**Pn**	**03 29 11.9**	**-0.7**
SWI	**Sorong**	**4.32**	**136**	P	**Pn**	**03 29 30.9**	**+1.9**
KMSI	**Cibinong**	**4.63**	**248**	P	**Pn**	**03 29 33.5**	**+0.3**
SANI	**Sanana**	**4.88**	**208**	P	**Pn**	**03 29 36.0**	**-0.7**
SANI	**Sanana**	**4.88**	**208**	P	**Pn**	**03 29 35.9**	**-0.7**
DAV	**Davao City (W)**	**5.46**	**331**	P	**Pn**	**03 29 43.1**	**-1.4**
324nm,0.4s,baz=356,slow=4.0,SNR=1.9							
DAV				S	**Sn**	**03 30 45.8**	**-0.4**
310nm,0.4s,baz=336,slow=3.5,SNR=1.8							
NLAI	**Namlea**	**5.62**	**192**	P	**Pn**	**03 29 47.9**	**+1.3**
1.4nm4μm492nm,0.8s							
MSAI	**Masohi**	**5.63**	**173**	P	**Pn**	**03 29 49.2**	**+2.4**
0.9nm3μm231nm,0.6s							
AAI	**Ambon**	**5.94**	**181**	P	**Pn**	**03 29 53.1**	**+2.2**
0.4nm97nm,0.7s							
LUWI	**Luwuk**	**6.43**	**239**		**Pn**	**03 29 56.4**	**-1.1**
LUWI	**Luwuk**	**6.43**	**239**	P	**Pn**	**03 29 56.3**	**-1.3**
LUWI	**Luwuk**	**6.43**	**239**	P	**Pn**	**03 29 56.3**	**-1.3**
FAKI	**Fak Fak**	**6.51**	**143**		**Pn**	**03 30 01.0**	**+2.3**
FAKI	**Fak Fak**	**6.51**	**143**	P	**Pn**	**03 30 00.6**	**+1.8**
FAKI	**Fak Fak**	**6.51**	**143**	P	**Pn**	**03 30 00.8**	**+2.0**
0.5nm127nm,1.0s							
APSI	**Ampana**	**7.36**	**244**	P	**Pn**	**03 30 09.4**	**-0.8**
1.6nm4μm345nm,0.6s							
TOLI2	**Tolitoli**	**7.59**	**261**		**Pn**	**03 30 12.0**	**-1.3**
TOLI2	**Tolitoli**	**7.59**	**261**	P	**Pn**	**03 30 12.1**	**-1.3**
BAKI	**Biak**	**8.55**	**114**	P	Pn	03 30 31.9	+5.6
4μm338nm,1.0s							
MPSI	**Mapaga**	**8.61**	**257**	P	**Pn**	**03 30 26.8**	**-0.3**
2μm166nm,0.8s							
PCI	**Palu**	**9.02**	**250**	P	**Pn**	**03 30 32.5**	**-0.3**
196nm,0.7s							
BBSI	**Bau Bau**	**9.60**	**216**	P	**Pn**	**03 30 42.7**	**+2.1**
219nm,1.0s							
MYLDM	**Lahad Datu**	**10.18**	**287**		**Pn**	**03 30 49.6**	**+1.2**
MYLDM	**Lahad Datu**	**10.18**	**287**	P	**Pn**	**03 30 47.6**	**-0.8**
BNSI	**Bone**	**10.53**	**231**	P	**Pn**	**03 30 52.0**	**-1.2**
SPSI	**Sidrap Palu**	**10.54**	**234**	P	**Pn**	**03 30 52.3**	**-1.0**
BKSI	**Bulukumba**	**11.12**	**227**	P	**Pn**	**03 31 01.9**	**+0.8**
2μm137nm,0.6s							
KAPI	**Kappang**	**11.19**	**230**		**Pn**	**03 31 02.6**	**+0.5**
KAPI	**Kappang**	**11.19**	**230**	P	**Pn**	**03 31 00.9**	**-1.2**
170nm,0.5s,baz=45,slow=5.1,SNR=47							
KAPI	**Kappang**	**11.19**	**230**	P	**Pn**	**03 31 00.9**	**-1.2**
SMKI	**Samarinda**	**11.40**	**256**	P	**Pn**	**03 31 04.3**	**-0.6**
BSSI	**Bau Bau, Buton**	**11.43**	**223**	P	**Pn**	**03 31 05.8**	**+0.5**
MMRI	**Maumere**	**12.41**	**209**		**Pn**	**03 31 19.9**	**+1.6**
EDFI	**Ende, Flores**	**12.78**	**211**	P	**Pn**	**03 31 22.9**	**-0.3**
59nm,0.7s							
TGY	**Tagaytay City**	**13.80**	**329**	P	**Pn**	**03 31 35.4**	**-1.0**
181nm,0.3s,baz=252,slow=20,SNR=4.0							
WBSI	**Waikabubak, Su**	**14.80**	**217**	P	**P**	**03 31 51.4**	**-0.6**
128nm,0.8s							
PLAI	**Plampang**	**15.22**	**223**	P	**Pn**	**03 31 53.5**	**-0.9**
PLAI	**Plampang**	**15.22**	**223**	P	**P**	**03 31 56.1**	**-0.6**
74nm,1.3s							
MTN	**Manton Dam**	**15.29**	**169**		**Pn**	**03 31 55.0**	**-0.3**
KDU	**Kakadu**	**15.45**	**164**	P	**Pn**	**03 31 57.0**	**-0.2**
TWSI	**Taliwang, Sumb**	**15.79**	**226**	P	**P**	**03 32 03.2**	**+0.2**
24μm70nm,1.0s							
SBUM	**Sibu**	**16.05**	**271**	P	**P**	**03 32 06.0**	**+0.1**
JAGI	**Jajag, Banyuwa**	**17.69**	**233**		**Pn**	**03 32 25.4**	**+0.7**
JAGI	**Jajag, Banyuwa**	**17.69**	**233**	P	**Pn**	**03 32 23.9**	**-0.8**
77nm,1.2s							
KNRA	**Kununurra**	**17.86**	**179**		**Pn**	**03 32 26.7**	**0.0**
GMJI	**Gumukmas**	**18.14**	**235**	P	**Pn**	**03 32 31.3**	**+1.2**
60nm,1.1s							
GUMO	**Guam**	**19.87**	**55**	LR	LR	03 39 08.1	
comp=Z,51nm,20.8s,baz=80,slow=32							
PCJI	**Pacitan**	**19.99**	**238**	P	**Pn**	**03 32 52.5**	**+0.7**
180nm,0.8s							
UGM	**Wanagama**	**20.41**	**240**	P	**P**	**03 32 54.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**20.42**	**187**	P	**P**	**03 32 53.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.42**	**187**	P	**P**	**03 32 52.8**	**-1.0**
3.2nm,0.5s,baz=22,slow=9.8,SNR=12							
3.2nm,0.5s							
FITZ	**Fitzroy Crossi**	**20.42**	**187**	P	**P**	**03 32 52.4**	**-1.3**
TPI	**Tanjungpandan**	**21.23**	**256**	P	**P**	**03 33 02.5**	**+0.1**
38nm,0.9s							
TWG	**Pinlang**	**21.58**	**342**	P	**P**	**03 33 04.9**	**-1.1**
DLV	**Lat**	**21.84**	**297**		**P**	**03 33 10.4**	**+1.2**
COEN	**Coen**	**21.87**	**138**	P	**P**	**03 33 10.8**	**+1.6**
COEN	**Coen**	**21.87**	**138**	P	**P**	**03 33 10.5**	**+1.2**
YULB	**Yu-li**	**22.05**	**343**	P	**P**	**03 33 10.1**	**-0.9**
YULB	**Yu-li**	**22.05**	**343**	P	**P**	**03 33 10.2**	**-0.9**
TPUB	**Ta-pu**	**22.17**	**341**	P	**P**	**03 33 12.3**	**0.0**
SSLB	**Suanglung**	**22.52**	**342**		**P**	**03 33 15.3**	**-0.6**
SSLB	**Suanglung**	**22.52**	**342**	P	**P**	**03 33 16.3**	**+0.4**
YOJ	**Yonaguni jima**	**22.63**	**347**	P	**P**	**03 33 16.8**	**-0.1**
WB0	**Warramunga Arr**	**22.72**	**165**		**P**	**03 33 17.9**	**-0.1**
BBJI	**Bungbulang**	**22.75**	**245**	P	**P**	**03 33 17.4**	**-1.0**
WRAB	**Tennant Creek**	**22.87**	**165**	P	**P**	**03 33 19.4**	**0.0**
WRA	**Warramunga Arr**	**22.88**	**165**	P	**P**	**03 33 19.0**	**-0.5**
WRA	**Warramunga Arr**	**22.88**	**165**	P	**P**	**03 33 19.4**	**0.0**
31nm,0.6s,baz=345,slow=10,SNR=144							
WRA				S	**S**	**03 37 20.8**	**+0.2**
3.7nm,1.1s,baz=341,slow=18,SNR=5.2							
WRA				ScP	**ScP**	**03 40 32.1**	**-2.1**
2.0nm,0.9s,baz=344,slow=3.0,SNR=4.8							
31nm,0.6s							
WR8	**Warramunga Arr**	**22.93**	**165**		**P**	**03 33 19.7**	**-0.2**
YHNB	**Yeheng**	**23.23**	**344**	P	**P**	**03 33 23.1**	**+0.3**
YHNB	**Yeheng**	**23.23**	**344**	P	**P**	**03 33 23.3**	**+0.5**
HKPS	**Hong Kong Po S**	**24.16**	**326**		**P**	**03 33 31.2**	**0.0**
CGJI	**Cibinong**	**24.23**	**248**	P	**P**	**03 33 30.8**	**-1.0**
39nm,0.6s							
QZH	**Quanzhou**	**24.39**	**338**	*e*P	**P**	**03 33 35.3**	**+2.1**
QZH				S	**S**	**03 37 46.6**	**+1.8**
MYKOM	**Kota Tinggi**	**24.43**	**269**		**P**	**03 33 33.1**	**-0.6**
KLI	**Kotabumi**	**24.46**	**253**	P	**P**	**03 33 34.7**	**+0.7**
QIZ	**Qiongzhong**	**24.55**	**314**	P	**P**	**03 33 35.3**	**+0.5**
QIZ				pP	**pwP**	**03 33 59.8**	**-2.5**
QIZ				S	**S**	**03 37 50.6**	**+3.0**
QIZ				pmax	pmax		
comp=Z,27nm,1.0s							
QIZ				pmax	pmax		
comp=Z,180nm,5.5s							
QIZ				LR	LR		
comp=N,120nm,8.8s							
QIZ				LR	LR		
comp=E,140nm,9.3s							
QIZ				LR	LR		
comp=Z,110nm,10.4s							
MDSI	**Maura Dua**	**25.01**	**254**	P	**P**	**03 33 39.6**	**+0.6**
25nm,0.8s							
PSA00	**Pilbara Seismi**	**25.11**	**199**	P	**P**	**03 33 39.5**	**-0.3**
QIS	**Mount Isa**	**25.27**	**154**	P	**P**	**03 33 42.1**	**+0.8**
UBPT	**Khong Chiam**	**25.94**	**301**	P	**P**	**03 33 47.9**	**+0.6**
UBPT				IAmb	IAmb	03 33 50.2	
comp=Z,23nm,0.8s							
AS31	**Alice Springs**	**26.37**	**168**		**P**	**03 33 50.4**	**-0.8**
ASAR	**Alice Springs**	**26.37**	**168**	P	**P**	**03 33 51.2**	**0.0**
comp=Z,5.6nm,0.6s,baz=355,slow=8.3,SNR=77							
ASAR				PcP	**PcP**	**03 37 14.2**	**-0.1**
comp=Z,4.2nm,0.5s,baz=350,slow=2.1,SNR=15							
ASAR				S	**S**	**03 38 17.3**	**+1.0**
comp=Z,0.5nm,0.3s,baz=358,slow=20,SNR=1.4							
ASAR				ScP	**ScP**	**03 40 42.3**	**-1.7**
comp=Z,3.1nm,0.8s,baz=351,slow=2.4,SNR=12							
comp=Z,5.6nm,0.6s							
AS01	**Alice Springs**	**26.38**	**168**	P	**P**	**03 33 51.4**	**+0.1**
WRKA	**Warakurna**	**27.16**	**180**	P	**P**	**03 33 57.8**	**-0.5**
GULI	**GuiLin**	**28.66**	**324**	P	**P**	**03 34 13.8**	**+2.2**
MEEK	**Meekatharra**	**30.23**	**197**	P	**P**	**03 34 25.1**	**-0.4**
OOD	**Oodnadatta**	**30.75**	**167**	P	**P**	**03 34 30.0**	**0.0**
WHN	**Wuhan**	**31.05**	**336**	⇑P	**P**	**03 34 35.8**	**+3.2**
WHN				pmax	pmax		
comp=Z,65nm,0.5s							
FORT	**Forrest**	**32.88**	**180**		**P**	**03 34 47.6**	**-1.0**
FORT				pP	**pP**	**03 35 14.3**	**+0.8**
FORT				IAmb	IAmb	03 35 16.3	
comp=Z,30nm,0.9s							
FORT	**Forrest**	**32.88**	**180**	P	**P**	**03 34 48.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**32.94**	**301**	P	**P**	**03 34 49.4**	**0.0**
comp=Z,2.8nm,0.6s,baz=116,slow=6.8,SNR=31							
CMAR				PcP	**PcP**	**03 37 31.1**	**-0.2**
comp=Z,1.1nm,0.3s,baz=136,slow=1.7,SNR=6.5							
CMAR				ScP	**ScP**	**03 41 04.5**	**-0.8**
comp=Z,0.8nm,0.3s,baz=112,slow=1.9,SNR=4.6							
comp=Z,2.8nm,0.6s							
CHTO	**Chiang Mai**	**33.09**	**302**	P	**P**	**03 34 52.2**	**+1.4**
CHTO				sP	**sP**	**03 35 28.7**	**+1.3**
MORW	**Morawa**	**33.31**	**200**	P	**P**	**03 34 52.1**	**-0.4**
KMI	**Kunming**	**33.49**	**315**	⇑P	**P**	**03 34 56.4**	**+2.0**
KMI				pmax	pmax		
comp=Z,56nm,0.8s							
LCRK	**Leigh Creek**	**33.90**	**165**	P	**P**	**03 34 57.9**	**+0.4**
JGF	**Kuroka**	**34.20**	**13**	P	**P**	**03 35 01.0**	**+0.9**
BLDU	**Ballidu**	**34.53**	**198**	P	**P**	**03 35 01.9**	**-1.1**
KSRS	**Korea Array**	**35.00**	**359**	P	**P**	**03 35 06.7**	**-0.2**
comp=Z,5.1nm,0.8s,baz=175,slow=9.6,SNR=26							
KSRS				ScP	**ScP**	**03 41 10.3**	**-1.7**
comp=Z,2.4nm,0.8s,baz=190,slow=3.5,SNR=7.9							
comp=Z,5.1nm,0.8s							
PZH	**PanZhiHua**	**35.05**	**316**	P	**P**	**03 35 08.8**	**+1.1**
PZH				S	**S**	**03 40 35.4**	**+3.4**
PZH				pmax	pmax		
comp=Z,40nm,1.0s							
PZH				pmax	pmax		
comp=Z,120nm,5.3s							
PZH				LR	LR		
comp=Z,180nm,17.8s							
PZH				LR	LR		
comp=Z,160nm,17.1s							
PZH				LR	LR		
comp=Z,270nm,17.8s							
KLBR	**Kellerberrin**	**35.15**	**196**	P	**P**	**03 35 07.1**	**-1.2**
MJAR	**Matsushiro Arr**	**35.30**	**14**	P	**P**	**03 35 08.2**	**-1.3**
comp=Z,8.2nm,0.7s,baz=183,slow=9.5,SNR=28							
comp=Z,8.2nm,0.7s							
MAJO	**Matsushiro**	**35.30**	**14**		**P**	**03 35 08.7**	**-0.8**
MAJO				IAmb	IAmb	03 35 11.7	
comp=Z,13nm,0.6s							
MAJO	**Matsushiro**	**35.30**	**14**	P	**P**	**03 35 08.1**	**-1.4**
MJB9	**Matsu-Tunnel**	**35.30**	**14**		**P**	**03 35 09.0**	**-0.6**
MJB9				IAmb	IAmb	03 35 12.7	
comp=Z,12nm,0.6s							
LYN	**LuoYang**	**35.32**	**337**	P	**P**	**03 35 08.3**	**-1.5**
LYN				pP	pwP	03 35 39.1	+0.3
LYN				pmax	pmax		
comp=Z,22nm,0.8s							
BBOO	**Buckleboo**	**35.67**	**169**		**P**	**03 35 12.9**	**+0.2**
BBOO				IAmb	IAmb	03 35 13.1	
comp=Z,13nm,0.5s							
BBOO	**Buckleboo**	**35.67**	**169**	P	**P**	**03 35 12.8**	**0.0**
STKA	**Stephens Creek**	**36.25**	**161**		**P**	**03 35 18.4**	**+0.7**
STKA	**Stephens Creek**	**36.25**	**161

LZH pP pwP 03 36 23.3 +0.2
LZH pmax pmax
comp=Z,72nm,1.6s
ARPS Mount Arapiles 40.85 163 P P 03 35 56.7 +0.6
H11S3 WAKE ISLAND Hy 40.92 64 T T 04 19 31.0
baz=251,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 40.94 64 T T 04 19 30.3
baz=251,slow=75,SNR=16
H11S1 WAKE ISLAND Hy 40.94 64 T T 04 19 39.6
baz=251,slow=75,SNR=12
HHC Hu-ho-hao-te 41.26 341 *eP* **P 03 36 00.4 +0.9**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,100nm,4.0s
H11N1 WAKE ISLAND Hy 41.50 63 T T 04 20 15.8
baz=250,slow=75,SNR=31
H11N2 WAKE ISLAND Hy 41.51 62 T T 04 20 16.6
baz=250,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 41.52 63 T T 04 20 15.2
baz=250,slow=75,SNR=20
USA0B Ussuriysk Arra 41.87 4 P 03 36 03.7 -0.6
USA0B IAmb IAmb 03 36 06.1
comp=Z,15nm,1.2s
USRK Ussuriysk Ar. 41.87 4 P P 03 36 04.3 0.0
comp=Z,4.6nm,0.6s,baz=192,slow=7.2,SNR=9.2
comp=Z,4.6nm,0.6s
SHL Shillong 41.98 307 P 03 36 05.6 -0.1
MDJ Mudanjiang 42.17 1 P **P 03 36 07.0 +0.3**
MDJ pmax pmax
comp=Z,14nm,1.0s
XLT XiLinHaoTe 42.83 347 *eP* **P 03 36 08.6 -3.6**
XLT pmax pmax
comp=Z,17nm,0.9s
LSA Lhasa 44.55 312 P **P 03 36 28.8 +2.1**
LSA pmax pmax
comp=Z,97nm,0.7s
LSA Lhasa 44.55 312 P **P 03 36 28.8 +2.1**
GTA Gaotai 45.13 329 P **P 03 36 32.6 +1.9**
GTA pP pwP 03 36 59.8 -0.8
GTA PcP **PcP 03 38 10.9 +1.5**
GTA pmax pmax
comp=Z,20nm,0.8s
GOMU GeErMu 45.77 321 P **P 03 36 37.8 +1.6**
GOMU S **S 03 43 16.6 +4.9**
GOMU pmax pmax
comp=Z,17nm,0.8s
GOMU LR LR
comp=Z,230nm,14.9s
GOMU LR LR
comp=Z,230nm,14.7s
GOMU LR LR
comp=Z,390nm,14.5s
HEH HeiHe 47.80 359 *eP* **P 03 36 50.6 -0.6**
HEH pmax pmax
comp=Z,8.0nm,0.6s
ULN Ulaanbaatar 48.97 341 P 03 37 00.8 +0.3
ULN Ulaanbaatar 48.97 341 P **P 03 37 00.9 +0.5**
ULN PcP **PcP 03 38 23.5 +0.6**
SONM Songino Array 49.16 341 P 03 37 02.3 +0.4
SONM IAmb IAmb 03 37 03.3
comp=Z,8.9nm,0.7s
SONM Songino Array 49.16 341 P **P 03 37 02.3 +0.4**
comp=Z,10nm,0.6s,baz=155,slow=8.8,SNR=43
SONM PcP **PcP 03 38 23.9 +0.3**
comp=Z,4.2nm,0.7s,baz=159,slow=4.4,SNR=6.5
SONM ScP **ScP 03 42 07.5 -1.0**
comp=Z,1.6nm,1.0s,baz=167,slow=4.5,SNR=5.3
comp=Z,10nm,0.6s
WMQ Urumqi 54.79 325 *eP* **P 03 37 46.8 +3.2**
PETK Petropavlovsk- 56.19 21 P 03 37 54.4 +1.0
PETK Petropavlovsk- 56.19 21 P **P 03 37 53.8 +0.3**
comp=Z,7.1nm,0.9s,baz=198,slow=5.7,SNR=11
comp=Z,7.1nm,0.9s
ZSN Zaisan 58.55 327 *eP* **P 03 38 10.3 +0.2**
comp=Z,9.5nm,0.9s
WUS Wushi 58.67 318 P **P 03 38 12.1 +0.9**
WUS pP **pP 03 38 39.0 +1.5**
WUS PcP **PcP 03 39 00.2 +0.1**
SHLS Shalkode 59.44 320 *eP* **P 03 38 14.8 -1.7**
comp=Z,10nm,0.7s
YAK Yakutsk 59.61 1 P **P 03 38 16.9 -0.1**
MKAR Makanchi Array 59.62 325 P **P 03 38 18.1 +0.5**
comp=Z,35nm,0.7s,baz=118,slow=8.2,SNR=288
MKAR PcP **PcP 03 39 03.7 +0.2**
comp=Z,15nm,0.7s,baz=123,slow=4.5,SNR=12
MKAR PP **PP 03 40 30.1 -0.3**
comp=Z,2.5nm,0.9s,baz=94,slow=4.9,SNR=2.8
MKAR PKP2bc 04 07 54.3
comp=Z,0.1nm,0.4s,baz=297,slow=6.2,SNR=3.6
comp=Z,35nm,0.7s
UZB Uzynbulak 59.72 320 *eP* **P 03 38 18.7 +0.3**
comp=Z,9.1nm,0.7s
MA2 Magadan 59.73 13 P 03 38 18.4 +0.4
MA2 IAmb IAmb 03 38 19.6
comp=Z,18nm,0.9s
MA2 Magadan 59.73 13 P **P 03 38 18.7 +0.7**
MAKZ Makanchi 59.81 325 P 03 38 19.1 +0.3
MAKZ PcP **PcP 03 39 03.4 -0.9**
MAKZ Makanchi 59.81 325 P **P 03 38 19.1 +0.3**
MAKZ pP **pP 03 38 45.5 0.0**
MAKZ sP **sP 03 38 58.3 +0.8**
MAKZ PcP **PcP 03 39 03.9 -0.5**
PRZ Przheval'sk 59.81 319 P **P 03 38 20.5 +1.4**
NIL Nilore 60.03 308 P 03 38 20.9 +0.3
NIL Nilore 60.03 308 P **P 03 38 20.7 +0.1**
SATY Saty 60.07 320 *eP* **P 03 38 21.1 +0.3**
comp=Z,11nm,0.8s
KPKS Kokpek 60.09 320 *eP* **P 03 38 21.2 +0.4**
comp=Z,10nm,0.6s
ZHN Zhinishke 60.11 320 *eP* **P 03 38 21.3 +0.3**
comp=Z,8.9nm,0.7s
KSH Kashi 60.16 315 P **P 03 38 23.5 +2.1**
KSH pmax pmax
comp=Z,27nm,0.9s
KDJ Kajisay 60.45 318 P 03 38 24.2 +0.8
NRN Naryn 60.94 317 P 03 38 27.2 +0.2
NRN IAmb IAmb 03 38 28.4
comp=Z,12nm,0.7s
MDOK Medeo 61.00 319 *eP* **P 03 38 27.5 +0.3**
TDK Taldygorghan 61.00 322 *eP* **P 03 38 27.4 +0.5**
comp=Z,13nm,0.6s
TNSS Tian-Shan 61.01 319 *eP* **P 03 38 27.6 +0.1**
AAA Alma-Ata 61.11 319 *eP* **P 03 38 28.2 +0.5**
ULHL Ulahol 61.13 318 P **P 03 38 28.8 +0.7**
SNR=13
CHKK Chushkaly 61.36 320 *eP* **P 03 38 29.7 +0.3**
BOOM Boomskoye usch 61.43 318 P 03 38 30.5 +0.4
BOOM IAmb IAmb 03 38 31.3
comp=Z,10.0nm,0.8s
TKM2 Tokmak 2 61.85 318 P **P 03 38 33.7 +0.7**
SNR=28
UCH Uchtor 62.28 317 P **P 03 38 37.5 +1.4**
SNR=5.3
CHMS Chumysh 62.44 318 P **P 03 38 37.0 +0.3**
SNR=5.3
AAK Ala-Archa 62.46 318 P 03 38 36.5 -0.4
AAK IAmb IAmb 03 38 39.0
comp=Z,47nm,1.9s
AAK Ala-Archa 62.46 318 P **P 03 38 37.8 +0.8**
SNR=7.5
AAK Ala-Archa 62.46 318 P **P 03 38 37.6 +0.6**
AAK PcP **PcP 03 39 15.6 +0.2**
ZAA0 Zalesovo Array 62.57 333 P 03 38 36.5 -0.8
ZAA0 IAmb IAmb 03 38 37.5
comp=Z,16nm,1.2s
ZALV Zalesovo Beam 62.57 333 P **P 03 38 36.5 -0.7**
comp=Z,3.7nm,0.5s,baz=122,slow=7.1,SNR=21
ZALV PcP **sP 03 39 14.2 -1.6**
comp=Z,4.8nm,0.6s,baz=164,slow=3.7,SNR=8.2
comp=Z,3.7nm,0.5s
USP Ospenovka 62.72 318 P **P 03 38 38.8 +0.2**
SNR=29
AML Almayashu 62.80 317 P **P 03 38 40.4 +0.9**
SNR=50
EKS2 Erkin-Say 62.95 318 P **P 03 38 41.3 +1.1**
SNR=26
ARSB Arslanbob 62.97 316 P **P 03 38 40.5 +0.1**
DRK Karamyk 63.12 314 P **P 03 38 42.0 +0.4**
KBL Kabul 63.63 308 P 03 38 44.1 -0.8
KBL IAmb IAmb 03 38 45.9
comp=Z,27nm,1.1s
KURBB Kurchatov Arra 63.78 327 P **P 03 38 45.4 +0.1**
comp=Z,33nm,0.6s,baz=128,slow=6.1,SNR=276
KURBB PcP **PcP 03 39 19.9 -0.4**
comp=Z,4.8nm,0.5s,baz=128,slow=4.4,SNR=7.5

KURBB PP **PP 03 41 05.9 -1.1**
comp=Z,1.7nm,1.0s,baz=133,slow=8.9,SNR=4.3
comp=Z,33nm,0.6s
KURK Kurchatov 63.78 327 P 03 38 45.7 +0.4
KURK Kurchatov 63.78 327 P **P 03 38 45.4 0.0**
KURK pP **pP 03 39 13.1 +0.8**
GAR Garm 64.04 313 P 03 38 46.9 -0.5
DZA Taraz 64.70 317 *eP* **P 03 38 52.0 +0.4**
comp=Z,9.6nm,0.4s
SIMJ Simiganj 64.89 312 P 03 38 52.9 -0.1
SIMJ IAmb IAmb 03 38 54.3
comp=Z,32nm,1.3s
SIMJ Simiganj 64.89 312 P **P 03 38 52.8 -0.2**
KK31 Karatay Array 65.34 317 P 03 38 55.3 -0.4
KKAR Karatay Array 65.34 317 P 03 38 55.1 -0.5
KKAR Karatay Array 65.34 317 P 03 38 55.5 -0.1
KKAR IAmb IAmb 03 38 56.8
comp=Z,36nm,0.9s
BRLS Borolday 65.77 317 *eP* **P 03 38 58.9 +0.4**
comp=Z,15nm,0.6s
BRZS Berezniki 66.76 325 *eP* **P 03 39 04.7 +0.2**
TIXI Tiksi 69.26 0 P 03 39 19.1 -0.7
TIXI IAmb IAmb 03 39 20.1
comp=Z,14nm,0.6s
TIXI Tiksi 69.26 0 P **P 03 39 18.6 -1.2**
TIXI sP **sP 03 39 57.7 -1.6**
BVAR Borovoye Array 69.37 327 P 03 39 20.7 -0.1
comp=Z,45nm,0.9s,baz=123,slow=7.3,SNR=141
BVAR PcP **PcP 03 39 43.1 -0.5**
comp=Z,6.3nm,0.8s,baz=126,slow=2.6,SNR=5.7
comp=Z,45nm,0.9s
BRVK Borovoye 69.44 327 P 03 39 21.3 0.0
BRVK Borovoye 69.44 327 P **P 03 39 21.2 0.0**
BRVK PcP **PcP 03 39 43.6 -0.3**
NRIK Noril'sk 72.19 346 P 03 39 37.5 -0.1
NRIK IAmb IAmb 03 39 38.5
comp=Z,20nm,1.1s
NRIK Noril'sk 72.19 346 P **P 03 39 37.5 -0.1**
comp=Z,9.6nm,0.8s,baz=131,slow=5.9,SNR=14
comp=Z,9.6nm,0.8s
SPIA Saint Paul Isl 72.95 30 P **P 03 39 42.8 +0.6**
baz=247
AB31 Akbulak array 74.24 321 P 03 39 49.9 -0.2
AB31 IAmb IAmb 03 39 50.7
comp=Z,25nm,0.8s
ABKAR Akbulak array 74.24 321 P 03 39 49.7 -0.3
ABKAR Akbulak array 74.24 321 P 03 39 49.8 -0.3
ABKAR IAmb IAmb 03 39 50.7
comp=Z,25nm,0.8s
GAMB Gambell 75.08 23 P **P 03 39 55.1 +0.6**
baz=244
FALS False Pass 75.76 34 P **P 03 39 59.6 +1.0**
baz=253
M11K Mekoryuk 76.11 28 P **P 03 40 01.4 +0.9**
baz=250
ARTI Arti 77.06 328 P 03 40 05.1 -0.9
K13K Kusilvak Mount 77.34 27 P **P 03 40 08.6 +1.2**
baz=250
M13K Dall Lake 77.45 28 P **P 03 40 08.9 +0.9**
baz=252
SDPT Sand Point 77.52 34 P **P 03 40 09.3 +0.8**
baz=256
F14K Arctic Creek 77.89 23 P **P 03 40 11.7 +1.3**
baz=248
ANM Nome 77.94 24 P **P 03 40 11.6 +0.9**
baz=249
L14K Kuka Creek 78.05 27 P **P 03 40 11.7 +0.4**
baz=252
J14K Nanvaranak Lak 78.09 26 P **P 03 40 12.7 +1.1**
baz=251
N14K Kuskokwak Cree 78.10 29 P **P 03 40 12.5 +0.8**
baz=254
O14K Tigyukauivet M 78.12 30 P **P 03 40 12.5 +0.7**
baz=254
M14K Bethel 78.21 28 P **P 03 40 12.4 +0.2**
M14K IAmb IAmb 03 40 14.3
comp=Z,14nm,0.9s
M14K Bethel 78.21 28 P **P 03 40 13.2 +1.0**
baz=253
S14K Fog Glacier 78.25 33 P **P 03 40 13.4 +0.7**
baz=256
G15K Nikluk 78.63 24 P **P 03 40 15.7 +1.3**
baz=250
F15K North Star Dit 78.63 23 P **P 03 40 15.7 +1.3**
baz=250
L15K Ungalak Mounta 78.69 27 P **P 03 40 16.1 +1.2**
baz=254
M15K Kasigluk River 78.79 28 P **P 03 40 16.7 +1.3**
baz=254
O15K Ungalikthiuk R 78.82 30 P **P 03 40 16.5 +0.9**
baz=255
K15K Wolf Creek Mou 78.85 27 P **P 03 40 17.3 +1.5**
baz=253
N15K Kwethluk River 78.94 29 P **P 03 40 16.9 +0.6**
baz=255
H16K Elim 79.24 24 P **P 03 40 18.9 +1.1**
baz=252
C16K Lisburne Hills 79.29 20 P **P 03 40 19.3 +1.3**
baz=249
G16K Koyuk River 79.43 23 P **P 03 40 20.1 +1.3**
baz=252
J16K Anvik River 79.54 26 P 03 40 19.8 +0.3
J16K Anvik River 79.54 26 P **P 03 40 20.5 +1.1**
baz=254
L16K Owhat River 79.63 27 P **P 03 40 21.0 +1.0**
baz=255
N16K Nishlik Lake 79.65 29 P **P 03 40 21.4 +1.2**
baz=256
I17K Unalakleet 79.67 25 P **P 03 40 21.4 +1.3**
baz=254
M16K Timber Creek 79.70 28 P **P 03 40 21.4 +1.0**
baz=256
O16K Kokwok River B 79.78 30 P **P 03 40 21.8 +1.0**
baz=257
D17K Noatak River 79.89 21 P **P 03 40 22.4 +1.2**
baz=251
RDOG Red Dog Mine 80.07 21 P **P 03 40 22.6 +0.4**
RDOG Red Dog Mine 80.07 21 P **P 03 40 23.1 +0.9**
baz=251
G17K Kiwalik Mounta 80.14 24 P **P 03 40 24.0 +1.3**
baz=254,SNR=5.0
E17K Hotham Inlet 80.15 22 P **P 03 40 23.7 +1.0**
baz=252
F17K Baldwin Pennin 80.18 23 P **P 03 40 24.2 +1.4**
baz=253
J17K VABM Dome 80.23 26 P 03 40 24.1 +0.9
J17K VABM Dome 80.23 26 P **P 03 40 24.4 +1.2**
baz=255
L17K Donlin 80.27 27 P **P 03 40 24.9 +1.5**
baz=256
H17K Granite Mounta 80.28 24 P P 03 40 23.4 0.0
H17K Granite Mounta 80.28 24 P **P 03 40 24.4 +0.9**
baz=254
CHIR Chirikof Islan 80.31 34 P **P 03 40 24.7 +1.0**
baz=260
O17K Koliganek Bris 80.31 30 P **P 03 40 25.0 +1.3**
baz=258
K17K Iditarod 80.41 27 P **P 03 40 24.6 +0.5**
K17K Iditarod 80.41 27 P **P 03 40 25.4 +1.2**
baz=256
N17K Nushagak Hills 80.43 29 P **P 03 40 25.4 +1.1**
baz=258
M17K Holitna River 80.50 28 P **P 03 40 25.6 +0.9**
baz=257
P17K Kvichak River 80.52 30 P **P 03 40 26.0 +1.2**
baz=258
Q17K Contact Creek 80.62 31 P **P 03 40 26.3 +0.8**
baz=259
E18K Tukpahlearik C 80.71 22 P 03 40 26.5 +0.8
E18K IAmb IAmb 03 40 27.6
comp=Z,6.9nm,0.7s
E18K Tukpahlearik C 80.71 22 P **P 03 40 26.7 +1.0**
baz=253,SNR=9.5
F18K Selawik 80.84 23 P **P 03 40 27.7 +1.4**
baz=254
C18K Utukok River 80.86 20 P 03 40 27.0 +0.5
C18K IAmb IAmb 03 40 56.7
comp=Z,22nm,1.6s
C18K Utukok River 80.86 20 P **P 03 40 27.8 +1.3**
baz=253
B18K Kokolik River 80.87 20 P **P 03 40 27.6 +1.2**
baz=252
H18K Honhosa River 80.97 24 P **P 03 40 28.5 +1.4**
baz=256
L18K Granite Mounta 81.03 27 P **P 03 40 28.9 +1.4**
L18K Granite Mounta 81.03 27 P **P 03 40 28.7 +1.2**
baz=258

G18K Tagagawik 81.04 23 P **P 03 40 28.5 +1.0**
G18K Tagagawik 81.04 23 P **P 03 40 28.8 +1.3**
baz=255
N18K Kilae Creek 81.09 29 P **P 03 40 28.7 +0.9**
baz=259
Q18K Katmai Hardscr 81.15 31 P **P 03 40 28.5 +0.2**
baz=260
P18K Big Mountain, 81.17 30 P **P 03 40 29.4 +1.1**
baz=260
SII Sitkinak Islan 81.23 33 P **P 03 40 29.6 +0.9**
baz=261
R18K Karluk 81.25 32 P **P 03 40 29.7 +1.0**
baz=260
O18K Koktuh Hills 81.26 30 P **P 03 40 30.0 +1.2**
baz=259
M18K Stony River 81.28 28 P **P 03 40 30.0 +1.2**
baz=259
J18K Innoko River 81.28 26 P 03 40 30.0 +1.2
J18K Innoko River 81.28 26 P **P 03 40 29.2 +0.4**
baz=258
A19K Wainwright 81.37 19 P **P 03 40 29.9 +0.9**
baz=252
GCSA Galena City Sc 81.49 25 P **P 03 40 30.7 +0.8**
baz=257
F19K Shaleruckik Mo 81.62 23 P **P 03 40 31.6 +1.1**
F19K Shaleruckik Mo 81.62 23 P **P 03 40 31.6 +1.1**
baz=256
G19K Purcell Mounta 81.72 23 P 03 40 32.1 +1.0
G19K IAmb IAmb 03 40 33.3
comp=Z,8.2nm,0.8s
G19K Purcell Mounta 81.72 23 P **P 03 40 31.9 +0.8**
baz=257,SNR=10
N19K Bonanza Creek 81.79 29 P **P 03 40 32.9 +1.2**
baz=260
VNDA Vanda 81.81 173 P **P 03 40 31.2 -0.1**
VNDA IAmb IAmb 03 41 01.7
comp=Z,24nm,1.6s
VNDA Vanda 81.81 173 P **P 03 40 30.9 -0.4**
comp=Z,4.1nm,0.7s,baz=320,slow=5.8,SNR=10
comp=Z,4.1nm,0.7s
OHAK Old Harbor 81.82 33 P **P 03 40 32.7 +1.0**
baz=261
H19K Roundabout Mou 81.84 24 IAmb IAmb 03 40 33.7
comp=Z,7.1nm,0.7s
H19K Roundabout Mou 81.84 24 P **P 03 40 33.1 +1.4**
baz=257,SNR=8.5
L19K White Mountain 81.86 27 P **P 03 40 32.7 +0.8**
baz=259
J19K Poorman 81.87 26 P **P 03 40 33.2 +1.4**
baz=258,SNR=5.7
Q19K Cape Douglas, 81.89 31 P **P 03 40 33.0 +0.8**
baz=261
D19K Kuna River 81.90 21 IAmb IAmb 03 41 11.1
comp=Z,7.7nm,0.8s
D19K Kuna River 81.90 21 P **P 03 40 33.0 +1.0**
baz=256,SNR=6.3
E19K Redstone River 81.97 22 IAmb IAmb 03 40 34.8
comp=Z,12nm,0.9s
E19K Redstone River 81.97 22 P **P 03 40 33.3 +0.9**
baz=256,SNR=16
M19K Big River Lodg 82.03 28 P **P 03 40 33.6 +0.8**
baz=260
P19K Oil Pt 82.22 30 P **P 03 40 34.3 +0.5**
baz=261
KDAK Kodiak Island 82.28 32 P **P 03 40 35.4 +1.3**
baz=262
L20K Farewell, AK 82.36 27 P **P 03 40 35.4 +0.9**
baz=260
K20K Telida 82.43 26 P **P 03 40 35.9 +1.0**
baz=260
F20K Avaraart Lake 82.45 23 P **P 03 40 36.4 +1.6**
baz=258,SNR=8.6
H20K Anotleneega Mo 82.47 24 P **P 03 40 36.5 +1.5**
baz=259,SNR=7.6
RAYN Ar Rayn 82.47 293 P 03 40 35.5 -0.4
RAYN IAmb IAmb 03 40 36.2
comp=Z,9.5nm,0.8s
D20K Etivluk River 82.49 21 IAmb IAmb 03 40 37.4
comp=Z,8.7nm,0.8s
D20K Etivluk River 82.49 21 P **P 03 40 36.5 +1.4**
baz=257,SNR=6.8
Q20K Shuyak Island 82.49 31 P **P 03 40 36.7 +1.6**
baz=262
I20K Naaghedeneel 82.51 25 IAmb IAmb 03 40 37.8
comp=Z,21nm,1.1s
I20K Naaghedeneel 82.51 25 P **P 03 40 36.2 +1.0**
baz=259,SNR=5.1
J20K Nowinta River 82.54 26 IAmb IAmb 03 41 05.5
comp=Z,35nm,1.8s
J20K Nowinta River 82.54 26 P **P 03 40 36.1 +0.7**
baz=260,SNR=6.7
E20K Nigu River 82.54 21 P **P 03 40 36.1 +0.7**
baz=257,SNR=13
B20K Meade River 82.60 20 P **P 03 40 36.7 +1.1**
baz=256
M20K Styx River 82.61 28 P **P 03 40 36.6 +0.7**
baz=261
A21K Barrow 83.09 18 P **P 03 40 39.3 +1.3**
baz=257
PPLA Purkeypile 83.20 27 P **P 03 40 39.5 +0.5**
baz=262
G21K Allakaket 83.22 23 P **P 03 40 40.0 +1.2**
baz=260,SNR=8.7
C21K Knifeblade Rid 83.23 21 P **P 03 40 39.9 +1.0**
baz=258
CHUM Lake Minchumin 83.29 26 P **P 03 40 40.3 +1.1**
baz=261
CAST Castle Rocks 83.32 26 IAmb IAmb 03 41 16.1
comp=Z,5.4nm,0.7s
CAST Castle Rocks 83.32 26 P **P 03 40 40.3 +0.9**
baz=262,SNR=6.8
F21K Alatna River 83.35 23 P **P 03 40 40.4 +0.9**
baz=260,SNR=6.3
H21K Melozitna Rive 83.35 24 IAmb IAmb 03 41 09.6
comp=Z,8.2nm,0.9s
H21K Melozitna Rive 83.35 24 P **P 03 40 40.5 +0.9**
baz=261,SNR=7.2
SKT Skwentna 83.37 28 IAmb IAmb 03 41 08.8
comp=Z,28nm,1.6s
SKT Skwentna 83.37 28 P **P 03 40 39.8 +0.1**
baz=262
B21K Ikpikpuk River 83.38 20 P **P 03 40 40.7 +1.1**
baz=259,SNR=5.8
E21K Killik River 83.38 21 P **P 03 40 40.5 +0.9**
baz=259
CAPN Captain Cook N 83.40 29 P **P 03 40 40.4 +0.6**
baz=263
BRSE Bradley Lake S 83.48 30 P **P 03 40 40.9 +0.6**
baz=263
A22K Sinclair Lake 83.54 19 P **P 03 40 41.2 +0.9**
baz=258
GNI Garni 83.59 310 P 03 40 41.5 0.0
GNI IAmb IAmb 03 40 51.4
comp=Z,13nm,0.8s
I21K Tanana 83.62 25 P **P 03 40 42.2 +1.3**
baz=262
SUA Susitna One 83.68 28 IAmb IAmb 03 41 18.2
comp=Z,19nm,1.0s
SUA Susitna One 83.68 28 P **P 03 40 41.9 +0.5**
baz=263
F22K John River 83.89 22 P **P 03 40 43.1 +0.8**
baz=261,SNR=9.7
BPAW Bear Paw Mtn. 83.90 26 P **P 03 40 43.3 +0.9**
baz=263
B22K Teshekpuk Lake 83.92 19 P **P 03 40 43.2 +0.9**
baz=260
D22K Ayikyak River 83.92 21 P **P 03 40 43.2 +0.8**
baz=261
H22K Ishtalitna Cre 83.97 24 P **P 03 40 43.2 +0.5**
baz=262
M22K Willow 84.01 28 P **P 03 40 43.5 +0.6**
baz=264
CUT Chulitna 84.01 28 P **P 03 40 43.5 +0.6**
baz=264
G22K Bettles 84.06 23 P **P 03 40 43.4 +0.3**
baz=262
O22K Cooper Landing 84.07 30 P **P 03 40 43.9 +0.6**
baz=264
RC01 Rabbit Creek A 84.12 29 P **P 03 40 43.9 +0.4**
baz=264
E22K Anaktuvuk Pass 84.12 22 P **P 03 40 43.8 +0.4**
baz=261
TRF Thorofare Moun 84.12 27 P **P 03 40 43.9 +0.2**
baz=263
SEW Seward 84.16 30 P **P 03 40 44.1 +0.4**
baz=264
PMR Palmer 84.46 28 IAmb IAmb 03 41 14.6
comp=Z,24nm,1.6s

PMR	Palmer	84.46	28	P	P	03 40 45.9 +0.7
	baz=264					
COLD	Coldfoot	84.61	23	IAmb	IAmb	03 41 16.0
	comp=Z,8.5nm,0.8s					
COLD	Coldfoot	84.61	23	P	P	03 40 46.6 +0.7
	baz=263					
G23K	Bananza Creek	84.62	23	IAmb	IAmb	03 41 16.6
	comp=Z,9.5nm,1.0s					
G23K	Bananza Creek	84.62	23	P	P	03 40 46.9 +0.9
	baz=263,SNR=6.9					
D23K	Nanushuk River	84.65	21	IAmb	IAmb	03 41 16.5
	comp=Z,7.4nm,0.9s					
D23K	Nanushuk River	84.65	21	P	P	03 40 47.5 +1.4
	baz=262					
H23K	Yukon River	84.71	24	P	P	03 40 47.0 +0.5
	baz=264					
I23K	Minto, Yukon-K	84.72	25	IAmb	IAmb	03 41 16.8
	comp=Z,29nm,1.7s					
I23K	Minto, Yukon-K	84.72	25	P	P	03 40 47.0 +0.6
	baz=264					
MCK	McKinley	84.76	26	P	P	03 40 47.3 +0.6
	baz=264					
RND	Reindeer	84.76	27	IAmb	IAmb	03 41 16.1
	comp=Z,48nm,1.8s					
KNK	Knik Glacier	84.77	29	IAmb	IAmb	03 41 16.1
	comp=Z,15nm,0.9s					
KNK	Knik Glacier	84.77	29	P	P	03 40 47.3 +0.4
	baz=265					
NEA2	Nenana	84.78	25	P	P	03 40 47.4 +0.5
	baz=264					
PWL	Port Wells	84.78	29	P	P	03 40 47.3 +0.4
	baz=265					
C23K	Itkillik River	84.79	20	IAmb	IAmb	03 41 17.0
	comp=Z,9.0nm,0.7s					
C23K	Itkillik River	84.79	20	P	P	03 40 47.6 +0.9
	baz=262,SNR=6.5					
SML	Sawmill	84.86	28	P	P	03 40 47.2 -0.2
	baz=265					
E23K	Chandalar	84.93	22	IAmb	IAmb	03 41 18.4
	comp=Z,6.3nm,0.8s					
E23K	Chandalar	84.93	22	P	P	03 40 48.1 +0.5
	baz=264,SNR=12					
TOLK	Toolik Lake Re	85.01	21	IAmb	IAmb	03 41 18.0
	comp=Z,17nm,1.6s					
TOLK	Toolik Lake Re	85.01	21	P	P	03 40 48.5 +0.6
	baz=264,SNR=5.3					
KBZ	Khabaz	85.09	314	P	P	03 40 48.6 -0.1
	comp=Z,7.5nm,0.9s,baz=117,slow=3.0,SNR=16					
	comp=Z,7.5nm,0.9s					
M23K	Glacier View	85.15	28	P	P	03 40 49.3 +0.6
	baz=266					
D24K	Happy Valley	85.34	21	P	P	03 40 50.2 +0.8
	baz=264					
SCM	Sheep Creek Mo	85.34	28	P	P	03 40 50.1 +0.4
	baz=266					
E24K	Your Creek	85.36	22	P	P	03 40 50.2 +0.5
	baz=265					
GLI	Glacier Island	85.39	29	P	P	03 40 50.6 +0.7
	baz=266					
H24K	Noodor Dome	85.39	24	P	P	03 40 50.7 +0.8
	baz=265					
C24K	Franklin Bluff	85.44	20	P	P	03 40 50.6 +0.7
	baz=264					
F24K	Squaw Lake	85.53	23	P	P	03 40 51.2 +0.6
	baz=265					
G24K	Hadweenzic Riv	85.63	23	P	P	03 40 51.9 +0.9
	baz=266					
HDA	Harding Lake	85.68	26	P	P	03 40 52.0 +0.7
	baz=266					
ILAR	Eielson Array	85.73	25	P	P	03 40 51.1 -0.4
	comp=Z,0.5nm,0.5s,baz=251,slow=4.8,SNR=14					
	comp=Z,0.5nm,0.5s					
M24K	Tolsona, Glenn	85.90	28	P	P	03 40 53.1 +0.6
	baz=267					
KLU	Klutina	85.99	29	P	P	03 40 53.1 +0.1
	baz=267					
D25K	Kavik River	86.22	21	P	P	03 40 54.8 +0.9
	baz=266					
PAX	Paxson	86.26	27	P	P	03 40 54.9 +0.6
	baz=268					
PRP	Porcupine Dome	86.35	25	P	P	03 40 55.1 +0.3
	baz=268					
J25K	Salcha River,	86.38	26	P	P	03 40 55.2 +0.4
	baz=268					
HARP	HAARP	86.39	28	P	P	03 40 55.2 +0.4
	baz=268					
F25K	Christian Rive	86.40	23	P	P	03 40 55.6 +0.8
	baz=267					
E25K	Arctic Village	86.45	22	P	P	03 40 55.9 +0.9
	baz=267					
RIDG	Independent Ri	86.57	26	P	P	03 40 56.4 +0.6
	baz=268					
BMRM	Bremner River	86.61	29	P	P	03 40 56.5 +0.6
	baz=269					
N25K	Chitina, Valde	86.63	29	P	P	03 40 56.5 +0.4
	baz=268					
KAIM	Kayak Island	86.68	30	P	P	03 40 56.5 +0.3
	baz=269					
SCRK	Sand Creek	86.96	26	P	P	03 40 58.2 +0.5
	baz=269					
F26K	Sheenjek River	86.97	22	P	P	03 40 58.6 +1.1
	baz=269					
J26L	Joseph Creek	87.15	26	P	P	03 40 59.0 +0.5
	baz=269					
C27K	Jago River	87.17	21	P	P	03 40 59.6 +1.1
	baz=269					
L26K	Log Cabin Wild	87.23	27	P	P	03 41 00.0 +1.1
	baz=270					
I26K	Coal Creek Min	87.33	25	P	P	03 41 00.7 +1.4
	baz=270					
K27K	Chicken	87.80	26	P	P	03 41 02.6 +1.0
	baz=271					
M27K	Edge Creek, AK	87.92	28	P	P	03 41 02.9 +0.5
	baz=271					
MESA	MESA	87.92	30	P	P	03 41 03.3 +0.9
	baz=271					
L27K	Beaver Creek,	87.93	27	P	P	03 41 02.9 +0.7
	baz=271					
E27K	Coleen River	87.94	22	P	P	03 41 02.8 +0.6
	baz=271					
I27K	Kandik River	87.97	25	P	P	03 41 03.1 +0.6
	baz=271					
H27K	Steamboat Moun	88.00	24	P	P	03 41 03.3 +0.7
	baz=271					
D27M	Malcolm River	88.14	21	P	P	03 41 03.7 +0.5
	baz=272					
BVCY	Beaver Creek	88.39	28	P	P	03 41 05.0 +0.6
	baz=272					
YUK3	Moose Creek	88.60	28	P	P	03 41 05.5 -0.2
	baz=272					
I28M	Miner Creek	88.68	25	P	P	03 41 06.2 +0.4
	baz=273					
E28M	Babbage River	88.69	22	P	P	03 41 06.3 +0.6
	baz=273					
PINM	Pinnacle	88.77	30	P	P	03 41 06.6 +0.3
	baz=272					
O28M	Mount Upton	88.77	29	P	P	03 41 06.7 +0.1
	baz=272					
D28M	Stokes Point	88.93	21	P	P	03 41 07.4 +0.7
	baz=274					
YUK8	Steele Glacier	88.95	29	P	P	03 41 07.5 +0.1
	baz=273					
DAWY	Dawson	88.98	26	P	P	03 41 08.0 +0.8
	baz=273					
H29M	Whitestone	89.28	24	P	P	03 41 09.4 +0.9
	baz=274					
I29M	Ogilvie Camp,	89.36	25	P	P	03 41 09.8 +0.8
	baz=274					
G29M	Pine Creek	89.37	23	P	P	03 41 09.8 +0.9
	baz=274					
J29N	Klondike Camp	89.47	26	P	P	03 41 09.9 +0.4
	baz=274					
M29M	Somme Creek	89.50	28	P	P	03 41 09.9 +0.2
	baz=274					
L29M	L29M	89.61	27	P	P	03 41 11.1 +1.0
	baz=274					
K29M	Barlow Dome	89.82	26	P	P	03 41 11.5 +0.3
	baz=275					
EPYK	Eagle Plains	89.93	24	P	P	03 41 11.7 +0.1
	baz=276					
F30M	Barrier River	90.17	22	P	P	03 41 13.2 +0.5
	baz=276					
I30M	Mount Dempster	90.19	25	P	P	03 41 13.2 +0.3
	baz=276					
M30M	Minto, Yukon	90.26	27	P	P	03 41 13.1 -0.1
	baz=275					
J30M	Hart River	90.27	25	P	P	03 41 13.4 +0.1
	baz=276					
BNN	Bunyan	90.48	309	IAmb	IAmb	03 41 15.5
	comp=Z,16nm,1.1s					
H31M	Peel River	90.96	24	P	P	03 41 16.2 -0.1
	baz=278					
F31M	Tsiigehtchic	90.97	22	P	P	03 41 17.0 +0.7
	baz=278					
KMBO	Kilima Mbogo	91.08	269		P	03 41 16.9 -1.4
KMBO	Kilima Mbogo	91.08	269	P	P	03 41 17.3 -1.0
	comp=Z,7.7nm,0.3s,baz=213,slow=16,SNR=3.1					
	comp=Z,2.7nm,0.3s					
MMAI	Mount Meron Ar	91.19	303	P	P	03 41 17.5 -0.7
	comp=Z,4.6nm,0.9s,baz=76,slow=3.5,SNR=4.7					
	comp=Z,4.6nm,0.9s					
FARO	Faro, Yukon	91.90	28	P	P	03 41 21.3 +0.5
	baz=278					
BRTR	Keskin Array B	92.13	310	P	P	03 41 21.4 -1.1
	comp=Z,1.5nm,0.8s,baz=118,slow=5.0,SNR=11					
BRTR				PP	PP	03 45 03.8 -0.2
	comp=Z,2.8nm,1.2s,baz=139,slow=5.9,SNR=7.0					
	comp=Z,1.5nm,0.8s					
SPITS	Spitsbergen Ar	92.19	349	P	P	03 41 21.1 -0.7
	comp=Z,2.4nm,0.6s,baz=64,slow=7.5,SNR=10					
	comp=Z,2.4nm,0.6s					
QSPA	South Pole Qui	92.20	180		P	03 41 21.9 -0.2
QSPA				IAmb	IAmb	03 41 23.1
	comp=Z,13nm,1.4s					
QSPA	South Pole Qui	92.20	180	P	P	03 41 21.3 -0.9
	comp=Z,2.2nm,0.6s,baz=256,slow=0.3,SNR=20					
	comp=Z,2.2nm,0.6s					
ARA0	ARCESS Array S	92.33	340	eP	P	03 41 22.2 -0.4
ARCES	ARCESS Array B	92.33	340	P	P	03 41 21.5 -1.1
	comp=Z,13nm,0.7s,baz=79,slow=6.2,SNR=32					
ARCES				PKiKP	PKiKP	03 46 10.4 -0.8
	comp=Z,0.4nm,0.4s,baz=101,slow=1.2,SNR=6.5					
	comp=Z,13nm,0.7s					
FINES	FINESS Array B	93.83	332	P	P	03 41 28.6 -1.1
	comp=Z,3.8nm,0.6s,baz=59,slow=5.4,SNR=23					
	comp=Z,3.8nm,0.6s					
AKASG	Malin Array Be	93.98	321	P	P	03 41 29.0 -1.6
	comp=Z,2.0nm,0.7s,baz=74,slow=4.2,SNR=9.7					
	comp=Z,2.0nm,0.7s					
KIEV	Kiev	94.00	321	P	P	03 41 28.7 -1.9
KIEV				IAmb	IAmb	03 41 30.6
	comp=Z,9.2nm,1.4s					
JETT	Jettan, Norway	94.05	340	eP	P	03 41 29.6 -1.0
BORA	Eskisehir	94.56	310	IAmb	IAmb	03 41 33.1
	comp=Z,6.6nm,1.1s					
STEI	Steigen	96.38	340	eP	P	03 41 40.1 -1.1
BUR08	Bucovina Ar. S	97.11	318	IAmb	IAmb	03 41 45.3
	comp=Z,4.2nm,0.8s					
MOR8	Moi Rana	97.35	338	eP	P	03 41 43.3 -2.3
KOLS	Kolonicke sedl	98.74	320	ePDIFF	P	03 41 52.1 -0.1
HFS	Hagfors	100.01	332	P	Pdif	03 41 56.3 -1.3
	comp=Z,6.4nm,0.9s,baz=108,slow=4.8,SNR=14					
	comp=Z,6.4nm,0.9s					
YKA	Yellowknife Ar	100.16	25	P	Pdif	03 41 57.2 -1.0
	comp=Z,0.2nm,0.7s,baz=300,slow=4.5,SNR=5.9					
YKA				PKiKP	PKiKP	03 46 24.8 -0.3
	comp=Z,0.2nm,0.7s,baz=307,slow=2.0,SNR=5.4					
LANS	Liptovska Anna	100.47	321	ePDIFF	Pdif	03 41 57.6 -2.4
NB2	NORSAR Subarra	100.76	334	P	Pdif	03 41 59.3 -1.7
	comp=Z,4.3nm,0.8s,baz=66,slow=4.4					
NB2	NORSAR Subarra	100.76	334	P	Pdif	03 41 59.3 -1.7
	baz=66,slow=4.4					
NOA	NORSAR Array B	100.76	334	P	Pdif	03 41 59.4 -1.6
	comp=Z,2.5nm,0.7s,baz=66,slow=4.5,SNR=15					
GERES	GERESS Array B	104.17	322	Pdiff	Pdif	03 42 15.7 -0.8
	comp=Z,0.8nm,0.8s,baz=149,slow=0.8,SNR=6.1					
GERES				PKiKP	PKiKP	03 46 32.3 -0.7
	comp=Z,0.5nm,0.7s,baz=85,slow=3.1,SNR=3.9					
MNTX	Cornudas Mount	118.94	52		PKPdf	03 47 00.8 -0.6
ESDC	Sonseca Array	119.56	319	PKP	PKiKP	03 47 02.5 +0.1
	comp=Z,0.7nm,0.9s,baz=2.8,slow=1.9,SNR=5.2					
TXAR	Lajitas Array	121.23	54	PKP	PKiKP	03 47 06.5 +0.4
	comp=Z,0.8nm,0.7s,baz=202,slow=1.0,SNR=9.2					
JCT	Junction City	123.80	51		PKPdf	03 47 10.9 +0.1
BRDY	Brady	124.04	49		PKPdf	03 47 10.5 -0.7
TORD	Torodi Ar. Bea	124.84	288	PKP	PKPdf	03 47 12.6 -0.5
	comp=Z,4.2nm,0.7s,baz=36,slow=2.8,SNR=18					
PLCA	Paso Flores	138.11	158	PKP	PKPdf	03 47 37.6 +0.1
	comp=Z,1.4nm,0.6s,baz=294,slow=2.8,SNR=7.7					
PLCA				SKPbc	SKPbc	03 51 00.7 -0.8
	comp=Z,0.9nm,0.7s,baz=222,slow=9.6,SNR=3.7					
PEL	Peldehue	144.52	152		PKPbc	03 47 48.2 +0.1
VA06	Catapilco	144.71	151		PKPbc	03 47 48.8 +0.2
AC05	El Transito	148.22	148		PKiKP	03 48 00.2 -0.5
CPUP	Villa Florida	155.49	168	PKP	PKPdf	03 48 07.1 +0.7
	comp=Z,1.7nm,0.9s,baz=184,slow=4.7,SNR=3.2					
CPUP				PKPab	PKPab	03 48 32.8 +0.4
	comp=Z,1.8nm,0.7s,baz=195,slow=4.8,SNR=3.7					
FLOC	Florencia	155.76	81		PKPab	03 48 32.6 -1.6
LPAZ	La Paz	158.68	132	PKPab	PKPab	03 48 48.0 +0.8
	comp=Z,2.2nm,0.7s,baz=177,slow=5.8,SNR=8.6					
BDFB	Brasilia	166.24	195	PKPab	PKPab	03 49 19.4 -0.2
	comp=Z,1.7nm,0.7s,baz=321,slow=6.5,SNR=2.3					

NOU 24 03:30:32.3, 14°57S×166°90E, h3km, MLv4.8/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.61	162	P	Pn	03 31 00.9	-0.7
VLAKA	Lakatoro	1.61	162	S	Sn	03 31 23.0	+0.1
DVP	Devils Point	3.37	159	P	Pn	03 31 26.6	+0.7
LUES	Luesalemba Tem	4.00	346	P	Pn	03 31 34.6	0.0
KOUNC	Koumac, New Ca	6.45	202	P	Pn	03 32 08.2	0.0
DZM	Mont Dzumac	7.47	183	P	Pn	03 32 21.7	-0.7

*IDC **24** 03:36:38.9±0.7, 6°14S×153°75E, h0km, mb4.1/16, mbtmp4.2/19, ML2.5/1, MS3.7/7, Error ellipse: s-maj=19.9km s-min=16.1km az=107.0*
*NEIC **24** 03:36:43.3±1.2, 6°15S±0°09×153°3E±0°1, h10km±1km, mb4.6/19, Error ellipse: s-maj=21.0km s-min=8.9km az=230.0*

ISC 24 03:36:45.2±0.5, 6°11S±0°06×153°41E±0°06, h32km, n48, σ1§85/46, mb4.3/21, MS3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	2.27	327		Pn	03 37 20.2	-0.3
RABL				Sn	Sb	03 37 51.1	-2.2
PMG	Port Moresby	7.01	242	Pn	Pn	03 38 26.7	+1.0
	4.1nm,0.3s,baz=317,slow=13,SNR=3.6						
PMG				Sn	Sn	03 39 51.2	+6.9
	1.8nm,0.3s,baz=358,slow=17,SNR=1.4						
PMG				LR	LR	03 41 10.3	
	comp=Z,344nm,18.9s,baz=21,slow=37						
	4.5nm,0.3s						
HNR	Honiara	7.27	117		Pn	03 38 31.1	+1.8
HNR					Sn	03 39 53.7	+2.9
HNR	Honiara	7.27	117	Pn	Pn	03 38 21.8	-7.5
	50nm,0.5s,baz=200,slow=2.9,SNR=9.5						
HNR				Sn	Sn	03 39 52.8	+1.9
	9.4nm,0.3s,baz=312,slow=22,SNR=11						
JAY	Jayapura	13.16	285	Pn	Pn	03 39 52.4	+2.3
	17nm,1.0s,baz=313,slow=23,SNR=9.6						
EIDS	Eidsvold	19.29	186	P	P	03 41 07.5	0.0
DZM	Mont Dzumac	20.26	143	P	P	03 41 20.5	+2.2
DZM				IAmb	IAmb	03 41 24.9	
	comp=Z,34nm,1.3s						
DZM	Mont Dzumac	20.26	143	P	P	03 41 13.8	-4.5
	comp=Z,9.4nm,1.0s,baz=341,slow=14,SNR=2.1						
DZM				S	S	03 44 57.4	-6.7
	comp=Z,6.7nm,0.9s,baz=275,slow=20,SNR=1.7						
DZM				LR	LR	03 47 56.4	
	comp=Z,161nm,18.5s,baz=1.5,slow=34						
	comp=Z,9.4nm,1.0s						
ONTNC	Ouen Toro	20.45	143	P	P	03 41 21.9	+1.7
ONTNC				IAmb	IAmb	03 41 40.1	
	comp=Z,39nm,1.2s						
WRA	Warramunga Arr	23.08	232	P	P	03 41 49.2	+0.9
	comp=Z,1.5nm,0.6s,baz=55,slow=9.4,SNR=6.1						
	comp=Z,1.5nm,0.6s						
ARMA	Armidale	24.24	184	P	P	03 41 59.2	-0.3
AS31	Alice Springs	25.63	225	P	P	03 42 13.5	+1.4
ASAR	Alice Springs	25.63	225	P	P	03 42 13.0	+0.9
	comp=Z,6.7nm,0.9s,baz=57,slow=8.7,SNR=35						
	comp=Z,6.7nm,0.9s						
MSVF	Nonsavu	26.69	118	P	P	03 42 22.4	+0.5
MSVF				IAmb	IAmb	03 42 27.8	
	comp=Z,24nm,1.3s						
H11S3	WAKE ISLAND Hy	27.73	28	T	T	04 10 45.6	
	baz=208,slow=73,SNR=10						
H11S2	WAKE ISLAND Hy	27.74	28	T	T	04 10 43.1	
	baz=208,slow=73,SNR=13						
H11S1	WAKE ISLAND Hy	27.75	28	T	T	04 10 46.0	
	baz=208,slow=73,SNR=4.3						
STKA	Stephens Creek	27.92	202	P	P	03 42 32.0	-0.6
STKA				IAmb	IAmb	03 42 40.8	
	comp=Z,27nm,1.4s						
STKA	Stephens Creek	27.92	202	P	P	03 42 31.4	-1.2
	comp=Z,1.2nm,0.5s,baz=24,slow=8.8,SNR=3.2						
STKA				LR	LR	03 54 40.8	
	comp=Z,149nm,18.2s,baz=28,slow=39						
	comp=Z,1.2nm,0.5s						
FITZ	Fitzroy Crossi	29.60	244	P	P	03 42 48.5	+0.8
FITZ	Fitzroy Crossi	29.60	244	P	P	03 42 48.0	+0.3
	comp=Z,5.9nm,0.8s,baz=106,slow=6.8,SNR=7.2						
	comp=Z,5.9nm,0.8s						
FORT	Forrest	34.19	221	P	P	03 43 27.3	-0.5
RTZ	Ruatahuna	38.77	150	P	P	03 44 07.5	+0.6
RTZ				IAmb	IAmb	03 44 23.6	
	comp=Z,24nm,1.3s						
BFZ	Birch Farm	40.04	153	P	P	03 44 15.4	-2.1
MORW	Morawa	42.02	233	P	P	03 44 33.6	-0.3
MORW				IAmb	IAmb	03 44 42.5	
	comp=Z,27nm,1.3s						
KSRS	Korea Array	49.43	333	P	P	03 45 32.6	+0.4
	comp=Z,0.9nm,0.7s,baz=153,slow=11,SNR=5.5						
	comp=Z,0.9nm,0.7s						
KLR	Kul'dur	58.26	343	LR	LR	04 13 30.3	
	comp=Z,57nm,18.4s,baz=70,slow=38						
CMAR	Chiang Mai Arr	58.98	296	P	P	03 46 42.3	+0.1
	comp=Z,0.8nm,0.3s,baz=122,slow=5.1,SNR=4.8						
	comp=Z,0.8nm,0.3s						
PETK	Petropavlovsk-	59.10	3	P	P	03 46 43.7	+1.3
PETK	Petropavlovsk-	59.10	3	P	P	03 46 41.1	-1.3
	comp=Z,5.3nm,1.2s,baz=147,slow=8.9,SNR=2.1						
	comp=Z,5.3nm,1.2s						
SHEM	Shemya Is, Ala	61.19	14	LR	LR	04 09 22.4	
	comp=Z,118nm,20.9s,baz=222,slow=32						
MA2	Magadan	65.51	359	P	P	03 47 26.2	+1.1
ULN	Ulaanbaatar	67.42	328	P	P	03 47 39.2	+1.4
ULN				IAmb	IAmb	03 47 54.1	
	comp=Z,3.2nm,1.1s						
SONM	Songino Array	67.75	328	P	P	03 47 39.3	-0.6
SONM				IAmb	IAmb	03 47 55.3	
	comp=Z,3.8nm,1.4s						
SONM	Songino Array	67.75	328	P	P	03 47 40.2	+0.3
	comp=Z,0.5nm,0.5s,baz=141,slow=7.3,SNR=4.2						
	comp=Z,0.5nm,0.5s						
N14K	Kuskokwak Cree	74.72	22	P	P	03 48 24.0	+2.4
J16K	Anvik River	77.41	19	P	P	03 48 38.4	+1.6
J16K				IAmb	IAmb	03 48 48.4	
	comp=Z,7.7nm,1.4s						
F17K	Baldwin Pennin	79.39	17	P	P	03 48 49.3	+1.6
F17K				IAmb	IAmb	03 48 50.0	
	comp=Z,4.4nm,1.1s						
MKAR	Makanchi Array	81.70	319	P	P	03 49 00.1	-0.6
	comp=Z,1.0nm,0.7s,baz=117,slow=4.9,SNR=6.9						
	comp=Z,1.0nm,0.7s						
ZALV	Zalesovo Beam	82.57	326	P	P	03 49 04.1	-0.8
	comp=Z,0.9nm,0.5s,baz=104,slow=4.7,SNR=4.1						
	comp=Z,0.9nm,0.5s						
ILAR	Eielson Array	83.14	22	P	P	03 49 06.3	-1.4
	comp=Z,0.4nm,0.6s,baz=243,slow=5.0,SNR=7.5						
ILAR				LR	LR	04 24 04.4	
	comp=Z,30nm,18.3s,baz=88,slow=34						
	comp=Z,0.4nm,0.6s						
QSPA	South Pole Qui	83.86	180	P	P	03 49 10.5	-1.2
QSPA				IAmb	IAmb	03 49 16.0	
	comp=Z,2.4nm,0.8s						
QSPA	South Pole Qui	83.86	180	P	P	03 49 10.1	-1.5
	comp=Z,3.0nm,0.7s,baz=2.5,slow=0.6,SNR=19						
	comp=Z,3.0nm,0.7s						
KURBB	Kurchatov Arra	85.19	322	P	P	03 49 18.1	-0.4
	comp=Z,0.3nm,0.3s,baz=116,slow=3.4,SNR=5.8						
	comp=Z,0.3nm,0.3s						
YBH	Yreka Blue Hor	89.47	48	LR	LR	04 21 51.1	
	comp=Z,69nm,21.7s,baz=314,slow=30						
BVAR	Borovoye Array	90.64	323	P	P	03 49 44.3	-0.3
	comp=Z,1.4nm,0.7s,baz=101,slow=7.9,SNR=6.1						
	comp=Z,1.4nm,0.7s						
NVAR	Mina Array Bea	92.41	52	P	P	03 49 51.6	-1.8
	comp=Z,0.2nm,0.6s,baz=62,slow=14,SNR=2.1						
	comp=Z,0.2nm,0.6s						
TORD	Torodi Ar. Bea	151.27	286	PKPbc	PKPbc	03 56 34.5	-2.1
	comp=Z,1.2nm,0.8s,baz=12,slow=2.2,SNR=6.8						
TORD				PKPab	pPKPbc	03 56 46.6	+1.9
	comp=Z,2.4nm,0.8s,baz=39,slow=3.5,SNR=8.2						

AUST 24 03:42:18.2±0.3, 21°S±3°×12°8E±°, h10km, mb4.0/1, ML3.5/9, Error ellipse: s-maj=7.1km s-min=6.5km az=69.8, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRKA	Warakurna	3.62	181	P	Pn	03 43 15.9	+1.4
WRKA	Warakurna	3.62	181	S	Sn	03 43 59.5	+2.1
FITZ	Fitzroy Crossi	4.16	322	P	Pn	03 43 23.5	+1.7
AS31	Alice Springs	5.61	115	P	Pn	03 43 42.9	+1.2
KNRA	Kununurra	5.70	4	P	Pn	03 43 44.1	+1.1
KNRA				S	Sn	03 44 45.2	-3.4
WC4	Warramunga Arr	5.78	77	P	Pn	03 43 42.3	-1.9
PSA00	Pilbara Seismi	7.92	267	P	Pn	03 44 12.8	-0.8
PSA00				S	Sn	03 45 38.0	-5.4
MBWA	Marble Bar	8.04	270	P	Pn	03 44 14.8	-0.4
	comp=Z,0.1nmcomp=Z,16nm,1.4s						
FORT	Forrest	9.35	182	P	Pn	03 44 32.1	-0.9
FORT	Forrest	9.35	182	S	Sn	03 46 12.9	-5.3
MULG	Mulgathing	10.23	151	P	Pn	03 44 44.7	-0.5
MULG				S	Sn	03 46 33.5	-6.4
MEEK	Meekatharra	10.32	238	P	Pn	03 44 44.5	-1.9
QIS	Mount Isa	10.55	87	P	Pn	03 44 48.8	-0.8

*BJI **24** 03:43:51.7, 7°76N×126°80E, h85km, mB4.8/16, mb4.7/35, Ms4.2/18, Ms7 4.0/20*
*GCMT **24** 03:43:52.7±0.4, 7°89N±0°03×126°97E±0°03, h33km±1km, MW4.8/58, Moment Tensor Solution. s28,c33; s58,c76; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.80±.17; $M_{\theta\theta}$0.31±.10; $M_{\phi\phi}$-2.11±.11; $M_{r\theta}$0.58±.12; $M_{\theta\phi}$-0.47±.07; $M_{r\phi}$0.93±.11; Best double couple: $M_0$2.29200×10^{16} NP1:ϕ_s176.00000°, δ33.00000°, λ68.00000°. NP2: ϕ_s23.00000°, δ60.00000°, λ104.00000°. Principal axes: T 2.1360, Plg72.0000°, Azm325.0000°; N 0.3100, Plg12.0000°, Azm195.0000°; P -2.4470, Plg14.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 03:43:54.7±1.4, 7°92N±0°07×126°69E±0°08, h72km±7km, mb4.7/138 Error ellipse: s-maj=12.4km s-min=10.6km az=117.0*
*DJA **24** 03:43:54.9±0.5, 8°N±4°×12°7E±°, h69km±6km, M5.0/22, mb5.0/22, mB5.4/

SANI	**Sanana**	**9.97**	**184**	P	**Pn**	**03 46 13.9**	**-0.8**
	790nm63nm,0.9s						
APSI	**Ampana**	**10.15**	**210**	P	Pn	03 46 22.8	+5.7
	2µm66nm,0.8s						
MPSI	**Mapaga**	**10.16**	**222**	P	Pn	03 46 24.1	+6.8
FAKI	**Fak Fak**	**12.15**	**153**	Pn	**Pn**	**03 46 41.4**	**-3.1**
BNSI	**Bone**	**13.93**	**208**	P	P	03 47 20.0	+5.9
KAPI	**Kappang**	**14.63**	**208**	P	**Pn**	**03 47 17.2**	**-0.3**
	10nm,0.3s,baz=19,slow=7.2,SNR=4.4						
SBUM	**Sibu**	**15.41**	**250**	Pn	**Pn**	**03 47 27.2**	**-0.3**
SMPI	**Sarmi**	**15.54**	**129**	P	**Pn**	**03 47 29.3**	**+0.1**
	2µm105nm,1.3s						
SSLB	**Suanglung**	**16.66**	**341**	Pn	**Pn**	**03 47 43.0**	**-0.3**
MMRI	**Maumere**	**17.08**	**195**		**Pn**	**03 47 47.4**	**-0.9**
MMRI	**Maumere**	**17.08**	**195**	P	**P**	**03 47 54.0**	**+4.9**
	148nm,0.5s						
KSM	**Kuching**	**17.54**	**249**		**P**	**03 47 54.6**	**+0.3**
SOEI	**Soe**	**17.77**	**188**		**P**	**03 47 55.9**	**-0.9**
SOEI	**Soe**	**17.77**	**188**	P	**Pn**	**03 47 59.8**	**+2.9**
	78nm,0.9s						
GUMO	**Guam**	**18.71**	**71**	LR	LR	03 55 40.1	
	comp=Z,144nm,19.4s,baz=164,slow=38						
JOW	**Kunigami**	**18.82**	**4**		**P**	**03 48 09.6**	**+1.4**
JOW	**Kunigami**	**18.82**	**4**	P	**P**	**03 48 08.3**	**+0.1**
	96nm,0.8s,baz=218,slow=6.8,SNR=17						
JOW				LR	LR	03 54 26.8	
	comp=Z,304nm,21.4s,baz=303,slow=34						
QIZ	**Qiongzhong**	**19.71**	**306**	P	**P**	**03 48 17.4**	**-0.5**
QIZ				S	**S**	**03 51 58.1**	**+1.6**
QIZ				pmax	pmax		
	comp=Z,17nm,1.0s						
QIZ				LR	LR		
	comp=N,440nm,14.4s						
QIZ				LR	LR		
	comp=E,440nm,13.7s						
QIZ				LR	LR		
	comp=Z,690nm,13.1s						
UBPT	**Khong Chiam**	**22.00**	**291**		**P**	**03 48 42.8**	**+0.1**
UBPT				IAmb	IAmb	03 48 44.5	
	comp=Z,25nm,0.9s						
KNRA	**Kununurra**	**23.58**	**175**		**P**	**03 48 58.3**	**-0.2**
KNRA	**Kununurra**	**23.58**	**175**	P	**P**	**03 48 57.8**	**-0.8**
	comp=Z,81nm,0.6s						
JCJ	**Chichijima**	**24.04**	**36**	LR	LR	03 56 21.4	
	comp=Z,160nm,21.6s,baz=241,slow=31						
NJ2	**Nanjing**	**25.05**	**344**	*e*P	**P**	**03 49 14.3**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WHN	**Wuhan**	**25.26**	**334**	P	**P**	**03 49 16.4**	**+2.7**
JNU	**Nakatsue**	**25.33**	**8**	P	**P**	**03 49 13.1**	**-1.2**
JNU	**Nakatsue**	**25.33**	**8**	P	**P**	**03 49 13.8**	**-0.6**
	comp=Z,86nm,0.9s,baz=229,slow=2.2,SNR=32						
JNU				LR	LR	03 58 45.1	
	comp=Z,96nm,21.7s,baz=186,slow=35						
	comp=Z,86nm,0.9s						
FITZ	**Fitzroy Crossi**	**25.92**	**182**	P	**P**	**03 49 19.4**	**-0.3**
	comp=Z,15nm,0.7s,baz=329,slow=1.7,SNR=9.2						
	comp=Z,15nm,0.7s						
JMN	**Monobe**	**26.48**	**14**	P	**P**	**03 49 26.2**	**+1.4**
PMG	**Port Moresby**	**26.71**	**130**	LR	LR	04 01 12.0	
	comp=Z,171nm,19.8s,baz=257,slow=39						
COEN	**Coen**	**27.24**	**143**	P	**P**	**03 49 31.7**	**0.0**
COEN				IAmb	IAmb	03 49 43.8	
	comp=Z,39nm,1.4s						
WRA	**Warramunga Arr**	**28.74**	**165**	P	**P**	**03 49 43.8**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=342,slow=9.0,SNR=3.6						
WRA				LR	LR	04 05 05.6	
	comp=Z,116nm,18.2s,baz=320,slow=44						
	comp=Z,1.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**28.91**	**294**	P	**P**	**03 49 46.1**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=122,slow=6.9,SNR=9.5						
CMAR				PcP	**PcP**	**03 52 54.4**	**0.0**
	comp=Z,4.6nm,0.7s,baz=114,slow=0.8,SNR=21						
CMAR				LR	LR	04 01 34.3	
	comp=Z,117nm,19.7s,baz=125,slow=37						
	comp=Z,0.9nm,0.3s						
CHTO	**Chiang Mai**	**29.02**	**295**	P	**P**	**03 49 47.2**	**-0.3**
KSRS	**Korea Array**	**29.38**	**2**	P	**P**	**03 49 50.0**	**-0.5**
	comp=Z,7.3nm,0.9s,baz=177,slow=11,SNR=29						
KSRS				PcP	**PcP**	**03 52 55.8**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=169,slow=3.0,SNR=5.5						
	comp=Z,7.3nm,0.9s						
PZH	**PanZhiHua**	**30.02**	**311**	P	**P**	**03 49 59.6**	**+3.1**
PZH				S	**S**	**03 54 51.1**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
PZH				LR	LR		
	comp=Z,180nm,18.4s						
PZH				LR	LR		
	comp=Z,160nm,17.3s						
PZH				LR	LR		
	comp=Z,260nm,16.7s						
PSA00	**Pilbara Seismi**	**30.11**	**193**	P	**P**	**03 49 57.5**	**+0.3**
PSA00	**Pilbara Seismi**	**30.11**	**193**	P	**P**	**03 49 56.4**	**-0.8**
	comp=Z,55nm,1.0s						
MJAR	**Matsushiro Arr**	**30.32**	**19**	P	**P**	**03 49 57.8**	**-1.1**
	comp=Z,3.8nm,0.7s,baz=190,slow=9.0,SNR=8.8						
MJAR				PcP	**PcP**	**03 52 58.3**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=105,slow=3.5,SNR=4.8						
MJAR				LR	LR	04 03 40.3	
	comp=Z,99nm,18.1s,baz=204,slow=39						
	comp=Z,3.8nm,0.7s						
XAN	**Xi'an**	**30.69**	**330**	⇓P	**P**	**03 50 00.0**	**-2.2**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
QIS	**Mount Isa**	**31.06**	**156**	P	**P**	**03 50 03.2**	**-2.3**
	comp=Z,31nm,0.7s						
HNS	**HongShan**	**31.25**	**341**	⇑P	**P**	**03 50 03.3**	**-3.7**
HNS				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HNS				LR	LR		
	comp=Z,180nm,14.9s						
HNS				LR	LR		
	comp=Z,180nm,17.6s						
ASAR	**Alice Springs**	**32.22**	**168**	P	**P**	**03 50 14.9**	**-0.8**
	comp=Z,3.6nm,0.7s,baz=356,slow=7.5,SNR=14						
ASAR				PcP	**PcP**	**03 53 03.7**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=345,slow=2.7,SNR=9.1						
ASAR				ScP	**ScP**	**03 56 40.2**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=348,slow=3.9,SNR=5.2						
ASAR				LR	LR	04 04 30.3	
	comp=Z,94nm,18.2s,baz=310,slow=38						
	comp=Z,3.6nm,0.7s						
JMM	**Marumori**	**32.39**	**21**	P	**P**	**03 50 16.9**	**-0.1**
WRKA	**Warakurna**	**32.84**	**177**	P	**P**	**03 50 20.1**	**-1.1**
	comp=Z,22nm,0.9s						
MEEK	**Meekatharra**	**35.28**	**193**	P	**P**	**03 50 40.8**	**-1.4**
	comp=Z,63nm,0.8s						
HHC	**Hu-ho-hao-te**	**35.41**	**340**	*e*P	**P**	**03 50 47.0**	**+3.7**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,100nm,4.9s						
HHC				LR	LR		
	comp=Z,180nm,19.3s						
HHC				LR	LR		
	comp=Z,150nm,21.9s						
HHC				LR	LR		
	comp=Z,230nm,22.7s						
CN2	**Changchun**	**35.71**	**358**	P	**P**	**03 50 44.9**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USA0B	**Ussuriysk Arra**	**36.39**	**6**	P	**P**	**03 50 52.1**	**+0.6**
USRK	**Ussuriysk Ar.**	**36.39**	**6**		**P**	**03 50 52.1**	**+0.6**
USRK	**Ussuriysk Ar.**	**36.39**	**6**	P	**P**	**03 50 51.7**	**+0.2**
	comp=Z,44nm,0.7s,baz=186,slow=8.0,SNR=69						
	comp=Z,44nm,0.7s						
MDJ	**Mudanjiang**	**36.60**	**3**	P	**P**	**03 50 54.1**	**+0.8**
MDJ	**Mudanjiang**	**36.60**	**3**	P	**P**	**03 50 54.3**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,38nm,1.0s						
HNR	**Honiara**	**37.37**	**117**	LR	LR	04 06 46.0	
	comp=Z,92nm,18.3s,baz=309,slow=37						
SHL	**Shillong**	**37.47**	**302**	P	**P**	**03 51 01.5**	**+0.3**
MORW	**Morawa**	**38.22**	**195**	P	**P**	**03 51 08.0**	**+0.7**
MORW	**Morawa**	**38.22**	**195**	P	**P**	**03 51 07.0**	**-0.2**
	comp=Z,48nm,1.3s						
FORT	**Forrest**	**38.55**	**178**	P	**P**	**03 51 10.1**	**+0.2**
FORT	**Forrest**	**38.55**	**178**	P	**P**	**03 51 08.9**	**-1.0**
	comp=Z,74nm,0.7s						
ASAJ	**Asahikawa**	**38.59**	**18**	P	**P**	**03 51 10.0**	**-0.2**
	comp=Z,6.0nm,0.5s,baz=268,slow=8.2,SNR=7.4						
	comp=Z,6.0nm,0.5s						
KMBL	**Kambalda**	**39.38**	**186**	P	**P**	**03 51 16.8**	**0.0**
	comp=Z,49nm,0.9s						
GTA	**Gaotai**	**39.51**	**327**	*e*P	**P**	**03 51 17.9**	**-0.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
GTA				LR	LR		
	comp=Z,160nm,15.6s						
GTA				LR	LR		
	comp=Z,140nm,18.9s						
GTA				LR	LR		
	comp=Z,220nm,17.4s						
BLDU	**Ballidu**	**39.54**	**194**	P	**P**	**03 51 18.0**	**-0.2**
	comp=Z,64nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**40.23**	**71**	T	T	04 34 44.8	
	baz=263						
H11S1	**WAKE ISLAND Hy**	**40.24**	**71**	T	T	04 34 38.0	
	baz=263						
H11S2	**WAKE ISLAND Hy**	**40.25**	**71**	T	T	04 34 42.6	
	baz=263						
KLBR	**Kellerberrin**	**40.25**	**192**	P	**P**	**03 51 23.7**	**-0.4**
	comp=Z,114nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**40.64**	**69**	T	T	04 35 10.2	
	baz=261,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.65**	**69**	T	T	04 35 13.4	
	baz=261,slow=74						
H11N3	**WAKE ISLAND Hy**	**40.66**	**69**	T	T	04 35 10.0	
	baz=261,slow=74						
MUN	**Mundaring**	**40.96**	**194**	P	**P**	**03 51 29.3**	**-0.7**
	comp=Z,61nm,0.8s						
KLR	**Kul'dur**	**41.35**	**5**	P	**P**	**03 51 32.5**	**-0.3**
	comp=Z,8.4nm,0.8s,baz=210,slow=6.3,SNR=25						
KLR				PcP	**PcP**	**03 53 30.4**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=286,slow=11,SNR=5.4						
	comp=Z,8.4nm,0.8s						
BBOO	**Buckleboo**	**41.52**	**168**	P	**P**	**03 51 34.3**	**-0.2**
BBOO	**Buckleboo**	**41.52**	**168**	P	**P**	**03 51 33.2**	**-1.3**
	comp=Z,21nm,0.8s						
NWAO	**Narrogin (SRO)**	**41.65**	**192**	P	**P**	**03 51 36.5**	**+1.0**
NWAO	**Narrogin (SRO)**	**41.65**	**192**	P	**P**	**03 51 34.7**	**-0.9**
	comp=Z,42nm,0.9s,baz=23,slow=8.6,SNR=13						
	comp=Z,42nm,0.9s						
STKA	**Stephens Creek**	**42.10**	**161**	P	**P**	**03 51 39.0**	**-0.2**
STKA	**Stephens Creek**	**42.10**	**161**	P	**P**	**03 51 37.4**	**-1.8**
	comp=Z,68nm,0.8s						
STKA	**Stephens Creek**	**42.10**	**161**	P	**P**	**03 51 39.0**	**-0.2**
	comp=Z,6.9nm,0.6s,baz=329,slow=7.8,SNR=14						
STKA				LR	LR	04 12 27.3	
	comp=Z,98nm,20.1s,baz=3.2,slow=41						
	comp=Z,6.9nm,0.6s						
HEH	**HeiHe**	**42.16**	**1**	*e*P	**P**	**03 51 39.4**	**-0.1**
HEH				pmax	pmax		
	comp=Z,13nm,0.9s						
HEH				LR	LR		
	comp=Z,370nm,13.5s						
HEH				LR	LR		
	comp=Z,350nm,13.5s						
HEH				LR	LR		
	comp=Z,380nm,14.3s						
ULN	**Ulaanbaatar**	**43.12**	**341**		**P**	**03 51 47.1**	**-0.4**
SONM	**Songino Array**	**43.31**	**340**	P	**P**	**03 51 48.1**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=146,slow=9.0,SNR=6.2						
SONM				PcP	**PcP**	**03 53 37.1**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=156,slow=3.3,SNR=8.1						
	comp=Z,1.7nm,0.8s						
RKGY	**Rocky Gully**	**43.33**	**192**	P	**P**	**03 51 51.2**	**+2.1**
ARPS	**Mount Arapiles**	**46.72**	**163**	P	**P**	**03 52 16.5**	**+0.6**
	comp=Z,20nm,0.9s						
MGCD	**Mangrove Creek**	**47.08**	**152**	P	P	03 52 12.1	-6.7
DZM	**Mont Dzumac**	**49.09**	**128**	*e*LR	LR	04 06 36.7	
	comp=Z,131nm,23.6s						
DZM	**Mont Dzumac**	**49.09**	**128**	P	**P**	**03 52 35.1**	**+0.3**
	comp=Z,6.9nm,0.7s,baz=285,slow=12,SNR=5.5						
DZM				LR	LR	04 15 25.3	
	comp=Z,30nm,18.1s,baz=228,slow=38						
	comp=Z,6.9nm,0.7s						
WMQ	**Urumqi**	**49.29**	**323**	*e*P	**P**	**03 52 38.9**	**+3.0**
PEA0B	**Petropavlovsk-**	**51.56**	**23**	P	**P**	**03 52 54.6**	**+1.7**
PETK	**Petropavlovsk-**	**51.56**	**23**		**P**	**03 52 54.4**	**+1.6**
PETK	**Petropavlovsk-**	**51.56**	**23**	P	**P**	**03 52 53.9**	**+1.1**
	comp=Z,14nm,0.8s,baz=209,slow=5.7,SNR=29						
PETK				PcP	**PcP**	**03 54 05.5**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=192,slow=2.4,SNR=2.0						
	comp=Z,14nm,0.8s						
MKAR	**Makanchi Array**	**54.11**	**324**	P	**P**	**03 53 11.6**	**-0.1**
	comp=Z,9.4nm,0.7s,baz=123,slow=8.0,SNR=77						
MKAR				PcP	**PcP**	**03 54 15.8**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=114,slow=5.4,SNR=4.9						
MKAR				LR	LR	04 18 03.1	
	comp=Z,178nm,20.5s,baz=76,slow=38						
	comp=Z,9.4nm,0.7s						
MAKZ	**Makanchi**	**54.30**	**323**		**P**	**03 53 13.0**	**-0.1**
MAKZ				IAmb	IAmb	03 53 13.8	
	comp=Z,8.5nm,0.8s						
TARG	**Taragay, Kyrgy**	**54.63**	**316**	P	**P**	**03 53 16.5**	**+0.4**
TARG				IAmb	IAmb	03 53 27.0	
	comp=Z,6.1nm,0.9s						
MA2	**Magadan**	**54.64**	**15**		**P**	**03 53 16.8**	**+1.5**
KDJ	**Kajisay**	**55.22**	**316**		**P**	**03 53 20.0**	**-0.1**
KDJ				IAmb	IAmb	03 53 21.2	
	comp=Z,7.7nm,1.0s						
NIL	**Nilore**	**55.38**	**305**		**P**	**03 53 20.9**	**-0.3**
NRN	**Naryn**	**55.76**	**315**		**P**	**03 53 24.0**	**-0.2**
NRN				IAmb	IAmb	03 53 26.5	
	comp=Z,5.1nm,1.0s						
BOOM	**Boomskoye usch**	**56.21**	**316**		**P**	**03 53 27.3**	**+0.2**
MSVF	**Nonsavu**	**56.79**	**117**	LR	LR	04 15 44.6	
	comp=Z,114nm,21.3s,baz=194,slow=34						
ZAA0	**Zalesovo Array**	**56.84**	**332**		**P**	**03 53 29.9**	**-1.3**
ZAA0				IAmb	IAmb	03 53 30.9	
	comp=Z,6.8nm,0.9s						
ZALV	**Zalesovo Beam**	**56.84**	**332**		**P**	**03 53 30.0**	**-1.1**
ZALV	**Zalesovo Beam**	**56.84**	**332**	P	**P**	**03 53 30.1**	**-1.0**
	comp=Z,6.3nm,0.8s,baz=115,slow=7.0,SNR=20						
	comp=Z,6.3nm,0.8s						
AAK	**Ala-Archa**	**57.25**	**316**		**P**	**03 53 34.2**	**-0.3**
AAK	**Ala-Archa**	**57.25**	**316**	LR	LR	04 20 22.6	
	comp=Z,111nm,21.4s,baz=96,slow=38						
KURK	**Kurchatov**	**58.19**	**326**		**P**	**03 53 40.4**	**-0.3**
KURBB	**Kurchatov Arra**	**58.20**	**326**	P	**P**	**03 53 40.3**	**-0.5**
	comp=Z,11nm,0.8s,baz=126,slow=6.1,SNR=99						
	comp=Z,11nm,0.8s						
GAR	**Garm**	**59.09**	**311**		**P**	**03 53 47.1**	**-0.3**
KK31	**Karatay Array**	**60.16**	**315**		**P**	**03 53 54.2**	**-0.3**
KK31				IAmb	IAmb	03 53 55.5	
	comp=Z,6.3nm,0.8s						
KKAR	**Karatay Array**	**60.16**	**315**		**P**	**03 53 54.0**	**-0.5**
KKAR				IAmb	IAmb	03 53 55.5	
	comp=Z,6.6nm,0.8s						
KKAR	**Karatay Array**	**60.16**	**315**		**P**	**03 53 54.0**	**-0.5**
TIXI	**Tiksi**	**63.63**	**1**		**P**	**03 54 16.8**	**-0.4**
BVAR	**Borovoye Array**	**63.79**	**326**	P	**P**	**03 54 18.3**	**-0.3**
	comp=Z,4.7nm,0.7s,baz=120,slow=8.8,SNR=26						
	comp=Z,4.7nm,0.7s						
BRVK	**Borovoye**	**63.86**	**326**		**P**	**03 54 17.7**	**-1.4**
BRVK				IAmb	IAmb	03 54 19.5	
	comp=Z,7.7nm,0.8s						
BILL	**Bilibino**	**65.50**	**15**		**P**	**03 54 29.7**	**+0.2**
BILL				IAmb	IAmb	03 54 39.9	
	comp=Z,11nm,1.4s						
URZ	**Urewera**	**65.68**	**138**	LR	LR	04 20 40.2	
	comp=Z,71nm,21.9s,baz=12,slow=34						
NRIK	**Noril'sk**	**66.33**	**346**	P	**P**	**03 54 34.1**	**-0.7**
NRIK				IAmb	IAmb	03 54 35.0	
	comp=Z,6.4nm,0.8s						
NRIK	**Noril'sk**	**66.33**	**346**	P	**P**	**03 54 34.3**	**-0.5**
	comp=Z,5.4nm,0.7s,baz=134,slow=4.8,SNR=7.3						
NRIK				LR	LR	04 26 28.5	
	comp=Z,155nm,19.3s,baz=131,slow=38						
	comp=Z,5.4nm,0.7s						
AB31	**Akbulak array**	**68.89**	**320**		**P**	**03 54 50.6**	**-0.6**
ABKAR	**Akbulak array**	**68.89**	**320**		**P**	**03 54 50.0**	**-1.3**
ABKAR	**Akbulak array**	**68.89**	**320**		**P**	**03 54 50.3**	**-1.0**
UNV	**Unalaska Valle**	**70.00**	**35**	P	**P**	**03 54 59.3**	**+1.3**
	baz=256						
GAMB	**Gambell**	**70.57**	**24**	P	**P**	**03 55 02.9**	**+1.6**
	baz=248						
ARTI	**Arti**	**71.45**	**327**		**P**	**03 55 05.7**	**-1.1**
ARTI				IAmb	IAmb	03 55 06.2	
	comp=Z,5.7nm,0.7s						
M11K	**Mekoryuk**	**71.89**	**29**	P	**P**	**03 55 11.0**	**+1.7**
	baz=254						
FALS	**False Pass**	**71.99**	**35**	P	**P**	**03 55 11.4**	**+1.4**
	baz=258						
S12K	**Black Hills**	**72.92**	**34**	P	**P**	**03 55 16.8**	**+1.2**
	baz=259						
K13K	**Kusilvak Mount**	**73.03**	**27**	P	**P**	**03 55 16.9**	**+0.7**
	baz=255						
F14K	**Arctic Creek**	**73.34**	**24**	P	**P**	**03 55 18.9**	**+1.0**
	baz=252						
ANM	**Nome**	**73.45**	**25**	P	**P**	**03 55 20.0**	**+1.5**
	baz=253						
J14K	**Nanvaranak Lak**	**73.74**	**27**	P	**P**	**03 55 21.9**	**+1.7**
	baz=255						
SDPT	**Sand Point**	**73.74**	**35**	P	**P**	**03 55 21.1**	**+0.7**
	baz=260						
L14K	**Kuka Creek**	**73.80**	**28**	P	**P**	**03 55 21.6**	**+1.0**
L14K				IAmb	IAmb	03 55 38.5	
	comp=Z,12nm,0.9s						
L14K	**Kuka Creek**	**73.80**	**28**	P	**P**	**03 55 21.8**	**+1.2**
	baz=257						
N14K	**Kuskokwak Cree**	**73.97**	**30**	P	**P**	**03 55 21.9**	**+0.2**
	baz=258						
M14K	**Bethel**	**74.01**	**29**	P	**P**	**03 55 22.2**	**+0.4**
	baz=258						
O14K	**Tigyukauivet M**	**74.04**	**31**	P	**P**	**03 55 23.3**	**+1.2**
	baz=258						
F15K	**North Star Dit**	**74.07**	**24**	P	**P**	**03 55 23.3**	**+1.1**
	baz=254						
G15K	**Niukluk**	**74.12**	**24**	P	**P**	**03 55 23.5**	**+1.0**
	baz=254						
CHNA	**Chernabura Isl**	**74.16**	**35**	P	**P**	**03 55 23.3**	**+0.4**
	baz=261						
S14K	**Fog Glacier**	**74.41**	**34**	P	**P**	**03 55 24.9**	**+0.4**
	baz=261						
L15K	**Ungalak Mounta**	**74.43**	**28**	P	**P**	**03 55 24.9**	**+0.6**
	baz=258						
K15K	**Wolf Creek Mou**	**74.55**	**27**	P	**P**	**03 55 25.9**	**+0.9**
	baz=257						
C16K	**Lisburne Hills**	**74.57**	**21**	P	**P**	**03 55 26.0**	**+1.0**
C16K				IAmb	IAmb	03 56 09.1	
	comp=Z,11nm,1.2s						
C16K	**Lisburne Hills**	**74.57**	**21**	P	**P**	**03 55 26.3**	**+1.3**
	baz=252						
M15K	**Kasigluk River**	**74.61**	**29**	P	**P**	**03 55 26.3**	**+0.9**
	baz=259						
O15K	**Ungalikthiuk R**	**74.75**	**31**	P	**P**	**03 55 26.9**	**+0.6**
	baz=260						
H16K	**Elim**	**74.77**	**25**	P	**P**	**03 55 27.5**	**+1.2**
	baz=256						
N15K	**Kwethluk River**	**74.80**	**30**	P	**P**	**03 55 27.4**	**+0.9**
	baz=259						
G16K	**Koyuk River**	**74.91**	**24**	P	**P**	**03 55 28.2**	**+1.2**
	baz=256						
CHGN	**Chignik**	**75.04**	**34**	P	**P**	**03 55 28.4**	**+0.5**
	baz=262						
J16K	**Anvik River**	**75.17**	**27**		**P**	**03 55 29.7**	**+1.1**
J16K				IAmb	IAmb	03 55 32.2	
	comp=Z,6.8nm,1.0s						
J16K	**Anvik River**	**75.17**	**27**	P	**P**	**03 55 29.5**	**+0.9**
	baz=258						
D17K	**Noatak River**	**75.22**	**22**	P	**P**	**03 55 29.8**	**+1.1**
	baz=255,SNR=17						
I17K	**Unalakleet**	**75.26**	**26**	P	**P**	**03 55 29.7**	**+0.6**
	baz=258						
RDOG	**Red Dog Mine**	**75.38**	**21**	P	**P**	**03 55 30.8**	**+1.1**
	baz=255						
L16K	**Owhat River**	**75.38**	**28**		**P**	**03 55 31.1**	**+1.3**
L16K				IAmb	IAmb	03 55 47.5	
	comp=Z,10.0nm,1.1s						
L16K	**Owhat River**	**75.38**	**28**	P	**P**	**03 55 30.9**	**+1.1**
	baz=259						
N16K	**Nishlik Lake**	**75.50**	**30**	P	**P**	**03 55 32.1**	**+1.5**
	baz=260						
M16K	**Timber Creek**	**75.50**	**29**		**P**	**03 55 32.6**	**+2.1**
M16K				IAmb	IAmb	03 55 44.9	
	comp=Z,12nm,1.1s						
M16K	**Timber Creek**	**75.50**	**29**	P	**P**	**03 55 32.0**	**+1.4**
	baz=260						
E17K	**Hotham Inlet**	**75.53**	**23**	P	**P**	**03 55 32.3**	**+1.7**
	baz=256,SNR=9.8						
F17K	**Baldwin Pennin**	**75.60**	**23**	P	**P**	**03 55 32.6**	**+1.6**
F17K	**Baldwin Pennin**	**75.60**	**23**	P	**P**	**03 55 32.0**	**+1.0**
	baz=257						
G17K	**Kiwalik Mounta**	**75.63**	**24**	P	**P**	**03 55 32.0**	**+0.9**
	baz=257,SNR=5.7						
O16K	**Kokwok River B**	**75.70**	**31**	P	**P**	**03 55 32.0**	**+0.4**
	baz=261						
H17K	**Granite Mounta**	**75.81**	**25**	P	**P**	**03 55 32.4**	**+0.2**
H17K	**Granite Mounta**	**75.81**	**25**	P	**P**	**03 55 32.8**	**+0.6**
	baz=258						
J17K	**VABM Dome**	**75.87**	**27**		**P**	**03 55 34.3**	**+1.7**
J17K				IAmb	IAmb	03 55 36.2	
	comp=Z,7.4nm,0.8s						
J17K	**VABM Dome**	**75.87**	**27**	P	**P**	**03 55 33.7**	**+1.2**
	baz=259,SNR=5.5						
L17K	**Donlin**	**76.00**	**28**	P	**P**	**03 55 34.4**	**+1.0**
	baz=260						
E18K	**Tukpahlearik C**	**76.07**	**22**		**P**	**03 55 34.7**	**+1.1**
E18K				IAmb	IAmb	03 55 37.2	
	comp=Z,10nm,0.8s						
E18K	**Tukpahlearik C**	**76.07**	**22**	P	**P**	**03 55 34.8**	**+1.1**
	baz=257,SNR=15						
K17K	**Iditarod**	**76.10**	**27**		**P**	**03 55 35.8**	**+1.9**
K17K				IAmb	IAmb	03 55 49.4	
	comp=Z,14nm,1.0s						
K17K	**Iditarod**	**76.10**	**27**	P	**P**	**03 55 34.9**	**+1.0**
	baz=260						
B18K	**Kokolik River**	**76.11**	**20**	P	**P**	**03 55 34.9**	**+1.1**
	baz=255						
C18K	**Utukok River**	**76.14**	**21**		**P**	**03 55 34.6**	**+0.5**
C18K				IAmb	IAmb	03 55 37.2	
	comp=Z,11nm,0.8s						
C18K	**Utukok River**	**76.14**	**21**	P	**P**	**03 55 34.9**	**+0.8**
	baz=256,SNR=8.5						
F18K	**Selawik**	**76.26**	**23**	P	**P**	**03 55 35.8**	**+1.1**
	baz=258,SNR=9.9						
N17K	**Nushagak Hills**	**76.28**

J19K	Poorman	77.49	26	P	P	03 55 42.6	+0.9
	baz=262						
L19K	White Mountain	77.61	28		P	03 55 43.5	+1.0
L19K				IAmb	IAmb	03 55 53.5	
	comp=Z,5.3nm,0.8s						
L19K	White Mountain	77.61	28	P	P	03 55 42.9	+0.5
	baz=264						
N19K	Bonanza Creek	77.64	29		P	03 55 42.2	-0.5
N19K				IAmb	IAmb	03 55 47.4	
	comp=Z,7.7nm,0.8s						
N19K	Bonanza Creek	77.64	29	P	P	03 55 43.4	+0.7
	baz=264						
O19K	Port Alsworth	77.66	30	P	P	03 55 43.6	+1.0
	baz=264						
D20K	Etivluk River	77.80	21		P	03 55 44.7	+1.4
D20K				IAmb	IAmb	03 55 46.7	
	comp=Z,10nm,0.8s						
D20K	Etivluk River	77.80	21	P	P	03 55 44.1	+0.7
	baz=260,SNR=12						
M19K	Big River Lodg	77.80	28	P	P	03 55 44.6	+1.2
	baz=264						
B20K	Meade River	77.83	20	P	P	03 55 44.3	+0.8
	baz=260						
F20K	Avaraart Lake	77.87	23		P	03 55 44.7	+1.0
F20K				IAmb	IAmb	03 55 47.1	
	comp=Z,5.6nm,0.9s						
F20K	Avaraart Lake	77.87	23	P	P	03 55 44.7	+1.0
	baz=262,SNR=7.9						
E20K	Nigu River	77.88	22	P	P	03 55 45.4	+1.6
	baz=261,SNR=14						
Q19K	Cape Douglas,	77.89	31	P	P	03 55 44.3	+0.3
	baz=265						
OHAK	Old Harbor	77.94	33	P	P	03 55 45.0	+0.7
	baz=266						
H20K	Anotleneega Mo	78.00	25	P	P	03 55 45.3	+0.8
	baz=263,SNR=7.8						
I20K	Naaghedeneel	78.08	25	P	P	03 55 45.7	+0.8
	baz=263						
L20K	Farewell, AK	78.09	28	P	P	03 55 45.8	+0.7
	baz=264						
K20K	Telida	78.10	27	P	P	03 55 45.8	+0.7
	baz=264						
J20K	Nowinta River	78.15	26	P	P	03 55 45.9	+0.5
	baz=264						
P19K	Oil Pt	78.16	31	P	P	03 55 45.9	+0.4
	baz=266						
A21K	Barrow	78.24	19	P	P	03 55 46.4	+0.7
	baz=260						
KDAK	Kodiak Island	78.36	33	P	P	03 55 47.5	+0.9
	baz=266						
M20K	Styx River	78.39	28	P	P	03 55 48.4	+1.5
M20K				IAmb	IAmb	03 55 50.3	
	comp=Z,5.2nm,0.8s						
M20K	Styx River	78.39	28	P	P	03 55 47.9	+1.0
	baz=265						
Q20K	Shuyak Island	78.51	32	P	P	03 55 48.4	+1.0
	baz=266						
C21K	Knifeblade Rid	78.52	21	P	P	03 55 48.6	+1.3
	baz=262						
B21K	Ikpikpuk River	78.64	21		P	03 55 49.2	+1.3
B21K	Ikpikpuk River	78.64	21	P	P	03 55 49.1	+1.1
	baz=262,SNR=7.5						
G21K	Allakaket	78.67	24		P	03 55 48.9	+0.7
G21K				IAmb	IAmb	03 55 53.1	
	comp=Z,7.1nm,0.9s						
G21K	Allakaket	78.67	24	P	P	03 55 49.3	+1.1
	baz=264,SNR=8.4						
A22K	Sinclair Lake	78.72	19	P	P	03 55 49.3	+0.9
	baz=262						
E21K	Killik River	78.72	22	P	P	03 55 49.3	+0.8
E21K				IAmb	IAmb	03 55 51.6	
	comp=Z,7.1nm,0.8s						
E21K	Killik River	78.72	22	P	P	03 55 49.7	+1.2
	baz=263						
F21K	Alatna River	78.76	23	P	P	03 55 50.0	+1.3
	baz=264						
SPCR	Spurr Chakacha	78.78	29	P	P	03 55 49.9	+0.9
	baz=266						
RAYN	Ar Rayn	78.82	292		P	03 55 49.2	-0.7
RAYN				IAmb	IAmb	03 55 50.4	
	comp=Z,7.7nm,0.8s						
H21K	Melozitna Rive	78.87	25	P	P	03 55 50.0	+0.7
H21K	Melozitna Rive	78.87	25	P	P	03 55 50.4	+1.1
	baz=265						
PPLA	Purkeypile	78.91	27	P	P	03 55 50.6	+0.9
	baz=266						
CHUM	Lake Minchumin	78.93	26	P	P	03 55 50.7	+1.1
	baz=265						
CAST	Castle Rocks	78.99	27		P	03 55 50.9	+0.9
CAST				IAmb	IAmb	03 55 53.0	
	comp=Z,5.1nm,0.8s						
CAST	Castle Rocks	78.99	27	P	P	03 55 51.3	+1.3
	baz=266,SNR=6.5						
B22K	Teshekpuk Lake	79.14	20		P	03 55 51.3	+0.7
B22K				IAmb	IAmb	03 55 53.1	
	comp=Z,10nm,0.9s						
B22K	Teshekpuk Lake	79.14	20	P	P	03 55 51.9	+1.3
	baz=263						
SKT	Skwentna	79.15	28	P	P	03 55 51.7	+0.8
	baz=266						
I21K	Tanana	79.17	25	P	P	03 55 52.2	+1.2
I21K				IAmb	IAmb	03 55 54.5	
	comp=Z,8.1nm,0.9s						
I21K	Tanana	79.17	25	P	P	03 55 52.1	+1.1
	baz=266						
F22K	John River	79.29	23	P	P	03 55 52.8	+1.2
	baz=265,SNR=7.7						
BRSE	Bradley Lake S	79.42	31	P	P	03 55 53.6	+1.2
	baz=268						
H22K	Ishtalitna Cre	79.48	24	P	P	03 55 53.6	+1.0
	baz=266,SNR=5.1						
E22K	Anaktuvuk Pass	79.48	22	P	P	03 55 53.8	+1.1
E22K				IAmb	IAmb	03 56 03.4	
	comp=Z,11nm,1.4s						
E22K	Anaktuvuk Pass	79.48	22	P	P	03 55 54.0	+1.3
	baz=265						
SUA	Susitna One	79.50	29		P	03 55 53.5	+0.6
SUA	Susitna One	79.50	29	P	P	03 55 53.6	+0.6
	baz=267						
G22K	Bettles	79.50	23	P	P	03 55 53.6	+0.9
	baz=266						
BPAW	Bear Paw Mtn.	79.53	26		P	03 55 53.7	+0.8
BPAW				IAmb	IAmb	03 55 56.4	
	comp=Z,7.0nm,0.9s						
BPAW	Bear Paw Mtn.	79.53	26	P	P	03 55 54.3	+1.4
	baz=267,SNR=11						
TRF	Thorofare Moun	79.80	27		P	03 55 54.8	+0.2
TRF				IAmb	IAmb	03 55 57.5	
	comp=Z,9.6nm,0.9s						
TRF	Thorofare Moun	79.80	27	P	P	03 55 55.7	+1.0
	baz=267,SNR=6.0						
M22K	Willow	79.81	29	P	P	03 55 53.5	-0.9
M22K	Willow	79.81	29	P	P	03 55 55.1	+0.7
	baz=268						
D23K	Nanushuk River	79.97	21		P	03 55 56.3	+1.1
D23K	Nanushuk River	79.97	21	P	P	03 55 55.8	+0.6
	baz=266						
RC01	Rabbit Creek A	79.97	29	P	P	03 55 56.0	+0.6
	baz=268						
COLD	Coldfoot	80.03	23		P	03 55 56.1	+0.5
COLD	Coldfoot	80.03	23	P	P	03 55 56.4	+0.8
	baz=267,SNR=7.9						
C23K	Itkillik River	80.05	20	IAmb	IAmb	03 55 59.0	
	comp=Z,6.3nm,0.8s						
C23K	Itkillik River	80.05	20	P	P	03 55 56.9	+1.3
	baz=266,SNR=7.8						
KBZ	Khabaz	80.07	313	P	P	03 55 55.6	-0.6
	comp=Z,1.7nm,0.8s,baz=182,slow=7.3,SNR=4.8						
KBZ				LR	LR	04 35 49.9	
	comp=Z,86nm,19.4s,baz=80,slow=39						
	comp=Z,1.7nm,0.8s						
G23K	Bananza Creek	80.08	24		P	03 55 56.9	+1.0
G23K	Bananza Creek	80.08	24	P	P	03 55 56.9	+1.0
	baz=267,SNR=5.2						
SEW	Seward	80.08	30	P	P	03 55 56.7	+0.8
	baz=269						
BWN	Browne	80.20	26	P	P	03 55 57.4	+0.9
BWN				IAmb	IAmb	03 55 59.5	
	comp=Z,9.6nm,0.8s						
H23K	Yukon River	80.23	25	P	P	03 55 57.4	+0.7
H23K				IAmb	IAmb	03 56 00.2	
	comp=Z,5.0nm,0.8s						
H23K	Yukon River	80.23	25	P	P	03 55 57.2	+0.5
	baz=268						
PMR	Palmer	80.27	29	P	P	03 55 57.1	+0.2
PMR				IAmb	IAmb	03 55 59.5	
	comp=Z,9.0nm,0.8s						
PMR	Palmer	80.27	29	P	P	03 55 57.4	+0.5
	baz=269						
I23K	Minto, Yukon-K	80.28	25	P	P	03 55 57.3	+0.4
I23K				IAmb	IAmb	03 56 00.9	
	comp=Z,5.6nm,0.7s						
I23K	Minto, Yukon-K	80.28	25	P	P	03 55 57.9	+1.0
	baz=268,SNR=6.7						
E23K	Chandalar	80.30	22		P	03 55 57.7	+0.6
E23K				IAmb	IAmb	03 56 01.5	
	comp=Z,7.4nm,0.9s						
E23K	Chandalar	80.30	22	P	P	03 55 57.8	+0.6
	baz=267,SNR=12						
TOLK	Toolik Lake Re	80.35	22	P	P	03 55 57.1	-0.2
TOLK				IAmb	IAmb	03 56 00.8	
	comp=Z,4.9nm,0.8s						
TOLK	Toolik Lake Re	80.35	22	P	P	03 55 58.0	+0.7
	baz=267						
NEA2	Nenana	80.38	26	P	P	03 55 57.7	+0.1
NEA2				IAmb	IAmb	03 56 00.6	
	comp=Z,6.0nm,0.8s						
NEA2	Nenana	80.38	26	P	P	03 55 58.7	+1.2
	baz=268,SNR=9.8						
MCK	McKinley	80.42	27		P	03 55 58.1	+0.4
MCK	McKinley	80.42	27	P	P	03 55 58.2	+0.4
	baz=268,SNR=12						
RND	Reindeer	80.44	27	P	P	03 55 58.1	+0.1
RND				IAmb	IAmb	03 56 15.1	
	comp=Z,7.1nm,1.1s						
KNK	Knik Glacier	80.59	29	P	P	03 55 59.2	+0.5
KNK				IAmb	IAmb	03 56 01.4	
	comp=Z,13nm,0.9s						
KNK	Knik Glacier	80.59	29	P	P	03 55 59.3	+0.6
	baz=269						
D24K	Happy Valley	80.64	21	P	P	03 55 59.9	+1.0
D24K				IAmb	IAmb	03 56 02.9	
	comp=Z,10nm,0.8s						
D24K	Happy Valley	80.64	21	P	P	03 55 59.4	+0.6
	baz=268						
PWL	Port Wells	80.65	30	P	P	03 55 59.9	+0.8
	baz=270						
SML	Sawmill	80.66	29	P	P	03 55 59.6	+0.5
	baz=269						
C24K	Franklin Bluff	80.71	21	IAmb	IAmb	03 56 02.8	
	comp=Z,4.2nm,0.7s						
C24K	Franklin Bluff	80.71	21	P	P	03 56 00.1	+1.0
	baz=268						
E24K	Your Creek	80.73	22	P	P	03 56 01.0	+1.6
	baz=268						
COLA	College	80.91	26	P	P	03 56 01.1	+0.8
	baz=269						
H24K	Noodor Dome	80.91	25	IAmb	IAmb	03 56 03.8	
	comp=Z,5.4nm,0.8s						
H24K	Noodor Dome	80.91	25	P	P	03 56 01.1	+0.7
	baz=269,SNR=6.6						
GURO	Guroymak-BITLI	80.92	308	IAmb	IAmb	03 56 02.9	
	comp=Z,8.0nm,0.8s						
CCB	Clear Creek Bu	80.93	26	IAmb	IAmb	03 56 15.2	
	comp=Z,8.6nm,1.4s						
F24K	Squaw Lake	80.94	23	P	P	03 56 01.7	+1.1
	baz=269,SNR=8.3						
M23K	Glacier View	80.95	29	P	P	03 56 01.2	+0.6
	baz=270						
G24K	Hadweenzic Riv	81.09	24	P	P	03 56 02.3	+1.1
	baz=269						
POKR	Poker Plat Res	81.09	25	P	P	03 56 02.4	+1.1
	baz=270						
GLI	Glacier Island	81.25	30	P	P	03 56 02.6	+0.4
	baz=271						
HDA	Harding Lake	81.30	26	P	P	03 56 03.4	+1.0
	baz=270,SNR=5.4						
ILAR	Eielson Array	81.32	26	P	P	03 56 01.9	-0.6
	comp=Z,2.8nm,0.8s,baz=247,slow=5.6,SNR=26						
ILAR				PKKPbc	PKKPbc	04 14 37.1	-2.5
	comp=Z,0.2nm,0.8s,baz=156,slow=2.5,SNR=4.3						
	comp=Z,2.8nm,0.8s						
D25K	Kavik River	81.52	21	P	P	03 56 04.6	+1.0
	baz=270,SNR=6.5						
G25K	Bearman Lake	81.63	24	P	P	03 56 05.3	+1.2
	baz=271						
M24K	Tolsona, Glenn	81.68	28	P	P	03 56 05.4	+0.9
	baz=271						
F25K	Christian Rive	81.80	23	P	P	03 56 06.2	+1.1
	baz=271						
KLU	Klutina	81.81	29	P	P	03 56 05.9	+0.6
	baz=272						
K24K	Donnelly Dome	81.82	27	IAmb	IAmb	03 56 08.1	
	comp=Z,9.8nm,0.8s						
K24K	Donnelly Dome	81.82	27	P	P	03 56 05.9	+0.7
	baz=271						
E25K	Arctic Village	81.82	22	P	P	03 56 06.7	+1.6
	baz=271						
PRP	Porcupine Dome	81.89	25	P	P	03 56 07.1	+1.4
	baz=271						
J25K	Salcha River,	81.98	26	P	P	03 56 06.9	+0.8
	baz=272,SNR=6.4						
PAX	Paxson	81.98	27	P	P	03 56 07.0	+0.9
	baz=272						
C26K	Camden Bay	82.02	20	P	P	03 56 07.3	+1.3
	baz=271,SNR=6.2						
HARP	HAARP	82.14	28	P	P	03 56 08.2	+1.3
	baz=272						
RIDG	Independent Ri	82.23	27	IAmb	IAmb	03 56 10.0	
	comp=Z,9.8nm,0.9s						
RIDG	Independent Ri	82.23	27	P	P	03 56 08.4	+1.0
	baz=272,SNR=8.7						
F26K	Sheenjek River	82.37	23	P	P	03 56 09.2	+1.1
	baz=272						
C27K	Jago River	82.45	21	P	P	03 56 10.0	+1.7
	baz=272						
SCRK	Sand Creek	82.61	26	P	P	03 56 10.2	+0.8
	baz=273						
J26L	Joseph Creek	82.76	26	P	P	03 56 10.9	+0.7
	baz=273,SNR=6.4						
MENT	Mentasta	82.78	27	IAmb	IAmb	03 56 30.8	
	comp=Z,4.6nm,0.8s						
I26K	Coal Creek Min	82.89	25	IAmb	IAmb	03 56 13.3	
	comp=Z,9.2nm,0.9s						
I26K	Coal Creek Min	82.89	25	P	P	03 56 11.4	+0.7
	baz=274						
L26K	Log Cabin Wild	82.95	27	P	P	03 56 12.8	+1.7
	baz=274						
M26K	Nabesna, AK	83.15	28	P	P	03 56 13.5	+1.3
	baz=274						
E27K	Coleen River	83.30	22	P	P	03 56 14.3	+1.4
	baz=275						
G27K	Doyon Strip	83.39	23	P	P	03 56 15.1	+1.8
	baz=275						
K27K	Chicken	83.44	26	IAmb	IAmb	03 56 18.1	
	comp=Z,7.4nm,0.9s						
K27K	Chicken	83.44	26	P	P	03 56 14.9	+1.3
	baz=275						
D27M	Malcolm River	83.44	21	P	P	03 56 15.4	+1.8
	baz=275,SNR=5.7						
H27K	Steamboat Moun	83.49	24	P	P	03 56 15.1	+1.3
	baz=275						
I27K	Kandik River	83.51	25	P	P	03 56 15.3	+1.4
	baz=275						
L27K	Beaver Creek,	83.63	27	P	P	03 56 15.9	+1.2
	baz=275						
M27K	Edge Creek, AK	83.67	28	P	P	03 56 16.5	+1.5
	baz=275						
MESA	MESA	83.83	30	P	P	03 56 17.4	+1.5
	baz=275						
E28M	Babbage River	84.02	22	IAmb	IAmb	03 56 18.8	
	comp=Z,5.4nm,0.9s						
E28M	Babbage River	84.02	22	P	P	03 56 18.0	+1.5
	baz=276						
BVCY	Beaver Creek	84.14	28	P	P	03 56 18.2	+1.0
	baz=276						
I28M	Miner Creek	84.22	25	P	P	03 56 18.8	+1.2
	baz=276,SNR=15						
D28M	Stokes Point	84.22	21	P	P	03 56 18.3	+0.9
	baz=277						
YUK3	Moose Creek	84.39	28	P	P	03 56 19.1	+0.4
	baz=276						
DAWY	Dawson	84.61	26	IAmb	IAmb	03 56 34.9	
	comp=Z,6.6nm,1.2s						
DAWY	Dawson	84.61	26	P	P	03 56 21.1	+1.5
	baz=277						
O28M	Mount Upton	84.64	29	IAmb	IAmb	03 56 24.4	
	comp=Z,8.7nm,0.9s						
O28M	Mount Upton	84.64	29	P	P	03 56 20.5	+0.4
	baz=277						
E29M	Blow River	84.65	22	P	P	03 56 20.5	+0.9
	baz=278						
H29M	Whitestone	84.77	24	IAmb	IAmb	03 56 22.8	
	comp=Z,7.4nm,0.8s						
H29M	Whitestone	84.77	24	P	P	03 56 21.2	+0.9
	baz=278,SNR=6.6						
G29M	Pine Creek	84.81	23	P	P	03 56 21.3	+0.8
	baz=278,SNR=11						
I29M	Ogilvie Camp,	84.91	25	IAmb	IAmb	03 56 35.7	
	comp=Z,9.3nm,1.1s						
I29M	Ogilvie Camp,	84.91	25	P	P	03 56 21.7	+0.7
	baz=278						
J29N	Klondike Camp	85.07	26	P	P	03 56 22.6	+0.7
	baz=278						
M29M	Somme Creek	85.24	28	P	P	03 56 23.7	+0.8
	baz=278						
L29M	L29M	85.30	27	IAmb	IAmb	03 56 26.4	
	comp=Z,9.0nm,1.1s						
L29M	L29M	85.30	27	P	P	03 56 24.1	+1.0
	baz=278						
EPYK	Eagle Plains	85.40	24	P	P	03 56 24.6	+1.1
	baz=279						
K29M	Barlow Dome	85.46	26	P	P	03 56 24.8	+0.9
	baz=279						
G30M	tAoh Zraii Nji	85.50	23	P	P	03 56 25.0	+1.0
	baz=280						
YUK6	Outpost Mounta	85.50	29	P	P	03 56 24.8	+0.4
	baz=278						
F30M	Barrier River	85.56	22	P	P	03 56 25.2	+1.0
	baz=280						
ASF	Jabal al Asfar	85.64	302	LR	LR	04 42 41.5	
	comp=Z,39nm,18.5s,baz=155,slow=41						
I30M	Mount Dempster	85.73	25	P	P	03 56 26.0	+0.8
	baz=280						
J30M	Hart River	85.86	25	P	P	03 56 26.6	+0.7
	baz=280						
HYT	Haines Junctio	85.93	29	P	P	03 56 27.1	+0.8
	baz=279						
M30M	Minto, Yukon	85.99	27	P	P	03 56 27.2	+0.7
	baz=279						
P29M	Windy Craggy	86.00	30	P	P	03 56 27.1	+0.5
	baz=279						
N30M	Aishikik Lake	86.03	29	P	P	03 56 27.1	+0.3
	baz=279						
INK	Inuvik	86.26	22	P	P	03 56 27.7	+0.1
	baz=282						
G31M	Satah River	86.26	23	P	P	03 56 27.6	0.0
	baz=281						
SPITS	Spitsbergen Ar	86.34	349	P	P	03 56 27.3	-0.6
	comp=Z,7.1nm,0.8s,baz=74,slow=7.0,SNR=12						
	comp=Z,7.1nm,0.8s						
F31M	Tsiigehtchic	86.36	22	P	P	03 56 29.0	+0.9
	baz=282						
H31M	Peel River	86.46	24	P	P	03 56 29.7	+1.0
	baz=281						
PPT	Papeete	86.46	108	LR	LR	04 31 55.4	
	comp=Z,44nm,19.4s,baz=308,slow=33						
PPT2	Papeete2	86.46	108	eLR	LR	04 23 50.1	
	comp=Z,60nm,23.0s						
ARCES	ARCESS Array B	86.48	340	P	P	03 56 27.4	-1.3
	comp=Z,4.3nm,0.8s,baz=82,slow=4.9,SNR=9.9						
	comp=Z,4.3nm,0.8s						
O30N	Mendenhall	86.63	29	P	P	03 56 30.0	+0.3
	baz=280						
S31K	Pelican	87.05	32	P	P	03 56 32.3	+0.6
	baz=280						
BRTR	Keskin Array B	87.31	310	P	P	03 56 32.2	-1.3
	comp=Z,0.8nm,0.6s,baz=130,slow=5.3,SNR=8.0						
	comp=Z,0.8nm,0.6s						
VNDA	Vanda	87.61	173	P	P	03 56 33.3	-0.6
	comp=Z,5.2nm,0.8s,baz=331,slow=6.0,SNR=7.6						
	comp=Z,5.2nm,0.8s						
FARO	Faro, Yukon	87.63	27	IAmb	IAmb	03 56 38.7	
	comp=Z,7.8nm,1.2s						
FARO	Faro, Yukon	87.63	27	P	P	03 56 35.7	+1.2
	baz=282						
A36M	Sachs Harbour	87.98	17	IAmb	IAmb	03 56 44.3	
	comp=Z,4.3nm,0.8s						
A36M	Sachs Harbour	87.98	17	P	P	03 56 37.2	+1.4
	baz=290						
FIA1	FINESS Array S	88.10	332		P	03 56 36.0	-0.6
FINES	FINESS Array B	88.10	332	P	P	03 56 35.5	-1.1
	comp=Z,3.3nm,0.5s,baz=77,slow=4.8,SNR=40						
FINES				LR	LR	04 40 40.5	
	comp=Z,62nm,18.3s,baz=60,slow=39						
	comp=Z,3.3nm,0.5s						
AKASG	Malin Array Be	88.60	321	P	P	03 56 37.9	-1.3
	comp=Z,2.0nm,0.7s,baz=70,slow=4.5,SNR=9.0						
	comp=Z,2.0nm,0.7s						
C36M	Paulatuk	89.26	20	P	P	03 56 43.1	+1.2
	baz=291						
TOAD	Toad River Com	92.42	30	P	P	03 56 57.4	+0.5
	baz=290						
HFS	Hagfors	94.27	332	P	P	03 57 04.1	-1.2
	comp=Z,5.8nm,1.0s,baz=201,slow=2.5,SNR=6.0						
HFS				LR	LR	04 45 05.1	
	comp=Z,91nm,19.4s,baz=36,slow=39						
	comp=Z,5.8nm,1.0s						
TAOE	Nuku Hiva Isla	94.31	98	eLR	LR	04 27 32.1	
	comp=Z,62nm,21.2s						
NOA	NORSAR Array B	94.99	334	P	P	03 57 07.5	-1.2
	comp=Z,0.7nm,0.7s,baz=162,slow=13,SNR=3.8						
	comp=Z,0.7nm,0.7s						
YKA	Yellowknife Ar	95.68	24	P	P	03 57 11.9	+0.2
	comp=Z,0.8nm,0.7s,baz=302,slow=4.7,SNR=16						
YKA				PKKPbc	PKKPdf	04 14 01.3	-2.5
	comp=Z,0.5nm,0.8s,baz=116,slow=2.9,SNR=6.7						
	comp=Z,0.8nm,0.7s						
QSPA	South Pole Qui	97.84	180	P	P	03 57 21.4	-0.1
	comp=Z,1.7nm,0.8s,baz=260,slow=0.6,SNR=6.0						
	comp=Z,1.7nm,0.8s						
GERES	GERESS Array B	98.75	322	P	P	03 57 25.1	-0.9
	comp=Z,0.7nm,0.7s,baz=64,slow=3.1,SNR=6.0						
	comp=Z,0.7nm,0.7s						
NVAR	Mina Array Bea	104.10	47	Pdiff	Pdif	03 57 50.2	0.0
	comp=Z,0.5nm,0.7s,baz=288,slow=5.4,SNR=4.2						
NVAR				PKKPbc	PKKPbc	04 13 40.4	+0.5
	comp=Z,0.5nm,0.7s,baz=138,slow=2.5,SNR=3.9						
PDAR	Pinedale Array	108.19	40	PKKPab	PKKPab	04 13 39.6	-1.6
	comp=Z,0.7nm,0.7s,baz=107,slow=5.0,SNR=4.9						
TXAR	Lajitas Array	118.99	50	PKP	PKPdf	04 02 35.3	-0.2
	comp=Z,1.2nm,0.6s,baz=282,slow=0.8,SNR=15						
TXAR				PKKPbc	PKKPab	04 12 52.7	-0.5
	comp=Z,0.5nm,0.7s,baz=115,slow=5.7,SNR=5.0						
TORD	Torodi Ar. Bea	121.48	291	PKP	PKPdf	04 02 39.9	-0.5
	comp=Z,4.9nm,0.7s,baz=33,slow=2.9,SNR=25						
DBIC	Dimbokro	129.54	285	PKP	PKPdf	04 02 55.8	-0.1
	comp=Z,5.3nm,0.8s,baz=338,slow=3.0,SNR=5.1						
PLCA	Paso Flores	143.94	158	PKP	PKPbc	04 03 21.1	+1.4
	comp=Z,4.0nm,0.9s,baz=194,slow=5.8,SNR=8.5						
CPUP	Villa Florida	161.34	169	PKPab	PKPab	04 04 31.5	+0.2
	comp=Z,1.5nm,0.9s,baz=245,slow=3.7,SNR=3.4						
LPAZ	La Paz	163.33	121	PKP	PKPdf	04 03 51.2	+0.9
	comp=Z,1.4nm,0.3s,baz=282,slow=2.7,SNR=18						
LPAZ				PKPab	PKPab	04 04 42.7	+1.4
	comp=Z,1.4nm,0.7s,baz=277,slow=2.8,SNR=4.3						

*IDC **24** 03:49:31.3±1.2, 17°.13S×172°.86W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=56.9km s-min=24.5km az=133.0*

ISC 24 03:49:37.0±1.1, **17°.2S**±0°.3×**172°.9W**±0°.3, **h41**km, **n7**, σ0**55/7**, **mb3.8**/6, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	22.78	201	P	P		03 54 36.0	+0.1
	5.3nm,0.4s,baz=98,slow=5.8,SNR=5.4							
	5.3nm,0.4s							
WRA	Warramunga Arr	49.94	258	P	P		03 58 26.6	-0.6
	0.4nm,0.4s,baz=96,slow=6.8,SNR=5.8							
	0.4nm,0.4s							
ASAR	Alice Springs	50.05	253	P	P		03 58 28.4	+0.4
	2.0nm,0.7s,baz=90,slow=8.6,SNR=11							
	2.0nm,0.7s							

*MOS **24** 04:02:48.0±1.0,51°.66N×159°.82E,h52km,mb4.3/9,Error ellipse: s-maj=9.0km s-min=3.9km az=100.3*
*IDC **24** 04:02:53.6±2.1,51°.83N×159°.53E,h73km±16km,mb3.7/25, mbtmp4.0/28,MS3.7/5,Error ellipse: s-maj=16.4km s-min=12.1km az=125.0*
ISC 24 04:02:47.1±1.0,51°.58N±0°.05×159°.99E±0°.04,h46km±8km, n177,σ1$70/172,mb4.3/51,MS4.0/7,3C,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.21**	**281**	PN	**Pn**	**04 03 07.0**	**-0.5**
KDTR				S	**Sn**	**04 03 22.7**	**0.0**
KDTR	**Khodutka, Kamc**	**1.21**	**281**	*e*P	**Pn**	**04 03 07.1**	**-0.5**
KDTR				*e*S	**Sn**	**04 03 22.7**	**0.0**
RUS	**Russkaya**	**1.25**	**314**	PN	**Pn**	**04 03 07.3**	**-0.8**
RUS				S	**Sn**	**04 03 22.4**	**-1.2**
RUS	**Russkaya**	**1.25**	**314**	*e*P	**Pn**	**04 03 07.3**	**-0.8**
RUS				*e*S	**Sn**	**04 03 22.4**	**-1.2**
MTVR	**Mutnovka**	**1.43**	**310**	PN	**Pn**	**04 03 10.5**	**-0.2**
MTVR				S	**Sn**	**04 03 26.4**	**-2.0**
MTVR	**Mutnovka**	**1.43**	**310**	*e*P	**Pn**	**04 03 10.6**	**-0.2**
MTVR				*e*S	**Sn**	**04 03 26.4**	**-2.0**
SPN	**Mys Shipunski**	**1.52**	**1**	PN	**Pn**	**04 03 11.8**	**0.0**
SPN				S	**Sn**	**04 03 28.7**	**-1.6**
SPN	**Mys Shipunski**	**1.52**	**1**	*e*P	**Pn**	**04 03 11.9**	**0.0**
SPN				*e*S	**Sn**	**04 03 28.8**	**-1.6**
GRL	**Gorelyy**	**1.53**	**310**	PN	**Pn**	**04 03 12.9**	**+0.9**
GRL				S	**Sn**	**04 03 32.5**	**+1.7**
GRL	**Gorelyy**	**1.53**	**310**	*e*P	**Pn**	**04 03 12.9**	**+0.9**
GRL				*e*S	**Sn**	**04 03 32.5**	**+1.7**
DALK	**Dalny**	**1.64**	**333**	PN	**Pn**	**04 03 13.2**	**-0.1**
DALK				S	**Sn**	**04 03 35.3**	**+2.1**
DALK	**Dalny**	**1.64**	**333**	*e*P	**Pn**	**04 03 13.3**	**-0.1**
DALK				*e*S	**Sn**	**04 03 35.4**	**+2.1**
NLC	**Nalytchevo**	**1.64**	**346**	PN	**Pn**	**04 03 13.9**	**+0.5**
NLC				S	**Sn**	**04 03 34.4**	**+1.2**
NLC	**Nalytchevo**	**1.64**	**346**	*e*P	**Pn**	**04 03 13.9**	**+0.5**
NLC				*e*S	**Sn**	**04 03 34.4**	**+1.2**
PET	**Petropavlovsk**	**1.66**	**331**		**Pn**	**04 03 13.6**	**-0.1**
PET				Sn	**Sn**	**04 03 34.3**	**+0.6**
PET	**Petropavlovsk**	**1.66**	**331**	*e*PN	**Pn**	**04 03 13.9**	**+0.2**
PET				*e*S	**Sn**	**04 03 36.5**	**+2.7**
PET	comp=Z,515nm,0.4s			pmax	pmax		
PET	comp=N,4μm,0.4s			smax	smax		
PET	comp=E,4μm,0.7s			smax	smax		
PET	**Petropavlovsk**	**1.66**	**331**	*e*P	**Pn**	**04 03 13.7**	**0.0**
PET				*e*S	**Sn**	**04 03 35.8**	**+2.0**
PET	**Petropavlovsk**	**1.66**	**331**	P	**Pn**	**04 03 11.1**	**-2.6**
KRMR	**Karymshinskiy**	**1.69**	**318**	PN	**Pn**	**04 03 14.3**	**+0.2**
KRMR				S	**Sn**	**04 03 36.8**	**+2.3**
KRMR	**Karymshinskiy**	**1.69**	**318**	*e*P	**Pn**	**04 03 14.3**	**+0.2**
KRMR				*e*S	**Sn**	**04 03 36.9**	**+2.3**
INSR	**Institute**	**1.71**	**331**	PN	**Pn**	**04 03 14.8**	**+0.4**
INSR				S	**Sn**	**04 03 37.3**	**+2.3**
INSR	**Institute**	**1.71**	**331**	*e*P	**Pn**	**04 03 14.9**	**+0.4**
INSR				*e*S	**Sn**	**04 03 37.3**	**+2.3**
UGLR	**Uglovaya**	**1.78**	**337**	PN	**Pn**	**04 03 16.1**	**+0.7**
UGLR	**Uglovaya**	**1.78**	**337**	*e*P	**Pn**	**04 03 16.1**	**+0.7**
SDLR	**Sedlovina**	**1.83**	**339**	PN	**Pn**	**04 03 16.5**	**+0.4**
SDLR	**Sedlovina**	**1.83**	**339**	*e*P	**Pn**	**04 03 16.6**	**+0.4**
AVH	**Avacha**	**1.85**	**336**	PN	**Pn**	**04 03 17.6**	**+1.2**
AVH				S	**Sn**	**04 03 39.8**	**+1.2**
AVH	**Avacha**	**1.85**	**336**	*e*P	**Pn**	**04 03 17.7**	**+1.2**
AVH				*e*S	**Sn**	**04 03 39.8**	**+1.2**
KRER	**Koryakskii**	**1.88**	**337**	PN	**Pn**	**04 03 17.7**	**+0.7**
KRER	**Koryakskii**	**1.88**	**337**	*e*P	**Pn**	**04 03 17.7**	**+0.7**
KOK	**Koryaka**	**1.90**	**335**	PN	**Pn**	**04 03 18.0**	**+0.9**
KOK	**Koryaka**	**1.90**	**335**	*e*P	**Pn**	**04 03 18.1**	**+0.9**
KRX	**Arik**	**1.96**	**336**	PN	**Pn**	**04 03 17.9**	**0.0**
KRX	**Arik**	**1.96**	**336**	*e*P	**Pn**	**04 03 17.9**	**0.0**
PAU	**Pauzhetka**	**1.99**	**268**	PN	**Pn**	**04 03 18.5**	**+0.3**
PAU				S	**Sn**	**04 03 42.5**	**+0.7**
PAU	**Pauzhetka**	**1.99**	**268**	*e*P	**Pn**	**04 03 18.5**	**+0.3**
PAU				*e*S	**Sn**	**04 03 42.5**	**+0.7**
PEA0B	**Petropavlovsk-**	**2.07**	**318**		**Pn**	**04 03 19.8**	**+0.4**
PEA0B	**Petropavlovsk-**	**2.07**	**318**	PN	**Pn**	**04 03 20.0**	**+0.6**
PEA0B				S	**Sn**	**04 03 45.9**	**+1.9**
PETK	**Petropavlovsk-**	**2.07**	**318**		**Pn**	**04 03 19.0**	**-0.4**
PETK	**Petropavlovsk-**	**2.07**	**318**	P	**Pn**	**04 03 20.6**	**+1.1**
PETK	comp=E,321nm,0.8s,baz=123,slow=16,SNR=204			S	**Sn**	**04 03 42.8**	**-1.2**
PETK	comp=E,254nm,0.6s,baz=128,slow=16,SNR=2.8			LR	LR	04 03 52.8	
PETK	comp=E,299nm,19.6s,baz=53,slow=35						
APC	**Apacha**	**2.20**	**309**	PN	**Pn**	**04 03 22.9**	**+1.9**
APC				S	**Sn**	**04 03 50.5**	**+3.5**
APC	**Apacha**	**2.20**	**309**	*e*P	**Pn**	**04 03 22.9**	**+1.9**
APC				*e*S	**Sn**	**04 03 50.6**	**+3.5**
GNL	**Ganaly**	**2.45**	**330**	PN	**Pn**	**04 03 25.6**	**+0.9**
GNL	**Ganaly**	**2.45**	**330**	*e*P	**Pn**	**04 03 25.6**	**+0.9**
SKR	**Severo-Kuril's**	**2.60**	**251**	*e*PN	**Pn**	**04 03 28.3**	**+1.7**
SKR				*e*S	**Sn**	**04 04 03.3**	**+6.4**
SKR	comp=E,3μm,0.8s			smax	smax		
SKR	comp=N,2μm,0.6s			smax	smax		
SKR	comp=Z,2μm,14.0s			MLR	MLR		
SKR	**Severo-Kuril's**	**2.60**	**251**	*e*P	**Pn**	**04 03 26.5**	**0.0**
SKR				*e*S	**Sn**	**04 03 57.4**	**+0.5**
MKZ	**Mys Kozlova**	**3.16**	**19**	PN	**Pn**	**04 03 34.0**	**-0.2**
MKZ	**Mys Kozlova**	**3.16**	**19**	*e*P	**Pn**	**04 03 34.0**	**-0.2**
TUMD	**Tumrok D**	**3.63**	**4**	*e*S	**Sn**	**04 04 23.9**	**+1.5**
KMNR	**Kamenistaya**	**4.18**	**2**	PN	**Pn**	**04 03 50.7**	**+2.3**
KMNR	**Kamenistaya**	**4.18**	**2**	*e*P	**Pn**	**04 03 50.7**	**+2.3**
KIRR	**Kirishev**	**4.38**	**3**	PN	**Pn**	**04 03 52.1**	**+0.9**
KIRR	**Kirishev**	**4.38**	**3**	*e*P	**Pn**	**04 03 52.2**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**4.38**	**5**	PN	**Pn**	**04 03 53.2**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**4.38**	**5**	*e*P	**Pn**	**04 03 53.3**	**+2.0**
KPT	**Kopyto**	**4.39**	**2**	PN	**Pn**	**04 03 53.7**	**+2.4**
KPT	**Kopyto**	**4.39**	**2**	*e*P	**Pn**	**04 03 53.7**	**+2.4**
ESO	**Esso**	**4.42**	**351**	PN	**Pn**	**04 03 52.8**	**+1.3**
ESO	**Esso**	**4.42**	**351**	*e*P	**Pn**	**04 03 52.8**	**+1.3**
KOZ	**Kozyrevsk**	**4.48**	**359**	PN	**Pn**	**04 03 54.6**	**+2.2**
KOZ	**Kozyrevsk**	**4.48**	**359**	*e*P	**Pn**	**04 03 54.7**	**+2.2**
KBTR	**Krutoberegovo**	**4.93**	**19**	PN	**Pn**	**04 03 59.6**	**+1.1**
KBTR				S	**Sn**	**04 04 56.2**	**+2.0**
KBTR	**Krutoberegovo**	**4.93**	**19**	*e*P	**Pn**	**04 03 59.6**	**+1.1**
KBTR				*e*S	**Sn**	**04 04 56.2**	**+2.0**
KBG	**Krutoberegovo**	**4.95**	**18**	PN	**Pn**	**04 04 00.7**	**+1.9**
KBG				S	**Sn**	**04 04 58.3**	**+3.6**
KBG	**Krutoberegovo**	**4.95**	**18**	*e*P	**Pn**	**04 04 00.8**	**+1.9**
KBG				*e*S	**Sn**	**04 04 58.3**	**+3.6**
BKI	**Bering**	**5.10**	**42**	PN	**Pn**	**04 04 02.7**	**+1.9**
BKI	**Bering**	**5.10**	**42**	*e*P	**Pn**	**04 04 02.8**	**+1.9**
MA2	**Magadan**	**9.55**	**331**	LR	LR	04 09 27.2	
MA2	**Magadan**	**9.55**	**331**	P	**Pn**	**04 04 59.2**	**-2.6**
SEY	**Seymchan**	**12.09**	**343**	P	**Pn**	**04 05 38.5**	**+2.1**
ERM	**Erimo**	**14.95**	**237**	Pn	P	04 06 14.5	-5.5
ERM				IAmb	IAmb	04 06 45.8	
ERM	**Erimo**	**14.95**	**237**	P	P	04 06 14.5	-5.5
ERM				pmax	pmax		
BILL	**Bilibino**	**16.79**	**8**	P	**P**	**04 06 38.8**	**-1.4**
BILL	**Bilibino**	**16.79**	**8**	*e*P	**Pn**	**04 06 34.0**	**-4.6**
KLR	**Kul'dur**	**18.11**	**274**	P	**Pn**	**04 06 56.4**	**+1.4**
KLR	**Kul'dur**	**18.11**	**274**	*e*P	**Pn**	**04 06 56.7**	**+1.7**
KLR				pmax	pmax		
YAK	**Yakutsk**	**19.41**	**314**	*e*P	**P**	**04 07 05.6**	**-3.5**
YAK				*e*S	**S**	**04 10 42.3**	**-3.6**
YAK	comp=Z,24nm,1.1s			pmax	pmax		
YAK	comp=N,4.0nm,1.4s			pmax	pmax		
YAK	comp=E,5.0nm,1.8s			pmax	pmax		
YAK	comp=Z,138nm,4.1s			pmax	pmax		
YAK	comp=N,34nm,3.6s			pmax	pmax		
YAK	comp=E,104nm,8.0s			pmax	pmax		
YAK	comp=N,62nm,5.1s			smax	smax		
YAK	comp=E,61nm,4.6s			smax	smax		
YAK	comp=Z,256nm,18.0s			MLR	MLR		
YAK	comp=N,195nm,19.0s			MLR	MLR		
YAK	comp=E,168nm,22.0s			MLR	MLR		
ZEA	**Zeya**	**19.88**	**289**	*e*P	Pn	04 07 23.1	+6.9
ZEA	comp=Z,10.0nm,1.0s			pmax	pmax		
ZEA	comp=E,200nm,14.0s			MLR	MLR		
ZEA	comp=Z,200nm,12.0s			MLR	MLR		
USRK	**Ussuriysk Ar.**	**20.09**	**259**	P	Pn	04 07 18.2	-0.5
	comp=Z,1.2nm,0.4s,baz=68,slow=13,SNR=4.2						
HEH	**HeiHe**	**20.49**	**279**	*e*P	Pn	04 07 21.3	-2.1
HEH	comp=Z,5.0nm,1.0s			pmax	pmax		
HEH	comp=N,370nm,13.4s			LR	LR		
HEH	comp=E,360nm,15.0s			LR	LR		
HEH	comp=Z,380nm,14.6s			LR	LR		
LVA	**Lava Point**	**20.56**	**69**	P	**P**	**04 07 19.6**	**-2.1**
MAJO	**Matsushiro**	**21.58**	**234**	*i* P	**P**	**04 07 33.5**	**+0.7**
MJAR	**Matsushiro Arr**	**21.58**	**234**	P	**P**	**04 07 35.8**	**+3.0**
	comp=Z,1.6nm,0.3s,baz=22,slow=10.0,SNR=6.1						
MJAR	comp=Z,162nm,21.0s,baz=34,slow=36			LR	LR	04 15 58.4	
	comp=Z,1.6nm,0.3s						
BNX	**BinXian**	**22.18**	**268**	⇑P	**P**	**04 07 40.0**	**+0.9**
BNX	comp=Z,9.0nm,1.2s			pmax	pmax		
JHJ	**Hachijo jima 2**	**23.60**	**226**	P	P	04 07 58.1	+4.5
	comp=Z,149nm,1.0s,baz=83,slow=14,SNR=2.0						
TIXI	**Tiksi**	**24.43**	**337**		**P**	**04 08 00.9**	**-0.1**
TIXI	**Tiksi**	**24.43**	**337**	P	**P**	**04 08 00.9**	**-0.1**
TIXI	comp=Z,4.0nm,0.8s			pmax	pmax		
O16K	**Kokwok River B**	**24.64**	**55**	P	**P**	**04 08 00.9**	**-2.1**
O16K	comp=Z,17nm,1.4s			IAmb	IAmb	04 08 44.6	
K17K	**Iditarod**	**24.74**	**47**	P	**P**	**04 08 01.8**	**-2.1**
K17K	comp=Z,11nm,1.4s			IAmb	IAmb	04 08 39.2	
HIA	**Hailar**	**25.52**	**281**		**P**	**04 08 10.9**	**-0.2**
HIA	comp=Z,16nm,1.0s			IAmb	IAmb	04 08 13.2	
HIA	**Hailar**	**25.52**	**281**	*e*P	**P**	**04 08 11.2**	**+0.1**
HIA	comp=Z,12nm,0.8s			pmax	pmax		
D19K	**Kuna River**	**26.15**	**34**	P	**P**	**04 08 14.6**	**-2.0**
KSRS	**Korea Array**	**26.62**	**251**	P	**P**	**04 08 22.3**	**+1.3**
	comp=Z,1.6nm,1.0s,baz=50,slow=11,SNR=4.7						
	comp=Z,1.6nm,1.0s						
M20K	**Styx River**	**27.10**	**49**	P	**P**	**04 08 23.4**	**-1.8**
M20K	comp=Z,7.8nm,1.4s			IAmb	IAmb	04 08 42.3	
JNU	**Nakatsue**	**28.06**	**240**	P	P	04 08 37.9	+3.9
	comp=Z,3.6nm,0.7s,baz=174,slow=8.1,SNR=1.2						
	comp=Z,3.6nm,0.7s						
PRP	**Porcupine Dome**	**30.52**	**42**	P	**P**	**04 08 54.4**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**32.25**	**168**	T	T	04 43 13.9	
	baz=352						
H11N3	**WAKE ISLAND Hy**	**32.26**	**168**	T	T	04 43 12.1	
	baz=352						
H11N1	**WAKE ISLAND Hy**	**32.27**	**168**	T	T	04 43 17.8	
	baz=352						
H11S1	**WAKE ISLAND Hy**	**33.43**	**168**	T	T	04 44 58.4	
	baz=351						
H11S3	**WAKE ISLAND Hy**	**33.44**	**168**	T	T	04 44 57.3	
	baz=351						
H11S2	**WAKE ISLAND Hy**	**33.45**	**168**	T	T	04 45 03.4	
	baz=351						
ULN	**Ulaanbaatar**	**33.80**	**285**	*e*P	**P**	**04 09 24.5**	**-0.1**
ULN	comp=Z,3.0nm,1.0s			pmax	pmax		
SONM	**Songino Array**	**34.21**	**285**	P	**P**	**04 09 29.9**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=66,slow=8.0,SNR=2.4						
	comp=Z,0.5nm,0.4s						
HHC	**Hu-ho-hao-te**	**34.58**	**271**	*e*P	P	04 09 35.0	+3.5
HHC	comp=Z,14nm,0.5s			pmax	pmax		
HHC	comp=Z,100nm,4.7s			pmax	pmax		
HHC	comp=N,140nm,16.3s			LR	LR		
HHC	comp=E,190nm,15.5s			LR	LR		
HHC	comp=Z,240nm,14.0s			LR	LR		
NJ2	**Nanjing**	**35.73**	**253**	*e*P	P	04 09 43.8	+2.6
NJ2	comp=Z,10.0nm,0.5s			pmax	pmax		
NRIK	**Noril'sk**	**37.11**	**326**	P	**P**	**04 09 50.0**	**-2.7**
	comp=Z,2.2nm,0.5s,baz=129,slow=2.6,SNR=4.2						
NRIK	**Noril'sk**	**37.11**	**326**	*e*P	**P**	**04 09 53.5**	**+0.9**
NRIK	comp=Z,3.0nm,0.9s			pmax	pmax		
XAN	**Xi'an**	**40.44**	**265**	⇑P	**P**	**04 10 17.3**	**-3.7**
XAN	comp=Z,5.0nm,0.6s			pmax	pmax		
GTA	**Gaotai**	**42.73**	**278**	*e*P	P	04 10 42.3	+2.6
GTA				sP	pP	04 10 50.0	-1.2
GTA				PcP	**PcP**	**04 12 26.9**	**-3.7**
GTA	comp=Z,3.0nm,1.3s			pmax	pmax		
GTA	comp=N,79nm,11.3s			LR	LR		
GTA	comp=E,180nm,13.5s			LR	LR		
GTA	comp=Z,190nm,14.2s			LR	LR		
ZALV	**Zalesovo Beam**	**43.55**	**304**	P	**P**	**04 10 45.3**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=60,slow=8.5,SNR=4.5						
	comp=Z,0.7nm,0.3s						
ZALV	**Zalesovo Beam**	**43.55**	**304**	*i* P	**P**	**04 10 45.5**	**-0.5**
ZALV	comp=Z,1.0nm,0.3s			pmax	pmax		
YKA	**Yellowknife Ar**	**44.33**	**41**	P	P	04 10 54.6	+2.5
	comp=Z,0.3nm,0.8s,baz=299,slow=8.1,SNR=3.0						
	comp=Z,0.3nm,0.8s						
KURK	**Kurchatov**	**48.49**	**303**		**P**	**04 11 25.2**	**+0.4**
KURK	comp=Z,12nm,0.8s			IAmb	IAmb	04 11 26.1	
KURK	**Kurchatov**	**48.49**	**303**	P	**P**	**04 11 25.7**	**+0.8**
KURBB	**Kurchatov Arra**	**48.59**	**303**	P	**P**	**04 11 25.7**	**+0.1**
	comp=Z,6.4nm,0.7s,baz=60,slow=7.7,SNR=36						
KURBB	comp=Z,156nm,18.5s,baz=170,slow=38			LR	LR	04 33 28.9	
	comp=Z,6.4nm,0.7s						
SPITS	**Spitsbergen Ar**	**48.62**	**351**	P	P	04 11 27.8	+2.3
	comp=Z,2.3nm,0.4s,baz=57,slow=9.1,SNR=50						
	comp=Z,2.3nm,0.4s						
MK31	**Makanchi Array**	**48.76**	**297**	*i* P	**P**	**04 11 26.9**	**-0.2**
MKAR	**Makanchi Array**	**48.76**	**297**	P	**P**	**04 11 27.2**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=52,slow=6.8,SNR=14						
	comp=Z,0.7nm,0.4s						
PZH	**PanZhiHua**	**50.12**	**263**	P	P	04 11 40.3	+2.5
PZH	comp=Z,10.0nm,0.5s			pmax	pmax		
PZH	comp=Z,120nm,5.2s			pmax	pmax		
BVAR	**Borovoye Array**	**51.28**	**309**	P	**P**	**04 11 46.1**	**0.0**
	comp=Z,3.3nm,0.4s,baz=56,slow=8.1,SNR=23						
	comp=Z,3.3nm,0.4s						
BRVK	**Borovoye**	**51.31**	**309**	P	**P**	**04 11 47.0**	**+0.8**
BRVK	comp=Z,6.9nm,1.2s			IAmb	IAmb	04 11 47.7	
BRVK	**Borovoye**	**51.31**	**309**	P	**P**	**04 11 47.1**	**+0.8**
BRVK	comp=Z,7.0nm,1.3s			pmax	pmax		
ARTI	**Arti**	**54.57**	**318***c*	*i*P	**P**	**04 12 10.3**	**+0.1**
ARTI						04 13 08.6	
ARTI				S	**S**	**04 19 51.3**	**+5.3**
ARTI				SS	**SS**	**04 23 28.6**	**+0.3**
ARTI	comp=Z,4.0nm,1.1s			pmax	pmax		
ARCES	**ARCESS Array B**	**54.70**	**342**	P	**P**	**04 12 12.4**	**+1.4**
	comp=Z,4.4nm,0.8s,baz=42,slow=8.1,SNR=9.7						
ARCES	comp=Z,109nm,19.5s,baz=89,slow=42			LR	LR	04 40 59.9	
	comp=Z,4.4nm,0.8s						
AAK	**Ala-Archa**	**55.69**	**297**	*i* P	**P**	**04 12 18.2**	**-0.6**
AAK	comp=Z,2.0nm,0.9s			pmax	pmax		
NVAR	**Mina Array Bea**	**56.33**	**69**	P	P	04 12 29.8	+6.3
	comp=Z,0.5nm,0.6s,baz=309,slow=7.3,SNR=3.1						
NVAR	comp=Z,44nm,18.1s,baz=265,slow=37			LR	LR	04 37 27.9	
	comp=Z,0.5nm,0.6s						
DLV	**Lat**	**57.26**	**246**		P	04 12 33.0	+2.8
KKAR	**Karatay Array**	**57.57**	**300**		**P**	**04 12 32.8**	**+0.9**
KKAR	**Karatay Array**	**57.57**	**300**	P	**P**	**04 12 32.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**57.81**	**259**	P	P	04 12 36.0	+2.2
	comp=Z,0.9nm,0.3s,baz=23,slow=7.2,SNR=7.1						
	comp=Z,0.9nm,0.3s						
PDAR	**Pinedale Array**	**58.33**	**60**	P	P	04 12 41.5	+4.0
	comp=Z,0.2nm,0.5s,baz=319,slow=8.3,SNR=4.8						
	comp=Z,0.2nm,0.5s						
AB31	**Akbulak array**	**58.73**	**311**		**P**	**04 12 41.4**	**+1.5**
AB31				IAmb	IAmb	04 12 41.6	
	comp=Z,3.0nm,1.1s						
ABKAR	**Akbulak array**	**58.73**	**311**		**P**	**04 12 41.4**	**+1.5**
ABKAR				IAmb	IAmb	04 12 41.6	
	comp=Z,3.0nm,1.1s						
ABKAR	**Akbulak array**	**58.73**	**311**		**P**	**04 12 40.2**	**+0.3**
AKTO	**Aktyubinsk**	**58.80**	**313**	P	**P**	**04 12 40.2**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=358,slow=1.7,SNR=1.5						
	comp=Z,0.8nm,0.3s						
FINES	**FINESS Array B**	**61.48**	**337**	P	**P**	**04 12 59.5**	**+1.0**
	comp=Z,1.9nm,0.4s,baz=35,slow=8.2,SNR=18						
	comp=Z,1.9nm,0.4s						
NB2	**NORSAR Subarra**	**64.97**	**344**	P	P	04 13 23.7	+2.0
	comp=Z,0.4nm,0.4s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**64.97**	**344**	P	**P**	**04 13 23.4**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=25,slow=6.6,SNR=7.0						
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**65.37**	**342**	P	**P**	**04 13 26.0**	**+1.8**
	comp=Z,2.1nm,0.4s,baz=55,slow=6.0,SNR=24						
	comp=Z,2.1nm,0.4s						
HFS	**Hagfors**	**65.37**	**342**	P	**P**	**04 13 26.0**	**+1.8**
AK03	**Malin Array Si**	**69.85**	**329**	P	**P**	**04 13 51.8**	**-0.8**
AK21	**Malin Array Si**	**69.87**	**329**	P	**P**	**04 13 51.9**	**-0.8**
AKASG	**Malin Array Be**	**69.88**	**329**	P	**P**	**04 13 54.4**	**+1.6**
	comp=Z,2.5nm,0.4s,baz=30,slow=6.3,SNR=22						
	comp=Z,2.5nm,0.4s						
AKBB	**Malin Array Si**	**69.88**	**329**	*i* P	**P**	**04 13 52.8**	**+0.1**
AKBB				pmax	pmax		
	comp=Z,11nm,0.9s						
AKBB	**Malin Array Si**	**69.88**	**329**	P	**P**	**04 13 52.0**	**-0.7**
KIEV	**Kiev**	**69.89**	**329**		**P**	**04 13 54.1**	**+1.3**
KIEV				IAmb	IAmb	04 13 55.1	
	comp=Z,8.2nm,0.9s						
KIEV	**Kiev**	**69.89**	**329**	P	**P**	**04 13 54.1**	**+1.3**
KIEV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AK11	**Malin Array Si**	**69.91**	**329**	P	**P**	**04 13 52.2**	**-0.8**
RNPP9	**Sopachiv**	**70.28**	**331**	P	**P**	**04 13 54.5**	**-0.7**
KIV	**Kislovodsk**	**70.50**	**317**	*e*P	**P**	**04 13 55.0**	**-1.8**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KBZ	**Khabaz**	**70.59**	**317**	P	**P**	**04 13 58.2**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=245,slow=6.3,SNR=2.4						
	comp=Z,1.2nm,0.9s						
TXAR	**Lajitas Array**	**71.30**	**66**	P	P	04 14 04.7	+2.8
	comp=Z,0.1nm,0.5s,baz=321,slow=6.1,SNR=5.7						
	comp=Z,0.1nm,0.5s						
KOLS	**Kolonicke sedl**	**73.55**	**332**	*e*P	P	04 14 17.8	+2.9
KOLS	**Kolonicke sedl**	**73.55**	**332**	*e*P	P	04 14 17.8	+2.9
KOLS				*e*		04 16 03.8	
CLL	**Collm**	**73.74**	**339**	*i* P	P	04 14 18.5	+2.6
CLL	**Collm**	**73.74**	**339**	*i* P	P	04 14 18.5	+2.6
BUR08	**Bucovina Ar. S**	**73.83**	**330**	P	**P**	**04 14 18.0**	**+1.3**
BUR08				IAmb	IAmb	04 14 29.9	
	comp=Z,4.2nm,1.0s						
LANS	**Liptovska Anna**	**74.14**	**334**	*e*P	P	04 14 22.4	+4.0
LANS	**Liptovska Anna**	**74.14**	**334**	*e*P	P	04 14 22.4	+4.0
KOPT	**Kop Dagi**	**74.65**	**316**	P	P	04 14 24.3	+2.5
WRA	**Warramunga Arr**	**74.68**	**205**	P	P	04 14 26.3	+4.6
	comp=Z,0.7nm,0.9s,baz=15,slow=5.8,SNR=5.8						
	comp=Z,0.7nm,0.9s						
VYHS	**Vyhne**	**74.91**	**334**	*e*P	P	04 14 25.5	+2.7
VYHS	**Vyhne**	**74.91**	**334**	*e*P	P	04 14 25.4	+2.6
VYHS				*e*		04 16 11.6	
MODS	**Modra-Piesok**	**75.44**	**335**	*e*P	P	04 14 29.0	+3.2
MODS	**Modra-Piesok**	**75.44**	**335**	*e*P	P	04 14 29.0	+3.2
SRO	**Srobarova**	**75.68**	**334**	*e*P	P	04 14 30.9	+3.7
SRO	**Srobarova**	**75.68**	**334**	*e*P	P	04 14 30.9	+3.7
GERES	**GERESS Array B**	**75.89**	**338**	P	P	04 14 30.8	+2.3
	comp=Z,0.4nm,0.5s,baz=318,slow=1.8,SNR=4.1						
	comp=Z,0.4nm,0.5s						
ILGA	**Ilgaz**	**76.58**	**321**	P	**P**	**04 14 34.0**	**+1.2**
BNN	**Bunyan**	**77.59**	**319**	P	**P**	**04 14 39.7**	**+1.4**
KBA	**Koelnbreinsper**	**77.62**	**337**	*e*pP	P	04 14 42.4	+4.0
	comp=Z,6.1nm,0.8s						
BRTR	**Keskin Array B**	**77.74**	**321**	P	**P**	**04 14 40.3**	**+1.1**
BRTR	**Keskin Array B**	**77.74**	**321**	P	**P**	**04 14 40.6**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=46,slow=3.6,SNR=10						
	comp=Z,1.6nm,0.8s						
FETA	**Feichten**	**78.28**	**339**	pP	P	04 14 46.4	+4.3
	comp=Z,4.2nm,1.2s						
ASAR	**Alice Springs**	**78.35**	**204**	P	P	04 14 46.3	+3.9
	comp=Z,0.1nm,0.3s,baz=12,slow=5.7,SNR=1.4						
	comp=Z,0.1nm,0.3s						
QSPA	**South Pole Qui**	**141.33**	**180**	PKP	**PKiKP**	**04 22 14.4**	**+0.3**
	comp=Z,1.6nm,1.1s,baz=0.2,slow=2.9,SNR=2.6						

---

*NEIC **24** 04:04:29.1±1.6,51°.39N±0°.08×159°.8E±0°.1,h10km±1km, mb4.6/23,Error ellipse: s-maj=15.9km s-min=11.1km az=224.0*
*KRSC **24** 04:04:32.2±1.2,51°.51N×159°.84E,h44km±21km,Ml4.6*
*MOS **24** 04:04:35.8±0.8,51°.68N×159°.58E,h

comp=E,112nm,0.4s,baz=239,slow=11,SNR=12
PETK S **Sn** **04 05 30.7 +1.6**
comp=E,206nm,0.6s,baz=112,slow=20,SNR=3.6
APC Apacha 2.11 311 PN **Pn** **04 05 08.6 +1.8**
APC Apacha 2.11 311 *e*P **Pn** **04 05 08.6 +1.8**
GNL Ganaly 2.40 333 PN **Pn** **04 05 12.5 +1.6**
GNL Ganaly 2.40 333 *e*P **Pn** **04 05 12.5 +1.6**
SKR Severo-Kuril's 2.49 250 *e*PN **Pn** **04 05 13.0 +0.9**
SKR *e*S **Sn** **04 05 42.4 +1.2**
SKR pmax pmax
comp=Z,178nm,0.5s
SKR smax smax
comp=N,1μm,0.6s
SKR smax smax
comp=E,1μm,0.5s
SKR MLR MLR
comp=Z,2μm,14.0s
SKR Severo-Kuril's 2.49 250 *e*P **Pn** **04 05 12.7 +0.7**
SKR *e*S **Sn** **04 05 43.1 +2.0**
SHEM Shemya Is, Ala 8.87 77 Pn **Pn** **04 06 37.9 -1.7**
SMY Shemya 8.87 77 Pn **Pn** **04 06 37.6 -2.0**
SMY Shemya 8.87 77 PN **Pn** **04 06 37.6 -2.0**
MA2 Magadan 9.49 331 Pn **Pn** **04 06 47.3 -0.8**
MA2 Magadan 9.49 331 PN **Pn** **04 06 47.3 -0.8**
SEY Seymchan 12.05 344 *i* PN **Pn** **04 07 19.9 -3.2**
ADK Adak 14.56 80 Pn **Pn** **04 07 56.8 -0.5**
ADK Adak 14.56 80 P **Pn** **04 07 56.8 -0.5**
BILL Bilibino 16.81 8 Pn **P** **04 08 26.5 -1.4**
BILL Bilibino 16.81 8 *i* P **Pn** **04 08 23.2 -3.0**
KLR Kul'dur 17.99 274 P **P** **04 08 41.5 +0.4**
comp=Z,5.3nm,0.9s,baz=81,slow=12,SNR=6.8
KLR Kul'dur 17.99 274 *e*P **P** **04 08 42.7 +1.6**
KLR pmax pmax
comp=Z,6.0nm,0.9s
YAK Yakutsk 19.33 314 *e*P **P** **04 08 53.3 -2.4**
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,84nm,3.3s
YAK pmax pmax
comp=N,47nm,3.8s
YAK pmax pmax
comp=E,46nm,3.5s
YAK MLR MLR
comp=Z,215nm,18.0s
YAK MLR MLR
comp=N,71nm,29.0s
YAK MLR MLR
comp=E,76nm,26.0s
ZEA Zeya 19.77 289 *e*P **Pn** **04 09 02.2 -0.1**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
USA0B Ussuriysk Arra 19.97 259 *e*P **Pn** **04 09 03.0 -1.8**
USRK Ussuriysk Ar. 19.97 259 P **Pn** **04 09 04.8 0.0**
comp=Z,3.8nm,0.8s,baz=69,slow=12,SNR=5.3
JSD Sado 20.32 237 Pn 04 09 06.3 -2.6
MJAR Matsushiro Arr 21.49 234 P **P** **04 09 20.5 +1.2**
comp=Z,2.4nm,0.4s,baz=21,slow=10,SNR=5.9
comp=Z,2.4nm,0.4s
BNX BinXian 22.06 267 ⇓P **P** **04 09 25.0 -0.3**
BNX pmax pmax
comp=Z,9.0nm,0.9s
J14K Nanvaranak Lak 22.45 46 P **P** **04 09 28.3 -1.0**
J14K IAmb IAmb 04 09 45.9
comp=Z,15nm,1.4s
TIXI Tiksi 24.39 337 **P** **04 09 47.5 -0.7**
TIXI Tiksi 24.39 337 P **P** **04 09 47.5 -0.7**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
HIA Hailar 25.41 281 **P** **04 09 57.2 -0.5**
HIA IAmb IAmb 04 09 58.9
comp=Z,20nm,0.7s
HIA Hailar 25.41 281 P **P** **04 09 57.2 -0.5**
HIA pmax pmax
comp=Z,20nm,0.7s
KSRS Korea Array 26.51 250 P **P** **04 10 09.5 +1.8**
comp=Z,1.8nm,0.7s,baz=47,slow=9.4,SNR=6.8
comp=Z,1.8nm,0.7s
JNU Nakatsue 27.96 240 P **P** **04 10 23.7 +2.9**
comp=Z,5.7nm,0.7s,baz=99,slow=3.2,SNR=4.6
JNU LR LR 04 22 34.1
comp=Z,106nm,19.2s,baz=26,slow=39
comp=Z,5.7nm,0.7s
ILAR Eielson Array 30.02 43 P **P** **04 10 39.9 +1.1**
comp=Z,0.6nm,0.8s,baz=270,slow=8.4,SNR=3.3
comp=Z,0.6nm,0.8s
H11N2 WAKE ISLAND Hy 32.27 167 T T 04 45 00.7
baz=356
H11N3 WAKE ISLAND Hy 32.29 167 T T 04 45 05.6
baz=356
H11N1 WAKE ISLAND Hy 32.29 167 T T 04 45 02.0
baz=356
ULN Ulaanbaatar 33.69 285 *i* P **P** **04 11 09.8 -1.5**
ULN pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 34.10 285 P **P** **04 11 14.4 -0.5**
comp=Z,1.1nm,0.6s,baz=49,slow=6.7,SNR=4.5
comp=Z,1.1nm,0.6s
NRIK Noril'sk 37.05 326 P **P** **04 11 39.3 -0.4**
comp=Z,2.2nm,0.5s,baz=80,slow=5.0,SNR=2.0
comp=Z,2.2nm,0.5s
A36M Sachs Harbour 37.52 30 **P** **04 11 43.5 -0.1**
ZALV Zalesovo Beam 43.45 304 P **P** **04 12 30.6 -2.3**
comp=Z,1.0nm,0.3s,baz=53,slow=9.6,SNR=4.6
ZALV LR LR 04 30 19.3
comp=Z,152nm,19.1s,baz=82,slow=36
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 43.45 304 *i* P **P** **04 12 31.5 -1.4**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
YKA Yellowknife Ar 44.41 41 P **P** **04 12 41.2 +0.8**
comp=Z,0.4nm,0.8s,baz=299,slow=8.2,SNR=3.5
comp=Z,0.4nm,0.8s
KURK Kurchatov 48.39 303 **P** **04 13 11.2 -0.5**
KURK Kurchatov 48.39 303 P **P** **04 13 11.3 -0.5**
KURK 04 14 38.8
KURBB Kurchatov Arra 48.49 303 P **P** **04 13 11.3 -1.3**
comp=Z,9.7nm,0.7s,baz=60,slow=7.8,SNR=29
KURBB PcP **PcP** **04 14 38.8 +0.7**
comp=Z,0.4nm,0.4s,baz=68,slow=3.3,SNR=2.4
comp=Z,9.7nm,0.7s
SPITS Spitsbergen Ar 48.60 351 P **P** **04 13 13.8 +0.8**
comp=Z,10.0nm,0.6s,baz=60,slow=9.1,SNR=34
comp=Z,10.0nm,0.6s
SPB2 Spitsbergen Ar 48.60 351 **P** **04 13 13.7 +0.6**
MK31 Makanchi Array 48.66 297 *i* P **P** **04 13 12.6 -1.4**
MKAR Makanchi Array 48.66 297 **P** **04 13 12.7 -1.3**
MKAR Makanchi Array 48.66 297 P **P** **04 13 13.2 -0.8**
comp=Z,2.5nm,0.5s,baz=53,slow=6.7,SNR=21
comp=Z,2.5nm,0.5s
MAKZ Makanchi 48.83 297 P **P** **04 13 14.2 -1.1**
MAKZ IAmb IAmb 04 13 14.9
comp=Z,3.2nm,0.6s
MAKZ Makanchi 48.83 297 P **P** **04 13 14.2 -1.1**
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
BLKN Baker Lake 50.45 33 **P** **04 13 27.8 +0.5**
BLKN IAmb IAmb 04 13 28.7
comp=Z,4.7nm,0.7s
BVAR Borovoye Array 51.20 309 P **P** **04 13 31.9 -1.1**
comp=Z,5.6nm,0.4s,baz=54,slow=7.2,SNR=24
comp=Z,5.6nm,0.4s
BVAR Borovoye Array 51.20 309 P **P** **04 13 32.0 -1.1**
BRVK Borovoye 51.23 309 **P** **04 13 32.2 -1.1**
BRVK IAmb IAmb 04 13 32.7
comp=Z,4.7nm,0.5s
BRVK Borovoye 51.23 309 P **P** **04 13 32.2 -1.1**
BRVK pmax pmax
comp=Z,5.0nm,0.5s
KDJ Kajisay 54.42 295 P **P** **04 13 56.9 -0.4**
KDJ Kajisay 54.42 295 P **P** **04 13 56.9 -0.4**
KDJ pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 54.67 342 P **P** **04 13 58.4 -0.1**
comp=Z,6.1nm,0.8s,baz=38,slow=8.0,SNR=9.7
comp=Z,6.1nm,0.8s
AAK Ala-Archa 55.59 297 *i* P **P** **04 14 04.4 -1.3**
AAK pmax pmax
comp=Z,3.0nm,0.8s
NVAR Mina Array Bea 56.44 69 P P 04 14 15.0 +3.1
comp=Z,0.1nm,0.4s,baz=312,slow=7.5,SNR=2.0
comp=Z,0.1nm,0.4s
KKAR Karatay Array 57.47 300 **P** **04 14 17.9 -0.9**
KKAR Karatay Array 57.47 300 P **P** **04 14 18.0 -0.9**
CMAR Chiang Mai Arr 57.70 259 P **P** **04 14 21.1 +0.3**
comp=Z,1.5nm,0.3s,baz=26,slow=7.0,SNR=5.7
comp=Z,1.5nm,0.3s
PDAR Pinedale Array 58.43 60 P **P** **04 14 27.9 +2.0**
comp=Z,0.1nm,0.3s,baz=294,slow=8.4,SNR=1.2
comp=Z,0.1nm,0.3s
AB31 Akbulak array 58.64 311 **P** **04 14 26.2 -0.8**
AB31 IAmb IAmb 04 14 27.9
comp=Z,3.0nm,0.8s
ABKAR Akbulak array 58.64 311 **P** **04 14 26.1 -0.8**
ABKAR Akbulak array 58.64 311 **P** **04 14 25.8 -1.1**
ABKAR IAmb IAmb 04 14 27.9
comp=Z,3.1nm,0.8s
AKTO Aktyubinsk 58.71 313 P **P** **04 14 26.5 -0.9**
comp=Z,1.0nm,0.3s,baz=73,slow=3.0,SNR=4.1
comp=Z,1.0nm,0.3s
FRB Frobisher Bay 58.97 23 LR LR 04 44 47.9
comp=Z,63nm,18.2s,baz=334,slow=41
FINES FINESS Array B 61.44 337 P **P** **04 14 46.2 +0.3**
comp=Z,5.3nm,0.7s,baz=35,slow=7.5,SNR=15
comp=Z,5.3nm,0.7s
OBN Obninsk 63.69 328 *e*P **P** **04 14 59.8 -1.2**
OBN *e* 04 15 34.1
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,89nm,16.0s
NB2 NORSAR Subarra 64.94 344 P **P** **04 15 09.6 +0.4**
comp=Z,2.3nm,0.8s,baz=25,slow=6.5
NOA NORSAR Array B 64.94 344 P **P** **04 15 09.7 +0.4**
comp=Z,0.8nm,0.5s,baz=25,slow=6.6,SNR=9.1
comp=Z,0.8nm,0.5s
HFS Hagfors 65.33 342 P **P** **04 15 11.9 +0.3**
comp=Z,4.2nm,0.4s,baz=57,slow=5.5,SNR=24
comp=Z,4.2nm,0.4s
HFS Hagfors 65.33 342 P **P** **04 15 12.0 +0.3**
AKASG Malin Array Be 69.81 329 P **P** **04 15 40.1 0.0**
comp=Z,10nm,0.6s,baz=31,slow=6.2,SNR=23
comp=Z,10nm,0.6s
KIEV Kiev 69.83 329 **P** **04 15 39.8 -0.3**
KIEV IAmb IAmb 04 15 40.9
comp=Z,11nm,0.8s
KIEV Kiev 69.83 329 P **P** **04 15 39.8 -0.3**
KIEV pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 70.42 317 *e*P **P** **04 15 43.7 -0.3**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 70.51 317 P **P** **04 15 44.5 +0.1**
comp=Z,0.9nm,0.5s,baz=99,slow=7.1,SNR=3.8
comp=Z,0.9nm,0.5s
TXAR Lajitas Array 71.40 66 P **P** **04 15 52.2 +1.9**
comp=Z,0.4nm,0.6s,baz=285,slow=3.8,SNR=3.5
comp=Z,0.4nm,0.6s
EKA Eskdalemuir Ar 72.51 350 P **P** **04 15 56.6 +0.3**
comp=Z,0.5nm,0.4s,baz=14,slow=6.2,SNR=4.2
comp=Z,0.5nm,0.4s
CLL Collm 73.70 339 *i* P **P** **04 16 03.8 +0.4**
comp=Z,6.0nm,1.1s
BUR08 Bucovina Ar. S 73.77 330 **P** **04 16 04.8 +0.8**
BUR08 IAmb IAmb 04 16 05.7
comp=Z,4.1nm,0.8s
BURAR Bucovina Array 73.79 330 P **P** **04 16 04.4 +0.2**
BURAR IAmb IAmb 04 16 06.0
comp=Z,4.5nm,0.8s
MORC Moravsky Berou 74.03 336 P **P** **04 16 06.0 +0.6**
MORC IAmb IAmb 04 16 07.0
comp=Z,4.4nm,1.0s
MORC Moravsky Berou 74.03 336 P **P** **04 16 06.0 +0.6**
MORC pmax pmax
comp=Z,4.0nm,1.0s
KOPT Kop Dagi 74.57 316 **P** **04 16 09.3 +0.2**
WB2 Warramunga Arr 74.63 205 P P 04 16 12.2 +3.1
WB2 IAmb IAmb 04 16 22.2
comp=Z,12nm,1.2s
WRA Warramunga Arr 74.63 205 P **P** **04 16 10.5 +1.4**
comp=Z,0.7nm,0.8s,baz=16,slow=5.7,SNR=2.4
comp=Z,0.7nm,0.8s
VRAC Vranov 74.70 336 LR LR 04 51 54.9
comp=Z,78nm,18.9s,baz=66,slow=38
GERES GERESS Array B 75.84 338 P **P** **04 16 16.7 +0.8**
comp=Z,1.0nm,0.8s,baz=17,slow=5.6,SNR=5.3
comp=Z,1.0nm,0.8s
ILGA Ilgaz 76.50 321 **P** **04 16 20.9 +0.9**
BNN Bunyan 77.52 318 **P** **04 16 25.9 +0.3**
BR131 Keskin Array S 77.67 320 **P** **04 16 26.2 -0.3**
BR131 IAmb IAmb 04 16 28.8
comp=Z,3.1nm,0.9s
BR131 Keskin Array S 77.67 320 P **P** **04 16 26.2 -0.3**
BR131 pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 77.67 320 **P** **04 16 26.3 -0.2**
BRTR Keskin Array B 77.67 320 P **P** **04 16 26.7 +0.2**
comp=Z,1.5nm,0.7s,baz=25,slow=4.4,SNR=10
comp=Z,1.5nm,0.7s
ASAR Alice Springs 78.31 204 P **P** **04 16 31.1 +1.2**
comp=Z,0.3nm,0.7s,baz=15,slow=5.7,SNR=1.9
comp=Z,0.3nm,0.7s
MMAI Mount Meron Ar 82.67 316 P **P** **04 16 53.2 -0.2**
comp=Z,2.0nm,0.5s,baz=10,slow=5.1,SNR=4.9
comp=Z,2.0nm,0.5s
QSPA South Pole Qui 141.33 180 PKP **PKiKP** **04 23 59.8 -2.1**
comp=Z,1.6nm,1.1s,baz=192,slow=4.3,SNR=1.8

HEL 24 04:05:06.4±0.3, 67°59N×33°53E, h0km, ML1.1,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.53**	**54**	PG	Pg		04 05 16.1	-0.3
	baz=225							
VRF	**Varrio**	**1.50**	**278**	PG	Pn		04 05 33.8	-0.8
VRF				MSG			04 05 51.5	
	comp=Z,1.1nm,0.2s							
				SN	Sg		04 05 54.2	-0.5
OLKF	**Oulanka, Finla**	**2.07**	**234**	PG	Pb		04 05 43.8	-0.9
OLKF				MSG			04 06 07.8	
	comp=Z,0.9nm,0.2s							
				SG	Sg		04 06 12.1	-0.6
KU6	**Riekki**	**2.13**	**224**	PG	Pn		04 05 44.4	+1.2
	baz=46							
KU6				MSG			04 06 09.6	
	comp=Z,0.9nm,0.2s							
KU6				SG	Sb		04 06 13.1	+0.3
RAJF	**Raja-Jooseppi**	**2.15**	**297**	SG	Sb		04 06 12.5	-0.9
MSF	**Maaselka**	**2.45**	**229**	SG	Sb		04 06 22.9	+0.8
KEV	**Kevo**	**3.22**	**315**	PN	Pn		04 05 57.1	-1.0
	baz=117							
KEV				SN	Sn		04 06 38.6	+1.4
ARA0	**ARCESS Array S**	**3.53**	**307**	PN	Pn		04 06 00.9	-1.5

KOLA 24 04:05:52.7, 67°64N×33°79E, h0km, ML1.4, Error ellipse:
s-maj=3.8km s-min=1.4km az=140.0, Khibiny, mines
Kirovsk, Yukspor, Khibiny, mines Rasvumchorr,
Central, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
APA	**Apatity**	**0.17**	**243**	S	Sg		04 05 58.0	+0.1
APA0	**Apatity Array**	**0.31**	**263**	P	Pg		04 05 58.2	-0.4
APA0				S	Sg		04 06 02.4	-0.2
LVZ	**Lovozero**	**0.42**	**52**	S	Sg		04 06 06.2	+0.1
KVDA	**Kovda**	**1.02**	**201**	S	Sg		04 06 24.2	-1.2
TERR	**Teriberka**	**1.64**	**17**	P	Pn		04 06 21.8	-0.9
TERR				S	Sn		04 06 43.0	-1.6

ROM 24 04:12:03.9±0.0, 43°094N±0°002×13°186E±0°003,
h9km, ML1.9/49, 6C, Error ellipse: s-maj=0.2km
s-min=0.2km az=53.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CSP1	**Cessapalombo**	**0.01**	**98**	P	Pg		04 12 05.2	-0.4
FDMO	**Fiordimonte**	**0.09**	**232**	P	Pg		04 12 06.7	+0.4
FDMO				S	Sg		04 12 08.7	+0.6
FDMO				AML	AML			
	comp=N,1135μm,0.2s							
FDMO				AML	AML			
	comp=E,1725μm,0.2s							
FDMO				AML	AML			
	comp=E,1726μm,0.2s							
FDMO				AML	AML			
	comp=N,1136μm,0.2s							

MDAR Monte D'Aria 0.10 342 P Pg 04 12 06.5 -0.1
MDAR S Sg 04 12 08.6 +0.2
GUMA Gualdo di Mace 0.11 106 ⇑P Pg 04 12 07.0 +0.3
GUMA S Sg 04 12 09.3 +0.7
GUMA AML AML
comp=N,2600μm,0.3s
GUMA AML AML
comp=E,2675μm,0.2s
GUMA AML AML
comp=N,2920μm,0.2s
GUMA AML AML
comp=E,4880μm,0.2s
GUMA AML AML
comp=E,4880μm,0.2s
GUMA AML AML
comp=E,2674μm,0.2s
GUMA AML AML
comp=N,2919μm,0.2s
SAP2 Sant'Angelo in 0.16 89 P Pg 04 12 07.9 +0.6
SAP2 S Sg 04 12 11.0 +1.4
SAP2 AML AML
comp=N,9475μm,0.5s
SAP2 AML AML
comp=E,1085μm,0.6s
SAP2 AML AML
comp=E,1076μm,0.1s
SAP2 AML AML
comp=N,6429μm,0.1s
MML1 Montelago di S 0.16 277 P Pg 04 12 07.9 +0.5
MML1 S Sg 04 12 11.0 +1.2
FEMA Monte Fema 0.17 217 P Pg 04 12 08.1 +0.6
FEMA S Sg 04 12 11.5 +1.5
GAG1 Gagliole 0.17 329 P Pg 04 12 07.9 +0.4
GAG1 S Sg 04 12 11.3 +1.3
MTCL Monte Cavallo 0.17 234 P Pg 04 12 08.2 +0.6
MTCL S Sg 04 12 11.5 +1.5
MC2 Monte Cornacci 0.18 179 P Pg 04 12 08.3 +0.5
MC2 S Sg 04 12 11.7 +1.2
SEF1 Sefro 0.18 287 P Pg 04 12 08.3 +0.5
SEF1 S Sg 04 12 11.9 +1.5
MNTP Montappone 0.21 78 P Pg 04 12 09.1 +0.8
MNTP S Sg 04 12 13.0 +1.8
MNTP AML AML
comp=N,904μm,0.3s
MNTP AML AML
comp=E,1392μm,0.3s
MNTP AML AML
comp=N,904μm,0.3s
MNTP AML AML
comp=E,1393μm,0.3s
MNTP AML AML
comp=N,706μm,0.1s
MMO1 Montemonaco 0.22 152 P Pg 04 12 08.8 +0.3
MMO1 S Sg 04 12 12.5 +1.0
CESI CESI - Serrava 0.23 247 ⇑P Pg 04 12 09.3 +0.7
CESI S Sg 04 12 13.7 +2.0
CESI AML AML
comp=N,433μm,1.3s
CESI AML AML
comp=E,408μm,1.0s
CESI AML AML
comp=E,407μm,0.2s
CESI AML AML
comp=N,409μm,0.1s
MF5 Montefalcone A 0.23 117 P Pg 04 12 09.3 +0.8
MF5 S Sg 04 12 13.5 +1.8
MF5 AML AML
comp=E,474μm,0.7s
MF5 AML AML
comp=N,416μm,0.3s
MF5 AML AML
comp=E,474μm,0.7s
MF5 AML AML
comp=N,416μm,0.3s
TRE1 Treia 0.24 23 P Pg 04 12 09.4 +0.7
EL6 Elcito 0.24 345 P Pg 04 12 09.3 +0.4
EL6 S Sg 04 12 13.7 +1.5
EL6 AML AML
comp=E,507μm,1.5s
EL6 AML AML
comp=N,487μm,0.2s
EL6 AML AML
comp=E,459μm,0.2s
EL6 AML AML
comp=N,487μm,0.2s
NRCA Norcia 0.27 191 ⇑P Pg 04 12 09.7 +0.4
NRCA S Sg 04 12 14.2 +1.3
NRCA AML AML
comp=E,581μm,1.2s
NRCA AML AML
comp=N,488μm,1.3s
NRCA AML AML
comp=E,535μm,0.1s
NRCA AML AML
comp=N,416μm,0.1s
NRCA AML AML
comp=E,551μm,0.1s
NRCA AML AML
comp=N,451μm,0.1s
MNTT Montottone 0.30 96 P Pb 04 12 11.0 -0.6
MNTT S Sb 04 12 16.5 -0.2
MNTT AML AML
comp=E,780μm,1.6s
MNTT AML AML
comp=N,638μm,1.3s
MNTT AML AML
comp=E,707μm,0.2s
MNTT AML AML
comp=N,636μm,0.2s
FOSV Fossato di Vic 0.37 303 ⇑P Pg 04 12 11.7 +0.4
FOSV S Sb 04 12 17.9 -0.7
FOSV AML AML
comp=N,372μm,0.3s
FOSV AML AML
comp=E,336μm,0.3s
FOSV AML AML
comp=N,372μm,0.3s
FOSV AML AML
comp=E,336μm,0.3s
FOSV AML AML
comp=N,372μm,0.3s
MTRA Matera 0.37 155 P Pg 04 12 11.7 +0.4
MTRA AML AML
comp=E,145μm,0.9s
MTRA AML AML
comp=N,152μm,1.2s
MTRA AML AML
comp=E,121μm,0.1s
MTRA AML AML
comp=N,142μm,0.2s
MMUR Monte Murano 0.37 338 P Pg 04 12 11.9 +0.6
MMUR S Sb 04 12 17.6 -1.1
ASSB Assisi San Ben 0.39 263 ⇑P Pg 04 12 12.1 +0.5
ASSB S Sb 04 12 18.6 -0.6
ASSB AML AML
comp=N,322μm,1.0s
ASSB AML AML
comp=E,254μm,0.4s
ASSB AML AML
comp=E,254μm,0.1s
ASSB AML AML
comp=N,303μm,0.2s
ATCC AVT- Casa Cast 0.41 283 ⇑P Pg 04 12 12.6 +0.6
ATCC AML AML
comp=E,290μm,0.3s
ATCC AML AML
comp=N,364μm,0.3s
ATCC AML AML
comp=E,290μm,0.3s
ATCC AML AML
comp=N,330μm,0.2s
CIMA Civitanova Mar 0.41 59 P Pb 04 12 13.2 -0.3
ARVD Arcevia 0.44 336 P Pg 04 12 12.8 +0.2
ARVD S Sb 04 12 20.2 -0.5
ARVD AML AML
comp=E,116μm,0.2s
ARVD AML AML
comp=N,63μm,1.3s
ARVD AML AML
comp=N,62μm,0.1s
ARVD AML AML
comp=E,116μm,0.2s
SSFR Montelago di S 0.45 319 P Pg 04 12 13.2 +0.5
SSFR S Sb 04 12 20.8 -0.3
SSFR AML AML
comp=N,510μm,1.3s

SSFR				AML	AML	
	comp=E,576μm,0.2s					
SSFR				AML	AML	
	comp=N,490μm,0.2s					
SSFR				AML	AML	
	comp=E,580μm,0.2s					
SSFR				AML	AML	
	comp=E,577μm,0.2s					
SSFR				AML	AML	
	comp=N,463μm,0.2s					
SSFR				AML	AML	
	comp=N,490μm,0.2s					
SSFR				AML	AML	
	comp=E,553μm,0.2s					
GAVE	**Gavelli**	**0.46 208**		P	Pg	04 12 13.2 +0.4
GAVE				S	Sb	04 12 20.5 -0.6
GAVE				AML	AML	
	comp=E,313μm,0.2s					
GAVE				AML	AML	
	comp=N,208μm,0.6s					
GAVE				AML	AML	
	comp=E,313μm,0.2s					
GAVE				AML	AML	
	comp=E,322μm,0.2s					
SMA1	**SAN MARTINO**	**0.48 167**		P	Pg	04 12 13.4 +0.2
SMA1				AML	AML	
	comp=E,108μm,0.4s					
SMA1				AML	AML	
	comp=N,133μm,1.5s					
SMA1				AML	AML	
	comp=N,98μm,0.2s					
SMA1				AML	AML	
	comp=E,101μm,0.2s					
LNSS	**Leonessa**	**0.50 192**		P	Pg	04 12 14.0 +0.3
LNSS				AML	AML	
	comp=E,154μm,0.4s					
LNSS				AML	AML	
	comp=N,156μm,1.2s					
LNSS				AML	AML	
	comp=E,129μm,0.1s					
LNSS				AML	AML	
	comp=N,147μm,0.2s					
LNSS				AML	AML	
	comp=N,147μm,0.2s					
MURB	**Monte Urbino**	**0.51 289**		P	Pg	04 12 14.4 +0.5
MURB				AML	AML	
	comp=N,174μm,0.9s					
MURB				AML	AML	
	comp=E,255μm,0.2s					
MURB				AML	AML	
	comp=E,255μm,0.2s					
MURB				AML	AML	
	comp=E,230μm,0.2s					
MOMA	**Monte Martano**	**0.54 238**		P	Pg	04 12 14.7 +0.3
MOMA				AML	AML	
	comp=N,130μm,0.2s					
MOMA				AML	AML	
	comp=E,120μm,0.2s					
MOMA				AML	AML	
	comp=E,121μm,0.2s					
MOMA				AML	AML	
	comp=E,120μm,0.2s					
MOMA				AML	AML	
	comp=N,129μm,0.2s					
MOMA				AML	AML	
	comp=N,136μm,0.2s					
AOI	**Ancona**	**0.55 34**		P	Pb	04 12 15.2 -0.6
COR1	**Corinaldo**	**0.56 346**		P	Pg	04 12 15.1 +0.4
RM33	**Pellescritta (**	**0.58 178**		P	Pg	04 12 15.4 +0.2
RM33				AML	AML	
	comp=E,82μm,0.2s					
RM33				AML	AML	
	comp=N,92μm,1.6s					
RM33				AML	AML	
	comp=E,82μm,0.2s					
RM33				AML	AML	
	comp=N,88μm,0.2s					
MPAG	**Monte Paganucc**	**0.62 330**		P	Pg	04 12 16.2 +0.3
MPAG				AML	AML	
	comp=E,47μm,0.2s					
MPAG				AML	AML	
	comp=N,40μm,0.2s					
ATVO	**AVT- Monte Val**	**0.64 297**		P	Pg	04 12 16.5 +0.2
ATVO				AML	AML	
	comp=N,45μm,1.5s					
ATVO				AML	AML	
	comp=E,63μm,1.3s					
ATVO				AML	AML	
	comp=E,49μm,0.3s					
ATVO				AML	AML	
	comp=N,39μm,0.3s					
PIEI	**Pieia**	**0.65 313**		P	Pg	04 12 16.4 0.0
PIEI				AML	AML	
	comp=N,71μm,0.3s					
PIEI				AML	AML	
	comp=E,86μm,0.5s					
PIEI				AML	AML	
	comp=N,57μm,0.2s					
PIEI				AML	AML	
	comp=E,77μm,0.1s					
ATPI	**Pietralunga -**	**0.68 302**		P	Pg	04 12 17.3 +0.3
BADI	**Badiali**	**0.80 301**		P	Pg	04 12 19.6 +0.2

*MDD **24** 04:17:35.0±0.2,36°.69N×2°.68W,h1km,mb_Lg3.2/46,*
Error ellipse: s-maj=1.6km s-min=1.2km az=145.0
*SFS **24** 04:17:35.0,36°.68N×2°.65W,h4km,ML3.6/18,ML3.2/18,*
MLv3.0/18
*IGIL **24** 04:17:35.6,36°.69N×2°.66W,h1km*
*CNRM **24** 04:17:36.0,36°.67N×2°.63W,h31km,ML2.8*
ISC 24 04:17:33.8±1.1,36°.67N±0°.02×2°.63W±0°.02,h9km±9km,n91,
σ1§40/188,2C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.46**	**48**	Pg	**Pb**	**04 17 43.9**	**-0.1**
ENIJ				Sg	**Sg**	**04 17 49.5**	**+0.7**
ENIJ	**Nijar**	**0.46**	**48**	⇑Pg	**Pb**	**04 17 43.9**	**-0.1**
ENIJ				Sg	**Sg**	**04 17 49.5**	**+0.7**
ENIJ				*i* Vmb_Lg		04 17 52.1	
ELGU	**Los Guajares,**	**0.82**	**284**	Pg	**Pg**	**04 17 49.6**	**-0.1**
ELGU				Sg	**Sg**	**04 17 59.6**	**-0.9**
ELGU	**Los Guajares,**	**0.82**	**284**	⇑Pg	**Pg**	**04 17 49.6**	**-0.1**
ELGU				Sg	**Sg**	**04 17 59.8**	**-0.7**
EQUE	**Quentar**	**0.84**	**310**	Pg	**Pg**	**04 17 50.4**	**+0.3**
EQUE				Sg	**Sg**	**04 18 00.1**	**-1.0**
EQUE				*i* Vmb_Lg		04 18 04.9	
EQTA	**Presa de Quent**	**0.84**	**310**	Pg	**Pg**	**04 17 50.3**	**+0.2**
EQTA				Sg	**Sb**	**04 18 02.0**	**-0.2**
EXCAB	**Granada**	**0.92**	**304**	Pg	**Pb**	**04 17 52.3**	**+0.3**
EXCAB				Sg	**Sg**	**04 18 03.9**	**+0.2**
ANER	**Nerja**	**0.98**	**276**	Pg	**Pg**	**04 17 52.6**	**-0.1**
ANER				Sg	**Sg**	**04 18 04.3**	**-1.1**
ANER				*i* Vmb_Lg		04 18 08.5	
EQES	**Quesada**	**1.19**	**343**	Pg	**Pg**	**04 17 57.2**	**+0.6**
EQES				Sg	**Sb**	**04 18 11.4**	**-0.7**
EQES				*i* Vmb_Lg		04 18 20.7	
ELOR	**Lorca, Murcia**	**1.20**	**36**	Pg	**Pg**	**04 17 57.3**	**+0.4**
ELOR				Sg	**Sb**	**04 18 12.3**	**-0.1**
ELOR				*i* Vmb_Lg		04 18 18.6	
TLOR	**Lorca, Murcia**	**1.24**	**37**	Pg	**Pg**	**04 17 58.2**	**+0.5**
TLOR				Sg	**Sn**	**04 18 15.4**	**+1.2**
TLOR	**Lorca, Murcia**	**1.24**	**37**	Pg	**Pg**	**04 17 57.7**	**0.0**
TLOR				Sg	**Sn**	**04 18 14.5**	**+0.3**
EGOR	**Sierra Gorda,**	**1.27**	**291**	Pg	**Pn**	**04 17 57.6**	**-0.2**
EGOR	**Sierra Gorda,**	**1.27**	**291**	Pg	**Pn**	**04 17 57.7**	**-0.1**
EGOR				Sg	**Sb**	**04 18 13.8**	**-0.5**
EGOR				*i* Vmb_Lg		04 18 23.8	
E0803	**Jimena (Jaen)**	**1.35**	**330**	Pg	**Pg**	**04 18 01.1**	**+1.4**
E0803				Sg	**Sg**	**04 18 18.7**	**+1.5**
WMELI	**Melilla**	**1.37**	**191**	Pn	**Pn**	**04 17 59.6**	**+0.6**
EMLI	**Melilla**	**1.39**	**191**	Pn	**Pn**	**04 17 58.9**	**-0.4**
EMEL	**Melilla**	**1.39**	**191**	Pn	**Pn**	**04 17 59.1**	**-0.2**
EMEL				Pg	**Pg**	**04 18 00.8**	**+0.3**
EMEL				Sg	**Sn**	**04 18 17.9**	**+0.2**
EMEL				*i* Vmb_Lg		04 18 21.8	
EXMAZ	**Mazarron**	**1.41**	**48**	Pn	**Pn**	**04 17 59.5**	**-0.1**
EXMAZ				Pg	**Pb**	**04 18 00.4**	**+0.2**
EXMAZ				Sg	**Sn**	**04 18 17.8**	**-0.5**
EZAR	**Zarzadilla de**	**1.42**	**31**	Pg	**Pb**	**04 18 00.6**	**+0.1**
EZAR				Sg	**Sb**	**04 18 19.0**	**+0.3**
EZAR				*i* Vmb_Lg		04 18 25.2	
GOG	**Mont Gurugu**	**1.47**	**192**	P	**Pn**	**04 18 00.1**	**-0.4**
GOG	**Mont Gurugu**	**1.47**	**192**	S	**Sn**	**04 18 19.5**	**-0.4**
E0802	**Ubeda,Jaen**	**1.48**	**337**	Pn	**Pn**	**04 18 01.2**	**+0.5**
E0802				Pg	**Pg**	**04 18 02.9**	**+0.6**
E0802				Sn	**Sb**	**04 18 20.6**	**+0.2**
E0802				Sg	**Sg**	**04 18 23.7**	**+2.2**
EXAHM	**Alhama Murcia,**	**1.51**	**39**	Pn	**Pb**	**04 18 02.4**	**+0.4**
EXAHM				Sn	**Sb**	**04 18 21.0**	**-0.3**
EXBUL	**Bullas, Murcia**	**1.58**	**29**	Pn	**Pb**	**04 18 03.0**	**-0.2**
EXBUL				Sn	**Sb**	**04 18 23.0**	**-0.3**
CART	**Cartagena**	**1.59**	**54**	Pn	**Pn**	**04 18 01.2**	**-0.9**
CART				Sn	**Sn**	**04 18 21.6**	**-1.2**
CART	**Cartagena**	**1.59**	**54**	P	**Pn**	**04 18 01.3**	**-0.9**
CART	**Cartagena**	**1.59**	**54**	S	**Sn**	**04 18 22.4**	**-0.4**
EMUR	**La Murta**	**1.61**	**43**	Pn	**Pn**	**04 18 02.4**	**-0.1**
EMUR				Sn	**Sn**	**04 18 22.4**	**-1.1**
EMUR	**La Murta**	**1.61**	**43**	Pn	**Pn**	**04 18 02.8**	**+0.3**
EMUR				Sn	**Sb**	**04 18 23.9**	**-0.4**
EMUR				*i* Vmb_Lg		04 18 30.3	
PALE	**Palemas**	**1.79**	**217**	P	**Pn**	**04 18 05.0**	**+0.1**
PALE	**Palemas**	**1.79**	**217**	S	**Sn**	**04 18 26.9**	**-0.9**
TAF	**Taforalt**	**1.86**	**174**	P	**Pn**	**04 18 06.4**	**+0.6**
TAF	**Taforalt**	**1.86**	**174**	S	**Sn**	**04 18 29.1**	**-0.4**
JAND	**Jandula**	**1.88**	**326**	Pn	**Pn**	**04 18 06.4**	**+0.2**
JAND				Pg	**Pb**	**04 18 08.0**	**-0.3**
JAND				Sn	**Sn**	**04 18 29.4**	**-0.6**
JAND				Sg	**Sb**	**04 18 33.1**	**+1.2**
JAND				*i* Vmb_Lg		04 18 36.4	
ESTP	**Estepa**	**1.89**	**289**	Pn	**Pn**	**04 18 06.5**	**+0.2**
ESTP				Pg	**Pb**	**04 18 09.4**	**+0.9**
ESTP				Sn	**Sn**	**04 18 30.0**	**-0.3**
ESTP				Sg	**Sg**	**04 18 35.4**	**+0.8**
ESTP				*i* Vmb_Lg		04 18 45.6	
ETRV	**Los Montesinos**	**2.01**	**47**	Pn	**Pn**	**04 18 09.0**	**+1.1**
ETRV				Sn	**Sn**	**04 18 33.0**	**-0.1**
ETRV				*i* Vmb_Lg		04 19 14.3	
EADA	**Adamuz**	**2.15**	**315**	Pg	**Pg**	**04 18 14.7**	**-0.4**
EADA				Sg	**Sg**	**04 18 41.9**	**-1.2**
EADA	**Adamuz**	**2.15**	**315**	Pn	**Pn**	**04 18 10.2**	**+0.3**
EADA				Pg	**Pb**	**04 18 13.3**	**+0.3**
EADA				Sn	**Sn**	**04 18 37.5**	**+0.7**
EADA				Sg	**Sg**	**04 18 42.7**	**-0.4**
EADA				*i* Vmb_Lg		04 18 49.2	
EJIF	**Jimena Fronter**	**2.29**	**265**	Pn	**Pn**	**04 18 11.8**	**0.0**
EJIF				Pg	**Pb**	**04 18 15.1**	**-0.3**
EJIF				Sn	**Sn**	**04 18 37.5**	**-2.6**
EJIF				Sg	**Sb**	**04 18 45.0**	**+1.2**
JBK	**JBK**	**2.33**	**179**	P	**Pn**	**04 18 13.1**	**+0.6**
JBK	**JBK**	**2.33**	**179**	S	**Sn**	**04 18 42.1**	**+0.8**
PSIM	**Granatula de C**	**2.33**	**338**	Pn	**Pn**	**04 18 12.3**	**0.0**
PSIM				Pg	**Pb**	**04 18 15.8**	**-0.1**
PSIM				Sn	**Sn**	**04 18 41.9**	**+0.8**
PSIM				Sg	**Sb**	**04 18 46.2**	**+1.3**
AKLM	**AKL**	**2.38**	**205**	P	**Pn**	**04 18 12.6**	**-0.3**
AKLM	**AKL**	**2.38**	**205**	S	**Sn**	**04 18 41.1**	**-1.1**
SMIR	**Smir Dam**	**2.43**	**247**	P	**Pn**	**04 18 13.9**	**+0.3**
SMIR	**Smir Dam**	**2.43**	**247**	S	**Sn**	**04 18 43.8**	**+0.3**
AFON	**Font Roja**	**2.59**	**39**	Pn	**Pn**	**04 18 16.7**	**+0.7**
AFON				Sn	**Sn**	**04 18 48.3**	**+0.6**
AFON				*i* Vmb_Lg		04 18 57.9	
ESPR	**Espera**	**2.60**	**275**	Pg	**Pb**	**04 18 20.0**	**-0.6**
ESPR	**Espera**	**2.60**	**275**	Pn	**Pn**	**04 18 16.1**	**+0.2**
ESPR				Pg	**Pb**	**04 18 20.8**	**+0.3**
ESPR				Sn	**Sn**	**04 18 47.1**	**-0.5**
ESPR				Sg	**Sb**	**04 18 55.2**	**+2.6**
ESPR				*i* Vmb_Lg		04 19 14.6	
ECAB	**El Cabril**	**2.63**	**303**	Pn	**Pn**	**04 18 17.7**	**+1.3**
ECAB				Sg	**Sb**	**04 18 56.1**	**+2.6**
ECAB	**El Cabril**	**2.63**	**303**	Pn	**Pn**	**04 18 16.3**	**-0.1**
ECAB				Pg	**Pb**	**04 18 18.8**	**-2.3**
ECAB				Sn	**Sn**	**04 18 48.9**	**+0.5**
ECAB				Sg	**Sb**	**04 18 55.4**	**+1.9**
ECAB				*i* Vmb_Lg		04 19 02.0	
CHEFC	**Chefchaouen**	**2.69**	**236**	P	**Pn**	**04 18 17.7**	**+0.3**
CHEFC	**Chefchaouen**	**2.69**	**236**	S	**Sn**	**04 18 49.7**	**-0.4**
EBEN2	**Beniarda presa**	**2.79**	**43**	Pn	**Pn**	**04 18 20.1**	**+1.5**
EBEN2				Pg	**Pb**	**04 18 24.8**	**+1.1**
EBEN2				Sn	**Sn**	**04 18 52.2**	**-0.1**
EVIV	**Cofrentes, Val**	**2.86**	**24**	Pn	**Pn**	**04 18 20.8**	**+1.2**
EVIV				Pg	**Pg**	**04 18 28.6**	**0.0**
EVIV				Sn	**Sn**	**04 18 55.0**	**+0.9**
EVIV				Sg	**Sg**	**04 19 03.9**	**-1.7**
EVIV				*i* Vmb_Lg		04 19 13.9	
PAB	**San Pablo**	**3.18**	**335**	Pn	**Pn**	**04 18 24.1**	**+0.1**
PAB				Pg	**Pb**	**04 18 30.9**	**+0.4**
PAB				Sn	**Sn**	**04 19 02.0**	**-0.1**
PAB				Sg	**Sg**	**04 19 13.6**	**-2.3**
PAB				*i* Vmb_Lg		04 19 22.4	
ESDC	**Sonseca Array**	**3.18**	**341**	Pn	**Pn**	**04 18 24.2**	**+0.2**
ESDC				Pg	**Pb**	**04 18 30.7**	**+0.2**
ESDC				Sn	**Sn**	**04 19 02.0**	**-0.1**
ESDC				Sg	**Sg**	**04 19 13.0**	**-3.0**
ESDC				*i* Vmb_Lg		04 19 19.4	
ESBB	**Sonseca Array**	**3.18**	**341**	Pn	**Pn**	**04 18 24.3**	**+0.3**
ESBB				Pg	**Pb**	**04 18 30.8**	**+0.3**
ESBB				Sn	**Sn**	**04 19 02.2**	**+0.1**
ESBB				Sg	**Sg**	**04 19 13.0**	**-3.1**
EMIN	**Mina Concepcio**	**3.41**	**290**	Pn	**Pn**	**04 18 27.0**	**-0.1**
EMIN				Sn	**Sn**	**04 19 07.0**	**-0.6**
EMIN				Sg	**Sb**	**04 19 17.3**	**+1.4**
EMIN				*i* Vmb_Lg		04 19 37.7	
UCM	**Universidad Co**	**3.67**	**353**	Pg	**Pg**	**04 18 42.8**	**-1.3**
IFR	**Ifrane**	**3.75**	**214**	Pn	**Pn**	**04 18 32.7**	**+0.7**
IFR				Sn	**Sn**	**04 19 14.4**	**-1.9**
PBAR	**Barrancos**	**3.82**	**295**	Pn	**Pn**	**04 18 33.8**	**+1.0**
EIBI	**Ibiza**	**3.93**	**52**	Pn	**Pn**	**04 18 35.1**	**+0.8**
EIBI				Sn	**Sn**	**04 19 19.2**	**-1.3**
EIBI	**Ibiza**	**3.93**	**52**	Pn	**Pn**	**04 18 35.0**	**+0.8**
EIBI				Sn	**Sn**	**04 19 19.3**	**-1.2**
EGRO	**El Granado**	**3.98**	**284**	Pn	**Pn**	**04 18 35.9**	**+1.0**
EGRO	**El Granado**	**3.98**	**284**	Pn	**Pn**	**04 18 35.5**	**+0.7**
EGRO				Sn	**Sn**	**04 19 21.1**	**-0.4**
E0901	**Celadas (Terue**	**3.99**	**17**	Pn	**Pn**	**04 18 36.1**	**+0.9**
E0901				Pg	**Pb**	**04 18 47.0**	**+2.8**
E0901				Sn	**Sn**	**04 19 22.9**	**+0.8**
E0901				Sg	**Sg**	**04 19 40.2**	**-1.7**
E0901				*i* Vmb_Lg		04 19 53.4	
EBAD	**Badajoz**	**4.05**	**302**	Pn	**Pn**	**04 18 37.0**	**+1.1**
EBAD				Sn	**Sn**	**04 19 22.8**	**-0.7**
EBAD	**Badajoz**	**4.05**	**302**	Pn	**Pn**	**04 18 37.2**	**+1.2**
EBAD				Pg	**Pb**	**04 18 45.2**	**-0.1**
EBAD				Sn	**Sn**	**04 19 23.8**	**+0.3**
EBAD				Sg	**Sb**	**04 19 37.2**	**+2.8**
EBAD				*i* Vmb_Lg		04 19 45.3	
EMOS	**Mosqueruela**	**4.06**	**24**	Pn	**Pn**	**04 18 36.3**	**0.0**
EMOS				Pg	**Pg**	**04 18 49.2**	**-2.5**
EMOS				Sn	**Sn**	**04 19 23.8**	**-0.2**
EMOS				Sg	**Sb**	**04 19 39.1**	**+4.3**
PVAQ	**Vaqueiros**	**4.14**	**282**	Pn	**Pn**	**04 18 37.4**	**+0.3**
PVAQ				Sn	**Sn**	**04 19 22.8**	**-2.8**
PVAQ	**Vaqueiros**	**4.14**	**282**	P	**Pn**	**04 18 37.1**	**0.0**
PVAQ	**Vaqueiros**	**4.14**	**282**	S	**Sn**	**04 19 24.7**	**-0.9**
GUD	**Guadarrama**	**4.15**	**344**	Sn	**Sn**	**04 19 26.4**	**+0.4**
GUD				Sg	**Sg**	**04 19 43.2**	**-3.7**
ETOR	**Torete**	**4.17**	**6**	Pn	**Pn**	**04 18 39.7**	**+2.0**
ETOR				Pg	**Pb**	**04 18 49.9**	**+2.5**
ETOR				Sn	**Sn**	**04 19 27.6**	**+1.0**
ETOR				Sg	**Sb**	**04 19 42.2**	**+4.3**
ETOR				*i* Vmb_Lg		04 19 58.7	
MDT	**Midelt**	**4.17**	**204**	P	**Pn**	**04 18 38.0**	**+0.3**
MDT	**Midelt**	**4.17**	**204**	S	**Sn**	**04 19 26.6**	**-0.1**
MD31	**MD31**	**4.18**	**205**	P	**Pn**	**04 18 38.1**	**+0.4**
MD31	**MD31**	**4.18**	**205**	S	**Sn**	**04 19 26.3**	**-0.4**
EPLA	**Plasencia**	**4.34**	**322**	Pn	**Pn**	**04 18 40.6**	**+0.6**
EPLA				Sn	**Sn**	**04 19 30.7**	**0.0**
EPLA				Sg	**Sg**	**04 19 49.0**	**-4.3**
EPLA				*i* Vmb_Lg		04 20 02.8	
ZHG	**ZHG**	**4.60**	**227**	P	**Pn**	**04 18 45.6**	**+2.1**
ZHG	**ZHG**	**4.60**	**227**	S	**Sn**	**04 19 40.6**	**+3.5**
MESJ	**Messejana**	**4.61**	**286**	*e*P	**Pn**	**04 18 44.0**	**+0.4**
EVO	**Evora**	**4.66**	**295**	Sn	**Sn**	**04 19 36.1**	**-2.4**
EVO				Pn	**Pn**	**04 18 45.6**	**+1.3**
ERTA	**Horta de San J**	**4.87**	**27**	Pn	**Pn**	**04 18 47.6**	**+0.4**
ERTA				Sn	**Sn**	**04 19 43.1**	**-0.6**
ETOS	**Mallorca**	**5.29**	**53**	Pn	**Pn**	**04 18 54.5**	**+1.5**
ETOS				Sn	**Sn**	**04 19 51.3**	**-2.8**
ETOS	**Mallorca**	**5.29**	**53**	Pn	**Pn**	**04 18 54.0**	**+1.0**
ETOS				Sn	**Sn**	**04 19 52.2**	**-1.8**
EALK	**Alkurruntz**	**6.60**	**7**	Pn	**Pn**	**04 19 12.9**	**+1.9**
EALK				Sn	**Sn**	**04 20 25.2**	**-1.3**
EALK				Sg	**Sg**	**04 20 58.7**	**-7.0**
ELOB	**Lobios**	**6.69**	**323**	Pn	**Pn**	**04 19 13.7**	**+1.4**
ELOB				Sn	**Sn**	**04 20 28.6**	**0.0**
ELOB				Sg	**Sg**	**04 21 04.0**	**-4.4**
TIO	**Tiouine**	**6.90**	**215**	Pn	**Pn**	**04 19 17.3**	**+2.0**

*NEIC **24** 04:22:44.5±0.5,5°.93S±0°.07×153°.56E±0°.09,h10km±1km,*
mb4.4/9,Error ellipse: s-maj=14.6km s-min=11.4km
az=69.0
*IDC **24** 04:22:50.5±2.7,5°.89S×153°.49E,h67km±26km,mb3.6/13,*
mbtmp3.9/15,MS3.3/5,Error ellipse: s-maj=19.4km
s-min=15.4km az=166.0
ISC 24 04:22:47.1±0.6,5°.82S±0°.07×153°.51E±0°.07,h32km,n30,
σ1§38/31,mb3.9/17,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.10**	**320**		**Pn**	**04 23 21.3**	**+1.3**
PMG	**Port Moresby**	**7.23**	**240**	Pn	**Pn**	**04 24 29.9**	**-0.7**
PMG	**Port Moresby**	**7.23**	**240**	P	**Pn**	**04 24 32.7**	**+2.1**
	14nm,0.6s,baz=73,slow=8.7,SNR=3.6						
PMG				S	**Sn**	**04 25 54.7**	**+3.0**
	8.8nm,0.3s,baz=132,slow=16,SNR=3.0						
PMG				LR	LR	04 27 38.6	
	comp=Z,164nm,19.1s,baz=360,slow=40						
HNR	**Honiara**	**7.33**	**120**	Pn	**Pn**	**04 24 29.8**	**-2.1**
HNR	**Honiara**	**7.33**	**120**	P	**Pn**	**04 24 34.6**	**+2.7**
	49nm,0.3s,baz=255,slow=7.0,SNR=3.9						
HNR				S	**Sn**	**04 25 56.8**	**+2.8**
	234nm,0.9s,baz=135,slow=22,SNR=10						
HNR				LR	LR	04 27 12.3	
	comp=Z,246nm,19.1s,baz=292,slow=36						
JAY	**Jayapura**	**13.18**	**284**	LR	LR	04 31 35.5	
	comp=Z,183nm,19.8s,baz=311,slow=40						
DZM	**Mont Dzumac**	**20.44**	**144**	P	**P**	**04 27 21.7**	**-0.3**
DZM				IAmb	IAmb	04 27 29.0	
	comp=Z,42nm,1.5s						
WB0	**Warramunga Arr**	**23.19**	**232**	P	**P**	**04 27 51.3**	**-0.1**
WR8	**Warramunga Arr**	**23.21**	**231**	P	**P**	**04 27 51.0**	**-0.6**
WR8				IAmb	IAmb	04 27 59.2	
	comp=Z,4.0nm,0.9s						
WRA	**Warramunga Arr**	**23.33**	**231**	P	**P**	**04 27 51.9**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=55,slow=10,SNR=14						
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**25.90**	**225**	P	**P**	**04 28 16.2**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=57,slow=8.7,SNR=19						
ASAR				LR	LR	04 38 10.0	
	comp=Z,40nm,20.7s,baz=14,slow=36						
	comp=Z,2.5nm,0.9s						
STKA	**Stephens Creek**	**28.22**	**202**	P	**P**	**04 28 36.4**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=10,slow=9.5,SNR=3.3						
STKA				LR	LR	04 40 43.1	
	comp=Z,118nm,18.2s,baz=21,slow=38						
	comp=Z,1.0nm,0.7s						
CAN	**Canberra**	**29.66**	**187**	P	**P**	**04 28 48.7**	**-1.2**
CAN				IAmb	IAmb	04 28 50.0	
	comp=Z,12nm,1.4s						
FITZ	**Fitzroy Crossi**	**29.81**	**243**	P	**P**	**04 28 51.0**	**-0.4**
FORT	**Forrest**	**34.47**	**221**	P	**P**	**04 29 31.4**	**-0.7**
KSRS	**Korea Array**	**49.22**	**333**	P	**P**	**04 31 33.1**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=134,slow=6.9,SNR=1.3						
	comp=Z,0.6nm,0.6s						
KLR	**Kul'dur**	**58.01**	**343**	P	**P**	**04 32 37.0**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=144,slow=4.3,SNR=5.0						
	comp=Z,0.7nm,0.6s						
SONM	**Songino Array**	**67.55**	**328**	P	**P**	**04 33 39.6**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=123,slow=5.3,SNR=3.6						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**81.55**	**319**	P	**P**	**04 35 02.2**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=102,slow=5.7,SNR=6.4						
	comp=Z,0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**82.38**	**326**	P	**P**	**04 35 05.7**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=75,slow=6.3,SNR=4.2						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**82.83**	**22**	P	**P**	**04 35 07.8**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=248,slow=5.1,SNR=11						
	comp=Z,0.5nm,0.7s						
J25K	**Salcha River,**	**83.32**	**22**	P	**P**	**04 35 12.4**	**+1.8**
J25K				IAmb	IAmb	04 35 15.2	
	comp=Z,1.2nm,0.7s						
KDJ	**Kajisay**	**83.82**	**313**	P	**P**	**04 35 15.1**	**+1.3**
KDJ				IAmb	IAmb	04 35 16.7	
	comp=Z,3.5nm,0.8s						
QSPA	**South Pole Qui**	**84.15**	**180**	P	**P**	**04 35 14.1**	**-0.9**
QSPA	**South Pole Qui**	**84.15**	**180**	P	**P**	**04 35 14.0**	**-0.9**
	comp=Z,3.9nm,1.1s,baz=357,slow=1.1,SNR=10						
	comp=Z,3.9nm,1.1s						
BOOM	**Boomskoye usch**	**84.80**	**314**	P	**P**	**04 35 19.4**	**+0.6**
KURBB	**Kurchatov Arra**	**85.03**	**322**	P	**P**	**04 35 18.3**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=120,slow=3.0,SNR=4.7						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**90.47**	**323**	P	**P**	**04 35 43.7**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=90,slow=5.8,SNR=5.1						
	comp=Z,1.2nm,0.7s						
NVAR	**Mina Array Bea**	**92.16**	**52**	P	**P**	**04 35 53.3**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=297,slow=7.1,SNR=2.3						
	comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.28**	**287**	PKPbc	**PKPbc**	**04 42 37.8**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=81,slow=2.7,SNR=3.8						

*KRSC **24** 04:28:56.7±1.2,53°.56N×162°.03E,h26km±21km,Ml4.3*
*IDC **24** 04:28:56.7±0.8,53°.86N×161°.52E,h0km,mb3.8/19,*
mbtmp3.8/22,ML3.4/3,MS2.7/1,Error ellipse:
s-maj=20.8km s-min=14.3km az=149.0
*MOS **24** 04:28:58.2±0.9,53°.61N×161°.90E,h23km,mb3.9/1,Error*
ellipse: s-maj=7.9km s-min=5.6km az=79.9
**ISC 24 04:28:56.5±1.7,53°.62N±0°.

KMNR *e*S **Sb** **04 30 07.8 -0.4**
RUS Russkaya 2.33 241 PN **Pn** **04 29 36.1 +0.6**
RUS Russkaya 2.33 241 *e*P **Pn** **04 29 36.1 +0.6**
KRMR Karymshinskiy 2.37 252 PN **Pn** **04 29 38.2 +2.3**
KRMR S **Sn** **04 30 07.5 +2.2**
KRMR Karymshinskiy 2.37 252 *e*P **Pn** **04 29 38.2 +2.3**
KRMR *e*S **Sn** **04 30 07.6 +2.2**
BZGR Bezymyannyi-Gr 2.42 345 *e*P **Pn** **04 29 38.2 +1.5**
BZGR *e*S **Sn** **04 30 08.3 +1.5**
ZLN Zelenaya 2.48 346 PN **Pb** **04 29 39.8 -1.6**
ZLN Zelenaya 2.48 346 *e*P **Pb** **04 29 39.9 -1.6**
MTVR Mutnovka 2.48 244 PN **Pn** **04 29 38.7 +1.0**
MTVR Mutnovka 2.48 244 *e*P **Pn** **04 29 38.8 +1.0**
KIRR Kirishev 2.49 340 PN **Pn** **04 29 39.9 +2.1**
KIRR S **Sn** **04 30 10.0 +1.3**
KIRR Kirishev 2.49 340 *e*P **Pn** **04 29 39.9 +2.1**
KIRR *e*S **Sn** **04 30 10.0 +1.3**
GRL Gorelyy 2.51 246 PN **Pb** **04 29 40.8 -1.2**
GRL Gorelyy 2.51 246 *e*P **Pb** **04 29 40.9 -1.2**
KPT Kopyto 2.53 339 PN **Pn** **04 29 40.4 +2.1**
KPT Kopyto 2.53 339 *e*P **Pn** **04 29 40.5 +2.1**
PEA0B Petropavlovsk- 2.53 260 Pn **Pn** **04 29 39.6 +1.3**
PEA0B S **Sb** **04 30 13.1 -0.8**
PETK Petropavlovsk- 2.53 260 Pn **Pn** **04 29 39.0 +0.7**
comp=N,6.1nm,0.3s,baz=328,slow=4.3,SNR=80
PETK Sn **Sn** **04 30 08.7 -0.8**
comp=N,12nm,0.3s,baz=90,slow=20,SNR=8.2
comp=N,20nm,0.4s
KBTR Krutoberegovo 2.65 12 PN **Pn** **04 29 41.5 +1.6**
KBTR Krutoberegovo 2.65 12 *e*P **Pn** **04 29 41.6 +1.6**
KOZ Kozyrevsk 2.69 336 PN **Pn** **04 29 42.1 +1.6**
KOZ Kozyrevsk 2.69 336 *e*P **Pn** **04 29 42.1 +1.6**
KRSR Krestovskiy 2.70 345 PN **Pn** **04 29 43.1 +2.4**
KRSR Krestovskiy 2.70 345 *e*P **Pn** **04 29 43.1 +2.4**
KLY Klyuchi 2.78 346 PN **Pn** **04 29 42.8 +1.1**
KLY S **Sn** **04 30 16.3 +0.7**
KLY Klyuchi 2.78 346 *e*P **Pn** **04 29 42.8 +1.1**
KLY *e*S **Sn** **04 30 16.4 +0.7**
BKI Bering 2.89 55 PN **Pn** **04 29 44.4 +1.3**
BKI S **Sn** **04 30 15.6 -2.6**
BKI Bering 2.89 55 *e*P **Pn** **04 29 44.5 +1.3**
BKI *e*S **Sn** **04 30 15.7 -2.6**
APC Apacha 2.90 258 PN **Pb** **04 29 46.7 -1.8**
APC Apacha 2.90 258 *e*P **Pb** **04 29 46.8 -1.8**
KDTR Khodutka, Kamc 2.92 233 PN **Pn** **04 29 45.9 +2.4**
KDTR S **Sn** **04 30 19.9 +1.0**
KDTR Khodutka, Kamc 2.92 233 *e*P **Pn** **04 29 46.0 +2.4**
KDTR *e*S **Sn** **04 30 20.0 +1.0**
ESO Esso 2.94 323 PN **Pn** **04 29 44.9 +1.1**
ESO Esso 2.94 323 *e*P **Pn** **04 29 44.9 +1.1**
SMKR Semkarok 2.98 356 PN **Pn** **04 29 46.9 +2.5**
SMKR Semkarok 2.98 356 *e*P **Pn** **04 29 47.0 +2.5**
SHEM Shemya Is, Ala 7.42 92 Pn Pn 04 30 48.8 +3.4
comp=N,2.1nm,0.3s,baz=309,slow=5.0,SNR=3.5
SHEM Sn **Sn** **04 32 10.6 +0.7**
comp=N,0.6nm,0.3s,baz=251,slow=23,SNR=1.3
comp=N,24nm,0.7s
MA2 Magadan 8.53 319 LR LR 04 34 47.4
comp=N,47nm,19.4s,baz=110,slow=43
KLR Kul'dur 19.19 269 P **P** **04 33 20.4 -0.5**
comp=N,0.2nm,0.3s,baz=360,slow=2.6,SNR=1.8
comp=N,0.6nm,0.3s
MJAR Matsushiro Arr 23.70 233 P **P** **04 34 10.3 +1.2**
comp=N,1.3nm,0.3s,baz=27,slow=11,SNR=5.9
comp=N,1.3nm,0.3s
ILAR Eielson Array 27.70 46 P **P** **04 34 45.3 +0.1**
comp=N,0.2nm,0.8s,baz=273,slow=9.5,SNR=2.3
comp=N,0.2nm,0.8s
KSRS Korea Array 28.38 249 P **P** **04 34 52.4 +0.9**
comp=N,0.6nm,0.4s,baz=36,slow=9.7,SNR=2.3
comp=N,0.6nm,0.4s
H11N2 WAKE ISLAND Hy 34.05 171 T T 05 13 09.1
baz=355,slow=76,SNR=17
H11N3 WAKE ISLAND Hy 34.07 171 T T 05 13 16.1
baz=355,slow=76,SNR=17
H11N1 WAKE ISLAND Hy 34.07 171 T T 05 13 16.4
baz=355,slow=76,SNR=18
SPITS Spitsbergen Ar 46.78 351 P **P** **04 37 25.3 -0.9**
comp=N,4.4nm,0.9s,baz=55,slow=7.2,SNR=13
comp=N,4.4nm,0.9s
KURK Kurchatov 48.34 302 P **P** **04 37 36.3 -2.3**
KURBB Kurchatov Arra 48.44 302 P **P** **04 37 36.3 -3.1**
comp=N,0.3nm,0.4s,baz=57,slow=7.9,SNR=3.8
comp=N,0.3nm,0.4s
MKAR Makanchi Array 48.87 296 P **P** **04 37 40.0 -2.8**
comp=N,0.3nm,0.4s,baz=61,slow=7.5,SNR=3.2
comp=N,0.3nm,0.4s
MKAR Makanchi Array 48.87 296 P **P** **04 37 40.0 -2.8**
BVAR Borovoye Array 50.88 309 P **P** **04 37 55.1 -2.9**
comp=N,0.7nm,0.6s,baz=78,slow=10,SNR=2.6
comp=N,0.7nm,0.6s
ARCES ARCESS Array B 53.11 342 P **P** **04 38 13.1 -1.2**
comp=N,3.0nm,0.9s,baz=353,slow=5.4,SNR=2.3
comp=N,3.0nm,0.9s
NVAR Mina Array Bea 54.58 72 P **P** **04 38 27.3 +1.5**
comp=N,0.2nm,0.6s,baz=305,slow=5.7,SNR=2.4
comp=N,0.2nm,0.6s
CMAR Chiang Mai Arr 59.31 259 P **P** **04 38 58.8 -0.5**
comp=N,1.2nm,0.5s,baz=42,slow=6.9,SNR=7.1
comp=N,1.2nm,0.5s
FINES FINESS Array B 60.05 337 P **P** **04 39 03.1 -0.6**
comp=N,1.2nm,0.6s,baz=35,slow=7.8,SNR=7.3
comp=N,1.2nm,0.6s
NB2 NORSAR Subarra 63.32 345 P **P** **04 39 25.5 -0.4**
comp=Z,0.7nm,0.6s,baz=20,slow=6.9
NOA NORSAR Array B 63.32 345 P **P** **04 39 25.3 -0.6**
comp=Z,0.9nm,0.6s,baz=21,slow=6.7,SNR=5.4
comp=Z,0.9nm,0.6s
HFS Hagfors 63.76 343 P **P** **04 39 28.1 -0.7**
comp=Z,0.7nm,0.5s,baz=90,slow=4.4,SNR=6.7
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 68.69 330 P **P** **04 39 59.8 -0.7**
comp=Z,0.2nm,0.3s,baz=30,slow=5.6,SNR=1.4
comp=Z,0.2nm,0.3s
TXAR Lajitas Array 69.47 68 P **P** **04 40 07.7 +1.9**
comp=Z,0.4nm,0.6s,baz=327,slow=6.6,SNR=4.9
comp=Z,0.4nm,0.6s
GERES GERESS Array B 74.41 339 P **P** **04 40 35.5 +0.3**
comp=Z,0.3nm,0.4s,baz=20,slow=6.3,SNR=2.9
comp=Z,0.3nm,0.4s
BRTR Keskin Array B 76.87 322 P **P** **04 40 49.5 0.0**
comp=Z,0.3nm,0.6s,baz=25,slow=4.8,SNR=2.4
comp=Z,0.3nm,0.6s
WRA Warramunga Arr 77.01 206 P **P** **04 40 51.4 +1.2**
comp=Z,0.4nm,0.7s,baz=23,slow=5.9,SNR=1.3
comp=Z,0.4nm,0.7s
ASAR Alice Springs 80.68 206 P **P** **04 41 11.9 +1.7**
comp=Z,0.3nm,0.5s,baz=16,slow=5.0,SNR=1.6
comp=Z,0.3nm,0.5s

GCG 24 04:31:39.3±0.9, 15°.97N×94°.76W, h35km±999km, MD4.0, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.32**	**261**	⇑*i*P		Pn	04 32 01.2	0.0
HUIG				*e*S		Sn	04 32 16.7	-0.8
TGIG		**1.76**	**63**	*e*P		Pn	04 32 07.9	+0.5
TGIG				*e*S		Sn	04 32 29.1	+0.5
CCIG	**Comitan**	**2.54**	**83**	*e*P		Pn	04 32 19.2	+1.1
CCIG				*e*S		Sn	04 32 47.3	-0.6

TEH ***24*** *04:39:13.9, 30°.88N×51°.42E, h5km*
IDC ***24*** *04:39:13.4±1.0, 30°.81N×51°.41E, h0km, mb3.9/21, mbtmp3.9/27, ML3.7/6, Error ellipse: s-maj=21.7km s-min=13.9km az=169.0*
THR ***24*** *04:39:15.3±0.0, 30°.94N×51°.43E, h5km±2km, mb4.0*
DSN ***24*** *04:39:24.4±1.7, 29°.97N×51°.53E, h15km, ML3.5/6, Error ellipse: s-maj=23.9km s-min=9.6km az=12.0*

ISC 24 04:39:14.5±0.4, 30°.83N±0°.03×51°.42E±0°.03, h10km, n103, σ2°.21/100, mb4.2/30, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KLNJ	**Kolanjah**	**0.23**	**41**	Pg		**Pg**	**04 39 17.6**	**-1.8**
KLNJ	**Kolanjah**	**0.23**	**41**	*e*Pg		**Pg**	**04 39 18.0**	**-1.4**
KLNJ				IAML			04 39 22.2	
comp=Z,48μm,1.0s								
IBRJ	**Brojen**	**1.08**	**353**	Pg		**Pn**	**04 39 34.6**	**-1.3**
KAZ2	**Kazeron-Fars-I**	**1.23**	**170**	Pg		**Pb**	**04 39 38.3**	**+0.4**
ZNGN	**Zangian**	**1.37**	**340**	Pg		**Pg**	**04 39 41.1**	**+0.3**
SHI	**Shiraz**	**1.52**	**141**	Pg		**Pb**	**04 39 43.3**	**+0.4**
JHBN	**Jahan bin**	**1.53**	**335**	Pg		**Pg**	**04 39 43.0**	**-0.9**
AHBU	**AHRAM**	**1.97**	**183**	Pn		**Pg**	**04 39 51.7**	**-0.5**
IZEF	**Zefreh**	**2.20**	**20**	Pn		**Pb**	**04 39 53.7**	**-0.8**
ISAD	**Sadrabad**	**2.22**	**60**	Pn		**Pb**	**04 39 54.4**	**-0.4**
NASN	**Na'in**	**2.29**	**31**	*e*PnA			04 39 55.3	
NASN				IAML			04 39 57.6	
comp=Z,370nm,1.0s								
IKLH	**Kolahrood**	**2.48**	**3**	Pn		**Pb**	**04 39 59.2**	**-0.2**
GTMR	**Gotvand**	**2.56**	**310**	*e*Pn		**Pb**	**04 39 58.2**	**-2.2**
GTMR				IAML			04 41 04.6	
comp=Z,820nm,1.0s								
IMEH	**Mehriz**	**2.80**	**78**	Pn		**Pb**	**04 40 03.0**	**-1.6**
ANAR	**Anarak**	**3.06**	**39**	Pn		**Pb**	**04 40 06.4**	**-2.8**
YZKH	**Yazd**	**3.12**	**59**	*e*PnA			04 40 06.8	
YZKH				IAML			04 40 57.8	
comp=Z,180nm,1.0s								
KHMZ	**Khomeyn**	**3.15**	**337**	*e*PnA			04 40 07.5	
KHMZ				IAML			04 41 02.0	
comp=Z,270nm,1.0s								
ISFB	**Sefidab**	**3.58**	**11**	Pn		**Pn**	**04 40 12.6**	**+2.5**
IBAF	**Bafgh**	**3.63**	**77**	Pn		**Pn**	**04 40 13.9**	**+3.0**
BDRS	**Dareh Seyedi**	**3.78**	**326**	Pn		**Pn**	**04 40 16.1**	**+3.0**
ASAO	**Ashtian**	**3.88**	**343**	*e*Pn		Pb	04 40 17.8	-5.5
ASAO				IAML			04 41 36.7	
comp=Z,190nm,1.0s								
IQOM	**Qom**	**4.01**	**356**	Pn		**Pn**	**04 40 18.5**	**+2.3**
IKFM	**Kafar-mosalman**	**4.04**	**312**	Pn		**Pn**	**04 40 19.5**	**+3.1**
HSAM	**Samen**	**4.12**	**326**	Pn		**Pn**	**04 40 20.6**	**+2.9**
IVRN	**Varamin**	**4.16**	**4**	Pn		**Pn**	**04 40 21.0**	**+2.9**
KHGB	**Koh Gabri**	**4.38**	**95**	Pn		**Pn**	**04 40 24.6**	**+3.2**
HAGD	**Aghdareh**	**4.42**	**335**	Pn		**Pn**	**04 40 25.4**	**+3.6**
KRBR	**Kerman**	**4.69**	**99**	Pn		**Pn**	**04 40 28.9**	**+3.3**
KRBR	**Kerman**	**4.69**	**99**	*e*Pn		**Pn**	**04 40 28.8**	**+3.2**
KRBR				IAML			04 42 13.0	
comp=Z,77nm,1.0s								
ILAS	**Lasjerd**	**4.72**	**16**	Pn		**Pn**	**04 40 28.8**	**+2.8**
IDMV	**Damavand**	**4.76**	**6**	Pn		**Pn**	**04 40 29.5**	**+3.0**
DAMV	**Damavand**	**4.81**	**5**	*e*Pn		**Pn**	**04 40 28.8**	**+1.6**
DAMV				IAML			04 40 48.6	
comp=Z,60nm,1.0s								
SNQR	**Sonqor, Kerman**	**5.12**	**323**	Pn		**Pn**	**04 40 34.8**	**+3.3**
IALA	**Alasht**	**5.36**	**12**	Pn		**Pn**	**04 40 38.3**	**+3.4**
CHMN	**Cheshme madani**	**5.38**	**99**	Pn		**Pn**	**04 40 38.9**	**+3.8**
SNGE	**Sanandaj**	**5.45**	**322**	*e*Pn		**Pn**	**04 40 38.2**	**+2.2**
SNGE				IAML			04 42 31.5	
comp=Z,56nm,1.0s								
TKDS	**Koohdasht(Taba**	**5.57**	**59**	Pn		**Pn**	**04 40 40.0**	**+2.4**
TABS	**Tabas**	**5.59**	**58**	*e*Pn		**Pn**	**04 40 40.5**	**+2.8**
TABS				IAML			04 41 15.3	
comp=Z,85nm,1.0s								
MZPU	**Pul - Mazandar**	**5.59**	**1**	Pn		Pn	04 40 41.7	+3.8
KLST	**Kelardasht - M**	**5.68**	**357**	Pn		**Pn**	**04 40 42.0**	**+2.8**
TAPT	**Tabas- Tapeh t**	**6.30**	**49**	Pn		**Pn**	**04 40 50.1**	**+2.6**
SHRO	**Shahrood**	**6.42**	**36**	*e*PnA			04 40 53.1	
SHRO				IAML			04 43 21.8	
comp=Z,24nm,1.0s								
BANOM	**Banah**	**6.51**	**137**	P		**Pn**	**04 40 50.8**	**+0.3**
IKOO	**Kooshah**	**6.66**	**74**	Pn		**Pn**	**04 40 55.7**	**+3.0**
BSRN	**Basiran**	**6.69**	**78**	*e*Pn		**Pn**	**04 40 56.8**	**+3.9**
BSRN				IAML			04 43 06.9	
comp=Z,17nm,1.0s								
MSFE	**Esma-Masafi**	**6.88**	**141**	P		**Pn**	**04 40 55.7**	**+0.3**
AFRZ	**Afriz**	**6.94**	**66**	Pn		**Pn**	**04 40 59.6**	**+3.2**
MDH	**Madha**	**7.00**	**141**	P		**Pn**	**04 40 56.2**	**-0.8**
UOSS	**Minazif**	**7.23**	**143**	P		**Pn**	**04 40 59.1**	**-1.3**
HATD	**Hatta, Dubai**	**7.29**	**144**	P		**Pn**	**04 41 01.1**	**-0.1**
ASHO	**Ashiyiah**	**7.38**	**145**	P		**Pn**	**04 40 59.8**	**-2.5**
ASHO				S		**Sn**	**04 42 18.1**	**-8.0**
MRVT	**Maraveh tapeh**	**7.83**	**28**	*e*Pn		**Pn**	**04 41 11.1**	**+2.6**
MRVT				IAML			04 41 24.5	
comp=Z,9.1nm,1.0s								
SHRT	**Shahrakht**	**8.02**	**67**	*e*Pn		**Pn**	**04 41 15.1**	**+3.9**
SHRT				IAML			04 43 41.1	
comp=Z,16nm,1.0s								
SOHO	**SOHO**	**8.07**	**145**	P		**Pn**	**04 41 12.3**	**+0.5**
RAYN	**Ar Rayn**	**8.98**	**217**	P		**Pn**	**04 41 25.7**	**+1.3**
WSAR	**Wadi Sarin**	**9.93**	**138**	Pn		**Pn**	**04 41 36.8**	**-0.5**
baz=2.8,slow=24,SNR=6.2								
WSAR				Sn		**Sn**	**04 43 22.5**	**-6.2**
baz=93,slow=24,SNR=2.2								
ASF	**Jabal al Asfar**	**12.46**	**280**	Pn		**Pn**	**04 42 12.2**	**+0.2**
comp=Z,0.9nm,0.3s,baz=128,slow=9.2,SNR=6.6								
ASF				Sn		**Sn**	**04 44 23.9**	**-7.1**
comp=Z,0.1nm,0.3s,baz=102,slow=18,SNR=1.5								
comp=Z,2.7nm,0.4s								
MMAI	**Mount Meron Ar**	**13.78**	**283**	Pn		**Pn**	**04 42 30.0**	**+0.1**
comp=Z,0.8nm,0.3s,baz=104,slow=12,SNR=1.9								
comp=Z,0.4nm,0.3s								
EIL	**Elat**	**14.28**	**270**	Pn		**Pn**	**04 42 36.9**	**+0.1**
comp=Z,0.1nm,0.3s,baz=28,slow=20,SNR=1.9								
EIL				Sn		**Sn**	**04 45 18.4**	**+3.1**
comp=Z,0.2nm,0.3s,baz=220,slow=12,SNR=1.1								
comp=Z,3.7nm,0.8s								
KBZ	**Khabaz**	**14.54**	**335**	Pn		**P**	**04 42 45.9**	**-0.9**
comp=Z,0.2nm,0.3s,baz=161,slow=6.0,SNR=4.1								
comp=Z,0.8nm,0.6s								
KVAR	**Kislovodsk Arr**	**14.81**	**335**	Pn		**P**	**04 42 48.9**	**-1.0**
baz=256,slow=22								
comp=Z,1.5nm,0.3s								
CSS	**Mathiatis**	**15.74**	**290**	P		**P**	**04 42 57.9**	**-2.4**
comp=Z,15nm,1.0s								
BRTR	**Keskin Array B**	**16.99**	**306**	Pn		**P**	**04 43 14.4**	**+0.2**
comp=Z,0.1nm,0.3s,baz=121,slow=14,SNR=9.5								
comp=Z,1.1nm,0.7s								
BR106	**Keskin Array S**	**17.01**	**306**	P		**P**	**04 43 12.8**	**-1.7**
comp=Z,2.4nm,0.8s								
AKTO	**Aktyubinsk**	**20.20**	**12**	P		Pn	04 43 50.0	-1.2
comp=Z,1.6nm,0.5s,baz=191,slow=9.3,SNR=4.7								
comp=Z,1.6nm,0.5s								
BELG	**Belogornoye**	**21.72**	**354**	P		**P**	**04 44 05.8**	**+0.1**
comp=Z,10.0nm,0.6s,baz=288,slow=1.0,SNR=5.5								
comp=Z,10.0nm,0.6s								
AAK	**Ala-Archa**	**21.85**	**51**	P		**P**	**04 44 08.6**	**+1.2**
comp=Z,0.6nm,0.3s,baz=217,slow=6.6,SNR=3.8								
comp=Z,0.6nm,0.3s								
AK09	**Malin Array Si**	**25.75**	**326**	P		**P**	**04 44 44.7**	**-0.4**
AK10	**Malin Array Si**	**25.75**	**326**	P		**P**	**04 44 45.3**	**+0.2**
AK08	**Malin Array Si**	**25.77**	**326**	P		**P**	**04 44 45.4**	**+0.1**
AK05	**Malin Array Si**	**25.79**	**326**	P		**P**	**04 44 45.3**	**-0.1**
AK02	**Malin Array Si**	**25.81**	**326**	P		**P**	**04 44 46.2**	**+0.5**
AK12	**Malin Array Si**	**25.83**	**326**	P		**P**	**04 44 46.0**	**+0.2**
AKASG	**Malin Array Be**	**25.83**	**327**	P		**P**	**04 44 46.5**	**+0.6**
comp=Z,2.8nm,0.3s,baz=136,slow=9.1,SNR=30								
comp=Z,2.8nm,0.3s								
AKBB	**Malin Array Si**	**25.83**	**327**	P		**P**	**04 44 45.5**	**-0.3**
KIEV	**Kiev**	**25.84**	**327**	P		**P**	**04 44 45.5**	**-0.4**
comp=Z,35nm,1.0s								
AK14	**Malin Array Si**	**25.84**	**326**	P		**P**	**04 44 46.1**	**+0.2**
BVAR	**Borovoye Array**	**26.13**	**26**	P		**P**	**04 44 50.2**	**+1.7**
comp=Z,3.5nm,0.7s,baz=224,slow=6.2,SNR=15								
comp=Z,3.5nm,0.7s								
MI30	**MI30,Zelenitsa**	**26.36**	**326**	P		**P**	**04 44 51.1**	**+0.5**
comp=Z,22nm,1.0s								
MI30				pP		sP	04 45 03.9	+8.1
comp=Z,22nm,1.0s								
KURBB	**Kurchatov Arra**	**28.25**	**38**	P		**P**	**04 45 09.0**	**+1.4**
comp=Z,0.6nm,0.5s,baz=238,slow=8.7,SNR=2.7								
comp=Z,0.6nm,0.5s								
MKAR	**Makanchi Array**	**28.62**	**47**	P		**P**	**04 45 11.8**	**+0.8**
comp=Z,0.6nm,0.7s,baz=240,slow=8.7,SNR=5.2								
comp=Z,0.6nm,0.7s								
ZALV	**Zalesovo Beam**	**33.30**	**36**	P		**P**	**04 45 53.1**	**+1.0**
comp=Z,0.9nm,0.4s,baz=260,slow=8.3,SNR=2.8								
comp=Z,0.9nm,0.4s								
KBA	**Koelnbreinsper**	**33.37**	**310**	*i* pP		**P**	**04 45 54.4**	**+1.4**
comp=Z,2.6nm,0.4s,SNR=7.5								
GERES	**GERESS Array B**	**33.66**	**313**	P		**P**	**04 45 55.6**	**+0.1**
comp=Z,0.3nm,0.4s,baz=98,slow=8.2,SNR=4.2								
comp=Z,0.3nm,0.4s								
ABTA	**Abfaltersbach**	**33.84**	**309**	*e*pP		**P**	**04 45 58.3**	**+1.3**
comp=Z,1.7nm,0.5s								
LESA	**Schwarzleotal**	**33.90**	**310**	*e*pP		**P**	**04 45 58.2**	**+0.6**
comp=Z,2.8nm,0.4s								
WTTA	**Wattenberg**	**34.55**	**310**	*i* pP		**P**	**04 46 03.8**	**+0.5**
comp=Z,4.1nm,0.3s,SNR=5.2								
SQTA	**Sankt Quirin**	**34.82**	**310**	*i* pP		**P**	**04 46 06.2**	**+0.6**
comp=Z,4.9nm,0.3s,SNR=11								
FINES	**FINESS Array B**	**34.83**	**339**	P		**P**	**04 46 05.0**	**-0.4**
comp=Z,1.4nm,0.7s,baz=157,slow=12,SNR=6.0								
comp=Z,1.4nm,0.7s								
MOTA	**Moosalm**	**34.92**	**310**	*i* pP		**P**	**04 46 06.5**	**+0.1**
comp=Z,3.9nm,0.2s								
FETA	**Feichten**	**35.09**	**309**	*e*pP		**P**	**04 46 08.7**	**+0.7**
comp=Z,2.7nm,0.4s,SNR=10								
DAVA	**Damuels**	**35.72**	**309**	*e*pP		**P**	**04 46 13.7**	**+0.4**
comp=Z,6.0nm,0.3s								
HFS	**Hagfors**	**38.55**	**331**	P		**P**	**04 46 37.3**	**+0.3**
comp=Z,2.5nm,0.7s,baz=122,slow=11,SNR=5.9								
comp=Z,2.5nm,0.7s								
NOA	**NORSAR Array B**	**40.07**	**331**	P		**P**	**04 46 48.9**	**-0.9**
comp=Z,0.3nm,0.6s,baz=125,slow=8.0,SNR=2.2								
comp=Z,0.3nm,0.6s								
ARCES	**ARCESS Array B**	**41.45**	**347**	P		**P**	**04 47 01.2**	**+0.2**
comp=Z,1.5nm,0.8s,baz=134,slow=10,SNR=5.7								
comp=Z,1.5nm,0.8s								
SONM	**Songino Array**	**44.81**	**52**	P		**P**	**04 47 29.1**	**+0.5**
comp=Z,0.4nm,0.5s,baz=270,slow=7.2,SNR=1.8								
comp=Z,0.4nm,0.5s								
EKA	**Eskdalemuir Ar**	**45.30**	**319**	P		**P**	**04 47 32.3**	**+0.1**
comp=Z,0.2nm,0.3s,baz=88,slow=8.3,SNR=1.4								
comp=Z,0.2nm,0.3s								
ESDC	**Sonseca Array**	**45.46**	**297**	P		**P**	**04 47 35.4**	**+1.6**
comp=Z,0.9nm,0.7s,baz=81,slow=8.2,SNR=4.0								
comp=Z,0.9nm,0.7s								
TORD	**Torodi Ar. Bea**	**48.93**	**260**	P		**P**	**04 48 02.4**	**+1.3**
comp=Z,1.5nm,0.5s,baz=50,slow=8.8,SNR=8.0								
comp=Z,1.5nm,0.5s								
SPITS	**Spitsbergen Ar**	**49.89**	**351**	P		**P**	**04 48 08.8**	**+1.2**
comp=Z,2.4nm,0.7s,baz=122,slow=6.4,SNR=9.4								
comp=Z,2.4nm,0.7s								
DBIC	**Dimbokro**	**57.77**	**258**	P		**P**	**04 49 06.3**	**+0.2**
comp=Z,4.4nm,0.7s,baz=52,slow=5.4,SNR=4.3								
comp=Z,4.4nm,0.7s								
KSRS	**Korea Array**	**62.06**	**61**	P		**P**	**04 49 34.8**	**-0.6**
comp=Z,0.6nm,0.4s,baz=283,slow=6.5,SNR=1.9								
comp=Z,0.6nm,0.4s								
YKA	**Yellowknife Ar**	**86.32**	**354**	P		**P**	**04 51 55.9**	**-0.5**
comp=Z,0.4nm,0.9s,baz=11,slow=4.4,SNR=7.5								
comp=Z,0.4nm,0.9s								

IDC ***24*** *04:41:20.3±0.6, 58°.31S×29°.82W, h0km, mb4.3/7, mbtmp4.2/8, ML3.2/1, MS3.8/23, Error ellipse: s-maj=30.3km s-min=18.8km az=67.0*
NEIC ***24*** *04:41:22.5±1.9, 58°.4S±0°.1×29°.9W±0°.2, h10km±1km, mb5.0/52, Error ellipse: s-maj=22.5km s-min=16.5km az=225.0*
GCMT ***24*** *04:41:25.5±0.4, 58°.70S±0°.04×29°.26W±0°.07, h23km±1km, MW4.9/77, Moment Tensor Solution. s18,c21; s77,c85; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.91±.20; Mθθ1.29±.14; Mφφ1.63±.14; Mrθ-0.94±.21; Mφθ-0.09±.09; Mφr-0.91±.21; Best double couple: M0=2.55500×10^16 NP1:φs183.00000°, δ33.00000°, λ-106.00000°. NP2: φs22.00000°, δ59.00000°, λ-80.00000°. Principal axes: T 1.8300, Plg13.0000°, Azm104.0000°; N 1.4610, Plg8.0000°, Azm196.0000°; P -3.2810, Plg74.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 04:41:21.8±0.3, 58°.40S±0°.08×29°.80W±0°.09, h10km, n375, σ0°.87/346, mb5.0/30, MS3.8/21, 2C-5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.56**	**315**	Pn		**Pn**	**04 42 47.1**	**+2.6**
VNA1	**Neumayer--Stat**	**15.25**	**152**	⇓P		**Pn**	**04 44 54.1**	**-2.7**
comp=Z,12nm,0.8s								
VNA3	**Neumayer Olymp**	**15.34**	**155**	⇓P		**P**	**04 45 01.2**	**-1.6**
comp=Z,3.6nm,0.6s								
VNA2	**Neumayer--Watz**	**15.65**	**152**	⇓P		**Pn**	**04 45 03.3**	**+1.2**
comp=Z,2.6nm,0.8s,baz=308,slow=14								
SNAA	**Sanae**	**17.26**	**151**	P		**P**	**04 45 23.7**	**-0.4**
comp=Z,0.1nm,0.3s,baz=298,slow=12,SNR=5.8								
SNAA				LR		LR	04 50 51.7	
comp=Z,300nm,19.0s,baz=306,slow=33								
comp=Z,2.0nm,0.8s								
PMSA	**Palmer Station**	**17.32**	**234**	LR		LR	04 50 58.5	
comp=Z,531nm,18.7s,baz=86,slow=33								
TROLL	**Troll, Antarti**	**18.86**	**149**	⇓P		**Pn**	**04 45 44.3**	**+2.0**
comp=Z,520nm,0.9s								
BELA	**Belgrano 2**	**19.63**	**183**			**P**	**04 45 50.8**	**+0.7**
USHA	**Ushuaia**	**21.35**	**263**	LR		LR	04 52 18.8	
comp=Z,744nm,21.3s,baz=129,slow=31								
MG02	**Cerro Sombrero**	**22.72**	**267**	P		**P**	**04 46 23.9**	**+0.4**
MG05	**Puerto Natales**	**25.02**	**267**	P		**P**	**04 46 45.0**	**-0.5**
TRQA	**Tornquist**	**29.11**	**300**	P		**P**	**04 47 22.9**	**+0.4**
TRQA				IAmb		IAmb	04 47 24.9	
comp=Z,59nm,1.9s								
SYO	**Syowa Base**	**30.70**	**139**	⇑*i*P		**P**	**04 47 34.0**	**-2.2**
SYO	**Syowa Base**	**30.70**	**139**	⇓*e*PP		PP	04 48 44.4	-0.9
PLCA	**Paso Flores**	**31

SUR	Sutherland	42.62	75	LR	LR	05 02 34.2		
	comp=Z,283nm,21.4s,baz=192,slow=30							
AC01	Pan de Azucar	43.04	301	P	P	04 49 21.0	-0.5	
GO02	Mina Guanaco	43.44	302		P	04 49 25.0	-0.1	
GO02				IAmb	IAmb	04 49 26.3		
	comp=Z,39nm,1.2s							
VNDA	Vanda	44.14	184	P	P	04 49 30.5	+0.7	
	comp=Z,4.2nm,0.8s,baz=180,slow=4.2,SNR=7.7							
VNDA				LR	LR	05 06 50.0		
	comp=Z,49nm,20.5s,baz=198,slow=35							
	comp=Z,4.2nm,0.8s							
AF01	San Pedro de A	44.76	306	P	P	04 49 34.3	-1.3	
AF01				IAmb	IAmb	04 49 37.5		
	comp=Z,27nm,0.9s							
BDFB	Brasilia	44.80	335	LR	LR	05 06 20.1		
	comp=Z,70nm,18.4s,baz=140,slow=34							
PB05	IPOC Station P	45.72	303	P	P	04 49 42.2	-0.9	
PB05				IAmb	IAmb	04 49 45.4		
	comp=Z,22nm,1.2s							
PB01	IPOC Station P	47.00	305	P	P	04 49 53.2	+0.1	
H04S2	CROZET ISLANDS	47.89	114	T	T	05 42 51.6		
	baz=231,slow=76							
H04S3	CROZET ISLANDS	47.90	114	T	T	05 42 51.2		
	baz=231,slow=76							
H04S1	CROZET ISLANDS	47.91	114	T	T	05 42 50.6		
	baz=231,slow=76							
BOSA	Boshof	47.92	76	LR	LR	05 05 50.9		
	comp=Z,205nm,21.5s,baz=206,slow=31							
GO01	Chusmiza	48.10	307	P	P	04 50 01.7	-0.4	
PTLB	Pontes e Lacer	48.11	321		P	04 50 00.7	-0.9	
PTLB				IAmb	IAmb	04 50 01.7		
	comp=Z,13nm,1.4s							
PB11	IPOC Station P	48.21	306	P	P	04 50 01.9	-0.7	
PB11				IAmb	IAmb	04 50 03.6		
	comp=Z,24nm,1.4s							
SIV	San Ignacio	48.27	318	LR	LR	05 10 05.6		
	comp=Z,96nm,20.0s,baz=124,slow=36							
H10S2	ASCENSION HYDR	50.68	19	T	T	05 46 04.8		
	baz=189,slow=74,SNR=13							
LPAZ	La Paz	50.68	310		P	04 50 20.9	-1.1	
LPAZ	La Paz	50.68	310	P	P	04 50 21.9	-0.2	
	comp=Z,2.6nm,0.7s,baz=163,slow=5.9,SNR=12							
LPAZ				LR	LR	05 14 53.3		
	comp=Z,55nm,18.5s,baz=154,slow=40							
	comp=Z,2.6nm,0.7s							
H10S3	ASCENSION HYDR	50.68	19	T	T	05 46 05.6		
	baz=31,slow=74,SNR=12							
KGCAE	Kacgae	51.15	69	P	P	04 50 25.6	+0.6	
H10N1	ASCENSION HYDR	51.80	19	T	T	05 46 45.7		
	baz=189,slow=74							
H10N3	ASCENSION HYDR	51.80	19	T	T	05 47 03.3		
	baz=189							
H10N2	ASCENSION HYDR	51.81	19	T	T	05 47 07.6		
	baz=189,slow=74							
TSUM	Tsumeb	52.06	62	LR	LR	05 07 26.1		
	comp=Z,52nm,20.6s,baz=214,slow=30							
QNGWA	Qangwa	53.47	66	P	P	04 50 42.1	-0.1	
QNGWA				IAmb	IAmb	04 50 44.1		
	comp=Z,36nm,1.9s							
SAML	Samuel	55.55	319	P	P	04 50 56.2	-1.0	
SAML				IAmb	IAmb	04 50 57.2		
	comp=Z,22nm,1.6s							
NNA	Nana	58.23	303	LR	LR	05 14 23.7		
	comp=Z,66nm,20.9s,baz=146,slow=34							
LSZ	Lusaka	60.53	70	LR	LR	05 13 09.6		
	comp=Z,105nm,21.2s,baz=184,slow=32							
ATAH	Atahualpa	63.23	304	LR	LR	05 21 29.9		
	comp=Z,48nm,19.6s,baz=149,slow=38							
MDP	Montagnes des	65.91	335	LR	LR	05 17 12.5		
	comp=Z,61nm,21.9s,baz=140,slow=33							
DBIC	Dimbokro	67.91	27	LR	LR	05 17 00.9		
	comp=Z,50nm,19.1s,baz=164,slow=32							
OTAV	Otavalo	69.86	307	P	P	04 52 33.4	+0.3	
ROSC	El Rosal	72.37	313	LR	LR	05 25 02.9		
	comp=Z,112nm,22.0s,baz=200,slow=36							
RUSC	La Rusia	72.87	314		P	04 52 49.5	-1.8	
TORD	Torodi Ar. Bea	75.81	32		P	04 53 08.0	+0.2	
TORD				IAmb	IAmb	04 53 15.1		
	comp=Z,30nm,1.9s							
TORD	Torodi Ar. Bea	75.81	32	P	P	04 53 08.0	+0.2	
	comp=Z,2.8nm,0.7s,baz=209,slow=3.9,SNR=9.7							
	comp=Z,2.8nm,0.7s							
DSZ	Denniston Nort	78.60	196	P	P	04 53 24.4	+1.0	
LODK	Lodwar	80.19	67		P	04 53 33.8	+1.4	
JTS	Las Juntas de	81.65	305	LR	LR	05 32 32.8		
	comp=Z,28nm,19.3s,baz=129,slow=38							
SJG	San Juan	81.92	325	LR	LR	05 28 54.0		
	comp=Z,27nm,21.9s,baz=168,slow=35							
TBI	Tubuai	84.52	233	eLR	LR	05 20 33.3		
	comp=Z,640nm,25.0s							
CHIV	Chivirico	87.05	317	P	P	04 54 07.5	+0.3	
CHIV				IAmb	IAmb	04 54 19.8		
	comp=Z,23nm,1.1s							
PPT2	Papeete2	89.66	236	eLR	LR	05 22 48.9		
	comp=Z,252nm,28.8s							
PPT2				eLR	LR	05 22 56.7		
	comp=Z,182nm,30.0s							
TAOE	Nuku Hiva Isla	92.92	248	eLR	LR	05 24 27.9		
	comp=Z,56nm,27.7s							
ASAR	Alice Springs	97.12	165	P	P	04 54 53.0	-1.2	
	comp=Z,0.5nm,0.6s,baz=186,slow=4.0,SNR=5.7							
ASAR				LR	LR	05 35 19.5		
	comp=Z,131nm,21.5s,baz=238,slow=33							
	comp=Z,0.5nm,0.6s							
DZM	Mont Dzumac	98.70	195	eLR	LR	05 27 06.1		
	comp=Z,80nm,24.9s							
HWUT	Hardware Ranch	120.39	301		PKiKP	05 00 12.7	0.0	
NVAR	Mina Array Bea	121.03	294	PKP	PKiKP	05 00 14.0	-0.2	
	comp=Z,0.4nm,0.6s,baz=37,slow=3.1,SNR=3.9							
MOOW	Moose Ponds	121.72	303		PKiKP	05 00 15.2	-0.2	
FXWY	Fox Creek	121.76	302		PKPdf	05 00 14.6	-0.7	
CMAR	Chiang Mai Arr	125.47	115	PKP	PKiKP	05 00 23.9	+0.6	
	comp=Z,0.6nm,0.4s,baz=168,slow=2.2,SNR=1.6							
MSO	Missoula	125.53	303		PKiKP	05 00 22.9	+0.2	
FINES	FINESS Array B	127.13	30	PKP	PKPdf	05 00 23.6	-1.0	
	comp=Z,0.8nm,0.6s,baz=179,slow=6.7,SNR=2.0							
PZH	PanZhiHua	133.65	112	PKP	PKiKP	05 00 40.3	+0.7	
ARCES	ARCESS Array B	133.66	24	PKP	PKPdf	05 00 36.9	+0.1	
	comp=Z,1.8nm,0.8s,baz=60,slow=2.2,SNR=2.3							
YKAW1	Yellowknife Wh	136.91	317		PKPdf	05 00 42.1	-1.0	
YKA	Yellowknife Ar	136.96	317		PKPdf	05 00 42.5	-0.6	
YKA	Yellowknife Ar	136.96	317	PKP	PKPdf	05 00 42.7	-0.4	
	comp=Z,0.9nm,0.8s,baz=266,slow=7.0,SNR=3.7							
YKAW3	Yellowknife Wh	137.00	317		PKPdf	05 00 42.4	-0.9	
RES	Resolute Bay	139.52	338	PKP	PKPdf	05 00 47.4	-0.2	
	comp=Z,2.3nm,1.0s,baz=132,slow=2.5,SNR=6.8							
WMQ	Urumqi	139.69	83	ePKP	PKiKP	05 00 51.3	0.0	
GTA	Gaotai	142.91	98	ePKP	PKPdf	05 00 52.8	-2.1	
GTA				pPKP	sPKPdf	05 00 58.3	+0.3	
XAN	Xi'an	143.35	113	PKP	PKPab	05 00 51.9	+0.1	
XAN				AMB	AMB			
	comp=Z,150nm,4.3s							
FARO	Faro, Yukon	143.99	309		PKPpre	05 00 54.1		
P30M	Million Dollar	144.46	305	P	PKPab	05 00 55.1	-0.1	
	baz=120							
P29M	Windy Craggy	144.55	304	P	PKPab	05 00 55.4	-0.1	
	baz=120							
ZAA0	Zalesovo Array	144.62	68		PKPab	05 00 55.0	-0.9	
ZALV	Zalesovo Beam	144.62	68	PKP	PKPab	05 00 54.9	-1.1	
	comp=Z,2.7nm,0.6s,baz=232,slow=2.7,SNR=9.9							
N31M	Braeburn, Yuko	144.63	307	P	PKPdf	05 00 56.5	-0.6	
	baz=119							
HYT	Haines Junctio	145.04	305		PKPab	05 00 57.3	-0.2	
HYT	Haines Junctio	145.04	305	P	PKPdf	05 00 57.8	-0.1	
	baz=119,SNR=5.4							
N30M	Aishikik Lake	145.17	307	P	PKPdf	05 00 57.8	-0.3	
	baz=118,SNR=6.4							
O29M	Mount Kennedy	145.25	304	P	PKPab	05 00 58.1	-0.2	
	baz=119							
PNL	Peninsula	145.30	303	P	PKPab	05 00 58.1	-0.2	
	baz=119							
A36M	Sachs Harbour	145.44	327		PKPdf	05 00 57.9	-0.3	
A36M	Sachs Harbour	145.44	327	P	PKPab	05 00 58.0	-0.4	
	baz=112							
M30M	Minto, Yukon	145.57	308		PKPdf	05 00 58.5	-0.2	
M30M	Minto, Yukon	145.57	308	P	PKPdf	05 00 58.4	-0.2	
	baz=117,SNR=9.7							
YUK4	Talbot Arm	145.78	306	P	PKPbc	05 00 59.8	-0.1	
	baz=118							
PINM	Pinnacle	145.89	303	P	PKPbc	05 00 60.0	-0.1	
	baz=118							
H31M	Peel River	146.01	314		PKPdf	05 00 59.4	+0.1	
H31M	Peel River	146.01	314	P	PKPdf	05 00 59.4	+0.1	
	baz=114							
O28M	Mount Upton	146.18	304	P	PKPdf	05 00 59.8	-0.3	
	baz=118							
NJ2	Nanjing	146.18	127	ePKPbc	PKPbc	05 01 01.8	+0.1	
M29M	Somme Creek	146.20	308		PKPab	05 01 01.3	-0.5	
M29M	Somme Creek	146.20	308	P	PKPbc	05 01 00.8	-0.3	
	baz=116,SNR=6.9							
YUK8	Steele Glacier	146.23	305	P	PKPbc	05 01 01.0	-0.3	
	baz=117							
J30M	Hart River	146.26	312		PKPbc	05 01 01.1	0.0	
J30M	Hart River	146.26	312	P	PKPbc	05 01 00.7	-0.4	
	baz=115,SNR=8.3							
L29M	L29M	146.35	309		PKPab	05 01 01.7	-0.5	
L29M	L29M	146.35	309	P	PKPbc	05 01 01.1	-0.2	
	baz=116							
K29M	Barlow Dome	146.42	310		PKPbc	05 01 01.7	0.0	
K29M	Barlow Dome	146.42	310	P	PKPbc	05 01 01.2	-0.4	
	baz=115,SNR=12							
G31M	Satah River	146.43	316		PKPbc	05 01 00.8	-0.5	
G31M	Satah River	146.43	316	P	PKPbc	05 01 01.5	+0.1	
	baz=113							
F31M	Tsiigehtchic	146.44	317		PKPbc	05 01 00.9	-0.5	
F31M	Tsiigehtchic	146.44	317	P	PKPbc	05 01 00.8	-0.5	
	baz=112							
I30M	Mount Dempster	146.54	313	P	PKPbc	05 01 01.3	-0.6	
	baz=114,SNR=17							
MESA	MESA	146.68	303	P	PKPbc	05 01 01.9	-0.7	
	baz=118							
INK	Inuvik	146.69	319	PKPbc	PKPbc	05 01 01.6	-0.4	
	comp=Z,5.5nm,0.8s,baz=117,slow=3.0,SNR=19							
INK	Inuvik	146.69	319	P	PKPbc	05 01 01.7	-0.4	
	baz=111							
YUK3	Moose Creek	146.75	306	P	PKPbc	05 01 01.7	-1.1	
	baz=116							
J29N	Klondike Camp	146.95	311	P	PKPbc	05 01 02.7	-0.4	
	baz=114							
EPYK	Eagle Plains	147.12	315	P	PKPbc	05 01 02.3	-1.2	
	baz=112,SNR=7.8							
G30M	tAoh Zraii Nji	147.16	316	P	PKPbc	05 01 03.3	-0.3	
	baz=111							
BVCY	Beaver Creek	147.19	307	P	PKPbc	05 01 03.4	-0.3	
	baz=115							
F30M	Barrier River	147.23	317		PKPbc	05 01 02.8	-0.9	
F30M	Barrier River	147.23	317	P	PKPbc	05 01 03.0	-0.6	
	baz=111							
BGLC	Bering Glacier	147.25	302	P	PKPbc	05 01 03.9	+0.1	
	baz=117							
DAWY	Dawson	147.27	310	P	PKPbc	05 01 03.2	-0.7	
	baz=114							
I29M	Ogilvie Camp,	147.34	313		PKPbc	05 01 02.9	-1.2	
I29M	Ogilvie Camp,	147.34	313	P	PKPbc	05 01 03.8	-0.3	
	baz=112							
M27K	Edge Creek, AK	147.60	306	P	PKPbc	05 01 03.8	-1.2	
	baz=114							
H29M	Whitestone	147.69	314	P	PKPbc	05 01 04.1	-0.9	
	baz=111							
G29M	Pine Creek	147.80	315		PKPbc	05 01 04.8	-0.5	
G29M	Pine Creek	147.80	315	P	PKPbc	05 01 04.7	-0.5	
	baz=110,SNR=13							
VRDI	Verde Repeater	147.81	304		PKPbc	05 01 04.7	-0.9	
BCAR	Beaver Creek A	147.85	307		PKPdf	05 01 00.1	-2.4	
L27K	Beaver Creek,	147.87	307		PKPdf	05 01 01.0	-1.5	
L27K	Beaver Creek,	147.87	307	P	PKPbc	05 01 04.2	-1.4	
	baz=114							
I28M	Miner Creek	148.01	312	P	PKPbc	05 01 05.1	-0.9	
	baz=111							
M26K	Nabesna, AK	148.10	306	P	PKPbc	05 01 06.4	+0.1	
	baz=114							
BMRM	Bremner River	148.20	303		PKPbc	05 01 06.0	-0.5	
BMRM	Bremner River	148.20	303	P	PKPbc	05 01 06.8	+0.2	
	baz=115							
E29M	Blow River	148.24	318	P	PKPbc	05 01 05.3	-1.0	
	baz=108							
K27K	Chicken	148.34	309	P	PKPbc	05 01 06.5	-0.2	
	baz=112							
N25K	Chitina, Valde	148.47	304	P	PKPbc	05 01 06.8	-0.4	
	baz=114							
L26K	Log Cabin Wild	148.49	307		PKPbc	05 01 05.4	-1.8	
L26K	Log Cabin Wild	148.49	307	P	PKPbc	05 01 06.9	-0.3	
	baz=113							
EYAK	Cordova Ski Ar	148.54	302	P	PKPbc	05 01 07.3	0.0	
	baz=115							
I27K	Kandik River	148.72	312	P	PKPbc	05 01 07.4	-0.4	
	baz=110							
D28M	Stokes Point	148.81	320	P	PKPbc	05 01 07.6	-0.1	
	baz=106							
HNS	HongShan	148.82	117	⇑PKPbc	PKPbc	05 01 09.1	+0.3	
HNS				PKPab	sPKPab	05 01 19.5	+3.9	
E28M	Babbage River	148.88	318	PKPdf	PKPdf	05 01 05.5	+1.5	
E28M	Babbage River	148.88	318	P	PKPbc	05 01 07.2	-0.8	
	baz=106							
H27K	Steamboat Moun	148.89	313	PKPdf	PKPdf	05 01 04.9	+0.7	
H27K	Steamboat Moun	148.89	313	P	PKPbc	05 01 07.9	-0.3	
	baz=109							
TIA	Tai'an	148.96	121	PKPbc	PKPdf	05 01 05.9	+0.7	
KLU	Klutina	149.00	303		PKPbc	05 01 08.0	-0.6	
KLU	Klutina	149.00	303	P	PKPbc	05 01 08.6	0.0	
	baz=113							
HARP	HAARP	149.02	305	P	PKPbc	05 01 08.6	+0.1	
	baz=112							
DOT	Dot Lake	149.02	308		PKPbc	05 01 08.1	-0.5	
BTO	Baotou	149.03	107	ePKPbc	PKPdf	05 01 04.0	-1.3	
BTO				PP	PP	05 04 43.9	+2.9	
BTO				SS	SS	05 23 52.4	0.0	
P23K	Montague Islan	149.05	300	P	PKPbc	05 01 08.3	-0.3	
	baz=115							
SCRK	Sand Creek	149.11	308	P	PKPbc	05 01 08.3	-0.5	
	baz=111							
J26L	Joseph Creek	149.12	309	P	PKPbc	05 01 08.6	-0.3	
	baz=110							
G27K	Doyon Strip	149.12	314	PKPdf	PKPbc	05 01 07.1	-1.6	
G27K	Doyon Strip	149.12	314	P	PKPbc	05 01 08.2	-0.5	
	baz=108							
I26K	Coal Creek Min	149.23	311		PKPbc	05 01 08.2	-0.7	
I26K	Coal Creek Min	149.23	311	P	PKPbc	05 01 08.5	-0.4	
	baz=109							
GLI	Glacier Island	149.28	302	P	PKPbc	05 01 09.4	+0.2	
	baz=114							
M24K	Tolsona, Glenn	149.35	304	P	PKiKP	05 01 10.3	-0.3	
	baz=112							
PAX	Paxson	149.37	306	PKPdf	PKPdf	05 01 06.8	+1.8	
PAX	Paxson	149.37	306	P	PKPbc	05 01 09.2	-0.3	
	baz=111							
RIDG	Independent Ri	149.38	308	PKPdf	PKPdf	05 01 06.3	+1.3	
RIDG	Independent Ri	149.38	308	P	PKPbc	05 01 09.7	+0.2	
	baz=111							
E27K	Coleen River	149.50	317	P	PKPbc	05 01 08.9	-0.7	
	baz=106,SNR=11							
D27M	Malcolm River	149.55	319		PKPdf	05 01 05.9	+0.8	
D27M	Malcolm River	149.55	319	P	PKPbc	05 01 09.9	+0.2	
	baz=104							
SCM	Sheep Creek Mo	149.75	303	P	PKPbc	05 01 10.3	-0.1	
	baz=112							
K24K	Donnelly Dome	149.79	308	PKPdf	PKPdf	05 01 06.5	+0.8	
K24K	Donnelly Dome	149.79	308	P	PKPbc	05 01 10.4	0.0	
	baz=110							
PWL	Port Wells	149.82	301	P	PKPbc	05 01 10.5	-0.1	
	baz=113							
J25K	Salcha River,	149.89	309	P	PKPbc	05 01 10.1	-0.6	
	baz=109							
M23K	Glacier View	149.91	303	P	PKPbc	05 01 10.6	-0.2	
	baz=112							
G26K	Porcupine Rive	149.97	314	PKPdf	PKPdf	05 01 07.7	+1.9	
G26K	Porcupine Rive	149.97	314	P	PKPbc	05 01 10.7	0.0	
	baz=106							
HHC	Hu-ho-hao-te	149.99	109	ePKPbc	PKPdf	05 01 03.4	-3.4	
SEW	Seward	150.03	299	P	PKiKP	05 01 11.2	-0.6	
	baz=114							
KNK	Knik Glacier	150.09	302	P	PKPbc	05 01 11.2	0.0	
	baz=112							
SML	Sawmill	150.18	303	P	PKPbc	05 01 11.1	-0.3	
	baz=112							
PRP	Porcupine Dome	150.24	311	P	PKPbc	05 01 11.1	-0.5	
	baz=107							
F26K	Sheenjek River	150.30	315	P	PKPbc	05 01 11.5	0.0	
	baz=104,SNR=9.0							
O22K	Cooper Landing	150.31	300	P	PKPbc	05 01 11.3	-0.3	
	baz=113							
PMR	Palmer	150.46	302	P	PKPbc	05 01 11.7	-0.3	
	baz=112							
HDA	Harding Lake	150.48	308	P	PKPbc	05 01 11.9	-0.1	
	baz=108							
BRSE	Bradley Lake S	150.48	298	P	PKPbc	05 01 11.8	-0.4	
	baz=114							
KDAK	Kodiak Island	150.53	294	PKPbc	PKPbc	05 01 12.2	0.0	
	comp=Z,6.7nm,0.7s,baz=16,slow=6.8,SNR=6.8							
KDAK	Kodiak Island	150.53	294	P	PKPbc	05 01 11.8	-0.5	
	baz=116							
RC01	Rabbit Creek A	150.54	301	P	PKiKP	05 01 12.5	-0.5	
	baz=112							
ILAR	Eielson Array	150.56	309	PKPbc	PKPbc	05 01 11.8	-0.4	
	comp=Z,11nm,0.8s,baz=142,slow=1.4,SNR=99							
C27K	Jago River	150.58	319	P	PKPbc	05 01 12.2	+0.1	
	baz=102							
OHAK	Old Harbor	150.62	292	P	PKPbc	05 01 12.5	0.0	
	baz=116							
SII	Sitkinak Islan	150.76	291	P	PKPbc	05 01 12.7	-0.2	
	baz=117							
Q20K	Shuyak Island	150.79	295	P	PKPbc	05 01 12.9	0.0	
	baz=115							
G25K	Bearman Lake	150.80	313	P	PKiKP	05 01 13.1	-0.2	
	baz=105							
F25K	Christian Rive	150.83	315	P	PKiKP	05 01 12.9	-0.5	
	baz=104,SNR=8.1							
POKR	Poker Plat Res	150.89	310	P	PKPbc	05 01 12.3	-0.6	
	baz=107							
CCB	Clear Creek Bu	150.90	309	PKPdf	PKPdf	05 01 08.9	+1.6	
E25K	Arctic Village	150.93	316	P	PKPbc	05 01 12.6	-0.4	
	baz=103,SNR=13							
M22K	Willow	150.96	302	P	PKPbc	05 01 13.0	-0.2	
	baz=111,SNR=5.6							
RND	Reindeer	150.96	306	PKPdf	PKPdf	05 01 09.6	+2.1	
WRH	Wood River Hil	150.97	308	PKPdf	PKPdf	05 01 08.4	+1.0	
C26K	Camden Bay	151.05	320	P	PKPbc	05 01 13.1	0.0	
	baz=100							
MCK	McKinley	151.10	306		PKiKP	05 01 14.0	-0.1	
MCK	McKinley	151.10	306	P	PKPbc	05 01 13.3	-0.2	
	baz=108							
SUA	Susitna One	151.13	301	P	PKPbc	05 01 13.7	-0.1	
	baz=111							
CUT	Chulitna	151.25	303	PKPdf	PKPdf	05 01 10.3	+2.5	
CUT	Chulitna	151.25	303	P	PKPbc	05 01 13.4	-0.4	
	baz=109							
H24K	Noodor Dome	151.26	311	P	PKPbc	05 01 13.3	-0.5	
	baz=105							
G24K	Hadweenzic Riv	151.32	313	P	PKPbc	05 01 13.5	-0.4	
	baz=104,SNR=6.5							
R18K	Karluk	151.34	292	P	PKPbc	05 01 13.6	-0.6	
	baz=116							
NEA2	Nenana	151.41	308	P	PKPbc	05 01 13.3	-0.8	
	baz=106							
D25K	Kavik River	151.45	318	P	PKPbc	05 01 13.5	-0.7	
	baz=100							
BWN	Browne	151.45	307		PKiKP	05 01 14.8	+0.1	
Q19K	Cape Douglas,	151.52	295	P	PKPbc	05 01 14.4	-0.2	
	baz=114							
TRF	Thorofare Moun	151.59	306	P	PKPbc	05 01 14.4	-0.4	
	baz=108							
P19K	Oil Pt	151.61	297	P	PKPbc	05 01 14.3	-0.5	
	baz=112							
BJI	Beijing	151.62	115	PKPbc	PKPbc	05 01 15.1	-0.3	
F24K	Squaw Lake	151.66	314		PKiKP	05 01 15.3	+0.1	
F24K	Squaw Lake	151.66	314	P	PKiKP	05 01 14.9	-0.3	
	baz=102							
SKT	Skwentna	151.66	302	P	PKPbc	05 01 14.2	-0.7	
	baz=109,SNR=8.1							
I23K	Minto, Yukon-K	151.68	309	P	PKPbc	05 01 14.4	-0.3	
	baz=105							
SPCR	Spurr Chakacha	151.70	300	P	PKPbc	05 01 14.6	-0.5	
	baz=110							
NRIK	Noril'sk	151.72	42	PKPbc	PKiKP	05 01 15.2	0.0	
	comp=Z,1.5nm,0.5s,baz=91,slow=2.1,SNR=1.9							
H23K	Yukon River	151.92	311	P	PKiKP	05 01 15.4	-0.4	
	baz=104							
E24K	Your Creek	151.99	315	PKPdf	PKPdf	05 01 10.8	+1.9	
E24K	Your Creek	151.99	315	P	PKiKP	05 01 15.7	-0.1	
	baz=100,SNR=6.7							
Q18K	Katmai Hardscr	152.06	294	P	PKPbc	05 01 15.2	-0.8	
	baz=113							
BPAW	Bear Paw Mtn.	152.07 307			PKPbc	05 01 15.5	-0.3	
BPAW	Bear Paw Mtn.	152.07 307		P	PKPbc	05 01 15.2	-0.5	
	baz=106,SNR=14							
SONM	Songino Array	152.16	93	PKPbc	PKPbc	05 01 15.9	-0.7	
	comp=Z,1.6nm,0.7s,baz=216,slow=4.0,SNR=7.7							
PPLA	Purkeypile	152.24	304	P	PKPbc	05 01 16.1	-0.3	
	baz=107							
D24K	Happy Valley	152.29	318	P	PKiKP	05 01 16.2	-0.1	
	baz=98							
G23K	Bananza Creek	152.31 312			PKiKP	05 01 17.0	+0.5	
G23K	Bananza Creek	152.31 312		P	PKiKP	05 01 16.4	-0.1	
	baz=102,SNR=8.5							
C24K	Franklin Bluff	152.32 319		P	PKiKP	05 01 16.1	-0.3	
	baz=97							
O19K	Port Alsworth	152.32 298		P	PKPbc	05 01 15.3	-1.1	
	baz=111							
Q17K	Contact Creek	152.33 293		P	PKPbc	05 01 15.8	-0.8	
	baz=114							
M20K	Styx River	152.35 301		P	PKPbc	05 01 15.9	-0.6	
	baz=109							
CAST	Castle Rocks	152.35 305		P	PKPbc	05 01 15.4	-1.0	
	baz=106,SNR=6.1							
E23K	Chandalar	152.40 315		P	PKPbc	05 01 15.8	-0.6	
	baz=100							
P18K	Big Mountain,	152.45 296		P	PKiKP	05 01 16.8	-0.2	
	baz=112							
COLD	Coldfoot	152.48 313		P	PKiKP	05 01 17.0	+0.2	
	baz=101,SNR=6.3							
TOLK	Toolik Lake Re	152.48 317		P	PKPbc

	baz=92					
J18K	**Innoko River**	**154.37 304**	P	**PKiKP**	**05 01 21.4**	**+0.6**
	baz=103					
C21K	**Knifeblade Rid**	**154.41 317**	P	**PKPab**	**05 01 35.1**	**-0.1**
	baz=93					
N16K	**Nishlik Lake**	**154.50 297**	P	**PKPab**	**05 01 35.5**	**-0.3**
	baz=108					
A22K	**Sinclair Lake**	**154.50 322**	P	**PKPab**	**05 01 36.5**	**+1.0**
	baz=89					
O15K	**Ungalikthiuk R**	**154.58 293**	P	**PKPab**	**05 01 37.1**	**+1.0**
	baz=110					
F20K	**Avaraart Lake**	**154.58 312**	P	**PKPab**	**05 01 37.1**	**+1.2**
	baz=97					
FALS	**False Pass**	**154.64 282**	P	**PKPab**	**05 01 37.3**	**+0.8**
	baz=117					
H19K	**Roundabout Mou**	**154.66 309**	P	**PKPab**	**05 01 37.3**	**+0.9**
	baz=99					
M16K	**Timber Creek**	**154.75 298**	P	**PKPab**	**05 01 37.7**	**+0.9**
	baz=107					
L17K	**Donlin**	**154.75 300**	P	**PKPab**	**05 01 37.3**	**+0.4**
	baz=105					
E20K	**Nigu River**	**154.87 315**	P	**PKPab**	**05 01 37.8**	**+0.5**
	baz=94					
K17K	**Iditarod**	**154.90 302**	P	**PKPab**	**05 01 38.6**	**+1.2**
	baz=104					
G19K	**Purcell Mounta**	**155.01 310**	P	**PKPab**	**05 01 38.9**	**+1.0**
	baz=97					
A21K	**Barrow**	**155.03 322**	P	**PKPab**	**05 01 38.4**	**+0.7**
	baz=87					
N15K	**Kwethluk River**	**155.03 295**	P	**PKPab**	**05 01 38.8**	**+0.7**
	baz=108					
D20K	**Etivluk River**	**155.05 316**	P	**PKPab**	**05 01 38.5**	**+0.5**
	baz=92					
L16K	**Owhat River**	**155.18 299**	P	**PKPab**	**05 01 39.6**	**+0.9**
	baz=105					
E19K	**Redstone River**	**155.21 313**	P	**PKPab**	**05 01 39.3**	**+0.6**
	baz=94					
B20K	**Meade River**	**155.26 319**	P	**PKPab**	**05 01 39.7**	**+0.9**
	baz=89					
O14K	**Tigyukauivet M**	**155.30 293**	P	**PKPab**	**05 01 39.3**	**+0.1**
	baz=109					
F19K	**Shaleruckik Mo**	**155.36 312**	P	**PKPab**	**05 01 40.5**	**+1.2**
	baz=95					
J17K	**VABM Dome**	**155.40 303**	P	**PKPab**	**05 01 40.8**	**+1.2**
	baz=102					
H18K	**Honhosa River**	**155.40 307**	P	**PKPab**	**05 01 41.2**	**+1.7**
	baz=98					
M15K	**Kasigluk River**	**155.47 296**	P	**PKPab**	**05 01 41.4**	**+1.5**
	baz=107					
D19K	**Kuna River**	**155.59 316**	P	**PKPab**	**05 01 40.9**	**+0.6**
	baz=91					
G18K	**Tagagawik**	**155.62 309**	P	**PKPab**	**05 01 41.7**	**+1.3**
	baz=97					
N14K	**Kuskokwak Cree**	**155.72 294**	P	**PKPab**	**05 01 42.3**	**+1.4**
	baz=108					
UNV	**Unalaska Valle**	**155.77 278**	P	**PKPab**	**05 01 42.9**	**+1.6**
	baz=118					
H17K	**Granite Mounta**	**156.02 307**	P	**PKPab**	**05 01 43.6**	**+1.5**
	baz=98					
J16K	**Anvik River**	**156.05 303**	P	**PKPab**	**05 01 43.4**	**+1.1**
	baz=101					
M14K	**Bethel**	**156.09 296**	P	**PKPab**	**05 01 44.2**	**+1.7**
	baz=106					
F18K	**Selawik**	**156.09 311**	P	**PKPab**	**05 01 43.6**	**+1.2**
	baz=94					
L15K	**Ungalak Mounta**	**156.10 298**	P	**PKPab**	**05 01 44.1**	**+1.5**
	baz=104					
I17K	**Unalakleet**	**156.20 304**	P	**PKPab**	**05 01 44.0**	**+1.1**
	baz=100					
G17K	**Kiwalik Mounta**	**156.40 308**	P	**PKPab**	**05 01 45.3**	**+1.5**
	baz=96					
E18K	**Tukpahlearik C**	**156.50 313**	P	**PKPab**	**05 01 44.8**	**+0.7**
	baz=92					
L14K	**Kuka Creek**	**156.58 297**	P	**PKPab**	**05 01 45.4**	**+0.8**
	baz=104					
A19K	**Wainwright**	**156.58 320**	P	**PKPab**	**05 01 45.8**	**+1.4**
	baz=85					
M13K	**Dall Lake**	**156.65 295**	P	**PKPab**	**05 01 46.2**	**+1.2**
	baz=106					
F17K	**Baldwin Pennin**	**156.72 310**	P	**PKPab**	**05 01 46.0**	**+0.9**
	baz=93					
C18K	**Utukok River**	**156.72 316**	P	**PKPab**	**05 01 45.8**	**+0.6**
	baz=88					
B18K	**Kokolik River**	**156.91 318**	P	**PKPab**	**05 01 47.3**	**+1.4**
	baz=86					
E17K	**Hotham Inlet**	**156.97 312**	P	**PKPab**	**05 01 47.4**	**+1.2**
	baz=91					
G16K	**Koyuk River**	**157.09 308**	P	**PKPab**	**05 01 48.5**	**+1.8**
	baz=95					
J14K	**Nanvaranak Lak**	**157.27 301**	P	**PKPab**	**05 01 48.2**	**+0.6**
	baz=100					
D17K	**Noatak River**	**157.46 314**	P	**PKPab**	**05 01 49.0**	**+0.7**
	baz=89					
K13K	**Kusilvak Mount**	**157.63 298**	P	**PKPab**	**05 01 49.6**	**+0.4**
	baz=101					
G15K	**Niukluk**	**157.77 306**	P	**PKPab**	**05 01 51.0**	**+1.3**
	baz=94					
M11K	**Mekoryuk**	**158.01 294**	P	**PKPab**	**05 01 50.7**	**-0.1**
	baz=104					
F15K	**North Star Dit**	**158.07 308**	P	**PKPab**	**05 01 50.9**	**-0.1**
	baz=92					
C16K	**Lisburne Hills**	**158.28 315**	P	**PKPab**	**05 01 51.4**	**-0.4**
	baz=85					
ANM	**Nome**	**158.31 305**	P	**PKPab**	**05 01 52.0**	**-0.1**
	baz=94					
P08K	**Saint George I**	**158.52 283**	P	**PKPab**	**05 01 52.4**	**-0.8**
	baz=112					
F14K	**Arctic Creek**	**158.76 308**	P	**PKPab**	**05 01 54.3**	**+0.4**
	baz=91					
SPIA	**Saint Paul Isl**	**159.09 284**	P	**PKPab**	**05 01 56.3**	**+0.7**
	baz=110					
TNA	**Tin City**	**159.42 308**	P	**PKPab**	**05 01 57.6**	**+0.8**
	baz=90					

KRSC ***24*** *04:44:26.1±2.0, 51°.43N×160°.16E, h52km±34km, Mc4.2, Ml5.1*
NEIC ***24*** *04:44:27.5±1.9, 51°.59N±0°.06×159°.83E±0°.05, h10km±1km, mb4.6/47, Error ellipse: s-maj=11.8km s-min=2.9km az=155.0*
MOS ***24*** *04:44:31.4±1.0, 51°.67N×159°.73E, h52km, mb4.7/20, MS3.9/4, Error ellipse: s-maj=8.0km s-min=3.4km az=101.8*
IDC ***24*** *04:44:34.8±2.2, 51°.72N×159°.72E, h66km±17km, mb4.0/30, mbtmp4.3/33, MS3.7/28, Error ellipse: s-maj=15.5km s-min=11.5km az=138.0*

ISC 24 04:44:32.7±0.7, 51°.62N±0°.05×159°.76E±0°.05, h51km±5km, **n298,** σ1♀**45/296, mb4.5**/87, **MS3.9**/32, **16C-28D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.06 281**	PN	**Pn**	**04 44 50.1**	**-1.1**
KDTR			S	**Sn**	**04 45 05.2**	**+0.3**
KDTR	**Khodutka, Kamc**	**1.06 281**	*e*P	**Pn**	**04 44 50.1**	**-1.1**
KDTR			*e*S	**Sn**	**04 45 05.3**	**+0.3**
RUS	**Russkaya**	**1.12 317**	PN	**Pn**	**04 44 50.3**	**-1.7**
RUS			S	**Sn**	**04 45 07.5**	**+1.1**
RUS	**Russkaya**	**1.12 317**	*e*P	**Pn**	**04 44 50.3**	**-1.7**
RUS			*e*S	**Sn**	**04 45 07.6**	**+1.1**
MTVR	**Mutnovka**	**1.30 312**	PN	**Pn**	**04 44 53.5**	**-1.1**
MTVR	**Mutnovka**	**1.30 312**	*e*P	**Pn**	**04 44 53.6**	**-1.1**
GRL	**Gorelyy**	**1.40 313**	PN	**Pn**	**04 44 55.4**	**-0.5**
GRL	**Gorelyy**	**1.40 313**	*e*P	**Pn**	**04 44 55.5**	**-0.5**
GRL			*e*S	**Sn**	**04 45 18.8**	**+5.5**
SPN	**Mys Shipunski**	**1.49 6**	PN	**Pn**	**04 44 57.1**	**0.0**
SPN	**Mys Shipunski**	**1.49 6**	*e*P	**Pn**	**04 44 57.1**	**0.0**
SPN			*e*S	**Sn**	**04 45 19.2**	**+3.8**
DALK	**Dalny**	**1.54 337**	PN	**Pn**	**04 44 56.0**	**-1.8**
DALK	**Dalny**	**1.54 337**	*e*P	**Pn**	**04 44 56.0**	**-1.8**
DALK			*e*S	**Sn**	**04 45 21.2**	**+4.5**
PET	**Petropavlovsk**	**1.56 335**		**Pn**	**04 44 56.5**	**-1.5**
PET			Sn	**Sn**	**04 45 16.9**	**-0.2**
PET	**Petropavlovsk**	**1.56 335**	*e*PN	**Pn**	**04 44 56.5**	**-1.5**
PET			*e*S	**Sn**	**04 45 19.3**	**+2.2**
PET	comp=Z,1μm,0.5s		pmax	pmax		
PET	comp=E,4μm,0.5s		smax	smax		
PET	comp=N,9μm,0.4s		smax	smax		
PET	**Petropavlovsk**	**1.56 335**	*e*P	**Pn**	**04 44 56.3**	**-1.7**
PET			*e*S	**Sn**	**04 45 19.3**	**+2.2**
PET	**Petropavlovsk**	**1.56 335**	P	**Pn**	**04 44 54.5**	**-3.5**
KRMR	**Karymshinskiy**	**1.57 321**	PN	**Pn**	**04 44 57.0**	**-1.2**
KRMR	**Karymshinskiy**	**1.57 321**	*e*P	**Pn**	**04 44 57.0**	**-1.2**
KRMR			*e*S	**Sn**	**04 45 21.1**	**+3.8**
NLC	**Nalytchevo**	**1.58 351**	PN	**Pn**	**04 44 56.3**	**-1.9**
NLC	**Nalytchevo**	**1.58 351**	*e*P	**Pn**	**04 44 56.4**	**-1.9**
INSR	**Institute**	**1.61 335**	PN	**Pn**	**04 44 57.9**	**-0.8**
INSR	**Institute**	**1.61 335**	*e*P	**Pn**	**04 44 57.9**	**-0.8**
INSR			*e*S	**Sn**	**04 45 22.2**	**+3.8**
UGLR	**Uglovaya**	**1.69 341**	PN	**Pn**	**04 44 59.0**	**-0.9**
UGLR	**Uglovaya**	**1.69 341**	*e*P	**Pn**	**04 44 59.0**	**-0.9**
SDLR	**Sedlovina**	**1.75 343**	PN	**Pn**	**04 44 58.8**	**-1.9**
SDLR	**Sedlovina**	**1.75 343**	*e*P	**Pn**	**04 44 58.8**	**-1.9**
AVH	**Avacha**	**1.77 340**	PN	**Pn**	**04 45 02.0**	**+1.1**
AVH	**Avacha**	**1.77 340**	*e*P	**Pn**	**04 45 02.0**	**+1.1**
KRER	**Koryakskii**	**1.80 340**	PN	**Pn**	**04 45 00.7**	**-0.8**
KRER	**Koryakskii**	**1.80 340**	*e*P	**Pn**	**04 45 00.7**	**-0.8**
KOK	**Koryaka**	**1.81 338**	PN	**Pn**	**04 45 00.7**	**-0.8**
KOK	**Koryaka**	**1.81 338**	*e*P	**Pn**	**04 45 00.8**	**-0.8**
PAU	**Pauzhetka**	**1.84 266**	PN	**Pn**	**04 45 01.5**	**-0.3**
PAU	**Pauzhetka**	**1.84 266**	*e*P	**Pn**	**04 45 01.6**	**-0.3**
KRX	**Arik**	**1.87 339**	PN	**Pn**	**04 45 01.0**	**-1.4**
KRX	**Arik**	**1.87 339**	*e*P	**Pn**	**04 45 01.1**	**-1.4**
PEA0B	**Petropavlovsk-**	**1.96 321**		**Pn**	**04 45 03.3**	**-0.1**
PEA0B	**Petropavlovsk-**	**1.96 321**	PN	**Pn**	**04 45 03.3**	**-0.1**
PETK	**Petropavlovsk-**	**1.96 321**		**Pn**	**04 45 02.1**	**-1.4**
PETK	**Petropavlovsk-**	**1.96 321**	P	**Pn**	**04 45 03.0**	**-0.4**
	comp=N,546nm,0.7s,baz=124,slow=14,SNR=172					
PETK			S	**Sn**	**04 45 28.3**	**+1.5**
	comp=N,436nm,0.5s,baz=132,slow=18,SNR=2.9					
PETK			LR	LR	04 45 35.7	
	comp=N,477nm,19.8s,baz=67,slow=33					
APC	**Apacha**	**2.06 310**	PN	**Pn**	**04 45 04.8**	**-0.1**
APC	**Apacha**	**2.06 310**	*e*P	**Pn**	**04 45 04.9**	**-0.1**
GNL	**Ganaly**	**2.36 333**	PN	**Pn**	**04 45 08.5**	**-0.5**
GNL	**Ganaly**	**2.36 333**	*e*P	**Pn**	**04 45 08.5**	**-0.5**
KII	**Karymskiy**	**2.43 356**	PN	**Pn**	**04 45 08.6**	**-1.4**
KII	**Karymskiy**	**2.43 356**	*e*P	**Pn**	**04 45 08.6**	**-1.4**
SKR	**Severo-Kuril's**	**2.48 249**	*e*PN	**Pn**	**04 45 09.8**	**-0.7**
SKR	comp=Z,144nm,0.6s		pmax	pmax		
SKR	comp=Z,3μm,14.0s		MLR	MLR		
SKR	**Severo-Kuril's**	**2.48 249**	*e*P	**Pn**	**04 45 09.8**	**-0.7**
MKZ	**Mys Kozlova**	**3.18 21**	PN	**Pn**	**04 45 16.8**	**-3.2**
MKZ	**Mys Kozlova**	**3.18 21**	*e*P	**Pn**	**04 45 16.8**	**-3.2**
TUMD	**Tumrok D**	**3.61 6**	PN	**Pn**	**04 45 24.9**	**-1.2**
TUMD	**Tumrok D**	**3.61 6**	*e*P	**Pn**	**04 45 25.0**	**-1.2**
KMNR	**Kamenistaya**	**4.16 4**	PN	**Pn**	**04 45 33.5**	**-0.1**
KMNR	**Kamenistaya**	**4.16 4**	*e*P	**Pn**	**04 45 33.5**	**-0.1**
KIRR	**Kirishev**	**4.36 4**	PN	**Pn**	**04 45 35.8**	**-0.6**
KIRR	**Kirishev**	**4.36 4**	*e*P	**Pn**	**04 45 35.8**	**-0.6**
ESO	**Esso**	**4.36 352**	PN	**Pn**	**04 45 35.7**	**-0.7**
ESO	**Esso**	**4.36 352**	*e*P	**Pn**	**04 45 35.7**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**4.37 7**	PN	**Pn**	**04 45 38.7**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**4.37 7**	*e*P	**Pn**	**04 45 38.7**	**+2.2**
KPT	**Kopyto**	**4.37 3**	PN	**Pn**	**04 45 36.3**	**-0.2**
KPT	**Kopyto**	**4.37 3**	*e*P	**Pn**	**04 45 36.3**	**-0.2**
KOZ	**Kozyrevsk**	**4.45 1**	PN	**Pn**	**04 45 38.2**	**+0.7**
KOZ	**Kozyrevsk**	**4.45 1**	*e*P	**Pn**	**04 45 38.3**	**+0.7**
KLY	**Klyuchi**	**4.74 6**	PN	**Pn**	**04 45 40.9**	**-0.5**
KLY	**Klyuchi**	**4.74 6**	*e*P	**Pn**	**04 45 41.0**	**-0.5**
KBTR	**Krutoberegovo**	**4.94 20**	PN	**Pn**	**04 45 42.3**	**-2.0**
KBTR	**Krutoberegovo**	**4.94 20**	*e*P	**Pn**	**04 45 42.3**	**-2.0**
SHEM	**Shemya Is, Ala**	**8.89 77**	P	**Pn**	**04 46 35.0**	**-3.3**
	comp=Z,10.0nm,0.3s,baz=222,slow=1.2,SNR=9.2					
SHEM			S	Sn	04 48 06.0	-11
	comp=Z,17nm,0.4s,baz=289,slow=20,SNR=7.4					
SHEM			LR	LR	04 49 46.4	
	comp=Z,194nm,21.2s,baz=304,slow=35					
SMY	**Shemya**	**8.89 77**	Pn	**Pn**	**04 46 35.2**	**-3.1**
SMY	**Shemya**	**8.89 77**	PN	**Pn**	**04 46 35.2**	**-3.1**
MA2	**Magadan**	**9.45 331**	LR	LR	04 51 00.9	
	comp=Z,342nm,19.3s,baz=178,slow=41					
MA2	**Magadan**	**9.45 331**	*e*PN	**Pn**	**04 46 45.1**	**-0.9**
SEY	**Seymchan**	**12.02 344**	P	**Pn**	**04 47 21.6**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=139,slow=7.9,SNR=4.9					
ASAJ	**Asahikawa**	**13.72 244**	LR	LR	04 54 19.1	
	comp=Z,248nm,18.2s,baz=148,slow=42					
ERM	**Erimo**	**14.85 236**	Pn	**Pn**	**04 47 56.2**	**-3.1**
ERM	**Erimo**	**14.85 236**	P	**Pn**	**04 47 56.2**	**-3.1**
BILL	**Bilibino**	**16.78 9**		**Pn**	**04 48 23.6**	**-0.2**
BILL	**Bilibino**	**16.78 9**	*d i*P	**Pn**	**04 48 23.3**	**-0.5**
KLR	**Kul'dur**	**17.96 273**	P	**P**	**04 48 39.6**	**+1.1**
	comp=Z,8.4nm,0.9s,baz=70,slow=11,SNR=22					
KLR			LR	LR	04 56 29.9	
	comp=Z,295nm,18.7s,baz=26,slow=40					
KLR	**Kul'dur**	**17.96 273**	*d i*P	**P**	**04 48 40.3**	**+1.8**
KLR	comp=Z,11nm,0.8s		pmax	pmax		
YAK	**Yakutsk**	**19.29 314**	P	**P**	**04 48 50.6**	**-2.3**
YAK	comp=Z,37nm,0.8s		IAmb	IAmb	04 48 51.4	
YAK	**Yakutsk**	**19.29 314**	P	P	04 48 45.6	-7.3
	comp=Z,25nm,0.4s,baz=311,slow=0.2,SNR=7.2					
YAK	**Yakutsk**	**19.29 314**	*e*P	**P**	**04 48 45.9**	**-7.0**
YAK			*e*S	**S**	**04 52 22.5**	**-5.8**
YAK	comp=Z,25nm,0.7s		pmax	pmax		
YAK	comp=N,5.0nm,1.8s		pmax	pmax		
YAK	comp=E,15nm,2.0s		pmax	pmax		
YAK	comp=Z,102nm,3.3s		pmax	pmax		
YAK	comp=N,69nm,5.6s		pmax	pmax		
YAK	comp=E,50nm,4.6s		smax	smax		
YAK	comp=E,61nm,5.0s		smax	smax		
YAK	comp=N,43nm,2.8s		MLR	MLR		
YAK	comp=Z,375nm,24.0s		MLR	MLR		
YAK	comp=N,260nm,20.0s		MLR	MLR		
YAK	comp=E,212nm,18.0s					
ZEA	**Zeya**	**19.73 289**	*e*P	**Pn**	**04 48 59.4**	**-0.3**
ZEA	comp=Z,10.0nm,0.8s		pmax	pmax		
ZEA	comp=E,200nm,12.0s		MLR	MLR		
ZEA	comp=Z,300nm,14.0s		MLR	MLR		
USA0B	**Ussuriysk Arra**	**19.95 259**	P	**P**	**04 49 00.5**	**+0.2**
USA0B	**Ussuriysk Arra**	**19.95 259**	P	**P**	**04 49 00.5**	**+0.2**
USA0B	comp=Z,24nm,1.4s		pmax	pmax		
USRK	**Ussuriysk Ar.**	**19.95 259**		**P**	**04 48 59.3**	**-1.0**
USRK	**Ussuriysk Ar.**	**19.95 259**	P	**P**	**04 49 00.7**	**+0.3**
	comp=Z,5.6nm,0.9s,baz=60,slow=9.5,SNR=7.5					
JSD	**Sado**	**20.31 236**		**P**	**04 49 04.5**	**+0.3**
HEH	**HeiHe**	**20.34 279**	*e*P	**P**	**04 49 03.6**	**-0.9**
HEH	comp=Z,12nm,0.9s		pmax	pmax		
HEH	comp=N,280nm,15.8s		LR	LR		
HEH	comp=E,420nm,17.4s		LR	LR		
HEH	comp=Z,500nm,15.6s		LR	LR		
MSHR	**Mys Shultsa**	**21.35 256**	*c i*P	**P**	**04 49 15.4**	**0.0**
MSHR	comp=Z,39nm,1.7s		pmax	pmax		
MAJO	**Matsushiro**	**21.48 234**		**P**	**04 49 17.5**	**+0.6**
MAJO	comp=Z,19nm,0.9s		IAmb	IAmb	04 49 24.2	
MAJO	**Matsushiro**	**21.48 234**	*i*P	**P**	**04 49 18.5**	**+1.6**
MAJO	comp=Z,23nm,1.0s		pmax	pmax		
MJAR	**Matsushiro Arr**	**21.48 234**	P	**P**	**04 49 18.2**	**+1.3**
	comp=Z,2.6nm,0.4s,baz=25,slow=10,SNR=12					
MJAR			LR	LR	04 58 14.8	
	comp=Z,229nm,20.9s,baz=40,slow=38					
	comp=Z,2.6nm,0.4s					
MJB9	**Matsu-Tunnel**	**21.48 234**	P	**P**	**04 49 18.8**	**+1.9**
MJB9	comp=Z,19nm,0.9s		IAmb	IAmb	04 49 25.2	
BNX	**BinXian**	**22.03 267**	P	**P**	**04 49 23.3**	**+0.6**
BNX	comp=Z,13nm,1.0s		pmax	pmax		
F15K	**North Star Dit**	**22.85 38**	P	**P**	**04 49 31.0**	**-0.2**
CN2	**Changchun**	**24.20 265**	P	**P**	**04 49 42.9**	**-1.3**
CN2			S	**S**	**04 53 54.8**	**-4.0**
CN2	comp=Z,10.0nm,0.6s		pmax	pmax		
CN2	comp=N,400nm,19.0s		LR	LR		
CN2	comp=E,200nm,19.0s		LR	LR		
CN2	comp=Z,300nm,16.0s		LR	LR		
TIXI	**Tiksi**	**24.35 337**		**P**	**04 49 44.0**	**-1.3**
TIXI	**Tiksi**	**24.35 337**	LR	LR	05 00 18.9	
	comp=Z,228nm,20.2s,baz=126,slow=39					
TIXI	**Tiksi**	**24.35 337**	⇓*i*P	**P**	**04 49 44.6**	**-0.7**
TIXI	comp=Z,9.0nm,0.8s		pmax	pmax		
H17K	**Granite Mounta**	**24.52 42**	P	**P**	**04 49 46.9**	**-0.1**
J17K	**VABM Dome**	**24.57 45**	P	**P**	**04 49 48.0**	**+0.5**
C18K	**Utukok River**	**25.20 33**		**P**	**04 49 53.2**	**+0.1**
C18K	comp=Z,12nm,1.1s		IAmb	IAmb	04 50 20.6	
HIA	**Hailar**	**25.37 281**		**P**	**04 49 54.3**	**-0.6**
HIA	**Hailar**	**25.37 281**	P	**P**	**04 49 54.3**	**-0.6**
HIA	comp=Z,26nm,0.8s		pmax	pmax		
H19K	**Roundabout Mou**	**26.07 41**		**P**	**04 50 00.6**	**-0.3**
KSRS	**Korea Array**	**26.49 250**	P	**P**	**04 50 06.2**	**+1.2**
	comp=Z,2.5nm,0.7s,baz=46,slow=9.6,SNR=7.3					
KSRS			LR	LR	05 00 57.3	
	comp=Z,103nm,19.3s,baz=60,slow=37					
	comp=Z,2.5nm,0.7s					
BOD	**Bodaibo**	**26.71 301**	*e*P	**P**	**04 50 05.0**	**-1.8**
BOD	comp=Z,12nm,1.5s		pmax	pmax		
D20K	**Etivluk River**	**26.79 34**		**P**	**04 50 07.3**	**-0.2**
JNU	**Nakatsue**	**27.95 240**	P	**P**	**04 50 20.9**	**+2.7**
	comp=Z,9.5nm,0.9s,baz=280,slow=1.4,SNR=3.6					
JNU			LR	LR	05 03 46.9	
	comp=Z,135nm,18.3s,baz=32,slow=41					
	comp=Z,9.5nm,0.9s					
E24K	**Your Creek**	**29.59 37**		**P**	**04 50 32.0**	**-0.5**
COLA	**College**	**29.61 43**	*i* P	**P**	**04 50 33.3**	**+0.8**
COLA	comp=Z,2.0nm,0.6s		pmax	pmax		
ILAR	**Eielson Array**	**30.02 43**	P	**P**	**04 50 35.4**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=257,slow=8.6,SNR=8.3					
	comp=Z,0.5nm,0.7s					
D25K	**Kavik River**	**30.52 34**	P	**P**	**04 50 39.8**	**-0.9**
D25K	comp=Z,4.8nm,0.7s		IAmb	IAmb	04 51 01.1	
C27K	**Jago River**	**31.49 34**	P	**P**	**04 50 49.5**	**+0.4**
C27K	comp=Z,4.5nm,0.9s		IAmb	IAmb	04 51 10.2	
H11N2	**WAKE ISLAND Hy**	**32.31 167**	T	T	05 25 42.3	
	baz=350,slow=76,SNR=190					
H11N3	**WAKE ISLAND Hy**	**32.33 167**	T	T	05 26 04.5	
	baz=350,slow=76,SNR=145					
H11N1	**WAKE ISLAND Hy**	**32.33 167**	T	T	05 25 53.4	
	baz=350,slow=76,SNR=120					
L27K	**Beaver Creek,**	**32.35 46**	P	**P**	**04 50 56.8**	**-0.1**
L27K	comp=Z,7.3nm,1.0s		IAmb	IAmb	04 51 15.4	
H11S1	**WAKE ISLAND Hy**	**33.49 168**	T	T	05 26 49.1	
	baz=351,slow=76,SNR=19					
H11S3	**WAKE ISLAND Hy**	**33.50 168**	T	T	05 26 47.6	
	baz=351,slow=76,SNR=20					
H11S2	**WAKE ISLAND Hy**	**33.51 168**	T	T	05 26 51.2	
	baz=351,slow=76,SNR=15					
ULN	**Ulaanbaatar**	**33.65 285**	⇑*i*P	**P**	**04 51 07.5**	**-1.0**
ULN	comp=Z,3.0nm,0.8s		pmax	pmax		
SONM	**Songino Array**	**34.06 285**	P	**P**	**04 51 11.9**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=62,slow=7.0,SNR=7.0					
	comp=Z,1.5nm,0.7s					
HHC	**Hu-ho-hao-te**	**34.44 271**	*e*P	**P**	**04 51 18.4**	**+3.1**
HHC	comp=Z,6.0nm,0.6s		pmax	pmax		
HHC	comp=Z,28nm,4.4s		pmax	pmax		
HHC	comp=N,190nm,16.0s		LR	LR		
HHC	comp=E,250nm,16.0s		LR	LR		
HHC	comp=Z,260nm,13.5s		LR	LR		
HNS	**HongShan**	**34.55 264**	⇓P	**P**	**04 51 16.4**	**+0.3**
HNS	comp=Z,9.0nm,1.1s		pmax	pmax		
HNS	comp=N,250nm,15.7s		LR	LR		
HNS	comp=E,210nm,18.0s		LR	LR		
HNS	comp=Z,290nm,15.1s		LR	LR		
ZAK	**Zakamensk**	**34.81 291**	*e*P	**P**	**04 51 17.8**	**-0.6**
ZAK	comp=Z,3.0nm,1.1s		pmax	pmax		
NJ2	**Nanjing**	**35.60 253**	*e*P	**P**	**04 51 26.8**	**+1.6**
NJ2	comp=Z,6.0nm,0.5s		pmax	pmax		
MOY	**Mondy**	**35.60 294**	*e*P	**P**	**04 51 24.8**	**-0.4**
MOY	comp=Z,9.0nm,1.2s		pmax	pmax		
NRIK	**Noril'sk**	**37.01 326**	P	**P**	**04 51 36.1**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=105,slow=10.0,SNR=4.5					
NRIK			LR	LR	05 08 02.1	
	comp=Z,144nm,18.0s,baz=124,slow=38					
	comp=Z,1.9nm,0.5s					
NRIK	**Noril'sk**	**37.01 326**	⇓*i*P	**P**	**04 51 36.4**	**-0.4**
NRIK	comp=Z,5.0nm,1.1s		pmax	pmax		
DLBC	**Dease Lake**	**39.11 52**	LR	LR	05 11 18.5	
	comp=Z,59nm,18.1s,baz=80,slow=41					
GTA	**Gaotai**	**42.58 278**	P	**P**	**04 52 23.8**	**+0.2**
GTA			pP	pP	04 52 29.8	-6.3
GTA	comp=Z,5.0nm,1.1s		pmax	pmax		
GTA	comp=N,180nm,13.1s		LR	LR		
GTA	comp=E,160nm,12.7s		LR	LR		
GTA	comp=Z,260nm,13.8s		LR	LR		
ZALV	**Zalesovo Beam**	**43.41 304**	P	**P**	**04 52 28.0**	**-2.0**
	comp=Z,3.3nm,0.9s,baz=71,slow=9.3,SNR=7.4					
	comp=Z,3.3nm,0.9s					
ZALV	**Zalesovo Beam**	**43.41 304**	P	**P**	**04 52 28.0**	**-2.0**
EUNU	**Eureka**	**43.44 13**		**P**	**04 52 30.7**	**+0.7**
EUNU	comp=Z,9.2nm,1.0s		IAmb	IAmb	04 52 59.2	
YKA	**Yellowknife Ar**	**44.40 41**	P	**P**	**04 52 37.4**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=301,slow=8.0,SNR=7.6					
	comp=Z,0.6nm,0.9s					
KURK	**Kurchatov**	**48.35 303**		**P**	**04 53 07.7**	**-1.2**
KURK	**Kurchatov**	**48.35 303**	P	**P**	**04 53 08.6**	**-0.3**
KURK					04 54 34.8	
KURBB	**Kurchatov Arra**	**48.45 303**	P	**P**	**04 53 08.6**	**-1.1**
	comp=Z,14nm,0.8s,baz=61,slow=7.8,SNR=60					
KURBB			PcP	**PcP**	**04 54 34.8**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=56,slow=3.2,SNR=2.6					
	comp=Z,14nm,0.8s					
SPITS	**Spitsbergen Ar**	**48.56 351**	P	**P**	**04 53 10.6**	**+0.4**
	comp=Z,15nm,0.8s,baz=61,slow=8.7,SNR=38

comp=Z,258nm,19.2s,baz=62,slow=38
comp=Z,4.1nm,0.4s
BRVK Borovoye 51.18 309 P P 04 53 29.1 -1.3
BRVK IAmb IAmb 04 53 29.7
comp=Z,14nm,1.2s
BRVK Borovoye 51.18 309 P **P 04 53 29.1 -1.3**
BRVK pmax pmax
comp=Z,14nm,1.3s
KDJ Kajisay 54.38 295 P 04 53 54.1 -0.1
KDJ IAmb IAmb 04 53 57.7
comp=Z,3.3nm,0.8s
KDJ Kajisay 54.38 295 P **P 04 53 54.2 -0.1**
KDJ pmax pmax
comp=Z,3.0nm,0.8s
ARTI Arti 54.45 318 LR LR 05 19 57.7
comp=Z,159nm,18.7s,baz=61,slow=39
ARTI Arti 54.45 318*c i* P **P 04 53 54.0 -0.4**
ARTI *PP **pP 04 54 07.5 +0.3**
ARTI S **S 05 01 28.3 -0.7**
ARTI pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 54.63 342 P **P 04 53 55.4 -0.1**
comp=Z,7.7nm,0.8s,baz=40,slow=6.6,SNR=11
ARCES LR LR 05 23 03.1
comp=Z,83nm,18.8s,baz=11,slow=42
comp=Z,7.7nm,0.8s
BOOM Boomskoye usch 54.84 296 P 04 53 57.1 -0.6
BOOM Boomskoye usch 54.84 296 P **P 04 53 57.1 -0.6**
BOOM pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 55.55 297 P 04 54 02.6 -0.1
AAK IAmb IAmb 04 54 03.3
comp=Z,3.0nm,0.8s
AAK Ala-Archa 55.55 297 P **P 04 54 02.7 -0.1**
comp=Z,2.4nm,0.8s,baz=58,slow=7.7,SNR=5.6
comp=Z,2.4nm,0.8s
AAK Ala-Archa 55.55 297*c i* P **P 04 54 02.7 -0.1**
AAK pmax pmax
comp=Z,3.0nm,0.8s
NVAR Mina Array Bea 56.45 69 P **P 04 54 10.0 +0.7**
comp=Z,0.2nm,0.6s,baz=307,slow=5.4,SNR=1.4
NVAR LR LR 05 16 28.7
comp=Z,17nm,18.7s,baz=178,slow=34
JMIC Jan Mayen 57.41 355 LR LR 05 18 45.5
comp=Z,43nm,18.7s,baz=74,slow=36
KK31 Karatay Array 57.43 300 P 04 54 15.2 -0.7
KK31 IAmb IAmb 04 54 15.9
comp=Z,5.0nm,0.9s
KK31 Karatay Array 57.43 300 P **P 04 54 15.2 -0.7**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 57.43 300 P 04 54 15.6 -0.3
KKAR Karatay Array 57.43 300 P 04 54 15.3 -0.7
KKAR IAmb IAmb 04 54 15.9
comp=Z,5.2nm,0.9s
KKAR Karatay Array 57.43 300 P **P 04 54 15.6 -0.3**
CMAR Chiang Mai Arr 57.68 259 P **P 04 54 19.3 +1.3**
comp=Z,1.1nm,0.4s,baz=26,slow=7.5,SNR=14
CMAR LR LR 05 21 37.1
comp=Z,54nm,19.4s,baz=210,slow=38
comp=Z,1.1nm,0.4s
PDAR Pinedale Array 58.44 60 P **P 04 54 23.4 +0.2**
comp=Z,0.2nm,0.6s,baz=308,slow=7.9,SNR=5.2
comp=Z,0.2nm,0.6s
AB31 Akbulak array 58.60 311 P 04 54 23.3 -0.7
AB31 IAmb IAmb 04 54 24.9
comp=Z,4.2nm,0.9s
ABKAR Akbulak array 58.60 311 P 04 54 23.4 -0.6
ABKAR Akbulak array 58.60 311 P 04 54 23.0 -1.0
ABKAR IAmb IAmb 04 54 24.9
comp=Z,4.2nm,0.9s
AKTO Aktyubinsk 58.67 313 P **P 04 54 24.5 +0.1**
comp=Z,1.2nm,0.3s,baz=58,slow=4.6,SNR=4.0
AKTO LR LR 05 22 24.4
comp=Z,328nm,18.4s,baz=83,slow=39
comp=Z,1.2nm,0.3s
JOF Joensuu 58.82 335*e* P **P 04 54 25.4 +0.1**
BTK Batken 59.33 297 P **P 04 54 28.8 -0.5**
BTK IAmb IAmb 04 54 30.4
comp=Z,7.7nm,0.9s
BTK Batken 59.33 297 P **P 04 54 28.8 -0.5**
BTK pmax pmax
comp=Z,8.0nm,1.0s
GAR Garm 60.34 296 P 04 54 35.8 -0.5
GAR IAmb IAmb 04 54 37.9
comp=Z,11nm,1.0s
HNR Honiara 60.80 180 LR LR 05 17 36.1
comp=Z,44nm,20.8s,baz=334,slow=32
VAF Ylistaro 60.80 339*e* P **P 04 54 39.9 +1.1**
KEF Keuruu 61.06 338*e* P **P 04 54 41.1 +0.5**
FIA1 FINESS Array S 61.39 337 P 04 54 43.1 +0.2
FINES FINESS Array B 61.40 337 P **P 04 54 42.9 0.0**
comp=Z,6.9nm,0.8s,baz=31,slow=8.9,SNR=20
FINES LR LR 05 25 20.0
comp=Z,64nm,20.3s,baz=34,slow=40
comp=Z,6.9nm,0.8s
BELG Belogornoye 61.71 320 P **P 04 54 44.9 -0.3**
comp=Z,11nm,0.8s,baz=77,slow=3.7,SNR=5.9
BELG LR LR 05 24 31.1
comp=Z,94nm,18.4s,baz=42,slow=39
comp=Z,11nm,0.8s
NIL Nilore 62.42 290 P 04 54 50.9 +0.6
NIL IAmb IAmb 04 54 52.5
comp=Z,10nm,1.0s
NIL Nilore 62.42 290 P **P 04 54 50.9 +0.6**
NIL pmax pmax
comp=Z,11nm,1.0s
RAF Rauma 62.79 339*e* P **P 04 54 53.0 +0.8**
MEF Metsahovi 62.87 337*e* P **P 04 54 53.2 +0.4**
ARBE Arbavere 63.15 336*e* P **P 04 54 55.7 +1.0**
OBN Obninsk 63.65 328*e* P **P 04 54 57.7 -0.3**
OBN *e*PP **pP 04 55 08.2 -2.9**
OBN *e*SP **sP 04 55 19.3 +2.8**
OBN *e* 04 55 34.8
OBN pmax pmax
comp=Z,11nm,1.4s
OBN MLR MLR
comp=Z,148nm,16.0s
VSU Vasula 63.80 335*d i* P **P 04 54 58.6 -0.3**
VSU pmax pmax
comp=Z,24nm,1.0s
VSU Vasula 63.80 335*e* P **P 04 54 59.1 +0.2**
BORG Borgarnes 63.97 1 LR LR 05 23 31.9
comp=Z,26nm,19.0s,baz=7.1,slow=37
MTSE Matsula 64.33 336*e* P **P 04 55 03.0 +0.6**
NB2 NORSAR Subarra 64.90 344 P **P 04 55 06.6 +0.4**
comp=Z,0.7nm,0.7s,baz=6.6,slow=6.2
NOA NORSAR Array B 64.90 344 P **P 04 55 06.4 +0.2**
comp=Z,2.1nm,0.8s,baz=20,slow=6.6,SNR=3.7
NOA LR LR 05 26 51.9
comp=Z,30nm,19.0s,baz=15,slow=39
comp=Z,2.1nm,0.8s
HFS Hagfors 65.29 342 P **P 04 55 08.9 +0.2**
comp=Z,3.5nm,0.5s,baz=35,slow=5.4,SNR=16
comp=Z,3.5nm,0.5s
ANMO Albuquerque 65.67 64*e* P **P 04 55 11.3 -0.5**
PABE Paberze 67.12 334 P 04 55 20.9 +0.4
PABE Paberze 67.12 334*e* P **P 04 55 21.4 +0.9**
MAK Makhachkala 69.05 313*e* P **P 04 55 31.2 -1.5**
MAK *e* 04 58 03.3
MAK *e*PPP PPP 04 59 46.2
MAK *e*S **S 05 04 35.4 +1.6**
MAK pmax pmax
comp=Z,53nm,0.8s
MAK MLR MLR
comp=Z,373nm,16.0s
AK23 Malin Array Si 69.75 329 P **P 04 55 36.6 -0.4**
AKASG Malin Array Be 69.77 329 P **P 04 55 37.0 -0.1**
comp=Z,13nm,0.8s,baz=32,slow=6.2,SNR=44
AKASG LR LR 05 31 59.0
comp=Z,79nm,18.5s,baz=24,slow=41
comp=Z,13nm,0.8s
AKASG Malin Array Be 69.77 329 P **P 04 55 37.0 -0.1**
KIEV Kiev 69.78 329 P 04 55 37.0 -0.1
KIEV Kiev 69.78 329 ⇑P **P 04 55 37.0 -0.1**
KIEV Kiev 69.78 329 P **P 04 55 37.1 -0.1**
KIEV pmax pmax
comp=Z,17nm,1.0s
RNPP1 Kostyukhnivka 70.28 331 P **P 04 55 40.0 -0.2**
RNPP5 Staryi Chortor 70.35 331 P **P 04 55 40.5 -0.1**
KIV Kislovodsk 70.38 317*e* P **P 04 55 41.6 +0.5**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,96nm,18.0s
KBZ Khabaz 70.47 317 P **P 04 55 41.6 +0.1**

comp=Z,2.5nm,1.0s,baz=313,slow=6.3,SNR=4.0
comp=Z,2.5nm,1.0s
TXAR Lajitas Array 71.42 66 P **P 04 55 48.0 +0.4**
comp=Z,0.9nm,0.8s,baz=312,slow=5.7,SNR=1.9
comp=Z,0.9nm,0.8s
TXAR Lajitas Array 71.42 66 P **P 04 55 48.0 +0.4**
SORM Soroca 72.28 328 ⇓P **P 04 55 52.5 +0.1**
SORM Soroca 72.28 328 ⇓P **P 04 55 52.5 +0.1**
EKA Eskdalemuir Ar 72.48 350 P **P 04 55 54.0 +0.6**
comp=Z,1.9nm,0.7s,baz=9.9,slow=5.1,SNR=2.0
comp=Z,1.9nm,0.7s
EKA Eskdalemuir Ar 72.48 350 P **P 04 55 54.0 +0.6**
STHS Stebnicka Huta 73.32 333*e* P **P 04 55 59.5 +1.0**
STHS Stebnicka Huta 73.32 333*e* P **P 04 55 59.5 +1.0**
KOLS Kolonicke sedl 73.46 332*e* P **P 04 56 00.8 +1.5**
KOLS Kolonicke sedl 73.46 332*e* P **P 04 56 00.8 +1.5**
CLL Collm 73.66 339 *i* P **P 04 56 01.1 +0.7**
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 73.66 339 *i* P **P 04 56 01.1 +0.7**
comp=Z,8.0nm,1.2s
CLL *ex* x 04 56 10.0
BUR08 Bucovina Ar. S 73.73 330 P 04 56 01.7 +0.6
BUR08 IAmb IAmb 04 56 02.7
comp=Z,8.4nm,0.9s
BURAR Bucovina Array 73.75 330 ⇓P **P 04 56 01.9 +0.7**
BURAR Bucovina Array 73.75 330 ⇓P **P 04 56 01.9 +0.7**
MORC Moravsky Berou 73.99 336 P 04 56 02.8 +0.3
MORC IAmb IAmb 04 56 04.6
comp=Z,5.6nm,0.9s
MORC Moravsky Berou 73.99 336 ⇓P **P 04 56 03.6 +1.2**
MORC Moravsky Berou 73.99 336 ⇓P **P 04 56 03.7 +1.2**
LANS Liptovska Anna 74.05 334*e* P **P 04 56 05.1 +2.3**
LANS Liptovska Anna 74.05 334*e* P **P 04 56 05.1 +2.3**
TESR Tescani 74.27 328 ⇓P **P 04 56 04.2 +0.1**
ONER Baraj Valea Uz 74.50 328 ⇓P **P 04 56 07.0 +1.5**
KOPT Kop Dagi 74.53 316 P 04 56 07.0 +0.9
WRA Warramunga Arr 74.65 205 P **P 04 56 07.4 +0.9**
comp=Z,1.0nm,1.0s,baz=17,slow=5.8,SNR=5.5
comp=Z,1.0nm,1.0s
VRAC Vranov 74.66 336 LR LR 05 33 17.6
comp=Z,119nm,18.6s,baz=20,slow=39
VRI Vrincioaia 74.81 328 ⇓P **P 04 56 08.0 +0.7**
VRI Vrincioaia 74.81 328 ⇓P **P 04 56 08.0 +0.7**
VYHS Vyhne 74.82 334*e* P **P 04 56 09.1 +1.8**
VYHS Vyhne 74.82 334*e* P **P 04 56 09.1 +1.8**
COVR Voineasa-Covas 75.00 328 ⇓P **P 04 56 09.9 +1.5**
TPGR Topolog 75.12 326 ⇓P **P 04 56 10.1 +1.0**
MODS Modra-Piesok 75.35 335*e* P **P 04 56 13.9 +3.6**
MODS Modra-Piesok 75.35 335*e* P **P 04 56 13.9 +3.6**
MLR Muntele Rosu 75.40 328 P 04 56 12.2 +1.3
MLR IAmb IAmb 04 56 13.0
comp=Z,4.9nm,0.8s
MLR Muntele Rosu 75.40 328 LR LR 05 34 08.7
comp=Z,110nm,18.3s,baz=40,slow=40
MLR Muntele Rosu 75.40 328 ⇓P **P 04 56 12.3 +1.5**
MLR Muntele Rosu 75.40 328 ⇓P **P 04 56 12.3 +1.5**
HARR Harsova 75.44 327 ⇓P **P 04 56 12.3 +1.4**
TIRR Tirgusor 75.48 326 ⇓P **P 04 56 11.9 +0.8**
TIRR Tirgusor 75.48 326 ⇓P **P 04 56 11.9 +0.8**
KHC Kasperske Hory 75.56 338*e* P **P 04 56 13.2 +1.6**
KHC Kasperske Hory 75.56 338*d i* P **P 04 56 13.1 +1.5**
KHC pmax pmax
comp=Z,10.0nm,1.0s
VOIR 75.74 329 ⇑P **P 04 56 13.8 +1.1**
VOIR 75.74 329 ⇑P **P 04 56 13.8 +1.1**
GERES GERESS Array B 75.80 338 P **P 04 56 12.8 -0.2**
comp=Z,1.3nm,0.8s,baz=35,slow=4.9,SNR=7.7
comp=Z,1.3nm,0.8s
ARR Arges 75.93 329 ⇓P **P 04 56 14.8 +1.0**
CONA Conrad Observa 76.12 336*e* P **P 04 56 16.8 +1.9**
comp=Z,5.6nm,1.1s
VBMS Vicksburg 76.32 55 P **P 04 56 16.6 +0.5**
SURR Surduc 76.37 331 ⇑P **P 04 56 17.3 +1.2**
ILGA Ilgaz 76.46 321 P 04 56 18.3 +1.2
GZR Gura Zlata 76.49 330 ⇑P **P 04 56 17.6 +0.7**
GZR Gura Zlata 76.49 330 ⇑P **P 04 56 17.6 +0.7**
BZS Buzias 76.64 331 ⇑P **P 04 56 17.5 -0.2**
BZS Buzias 76.64 331 ⇑P **P 04 56 17.5 -0.2**
HERR Herculane 77.06 330 ⇑P **P 04 56 20.6 +0.5**
MDVR Moldovita 77.37 331 ⇑P **P 04 56 22.1 +0.2**
BNN Bunyan 77.47 318 P 04 56 23.5 +0.8
SOKA Soboth 77.49 336*e* P **P 04 56 23.7 +1.2**
comp=Z,2.4nm,0.9s
KBA Koenbreinsper 77.54 337*e* P **P 04 56 24.6 +1.6**
comp=Z,6.6nm,0.8s
BR131 Keskin Array S 77.63 320 P 04 56 24.1 +0.5
BR131 IAmb IAmb 04 56 25.4
comp=Z,6.8nm,1.1s
BR131 Keskin Array S 77.63 320 P **P 04 56 24.1 +0.5**
BR131 pmax pmax
comp=Z,7.0nm,1.1s
BRTR Keskin Array B 77.63 320 P 04 56 23.6 +0.1
BRTR Keskin Array B 77.63 320 P **P 04 56 23.3 -0.3**
comp=Z,3.7nm,0.9s,baz=49,slow=4.7,SNR=20
comp=Z,3.7nm,0.9s
BRTR Keskin Array B 77.63 320 P **P 04 56 23.7 +0.1**
WATA Walderalm 77.71 338*e* P **P 04 56 25.6 +1.7**
comp=Z,2.9nm,0.5s
WTTA Wattenberg 77.77 338*e* P **P 04 56 24.3 0.0**
comp=Z,9.1nm,1.0s
OBKA Obir 77.77 336*e* P **P 04 56 25.1 +0.9**
comp=Z,6.1nm,1.1s
MOTA Moosalm 77.81 339*e* P **P 04 56 25.6 +1.1**
comp=Z,4.4nm,0.8s
SQTA Sankt Quirin 77.91 339*e* P **P 04 56 26.5 +1.6**
comp=Z,8.9nm,1.6s
KIRS Kirsehir-Merke 78.02 320 ⇓P **P 04 56 26.5 +0.8**
ABTA Abfaltersbach 78.05 338*e* P **P 04 56 27.1 +1.5**
comp=Z,5.0nm,0.9s
DAVA Damuels 78.14 340*e* P **P 04 56 29.0 +2.7**
comp=Z,10nm,1.3s
FETA Feichten 78.20 339*e* P **P 04 56 27.4 +0.8**
comp=Z,4.9nm,0.9s
ASAR Alice Springs 78.32 204 P **P 04 56 28.1 +0.9**
comp=Z,0.3nm,0.5s,baz=14,slow=5.8,SNR=2.4
comp=Z,0.3nm,0.5s
TUE Stuetta 79.03 340 P 04 56 31.2 0.0
TUE IAmb IAmb 04 56 36.2
comp=Z,6.1nm,0.9s
NRCA Norcia 81.57 336 P 04 56 46.2 +1.4
MMAI Mount Meron Ar 82.62 316 P **P 04 56 51.3 +0.8**
comp=Z,2.8nm,0.5s,baz=19,slow=4.9,SNR=4.5
comp=Z,2.8nm,0.5s
ASF Jabal al Asfar 82.68 314 LR LR 05 38 54.9
comp=Z,106nm,19.1s,baz=177,slow=40
EIL Elat 85.68 314 LR LR 05 40 49.4
comp=Z,77nm,18.4s,baz=244,slow=39
RAYN Ar Rayn 85.69 303 ⇑P **P 04 57 07.2 +1.1**
H03N2 Juan Fernandez 134.41 90 T T 07 34 28.8
baz=314,slow=77,SNR=30
H03N1 Juan Fernandez 134.42 90 T T 07 34 31.8
baz=314,slow=77,SNR=50
H03N3 Juan Fernandez 134.42 90 T T 07 34 31.2
baz=314,slow=77,SNR=37

KRSC ***24*** *04:54:39.7±1.6, 51°.49N×160°.09E, h61km±28km, Ml4.4*
IDC ***24*** *04:54:43.7±2.5, 51°.45N×160°.07E, h51km±19km, mb3.9/17, mbtmp4.2/20, ML3.6/3, Error ellipse: s-maj=17.3km s-min=15.0km az=4.0*
MOS ***24*** *04:54:43.7±1.0, 51°.65N×159°.89E, h59km, mb4.5/5, Error ellipse: s-maj=10.6km s-min=4.6km az=103.6*
ISC 24 04:54:43.1±1.0, 51°.53N±0°.06×160°.09E±0°.06, h54km±8km, n90, σ1°24/76, mb4.2/22, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.29**	**284**	PN	**Pn**	**04 55 03.0**	**-1.7**
KDTR				S	**Sn**	**04 55 18.2**	**-2.7**
KDTR	**Khodutka, Kamc**	**1.29**	**284**	*e*P	**Pn**	**04 55 03.0**	**-1.7**
KDTR				*e*S	**Sn**	**04 55 18.2**	**-2.7**
RUS	**Russkaya**	**1.33**	**314**	PN	**Pn**	**04 55 03.4**	**-1.9**
RUS				S	**Sn**	**04 55 19.7**	**-2.3**
RUS	**Russkaya**	**1.33**	**314**	*e*P	**Pn**	**04 55 03.4**	**-1.9**
RUS				*e*S	**Sn**	**04 55 19.7**	**-2.3**
MTVR	**Mutnovka**	**1.52**	**310**	PN	**Pn**	**04 55 06.6**	**-1.4**
MTVR	**Mutnovka**	**1.52**	**310**	*e*P	**Pn**	**04 55 06.6**	**-1.4**
SPN	**Mys Shipunski**	**1.57**	**358**	PN	**Pn**	**04 55 08.7**	**+0.1**
SPN	**Mys Shipunski**	**1.57**	**358**	*e*P	**Pn**	**04 55 08.7**	**+0.1**
GRL	**Gorelyy**	**1.62**	**310**	PN	**Pn**	**04 55 08.6**	**-0.7**
GRL	**Gorelyy**	**1.62**	**310**	*e*P	**Pn**	**04 55 08.7**	**-0.7**
NLC	**Nalytchevo**	**1.71**	**345**	PN	**Pn**	**04 55 09.8**	**-0.6**
NLC	**Nalytchevo**	**1.71**	**345**	*e*P	**Pn**	**04 55 09.8**	**-0.6**
DALK	**Dalny**	**1.72**	**332**	PN	**Pn**	**04 55 09.8**	**-0.7**
DALK				S	**Sn**	**04 55 31.8**	**+0.5**
DALK	**Dalny**	**1.72**	**332**	*e*P	**Pn**	**04 55 09.8**	**-0.7**
DALK				*e*S	**Sn**	**04 55 31.8**	**+0.5**
PET	**Petropavlovsk**	**1.74**	**330**	*e*PN	**Pn**	**04 55 09.7**	**-1.2**
PET				*e*S	**Sn**	**04 55 32.5**	**+0.5**
PET				pmax	pmax		
comp=Z,711nm,0.5s							
PET				smax	smax		
comp=N,2μm,0.5s							
PET				smax	smax		
comp=E,992nm,0.5s							
PET	**Petropavlovsk**	**1.74**	**330**	*e*P	**Pn**	**04 55 10.4**	**-0.5**
PET				*e*S	**Sn**	**04 55 32.4**	**+0.5**
KRMR	**Karymshinskiy**	**1.78**	**318**	PN	**Pn**	**04 55 10.0**	**-1.4**
KRMR	**Karymshinskiy**	**1.78**	**318**	*e*P	**Pn**	**04 55 10.0**	**-1.4**
INSR	**Institute**	**1.79**	**330**	PN	**Pn**	**04 55 11.2**	**-0.3**
INSR	**Institute**	**1.79**	**330**	*e*P	**Pn**	**04 55 11.3**	**-0.3**
UGLR	**Uglovaya**	**1.86**	**336**	PN	**Pn**	**04 55 12.0**	**-0.5**
UGLR	**Uglovaya**	**1.86**	**336**	*e*P	**Pn**	**04 55 12.1**	**-0.5**
SDLR	**Sedlovina**	**1.91**	**338**	PN	**Pn**	**04 55 12.4**	**-0.8**
SDLR	**Sedlovina**	**1.91**	**338**	*e*P	**Pn**	**04 55 12.5**	**-0.8**
AVH	**Avacha**	**1.93**	**335**	PN	**Pn**	**04 55 13.3**	**-0.2**
AVH	**Avacha**	**1.93**	**335**	*e*P	**Pn**	**04 55 13.4**	**-0.2**
KOK	**Koryaka**	**1.98**	**334**	PN	**Pn**	**04 55 14.4**	**+0.2**
KOK	**Koryaka**	**1.98**	**334**	*e*P	**Pn**	**04 55 14.5**	**+0.2**
KRX	**Arik**	**2.04**	**335**	PN	**Pn**	**04 55 14.4**	**-0.6**
KRX	**Arik**	**2.04**	**335**	*e*P	**Pn**	**04 55 14.4**	**-0.6**
PAU	**Pauzhetka**	**2.05**	**270**	PN	**Pn**	**04 55 14.4**	**-0.7**
PAU	**Pauzhetka**	**2.05**	**270**	*e*P	**Pn**	**04 55 14.5**	**-0.7**
PEA0B	**Petropavlovsk-**	**2.16**	**318**	PN	**Pn**	**04 55 16.0**	**-0.6**
PETK	**Petropavlovsk-**	**2.16**	**318**	P	**Pn**	**04 55 16.2**	**-0.4**
comp=E,28nm,0.3s,baz=114,slow=20,SNR=61							
PETK				S	**Sn**	**04 55 45.2**	**+3.0**
comp=E,155nm,0.5s,baz=213,slow=21,SNR=8.3							
comp=E,96nm,0.5s							
APC	**Apacha**	**2.29**	**309**	PN	**Pn**	**04 55 18.3**	**+0.1**
APC	**Apacha**	**2.29**	**309**	*e*P	**Pn**	**04 55 18.4**	**+0.1**
GNL	**Ganaly**	**2.54**	**330**	PN	**Pn**	**04 55 21.7**	**-0.1**
GNL	**Ganaly**	**2.54**	**330**	*e*P	**Pn**	**04 55 21.7**	**-0.1**
KII	**Karymskiy**	**2.54**	**351**	PN	**Pn**	**04 55 21.8**	**-0.1**
KII	**Karymskiy**	**2.54**	**351**	*e*P	**Pn**	**04 55 21.8**	**-0.1**
SKR	**Severo-Kuril's**	**2.65**	**253**	*e*PN	Pn	04 55 25.9	+2.7
SKR				*e*S	**Sn**	**04 55 57.8**	**+3.8**
SKR				pmax	pmax		
comp=Z,83nm,0.6s							
SKR				smax	smax		
comp=E,703nm,0.6s							
SKR				smax	smax		
comp=N,918nm,0.7s							
SKR	**Severo-Kuril's**	**2.65**	**253**	*e*P	**Pn**	**04 55 22.8**	**-0.4**
SKR				*e*S	**Sn**	**04 55 52.4**	**-1.6**
MKZ	**Mys Kozlova**	**3.19**	**17**	PN	**Pn**	**04 55 29.9**	**-0.7**
MKZ	**Mys Kozlova**	**3.19**	**17**	*e*P	**Pn**	**04 55 30.0**	**-0.7**
KMNR	**Kamenistaya**	**4.24**	**1**	PN	Pn	04 55 48.5	+3.4
KMNR	**Kamenistaya**	**4.24**	**1**	*e*P	Pn	04 55 48.5	+3.4
KBTR	**Krutoberegovo**	**4.96**	**18**	PN	**Pn**	**04 55 55.1**	**+0.2**
KBTR	**Krutoberegovo**	**4.96**	**18**	*e*P	**Pn**	**04 55 55.1**	**+0.2**
BKI	**Bering**	**5.09**	**41**	*e*S	**Sn**	**04 56 51.1**	**-3.0**
SHEM	**Shemya Is, Ala**	**8.70**	**77**	P	**Pn**	**04 56 47.1**	**+0.9**
comp=N,3.3nm,0.3s,baz=258,slow=21,SNR=1.4							
comp=N,7.8nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**12.14**	**237**	*i* PN	P	04 57 35.3	-8.9
BILL	**Bilibino**	**16.84**	**8**	*i* P	**P**	**04 58 36.0**	**-0.2**
KLR	**Kul'dur**	**18.18**	**274**	P	**Pn**	**04 58 53.1**	**+1.8**
comp=N,0.1nm,0.3s,baz=58,slow=9.6,SNR=8.4							
comp=N,3.2nm,0.9s							
MAJO	**Matsushiro**	**21.60**	**235**	*i* P	P	04 59 31.8	+3.5
MJAR	**Matsushiro Arr**	**21.60**	**235**	P	**P**	**04 59 29.1**	**+0.8**
comp=N,1.2nm,0.3s,baz=26,slow=10,SNR=4.9							
comp=N,1.2nm,0.3s							
TIXI	**Tiksi**	**24.52**	**337**	P	**P**	**04 59 57.6**	**+0.7**
comp=N,4.2nm,0.3s,baz=135,slow=8.4,SNR=6.6							
comp=N,4.2nm,0.3s							
HIA	**Hailar**	**25.60**	**281**	*i* P	**P**	**05 00 06.4**	**-0.6**
HIA				pmax	pmax		
comp=Z,11nm,0.9s							
KSRS	**Korea Array**	**26.66**	**251**	P	**P**	**05 00 18.3**	**+1.7**
comp=Z,0.9nm,0.6s,baz=52,slow=11,SNR=4.1							
comp=Z,0.9nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**32.18**	**168**	T	T	05 35 07.6	
baz=352,slow=76,SNR=8.9							
H11N3	**WAKE ISLAND Hy**	**32.19**	**168**	T	T	05 35 12.2	
baz=352,slow=76,SNR=8.8							
H11N1	**WAKE ISLAND Hy**	**32.19**	**168**	T	T	05 35 10.1	
baz=352,slow=76,SNR=9.4							
H11S1	**WAKE ISLAND Hy**	**33.36**	**169**	T	T	05 37 46.8	
baz=351							
H11S3	**WAKE ISLAND Hy**	**33.37**	**169**	T	T	05 37 45.4	
baz=351							
H11S2	**WAKE ISLAND Hy**	**33.38**	**169**	T	T	05 37 35.3	
baz=351							
BBB	**Bella Bella**	**42.65**	**60**	P	**P**	**05 02 34.2**	**+0.3**
comp=Z,20nm,1.1s,baz=155,slow=14,SNR=2.4							
comp=Z,20nm,1.1s							
ZALV	**Zalesovo Beam**	**43.64**	**304**	P	**P**	**05 02 41.3**	**-0.6**
comp=Z,0.6nm,0.3s,baz=42,slow=6.5,SNR=2.3							
comp=Z,0.6nm,0.3s							
YKA	**Yellowknife Ar**	**44.33**	**41**	P	P	05 02 49.6	+2.3
comp=Z,0.2nm,0.8s,baz=300,slow=8.1,SNR=3.7							
KURK	**Kurchatov**	**48.58**	**303**	P	**P**	**05 03 21.2**	**+0.5**
KURBB	**Kurchatov Arra**	**48.67**	**303**	P	**P**	**05 03 21.2**	**-0.3**
comp=Z,3.9nm,0.7s,baz=61,slow=7.8,SNR=23							
comp=Z,3.9nm,0.7s							
SPITS	**Spitsbergen Ar**	**48.68**	**351**	P	P	05 03 23.2	+2.0
comp=Z,3.3nm,0.5s,baz=57,slow=9.1,SNR=42							
comp=Z,3.3nm,0.5s							
MK31	**Makanchi Array**	**48.85**	**297**	P	**P**	**05 03 22.5**	**-0.4**
MKAR	**Makanchi Array**	**48.85**	**297**	P	**P**	**05 03 23.1**	**+0.1**
comp=Z,1.0nm,0.5s,baz=57,slow=6.9,SNR=16							
comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**51.37**	**309**	P	**P**	**05 03 41.8**	**-0.1**
comp=Z,2.5nm,0.4s,baz=54,slow=7.5,SNR=20							
comp=Z,2.5nm,0.4s							
BRVK	**Borovoye**	**51.41**	**309**	*i* P	**P**	**05 03 41.7**	**-0.4**
BRVK				pmax	pmax		
comp=Z,4.0nm,1.3s							
ARCES	**ARCESS Array B**	**54.78**	**342**	P	P	05 04 08.5	+1.8
comp=Z,2.9nm,0.7s,baz=45,slow=7.5,SNR=12							
comp=Z,2.9nm,0.7s							
AAK	**Ala-Archa**	**55.78**	**297**	*i* P	P	05 04 15.3	+0.8
AAK				pmax	pmax		
comp=Z,5.0nm,2.0s							
PDAR	**Pinedale Array**	**58.30**	**60**	P	**P**	**05 04 32.6**	**+0.3**
comp=Z,0.1nm,0.5s,baz=316,slow=9.1,SNR=1.4							
FINES	**FINESS Array B**	**61.56**	**337**	P	P	05 04 56.1	+2.0
comp=Z,1.4nm,0.5s,baz=28,slow=7.4,SNR=9.5							
comp=Z,1.4nm,0.5s							
OBN	**Obninsk**	**63.84**	**328**	*e*P	**P**	**05 05 09.1**	**-0.2**
OBN				*e*PP	**sP**	**05 05 30.0**	**+1.2**
OBN				*e*		05 05 48.4	
OBN				pmax	pmax		
comp=Z,4.0nm,0.9s							
OBN				MLR	MLR		
comp=Z,56nm,15.0s							
NB2	**NORSAR Subarra**	**65.05**	**344**	P	P	05 05 19.5	+2.3
comp=Z,1.1nm,0.5s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**65.05**	**344**	P	P	05 05 18.9	+1.7
comp=Z,0.9nm,0.7s,baz=14,slow=5.2,SNR=5.1							
comp=Z,0.9nm,0.7s							
NOA	**NORSAR Array B**	**65.05**	**344**	P	P	05 05 19.0	+1.8
HFS	**Hagfors**	**65.44**	**342**	P	P	05 05 21.7	+2.0
comp=Z,1.8nm,0.4s,baz=38,slow=5.6,SNR=16							
comp=Z,1.8nm,0.4s							
AKASG	**Malin Array Be**	**69.96**	**329**	P	P	05 05 50.0	+1.6
comp=Z,3.4nm,0.6s,baz=31,slow=6.1,SNR=17							
comp=Z,3.4nm,0.6s							
AKASG	**Malin Array Be**	**69.96**	**329**	*i* P	P	05 05 50.0	+1.7
AKASG				pmax	pmax		
comp=Z,4.0nm,0.7s							
WRA	**Warramunga Arr**	**74.66**	**205**	P	P	05 06 18.0	+1.4
comp=Z,0.6nm,0.8s,baz=18,slow=5.8,SNR=2.4							
comp=Z,0.6nm,0.8s							
WRA	**Warramunga Arr**	**74.66**	**205**	P	P	05 06 18.0	+1.4
BRTR	**Keskin Array B**	**77.83**	**321**	P	P	05 06 36.3	+1.6

mbtmp3.6/4, Error ellipse: s-maj=52.2km s-min=36.6km az=19.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.15**	**270**	P	P	05 21 15.2	-0.4
	0.4nm,0.7s,baz=110,slow=7.6,SNR=4.4						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**42.30**	**275**	P	P	05 21 25.1	+0.1
	0.6nm,0.7s,baz=116,slow=7.6,SNR=3.1						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**58.06**	**180**	P	P	05 23 24.1	0.0
	0.9nm,0.7s,baz=0.0,slow=2.0,SNR=5.1						
	0.9nm,0.7s						
TXAR	**Lajitas Array**	**94.88**	**58**	P	P	05 26 53.5	-0.1
	0.3nm,0.7s,baz=204,slow=5.6,SNR=2.8						
	0.3nm,0.7s						

*SJA **24** 05:21:52.4±4.0, 33°.82S×72°.88W, h10km, ML3.4, MW3.7*
*GUC **24** 05:21:53.7±0.8, 33°.81S×72°.45W, h36km±2km, ML3.0*
ISC 24 05:21:51.6±1.9, **33°.82S**±0°.04×**72°.53W**±0°.08, **h12**km±10km, **n28**, σ0s**80**/54, **12C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA05	**Santo Domingo**	**0.78**	**79**	⇓*eP*	**Pb**	**05 22 07.5**	**+0.4**
VA05				*eS*	**Sg**	**05 22 17.4**	**+0.6**
VA05				IAML		05 22 22.5	
	comp=N,1μm,0.3s						
BO03	**Pichilemu**	**0.83**	**145**	*eP*	**Pn**	**05 22 08.6**	**-0.5**
BO03				*eS*	**Sb**	**05 22 19.5**	**+0.5**
BO03				IAML		05 22 21.2	
	comp=E,1μm,0.5s						
MT01	**Popeta**	**1.06**	**93**	⇑*eP*	**Pg**	**05 22 11.8**	**-0.3**
MT01				*eS*	**Sg**	**05 22 25.3**	**-0.7**
MT01				IAML		05 22 27.3	
	comp=E,494nm,0.3s						
VA01	**Torpederas**	**1.08**	**43**	*eP*	**Pn**	**05 22 12.2**	**-0.4**
VA01				*eS*	**Sg**	**05 22 25.6**	**-0.9**
MT09	**Talagante**	**1.28**	**89**	⇑*eP*	**Pn**	**05 22 15.0**	**-0.5**
MT09				*eS*	**Sb**	**05 22 31.4**	**-0.9**
MT09				IAML		05 22 31.8	
	comp=N,456nm,0.3s						
MT02	**Curacav**	**1.29**	**65**	⇓*eP*	**Pn**	**05 22 15.1**	**-0.3**
MT02				*eS*	**Sb**	**05 22 31.7**	**-0.6**
MT02				IAML		05 22 38.5	
	comp=N,295nm,0.4s						
GO05	**Hualane**	**1.29**	**158**	*eP*	**Pg**	**05 22 15.9**	**-0.6**
GO05				*eS*	**Sb**	**05 22 32.5**	**+0.1**
GO05				IAML		05 22 38.4	
	comp=E,392nm,0.6s						
BO01	**Tunca**	**1.33**	**116**	⇑*eP*	**Pn**	**05 22 15.5**	**-0.5**
BO01				*eS*	**Sb**	**05 22 32.4**	**-1.1**
BO01				IAML		05 22 35.4	
	comp=N,390nm,0.7s						
MT05	**Renca**	**1.55**	**75**	⇑*eP*	**Pn**	**05 22 19.5**	**+0.3**
MT05				*eS*	**Sn**	**05 22 38.6**	**-0.7**
MT05				IAML		05 22 48.2	
	comp=E,247nm,0.4s						
BO04	**La Punta**	**1.60**	**97**	⇑*eP*	**Pn**	**05 22 20.3**	**+0.4**
BO04				*eS*	**Sn**	**05 22 40.1**	**-0.5**
BO04				IAML		05 22 50.0	
	comp=E,403nm,0.7s						
VA06	**Catapilco**	**1.62**	**40**	⇑*eP*	**Pn**	**05 22 20.1**	**0.0**
VA06				*eS*	**Sn**	**05 22 39.4**	**-1.5**
VA06				IAML		05 22 50.5	
	comp=N,535nm,0.6s						
MT12	**Pirque**	**1.65**	**88**	*i* P	**Pn**	**05 22 20.6**	**+0.1**
MT12				*i* S	**Sn**	**05 22 41.1**	**-0.5**
MT12				IAML		05 22 48.1	
	comp=E,364nm,0.2s						
PEL	**Peldehue**	**1.68**	**67**	⇑*eP*	**Pb**	**05 22 21.8**	**-0.7**
PEL				*eS*	**Sn**	**05 22 42.2**	**-0.2**
PEL				IAML		05 22 54.2	
	comp=E,247nm,0.4s						
MT15	**Las Vizcachas**	**1.70**	**83**	⇑*eP*	**Pn**	**05 22 21.2**	**+0.1**
MT15				*eS*	**Sn**	**05 22 42.7**	**-0.2**
MT15				IAML		05 22 50.2	
	comp=N,534nm,0.6s						
MT03	**Universidad Ad**	**1.71**	**80**	⇑*eP*	**Pn**	**05 22 21.8**	**+0.4**
MT03				*eS*	**Sn**	**05 22 43.0**	**-0.3**
MT03				IAML		05 22 53.2	
	comp=N,362nm,0.4s						
MT14	**Cerro Calıın**	**1.71**	**76**	⇑*eP*	**Pn**	**05 22 21.9**	**+0.5**
MT14				*eS*	**Sn**	**05 22 42.2**	**-1.1**
MT14				IAML		05 22 57.7	
	comp=E,391nm,0.6s						
MT16	**CCHEN**	**1.72**	**78**	⇑*eP*	**Pn**	**05 22 21.9**	**+0.5**
MT16				*eS*	**Sn**	**05 22 42.6**	**-0.7**
MT16				IAML		05 22 55.1	
	comp=E,230nm,0.6s						
BO02	**Sierra Bellavi**	**1.74**	**124**	*eP*	**Pn**	**05 22 22.6**	**+0.8**
BO02				*eS*	**Sn**	**05 22 45.0**	**+1.0**
BO02				IAML		05 22 55.3	
	comp=E,525nm,0.2s						
MT10	**Hacienda Santa**	**1.75**	**73**	*eP*	**Pn**	**05 22 22.6**	**+0.7**
MT10				*eS*	**Sn**	**05 22 45.0**	**+0.7**
MT10				IAML		05 22 54.6	
	comp=N,710nm,0.7s						
MT13	**San Alfonso**	**1.87**	**88**	⇑*eP*	**Pn**	**05 22 24.0**	**+0.4**
MT13				*eS*	**Sn**	**05 22 47.2**	**+0.1**
MT13				IAML		05 22 53.8	
	comp=E,360nm,0.3s						
FCH	**Farellones**	**1.93**	**76**	*eP*	**Pn**	**05 22 25.2**	**+0.6**
FCH				*eS*	**Sn**	**05 22 50.6**	**+1.7**
FCH				IAML		05 22 55.9	
	comp=E,129nm,0.3s						
LMEL	**Las Melosas**	**1.94**	**92**	*eP*	**Pn**	**05 22 25.2**	**+0.7**
LMEL				*eS*	**Sn**	**05 22 49.0**	**+0.1**
LMEL				IAML		05 22 55.0	
	comp=N,254nm,0.1s						
VA03	**San Esteban**	**1.96**	**58**	*eP*	**Pg**	**05 22 29.7**	**+0.5**
VA03				*eS*	**Sg**	**05 22 57.5**	**+2.8**
VA03				IAML		05 22 58.7	
	comp=Z,215nm,1.2s						
MT04	**Ro Olivares**	**2.04**	**79**	*i* P	**Pn**	**05 22 26.4**	**+0.4**
MT04				*i* S	**Sn**	**05 22 51.7**	**+0.2**
MT04				IAML		05 23 03.3	
	comp=N,116nm,0.6s						
AUSP	**Uspallata**	**3.08**	**60**	*eP*	**Pb**	**05 22 47.4**	**+0.9**
AUSP				*eS*	**Sg**	**05 23 30.0**	**-0.6**
ARCO	**CERRO ARCO**	**3.16**	**73**	*eP*	**Pb**	**05 22 48.3**	**+0.4**
ARCO				IAML		05 23 37.0	
	comp=Z,58nm,1.1s						
AAGR	**Agrelo**	**3.18**	**78**	*eP*	**Pg**	**05 22 51.9**	**-0.7**
AAGR				IAML		05 23 51.4	
	comp=Z,61nm,1.1s						
RTLS	**Leoncito**	**3.38**	**54**	*eP*	**Pb**	**05 22 53.3**	**+1.6**
RTLS				*eS*	**Sg**	**05 23 39.5**	**-0.9**
RTLS				IAML		05 23 44.1	
	comp=Z,195nm,0.9s						

*KRSC **24** 05:39:00.5±1.2, 58°.80N×158°.82E, h16km±13km, Ml3.9*
*NERS **24** 05:39:04.1, 58°.96N×158°.63E, h0km*
ISC 24 05:38:59.3±1.4, **58°.81N**±0°.04×**158°.80E**±0°.03, **h4**km±14km, **n34**, σ2s**56**/46, **Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALN	**Palana**	**0.67**	**64**	*eP*	**Pb**	**05 39 13.8**	**+0.2**
PALN				*eS*	**Sg**	**05 39 22.3**	**+1.4**
OSSR	**Ossora**	**2.25**	**77**	*eP*	**Pn**	**05 39 38.4**	**+1.1**
OSSR				*eS*	**Sb**	**05 40 06.6**	**-2.1**
SRKR	**Sorokina**	**2.50**	**148**	*eS*	**Sb**	**05 40 13.8**	**-2.3**
SRDR	**Sredinnyy**	**2.54**	**168**	*eP*	**Pn**	**05 39 42.6**	**+1.1**
SRDR				*eS*	**Sn**	**05 40 13.4**	**+0.5**
BDR	**Baidarnaya**	**2.59**	**149**	*eS*	**Sb**	**05 40 15.4**	**-3.1**
SMKR	**Semkarok**	**2.65**	**146**	*eS*	**Sn**	**05 40 16.3**	**+0.7**
KLY	**Klyuchi**	**2.69**	**157**	*eS*	**Sb**	**05 40 19.3**	**-2.1**
KRSR	**Krestovskiy**	**2.77**	**159**	*eP*	**Pb**	**05 39 47.3**	**-2.1**
KRSR				*eS*	**Sb**	**05 40 23.0**	**-0.7**
KOZ	**Kozyrevsk**	**2.82**	**168**	*eP*	**Pb**	**05 39 47.5**	**-2.7**
KOZ				*eS*	**Sb**	**05 40 21.3**	**-3.7**
ESO	**Esso**	**2.89**	**181**	*eP*	**Pn**	**05 39 48.1**	**+2.0**
ESO				*eS*	**Sn**	**05 40 21.8**	**+0.4**
CIRR	**Tsirk**	**2.90**	**158**	*eP*	**Pn**	**05 39 47.7**	**+1.3**
CIRR				*eS*	**Sn**	**05 40 22.8**	**+1.1**
LGNR	**Loginova**	**2.92**	**159**	*eS*	**Sn**	**05 40 23.4**	**+1.1**
KPT	**Kopyto**	**2.95**	**164**	*eP*	**Pn**	**05 39 49.5**	**+2.4**
KIRR	**Kirishev**	**2.98**	**163**	*eP*	**Pn**	**05 39 49.3**	**+1.8**
BZWR	**Bezymyannyi-We**	**2.99**	**161**	*eP*	**Pb**	**05 39 50.7**	**-2.6**
ZLN	**Zelenaya**	**3.00**	**158**	*eP*	**Pb**	**05 39 50.5**	**-2.9**
BZMR	**Bezymyannaya**	**3.02**	**162**	*eP*	**Pn**	**05 39 50.4**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**3.05**	**159**	*eP*	**Pn**	**05 39 51.0**	**+2.5**
EVEN	**Evensk**	**3.13**	**4**	*eP*	**Pn**	**05 39 52.3**	**+2.9**
EVEN				Pgmax		05 39 58.8	
	10.0nm,0.3s						
EVEN				*e*Pg	**Pg**	**05 39 59.0**	**-0.2**
EVEN				*e*Sg	**Sg**	**05 40 39.7**	**0.0**
EVEN				Sgmax		05 40 47.9	
	90nm,0.6s						
EVEN				Sgmax		05 40 47.9	
	180nm,0.6s						
KMNR	**Kamenistaya**	**3.16**	**165**	*eP*	**Pn**	**05 39 51.7**	**+1.9**
KMNR				*eS*	**Sn**	**05 40 29.4**	**+1.4**
KBTR	**Krutoberegovo**	**3.39**	**138**	*eP*	**Pn**	**05 39 55.1**	**+2.1**
TUMD	**Tumrok D**	**3.72**	**166**	*eP*	**Pn**	**05 40 00.6**	**+3.1**
TUMD				*eS*	**Sn**	**05 40 43.2**	**+1.5**
GADL	**Gadlja**	**3.94**	**286**	*e*Sg	**Sg**	**05 41 03.3**	**-2.3**
GADL				Sgmax		05 41 14.2	
	330nm,0.6s						
TLAR	**Talaya**	**3.97**	**309**	*eS*	**Sg**	**05 41 10.4**	**+3.6**
TILK	**Tilichiki**	**4.08**	**63**	*eP*	**Pn**	**05 40 06.3**	**+3.9**
TILK				*eS*	**Sb**	**05 40 54.9**	**-6.3**
MA2	**Magadan**	**4.20**	**284**	*eP*	**Pb**	**05 40 10.3**	**-3.4**
MA2				*e*Pg	**Pg**	**05 40 21.3**	**+1.6**
MA2				Pgmax		05 40 21.8	
MA2				*e*Sg	**Sg**	**05 41 13.9**	**-0.2**
MA2				Sgmax		05 41 29.1	
	80nm,0.7s						
MA2				Sgmax		05 41 29.1	
	30nm,0.7s						
MKZ	**Mys Kozlova**	**4.56**	**158**	*eP*	**Pn**	**05 40 12.1**	**+3.1**
GNL	**Ganaly**	**5.14**	**186**	*eP*	Pn	05 40 22.0	+4.8
SEY	**Seymchan**	**5.19**	**326**	*e*Sg	**Sg**	**05 41 46.4**	**+0.5**
SEY				Sgmax		05 42 10.6	
	20nm,1.0s						
KRX	**Arik**	**5.46**	**181**	*eP*	Pn	05 40 26.0	+4.4
KOK	**Koryaka**	**5.53**	**181**	*eP*	**Pn**	**05 40 26.5**	**+4.1**
SDLR	**Sedlovina**	**5.54**	**179**	*eP*	**Pn**	**05 40 26.7**	**+4.1**
APC	**Apacha**	**5.97**	**190**	*eP*	**Pn**	**05 40 32.2**	**+3.8**
SUUS	**Susuman**	**6.55**	**312**	*e*Sg	**Sg**	**05 42 29.8**	**+0.4**
SUUS				Sgmax		05 42 46.8	
	50nm,0.9s						
SUUS				Sgmax		05 42 46.8	
	30nm,1.2s						

*KRNET **24** 05:42:06.4±0.1, 40°.23N×77°.29E, h20km, mb3.4*
*NNC **24** 05:42:08.0±1.2, 40°.25N×77°.19E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=8.2km s-min=6.1km az=169.0*
*SOME **24** 05:42:07.3, 40°.27N×77°.15E, h5km*
ISC 24 05:42:10.3±1.9, **40°.37N**±0°.06×**77°.16E**±0°.04, **h0**km±11km, **n61**, σ1s**56**/93, **29C-18D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.38**	**321**	⇑*eP*	**Pn**	**05 42 35.4**	**-1.7**
NRN				⇑*i*S	**Sn**	**05 42 56.6**	**+0.4**
TARG	**Taragay, Kyrgy**	**1.44**	**20**	⇑*eP*	**Pn**	**05 42 35.4**	**-2.7**
TARG				⇑*eS*	**Sg**	**05 42 56.6**	**-0.1**
KDJ	**Kajisay**	**1.76**	**1**	⇓*eP*	**Pn**	**05 42 41.5**	**-0.7**
KDJ				⇓*eS*	**Sg**	**05 43 07.1**	**+0.3**
ULHL	**Ulahol**	**2.00**	**340**	P	**Pb**	**05 42 47.7**	**+0.1**
	SNR=8.9						
ULHL	**Ulahol**	**2.00**	**340**	⇑*eP*	**Pn**	**05 42 45.4**	**-0.1**
ULHL				⇑*i*S	**Sg**	**05 43 13.9**	**-0.6**
BOOM	**Boomskoye usch**	**2.31**	**337**	⇓*eP*	**Pn**	**05 42 49.7**	**-0.1**
BOOM				⇓*eS*	**Sb**	**05 43 21.3**	**-0.7**
PRZ	**Przheval'sk**	**2.31**	**23**	⇑*eP*	**Pn**	**05 42 49.0**	**-0.8**
PRZ				⇑*i*S	**Sn**	**05 43 20.0**	**+1.0**
ANVS	**Anan'yevo**	**2.44**	**9**	⇑*eP*	**Pn**	**05 42 51.1**	**-0.5**
ANVS				⇑*eS*	**Sb**	**05 43 23.7**	**-2.2**
SALK	**Salom-Alik**	**2.59**	**282**	⇑*eP*	**Pn**	**05 42 53.0**	**-0.7**
SALK				⇑*eS*	**Sn**	**05 43 27.1**	**+1.2**
ARLS	**Aral**	**2.61**	**306**	⇑*eP*	**Pn**	**05 42 53.7**	**-0.2**
ARLS				⇑*eS*	**Sb**	**05 43 28.2**	**-2.5**
TNSS	**Tian-Shan**	**2.67**	**357**	Pg	**Pb**	**05 42 59.6**	**+0.4**
	24nm,0.4s						
TNSS				Lg	Lg	05 43 37.6	
	46nm,0.7s						
TNSS	**Tian-Shan**	**2.67**	**357**	*eP*	**Pb**	**05 42 59.0**	**-0.2**
	24nm,0.4s						
TNSS				*eS*	**Sg**	**05 43 36.1**	**0.0**
	46nm,0.7s						
IZV	**Izvestkoviy**	**2.69**	**351**	Pg	**Pb**	**05 42 59.8**	**+0.3**
	19nm,0.5s						
IZV				Lg	Lg	05 43 38.8	
	89nm,0.5s						
IZV	**Izvestkoviy**	**2.69**	**351**	*eP*	**Pb**	**05 42 59.3**	**-0.2**
	12nm,0.5s						
IZV				*eS*	**Sg**	**05 43 36.5**	**-0.4**
	88nm,0.5s						
UCH	**Uchtor**	**2.72**	**314**	⇓*eP*	**Pn**	**05 42 55.7**	**0.0**
UCH				⇓*eS*	**Sb**	**05 43 31.7**	**-2.5**
MDOK	**Medeo**	**2.79**	**358**	Pg	**Pb**	**05 43 01.9**	**+0.7**
	18nm,0.6s						
MDOK				Pg	**Pg**	**05 43 03.0**	**-0.8**
	17nm,0.6s						
MDOK				Lg	Lg	05 43 41.2	
	68nm,0.5s						
MDOK				⇑Lg	Lg	05 43 41.2	
	46nm,0.6s						
TKM2	**Tokmak 2**	**2.80**	**336**	P	**Pb**	**05 43 00.1**	**-1.3**
	SNR=14						
TKM2	**Tokmak 2**	**2.80**	**336**	⇑Pg	**Pb**	**05 43 01.6**	**+0.2**
	4.8nm,0.5s						
TKM2				⇓Lg	Lg	05 43 41.7	
	28nm,0.7s						
TKM2	**Tokmak 2**	**2.80**	**336**	⇑*eP*	**Pn**	**05 42 56.7**	**+0.1**
TKM2				⇑*eS*	**Sb**	**05 43 33.4**	**-3.0**
MTBS	**Maitube**	**2.81**	**349**	Pg	**Pb**	**05 43 02.5**	**+1.0**
	12nm,0.6s						
MTBS				Lg	Lg	05 43 42.0	
	32nm,0.3s						
MTBS	**Maitube**	**2.81**	**349**	*eP*	**Pb**	**05 43 01.6**	**+0.2**
	3.8nm,0.2s						
MTBS				*eS*	**Sg**	**05 43 40.5**	**-0.1**
	42nm,0.3s						
KST	**Kastek**	**2.81**	**342**	Pg	**Pb**	**05 43 02.9**	**+1.3**
	7.8nm,0.3s						
KST				Lg	Lg	05 43 42.7	
	47nm,0.6s						
KST	**Kastek**	**2.81**	**342**	*eP*	**Pb**	**05 43 01.4**	**-0.1**
	1.6nm,0.1s						
KST				*eS*	**Sg**	**05 43 40.3**	**-0.5**
	47nm,0.6s						
KBK	**Karagaybulak**	**2.82**	**325**	P	**Pb**	**05 42 59.5**	**-2.3**
	SNR=8.3						
KBK	**Karagaybulak**	**2.82**	**325**	⇑*i*P	**Pn**	**05 42 56.9**	**0.0**
KBK				⇑*eS*	**Sb**	**05 43 33.7**	**-3.2**
SFK	**Sufi-Kurgan**	**2.82**	**264**	⇑*eP*	**Pn**	**05 42 55.5**	**-1.4**
SFK				⇑*eS*	**Sn**	**05 43 31.6**	**-0.1**
SATY	**Saty**	**2.84**	**19**	Pg	**Pb**	**05 43 01.7**	**-0.3**
	21nm,0.6s						
SATY				Lg	Lg	05 43 40.7	
	53nm,0.6s						
KOTS	**Kotyrbulak**	**2.86**	**359**	Pg	**Pb**	**05 43 02.6**	**+0.2**
	21nm,0.4s						
KOTS				Lg	Lg	05 43 42.4	
	132nm,0.8s						
KOTS	**Kotyrbulak**	**2.86**	**359**	*eP*	**Pb**	**05 43 02.6**	**+0.2**
	21nm,0.4s						
KOTS				*eS*	**Sg**	**05 43 42.5**	**+0.2**
	132nm,0.8s						
ZHN	**Zhinishke**	**2.95**	**18**	Pg	**Pb**	**05 43 04.0**	**+0.1**
	15nm,0.4s						
ZHN				Lg	Lg	05 43 44.6	
	66nm,0.4s						
ZHN	**Zhinishke**	**2.95**	**18**	*eP*	**Pb**	**05 43 04.0**	**+0.1**
	15nm,0.4s						
ZHN				*eS*	**Sg**	**05 43 44.6**	**-0.6**
	66nm,0.4s						
AAK	**Ala-Archa**	**3.02**	**319**	P	**Pn**	**05 43 01.8**	**+2.2**
	SNR=11						
AAK	**Ala-Archa**	**3.02**	**319**	⇓Pg	**Pb**	**05 43 04.5**	**-0.6**
	10.0nm,0.6s						
AAK				⇑Lg	Lg	05 43 48.3	
	38nm,0.6s						
AAK	**Ala-Archa**	**3.02**	**319**	*eP*	**Pn**	**05 42 59.6**	**0.0**
AAK				*eS*	**Sn**	**05 43 38.5**	**+2.0**
FRU1	**Bishkek**	**3.09**	**323**	⇓*eP*	**Pn**	**05 43 00.9**	**+0.5**
FRU1				⇓*i*S	**Sn**	**05 43 40.5**	**+2.5**
UZB	**Uzynbulak**	**3.10**	**26**	Pg	**Pb**	**05 43 06.2**	**-0.3**
	12nm,0.6s						
UZB				Lg	Lg	05 43 48.5	
	27nm,0.5s						
UZB	**Uzynbulak**	**3.10**	**26**	*eP*	**Pb**	**05 43 06.2**	**-0.3**
	12nm,0.6s						
UZB				*eS*	**Sg**	**05 43 48.5**	**-1.6**
	27nm,0.5s						
AML	**Almayashu**	**3.15**	**305**	P	**Pn**	**05 43 03.5**	**+1.9**
	SNR=16						
AML	**Almayashu**	**3.15**	**305**	⇑*i*P	**Pn**	**05 43 01.5**	**0.0**
AML				⇑*eS*	**Sn**	**05 43 41.6**	**+1.6**
CHMS	**Chumysh**	**3.18**	**326**	P	**Sg**	**05 43 52.9**	**+0.2**
	SNR=9.0						
CHMS	**Chumysh**	**3.18**	**326**	⇓Pg	**Pn**	**05 43 03.5**	**+1.8**
	13nm,0.6s						
CHMS				⇓Lg	Lg	05 43 53.2	
	20nm,0.6s						
CHMS	**Chumysh**	**3.18**	**326**	⇓*i*P	**Pn**	**05 43 01.9**	**+0.2**
CHMS				⇓*eS*	**Sn**	**05 43 42.3**	**+1.9**
KURS	**Kuram**	**3.21**	**13**	Pg	**Pb**	**05 43 08.8**	**+0.6**
	15nm,0.6s						
KURS				Lg	Lg	05 43 52.8	
	17nm,0.8s						
KURS	**Kuram**	**3.21**	**13**	*eP*	**Pg**	**05 43 13.7**	**+1.9**
	7.3nm,0.4s						
KURS				*eS*	**Sg**	**05 44 01.2**	**+7.9**
	64nm,0.3s						
SHLS	**Shalkode**	**3.27**	**31**	Pg	**Pg**	**05 43 12.5**	**-0.5**
	15nm,0.5s						
SHLS				Lg	Lg	05 43 59.7	
	35nm,0.6s						
SHLS	**Shalkode**	**3.27**	**31**	*eP*	**Pg**	**05 43 12.6**	**-0.5**
	10nm,0.3s						
SHLS				*eS*	**Sg**	**05 43 59.3**	**+3.8**
	53nm,0.7s						
KTBS	**Karatobe**	**3.36**	**354**	Pg	**Pb**	**05 43 10.8**	**+0.1**
	7.4nm,0.5s						
KTBS				Lg	Lg	05 43 58.4	
	38nm,0.7s						
PDGK	**Podgornoye**	**3.43**	**30**	⇑Pg	**Pb**	**05 43 11.8**	**-0.3**
	7.9nm,0.5s						
PDGK				⇑Lg	Lg	05 43 59.8	
	26nm,0.6s						
CHKK	**Chushkaly**	**3.48**	**358**	Pg	**Pb**	**05 43 13.7**	**+0.8**
	9.1nm,0.5s						
CHKK				Lg	Lg	05 44 02.0	
	64nm,0.3s						
CHKK	**Chushkaly**	**3.48**	**358**	*eP*	**Pb**	**05 43 13.7**	**+0.8**
	7.3nm,0.4s						
CHKK				*eS*	**Sg**	**05 44 01.2**	**-1.0**
	64nm,0.3s						
USP	**Ospenovka**	**3.51**	**326**	P	**Sg**	**05 44 03.2**	**+0.1**
	SNR=14						
USP	**Ospenovka**	**3.51**	**326**	⇓*eP*	**Pn**	**05 43 06.4**	**+0.2**
USP				⇓*eS*	**Sn**	**05 43 50.0**	**+1.6**
KUU	**Kurty**	**3.57**	**350**	Pg	**Pb**	**05 43 14.3**	**-0.1**
	3.5nm,0.6s						
KUU				Lg	Lg	05 44 02.3	
	46nm,0.7s						
KUU	**Kurty**	**3.57**	**350**	*eP*	**Pb**	**05 43 15.0**	**+0.6**
	1.1nm,0.1s						
KUU				*eS*	**Sg**	**05 44 03.3**	**-1.7**
	43nm,0.6s						
SGDS	**Sogindy**	**3.61**	**329**	Pg	**Pb**	**05 43 15.8**	**+0.7**
	5.0nm,0.4s						
SGDS				Lg	Lg	05 44 04.9	
	14nm,0.5s						
MRKS	**Merke**	**3.79**	**310**	Pg	**Pb**	**05 43 19.0**	**+0.9**
	5.1nm,0.4s						
MRKS				Lg	Lg	05 44 10.4	
	9.8nm,0.4s						
MRKS	**Merke**	**3.79**	**310**	*eP*	**Pb**	**05 43 19.0**	**+0.9**
	5.1nm,0.4s						
MRKS				*eS*	**Sg**	**05 44 10.4**	**-1.6**
	9.8nm,0.4s						
BLB	**Baldybastay**	**3.85**	**14**	Pg	**Pb**	**05 43 20.3**	**+1.1**
	30nm,0.4s						
BLB				Lg	Lg	05 44 12.6	
	59nm,0.4s						
ARXS	**Arharly**	**3.87**	**7**	Pg	**Pb**	**05 43 21.1**	**+1.6**
	6.3nm,0.7s						
ARXS				Lg	Lg	05 44 13.9	
	21nm,0.5s						
MNAS	**Manas**	**4.09**	**303**	⇓*eP*	**Pn**	**05 43 14.4**	**+0.2**
MNAS				⇓*eS*	**Sn**	**05 44 04.3**	**+1.5**
KK31	**Karatay Array**	**5.67**	**301**	⇑Pg	**Pb**	**05 43 54.5**	**+4.3**
	1.6nm,0.7s,baz=135,slow=17,SNR=8.7						
KK31				⇑Lg	Lg	05 45 09.9	
	1.7nm,0.5s,baz=119,slow=22,SNR=3.9						

*IDC **24** 05:51:13.9±2.0, 17°.19S×179°.10W, h585km±18km, mb3.1/6, mbtmp4.0/7, Error ellipse: s-maj=89.0km s-min=19.6km az=150.0*
ISC 24 05:51:14.8±1.4, **17°.2S**±0°.6×**179°.2W**±0°.4, **h600**km, **n7**, σ0s**96**/8, **mb3.5**/6, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.67**	**258**	P	**P**	**05 52 30.6**	**-1.7**
	38nm,0.7s,baz=135,slow=10.0,SNR=18						
STKA	**Stephens Creek**	**38.32**	**240**	P	**P**	**05 57 46.2**	**+0.3**
	1.7nm,0.4s,baz=91,slow=11,SNR=5.6						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**44.02**	**259**	P	**P**	**05 58 31.5**	**+0.5**
	0.7nm,0.4s,baz=92,slow=7.5,SNR=16						
WRA				PcP	**PcP**	**06 00 03.2**	**+0.2**
	0.3nm,0.6s,baz=102,slow=3.9,SNR=1.5						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**44.26**	**254**	P	**P**	**05 58 33.8**	**+1.0**
	8.9nm,0.6s,baz=88,slow=8.2,SNR=127						
	8.9nm,0.6s						
ILAR	**Eielson Array**	**85.35**	**13**	P	**P**	**06 02 49.5**	**+0.3**
	1.1nm,1.2s,baz=226,slow=5.2,SNR=5.4						
	1.1nm,1.2s						
TXAR	**Lajitas Array**	**86.25**	**58**	P	**P**	**06 02 54.9**	**+0.4**
	0.3n

SANI	Sanana	5.31	207	P	Pn	06 15 48.1	+1.3
	0.2nm47nm,0.7s						
NLAI	Namlea	6.06	192	P	Pn	06 15 59.2	+2.1
	0.2nm66nm,0.9s						
FAKI	Fak Fak	6.81	145		Pn	06 16 08.1	+0.7
FAKI	Fak Fak	6.81	145	P	Pn	06 16 08.3	+0.9
TOLI2	Tolitoli	7.77	258		Pn	06 16 19.4	-1.2
KDI	Kendari	8.79	221	P	Pn	06 16 34.3	-0.3
KAPI	Kappang	11.55	228	Pn	Pn	06 17 11.6	-0.9
	1.0nm,0.3s,baz=131,slow=10,SNR=2.1						
	4.5nm,0.3s						
SBUM	Sibu	16.15	269	Pn	Pn	06 18 12.1	-2.3
KNRA	Kununurra	18.29	179		P	06 18 40.0	-0.9
GUMO	Guam	19.54	56	LR	LR	06 25 15.8	
	comp=Z,84nm,20.7s,baz=78,slow=34						
FITZ	Fitzroy Crossi	20.87	187	P	P	06 19 07.2	-1.8
	2.0nm,0.7s,baz=350,slow=7.6,SNR=8.4						
	2.0nm,0.7s						
WB0	Warramunga Arr	23.11	165		P	06 19 33.0	-0.1
WRAB	Tennant Creek	23.26	166	P	P	06 19 34.7	+0.2
WRAB				IAmb	IAmb	06 19 35.3	
	comp=Z,19nm,0.8s						
WRA	Warramunga Arr	23.27	166		P	06 19 33.2	-1.3
WRA	Warramunga Arr	23.27	166	P	P	06 19 34.3	-0.3
	comp=Z,16nm,0.7s,baz=344,slow=9.2,SNR=47						
WRA				PcP	PcP	06 23 20.9	-0.7
	comp=Z,0.6nm,0.8s,baz=336,slow=2.1,SNR=2.0						
	comp=Z,16nm,0.7s						
WR8	Warramunga Arr	23.32	165		P	06 19 35.0	-0.1
WR8				IAmb	IAmb	06 19 36.6	
	comp=Z,44nm,1.4s						
PSA00	Pilbara Seismi	25.55	199	P	P	06 19 52.4	-3.2
AS31	Alice Springs	26.77	169		P	06 20 06.4	-0.4
ASAR	Alice Springs	26.77	169	P	P	06 20 06.7	-0.1
ASAR	Alice Springs	26.77	169	P	P	06 20 06.3	-0.5
	comp=Z,2.6nm,0.6s,baz=356,slow=8.5,SNR=41						
ASAR				PcP	PcP	06 23 28.8	-0.6
	comp=Z,0.5nm,0.5s,baz=353,slow=2.1,SNR=6.0						
ASAR				ScP	ScP	06 27 10.5	+3.4
	comp=Z,0.3nm,0.8s,baz=3.8,slow=5.3,SNR=2.4						
ASAR				LR	LR	06 31 44.4	
	comp=Z,58nm,19.3s,baz=306,slow=39						
	comp=Z,2.6nm,0.6s						
JCJ	Chichijima	27.60	27	LR	LR	06 29 43.2	
	comp=Z,49nm,20.5s,baz=120,slow=33						
JNU	Nakatsue	30.33	4	P	P	06 20 37.5	-0.9
	comp=Z,5.2nm,0.9s,baz=237,slow=22,SNR=1.3						
JNU				LR	LR	06 31 44.6	
	comp=Z,77nm,20.4s,baz=169,slow=34						
	comp=Z,5.2nm,0.9s						
CMAR	Chiang Mai Arr	32.80	301	P	P	06 21 01.9	+1.7
	comp=Z,0.6nm,0.3s,baz=121,slow=6.6,SNR=4.5						
	comp=Z,0.6nm,0.3s						
FORT	Forrest	33.32	181	P	P	06 21 03.5	-1.0
KSRS	Korea Array	34.57	359	P	P	06 21 14.9	-0.4
	comp=Z,2.9nm,0.6s,baz=177,slow=11,SNR=13						
KSRS				LR	LR	06 34 23.9	
	comp=Z,30nm,20.6s,baz=45,slow=35						
	comp=Z,2.9nm,0.6s						
MJAR	Matsushiro Arr	34.85	14	P	P	06 21 16.2	-1.6
	comp=Z,0.9nm,0.5s,baz=184,slow=7.3,SNR=1.5						
MJAR				LR	LR	06 33 22.7	
	comp=Z,56nm,20.7s,baz=196,slow=33						
	comp=Z,0.9nm,0.5s						
BBOO	Buckleboo	36.08	169	P	P	06 21 28.0	-0.4
BBOO				IAmb	IAmb	06 21 28.7	
	comp=Z,9.4nm,0.9s						
STKA	Stephens Creek	36.63	161		P	06 21 33.0	-0.1
STKA	Stephens Creek	36.63	161	P	P	06 21 31.6	-1.5
	comp=Z,2.0nm,0.4s,baz=333,slow=8.3,SNR=7.7						
	comp=Z,2.0nm,0.4s						
H11S3	WAKE ISLAND Hy	40.64	65	T	T	07 05 25.5	
	baz=251,slow=75,SNR=76						
H11S2	WAKE ISLAND Hy	40.66	65	T	T	07 05 35.1	
	baz=251,slow=75,SNR=45						
H11S1	WAKE ISLAND Hy	40.66	65	T	T	07 05 46.7	
	baz=251,slow=75,SNR=39						
BRDH	Bariadhala	40.77	302	LR	LR	06 41 53.8	
	comp=Z,233nm,18.7s,baz=184,slow=40						
H11N1	WAKE ISLAND Hy	41.22	63	T	T	07 06 04.4	
	baz=250,slow=75,SNR=113						
H11N2	WAKE ISLAND Hy	41.23	63	T	T	07 06 02.3	
	baz=250,slow=75,SNR=34						
H11N3	WAKE ISLAND Hy	41.23	63	T	T	07 06 02.8	
	baz=250,slow=75,SNR=88						
USA0B	Ussuriysk Arra	41.43	4	P	P	06 22 14.1	+1.1
USRK	Ussuriysk Ar.	41.43	4	P	P	06 22 14.1	+1.1
USRK	Ussuriysk Ar.	41.43	4	P	P	06 22 12.9	-0.1
	comp=Z,4.4nm,0.7s,baz=191,slow=9.2,SNR=7.9						
	comp=Z,4.4nm,0.7s						
KLR	Kul'dur	46.42	3	P	P	06 22 52.9	-0.2
	comp=Z,0.5nm,0.3s,baz=204,slow=3.5,SNR=3.7						
	comp=Z,0.5nm,0.3s						
SONM	Songino Array	48.78	340	P	P	06 23 11.3	-0.3
	comp=Z,0.3nm,0.4s,baz=182,slow=6.3,SNR=1.8						
	comp=Z,0.3nm,0.4s						
PETK	Petropavlovsk-	55.75	21	P	P	06 24 02.1	-1.1
	comp=Z,1.7nm,0.7s,baz=212,slow=6.8,SNR=1.9						
	comp=Z,1.7nm,0.7s						
MA2	Magadan	59.29	13	LR	LR	06 51 10.7	
	comp=Z,22nm,19.0s,baz=292,slow=37						
MKAR	Makanchi Array	59.32	325	P	P	06 24 29.5	+1.0
MKAR	Makanchi Array	59.32	325	P	P	06 24 28.4	0.0
	comp=Z,1.0nm,0.5s,baz=118,slow=8.1,SNR=12						
	comp=Z,1.0nm,0.5s						
MAKZ	Makanchi	59.51	325		P	06 24 32.3	+2.5
MAKZ				IAmb	IAmb	06 24 41.3	
	comp=Z,3.7nm,0.8s						
KDJ	Kajisay	60.19	318		P	06 24 36.6	+1.8
ZALV	Zalesovo Beam	62.23	333	P	P	06 24 47.8	-0.2
	comp=Z,0.6nm,0.5s,baz=115,slow=6.7,SNR=4.9						
	comp=Z,0.6nm,0.5s						
KURBB	Kurchatov Arra	63.48	327	P	P	06 24 56.2	-0.2
	comp=Z,0.7nm,0.5s,baz=128,slow=6.1,SNR=10.0						
	comp=Z,0.7nm,0.5s						
KURK	Kurchatov	63.48	327	P	P	06 24 56.1	-0.3
KURK				IAmb	IAmb	06 25 07.5	
	comp=Z,4.0nm,0.8s						
BVAR	Borovoye Array	69.06	327	P	P	06 25 31.5	-0.7
	comp=Z,0.7nm,0.5s,baz=118,slow=8.6,SNR=8.4						
	comp=Z,0.7nm,0.5s						
NRIK	Noril'sk	71.80	346	P	P	06 25 48.9	+0.3
	comp=Z,0.8nm,0.3s,baz=101,slow=2.1,SNR=3.8						
	comp=Z,0.8nm,0.3s						
ABKAR	Akbulak array	73.97	321	P	P	06 26 02.2	+0.4
AKTO	Aktyubinsk	75.47	322	LR	LR	07 02 42.7	
	comp=Z,37nm,18.2s,baz=62,slow=38						
E18K	Tukpahlearik C	80.27	22		P	06 26 39.0	+2.2
E18K				IAmb	IAmb	06 26 50.1	
	comp=Z,4.8nm,0.8s						
G19K	Purcell Mounta	81.29	23	IAmb	IAmb	06 26 55.5	
	comp=Z,5.2nm,0.8s						
H19K	Roundabout Mou	81.41	24	IAmb	IAmb	06 26 56.3	
	comp=Z,5.8nm,0.9s						
D19K	Kuna River	81.46	21		P	06 26 44.9	+1.6
D19K				IAmb	IAmb	06 26 56.2	
	comp=Z,4.8nm,0.7s						
E19K	Redstone River	81.53	22	IAmb	IAmb	06 26 57.0	
	comp=Z,8.0nm,0.9s						
G21K	Allakaket	82.78	23	IAmb	IAmb	06 27 03.4	
	comp=Z,5.3nm,1.1s						
E22K	Anaktuvuk Pass	83.68	22	IAmb	IAmb	06 27 08.2	
	comp=Z,6.8nm,0.9s						
D23K	Nanushuk River	84.21	21	IAmb	IAmb	06 27 11.0	
	comp=Z,4.1nm,0.9s						
C23K	Itkillik River	84.35	20	IAmb	IAmb	06 27 11.2	
	comp=Z,4.4nm,0.8s						
E23K	Chandalar	84.49	22		P	06 27 01.3	+2.3
E23K				IAmb	IAmb	06 27 12.5	
	comp=Z,5.7nm,0.9s						
D24K	Happy Valley	84.90	21	IAmb	IAmb	06 27 14.3	
	comp=Z,5.3nm,0.9s						
ILAR	Eielson Array	85.30	25	P	P	06 27 01.9	-1.2
	comp=Z,0.2nm,0.5s,baz=247,slow=6.2,SNR=5.5						
	comp=Z,0.2nm,0.5s						
ARCES	ARCESS Array B	91.96	340	P	P	06 27 34.6	0.0
	comp=Z,2.0nm,0.9s,baz=86,slow=2.8,SNR=1.4						
	comp=Z,2.0nm,0.9s						
QSPA	South Pole Qui	92.64	180	P	P	06 27 37.1	-0.8
	comp=Z,1.0nm,0.8s,baz=296,slow=1.6,SNR=9.2						
QSPA				LR	LR	07 11 58.8	
	comp=Z,42nm,18.2s,baz=166,slow=37						
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	99.72	25	P	Pdif	06 28 09.1	-1.0
	comp=Z,0.1nm,0.6s,baz=315,slow=5.1,SNR=3.6						
	comp=Z,0.1nm,0.6s						

*NEIC **24** 06:23:48.2±1.6, 31°.50S±0°.06×180°.0E±0°.2, h355km±7km, mb4.0/5, Error ellipse: s-maj=21.5km s-min=7.5km az=74.0*

*IDC **24** 06:23:50.7±2.2, 31°.49S×179°.88E, h389km±19km, mb3.8/8, mbtmp4.6/10, Error ellipse: s-maj=21.9km s-min=14.8km az=63.0*

*WEL **24** 06:23:55.7±1.1, 32°S±6°×18°0W±1°, h350km±15km, M4.7/16, mB5.1/9, ML5.0/10, MLv5.1/16, Mw(mB)4.4/9, Error ellipse: s-maj=20.7km s-min=5.6km az=106.8, confirmed*

ISC 24 06:23:50.8±0.5, 31°.73S±0°.06×179°.78W±0°.10, h400km, n108, σ2§01/124, mb4.1/12, 2C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.94	34	P	Pn	06 24 54.6	+1.1
GLKZ				S	S	06 25 43.6	-0.6
RIZ	Raoul Island	2.95	33	P	Pn	06 24 55.1	+1.5
RIZ				S	S	06 25 44.6	+0.1
GRZ	Great Barrier	6.00	220	P	Pn	06 25 26.7	+3.5
MXZ	Matakaoa Point	6.03	195		Pn	06 25 21.7	-1.9
MXZ					S	06 26 38.0	-1.2
MXZ	Matakaoa Point	6.03	195	P	Pn	06 25 25.2	+1.6
MXZ				S	S	06 26 38.4	-0.8
KUZ	Kuaotunu	6.24	215	P	Pn	06 25 29.7	+3.8
WMGZ	Waiomatatini S	6.25	193	P	Pn	06 25 28.2	+2.2
WIZ	White Island	6.30	203	P	Pn	06 25 29.5	+3.0
HAZ	Te Kaha	6.34	198	P	Pn	06 25 27.6	+0.7
PKGZ	Pakihiroa	6.37	195	P	P	06 25 31.5	+4.2
PKGZ				S	S	06 26 45.2	-0.9
MYRZ	Mayor Island	6.44	210	P	P	06 25 32.1	+4.0
WCZ	Waipu Caves	6.44	228	P	Pn	06 25 31.6	+3.4
PUZ	Puketiti	6.53	194	P	Pn	06 25 30.1	+1.0
PUZ				S	S	06 26 47.8	-1.5
OUZ	Omahuta	6.54	236	P	Pn	06 25 31.9	+2.7
RUGZ	Raukumara Rang	6.56	198	P	Pn	06 25 30.1	+0.5
RUGZ				S	S	06 26 46.1	-4.1
ABAZ	Army Bay	6.60	221	P	P	06 25 33.9	+3.5
MBAZ	Motutapu North	6.68	220	P	P	06 25 35.0	+3.6
TWGZ	Tauwhareparae	6.69	195	P	Pn	06 25 32.7	+1.8
TWGZ				S	S	06 26 53.4	+0.7
TGRZ	Tauranga	6.81	208	P	P	06 25 36.5	+3.7
MARZ	Manawahe	6.89	204	P	P	06 25 36.3	+2.6
CNGZ	Carnagh Statio	6.94	193	P	Pn	06 25 35.3	+1.7
MWZ	Matawai	6.95	198	P	Pn	06 25 34.9	+1.2
TKGZ	Te Karaka	6.97	196	P	Pn	06 25 34.7	+0.7
URZ	Urewera	7.00	201	P	Pn	06 25 34.3	+0.1
	79nm,0.3s,baz=349,slow=4.1,SNR=124						
URZ				S	S	06 26 55.0	-3.8
	90nm,0.4s,baz=296,slow=19,SNR=19						
URZ	Urewera	7.00	201	P	Pn	06 25 34.3	+0.1
KARZ	Kaharoa	7.07	206	P	P	06 25 39.4	+3.7
OMRZ	Omania	7.10	205	P	P	06 25 39.5	+3.5
RAGZ	Rawiri	7.13	198	P	P	06 25 38.7	+2.3
TOZ	Tahuroa Road	7.13	212		Pn	06 25 34.1	-1.7
TOZ	Tahuroa Road	7.13	212	P	P	06 25 40.2	+3.8
TARZ	Mount Tarawera	7.17	204	P	P	06 25 40.2	+3.3
HLRZ	Highlands Stat	7.24	205	P	P	06 25 40.7	+3.1
RIGZ	Rimuhau	7.24	195	P	Pn	06 25 37.6	+0.5
RRRZ	Republican Roa	7.26	204	P	P	06 25 39.9	+2.1
MUGZ	Murupara	7.30	202	P	Pn	06 25 38.2	+0.5
HSRZ	Hossack Road	7.33	205	P	P	06 25 42.4	+3.8
RTZ	Ruatahuna	7.36	200		Pn	06 25 38.7	+0.2
RTZ	Ruatahuna	7.36	200	P	P	06 25 41.0	+1.9
HRRZ	Handcock Road	7.39	205	P	P	06 25 41.6	+2.4
GRRZ	Galatos Road	7.41	206	P	P	06 25 42.3	+2.8
SNGZ	Shannon Statio	7.42	198	P	P	06 25 42.3	+2.7
PRGZ	Paritu Road	7.42	194	P	P	06 25 41.4	+1.7
PRRZ	Plateau Road	7.44	204	P	P	06 25 42.2	+2.3
ALRZ	Allen Road	7.52	204	P	P	06 25 42.7	+2.0
WPRZ	Whakapapatarin	7.54	205	P	P	06 25 43.1	+2.1
KNZ	Kokohu	7.57	195	P	Pn	06 25 41.0	+0.3
RAHZ	Arahi	7.61	199	P	P	06 25 43.5	+1.7
MTHZ	Maungataniwha	7.62	200	P	Pn	06 25 42.1	+0.7
MHGZ	Mahia Peninsul	7.64	194	P	P	06 25 43.9	+1.8
KUTZ	Kaahu Road	7.64	207	P	P	06 25 45.3	+3.2
WHHZ	Waihua	7.72	198	P	Pn	06 25 43.7	+1.2
MRHZ	Matea Rd	7.74	203	P	P	06 25 44.7	+1.5
NMHZ	Naumai	7.86	200	P	Pn	06 25 45.1	+1.0
ARHZ	Aropaoanui	7.96	198	P	Pn	06 25 45.6	+0.4
BKZ	Black Stump Fm	8.02	201		Pn	06 25 44.8	-1.1
BKZ	Black Stump Fm	8.02	201	P	Pn	06 25 46.3	+0.4
HIZ	Hauiti	8.07	212		P	06 25 48.5	+1.7
KATZ	Kakaramea	8.12	206	P	P	06 25 49.6	+2.1
MCHZ	McNeill Hill	8.21	199	P	Pn	06 25 48.7	+0.6
MTVZ	Mangateitei	8.56	206	P	P	06 25 53.3	+1.0
BFZ	Birch Farm	9.49	199		P	06 26 01.6	-1.0
MRZ	Mangatainoka R	9.67	202	Pn	P	06 26 01.7	-2.8
MSWZ	Moikau Station	10.46	201	Pn	P	06 26 11.8	-1.5
TCW	Tory Channel	10.60	205		P	06 26 14.4	-0.4
QRZ	Quartz Range	10.99	212		P	06 26 18.7	-0.5
BSWZ	Blackbirch Sta	11.19	205		P	06 26 21.7	+0.3
THZ	Tophouse	11.60	208		P	06 26 27.0	+1.0
KHZ	Kahutara	11.92	205		P	06 26 29.3	-0.1
CTZ	Chatham Island	12.24	169	P	Pn	06 26 54.0	+19
OXZ	Oxford	13.26	207	P	P	06 26 45.1	+0.9
RPZ	Rata Peaks	13.98	209	P	P	06 26 52.8	+0.8
	9.3nm,0.9s,baz=48,slow=9.8,SNR=2.0						
RPZ				S	S	06 29 15.4	-6.5
	5.8nm,0.4s,baz=14,slow=13,SNR=5.4						
STKA	Stephens Creek	32.71	259	P	P	06 29 47.3	-0.8
	1.4nm,0.3s,baz=102,slow=9.9,SNR=5.9						
	1.4nm,0.3s						
AS31	Alice Springs	41.54	269	P	P	06 31 00.1	-1.3
ASAR	Alice Springs	41.54	269	P	P	06 31 00.0	-1.4
	0.9nm,0.4s,baz=109,slow=7.6,SNR=35						
ASAR				PcP	PcP	06 32 49.1	-0.9
	0.5nm,0.5s,baz=110,slow=3.5,SNR=2.6						
ASAR				ScP	ScP	06 36 00.5	-0.8
	0.5nm,0.9s,baz=144,slow=3.3,SNR=4.2						
	0.9nm,0.4s						
WR8	Warramunga Arr	42.51	275	P	P	06 31 07.8	-1.3
WR8				IAmb	IAmb	06 31 46.9	
	comp=Z,8.7nm,1.2s						
WRA	Warramunga Arr	42.65	275	P	P	06 31 07.9	-2.4
	comp=Z,3.2nm,0.2s,baz=111,slow=8.1,SNR=59						
WRA				PcP	PcP	06 32 53.2	-0.6
	comp=Z,1.1nm,0.7s,baz=121,slow=2.8,SNR=4.6						
WRA				ScP	ScP	06 36 06.7	+1.0
	comp=Z,0.3nm,0.5s,baz=107,slow=3.5,SNR=1.5						
	comp=Z,3.2nm,0.2s						
WB0	Warramunga Arr	42.68	275	P	P	06 31 09.1	-1.4
WB0				IAmb	IAmb	06 31 10.8	
	comp=Z,10nm,1.1s						
QSPA	South Pole Qui	58.38	180	P	P	06 33 09.0	+3.3
QSPA	South Pole Qui	58.38	180	P	P	06 33 09.2	+3.4
	comp=Z,15nm,0.7s,baz=212,slow=1.4,SNR=105						
QSPA				PcP	PcP	06 33 53.5	+2.0
	comp=Z,2.1nm,0.7s,baz=52,slow=2.5,SNR=1.8						
	comp=Z,15nm,0.7s						
SNAA	Sanae	76.86	179	P	P	06 35 01.5	+2.0
	comp=Z,3.5nm,0.5s,baz=345,slow=0.8,SNR=42						
	comp=Z,3.5nm,0.5s						
VNA3	Neumayer Olymp	77.07	177	⇑P	P	06 34 56.5	-4.2
	comp=Z,11nm,0.7s						
VNA2	Neumayer--Watz	77.49	177	⇑P	P	06 35 00.5	-2.4
	baz=326,slow=36						
KSRS	Korea Array	84.39	321	P	P	06 35 39.6	+0.3
	comp=Z,1.3nm,0.7s,baz=142,slow=5.3,SNR=6.1						
	comp=Z,1.3nm,0.7s						
PETK	Petropavlovsk-	86.73	347	P	P	06 35 50.5	+0.2
	comp=Z,1.6nm,0.6s,baz=124,slow=6.4,SNR=4.3						
	comp=Z,1.6nm,0.6s						
V12A	Nelson	90.60	47		P	06 36 02.7	-6.3
V12A				IAmb	IAmb	06 36 09.9	
	comp=Z,5.3nm,1.2s						
R11B	Troy Canyon, C	91.82	45	P	P	06 36 16.9	+2.2
CMAR	Chiang Mai Arr	92.41	290	P	P	06 36 17.5	-0.1
	comp=Z,1.8nm,0.3s,baz=121,slow=5.7,SNR=1.6						
	comp=Z,1.8nm,0.3s						
MKAR	Makanchi Array	117.46	310	PKP	PKPdf	06 41 48.6	-0.8
	comp=Z,0.5nm,0.6s,baz=202,slow=1.5,SNR=5.1						
BOOM	Boomskoye usch	120.51	304		PKiKP	06 41 56.1	+0.4
KURBB	Kurchatov Arra	120.89	313	PKP	PKiKP	06 41 55.2	-0.8
	comp=Z,1.4nm,0.5s,baz=111,slow=1.9,SNR=12						
BVAR	Borovoye Array	126.28	315	PKP	PKiKP	06 42 06.4	-0.2
	comp=Z,1.9nm,0.4s,baz=119,slow=2.7,SNR=11						
UOSS	Minazif	130.71	277		PKiKP	06 42 16.4	0.0
SPITS	Spitsbergen Ar	132.91	356	PKP	PKiKP	06 42 19.3	-0.1
	comp=Z,8.3nm,1.2s,baz=78,slow=5.4,SNR=6.8						
ARCES	ARCESS Array B	139.55	347	PKhKP	PKPpre	06 42 23.5	
	comp=Z,1.3nm,0.7s,baz=60,slow=1.5,SNR=9.0						
ARCES				PKP	PKPdf	06 42 30.7	+0.2
	comp=Z,0.9nm,0.5s,baz=30,slow=2.6,SNR=8.0						
GEVA	Gevas	144.56	293		PKPdf	06 42 40.0	-0.6
KBZ	Khabaz	144.56	302	PKP	PKPab	06 42 39.0	-1.1
	comp=Z,5.0nm,0.9s,baz=155,slow=3.3,SNR=11						
FIA1	FINESS Array S	145.84	338	PKPdf	PKPab	06 42 43.1	-1.4
FINES	FINESS Array B	145.84	338		PKPab	06 42 42.8	-1.7
FINES	FINESS Array B	145.84	338	PKPbc	PKPab	06 42 43.0	-1.4
	comp=Z,8.6nm,0.6s,baz=43,slow=4.8,SNR=56						
NB2	NORSAR Subarra	149.81	349	PKP	PKiKP	06 42 53.8	-0.6
	comp=Z,1.2nm,0.5s,baz=17,slow=2.6						
NOA	NORSAR Array B	149.81	349	PKPbc	PKiKP	06 42 53.9	-0.5
	comp=Z,1.8nm,0.6s,baz=18,slow=4.1,SNR=10						
HFS	Hagfors	150.21	346	PKPbc	PKiKP	06 42 54.3	-0.9
	comp=Z,2.6nm,0.5s,baz=130,slow=2.3,SNR=18						
HFS				PKPab	PKPab	06 43 00.9	-1.4
	comp=Z,2.2nm,0.5s,baz=64,slow=3.4,SNR=8.4						
MMAI	Mount Meron Ar	150.34	282	PKPbc	PKiKP	06 42 57.0	+0.5
	comp=Z,3.3nm,0.4s,baz=85,slow=5.1,SNR=8.8						
MMAI				PKPab	PKPab	06 43 03.3	-0.5
	comp=Z,0.5nm,0.3s,baz=81,slow=5.2,SNR=3.6						
AKASG	Malin Array Be	151.38	320	PKPbc	PKiKP	06 42 57.4	-0.5
	comp=Z,1.2nm,0.4s,baz=51,slow=3.4,SNR=12						
AKASG				PKPab	PKPab	06 43 06.4	-1.1
	comp=Z,0.2nm,0.4s,baz=66,slow=2.4,SNR=5.0						
ILGA	Ilgaz	151.62	299		PKiKP	06 42 59.2	+0.2
BRTR	Keskin Array B	151.85	296	PKPbc	PKiKP	06 42 58.8	-0.7
	comp=Z,1.4nm,0.5s,baz=151,slow=4.5,SNR=9.1						
BRTR				PKPab	PKPab	06 43 09.2	-0.8
	comp=Z,1.9nm,0.7s,baz=106,slow=4.8,SNR=7.6						
GERES	GERESS Array B	160.10	333	PKPab	PKPab	06 43 44.5	-0.7
	comp=Z,0.3nm,0.4s,baz=16,slow=5.9,SNR=2.2						
TORD	Torodi Ar. Bea	161.45	185	PKPab	PKPab	06 43 52.8	+1.1
	comp=Z,1.2nm,0.4s,baz=183,slow=4.4,SNR=1.7						

*SJA **24** 06:24:30.5±0.7, 21°.50S×69°.87W, h48km±11km, ML4.9, MW4.7*

*VAO **24** 06:24:32.0±0.6, 21°.35S×69°.79W, h42km±5km, mb4.5*

*NEIC **24** 06:24:32.9±2.7, 21°.50S±0°.02×69°.95W±0°.09, h59km±8km, mb4.6/65, Error ellipse: s-maj=11.8km s-min=2.6km az=92.0*

*IDC **24** 06:24:32.7±0.5, 21°.49S×69°.70W, h52km±3km, mb3.8/11, mbtmp4.1/17, MS3.7/32, Error ellipse: s-maj=17.7km s-min=12.7km az=62.0*

*GUC **24** 06:24:33.0±0.9, 21°.49S×69°.78W, h49km±4km, ML5.0*

*GCMT **24** 06:24:35.9±0.3, 21°.43S±0°.02×70°.07W±0°.03, h86km±3km, MW4.9/63, Moment Tensor Solution. s30,c39; s63,c77; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.36±.10; $M_{\theta\theta}$-1.63±.08; $M_{\phi\phi}$1.27±.11; $M_{r\theta}$-0.78±.05; $M_{r\phi}$-1.80±.08; $M_{\theta\phi}$0.47±.10; Best double couple: $M_0$2.50000×10^{16} NP1:ϕ_s21.00000°,δ68.00000°,λ8.00000°. NP2: ϕ_s288.00000°,δ83.00000°,λ158.00000°. Principal axes: T 2.4170, Plg21.0000°, Azm242.0000°; N 0.1610, Plg67.0000°, Azm91.0000°; P -2.5820, Plg10.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 06:24:31.8±0.4, 21°.49S±0°.03×69°.85W±0°.04, h49km±4km, n220, σ1§62/198, mb4.6/50, MS3.7/29, 2C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.56	37		Pn	06 24 44.1	+0.3
PB01	IPOC Station P	0.56	37	⇑eP	Pn	06 24 43.9	+0.1
PB01				eS	Sn	06 24 52.5	+0.2
PB01	IPOC Station P	0.56	37	eP	Pn	06 24 43.1	-0.6
PB03	IPOC Station P	0.56	171	⇓eP	Pn	06 24 44.5	+0.6
PB03				eS	Sn	06 24 53.9	+1.3
PB03	IPOC Station P	0.56	171	eP	Pn	06 24 43.8	-0.1
PB03				IAML		06 24 56.6	
	comp=Z,37μm,0.2s						
PB09	IPOC Station P	0.64	119		Pn	06 24 45.6	+0.7
PB09	IPOC Station P	0.64	119	⇓eP	Pn	06 24 45.3	+0.4
PB09				eS	Sn	06 24 54.9	+0.6
PB09				IAML		06 24 56.4	
	comp=N,91μm,0.3s						
PB09	IPOC Station P	0.64	119	eP	Pn

GO02 **Mina Guanaco** 3.66 176 *eP* **Pn** **06 25 27.4 +1.2**
GO02 *eS* Sn 06 26 26.3 +18
PB18 Visviri 3.90 5 **Pn** **06 25 33.2 +3.6**
AC01 Pan de Azucar 4.69 188 **Pn** **06 25 39.7 -0.3**
AC02 Maricunga 5.36 173 **Pn** **06 25 51.7 +2.0**
AC02 Maricunga 5.36 173 *eP* **Pn** **06 25 51.5 +1.8**
LPAZ La Paz 5.42 18 P **Pn** **06 25 54.5 +3.8**
comp=Z,36nm,0.6s,baz=214,slow=5.2,SNR=125
LPAZ S **Sn** **06 26 57.3 +5.1**
comp=Z,61nm,0.8s,baz=180,slow=8.8,SNR=1.3
LPAZ LR LR 06 28 22.1
comp=Z,1μm,21.3s,baz=182,slow=43
LPAZ La Paz 5.42 18 *eP* **Pn** **06 25 49.4 -1.3**
AC04 Llanos de Chal 6.78 189 **Pn** **06 26 06.0 -2.6**
AC05 El Transito 7.33 183 **Pn** **06 26 15.6 -0.7**
LCO Las Campanas 7.53 186 **Pn** **06 26 19.8 +0.6**
CO06 Fray Jorge 9.29 190 **Pn** **06 26 42.0 -1.1**
BBSD Serra de San D 9.71 65 *eP* **Pn** **06 26 47.2 -1.8**
SIV San Ignacio 9.95 58 P **Pn** **06 26 51.0 -1.2**
comp=Z,16nm,0.6s,baz=240,slow=12,SNR=92
SIV S **Sn** **06 28 36.7 -5.8**
comp=Z,9.6nm,0.9s,baz=270,slow=12,SNR=3.6
CFA Coronel Fontan 10.18 172 P **Pn** **06 26 54.0 -1.3**
comp=Z,3.9nm,0.5s,baz=21,slow=17,SNR=17
CFA S **Sn** **06 28 41.5 -6.4**
comp=Z,18nm,0.7s,baz=17,slow=19,SNR=1.9
VA06 Catapilco 11.10 186 **Pn** **06 27 08.3 +0.5**
MURT Porto Murtinho 11.39 93 *eP* **Pn** **06 27 10.1 -1.7**
NNA Nana 11.58 324 P **Pn** **06 27 17.1 +2.6**
comp=Z,4.0nm,0.4s,baz=216,slow=13,SNR=2.4
NNA S **Sn** **06 29 17.0 -5.5**
comp=Z,3.1nm,0.3s,baz=321,slow=17,SNR=1.3
PTLB Pontes e Lacer 11.80 61 **Pn** **06 27 16.5 -1.0**
PTLB Pontes e Lacer 11.80 61 *eP* **Pn** **06 27 16.3 -1.2**
MT08 Bocatoma Ro 11.91 181 **Pn** **06 27 19.1 0.0**
BDQN Bodoquena, MS 12.28 88 *eP* **Pn** **06 27 23.2 -0.9**
CPUP Villa Florida 12.42 115 **Pn** **06 27 26.6 +0.7**
CPUP Villa Florida 12.42 115 P **Pn** **06 27 24.9 -1.0**
comp=Z,1.4nm,0.6s,baz=313,slow=16,SNR=4.2
CPUP S **Sn** **06 29 39.7 -3.2**
comp=Z,3.2nm,0.8s,baz=188,slow=10,SNR=1.3
CPUP LR LR 06 32 53.6
comp=Z,354nm,19.0s,baz=294,slow=41
CPUP Villa Florida 12.42 115 *eP* **Pn** **06 27 26.4 +0.6**
BO01 Tunca 12.90 185 **Pn** **06 27 33.1 +0.7**
SJPY San Joaquin 13.11 108 *eP* **Pn** **06 27 34.7 -0.6**
AQDB Aquidauana 13.26 88 **Pn** **06 27 37.8 +0.4**
AQDB Aquidauana 13.26 88 *eP* **Pn** **06 27 36.8 -0.5**
BO02 Sierra Bellavi 13.28 183 **Pn** **06 27 37.2 -0.5**
CZSB Cruzeiro do Su 13.96 348 **Pn** **06 27 44.1 -2.8**
CZSB Cruzeiro do Su 13.96 348 *eP* **Pn** **06 27 43.8 -3.1**
CZSB Cruzeiro do Su 13.96 348 P **Pn** **06 27 43.4 -3.5**
comp=Z,99nm,1.3s
H03N1 Juan Fernandez 14.36 212 P **Pn** **06 27 50.8 -1.1**
H03N1 T T 06 42 15.9
baz=36,slow=72,SNR=462
H03N2 Juan Fernandez 14.37 212 P **Pn** **06 27 51.8 -0.2**
H03N2 T T 06 42 31.4
baz=36,slow=72,SNR=371
H03N3 Juan Fernandez 14.38 212 P **Pn** **06 27 51.7 -0.5**
H03N3 T T 06 42 13.5
baz=36,slow=72,SNR=436
ITQB Itaqui 14.44 127 *eP* **Pn** **06 27 54.1 +0.9**
SALV Santo Antonio 14.51 70 *eP* **Pn** **06 27 53.5 -0.8**
RPRD Ribas do Rio P 15.12 89 *eP* **Pn** **06 28 03.2 +1.0**
BI02 San Fabin de 15.17 184 IAmb IAmb 06 28 21.1
comp=Z,24nm,0.8s
BI05 Punta Hualpn 15.48 190 IAmb IAmb 06 28 33.1
comp=Z,43nm,1.2s
PDRB Porto dos Gac 15.94 54 *eP* **Pn** **06 28 10.7 -2.2**
TBOT Tacuaremb 16.04 132 *eP* **P** **06 28 15.9 -0.9**
C2SB Chapadao do Su 16.20 83 *eP* **Pn** **06 28 16.1 -0.1**
ATAH Atahualpa 16.49 329 P **P** **06 28 22.4 +0.2**
comp=Z,14nm,0.9s,baz=160,slow=9.1,SNR=12
PTGB Pitanga 16.67 104 *eP* **P** **06 28 24.4 +0.5**
CLDB Colider 17.12 54 *eP* **Pn** **06 28 27.8 +0.1**
ITAB Concordia 17.12 113 *eP* **P** **06 28 28.4 -0.3**
TBTG Tabatinga, AM 17.20 360 *eP* **Pn** **06 28 28.1 -0.6**
CPSB Cacapava Do Su 17.20 124 *eP* **Pn** **06 28 29.0 +0.3**
LDASE Londrina, Braz 17.42 100 *eP* **P** **06 28 32.5 +0.4**
PLTB Pedras Altas 17.74 129 *eP* **P** **06 28 37.4 +1.8**
TRQA Tornquist 17.85 159 P **P** **06 28 37.7 +0.9**
TRQA IAmb IAmb 06 28 59.4
comp=Z,50nm,0.8s
ARAG Araguaiana, MT 18.03 74 *eP* **P** **06 28 38.5 -0.3**
ITRB Iturama 18.33 88 *eP* **P** **06 28 42.4 +0.2**
TEFE Tefe 18.58 17 *eP* **P** **06 28 43.1 -1.7**
LR05 Currie 18.77 185 IAmb IAmb 06 29 00.5
comp=Z,46nm,0.8s
PLCA Paso Flores 19.19 182 P **Pn** **06 28 52.7 -0.1**
PLCA IAmb IAmb 06 29 13.6
comp=Z,35nm,1.1s
PLCA Paso Flores 19.19 182 P **Pn** **06 28 52.2 -0.6**
comp=Z,2.7nm,0.7s,baz=7.5,slow=13,SNR=14
PLCA LR LR 06 36 41.1
comp=Z,375nm,19.3s,baz=358,slow=38
PLCA Paso Flores 19.19 182 *eP* **Pn** **06 28 54.0 +1.1**
MAJ01 Sao Joao Batis 19.85 111 *eP* **P** **06 28 59.2 +0.5**
NPGB Novo Progresso 20.06 46 *eP* **P** **06 29 00.9 -0.2**
SNDB Serra Nova Dou 20.11 65 *eP* **P** **06 29 00.4 -1.2**
MACA Manacapuru-AM 20.28 27 P **P** **06 29 02.3 -1.2**
MACA IAmb IAmb 06 29 16.2
comp=Z,54nm,1.0s
MACA Manacapuru-AM 20.28 27 *eP* **P** **06 29 03.6 +0.2**
IPMB Ipameri, GO 20.66 84 *eP* **P** **06 29 07.2 -0.5**
LL01 San Ignacio de 20.94 185 P **P** **06 29 11.1 +0.8**
COHC Cochancay 21.01 333 P P 06 29 20.5 +9.2
comp=Z,1μmcomp=Z,57nm,1.2s
VAO Valinhos 21.23 98 *eP* **P** **06 29 14.5 +0.8**
SGC2 Sao Gabriel da 21.39 8 P **P** **06 29 13.2 -2.2**
comp=Z,805nmcomp=Z,70nm,1.4s
BDFB Brasilia 21.49 78 P **P** **06 29 15.8 -0.9**
comp=Z,1.9nm,0.5s,baz=235,slow=13,SNR=5.1
BDFB LR LR 06 38 26.7
comp=Z,134nm,18.8s,baz=262,slow=39
comp=Z,1.9nm,0.5s
ITTB Itaituba 21.85 41 *eP* **P** **06 29 19.1 -1.2**
PIAT Ana Tenorio 21.96 337 P **P** **06 29 23.8 +1.9**
comp=Z,1μmcomp=Z,43nm,0.9s
PMNB Patos De Minas 22.19 87 *eP* **P** **06 29 21.4 -2.7**
OTAV Otavalo 23.17 338 *eP* **P** **06 29 32.6 -2.1**
OTAV Otavalo 23.17 338 P **P** **06 29 40.1 +5.4**
comp=Z,25nm,1.7s
CMBC Cumbal 23.62 340 P **P** **06 29 43.4 +4.4**
FLOC Florencia 23.62 345 **P** **06 29 39.2 +0.6**
FLOC Florencia 23.62 345 P **P** **06 29 37.8 -0.8**
comp=Z,527nmcomp=Z,48nm,1.4s
GCUF Volcan Galeras 23.74 341 P **P** **06 29 41.7 +1.5**
comp=Z,1μmcomp=Z,71nm,2.1s
GARC Garzon, Huila 24.17 346 P **P** **06 29 44.2 +0.3**
comp=Z,822nmcomp=Z,21nm,0.8s
BBAC Balboa, Cauca 24.46 342 P **P** **06 29 46.5 0.0**
comp=Z,677nmcomp=Z,63nm,1.0s
BETC Betania 24.64 346 P **P** **06 29 48.8 +0.9**
POPC Popayan, Colom 24.80 344 P **P** **06 29 50.7 +1.1**
comp=Z,424nmcomp=Z,17nm,0.8s
SMTB Santa Maria do 24.84 63 *eP* **P** **06 29 50.3 +0.6**
URMC La Uribe, Meta 24.98 349 P **P** **06 29 49.4 -1.7**
comp=Z,20nm,1.0s
JANB Januaria 25.06 80 *eP* **P** **06 29 51.3 -0.5**
BOAV Boa Vista 25.43 22 P **P** **06 29 55.1 +0.1**
BOAV IAmb IAmb 06 30 09.6
comp=Z,24nm,0.9s
BOAV Boa Vista 25.43 22 *eP* **P** **06 29 54.9 -0.1**
BOAV Boa Vista 25.43 22 P **P** **06 29 52.8 -2.3**
comp=Z,31nm,0.9s
JAMC Jamundi, Valle 25.45 344 P **P** **06 29 56.9 +1.5**
comp=Z,323nmcomp=Z,13nm,0.9s
SDBA SAO DESIDERIO 25.48 73 *eP* **P** **06 29 55.9 +0.2**
PRAC Prado 25.53 348 P **P** **06 29 54.6 -1.4**
comp=Z,20nm,1.2s
PTGC Puerto Gaitan, 25.63 355 P **P** **06 29 53.2 -3.6**
comp=Z,41nm,1.1s
YOTC Yotoco, Valle 26.11 345 P **P** **06 30 01.9 +0.6**
CHIC Chingaza 26.24 351 P **P** **06 30 01.7 -1.1**
comp=Z,13nm,1.2s
ROSC El Rosal 26.53 350 P **P** **06 30 06.3 +0.9**
comp=Z,3.8nm,0.4s,baz=109,slow=18,SNR=2.1
ROSC LR LR 06 42 15.6
comp=Z,242nm,18.2s,baz=204,slow=40
comp=Z,3.8nm,0.4s
RUSC La Rusia 27.40 353 **P** **06 30 13.3 0.0**
SDV Santo Domingo 30.20 358 LR LR 06 43 49.3
comp=Z,282nm,19.2s,baz=180,slow=38

BAUV El Baul 30.30 4 P **P** **06 30 36.6 -1.9**
MDP Montagnes des 31.35 34 LR LR 06 44 05.4
comp=Z,202nm,18.1s,baz=209,slow=38
USHA Ushuaia 33.31 179 LR LR 06 45 49.2
comp=Z,231nm,19.1s,baz=343,slow=38
JTS Las Juntas de 34.89 333 LR LR 06 46 03.1
comp=Z,79nm,21.9s,baz=131,slow=37
RCBR Riachuelo 36.35 70 LR LR 06 48 11.3
comp=Z,49nm,18.7s,baz=248,slow=39
CELP Cerrillos 39.45 5 P **P** **06 31 54.9 -2.4**
SJG San Juan 39.52 6 LR LR 06 51 05.2
comp=Z,71nm,18.2s,baz=202,slow=40
MTO3 Montecristo 40.48 330 P **P** **06 32 07.6 +1.4**
MTO3 IAmb IAmb 06 32 08.7
comp=Z,8.4nm,0.9s
PMSA Palmer Station 43.44 176 LR LR 06 49 23.3
comp=Z,75nm,20.4s,baz=356,slow=34
TKL Tuckaleechee C 58.35 347 LR LR 06 59 49.9
comp=Z,32nm,20.4s,baz=143,slow=36
V48A Smith Brothers 59.15 344 P **P** **06 34 26.9 -0.5**
V48A IAmb IAmb 06 34 48.2
comp=Z,4.3nm,0.7s
LPIG La Paz 60.02 317 LR LR 06 56 42.0
comp=Z,28nm,18.6s,baz=68,slow=32
TXAR Lajitas Array 60.13 326 P **P** **06 34 34.6 +0.1**
comp=Z,0.9nm,0.8s,baz=134,slow=5.4,SNR=6.9
comp=Z,0.9nm,0.8s
T47A Sharon Grove 60.40 344 P **P** **06 34 35.4 -0.6**
PBMO Poplar Bluff 61.13 341 IAmb IAmb 06 35 01.8
comp=Z,5.2nm,0.7s
MNHN Monahans 61.28 328 IAmb IAmb 06 35 05.4
comp=Z,5.7nm,0.8s
VHRN Van Horn 61.97 326 **P** **06 34 47.0 0.0**
VHRN IAmb IAmb 06 34 48.5
comp=Z,5.5nm,0.9s
MGMO Mountain Grove 62.04 340 IAmb IAmb 06 35 02.3
comp=Z,5.5nm,0.9s
CCM Cathedral Cave 62.55 341 P **P** **06 34 49.5 -1.1**
CCM IAmb IAmb 06 35 05.6
comp=Z,7.5nm,1.1s
SNAA Sanae 62.57 161 P **P** **06 34 50.9 +0.5**
comp=Z,1.3nm,0.8s,baz=332,slow=19,SNR=1.4
SNAA LR LR 07 02 14.4
comp=Z,45nm,18.1s,baz=281,slow=36
comp=Z,1.3nm,0.8s
S39A Bolivar 62.88 339 IAmb IAmb 06 35 14.0
comp=Z,7.3nm,0.7s
MNTX Cornudas Mount 62.90 326 IAmb IAmb 06 34 54.5
comp=Z,8.2nm,1.4s
R40A Maddies Statio 63.08 340 IAmb IAmb 06 34 54.2
comp=Z,6.0nm,0.8s
MSTX Muleshoe 63.44 330 IAmb IAmb 06 35 13.1
comp=Z,12nm,1.2s
BBTS Babate 63.45 60 LR LR 07 01 20.6
comp=Z,62nm,21.8s,baz=126,slow=35
ANMO Albuquerque 66.02 328 **P** **06 35 13.9 +0.3**
ANMO Albuquerque 66.02 328 IAmb IAmb 06 35 39.3
comp=Z,7.3nm,1.5s
SDCO Great Sand Dun 67.80 330 IAmb IAmb 06 35 49.1
comp=Z,7.7nm,1.2s
QSPA South Pole Qui 68.70 180 P **P** **06 35 31.1 +1.0**
comp=Z,3.1nm,0.7s,baz=192,slow=1.4,SNR=10
QSPA pP **pP** **06 35 45.3 +0.7**
comp=Z,2.4nm,0.5s,baz=202,slow=0.5,SNR=5.8
comp=Z,3.1nm,0.7s
MVCO Mesa Verde 68.82 328 IAmb IAmb 06 35 55.1
comp=Z,12nm,1.4s
WUAZ Wupatki 69.01 325 IAmb IAmb 06 35 57.3
comp=Z,4.9nm,0.8s
DBIC Dimbokro 69.57 74 P **P** **06 35 36.5 +0.4**
comp=Z,1.6nm,0.6s,baz=307,slow=23,SNR=1.3
DBIC pP **pP** **06 35 50.4 0.0**
comp=Z,6.4nm,0.8s,baz=230,slow=6.2,SNR=4.4
DBIC LR LR 07 04 22.8
comp=Z,76nm,21.8s,baz=258,slow=34
comp=Z,1.6nm,0.6s
PV01 Paradox Valley 69.57 328 IAmb IAmb 06 36 00.6
comp=Z,6.8nm,1.1s
PV10 Paradox Valley 69.99 328 IAmb IAmb 06 36 03.1
comp=Z,8.0nm,1.1s
PFO Pinyon Flats O 70.54 320 LR LR 07 03 35.3
comp=Z,30nm,19.4s,baz=110,slow=33
KNB Kanab 70.91 325 IAmb IAmb 06 36 09.6
comp=Z,14nm,1.3s
O20A White River Ci 70.99 330 IAmb IAmb 06 36 08.3
comp=Z,15nm,1.5s
SRU San Rafael Swe 71.30 328 IAmb IAmb 06 36 17.5
comp=Z,4.8nm,0.7s
P18A Preston Nutter 71.56 328 IAmb IAmb 06 36 13.5
comp=Z,16nm,1.5s
MVU Marysvale 71.69 326 IAmb IAmb 06 36 13.2
comp=Z,7.1nm,1.3s
PDAR Pinedale Array 73.67 331 P **P** **06 36 01.9 +1.4**
comp=Z,0.3nm,0.7s,baz=115,slow=6.4,SNR=2.4
PDAR pP **PcP** **06 36 16.4 +0.3**
comp=Z,0.5nm,0.7s,baz=134,slow=6.4,SNR=4.5
comp=Z,0.3nm,0.7s
PPT Papeete 74.47 257 LR LR 07 01 05.6
comp=Z,42nm,19.0s,baz=172,slow=29
NVAR Mina Array Bea 74.95 323 P **P** **06 36 09.7 +1.7**
comp=Z,0.9nm,0.9s,baz=153,slow=6.9,SNR=5.6
NVAR pP **pP** **06 36 23.8 +1.4**
comp=Z,0.6nm,0.7s,baz=152,slow=7.0,SNR=4.6
comp=Z,0.9nm,0.9s
YNE Yellowstone No 75.63 332 IAmb IAmb 06 36 37.5
comp=Z,8.0nm,0.9s
TORD Torodi Ar. Bea 78.17 71 P **P** **06 36 25.7 -0.7**
TORD IAmb IAmb 06 36 46.8
comp=Z,5.8nm,0.9s
TORD Torodi Ar. Bea 78.17 71 P **P** **06 36 25.8 -0.7**
comp=Z,1.5nm,0.5s,baz=257,slow=5.3,SNR=2.2
TORD pP **pP** **06 36 42.3 +1.3**
comp=Z,2.0nm,0.4s,baz=241,slow=5.1,SNR=2.3
comp=Z,1.5nm,0.5s
PLID Pearl Lake 78.47 329 IAmb IAmb 06 36 53.8
comp=Z,6.7nm,1.2s
SUR Sutherland 79.34 121 LR LR 07 08 13.9
comp=Z,37nm,18.1s,baz=194,slow=33
RAR Rarotonga 82.41 250 LR LR 07 05 19.4
comp=Z,79nm,20.8s,baz=302,slow=30
MDT Midelt 82.41 50 LR LR 07 15 15.0
comp=Z,38nm,18.0s,baz=220,slow=37
BOSA Boshof 84.22 118 LR LR 07 13 02.6
comp=Z,37nm,18.7s,baz=218,slow=35
MAW Mawson 84.59 164 LR LR 07 14 50.0
comp=Z,43nm,20.5s,baz=176,slow=36
FRB Frobisher Bay 84.96 1 LR LR 07 17 05.6
comp=Z,18nm,20.2s,baz=186,slow=37
ESDC Sonseca Array 86.44 45 LR LR 07 11 16.3
comp=Z,21nm,20.8s,baz=197,slow=32
BBB Bella Bella 89.16 328 LR LR 07 19 06.0
comp=Z,22nm,19.6s,baz=122,slow=37
SFJD Kangerlussuaq 89.39 7 LR LR 07 16 15.9
comp=Z,28nm,21.6s,baz=194,slow=35
YKA Yellowknife Ar 90.89 341 P **P** **06 37 29.8 +0.2**
comp=Z,1.0nm,0.8s,baz=137,slow=4.4,SNR=26
YKA pP **pP** **06 37 45.0 +0.6**
comp=Z,2.3nm,0.8s,baz=137,slow=4.6,SNR=24
comp=Z,1.0nm,0.8s
BORG Borgarnes 93.69 19 LR LR 07 17 01.4
comp=Z,21nm,21.0s,baz=213,slow=34
KEST Kesra 94.00 53 P **P** **06 37 44.9 +0.2**
comp=Z,1.2nm,0.6s,baz=141,slow=22,SNR=1.4
comp=Z,1.2nm,0.6s
RES Resolute Bay 97.29 353 LR LR 07 25 51.6
comp=Z,24nm,18.4s,baz=322,slow=38
VAE Valguarnera 98.43 53 LR LR 07 26 43.6
comp=Z,26nm,18.1s,baz=138,slow=38
DAVOX Davos/Dischmat 98.65 43 LR LR 07 23 12.7
comp=Z,24nm,18.6s,baz=79,slow=36
STKA Stephens Creek 118.98 210 PKP **PKiKP** **06 43 16.9 +1.3**
comp=Z,1.7nm,0.8s,baz=181,slow=12,SNR=2.6
H11S2 WAKE ISLAND Hyl27.01 277 T T 09 03 24.6
baz=102,slow=74,SNR=702
H11S1 WAKE ISLAND Hyl27.02 277 T T 09 03 04.1
baz=102,slow=74,SNR=487
H11S3 WAKE ISLAND Hyl27.03 277 T T 09 03 05.0
baz=102,slow=74,SNR=459
H11N3 WAKE ISLAND Hyl27.09 279 T T 09 03 30.5
baz=104,slow=75,SNR=518
H11N2 WAKE ISLAND Hyl27.11 279 T T 09 03 31.5
baz=104,slow=75,SNR=390
H11N1 WAKE ISLAND Hyl27.11 279 T T 09 03 31.6
baz=104,slow=75,SNR=16
ASAR Alice Springs 129.51 209 PKP **PKiKP** **06 43 36.7 0.0**
comp=Z,1.0nm,1.0s,baz=151,slow=2.1,SNR=4.3
ASAR pPKP **pPKPdf** **06 43 51.7 +0.5**
comp=Z,1.1nm,0.8s,baz=156,slow=2.4,SNR=6.3

WRA Warramunga Arr 132.51 212 PKP **PKPdf** **06 43 42.0 +0.3**
comp=Z,0.9nm,0.9s,baz=149,slow=1.8,SNR=2.9
WRA pPKP **pPKPdf** **06 43 57.6 +0.6**
comp=Z,3.4nm,1.0s,baz=157,slow=1.9,SNR=9.8
KURBB Kurchatov Arra 141.81 33 PKP **PKPdf** **06 43 58.4 +0.6**
comp=Z,0.2nm,0.7s,baz=292,slow=3.2,SNR=1.9
KURBB pPKP **pPKPdf** **06 44 13.1 +0.1**
comp=Z,0.6nm,0.9s,baz=287,slow=2.1,SNR=3.8
ZALV Zalesovo Beam 142.31 24 PKP **PKPdf** **06 43 58.8 +0.2**
comp=Z,0.5nm,0.4s,baz=282,slow=2.7,SNR=1.5
ZALV pPKP **pPKPdf** **06 44 15.0 +1.1**
comp=Z,1.1nm,0.6s,baz=270,slow=1.5,SNR=3.0
MKAR Makanchi Array 146.13 35 PKPbc **PKPab** **06 44 06.9 -0.3**
comp=Z,1.6nm,0.8s,baz=328,slow=4.3,SNR=15
MKAR pPKPbc pPKPbc 06 44 21.4 -0.3
comp=Z,1.6nm,0.6s,baz=336,slow=2.7,SNR=9.3
KLR Kul'dur 147.43 333 PKPbc **PKPbc** **06 44 10.1 0.0**
comp=Z,0.7nm,0.5s,baz=38,slow=16,SNR=2.7
KLR pPKPbc **pPKPbc** **06 44 26.1 +0.9**
comp=Z,0.7nm,0.5s,baz=36,slow=2.5,SNR=2.9
MJAR Matsushiro Arr 151.38 308 PKPbc **PKiKP** **06 44 21.0 +0.1**
comp=Z,1.4nm,0.6s,baz=91,slow=2.1,SNR=2.4
SONM Songino Array 153.54 6 PKP **PKPdf** **06 44 18.0 +0.7**
comp=Z,0.4nm,0.3s,baz=316,slow=4.0,SNR=2.2
SONM pPKPbc **pPKPbc** **06 44 25.0 0.0**
comp=Z,0.3nm,0.3s,baz=315,slow=0.8,SNR=1.8
SONM PKPab **sPKPdf** **06 44 37.9 -0.2**
comp=Z,0.7nm,0.4s,baz=112,slow=1.6,SNR=4.4

IDC 24 06:30:20.1±2.0, 54°82N×164°73E, h0km, mb3.3/3, mbtmp3.3/4, ML2.3/1, Error ellipse: s-maj=75.9km s-min=27.1km az=166.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.49**	**250**	Pn	Pn	06 31 29.4	0.0
	0.8nm,0.3s,baz=70,slow=17,SNR=20						
PETK				Sn	Sn	06 32 17.4	-4.8
	0.5nm,0.3s,baz=88,slow=18,SNR=1.9						
	1.3nm,0.3s						
ILAR	**Eielson Array**	**25.64**	**48**	P	P	06 35 50.8	-0.2
	0.2nm,0.7s,baz=265,slow=7.1,SNR=4.3						
	0.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**35.06**	**176**	T	T	07 15 32.0	
	baz=360						
H11N3	**WAKE ISLAND Hy**	**35.08**	**176**	T	T	07 15 30.9	
	baz=360						
H11N1	**WAKE ISLAND Hy**	**35.08**	**176**	T	T	07 15 32.5	
	baz=360						
KURBB	**Kurchatov Arra**	**49.23**	**303**	P	P	06 39 09.6	-0.2
	0.2nm,0.3s,baz=52,slow=8.6,SNR=1.6						
	0.2nm,0.3s						
TXAR	**Lajitas Array**	**67.46**	**71**	P	P	06 41 17.9	+0.2
	0.3nm,0.6s,baz=293,slow=5.5,SNR=4.6						
	0.3nm,0.6s						

---

*CATAC **24** 06:32:37.1±0.7, 13°N±5°×8°9W±°, h31km±6km, M3.1/14, MLv3.1/14, Error ellipse: s-maj=12.0km s-min=4.8km az=24.4, confirmed*
*SNET **24** 06:32:38.1±0.9, 13°02N×88°81W, h55km±7km, ML3.1*
*GCG **24** 06:32:41.8±1.5, 13°27N×88°79W, h39km±107km, MD3.7*

ISC 24 06:32:38.1±1.7, 12°98N±0°09×88°82W±0°04, h54km±14km, n55, σ0°57/72, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.42**	**34**	*eP*	**Pn**	**06 32 48.3**	**-0.4**
ALJI				*eS*	**Sn**	**06 32 57.1**	**+0.7**
ALJI	**Alcalda de J**	**0.42**	**34**	P	**Pn**	**06 32 48.4**	**-0.4**
TECO	**Alcaldia de Te**	**0.56**	**3**	*eP*	**Pn**	**06 32 49.8**	**-0.5**
TECO				*eS*	**Sn**	**06 32 59.1**	**-0.1**
TECO	**Alcaldia de Te**	**0.56**	**3**	P	**Pn**	**06 32 49.8**	**-0.5**
TECA	**Tecapa**	**0.60**	**31**	*eP*	**Pn**	**06 32 50.7**	**-0.3**
TECA				*eP*		06 32 50.8	
TECA				*eS*	**Sn**	**06 33 00.5**	**+0.2**
COEG	**Centro de Oper**	**0.64**	**354**	‖*eP*	**Pn**	**06 32 50.9**	**-0.5**
COEG				*eS*	**Sn**	**06 33 00.8**	**-0.2**
COEG	**Centro de Oper**	**0.64**	**354**	P	**Pn**	**06 32 50.9**	**-0.5**
UESV	**Universidad de**	**0.66**	**2**	*eP*	**Pn**	**06 32 51.2**	**-0.3**
UESV				*eS*	**Sn**	**06 33 01.6**	**+0.3**
UESV	**Universidad de**	**0.66**	**2**	P	**Pn**	**06 32 51.2**	**-0.3**
LCY	**Lacayo**	**0.67**	**49**	*eP*	**Pn**	**06 32 51.5**	**-0.2**
PACA	**Pacayal**	**0.69**	**44**	*eP*	**Pn**	**06 32 51.8**	**-0.1**
PACA				*eS*	**Sn**	**06 33 02.7**	**+0.7**
PACA	**Pacayal**	**0.69**	**44**	P	**Pn**	**06 32 51.9**	**-0.1**
LFRS	**El Faro**	**0.69**	**340**	*eP*	**Pn**	**06 32 51.5**	**-0.5**
RANC	**El Ranchito**	**0.69**	**48**	*eP*	**Pn**	**06 32 51.7**	**-0.3**
RANC	**El Ranchito**	**0.69**	**48**	P	**Pn**	**06 32 51.7**	**-0.3**
PQSS	**Presa 15 de Se**	**0.69**	**21**	*eP*	**Pn**	**06 32 51.9**	**0.0**
PQSS	**Presa 15 de Se**	**0.69**	**21**	P	**Pn**	**06 32 51.9**	**0.0**
VSM	**San Miguel**	**0.69**	**50**	*eP*	**Pn**	**06 32 52.0**	**-0.2**
LALI	**Alcalda de L**	**0.71**	**316**	*eP*	**Pn**	**06 32 54.4**	**+2.3**
LALI				*eS*	**Sn**	**06 33 00.8**	**-1.5**
SCLA	**Alcaldia de Sa**	**0.73**	**7**	*eP*	**Pn**	**06 32 52.4**	**0.0**
SCLA	**Alcaldia de Sa**	**0.73**	**7**	P	**Pn**	**06 32 52.4**	**0.0**
SCLA	**Alcaldia de Sa**	**0.73**	**7**	S	**Sn**	**06 33 04.1**	**+1.3**
BLLM	**Bellamira**	**0.73**	**50**	*eP*	**Pn**	**06 32 52.1**	**-0.3**
PAVA	**Las Pavas**	**0.74**	**351**	*eP*	**Pn**	**06 32 52.4**	**-0.2**
PAVA				*eS*	**Sn**	**06 33 03.4**	**+0.1**
PAVA				IAML		06 33 05.8	
	comp=Z,796nm,0.3s						
PAVA	**Las Pavas**	**0.74**	**351**	P	**Pn**	**06 32 52.4**	**-0.2**
PAVA	**Las Pavas**	**0.74**	**351**	S	**Sn**	**06 33 04.4**	**+1.1**
LOMA	**Loma Larga**	**0.75**	**333**	*eP*	**Pn**	**06 32 52.3**	**-0.5**
LOMA				*eS*	**Sn**	**06 33 03.6**	**+0.2**
LOMA	**Loma Larga**	**0.75**	**333**	P	**Pn**	**06 32 52.3**	**-0.5**
LFU	**La Fuente**	**0.82**	**339**	*eP*	**Pn**	**06 32 53.5**	**-0.1**
ITCA	**Escuela Especi**	**0.83**	**327**	*eP*	**Pn**	**06 32 53.7**	**0.0**
UEES	**Universidad Ev**	**0.84**	**331**	*eP*	**Pn**	**06 32 53.5**	**-0.4**
UEES				*eS*	**Sn**	**06 33 05.4**	**-0.1**
UEES	**Universidad Ev**	**0.84**	**331**	P	**Pn**	**06 32 53.6**	**-0.4**
PIC2	**El Picacho**	**0.88**	**331**	*eP*	**Pn**	**06 32 54.5**	**0.0**
PMON	**Piamonte**	**0.88**	**326**	*eP*	**Pn**	**06 32 54.0**	**-0.4**
PMON				*eS*	**Sn**	**06 33 05.9**	**-0.4**
PMON	**Piamonte**	**0.88**	**326**	P	**Pn**	**06 32 54.2**	**-0.3**
PMON	**Piamonte**	**0.88**	**326**	S	**Sn**	**06 33 06.3**	**-0.1**
BOQS	**Boqueron**	**0.88**	**329**	*eP*	**Pn**	**06 32 54.3**	**-0.2**
JAYA	**Jayaque - finc**	**0.91**	**318**	*eP*	**Pn**	**06 32 54.1**	**-0.8**
JAYA				*eS*	**Sn**	**06 33 07.0**	**-0.3**
JAYA				IAML		06 33 10.6	
	comp=Z,447nm,0.2s						
JAYA	**Jayaque - finc**	**0.91**	**318**	*eP*	**Pn**	**06 32 54.6**	**-0.3**
JAYA				*eS*	**Sn**	**06 33 06.9**	**-0.3**
JAYA	**Jayaque - finc**	**0.91**	**318**	P	**Pn**	**06 32 54.2**	**-0.8**
CAHU	**Cacacuatique**	**0.98**	**37**	*eP*	**Pn**	**06 32 56.0**	**+0.1**
CNCH	**Conchagua**	**1.00**	**73**	P	**Pn**	**06 32 55.4**	**-0.6**
CEVE	**Cerro Verde**	**1.16**	**317**	*eP*	**Pn**	**06 32 58.6**	**+0.4**
CEVE				*eS*	**Sn**	**06 33 14.5**	**+1.4**
SBLS	**San Blas**	**1.16**	**318**	*eP*	**Pn**	**06 32 58.5**	**+0.2**
SNJE	**San Jose**	**1.17**	**319**	*eP*	**Pn**	**06 32 58.4**	**0.0**
LLGN	**La Laguna**	**1.19**	**354**	*eP*	**Pn**	**06 32 58.3**	**-0.2**
CSGN	**Cosiguina Volc**	**1.23**	**90**	P	**Pn**	**06 32 58.8**	**-0.2**
UNIC	**Universidad Ca**	**1.23**	**325**	*eP*	**Pn**	**06 32 59.0**	**0.0**
UNIC	**Universidad Ca**	**1.23**	**325**	P	**Pn**	**06 32 58.8**	**-0.2**
POTN	**Potosi Cosigui**	**1.28**	**89**	P	**Pn**	**06 32 59.2**	**-0.4**
POTN				S	**Sn**	**06 33 16.1**	**+0.4**
MARCA	**Marcala la Paz**	**1.40**	**33**	*eP*	**Pn**	**06 33 01.4**	**0.0**
**SLOZ

TKGZ	**Te Karaka**	**0.78 276**	P	**Pn**	**06 43 52.0**	**-0.5**
TKGZ			S	**Sb**	**06 44 04.0**	**+0.7**
PRGZ	**Paritu Road**	**0.84 241**	P	**Pb**	**06 43 54.0**	**-0.1**
RIGZ	**Rimuhau**	**0.86 257**	P	**Pn**	**06 43 53.7**	**0.0**
RIGZ			S	**Sb**	**06 44 07.1**	**+1.5**
PKGZ	**Pakihiroa**	**0.88 318**	P	**Pn**	**06 43 53.7**	**-0.4**
PKGZ			S	**Sb**	**06 44 06.5**	**+0.3**
MHGZ	**Mahia Peninsul**	**0.96 229**	P	**Pb**	**06 43 55.5**	**-0.5**
KNZ	**Kokohu**	**1.03 241**	P	**Pn**	**06 43 56.2**	**0.0**
MWZ	**Matawai**	**1.04 280**	P	**Pn**	**06 43 55.9**	**-0.4**
MWZ			S	**Sn**	**06 44 09.7**	**0.0**
MXZ	**Matakaoa Point**	**1.04 336**	P	**Pb**	**06 43 57.0**	**-0.4**
MXZ	**Matakaoa Point**	**1.04 336**	P	**Pb**	**06 43 57.1**	**-0.3**
MXZ			S	**Sb**	**06 44 12.4**	**+1.7**
RUGZ	**Raukumara Rang**	**1.06 301**	P	**Pn**	**06 43 56.2**	**-0.5**
RUGZ			S	**Sn**	**06 44 10.4**	**0.0**
RAGZ	**Rawiri**	**1.11 271**	P	**Pn**	**06 43 57.6**	**+0.4**
RAGZ			S	**Sb**	**06 44 12.8**	**0.0**
HAZ	**Te Kaha**	**1.13 312**	P	**Pn**	**06 43 57.2**	**-0.1**
HAZ			S	**Sb**	**06 44 12.8**	**-0.3**
SNGZ	**Shannon Statio**	**1.20 257**	P	**Pn**	**06 43 58.6**	**+0.2**
WHHZ	**Waihua**	**1.36 246**	P	**Pb**	**06 44 02.0**	**-0.9**
URZ	**Urewera**	**1.38 280**	P	**Pn**	**06 44 01.3**	**+0.5**
URZ	**Urewera**	**1.38 280**	P	**Pn**	**06 44 00.7**	**-0.2**
RAHZ	**Arahi**	**1.42 253**	P	**Pb**	**06 44 02.8**	**-1.1**
RTZ	**Ruatahuna**	**1.45 266**	P	**Pb**	**06 44 03.4**	**-1.0**
MTHZ	**Maungataniwha**	**1.59 257**	P	**Pn**	**06 44 04.3**	**+0.4**
ARHZ	**Aropaoanui**	**1.61 242**	P	**Pn**	**06 44 05.2**	**+1.1**
MUGZ	**Murupara**	**1.62 271**	P	**Pn**	**06 44 04.9**	**+0.7**
NMHZ	**Naumai**	**1.68 249**	P	**Pn**	**06 44 06.5**	**+1.3**
TARZ	**Mount Tarawera**	**1.85 278**	P	**Pb**	**06 44 09.6**	**-1.5**
MCHZ	**McNeill Hill**	**1.90 240**	P	**Pn**	**06 44 08.9**	**+0.8**
MRHZ	**Matea Rd**	**1.92 260**	P	**Pn**	**06 44 08.6**	**+0.3**
BKZ	**Black Stump Fm**	**1.94 250**	P	**Pn**	**06 44 09.7**	**+1.1**
BKZ	**Black Stump Fm**	**1.94 250**	P	**Pn**	**06 44 09.7**	**+1.1**
ALRZ	**Allen Road**	**1.95 268**	P	**Pb**	**06 44 11.4**	**-1.4**
KAHZ	**Kahuranaki**	**1.98 229**	P	**Pn**	**06 44 09.7**	**+0.5**
KWHZ	**Kaweka Forest**	**2.08 244**	P	**Pn**	**06 44 11.4**	**+0.8**
PXZ	**Pawanui**	**2.15 225**	P	**Pn**	**06 44 10.9**	**-0.5**
KRHZ	**Kereru**	**2.22 239**	P	**Pn**	**06 44 12.5**	**+0.1**
WPHZ	**Waipukurau**	**2.41 230**	P	**Pn**	**06 44 15.2**	**+0.1**
PRHZ	**Porangahau**	**2.44 224**	P	**Pn**	**06 44 14.6**	**-0.8**
PNHZ	**Pukenui**	**2.47 235**	P	**Pn**	**06 44 15.5**	**-0.5**
MOVZ	**Moawhango**	**2.56 249**	P	**Pn**	**06 44 18.4**	**+1.2**
TUVZ	**Tukino**	**2.59 252**	P	**Pn**	**06 44 18.9**	**+1.3**
WHVZ	**Whangaehu Hut**	**2.64 252**	P	**Pn**	**06 44 19.3**	**+0.8**
WNVZ	**Wahianoa**	**2.65 251**	P	**Pn**	**06 44 19.1**	**+0.6**
ANWZ	**Angora Road**	**2.66 223**	P	**Pn**	**06 44 19.2**	**+0.7**
TSZ	**Takapari Road**	**2.71 235**	P	**Pn**	**06 44 18.6**	**-0.5**
DVHZ	**Dannevirke**	**2.72 228**	P	**Pn**	**06 44 18.6**	**-0.8**
BFZ	**Birch Farm**	**2.94 222**	P	**Pn**	**06 44 22.0**	**-0.3**
BFZ	**Birch Farm**	**2.94 222**	P	**Pn**	**06 44 20.9**	**-1.4**
PRWZ	**Pori Road**	**3.00 227**	P	**Pn**	**06 44 23.1**	**-0.1**
KUZ	**Kuaotunu**	**3.04 305**	P	**Pn**	**06 44 24.0**	**+0.3**
TIWZ	**Tintock**	**3.20 224**	P	**Pn**	**06 44 25.1**	**-0.8**
KHEZ	**Kahui Hut**	**3.84 257**	P	**Pn**	**06 44 35.4**	**+0.7**
QRZ	**Quartz Range**	**5.38 243**	P	**Pn**	**06 44 56.4**	**+0.5**
KHZ	**Kahutara**	**5.60 224**	P	**Pn**	**06 44 59.2**	**+0.3**
CTZ	**Chatham Island**	**6.24 148**	P	**Pn**	**06 45 07.5**	**-0.1**
CTZ	**Chatham Island**	**6.24 148**	P	**Pn**	**06 45 10.9**	**+3.3**
CTZ			S	**Sn**	**06 46 17.0**	**-0.8**

*ASRS **24** 06:43:35.0±2.1, 53°.47N×91°.08E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 24 06:43:47.5±3.8, 53°.41N×90°.17E, h0km, mbtmp2.8/3, ML2.1/2, Error ellipse: s-maj=35.4km s-min=24.3km az=38.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.23 282**		I	I	07 06 50.0	
	baz=95, slow=330, SNR=7.6						
ZALV	**Zalesovo Beam**	**3.23 282**		Pn	Pn	06 44 40.2	+0.8
	0.8nm, 0.3s, baz=101, slow=12, SNR=10						
ZALV				Pg	Pg	06 44 48.2	-1.2
	1.1nm, 0.3s, baz=98, slow=15, SNR=9.3						
ZALV				Lg	Lg	06 45 28.9	
	1.0nm, 0.3s, baz=90, slow=33, SNR=6.6						
	2.4nm, 0.4s						
KURBB	**Kurchatov Arra**	**7.71 253**		Pn	Pn	06 45 39.9	-0.9
	baz=60, slow=14, SNR=2.8						
KURBB				Sn	Sn	06 47 07.5	-1.3
	baz=69, slow=26, SNR=5.1						
KURBB				Lg	Lg	06 47 52.2	
	0.1nm, 0.3s, baz=67, slow=33, SNR=6.0						
	0.2nm, 0.3s						
MKAR	**Makanchi Array**	**8.34 221**		Pn	Pn	06 45 50.7	+1.2
	0.7nm, 0.9s, baz=34, slow=13, SNR=1.3						

*ASRS **24** 06:49:21.0±1.0, 53°.85N×88°.23E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 24 06:49:23.2±3.5, 53°.84N×88°.19E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=32.1km s-min=21.2km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00 274**		I	I	07 02 40.0	
	baz=91, slow=331, SNR=5.0						
ZALV	**Zalesovo Beam**	**2.00 274**		Pn	Pn	06 49 58.1	-0.1
	0.5nm, 0.3s, baz=96, slow=12, SNR=4.8						
ZALV				Lg	Lg	06 50 26.9	
	1.1nm, 0.3s, baz=93, slow=24, SNR=7.4						
KURBB	**Kurchatov Arra**	**6.75 245**		Pn	Pn	06 51 03.6	+0.1
	baz=62, slow=14, SNR=2.7						
KURBB				Lg	Lg	06 52 57.8	
	baz=60, slow=34, SNR=2.1						
	0.2nm, 0.3s						
MKAR	**Makanchi Array**	**8.00 211**		Pn	Pn	06 51 22.1	+1.4
	0.1nm, 0.3s, baz=27, slow=13, SNR=2.1						
	0.2nm, 0.5s						

NNC 24 06:50:53.6±7.2, 38°.57N×71°.34E, h0km, mb3.8, mpv3.4, 1C, Error ellipse: s-maj=49.3km s-min=31.5km az=176.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**4.41**	**18**	Pg	Pb	06 52 11.6	-0.4
	8.4nm, 0.3s						
MRKS				Lg	Lg	06 53 09.8	
	14nm, 0.4s						
KK31	**Karatay Array**	**4.57 352**		⇑Pg	Pb	06 52 16.8	+2.1
	0.3nm, 0.2s, baz=173, slow=13, SNR=14						
KK31				Lg	Lg	06 53 19.6	
	1.5nm, 0.3s, baz=173, slow=23, SNR=11						
BRLS	**Borolday**	**4.60 346**		Pg	Pb	06 52 14.8	-0.4
	3.2nm, 0.2s						
BRLS				Lg	Lg	06 53 15.0	
	5.7nm, 0.5s						
SGDS	**Sogindy**	**5.48**	**26**	Pg	Pg	06 52 35.8	-2.8
	1.0nm, 0.3s						
SGDS				Lg	Lg	06 53 50.6	
	28nm, 3.4s						

*DJA **24** 06:52:38.5±0.5, 4°.5S±3°.×13°.6E±°, h14km±4km, M4.2/8, mb4.2/8, mB5.2/3, MLv4.2/7, Mw(mB)4.5/3*
*IDC **24** 06:52:44.3±5.2, 3°.81S×135°.63E, h72km±58km, mb3.3/4, mbtmp3.8/7, ML4.1/3, Error ellipse: s-maj=50.3km s-min=21.2km az=126.0*

ISC 24 06:52:38.7±0.6, 3.79S±0°.06×135°.59E±0°.06, h20km, n25, σ2°.70/27, mb3.6/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.88 274**		P	**Pb**	**06 53 12.6**	**+0.1**
SRPI	**Serui, Papua**	**2.01**	**19**	P	**Pb**	**06 53 13.0**	**-1.7**
BAKI	**Biak**	**2.63**	**11**	P	**Pb**	**06 53 23.4**	**-1.8**
FAKI	**Fak Fak**	**3.44 284**		P	**Pn**	**06 53 32.3**	**+1.0**
SMPI	**Sarmi**	**3.59**	**60**	P	**Pn**	**06 53 33.5**	**+0.2**
SWI	**Sorong**	**5.21 304**		P	**Pn**	**06 53 56.2**	**+0.6**
	0.5nm2µm38nm, 0.9s						
JAY	**Jayapura**	**5.26**	**76**	P	**Pn**	**06 53 59.9**	**+3.5**
	3.1nm, 0.3s, baz=212, slow=8.3, SNR=7.3						
JAY				S	**Sn**	**06 54 59.7**	**+3.2**
	12nm, 0.7s, baz=140, slow=8.2, SNR=1.7						
	7.3nm, 0.3s						

KDU	**Kakadu**	**9.36 199**	P	**Pn**	**06 54 53.0**	**+0.4**
SANI	**Sanana**	**9.74 280**	P	**Pn**	**06 54 57.5**	**-0.3**
	12nm, 0.9s					
DRS	**Darwin Rock St**	**9.76 208**	P	**Pn**	**06 54 59.4**	**+1.3**
MTN	**Manton Dam**	**10.02 206**	P	**Pn**	**06 55 02.7**	**+1.1**
COEN	**Coen**	**12.58 144**	P	**Pn**	**06 55 37.0**	**+0.3**
WRA	**Warramunga Arr**	**16.10 184**	P	**Pn**	**06 56 21.0**	**-3.1**
	1.2nm, 0.4s, baz=5.1, slow=13, SNR=14					
WRA			S	Sn	06 59 07.9	-14
	2.7nm, 0.5s, baz=3.1, slow=23, SNR=8.6					
MTSU	**Mount Surprise**	**16.62 150**	P	**P**	**06 56 31.7**	**-1.4**
QIS	**Mount Isa**	**17.12 167**	P	**P**	**06 56 37.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**17.24 214**	P	**Pn**	**06 56 38.6**	**+0.1**
	0.8nm, 0.3s, baz=35, slow=10.0, SNR=13					
FITZ			S	Sn	06 59 37.6	-12
	1.9nm, 0.4s, baz=159, slow=14, SNR=6.2					
	1.6nm, 0.3s					
FITZ	**Fitzroy Crossi**	**17.24 214**	P	**Pn**	**06 56 38.7**	**+0.2**
AS01	**Alice Springs**	**19.82 184**	P	**Pn**	**06 57 10.5**	**+0.5**
ASAR	**Alice Springs**	**19.83 185**	P	**Pn**	**06 57 10.0**	**0.0**
	0.7nm, 0.3s, baz=9.0, slow=12, SNR=40					
ASAR			S	**S**	**07 00 40.4**	**-11**
	0.6nm, 0.4s, baz=7.5, slow=29, SNR=6.5					
	2.0nm, 0.4s					
WRKA	**Warakurna**	**22.26 198**	P	**P**	**06 57 36.3**	**+1.6**
QLP	**Quilpie**	**24.13 161**	P	**P**	**06 57 56.7**	**+3.2**
MKAR	**Makanchi Array**	**68.77 324**	P	**P**	**07 03 41.2**	**-0.2**
	0.4nm, 0.6s, baz=103, slow=8.2, SNR=4.3					
	0.4nm, 0.6s					
KURBB	**Kurchatov Arra**	**72.84 326**	P	**P**	**07 04 05.8**	**-0.2**
	0.3nm, 0.6s, baz=122, slow=4.6, SNR=2.3					
	0.3nm, 0.6s					
BVAR	**Borovoye Array**	**78.43 326**	P	**P**	**07 04 37.7**	**-0.4**
	0.4nm, 0.5s, baz=123, slow=5.3, SNR=2.5					
	0.4nm, 0.5s					
ILAR	**Eielson Array**	**88.11 25**	P	**P**	**07 05 26.2**	**-1.5**
	0.1nm, 0.5s, baz=254, slow=4.6, SNR=1.8					
	0.1nm, 0.5s					

*ASRS **24** 07:14:56.0±1.3, 53°.63N×87°.82E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 24 07:14:58.6±2.9, 53°.59N×87°.84E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=25.6km s-min=15.7km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.83 283**		I	I	07 27 10.0	
	0.1nm, 0.8s, baz=99, slow=332, SNR=5.9						
ZALV	**Zalesovo Beam**	**1.83 282**		Pn	Pn	07 15 31.0	-0.3
	1.2nm, 0.3s, baz=102, slow=15, SNR=10						
ZALV				Lg	Lg	07 15 56.2	
	2.7nm, 0.3s, baz=100, slow=24, SNR=13						
KURBB	**Kurchatov Arra**	**6.46 246**		Pn	Pn	07 16 35.6	+0.7
	0.1nm, 0.3s, baz=62, slow=14, SNR=7.2						
KURBB				Lg	Lg	07 18 23.1	
	baz=62, slow=32, SNR=5.0						
	1.1nm, 0.6s						
MKAR	**Makanchi Array**	**7.68 210**		Pn	Pn	07 16 52.9	+1.2
	0.2nm, 0.3s, baz=27, slow=13, SNR=4.7						
MKAR				Sn	Sn	07 18 19.1	-0.2
	baz=24, slow=28						
MKAR				Lg	Lg	07 19 01.2	
	0.1nm, 0.3s, baz=32, slow=31, SNR=6.8						
	0.2nm, 0.3s						

*AZER **24** 07:15:36.9, 40°.12N×46°.19E, h10km, ml3.4*
*NSSP **24** 07:15:37.7, 40°.10N×46°.22E, h10km, Ms3.1*
*TEH **24** 07:15:38.4, 40°.11N×46°.22E, h18km±29km*
*TIF **24** 07:15:38.0, 40°.06N×46°.25E, h13km±1km*
*MOS **24** 07:15:39.6±1.3, 40°.00N×46°.20E, h10km, mb4.0/1, Error ellipse: s-maj=12.9km s-min=5.6km az=86.2*
*DRS **24** 07:15:39.6, 40°.02N×46°.29E, h0km*

ISC 24 07:15:36.6±1.1, 40°.06N±0°.02×46°.26E±0°.01, h2km±9km, n100, σ1°.03/163, 22C-7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYRK	**Ayrk**	**0.37 278**		⇓*iP*	**Pb**	**07 15 45.7**	**-0.3**
AYRK				⇑*iS*	**Sb**	**07 15 50.8**	**-1.5**
GRS	**Goris**	**0.57 175**		⇑*iP*	**Pg**	**07 15 45.0**	**-2.5**
GRS				⇓*iS*	**Sg**	**07 15 53.0**	**-1.8**
GANJ	**Ganja**	**0.58**	**4**	Pg	**Pb**	**07 15 48.6**	**-0.9**
GANJ	**Ganja**	**0.58**	**4**	P	**Pb**	**07 15 48.6**	**-0.9**
GANJ				S	**Sg**	**07 15 56.0**	**+0.6**
AGDM	**Agdam**	**0.65**	**86**	Pg	**Pn**	**07 15 51.3**	**-1.5**
AGDM	**Agdam**	**0.65**	**86**	P	**Pn**	**07 15 51.3**	**-1.5**
AGDM				S	**Sn**	**07 16 01.2**	**-2.5**
BRDA	**Brd**	**0.73**	**74**	Pg	**Pn**	**07 15 53.4**	**-0.4**
BRDA	**Brd**	**0.73**	**74**	P	**Pn**	**07 15 53.5**	**-0.4**
BRDA				S	**Sn**	**07 16 05.3**	**-0.3**
VAYK	**Vayk**	**0.74 241**		⇑*iP*	**Pn**	**07 15 52.6**	**-1.6**
VAYK				⇑*iS*	**Sb**	**07 16 02.8**	**-0.1**
GDB	**GEDABAY**	**0.76 329**		Pg	**Pg**	**07 15 51.6**	**+0.3**
GDB	**GEDABAY**	**0.76 329**		P	**Pg**	**07 15 51.6**	**+0.3**
GDB				S	**Sg**	**07 16 01.7**	**+0.5**
EGVZ	**Egvard**	**0.86 166**		⇑*iP*	**Pn**	**07 15 55.2**	**-0.6**
EGVZ				⇓*iS*	**Sn**	**07 16 07.6**	**-1.5**
SBZ	**Shahbuz**	**0.86 220**		Pg	**Pn**	**07 15 55.4**	**-0.4**
SBZ	**Shahbuz**	**0.86 220**		P	**Pn**	**07 15 55.4**	**-0.4**
SBZ				S	**Sn**	**07 16 07.9**	**-1.2**
MNGR	**Mingechevir, A**	**0.95**	**41**	Pg	**Pn**	**07 15 56.8**	**0.0**
MNGR	**Mingechevir, A**	**0.95**	**41**	P	**Pn**	**07 15 56.9**	**0.0**
MNGR				S	**Sn**	**07 16 09.6**	**-1.3**
QRD	**Qoradiz**	**1.01 126**		Pg	**Pn**	**07 15 58.0**	**+0.2**
QRD	**Qoradiz**	**1.01 126**		P	**Pn**	**07 15 58.0**	**+0.2**
QRD				S	**Sn**	**07 16 15.1**	**+2.5**
BLQ	**Beylaqan**	**1.05 109**		P	**Pn**	**07 15 58.3**	**-0.1**
BLQ				S	**Sn**	**07 16 13.4**	**-0.2**
NAX	**Nakhchivan**	**1.07 214**		P	**Pn**	**07 16 00.0**	**+1.4**
NAX				S	**Sn**	**07 16 15.3**	**+1.2**
ZRD	**Zardab**	**1.11**	**78**	P	**Pn**	**07 16 00.2**	**+1.1**
ZRD				S	**Sn**	**07 16 17.9**	**+2.9**
HYR	**Heyderabad**	**1.14 253**		P	**Pn**	**07 16 00.1**	**+0.5**
HYR				S	**Sn**	**07 16 15.5**	**-0.4**
ORD	**Ordubad**	**1.15 191**		P	**Pn**	**07 16 00.2**	**+0.4**
ORD				S	**Sn**	**07 16 16.3**	**+0.1**
VSHL	**Vashlovani**	**1.17**	**5**	P	**Pg**	**07 16 00.8**	**+1.7**
VSHL				S	**Sn**	**07 16 15.7**	**-0.9**
GNI	**Garni**	**1.17 275**		⇑*iP*	**Pn**	**07 16 00.3**	**+0.2**
GNI				⇑*iS*	**Sn**	**07 16 16.9**	**+0.1**
GNI	**Garni**	**1.17 275**		Pg	**Pn**	**07 16 00.4**	**+0.2**
GNI	**Garni**	**1.17 275**	*c*	*i*PG	**Pn**	**07 16 00.3**	**+0.2**
GNI				*i* S	**Sn**	**07 16 20.1**	**+3.4**
GNI				pmax	pmax		
	comp=Z,150nm,0.7s						
GNI				smax	smax		
	comp=Z,332nm,1.0s						
LSVT	**Lusahovit**	**1.18 316**		⇑*iP*	**Pb**	**07 15 59.1**	**-0.6**
LSVT				⇑*iS*	**Sb**	**07 16 14.5**	**-1.0**
QZX	**Qazax, Azerbai**	**1.20 326**		P	**Pn**	**07 15 59.6**	**-0.9**
QZX				S	**Sn**	**07 16 15.9**	**-1.5**
NRKZ	**NAREK**	**1.23 268**		⇓*iP*	**Pg**	**07 16 01.5**	**+1.3**
NRKZ				⇑*iS*	**Sn**	**07 16 18.5**	**+0.3**
SEKA	**Sheki**	**1.35**	**32**	Pg	**Pb**	**07 16 02.2**	**-0.4**
SEKA				Sg	**Sg**	**07 16 20.7**	**+0.8**
MAKU	**Maku**	**1.41 240**		Pg	**Pg**	**07 16 04.9**	**+1.3**
IMRD	**Marand**	**1.42 198**		Pg	**Pg**	**07 16 05.2**	**+1.5**
QBL	**Gabala**	**1.49**	**53**	Pn	**Pg**	**07 16 05.7**	**+0.6**
QBL				Sn	**Sg**	**07 16 25.6**	**+1.2**
KDMR	**Kurdemir**	**1.50**	**77**	Pn	**Pg**	**07 16 06.3**	**+0.9**
KDMR				Sn	**Sg**	**07 16 28.3**	**+3.4**
AMBZ	**Amberd**	**1.57 283**		⇑*iP*	**Pg**	**07 16 06.9**	**+0.2**
AMBZ				⇑*iS*	**Sg**	**07 16 28.6**	**+1.6**
ZKTA	**Zakatala**	**1.60**	**10**	Pn	**Pb**	**07 16 06.7**	**-0.1**
ZKTA				Sn	**Sg**	**07 16 28.3**	**+0.4**
IML	**Ismayilli**	**1.64**	**63**	Pn	**Pg**	**07 16 08.1**	**+0.1**
IML				Sn	**Sg**	**07 16 29.8**	**+0.6**
SAAT	**Saatly**	**1.67**	**96**	Pn	**Pb**	**07 16 07.0**	**-1.0**
SAAT				Sn	**Sb**	**07 16 29.4**	**-0.1**
METS	**Metsamor**	**1.68 274**		⇑*iP*	**Pg**	**07 16 08.3**	**-0.4**
METS				⇑*iS*	**Sg**	**07 16 31.5**	**+1.0**
ARUZ	**Aruch**	**1.68 278**		⇑*iP*	**Pg**	**07 16 09.3**	**+0.6**
ARUZ				⇑*iS*	**Sg**	**07 16 32.0**	**+1.5**
IGDI	**IGDIR**	**1.69 264**		Pn	**Pg**	**07 16 08.8**	**-0.2**
IGDI				Sn	**Sb**	**07 16 29.3**	**-0.9**
LGD	**Lagodekhi**	**1.77 359**		P	**Pb**	**07 16 09.7**	**-0.1**
LGD				S	**Sg**	**07 16 33.9**	**+0.4**
LGD	**Lagodekhi**	**1.77 359**		PN	**Pb**	**07 16 09.7**	**-0.1**

GRMI	**Germi**	**1.78 134**	Pn	**Pg**	**07 16 10.6**	**-0.1**
SRTK	**Saratovka**	**1.79 305**	⇑*iP*	**Pg**	**07 16 10.2**	**-0.7**
SRTK			⇑*iS*	**Sg**	**07 16 33.3**	**-0.7**
AKT	**Akhty**	**1.80 38**	*e*Pg	**Pg**	**07 16 10.7**	**-0.4**
	comp=Z,85nm,0.2s					
AKT			*e*Sg	**Sg**	**07 16 34.7**	**+0.3**
	comp=Z,445nm,0.5s					
AKT	**Akhty**	**1.80 38**	*e*PN	**Pb**	**07 16 10.2**	**-0.1**
AKT			pmax	pmax		
	comp=Z,80nm,0.2s					
XNQ	**Khinaliq**	**1.81 52**	Pn	**Pb**	**07 16 09.7**	**-0.8**
XNQ			Sn	**Sb**	**07 16 33.7**	**0.0**
ITBZ	**Tabriz**	**1.83 183**	Pn	**Pg**	**07 16 11.2**	**-0.5**
GLBA	**Clilabad**	**1.84 116**	Pn	**Pg**	**07 16 11.2**	**-0.6**
GLBA			Sn	**Sg**	**07 16 36.5**	**+0.9**
IHRS	**Heris**	**1.84 161**	Pn	**Pg**	**07 16 11.6**	**-0.4**
ISHB	**Shabestar**	**1.85 196**	Pn	**Pg**	**07 16 11.5**	**-0.6**
VNNZ	**Vanand**	**1.87 272**	⇑*iP*	**Pg**	**07 16 12.6**	**+0.1**
VNNZ			⇑*iS*	**Sg**	**07 16 39.5**	**+2.7**
YRD	**Yardimli**	**1.91 126**	Pn	**Pg**	**07 16 12.6**	**-0.7**
YRD			Sn	**Sg**	**07 16 38.5**	**+0.5**
PQL	**Pirkuli**	**1.92 67**	Pn	**Pg**	**07 16 13.4**	**0.0**
PQL			Sn	**Sg**	**07 16 38.4**	**+0.1**
KMOZ	**Kamo**	**1.92 294**	⇓*iP*	**Pg**	**07 16 13.0**	**-0.5**
KMOZ			⇑*iS*	**Sg**	**07 16 38.9**	**+0.5**
KZRT	**Kazreti**	**1.94 314**	P	**Pb**	**07 16 12.0**	**-0.6**
KZRT	**Kazreti**	**1.94 314**	PN	**Pb**	**07 16 12.0**	**-0.6**
KSMR	**Kasumkent**	**2.09 42**	*e*Pg	**Pg**	**07 16 16.2**	**-0.4**
	comp=Z,145nm,0.3s					
KSMR			*e*Sg	**Sg**	**07 16 44.1**	**+0.4**
	comp=Z,750nm,0.4s					
KSMR	**Kasumkent**	**2.09 42**	*e*PN	**Pg**	**07 16 16.2**	**-0.4**
QSAR	**Qusar**	**2.10 46**	Pg	**Pg**	**07 16 16.3**	**-0.6**
QSAR			Sg	**Sb**	**07 16 42.8**	**+0.9**
GBS	**Qobustan**	**2.10 76**	Pn	**Pg**	**07 16 16.4**	**-0.5**
GBS			Sn	**Sg**	**07 16 43.6**	**-0.5**
ALIB	**&Aumlli-Bayram**	**2.11 92**	Pn	**Pb**	**07 16 14.4**	**-1.1**
ALIB			Sg	**Sg**	**07 16 46.4**	**+2.1**
QUBA	**Quba, Azerbaij**	**2.13 52**	Pn	**Pb**	**07 16 16.3**	**+0.4**
QUBA			Sn	**Sb**	**07 16 41.9**	**-0.9**
LRK	**Lerik**	**2.15 131**	Pn	**Pb**	**07 16 16.6**	**+0.4**
LRK			Sn	**Sg**	**07 16 46.1**	**+0.6**
KMKR	**Kumukh**	**2.16 17**	*e*PN	**Pb**	**07 16 16.8**	**+0.3**
ATGJ	**Altiaghaj**	**2.19 68**	Pn	**Pg**	**07 16 17.7**	**-0.9**
ATGJ			Sn	**Sg**	**07 16 47.1**	**+0.2**
TRLG	**Trialeti**	**2.21 313**	P	**Pb**	**07 16 17.0**	**-0.3**
TRLG			S	**Sb**	**07 16 44.6**	**-0.5**
TRLG	**Trialeti**	**2.21 313**	PN	**Pb**	**07 16 17.0**	**-0.3**
TRLG			S	**Sb**	**07 16 44.6**	**-0.5**
SIZA	**Siyzn**	**2.25 62**	Pn	**Pb**	**07 16 17.8**	**-0.2**
SIZA			Sg	**Sg**	**07 16 49.6**	**+0.8**
URKR	**Urkarakh**	**2.34 26**	*e*Pn	**Pb**	**07 16 19.9**	**+0.3**
	comp=Z,66nm,0.3s					
URKR			*e*Sn	**Sg**	**07 16 51.4**	**-0.4**
	comp=Z,125nm,0.5s					
URKR	**Urkarakh**	**2.34 26**	*e*PN	**Pb**	**07 16 19.9**	**+0.3**
BGD	**Bogdanovka**	**2.36 301**	P	**Pg**	**07 16 21.6**	**-0.2**
BGD	**Bogdanovka**	**2.36 301**	PN	**Pg**	**07 16 21.6**	**-0.2**
LKRN	**Lenkeran, Azer**	**2.37 124**	Pn	**Pb**	**07 16 20.0**	**0.0**
LKRN			Sn	**Sb**	**07 16 50.4**	**+0.7**
GNBR	**Gunib**	**2.38 13**	*e*Pn	**Pb**	**07 16 20.6**	**+0.3**
	comp=Z,34nm,0.5s					
GNBR			*e*Sn	**Sg**	**07 16 51.7**	**-1.4**
	comp=Z,144nm,0.7s					
GNBR	**Gunib**	**2.38 13**	⇓*e*PN	**Pb**	**07 16 20.1**	**-0.1**
GNBR			*e*S	**Sg**	**07 16 53.4**	**+0.3**
GNBR			pmax	pmax		
	comp=Z,22nm,0.5s					
GNBR			smax	smax		
	comp=Z,109nm,0.6s					
ASTR	**Astara**	**2.47 127**	Pn	**Pb**	**07 16 21.1**	**-0.6**
ASTR			Sn	**Sb**	**07 16 53.5**	**+1.0**
CHRG	**Chargali**	**2.48 336**	P	**Pb**	**07 16 20.5**	**-1.5**
CHRG			S	**Sb**	**07 16 52.9**	**0.0**
XNZR	**Khunzakh**	**2.50 7**	*e*Pn	**Pb**	**07 16

EOS3				*e*S		**Sb**	**07 18 44.7**	**+0.3**
TWGBT	**Beinan**	**1.65**	**274**	*i* P		**Pb**	**07 18 24.4**	**+0.4**
TWGBT				S		**Sn**	**07 18 44.2**	**+0.7**
TWG	**Pinlang**	**1.66**	**274**	*i* P		**Pb**	**07 18 24.5**	**+0.3**
TWG				*i* S		**Sn**	**07 18 44.2**	**+0.5**
WARBT	**Fenglin Townsh**	**1.69**	**307**	*i* P		**Pb**	**07 18 24.1**	**-0.6**
WARBT				S		**Sn**	**07 18 43.8**	**-0.7**
ESL	**Shilin**	**1.71**	**310**	*e*P		**Pn**	**07 18 24.5**	**+1.2**
ESL				*i* S		**Sn**	**07 18 43.9**	**-1.2**
JYNG	**Yonagunijimaku**	**1.73**	**2**	S		**Sn**	**07 18 46.4**	**+0.9**
YOJ	**Yonaguni jima**	**1.75**	**4**	*i* P		**Pb**	**07 18 25.9**	**+0.3**
YOJ				S		**Sn**	**07 18 46.8**	**+1.0**
ELDTW	**Lidau**	**1.77**	**286**	*i* P		**Pb**	**07 18 25.8**	**-0.3**
ELDTW				S		**Sn**	**07 18 45.9**	**-0.7**
ECL	**Taimali**	**1.77**	**267**	*i* P		**Pb**	**07 18 25.6**	**-0.4**
ECL				*i* S		**Sn**	**07 18 45.8**	**-0.6**
ETM	**Tongmen**	**1.77**	**315**	*e*P		**Pb**	**07 18 25.4**	**-0.7**
ETM				*e*S		**Sn**	**07 18 44.5**	**-2.1**
TWD	**Chiawan**	**1.79**	**320**	*e*P		**Pb**	**07 18 25.9**	**-0.5**
TWD				S		**Sn**	**07 18 45.1**	**-1.9**
EOS2	**EOS2**	**1.79**	**341**	P		**Pb**	**07 18 26.9**	**+0.5**
EOS2				*i* S		**Sb**	**07 18 49.0**	**+0.3**
IRIF	**Iriomote-Funau**	**1.80**	**26**	S		**Sn**	**07 18 46.3**	**-0.8**
JKRS	**Kuro-shima**	**1.84**	**35**	*e*S		**Sn**	**07 18 47.1**	**-1.3**
LXIB	**Xiulin Townshi**	**1.86**	**315**	*e*P		**Pb**	**07 18 27.6**	**-0.2**
LXIB				*e*S		**Sn**	**07 18 46.4**	**-2.6**
NACB	**Ninganchiao**	**1.86**	**322**	*i* P		**Pn**	**07 18 26.2**	**+0.9**
NACB				*i* S		**Sn**	**07 18 47.5**	**-1.3**
TAWH	**Dawu Township**	**1.86**	**259**	*i* P		**Pb**	**07 18 27.3**	**-0.4**
TAWH				S		**Sn**	**07 18 49.7**	**+0.9**
EAST	**Anshuo**	**1.89**	**260**	*i* P		**Pb**	**07 18 27.8**	**-0.4**
EAST				*i* S		**Sn**	**07 18 50.6**	**+1.0**
VWDT	**VWDT**	**1.89**	**303**	*i* P		**Pb**	**07 18 28.0**	**-0.1**
VWDT				*e*S		**Sn**	**07 18 50.4**	**+0.9**
YUS	**Yu-Shan**	**1.92**	**294**	*e*P		**Pn**	**07 18 24.6**	**-2.0**
YUS				*e*S		**Sn**	**07 18 43.9**	**-7.0**
ETLH	**Xiulin Townshi**	**1.95**	**320**	P		**Pn**	**07 18 27.9**	**+1.2**
ETLH				S		**Sn**	**07 18 52.1**	**+1.0**
SLIU	**Shizi**	**1.97**	**256**	*i* P		**Pb**	**07 18 28.9**	**-0.6**
SLIU				S		**Sn**	**07 18 51.3**	**-0.2**
STYH	**Taoyuan**	**1.98**	**284**	*e*P		**Pb**	**07 18 28.6**	**-1.0**
STYH				*e*S		**Sn**	**07 18 47.6**	**-4.0**
OWD	**Renai**	**1.98**	**309**	P		**Pb**	**07 18 28.9**	**-0.8**
OWD				*e*S		**Sn**	**07 18 51.5**	**-0.4**
EWUT	**Wuta**	**1.99**	**330**	*i* P		**Pb**	**07 18 29.5**	**-0.3**
EWUT				*i* S		**Sb**	**07 18 54.0**	**-0.6**
TSEB	**Hengchuen, Pin**	**1.99**	**246**	P		**Pg**	**07 18 31.5**	**-0.4**
TSEB				*i* S		**Sb**	**07 18 54.6**	**+0.1**
ENA	**Nanau**	**1.99**	**329**	*i* P		**Pb**	**07 18 29.6**	**-0.2**
ENA				*i* S		**Sn**	**07 18 52.9**	**+0.9**
STYT	**Tauyuan**	**1.99**	**283**	*i* P		**Pn**	**07 18 28.7**	**+1.5**
STYT				S		**Sn**	**07 18 49.5**	**-2.5**
SMST	**Manzhou Townsh**	**2.00**	**250**	*e*P		**Pb**	**07 18 29.8**	**-0.2**
SMST				*i* S		**Sn**	**07 18 52.5**	**+0.4**
JIJ	**Ishigaki jima**	**2.02**	**35**	P		**Pn**	**07 18 28.6**	**+1.1**
JIJ				*e*S		**Sn**	**07 18 50.8**	**-1.8**
WHF	**Hehuan Shan**	**2.05**	**314**	P		**Pn**	**07 18 29.7**	**+1.5**
WHF				*e*S		**Sn**	**07 18 52.2**	**-1.7**
WUSB	**Renai**	**2.05**	**309**	*e*P		**Pn**	**07 18 29.4**	**+1.4**
WUSB				*e*S		**Sn**	**07 18 52.8**	**-0.8**
TSMG	**Majia**	**2.05**	**270**	*i* P		**Pb**	**07 18 30.8**	**0.0**
TSMG				*e*S		**Sn**	**07 18 53.2**	**-0.1**
TWKBT	**Hengchun**	**2.05**	**248**	*i* P		**Pb**	**07 18 29.8**	**-1.0**
TWKBT				S		**Sn**	**07 18 54.0**	**+0.6**
ALS	**Alishan**	**2.06**	**293**	*i* P		**Pb**	**07 18 31.1**	**0.0**
ALS				S		**Sb**	**07 18 56.0**	**-0.7**
TWK1	**Hengchun**	**2.06**	**248**	*i* P		**Pb**	**07 18 30.8**	**-0.2**
TWK1				S		**Sn**	**07 18 54.2**	**+0.7**
SSLB	**Suanglung**	**2.06**	**302**	*i* P		**Pb**	**07 18 31.8**	**+0.8**
SSLB				S		**Sn**	**07 18 53.5**	**-0.1**
SSD	**Sandimen**	**2.06**	**271**	P		**Pb**	**07 18 30.3**	**-0.8**
SSD				*e*S		**Sn**	**07 18 53.8**	**+0.2**
MASBT	**Mashibuluo**	**2.06**	**268**	*i* P		**Pb**	**07 18 30.3**	**-0.8**
MASBT				*e*S		**Sn**	**07 18 53.1**	**-0.6**
HEN	**Hengchun**	**2.09**	**251**	*i* P		**Pb**	**07 18 31.8**	**+0.3**
HEN				*i* S		**Sn**	**07 18 55.0**	**+0.6**
WHYT	**Xinyi Township**	**2.09**	**298**	*i* P		**Pb**	**07 18 31.6**	**0.0**
WHYT				*e*S		**Sn**	**07 18 54.5**	**0.0**
SCZT	**Fangliau**	**2.10**	**261**	P		**Pb**	**07 18 31.9**	**+0.2**
SCZT				*e*S		**Sb**	**07 18 56.4**	**-1.3**
TWC	**Suao**	**2.10**	**334**	P		**Pb**	**07 18 32.0**	**+0.2**
TWC				S		**Sn**	**07 18 54.8**	**+0.1**
FUSS	**Fushou**	**2.13**	**316**	*i* P		**Pb**	**07 18 31.5**	**-0.9**
FUSS				S		**Sn**	**07 18 55.7**	**-0.1**
SGST	**Jiashian**	**2.13**	**280**	*e*P		**Pb**	**07 18 32.9**	**+0.5**
SGST				*e*S		**Sb**	**07 18 59.0**	**+0.3**
TPUB	**Ta-pu**	**2.14**	**286**	*i* P		**Pb**	**07 18 33.0**	**+0.6**
TPUB				S		**Sb**	**07 18 58.9**	**0.0**
WTP	**Ta-pu**	**2.14**	**285**	*i* P		**Pb**	**07 18 32.5**	**0.0**
WTP				*i* S		**Sb**	**07 18 59.3**	**+0.4**
SMLT	**Sun Moon Lake**	**2.15**	**303**	P		**Pn**	**07 18 31.2**	**+1.8**
SMLT				*e*S		**Sn**	**07 18 55.3**	**-0.7**
NNSB	**Datong**	**2.18**	**322**	*i* P		**Pn**	**07 18 30.4**	**+0.6**
NNSB				S		**Sn**	**07 18 57.0**	**+0.1**
CHN4	**Tsaushan**	**2.19**	**287**	*i* P		**Pg**	**07 18 34.6**	**-1.1**
CHN4				*i* S		**Sb**	**07 19 01.2**	**+1.1**
LATG	**Datong**	**2.19**	**326**	*i* P		**Pb**	**07 18 32.1**	**-1.2**
LATG				S		**Sn**	**07 18 58.6**	**+1.6**
TYC	**Yuchr**	**2.19**	**303**	*i* P		**Pb**	**07 18 32.7**	**-0.6**
TYC				S		**Sb**	**07 18 59.9**	**-0.5**
SCST	**Cishan**	**2.19**	**275**	*e*P		**Pb**	**07 18 33.2**	**-0.1**
CHN5	**Tsauling**	**2.19**	**294**	*i* P		**Pb**	**07 18 34.3**	**+0.9**
CHN5				S		**Sb**	**07 19 00.3**	**-0.2**
NNS	**Nan Shan**	**2.20**	**322**	*e*P		**Pb**	**07 18 33.5**	**+0.1**
NNS				S		**Sn**	**07 18 57.0**	**-0.1**
WCKO	**Fanlu**	**2.20**	**290**	*e*P		**Pb**	**07 18 34.1**	**+0.6**
WCKO				*e*S		**Sb**	**07 19 01.0**	**+0.4**
CHN1	**Nanshi**	**2.20**	**283**	*i* P		**Pb**	**07 18 34.2**	**+0.7**
CHN1				*i* S		**Sb**	**07 19 00.8**	**+0.1**
WCS	**Beigang Elemen**	**2.24**	**307**	P		**Pb**	**07 18 34.1**	**+0.1**
WCS				*e*S		**Sn**	**07 18 59.1**	**+1.1**
SNST	**Tainan City**	**2.24**	**283**	*i* P		**Pb**	**07 18 34.6**	**+0.5**
SNST				*i* S		**Sb**	**07 19 02.7**	**+1.0**
ENTT	**Nioudou**	**2.26**	**328**	P		**Pb**	**07 18 34.1**	**-0.3**
ENTT				S		**Sn**	**07 18 59.2**	**+0.7**
TWK	**Hsinying**	**2.26**	**285**	*i* P		**Pb**	**07 18 35.1**	**+0.7**
TWK				S		**Sb**	**07 19 02.4**	**+0.1**
JISG	**Ishigakijimahi**	**2.29**	**35**	P		**Pn**	**07 18 32.1**	**+0.9**
JISG				S		**Sn**	**07 18 57.6**	**-1.7**
FUSB	**Fushanzhiwuyua**	**2.35**	**330**	*i* P		**Pb**	**07 18 35.4**	**-0.6**
FUSB				S		**Sn**	**07 19 01.6**	**+0.7**
WHP	**Taichung City**	**2.35**	**312**	*i* P		**Pb**	**07 18 35.5**	**-0.5**
WHP				*e*S		**Sb**	**07 19 03.6**	**-1.4**
YHNB	**Yeheng**	**2.38**	**325**	*i* P		**Pb**	**07 18 35.0**	**-1.4**
YHNB				S		**Sn**	**07 19 01.8**	**+0.2**
NSK	**Sanguang**	**2.39**	**325**	*i* P		**Pb**	**07 18 35.4**	**-1.4**
NSK				S		**Sn**	**07 19 02.6**	**+0.6**
NWLT	**Wulai**	**2.40**	**329**	*i* P		**Pb**	**07 18 35.3**	**-1.6**
NWLT				S		**Sn**	**07 19 02.6**	**+0.5**
TIPB	**Shuangxi**	**2.44**	**337**	*i* P		**Pb**	**07 18 36.4**	**-1.1**
TIPB				*e*S		**Sn**	**07 19 02.6**	**-0.4**
NFF	**Wufeng Townshi**	**2.49**	**320**	*i* P		**Pb**	**07 18 38.5**	**+0.1**
NFF				*e*S		**Sn**	**07 19 05.9**	**+1.5**
SXI1	**Grass Mountain**	**2.54**	**339**	*i* P		**Pb**	**07 18 38.2**	**-1.0**
SXI1				*e*S		**Sn**	**07 19 04.4**	**-1.1**
JTJ	**Tarama**	**2.55**	**41**	S		**Sn**	**07 19 04.5**	**-1.3**

*CATAC **24** 07:23:19.2±1.3, 13°N±9°×8°8W±°, h35km±13km, M2.8/4, MLv2.8/4, Error ellipse: s-maj=23.1km s-min=14.5km az=37.3, confirmed*
*SNET **24** 07:23:21.3±0.9, 12°72N×88°09W, h32km±4km, ML2.4*
ISC 24 07:23:19.3±3.3, 12°6N±0°2×88°02W±0°05, h34km±3km, n13, σ0°64/19, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.59**	**50**	P	**Pn**	**07 23 31.2**	**-0.2**
POTN	**Potosi Cosigui**	**0.65**	**51**	P	**Pn**	**07 23 31.9**	**-0.2**
POTN				S	**Sn**	**07 23 42.0**	**+0.9**
CNCH	**Conchagua**	**0.71**	**15**	*e*P	**Pn**	**07 23 33.2**	**+0.2**
CNCH				*e*S	**Sb**	**07 23 43.5**	**+0.4**
CNCH	**Conchagua**	**0.71**	**15**	P	**Pb**	**07 23 33.3**	**-0.1**
CNCH	**Conchagua**	**0.71**	**15**	S	**Sb**	**07 23 44.2**	**+1.1**
RANC	**El Ranchito**	**0.88**	**343**	*e*P	**Pn**	**07 23 35.7**	**+0.3**
RANC				*e*S	**Sb**	**07 23 47.4**	**-0.5**
ALJI	**Alcalda de J**	**0.91**	**324**	*e*P	**Pn**	**07 23 35.6**	**-0.1**
ALJI				*e*S	**Sn**	**07 23 46.9**	**-0.7**
PACA	**Pacayal**	**0.92**	**341**	*e*P	**Pn**	**07 23 36.5**	**+0.5**
PACA				*e*S	**Sb**	**07 23 48.4**	**-0.7**
PACA	**Pacayal**	**0.92**	**341**	P	**Pb**	**07 23 36.9**	**-0.2**
CHOHN	**Orocuina**	**1.22**	**43**	P	**Pn**	**07 23 39.5**	**-0.7**
COEG	**Centro de Oper**	**1.32**	**321**	*e*P	**Pn**	**07 23 42.5**	**+1.0**
COEG				*e*S	**Sn**	**07 23 57.3**	**-0.7**
COEG				IAML		07 24 02.4	
	comp=Z,72nm,0.2s						
PMON	**Piamonte**	**1.68**	**312**	*e*P	**Pn**	**07 23 46.8**	**+0.3**
JAYA	**Jayaque - finc**	**1.75**	**307**	*e*P	**Pn**	**07 23 47.8**	**+0.4**

*ASRS **24** 07:53:14.0±1.5, 53°79N×91°07E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 24 07:53:22.9±5.5, 53°58N×90°62E, h0km, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=57.6km s-min=28.8km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.46**	**279**	I	I	08 16 00.0	
	0.1nm,0.9s,baz=90,slow=328,SNR=3.4						
ZALV	**Zalesovo Beam**	**3.46**	**279**	Pn	Pn	07 54 19.7	+1.8
	0.7nm,0.3s,baz=95,slow=16,SNR=6.0						
ZALV				Lg	Lg	07 55 11.4	
	0.5nm,0.3s,baz=91,slow=29,SNR=3.7						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**8.01**	**253**	Pn	Pn	07 55 20.7	+0.4
	0.1nm,0.3s,baz=64,slow=14,SNR=3.7						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**8.63**	**222**	Pn	Pn	07 55 29.1	0.0
	0.1nm,0.3s,baz=33,slow=14,SNR=4.1						
	0.2nm,0.4s						

*GCG **24** 07:56:35.6±1.1, 14°65N×93°72W, h36km±71km, MD4.0*
*MEX **24** 07:56:35.9±0.6, 14°68N×93°77W, h28km±102km, MD4.1*
ISC 24 07:56:30.0±1.7, 14°79N±0°06×93°75W±0°05, h18km±8km, n13, σ1°38/26, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.44**	**85**	*e*P	**Pg**	**07 56 57.6**	**-0.1**
THIG				*e*S	**Sg**	**07 57 17.8**	**+1.2**
PATR	**El Naranjo**	**1.50**	**77**	*e*P	**Pg**	**07 56 59.7**	**+0.8**
PATR				*e*S	**Sg**	**07 57 17.6**	**-1.0**
PAVE	**Pavencul**	**1.57**	**75**	*e*P	**Pg**	**07 57 01.0**	**+0.6**
PAVE				*e*S	**Sg**	**07 57 19.6**	**-1.3**
RTAL	**Retalhuleu**	**2.00**	**97**	*e*P	**Pg**	**07 57 07.7**	**-0.8**
RTAL				*e*S	**Sb**	**07 57 31.9**	**+1.3**
TGIG		**2.07**	**17**	*e*P	**Pg**	**07 57 09.3**	**-0.5**
TGIG				*e*S	**Sb**	**07 57 33.7**	**+1.2**
TGIG		**2.07**	**17**	*e*P	**Pg**	**07 57 09.8**	**0.0**
TGIG				*e*S	**Sb**	**07 57 33.6**	**+1.0**
CCIG	**Comitan**	**2.15**	**46**	*e*P	**Pg**	**07 57 11.5**	**+0.1**
CCIG				*e*S	**Sg**	**07 57 37.5**	**-1.8**
CCIG	**Comitan**	**2.15**	**46**	*e*P	**Pg**	**07 57 11.6**	**+0.2**
CCIG				*e*S	**Sg**	**07 57 38.7**	**-0.6**
STG8	**El Palmar, Qui**	**2.34**	**98**	*e*P	**Pn**	**07 57 08.4**	**+0.5**
STG8				*e*S	**Sn**	**07 57 34.3**	**-2.0**
HUIG	**Huatulco**	**2.48**	**294**	*e*P	**Pn**	**07 57 11.1**	**+1.5**
HUIG				*e*S	**Sn**	**07 57 36.9**	**-2.5**
CMIG	**Matias Romero**	**2.54**	**335**	*e*P	**Pn**	**07 57 13.1**	**+2.7**
CMIG				*e*S	**Sn**	**07 57 40.6**	**-0.3**
UXUV	**UXUV**	**2.55**	**351**	*e*P	**Pb**	**07 57 15.2**	**0.0**
UXUV				*e*S	**Sb**	**07 57 44.5**	**-1.7**
NEUV	**Arroyo Zacate**	**3.52**	**326**	*e*P	**Pn**	**07 57 25.1**	**+1.3**
NEUV				*e*S	**Sn**	**07 58 03.3**	**-1.7**

*ASRS **24** 08:00:14.0±1.4, 54°14N×86°42E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 24 08:00:15.5±2.6, 54°14N×86°49E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=21.0km s-min=13.4km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**260**	I	I	08 04 50.0	
	baz=80,slow=324,SNR=7.3						
ZALV	**Zalesovo Beam**	**1.00**	**260**	Pg	Pg	08 00 34.0	-0.8
	0.9nm,0.3s,baz=76,slow=18,SNR=7.1						
ZALV				Lg	Lg	08 00 48.8	
	1.4nm,0.3s,baz=75,slow=28,SNR=18						
KURBB	**Kurchatov Arra**	**6.01**	**237**	Pn	Pn	08 01 46.7	+1.0
	0.1nm,0.3s,baz=55,slow=14,SNR=6.1						
KURBB				Lg	Lg	08 03 27.6	
	baz=52,slow=34,SNR=6.2						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.82**	**202**	Pn	Pn	08 02 11.4	+0.9
	0.2nm,0.3s,baz=23,slow=11,SNR=11						
MKAR				Lg	Lg	08 04 22.4	
	0.1nm,0.3s,baz=23,slow=31,SNR=7.1						
	0.3nm,0.3s						

IDC 24 08:09:56.0±393.0, 56°68N×46°11E, h0km, Error ellipse: s-maj=157.3km s-min=106.5km az=101.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.90**	**274**	I	I	08 39 10.0	
	0.4nm,0.6s,baz=84,slow=326,SNR=2.6						
I37NO	**I37NO**	**17.43**	**326**	I	I	10 02 45.0	
	baz=128,slow=327,SNR=4.7						
I46RU	**ZALESOVO INFRA**	**22.00**	**81**	I	I	10 17 40.0	
	baz=294,slow=326,SNR=1.0						

*ASRS **24** 08:10:11.0±1.2, 53°54N×87°65E, h0km, M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **24** 08:10:14.5±2.7, 53°53N×87°55E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=24.3km s-min=13.6km az=65.0.*
*NNC **24** 08:10:15.2±1.6, 53°51N×87°50E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=12.1km s-min=6.6km az=64.0, Suspected Mining explosion.*
ISC 24 08:10:13.3±3.2, 53°6N±0°1×87°6E±0°2, h0km, n8, σ1°03/12, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.70**	**283**	⇑P	**Pb**	**08 10 44.9**	**-0.6**
	0.2nm,0.2s						
ZAA0				⇑S	**Sg**	**08 11 07.5**	**-0.5**
	2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**1.70**	**283**	Pg	**Pn**	**08 10 44.6**	**+0.3**
	2.1nm,0.3s,baz=101,slow=16,SNR=16						
ZALV				Lg	Lg	08 11 07.6	
	2.1nm,0.3s,baz=103,slow=28,SNR=12						
I46RU	**ZALESOVO INFRA**	**1.70**	**283**	I	I	08 22 00.0	
	0.1nm,0.8s,baz=101,slow=327,SNR=7.0						
KURK	**Kurchatov**	**6.26**	**246**	⇑Pn	**Pn**	**08 11 48.0**	**+1.2**
	0.4nm,0.5s						
KURK				⇑Sn	**Sn**	**08 13 00.2**	**+1.3**
	0.5nm,0.5s						
KURK				⇓Lg	Lg	08 13 30.7	
	17nm,1.2s						
KURBB	**Kurchatov Arra**	**6.35**	**246**	Pn	**Pn**	**08 11 49.0**	**+0.8**
	0.1nm,0.3s,baz=61,slow=13,SNR=5.4						
KURBB				Lg	Lg	08 13 31.0	
	baz=63,slow=32,SNR=9.5						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**6.35**	**246**	⇓Pn	**Pn**	**08 11 48.5**	**+0.3**
	1.4nm,0.6s						
KURBB				⇑Sn	**Sn**	**08 13 01.6**	**+0.2**
	3.0nm,0.7s						
KURBB				⇑Lg	Lg	08 13 31.0	
	12nm,0.9s						
MK31	**Makanchi Array**	**7.63**	**209**	⇓Pn	**Pn**	**08 12 06.4**	**+0.6**
	0.3nm,0.5s,baz=29,slow=14,SNR=8.8						
MK31				⇑Sn	**Sn**	**08 13 32.0**	**-0.9**
	0.7nm,0.6s						
MK31				⇓Lg	Lg	08 14 10.7	
	3.8nm,1.0s,baz=35,slow=31,SNR=5.3						
MKAR	**Makanchi Array**	**7.63**	**209**	Pn	**Pn**	**08 12 06.9**	**+1.1**
	0.3nm,0.3s,baz=30,slow=14,SNR=12						
MKAR				Sn	**Sn**	**08 13 31.4**	**-1.6**
	0.1nm,0.3s,baz=29,slow=10,SNR=3.5						
MKAR				Lg	Lg	08 14 12.2	
	0.1nm,0.3s,baz=28,slow=25,SNR=8.0						
	0.6nm,0.4s						

*IDC **24** 08:11:19.1±5.0, 31°93S×179°96E, h310km±38km, mb3.6/5, mbtmp4.2/6, Error ellipse: s-maj=51.1km s-min=17.7km az=44.0*
*WEL **24** 08:11:23.5±0.9, 32°S±7°×17°9E±1°4, h12km, M4.3/13, mB4.6/6, ML4.9/14, MLv4.7/13, Mw(mB)3.8/6, Error ellipse: s-maj=20.1km s-min=4.5km az=114.6, confirmed*
ISC 24 08:11:21.0±0.8, 32°12S±0°08×179°5E±0°1, h300km, n52, σ1°99/60, mb3.8/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.59**	**38**	P	**Pn**	**08 12 24.2**	**+1.4**
GLKZ				S	**S**	**08 13 12.5**	**+0.1**
HAZ	**Te Kaha**	**5.80**	**194**	P	**Pn**	**08 12 50.3**	**+2.4**
HAZ				S	**S**	**08 13 59.4**	**+1.6**
PKGZ	**Pakihiroa**	**5.86**	**191**	S	**S**	**08 13 58.3**	**-0.7**
RUGZ	**Raukumara Rang**	**6.03**	**194**	P	**Pn**	**08 12 54.3**	**+3.7**
RUGZ				S	**S**	**08 14 02.2**	**-0.7**
PUZ	**Puketiti**	**6.03**	**190**	S	**S**	**08 14 03.4**	**+0.6**
TWGZ	**Tauwhareparae**	**6.18**	**192**	P	**Pn**	**08 12 56.9**	**+4.5**
TWGZ				S	**S**	**08 14 06.4**	**+0.4**
MWZ	**Matawai**	**6.42**	**194**	P	**Pn**	**08 12 56.4**	**+1.1**
MWZ				S	**S**	**08 14 11.5**	**+0.2**
URZ	**Urewera**	**6.44**	**197**	P	**Pn**	**08 12 57.2**	**+1.7**
	3.4nm,0.3s,baz=354,slow=4.8,SNR=28						
URZ				S	**S**	**08 14 11.5**	**-0.2**
	20nm,0.3s,baz=3.9,slow=15,SNR=13						
URZ	**Urewera**	**6.44**	**197**	P	**Pn**	**08 12 57.6**	**+2.1**
URZ				S	**S**	**08 14 12.2**	**+0.5**
CNGZ	**Carnagh Statio**	**6.44**	**189**	P	**Pn**	**08 13 00.1**	**+4.6**
MUGZ	**Murupara**	**6.74**	**199**	P	**Pn**	**08 13 01.5**	**+2.4**
RTZ	**Ruatahuna**	**6.81**	**197**	P	**Pn**	**08 13 02.3**	**+2.3**
PRRZ	**Plateau Road**	**6.87**	**201**	P	**Pn**	**08 13 04.8**	**+4.2**
SNGZ	**Shannon Statio**	**6.88**	**195**	P	**Pn**	**08 13 03.8**	**+2.9**
MTHZ	**Maungataniwha**	**7.07**	**197**	P	**Pn**	**08 13 06.4**	**+3.3**
NMHZ	**Naumai**	**7.31**	**197**	P	**Pn**	**08 13 10.0**	**+3.9**
NMHZ				S	**S**	**08 14 30.7**	**-0.5**
ARHZ	**Aropaoanui**	**7.42**	**196**	P	**Pn**	**08 13 09.5**	**+2.1**
BKZ	**Black Stump Fm**	**7.46**	**199**	P	**Pn**	**08 13 09.1**	**+1.2**
MCHZ	**McNeill Hill**	**7.67**	**197**	P	**Pn**	**08 13 13.0**	**+2.7**
OTVZ	**Oturere**	**7.70**	**203**	P	**Pn**	**08 13 13.7**	**+2.7**
KWHZ	**Kaweka Forest**	**7.72**	**198**	P	**Pn**	**08 13 13.3**	**+2.2**
SNVZ	**South Ngauruho**	**7.73**	**203**	P	**Pn**	**08 13 13.2**	**+1.9**
MAVZ	**Matarangi**	**7.83**	**203**	P	**Pn**	**08 13 15.9**	**+3.2**
WHVZ	**Whangaehu Hut**	**7.84**	**203**	P	**Pn**	**08 13 14.7**	**+2.0**
WNVZ	**Wahianoa**	**7.87**	**203**	P	**Pn**	**08 13 12.8**	**-0.3**
KRHZ	**Kereru**	**7.94**	**198**	P	**Pn**	**08 13 14.3**	**+0.6**
KAHZ	**Kahuranaki**	**7.96**	**195**	P	**Pn**	**08 13 14.7**	**+0.7**
VRZ	**Vera Road**	**8.00**	**208**	P	**Pn**	**08 13 18.8**	**+4.3**
PXZ	**Pawanui**	**8.19**	**195**	P	**Pn**	**08 13 17.1**	**+0.4**
PNHZ	**Pukenui**	**8.23**	**198**	P	**Pn**	**08 13 16.5**	**-0.9**
TSZ	**Takapari Road**	**8.43**	**199**	P	**Pn**	**08 13 19.5**	**-0.3**
PRHZ	**Porangahau**	**8.46**	**195**	P	**Pn**	**08 13 19.8**	**-0.4**
DVHZ	**Dannevirke**	**8.60**	**198**	P	**Pn**	**08 13 21.8**	**-0.1**
ANWZ	**Angora Road**	**8.68**	**196**	P	**Pn**	**08 13 24.4**	**+1.6**
PRWZ	**Pori Road**	**8.89**	**198**	P	**Pn**	**08 13 26.1**	**+0.6**
BFZ	**Birch Farm**	**8.95**	**196**	P	**Pn**	**08 13 25.1**	**-1.0**
TIWZ	**Tintock**	**9.12**	**198**	P	**Pn**	**08 13 28.0**	**-0.3**
OGWZ	**Otaki Gorge**	**9.36**	**201**	P	**Pn**	**08 13 30.6**	**-0.6**
TMWZ	**Te Maipa**	**9.44**	**197**	P	**Pn**	**08 13 32.2**	**+0.1**
KIW	**Kapiti Island**	**9.48**	**202**	P	**Pn**	**08 13 32.6**	**-0.1**
MTW	**Mount Morrison**	**9.59**	**199**	P	**Pn**	**08 13 34.0**	**+0.1**
PAWZ	**Paruwai Farm**	**9.81**	**198**	P	**Pn**	**08 13 36.4**	**-0.3**
BHW	**Baring Head**	**10.00**	**201**	P	**Pn**	**08 13 38.6**	**-0.3**
PLWZ	**Palliser**	**10.04**	**199**	P	**Pn**	**08 13 38.5**	**-0.9**
BSWZ	**Blackbirch Sta**	**10.59**	**204**	P	**Pn**	**08 13 47.0**	**+0.8**

PB05	**IPOC Station P**	**1.34 237**	*i* P	**Pn**	**08 18 39.1**	**+0.4**
PB05			IAML		08 18 59.8	
comp=Z,444nm,0.3s						
TA01	**Diego Aracena**	**1.91 324**	*e*P	**Pn**	**08 18 45.0**	**-0.4**
TA01	**Diego Aracena**	**1.91 324**	*i* P	**Pn**	**08 18 46.2**	**+0.8**
TA01			IAML		08 19 14.8	
comp=Z,416nm,0.6s						
PB08	**IPOC Station P**	**1.97 355** ⇊	*i* P	**Pn**	**08 18 47.1**	**+0.4**
PB08			*e*S	**Sn**	**08 19 12.3**	**+0.5**
PB08			IAML		08 19 18.5	
comp=N,270nm,0.3s						
PB08	**IPOC Station P**	**1.97 355**	*i* P	**Pn**	**08 18 47.0**	**+0.4**
PB08			*e*S	**Sn**	**08 19 13.1**	**+1.3**
PB08			IAML		08 19 15.3	
comp=Z,182nm,0.4s						
PB10	**IPOC Station P**	**2.01 226**	*e*P	**Pn**	**08 18 46.8**	**+0.1**
PB10	**IPOC Station P**	**2.01 226**	*i* P	**Pn**	**08 18 47.3**	**+0.5**
PB10			IAML		08 19 23.5	
comp=Z,85nm,0.4s						
HMBC	**Humberstone**	**2.02 335** ⇊	*i* P	**Pn**	**08 18 46.5**	**-0.5**
HMBC			*e*S	**Sn**	**08 19 12.0**	**-0.4**
HMBC			IAML		08 19 16.6	
comp=E,676nm,0.4s						
HMBC	**Humberstone**	**2.02 335**	*i* P	**Pn**	**08 18 46.5**	**-0.5**
HMBC			IAML		08 19 17.5	
comp=Z,703nm,0.3s						
TA02	**Huaiquique**	**2.13 330**	*e*P	**Pn**	**08 18 47.9**	**-0.3**
TA02			IAML		08 19 22.3	
comp=Z,273nm,0.3s						
PB11	**IPOC Station P**	**2.43 345**	*e*P	**Pn**	**08 18 51.5**	**-0.8**
PB11			IAML		08 19 25.9	
comp=N,465nm,0.5s						
PB11	**IPOC Station P**	**2.43 345**	*i* P	**Pn**	**08 18 51.8**	**-0.5**
PB11			IAML		08 19 23.4	
comp=Z,245nm,0.6s						
GO01	**Chusmiza**	**2.44 355**	*e*P	**Pn**	**08 18 53.0**	**+0.1**
GO01			IAML		08 19 28.7	
comp=N,655nm,0.1s						
GO01	**Chusmiza**	**2.44 355**	*i* P	**Pn**	**08 18 53.2**	**+0.3**
GO02	**Mina Guanaco**	**3.08 190**	*i* P	**Pn**	**08 19 00.7**	**-0.3**
GO02	**Mina Guanaco**	**3.08 190**	*i* P	**Pn**	**08 19 00.8**	**-0.3**
PB16	**IPOC Station P**	**3.79 352**	*e*P	**Pn**	**08 19 10.9**	**+0.1**
PB16	**IPOC Station P**	**3.79 352**	*i* P	**Pn**	**08 19 11.0**	**+0.1**
PB16			IAML		08 20 04.8	
comp=Z,36nm,0.7s						
AC02	**Maricunga**	**4.70 182**	*i* P	**Pn**	**08 19 22.3**	**-0.6**
AC02			IAML		08 20 17.1	
comp=Z,299nm,0.5s						

*IDC **24** 08:26:33.5±7.9, 11°.61N×125°.20E, h122km±72km, mb3.6/15, mbtmp4.0/15, MS2.9/3, Error ellipse: s-maj=41.1km s-min=15.1km az=64.0*

ISC 24 08:26:24.0±0.8, 11°.7N±0°.2×125°.3E±0°.3, h35km, n24, σ0^s.79/17, mb4.1/15, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.58**	**176**	LR	LR	08 30 01.2	
comp=Z,92nm,19.1s,baz=353,slow=46							
JCJ	**Chichijima**	**22.07**	**44**	LR	LR	08 40 02.3	
comp=Z,23nm,19.8s,baz=137,slow=36							
CMAR	**Chiang Mai Arr**	**26.31**	**288**	P	**P**	**08 31 57.6**	**+1.0**
1.4nm,0.3s,baz=101,slow=7.7,SNR=4.2							
1.4nm,0.3s							
WRA	**Warramunga Arr**	**32.65**	**164**	P	**P**	**08 32 53.1**	**+0.2**
0.2nm,0.6s,baz=343,slow=8.7,SNR=1.1							
0.2nm,0.6s							
ASAR	**Alice Springs**	**36.12**	**167**	P	**P**	**08 33 23.9**	**+1.0**
0.5nm,0.5s,baz=346,slow=7.0,SNR=11							
ASAR				PcP	**PcP**	**08 35 47.7**	**-0.8**
0.3nm,0.5s,baz=346,slow=2.7,SNR=2.2							
0.5nm,0.5s							
SONM	**Songino Array**	**39.38**	**340**	P	**P**	**08 33 51.3**	**+0.9**
0.8nm,0.5s,baz=162,slow=11,SNR=4.3							
0.8nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**40.46**	**75**	T	T	09 17 10.8	
baz=264							
H11S1	**WAKE ISLAND Hy**	**40.48**	**75**	T	T	09 17 10.2	
baz=264							
H11S2	**WAKE ISLAND Hy**	**40.48**	**75**	T	T	09 17 08.7	
baz=264							
H11N1	**WAKE ISLAND Hy**	**40.75**	**73**	T	T	09 17 39.0	
baz=265,slow=74							
H11N2	**WAKE ISLAND Hy**	**40.75**	**73**	T	T	09 17 34.3	
baz=265,slow=74							
H11N3	**WAKE ISLAND Hy**	**40.77**	**73**	T	T	09 17 27.6	
baz=265,slow=74							
MKAR	**Makanchi Array**	**50.34**	**322**	P	**P**	**08 35 18.1**	**+0.7**
2.3nm,0.7s,baz=120,slow=8.5,SNR=19							
MKAR				PcP	**PcP**	**08 36 34.7**	**-1.1**
0.3nm,0.6s,baz=134,slow=3.7,SNR=2.6							
2.3nm,0.7s							
ZALV	**Zalesovo Beam**	**52.94**	**331**	P	**P**	**08 35 36.8**	**0.0**
1.5nm,0.3s,baz=127,slow=7.5,SNR=5.3							
1.5nm,0.3s							
KURBB	**Kurchatov Arra**	**54.38**	**325**	P	**P**	**08 35 47.8**	**+0.4**
3.7nm,0.6s,baz=127,slow=7.0,SNR=28							
3.7nm,0.6s							
BVAR	**Borovoye Array**	**59.98**	**325**	P	**P**	**08 36 27.0**	**+0.1**
0.6nm,0.4s,baz=119,slow=8.6,SNR=6.5							
0.6nm,0.4s							
NRIK	**Noril'sk**	**62.43**	**346**	P	**P**	**08 36 43.7**	**+0.6**
0.9nm,0.5s,baz=145,slow=6.9,SNR=4.0							
0.9nm,0.5s							
ILAR	**Eielson Array**	**78.60**	**26**	P	**P**	**08 38 22.3**	**+0.4**
0.1nm,0.5s,baz=246,slow=5.8,SNR=4.1							
0.1nm,0.5s							
SPITS	**Spitsbergen Ar**	**82.46**	**349**	P	**P**	**08 38 42.2**	**-0.2**
5.4nm,0.8s,baz=88,slow=6.1,SNR=4.4							
5.4nm,0.8s							
ARCES	**ARCESS Array B**	**82.55**	**340**	P	**P**	**08 38 42.8**	**-0.2**
1.5nm,0.6s,baz=82,slow=6.9,SNR=17							
1.5nm,0.6s							
BRTR	**Keskin Array B**	**83.91**	**309**	P	**P**	**08 38 50.0**	**-0.8**
0.6nm,0.6s,baz=106,slow=7.7,SNR=4.5							
0.6nm,0.6s							
FINES	**FINESS Array B**	**84.21**	**332**	P	**P**	**08 38 51.2**	**-0.4**
0.7nm,0.3s,baz=77,slow=3.9,SNR=11							
0.7nm,0.3s							
AKASG	**Malin Array Be**	**84.88**	**321**	P	**P**	**08 38 53.9**	**-1.3**
0.5nm,0.4s,baz=68,slow=4.3,SNR=6.4							
0.5nm,0.4s							
NOA	**NORSAR Array B**	**91.08**	**334**	LR	LR	09 26 52.5	
comp=Z,8.9nm,20.1s,baz=110,slow=40							

*ASRS **24** 08:29:24.0±1.7, 54°.56N×83°.45E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 24 08:29:27.3±2.4, 54°.66N×83°.80E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=18.7km s-min=11.2km az=167.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**139**	I	I	08 35 10.0	
baz=319,slow=320,SNR=1.2							
ZALV	**Zalesovo Beam**	**0.93**	**139**	Pg	Pg	08 29 44.3	-0.8
3.8nm,0.3s,baz=324,slow=17,SNR=23							
ZALV				Lg	Lg	08 29 58.8	
7.3nm,0.3s,baz=318,slow=29,SNR=26							
KURBB	**Kurchatov Arra**	**5.16**	**221**	Pn	Pn	08 30 46.0	+0.3
0.1nm,0.3s,baz=42,slow=14,SNR=2.7							
KURBB				Lg	Lg	08 32 12.3	
0.1nm,0.3s,baz=35,slow=30,SNR=7.8							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**7.93**	**188**	Pn	Pn	08 31 23.8	0.0
0.1nm,0.3s,baz=8.2,slow=13,SNR=2.5							
MKAR				Lg	Lg	08 33 40.5	
0.1nm,0.3s,baz=7.5,slow=34,SNR=2.6							
0.2nm,0.5s							

TAP 24 08:44:56.3, 24°.05N×121°.50E, h15km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LXIB	**Xiulin Townshi**	**0.09**	**248**	*i* P	Pg	08 44 59.7	+0.2
LXIB				S	Sg	08 45 02.3	+0.6
ETM	**Tongmen**	**0.09**	**184**	*i* P	Pg	08 44 59.6	+0.2
ETM				*i* S	Sg	08 45 01.8	+0.4
TWD	**Chiawan**	**0.09**	**73**	*i* P	Pg	08 44 59.6	+0.2
TWD				*i* S	Sg	08 45 02.1	+0.6
NACB	**Ninganchiao**	**0.15**	**36**	P	Pg	08 45 00.2	0.0
NACB				S	Sg	08 45 03.1	+0.3
ETLH	**Xiulin Townshi**	**0.15**	**354**	*i* P	Pb	08 45 00.7	-0.3
ETLH				S	Sb	08 45 03.6	-0.5
WHF	**Hehuan Shan**	**0.23**	**293**	P	Pg	08 45 02.1	+0.4
WHF				S	Sb	08 45 06.0	-0.6
SHUL	**Shoufeng**	**0.27**	**168**	*e*S	Sb	08 45 07.2	-0.1
FUSS	**Fushou**	**0.30**	**310**	P	Pb	08 45 03.4	-0.2
FUSS				S	Sb	08 45 08.3	-0.2
OWD	**Renai**	**0.31**	**252**	P	Pg	08 45 03.0	+0.2
OWD				S	Sg	08 45 07.5	+0.2
WARBT	**Fenglin Townsh**	**0.35**	**197**	P	Pg	08 45 02.7	-0.8
WARBT				S	Sg	08 45 07.3	-1.1
NNSB	**Datong**	**0.39**	**344**	P	Pb	08 45 04.6	-0.3
NNSB				S	Sg	08 45 09.8	+0.2
NNS	**Nan Shan**	**0.40**	**343**	P	Pb	08 45 04.8	-0.4
NNS				S	Sg	08 45 10.5	+0.5
VWDT	**VWDT**	**0.44**	**228**	*e*P	Pb	08 45 05.6	-0.0
LATG	**Datong**	**0.48**	**3**	*e*P	Pg	08 45 05.9	0.0
LATG				*e*S	Sg	08 45 12.7	+0.3
ENTT	**Nioudou**	**0.59**	**6**	*e*P	Pg	08 45 07.9	+0.1
ENTT				*e*S	Sg	08 45 15.2	-0.5

*JMA **24** 08:52:41.5±0.1, 35°.5N±0°.9×135°.6E±0°.8, h353km, MV3.1/12, WESTERN FUKUI PREF*
*IDC **24** 08:52:42.3±0.7, 35°.49N×135°.64E, h371km±8km, mb3.1/8, mbtmp3.8/14, Error ellipse: s-maj=12.4km s-min=11.2km az=74.0*

ISC 24 08:52:41.5±0.7, 35°.73N±0°.07×135°.68E±0°.07, h350km, n20, σ1^s.86/24, mb3.2/8, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.32**	**129**	P	**Pn**	**08 53 26.0**	**+0.5**
JFM				S	**S**	**08 54 01.2**	**+0.5**
JWT	**Wachi**	**0.50**	**207**	*i* P	**Pn**	**08 53 25.9**	**+0.1**
JWT				S	**S**	**08 54 00.5**	**-0.8**
JYTA	**Yamagatataniai**	**0.87**	**99**	P	**Pn**	**08 53 27.4**	**+0.7**
JIE	**Ise**	**1.58**	**147**	P	**Pn**	**08 53 29.9**	**-0.3**
MJAR	**Matsushiro Arr**	**2.21**	**68**	P	**Pn**	**08 53 36.6**	**+2.3**
1.5nm,0.4s,baz=246,slow=5.2,SNR=6.2							
JHJ	**Hachijo jima 2**	**4.28**	**126**	P	**Pn**	**08 53 56.0**	**+2.6**
125nm,1.0s,baz=35,slow=10,SNR=1.7							
JHJ				S	**S**	**08 54 53.8**	**+2.4**
44nm,0.3s,baz=285,slow=20,SNR=6.7							
JNU	**Nakatsue**	**4.74**	**238**	P	**Pn**	**08 53 57.4**	**-1.0**
22nm,0.4s,baz=112,slow=0.8,SNR=48							
JNU				S	**S**	**08 55 02.9**	**+2.4**
6.8nm,0.9s,baz=48,slow=18,SNR=1.4							
KSRS	**Korea Array**	**6.47**	**288**	P	**Pn**	**08 54 18.9**	**+1.3**
5.7nm,0.5s,baz=106,slow=12,SNR=24							
USRK	**Ussuriysk Ar.**	**8.92**	**343**	P	**P**	**08 54 49.3**	**+0.5**
2.4nm,0.5s,baz=156,slow=11,SNR=6.8							
ASAJ	**Asahikawa**	**9.92**	**30**	P	**Pn**	**08 54 57.8**	**-0.5**
4.3nm,0.3s,baz=238,slow=8.1,SNR=12							
ASAJ				S	**S**	**08 56 46.0**	**-4.5**
16nm,1.1s,baz=217,slow=20,SNR=2.7							
JCJ	**Chichijima**	**10.24**	**145**	P	Pn	08 54 53.1	-9.3
19nm,0.3s,baz=276,slow=18,SNR=9.2							
JCJ				S	S	08 56 42.9	-15
35nm,0.6s,baz=290,slow=22,SNR=5.9							
KLR	**Kul'dur**	**13.80**	**349**	P	**Pn**	**08 55 45.4**	**+1.3**
1.1nm,0.6s,baz=196,slow=4.6,SNR=3.9							
SONM	**Songino Array**	**24.80**	**308**	P	**P**	**08 57 33.8**	**+0.8**
1.1nm,0.7s,baz=119,slow=9.3,SNR=4.5							
1.1nm,0.7s							
TIXI	**Tiksi**	**36.16**	**356**	P	**P**	**08 59 11.5**	**+0.2**
3.1nm,0.3s,baz=149,slow=5.0,SNR=4.1							
3.1nm,0.3s							
MKAR	**Makanchi Array**	**40.90**	**303**	P	**P**	**08 59 51.2**	**+0.5**
0.3nm,0.5s,baz=88,slow=11,SNR=3.4							
0.3nm,0.5s							
ILAR	**Eielson Array**	**53.05**	**32**	P	**P**	**09 01 23.8**	**+0.5**
0.5nm,0.5s,baz=258,slow=5.9,SNR=16							
0.5nm,0.5s							
WRA	**Warramunga Arr**	**55.38**	**182**	P	**P**	**09 01 37.0**	**-3.5**
0.9nm,0.5s,baz=357,slow=7.5,SNR=14							
0.9nm,0.5s							
ASAR	**Alice Springs**	**59.10**	**182**	P	**P**	**09 02 03.2**	**-3.0**
0.3nm,0.5s,baz=14,slow=13,SNR=9.3							
0.3nm,0.5s							
ARCES	**ARCESS Array B**	**63.54**	**338**	P	**P**	**09 02 34.8**	**-0.3**
1.4nm,0.9s,baz=54,slow=8.2,SNR=5.4							
1.4nm,0.9s							
YKA	**Yellowknife Ar**	**67.20**	**28**	P	**P**	**09 02 59.3**	**+0.8**
0.4nm,0.9s,baz=300,slow=6.4,SNR=10							
0.4nm,0.9s							

*IDC **24** 08:55:16.9±3.0, 51°.15N×159°.81E, h0km, mb3.9/5, mbtmp3.9/6, ML2.7/1, Error ellipse: s-maj=58.3km s-min=49.5km az=75.0*
*KRSC **24** 08:55:21.4±1.9, 51°.54N×160°.09E, h64km±29km, Ml3.8*

ISC 24 08:55:22.6±1.4, 51°.59N±0°.08×160°.01E±0°.08, h26km, n27, σ1^s.43/29, mb4.0/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.22**	**281**	*e*P	**Pb**	**08 55 44.3**	**-0.7**
KDTR				*e*S	**Sb**	**08 55 59.4**	**-0.9**
RUS	**Russkaya**	**1.25**	**313**	*e*P	**Pb**	**08 55 44.7**	**-0.8**
MTVR	**Mutnovka**	**1.44**	**309**	*e*P	**Pb**	**08 55 47.7**	**-1.1**
MTVR				*e*S	**Sb**	**08 56 06.3**	**-0.4**
GRL	**Gorelyy**	**1.54**	**310**	*e*P	**Pb**	**08 55 49.7**	**-0.7**
NLC	**Nalytchevo**	**1.64**	**346**	*e*P	**Pb**	**08 55 51.0**	**-1.1**
PET	**Petropavlovsk**	**1.66**	**330**	*e*P	**Pb**	**08 55 51.4**	**-1.1**
PET				*e*S	**Sb**	**08 56 14.1**	**+1.1**
KRMR	**Karymshinskiy**	**1.70**	**318**	*e*P	**Pb**	**08 55 51.3**	**-1.7**
INSR	**Institute**	**1.71**	**330**	*e*P	**Pb**	**08 55 52.6**	**-0.7**
UGLR	**Uglovaya**	**1.78**	**336**	*e*P	**Pb**	**08 55 53.1**	**-1.4**
SDLR	**Sedlovina**	**1.83**	**338**	*e*P	**Pb**	**08 55 53.3**	**-2.1**
AVH	**Avacha**	**1.85**	**336**	*e*P	**Pb**	**08 55 54.6**	**-1.1**
KOK	**Koryaka**	**1.90**	**334**	*e*P	**Pb**	**08 55 55.0**	**-1.6**
KRX	**Arik**	**1.96**	**335**	*e*P	**Pb**	**08 55 55.4**	**-2.2**
PAU	**Pauzhetka**	**2.00**	**268**	*e*P	**Pb**	**08 55 56.8**	**-1.5**
PETK	**Petropavlovsk-**	**2.08**	**318**	Pn	**Pn**	**08 55 56.7**	**+0.9**
8.4nm,0.3s,baz=134,slow=16,SNR=51							
PETK				Sn	**Sb**	**08 56 27.7**	**+2.7**
11nm,0.3s,baz=212,slow=22,SNR=2.9							
20nm,0.4s							
APC	**Apacha**	**2.20**	**308**	*e*P	**Pb**	**08 56 00.3**	**-1.4**
GNL	**Ganaly**	**2.46**	**330**	*e*P	**Pb**	**08 56 03.2**	**-2.9**
SKR	**Severo-Kuril's**	**2.62**	**251**	*e*S	**Sn**	**08 56 33.9**	**0.0**
MKZ	**Mys Kozlova**	**3.15**	**19**	*e*P	**Pn**	**08 56 11.1**	**+0.7**
MKZ				*e*S	**Sn**	**08 56 46.1**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**32.25**	**168**	T	T	09 35 53.1	
baz=352,slow=75,SNR=7.2							
H11N3	**WAKE ISLAND Hy**	**32.27**	**168**	T	T	09 35 48.9	
baz=352,slow=75,SNR=5.7							
H11N1	**WAKE ISLAND Hy**	**32.27**	**168**	T	T	09 35 51.4	
baz=352,slow=75,SNR=6.8							
KURBB	**Kurchatov Arra**	**48.60**	**303**	P	**P**	**09 04 02.4**	**-1.1**
0.9nm,0.7s,baz=60,slow=7.6,SNR=4.4							
0.9nm,0.7s							
SPITS	**Spitsbergen Ar**	**48.61**	**351**	P	**P**	**09 04 04.9**	**+1.5**
1.0nm,0.5s,baz=46,slow=8.3,SNR=8.7							
1.0nm,0.5s							
MKAR	**Makanchi Array**	**48.77**	**297**	P	**P**	**09 04 04.4**	**-0.6**
0.8nm,0.6s,baz=53,slow=6.6,SNR=3.9							
0.8nm,0.6s							
BVAR	**Borovoye Array**	**51.29**	**309**	P	**P**	**09 04 23.4**	**-0.6**
0.8nm,0.4s,baz=56,slow=6.4,SNR=4.4							
0.8nm,0.4s							
ARCES	**ARCESS Array B**	**54.70**	**342**	P	**P**	**09 04 49.7**	**+0.8**
1.3nm,0.8s,baz=30,slow=7.3,SNR=1.6							
1.3nm,0.8s							

*ASRS **24** 09:01:04.0±0.6, 53°.84N×86°.59E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 24 09:01:06.4±3.1, 53°.87N×86°.67E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=26.4km s-min=15.5km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.10**	**275**	I	I	09 09 10.0	
baz=94,slow=322,SNR=2.0							
ZALV	**Zalesovo Beam**	**1.10**	**275**	Pg	Pg	09 01 27.1	-0.3
0.5nm,0.3s,baz=93,slow=17,SNR=5.4							
ZALV				Lg	Lg	09 01 42.4	
1.6nm,0.3s,baz=93,slow=26,SNR=12							
KURBB	**Kurchatov Arra**	**5.96**	**240**	Pn	Pn	09 02 36.6	+0.8
0.1nm,0.3s,baz=56,slow=14,SNR=2.0							
0.5nm,0.5s							
MKAR	**Makanchi Array**	**7.62**	**203**	Pn	Pn	09 02 59.7	+1.1
0.1nm,0.3s,baz=20,slow=4.7,SNR=2.4							
0.1nm,0.3s							

*ASRS **24** 09:04:05.0±1.5, 54°.59N×83°.53E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 24 09:04:07.0±1.6, 54°.70N×83°.81E, h0km, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=15.3km s-min=10.0km az=14.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**141**	I	I	09 10 00.0	
baz=320,slow=322,SNR=0.8							
ZALV	**Zalesovo Beam**	**0.96**	**141**	Pg	Pg	09 04 24.7	-0.6
2.6nm,0.3s,baz=324,slow=15,SNR=20							
ZALV				Lg	Lg	09 04 39.4	
7.2nm,0.3s,baz=323,slow=30,SNR=14							
KURBB	**Kurchatov Arra**	**5.20**	**220**	Pn	Pn	09 05 26.0	+0.1
0.1nm,0.3s,baz=38,slow=14,SNR=4.3							
KURBB				Lg	Lg	09 06 53.0	
0.1nm,0.3s,baz=42,slow=30,SNR=6.5							
0.5nm,0.5s							
MKAR	**Makanchi Array**	**7.97**	**188**	Pn	Pn	09 06 03.6	-0.5
0.1nm,0.3s,baz=7.9,slow=14,SNR=2.9							
MKAR				Lg	Lg	09 08 22.3	
0.1nm,0.3s,baz=17,slow=29,SNR=4.1							
0.3nm,0.6s							
BVAR	**Borovoye Array**	**8.11**	**264**	Pn	Pn	09 06 05.2	-0.7
0.1nm,0.3s,baz=68,slow=16,SNR=6.5							
1.3nm,0.5s							

*IDC **24** 09:04:57.5±1.8, 18°.78S×177°.76W, h620km±22km, mb3.4/7, mbtmp4.3/10, Error ellipse: s-maj=29.7km s-min=16.0km az=145.0*
*NEIC **24** 09:04:59.0±1.1, 18°.4S±0°.2×178°.0W±0°.2, h616km±8km, mb4.1/35, Error ellipse: s-maj=29.7km s-min=13.9km az=142.0*

ISC 24 09:04:56.9±0.6, 18°.6S±0°.2×177°.8W±0°.1, h600km, n50, σ0^s.99/49, mb4.1/26, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.06**	**282**	P	**P**	**09 06 25.1**	**+2.3**
83nm,0.7s,baz=132,slow=9.3,SNR=34							
AFI	**Afiamalu**	**7.43**	**52**	P	**P**	**09 06 50.4**	**-0.6**
PINNC	**Pines Island,**	**14.39**	**251**	P	**P**	**09 07 59.8**	**+0.4**
DZM	**Mont Dzumac**	**15.19**	**254**	P	**P**	**09 08 07.7**	**+0.8**
DZM	**Mont Dzumac**	**15.19**	**254**	P	**P**	**09 08 07.2**	**+0.3**
4.9nm,0.7s,baz=84,slow=18,SNR=20							
URZ	**Urewera**	**20.07**	**192**	P	**P**	**09 08 48.7**	**-2.4**
2.4nm,0.4s,baz=0.1,slow=3.0,SNR=5.8							
EIDS	**Eidsvold**	**29.59**	**251**	P	**P**	**09 10 14.5**	**-0.7**
ARMA	**Armidale**	**30.11**	**241**	P	**P**	**09 10 20.1**	**+0.4**
CAN	**Canberra**	**33.76**	**234**	P	**P**	**09 10 50.9**	**+0.4**
CAN				IAmb	IAmb	09 10 51.4	
comp=Z,5.9nm,0.9s							
TOO	**Toolangi**	**37.19**	**232**	P	**P**	**09 11 18.9**	**+0.1**
TOO				IAmb	IAmb	09 11 19.8	
comp=Z,6.8nm,1.2s							
COEN	**Coen**	**37.71**	**271**	P	**P**	**09 11 23.6**	**+0.4**
STKA	**Stephens Creek**	**38.82**	**242**		**P**	**09 11 32.0**	**0.0**
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**09 11 31.4**	**-0.5**
comp=Z,5.2nm,0.7s,baz=90,slow=8.9,SNR=14							
comp=Z,5.2nm,0.7s							
BBOO	**Buckleboo**	**43.59**	**242**	P	**P**	**09 12 09.0**	**-0.5**
BBOO				IAmb	IAmb	09 12 09.2	
comp=Z,8.7nm,0.7s							
WR8	**Warramunga Arr**	**44.94**	**260**	P	**P**	**09 12 19.1**	**-1.0**
WR8				IAmb	IAmb	09 12 19.7	
comp=Z,10.0nm,1.4s							
WB0	**Warramunga Arr**	**45.06**	**260**		**P**	**09 12 20.0**	**-1.0**
WRA	**Warramunga Arr**	**45.09**	**260**	P	**P**	**09 12 20.3**	**-1.0**
comp=Z,5.2nm,0.4s,baz=98,slow=7.0,SNR=146							
comp=Z,5.2nm,0.4s							
AS31	**Alice Springs**	**45.18**	**255**		**P**	**09 12 21.2**	**-0.7**
ASAR	**Alice Springs**	**45.18**	**255**	P	**P**	**09 12 20.0**	**-1.9**
ASAR	**Alice Springs**	**45.18**	**255**	P	**P**	**09 12 21.1**	**-0.8**
comp=Z,12nm,0.7s,baz=89,slow=7.8,SNR=168							
comp=Z,12nm,0.7s							
MTN	**Manton Dam**	**49.38**	**269**	P	**P**	**09 12 52.4**	**-0.9**
FORT	**Forrest**	**50.25**	**245**	P	**P**	**09 12 58.2**	**-1.3**
FORT				IAmb	IAmb	09 13 02.9	
comp=Z,11nm,1.0s							
KNRA	**Kununurra**	**51.01**	**265**	P	**P**	**09 13 04.5**	**-0.7**
KNRA				IAmb	IAmb	09 13 33.1	
comp=Z,17nm,1.4s							
FITZ	**Fitzroy Crossi**	**53.50**	**261**	P	**P**	**09 13 22.4**	**-0.5**
MBWA	**Marble Bar**	**58.48**	**256**	P	**P**	**09 13 56.2**	**-1.0**
VNDA	**Vanda**	**59.80**	**185**	P	**P**	**09 14 07.5**	**+2.6**
VNDA				IAmb	IAmb	09 14 30.3	
comp=Z,21nm,1.5s							
YBH	**Yreka Blue Hor**	**78.70**	**39**	P	**P**	**09 15 58.9**	**+0.6**
KDAK	**Kodiak Island**	**78.94**	**13**	P	**P**	**09 15 58.8**	**-0.2**
NVAR	**Mina Array Bea**	**79.52**	**43**	P	**P**	**09 16 03.3**	**+0.4**
NVAR	**Mina Array Bea**	**79.52**	**43**	P	**P**	**09 16 02.6**	**-0.2**
comp=Z,0.7nm,0.7s,baz=222,slow=8.4,SNR=6.8							
comp=Z,0.7nm,0.7s							
O16K	**Kokw

Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}7.79; $M_{\theta\theta}$-1.47; $M_{\phi\phi}$-6.32; $M_{r\theta}$3.76; $M_{\theta\phi}$-0.65; $M_{r\phi}$0.54; Fault plane solution: $M_0$7.81000×10^{14} NP1: ϕ_s172.00000°, δ43.00000°, λ62.00000°. NP2:ϕ_s28.00000°, δ53.00000°, λ114.00000°.

ASIES ***24*** *09:06:09.9, 24°.12N×122°.28E, h51km, ML4.3, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}3.78; $M_{\theta\theta}$2.84; $M_{\phi\phi}$-3.93; $M_{r\theta}$2.43; $M_{\theta\phi}$1.31; $M_{r\phi}$2.78; Fault plane solution: $M_0$5.84924×10^{21} NP1: ϕ_s136.13000°, δ41.97000°, λ30.32000°. NP2:ϕ_s22.63000°, δ70.27000°, λ127.83000°. Principal axes: T Plg49.8580°, Azm334.9030°; N Plg35.2590°, Azm187.9420°; P Plg16.6790°, Azm85.7130°;*

TAP ***24*** *09:06:09.9, 24°.12N×122°.28E, h51km, ML4.3, C*

ISC 24 09:06:09.4±0.7, 24°.10N±0°.02×122°.31E±0°.02, h48km±5km, n212, σ1$20/338, mb4.0/18, 4C-46D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.02**	**24**	↑iP	**Pn**	**09 06 17.1**	**+0.6**
EOS4				*i* S	**Sn**	**09 06 22.7**	**+1.3**
EOS3	**EOS3**	**0.18**	**3**	↑iP	**Pn**	**09 06 18.2**	**+0.8**
EOS3				S	**Sn**	**09 06 24.3**	**+1.4**
EOS2	**EOS2**	**0.32**	**348**	↑iP	**Pn**	**09 06 19.3**	**+0.8**
EOS2				*e*S	**Sn**	**09 06 26.6**	**+1.7**
EHP	**Heping Village**	**0.56**	**292**	*e*P	**Pn**	**09 06 21.6**	**+0.3**
EHP				*e*S	**Sn**	**09 06 30.9**	**+1.0**
EAHA	**Aohua**	**0.57**	**294**	*e*P	**Pn**	**09 06 21.7**	**+0.3**
EAHA				*i* S	**Sn**	**09 06 31.0**	**+1.0**
EWUT	**Wuta**	**0.59**	**305**	⇓P	**Pn**	**09 06 22.0**	**+0.2**
EWUT				*e*S	**Sn**	**09 06 31.1**	**+0.5**
ENA	**Nanau**	**0.61**	**302**	⇓*i*P	**Pn**	**09 06 22.3**	**+0.3**
ENA				*i* S	**Sn**	**09 06 31.4**	**+0.4**
ETL	**Fush Village**	**0.63**	**275**	⇓*i*P	**Pn**	**09 06 22.2**	**0.0**
ETL				*e*S	**Sn**	**09 06 30.6**	**-0.9**
ESAO	**Su ao**	**0.63**	**318**	*e*P	**Pn**	**09 06 22.2**	**-0.1**
ESAO				*i* S	**Sn**	**09 06 31.2**	**-0.3**
TWD	**Chiawan**	**0.65**	**268**	⇓*i*P	**Pn**	**09 06 22.3**	**-0.2**
TWD				*i* S	**Sn**	**09 06 31.5**	**-0.4**
HWA	**Hwalien**	**0.66**	**259**	*e*P	**Pn**	**09 06 22.8**	**+0.3**
HWA				*e*S	**Sn**	**09 06 33.0**	**+1.0**
NACB	**Ninganchiao**	**0.66**	**276**		**Pn**	**09 06 22.2**	**-0.3**
NACB				Sg	**Sn**	**09 06 27.9**	**-4.2**
NACB	**Ninganchiao**	**0.66**	**276**	P	**Pn**	**09 06 22.3**	**-0.3**
NACB	**Ninganchiao**	**0.66**	**276**	S	**Sn**	**09 06 30.0**	**-2.0**
NACB	**Ninganchiao**	**0.66**	**276**	⇓*i*P	**Pn**	**09 06 22.4**	**-0.1**
NACB				*e*S	**Sn**	**09 06 29.8**	**-2.2**
TWC	**Suao**	**0.66**	**320**	⇓P	**Pn**	**09 06 22.5**	**-0.1**
TWC				*i* S	**Sn**	**09 06 31.3**	**-0.8**
JYNG	**Yonagunijimaku**	**0.68**	**59**	*i* P	**Pn**	**09 06 23.4**	**+0.6**
JYNG				S	**Sn**	**09 06 33.6**	**+1.1**
YOJ	**Yonaguni jima**	**0.73**	**61**		**Pn**	**09 06 23.9**	**+0.3**
YOJ					**Sn**	**09 06 31.2**	**-2.7**
YOJ	**Yonaguni jima**	**0.73**	**61**	P	**Pn**	**09 06 24.0**	**+0.4**
YOJ	**Yonaguni jima**	**0.73**	**61**	P	**Pn**	**09 06 24.2**	**+0.6**
YOJ				S	**Sn**	**09 06 35.3**	**+1.4**
YOJ	**Yonaguni jima**	**0.73**	**61**	⇓*i*P	**Pn**	**09 06 24.2**	**+0.6**
YOJ				*e*S	**Sn**	**09 06 34.6**	**+0.8**
SHUL	**Shoufeng**	**0.75**	**246**	⇓*i*P	**Pn**	**09 06 24.1**	**+0.3**
SHUL				S	**Sn**	**09 06 34.9**	**+0.7**
NDS	**Dongshan**	**0.76**	**315**	*e*P	**Pn**	**09 06 23.5**	**-0.4**
NDS				*i* S	**Sn**	**09 06 34.0**	**-0.4**
ETM	**Tongmen**	**0.76**	**260**	⇓*i*P	**Pn**	**09 06 23.8**	**-0.1**
ETM				S	**Sn**	**09 06 33.5**	**-0.9**
ETLH	**Xiulin Townshi**	**0.76**	**278**	⇓*i*P	**Pn**	**09 06 24.0**	**0.0**
ETLH				*e*S	**Sn**	**09 06 34.4**	**-0.2**
TEGC	**Jichi Village**	**0.81**	**241**	P	**Pn**	**09 06 24.6**	**+0.1**
TEGC				*e*S	**Sn**	**09 06 35.8**	**+0.3**
EGS		**0.82**	**335**	*e*P	**Pn**	**09 06 25.4**	**+0.7**
EGS				*i* S	**Sn**	**09 06 36.0**	**+0.2**
LXIB	**Xiulin Townshi**	**0.82**	**265**	⇓*i*P	**Pn**	**09 06 24.7**	**-0.2**
LXIB				*e*S	**Sn**	**09 06 35.3**	**-0.8**
LATG	**Datong**	**0.83**	**301**	⇓*i*P	**Pn**	**09 06 25.2**	**+0.2**
LATG				*e*S	**Sn**	**09 06 36.4**	**0.0**
ILA	**Ilan**	**0.83**	**322**	*e*P	**Pn**	**09 06 26.0**	**+1.1**
ILA				*e*S	**Sn**	**09 06 37.5**	**+1.3**
TWE	**Neicheng**	**0.85**	**317**	⇓*i*P	**Pn**	**09 06 25.8**	**+0.7**
TWE				*e*S	**Sn**	**09 06 37.4**	**+0.8**
ESL	**Shilin**	**0.85**	**250**	⇓*i*P	**Pn**	**09 06 24.8**	**-0.3**
ESL				S	**Sn**	**09 06 36.4**	**-0.2**
ENTT	**Nioudou**	**0.86**	**308**	⇓*i*P	**Pn**	**09 06 25.8**	**+0.4**
ENTT				*i* S	**Sn**	**09 06 37.3**	**+0.4**
NNSB	**Datong**	**0.91**	**291**	⇓*i*P	**Pn**	**09 06 26.2**	**+0.2**
NNSB				S	**Sn**	**09 06 37.8**	**-0.3**
EGFH	**Guangfu**	**0.92**	**242**	*i* P	**Pn**	**09 06 26.3**	**+0.3**
EGFH				*i* S	**Sn**	**09 06 38.3**	**+0.2**
NNS	**Nan Shan**	**0.92**	**292**	⇓*i*P	**Pn**	**09 06 26.3**	**+0.2**
NNS				*e*S	**Sn**	**09 06 38.5**	**+0.1**
WARBT	**Fenglin Townsh**	**0.93**	**246**	⇓*i*P	**Pn**	**09 06 25.9**	**-0.3**
WARBT				*i* S	**Sn**	**09 06 38.0**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.93**	**315**	⇓*i*P	**Pn**	**09 06 26.9**	**+0.7**
FUSB				S	**Sn**	**09 06 39.2**	**+0.7**
TWB1	**Santiao Chiao**	**0.95**	**342**	*e*P	**Pn**	**09 06 26.4**	**0.0**
TWB1				*i* S	**Sn**	**09 06 38.2**	**-0.7**
WHF	**Hehuan Shan**	**0.95**	**273**	⇓*i*P	**Pn**	**09 06 26.9**	**-0.1**
WHF				S	**Sn**	**09 06 39.1**	**-0.6**
TIPB	**Shuangxi**	**0.97**	**333**	P	**Pn**	**09 06 27.1**	**+0.3**
TIPB				*e*S	**Sn**	**09 06 39.2**	**-0.3**
FUSS	**Fushou**	**0.98**	**279**	⇓*i*P	**Pn**	**09 06 27.5**	**+0.4**
FUSS				S	**Sn**	**09 06 40.4**	**+0.3**
NWLT	**Wulai**	**1.00**	**313**	⇓P	**Pn**	**09 06 27.9**	**+0.8**
NWLT				*i* S	**Sn**	**09 06 40.8**	**+0.7**
HGSD	**Ruisui**	**1.01**	**233**	⇓*i*P	**Pn**	**09 06 27.1**	**-0.1**
HGSD				*e*S	**Sn**	**09 06 39.8**	**-0.7**
YHNB	**Yeheng**	**1.02**	**304**		**Pn**	**09 06 27.9**	**+0.4**
YHNB					**Sn**	**09 06 40.5**	**-0.3**
YHNB	**Yeheng**	**1.02**	**304**	P	**Pn**	**09 06 27.9**	**+0.4**
YHNB	**Yeheng**	**1.02**	**304**	S	**Sn**	**09 06 41.1**	**+0.3**
YHNB	**Yeheng**	**1.02**	**304**	⇓*i*P	**Pn**	**09 06 28.1**	**+0.6**
YHNB				S	**Sn**	**09 06 40.6**	**-0.2**
NSK	**Sanguang**	**1.04**	**304**	⇓*i*P	**Pn**	**09 06 28.2**	**+0.5**
NSK				*i* S	**Sn**	**09 06 40.9**	**-0.3**
OWD	**Renai**	**1.05**	**262**	⇓*i*P	**Pn**	**09 06 28.2**	**+0.3**
OWD				*i* S	**Sn**	**09 06 41.1**	**-0.4**
TWT	**Tachien**	**1.05**	**279**	⇓*i*P	**Pn**	**09 06 28.6**	**+0.7**
TWT				*i* S	**Sn**	**09 06 42.2**	**+0.7**
TDCB	**Techi**	**1.06**	**278**	*i* P	**Pn**	**09 06 28.8**	**+0.6**
TDCB				*e*S	**Sn**	**09 06 41.7**	**-0.2**
SXI1	**Grass Mountain**	**1.06**	**338**	↑iP	**Pn**	**09 06 28.2**	**+0.1**
SXI1				*e*S	**Sn**	**09 06 42.2**	**+0.3**
EHYH	**Wanrong**	**1.07**	**236**	P	**Pn**	**09 06 28.3**	**+0.2**
EHYH				S	**Sn**	**09 06 41.7**	**-0.2**
WFSB	**Wu-fen Shan**	**1.08**	**334**	*e*P	**Pn**	**09 06 28.9**	**+0.7**
EHY	**Hungye**	**1.08**	**237**	⇓*i*P	**Pn**	**09 06 28.1**	**-0.2**
EHY				*e*S	**Sn**	**09 06 41.5**	**-0.6**
WUSB	**Renai**	**1.09**	**264**	⇓*i*P	**Pn**	**09 06 29.0**	**+0.5**
WUSB				*e*S	**Sn**	**09 06 42.3**	**-0.4**
TWA	**Mucha**	**1.10**	**323**	*e*P	**Pn**	**09 06 30.2**	**+1.7**
TWA				*e*S	**Sn**	**09 06 43.9**	**+1.4**
ECBN	**Changbin**	**1.11**	**225**	⇓*i*P	**Pn**	**09 06 28.7**	**+0.1**
ECBN				*i* S	**Sn**	**09 06 42.7**	**-0.1**
NHDH	**Xindian Distri**	**1.11**	**320**	*e*P	**Pn**	**09 06 30.1**	**+1.4**
NHDH				*e*S	**Sn**	**09 06 44.3**	**+1.3**
VWDT	**VWDT**	**1.12**	**252**	⇓*i*P	**Pn**	**09 06 29.4**	**+0.7**
VWDT				*e*S	**Sn**	**09 06 42.8**	**-0.3**
TATO	**Taipei**	**1.15**	**319**		**Pn**	**09 06 30.0**	**+0.8**
TATO				Sn	**Sn**	**09 06 44.8**	**+1.1**
TATO	**Taipei**	**1.15**	**319**	P	**Pn**	**09 06 30.2**	**+1.1**
TATO	**Taipei**	**1.15**	**319**	S	**Sn**	**09 06 44.5**	**+0.8**
TNOU	**National Taiwa**	**1.15**	**335**	*e*P	**Pn**	**09 06 29.1**	**0.0**
TNOU				S	**Sn**	**09 06 43.0**	**-0.8**
YULB	**Yu-li**	**1.17**	**233**		**Pn**	**09 06 28.7**	**-0.7**
YULB	**Yu-li**	**1.17**	**233**	P	**Pn**	**09 06 29.3**	**-0.1**
YULB	**Yu-li**	**1.17**	**233**	S	**Sn**	**09 06 43.9**	**-0.3**
YULB	**Yu-li**	**1.17**	**233**	⇓*i*P	**Pn**	**09 06 29.4**	**0.0**
YULB				*e*S	**Sn**	**09 06 43.5**	**-0.7**
EYUL	**Yuli**	**1.18**	**231**	*e*P	**Pn**	**09 06 30.0**	**+0.4**
EYUL				*i* S	**Sn**	**09 06 45.3**	**+0.8**
TAP	**Taipei**	**1.19**	**322**	*e*P	**Pn**	**09 06 30.6**	**+0.9**
TAP				*e*S	**Sn**	**09 06 45.5**	**+0.9**
TWF1	**Yuli**	**1.19**	**231**	⇓*i*P	**Pn**	**09 06 29.9**	**+0.2**
TWF1				*e*S	**Sn**	**09 06 44.5**	**-0.3**
NFF	**Wufeng Townshi**	**1.21**	**296**	⇓P	**Pn**	**09 06 31.0**	**+0.9**
NFF				S	**Sn**	**09 06 46.1**	**+0.8**
KSHI	**Guanxi Townshi**	**1.23**	**303**	*e*P	**Pn**	**09 06 31.9**	**+1.6**
CHKH	**Chenggong**	**1.23**	**223**	*i* P	**Pn**	**09 06 29.9**	**-0.4**
CHKH				S	**Sn**	**09 06 44.9**	**-1.0**
YM01	**YM01**	**1.24**	**327**	*e*P	**Pn**	**09 06 30.6**	**+0.1**
YM01				S	**Sn**	**09 06 45.6**	**-0.4**
WHP	**Taichung City**	**1.26**	**278**	P	**Pn**	**09 06 31.9**	**+1.2**
WHP				*e*S	**Sn**	**09 06 47.1**	**+0.5**
YM08	**YM08**	**1.26**	**329**	*e*P	**Pn**	**09 06 30.5**	**-0.3**
YM08				S	**Sn**	**09 06 45.8**	**-0.9**
ZUZH	**Zhuzihu**	**1.26**	**327**	P	**Pn**	**09 06 31.0**	**+0.3**
ZUZH				*i* S	**Sn**	**09 06 46.0**	**-0.7**
SSLB	**Suanglung**	**1.28**	**256**		**Pn**	**09 06 31.4**	**+0.4**
SSLB				Sn	**Sn**	**09 06 47.1**	**+0.1**
SSLB	**Suanglung**	**1.28**	**256**	P	**Pn**	**09 06 31.4**	**+0.4**
SSLB	**Suanglung**	**1.28**	**256**	S	**Sn**	**09 06 47.3**	**+0.3**
SSLB	**Suanglung**	**1.28**	**256**	⇓*i*P	**Pn**	**09 06 31.6**	**+0.6**
SSLB				S	**Sn**	**09 06 47.0**	**0.0**
WCS	**Beigang Elemen**	**1.28**	**268**	⇓P	**Pn**	**09 06 31.8**	**+0.9**
WCS				*e*S	**Sn**	**09 06 47.0**	**+0.1**
TWS1	**Kuangyinshan**	**1.28**	**321**	*e*P	**Pn**	**09 06 31.0**	**0.0**
TWS1				S	**Sn**	**09 06 47.2**	**+0.2**
FULB	**Fuli**	**1.29**	**226**	*e*P	**Pn**	**09 06 31.1**	**-0.1**
FULB				*i* S	**Sn**	**09 06 46.8**	**-0.6**
ANP	**Anpu**	**1.30**	**327**	*e*P	**Pn**	**09 06 31.5**	**+0.3**
ANP				*e*S	**Sn**	**09 06 46.0**	**-1.5**
LIOB	**Emei**	**1.30**	**295**	⇓*i*P	**Pn**	**09 06 32.7**	**+1.5**
LIOB				*i* S	**Sn**	**09 06 49.0**	**+1.5**
NSTT	**Nanjuang**	**1.30**	**294**	⇓*i*P	**Pn**	**09 06 32.6**	**+1.4**
NSTT				*i* S	**Sn**	**09 06 49.0**	**+1.4**
SMLT	**Sun Moon Lake**	**1.31**	**261**	⇓*i*P	**Pn**	**09 06 31.2**	**-0.2**
SMLT				*i* S	**Sn**	**09 06 47.6**	**-0.2**
NTST	**Danshui**	**1.32**	**324**	*e*P	**Pn**	**09 06 30.9**	**-0.5**
NTST				*e*S	**Sn**	**09 06 49.1**	**+1.2**
IRIF	**Iriomote-Funau**	**1.32**	**80**	P	**Pn**	**09 06 32.2**	**+0.8**
IRIF				S	**Sn**	**09 06 49.0**	**+1.1**
CHKT	**Chengkung**	**1.32**	**221**	⇓*i*P	**Pn**	**09 06 31.0**	**-0.5**
CHKT				*i* S	**Sn**	**09 06 46.2**	**-1.8**
TWY	**Chenhua**	**1.33**	**331**	*e*P	**Pn**	**09 06 31.9**	**+0.2**
TWY				*e*S	**Sn**	**09 06 47.3**	**-1.0**
NCUH	**Zhongli**	**1.34**	**310**	*e*P	**Pn**	**09 06 32.7**	**+0.9**
NCUH				*e*S	**Sn**	**09 06 49.6**	**+1.2**
TYC	**Yuchr**	**1.34**	**262**	⇓*i*P	**Pn**	**09 06 32.5**	**+0.8**
TYC				*i* S	**Sn**	**09 06 49.1**	**+0.6**
HATJ	**Hateruma jima**	**1.37**	**92**	P	**Pn**	**09 06 33.4**	**+1.2**
HATJ				S	**Sn**	**09 06 51.0**	**+1.9**
EHD	**Haiduan**	**1.39**	**227**	*i* P	**Pn**	**09 06 32.4**	**0.0**
EHD				S	**Sn**	**09 06 49.4**	**-0.2**
SBCB	**Hsinchu**	**1.39**	**300**	*e*P	**Pn**	**09 06 33.7**	**+1.3**
SBCB				*e*S	**Sn**	**09 06 51.0**	**+1.4**
WHYT	**Xinyi Township**	**1.39**	**253**	⇓*i*P	**Pn**	**09 06 33.8**	**+1.3**
WHYT				*e*S	**Sn**	**09 06 50.8**	**+1.0**
HSN	**Hsinchu**	**1.41**	**300**	*e*P	**Pn**	**09 06 33.6**	**+1.0**
HSN				S	**Sn**	**09 06 49.7**	**-0.3**
ECS	**Chishang**	**1.42**	**225**	*e*P	**Pn**	**09 06 33.3**	**+0.5**
ECS				*i* S	**Sn**	**09 06 51.2**	**+0.9**
TWQ1	**Liyutan**	**1.42**	**280**	*i* P	**Pn**	**09 06 34.6**	**+1.7**
TWQ1				*e*S	**Sn**	**09 06 52.5**	**+2.0**
NMLH	**Miaoli**	**1.45**	**288**	*e*P	**Pn**	**09 06 34.6**	**+1.3**
NMLH				*e*S	**Sn**	**09 06 53.2**	**+2.0**
EDH	**Donghe**	**1.45**	**220**	P	**Pn**	**09 06 33.1**	**-0.2**
EDH				S	**Sn**	**09 06 50.1**	**-1.1**
WJS	**Zhushan**	**1.47**	**259**	*e*P	**Pn**	**09 06 35.6**	**+2.0**
ELDTW	**Lidau**	**1.49**	**233**	*i* P	**Pn**	**09 06 34.0**	**0.0**
ELDTW				S	**Sn**	**09 06 51.3**	**-1.1**
ALS	**Alishan**	**1.50**	**247**	⇓*i*P	**Pn**	**09 06 35.4**	**+1.2**
ALS				*i* S	**Sn**	**09 06 53.7**	**+1.0**
WNT	**Mingjian**	**1.50**	**262**	P	**Pn**	**09 06 35.9**	**+2.0**
WNT				*e*S	**Sn**	**09 06 54.7**	**+2.3**
PCYT	**Pengchaiyu**	**1.54**	**352**	*e*P	**Pn**	**09 06 34.9**	**+0.5**
WDJ	**Dajia District**	**1.54**	**279**	*e*P	**Pn**	**09 06 36.2**	**+1.7**
JKRS	**Kuro-shima**	**1.56**	**85**	P	**Pn**	**09 06 36.0**	**+1.3**
JKRS				S	**Sn**	**09 06 55.9**	**+2.1**
CHN5	**Tsauling**	**1.57**	**252**	⇓*i*P	**Pn**	**09 06 36.6**	**+1.6**
CHN5				*e*S	**Sn**	**09 06 55.5**	**+1.2**
WCHH	**Zhanghua**	**1.60**	**270**	*e*P	**Pn**	**09 06 36.8**	**+1.5**
LONT	**Longtian**	**1.61**	**223**	*i* P	**Pn**	**09 06 35.5**	**0.0**
LONT				*e*S	**Sn**	**09 06 54.9**	**-0.1**
WCH1	**Changhua City**	**1.61**	**269**	*e*P	**Pn**	**09 06 37.0**	**+1.5**
WCH1				*e*S	**Sn**	**09 06 56.9**	**+1.9**
LDUT	**Ludao**	**1.62**	**209**	*e*P	**Pn**	**09 06 34.9**	**-0.6**
LDUT				*e*S	**Sn**	**09 06 53.6**	**-1.6**
WGK	**Gukeng**	**1.65**	**256**	*e*P	**Pn**	**09 06 37.7**	**+1.7**
WDL	**Douliou City**	**1.67**	**257**	*e*P	**Pn**	**09 06 39.1**	**+2.9**
WDL				*e*S	**Sn**	**09 06 59.1**	**+2.8**
WDLH	**Douliu**	**1.67**	**256**	*e*P	**Pn**	**09 06 38.3**	**+2.1**
WDLH				*e*S	**Sn**	**09 06 59.6**	**+3.0**
STYH	**Taoyuan**	**1.68**	**237**	*i* P	**Pn**	**09 06 36.4**	**0.0**
STYH				*i* S	**Sn**	**09 06 56.7**	**-0.1**
JIJ	**Ishigaki jima**	**1.69**	**81**	*i* P	**Pn**	**09 06 37.2**	**+0.6**
JIJ				S	**Sn**	**09 06 57.4**	**+0.3**
WCKO	**Fanlu**	**1.69**	**247**	*i* P	**Pn**	**09 06 38.6**	**+2.0**
WCKO				*i* S	**Sn**	**09 06 59.5**	**+2.3**
TWGBT	**Beinan**	**1.71**	**222**	P	**Pn**	**09 06 36.7**	**-0.1**
TWGBT	**Beinan**	**1.71**	**222**	*e*P	**Pn**	**09 06 36.2**	**-0.6**
TWGBT				*e*S	**Sn**	**09 06 56.8**	**-0.6**
TWG	**Pinlang**	**1.71**	**222**		**Pn**	**09 06 36.2**	**-0.6**
TWG				Sn	**Sn**	**09 06 57.0**	**-0.4**
TWG	**Pinlang**	**1.71**	**222**	*e*P	**Pn**	**09 06 36.4**	**-0.4**
TWG				*e*S	**Sn**	**09 06 56.3**	**-1.2**
TPUB	**Ta-pu**	**1.73**	**243**		**Pn**	**09 06 38.8**	**+1.6**
TPUB	**Ta-pu**	**1.73**	**243**	P	**Pn**	**09 06 38.4**	**+1.2**
TPUB	**Ta-pu**	**1.73**	**243**	*e*P	**Pn**	**09 06 39.2**	**+2.0**
TPUB				*e*S	**Sn**	**09 06 59.2**	**+1.1**
CHN4	**Tsaushan**	**1.74**	**245**	⇓*i*P	**Pn**	**09 06 39.2**	**+1.9**
CHN4				*e*S	**Sn**	**09 07 01.0**	**+2.7**
WTP	**Ta-pu**	**1.77**	**242**	⇓*i*P	**Pn**	**09 06 39.6**	**+1.9**
WTP				S	**Sn**	**09 07 01.5**	**+2.4**
CHN2	**Minshiung**	**1.77**	**252**	*e*P	**Pn**	**09 06 40.0**	**+2.4**
WTK	**Tuku**	**1.81**	**257**	P	**Pn**	**09 06 40.2**	**+2.1**
WTK				*e*S	**Sn**	**09 07 02.4**	**+2.5**
CHY	**Chiayi**	**1.83**	**251**	*e*P	**Pn**	**09 06 40.1**	**+1.7**
CHY				*e*S	**Sn**	**09 07 02.2**	**+1.8**
TWK	**Hsinying**	**1.86**	**244**	*e*P	**Pn**	**09 06 40.7**	**+1.7**
TWK				*e*S	**Sn**	**09 07 03.1**	**+1.7**
WTCT	**Ta-ch'eng**	**1.87**	**263**	*e*P	**Pn**	**09 06 40.1**	**+1.1**
WTCT				*e*S	**Sn**	**09 07 03.5**	**+2.1**
CHN1	**Nanshi**	**1.87**	**241**	*i* P	**Pn**	**09 06 40.9**	**+1.9**
CHN1				*e*S	**Sn**	**09 07 03.5**	**+2.0**
SNST	**Tainan City**	**1.88**	**242**	*e*P	**Pn**	**09 06 41.2**	**+2.1**
SNST				*e*S	**Sn**	**09 07 03.9**	**+2.2**
SGST	**Jiashian**	**1.88**	**238**	P	**Pn**	**09 06 40.4**	**+1.3**
SGST				*i* S	**Sn**	**09 07 04.1**	**+2.4**
JISG	**Ishigakijimahi**	**1.89**	**75**	*i* P	**Pn**	**09 06 39.7**	**+0.4**
JISG				S	**Sn**	**09 07 02.2**	**+0.3**
ECL	**Taimali**	**1.95**	**220**	*e*P	**Pn**	**09 06 39.7**	**-0.4**
ECL				S	**Sn**	**09 07 01.7**	**-1.6**
WSL	**Shuilin Townsh**	**1.99**	**254**	*e*P	**Pn**	**09 06 42.4**	**+1.7**
WSL				*e*S	**Sn**	**09 07 07.8**	**+3.4**
ICHU	**Yijhu**	**2.00**	**249**	*e*P	**Pn**	**09 06 42.6**	**+1.9**
SSD	**Sandimen**	**2.05**	**229**	*e*P	**Pn**	**09 06 43.5**	**+2.1**
SCST	**Cishan**	**2.06**	**234**	*e*P	**Pn**	**09 06 44.5**	**+2.9**
SCST				*e*S	**Sn**	**09 07 10.8**	**+4.7**
CHN8	**Yiju**	**2.06**	**249**	*i* P	**Pn**	**09 06 43.4**	**+1.7**
TSMG	**Majia**	**2.07**	**228**	*e*P	**Pn**	**09 06 43.0**	**+1.3**
SHHT	**Tainan City**	**2.10**	**240**	*e*P	**Pn**	**09 06 45.3**	**+3.2**
MASBT	**Mashibuluo**	**2.14**	**226**	*e*P	**Pn**	**09 06 44.0**	**+1.3**
LAY	**Lan-yu**	**2.17**	**199**	*e*P	**Pn**	**09 06 42.6**	**-0.5**
TAWH	**Dawu Township**	**2.19**	**217**	*e*P	**Pn**	**09 06 44.7**	**+1.4**
TAWH				*e*S	**Sn**	**09 07 08.0**	**-1.3**
LYUB	**Lan-yu**	**2.19**	**198**	*e*P	**Pn**	**09 06 42.4**	**-1.1**
JTJ	**Tarama**	**2.25**	**76**	P	**Pn**	**09 06 45.1**	**+0.9**
JTJ				S	**Sn**	**09 07 11.2**	**+0.6**
TSCK	**Chigu Township**	**2.25**	**245**	*e*P	**Pn**	**09 06 45.3**	**+1.2**
SCZT	**Fangliau**	**2.32**	**222**	*e*P	**Pn**	**09 06 47.0**	**+1.8**
SLIU	**Shizi**	**2.33**	**217**	*e*P	**Pn**	**09 06 45.6**	**+0.2**
WSSB	**Gushan**	**2.38**	**233**	*e*P	**Pn**	**09 06 48.5**	**+2.6**
SMST	**Manzhou Townsh**	**2.48**	**213**	*e*P	**Pn**	**09 06 47.3**	**0.0**
TSEB	**Hengchuen, Pin**	**2.55**	**211**	*e*P	**Pn**	**09 06 51.1**	**+2.8**
TWKBT	**Hengchun**	**2.56**	**213**	*e*P	**Pn**	**09 06 48.7**	**+0.3**
TWK1	**Hengchun**	**2.56**	**213**	*e*P	**Pn**	**09 06 48.8**	**+0.4**
WDGT	**Dungji**	**2.57**	**251**	*e*P	**Pn**	**09 06 49.6**	**+1.0**
PNG	**Penghu**	**2.58**	**259**	*e*P	**Pn**	**09 06 49.3**	**+0.6**
JIRB	**Irabujima**	**2.71**	**74**	P	**Pn**	**09 06 51.6**	**+1.1**
JIRB				S	**Sn**	**09 07 23.5**	**+1.5**
VWUC	**VWUC**	**2.75**	**289**	*e*P	**Pn**	**09 06 50.9**	**-0.1**
VCHM	**Qimei**	**2.79**	**252**	*e*P	**Pn**	**09 06 52.6**	**+1.1**
JIKM	**Ikemajima**	**2.80**	**72**	P	**Pn**	**09 06 53.1**	**+1.4**
JIKM				S	**Sn**	**09 07 25.6**	**+1.3**
JMJ	**Miyako jima 2**	**2.81**	**75**	P	**Pn**	**09 06 53.7**	**+1.8**
JMJ2	**Miyako jima3**	**2.83**	**76**	P	**Pn**	**09 06 53.7**	**+1.6**
PTMZ	**Houxiangcun**	**3.05**	**288**	*e*P	**Pn**	**09 06 55.1**	**-0.1**
XPSS	**Dashiqiu**	**3.41**	**326**	*e*P	**Pn**	**09 06 59.5**	**-0.5**
KNM	**Kinmen**	**3.55**	**276**	*e*P	**Pn**	**09 07 03.0**	**+1.0**
MHZQ	**Yeshan**	**3.58**	**304**	*e*P	**Pn**	**09 07 01.8**	**-0.6**
KNMB	**Chin-men Tao**	**3.59**	**277**		**Pn**	**09 07 02.2**	**-0.5**
KNMB	**Chin-men Tao**	**3.59**	**277**	*e*P	**Pn**	**09 07 02.2**	**-0.5**
AXDP	**Jialang**	**4.03**	**282**	*e*P	**Pn**	**09 07 08.6**	**0.0**
DSXP	**Dongshan**	**4.49**	**266**	*e*P	**Pn**	**09 07 14.3**	**-0.6**
SXFK	**Yanhouchang**	**4.80**	**299**	*e*P	**Pn**	**09 07 18.3**	**-0.9**
JOW	**Kunigami**	**6.04**	**62**	Pn	**Pn**	**09 07 35.4**	**-0.8**
JOW	**Kunigami**	**6.04**	**62**	Pn	**Pn**	**09 07 35.0**	**-1.3**
	13nm,0.3s,baz=211,slow=12,SNR=24						
JOW				Sn	**Sn**	**09 08 39.5**	**-4.6**
	baz=269,slow=18 25nm,0.3s						
KSRS	**Korea Array**	**14.15**	**19**	Pn	**Pn**	**09 09 25.8**	**-1.3**
	0.2nm,0.3s,baz=197,slow=11,SNR=4.5						
KSRS				LR	LR	09 15 51.9	
	comp=Z,29nm,19.1s,baz=240,slow=42						
CM31	**Chiang Mai Arr**	**22.47**	**260**	P	**P**	**09 11 05.5**	**+0.7**
ULN	**Ulaanbaatar**	**26.64**	**337**	P	**P**	**09 11 43.5**	**-0.1**
ULN				IAmb	IAmb	09 11 44.0	
	comp=Z,3.9nm,0.8s						
SONM	**Songino Array**	**26.85**	**336**	P	**P**	**09 11 45.5**	**-0.1**
SONM				IAmb	IAmb	09 11 46.0	
	comp=Z,4.3nm,0.8s						
SONM	**Songino Array**	**26.85**	**336**	P	**P**	**09 11 44.8**	**-0.7**
	comp=Z,5.4nm

MUGZ Murupara 3.51 211 P **Pn 09 36 53.1 -1.4**
MUGZ S **S 09 37 40.0 +0.6**
RRRZ Republican Roa 3.51 215 P **Pn 09 36 54.0 -0.6**
PRGZ Paritu Road 3.56 195 P **Pn 09 36 53.9 -1.3**
PRGZ S **S 09 37 41.6 +0.9**
SNGZ Shannon Statio 3.57 202 P **Pn 09 36 54.1 -1.2**
SNGZ S **S 09 37 42.3 +1.5**
ALRZ Allen Road 3.77 214 P **Pn 09 36 56.8 -0.8**
RAHZ Arahi 3.77 204 P **Pn 09 36 56.4 -1.3**
RAHZ S **S 09 37 46.2 +1.0**
MHGZ Mahia Peninsul 3.78 194 P **Pn 09 36 56.5 -1.2**
MTHZ Maungataniwha 3.80 207 P **Pn 09 36 56.6 -1.5**
MTHZ S **S 09 37 48.3 +2.5**
WPRZ Whakapapatarin 3.82 217 P **Pn 09 36 59.1 +0.9**
WHHZ Waihua 3.87 202 P **Pn 09 36 57.6 -1.3**
WHHZ S **S 09 37 49.3 +2.1**
KUTZ Kaahu Road 3.97 220 P **Pn 09 37 00.2 +0.2**
NMHZ Naumai 4.03 206 P **Pn 09 36 59.6 -1.2**
NMHZ S **S 09 37 51.9 +1.1**
ARHZ Aropaoanui 4.12 203 P **Pn 09 37 00.3 -1.5**
ARHZ S **S 09 37 54.6 +2.1**
WATZ Wairara 4.18 219 P **Pn 09 37 02.5 0.0**
BKZ Black Stump Fm 4.21 208 P **Pn 09 37 00.9 -2.1**
BKZ Black Stump Fm 4.21 208 P **Pn 09 37 01.8 -1.2**
BKZ S **S 09 37 55.1 +0.4**
RATZ Rangitukua 4.28 217 P **Pn 09 37 03.7 -0.1**
RITZ Rihia Road 4.33 215 P **Pn 09 37 04.1 -0.2**
MCHZ McNeill Hill 4.38 205 P **Pn 09 37 03.5 -1.5**
MCHZ S **S 09 38 00.1 +1.8**
CKHZ Cape Kidnapper 4.46 200 P **Pn 09 37 04.3 -1.6**
CKHZ S **S 09 38 01.0 +0.9**
KWHZ Kaweka Forest 4.46 207 P **Pn 09 37 04.2 -1.8**
KWHZ S **S 09 38 01.1 +0.9**
OUZ Omahuta 4.48 272 P **Pn 09 37 02.6 -3.6**
OUZ Omahuta 4.48 272 P **Pn 09 37 02.5 -3.6**
NTVZ North Tongarir 4.51 216 P **Pn 09 37 06.9 +0.2**
TMVZ Te Maari 4.51 215 P **Pn 09 37 06.1 -0.6**
ETVZ East Tongariro 4.52 215 P **Pn 09 37 04.4 -2.5**
HIZ Hauiti 4.53 227 P **Pn 09 37 07.8 +1.0**
HIZ Hauiti 4.53 227 P **Pn 09 37 08.0 +1.2**
WTVZ West Tongariro 4.56 216 P **Pn 09 37 06.9 -0.5**
OTVZ Oturere 4.56 215 P **Pn 09 37 06.2 -1.2**
SNVZ South Ngauruho 4.59 215 P **Pn 09 37 06.8 -1.0**
TWVZ Taurewa 4.60 218 P **Pn 09 37 07.3 -0.6**
NGZ Ngauruhoe 4.60 216 P **Pn 09 37 07.4 -0.5**
KAHZ Kahuranaki 4.64 201 P **Pn 09 37 06.7 -1.5**
KAHZ S **S 09 38 05.8 +1.6**
COVZ Chateau Observ 4.65 216 P **Pn 09 37 08.0 -0.4**
TUVZ Tukino 4.65 215 P **Pn 09 37 08.3 -0.2**
TUVZ S **S 09 38 08.0 +3.4**
KRHZ Kereru 4.67 206 S **S 09 38 04.4 -0.5**
FWVZ Far West T-bar 4.69 216 P **Pn 09 37 08.2 -0.9**
WHVZ Whangaehu Hut 4.69 215 P **Pn 09 37 08.0 -1.1**
MAVZ Matarangi 4.70 215 P **Pn 09 37 08.5 -0.7**
MOVZ Moawhango 4.72 213 P **Pn 09 37 07.6 -1.6**
MOVZ S **S 09 38 04.5 -1.5**
TRVZ Turoa 4.73 215 P **Pn 09 37 10.4 +0.9**
WNVZ Wahianoa 4.73 215 P Pn 09 37 04.4 -5.0
MTVZ Mangateitei 4.83 215 P **Pn 09 37 09.7 -0.9**
MTVZ S **S 09 38 10.5 +2.0**
PXZ Pawanui 4.86 200 P **Pn 09 37 08.6 -2.3**
PXZ S **S 09 38 09.4 +0.3**
PNHZ Pukenui 4.97 206 P **Pn 09 37 09.5 -2.8**
PNHZ S **S 09 38 10.7 -0.9**
VRZ Vera Road 5.00 222 P **Pn 09 37 13.9 +1.2**
WPHZ Waipukurau 5.02 204 P **Pn 09 37 10.4 -2.5**
WPHZ S **S 09 38 12.4 -0.3**
PRHZ Porangahau 5.15 201 P **Pn 09 37 12.0 -2.5**
PRHZ S **S 09 38 15.8 +0.3**
DVHZ Dannevirke 5.33 205 P **Pn 09 37 13.6 -3.1**
DVHZ S **S 09 38 19.0 -0.6**
NEZ North Egmont 5.47 225 P **Pn 09 37 20.4 +1.8**
KHEZ Kahui Hut 5.53 225 P **Pn 09 37 19.1 -0.3**
KHEZ Kahui Hut 5.53 225 P **Pn 09 37 19.1 -0.3**
PRWZ Pori Road 5.62 205 P **Pn 09 37 19.1 -1.3**
PRWZ S **S 09 38 25.4 -0.9**
BFZ Birch Farm 5.65 202 P **Pn 09 37 17.9 -2.8**
BFZ Birch Farm 5.65 202 P **Pn 09 37 18.2 -2.5**
BFZ S **S 09 38 26.1 -0.8**
TIWZ Tintock 5.85 204 P **Pn 09 37 20.7 -2.6**
TIWZ S **S 09 38 29.4 -2.1**
MRZ Mangatainoka R 5.85 207 P **Pn 09 37 20.8 -2.5**
MRZ S **S 09 38 29.4 -2.2**
SNZO South Karori 6.75 209 P **Pn 09 37 31.4 -3.3**
QRZ Quartz Range 7.41 222 P **Pn 09 37 40.7 -2.5**
KHZ Kahutara 8.15 210 P **Pn 09 37 49.8 -2.8**
RPZ Rata Peaks 10.28 214 P **Pn 09 38 17.6 -2.2**
1.8nm,0.3s,baz=49,slow=11,SNR=6.5
RPZ S **S 09 40 09.9 -5.2**
3.0nm,0.4s,baz=34,slow=18,SNR=6.8
ASAR Alice Springs 40.68 274 P **P 09 43 18.4 +2.4**
0.7nm,0.2s,baz=116,slow=7.6,SNR=19
0.7nm,0.2s
WRA Warramunga Arr 42.15 279 P **P 09 43 29.4 +1.6**
1.1nm,0.5s,baz=120,slow=7.5,SNR=11
1.1nm,0.5s
QSPA South Pole Qui 54.64 180 P P 09 45 10.7 +8.2
2.0nm,0.7s,baz=16,slow=8.9,SNR=16
2.0nm,0.7s
SNAA Sanae 73.14 179 P P 09 47 10.3 +7.7
1.6nm,0.8s,baz=202,slow=5.4,SNR=1.7
1.6nm,0.8s
PLCA Paso Flores 80.82 134 P P 09 47 53.6 +7.7
0.8nm,0.8s,baz=243,slow=9.0,SNR=3.1
0.8nm,0.8s
FINES FINESS Array B 148.89 335 PKPbc **PKPbc 09 55 19.0 +1.8**
0.9nm,0.5s,baz=45,slow=3.0,SNR=7.1

---

*NNC **24** 09:38:46.5±3.0, 43°.72N×69°.75E, h0km, mb3.7, mpv3.0,*
Error ellipse: s-maj=19.5km s-min=7.8km az=138.0,
Suspected Mining explosion.
*SOME **24** 09:38:46.0, 43°.70N×69°.72E*
*KRNET **24** 09:38:48.4±0.1, 43°.40N×69°.08E, mb3.3*
ISC 24 09:38:44.5±2.6, 43°.82N±0°.09×69°.6E±0°.1, h0km, n14,
σ1§39/23, 14C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.81**	**168**	P	**Pn**	**09 39 03.3**	**+0.1**
	2.9nm,0.3s						
BRLS				S	**Sn**	**09 39 16.2**	**+0.3**
	30nm,0.4s						
KK31	**Karatay Array**	**0.97**	**137**	P	**Pg**	**09 39 03.0**	**-0.1**
	1.4nm,0.3s,baz=323,slow=16,SNR=54						
KK31				⇑S	**Sg**	**09 39 14.2**	**-1.5**
	40nm,0.6s,baz=325,slow=31,SNR=21						
TRKS	**Terek-Say**	**2.55**	**153**	⇑*e*P	**Pb**	**09 39 31.6**	**+0.3**
TRKS				⇑*e*S	**Sb**	**09 40 03.1**	**-0.2**
ARK	**Arkit**	**2.66**	**139**	⇑*e*P	**Pb**	**09 39 34.3**	**+1.2**
ARK				⇑*e*S	**Sb**	**09 40 07.5**	**+1.1**
MRKS	**Merke**	**2.85**	**111**	Pg	**Pb**	**09 39 37.4**	**+1.1**
	5.4nm,0.4s						
MRKS				Lg	Lg	09 40 14.5	
	6.6nm,0.3s						
EKS2	**Erkin-Say**	**3.26**	**109**	⇑*i*P	**Pb**	**09 39 45.1**	**+1.8**
EKS2				⇑*i*S	**Sg**	**09 40 28.5**	**-0.8**
AML	**Almayashu**	**3.44**	**118**	⇓*e*P	**Pb**	**09 39 47.6**	**+1.0**
AML				⇓*i*S	**Sb**	**09 40 31.1**	**+2.0**
USP	**Ospenovka**	**3.60**	**97**	⇑⇑*i*P	**Pg**	**09 39 51.9**	**-1.6**
USP				⇑*i*S	**Sg**	**09 40 39.8**	**-0.4**
AAK	**Ala-Archa**	**3.76**	**107**	⇑Pg	**Pb**	**09 39 53.6**	**+1.7**
	4.2nm,0.5s						
AAK				Lg	Lg	09 40 43.4	
	3.8nm,0.6s						
AAK	**Ala-Archa**	**3.76**	**107**	⇑*i*P	**Pb**	**09 39 52.5**	**+0.6**
AAK				⇑*i*S	**Sb**	**09 40 40.5**	**+2.4**
ARLS	**Aral**	**3.98**	**118**	⇑*e*P	**Pb**	**09 39 55.1**	**-0.6**
ARLS				⇑*e*S	**Sb**	**09 40 43.6**	**-0.8**
TKM2	**Tokmak 2**	**4.46**	**100**	⇓Pg	**Pb**	**09 40 05.6**	**+1.8**
	2.3nm,0.6s						
TKM2				⇓Lg	Lg	09 41 04.5	
	6.3nm,0.8s						
MTBS	**Maitube**	**5.01**	**96**	Pg	**Pg**	**09 40 18.2**	**-2.4**
	1.9nm,0.2s						
MTBS				Lg	Lg	09 41 24.3	
	5.4nm,0.2s						
TNSS	**Tian-Shan**	**5.40**	**96**	Pg	**Pg**	**09 40 26.6**	**-1.5**
	1.8nm,0.3s						
TNSS				Lg	Lg	09 41 38.5	
	2.3nm,0.6s						

IDC 24 09:57:26.6±54.0, 19°.20S×178°.30W, h0km, mb4.0/3,
mbtmp4.0/3, Error ellipse: s-maj=996.0km
s-min=160.3km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.12**	**243**	P	P	10 04 47.4	-0.2
	1.0nm,0.6s,baz=89,slow=9.6,SNR=3.2						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**44.52**	**261**	P	P	10 05 40.5	+0.1
	0.8nm,0.3s,baz=96,slow=7.5,SNR=37						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**44.56**	**255**	P	P	10 05 40.4	-0.3
	1.4nm,0.4s,baz=93,slow=7.6,SNR=35						
	1.4nm,0.4s						

---

*ASRS **24** 10:00:10.0±1.2, 53°.54N×87°.69E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 24 10:00:14.3±3.1, 53°.52N×87°.57E, h0km, mbtmp2.8/2,
ML2.5/2, Error ellipse: s-maj=28.8km s-min=15.5km
az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**286**	I	I	10 10 40.0	
	0.2nm,0.8s,baz=101,slow=326,SNR=17						
ZALV	**Zalesovo Beam**	**1.69**	**286**	Pg	Pn	10 00 44.7	-0.4
	0.8nm,0.3s,baz=104,slow=12,SNR=10						
ZALV				Lg	Lg	10 01 08.7	
	1.7nm,0.3s,baz=106,slow=16,SNR=14						
KURBB	**Kurchatov Arra**	**6.28**	**246**	Pn	Pn	10 01 48.5	+0.3
	baz=60,slow=14,SNR=4.8						
KURBB				Lg	Lg	10 03 31.2	
	baz=61,slow=28,SNR=1.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**7.53**	**209**	Pn	Pn	10 02 06.8	+1.4
	0.2nm,0.3s,baz=25,slow=12,SNR=7.7						
MKAR				Lg	Lg	10 04 12.7	
	0.1nm,0.3s,baz=20,slow=26,SNR=6.8						
	0.2nm,0.4s						

---

*NEIC **24** 10:05:56.6±0.9, 8°.14S±0°.05×29°.6E±0°.1, h10km±1km, mb4.7/16, Error ellipse: s-maj=17.2km s-min=7.9km az=78.0*
*IDC **24** 10:05:59.3±0.6, 8°.50S×29°.99E, h0km, mb4.2/14, mbtmp4.3/17, ML2.5/1, MS3.7/28, Error ellipse: s-maj=23.0km s-min=11.1km az=101.0*
ISC 24 10:05:59.2±0.5, 8°.63S±0°.06×30°.04E±0°.08, h10km, n85,
σ2§27/65, mb4.4/17, MS3.7/28, 2D, Lake Tanganyika
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**6.85**	**195**		**Pn**	**10 07 42.0**	**+2.1**
LSZ	**Lusaka**	**6.85**	**195**	Pn	**Pn**	**10 07 44.3**	**+4.4**
	57nm,0.3s,baz=12,slow=13,SNR=97						
LSZ				Sn	**Sn**	**10 08 56.4**	**-1.7**
	40nm,0.3s,baz=109,slow=20,SNR=8.7						
LSZ				Lg	Lg	10 09 40.4	
	57nm,0.3s,baz=86,slow=19,SNR=9.0						
LSZ				LR	LR	10 10 41.2	
	comp=Z,932nm,18.4s,baz=353,slow=40						
LSZ	**Lusaka**	**6.85**	**195**	*i* P	Pn	10 07 45.4	+5.4
LSZ				*i* S	**Sn**	**10 08 54.7**	**-3.3**
KIBK	**Kibwezi**	**10.13**	**52**		**Pn**	**10 08 23.3**	**-1.6**
KMBO	**Kilima Mbogo**	**10.35**	**44**		**Pn**	**10 08 25.2**	**-2.9**
KMBO	**Kilima Mbogo**	**10.35**	**44**	Pn	**Pn**	**10 08 25.6**	**-2.6**
	3.8nm,0.3s,baz=227,slow=20,SNR=6.0						
KMBO				Sn	Sn	10 10 15.3	-9.1
	13nm,0.3s,baz=252,slow=20,SNR=5.9						
KMBO				Lg	Lg	10 11 22.6	
	13nm,0.3s,baz=224,slow=18,SNR=7.1						
BLWY	**Bulawayo**	**11.52**	**187**	*i* P	**Pn**	**10 08 47.6**	**+3.5**
BLWY				*i* S	Sn	10 10 43.5	-10
SOOWA	**Sowa**	**12.42**	**197**	*i* P	**Pn**	**10 09 00.5**	**+4.1**
SOOWA				*i* S	**Sn**	**10 11 11.9**	**-3.1**
SOOWA				IAML		10 13 01.9	
	comp=N,448nm,0.6s						
PHDHD	**Phuduhudu**	**12.67**	**204**	*i* P	**Pn**	**10 09 03.9**	**+4.2**
PHDHD				IAML		10 12 53.1	
	comp=E,791nm,0.8s						
LODK	**Lodwar**	**13.10**	**24**		Pn	10 08 58.5	-7.1
GMARE	**Gumare**	**13.14**	**215**	Pn	**Pn**	**10 09 04.6**	**-1.6**
MUSN	**Musina, Limpop**	**13.58**	**181**	*i* P	**Pn**	**10 09 13.8**	**+1.6**
MUSN				*i* S	Sn	10 11 30.8	-12
QNGWA	**Qangwa**	**13.82**	**217**		**Pn**	**10 09 13.7**	**-1.9**
QNGWA	**Qangwa**	**13.82**	**217**	*i* P	**Pn**	**10 09 18.2**	**+2.7**
QNGWA				IAML		10 13 43.1	
	comp=N,95nm,1.1s						
KHWEE	**KHWEE**	**13.96**	**198**		**Pn**	**10 09 19.2**	**+1.8**
MREMI	**Moremi**	**14.08**	**190**		**Pn**	**10 09 21.0**	**+2.0**
MREMI	**Moremi**	**14.08**	**190**	*i* P	**Pn**	**10 09 21.4**	**+2.3**
MREMI				IAML		10 13 31.6	
	comp=E,330nm,1.6s						
LPHEP	**Lephephe**	**15.19**	**195**		**Pn**	**10 09 35.0**	**+1.0**
LPHEP				IAmb	IAmb	10 09 50.0	
	comp=Z,32nm,0.8s						
LPHEP	**Lephephe**	**15.19**	**195**	*i* P	**Pn**	**10 09 35.6**	**+1.5**
LPHEP				*i* S	**Sn**	**10 12 17.0**	**-5.4**
GRTLG	**Ghanzi**	**15.25**	**213**		**Pn**	**10 09 35.0**	**+0.1**
GRTLG	**Ghanzi**	**15.25**	**213**	*i* P	**Pn**	**10 09 37.6**	**+2.7**
GRTLG				IAML		10 14 44.3	
	comp=N,61nm,1.2s						
KDWAN	**Kaudwane**	**15.54**	**199**		**Pn**	**10 09 39.9**	**+1.2**
KDWAN	**Kaudwane**	**15.54**	**199**	*i* P	**Pn**	**10 09 41.5**	**+2.8**
KDWAN				*i* S	**Sn**	**10 12 24.7**	**-6.5**
KDWAN				IAML		10 14 42.1	
	comp=E,144nm,1.4s						
TSUM	**Tsumeb**	**16.01**	**228**		**Pn**	**10 09 41.5**	**-3.3**
TSUM				IAmb	IAmb	10 10 06.4	
	comp=Z,58nm,1.1s						
TSUM	**Tsumeb**	**16.01**	**228**	Pn	**Pn**	**10 09 45.4**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=37,slow=12,SNR=15						
TSUM				Sn	**Sn**	**10 12 39.7**	**-2.8**
	comp=Z,1.3nm,0.3s,baz=90,slow=20,SNR=1.8						
TSUM				Lg	Lg	10 14 31.7	
	comp=Z,0.9nm,0.3s,baz=93,slow=19,SNR=3.6						
TSUM				LR	LR	10 16 29.9	
	comp=Z,486nm,19.3s,baz=346,slow=39						
	comp=Z,8.7nm,0.7s						
TSUM	**Tsumeb**	**16.01**	**228**	*i* P	**Pn**	**10 09 47.2**	**+2.4**
TSUM				*i* S	**Sn**	**10 12 43.2**	**+0.7**
KGCAE	**Kacgae**	**16.02**	**207**		**Pn**	**10 09 45.0**	**+0.1**
KGCAE				IAmb	IAmb	10 10 00.4	
	comp=Z,54nm,1.0s						
KGCAE	**Kacgae**	**16.02**	**207**	*i* P	**P**	**10 09 48.6**	**+0.2**
KGCAE				IAML		10 14 45.8	
	comp=E,184nm,0.7s						
LBTB	**Lobatse**	**16.83**	**194**		**Pn**	**10 09 56.0**	**+0.8**
MAKGR	**Makgori**	**17.80**	**196**	P	**Pn**	**10 10 08.6**	**+1.2**
MAKGR				IAmb	IAmb	10 10 23.4	
	comp=Z,31nm,0.6s						
MAKGR	**Makgori**	**17.80**	**196**	*i* P	**Pn**	**10 10 08.1**	**+0.7**
MAKGR				IAML		10 15 38.3	
	comp=E,188nm,1.6s						
PHPEN	**Phepeng**	**18.09**	**201**	P	**Pn**	**10 10 11.5**	**+0.6**
PHPEN				IAmb	IAmb	10 10 30.9	
	comp=Z,27nm,0.9s						
OPO	**Ambohidratompo**	**19.36**	**122**	P	**Pn**	**10 10 28.5**	**+2.1**
	comp=Z,5.8nm,0.9s,baz=290,slow=16,SNR=6.4						
ABPO	**Ambohimpanom**	**19.61**	**124**	P	**Pn**	**10 10 32.8**	**+3.4**
BOSA	**Boshof**	**20.38**	**192**	P	**P**	**10 10 37.2**	**+0.8**
BOSA				IAmb	IAmb	10 10 52.4	
	comp=Z,28nm,0.8s						
BOSA	**Boshof**	**20.38**	**192**	P	**P**	**10 10 38.4**	**+2.0**
	comp=Z,11nm,0.6s,baz=20,slow=13,SNR=25						
BOSA				S	Sn	10 14 31.1	+2.8
	comp=Z,9.2nm,0.8s,baz=112,slow=11,SNR=4.1						
BOSA				Lg	Lg	10 16 42.1	
	comp=Z,1.0nm,0.3s,baz=90,slow=20,SNR=4.5						
BOSA				LR	LR	10 18 56.6	
	comp=Z,188nm,20.5s,baz=24,slow=38						
	comp=Z,11nm,0.6s						
VOI	**Vohitsoka**	**20.84**	**131**	P	Pn	10 10 44.7	+0.9
VOI				IAmb	IAmb	10 11 00.0	
	comp=Z,30nm,0.9s						
ATD	**Arta Tunnel**	**23.74**	**33**	LR	LR	10 20 27.4	
	comp=Z,7.0nm,19.9s,baz=132,slow=37						
SOE	**Somerset East**	**24.32**	**189**	P	**P**	**10 11 18.4**	**+1.2**
SOE				IAmb	IAmb	10 11 42.7	
	comp=Z,18nm,0.9s						
GRHM	**Grahamstown, E**	**24.76**	**187**	P	**P**	**10 11 21.5**	**+0.3**
SUR	**Sutherland**	**25.13**	**199**	P	**P**	**10 11 24.3**	**-0.5**
SUR	**Sutherland**	**25.13**	**199**	LR	LR	10 21 33.3	
	comp=Z,370nm,18.7s,baz=30,slow=37						
TORD	**Torodi Ar. Bea**	**35.51**	**307**	P	P	10 12 47.1	-9.5
TORD	**Torodi Ar. Bea**	**35.51**	**307**	P	**P**	**10 12 56.6**	**0.0**
	comp=Z,4.0nm,0.7s,baz=103,slow=8.5,SNR=5.5						
	comp=Z,4.0nm,0.7s						
DBIC	**Dimbokro**	**37.96**	**293**	P	**P**	**10 13 18.4**	**+0.9**
	comp=Z,7.8nm,1.1s,baz=108,slow=10.0,SNR=4.1						
DBIC				LR	LR	10 27 45.8	
	comp=Z,55nm,21.7s,baz=130,slow=34						
	comp=Z,7.8nm,1.1s						
EIL	**Elat**	**38.37**	**7**	LR	LR	10 29 40.9	
	comp=Z,80nm,18.8s,baz=246,slow=37						
ASF	**Jabal al Asfar**	**41.10**	**9**	LR	LR	10 29 25.8	
	comp=Z,64nm,19.2s,baz=197,slow=34						
MMAI	**Mount Meron Ar**	**41.73**	**7**	LR	LR	10 30 42.0	
	comp=Z,76nm,18.4s,baz=192,slow=36						
VAE	**Valguarnera**	**48.15**	**343**	LR	LR	10 35 39.7	
	comp=Z,163nm,19.1s,baz=144,slow=37						
BRTR	**Keskin Array B**	**48.23**	**4**	P	**P**	**10 14 41.3**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=184,slow=9.2,SNR=15						
	comp=Z,2.3nm,0.8s						
KEST	**Kesra**	**48.25**	**337**	P	**P**	**10 14 41.8**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=156,slow=10.0,SNR=3.6						
KEST				LR	LR	10 34 09.6	
	comp=Z,56nm,19.4s,baz=5.7,slow=35						
	comp=Z,2.8nm,0.8s						
GNI	**Garni**	**50.41**	**15**	LR	LR	10 37 06.4	
	comp=Z,31nm,18.1s,baz=195,slow=37						
MDT	**Midelt**	**52.80**	**323**	LR	LR	10 39 15.9	
	comp=Z,88nm,18.1s,baz=154,slow=38						
KBZ	**Khabaz**	**53.41**	**12**	LR	LR	10 39 04.2	
	comp=Z,35nm,18.1s,baz=187,slow=37						
MLR	**Muntele Rosu**	**54.00**	**356**	LR	LR	10 41 41.8	
	comp=Z,77nm,18.4s,baz=212,slow=40						
ESDC	**Sonseca Array**	**57.46**	**329**	LR	LR	10 42 49.9	
	comp=Z,73nm,19.5s,baz=178,slow=39						
DAVOX	**Davos/Dischmat**	**58.02**	**344**	LR	LR	10 41 42.7	
	comp=Z,40nm,18.7s,baz=82,slow=37						
VRAC	**Vranov**	**58.89**	**350**	LR	LR	10 43 57.0	
	comp=Z,36nm,18.4s,baz=191,slow=39						
GERES	**GERESS Array B**	**59.01**	**347**	P	**P**	**10 16 00.4**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=157,slow=7.2,SNR=7.2						
	comp=Z,1.3nm,0.5s						
KHC	**Kasperske Hory**	**59.31**	**348**	*e*P	**P**	**10 16 02.0**	**+0.8**
KHC				*ex*	x	10 16 11.3	
SYO	**Syowa Base**	**60.63**	**176**	‖*e*PcP	**PcP**	**10 16 53.2**	**-1.0**
BELG	**Belogornoye**	**62.62**	**12**	P	**P**	**10 16 24.1**	**+0.5**
	comp=Z,8.8nm,0.7s,baz=167,slow=0.3,SNR=4.0						
	comp=Z,8.8nm,0.7s						
MAW	**Mawson**	**62.86**	**166**	LR	LR	10 41 08.5	
	comp=Z,52nm,18.6s,baz=358,slow=34						
ELIB	**Princess Elisa**	**63.39**	**182**	*e*P	**P**	**10 16 30.0**	**+1.2**
AKTO	**Aktyubinsk**	**63.65**	**20**	P	**P**	**10 16 31.6**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=30,slow=4.6,SNR=3.8						
	comp=Z,0.8nm,0.3s						
SNAA	**Sanae**	**66.16**	**191**	LR	LR	10 42 02.9	
	comp=Z,98nm,21.3s,baz=88,slow=33						
ARTI	**Arti**	**68.89**	**16**	P	**P**	**10 17 04.5**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=133,slow=7.0,SNR=3.2						
	comp=Z,1.4nm,0.5s						
HFS	**Hagfors**	**69.77**	**351**	LR	LR	10 50 36.3	
	comp=Z,38nm,19.6s,baz=129,slow=38						
FINES	**FINESS Array B**	**69.93**	**358**	P	**P**	**10 17 10.7**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=164,slow=7.5,SNR=8.2						
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**70.34**	**25**	LR	LR	10 52 04.2	
	comp=Z,43nm,19.0s,baz=186,slow=39						
NOA	**NORSAR Array B**	**71.02**	**350**	LR	LR	10 50 58.6	
	comp=Z,20nm,20.6s,baz=170,slow=38						
MK31	**Makanchi Array**	**72.09**	**35**	P	P	10 17 19.3	-4.6
MKAR	**Makanchi Array**	**72.09**	**35**		**P**	**10 17 20.6**	**-3.2**
MKAR	**Makanchi Array**	**72.09**	**35**	P	**P**	**10 17 25.2**	**+1.4**
	comp=Z,1.3nm,0.9s,baz=238,slow=6.1,SNR=8.5						
MKAR				LR	LR	10 52 52.4	
	comp=Z,63nm,18.2s,baz=219,slow=39						
	comp=Z,1.3nm,0.9s						
KURBB	**Kurchatov Arra**	**72.39**	**30**	P	**P**	**10 17 27.0**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=237,slow=6.4,SNR=5.7						
KURBB				LR	LR	10 54 21.4	
	comp=Z,58nm,18.1s,baz=172,slow=40						
	comp=Z,0.7nm,0.9s						
KURK	**Kurchatov**	**72.50**	**30**	P	P	10 17 21.9	-4.2
KURK				IAmb	IAmb	10 17 41.7	
	comp=Z,7.4nm,1.4s						
WMQ	**Urumqi**	**73.74**	**40**	*e*P	**P**	**10 17 32.9**	**-0.8**
WMQ				LR	LR		
	comp=N,400nm,22.5s						
WMQ				LR	LR		
	comp=Z,100nm,24.2s						
ZALV	**Zalesovo Beam**	**77.48**	**30**	LR	LR	10 56 18.0	
	comp=Z,64nm,18.5s,baz=142,slow=39						
PZH	**PanZhiHua**	**77.76**	**61**	P	**P**	**10 17 56.0**	**-1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.1s						
ARCES	**ARCESS Array B**	**78.05**	**358**	P	**P**	**10 17 58.6**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=197,slow=3.8,SNR=2.0						
	comp=Z,1.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**89.23**	**49**	*e*P	**P**	**10 18 53.0**	**-2.8**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,130nm,4.3s						
VNDA	**Vanda**	**89.88**	**171**	LR	LR	10 58 29.9	
	comp=Z,52nm,19.1s,baz=204,slow=35						
PLCA	**Paso Flores**	**92.36**	**228**	LR	LR	10 55 46.9	
	comp=Z,30nm,21.7s,baz=170,slow=32						
NJ2	**Nanjing**	**93.52**	**58**	*e*P	**P**	**10 19 14.3**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ASAR	**Alice Springs**	**99.08**	**116**	P	**Pdif**	**10 19 42.4**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=267,slow=4.6,SNR=2.8						
ASAR				LR	LR	11 00 11.2	
	comp=Z,63nm,18.7s,baz=298,slow=33						
	comp=Z,0.4nm,0.8

mbtmp3.8/15, MS3.1/2, Error ellipse: s-maj=19.7km s-min=12.0km az=58.0
*JMA **24** 10:31:36.4±0.2, 26°.N±1°.×12°.6E±°., h89km±1km, MD4.0/21, MV3.7/21, NEAR OKINAWAJIMA ISLAND*
JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .
*NEIC **24** 10:31:37.0±2.1, 26°.53N±0°.10×126°.39E±0°.08, h87km±8km, mb4.3/23, Error ellipse: s-maj=15.1km s-min=9.2km az=149.0*

ISC 24 10:31:36.0±0.7, 26°.34N±0°.05×126°.49E±0°.05, h94km±6km, n79, σ1°.25/91, mb4.2/25, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.27**	**94**	*i* P	**Pn**	**10 31 49.8**	**+0.1**
JKE				S	**Sn**	**10 31 59.3**	**-0.7**
JAGN	**Aguni-jima**	**0.72**	**70**	*i* P	**Pn**	**10 31 53.4**	**+0.4**
JAGN				*e*S	**Sn**	**10 32 05.7**	**0.0**
JAGN	**Aguni-jima**	**0.72**	**70**	A	A	10 31 53.4	
	comp=N,12nm,1.3s,comp=E,8.0nm,0.5s						
JJT3	**Tamagusuku3**	**1.18**	**99**	*i* P	**Pn**	**10 31 59.3**	**+1.2**
JJT3				S	**Sn**	**10 32 16.2**	**+1.6**
JJT3	**Tamagusuku3**	**1.18**	**99**	A	A	10 31 59.3	
	comp=N,9.0nm,2.2s,comp=E,11nm,1.0s						
JNTH	**Nagotoyohara**	**1.39**	**82**	*i* P	**Pn**	**10 32 01.3**	**+0.8**
JNTH				*e*S	**Sn**	**10 32 18.7**	**-0.4**
JIH	**Iheya**	**1.49**	**62**	*i* P	**Pn**	**10 32 02.8**	**+1.0**
JIH				*e*S	**Sn**	**10 32 22.0**	**+0.6**
JOW	**Kunigami**	**1.67**	**73**	P	**Pn**	**10 32 04.8**	**+0.7**
JOW	**Kunigami**	**1.67**	**73**	P	**Pn**	**10 32 04.5**	**+0.4**
	comp=E,104nm,0.3s,baz=154,slow=15,SNR=319						
JOW				S	**Sn**	**10 32 25.0**	**-0.5**
	comp=E,608nm,0.3s,baz=143,slow=20,SNR=15						
JOW	**Kunigami**	**1.67**	**73**	P	**Pn**	**10 32 04.9**	**+0.8**
JOW	**Kunigami**	**1.67**	**73**	S	**Sn**	**10 32 25.6**	**+0.1**
JOW	**Kunigami**	**1.67**	**73**	*i* P	**Pn**	**10 32 04.5**	**+0.4**
JIKM	**Ikemajima**	**1.80**	**219**	P	**Pn**	**10 32 06.0**	**+0.3**
JIKM				*e*S	**Sn**	**10 32 28.0**	**-0.4**
JOGS	**Gusukube**	**1.85**	**212**	*e*P	**Pn**	**10 32 06.7**	**+0.3**
JMJ	**Miyako jima 2**	**1.87**	**216**	P	**Pn**	**10 32 07.5**	**+0.9**
JYRO	**Yoronjima**	**1.88**	**68**	*i* P	**Pn**	**10 32 07.2**	**+0.5**
JYRO				*e*S	**Sn**	**10 32 29.5**	**-0.7**
JMJ2	**Miyako jima3**	**1.91**	**214**	P	**Pn**	**10 32 07.4**	**+0.3**
JMJ2				*e*S	**Sn**	**10 32 30.9**	**0.0**
JIRB	**Irabujima**	**1.92**	**219**	P	**Pn**	**10 32 07.0**	**-0.3**
JOKE	**Okinoerabujima**	**2.12**	**61**	*i* P	**Pn**	**10 32 10.1**	**+0.3**
JTJ	**Tarama**	**2.34**	**224**	P	**Pn**	**10 32 12.7**	**-0.2**
JTK	**Tokunoshima**	**2.62**	**56**	P	**Pn**	**10 32 16.9**	**+0.3**
JTK				*e*S	**Sn**	**10 32 47.1**	**-0.6**
JAMN	**Amaminishikomi**	**3.05**	**51**	*e*P	**Pn**	**10 32 22.4**	**+0.1**
JAMN				*e*S	**Sn**	**10 32 56.8**	**-1.1**
JAM	**Amami Oshima**	**3.45**	**53**	*e*P	**Pn**	**10 32 27.8**	**+0.2**
YOJ	**Yonaguni jima**	**3.66**	**240**	Pn	**Pn**	**10 32 31.4**	**+0.9**
YOJ	**Yonaguni jima**	**3.66**	**240**	P	**Pn**	**10 32 32.2**	**+1.7**
JMZ	**Minamidaito 2**	**4.29**	**96**	P	**Pn**	**10 32 37.5**	**-1.5**
JMZ	**Minamidaito 2**	**4.29**	**96**	S	**Sn**	**10 33 22.3**	**-5.6**
JMZ	**Minamidaito 2**	**4.29**	**96**	P	**Pn**	**10 32 36.6**	**-2.4**
JKDJ	**Kitadaitoujima**	**4.34**	**94**	P	**Pn**	**10 32 37.6**	**-2.0**
YHNB	**Yeheng**	**4.91**	**251**	Pn	**Pn**	**10 32 49.0**	**+1.4**
NACB	**Ninganchiao**	**4.93**	**245**	Pn	**Pn**	**10 32 46.9**	**-0.8**
NACB	**Ninganchiao**	**4.93**	**245**	P	**Pn**	**10 32 48.6**	**+0.9**
YULB	**Yu-li**	**5.55**	**239**	Pn	**Pn**	**10 32 54.7**	**-1.5**
YULB	**Yu-li**	**5.55**	**239**	P	**Pn**	**10 32 56.3**	**+0.1**
SSLB	**Suanglung**	**5.63**	**244**		**Pn**	**10 32 58.1**	**+0.9**
SSLB	**Suanglung**	**5.63**	**244**	P	**Pn**	**10 32 58.2**	**+1.0**
TPUB	**Ta-pu**	**6.12**	**242**		**Pn**	**10 33 04.0**	**0.0**
JNU	**Nakatsue**	**7.76**	**28**	P	**Pn**	**10 33 26.8**	**+0.6**
	comp=E,5.1nm,0.7s,baz=196,slow=18,SNR=6.6						
JNU	**Nakatsue**	**7.76**	**28**	P	**Pn**	**10 33 28.3**	**+2.1**
JMN	**Monobe**	**9.75**	**39**	Pn	**Pn**	**10 33 51.8**	**-1.5**
KSRS	**Korea Array**	**11.14**	**6**	P	**Pn**	**10 34 09.9**	**-2.2**
	comp=E,0.2nm,0.3s,baz=180,slow=13,SNR=4.2						
HIA	**Hailar**	**23.48**	**349**	P	**P**	**10 36 34.8**	**-2.3**
CHTO	**Chiang Mai**	**26.48**	**259**	P	**P**	**10 37 03.1**	**-1.4**
CMAR	**Chiang Mai Arr**	**26.61**	**259**	LR	LR	10 49 31.8	
	comp=E,25nm,19.5s,baz=205,slow=41						
SONM	**Songino Array**	**26.63**	**329**	P	**P**	**10 37 04.5**	**-1.3**
SONM	**Songino Array**	**26.63**	**329**	P	**P**	**10 37 03.3**	**-2.5**
	comp=E,0.4nm,0.5s,baz=143,slow=10,SNR=6.7						
	comp=E,0.4nm,0.5s						
SBUM	**Sibu**	**27.43**	**212**	P	**P**	**10 37 15.8**	**+2.7**
SBUM				IAmb	IAmb	10 37 17.2	
	comp=Z,3.4nm,0.6s						
MKAR	**Makanchi Array**	**40.30**	**312**	P	**P**	**10 39 03.0**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=98,slow=11,SNR=20						
MKAR				PcP	**PcP**	**10 41 06.8**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=99,slow=3.0,SNR=4.3						
	comp=Z,2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**41.22**	**323**	P	**P**	**10 39 10.3**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=114,slow=9.3,SNR=6.2						
	comp=Z,1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**43.70**	**317**	P	**P**	**10 39 30.3**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=106,slow=9.1,SNR=7.0						
KURBB				PcP	**PP**	**10 41 16.2**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=111,slow=3.7,SNR=2.0						
	comp=Z,0.5nm,0.5s						
WRA	**Warramunga Arr**	**46.64**	**170**	P	**P**	**10 39 55.0**	**0.0**
	comp=Z,2.8nm,0.7s,baz=352,slow=8.6,SNR=17						
	comp=Z,2.8nm,0.7s						
BVAR	**Borovoye Array**	**49.15**	**318**	P	**P**	**10 40 14.2**	**0.0**
	comp=Z,0.5nm,0.3s,baz=98,slow=10,SNR=3.9						
BVAR				PcP	**PcP**	**10 41 36.4**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=112,slow=4.0,SNR=4.6						
BVAR				ScP	**ScP**	**10 45 23.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=29,slow=3.4,SNR=3.8						
	comp=Z,0.5nm,0.3s						
ASAR	**Alice Springs**	**50.23**	**171**	P	**P**	**10 40 23.4**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=358,slow=13,SNR=23						
ASAR				PcP	**PcP**	**10 41 40.9**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=339,slow=3.0,SNR=7.5						
	comp=Z,0.8nm,0.5s						
AB31	**Akbulak array**	**55.43**	**313**		**P**	**10 41 00.7**	**+0.1**
AB31				IAmb	IAmb	10 41 01.3	
	comp=Z,2.1nm,0.7s						
ABKAR	**Akbulak array**	**55.43**	**313**		**P**	**10 41 00.8**	**+0.2**
ABKAR				IAmb	IAmb	10 41 01.3	
	comp=Z,2.1nm,0.7s						
MORW	**Morawa**	**56.00**	**191**		**P**	**10 41 05.2**	**+0.4**
F15K	**North Star Dit**	**57.61**	**27**	P	**P**	**10 41 17.3**	**+1.5**
F15K				IAmb	IAmb	10 41 18.3	
	comp=Z,5.5nm,1.4s						
F17K	**Baldwin Pennin**	**59.07**	**27**	P	**P**	**10 41 27.4**	**+1.5**
F17K				IAmb	IAmb	10 41 50.7	
	comp=Z,6.5nm,1.5s						
C18K	**Utukok River**	**59.30**	**24**	P	**P**	**10 41 28.4**	**+0.8**
STKA	**Stephens Creek**	**59.66**	**165**	P	**P**	**10 41 31.5**	**+1.1**
STKA	**Stephens Creek**	**59.66**	**165**	P	**P**	**10 41 30.7**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=317,slow=5.8,SNR=6.8						
	comp=Z,3.0nm,0.6s						
J17K	**VABM Dome**	**59.83**	**30**	P	**P**	**10 41 32.6**	**+1.4**
J17K				IAmb	IAmb	10 41 33.4	
	comp=Z,2.2nm,0.8s						
D19K	**Kuna River**	**60.42**	**24**	P	**P**	**10 41 36.4**	**+1.2**
E19K	**Redstone River**	**60.71**	**25**	P	**P**	**10 41 38.0**	**+0.8**
E19K				IAmb	IAmb	10 41 39.0	
	comp=Z,1.9nm,0.7s						
D20K	**Etivluk River**	**60.98**	**24**	P	**P**	**10 41 39.9**	**+0.9**
D20K				IAmb	IAmb	10 41 40.7	
	comp=Z,3.1nm,0.9s						
J19K	**Poorman**	**61.37**	**29**	P	**P**	**10 41 43.1**	**+1.4**
J19K				IAmb	IAmb	10 41 43.6	
	comp=Z,1.8nm,0.8s						
D22K	**Ayikyak River**	**62.41**	**24**	P	**P**	**10 41 49.8**	**+1.2**
D22K				IAmb	IAmb	10 41 57.1	
	comp=Z,7.5nm,1.4s						
NEA2	**Nenana**	**64.17**	**28**	P	**P**	**10 42 01.7**	**+1.4**
NEA2				IAmb	IAmb	10 42 02.5	
	comp=Z,3.5nm,1.2s						
ILAR	**Eielson Array**	**65.08**	**28**	P	**P**	**10 42 05.9**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=297,slow=10,SNR=7.0						
	comp=Z,0.3nm,0.7s						
I28M	**Miner Creek**	**67.81**	**27**	P	**P**	**10 42 25.7**	**+2.0**
KBZ	**Khabaz**	**67.88**	**309**	P	**P**	**10 42 24.1**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=30,slow=4.4,SNR=4.2						
	comp=Z,1.6nm,0.7s						
G29M	**Pine Creek**	**68.18**	**25**	P	**P**	**10 42 27.7**	**+1.8**
G29M				IAmb	IAmb	10 42 55.5	
	comp=Z,3.0nm,1.2s						
H29M	**Whitestone**	**68.23**	**26**	P	**P**	**10 42 27.5**	**+1.3**
FINES	**FINESS Array B**	**71.99**	**330**	P	**P**	**10 42 48.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=347,slow=10.0,SNR=1.4						
	comp=Z,0.5nm,0.6s						
EUNU	**Eureka**	**72.32**	**6**	P	**P**	**10 42 50.5**	**-0.5**
BRTR	**Keskin Array B**	**75.73**	**307**	P	**P**	**10 43 11.3**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=86,slow=4.5,SNR=2.8						
	comp=Z,0.5nm,0.7s						
BBB	**Bella Bella**	**78.40**	**37**	LR	LR	11 21 06.6	
	comp=Z,15nm,18.1s,baz=352,slow=38						
YKA	**Yellowknife Ar**	**79.08**	**24**	P	**P**	**10 43 30.3**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=305,slow=5.5,SNR=8.9						
	comp=Z,0.6nm,0.8s						
ILON	**Igloolik, Nuna**	**82.37**	**10**	P	**P**	**10 43 47.1**	**+0.1**

*SJA **24** 10:39:10.7±0.5, 22°.77S×66°.04W, h228km±4km, ML3.6, MW3.5*
*IDC **24** 10:39:11.2±1.7, 22°.55S×66°.22W, h232km±20km, mb3.3/2, mbtmp3.7/6, Error ellipse: s-maj=43.2km s-min=15.8km az=91.0*

ISC 24 10:39:10.6±0.8, 22°.70S±0°.05×66°.11W±0°.06, h251km, n26, σ2°.56/41, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.76**	**47**	*e*P	**Pn**	**10 39 47.3**	**+2.1**
YJA				*e*S	**S**	**10 40 07.7**	**-4.5**
SALTA		**1.54**	**188**	*e*P	**Pn**	**10 39 47.5**	**-2.4**
AF01	**San Pedro de A**	**1.93**	**262**	*e*P	**Pn**	**10 39 50.2**	**-2.6**
SLA	**San Lorenzo**	**2.09**	**165**	*e*P	**Pn**	**10 39 52.1**	**-2.1**
PB09	**IPOC Station P**	**3.04**	**287**	*e*P	**Pn**	**10 40 04.9**	**+1.1**
PB09				*e*S	**S**	**10 40 45.6**	**-0.1**
PB09				IAML		10 40 50.4	
	comp=Z,41nm,0.2s						
PB06	**IPOC Station P**	**3.20**	**269**	*e*P	**Pn**	**10 40 06.6**	**+1.1**
PB06				*e*S	**S**	**10 40 48.3**	**-0.6**
PB06				IAML		10 40 50.2	
	comp=Z,42nm,0.2s						
FSA	**Cafayete**	**3.40**	**178**	*e*P	**Pn**	**10 40 07.3**	**-0.4**
PB03	**IPOC Station P**	**3.43**	**280**	*e*P	**Pn**	**10 40 08.6**	**+0.4**
PB03				IAML		10 40 56.1	
	comp=Z,67nm,0.2s						
PB01	**IPOC Station P**	**3.54**	**297**	*e*P	**Pn**	**10 40 09.7**	**+0.4**
PB01				*e*S	**S**	**10 40 49.4**	**-6.4**
PB01				IAML		10 40 54.4	
	comp=Z,90nm,0.3s						
PB05	**IPOC Station P**	**3.78**	**267**	*e*P	**Pn**	**10 40 12.4**	**+0.4**
PB05				*e*S	**S**	**10 40 57.8**	**-2.9**
PB05				IAML		10 41 03.0	
	comp=Z,36nm,0.2s						
PB08	**IPOC Station P**	**3.81**	**311**	*e*P	**Pn**	**10 40 13.2**	**+0.5**
PB08				*e*S	**S**	**10 41 00.6**	**-1.2**
PB08				IAML		10 41 03.6	
	comp=Z,110nm,0.4s						
GO02	**Mina Guanaco**	**4.02**	**232**	*e*P	**Pn**	**10 40 16.8**	**+1.8**
GO01	**Chusmiza**	**4.17**	**316**	*e*P	**Pn**	**10 40 17.9**	**+0.9**
GO01				*e*S	**S**	**10 41 09.8**	**+0.2**
PB10	**IPOC Station P**	**4.17**	**258**	*e*P	**Pn**	**10 40 17.0**	**+0.6**
PB10				*e*S	**S**	**10 41 05.7**	**-3.1**
PB10				IAML		10 41 08.7	
	comp=Z,44nm,0.6s						
PATCX	**Punta Patache**	**4.20**	**296**	*e*P	**Pn**	**10 40 17.2**	**+0.3**
PATCX				*e*S	**S**	**10 41 05.6**	**-3.9**
PATCX				IAML		10 41 06.7	
	comp=Z,88nm,0.4s						
TA01	**Diego Aracena**	**4.34**	**298**	*e*P	**Pn**	**10 40 18.6**	**+0.1**
TA01				*e*S	**S**	**10 41 08.6**	**-3.8**
TA01				IAML		10 41 10.1	
	comp=Z,36nm,0.5s						
PB11	**IPOC Station P**	**4.41**	**311**	*e*P	**Pn**	**10 40 18.4**	**-1.2**
PB11				*e*S	**S**	**10 41 10.3**	**-4.0**
PB11				IAML		10 41 12.9	
	comp=Z,81nm,0.1s						
AC01	**Pan de Azucar**	**5.34**	**229**	*e*P	**Pn**	**10 40 31.1**	**+0.5**
AC01				*e*S	**S**	**10 41 31.5**	**-3.0**
AC01				IAML		10 41 33.3	
	comp=Z,22nm,0.1s						
PB16	**IPOC Station P**	**5.38**	**323**	*e*P	**Pn**	**10 40 32.3**	**+0.6**
PB16				*e*S	**S**	**10 41 34.5**	**-1.8**
PB16				IAML		10 41 36.9	
	comp=Z,14nm,0.4s						
LPAZ	**La Paz**	**6.65**	**343**	P	**Pn**	**10 40 47.9**	**+0.3**
	comp=Z,2.5nm,0.4s,baz=160,slow=8.9,SNR=15						
LPAZ				S	**S**	**10 42 00.0**	**-5.2**
	comp=Z,2.4nm,0.9s,baz=192,slow=20,SNR=2.2						
SIV	**San Ignacio**	**8.19**	**36**	P	**Pn**	**10 41 06.1**	**-0.3**
	comp=Z,3.5nm,0.6s,baz=218,slow=8.1,SNR=20						
CFA	**Coronel Fontan**	**9.07**	**192**	P	**Pn**	**10 41 18.9**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=18,slow=8.0,SNR=14						
CFA				S	**S**	**10 42 54.8**	**-5.3**
	comp=Z,1.3nm,0.3s,baz=45,slow=4.3,SNR=11						
PLCA	**Paso Flores**	**18.37**	**191**	P	**Pn**	**10 43 10.1**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=14,slow=11,SNR=3.7						
QSPA	**South Pole Qui**	**67.50**	**180**	P	**P**	**10 49 43.4**	**+3.9**
	comp=Z,0.8nm,0.5s,baz=85,slow=8.2,SNR=12						
	comp=Z,0.8nm,0.5s						
YKA	**Yellowknife Ar**	**93.19**	**340**	P	**P**	**10 51 57.5**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=133,slow=3.6,SNR=5.1						
	comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**145.00**	**39**	PKP	**PKPab**	**10 58 19.6**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=298,slow=2.6,SNR=4.4						

RSNC 24 10:52:26.1±0.0, 13°.N±4°.×8°.1W±°., h11km±5km, M2.5, mB5.9, ML2.5, Mw(mB)5.5, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.15**	**17**	P	Pg	10 52 29.8	+0.2
PRVC				S	Sg	10 52 33.5	+1.4
SAIC	**Isla e San And**	**0.75**	**203**	P	Pg	10 52 39.5	-1.1
SAIC				S	Sb	10 52 51.5	+0.1
RNCC	**Cayo Roncador,**	**1.33**	**75**	P	Pn	10 52 48.4	-2.2
RNCC				S	Sb	10 53 05.3	-2.8
SERC	**Banco Serrana,**	**1.46**	**44**	P	Pn	10 52 51.6	-0.8
SERC				S	Sn	10 53 09.3	-2.3
ACON	**Acoyapa**	**3.88**	**252**	P	Pg	10 53 39.0	-1.5
ACON				S	Sg	10 54 28.4	-2.5
BCIP	**Isla Barro Col**	**4.32**	**159**	P	Pn	10 53 26.4	-5.4
BCIP				S	Sn	10 54 14.3	-8.0
CRIN	**San Cristobal**	**5.52**	**265**	P	Pn	10 53 45.8	-2.6

*AFAD **24** 10:54:16.4, 39°.24N×38°.12E, h4km±1km, ML2.5*
*ISK **24** 10:54:16.4, 39°.23N×38°.14E, h4km, ML2.5/9*

ISC 24 10:54:17.1±1.2, 39°.28N±0°.03×38°.13E±0°.02, h1km±13km, n21, σ1°.00/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPR	**Arapgir-MALATY**	**0.24**	**139**	Pg	**Pg**	**10 54 21.6**	**-0.2**
KEMA	**Kemaliye**	**0.28**	**92**	P	**Pg**	**10 54 22.5**	**0.0**
KEMA				S	**Sg**	**10 54 26.8**	**+0.7**
KEMA				*i* AML	AML	10 54 27.0	
	comp=N,2μm,0.1s						
KEMA				*i* AML	AML	10 54 27.0	
	comp=E,2μm,0.1s						
HEKM	**Malatya_Hekimh**	**0.42**	**198**	P	**Pg**	**10 54 24.4**	**-0.7**
HEKM				S	**Sg**	**10 54 30.5**	**-0.1**
HEKM				*i* AML	AML	10 54 32.0	
	comp=E,568nm,0.5s						
HEKM				*i* AML	AML	10 54 39.0	
	comp=N,409nm,0.3s						
CUKAN	**kangal_SIVAS**	**0.52**	**274**	P	**Pg**	**10 54 26.7**	**-0.3**
CUKAN				S	**Sg**	**10 54 34.2**	**+0.5**
CUKAN				*i* AML	AML	10 54 35.0	
	comp=E,194nm,0.2s						
CUKAN				*i* AML	AML	10 54 36.0	
	comp=N,246nm,0.3s						
CUGUR	**Gurin_SVAS**	**0.87**	**231**	P	**Pg**	**10 54 33.1**	**-0.7**
CUGUR				S	**Sg**	**10 54 45.3**	**+0.3**
CUGUR				*i* AML	AML	10 54 46.0	
	comp=N,183nm,0.2s						
CUGUR				*i* AML	AML	10 54 47.0	
	comp=E,152nm,0.3s						
DARE	**Darende-Malaty**	**0.87**	**216**	Pg	**Pg**	**10 54 32.9**	**-0.8**
DARE				Sg	**Sg**	**10 54 45.2**	**+0.2**
MAYA	**Malatya/Merkez**	**0.98**	**166**	P	**Pn**	**10 54 41.0**	**+2.8**
MAYA				*i* AML	AML	10 55 10.0	
	comp=E,44nm,0.2s						
AKCD	**Akcadag**	**1.00**	**189**	P	**Pg**	**10 54 34.6**	**-1.6**
AKCD				S	**Sb**	**10 54 50.6**	**-0.3**
AKCD				*i* AML	AML	10 54 51.0	
	comp=N,253nm,0.4s						
AKCD				*i* AML	AML	10 54 51.0	
	comp=E,296nm,0.5s						
ELZG	**Elazig**	**1.03**	**139**	P	**Pg**	**10 54 34.4**	**-2.3**
ELZG				S	**Sg**	**10 54 50.8**	**+0.7**
ELZG				*i* AML	AML	10 54 51.0	
	comp=N,198nm,0.4s						
ELZG				*i* AML	AML	10 54 52.0	
	comp=E,281nm,0.3s						
SVSK	**Karacayir**	**1.08**	**306**	Pn	**Pb**	**10 54 38.4**	**-0.2**
SVSK				Sn	**Sn**	**10 54 54.8**	**-0.3**
ERZN	**Erzincan**	**1.27**	**76**	Pn	**Pn**	**10 54 40.9**	**-1.3**
ERZN				Sn	**Sg**	**10 54 58.2**	**+0.3**
RSDY	**Resadiye-TOKAT**	**1.28**	**331**	Pn	**Pg**	**10 54 42.5**	**+1.0**
AZEY	**Adyaman-Merk**	**1.47**	**176**	P	**Pg**	**10 54 45.9**	**+0.7**
AZEY				S	**Sg**	**10 55 06.6**	**+2.3**
AZEY				*i* AML	AML	10 55 08.0	
	comp=E,22nm,0.5s						
AKCA	**Adyaman/G¶l**	**1.52**	**193**	P	**Pg**	**10 54 46.5**	**+0.2**
AKCA				*i* AML	AML	10 55 10.0	
	comp=N,56nm,0.4s						
SARI	**SarD1z-Kayseri**	**1.60**	**237**	Pn	**Pn**	**10 54 46.0**	**-0.7**
TOKT	**Tokat**	**1.60**	**311**	Pn	**Pb**	**10 54 47.0**	**-0.6**
ESPY	**Espiye-Giresun**	**1.70**	**15**	Pn	**Pn**	**10 54 48.2**	**+0.3**
HANM	**anlurfa/Hi**	**1.80**	**161**	P	**Pb**	**10 54 50.5**	**-0.3**
HANM				S	**Sg**	**10 55 15.5**	**+0.7**
BNN	**Bunyan**	**1.83**	**257**	Pn	**Pn**	**10 54 49.8**	**0.0**
GZT	**Gaziantep**	**1.97**	**193**	P	**Pb**	**10 54 54.1**	**+0.2**
GZT				S	**Sg**	**10 55 20.6**	**+0.2**
YOZ	**Yozgat**	**2.21**	**280**	Pn	**Pn**	**10 54 55.4**	**+0.4**

*IDC **24** 10:56:51.5±0.7, 36°.17N×89°.43W, h0km, mb3.6/9, mbtmp3.7/14, ML4.3/4, MS2.9/2, Error ellipse: s-maj=17.8km s-min=7.6km az=9.0*
*SLM **24** 10:56:54.1±0.4, 36°.136N±0°.004×89°.44W±0°.01, h14km±2km, Error ellipse: s-maj=1.4km s-min=0.3km az=106.0*
*NEIC **24** 10:56:54.1, 36°.14N×89°.44W, h14km*
*NEIC **24** 10:56:54.8±0.3, 36°.135N±0°.008×89°.44W±0°.01, h11km±2km, mb3.6/17, mb_Lg4.1/140, ML4.4/30, Mwr3.7/67, Md3.6/87(SLM), Error ellipse: s-maj=1.3km s-min=1.0km az=45.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}1.21; $M_{\theta\theta}$-0.00; $M_{\phi\phi}$-1.21; $M_{r\theta}$0.34; $M_{r\phi}$1.25; $M_{\theta\phi}$~3.56; Fault plane solution: $M_0$3.98000×10^{14} NP1: ϕ_s173.40000°, δ79.80000°, λ105.66000°. NP2: ϕ_s295.68000°, δ18.62000°, λ33.68000°. Principal axes: T 3.8213, Plg53.0000°, Azm102.0000°; N 0.3010, Plg15.0000°, Azm351.0000°; P -4.1223, Plg33.0000°, Azm250.0000°;*

ISC 24 10:56:53.8±0.7, 36°.13N±0°.02×89°.44W±0°.02, h18km±2km, n280, σ0°.95/283, mb3.9/8, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNXT	**Lenox**	**0.05**	**236**		**Pg**	**10 56 56.7**	**-0.4**
LNXT				IAML		10 56 59.4	
	comp=N,175μm,0.3s						
MIST	**Miston**	**0.07**	**306**		**Pg**	**10 56 56.9**	**-0.4**
MIST					**Sg**	**10 56 59.4**	**-0.2**
RELT	**Roellen**	**0.15**	**132**		**Pg**	**10 56 58.2**	**+0.2**
RELT					**Sg**	**10 57 01.4**	**+0.6**
FPST	**Four Points**	**0.15**	**186**		**Pg**	**10 56 58.2**	**+0.1**
FPST					**Sg**	**10 57 01.6**	**+0.6**
GLAT	**Glass**	**0.18**	**41**		**Pg**	**10 56 58.5**	**0.0**
GLAT				Sg	**Sg**	**10 57 01.9**	**+0.2**
GLAT				IAML		10 57 02.4	
	comp=N,95μm,0.5s						
GLAT				IAML		10 57 02.6	
	comp=E,83μm,0.4s						
CWPT	**Cottonwood Poi**	**0.20**	**232**		**Pg**	**10 56 58.8**	**+0.1**
CWPT					**Sg**	**10 57 02.7**	**+0.6**
HALT	**Halls**	**0.23**	**160**		**Pg**	**10 56 59.2**	**-0.1**
HALT				Sg	**Sg**	**10 57 03.4**	**+0.4**
EDIT	**Edith**	**0.28**	**200**		**Pg**	**10 57 00.4**	**+0.3**
FLPT	**Flippin**	**0.29**	**19**		**Pg**	**10 57 00.4**	**+0.2**
POBM	**Portage Bay**	**0.33**	**327**		**Pg**	**10 57 01.0**	**+0.1**
PEBM	**Pemiscott Bayo**	**0.35**	**267**		**Pg**	**10 57 01.4**	**+0.3**
PEBM				Sg	**Sg**	**10 57 06.4**	**+0.3**
PEBM				IAML		10 57 06.9	
	comp=N,32μm,0.6s						
PEBM				IAML		10 57 06.9	
	comp=E,43μm,0.5s						
BRGM	**Braggadocio**	**0.35**	**282**		**Pg**	**10 57 01.4**	**+0.2**
BRGM					**Sg**	**10 57 06.6**	**+0.4**
PVMO	**Portageville**	**0.35**	**323**		**Pg**	**10 57 01.1**	**-0.1**
PVMO				Sg	**Sg**	**10 57 06.5**	**+0.2**
PVMO				IAML		10 57 07.0	
	comp=N,38μm,0.3s						
PENMO	**Penman**	**0.35**	**334**		**Pg**	**10 57 01.3**	**+0.1**
PENMO					**Sb**	**10 57 07.1**	**+0.3**
WADM	**Wardell**	**0.37**	**309**		**Pg**	**10 57 01.7**	**+0.1**
WADM					**Sg**	**10 57 07.4**	**+0.5**
PGVM	**Portageville**	**0.40**	**324**		**Pg**	**10 57 02.2**	**0.0**
CHNM	**Channel**	**0.41**	**257**		**Pg**	**10 57 02.5**	**+0.3**
WALK	**Watson Lake**	**0.42**	**348**		**Pg**	**10 57 02.4**	**+0.1**
ARPT	**Arp**	**0.42**

comp=Z,854nm,0.8s
PWLA Pickwick Lake 1.60 135 Pn 10 57 21.4 +0.3
T42A Van Buren 1.61 304 Pn 10 57 22.3 +1.1
T42A IAmb_Lg 10 57 49.6
comp=Z,1μm,0.9s
OXF Oxford 1.62 179 Pn 10 57 22.7 +1.3
FVM French Village 2.01 337 Pn 10 57 28.0 +1.2
V48A Smith Brothers 2.16 100 Pn 10 57 29.6 +0.8
V48A IAmb_Lg 10 58 07.0
comp=Z,582nm,0.7s
Y45A Yeager Farm, C 2.26 182 IAmb_Lg 10 58 08.3
comp=Z,778nm,0.7s
USIN University of 2.31 37 Pn 10 57 31.7 +0.7
CCM Cathedral Cave 2.40 324 Pn 10 57 33.3 +1.2
CCM IAmb_Lg 10 58 12.8
comp=Z,561nm,0.7s
MGMO Mountain Grove 2.50 295 Pn 10 57 34.3 +0.9
MGMO IAmb_Lg 10 58 16.9
comp=Z,514nm,0.9s
CLTN Cedars of Leba 2.51 90 Pn 10 57 34.5 +0.8
CLTN IAmb_Lg 10 58 13.4
comp=Z,607nm,0.9s
X48A Hartselle 2.58 130 Pn 10 57 35.5 +1.0
X48A IAmb_Lg 10 58 16.3
comp=Z,777nm,0.8s
UALR University of 2.73 241 Pn 10 57 37.3 +0.6
UALR IAmb_Lg 10 58 23.8
comp=Z,682nm,1.1s
Q44A Meyer Farm, Va 2.79 7 Pn **Pn 10 57 39.5 +2.1**
OLIL Olney 2.81 22 Pn 10 57 39.1 +1.4
OLIL IAmb_Lg 10 58 28.4
comp=Z,444nm,0.8s
CCAR Cane Creek 2.92 222 Pn 10 57 40.5 +1.2
CCAR IAmb_Lg 10 58 32.4
comp=Z,701nm,0.8s
U49A Red Boiling Sp 2.98 82 IAmb_Lg 10 58 29.1
comp=Z,420nm,0.9s
SWET Sewanee 3.00 107 Pn 10 57 41.8 +1.4
R40A Maddies Statio 3.12 314 Pn **Pn 10 57 43.4 +1.4**
X40A Basin Creek Fa 3.23 240 Pn 10 57 44.4 +0.9
X40A IAmb_Lg 10 58 42.7
comp=Z,564nm,0.8s
WCI Wyandotte Cave 3.27 49 Pn 10 57 45.3 +1.3
WCI IAmb_Lg 10 58 36.3
comp=Z,515nm,0.8s
Y49A Blount Mountai 3.36 132 IAmb_Lg 10 58 45.8
comp=Z,459nm,0.8s
W50A Signal Mountai 3.48 104 Pn 10 57 48.2 +1.2
W50A IAmb_Lg 10 58 44.5
comp=Z,843nm,0.9s
146A Union 3.50 175 Pn 10 57 48.9 +1.6
FPAL Fort Paine 3.51 116 Pn 10 57 49.0 +1.6
HHAR Hobbs 3.65 274 Pn 10 57 49.7 +0.4
HHAR IAmb_Lg 10 58 48.8
comp=Z,511nm,0.8s
LRAL Lakeview Retre 3.69 146 Pn 10 57 50.3 +0.5
LRAL IAmb_Lg 10 58 56.9
comp=Z,428nm,1.0s
MIAR Mount Ida 3.74 246 Pn 10 57 51.6 +1.1
MIAR IAmb_Lg 10 59 03.3
comp=Z,604nm,1.1s
T50A Nancy 3.81 75 Pn 10 57 53.0 +1.6
BLO Bloomington 3.81 36 Pn 10 57 52.6 +1.0
WLAR White Oak Lake 3.88 232 Pn 10 57 53.2 +0.8
WLAR IAmb_Lg 10 59 00.5
comp=Z,367nm,0.7s
P46A Rosedale 3.90 26 Pn 10 57 54.2 +1.4
P46A IAmb_Lg 10 58 59.4
comp=Z,375nm,0.8s
P40A Paris 3.97 329 Pn 10 57 55.6 +1.9
P40A IAmb_Lg 10 58 59.0
comp=Z,530nm,1.1s
Z41A Richland Creek 3.99 225 Pn 10 57 54.9 +0.9
Z41A IAmb_Lg 10 59 12.3
comp=Z,332nm,0.8s
VBMS Vicksburg 4.00 193 Pn **Pn 10 57 55.5 +1.4**
U38A Gravette 4.01 276 Pn 10 57 54.8 +0.6
CPCT Cooper Cave 4.05 98 Pn 10 57 56.9 +2.0
CPCT IAmb_Lg 10 59 09.3
comp=Z,420nm,0.7s
X51A Calhoun 4.05 111 IAmb_Lg 10 59 01.9
comp=Z,659nm,0.9s
HDIL Hopedale 4.42 1 Pn 10 58 01.6 +1.8
HDIL IAmb_Lg 10 59 23.2
comp=Z,489nm,0.8s
RLO Rose Lookout 4.52 272 Pn 10 58 01.6 +0.3
RLO IAmb_Lg 10 59 14.4
comp=Z,296nm,0.8s
P48A Milroy 4.60 43 Pn 10 58 02.5 +0.2
P48A IAmb_Lg 10 59 20.5
comp=Z,272nm,0.7s
W52A Murphy 4.61 101 Pn 10 58 03.8 +1.3
W52A IAmb_Lg 10 59 17.0
comp=Z,516nm,0.8s
R50A Paris 4.61 61 Pn 10 58 03.8 +1.3
R50A IAmb_Lg 10 59 17.8
comp=Z,378nm,0.9s
TKL Tuckaleechee C 4.62 94 Pn 10 58 04.7 +2.0
TKL Tuckaleechee C 4.62 94 Pn **Pn 10 58 04.1 +1.5**
comp=Z,4.5nm,0.3s,baz=250,slow=12,SNR=36
TKL Pg **Pb 10 58 13.0 -1.2**
comp=Z,22nm,0.3s,baz=266,slow=12,SNR=22
TKL Sn **Sn 10 58 56.0 +0.2**
comp=Z,22nm,0.3s,baz=270,slow=16,SNR=3.8
TKL Lg Lg 10 59 15.4
comp=Z,74nm,0.3s,baz=180,slow=20,SNR=44
comp=Z,12nm,0.3s
SFIN Lafayette 4.62 23 Pn 10 58 03.5 +0.9
N41A Harden Midland 4.70 347 IAmb_Lg 10 59 22.4
comp=Z,383nm,0.9s
346A Big Creek Wild 4.73 180 Pn **Pn 10 58 05.1 +1.0**
P38A Dawn 4.76 318 Pn 10 58 05.2 +0.7
TZTN Tazewell 4.77 83 Pn 10 58 06.8 +2.1
TZTN IAmb_Lg 10 59 33.1
comp=Z,586nm,0.9s
250A Grady 4.91 147 Pn 10 58 07.2 +0.6
250A IAmb_Lg 10 59 30.4
comp=Z,319nm,0.8s
Y52A Lilburn 4.96 116 Pn 10 58 08.4 +1.1
Y52A IAmb_Lg 10 59 29.8
comp=Z,292nm,0.8s
TUL3 Leonard 5.16 269 Pn 10 58 10.1 0.0
TUL3 IAmb_Lg 10 59 39.0
comp=Z,372nm,0.8s
152A Waverly Hall 5.21 130 Pn 10 58 11.4 +0.7
152A IAmb_Lg 10 59 50.1
comp=Z,299nm,1.1s
BRAL Brewton 5.33 157 Pn 10 58 12.6 +0.2
M44A Midewin, Midew 5.36 11 Pn 10 58 14.5 +1.7
M44A IAmb_Lg 10 59 45.9
comp=Z,229nm,1.1s
Z38A Mt. Pleasant 5.39 240 Pn 10 58 13.9 +0.6
BG3 Lake Jocassee 5.42 100 Pn 10 58 15.2 +1.5
N38A Joes South For 5.53 329 Pn **Pn 10 58 16.1 +1.0**
N38A IAmb_Lg 10 59 54.4
comp=Z,435nm,0.8s
N47A Urbana 5.58 31 IAmb_Lg 10 59 51.4
comp=Z,292nm,1.0s
SSFO Shawnee State 5.59 61 Pn 10 58 17.1 +1.2
GOGA Godfrey 5.61 117 Pn 10 58 17.0 +0.7
GOGA IAmb_Lg 10 59 49.5
comp=Z,245nm,0.9s
Q51A Peebles 5.63 57 IAmb_Lg 10 59 54.7
comp=Z,326nm,0.8s
O49A Covington 5.71 43 IAmb_Lg 11 00 00.7
comp=Z,235nm,0.7s
DEOK Depew 5.73 269 Pn 10 58 17.4 -0.5
DEOK IAmb_Lg 11 00 01.6
comp=Z,372nm,0.8s
L42A Oliver, Polo 5.87 358 Pn **Pn 10 58 20.2 +0.4**
L42A IAmb_Lg 11 00 00.1
comp=Z,273nm,0.9s
QUOK Quay 5.88 273 Pn 10 58 20.1 0.0
352A Blakely 5.97 140 Pn **Pn 10 58 22.0 +0.9**
352A IAmb_Lg 11 00 07.5
comp=Z,304nm,0.8s
OK052 Battle Ridge R 5.97 271 Pn 10 58 21.2 0.0
OK051 E0350 and S346 5.99 276 Pn 10 58 21.6 +0.2
P51A Williamsport 6.05 55 IAmb_Lg 11 00 06.2
comp=Z,393nm,0.8s
OK048 Pawnee Station 6.07 275 Pn 10 58 22.6 0.0
W35A Tecumseh 6.13 263 Pn 10 58 23.2 -0.2
L44A Lake County Fo 6.15 11 IAmb_Lg 11 00 08.9
comp=Z,256nm,1.0s
NATX Nacogdoches 6.15 226 Pn 10 58 24.2 +0.5

U54A Nelsons Funny 6.16 84 Pn 10 58 25.1 +1.3
HODGE Hodges 6.18 106 Pn 10 58 24.4 +0.4
HODGE IAmb_Lg 11 00 08.2
comp=Z,241nm,0.9s
154A Montrose 6.30 122 Pn 10 58 26.6 +0.8
154A IAmb_Lg 11 00 28.1
comp=Z,411nm,0.8s
451A Vernon 6.31 150 IAmb_Lg 11 00 30.7
comp=Z,179nm,0.9s
N49A Columbus Grove 6.31 39 IAmb_Lg 11 00 15.1
comp=Z,308nm,0.9s
PAULI Pauline 6.36 100 Pn 10 58 27.7 +1.2
PAULI IAmb_Lg 11 00 14.1
comp=Z,241nm,0.7s
Q52A Bidwell 6.36 61 Pn 10 58 27.8 +1.3
L46A Eue Claire 6.36 22 Pn 10 58 27.1 +0.6
L46A IAmb_Lg 11 00 20.4
comp=Z,280nm,0.7s
TREL Terrell 6.46 240 Pn 10 58 28.4 +0.5
OK029 Liberty Lake 6.51 269 Pn **Pn 10 58 27.6 -1.1**
OK029 IAmb_Lg 11 00 37.6
comp=Z,286nm,1.2s
KAN13 South Haven SW 6.53 280 Pn 10 58 29.1 +0.2
FNO Franklin 6.54 265 Pn 10 58 29.1 0.0
OKCSW OKLAHOMA CITY 6.55 266 Pn 10 58 29.0 -0.1
OKCSW IAmb_Lg 11 00 33.0
comp=Z,278nm,0.8s
K43A Burlington 6.62 7 IAmb_Lg 11 00 25.6
comp=Z,206nm,1.1s
KAN09 Caldwell North 6.66 281 Pn 10 58 30.2 -0.4
V55A Taylorsville 6.67 90 IAmb_Lg 11 00 23.8
comp=Z,344nm,0.9s
237A Washetta, Mont 6.70 234 Pn 10 58 31.5 +0.2
S54A Dingess, Beckl 6.71 73 Pn **Pn 10 58 32.1 +0.6**
P52A Corning 6.75 57 Pn **Pn 10 58 32.5 +0.6**
P52A IAmb_Lg 11 00 23.4
comp=Z,293nm,1.0s
TIGA Tifton 6.75 132 IAmb_Lg 11 00 35.9
comp=Z,219nm,0.9s
KAN17 Caldwell West 6.76 280 Pn 10 58 32.0 -0.1
JFWS Jewell Farm 6.80 355 Pn 10 58 33.9 +1.2
GC02 Grant County # 6.82 279 Pn 10 58 32.8 -0.1
KAN05 Bluff City Nor 6.85 281 Pn 10 58 33.1 -0.3
CROK Carrier 6.91 276 Pn 10 58 34.3 +0.1
KAN14 Manchester OK 6.91 279 Pn 10 58 33.9 -0.3
JSC Jenkinsville 6.94 103 Pn 10 58 35.0 +0.4
JSC IAmb_Lg 11 00 30.5
comp=Z,248nm,0.8s
KAN08 Anthony NE Sta 6.95 282 Pn 10 58 34.9 +0.3
KAN12 Harper NE Stat 6.97 282 Pn 10 58 35.3 +0.3
X34A Smith Ranch, M 7.03 260 Pn 10 58 35.8 0.0
OK032 Salt Plains WL 7.10 278 Pn 10 58 35.7 -1.1
BLA Blacksburg 7.33 79 Pn 10 58 40.3 +0.5
FW06 Azle 7.40 247 Pn 10 58 40.9 0.0
FW14 Alvarado 7.42 242 Pn 10 58 41.3 +0.2
BIRD Birdtown, Kers 7.48 99 Pn 10 58 42.0 +0.1
CSTR Hydro, Custer 7.53 269 Pn 10 58 41.8 -0.8
FW13 Cleburne 7.62 243 Pn 10 58 43.9 +0.1
O53A New Philadelph 7.67 55 Pn 10 58 44.6 +0.1
O53A IAmb_Lg 11 00 59.0
comp=Z,176nm,0.8s
NOKA Waynoka 7.68 277 Pn 10 58 44.6 0.0
FW07 Weatherford 7.70 246 Pn 10 58 43.5 -1.4
R32A Long Quarter, 7.74 290 Pn 10 58 46.3 +0.8
WMOK Wichita Mounta 7.75 262 Pn 10 58 44.5 -1.2
I42A Draeger Farm, 7.76 3 Pn 10 58 45.6 -0.1
WTFS Witchita Falls 7.78 255 Pn 10 58 45.8 -0.2
WHTX Lake Whitney, 7.83 240 Pn 10 58 46.4 -0.3
PLPT Palo Pinto 8.04 248 Pn 10 58 48.9 -0.8
ELIS Ellis County 8.08 272 Pn 10 58 49.8 -0.4
O54A Avella 8.20 58 Pn 10 58 51.4 -0.5
456A Hilliard 8.21 129 Pn **Pn 10 58 51.9 -0.1**
RCRC Randolf Colleg 8.26 78 Pn 10 58 53.2 +0.6
M52A Chesterland 8.30 47 Pn **Pn 10 58 53.5 +0.3**
Y58A Scranton 8.32 103 Pn **Pn 10 58 53.3 -0.1**
MCWV Mont Chateau 8.36 62 Pn **Pn 10 58 54.5 +0.5**
MCWV IAmb_Lg 11 01 17.1
comp=Z,137nm,0.8s
V58A Windy Hill, Pi 8.38 89 Pn 10 58 54.3 +0.1
X58A Rowland 8.40 98 Pn 10 58 54.3 -0.3
K50A Casco 8.47 36 Pn 10 58 55.3 -0.2
CBKS Cedar Bluff 8.62 291 Pn 10 58 57.4 -0.2
Q56A Snyder Ridge, 8.64 67 Pn 10 58 56.8 -1.0
435B Jarrell 8.65 234 Pn 10 58 57.5 -0.5
SMWD Samnorwood 8.86 267 Pn 10 58 59.1 -1.8
656A Willston 8.90 137 Pn **Pn 10 59 00.6 -0.8**
ALLY Alegheny Colle 9.10 50 IAmb_Lg 11 01 51.9
comp=Z,148nm,0.8s
ABTX Abilene, Hawle 9.13 250 Pn 10 59 03.6 -1.1
G40A Rib Lake 9.15 357 Pn 10 59 04.1 -0.7
APMT Aspermont 9.23 255 Pn 10 59 05.4 -0.5
BRDY Brady 9.31 241 Pn 10 59 05.8 -1.3
ECSD EROS Data Cent 9.38 326 Pn 10 59 07.7 -0.3
R58B Mineral 9.42 75 Pn 10 59 08.2 -0.3
SPMN Marine on St. 9.44 345 Pn 10 59 10.1 +1.4
Y60A Bolivia 9.44 100 Pn **Pn 10 59 08.5 -0.3**
ERPA Erie 9.46 48 IAmb_Lg 11 01 58.1
comp=Z,109nm,0.7s
SN07 Snyder 07 9.92 256 Pn 10 59 14.4 -1.0
COWI Conover 9.96 1 Pn 10 59 16.0 0.0
SN05 Snyder 5 9.99 254 Pn 10 59 15.6 -0.8
SSPA Standing Stone 10.12 60 Pn 10 59 17.8 -0.3
K30B Basset 10.23 313 Pn 10 59 18.5 -1.1
JCT Junction City 10.34 240 Pn 10 59 19.6 -1.6
POST Post 10.40 256 Pn 10 59 21.1 -1.0
WVNY West Valley, N 10.47 50 Pn **Pn 10 59 23.1 +0.2**
SGCY Sterling City 10.57 250 Pn 10 59 23.0 -1.4
HNDO Hondo 10.57 234 Pn 10 59 22.8 -1.6
RTBA Rita Blanca 10.74 276 Pn 10 59 25.3 -1.5
KSCO Kaye Shedlock' 10.86 289 Pn 10 59 27.7 -0.7
E46A Sault Ste Mari 10.93 19 Pn 10 59 27.8 -1.3
OGNE Ogallala 10.97 300 Pn **Pn 10 59 29.2 -0.6**
MVL Millersville 11.01 66 Pn **Pn 10 59 31.0 +0.7**
N58A Sunbury 11.02 61 Pn **Pn 10 59 29.4 -1.0**
OZNA Ozona 11.05 245 Pn 10 59 29.4 -1.5
MSTX Muleshoe 11.14 263 Pn 10 59 30.0 -2.3
DRIO Del Rio 11.54 238 Pn 10 59 36.8 -0.8
ODSA Odessa 11.58 254 Pn 10 59 37.2 -1.0
EYMN Ely 11.90 353 Pn 10 59 40.8 -1.7
T25A Trinidad 12.07 279 Pn 10 59 42.7 -2.4
MNHN Monahans 12.07 251 Pn 10 59 43.3 -1.7
CPRX Cap Rock 12.29 260 Pn 10 59 46.5 -1.5
SAND Sanderson 12.29 244 Pn 10 59 46.4 -1.5
HTMS Hat Mesa 12.29 257 Pn **Pn 10 59 46.4 -1.6**
CLN7 Carlsbad 7 12.45 257 Pn 10 59 47.9 -2.2
TBO Thunder Bay 12.51 0 Pn 10 59 49.4 -1.3
CLNB Carlsbad 12.56 256 Pn 10 59 49.8 -1.8
ODNJ Ogdensburg 12.61 62 Pn **Pn 10 59 50.7 -1.4**
Q24A Divide 12.79 287 Pn **Pn 10 59 53.5 -1.4**
PECS Pecos 12.91 253 Pn 10 59 54.6 -1.8
SDCO Great Sand Dun 12.96 282 Pn 10 59 56.5 -0.7
ISCO Idaho Springs 13.28 291 Pn 11 00 00.5 -1.1
KSCT Kent School, K 13.61 61 Pn **Pn 11 00 05.7 -0.1**
TX31 Lajitas Ar. Si 13.76 245 Pn 11 00 05.3 -2.6
TXAR Lajitas Array 13.76 245 Pn 11 00 05.2 -2.8
TXAR Lajitas Array 13.76 245 Pn **Pn 11 00 05.0 -2.9**
comp=Z,0.9nm,0.3s,baz=62,slow=12,SNR=66
TXAR Lg Lg 11 03 56.3
comp=Z,0.3nm,0.3s,baz=57,slow=36,SNR=1.6
comp=Z,1.6nm,0.4s
EPLO Experimental L 13.89 348 Pn 11 00 07.0 -2.6
ANMO Albuquerque 13.91 270 Pn **Pn 11 00 09.8 -0.4**
ANMO Albuquerque 13.91 270 Pn **Pn 11 00 09.5 -0.7**
comp=Z,0.2nm,0.3s,baz=141,slow=18,SNR=3.9
ANMO Lg Lg 11 04 10.0
comp=Z,0.2nm,0.3s,baz=167,slow=17,SNR=3.4
ANMO LR LR 11 04 46.2
comp=Z,27nm,19.9s,baz=230,slow=34
comp=Z,0.3nm,0.3s
MDND Maddock 13.92 330 Pn **Pn 11 00 10.7 +0.7**
NCB Newcomb 14.02 51 Pn **Pn 11 00 11.9 +0.5**
VHRN Van Horn 14.03 252 Pn 11 00 09.8 -1.9
LONY Lake Ozonia 14.13 49 Pn **Pn 11 00 11.3 -1.6**
K22A Casper 14.72 301 Pn **Pn 11 00 20.2 -0.9**
K62A Royalston 14.80 59 Pn **Pn 11 00 22.7 +0.6**
FRNY Flat Rock 14.85 49 Pn **Pn 11 00 22.7 0.0**
ULM Lac du Bonnet 14.86 344 Pn **Pn 11 00 20.8 -2.1**
ULM Lac du Bonnet 14.86 344 Pn Pn 11 00 18.6 -4.2
comp=Z,1.5nm,0.4s,baz=160,slow=14,SNR=2.2
ULM Lg Lg 11 04 30.3
comp=Z,0.7nm,0.3s,baz=111,slow=14,SNR=5.2
VLDQ Val d'Or 14.89 33 Pn **Pn 11 00 21.6 -1.5**

O20A White River Ci 15.33 291 Pn **Pn 11 00 29.3 0.0**
PV02 Paradox Valley 15.53 283 Pn 11 00 29.8 -2.2
PV22 Blue Mesa, Par 15.58 285 Pn 11 00 32.8 +0.2
PV22 IAmb IAmb 11 00 41.0
comp=Z,2.6nm,0.8s
PV18 Skein Mesa, Pa 15.66 284 Pn **Pn 11 00 33.5 -0.3**
PV17 East Wray Mesa 15.71 284 Pn **Pn 11 00 33.4 -0.9**
PV17 IAmb IAmb 11 00 41.8
comp=Z,3.6nm,0.8s
LAO LASA Array 16.39 315 Pn **Pn 11 00 41.4 -1.5**
LAO IAmb IAmb 11 00 52.1
comp=Z,6.5nm,1.0s
DGMT Dagmar 16.43 323 Pn **Pn 11 00 42.5 -0.8**
P18A Preston Nutter 16.79 288 Pn **Pn 11 00 48.1 -0.1**
PD31 Pinedale Array 16.88 299 Pn 11 00 47.8 -1.3
PD31 IAmb IAmb 11 00 53.5
comp=Z,3.2nm,0.9s
PDAR Pinedale Array 16.88 299 Pn 11 00 49.3 +0.1
PDAR Pinedale Array 16.88 299 Pn **Pn 11 00 48.1 -1.0**
comp=Z,0.2nm,0.3s,baz=116,slow=17,SNR=14
PDAR Lg Lg 11 05 32.8
comp=Z,0.2nm,0.3s,baz=127,slow=19,SNR=3.7
comp=Z,1.1nm,0.6s
RLMT Red Lodge 17.49 307 P **Pn 11 00 56.7 -0.2**
TCUT Toone Canyon 17.86 293 P **Pn 11 01 00.6 -0.9**
TCUT IAmb IAmb 11 01 19.9
comp=Z,5.8nm,1.1s
SNOW Snow King Moun 17.92 301 Pn **Pn 11 01 01.9 -0.2**
SNOW IAmb IAmb 11 01 36.6
comp=Z,2.9nm,0.7s
YNE Yellowstone No 17.93 306 Pn 11 01 01.5 -0.8
MOOW Moose Ponds 17.99 302 P **Pn 11 01 03.2 +0.1**
HWUT Hardware Ranch 18.06 294 Pn 11 01 03.6 -0.2
HWUT IAmb IAmb 11 01 10.6
comp=Z,3.3nm,0.6s
LCMT Little Creek M 19.14 280 P **P 11 01 15.5 -0.6**
LCMT IAmb IAmb 11 01 22.9
comp=Z,4.4nm,1.3s
ELK Elko 20.70 291 P 11 01 33.3 +0.2
ELK IAmb IAmb 11 01 40.2
comp=Z,1.5nm,0.7s
ELK Elko 20.70 291 P **P 11 01 34.6 +1.4**
comp=Z,1.4nm,0.7s,baz=92,slow=8.8,SNR=7.2
comp=Z,1.4nm,0.7s
NVAR Mina Array Bea 23.05 284 P **P 11 01 59.1 +0.8**
comp=Z,0.2nm,0.4s,baz=68,slow=7.7,SNR=2.5
comp=Z,0.2nm,0.4s
YKA Yellowknife Ar 30.67 337 P **P 11 03 07.9 +1.0**
comp=Z,0.1nm,0.7s,baz=121,slow=20,SNR=6.8
comp=Z,0.1nm,0.7s
ILAR Eielson Array 44.19 329 P **P 11 05 02.3 +1.1**
comp=Z,0.3nm,0.8s,baz=96,slow=7.3,SNR=4.6
ILAR LR LR 11 24 08.4
comp=Z,22nm,19.4s,baz=241,slow=37
comp=Z,0.3nm,0.8s
ARCES ARCESS Array B 64.56 21 P **P 11 07 29.5 +0.2**
comp=Z,1.4nm,0.9s,baz=318,slow=7.0,SNR=4.3
comp=Z,1.4nm,0.9s
HFS Hagfors 65.41 32 P **P 11 07 34.3 -0.6**
comp=Z,1.3nm,0.6s,baz=246,slow=10,SNR=4.2
comp=Z,1.3nm,0.6s
FINES FINESS Array B 69.68 28 P **P 11 08 01.7 -0.1**
comp=Z,0.7nm,0.4s,baz=335,slow=8.4,SNR=6.5
comp=Z,0.7nm,0.4s
AKASG Malin Array Be 78.10 35 P **P 11 08 50.9 -0.5**
comp=Z,0.5nm,0.4s,baz=314,slow=4.9,SNR=4.7
comp=Z,0.5nm,0.4s
PLCA Paso Flores 78.44 165 P **P 11 08 54.2 +1.0**
comp=Z,1.1nm,0.8s,baz=336,slow=9.9,SNR=3.2
comp=Z,1.1nm,0.8s

IDC 24 11:03:29.8±8.8, 6°.74S×127°.90E, h400km±95km, mb3.2/1, mbtmp3.7/4, Error ellipse: s-maj=81.9km s-min=66.1km az=99.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.50**	**191**	P	P	11 06 03.5	-0.4
	2.5nm,1.0s,baz=9.5,slow=12,SNR=3.4						
FITZ				S	S	11 08 13.2	+1.9
	4.4nm,1.0s,baz=297,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**14.53**	**155**	P	P	11 06 36.2	-1.1
	0.5nm,0.5s,baz=333,slow=12,SNR=13						
ASAR	**Alice Springs**	**17.79**	**162**	P	P	11 07 12.6	+0.4
	1.6nm,0.5s,baz=344,slow=12,SNR=39						
ILAR	**Eielson Array**	**94.01**	**25**	P	P	11 16 03.9	+0.8
	0.3nm,0.9s,baz=283,slow=6.8,SNR=4.7						
	0.3nm,0.9s						
TXAR	**Lajitas Array**	**126.58**	**58**	PKP	PKPdf	11 21 45.7	-1.3
	0.6nm,1.0s,baz=246,slow=2.2,SNR=3.7						

---

*IDC **24** 11:09:15.0±0.8, 4°.62N×126°.13E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=52.9km s-min=16.9km az=80.0*
*DJA **24** 11:09:29.3±0.5, 4°N±4°×12°6E±°, h96km±5km, M4.2/11, mB4.6/3, mb4.1/7, MLv4.3/11, Mw(mB)3.8/3*
ISC 24 11:09:27.3±0.7, 4°51N±0°09×126°4E±0°.1, h100km, n16, σ1§07/17, mb3.7/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.21**	**228**	P	**Pn**	**11 09 50.3**	**+0.2**
SGSI				S	**Sn**	**11 10 06.3**	**-1.0**
SANI	**Sanana**	**6.53**	**184**	P	**Pn**	**11 10 59.1**	**-1.8**
	0.2nm866nm16nm,0.8s						
APSI	**Ampana**	**7.19**	**222**	P	**Pn**	**11 11 11.9**	**+2.0**
	36nm,1.0s						
MPSI	**Mapaga**	**7.72**	**238**	P	**Pn**	**11 11 16.7**	**-0.4**
NLAI	**Namlea**	**7.73**	**175**	P	**Pn**	**11 11 16.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**22.48**	**182**	P	**P**	**11 14 18.5**	**0.0**
	1.6nm,0.5s,baz=16,slow=11,SNR=11						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**25.51**	**162**	P	**P**	**11 14 46.9**	**+0.2**
	1.4nm,0.6s,baz=338,slow=10,SNR=27						
WRA				PcP	**PcP**	**11 18 16.4**	**+0.4**
	0.2nm,0.5s,baz=331,slow=2.3,SNR=1.6						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**28.94**	**166**	P	**P**	**11 15 17.6**	**+0.2**
	0.2nm,0.5s,baz=346,slow=7.0,SNR=4.9						
ASAR				PcP	**PcP**	**11 18 25.0**	**+0.8**
	0.2nm,0.3s,baz=344,slow=2.3,SNR=2.0						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**38.96**	**159**	P	**P**	**11 16 45.1**	**+1.3**
	1.8nm,0.4s,baz=350,slow=6.2,SNR=6.5						
	1.8nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**42.21**	**66**	T	T	12 03 27.9	
	baz=255,slow=75,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**42.22**	**66**	T	T	12 03 26.9	
	baz=255,slow=75,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**42.23**	**66**	T	T	12 03 28.3	
	baz=255,slow=75,SNR=4.3						
PETK	**Petropavlovsk-**	**54.83**	**23**	P	**P**	**11 18 48.3**	**+1.3**
	1.4nm,0.7s,baz=240,slow=2.9,SNR=6.0						
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**56.74**	**325**	P	**P**	**11 18 59.8**	**-1.1**
	0.6nm,0.6s,baz=119,slow=8.3,SNR=4.5						
MKAR				PcP	**PcP**	**11 19 55.2**	**-0.6**
	1.3nm,0.7s,baz=116,slow=4.2,SNR=7.1						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**84.54**	**25**	P	**P**	**11 21 49.0**	**-0.1**
	0.2nm,0.6s,baz=242,slow=4.9,SNR=5.8						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**89.62**	**340**	P	**P**	**11 22 12.3**	**-1.2**
	1.0nm,0.5s,baz=76,slow=5.1,SNR=5.8						
	1.0nm,0.5s						

---

*NOU **24** 11:32:07.5, 37°.60S×177°.00E, h225km, MLv3.5/8, Off E. Coast of N. Island, N.Z.*
*WEL **24** 11:32:11.9±0.4, 37°S±5°×17°7E±°, h180km, M2.7/21, ML2.6/8, MLv2.7/21, Error ellipse: s-maj=6.8km s-min=5.2km az=15.4, confirmed*
ISC 24 11:32:08.1±2.0, 37°.53S±0°.06×176°.83E±0°.06, h216km±12km, n81, σ1§18/98, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.49**	**246**	P	**Pn**	**11 32 37.7**	**+0.8**
OMRZ	**Omania**	**0.68**	**212**	P	**Pn**	**11 32 38.7**	**+0.9**
URZ	**Urewera**	**0.76**	**163**	P	**Pn**	**11 32 38.4**	**+0.4**
URZ	**Urewera**	**0.76**	**163**	P	**Pn**	**11 32 38.4**	**+0.4**
URZ				S	**S**	**11 32 59.5**	**-2.0**
HAZ	**Te Kaha**	**0.79**	**107**	P	**Pn**	**11 32 38.4**	**+0.3**
HAZ				S	**S**	**11 32 59.4**	**-2.2**

RUGZ	**Raukumara Rang**	**0.80 123**	P	**Pn**	**11 32 38.2**	**-0.2**
RUGZ			S	**S**	**11 32 59.4**	**-2.6**
RRRZ	**Republican Roa**	**0.85 197**	P	**Pn**	**11 32 39.6**	**+1.1**
MUGZ	**Murupara**	**0.95 183**	P	**Pn**	**11 32 39.8**	**+0.7**
MUGZ			S	**S**	**11 33 01.0**	**-2.4**
MWZ	**Matawai**	**0.97 146**	P	**Pn**	**11 32 40.0**	**+0.7**
MWZ			S	**S**	**11 33 02.3**	**-1.4**
PKGZ	**Pakihiroa**	**1.05 109**	S	**S**	**11 33 03.0**	**-1.3**
RAGZ	**Rawiri**	**1.07 155**	P	**Pn**	**11 32 41.2**	**+1.3**
RAGZ			S	**S**	**11 33 04.3**	**-0.5**
TOZ	**Tahuroa Road**	**1.07 259**	P	**Pn**	**11 32 41.2**	**+1.4**
RTZ	**Ruatahuna**	**1.09 174**	P	**Pn**	**11 32 41.0**	**+0.9**
RTZ			S	**S**	**11 33 04.0**	**-1.1**
ALRZ	**Allen Road**	**1.10 200**	P	**Pn**	**11 32 41.2**	**+1.1**
TWGZ	**Tauwhareparae**	**1.12 126**	S	**S**	**11 33 04.8**	**-0.4**
MXZ	**Matakaoa Point**	**1.17 92**	P	**Pn**	**11 32 41.6**	**+1.0**
MXZ			S	**S**	**11 33 04.1**	**-1.6**
KUZ	**Kuaotunu**	**1.18 311**	P	**Pn**	**11 32 40.9**	**+0.2**
TKGZ	**Te Karaka**	**1.21 139**	P	**Pn**	**11 32 42.1**	**+1.3**
TKGZ			S	**S**	**11 33 05.8**	**-0.5**
PUZ	**Puketiti**	**1.25 116**	P	**Pn**	**11 32 42.2**	**+1.0**
PUZ			S	**S**	**11 33 05.7**	**-1.2**
WMGZ	**Waiomatatini S**	**1.29 103**	P	**Pn**	**11 32 42.7**	**+1.3**
WMGZ			S	**S**	**11 33 06.8**	**-0.4**
TLZ	**Tolley Road**	**1.30 232**	P	**Pn**	**11 32 43.1**	**+1.5**
SNGZ	**Shannon Statio**	**1.31 162**	P	**Pn**	**11 32 43.0**	**+1.4**
SNGZ			S	**S**	**11 33 06.9**	**-0.9**
MTHZ	**Maungataniwha**	**1.32 180**	P	**Pn**	**11 32 42.7**	**+1.0**
MTHZ			S	**S**	**11 33 06.9**	**-1.1**
MRHZ	**Matea Rd**	**1.34 194**	P	**Pn**	**11 32 42.8**	**+0.9**
RIGZ	**Rimuhau**	**1.39 148**	P	**Pn**	**11 32 43.9**	**+1.7**
RIGZ			S	**S**	**11 33 09.6**	**+0.8**
MKAZ	**Moumakai**	**1.40 287**	P	**Pn**	**11 32 42.9**	**+0.6**
RAHZ	**Arahi**	**1.40 172**	P	**Pn**	**11 32 44.0**	**+1.7**
RAHZ			S	**S**	**11 33 09.1**	**+0.1**
CNGZ	**Carnagh Statio**	**1.45 132**	P	**Pn**	**11 32 44.7**	**+2.0**
CNGZ			S	**S**	**11 33 10.6**	**+1.1**
NMHZ	**Naumai**	**1.56 181**	P	**Pn**	**11 32 45.5**	**+1.7**
NMHZ			S	**S**	**11 33 12.2**	**+0.7**
RATZ	**Rangitukua**	**1.57 212**	P	**Pn**	**11 32 44.9**	**+1.1**
WHHZ	**Waihua**	**1.58 169**	P	**Pn**	**11 32 45.4**	**+1.6**
KNZ	**Kokohu**	**1.63 156**	P	**Pn**	**11 32 45.6**	**+1.4**
RITZ	**Rihia Road**	**1.64 208**	P	**Pn**	**11 32 45.7**	**+1.4**
BKZ	**Black Stump Fm**	**1.66 189**	P	**Pn**	**11 32 45.2**	**+0.7**
BKZ	**Black Stump Fm**	**1.66 189**	S	**S**	**11 33 13.4**	**+0.5**
BKZ	**Black Stump Fm**	**1.66 189**	P	**Pn**	**11 32 45.4**	**+0.9**
ARHZ	**Aropaoanui**	**1.74 176**	P	**Pn**	**11 32 46.8**	**+1.6**
MHGZ	**Mahia Peninsul**	**1.83 153**	P	**Pn**	**11 32 47.7**	**+1.6**
HIZ	**Hauiti**	**1.84 237**	P	**Pn**	**11 32 48.1**	**+1.9**
HIZ	**Hauiti**	**1.84 237**	P	**Pn**	**11 32 48.0**	**+1.9**
WTVZ	**West Tongariro**	**1.86 211**	P	**Pn**	**11 32 47.7**	**+1.3**
OTVZ	**Oturere**	**1.87 209**	P	**Pn**	**11 32 48.0**	**+1.4**
TWVZ	**Taurewa**	**1.89 215**	P	**Pn**	**11 32 48.1**	**+1.3**
SNVZ	**South Ngauruho**	**1.90 209**	P	**Pn**	**11 32 48.2**	**+1.3**
MCHZ	**McNeill Hill**	**1.91 183**	P	**Pn**	**11 32 48.5**	**+1.7**
KWHZ	**Kaweka Forest**	**1.92 189**	P	**Pn**	**11 32 48.2**	**+1.3**
TUVZ	**Tukino**	**1.97 208**	P	**Pn**	**11 32 48.7**	**+1.2**
FWVZ	**Far West T-bar**	**1.99 210**	P	**Pn**	**11 32 49.0**	**+1.1**
MAVZ	**Matarangi**	**2.00 209**	P	**Pn**	**11 32 49.3**	**+1.2**
WHVZ	**Whangaehu Hut**	**2.00 209**	P	**Pn**	**11 32 49.0**	**+1.0**
TRVZ	**Turoa**	**2.03 209**	P	**Pn**	**11 32 49.4**	**+1.1**
WNVZ	**Wahianoa**	**2.04 208**	P	**Pn**	**11 32 49.3**	**+1.0**
MOVZ	**Moawhango**	**2.06 204**	P	**Pn**	**11 32 49.0**	**+0.6**
PKVZ	**Pokaka**	**2.11 213**	P	**Pn**	**11 32 50.0**	**+1.2**
CKHZ	**Cape Kidnapper**	**2.13 175**	P	**Pn**	**11 32 50.5**	**+1.5**
MTVZ	**Mangateitei**	**2.14 210**	P	**Pn**	**11 32 50.3**	**+1.2**
KRHZ	**Kereru**	**2.14 190**	P	**Pn**	**11 32 50.0**	**+0.9**
KAHZ	**Kahuranaki**	**2.26 179**	P	**Pn**	**11 32 51.8**	**+1.4**
VRZ	**Vera Road**	**2.28 225**	P	**Pn**	**11 32 52.1**	**+1.6**
PNHZ	**Pukenui**	**2.43 192**	P	**Pn**	**11 32 52.7**	**+0.5**
PXZ	**Pawanui**	**2.50 179**	P	**Pn**	**11 32 53.8**	**+0.9**
TSZ	**Takapari Road**	**2.62 195**	P	**Pn**	**11 32 54.7**	**+0.5**
WAZ	**Wanganui**	**2.65 212**	P	**Pn**	**11 32 55.6**	**+1.1**
PRHZ	**Porangahau**	**2.74 183**	P	**Pn**	**11 32 56.1**	**+0.6**
DVHZ	**Dannevirke**	**2.81 190**	P	**Pn**	**11 32 56.6**	**+0.3**
ANWZ	**Angora Road**	**2.94 185**	P	**Pn**	**11 32 58.7**	**+0.9**
POWZ	**Post Office Ro**	**2.98 196**	P	**Pn**	**11 32 58.5**	**+0.3**
PRWZ	**Pori Road**	**3.09 192**	P	**Pn**	**11 33 00.2**	**+0.7**
BFZ	**Birch Farm**	**3.18 188**	P	**Pn**	**11 33 00.3**	**-0.2**
BFZ	**Birch Farm**	**3.18 188**	P	**Pn**	**11 33 00.8**	**+0.2**
MRZ	**Mangatainoka R**	**3.27 197**	P	**Pn**	**11 33 01.4**	**-0.2**
TIWZ	**Tintock**	**3.32 192**	P	**Pn**	**11 33 02.5**	**+0.2**
OUZ	**Omahuta**	**3.48 310**	P	**Pn**	**11 33 05.5**	**+1.3**
OUZ	**Omahuta**	**3.48 310**	P	**Pn**	**11 33 05.4**	**+1.3**
HOWZ	**Holdsworth Sta**	**3.52 196**	P	**Pn**	**11 33 04.1**	**-0.4**
OGWZ	**Otaki Gorge**	**3.53 201**	P	**Pn**	**11 33 04.3**	**-0.3**
KIW	**Kapiti Island**	**3.65 204**	P	**Pn**	**11 33 05.7**	**-0.4**
TMWZ	**Te Maipa**	**3.65 191**	P	**Pn**	**11 33 05.9**	**-0.2**
CAW	**Cannon Point**	**3.83 200**	P	**Pn**	**11 33 07.5**	**-0.7**
SNZO	**South Karori**	**4.12 203**	P	**Pn**	**11 33 11.5**	**-0.2**
KHZ	**Kahutara**	**5.50 206**	P	**Pn**	**11 33 28.1**	**-0.9**

*TAP **24** 11:37:10.7, 22°.95N×120°.86E, h5km, ML3.1, C*
ISC 24 11:37:11.2±0.9, 22°.95N±0°.01×120°.87E±0°.01, h6km±8km, n118, σ0°66/177, 8C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**0.23**	**124**	⇓*i*P	**Pg**	**11 37 16.2**	**+0.5**
TWG				*i* S	**Sg**	**11 37 19.9**	**+1.2**
TWGBT	**Beinan**	**0.23**	**124**	P	**Pg**	**11 37 16.0**	**+0.1**
TWGBT	**Beinan**	**0.23**	**124**	S	**Sg**	**11 37 18.8**	**-0.2**
TWGBT	**Beinan**	**0.23**	**124**	⇓*i*P	**Pg**	**11 37 16.2**	**+0.4**
TWGBT				*i* S	**Sg**	**11 37 19.6**	**+0.6**
STYH	**Taoyuan**	**0.24**	**339**	*i* P	**Pg**	**11 37 15.0**	**-0.9**
STYH				*i* S	**Sg**	**11 37 18.8**	**-0.2**
STYT	**Tauyuan**	**0.24**	**334**	⇓*i*P	**Pg**	**11 37 15.1**	**-0.8**
STYT				*i* S	**Sg**	**11 37 18.5**	**-0.6**
LONT	**Longtian**	**0.24**	**100**	⇑*i*P	**Pg**	**11 37 16.4**	**+0.4**
LONT				*i* S	**Sg**	**11 37 19.8**	**+0.5**
ELDTW	**Lidau**	**0.28**	**30**	⇑*i*P	**Pg**	**11 37 16.6**	**-0.1**
ELDTW				*i* S	**Sg**	**11 37 20.7**	**+0.3**
SGST	**Jiashian**	**0.29**	**297**	*i* P	**Pg**	**11 37 16.8**	**-0.2**
SGST				*i* S	**Sg**	**11 37 21.6**	**+0.7**
SSD	**Sandimen**	**0.30**	**227**	⇑*i*P	**Pg**	**11 37 16.8**	**-0.2**
SSD				*i* S	**Sg**	**11 37 20.4**	**-0.6**
TSMG	**Majia**	**0.32**	**220**	*i* P	**Pg**	**11 37 16.8**	**-0.7**
TSMG				*i* S	**Sg**	**11 37 20.7**	**-1.0**
TTN	**Taitung**	**0.32**	**127**	*i* P	**Pb**	**11 37 18.9**	**-0.5**
TTN				*i* S	**Sb**	**11 37 24.2**	**-0.6**
SCST	**Cishan**	**0.35**	**260**	⇑*i*P	**Pb**	**11 37 19.0**	**-0.9**
SCST				S	**Sb**	**11 37 24.3**	**-1.3**
ECS	**Chishang**	**0.35**	**66**	⇑*i*P	**Pg**	**11 37 18.6**	**+0.5**
ECS				S	**Sb**	**11 37 24.3**	**-1.5**
ECL	**Taimali**	**0.36**	**167**	⇓*i*P	**Pg**	**11 37 18.3**	**0.0**
ECL				*i* S	**Sg**	**11 37 23.2**	**+0.3**
EHD	**Haiduan**	**0.37**	**57**	*i* P	**Pg**	**11 37 18.6**	**+0.1**
EHD				*i* S	**Sg**	**11 37 23.4**	**+0.1**
WTP	**Ta-pu**	**0.38**	**322**	⇓*i*P	**Pb**	**11 37 19.5**	**-0.8**
WTP				*i* S	**Sb**	**11 37 25.8**	**-0.7**
CHN1	**Nanshi**	**0.39**	**307**	⇑*i*P	**Pb**	**11 37 20.1**	**-0.5**
CHN1				*i* S	**Sb**	**11 37 27.2**	**+0.3**
MASBT	**Mashibuluo**	**0.40**	**213**	⇑*i*P	**Pg**	**11 37 18.7**	**-0.2**
MASBT				S	**Sg**	**11 37 23.9**	**-0.3**
EDH	**Donghe**	**0.40**	**87**	*i* P	**Pb**	**11 37 19.9**	**-0.8**
EDH				*i* S	**Sb**	**11 37 26.5**	**-0.7**
SGLT	**Jiouru**	**0.41**	**237**	*i* P	**Pb**	**11 37 20.3**	**-0.6**
SGLT				*i* S	**Sb**	**11 37 26.8**	**-0.7**
TPUB	**Ta-pu**	**0.41**	**328**	P	**Pg**	**11 37 19.8**	**+0.5**
TPUB	**Ta-pu**	**0.41**	**328**	*i* P	**Pb**	**11 37 20.2**	**-0.7**
TPUB				*i* S	**Sb**	**11 37 26.8**	**-0.7**
TWM1	**Shoushan**	**0.43**	**253**	P	**Pb**	**11 37 21.0**	**-0.2**
TWM1				S	**Sb**	**11 37 28.7**	**+0.7**
SNST	**Tainan City**	**0.43**	**308**	P	**Pb**	**11 37 21.3**	**0.0**
SNST				S	**Sb**	**11 37 28.1**	**0.0**
FULB	**Fuli**	**0.46**	**58**	*i* P	**Pb**	**11 37 20.9**	**-0.9**
FULB				S	**Sb**	**11 37 28.1**	**-0.9**
TWK	**Hsinying**	**0.47**	**312**	*i* P	**Pb**	**11 37 21.9**	**-0.1**
TWK				*i* S	**Sb**	**11 37 29.6**	**+0.4**
CHN4	**Tsaushan**	**0.47**	**328**	*i* P	**Pb**	**11 37 21.6**	**-0.4**
CHN4				S	**Sg**	**11 37 27.6**	**+1.0**
CHN3	**Shinhua**	**0.48**	**285**	P	**Pb**	**11 37 22.8**	**+0.7**
CHN3				*i* S	**Sb**	**11 37 31.2**	**+1.8**
CHKT	**Chengkung**	**0.48**	**72**	⇑*i*P	**Pb**	**11 37 21.6**	**-0.5**
CHKT				*i* S	**Sb**	**11 37 29.3**	**-0.2**
SHHT	**Tainan City**	**0.48**	**279**	P	**Pn**	**11 37 23.7**	**-1.0**
SNJT	**Kaohsiung City**	**0.53**	**248**	*e*P	**Pb**	**11 37 23.8**	**+0.9**
SSPT	**Xinbi**	**0.54**	**211**	P	**Pb**	**11 37 23.0**	**-0.1**
CHKH	**Chenggong**	**0.54**	**63**	P	**Pg**	**11 37 22.2**	**+0.5**
CHKH				*e*S	**Sb**	**11 37 31.5**	**+0.3**
WCKO	**Fanlu**	**0.54**	**334**	P	**Pb**	**11 37 23.4**	**+0.2**
WCKO				S	**Sb**	**11 37 31.9**	**+0.6**
ALS	**Alishan**	**0.56**	**354**	*i* P	**Pg**	**11 37 22.2**	**+0.1**
ALS				*i* S	**Sb**	**11 37 31.3**	**-0.7**
TWF1	**Yuli**	**0.56**	**44**	P	**Pg**	**11 37 21.9**	**-0.2**
TWF1				S	**Sg**	**11 37 29.6**	**+0.2**
EYUL	**Yuli**	**0.57**	**46**	P	**Pg**	**11 37 21.9**	**-0.4**
EYUL				S	**Sg**	**11 37 29.8**	**0.0**
TAW	**Tawu**	**0.59**	**177**	*i* P	**Pg**	**11 37 22.6**	**+0.1**
TAW				*i* S	**Sg**	**11 37 30.1**	**-0.1**
YULB	**Yu-li**	**0.59**	**42**	P	**Pg**	**11 37 22.0**	**-0.7**
YULB	**Yu-li**	**0.59**	**42**	P	**Pg**	**11 37 21.9**	**-0.8**
YULB				S	**Sg**	**11 37 30.6**	**+0.2**
TAWH	**Dawu Township**	**0.61**	**178**	*e*P	**Pg**	**11 37 23.0**	**+0.1**
TAWH				*e*S	**Sg**	**11 37 30.9**	**0.0**
SCZT	**Fangliau**	**0.62**	**202**	*i* P	**Pg**	**11 37 22.8**	**-0.3**
SCZT				*i* S	**Sg**	**11 37 31.5**	**+0.3**
LDUT	**Ludao**	**0.62**	**116**	*e*P	**Pg**	**11 37 23.3**	**+0.2**
LDUT				*e*S	**Sb**	**11 37 33.3**	**-0.1**
WSSB	**Gushan**	**0.64**	**241**	*e*P	**Pn**	**11 37 27.5**	**+0.7**
ECBN	**Changbin**	**0.65**	**56**	*e*P	**Pg**	**11 37 24.0**	**+0.3**
ECBN				*e*S	**Sn**	**11 37 35.7**	**-1.8**
SCLT	**Jiali**	**0.66**	**290**	*e*S	**Sn**	**11 37 38.4**	**+0.6**
ICHU	**Yijhu**	**0.68**	**307**	*e*P	**Pn**	**11 37 26.7**	**-0.6**
ICHU				*e*S	**Sn**	**11 37 37.6**	**-0.7**
CHY	**Chiayi**	**0.68**	**323**	P	**Pb**	**11 37 26.2**	**+0.7**
CHY				*e*S	**Sn**	**11 37 37.3**	**-1.0**
EHY	**Hungye**	**0.69**	**37**	P	**Pg**	**11 37 24.0**	**-0.6**
EHY				*e*S	**Sg**	**11 37 34.3**	**+0.6**
EHYH	**Wanrong**	**0.70**	**39**	*e*P	**Pg**	**11 37 23.7**	**-1.0**
EHYH				*e*S	**Sg**	**11 37 34.3**	**+0.5**
SLIU	**Shizi**	**0.73**	**185**	P	**Pg**	**11 37 25.1**	**-0.2**
SLIU				*e*S	**Sg**	**11 37 34.8**	**0.0**
HGSD	**Ruisui**	**0.74**	**43**	P	**Pg**	**11 37 25.9**	**+0.3**
HGSD				S	**Sb**	**11 37 37.4**	**+0.4**
WHYT	**Xinyi Township**	**0.74**	**359**	*e*P	**Pg**	**11 37 25.7**	**+0.1**
WHYT				*e*S	**Sb**	**11 37 36.6**	**-0.5**
TSCK	**Chigu Township**	**0.75**	**285**	*e*P	**Pb**	**11 37 27.0**	**+0.4**
TSCK				*e*S	**Sn**	**11 37 40.0**	**+0.1**
WLCH	**Liuqiu**	**0.75**	**217**	*e*P	**Pn**	**11 37 29.4**	**+1.1**
TWP	**Hsiaoliuchiu**	**0.76**	**218**	*e*P	**Pn**	**11 37 28.2**	**-0.2**
WGK	**Gukeng**	**0.79**	**339**	P	**Pn**	**11 37 28.0**	**-0.8**
WGK				*e*S	**Sn**	**11 37 40.4**	**-0.5**
WDLH	**Douliu**	**0.80**	**338**	*e*P	**Pn**	**11 37 28.6**	**-0.4**
WDLH				S	**Sn**	**11 37 40.9**	**-0.3**
WSL	**Shuilin Townsh**	**0.82**	**314**	*e*P	**Pn**	**11 37 28.7**	**-0.6**
SSLB	**Suanglung**	**0.84**	**5**	P	**Pg**	**11 37 26.9**	**-0.5**
SSLB	**Suanglung**	**0.84**	**5**	*e*P	**Pg**	**11 37 26.8**	**-0.6**
VWDT	**VWDT**	**0.84**	**17**	*e*P	**Pg**	**11 37 27.1**	**-0.2**
WTK	**Tuku**	**0.86**	**329**	*e*P	**Pn**	**11 37 29.3**	**-0.5**
WJS	**Zhushan**	**0.88**	**352**	*e*P	**Pn**	**11 37 29.6**	**-0.5**
EGFH	**Guangfu**	**0.88**	**36**	*e*P	**Pg**	**11 37 28.2**	**0.0**
WARBT	**Fenglin Townsh**	**0.90**	**32**	*e*P	**Pg**	**11 37 27.2**	**-1.3**
WARBT				*e*S	**Sg**	**11 37 40.2**	**0.0**
WSF	**Szhu**	**0.91**	**319**	*e*P	**Pb**	**11 37 29.6**	**+0.2**
WSF				*e*S	**Sn**	**11 37 43.8**	**-0.1**
SMST	**Manzhou Townsh**	**0.93**	**182**	*e*P	**Pn**	**11 37 30.7**	**0.0**
SMLT	**Sun Moon Lake**	**0.93**	**2**	*e*P	**Pg**	**11 37 28.8**	**-0.3**
SMLT				*e*S	**Sn**	**11 37 44.2**	**-0.5**
WNT	**Mingjian**	**0.94**	**350**	*e*P	**Pb**	**11 37 30.2**	**+0.3**
HEN	**Hengchun**	**0.95**	**187**	*e*P	**Pn**	**11 37 30.6**	**-0.5**
TYC	**Yuchr**	**0.95**	**359**	P	**Pn**	**11 37 30.8**	**-0.3**
TYC				S	**Sn**	**11 37 44.9**	**0.0**
TEGC	**Jichi Village**	**0.98**	**39**	*e*P	**Pg**	**11 37 29.6**	**-0.4**
TWK1	**Hengchun**	**1.00**	**183**	*e*P	**Pn**	**11 37 32.4**	**+0.6**
ESL	**Shilin**	**1.00**	**31**	*e*P	**Pg**	**11 37 30.1**	**-0.4**
TWKBT	**Hengchun**	**1.00**	**183**	*e*P	**Pb**	**11 37 31.0**	**0.0**
OWD	**Renai**	**1.04**	**16**	*e*P	**Pg**	**11 37 30.6**	**-0.7**
OWD				*e*S	**Sn**	**11 37 47.4**	**0.0**
SHUL	**Shoufeng**	**1.05**	**37**	P	**Pb**	**11 37 31.5**	**-0.4**
WUSB	**Renai**	**1.06**	**12**	*e*P	**Pg**	**11 37 30.6**	**-1.0**
WCS	**Beigang Elemen**	**1.10**	**2**	*e*P	**Pn**	**11 37 34.6**	**+1.3**
WCS				*i* S	**Sn**	**11 37 50.1**	**+1.3**
WDGT	**Dungji**	**1.15**	**286**	*e*P	**Pg**	**11 37 33.3**	**-0.1**
ETM	**Tongmen**	**1.16**	**29**	*e*P	**Pg**	**11 37 32.9**	**-0.6**
ETM				*e*S	**Sn**	**11 37 50.2**	**0.0**
LXIB	**Xiulin Townshi**	**1.18**	**25**	*i* P	**Pg**	**11 37 33.1**	**-0.7**
LXIB				S	**Sb**	**11 37 49.9**	**+0.2**
TCU	**Taichung**	**1.21**	**352**	*e*S	**Sn**	**11 37 53.5**	**+2.2**
HWA	**Hwalien**	**1.23**	**33**	*e*P	**Pg**	**11 37 34.5**	**-0.2**
WHF	**Hehuan Shan**	**1.25**	**17**	*e*P	**Pg**	**11 37 34.8**	**-0.4**
TWD	**Chiawan**	**1.31**	**31**	*e*P	**Pb**	**11 37 36.0**	**-0.2**
WHP	**Taichung City**	**1.32**	**3**	*e*P	**Pg**	**11 37 37.0**	**+0.4**
WHP				*e*S	**Sn**	**11 37 57.3**	**+2.9**
TWT	**Tachien**	**1.33**	**12**	*e*P	**Pn**	**11 37 35.1**	**-0.4**
FUSS	**Fushou**	**1.34**	**15**	*e*P	**Pn**	**11 37 36.4**	**-0.3**
VCHM	**Qimei**	**1.35**	**281**	*e*P	**Pn**	**11 37 36.2**	**-0.3**
PNG	**Penghu**	**1.35**	**297**	*e*P	**Pg**	**11 37 37.4**	**+0.2**
ETLH	**Xiulin Townshi**	**1.37**	**24**	*e*P	**Pn**	**11 37 36.4**	**-0.6**
ETL	**Fush Village**	**1.39**	**30**	*e*P	**Pg**	**11 37 38.4**	**+0.5**
NACB	**Ninganchiao**	**1.39**	**29**	P	**Pn**	**11 37 37.1**	**-0.1**
NACB	**Ninganchiao**	**1.39**	**29**	*e*P	**Pn**	**11 37 36.8**	**-0.4**
TWQ1	**Liyutan**	**1.40**	**356**	*e*P	**Pg**	**11 37 38.5**	**+0.4**
NNSB	**Datong**	**1.55**	**18**	P	**Pn**	**11 37 39.5**	**+0.1**
NNSB				*e*S	**Sg**	**11 38 01.8**	**+0.8**
NNS	**Nan Shan**	**1.56**	**17**	*e*P	**Pg**	**11 37 41.0**	**-0.1**
ENA	**Nanau**	**1.68**	**28**	*e*P	**Pn**	**11 37 41.1**	**0.0**
NSTT	**Nanjuang**	**1.68**	**4**	*e*P	**Pg**	**11 37 43.0**	**-0.5**
LATG	**Datong**	**1.69**	**21**	*e*P	**Pb**	**11 37 42.4**	**-0.4**
NFF	**Wufeng Townshi**	**1.69**	**8**	*e*P	**Pb**	**11 37 43.0**	**+0.2**
LIOB	**Emei**	**1.69**	**5**	*e*P	**Pb**	**11 37 43.6**	**-0.2**
EWUT	**Wuta**	**1.71**	**29**	*e*P	**Pn**	**11 37 42.0**	**+0.5**
YHNB	**Yeheng**	**1.77**	**15**	P	**Pb**	**11 37 43.7**	**-0.5**
YHNB	**Yeheng**	**1.77**	**15**	*e*P	**Pb**	**11 37 43.5**	**-0.7**
NSK	**Sanguang**	**1.78**	**15**	*e*P	**Pb**	**11 37 44.1**	**-0.2**
ENTT	**Nioudou**	**1.80**	**21**	*e*P	**Pg**	**11 37 45.1**	**-0.7**
ENTT				S	**Sg**	**11 38 10.1**	**+0.9**
KSHI	**Guanxi Townshi**	**1.84**	**9**	*e*P	**Pg**	**11 37 47.1**	**+0.5**
TWC	**Suao**	**1.88**	**28**	*e*P	**Pb**	**11 37 46.0**	**0.0**
NWLT	**Wulai**	**1.91**	**18**	*e*P	**Pb**	**11 37 46.8**	**+0.3**
TWE	**Neicheng**	**1.91**	**22**	*e*P	**Pg**	**11 37 47.1**	**-0.8**
FUSB	**Fushanzhiwuyua**	**1.92**	**20**	*e*P	**Pb**	**11 37 46.5**	**-0.2**
EGS		**2.12**	**27**	*e*P	**Pb**	**11 37 50.8**	**+0.7**
TIPB	**Shuangxi**	**2.20**	**23**	*e*P	**Pn**	**11 37 49.6**	**+1.3**
YM01	**YM01**	**2.28**	**16**	*e*P	**Pb**	**11 37 53.4**	**+0.5**

*IDC **24** 11:46:27.3±0.9, 29°.50S×60°.87E, h0km, mb3.7/6, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=33.8km s-min=26.3km az=24.0*
ISC 24 11:46:29.5±0.9, 29°.4S±0°.2×60°.8E±0°.2, h14km, n14, σ0°95/8, mb3.7/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.47**	**308**	Pn	**Pn**	**11 50 19.7**	**-0.7**
	baz=129,slow=14,SNR=1.4 1.5nm,0.6s						
H04N2	**CROZET ISLANDS**	**18.13**	**200**	T	T	12 09 11.0	
	baz=26,slow=74,SNR=84						
H04N1	**CROZET ISLANDS**	**18.13**	**201**	T	T	12 09 10.3	
	baz=26,slow=74,SNR=86						
H04N3	**CROZET ISLANDS**	**18.15**	**200**	T	T	12 09 10.8	
	baz=26,slow=74,SNR=170						
BOSA	**Boshof**	**31.03**	**263**	P	**P**	**11 52 47.1**	**0.0**
	4.4nm,0.9s,baz=76,slow=11,SNR=3.1 4.4nm,0.9s						
H01W2	**Cape Leeuwin H**	**45.03**	**111**	T	T	12 43 03.1	
	baz=260						
H01W3	**Cape Leeuwin H**	**45.03**	**111**	T	T	12 43 07.2	
	baz=260,slow=74						
H01W1	**Cape Leeuwin H**	**45.05**	**111**	T	T	12 43 05.3	
	baz=260,slow=74						
QSPA	**South Pole Qui**	**60.72**	**180**	P	**P**	**11 56 40.9**	**+0.5**
	1.5nm,1.1s,baz=257,slow=1.1,SNR=1.1 1.5nm,1.1s						
ASAR	**Alice Springs**	**64.68**	**104**	P	**P**	**11 57 06.5**	**-0.8**
	0.3nm,0.6s,baz=240,slow=6.5,SNR=6.3 0.3nm,0.6s						
WRA	**Warramunga Arr**	**66.52**	**100**	P	**P**	**11 57 18.6**	**-0.7**
	0.5nm,0.8s,baz=244,slow=5.7,SNR=6.3 0.5nm,0.8s						
MKAR	**Makanchi Array**	**78.32**	**15**	P	**P**	**11 58 30.4**	**+1.4**
	0.2nm,0.6s,baz=182,slow=6.9,SNR=2.0 0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**81.24**	**11**	P	**P**	**11 58 45.1**	**+0.5**
	0.4nm,0.7s,baz=205,slow=5.4,SNR=4.1 0.4nm,0.7s						
YKA	**Yellowknife Ar**	**146.80**	**356**	PKPbc	**PKPbc**	**12 06 09.9**	**-0.6**
	0.7nm,0.8s,baz=360,slow=2.9,SNR=13						

*IDC **24** 11:56:38.6±0.5, 34°.66N×82°.51E, h0km, mb4.2/27, mbtmp4.2/31, ML3.3/4, MS3.6/39, Error ellipse: s-maj=14.9km s-min=12.0km az=38.0*
*MOS **24** 11:56:40.1±1.2, 34°.81N×82°.55E, h12km, mb4.8/25, Error ellipse: s-maj=7.8km s-min=3.8km az=108.3*
*BJI **24** 11:56:41.8, 34°.85N×82°.50E, h6km, mB4.7/13, mb4.4/34, ML4.1/5, Ms4.2/36, Ms7 3.9/31*
*NEIC **24** 11:56:42.5±1.0, 34°.88N±0°.07×82°.55E±0°.05, h10km±1km, mb4.5/51, Error ellipse: s-maj=11.9km s-min=7.4km az=175.0*
*NDI **24** 11:56:51.0±0.8, 34°.84N×82°.54E, h10km, ML4.4, MW4.4, mb4.5(NEIC)*
ISC 24 11:56:41.7±0.3, 34°.77N±0°.04×82°.57E±0°.03, h10km, n231, σ2°.02/222, mb4.5/71, MS3.6/46, 9C-13D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNLY	**HANLEY**	**3.59**	**237**	*e*P	**Pb**	**11 57 46.4**	**+0.7**
HNLY				*e*S	**Sb**	**11 58 28.4**	**-1.1**
HNLY				IAML		11 58 46.5	
	comp=E,1μm,2.5s						
KLP	**Kalpa**	**4.85**	**229**	*e*P	**Pb**	**11 58 04.2**	**-2.8**
KLP				*e*S	**Sn**	**11 58 57.7**	**+6.3**
KLP				IAML		11 59 19.0	
	comp=E,979nm,0.7s						
DHRM	**DHARAMSHALA**	**5.81**	**246**	*e*P	Pb	11 58 17.5	-5.7
DHRM				IAML		11 59 56.0	
	comp=E,520nm,1.1s						
SMLA	**Simla**	**5.81**	**233**	*e*P	Pb	11 58 17.0	-6.2
SMLA				*e*S	**Sn**	**11 59 19.7**	**+5.0**
SMLA				IAML		11 59 25.5	
	comp=E,823nm,0.8s						
SMLA				IAML		11 59 25.5	
	comp=E,838nm,1.4s						
DDI	**Dehra Dun**	**5.85**	**222**	*e*P	Pb	11 58 17.9	-5.9
DDI				*e*S	**Sn**	**11 59 21.1**	**+5.4**
DDI				IAML		11 59 58.5	
	comp=E,810nm,0.1s						
THN	**Thein

KURBB Kurchatov Arra 16.11 351 Pn **Pn 12 00 25.4 -2.8**
baz=173,slow=12,SNR=20
comp=E,5.6nm,1.1s
KURK Kurchatov 16.19 351 **Pn 12 00 26.9 -2.4**
KURK IAmb IAmb 12 00 35.8
comp=Z,58nm,1.1s
KURK Kurchatov 16.19 351 *d iP* **Pn 12 00 27.9 -1.3**
KURK pmax pmax
comp=Z,14nm,1.3s
HRA Herat 16.75 274 **Pn 12 00 36.4 -0.1**
TNCH TengChong 16.88 121 *e*P **P 12 00 39.6 -0.8**
TNCH S **Sn 12 03 46.8 +0.8**
TNCH pmax pmax
comp=Z,170nm,3.5s
TNCH LR LR
comp=Z,400nm,5.6s
TNCH LR LR
comp=Z,350nm,6.2s
TNCH LR LR
comp=Z,260nm,9.4s
LZH Lanzhou 17.39 80 *e*P **P 12 00 51.4 +5.4**
LZH sP sP 12 00 59.1 +6.8
LZH pmax pmax
comp=Z,24nm,1.4s
LZH LR LR
comp=Z,700nm,16.1s
LZH LR LR
comp=Z,360nm,14.8s
LZH LR LR
comp=Z,280nm,14.8s
PZH PanZhiHua 18.42 111 P **Pn 12 01 00.9 +3.5**
PZH S **S 12 04 25.8 -2.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,180nm,6.3s
PZH LR LR
comp=Z,190nm,13.9s
PZH LR LR
comp=Z,220nm,13.9s
PZH LR LR
comp=Z,270nm,15.2s
ZAA0 Zalesovo Array 19.24 4 P **P 12 01 04.6 -1.3**
ZALV Zalesovo Beam 19.24 4 P **P 12 01 05.2 -0.8**
ZALV Zalesovo Beam 19.24 4 P **P 12 01 04.3 -1.7**
comp=Z,0.7nm,0.3s,baz=194,slow=9.2,SNR=32
comp=Z,8.4nm,0.7s
ZALV Zalesovo Beam 19.24 4 *i P* **P 12 01 06.6 +0.6**
ZALV pmax pmax
comp=Z,17nm,0.8s
KMI Kunming 19.92 113 ⇓P **Pn 12 01 16.8 +1.3**
KMI S **S 12 04 57.1 -1.1**
KMI pmax pmax
comp=Z,22nm,0.7s
KMI LR LR
comp=Z,210nm,11.7s
KMI LR LR
comp=Z,190nm,14.9s
KMI LR LR
comp=Z,390nm,21.3s
BVA0 Borovoye Array 20.20 338 *i* P **P 12 01 17.1 +0.7**
BVAR Borovoye Array 20.20 338 P **P 12 01 16.7 +0.2**
comp=Z,23nm,1.0s,baz=140,slow=7.7,SNR=35
BVAR LR LR 12 09 24.1
comp=Z,106nm,18.0s,baz=153,slow=38
comp=Z,23nm,1.0s
BRVK Borovoye 20.26 338 **P 12 01 16.8 -0.3**
BRVK IAmb IAmb 12 01 24.0
comp=Z,29nm,0.9s
BRVK Borovoye 20.26 338 *c iP* **P 12 01 18.3 +1.2**
BRVK pmax pmax
comp=Z,45nm,1.3s
MOY Mondy 21.47 33 *e*P **P 12 01 31.2 +0.8**
MOY pmax pmax
comp=Z,21nm,2.5s
CHTO Chiang Mai 21.55 133 P **P 12 01 32.3 +1.0**
CHTO Chiang Mai 21.55 133 P **P 12 01 32.3 +1.0**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
ZAK Zakamensk 21.71 38 *e*P **P 12 01 32.9 0.0**
ZAK pmax pmax
comp=Z,4.0nm,1.7s
XAN Xi'an 21.74 84 ⇑P **P 12 01 33.8 +0.5**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN LR LR
comp=Z,630nm,14.4s
XAN LR LR
comp=Z,340nm,14.4s
XAN LR LR
comp=Z,310nm,13.1s
CM31 Chiang Mai Arr 21.82 134 P **P 12 01 33.8 -0.5**
CMAR Chiang Mai Arr 21.82 134 P **P 12 01 35.6 +1.4**
CMAR Chiang Mai Arr 21.82 134 P **P 12 01 33.4 -0.8**
comp=Z,3.4nm,0.8s,baz=310,slow=11,SNR=31
comp=Z,3.4nm,0.8s
CMAR Chiang Mai Arr 21.82 134 *i P* **P 12 01 35.9 +1.7**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
SONM Songino Array 22.05 46 **P 12 01 37.1 +0.6**
SONM Songino Array 22.05 46 P **P 12 01 37.3 +0.7**
comp=Z,3.3nm,1.0s,baz=237,slow=11,SNR=8.4
SONM PcP **PcP 12 05 34.6 +0.3**
comp=Z,1.4nm,0.7s,baz=239,slow=3.0,SNR=6.7
SONM LR LR 12 10 29.3
comp=Z,182nm,19.3s,baz=258,slow=38
comp=Z,3.3nm,1.0s
AB31 Akbulak array 22.07 318 **P 12 01 36.5 -0.1**
AB31 IAmb IAmb 12 01 45.0
comp=Z,16nm,0.9s
AB31 Akbulak array 22.07 318 *i* P **P 12 01 36.5 -0.1**
ABKAR Akbulak array 22.07 318 **P 12 01 36.7 +0.1**
BTO Baotou 22.45 67 *e*P **P 12 01 40.8 -0.1**
BTO pP **pP 12 01 44.8 -0.4**
BTO sP **sP 12 01 47.8 +0.6**
BTO PP **PnPn 12 02 07.6 +3.8**
BTO S **S 12 05 45.3 -2.1**
BTO sS **pS 12 05 49.6 -3.4**
BTO SS **SnSn 12 06 29.8 +14**
BTO pmax pmax
comp=Z,17nm,0.8s
BTO pmax pmax
comp=Z,140nm,8.7s
BTO LR LR
comp=Z,870nm,15.5s
BTO LR LR
comp=Z,460nm,14.7s
BTO LR LR
comp=Z,490nm,16.9s
ULN Ulaanbaatar 22.45 47 P **P 12 01 41.1 +0.1**
ULN Ulaanbaatar 22.45 47 P **P 12 01 41.1 +0.1**
ULN pmax pmax
comp=Z,7.0nm,1.1s
SLVN Son La 23.04 120 **P 12 01 48.7 +1.4**
IRK Irkutsk 23.36 35 *e*P **P 12 01 51.1 +0.9**
IRK pmax pmax
comp=Z,24nm,1.4s
HHC Hu-ho-hao-te 23.64 67 *e*P **P 12 01 53.5 +0.3**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,73nm,3.9s
HHC LR LR
comp=Z,230nm,15.6s
HHC LR LR
comp=Z,230nm,15.6s
HHC LR LR
comp=Z,160nm,14.9s
AKTO Aktyubinsk 23.75 319 LR LR 12 11 56.6
comp=Z,201nm,20.1s,baz=126,slow=39
AKTO Aktyubinsk 23.75 319 P **P 12 01 53.8 -0.3**
HNS HongShan 26.04 75 ⇓P **P 12 02 17.8 +2.7**
HNS pmax pmax
comp=Z,20nm,1.0s
HNS LR LR
comp=Z,210nm,9.4s
HNS LR LR
comp=Z,430nm,14.5s
HNS LR LR
comp=Z,520nm,18.4s
SVE Sverdlovsk 26.61 333 ⇓*e*P **P 12 02 21.5 +1.4**
SVE pmax pmax
comp=Z,26nm,1.3s
ARTI Arti 27.19 330 **P 12 02 25.1 -0.2**
ARTI IAmb IAmb 12 02 26.9
comp=Z,15nm,1.2s

ARTI Arti 27.19 330 LR LR 12 14 24.5
comp=Z,120nm,19.2s,baz=236,slow=39
ARTI Arti 27.19 330 *d iP* **P 12 02 25.8 +0.5**
ARTI 12 03 07.8
ARTI S **S 12 07 08.0 +4.1**
ARTI SS **SnSn 12 08 18.1 +7.0**
ARTI pmax pmax
comp=Z,16nm,1.3s
AKT Akhty 28.08 294 *e*P **P 12 02 34.4 +0.9**
AKT pmax pmax
comp=Z,8.0nm,1.1s
QIZ Qiongzhong 28.81 116 P **P 12 02 39.6 -0.5**
QIZ S **S 12 07 30.9 +0.9**
QIZ pmax pmax
comp=Z,19nm,2.3s
QIZ LR LR
comp=Z,210nm,14.4s
QIZ LR LR
comp=Z,210nm,13.7s
QIZ LR LR
comp=Z,170nm,15.7s
NJ2 Nanjing 30.31 85 *e*P **P 12 02 52.3 -1.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
GNI Garni 30.34 291 LR LR 12 19 25.1
comp=Z,70nm,19.0s,baz=98,slow=45
GNI Garni 30.34 291 ⇓*i iP* **P 12 02 57.2 +3.5**
GNI pmax pmax
comp=Z,11nm,1.2s
BELG Belogornoye 30.44 316 LR LR 12 16 24.7
comp=Z,130nm,18.9s,baz=127,slow=39
BELG Belogornoye 30.44 316⇓ *e*P **P 12 02 56.5 +2.3**
BELG pmax pmax
comp=Z,2.0nm,1.3s
KBZ Khabaz 31.74 298 LR LR 12 18 05.2
comp=Z,110nm,20.6s,baz=76,slow=40
KIV Kislovodsk 31.91 299 *e*P **P 12 03 10.9 +3.5**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,70nm,15.0s
SHA1 Shidzhatmaz 31.92 298⇓ *e*P **P 12 03 11.0 +3.4**
KIRV Kirov 32.37 328 LR LR 12 17 04.8
comp=Z,70nm,18.3s,baz=129,slow=38
KIRV Kirov 32.37 328 *d iP* **P 12 03 12.0 +0.9**
RAYN Ar Rayn 34.08 261 P **P 12 03 26.5 0.0**
RAYN IAmb IAmb 12 03 29.1
comp=Z,6.3nm,1.0s
RAYN Ar Rayn 34.08 261 P **P 12 03 26.5 0.0**
RAYN pmax pmax
comp=Z,6.0nm,1.0s
NRIK Noril'sk 34.73 3 **P 12 03 31.6 0.0**
NRIK Noril'sk 34.73 3 P **P 12 03 31.1 -0.5**
comp=Z,13nm,1.0s,baz=177,slow=6.1,SNR=19
NRIK LR LR 12 19 15.9
comp=Z,52nm,18.9s,baz=177,slow=39
comp=Z,13nm,1.0s
NRIK Noril'sk 34.73 3 *d iP* **P 12 03 31.9 +0.3**
NRIK pmax pmax
comp=Z,23nm,1.1s
GSI Gunungsitoli 36.12 154 P **P 12 03 45.4 +1.3**
ZEA Zeya 36.45 45 *e*P **P 12 03 50.7 +4.2**
ZEA MLR MLR
comp=Z,100nm,16.0s
KSRS Korea Array 36.47 72 LR LR 12 20 07.5
comp=Z,155nm,19.9s,baz=290,slow=39
MNSI Mandailing Nat 37.35 151 P **P 12 03 55.7 +1.2**
OBN Obninsk 37.51 317 *e*P **P 12 03 57.7 +2.2**
OBN *e* 12 05 23.1
OBN *e*PPP PPP 12 05 42.0
OBN *e* 12 06 12.7
OBN pmax pmax
comp=Z,38nm,1.5s
OBN MLR MLR
comp=Z,56nm,17.0s
KLMR Klimovskoe 37.86 327 *e*P **P 12 03 57.3 -1.1**
KLMR *e* 12 05 23.0
KLMR *e* 12 06 12.7
KLMR pmax pmax
comp=Z,29nm,1.3s
ASF Jabal al Asfar 37.94 279 LR LR 12 22 10.0
comp=Z,108nm,20.2s,baz=108,slow=40
KLR Kul'dur 38.61 53 P **P 12 04 03.8 -1.0**
comp=Z,1.9nm,1.0s,baz=285,slow=6.5,SNR=3.9
KLR LR LR 12 21 02.9
comp=Z,122nm,18.8s,baz=252,slow=38
comp=Z,1.9nm,1.0s
ILGA Ilgaz 38.64 294 P **P 12 04 04.8 -0.7**
USRK Ussuriysk Ar. 38.78 61 LR LR 12 19 37.5
comp=Z,45nm,18.5s,baz=187,slow=36
BR131 Keskin Array S 38.88 292 **P 12 04 07.9 +0.5**
BR131 Keskin Array S 38.88 292 P **P 12 04 07.9 +0.5**
BR131 pmax pmax
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 38.88 292 **P 12 04 06.8 -0.6**
BRTR Keskin Array B 38.88 292 P **P 12 04 06.4 -1.0**
comp=Z,3.5nm,0.9s,baz=93,slow=8.0,SNR=12
BRTR LR LR 12 23 50.8
comp=Z,97nm,22.0s,baz=114,slow=42
comp=Z,3.5nm,0.9s
BRTR Keskin Array B 38.88 292 *i P* **P 12 04 08.3 +0.9**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
MMAI Mount Meron Ar 38.91 281 LR LR 12 22 46.7
comp=Z,81nm,20.1s,baz=86,slow=40
ANTO Ankara 39.50 293 P **P 12 04 13.0 +0.4**
ANTO IAmb IAmb 12 04 16.7
comp=Z,10nm,0.9s
ANTO Ankara 39.50 293 P **P 12 04 13.0 +0.4**
ANTO pmax pmax
comp=Z,10.0nm,1.0s
JOW Kunigami 39.77 89 LR LR 12 22 17.8
comp=Z,182nm,18.8s,baz=188,slow=39
JNU Nakatsue 39.81 78 LR LR 12 21 42.6
comp=Z,145nm,19.5s,baz=296,slow=38
YAK Yakutsk 40.11 32 P **P 12 04 17.8 +0.6**
YAK Yakutsk 40.11 32 P **P 12 04 17.0 -0.2**
comp=Z,24nm,0.5s,baz=191,slow=7.9,SNR=5.2
YAK LR LR 12 21 51.4
comp=Z,105nm,18.3s,baz=240,slow=38
YAK Yakutsk 40.11 32 *e*P **P 12 04 18.8 +1.6**
YAK *e* 12 05 50.4
YAK *e* 12 06 20.9
YAK *e*S **S 12 10 23.0 -0.2**
YAK *e*SSS SSS 12 13 45.5
YAK *e* 12 14 22.6
YAK pmax pmax
comp=Z,32nm,1.3s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,12nm,1.2s
YAK pmax pmax
comp=Z,125nm,4.6s
YAK pmax pmax
comp=N,49nm,4.6s
YAK pmax pmax
comp=E,77nm,4.7s
YAK smax smax
comp=E,51nm,4.1s
YAK smax smax
comp=N,49nm,5.7s
EIL Elat 40.31 276 LR LR 12 24 21.1
comp=N,101nm,19.8s,baz=66,slow=41
BORA Eskisehir 41.27 293 P **P 12 04 27.6 +0.4**
AKASG Malin Array Be 41.35 309 P **P 12 04 26.6 -1.1**
comp=N,1.7nm,0.8s,baz=81,slow=7.8,SNR=7.5
AKASG LR LR 12 22 17.7
comp=N,92nm,19.7s,baz=70,slow=37
comp=N,1.7nm,0.8s
AKASG Malin Array Be 41.35 309 *i* P **P 12 04 27.3 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 41.35 309⇑ *i iP* **P 12 04 27.8 +0.2**
AKBB pmax pmax
comp=Z,8.0nm,1.3s
MNK Minsk 42.38 315 *i* P **P 12 04 35.9 -0.1**
comp=E,28nm,0.9s
MNK *i* P **P 12 04 35.9 -0.1**
comp=N,21nm,0.8s,baz=94
MNK *i* P **P 12 04 35.9 -0.1**
comp=Z,17nm,0.8s
MNK *i* PP **PP 12 06 15.4 +1.5**
MNK *i* PPP PPP 12 06 45.4
MNK *i* S **S 12 10 58.4 +1.2**
MNK *i* SS **SS 12 14 09.2 +3.6**

MNK *i* SSS SSS 12 14 40.9
MNK *i* LQ LQ 12 19 09.7
MNK *i* LR LR 12 23 07.3
MNK *i* LRM MLR 12 25 40.1
comp=Z,127nm,17.4s
MNK *i* LRM MLR 12 25 58.5
comp=N,451nm,18.7s
MNK *i* LRM MLR 12 26 47.9
comp=E,930nm,21.2s
MNK Minsk 42.38 315 *i* P **P 12 04 35.8 -0.1**
MNK *i* 12 06 15.4
MNK *i* PPP PPP 12 06 45.3
MNK *i* S **S 12 10 58.3 +1.2**
MNK *i* SSS SSS 12 14 40.9
MNK pmax pmax
comp=E,28nm,0.9s
MNK pmax pmax
comp=N,21nm,0.8s
MNK pmax pmax
comp=Z,17nm,0.8s
MNK MLR MLR
comp=Z,127nm,17.0s
MNK MLR MLR
comp=N,451nm,19.0s
MNK MLR MLR
comp=E,930nm,21.0s
LVZ Lovozero 42.75 336⇓ *e*P **P 12 04 41.0 +2.1**
LVZ pmax pmax
comp=Z,51nm,2.8s
MLR Muntele Rosu 43.77 302 **P 12 04 47.9 +0.4**
MLR Muntele Rosu 43.77 302 LR LR 12 26 45.8
comp=Z,128nm,19.5s,baz=90,slow=41
MLR Muntele Rosu 43.77 302 P **P 12 04 47.9 +0.4**
MLR pmax pmax
comp=Z,15nm,0.9s
TIXI Tiksi 44.06 19 **P 12 04 49.3 +0.1**
TIXI IAmb IAmb 12 04 54.0
comp=Z,13nm,1.4s
TIXI Tiksi 44.06 19⇑ *i P* **P 12 04 49.4 +0.1**
TIXI pmax pmax
comp=Z,10.0nm,1.1s
BURAR Bucovina Array 44.07 305 P **P 12 04 49.6 -0.3**
FINES FINESS Array B 44.25 325 P **P 12 04 50.4 -0.6**
comp=Z,4.5nm,0.8s,baz=100,slow=8.5,SNR=14
FINES PcP **PcP 12 06 35.3 0.0**
comp=Z,3.1nm,0.8s,baz=27,slow=6.4,SNR=5.8
FINES LR LR 12 24 16.0
comp=Z,78nm,20.5s,baz=97,slow=37
comp=Z,4.5nm,0.8s
MJAR Matsushiro Arr 44.71 71 P **P 12 04 54.0 -1.0**
comp=Z,2.3nm,0.9s,baz=295,slow=12,SNR=4.5
MJAR LR LR 12 24 29.1
comp=Z,81nm,21.3s,baz=290,slow=37
comp=Z,2.3nm,0.9s
MJAR Matsushiro Arr 44.71 71 P **P 12 04 54.0 -1.0**
YSS Yuzhno-Sakhali 46.06 56⇑ *e*P **P 12 05 05.7 +0.2**
YSS pmax pmax
comp=Z,23nm,1.6s
ARCES ARCESS Array B 46.46 336 P **P 12 05 06.7 -1.7**
comp=Z,4.6nm,0.9s,baz=91,slow=7.3,SNR=8.0
ARCES LR LR 12 26 12.0
comp=Z,87nm,20.3s,baz=105,slow=38
comp=Z,4.6nm,0.9s
DAV Davao City (W) 48.18 115 LR LR 12 28 27.1
comp=Z,74nm,18.1s,baz=312,slow=40
VRAC Vranov 49.56 308 LR LR 12 30 22.1
comp=Z,85nm,18.7s,baz=80,slow=41
MA2 Magadan 49.89 38 P **P 12 05 34.9 -0.1**
MA2 Magadan 49.89 38 LR LR 12 26 51.9
comp=Z,50nm,19.5s,baz=275,slow=36
MA2 Magadan 49.89 38 *d iP* **P 12 05 35.4 +0.4**
MA2 pmax pmax
comp=Z,14nm,0.9s
HFS Hagfors 50.21 323 P **P 12 05 36.7 -0.7**
comp=Z,4.5nm,0.8s,baz=96,slow=6.0,SNR=5.4
HFS LR LR 12 27 50.3
comp=Z,83nm,19.7s,baz=103,slow=37
comp=Z,4.5nm,0.8s
SEY Seymchan 50.60 34 P **P 12 05 40.8 +0.4**
comp=Z,10.0nm,0.8s,baz=265,slow=9.1,SNR=29
comp=Z,10.0nm,0.8s
SEY Seymchan 50.60 34⇑ *i iP* **P 12 05 41.2 +0.9**
SEY pmax pmax
comp=Z,21nm,1.3s
JCJ Chichijima 51.07 81 LR LR 12 29 21.3
comp=Z,49nm,19.3s,baz=158,slow=38
NB2 NORSAR Subarra 51.39 324 P **P 12 05 45.9 -0.5**
comp=Z,10nm,1.4s,baz=86,slow=7.4
NOA NORSAR Array B 51.39 324 P **P 12 05 45.1 -1.3**
comp=Z,1.6nm,0.8s,baz=87,slow=7.3,SNR=5.0
NOA LR LR 12 28 35.8
comp=Z,63nm,19.5s,baz=90,slow=37
comp=Z,1.6nm,0.8s
GERES GERESS Array B 51.52 308 P **P 12 05 46.5 -1.1**
comp=Z,1.1nm,0.7s,baz=84,slow=6.7,SNR=7.1
GERES LR LR 12 29 02.4
comp=Z,85nm,20.2s,baz=97,slow=38
comp=Z,1.1nm,0.7s
LODK Lodwar 53.70 245 P **P 12 06 04.9 +0.7**
DAVOX Davos/Dischmat 54.50 306 LR LR 12 32 18.2
comp=Z,58nm,19.1s,baz=79,slow=39
PETK Petropavlovsk- 54.53 46 P **P 12 06 09.3 -0.3**
comp=Z,1.9nm,0.9s,baz=264,slow=18,SNR=3.8
PETK LR LR 12 30 45.4
comp=Z,54nm,18.4s,baz=259,slow=38
comp=Z,1.9nm,0.9s
KMBO Kilima Mbogo 55.41 240 P **P 12 06 17.1 +0.3**
KMBO IAmb IAmb 12 06 18.3
comp=Z,4.7nm,0.8s
KMBO Kilima Mbogo 55.41 240 P **P 12 06 17.1 +0.3**
KMBO pmax pmax
comp=Z,5.0nm,0.9s
BILL Bilibino 55.95 27 P **P 12 06 20.4 +0.7**
BILL IAmb IAmb 12 06 23.6
comp=Z,11nm,1.4s
BILL Bilibino 55.95 27⇓ *i P* **P 12 06 20.0 +0.4**
BILL pmax pmax
comp=Z,9.0nm,1.5s
GUMO Guam 59.69 94 LR LR 12 31 39.4
comp=Z,19nm,20.6s,baz=72,slow=35
EKA Eskdalemuir Ar 59.94 319 P **P 12 06 47.0 -0.8**
comp=Z,2.5nm,0.8s,baz=77,slow=6.3,SNR=3.6
comp=Z,2.5nm,0.8s
EKA Eskdalemuir Ar 59.94 319 P **P 12 06 47.0 -0.8**
ESDC Sonseca Array 66.46 303 P **P 12 07 29.0 -2.5**
comp=Z,1.6nm,1.0s,baz=107,slow=8.6,SNR=4.1
ESDC LR LR 12 39 09.5
comp=Z,34nm,19.4s,baz=301,slow=38
comp=Z,1.6nm,1.0s
D19K Kuna River 67.72 20 **P 12 07 39.0 +0.1**
D19K IAmb IAmb 12 07 41.8
comp=Z,3.2nm,0.7s
B22K Teshekpuk Lake 67.77 18 P **P 12 07 39.2 +0.1**
D20K Etivluk River 68.01 20 P **P 12 07 40.9 +0.2**
F17K Baldwin Pennin 68.05 23 **P 12 07 42.0 +1.1**
E19K Redstone River 68.65 21 P **P 12 07 45.0 +0.2**
E19K IAmb IAmb 12 07 48.1
comp=Z,2.0nm,0.8s
F19K Shaleruckik Mo 68.89 22 IAmb IAmb 12 07 50.0
comp=Z,5.8nm,1.4s
G19K Purcell Mounta 69.55 22 IAmb IAmb 12 07 53.1
comp=Z,3.5nm,0.9s
E22K Anaktuvuk Pass 69.71 19 IAmb IAmb 12 07 56.7
comp=Z,4.6nm,1.2s
F21K Alatna River 69.89 20 IAmb IAmb 12 07 56.6
comp=Z,2.8nm,0.8s
TOLK Toolik Lake Re 69.93 18 IAmb IAmb 12 07 55.4
comp=Z,4.1nm,0.7s
C27K Jago River 70.58 16 IAmb IAmb 12 07 59.6
comp=Z,6.2nm,1.3s
RES Resolute Bay 70.81 359 P **P 12 07 56.4 -1.4**
comp=Z,0.9nm,0.8s,baz=8.8,slow=12,SNR=4.0
comp=Z,0.9nm,0.8s
J20K Nowinta River 71.79 23 IAmb IAmb 12 08 21.0
comp=Z,4.8nm,1.2s
BMAR Burnt Mountain 72.09 17 **P 12 08 06.4 +0.6**
SFJD Kangerlussuaq 72.51 343 LR LR 12 44 27.7
comp=Z,26nm,18.2s,baz=52,slow=40
E29M Blow River 72.83 15 IAmb IAmb 12 08 15.9
comp=Z,3.6nm,0.9s
NEA2 Nenana 73.04 21 IAmb IAmb 12 08 14.4
comp=Z,5.2nm,0.8s
COLA College 73.18 20 *c iP* **P 12 08 12.5 +0.3**
COLA pmax pmax
comp=Z,5.0nm,0.8s
G27K Doyon Strip 73.28 17 IAmb IAmb 12 08 21.7
comp=Z,5.5nm,1.4s

WRA	**Warramunga Arr**	**73.34**	**130**	P		**P**	**12 08 12.0**	**-1.8**
	comp=Z,2.5nm,0.7s,baz=327,slow=5.8,SNR=16							
	comp=Z,2.5nm,0.7s							
WRA	**Warramunga Arr**	**73.34**	**130**	*i* P		**P**	**12 08 14.1**	**+0.3**
WRA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
ILAR	**Eielson Array**	**73.53**	**20**	P		**P**	**12 08 12.7**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=320,slow=5.2,SNR=14							
ILAR				PP		**PP**	**12 10 51.6**	**-5.9**
	comp=Z,0.4nm,0.9s,baz=309,slow=6.0,SNR=5.0							
	comp=Z,0.9nm,0.7s							
INK	**Inuvik**	**73.76**	**13**	P		**P**	**12 08 14.1**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=9.8,slow=6.1,SNR=4.9							
	comp=Z,0.9nm,0.6s							
SCRK	**Sand Creek**	**74.94**	**19**	P		**P**	**12 08 22.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**75.19**	**276**	P		**P**	**12 08 23.8**	**-1.0**
TORD				IAmb		IAmb	12 08 27.5	
	comp=Z,5.6nm,1.5s							
TORD	**Torodi Ar. Bea**	**75.19**	**276**	P		**P**	**12 08 23.3**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=46,slow=5.4,SNR=26							
TORD				PP		**PP**	**12 11 16.3**	**+3.2**
	comp=Z,0.5nm,0.8s,baz=343,slow=4.6,SNR=3.7							
	comp=Z,1.8nm,0.6s							
ASAR	**Alice Springs**	**75.82**	**132**	P		**P**	**12 08 26.9**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=319,slow=5.1,SNR=22							
	comp=Z,1.6nm,0.6s							
BLKN	**Baker Lake**	**81.23**	**359**	P		**P**	**12 08 57.1**	**-0.3**
BLKN				IAmb		IAmb	12 08 59.7	
	comp=Z,5.2nm,1.1s							
YKA	**Yellowknife Ar**	**82.09**	**8**	P		**P**	**12 09 00.9**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=343,slow=5.1,SNR=39							
	comp=Z,2.3nm,0.7s							
YKAW1	**Yellowknife Wh**	**82.11**	**8**	IAmb		IAmb	12 09 04.7	
	comp=Z,5.9nm,0.8s							
BOSA	**Boshof**	**83.08**	**228**	P		**P**	**12 09 06.3**	**-1.4**
	comp=Z,6.4nm,0.9s,baz=14,slow=5.3,SNR=5.5							
	comp=Z,6.4nm,0.9s							
DBIC	**Dimbokro**	**84.13**	**274**	P		**P**	**12 09 11.7**	**-1.8**
	comp=Z,9.0nm,0.9s,baz=42,slow=6.1,SNR=6.0							
	comp=Z,9.0nm,0.9s							
STKA	**Stephens Creek**	**86.44**	**133**	P		**P**	**12 09 21.6**	**-2.9**
	comp=Z,2.2nm,0.8s,baz=344,slow=4.8,SNR=4.0							
	comp=Z,2.2nm,0.8s							
BBTS	**Babate**	**89.04**	**287**	LR		LR	12 54 55.2	
	comp=Z,28nm,20.1s,baz=4.0,slow=39							
TXAR	**Lajitas Array**	**115.97**	**6**	PKP		**PKiKP**	**12 15 23.6**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=355,slow=3.9,SNR=2.1							
PPT2	**Papeete2**	**130.72**	**84**	*e*LR		LR	12 57 09.8	
	comp=Z,49nm,24.2s							
CPUP	**Villa Florida**	**144.64**	**273**	PKP		**PKPab**	**12 16 15.5**	**-2.0**
	comp=Z,6.7nm,0.9s,baz=54,slow=4.3,SNR=12							
LPAZ	**La Paz**	**147.96**	**298**	PKPbc		**PKPdf**	**12 16 24.9**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=14,slow=3.1,SNR=4.9							

*IDC **24** 12:04:33.7±1.3, 52°.61N×168°.52W, h0km, mb3.7/15, mbtmp3.7/16, ML3.0/1, Error ellipse: s-maj=33.7km s-min=17.4km az=4.0*
*NEIC **24** 12:04:37.7±1.5, 53°.0N±0°.2×168°.7W±0°.1, h10km±2km, mb3.8/38, ML3.4/14, Error ellipse: s-maj=28.3km s-min=10.0km az=155.0*

ISC 24 12:04:41.3±0.9, 52°.8N±0°.1×168°.55W±0°.07, h54km, n83, σ1§63/76, mb3.7/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**1.58**	**50**		**Pn**	**12 05 06.3**	**-0.6**
LVA	**Lava Point**	**2.00**	**48**		**Pn**	**12 05 11.5**	**-1.2**
LVA				IAML		12 05 46.7	
	comp=E,198nm,0.7s						
LVA				IAML		12 06 11.3	
	comp=N,350nm,0.8s						
AKUT	**Akutan**	**2.10**	**51**	Pn	**Pn**	**12 05 13.1**	**-1.0**
AKUT				IAML		12 06 12.6	
	comp=E,100nm,2.4s						
ATKA	**Atka Island**	**3.51**	**262**	Pn	**Pn**	**12 05 30.8**	**-2.4**
ATKA				IAML		12 06 12.3	
	comp=N,55nm,3.6s						
ATKA				IAML		12 06 25.1	
	comp=E,57nm,3.9s						
FALS	**False Pass**	**3.65**	**54**	Pn	**Pn**	**12 05 33.3**	**-1.8**
FALS				IAML		12 06 39.9	
	comp=E,176nm,0.9s						
ADK	**Adak**	**5.08**	**262**	Pn	**Pn**	**12 05 52.5**	**-2.2**
ADK				IAML		12 07 32.3	
	comp=E,48nm,3.5s						
ADK				IAML		12 08 10.5	
	comp=E,41nm,3.8s						
KIWB	**Kanaga Island**	**5.37**	**263**	Pn	**Pn**	**12 05 56.8**	**-1.9**
SDPT	**Sand Point**	**5.37**	**59**	Pn	**Pn**	**12 05 57.9**	**-0.9**
CNBA	**Chernabura Isl**	**5.66**	**66**	Pn	**Pn**	**12 06 02.0**	**-0.8**
O18K	**Koktuh Hills**	**10.19**	**41**	Pn	**Pn**	**12 07 03.0**	**-1.7**
Q19K	**Cape Douglas,**	**10.34**	**48**	Pn	**Pn**	**12 07 05.7**	**-1.1**
KDAK	**Kodiak Island**	**10.35**	**55**	Pn	**Pn**	**12 07 05.1**	**-1.8**
KDAK	**Kodiak Island**	**10.35**	**55**	Pn	**Pn**	**12 07 03.8**	**-3.0**
	comp=E,0.4nm,0.3s,baz=274,slow=1.1,SNR=38						
KDAK				Sn	**Sn**	**12 08 56.4**	**-4.8**
	comp=E,0.1nm,0.3s,baz=154,slow=15,SNR=1.7						
CNPM	**China Poot**	**11.72**	**48**	Pn	**Pn**	**12 07 24.9**	**-0.7**
SUA	**Susitna One**	**12.92**	**41**	Pn	**Pn**	**12 07 41.0**	**-1.0**
G16K	**Koyuk River**	**12.97**	**12**	Pn	**Pn**	**12 07 40.5**	**-2.1**
F15K	**North Star Dit**	**13.05**	**7**	Pn	Pn	12 07 38.0	-5.7
PWL	**Port Wells**	**13.62**	**46**	Pn	**Pn**	**12 07 49.8**	**-1.7**
SML	**Sawmill**	**14.08**	**42**	Pn	**Pn**	**12 07 55.8**	**-1.9**
H19K	**Roundabout Mou**	**14.11**	**21**	Pn	**Pn**	**12 07 54.6**	**-3.4**
HIN	**Hinchinbrook I**	**14.24**	**49**	Pn	**Pn**	**12 07 57.5**	**-2.3**
SCM	**Sheep Creek Mo**	**14.51**	**43**	Pn	**Pn**	**12 08 00.7**	**-2.6**
I21K	**Tanana**	**14.95**	**28**	Pn	**Pn**	**12 08 05.0**	**-4.1**
M24K	**Tolsona, Glenn**	**15.11**	**43**	Pn	**Pn**	**12 08 10.3**	**-0.9**
BMRM	**Bremner River**	**15.32**	**49**	Pn	**Pn**	**12 08 14.5**	**+0.6**
N25K	**Chitina, Valde**	**15.57**	**46**	Pn	**Pn**	**12 08 15.6**	**-1.5**
WRH	**Wood River Hil**	**15.68**	**34**	Pn	**Pn**	**12 08 13.9**	**-4.6**
WRH				IAmb	IAmb	12 08 27.0	
	comp=Z,5.8nm,1.4s						
PAX	**Paxson**	**15.81**	**41**	Pn	**Pn**	**12 08 19.3**	**-0.9**
PAX				IAmb	IAmb	12 08 28.1	
	comp=Z,5.7nm,1.3s						
GLB	**Gilahina Butte**	**15.86**	**47**	Pn	**Pn**	**12 08 19.0**	**-1.8**
GLB				IAmb	IAmb	12 08 26.8	
	comp=Z,13nm,1.4s						
VRDI	**Verde Repeater**	**15.94**	**48**	Pn	**Pn**	**12 08 20.8**	**-1.2**
VRDI				IAmb	IAmb	12 08 25.6	
	comp=Z,10nm,1.2s						
WAX	**Waxell Ridge**	**15.97**	**51**	Pn	**Pn**	**12 08 20.9**	**-1.2**
ILAR	**Eielson Array**	**16.28**	**34**	Pn	**Pn**	**12 08 25.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=235,slow=13,SNR=6.3						
	comp=Z,0.4nm,0.6s						
RIDG	**Independent Ri**	**16.44**	**39**	Pn	Pn	12 08 22.0	-6.1
RIDG				IAmb	IAmb	12 08 42.9	
	comp=Z,14nm,1.3s						
M27K	**Edge Creek, AK**	**17.05**	**46**	P	**Pn**	**12 08 35.5**	**-0.2**
M27K				IAmb	IAmb	12 08 40.6	
	comp=Z,3.1nm,0.6s						
J26L	**Joseph Creek**	**17.32**	**38**		**Pn**	**12 08 38.7**	**-0.3**
J26L				IAmb	IAmb	12 08 41.3	
	comp=Z,4.7nm,0.6s						
O28M	**Mount Upton**	**17.32**	**52**	P	**Pn**	**12 08 40.0**	**+0.8**
O28M				IAmb	IAmb	12 08 43.8	
	comp=Z,20nm,1.5s						
L27K	**Beaver Creek,**	**17.34**	**43**	P	**Pn**	**12 08 39.4**	**+0.1**
L27K				IAmb	IAmb	12 08 41.0	
	comp=Z,6.7nm,1.3s						
I26K	**Coal Creek Min**	**17.89**	**36**	P	**P**	**12 08 45.3**	**-0.6**
O29M	**Mount Kennedy**	**17.99**	**54**	P	**P**	**12 08 48.2**	**+1.0**
O29M				IAmb	IAmb	12 09 07.8	
	comp=Z,4.9nm,0.8s						
E24K	**Your Creek**	**18.05**	**25**	P	**P**	**12 08 48.0**	**+0.2**
M29M	**Somme Creek**	**18.57**	**47**	P	**P**	**12 08 54.9**	**+1.2**
M29M				IAmb	IAmb	12 09 05.8	
	comp=Z,9.4nm,1.4s						
DAWY	**Dawson**	**18.74**	**42**	P	**P**	**12 08 56.2**	**+0.8**
DAWY				IAmb	IAmb	12 08 58.2	
	comp=Z,8.0nm,1.4s						
E25K	**Arctic Village**	**18.85**	**27**	P	**Pn**	**12 08 58.9**	**+1.4**
B22K	**Teshekpuk Lake**	**18.86**	**16**	P	**P**	**12 08 57.2**	**+0.7**
B22K				IAmb	IAmb	12 09 17.0	
	comp=Z,12nm,1.4s						
L29M	**L29M**	**18.93**	**45**	P	**P**	**12 08 59.2**	**+1.8**
C23K	**Itkillik River**	**18.95**	**19**	P	**Pn**	**12 09 00.1**	**+1.4**
C23K				IAmb	IAmb	12 09 00.8	
	comp=Z,3.4nm,0.6s						
H27K	**Steamboat Moun**	**18.95**	**35**		**P**	**12 08 58.4**	**+0.7**
I28M	**Miner Creek**	**19.13**	**38**	P	**P**	**12 09 00.3**	**+0.7**
I28M				IAmb	IAmb	12 09 10.6	
	comp=Z,6.4nm,1.4s						
M30M	**Minto, Yukon**	**19.36**	**47**	P	**Pn**	**12 09 04.1**	**+0.5**
K29M	**Barlow Dome**	**19.43**	**43**	P	**P**	**12 09 03.7**	**+0.7**
H29M	**Whitestone**	**20.06**	**36**	P	**P**	**12 09 10.0**	**+0.4**
H29M				IAmb	IAmb	12 09 16.1	
	comp=Z,12nm,1.4s						
PEA0B	**Petropavlovsk-**	**20.22**	**284**	P	**P**	**12 09 11.6**	**0.0**
PETK	**Petropavlovsk-**	**20.22**	**284**	P	**P**	**12 09 11.9**	**+0.4**
	comp=Z,3.8nm,0.5s,baz=84,slow=14,SNR=6.1						
	comp=Z,3.8nm,0.5s						
P32M	**Atlin**	**20.32**	**57**	P	**P**	**12 09 13.4**	**+0.7**
M31M	**Drury Creek, Y**	**20.36**	**49**	P	**P**	**12 09 14.4**	**+1.5**
M31M				IAmb	IAmb	12 09 15.5	
	comp=Z,4.4nm,0.8s						
C27K	**Jago River**	**20.37**	**25**	P	**P**	**12 09 13.8**	**+0.8**
C27K				IAmb	IAmb	12 09 19.3	
	comp=Z,4.7nm,1.2s						
I30M	**Mount Dempster**	**20.39**	**40**	P	**P**	**12 09 13.8**	**+0.4**
I30M				IAmb	IAmb	12 09 19.9	
	comp=Z,1.8nm,0.6s						
G29M	**Pine Creek**	**20.50**	**35**	P	**P**	**12 09 15.1**	**+0.6**
EPYK	**Eagle Plains**	**20.72**	**37**	P	**P**	**12 09 16.9**	**0.0**
P33M	**Teslin, Yukon**	**20.82**	**55**	P	**P**	**12 09 20.6**	**+2.5**
FARO	**Faro, Yukon**	**20.84**	**49**	P	**P**	**12 09 19.7**	**+1.5**
D27M	**Malcolm River**	**20.86**	**28**	P	**P**	**12 09 20.5**	**+2.1**
D27M				IAmb	IAmb	12 09 29.1	
	comp=Z,5.0nm,1.4s						
E28M	**Babbage River**	**20.90**	**30**	P	**P**	**12 09 19.4**	**+0.6**
INK	**Inuvik**	**22.67**	**34**	P	**P**	**12 09 37.3**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=235,slow=10,SNR=10						
	comp=Z,1.2nm,0.5s						
SEY	**Seymchan**	**22.72**	**312**	P	**P**	**12 09 37.9**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=106,slow=8.5,SNR=5.4						
	comp=Z,1.2nm,0.6s						
NVAR	**Mina Array Bea**	**37.18**	**92**	P	**P**	**12 11 45.3**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=313,slow=7.6,SNR=1.7						
	comp=Z,0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**38.14**	**219**	T	T	12 52 42.2	
	baz=24,slow=74						
H11N3	**WAKE ISLAND Hy**	**38.14**	**219**	T	T	12 52 48.7	
	baz=24,slow=74						
H11N1	**WAKE ISLAND Hy**	**38.16**	**219**	T	T	12 52 44.5	
	baz=24						
H11S1	**WAKE ISLAND Hy**	**39.32**	**219**	T	T	12 54 04.8	
	baz=23,slow=76,SNR=9.6						
H11S2	**WAKE ISLAND Hy**	**39.34**	**219**	T	T	12 54 02.3	
	baz=23,slow=76,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**39.34**	**219**	T	T	12 53 58.7	
	baz=23,slow=76,SNR=5.1						
PDAR	**Pinedale Array**	**39.83**	**80**	P	**P**	**12 12 08.6**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=310,slow=9.2,SNR=2.3						
	comp=Z,0.1nm,0.3s						
TXAR	**Lajitas Array**	**52.24**	**90**	P	**P**	**12 13 47.5**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=317,slow=7.5,SNR=2.7						
	comp=Z,0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**62.46**	**319**	P	**P**	**12 14 59.8**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=52,slow=7.6,SNR=5.0						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**63.60**	**325**	P	**P**	**12 15 07.6**	**+1.6**
	comp=Z,1.3nm,0.6s,baz=64,slow=5.8,SNR=5.6						
	comp=Z,1.3nm,0.6s						
MKAR	**Makanchi Array**	**63.84**	**314**	P	**P**	**12 15 08.4**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=50,slow=8.1,SNR=5.8						
	comp=Z,0.6nm,0.7s						
FINES	**FINESS Array B**	**65.47**	**352**	P	**P**	**12 15 19.0**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=16,slow=8.7,SNR=6.5						
	comp=Z,1.5nm,0.6s						
NOA	**NORSAR Array B**	**66.47**	**0**	P	**P**	**12 15 25.8**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=357,slow=6.2,SNR=1.4						
	comp=Z,0.3nm,0.5s						
HFS	**Hagfors**	**67.36**	**359**	P	**P**	**12 15 31.0**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=28,slow=6.7,SNR=6.6						
	comp=Z,2.1nm,0.6s						
AKASG	**Malin Array Be**	**75.74**	**348**	P	**P**	**12 16 21.5**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=17,slow=6.1,SNR=5.5						
	comp=Z,0.9nm,0.4s						
CMAR	**Chiang Mai Arr**	**77.00**	**283**	P	**P**	**12 16 28.9**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=37,slow=7.2,SNR=4.7						
	comp=Z,0.7nm,0.8s						
BRTR	**Keskin Array B**	**85.82**	**343**	P	**P**	**12 17 16.9**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=5.7,slow=5.8,SNR=2.5						
	comp=Z,0.6nm,0.6s						

RHSSO 24 12:08:26.0±0.3, 43°.37N×19°.11E, h5km±3km, ML1.7/5, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.22**	**222**	↑*i*Pg	Pg	12 08 30.1	-0.3
UPM				*e*Sg	Sg	12 08 34.1	+0.8
RUDO	**Rudo**	**0.31**	**38**	*e*Pg	Pg	12 08 31.4	-0.7
RUDO				*e*Sg	Sg	12 08 36.7	+0.5
KLINJ	**Klinje**	**0.43**	**242**	*e*Pg	Pg	12 08 33.7	-0.6
KLINJ				*e*Sg	Sg	12 08 40.7	+0.7
KALIN	**Kalinovik**	**0.50**	**286**	*e*Pg	Pg	12 08 34.9	-0.7
KALIN				*e*Sg	Sg	12 08 42.4	+0.3
BBLS	**Lazi&#263i**	**0.54**	**23**	*e*Pg	Pg	12 08 35.5	-0.9
BBLS				*e*Sg	Sg	12 08 44.2	+0.7
BRY	**Bratogost**	**0.63**	**222**	*e*Pg	Pg	12 08 37.0	-1.0
BRY				*e*Sg	Sg	12 08 46.4	+0.2
SJES	**Sjenica**	**0.64**	**99**	*e*Pg	Pg	12 08 38.0	-0.3
SJES				*e*Sg	Sg	12 08 47.0	+0.3
HAPS	**Han Pijesak,Bl**	**0.72**	**351**	↑*i*Pg	Pg	12 08 38.8	-1.1
HAPS				*e*Sg	Sg	12 08 49.8	+0.4
TREB	**Trebinje**	**0.86**	**221**	↑*i*Pg	Pg	12 08 41.7	-0.7
TREB				*e*Sg	Sg	12 08 53.0	-0.5
STON	**Ston**	**1.14**	**245**	*e*Sg	Sb	12 09 03.1	-0.3

BEO 24 12:09:08.1±1.1, 43°.24N×18°.89E, h0km, ML1.5/6, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBLS	**Lazi&#263i**	**0.73**	**31**	*e*Pg	Pg	12 09 20.6	-1.6
BBLS				*e*Sg	Sg	12 09 30.3	-1.4
SJES	**Sjenica**	**0.79**	**88**	*e*Pg	Pg	12 09 23.1	-0.2
SJES				*e*Sg	Sg	12 09 32.5	-1.1
IVAS	**Ivanjica**	**0.98**	**69**	*e*Pg	Pg	12 09 24.9	-2.0
IVAS				*e*Sg	Sg	12 09 39.3	-0.3
DIVS	**Divibare**	**1.18**	**42**	*e*Pg	Pg	12 09 29.9	-0.7
DIVS				*e*Sg	Sg	12 09 45.9	0.0
TRUS	**Trudelj**	**1.48**	**48**	*e*Pg	Pn	12 09 35.2	-0.8
TRUS				*e*Sg	Sg	12 09 55.5	-0.1
GRUS	**Gruza**	**1.48**	**63**	*e*Pg	Pn	12 09 34.0	-2.0
GRUS				*e*Sg	Sg	12 09 55.4	-0.2

*FUNV **24** 12:10:06.1, 7°.36N×72°.00W, h9km, MW3.2*
*RSNC **24** 12:10:06.4±0.4, 7°N±2°×7°.2W±°, h4km±3km, M2.4, ML2.3*

ISC 24 12:10:04.7±1.2, 7°.38N±0°.04×71°.98W±0°.03, h13km±11km, n13, σ0§99/24, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.59**	**326**	*e*P	**Pb**	**12 10 16.7**	**-0.3**
CAPV				*e*S	**Sb**	**12 10 26.1**	**+0.8**
PAMC	**Pamplona, Colo**	**0.71**	**267**	P	**Pg**	**12 10 17.8**	**-0.9**
PAMC				S	**Sb**	**12 10 29.6**	**+0.5**
TAMC	**Tame, Arauca**	**0.95**	**169**	P	**Pb**	**12 10 22.7**	**-0.4**
TAMC				S	**Sb**	**12 10 36.6**	**+1.0**
BARC	**Barichara**	**1.42**	**237**	P	**Pn**	**12 10 30.7**	**+0.2**
BARC				S	**Sg**	**12 10 53.5**	**+2.8**
SOCV	**Socops**	**1.44**	**51**	*e*P	**Pg**	**12 10 32.2**	**-0.2**
SOCV				*e*S	**Sg**	**12 10 51.2**	**+0.2**
OCAC	**Ocana**	**1.58**	**303**	P	**Pg**	**12 10 34.4**	**-0.7**
OCAC				S	**Sg**	**12 10 56.3**	**+0.6**
BRJC	**Barrancabermej**	**1.79**	**257**	P	**Pb**	**12 10 36.8**	**-0.6**
BRJC				S	**Sg**	**12 11 01.6**	**-0.9**
RUSC	**La Rusia**	**1.83**	**217**	P	**Pb**	**12 10 37.9**	**-0.5**
RUSC				S	**Sb**	**12 11 01.5**	**0.0**
PTBC	**PUERTO BERRIO,**	**2.59**	**251**	P	**Pn**	**12 10 46.7**	**+0.3**
PTBC				S	**Sb**	**12 11 21.8**	**-1.1**
ZARC	**Zaragoza, Cauc**	**2.85**	**273**	P	**Pn**	**12 10 51.6**	**+1.6**
ZARC				S	**Sb**	**12 11 30.7**	**+0.3**
TEPV	**Terepaima**	**3.77**	**47**	*e*P	**Pn**	**12 11 03.4**	**+0.8**
BAUV	**El Baul**	**4.20**	**68**	*e*P	**Pn**	**12 11 08.5**	**0.0**
BAUV				*e*S	**Sn**	**12 11 56.4**	**-1.1**
TACV	**Tcata**	**5.61**	**60**	*e*P	**Pn**	**12 11 28.5**	**+0.6**

*TEH **24** 12:28:20.0, 33°.21N×46°.79E, h8km±25km*
*IDC **24** 12:28:20.9±1.1, 33°.31N×46°.79E, h0km, mb3.8/14, mbtmp3.8/23, ML3.4/8, MS3.0/7, Error ellipse:*
s-maj=20.3km s-min=12.8km az=168.0
*ISN **24** 12:28:21.8±0.4, 33°.26N×46°.83E, h9km±2km, ML3.7*
*THR **24** 12:28:22.4±0.0, 33°.16N×46°.83E, h15km±13km, ML4.1*

ISC 24 12:28:22.0±0.5, 33°.21N±0°.03×46°.82E±0°.03, h10km, n77, σ1§65/77, mb3.8/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.75**	**263**	*e*Pg	**Pb**	**12 28 37.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**12 28 47.5**	**-0.1**
IBDR				AML	AML	12 28 54.2	
	comp=E,3μm,0.8s						
IBDR				AML	AML	12 28 55.2	
	comp=N,4μm,0.3s						
IKFM	**Kafar-mosalman**	**0.91**	**70**	Pg	**Pg**	**12 28 39.3**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.08**	**10**	Pg	**Pg**	**12 28 41.4**	**-1.3**
IGHG	**Ghaleghazi**	**1.14**	**349**	Pg	**Pg**	**12 28 42.7**	**-1.2**
GLG1	**Gilan-e-Gharb**	**1.18**	**320**	Pg	**Pb**	**12 28 42.9**	**-1.6**
IDHR	**Dehrash**	**1.53**	**346**	Pg	**Pn**	**12 28 49.6**	**0.0**
RAFI	**Al-Rafai**	**1.60**	**202**	*e*Pn	**Pg**	**12 28 52.7**	**0.0**
RAFI				*e*Sn	**Sg**	**12 29 15.5**	**+2.0**
RAFI				AML	AML	12 29 21.6	
	comp=E,849nm,0.7s						
RAFI				AML	AML	12 29 21.9	
	comp=N,744nm,0.7s						
KGS1	**Ghasr-e-Shirin**	**1.65**	**322**	Pg	**Pb**	**12 28 52.2**	**-0.3**
ILIN	**Lien**	**1.71**	**4**	Pg	**Pn**	**12 28 53.1**	**+1.0**
SNQR	**Sonqor, Kerman**	**1.77**	**22**	Pg	**Pn**	**12 28 54.6**	**+1.6**
HSAM	**Samen**	**1.79**	**56**	Pn	**Pn**	**12 28 54.5**	**+1.2**
BDRS	**Dareh Seyedi**	**1.87**	**66**	Pn	**Pn**	**12 28 56.1**	**+1.7**
SNGE	**Sanandaj**	**1.93**	**13**	*e*PnA		12 28 56.3	
SNGE				*e*Sg	**Sb**	**12 29 23.9**	**+2.3**
SNGE				IAML		12 29 25.9	
	comp=Z,2.9nm,1.0s						
BHD	**Baghdad**	**2.05**	**272**	*e*Pn	**Pb**	**12 28 58.2**	**-1.1**
BHD				*e*Sn	**Sg**	**12 29 25.0**	**-2.8**
BHD				AML	AML	12 29 38.2	
	comp=E,1μm,0.5s						
GTMR	**Gotvand**	**2.06**	**110**	*e*PnA		12 28 58.9	
GTMR				IAML		12 29 49.0	
	comp=Z,0.8nm,1.0s						
HAGD	**Aghdareh**	**2.51**	**50**	Pn	**Pn**	**12 29 05.1**	**+2.0**
KHMZ	**Khomeyn**	**2.67**	**78**	*e*PnA		12 29 06.9	
KHMZ				IAML		12 30 00.5	
	comp=Z,0.4nm,1.0s						
HGHA	**Hamedan- Ghaye**	**2.83**	**36**	Pn	**Pn**	**12 29 08.8**	**+1.4**
ASAO	**Ashtian**	**2.98**	**63**	*e*PnA		12 29 11.5	
ASAO				IAML		12 30 05.0	
	comp=Z,0.5nm,1.0s						
IKRK	**Kirkuk**	**3.00**	**317**	*e*Pn	**Pn**	**12 29 11.0**	**+1.4**
IKRK				*e*Sn	**Sn**	**12 29 47.0**	**+1.4**
IKRK				AML	AML	12 30 02.7	
	comp=N,307nm,0.3s						
IKRK				AML	AML	12 30 06.5	
	comp=E,311nm,0.9s						
SRSL	**SARDASHT**	**3.20**	**339**	*e*Pn	**Pn**	**12 29 14.8**	**+2.2**
SRSL				IAML		12 30 16.1	
	comp=Z,0.8nm,1.0s						
IRAZ	**Razeghan**	**3.38**	**49**	Pn	**Pn**	**12 29 17.2**	**+2.2**
QABG	**Abgarm-Qazvin**	**3.38**	**42**	Pn	**Pn**	**12 29 16.8**	**+1.7**
JHBN	**Jahan bin**	**3.38**	**106**	Pn	**Pn**	**12 29 16.7**	**+1.5**
IPIR	**Pirpir**	**3.46**	**98**	Pn	**Pn**	**12 29 18.2**	**+2.0**
ZNGN	**Zangian**	**3.57**	**107**	Pn	**Pn**	**12 29 19.3**	**+1.5**
MAHB	**Mahabad**	**3.66**	**346**	Pn	**Pn**	**12 29 20.2**	**+1.3**
ZNJK	**Zanjan**	**3.77**	**23**	*e*Pn	**Pn**	**12 29 22.9**	**+2.4**
ZNJK				IAML		12 30 28.6	
	comp=Z,0.1nm,1.0s						
QAMS	**Qamsar**	**3.86**	**81**	Pn	**Pn**	**12 29 23.3**	**+1.7**
IQOM	**Qom**	**3.88**	**64**	Pn	**Pn**	**12 29 22.9**	**+0.9**
IBRJ	**Brojen**	**3.97**	**108**	Pn	**Pn**	**12 29 23.8**	**+0.7**
IKLH	**Kolahrood**	**3.99**	**87**	Pn	**Pn**	**12 29 25.2**	**+1.8**
IHSH	**Hashtrud**	**4.10**	**5**	Pn	**Pn**	**12 29 25.8**	**+0.8**
IGZV	**Ghazvin**	**4.22**	**40**	Pn

comp=Z,1.1nm,0.8s
MKAR Makanchi Array 30.09 53 P **P 12 34 31.9 +0.3**
comp=Z,0.8nm,0.6s,baz=249,slow=7.0,SNR=6.5
comp=Z,0.8nm,0.6s
FINES FINESS Array B 31.26 341 P **P 12 34 42.0 +0.3**
comp=Z,0.6nm,0.5s,baz=148,slow=11,SNR=7.6
comp=Z,0.6nm,0.5s
ZALV Zalesovo Beam 33.88 41 P **P 12 35 04.7 0.0**
comp=Z,0.3nm,0.3s,baz=276,slow=9.1,SNR=2.5
comp=Z,0.3nm,0.3s
HFS Hagfors 34.58 331 P **P 12 35 09.5 -1.1**
comp=Z,1.6nm,0.5s,baz=122,slow=12,SNR=6.4
comp=Z,1.6nm,0.5s
NOA NORSAR Array B 36.10 331 P **P 12 35 23.1 -0.7**
comp=Z,0.3nm,0.5s,baz=125,slow=8.7,SNR=3.3
comp=Z,0.3nm,0.5s
ARCES ARCESS Array B 38.28 348 P **P 12 35 41.3 -0.9**
comp=Z,1.3nm,0.5s,baz=155,slow=8.8,SNR=21
comp=Z,1.3nm,0.5s
EKA Eskdalemuir Ar 40.94 318 P **P 12 36 04.0 -0.4**
comp=Z,1.9nm,0.6s,baz=106,slow=8.9,SNR=6.4
comp=Z,1.9nm,0.6s
TORD Torodi Ar. Bea 45.62 255 P **P 12 36 43.8 +1.0**
comp=Z,1.4nm,0.9s,baz=51,slow=8.3,SNR=8.0
comp=Z,1.4nm,0.9s
CMAR Chiang Mai Arr 48.69 94 P **P 12 37 07.2 +0.5**
comp=Z,0.6nm,0.3s,baz=288,slow=5.8,SNR=4.3
comp=Z,0.6nm,0.3s
YKA Yellowknife Ar 83.46 351 P **P 12 40 48.5 -0.9**
comp=Z,0.3nm,0.8s,baz=16,slow=5.5,SNR=4.3
comp=Z,0.3nm,0.8s

*IDC **24** 12:51:02.6±1.2, 16°.03N×40°.21E, h0km, mb3.9/12, mbtmp3.9/13, ML3.1/2, MS3.4/26, Error ellipse: s-maj=26.2km s-min=20.2km az=11.0*
*NEIC **24** 12:51:03.7±1.9, 16°.00N±0°.03×40°.2E±0°.1, h10km±1km, mb4.4/9, Error ellipse: s-maj=22.8km s-min=5.4km az=264.0*
ISC 24 12:51:03.4±0.7, 15°.96N±0°.07×40°.2E±0°.1, h10km, n49, σ1§03/28, mb4.1/13, MS3.5/23, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**5.08**	**150**		**Pn**	**12 52 20.5**	**+0.8**
ATD	**Arta Tunnel**	**5.08**	**150**	Pn	**Pn**	**12 52 20.6**	**+1.0**
	0.3nm,0.3s,baz=320,slow=21,SNR=8.2						
ATD				Sn	**Sb**	**12 53 31.2**	**-2.4**
	0.2nm,0.3s,baz=37,slow=20,SNR=1.9						
EIL	**Elat**	**14.49**	**341**	LR	LR	12 58 53.0	
	comp=Z,157nm,19.6s,baz=256,slow=33						
GHAJ	**Ghor Haditha**	**15.86**	**345**	Pn	**Pn**	**12 54 45.5**	**-1.2**
GHAJ				IAmb	IAmb	12 55 05.6	
	comp=Z,16nm,1.1s						
ASF	**Jabal al Asfar**	**16.43**	**350**	Pn	**Pn**	**12 54 54.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=180,slow=7.7,SNR=4.4						
ASF				LR	LR	13 00 32.1	
	comp=Z,158nm,20.1s,baz=187,slow=35						
	comp=Z,2.1nm,0.7s						
KMBO	**Kilima Mbogo**	**17.23**	**190**	P	**Pn**	**12 55 05.0**	**+0.5**
UOSS	**Minazif**	**17.42**	**57**	P	**Pn**	**12 55 06.3**	**-0.4**
UOSS				IAmb	IAmb	12 55 08.6	
	comp=Z,58nm,1.1s						
MMAI	**Mount Meron Ar**	**17.54**	**346**	LR	LR	13 00 55.1	
	comp=Z,110nm,20.6s,baz=159,slow=34						
WSAR	**Wadi Sarin**	**18.77**	**64**	P	**P**	**12 55 22.8**	**0.0**
	comp=Z,0.1nm,1.0s,baz=275,slow=24,SNR=3.0						
BRTR	**Keskin Array B**	**24.37**	**348**	P	**P**	**12 56 21.1**	**-0.8**
BRTR	**Keskin Array B**	**24.37**	**348**	P	**P**	**12 56 22.8**	**+0.9**
	comp=Z,1.5nm,1.0s,baz=162,slow=10.0,SNR=6.1						
	comp=Z,1.5nm,1.0s						
GNI	**Garni**	**24.42**	**8**	LR	LR	13 06 09.7	
	comp=Z,81nm,20.3s,baz=188,slow=37						
ILGA	**Ilgaz**	**25.64**	**349**	P	**P**	**12 56 30.9**	**-2.5**
ILGA				IAmb	IAmb	12 56 55.9	
	comp=Z,11nm,1.2s						
KBZ	**Khabaz**	**27.77**	**4**	LR	LR	13 08 34.9	
	comp=Z,105nm,18.2s,baz=196,slow=38						
MLR	**Muntele Rosu**	**31.80**	**341**	LR	LR	13 09 34.0	
	comp=Z,27nm,18.7s,baz=180,slow=35						
LSZ	**Lusaka**	**33.24**	**202**	LR	LR	13 10 11.8	
	comp=Z,76nm,19.8s,baz=115,slow=34						
GAR	**Garm**	**34.93**	**43**	P	**P**	**12 57 55.8**	**+0.2**
AKASG	**Malin Array Be**	**35.78**	**348**	P	**P**	**12 58 03.4**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=165,slow=6.6,SNR=5.6						
AKASG				LR	LR	13 13 44.8	
	comp=Z,23nm,18.1s,baz=234,slow=38						
	comp=Z,0.3nm,0.4s						
AKTO	**Aktyubinsk**	**37.27**	**19**	LR	LR	13 15 03.7	
	comp=Z,72nm,19.9s,baz=229,slow=39						
TORD	**Torodi Ar. Bea**	**37.37**	**271**	P	**P**	**12 58 16.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**37.37**	**271**	P	**P**	**12 58 17.6**	**+1.0**
	comp=Z,4.8nm,0.8s,baz=82,slow=8.1,SNR=16						
	comp=Z,4.8nm,0.8s						
KKAR	**Karatay Array**	**37.40**	**37**	P	**P**	**12 58 16.6**	**+0.1**
GERES	**GERESS Array B**	**39.32**	**332**	P	**P**	**12 58 31.5**	**-1.2**
	comp=Z,0.4nm,0.2s,baz=167,slow=6.6,SNR=6.8						
	comp=Z,0.4nm,0.2s						
AAK	**Ala-Archa**	**39.55**	**41**	LR	LR	13 15 24.5	
	comp=Z,72nm,19.2s,baz=234,slow=37						
ARTI	**Arti**	**42.66**	**15**	LR	LR	13 18 55.0	
	comp=Z,56nm,20.1s,baz=178,slow=39						
LBTB	**Lobatse**	**43.15**	**200**	LR	LR	13 16 01.8	
	comp=Z,83nm,18.6s,baz=268,slow=35						
MDT	**Midelt**	**43.80**	**301**	LR	LR	13 19 08.4	
	comp=Z,88nm,18.0s,baz=87,slow=38						
DBIC	**Dimbokro**	**45.08**	**263**	LR	LR	13 19 03.4	
	comp=Z,68nm,18.6s,baz=84,slow=37						
ESDC	**Sonseca Array**	**45.09**	**311**	LR	LR	13 17 48.7	
	comp=Z,24nm,18.9s,baz=295,slow=36						
MAKZ	**Makanchi**	**46.25**	**39**	P	**P**	**12 59 28.7**	**-0.2**
MAKZ				IAmb	IAmb	12 59 34.5	
	comp=Z,3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**46.25**	**33**	P	**P**	**12 59 29.6**	**+0.8**
	comp=Z,0.7nm,0.2s,baz=233,slow=8.0,SNR=4.6						
	comp=Z,0.7nm,0.2s						
MKAR	**Makanchi Array**	**46.43**	**39**		**P**	**12 59 29.6**	**-0.7**
MKAR	**Makanchi Array**	**46.43**	**39**	P	**P**	**12 59 31.1**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=230,slow=8.7,SNR=10						
	comp=Z,2.2nm,0.9s						
FINES	**FINESS Array B**	**46.55**	**351**	P	**P**	**12 59 31.4**	**+0.5**
FINES	**FINESS Array B**	**46.55**	**351**	P	**P**	**12 59 29.7**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=178,slow=9.7,SNR=1.9						
FINES				LR	LR	13 18 29.4	
	comp=Z,22nm,20.0s,baz=179,slow=35						
	comp=Z,0.5nm,0.6s						
BOSA	**Boshof**	**46.62**	**198**	LR	LR	13 17 50.1	
	comp=Z,78nm,18.1s,baz=31,slow=34						
HFS	**Hagfors**	**48.14**	**343**	LR	LR	13 19 52.3	
	comp=Z,26nm,19.7s,baz=98,slow=36						
NOA	**NORSAR Array B**	**49.60**	**342**	LR	LR	13 21 48.2	
	comp=Z,23nm,19.5s,baz=85,slow=37						
ZALV	**Zalesovo Beam**	**51.29**	**32**	P	**P**	**13 00 07.5**	**0.0**
	comp=Z,0.4nm,0.4s,baz=245,slow=6.4,SNR=5.0						
	comp=Z,0.4nm,0.4s						
ARCES	**ARCESS Array B**	**54.34**	**354**	LR	LR	13 25 45.3	
	comp=Z,21nm,18.6s,baz=134,slow=38						
BBTS	**Babate**	**54.62**	**277**	LR	LR	13 24 26.3	
	comp=Z,86nm,18.5s,baz=315,slow=37						
CMAR	**Chiang Mai Arr**	**55.93**	**78**	P	**P**	**13 00 42.9**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=267,slow=6.1,SNR=5.4						
	comp=Z,0.2nm,0.3s						
NRIK	**Noril'sk**	**60.87**	**17**	LR	LR	13 30 54.7	
	comp=Z,33nm,18.8s,baz=194,slow=39						
SONM	**Songino Array**	**62.37**	**44**	P	**P**	**13 01 27.2**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=253,slow=5.4,SNR=6.7						
SONM				LR	LR	13 31 08.0	
	comp=Z,60nm,19.8s,baz=258,slow=39						
	comp=Z,1.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**63.34**	**355**	P	**P**	**13 01 32.0**	**-0.2**
	comp=Z,6.4nm,0.9s,baz=147,slow=8.1,SNR=1.6						
	comp=Z,6.4nm,0.9s						
BORG	**Borgarnes**	**63.69**	**335**	LR	LR	13 30 35.3	
	comp=Z,19nm,19.9s,baz=94,slow=37						
KSRS	**Korea Array**	**78.68**	**54**	LR	LR	13 43 23.6	
	comp=Z,23nm,18.7s,baz=225,slow=40						
MJAR	**Matsushiro Ar**	**86.88**	**53**	LR	LR	13 47 34.6	
	comp=Z,31nm,18.3s,baz=222,slow=39						
YKA	**Yellowknife Ar**	**99.34**	**348**	P	**Pdif**	**13 04 46.6**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=28,slow=5.3,SNR=2.5						
	comp=Z,0.1nm,0.5s						

*IDC **24** 12:54:36.5±0.9, 8°.18S×116°.68E, h0km, mb3.7/7, mbtmp3.8/9, ML3.6/2, MS3.4/2, Error ellipse: s-maj=25.8km s-min=16.2km az=59.0*
*DJA **24** 12:54:40.1±0.2, 8°.S±2°×11°.7E±°, h10km, M4.3/18, mB5.0/2,*

2019 APR

mb4.3/12, MLv4.3/18, Mw(mB)4.3/2
ISC 24 12:54:41.5±0.7, 8°.28S±0°.05×116°.79E±0°.04, h35km, n30, σ1§58/35, mb3.7/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.47**	**169**	P	**Pn**	**12 54 50.3**	**-1.5**
TWSI				S	**Sn**	**12 54 58.2**	**-0.6**
PLAI	**Plampang**	**1.11**	**119**	P	**Pn**	**12 55 01.6**	**+0.9**
PLAI				S	**Sn**	**12 55 17.3**	**+2.5**
SRBI	**Singaraja**	**1.58**	**277**	P	**Pn**	**12 55 08.3**	**+1.3**
DNP	**Denpasar**	**1.62**	**256**	P	**Pn**	**12 55 08.5**	**+0.9**
JAGI	**Jajag, Banyuwa**	**2.62**	**266**	P	**Pn**	**12 55 21.2**	**-0.2**
WBSI	**Waikabubak, Su**	**2.90**	**118**	P	**Pn**	**12 55 26.9**	**+1.6**
KMMI	**Kalianget**	**3.06**	**293**	P	**Pn**	**12 55 29.5**	**+2.1**
GMJI	**Gumukmas**	**3.32**	**270**	P	**Pn**	**12 55 31.9**	**+0.9**
WSI	**Waingapu**	**3.73**	**112**	P	**Pn**	**12 55 38.0**	**+1.4**
BSSI	**Bau Bau, Buton**	**4.24**	**60**	P	**Pn**	**12 55 44.2**	**+0.6**
KAPI	**Kappang**	**4.37**	**42**	Pn	**Pn**	**12 55 45.6**	**+0.1**
	1.4nm,0.3s,baz=191,slow=6.1,SNR=1.6						
KAPI				Sn	**Sn**	**12 56 33.2**	**-2.1**
	6.8nm,0.3s,baz=210,slow=19,SNR=8.2						
KAPI				Lg	Lg	12 56 54.1	
	6.6nm,0.3s,baz=216,slow=19,SNR=4.6						
	5.0nm,0.2s						
BKSI	**Bulukumba**	**4.42**	**49**	P	**Pn**	**12 55 47.1**	**+0.9**
EDFI	**Ende, Flores**	**4.87**	**96**	P	**Pn**	**12 55 53.9**	**+1.5**
BNSI	**Bone**	**5.07**	**41**	P	**Pn**	**12 55 55.5**	**+0.5**
	0.4nm999nm37nm,1.5s						
SPSI	**Sidrap Palu**	**5.21**	**35**	P	**Pn**	**12 55 57.9**	**+0.9**
MMRI	**Maumere**	**5.40**	**94**	P	**Pn**	**12 56 00.4**	**+0.8**
	0.4nm2um82nm,1.2s						
PCJI	**Pacitan**	**5.56**	**270**	P	**Pn**	**12 56 02.4**	**+0.5**
	0.4nm41nm,1.1s						
UGM	**Wanagama**	**6.22**	**273**	P	**Pn**	**12 56 14.2**	**+3.2**
FITZ	**Fitzroy Crossi**	**13.01**	**139**	Pn	**Pn**	**12 57 45.7**	**+1.7**
	0.4nm,0.3s,baz=327,slow=8.8,SNR=12						
FITZ				Sn	**Sn**	**13 00 06.1**	**-1.5**
	0.7nm,0.3s,baz=329,slow=18,SNR=8.3						
	2.5nm,0.6s						
FAKI	**Fak Fak**	**16.27**	**72**	P	**Pn**	**12 58 28.4**	**+0.8**
	25nm,1.6s						
DAV	**Davao City (W)**	**17.58**	**30**	LR	LR	13 05 28.1	
	comp=Z,124nm,20.2s,baz=290,slow=37						
WRA	**Warramunga Arr**	**20.57**	**126**	P	**P**	**12 59 18.5**	**+1.0**
	8.7nm,1.1s,baz=300,slow=12,SNR=38						
WRA				S	**S**	**13 03 04.3**	**-1.5**
	0.5nm,0.7s,baz=293,slow=21,SNR=2.2						
	8.7nm,1.1s						
ASAR	**Alice Springs**	**22.43**	**135**	P	**P**	**12 59 38.7**	**+1.2**
	3.6nm,0.7s,baz=310,slow=7.8,SNR=31						
ASAR				S	**S**	**13 03 37.2**	**-4.5**
	0.7nm,0.9s,baz=307,slow=21,SNR=4.1						
	3.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.88**	**327**	P	**P**	**13 01 01.4**	**-2.3**
	0.2nm,0.3s,baz=143,slow=10,SNR=4.1						
CMAR				LR	LR	13 15 19.6	
	comp=Z,74nm,18.2s,baz=125,slow=39						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**32.91**	**139**	P	**P**	**13 01 13.6**	**+0.9**
	1.5nm,0.6s,baz=315,slow=13,SNR=4.4						
	1.5nm,0.6s						
SONM	**Songino Array**	**56.62**	**352**	P	**P**	**13 04 20.8**	**-0.3**
	0.5nm,0.6s,baz=171,slow=10,SNR=2.6						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**62.84**	**334**	P	**P**	**13 05 03.9**	**0.0**
	0.4nm,0.9s,baz=146,slow=8.0,SNR=5.7						
	0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**67.37**	**335**	P	**P**	**13 05 32.6**	**-0.6**
	0.2nm,0.3s,baz=154,slow=5.8,SNR=1.3						
ZALV	**Zalesovo Beam**	**67.61**	**340**	P	**P**	**13 05 33.9**	**-0.6**
	0.3nm,0.3s,baz=133,slow=8.3,SNR=1.6						
	0.3nm,0.3s						
CPUP	**Villa Florida**	**145.13**	**189**	PKPbc	**PKPbc**	**13 14 15.2**	**-0.4**
	3.2nm,0.9s,baz=150,slow=3.0,SNR=5.1						

*SJA **24** 13:00:44.3±0.9, 30°.64S×71°.57W, h20km±2km, ML3.6, MW3.6*
*GUC **24** 13:00:47.4±0.7, 30°.66S×71°.38W, h51km±2km, ML3.4*
ISC 24 13:00:48.2±1.0, 30°.66S±0°.02×71°.47W±0°.04, h29km±8km, n39, σ1§87/64, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.14**	**265**	*eP*	**Pn**	**13 00 55.4**	**+1.0**
CO06				*i* S	**Sb**	**13 01 01.7**	**+4.1**
CO06				IAML		13 01 04.0	
	comp=E,3μm,0.2s						
CO02	**Combarbal**	**0.68**	**143**	*eP*	**Pb**	**13 01 00.0**	**-1.6**
CO02				*i* S	**Sb**	**13 01 09.3**	**-1.4**
CO02	**Combarbal**	**0.68**	**143**	*eP*	**Pb**	**13 00 59.6**	**-2.0**
CO02				*eS*	**Sb**	**13 01 09.3**	**-1.4**
CO02				IAML		13 01 10.0	
	comp=Z,6μm,0.1s						
CO03	**El Pedregal**	**0.70**	**105**	*eP*	**Pb**	**13 01 00.1**	**-1.8**
CO03				*i* S	**Sb**	**13 01 09.4**	**-1.9**
CO03				IAML		13 01 09.6	
	comp=E,6μm,0.3s						
CO03	**El Pedregal**	**0.70**	**105**	*eP*	**Pb**	**13 00 59.9**	**-2.0**
CO03				*eS*	**Sb**	**13 01 09.6**	**-1.6**
CO03				IAML		13 01 10.2	
	comp=Z,3μm,0.3s						
GO04	**Tololo Observa**	**0.76**	**50**	*eP*	**Pb**	**13 01 01.5**	**-1.5**
GO04				*i* S	**Sb**	**13 01 12.0**	**-1.1**
GO04				IAML		13 01 13.3	
	comp=N,7μm,0.2s						
GO04	**Tololo Observa**	**0.76**	**50**	*eP*	**Pb**	**13 01 00.8**	**-2.2**
GO04				*eS*	**Sb**	**13 01 11.9**	**-1.2**
CO05	**La Serena**	**0.77**	**15**	*eP*	**Pb**	**13 01 02.1**	**-0.9**
CO05				*i* S	**Sb**	**13 01 12.3**	**-0.8**
CO05				IAML		13 01 14.4	
	comp=E,2μm,0.3s						
CO01	**Juntas del Tor**	**1.37**	**61**	*eP*	**Pn**	**13 01 10.7**	**-0.9**
CO01				*i* S	**Sn**	**13 01 27.4**	**-1.5**
CO01				IAML		13 01 31.9	
	comp=N,811nm,0.4s						
CO01	**Juntas del Tor**	**1.37**	**61**	*eP*	**Pn**	**13 01 10.7**	**-0.9**
CO01				*eS*	**Sn**	**13 01 28.5**	**-0.4**
CO01				IAML		13 01 31.9	
	comp=Z,598nm,0.1s						
LCO	**Las Campanas**	**1.77**	**22**	*eP*	**Pn**	**13 01 16.6**	**-0.5**
LCO				*eS*	Sn	13 01 29.7	-9.2
LCO				IAML		13 01 42.1	
	comp=Z,668nm,0.1s						
AROD	**Rodeo**	**1.79**	**75**	*eP*	**Pn**	**13 01 18.1**	**+0.6**
AROD				*eS*	**Sn**	**13 01 41.2**	**+1.7**
VA06	**Catapilco**	**1.90**	**176**	*eP*	**Pn**	**13 01 18.2**	**-0.4**
VA06				*i* S	**Sn**	**13 01 41.2**	**-0.4**
ACCO	**Cerro Coronel**	**2.08**	**89**	*eP*	**Pb**	**13 01 24.3**	**-1.1**
ACCO				*eS*	Sn	13 01 37.7	-8.8
DOCA	**Reserva Natura**	**2.08**	**99**	*eP*	**Pn**	**13 01 21.8**	**+0.4**
DOCA				*eS*	**Sb**	**13 01 54.5**	**+3.6**
ACDV	**Cuesta del Vie**	**2.09**	**77**	*eP*	**Pn**	**13 01 22.6**	**+1.2**
AC05	**El Transito**	**2.10**	**30**	*eP*	**Pn**	**13 01 20.8**	**-0.7**
AC05				*eS*	**Sn**	**13 01 47.8**	**+1.1**
RTLS	**Leoncito**	**2.18**	**122**	*eP*	**Pn**	**13 01 23.8**	**+1.0**
RTLS				*eS*	Sn	13 01 36.8	-12
RTLS				IAML		13 01 37.4	
	comp=Z,540nm,0.5s						
VA03	**San Esteban**	**2.24**	**160**	*eP*	**Pn**	**13 01 22.8**	**-0.6**
VA03				*i* S	**Sn**	**13 01 50.0**	**-0.1**
VA03	**San Esteban**	**2.24**	**160**	*eP*	**Pn**	**13 01 22.8**	**-0.6**
VA03				*eS*	**Sn**	**13 01 52.2**	**+2.1**
VA03				IAML		13 01 55.9	
	comp=Z,328nm,0.3s						
ROC1	**El Roble**	**2.34**	**171**	*eS*	**Sn**	**13 01 47.9**	**-4.9**
VA01	**Torpederas**	**2.36**	**184**	*eP*	**Pn**	**13 01 23.2**	**-1.7**
AC04	**Llanos de Chal**	**2.47**	**8**	*eP*	**Pn**	**13 01 26.0**	**-0.5**
AC04				*eS*	Sn	13 01 41.6	-14
AC04				IAML		13 02 09.0	
	comp=Z,113nm,0.2s						
ZON	**Zonda**	**2.55**	**111**	*eP*	**Pn**	**13 01 28.3**	**+0.6**
ZON				*eS*	**Sn**	**13 02 00.8**	**+3.0**
ZON				IAML		13 02 17.7	
	comp=Z,104nm,0.7s						
PEL	**Peldehue**	**2.56**	**165**	*eP*	**Pn**	**13 01 27.6**	**-0.2**
PEL				*eS*	**Sn**	**13 02 01.0**	**+2.9**
MT02	**Curacav**	**2.61**	**174**	*eP*	**Pn**	**13 01 27.0**	**-1.4**
MT02				*eS*	**Sn**	**13 02 02.9**	**+3.8**
MT02				IAML		13 02 09.0	
	comp=Z,138nm,0.4s						
SJA	**San Juan**	**2.64**	**110**	*eP*	**Pn**	**13 01 29.9**	**+1.0**
RTLL	**Cerro Villicun**	**2.66**	**105**	*eP*	**Pn**	**13 01 29.3**	**+0.1**
RTLL				*eS*	**Sb**	**13 02 09.3**	**+1.9**

MT05	**Renca**	**2.79**	**167**	*eP*	**Pn**	**13 01 31.4**	**+0.4**
MT05				*eS*	**Sn**	**13 02 05.9**	**+2.2**
MT05				IAML		13 02 13.6	
	comp=Z,154nm,0.8s						
AGUA	**GUANDACOL**	**2.84**	**66**	*eP*	**Pn**	**13 01 34.0**	**+2.4**
AGUA				*eS*	**Sb**	**13 02 11.9**	**-0.7**
AGUA				IAML		13 02 19.0	
	comp=Z,196nm,0.2s						
CFA	**Coronel Fontan**	**2.93**	**110**	*eP*	**Pn**	**13 01 33.2**	**+0.4**
CFA				*eS*	**Sn**	**13 02 10.4**	**+3.4**
MT03	**Universidad Ad**	**2.94**	**164**	*eP*	**Pn**	**13 01 33.5**	**+0.4**
MT03				*eS*	**Sn**	**13 02 09.6**	**+2.2**
MT03				IAML		13 02 19.9	
	comp=Z,228nm,0.7s						
MT04	**Ro Olivares**	**2.96**	**158**	*eP*	**Pn**	**13 01 34.0**	**+0.6**
MT04				*eS*	**Sn**	**13 02 10.7**	**+2.5**
MT04				IAML		13 02 15.7	
	comp=Z,190nm,0.6s						
MT08	**Bocatoma Ro**	**3.04**	**156**	*eP*	**Pn**	**13 01 36.1**	**+1.6**
ARCO	**CERRO ARCO**	**3.07**	**136**	*eP*	**Pn**	**13 01 36.7**	**+1.8**
ARCO				IAML		13 02 24.6	
	comp=Z,89nm,1.1s						
MT01	**Popeta**	**3.20**	**177**	*eS*	**Sn**	**13 02 12.2**	**-1.5**
MT01				IAML		13 02 22.3	
	comp=Z,84nm,0.7s						
GO03	**Copiapo**	**3.24**	**20**	*eP*	**Pn**	**13 01 37.2**	**0.0**
VCA	**Vinchina**	**3.43**	**57**	*eS*	**Sn**	**13 02 23.5**	**+3.9**
VCA				IAML		13 02 34.2	
	comp=Z,301nm,0.3s						
AC02	**Maricunga**	**4.33**	**29**	*eP*	**Pn**	**13 01 53.0**	**+0.4**

TXNET 24 13:05:54.7, 31°.1N±0°.7×103°.4W±0°.5, h4km±1km, ML1.7/7, Error ellipse: s-maj=1.1km s-min=0.7km az=168.8, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB16	**Coyonosa**	**0.09**	**82**	P	Pg	13 05 57.0	+0.4
TPB16				S	Sg	13 05 58.7	+0.8
TPB04	**Verhalen**	**0.11**	**46**	P	Pg	13 05 57.5	+0.6
TPB03	**Saragosa**	**0.14**	**258**	P	Pg	13 05 58.1	+0.7
TPB03				S	Sg	13 06 00.1	+0.9
TPB05	**Hovey Rd**	**0.19**	**171**	P	Pg	13 05 59.4	+0.9
TPB05				S	Sg	13 06 02.4	+1.4
PCOS	**Crockett Middl**	**0.32**	**337**	S	Sb	13 06 07.8	-0.9
TPB10	**Southeast of T**	**0.38**	**297**	P	Pb	13 06 03.8	-0.3
TPB10				S	Sb	13 06 09.7	-0.7
TPB01	**Permian Basin**	**0.40**	**245**	P	Pg	13 06 03.1	+0.7
TPB01				S	Sb	13 06 09.4	-1.6
TPB08	**Permian Basin**	**0.45**	**119**	S	Sb	13 06 11.4	-0.9
PECS	**Pecos**	**0.51**	**301**	P	Pb	13 06 06.1	-0.1
PECS				S	Sb	13 06 13.1	-0.9
TPB12	**Southwest of T**	**0.52**	**281**	P	Pb	13 06 06.2	-0.3
TPB12				S	Sb	13 06 13.5	-1.0
TPB06	**Permian Basin**	**0.55**	**13**	P	Pg	13 06 06.0	+0.7
TPB06				S	Sb	13 06 14.0	-1.3
MNHN	**Monahans**	**0.56**	**66**	S	Sb	13 06 14.7	-0.9
ALPN	**Alpine**	**0.77**	**198**	P	Pg	13 06 09.6	0.0
ALPN				S	Sg	13 06 20.3	+0.7
TMB02	**Rankin**	**1.14**	**85**	P	Pg	13 06 16.2	-0.3
TMB02				S	Sg	13 06 31.5	+0.2
ODSA	**Odessa**	**1.22**	**34**	P	Pg	13 06 18.0	-0.1
ODSA				S	Sb	13 06 34.9	+0.3
VHRN	**Van Horn**	**1.43**	**257**	P	Pb	13 06 21.9	-0.1
VHRN				S	Sn	13 06 41.0	0.0
SAND	**Sanderson**	**1.57**	**137**	P	Pb	13 06 24.4	0.0
SAND				S	Sg	13 06 45.5	+0.3
TMB04	**Seminole**	**1.68**	**26**	S	Sg	13 06 48.7	0.0
TX31	**Lajitas Ar. Si**	**1.79**	**189**	Pg	Pb	13 06 27.9	-0.3
TX31				Sg	Sg	13 06 53.0	+0.7
MNTX	**Cornudas Mount**	**1.82**	**289**	Pg	Pb	13 06 28.9	+0.2
MNTX				S	Sg	13 06 53.4	+0.1
OZNA	**Ozona**	**1.93**	**95**	P	Pb	13 06 30.0	-0.4
OZNA				S	Sg	13 06 56.0	-0.6
CPRX	**Cap Rock**	**1.96**	**347**	P	Pb	13 06 30.8	-0.3

*HEL **24** 13:14:39.3±0.2, 68°.17N×33°.60E, h0km, ML1.8, Explosion*
*UPP **24** 13:14:40.5±3.0, 67°.99N×33°.44E, h0km, ML1.8*
*KOLA **24** 13:14:42.2, 68°.11N×33°.20E, h0km, ML2.1, Error ellipse: s-maj=2.2km s-min=1.3km az=100.0, Olenegorsk City, Mines*
*IDC **24** 13:14:43.8±1.2, 68°.23N×32°.79E, h0km, mb4.0/1, mbtmp3.5/4, ML2.4/3, MS3.1/2, Error ellipse: s-maj=14.8km s-min=9.9km az=61.0*
ISC 24 13:14:41.0±0.7, 68°.13N±0°.02×33°.24E±0°.03, h0km, n44, σ1§41/67, Baltic States-Belarus-Northwestern Russia

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

KALU			S	Sn	13 16 41.3	-1.9
KALU	**Kalix**	**4.50 244**	PN	**Pn**	13 15 50.1	-0.2
ERTU	**Ertsjaerv**	**4.56 255**	P	**Pn**	13 15 50.5	-0.6
ERTU	**Ertsjaerv**	**4.56 255**	PN	**Pn**	13 15 50.7	-0.4
	baz=62					
ERTU			SN	**Sn**	13 16 43.5	-1.2
KIF	**Kilpisjarvi**	**4.65 287**	PN	**Pn**	13 15 52.3	0.0
KIF			SN	**Sn**	13 16 45.2	-1.7
KUA	**Kurravaara**	**4.85 274**	P	**Pn**	13 15 54.5	-0.6
KOVU	**Salmi**	**4.88 277**	P	**Pn**	13 15 55.5	-0.1
RATU	**Laukkuluspa**	**5.15 273**	P	**Pn**	13 15 59.2	0.0
SJUU	**Sjulsmark**	**5.29 246**	P	**Pn**	13 15 59.7	-1.5
I37NO	**I37NO**	**5.44 287**	I	I	13 51 35.0	
	baz=93,slow=328,SNR=5.9					
FINES	**FINESS Array B**	**7.37 208**	Pn	**Pn**	13 16 30.4	+0.8
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=6.5					
FINES			Sn	**Sn**	13 17 51.6	-2.3
	comp=Z,0.1nm,0.3s,baz=23,slow=26,SNR=2.1					
	comp=Z,0.3nm,0.2s					
SPITS	**Spitsbergen Ar**	**11.14 342**	Pn	**Pn**	13 17 19.1	-2.2
	baz=142,slow=16					
	comp=Z,4.3nm,1.0s					
ZALV	**Zalesovo Beam**	**27.69 95**	P	**P**	13 20 34.2	+3.9
	comp=Z,0.8nm,0.5s,baz=322,slow=4.4,SNR=4.6					
	comp=Z,0.8nm,0.5s					
BRTR	**Keskin Array B**	**28.46 179**	LR	LR	13 33 36.7	
	comp=Z,46nm,18.8s,baz=137,slow=40					
FRB	**Frobisher Bay**	**37.22 314**	LR	LR	13 36 42.7	
	comp=Z,17nm,19.6s,baz=352,slow=36					

*IDC **24** 13:32:10.3±1.8,24.°18S×67.°10W,h150km±17km,mb3.7/3, mbtmp4.2/7,Error ellipse: s-maj=30.4km s-min=13.7km az=99.0*
*SJA **24** 13:32:11.8±0.8,24.°18S×67.°16W,h196km±8km,ML4.0, MW3.8*
*NEIC **24** 13:32:13.0±1.4,24.°23S±0.°05×67.°2W±0.°1,h181km±10km, mb4.4/6,Error ellipse: s-maj=17.4km s-min=5.1km az=112.0*
*GUC **24** 13:32:14.3±0.6,24.°15S×67.°38W,h200km±8km,ML4.2*
*VAO **24** 13:32:16.3±1.2,24.°04S×67.°19W,h226km±7km,mb4.1*

ISC 24 13:32:13.2±0.6,24.°17S±0.°04×67.°27W±0.°05,h192km±7km, n102,σ1$58/124,mb3.8/5,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.85**	**94**	*eP*	**Pn**	**13 32 40.4**	**-1.4**
SALTA		**0.85**	**94**	*eP*	Pn	13 32 34.9	-6.9
SALTA				*eP*	Pn	13 32 34.9	-6.8
SALTA				*eP*	**Pn**	**13 32 40.3**	**-1.4**
AF01	**San Pedro de A**	**1.48 325**			**Pn**	**13 32 46.4**	**0.0**
AF01	**San Pedro de A**	**1.48 325**		*eP*	**Pn**	**13 32 46.9**	**+0.6**
AF01	**San Pedro de A**	**1.48 325**		*eP*	**Pn**	**13 32 47.4**	**+1.0**
AF01				*eS*	**Sn**	**13 33 19.4**	**+7.4**
AF01				IAML		13 33 31.6	
	comp=Z,326nm,0.8s						
AZAP	**Zapla**	**2.01**	**92**	*eP*	**Pn**	**13 32 49.9**	**-1.6**
FSA	**Cafayete**	**2.26**	**149**	*eP*	**Pn**	**13 32 53.5**	**-0.5**
GO02	**Mina Guanaco**	**2.33**	**245**		**Pn**	**13 32 55.6**	**+0.6**
GO02	**Mina Guanaco**	**2.33**	**245**	*eP*	**Pn**	**13 32 55.9**	**+0.9**
GO02				*i* S	**Sn**	**13 33 27.9**	**+0.3**
GO02				IAML		13 33 29.0	
	comp=N,1μm,0.3s						
GO02	**Mina Guanaco**	**2.33**	**245**	*eP*	**Pn**	**13 32 55.2**	**+0.2**
GO02				*eS*	**Sn**	**13 33 28.4**	**+0.9**
YJA	**Yavi**	**2.56**	**39**	*eP*	**Pn**	**13 32 57.1**	**-0.6**
PB06	**IPOC Station P**	**2.57**	**304⇑**	*eP*	**Pn**	**13 32 58.4**	**+0.8**
PB06				*eS*	**Sn**	**13 33 31.3**	**-0.8**
PB06				IAML		13 33 33.3	
	comp=N,512nm,0.2s						
PB06	**IPOC Station P**	**2.57**	**304**	*eP*	**Pn**	**13 32 58.4**	**+0.8**
PB06				*eS*	**Sn**	**13 33 32.0**	**-0.1**
PB06				IAML		13 33 34.4	
	comp=Z,333nm,0.2s						
ASTB	**Santa Barbara**	**2.58**	**86**	*eP*	Pn	13 32 40.6	-17
PB14	**IPOC Station P**	**2.90**	**260**		**Pn**	**13 33 00.9**	**-0.6**
PB14	**IPOC Station P**	**2.90**	**260**	*eP*	**Pn**	**13 33 01.6**	**+0.2**
PB14				*eS*	**Sn**	**13 33 38.6**	**-0.5**
PB14				IAML		13 33 41.6	
	comp=Z,252nm,0.4s						
PB09	**IPOC Station P**	**2.98**	**322**		**Pn**	**13 33 03.6**	**+1.2**
PB09	**IPOC Station P**	**2.98**	**322**	*eP*	**Pn**	**13 33 03.4**	**+0.9**
PB09				*i* S	**Sn**	**13 33 40.5**	**-0.4**
PB09				IAML		13 33 42.6	
	comp=N,573nm,0.4s						
PB09	**IPOC Station P**	**2.98**	**322**	*eP*	**Pn**	**13 33 03.3**	**+0.9**
PB09				*eS*	**Sn**	**13 33 40.9**	**0.0**
PB09				IAML		13 33 41.2	
	comp=Z,382nm,0.4s						
PB05	**IPOC Station P**	**3.00**	**295**		**Pn**	**13 33 02.8**	**+0.3**
PB05	**IPOC Station P**	**3.00**	**295**	*eP*	**Pn**	**13 33 02.9**	**+0.3**
PB05				*i* S	**Sn**	**13 33 39.4**	**-1.5**
PB05				IAML		13 33 45.7	
	comp=N,185nm,0.3s						
PB05	**IPOC Station P**	**3.00**	**295**	*eP*	**Pn**	**13 33 02.9**	**+0.3**
PB05				*eS*	**Sn**	**13 33 40.9**	**0.0**
PB05				IAML		13 33 46.5	
	comp=Z,198nm,0.6s						
ALOL	**LOMAS DE OLMED**	**3.03**	**84**	*eP*	**Pn**	**13 33 01.6**	**-1.2**
PB10	**IPOC Station P**	**3.08**	**282**		**Pn**	**13 33 04.1**	**+0.7**
PB10	**IPOC Station P**	**3.08**	**282**	*eP*	**Pn**	**13 33 04.2**	**+0.8**
PB10				*eS*	**Sn**	**13 33 41.4**	**-1.1**
PB10				IAML		13 33 47.0	
	comp=E,307nm,0.6s						
PB10	**IPOC Station P**	**3.08**	**282**	*eP*	**Pn**	**13 33 04.2**	**+0.8**
PB10				*eS*	**Sn**	**13 33 42.7**	**+0.2**
PB10				IAML		13 33 48.3	
	comp=Z,221nm,0.4s						
PB03	**IPOC Station P**	**3.12**	**312**	*eP*	**Pn**	**13 33 04.4**	**+0.4**
PB03				*i* S	**Sn**	**13 33 41.7**	**-1.9**
PB03				IAML		13 33 44.4	
	comp=E,688nm,0.3s						
PB03	**IPOC Station P**	**3.12**	**312**	*eP*	**Pn**	**13 33 04.3**	**+0.4**
PB03				*eS*	**Sn**	**13 33 41.9**	**-1.7**
PB03				IAML		13 33 43.5	
	comp=Z,708nm,0.2s						
AC02	**Maricunga**	**3.14**	**212**		**Pn**	**13 33 04.9**	**+0.4**
AC02	**Maricunga**	**3.14**	**212**	*eP*	**Pn**	**13 33 05.5**	**+0.9**
AC02	**Maricunga**	**3.14**	**212**	*eP*	**Pn**	**13 33 06.2**	**+1.6**
AC02				*eS*	**Sn**	**13 33 42.2**	**-2.6**
AC01	**Pan de Azucar**	**3.60**	**236**		**Pn**	**13 33 09.5**	**-0.2**
AC01	**Pan de Azucar**	**3.60**	**236⇑**	*eP*	**Pn**	**13 33 09.3**	**-0.4**
AC01	**Pan de Azucar**	**3.60**	**236**	*eP*	**Pn**	**13 33 09.5**	**-0.2**
AC01				*eS*	**Sn**	**13 33 52.4**	**-1.6**
AC01				IAML		13 33 56.0	
	comp=Z,162nm,0.3s						
PB01	**IPOC Station P**	**3.73**	**326**		**Pn**	**13 33 11.0**	**-0.5**
PB01	**IPOC Station P**	**3.73**	**326**	*eP*	**Pn**	**13 33 11.2**	**-0.2**
PB01				*eS*	**Sn**	**13 33 55.5**	**-1.5**
PB01				IAML		13 33 57.9	
	comp=Z,298nm,0.2s						
AC06	**Mina Casimiro**	**4.22**	**221**		**Pn**	**13 33 16.4**	**-1.1**
PATCX	**Punta Patache**	**4.27**	**321**		**Pn**	**13 33 17.9**	**-0.3**
GO03	**Copiapo**	**4.33**	**217**		**Pn**	**13 33 18.0**	**-0.8**
GO03	**Copiapo**	**4.33**	**217**	*eP*	**Pn**	**13 33 18.4**	**-0.5**
GO03				*eS*	**Sn**	**13 34 09.0**	**-1.5**
PB08	**IPOC Station P**	**4.38**	**336**		**Pn**	**13 33 20.0**	**+0.2**
PB08	**IPOC Station P**	**4.38**	**336**	*eP*	**Pn**	**13 33 20.2**	**+0.4**
PB08				*eS*	**Sn**	**13 34 10.7**	**-1.4**
PB08				IAML		13 34 12.3	
	comp=Z,118nm,0.4s						
TA01	**Diego Aracena**	**4.49**	**323**		**Pn**	**13 33 20.6**	**-0.3**
TA01	**Diego Aracena**	**4.49**	**323**	*eP*	**Pn**	**13 33 20.6**	**-0.3**
TA01				*eS*	**Sn**	**13 34 11.8**	**-2.3**
TA01				IAML		13 34 16.2	
	comp=Z,96nm,0.5s						
HMBC	**Humberstone**	**4.57**	**327**		**Pn**	**13 33 21.9**	**-0.2**
HMBC	**Humberstone**	**4.57**	**327**	*eP*	**Pn**	**13 33 20.8**	**-1.3**
HMBC				*eS*	**Sn**	**13 34 13.1**	**-3.2**
HMBC				IAML		13 34 20.7	
	comp=Z,244nm,0.4s						
GO01	**Chusmiza**	**4.83**	**338**		**Pn**	**13 33 26.3**	**+0.7**
PB11	**IPOC Station P**	**4.92**	**333**	*eP*	**Pn**	**13 33 24.6**	**-1.9**
PB11				*eS*	**Sn**	**13 34 20.0**	**-4.2**
PB11				IAML		13 34 27.1	
	comp=Z,128nm,0.2s						
ACLC	**CERRO LA CRUZ**	**5.24**	**177**	*eP*	Pn	13 33 25.4	-5.3
AC04	**Llanos de Chal**	**5.27**	**220**		**Pn**	**13 33 29.5**	**-1.4**
AC04	**Llanos de Chal**	**5.27**	**220**	*eP*	**Pn**	**13 33 29.4**	**-1.5**
AC04				IAML		13 34 37.2	
	comp=Z,67nm,0.5s						

AC05	**El Transito**	**5.37**	**209**		**Pn**	**13 33 31.9**	**-0.4**
PB16	**IPOC Station P**	**6.17**	**340**		**Pn**	**13 33 43.2**	**+0.1**
GO04	**Tololo Observa**	**6.75**	**207**		**Pn**	**13 33 48.5**	**-1.8**
CFA	**Coronel Fontan**	**7.45**	**186**	P	**Pn**	**13 33 58.3**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=17,slow=11,SNR=2.9						
CFA				S	**Sn**	**13 35 16.5**	**-7.0**
	comp=Z,1.2nm,0.4s,baz=304,slow=22,SNR=2.0						
LPAZ	**La Paz**	**7.89**	**354**		**Pn**	**13 34 05.5**	**-0.1**
LPAZ	**La Paz**	**7.89**	**354**	P	**Pn**	**13 34 05.0**	**-0.6**
	comp=Z,3.2nm,0.3s,baz=167,slow=8.2,SNR=21						
LPAZ				S	**Sn**	**13 35 29.3**	**-5.5**
	comp=Z,1.6nm,0.5s,baz=177,slow=17,SNR=1.7						
LPAZ	**La Paz**	**7.89**	**354**	*eP*	**Pn**	**13 34 07.2**	**+1.6**
MURT	**Porto Murtinho**	**9.25**	**76**	*eP*	**Pn**	**13 34 21.6**	**-1.2**
BBSD	**Serra de San D**	**9.33**	**43**	*eP*	**Pn**	**13 34 24.1**	**+0.2**
SIV	**San Ignacio**	**10.00**	**37**	P	**Pn**	**13 34 29.4**	**-3.3**
	comp=Z,4.0nm,0.4s,baz=222,slow=12,SNR=19						
BO02	**Sierra Bellavi**	**11.02**	**195**	Pn	**Pn**	**13 34 43.9**	**-1.8**
PTLB	**Pontes e Lacer**	**11.56**	**43**		**Pn**	**13 34 53.8**	**+1.0**
PTLB	**Pontes e Lacer**	**11.56**	**43**	*eP*	**Pn**	**13 34 55.1**	**+2.3**
CPSB	**Cacapava Do Su**	**13.77**	**120**	*eP*	**P**	**13 35 22.4**	**-0.5**
PTGB	**Pitanga**	**13.86**	**95**	*eP*	**P**	**13 35 24.4**	**+0.4**
ITAB	**Concordia**	**13.98**	**106**		**Pn**	**13 35 24.0**	**+0.8**
ITAB	**Concordia**	**13.98**	**106**	*eP*	**P**	**13 35 24.4**	**-0.9**
TRQA	**Tornquist**	**14.56**	**163**		**P**	**13 35 31.2**	**-0.4**
LDASE	**Londrina, Braz**	**14.81**	**90**	*eP*	**P**	**13 35 35.4**	**+0.9**
PDRB	**Porto dos Gac**	**16.01**	**41**	*eP*	**P**	**13 35 46.0**	**-1.8**
ITRB	**Iturama**	**16.30**	**77**	*eP*	**Pn**	**13 35 52.2**	**+0.5**
MAJ01	**Sao Joao Batis**	**16.75**	**105**	*eP*	**P**	**13 35 55.5**	**-0.4**
ARAG	**Araguaiana, MT**	**16.78**	**63**	*eP*	**Pn**	**13 35 57.1**	**-0.3**
BB19B	**Bebedouro**	**17.57**	**84**	*eP*	**Pn**	**13 36 06.1**	**-0.6**
VAO	**Valinhos**	**18.65**	**91**		**P**	**13 36 16.2**	**-0.6**
VAO				IAmb	IAmb	13 36 17.6	
	comp=Z,27nm,0.6s						
VAO	**Valinhos**	**18.65**	**91**	*eP*	**P**	**13 36 15.6**	**-1.1**
IPMB	**Ipameri, GO**	**18.81**	**75**	*eP*	**P**	**13 36 18.0**	**-0.5**
SNDB	**Serra Nova Dou**	**19.41**	**54**	*eP*	**P**	**13 36 23.8**	**-1.2**
PARB	**Paraibuna**	**19.83**	**92**	*eP*	**P**	**13 36 29.0**	**-0.5**
BDFB	**Brasilia**	**19.98**	**68**	P	**P**	**13 36 30.7**	**-0.4**
BDFB				IAmb	IAmb	13 36 31.6	
	comp=Z,22nm,0.7s						
BDFB	**Brasilia**	**19.98**	**68**	P	**P**	**13 36 30.0**	**-1.1**
	comp=Z,20nm,0.6s,baz=246,slow=11,SNR=30						
PMNB	**Patos De Minas**	**20.19**	**78**	*eP*	**P**	**13 36 32.7**	**-0.6**
VAS01	**Vassouras-RJ**	**21.97**	**90**	*eP*	**P**	**13 36 51.9**	**0.0**
ITTB	**Itaituba**	**22.61**	**31**	*eP*	**P**	**13 36 56.6**	**-1.3**
DIAM	**Diamantina, MG**	**22.74**	**80**	*eP*	**P**	**13 36 58.4**	**-0.8**
DUB01	**Friburgo-RJ**	**22.98**	**90**	*eP*	**P**	**13 37 00.6**	**-0.6**
JANB	**Januaria**	**23.42**	**71**	*eP*	**P**	**13 37 04.2**	**-1.0**
CAM01	**Campos-RJ**	**23.68**	**89**	*eP*	**P**	**13 37 07.0**	**-0.5**
SMTB	**Santa Maria do**	**24.19**	**54**	*eP*	**P**	**13 37 10.4**	**-1.8**
SDBA	**SAO DESIDERIO**	**24.20**	**65**	*eP*	**P**	**13 37 11.0**	**-1.3**
SMAI	**San Martin Ant**	**43.97**	**180**	P	**P**	**13 39 59.8**	**-1.0**
BELA	**Belgrano 2**	**55.90**	**172**	P	**P**	**13 41 31.3**	**+0.7**
BELA				IAmb	IAmb	13 42 06.2	
	comp=Z,5.1nm,1.4s						
SNAA	**Sanae**	**59.27**	**161**	P	**P**	**13 41 55.5**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=280,slow=12,SNR=2.4						
	comp=Z,1.5nm,0.8s						
QSPA	**South Pole Qui**	**66.03**	**180**	P	**P**	**13 42 41.0**	**+2.0**
QSPA	**South Pole Qui**	**66.03**	**180**	P	**P**	**13 42 41.5**	**+2.5**
	comp=Z,1.3nm,0.8s,baz=96,slow=18,SNR=6.9						
	comp=Z,1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.86**	**69**	P	**P**	**13 43 44.9**	**+0.5**
TORD				IAmb	IAmb	13 43 50.5	
	comp=Z,2.4nm,1.4s						
BOSA	**Boshof**	**80.87**	**117**	P	**P**	**13 44 06.9**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=259,slow=3.3,SNR=10						
	comp=Z,1.8nm,0.4s						
ASAR	**Alice Springs**	**128.20**	**205**	PKP	**PKiKP**	**13 50 59.3**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=127,slow=1.5,SNR=5.7						
WRA	**Warramunga Arr**	**131.36**	**207**	PKP	**PKiKP**	**13 51 05.5**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=161,slow=1.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**143.66**	**28**	PKP	**PKPdf**	**13 51 24.1**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=289,slow=4.5,SNR=4.3						
MKAR	**Makanchi Array**	**146.81**	**39**	PKPbc	**PKPbc**	**13 51 33.2**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=302,slow=3.2,SNR=16						

HEL 24 13:44:37.4±0.1,66.°77N×27.°50E,h0km,ML0.9, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNF	**Rovaniemi**	**0.61**	**255**	PG	Pg	13 44 48.4	-0.8
RNF				SG	Sg	13 44 56.0	-1.1
RANF	**Ranua**	**0.81**	**201**	PG	Pg	13 44 52.2	-0.8
RANF				SG	Sg	13 45 02.5	-1.0
OLKF	**Oulanka, Finla**	**0.89**	**120**	PB	Pg	13 44 53.8	-0.6
OLKF				MSG		13 45 04.6	
	comp=Z,1.1nm,0.2s						
OLKF				SB	Sg	13 45 05.4	-0.4
MSF	**Maaselka**	**1.07**	**144**	PG	Pg	13 44 56.6	-1.2
	baz=327						
MSF				SG	Sg	13 45 09.8	-1.8
KU2	**Taivalkoski**	**1.11**	**164**	PG	Pg	13 44 57.4	-1.2
KU2				SB	Sg	13 45 11.9	-1.0
KU6	**Riekki**	**1.22**	**127**	PG	Pg	13 44 59.6	-1.2
KU6				MSG		13 45 14.5	
	comp=Z,0.6nm,0.2s						
VRF	**Varrio**	**1.28**	**39**	PN	Pg	13 45 01.8	0.0
VRF				MSG		13 45 16.0	
	comp=Z,1.0nm,0.2s						
VRF				SN	Sn	13 45 20.6	+0.4
TOF	**Tornio**	**1.46**	**243**	PN	Pn	13 45 04.4	-0.5
	baz=57						
TOF				MSG		13 45 21.2	
	comp=Z,0.9nm,0.2s						
TOF				SG	Sg	13 45 22.8	-1.3
KLF	**Kolari**	**1.47**	**290**	PN	Pn	13 45 04.1	-1.0
KLF				MSG		13 45 21.5	
	comp=Z,0.6nm,0.2s						
KLF				SG	Sg	13 45 23.1	-1.3
KU1	**Kurvinen**	**1.47**	**145**	SN	Sn	13 45 27.1	+2.0
RAJF	**Raja-Jooseppi**	**1.74**	**10**	SN	Sg	13 45 33.0	-0.2
PAJU	**Pajala**	**1.75**	**280**	PG	Pn	13 45 09.3	+0.3
PAJU				SN	Sn	13 45 32.0	0.0
OUL	**Oulu**	**1.82**	**202**	PG	Pn	13 45 10.0	+0.1
	baz=20						
OUL				SG	Sn	13 45 33.4	-0.2
KALU	**Kalix**	**1.91**	**243**	SG	Sb	13 45 37.1	-0.2
ERTU	**Ertsjaerv**	**2.13**	**266**	PG	Pn	13 45 15.2	+1.0
ERTU				SG	Sb	13 45 43.9	+0.3
OBF4	**Vikkela, Lumij**	**2.20**	**208**	MSG		13 45 42.7	
	comp=Z,0.7nm,0.2s						
OBF4				SG	Sb	13 45 45.3	-0.5
HEF	**Hetta**	**2.21**	**320**	PG	Pb	13 45 17.0	-1.1
HEF				MSG		13 45 42.7	
	comp=Z,0.3nm,0.2s						
HEF				SG	Sb	13 45 45.6	-0.3

IDC 24 13:54:49.8±806.0,54.°18N×3.°55E,h0km,Error ellipse: s-maj=372.9km s-min=147.6km az=110.0,North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.28**	**126**	I	I	14 43 40.0	
	baz=314,slow=328,SNR=2.2						
I43RU	**DUBNA INFRASONI**	**9.15**	**69**	I	I	15 47 10.0	
	baz=277,slow=315,SNR=4.0						
I31KZ	**AKTYUBINSK INF**	**32.84**	**74**	I	I	17 17 50.0	
	baz=298,slow=320,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**45.15**	**55**	I	I	18 30 10.0	
	baz=305,slow=328,SNR=0.9						

*IDC **24** 14:14:12.7±0.9,11.°69N×141.°14E,h0km,mb3.7/8, mbtmp3.7/9,ML4.0/1,MS2.8/1,Error ellipse: s-maj=29.4km s-min=21.0km az=106.0*

ISC 24 14:14:18.9±0.9,11.°7N±0.°2×141.°2E±0.°1,h45km,n9, σ0$80/10,mb3.5/8,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.11**	**62**	Pn	**Pn**	**14 15 18.7**	**-0.4**
	9.0nm,0.3s,baz=159,slow=14,SNR=6.5						
GUMO				Sn	**Sn**	**14 16 06.5**	**+0.6**
	3.5nm,0.3s,baz=45,slow=22,SNR=1.4						
GUMO				LR	LR	14 17 03.4	
	comp=Z,116nm,18.9s,baz=102,slow=42						
	36nm,0.5s						
WRA	**Warramunga Arr**	**32.11**	**192**	P	**P**	**14 20 41.7**	**-0.3**
	0.6nm,0.9s,baz=9.8,slow=9.1,SNR=2.7						
	0.6nm,0.9s						

ASAR	**Alice Springs**	**35.81**	**191**	P	**P**	**14 21 14.7**	**+0.5**
	0.2nm,0.5s,baz=21,slow=12,SNR=11						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**60.40**	**317**	P	**P**	**14 24 24.2**	**+0.4**
	0.2nm,0.5s,baz=97,slow=7.4,SNR=4.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**63.79**	**321**	P	**P**	**14 24 46.8**	**+0.5**
	1.8nm,0.3s,baz=101,slow=7.7,SNR=2.6						
	1.8nm,0.3s						
BVAR	**Borovoye Array**	**69.21**	**322**	P	**P**	**14 25 21.9**	**+0.9**
	0.9nm,0.4s,baz=101,slow=7.7,SNR=7.7						
	0.9nm,0.4s						
ILAR	**Eielson Array**	**71.86**	**25**	P	**P**	**14 25 36.1**	**-0.7**
	0.2nm,0.5s,baz=244,slow=6.0,SNR=6.7						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**86.22**	**27**	P	**P**	**14 26 56.1**	**+0.7**
	0.1nm,0.4s,baz=289,slow=5.2,SNR=2.1						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**91.34**	**334**	P	**P**	**14 27 18.6**	**-1.1**
	0.6nm,0.4s,baz=53,slow=5.4,SNR=6.2						
	0.6nm,0.4s						

*SJA **24** 14:14:46.3±1.0,21.°84S×68.°57W,h135km,ML3.5,MW3.5*
*GUC **24** 14:14:48.0±0.7,21.°82S×68.°55W,h127km±3km,ML3.5*

ISC 24 14:14:46.9±1.5,21.°83S±0.°03×68.°63W±0.°04, h140km±11km,n27,σ0$65/53,4C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.57**	**274⇑**	*iP*	**Pn**	**14 15 07.7**	**0.0**
PB09				*eS*	**Sn**	**14 15 22.9**	**-0.6**
PB03	**IPOC Station P**	**1.07**	**258⇑**	*iP*	**Pn**	**14 15 11.9**	**+0.3**
PB03				*eS*	**Sn**	**14 15 30.3**	**+0.1**
PB03				IAML		14 15 31.7	
	comp=N,1μm,0.3s						
PB03	**IPOC Station P**	**1.07**	**258**	*eP*	**Pn**	**14 15 11.9**	**+0.3**
PB03				*eS*	**Sn**	**14 15 31.1**	**+0.9**
PB03				IAML		14 15 31.4	
	comp=Z,811nm,0.3s						
PB01	**IPOC Station P**	**1.12**	**314**	*eP*	**Pn**	**14 15 11.9**	**-0.1**
PB01				*eS*	**Sn**	**14 15 30.1**	**-0.9**
PB01				IAML		14 15 32.7	
	comp=E,726nm,0.3s						
PB01	**IPOC Station P**	**1.12**	**314**	*eP*	**Pn**	**14 15 12.0**	**0.0**
PB01				*eS*	**Sn**	**14 15 31.9**	**+0.9**
PB01				IAML		14 15 32.9	
	comp=Z,454nm,0.2s						
AF01	**San Pedro de A**	**1.19**	**160**	*eP*	**Pn**	**14 15 12.3**	**-0.5**
AF01				*eS*	**Sn**	**14 15 31.2**	**-1.3**
AF01				IAML		14 15 44.0	
	comp=N,805nm,0.6s						
PB06	**IPOC Station P**	**1.23**	**225⇑**	*iP*	**Pn**	**14 15 13.5**	**+0.3**
PB06				*eS*	**Sn**	**14 15 33.2**	**+0.1**
PB06				IAML		14 15 34.6	
	comp=N,1μm,0.3s						
PB06	**IPOC Station P**	**1.23**	**225**	*eP*	**Pn**	**14 15 13.4**	**+0.3**
PB06				*eS*	**Sn**	**14 15 33.9**	**+0.8**
PB06				IAML		14 15 35.4	
	comp=Z,489nm,0.2s						
PATCX	**Punta Patache**	**1.74**	**305**	*eP*	**Pn**	**14 15 18.9**	**+0.4**
PATCX				*eS*	**Sn**	**14 15 42.5**	**-0.2**
PATCX				IAML		14 15 46.1	
	comp=E,707nm,0.4s						
PATCX	**Punta Patache**	**1.74**	**305**	*eP*	**Pn**	**14 15 18.9**	**+0.4**
PATCX				*eS*	**Sn**	**14 15 43.2**	**+0.5**
PATCX				IAML		14 15 48.4	
	comp=Z,347nm,0.6s						
PB08	**IPOC Station P**	**1.75**	**344**	*eP*	**Pn**	**14 15 19.4**	**+0.4**
PB08				*eS*	**Sn**	**14 15 42.9**	**-0.6**
PB08				IAML		14 15 46.1	
	comp=E,273nm,0.3s						
PB08	**IPOC Station P**	**1.75**	**344**	*eP*	**Pn**	**14 15 19.4**	**+0.4**
PB08				*eS*	**Sn**	**14 15 43.8**	**+0.4**
PB08				IAML		14 15 45.1	
	comp=Z,148nm,0.4s						
PB05	**IPOC Station P**	**1.78**	**235⇑**	*iP*	**Pn**	**14 15 19.4**	**+0.4**
PB05				*eS*	**Sn**	**14 15 43.3**	**-0.1**
PB05				IAML		14 15 44.2	
	comp=N,406nm,0.4s						
PB05	**IPOC Station P**	**1.78**	**235**	*eP*	**Pn**	**14 15 19.1**	**+0.1**
PB05				*eS*	**Sn**	**14 15 43.9**	**+0.4**
PB05				IAML		14 15 45.4	
	comp=Z,235nm,0.3s						
TA01	**Diego Aracena**	**1.92**	**311**	*eP*	**Pn**	**14 15 20.3**	**-0.2**
T

H11N2	WAKE ISLAND Hy	40.34	71	T	T	15 45 11.3	
	baz=264,slow=74,SNR=8.4						
H11N3	WAKE ISLAND Hy	40.34	71	T	T	15 45 07.0	
	baz=264,slow=74,SNR=9.4						
SONM	Songino Array	41.69	340	P	P	15 01 53.3	+0.1
	0.9nm,0.6s,baz=152,slow=9.6,SNR=4.1						
	0.9nm,0.6s						
PALK	Pallekele	45.26	271	LR	LR	15 24 31.4	
	comp=Z,182nm,18.0s,baz=144,slow=40						
PETK	Petropavlovsk-	50.18	24	P	P	15 02 58.8	-0.8
	1.0nm,0.9s,baz=231,slow=7.4,SNR=5.9						
	1.0nm,0.9s						
MKAR	Makanchi Array	52.65	323	P	P	15 03 17.4	-0.7
	0.7nm,0.6s,baz=119,slow=8.3,SNR=10						
	0.7nm,0.6s						
ZALV	Zalesovo Beam	55.28	331	P	P	15 03 36.0	-1.0
	0.6nm,0.6s,baz=108,slow=9.3,SNR=2.7						
	0.6nm,0.6s						
KURBB	Kurchatov Arra	56.70	326	P	P	15 03 46.4	-0.9
	0.7nm,0.6s,baz=124,slow=7.0,SNR=11						
	0.7nm,0.6s						
BVAR	Borovoye Array	62.30	326	P	P	15 04 25.6	0.0
	0.5nm,0.6s,baz=121,slow=5.6,SNR=4.2						
	0.5nm,0.6s						
NRIK	Noril'sk	64.69	346	P	P	15 04 41.0	-0.1
	3.4nm,0.6s,baz=130,slow=6.3,SNR=6.2						
	3.4nm,0.6s						
KDAK	Kodiak Island	77.14	33	LR	LR	15 34 32.2	
	comp=Z,15nm,21.7s,baz=106,slow=31						
GNI	Garni	77.54	309	LR	LR	15 47 16.2	
	comp=Z,21nm,18.5s,baz=110,slow=41						
ILAR	Eielson Array	79.97	26	P	P	15 06 13.0	+0.9
	0.2nm,0.7s,baz=246,slow=5.8,SNR=7.2						
	0.2nm,0.7s						
ARCES	ARCESS Array B	84.87	340	P	P	15 06 37.9	+0.4
	2.4nm,0.7s,baz=78,slow=5.8,SNR=9.0						
	2.4nm,0.7s						
FINES	FINESS Array B	86.55	332	P	P	15 06 46.0	+0.1
	1.3nm,0.7s,baz=60,slow=5.6,SNR=6.1						
	1.3nm,0.7s						
YKA	Yellowknife Ar	94.30	24	P	P	15 07 23.4	+1.2
	0.4nm,0.8s,baz=301,slow=4.8,SNR=6.7						
	0.4nm,0.8s						

*AFAD **24** 15:05:49.5, 34°.93N×28°.65E, h7km±3km, ML3.0*
*GII **24** 15:05:54.5±0.0, 35°.48N×28°.52E, h10km, Mws2.9, confirmed*
*THE **24** 15:06:01.8, 35°.65N×28°.45E, h14km±3km, ML2.7/3, Error ellipse: s-maj=4.2km s-min=1.1km az=340.0*
*ATH **24** 15:06:01.2, 35°.48N×28°.62E, h32km±7km, ML2.8/6, Manual Solution by G.Panopoulou First location: 2019/04/24 15:07:10, This location: 2019/04/24 15:45:08 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 4 km*

ISC 24 15:05:56.7±1.5, 35°.41N±0°.04×28°.64E±0°.04, h2km±12km, n45, σ1§28/51, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.90	333	P	Pg	15 06 13.9	-0.1
ARG				S	Sg	15 06 23.5	-2.2
	808nm,0.8s						
ARG	Arkhangelos	0.90	333	P	Pn	15 06 16.3	-0.1
ARG				S	Sn	15 06 28.8	-1.3
KSL	Kastellorizon	1.07	46	P	Pn	15 06 20.2	+1.5
KSL				S	Sn	15 06 34.7	+0.6
	190nm,0.8s						
KSL	Kastellorizon	1.07	46	P	Pn	15 06 19.4	+0.7
IZZE	Mula-Seydike	1.13	25	P	Pn	15 06 20.9	+1.3
IZZE				i AML	AML	15 06 53.0	
	comp=E,190nm,1.2s						
IZZE				i AML	AML	15 06 56.0	
	comp=N,192nm,0.6s						
AKAS	Kas	1.14	44	P	Pn	15 06 22.1	+2.3
KARP	Karpathos	1.21	277	P	Pg	15 06 19.6	-0.3
KARP				S	Sg	15 06 34.9	-0.7
	780nm,0.8s						
KARP	Karpathos	1.21	277	P	Pg	15 06 21.2	+1.3
KARP				S	Sb	15 06 37.8	+1.4
TURN	Turunc	1.40	347	P	Pb	15 06 24.2	+0.8
TURN				i AML	AML	15 06 55.0	
	comp=E,108nm,0.9s						
TURN				i AML	AML	15 07 00.0	
	comp=N,119nm,0.6s						
SABU	Mula-Dalaman	1.43	11	P	Pb	15 06 24.4	+0.2
SABU				S	Sn	15 06 52.2	+9.0
SABU				i AML	AML	15 06 57.0	
	comp=N,180nm,0.8s						
SABU				i AML	AML	15 06 58.0	
	comp=E,153nm,1.1s						
YAZI	Mula-Dat§a-	1.59	323	P	Pn	15 06 26.5	+0.7
YAZI				i AML	AML	15 06 56.0	
	comp=N,124nm,0.7s						
YAZI				i AML	AML	15 06 59.0	
	comp=E,107nm,0.8s						
ELL	Elmali	1.69	37	P	Pb	15 06 28.2	-0.3
MULA	Mugla, Merkez-	1.86	352	P	Pg	15 06 34.5	+2.2
DNZT	Denizli-Tavas-	1.89	9	P	Pb	15 06 31.5	-0.4
BDRM	Kayabasi	1.91	330	P	Pb	15 06 31.8	-0.4
BDRM				S	Sn	15 06 55.5	+0.5
	comp=E,86nm,0.8s						
BDRM				i AML	AML	15 07 11.0	
GOLH	Golhisar	1.97	22	P	Pb	15 06 32.9	-0.4
GOLH				i AML	AML	15 07 23.0	
	comp=N,78nm,1.0s						
GOLH				i AML	AML	15 07 28.0	
	comp=E,58nm,1.0s						
ZKR	Zakros	2.00	262	P	Pn	15 06 33.0	+1.5
ZKR	Zakros	2.00	262	P	Pn	15 06 32.8	+1.3
TAVA	DENIZLI_Tavas	2.06	6	P	Pb	15 06 34.1	-0.8
TAVA				i AML	AML	15 07 21.0	
	comp=N,47nm,0.8s						
DNIZ	Denizli-Tavas-	2.23	8	P	Pn	15 06 35.5	+0.7
DNIZ				i AML	AML	15 07 26.0	
	comp=N,87nm,0.7s						
DNIZ				i AML	AML	15 07 40.0	
	comp=E,80nm,0.7s						
AYDN	Tasoluk	2.33	345	P	Pn	15 06 37.8	+1.7
AYDN				i AML	AML	15 07 32.0	
	comp=E,37nm,0.7s						
AYDN				i AML	AML	15 08 23.0	
	comp=N,135nm,3.4s						
DDIM	Aydin, Didim	2.33	332	P	Pb	15 06 38.8	-0.6
DDIM				i AML	AML	15 07 26.0	
	comp=E,87nm,0.9s						
DDIM				i AML	AML	15 07 28.0	
	comp=N,121nm,0.9s						
ESEN	Aydn-Nazilli	2.39	355	P	Pg	15 06 42.5	0.0
APE	Apeiranthos	3.00	304	P	Pn	15 06 43.6	-1.8
APE	Apeiranthos	3.00	304	P	Pn	15 06 45.7	+0.4
AKMS	Akamas	3.06	96	P	Pn	15 06 48.0	+2.0
IDI	Anoyia	3.06	269	P	Pn	15 06 47.3	+1.1
IDI	Anoyia	3.06	269	P	Pn	15 06 47.0	+0.8
ALFC	Alefka	3.25	93	P	Pn	15 06 50.7	+2.0
NATA	Nata	3.29	100	P	Pn	15 06 50.4	+1.1
TROD	Troodos	3.50	96	P	Pn	15 06 53.6	+1.4
IMMV	Iera Moni Meta	3.80	272	P	Pn	15 06 57.8	+1.5
CSS	Mathiatis	3.87	95	P	Pn	15 06 56.1	-1.2
CSS	Mathiatis	3.87	95	P	Pn	15 06 58.7	+1.4
MSBI	Mazada	6.95	124	P	Pn	15 07 38.1	-1.4
MSBI	Mazada	6.95	124	S	Sn	15 08 58.2	-1.0
PRNI	Paran	7.36	132	P	Pn	15 07 44.1	-1.1
PRNI	Paran	7.36	132	S	Sn	15 09 08.2	-1.1
KRMI	Paran Flat	7.36	134	P	Pn	15 07 43.0	-2.2
KRMI	Paran Flat	7.36	134	S	Sn	15 09 08.0	-1.4
HRFI	Mount Harif	7.60	133	P	Pn	15 07 47.5	-1.1
MBRI	Mt Berech	7.71	135	P	Pn	15 07 48.8	-1.2
MBRI	Mt Berech	7.71	135	S	Sn	15 09 17.2	-0.8
EIL	Elat	7.82	135	P	Pn	15 07 49.8	-1.7
EIL	Elat	7.82	135	S	Sn	15 09 20.0	-0.7

*IDC **24** 15:07:52.8±1.1, 29°.35N×85°.31E, h0km, mb3.7/10, mbtmp3.6/12, ML3.3/2, Error ellipse: s-maj=46.6km s-min=17.9km az=55.0*
*DMN **24** 15:07:53.4±0.0, 29°.58N×85°.39E, h10km, Ml4.1/5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 24 15:07:55.2±2.7, 29°.49N±0°.10×85°.33E±0°.07, h12km±19km, n19, σ0§83/25, mb3.8/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	Gumba	1.64	163	Pg	Pn	15 08 24.7	+0.5
	baz=165,slow=0.0						
GUN				Sg	Sg	15 08 48.9	+0.9
	435nm,0.5s,baz=165,slow=0.0						
KKN	Kakani	1.69	182	Pg	Pg	15 08 27.2	-0.4
	baz=183,slow=0.0						
KKN				Sg	Sg	15 08 49.6	0.0
	151nm,0.2s,baz=183,slow=0.0						
DMN	Daman	1.88	186	Pg	Pb	15 08 30.1	+0.5
	baz=187,slow=0.0						
PKIN	Phulchoki	1.90	178	Pg	Pg	15 08 31.1	-0.6
	baz=180,slow=0.0						
PKIN				Sg	Sg	15 08 57.5	+1.1
	284nm,0.5s,baz=180,slow=0.0						
PKI	Pulchoki	1.91	178	Pg	Pg	15 08 31.1	-0.7
	baz=180,slow=0.0						
PKI				Sg	Sg	15 08 57.7	+1.1
	baz=180,slow=0.0						
KOLN	Koldanda	2.29	222	Pg	Pg	15 08 38.5	-0.6
	baz=221,slow=0.0						
KOLN				Sg	Sg	15 09 08.5	-0.3
	418nm,0.6s,baz=221,slow=0.0						
PYUN	Piuthan	2.48	237	Pg	Pb	15 08 40.5	+0.7
	baz=236,slow=0.0						
PYUN				Sg	Sg	15 09 14.5	-0.3
	409nm,0.5s,baz=236,slow=0.0						
CMAR	Chiang Mai Arr	16.57	128	Pn	Pn	15 11 45.4	-2.1
	0.1nm,0.3s,baz=318,slow=9.5,SNR=11						
	0.2nm,0.4s						
MKAR	Makanchi Array	17.44	353	P	Pn	15 11 57.9	-0.4
	baz=173,slow=13,SNR=4.6						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	21.73	348	P	P	15 12 46.1	-0.1
	0.6nm,0.8s,baz=172,slow=11,SNR=6.7						
	0.6nm,0.8s						
SONM	Songino Array	24.49	36	P	P	15 13 15.3	+0.9
	0.8nm,0.4s,baz=228,slow=10,SNR=5.9						
	0.8nm,0.4s						
BVAR	Borovoye Array	25.96	339	P	P	15 13 28.2	+0.8
	0.3nm,0.5s,baz=143,slow=11,SNR=3.6						
	0.3nm,0.5s						
FINES	FINESS Array B	49.94	327	P	P	15 16 49.0	+0.4
	1.4nm,0.6s,baz=102,slow=8.5,SNR=9.9						
	1.4nm,0.6s						
ARCES	ARCESS Array B	52.23	337	P	P	15 17 06.5	+0.7
	2.4nm,0.8s,baz=104,slow=6.8,SNR=6.9						
	2.4nm,0.8s						
HFS	Hagfors	55.85	325	P	P	15 17 32.4	+0.2
	0.9nm,0.4s,baz=103,slow=6.4,SNR=7.2						
	0.9nm,0.4s						
NOA	NORSAR Array B	57.05	326	P	P	15 17 40.7	-0.2
	1.0nm,0.7s,baz=89,slow=7.0,SNR=3.4						
	1.0nm,0.7s						
WRA	Warramunga Arr	68.16	130	P	P	15 18 54.8	-0.8
	0.7nm,0.7s,baz=317,slow=6.1,SNR=2.9						
	0.7nm,0.7s						
ASAR	Alice Springs	70.52	133	P	P	15 19 09.1	-1.0
	0.2nm,0.6s,baz=312,slow=6.0,SNR=7.5						
	0.2nm,0.6s						
YKA	Yellowknife Ar	86.95	9	P	P	15 20 40.1	+0.2
	0.4nm,0.8s,baz=342,slow=5.3,SNR=4.9						
	0.4nm,0.8s						

GCG 24 15:10:16.1±1.8, 15°.75N×90°.84W, h10km±36km, MD3.6, MW2.9, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKI	Kika Raxquin	1.07	210	eP	Pg	15 10 35.9	-0.9
SOKI				eS	Sb	15 10 51.2	0.0
CCIG	Comitan	1.35	293	eP	Pg	15 10 42.1	0.0
CCIG				eS	Sg	15 11 01.9	+2.2
PETF	Flores	1.49	39	eP	Pn	15 10 42.0	-0.9
PETF				eS	Sn	15 11 02.2	-0.3
MTO3	Montecristo	1.96	133	eP	Pb	15 10 51.4	-0.6
MTO3				eS	Sb	15 11 17.3	+0.6

KRSC 24 15:30:05.7±1.9, 50°.52N×160°.21E, h61km±39km, MI3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	1.86	315	eP	Pn	15 30 37.4	+2.1
KDTR				eS	Sn	15 30 59.3	+1.6
RUS	Russkaya	2.19	332	eP	Pn	15 30 42.2	+2.6
RUS				eS	Sn	15 31 07.7	+2.1
MTVR	Mutnovka	2.34	328	eP	Pn	15 30 44.5	+2.6
MTVR				eS	Sn	15 31 12.0	+2.5
PAU	Pauzhetka	2.35	295	eS	Sn	15 31 11.2	+1.7
GRL	Gorelyy	2.43	328	eP	Pn	15 30 46.4	+3.3
GRL				eS	Sn	15 31 15.6	+3.8
SPN	Mys Shipunski	2.58	357	eS	Sn	15 31 17.4	+2.2
SKR	Severo-Kuril's	2.62	275	eP	Pn	15 30 46.8	+1.3
SKR				eS	Sn	15 31 16.2	+0.2
KRMR	Karymshinskiy	2.65	332	eP	Pn	15 30 49.2	+3.2
KRMR				eS	Sn	15 31 19.9	+3.0
DALK	Dalny	2.67	341	eP	Pn	15 30 49.1	+2.9
DALK				eS	Sn	15 31 19.7	+2.3
PET	Petropavlovsk	2.69	339	eP	Pn	15 30 49.5	+3.1
PET				eS	Sn	15 31 20.4	+2.7
NLC	Nalytchevo	2.71	349	eS	Sn	15 31 21.6	+3.3
UGLR	Uglovaya	2.83	343	eP	Pn	15 30 52.2	+3.7
SDLR	Sedlovina	2.88	344	eP	Pn	15 30 52.6	+3.3
AVH	Avacha	2.90	342	eP	Pn	15 30 53.0	+3.6
KOK	Koryaka	2.94	341	eP	Pn	15 30 53.7	+3.7
KRX	Arik	3.00	342	eP	Pn	15 30 54.3	+3.4
APC	Apacha	3.07	323	eP	Pn	15 30 56.1	+4.5
APC				eS	Sn	15 31 32.1	+5.0
GNL	Ganaly	3.47	337	eP	Pn	15 31 01.6	+4.3
GNL				eS	Sn	15 31 41.8	+4.5
MKZ	Mys Kozlova	4.15	12	eP	Pn	15 31 08.8	+2.4
TUMD	Tumrok D	4.69	1	eP	Pn	15 31 16.3	+2.5
TUMD				eS	Sn	15 32 08.6	+1.7
KBTR	Krutoberegovo	5.91	14	eP	Pn	15 31 33.9	+3.5

*LDG **24** 15:32:14.5±0.1, 43°.48N×0°.64W, h3km, Md2.1/1, Ml2.7/14, Error ellipse: s-maj=1.5km s-min=1.1km az=129.0*
*MDD **24** 15:32:15.2±0.3, 43°.45N×0°.63W, h1km±2km, mb_Lg2.4/33, Error ellipse: s-maj=2.3km s-min=1.3km az=6.0*
*STR **24** 15:32:15.3±0.4, 43°.N±2°.×±°, h0km, MLv2.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=178.4, preliminary*

ISC 24 15:32:13.0±0.7, 43°.52N±0°.02×0°.61W±0°.02, h0km, n43, σ1§27/79, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URDF	Urds	0.08	170	Pg	Pg	15 32 16.1	+1.6
URDF				Sg	Sg	15 32 17.8	+2.1
ORDF	Ordiarp	0.39	218	Pg	Pg	15 32 21.0	+0.6
ORDF				Sg	Sg	15 32 26.9	+1.5
TERF	Tercis-les-Bai	0.40	294	Pg	Pb	15 32 23.5	+0.7
TERF				Sg	Sb	15 32 29.0	-0.5
ATE	Arette	0.44	188	Pg	Pg	15 32 22.1	+0.8
ATE				Sg	Sg	15 32 28.5	+1.4
REYF	Montagne du Re	0.48	160	Pg	Pg	15 32 23.3	+1.2
REYF				Sg	Sg	15 32 30.3	+2.0
OSSF	Osses	0.54	241	Pg	Pg	15 32 24.3	+1.0
OSSF				Sg	Sg	15 32 31.6	+1.2
IRAF	Chalets d'Irat	0.58	213	Pg	Pg	15 32 24.9	+0.9
IRAF				Sg	Sg	15 32 31.4	-0.1
PYLO	Lourdes	0.59	136	Pg	Pb	15 32 25.8	-0.4
PYLO				Sg	Sb	15 32 34.5	-0.6
SJPF	Ste Jean	0.60	228	ePg	Pg	15 32 24.7	+0.2
SJPF				eSg	Sg	15 32 31.6	-0.8
	38nm,0.2s						
ETSF	Etsaut	0.62	176	ePg	Pg	15 32 25.1	+0.2
ETSF				eSg	Sg	15 32 32.5	-0.5
	31nm,0.3s						
LABF	Labassere	0.69	133	Pg	Pb	15 32 28.0	+0.1
LABF				Sg	Sb	15 32 38.2	+0.3
EALK	Alkurruntz	0.72	246	Pg	Pg	15 32 27.2	+0.5
EALK				Sg	Sg	15 32 36.6	+0.6
EALK				i Vmb_Lg		15 32 39.3	
EALK	Alkurruntz	0.72	246	Pg	Pg	15 32 27.5	+0.8
EALK	Alkurruntz	0.72	246	Sg	Sg	15 32 37.7	+1.7
CANF	Canfranc	0.76	175	Pg	Pg	15 32 28.0	+0.5
CANF				Sg	Sg	15 32 38.5	+1.2
EORO	Oroz-Betelu	0.81	219	Pg	Pg	15 32 29.3	+0.9
EORO				Sg	Sg	15 32 38.8	-0.1
EORO				i Vmb_Lg		15 32 42.9	
EPF	Esparros	0.85	125	ePg	Pb	15 32 30.8	+0.2
EPF				eSg	Sg	15 32 41.0	+0.7
	23nm,0.2s						
CRAS	Crastes	0.99	78	Pg	Pn	15 32 35.4	+1.2
CRAS				Sg	Sn	15 32 49.6	+0.7
ECHI	Chisagues Biel	1.04	145	Pg	Pg	15 32 33.5	+0.6
ECHI				Sg	Sg	15 32 46.5	+0.1
ECHI				i Vmb_Lg		15 32 52.6	
ECHI	Chisagues Biel	1.04	145	Pg	Pg	15 32 33.5	+0.6
ECHI	Chisagues Biel	1.04	145	Sg	Sb	15 32 47.9	-0.3
MELF	Melles	1.19	122	Pg	Pn	15 32 37.6	+0.6
MELF				Sg	Sb	15 32 53.2	+0.7
MONQ	Montcuq	1.56	56	Pn	Pg	15 32 45.1	+2.3
MONQ				Sn	Sg	15 33 06.9	+3.9
LFF	La Frestale	1.72	34	ePg	Pg	15 32 47.5	+1.6
LFF				eSg	Sg	15 33 10.2	+2.0
	3.0nm,0.2s						
ESAC	San Caprasio	1.80	177	Pg	Pb	15 32 46.9	0.0
ESAC				Sg	Sb	15 33 10.3	+0.4
DUNF	Dun	1.84	105	Pn	Pb	15 32 47.9	+0.4
MTLF	Montolieu	2.07	94	ePn	Pn	15 32 48.4	-0.6
MTLF	Montolieu	2.07	94	ePg	Pg	15 32 52.9	+0.3
MTLF				eSg	Sg	15 33 19.6	+0.2
ELAN	Lanestosa	2.08	263	Pn	Pn	15 32 49.6	+0.5
ELAN				Pg	Pb	15 32 52.6	+1.1
ELAN				Sn	Sn	15 33 15.1	-0.6
ELAN				Sg	Sg	15 33 20.1	+0.4
ELAN				i Vmb_Lg		15 33 22.9	
RJF	Les Rejaudoux	2.35	40	ePg	Pg	15 32 59.5	+1.6
RJF				eSg	Sg	15 33 29.5	+1.2
	16nm,0.4s						
CAF	Calviac	2.38	53	ePg	Pg	15 32 59.5	+0.9
CAF				eSn	Sn	15 33 21.8	-1.4
	1.6nm,0.2s						
CAF				eSg	Sg	15 33 30.8	+1.3
EPOB	Poblet	2.50	149	Pg	Pb	15 32 59.8	+1.0
EPOB				Sg	Sg	15 33 32.5	-0.8
EPOB				i Vmb_Lg		15 33 36.4	
MFF	Saint Martin d	3.10	6	ePg	Pg	15 33 12.7	+0.4
MFF				eSg	Sg	15 33 52.7	+0.2
	22nm,0.3s						
EMOS	Mosqueruela	3.16	178	Sn	Sn	15 33 39.8	-2.7
EMOS				i Vmb_Lg		15 34 00.4	
LASF	Ste Croix	3.28	79	ePn	Pn	15 33 04.9	-0.8
LASF	Ste Croix	3.28	79	ePg	Pg	15 33 15.9	0.0
LASF				eSn	Sn	15 33 42.8	-2.6
LASF				eSg	Sg	15 33 57.7	-0.7
	4.0nm,0.3s						
TCF	Toulx Ste Croi	3.42	35	eSn	Sn	15 33 45.2	-3.5
TCF				eSg	Sg	15 34 03.0	+0.3
	2.8nm,0.3s						
BGF	Bois d'Agland	3.90	38	eSg	Sg	15 34 18.2	-0.1
	14nm,0.4s						
AVF	Avril sur Loir	4.31	39	eSn	Sn	15 34 07.8	-2.8
AVF				eSg	Sg	15 34 31.0	-0.3
	3.3nm,0.4s						
SMF	Signal de Mont	4.44	44	eSg	Sg	15 34 34.5	-1.0
	1.6nm,0.3s						
SSF	Saint Saulge	4.58	38	ePn	Pn	15 33 23.3	-0.2
SSF				eSg	Sg	15 34 41.2	+1.2
	2.5nm,0.4s						
QUIF	Quistinic	4.75	339	ePn	Pn	15 33 25.0	-0.7
QUIF				eSn	Sn	15 34 18.4	-3.0
	2.7nm,0.3s						
LOR	Lormes	4.89	38	eSg	Sg	15 34 49.3	-0.8
	1.8nm,0.4s						

WEL 24 15:33:39.7±0.5, 33°S±7°×18°0W±1°7, h12km, mB4.8/7, ML4.5/19, MLv4.2/10, Mw(mB)4.0/7, Error ellipse: s-maj=24.2km s-min=3.8km az=111.1, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.31	20	P	Pn	15 34 43.5	-1.6
GLKZ				S	Sn	15 35 33.3	-2.0
WMGZ	Waiomatatini S	4.75	199	P	Pn	15 34 54.1	+3.0
WMGZ				S	Sn	15 35 47.6	+1.5
HAZ	Te Kaha	4.89	205	P	Pn	15 34 54.8	+1.8
HAZ				S	Sn	15 35 52.1	+2.6
PKGZ	Pakihiroa	4.89	202	P	Pn	15 34 54.0	+0.9
PKGZ				S	Sn	15 35 53.5	+3.9
PUZ	Puketiti	5.03	199	P	Pn	15 34 56.4	+1.4
PUZ				S	Sn	15 35 55.6	+2.6
KUZ	Kuaotunu	5.11	227	P	Pn	15 34 59.0	+3.0
RUGZ	Raukumara Rang	5.12	204	P	Pn	15 34 57.1	+0.9
RUGZ				S	Sn	15 35 54.6	-0.7
TWGZ	Tauwhareparae	5.21	201	P	Pn	15 35 00.5	+3.0
TWGZ				S	Sn	15 36 01.0	+3.5
CNGZ	Carnagh Statio	5.43	198	P	Pn	15 35 00.6	+0.1
TKGZ	Te Karaka	5.49	201	P	Pn	15 35 00.2	-1.1
TKGZ				S	Sn	15 36 05.1	+0.7
MWZ	Matawai	5.50	204	P	Pn	15 35 01.4	0.0
MWZ				S	Sn	15 36 03.8	-0.8
URZ	Urewera	5.58	207	P	Pn	15 35 02.5	0.0
URZ				S	Sn	15 36 05.3	-1.3
RIGZ	Rimuhau	5.76	201	P	Pn	15 35 04.5	-0.6
MUGZ	Murupara	5.91	208	P	Pn	15 35 08.2	+1.2
MUGZ				S	Sn	15 36 11.9	-2.7
PRGZ	Paritu Road	5.93	199	P	Pn	15 35 08.5	+1.1
PRGZ				S	Sn	15 36 16.2	+1.0
SNGZ	Shannon Statio	5.96	203	P	Pn	15 35 06.0	-1.8
SNGZ				S	Sn	15 36 13.7	-2.4
PRRZ	Plateau Road	6.08	211	P	Pn	15 35 10.3	+1.0
KNZ	Kokohu	6.08	200	P	Pn	15 35 09.9	+0.6
MHGZ	Mahia Peninsul	6.14	198	P	Pn	15 35 11.4	+1.2
MHGZ				S	Sn	15 36 17.2	-3.2
ALRZ	Allen Road	6.15	211	P	Pn	15 35 10.9	+0.6
RAHZ	Arahi	6.17	204	P	Pn	15 35 11.0	+0.3
RAHZ				S	Sn	15 36 21.5	+0.3
MTHZ	Maungataniwha	6.20	206	P	Pn	15 35 11.3	+0.2
TLZ	Tolley Road	6.34	217	P	Pn	15 35 14.5	+1.5
NMHZ	Naumai	6.43	205	P	Pn	15 35 14.6	+0.3
NMHZ				S	Sn	15 36 26.0	-1.7
ARHZ	Aropaoanui	6.51	204	P	Pn	15 35 15.1	-0.3
ARHZ				S	Sn	15 36 27.1	-2.5
BKZ	Black Stump Fm	6.61	207	P	Pn	15 35 15.8	-0.8
MCHZ	McNeill Hill	6.78	205	P	Pn	15 35 18.0	-0.9
HIZ	Hauiti	6.83	219	P	Pn	15 35 21.2	+1.5
KWHZ	Kaweka Forest	6.86	206	P	Pn	15 35 18.8	-1.3
TMVZ	Te Maari	6.89	212	P	Pn	15 35 19.6	-1.0
ETVZ	East Tongariro	6.90	212	P	Pn	15 35 19.6	-1.2
OTVZ	Oturere	6.95	212	P	P

s-maj=35.3km s-min=15.6km az=73.0
*NEIC **24** 15:40:36.0±2.2, 25°.00N±0°.09×128°.25E±0°.04, h10km±1km, mb4.4/17, Error ellipse: s-maj=14.5km s-min=5.2km az=189.0*
*JMA **24** 15:40:37.3±0.3, 25°N±1°×12°8E±°, h72km, MV3.8/21, FAR S OFF OKINAWAJIMA*
ISC 24 15:40:34.8±2.0, 24°.92N±0°.05×128°.16E±0°.04, h7km±11km, n69, σ1$54/78, mb4.2/22, MS3.5/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.27**	**344**	P	**Pg**	**15 40 59.2**	**+0.1**
JJT3				*e*S	**Sg**	**15 41 15.0**	**-0.5**
JNTH	**Nagotoyohara**	**1.60**	**355**	P	**Pn**	**15 41 03.2**	**-0.2**
JNTH				*e*S	**Sn**	**15 41 21.0**	**-3.3**
JAGN	**Aguni-jima**	**1.86**	**334**	P	**Pn**	**15 41 07.4**	**+0.3**
JAGN				S	**Sn**	**15 41 29.1**	**-1.7**
JKE	**Kume jima 2**	**1.87**	**319**	P	**Pn**	**15 41 07.3**	**0.0**
JKE				S	**Sn**	**15 41 29.1**	**-2.0**
JOW	**Kunigami**	**1.91**	**3**		**Pn**	**15 41 06.9**	**-0.8**
JOW	**Kunigami**	**1.91**	**3**	Pn	**Pn**	**15 41 07.8**	**0.0**
	41nm,0.3s,baz=200,slow=11,SNR=22						
JOW				Sn	**Sn**	**15 41 27.9**	**-4.0**
	31nm,0.3s,baz=116,slow=26,SNR=11						
JOW	**Kunigami**	**1.91**	**3**	P	**Pn**	**15 41 07.7**	**0.0**
JOW	**Kunigami**	**1.91**	**3**	P	**Pn**	**15 41 07.8**	**0.0**
JOW				S	**Sn**	**15 41 29.4**	**-2.6**
JYRO	**Yoronjima**	**2.11**	**7**	P	**Pn**	**15 41 10.5**	**0.0**
JYRO				S	**Sn**	**15 41 33.5**	**-3.4**
JIH	**Iheya**	**2.11**	**355**	P	**Pn**	**15 41 11.0**	**+0.5**
JOGS	**Gusukube**	**2.51**	**267**	P	**Pn**	**15 41 16.3**	**+0.3**
JOGS				*e*S	**Sn**	**15 41 44.2**	**-2.6**
JMJ2	**Miyako jima3**	**2.58**	**267**	P	**Pn**	**15 41 17.1**	**+0.1**
JMJ	**Miyako jima 2**	**2.61**	**268**	P	**Pn**	**15 41 17.1**	**-0.3**
JIKM	**Ikemajima**	**2.65**	**271**	P	**Pn**	**15 41 18.1**	**+0.2**
JIKM				*e*S	**Sn**	**15 41 48.2**	**-2.0**
JIRB	**Irabujima**	**2.72**	**269**	P	**Pn**	**15 41 18.8**	**-0.1**
JIRB				*e*S	**Sn**	**15 41 49.1**	**-2.9**
JMZ	**Minamidaito 2**	**2.91**	**71**	Pn	**Pn**	**15 41 20.0**	**-1.5**
JMZ	**Minamidaito 2**	**2.91**	**71**	P	**Pn**	**15 41 20.8**	**-0.7**
JMZ	**Minamidaito 2**	**2.91**	**71**	P	**Pn**	**15 41 20.6**	**-0.9**
JKDJ	**Kitadaitoujima**	**3.01**	**69**	*i* P	**Pn**	**15 41 21.9**	**-1.0**
JKDJ				S	**Sn**	**15 41 55.5**	**-3.7**
JTJ	**Tarama**	**3.16**	**266**	P	**Pn**	**15 41 24.9**	**-0.1**
JTJ				S	**Sn**	**15 41 59.1**	**-3.7**
JISG	**Ishigakijimahi**	**3.52**	**265**	P	**Pn**	**15 41 29.3**	**-0.5**
JIJ	**Ishigaki jima**	**3.70**	**262**	P	**Pn**	**15 41 31.8**	**-0.6**
JAM	**Amami Oshima**	**3.71**	**20**	P	**Pn**	**15 41 33.5**	**+1.0**
YOJ	**Yonaguni jima**	**4.71**	**266**	Pn	**Pn**	**15 41 45.3**	**-0.9**
YOJ	**Yonaguni jima**	**4.71**	**266**	P	**Pn**	**15 41 44.9**	**-1.3**
NACB	**Ninganchiao**	**6.03**	**264**	Pn	**Pn**	**15 42 02.4**	**-2.0**
YHNB	**Yeheng**	**6.17**	**269**	Pn	**Pn**	**15 42 06.2**	**-0.3**
YULB	**Yu-li**	**6.45**	**258**	Pn	**Pn**	**15 42 07.4**	**-2.8**
YULB	**Yu-li**	**6.45**	**258**	P	**Pn**	**15 42 07.4**	**-2.8**
SSLB	**Suanglung**	**6.67**	**262**	Pn	**Pn**	**15 42 10.8**	**-2.5**
SSLB	**Suanglung**	**6.67**	**262**	P	**Pn**	**15 42 11.3**	**-2.0**
TPUB	**Ta-pu**	**7.07**	**258**	Pn	**Pn**	**15 42 18.0**	**-0.7**
KSRS	**Korea Array**	**12.50**	**359**	LR	LR	15 48 30.8	
	comp=Z,23nm,18.2s,baz=220,slow=38						
GUMO	**Guam**	**19.36**	**123**	LR	LR	15 51 16.5	
	comp=Z,20nm,21.5s,baz=86,slow=33						
USRK	**Ussuriysk Ar.**	**19.48**	**8**	P	**P**	**15 45 02.4**	**+0.1**
	0.3nm,0.3s,baz=199,slow=8.5,SNR=5.0						
	2.6nm,0.6s						
SONM	**Songino Array**	**28.62**	**329**	P	**P**	**15 46 31.5**	**-0.5**
	0.4nm,0.5s,baz=146,slow=9.5,SNR=2.0						
	0.4nm,0.5s						
YAK	**Yakutsk**	**37.11**	**1**	LR	LR	16 03 54.1	
	comp=Z,47nm,18.1s,baz=228,slow=38						
KNRA	**Kununurra**	**40.35**	**179**	P	**P**	**15 48 12.8**	**-0.4**
MKAR	**Makanchi Array**	**42.37**	**313**	P	**P**	**15 48 30.0**	**+0.3**
MKAR	**Makanchi Array**	**42.37**	**313**	P	**P**	**15 48 30.3**	**+0.6**
	1.2nm,0.4s,baz=96,slow=9.6,SNR=25						
MKAR				PcP	**PcP**	**15 50 24.0**	**+1.0**
	0.4nm,0.7s,baz=103,slow=6.4,SNR=2.5						
	1.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**42.83**	**184**	P	**P**	**15 48 34.8**	**+1.3**
ZALV	**Zalesovo Beam**	**43.26**	**324**	P	**P**	**15 48 36.8**	**+0.1**
	1.2nm,0.6s,baz=121,slow=8.5,SNR=5.8						
	1.2nm,0.6s						
WB0	**Warramunga Arr**	**44.83**	**172**	P	**P**	**15 48 50.5**	**+0.8**
WB0				IAmb	IAmb	15 49 02.9	
	comp=Z,4.9nm,0.7s						
WRA	**Warramunga Arr**	**45.00**	**172**	P	**P**	**15 48 52.0**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=353,slow=8.0,SNR=12						
	comp=Z,1.2nm,0.6s						
WR8	**Warramunga Arr**	**45.03**	**172**	P	**P**	**15 48 52.1**	**+0.8**
KURBB	**Kurchatov Arra**	**45.76**	**317**	P	**P**	**15 48 56.5**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=105,slow=8.6,SNR=8.2						
	comp=Z,1.1nm,0.5s						
TIXI	**Tiksi**	**46.76**	**0**	LR	LR	16 08 16.4	
	comp=Z,46nm,18.9s,baz=11,slow=36						
AS31	**Alice Springs**	**48.62**	**173**	P	**P**	**15 49 20.3**	**+1.0**
ASAR	**Alice Springs**	**48.62**	**173**	P	**P**	**15 49 20.4**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=352,slow=9.3,SNR=18						
ASAR				PcP	**PcP**	**15 50 45.8**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=352,slow=3.9,SNR=1.1						
	comp=Z,0.5nm,0.5s						
NRIK	**Noril'sk**	**50.48**	**343**	LR	LR	16 13 43.4	
	comp=Z,45nm,18.6s,baz=175,slow=39						
BVAR	**Borovoye Array**	**51.21**	**319**	P	**P**	**15 49 40.0**	**+1.2**
	comp=Z,2.6nm,0.6s,baz=90,slow=7.2,SNR=13						
	comp=Z,2.6nm,0.6s						
BRVK	**Borovoye**	**51.28**	**319**	P	**P**	**15 49 40.2**	**+0.9**
BRVK				IAmb	IAmb	15 49 41.7	
	comp=Z,6.7nm,1.2s						
KBL	**Kabul**	**51.60**	**295**	P	**P**	**15 49 42.1**	**-0.1**
KBL				IAmb	IAmb	15 49 45.0	
	comp=Z,5.0nm,0.7s						
AB31	**Akbulak array**	**57.50**	**314**	P	**P**	**15 50 23.9**	**-0.6**
AB31				IAmb	IAmb	15 50 27.1	
	comp=Z,2.3nm,0.8s						
ABKAR	**Akbulak array**	**57.50**	**314**	P	**P**	**15 50 24.3**	**-0.3**
ABKAR				IAmb	IAmb	15 50 27.1	
	comp=Z,2.3nm,0.8s						
J20K	**Nowinta River**	**62.52**	**29**	P	**P**	**15 50 59.9**	**+1.1**
J20K				IAmb	IAmb	15 51 35.1	
	comp=Z,4.1nm,1.4s						
H21K	**Melozitna Rive**	**63.07**	**27**	P	**P**	**15 51 00.2**	**-2.2**
H21K				IAmb	IAmb	15 51 16.4	
	comp=Z,2.5nm,1.1s						
C23K	**Itkillik River**	**63.83**	**22**	P	**P**	**15 51 06.6**	**-0.7**
C23K				IAmb	IAmb	15 51 07.4	
	comp=Z,4.4nm,1.4s						
F24K	**Squaw Lake**	**64.94**	**25**	P	**P**	**15 51 15.2**	**+0.5**
F24K				IAmb	IAmb	15 51 18.3	
	comp=Z,1.2nm,0.6s						
J26L	**Joseph Creek**	**67.07**	**28**	P	**P**	**15 51 29.3**	**+0.7**
KBZ	**Khabaz**	**69.94**	**310**	P	**P**	**15 51 48.8**	**+2.0**
	comp=Z,2.5nm,0.8s,baz=76,slow=8.3,SNR=5.7						
	comp=Z,2.5nm,0.8s						
O30N	**Mendenhall**	**71.31**	**31**	P	**P**	**15 51 52.5**	**-2.4**
EUNU	**Eureka**	**73.58**	**6**	P	**P**	**15 52 09.1**	**+1.0**
FINES	**FINESS Array B**	**73.97**	**331**	P	**P**	**15 52 11.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=64,slow=6.9,SNR=4.1						
	comp=Z,0.7nm,0.6s						
AKASG	**Malin Array Be**	**76.49**	**320**	P	**P**	**15 52 26.0**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=65,slow=6.1,SNR=4.4						
	comp=Z,0.6nm,0.4s						
BRTR	**Keskin Array B**	**77.79**	**308**	P	**P**	**15 52 33.9**	**+0.8**
	comp=Z,1.2nm,1.1s,baz=105,slow=7.0,SNR=4.5						
	comp=Z,1.2nm,1.1s						
YKA	**Yellowknife Ar**	**79.73**	**25**	P	**P**	**15 52 44.6**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=298,slow=5.0,SNR=6.5						
	comp=Z,0.4nm,0.8s						
NOA	**NORSAR Array B**	**80.46**	**334**	P	**P**	**15 52 46.7**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=55,slow=5.3,SNR=2.5						
NOA				LR	LR	16 31 51.0	
	comp=Z,17nm,18.3s,baz=55,slow=38						
	comp=Z,0.6nm,0.6s						
NC204	**NORSAR Array S**	**80.50**	**334**	P	**P**	**15 52 46.5**	**-0.9**

TAP 24 15:44:41.7, 23°.98N×121°.06E, h10km, ML0.6, 3D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WUSB	**Renai**	**0.05**	**79**	⇓P	Pg	15 44 44.5	+0.5
WUSB				*i* S	Sg	15 44 46.1	+0.5
WPL	**Puli Township**	**0.10**	**287**	P	Pb	15 44 45.6	-0.2
WPL				*e*S	Sg	15 44 47.1	+0.8
OWD	**Renai**	**0.11**	**105**	P	Pb	15 44 45.4	-0.5
OWD				*i* S	Sg	15 44 47.5	+0.9
DPDB	**Guoxing**	**0.14**	**292**	⇓P	Pb	15 44 45.9	-0.5
DPDB				S	Sg	15 44 48.2	+1.0
WCS	**Beigang Elemen**	**0.16**	**298**	⇓*e*P	Pb	15 44 46.5	-0.2
WCS				*e*S	Sg	15 44 48.5	+0.8
SMLT	**Sun Moon Lake**	**0.18**	**237**	P	Pg	15 44 45.9	+0.2
SMLT				S	Sg	15 44 49.8	+1.4
TYC	**Yuchr**	**0.20**	**248**	P	Pb	15 44 47.1	-0.4
TYC				S	Sg	15 44 50.0	+1.1
SSLB	**Suanglung**	**0.22**	**207**	*i* P	Pb	15 44 47.1	-0.6
SSLB				*e*S	Sg	15 44 50.5	+1.1
VWDT	**VWDT**	**0.24**	**163**	P	Pb	15 44 47.9	-0.2
VWDT				*i* S	Sg	15 44 51.8	+1.9
WHF	**Hehuan Shan**	**0.24**	**49**	*i* P	Pg	15 44 47.7	+0.7
FUSS	**Fushou**	**0.31**	**32**	*e*P	Pg	15 44 48.2	+0.1
WHP	**Taichung City**	**0.31**	**340**	P	Pb	15 44 49.4	-0.1
WHP				S	Sb	15 44 54.4	-0.2
WHYT	**Xinyi Township**	**0.34**	**214**	P	Pb	15 44 49.5	-0.4
WHYT				*e*S	Sb	15 44 55.3	-0.2

*NEIC **24** 15:55:29.3±1.6, 28°.31N±0°.08×103°.43E±0°.09, h10km±1km, mb4.5/32, Error ellipse: s-maj=15.0km s-min=13.0km az=140.0*
*MOS **24** 15:55:29.9±0.9, 28°.15N×103°.36E, h41km, mb4.6/26, Error ellipse: s-maj=9.0km s-min=6.0km az=99.9*
*IDC **24** 15:55:33.0±3.5, 28°.16N×103°.33E, h54km±34km, mb3.8/18, mbtmp4.0/20, ML3.6/1, Error ellipse: s-maj=19.1km s-min=12.5km az=58.0*
ISC 24 15:55:27.9±0.4, 28°.17N±0°.03×103°.39E±0°.04, h10km, n122, σ1$37/137, mb4.4/56, 10C-9D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZH	**PanZhiHua**	**2.21**	**222**	Pg	**Pn**	**15 56 05.8**	**+1.0**
PZH				Sg	**Sb**	**15 56 34.6**	**-1.0**
PZH				smax	smax		
	comp=N,650nm,1.0s						
PZH				smax	smax		
	comp=E,690nm,1.0s						
CD2	**Chengdu**	**2.75**	**7**	Pn	**Pb**	**15 56 15.1**	**-2.2**
CD2				Pg	**Pg**	**15 56 21.5**	**+0.8**
CD2				Sg	**Sg**	**15 56 56.5**	**+0.1**
CD2				smax	smax		
	comp=N,420nm,0.9s						
KMI	**Kunming**	**3.09**	**191**	⇓Pn	**Pn**	**15 56 19.4**	**+2.5**
KMI				Sn	**Sb**	**15 56 58.4**	**-2.5**
KMI				smax	smax		
	comp=N,97nm,1.2s						
KMI				smax	smax		
	comp=E,85nm,1.1s						
TNCH	**TengChong**	**5.36**	**235**	Pg	**Pb**	**15 57 04.1**	**+2.2**
TNCH				Sg	**Sg**	**15 58 14.8**	**-5.4**
TNCH				smax	smax		
	comp=N,200nm,1.5s						
TNCH				smax	smax		
	comp=E,160nm,1.4s						
TNCH				LR	LR		
	comp=N,320nm,2.9s						
TNCH				LR	LR		
	comp=E,370nm,2.7s						
TNCH				LR	LR		
	comp=Z,180nm,6.6s						
ENH	**Enshi**	**5.73**	**67**		**Pn**	**15 56 53.5**	**+0.5**
XAN	**Xi'an**	**7.53**	**38**	⇑Pn	**Pn**	**15 57 17.9**	**0.0**
XAN				Sn	**Sn**	**15 58 45.3**	**+1.9**
XAN				Sg	**Sg**	**15 59 31.6**	**+1.9**
XAN				smax	smax		
	comp=N,180nm,1.3s						
XAN				smax	smax		
	comp=E,150nm,1.0s						
XAN				LR	LR		
	comp=N,420nm,4.8s						
XAN				LR	LR		
	comp=E,440nm,4.9s						
XAN				LR	LR		
	comp=Z,360nm,4.8s						
CNSH	**ChangSha**	**8.42**	**88**	Pg	**Pn**	**15 57 32.8**	**+2.7**
CNSH				Sg	**Sn**	**15 59 02.3**	**-2.9**
CNSH				smax	smax		
	comp=N,53nm,1.2s						
CNSH				smax	smax		
	comp=E,43nm,0.9s						
CHTO	**Chiang Mai**	**10.16**	**205**	Pn	**Pn**	**15 57 55.7**	**+1.8**
CHTO	**Chiang Mai**	**10.16**	**205**	P	**Pn**	**15 57 55.7**	**+1.8**
CMAR	**Chiang Mai Arr**	**10.49**	**204**	P	**Pn**	**15 58 01.2**	**+2.8**
	comp=E,0.1nm,0.3s,baz=23,slow=12,SNR=18						
	comp=E,2.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**10.49**	**204**	*e*P	**Pn**	**15 58 01.6**	**+3.2**
LSA	**Lhasa**	**10.83**	**281**	Pn	**Pn**	**15 58 04.8**	**+1.3**
LSA	**Lhasa**	**10.83**	**281**	P	**Pn**	**15 58 05.9**	**+2.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
LSA	**Lhasa**	**10.83**	**281**	P	**Pn**	**15 58 04.8**	**+1.3**
QIZ	**Qiongzhong**	**10.85**	**146**	P	**Pn**	**15 58 03.9**	**+0.6**
QIZ				S	**Sn**	**16 00 06.8**	**+1.9**
QIZ				LR	LR		
	comp=N,110nm,8.9s						
QIZ				LR	LR		
	comp=E,200nm,12.4s						
QIZ				LR	LR		
	comp=Z,180nm,10.1s						
GTA	**Gaotai**	**11.60**	**346**	*e*P	**Pn**	**15 58 17.6**	**+3.9**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
BTO	**Baotou**	**13.56**	**22**	*e*P	P	15 58 54.8	+5.3
BTO				pP	Pn	15 59 02.1	+22
BTO				PP	PnPn	15 59 06.1	+18
BTO				sP		15 59 06.9	
BTO				S	**S**	**16 01 35.6**	**+1.0**
BTO				sS	Sn	16 01 45.1	+34
BTO				SS	SbSb	16 01 48.4	-19
BTO				pmax	pmax		
	comp=E,31nm,0.8s						
BTO				pmax	pmax		
	comp=Z,190nm,5.4s						
BTO				LR	LR		
	comp=N,300nm,8.4s						
BTO				LR	LR		
	comp=E,280nm,8.1s						
BTO				LR	LR		
	comp=Z,310nm,8.6s						
NJ2	**Nanjing**	**13.94**	**70**	*e*P	**Pn**	**15 58 43.6**	**-1.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**14.32**	**26**	*e*P	**Pn**	**15 58 50.8**	**-0.1**
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,63nm,3.8s						
SONM	**Songino Array**	**19.78**	**6**	P	**Pn**	**15 59 59.4**	**-0.4**
SONM	**Songino Array**	**19.78**	**6**	P	**Pn**	**15 59 59.4**	**-0.4**
	comp=Z,4.0nm,0.9s,baz=189,slow=11,SNR=16						
SONM	**Songino Array**	**19.78**	**6**	*e*P	**Pn**	**15 59 59.6**	**-0.2**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULN	**Ulaanbaatar**	**19.87**	**7**	P	**P**	**16 00 00.2**	**+0.8**
ULN	**Ulaanbaatar**	**19.87**	**7**	*de*P	**Pn**	**16 00 01.1**	**+0.1**
ZAK	**Zakamensk**	**22.19**	**360**	*e*P	**P**	**16 00 24.8**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KSRS	**Korea Array**	**22.55**	**59**	P	**P**	**16 00 28.2**	**0.0**
	comp=Z,4.3nm,0.9s,baz=248,slow=9.9,SNR=10						
	comp=Z,4.3nm,0.9s						
KSRS	**Korea Array**	**22.55**	**59**	*e*P	**P**	**16 00 28.2**	**0.0**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CN2	**Changchun**	**23.60**	**43**	P	**P**	**16 00 36.3**	**-2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WUS	**Wushi**	**23.66**	**310**	P	**P**	**16 00 40.3**	**+0.6**
WUS				IAmb	IAmb	16 00 46.1	
	comp=Z,11nm,1.2s						
IRK	**Irkutsk**	**24.06**	**1**	*e*P	**P**	**16 00 41.1**	**-2.1**
IRK				pmax	pmax		
	comp=Z,30nm,1.5s						
HIA	**Hailar**	**24.53**	**26**	P	**P**	**16 00 48.2**	**+0.6**
HIA				IAmb	IAmb	16 00 49.8	
	comp=Z,9.7nm,0.7s						
HIA	**Hailar**	**24.53**	**26**	P	**P**	**16 00 48.2**	**+0.6**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MK31	**Makanchi Array**	**24.89**	**324**	*d* P	**P**	**16 00 50.9**	**0.0**
MKAR	**Makanchi Array**	**24.89**	**324**	P	**P**	**16 00 50.3**	**-0.5**
MKAR	**Makanchi Array**	**24.89**	**324**	P	**P**	**16 00 51.1**	**+0.3**
	comp=Z,5.6nm,0.8s,baz=132,slow=8.5,SNR=28						
	comp=Z,5.6nm,0.8s						
MAKZ	**Makanchi**	**25.06**	**324**	P	**P**	**16 00 52.9**	**+0.5**
MAKZ				IAmb	IAmb	16 00 55.0	
	comp=Z,10nm,1.1s						
MAKZ	**Makanchi**	**25.06**	**324**	P	**P**	**16 00 52.9**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KKM	**Kota Kinabalu**	**25.14**	**149**	P	**P**	**16 00 53.8**	**+0.4**
KSH	**Kashi**	**25.33**	**304**	P	**P**	**16 00 58.6**	**+3.5**
KSH				pP	sP	16 01 03.1	+3.1
KSH				pmax	pmax		
	comp=Z,4.0nm,1.4s						
PSI	**Prapat**	**25.58**	**190**	P	**P**	**16 00 56.9**	**-0.6**
PSI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
RPSI	**Rantau Prapat**	**25.68**	**190**	P	**P**	**16 00 56.9**	**-1.4**
RPSI				IAmb	IAmb	16 00 58.4	
	comp=Z,7.1nm,0.6s						
BNX	**BinXian**	**25.84**	**41**	⇑P	**P**	**16 01 00.8**	**+1.3**
BNX				pmax	pmax		
	comp=Z,11nm,1.0s						
NIL	**Nilore**	**26.37**	**289**	P	**P**	**16 01 04.5**	**+0.1**
NIL				IAmb	IAmb	16 01 14.4	
	comp=Z,17nm,1.2s						
NIL	**Nilore**	**26.37**	**289**	P	**P**	**16 01 04.6**	**+0.1**
NIL				pmax	pmax		
	comp=Z,17nm,1.3s						
VLA	**Vladivostok**	**27.38**	**49**	⇑*i* P	**P**	**16 01 13.7**	**+0.3**
VLA				pmax	pmax		
	comp=Z,14nm,1.0s						
AAK	**Ala-Archa**	**27.46**	**309**	⇑*e*P	**P**	**16 01 15.1**	**+0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
USA0B	**Ussuriysk Arra**	**27.90**	**47**	*d i* P	**P**	**16 01 18.2**	**+0.2**
USRK	**Ussuriysk Ar.**	**27.90**	**47**	P	**P**	**16 01 18.2**	**+0.2**
	comp=Z,5.7nm,0.8s,baz=249,slow=9.1,SNR=10						
	comp=Z,5.7nm,0.8s						
HEH	**HeiHe**	**28.63**	**33**	*e*P	**P**	**16 01 24.8**	**+0.3**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZALV	**Zalesovo Beam**	**29.14**	**337**	P	**P**	**16 01 27.7**	**-1.2**
ZALV	**Zalesovo Beam**	**29.14**	**337**	P	**P**	**16 01 28.6**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=155,slow=14,SNR=5.3						
	comp=Z,1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**29.14**	**337**	*e*P	**P**	**16 01 28.9**	**0.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**29.28**	**327**	P	**P**	**16 01 29.8**	**-0.4**
	comp=Z,1.7nm,1.0s,baz=132,slow=9.6,SNR=9.8						
	comp=Z,1.7nm,1.0s						
KURK	**Kurchatov**	**29.29**	**327**	P	**P**	**16 01 30.6**	**+0.3**
KURK	**Kurchatov**	**29.29**	**327**	P	**P**	**16 01 30.6**	**+0.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KLR	**Kul'dur**	**30.24**	**38**	*e*P	**P**	**16 01 38.2**	**-0.6**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.7s						
KKAR	**Karatay Array**	**30.37**	**308**	P	**P**	**16 01 39.2**	**-0.8**
KKAR	**Karatay Array**	**30.37**	**308**	P	**P**	**16 01 39.2**	**-0.8**
MAJO	**Matsushiro**	**30.45**	**65**	⇑*i* P	**P**	**16 01 41.5**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,11nm,1.0s						
ZEA	**Zeya**	**30.98**	**28**	*e*P	**P**	**16 01 46.6**	**+1.4**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BVAR	**Borovoye Array**	**34.77**	**325**	P	**P**	**16 02 16.6**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=140,slow=4.9,SNR=2.4						
BVAR				PcP	**PcP**	**16 04 51.1**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=125,slow=4.2,SNR=2.5						
	comp=Z,0.5nm,0.7s						
BRVK	**Borovoye**	**34.84**	**325**	⇑*e*P	**P**	**16 02 20.0**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YAK	**Yakutsk**	**38.07**	**20**	P	**P**	**16 02 45.7**	**-0.7**
YAK				IAmb	IAmb	16 02 48.9	
	comp=Z,6.8nm,0.8s						
YAK	**Yakutsk**	**38.07**	**20**	*e*P	**P**	**16 02 45.7**	**-0.7**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.6s						
ABKAR	**Akbulak array**	**39.22**	**315**	P	**P**	**16 02 56.4**	**+0.2**
NRIK	**Noril'sk**	**42.23**	**352**	P	**P**	**16 03 19.9**	**-1.0**
NRIK	**Noril'sk**	**42.23**	**352**	P	**P**	**16 03 20.7**	**-0.1**
	comp=E,2.2nm,0.8s,baz=166,slow=6.5,SNR=5.6						
	comp=E,2.2nm,0.8s						
NRIK	**Noril'sk**	**42.23**	**352**	*d i* P	**P**	**16 03 21.5**	**+0.7**
NRIK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARTI	**Arti**	**42.49**	**324**	*d i* P	**P**	**16 03 23.1**	**0.0**
ARTI				S	**S**	**16 09 44.7**	**-0.3**
ARTI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI	**Tiksi**	**45.74**	**11**	P	**P**	**16 03 47.6**	**-1.4**
TIXI				IAmb	IAmb	16 03 49.3	
	comp=Z,5.5nm,1.1s						
TIXI	**Tiksi**	**45.74**	**11**	⇓*i* P	**P**	**16 03 48.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.4s						
PETK	**Petropavlovsk-**	**46.75**	**42**	P	**P**	**16 03 56.5**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=256,slow=12,SNR=2.7						
	comp=Z,1.7nm,0.8s						
GNI	**Garni**	**49.18**	**300**	⇓*e*P	**P**	**16 04 17.1**	**+0.7**
GNI				pmax	pmax	

KIEV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MNK	**Minsk**	**59.31**	**319**	*i* P	**P**	**16 05 27.9**	**-1.9**
MNK				*i*		16 07 38.8	
MNK				*i* S	**S**	**16 13 35.2**	**-2.9**
MNK				*i* SS	**SS**	**16 17 31.5**	**-0.8**
MNK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,7.0nm,0.9s						
MNK				MLR	MLR		
	comp=N,218nm,29.0s						
MNK				MLR	MLR		
	comp=E,220nm,27.0s						
MNK				MLR	MLR		
	comp=Z,23nm,14.0s						
AS31	**Alice Springs**	**59.34**	**147**	P	**P**	**16 05 29.7**	**-0.7**
ASAR	**Alice Springs**	**59.34**	**147**	P	**P**	**16 05 29.7**	**-0.7**
ASAR	**Alice Springs**	**59.34**	**147**	P	**P**	**16 05 30.1**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=331,slow=6.4,SNR=75						
	comp=Z,3.9nm,0.7s						
VSU	**Vasula**	**59.56**	**324**	⇑*i*P	**P**	**16 05 31.2**	**-0.2**
VSU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
FINES	**FINESS Array B**	**59.67**	**327**	P	**P**	**16 05 32.2**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=101,slow=9.9,SNR=6.9						
	comp=Z,2.4nm,0.9s						
FINES	**FINESS Array B**	**59.67**	**327**	*e*P	**P**	**16 05 32.4**	**+0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
G16K	**Koyuk River**	**66.48**	**27**	P	**P**	**16 06 17.7**	**+0.4**
G16K				IAmb	IAmb	16 06 19.3	
	comp=Z,2.3nm,0.8s						
F17K	**Baldwin Pennin**	**66.62**	**26**	P	**P**	**16 06 19.1**	**+0.9**
F17K				IAmb	IAmb	16 06 20.4	
	comp=Z,3.6nm,0.8s						
NOA	**NORSAR Array B**	**66.80**	**328**	P	**P**	**16 06 18.6**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=74,slow=6.1,SNR=3.5						
	comp=Z,1.4nm,0.8s						
NOA	**NORSAR Array B**	**66.80**	**328**	*e*P	**P**	**16 06 18.6**	**-0.9**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
D20K	**Etivluk River**	**67.59**	**23**		**P**	**16 06 24.7**	**+0.3**
B22K	**Teshekpuk Lake**	**68.06**	**21**	P	**P**	**16 06 27.9**	**+0.6**
K17K	**Iditarod**	**69.03**	**29**	P	**P**	**16 06 34.1**	**+0.6**
GERES	**GERESS Array B**	**69.16**	**315**	P	**P**	**16 06 32.5**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=85,slow=4.6,SNR=3.5						
	comp=Z,0.2nm,0.4s						
D23K	**Nanushuk River**	**69.49**	**22**	P	**P**	**16 06 36.8**	**+0.6**
D23K				IAmb	IAmb	16 06 37.8	
	comp=Z,4.1nm,0.9s						
STKA	**Stephens Creek**	**69.91**	**146**	P	**P**	**16 06 38.9**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=308,slow=4.0,SNR=4.4						
	comp=Z,2.1nm,0.7s						
J20K	**Nowinta River**	**70.20**	**27**	P	**P**	**16 06 41.5**	**+0.8**
J20K				IAmb	IAmb	16 06 42.2	
	comp=Z,4.9nm,1.1s						
H23K	**Yukon River**	**71.27**	**25**	P	**P**	**16 06 48.0**	**+0.9**
H23K				IAmb	IAmb	16 06 49.0	
	comp=Z,2.0nm,0.8s						
PPLA	**Purkeypile**	**71.54**	**28**	P	**P**	**16 06 49.0**	**0.0**
BMAR	**Burnt Mountain**	**72.22**	**22**	P	**P**	**16 06 54.1**	**+1.1**
ILAR	**Eielson Array**	**72.75**	**25**	P	**P**	**16 06 55.8**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=317,slow=5.9,SNR=5.0						
	comp=Z,0.5nm,1.0s						
ILAR	**Eielson Array**	**72.75**	**25**	*e*P	**P**	**16 06 56.5**	**+0.5**
SML	**Sawmill**	**73.64**	**28**	P	**P**	**16 07 01.7**	**+0.3**
M30M	**Minto, Yukon**	**77.71**	**24**	P	**P**	**16 07 25.6**	**+0.9**
YKA	**Yellowknife Ar**	**84.67**	**17**	P	**P**	**16 08 01.2**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=323,slow=5.0,SNR=3.8						
	comp=Z,1.2nm,0.9s						
RUSC	**La Rusia**	**145.97**	**354**	PKPdf	**PKPdf**	**16 15 07.0**	**-1.6**

*PDG **24** 16:15:34.9±0.1,43°.10N×18°.03E,h6km,MD2.9/1,*
ML2.8/11,Error ellipse: s-maj=0.5km s-min=0.3km
az=90.0
*RHSSO **24** 16:15:35.4±0.2,43°.09N×18°.04E,h5km±2km,ML2.7/14*
*BEO **24** 16:15:35.4±0.2,43°.07N×18°.04E,h4km±2km,ML2.5/12*
ISC 24 16:15:34.8±1.0,43°.09N±0°.02×18°.04E±0°.01,h4km±9km,
n80,σ1°.14/146,13C-13D,Northwestern Balkan
Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.33**	**229**	⇓*i*Pg	**Pg**	**16 15 40.8**	**-0.4**
STON				*e*Sg	**Sg**	**16 15 46.4**	**+0.8**
STON	**Ston**	**0.33**	**229**	*e*Pg	**Pg**	**16 15 41.0**	**-0.2**
STON				Sg	**Sg**	**16 15 46.2**	**+0.6**
STON	**Ston**	**0.33**	**229**	*e*Pg	**Pg**	**16 15 41.1**	**-0.2**
STON				*e*Sg	**Sg**	**16 15 46.4**	**+0.8**
KLINJ	**Klinje**	**0.41**	**79**	*e*Pg	**Pg**	**16 15 42.1**	**-0.5**
KLINJ				*e*Sg	**Sg**	**16 15 48.9**	**+0.9**
BRY	**Bratogost**	**0.41**	**117**	⇑*i*Pg	**Pg**	**16 15 42.7**	**-0.1**
BRY				*e*Sg	**Sb**	**16 15 50.1**	**-1.3**
BRY	**Bratogost**	**0.41**	**117**	⇑*i*Pg	**Pg**	**16 15 42.7**	**-0.1**
BRY				*i* Sg	**Sg**	**16 15 49.2**	**+1.0**
DBRK	**Dubrovnik**	**0.43**	**170**	*e*Pg	**Pg**	**16 15 43.4**	**+0.4**
DBRK				Sg	**Sb**	**16 15 50.5**	**-1.3**
TREB	**Trebinje**	**0.44**	**149**	⇑*i*Pg	**Pg**	**16 15 43.3**	**0.0**
TREB				*e*Sg	**Sg**	**16 15 50.4**	**+1.4**
TREB	**Trebinje**	**0.44**	**149**	*e*Pg	**Pg**	**16 15 43.2**	**0.0**
KALIN	**Kalinovik**	**0.51**	**36**	⇑*i*Pg	**Pg**	**16 15 44.7**	**+0.2**
KALIN				*e*Sg	**Sg**	**16 15 52.5**	**+1.4**
UPM	**Unac-Piva**	**0.64**	**80**	⇑*i*Pg	**Pg**	**16 15 46.4**	**-0.7**
UPM				*e*Sg	**Sg**	**16 15 56.3**	**+0.8**
UPM	**Unac-Piva**	**0.64**	**80**	⇓*i*Pg	**Pg**	**16 15 46.6**	**-0.5**
UPM				*i* Sg	**Sb**	**16 15 56.9**	**-1.2**
HCY	**Herceg Novi**	**0.73**	**153**	*e*Pg	**Pg**	**16 15 48.4**	**-0.3**
HCY				*e*Sg	**Sb**	**16 15 59.9**	**-0.4**
HCY	**Herceg Novi**	**0.73**	**153**	⇓*i*Pg	**Pg**	**16 15 48.5**	**-0.3**
HCY				*i* Sg	**Sb**	**16 16 00.4**	**+0.1**
NKME	**Niksic**	**0.74**	**116**	⇓*i*Pg	**Pg**	**16 15 48.8**	**-0.3**
NKME				*i* Sg	**Sb**	**16 16 00.7**	**-0.2**
MAKA	**Makarska**	**0.77**	**285**	*e*Pg	**Pg**	**16 15 48.2**	**-1.4**
MAKA				Sg	**Sg**	**16 15 59.2**	**-0.4**
RICI	**Ricice**	**0.77**	**301**	*e*Pg	**Pg**	**16 15 48.0**	**-1.7**
RICI				Sg	**Sg**	**16 15 59.3**	**-0.4**
CEME	**Cevo**	**0.85**	**130**	⇓*i*Pg	**Pg**	**16 15 50.5**	**-0.5**
CEME				*i* Sg	**Sb**	**16 16 04.4**	**+0.6**
LSTV	**Lastovo**	**0.90**	**249**	*e*Pg	**Pg**	**16 15 52.0**	**-0.1**
LSTV				Sg	**Sg**	**16 16 04.3**	**+0.4**
BUM	**Brajici-Budva**	**1.01**	**141**	⇓*i*Pg	**Pg**	**16 15 53.7**	**-0.5**
BUM				*i* Sg	**Sn**	**16 16 10.5**	**0.0**
PLE	**Pljevlja**	**1.01**	**76**	⇓*i*Pg	**Pg**	**16 15 54.5**	**+0.3**
PLE				*i* Sg	**Sn**	**16 16 09.8**	**-0.9**
RUDO	**Rudo**	**1.10**	**61**	⇑*i*Pg	**Pb**	**16 15 55.0**	**-1.4**
RUDO				*e*Sg	**Sg**	**16 16 10.3**	**+0.1**
RUDO	**Rudo**	**1.10**	**61**	*e*Pg	**Pb**	**16 15 54.4**	**-2.0**
KOME	**Kolasin**	**1.11**	**102**	⇓*i*Pg	**Pg**	**16 15 56.2**	**+0.1**
KOME				*i* Sg	**Sn**	**16 16 13.1**	**+0.1**
PDG	**Podgorica**	**1.11**	**126**	⇑*i*Pg	**Pb**	**16 15 55.1**	**-1.5**
PDG				*e*Sg	**Sb**	**16 16 11.2**	**-0.2**
PDG	**Podgorica**	**1.11**	**126**	*e*Pg	**Pb**	**16 15 55.5**	**-1.1**
PDG				*e*Sg	**Sg**	**16 16 09.9**	**-0.7**
PDG	**Podgorica**	**1.11**	**126**	⇓*i*Pg	**Pb**	**16 15 54.9**	**-1.7**
PDG				*i* Sg	**Sn**	**16 16 13.7**	**+0.8**
HVAR	**Hvar**	**1.17**	**275**	*e*Pg	**Pb**	**16 15 55.7**	**-1.9**
HVAR				Sg	**Sb**	**16 16 12.3**	**-0.7**
HAPS	**Han Pijesak,BI**	**1.19**	**33**	⇑*i*Pg	**Pb**	**16 15 56.8**	**-1.2**
HAPS				*e*Sg	**Sb**	**16 16 13.3**	**-0.6**
HAPS	**Han Pijesak,BI**	**1.19**	**33**	*e*Pg	**Pb**	**16 15 57.4**	**-0.6**
HAPS				*e*Sg	**Sn**	**16 16 14.1**	**-1.0**
DRME	**Dracevica, Mon**	**1.24**	**137**	*e*Pg	**Pn**	**16 15 57.6**	**-1.3**
DRME				*e*Sg	**Sb**	**16 16 14.3**	**-0.7**
DRME	**Dracevica, Mon**	**1.24**	**137**	⇓*i*Pg	**Pn**	**16 15 58.3**	**-0.6**
DRME				*i* Sg	**Sn**	**16 16 17.2**	**+1.2**
BBLS	**Lazi&#263i**	**1.26**	**52**	*e*Pg	**Pn**	**16 15 58.5**	**-0.7**
BBLS				*e*Sg	**Sb**	**16 16 15.1**	**-0.6**
BBLS	**Lazi&#263i**	**1.26**	**52**	*e*Pg	**Pn**	**16 15 58.3**	**-0.9**
BBLS				*e*Sg	**Sn**	**16 16 16.5**	**-0.1**
IVA	**Berane**	**1.38**	**99**	⇓*i*Pg	**Pn**	**16 16 00.7**	**-0.2**
IVA				*i* Sg	**Sg**	**16 16 22.4**	**+3.4**
SJES	**Sjenica**	**1.42**	**83**	⇑*i*Pg	**Pb**	**16 16 01.7**	**-0.3**
SJES				*e*Sg	**Sg**	**16 16 21.1**	**+0.6**
SJES	**Sjenica**	**1.42**	**83**	*e*Pg	**Pb**	**16 16 01.6**	**-0.4**
SJES				*e*Sg	**Sn**	**16 16 19.3**	**-1.5**
ULC	**Ulcinj**	**1.44**	**141**	⇓*i*Pg	**Pn**	**16 16 01.5**	**-0.1**
ULC				*i* Sg	**Sg**	**16 16 23.9**	**+2.9**
KIJV	**Kijevo**	**1.50**	**308**	*e*Pg	**Pn**	**16 16 01.5**	**-1.0**
KIJV				Sg	**Sn**	**16 16 22.1**	**-0.4**
IVAS	**Ivanjica**	**1.61**	**72**	*e*Pg	**Pb**	**16 16 04.5**	**-0.7**
IVAS				*e*Sg	**Sg**	**16 16 26.3**	**-0.4**
DIVS	**Divibare**	**1.74**	**54**	*e*Pg	**Pn**	**16 16 05.9**	**+0.1**
DIVS				*e*Sg	**Sg**	**16 16 31.5**	**+0.9**
A050A	**Klekovaca**	**1.77**	**322**	⇑*i*Pn	**Pn**	**16 16 06.7**	**+0.5**
A050A				*e*Sn	**Sn**	**16 16 29.4**	**+0.2**
BLY	**Banja Luka**	**1.77**	**340**	⇑*i*Pn	**Pb**	**16 16 06.9**	**-0.9**
BLY				*e*Sn	**Sn**	**16 16 29.3**	**+0.2**
BLY	**Banja Luka**	**1.77**	**340**	*e*Pg	**Pb**	**16 16 07.6**	**-0.2**
BLY				*e*Sg	**Sg**	**16 16 31.9**	**+0.3**
TEKS	**Tekeris**	**1.81**	**36**	*e*Pn	**Pb**	**16 16 07.7**	**-0.8**
TEKS				*e*Sn	**Sn**	**16 16 29.9**	**-0.3**
TEKS	**Tekeris**	**1.81**	**36**	*e*Pg	**Pn**	**16 16 07.3**	**+0.5**
TEKS				*e*Sg	**Sg**	**16 16 35.4**	**+2.4**
ZIRJ	**Zirje**	**1.83**	**289**	*e*Pn	**Pn**	**16 16 07.3**	**+0.2**
ZIRJ				Sn	**Sb**	**16 16 32.0**	**-0.2**
MORI	**Morici**	**1.87**	**295**	*e*Pn	**Pn**	**16 16 07.7**	**+0.2**
MORI				Sn	**Sb**	**16 16 34.0**	**+0.9**
TRUS	**Trudelj**	**2.06**	**56**	*e*Pn	**Pn**	**16 16 10.1**	**0.0**
TRUS				*e*Sg	**Sg**	**16 16 41.9**	**+1.1**
A051A	**Mrakovica**	**2.08**	**337**	⇑*i*Pn	**Pn**	**16 16 10.7**	**+0.1**
A051A				*e*Sn	**Sn**	**16 16 36.6**	**-0.5**
GRUS	**Gruza**	**2.10**	**67**	*e*Pn	**Pn**	**16 16 10.3**	**-0.5**
GRUS				*e*Sg	**Sg**	**16 16 42.3**	**0.0**
GOCS	**Kraljevo Serbi**	**2.12**	**76**	*e*Pg	**Pb**	**16 16 12.8**	**-1.0**
GOCS				*e*Sg	**Sg**	**16 16 42.6**	**-0.3**
KNYS	**Krupa na Uni**	**2.18**	**326**	⇑*i*Pn	**Pn**	**16 16 11.9**	**0.0**
KNYS				*e*Sn	**Sn**	**16 16 39.2**	**-0.2**
UDBI	**Udbina**	**2.18**	**312**	*e*Pn	**Pb**	**16 16 13.7**	**-1.2**
UDBI				Sn	**Sb**	**16 16 41.9**	**-0.4**
DUGI	**Dugi Otok**	**2.35**	**294**	*e*Pn	**Pn**	**16 16 15.8**	**+1.6**
DUGI				Sn	**Sb**	**16 16 45.5**	**-1.5**
FRGS	**Fruska Gora**	**2.43**	**31**	*e*Pn	**Pn**	**16 16 16.4**	**+1.2**
FRGS				*e*Sn	**Sn**	**16 16 46.0**	**+0.6**
VIRC	**Vir**	**2.48**	**300**	*e*Pn	**Pn**	**16 16 17.2**	**+1.4**
VIRC				Sn	**Sb**	**16 16 48.6**	**-2.0**
PLIT	**Plitvice**	**2.50**	**316**	*e*Pn	**Pn**	**16 16 18.0**	**+1.8**
PLIT				Sn	**Sn**	**16 16 48.8**	**+1.7**
NVLJ	**Novalja**	**2.72**	**304**	*e*Pn	**Pn**	**16 16 20.8**	**+1.5**
NVLJ				Sn	**Sn**	**16 16 54.3**	**+1.7**
BARS	**Barje**	**2.79**	**94**	*e*Pn	**Pn**	**16 16 21.2**	**+1.0**
BOJS	**Bojanci**	**3.13**	**321**	⇓*i*Pn	**Pn**	**16 16 25.7**	**+0.8**
BOJS				*e*Sn	**Sn**	**16 17 02.6**	**-0.2**
BOJS	**Bojanci**	**3.13**	**321**	*e*Pn	**Pn**	**16 16 26.3**	**+1.4**
ZAGS	**Zajecar**	**3.14**	**75**	*e*Pn	**Pn**	**16 16 25.1**	**+0.1**
MORH	**Mrgy, Hungar**	**3.15**	**8**	*e*Pn	**Pn**	**16 16 25.2**	**0.0**
MORH				*e*Sn	**Sn**	**16 17 03.5**	**+0.3**
CRES	**Cresnjevec Ost**	**3.30**	**327**	*i* Pn	**Pn**	**16 16 28.3**	**+1.1**
GBRS	**Gornja Briga**	**3.36**	**318**	*e*Pn	**Pn**	**16 16 29.8**	**+1.6**
ZAPS	**Zavoj**	**3.36**	**85**	*e*Pn	**Pn**	**16 16 28.9**	**+0.8**
CEY	**Cerknica**	**3.70**	**317**	*e*Pn	**Pn**	**16 16 33.3**	**+0.5**
CEY				*e*Sn	**Sn**	**16 17 16.9**	**+0.7**
CEY	**Cerknica**	**3.70**	**317**	*e*Pn	**Pn**	**16 16 34.1**	**+1.3**
SKDS	**Skadanscina**	**3.79**	**312**	*e*Pn	**Pn**	**16 16 34.3**	**+0.3**
SKDS				*e*Sn	**Sn**	**16 17 18.0**	**-1.0**
SKDS	**Skadanscina**	**3.79**	**312**	*e*Pn	**Pn**	**16 16 34.9**	**+0.9**
PERS	**Pernice**	**4.11**	**331**	*e*Pn	**Pn**	**16 16 39.2**	**+0.9**
SOKA	**Soboth**	**4.17**	**330**	*e*Pn	**Pn**	**16 16 40.1**	**+0.8**
	1.1nm,0.3s						
SOKA				*e*Sn	**Sn**	**16 17 28.7**	**+0.2**
	0.6nm,0.3s						
VOJS	**Vojsko**	**4.18**	**316**	*i* Pn	**Pn**	**16 16 40.0**	**+0.6**
OBKA	**Obir**	**4.22**	**325**	*e*Pn	**Pn**	**16 16 40.8**	**+0.8**
OBKA				*e*Sn	**Sn**	**16 17 28.8**	**-1.0**
ARSA	**Arzberg**	**4.52**	**338**	*e*Pn	**Pn**	**16 16 43.8**	**-0.2**
ARSA	**Arzberg**	**4.52**	**338**	*e*Pn	**Pn**	**16 16 45.8**	**+1.8**
	3.0nm,0.4s						
KBA	**Koelnbreinsper**	**5.19**	**322**	*i* Pn	**Pn**	**16 16 56.5**	**+3.1**
	1.1nm,0.3s						
KBA				*i* Sn	**Sn**	**16 17 56.8**	**+3.1**
	1.2nm,0.5s						
MOA	**Molln**	**5.45**	**332**	*e*Pn	**Pn**	**16 17 00.5**	**+3.8**
	2.3nm,0.4s						
MOA				*e*Sn	**Sn**	**16 18 02.6**	**+2.8**
	1.2nm,0.3s						
LESA	**Schwarzleotal**	**5.75**	**321**	*e*Pn	**Pn**	**16 17 02.3**	**+1.3**
	3.1nm,0.3s						
LESA				*e*Sn	**Sn**	**16 18 10.9**	**+3.5**
	1.2nm,0.4s						

*JMA **24** 16:18:13.7±0.2,40°.6N±0°.7×14°.4E±°,h23km,MV3.3/30,*
FAR E OFF SANRIKU
*IDC **24** 16:18:18.2±1.6,40°.93N×142°.75E,h0km,mb3.6/8,*
mbtmp3.5/12,ML2.8/4,Error ellipse: s-maj=38.0km
s-min=19.3km az=82.0
ISC 24 16:18:12.7±1.2,40°.54N±0°.06×143°.90E±0°.08,h16km,n32,
σ1°.38/35,mb3.7/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.58**	**340**	*e*P	**Pn**	**16 18 39.8**	**-0.2**
JEM				*e*S	**Sn**	**16 19 00.1**	**0.0**
JTH	**Tanohata**	**1.67**	**250**	P	**Pn**	**16 18 40.7**	**-0.5**
JTH				*e*S	**Sn**	**16 19 00.1**	**-2.2**
JKEN	**Kujiedanarisaw**	**1.70**	**260**	*e*P	**Pn**	**16 18 41.0**	**-0.7**
JKEN				*e*S	**Sn**	**16 19 01.1**	**-2.1**
JANG	**Nango**	**1.82**	**266**	*e*P	**Pn**	**16 18 43.1**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.94**	**334**	*e*P	**Pn**	**16 18 45.5**	**+0.5**
JCH	**Churui**	**2.11**	**349**	*e*P	**Pn**	**16 18 47.5**	**+0.1**
JCH				*e*S	**Sn**	**16 19 11.8**	**-1.6**
JOM	**Ohasama**	**2.27**	**243**	P	**Pn**	**16 18 50.2**	**+0.7**
JOT	**Ohata**	**2.32**	**292**	P	**Pn**	**16 18 50.5**	**+0.3**
JAK	**Akkeshi**	**2.53**	**13**	*e*P	**Pn**	**16 18 53.4**	**+0.3**
JAK				*e*S	**Sn**	**16 19 22.2**	**-1.3**
JMK	**Ichinoseki**	**2.60**	**233**	P	**Pn**	**16 18 54.8**	**+0.7**
JAR	**Ashorobuto**	**2.76**	**358**	P	**Pn**	**16 18 56.0**	**-0.3**
JAR				*e*S	**Sn**	**16 19 27.1**	**-2.2**
JEW	**Eniwo**	**2.94**	**322**	*e*P	**Pn**	**16 19 00.3**	**+1.5**
NEM2	**Nemuro 2**	**3.14**	**25**	*e*P	**Pn**	**16 19 01.7**	**+0.2**
NEM2				*e*S	**Sn**	**16 19 35.7**	**-3.0**
JYK	**Kaneyama**	**3.17**	**240**	P	**Pn**	**16 19 02.9**	**+1.0**
JTKR	**Abashiri--Toko**	**3.43**	**0**	P	**Pn**	**16 19 05.8**	**+0.3**
JTKR				*e*S	**Sn**	**16 19 44.4**	**-1.4**
JHR	**Hokuryu**	**3.59**	**334**	*e*P	**Pn**	**16 19 10.1**	**+2.4**
JOSM	**Okushiri--Mats**	**3.67**	**296**	*e*P	**Pn**	**16 19 09.2**	**+0.4**
ASAJ	**Asahikawa**	**3.71**	**345**	Pn	**Pn**	**16 19 10.3**	**+1.0**
	0.8nm,0.3s,baz=108,slow=5.4,SNR=7.1						
ASAJ				Sn	**Sn**	**16 19 51.1**	**-1.5**
	1.9nm,0.3s,baz=198,slow=20,SNR=6.0						
	2.4nm,0.3s						
MJAR	**Matsushiro Arr**	**5.98**	**230**	Pn	**Pn**	**16 19 43.0**	**+2.4**
	0.1nm,0.3s,baz=41,slow=12,SNR=6.1						
	1.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**9.54**	**296**	Pn	Pn	16 20 21.7	-7.7
	0.1nm,0.3s,baz=107,slow=13,SNR=2.0						
	1.3nm,0.9s						
KSRS	**Korea Array**	**12.80**	**261**	Pn	**Pn**	**16 21 12.0**	**-2.0**
	0.1nm,0.3s,baz=72,slow=16,SNR=1.7						
	1.0nm,0.9s						
SONM	**Songino Array**	**27.65**	**298**	P	**P**	**16 23 59.3**	**-0.5**
	0.4nm,0.6s,baz=98,slow=11,SNR=1.7						
	0.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.58**	**130**	T	T	16 56 00.2	
	baz=322						
H11N1	**WAKE ISLAND Hy**	**28.59**	**130**	T	T	16 56 04.2	
	baz=322						
H11N3	**WAKE ISLAND Hy**	**28.60**	**130**	T	T	16 55 42.7	
	baz=322						
ZALV	**Zalesovo Beam**	**41.09**	**310**	P	**P**	**16 25 54.6**	**-0.8**
	0.8nm,0.6s,baz=83,slow=12,SNR=4.1						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**43.99**	**300**	P	**P**	**16 26 20.1**	**+0.9**
	0.7nm,0.7s,baz=83,slow=9.7,SNR=8.1						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**45.46**	**306**	P	**P**	**16 26 31.2**	**+0.5**
	0.9nm,0.6s,baz=79,slow=8.5,SNR=9.3						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**49.71**	**311**	P	**P**	**16 27 05.5**	**+1.7**
	0.4nm,0.4s,baz=74,slow=8.6,SNR=13						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**60.82**	**190**	P	P	16 28 32.8	+8.6
	0.6nm,0.8s,baz=6.0,slow=6.6,SNR=1.7						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**64.55**	**190**	P	P	16 28 59.7	+11
	0.2nm,0.8s,baz=7.4,slow=8.1,SNR=1.7						
	0.2nm,0.8s						
FINES	**FINESS Array B**	**66.62**	**332**	P	**P**	**16 29 03.5**	**+1.6**
	0.5nm,0.7s,baz=48,slow=11,SNR=1.5						
	0.5nm,0.7s						

*IDC **24** 16:18:37.3±2.3,18°.32N×101°.03W,h0km,mb4.0/10,*
mbtmp3.9/11,ML4.0/1,MS3.0/6,Error ellipse:
s-maj=61.3km s-min=35.9km az=45.0
*MEX **24** 16:18:43.3±0.9,18°.02N×101°.37W,h58km±10km,MD4.5*
ISC 24 16:18:42.0±0.8,17°.94N±0°.03×101°.32W±0°.02,h51km±7km,
n78,σ2°.47/133,mb3.8/10,MS2.9/4,Near coast of
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.36**	**202**	*e*P	**Pn**	**16 18 52.5**	**+0.8**
ZIIG				*e*S	**Sn**	**16 19 00.4**	**+1.8**
PET2	**Petatlan**	**0.40**	**172**	*e*P	**Pn**	**16 18 53.0**	**+0.8**
PET2				*e*S	**Sn**	**16 19 01.1**	**+1.6**
UON	**La Union**	**0.47**	**274**	*e*P	**Pn**	**16 18 52.8**	**-0.1**
UON				*e*S	**Sn**	**16 19 00.5**	**-0.2**
ARIG	**Puente Sto Nin**	**0.99**	**70**	*e*P	**Pn**	**16 18 59.9**	**+0.3**
ARIG				*e*S	**Sn**	**16 19 12.7**	**+0.2**
ATYC	**Atoyac**	**1.11**	**130**	*e*P	**Pn**	**16 19 02.2**	**+0.9**
ATYC				*e*S	**Sn**	**16 19 15.3**	**-0.2**
CAIG	**El Cayaco**	**1.34**	**131**	*e*P	**Pn**	**16 19 05.2**	**+0.9**
CAIG				*i* S	**Sn**	**16 19 18.2**	**-2.8**
MEIG	**Mezcala**	**1.62**	**90**	*e*P	**Pn**	**16 19 09.2**	**+0.9**
MEIG				*i* S	**Sn**	**16 19 25.0**	**-3.0**
URUA	**Uruapan**	**1.64**	**334**	*e*P	**Pn**	**16 19 05.8**	**-2.8**
URUA				*i* S	**Sn**	**16 19 23.2**	**-5.4**
ACP2	**Acapulco**	**1.73**	**127**	*e*P	**Pn**	**16 19 11.8**	**+2.2**
ACP2				*i* S	**Sn**	**16 19 31.3**	**+0.7**
MOIG	**Morelia**	**1.74**	**4**	*e*P	**Pn**	**16 19 07.4**	**-2.6**
MOIG				*i* S	**Sn**	**16 19 30.6**	**-0.5**
VNTA	**La Mica**	**1.76**	**125**	*e*P	**Pn**	**16 19 12.0**	**+2.0**
VNTA				*e*S	**Sn**	**16 19 30.4**	**-0.9**
PLIG	**Platanillo**	**1.79**	**75**	*e*P	**Pn**	**16 19 11.3**	**+0.7**
PLIG				*i* S	**Sn**	**16 19 29.9**	**-2.2**
DAIG	**Los Arroyos**	**1.84**	**119**	*e*P	**Pn**	**16 19 13.3**	**+2.2**
DAIG				*i* S	Sn	16 19 26.5	-6.7
MMIG	**Aquila**	**1.96**	**281**	*e*P	**Pn**	**16 19 12.1**	**-0.6**
MMIG				*i* S	**Sn**	**16 19 34.4**	**-1.6**
ACAM	**Acambaro**	**2.17**	**15**	*e*P	**Pn**	**16 19 17.5**	**+1.6**
ACAM				*i* S	**Sn**	**16 19 46.0**	**+4.3**
INVM	**La Marquesa**	**2.28**	**54**	*e*P	**Pn**	**16 19 18.3**	**+0.8**
INVM				*i* S	**Sn**	**16 19 50.1**	**+5.5**
AOVM	**Tlapan**	**2.31**	**55**	*e*P	**Pn**	**16 19 18.7**	**+0.6**
AOVM				*i* S	**Sn**	**16 19 49.3**	**+3.8**
YAIG	**Yautepec**	**2.33**	**66**	*e*P	**Pn**	**16 19 18.6**	**+0.6**
YAIG				*i* S	**Sn**	**16 19 45.0**	**-0.6**
CJVM	**Cuajimalpa**	**2.40**	**53**	*e*P	**Pn**	**16 19 16.0**	**-3.0**
CJVM				*i* S	**Sn**	**16 19 53.5**	**+6.2**
CRIG	**Cruz Grande**	**2.41**	**119**	*e*P	**Pn**	**16 19 20.4**	**+1.4**
CRIG				*i* S	**Sn**	**16 19 46.1**	**-1.2**
TLVM	**San Miguel Top**	**2.42**	**58**	*i* P	**Pn**	**16 19 20.4**	**+1.1**
TLVM				*i* S	**Sn**	**16 19 45.6**	**-2.3**
ACIG	**Acambay**	**2.45**	**34**	*e*P	**Pn**	**16 19

comp=Z,20nm,18.8s,baz=142,slow=35
YKA Yellowknife Ar 45.47 351 P P 16 26 53.3 -2.5
0.9nm,0.8s,baz=162,slow=7.9,SNR=12
0.9nm,0.8s
ILAR Eielson Array 55.79 338 P P 16 28 14.3 +0.7
0.7nm,1.0s,baz=120,slow=7.2,SNR=6.2
0.7nm,1.0s
BORG Borgarnes 69.67 27 LR LR 17 02 24.1
comp=Z,27nm,19.0s,baz=175,slow=38
SPITS Spitsbergen Ar 77.98 11 P P 16 30 34.6 +0.2
11nm,1.0s,baz=297,slow=0.4,SNR=5.0
11nm,1.0s
EKA Eskdalemuir Ar 79.98 35 P P 16 30 46.6 +0.8
0.5nm,0.5s,baz=309,slow=5.0,SNR=1.6
0.5nm,0.5s
SEY Seymchan 81.37 334 P P 16 30 54.2 +1.2
1.1nm,0.7s,baz=120,slow=20,SNR=6.8
1.1nm,0.7s
NOA NORSAR Array B 84.85 27 P P 16 31 11.8 +0.7
0.5nm,0.6s,baz=294,slow=4.9,SNR=2.8
0.5nm,0.6s
ARCES ARCESS Array B 85.08 16 P P 16 31 12.9 +0.9
1.2nm,0.6s,baz=302,slow=5.2,SNR=7.3
1.2nm,0.6s

*IDC **24** 16:21:36.0±11.0, 34.°69N×70.°52E, h0km, mb3.3/2, mbtmp3.4/5, ML3.0/3, Error ellipse: s-maj=185.1km s-min=58.1km az=159.0*
*NNC **24** 16:22:21.7±11.0, 37.°31N×71.°46E, h293km±204km, mb2.2, mpv3.7, Error ellipse: s-maj=145.2km s-min=99.1km az=178.0*
ISC 24 16:22:18.2±2.6, 37.°0N±0.°2×71.°4E±0.°1, h250km, n9, σ1§78/12, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.09**	**22**	⇓P		**Pn**		**16 23 48.7**	**+1.2**
	2.6nm,0.5s								
AAK				⇑S		**S**		**16 25 02.1**	**+3.1**
	4.8nm,0.5s								
KK31	**Karatay Array**	**6.10**	**354**	⇓P		**Pn**		**16 23 47.9**	**+0.4**
	4.7nm,0.4s,baz=176,slow=12,SNR=28								
KK31				S		**S**		**16 24 58.0**	**-1.0**
	0.9nm,0.2s,baz=152,slow=12,SNR=6.0								
TKM2	**Tokmak 2**	**6.71**	**28**	⇑P		**Pn**		**16 23 56.4**	**+1.1**
	2.5nm,0.5s								
TKM2				⇑S		**S**		**16 25 09.6**	**-3.6**
	1.0nm,0.4s								
MKAR	**Makanchi Array**	**12.68**	**36**	Pn		**Pn**		**16 25 10.0**	**-0.1**
	0.1nm,0.3s,baz=227,slow=14,SNR=4.3								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**14.52**	**18**	Pn		**P**		**16 25 32.4**	**-0.1**
	baz=206,slow=12,SNR=5.3								
	0.4nm,0.6s								
AB31	**Akbulak array**	**14.77**	**329**	P		**Pn**		**16 25 35.8**	**+0.4**
	0.2nm,0.5s,baz=140,slow=11,SNR=8.6								
BVAR	**Borovoye Array**	**16.00**	**358**	P		**Pn**		**16 25 51.0**	**+0.9**
	0.1nm,0.3s,baz=171,slow=11,SNR=7.1								
	1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**19.30**	**25**	P		**Pn**		**16 26 27.8**	**-1.0**
	0.4nm,0.3s,baz=209,slow=11,SNR=2.9								
	0.4nm,0.3s								
ARCES	**ARCESS Array B**	**40.77**	**337**	P		**P**		**16 29 34.2**	**-0.5**
	0.3nm,0.6s,baz=117,slow=9.4,SNR=0.9								
	0.3nm,0.6s								

DJA 24 16:24:23.3±1.2, 4.°N±10.°×12.°E±.°, h20km±7km, M4.0/7, mb4.0/3, MLv3.9/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.91**	**253**	P		Pn		16 24 55.4	+0.6
SGSI				S		Sn		16 25 18.7	+0.4
KMSI	**Cibinong**	**4.97**	**223**	P		Pn		16 25 36.9	0.0
SANI	**Sanana**	**6.41**	**192**	P		Pn		16 25 55.9	-0.7
	0.1nm11nm,0.7s								
FAKI	**Fak Fak**	**8.64**	**145**	P		Pn		16 26 27.4	+0.1

*NEIC **24** 16:29:59.8±1.7, 4.°26N±0.°08×125.°9E±0.°1, h93km±4km, mb4.4/22, Error ellipse: s-maj=15.1km s-min=10.2km az=69.0*
*DJA **24** 16:29:59.6±0.5, 4.°N±5.°×12.°6E±.°, h82km±4km, M4.3/14, mB4.7/6, mb4.3/12, MLv4.5/14, Mw(mB)3.9/6*
*IDC **24** 16:30:02.5±1.4, 4.°20N×125.°70E, h132km±13km, mb3.5/14, mbtmp3.9/15, Error ellipse: s-maj=26.9km s-min=9.7km az=77.0*
ISC 24 16:30:00.2±0.4, 4.°16N±0.°05×125.°80E±0.°07, h107km, n57, σ1§48/64, mb4.0/24, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.54**	**210**	P		**Pn**		**16 30 14.7**	**-2.4**
SGSI				S		**Sn**		**16 30 26.9**	**-2.8**
DAV	**Davao City (W)**	**2.90**	**356**	P		**Pn**		**16 30 46.2**	**+1.3**
	250nm,0.4s,baz=211,slow=5.9,SNR=1.2								
DAV				S		**Sn**		**16 31 23.4**	**+4.0**
	232nm,0.4s,baz=281,slow=22,SNR=3.5								
TNTI	**Ternate**	**3.71**	**155**			**Pn**		**16 30 55.6**	**0.0**
TNTI	**Ternate**	**3.71**	**155**	P		**Pn**		**16 30 55.8**	**+0.1**
TNTI				S		**Sn**		**16 31 39.2**	**+0.6**
KMSI	**Cibinong**	**3.99**	**207**	P		**Pn**		**16 31 00.2**	**+0.7**
TOLI2	**Tolitoli**	**5.85**	**239**	Pn		**Pn**		**16 31 23.3**	**-1.4**
LUWI	**Luwuk**	**5.98**	**210**	Pn		**Pn**		**16 31 29.3**	**+2.8**
LUWI	**Luwuk**	**5.98**	**210**	P		**Pn**		**16 31 28.7**	**+2.3**
SANI	**Sanana**	**6.17**	**178**	P		**Pn**		**16 31 27.1**	**-1.8**
	0.2nm704nm32nm,1.0s								
APSI	**Ampana**	**6.52**	**220**	P		**Pn**		**16 31 35.2**	**+1.5**
	0.2nm860nm57nm,1.1s								
MPSI	**Mapaga**	**7.01**	**237**	P		**Pn**		**16 31 39.3**	**-1.0**
	0.1nm600nm11nm,0.6s								
SWI	**Sorong**	**7.39**	**132**	P		**Pn**		**16 31 46.0**	**+0.5**
	0.1nm117nm,0.6s								
NLAI	**Namlea**	**7.46**	**170**	P		**Pn**		**16 31 45.3**	**-1.2**
	966nm23nm,0.8s								
FAKI	**Fak Fak**	**9.54**	**137**	Pn		**Pn**		**16 32 16.2**	**+1.6**
FAKI	**Fak Fak**	**9.54**	**137**	P		**Pn**		**16 32 14.9**	**+0.2**
	19nm,1.3s								
SBUM	**Sibu**	**13.66**	**263**	P		**P**		**16 33 18.0**	**+3.3**
MTN	**Manton Dam**	**17.70**	**163**	P		**P**		**16 33 58.4**	**-1.1**
MTN				IAmb		IAmb		16 34 28.1	
	comp=Z,33nm,1.4s								
DLV	**Lat**	**18.80**	**295**	P		**P**		**16 34 13.1**	**+1.4**
DLV				IAmb		IAmb		16 34 24.3	
	comp=Z,19nm,1.1s								
TPI	**Tanjungpandan**	**19.39**	**250**	P		**P**		**16 34 20.3**	**+2.3**
KNRA	**Kununurra**	**19.92**	**172**	P		**P**		**16 34 25.1**	**+1.4**
FITZ	**Fitzroy Crossi**	**22.11**	**180**	P		**P**		**16 34 47.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**22.11**	**180**	P		**P**		**16 34 46.5**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=7.2,slow=8.2,SNR=18								
	comp=Z,3.2nm,0.7s								
WRA	**Warramunga Arr**	**25.38**	**161**	P		**P**		**16 35 19.0**	**+1.3**
WRA	**Warramunga Arr**	**25.38**	**161**	P		**P**		**16 35 18.5**	**+0.7**
	comp=Z,3.0nm,0.6s,baz=341,slow=9.7,SNR=28								
	comp=Z,3.0nm,0.6s								
WR8	**Warramunga Arr**	**25.44**	**161**	P		**P**		**16 35 19.4**	**+1.1**
AS31	**Alice Springs**	**28.76**	**164**	P		**P**		**16 35 48.0**	**0.0**
ASAR	**Alice Springs**	**28.76**	**164**	P		**P**		**16 35 48.6**	**+0.6**
ASAR	**Alice Springs**	**28.76**	**164**	P		**P**		**16 35 49.1**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=342,slow=8.7,SNR=46								
ASAR				PcP		**PcP**		**16 38 56.2**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=340,slow=2.5,SNR=1.8								
	comp=Z,0.7nm,0.5s								
CMAR	**Chiang Mai Arr**	**29.86**	**301**	P		**P**		**16 35 57.6**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=111,slow=8.5,SNR=11								
	comp=Z,1.5nm,0.8s								
CHTO	**Chiang Mai**	**30.01**	**301**	P		**P**		**16 35 59.6**	**+0.4**
CHTO				IAmb		IAmb		16 36 00.3	
	comp=Z,4.2nm,0.8s								
KSRS	**Korea Array**	**33.20**	**3**	P		**P**		**16 36 25.5**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=183,slow=10.0,SNR=2.1								
	comp=Z,0.4nm,0.3s								
MJAR	**Matsushiro Arr**	**34.19**	**18**	P		**P**		**16 36 34.0**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=188,slow=7.4,SNR=2.0								
	comp=Z,1.0nm,0.7s								
FORT	**Forrest**	**34.81**	**177**	P		**P**		**16 36 41.5**	**+0.7**
FORT				IAmb		IAmb		16 36 42.9	
	comp=Z,8.2nm,0.8s								
BBOO	**Buckleboo**	**38.03**	**166**	P		**P**		**16 37 09.7**	**+1.4**
EIDS	**Eidsvold**	**38.26**	**141**	P		**P**		**16 37 11.0**	**+0.7**
STKA	**Stephens Creek**	**38.86**	**158**	P		**P**		**16 37 15.6**	**+0.4**
STKA	**Stephens Creek**	**38.86**	**158**	P		**P**		**16 37 15.6**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=339,slow=11,SNR=7.4								
	comp=Z,2.3nm,0.6s								

USRK	**Ussuriysk Ar.**	**40.25**	**7**	P		**P**		**16 37 25.9**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=190,slow=7.3,SNR=5.3								
	comp=Z,1.9nm,0.7s								
SONM	**Songino Array**	**46.60**	**342**	P		**P**		**16 38 16.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=160,slow=9.2,SNR=1.6								
SONM				PcP		**PcP**		**16 39 47.6**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=146,slow=1.8,SNR=2.6								
	comp=Z,0.2nm,0.3s								
PEA0B	**Petropavlovsk-**	**55.39**	**23**	P		**P**		**16 39 23.0**	**-0.2**
PEA0B				IAmb		IAmb		16 39 54.5	
	comp=Z,12nm,1.2s								
PETK	**Petropavlovsk-**	**55.39**	**23**	P		**P**		**16 39 23.1**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=219,slow=6.6,SNR=5.9								
	comp=Z,1.3nm,0.8s								
MKAR	**Makanchi Array**	**56.68**	**326**	P		**P**		**16 39 30.9**	**-1.7**
MKAR	**Makanchi Array**	**56.68**	**326**	P		**P**		**16 39 30.8**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=125,slow=6.0,SNR=9.1								
MKAR				PcP		**PcP**		**16 40 28.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=128,slow=3.8,SNR=2.0								
MKAR				ScP		**ScP**		**16 44 14.9**	**-2.5**
	comp=Z,0.4nm,0.6s,baz=119,slow=5.5,SNR=3.9								
	comp=Z,0.4nm,0.5s								
MAKZ	**Makanchi**	**56.86**	**325**	P		**P**		**16 39 31.4**	**-2.5**
MAKZ				IAmb		IAmb		16 40 01.9	
	comp=Z,5.8nm,1.3s								
KURBB	**Kurchatov Arra**	**60.88**	**328**	P		**P**		**16 39 59.7**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=131,slow=6.4,SNR=9.0								
	comp=Z,0.4nm,0.5s								
KURK	**Kurchatov**	**60.88**	**328**	P		**P**		**16 40 00.3**	**-1.2**
KURK				IAmb		IAmb		16 40 03.2	
	comp=Z,1.3nm,0.7s								
BKZ	**Black Stump Fm**	**63.52**	**138**	P		**P**		**16 40 19.9**	**+0.5**
BVAR	**Borovoye Array**	**66.46**	**327**	P		**P**		**16 40 36.1**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=126,slow=7.3,SNR=2.4								
	comp=Z,0.3nm,0.6s								
TIXI	**Tiksi**	**67.43**	**1**	P		**P**		**16 40 43.5**	**-0.5**
TIXI				IAmb		IAmb		16 40 46.1	
	comp=Z,1.6nm,0.5s								
ABKAR	**Akbulak array**	**71.23**	**321**	P		**P**		**16 41 07.8**	**-0.1**
L16K	**Owhat River**	**79.14**	**28**	P		**P**		**16 41 53.9**	**+1.0**
L16K				IAmb		IAmb		16 42 16.2	
	comp=Z,7.0nm,1.4s								
C18K	**Utukok River**	**80.00**	**21**	P		**P**		**16 41 57.7**	**+0.1**
C18K				IAmb		IAmb		16 42 35.2	
	comp=Z,7.8nm,1.5s								
H19K	**Roundabout Mou**	**81.17**	**24**	P		**P**		**16 42 04.9**	**+1.2**
B20K	**Meade River**	**81.69**	**20**	P		**P**		**16 42 06.6**	**+0.2**
B21K	**Ikpikpuk River**	**82.50**	**20**	P		**P**		**16 42 11.3**	**+0.7**
B21K				IAmb		IAmb		16 42 38.4	
	comp=Z,3.5nm,1.1s								
H23K	**Yukon River**	**84.04**	**24**	P		**P**		**16 42 19.9**	**+1.2**
H23K				IAmb		IAmb		16 42 53.2	
	comp=Z,5.0nm,1.4s								
ARCES	**ARCESS Array B**	**89.73**	**340**	P		**P**		**16 42 45.3**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=77,slow=5.3,SNR=1.8								
	comp=Z,0.5nm,0.7s								

*NEIC **24** 16:35:17.3±0.3, 47.°58N±0.°05×92.°69W±0.°07, h0km±1km, mb_Lg3.0/29, Error ellipse: s-maj=9.8km s-min=6.8km az=36.0*
*IDC **24** 16:35:18.1±2.8, 47.°87N×92.°06W, h0km, mbtmp2.9/3, ML2.2/2, Error ellipse: s-maj=27.5km s-min=16.9km az=82.0*
ISC 24 16:35:16.9±1.0, 47.°59N±0.°05×92.°66W±0.°05, h0km, n23, σ1§47/18, Minnesota

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.86**	**65**			**Pg**		**16 35 33.5**	**+0.2**
E38A	**The Farm, Brul**	**1.24**	**142**			**Pg**		**16 35 39.9**	**-0.8**
EPLO	**Experimental L**	**2.20**	**342**			**Pn**		**16 35 54.6**	**-0.2**
AGMN	**Agassiz Nation**	**2.27**	**289**			**Pn**		**16 35 55.5**	**-0.1**
AGMN					IAmb_Lg			16 36 27.2	
	comp=Z,89nm,1.2s								
SPMN	**Marine on St.**	**2.37**	**183**		Pn	**Pn**		**16 35 56.6**	**-0.4**
SPMN					IAmb_Lg			16 36 31.3	
	comp=Z,65nm,1.0s								
TBO	**Thunder Bay**	**2.42**	**63**		Pn	**Pn**		**16 35 57.8**	**+0.1**
TBO					IAmb_Lg			16 36 37.9	
	comp=Z,53nm,0.8s								
COWI	**Conover**	**2.84**	**120**			**Pn**		**16 36 03.1**	**-0.4**
COWI					IAmb_Lg			16 36 47.5	
	comp=Z,43nm,0.8s								
ULM	**Lac du Bonnet**	**3.40**	**323**		Pn	**Pn**		**16 36 10.9**	**-0.3**
ULM					IAmb_Lg			16 37 07.8	
	comp=Z,47nm,0.8s								
ULM	**Lac du Bonnet**	**3.40**	**323**		Pn	**Pn**		**16 36 11.9**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=132,slow=7.8,SNR=12								
ULM					Pg	**Pg**		**16 36 20.1**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=144,slow=14,SNR=8.2								
ULM					Sn	**Sn**		**16 36 52.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=142,slow=19,SNR=4.4								
ULM					Lg	Lg		16 37 05.1	
	comp=Z,3.0nm,0.3s,baz=162,slow=20,SNR=21								
	comp=Z,1.5nm,0.4s								
I10CA	**LAC DU BONNET**	**3.43**	**321**		I	I		16 56 30.0	
	baz=138,slow=324,SNR=10								
F42A	**Maple Grove Fa**	**3.61**	**119**		Pn	**Pn**		**16 36 13.8**	**-0.3**
F42A					IAmb_Lg			16 37 10.8	
	comp=Z,30nm,0.8s								
I40A	**Norwalk**	**3.96**	**158**		Pn	**Pn**		**16 36 18.3**	**-0.7**
I40A					IAmb_Lg			16 37 21.6	
	comp=Z,27nm,0.9s								
MDND	**Maddock**	**4.70**	**276**		IAmb_Lg			16 37 57.4	
	comp=Z,29nm,0.9s								
ECSD	**EROS Data Cent**	**4.75**	**217**		Pn	**Pn**		**16 36 28.6**	**-1.2**
ECSD					IAmb_Lg			16 37 46.7	
	comp=Z,22nm,0.9s								
JFWS	**Jewell Farm**	**4.98**	**159**		IAmb_Lg			16 38 05.9	
	comp=Z,20nm,0.8s								
SUSD	**Miller**	**5.40**	**237**		Pn	**Pn**		**16 36 37.5**	**-1.1**
SUSD					IAmb_Lg			16 38 04.4	
	comp=Z,34nm,0.8s								
L40A	**Anamosa**	**5.62**	**169**		IAmb_Lg			16 38 18.4	
	comp=Z,22nm,1.1s								
E46A	**Sault Ste Mari**	**5.84**	**99**		Pn	**Pn**		**16 36 44.7**	**-0.1**
N38A	**Joes South For**	**6.81**	**184**		IAmb_Lg			16 38 51.4	
	comp=Z,22nm,1.0s								
L46A	**Eue Claire**	**7.18**	**139**		IAmb_Lg			16 39 11.2	
	comp=Z,24nm,0.8s								
KSU1	**Kansas State U**	**8.96**	**200**		IAmb_Lg			16 39 56.5	
	comp=Z,14nm,1.0s								
PDAR	**Pinedale Array**	**12.86**	**254**		Pn	Pn		16 38 25.9	+4.8
	comp=Z,0.3nm,0.8s,baz=54,slow=9.3,SNR=3.0								
PDAR					Sn	**Sn**		**16 40 49.7**	**+4.8**
	comp=Z,0.2nm,0.3s,baz=60,slow=25,SNR=7.4								
PDAR					Lg	Lg		16 41 52.6	
	comp=Z,0.1nm,0.3s,baz=49,slow=24,SNR=4.0								
YKA	**Yellowknife Ar**	**19.36**	**328**		P	**P**		**16 39 43.1**	**-0.7**
	baz=130,slow=12,SNR=4.9								
YKA					Lg	Lg		16 45 14.1	
	baz=135,slow=28,SNR=3.9								
	comp=Z,0.3nm,0.8s								

*IDC **24** 16:36:12.7±0.6, 3.°31S×144.°79E, h0km, mb4.3/18, mbtmp4.3/21, ML3.6/2, MS3.5/21, Error ellipse: s-maj=22.6km s-min=12.7km az=86.0*
*NEIC **24** 16:36:15.6±1.7, 3.°18S±0.°08×142.°84E±0.°08, h10km±1km, mb4.9/46, Error ellipse: s-maj=14.4km s-min=13.5km az=197.0*
*DJA **24** 16:36:19.4±0.7, 3.°S±6.°×14.°3E±.°, h48km±5km, M4.7/21, mb4.8/21, mB5.2/6, MLv4.8/6, Mw(mB)4.5/6*
ISC 24 16:36:15.3±0.4, 3.°24S±0.°05×142.°76E±0.°05, h10km, n140, σ1§36/123, mb4.7/49, MS3.6/16, 1C-1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.17**	**289**	Pn		**Pn**		**16 36 51.3**	**-0.2**
	16nm,0.3s,baz=124,slow=16,SNR=33								
JAY				LR		LR		16 37 25.4	
	comp=Z,255nm,21.3s,baz=62,slow=32								
JAY				Sn		**Sg**		**16 37 27.2**	**+2.1**
	17nm,0.3s,baz=189,slow=19,SNR=4.3								
	31nm,0.3s								
JAY	**Jayapura**	**2.17**	**289**	P		**Pb**		**16 36 53.3**	**-1.4**
GENI	**Genyem**	**2.66**	**284**	P		**Pb**		**16 37 00.6**	**-2.5**
GENI				S		**Sg**		**16 37 41.4**	**+0.5**
SMPI	**Sarmi**	**4.23**	**287**	P		**Pn**		**16 37 21.9**	**+2.1**
MANU	**Manus Island**	**4.76**	**76**			**Pn**		**16 37 24.9**	**-2.3**
MMPI	**Merauke**	**5.70**	**204**	P		**Pn**		**16 37 43.7**	**+3.6**
SRPI	**Serui, Papua**	**6.65**	**282**	P		**Pn**		**16 37 55.9**	**+2.8**
	0.4nm2μm85nm,0.5s								

BAKI	**Biak**	**6.95**	**287**	P		**Pn**		**16 37 58.8**	**+1.6**
	0.4nm115nm,0.7s								
PMG	**Port Moresby**	**7.53**	**145**	Pn		**Pn**		**16 38 05.8**	**+0.6**
PMG	**Port Moresby**	**7.53**	**145**	Pn		**Pn**		**16 38 03.4**	**-1.8**
	9.5nm,0.6s,baz=337,slow=15,SNR=6.1								
PMG				Sn		**Sn**		**16 39 33.6**	**+2.9**
	1.2nm,0.3s,baz=319,slow=20,SNR=3.2								
PMG	**Port Moresby**	**7.53**	**145**	P		**Pn**		**16 38 07.2**	**+2.0**
PMG	**Port Moresby**	**7.53**	**145**	P		**Pn**		**16 38 07.3**	**+2.0**
FAKI	**Fak Fak**	**10.50**	**271**	Pn		**Pn**		**16 38 45.6**	**-0.4**
FAKI	**Fak Fak**	**10.50**	**271**	P		**Pn**		**16 38 45.9**	**-0.1**
	29nm,1.0s								
COEN	**Coen**	**10.66**	**178**	Pn		**Pn**		**16 38 50.6**	**+2.4**
COEN	**Coen**	**10.66**	**178**	P		Pn		16 38 52.8	+4.6
KDU	**Kakadu**	**13.84**	**227**	P		**Pn**		**16 39 31.0**	**-0.7**
DRS	**Darwin Rock St**	**14.87**	**231**	P		**Pn**		**16 39 45.3**	**-0.4**
MTSU	**Mount Surprise**	**14.88**	**174**	P		**P**		**16 39 51.2**	**-0.5**
MTN	**Manton Dam**	**14.94**	**230**	Pn		**Pn**		**16 39 45.7**	**-1.1**
MTN				IAmb		IAmb		16 39 47.7	
	comp=Z,76nm,1.6s								
MTN	**Manton Dam**	**14.94**	**230**	P		**Pn**		**16 39 45.9**	**-0.8**
NLAI	**Namlea**	**15.63**	**270**	P		**P**		**16 39 58.5**	**-1.5**
	comp=Z,45nm,0.7s								
TNTI	**Ternate**	**15.89**	**284**			**P**		**16 40 02.2**	**-0.7**
SANI	**Sanana**	**16.79**	**274**	P		**P**		**16 40 12.3**	**-0.6**
	comp=Z,28nm,1.0s								
GUMO	**Guam**	**16.85**	**7**	LR		LR		16 46 20.0	
	comp=Z,47nm,18.3s,baz=143,slow=36								
QIS	**Mount Isa**	**17.48**	**190**	P		**P**		**16 40 23.2**	**+2.6**
TATA	**Tatamba Isabel**	**17.71**	**108**	P		**Pn**		**16 40 22.1**	**-0.2**
HNR	**Honiara**	**18.15**	**111**	LR		LR		16 47 15.9	
	comp=Z,174nm,19.7s,baz=263,slow=37								
WB0	**Warramunga Arr**	**18.34**	**206**	P		**Pn**		**16 40 29.0**	**-1.0**
WB0				IAmb		IAmb		16 40 37.7	
	comp=Z,114nm,1.9s								
WR8	**Warramunga Arr**	**18.46**	**205**			**P**		**16 40 30.2**	**-1.2**
KNRA	**Kununurra**	**18.51**	**227**	P		**Pn**		**16 40 31.5**	**-0.5**
WRAB	**Tennant Creek**	**18.51**	**206**	P		**P**		**16 40 30.3**	**-1.6**
WRA	**Warramunga Arr**	**18.52**	**206**	P		**P**		**16 40 31.1**	**-0.9**
WRA	**Warramunga Arr**	**18.52**	**206**	P		**P**		**16 40 30.1**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=27,slow=12,SNR=20								
WRA				LR		LR		16 47 42.6	
	comp=Z,236nm,21.7s,baz=338,slow=37								
	comp=Z,16nm,0.8s								
KMSI	**Cibinong**	**19.14**	**281**	P		**P**		**16 40 38.1**	**-0.8**
SOEI	**Soe**	**19.47**	**250**	P		**Pn**		**16 40 43.2**	**-0.5**
SOEI	**Soe**	**19.47**	**250**	P		**Pn**		**16 40 43.9**	**+0.1**
	comp=Z,122nm,1.1s								
DAV	**Davao City (W)**	**19.97**	**301**	LR		LR		16 49 15.0	
	comp=Z,89nm,18.4s,baz=150,slow=39								
LUWI	**Luwuk**	**20.09**	**276**	P		**P**		**16 40 49.7**	**+0.4**
LUWI				IAmb		IAmb		16 40 52.5	
	comp=Z,66nm,0.9s								
BBSI	**Bau Bau**	**20.25**	**263**	P		Pn		16 40 53.5	+0.5
	comp=Z,47nm,1.0s								
EDFI	**Ende, Flores**	**21.64**	**254**	P		**P**		**16 41 05.9**	**-0.3**
	comp=Z,15nm,0.7s								
AS01	**Alice Springs**	**22.02**	**202**	P		**P**		**16 41 10.1**	**+0.1**
AS31	**Alice Springs**	**22.03**	**202**	P		**P**		**16 41 09.8**	**-0.4**
ASAR	**Alice Springs**	**22.04**	**202**	P		**P**		**16 41 08.6**	**-1.6**
	comp=Z,4.6nm,0.6s,baz=23,slow=11,SNR=41								
ASAR				LR		LR		16 50 23.0	
	comp=Z,229nm,18.8s,baz=54,slow=39								
	comp=Z,4.6nm,0.6s								
FITZ	**Fitzroy Crossi**	**22.34**	**227**	P		**P**		**16 41 14.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**22.34**	**227**	P		**P**		**16 41 10.5**	**-3.1**
	comp=Z,15nm,1.1s,baz=49,slow=8.3,SNR=67								
	comp=Z,15nm,1.1s								
BSSI	**Bau Bau, Buton**	**22.37**	**262**	P		**P**		**16 41 14.7**	**+0.7**
	comp=Z,66nm,1.3s								
TOLI2	**Tolitoli**	**22.39**	**281**	P		**P**		**16 41 14.9**	**+0.9**
TOLI2				IAmb		IAmb		16 41 19.7	
	comp=Z,27nm,0.8s								
SPSI	**Sidrap Palu**	**22.95**	**268**	P		**P**		**16 41 22.0**	**+1.9**
	comp=Z,24nm,1.3s								
KAPI	**Kappang**	**23.01**	**265**	P		**P**		**16 41 19.9**	**-0.8**
	comp=Z,9.7nm,0.3s,baz=93,slow=19,SNR=1.9								
KAPI				LR		LR		16 52 00.9	

comp=Z,78nm,3.7s
SHL Shillong 56.98 303 P **P 16 46 02.2 +0.6**
PETK Petropavlovsk- 57.53 11 P **P 16 46 04.6 -0.3**
comp=Z,1.4nm,1.0s,baz=211,slow=7.1,SNR=5.0
PETK LR LR 17 07 13.2
comp=Z,21nm,21.9s,baz=235,slow=32
comp=Z,1.4nm,1.0s
GTA Gaotai 57.95 321 *eP* **P 16 46 10.1 +1.9**
GTA pP sP 16 46 14.3 +1.8
GTA pmax pmax
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 59.71 333 P **P 16 46 21.1 +0.8**
SONM Songino Array 59.98 333 P **P 16 46 21.4 -0.8**
comp=Z,1.0nm,0.7s,baz=152,slow=8.5,SNR=5.4
comp=Z,1.0nm,0.7s
SHEM Shemya Is, Ala 61.70 21 LR LR 17 08 43.2
comp=Z,41nm,19.9s,baz=116,slow=32
SEY Seymchan 66.40 5 LR LR 17 15 54.8
comp=Z,21nm,19.7s,baz=159,slow=36
PPT2 Papeete2 67.75 108 *e*LR LR 17 07 28.9
comp=Z,42nm,26.0s
MKAR Makanchi Array 72.70 321 P **P 16 47 43.5 -0.1**
MKAR Makanchi Array 72.70 321 P **P 16 47 44.2 +0.6**
comp=Z,2.5nm,0.6s,baz=108,slow=7.7,SNR=28
comp=Z,2.5nm,0.6s
MAKZ Makanchi 72.90 321 P **P 16 47 44.5 -0.2**
MAKZ IAmb IAmb 16 47 45.9
comp=Z,5.8nm,0.6s
ZAA0 Zalesovo Array 74.45 329 P **P 16 47 52.7 -0.9**
ZALV Zalesovo Beam 74.45 329 P **P 16 47 52.6 -1.1**
ZALV Zalesovo Beam 74.45 329 P **P 16 47 53.1 -0.5**
comp=Z,3.6nm,0.8s,baz=102,slow=6.1,SNR=13
ZALV LR LR 17 22 56.9
comp=Z,44nm,18.3s,baz=108,slow=38
comp=Z,3.6nm,0.8s
NIL Nilore 74.89 306 P **P 16 47 57.1 +0.4**
NIL IAmb IAmb 16 47 58.7
comp=Z,11nm,0.8s
VNDA Vanda 74.93 176 P **P 16 47 55.1 -0.9**
comp=Z,1.5nm,0.7s,baz=325,slow=6.6,SNR=6.7
VNDA LR LR 17 19 54.0
comp=Z,70nm,19.0s,baz=338,slow=35
comp=Z,1.5nm,0.7s
KURK Kurchatov 76.49 324 P **P 16 48 04.9 -0.5**
KURBB Kurchatov Arra 76.51 324 P **P 16 48 05.2 -0.4**
comp=Z,1.3nm,0.9s,baz=112,slow=5.0,SNR=8.4
comp=Z,1.3nm,0.9s
M14K Bethel 76.68 25 P **P 16 48 06.3 0.0**
L14K Kuka Creek 76.71 24 P **P 16 48 06.4 0.0**
TAOE Nuku Hiva Isla 76.77 98 *e*LR LR 17 11 45.9
comp=Z,56nm,25.4s
L16K Owhat River 78.21 24 P **P 16 48 14.4 -0.5**
J17K VABM Dome 79.22 23 P **P 16 48 21.2 +0.8**
J17K IAmb IAmb 16 48 28.3
comp=Z,6.8nm,0.9s
KDAK Kodiak Island 79.54 29 LR LR 17 18 23.0
comp=Z,42nm,20.3s,baz=98,slow=32
F17K Baldwin Pennin 80.04 20 P **P 16 48 25.5 +0.7**
H19K Roundabout Mou 81.26 22 P **P 16 48 31.4 +0.1**
H19K IAmb IAmb 16 48 42.2
comp=Z,15nm,1.3s
NRIK Noril'sk 81.39 343 P **P 16 48 31.1 -0.9**
comp=Z,1.1nm,0.5s,baz=128,slow=6.3,SNR=5.2
NRIK LR LR 17 24 23.4
comp=Z,27nm,18.8s,baz=150,slow=36
comp=Z,1.1nm,0.5s
J20K Nowinta River 81.53 23 P **P 16 48 33.4 +0.6**
J20K IAmb IAmb 16 48 43.8
comp=Z,6.3nm,0.9s
BVAR Borovoye Array 82.07 324 P **P 16 48 35.8 -0.2**
comp=Z,4.8nm,0.8s,baz=108,slow=7.7,SNR=24
comp=Z,4.8nm,0.8s
BRVK Borovoye 82.14 324 P **P 16 48 36.2 -0.1**
MAW Mawson 83.16 202 P **P 16 48 39.7 -1.6**
comp=Z,3.8nm,0.8s,baz=80,slow=6.1,SNR=2.8
comp=Z,3.8nm,0.8s
RND Reindeer 83.38 25 P **P 16 48 40.9 -1.7**
RND IAmb IAmb 16 48 50.9
comp=Z,9.7nm,1.0s
B21K Ikpikpuk River 83.79 18 P **P 16 48 44.5 +0.1**
CCB Clear Creek Bu 84.24 24 P **P 16 48 45.4 -1.5**
CCB IAmb IAmb 16 48 55.1
comp=Z,18nm,1.7s
H24K Noodor Dome 84.63 23 P **P 16 48 48.5 -0.4**
H24K IAmb IAmb 16 49 00.1
comp=Z,13nm,1.8s
ILAR Eielson Array 84.66 24 P **P 16 48 46.6 -2.4**
ILAR Eielson Array 84.66 24 P **P 16 48 46.8 -2.2**
comp=Z,1.9nm,0.8s,baz=259,slow=6.0,SNR=16
ILAR LR LR 17 23 52.4
comp=Z,28nm,19.5s,baz=304,slow=34
comp=Z,1.9nm,0.8s
D23K Nanushuk River 84.78 19 P **P 16 48 49.9 +0.4**
D23K IAmb IAmb 16 49 00.9
comp=Z,5.9nm,1.0s
E23K Chandalar 84.79 20 P **P 16 48 49.5 -0.2**
E23K IAmb IAmb 16 49 00.6
comp=Z,12nm,1.6s
C23K Itkillik River 85.14 19 P **P 16 48 51.5 +0.2**
C23K IAmb IAmb 16 48 59.3
comp=Z,9.4nm,1.3s
QSPA South Pole Qui 86.71 180 P **P 16 48 58.5 -0.8**
comp=Z,4.0nm,0.6s,baz=311,slow=0.2,SNR=48
comp=Z,4.0nm,0.6s
I28M Miner Creek 87.67 24 P **P 16 49 03.0 -0.9**
I28M IAmb IAmb 16 49 13.9
comp=Z,14nm,1.9s
BBB Bella Bella 92.00 38 LR LR 17 24 19.2
comp=Z,48nm,19.7s,baz=290,slow=31
YBH Yreka Blue Hor 95.53 49 LR LR 17 26 06.6
comp=Z,36nm,19.9s,baz=299,slow=31
ELIB Princess Elisa 95.71 196 *d*P **P 16 49 42.8 +1.5**
NVAR Mina Array Bea 99.01 52 LR LR 17 30 35.0
comp=Z,38nm,18.0s,baz=238,slow=33
NEW Newport 99.15 42 LR LR 17 28 35.2
comp=Z,21nm,20.0s,baz=327,slow=32
EKA Eskdalemuir Ar 121.24 338 PKP **PKPdf 16 55 07.1 -1.4**
comp=Z,0.6nm,0.4s,baz=11,slow=2.1,SNR=4.4
TORD Torodi Ar. Bea 140.28 287 PKhKP PKPpre 16 55 37.2
comp=Z,0.7nm,0.3s,baz=49,slow=3.4,SNR=2.4
DBIC Dimbokro 147.56 277 PKPbc **PKPdf 16 55 58.9 +0.6**
comp=Z,7.5nm,0.8s,baz=101,slow=3.9,SNR=6.2

*IDC **24** 16:39:19.8±0.8, 3°.13S×143°.02E, h0km, mb4.0/11, mbtmp4.1/14, ML4.0/2, MS3.3/1, Error ellipse: s-maj=25.0km s-min=15.9km az=74.0*
*NEIC **24** 16:39:23.3±1.1, 3°.14S±0°.08×142°.91E±0°.01, h10km±1km, mb4.5/25, Error ellipse: s-maj=14.1km s-min=2.9km az=176.0*
ISC 24 16:39:24.1±0.6, 3°.17S±0°.08×142°.89E±0°.07, h23km, n46, σ1$08/44, mb4.3/22, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.28**	**287**	Pn	**Pn**	**16 40 00.7**	**+0.3**
	18nm,0.3s,baz=101,slow=16,SNR=9.0						
JAY				Sn	**Sb**	**16 40 32.7**	**+0.3**
	29nm,0.3s,baz=53,slow=20,SNR=4.9						
	37nm,0.3s						
MANU	**Manus Island**	**4.61**	**76**		**Pn**	**16 40 32.0**	**-0.4**
PMG	**Port Moresby**	**7.51**	**146**	Pn	**Pn**	**16 41 09.8**	**-2.5**
	19nm,0.9s,baz=320,slow=16,SNR=1.4						
PMG				Sn	**Sn**	**16 42 38.4**	**+1.7**
	0.5nm,0.3s,baz=240,slow=22,SNR=1.1						
FAKI	**Fak Fak**	**10.63**	**271**	Pn	**Pn**	**16 41 55.4**	**+0.3**
WB0	**Warramunga Arr**	**18.46**	**206**	P	**Pn**	**16 43 39.9**	**+1.2**
WR8	**Warramunga Arr**	**18.58**	**206**	P	**Pn**	**16 43 40.8**	**+0.6**
WRAB	**Tennant Creek**	**18.63**	**206**	P	**Pn**	**16 43 41.7**	**+1.0**
WRA	**Warramunga Arr**	**18.64**	**206**	P	**Pn**	**16 43 41.7**	**+0.9**
WRA	**Warramunga Arr**	**18.64**	**206**	P	**P**	**16 43 39.3**	**-1.2**
	0.8nm,0.3s,baz=25,slow=13,SNR=9.2						
	9.4nm,0.7s						
KNRA	**Kununurra**	**18.65**	**227**	P	**P**	**16 43 39.1**	**-1.4**
KNRA				IAmb	IAmb	16 44 11.9	
	comp=Z,30nm,1.1s						
SOEI	**Soe**	**19.62**	**250**	P	**P**	**16 43 51.8**	**+0.5**
AS31	**Alice Springs**	**22.15**	**202**	P	**P**	**16 44 19.4**	**+0.9**
ASAR	**Alice Springs**	**22.15**	**202**	P	**P**	**16 44 18.2**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=23,slow=12,SNR=6.1						
	comp=Z,4.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.49**	**228**	P	**P**	**16 44 23.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**22.49**	**228**	P	**P**	**16 44 21.5**	**-0.6**
	comp=Z,7.5nm,0.7s,baz=45,slow=10.0,SNR=3.7						
	comp=Z,7.5nm,0.7s						
TOLI2	**Tolitoli**	**22.51**	**281**	P	**P**	**16 44 22.1**	**-0.4**
TOLI2				IAmb	IAmb	16 44 38.3	
	comp=Z,12nm,0.9s						
EIDS	**Eidsvold**	**23.43**	**161**	P	**P**	**16 44 32.9**	**+1.1**
EIDS				IAmb	IAmb	16 44 50.4	
	comp=Z,26nm,1.4s						
STKA	**Stephens Creek**	**28.58**	**182**	P	**P**	**16 45 18.3**	**-0.2**
STKA	**Stephens Creek**	**28.58**	**182**	P	**P**	**16 45 19.2**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=1.5,slow=11,SNR=4.4						
	comp=Z,3.1nm,0.7s						
BBOO	**Buckleboo**	**30.17**	**191**	P	**P**	**16 45 32.6**	**-0.1**
FORT	**Forrest**	**30.83**	**205**	P	**P**	**16 45 37.6**	**-0.8**
H11S3	**WAKE ISLAND Hy**	**31.82**	**47**	T	T	17 19 08.0	
	baz=229,slow=76,SNR=130						
H11S2	**WAKE ISLAND Hy**	**31.83**	**47**	T	T	17 19 08.8	
	baz=229,slow=76,SNR=106						
H11S1	**WAKE ISLAND Hy**	**31.84**	**47**	T	T	17 19 09.4	
	baz=229,slow=76,SNR=93						
CAN	**Canberra**	**32.49**	**171**	P	**P**	**16 45 52.7**	**-0.4**
KSRS	**Korea Array**	**42.75**	**342**	LR	LR	17 04 06.6	
	comp=Z,37nm,18.8s,baz=175,slow=35						
RPSI	**Rantau Prapat**	**44.33**	**277**	P	**P**	**16 47 32.0**	**-0.9**
RPSI				IAmb	IAmb	16 47 35.2	
	comp=Z,9.4nm,1.0s						
TUWZ	**Tuamarina**	**47.20**	**148**	P	**P**	**16 47 55.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**48.31**	**298**	P	**P**	**16 48 03.0**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=111,slow=8.5,SNR=6.3						
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**72.73**	**321**	P	**P**	**16 50 51.4**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=116,slow=6.6,SNR=9.6						
	comp=Z,0.7nm,0.5s						
MAKZ	**Makanchi**	**72.94**	**321**	P	**P**	**16 50 53.0**	**+1.3**
MAKZ				IAmb	IAmb	16 51 02.0	
	comp=Z,5.2nm,1.2s						
ZALV	**Zalesovo Beam**	**74.47**	**329**	P	**P**	**16 50 58.7**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=117,slow=5.0,SNR=3.9						
	comp=Z,0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**76.54**	**324**	P	**P**	**16 51 11.5**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=108,slow=4.1,SNR=2.9						
	comp=Z,0.2nm,0.4s						
L14K	**Kuka Creek**	**76.59**	**24**	P	**P**	**16 51 13.1**	**+0.6**
J17K	**VABM Dome**	**79.11**	**23**	P	**P**	**16 51 28.6**	**+2.1**
J17K				IAmb	IAmb	16 52 02.4	
	comp=Z,7.8nm,1.4s						
G18K	**Tagagawik**	**80.54**	**21**	P	**P**	**16 51 35.2**	**+1.0**
H19K	**Roundabout Mou**	**81.15**	**22**	P	**P**	**16 51 38.7**	**+1.2**
H19K				IAmb	IAmb	16 51 48.1	
	comp=Z,7.6nm,1.5s						
NRIK	**Noril'sk**	**81.36**	**343**	P	**P**	**16 51 39.2**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=140,slow=7.9,SNR=4.1						
	comp=Z,0.4nm,0.3s						
J20K	**Nowinta River**	**81.41**	**23**	P	**P**	**16 51 40.1**	**+1.2**
J20K				IAmb	IAmb	16 51 49.9	
	comp=Z,4.4nm,1.1s						
E19K	**Redstone River**	**81.81**	**20**	P	**P**	**16 51 41.9**	**+1.0**
E19K				IAmb	IAmb	16 51 47.6	
	comp=Z,4.5nm,1.1s						
D19K	**Kuna River**	**82.03**	**19**	P	**P**	**16 51 42.9**	**+0.7**
D19K				IAmb	IAmb	16 51 51.1	
	comp=Z,3.2nm,1.1s						
BVAR	**Borovoye Array**	**82.09**	**324**	P	**P**	**16 51 43.5**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=102,slow=6.6,SNR=6.8						
	comp=Z,1.4nm,0.7s						
BRVK	**Borovoye**	**82.17**	**324**	P	**P**	**16 51 43.5**	**+0.4**
BRVK				IAmb	IAmb	16 52 22.2	
	comp=Z,3.3nm,1.3s						
H24K	**Noodor Dome**	**84.51**	**23**	P	**P**	**16 51 55.8**	**+0.8**
H24K				IAmb	IAmb	16 52 30.8	
	comp=Z,5.9nm,1.4s						
ILAR	**Eielson Array**	**84.54**	**24**	P	**P**	**16 51 52.9**	**-2.2**
	comp=Z,0.5nm,0.8s,baz=254,slow=5.0,SNR=6.3						
	comp=Z,0.5nm,0.8s						
QSPA	**South Pole Qui**	**86.78**	**180**	P	**P**	**16 52 05.8**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=10,slow=0.5,SNR=13						
	comp=Z,1.7nm,0.7s						

*KRNET **24** 16:51:50.0±0.1, 43°.20N×78°.25E, h12km, mb2.8*
*NNC **24** 16:51:49.5±0.3, 43°.20N×78°.27E, h0km, mb2.5, mpv3.1, Error ellipse: s-maj=2.8km s-min=1.8km az=14.0*
*SOME **24** 16:51:50.2, 43°.22N×78°.25E, h5km*
ISC 24 16:51:49.7±0.9, 43°.20N±0°.02×78°.28E±0°.02, h10km±7km, n29, σ0$35/58, 16C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.12**	**104**	P	**Pg**	**16 51 52.6**	**0.0**
	116nm,0.1s						
ZHN				S	**Sg**	**16 51 54.4**	**-0.4**
	558nm,0.1s						
ZHN	**Zhinishke**	**0.12**	**104**	*e*P	**Pg**	**16 51 52.7**	**0.0**
ZHN				*e*S	**Sg**	**16 51 54.5**	**-0.4**
ZHN	**Zhinishke**	**0.12**	**104**	*e*P	**Pg**	**16 51 52.6**	**0.0**
	116nm,0.1s						
ZHN				*e*S	**Sg**	**16 51 54.4**	**-0.4**
	2μm,0.2s						
SATY	**Saty**	**0.16**	**146**	P	**Pg**	**16 51 53.6**	**+0.2**
	80nm,0.1s						
SATY				S	**Sg**	**16 51 56.1**	**+0.1**
	453nm,0.1s						
SATY	**Saty**	**0.16**	**146**	*e*P	**Pg**	**16 51 53.6**	**+0.2**
SATY				*e*S	**Sg**	**16 51 56.1**	**+0.1**
KURS	**Kuram**	**0.30**	**344**	P	**Pg**	**16 51 56.1**	**+0.3**
	12nm,0.1s						
KURS				S	**Sg**	**16 52 00.5**	**+0.5**
	6.5nm,0.3s						
KURS	**Kuram**	**0.30**	**344**	*e*P	**Pg**	**16 51 56.1**	**+0.3**
KURS				*e*S	**Sg**	**16 52 00.4**	**+0.5**
UZB	**Uzynbulak**	**0.54**	**95**	P	**Pg**	**16 52 00.4**	**+0.1**
	5.3nm,0.0s						
UZB				S	**Sg**	**16 52 07.4**	**-0.1**
	21nm,0.1s						
UZB	**Uzynbulak**	**0.54**	**95**	*e*P	**Pg**	**16 52 00.4**	**+0.1**
	5.3nm,0.0s						
UZB				*e*S	**Sg**	**16 52 07.4**	**-0.1**
	21nm,0.1s						
ANVS	**Anan'yevo**	**0.61**	**228**	⇑*e*P	**Pg**	**16 52 02.0**	**+0.4**
ANVS				⇑*e*S	**Sg**	**16 52 09.4**	**-0.3**
PRZ	**Przheval'sk**	**0.72**	**173**	⇑*e*P	**Pg**	**16 52 03.9**	**+0.3**
PRZ				⇑*e*S	**Sg**	**16 52 13.3**	**+0.3**
KOTS	**Kotyrbulak**	**0.86**	**273**	P	**Pg**	**16 52 06.4**	**+0.2**
	6.0nm,0.2s						
KOTS				S	**Sb**	**16 52 18.1**	**-0.2**
	13nm,0.1s						
KOTS	**Kotyrbulak**	**0.86**	**273**	*e*P	**Pg**	**16 52 06.5**	**+0.2**
	6.0nm,0.2s						
KOTS				*e*S	**Sb**	**16 52 18.1**	**-0.2**
	13nm,0.1s						
PDGK	**Podgornoye**	**0.89**	**81**	⇓P	**Pg**	**16 52 06.4**	**-0.5**
	0.6nm,0.3s						
PDGK				⇑S	**Sg**	**16 52 18.0**	**-0.5**
	1.8nm,0.3s						
MDOK	**Medeo**	**0.90**	**268**	P	**Pg**	**16 52 06.2**	**-0.9**
	1.2nm,0.4s						
MDOK				Pg	**Pg**	**16 52 07.0**	**-0.2**
	2.9nm,0.1s						
MDOK				⇓S	**Sg**	**16 52 18.0**	**-0.9**
	0.5nm,0.2s						
MDOK				Lg	Lg	16 52 18.4	
	1.5nm,0.2s						
MDOK	**Medeo**	**0.90**	**268**	*e*P	**Pg**	**16 52 06.9**	**-0.2**
MDOK				*e*S	**Sg**	**16 52 18.7**	**-0.2**
BLB	**Baldybastay**	**0.91**	**9**	P	**Pg**	**16 52 07.3**	**0.0**
	30nm,0.1s						
BLB				S	**Sg**	**16 52 19.5**	**+0.3**
	22nm,0.1s						
TNSS	**Tian-Shan**	**0.99**	**261**	P	**Pg**	**16 52 08.5**	**-0.3**
	3.4nm,0.1s						
TNSS				S	**Sg**	**16 52 21.8**	**+0.1**
	1.7nm,0.2s						
TNSS	**Tian-Shan**	**0.99**	**261**	*e*P	**Pg**	**16 52 08.5**	**-0.3**
TNSS				*e*S	**Sg**	**16 52 21.8**	**+0.1**
TNSS	**Tian-Shan**	**0.99**	**261**	*e*P	**Pg**	**16 52 08.5**	**-0.3**
	3.4nm,0.1s						
TNSS				*e*S	**Sg**	**16 52 21.8**	**+0.1**
	1.7nm,0.2s						
ARXS	**Arharly**	**1.07**	**342**	P	**Pg**	**16 52 10.2**	**0.0**
	1.9nm,0.1s						
ARXS				S	**Sb**	**16 52 24.6**	**+0.3**
	8.4nm,0.3s						
KTBS	**Karatobe**	**1.27**	**294**	P	**Pb**	**16 52 13.9**	**+0.1**
	2.4nm,0.1s						
KTBS				S	**Sg**	**16 52 30.8**	**+0.1**
	3.2nm,0.2s						
KTBS	**Karatobe**	**1.27**	**294**	*e*P	**Pb**	**16 52 13.9**	**+0.1**
KTBS				*e*S	**Sg**	**16 52 30.8**	**+0.1**
KDJ	**Kajisay**	**1.34**	**218**	⇑*e*P	**Pg**	**16 52 15.7**	**+0.3**
KDJ				⇑*e*S	**Sg**	**16 52 33.3**	**+0.5**
ULHL	**Ulahol**	**1.78**	**238**	⇑*i*P	**Pb**	**16 52 22.8**	**+0.3**
ULHL				⇑*i*S	**Sg**	**16 52 46.5**	**-0.4**
BOOM	**Boomskoye usch**	**1.86**	**249**	⇑*e*P	**Pb**	**16 52 24.3**	**+0.4**
BOOM				⇑*e*S	**Sg**	**16 52 49.0**	**-0.5**
TKM2	**Tokmak 2**	**1.99**	**263**	⇓Pg	**Pb**	**16 52 26.0**	**-0.1**
	0.4nm,0.2s						
TKM2				⇑Lg	Lg	16 52 51.8	
	0.7nm,0.2s						
TKM2	**Tokmak 2**	**1.99**	**263**	⇑*i*P	**Pb**	**16 52 26.4**	**+0.4**
TKM2				⇑*i*S	**Sg**	**16 52 53.2**	**-0.4**
KBK	**Karagaybulak**	**2.51**	**259**	⇑*i*P	**Pb**	**16 52 34.0**	**-0.9**
KBK				⇑*i*S	**Sb**	**16 53 05.9**	**+0.1**

*IDC **24** 17:19:08.0±1.1, 35°.72N×141°.17E, h0km, mb3.5/6, mbtmp3.5/10, ML3.1/4, MS2.4/1, Error ellipse: s-maj=26.3km s-min=17.1km az=80.0*
*NIED **24** 17:19:11.5, 35°.74N×141°.00E, h13km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=2.05; Mθθ=0.20; Mφφ=2.25; Mrθ=0.03; Mθφ=0.65; Mφr=-1.02; Fault plane solution: M0=2.45000×10^14 NP1: φs=203.00000°, δ=34.00000°, λ=-76.00000°. NP2: φs=6.00000°, δ=57.00000°, λ=-99.00000°.*
*JMA **24** 17:19:11.5±0.3, 35°.7N±0°.5×14°.1E±°, h13km±1km, MV3.7/30, NEAR CHOSHI CITY*
JMA Felt I J1 at NEAR CHOSHI CITY .
ISC 24 17:19:10.1±2.1, 35°.74N±0°.06×141°.07E±0°.08, h11km±13km, n27, σ0$62/24, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.49**	**297**	*i*P	**Pb**	**17 19 21.0**	**+0.2**
JIHU				*e*S	**Sb**	**17 19 27.9**	**-0.1**
JSMT	**Sammumatsuo**	**0.51**	**259**	*i*P	**Pb**	**17 19 21.0**	**-0.1**
JSMT				S	**Sb**	**17 19 28.2**	**-0.3**
JHYU	**Hitachinakayam**	**0.71**	**327**	*i*P	**Pb**	**17 19 25.0**	**+0.5**
JHYU				*e*S	**Sg**	**17 19 34.1**	**+0.9**
JYT	**Yasato**	**0.86**	**305**	*i*P	**Pg**	**17 19 26.3**	**-0.3**
JYT				S	**Sg**	**17 19 37.4**	**-0.4**
JHO	**Hitachi**	**0.96**	**335**	*e*P	**Pg**	**17 19 28.3**	**-0.2**
JHO				*e*S	**Sg**	**17 19 40.7**	**-0.3**
BSO4	**Boso 4**	**0.96**	**219**	P	**Pn**	**17 19 29.7**	**+0.3**
BSO3	**Boso 3**	**1.04**	**206**	P	**Pn**	**17 19 30.5**	**+0.1**
MJAR	**Matsushiro Arr**	**2.45**	**290**	Pn	**Pn**	**17 19 49.1**	**-0.9**
	0.9nm,0.3s,baz=98,slow=10,SNR=41						
MJAR				Sn	**Sb**	**17 20 24.1**	**-0.2**
	0.8nm,0.3s,baz=102,slow=34,SNR=6.5						
	5.2nm,0.3s						
JHJ	**Hachijo jima 2**	**2.82**	**202**	Pn	**Pn**	**17 19 55.3**	**+0.1**
	4.2nm,0.3s,baz=306,slow=14,SNR=1.7						
JHJ				Sn	**Sn**	**17 20 29.6**	**+0.4**
	13nm,0.3s,baz=50,slow=14,SNR=1.4						
	111nm,0.9s						
ASAJ	**Asahikawa**	**8.45**	**8**	Pn	**Pn**	**17 21 11.8**	**-0.5**
	0.5nm,0.3s,baz=202,slow=11,SNR=4.6						
	4.9nm,0.8s						
KSRS	**Korea Array**	**10.71**	**283**	LR	LR	17 25 06.5	
	comp=Z,20nm,21.9s,baz=240,slow=33						
USRK	**Ussuriysk Ar.**	**10.94**	**323**	Pn	**Pn**	**17 21 47.9**	**+1.3**
	0.2nm,0.3s,baz=137,slow=11,SNR=2.2						
	1.7nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**27.76**	**118**	T	T	17 53 57.8	
	baz=311,slow=75,SNR=218						
H11N1	**WAKE ISLAND Hy**	**27.76**	**118**	T	T	17 53 57.5	
	baz=311,slow=75,SNR=140						
H11N3	**WAKE ISLAND Hy**	**27.77**	**118**	T	T	17 53 55.3	
	baz=311,slow=75,SNR=243						
H11S1	**WAKE ISLAND Hy**	**28.42**	**120**	T	T	17 54 46.2	
	baz=312,slow=75,SNR=277						
H11S3	**WAKE ISLAND Hy**	**28.42**	**120**	T	T	17 54 46.5	
	baz=312,slow=75,SNR=255						
H11S2	**WAKE ISLAND Hy**	**28.44**	**120**	T	T	17 54 43.4	
	baz=312,slow=75,SNR=180						
ZALV	**Zalesovo Beam**	**42.59**	**313**	P	**P**	**17 27 06.2**	**+0.3**
	0.3nm,0.3s,baz=104,slow=6.1,SNR=1.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**44.58**	**303**	P	**P**	**17 27 22.5**	**+0.4**
	0.5nm,0.7s,baz=84,slow=8.3,SNR=4.4						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**46.58**	**309**	P	**P**	**17 27 37.3**	**-0.6**
	0.3nm,0.4s,baz=84,slow=7.6,SNR=5.6						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**50.73**	**32**	P	**P**	**17 28 09.1**	**-0.5**
	0.2nm,0.8s,baz=271,slow=7.7,SNR=4.7						
	0.2nm,0.8s						
WRA	**Warramunga Arr**	**55.75**	**188**	P	**P**	**17 28 45.7**	**-1.2**
	0.9nm,0.3s,baz=5.5,slow=7.6,SNR=31						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**59.47**	**188**	P	**P**	**17 29 13.7**	**+0.6**
	0.1nm,0.7s,baz=1.7,slow=6.9,SNR=4.3						
	0.1nm,0.7s						
H03N2	**Juan Fernandez**	**147.15**	**98**	T	T	20 23 16.0	
	baz=289,slow=76,SNR=41						
H03N3	**Juan Fernandez**	**147.16**	**98**	T	T	20 23 16.9	
	baz=289,slow=76,SNR=55						
H03N1	**Juan Fernandez**	**147.16**	**98**	T	T	20 23 17.2	
	baz=289,slow=76,SNR=67						

*KRNET **24** 18:03:51.3±0.1, 43°.03N×78°.31E, h19km, mb3.5*
*NNC **24** 18:03:51.2±0.4, 43°.03N×78°.30E, h0km, mb3.5, mpv3.6, Error ellipse: s-maj=3.8km s-min=1.5km az=170.0*
*SOME **24** 18:03:51.7, 43°.03N×78°.28E, h0km*
*KNET **24** 18:03:54.0±0.3, 42°.86N×78°.10E, h0km, ml3.0, Error ellipse: s-maj=2.7km s-min=1.7km az=149.0*
ISC 24 18:03:52.2±0.7, 43°.02N±0°.02×78°.28E±0°.01, h10km, n75, σ1$49/135, 31C-26D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.10**	**68**	P	**Pg**	**18 03 53.7**	**-1.2**
	1μm,0.2s						
SATY				S	**Sg**	**18 03 55.1**	**-1.8**
	7μm,0.1s						
SATY	**Saty**	**0.10**	**68**	*e*P	**Pg**	**18 03 53.7**	**-1.2**
SATY				*e*S	**Sg**	**18 03 55.1**	**-1.8**
ZHN	**Zhinishke**	**0.18**	**37**	P	**Pg**	**18 03 55.3**	**-0.9**
	672nm,0.1s						
ZHN				S	**Sg**	**18 03 58.0**	**-1.0**
	12μm,0.2s						
ZHN	**Zhinishke**	**0.18**	**37**	*e*P	**Pg**	**18 03 55.3**	**-0.9**
ZHN				*e*S	**Sg**	**18 03 58.0**	**-1.0**
ZHN	**Zhinishke**	**0.18**	**37**	*e*P	**Pg**	**18 03 55.3**	**-0.9**
	672nm,0.1s						
ZHN				*e*S	**Sg**	**18 03 58.0**	**-1.0**
	12μm,0.2s						
KURS	**Kuram**	**0.47**	**350**	P	**Pg**	**18 04 01.0**	**-0.5**
	48nm,0.3s						
KURS				S	**

KOTS eS Sg 18 04 20.8 -0.1
112nm,0.7s
MDOK Medeo 0.92 279 ⇑P Pg 18 04 08.7 -1.2
21nm,0.4s
MDOK Pg Pg 18 04 09.1 -0.8
28nm,0.4s
MDOK ⇓S Sg 18 04 21.3 -0.5
108nm,0.6s
MDOK Lg Lg 18 04 21.5
129nm,0.5s
MDOK Medeo 0.92 279 eP Pg 18 04 09.1 -0.8
MDOK eS Sg 18 04 21.5 -0.3
PDGK Podgornoye 0.93 70 ⇑P Pg 18 04 08.4 -1.8
57nm,0.3s
PDGK ⇑S Sg 18 04 20.5 -1.9
95nm,0.4s
TNSS Tian-Shan 0.98 271 P Pg 18 04 10.3 -0.8
14nm,0.4s
TNSS S Sg 18 04 23.9 -0.1
45nm,0.2s
TNSS Tian-Shan 0.98 271 eP Pg 18 04 10.3 -0.8
TNSS eS Sg 18 04 23.9 -0.1
TNSS Tian-Shan 0.98 271 eP Pg 18 04 10.3 -0.8
14nm,0.4s
TNSS eS Sg 18 04 23.9 -0.1
45nm,0.2s
KNDC Almaty 0.98 282 ⇑P Pg 18 04 10.0 -1.1
11nm,0.3s
KNDC ⇓S Sb 18 04 24.2 -0.3
61nm,0.6s
AAA Alma-Ata 1.02 281 P Pb 18 04 11.6 -0.5
35nm,0.4s
AAA S Sb 18 04 25.6 +0.1
87nm,0.3s
AAA Alma-Ata 1.02 281 eP Pb 18 04 11.6 -0.5
35nm,0.4s
AAA eS Sb 18 04 25.6 +0.1
87nm,0.3s
BLB Baldybastay 1.08 7 P Pg 18 04 12.1 -1.0
82nm,0.1s
BLB S Sg 18 04 26.3 -0.8
360nm,0.3s
KDJ Kajisay 1.21 223⇑eP Pb 18 04 13.8 -1.5
KDJ ⇑eS Sg 18 04 30.5 -0.7
ARXS Arharly 1.23 345 P Pn 18 04 14.8 -0.9
20nm,0.3s
ARXS S Sb 18 04 31.0 -0.7
63nm,0.4s
CHKK Chushkaly 1.26 312 P Pn 18 04 15.4 -0.5
20nm,0.3s
CHKK S Sg 18 04 32.6 -0.1
87nm,0.4s
CHKK Chushkaly 1.26 312 eP Pn 18 04 15.4 -0.5
20nm,0.3s
CHKK eS Sg 18 04 32.6 -0.1
87nm,0.4s
KTBS Karatobe 1.36 301 P Pb 18 04 17.1 -0.7
54nm,0.3s
KTBS S Sn 18 04 35.1 -0.3
234nm,0.5s
MTBS Maitube 1.36 275 P Pb 18 04 17.2 -0.7
15nm,0.3s
MTBS S Sb 18 04 35.2 -0.2
31nm,0.4s
MTBS Maitube 1.36 275 eP Pb 18 04 17.2 -0.7
MTBS eS Sb 18 04 35.2 -0.2
MTBS Maitube 1.36 275 eP Pb 18 04 17.2 -0.7
15nm,0.3s
MTBS eS Sb 18 04 35.2 -0.2
31nm,0.4s
KNOS Konyrlen 1.48 26 P Pb 18 04 19.2 -0.9
73nm,0.1s
KNOS S Sb 18 04 38.7 -0.3
76nm,0.4s
KTMS Ketmen 1.57 74 P Pb 18 04 19.8 -1.6
12nm,0.2s
KTMS S Sb 18 04 40.0 -1.4
109nm,0.3s
KTMS Ketmen 1.57 74 eP Pb 18 04 19.9 -1.6
KTMS eS Sb 18 04 40.0 -1.4
KTMS Ketmen 1.57 74 eP Pb 18 04 19.9 -1.6
12nm,0.2s
KTMS eS Sb 18 04 40.0 -1.4
109nm,0.3s
KUU Kurty 1.66 302 P Pb 18 04 22.3 -0.6
51nm,0.4s
KUU S Sb 18 04 44.2 +0.2
120nm,0.5s
KUU Kurty 1.66 302 eP Pb 18 04 22.3 -0.6
KUU eS Sb 18 04 44.2 +0.2
KUU Kurty 1.66 302 eP Pb 18 04 22.3 -0.6
51nm,0.4s
KUU eS Sb 18 04 44.2 +0.2
120nm,0.5s
ULHL Ulahol 1.69 243 ⇑P Pb 18 04 22.9 -0.7
14nm,0.1s,SNR=10
ULHL ⇓S Sb 18 04 45.3 +0.2
72nm,0.3s
ULHL Ulahol 1.69 243⇑iP Pn 18 04 22.2 +0.1
ULHL ⇑iS Sg 18 04 45.8 -0.9
KST Kastek 1.70 271 P Pb 18 04 23.2 -0.5
6.0nm,0.3s
KST S Sg 18 04 46.7 -0.2
53nm,0.5s
KST Kastek 1.70 271 eP Pb 18 04 23.2 -0.5
6.0nm,0.3s
KST eS Sg 18 04 46.7 -0.2
53nm,0.5s
BOOM Boomskoye usch 1.81 254⇑eP Pb 18 04 24.5 -1.0
BOOM ⇑eS Sb 18 04 48.4 +0.1
TKM2 Tokmak 2 1.98 268 ⇓P Pb 18 04 28.5 +0.2
10nm,0.3s,SNR=25
TKM2 Tokmak 2 1.98 268 ⇓Pn Pb 18 04 28.3 -0.1
9.0nm,0.5s
TKM2 ⇑Sn Sg 18 04 55.5 -0.2
32nm,0.8s
TKM2 Tokmak 2 1.98 268⇑eP Pb 18 04 27.7 -0.7
TKM2 ⇑eS Sg 18 04 54.7 -1.0
TDK Taldyqorghan 1.98 3 Pg Pb 18 04 28.2 -0.2
69nm,0.3s
TDK Lg Lg 18 04 54.2
317nm,0.3s
TDK Taldyqorghan 1.98 3 eP Pb 18 04 28.2 -0.2
69nm,0.3s
TDK eS Sg 18 04 54.2 -1.7
317nm,0.3s
NRN Naryn 2.32 228⇑eP Pb 18 04 33.3 -1.1
NRN ⇑eS Sb 18 05 03.6 +0.3
KBK Karagaybulak 2.48 263 ⇑P Pb 18 04 36.4 -0.6
29nm,0.4s,SNR=38
KBK ⇓S Sb 18 05 09.5 +1.9
152nm,0.6s
KBK Karagaybulak 2.48 263⇑iP Pb 18 04 34.5 -2.5
KBK ⇑iS Sb 18 05 06.4 -1.3
CHMS Chumysh 2.59 271 ⇑P Pb 18 04 38.2 -0.5
5.1nm,0.2s,SNR=8.9
CHMS ⇓S Sb 18 05 12.8 +2.1
36nm,0.4s
CHMS Chumysh 2.59 271 ⇓Pg Pb 18 04 37.8 -0.9
9.6nm,0.7s
CHMS ⇓Lg Lg 18 05 13.9
26nm,0.5s
CHMS Chumysh 2.59 271⇓iP Pb 18 04 36.1 -2.7
CHMS ⇓iS Sb 18 05 09.3 -1.4
SGDS Sogindy 2.70 280 Pg Pb 18 04 40.0 -0.7
6.7nm,0.6s
SGDS Lg Lg 18 05 14.6
27nm,0.6s
USP Ospenovka 2.78 276 ⇓P Pb 18 04 41.0 -1.0
8.8nm,0.3s,SNR=18
USP ⇓S Sb 18 05 17.9 +1.7
38nm,0.4s
USP Ospenovka 2.78 276⇓iP Pn 18 04 38.9 +2.0
USP ⇓iS Sb 18 05 14.2 -2.0
AAK Ala-Archa 2.81 263 ⇓P Pb 18 04 41.2 -1.5
11nm,0.4s,SNR=15
AAK Ala-Archa 2.81 263 ⇑Pg Pb 18 04 42.3 -0.3
1.5nm,0.3s
AAK ⇑Lg Lg 18 05 21.2
83nm,0.8s
AAK Ala-Archa 2.81 263⇓iP Pn 18 04 39.1 +1.7
AAK ⇓iS Sb 18 05 14.6 -2.6
UCH Uchtor 2.89 255⇑iP Pn 18 04 40.2 +1.4
UCH ⇑iS Sn 18 05 16.3 +2.4
EKS2 Erkin-Say 3.33 265⇓iP Pn 18 04 46.4 +1.9
EKS2 ⇓iS Sn 18 05 27.0 +2.7
AML Almayashu 3.50 257⇑iP Pn 18 04 48.7 +1.6
AML ⇑iS Sn 18 05 31.0 +2.1
MRKS Merke 3.73 267 Pg Pb 18 04 58.6 +0.4
5.4nm,0.3s
MRKS Lg Lg 18 05 46.3
11nm,0.4s
MRKS Merke 3.73 267 eP Pg 18 05 00.8 -2.8
5.6nm,0.4s
MRKS eS Sg 18 05 50.1 -1.8
20nm,0.6s
MAKZ Makanchi 4.61 33 ⇓Pn Pn 18 05 02.9 +1.0
1.0nm,0.4s
MAKZ ⇑Lg Lg 18 06 11.9
3.8nm,0.4s
MK31 Makanchi Array 4.72 36 ⇑Pn Pn 18 05 05.4 +1.8
3.0nm,0.3s,baz=210,slow=14,SNR=68
MK31 ⇑Lg Lg 18 06 18.3
0.9nm,0.2s,baz=217,slow=33,SNR=8.1
KK31 Karatay Array 5.70 273 ⇑Pg Pg 18 05 36.5 -4.7
0.3nm,0.3s,baz=81,slow=15,SNR=4.4
KK31 ⇑Lg Lg 18 06 49.1
1.6nm,0.6s,baz=87,slow=31,SNR=5.3
OTUK Ortayu 6.68 323 ⇓Lg Lg 18 07 17.9
7.4nm,0.6s
KURBB Kurchatov Arra 7.61 1 ⇓Lg Lg 18 07 49.1
21nm,0.6s
KURK Kurchatov 7.70 2 ⇓Lg Lg 18 07 50.6
16nm,0.8s

*NNC **24** 18:19:54.0±0.8, 42°.99N×78°.29E, h0km, mpv2.6, Error ellipse: s-maj=6.2km s-min=3.3km az=178.0*
*SOME **24** 18:19:55.3, 43°.03N×78°.32E, h5km*
ISC 24 18:19:54.5±1.5,**43°.00N**±0°.06×**78°.31E**±0°.03,**h10**km±10km,
n10,σ0**°37**/20,**1C-2D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.09**	**52**	P	**Pg**	**18 19 57.1**	**0.0**
	11nm,0.1s						
SATY				S	**Sg**	**18 19 58.6**	**-0.3**
	90nm,0.1s						
ZHN	**Zhinishke**	**0.19**	**29**	P	**Pg**	**18 19 58.8**	**+0.2**
	17nm,0.1s						
ZHN				S	**Sg**	**18 20 01.4**	**0.0**
	154nm,0.2s						
ZHN	**Zhinishke**	**0.19**	**29**	eP	**Pg**	**18 19 58.8**	**+0.2**
	17nm,0.1s						
ZHN				eS	**Sg**	**18 20 01.4**	**0.0**
	106nm,0.2s						
KURS	**Kuram**	**0.49**	**348**	P	**Pg**	**18 20 04.3**	**+0.1**
	0.5nm,0.1s						
KURS				S	**Sg**	**18 20 10.9**	**+0.1**
	1.1nm,0.1s						
UZB	**Uzynbulak**	**0.54**	**74**	P	**Pg**	**18 20 05.4**	**+0.3**
	2.7nm,0.1s						
UZB				S	**Sg**	**18 20 12.6**	**+0.3**
	13nm,0.2s						
UZB	**Uzymbulak**	**0.54**	**74**	eP	**Pg**	**18 20 05.4**	**+0.3**
	2.0nm,0.1s						
UZB				eS	**Sg**	**18 20 12.6**	**+0.3**
	6.7nm,0.1s						
PDGK	**Podgornoye**	**0.92**	**69**	⇑P	**Pg**	**18 20 11.7**	**-0.6**
	0.3nm,0.2s						
PDGK				⇓S	**Sg**	**18 20 23.9**	**-0.5**
	0.9nm,0.5s						
MDOK	**Medeo**	**0.94**	**280**	P	**Pg**	**18 20 12.2**	**-0.5**
	0.8nm,0.5s						
MDOK				⇓S	**Sg**	**18 20 24.4**	**-0.5**
	0.7nm,0.5s						
TNSS	**Tian-Shan**	**1.00**	**272**	eP	**Pg**	**18 20 14.1**	**+0.3**
	0.4nm,0.1s						
TNSS				eS	**Sg**	**18 20 27.5**	**+0.7**
	1.3nm,0.2s						
BLB	**Baldybastay**	**1.10**	**6**	P	**Pg**	**18 20 15.6**	**-0.1**
	3.3nm,0.1s						
BLB				S	**Sg**	**18 20 30.0**	**0.0**
	3.0nm,0.3s						

*IDC **24** 18:21:09.5±2.4, 1°.59N×127°.19E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=181.0km s-min=28.2km az=66.0*
*DJA **24** 18:21:14.7±1.5, 1°N±4°×12°6E±°, h23km±15km, M3.5/6, MLv3.5/6*
ISC 24 18:21:12.0±1.3,**1°.2N**±0°.2×**126°.25E**±0°.07,**h10**km,**n5**,
σ0**°68**/6,**mb3.3**/3,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.18**	**108**	P	**Pg**	**18 21 34.5**	**-0.2**
KMSI	**Cibinong**	**2.34**	**256**	P	**Pb**	**18 21 53.5**	**-0.8**
KMSI				S	**Sb**	**18 22 23.8**	**+0.6**
WRA	**Warramunga Arr**	**22.41**	**160**	P	**P**	**18 26 11.2**	**+0.2**
	0.6nm,0.6s,baz=341,slow=11,SNR=7.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**25.76**	**164**	P	**P**	**18 26 43.8**	**+0.6**
	0.1nm,0.5s,baz=345,slow=10,SNR=8.0						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**59.41**	**326**	P	**P**	**18 31 15.1**	**+0.2**
	0.1nm,0.4s,baz=120,slow=8.8,SNR=1.4						
	0.1nm,0.4s						

*IDC **24** 18:22:39.5±0.5, 1°.65S×122°.76E, h0km, mb4.3/18, mbtmp4.4/19, ML5.0/1, MS3.5/8, Error ellipse: s-maj=21.6km s-min=12.1km az=67.0*
*NEIC **24** 18:22:41.6±2.1, 1°.77S±0°.05×122°.59E±0°.06, h10km±1km, mb4.7/51, Error ellipse: s-maj=10.9km s-min=8.7km az=98.0*
*DJA **24** 18:22:44.2±0.7, 2°S±2°×12°3E±°, h23km±6km, M4.6/30, mb4.9/30, mB5.1/12, MLv4.8/24, Mw(mB)4.5/12*
ISC 24 18:22:41.1±0.4,**1°.74S**±0°.04×**122°.64E**±0°.05,**h10**km,**n136**,
σ1**°32**/126,**mb4.6**/45,**MS3.3**/4,**1C, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.71**	**10**		**Pn**	**18 22 57.2**	**+0.1**
LUWI	**Luwuk**	**0.71**	**10**	P	**Pn**	**18 22 57.3**	**+0.1**
LUWI	**Luwuk**	**0.71**	**10**	P	**Pn**	**18 22 57.4**	**+0.2**
APSI	**Ampana**	**1.29**	**310**	P	**Pn**	**18 23 05.5**	**+0.3**
KDI	**Kendari**	**2.20**	**181**	S	**Sn**	**18 23 44.6**	**-0.5**
MRSI	**Marisa**	**2.31**	**342**	P	**Pn**	**18 23 21.2**	**+1.9**
KMSI	**Cibinong**	**2.66**	**30**	P	**Pb**	**18 23 27.3**	**-1.6**
PCI	**Palu**	**2.93**	**286**	P	**Pn**	**18 23 28.7**	**+1.0**
SANI	**Sanana**	**3.36**	**95**	P	**Pn**	**18 23 33.6**	**0.0**
SANI	**Sanana**	**3.36**	**95**	P	**Pn**	**18 23 33.8**	**+0.2**
TOLI2	**Tolitoli**	**3.39**	**327**		**Pn**	**18 23 36.2**	**+2.1**
TOLI2	**Tolitoli**	**3.39**	**327**	P	**Pn**	**18 23 36.8**	**+2.7**
MPSI	**Mapaga**	**3.44**	**307**	P	**Pn**	**18 23 35.5**	**+0.8**
SPSI	**Sidrap Palu**	**3.62**	**232**	P	**Pn**	**18 23 37.5**	**+0.2**
SPSI				S	**Sn**	**18 24 18.6**	**-1.5**
BNSI	**Bone**	**3.66**	**224**	P	**Pn**	**18 23 38.2**	**+0.4**
BNSI				S	**Sn**	**18 24 20.8**	**-0.3**
BBSI	**Bau Bau**	**3.72**	**181**	P	**Pn**	**18 23 39.4**	**+0.7**
KAPI	**Kappang**	**4.35**	**222**		**Pn**	**18 23 47.2**	**-0.1**
KAPI	**Kappang**	**4.35**	**222**	Pn	**Pn**	**18 23 48.6**	**+1.3**
	83nm,0.3s,baz=345,slow=4.5,SNR=74						
KAPI				Sn	**Sn**	**18 24 38.2**	**+0.1**
	27nm,0.3s,baz=129,slow=23,SNR=7.6						
KAPI				LR	LR	18 25 53.4	
	comp=Z,643nm,19.9s,baz=16,slow=43						
	270nm,0.5s						
KAPI	**Kappang**	**4.35**	**222**	P	**Pn**	**18 23 48.4**	**+1.1**
BKSI	**Bulukumba**	**4.36**	**215**	P	**Pn**	**18 23 48.4**	**+1.0**
NLAI	**Namlea**	**4.69**	**109**	P	**Pn**	**18 23 54.6**	**+2.6**
BSSI	**Bau Bau, Buton**	**4.87**	**206**	P	**Pn**	**18 23 54.5**	**0.0**
BSSI				S	**Sn**	**18 24 50.9**	**-0.1**
TNTI	**Ternate**	**5.34**	**62**		**Pn**	**18 24 02.8**	**+1.8**
TNTI	**Ternate**	**5.34**	**62**	P	**Pn**	**18 24 02.7**	**+1.8**
TNTI	**Ternate**	**5.34**	**62**	P	**Pn**	**18 24 03.7**	**+2.7**
	0.4nm1μm89nm,0.4s						
BKB	**Balikpapan**	**5.76**	**275**		**Pn**	**18 24 03.7**	**-3.1**
BKB	**Balikpapan**	**5.76**	**275**	P	**Pn**	**18 24 09.4**	**+2.6**
BKB	**Balikpapan**	**5.76**	**275**	P	**Pn**	**18 24 07.2**	**+0.4**
	0.7nm2μm129nm,0.7s						
AAI	**Ambon**	**5.87**	**109**	P	**Pn**	**18 24 12.5**	**+4.3**
MSAI	**Masohi**	**6.48**	**104**	P	**Pn**	**18 24 19.4**	**+2.8**
	0.5nm1μm139nm,0.9s						
MMRI	**Maumere**	**6.86**	**183**		**Pn**	**18 24 22.1**	**+0.2**
MMRI	**Maumere**	**6.86**	**183**	P	**Pn**	**18 24 22.3**	**+0.4**
MMRI	**Maumere**	**6.86**	**183**	P	**Pn**	**18 24 22.0**	**+0.2**
	0.4nm1μm84nm,0.6s						
EDFI	**Ende, Flores**	**7.03**	**188**	P	**Pn**	**18 24 24.3**	**+0.1**
	0.2nm76nm,0.7s						
SOEI	**Soe**	**8.12**	**169**		**Pn**	**18 24 40.1**	**+0.8**
SOEI	**Soe**	**8.12**	**169**	P	**Pn**	**18 24 39.4**	**+0.1**
SOEI	**Soe**	**8.12**	**169**	P	**Pn**	**18 24 40.9**	**+1.6**
	2μm135nm,0.9s						
WSI	**Waingapu**	**8.21**	**196**	P	**Pn**	**18 24 42.5**	**+2.1**
	113nm,1.0s						
PLAI	**Plampang**	**8.54**	**214**	P	**Pn**	**18 24 45.4**	**+0.4**
SWI	**Sorong**	**8.66**	**84**	P	**Pn**	**18 24 48.2**	**+1.7**
	33nm,0.5s						
DAV	**Davao City (W)**	**9.23**	**18**	LR	LR	18 28 24.4	
	comp=Z,220nm,20.7s,baz=290,slow=38						
FAKI	**Fak Fak**	**9.67**	**97**		**Pn**	**18 25 01.0**	**+0.6**
FAKI	**Fak Fak**	**9.67**	**97**	P	**Pn**	**18 25 01.3**	**+0.8**
FAKI	**Fak Fak**	**9.67**	**97**	P	**Pn**	**18 25 01.2**	**+0.8**
	28nm,0.9s						
SRBI	**Singaraja**	**9.72**	**229**	P	**Pn**	**18 25 00.0**	**-1.1**
	39nm,1.0s						
SBUM	**Sibu**	**11.22**	**292**		**Pn**	**18 25 22.0**	**+0.3**
KDU	**Kakadu**	**14.60**	**139**	P	**Pn**	**18 26 07.8**	**-0.1**
KNRA	**Kununurra**	**15.11**	**157**	Pn	**Pn**	**18 26 14.5**	**-0.2**
LEM	**Lembang**	**15.81**	**251**	LR	LR	18 33 15.2	
	comp=Z,346nm,18.5s,baz=5.0,slow=40						
FITZ	**Fitzroy Crossi**	**16.52**	**170**	Pn	**Pn**	**18 26 28.9**	**-4.1**
FITZ	**Fitzroy Crossi**	**16.52**	**170**	Pn	**Pn**	**18 26 29.6**	**-3.4**
	0.1nm,0.3s,baz=353,slow=8.9,SNR=5.7						
CGJI	**Cibinong**	**17.58**	**254**	P	**P**	**18 26 48.2**	**+0.7**
	20nm,1.0s						
JAY	**Jayapura**	**18.07**	**93**	LR	LR	18 36 00.9	
	comp=Z,64nm,20.0s,baz=222,slow=45						
MDSI	**Maura Dua**	**18.64**	**261**	P	**Pn**	**18 27 00.4**	**+1.0**
	49nm,1.3s						
MYKOM	**Kota Tinggi**	**19.11**	**280**		**P**	**18 27 05.0**	**+0.6**
WB0	**Warramunga Arr**	**21.29**	**148**		**P**	**18 27 27.7**	**-0.3**
WB0				IAmb	IAmb	18 27 31.8	
	comp=Z,30nm,0.7s						
WRAB	**Tennant Creek**	**21.40**	**148**	P	**P**	**18 27 28.5**	**-0.7**
WRAB				IAmb	IAmb	18 27 33.1	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**21.40**	**148**		**P**	**18 27 27.9**	**-1.3**
WRA	**Warramunga Arr**	**21.40**	**148**	P	**P**	**18 27 29.4**	**+0.2**
	comp=Z,20nm,0.7s,baz=333,slow=9.8,SNR=31						
	comp=Z,20nm,0.7s						
WR8	**Warramunga Arr**	**21.50**	**148**		**P**	**18 27 30.0**	**-0.3**
WR8				IAmb	IAmb	18 27 33.9	
	comp=Z,34nm,0.7s						
KULM	**Kulim**	**23.05**	**288**	P	**P**	**18 27 45.6**	**-1.3**
KULM	**Kulim**	**23.05**	**288**	P	**P**	**18 27 49.3**	**+2.4**
COEN	**Coen**	**23.65**	**122**	P	**P**	**18 27 53.6**	**+0.7**
COEN	**Coen**	**23.65**	**122**	P	**P**	**18 27 53.7**	**+0.8**
WRKA	**Warakurna**	**23.79**	**167**	P	**P**	**18 27 54.3**	**+0.1**
UBPT	**Khong Chiam**	**23.97**	**315**		**P**	**18 27 57.7**	**+1.8**
RPSI	**Rantau Prapat**	**24.12**	**280**		**P**	**18 27 57.7**	**+0.3**
RPSI				IAmb	IAmb	18 28 03.3	
	comp=Z,22nm,1.0s						
PSI	**Prapat**	**24.14**	**281**	P	**P**	**18 27 58.5**	**+0.8**
	comp=Z,12nm,0.8s,baz=93,slow=4.5,SNR=11						
PSI				LR	LR	18 38 23.3	
	comp=Z,445nm,18.0s,baz=52,slow=39						
	comp=Z,12nm,0.8s						
AS31	**Alice Springs**	**24.37**	**154**		**P**	**18 28 00.1**	**+0.4**
ASAR	**Alice Springs**	**24.37**	**154**	P	**P**	**18 28 00.1**	**+0.4**
	comp=Z,12nm,0.7s,baz=328,slow=7.7,SNR=166						
ASAR				PcP	**PcP**	**18 31 40.0**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=344,slow=1.7,SNR=6.9						
ASAR				LR	LR	18 37 38.4	
	comp=Z,78nm,21.7s,baz=334,slow=37						
	comp=Z,12nm,0.7s						
AS01	**Alice Springs**	**24.39**	**154**	P	**P**	**18 28 00.4**	**+0.6**
MANU	**Manus Island**	**24.71**	**91**	P	**P**	**18 28 03.2**	**+0.4**
MANU				IAmb	IAmb	18 28 08.1	
	comp=Z,13nm,0.9s						
TPUB	**Ta-pu**	**24.97**	**356**	P	**P**	**18 28 06.4**	**+1.4**
TPUB				IAmb	IAmb	18 28 09.8	
	comp=Z,19nm,0.9s						
TPUB	**Ta-pu**	**24.97**	**356**	P	**P**	**18 28 08.1**	**+3.1**
QIS	**Mount Isa**	**24.98**	**140**	P	**P**	**18 28 05.7**	**+0.5**
MEEK	**Meekatharra**	**25.05**	**189**	P	**P**	**18 28 06.3**	**+0.5**
SRIT	**Nakonsritamara**	**25.16**	**294**	P	**P**	**18 28 05.7**	**-1.1**
SSLB	**Suanglung**	**25.43**	**356**		**P**	**18 28 10.2**	**+1.0**
SSLB				IAmb	IAmb	18 28 32.4	
	comp=Z,22nm,1.0s						
PMG	**Port Moresby**	**25.54**	**108**	P	**P**	**18 28 09.6**	**-0.7**
PMG				IAmb	IAmb	18 28 14.5	
	comp=Z,18nm,0.8s						
PMG	**Port Moresby**	**25.54**	**108**	P	**P**	**18 28 10.1**	**-0.2**
	comp=Z,16nm,0.7s,baz=267,slow=19,SNR=4.4						
PMG				LR	LR	18 40 33.8	
	comp=Z,107nm,18.1s,baz=298,slow=42						
	comp=Z,16nm,0.7s						
OOD	**Oodnadatta**	**28.76**	**155**	P	**P**	**18 28 39.3**	**+0.2**
FORT	**Forrest**	**29.33**	**170**	P	**P**	**18 28 42.4**	**-1.8**
FORT	**Forrest**	**29.33**	**170**	P	**P**	**18 28 43.9**	**-0.2**
CM31	**Chiang Mai Arr**	**30.77**	**312**	IAmb	IAmb	18 29 02.3	
	comp=Z,7.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.77**	**312**		**P**	**18 28 56.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**30.77**	**312**	P	**P**	**18 28 59.1**	**+2.1**
	comp=Z,4.5nm,0.6s,baz=138,slow=7.3,SNR=38						
CMAR				LR	LR	18 44 17.2	
	comp=Z,49nm,19.0s,baz=130,slow=42						
	comp=Z,4.5nm,0.6s						
CHTO	**Chiang Mai**	**30.99**	**312**		**P**	**18 28 59.3**	**+0.3**
CHTO				IAmb	IAmb	18 29 04.1	
	comp=Z,7.7nm,0.7s						
CHTO	**Chiang Mai**	**30.99**	**312**	P	**P**	**18 29 01.4**	**+2.4**
INKA	**Innaminka**	**31.12**	**148**	P	**P**	**18 29 00.6**	**+0.6**
LCRK	**Leigh Creek**	**32.14**	**154**	P	**P**	**18 29 09.9**	**+0.9**
BBOO	**Buckleboo**	**33.38**	**159**	P	**P**	**18 29 18.3**	**-1.4**
BBOO	**Buckleboo**	**33.38**	**159**	P	**P**	**18 29 19.8**	**0.0**
STKA	**Stephens Creek**	**34.90**	**151**	P	**P**	**18 29 33.6**	**+0.6**
	comp=Z,7.9nm,0.9s,baz=314,slow=8.5,SNR=10						
	comp=Z,7.9nm,0.9s						
STKA	**Stephens Creek**	**34.90**	**151**	P	**P**	**18 29 33.7**	**+0.7**
HTT	**Hallett**	**35.02**	**156**	P	**P**	**18 29 35.0**	**+0.9**
CMSA	**Cobar Meteorol**	**36.77**	**146**	P	**P**	**18 29 50.0**	**+1.0**
ARPS	**Mount Arapiles**	**39.11**	**155**	P	**P**	**18 30 09.7**	**+1.0**
SHL	**Shillong**	**40.29**	**314**	P	**P**	**18 30 18.1**	**-0.8**
MJAR	**Matsushiro Arr**	**40.75**	**19**	P	**P**	**18 30 20.9**	**-1.5**
	comp=Z,3.1nm,0.8s,baz=196,slow=8.9,SNR=8.3						
	comp=Z,3.1nm,0.8s						
LSA	**Lhasa**	**43.39**	**319**		**P**	**18 30 43.5**	**-1.1**
LSA				IAmb	IAmb	18 31 20.9	
	comp=Z,4.8nm,0.5s						
GTA	**Gaotai**	**46.00**	**335**	P	**P**	**18 31 07.6**	**+2.7**
GTA				PcP	**PcP**	**18 32 43.3**	**+1.7**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**46.49**	**9**	P	**P**	**18 31 07.7**	**-0.8**
	comp=Z,3.0nm,0.6s,baz=190,slow=8.1,SNR=7.6						
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**51.37**	**346**	P	**P**	**18 31 45.6**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=166,slow=8.5,SNR=6.2						
	comp=Z,0.9nm,0.7s						
HEH	**HeiHe**	**51.95**	**4**	eP	**P**	**18 31 49.4**	**-0.8**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR	**Makanchi Array**	**59.91**	**329**		**P**	**18 32 46.7**	**-0.7**
MKAR	**Makanchi Array**	**59.91**	**329**	P	**P**	**18 32 47.6**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=122,slow=7.1,SNR=23						
	comp=Z,2.8nm,0.7s						
PETK	**Petropavlovsk-**	**62.02**	**23**	P	**P**	**18 33 00.8**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=180,slow=2.3,SNR=4.2						
	comp=Z,1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**63.75**	**336**	P	**P**	**18 33 11.6**	**-1.4**
ZALV	**Zalesovo Beam**	**63.75**	**336**	P	**P**	**18 33 11.9**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=134,slow=6.2,SNR=8.0						
	comp=Z,2.0nm,0.7s						
YAK	**Yakutsk**	**63.83**	**4**		**P**	**18 33 12.0**	**-1.4**
KURBB	**Kurchatov Arra**	**64.29**	**331**	P	**P**	**18 33 16.0**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=138,slow=6.0,SNR=23						
	comp=Z,1.8nm,0.8s						
KURK	**Kurchatov**	**64.30**	**331**		**P**	**18 33 15.2**	**-1.5**
KURK				IAmb	IAmb	18 33 42.2	
	comp=Z,5.9nm,1.0s						
BVAR	**Borovoye Array**	**69.78**	**329**	P	**P**	**18 33 51.2**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=139,slow=7.9,SNR=6.6						
	comp=Z,0.5nm,0.5s						
TIXI	**Tiksi**	**73.38**	**2**		**P**	**18 34 10.9**	**-1.9**
NRIK	**Noril'sk**	**74.81**	**348**	P	**P**	**18 34 21.4**	**+0.2**
	comp=Z,2.9nm,0.5s,baz=104,slow=4.0,SNR=4.4						
	comp=Z,2.9nm,0.5s						
VNDA	**Vanda**	**78.58**	**172**	P	**P**	**18 34 42.

F15K IAmb IAmb 18 35 17.2
comp=Z,8.7nm,1.3s
SYO Syowa Base 85.89 201⇑ eP P 18 35 21.2 +0.4
H17K Granite Mounta 86.26 25 IAmb IAmb 18 35 25.4
comp=Z,4.5nm,0.7s
C18K Utukok River 86.59 21 IAmb IAmb 18 35 26.1
comp=Z,5.4nm,1.3s
E19K Redstone River 87.81 22 IAmb IAmb 18 35 32.5
comp=Z,2.5nm,0.8s
QSPA South Pole Qui 88.20 180 P P 18 35 32.0 -0.4
comp=Z,1.5nm,0.8s,baz=2.5,slow=4.0,SNR=7.9
comp=Z,1.5nm,0.8s
J20K Nowinta River 88.59 26 IAmb IAmb 18 35 36.2
comp=Z,3.5nm,0.8s
G23K Bananza Creek 90.53 23 IAmb IAmb 18 35 45.6
comp=Z,5.9nm,1.0s
H23K Yukon River 90.68 24 IAmb IAmb 18 35 46.0
comp=Z,3.5nm,0.7s
ILAR Eielson Array 91.76 25 P P 18 35 48.0 -0.8
comp=Z,0.3nm,0.5s,baz=266,slow=4.5,SNR=5.8
comp=Z,0.3nm,0.5s
C27K Jago River 92.90 20 IAmb IAmb 18 36 09.6
comp=Z,5.5nm,1.5s
I26K Coal Creek Min 93.33 25 IAmb IAmb 18 36 00.5
comp=Z,2.6nm,0.8s
H27K Steamboat Moun 93.94 24 IAmb IAmb 18 36 01.5
comp=Z,5.2nm,1.2s
E28M Babbage River 94.47 21 IAmb IAmb 18 36 03.2
comp=Z,3.2nm,1.1s
H29M Whitestone 95.22 24 IAmb IAmb 18 36 08.2
comp=Z,2.7nm,0.9s
K29M Barlow Dome 95.90 26 IAmb IAmb 18 36 12.6
comp=Z,2.1nm,0.8s
TORD Torodi Ar. Bea 120.50 284 PKP **PKPdf 18 41 34.2 +0.1**
comp=Z,0.5nm,0.7s,baz=90,slow=2.3,SNR=3.2
TXAR Lajitas Array 128.14 53 PKP **PKPdf 18 41 48.8 +0.3**
comp=Z,0.2nm,0.6s,baz=314,slow=2.2,SNR=2.5
CPUP Villa Florida 152.09 180 PKP **PKPdf 18 42 30.2 -0.9**
comp=Z,2.3nm,0.9s,baz=180,slow=2.0,SNR=4.8
CPUP PKPbc **PKPbc 18 42 37.9 +0.3**
comp=Z,2.7nm,1.0s,baz=191,slow=2.5,SNR=3.5

IDC 24 18:26:32.3±1.6, 1°.70S×122°.66E, h0km, mb3.7/4, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=52.7km s-min=26.8km az=60.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.39**	**221**	Pn	Pn	18 27 40.2	-0.1
KAPI	6.0nm,0.3s,baz=37,slow=6.0,SNR=3.4			Sn	Sn	18 28 26.1	-6.0
	7.8nm,0.3s,baz=72,slow=20,SNR=3.1 26nm,0.4s						
WRA	**Warramunga Arr**	**21.43**	**149**	P	P	18 31 21.8	-0.4
	3.3nm,0.7s,baz=332,slow=10.0,SNR=12 3.3nm,0.7s						
ASAR	**Alice Springs**	**24.41**	**154**	P	P	18 31 52.6	0.0
	1.9nm,0.7s,baz=328,slow=7.6,SNR=11 1.9nm,0.7s						
STKA	**Stephens Creek**	**34.93**	**151**	P	P	18 33 25.7	-0.3
	1.2nm,0.5s,baz=323,slow=10.0,SNR=4.0 1.2nm,0.5s						
MKAR	**Makanchi Array**	**59.88**	**329**	P	P	18 36 40.3	+0.4
	0.3nm,0.6s,baz=131,slow=7.9,SNR=1.9 0.3nm,0.6s						

*NEIC **24** 18:38:29.2±2.3, 30°.99N±0°.08×141°.5E±0°.1, h35km±2km, mb4.2/2, Error ellipse: s-maj=21.6km s-min=11.2km az=67.0*
*JMA **24** 18:38:30.5±0.3, 31°N±1°×14°1E±°, h0km, MV4.7/40, NEAR TORISHIMA IS*
*IDC **24** 18:38:30.3±2.2, 30°.88N×140°.94E, h53km±17km, mb3.5/13, mbtmp3.8/17, ML3.8/4, MS3.9/1, Error ellipse: s-maj=25.5km s-min=15.5km az=57.0*
ISC 24 18:38:28.9±0.7, 31°.00N±0°.06×141°.39E±0°.09, h37km, n64, σ2°13/71, mb3.8/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.01**	**317**	P	Pn	18 39 02.2	+1.8
JHCJ	**Hachijojimakas**	**2.47**	**327**	eP	Pn	18 39 07.8	+1.2
JHCJ				eS	Sn	18 39 35.6	+0.1
JHJ2	**Mitsune**	**2.50**	**328**		Pn	18 39 08.0	+1.1
JHJ2	**Mitsune**	**2.50**	**328**	P	Pn	18 39 08.5	+1.6
JHJ2	**Mitsune**	**2.50**	**328**	P	Pn	18 39 08.5	+1.6
JHJ2				eS	Sn	18 39 37.1	+1.1
JHJ	**Hachijo jima 2**	**2.52**	**328**	P	Pn	18 39 08.6	+1.3
	55nm,0.3s,baz=92,slow=21,SNR=48						
JHJ				S	Sn	18 39 36.3	-0.4
	280nm,0.4s,baz=69,slow=22,SNR=10 98nm,0.3s						
JMKN	**Mikurajimanish**	**3.26**	**333**	eP	Pn	18 39 19.1	+1.7
JMKN				eS	Sn	18 39 56.7	+1.7
JMYK	**Miyake Tsubota**	**3.43**	**333**	eP	Pn	18 39 22.2	+2.5
JMYK				eS	Sn	18 40 00.6	+1.5
BSO1	**Boso 1**	**3.66**	**355**	P	Pn	18 39 24.6	+2.2
BSO3	**Boso 3**	**3.86**	**349**	eP	Pn	18 39 27.3	+1.8
CBIJ	**Chichi jima**	**3.95**	**170**	eP	Pn	18 39 27.5	+0.6
CBIJ				eS	Sn	18 40 10.3	-1.7
JCJ	**Chichijima**	**3.95**	**170**	Pn	Pn	18 39 27.5	+0.6
JCJ	**Chichijima**	**3.95**	**170**	P	Pn	18 39 27.1	+0.1
	18nm,0.3s,baz=355,slow=20,SNR=45						
JCJ				S	Sn	18 40 07.1	-5.0
	59nm,0.3s,baz=296,slow=23,SNR=6.3 46nm,0.3s						
JCJ	**Chichijima**	**3.95**	**170**	P	Pn	18 39 27.4	+0.4
JOD2	**Odawara 2**	**4.67**	**336**	eP	Pn	18 39 39.0	+2.2
TTO1	**TONANKAI O.B.S**	**4.70**	**305**	eP	Pn	18 39 39.4	+2.5
JIE	**Ise**	**5.20**	**312**	eP	Pn	18 39 46.5	+2.5
JNY	**Yasuok**	**5.26**	**327**	eP	Pn	18 39 48.7	+3.7
JYT	**Yasato**	**5.31**	**349**	eP	Pn	18 39 47.9	+2.3
JRY	**Ryogami san**	**5.42**	**338**	eP	Pn	18 39 50.0	+2.9
JRY				eS	Sn	18 40 49.1	+0.9
JHO	**Hitachi**	**5.64**	**353**	eP	Pn	18 39 51.7	+1.6
JHO				eS	Sn	18 40 50.6	-3.1
JTNC	**Tanabenakahech**	**5.64**	**301**	eP	Pn	18 39 52.0	+1.9
INU	**Inuyama**	**5.68**	**321**	Pn	Pn	18 39 52.9	+2.2
INU	**Inuyama**	**5.68**	**321**	P	Pn	18 39 54.4	+3.7
JGF	**Kuroka**	**5.70**	**325**	Pn	Pn	18 39 53.7	+2.7
JGF	**Kuroka**	**5.70**	**325**	P	Pn	18 39 54.4	+3.4
MJAR	**Matsushiro Arr**	**6.13**	**335**	P	Pn	18 39 59.3	+2.4
	0.5nm,0.3s,baz=142,slow=11,SNR=20 2.5nm,0.3s						
MAJO	**Matsushiro**	**6.13**	**335**	Pn	Pn	18 39 59.4	+2.5
MAJO	**Matsushiro**	**6.13**	**335**	P	Pn	18 40 00.5	+3.6
MJB9	**Matsu-Tunnel**	**6.14**	**335**	Pn	Pn	18 40 00.2	+3.2
JMM	**Marumori**	**6.87**	**356**	Pn	Pn	18 40 08.2	+1.2
JMM					Sn	18 41 20.5	-3.3
JMM	**Marumori**	**6.87**	**356**	P	Pn	18 40 08.5	+1.5
JMN	**Monobe**	**6.91**	**295**	Pn	Pn	18 40 08.6	+0.9
JSD	**Sado**	**7.48**	**341**		Pn	18 40 16.6	+1.2
JMK	**Ichinoseki**	**7.94**	**359**	eP	Pn	18 40 22.8	+1.2
JMK				eS	Sn	18 41 44.9	-5.2
JOI	**OKI**	**8.60**	**310**	eP	Pn	18 40 33.9	+3.2
JNU	**Nakatsue**	**9.17**	**286**	Pn	Pn	18 40 40.4	+1.8
JTM	**Tenmabayashi**	**9.77**	**359**	Pn	Pn	18 40 46.4	-0.4
JTM	**Tenmabayashi**	**9.77**	**359**	P	Pn	18 40 49.1	+2.3
ERM	**Erimo**	**11.09**	**7**	Pn	Pn	18 41 05.3	+0.5
ERM	**Erimo**	**11.09**	**7**	P	Pn	18 41 06.7	+1.9
JEM	**Erimo**	**11.09**	**7**	P	Pn	18 41 06.8	+2.0
JKA	**Kamikawa-asahi**	**13.13**	**4**	Pn	Pn	18 41 32.6	0.0
ASAJ	**Asahikawa**	**13.13**	**4**	P	Pn	18 41 33.1	+0.4
	2.5nm,0.3s,baz=224,slow=11,SNR=11						
KLR	**Kul'dur**	**19.62**	**341**	P	P	18 42 53.5	-0.5
	0.3nm,0.3s,baz=170,slow=7.0,SNR=5.8 1.0nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.06**	**113**	T	T	19 11 34.6	
	baz=304,slow=75,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**26.06**	**113**	T	T	19 11 34.1	
	baz=304,slow=75,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**26.07**	**113**	T	T	19 11 35.0	
	baz=304,slow=75,SNR=8.2						
CMAR	**Chiang Mai Arr**	**40.30**	**262**	LR	LR	19 03 57.1	
	comp=Z,158nm,21.4s,baz=120,slow=38						
MKAR	**Makanchi Array**	**47.52**	**307**	P	P	18 46 58.2	-2.2
	0.3nm,0.5s,baz=84,slow=10.0,SNR=7.0 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**49.87**	**312**	P	P	18 47 16.1	-2.3
	0.4nm,0.5s,baz=91,slow=8.6,SNR=12 0.4nm,0.5s						
ILAR	**Eielson Array**	**54.66**	**30**	P	P	18 47 54.9	+1.2
	0.5nm,0.7s,baz=270,slow=6.6,SNR=5.9 0.5nm,0.7s						

BVAR Borovoye Array 54.74 316 P P 18 47 52.2 -2.3
0.3nm,0.4s,baz=91,slow=9.6,SNR=4.5
0.3nm,0.4s
AB31 Akbulak array 61.91 313 P 18 48 43.4 -1.2
AB31 IAmb IAmb 18 49 06.2
comp=Z,2.5nm,1.4s
ABKAR Akbulak array 61.91 313 P 18 48 43.0 -1.6
ABKAR IAmb IAmb 18 49 06.2
comp=Z,2.6nm,1.4s
YKA Yellowknife Ar 69.06 29 P P 18 49 31.8 +1.2
comp=Z,0.6nm,0.7s,baz=295,slow=6.2,SNR=10
comp=Z,0.6nm,0.7s
FINES FINESS Array B 74.16 333 P P 18 50 00.6 -0.6
comp=Z,0.8nm,0.5s,baz=59,slow=4.2,SNR=14
comp=Z,0.8nm,0.5s
KBZ Khabaz 74.87 312 P P 18 50 05.0 -0.7
comp=Z,0.6nm,0.5s,baz=246,slow=4.1,SNR=6.4
comp=Z,0.6nm,0.5s
NVAR Mina Array Bea 78.66 52 P P 18 50 29.6 +2.1
comp=Z,0.5nm,0.5s,baz=287,slow=5.9,SNR=3.5
comp=Z,0.5nm,0.5s
AKASG Malin Array Be 79.08 323 P P 18 50 28.1 -1.2
comp=Z,0.5nm,0.3s,baz=50,slow=6.3,SNR=4.1
comp=Z,0.5nm,0.3s
HFS Hagfors 79.58 336 P P 18 50 30.9 -0.9
comp=Z,1.6nm,0.8s,baz=45,slow=5.6,SNR=2.7
comp=Z,1.6nm,0.8s
NOA NORSAR Array B 79.74 338 P P 18 50 31.9 -0.9
comp=Z,0.5nm,0.7s,baz=43,slow=5.6,SNR=3.4
comp=Z,0.5nm,0.7s
PDAR Pinedale Array 81.93 45 P P 18 50 46.6 +1.5
comp=Z,0.2nm,0.6s,baz=295,slow=5.6,SNR=2.5
comp=Z,0.2nm,0.6s
TXAR Lajitas Array 93.81 53 P P 18 51 44.4 +1.8
comp=Z,0.6nm,0.6s,baz=278,slow=3.1,SNR=8.2
comp=Z,0.6nm,0.6s

*BJI **24** 18:42:08.4, 0°.71S×126°.02E, h56km, mB5.1/26, mb4.9/78, Ms4.4/50, Ms7 4.3/53*
*MOS **24** 18:42:09.8±0.9, 0°.33S×125°.80E, h38km, mb5.3/61, Error ellipse: s-maj=9.0km s-min=4.6km az=111.3*
*IDC **24** 18:42:10.7±2.4, 0°.30S×125°.91E, h28km±15km, mb4.7/29, mbtmp4.9/32, ML4.5/3, MS3.9/28, Error ellipse: s-maj=16.1km s-min=10.0km az=87.0*
*NEIC **24** 18:42:12.4±2.0, 0°.33S±0°.07×125°.88E±0°.05, h43km±6km, mb5.1/205, Error ellipse: s-maj=9.7km s-min=6.7km az=169.0*
*DJA **24** 18:42:13.1±0.1, 0°S±1°×12°6E±°, h59km±2km, M4.7/48, mb4.9/48, mB5.2/18, MLv4.9/26, Mw(mB)4.6/18, MwMwp4.8/14, Mwp5.1/14*
*GCMT **24** 18:42:19.4±0.2, 0°.78S±0°.02×125°.92E±0°.02, h20km±1km, MW5.3/105, Moment Tensor Solution. s105,c166; s66,c79; Duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr0.60±.02; Mθθ-0.68±.02; Mφφ0.08±.02; Mrθ1.09±.09; Mθφ-0.11±.01; Mφr-0.03±.04; Best double couple: M0 1.26700×10^17 NP1φs251.00000°, δ16.00000°, λ72.00000°. NP2φs90.00000°, δ75.00000°, λ95.00000°. Principal axes: T 1.2280, Plg60.0000°, Azm8.0000°; N 0.0790, Plg5.0000°, Azm269.0000°; P -1.3070, Plg30.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 18:42:12.5±0.3, 0°.37S±0°.03×125°.86E±0°.04, h47km±2km, h47km; pP-P, n670, σ1§33/654, mb5.1/208, MS4.2/59, 24C-10D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.67**	**176**	P	Pn	18 42 38.3	-1.1
TNTI	**Ternate**	**1.89**	**53**		Pn	18 42 42.2	-0.1
TNTI	**Ternate**	**1.89**	**53**	P	Pn	18 42 41.8	-0.5
TNTI				S	Sn	18 43 05.0	+0.1
KMSI	**Cibinong**	**2.10**	**297**	P	Pn	18 42 46.8	+1.5
NLAI	**Namlea**	**3.10**	**157**	P	Pn	18 42 58.3	-0.7
NLAI				S	Sn	18 43 33.4	-1.5
LUWI	**Luwuk**	**3.16**	**258**		Pn	18 43 00.3	+0.5
LUWI	**Luwuk**	**3.16**	**258**	P	Pn	18 43 00.9	+1.1
MRSI	**Marisa**	**4.01**	**282**	P	Pn	18 43 11.6	+0.1
AAI	**Ambon**	**4.03**	**145**	P	Pn	18 43 11.9	+0.1
SGSI	**Sangihe**	**4.05**	**355**	P	Pn	18 43 11.8	-0.2
APSI	**Ampana**	**4.25**	**263**	P	Pn	18 43 16.3	+1.6
MSAI	**Masohi**	**4.25**	**134**	P	Pn	18 43 15.7	+0.8
MSAI				S	Sn	18 44 03.5	+0.2
TOLI2	**Tolitoli**	**5.29**	**286**		Pn	18 43 29.2	+0.1
SWI	**Sorong**	**5.42**	**95**	P	Pn	18 43 32.6	+1.8
	4μm60nm,0.8s						
BNDI	**Bandanaira**	**5.77**	**136**	P	Pn	18 43 34.5	-1.1
MPSI	**Mapaga**	**6.01**	**277**	P	Pn	18 43 40.8	+1.9
	0.5nm3μm1μm118nm,0.6s						
PCI	**Palu**	**6.05**	**265**	P	Pn	18 43 41.5	+2.0
	1.4nm2μm218nm,0.8s						
BBSI	**Bau Bau**	**6.05**	**213**	P	Pn	18 43 40.5	+1.0
	0.6nm4μm2μm115nm,1.1s						
FAKI	**Fak Fak**	**6.87**	**112**		Pn	18 43 50.0	-0.7
FAKI	**Fak Fak**	**6.87**	**112**	P	Pn	18 43 48.8	-1.9
	0.3nm5μm45nm,1.0s						
BNSI	**Bone**	**7.00**	**235**	P	Pn	18 43 53.9	+1.3
	0.4nm3μm53nm,1.1s						
SPSI	**Sidrap Palu**	**7.06**	**240**	P	Pn	18 43 55.5	+2.2
BKSI	**Bulukumba**	**7.55**	**229**	P	Pn	18 44 01.7	+1.6
	0.3nm827nm83nm,0.8s						
KAPI	**Kappang**	**7.65**	**233**		Pn	18 44 02.8	+1.3
KAPI	**Kappang**	**7.65**	**233**	Pn	Pn	18 44 03.0	+1.6
	2.2nm,0.3s,baz=63,slow=21,SNR=11						
KAPI				Sn	Sn	18 45 26.9	+0.1
	11nm,0.3s,baz=168,slow=21,SNR=13 18nm,0.6s						
BSSI	**Bau Bau, Buton**	**7.85**	**223**	P	Pn	18 44 05.7	+1.5
	0.4nm1μm83nm,1.2s						
MMRI	**Maumere**	**8.97**	**204**	P	Pn	18 44 20.4	+0.9
	3μm79nm,1.1s						
MYLDM	**Lahad Datu**	**9.19**	**307**		Pn	18 44 22.1	-0.6
EDFI	**Ende, Flores**	**9.30**	**206**	P	Pn	18 44 25.3	+1.1
	3μm1μm149nm,1.0s						
SOEI	**Soe**	**9.45**	**190**		Pn	18 44 26.9	+0.6
SOEI	**Soe**	**9.45**	**190**	P	Pn	18 44 30.0	+3.7
	2μm138nm,1.2s						
MTN	**Manton Dam**	**13.45**	**157**		Pn	18 45 19.9	-1.0
SBUM	**Sibu**	**13.93**	**282**		Pn	18 45 25.7	-1.6
JAGI	**Jajag, Banyuwa**	**14.17**	**235**		Pn	18 45 32.4	+1.7
JAGI	**Jajag, Banyuwa**	**14.17**	**235**	P	Pn	18 45 32.8	+2.1
	82nm,1.2s						
STKI	**Sintang**	**14.39**	**272**	P	Pn	18 45 35.3	+1.7
GENI	**Genyem**	**14.47**	**99**	P	Pn	18 45 33.6	-1.0
	2μm34nm,0.9s						
TGY	**Tagaytay City**	**15.19**	**341**	Pn	Pn	18 45 42.3	-1.8
	61nm,0.3s,baz=332,slow=4.3,SNR=5.5						
KNRA	**Kununurra**	**15.47**	**169**		Pn	18 45 46.6	-1.1
KSM	**Kuching**	**15.66**	**277**		Pn	18 45 51.9	+1.7
FITZ	**Fitzroy Crossi**	**17.61**	**181**		Pn	18 46 13.8	-0.9
FITZ	**Fitzroy Crossi**	**17.61**	**181**	P	Pn	18 46 14.2	-0.5
	1.8nm,0.3s,baz=17,slow=8.2,SNR=75 47nm,0.8s						
TPI	**Tanjungpandan**	**18.36**	**262**	P	P	18 46 23.8	+0.4
LEM	**Lembang**	**19.30**	**250**	P	Pn	18 46 35.6	+0.3
	2.3nm,0.3s,baz=28,slow=9.3,SNR=7.5 30nm,0.7s						
LEM	**Lembang**	**19.30**	**250**	P	Pn	18 46 36.3	+1.0
	57nm,0.9s						
PPBI	**Pangkal Pinang**	**19.80**	**265**	P	P	18 46 39.1	-0.2
WB0	**Warramunga Arr**	**21.01**	**157**		P	18 46 51.1	-1.2
WB0				IAmb	IAmb	18 46 52.6	
	comp=Z,79nm,1.0s						
CGJI	**Cibinong**	**21.06**	**252**	P	P	18 46 54.9	+2.0
	comp=Z,49nm,1.1s						
WRAB	**Tennant Creek**	**21.14**	**157**	P	P	18 46 52.5	-1.3
WRAB				IAmb	IAmb	18 46 54.0	
	comp=Z,67nm,0.9s						
WRAB	**Tennant Creek**	**21.14**	**157**	*d* iP	P	18 46 52.9	-0.8
WRAB				pmax	pmax		
	comp=Z,88nm,0.9s						
WRA	**Warramunga Arr**	**21.14**	**157**	P	P	18 46 50.4	-3.4
WRA	**Warramunga Arr**	**21.14**	**157**	P	P	18 46 53.0	-0.7
	comp=Z,55nm,0.8s,baz=335,slow=11,SNR=41						
WRA				ScP	ScP	18 54 33.3	+1.5
	comp=Z,1.4nm,0.9s,baz=322,slow=2.5,SNR=4.5 comp=Z,55nm,0.8s						
DLV	**Lat**	**21.15**	**306**	P	P	18 46 54.6	+0.5
WR8	**Warramunga Arr**	**21.22**	**157**		P	18 46 52.7	-1.9
WR8				IAmb	IAmb	18 46 54.9	
	comp=Z,70nm,0.9s						
MBWA	**Marble Bar**	**21.51**	**196**		P	18 46 57.4	-0.3

COEN Coen 21.81 129 P 18 46 59.9 -1.1
COEN IAmb IAmb 18 47 05.9
comp=Z,70nm,1.1s
PSA00 Pilbara Seismi 21.87 195 P 18 47 00.7 -0.9
MDSI Maura Dua 22.04 259 P **P 18 47 02.1 -1.4**
MYKOM Kota Tinggi 22.11 276 P 18 47 02.3 -2.0
MYKOM Kota Tinggi 22.11 276 P P 18 47 05.6 +1.3
XMIS Christmas Isla 22.46 243 P **P 18 47 10.2 +2.2**
PMG Port Moresby 23.02 114 P **P 18 47 14.3 +0.5**
MNAI Manna 23.22 260 P **P 18 47 16.3 +0.4**
GUMO Guam 23.39 53 P **P 18 47 16.3 -1.1**
comp=Z,66nm,0.9s,baz=180,slow=16,SNR=2.1
comp=Z,66nm,0.9s
GUMO Guam 23.39 53 P **P 18 47 18.5 +1.1**
TWGBT Beinan 23.52 349 P **P 18 47 18.2 -0.3**
TWG Pinlang 23.52 349 P **P 18 47 14.7 -3.9**
TWG IAmb IAmb 18 47 18.9
comp=Z,71nm,1.2s
YULB Yu-li 24.04 350 P **P 18 47 20.0 -3.4**
TPUB Ta-pu 24.08 348 P 18 47 20.7 -3.0
QIS Mount Isa 24.14 147 P **P 18 47 25.4 +1.0**
AS31 Alice Springs 24.43 162 P 18 47 26.3 -0.8
ASAR Alice Springs 24.43 162 P **P 18 47 27.5 +0.4**
comp=Z,66nm,0.9s,baz=345,slow=11,SNR=349
ASAR PcP **PcP 18 51 06.5 +1.1**
comp=Z,1.8nm,0.4s,baz=352,slow=1.9,SNR=8.2
ASAR ScP **ScP 18 54 42.1 +1.8**
comp=Z,1.7nm,0.8s,baz=331,slow=2.7,SNR=8.1
comp=Z,66nm,0.9s
AS01 Alice Springs 24.45 162 P **P 18 47 28.2 +1.0**
SSLB Suanglung 24.49 349 P 18 47 25.2 -2.3
SSLB IAmb IAmb 18 47 34.4
comp=Z,33nm,0.7s
SSLB Suanglung 24.49 349 P **P 18 47 27.5 0.0**
WRKA Warakurna 24.63 175 P **P 18 47 28.9 +0.1**
NACB Ninganchiao 24.75 351 P **P 18 47 29.5 -0.4**
YOJ Yonaguni jima 24.84 354 P **P 18 47 30.7 0.0**
GIRL Giralia 24.86 206 P **P 18 47 32.6 +1.7**
QIZ Qiongzhong 24.88 322 P **P 18 47 31.6 +0.5**
QIZ sP **sP 18 47 47.3 -0.7**
QIZ S **S 18 51 50.3 -1.0**
QIZ sS **sS 18 52 13.0 +2.3**
QIZ LR LR
comp=Z,480nm,17.9s
QIZ LR LR
comp=Z,300nm,16.5s
QIZ LR LR
comp=Z,610nm,21.2s
QIZ Qiongzhong 24.88 322 P **P 18 47 31.9 +0.8**
YHNB Yeheng 25.27 350 P **P 18 47 32.9 -1.8**
YHNB IAmb IAmb 18 47 37.2
comp=Z,48nm,0.6s
YHNB Yeheng 25.27 350 P **P 18 47 33.6 -1.1**
MTSU Mount Surprise 25.31 135 P **P 18 47 36.2 +1.2**
UBPT Khong Chiam 25.46 309 P 18 47 35.8 -0.6
KNMB Chin-men Tao 25.73 344 P **P 18 47 36.9 -1.9**
KNMB IAmb IAmb 18 47 42.6
comp=Z,71nm,0.8s
KULM Kulim 25.80 283 P 18 47 38.4 -1.2
KULM Kulim 25.80 283 P **P 18 47 39.5 -0.1**
QZH Quanzhou 26.13 345 P **P 18 47 44.3 +1.9**
QZH S **S 18 52 14.8 +3.9**
QZH pmax pmax
comp=Z,92nm,0.8s
QZH LR LR
comp=Z,650nm,26.1s
QZH LR LR
comp=Z,450nm,25.4s
QZH LR LR
comp=Z,940nm,27.1s
RABL Rabaul 26.55 99 P **P 18 47 45.9 -0.4**
RABL IAmb IAmb 18 48 12.9
comp=Z,44nm,0.9s
MEEK Meekatharra 27.03 194 P **P 18 47 50.6 +0.1**
JOW Kunigami 27.15 5 P 18 47 49.4 -2.1
JOW Kunigami 27.15 5 P **P 18 47 52.0 +0.5**
comp=Z,77nm,0.9s,baz=196,slow=11,SNR=9.9
comp=Z,77nm,0.9s
JOW Kunigami 27.15 5 P **P 18 47 53.1 +1.6**
TV1H Townsville Har 27.81 134 P **P 18 47 59.4 +1.8**
OOD Oodnadatta 28.85 162 P **P 18 48 07.4 +0.7**
SLVN Son La 30.42 316 P **P 18 48 21.2 +0.4**
INKA Innaminka 30.73 154 P **P 18 48 25.0 +1.7**
KMBL Kambalda 31.05 187 P **P 18 48 26.1 -0.1**
JCJ Chichijima 31.50 29 P 18 48 27.8 -2.4
JCJ Chichijima 31.50 29 P **P 18 48 27.9 -2.4**
comp=Z,79nm,0.5s,baz=247,slow=4.2,SNR=18
JCJ Chichijima 31.50 29 P **P 18 48 28.9 -1.3**
SSE Sheshan 31.61 352 P **P 18 48 31.3 +0.2**
SSE S **S 18 53 39.1 +2.2**
SSE pmax pmax
comp=Z,6.0nm,0.6s
SSE pmax pmax
comp=Z,61nm,3.5s
SSE LR LR
comp=Z,180nm,20.9s
SSE LR LR
comp=Z,90nm,20.8s
LCRK Leigh Creek 32.13 160 P **P 18 48 36.6 +0.9**
CMAR Chiang Mai Arr 32.41 307 P 18 48 37.0 -1.2
CMAR Chiang Mai Arr 32.41 307 P **P 18 48 38.3 0.0**
comp=Z,2.5nm,0.8s,baz=128,slow=6.9,SNR=25
CMAR PcP **PcP 18 51 27.1 +2.0**
comp=Z,1.9nm,0.7s,baz=161,slow=2.3,SNR=11
CMAR ScP **ScP 18 55 08.7 +3.4**
comp=Z,2.5nm,1.0s,baz=164,slow=2.5,SNR=13
comp=Z,2.5nm,0.8s
GYA Guiyang 32.47 327 ⇑P **P 18 48 40.0 +1.2**
GYA pmax pmax
comp=Z,13nm,0.8s
GYA LR LR
comp=Z,630nm,28.1s
CHTO Chiang Mai 32.60 307 P **P 18 48 39.0 -0.9**
CHTO Chiang Mai 32.60 307 P **P 18 48 40.5 +0.6**
CHTO Chiang Mai 32.60 307 P **P 18 48 39.0 -0.9**
CHTO pmax pmax
comp=Z,15nm,1.0s
CHTO Chiang Mai 32.60 307 P **P 18 48 39.5 -0.5**
CHTO pP **pwP 18 48 52.7 -1.8**
CHTO PcP **PcP 18 51 27.0 +1.4**
CHTO ScP **ScP 18 55 08.4 +2.5**
NJ2 Nanjing 32.93 349 *eP* **P 18 48 44.8 +2.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 LR LR
comp=Z,280nm,20.8s
NJ2 LR LR
comp=Z,230nm,21.8s
NJ2 LR LR
comp=Z,550nm,24.6s
RK1H Rockhampton Ha 33.10 135 P **P 18 48 43.6 -0.6**
NWAO Narrogin (SRO) 33.38 193 LR LR 19 04 38.7
comp=Z,225nm,19.1s,baz=22,slow=40
JNU Nakatsue 33.65 8 IAmb IAmb 18 48 49.3
comp=Z,33nm,1.2s
JNU Nakatsue 33.65 8 P **P 18 48 48.1 -0.9**
comp=Z,16nm,1.0s,baz=12,slow=1.7,SNR=4.3
comp=Z,16nm,1.0s
JNU Nakatsue 33.65 8 P **P 18 48 49.0 0.0**
BBOO Buckleboo 33.66 164 P 18 48 48.7 -0.3
BBOO IAmb IAmb 18 49 11.1
comp=Z,30nm,1.3s
BBOO Buckleboo 33.66 164 P **P 18 48 49.8 +0.8**
KMI Kunming 33.81 320 P **P 18 48 51.3 +0.6**
KMI pmax pmax
comp=Z,11nm,1.4s
KMI LR LR
comp=Z,270nm,19.9s
KMI LR LR
comp=Z,290nm,18.5s
KMI LR LR
comp=Z,470nm,29.3s
ENH Enshi 34.23 334 IAmb IAmb 18 48 56.7
comp=Z,26nm,0.8s
STKA Stephens Creek 34.69 156 P **P 18 48 59.0 +1.0**
comp=Z,14nm,0.9s,baz=324,slow=8.6,SNR=22
STKA PcP **PcP 18 51 31.8 +0.5**
comp=Z,1.6nm,0.5s,baz=324,slow=3.0,SNR=3.0
comp=Z,14nm,0.9s
STKA Stephens Creek 34.69 156 P **P 18 48 58.9 +1.0**
JMN Monobe 34.75 12 P **P 18 48 58.9 +0.4**
JTU Tsushima 34.88 5 P **P 18 48 59.4 -0.1**
HTT Hallett 35.10 161 P **P 18 49 02.5 +1.0**
PZH PanZhiHua 35.42 321 P **P 18 49 03.8 -0.6**
PZH S **S 18 54 31.9 -4.4**

PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,5.1s
PZH LR LR
comp=Z,280nm,18.6s
PZH LR LR
comp=Z,170nm,17.3s
PZH LR LR
comp=Z,430nm,24.0s
CMSA Cobar Meteorol 36.23 151 P **P 18 49 12.7 +1.5**
TNCH TengChong 36.58 316 P **P 18 49 14.3 -0.2**
TNCH pP pwP 18 49 27.8 -1.3
TNCH PP **PP 18 50 41.3 +2.9**
TNCH S **S 18 54 53.9 -0.3**
TNCH ScS **ScS 18 59 24.4 -2.8**
TNCH pmax pmax
comp=Z,9.0nm,0.7s
TNCH LR LR
comp=Z,630nm,32.5s
LYN LuoYang 36.94 341 P **P 18 49 16.8 -0.4**
LYN pmax pmax
comp=Z,38nm,0.5s
LYN LR LR
comp=Z,490nm,20.6s
LYN LR LR
comp=Z,380nm,22.3s
LYN LR LR
comp=Z,1μm,22.7s
TIA Tai'an 37.30 348 P **P 18 49 18.8 -1.4**
TIA S **S 18 55 12.3 +7.8**
TIA pmax pmax
comp=Z,21nm,0.8s
TIA pmax pmax
comp=Z,130nm,5.9s
TIA LR LR
comp=Z,380nm,23.9s
TIA LR LR
comp=Z,220nm,20.4s
TIA LR LR
comp=Z,760nm,23.5s
JGF Kuroka 37.36 16 P **P 18 49 20.4 -0.4**
CD2 Chengdu 37.53 328 P **P 18 49 22.3 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 LR LR
comp=Z,380nm,19.0s
CD2 LR LR
comp=Z,310nm,14.6s
KSAR Wonju Array Be 37.67 3 **P 18 49 22.8 -0.5**
KSAR Wonju Array Be 37.67 3 P **P 18 49 22.8 -0.5**
INCN Inchon 37.68 1 P **P 18 49 23.2 -0.1**
INCN IAmb IAmb 18 49 25.2
comp=Z,32nm,0.9s
INCN Inchon 37.68 1 P **P 18 49 23.3 -0.1**
INCN pmax pmax
comp=Z,33nm,1.0s
KSRS Korea Array 37.69 3 P **P 18 49 24.2 +0.8**
comp=Z,17nm,0.6s,baz=187,slow=9.9,SNR=73
comp=Z,17nm,0.6s
XAN Xi'an 37.75 337 ⇓P **P 18 49 22.6 -1.5**
XAN pmax pmax
comp=Z,24nm,1.0s
XAN pmax pmax
comp=Z,170nm,3.6s
XAN LR LR
comp=Z,490nm,18.6s
XAN LR LR
comp=Z,320nm,15.8s
XAN LR LR
comp=Z,780nm,20.6s
MJAR Matsushiro Arr 38.48 16 P **P 18 49 28.6 -1.6**
comp=Z,3.9nm,0.6s,baz=189,slow=9.7,SNR=16
MJAR PcP **PcP 18 51 42.9 +0.3**
comp=Z,1.0nm,0.6s,baz=195,slow=4.6,SNR=4.1
MJAR LR LR 19 09 03.8
comp=Z,177nm,18.0s,baz=211,slow=42
comp=Z,3.9nm,0.6s
MAJO Matsushiro 38.48 16 P **P 18 49 28.6 -1.6**
MAJO Matsushiro 38.48 16 P **P 18 49 29.4 -0.8**
MAJO Matsushiro 38.48 16*c iP* **P 18 49 28.6 -1.6**
MAJO pmax pmax
comp=Z,8.0nm,0.7s
MAJO Matsushiro 38.48 16 P **P 18 49 28.5 -1.6**
MAJO pP **pP 18 49 41.0 -1.1**
MAJO PcP **PcP 18 51 43.1 +0.5**
ARMA Armidale 38.63 143 P **P 18 49 33.6 +1.9**
HNS HongShan 38.98 346 ⇑P **P 18 49 33.9 -0.4**
HNS sP **sP 18 49 53.1 +1.7**
HNS pmax pmax
comp=Z,20nm,1.3s
HNS LR LR
comp=Z,210nm,17.1s
HNS LR LR
comp=Z,280nm,24.1s
HNS LR LR
comp=Z,460nm,23.5s
ARPS Mount Arapiles 39.12 159 P **P 18 49 36.8 +1.3**
DL2 Dalian 39.28 355 P **P 18 49 36.8 0.0**
DL2 pmax pmax
comp=Z,70nm,1.4s
JMM Marumori 40.47 18 P **P 18 49 46.4 -0.4**
JMM Marumori 40.47 18 P **P 18 49 46.7 0.0**
CAN Canberra 40.91 151 P **P 18 49 52.8 +2.3**
CAN Canberra 40.91 151 P **P 18 49 52.5 +2.0**
CAN sP **sP 18 50 10.3 +2.4**
BJT Baijiatuau 41.16 349 **P 18 49 51.2 -1.2**
BJT IAmb IAmb 18 49 56.9
comp=Z,82nm,1.4s
BJT Baijiatuau 41.16 349 P **P 18 49 52.7 +0.3**
BJT Baijiatuau 41.16 349 P **P 18 49 51.2 -1.2**
BJT pmax pmax
comp=Z,82nm,1.4s
BJI Beijing 41.19 349 P **P 18 49 53.6 +1.0**
BJI pmax pmax
comp=Z,21nm,1.1s
BJI LR LR
comp=Z,150nm,21.3s
BJI LR LR
comp=Z,140nm,21.2s
BJI LR LR
comp=Z,240nm,24.6s
LZH Lanzhou 41.66 333 *e*P **P 18 49 57.0 +0.2**
LZH sP sP 18 50 13.5 -0.4
LZH pmax pmax
comp=Z,38nm,1.4s
LZH LR LR
comp=Z,420nm,17.5s
LZH LR LR
comp=Z,360nm,17.5s
LZH LR LR
comp=Z,690nm,19.2s
SHL Shillong 41.74 311 P **P 18 49 55.6 -2.0**
SHL Shillong 41.74 311 P **P 18 49 55.6 -2.0**
SHL pmax pmax
comp=Z,12nm,0.8s
MSHR Mys Shultsa 43.02 6⇑*e*P **P 18 50 07.0 -0.5**
MSHR pmax pmax
comp=Z,57nm,1.1s
HHC Hu-ho-hao-te 43.04 344 *e*P **P 18 50 09.8 +1.9**
HHC S **S 18 56 29.8 -0.7**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,83nm,4.1s
HHC LR LR
comp=Z,320nm,22.7s
HHC LR LR
comp=Z,160nm,18.5s
HHC LR LR
comp=Z,590nm,21.6s
JTM Tenmabayashi 43.24 17 P **P 18 50 08.5 -0.8**
JTM IAmb IAmb 18 50 10.3
comp=Z,27nm,0.7s
JTM Tenmabayashi 43.24 17 P **P 18 50 09.1 -0.2**
BTO Baotou 43.26 342 *e*P **P 18 50 13.8 +4.2**
BTO pP **sP 18 50 26.0 -0.9**
BTO sP pwP 18 50 31.8 +7.2
BTO PP **PcP 18 51 57.6 -0.5**
BTO S **S 18 56 40.4 +6.7**
BTO sS sS 18 57 04.3 +10
BTO SS **SS 18 59 48.3 -0.1**
BTO pmax pmax
comp=Z,21nm,1.0s
BTO pmax pmax
comp=Z,110nm,6.5s
BTO LR LR
comp=Z,790nm,21.8s
BTO LR LR
comp=Z,640nm,22.2s
BTO LR LR
comp=Z,910nm,20.4s
VLA Vladivostok 43.64 6*de*P **P 18 50 13.3 +0.9**
VLA pmax pmax
comp=Z,8.0nm,0.6s
CN2 Changchun 43.98 360 P **P 18 50 13.3 -1.9**
CN2 S **S 18 56 43.0 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,22.0s
CN2 LR LR
comp=Z,300nm,22.0s
CN2 LR LR
comp=Z,300nm,23.0s
LSA Lhasa 44.60 315 IAmb IAmb 18 50 24.0
comp=Z,15nm,0.6s
LSA Lhasa 44.60 315 P **P 18 50 21.3 +0.3**
LSA pmax pmax
comp=Z,12nm,0.6s
LSA Lhasa 44.60 315 P **P 18 50 21.6 +0.6**
USA0B Ussuriysk Arra 44.72 6 IAmb IAmb 18 50 22.4
comp=Z,67nm,1.6s
USA0B Ussuriysk Arra 44.72 6*c iP* **P 18 50 21.4 +0.3**
USRK Ussuriysk Ar. 44.72 6 **P 18 50 20.4 -0.7**
USRK Ussuriysk Ar. 44.72 6 P **P 18 50 21.5 +0.5**
comp=Z,15nm,0.5s,baz=186,slow=6.5,SNR=38
comp=Z,15nm,0.5s
MDJ Mudanjiang 44.92 4 IAmb IAmb 18 50 24.4
comp=Z,28nm,1.0s
MDJ Mudanjiang 44.92 4 P **P 18 50 23.3 +0.6**
MDJ PP **PP 18 52 11.3 +2.9**
MDJ S **S 18 56 59.3 +1.9**
MDJ pmax pmax
comp=Z,33nm,1.0s
MDJ LR LR
comp=Z,240nm,11.7s
MDJ LR LR
comp=Z,570nm,24.7s
MDJ Mudanjiang 44.92 4 P **P 18 50 23.1 +0.4**
MDJ pP **pwP 18 50 36.1 -1.6**
XLT XiLinHaoTe 44.94 350 *e*P **P 18 50 21.5 -1.5**
XLT pmax pmax
comp=Z,33nm,0.6s
XLT LR LR
comp=Z,230nm,21.6s
XLT LR LR
comp=Z,430nm,32.8s
DZM Mont Dzumac 45.02 121 *e*S **S 18 56 56.3 -3.4**
comp=Z,248nm,35.8s
DZM *e*SS **SS 19 00 25.3 +2.3**
comp=Z,150nm,26.2s
DZM *e*LR LR 19 03 05.5
comp=Z,1μm,34.5s
PALK Pallekele 45.68 280 LR LR 19 12 24.0
comp=Z,313nm,18.6s,baz=100,slow=40
BNX BinXian 45.94 2 ⇓P **P 18 50 30.6 -0.2**
BNX pmax pmax
comp=Z,17nm,1.1s
GTA Gaotai 46.22 332 P **P 18 50 33.3 0.0**
GTA PcP **PcP 18 52 09.3 +0.9**
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA LR LR
comp=Z,250nm,23.3s
GTA LR LR
comp=Z,220nm,21.4s
GTA LR LR
comp=Z,490nm,22.5s
GOMU GeErMu 46.44 325 P **P 18 50 34.6 -0.7**
GOMU S **S 18 57 19.4 -1.0**
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU LR LR
comp=Z,450nm,17.1s
GOMU LR LR
comp=Z,320nm,18.0s
GOMU LR LR
comp=Z,460nm,17.7s
ASAJ Asahikawa 46.75 17 P **P 18 50 38.0 +0.9**
comp=Z,8.0nm,0.4s,baz=234,slow=9.7,SNR=19
ASAJ LR LR 19 11 15.2
comp=Z,110nm,19.4s,baz=230,slow=37
comp=Z,8.0nm,0.4s
ASAJ Asahikawa 46.75 17 P **P 18 50 38.0 +0.9**
YSS Yuzhno-Sakhali 49.40 15 *e*P **P 18 50 57.7 +0.1**
YSS *e*S **S 18 58 03.4 +2.2**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=Z,200nm,15.0s
KLR Kul'dur 49.67 5 P **P 18 50 59.5 -0.1**
comp=Z,4.1nm,0.4s,baz=196,slow=6.3,SNR=20
comp=Z,4.1nm,0.4s
KLR Kul'dur 49.67 5*c iP* **P 18 50 59.5 -0.1**
KLR pmax pmax
comp=Z,22nm,1.4s
HYB Hyderabad 49.80 293 *e*P **P 18 51 00.4 -0.9**
HEH HeiHe 50.45 1 *e*P **P 18 51 05.0 -0.5**
HEH pmax pmax
comp=Z,38nm,0.9s
HEH LR LR
comp=Z,210nm,20.0s
HEH LR LR
comp=Z,78nm,23.2s
HEH LR LR
comp=Z,370nm,24.9s
ULN Ulaanbaatar 50.76 344 P **P 18 51 06.9 -1.2**
ULN IAmb IAmb 18 51 10.3
comp=Z,14nm,0.7s
ULN Ulaanbaatar 50.76 344*c iP* **P 18 51 08.1 0.0**
ULN pmax pmax
comp=Z,13nm,0.7s
ULN Ulaanbaatar 50.76 344 P **P 18 51 08.0 -0.1**
ULN pP **pP 18 51 20.5 +0.2**
SONM Songino Array 50.92 343 P **P 18 51 08.3 -0.9**
SONM Songino Array 50.92 343 P **P 18 51 09.5 +0.2**
comp=Z,13nm,0.8s,baz=161,slow=8.0,SNR=75
SONM PcP **PcP 18 52 25.8 +0.6**
comp=Z,1.1nm,0.5s,baz=166,slow=5.1,SNR=1.1
comp=Z,13nm,0.8s
CIT Chita 53.23 351 *e*P **P 18 51 27.4 +1.2**
CIT *e* 18 51 35.2
CIT *e* 18 51 42.0
CIT *e* 19 02 37.8
CIT pmax pmax
comp=Z,122nm,1.5s
ZEA Zeya 53.94 1 *e*P **P 18 51 31.4 +0.1**
ZEA *e* 18 51 38.4
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=Z,200nm,20.0s
ZAK Zakamensk 54.12 342 *e*P **P 18 51 32.5 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,0.9s
IRK Irkutsk 55.49 344 *e*P **P 18 51 41.3 -1.3**
IRK pmax pmax
comp=Z,50nm,2.0s
WMQ Urumqi 55.63 327 *e*P **P 18 51 46.0 +2.1**
WMQ pP pwP 18 51 58.3 -0.8
WMQ S **S 18 59 24.9 -1.7**
WMQ pmax pmax
comp=Z,34nm,0.7s
WMQ LR LR
comp=Z,350nm,21.9s
WMQ LR LR
comp=Z,440nm,24.3s
WMQ LR LR
comp=Z,440nm,23.9s
MOY Mondy 55.95 342 *e*P **P 18 51 46.6 +0.5**
MOY pmax pmax
comp=Z,27nm,2.1s
BOD Bodaibo 58.78 353 *e*P **P 18 52 05.9 +0.1**
BOD pmax pmax
comp=Z,51nm,1.2s
WUS Wushi 59.08 320 IAmb IAmb 18 52 10.2
comp=Z,15nm,1.1s
ODZ Otahua Downs 59.48 145 **P 18 52 11.8 +0.9**
ZSN Zaisan 59.51 329 *e*P **P 18 52 11.0 0.0**
ZSN pmax pmax
comp=Z,10.0nm,1.2s
ZSN Zaisan 59.51 329 *e*P **P 18 52 11.1 0.0**
comp=Z,9.7nm,1.2s
PEA0B Petropavlovsk- 59.54 22⇓*iP* **P 18 52 12.5 +1.4**
PETK Petropavlovsk- 59.54 22 P **P 18 52 11.3 +0.2**
PETK PcP **PcP 18 52 57.7 -0.4**
PETK Petropavlovsk- 59.54 22 P **P 18 52 12.0 +0.9**
comp=Z,14nm,0.9s,baz=175,slow=4.8,SNR=24
PETK PcP **PcP 18 52 58.4 +0.2**
comp=Z,3.2nm,0.8s,baz=200,slow=1.8,SNR=1.5
comp=Z,14nm,0.9s
TUWZ Tuamarina 59.56 140 P **P 18 52 11.7 +0.3**
NIL Nilore 59.81 310 P **P 18 52 12.2 -1.2**
NIL Nilore 59.81 310 P **P 18 52 12.2 -1.2**
NIL pmax pmax
comp=Z,7.0nm,0.7s
PET Petropavlovsk 59.83 22 *e*P P 18 52 07.8 -5.2
PET *e*S **S 19 00 17.9 -3.2**
PET pmax pmax
comp=Z,100nm,10.7s
PET pmax pmax
comp=Z,100nm,15.5s
PET pmax pmax
comp=Z,26nm,1.4s
PET MLR MLR
comp=Z,200nm,14.0s
PET MLR MLR
comp=Z,200nm,14.0s
SHLS Shalkode 59.99 322 *e*P **P 18 52 12.9 -1.6**
SHLS pmax pmax
comp=Z,4.0nm,0.5s
SHLS Shalkode 59.99 322 *e*P **P 18 52 13.0 -1.6**
comp=Z,4.5nm,0.5s
URZ Urewera 60.21 135 LR LR 19 20 48.5
comp=Z,174nm,18.7s,baz=29,slow=38
UZB Uzynbulak 60.25 322 *e*P **P 18 52 16.5 +0.1**
UZB Uzynbulak 60.25 322 *e*P **P 18 52 16.5 +0.1**
TARG Taragay, Kyrgy 60.27 320 IAmb IAmb 18 52 28.9
comp=Z,15nm,1.2s
KSH Kashi 60.38 317 P **P 18 52 18.3 +1.0**
KSH sP sP 18 52 35.1 +0.1
KSH PcP **PcP 18 53 04.1 +2.1**
KSH pmax pmax
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 60.46 327*c iP* **P 18 52 17.1 -0.5**
MKAR Makanchi Array 60.46 327 P **P 18 52 17.3 -0.3**
MKAR PcP **PcP 18 53 02.6 +0.6**
MKAR Makanchi Array 60.46 327 P **P 18 52 17.6 0.0**
comp=Z,16nm,0.4s,baz=120,slow=7.8,SNR=239
MKAR PcP **PcP 18 53 02.5 +0.4**
comp=Z,5.4nm,0.6s,baz=118,slow=4.6,SNR=4.7
MKAR LR LR 19 21 30.7
comp=Z,165nm,19.1s,baz=116,slow=39
comp=Z,16nm,0.4s
MKAR Makanchi Array 60.46 327 P **P 18 52 17.3 -0.3**
MKAR 18 53 02.6
SATY Saty 60.58 322 *e*P **P 18 52 18.7 +0.1**
SATY pmax pmax
comp=Z,7.0nm,0.5s
SATY Saty 60.58 322 *e*P **P 18 52 18.8 +0.1**
comp=Z,7.3nm,0.5s
ZHN Zhinishke 60.62 322 *e*P **P 18 52 18.9 0.0**
ZHN pmax pmax
comp=Z,8.0nm,1.0s
ZHN Zhinishke 60.62 322 *e*P **P 18 52 19.0 0.0**
comp=Z,7.5nm,1.0s
KPKS Kokpek 60.63 322 *e*P **P 18 52 19.0 +0.1**
KPKS pmax pmax
comp=Z,5.0nm,0.5s
KPKS Kokpek 60.63 322 *e*P **P 18 52 19.0 +0.1**
comp=Z,4.7nm,0.5s
MAKZ Makanchi 60.64 327 P **P 18 52 18.2 -0.6**
MAKZ IAmb IAmb 18 52 20.1
comp=Z,30nm,1.1s
MAKZ Makanchi 60.64 327 P **P 18 52 18.2 -0.6**
MAKZ pmax pmax
comp=Z,30nm,1.2s
MAKZ Makanchi 60.64 327 P **P 18 52 18.4 -0.4**
MAKZ PcP **PcP 18 53 02.6 -0.1**
TNSS Tian-Shan 61.48 321 *e*P **P 18 52 24.7 -0.3**
TNSS Tian-Shan 61.48 321 *e*P **P 18 52 24.8 -0.3**
MDOK Medeo 61.48 321 *e*P **P 18 52 24.7 0.0**
MDOK Medeo 61.48 321 *e*P **P 18 52 24.8 0.0**
AAA Alma-Ata 61.59 321 *e*P **P 18 52 25.6 +0.2**
AAA pmax pmax
comp=Z,11nm,0.7s
AAA Alma-Ata 61.59 321 *e*P **P 18 52 25.7 +0.2**
comp=Z,11nm,0.7s
TDK Taldyqorghan 61.63 324 *e*P **P 18 52 25.7 +0.1**
TDK pmax pmax
comp=Z,7.0nm,0.7s
TDK Taldyqorghan 61.63 324 *e*P **P 18 52 25.8 +0.1**
comp=Z,6.7nm,0.7s
TKM2 Tokmak 2 62.28 320 P **P 18 52 30.3 +0.1**
SNR=17
KUU Kurty 62.30 322 *e*P **P 18 52 30.3 +0.2**
KUU pmax pmax
comp=Z,13nm,0.6s
KUU Kurty 62.30 322 *e*P **P 18 52 30.4 +0.2**
comp=Z,13nm,0.6s
YAK Yakutsk 62.31 2 P **P 18 52 29.5 -0.2**
YAK Yakutsk 62.31 2*c iP* **P 18 52 29.7 0.0**
YAK *e**PP **pP 18 52 41.3 -1.0**
YAK *e* 18 53 08.9
YAK *e* 18 54 46.2
YAK *e*PPP PPP 18 56 12.8
YAK *e*S **S 19 00 53.7 +1.3**
YAK *e**SS **sS 19 01 12.9 -0.5**
YAK *e* 19 02 17.8
YAK *e*SS **SS 19 04 56.9 +0.3**
YAK pmax pmax
comp=Z,91nm,1.6s
YAK pmax pmax
comp=N,39nm,1.6s
YAK pmax pmax
comp=E,8.0nm,1.6s
YAK pmax pmax
comp=Z,114nm,7.6s
YAK pmax pmax
comp=N,119nm,8.3s
YAK pmax pmax
comp=E,119nm,6.9s
YAK smax smax
comp=E,96nm,4.7s
YAK smax smax
comp=N,20nm,3.5s
YAK Yakutsk 62.31 2 P **P 18 52 29.9 +0.1**
KBK Karagaybulak 62.57 320 P **P 18 52 32.8 +0.7**
SNR=8.1
AAK Ala-Archa 62.85 320 P **P 18 52 32.0 -1.9**
AAK PcP **PcP 18 53 12.5 +0.6**
AAK Ala-Archa 62.85 320 P **P 18 52 34.6 +0.6**
SNR=11
AAK Ala-Archa 62.85 320*c iP* **P 18 52 34.3 +0.3**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 62.85 320 P **P 18 52 34.3 +0.3**
AAK PcP **PcP 18 52 12.8 +0.8**
MA2 Magadan 62.87 14 P **P 18 52 34.6 +1.1**
MA2 Magadan 62.87 14 LR LR 19 24 07.8
comp=Z,40nm,18.2s,baz=212,slow=40
MA2 Magadan 62.87 14*c iP* **P 18 52 34.8 +1.3**
MA2 pmax pmax
comp=Z,78nm,0.7s
MA2 Magadan 62.87 14 P **P 18 52 34.1 +0.6**
comp=Z,892nmcomp=Z,121nm,0.8s
MA2 Magadan 62.87 14 P **P 18 52 34.7 +1.1**
MA2 sP **sP 18 52 52.4 +1.2**
MA2 PcP **PcP 18 53 12.3 +0.9**
AML Almayashu 63.14 319 P **P 18 52 36.9 +0.8**
SNR=21
USP Ospenovka 63.15 320 P **P 18 52 36.1 +0.3**
SNR=18
SGDS Sogindy 63.16 320 *e*P **P 18 52 35.8 -0.1**
SGDS Sogindy 63.16 320 *e*P **P 18 52 35.8 -0.1**
EKS2 Erkin-Say 63.33 319 P **P 18 52 37.5 +0.4**
SNR=18
KBL Kabul 63.38 309 P **P 18 52 36.0 -1.7**
KBL IAmb IAmb 18 52 40.8
comp=Z,13nm,0.8s
KBL Kabul 63.38 309 P **P 18 52 36.0 -1.7**
KBL pmax pmax

comp=Z,13nm,0.8s
ZAA0 **Zalesovo Array** 63.86 334 P P 18 52 38.7 -1.5
ZALV **Zalesovo Beam** 63.86 334 P P 18 52 39.0 -1.2
ZALV **Zalesovo Beam** 63.86 334 P P 18 52 39.5 -0.7
comp=Z,5.1nm,0.5s,baz=128,slow=5.2,SNR=28
ZALV LR LR 19 21 15.2
comp=Z,140nm,21.9s,baz=135,slow=37
comp=Z,5.1nm,0.5s
GAR **Garm** 64.10 314 P P 18 52 41.4 -0.8
KURBB **Kurchatov Arra** 64.74 329 P P 18 52 45.7 -0.3
comp=Z,13nm,0.6s,baz=135,slow=6.5,SNR=173
comp=Z,13nm,0.6s
KURK **Kurchatov** 64.75 329 P P 18 52 45.6 -0.5
KURK **Kurchatov** 64.75 329*c i*P P 18 52 45.7 -0.4
KURK pmax pmax
comp=Z,35nm,0.7s
KURK **Kurchatov** 64.75 329 P P 18 52 45.9 -0.1
KURK pP pP 18 52 59.0 +0.3
SIMJ **Simiganj** 64.91 314 P P 18 52 46.2 -1.4
SIMJ IAmb IAmb 18 52 48.4
comp=Z,16nm,1.1s
DZA **Taraz** 65.04 319 *e*P P 18 52 48.2 0.0
DZA **Taraz** 65.04 319 *e*P P 18 52 48.2 0.0
IUG **Iuzhnay** 65.59 317 *e*P P 18 52 51.9 +0.1
IUG pmax pmax
comp=Z,14nm,0.7s
IUG **Iuzhnay** 65.59 317 *e*P P 18 52 52.0 +0.1
comp=Z,14nm,0.7s
KK31 **Karatay Array** 65.67 319 P P 18 52 51.2 -1.0
KK31 **Karatay Array** 65.67 319 P P 18 52 51.2 -1.0
KK31 pmax pmax
comp=Z,13nm,1.0s
KKAR **Karatay Array** 65.67 319 P P 18 52 51.4 -0.8
KKAR **Karatay Array** 65.67 319 IAmb IAmb 18 52 53.4
comp=Z,13nm,1.0s
KKAR **Karatay Array** 65.67 319 P P 18 52 51.4 -0.8
BRLS **Borolday** 66.09 318 *e*P P 18 52 54.9 0.0
BRLS **Borolday** 66.09 318 *e*P P 18 52 55.0 0.0
SEY **Seymchan** 66.20 13 LR LR 19 24 56.7
comp=Z,49nm,19.3s,baz=194,slow=39
SEY **Seymchan** 66.20 13 ||*i*P P 18 52 56.8 +1.6
SEY pmax pmax
comp=Z,45nm,1.1s
SHEM **Shemya Is, Ala** 66.43 30 LR LR 19 17 40.3
comp=Z,79nm,21.2s,baz=105,slow=32
BRZS **Berezniki** 67.55 326 *e*P P 18 53 04.3 +0.2
BRZS **Berezniki** 67.55 326 *e*P P 18 53 04.4 +0.2
BVAR **Borovoye Array** 70.30 328 P P 18 53 21.1 +0.1
comp=Z,9.3nm,0.6s,baz=117,slow=7.0,SNR=56
BVAR LR LR 19 27 14.5
comp=Z,74nm,19.3s,baz=118,slow=38
comp=Z,9.3nm,0.6s
BRVK **Borovoye** 70.37 328 P P 18 53 21.5 0.0
BRVK IAmb IAmb 18 53 22.9
comp=Z,24nm,1.0s
BRVK **Borovoye** 70.37 328*c i*P P 18 53 21.6 +0.1
BRVK pmax pmax
comp=Z,35nm,1.3s
BRVK **Borovoye** 70.37 328 P P 18 53 21.6 +0.1
MSEY **Mahe Island** 70.42 265 P P 18 53 20.1 -2.6
MSEY IAmb IAmb 18 53 25.2
comp=Z,20nm,1.2s
MSEY **Mahe Island** 70.42 265 P P 18 53 20.1 -2.6
MSEY pmax pmax
comp=Z,20nm,1.2s
TIXI **Tiksi** 71.93 1 P P 18 53 29.6 -1.0
TIXI IAmb IAmb 18 53 31.3
comp=Z,49nm,1.4s
TIXI **Tiksi** 71.93 1 LR LR 19 27 09.2
comp=Z,106nm,21.0s,baz=186,slow=38
TIXI **Tiksi** 71.93 1 ||*i*P P 18 53 29.9 -0.7
TIXI pmax pmax
comp=Z,34nm,1.3s
TIXI **Tiksi** 71.93 1 P P 18 53 30.1 -0.4
TIXI pP pP 18 53 43.7 +0.3
BILL **Bilibino** 73.72 15 P P 18 53 40.8 -0.4
BILL **Bilibino** 73.72 15*c i*P P 18 53 40.9 -0.4
BILL pmax pmax
comp=Z,14nm,1.3s
NRIK **Noril'sk** 74.19 347 IAmb IAmb 18 53 45.1
comp=Z,20nm,0.6s
NRIK **Noril'sk** 74.19 347 P P 18 53 44.6 +0.6
comp=Z,14nm,0.5s,baz=129,slow=5.6,SNR=30
comp=Z,14nm,0.5s
AB31 **Akbulak array** 74.79 322 P P 18 53 47.9 +0.1
AB31 IAmb IAmb 18 53 49.2
comp=Z,25nm,0.8s
ABKAR **Akbulak array** 74.79 322 P P 18 53 47.8 -0.1
ABKAR **Akbulak array** 74.79 322 IAmb IAmb 18 53 49.2
comp=Z,26nm,0.8s
RAR **Rarotonga** 75.30 112 LR LR 19 26 45.5
comp=Z,43nm,21.8s,baz=274,slow=36
SVE **Sverdlovsk** 77.00 329*de*P P 18 54 00.6 +0.3
SVE pmax pmax
comp=Z,60nm,1.3s
UNV **Unalaska Valle** 77.28 34 P P 18 54 03.1 +1.2
baz=251
ARTI **Arti** 78.02 328 P P 18 54 05.3 -0.7
ARTI **Arti** 78.02 328*c i*P P 18 54 05.3 -0.7
ARTI *PP pwP 18 54 21.4 -0.4
ARTI S S 19 03 57.8 +1.6
ARTI pmax pmax
comp=Z,55nm,1.5s
GAMB **Gambell** 78.48 24 IAmb IAmb 18 54 10.7
comp=Z,21nm,0.8s
GAMB **Gambell** 78.48 24 P P 18 54 09.6 +1.3
baz=245,SNR=12
VNDA **Vanda** 79.49 173 P P 18 54 14.8 +1.1
comp=Z,2.5nm,0.8s,baz=7.8,slow=3.0,SNR=3.8
VNDA LR LR 19 29 15.6
comp=Z,105nm,19.6s,baz=337,slow=36
comp=Z,2.5nm,0.8s
MAW **Mawson** 79.63 200 LR LR 19 25 51.3
comp=Z,93nm,21.1s,baz=60,slow=33
S12K **Black Hills** 80.28 33 P P 18 54 19.4 +1.0
baz=255
TNA **Tin City** 80.68 23 P P 18 54 21.5 +1.2
baz=248
K13K **Kusilvak Mount** 80.79 27 IAmb IAmb 18 54 23.7
comp=Z,16nm,0.8s
K13K **Kusilvak Mount** 80.79 27 P P 18 54 22.9 +1.9
baz=252,SNR=8.4
M13K **Dall Lake** 80.93 28 P P 18 54 22.9 +1.2
baz=253
SDPT **Sand Point** 81.06 34 P P 18 54 23.1 +0.6
baz=256
F14K **Arctic Creek** 81.27 23 P P 18 54 25.2 +1.7
baz=250,SNR=5.3
RAYN **Ar Rayn** 81.31 294 P P 18 54 24.1 -0.5
RAYN IAmb IAmb 18 54 26.2
comp=Z,20nm,0.7s
RAYN **Ar Rayn** 81.31 294 P P 18 54 24.1 -0.5
RAYN pmax pmax
comp=Z,20nm,0.7s
ANM **Nome** 81.34 24 P P 18 54 25.5 +1.6
baz=250
AKT **Akhty** 81.36 312 *e*P P 18 54 24.1 -0.5
AKT *e**PP pwP 18 54 40.0 -0.5
AKT pmax pmax
comp=Z,35nm,0.8s
CHNA **Chernabura Isl** 81.44 34 P P 18 54 25.6 +1.1
baz=257
L14K **Kuka Creek** 81.51 28 IAmb IAmb 18 54 27.0
comp=Z,19nm,0.8s
L14K **Kuka Creek** 81.51 28 P P 18 54 26.4 +1.7
baz=253,SNR=6.9
J14K **Nanvaranak Lak** 81.53 26 IAmb IAmb 18 54 27.7
comp=Z,24nm,1.4s
J14K **Nanvaranak Lak** 81.53 26 P P 18 54 26.3 +1.5
baz=252,SNR=5.1
N14K **Kuskokwak Cree** 81.59 29 P P 18 54 26.5 +1.2
baz=254
O14K **Tigyukauivet M** 81.62 30 P P 18 54 26.5 +1.1
baz=255
M14K **Bethel** 81.68 28 IAmb IAmb 18 54 30.0
comp=Z,22nm,0.9s
M14K **Bethel** 81.68 28 P P 18 54 27.4 +1.7
baz=254,SNR=5.3
F15K **North Star Dit** 82.01 23 P P 18 54 28.0 +0.6
F15K IAmb IAmb 18 54 30.3
comp=Z,16nm,0.8s
F15K **North Star Dit** 82.01 23 P P 18 54 29.1 +1.7
baz=251,SNR=16
G15K **Niukluk** 82.02 24 P P 18 54 28.6 +1.1
baz=252,SNR=14
L15K **Ungalak Mounta** 82.15 27 P P 18 54 29.5 +1.3
baz=254
M15K **Kasigluk River** 82.27 28 P P 18 54 30.0 +1.2
baz=255
K15K **Wolf Creek Mou** 82.30 27 IAmb IAmb 18 54 32.0
comp=Z,23nm,0.9s
K15K **Wolf Creek Mou** 82.30 27 P P 18 54 30.9 +2.0
baz=254,SNR=9.0
O15K **Ungalikthiuk R** 82.32 30 P P 18 54 30.6 +1.5
baz=256
N15K **Kwethluk River** 82.43 29 P P 18 54 31.3 +1.6
baz=256
C16K **Lisburne Hills** 82.61 20 P P 18 54 32.0 +1.6
baz=250,SNR=17
H16K **Elim** 82.65 24 P P 18 54 32.3 +1.6
baz=253,SNR=30
G16K **Koyuk River** 82.82 24 P P 18 54 33.4 +1.8
baz=253,SNR=47
J16K **Anvik River** 82.97 26 P P 18 54 33.4 +1.0
J16K **Anvik River** 82.97 26 P P 18 54 34.6 +2.1
baz=255,SNR=28
I17K **Unalakleet** 83.09 25 P P 18 54 35.2 +2.2
baz=255
L16K **Owhat River** 83.09 28 P P 18 54 34.7 +1.6
baz=256,SNR=11
BELG **Belogornoye** 83.12 323 LR LR 19 35 35.6
comp=Z,67nm,18.3s,baz=87,slow=39
BELG **Belogornoye** 83.12 323*c i*P P 18 54 33.4 0.0
BELG pmax pmax
comp=Z,10.0nm,0.8s
R16K **Pilot Point** 83.12 32 P P 18 54 35.0 +1.7
baz=258
N16K **Nishlik Lake** 83.14 29 P P 18 54 35.0 +1.7
baz=257
M16K **Timber Creek** 83.17 28 IAmb IAmb 18 54 35.7
comp=Z,18nm,0.8s
M16K **Timber Creek** 83.17 28 P P 18 54 35.1 +1.6
baz=257,SNR=5.9
P16K **Nushagak River** 83.21 30 P P 18 54 36.0 +2.3
baz=258
D17K **Noatak River** 83.23 21 P P 18 54 35.9 +2.2
baz=252,SNR=52
ATD **Arta Tunnel** 83.23 282 IAmb IAmb 18 54 39.3
comp=Z,14nm,0.9s
KIRV **Kirov** 83.27 329 LR LR 19 34 33.3
comp=Z,53nm,20.4s,baz=87,slow=38
KIRV **Kirov** 83.27 329*c i*P P 18 54 34.0 0.0
O16K **Kokwok River B** 83.28 30 P P 18 54 35.4 +1.4
baz=258
RDOG **Red Dog Mine** 83.40 21 P P 18 54 36.4 +1.9
baz=252,SNR=7.3
GNI **Garni** 83.45 310 ||*i*P P 18 54 37.4 +1.8
GNI pmax pmax
comp=Z,23nm,1.4s
E17K **Hotham Inlet** 83.51 22 P P 18 54 37.0 +1.9
baz=254,SNR=39
G17K **Kiwalik Mounta** 83.53 24 P P 18 54 37.1 +1.9
baz=255,SNR=63
F17K **Baldwin Pennin** 83.55 23 IAmb IAmb 18 54 38.1
comp=Z,17nm,0.8s
F17K **Baldwin Pennin** 83.55 23 P P 18 54 37.1 +1.8
baz=254,SNR=16
J17K **VABM Dome** 83.67 26 P P 18 54 38.0 +1.9
baz=256,SNR=20
H17K **Granite Mounta** 83.69 24 P P 18 54 37.3 +1.2
H17K **Granite Mounta** 83.69 24 P P 18 54 38.0 +1.9
baz=256,SNR=25
L17K **Donlin** 83.73 27 P P 18 54 38.3 +2.0
baz=257,SNR=8.8
O17K **Koliganek Bris** 83.81 30 P P 18 54 38.5 +1.7
baz=258,SNR=5.9
K17K **Iditarod** 83.86 27 P P 18 54 38.9 +1.9
baz=257,SNR=16
N17K **Nushagak Hills** 83.91 29 P P 18 54 39.5 +2.1
baz=258
M17K **Holitna River** 83.97 28 IAmb IAmb 18 54 40.6
comp=Z,24nm,1.0s
M17K **Holitna River** 83.97 28 P P 18 54 39.6 +2.0
baz=258
P17K **Kvichak River** 84.03 30 P P 18 54 39.6 +1.7
baz=259
E18K **Tukpahlearik C** 84.06 22 P P 18 54 40.0 +2.1
baz=255
B18K **Kokolik River** 84.17 20 P P 18 54 40.5 +2.1
baz=253,SNR=15
C18K **Utukok River** 84.18 21 P P 18 54 40.3 +1.6
baz=254,SNR=36
F18K **Selawik** 84.21 23 P P 18 54 40.2 +1.5
baz=256,SNR=7.3
H18K **Honhosa River** 84.38 24 P P 18 54 41.1 +1.5
baz=257
ACHA **Angle Creek He** 84.42 31 IAmb IAmb 18 54 42.5
comp=Z,20nm,1.1s
G18K **Tagagawik** 84.43 24 P P 18 54 40.4 +0.5
G18K **Tagagawik** 84.43 24 P P 18 54 41.3 +1.4
baz=256,SNR=8.7
L18K **Granite Mounta** 84.49 27 IAmb IAmb 18 54 43.0
comp=Z,18nm,0.8s
L18K **Granite Mounta** 84.49 27 P P 18 54 42.1 +1.9
baz=259,SNR=11
N18K **Kilae Creek** 84.57 29 IAmb IAmb 18 54 45.3
comp=Z,14nm,1.0s
N18K **Kilae Creek** 84.57 29 P P 18 54 42.4 +1.7
baz=260
NCK **Nalchik** 84.64 314 ||*e*P P 18 54 42.5 +1.1
NCK pmax pmax
comp=Z,36nm,1.3s
A19K **Wainwright** 84.66 19 P P 18 54 43.1 +2.3
baz=254
Q18K **Katmai Hardscr** 84.66 31 P P 18 54 43.0 +1.7
baz=260
P18K **Big Mountain,** 84.67 30 P P 18 54 42.8 +1.5
baz=260
PPT **Papeete** 84.70 107 LR LR 19 33 53.9
comp=Z,60nm,18.1s,baz=268,slow=37
PPT2 **Papeete2** 84.70 108 *e*S SKSac 19 05 03.0 -0.4
comp=Z,46nm,26.5s
PPT2 *e*SS SS 19 10 37.4 -2.2
comp=Z,170nm,25.8s
PPT2 *e*LQ LQ 19 17 51.0
comp=Z,432nm,28.5s
PPT2 *e*LR LR 19 21 20.2
comp=Z,403nm,27.5s
PPT2 *e*LR LR 19 21 29.2
comp=Z,234nm,27.5s
J18K **Innoko River** 84.72 26 IAmb IAmb 18 55 41.4
comp=Z,42nm,1.9s
J18K **Innoko River** 84.72 26 P P 18 54 42.9 +1.5
baz=258,SNR=7.7
M18K **Stony River** 84.75 28 P P 18 54 43.2 +1.6
baz=260,SNR=7.5
O18K **Koktuli Hills** 84.76 30 P P 18 54 43.0 +1.3
baz=260
R18K **Karluk** 84.78 32 P P 18 54 42.0 +0.2
baz=261
GCSA **Galena City Sc** 84.91 25 P P 18 54 43.4 +1.2
baz=258
TBI **Tubuai** 84.96 113 *e*LQ LQ 19 18 00.6
comp=Z,1μm,28.8s
TBI *e*LR LR 19 21 35.7
comp=Z,1μm,26.2s
TBI *e*LR LR 19 21 38.7
comp=Z,1μm,28.8s
G19K **Purcell Mounta** 85.11 23 P P 18 54 44.6 +1.4
baz=258,SNR=36
KBZ **Khabaz** 85.16 314 P P 18 54 44.9 +0.9
comp=Z,7.0nm,0.7s,baz=109,slow=3.0,SNR=26
comp=Z,7.0nm,0.7s
GOF **Gofitskoye** 85.18 315*ce*P P 18 54 44.6 +0.5
D19K **Kuna River** 85.24 21 P P 18 54 45.3 +1.4
baz=257
H19K **Roundabout Mou** 85.24 24 P P 18 54 45.3 +1.4
baz=259,SNR=20
N19K **Bonanza Creek** 85.28 29 P P 18 54 44.4 0.0
N19K IAmb IAmb 18 54 46.9
comp=Z,18nm,0.9s
N19K **Bonanza Creek** 85.28 29 P P 18 54 45.6 +1.3
baz=261,SNR=7.3
J19K **Poorman** 85.30 26 P P 18 54 45.4 +1.1
baz=260,SNR=6.8
L19K **White Mountain** 85.33 28 P P 18 54 45.7 +1.3
baz=260
KVAR **Kislovodsk Arr** 85.33 314 LR LR 19 37 42.2
comp=Z,21nm,19.8s,baz=232,slow=39
E19K **Redstone River** 85.33 22 P P 18 54 45.7 +1.3
baz=258
KIV **Kislovodsk** 85.34 314 P P 18 54 44.0 -1.1
KIV **Kislovodsk** 85.34 314 *e*P P 18 54 45.4 +0.4
KIV *e* 19 05 05.0
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,46nm,20.0s
KIV **Kislovodsk** 85.34 314 P P 18 54 46.0 +1.0
comp=Z,11nm,1.2s
KIV pP pP 18 54 58.4 +0.3
comp=Z,11nm,1.2s
SHA1 **Shidzhatmaz** 85.34 314*c i*P P 18 54 45.5 +0.3
OHAK **Old Harbor** 85.35 33 P P 18 54 45.7 +1.1
baz=262
Q19K **Cape Douglas,** 85.41 31 P P 18 54 46.1 +1.2
baz=262
M19K **Big River Lodg** 85.49 28 P P 18 54 46.8 +1.5
baz=261
P19K **Oil Pt** 85.72 30 P P 18 54 47.2 +0.7
baz=262
KDAK **Kodiak Island** 85.80 32 P P 18 54 47.8 +1.0
baz=263
L20K **Farewell, AK** 85.82 27 P P 18 54 48.0 +1.0
baz=261
D20K **Etivluk River** 85.82 21 P P 18 54 48.0 +1.2
baz=258
F20K **Avaraart Lake** 85.83 23 P P 18 54 48.1 +1.3
baz=259,SNR=9.4
K20K **Telida** 85.87 26 P P 18 54 48.4 +1.3
baz=261
H20K **Anotleneega Mo** 85.88 24 P P 18 54 48.0 +0.8
baz=260,SNR=7.2
E20K **Nigu River** 85.88 21 P P 18 54 48.3 +1.2
baz=259
B20K **Meade River** 85.91 20 P P 18 54 48.4 +1.3
baz=258
I20K **Naaghedeneel** 85.93 25 P P 18 54 48.6 +1.3
baz=260
J20K **Nowinta River** 85.97 26 IAmb IAmb 18 54 49.5
comp=Z,28nm,1.9s
J20K **Nowinta River** 85.97 26 P P 18 54 48.7 +1.2
baz=261,SNR=6.6
M20K **Styx River** 86.08 28 P P 18 54 49.3 +1.0
baz=262
SPCR **Spurr Chakacha** 86.43 29 P P 18 54 51.0 +1.0
baz=263
C21K **Knifeblade Rid** 86.56 21 P P 18 54 51.5 +1.1
baz=260
G21K **Allakaket** 86.60 23 P P 18 54 51.4 +0.7
baz=261
VRH **Novokhopyorsk** 86.61 321 *e*P P 18 54 49.2 -1.8
VRH pmax pmax
comp=Z,20nm,1.0s
B21K **Ikpikpuk River** 86.70 20 P P 18 54 51.7 +0.6
B21K IAmb IAmb 18 54 55.0
comp=Z,9.9nm,0.7s
B21K **Ikpikpuk River** 86.70 20 P P 18 54 52.0 +1.0
baz=260,SNR=8.0
F21K **Alatna River** 86.72 23 P P 18 54 51.9 +0.7
baz=261,SNR=7.3
CHUM **Lake Minchumin** 86.72 26 P P 18 54 52.1 +0.8
baz=262
E21K **Killik River** 86.73 21 P P 18 54 52.2 +0.9
baz=261
H21K **Melozitna Rive** 86.76 24 P P 18 54 52.3 +0.9
baz=262,SNR=6.1
CAST **Castle Rocks** 86.77 27 IAmb IAmb 18 54 58.3
comp=Z,34nm,2.0s
CAST **Castle Rocks** 86.77 27 P P 18 54 52.4 +0.8
baz=263
LABN **Labinsk** 86.79 315 *e*P P 18 54 49.1 -3.0
LABN *e**PP pP 18 55 03.6 -1.6
LABN *e*S SKSac 19 05 10.8 -4.5
LABN pmax pmax
comp=Z,14nm,0.6s
A22K **Sinclair Lake** 86.82 19 P P 18 54 53.0 +1.4
baz=260,SNR=5.7
SKT **Skwentna** 86.84 28 IAmb IAmb 18 56 32.9
comp=Z,21nm,1.7s
SKT **Skwentna** 86.84 28 P P 18 54 52.1 +0.1
baz=263
BRSE **Bradley Lake S** 86.98 30 P P 18 54 53.3 +0.6
baz=264
ERBR **Yeremizino-Bor** 87.03 316 *e*P P 18 54 51.9 -1.3
ERBR *e**PP pP 18 55 04.0 -2.4
ERBR *e*S SKSac 19 05 14.4 -2.3
ERBR pmax pmax
comp=Z,25nm,0.9s
I21K **Tanana** 87.03 25 P P 18 54 53.5 +0.8
baz=263,SNR=5.4
SUA **Susitna One** 87.16 29 IAmb IAmb 18 54 54.1
comp=Z,9.1nm,0.8s
SUA **Susitna One** 87.16 29 P P 18 54 53.4 -0.2
baz=264
B22K **Teshekpuk Lake** 87.22 20 IAmb IAmb 18 54 57.3
comp=Z,13nm,0.8s
B22K **Teshekpuk Lake** 87.22 20 P P 18 54 54.4 +0.8
baz=261,SNR=7.1
F22K **John River** 87.26 22 P P 18 54 55.1 +1.3
baz=262,SNR=18
D22K **Ayikyak River** 87.26 21 P P 18 54 54.5 +0.7
D22K IAmb IAmb 18 55 00.1
comp=Z,21nm,1.8s
D22K **Ayikyak River** 87.26 21 P P 18 54 55.0 +1.1
baz=262
BPAW **Bear Paw Mtn.** 87.33 26 P P 18 54 55.1 +0.8
baz=264
H22K **Ishtalitna Cre** 87.37 24 P P 18 54 55.5 +1.1
baz=263
G22K **Bettles** 87.44 23 P P 18 54 55.2 +0.5
baz=263
SOC **Sochi** 87.46 313 *e*P P 18 54 54.0 -1.3
SOC *e* 18 58 17.7
SOC *e*S SKSac 19 05 16.9 -2.5
SOC *e*SS SS 19 11 16.2 -2.6
SOC *e*SSS SSS 19 14 49.5
SOC pmax pmax
comp=Z,10.0nm,0.8s
SOC MLR MLR
comp=Z,84nm,19.0s
E22K **Anaktuvuk Pass** 87.48 22 IAmb IAmb 18 54 56.8
comp=Z,24nm,1.3s
E22K **Anaktuvuk Pass** 87.48 22 P P 18 54 56.0 +1.1
baz=263,SNR=16
M22K **Willow** 87.48 28 P P 18 54 56.1 +1.1
baz=264
TRF **Thorofare Moun** 87.57 27 P P 18 54 56.2 +0.6
baz=264
RC01 **Rabbit Creek A** 87.61 29 P P 18 54 56.4 +0.7
baz=265
SEW **Seward** 87.66 30 P P 18 54 56.7 +0.8
baz=265
COLD **Coldfoot** 87.99 23 IAmb IAmb 18 54 59.2
comp=Z,11nm,0.7s
COLD **Coldfoot** 87.99 23 P P 18 54 58.3 +1.0
baz=264,SNR=16
D23K **Nanushuk River** 87.99 21 IAmb IAmb 18 55 01.4
comp=Z,10nm,1.0s
D23K **Nanushuk River** 87.99 21 P P 18 54 58.5 +1.2
baz=264,SNR=9.0
G23K **Bananza Creek** 88.00 23 IAmb IAmb 18 54 59.5
comp=Z,13nm,1.1s
G23K **Bananza Creek** 88.00 23 P P 18 54 58.4 +0.9
baz=264,SNR=13
C23K **Itkillik River** 88.11 20 IAmb IAmb 18 55 00.2
comp=Z,15nm,1.1s
C23K **Itkillik River** 88.11 20 P P 18 54 58.5 +0.7
baz=264,SNR=15
H23K **Yukon River** 88.12 24 IAmb IAmb 18 54 59.6
comp=Z,6.5nm,0.7s
H23K **Yukon River** 88.12 24 P P 18 54 58.5 +0.5
baz=265
VORD **Divnogorie** 88.12 321 *e*P P 18 54 55.0 -3.3
VORD pmax pmax
comp=Z,10.0nm,0.8s
I23K **Minto, Yukon-K** 88.13 25 IAmb IAmb 18 55 01.2
comp=Z,9.3nm,0.8s
I23K **Minto, Yukon-K** 88.13 25 P P 18 54 58.5 +0.5
baz=265,SNR=13
MCK **McKinley** 88.20 26 P P 18 54 58.8 +0.4
baz=266
VORR **Voronezh** 88.21 322 *e*P P 18 54 56.9 -1.8
VORR pmax pmax
comp=Z,10.0nm,0.8s
NEA2 **Nenana** 88.21 25 P P 18 54 59.1 +0.7
baz=265
RND **Reindeer** 88.21 27 P P 18 54 57.9 -0.7
RND IAmb IAmb 18 54 58.7
comp=Z,9.6nm,0.9s
RND **Reindeer** 88.21 27 P P 18 54 57.9 -0.7

RND				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VSR	**Storozhevoye**	**88.21**	**321**	*e*P	**P**	**18 54 56.2**	**-2.5**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KNK	**Knik Glacier**	**88.25**	**29**	P	**P**	**18 54 59.0**	**+0.3**
	baz=266						
PWL	**Port Wells**	**88.27**	**29**	P	**P**	**18 54 58.9**	**+0.1**
	baz=266						
E23K	**Chandalar**	**88.29**	**22**	P	**P**	**18 54 59.9**	**+1.1**
	baz=265,SNR=22						
SYO	**Syowa Base**	**88.31**	**201⇑**	*e*P	**P**	**18 55 00.5**	**+1.7**
SML	**Sawmill**	**88.34**	**28**	P	**P**	**18 54 59.2**	**+0.1**
	baz=266						
TOLK	**Toolik Lake Re**	**88.36**	**21**	IAmb	IAmb	18 55 00.9	
	comp=Z,9.7nm,0.9s						
TOLK	**Toolik Lake Re**	**88.36**	**21**	P	**P**	**18 55 00.1**	**+1.0**
	baz=265,SNR=9.6						
LPSR	**Galich'ya Gora**	**88.43**	**322**	*e*P	**P**	**18 54 58.8**	**-0.9**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLMR	**Klimovskoe**	**88.54**	**331**	*e*P	**P**	**18 54 56.4**	**-3.6**
KLMR				pmax	pmax		
	comp=Z,23nm,1.4s						
KMBO	**Kilima Mbogo**	**88.60**	**269**		**P**	**18 54 59.2**	**-2.5**
KMBO				IAmb	IAmb	18 55 07.2	
	comp=Z,9.1nm,1.1s						
KMBO	**Kilima Mbogo**	**88.60**	**269**	P	**P**	**18 54 59.2**	**-2.5**
KMBO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
M23K	**Glacier View**	**88.62**	**28**	P	**P**	**18 55 00.8**	**+0.3**
	baz=267						
D24K	**Happy Valley**	**88.67**	**21**	P	**P**	**18 55 01.5**	**+1.0**
	baz=265						
P23K	**Montague Islan**	**88.68**	**30**	P	**P**	**18 55 01.2**	**+0.5**
	baz=267						
E24K	**Your Creek**	**88.71**	**22**	IAmb	IAmb	18 55 02.7	
	comp=Z,15nm,1.6s						
E24K	**Your Creek**	**88.71**	**22**	P	**P**	**18 55 01.6**	**+0.8**
	baz=266						
COLA	**College**	**88.75**	**25⇓**	*e*P	**P**	**18 55 00.4**	**-0.5**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
COLA	**College**	**88.75**	**25**	P	**P**	**18 55 01.7**	**+0.8**
	baz=266						
CCB	**Clear Creek Bu**	**88.76**	**25**	IAmb	IAmb	18 55 01.1	
	comp=Z,6.7nm,0.8s						
C24K	**Franklin Bluff**	**88.76**	**20**	IAmb	IAmb	18 55 02.0	
	comp=Z,6.3nm,0.7s						
C24K	**Franklin Bluff**	**88.76**	**20**	P	**P**	**18 55 01.5**	**+0.6**
	baz=266						
H24K	**Noodor Dome**	**88.80**	**24**	P	**P**	**18 55 01.9**	**+0.6**
	baz=266,SNR=7.5						
SCM	**Sheep Creek Mo**	**88.81**	**28**	P	**P**	**18 55 02.0**	**+0.6**
	baz=267						
F24K	**Squaw Lake**	**88.90**	**23**	P	**P**	**18 55 02.3**	**+0.6**
F24K				IAmb	IAmb	18 55 03.7	
	comp=Z,9.2nm,1.1s						
F24K	**Squaw Lake**	**88.90**	**23**	P	**P**	**18 55 02.5**	**+0.8**
	baz=266,SNR=8.8						
POKR	**Poker Plat Res**	**88.94**	**25**	P	**P**	**18 55 02.5**	**+0.7**
	baz=267						
G24K	**Hadweenzic Riv**	**89.01**	**23**	P	**P**	**18 55 03.0**	**+0.8**
	baz=267,SNR=6.0						
HDA	**Harding Lake**	**89.11**	**26**	IAmb	IAmb	18 55 02.8	
	comp=Z,10nm,1.0s						
HDA	**Harding Lake**	**89.11**	**26**	P	**P**	**18 55 01.6**	**-1.1**
	baz=267,SNR=6.3						
ANN	**Anapa**	**89.14**	**315**	*e*P	**P**	**18 54 59.7**	**-3.5**
ANN				*e**PP	**pP**	**18 55 15.5**	**-0.9**
ANN				*e*		18 58 32.3	
ANN				*e*S	**SKSac**	**19 05 24.3**	**-5.1**
ANN				pmax	pmax		
	comp=Z,23nm,1.1s						
ILAR	**Eielson Array**	**89.16**	**25**	P	**P**	**18 55 01.2**	**-1.6**
ILAR	**Eielson Array**	**89.16**	**25**	P	**P**	**18 55 01.4**	**-1.4**
	comp=Z,2.1nm,0.5s,baz=246,slow=5.0,SNR=35						
	comp=Z,2.1nm,0.5s						
MOS	**Moscow**	**89.31**	**326**	*e*P	**P**	**18 55 02.6**	**-1.2**
ASF	**Jabal al Asfar**	**89.32**	**302**	LR	LR	19 40 35.1	
	comp=Z,51nm,21.2s,baz=150,slow=39						
M24K	**Tolsona, Glenn**	**89.37**	**28**	P	**P**	**18 55 04.6**	**+0.6**
	baz=268						
KLU	**Klutina**	**89.47**	**29**	P	**P**	**18 55 04.7**	**+0.2**
	baz=268						
EYAK	**Cordova Ski Ar**	**89.53**	**30**	P	**P**	**18 55 04.9**	**+0.2**
	baz=268						
D25K	**Kavik River**	**89.55**	**21**	IAmb	IAmb	18 55 05.6	
	comp=Z,5.7nm,0.6s						
D25K	**Kavik River**	**89.55**	**21**	P	**P**	**18 55 05.0**	**+0.3**
	baz=268,SNR=11						
QSPA	**South Pole Qui**	**89.56**	**180**	P	**P**	**18 55 06.0**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=144,slow=1.4,SNR=15						
	comp=Z,1.9nm,0.7s						
K24K	**Donnelly Dome**	**89.61**	**26**	IAmb	IAmb	18 55 05.6	
	comp=Z,9.4nm,0.8s						
K24K	**Donnelly Dome**	**89.61**	**26**	P	**P**	**18 55 04.9**	**-0.2**
	baz=268						
PAX	**Paxson**	**89.72**	**27**	P	**P**	**18 55 06.1**	**+0.4**
	baz=269,SNR=5.2						
PRP	**Porcupine Dome**	**89.76**	**25**	P	**P**	**18 55 05.8**	**-0.1**
	baz=269						
F25K	**Christian Rive**	**89.77**	**23**	P	**P**	**18 55 06.5**	**+0.8**
	baz=268,SNR=6.5						
J25K	**Salcha River,**	**89.80**	**26**	P	**P**	**18 55 04.9**	**-1.1**
	baz=269,SNR=6.3						
E25K	**Arctic Village**	**89.81**	**22**	IAmb	IAmb	18 55 07.9	
	comp=Z,7.2nm,0.8s						
E25K	**Arctic Village**	**89.81**	**22**	P	**P**	**18 55 07.0**	**+1.0**
	baz=268,SNR=11						
HARP	**HAARP**	**89.85**	**28**	P	**P**	**18 55 06.5**	**+0.3**
	baz=269						
OBN	**Obninsk**	**89.90**	**325***c*	*i*P	**P**	**18 55 05.9**	**-0.6**
OBN				*e**PP	**pwP**	**18 55 22.5**	**0.0**
OBN				*e*		18 58 38.9	
OBN				*e*PPP	PPP	19 00 35.4	
OBN				pmax	pmax		
	comp=Z,35nm,1.5s						
OBN				MLR	MLR		
	comp=Z,200nm,23.0s						
RIDG	**Independent Ri**	**90.02**	**26**	IAmb	IAmb	18 55 07.7	
	comp=Z,11nm,0.7s						
RIDG	**Independent Ri**	**90.02**	**26**	P	**P**	**18 55 07.2**	**+0.1**
	baz=269,SNR=8.8						
C26K	**Camden Bay**	**90.08**	**20**	P	**P**	**18 55 08.3**	**+1.2**
	baz=269,SNR=7.2						
BMRM	**Bremner River**	**90.10**	**29**	P	**P**	**18 55 08.2**	**+0.8**
	baz=269						
N25K	**Chitina, Valde**	**90.11**	**29**	P	**P**	**18 55 07.9**	**+0.4**
	baz=269						
BMAR	**Burnt Mountain**	**90.17**	**23**	P	**P**	**18 55 08.7**	**+1.1**
F26K	**Sheenjek River**	**90.34**	**22**	P	**P**	**18 55 09.2**	**+0.7**
	baz=270						
DOT	**Dot Lake**	**90.37**	**27**	IAmb	IAmb	18 55 09.5	
	comp=Z,6.7nm,0.7s						
SCRK	**Sand Creek**	**90.40**	**26**	IAmb	IAmb	18 57 23.4	
	comp=Z,14nm,1.7s						
SCRK	**Sand Creek**	**90.40**	**26**	P	**P**	**18 55 09.4**	**+0.5**
	baz=270						
G26K	**Porcupine Rive**	**90.48**	**23**	IAmb	IAmb	18 55 11.9	
	comp=Z,9.8nm,1.4s						
G26K	**Porcupine Rive**	**90.48**	**23**	P	**P**	**18 55 09.9**	**+0.9**
	baz=270						
C27K	**Jago River**	**90.50**	**20**	P	**P**	**18 55 10.2**	**+1.1**
	baz=270,SNR=23						
J26L	**Joseph Creek**	**90.58**	**26**	IAmb	IAmb	18 55 10.6	
	comp=Z,7.2nm,0.7s						
J26L	**Joseph Creek**	**90.58**	**26**	P	**P**	**18 55 09.8**	**+0.1**
	baz=270,SNR=12						
MMAI	**Mount Meron Ar**	**90.59**	**303**	P	**P**	**18 55 11.1**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=75,slow=13,SNR=3.6						
MMAI				LR	LR	19 42 35.1	
	comp=Z,40nm,20.4s,baz=82,slow=40						
	comp=Z,1.7nm,0.5s						
I26K	**Coal Creek Min**	**90.75**	**25**	P	**P**	**18 55 11.0**	**+0.7**
	baz=271						
M26K	**Nabesna, AK**	**90.86**	**28**	P	**P**	**18 55 11.7**	**+0.7**
	baz=271						
K27K	**Chicken**	**91.24**	**26**	P	**P**	**18 55 14.0**	**+1.4**
	baz=272						
E27K	**Coleen River**	**91.30**	**22**	P	**P**	**18 55 13.4**	**+0.5**
E27K				IAmb	IAmb	18 55 14.8	
	comp=Z,14nm,1.4s						
E27K	**Coleen River**	**91.30**	**22**	P	**P**	**18 55 13.8**	**+0.9**
	baz=272,SNR=12						
G27K	**Doyon Strip**	**91.32**	**23**	P	**P**	**18 55 14.0**	**+1.0**
	baz=272						
M27K	**Edge Creek, AK**	**91.38**	**28**	P	**P**	**18 55 14.2**	**+0.7**
	baz=272						
L27K	**Beaver Creek,**	**91.38**	**27**	IAmb	IAmb	18 55 15.2	
	comp=Z,6.3nm,0.8s						
L27K	**Beaver Creek,**	**91.38**	**27**	P	**P**	**18 55 14.3**	**+0.9**
	baz=272,SNR=5.5						
I27K	**Kandik River**	**91.39**	**25**	P	**P**	**18 55 14.4**	**+1.0**
	baz=272,SNR=14						
H27K	**Steamboat Moun**	**91.40**	**24**	IAmb	IAmb	18 55 15.9	
	comp=Z,20nm,1.6s						
H27K	**Steamboat Moun**	**91.40**	**24**	P	**P**	**18 55 14.5**	**+1.1**
	baz=272,SNR=6.9						
BCAR	**Beaver Creek A**	**91.40**	**27**	P	**P**	**18 55 14.1**	**+0.6**
D27M	**Malcolm River**	**91.48**	**21**	P	**P**	**18 55 14.6**	**+0.9**
	baz=273,SNR=6.9						
SIM	**Simferopol'**	**91.50**	**315**	*e*P	**P**	**18 55 15.9**	**+1.6**
SIM				pmax	pmax		
	comp=Z,12nm,0.9s						
BVCY	**Beaver Creek**	**91.85**	**28**	P	**P**	**18 55 16.6**	**+1.0**
	baz=273						
BR131	**Keskin Array S**	**91.95**	**310⇑**	*e*P	**P**	**18 55 15.7**	**-1.0**
BRTR	**Keskin Array B**	**91.95**	**310**	P	**P**	**18 55 14.8**	**-1.9**
BRTR	**Keskin Array B**	**91.95**	**310**	P	**P**	**18 55 16.0**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=93,slow=5.1,SNR=9.2						
	comp=Z,2.5nm,0.9s						
BR106	**Keskin Array S**	**91.97**	**310**	P	**P**	**18 55 16.1**	**-0.6**
	comp=Z,3.1nm,0.8s						
BR105	**Keskin Array S**	**91.97**	**310**	P	**P**	**18 55 16.3**	**-0.4**
	comp=Z,3.9nm,0.9s						
E28M	**Babbage River**	**92.03**	**21**	IAmb	IAmb	18 55 18.1	
	comp=Z,17nm,1.4s						
E28M	**Babbage River**	**92.03**	**21**	P	**P**	**18 55 17.1**	**+0.9**
	baz=274,SNR=13						
YUK3	**Moose Creek**	**92.08**	**28**	P	**P**	**18 55 17.5**	**+0.7**
	baz=273						
I28M	**Miner Creek**	**92.09**	**25**	IAmb	IAmb	18 55 18.4	
	comp=Z,6.2nm,0.8s						
I28M	**Miner Creek**	**92.09**	**25**	P	**P**	**18 55 17.6**	**+1.0**
	baz=274,SNR=10						
O28M	**Mount Upton**	**92.26**	**29**	P	**P**	**18 55 18.0**	**+0.2**
	baz=273						
D28M	**Stokes Point**	**92.26**	**21**	P	**P**	**18 55 18.1**	**+0.9**
	baz=275						
DAWY	**Dawson**	**92.42**	**26**	IAmb	IAmb	18 55 19.8	
	comp=Z,12nm,1.2s						
DAWY	**Dawson**	**92.42**	**26**	P	**P**	**18 55 18.8**	**+0.6**
	baz=274,SNR=5.7						
E29M	**Blow River**	**92.65**	**22**	P	**P**	**18 55 19.4**	**+0.4**
	baz=276,SNR=6.5						
H29M	**Whitestone**	**92.68**	**24**	IAmb	IAmb	18 55 20.7	
	comp=Z,15nm,1.4s						
H29M	**Whitestone**	**92.68**	**24**	P	**P**	**18 55 19.9**	**+0.7**
	baz=275						
PNL	**Peninsula**	**92.72**	**30**	P	**P**	**18 55 19.4**	**-0.2**
	baz=274						
G29M	**Pine Creek**	**92.75**	**23**	P	**P**	**18 55 19.1**	**-0.5**
G29M	**Pine Creek**	**92.75**	**23**	P	**P**	**18 55 20.1**	**+0.5**
	baz=275,SNR=12						
I29M	**Ogilvie Camp,**	**92.78**	**25**	IAmb	IAmb	18 55 21.2	
	comp=Z,7.3nm,1.1s						
I29M	**Ogilvie Camp,**	**92.78**	**25**	P	**P**	**18 55 20.0**	**+0.2**
	baz=275						
M29M	**Somme Creek**	**92.97**	**28**	IAmb	IAmb	18 55 30.1	
	comp=Z,14nm,1.4s						
M29M	**Somme Creek**	**92.97**	**28**	P	**P**	**18 55 21.4**	**+0.7**
	baz=275						
YUK4	**Talbot Arm**	**92.97**	**29**	P	**P**	**18 55 21.9**	**+0.9**
	baz=275						
L29M	**L29M**	**93.06**	**27**	IAmb	IAmb	18 55 23.5	
	comp=Z,13nm,1.0s						
L29M	**L29M**	**93.06**	**27**	P	**P**	**18 55 22.4**	**+1.3**
	baz=275						
O29M	**Mount Kennedy**	**93.09**	**30**	P	**P**	**18 55 22.2**	**+0.8**
	baz=275						
YUK6	**Outpost Mounta**	**93.14**	**29**	P	**P**	**18 55 22.6**	**+0.8**
	baz=275						
K29M	**Barlow Dome**	**93.26**	**26**	IAmb	IAmb	18 55 24.9	
	comp=Z,9.3nm,1.1s						
K29M	**Barlow Dome**	**93.26**	**26**	P	**P**	**18 55 22.9**	**+0.8**
	baz=276						
EPYK	**Eagle Plains**	**93.32**	**24**	IAmb	IAmb	18 55 24.0	
	comp=Z,12nm,1.1s						
EPYK	**Eagle Plains**	**93.32**	**24**	P	**P**	**18 55 23.5**	**+1.3**
	baz=277,SNR=6.2						
G30M	**tAoh Zraii Nji**	**93.45**	**23**	IAmb	IAmb	18 55 23.5	
	comp=Z,12nm,1.2s						
G30M	**tAoh Zraii Nji**	**93.45**	**23**	P	**P**	**18 55 22.9**	**0.0**
	baz=277						
F30M	**Barrier River**	**93.53**	**22**	IAmb	IAmb	18 55 24.5	
	comp=Z,8.9nm,0.8s						
F30M	**Barrier River**	**93.53**	**22**	P	**P**	**18 55 23.6**	**+0.4**
	baz=278,SNR=7.9						
P29M	**Windy Craggy**	**93.57**	**30**	P	**P**	**18 55 23.8**	**+0.3**
	baz=275						
HYT	**Haines Junctio**	**93.57**	**29**	P	**P**	**18 55 24.3**	**+0.7**
	baz=276						
I30M	**Mount Dempster**	**93.60**	**25**	P	**P**	**18 55 23.5**	**-0.1**
I30M				IAmb	IAmb	18 55 25.0	
	comp=Z,8.3nm,1.4s						
I30M	**Mount Dempster**	**93.60**	**25**	P	**P**	**18 55 24.2**	**+0.6**
	baz=277						
J30M	**Hart River**	**93.70**	**25**	IAmb	IAmb	18 55 26.6	
	comp=Z,8.4nm,1.3s						
J30M	**Hart River**	**93.70**	**25**	P	**P**	**18 55 24.9**	**+0.8**
	baz=277,SNR=5.9						
N30M	**Aishikik Lake**	**93.70**	**29**	IAmb	IAmb	18 55 26.8	
	comp=Z,8.2nm,1.1s						
N30M	**Aishikik Lake**	**93.70**	**29**	P	**P**	**18 55 25.2**	**+1.0**
	baz=276						
M30M	**Minto, Yukon**	**93.72**	**27**	IAmb	IAmb	18 55 26.4	
	comp=Z,9.1nm,1.1s						
M30M	**Minto, Yukon**	**93.72**	**27**	P	**P**	**18 55 25.1**	**+0.9**
	baz=276						
TAOE	**Nuku Hiva Isla**	**93.89**	**99**	*e*S	S	19 06 23.6	-10
	comp=Z,86nm,26.5s						
TAOE	**Nuku Hiva Isla**	**93.89**	**99**	*e*LR	LR	19 25 34.8	
	comp=Z,264nm,29.5s						
ARCES	**ARCESS Array B**	**93.97**	**340**	P	**P**	**18 55 24.6**	**-0.6**
	comp=Z,4.4nm,0.7s,baz=79,slow=5.6,SNR=32						
ARCES				LR	LR	19 41 24.9	
	comp=Z,87nm,21.6s,baz=92,slow=38						
	comp=Z,4.4nm,0.7s						
G31M	**Satah River**	**94.22**	**23**	IAmb	IAmb	18 55 27.1	
	comp=Z,9.9nm,0.8s						
G31M	**Satah River**	**94.22**	**23**	P	**P**	**18 55 26.2**	**0.0**
	baz=279,SNR=9.0						
O30N	**Mendenhall**	**94.26**	**29**	P	**P**	**18 55 27.4**	**+0.6**
	baz=277						
INK	**Inuvik**	**94.27**	**21**	P	**P**	**18 55 26.6**	**+0.1**
	baz=280,SNR=9.4						
SPITS	**Spitsbergen Ar**	**94.31**	**349**	P	**P**	**18 55 26.8**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=98,slow=6.0,SNR=10						
	comp=Z,4.9nm,0.7s						
N31M	**Braeburn, Yuko**	**94.33**	**28**	P	**P**	**18 55 27.8**	**+0.8**
	baz=277						
F31M	**Tsiigehtchic**	**94.34**	**22**	P	**P**	**18 55 26.9**	**+0.1**
	baz=279,SNR=7.3						
H31M	**Peel River**	**94.36**	**24**	IAmb	IAmb	18 55 24.2	
	comp=Z,20nm,1.7s						
H31M	**Peel River**	**94.36**	**24**	P	**P**	**18 55 27.4**	**+0.4**
	baz=279						
AKASG	**Malin Array Be**	**94.50**	**321**	P	**P**	**18 55 27.0**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=71,slow=4.7,SNR=4.8						
AKASG				LR	LR	19 43 32.2	
	comp=Z,69nm,21.4s,baz=70,slow=39						
	comp=Z,0.9nm,0.7s						
AKBB	**Malin Array Si**	**94.50**	**321⇓**	*e*P	**P**	**18 55 27.2**	**-0.7**
AKBB				pmax	pmax		
	comp=Z,8.0nm,2.0s						
S31K	**Pelican**	**94.52**	**32**	P	**P**	**18 55 28.1**	**+0.2**
	baz=276						
SKAG	**Skagway**	**94.81**	**30**	P	**P**	**18 55 30.2**	**+1.0**
	baz=277						
WHY	**Whitehorse**	**94.87**	**29**	P	**P**	**18 55 30.4**	**+0.8**
	baz=278						
M31M	**Drury Creek, Y**	**94.88**	**28**	IAmb	IAmb	18 55 31.0	
	comp=Z,15nm,1.6s						
M31M	**Drury Creek, Y**	**94.88**	**28**	P	**P**	**18 55 29.8**	**+0.3**
	baz=278						
MNK	**Minsk**	**94.95**	**325**	*i* P	**P**	**18 55 28.3**	**-1.6**
MNK				*i **PP	**pP**	**18 55 43.5**	**+0.4**
MNK				*i*		18 59 17.9	
MNK				*i* PPP	PPP	19 01 19.7	
MNK				*i* S	**SKSac**	**19 05 59.4**	**-2.3**
MNK				*i* SS	**SS**	**19 13 07.3**	**+1.2**
MNK				*i* SSS	SSS	19 16 49.7	
MNK				pmax	pmax		
	comp=N,7.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,14nm,0.9s						
MNK				pmax	pmax		
	comp=E,9.0nm,1.0s						
MNK				MLR	MLR		
	comp=E,142nm,27.0s						
MNK				MLR	MLR		
	comp=Z,145nm,25.0s						
MNK				MLR	MLR		
	comp=N,107nm,28.0s						
FINES	**FINESS Array B**	**95.01**	**332**	P	**P**	**18 55 28.9**	**-1.1**
	comp=N,2.1nm,0.8s,baz=81,slow=5.1,SNR=11						
	comp=N,2.1nm,0.8s						
FARO	**Faro, Yukon**	**95.36**	**28**	P	**P**	**18 55 32.6**	**+0.9**
	baz=279						
S32K	**Killisnoo**	**95.46**	**32**	P	**P**	**18 55 31.8**	**-0.4**
	baz=278						
P32M	**Atlin**	**95.60**	**30**	P	**P**	**18 55 33.3**	**+0.4**
	baz=279						
N32M	**Quiet Lake**	**95.66**	**29**	P	**P**	**18 55 34.3**	**+1.2**
	baz=280						
P33M	**Teslin, Yukon**	**95.95**	**29**	P	**P**	**18 55 35.2**	**+0.7**
	baz=280						
A36M	**Sachs Harbour**	**96.14**	**17**	IAmb	IAmb	18 55 42.0	
	comp=Z,5.7nm,0.9s						
A36M	**Sachs Harbour**	**96.14**	**17**	P	**P**	**18 55 34.9**	**0.0**
	baz=288						
MMPY	**Sheldon Lake,**	**96.24**	**27**	IAmb	IAmb	18 55 39.7	
	comp=Z,8.4nm,1.1s						
MMPY	**Sheldon Lake,**	**96.24**	**27**	P	**P**	**18 55 36.4**	**+0.7**
	baz=281						
U33K	**Whale Pass**	**96.45**	**34**	P	**P**	**18 55 37.4**	**+0.7**
	baz=279						
RNPP9	**Sopachiv**	**96.52**	**322**	P	**P**	**18 55 37.4**	**+0.3**
RNPP9				pP	**pP**	**18 55 50.9**	**+0.6**
MLR	**Muntele Rosu**	**97.22**	**316**	LR	LR	19 46 25.2	
	comp=Z,84nm,20.7s,baz=74,slow=40						
C36M	**Paulatuk**	**97.34**	**20**	P	**P**	**18 55 40.4**	**0.0**
	baz=289						
BURAR	**Bucovina Array**	**97.46**	**318**	P	**P**	**18 55 41.7**	**+0.1**
BUR08	**Bucovina Ar. S**	**97.46**	**318**	P	**P**	**18 55 41.2**	**-0.5**
BUR08				IAmb	IAmb	18 55 43.0	
	comp=Z,5.2nm,0.8s						
DLBC	**Dease Lake**	**97.69**	**31**	LR	LR	19 34 50.3	
	comp=Z,69nm,21.8s,baz=222,slow=32						
TGTN	**Hyland Airport**	**97.86**	**28**	P	Pdif	18 55 44.1	+1.0
	baz=284						
BOSA	**Boshof**	**99.13**	**241**	LR	LR	19 36 27.6	
	comp=Z,252nm,21.8s,baz=108,slow=33						
LBTB	**Lobatse**	**99.15**	**245**	LR	LR	19 38 55.5	
	comp=Z,58nm,18.2s,baz=160,slow=34						
BBB	**Bella Bella**	**100.08**	**37**	LR	LR	19 35 17.4	
	comp=Z,58nm,20.1s,baz=248,slow=32						
HFS	**Hagfors**	**101.21**	**332**	P	**Pdif**	**18 55 56.8**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=88,slow=9.2,SNR=6.4						
NB2	**NORSAR Subarra**	**102.04**	**333**	P	**Pdif**	**18 56 00.5**	**-1.2**
	comp=Z,2.4nm,0.9s,baz=66,slow=4.3						
NB2	**NORSAR Subarra**	**102.04**	**333**	P	**Pdif**	**18 56 00.5**	**-1.2**
	baz=66,slow=4.3						
NOA	**NORSAR Array B**	**102.04**	**333**	P	**Pdif**	**18 56 00.8**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=68,slow=4.5,SNR=4.0						
YKA	**Yellowknife Ar**	**103.57**	**25**	Pdiff	**Pdif**	**18 56 08.7**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=297,slow=4.8,SNR=6.8						
CLL	**Collm**	**104.41**	**323**	*e*PP	**PKiKP**	**19 00 31.0**	**+2.5**
PDAR	**Pinedale Array**	**114.98**	**42**	PKP	PKPdf	19 00 49.8	+0.8
	comp=Z,0.3nm,0.6s,baz=277,slow=4.9,SNR=2.4						
Y22D	**IRIS PASSCAL I**	**120.37**	**50**	P	**PKPdf**	**19 00 57.9**	**-1.6**
	baz=293						
TORD	**Torodi Ar. Bea**	**123.27**	**285**	PKP	**PKiKP**	**19 01 05.9**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=49,slow=2.4,SNR=19						
TXAR	**Lajitas Array**	**124.74**	**54**	PKP	**PKiKP**	**19 01 08.7**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=321,slow=2.0,SNR=7.7						
DBIC	**Dimbokro**	**130.45**	**278**	PKP	**PKiKP**	**19 01 20.3**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=108,slow=6.6,SNR=3.0						

SJA ***24*** *18:57:31.3±0.9, 21°.48S×68°.52W, h145km, ML5.3, MW5.0*
VAO ***24*** *18:57:31.5±0.5, 21°.42S×68°.28W, h132km±4km, mb5.5*
MOS ***24*** *18:57:32.4±1.4, 21°.42S×68°.17W, h139km, mb5.3/9, Error ellipse: s-maj=13.7km s-min=8.6km az=102.7*
NEIC ***24*** *18:57:32.3±2.9, 21°.54S±0°.05×68°.62W±0°.09, h146km±5km, mb5.4/98, Mww5.3/25, Error ellipse: s-maj=12.4km s-min=7.4km az=86.0*
NEIC ***24*** *18:57:32.3, 21°.53S×68°.62W, h150km*
NEIC ***24*** *18:57:32.3, 21°.53S×68°.41W, h150km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17 Nm; Mrr0.37; Mθθ-0.25; Mφφ-0.12; Mrθ0.25; Mθφ0.34; Mφr-0.92; Fault plane solution: M0 1.06000×10^17 NP1: φs281.13000°, δ19.83000°, λ32.32000°. NP2: φs160.37000°, δ79.55000°, λ106.95000°. Principal axes: T 1.0771, Plg53.0000°, Azm90.0000°; N -0.0309, Plg17.0000°, Azm337.0000°; P -1.0462, Plg32.0000°, Azm236.0000°;*
BJI ***24*** *18:57:32.0, 21°.60S×68°.50W, h142km, mB5.3/5*
IDC ***24*** *18:57:33.8±0.4, 21°.32S×68°.22W, h138km±2km, mb4.8/22, mbtmp5.2/26, MS4.1/15, Error ellipse: s-maj=12.9km s-min=8.1km az=75.0*
GUC ***24*** *18:57:33.4±0.8, 21°.49S×68°.52W, h137km±3km, ML5.3*
GCMT ***24*** *18:57:36.3±0.1, 21°.49S±0°.01×68°.33W±0°.01, h151km±1km, MW5.3/136, Moment Tensor Solution. s91,c138; s136,c222; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.24±.02; Mθθ-0.36±.02; Mφφ0.12±.03; Mrθ0.51±.01; Mθφ0.37±.02; Mφr-0.98±.02; Best double couple: M0 1.20400×10^17 NP1: φs260.00000°, δ21.00000°, λ19.00000°. NP2: φs152.00000°, δ83.00000°, λ110.00000°. Principal axes: T 1.1720, Plg48.0000°, Azm83.0000°; N 0.0620, Plg19.0000°, Azm329.0000°; P -1.2350, Plg35.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

**ISC 24 18:57:32.1±0.2, 21°.46S±0°.02×68°.

PATCX *i* S **Sn** **18 58 26.7 -0.4**
PATCX Punta Patache 1.72 291 *eP* **Pn** **18 58 03.2 -0.1**
PATCX *eS* **Sn** **18 58 28.9 +1.7**
PATCX IAML 18 58 31.7
comp=Z,30µm,0.6s
HMBC Humberstone 1.80 311 Pn 18 58 02.7 -1.5
HMBC Humberstone 1.80 311 *eP* **Pn** **18 58 03.9 -0.4**
HMBC *i* S **Sn** **18 58 28.0 -0.7**
HMBC Humberstone 1.80 311 *eP* **Pn** **18 58 03.8 -0.4**
HMBC *eS* **Sn** **18 58 28.5 -0.2**
TA01 Diego Aracena 1.86 298 Pn 18 58 04.2 -0.5
TA01 Diego Aracena 1.86 298 *eP* **Pn** **18 58 04.4 -0.4**
TA01 *i* S **Sn** **18 58 29.1 -0.6**
TA01 Diego Aracena 1.86 298 *eP* **Pn** **18 58 04.3 -0.4**
TA01 *eS* **Sn** **18 58 29.4 -0.3**
TA01 IAML 18 58 31.2
comp=Z,22µm,0.6s
GO01 Chusmiza 1.92 338 Pn 18 58 06.5 +0.5
GO01 Chusmiza 1.92 338 *eP* **Pn** **18 58 06.7 +0.7**
GO01 *i* S **Sn** **18 58 32.4 +0.4**
GO01 Chusmiza 1.92 338 *eP* **Pn** **18 58 06.0 0.0**
GO01 *eS* **Sn** **18 58 33.0 +1.1**
TA02 Huaiquique 1.98 307 Pn 18 58 05.5 -0.6
TA02 Huaiquique 1.98 307 *eP* **Pn** **18 58 05.7 -0.4**
TA02 *i* S **Sn** **18 58 30.9 -1.5**
TA02 Huaiquique 1.98 307 *eP* **Pn** **18 58 05.8 -0.4**
TA02 *eS* **Sn** **18 58 34.6 +2.3**
TA02 IAML 18 58 36.9
comp=Z,19µm,0.6s
PB11 IPOC Station P 2.04 326 Pn 18 58 06.8 -0.4
PB11 IPOC Station P 2.04 326 *eP* **Pn** **18 58 07.0 -0.1**
PB11 *i* S **Sn** **18 58 33.6 -0.3**
PB11 IPOC Station P 2.04 326 *eP* **Pn** **18 58 06.7 -0.4**
PB11 *eS* **Sn** **18 58 34.2 +0.3**
PB05 IPOC Station P 2.14 229 Pn 18 58 07.5 -0.7
PB05 IPOC Station P 2.14 229 *eP* **Pn** **18 58 08.0 -0.3**
PB05 *i* S **Sn** **18 58 34.3 -1.8**
PB05 IAML 18 58 40.2
comp=N,18µm,0.5s
PB05 IPOC Station P 2.14 229 *eP* **Pn** **18 58 08.0 -0.3**
PB05 *eS* **Sn** **18 58 35.4 -0.7**
PB05 IAML 18 58 37.7
comp=Z,13µm,0.6s
YJA Yavi 2.81 105 *eP* **Pn** **18 58 18.4 +1.5**
YJA *i* S **Sn** **18 58 52.8 +1.4**
YJA Yavi 2.81 105 *eP* **Pn** **18 58 18.8 +1.9**
YJA *eS* **Sn** **18 58 53.2 +1.8**
PB10 IPOC Station P 2.83 223 Pn 18 58 15.6 -1.1
PB10 IPOC Station P 2.83 223 *eP* **Pn** **18 58 15.8 -1.0**
PB10 *i* S **Sn** **18 58 46.5 -4.8**
PB10 IAML 18 59 10.7
comp=N,7µm,0.5s
PB10 IPOC Station P 2.83 223 *eP* **Pn** **18 58 15.8 -1.0**
PB10 *eS* **Sn** **18 58 46.8 -4.5**
PB10 IAML 18 58 49.4
comp=Z,7µm,0.5s
PX02 IPOC Station P 2.99 326 *eP* **Pn** **18 58 17.0 -1.9**
PX02 *i* S **Sn** **18 58 51.8 -3.2**
PB16 IPOC Station P 3.27 342 Pn 18 58 23.6 +0.6
PB16 IPOC Station P 3.27 342 *eP* **Pn** **18 58 23.9 +0.8**
PB16 *i* S **Sn** **18 58 58.5 -3.8**
PB16 IPOC Station P 3.27 342 *eP* **Pn** **18 58 23.2 +0.2**
PB16 *eS* **Sn** **18 59 04.3 +2.0**
PB16 IAML 18 59 06.5
comp=Z,5µm,0.7s
SALTA 3.36 145 *eP* **Pn** **18 58 24.9 +0.9**
SALTA 3.36 145 *eP* **Pn** **18 58 25.5 +1.4**
AP01 Chacalluta 3.56 329 Pn 18 58 24.9 -1.3
AP01 Chacalluta 3.56 329 *eP* **Pn** **18 58 24.9 -1.3**
AP01 *i* S **Sn** **18 59 03.8 -4.3**
AP01 Chacalluta 3.56 329 *eP* **Pn** **18 58 25.2 -1.0**
AP01 *eS* **Sn** **18 59 09.7 +1.5**
AP01 IAML 18 59 16.1
comp=Z,10µm,0.7s
PB14 IPOC Station P 3.63 210 Pn 18 58 25.8 -1.6
PB14 IPOC Station P 3.63 210 *eP* **Pn** **18 58 26.0 -1.5**
PB14 *i* S Sn 18 59 00.3 -10
PB14 IPOC Station P 3.63 210 *eP* **Pn** **18 58 26.0 -1.5**
PB14 *eS* **Sn** **18 59 09.3 -1.1**
PB14 IAML 18 59 21.4
comp=Z,5µm,1.0s
GO02 Mina Guanaco 3.83 196 Pn 18 58 29.1 -1.0
GO02 Mina Guanaco 3.83 196 *eP* **Pn** **18 58 29.4 -0.7**
GO02 *i* S **Sn** **18 59 13.7 -1.3**
GO02 Mina Guanaco 3.83 196 *eP* **Pn** **18 58 29.4 -0.7**
GO02 *eS* **Sn** **18 59 14.9 -0.1**
PB18 Visviri 3.98 346 Pn 18 58 34.1 +1.8
PB18 Visviri 3.98 346 *eP* **Pn** **18 58 34.1 +1.8**
AZAP Zapla 4.15 132 *eP* **Pn** **18 58 34.9 +0.7**
SLA San Lorenzo 4.22 141 *eP* **Pn** **18 58 36.4 +1.3**
ALOL LOMAS DE OLMED 4.74 120 *eP* **Pn** **18 58 41.5 -0.3**
AC01 Pan de Azucar 5.07 203 Pn 18 58 43.5 -2.6
AC01 Pan de Azucar 5.07 203 *eP* **Pn** **18 58 43.6 -2.6**
AC01 *eS* **Sn** **18 59 39.5 -4.4**
FSA Cafayete 5.15 155 *eP* **Pn** **18 58 47.9 +0.5**
LPAZ La Paz 5.16 3 P **Pn** **18 58 49.3 +1.3**
comp=Z,332nm,0.3s,baz=189,slow=6.2,SNR=598
LPAZ S **Sn** **18 59 45.4 -1.5**
comp=Z,308nm,0.6s,baz=169,slow=0.6,SNR=4.9
LPAZ La Paz 5.16 3 *eP* **Pn** **18 58 49.8 +1.9**
LPAZ La Paz 5.16 3 *eP* **Pn** **18 58 49.1 +1.2**
AC02 Maricunga 5.39 187 Pn 18 58 48.8 -2.0
AC02 Maricunga 5.39 187 *eP* **Pn** **18 58 50.2 -0.6**
AC02 *eS* **Sn** **18 59 53.9 +1.6**
AC02 IAML 19 00 27.0
comp=Z,1µm,1.1s
AC06 Mina Casimiro 6.12 196 Pn 18 58 56.9 -3.4
GO03 Copiapo 6.32 195 Pn 18 58 59.9 -3.1
AC05 El Transito 7.53 192 Pn 18 59 15.8 -3.4
LCO Las Campanas 7.79 195 Pn 18 59 18.5 -4.4
LCO Las Campanas 7.79 195 P **Pn** **18 59 18.5 -4.4**
BBSD Serra de San D 8.53 61 *eP* **Pn** **18 59 29.7 -2.9**
SIV San Ignacio 8.85 53 P **Pn** **18 59 34.0 -3.0**
comp=Z,156nm,0.4s,baz=238,slow=11,SNR=643
SIV S Sn 19 01 05.6 -10
comp=Z,125nm,0.8s,baz=142,slow=23,SNR=13
MURT Porto Murtinho 10.08 93 *eP* **Pn** **18 59 50.2 -3.1**
CFA Coronel Fontan 10.10 179 P **Pn** **18 59 49.4 -4.3**
comp=Z,36nm,0.3s,baz=355,slow=13,SNR=78
CFA S Sn 19 01 35.2 -10
comp=Z,42nm,0.3s,baz=140,slow=20,SNR=7.1
PTLB Pontes e Lacer 10.66 57 Pn 18 59 57.8 -3.3
PTLB Pontes e Lacer 10.66 57 *eP* **Pn** **18 59 58.3 -2.8**
BDQN Bodoquena, MS 10.97 87 *eP* **Pn** **19 00 01.4 -3.8**
CPUP Villa Florida 11.26 118 Pn 19 00 05.8 -3.2
CPUP Villa Florida 11.26 118 P **Pn** **19 00 06.3 -2.6**
comp=Z,48nm,0.9s,baz=294,slow=12,SNR=69
CPUP Villa Florida 11.26 118 P **Pn** **19 00 05.8 -3.2**
CPUP Villa Florida 11.26 118 *eP* **Pn** **19 00 06.4 -2.6**
VA06 Catapilco 11.34 192 Pn 19 00 04.0 -6.0
PEL Peldehue 11.81 189 Pn 19 00 09.8 -6.4
PEL Peldehue 11.81 189 P Pn 19 00 09.8 -6.4
SJPY San Joaquin 11.87 110 *eP* **Pn** **19 00 15.6 -1.5**
AQDB Aquidauana 11.94 88 Pn 19 00 14.7 -3.3
AQDB Aquidauana 11.94 88 *eP* **Pn** **19 00 14.7 -3.3**
AQDB *eS* **Sn** **19 02 25.3 -4.5**
MT05 Renca 12.06 189 Pn 19 00 18.8 -0.7
MT16 CCHEN 12.06 188 Pn 19 00 15.7 -3.9
NNA Nana 12.39 318 Pn 19 00 21.4 -2.5
NNA Nana 12.39 318 P **Pn** **19 00 23.0 -0.9**
comp=Z,9.7nm,0.3s,baz=166,slow=5.9,SNR=5.3
NNA S **Sn** **19 02 34.4 -6.3**
comp=Z,61nm,0.7s,baz=233,slow=17,SNR=4.8
NNA Nana 12.39 318 P **Pn** **19 00 21.4 -2.5**
AMBA Amambai (Brazi 12.54 99 *eP* **Pn** **19 00 24.1 -1.7**
AMBA *eS* **Sn** **19 02 40.1 -4.2**
SALV Santo Antonio 13.28 68 *eP* **Pn** **19 00 33.3 -2.1**
ITQB Itaqui 13.43 130 Pn 19 00 34.3 -2.8
ITQB Itaqui 13.43 130 *eP* **Pn** **19 00 35.4 -1.8**
RPRD Ribas do Rio P 13.80 89 *eP* **Pn** **19 00 40.0 -2.0**
CZSB Cruzeiro do Su 14.26 343 P Pn 19 00 42.7 -5.2
CZSB Cruzeiro do Su 14.26 343 *eP* **Pn** **19 00 43.9 -4.0**
PDRB Porto dos Gac 14.89 51 *eP* **Pn** **19 00 54.0 -1.8**
C2SB Chapadao do Su 14.90 82 *eP* **Pn** **19 00 53.7 -2.1**
TBOT Tacuaremb 15.11 135 *eP* **Pn** **19 00 57.8 -0.6**
H03N1 Juan Fernandez 15.11 216 P **Pn** **19 00 58.6 +0.4**
baz=109,slow=14,SNR=142
H03N2 Juan Fernandez 15.12 216 P **Pn** **19 00 59.1 +0.8**
baz=109,slow=14,SNR=131
H03N3 Juan Fernandez 15.13 216 P **Pn** **19 00 58.6 +0.1**
baz=109,slow=14,SNR=196
VA04 Juan Fernndez 15.22 215 Pn 19 00 55.8 -3.9
H03S3 Juan Fernandez 15.41 215 P **Pn** **19 01 01.3 -0.5**
baz=34,slow=20,SNR=113
PTGB Pitanga 15.41 105 *eP* **Pn** **19 01 01.8 -0.5**
H03S1 Juan Fernandez 15.42 215 P **Pn** **19 01 01.8 -0.2**
baz=34,slow=20,SNR=68
H03S2 Juan Fernandez 15.42 215 P **Pn** **19 01 02.0 0.0**
baz=34,slow=20,SNR=90
ITAB Concordia 15.93 114 P **Pn** **19 01 06.2 -2.3**
ITAB Concordia 15.93 114 *eP* **Pn** **19 01 07.6 -1.0**
CLDB Colider 16.06 51 *eP* **Pn** **19 01 09.0 -1.3**
LDASE Londrina, Braz 16.13 100 *eP* **Pn** **19 01 09.5 -1.7**
CPSB Cacapava Do Su 16.15 127 *eP* **Pn** **19 01 09.4 -1.9**
PLTB Pedras Altas 16.75 131 P **P** **19 01 15.4 -3.1**
PLTB Pedras Altas 16.75 131 *eP* **P** **19 01 16.1 -2.4**
ARAG Araguaiana, MT 16.76 73 *eP* **P** **19 01 16.9 -1.9**
ITRB Iturama 17.02 87 *eP* **P** **19 01 21.0 -0.5**
ATAH Atahualpa 17.19 325 P **Pn** **19 01 25.6 +1.2**
comp=Z,12nm,0.6s,baz=129,slow=8.9,SNR=10
ATAH S **Sn** **19 04 37.3 +0.5**
comp=Z,5.2nm,0.7s,baz=99,slow=23,SNR=1.5
TBTG Tabatinga, AM 17.23 355 P **P** **19 01 23.2 -0.7**
TBTG Tabatinga, AM 17.23 355 *eP* **P** **19 01 23.5 -0.4**
TRQA Tornquist 17.45 163 P **P** **19 01 23.7 -2.5**
TRQA Tornquist 17.45 163 P **P** **19 01 23.7 -2.5**
CNLB Canela 17.70 120 *eP* **P** **19 01 27.5 -1.5**
TEFE Tefe 18.23 12 *eP* **P** **19 01 34.2 -0.6**
BB19B Bebedouro 18.56 92 *eP* **P** **19 01 36.2 -2.3**
MAJ01 Sao Joao Batis 18.64 112 *eP* **P** **19 01 38.0 -1.3**
TER01 Tubaro-SC 18.85 116 *eP* **P** **19 01 39.9 -1.7**
SNDB Serra Nova Dou 18.92 63 *eP* **P** **19 01 41.3 -1.1**
NPGB Novo Progresso 19.11 43 *eP* **P** **19 01 42.6 -1.9**
PLCA Paso Flores 19.30 185 P **P** **19 01 47.1 +0.8**
comp=Z,70nm,0.6s,baz=8.6,slow=13,SNR=184
PLCA S **Sn** **19 05 22.9 -3.4**
comp=Z,4.0nm,1.0s,baz=261,slow=21,SNR=1.6
PLCA Paso Flores 19.30 185 P **P** **19 01 47.2 +0.9**
PLCA Paso Flores 19.30 185 *eP* **P** **19 01 46.9 +0.6**
IPMB Ipameri, GO 19.35 83 *eP* **P** **19 01 45.7 -1.4**
MACA Manacapuru-AM 19.69 24 P **P** **19 01 48.5 -2.2**
MACA Manacapuru-AM 19.69 24 *eP* **P** **19 01 49.4 -1.3**
PET01 Itanhaem-SP 19.70 102 *eP* **P** **19 01 50.3 -0.5**
VAO Valinhos 19.94 98 P **P** **19 01 50.3 -3.1**
VAO Valinhos 19.94 98 *eP* **P** **19 01 51.3 -2.1**
BDFB Brasilia 20.20 77 P **P** **19 01 54.7 -1.7**
BDFB Brasilia 20.20 77 P **P** **19 01 55.2 -1.2**
comp=Z,65nm,0.4s,baz=250,slow=10,SNR=65
BDFB S **S** **19 05 31.9 -3.9**
comp=Z,7.8nm,0.7s,baz=77,slow=24,SNR=1.3
BDFB LR LR 19 11 10.6
comp=Z,717nm,20.3s,baz=214,slow=41
PMNB Patos De Minas 20.88 86 *eP* **P** **19 02 01.6 -1.9**
ITTB Itaituba 21.00 38 *eP* **P** **19 02 02.9 -1.9**
LL01 San Ignacio de 21.12 188 P **P** **19 02 05.3 -0.5**
LL06 Loncomilla 21.15 191 P **P** **19 02 06.0 -0.1**
PARB Paraibuna 21.18 99 *eP* **P** **19 02 04.4 -2.3**
SLP01 Ubatuba-SP 21.60 99 *eP* **P** **19 02 09.6 -1.8**
LL02 Futaleuf 21.85 187 P **P** **19 02 12.2 -1.4**
LL02 IAmb IAmb 19 02 15.7
comp=Z,168nm,1.1s
MAN01 Angra dos Reis 22.70 98 *eP* **P** **19 02 20.9 -1.5**
VAS01 Vassouras-RJ 23.21 97 *eP* **P** **19 02 25.7 -1.3**
DIAM Diamantina, MG 23.49 87 *eP* **P** **19 02 28.0 -1.8**
PRPB Parauapebas 23.58 53 *eP* **P** **19 02 28.4 -2.0**
SMTB Santa Maria do 23.66 61 *eP* **P** **19 02 30.1 -1.1**
OTAV Otavalo 23.68 334 *eP* **P** **19 02 30.6 -1.3**
JANB Januaria 23.76 79 *eP* **P** **19 02 30.3 -1.9**
MAL2 Monte Alegre, 23.80 38 P **19 02 29.2 -3.2**
FLOC Florencia 23.97 342 P **19 02 29.4 -4.5**
DUB01 Friburgo-RJ 24.20 96 *eP* **P** **19 02 36.3 +0.2**
SDBA SAO DESIDERIO 24.22 72 *eP* **P** **19 02 34.6 -1.6**
COYC Coyhaique 24.23 186 IAmb IAmb 19 02 37.6
comp=Z,77nm,0.8s
CAM01 Campos-RJ 24.89 96 *eP* **P** **19 02 40.5 -1.7**
BOAV Boa Vista 24.94 19 P **19 02 42.9 +0.2**
BOAV IAmb IAmb 19 02 44.5
comp=Z,89nm,0.6s
BOAV Boa Vista 24.94 19 *eP* **P** **19 02 43.2 +0.4**
BOAV Boa Vista 24.94 19 P **P** **19 02 43.6 +0.8**
comp=Z,1µmcomp=Z,116nm,0.6s
SJMB Sao Joao De Ma 25.73 89 *eP* **P** **19 02 48.0 -1.9**
RIB01 Linhares ES 26.36 90 *eP* **P** **19 02 54.0 -1.6**
ROSC El Rosal 26.77 347 P **P** **19 03 01.1 +1.4**
comp=Z,16nm,0.6s,baz=135,slow=7.7,SNR=6.3
comp=Z,16nm,0.6s
TMAB Tom-Au,PA,Br 27.43 49 *eP* **P** **19 03 04.5 -0.7**
GUA01 Guaratinga, BA 27.48 85 *eP* **P** **19 03 03.8 -1.8**
RUSC La Rusia 27.56 350 P **P** **19 03 06.7 -0.1**
RUSC IAmb IAmb 19 03 16.8
comp=Z,86nm,0.8s
CMC01 Camacan, BA 28.07 82 *eP* **P** **19 03 09.4 -1.4**
SDV Santo Domingo 30.24 356 P **P** **19 03 29.1 -1.1**
SDV Santo Domingo 30.24 356 P **P** **19 03 29.7 -0.4**
comp=Z,16nm,0.4s,baz=194,slow=5.2,SNR=11
SDV LR LR 19 18 27.7
comp=Z,432nm,18.6s,baz=172,slow=42
comp=Z,16nm,0.4s
SDV Santo Domingo 30.24 356 *eP* **P** **19 03 29.9 -0.2**
MDP Montagnes des 30.61 32 LR LR 19 15 31.7
comp=Z,740nm,18.7s,baz=198,slow=36
EFI East Falkland 31.22 168⇑*eP* **P** **19 03 38.9 +0.6**
EFI pmax pmax
comp=Z,34nm,2.0s
NBPB Pedra_Branca-C 32.11 65 *eP* **P** **19 03 45.4 -1.2**
NBAN Anadia - AL 33.05 74 *eP* **P** **19 03 52.9 -1.8**
HDC Heredia 34.85 332 *eP* **P** **19 04 09.8 -0.5**
RCBR Riachuelo 35.12 68 P **P** **19 04 12.1 -0.5**
RCBR IAmb IAmb 19 04 14.9
comp=Z,74nm,0.7s
RCBR Riachuelo 35.12 68 P **P** **19 04 12.1 -0.5**
RCBR pmax pmax
comp=Z,74nm,0.7s
RCBR Riachuelo 35.12 68 *eP* **P** **19 04 10.7 -1.9**
RCBR Riachuelo 35.12 68 P **P** **19 04 12.1 -0.5**
RCBR pP **pP** **19 04 43.3 -0.4**
JTS Las Juntas de 35.48 331 P **P** **19 04 16.7 +1.0**
comp=Z,4.6nm,0.3s,baz=350,slow=20,SNR=4.9
comp=Z,4.6nm,0.3s
FDF Fort de France 36.67 12 IAmb IAmb 19 04 29.4
comp=Z,82nm,0.7s
CRPR Cabo Rojo, PR 39.25 2 IAmb IAmb 19 05 25.4
comp=Z,58nm,0.7s
SJG San Juan 39.39 3 P **P** **19 04 46.6 -1.8**
SJG San Juan 39.39 3 P **P** **19 04 47.0 -1.4**
comp=Z,70nm,0.6s,baz=162,slow=3.7,SNR=53
SJG pP **pP** **19 05 19.4 -0.7**
comp=Z,59nm,0.6s,baz=192,slow=2.4,SNR=4.4
comp=Z,70nm,0.6s
SJG San Juan 39.39 3 P **P** **19 04 46.7 -1.8**
SJG pP **pP** **19 05 18.4 -1.7**
PRSN Puerto Rico Se 39.45 2 IAmb IAmb 19 04 48.6
comp=Z,84nm,0.8s
UUPR Utuado, UPR, P 39.51 3 IAmb IAmb 19 04 49.2
comp=Z,75nm,0.6s
GCPR Guaynabo City 39.59 4 IAmb IAmb 19 05 23.6
comp=Z,40nm,0.6s
SMRT St. Maarten 39.62 8 IAmb IAmb 19 04 48.4
comp=Z,41nm,0.7s
DR12 Loma Pena Alta 40.01 359 P **P** **19 04 51.7 -2.0**
HOPE Hope Point 40.70 152 P **P** **19 05 01.0 +2.1**
HOPE pP **pP** **19 05 33.1 +2.1**
PMSA Palmer Station 43.39 177 LR LR 19 24 43.6
comp=Z,176nm,19.9s,baz=317,slow=37
SOR Soroa 46.22 341 P **P** **19 05 41.3 -2.2**
SOR pP **pP** **19 06 16.2 +0.3**
SOR IAmb IAmb 19 07 00.3
comp=Z,44nm,0.8s
SOR Soroa 46.22 341 P **P** **19 05 41.3 -2.2**
SOR *PP **pP** **19 06 16.2 +0.3**
SOR pmax pmax
comp=Z,44nm,0.8s
DWPF Disney Wildern 50.86 345 P **P** **19 06 20.0 +1.2**
DWPF pP **pP** **19 06 52.0 +0.2**
DWPF sP **sP** **19 07 09.0 +1.5**
656A Willston 52.33 344 P **P** **19 06 29.9 +0.1**
ZAIG Zacatecas 55.13 321 P **P** **19 06 47.5 -3.2**
250A Grady 55.81 342 P **P** **19 06 55.4 +0.4**
250A IAmb IAmb 19 06 56.6
comp=Z,48nm,0.9s
152A Waverly Hall 56.03 343 P **P** **19 06 56.6 +0.1**
152A IAmb IAmb 19 06 57.9
comp=Z,25nm,0.8s
152A **pP** **19 07 28.2 -1.9**
BIRD Birdtown, Kers 56.96 348 P **P** **19 07 03.3 +0.3**
LRAL Lakeview Retre 57.02 341 P **P** **19 07 02.0 -1.5**
W57A Gilead 57.36 349 IAmb IAmb 19 07 07.8
comp=Z,37nm,0.8s
HKT Hockley 57.52 332 P **P** **19 07 04.7 -2.3**
HKT IAmb IAmb 19 07 43.4
comp=Z,66nm,1.6s
HKT Hockley 57.52 332*c i*P **P** **19 07 08.8 +1.8**
HKT pmax pmax
comp=Z,19nm,1.0s
Y49A Blount Mountai 57.62 342 P **P** **19 07 08.1 +0.3**
Y49A IAmb IAmb 19 07 08.9
comp=Z,29nm,1.0s
Y49A **pP** **19 07 41.5 0.0**
X51A Calhoun 57.87 344 IAmb IAmb 19 07 11.1
comp=Z,65nm,0.9s
X51A pP 19 07 43.8 +0.6
X48A Hartselle 58.35 342 IAmb IAmb 19 07 14.3
comp=Z,57nm,0.8s
X48A pP 19 07 45.3 -1.3
W50A Signal Mountai 58.58 344 IAmb IAmb 19 07 16.1
comp=Z,62nm,0.8s
U56A King 58.59 349 pP 19 07 50.6 +2.2
CPCT Cooper Cave 58.62 345 IAmb IAmb 19 07 16.3
comp=Z,42nm,1.0s
CPCT pP 19 07 48.4 -0.1
TKL Tuckaleechee C 58.64 345 IAmb IAmb 19 07 16.3
comp=Z,52nm,0.8s
T59A Double "B" Far 58.75 351 **pP** **19 07 51.1 +1.7**
T59A IAmb IAmb 19 07 51.6
comp=Z,24nm,0.7s
T57A Hurt 59.03 350 pP 19 07 53.2 +1.8
PLAL Pickwick Lake 59.15 341 IAmb IAmb 19 07 19.4
comp=Z,43nm,1.0s
DRIO Del Rio 59.34 327 pP 19 07 53.9 +0.3
TZTN Tazewell 59.43 346 IAmb IAmb 19 07 21.8
comp=Z,31nm,0.8s
V48A Smith Brothers 59.50 343 pP 19 07 54.7 +0.1
WLAR White Oak Lake 59.67 336 pP 19 07 57.5 +1.5
CLTN Cedars of Leba 59.69 343 pP 19 07 56.1 +0.1
S57A Dark Hollow, R 59.73 350 pP 19 07 58.2 +2.0
R58B Mineral 59.77 351 pP 19 07 58.5 +2.0
U49A Red Boiling Sp 59.95 344 IAmb IAmb 19 07 25.0
comp=Z,32nm,0.6s
VNA3 Neumayer Olymp 59.97 161 ⇑P **P** **19 07 25.0 +1.4**
comp=Z,14nm,0.7s
WHTX Lake Whitney, 59.98 332 pP 19 07 59.0 +0.9
WVT Waverly 60.15 342 P **P** **19 07 25.2 +0.1**
WVT Waverly 60.15 342 P **P** **19 07 25.2 +0.1**
WVT pmax pmax
comp=Z,61nm,0.8s
WVT Waverly 60.15 342 P **P** **19 07 25.0 -0.1**
WVT pP **pP** **19 07 58.1 -1.0**
WVT sP **sP** **19 08 14.0 -0.6**
VNA1 Neumayer--Stat 60.17 161 ⇑P **P** **19 07 26.7 +1.8**
comp=Z,15nm,0.8s
T50A Nancy 60.19 345 IAmb IAmb 19 07 26.7
comp=Z,48nm,0.7s
VNA2 Neumayer--Watz 60.54 161 ⇑P **P** **19 07 28.7 +1.3**
comp=Z,15nm,0.6s,baz=7.2,slow=277
TXAR Lajitas Array 60.85 325 P **P** **19 07 31.6 +1.5**
comp=Z,3.0nm,0.7s,baz=150,slow=8.7,SNR=33
TXAR pP **pP** **19 08 04.2 0.0**
comp=Z,2.8nm,0.6s,baz=147,slow=8.9,SNR=7.1
comp=Z,3.0nm,0.7s
R49A Shelbyville 61.48 345 IAmb IAmb 19 07 35.2
comp=Z,27nm,0.8s
WCI Wyandotte Cave 61.70 344 P **P** **19 07 34.7 -0.9**
WCI IAmb IAmb 19 07 36.5
comp=Z,53nm,0.7s
WCI Wyandotte Cave 61.70 344 P **P** **19 07 34.7 -0.9**
WCI pmax pmax
comp=Z,53nm,0.7s
WCI Wyandotte Cave 61.70 344 P **P** **19 07 35.6 0.0**
WCI pP **pP** **19 08 09.1 -0.6**
CGM3 Cape Girardeau 61.77 341 IAmb IAmb 19 07 37.5
comp=Z,55nm,1.1s
USIN University of 61.81 343 IAmb IAmb 19 07 37.2
comp=Z,38nm,0.7s
WTFS Witchita Falls 61.93 332 pP 19 08 09.7 -1.8
SNAA Sanae 62.17 161 P **P** **19 07 39.8 +1.3**
comp=Z,11nm,0.6s,baz=279,slow=8.8,SNR=66
SNAA pP **pP** **19 08 12.7 +0.2**
comp=Z,11nm,0.7s,baz=264,slow=7.2,SNR=3.6
comp=Z,11nm,0.6s
BBTS Babate 62.31 59 LR LR 19 34 41.7
comp=Z,212nm,18.0s,baz=124,slow=36
X34A Smith Ranch, M 62.37 333 pP 19 08 13.0 -1.4
OLIL Olney 62.65 343 IAmb IAmb 19 07 42.7
comp=Z,25nm,0.8s
P48A Milroy 62.65 345 IAmb IAmb 19 07 42.5
comp=Z,35nm,1.1s
ACSO Alum Creek Sta 62.85 348 IAmb IAmb 19 07 44.7
comp=Z,60nm,0.8s
DEOK Depew 62.88 335 pP 19 08 16.5 -1.4
CCM Cathedral Cave 62.97 340 P **P** **19 07 43.4 -0.6**
CCM IAmb IAmb 19 07 45.5
comp=Z,52nm,0.9s
CCM Cathedral Cave 62.97 340 P **P** **19 07 43.4 -0.6**
CCM pmax pmax
comp=Z,52nm,1.0s
CCM Cathedral Cave 62.97 340 P **P** **19 07 44.3 +0.3**
CCM pP **pP** **19 08 17.9 -0.5**
CCM sP **sP** **19 08 33.8 0.0**
Q44A Meyer Farm, Va 63.07 342 IAmb IAmb 19 08 19.4
comp=Z,48nm,0.9s
O49A Covington 63.10 346 IAmb IAmb 19 07 46.0
comp=Z,44nm,1.0s
O48B Farmland 63.35 346 IAmb IAmb 19 07 47.5
comp=Z,44nm,0.8s
M52A Chesterland 63.82 349 IAmb IAmb 19 07 51.2
comp=Z,43nm,0.8s
T35A Sooner Cattle 63.82 335 pP 19 08 24.6 +0.5
TROLL Troll, Antarti 63.89 161 ⇑P **P** **19 07 51.4 +1.5**
comp=Z,920nm,0.6s
P43A Skaggs, Pawnee 63.90 342 IAmb IAmb 19 08 24.6
comp=Z,68nm,0.9s
SFIN Lafayette 63.93 344 IAmb IAmb 19 08 24.9
comp=Z,44nm,0.7s
N47A Urbana 64.06 346 IAmb IAmb 19 07 52.0
comp=Z,42nm,1.0s
HDIL Hopedale 64.68 343 IAmb IAmb 19 08 29.6
comp=Z,89nm,1.3s
K50A Casco 65.24 349 IAmb IAmb 19 07 59.8
comp=Z,80nm,1.0s
J47A Sunmer 66.12 347 IAmb IAmb 19 08 05.4
comp=Z,54nm,1.0s
I49A Point Hope 66.41 349 IAmb IAmb 19 08 07.2
comp=Z,36nm,0.7s
ANMO Albuquerque 66.71 327*c i*P **P** **19 08 10.5 +1.9**
ANMO pmax pmax
comp=Z,11nm,1.7s
ANMO Albuquerque 66.71 327 P **P** **19 08 10.3 +1.7**
ANMO pP **pP** **19 08 43.4 +0.1**
ANMO sP **sP** **19 08 60.0 +1.3**
NVL N'lazarevskaya 66.71 159 *eP* **P** **19 08 09.0 +1.1**
NVL pmax pmax
comp=Z,26nm,1.1s
LMN Caledonia Moun 67.07 3 P **P** **19 08 11.3 +0.9**
TUC Tucson 67.08 322 P **P** **19 08 13.0 +2.2**
TUC pP **pP** **19 08 46.4 +1.0**
TUC sP **sP** **19 09 02.4 +1.7**
JFWS Jewell Farm 67.14 343 IAmb IAmb 19 08 12.2
comp=Z,35nm,0.7s
I42A Draeger Farm, 67.69 344 IAmb IAmb 19 08 15.3
comp=Z,38nm,0.5s
H43A Windswept, Lux 67.95 345 IAmb IAmb 19 08 17.1
comp=Z,29nm,0.7s
DBIC Dimbokro 68.30 73 P **P** **19 08 18.9 +0.2**
DBIC Dimbokro 68.30 73 P **P** **19 08 18.8 0.0**
comp=Z,129nm,0.7s,baz=232,slow=6.0,SNR=154
DBIC LR LR 19 36 49.8
comp=Z,212nm,21.7s,baz=194,slow=35
comp=Z,129nm,0.7s
DBIC Dimbokro 68.30 73 P **P** **19 08 19.0 +0.2**
DBIC pmax pmax
comp=Z,167nm,0.9s
DBIC Dimbokro 68.30 73 P **P** **19 08 18.7 0.0**
DBIC pP **pP** **19 08 53.3 -0.3**
QSPA South Pole Qui 68.73 180 P **P** **19 08 23.0 +2.2**
comp=Z,7.6nm,0.5s,baz=215,slow=0.3,SNR=169
QSPA pP **pP** **19 08 57.4 +2.0**
comp=Z,20nm,0.6s,baz=157,slow=2.8,SNR=12
QSPA LR LR 19 38 42.9
comp=Z,165nm,21.8s,baz=356,slow=36
comp=Z,7.6nm,0.5s
VLDQ Val d'Or 69.72 354 IAmb IAmb 19 08 28.4
comp=Z,34nm,0.6s

ELIB Princess Elisa 70.33 161 *dP* **P 19 08 32.1 +1.5**
comp=Z,17nm,0.6s
PFO Pinyon Flats O 71.37 319⇓*eP* **P 19 08 39.7 +2.4**
PFO pmax pmax
comp=Z,28nm,1.0s
PFO Pinyon Flats O 71.37 319 P **P 19 08 39.9 +2.6**
PFO pP **pP 19 09 13.8 +1.6**
EYMN Ely 72.13 344 pP 19 09 16.7 +0.2
PDAR Pinedale Array 74.30 330 P **P 19 08 56.1 +1.6**
comp=Z,1.8nm,0.5s,baz=126,slow=8.0,SNR=15
PDAR pP **pP 19 09 30.3 +0.4**
comp=Z,3.6nm,0.6s,baz=125,slow=7.2,SNR=5.4
PDAR LR LR 19 45 20.6
comp=Z,49nm,20.9s,baz=294,slow=39
comp=Z,1.8nm,0.5s
ULM Lac du Bonnet 75.41 342 P **P 19 09 01.1 +0.6**
comp=Z,20nm,0.5s,baz=156,slow=6.2,SNR=25
ULM pP **pP 19 09 35.8 -0.1**
comp=Z,13nm,0.6s,baz=143,slow=5.2,SNR=5.9
comp=Z,20nm,0.5s
NVAR Mina Array Bea 75.73 322 P **P 19 09 05.5 +2.6**
comp=Z,9.0nm,0.9s,baz=154,slow=6.8,SNR=32
NVAR pP **pP 19 09 38.9 +0.6**
comp=Z,6.5nm,0.7s,baz=141,slow=5.3,SNR=8.5
NVAR LR LR 19 40 33.8
comp=Z,82nm,20.3s,baz=198,slow=34
comp=Z,9.0nm,0.9s
TORD Torodi Ar. Bea 76.93 70 P **P 19 09 09.8 0.0**
comp=Z,114nm,0.6s,baz=260,slow=4.9,SNR=374
TORD pP **pP 19 09 44.4 -1.0**
comp=Z,14nm,0.6s,baz=260,slow=5.4,SNR=2.4
comp=Z,114nm,0.6s
VNDA Vanda 76.96 190 P **P 19 09 11.3 +2.3**
comp=Z,1.4nm,0.6s,baz=122,slow=6.5,SNR=8.0
comp=Z,1.4nm,0.6s
TSUM Tsumeb 79.63 107 LR LR 19 44 48.2
comp=Z,92nm,18.3s,baz=144,slow=36
TSUM Tsumeb 79.63 107 *i* P **P 19 09 25.4 +0.6**
KOOLE Kule 80.69 111 *i* P **P 19 09 31.4 +0.9**
MDT Midelt 81.39 50 P **P 19 09 35.1 +1.3**
comp=Z,20nm,0.8s,baz=262,slow=4.2,SNR=18
comp=Z,20nm,0.8s
MESJ Messejana 81.72 44 *eP* **P 19 09 33.8 -1.5**
MESJ IAmb IAmb 19 09 38.0
comp=Z,35nm,0.9s
MESJ Messejana 81.72 44 *eP* **P 19 09 33.8 -1.5**
GRTLG Ghanzi 82.13 110 *i* P **P 19 09 39.1 +1.0**
KGCAE Kacgae 82.48 112 *i* P **P 19 09 41.2 +1.3**
QNGWA Qangwa 82.71 108 *i* P **P 19 09 41.9 +0.8**
BOSA Boshof 83.08 118 P **P 19 09 43.5 +0.6**
comp=Z,39nm,0.7s,baz=256,slow=5.0,SNR=65
comp=Z,39nm,0.7s
MAKGR Makgori 83.68 115 *i* P **P 19 09 47.0 +1.0**
MAW Mawson 84.24 163 P **P 19 09 49.3 +1.4**
comp=Z,3.4nm,2.2s
MAW Mawson 84.24 163 P **P 19 09 49.5 +1.7**
comp=Z,8.0nm,0.5s,baz=216,slow=6.4,SNR=16
MAW pP **pP 19 10 24.5 +0.5**
comp=Z,4.9nm,0.6s,baz=254,slow=6.4,SNR=2.7
comp=Z,8.0nm,0.5s
KDWAN Kaudwane 84.42 113 *i* P **P 19 09 50.8 +1.0**
LBTB Lobatse 84.63 115 *i* P **P 19 09 52.2 +1.4**
PHDHD Phuduhudu 85.44 110⇓*i* P **P 19 09 56.7 +1.8**
LPHEP Lephephe 85.45 113 *i* P **P 19 09 55.5 +0.6**
ESDC Sonseca Array 85.50 44 P **P 19 09 55.9 +1.2**
comp=Z,21nm,0.9s,baz=245,slow=4.8,SNR=56
comp=Z,21nm,0.9s
SOOWA Sowa 86.78 111 *i* P **P 19 10 03.0 +1.5**
MREMI Moremi 87.10 113 *i* P **P 19 10 04.3 +1.3**
MATP Matopo 88.81 111 P **P 19 10 15.7 +4.5**
comp=Z,18nm,0.6s,baz=246,slow=4.2,SNR=111
BLWY Bulawayo 89.02 111 *i* P **P 19 10 13.6 +1.4**
SFJD Kangerlussuaq 89.19 7 LR LR 19 51 32.9
comp=Z,25nm,19.0s,baz=4.0,slow=36
MUSN Musina, Limpop 89.27 114 *i* P **P 19 10 13.8 +0.5**
MOPA Mopani 90.10 115 *i* P **P 19 10 17.8 +0.7**
LSZ Lusaka 90.49 107 P **P 19 10 21.1 +2.0**
comp=Z,10nm,0.7s,baz=241,slow=3.9,SNR=25
comp=Z,10nm,0.7s
YKA Yellowknife Ar 91.30 340 P **P 19 10 22.8 +1.3**
comp=Z,28nm,0.6s,baz=135,slow=4.5,SNR=604
YKA pP **pP 19 10 58.5 +0.4**
comp=Z,9.6nm,0.7s,baz=136,slow=4.5,SNR=7.0
comp=Z,28nm,0.6s
KEST Kesra 92.93 53 P **P 19 10 31.4 +1.6**
comp=Z,7.6nm,0.8s,baz=225,slow=2.3,SNR=9.7
KEST LR LR 19 54 17.3
comp=Z,113nm,18.8s,baz=9.7,slow=37
comp=Z,7.6nm,0.8s
EKA Eskdalemuir Ar 94.36 31 P **P 19 10 36.0 +0.2**
comp=Z,0.4nm,0.3s,baz=223,slow=5.4,SNR=3.9
comp=Z,0.4nm,0.3s
EKA Eskdalemuir Ar 94.36 31 P **P 19 10 36.0 +0.2**
URZ Urewera 94.54 226 LR LR 19 43 23.6
comp=Z,88nm,19.6s,baz=285,slow=29
DOU Dourbes 95.92 38 *dP* **P 19 10 43.3 +0.2**
comp=Z,7.8nm,1.0s
BMRD Maredsous 96.11 38 *dP* **P 19 10 43.7 -0.2**
comp=Z,11nm,1.0s
BGES Gesves 96.33 38 *dP* **P 19 10 45.1 +0.1**
comp=Z,7.3nm,0.7s
BCLA Clavier 96.47 38 *dP* **P 19 10 45.8 +0.3**
WLF Walferdange 96.64 39 *dP* **P 19 10 45.0 -1.4**
comp=Z,10nm,1.2s
BHOU Houvegnez 96.85 38 *dP* **P 19 10 47.8 +0.4**
comp=Z,7.8nm,0.9s
MEM Membach 96.96 38 *dP* **P 19 10 48.5 +0.7**
BTNL Ternell 97.02 38 *dP* Pdif 19 10 48.6 +0.5
comp=Z,7.2nm,1.1s
VAE Valguarnera 97.36 53 LR LR 19 57 07.0
comp=Z,121nm,18.4s,baz=96,slow=37
DAVOX Davos/Dischmat 97.74 43 P Pdif 19 10 52.2 +0.6
comp=Z,5.7nm,0.7s,baz=190,slow=8.8,SNR=12
DAVOX LR LR 19 54 02.0
comp=Z,93nm,20.7s,baz=81,slow=35
comp=Z,5.7nm,0.7s
FETA Feichten 98.37 43 *e*Pdiff Pdif 19 10 55.1 +0.7
comp=Z,9.5nm,1.1s,SNR=5.1
RETA Reutte 98.56 42 *i* Pdiff Pdif 19 10 55.9 +0.7
comp=Z,4.0nm,0.6s
MOTA Moosalm 98.73 43 *i* Pdiff Pdif 19 10 56.5 +0.6
comp=Z,7.2nm,0.9s
SQTA Sankt Quirin 98.75 43 *i* Pdiff Pdif 19 10 56.6 +0.6
comp=Z,19nm,0.8s
WATA Walderalm 99.02 43 *i* Pdiff **Pdif 19 10 58.1 +0.8**
comp=Z,9.0nm,1.0s
WTTA Wattenberg 99.03 43 *e*Pdiff **Pdif 19 10 58.0 +0.6**
comp=Z,16nm,0.9s
ABTA Abfaltersbach 99.40 43 Pdiff **Pdif 19 10 59.5 +0.6**
comp=Z,7.5nm,0.8s,SNR=5.0
LESA Schwarzleotal 99.75 43 *e*Pdiff **Pdif 19 11 01.0 +0.5**
comp=Z,6.6nm,0.9s
KBA Koelnbreinsper 100.05 43 *e*Pdiff **Pdif 19 11 02.1 +0.2**
comp=Z,6.2nm,0.7s
MYKA Terra Mystica 100.09 44 Pdiff **Pdif 19 11 02.9 +0.9**
comp=Z,8.8nm,0.7s,SNR=6.0
OBKA Obir 100.63 44 Pdiff **Pdif 19 11 05.3 +0.9**
comp=Z,6.6nm,0.7s,SNR=5.6
GERES GERESS Array B 100.89 42 P **Pdif 19 11 06.0 +0.5**
comp=Z,1.3nm,0.8s,baz=242,slow=4.1,SNR=6.7
CONA Conrad Observa 101.94 43 *e*Pdiff **Pdif 19 11 11.5 +1.3**
comp=Z,3.0nm,0.8s
RONA Rosalia, Austr 102.15 43 *e*Pdiff **Pdif 19 11 12.0 +0.9**
comp=Z,6.0nm,1.1s
NB2 NORSAR Subarra 103.67 30 P **PKiKP 19 15 34.9 -0.1**
comp=Z,53nm,2.0s,baz=251,slow=7.4
NB2 NORSAR Subarra 103.67 30 P **PKiKP 19 15 34.9 -0.1**
baz=251,slow=7.4
NOA NORSAR Array B 103.67 30 PP **PP 19 15 35.5 -0.5**
comp=Z,4.5nm,1.1s,baz=248,slow=7.5,SNR=4.6
VYHS Vyhne 104.01 43 *eP* **Pdif 19 11 20.6 +1.3**
VYHS Vyhne 104.01 43 *e*PDIFF **Pdif 19 11 20.6 +1.3**
ILAR Eielson Array 104.40 334 PP **PP 19 15 42.9 +1.7**
comp=Z,0.9nm,0.9s,baz=104,slow=4.6,SNR=6.9
HFS Hagfors 104.54 31 PP **PP 19 15 41.1 -1.2**
comp=Z,7.2nm,1.0s,baz=258,slow=7.4,SNR=8.9
VSU Vasula 110.71 34⇓*i*PKIKP **PKiKP 19 15 45.1 -3.0**
FINES FINESS Array B 110.75 31 PP **PP 19 16 26.2 -1.3**
comp=Z,3.5nm,1.0s,baz=261,slow=6.7,SNR=5.6
AKASG Malin Array Be 111.08 42 PP **PP 19 16 27.1 -3.1**
comp=Z,2.9nm,1.1s,baz=258,slow=8.3,SNR=4.4
AKASG Malin Array Be 111.08 42 *i* PKIKP **PKiKP 19 15 49.2 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 111.08 42⇑*i*PKIKP **PKiKP 19 15 48.6 -0.4**
BR131 Keskin Array S 112.45 55⇓*i*PKIKP **PKiKP 19 15 52.0 -0.2**
BRTR Keskin Array B 112.45 55 PP **PP 19 16 38.2 -2.4**
comp=Z,1.0nm,0.8s,baz=251,slow=7.5,SNR=4.4

OBN Obninsk 115.87 38⇓*i*PKIKP **PKiKP 19 15 58.0 0.0**
OBN *e* 19 16 38.8
OBN *e* 19 17 05.3
OBN *e*PPP PPP 19 19 29.5
OBN pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 117.24 32 *e*PKIKP **PKPdf 19 15 55.4 -5.1**
KLMR pmax pmax
comp=Z,20nm,1.4s
SHA1 Shidzhatmaz 119.58 51⇑*i*PKIKP **PKiKP 19 16 07.1 +1.1**
KIV Kislovodsk 119.61 51 *e*PKIKP **PKPdf 19 16 05.1 -0.7**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 119.75 51 PKP **PKiKP 19 16 07.2 +1.3**
comp=Z,7.5nm,0.9s,baz=311,slow=1.6,SNR=20
KBZ pPKP **pPKPdf 19 16 43.9 0.0**
comp=Z,1.0nm,0.6s,baz=2.5,slow=3.8,SNR=2.7
NCK Nalchik 120.25 51⇓*i*PKIKP **PKiKP 19 16 07.4 +0.4**
GNI Garni 120.97 55⇓*i*PKIKP **PKPdf 19 16 08.2 -0.4**
GNI pmax pmax
comp=Z,6.0nm,1.3s
BELG Belogornoye 122.56 41⇑*i*PKIKP **PKiKP 19 16 12.2 +1.0**
BILL Bilibino 122.65 339⇓*i*PKIKP **PKiKP 19 16 11.3 +0.3**
AKT Akhty 123.28 54 *i* PKIKP **PKPdf 19 16 12.0 -0.9**
AKT *e* 19 17 56.6
AKT pmax pmax
comp=Z,11nm,1.1s
ARTI Arti 127.79 34 *i* PKIKP **PKiKP 19 16 22.0 +0.5**
ARTI 19 18 25.0
ARTI 19 23 18.6
ARTI SP SP 19 28 17.1 +1.4
H11S2 WAKE ISLAND Hyl 28.31 277 T T 21 36 49.4
baz=102,slow=74,SNR=130
H11S1 WAKE ISLAND Hyl 28.32 277 T T 21 36 43.0
baz=102,slow=74,SNR=129
H11S3 WAKE ISLAND Hyl 28.33 277 T T 21 36 35.2
baz=102,slow=74,SNR=117
H11N3 WAKE ISLAND Hyl 28.39 279 T T 21 37 02.5
baz=104,slow=75,SNR=119
H11N2 WAKE ISLAND Hyl 28.40 279 T T 21 37 04.0
baz=104,slow=75,SNR=101
H11N1 WAKE ISLAND Hyl 28.40 279 T T 21 36 59.6
baz=104,slow=75,SNR=81
TIXI Tiksi 128.81 353⇓*i*PKIKP **PKiKP 19 16 23.4 +0.3**
NRIK Noril'sk 129.95 11 PKP **PKiKP 19 16 26.3 +0.8**
comp=Z,1.3nm,0.3s,baz=174,slow=1.6,SNR=4.3
ASAR Alice Springs 130.15 207 PKP **PKiKP 19 16 27.8 +0.3**
comp=Z,4.9nm,0.6s,baz=147,slow=2.2,SNR=60
ASAR pPKP **pPKPdf 19 17 05.2 +0.6**
comp=Z,4.8nm,1.0s,baz=145,slow=2.4,SNR=5.5
ASAR SKPbc **SKPbc 19 19 38.5 +1.5**
comp=Z,0.6nm,0.9s,baz=149,slow=4.7,SNR=4.3
ASAR PKKP **PKKPdf 19 26 28.6 +0.6**
comp=Z,0.3nm,0.6s,baz=339,slow=2.1,SNR=7.1
ASAR SKKPbc **SKKPbc 19 29 23.9 +8.6**
comp=Z,0.4nm,0.7s,baz=326,slow=3.4,SNR=5.3
SEY Seymchan 130.24 337 *i* PKIKP **PKiKP 19 16 26.3 +0.1**
SEY pmax pmax
comp=Z,15nm,1.1s
PETK Petropavlovsk- 132.79 324 PKP **PKiKP 19 16 32.5 +0.8**
comp=Z,9.7nm,1.0s,baz=74,slow=2.1,SNR=6.7
PETK pPKP **pPKPdf 19 17 09.9 +1.1**
comp=Z,1.8nm,0.5s,baz=1.1,slow=7.7,SNR=3.3
WRA Warramunga Arr 133.21 210 PKP **PKiKP 19 16 33.9 +0.3**
comp=Z,5.3nm,0.7s,baz=156,slow=1.8,SNR=37
WRA pPKP **pPKPdf 19 17 12.1 +1.7**
comp=Z,2.2nm,0.7s,baz=156,slow=1.8,SNR=4.0
WRA SKPbc **SKPab 19 19 50.0 +0.2**
comp=Z,1.6nm,1.0s,baz=150,slow=3.4,SNR=6.4
BRVK Borovoye 135.44 35 *i* PKIKP **PKiKP 19 16 36.8 -0.3**
BVAR Borovoye Array 135.51 35 PKP **PKPdf 19 16 35.3 -0.4**
comp=Z,5.7nm,0.7s,baz=297,slow=1.3,SNR=30
BVAR pPKP **pPKPdf 19 17 16.6 +2.7**
comp=Z,2.9nm,0.7s,baz=318,slow=2.0,SNR=4.0
BVAR SKPbc **SKPab 19 19 57.9 -1.0**
comp=Z,0.9nm,0.8s,baz=202,slow=0.8,SNR=4.0
YAK Yakutsk 137.58 347 *e*PKHKP PKPpre 19 16 30.6
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=N,1.0nm,1.7s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,112nm,4.8s
YAK pmax pmax
comp=N,32nm,3.8s
YAK pmax pmax
comp=E,44nm,3.3s
KURK Kurchatov 141.06 33 PKIKP **PKPdf 19 16 47.1 +1.3**
KURK 19 17 24.0
KURBB Kurchatov Arra 141.06 34 PKhKP PKPpre 19 16 41.4
comp=E,1.8nm,0.5s,baz=297,slow=2.9,SNR=24
KURBB PKP **PKPdf 19 16 47.1 +1.2**
comp=E,4.7nm,0.7s,baz=308,slow=2.7,SNR=24
KURBB pPKP pPKPdf 19 17 24.0 -0.1
comp=E,2.2nm,0.7s,baz=303,slow=2.6,SNR=3.0
KURBB SKPbc **SKiKP 19 20 12.7 +0.7**
comp=E,1.3nm,0.9s,baz=297,slow=3.2,SNR=6.4
ZALV Zalesovo Beam 141.73 25 PKhKP PKPpre 19 16 42.2
comp=E,8.3nm,0.7s,baz=308,slow=4.2,SNR=22
ZALV PKP **PKPdf 19 16 47.8 +0.9**
comp=E,13nm,0.5s,baz=315,slow=2.0,SNR=20
ZALV pPKP pPKPdf 19 17 25.9 +0.8
comp=E,9.6nm,0.7s,baz=291,slow=2.1,SNR=4.3
AAK Ala-Archa 142.56 47 *ce*PKIKP **PKPdf 19 16 46.2 -2.8**
YSS Yuzhno-Sakhali 144.18 323 *e*PKIKP **PKPab 19 16 49.6 0.0**
YSS *e* 19 17 28.2
YSS pmax pmax
comp=Z,30nm,0.9s
KSH Kashi 144.73 51 PKP **PKPdf 19 16 53.3 +0.4**
KSH pPKP pPKPdf 19 17 31.1 +0.1
GRNR Gornyy 144.85 332⇑*i*PKIKP **PKiKP 19 16 54.5 -1.9**
GRNR pmax pmax
comp=N,7.0nm,0.6s
GRNR pmax pmax
comp=Z,70nm,0.8s
MK31 Makanchi Array 145.34 36⇑*e*PKHKP PKPpre 19 16 51.0
MKAR Makanchi Array 145.34 36 PKPbc **PKPab 19 16 55.0 +1.0**
comp=Z,56nm,0.8s,baz=314,slow=4.6,SNR=396
MKAR pPKPbc **pPKPdf 19 17 33.5 +1.8**
comp=Z,18nm,0.6s,baz=330,slow=3.7,SNR=6.3
ZEA Zeya 145.63 343 *e*PKP2 **PKPab 19 16 56.0 +1.2**
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA pmax pmax
comp=Z,100nm,6.1s
ERM Erimo 146.49 315⇑*i*PKP2 **PKiKP 19 16 59.6 -0.4**
KLR Kul'dur 147.97 335 *i* PKIKP **PKPdf 19 16 58.1 +0.2**
KLR pmax pmax
comp=Z,22nm,1.4s
MMRI Maumere 148.31 200 PKP **PKPbc 19 17 02.8 -0.2**
EDFI Ende, Flores 148.37 199 PKP **PKPbc 19 17 02.1 -1.2**
HYB Hyderabad 148.65 92 *e*PKPab **PKPab 19 17 07.0 -0.8**
HEH HeiHe 148.66 340 PKPbc **PKPdf 19 17 00.1 +1.1**
HEH pPKP **pPKPbc 19 17 40.5 -0.3**
MOY Mondy 148.75 13 *e*PKIKP **PKPdf 19 17 00.1 +0.9**
MOY pmax pmax
comp=Z,66nm,2.5s
IRK Irkutsk 148.76 9 *e*PKHKP PKPpre 19 16 58.8
IRK pmax pmax
comp=Z,81nm,1.7s
CIT Chita 149.46 358 *e*PKIKP **PKPdf 19 17 00.4 +0.1**
CIT *e* 19 23 48.2
CIT pmax pmax
comp=Z,85nm,1.8s
WMQ Urumqi 150.18 36 *e*PKPbc **PKPdf 19 16 59.8 -1.9**
ZAK Zakamensk 150.41 11 *e*PKIKP **PKPdf 19 17 03.4 +1.5**
ZAK pmax pmax
comp=Z,15nm,1.7s
SWI Sorong 150.63 223 PKP **PKiKP 19 17 10.9 +1.5**
NLAI Namlea 151.12 214 PKP **PKiKP 19 17 11.6 +1.2**
USRK Ussuriysk Ar. 151.71 328 PKPbc **PKiKP 19 17 11.9 +1.2**
comp=Z,16nm,0.7s,baz=56,slow=3.1,SNR=23
USRK pPKPbc **pPKPbc 19 17 49.0 +0.6**
comp=Z,8.8nm,0.9s,baz=36,slow=2.1,SNR=3.4
MJAR Matsushiro Arr 152.39 309 PKPbc **PKiKP 19 17 13.7 +1.3**
comp=Z,13nm,0.9s,baz=87,slow=1.6,SNR=20
MJAR pPKPbc **pPKPbc 19 17 49.8 -0.2**
comp=Z,3.8nm,0.6s,baz=102,slow=1.1,SNR=2.9
MJAR pPKPab **pPKPab 19 17 59.8 +0.2**
comp=Z,4.9nm,0.8s,baz=59,slow=1.7,SNR=3.6
MDJ Mudanjiang 152.52 331 PKPbc **PKPdf 19 17 07.0 +1.9**
BNX BinXian 152.53 336⇑PKPbc **PKPdf 19 17 04.8 -0.3**
SANI Sanana 152.70 213 PKP **PKPbc 19 17 11.8 -1.7**
SANI PKP **PKiKP 19 17 15.2 +1.5**

BNSI Bone 152.97 199 PKP **PKiKP 19 17 17.0 +2.8**
SONM Songino Array 153.36 8 PKP **PKPdf 19 17 08.7 +2.3**
comp=Z,3.9nm,0.8s,baz=14,slow=1.2,SNR=27
SONM PKPbc **PKiKP 19 17 15.7 +1.5**
comp=Z,7.9nm,0.7s,baz=352,slow=2.0,SNR=33
SONM PP **PP 19 21 01.2 +1.2**
comp=Z,0.6nm,0.7s,baz=5.7,slow=5.8,SNR=2.2
XLT XiLinHaoTe 157.31 352 *e*PKPbc **PKPab 19 17 45.1 +1.6**
XLT PKPab **pPKPab 19 18 21.9 +1.5**
KSRS Korea Array 158.68 322 PKP **PKPdf 19 17 15.6 +2.1**
comp=Z,4.0nm,0.8s,baz=60,slow=2.5,SNR=11
KSRS PKPab **pPKPdf 19 17 51.1 -0.7**
comp=Z,3.5nm,0.9s,baz=70,slow=4.1,SNR=5.9
KSRS pPKPab **pPKPab 19 18 26.8 +0.4**
comp=Z,2.9nm,0.6s,baz=52,slow=4.3,SNR=4.4
GTA Gaotai 159.48 27 PKP **PKPdf 19 17 16.3 +1.7**
GTA PKPab **PKPab 19 17 53.9 +0.7**
GTA PP **PP 19 21 40.4 +6.2**
HHC Hu-ho-hao-te 160.67 360 *e*PKP **PKPdf 19 17 10.9 -5.0**
BTO Baotou 160.87 4 *e*PKP **PKPdf 19 17 18.5 +2.4**
BTO PP **PP 19 21 46.8 +5.6**
BTO AMB AMB
comp=Z,250nm,8.7s
HNS HongShan 163.89 351⇑PKP **PKPdf 19 17 21.4 +2.4**
HNS PKPab **PKPab 19 18 13.3 +1.1**
XAN Xi'an 167.25 10⇑PKP **PKPdf 19 17 23.9 +1.9**
NJ2 Nanjing 167.61 330 *e*PKP **PKPdf 19 17 20.6 -1.6**
CMAR Chiang Mai Arr 167.76 102 PKP **PKPdf 19 17 24.4 +1.7**
comp=Z,2.6nm,0.9s,baz=267,slow=1.9,SNR=15
CMAR pPKP **pPKPdf 19 18 00.8 -0.2**
comp=Z,0.9nm,0.9s,baz=318,slow=2.3,SNR=3.5
CMAR PKPab **PKPab 19 18 30.7 +0.5**
comp=Z,3.5nm,0.8s,baz=258,slow=5.5,SNR=15
CMAR pPKPab **pPKPab 19 19 07.0 +0.1**
comp=Z,2.4nm,1.1s,baz=225,slow=2.7,SNR=2.6
CMAR PP **PP 19 22 20.6 +1.2**
comp=Z,1.4nm,0.9s,baz=234,slow=3.4,SNR=8.0
PZH PanZhiHua 169.72 59 PKP **PKPdf 19 17 20.8 -3.1**
PZH PKPab **PKPab 19 18 38.8 +0.1**
QIZ Qiongzhong 177.09 146 PKP **PKPdf 19 17 24.3 -2.5**
QIZ PP **PP 19 23 01.1 -2.4**
QIZ SS SS 19 44 22.3 -2.9
QIZ LR LR
comp=Z,170nm,15.1s
QIZ LR LR
comp=Z,190nm,12.4s
QIZ LR LR
comp=Z,180nm,17.9s

---

*ISK **24** 19:02:17.9, 36.06N×27.24E, h15km, ML3.3/15*
*THE **24** 19:02:18.6, 36.05N×27.22E, h3km±1km, ML3.5/6, Error ellipse: s-maj=1.9km s-min=0.7km az=96.0*
*ATH **24** 19:02:18.3, 36.08N×27.20E, h12km±2km, ML3.3/14, Manual Solution by A.Agalos First location: 2019/04/24 19:03:36, This location: 2019/04/24 20:21:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*AFAD **24** 19:02:20.1, 36.15N×27.32E, h21km±1km, MW3.5*
ISC 24 19:02:18.4±1.0, 36.08N±0.02×27.23E±0.02, h14km±9km, n78, σ0.65/104, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.53**	**186**	P	**Pg**	**19 02 28.9**	**0.0**
KARP				S	**Sg**	**19 02 36.3**	**+0.2**
10μm,0.1s							
KARP	**Karpathos**	**0.53**	**186**	Pg	**Pg**	**19 02 28.9**	**0.0**
KARP				Sg	**Sg**	**19 02 36.2**	**+0.2**
KARP	**Karpathos**	**0.53**	**186**	P	**Pg**	**19 02 28.9**	**0.0**
KARP				S	**Sg**	**19 02 36.2**	**+0.2**
NISR	**Nisiros**	**0.54**	**351**	P	**Pb**	**19 02 29.7**	**+0.1**
NISR				S	**Sn**	**19 02 39.1**	**-1.4**
4μm,0.4s							
YAZI	**Mula-Dat§a-**	**0.63**	**17**	P	**Pg**	**19 02 30.9**	**+0.2**
YAZI				S	**Sb**	**19 02 40.7**	**+0.9**
YAZI				*i* AML	AML	19 02 42.0	
comp=E,1μm,0.4s							
YAZI				*i* AML	AML	19 02 43.0	
comp=N,1μm,0.3s							
DAT	**Datca**	**0.71**	**23**	Pg	**Pg**	**19 02 32.4**	**+0.2**
DAT				Sg	**Sb**	**19 02 43.2**	**+1.0**
ARG	**Arkhangelos**	**0.74**	**79**	P	**Pg**	**19 02 32.7**	**-0.1**
ARG				S	**Sb**	**19 02 43.8**	**+0.8**
6μm,0.2s							
ARG	**Arkhangelos**	**0.74**	**79**	Pg	**Pg**	**19 02 32.7**	**-0.1**
ARG				Sg	**Sb**	**19 02 42.7**	**-0.3**
ARG	**Arkhangelos**	**0.74**	**79**	P	**Pg**	**19 02 32.7**	**-0.1**
ARG				S	**Sg**	**19 02 42.5**	**0.0**
DATC	**Datca-Mugla**	**0.76**	**27**	Pg	**Pb**	**19 02 33.9**	**+0.4**
ASTA	**Astypalaia**	**0.85**	**304**	P	**Pb**	**19 02 34.6**	**-0.3**
RODB	**Rodos**	**0.88**	**65**	P	**Pg**	**19 02 35.7**	**+0.2**
RODB				S	**Sn**	**19 02 48.3**	**-0.7**
KLNA	**Kalymnos**	**0.90**	**347**	P	**Pb**	**19 02 35.8**	**0.0**
BODT	**Bodrum**	**0.98**	**4**	Pg	**Pb**	**19 02 37.4**	**+0.2**
BDRM	**Kayabasi**	**1.00**	**10**	P	**Pb**	**19 02 37.0**	**-0.5**
BDRM				S	**Sb**	**19 02 50.3**	**-0.2**
BDRM				*i* AML	AML	19 02 54.0	
comp=E,385nm,0.8s							
YKAV	**Yalikavak-Bodr**	**1.04**	**2**	Pg	**Pb**	**19 02 38.4**	**+0.1**
TURN	**Turunc**	**1.07**	**49**	P	**Pb**	**19 02 38.5**	**-0.2**
TURN				S	**Sb**	**19 02 52.5**	**-0.1**
TURN				*i* AML	AML	19 02 55.0	
comp=E,392nm,0.7s							
TURN				*i* AML	AML	19 02 57.0	
comp=N,744nm,0.4s							
ZKR	**Zakros**	**1.27**	**221**	P	**Pn**	**19 02 41.4**	**-0.2**
ZKR				S	**Sn**	**19 02 59.1**	**+0.6**
1μm,0.5s							
ZKR	**Zakros**	**1.27**	**221**	Pn	**Pn**	**19 02 41.5**	**-0.2**
ZKR				Sn	**Sg**	**19 02 59.4**	**+0.1**
ZKR	**Zakros**	**1.27**	**221**	P	**Pn**	**19 02 42.0**	**+0.3**
MLSB	**Milas**	**1.29**	**20**	Pn	**Pn**	**19 02 42.2**	**+0.1**
DIDI	**Didim-Aydin**	**1.29**	**0**	Pn	**Pn**	**19 02 41.9**	**-0.2**
YER	**Yerkesik**	**1.35**	**39**	Pn	**Pn**	**19 02 42.8**	**-0.1**
DALY	**Dalyan (Mula)**	**1.36**	**57**	Pn	**Pn**	**19 02 43.1**	**+0.1**
DDIM	**Aydin, Didim**	**1.38**	**0**	P	**Pg**	**19 02 45.3**	**+0.4**
THR6	**Thira Island,**	**1.51**	**281**	P	**Pn**	**19 02 44.8**	**-0.2**
CMBO	**Columbo, Santo**	**1.52**	**285**	P	**Pn**	**19 02 44.9**	**-0.3**
CMBO				S	**Sb**	**19 03 05.6**	**0.0**
4μm,0.6s							
CMBO	**Columbo, Santo**	**1.52**	**285**	P	**Pn**	**19 02 45.1**	**-0.1**
SAP3	**Santorini-Thir**	**1.56**	**284**	P	**Pn**	**19 02 45.9**	**+0.1**
SABU	**Mula-Dalaman**	**1.59**	**62**	P	**Pb**	**19 02 47.7**	**+0.2**
FETY	**Fethiye**	**1.60**	**69**	Pn	**Pn**	**19 02 46.6**	**+0.3**
FETY	**Fethiye**	**1.60**	**69**	P	**Pg**	**19 02 48.8**	**-0.3**
FETY				S	**Sb**	**19 03 08.2**	**+0.4**
GCAM	**G?zelcaml?**	**1.62**	**0**	P	**Pg**	**19 02 50.0**	**+0.6**
IZZE	**Mula-Seydike**	**1.65**	**77**	P	**Pb**	**19 02 48.4**	**-0.3**
IZZE				S	**Sg**	**19 03 10.6**	**-1.0**
IZZE				*i* AML	AML	19 03 17.0	
comp=E,462nm,0.5s							
AYDN	**Tasoluk**	**1.66**	**18**	P	**Pb**	**19 02 49.5**	**+0.7**
AYDN				S	**Sg**	**19 03 11.6**	**-0.4**
AYDN				*i* AML	AML	19 03 20.0	
comp=N,232nm,0.5s							
APE	**Apeiranthos**	**1.69**	**306**	P	**Pn**	**19 02 47.1**	**-0.4**
APE	**Apeiranthos**	**1.69**	**306**	Pn	**Pn**	**19 02 47.6**	**+0.1**
APE	**Apeiranthos**	**1.69**	**306**	P	**Pn**	**19 02 47.2**	**-0.3**
DNZT	**Denizli-Tavas-**	**1.88**	**50**	P	**Pb**	**19 02 52.8**	**+0.3**
DNZT				P	**Pb**	**19 02 52.8**	**+0.3**
CAME	**Cameli-Denizli**	**1.88**	**62**	Pn	**Pn**	**19 02 50.7**	**+0.4**
KSL	**Kastellorizon**	**1.91**	**87**	P	**Pn**	**19 02 51.5**	**+1.0**
KSL				S	**Sb**	**19 03 16.1**	**-0.6**
332nm,1.0s							
KSL	**Kastellorizon**	**1.91**	**87**	P	**Pn**	**19 02 51.5**	**+1.0**
IACM	**Heraklion**	**1.92**	**247**	P	**Pn**	**19 02 50.5**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.94**	**44**	P	**Pb**	**19 02 52.5**	**-1.0**
TAVA				S	**Sb**	**19 03 16.8**	**-0.7**
TAVA				*i* AML	AML	19 03 30.0	
comp=E,83nm,0.6s							
ESEN	**Aydn-Nazilli**	**1.94**	**27**	P	**Pn**	**19 02 51.2**	**+0.3**
ESEN				S	**Sb**	**19 03 17.5**	**+0.1**
CAEL	**Denizli, Camel**	**1.98**	**58**	P	**Pb**	**19 02 55.1**	**+0.9**
CAEL				S	**Sg**	**19 03 21.4**	**-0.6**
DGB	**zmir**	**1.99**	**352**	P	**Pn**	**19 02 51.0**	**-0.6**
KNIK	**Mula-Seydike**	**2.04**	**67**	P	**Pb**	**19 02 54.5**	**-0.8**
IDI	**Anoyia**

DNIZ	Denizli-Tavas-	2.12	43	P	Pb	19 02 55.1	-1.5
IZMR	zmir-demi	2.13	16	P	Pg	19 02 59.5	+0.2
IZMR				S	Sb	19 03 25.2	+2.1
TMBK	Timbaki Herakl	2.25	244	P	Pn	19 02 55.2	+0.1
KIRA	zmir-Kiraz	2.31	24	P	Pb	19 02 59.1	-0.8
PRNS	Prines Rethymn	2.33	253	P	Pn	19 02 57.4	+1.1
INCE	Denizli-Bozkur	2.49	48	P	Pn	19 03 00.1	+1.6
AKUM	Antalya-Kumluc	2.53	84	P	Pn	19 03 00.8	+1.8
IMMV	Iera Moni Meta	2.71	258	P	Pn	19 03 02.1	+0.5
IMMV				S	Sn	19 03 34.7	+0.5
IMMV	Iera Moni Meta	2.71	258	P	Pn	19 03 01.7	+0.1
BRDR	BURDUR-Merkez	2.79	54	P	Pb	19 03 05.5	-2.5
GVD	Gavdhos	2.85	245	P	Pn	19 03 03.5	+0.1
IZMD	zmir-Dikili-	2.91	355	P	Pn	19 03 05.5	+1.1
KARY	Karystos	2.96	312	P	Pn	19 03 05.4	+0.3
USAK	Uak-Merkez	2.99	28	P	Pn	19 03 06.5	+1.0
KNDR	Palaiochora Ch	3.01	255	P	Pn	19 03 06.0	+0.4
KZIL	AFYON_Kizioren	3.18	46	P	Pn	19 03 08.8	+0.7
ANKY	Antikythira Is	3.19	267	P	Pn	19 03 08.1	-0.1
VLY	Voula,Athens	3.27	304	P	Pn	19 03 09.5	+0.2
DION	Dionisos Attik	3.31	308	P	Pn	19 03 10.2	+0.5
SIGR	SIGRI	3.31	341	P	Pn	19 03 09.9	+0.2
VLI	Veliai	3.52	282	P	Pn	19 03 12.9	+0.2
KYMI	Kymi, Euboea I	3.56	317	P	Pn	19 03 13.2	-0.1
VIL2	Platees	3.81	305	P	Pn	19 03 16.0	-0.8
LTK	Loutraki	3.92	301	P	Pn	19 03 18.7	+0.5
GUR	Goura	4.33	297	P	Pn	19 03 23.7	-0.2
KLV	Kalavryta, Ach	4.51	297	P	Pn	19 03 26.5	+0.1
AGG	Agios Georgios	4.88	309	P	Pn	19 03 31.3	-0.1

DJA 24 19:25:30.1±0.2,**2°S**±2°×**12°3E**±°,**h10**km,**M3.5**/13,**mb3.7**/3,
MLv3.5/13,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.85	14	P	Pg	19 25 45.4	-1.1
LUWI				S	Sb	19 25 58.9	+0.5
APSI	Ampana	1.32	316	P	Pn	19 25 53.0	-1.6
MRSI	Marisa	2.41	345	P	Pn	19 26 10.2	+0.6
KMSI	Cibinong	2.81	30	P	Pn	19 26 16.5	+1.3
PCI	Palu	2.89	289	P	Pn	19 26 17.7	+1.5
SANI	Sanana	3.43	93	P	Pn	19 26 22.3	-1.4
MPSI	Mapaga	3.45	309	P	Pn	19 26 24.2	+0.3
SPSI	Sidrap Palu	3.48	233	P	Pn	19 26 24.9	+0.6
BBSI	Bau Bau	3.59	180	P	Pn	19 26 26.5	+0.6
BSSI	Bau Bau, Buton	4.72	206	P	Pn	19 26 42.0	+0.6
NLAI	Namlea	4.74	107	P	Pn	19 26 41.6	0.0
EDFI	Ende, Flores	6.89	187	P	Pn	19 27 11.5	+0.2
	9.2nm,1.5s						

*IDC **24** 19:27:18.7*±*9.8,2°.31S×101°.73E,h188*km±*90*km*,mb3.2/10,*
mbtmp3.8/10,Error ellipse: s-maj=70.4km s-min=13.2km
az=56.0

ISC 24 19:27:20.1±1.4,**2°.3S**±0°.3×**101°.8E**±0°.4,**h200**km,**n10,**
σ0°65/10,mb3.5/9,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.79	352	P	P	19 31 46.0	0.0
	0.5nm,0.4s,baz=190,slow=9.0,SNR=6.0						
	0.5nm,0.4s						
WRA	Warramunga Arr	36.29	121	P	P	19 34 04.2	-0.5
	0.3nm,0.5s,baz=287,slow=9.9,SNR=11						
	0.3nm,0.5s						
ASAR	Alice Springs	37.63	127	P	P	19 34 16.4	+0.4
	0.9nm,0.5s,baz=302,slow=8.0,SNR=26						
	0.9nm,0.5s						
SONM	Songino Array	50.05	4	P	P	19 35 55.4	+0.8
	1.0nm,0.5s,baz=188,slow=9.4,SNR=8.2						
	1.0nm,0.5s						
MKAR	Makanchi Array	51.80	343	P	P	19 36 07.0	-0.4
	0.5nm,0.3s,baz=161,slow=9.2,SNR=15						
	0.5nm,0.3s						
KURBB	Kurchatov Arra	56.34	342	P	P	19 36 39.6	-0.5
	0.7nm,0.9s,baz=156,slow=6.1,SNR=5.2						
	0.7nm,0.9s						
ZALV	Zalesovo Beam	57.78	348	P	P	19 36 49.5	-0.7
	0.5nm,0.3s,baz=160,slow=7.5,SNR=4.4						
	0.5nm,0.3s						
BVAR	Borovoye Array	61.08	339	P	P	19 37 11.9	-0.9
	0.5nm,0.5s,baz=139,slow=7.6,SNR=4.7						
	0.5nm,0.5s						
BRTR	Keskin Array B	74.85	312	P	P	19 38 39.5	+0.4
	0.6nm,0.6s,baz=122,slow=7.0,SNR=4.7						
	0.6nm,0.6s						
ARCES	ARCESS Array B	87.35	340	P	P	19 39 44.1	0.0
	1.2nm,0.9s,baz=110,slow=5.2,SNR=3.7						
	1.2nm,0.9s						

DJA 24 19:40:11.6±1.3,**4°S**±3°×**13°8E**±°,**h17**km±11km,**M3.9**/7,
mb4.1/6,**MLv3.9**/7,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	1.88	12	P	Pn	19 40 42.9	-0.1
SMPI				S	Sn	19 41 05.2	-1.1
GENI	Genyem	2.23	56	P	Pn	19 40 49.1	+1.3
GENI				S	Sn	19 41 15.8	+0.8
JAY	Jayapura	2.73	61	P	Pn	19 40 55.9	+1.2
SRPI	Serui, Papua	2.85	313	P	Pn	19 40 56.8	+0.5
SRPI				S	Sn	19 41 25.7	-4.5
BAKI	Biak	3.43	320	P	Pn	19 41 03.0	-1.3
MMPI	Merauke	5.04	156	P	Pn	19 41 28.2	+1.8
FAKI	Fak Fak	6.12	278	P	Pn	19 41 41.7	+0.4
	0.1nm26nm,1.2s						
SWI	Sorong	7.64	293	P	Pn	19 42 00.8	-1.4
	0.1nm6.1nm,0.8s						

*IDC **24** 19:42:41.2*±*9.8,36°.59S×177°.75E,h0km,mb4.1/4,*
mbtmp4.1/4,MS3.7/2,Error ellipse: s-maj=269.4km
s-min=30.4km az=45.0
*NOU **24** 19:42:44.4,38°.06S×177°.91E,h76km,MLv4.0/14,North*
Island, New Zealand
*WEL **24** 19:42:47.4*±*0.5,38°S*±*3°×17°8E*±°*,h53km±4km,M3.7/77,*
ML3.9/78,MLv3.7/77,Error ellipse: s-maj=4.5km
s-min=4.3km az=155.7,confirmed

ISC 24 19:42:46.8±1.0,**37°.98S**±0°.03×**177°.91E**±0°.04,**h74**km±6km,
n130,σ1°10/136,mb4.0/4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGZ	Pakihiroa	0.18	51	P	Pn	19 42 57.3	-0.6
PKGZ				S	Sn	19 43 04.7	-1.2
RUGZ	Raukumara Rang	0.18	274	P	Pn	19 42 57.3	-0.7
RUGZ				S	Sn	19 43 04.9	-1.3
TWGZ	Tauwhareparae	0.21	164	P	Pn	19 42 58.3	+0.2
TWGZ				S	Sn	19 43 06.8	+0.5
HAZ	Te Kaha	0.24	336	P	Pn	19 42 57.5	-0.6
HAZ				S	Sn	19 43 04.8	-1.5
PUZ	Puketiti	0.29	109	P	Pn	19 42 58.2	-0.3
WMGZ	Waiomatatini S	0.43	69	P	Pn	19 42 59.2	-0.2
WMGZ				S	Sn	19 43 08.9	+0.2
TKGZ	Te Karaka	0.46	186	P	Pn	19 43 00.0	+0.3
TKGZ				S	Sn	19 43 09.7	+0.5
MWZ	Matawai	0.47	220	P	Pn	19 42 59.7	0.0
MWZ				S	Sn	19 43 09.1	-0.2
MXZ	Matakaoa Point	0.52	38	P	Pn	19 43 00.3	+0.1
MXZ	Matakaoa Point	0.52	38	P	Pn	19 43 10.7	+11
MXZ	Matakaoa Point	0.52	38	P	Pn	19 43 00.1	-0.1
MXZ				S	Sn	19 43 10.0	0.0
CNGZ	Carnagh Statio	0.56	155	P	Pn	19 43 01.3	+0.7
RAGZ	Rawiri	0.65	217	P	Pn	19 43 02.0	+0.4
RAGZ				S	Sn	19 43 13.0	+0.5
URZ	Urewera	0.69	246	P	Pn	19 43 01.7	-0.1
URZ	Urewera	0.69	246	P	Pn	19 43 13.2	+11
URZ	Urewera	0.69	246	P	Pn	19 43 01.8	-0.1
URZ				S	Sn	19 43 12.6	-0.5
WIZ	White Island	0.72	308	P	Pn	19 43 01.2	-1.0
RIGZ	Rimuhau	0.74	189	P	Pn	19 43 03.0	+0.5
RIGZ				S	Sn	19 43 15.0	+0.9
WSRZ	White Island S	0.74	308	P	Pn	19 43 01.8	-0.7
WHRZ	Whale Island	0.75	279	P	Pn	19 43 02.1	-0.4
WHRZ				S	Sn	19 43 13.4	-0.9
SNGZ	Shannon Statio	0.92	209	P	Pn	19 43 05.3	+0.8
SNGZ				S	Sn	19 43 19.2	+1.4
PRGZ	Paritu Road	0.94	181	P	Pn	19 43 05.0	+0.1
RTZ	Ruatahuna	0.97	229	P	Pn	19 43 05.3	+0.1
MUGZ	Murupara	1.02	240	P	Pn	19 43 05.7	-0.1
KNZ	Kokohu	1.06	190	P	Pn	19 43 06.3	+0.1
TARZ	Mount Tarawera	1.14	256	P	Pn	19 43 07.3	0.0
RAHZ	Arahi	1.14	214	P	Pn	19 43 07.8	+0.6
RRRZ	Republican Roa	1.16	251	P	Pn	19 43 07.3	-0.2
MHGZ	Mahia Peninsul	1.17	180	P	Pn	19 43 08.1	+0.3
MTHZ	Maungataniwha	1.21	223	P	Pn	19 43 08.5	+0.3
OMRZ	Omania	1.22	263	P	Pn	19 43 08.1	-0.2
WHHZ	Waihua	1.22	205	P	Pn	19 43 08.9	+0.7
HLRZ	Highlands Stat	1.26	257	P	Pn	19 43 08.8	0.0
PRRZ	Plateau Road	1.30	246	P	Pn	19 43 09.2	-0.1
KARZ	Kaharoa	1.31	268	P	Pn	19 43 09.2	-0.3
TGRZ	Tauranga	1.33	280	P	Pn	19 43 08.9	-0.7
HRRZ	Handcock Road	1.34	252	P	Pn	19 43 09.9	0.0
HSRZ	Hossack Road	1.35	255	P	Pn	19 43 10.0	0.0
ALRZ	Allen Road	1.36	244	P	Pn	19 43 10.0	-0.1
NGRZ	Ngongotaha	1.36	264	P	Pn	19 43 10.3	+0.1
UTU	Utuhina	1.37	261	P	Pn	19 43 10.4	+0.3
NMHZ	Naumai	1.41	217	P	Pn	19 43 11.6	+0.8
MRHZ	Matea Rd	1.45	233	P	Pn	19 43 11.3	0.0
GRRZ	Galatos Road	1.47	255	P	Pn	19 43 11.7	+0.2
ARHZ	Aropaoanui	1.47	209	P	Pn	19 43 12.0	+0.5
WPRZ	Whakapapatarin	1.48	248	P	Pn	19 43 11.7	+0.1
BKZ	Black Stump Fm	1.62	223	P	Pn	19 43 14.0	+0.4
WHTZ	Whakaora	1.68	245	P	Pn	19 43 15.0	+0.6
HATZ	Hinemaiaia	1.69	237	P	Pn	19 43 14.4	-0.1
KUTZ	Kaahu Road	1.72	252	P	Pn	19 43 15.1	+0.3
MCHZ	McNeill Hill	1.75	212	P	Pn	19 43 15.5	+0.4
CKHZ	Cape Kidnapper	1.80	201	P	Pn	19 43 15.7	-0.2
KWHZ	Kaweka Forest	1.85	218	P	Pn	19 43 16.7	0.0
WATZ	Wairara	1.86	246	P	Pn	19 43 16.9	+0.3
RITZ	Rihia Road	1.89	238	P	Pn	19 43 17.7	+0.5
RATZ	Rangitukua	1.90	241	P	Pn	19 43 17.7	+0.5
TOZ	Tahuroa Road	1.92	277	P	Pn	19 43 17.3	-0.1
KAHZ	Kahuranaki	1.98	204	P	Pn	19 43 18.0	-0.4
KATZ	Kakaramea	2.00	239	P	Pn	19 43 19.2	+0.5
KRHZ	Kereru	2.05	215	P	Pn	19 43 18.7	-0.6
TMVZ	Te Maari	2.07	236	P	Pn	19 43 19.8	+0.3
ETVZ	East Tongariro	2.08	235	P	Pn	19 43 19.9	+0.2
NTVZ	North Tongarir	2.08	237	P	Pn	19 43 20.0	+0.3
KRVZ	Karewarewa	2.10	237	P	Pn	19 43 20.3	+0.3
OTVZ	Oturere	2.12	235	P	Pn	19 43 20.5	+0.2
KUZ	Kuaotunu	2.13	305	P	Pn	19 43 19.8	-0.5
KUZ	Kuaotunu	2.13	305	S	Sn	19 43 44.3	-1.6
KUZ	Kuaotunu	2.13	305	P	Pn	19 43 19.3	-1.0
NNVZ	North Ngauruho	2.13	237	P	Pn	19 43 20.9	+0.4
WTVZ	West Tongariro	2.14	237	P	Pn	19 43 20.9	+0.4
SNVZ	South Ngauruho	2.15	235	P	Pn	19 43 20.9	+0.3
NGZ	Ngauruhoe	2.17	236	P	Pn	19 43 21.2	+0.3
TUVZ	Tukino	2.19	233	P	Pn	19 43 21.3	+0.2
PXZ	Pawanui	2.21	201	P	Pn	19 43 20.1	-1.2
MOVZ	Moawhango	2.21	229	P	Pn	19 43 21.2	-0.2
COVZ	Chateau Observ	2.22	236	P	Pn	19 43 21.8	+0.2
TWVZ	Taurewa	2.22	240	P	Pn	19 43 21.8	+0.2
WHVZ	Whangaehu Hut	2.24	234	P	Pn	19 43 22.0	+0.1
FWVZ	Far West T-bar	2.24	235	P	Pn	19 43 22.1	0.0
MAVZ	Matarangi	2.25	234	P	Pn	19 43 22.2	+0.1
WNVZ	Wahianoa	2.26	233	P	Pn	19 43 22.2	0.0
TRVZ	Turoa	2.27	234	P	Pn	19 43 22.4	0.0
PNHZ	Pukenui	2.35	214	P	Pn	19 43 22.1	-1.1
MKAZ	Moumakai	2.35	291	P	Pn	19 43 23.1	-0.2
MTVZ	Mangateitei	2.37	233	P	Pn	19 43 23.7	+0.1
WPHZ	Waipukurau	2.38	208	P	Pn	19 43 22.3	-1.3
PKVZ	Pokaka	2.40	236	P	Pn	19 43 24.4	+0.5
HIZ	Hauiti	2.46	256	P	Pn	19 43 25.9	+1.1
PRHZ	Porangahau	2.49	203	P	Pn	19 43 23.8	-1.4
WIAZ	Waiheke Island	2.50	297	P	Pn	19 43 25.4	+0.1
TSZ	Takapari Road	2.57	215	P	Pn	19 43 24.9	-1.4
ETAZ	East Tamaki Re	2.58	292	P	Pn	19 43 26.6	+0.3
GRZ	Great Barrier	2.61	311	P	Pn	19 43 26.5	-0.3
MBAZ	Mostatana North	2.68	296	P	Pn	19 43 28.1	+0.4
DVHZ	Dannevirke	2.69	210	P	Pn	19 43 25.8	-1.9
ANWZ	Angora Road	2.72	204	P	Pn	19 43 26.9	-1.3
VRZ	Vera Road	2.72	244	P	Pn	19 43 29.2	+0.9
EPAZ	Eden Park BICE	2.75	293	P	Pn	19 43 29.7	+1.1
AWAZ	Awhitu Peninsu	2.75	288	P	Pn	19 43 29.2	+0.6
HBAZ	Herne Bay Bore	2.77	293	P	Pn	19 43 30.3	+1.4
WTAZ	Waiatarua	2.85	290	P	Pn	19 43 31.1	+1.1
WAZ	Wanganui	2.89	231	P	Pn	19 43 30.2	-0.3
POWZ	Post Office Ro	2.93	214	P	Pn	19 43 29.4	-1.6
PRWZ	Pori Road	2.98	210	P	Pn	19 43 30.1	-1.7
BFZ	Birch Farm	2.99	205	P	Pn	19 43 29.6	-2.3
BFZ	Birch Farm	2.99	205	P	Pn	19 43 30.0	-2.0
OHWZ	Ohakea	3.00	221	P	Pn	19 43 31.5	-0.6
DREZ	Durham Road	3.15	246	P	Pn	19 43 36.0	+1.9
TIWZ	Tintock	3.21	209	P	Pn	19 43 32.8	-2.0
CPWZ	Castlepoint	3.21	204	P	Pn	19 43 32.3	-1.7
MRZ	Mangatainoka R	3.23	213	P	Pn	19 43 32.9	-2.3
PREZ	Palmer Road	3.24	244	P	Pn	19 43 37.8	+2.5
NEZ	North Egmont	3.25	245	P	Pn	19 43 37.5	+1.9
KHEZ	Kahui Hut	3.32	245	P	Pn	19 43 38.5	+2.0
WCZ	Waipu Caves	3.50	304	P	Pn	19 43 39.8	+0.9
SNZO	South Karori	4.15	216	P	Pn	19 43 44.3	-3.3
SNZO	South Karori	4.15	216	S	Sn	19 44 30.5	-4.3
QRZ	Quartz Range	5.04	234	P	Pn	19 43 57.0	-2.9
KHZ	Kahutara	5.55	216	P	Pn	19 44 02.8	-4.0
CTZ	Chatham Island	7.09	146	P	Pn	19 44 28.2	+0.4
WVZ	Waitaha Valley	7.46	225	P	Pn	19 44 31.1	-1.8
RPZ	Rata Peaks	7.73	220	P	Pn	19 44 33.5	-3.1
ODZ	Otahua Downs	8.91	215	P	Pn	19 44 48.0	-4.7
SYZ	Scrubby Hill	10.73	214	P	Pn	19 45 14.4	-3.1
STKA	Stephens Creek	30.25	271	P	P	19 48 53.2	+2.6
	1.4nm,0.5s,baz=100,slow=12,SNR=3.2						
	1.4nm,0.5s						
PMG	Port Moresby	39.68	308	LR	LR	20 05 32.8	
	comp=Z,69nm,18.5s,baz=268,slow=35						
ASAR	Alice Springs	40.02	278	P	P	19 50 15.0	+0.4
	1.7nm,0.5s,baz=126,slow=8.5,SNR=24						
	1.7nm,0.5s						
WRA	Warramunga Arr	41.72	283	P	P	19 50 28.8	+0.2
	1.1nm,0.4s,baz=124,slow=8.2,SNR=11						
	1.1nm,0.4s						
QSPA	South Pole Qui	52.15	180	P	P	19 52 03.4	+14
	0.7nm,0.4s,baz=307,slow=3.4,SNR=17						
	0.7nm,0.4s						
CMAR	Chiang Mai Arr	92.82	291	LR	LR	20 41 18.7	
	comp=Z,43nm,18.2s,baz=275,slow=38						

*SJA **24** 20:00:52.9*±*0.6,23°.83S×66°.61W,h221km±6km,ML3.9,*
MW3.8
*IDC **24** 20:00:52.1*±*1.6,23°.80S×66°.52W,h197km±17km,mb3.6/2,*
mbtmp3.9/8,Error ellipse: s-maj=23.7km s-min=14.2km
az=97.0
*GUC **24** 20:00:53.7*±*0.6,23°.84S×66°.65W,h222km±7km,ML4.2*

ISC 24 20:00:52.7±0.7,**23°.85S**±0°.04×**66°.58W**±0°.04,**h211**km±7km,
n45,σ1°69/65,6C-2D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.43	149	⇓*iP*	Pn	20 01 23.8	+2.3
SALTA		0.43	149	*eP*	Pn	20 01 18.6	-2.8
SALTA				*eP*		20 01 23.8	
SLA	San Lorenzo	1.31	131	⇓*iP*	Pn	20 01 28.2	+2.2
SLA	San Lorenzo	1.31	131	*eP*	Pn	20 01 28.3	+2.2
SLA				*eS*	S	20 01 50.6	-1.1
AZAP	Zapla	1.44	105	*eP*	Pn	20 01 29.1	+2.0
AZAP				*eS*	S	20 01 50.9	-2.7
AF01	San Pedro de A	1.72	301	*eP*	Pn	20 01 40.7	+11
AF01				*eS*	S	20 01 57.7	-0.4
YJA	Yavi	1.94	31	*eP*	Pn	20 01 33.9	+2.0
YJA	Yavi	1.94	31	*eP*	Pn	20 01 34.1	+2.1
YJA				*eS*	S	20 02 04.0	+1.9
FSA	Cafayete	2.31	166	*eP*	Pn	20 01 37.1	+1.7
FSA				*eS*	S	20 02 10.1	+1.5
PB06	IPOC Station P	2.98	292	⇑*iP*	Pn	20 01 44.2	+1.4
PB06				*eS*	S	20 02 21.7	+0.2
PB06				IAML		20 02 24.0	
	comp=E,541nm,0.1s						
PB06	IPOC Station P	2.98	292	*eP*	Pn	20 01 44.4	+1.6
PB06				*eS*	S	20 02 22.5	+1.0
PB06				IAML		20 02 24.1	
	comp=Z,263nm,0.4s						
GO02	Mina Guanaco	3.03	244	⇑*iP*	Pn	20 01 45.1	+1.5
GO02				*eS*	S	20 02 24.3	+1.3
GO02				IAML		20 02 24.8	
	comp=N,226nm,0.3s						
GO02	Mina Guanaco	3.03	244	*eP*	Pn	20 01 45.1	+1.5
PB09	IPOC Station P	3.19	309	*eP*	Pn	20 01 47.2	+1.9
PB09				*eS*	S	20 02 26.8	+0.6
PB09	IPOC Station P	3.19	309	*eP*	Pn	20 01 47.2	+1.9
PB09				IAML		20 02 32.6	
	comp=Z,121nm,0.4s						
PB03	IPOC Station P	3.43	301	⇑*iP*	Pn	20 01 49.1	+1.0
PB03				*eS*	S	20 02 30.3	-0.9
PB03	IPOC Station P	3.43	301	*eP*	Pn	20 01 48.6	+0.5
PB03				*eS*	S	20 02 30.4	-0.8
PB03				IAML		20 02 33.1	
	comp=Z,342nm,0.1s						
PB05	IPOC Station P	3.47	286	⇑*iP*	Pn	20 01 49.3	+0.8
PB05				*eS*	S	20 02 30.8	-1.2
PB05	IPOC Station P	3.47	286	*eP*	Pn	20 01 49.4	+0.8
PB05				*eS*	S	20 02 31.2	-0.8
PB05				IAML		20 02 37.5	
	comp=Z,85nm,0.5s						
PB14	IPOC Station P	3.57	257	*eP*	Pn	20 01 50.8	+0.9
PB14	IPOC Station P	3.57	257	*eP*	Pn	20 01 50.9	+0.9
PB14				*eS*	S	20 02 34.2	-0.2
PB14				IAML		20 02 38.5	
	comp=Z,66nm,0.3s						
PB10	IPOC Station P	3.66	275	⇑*iP*	Pn	20 01 51.5	+0.8
PB10	IPOC Station P	3.66	275	*eP*	Pn	20 01 51.6	+1.0
PB10				*eS*	S	20 02 35.0	-0.7
PB10				IAML		20 02 37.0	
	comp=Z,70nm,0.5s						
AC02	Maricunga	3.76	217	⇑*iP*	Pn	20 01 54.0	+1.6
AC02	Maricunga	3.76	217	*eS*	S	20 02 48.7	+10
PB01	IPOC Station P	3.88	316	*eP*	Pn	20 01 54.0	+0.6
PB01				IAML		20 02 42.9	
	comp=Z,116nm,0.3s						
AC01	Pan de Azucar	4.30	237	*eP*	Pn	20 01 58.5	0.0
AC01				*eS*	S	20 02 48.2	-1.9
AC01				IAML		20 02 49.4	
	comp=Z,60nm,0.5s						
PB08	IPOC Station P	4.40	327	*eP*	Pn	20 02 01.3	+1.1
PB08				IAML		20 02 56.6	
	comp=Z,84nm,0.3s						
PATCX	Punta Patache	4.47	312	*eP*	Pn	20 02 00.7	-0.2
PATCX				IAML		20 02 54.5	
	comp=Z,90nm,0.4s						
TA01	Diego Aracena	4.67	314	*eP*	Pn	20 02 03.9	+0.6
TA01				*eS*	S	20 02 56.9	-1.6
HMBC	Humberstone	4.70	319	*eP*	Pn	20 02 03.3	-0.4
HMBC				IAML		20 03 00.2	
	comp=Z,283nm,0.4s						
GO01	Chusmiza	4.82	329	*eP*	Pn	20 02 06.4	+0.8
GO01				*eS*	S	20 03 02.2	-0.5
GO03	Copiapo	4.97	221	*eP*	Pn	20 02 07.0	0.0
GO03				*eS*	S	20 03 04.5	-1.1
PB11	IPOC Station P	4.97	324	*eP*	Pn	20 02 06.5	-0.7
PB11				IAML		20 03 05.6	
	comp=Z,118nm,0.5s						
LPAZ	La Paz	7.67	349	P	Pn	20 02 42.0	-0.2
	comp=Z,2.3nm,0.6s,baz=200,slow=4.3,SNR=7.8						
LPAZ				S	S	20 04 07.2	-2.2
	comp=Z,4.1nm,0.9s,baz=347,slow=20,SNR=4.7						
CFA	Coronel Fontan	7.86	190	P	Pn	20 02 43.8	-0.3
	comp=Z,1.8nm,0.3s,baz=54,slow=23,SNR=9.2						
CFA				S	S	20 04 05.3	-7.7
	comp=Z,5.4nm,0.4s,baz=270,slow=20,SNR=14						
CPUP	Villa Florida	8.74	108	P	Pn	20 02 54.5	-1.0
	comp=Z,4.4nm,0.8s,baz=317,slow=12,SNR=9.5						
SIV	San Ignacio	9.38	35	P	Pn	20 03 02.7	-1.2
	comp=Z,2.3nm,0.3s,baz=237,slow=12,SNR=14						
SIV				S	S	20 04 46.7	-2.6
	comp=Z,1.0nm,0.7s,baz=148,slow=5.9,SNR=3.2						
PLCA	Paso Flores	17.16	190	P	P	20 04 39.6	+1.0
	comp=Z,1.3nm,0.5s,baz=346,slow=11,SNR=11						
BDFB	Brasilia	19.28	68	P	P	20 05 01.2	-0.6
	comp=Z,3.6nm,0.6s,baz=239,slow=13,SNR=5.6						
SNAA	Sanae	59.36	161	P	P	20 10 33.1	+0.8
	comp=Z,0.8nm,0.6s,baz=265,slow=8.3,SNR=6.9						
	comp=Z,0.8nm,0.6s						
QSPA	South Pole Qui	66.35	180	P	P	20 11 20.1	+1.6
	comp=Z,1.8nm,0.5s,baz=335,slow=1.2,SNR=37						
	comp=Z,1.8nm,0.5s						
ASAR	Alice Springs	128.75	204	PKP	PKPdf	20 19 35.8	+0.2
	comp=Z,0.4nm,0.7s,baz=153,slow=2.0,SNR=6.9						
WRA	Warramunga Arr	131.93	207	PKP	PKPdf	20 19 42.5	+0.8
	comp=Z,0.7nm,0.8s,baz=155,slow=1.9,SNR=5.0						
MKAR	Makanchi Array	146.17	40	PKPbc	PKPbc	20 20 08.2	+0.2
	comp=Z,0.4nm,0.6s,baz=319,slow=2.6,SNR=3.8	

RDMU	Red Mountain	4.59	225	IAML			20 14 13.5
	comp=N,40nm,1.1s						
RDMU				IAML			20 14 14.0
	comp=E,43nm,1.1s						
DGMT	Dagmar	4.62	9			Pn	20 12 56.9 -1.5
Q24A	Divide	4.95	178			Pb	20 13 12.8 -2.3
HWUT	Hardware Ranch	5.14	245	IAML			20 14 33.7
	comp=E,38nm,0.9s						
HWUT				IAML			20 14 43.1
	comp=E,37nm,0.9s						
BSUT	Blindstream Ca	5.26	232	IAML			20 14 44.6
	comp=N,24nm,1.6s						
BSUT				IAML			20 14 45.9
	comp=E,23nm,1.9s						
TCUT	Toone Canyon	5.29	240			Pn	20 13 05.9 -1.9
ELK	Elko	7.99	250	Pn		Pn	20 13 47.5 +2.6
	comp=E,0.8nm,0.3s,baz=59,slow=13,SNR=12						
ELK				Lg	Lg		20 15 53.5
	comp=E,0.1nm,0.3s,baz=206,slow=17,SNR=1.1						
	comp=E,1.5nm,0.3s						
I10CA	LAC DU BONNET	8.93	42	I	I		21 07 50.0
	baz=224,slow=325,SNR=2.4						
ANMO	Albuquerque	9.01	186	LR	LR		20 17 15.2
	comp=E,41nm,20.7s,baz=206,slow=37						
ULM	Lac du Bonnet	9.04	42	Pn		Pn	20 14 00.4 +1.5
	comp=E,1.3nm,0.3s,baz=232,slow=12,SNR=6.0						
ULM				Lg	Lg		20 16 31.9
	comp=E,0.7nm,0.3s,baz=324,slow=22,SNR=3.9						
ULM				LR	LR		20 17 04.6
	comp=E,48nm,20.6s,baz=247,slow=34						
	comp=E,3.3nm,0.3s						
LPAZ	La Paz	68.89	142	P		P	20 22 54.8 +0.1
	comp=E,1.8nm,0.3s,baz=327,slow=7.3,SNR=12						
	comp=E,1.8nm,0.3s						
ZALV	Zalesovo Beam	82.12	354	P		P	20 24 10.7 +1.3
	comp=E,0.5nm,0.4s,baz=6.9,slow=5.0,SNR=3.0						
	comp=E,0.5nm,0.4s						
MKAR	Makanchi Array	89.42	355	P		P	20 24 47.5 +1.6
	comp=E,0.4nm,0.8s,baz=18,slow=4.3,SNR=4.7						
	comp=E,0.4nm,0.8s						

*NNC **24** 20:26:25.9±0.5, 43°.03N×78°.31E, h0km, mb2.5, mpv3.0,*
Error ellipse: s-maj=4.5km s-min=2.0km az=173.0
*SOME **24** 20:26:26.4, 43°.03N×78°.32E, h10km*
*KRNET **24** 20:26:27.8±0.1, 42°.99N×78°.17E, h13km, mb2.3*

ISC 24 20:26:26.0±1.1, 43°.05N±0°.02×78°.27E±0°.02, h2km±10km, n37, σ1°38/72, 15C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	0.10	85	P		Pg	20 26 28.1 +0.1
	120nm,0.1s						
SATY				S		Sg	20 26 29.3 -0.1
	1μm,0.1s						
ZHN	Zhinishke	0.17	46	P		Pg	20 26 29.7 +0.4
	99nm,0.1s						
ZHN				S		Sg	20 26 32.3 +0.7
	639nm,0.1s						
ZHN	Zhinishke	0.17	46	eP		Pg	20 26 29.8 +0.4
	112nm,0.1s						
ZHN				eS		Sg	20 26 32.3 +0.7
	647nm,0.1s						
KURS	Kuram	0.44	351	P		Pg	20 26 35.4 +0.9
	1.7nm,0.1s						
KURS				S		Sg	20 26 41.5 +1.2
	9.5nm,0.2s						
UZB	Uzynbulak	0.56	80	P		Pg	20 26 36.2 -0.6
	7.5nm,0.1s						
UZB				S		Sg	20 26 43.2 -0.8
	79nm,0.1s						
UZB	Uzynbulak	0.56	80	eP		Pg	20 26 36.2 -0.6
	7.5nm,0.1s						
UZB				eS		Sg	20 26 43.2 -0.8
	79nm,0.1s						
PRZ	Przheval'sk	0.57	170	⇑eP		Pg	20 26 38.1 +1.1
PRZ				⇑eS		Sg	20 26 45.4 +0.9
KOTS	Kotyrbulak	0.86	283	P		Pg	20 26 43.2 +0.6
	3.7nm,0.2s						
KOTS				S		Sb	20 26 55.2 -0.8
	9.9nm,0.2s						
KOTS	Kotyrbulak	0.86	283	eP		Pg	20 26 43.2 +0.6
	3.7nm,0.2s						
KOTS				eS		Sb	20 26 55.2 -0.8
	9.9nm,0.2s						
SHLS	Shalkode	0.88	83	P		Pn	20 26 48.0 +2.4
	2.5nm,0.1s						
SHLS				S		Sn	20 27 03.5 +4.4
	12nm,0.2s						
SHLS	Shalkode	0.88	83	eP		Pn	20 26 48.0 +2.4
	2.5nm,0.1s						
SHLS				eS		Sn	20 27 03.5 +4.4
	12nm,0.2s						
MDOK	Medeo	0.90	278	⇓P		Pg	20 26 43.4 +0.1
	1.1nm,0.3s						
MDOK				Pg		Pb	20 26 43.5 -0.9
	2.9nm,0.2s						
MDOK				Lg		Lg	20 26 55.9
	10nm,0.3s						
MDOK				⇑S		Sg	20 26 55.9 +1.0
	2.5nm,0.4s						
PDGK	Podgornoye	0.94	72	⇑P		Pg	20 26 42.8 -1.1
	2.3nm,0.3s						
PDGK				⇑S		Sg	20 26 54.9 -1.2
	6.1nm,0.4s						
TNSS	Tian-Shan	0.97	270	P		Pg	20 26 45.0 +0.4
	2.9nm,0.1s						
TNSS				S		Sb	20 26 58.5 -0.7
	6.2nm,0.2s						
TNSS	Tian-Shan	0.97	270	eP		Pg	20 26 45.0 +0.4
	2.9nm,0.1s						
TNSS				eS		Sb	20 26 58.5 -0.7
	6.2nm,0.2s						
BLB	Baldybastay	1.06	8	P		Pg	20 26 46.6 +0.3
	23nm,0.1s						
BLB				S		Sb	20 27 00.9 -0.6
	18nm,0.3s						
KDJ	Kajisay	1.22	221	⇑eP		Pn	20 26 48.7 -1.6
KDJ				⇑eS		Sb	20 27 05.0 -1.2
CHKK	Chushkaly	1.23	311	P		Pb	20 26 49.8 -0.2
	2.4nm,0.2s						
CHKK				S		Sn	20 27 06.6 -1.0
	5.9nm,0.1s						
CHKK	Chushkaly	1.23	311	eP		Pb	20 26 49.8 -0.2
	2.4nm,0.2s						
CHKK				eS		Sn	20 27 06.5 -1.0
	5.9nm,0.1s						
KTBS	Karatobe	1.33	300	P		Pg	20 26 51.8 +0.3
	5.2nm,0.1s						
KTBS				S		Sg	20 27 09.5 +0.7
	5.7nm,0.1s						
KNOS	Konyrlen	1.47	27	P		Pb	20 26 53.6 -0.5
	8.8nm,0.1s						
KNOS				S		Sg	20 27 13.1 -0.1
	4.0nm,0.1s						
KTMS	Ketmen	1.57	75	P		Pn	20 26 54.5 -0.6
	1.1nm,0.1s						
KTMS				S		Sn	20 27 14.7 -1.5
	6.5nm,0.3s						
KTMS	Ketmen	1.57	75	eP		Pn	20 26 54.5 -0.6
	1.1nm,0.1s						
KTMS				eS		Sn	20 27 14.7 -1.5
	6.5nm,0.3s						
KST	Kastek	1.69	271	P		Pg	20 26 58.5 +0.1
	0.9nm,0.2s						
KST				S		Sg	20 27 21.5 +1.2
	3.7nm,0.4s						
KST	Kastek	1.69	271	eP		Pg	20 26 58.5 +0.1
	0.9nm,0.2s						
KST				eS		Sg	20 27 21.5 +1.2
	3.7nm,0.4s						
ULHL	Ulahol	1.70	242	⇑iP		Pb	20 26 57.6 -0.5
ULHL				⇑iS		Sb	20 27 20.3 +0.3
BOOM	Boomskoye usch	1.80	253	⇓eP		Pb	20 26 59.7 -0.2
BOOM				⇓eS		Sb	20 27 23.3 +0.3
TDK	Taldygorghan	1.95	3	Pg		Pb	20 27 02.6 +0.3
	5.1nm,0.1s						
TDK				Lg		Lg	20 27 28.5
	20nm,0.2s						
TDK	Taldygorghan	1.95	3	eP		Pb	20 27 02.6 +0.3
	5.1nm,0.1s						
TDK				eS		Sg	20 27 28.5 -0.3
	20nm,0.2s						
TKM2	Tokmak 2	1.96	267	⇓Pg		Pg	20 27 06.7 +3.1
	0.9nm,0.5s						
TKM2				⇓Lg		Lg	20 27 30.0
	2.5nm,0.3s						
TKM2	Tokmak 2	1.96	267	⇓iP		Pg	20 27 03.5 -0.1
TKM2				⇓iS		Sg	20 27 28.7 -0.4
NRN	Naryn	2.33	227	⇓eP		Pb	20 27 08.3 -0.7
NRN				⇓eS		Sb	20 27 38.4 0.0
CHMS	Chumysh	2.58	270	⇑iP		Pb	20 27 12.1 -0.9
CHMS				⇑iS		Sb	20 27 43.8 -1.4
USP	Ospenovka	2.77	276	⇓iP		Pb	20 27 14.7 -1.5
USP				⇓iS		Sb	20 27 48.5 -2.0
AAK	Ala-Archa	2.81	263	⇓Pg		Pb	20 27 17.5 +0.5
	0.4nm,0.4s						
AAK				⇓Lg		Lg	20 27 55.5
	2.4nm,0.6s						
AAK	Ala-Archa	2.81	263	⇑iP		Pb	20 27 15.1 -1.8
AAK				⇑iS		Sb	20 27 49.3 -2.5
EKS2	Erkin-Say	3.32	265	⇑iP		Pb	20 27 22.3 -3.5
EKS2				⇑iS		Sn	20 28 01.8 +2.5

*GCG **24** 20:32:12.6±2.2, 16°.99N×90°.56W, h35km±999km, MD4.5, ML4.7, MW3.6*
*CATAC **24** 20:32:23.4±0.9, 16°N±9°×9°1W±°, h1km, M4.3/9, MLv4.3/9,*
Error ellipse: s-maj=19.4km s-min=5.5km az=17.6, confirmed

ISC 24 20:32:12.2±1.3, 16°.88N±0°.08×90°.59W±0°.05, h10km, n19, σ1°89/21, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETF	Flores	0.69	87	iP		Pg	20 32 25.2 -0.4
PETF				iS		Sb	20 32 35.8 -0.3
PETF				IAML			20 32 39.7
	comp=N,14μm,0.6s						
AVCB	Coban	1.42	173	IAML			20 32 59.2
	comp=N,30μm,0.3s						
CCIG	Comitan	1.60	248	iP		Pn	20 32 39.7 -1.0
CCIG				IAML			20 33 06.2
	comp=N,2μm,0.4s						
CCIG	Comitan	1.60	248	P		Pn	20 32 40.0 -0.7
CCIG	Comitan	1.60	248	S		Sn	20 33 02.0 +0.5
HUEH	Huehuetenango	1.79	210	iP		Pn	20 32 43.2 -0.1
HUEH				iS		Sn	20 33 04.2 -1.9
HUEH				IAML			20 33 10.9
	comp=E,8μm,0.6s						
HUEH	Huehuetenango	1.79	210	P		Pn	20 32 43.5 +0.2
QUEO	Labor Ovalle	2.19	204	iS		Sn	20 33 18.3 +2.1
QUEO				IAML			20 33 26.8
	comp=N,6μm,0.5s						
TGIG		2.43	268	iP		Pn	20 32 50.8 -1.2
STG8	El Palmar, Qui	2.53	197	iP		Pn	20 32 51.4 -2.1
STG8				iS		Sn	20 33 21.8 -2.7
STG8				IAML			20 33 24.8
	comp=N,3μm,0.4s						
STG0	El Palmar, Qui	2.55	197	iP		Pn	20 32 52.3 -1.4
STG0				iS		Sn	20 33 21.7 -3.1
ESQI	Esquipulas	2.60	152	P		Pb	20 33 00.1 +1.1
MTO3	Montecristo	2.74	154	iP		Pn	20 32 55.4 -1.1
MTO3	Montecristo	2.74	154	P		Pn	20 32 55.3 -1.1
CEVE	Cerro Verde	3.18	163	P		Pb	20 33 12.2 +3.3
PMON	Piamonte	3.38	158	P		Pb	20 33 14.0 +1.6
PAVA	Las Pavas	3.53	153	P		Pb	20 33 17.3 +2.4
COEG	Centro de Oper	3.64	153	P		Pb	20 33 19.3 +2.6
HERN	Volcan Telica	5.59	139	P		Pb	20 33 55.8 +5.8

*GCG **24** 20:38:16.8±2.2, 14°.72N×93°.74W, h35km±999km, MD4.3*
*MEX **24** 20:38:18.7±0.7, 14°.83N×93°.67W, h11km±43km, MD4.0*

ISC 24 20:38:08.7±2.1, 14°.60N±0°.07×93°.82W±0°.06, h8km±11km, n15, σ1°60/27, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.24	28	eP		Pn	20 38 34.1 +1.9
PCIG				eS		Sg	20 38 46.5 -2.1
PATR	El Naranjo	1.62	71	eP		Pg	20 38 40.9 +1.1
PATR				eS		Sg	20 39 00.1 -0.7
PAVE	Pavencul	1.70	70	eP		Pg	20 38 42.1 +0.8
PAVE				eS		Sn	20 39 00.6 -0.1
RTAL	Retalhuleu	2.06	92	eS		Sg	20 39 14.5 -0.5
TGIG		2.27	17	eP		Pb	20 38 50.1 +0.3
TGIG				eS		Sn	20 39 15.0 +0.5
TGIG		2.27	17	eP		Pb	20 38 50.5 +0.6
TGIG				eS		Sn	20 39 14.5 0.0
TGBT	Tuxtla Gutierr	2.27	18	eS		Sn	20 39 14.9 +0.2
CCIG	Comitan	2.33	44	eP		Pg	20 38 52.6 -0.8
CCIG				eS		Sn	20 39 17.1 +0.7
CCIG	Comitan	2.33	44	iP		Pg	20 38 53.1 -0.3
CCIG				iS		Sb	20 39 19.2 -0.9
STG8	El Palmar, Qui	2.40	93	eP		Pn	20 38 48.9 +0.4
STG5	El Palmar, Qui	2.41	94	eP		Pn	20 38 49.8 +1.4
STG5				eS		Sn	20 39 15.6 -2.5
STG0	El Palmar, Qui	2.41	94	eP		Pn	20 38 50.1 +1.6
STG0				eS		Sn	20 39 16.0 -2.3
CMIG	Matias Romero	2.67	338	eP		Pn	20 38 54.5 +2.5
CMIG				eS		Sn	20 39 21.6 -3.0
UXUV	UXUV	2.72	353	eP		Pb	20 38 56.6 -0.9
UXUV				eS		Sn	20 39 26.1 +0.4
NEUV	Arroyo Zacate	3.63	329	eP		Pn	20 39 07.1 +2.0
NEUV				eS		Sn	20 39 45.2 -3.0

IDC 24 21:09:27.0±2.0, 9°.40N×126°.98E, h0km, mb3.7/5, mbtmp3.7/5, MS3.0/2, Error ellipse: s-maj=197.9km s-min=30.0km az=71.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.70	211	LR	LR	21 11 31.3	
	comp=Z,122nm,20.4s,baz=355,slow=46						
ASAR	Alice Springs	33.56	168	P		P	21 16 08.6 -0.2
	0.1nm,0.6s,baz=341,slow=8.4,SNR=1.3						
	0.1nm,0.6s						
KLR	Kul'dur	39.90	5	LR	LR	21 34 28.4	
	comp=Z,49nm,18.4s,baz=250,slow=38						
SONM	Songino Array	42.07	339	P		P	21 17 20.0 -0.7
	0.5nm,0.5s,baz=146,slow=10,SNR=2.6						
	0.5nm,0.5s						
MKAR	Makanchi Array	53.14	323	P		P	21 18 46.5 -0.2
	0.7nm,0.7s,baz=115,slow=8.1,SNR=6.9						
	0.7nm,0.7s						
ARCES	ARCESS Array B	85.25	340	P		P	21 22 05.3 0.0
	1.3nm,0.9s,baz=78,slow=5.9,SNR=3.7						
	1.3nm,0.9s						
FINES	FINESS Array B	86.98	332	P		P	21 22 14.8 +0.8
	1.1nm,0.8s,baz=66,slow=3.4,SNR=3.0						
	1.1nm,0.8s						

IDC 24 21:51:38.3±7.2, 30°.12S×177°.59W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=291.1km s-min=63.7km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.48	266	P		P	21 59 43.1 -0.5
	0.3nm,0.8s,baz=105,slow=7.6,SNR=1.9						
	0.3nm,0.8s						
WRA	Warramunga Arr	44.44	272	P		P	21 59 51.1 -0.2
	0.6nm,0.4s,baz=111,slow=7.4,SNR=4.9						
	0.6nm,0.4s						
FINES	FINESS Array B	145.00	340	PKPbc		PKPbc	22 11 15.7 -0.4
	0.7nm,0.9s,baz=46,slow=4.0,SNR=3.6						

*TAP **24** 22:07:16.5, 24°.62N×120°.95E, h5km, ML2.8, B*

ISC 24 22:07:17.4±0.8, 24°.61N±0°.02×120°.97E±0°.02, h10km±4km, n93, σ0°68/156, 7C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSTT	Nanjuang	0.03	51	⇓iP		Pg	22 07 18.4 -0.8
NSTT				iS		Sg	22 07 19.8 -0.8
LIOB	Emei	0.05	48	⇑iP		Pg	22 07 18.6 -0.8
LIOB				S		Sg	22 07 20.2 -0.7
NFF	Wufeng Townshi	0.13	81	⇑iP		Pg	22 07 20.5 0.0
NFF				eS		Sg	22 07 23.3 +0.6
NMLH	Miaoli	0.18	246	⇑iP		Pg	22 07 21.2 0.0
NMLH				iS		Sg	22 07 25.0 +1.1
SBCB	Hsinchu	0.18	4	P		Pg	22 07 21.1 -0.2
SBCB				S		Sg	22 07 24.6 +0.7
HSN	Hsinchu	0.19	359	P		Pg	22 07 22.2 +0.8
HSN				S		Sg	22 07 26.3 +2.2
KSHI	Guanxi Townshi	0.25	48	⇑iP		Pg	22 07 23.0 +0.6
KSHI				S		Sb	22 07 28.5 +2.6
TWQ1	Liyutan	0.32	215	⇑iP		Pg	22 07 24.2 +0.4
TWQ1				S		Sb	22 07 29.8 -0.6
WHP	Taichung City	0.33	184	⇓iP		Pg	22 07 24.5 +0.5
WHP				S		Sb	22 07 29.6 -1.2
NSK	Sanguang	0.36	79	⇑iP		Pg	22 07 24.9 +0.4
NSK				eS		Sg	22 07 30.2 +1.0
YHNB	Yeheng	0.37	81	P		Pg	22 07 25.2 +0.5
YHNB	Yeheng	0.37	81	S		Sb	22 07 30.9 -1.1
YHNB	Yeheng	0.37	81	⇑iP		Pg	22 07 25.1 +0.3
YHNB				S		Sg	22 07 30.7 +1.0
TDCB	Techi	0.39	155	⇓P		Pg	22 07 25.4 +0.3
TDCB				S		Sg	22 07 31.3 +0.8
WDJ	Dajia District	0.40	229	⇓iP		Pb	22 07 26.4 -0.1
WDJ				eS		Sb	22 07 33.0 +0.3
TWT	Tachien	0.40	152	⇓P		Pg	22 07 25.7 +0.4
TWT				eS		Sb	22 07 31.8 -1.1
NNS	Nan Shan	0.40	115	⇓iP		Pb	22 07 26.1 -0.6
NNS				S		Sb	22 07 32.2 -0.7
NCUH	Zhongli	0.41	28	eP		Pb	22 07 26.3 -0.4
NCUH				eS		Sb	22 07 33.0 +0.1
NNSB	Datong	0.41	116	⇓iP		Pg	22 07 26.1 +0.5
NNSB				S		Sg	22 07 31.9 +0.8
FUSS	Fushou	0.44	146	⇓P		Pg	22 07 26.5 +0.5
FUSS				iS		Sb	22 07 33.3 -0.7
LATG	Datong	0.51	98	⇓iP		Pb	22 07 28.1 -0.4
LATG				S		Sg	22 07 34.9 +0.8
NWLT	Wulai	0.51	71	P		Pg	22 07 27.6 +0.2
NWLT				eS		Sb	22 07 35.0 -0.9
TCU	Taichung	0.54	210	P		Pb	22 07 29.2 +0.3
TCU				eS		Sb	22 07 38.0 +1.4
WHF	Hehuan Shan	0.54	150	⇓iP		Pb	22 07 28.9 -0.2
WHF				eS		Sb	22 07 36.9 -0.1
ENTT	Nioudou	0.54	87	eP		Pb	22 07 28.5 -0.5
ENTT				eS		Sg	22 07 35.8 +0.8
WCS	Beigang Elemen	0.55	186	P		Pb	22 07 28.7 -0.5
WCS				eS		Sb	22 07 36.4 -0.8
FUSB	Fushanzhiwuyua	0.58	75	P		Pg	22 07 28.9 +0.3
FUSB				S		Sb	22 07 37.2 -0.7
TATO	Taipei	0.59	52	P		Pb	22 07 29.7 -0.1
NHDH	Xindian Distri	0.61	55	eP		Pb	22 07 30.2 0.0
NHDH				eS		Sb	22 07 39.9 +1.1
ETLH	Xiulin Townshi	0.61	131	iP		Pb	22 07 30.3 0.0
ETLH				iS		Sb	22 07 39.0 0.0
WUSB	Renai	0.63	168	⇓iP		Pg	22 07 29.9 +0.3
WUSB				iS		Sg	22 07 38.5 +0.6
TWE	Neicheng	0.64	80	eP		Pb	22 07 30.4 -0.3
TWE				eS		Sb	22 07 39.7 0.0
WCHH	Zhanghua	0.65	216	eP		Pb	22 07 31.2 +0.4
WCHH				eS		Sn	22 07 41.4 -1.6
TWA	Mucha	0.67	56	iP		Pn	22 07 32.4 -0.5
TWA				eS		Sn	22 07 42.4 -1.0
NDS	Dongshan	0.68	88	eP		Pg	22 07 29.6 -0.9
OWD	Renai	0.68	164	iP		Pb	22 07 31.0 -0.4
OWD				iS		Sg	22 07 39.9 +0.5
LXIB	Xiulin Townshi	0.71	146	eP		Pb	22 07 32.1 +0.2
LXIB				eS		Sb	22 07 41.1 -0.8
TYC	Yuchr	0.71	189	eP		Pb	22 07 31.9 0.0
TYC				eS		Sb	22 07 41.6 -0.1
NACB	Ninganchiao	0.71	127	P		Pb	22 07 31.9 0.0
NACB	Ninganchiao	0.71	127	⇓P		Pb	22 07 31.9 0.0
NACB				eS		Sg	22 07 40.2 -0.3
ENA	Nanau	0.72	104	eP		Pb	22 07 31.8 -0.3
ENA				eS		Sb	22 07 41.9 -0.2
SMLT	Sun Moon Lake	0.73	185	eP		Pg	22 07 31.4 0.0
SMLT				iS		Sb	22 07 42.4 +0.1
EAHA	Aohua	0.75	112	eP		Pb	22 07 33.0 +0.4
EAHA				eS		Sg	22 07 42.2 +0.4
EWUT	Wuta	0.75	102	eP		Pb	22 07 32.8 +0.3
EWUT				iS		Sb	22 07 42.4 -0.4
ZUZH	Zhuzihu	0.76	43	eP		Pb	22 07 32.8 +0.1
ZUZH				S		Sb	22 07 43.8 +0.8
ANP	Anpu	0.76	41	eP		Pb	22 07 32.7 0.0
ANP				eS		Sb	22 07 44.0 +0.8
YM01	YM01	0.76	45	P		Pb	22 07 32.7 0.0
YM01				eS		Sb	22 07 44.2 +1.0
WNT	Mingjian	0.78	200	eP		Pn	22 07 34.0 -0.4
TWD	Chiawan	0.78	133	eP		Pb	22 07 33.2 +0.2
ESAO	Su ao	0.79	92	eP		Pb	22 07 33.0 -0.3
TWC	Suao	0.80	90	eP		Pb	22 07 33.2 -0.2
TWC				eS		Sb	22 07 44.1 -0.1
ETM	Tongmen	0.80	143	eP		Pb	22 07 33.2 -0.1
YM08	YM08	0.80	44	eP		Pb	22 07 33.5 0.0
WJS	Zhushan	0.82	196	eP		Pn	22 07 35.4 +0.5
WJS				eS		Sn	22 07 47.5 +0.4
SSLB	Suanglung	0.82	181	P		Pb	22 07 33.6 -0.1
SSLB	Suanglung	0.82	181	P		Pb	22 07 33.6 -0.1
SSLB				eS		Sb	22 07 44.4 -0.5
TIPB	Shuangxi	0.85	65	eP		Pb	22 07 34.4 +0.1
TIPB				eS		Sb	22 07 46.4 +0.5
NWF	Wu-fen Shan	0.87	58	eP		Pb	22 07 35.0 +0.5
NWF				eS		Sn	22 07 47.7 -0.8
VWDT	VWDT	0.87	170	eP		Pb	22 07 34.4 -0.1
TWY	Chenhua	0.87	41	P		Pg	22 07 33.7 -0.5
TWY				eS		Sb	22 07 47.2 +0.8
ESL	Shilin	0.90	152	eP		Pb	22 07 35.4 +0.3
EGS		0.90	75	eP		Pn	22 07 35.9 -0.2
EGS				eS		Sn	22 07 48.9 -0.3
WHYT	Xinyi Township	0.92	187	iP		Pn	22 07 36.2 -0.1
WHYT				iS		Sn	22 07 49.1 -0.5
SXI1	Grass Mountain	0.95	59	P		Pb	22 07 36.1 +0.1
SXI1				eS		Sb	22 07 49.4 +0.7
WARBT	Fenglin Townsh	0.97	157	⇓iP		Pb	22 07 36.3 +0.1
WARBT				eS		Sg	22 07 48.6 +0.1
SHUL	Shoufeng	0.98	147	eP		Pn	22 07 37.3 +0.1
SHUL				eS		Sn	22 07 50.3 -0.8
WDLH	Douliu	1.00	203	eP		Pb	22 07 37.0 +0.2
WDLH				iS		Sn	22 07 52.3 +0.7
TWB1	Santiao Chiao	1.00	67	P		Pb	22 07 36.9 0.0
TWB1				iS		Sn	22 07 51.3 -0.4
EGFH	Guangfu	1.02	156	eP		Pn	22 07 37.5 -0.3
WTK	Tuku	1.06	210	eP		Pb	22 07 37.9 +0.1
WTK				eS		Sn	22 07 54.0 +0.9
ALS	Alishan	1.11	188	P		Pn	22 07 39.4 +0.2
ALS				iS		Sn	22 07 55.6 +1.0
EHY	Hungye	1.15	164	P		Pn	22 07 39.7 +0.2
HGSD	Ruisui	1.19	160	eP		Pg	22 07 40.5 +0.3
WCKO	Fanlu	1.21	196	eP		Pg	22 07 40.7 0.0
YULB	Yu-li	1.25	166	P		Pb	22 07 41.0 -0.1
YULB	Yu-li	1.25	166	S		Sn	22 07 59.0 +1.2
YULB	Yu-li	1.25	166	eP		Pb	22 07 40.9 -0.1
WSL	Shuilin Townsh	1.28	212	eP		Pn	22 07 41.1 -0.2
WSL				eS		Sg	22 08 00.1 +1.5
TWF1	Yuli	1.29	167	eP		Pb	22 07 41.7 0.0
CHN4	Tsaushan	1.30	196	eP		Pb	22 07 41.7 -0.2
WTP	Ta-pu	1.40	194	eP		Pn	22 07 42.9 0.0

44nm,0.5s,baz=5.9,slow=8.9,SNR=45
ATAH S **Sn** **22 12 39.8 -2.5**
35nm,0.7s,baz=134,slow=24,SNR=6.1
MACC Macarena, Meta 5.49 45 P **Pn** **22 11 39.4 -1.4**
LPAZ La Paz 17.23 147 P **P** **22 14 06.3 -1.9**
0.4nm,0.5s,baz=344,slow=7.4,SNR=1.7
YKA Yellowknife Ar 69.89 343 P **P** **22 21 09.3 +0.3**
0.2nm,0.5s,baz=140,slow=5.9,SNR=5.3
0.2nm,0.5s
ILAR Eielson Array 82.86 336 P **P** **22 22 23.6 +1.8**
0.4nm,0.7s,baz=104,slow=7.3,SNR=4.1
0.4nm,0.7s
QSPA South Pole Qui 88.28 180 P **P** **22 22 52.0 +3.3**
1.4nm,0.8s,baz=165,slow=2.4,SNR=5.6
1.4nm,0.8s
ASAR Alice Springs 140.19 229 PKP **PKiKP** **22 29 28.2 -0.2**
0.3nm,0.6s,baz=88,slow=1.8,SNR=2.0

---

*IDC **24** 22:10:51.1±2.2, 37°.91N×66°.93E, h0km, mb3.6/6, mbtmp3.6/9, ML3.4/3, MS2.8/1, Error ellipse: s-maj=36.4km s-min=16.1km az=170.0*
*ISU **24** 22:10:55, 38°.05N×67°.03E, h13km*
*NNC **24** 22:10:58.0±9.3, 38°.77N×66°.60E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=86.6km s-min=55.3km az=175.0*

ISC 24 22:10:51.8±2.4, 37°.98N±0°.09×66°.98E±0°.05, h6km±12km, n26, σ1§93/38, mb3.5/6, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKMR	**Pachkamar**	**0.73**	**320**	P	**Pn**	**22 11 09.6**	**+0.9**
PKMR				S	**Sn**	**22 11 20.0**	**-0.2**
KTAB	**Kitab**	**1.15**	**356**	P	**Pn**	**22 11 16.3**	**+1.7**
KTAB				S	**Sn**	**22 11 31.8**	**+1.1**
AGL	**Agalyk**	**1.53**	**357**	P	**Pg**	**22 11 22.7**	**+1.5**
AGL				S	**Sg**	**22 11 42.9**	**+1.8**
BXML	**Bakhmal**	**1.89**	**25**	P	**Pb**	**22 11 27.9**	**+1.1**
BXML				S	**Sg**	**22 11 51.8**	**-0.7**
DZI	**Dzhizak**	**2.23**	**17**	P	**Pg**	**22 11 34.3**	**-0.2**
DZI				S	**Sg**	**22 12 03.4**	**0.0**
NUT	**Nurota**	**2.76**	**339**	P	**Pb**	**22 11 42.4**	**+0.8**
NUT				S	**Sg**	**22 12 18.5**	**-1.9**
NZBK	**Nazarbek**	**3.63**	**26**	P	**Pb**	**22 11 55.2**	**-1.2**
NZBK				S	**Sb**	**22 12 43.6**	**+2.9**
TGS	**TashGRES**	**3.95**	**29**	P	**Pn**	**22 11 57.5**	**+4.5**
TGS				S	**Sb**	**22 12 48.5**	**-1.5**
CHMI	**Chimion**	**4.21**	**56**	P	Pn	22 12 02.5	+6.0
CHMI				S	**Sb**	**22 12 58.4**	**+1.1**
CHMG	**Chimgan**	**4.26**	**32**	P	**Pb**	**22 12 03.3**	**-3.9**
CHMG				S	**Sb**	**22 13 00.0**	**+1.1**
FRG	**Fergana**	**4.43**	**56**	P	Pn	22 12 05.8	+6.2
FRG				S	**Sb**	**22 13 05.7**	**+2.0**
KK31	**Karatay Array**	**5.78**	**27**	⇑Pn	**Pn**	**22 12 17.7**	**-0.4**
1.7nm,0.3s,baz=217,slow=12							
KK31				⇑Sn	**Sn**	**22 13 21.2**	**-3.5**
1.5nm,0.2s,baz=221,slow=23							
AAK	**Ala-Archa**	**7.38**	**49**	Pn	**Pn**	**22 12 42.1**	**+1.8**
1.1nm,0.3s,baz=297,slow=1.6,SNR=13							
AAK				Sn	**Sn**	**22 14 05.5**	**+1.0**
0.6nm,0.3s,baz=116,slow=14,SNR=4.1							
2.5nm,0.4s							
AAK	**Ala-Archa**	**7.38**	**49**	⇑Pn	**Pn**	**22 12 42.5**	**+2.2**
4.1nm,0.8s							
AAK				⇓Sn	**Sn**	**22 14 05.0**	**+0.5**
4.7nm,0.8s							
AB31	**Akbulak array**	**12.36**	**338**	P	**Pn**	**22 13 45.0**	**-3.2**
0.7nm,0.4s,baz=157,slow=13,SNR=42							
AKTO	**Aktyubinsk**	**14.00**	**336**	Pn	**Pn**	**22 14 08.0**	**-2.6**
0.2nm,0.3s,baz=142,slow=16,SNR=2.3							
1.1nm,0.6s							
MKAR	**Makanchi Array**	**14.31**	**47**	Pn	**Pn**	**22 14 14.7**	**-0.3**
0.1nm,0.3s,baz=234,slow=13,SNR=5.2							
KURBB	**Kurchatov Arra**	**15.07**	**29**	Pn	**Pn**	**22 14 26.4**	**+1.1**
0.1nm,0.3s,baz=222,slow=10,SNR=5.1							
KURBB				LR	LR	22 21 26.5	
comp=Z,34nm,18.5s,baz=176,slow=42							
BVAR	**Borovoye Array**	**15.23**	**8**	Pn	**Pn**	**22 14 23.9**	**-3.5**
0.1nm,0.3s,baz=184,slow=11,SNR=12							
0.9nm,0.3s							
ZALV	**Zalesovo Beam**	**20.12**	**32**	P	**P**	**22 15 24.6**	**-1.6**
1.0nm,0.3s,baz=231,slow=11,SNR=5.7							
FINES	**FINESS Array B**	**34.47**	**326**	P	**P**	**22 17 40.4**	**+0.3**
0.3nm,0.4s,baz=108,slow=9.7,SNR=4.0							
0.3nm,0.4s							
ARCES	**ARCESS Array B**	**38.56**	**338**	P	**P**	**22 18 15.1**	**+0.1**
1.5nm,0.9s,baz=122,slow=6.0,SNR=5.0							
1.5nm,0.9s							
HFS	**Hagfors**	**39.91**	**321**	P	**P**	**22 18 27.1**	**+0.7**
0.8nm,0.7s,baz=80,slow=12,SNR=1.4							
0.8nm,0.7s							
NOA	**NORSAR Array B**	**41.26**	**322**	P	**P**	**22 18 37.6**	**+0.1**
0.3nm,0.5s,baz=93,slow=9.6,SNR=3.3							
0.3nm,0.5s							
KSRS	**Korea Array**	**47.43**	**71**	P	**P**	**22 19 27.2**	**+0.1**
0.7nm,0.5s,baz=288,slow=8.1,SNR=2.1							
0.7nm,0.5s							
YKA	**Yellowknife Ar**	**79.86**	**1**	P	**P**	**22 23 01.9**	**+1.0**
0.2nm,0.6s,baz=356,slow=5.4,SNR=4.2							
0.2nm,0.6s							

---

*IDC **24** 22:16:52.9±2.4, 21°.95N×143°.97E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=110.6km s-min=22.9km az=81.0*

ISC 24 22:17:06.1±2.6, 21°.9N±0°.2×143°.8E±0°.8, h105km, n7, σ0§70/7, mb3.5/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.55**	**193**	P	**P**	**22 24 51.9**	**+0.3**
0.5nm,0.6s,baz=15,slow=8.9,SNR=7.4							
0.5nm,0.6s							
ASAR	**Alice Springs**	**46.25**	**193**	P	**P**	**22 25 20.8**	**-0.2**
0.3nm,0.9s,baz=359,slow=6.6,SNR=4.2							
0.3nm,0.9s							
MKAR	**Makanchi Array**	**55.00**	**313**	P	**P**	**22 26 26.7**	**+0.1**
0.3nm,0.8s,baz=89,slow=10,SNR=1.9							
0.3nm,0.8s							
KURBB	**Kurchatov Arra**	**57.79**	**317**	P	**P**	**22 26 46.3**	**+0.1**
0.3nm,0.3s,baz=102,slow=9.1,SNR=2.6							
0.3nm,0.3s							
BVAR	**Borovoye Array**	**62.92**	**319**	P	**P**	**22 27 21.5**	**+0.3**
0.8nm,0.3s,baz=100,slow=8.0,SNR=10							
0.8nm,0.3s							
ARCES	**ARCESS Array B**	**78.95**	**342**	P	**P**	**22 28 58.4**	**+0.6**
0.6nm,0.7s,baz=61,slow=5.9,SNR=1.4							
0.6nm,0.7s							
FINES	**FINESS Array B**	**83.28**	**335**	P	**P**	**22 29 19.7**	**-1.1**
1.0nm,0.9s,baz=90,slow=4.2,SNR=1.5							
1.0nm,0.9s							

IDC 24 22:18:42.3±11.0, 14°.02S×166°.34E, h139km±126km, mb3.2/3, mbtmp3.6/4, ML3.1/1, MS2.5/1, Error ellipse: s-maj=99.6km s-min=61.3km az=146.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.74**	**305**	LR	LR	22 23 06.3	
comp=Z,33nm,19.0s,baz=233,slow=34							
DZM	**Mont Dzumac**	**8.01**	**179**	P	Pn	22 20 36.5	+0.6
0.2nm,0.3s,baz=120,slow=3.2,SNR=3.0							
DZM				S	Sn	22 22 04.7	-0.5
8.5nm,0.9s,baz=136,slow=12,SNR=2.2							
3.0nm,0.4s							
WRA	**Warramunga Arr**	**31.13**	**255**	P	P	22 24 48.1	0.0
0.4nm,0.7s,baz=85,slow=9.0,SNR=2.1							
0.4nm,0.7s							
ASAR	**Alice Springs**	**32.09**	**248**	P	P	22 24 56.5	0.0
0.4nm,0.7s,baz=71,slow=9.7,SNR=6.1							
0.4nm,0.7s							
MKAR	**Makanchi Array**	**96.07**	**317**	P	P	22 31 53.7	-0.3
0.3nm,0.7s,baz=108,slow=4.7,SNR=3.1							
0.3nm,0.7s							

KRSC 24 22:35:20.4±2.0, 54°.80N×164°.69E, h47km±30km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.84**	**61**	*e*P	Pn	22 35 37.2	+1.4
BKI				*e*S	Sn	22 35 47.3	+0.2
MKZ	**Mys Kozlova**	**1.74**	**263**	*e*P	Pn	22 35 51.4	+3.4
MKZ				*e*S	Sn	22 36 11.2	+2.2
KBTR	**Krutoberegovo**	**1.77**	**324**	*e*P	Pn	22 35 49.5	+1.1
KBTR				*e*S	Sn	22 36 08.5	-1.1
KBG	**Krutoberegovo**	**1.84**	**323**	*e*P	Pn	22 35 51.1	+1.6
KBG				*e*S	Sn	22 36 11.1	-0.5
BZGR	**Bezymyannyi-Gr**	**2.55**	**298**	*e*P	Pn	22 36 03.3	+4.0
BZGR				*e*S	Sn	22 36 34.5	+5.4
SMKR	**Semkarok**	**2.55**	**316**	*e*P	Pn	22 36 03.2	+3.9
KMNR	**Kamenistaya**	**2.72**	**292**	*e*P	Pn	22 36 05.9	+4.2
KMNR				*e*S	Sn	22 36 38.9	+5.6
KIRR	**Kirishev**	**2.74**	**297**	*e*P	Pn	22 36 06.6	+4.7
KIRR				*e*S	Sn	22 36 39.9	+6.1
KRSR	**Krestovskiy**	**2.74**	**303**	*e*P	Pn	22 36 05.0	+3.1
KRSR				*e*S	Sn	22 36 36.6	+2.7
KLY	**Klyuchi**	**2.75**	**305**	*e*P	Pn	22 36 04.3	+2.4
KLY				*e*S	Sn	22 36 36.0	+2.2
KPT	**Kopyto**	**2.81**	**296**	*e*P	Pn	22 36 07.1	+4.4
KII	**Karymskiy**	**3.16**	**258**	*e*P	Pn	22 36 12.2	+4.6
SPN	**Mys Shipunski**	**3.25**	**240**	*e*S	Sn	22 36 47.7	+1.6
NLC	**Nalytchevo**	**3.56**	**245**	*e*S	Sn	22 36 56.1	+2.4
SDLR	**Sedlovina**	**3.75**	**248**	*e*P	Pn	22 36 20.5	+4.7
SDLR				*e*S	Sn	22 37 02.1	+3.4
UGLR	**Uglovaya**	**3.81**	**248**	*e*P	Pn	22 36 22.2	+5.5
AVH	**Avacha**	**3.84**	**249**	*e*P	Pn	22 36 22.4	+5.5
AVH				*e*S	Sn	22 37 04.7	+4.0
KRX	**Arik**	**3.84**	**250**	*e*P	Pn	22 36 22.2	+5.2
KRX				*e*S	Sn	22 37 03.5	+2.5
KOK	**Koryaka**	**3.88**	**249**	*e*P	Pn	22 36 23.1	+5.6
GNL	**Ganaly**	**4.11**	**257**	*e*P	Pn	22 36 26.1	+5.4
KRMR	**Karymshinskiy**	**4.36**	**246**	*e*P	Pn	22 36 29.3	+5.2
KRMR				*e*S	Sn	22 37 16.8	+3.2
RUS	**Russkaya**	**4.38**	**240**	*e*P	Pn	22 36 28.8	+4.6
RUS				*e*S	Sn	22 37 14.7	+0.7
MTVR	**Mutnovka**	**4.52**	**242**	*e*P	Pn	22 36 31.5	+5.2
MTVR				*e*S	Sn	22 37 19.5	+1.9
GRL	**Gorelyy**	**4.54**	**243**	*e*S	Sn	22 37 21.9	+3.8
KDTR	**Khodutka, Kamc**	**4.97**	**236**	*e*S	Sn	22 37 28.9	+0.4

DJA 24 22:58:11.4±0.8, 8°S±3°×10°7E±°, h21km±7km, M3.7/12, mb3.6/1, MLv3.8/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.92**	**348**	P	Pn	22 58 29.6	+0.6
CNJI				S	Sb	22 58 40.4	+0.1
CMJI	**Cimerak**	**1.20**	**69**	P	Pn	22 58 32.2	-0.7
CMJI				S	Sb	22 58 46.2	-2.2
LEM	**Lembang**	**1.41**	**12**	P	Pb	22 58 37.2	+0.2
LEM				S	Sb	22 58 56.2	+1.6
SKJI	**Sukabumi**	**1.42**	**328**	P	Pb	22 58 36.7	-0.4
SKJI				S	Sn	22 58 53.9	-0.1
CGJI	**Cibinong**	**2.26**	**314**	P	Pn	22 58 48.6	+1.0
CGJI				S	Sn	22 59 13.2	-1.7
UGM	**Wanagama**	**3.19**	**85**	P	Pn	22 59 01.4	+1.1
PCJI	**Pacitan**	**3.82**	**90**	P	Pn	22 59 09.3	+0.3
TPI	**Tanjungpandan**	**5.43**	**4**	P	Pn	22 59 33.9	+2.8

KRSC 24 23:10:13.2±1.5, 52°.01N×171°.80E, h60km±39km, MI3.7, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**6.55**	**297**	*e*P	Pn	23 11 51.2	+4.5
MKZ				*e*S	Sn	23 13 01.7	+1.7
KBTR	**Krutoberegovo**	**6.75**	**312**	*e*P	Pn	23 11 55.5	+6.1
KBTR				*e*S	Sn	23 13 09.7	+5.0
SDLR	**Sedlovina**	**7.96**	**284**	*e*P	Pn	23 12 10.8	+4.6
UGLR	**Uglovaya**	**7.99**	**284**	*e*P	Pn	23 12 11.9	+5.3
KRX	**Arik**	**8.11**	**285**	*e*P	Pn	23 12 12.8	+4.6
KRX				*e*S	Sn	23 13 38.2	-0.2
KOK	**Koryaka**	**8.11**	**284**	*e*P	Pn	23 12 12.2	+4.0
RUS	**Russkaya**	**8.17**	**278**	*e*P	Pn	23 12 13.2	+4.2
KDTR	**Khodutka, Kamc**	**8.49**	**274**	*e*S	Sn	23 13 48.7	+1.2

---

*NEIC **24** 23:11:27.7±2.2, 6°.8S±0°.1×127°.0E±0°.2, h448km±12km, mb4.3/7, Error ellipse: s-maj=24.5km s-min=17.6km az=66.0*
*IDC **24** 23:11:30.9±9.0, 7°.00S×126°.75E, h501km±124km, mb3.0/4, mbtmp3.9/6, Error ellipse: s-maj=117.1km s-min=44.1km az=63.0*

ISC 24 23:11:27.6±0.7, 6°.86S±0°.09×127°.0E±0°.1, h450km, n23, σ1§18/24, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.91**	**222**	P	**P**	**23 12 41.2**	**-1.0**
SOEI				S	**S**	**23 13 40.1**	**-2.6**
FAKI	**Fak Fak**	**6.57**	**54**	P	**P**	**23 13 07.0**	**-0.9**
MTN	**Manton Dam**	**7.24**	**146**	P	**P**	**23 13 16.2**	**+1.4**
KNRA	**Kununurra**	**8.94**	**169**	P	**P**	**23 13 34.7**	**+1.5**
TOLI2	**Tolitoli**	**10.03**	**322**	P	**P**	**23 13 46.4**	**+1.3**
BKB	**Balikpapan**	**11.46**	**299**	P	**P**	**23 14 02.9**	**+2.2**
WB0	**Warramunga Arr**	**14.73**	**151**	P	**P**	**23 14 36.5**	**+0.6**
WRA	**Warramunga Arr**	**14.85**	**152**	P	**P**	**23 14 38.3**	**+1.1**
WRA	**Warramunga Arr**	**14.85**	**152**	P	**P**	**23 14 37.6**	**+0.4**
0.9nm,0.3s,baz=330,slow=10,SNR=6.3							
AS31	**Alice Springs**	**18.00**	**159**	P	**P**	**23 15 11.9**	**+1.5**
AS31				IAmb	IAmb	23 15 14.2	
comp=Z,1.6nm,0.5s							
ASAR	**Alice Springs**	**18.00**	**159**	P	**P**	**23 15 11.6**	**+1.2**
ASAR	**Alice Springs**	**18.00**	**159**	P	**P**	**23 15 11.3**	**+0.9**
comp=Z,1.4nm,0.4s,baz=342,slow=14,SNR=28							
FORT	**Forrest**	**23.82**	**178**	P	**P**	**23 16 03.2**	**-0.3**
FORT				IAmb	IAmb	23 16 30.1	
comp=Z,10nm,0.9s							
STKA	**Stephens Creek**	**28.40**	**153**	P	**P**	**23 16 43.9**	**-0.1**
STKA	**Stephens Creek**	**28.40**	**153**	P	**P**	**23 16 44.1**	**0.0**
comp=Z,1.3nm,0.5s,baz=345,slow=12,SNR=3.9							
comp=Z,1.3nm,0.5s							
MKAR	**Makanchi Array**	**66.48**	**328**	P	**P**	**23 21 30.6**	**-0.7**
MKAR	**Makanchi Array**	**66.48**	**328**	P	**P**	**23 21 30.8**	**-0.5**
comp=Z,0.2nm,0.4s,baz=118,slow=8.1,SNR=6.1							
comp=Z,0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**70.15**	**335**	P	**P**	**23 21 52.2**	**-1.3**
comp=Z,0.6nm,0.4s,baz=152,slow=5.9,SNR=3.4							
comp=Z,0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**70.83**	**330**	P	**P**	**23 21 56.7**	**-0.9**
comp=Z,0.5nm,0.5s,baz=131,slow=4.3,SNR=7.3							
comp=Z,0.5nm,0.5s							
KURK	**Kurchatov**	**70.85**	**330**	P	**P**	**23 21 57.0**	**-0.6**
D19K	**Kuna River**	**90.87**	**21**	P	**P**	**23 21 41.8**	**+0.1**
D19K				IAmb	IAmb	23 23 52.5	
comp=Z,5.5nm,1.4s							
D20K	**Etivluk River**	**91.46**	**21**	P	**P**	**23 23 44.3**	**-0.1**
D20K				IAmb	IAmb	23 23 56.8	
comp=Z,3.3nm,1.2s							
B21K	**Ikpikpuk River**	**92.37**	**20**	P	**P**	**23 23 48.3**	**-0.1**
B21K				IAmb	IAmb	23 23 52.7	
comp=Z,9.1nm,1.4s							

---

*BGR **24** 23:17:15.3, 22°.05S×177°.04W, h495km±2km, Hypocentre not reviewed by the ISC*
*MOS **24** 23:18:06.6±2.7, 20°.60S×177°.97W, h432km, mb4.9/29, Error ellipse: s-maj=9.9km s-min=8.8km az=97.9*
*NOU **24** 23:18:07.9, 20°.84S×177°.70W, h460km, mb5.1/107, Fiji Islands Region*
*NEIC **24** 23:18:07.4±1.8, 20°.74S±0°.09×177°.8W±0°.1, h442km±5km, mb5.0/136, Error ellipse: s-maj=13.8km s-min=13.0km az=130.0*
*GCMT **24** 23:18:08.4±0.3, 21°.00S±0°.04×177°.72W±0°.03, h477km±2km, MW5.2/76, Moment Tensor Solution. s76,c100; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-6.55±.28; Mθθ0.64±.51; Mφφ5.90±.46; Mrθ1.27±.57; Mθφ2.70±.46; Mφr-2.07±.53; Best double couple: Mo7.22800×10^16^ NP1:φs219.00000°, δ41.00000°, λ-65.00000°. NP2:φs7.00000°, δ53.00000°, λ-110.00000°. Principal axes: T 7.1910, Plg6.0000°, Azm111.0000°; N 0.0690, Plg16.0000°, Azm20.0000°; P -7.2660, Plg73.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*IDC **24** 23:18:08.5±0.5, 20°.80S×177°.93W, h460km±4km, mb4.4/32, mbtmp5.2/36 Error ellipse: s-maj=8.6km s-min=7.5km az=165.0*

ISC 24 23:18:08.3±0.3, 20°.85S±0°.04×177°.77W±0°.04, h465km±2km, h466km: pP-P, n1116, σ1§02/1203, mb5.0/156, 87C-78D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.79**	**339**	P	**P**	**23 19 14.7**	**-0.4**
LKBA	**Tubou, Lakemba**	**2.79**	**339**	S	**S**	**23 20 08.0**	**-1.1**
MSVF	**Nonsavu**	**5.02**	**307**		**P**	**23 19 33.3**	**-0.5**
MSVF	**Nonsavu**	**5.02**	**307**	P	**P**	**23 19 33.5**	**-0.3**
818nm,0.6s,baz=134,slow=8.5,SNR=329							
MSVF				S	**S**	**23 20 41.2**	**-2.2**
103nm,0.9s,baz=185,slow=19,SNR=0.5							
MSVF	**Nonsavu**	**5.02**	**307**	P	**P**	**23 19 33.3**	**-0.5**
DGTI	**Dogotuki**	**5.11**	**332**	P	**P**	**23 19 33.9**	**-0.7**
DGTI	**Dogotuki**	**5.11**	**332**	S	**S**	**23 20 44.6**	**-0.2**
FUTU	**Fugatoga**	**6.52**	**357**		**P**	**23 19 47.5**	**-1.0**
NIUE	**Niue**	**7.58**	**78**		**P**	**23 19 58.9**	**-0.7**
NIUE	**Niue**	**7.58**	**78**	P	**P**	**23 19 59.1**	**-0.5**
NIUE	**Niue**	**7.58**	**78**	S	**S**	**23 21 29.7**	**-1.1**
NIUE	**Niue**	**7.58**	**78**	P	**P**	**23 19 58.8**	**-0.7**
RIZ	**Raoul Island**	**8.36**	**181**	S	**S**	**23 21 40.9**	**-4.8**
GLKZ	**Green Lake**	**8.38**	**181**	P	**P**	**23 20 05.8**	**-2.0**
GLKZ				S	**S**	**23 21 40.5**	**-5.4**
AFI	**Afiamalu**	**8.96**	**41**		**P**	**23 20 10.4**	**-4.1**
AFI	**Afiamalu**	**8.96**	**41**	P	**P**	**23 20 10.4**	**-4.1**
INH	**Isangel**	**12.23**	**274**	P	**P**	**23 20 50.6**	**+1.0**
PINNC	**Pines Island,**	**13.85**	**260**		**P**	**23 21 08.7**	**+1.7**
PINNC	**Pines Island,**	**13.85**	**260**	P	**P**	**23 21 07.8**	**+0.9**
PINNC	**Pines Island,**	**13.85**	**260**	S	**S**	**23 23 36.4**	**+2.0**
YATNC	**Mamie plateau,**	**14.33**	**262**	P	**P**	**23 21 12.9**	**+0.8**
OUENC	**Ouen Island, N**	**14.39**	**261**	P	**P**	**23 21 14.1**	**+1.4**
OUENC	**Ouen Island, N**	**14.39**	**261**	S	**S**	**23 23 47.6**	**+2.5**
DZM	**Mont Dzumac**	**14.75**	**262**		**P**	**23 21 16.3**	**-0.3**
DZM	**Mont Dzumac**	**14.75**	**262**	*e*P	**P**	**23 21 16.6**	**0.0**
92nm,1.0s							
DZM				*e*S	S	23 23 42.9	-9.2
671nm,25.4s							
DZM	**Mont Dzumac**	**14.75**	**262**	P	**P**	**23 21 16.6**	**0.0**
42nm,0.8s,baz=131,slow=6.3,SNR=28							
DZM				S	**S**	**23 23 51.0**	**-1.1**
20nm,1.2s,baz=152,slow=13,SNR=2.3							
DZM	**Mont Dzumac**	**14.75**	**262**	P	**P**	**23 21 17.1**	**+0.5**
ONTNC	**Ouen Toro**	**14.75**	**262**	P	**P**	**23 21 14.8**	**-1.7**
VLAKA	**Lakatoro**	**14.82**	**286**	P	**P**	**23 21 18.0**	**+0.7**
VLAKA	**Lakatoro**	**14.82**	**286**	S	**S**	**23 23 55.0**	**+1.6**
OUZ	**Omahuta**	**16.20**	**206**	P	**P**	**23 21 34.4**	**+2.7**
KOUNC	**Koumac, New Ca**	**16.79**	**268**	P	**P**	**23 21 39.6**	**+1.5**
RAR	**Rarotonga**	**16.81**	**94**	P	**P**	**23 21 40.9**	**+2.6**
65nm,1.0s,baz=120,slow=11,SNR=3.7							
KUZ	**Kuaotunu**	**16.82**	**198**	P	**P**	**23 21 39.6**	**+1.4**
WMGZ	**Waiomatatini S**	**17.23**	**190**	P	**P**	**23 21 41.3**	**-1.1**
HAZ	**Te Kaha**	**17.28**	**192**	P	**P**	**23 21 41.7**	**-1.3**
PKGZ	**Pakihiroa**	**17.33**	**191**	P	**P**	**23 21 44.1**	**+0.5**
PUZ	**Puketiti**	**17.50**	**190**	P	**P**	**23 21 43.5**	**-1.8**
TGRZ	**Tauranga**	**17.60**	**196**	P	**P**	**23 21 47.7**	**+1.5**
TWGZ	**Tauwhareparae**	**17.65**	**191**	P	**P**	**23 21 46.2**	**-0.6**
TOZ	**Tahuroa Road**	**17.80**	**198**		**P**	**23 21 49.3**	**+1.0**
TOZ	**Tahuroa Road**	**17.80**	**198**	P	**P**	**23 21 48.1**	**-0.1**
URZ	**Urewera**	**17.90**	**193**	P	**P**	**23 21 48.0**	**-1.3**
18nm,0.3s,baz=319,slow=2.8,SNR=24							
URZ				S	**S**	**23 24 46.5**	**-3.8**
29nm,0.7s,baz=160,slow=19,SNR=13							
URZ	**Urewera**	**17.90**	**193**	P	**P**	**23 21 48.7**	**-0.6**
URZ	**Urewera**	**17.90**	**193**	P	**P**	**23 21 46.4**	**-2.9**
OMRZ	**Omania**	**17.93**	**195**	P	**P**	**23 21 52.5**	**+2.9**
TARZ	**Mount Tarawera**	**18.02**	**195**	P	**P**	**23 21 51.0**	**+0.5**
BKZ	**Black Stump Fm**	**18.91**	**194**		**P**	**23 21 56.7**	**-2.1**
BKZ	**Black Stump Fm**	**18.91**	**194**	P	**P**	**23 21 59.7**	**+0.9**
BKZ	**Black Stump Fm**	**18.91**	**194**	S	**S**	**23 25 06.9**	**0.0**
BKZ	**Black Stump Fm**	**18.91**	**194**	P	**P**	**23 21 56.6**	**-2.1**
NGZ	**Ngauruhoe**	**19.13**	**196**	P	**P**	**23 22 01.3**	**+0.3**
VRZ	**Vera Road**	**19.31**	**198**	P	**P**	**23 22 03.6**	**+1.2**
PXZ	**Pawanui**	**19.66**	**192**	P	**P**	**23 22 04.3**	**-1.3**
TSZ	**Takapari Road**	**19.88**	**194**	P	**P**	**23 22 06.9**	**-0.7**
BFZ	**Birch Farm**	**20.41**	**193**	P	**P**	**23 22 10.6**	**-1.9**
SNZO	**South Karori**	**21.37**	**196**	P	**P**	**23 22 20.4**	**-0.7**
SNZO	**South Karori**	**21.37**	**196**	P	**P**	**23 22 21.6**	**+0.5**
QRZ	**Quartz Range**	**21.55**	**200**	P	**P**	**23 22 22.5**	**-0.3**
QRZ	**Quartz Range**	**21.55**	**200**	S	**S**	**23 25 51.3**	**+2.0**
QRZ	**Quartz Range**	**21.55**	**200**	P	**P**	**23 22 22.4**	**-0.3**
NNZ	**Nelson**	**21.65**	**198**	P	**P**	**23 22 23.4**	**-0.2**
THZ	**Tophouse**	**22.29**	**199**	P	**P**	**23 22 28.4**	**-1.1**
DSZ	**Denniston Nort**	**22.62**	**201**	P	**P**	**23 22 32.0**	**-0.5**
KHZ	**Kahutara**	**22.71**	**197**	P	**P**	**23 22 32.6**	**-0.6**
KHZ	**Kahutara**	**22.71**	**197**	S	**S**	**23 26 09.5**	**+2.0**
KHZ	**Kahutara**	**22.71**	**197**	P	**P**	**23 22 31.7**	**-1.5**
GVZ	**Greta Valley S**	**23.36**	**197**	P	**P**	**23 22 37.2**	**-1.8**
LTZ	**Lake Taylor**	**23.41**	**199**	P	**P**	**23 22 37.3**	**-2.2**
INZ	**Inchbonnie**	**23.61**	**200**	P	**P**	**23 22 39.1**	**-2.2**
OXZ	**Oxford**	**23.98**	**199**	P	**P**	**23 22 44.9**	**+0.4**
MQZ	**McQueen's Vall**	**24.15**	**197**	P	**P**	**23 22 45.2**

comp=Z,28nm,0.9s,baz=88,slow=10.0,SNR=36
comp=Z,28nm,0.9s
STKA Stephens Creek 37.83 245 P **P 23 24 44.6 +0.6**
STKA Stephens Creek 37.83 245 P **P 23 24 43.7 -0.4**
STKA pmax pmax
comp=Z,275nm,1.2s
INKA Innaminka 38.29 251 P **P 23 24 49.8 +2.0**
ARPS Mount Arapiles 38.47 237 P **P 23 24 49.8 +0.6**
MANU Manus Island 38.79 294 P **P 23 24 51.1 -0.9**
RKT Rikitea 39.65 101 *es*S sS 23 33 11.3 +8.7
comp=Z,691nm,31.0s
HTT Hallett 40.25 243 P **P 23 25 03.6 -0.2**
LCRK Leigh Creek 40.60 247 P **P 23 25 06.9 +0.4**
WHYH Whyalla 41.33 243 P **P 23 25 12.4 +0.1**
BBOO Buckleboo 42.59 244 P **P 23 25 21.3 -1.0**
BBOO IAmb IAmb 23 25 22.6
comp=Z,58nm,0.9s
BBOO Buckleboo 42.59 244 P **P 23 25 22.0 -0.3**
OOD Oodnadatta 42.77 251 P **P 23 25 24.6 +0.8**
JAY Jayapura 44.36 289 P **P 23 25 35.8 -0.7**
comp=Z,39nm,0.7s,baz=139,slow=4.6,SNR=17
comp=Z,39nm,0.7s
JAY Jayapura 44.36 289 P **P 23 25 35.7 -0.7**
comp=Z,51nm,0.7s
AS01 Alice Springs 44.61 257 P **P 23 25 37.5 -0.8**
WR8 Warramunga Arr 44.62 262 **P 23 25 36.5 -1.9**
AS31 Alice Springs 44.65 257 **P 23 25 37.4 -1.2**
ASAR Alice Springs 44.65 257 P **P 23 25 37.5 -1.1**
comp=Z,26nm,0.7s,baz=89,slow=8.3,SNR=127
ASAR PcP **PcP 23 27 11.6 -0.2**
comp=Z,6.1nm,0.6s,baz=106,slow=3.9,SNR=10
ASAR ScP **ScP 23 30 21.2 +2.0**
comp=Z,1.6nm,0.8s,baz=108,slow=4.8,SNR=4.4
ASAR S **S 23 31 38.1 -2.1**
comp=Z,0.9nm,0.8s,baz=99,slow=14,SNR=5.2
comp=Z,26nm,0.7s
WB0 Warramunga Arr 44.75 263 **P 23 25 37.9 -1.5**
WB0 IAmb IAmb 23 25 40.0
comp=Z,27nm,0.7s
WB1 Warramunga Ar. 44.76 262 P **P 23 25 38.1 -1.4**
WRAB Tennant Creek 44.76 262 *ce*P **P 23 25 38.2 -1.3**
WRAB pmax pmax
comp=Z,30nm,0.9s
WRA Warramunga Arr 44.77 262 P **P 23 25 37.4 -2.1**
WRA Warramunga Arr 44.77 262 P **P 23 25 37.8 -1.8**
comp=Z,21nm,0.7s,baz=98,slow=7.1,SNR=72
WRA PcP **PcP 23 27 12.4 +0.3**
comp=Z,6.8nm,0.9s,baz=95,slow=3.6,SNR=9.5
WRA ScP **ScP 23 30 22.3 +2.5**
comp=Z,2.0nm,1.0s,baz=95,slow=5.0,SNR=4.8
comp=Z,21nm,0.7s
WRA Warramunga Arr 44.77 262 P **P 23 25 37.4 -2.1**
SMPI Sarmi 46.37 288 P **P 23 25 51.0 -0.9**
BAKI Biak 49.05 287 P **P 23 26 12.9 +0.8**
comp=Z,36nm,1.0s
FORT Forrest 49.35 247 **P 23 26 12.7 -1.4**
FORT IAmb IAmb 23 26 14.1
comp=Z,70nm,0.8s
FORT Forrest 49.35 247 P **P 23 26 14.4 +0.3**
MTN Manton Dam 49.38 271 **P 23 26 13.1 -1.5**
MTN IAmb IAmb 23 26 15.1
comp=Z,36nm,0.9s
MTN Manton Dam 49.38 271 P **P 23 26 13.3 -1.2**
WRKA Warakurna 49.58 254 P **P 23 26 15.8 -0.1**
KNRA Kununurra 50.85 266 P **P 23 26 24.1 -1.3**
DRV Dumont d'Urvil 53.09 200 P **P 23 26 40.9 +0.2**
FITZ Fitzroy Crossi 53.20 263 **P 23 26 41.3 -1.0**
FITZ Fitzroy Crossi 53.20 263 P **P 23 26 41.6 -0.7**
comp=Z,10nm,0.4s,baz=90,slow=5.7,SNR=48
comp=Z,10nm,0.4s
FITZ Fitzroy Crossi 53.20 263 P **P 23 26 42.8 +0.5**
SWI Sorong 53.54 285 P **P 23 26 43.3 -1.5**
comp=Z,151nm,0.9s
KMBL Kambalda 54.61 246 P **P 23 26 51.7 -0.5**
NLAI Namlea 56.38 280 P **P 23 27 04.1 -0.7**
comp=Z,2µmcomp=Z,49nm,0.8s
SOEI Soe 56.73 272 P **P 23 27 07.5 +0.2**
SOEI Soe 56.73 272 P **P 23 27 09.3 +2.0**
SOEI Soe 56.73 272 P **P 23 27 07.5 +0.2**
comp=Z,2µmcomp=Z,208nm,0.9s
SBA Scott Base 57.54 184 P **P 23 27 14.7 +3.0**
SBA IAmb IAmb 23 27 48.1
comp=Z,151nm,1.7s
SBA Scott Base 57.54 184 P **P 23 27 14.7 +3.0**
SBA pmax pmax
comp=Z,151nm,1.7s
VNDA Vanda 57.58 185 P **P 23 27 14.0 +2.0**
VNDA Vanda 57.58 185 P **P 23 27 13.8 +1.8**
comp=Z,4.3nm,0.5s,baz=14,slow=7.7,SNR=23
VNDA PcP **PcP 23 27 60.0 +0.8**
comp=Z,3.6nm,0.9s,baz=327,slow=5.9,SNR=3.6
comp=Z,4.3nm,0.5s
VNDA Vanda 57.58 185 P **P 23 27 14.0 +2.0**
VNDA pmax pmax
comp=Z,36nm,1.6s
TNTI Ternate 57.76 285 P **P 23 27 13.3 -1.0**
TNTI IAmb IAmb 23 27 15.6
comp=Z,47nm,0.9s
TNTI Ternate 57.76 285 P **P 23 27 14.7 +0.4**
TNTI Ternate 57.76 285 P **P 23 27 13.7 -0.6**
comp=Z,62nm,0.9s
PSA00 Pilbara Seismi 57.80 257 P **P 23 27 13.1 -1.3**
PSA00 PcP **PcP 23 28 00.5 -0.5**
PSA00 Pilbara Seismi 57.80 257 P **P 23 27 13.9 -0.6**
SANI Sanana 57.86 281 P **P 23 27 14.9 -0.1**
SANI Sanana 57.86 281 P **P 23 27 13.7 -1.3**
comp=Z,55nm,0.9s
MBWA Marble Bar 57.99 258 **P 23 27 14.7 -1.0**
MBWA IAmb IAmb 23 27 15.9
comp=Z,72nm,0.8s
MBWA Marble Bar 57.99 258 P **P 23 27 15.0 -0.8**
MBWA Marble Bar 57.99 258 P **P 23 27 14.8 -1.0**
MBWA PcP **PcP 23 28 02.0 +0.2**
MBWA pP **pP 23 28 48.2 -0.6**
MEEK Meekatharra 58.01 251 P **P 23 27 15.0 -0.9**
KLBR Kellerberrin 58.10 245 P **P 23 27 17.2 +0.8**
NWAO Narrogin (SRO) 58.40 243 P **P 23 27 17.7 -0.7**
NWAO IAmb IAmb 23 27 19.1
comp=Z,72nm,1.1s
NWAO Narrogin (SRO) 58.40 243 P **P 23 27 18.4 0.0**
NWAO Narrogin (SRO) 58.40 243 P **P 23 27 17.7 -0.7**
NWAO pmax pmax
comp=Z,72nm,1.2s
NWAO Narrogin (SRO) 58.40 243 P **P 23 27 17.8 -0.6**
MMRI Maumere 58.98 272 P **P 23 27 21.9 -0.8**
MMRI PcP **PcP 23 28 06.0 +0.1**
MMRI IAmb IAmb 23 28 07.8
comp=Z,72nm,0.6s
MMRI Maumere 58.98 272 P **P 23 27 21.8 -0.8**
comp=Z,5µmcomp=Z,88nm,0.8s
BLDU Ballidu 59.11 246 P **P 23 27 22.7 -0.5**
MUN Mundaring 59.37 244 P **P 23 27 25.8 +0.8**
EDFI Ende, Flores 59.46 272 P **P 23 27 24.4 -1.5**
comp=Z,79nm,0.9s
MORW Morawa 59.89 248 P **P 23 27 27.6 -0.9**
MORW IAmb IAmb 23 27 29.0
comp=Z,70nm,1.1s
MORW Morawa 59.89 248 P **P 23 27 28.3 -0.2**
WSI Waingapu 60.47 271 P **P 23 27 31.8 -0.7**
WBSI Waikabubak, Su 61.32 270 P **P 23 27 37.2 -1.1**
comp=Z,63nm,0.8s
JCJ Chichijima 61.45 319 P **P 23 27 38.1 -0.6**
comp=Z,62nm,0.8s,baz=318,slow=13,SNR=3.5
comp=Z,62nm,0.8s
CCD Concordia, Ant 62.18 195 P **P 23 27 44.3 +1.0**
CCD PcP **PcP 23 28 18.6 +0.3**
CCD pP **pwP 23 29 20.4 -0.5**
APSI Ampana 62.29 280 P **P 23 27 45.1 +0.5**
comp=Z,53nm,1.1s
BNSI Bone 62.42 276 P **P 23 27 45.0 -0.4**
comp=Z,41nm,1.0s
KAPI Kappang 62.53 275 P **P 23 27 45.7 -0.4**
comp=Z,7.3nm,0.2s,baz=190,slow=5.2,SNR=3.7
comp=Z,7.3nm,0.2s
GIRL Giralia 62.66 255 P **P 23 27 47.2 +0.4**
GIRL Giralia 62.66 255 P **P 23 27 47.4 +0.5**
SPSI Sidrap Palu 62.89 276 P **P 23 27 46.9 -1.5**
comp=Z,25nm,0.8s
PLAI Plampang 63.09 271 P **P 23 27 49.6 -0.1**
PLAI Plampang 63.09 271 P **P 23 27 48.7 -1.1**
comp=Z,2µmcomp=Z,137nm,1.0s
TOLI2 Tolitoli 63.89 282 P **P 23 27 54.6 -0.2**
TOLI2 IAmb IAmb 23 27 56.0
comp=Z,30nm,0.9s
TOLI2 Tolitoli 63.89 282 P **P 23 27 56.7 +1.8**

TWSI Taliwang, Sumb 63.96 270 P **P 23 27 54.5 -0.8**
comp=Z,110nm,0.8s
PCI Palu 63.97 280 P **P 23 27 56.0 +0.6**
comp=Z,115nm,0.9s
MPSI Mapaga 64.39 281 P **P 23 27 57.5 -0.6**
comp=Z,11µmcomp=Z,54nm,1.0s
SRBI Singaraja 65.73 270 P **P 23 28 05.8 -0.7**
comp=Z,37nm,0.7s
JAGI Jajag, Banyuwa 66.60 270 **P 23 28 10.4 -1.6**
JAGI Jajag, Banyuwa 66.60 270 P **P 23 28 11.4 -0.6**
JAGI Jajag, Banyuwa 66.60 270 P **P 23 28 10.2 -1.8**
comp=Z,93nm,0.9s
JHJ2 Mitsune 67.22 322 P **P 23 28 15.3 -0.1**
JHJ Hachijo jima 2 67.25 322 P **P 23 28 15.3 -0.3**
comp=Z,130nm,0.6s,baz=59,slow=23,SNR=3.0
comp=Z,130nm,0.6s
MYLDM Lahad Datu 67.63 285 P **P 23 28 18.1 -0.2**
MYLDM IAmb IAmb 23 28 38.7
comp=Z,23nm,0.8s
MYLDM Lahad Datu 67.63 285 P **P 23 28 19.2 +0.8**
QSPA South Pole Qui 69.22 180 P **P 23 28 28.9 +1.6**
QSPA IAmb IAmb 23 28 30.1
comp=Z,58nm,1.1s
QSPA South Pole Qui 69.22 180 P **P 23 28 29.0 +1.7**
comp=Z,39nm,0.9s,baz=344,slow=0.5,SNR=110
comp=Z,39nm,0.9s
QSPA South Pole Qui 69.22 180 P **P 23 28 28.8 +1.5**
QSPA pP **pP 23 30 05.7 +0.7**
PCJI Pacitan 69.47 269 P **P 23 28 29.1 -0.4**
TGY Tagaytay City 69.50 295 P **P 23 28 29.7 0.0**
comp=Z,117nm,0.3s,baz=188,slow=9.4,SNR=3.4
KKM Kota Kinabalu 70.06 285 P **P 23 28 32.6 -0.6**
KKM IAmb IAmb 23 28 34.6
comp=Z,37nm,0.8s
KKM Kota Kinabalu 70.06 285 P **P 23 28 33.6 +0.4**
UGM Wanagama 70.17 269 P **P 23 28 32.7 -1.1**
JMM Marumori 70.21 326 P **P 23 28 33.7 +0.3**
JMM IAmb IAmb 23 31 13.4
comp=Z,33nm,0.8s
JGF Kuroka 70.42 322 P **P 23 28 35.3 +0.4**
JGF IAmb IAmb 23 31 10.4
comp=Z,100nm,1.9s
MJAR Matsushiro Arr 70.62 324 P **P 23 28 34.9 -1.0**
comp=Z,14nm,0.6s,baz=156,slow=5.5,SNR=39
comp=Z,14nm,0.6s
MAJO Matsushiro 70.62 324 **P 23 28 35.3 -0.7**
MAJO IAmb IAmb 23 28 36.9
comp=Z,24nm,0.8s
MAJO Matsushiro 70.62 324 P **P 23 28 35.6 -0.4**
MAJO Matsushiro 70.62 324 *di*P **P 23 28 36.0 0.0**
MAJO pmax pmax
comp=Z,26nm,0.8s
MAJO Matsushiro 70.62 324 P **P 23 28 35.4 -0.5**
MAJO PcP **PcP 23 28 53.7 +0.1**
MJB9 Matsu-Tunnel 70.62 324 **P 23 28 36.3 +0.3**
MJB9 IAmb IAmb 23 28 37.9
comp=Z,23nm,0.8s
JSD Sado 71.68 325 P **P 23 28 42.2 +0.1**
JSD IAmb IAmb 23 28 43.8
comp=Z,20nm,0.9s
STKI Sintang 72.07 277 P **P 23 28 45.6 +0.6**
comp=Z,82nm,0.9s
SBUM Sibu 72.28 280 P **P 23 28 47.2 +1.0**
JTM Tenmabayashi 72.28 328 P **P 23 28 45.7 +0.2**
KIWB Kanaga Island 72.39 0 **P 23 28 45.4 -0.5**
ADK Adak 72.43 1 P **P 23 28 45.4 -0.7**
ADK Adak 72.43 1 P **P 23 28 45.4 -0.7**
ADK pmax pmax
comp=Z,86nm,0.6s
JNU Nakatsue 72.68 317 **P 23 28 48.1 0.0**
JNU IAmb IAmb 23 28 49.9
comp=Z,46nm,1.0s
JNU Nakatsue 72.68 317 P **P 23 28 47.7 -0.4**
comp=Z,36nm,0.9s,baz=97,slow=3.6,SNR=20
comp=Z,36nm,0.9s
JNU Nakatsue 72.68 317 P **P 23 28 48.9 +0.8**
ATKA Atka Island 72.81 2 **P 23 28 47.5 -0.8**
ATKA Atka Island 72.81 2 P **P 23 28 47.8 -0.5**
BBJI Bungbulang 73.01 268 P **P 23 28 50.0 -0.5**
YOJ Yonaguni jima 73.11 305 P **P 23 28 50.7 0.0**
YOJ Yonaguni jima 73.11 305 P **P 23 28 50.7 0.0**
YOJ pmax pmax
comp=Z,118nm,0.9s
LEM Lembang 73.25 269 P **P 23 28 51.9 -0.1**
comp=Z,137nm,1.0s
KSM Kuching 73.67 278 **P 23 28 54.0 -0.2**
KSM Kuching 73.67 278 P **P 23 28 54.7 +0.5**
TWGBT Beinan 73.74 303 P **P 23 28 53.4 -1.0**
YULB Yu-li 73.87 303 P **P 23 28 54.1 -1.0**
YULB IAmb IAmb 23 28 55.4
comp=Z,20nm,0.6s
YULB Yu-li 73.87 303 P **P 23 28 55.1 -0.1**
NACB Ninganchiao 74.05 304 P **P 23 28 56.6 +0.5**
JKA Kamikawa-asahi 74.14 331 P **P 23 28 57.3 +1.2**
JKA IAmb IAmb 23 28 59.0
comp=Z,70nm,0.9s
ASAJ Asahikawa 74.14 331 P **P 23 28 57.1 +1.0**
comp=Z,51nm,0.7s,baz=207,slow=7.6,SNR=27
comp=Z,51nm,0.7s
ASAJ Asahikawa 74.14 331 P **P 23 28 57.3 +1.1**
ASAJ pmax pmax
comp=Z,70nm,0.9s
SSLB Suanglung 74.35 303 P **P 23 28 56.4 -1.5**
SSLB IAmb IAmb 23 28 57.7
comp=Z,34nm,0.7s
SSLB Suanglung 74.35 303 P **P 23 28 57.6 -0.3**
TPUB Ta-pu 74.35 303 **P 23 28 56.7 -1.1**
TPUB Ta-pu 74.35 303 P **P 23 28 57.1 -0.8**
YHNB Yeheng 74.48 304 P **P 23 28 59.1 +0.4**
TPI Tanjungpandan 74.61 273 P **P 23 28 59.4 -0.2**
comp=Z,43nm,0.9s
UNV Unalaska Valle 75.02 7 P **P 23 29 00.1 -0.8**
UNV Unalaska Valle 75.02 7 P **P 23 29 00.3 -0.6**
UNV Unalaska Valle 75.02 7 P **P 23 29 00.1 -0.8**
baz=191
CGJI Cibinong 75.12 269 P **P 23 29 01.2 -1.2**
comp=Z,89nm,1.1s
PPBI Pangkal Pinang 76.24 273 P **P 23 29 08.6 -0.1**
YSS Yuzhno-Sakhali 76.31 333 P **P 23 29 08.7 +0.5**
YSS Yuzhno-Sakhali 76.31 333 P **P 23 29 09.5 +1.3**
YSS Yuzhno-Sakhali 76.31 333 *ci*P **P 23 29 09.6 +1.3**
YSS pmax pmax
comp=Z,80nm,1.0s
PET Petropavlovsk 76.36 346 ⇑*e*P **P 23 29 08.2 -0.2**
PET pmax pmax
comp=Z,36nm,1.0s
PET Petropavlovsk 76.36 346 P **P 23 29 08.0 -0.4**
comp=Z,38nm,1.3s
PEA0B Petropavlovsk- **76.67 345** P **P 23 29 10.2 +0.1**
PEA0B IAmb IAmb 23 29 11.2
comp=Z,52nm,0.9s
PEA0B Petropavlovsk- **76.67 345** P **P 23 29 10.2 +0.1**
PEA0B pmax pmax
comp=Z,52nm,0.9s
PETK Petropavlovsk- **76.67 345** P **P 23 29 09.9 -0.2**
PETK Petropavlovsk- **76.67 345** P **P 23 29 09.8 -0.3**
comp=Z,32nm,0.8s,baz=131,slow=7.1,SNR=37
comp=Z,32nm,0.8s
PETK Petropavlovsk- **76.67 345** P **P 23 29 09.9 -0.2**
QZH Quanzhou 76.78 303 P **P 23 29 12.4 +1.0**
QZH pmax pmax
comp=Z,77nm,0.9s
LWLI Liwa 77.19 269 P **P 23 29 13.3 -0.8**
comp=Z,159nm,0.8s
MDSI Maura Dua 77.26 270 P **P 23 29 12.6 -1.7**
comp=Z,83nm,0.9s
KSRS Korea Array 77.29 319 P **P 23 29 14.9 +1.0**
comp=Z,9.5nm,0.7s,baz=126,slow=6.0,SNR=25
comp=Z,9.5nm,0.7s
KSAR Wonju Array Be 77.31 318 P **P 23 29 14.4 +0.4**
KSAR Wonju Array Be 77.31 318 P **P 23 29 14.4 +0.4**
SDPT Sand Point 77.32 10 P **P 23 29 13.3 -0.2**
baz=197
KS19 Wonju Array Si 77.36 319 P **P 23 29 14.8 +0.5**
KS19 IAmb IAmb 23 30 29.4
comp=Z,88nm,1.7s
S12K Black Hills 77.41 9 P **P 23 29 13.4 -0.7**
S12K Black Hills 77.41 9 P **P 23 29 14.0 -0.2**
baz=195
SPIA Saint Paul Isl 77.98 4 P **P 23 29 17.1 -0.1**
baz=187
SAO San Andreas Ge 78.14 43 **P 23 29 19.9 +1.3**
SAO IAmb IAmb 23 29 21.2
comp=Z,21nm,0.8s
SAO San Andreas Ge 78.14 43 P **P 23 29 19.9 +1.3**

SAO pmax pmax
comp=Z,21nm,0.9s
S14K Fog Glacier 78.36 10 P **P 23 29 19.6 +0.2**
baz=197
MNAI Manna 78.45 270 P **P 23 29 20.3 -0.4**
CHIR Chirikof Islan 78.65 13 P **P 23 29 20.9 +0.1**
CHIR Chirikof Islan 78.65 13 P **P 23 29 21.0 +0.1**
baz=201
MSHR Mys Shultsa 78.73 324 *ci*P **P 23 29 22.9 +1.4**
MSHR pmax pmax
comp=Z,42nm,0.8s
KMRM Mail Ridge 78.89 39 P **P 23 29 24.2 +1.6**
KMRM IAmb IAmb 23 29 25.7
comp=Z,51nm,0.8s
KSI Kapahiang 79.03 270 P **P 23 29 23.2 -0.8**
HKPS Hong Kong Po S 79.05 299 P **P 23 29 24.4 +0.7**
HKPS IAmb IAmb 23 29 26.1
comp=Z,54nm,0.8s
ESJX Sierra Juarez 79.13 50 P **P 23 29 25.0 +0.8**
BELA Belgrano 2 79.18 173 P **P 23 29 24.4 +0.8**
BELA IAmb IAmb 23 29 25.2
comp=Z,31nm,0.9s
USA0B Ussuriysk Arra 79.38 326 P **P 23 29 25.8 +0.8**
USA0B IAmb IAmb 23 29 27.2
comp=Z,37nm,0.9s
USA0B Ussuriysk Arra 79.38 326 P **P 23 29 25.8 +0.8**
USA0B pmax pmax
comp=Z,37nm,0.9s
USRK Ussuriysk Ar. 79.38 326 P **P 23 29 26.0 +1.1**
comp=Z,26nm,0.8s,baz=142,slow=3.5,SNR=34
comp=Z,26nm,0.8s
O02D Mt. Diablo Mer 79.41 40 P **P 23 29 27.1 +1.8**
O02D IAmb IAmb 23 29 28.6
comp=Z,34nm,1.1s
DLV Lat 79.43 287 P **P 23 29 26.5 +0.3**
DLV IAmb IAmb 23 29 28.2
comp=Z,34nm,0.9s
DLV Lat 79.43 287 P **P 23 29 27.1 +0.9**
TYV Tymovskoe 79.45 336 *e*P **P 23 29 26.1 +0.9**
TYV pmax pmax
comp=Z,47nm,1.1s
TYV pmax pmax
comp=Z,900nm,4.8s
YUH Yuha Desert 79.50 49 **P 23 29 27.1 +1.2**
CMB Columbia Colle 79.57 43 P **P 23 29 26.7 +0.5**
CMB Columbia Colle 79.57 43 P **P 23 29 26.7 +0.5**
CMB pmax pmax
comp=Z,11nm,0.9s
SII Sitkinak Islan 79.64 13 P **P 23 29 26.4 +0.3**
baz=202
PFO Pinyon Flats O 79.65 48 P **P 23 29 28.3 +1.5**
comp=Z,5.2nm,0.8s,baz=272,slow=3.4,SNR=8.0
comp=Z,5.2nm,0.8s
PFO Pinyon Flats O 79.65 48 *di*P **P 23 29 28.2 +1.4**
PFO pmax pmax
comp=Z,18nm,1.1s
AFDM Forest Hills D 79.76 42 **P 23 29 27.8 +0.6**
MYKOM Kota Tinggi 79.79 276 P **P 23 29 28.0 +0.1**
MYKOM IAmb IAmb 23 29 29.4
comp=Z,56nm,0.8s
MYKOM Kota Tinggi 79.79 276 P **P 23 29 28.5 +0.6**
R16K Pilot Point 79.93 11 P **P 23 29 27.6 +0.1**
baz=199
NJ2 Nanjing 80.27 310 ⇑P **P 23 29 31.3 +1.3**
NJ2 pmax pmax
comp=Z,29nm,0.7s
OHAK Old Harbor 80.44 13 P **P 23 29 30.6 +0.4**
baz=203
R18K Karluk 80.52 12 P **P 23 29 30.7 0.0**
baz=202
MPK Martis Peak 80.55 42 P **P 23 29 32.7 +1.0**
MPK IAmb IAmb 23 29 34.3
comp=Z,63nm,1.4s
Q17K Contact Creek 80.89 12 P **P 23 29 32.6 -0.1**
baz=201
MDJ Mudanjiang 80.93 325 P **P 23 29 33.8 +0.7**
MDJ IAmb IAmb 23 29 35.3
comp=Z,36nm,0.9s
MDJ Mudanjiang 80.93 325 P **P 23 29 34.8 +1.7**
MDJ S **S 23 39 04.0 +1.2**
MDJ ScS **ScS 23 39 17.3 -0.3**
MDJ pmax pmax
comp=Z,51nm,1.0s
O14K Tigyukauivet M 80.96 8 P **P 23 29 33.2 +0.3**
baz=196
L04D Klamath Falls 80.97 38 P **P 23 29 34.8 +1.2**
L04D IAmb IAmb 23 29 36.0
comp=Z,28nm,0.9s
O15K Ungalikthiuk R 81.09 9 P **P 23 29 32.8 -0.8**
O15K IAmb IAmb 23 29 35.4
comp=Z,26nm,1.0s
O15K Ungalikthiuk R 81.09 9 P **P 23 29 34.0 +0.4**
baz=197
113A Mohawk Valley, 81.10 50 P **P 23 29 35.5 +1.2**
KDAK Kodiak Island 81.11 13 P **P 23 29 34.3 +0.6**
baz=204
NVAR Mina Array Bea 81.13 43 P **P 23 29 35.5 +0.9**
NVAR Mina Array Bea 81.13 43 P **P 23 29 36.1 +1.5**
comp=Z,13nm,0.9s,baz=224,slow=8.9,SNR=46
NVAR pP **pP 23 31 16.8 +0.5**
comp=Z,0.5nm,0.7s,baz=240,slow=4.2,SNR=1.6
comp=Z,13nm,0.9s
Q16K King Salmon 81.14 11 P **P 23 29 34.1 +0.2**
baz=200,SNR=5.2
NV11 Mina Array Sit 81.23 43 P **P 23 29 35.8 +0.7**
P16K Nushagak River 81.24 10 P **P 23 29 34.3 -0.1**
baz=199,SNR=5.5
MAW Mawson 81.31 200 P **P 23 29 35.4 +0.6**
MAW Mawson 81.31 200 P **P 23 29 35.3 +0.5**
comp=Z,12nm,0.9s,baz=105,slow=6.9,SNR=6.2
comp=Z,12nm,0.9s
MAW Mawson 81.31 200 P **P 23 29 35.4 +0.6**
MAW pmax pmax
comp=Z,5.0nm,1.2s
Q18K Katmai Hardscr 81.42 12 P **P 23 29 35.3 -0.2**
baz=202,SNR=12
M11K Mekoryuk 81.49 6 P **P 23 29 36.9 +1.3**
baz=191
N14K Kuskokwak Cree 81.55 8 P **P 23 29 36.6 +0.6**
N14K Kuskokwak Cree 81.55 8 P **P 23 29 36.5 +0.6**
baz=195
TPNV Topopah Spring 81.64 45 P **P 23 29 37.9 +0.7**
TPNV Topopah Spring 81.64 45 P **P 23 29 37.9 +0.7**
TPNV pmax pmax
comp=Z,18nm,1.2s
P17K Kvichak River 81.67 11 P **P 23 29 36.3 -0.2**
baz=200,SNR=8.3
J04A Umpqua Nationa 81.72 38 P **P 23 29 38.8 +1.3**
J04A IAmb IAmb 23 29 40.2
comp=Z,59nm,0.8s
O16K Kokwok River B 81.76 10 P **P 23 29 36.3 -0.7**
baz=199,SNR=8.7
M13K Dall Lake 81.82 7 P **P 23 29 38.3 +1.0**
baz=194
BKNI Bangkinang 81.88 273 P **P 23 29 37.9 -0.9**
Q20K Shuyak Island 81.91 13 P **P 23 29 38.0 +0.2**
baz=204
Q19K Cape Douglas, 81.94 12 P **P 23 29 38.1 0.0**
baz=203
N15K Kwethluk River 82.01 9 P **P 23 29 39.0 +0.7**
baz=197,SNR=7.2
HEBO Mount Hebo 82.06 35 P **P 23 29 40.2 +1.2**
P18K Big Mountain, 82.07 11 P **P 23 29 38.2 -0.5**
baz=201,SNR=7.1
O17K Koliganek Bris 82.10 10 P **P 23 29 38.5 -0.2**
baz=200
M14K Bethel 82.32 8 P **P 23 29 40.8 +1.0**
baz=195,SNR=12
M15K Kasigluk River 82.43 8 P **P 23 29 41.3 +0.9**
baz=196,SNR=19
N16K Nishlik Lake 82.50 9 P **P 23 29 41.5 +0.7**
baz=198,SNR=12
O18K Koktuh Hills 82.50 11 P **P 23 29 40.8 -0.1**
baz=201,SNR=14
P19K Oil Pt 82.69 12 P **P 23 29 41.9 0.0**
baz=203
CN2 Changchun 82.71 322 P **P 23 29 43.3 +1.0**
CN2 pP pP 23 31 24.1 -0.6
CN2 pmax pmax
comp=Z,40nm,1.0s
N17K Nushagak Hills 82.80 10 P **P 23 29 42.5 +0.2**
baz=199
L14K Kuka Creek 82.80 7 P **P 23 29 43.0 +0.7**
baz=194,SNR=23
WHN Wuhan 82.83 306 P **P 23 29 44.3 +1.1**
BNX BinXian 82.83 325 ⇑P **P 23 29 43.5 +0.6**

BNX pmax pmax
comp=Z,42nm,0.9s
KLR Kul'dur 82.94 329 *d* iP **P 23 29 44.0 +0.7**
KLR pmax pmax
comp=Z,20nm,1.0s
O19K Port Alsworth 82.99 12 P **P 23 29 43.1 -0.1**
baz=202,SNR=19
M16K Timber Creek 82.99 9 P **P 23 29 44.6 +1.3**
baz=198,SNR=21
CNPM China Poot 82.99 13 P **P 23 29 43.4 0.0**
CNPM IAmb IAmb 23 29 44.5
comp=Z,47nm,0.9s
TUC Tucson 83.03 52 P **P 23 29 45.3 +1.0**
TUC IAmb IAmb 23 29 47.7
comp=Z,20nm,1.0s
TUC Tucson 83.03 52 P **P 23 29 45.3 +1.0**
TUC pmax pmax
comp=Z,20nm,1.0s
N18K Kilae Creek 83.16 11 P **P 23 29 44.3 +0.1**
baz=201
K13K Kusilvak Mount 83.16 6 P **P 23 29 44.9 +0.8**
baz=192,SNR=28
WVOR Wild Horse Val 83.26 40 P **P 23 29 45.9 +0.6**
WVOR IAmb IAmb 23 29 47.8
comp=Z,25nm,1.1s
WVOR Wild Horse Val 83.26 40 P **P 23 29 45.9 +0.6**
WVOR pmax pmax
comp=Z,25nm,1.1s
L15K Ungalak Mounta 83.28 8 P **P 23 29 45.2 +0.5**
baz=195,SNR=27
BRSE Bradley Lake S 83.29 13 P **P 23 29 45.1 +0.3**
baz=205,SNR=6.9
NLWA Neilton Lookou 83.41 34 P **P 23 29 47.3 +1.5**
NLWA IAmb IAmb 23 29 48.3
comp=Z,26nm,1.1s
MNSI Mandailing Nat 83.41 273 P **P 23 29 45.3 -1.2**
comp=Z,92nm,0.8s
UBPT Khong Chiam 83.45 289 P **P 23 29 46.9 +0.3**
N19K Bonanza Creek 83.53 11 P **P 23 29 45.5 -0.6**
baz=202,SNR=7.9
L16K Owhat River 83.57 9 P **P 23 29 47.1 +0.9**
baz=197,SNR=15
M17K Holitna River 83.58 10 P **P 23 29 47.6 +1.3**
baz=199,SNR=14
K15K Wolf Creek Mou 83.87 8 P **P 23 29 48.7 +1.1**
baz=195
SEW Seward 83.90 14 P **P 23 29 47.5 -0.3**
SEW IAmb IAmb 23 29 49.1
comp=Z,41nm,1.0s
SEW Seward 83.90 14 P **P 23 29 47.6 -0.2**
baz=206,SNR=5.4
M18K Stony River 83.93 10 P **P 23 29 48.2 +0.3**
baz=201,SNR=6.6
KNB Kanab 83.98 47 P **P 23 29 50.3 +1.2**
KNB IAmb IAmb 23 29 52.0
comp=Z,24nm,1.2s
KNB Kanab 83.98 47 P **P 23 29 50.3 +1.2**
KNB pmax pmax
comp=Z,24nm,1.2s
KULM Kulim 84.03 278 P **P 23 29 49.7 +0.1**
KULM IAmb IAmb 23 29 51.4
comp=Z,42nm,0.9s
KULM Kulim 84.03 278 P **P 23 29 50.4 +0.8**
GNW Green Mountain 84.06 34 P **P 23 29 49.8 +0.8**
J14K Nanvaranak Lak 84.08 7 P **P 23 29 48.9 +0.3**
baz=193
L17K Donlin 84.15 9 P **P 23 29 50.4 +1.3**
baz=198
MA2 Magadan 84.18 345 P **P 23 29 48.6 -0.6**
MA2 IAmb IAmb 23 29 49.8
comp=Z,33nm,0.9s
MA2 Magadan 84.18 345 P **P 23 29 49.1 -0.1**
MA2 Magadan 84.18 345 P **P 23 29 48.6 -0.6**
MA2 pmax pmax
comp=Z,33nm,0.9s
MA2 Magadan 84.18 345 P **P 23 29 48.6 -0.6**
comp=Z,463nmcomp=Z,43nm,1.1s
WUAZ Wupatki 84.21 49 P **P 23 29 51.3 +1.1**
SPCR Spurr Chakacha 84.32 12 P **P 23 29 49.3 -0.7**
baz=204,SNR=6.3
ELK Elko 84.39 43 P **P 23 29 51.6 +0.5**
ELK Elko 84.39 43 P **P 23 29 52.2 +1.2**
comp=Z,5.8nm,0.9s,baz=254,slow=5.2,SNR=18
ELK pP **pP 23 31 35.1 +1.3**
comp=Z,1.0nm,0.9s,baz=231,slow=5.2,SNR=2.3
comp=Z,5.8nm,0.9s
ELK Elko 84.39 43 P **P 23 29 51.6 +0.5**
ELK pmax pmax
comp=Z,7.0nm,1.0s
HPIG 84.43 59 P **P 23 29 52.0 +0.5**
PGC Sidney 84.44 33 P **P 23 29 51.2 +0.5**
PGC IAmb IAmb 23 29 52.9
comp=Z,15nm,0.8s
L18K Granite Mounta 84.48 10 P **P 23 29 51.6 +1.0**
baz=200,SNR=20
GAMB Gambell 84.48 3 P **P 23 29 51.3 +0.7**
baz=186,SNR=40
M19K Big River Lodg 84.56 11 P **P 23 29 50.8 -0.3**
baz=202,SNR=8.8
STLK Strandline Lak 84.67 12 P **P 23 29 50.7 -1.0**
STLK IAmb IAmb 23 29 51.7
comp=Z,29nm,0.9s
RPSI Rantau Prapat 84.70 275 P **P 23 29 52.1 -0.8**
RPSI IAmb IAmb 23 29 53.5
comp=Z,57nm,1.0s
K17K Iditarod 84.70 9 P **P 23 29 52.5 +0.7**
baz=198
RC01 Rabbit Creek A 84.73 13 P **P 23 29 51.8 -0.1**
baz=206
PSI Prapat 84.74 275 P **P 23 29 53.2 -0.1**
PSI Prapat 84.74 275 P **P 23 29 52.1 -1.2**
PSI pmax pmax
comp=Z,57nm,1.0s
L19K White Mountain 84.74 11 P **P 23 29 52.3 +0.2**
baz=202,SNR=17
M20K Styx River 84.77 11 P **P 23 29 51.5 -0.7**
baz=203
PWL Port Wells 84.83 14 P **P 23 29 52.2 -0.2**
baz=208
SUA Susitna One 84.85 13 P **P 23 29 52.3 -0.4**
SUA IAmb IAmb 23 29 53.7
comp=Z,45nm,0.8s
SUA Susitna One 84.85 13 P **P 23 29 52.5 -0.2**
baz=205,SNR=12
J16K Anvik River 84.94 8 P **P 23 29 53.6 +0.7**
baz=196,SNR=13
BUTB Butedale 85.07 27 P **P 23 29 55.2 +1.3**
BUTB IAmb IAmb 23 29 56.1
comp=Z,67nm,1.8s
HAWA Hanford 85.10 36 P **P 23 29 54.9 +0.8**
HAWA IAmb IAmb 23 29 56.6
comp=Z,27nm,1.1s
GLI Glacier Island 85.13 15 P **P 23 29 53.9 -0.1**
baz=209
ZAIG Zacatecas 85.16 64 P **P 23 29 55.8 +0.5**
EYAK Cordova Ski Ar 85.17 15 P **P 23 29 54.1 +0.1**
EYAK Cordova Ski Ar 85.17 15 P **P 23 29 53.9 -0.1**
baz=210
SKT Skwentna 85.17 12 P **P 23 29 53.9 -0.2**
baz=205
MVU Marysvale 85.17 46 P **P 23 29 55.9 +1.0**
L20K Farewell, AK 85.19 11 P **P 23 29 54.0 -0.2**
baz=202
J17K VABM Dome 85.25 8 P **P 23 29 54.8 +0.5**
baz=198,SNR=7.9
M22K Willow 85.25 13 P **P 23 29 54.3 -0.1**
baz=206,SNR=9.5
KNK Knik Glacier 85.30 14 P **P 23 29 54.8 0.0**
baz=207,SNR=7.6
PMR Palmer 85.31 13 P **P 23 29 55.0 +0.3**
PMR Palmer 85.31 13 P **P 23 29 54.5 -0.2**
baz=207
TSI Tuntungan 85.32 276 P **P 23 29 55.7 -0.3**
V35K Ketchikan 85.42 24 P **P 23 29 56.3 +0.9**
baz=223
U33K Whale Pass 85.44 23 P **P 23 29 56.0 +0.6**
baz=221
BMO Blue Mountains 85.46 38 P **P 23 29 56.2 +0.2**
BMO Blue Mountains 85.46 38 P **P 23 29 56.2 +0.2**
BMO pmax pmax
comp=Z,9.0nm,0.8s
GSI Gunungsitoli 85.46 273 P **P 23 29 57.4 +0.8**
GSI Gunungsitoli 85.46 273 P **P 23 29 57.7 +1.0**
GSI Gunungsitoli 85.46 273 P **P 23 29 57.2 +0.5**
I17K Unalakleet 85.51 7 P **P 23 29 56.4 +0.8**
baz=196

MFID Camas Ranch 85.51 40 P **P 23 29 57.2 +0.9**
GHO Glory Hole Cre 85.52 13 P **P 23 29 55.7 -0.1**
J18K Innoko River 85.65 9 P **P 23 29 56.7 +0.4**
baz=200
SML Sawmill 85.67 14 P **P 23 29 56.9 +0.3**
baz=208
ANM Nome 85.68 5 P **P 23 29 57.0 +0.5**
baz=192
HEH HeiHe 85.72 328 *e*P **P 23 29 56.9 -0.1**
HEH pP **sP 23 32 23.3 -4.7**
HEH S **S 23 39 54.4 +4.5**
HEH HeiHe 85.72 328 sS **sS 23 42 54.8 +1.3**
HEH pmax pmax
comp=Z,38nm,1.2s
COYC Coyhaique 85.74 137 P **P 23 29 58.6 +1.1**
COYC IAmb IAmb 23 30 00.9
comp=Z,16nm,0.9s
S31K Pelican 85.77 21 P **P 23 29 57.2 +0.2**
baz=218
M23K Glacier View 85.80 14 P **P 23 29 56.9 -0.2**
baz=208
CUT Chulitna 85.80 12 P **P 23 29 57.1 0.0**
CUT Chulitna 85.80 12 P **P 23 29 56.9 -0.2**
baz=206,SNR=6.7
BMRM Bremner River 85.81 16 P **P 23 29 57.4 +0.2**
baz=211,SNR=6.5
MESA MESA 85.84 17 P **P 23 29 57.8 +0.2**
baz=213
PPLA Purkeypile 85.88 11 P **P 23 29 58.3 +0.6**
baz=204
SCM Sheep Creek Mo 85.92 14 P **P 23 29 57.9 0.0**
baz=208,SNR=9.8
HNS HongShan 85.94 312 ⇑P **P 23 29 59.6 +1.2**
HNS pmax pmax
comp=Z,44nm,1.1s
KLU Klutina 85.95 15 P **P 23 29 58.1 +0.2**
baz=210,SNR=5.3
WRAK Wrangell Islan 85.95 23 P **P 23 29 59.0 +1.1**
baz=222
K20K Telida 85.97 10 P **P 23 29 58.1 +0.1**
baz=202,SNR=18
H16K Elim 86.06 7 P **P 23 29 58.4 +0.1**
baz=195,SNR=15
JRQG Juriquilla Cam 86.11 66 P **P 23 30 00.3 +0.4**
LYN LuoYang 86.14 309 ⇑P **P 23 30 00.8 +1.4**
LYN pmax pmax
comp=Z,100nm,0.9s
PNL Peninsula 86.14 18 P **P 23 29 59.3 +0.4**
baz=216
SRIT Nakonsritamara 86.21 281 P **P 23 30 01.5 +1.3**
G15K Niukluk 86.22 6 P **P 23 29 59.1 +0.1**
baz=193,SNR=21
BJT Baijiatuau 86.29 315 P **P 23 30 00.4 +0.4**
BJT Baijiatuau 86.29 315 P **P 23 30 00.4 +0.4**
BJT pmax pmax
comp=Z,29nm,0.4s
BJI Beijing 86.29 315 P **P 23 30 00.9 +0.9**
BJI pmax pmax
comp=Z,14nm,0.6s
J19K Poorman 86.31 10 P **P 23 30 00.1 +0.6**
baz=201,SNR=9.4
ELIB Princess Elisa 86.32 186 *d*P **P 23 29 59.7 -0.1**
comp=Z,26nm,0.9s
N25K Chitina, Valde 86.37 15 P **P 23 30 00.2 +0.3**
baz=211,SNR=11
CAST Castle Rocks 86.38 11 P **P 23 29 58.5 -1.4**
baz=204,SNR=30
ENH Enshi 86.41 304 P **P 23 30 01.3 +0.5**
M24K Tolsona, Glenn 86.42 14 P **P 23 30 00.8 +0.6**
baz=209
SYO Syowa Base 86.43 193⇑ *e*P **P 23 30 00.2 0.0**
SYO Syowa Base 86.43 193⇑ *r*P*c*P **PcP 23 30 03.5 +1.5**
SYO Syowa Base 86.43 193⇑ *e*pP pP 23 31 40.6 -2.6
HLID Hailey 86.45 41 P **P 23 30 01.8 +0.9**
TNA Tin City 86.47 4 P **P 23 30 00.3 +0.1**
baz=189,SNR=9.5
LLLB Lillooet 86.48 32 P **P 23 30 01.1 +0.4**
F14K Arctic Creek 86.50 5 P **P 23 30 00.7 +0.3**
baz=191,SNR=5.4
NONG Nongkai 86.59 291 P **P 23 30 03.1 +1.2**
P29M Windy Craggy 86.61 19 P **P 23 30 02.1 +1.0**
baz=217,SNR=5.5
H17K Granite Mounta 86.62 8 P **P 23 30 00.7 -0.2**
baz=197
J20K Nowinta River 86.72 10 P **P 23 30 01.5 0.0**
baz=202,SNR=11
TRF Thorofare Moun 86.75 12 P **P 23 30 01.2 -0.6**
baz=206,SNR=32
CHUM Lake Minchumin 86.76 11 P **P 23 30 00.8 -0.8**
baz=204,SNR=8.8
SEY Seymchan 86.77 347⇓ *i*P **P 23 30 01.7 0.0**
SEY pmax pmax
comp=Z,63nm,0.9s
NAYO Nakonayok 86.77 287 P **P 23 30 04.2 +1.4**
MNTX Cornudas Mount 86.78 54 P **P 23 30 03.3 +0.8**
MNTX IAmb IAmb 23 30 05.4
comp=Z,15nm,0.9s
G16K Koyuk River 86.78 6 P **P 23 30 01.9 +0.2**
baz=194,SNR=17
O28M Mount Upton 86.82 17 P **P 23 30 03.0 +0.6**
baz=215,SNR=7.0
GCSA Galena City Sc 86.84 9 P **P 23 30 02.3 +0.3**
baz=200
F15K North Star Dit 86.87 5 P **P 23 30 02.0 -0.1**
baz=192,SNR=6.8
O29M Mount Kennedy 86.90 18 P **P 23 30 03.3 +0.7**
baz=216
HARP HAARP 86.92 15 P **P 23 30 02.8 +0.3**
baz=210
GYA Guiyang 87.01 300 ⇑P **P 23 30 05.1 +1.2**
GYA pmax pmax
comp=Z,30nm,0.9s
H18K Honhosa River 87.02 8 P **P 23 30 02.5 -0.3**
baz=198
TX31 Lajitas Ar. Si 87.06 57 P **P 23 30 05.4 +1.4**
TXAR Lajitas Array 87.06 57 P **P 23 30 05.5 +1.4**
TXAR Lajitas Array 87.06 57 P **P 23 30 05.9 +1.8**
comp=Z,6.4nm,0.8s,baz=217,slow=5.8,SNR=46
TXAR pP **pP 23 31 48.8 +1.4**
comp=Z,0.2nm,0.4s,baz=232,slow=4.1,SNR=1.9
TXAR PKKPbc **PKKPbc 23 47 54.4 +0.5**
comp=Z,0.7nm,0.8s,baz=117,slow=4.1,SNR=6.7
comp=Z,6.4nm,0.8s
TXAR Lajitas Array 87.06 57 P **P 23 30 05.5 +1.4**
G17K Kiwalik Mounta 87.07 7 P **P 23 30 03.1 0.0**
baz=196,SNR=13
T35M Bob Quinn 87.15 24 P **P 23 30 04.8 +1.1**
baz=224
BPAW Bear Paw Mtn. 87.20 11 P **P 23 30 02.6 -1.2**
baz=205,SNR=5.2
SLVN Son La 87.22 294 P **P 23 30 05.5 +0.5**
SLVN Son La 87.22 294 P **P 23 30 05.2 +0.3**
SKAG Skagway 87.24 20 P **P 23 30 05.6 +1.7**
baz=219
P30M Million Dollar 87.24 19 P **P 23 30 05.3 +1.2**
baz=218
I20K Naaghedeneel 87.25 10 P **P 23 30 04.3 +0.4**
baz=202,SNR=6.3
MCK McKinley 87.27 12 P **P 23 30 03.9 -0.2**
baz=207,SNR=27
PAX Paxson 87.34 14 P **P 23 30 04.1 -0.4**
baz=210,SNR=6.1
YUK8 Steele Glacier 87.36 17 P **P 23 30 05.4 +0.5**
baz=215,SNR=11
TROLL Troll, Antarti 87.38 180⇓P **P 23 30 05.1 +0.2**
comp=Z,725nm,0.8s
M26K Nabesna, AK 87.44 15 P **P 23 30 05.2 +0.2**
baz=212,SNR=18
LHMI Lhok Sumawe 87.45 277 P **P 23 30 06.7 +0.6**
LHMI Lhok Sumawe 87.45 277 P **P 23 30 07.3 +1.2**
LHMI Lhok Sumawe 87.45 277 P **P 23 30 06.6 +0.6**
ANMO Albuquerque 87.46 51 P **P 23 30 06.6 +0.7**
ANMO Albuquerque 87.46 51 P **P 23 30 06.8 +0.9**
comp=Z,5.6nm,0.8s,baz=20,slow=5.0,SNR=20
ANMO pP **pP 23 31 50.2 +0.8**
comp=Z,2.9nm,1.1s,baz=354,slow=5.2,SNR=4.9
comp=Z,5.6nm,0.8s
ANMO Albuquerque 87.46 51 *d i*P **P 23 30 07.1 +1.2**
ANMO pmax pmax
comp=Z,5.0nm,1.0s
YUK6 Outpost Mounta 87.48 18 P **P 23 30 06.1 +0.7**
baz=216
S34M Telegraph Cree 87.50 23 P **P 23 30 06.2 +0.9**
baz=223
NEW Newport 87.53 36 P **P 23 30 06.0 +0.3**
NEW Newport 87.53 36 P **P 23 30 06.0 +0.3**

NEW pmax pmax
comp=Z,8.0nm,0.9s
YUK3 Moose Creek 87.58 17 P **P 23 30 06.5 +0.7**
baz=215,SNR=22
H19K Roundabout Mou 87.64 9 P **P 23 30 06.1 +0.4**
baz=200,SNR=18
HYT Haines Junctio 87.64 18 P **P 23 30 06.7 +0.7**
HYT Haines Junctio 87.64 18 P **P 23 30 06.7 +0.7**
baz=217,SNR=7.0
SNAA Sanae 87.65 178 P **P 23 30 06.0 -0.1**
comp=Z,4.4nm,0.7s,baz=209,slow=6.0,SNR=6.2
comp=Z,4.4nm,0.7s
M27K Edge Creek, AK 87.69 16 P **P 23 30 07.0 +0.8**
baz=213,SNR=25
G18K Tagagawik 87.69 8 P **P 23 30 05.7 -0.3**
baz=198
MENT Mentasta 87.72 15 P **P 23 30 06.5 +0.2**
MENT IAmb IAmb 23 30 07.8
comp=Z,18nm,1.0s
MENT Mentasta 87.72 15 P **P 23 30 07.1 +0.8**
YUK4 Talbot Arm 87.72 18 P **P 23 30 07.4 +0.9**
baz=216
VNA3 Neumayer Olymp 87.78 176⇓P **P 23 30 06.5 0.0**
comp=Z,22nm,0.4s
VNA3 ⇓pP **pP 23 31 51.7 +1.6**
H20K Anotleneega Mo 87.83 9 P **P 23 30 07.2 +0.5**
baz=201,SNR=29
P32M Atlin 87.86 21 P **P 23 30 07.7 +0.7**
baz=221
Q32M Nakina River 87.88 22 P **P 23 30 08.2 +0.9**
baz=222
L26K Log Cabin Wild 87.89 15 P **P 23 30 07.5 +0.5**
baz=212,SNR=11
F17K Baldwin Pennin 87.92 7 P **P 23 30 07.1 +0.1**
baz=196,SNR=22
K24K Donnelly Dome 88.00 14 P **P 23 30 07.9 +0.4**
baz=210,SNR=10
BVCY Beaver Creek 88.00 16 P **P 23 30 08.3 +0.7**
baz=214,SNR=6.4
NEA2 Nenana 88.01 12 P **P 23 30 06.6 -0.9**
baz=207,SNR=7.1
I21K Tanana 88.01 11 P **P 23 30 07.5 0.0**
baz=204,SNR=29
O30N Mendenhall 88.02 19 P **P 23 30 08.5 +0.8**
baz=218,SNR=8.8
ZEA Zeya 88.04 331 *e*P **P 23 30 08.7 +0.8**
ZEA pmax pmax
comp=Z,20nm,1.1s
AHID Auburn Hatcher 88.09 43 P **P 23 30 09.6 +0.9**
WRH Wood River Hil 88.10 12 P **P 23 30 07.3 -0.6**
G19K Purcell Mounta 88.13 8 P **P 23 30 08.3 +0.2**
baz=199,SNR=36
RIDG Independent Ri 88.15 14 P **P 23 30 08.3 0.0**
baz=211,SNR=8.2
VNA2 Neumayer--Watz 88.22 177⇓P **P 23 30 09.1 +0.4**
comp=Z,29nm,0.7s,baz=180,slow=4.4
VNA2 ⇓pP **pwP 23 31 54.8 -1.0**
baz=246,slow=33
F18K Selawik 88.25 7 P **P 23 30 08.2 -0.3**
baz=197,SNR=9.6
N30M Aishikik Lake 88.27 18 P **P 23 30 09.2 +0.3**
baz=218
HDA Harding Lake 88.28 13 P **P 23 30 08.6 -0.2**
HDA IAmb IAmb 23 30 09.4
comp=Z,28nm,0.7s
HDA Harding Lake 88.28 13 P **P 23 30 08.4 -0.4**
baz=209,SNR=32
DLBC Dease Lake 88.29 23 P **P 23 30 10.3 +1.2**
baz=224
L27K Beaver Creek, 88.29 16 P **P 23 30 09.2 +0.3**
baz=213,SNR=10
BCAR Beaver Creek A 88.30 16 P **P 23 30 09.1 +0.1**
WHY Whitehorse 88.31 20 P **P 23 30 09.4 +0.3**
WHY IAmb IAmb 23 30 11.1
comp=Z,40nm,1.2s
WHY Whitehorse 88.31 20 P **P 23 30 09.9 +0.8**
baz=220,SNR=6.9
H21K Melozitna Rive 88.31 10 P **P 23 30 09.1 +0.2**
baz=203,SNR=40
XLT XiLinHaoTe 88.35 319 *e*P **P 23 30 10.0 +0.3**
XLT pP pwP 23 31 55.8 -0.5
VNA1 Neumayer--Stat 88.45 177⇓P **P 23 30 10.0 +0.4**
comp=Z,44nm,0.9s
I23K Minto, Yukon-K 88.46 12 P **P 23 30 08.8 -0.7**
baz=206,SNR=12
E17K Hotham Inlet 88.48 6 P **P 23 30 09.9 +0.3**
baz=195,SNR=26
COLA College 88.50 12 P **P 23 30 09.2 -0.5**
COLA College 88.50 12 P **P 23 30 09.4 -0.4**
COLA College 88.50 12 P **P 23 30 09.3 -0.5**
COLA pmax pmax
comp=Z,48nm,0.8s
COLA College 88.50 12 P **P 23 30 09.3 -0.5**
baz=208
XAN Xi'an 88.52 307⇓P **P 23 30 11.3 +0.6**
XAN pmax pmax
comp=Z,120nm,0.9s
XAN LR LR
comp=N,240nm,15.8s
XAN LR LR
comp=E,280nm,18.6s
XAN LR LR
comp=Z,320nm,17.2s
SCRK Sand Creek 88.55 14 P **P 23 30 10.4 +0.2**
baz=211,SNR=8.4
ILAR Eielson Array 88.61 13 P **P 23 30 09.7 -0.6**
comp=Z,11nm,0.8s,baz=226,slow=5.2,SNR=75
ILAR pP **pP 23 31 54.3 -0.2**
comp=Z,4.5nm,1.2s,baz=223,slow=4.6,SNR=4.7
comp=Z,11nm,0.8s
ILAR Eielson Array 88.61 13 P **P 23 30 09.6 -0.7**
P33M Teslin, Yukon 88.63 21 P **P 23 30 11.3 +0.7**
baz=221,SNR=8.1
R33M Jennings River 88.65 22 P **P 23 30 11.8 +1.0**
baz=223,SNR=6.7
M29M Somme Creek 88.67 17 P **P 23 30 11.7 +1.0**
baz=216,SNR=21
N31M Braeburn, Yuko 88.68 19 P **P 23 30 11.6 +0.8**
baz=219,SNR=6.4
F19K Shaleruckik Mo 88.70 8 P **P 23 30 10.6 0.0**
baz=199,SNR=44
H22K Ishtalitna Cre 88.77 11 P **P 23 30 11.2 +0.1**
baz=205,SNR=38
J25K Salcha River, 88.79 13 P **P 23 30 11.1 -0.1**
baz=210,SNR=16
POKR Poker Plat Res 88.80 12 P **P 23 30 10.5 -0.7**
baz=208,SNR=18
E18K Tukpahlearik C 88.93 7 P **P 23 30 12.0 +0.3**
baz=196,SNR=28
D17K Noatak River 88.96 6 P **P 23 30 12.3 +0.5**
baz=194,SNR=9.9
G21K Allakaket 89.00 9 P **P 23 30 12.4 +0.3**
baz=203
H23K Yukon River 89.03 11 P **P 23 30 11.6 -0.7**
baz=206,SNR=8.8
K27K Chicken 89.04 15 P **P 23 30 13.3 +1.0**
baz=213
PDAR Pinedale Array 89.07 43 P **P 23 30 13.6 +0.3**
PDAR Pinedale Array 89.07 43 P **P 23 30 13.8 +0.5**
comp=Z,8.1nm,0.8s,baz=217,slow=2.8,SNR=82
PDAR pP **pP 23 31 58.0 +0.6**
comp=Z,0.6nm,0.9s,baz=228,slow=4.4,SNR=2.8
PDAR PKKPbc **PKKPbc 23 47 49.2 -0.7**
comp=Z,0.5nm,0.8s,baz=64,slow=5.1,SNR=5.0
comp=Z,8.1nm,0.8s
BSI Banda Aceh 89.08 276 P **P 23 30 13.7 0.0**
J26L Joseph Creek 89.09 14 P **P 23 30 13.5 +0.8**
baz=212,SNR=50
HIA Hailar 89.10 324 P **P 23 30 13.1 +0.1**
HIA IAmb IAmb 23 30 14.1
comp=Z,16nm,0.9s
HIA Hailar 89.10 324 P **P 23 30 13.1 +0.1**
HIA pmax pmax
comp=Z,16nm,0.9s
YHL Hebgen Lake 89.11 41 P **P 23 30 15.5 +2.0**
YHL IAmb IAmb 23 30 16.5
comp=Z,28nm,0.9s
F20K Avaraart Lake 89.17 8 P **P 23 30 13.2 +0.3**
baz=201,SNR=41
M30M Minto, Yukon 89.24 18 P **P 23 30 13.9 +0.5**
baz=218,SNR=23
N32M Quiet Lake 89.25 20 P **P 23 30 14.3 +0.9**
baz=221
L29M L29M 89.29 17 P **P 23 30 14.6 +1.0**
baz=217,SNR=32
RDOG Red Dog Mine 89.32 6 P **P 23 30 13.9 +0.3**
baz=194

C16K **Lisburne Hills** 89.33 5 P **P** 23 30 13.3 -0.2
baz=192,SNR=6.1
H24K **Noodor Dome** 89.35 12 P **P** 23 30 12.3 -1.5
baz=208
E19K **Redstone River** 89.36 8 P **P** 23 30 14.0 +0.3
baz=199
BILL **Bilibino** 89.41 354 P **P** 23 30 13.8 -0.1
BILL IAmb IAmb 23 30 16.3
comp=Z,12nm,0.8s
BILL **Bilibino** 89.41 354 *d* iP **P** 23 30 13.8 -0.1
BILL pmax pmax
comp=Z,12nm,0.8s
SDCO **Great Sand Dun** 89.42 49 P **P** 23 30 15.8 +0.6
PRP **Porcupine Dome** 89.54 13 P **P** 23 30 14.5 -0.3
baz=210,SNR=27
M31M **Drury Creek, Y** 89.65 19 P **P** 23 30 15.5 +0.2
baz=220,SNR=6.9
F21K **Alatna River** 89.66 9 P **P** 23 30 15.2 +0.1
baz=203,SNR=17
G22K **Bettles** 89.69 10 P **P** 23 30 15.7 +0.4
baz=204
KMI **Kunming** 89.70 297 ⇓P **P** 23 30 18.0 +1.4
KMI pmax pmax
comp=Z,52nm,0.9s
DAWY **Dawson** 89.74 16 P **P** 23 30 16.0 +0.3
DAWY IAmb IAmb 23 30 17.1
comp=Z,28nm,1.0s
DAWY **Dawson** 89.74 16 P **P** 23 30 16.1 +0.5
baz=216,SNR=26
G23K **Bananza Creek** 89.75 11 P **P** 23 30 15.6 0.0
baz=206,SNR=14
HHC **Hu-ho-hao-te** 89.75 314 *e*P **P** 23 30 17.1 +0.8
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,73nm,3.6s
I26K **Coal Creek Min** 89.87 14 P **P** 23 30 16.6 +0.5
baz=212
FARO **Faro, Yukon** 89.99 19 P **P** 23 30 17.6 +0.8
baz=221
K29M **Barlow Dome** 90.05 17 P **P** 23 30 18.0 +0.9
baz=217,SNR=25
C18K **Utukok River** 90.06 6 P **P** 23 30 16.9 -0.1
baz=196,SNR=11
F22K **John River** 90.12 10 P **P** 23 30 17.6 +0.3
baz=204,SNR=23
COLD **Coldfoot** 90.18 10 P **P** 23 30 18.1 +0.5
COLD IAmb IAmb 23 30 19.8
comp=Z,28nm,1.0s
COLD **Coldfoot** 90.18 10 P **P** 23 30 18.1 +0.5
baz=206,SNR=31
G24K **Hadweenzic Riv** 90.20 12 P **P** 23 30 17.5 -0.2
baz=208,SNR=5.4
D19K **Kuna River** 90.24 7 P **P** 23 30 18.0 +0.1
baz=198
E20K **Nigu River** 90.25 8 P **P** 23 30 18.3 +0.3
baz=200,SNR=54
J29N **Klondike Camp** 90.35 16 P **P** 23 30 19.4 +0.9
baz=217,SNR=8.9
TOAD **Toad River Com** 90.38 24 P **P** 23 30 19.7 +1.0
baz=228
LIRD **Liard River Hi** 90.43 24 P **P** 23 30 19.7 +0.8
baz=227
CM31 **Chiang Mai Arr** 90.44 289 P **P** 23 30 21.0 +1.1
CMAR **Chiang Mai Arr** 90.44 289 P **P** 23 30 20.9 +1.0
CMAR **Chiang Mai Arr** 90.44 289 P **P** 23 30 21.4 +1.5
comp=Z,36nm,0.9s,baz=124,slow=2.9,SNR=178
CMAR PKKPbc **PKKPbc** 23 47 46.1 +1.0
comp=Z,1.1nm,0.3s,baz=294,slow=4.6,SNR=5.6
comp=Z,36nm,0.9s
CMAR **Chiang Mai Arr** 90.44 289 P **P** 23 30 20.9 +1.0
I27K **Kandik River** 90.47 14 P **P** 23 30 19.2 +0.2
baz=214,SNR=8.3
G25K **Bearman Lake** 90.52 12 P **P** 23 30 19.5 +0.4
baz=209,SNR=5.4
CHTO **Chiang Mai** 90.56 290 P **P** 23 30 21.7 +1.2
D20K **Etivluk River** 90.63 8 P **P** 23 30 19.9 +0.3
baz=200
BTO **Baotou** 90.68 314 ⇑*i*P **P** 23 30 22.5 +1.9
BTO pP **pwP** 23 32 11.4 +4.3
BTO sP **sP** 23 32 58.0 +5.7
BTO **Baotou** 90.68 314 S **S** 23 40 34.5 -2.0
BTO **Baotou** 90.68 314 SS SS 23 46 56.4 +4.0
BTO pmax pmax
comp=Z,43nm,1.0s
BTO pmax pmax
comp=Z,140nm,5.4s
B18K **Kokolik River** 90.69 6 P **P** 23 30 20.2 +0.3
baz=195,SNR=12
E21K **Killik River** 90.72 9 P **P** 23 30 20.0 -0.1
baz=202,SNR=9.5
I28M **Miner Creek** 90.74 15 P **P** 23 30 20.3 0.0
baz=215,SNR=19
E22K **Anaktuvuk Pass** 90.75 9 P **P** 23 30 20.4 +0.2
baz=204
F24K **Squaw Lake** 90.85 11 P **P** 23 30 21.2 +0.5
baz=208,SNR=11
MMPY **Sheldon Lake,** 90.93 20 P **P** 23 30 22.0 +0.8
baz=223,SNR=9.5
J30M **Hart River** 90.95 17 P **P** 23 30 21.8 +0.5
baz=218,SNR=10
AMTX **Amarillo** 90.95 53 P **P** 23 30 22.0 0.0
H27K **Steamboat Moun** 91.02 14 P **P** 23 30 21.9 +0.4
baz=214,SNR=23
E23K **Chandalar** 91.03 10 P **P** 23 30 22.1 +0.5
baz=206,SNR=18
PZH **PanZhiHua** 91.06 298 P **P** 23 30 23.9 +1.1
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,100nm,6.7s
I29M **Ogilvie Camp,** 91.06 15 P **P** 23 30 21.7 0.0
baz=216,SNR=9.4
TGTN **Hyland Airport** 91.12 21 P **P** 23 30 22.8 +0.7
baz=225,SNR=5.1
G26K **Porcupine Rive** 91.14 13 P **P** 23 30 22.6 +0.6
baz=212,SNR=25
CD2 **Chengdu** 91.16 303 P **P** 23 30 24.1 +1.1
CD2 pmax pmax
comp=Z,10.0nm,0.6s
E24K **Your Creek** 91.24 11 P **P** 23 30 22.8 +0.3
baz=207
C21K **Knifeblade Rid** 91.28 8 P **P** 23 30 23.1 +0.5
baz=202,SNR=16
D22K **Ayikyak River** 91.31 9 P **P** 23 30 23.4 +0.6
baz=203,SNR=20
F25K **Christian Rive** 91.33 12 P **P** 23 30 23.5 +0.5
baz=210,SNR=7.7
BMAR **Burnt Mountain** 91.39 12 P **P** 23 30 23.8 +0.6
I30M **Mount Dempster** 91.45 16 P **P** 23 30 23.9 +0.3
baz=218,SNR=20
G27K **Doyon Strip** 91.47 14 P **P** 23 30 24.1 +0.5
baz=214,SNR=7.2
TOLK **Toolik Lake Re** 91.56 10 P **P** 23 30 24.3 +0.3
baz=206,SNR=6.3
A19K **Wainwright** 91.58 6 P **P** 23 30 24.8 +0.9
baz=196
D23K **Nanushuk River** 91.68 9 P **P** 23 30 25.1 +0.6
baz=205,SNR=20
F26K **Sheenjek River** 91.71 12 P **P** 23 30 25.4 +0.8
baz=211,SNR=7.8
B21K **Ikpikpuk River** 91.73 8 P **P** 23 30 24.8 +0.2
baz=202,SNR=6.4
H29M **Whitestone** 91.74 15 P **P** 23 30 25.1 +0.3
baz=216,SNR=20
B20K **Meade River** 91.79 7 P **P** 23 30 25.2 +0.3
baz=199,SNR=6.4
E25K **Arctic Village** 91.80 12 P **P** 23 30 25.4 +0.3
baz=210,SNR=9.2
D24K **Happy Valley** 92.15 10 P **P** 23 30 27.1 +0.5
baz=207,SNR=8.6
EPYK **Eagle Plains** 92.27 15 P **P** 23 30 27.3 0.0
baz=218,SNR=12
G29M **Pine Creek** 92.38 15 P **P** 23 30 27.8 0.0
baz=217,SNR=8.5
H31M **Peel River** 92.44 16 P **P** 23 30 28.0 0.0
baz=220
C23K **Itkillik River** 92.48 9 P **P** 23 30 28.6 +0.5
baz=205,SNR=11
YAK **Yakutsk** 92.52 338 P **P** 23 30 27.5 -0.9
YAK **Yakutsk** 92.52 338 P **P** 23 30 27.7 -0.7
comp=Z,32nm,0.8s,baz=195,slow=0.8,SNR=9.1
comp=Z,32nm,0.8s
YAK **Yakutsk** 92.52 338 *e*P **P** 23 30 27.3 -1.1
YAK *e**PP **pP** 23 32 11.6 -1.5
YAK *e* 23 34 16.1
YAK *e*S **SKSac** 23 40 14.5 -1.8
YAK *e* 23 40 51.0
YAK *e*SS **SS** 23 47 16.0 -1.4
YAK pmax pmax
comp=Z,43nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=Z,101nm,3.8s
YAK smax smax
comp=N,91nm,4.0s
YAK smax smax
comp=E,30nm,3.8s
B22K **Teshekpuk Lake** 92.56 8 P **P** 23 30 28.7 +0.3
baz=203,SNR=5.3
E27K **Coleen River** 92.64 13 P **P** 23 30 29.4 +0.5
baz=214,SNR=8.7
C24K **Franklin Bluff** 92.67 10 P **P** 23 30 29.5 +0.5
baz=207
D25K **Kavik River** 92.71 11 P **P** 23 30 28.9 -0.4
baz=209
G30M **tAoh Zraii Nji** 92.87 15 P **P** 23 30 30.0 0.0
baz=218,SNR=18
A22K **Sinclair Lake** 92.98 7 P **P** 23 30 30.6 +0.2
baz=201
LAO **LASA Array** 93.03 41 P **P** 23 30 32.2 +1.0
LAO IAmb IAmb 23 33 56.4
comp=Z,14nm,0.8s
G31M **Satah River** 93.31 16 P **P** 23 30 32.1 +0.1
baz=220,SNR=15
E28M **Babbage River** 93.42 13 P **P** 23 30 32.8 +0.3
baz=216,SNR=12
C27K **Jago River** 93.45 11 P **P** 23 30 32.8 +0.2
baz=212,SNR=11
F30M **Barrier River** 93.47 15 P **P** 23 30 32.6 -0.1
baz=219,SNR=14
C26K **Camden Bay** 93.48 11 P **P** 23 30 33.3 +0.6
baz=211,SNR=12
E29M **Blow River** 93.60 14 P **P** 23 30 33.1 -0.2
baz=217
D27M **Malcolm River** 93.65 12 P **P** 23 30 33.9 +0.3
baz=214,SNR=7.3
F31M **Tsiigehtchic** 93.84 16 P **P** 23 30 34.2 -0.1
baz=221,SNR=11
D28M **Stokes Point** 94.18 13 P **P** 23 30 35.9 0.0
baz=216,SNR=8.1
INK **Inuvik** 94.55 15 P **P** 23 30 37.4 -0.2
baz=221
ULN **Ulaanbaatar** 95.77 319 P **P** 23 30 43.3 -0.5
ULN IAmb IAmb 23 30 44.5
comp=Z,6.6nm,0.9s
ULN **Ulaanbaatar** 95.77 319 P **P** 23 30 43.3 -0.5
ULN pmax pmax
comp=Z,7.0nm,0.9s
SONM **Songino Array** 96.16 319 P **P** 23 30 45.0 -0.5
comp=Z,1.4nm,0.8s,baz=110,slow=3.5,SNR=7.8
SONM PKKPbc **PKKPbc** 23 47 31.0 -0.7
comp=Z,0.3nm,0.3s,baz=264,slow=3.0,SNR=4.0
comp=Z,1.4nm,0.8s
YKA **Yellowknife Ar** 96.74 25 P **P** 23 30 47.7 +0.1
comp=Z,0.8nm,0.7s,baz=243,slow=4.4,SNR=15
YKA pP **pP** 23 32 33.0 +0.8
comp=Z,0.9nm,0.9s,baz=245,slow=4.2,SNR=6.9
comp=Z,0.8nm,0.7s
GTA **Gaotai** 97.36 309 P Pdif 23 30 52.1 +0.9
GTA pmax pmax
comp=Z,7.0nm,1.5s
C36M **Paulatuk** 97.72 17 P **P** 23 30 52.2 +0.4
baz=230
TIXI **Tiksi** 99.14 345 P **Pdif** 23 30 57.1 -1.1
comp=Z,4.0nm,0.5s,baz=135,slow=10,SNR=3.4
comp=Z,4.0nm,0.5s
TIXI **Tiksi** 99.14 345 ⇓*e*P **Pdif** 23 30 57.0 -1.1
TIXI pmax pmax
comp=Z,5.0nm,1.1s
A36M **Sachs Harbour** 99.16 14 P **Pdif** 23 30 58.4 +0.2
baz=229
LPAZ **La Paz** 101.73 113 P **Pdif** 23 31 13.4 +1.7
comp=Z,0.6nm,0.7s,baz=353,slow=5.7,SNR=2.2
ZALV **Zalesovo Beam** 110.90 321 PKiKP **PKiKP** 23 35 46.4 -1.1
comp=Z,2.9nm,0.6s,baz=157,slow=1.3,SNR=18
NRIK **Noril'sk** 110.97 338 *i* PKIKP **PKiKP** 23 35 44.1 -3.1
MK31 **Makanchi Array** 111.59 313 *d* PKIKP **PKiKP** 23 35 47.8 -1.3
MKAR **Makanchi Array** 111.59 313 Pdiff **Pdif** 23 31 54.9 +0.7
comp=Z,0.7nm,0.6s,baz=75,slow=9.3,SNR=7.9
MKAR PKiKP **PKiKP** 23 35 47.9 -1.2
comp=Z,1.9nm,0.5s,baz=209,slow=0.6,SNR=38
MKAR PKKPbc **PKKPbc** 23 46 45.4 -0.2
comp=Z,1.0nm,0.8s,baz=266,slow=3.4,SNR=7.6
KURK **Kurchatov** 114.40 317 *i* PKIKP PKPdf 23 35 53.0 -1.3
KURBB **Kurchatov Arra** 114.45 317 PKP PKPdf 23 35 53.1 -1.2
comp=Z,3.1nm,0.6s,baz=99,slow=1.8,SNR=43
AAK **Ala-Archa** 116.68 308 *i* PKIKP **PKPdf** 23 35 57.8 -1.4
BDFB **Brasília** 118.78 122 PKP **PKPdf** 23 36 03.8 -0.2
comp=Z,2.0nm,0.5s,baz=114,slow=3.3,SNR=4.0
BDFB PKKPbc **PKKPbc** 23 46 20.0 -0.7
comp=Z,4.4nm,0.7s,baz=131,slow=3.3,SNR=6.4
UPNV **Upernavik** 118.94 17 *i* P **PKPdf** 23 36 01.4 -1.0
BVAR **Borovoye Array** 119.49 320 PKP **PKPdf** 23 36 03.3 -0.8
comp=Z,12nm,0.7s,baz=117,slow=1.3,SNR=54
BRVK **Borovoye** 119.55 320 *d* PKIKP **PKPdf** 23 36 02.8 -1.4
GAR **Garm** 119.59 304 **PKPdf** 23 36 04.3 -0.6
KK31 **Karatay Array** 119.63 308 **PKPdf** 23 36 03.5 -1.2
KK31 **Karatay Array** 119.63 308 PKIKP **PKPdf** 23 36 03.5 -1.2
KKAR **Karatay Array** 119.63 308 **PKPdf** 23 36 03.4 -1.3
KKAR **Karatay Array** 119.63 308 PKIKP **PKPdf** 23 36 03.4 -1.3
KBL **Kabul** 120.25 299 **PKPdf** 23 36 06.2 -0.2
KBL **Kabul** 120.25 299 PKIKP **PKPdf** 23 36 06.2 -0.2
MAL2 **Monte Alegre,** 120.31 105 **PKiKP** 23 36 07.0 0.0
SIMJ **Simiganj** 120.59 303 PKPdf **PKPdf** 23 36 06.4 -0.4
ILULI **Ilulissat** 122.00 20 *i* P **PKPdf** 23 36 07.6 -0.7
SPITS **Spitsbergen Ar** 122.23 357 PKP **PKPdf** 23 36 08.3 -0.4
comp=Z,6.4nm,0.6s,baz=76,slow=3.5,SNR=18
SFJD **Kangerlussuaq** 123.19 22 *i* P **PKPdf** 23 36 09.4 -1.3
SUMG **Summit** 123.44 14 *i* P **PKPdf** 23 36 11.1 -0.5
NUUK **Nuuk** 124.00 25 *i* P **PKPdf** 23 36 11.6 -0.7
SUR **Sutherland** 124.16 199 PKPdf **PKiKP** 23 36 14.4 0.0
SVE **Sverdlovsk** 124.40 325 *e*PKIKP **PKPdf** 23 36 13.1 -0.2
SVE pmax pmax
comp=Z,21nm,1.0s
DBG **Daneborg** 125.15 7 *i* P **PKPdf** 23 36 13.5 -0.8
ICESG **Greenland Ices** 125.47 17 *i* P **PKPdf** 23 36 14.1 -1.4
ARTI **Arti** 125.72 325 **PKPdf** 23 36 15.7 -0.2
ARTI **Arti** 125.72 325 *i* PKIKP **PKPdf** 23 36 14.7 -1.2
ARTI 23 42 39.6
BOSA **Boshof** 126.03 205 PKP **PKiKP** 23 36 17.9 -0.2
comp=Z,7.6nm,1.1s,baz=191,slow=3.5,SNR=6.1
BOSA **Boshof** 126.03 205 PKIKP **PKPdf** 23 36 17.8 +0.2
ABKAR **Abkulak array** 126.49 316 **PKPdf** 23 36 17.2 -0.4
ISOG **Isortoq, Green** 127.93 20 *i* P **PKPdf** 23 36 19.2 -0.6
SCO **Scoresbysund** 128.32 10 *i* P **PKPdf** 23 36 20.5 +0.1
MAKGR **Makgori** 128.70 206 **PKiKP** 23 36 23.2 -0.3
MAKGR **Makgori** 128.70 206 *i* P **PKiKP** 23 36 23.6 +0.1
LBTB **Lobatse** 129.06 208 PKPdf **PKiKP** 23 36 24.1 -0.1
LBTB **Lobatse** 129.06 208 PKIKP **PKiKP** 23 36 24.1 -0.1
ARCES **ARCESS Array B** 129.30 350 PKhKP PKPpre 23 36 06.7
comp=Z,1.1nm,0.8s,baz=218,slow=25,SNR=3.8
ARCES PKP **PKPdf** 23 36 22.1 -0.3
comp=Z,3.9nm,0.5s,baz=315,slow=0.7,SNR=3.7
ARCES SKPbc SKPab 23 38 59.0 -0.8
comp=Z,4.6nm,0.8s,baz=25,slow=4.0,SNR=8.6
KIRV **Kirov** 129.38 330 *de*PKIKP **PKPdf** 23 36 20.0 -2.7
MREMI **Moremi** 130.32 211 PKPdf **PKiKP** 23 36 26.9 +0.1
MREMI **Moremi** 130.32 211 *i* P **PKiKP** 23 36 26.6 -0.2
LPHEP **Lephephe** 130.38 209 *i* P **PKiKP** 23 36 27.0 0.0
KDWAN **Kaudwane** 130.90 208 **PKPdf** 23 36 27.1 +0.1
KDWAN **Kaudwane** 130.90 208 *i* P **PKiKP** 23 36 27.9 -0.1
LKGWB **Lokgwabe** 131.63 203 **PKiKP** 23 36 29.0 -0.5
LKGWB **Lokgwabe** 131.63 203 *i* P **PKPdf** 23 36 28.9 +0.5
KHWEE **KHWEE** 131.80 209 *i* P **PKPdf** 23 36 29.1 +0.3
KLMR **Klimovskoe** 132.29 336 *e*PKIKP **PKPdf** 23 36 27.2 -1.0
KLMR pmax pmax
comp=Z,19nm,1.5s
KGCAE **Kacgae** 132.39 205 *i* P **PKiKP** 23 36 31.3 +0.3
KOOLE **Kule** 133.03 203 *i* P **PKiKP** 23 36 32.2 -0.1
LSZ **Lusaka** 135.97 217 **PKPdf** 23 36 36.7 0.0
LSZ **Lusaka** 135.97 217 PKIKP **PKPdf** 23 36 36.7 0.0
FINES **FINESS Array B** 136.17 344 PKhKP PKPpre 23 36 22.6
comp=Z,1.0nm,0.5s,baz=70,slow=2.2,SNR=8.3
FINES PKP **PKPdf** 23 36 33.7 -1.8
comp=Z,7.2nm,0.6s,baz=71,slow=2.9,SNR=18
FINES SKPbc **SKPbc** 23 39 23.5 +0.1
comp=Z,7.3nm,1.0s,baz=46,slow=4.2,SNR=13
MOS **Moscow** 136.31 332 *i* PKHKP PKPpre 23 36 26.0
MOS *e* 23 36 34.7
MOS *e* 23 39 23.3
AKT **Akhty** 136.56 309 *e*PKIKP **PKPdf** 23 36 36.1 -0.9
AKT pmax pmax
comp=Z,20nm,1.4s
VRH **Novokhopyorsk** 136.82 324 *e*PKIKP **PKPdf** 23 36 34.6 -2.4
VRH pmax pmax
comp=Z,10.0nm,0.8s
OBN **Obninsk** 137.17 332 SKPbc **SKPbc** 23 39 25.8 -0.7
comp=Z,20nm,0.9s,baz=353,slow=6.5,SNR=13
OBN **Obninsk** 137.17 332 ⇓*i*PKIKP **PKPdf** 23 36 38.0 +0.5
OBN *e* 23 39 26.7
OBN *e*PPP PPP 23 42 35.2
OBN pmax pmax
comp=Z,8.0nm,1.1s
VORR **Voronezh** 137.92 326 *e*PKIKP **PKPdf** 23 36 37.1 -1.9
VORR pmax pmax
comp=Z,10.0nm,1.0s
VSR **Storozhevoye** 138.19 325 PKIKP **PKiKP** 23 36 41.6 -0.1
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSU **Vasula** 138.45 341 ⇑*e*PKIKP **PKPdf** 23 36 37.3 -2.4
GNI **Garni** 139.09 308 PKhKP PKPpre 23 36 34.3
comp=Z,2.5nm,0.8s,baz=215,slow=7.9,SNR=3.6
KBZ **Khabaz** 139.29 314 PKhKP PKPpre 23 36 34.0
comp=Z,1.2nm,0.9s,baz=110,slow=2.5,SNR=4.7
KBZ PP **PP** 23 39 44.5 +2.8
comp=Z,4.4nm,1.0s,baz=163,slow=2.0,SNR=6.0
KIV **Kislovodsk** 139.35 314 *e*PKIKP **PKPdf** 23 36 40.9 -1.1
KIV pmax pmax
comp=Z,4.0nm,1.1s
NB2 **NORSAR Subarra** 139.35 353 PKP PKPpre 23 36 32.5
comp=Z,1.3nm,0.7s,baz=16,slow=3.2
NB2 pPKP **PP** 23 39 34.1 -6.9
comp=Z,8.4nm,1.0s,baz=12,slow=2.0
NOA **NORSAR Array B** 139.35 353 PKhKP PKPpre 23 36 32.6
comp=Z,0.7nm,0.6s,baz=17,slow=4.1,SNR=9.3
NOA PKP **PKPdf** 23 36 40.8 -0.6
comp=Z,1.9nm,0.7s,baz=14,slow=3.9,SNR=5.1
NOA SKPbc **SKPbc** 23 39 32.9 +0.4
comp=Z,4.4nm,0.9s,baz=14,slow=4.4,SNR=9.0
SHA1 **Shidzhatmaz** 139.45 314 ⇑*e*PKHKP PKPpre 23 36 37.5
HFS **Hagfors** 139.92 351 PKhKP PKPpre 23 36 34.4
comp=Z,3.5nm,0.4s,baz=66,slow=3.7,SNR=36
HFS SKPbc **SKPbc** 23 39 34.3 +0.3
comp=Z,6.4nm,0.8s,baz=180,slow=0.6,SNR=9.4
RAYN **Ar Rayn** 139.95 282 PKPdf **PKPdf** 23 36 44.5 +0.8
RAYN **Ar Rayn** 139.95 282 PKIKP **PKPdf** 23 36 44.5 +0.8
MNK **Minsk** 141.19 336 *i* PKHKP PKPpre 23 36 40.3
MNK *i* 23 36 45.7
MNK *i* 23 39 53.0
MNK *i* 23 43 03.6
MNK *i* 23 52 27.1
MNK *i* SS SS 23 57 39.8 -3.0
MNK *i* SSS SSS 00 03 05.1
MNK MLR MLR
comp=Z,29nm,15.0s
MNK MLR MLR
comp=N,33nm,15.0s
MNK MLR MLR
comp=E,31nm,16.0s
VSLR **Vesyoloye** 141.32 314 ⇓*e*PKHKP PKPpre 23 36 40.5
HOMB **Homborsund** 142.35 355 *i* P PKPpre 23 36 42.9
SNART **Snartemo** 142.38 356 *i* P PKPpre 23 36 42.6
BORU **Boraas** 142.46 351 *i* P PKPpre 23 36 42.5
ONAU **Onsala** 142.81 351 *i* P PKPpre 23 36 44.0
FABU **Falkenberg** 143.08 350 *i* P PKPbc 23 36 45.8 -0.1
MCD **Coleburn Disti** 143.09 5 *e*P PKPab 23 36 44.7 -0.7
KPL **Plockton** 143.10 7 *e*P PKPab 23 36 45.4 0.0
BLEU **Blekinge** 143.18 347 *i* P PKPab 23 36 45.1 -0.7
SUW **Suwalki** 143.24 339 *e*PKP PKPab 23 36 46.0 -0.1
DEL **Delary** 143.39 349 *i* P PKPab 23 36 45.8 -0.8
LODK **Lodwar** 143.40 246 PKPbc 23 36 48.7 +0.4
AKASG **Malin Array Be** 143.42 331 PKhKP PKPpre 23 36 46.1
comp=E,79nm,0.7s,baz=44,slow=4.4,SNR=509
AKASG SKPbc **SKiKP** 23 39 43.7 -0.3
comp=E,0.8nm,0.5s,baz=41,slow=2.7,SNR=6.0
AKBB **Malin Array Si** 143.42 331 *d* PKHKP PKPpre 23 36 46.1
KIEV **Kiev** 143.44 331 ⇓P PKPab 23 36 46.3 -0.7
KIEV **Kiev** 143.44 331 ⇓PKHKP PKPpre 23 36 46.3
BJUU **Bjuv** 143.92 350 *i* P PKPbc 23 36 48.0 -0.6
MUD **Monsted U'grnd** 144.07 353 *i* P PKPbc 23 36 48.8 -0.2
INVG **Invergeldie, C** 144.17 6 *e*P PKPbc 23 36 48.9 -0.5
LAWE **Loch Awe, Argy** 144.19 7 *e*P PKPbc 23 36 49.1 -0.4
LUNU **Lund** 144.27 349 *i* P PKPbc 23 36 49.0 -0.7
RNPP9 **Sopachiv** 144.33 334 PKP PKPbc 23 36 49.5 -0.5
COP **Copenhagen** 144.39 350 *i* P **PKPab** 23 36 50.2 -0.1
SIM **Simferopol'** 144.40 320 *de*PKIKP **PKPab** 23 36 50.8 0.0
SIM pmax pmax
comp=Z,279nm,1.0s
RNPP8 **Varash** 144.40 334 PKP PKPbc 23 36 49.6 -0.7
BSD **Bornholm Skovb** 144.48 347 *i* P PKPbc 23 36 49.8 -0.6
PGBU **Glenifferbraes** 144.73 7 *e*P **PKPdf** 23 36 49.9 -1.1
ESY **Stoneypath** 144.80 5 *e*P **PKPdf** 23 36 50.7 -0.4
TOKA **Tokat** 145.00 311 **PKPdf** 23 36 51.8 -0.3
IDGL **Inch Island, C** 145.05 10 PKPdif **PKPdf** 23 36 51.8 +0.2
BAL3X **Bal3x, Balta** 145.13 327 PKP **PKPdf** 23 36 51.5 -0.5
NE56 **Odesa** 145.25 325 PKP **PKPdf** 23 36 51.8 -0.4
DIKM **Dikmen** 145.28 314 ⇑P **PKPab** 23 36 54.0 -0.2
EKB **Eskdalemuir** 145.33 5 PKPdf **PKPbc** 23 36 52.6 -0.4
EKA **Eskdalemuir Ar** 145.33 5 PKPbc **PKPbc** 23 36 52.6 -0.4
comp=Z,5.4nm,0.4s,baz=321,slow=2.6,SNR=43
ESK **Eskdalemuir** 145.34 5 *e*P **PKPdf** 23 36 51.7 -0.4
NEWG **New Galloway** 145.44 7 *e*P **PKPdf** 23 36 52.1 -0.2
GAZ **Gaziantep** 145.59 306 **PKPbc** 23 36 54.5 +0.1
SORM **Soroca** 145.62 329 ⇑P **PKPbc** 23 36 53.5 -0.6
SORM **Soroca** 145.62 329 ⇑PKIKP **PKPbc** 23 36 53.5 -0.6
SORM **Soroca** 145.62 329 PKP **PKPdf** 23 36 52.3 -0.5
GKP **Gorka Klasztor** 145.64 344 *e*PKP **PKPbc** 23 36 54.1 +0.1
BEL **Belsk** 145.86 339 *e*PKP **PKPbc** 23 36 54.8 +0.1
PURM **Purcari** 145.90 325 ⇓P **PKPbc** 23 36 55.2 +0.3
PURM **Purcari** 145.90 325 PKP **PKPdf** 23 36 52.9 -0.4
EDMD **Edmundbyers** 145.93 4 *e*P **PKPbc** 23 36 54.5 -0.3
BZK **Bozkurt** 145.97 315 **PKPbc** 23 36 55.3 0.0
BZK **Bozkurt** 145.97 315 ⇑P **PKPbc** 23 36 56.0 +0.8
KIS **Kishinev** 146.15 327 ⇓*i*PKP **PKPbc** 23 36 55.0 -0.6
comp=Z,70nm,0.9s
KIS **Kishinev** 146.15 327 ⇓P **PKPbc** 23 36 55.8 +0.2
KIS **Kishinev** 146.15 327 ⇓PKIKP **PKPbc** 23 36 55.8 +0.2
MILM **Milestii Mici** 146.20 327 *e*PKHKP **PKPbc** 23 36 52.0 -3.8
MILM **Milestii Mici** 146.20 327 *i* PKIKP **PKPbc** 23 36 55.0 -0.8
MILM **Milestii Mici** 146.20 327 PKPM 23 36 56.0
comp=Z,180nm,1.2s
MILM **Milestii Mici** 146.20 327 ⇓P **PKPbc** 23 36 55.2 -0.5
MILM **Milestii Mici** 146.20 327 *e*PKHKP **PKPbc** 23 36 52.0 -3.8
MILM *i* 23 36 55.0
MILM pmax pmax
comp=Z,180nm,1.2s
KMPD **K-Podol'skiy** 146.21 331 PKP **PKPdf** 23 36 53.7 -0.1
ILTH **Belurgan, Co L** 146.24 9 PKPdif **PKPbc** 23 36 55.3 -0.3
IOMK **Kirk Michael** 146.25 7 *e*P **PKPbc** 23 36 55.4 -0.2
IGLA **Glengowla, Co** 146.29 13 PKPdif **PKPdf** 23 36 54.6 +0.9
WIM **Isle of Man** 146.34 7 *e*P **PKPbc** 23 36 55.8 -0.1
BSEG **Bad Segeberg** 146.40 351 *e*PKPbc 23 36 56.6
baz=16,slow=2.3
HPK **Haverah Park** 146.82 4 *e*P **PKPbc** 23 36 57.3 +0.1
DSB **Dublin** 146.99 10 PKPdif **PKPbc** 23 36 56.5 -1.2
FKH **Fakeheh** 147.05 301 *e*P **PKPbc** 23 36 58.9 +0.2
WPS **Cemaes, Angles** 147.10 7 *e*P **PKPbc** 23 36 56.9 -1.1
WME **Myndd Eilian** 147.13 7 *e*P **PKPbc** 23 36 57.1 -0.9
ASF **Jabal al Asfar** 147.13 297 PKPbc **PKPbc** 23 36 59.3 +0.4
comp=Z,46nm,0.9s,baz=84,slow=1.9,SNR=49
BEIL **Beino** 147.16 302 *e*P **PKPbc** 23 36 59.1 +0.2
RUE **Ruedersdorf** 147.19 347 *e*PKPbc 23 36 58.4
baz=16,slow=2.3
WLF1 **Llynfaes** 147.22 7 *e*P **PKPbc** 23 36 57.9 -0.4
BR131 **Keskin Array S** 147.23 312 ⇑*e*PKHKP **PKPbc** 23 36 55.1 -3.9
BRTR **Keskin Array B** 147.23 312 **PKPdf** 23 36 54.7 -1.3
BRTR PKPbc **PKPbc** 23 36 58.4 -0.7
BRTR **Keskin Array B** 147.23 312 PKPbc **PKPbc** 23 36 58.6 -0.4
comp=Z,14nm,0.8s,baz=134,slow=3.6,SNR=72
BRTR **Keskin Array B** 147.23 312 PKHKP **PKPdf** 23 36 54.7 -1.3
BRTR 23 36 58.4
BIR **Birlad** 147.25 327 ⇑P **PKPbc** 23 36 58.9 +0.3
BIR **Birlad** 147.25 327 ⇑PKIKP **PKPbc** 23 36 58.9 +0.3
VLDR **Vladesti** 147.29 326 ⇑P **PKPbc** 23 36 59.5 +0.7
KIRS **Kirsehir-Merke** 147.29 311 ⇑P **PKPbc** 23 36 59.3 +0.2
TLCR 147.32 324 ⇑P **PKPbc** 23 36 59.2 +0.3
TLCR 147.32 324 ⇑PKIKP **PKPbc** 23 36 59.2 +0.3
VARL **Varlezi** 147.38 326 ⇑P **PKPbc** 23 36 59.6 +0.6
LMK **Market Rasen** 147.39 3 *e*P **PKPbc** 23 36 58.6 -0.1
HWQ **Hawqa** 147.42 301 *e*P **PKPbc** 23 36 59.2 -0.4
SCTR **Scanteiesti** 147.45 326 ⇑P **PKPbc** 23 36 60.0 +0.8

BUR08 **Bucovina Ar. S** 147.46 331 ⇑P **PKPdf** 23 36 56.2 +0.2
BURAR **Bucovina Array** 147.47 331 ⇑P **PKPbc** 23 37 00.1 +0.7
BURAR **Bucovina Array** 147.47 331 ⇑PKIKP **PKPbc** 23 37 00.1 +0.7
GHRR 147.50 327 ⇓P **PKiKP** 23 37 00.4 -0.6
JURR **Jurilovca** 147.55 323 ⇑P **PKPbc** 23 36 59.8 +0.4
OJC **Ojcow** 147.56 339 *e*PKP **PKPbc** 23 36 59.4 0.0
TESR **Tescani** 147.57 328 ⇑P **PKPbc** 23 36 59.8 +0.2
NEGRR **Negrea** 147.60 325 ⇓P **PKPbc** 23 36 59.9 +0.3
STNC **Stoke** 147.64 5 *e*P **PKPbc** 23 36 59.6 +0.2
IZVR **Izvoarele** 147.65 326 ⇑P **PKPbc** 23 37 00.4 +0.7
CFR **Carcaliu** 147.69 325 ⇓P **PKPbc** 23 36 59.8 0.0
CFR **Carcaliu** 147.69 325 ⇓PKIKP **PKPbc** 23 36 59.8 0.0
RCY **Rachaya** 147.71 300 *e*P **PKPbc** 23 37 00.5 0.0
KOLS **Kolonicke sedl** 147.72 335 *e*PKHKP **PKPbc** 23 36 56.8 -3.0
KOLS *e* 23 37 00.7
KOLS *e* 23 37 04.2
KOLS **Kolonicke sedl** 147.72 335 *e* **PKPab** 23 37 04.1 +0.4
KOLS **Kolonicke sedl** 147.72 335 *e*PKP **PKPbc** 23 36 56.8 -3.0
KOLS **Kolonicke sedl** 147.72 335 *e* **PKiKP** 23 37 00.7 -0.7
STHS **Stebnicka Huta** 147.72 337 *e*PKIKP **PKPbc** 23 36 59.5 -0.3
STHS *e* 23 37 03.3
STHS **Stebnicka Huta** 147.72 337 *e*PKP **PKPbc** 23 36 59.5 -0.3
STHS *e* 23 37 03.3
LLW **Llanuwychllyn** 147.74 7 *e*P **PKPbc** 23 36 58.8 -0.9
TPGR **Topolog** 147.75 324 ⇑P **PKPbc** 23 37 00.5 +0.4
FOEL **Foel Wylfa** 147.75 6 *e*P **PKPbc** 23 36 59.7 -0.1
BHL **Bhannes** 147.75 301 *e*P **PKPbc** 23 36 59.5 -1.0
ANTO **Ankara** 147.75 313 ⇓P **PKPbc** 23 37 00.8 +0.5
ANTO **Ankara** 147.75 313 ⇓PKIKP **PKPbc** 23 37 00.8 +0.5
ANTO **Ankara** 147.75 313 PKP **PKPdf** 23 36 56.3 -0.4
PANC **Panciu** 147.76 327 ⇑P **PKPbc** 23 37 00.5 +0.6
FLTG **Flechtingen** 147.81 350 *e*PKPbc 23 37 00.1
baz=16,slow=2.3
FLTG *e*PKPab 23 37 04.3
baz=16,slow=4.2
SHBL **Chebaa** 147.82 300 *e*P **PKPbc** 23 37 01.1 +0.4
QRWL **Qaraoun** 147.82 300 *e*P **PKPbc** 23 37 01.0 +0.4
ONER **Baraj Valea Uz** 147.82 328 ⇓P **PKPbc** 23 37 00.9 +0.7
NRDL **Niedersach Rie** 147.83 351 *e*PKPbc 23 37 00.0
baz=16,slow=2.3
DQRL **Deir Qamar** 147.87 301 *e*P **PKPbc** 23 37 01.1 +0.3
ODBI **Odobesti** 147.88 326 ⇓P **PKPbc** 23 37 00.7 +0.4
VRI **Vrincioaia** 147.98 327 ⇑P **PKPbc** 23 37 00.8 +0.2
VRI **Vrincioaia** 147.98 327 ⇑PKIKP **PKPbc** 23 37 00.8 +0.2
TIRR **Tirgusor** 148.00 323 ⇑P **PKPbc** 23 37 00.8 +0.2
TIRR **Tirgusor** 148.00 323 ⇑PKIKP **PKPbc** 23 37 00.8 +0.2
PLOR **Plostina** 148.03 327 ⇑P **PKPbc** 23 37 00.7 0.0
PLOR **Plostina** 148.03 327 ⇑PKIKP **PKPbc** 23 37 00.7 0.0
NIE **Niedzica** 148.07 337 *e*PKP **PKiKP** 23 37 01.6 -0.6
NIE **Niedzica** 148.07 337 PKP **PKPdf** 23 36 57.1 +0.2
KSP **Ksiaz** 148.09 343 *e*PKP **PKPbc** 23 37 01.3 +0.6
KSP **Ksiaz** 148.09 343 PKP **PKPdf** 23 36 56.4 -0.4
ASSE **Asse, Remlinge** 148.10 350 *e*PKPbc 23 37 00.8
baz=16,slow=2.3
ASSE *e*pPKPbc 23 38 57.1
baz=16,slow=2.6
HARR **Harsova** 148.12 324 ⇑P **PKPbc** 23 37 01.5 +0.6
HARR **Harsova** 148.12 324 ⇑PKIKP **PKPbc** 23 37 01.5 +0.6
TLBR **Topalu** 148.15 324 ⇑P **PKPbc** 23 37 01.2 +0.2
WACR **West Acre** 148.16 2 *e*P **PKPbc** 23 36 59.8 -1.0
MMAI **Mount Meron Ar** 148.17 299 PKPbc **PKPbc** 23 37 01.9 +0.3
comp=Z,74nm,1.0s,baz=69,slow=4.6,SNR=47
BALJ **Balqa** 148.19 298 **PKPbc** 23 37 01.0 -0.5
BMR **Baia Mare** 148.20 332 ⇑P **PKPbc** 23 37 01.5 +0.4
BMR **Baia Mare** 148.20 332 ⇑PKIKP **PKPbc** 23 37 01.5 +0.4
BISRR **Bisoca** 148.20 326 ⇑P **PKPbc** 23 37 01.7 +0.5
COVR **Voineasa-Covas** 148.26 327 ⇑P **PKPbc** 23 37 01.3 0.0
ARCR **ARCALIA** 148.26 331 ⇑P **PKPbc** 23 37 01.1 -0.1
OZUR 148.29 328 ⇓P **PKPbc** 23 37 02.0 +0.6
MANR **Mangalia** 148.30 322 ⇓P **PKPbc** 23 37 01.2 -0.2
IBBN **Ibbenburen** 148.31 354 *e*PKPbc 23 37 01.5
baz=16,slow=2.3
IBBN *e*PKPab 23 37 05.8
baz=16,slow=4.2
OSTC **Ostas** 148.37 343⇑*e*PKP **PKiKP** 23 37 02.2 -0.5
OSTC **Ostas** 148.37 343 *e*PKHKP **PKiKP** 23 37 02.2 -0.5
CHVC **Chvalec** 148.38 343⇑*e*PKP **PKPbc** 23 37 01.9 +0.4
CHVC **Chvalec** 148.38 343 *e*PKHKP **PKPbc** 23 37 01.9 +0.4
CLZ **Clausthal** 148.42 350 *e*PKPbc 23 37 01.3
baz=16,slow=2.3
OKC **Ostrava-Krasne** 148.44 340⇑*e*PKP **PKPbc** 23 37 02.1 +0.5
OKC **Ostrava-Krasne** 148.44 340 *e*PKHKP **PKPbc** 23 37 02.1 +0.5
CLL **Collm** 148.45 347 **PKPbc** 23 37 01.5 -0.1
CLL **Collm** 148.45 347⇓*e*PKIKP **PKPdf** 23 36 58.0 +0.6
CLL *i* 23 37 01.7
CLL *i* 23 37 06.3
CLL pmax pmax
comp=Z,97nm,1.2s
CLL pmax pmax
comp=Z,42nm,0.8s
CLL **Collm** 148.45 347 *e*PKPdf **PKPdf** 23 36 58.0 +0.6
CLL ⇓*i*PKPbc **PKPbc** 23 37 01.7 +0.1
comp=Z,97nm,1.2s
CLL ⇑*i*PKPab **PKPab** 23 37 06.3 -0.3
comp=Z,42nm,0.8s
CLL *e*pPKPab **pPKPbc** 23 38 50.0 -1.1
CLL **Collm** 148.45 347 *e*PKPbc 23 37 01.9
baz=16,slow=2.3
CLL *e*PKPab 23 37 07.0
baz=16,slow=4.2
STEB **Steborice** 148.47 341⇑*e*PKP **PKPbc** 23 37 02.0 +0.3
STEB *e*PKPAB **PKPab** 23 37 07.6 +0.9
UPC **Upice** 148.47 343⇑*e*PKP **PKPbc** 23 37 02.0 +0.3
UPC **Upice** 148.47 343 *e*PKHKP **PKPbc** 23 37 02.0 +0.3
NEHR **Nehoiu** 148.50 327 ⇑P **PKPbc** 23 37 02.2 +0.2
DPC **Dobruska-Polom** 148.53 343 *e*PKPDF **PKPdf** 23 36 57.6 0.0
DPC ⇑*e*PKP **PKiKP** 23 37 02.5 -0.5
DPC **Dobruska-Polom** 148.53 343 *e*PKIKP **PKPdf** 23 36 57.6 0.0
DPC *e* 23 37 02.5
ICOR **Ion Corvin** 148.56 323 ⇑P **PKiKP** 23 37 02.7 -0.5
DOPR **Dopca** 148.58 328 ⇓P **PKPbc** 23 37 02.7 +0.6
ISR **Istrita** 148.58 326 ⇑P **PKPbc** 23 37 02.5 +0.3
ISR **Istrita** 148.58 326 ⇑PKHKP **PKPbc** 23 37 02.5 +0.3
LANS **Liptovska Anna** 148.59 338 *e*PKHKP **PKPbc** 23 37 03.1 +1.0
LANS *e* 23 37 08.7
LANS **Liptovska Anna** 148.59 338 *e*PKP **PKPbc** 23 37 03.0 +1.0
LANS *e* 23 37 08.7
LANS *e* 23 38 53.7
MLR **Muntele Rosu** 148.63 327 **PKPbc** 23 37 01.9 -0.5
MLR **Muntele Rosu** 148.63 327 ⇑P **PKPbc** 23 37 02.9 +0.5
MLR **Muntele Rosu** 148.63 327 ⇑PKHKP **PKPbc** 23 37 02.9 +0.5
KRLC **Kraliky** 148.64 342 *e*PKPAB **PKPab** 23 37 08.0 +0.5
KRLC **Kraliky** 148.64 342 *e*PKP2 **PKiKP** 23 37 03.4 +0.1
MCH1 **Michaelchurch** 148.65 6 *e*P **PKPbc** 23 37 01.5 -0.5
BRG **Berggiesshubel** 148.65 346 *e*PKPbc 23 37 02.5
baz=16,slow=2.3
MORC **Moravsky Berou** 148.68 341 **PKPbc** 23 37 01.8 -0.5
MORC **Moravsky Berou** 148.68 341 *e*PKP **PKPbc** 23 37 02.4 +0.1
MORC **Moravsky Berou** 148.68 341 ⇓P **PKPbc** 23 37 02.7 +0.5
MORC **Moravsky Berou** 148.68 341 ⇓PKHKP **PKPbc** 23 37 02.7 +0.5
GTTG **Gottingen** 148.78 351 *e*PKPbc 23 37 02.5
baz=16,slow=2.3
GTTG *e*PKPab 23 37 08.1
baz=16,slow=4.2
KECS **Kecovo** 148.78 336 *e*PKP2 **PKPab** 23 37 08.4 +0.4
KECS **Kecovo** 148.78 336 *e*PKP **PKPab** 23 37 08.4 +0.4
NEUB **Neuenburg** 148.79 348 *e*PKPbc 23 37 02.5
baz=16,slow=2.3
MONM **Monmouth** 148.82 6 *e*P **PKPbc** 23 37 02.1 -0.3
PVCC **Panska Ves** 148.82 345⇑*e*PKP **PKiKP** 23 37 03.1 -0.5
PVCC *e*PKPAB **PKPab** 23 37 08.6 +0.5
PVCC **Panska Ves** 148.82 345 *e*PKHKP **PKiKP** 23 37 03.1 -0.5
PVCC *e* 23 37 08.6
MESR **Meseseni** 148.84 332 ⇑P **PKiKP** 23 37 03.5 -0.2
CJR **Cluj-Napoca** 148.88 331 ⇓P **PKPbc** 23 37 03.2 +0.3
CJR **Cluj-Napoca** 148.88 331 ⇓PKHKP **PKPbc** 23 37 03.2 +0.3
RICC **Richard** 148.92 345⇑*e*PKP **PKiKP** 23 37 03.5 -0.3
STRD **Stroud** 148.94 5 *e*P **PKPbc** 23 37 02.0 -0.7
MAUC **Maruska** 148.95 340⇑*e*PKP **PKiKP** 23 37 03.6 -0.3
HSKC **Hora Svate Kat** 149.02 346⇑*e*PKP **PKPbc** 23 37 03.4 +0.4
VOIR 149.12 328 ⇑P **PKPbc** 23 37 03.7 +0.2
VOIR 149.12 328 ⇑PKHKP **PKPbc** 23 37 03.7 +0.2
MARR **Marisel-Cluj** 149.13 331 ⇑P **PKPbc** 23 37 03.9 +0.3
BUG **Bochum--Univer** 149.22 354 *e*PKPbc 23 37 03.6
baz=16,slow=2.3
EIL **Elat** 149.22 293 PKPbc **PKPbc** 23 37 04.3 +0.1
comp=Z,39nm,1.0s,baz=0.4,slow=2.9,SNR=15
DRGR 149.22 332 ⇑P **PKPbc** 23 37 04.0 +0.3
DRGR 149.22 332 ⇑PKHKP **PKPbc** 23 37 04.0 +0.3
KASTN **Kahler Asten** 149.32 352 *e*PKPbc 23 37 04.0
baz=16,slow=2.3
PRU **Pruhonice** 149.33 344⇑*e*PKP **PKPbc** 23 37 04.0 +0.2
PRU *e*PKPAB **PKPab** 23 37 10.6 +0.4
PRU **Pruhonice** 149.33 344 *e*PKHKP **PKPbc** 23 37 04.0 +0.2
PRU *e* 23 37 10.6
GOPC **GO Pecny, Ondr** 149.33 344⇑*e*PKP **PKiKP** 23 37 04.3 -0.4
GOPC **GO Pecny, Ondr** 149.33 344 *e*PKHKP **PKiKP** 23 37 04.3 -0.4
MOX **Moxa** 149.36 348 *e*PKPbc 23 37 04.1
baz=16,slow=2.3
VYHS **Vyhne** 149.37 338 *e*PKHKP **PKPbc** 23 37 04.3 +0.4
VYHS *e* 23 37 11.3
VYHS **Vyhne** 149.37 338 *e*PKP **PKPbc** 23 37 04.3 +0.4
VYHS *e* 23 37 11.3
PRD **Provadia** 149.38 322 *e*P **PKPbc** 23 37 04.3 +0.2
ARR **Arges** 149.38 328 ⇓P **PKiKP** 23 37 05.1 +0.1
VRAC **Vranov** 149.38 341 PKPbc **PKPbc** 23 37 04.3 +0.4
comp=Z,15nm,1.1s,baz=33,slow=1.2,SNR=17
VRAC PKPab **PKPab** 23 37 10.7 +0.2
comp=Z,23nm,0.8s,baz=38,slow=3.8,SNR=24
VRAC **Vranov** 149.38 341 *e*PKP **PKPbc** 23 37 04.1 +0.2
VRAC **Vranov** 149.38 341 ⇓P **PKiKP** 23 37 04.5 -0.2
VRAC **Vranov** 149.38 341 ⇓PKHKP **PKiKP** 23 37 04.6 -0.2
TANN **Tannenbergstha** 149.41 347 *e*PKPbc 23 37 04.2
baz=16,slow=2.3
JAVC **Velka Javorina** 149.44 340 *e*PKP **PKiKP** 23 37 05.6 +0.6
PSZ **Piszkesteto** 149.47 336 PKPbc **PKPbc** 23 37 03.7 -0.5
PSZ **Piszkesteto** 149.47 336 ⇑P **PKPbc** 23 37 04.7 +0.4
PSZ **Piszkesteto** 149.47 336 ⇑PKHKP **PKPbc** 23 37 04.7 +0.4
UBBA **Unterbreizbach** 149.47 350 *e*PKPbc 23 37 04.1
baz=16,slow=2.3
WOL **Wolverton** 149.48 4 *e*P **PKPbc** 23 37 03.8 -0.2
NKC **Novy Kostel** 149.59 347⇑*e*PKP **PKPbc** 23 37 04.8 +0.4
NKC **Novy Kostel** 149.59 347 *e*PKHKP **PKPbc** 23 37 04.8 +0.4
RAZG **Razgrad** 149.63 324 ⇑P **PKPbc** 23 37 04.9 +0.1
KRUC **Moravsky** 149.66 341 *e*PKP **PKPbc** 23 37 04.7 +0.1
TREC **Trest** 149.71 343⇑*e*PKP **PKPbc** 23 37 04.9 +0.2
TREC *e*PKPAB **PKPab** 23 37 12.1 +0.2
TREC **Trest** 149.71 343 *e*PKHKP **PKPbc** 23 37 04.9 +0.2
TREC *e* 23 37 12.1
LOT **Lotru** 149.74 329 ⇑P **PKPbc** 23 37 04.7 -0.4
HUMR **Humele** 149.80 327 ⇑P **PKPbc** 23 37 04.9 -0.2
SMOL **Smolenice** 149.82 340 *e*PKHKP **PKPbc** 23 37 06.1 +1.1
SMOL *e* 23 37 13.5
SBD **Saint Breward** 149.85 9 *e*P **PKPbc** 23 37 04.7 -0.3
MANZ **Manzenberg** 149.89 347 *e*PKPbc 23 37 05.5
baz=16,slow=2.3
ZVC **Zvikov** 149.92 344⇑*e*PKP **PKPbc** 23 37 05.5 +0.3
ZVC *e*PKPAB **PKPab** 23 37 13.1 +0.4
COPA **Copaceanca** 149.94 326 ⇑P **PKPbc** 23 37 03.3 -2.1
BEBN **Eben Emael** 149.99 356 *d*PKPab **PKPab** 23 37 12.7 -0.2
MODS **Modra-Piesok** 149.99 340 *e*PKHKP **PKPbc** 23 37 06.2 +0.8
MODS *e* 23 37 14.1
MODS **Modra-Piesok** 149.99 340 *e*PKP **PKPbc** 23 37 06.2 +0.8
MODS *e* 23 37 14.1
MODS *e* 23 39 00.2
UCC **Uccle** 150.07 357 **PKPbc** 23 37 04.5 -0.9
UCC **Uccle** 150.07 357 *d*PKP **PKPbc** 23 37 05.6 +0.1
UCC *d*PKPab **PKPab** 23 37 12.8 -0.4
UCC **Uccle** 150.07 357 PKHKP **PKPbc** 23 37 04.5 -0.9
ROTZ **Rotzenmuhle** 150.08 347 *e*PKPbc 23 37 05.6
baz=16,slow=2.3
DYA **Yadsworthy** 150.08 8 *e*P **PKPbc** 23 37 05.0 -0.5
SZH **Strazhitsa** 150.12 324 *e*P **PKPbc** 23 37 05.8 -0.1
SRO **Srobarova** 150.13 338 *e*PKHKP **PKPbc** 23 37 06.1 +0.4
SRO *e* 23 37 14.9
SRO **Srobarova** 150.13 338 *e*PKP **PKPbc** 23 37 06.1 +0.4
SRO *e* 23 37 14.9
SRO *e* 23 38 59.7
MEM **Membach** 150.16 355 *d*PKP **PKPbc** 23 37 05.6 -0.1
BTNL **Ternell** 150.17 355 *d*PKPdf **PKPdf** 23 37 00.4 +0.2
BTNL *d*PKP **PKPbc** 23 37 05.7 0.0
BTNL *d*PKPab **PKPab** 23 37 13.1 -0.6
BSTI **Sart Tilman** 150.21 356 *d*PKP **PKiKP** 23 37 06.2 -0.3
BSTI *d*PKPab **PKPab** 23 37 13.6 -0.3
GZR **Gura Zlata** 150.25 330 ⇓P **PKPbc** 23 37 06.0 -0.2
GZR **Gura Zlata** 150.25 330 ⇓PKHKP **PKPbc** 23 37 06.0 -0.2
SURR **Surduc** 150.28 331 ⇓P **PKPbc** 23 37 06.1 -0.1
TNS **Taunus Mts** 150.28 352 *e*PKPbc 23 37 06.3
baz=16,slow=2.3
TNS *e*PKPab 23 37 14.1
baz=16,slow=4.2
GRA1 **Grafenberg Arr** 150.35 348 **PKPbc** 23 37 05.0 -1.2
GRF **Grafenberg Arr** 150.35 348 PKIKP **PKPbc** 23 37 05.0 -1.2
GRF **Grafenberg Arr** 150.35 348 *e*PKPbc 23 37 06.5
baz=16,slow=2.3
GRF *e*PKPab 23 37 14.8
baz=16,slow=4.2
GRF *e*pPKPbc 23 39 03.5
baz=16,slow=2.6
GRFO **Grafenberg** 150.35 348 **PKPbc** 23 37 04.9 -1.3
GRFO **Grafenberg** 150.35 348 PKIKP **PKPbc** 23 37 04.9 -1.3
KHC **Kasperske Hory** 150.36 345 *e*PKPDF **PKPdf** 23 37 01.6 +1.1
KHC ⇑*e*PKP **PKiKP** 23 37 06.7 -0.2
KHC *e*PKPAB **PKPab** 23 37 15.1 +0.5
KHC **Kasperske Hory** 150.36 345 *e*PKIKP **PKPdf** 23 37 01.6 +1.1
KHC *e* 23 37 06.7
KHC *e* 23 37 15.1
BCLA **Clavier** 150.39 356 *d*PKP **PKPbc** 23 37 06.0 -0.3
BCLA *d*PKPab **PKPab** 23 37 14.3 -0.3
BHOU **Houvegnez** 150.41 355 *d*PKP **PKiKP** 23 37 06.8 -0.1
BHOU *d*PKPab **PKPab** 23 37 14.9 +0.2
BGES **Gesves** 150.44 356 *d*PKP **PKPbc** 23 37 06.2 -0.2
BGES *d*PKPab **PKPab** 23 37 14.3 -0.5
VLAD **Vladila** 150.46 326 ⇓P **PKiKP** 23 37 07.2 0.0
CKRC **Cesky Krumlov** 150.46 344 *e*PKPDF **PKPdf** 23 37 01.3 +0.6
CKRC ⇑*e*PKP **PKiKP** 23 37 07.0 -0.1
CKRC *e*PKPAB **PKPab** 23 37 15.3 +0.3
CKRC **Cesky Krumlov** 150.46 344 *e*PKIKP **PKPdf** 23 37 01.3 +0.6
CKRC *e* 23 37 07.0
CKRC *e* 23 37 15.3
WET **Wettzell** 150.52 346 *e*PKPbc 23 37 06.5
baz=16,slow=2.3
WET *e*PKPab 23 37 16.0
baz=16,slow=4.2
BMRD **Maredsous** 150.54 357 *d*PKP **PKPbc** 23 37 06.5 -0.1
BMRD *d*PKPab **PKPab** 23 37 14.9 -0.3
GEC2 **GERESS Array S** 150.60 344 **PKPdf** 23 37 00.4 -0.6
GEC2 PKPbc **PKPbc** 23 37 06.8 -0.1
GEC2 PKPab **PKPab** 23 37 15.3 -0.4
GEC2 **GERESS Array S** 150.60 344 *e*PKPbc 23 37 07.0
baz=16,slow=2.3
GERES **GERESS Array B** 150.60 344 PKPdf **PKPdf** 23 37 00.3 -0.6
GERES PKPbc **PKPbc** 23 37 06.7 -0.1
GERES PKPab **PKPab** 23 37 15.1 -0.6
GERES **GERESS Array B** 150.60 344 PKP **PKPdf** 23 37 00.9 -0.1
comp=Z,1.4nm,0.7s,baz=36,slow=2.5,SNR=8.6
GERES PKPbc **PKPbc** 23 37 06.9 -0.1
comp=Z,8.3nm,0.6s,baz=26,slow=2.6,SNR=43
GERES PKPab **PKPab** 23 37 15.8 +0.1
comp=Z,7.5nm,0.8s,baz=22,slow=4.3,SNR=13
GERES pPKPbc **pPKPbc** 23 38 57.1 +0.1
comp=Z,2.5nm,1.0s,baz=321,slow=1.7,SNR=3.3
GERES **GERESS Array B** 150.60 344 PKIKP **PKPdf** 23 37 00.4 -0.6
GERES 23 37 06.7
GERES 23 37 15.1
BZS **Buzias** 150.61 332 ⇓P **PKPbc** 23 37 07.0 +0.1
BZS **Buzias** 150.61 332 ⇓PKIKP **PKPbc** 23 37 07.0 +0.1
BAND **Balkesir-Ban** 150.62 317 ⇑P **PKPbc** 23 37 06.6 -0.5
PVL **Pavlikeni** 150.65 324 *e*P **PKiKP** 23 37 07.5 -0.1
HERR **Herculane** 150.80 330 ⇓P **PKPbc** 23 37 07.3 -0.1
CONA **Conrad Observa** 150.83 341 *e*PKP **PKPdf** 23 37 01.8 +0.4
comp=Z,6.7nm,1.6s
CONA *i* PKP **PKiKP** 23 37 07.9 -0.1
comp=Z,16nm,0.6s,SNR=12
CONA *e*PKP **PKPab** 23 37 17.7 +1.0
comp=Z,23nm,0.8s
RONA **Rosalia, Austr** 150.90 340 *e*PKP **PKPdf** 23 37 01.8 +0.3
comp=Z,3.4nm,0.7s
RONA *i* PKP **PKiKP** 23 37 07.9 -0.1
comp=Z,27nm,0.5s,SNR=11
RONA *e*PKP **PKPab** 23 37 17.9 +1.0
comp=Z,36nm,1.3s
WLF **Walferdange** 151.08 355 **PKiKP** 23 37 08.3 +0.1
WLF **PKPab** 23 37 17.4 -0.1
WLF **Walferdange** 151.08 355 *d*PKP **PKPbc** 23 37 07.8 0.0
WLF **Walferdange** 151.08 355 PKIKP **PKiKP** 23 37 08.3 +0.1
WLF 23 37 17.4
WLF **Walferdange** 151.08 355 *e*PKPbc 23 37 08.5
baz=16,slow=2.3
DIM **Dimitrovgrad** 151.13 322 *e*P **PKPbc** 23 37 08.3 +0.1
ELL **Elmali** 151.17 309 **PKPbc** 23 37 08.2 -0.4
ELL **Elmali** 151.17 309 PKIKP **PKPbc** 23 37 08.3 -0.4
MPEP **Malo Peshtene** 151.25 326 *e*P **PKPbc** 23 37 08.5 0.0
MANT **Manisa** 151.30 314 **PKPbc** 23 37 08.6 -0.5
MORH **Mrgy, Hungar** 151.36 336 ⇓P **PKPbc** 23 37 08.5 -0.1
MOA **Molln** 151.36 343 *e*PKP **PKPbc** 23 37 08.7 +0.1
comp=Z,7.3nm,0.5s
MOA *e*PKP **PKPab** 23 37 19.9 +1.1
comp=Z,20nm,0.8s
KDZ **Kurdzhali** 151.53 322 *e*P **PKPbc** 23 37 08.9 -0.3
ARSA **Arzberg** 151.54 341 *e*PKP **PKPbc** 23 37 08.9 -0.1
comp=Z,7.8nm,1.1s
STU **Stuttgart** 151.59 350 *e*PKPbc 23 37 09.0
baz=16,slow=2.3
STU *e*PKPab 23 37 20.2
baz=16,slow=4.2
STU *e*pPKPbc 23 39 05.9
baz=16,slow=2.3
PGB **Panagyurishte** 151.60 324 *e*P **PKPbc** 23 37 08.9 -0.5
AKAS **Kas** 151.61 309 **PKPbc** 23 37 08.7 -1.1
CAVK **Edirne/Enez-Ca** 151.62 320 ⇓P **PKPbc** 23 37 07.9 -1.5
BIOA **Bad Ischl, Aus** 151.68 344 *e*PKP **PKPbc** 23 37 09.0 -0.3
comp=Z,6.7nm,0.6s
BIOA *e*PKP **PKPab** 23 37 20.9 +0.7
comp=Z,39nm,0.7s
RDO **Rodhopi** 151.72 321 **PKPbc** 23 37 08.6 -1.0
FRGS **Fruska Gora** 151.75 333 *e*P **PKPbc** 23 37 09.1 -0.5
FUR **Furstenfeldbru** 151.79 347 *e*PKPbc 23 37 09.4
baz=16,slow=2.3
FUR *e*PKPab 23 37 21.1
baz=16,slow=4.2
RJOB **Jochberg** 151.85 345 *e*PKPbc 23 37 09.8
baz=16,slow=2.3
RJOB *e*PKPab 23 37 21.8
baz=16,slow=4.2
KOGS **Kog** 152.02 339 *i* PKPbc **PKPbc** 23 37 09.4 -0.7
KOGS *i* PKPab **PKPab** 23 37 21.6 0.0
PLNA **Plana** 152.03 325 *e*P **PKiKP** 23 37 10.6 0.0
VTS **Vitosha** 152.04 326 *e*P **PKPbc** 23 37 10.1 -0.4
BOVS **Bovan** 152.07 329 ⇓P **PKPbc** 23 37 10.0 -0.3
BFO **Black Forest** 152.15 351 **PKPbc** 23 37 09.9 -0.5
BFO **Black Forest** 152.15 351 PKIKP **PKPbc** 23 37 09.9 -0.5
BFO **Black Forest** 152.15 351 *e*PKPbc 23 37 10.4
baz=16,slow=2.3
BFO *e*PKPab 23 37 22.0
baz=16,slow=4.2
LESA **Schwarzleotal** 152.17 345 *e*PKP **PKPdf** 23 37 03.1 -0.3
comp=Z,4.6nm,1.0s
LESA *e*PKP **PKiKP** 23 37 10.8 +0.1
comp=Z,9.7nm,0.5s
LESA *e*PKP **PKPab** 23 37 22.8 +0.5
comp=Z,25nm,0.8s
SOKA **Soboth** 152.20 341 *e*PKP **PKPbc** 23 37 10.1 -0.5
comp=Z,17nm,1.3s
SOKA *e*PKP **PKPab** 23 37 22.7 +0.2
comp=Z,18nm,0.8s
KBA **Koelnbreinsper** 152.32 344 *e*PKP **PKPbc** 23 37 11.1 +0.1
comp=Z,7.7nm,0.5s
TEKS **Tekeris** 152.36 333 *e*P **PKPbc** 23 37 08.8 -2.2
MMB **Musomishta** 152.49 323 *e*P **PKPbc** 23 37 10.6 -0.8
OBKA **Obir** 152.50 341 *e*P **PKPbc** 23 37 10.2 -1.1
OBKA **Obir** 152.50 341 *e*PKP **PKPbc** 23 37 10.7 -0.6
comp=Z,5.2nm,0.7s
OBKA *e*PKP **PKPab** 23 37 23.5 -0.3
comp=Z,14nm,0.8s
WATA **Walderalm** 152.51 346 *e*PKP **PKPdf** 23 37 03.7 -0.3
comp=Z,2.2nm,0.5s
WATA *e*PKP **PKPbc** 23 37 11.2 -0.2
comp=Z,6.7nm,0.5s
WATA *e*PKP **PKPab** 23 37 24.2 +0.3
comp=Z,50nm,1.5s
RETA **Reutte** 152.54 347 *e*PKP **PKPab** 23 37 24.1 +0.2
comp=Z,21nm,1.0s
WTTA **Wattenberg** 152.57 346 *e*PKP **PKPdf** 23 37 03.6 -0.5
comp=Z,7.2nm,0.9s
WTTA *i* PKP **PKPbc** 23 37 11.4 -0.1
comp=Z,15nm,0.7s,SNR=5.3
WTTA *e*PKP **PKPab** 23 37 24.6 +0.5
comp=Z,24nm,0.7s
MOTA **Moosalm** 152.61 347 *e*PKP **PKPdf** 23 37 03.9 -0.2
comp=Z,9.1nm,1.2s
MOTA *e*PKP **PKPbc** 23 37 11.5 -0.1
comp=Z,19nm,1.4s
MOTA *e*PKP **PKPab** 23 37 24.5 +0.3
comp=Z,28nm,0.9s
KKB **Krupnik** 152.63 325 *e*P **PKPbc** 23 37 11.1 -0.5
MYKA **Terra Mystica** 152.65 343 *e*PKP **PKPbc** 23 37 10.9 -0.7
comp=Z,7.9nm,0.6s
MYKA *e*PKP **PKPab** 23 37 24.1 -0.2
comp=Z,18nm,0.7s
SQTA **Sankt Quirin** 152.70 347 *e*PKP **PKPdf** 23 37 04.1 -0.1
comp=Z,5.3nm,0.8s
SQTA *e*PKP **PKPbc** 23 37 11.8 +0.1
comp=Z,9.5nm,0.6s
SQTA *e*PKP **PKPab** 23 37 25.2 +0.5
comp=Z,13nm,0.9s
ABTA **Abfaltersbach** 152.84 344 *e*PKP **PKPdf** 23 37 03.6 -0.8
comp=Z,8.9nm,0.8s
ABTA *i* PKP **PKPbc** 23 37 11.4 -0.6
comp=Z,17nm,0.6s,SNR=5.8
ABTA *i* PKP **PKPab** 23 37 24.9 -0.3
comp=Z,27nm,0.7s,SNR=6.5
DAVA **Damuels** 152.91 349 *e*PKP **PKPdf** 23 37 04.6 0.0
comp=Z,7.3nm,1.1s
DAVA *e*PKiKP **PKiKP** 23 37 13.0 +0.6
comp=Z,15nm,1.2s
DAVA *e*PKP **PKPab** 23 37 25.6 0.0
comp=Z,14nm,0.8s
BBLS **Lazi&#263i** 152.96 332 *e*P **PKPbc** 23 37 12.0 -0.3
CRNS **Crni Vrh** 152.97 341 *i* PKPbc **PKPbc** 23 37 11.6 -0.6
CRNS *i* PKPab **PKPab** 23 37 25.0 -0.7
HAPS **Han Pijesak,Bl** 152.98 333 *e*P **PKPbc** 23 37 12.0 -0.4
FETA **Feichten** 153.00 347 *e*PKP **PKPdf** 23 37 04.8 +0.1
comp=Z,7.1nm,0.8s
FETA *e*PKP **PKiKP** 23 37 12.7 +0.2
comp=Z,15nm,1.1s
FETA *e*PKP **PKPab** 23 37 26.1 +0.2
comp=Z,23nm,1.1s
A051A **Mrakovica** 153.03 337 *e*P **PKPbc** 23 37 11.8 -0.6
BLY **Banja Luka** 153.15 336 *e*P **PKiKP** 23 37 12.9 +0.2
BOJS **Bojanci** 153.18 339 *e*P **PKPbc** 23 37 12.1 -0.6
BOJS **Bojanci** 153.18 339 *i* PKPbc **PKiKP** 23 37 12.7 0.0
SJES **Sjenica** 153.18 330 *e*P **PKPbc** 23 37 11.0 -1.9
CEY **Cerknica** 153.23 341 *e*P **PKPbc** 23 37 11.9 -0.9
STAL **STALIGIAL** 153.24 344 **PKPbc** 23 37 11.7 -1.2
STAL **PKPab** 23 37 25.9 -0.9
SABO **M.te Sabotino** 153.26 342 **PKPbc** 23 37 11.5 -1.4
SABO **PKPab** 23 37 25.8 -1.1
CIMO **Cimolais** 153.27 344 **PKPdf** 23 37 04.2 -0.8
CIMO PKPbc **PKPbc** 23 37 11.7 -1.2
VAY **Valandovo** 153.29 324 *i* P **PKPab** 23 37 27.4 +0.2
DAVOX **Davos/Dischmat** 153.40 348 PKP **PKPdf** 23 37 05.3 -0.1
comp=Z,3.2nm,0.7s,baz=35,slow=3.7,SNR=5.1
DAVOX PKPbc **PKiKP** 23 37 13.6 +0.2
comp=Z,9.5nm,0.5s,baz=354,slow=12,SNR=6.8
DAVOX PKPab **PKPab** 23 37 28.0 +0.3
comp=Z,11nm,0.9s,baz=354,slow=2.9,SNR=5.2
FUORN **Ofenpass-Fuorn** 153.47 348 **PKPdf** 23 37 05.0 -0.6
A050A **Klekovaca** 153.62 337 *e*P **PKiKP** 23 37 16.3 +2.5
TUE **Stuetta** 153.79 349 **PKPab** 23 37 28.9 -0.5
PDG **Podgorica** 154.16 330 *e*P **PKPbc** 23 37 14.2 -0.6
LIT **Litokhoron** 154.17 322 **PKPbc** 23 37 13.5 -1.5
LIT **PKPab** 23 37 30.3 -0.7
LIT **Litokhoron** 154.17 322 PKIKP **PKPbc** 23 37 13.5 -1.5
LIT 23 37 30.3
SENIN **Lac Senin/Sane** 154.22 352 **PKPab** 23 37 31.0 -0.3
TREB **Trebinje** 154.34 332 *e*P **PKPdf** 23 37 08.3 +1.8
TEOL **Teolo** 154.35 345 PKPbc **PKPbc** 23 37 15.6 +0.4
TEOL **PKPab** 23 37 31.3 -0.2
DRME **Dracevica, Mon** 154.38 330 *e*P **PKiKP** 23 37 14.9 -0.4
OHR **Ohrid** 154.39 326 *i* P **PKPab** 23 37 32.6 +0.7
AGG **Agios Georgios** 154.97 321 **PKPab** 23 37 33.6 -0.9
AGG **Agios Georgios** 154.97 321 PKP2 **PKPab** 23 37 33.6 -0.9
IDI **Anoyia** 155.45 311 PKP **PKPdf**

comp=Z,12nm,1.0s,baz=132,slow=2.3,SNR=7.5
DBIC PKPab **PKPab 23 38 17.1 +1.4**
comp=Z,6.4nm,0.8s,baz=185,slow=6.5,SNR=5.5
DBIC Dimbokro 164.32 153 PKIKP **PKPdf 23 37 18.2 -0.5**
DBIC 23 38 16.9
MDT Midelt 166.62 26 PKP **PKPdf 23 37 19.9 -0.2**
comp=Z,5.5nm,0.9s,baz=119,slow=3.3,SNR=6.5
MDT PKPab **PKPab 23 38 26.1 +0.5**
comp=Z,2.3nm,0.7s,baz=352,slow=7.6,SNR=2.5
TORD Torodi Ar. Bea 172.32 176 PKPdf 23 37 22.8 -1.1
TORD **PKPab 23 38 51.7 +0.7**
TORD Torodi Ar. Bea 172.32 176 PKP **PKPdf 23 37 23.4 -0.5**
comp=Z,7.6nm,0.8s,baz=343,slow=1.9,SNR=21
TORD PKPab **PKPab 23 38 51.7 +0.7**
comp=Z,2.4nm,0.6s,baz=170,slow=2.6,SNR=8.4
TORD PP **PP 23 42 41.7 +0.2**
comp=Z,0.9nm,0.3s,baz=177,slow=3.6,SNR=6.3

---

*BJI **24** 23:27:49.9, 24°.13N×142°.97E, h12km, mB4.8/24, mb4.9/65, Ms4.2/37, Ms7 4.0/40*
*IDC **24** 23:27:51.8±0.5, 24°.27N×142°.63E, h0km, mb4.6/31, mbtmp4.6/35, ML3.8/5, MS3.8/12, Error ellipse: s-maj=17.5km s-min=11.5km az=81.0*
*NEIC **24** 23:27:54.6±1.9, 24°.23N±0°.07×142°.8E±0°.1, h16km±4km, mb4.9/102, Error ellipse: s-maj=16.1km s-min=10.7km az=87.0*
*JMA **24** 23:27:58.6±0.4, 24°N±2°×14°E±°, h152km, MV4.5/26, IOTO ISLANDS REGION*
ISC 24 23:27:53.2±0.4, **24°.23N**±0°.04×**142°.80E**±0°.06, **h10**km, **n409**, σ**1**s**31**/413, **mb4.8**/103, **MS4.0**/24, **3C-2D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.46**	**347**	*e*P	**Pb**	**23 28 37.6**	**+0.1**
JHH2				*e*S	**Sn**	**23 29 05.0**	**+1.5**
JHH2	**Haha-jima-NKT2**	**2.46**	**347**	A	A	23 28 37.6	
	comp=N,8.0nm,1.3s,comp=E,6.0nm,3.1s						
CBIJ	**Chichi jima**	**2.91**	**349**	*e*P	**Pn**	**23 28 43.2**	**+3.7**
CBIJ				*e*S	**Sn**	**23 29 17.1**	**+2.5**
JCJ	**Chichijima**	**2.91**	**349**	Pn	**Pn**	**23 28 39.8**	**+0.2**
JCJ				Sn	**Sn**	**23 29 16.7**	**+2.0**
JCJ	**Chichijima**	**2.91**	**349**	Pn	**Pn**	**23 28 40.4**	**+0.8**
	comp=E,23nm,0.3s,baz=168,slow=22,SNR=20						
JCJ				Sn	**Sn**	**23 29 13.4**	**-1.2**
	comp=E,205nm,0.3s,baz=293,slow=22,SNR=10						
JHJ2	**Mitsune**	**9.23**	**344**	Pn	**Pn**	**23 30 06.6**	**+0.2**
JHJ	**Hachijo jima 2**	**9.25**	**344**	Pn	**Pn**	**23 30 05.4**	**-1.2**
	comp=E,6.8nm,0.3s,baz=35,slow=7.4,SNR=2.2						
JHJ				Sn	**Sn**	**23 31 45.1**	**-5.6**
	comp=E,8.9nm,0.3s,baz=70,slow=19,SNR=2.1						
	comp=E,110nm,0.7s						
BSO3	**Boso 3**	**10.73**	**350**	*e*P	**Pn**	**23 30 26.4**	**-0.2**
BSO4	**Boso 4**	**10.94**	**349**	*e*P	**Pn**	**23 30 30.9**	**+1.2**
BSO4				*e*S	**Sn**	**23 32 28.3**	**-3.7**
JAO	**Obara**	**12.01**	**338**	*e*P	**Pn**	**23 30 46.2**	**+1.8**
INU	**Inuyama**	**12.17**	**337**	Pn	**Pn**	**23 30 45.0**	**-1.6**
JMN	**Monobe**	**12.27**	**323**	Pn	**Pn**	**23 30 47.3**	**-0.7**
JGF	**Kuroka**	**12.28**	**339**		**Pn**	**23 30 47.8**	**-0.3**
JHO	**Hitachi**	**12.49**	**352**	*e*P	**Pn**	**23 30 50.2**	**-0.8**
JAG	**Ashikaga**	**12.50**	**347**	*e*P	**Pn**	**23 30 49.1**	**-2.0**
JAG				*e*S	Sn	23 33 00.1	-10
MJAR	**Matsushiro Arr**	**12.90**	**343**	Pn	**Pn**	**23 30 54.0**	**-2.6**
	comp=E,0.3nm,0.3s,baz=164,slow=11,SNR=6.1						
MJAR				LR	LR	23 35 50.1	
	comp=E,508nm,18.0s,baz=148,slow=37						
	comp=E,1.6nm,0.4s						
MAJO	**Matsushiro**	**12.90**	**343**		**Pn**	**23 30 55.1**	**-1.5**
MJB9	**Matsu-Tunnel**	**12.90**	**343**		**Pn**	**23 30 57.2**	**+0.5**
JOW	**Kunigami**	**13.37**	**284**	LR	LR	23 35 52.3	
	comp=E,895nm,19.6s,baz=194,slow=36						
JMM	**Marumori**	**13.71**	**353**		**Pn**	**23 31 06.2**	**-1.3**
JNU	**Nakatsue**	**13.71**	**313**		**Pn**	**23 31 07.9**	**+0.3**
JSD	**Sado**	**14.30**	**345**		**Pn**	**23 31 13.7**	**-2.0**
JTM	**Tenmabayashi**	**16.58**	**355**	Pn	**Pn**	**23 31 44.7**	**-1.0**
YOJ	**Yonaguni jima**	**18.04**	**275**		**P**	**23 32 04.5**	**0.0**
YOJ				IAmb	IAmb	23 32 07.9	
	comp=Z,126nm,1.2s						
KSRS	**Korea Array**	**18.33**	**319**	P	**Pn**	**23 32 05.0**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=138,slow=11,SNR=12						
KSRS				LR	LR	23 38 49.1	
	comp=Z,314nm,19.6s,baz=130,slow=36						
	comp=Z,1.7nm,0.7s						
KSAR	**Wonju Array Be**	**18.34**	**319**	P	**P**	**23 32 08.0**	**+0.3**
KS19	**Wonju Array Si**	**18.39**	**319**	P	**P**	**23 32 08.5**	**+0.2**
NACB	**Ninganchiao**	**19.35**	**274**	P	**Pn**	**23 32 18.9**	**-1.1**
YHNB	**Yeheng**	**19.51**	**276**	P	**Pn**	**23 32 21.5**	**-0.5**
ASAJ	**Asahikawa**	**19.84**	**360**	P	**P**	**23 32 23.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=190,slow=18,SNR=1.5						
ASAJ				LR	LR	23 40 26.4	
	comp=Z,225nm,21.6s,baz=174,slow=38						
	comp=Z,4.1nm,0.6s						
JKA	**Kamikawa-asahi**	**19.84**	**360**	P	**P**	**23 32 23.6**	**-0.5**
JKA				IAmb	IAmb	23 32 30.5	
	comp=Z,69nm,1.7s						
USA0B	**Ussuriysk Arra**	**21.80**	**339**	P	**P**	**23 32 42.3**	**-3.0**
USRK	**Ussuriysk Ar.**	**21.80**	**339**	P	**P**	**23 32 42.5**	**-2.8**
	comp=Z,5.0nm,0.5s,baz=151,slow=12,SNR=8.5						
USRK				LR	LR	23 40 46.3	
	comp=Z,307nm,18.2s,baz=146,slow=36						
	comp=Z,5.0nm,0.5s						
NJ2	**Nanjing**	**22.48**	**296**	*e*P	**P**	**23 32 52.6**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				LR	LR		
	comp=Z,300nm,14.2s						
NJ2				LR	LR		
	comp=Z,370nm,17.7s						
NJ2				LR	LR		
	comp=Z,610nm,19.1s						
TGY	**Tagaytay City**	**22.95**	**248**	LR	LR	23 40 48.6	
	comp=Z,354nm,20.3s,baz=106,slow=34						
H11S3	**WAKE ISLAND Hy**	**22.95**	**100**	T	T	23 56 40.7	
	baz=289,slow=74,SNR=21						
H11S1	**WAKE ISLAND Hy**	**22.96**	**100**	T	T	23 56 42.2	
	baz=289,slow=74,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**22.97**	**100**	T	T	23 56 42.0	
	baz=289,slow=74,SNR=16						
MDJ	**Mudanjiang**	**23.02**	**335**	P	**P**	**23 32 57.7**	**-0.6**
MDJ	**Mudanjiang**	**23.02**	**335**	P	**P**	**23 32 59.6**	**+1.3**
MDJ				PP	**PnPn**	**23 33 29.8**	**+6.7**
MDJ				pmax	pmax		
	comp=Z,17nm,0.9s						
MDJ				LR	LR		
	comp=Z,480nm,14.8s						
MDJ				LR	LR		
	comp=Z,300nm,13.7s						
MDJ				LR	LR		
	comp=Z,430nm,17.5s						
SNY	**Shenyang**	**23.74**	**322**	⇓P	**P**	**23 33 05.4**	**-0.1**
SNY				pmax	pmax		
	comp=Z,52nm,0.5s						
SNY				pmax	pmax		
	comp=Z,73nm,3.6s						
SNY				LR	LR		
	comp=Z,210nm,11.6s						
SNY				LR	LR		
	comp=Z,250nm,8.8s						
SNY				LR	LR		
	comp=Z,250nm,19.1s						
CN2	**Changchun**	**24.16**	**328**	P	**P**	**23 33 09.3**	**-0.2**
CN2				S	**S**	**23 37 24.1**	**-3.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CN2				LR	LR		
	comp=Z,400nm,17.0s						
BNX	**BinXian**	**24.81**	**334**	⇓P	**P**	**23 33 16.3**	**+0.9**
BNX				pmax	pmax		
	comp=Z,56nm,0.6s						
TIA	**Tai'an**	**25.12**	**304**	P	**P**	**23 33 17.5**	**-0.8**
TIA				pmax	pmax		
	comp=Z,31nm,0.8s						
TIA				LR	LR		
	comp=Z,190nm,12.3s						
TIA				LR	LR		
	comp=Z,320nm,16.2s						
TIA				LR	LR		
	comp=Z,350nm,17.2s						
WHN	**Wuhan**	**25.99**	**290**	P	**P**	**23 33 28.8**	**+2.5**
KLR	**Kul'dur**	**26.42**	**344**	P	**P**	**23 33 30.0**	**0.0**
	comp=Z,24nm,1.1s,baz=160,slow=7.3,SNR=25						
	comp=Z,24nm,1.1s						
JAY	**Jayapura**	**26.66**	**185**	LR	LR	23 43 20.0	
	comp=Z,144nm,18.7s,baz=18,slow=35						
HNS	**HongShan**	**27.36**	**305**	⇑P	**P**	**23 33 37.3**	**-1.2**
HNS				PP	**PnPn**	**23 34 24.4**	**+2.0**
HNS				pmax	pmax		
	comp=Z,31nm,0.8s						
HNS				LR	LR		
	comp=Z,380nm,14.5s						
HNS				LR	LR		
	comp=Z,270nm,16.1s						
HNS				LR	LR		
	comp=Z,330nm,17.1s						
BJT	**Baijiatuan**	**27.37**	**312**	P	**P**	**23 33 38.1**	**-0.5**
BJT				IAmb	IAmb	23 33 40.4	
	comp=Z,31nm,1.6s						
BJI	**Beijing**	**27.37**	**312**	P	**P**	**23 33 37.0**	**-1.6**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LYN	**LuoYang**	**28.27**	**298**	P	**P**	**23 33 46.8**	**+0.1**
LYN				pmax	pmax		
	comp=Z,18nm,0.6s						
HEH	**HeiHe**	**28.61**	**339**	*e*P	**P**	**23 33 50.3**	**+0.8**
HEH				pmax	pmax		
	comp=Z,39nm,0.8s						
HEH				LR	LR		
	comp=Z,230nm,20.1s						
HEH				LR	LR		
	comp=Z,410nm,19.2s						
HEH				LR	LR		
	comp=Z,480nm,18.8s						
ENH	**Enshi**	**30.15**	**289**	P	**P**	**23 34 02.3**	**-1.2**
HIA	**Hailar**	**30.84**	**330**	P	**P**	**23 34 07.6**	**-1.8**
HIA				IAmb	IAmb	23 34 09.5	
	comp=Z,10nm,0.5s						
HHC	**Hu-ho-hao-te**	**30.90**	**310**	*e*P	**P**	**23 34 12.6**	**+2.5**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,55nm,4.3s						
HHC				LR	LR		
	comp=Z,160nm,15.1s						
HHC				LR	LR		
	comp=Z,250nm,18.5s						
HHC				LR	LR		
	comp=Z,270nm,18.5s						
PETK	**Petropavlovsk-**	**30.97**	**18**	LR	LR	23 48 39.6	
	comp=Z,67nm,19.3s,baz=208,slow=40						
QIZ	**Qiongzhong**	**31.03**	**267**	P	**P**	**23 34 09.3**	**-2.0**
QIZ				S	**S**	**23 39 19.8**	**+3.3**
QIZ				LR	LR		
	comp=Z,200nm,17.2s						
QIZ				LR	LR		
	comp=Z,150nm,17.2s						
QIZ				LR	LR		
	comp=Z,220nm,16.5s						
XAN	**Xi'an**	**31.05**	**296**	⇑P	**P**	**23 34 10.9**	**-0.5**
XAN				pP	pwP	23 34 17.1	-0.9
XAN				pmax	pmax		
	comp=Z,11nm,0.6s						
XAN				pmax	pmax		
	comp=Z,220nm,6.9s						
XAN				LR	LR		
	comp=Z,240nm,14.3s						
XAN				LR	LR		
	comp=Z,280nm,18.3s						
XAN				LR	LR		
	comp=Z,320nm,18.6s						
BTO	**Baotou**	**31.90**	**309**	*e*P	**P**	**23 34 21.8**	**+2.9**
BTO				PP	**PP**	**23 35 29.3**	**-1.6**
BTO				S	**S**	**23 39 31.6**	**+1.6**
BTO				SS	**SnSn**	**23 41 24.4**	**+6.3**
BTO				pmax	pmax		
	comp=Z,17nm,1.6s						
BTO				pmax	pmax		
	comp=Z,220nm,9.8s						
BTO				LR	LR		
	comp=Z,560nm,17.0s						
BTO				LR	LR		
	comp=Z,400nm,16.0s						
BTO				LR	LR		
	comp=Z,430nm,17.8s						
CD2	**Chengdu**	**35.12**	**290**	P	**P**	**23 34 46.8**	**-0.2**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
CD2				LR	LR		
	comp=Z,270nm,14.6s						
CD2				LR	LR		
	comp=Z,250nm,17.1s						
SPSI	**Sidrap Palu**	**35.89**	**222**	P	**P**	**23 34 54.1**	**+0.5**
	comp=Z,44nm,0.8s						
SLVN	**Son La**	**35.90**	**273**		**P**	**23 34 54.0**	**+0.1**
BNSI	**Bone**	**36.03**	**221**	P	**P**	**23 34 56.1**	**+1.3**
KMI	**Kunming**	**36.32**	**280**	⇑P	**P**	**23 34 59.1**	**+1.5**
KMI				pmax	pmax		
	comp=Z,27nm,0.8s						
KMI				LR	LR		
	comp=Z,140nm,19.2s						
KMI				LR	LR		
	comp=Z,230nm,23.8s						
KMI				LR	LR		
	comp=Z,320nm,24.2s						
ULN	**Ulaanbaatar**	**36.81**	**319**	P	**P**	**23 35 00.3**	**-1.2**
PZH	**PanZhiHua**	**37.06**	**282**	P	**P**	**23 35 04.8**	**+1.0**
PZH				S	**S**	**23 40 50.8**	**+0.9**
PZH				pmax	pmax		
	comp=Z,50nm,0.7s						
PZH				pmax	pmax		
	comp=Z,120nm,8.4s						
PZH				LR	LR		
	comp=Z,130nm,13.7s						
PZH				LR	LR		
	comp=Z,150nm,17.3s						
PZH				LR	LR		
	comp=Z,350nm,21.6s						
SONM	**Songino Array**	**37.20**	**319**	P	**P**	**23 35 03.0**	**-1.6**
SONM	**Songino Array**	**37.20**	**319**	P	**P**	**23 35 02.8**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=120,slow=8.3,SNR=5.3						
	comp=Z,1.0nm,0.5s						
COEN	**Coen**	**37.95**	**179**	P	**P**	**23 35 11.4**	**+0.2**
EDFI	**Ende, Flores**	**38.72**	**215**	P	**P**	**23 35 17.5**	**-0.3**
	comp=Z,28nm,0.8s						
YAK	**Yakutsk**	**38.83**	**350**	P	**P**	**23 35 16.8**	**-1.2**
YAK				IAmb	IAmb	23 35 20.4	
	comp=Z,28nm,0.9s						
YAK	**Yakutsk**	**38.83**	**350**	P	**P**	**23 35 16.7**	**-1.3**
	comp=Z,14nm,0.4s,baz=94,slow=1.8,SNR=5.1						
	comp=Z,14nm,0.4s						
GTA	**Gaotai**	**39.16**	**303**	*e*P	**P**	**23 35 20.8**	**-0.5**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				LR	LR		
	comp=Z,95nm,17.8s						
GTA				LR	LR		
	comp=Z,120nm,18.9s						
GTA				LR	LR		
	comp=Z,150nm,18.9s						
SEY	**Seynchan**	**39.23**	**7**	P	**P**	**23 35 22.2**	**+0.9**
	comp=Z,1.3nm,0.4s,baz=209,slow=5.2,SNR=3.9						
	comp=Z,1.3nm,0.4s						
CHTO	**Chiang Mai**	**41.03**	**271**	P	**P**	**23 35 37.0**	**+0.1**
CHTO				IAmb	IAmb	23 35 38.8	
	comp=Z,14nm,0.8s						
CM31	**Chiang Mai Arr**	**41.13**	**271**	P	**P**	**23 35 37.7**	**-0.1**
CM31				IAmb	IAmb	23 35 40.0	
	comp=Z,12nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.13**	**271**	P	**P**	**23 35 38.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**41.13**	**271**	P	**P**	**23 35 38.4**	**+0.6**
	comp=Z,7.8nm,0.6s,baz=60,slow=7.9,SNR=45						
	comp=Z,7.8nm,0.6s						
TWSI	**Taliwang, Sumb**	**41.40**	**221**	P	**P**	**23 35 40.0**	**+0.1**
	comp=Z,31nm,1.0s						
GOMU	**GeErMu**	**42.76**	**298**	P	**P**	**23 35 51.3**	**-0.1**
GOMU				pP	sP	23 35 54.3	+0.1
GOMU				sP	pwP	23 35 58.5	+0.5
GOMU				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WB0	**Warramunga Arr**	**44.49**	**191**		**P**	**23 36 04.4**	**-0.5**
WB0				IAmb	IAmb	23 36 05.7	
	comp=Z,9.1nm,0.8s						
WR8	**Warramunga Arr**	**44.65**	**191**		**P**	**23 36 05.7**	**-0.5**
WR8				IAmb	IAmb	23 36 07.0	
	comp=Z,10nm,0.8s						
KULM	**Kulim**	**44.66**	**252**		**P**	**23 36 07.5**	**+1.1**
KULM				IAmb	IAmb	23 36 09.3	
	comp=Z,18nm,0.7s						
WRA	**Warramunga Arr**	**44.67**	**191**	P	**P**	**23 36 05.5**	**-0.8**
WRA	**Warramunga Arr**	**44.67**	**191**	P	**P**	**23 36 06.1**	**-0.2**
	comp=Z,13nm,0.7s,baz=12,slow=8.5,SNR=52						
WRA				PcP	**PP**	**23 37 49.4**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=14,slow=3.2,SNR=2.5						
	comp=Z,13nm,0.7s						
FITZ	**Fitzroy Crossi**	**45.28**	**203**		**P**	**23 36 10.6**	**-0.5**
SHL	**Shillong**	**45.98**	**283**	P	**P**	**23 36 16.4**	**-0.6**
LSA	**Lhasa**	**46.05**	**289**	P	**P**	**23 36 17.9**	**0.0**
LSA				IAmb	IAmb	23 36 36.8	
	comp=Z,8.4nm,0.6s						
LSA	**Lhasa**	**46.05**	**289**	P	**P**	**23 36 19.3**	**+1.4**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BILL	**Bilibino**	**46.12**	**12**		**P**	**23 36 17.0**	**-0.3**
LEM	**Lembang**	**46.15**	**233**	P	**P**	**23 36 18.4**	**0.0**
MDSI	**Maura Dua**	**47.20**	**238**	P	**P**	**23 36 26.1**	**-0.4**
RPSI	**Rantau Prapat**	**47.44**	**250**	P	**P**	**23 36 28.3**	**0.0**
TIXI	**Tiksi**	**48.11**	**354**		**P**	**23 36 32.7**	**0.0**
TIXI				IAmb	IAmb	23 36 35.8	
	comp=Z,11nm,0.6s						
TIXI	**Tiksi**	**48.11**	**354**	P	**P**	**23 36 31.6**	**-1.1**
	comp=Z,9.0nm,0.4s,baz=176,slow=6.1,SNR=17						
TIXI				LR	LR	23 58 27.1	
	comp=Z,110nm,18.1s,baz=190,slow=38						
	comp=Z,9.0nm,0.4s						
AS31	**Alice Springs**	**48.38**	**191**	P	**P**	**23 36 34.4**	**-1.0**
ASAR	**Alice Springs**	**48.38**	**191**	P	**P**	**23 36 34.6**	**-0.9**
ASAR	**Alice Springs**	**48.38**	**191**	P	**P**	**23 36 35.2**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=15,slow=10.0,SNR=33						
	comp=Z,1.4nm,0.4s						
WMQ	**Urumqi**	**48.73**	**308**	*e*P	**P**	**23 36 41.6**	**+3.5**
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
WMQ				LR	LR		
	comp=Z,140nm,21.3s						
GSI	**Gunungsitoli**	**49.30**	**249**	P	**P**	**23 36 42.6**	**-0.2**
PSA00	**Pilbara Seismi**	**50.70**	**208**	P	**P**	**23 36 53.2**	**+0.1**
ZSN	**Zaisan**	**51.05**	**312**	*e*P	**P**	**23 36 55.0**	**-0.6**
DZM	**Mont Dzumac**	**51.44**	**152**	*e*LR	LR	23 51 43.1	
	comp=Z,280nm,26.6s						
ZAA0	**Zalesovo Array**	**52.03**	**321**		**P**	**23 37 01.0**	**-1.7**
ZAA0	**Zalesovo Array**	**52.03**	**321**	P	**PcP**	**23 38 13.7**	**-1.2**
ZALV	**Zalesovo Beam**	**52.03**	**321**		**P**	**23 37 00.8**	**-1.9**
ZALV	**Zalesovo Beam**	**52.03**	**321**	P	**PcP**	**23 38 13.7**	**-1.2**
ZALV	**Zalesovo Beam**	**52.03**	**321**	P	**P**	**23 37 01.0**	**-1.8**
	comp=Z,4.6nm,0.6s,baz=105,slow=6.6,SNR=17						
ZALV				PcP	**PcP**	**23 38 14.1**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=104,slow=4.4,SNR=3.8						
	comp=Z,4.6nm,0.6s						
L14K	**Kuka Creek**	**52.19**	**30**	P	**P**	**23 37 04.3**	**+0.5**
	baz=250						
M14K	**Bethel**	**52.33**	**31**	P	**P**	**23 37 06.0**	**+1.1**
	baz=251						
MKAR	**Makanchi Array**	**52.75**	**311**	P	**P**	**23 37 07.5**	**-0.8**
	comp=Z,4.6nm,0.6s,baz=89,slow=9.0,SNR=52						
	comp=Z,4.6nm,0.6s						
O15K	**Ungalikthiuk R**	**52.90**	**33**	P	**P**	**23 37 09.9**	**+0.8**
	baz=254						
M15K	**Kasigluk River**	**52.91**	**31**	P	**P**	**23 37 08.7**	**-0.4**
	baz=252						
MAKZ	**Makanchi**	**52.97**	**311**		**P**	**23 37 09.2**	**-0.7**
MAKZ				IAmb	IAmb	23 37 10.4	
	comp=Z,16nm,1.3s						
K15K	**Wolf Creek Mou**	**53.03**	**29**	P	**P**	**23 37 10.5**	**+0.4**
	baz=251						
F15K	**North Star Dit**	**53.05**	**24**	P	**P**	**23 37 10.6**	**+0.4**
N16K	**Nishlik Lake**	**53.76**	**32**	P	**P**	**23 37 15.6**	**+0.2**
	baz=255						
J16K	**Anvik River**	**53.76**	**28**	P	**P**	**23 37 16.1**	**+0.7**
	baz=251						
O17K	**Koliganek Bris**	**54.39**	**33**	P	**P**	**23 37 20.8**	**+0.8**
	baz=257						
L17K	**Donlin**	**54.42**	**30**	P	**P**	**23 37 20.5**	**+0.2**
	baz=254						
J17K	**VABM Dome**	**54.45**	**28**	P	**P**	**23 37 21.4**	**+1.0**
	baz=252						
D17K	**Noatak River**	**54.45**	**22**	P	**P**	**23 37 21.0**	**+0.7**
	baz=245						
G17K	**Kiwalik Mounta**	**54.50**	**25**	P	**P**	**23 37 21.6**	**+0.8**
	baz=249						
K17K	**Iditarod**	**54.59**	**29**	P	**P**	**23 37 22.0**	**+0.6**
	baz=254						
H17K	**Granite Mounta**	**54.59**	**26**	P	**P**	**23 37 21.2**	**-0.2**
	baz=250						
F17K	**Baldwin Pennin**	**54.61**	**24**	P	**P**	**23 37 22.4**	**+0.9**
	baz=248						
M17K	**Holitna River**	**54.62**	**31**	P	**P**	**23 37 21.6**	**-0.1**
	baz=255						
E17K	**Hotham Inlet**	**54.65**	**23**	P	**P**	**23 37 23.0**	**+1.2**
	baz=247						
Q17K	**Contact Creek**	**54.69**	**35**	P	**P**	**23 37 23.3**	**+0.9**
	baz=259						
SHLS	**Shalkode**	**54.70**	**307**	*e*P	**P**	**23 37 19.7**	**-3.1**
	comp=Z,4.0nm,0.5s						
WUS	**Wushi**	**54.95**	**304**	P	**P**	**23 37 24.0**	**-0.7**
WUS				IAmb	IAmb	23 37 26.9	
	comp=Z,5.2nm,0.5s						
UZB	**Uzynbulak**	**55.02**	**307**	*e*P	**P**	**23 37 24.4**	**-0.8**
N18K	**Kilae Creek**	**55.18**	**32**	P	**P**	**23 37 26.2**	**+0.4**
	baz=257						
E18K	**Tukpahlearik C**	**55.22**	**23**		**P**	**23 37 27.6**	**+1.7**
E18K				IAmb	IAmb	23 37 37.5	
	comp=Z,9.1nm,1.1s						
E18K	**Tukpahlearik C**	**55.22**	**23**	P	**P**	**23 37 27.2**	**+1.3**
	baz=248						
KPKS	**Kokpek**	**55.26**	**307**	*e*P	**P**	**23 37 25.9**	**-0.8**
F18K	**Selawik**	**55.27**	**24**	P	**P**	**23 37 27.9**	**+1.7**
	baz=250						
H18K	**Honhosa River**	**55.29**	**26**	P	**P**	**23 37 27.8**	**+1.3**
	baz=252						
SII	**Sitkinak Islan**	**55.31**	**37**	P	**P**	**23 37 28.1**	**+1.3**
	baz=262						
M18K	**Stony River**	**55.40**	**31**	P	**P**	**23 37 27.9**	**+0.5**
	baz=257						
KURK	**Kurchatov**	**55.41**	**316**		**P**	**23 37 26.6**	**-0.9**
KURK				IAmb	IAmb	23 37 27.4	
	comp=Z,22nm,1.2s						
G18K	**Tagagawik**	**55.41**	**25**	P	**P**	**23 37 28.5**	**+1.1**
	baz=251						
TDK	**Taldyqorghan**	**55.43**	**309**	*e*P	**P**	**23 37 27.2**	**-0.7**
	comp=Z,4.8nm,0.5s						
ZHN	**Zhinishke**	**55.45**	**307**	*e*P	**P**	**23 37 27.3**	**-0.9**
	comp=Z,13nm,1.2s						
KURBB	**Kurchatov Arra**	**55.46**	**316**	P	**P**	**23 37 26.9**	**-1.0**
	comp=Z,13nm,0.7s,baz=92,slow=7.9,SNR=96						
KURBB				PcP	**PcP**	**23 38 27.3**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=99,slow=4.5,SNR=1.7						
	comp=Z,13nm,0.7s						
SATY	**Saty**	**55.48**	**307**	*e*P	**P**	**23 37 27.6**	**-0.8**
C18K	**Utukok River**	**55.48**	**22**	P	**P**	**23 37 28.9**	**+1.0**
	baz=247						
NRIK	**Noril'sk**	**55.52**	**339**		**P**	**23 37 28.1**	**0.0**
NRIK				IAmb	IAmb	23 37 29.1	
	comp=Z,18nm,0.8s						
NRIK	**Noril'sk**	**55.52**	**339**	P	**P**	**23 37 28.2**	**+0.2**
	comp=Z,8.7nm,0.4s,baz=110,slow=8.3,SNR=34						
	comp=Z,8.7nm,0.4s						
B18K	**Kokolik River**	**

FORT IAmb IAmb 23 37 36.7
comp=Z,15nm,0.7s
L20K Farewell, AK 56.51 30 P **P 23 37 35.8 +0.5**
baz=258
TNSS Tian-Shan 56.55 307 *e*P **P 23 37 35.2 -1.1**
AAA Alma-Ata 56.56 307 *e*P **P 23 37 35.4 -0.7**
comp=Z,12nm,0.8s
K20K Telida 56.61 29 P **P 23 37 37.3 +1.2**
baz=257
J20K Nowinta River 56.77 28 **P 23 37 38.4 +1.4**
J20K IAmb IAmb 23 37 50.8
comp=Z,14nm,1.2s
J20K Nowinta River 56.77 28 P **P 23 37 38.5 +1.4**
baz=256
H20K Anotleneega Mo 56.78 26 P **P 23 37 37.3 0.0**
baz=255
F20K Avaraart Lake 56.88 24 **P 23 37 39.3 +1.4**
F20K IAmb IAmb 23 38 35.5
comp=Z,25nm,2.0s
F20K Avaraart Lake 56.88 24 P **P 23 37 40.0 +2.2**
baz=253
KUU Kurty 56.94 308 *e*P **P 23 37 38.0 -0.8**
comp=Z,12nm,0.9s
D20K Etivluk River 57.07 22 P **P 23 37 40.6 +1.4**
baz=251
E20K Nigu River 57.08 23 P **P 23 37 41.0 +1.8**
baz=252
BBOO Buckleboo 57.08 187 P **P 23 37 39.1 -0.5**
B20K Meade River 57.32 21 P **P 23 37 41.8 +0.9**
baz=250
CHUM Lake Minchumin 57.49 28 P **P 23 37 42.9 +0.7**
baz=258
SKT Skwentna 57.50 31 P **P 23 37 43.8 +1.5**
baz=260
CAST Castle Rocks 57.50 29 **P 23 37 44.0 +1.7**
CAST IAmb IAmb 23 37 52.1
comp=Z,7.0nm,0.8s
CAST Castle Rocks 57.50 29 P **P 23 37 43.1 +0.7**
baz=259
KSH Kashi 57.56 303 P **P 23 37 46.8 +3.5**
KSH pP pwP 23 37 53.1 +3.2
KSH pmax pmax
comp=Z,10.0nm,0.7s
G21K Allakaket 57.59 25 P **P 23 37 44.3 +1.4**
baz=256
H21K Melozitna Rive 57.66 26 P **P 23 37 44.8 +1.4**
baz=257
F21K Alatna River 57.77 24 P **P 23 37 46.1 +1.9**
F21K Alatna River 57.77 24 P **P 23 37 45.7 +1.5**
baz=255
C21K Knifeblade Rid 57.84 22 P **P 23 37 45.2 +0.6**
baz=253
I21K Tanana 57.90 27 P **P 23 37 44.7 -0.3**
baz=258
B21K Ikpikpuk River 58.03 22 P **P 23 37 47.1 +1.2**
baz=253
BPAW Bear Paw Mtn. 58.11 28 P **P 23 37 46.9 +0.3**
baz=260
FRU1 Bishkek 58.26 307 P **P 23 37 47.6 -0.5**
TRF Thorofare Moun 58.30 29 P **P 23 37 48.4 +0.2**
TRF Thorofare Moun 58.30 29 P **P 23 37 47.9 -0.3**
baz=261
F22K John River 58.33 24 P **P 23 37 48.1 0.0**
baz=256
A22K Sinclair Lake 58.34 20 P **P 23 37 48.7 +0.7**
baz=252
AAK Ala-Archa 58.37 306 **P 23 37 48.9 -0.1**
AAK IAmb IAmb 23 37 49.9
comp=Z,3.9nm,0.5s
G22K Bettles 58.45 25 P **P 23 37 49.5 +0.6**
baz=257
D22K Ayikyak River 58.49 23 P **P 23 37 49.7 +0.5**
baz=255,SNR=9.8
E22K Anaktuvuk Pass 58.62 24 P **P 23 37 51.9 +1.8**
baz=256
B22K Teshekpuk Lake 58.63 21 P **P 23 37 51.3 +1.2**
baz=254
KNK Knik Glacier 58.87 32 P **P 23 37 53.0 +1.0**
KNK IAmb IAmb 23 38 51.0
comp=Z,22nm,1.2s
KNK Knik Glacier 58.87 32 P **P 23 37 51.2 -0.7**
baz=264
PWL Port Wells 58.87 32 P **P 23 37 52.6 +0.6**
baz=264
MORW Morawa 58.91 207 P **P 23 37 52.3 -0.2**
MCK McKinley 58.94 29 P **P 23 37 53.5 +1.0**
baz=262
SML Sawmill 58.97 31 P **P 23 37 53.3 +0.6**
baz=264
I23K Minto, Yukon-K 58.98 27 P **P 23 37 53.4 +0.8**
baz=260
G23K Bananza Creek 58.99 25 P **P 23 37 53.7 +1.0**
baz=259
NEA2 Nenana 59.01 28 P **P 23 37 54.0 +1.2**
baz=261
H23K Yukon River 59.02 26 P **P 23 37 53.8 +0.9**
baz=260
COLD Coldfoot 59.02 25 P **P 23 37 54.1 +1.3**
baz=258
BRZS Berezniki 59.20 315 *e*P **P 23 37 53.5 -1.0**
D23K Nanushuk River 59.21 23 **P 23 37 56.4 +2.2**
D23K IAmb IAmb 23 38 04.0
comp=Z,8.2nm,0.8s
D23K Nanushuk River 59.21 23 P **P 23 37 56.1 +1.9**
baz=257,SNR=6.2
P23K Montague Islan 59.25 33 P **P 23 37 55.8 +1.2**
baz=265
M23K Glacier View 59.26 31 P **P 23 37 55.3 +0.7**
baz=264
E23K Chandalar 59.40 24 P **P 23 37 57.1 +1.5**
baz=259,SNR=10
C23K Itkillik River 59.43 22 P **P 23 37 57.2 +1.5**
baz=257,SNR=9.9
SCM Sheep Creek Mo 59.45 31 P **P 23 37 57.2 +1.1**
baz=264
TOLK Toolik Lake Re 59.54 23 P **P 23 37 58.0 +1.6**
TOLK IAmb IAmb 23 38 07.7
comp=Z,6.3nm,0.9s
TOLK Toolik Lake Re 59.54 23 P **P 23 37 57.2 +0.7**
baz=258
H24K Noodor Dome 59.70 26 P **P 23 37 58.7 +1.1**
baz=262
POKR Poker Plat Res 59.78 27 P **P 23 37 59.7 +1.5**
baz=262
E24K Your Creek 59.82 24 P **P 23 38 00.8 +2.4**
baz=260,SNR=7.1
HDA Harding Lake 59.90 28 P **P 23 38 00.5 +1.5**
baz=263
D24K Happy Valley 59.90 23 P **P 23 38 01.4 +2.5**
baz=259
F24K Squaw Lake 59.95 25 P **P 23 38 01.5 +2.1**
baz=260
IL31 59.97 28 P **P 23 38 00.0 +0.7**
IL31 IAmb IAmb 23 38 07.6
comp=Z,6.1nm,0.8s
ILAR Eielson Array 59.97 28 P **P 23 37 59.5 0.0**
comp=Z,2.5nm,0.8s,baz=257,slow=5.5,SNR=25
comp=Z,2.5nm,0.8s
G24K Hadweenzic Riv 59.98 26 P **P 23 38 01.2 +1.7**
baz=261
C24K Franklin Bluff 60.06 22 P **P 23 38 01.2 +1.3**
baz=258
KLU Klutina 60.09 32 P **P 23 38 01.8 +1.4**
baz=266
G25K Bearman Lake 60.53 26 P **P 23 38 05.0 +1.7**
baz=263
BVAR Borovoye Array 60.54 319 P **P 23 38 03.0 -0.6**
comp=Z,27nm,0.5s,baz=82,slow=6.9,SNR=91
comp=Z,27nm,0.5s
NIL Nilore 60.59 296 P **P 23 38 03.9 -0.3**
J25K Salcha River, 60.60 28 P **P 23 38 04.9 +1.1**
baz=265
BRVK Borovoye 60.60 319 **P 23 38 03.4 -0.6**
PRP Porcupine Dome 60.62 27 P **P 23 38 05.5 +1.4**
baz=264
DZA Taraz 60.66 307 *e*P **P 23 38 04.0 -0.7**
BMRM Bremner River 60.70 32 P **P 23 38 05.2 +0.7**
baz=267
RIDG Independent Ri 60.75 29 P **P 23 38 05.5 +0.6**
baz=266
D25K Kavik River 60.79 23 P **P 23 38 06.3 +1.2**
baz=261,SNR=18
F25K Christian Rive 60.82 25 P **P 23 38 06.6 +1.3**
baz=263,SNR=7.1
E25K Arctic Village 60.91 24 P **P 23 38 07.9 +2.0**
baz=262,SNR=5.9
DOT Dot Lake 61.09 29 P **P 23 38 08.1 +0.9**

SCRK Sand Creek 61.15 29 **P 23 38 08.7 +1.0**
SCRK IAmb IAmb 23 38 16.5
comp=Z,7.3nm,0.7s
SCRK Sand Creek 61.15 29 P **P 23 38 09.0 +1.4**
baz=266,SNR=6.4
BMAR Burnt Mountain 61.20 25 **P 23 38 09.8 +1.9**
KK31 Karatay Array 61.23 307 **P 23 38 08.2 -0.3**
KKAR Karatay Array 61.23 307 **P 23 38 08.3 -0.1**
J26L Joseph Creek 61.37 28 P **P 23 38 10.3 +1.2**
baz=266,SNR=6.9
C26K Camden Bay 61.39 22 P **P 23 38 10.9 +1.9**
baz=262,SNR=12
F26K Sheenjek River 61.40 25 P **P 23 38 11.4 +2.2**
baz=264,SNR=7.4
G26K Porcupine Rive 61.46 25 P **P 23 38 11.6 +2.1**
baz=265
M26K Nabesna, AK 61.52 31 P **P 23 38 11.0 +0.9**
baz=268
I26K Coal Creek Min 61.59 27 P **P 23 38 10.2 -0.3**
baz=266
IUG Iuzhnay 61.71 306 *e*P **P 23 38 11.0 -0.8**
comp=Z,4.9nm,0.9s
BRLS Borolday 61.73 307 *e*P **P 23 38 12.2 +0.3**
C27K Jago River 61.77 22 P **P 23 38 13.0 +1.4**
baz=263,SNR=7.1
NWAO Narrogin (SRO) 61.84 204 P **P 23 38 12.6 +0.1**
GAR Garm 61.98 303 **P 23 38 13.1 -0.6**
K27K Chicken 61.99 29 P **P 23 38 14.8 +1.6**
baz=268
M27K Edge Creek, AK 62.04 31 P **P 23 38 14.9 +1.1**
baz=269
L27K Beaver Creek, 62.08 30 P **P 23 38 15.2 +1.4**
baz=269
BCAR Beaver Creek A 62.09 30 P **P 23 38 15.6 +1.6**
I27K Kandik River 62.25 27 P **P 23 38 16.4 +1.4**
baz=268
G27K Doyon Strip 62.29 26 P **P 23 38 17.0 +1.7**
baz=267
H27K Steamboat Moun 62.31 26 P **P 23 38 16.0 +0.6**
baz=267
E27K Coleen River 62.40 24 P **P 23 38 16.6 +0.7**
baz=266
D27M Malcolm River 62.70 23 P **P 23 38 19.2 +1.3**
baz=266,SNR=13
I28M Miner Creek 62.95 27 P **P 23 38 20.8 +1.1**
I28M Miner Creek 62.95 27 P **P 23 38 20.8 +1.1**
baz=269
SIMJ Simiganj 63.04 302 **P 23 38 19.3 -1.5**
SIMJ IAmb IAmb 23 38 22.4
comp=Z,7.9nm,1.1s
DAWY Dawson 63.17 29 P **P 23 38 22.4 +1.3**
baz=270
E28M Babbage River 63.18 24 P **P 23 38 23.1 +2.0**
baz=268,SNR=16
D28M Stokes Point 63.49 23 P **P 23 38 25.3 +2.2**
baz=268,SNR=6.0
YUK4 Talbot Arm 63.59 32 P **P 23 38 25.8 +1.6**
baz=272
H29M Whitestone 63.59 26 P **P 23 38 25.6 +1.7**
baz=270
M29M Somme Creek 63.63 31 P **P 23 38 25.7 +1.4**
baz=272
G29M Pine Creek 63.73 26 P **P 23 38 26.1 +1.4**
baz=270
L29M L29M 63.76 30 P **P 23 38 26.3 +1.2**
baz=272
E29M Blow River 63.78 24 P **P 23 38 26.8 +1.8**
baz=270,SNR=7.4
KBL Kabul 63.83 298 **P 23 38 25.5 -0.7**
KBL IAmb IAmb 23 38 32.9
comp=Z,7.9nm,0.8s
K29M Barlow Dome 64.00 29 P **P 23 38 27.7 +0.9**
baz=272
P29M Windy Craggy 64.13 34 P **P 23 38 28.9 +1.4**
baz=274
HYT Haines Junctio 64.17 32 P **P 23 38 29.0 +1.1**
baz=274
EPYK Eagle Plains 64.26 26 P **P 23 38 29.9 +1.6**
EPYK IAmb IAmb 23 38 31.8
comp=Z,9.7nm,0.9s
EPYK Eagle Plains 64.26 26 P **P 23 38 29.6 +1.3**
baz=272,SNR=7.3
M30M Minto, Yukon 64.40 30 P **P 23 38 30.7 +1.5**
baz=273
G30M tAoh Zraii Nji 64.44 26 P **P 23 38 30.6 +1.1**
baz=272
I30M Mount Dempster 64.44 27 P **P 23 38 30.3 +0.7**
baz=272
P30M Million Dollar 64.49 33 P **P 23 38 30.8 +0.9**
baz=274
J30M Hart River 64.49 28 P **P 23 38 31.2 +1.3**
baz=273
F30M Barrier River 64.59 25 P **P 23 38 31.5 +1.2**
baz=272,SNR=6.7
N31M Braeburn, Yuko 64.95 32 P **P 23 38 33.5 +0.6**
baz=275
S31K Pelican 65.06 35 P **P 23 38 33.7 +0.2**
baz=276
G31M Satah River 65.21 26 P **P 23 38 35.2 +0.9**
baz=274,SNR=14
H31M Peel River 65.25 27 P **P 23 38 35.6 +0.9**
baz=274
F31M Tsiigehtchic 65.38 25 P **P 23 38 35.8 +0.3**
baz=274
INK Inuvik 65.40 24 P **P 23 38 35.7 +0.1**
baz=274,SNR=7.0
WHY Whitehorse 65.47 32 P **P 23 38 36.5 +0.2**
baz=276
S32K Killisnoo 66.00 36 P **P 23 38 40.7 +1.1**
baz=278
P33M Teslin, Yukon 66.53 33 P **P 23 38 44.3 +1.1**
baz=278
Q32M Nakina River 67.00 34 P **P 23 38 47.1 +0.8**
baz=279
ARTI Arti 67.14 323 **P 23 38 46.1 -0.8**
WRAK Wrangell Islan 67.37 37 P **P 23 38 48.9 +0.5**
baz=280
ABKAR Abkulak array 67.50 315 **P 23 38 48.6 -0.8**
ABKAR IAmb IAmb 23 38 49.5
comp=Z,10nm,0.7s
S34M Telegraph Cree 67.76 35 P **P 23 38 51.0 +0.1**
baz=280
A36M Sachs Harbour 67.78 20 P **P 23 38 51.3 +0.6**
A36M IAmb IAmb 23 38 59.5
comp=Z,7.4nm,0.8s
A36M Sachs Harbour 67.78 20 P **P 23 38 52.0 +1.3**
baz=280
V35K Ketchikan 67.97 38 P **P 23 38 53.3 +1.1**
baz=281
DLBC Dease Lake 68.24 34 P **P 23 38 55.6 +1.6**
baz=281
TGTN Hyland Airport 68.51 31 P **P 23 38 57.2 +1.6**
baz=281
C36M Paulatuk 68.66 22 **P 23 38 56.8 +0.5**
C36M IAmb IAmb 23 38 58.4
comp=Z,6.3nm,0.9s
C36M Paulatuk 68.66 22 P **P 23 38 57.5 +1.2**
baz=282
HRA Herat 69.31 299 P **P 23 39 00.7 -0.6**
HRA IAmb IAmb 23 39 02.4
comp=Z,3.9nm,0.6s
WRGLY Wrigley 70.31 29 P **P 23 39 07.6 +1.0**
WRGLY IAmb IAmb 23 39 24.6
comp=Z,8.6nm,0.6s
WRGLY Wrigley 70.31 29 P **P 23 39 08.8 +2.2**
baz=285
TOAD Toad River Com 70.59 33 P **P 23 39 10.1 +1.6**
baz=285
NNZ Nelson 71.03 156 P **P 23 39 10.8 -0.4**
MSWZ Moikau Station 71.91 155 P **P 23 39 16.1 -0.4**
EUNU Eureka 72.65 8 **P 23 39 21.5 +0.9**
EUNU IAmb IAmb 23 39 22.5
comp=Z,5.5nm,0.7s
SPITS Spitsbergen Ar 73.29 350 P **P 23 39 24.6 +0.2**
comp=Z,4.6nm,0.8s,baz=101,slow=7.7,SNR=14
comp=Z,4.6nm,0.8s
YKA Yellowknife Ar 74.39 28 P **P 23 39 31.9 +0.9**
comp=Z,3.4nm,0.7s,baz=295,slow=5.7,SNR=55
comp=Z,3.4nm,0.7s
VADS Vadso 74.98 341 *e*P **P 23 39 35.1 +0.9**
ARA0 ARCESS Array S 76.42 341 *e*P **P 23 39 43.5 +0.9**
ARCES ARCESS Array B 76.42 341 P **P 23 39 43.4 +0.8**
comp=Z,5.7nm,0.5s,baz=72,slow=8.5,SNR=54
comp=Z,5.7nm,0.5s
B08A Colville Reser 77.25 43 **P 23 39 49.1 +1.4**
JETT Jettan, Norway 77.87 342 *e*P **P 23 39 51.5 +0.8**
JOF Joensuu 77.89 334 *e*P **P 23 39 51.0 +0.1**

J05D Fort Rock, OR 77.91 48 **P 23 39 52.7 +1.1**
J05D IAmb IAmb 23 40 02.3
comp=Z,6.7nm,0.9s
PPT2 Papeete2 77.94 116 *e*LR LR 00 03 51.5
comp=Z,64nm,22.2s
PPT2 *e*LR LR 00 03 59.6
comp=Z,86nm,27.8s
STEI Steigen 80.36 342 *e*P **P 23 40 04.7 +0.4**
KBZ Khabaz 80.37 314 P **P 23 40 05.1 +0.3**
comp=Z,4.9nm,0.7s,baz=110,slow=3.7,SNR=16
comp=Z,4.9nm,0.7s
BLKN Baker Lake 80.72 22 **P 23 40 06.3 0.0**
BLKN IAmb IAmb 23 40 14.3
comp=Z,8.1nm,1.0s
FIA1 FINESS Array S 80.76 334 **P 23 40 06.3 -0.2**
FINES FINESS Array B 80.76 334 P **P 23 40 06.2 -0.3**
comp=Z,6.4nm,0.4s,baz=67,slow=4.9,SNR=94
comp=Z,6.4nm,0.4s
KEF Keuruu 80.82 335 *e*P **P 23 40 06.8 -0.1**
DBG Daneborg 81.08 355 *i* P **P 23 40 04.9 -3.2**
DBG IAmb IAmb 23 40 10.0
comp=Z,2.1nm,0.9s
VAF Ylistaro 81.12 336 *e*P **P 23 40 08.5 0.0**
MOR8 Moi Rana 81.80 341 *e*P **P 23 40 10.5 -1.5**
NVAR Mina Array Bea 81.85 52 P **P 23 40 14.5 +1.3**
comp=Z,1.0nm,0.7s,baz=273,slow=6.9,SNR=7.0
comp=Z,1.0nm,0.7s
ARBE Arbavere 81.94 333 *e*P **P 23 40 13.1 +0.3**
TAOE Nuku Hiva Isla 81.96 103 *e*LR LR 00 05 48.5
comp=Z,75nm,22.9s
MEF Metsahovi 82.14 334 *e*P **P 23 40 13.4 -0.5**
RAF Rauma 82.69 335 *e*P **P 23 40 16.2 -0.6**
ELK Elko 83.02 48 P **P 23 40 20.1 +0.9**
comp=Z,1.0nm,0.6s,baz=282,slow=8.7,SNR=5.1
comp=Z,1.0nm,0.6s
MTSE Matsula 83.27 333 *e*P **P 23 40 19.8 0.0**
SUMG Summit 83.45 0 P **P 23 40 22.1 +1.1**
SUMG Summit 83.45 0 *i* P **P 23 40 22.3 +1.3**
NSS Namsos 83.70 341 *e*P **P 23 40 21.3 -0.5**
R11B Troy Canyon, C 83.82 51 P **P 23 40 24.1 +0.7**
FFC Flin Flon 83.87 32 **P 23 40 23.8 +0.8**
FFC IAmb IAmb 23 40 31.9
comp=Z,9.1nm,1.0s
TPNV Topopah Spring 83.95 52 **P 23 40 24.4 +0.3**
H17A Grant Village 84.42 44 P **P 23 40 26.8 +0.4**
H17A IAmb IAmb 23 40 48.6
comp=Z,9.9nm,1.4s
RLMT Red Lodge 84.88 43 P **P 23 40 30.6 +2.0**
SCO Scoresbysund 84.94 355 *i* P P 23 40 14.4 -14
PABE Paberze 85.12 330 P **P 23 40 28.9 -0.4**
PABE Paberze 85.12 330 *e*P **P 23 40 29.6 +0.3**
AK03 Malin Array Si 85.24 324 P **P 23 40 29.1 -0.9**
AKASG Malin Array Be 85.26 324 P **P 23 40 29.0 -1.0**
AKASG IAmb IAmb 23 40 30.2
comp=Z,11nm,0.8s
AKASG Malin Array Be 85.26 324 P **P 23 40 29.2 -0.8**
comp=Z,6.5nm,0.6s,baz=52,slow=5.0,SNR=16
comp=Z,6.5nm,0.6s
AKBB Malin Array Si 85.26 324 **P 23 40 29.0 -1.1**
AKBB Malin Array Si 85.26 324 P **P 23 40 29.4 -0.7**
AK01 Malin Array Si 85.27 324 P **P 23 40 28.9 -1.2**
KIEV Kiev 85.27 324 P **P 23 40 29.4 -0.7**
comp=Z,76nm,0.8s
PDAR Pinedale Array 85.85 45 P **P 23 40 33.7 +0.1**
PDAR Pinedale Array 85.85 45 P **P 23 40 33.8 +0.2**
comp=Z,0.6nm,0.7s,baz=285,slow=2.3,SNR=5.8
comp=Z,0.6nm,0.7s
MI28 Mi28,Pidlybu 85.95 325 P **P 23 40 32.8 -0.7**
LCMT Little Creek M 86.08 51 P **P 23 40 35.6 +0.9**
NC405 NORSAR Array S 86.25 338 **P 23 40 34.3 -0.5**
HFS Hagfors 86.27 337 P **P 23 40 34.0 -0.9**
comp=Z,5.3nm,0.5s,baz=72,slow=4.8,SNR=26
comp=Z,5.3nm,0.5s
KNB Kanab 86.38 51 P **P 23 40 36.5 +0.3**
KNB IAmb IAmb 23 40 44.1
comp=Z,6.7nm,0.9s
SUW Suwalki 86.38 329 P **P 23 40 34.2 -1.4**
NB2 NORSAR Subarra 86.47 339 P **P 23 40 35.1 -0.9**
comp=Z,8.5nm,0.8s,baz=43,slow=5.1
NB2 NORSAR Subarra 86.47 339 P **P 23 40 35.1 -0.9**
baz=43,slow=5.1
NOA NORSAR Array B 86.47 339 P **P 23 40 34.9 -1.1**
comp=Z,3.3nm,0.6s,baz=25,slow=5.9,SNR=11
comp=Z,3.3nm,0.6s
BAL3X Bal3x, Balta 86.55 322 P **P 23 40 34.9 -1.7**
RNPP9 Sopachiv 86.60 326 P **P 23 40 36.1 -0.6**
RNPP5 Staryi Chortor 86.71 326 P **P 23 40 36.2 -1.1**
RAYN Ar Rayn 86.82 294 P **P 23 40 38.7 +0.3**
RAYN IAmb IAmb 23 40 40.0
comp=Z,7.2nm,0.6s
ICESG Greenland Ices 86.94 1 *i* P **P 23 40 39.1 +0.6**
U15A North Rim 87.03 51 P **P 23 40 40.4 +0.8**
NDNU Novodnistrovsk 87.43 323 P **P 23 40 39.8 -1.0**
BR131 Keskin Array S 88.36 313 P **P 23 40 44.5 -1.1**
BR131 IAmb IAmb 23 40 45.5
comp=Z,4.7nm,0.8s
BRTR Keskin Array B 88.36 313 P **P 23 40 44.5 -1.2**
BRTR Keskin Array B 88.36 313 P **P 23 40 44.9 -0.8**
comp=Z,3.1nm,0.7s,baz=98,slow=3.4,SNR=8.9
BRTR LR LR 00 24 10.2
comp=Z,47nm,20.3s,baz=134,slow=38
comp=Z,3.1nm,0.7s
BR106 Keskin Array S 88.37 313 P **P 23 40 44.9 -0.8**
comp=Z,4.4nm,0.8s
BR105 Keskin Array S 88.38 313 P **P 23 40 44.5 -1.2**
BUR08 Bucovina Ar. S 89.16 323 P **P 23 40 48.8 -0.5**
BUR08 IAmb IAmb 23 40 49.7
comp=Z,3.6nm,0.7s
ASF Jabal al Asfar 89.77 305 LR LR 00 24 40.9
comp=Z,40nm,19.1s,baz=135,slow=38
KOLS Kolonicke sedl 89.95 325 *e*P **P 23 40 52.3 -0.5**
MLR Muntele Rosu 90.00 321 P **P 23 40 52.9 -0.4**
comp=Z,1.7nm,0.6s,baz=27,slow=4.5,SNR=3.2
comp=Z,1.7nm,0.6s
STHS Stebnicka Huta 90.17 326 *e*P **P 23 40 52.1 -1.7**
BORA Eskisehir 90.37 315 P **P 23 40 54.1 -0.9**
OJC Ojcow 90.39 327 *e*P **P 23 40 54.1 -0.7**
LANS Liptovska Anna 91.24 327 *e*P **P 23 40 59.5 +0.7**
KSP Ksiaz 91.65 329 *e*P **P 23 41 00.2 -0.4**
MORC Moravsky Berou 91.78 328 *e*P **P 23 41 00.5 -0.8**
ANMO Albuquerque 91.89 50 P **P 23 41 03.1 +0.8**
ANMO IAmb IAmb 23 41 16.2
comp=Z,15nm,1.9s
VYHS Vyhne 91.98 326 *e*P **P 23 41 02.2 0.0**
JAVC Velka Javorina 92.32 327 *e*P **P 23 41 04.5 +0.6**
VRAC Vranov 92.55 328 *e*P **P 23 41 04.3 -0.5**
KRUC Moravsky 92.81 328 *e*P **P 23 41 05.0 -1.0**
GERES GERESS Array B 94.25 329 P **P 23 41 12.0 -0.8**
comp=Z,0.8nm,0.6s,baz=28,slow=6.0,SNR=4.4
GERES LR LR 00 26 20.5
comp=Z,60nm,19.5s,baz=67,slow=37
comp=Z,0.8nm,0.6s
TXAR Lajitas Array 96.86 54 P **P 23 41 25.8 +0.7**
comp=Z,0.1nm,0.4s,baz=329,slow=4.1,SNR=2.2
comp=Z,0.1nm,0.4s
PLCA Paso Flores 147.65 129 PKPbc **PKPbc 23 47 38.0 -0.1**
comp=Z,1.6nm,0.7s,baz=325,slow=18,SNR=4.0
LPAZ La Paz 149.97 81 PKPbc **PKiKP 23 47 46.6 +0.3**
comp=Z,4.3nm,0.5s,baz=324,slow=2.8,SNR=21

---

*IDC **24** 23:29:02.2±1.2, 24°.22N×142°.70E, h0km, mb4.3/15, mbtmp4.3/16, ML4.6/1, MS3.7/4, Error ellipse: s-maj=35.3km s-min=24.2km az=100.0*
*NEIC **24** 23:29:04.8±2.6, 24°.20N±0°.10×142°.7E±0°.1, h10km±2km, mb4.4/16, Error ellipse: s-maj=23.8km s-min=14.1km az=114.0*
ISC 24 23:29:04.1±0.8, **24°.21N**±0°.08×**142°.7E**±0°.1, **h10**km, **n38**, σ1§**20**/37, **mb4.3**/21, **MS3.7**/4, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.91**	**351**	Pn	**Pn**	**23 29 51.6**	**+1.1**
78nm,0.3s,baz=77,slow=22,SNR=4.1							
JCJ				Sn	**Sn**	**23 30 24.6**	**-1.0**
baz=289,slow=23							
313nm,0.5s							
MAJO	**Matsushiro**	**12.89**	**344**	Pn	**Pn**	**23 32 09.3**	**+1.9**
MJB9	**Matsu-Tunnel**	**12.89**	**343**	Pn	**Pn**	**23 32 09.9**	**+2.4**
JSD	**Sado**	**14.30**	**346**		**P**	**23 32 31.9**	**-2.0**
YHNB	**Yeheng**	**19.44**	**276**	P	**Pn**	**23 33 33.6**	**+1.5**
YHNB				IAmb	IAmb	23 33 33.7	
comp=Z,19nm,1.1s							
YULB	**Yu-li**	**19.62**	**272**	P	**Pn**	**23 33 36.0**	**+1.8**
SEY	**Seymchan**	**39.25**	**7**	LR	LR	23 53 18.5	

comp=Z,67nm,21.0s,baz=194,slow=37
CMAR Chiang Mai Arr 41.05 271 P P 23 36 48.8 +0.8
comp=Z,4.4nm,0.3s,baz=71,slow=10,SNR=1.2
comp=Z,4.4nm,0.3s
WB0 Warramunga Arr 44.46 191 P P 23 37 15.5 0.0
WB0 IAmb IAmb 23 37 34.4
comp=Z,5.2nm,1.0s
WR8 Warramunga Arr 44.62 191 P P 23 37 16.8 -0.1
WR8 IAmb IAmb 23 37 25.2
comp=Z,5.0nm,1.1s
WRA Warramunga Arr 44.64 191 P P 23 37 17.4 +0.4
WRA Warramunga Arr 44.64 191 P P 23 37 16.6 -0.4
comp=Z,3.2nm,0.7s,baz=8.9,slow=8.1,SNR=1.8
comp=Z,3.2nm,0.7s
FITZ Fitzroy Crossi 45.23 203 P P 23 37 21.9 +0.2
SHL Shillong 45.91 283 P P 23 37 27.2 -0.2
ASAR Alice Springs 48.35 191 P P 23 37 48.1 +1.9
GSI Gunungsitoli 49.23 249 P P 23 37 53.4 +0.3
MKAR Makanchi Array 52.71 311 P P 23 38 18.2 -0.7
comp=Z,1.8nm,0.6s,baz=85,slow=9.4,SNR=4.5
comp=Z,1.8nm,0.6s
MAKZ Makanchi 52.92 311 P P 23 38 19.8 -0.7
J17K VABM Dome 54.50 28 P P 23 38 34.3 +2.6
J17K IAmb IAmb 23 38 37.3
comp=Z,2.9nm,1.1s
KURK Kurchatov 55.37 316 P P 23 38 36.8 -1.4
KURK IAmb IAmb 23 38 37.4
comp=Z,3.5nm,0.8s
KURBB Kurchatov Arra 55.42 316 P P 23 38 38.0 -0.5
comp=Z,2.5nm,0.5s,baz=95,slow=7.7,SNR=4.1
comp=Z,2.5nm,0.5s
NRIK Noril'sk 55.50 339 P P 23 38 39.0 +0.1
NRIK Noril'sk 55.50 339 P P 23 38 38.5 -0.4
comp=Z,2.8nm,0.6s,baz=115,slow=7.8,SNR=1.6
comp=Z,2.8nm,0.6s
ILAR Eielson Array 60.02 28 P P 23 39 10.0 -0.7
comp=Z,0.7nm,0.8s,baz=273,slow=7.4,SNR=1.0
comp=Z,0.7nm,0.8s
BVAR Borovoye Array 60.50 319 P P 23 39 13.4 -0.8
comp=Z,5.8nm,0.5s,baz=85,slow=6.0,SNR=4.4
comp=Z,5.8nm,0.5s
GAR Garm 61.92 303 P P 23 39 23.8 -0.5
AB31 Akbulak array 67.46 315 P P 23 39 59.2 -0.8
AB31 IAmb IAmb 23 39 59.5
comp=Z,1.8nm,0.6s
ABKAR Akbulak array 67.46 315 P P 23 39 58.8 -1.2
ABKAR Akbulak array 67.46 315 P P 23 39 59.3 -0.8
ABKAR IAmb IAmb 23 39 59.4
comp=Z,1.8nm,0.6s
SPITS Spitsbergen Ar 73.30 350 P P 23 40 36.6 +1.3
comp=Z,2.5nm,0.7s,baz=48,slow=2.1,SNR=1.6
comp=Z,2.5nm,0.7s
YKA Yellowknife Ar 74.44 28 P P 23 40 42.6 +0.4
comp=Z,0.8nm,0.7s,baz=292,slow=5.6,SNR=1.7
comp=Z,0.8nm,0.7s
ARCES ARCESS Array B 76.42 341 P P 23 40 53.8 +0.4
comp=Z,1.5nm,0.6s,baz=76,slow=5.8,SNR=2.0
comp=Z,1.5nm,0.6s
FINES FINESS Array B 80.74 334 P P 23 41 16.8 -0.6
comp=Z,1.2nm,0.3s,baz=66,slow=4.9,SNR=4.0
FINES LR LR 00 19 31.2
comp=Z,66nm,19.6s,baz=52,slow=38
comp=Z,1.2nm,0.3s
AKASG Malin Array Be 85.22 324 P P 23 41 39.5 -1.4
comp=Z,0.7nm,0.5s,baz=54,slow=4.8,SNR=2.2
comp=Z,0.7nm,0.5s
HFS Hagfors 86.26 337 P P 23 41 45.1 -0.7
comp=Z,1.1nm,0.5s,baz=47,slow=2.6,SNR=1.4
HFS LR LR 00 23 21.0
comp=Z,84nm,18.5s,baz=37,slow=38
comp=Z,1.1nm,0.5s
NOA NORSAR Array B 86.46 339 P P 23 41 45.8 -1.0
comp=Z,1.2nm,0.6s,baz=53,slow=4.4,SNR=1.6
comp=Z,1.2nm,0.6s
BRTR Keskin Array B 88.31 313 P P 23 41 54.5 -1.9
comp=Z,0.7nm,0.6s,baz=87,slow=3.9,SNR=1.7
comp=Z,0.7nm,0.6s
FRB Frobisher Bay 88.96 13 LR LR 00 23 51.9
comp=Z,16nm,21.2s,baz=3.0,slow=37

ATH 24 23:34:27.7,39°.02N×21°.81E,h18km±1km,ML1.4/4,
Manual Solution by A.Agalos First location: 2019/04/24 23:35:30, This location: 2019/04/24 23:53:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.11**	**178**	P	Pg	23 34 32.1	+0.6
EVR				S	Sg	23 34 34.2	+0.2
MAKR	**Makrakomi, Fth**	**0.26**	**92**	P	Pb	23 34 34.0	+0.2
MAKR				S	Sb	23 34 37.7	-0.3
AGG	**Agios Georgios**	**0.41**	**90**	P	Pb	23 34 36.6	+0.1
AGG				S	Sg	23 34 42.1	+0.3
ANX	**Ano Chora**	**0.44**	**168**	P	Pb	23 34 36.9	-0.1
ANX				S	Sb	23 34 43.1	-0.2
PVO	**Paravola**	**0.46**	**208**	P	Pg	23 34 36.9	-0.1
PVO				S	Sb	23 34 43.8	0.0
TETR	**Tetrakomo, Epi**	**0.52**	**308**	P	Pg	23 34 37.5	-0.7
THL	**Klokotos Trika**	**0.56**	**17**	P	Pb	23 34 39.2	+0.1
EFP	**Efpalio**	**0.60**	**172**	P	Pb	23 34 40.1	+0.4
EFP				S	Sb	23 34 48.2	+0.3
SERG	**Sergoula**	**0.64**	**162**	P	Pb	23 34 40.5	+0.1
SERG				S	Sb	23 34 49.5	+0.4
AXAR	**Agios Charalam**	**0.71**	**111**	P	Pg	23 34 42.0	+0.3
AXAR				S	Sg	23 34 51.9	+0.7
TYRN	**Tyrnavos**	**0.76**	**26**	P	Pb	23 34 42.4	-0.1
NYDR	**Nydri-Lefkada**	**0.92**	**251**	P	Pb	23 34 45.1	+0.1
LKD2	**Lefkada island**	**0.93**	**256**	P	Pb	23 34 45.4	+0.2
KLV	**Kalavryta, Ach**	**1.01**	**164**	P	Pn	23 34 47.1	0.0
DRO	**Drossia**	**1.07**	**184**	P	Pb	23 34 47.7	0.0

*AFAD **24** 23:34:36.6,38°.16N×31°.10E,h5km±1km,ML1.6*
ISK 24 23:34:36.4,38°.12N×31°.06E,h10km,ML1.8/7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YVAC	**Isparta, Yalva**	**0.20**	**44**	P	Pg	23 34 40.2	-0.6
YVAC				S	Sg	23 34 42.5	-1.3
YVAC				*i* AML	AML	23 34 44.0
comp=N,199nm,0.2s							
BAGO	**Egridir - ISPA**	**0.25**	**238**	P	Pb	23 34 42.7	-0.4
AFYN	**Afyon-Dinar-K**	**0.46**	**289**	P	Pb	23 34 46.4	-0.3
AFYN				P	Pb	23 34 46.4	-0.3
AFYN				S	Sb	23 34 53.7	0.0
AFYN				*i* AML	AML	23 34 55.0
comp=N,62nm,0.6s							
DOGA	**KONYA_Doganhis**	**0.48**	**92**	P	Pg	23 34 46.1	+0.3
ISP	**Isparta**	**0.52**	**235**	Pg	Pb	23 34 47.5	-0.2
UCKU	**Afyonkarahisar**	**0.59**	**29**	P	Pg	23 34 46.8	-1.0
UCKU				S	Sg	23 34 55.0	-0.5
SHUT	**Suhut-Afyon**	**0.59**	**317**	Pg	Pg	23 34 47.9	+0.1
SHUT				Sg	Sb	23 34 57.0	-0.2
KURO	**Afyon-Bolvadin**	**0.62**	**351**	P	Pg	23 34 47.1	-1.3
KZIL	**AFYON_Kizioren**	**0.74**	**281**	P	Pg	23 34 50.7	+0.1
KZIL				S	Sb	23 35 02.6	+1.1
KZIL				*i* AML	AML	23 35 09.0
comp=E,18nm,0.7s							
BASM	**Basmaki-Afyon**	**0.82**	**256**	Pg	Pb	23 34 52.9	+0.1
BYAT	**Afyon-Bayat**	**0.82**	**356**	P	Pg	23 34 51.3	-1.1
SEDI	**Konya, Seydise**	**0.87**	**140**	P	Pb	23 34 53.6	0.0
SEDI				S	Sb	23 35 06.0	+0.6
SEDI				*i* AML	AML	23 35 12.0
comp=N,21nm,0.4s							
KDHN	**Kadinhani**	**0.92**	**64**	P	Pg	23 34 53.6	-0.6
SEYD	**Seydisehir-KON**	**0.94**	**139**	Pg	Pb	23 34 55.1	+0.2
SEYD				Sg	Sb	23 35 08.3	+0.8
KIZT	**Kizilcal**	**0.99**	**40**	Pg	Pg	23 34 54.3	-1.2
CTIK	**Konya-Celtik**	**1.01**	**26**	P	Pg	23 34 54.1	-1.8
KONT	**Konya--Tatoy**	**1.04**	**99**	Pg	Pn	23 34 57.1	0.0
KONT	**Konya--Tatoy**	**1.04**	**99**	P	Pn	23 34 56.9	-0.2
BNAZ	**Uak-Banaz**	**1.08**	**301**	P	Pn	23 34 57.8	+0.1
CIFT	**Cifteler, Eski**	**1.24**	**0**	Pn	Pn	23 34 59.3	-0.5
PASA	**Karahalli, USA**	**1.26**	**281**	P	Pg	23 35 01.4	+0.8
KEPZ	**Antalya-Kepez**	**1.29**	**160**	P	Pg	23 35 02.3	+1.1
SVRH	**Sivrihisar-ESK**	**1.37**	**15**	Pn	Pb	23 35 02.2	0.0
SGAZ	**Eskisehir, Sey**	**1.41**	**353**	P	Pb	23 35 03.2	+0.3
CBEY	**Konya-Cihanbey**	**1.47**	**67**	P	Pg	23 35 04.8	+0.2
CBEY				S	Sg	23 35 23.8	+0.2
CBEY				*i* AML	AML	23 35 29.0
comp=E,16nm,0.5s							

PRU 24 23:34:49.6,50°.20N×18°.98E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.53**	**88**	*e*Pg	Pg	23 34 59.0	-0.7
OJC				*e*Sg	Sg	23 35 07.4	+1.0
STEB	**Steborice**	**0.82**	**252**	*e*SG	Sg	23 35 16.8	+0.8
MORC	**Moravsky Berou**	**1.02**	**246**	*e*PG	Pg	23 35 09.1	0.0
MORC				*e*SG	Sg	23 35 22.3	0.0
LANS	**Liptovska Anna**	**1.10**	**163**	*e*PG	Pg	23 35 10.5	-0.1
LANS				*e*SG	Sb	23 35 25.8	-0.5
LANS				*e*LG	Lg	23 35 29.1
NIE	**Niedzica**	**1.16**	**132**	*e*Pg	Pg	23 35 11.9	+0.2
NIE				*e*Sg	Sn	23 35 29.2	-0.5
KRLC	**Kraliky**	**1.42**	**266**	*e*PG	Pn	23 35 15.2	-1.5
KRLC				*e*SG	Sg	23 35 33.8	-1.4
comp=Z,3.5nm,0.5s							
VYHS	**Vyhne**	**1.71**	**183**	*e*PN	Pn	23 35 19.5	-1.2
VYHS				*e*SN	Sn	23 35 42.2	-1.0
DPC	**Dobruska-Polom**	**1.71**	**276**	*e*SG	Sb	23 35 44.1	+0.1
VRAC	**Vranov**	**1.79**	**241**	*e*PN	Pn	23 35 22.0	+0.3
VRAC				*e*SG	Sn	23 35 45.5	+0.4
OSTC	**Ostas**	**1.81**	**282**	*e*SG	Sb	23 35 47.1	+0.4

IDC 24 23:52:42.7±2.3,9°.56S×123°.17E,h0km,mb3.6/1,
mbtmp3.3/3,ML3.1/2,MS3.4/1,Error ellipse:
s-maj=271.2km s-min=32.6km az=54.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.93**	**135**	Pn	Pn	23 56 13.8	-1.4
WRA				Sn	Sn	23 58 47.3	-14
0.1nm,0.3s,baz=310,slow=13,SNR=1.1							
0.4nm,0.3s,baz=313,slow=24,SNR=5.5							
0.1nm,0.3s							
ASAR	**Alice Springs**	**17.38**	**145**	P	P	23 56 47.8	-0.5
0.2nm,0.3s,baz=322,slow=12,SNR=10							
ASAR				S	Sn	23 59 48.5	-13
0.7nm,0.7s,baz=318,slow=22,SNR=5.8							
0.5nm,0.6s							
TGY	**Tagaytay City**	**23.61**	**355**	LR	LR	00 06 04.6	
comp=Z,93nm,21.8s,baz=208,slow=34							
MKAR	**Makanchi Array**	**66.89**	**331**	P	P	00 03 36.8	0.0
0.3nm,0.5s,baz=135,slow=7.8,SNR=5.6							
0.3nm,0.5s							

KRSC 25 00:37:02.1±1.3,50°.17N×157°.63E,h50km±25km,Ml3.6,
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.09**	**299**	*e*P	Pn	00 37 21.9	+0.9
SKR				*e*S	Sn	00 37 35.6	+0.6
PAU	**Pauzhetka**	**1.40**	**339**	*e*P	Pn	00 37 27.6	+2.4
PAU				*e*S	Sn	00 37 45.4	+2.9
KDTR	**Khodutka, Kamc**	**1.67**	**10**	*e*P	Pn	00 37 31.3	+2.4
KDTR				*e*S	Sn	00 37 51.5	+2.5
RUS	**Russkaya**	**2.33**	**13**	*e*P	Pn	00 37 40.4	+2.4
RUS				*e*S	Sn	00 38 07.1	+1.7
MTVR	**Mutnovka**	**2.34**	**8**	*e*P	Pn	00 37 41.3	+3.0
MTVR				*e*S	Sn	00 38 08.6	+2.8
GRL	**Gorelyy**	**2.40**	**7**	*e*P	Pn	00 37 42.3	+3.2
GRL				*e*S	Sn	00 38 10.3	+3.0
KRMR	**Karymshinskiy**	**2.68**	**7**	*e*S	Sn	00 38 18.5	+4.5
UGLR	**Uglovaya**	**3.13**	**13**	*e*P	Pn	00 37 52.9	+3.8
AVH	**Avacha**	**3.18**	**12**	*e*P	Pn	00 37 53.7	+4.1
AVH				*e*S	Sn	00 38 30.4	+4.1
KOK	**Koryaka**	**3.19**	**11**	*e*P	Pn	00 37 54.0	+4.2
SDLR	**Sedlovina**	**3.21**	**14**	*e*P	Pn	00 37 53.1	+3.0
KRX	**Arik**	**3.26**	**11**	*e*P	Pn	00 37 54.6	+3.9
KRX				*e*S	Sn	00 38 31.7	+3.3
MKZ	**Mys Kozlova**	**5.06**	**28**	*e*P	Pn	00 38 17.6	+2.2

*IDC **25** 00:55:33.9±1.4,10°.02N×127°.04E,h0km,mb3.7/7,*
mbtmp3.7/7,Error ellipse: s-maj=54.8km s-min=29.4km az=73.0
ISC 25 00:55:39.6±1.2,10°.0N±0°.2×127°.0E±0°.3,h41km,n7,
σ0°.77/7,mb3.7/7,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**28.46**	**290**	P	P	**01 01 30.8**	**-0.2**
0.4nm,0.3s,baz=124,slow=12,SNR=1.4							
0.4nm,0.3s							
ASAR	**Alice Springs**	**34.13**	**169**	P	P	**01 02 20.7**	**-0.1**
0.1nm,0.3s,baz=348,slow=8.5,SNR=1.8							
0.1nm,0.3s							
KLR	**Kul'dur**	**39.30**	**5**	P	P	**01 03 04.0**	**-0.6**
0.9nm,0.6s,baz=214,slow=7.3,SNR=2.3							
0.9nm,0.6s							
MKAR	**Makanchi Array**	**52.70**	**323**	P	P	**01 04 50.2**	**0.0**
0.3nm,0.7s,baz=122,slow=6.5,SNR=4.0							
0.3nm,0.7s							
ZALV	**Zalesovo Beam**	**55.22**	**331**	P	P	**01 05 08.2**	**-0.2**
0.3nm,0.3s,baz=113,slow=3.7,SNR=2.5							
0.3nm,0.3s							
ARCES	**ARCESS Array B**	**84.70**	**340**	P	P	**01 08 10.4**	**+1.4**
1.4nm,0.8s,baz=72,slow=4.4,SNR=4.6							
1.4nm,0.8s							
FINES	**FINESS Array B**	**86.48**	**332**	P	P	**01 08 18.1**	**+0.2**
0.5nm,0.5s,baz=69,slow=6.3,SNR=6.8							
0.5nm,0.5s							

*IDC **25** 01:24:56.7±1.3,8°.15S×117°.61E,h0km,mb3.7/5,*
mbtmp3.7/8,ML3.4/3,Error ellipse: s-maj=51.1km s-min=19.7km az=54.0
*DJA **25** 01:24:59.4±0.2,8°.S±3°.×11°.8E±°,h10km,M4.1/14,mb4.4/7,MLv4.0/14*
ISC 25 01:25:01.1±0.8,8°.22S±0°.06×117°.72E±0°.05,h35km,n23,
σ1°.56/25,mb4.0/5,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.61**	**175**	P	**Pn**	**01 25 13.8**	**+0.6**
TWSI	**Taliwang, Sumb**	**0.97**	**238**	P	**Pn**	**01 25 18.7**	**+0.4**
WBSI	**Waikabubak, Su**	**2.17**	**131**	P	**Pn**	**01 25 37.1**	**+2.3**
SRBI	**Singaraja**	**2.48**	**273**	P	**Pn**	**01 25 39.5**	**+0.5**
BSSI	**Bau Bau, Buton**	**3.44**	**53**	P	**Pn**	**01 25 52.2**	**0.0**
ABJI	**Asem Bagus**	**3.48**	**277**	P	**Pn**	**01 25 53.4**	**+0.7**
JAGI	**Jajag, Banyuwa**	**3.54**	**266**	P	**Pn**	**01 25 53.7**	**+0.1**
KAPI	**Kappang**	**3.77**	**32**	Pn	**Pn**	**01 25 56.2**	**-0.6**
11nm,0.3s,baz=202,slow=5.7,SNR=47							
KAPI				Sn	**Sn**	**01 26 38.4**	**-1.5**
19nm,0.3s,baz=203,slow=22,SNR=27							
36nm,0.2s							
KMMI	**Kalianget**	**3.90**	**287**	P	**Pn**	**01 25 59.6**	**+1.1**
EDFI	**Ende, Flores**	**3.96**	**98**	P	**Pn**	**01 26 00.8**	**+1.3**
GMJI	**Gumukmas**	**4.23**	**269**	P	**Pn**	**01 26 03.9**	**+0.8**
BNSI	**Bone**	**4.48**	**32**	P	**Pn**	**01 26 06.6**	**+0.1**
SPSI	**Sidrap Palu**	**4.69**	**26**	P	**Pn**	**01 26 08.8**	**-0.7**
GRJI	**Gresik**	**5.35**	**284**	P	**Pn**	**01 26 19.5**	**+1.0**
PCJI	**Pacitan**	**6.47**	**270**	P	**Pn**	**01 26 34.8**	**+0.9**
73nm,1.6s							
FITZ	**Fitzroy Crossi**	**12.48**	**143**	Pn	**Pn**	**01 27 56.9**	**+0.6**
0.2nm,0.3s,baz=314,slow=12,SNR=1.6							
FITZ				Sn	**Sn**	**01 30 08.3**	**-5.8**
0.1nm,0.3s,baz=244,slow=22,SNR=1.7							
2.4nm,1.0s							
FAKI	**Fak Fak**	**15.39**	**71**	P	**Pn**	**01 28 36.8**	**+1.1**
27nm,1.6s							
WRA	**Warramunga Arr**	**19.87**	**128**	P	**Pn**	**01 29 31.2**	**+0.1**
0.1nm,0.3s,baz=300,slow=12,SNR=1.9							
0.4nm,0.6s							
ASAR	**Alice Springs**	**21.83**	**137**	P	**P**	**01 29 52.3**	**+1.7**
0.9nm,0.6s,baz=308,slow=10.0,SNR=8.6							
0.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**32.34**	**325**	P	**P**	**01 31 27.1**	**-0.2**
0.8nm,0.3s,baz=148,slow=7.6,SNR=2.0							
0.8nm,0.3s							
SONM	**Songino Array**	**56.70**	**351**	P	**P**	**01 34 41.1**	**-0.2**
1.1nm,0.8s,baz=161,slow=8.9,SNR=5.8							
1.1nm,0.8s							
MKAR	**Makanchi Array**	**63.20**	**333**	P	**P**	**01 35 26.3**	**+0.6**
0.8nm,0.7s,baz=146,slow=8.2,SNR=7.6							
0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**67.72**	**334**	P	**P**	**01 35 54.8**	**0.0**
0.2nm,0.6s,baz=141,slow=4.9,SNR=2.7							
0.2nm,0.6s							

*IDC **25** 01:30:17.2±2.2,18°.43S×178°.21W,h552km±23km,mb3.1/5,*
mbtmp3.9/6,Error ellipse: s-maj=36.5km s-min=28.3km az=8.0
ISC 25 01:30:17.0±1.3,18°.4S±0°.3×178°.2W±0°.2,h550km,n6,
σ0°.70/6,mb3.4/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.61**	**280**	P	**P**	**01 31 36.7**	**+0.5**
8.5nm,0.5s,baz=114,slow=12,SNR=6.2							
JAY	**Jayapura**	**43.22**	**287**	P	**P**	**01 37 29.8**	**-0.5**
16nm,0.9s,baz=243,slow=9.0,SNR=4.0							
16nm,0.9s							
WRA	**Warramunga Arr**	**44.72**	**260**	P	**P**	**01 37 41.3**	**-0.6**
0.5nm,0.4s,baz=97,slow=7.1,SNR=6.8							
0.5nm,0.4s							
ASAR	**Alice Springs**	**44.83**	**255**	P	**P**	**01 37 43.4**	**+0.7**
1.8nm,0.5s,baz=88,slow=8.9,SNR=28							
1.8nm,0.5s							
QSPA	**South Pole Qui**	**71.66**	**180**	P	**P**	**01 40 42.9**	**-0.2**
0.3nm,0.3s,baz=82,slow=9.3,SNR=5.9							
0.3nm,0.3s							
PDAR	**Pinedale Array**	**87.59**	**43**	P	**P**	**01 42 07.3**	**+0.1**
0.1nm,0.5s,baz=253,slow=7.2,SNR=1.7							
0.1nm,0.5s							

*DJA **25** 01:34:05.8±0.6,3°.N±5°.×12°.8E±°,h10km,M4.8/17,*
mb4.8/17,mB5.3/6,MLv4.8/14,Mw(mB)4.7/6
*NEIC **25** 01:34:08.9±1.5,3°.20N±0°.08×128°.34E±0°.09,h31km±5km,*
mb4.7/33,Error ellipse: s-maj=13.3km s-min=10.8km az=59.0
*IDC **25** 01:34:09.3±1.5,3°.05N×128°.22E,h49km±13km,mb4.0/20,*
mbtmp4.3/23,ML4.4/3,MS3.6/19,Error ellipse:
s-maj=19.7km s-min=8.8km az=71.0
ISC 25 01:34:08.7±0.4,3°.12N±0°.05×128°.30E±0°.06,h35km,n131,
σ1°.82/121,mb4.7/45,MS3.6/17,1C-1D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.52**	**202**		**Pn**	**01 34 48.9**	**+1.9**
TNTI	**Ternate**	**2.52**	**202**	P	**Pn**	**01 34 50.2**	**+3.1**
TNTI	**Ternate**	**2.52**	**202**	P	**Pn**	**01 34 48.4**	**+1.3**
SGSI	**Sangihe**	**2.82**	**281**	P	**Pn**	**01 34 50.5**	**-0.8**
DAV	**Davao City (W)**	**4.76**	**325**	P	**Pn**	**01 35 19.2**	**+1.1**
59nm,0.3s,baz=275,slow=22,SNR=1.4							
DAV				S	**Sn**	**01 36 13.1**	**+1.0**
198nm,0.3s,baz=44,slow=19,SNR=1.7							
230nm,0.4s							
SWI	**Sorong**	**4.94**	**143**	P	**Pn**	**01 35 22.7**	**+2.2**
2μm88nm,0.9s							
KMSI	**Cibinong**	**5.00**	**240**	P	**Pn**	**01 35 22.8**	**+1.5**
SANI	**Sanana**	**5.63**	**204**	P	**Pn**	**01 35 32.1**	**+2.1**
SANI	**Sanana**	**5.63**	**204**	P	**Pn**	**01 35 31.2**	**+1.2**
0.3nm920nm74nm,1.0s							
NLAI	**Namlea**	**6.43**	**191**	P	**Pn**	**01 35 45.3**	**+4.3**
0.4nm129nm,1.1s							
LUWI	**Luwuk**	**6.90**	**233**		**Pn**	**01 35 49.4**	**+2.0**
LUWI					**Sn**	**01 37 10.4**	**+5.6**
FAKI	**Fak Fak**	**7.18**	**147**		**Pn**	**01 35 52.2**	**+0.9**
FAKI	**Fak Fak**	**7.18**	**147**	P	**Pn**	**01 35 53.2**	**+1.9**
APSI	**Ampana**	**7.76**	**239**	P	**Pn**	**01 35 59.9**	**+0.7**
TOLI2	**Tolitoli**	**7.77**	**255**		**Pn**	**01 35 59.9**	**+0.4**
TOLI2	**Tolitoli**	**7.77**	**255**	P	**Pn**	**01 35 59.8**	**+0.4**
MPSI	**Mapaga**	**8.84**	**252**	P	**Pn**	**01 36 15.0**	**+1.0**
70nm,1.0s							
MYLDM	**Lahad Datu**	**9.98**	**282**		**Pn**	**01 36 31.2**	**+1.5**
SPSI	**Sidrap Palu**	**11.06**	**231**	P	**Pn**	**01 36 44.3**	**-0.1**
5μm39nm,0.8s							
BNSI	**Bone**	**11.09**	**228**	P	**Pn**	**01 36 44.9**	**+0.1**
33nm,0.6s							
KAPI	**Kappang**	**11.76**	**227**	P	**Pn**	**01 36 53.1**	**-1.0**
2.3nm,0.3s,baz=41,slow=9.9,SNR=4.7							
KAPI				S	**Sn**	**01 38 57.7**	**-6.5**
6.9nm,0.4s,baz=214,slow=20,SNR=4.0							
5.9nm,0.6s							
GENI	**Genyem**	**13.15**	**115**	P	P	01 37 27.9	+5.2
SOEI	**Soe**	**13.41**	**197**	Pn	**Pn**	**01 37 19.4**	**+2.7**
SOEI	**Soe**	**13.41**	**197**	P	**Pn**	**01 37 17.6**	**+0.9**
46nm,1.1s							
JAY	**Jayapura**	**13.61**	**114**	P	**Pn**	**01 37 20.4**	**+1.0**
0.6nm,0.3s,baz=338,slow=22,SNR=2.0							
JAY				S	**Sn**	**01 39 53.3**	**+3.9**
8.5nm,0.6s,baz=259,slow=16,SNR=2.1							
JAY				LR	LR	01 42 22.1	
comp=Z,233nm,18.6s,baz=258,slow=36							
4.8nm,0.4s							
PLAI	**Plampang**	**15.84**	**221**	P	**P**	**01 37 51.9**	**-0.7**
69nm,1.1s							
SBUM	**Sibu**	**16.07**	**268**		**P**	**01 37 54.4**	**-0.8**
STKI	**Sintang**	**17.09**	**260**	P	**P**	**01 38 08.2**	**+1.8**
JAGI	**Jajag, Banyuwa**	**18.21**	**231**	P	**Pn**	**01 38 19.8**	**+0.9**
JAGI				IAmb	IAmb	01 38 24.8
comp=Z,55nm,1.0s							
JAGI	**Jajag, Banyuwa**	**18.21**	**231**	P	**Pn**	**01 38 20.7**	**+1.8**
comp=Z,56nm,1.4s							
KNRA	**Kununurra**	**18.69**	**179**	P	**P**	**01 38 24.7**	**+0.7**
GUMO	**Guam**	**19.39**	**57**	LR	LR	01 44 58.7
comp=Z,115nm,20.3s,baz=94,slow=33							
FITZ	**Fitzroy Crossi**	**21.25**	**187**	P	**P**	**01 38 50.3**	**-1.6**
comp=Z,2.6nm,0.8s,baz=5.8,slow=8.1,SNR=7.5							
FITZ				LR	LR	01 47 54.1
comp=Z,167nm,18.8s,baz=26,slow=39							
comp=Z,2.6nm,0.8s							
TPUB	**Ta-pu**	**21.39**	**340**		**P**	**01 38 51.7**	**-1.7**
TPUB				IAmb	IAmb	01 39 11.2
comp=Z,29nm,0.9s							
TPI	**Tanjungpandan**	**21.45**	**254**	P	**P**	**01 38 52.3**	**-1.8**
comp=Z,29nm,0.8s							
PMG	**Port Moresby**	**22.54**	**124**	LR	LR	01 47 49.1
comp=Z,166nm,21.5s,baz=312,slow=36							
PPBI	**Pangkal Pinang**	**22.77**	**257**	P	**P**	**01 39 14.8**	**+6.5**
WB0	**Warramunga Arr**	**23.52**	**165**		**P**	**01 39 15.3**	**-0.5**
WB0				IAmb	IAmb	01 39 16.7
comp=Z,28nm,1.0s							
WRA	**Warramunga Arr**	**23.68**	**166**	P	**P**	**01 39 16.5**	**-0.8**
WRA	**Warramunga Arr**	**23.68**	**166**	P

comp=Z,20nm,1.0s
FORT Forrest 33.71 180 P **P** **01 40 45.5 -1.2**
HNR Honiara 33.91 112 LR LR 01 55 34.2
comp=Z,24nm,18.3s,baz=246,slow=38
PZH PanZhiHua 34.47 315 P **P** **01 40 56.1 +2.5**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.9s
MJAR Matsushiro Arr 34.49 14 P **P** **01 40 52.5 -0.9**
comp=Z,1.8nm,0.5s,baz=187,slow=9.6,SNR=5.6
comp=Z,1.8nm,0.5s
LCRK Leigh Creek 34.70 165 P **P** **01 40 55.1 -0.2**
XAN Xi'an 35.67 332 ⇓P **P** **01 41 02.6 -1.1**
XAN pP pP 01 41 09.3 -3.6
XAN sP pwP 01 41 13.3 -3.9
XAN pmax pmax
comp=Z,19nm,1.0s
BBOO Buckleboo 36.49 169 P **P** **01 41 09.7 -0.9**
STKA Stephens Creek 37.03 161 **P** **01 41 15.1 -0.1**
STKA Stephens Creek 37.03 161 **P** **01 41 14.1 -1.2**
comp=Z,3.6nm,0.4s,baz=339,slow=8.7,SNR=4.3
STKA PcP **PcP** **01 43 37.3 +1.6**
comp=Z,1.9nm,0.6s,baz=359,slow=4.1,SNR=3.8
STKA LR LR 01 59 18.5
comp=Z,83nm,18.1s,baz=9.7,slow=41
comp=Z,3.6nm,0.4s
STKA Stephens Creek 37.03 161 P **P** **01 41 14.5 -0.8**
HTT Hallett 37.72 165 P **P** **01 41 21.3 +0.2**
LZH Lanzhou 39.83 328 *e*P **P** **01 41 40.1 +1.2**
LZH pP pP 01 41 46.9 -1.3
LZH pmax pmax
comp=Z,31nm,1.9s
HHC Hu-ho-hao-te 40.48 340 *e*P **P** **01 41 47.3 +3.1**
HHC pmax pmax
comp=Z,14nm,0.8s
H11S3 WAKE ISLAND Hy 40.55 65 T T 02 25 06.8
baz=252,slow=75,SNR=26
H11S2 WAKE ISLAND Hy 40.57 65 T T 02 25 03.4
baz=252,slow=75,SNR=24
H11S1 WAKE ISLAND Hy 40.57 65 T T 02 25 11.4
baz=252,slow=75,SNR=11
H11N1 WAKE ISLAND Hy 41.11 63 T T 02 25 45.7
baz=250,slow=75,SNR=14
H11N2 WAKE ISLAND Hy 41.12 63 T T 02 25 46.6
baz=250,slow=75,SNR=7.4
H11N3 WAKE ISLAND Hy 41.13 63 T T 02 25 46.1
baz=250,slow=75,SNR=11
SHL Shillong 41.50 306 **P** **01 41 52.8 -0.1**
SHL IAmb IAmb 01 41 57.1
comp=Z,14nm,0.7s
LSA Lhasa 44.02 311 P **P** **01 42 15.4 +1.8**
LSA pmax pmax
comp=Z,11nm,1.1s
GTA Gaotai 44.43 328 P **P** **01 42 17.6 +1.2**
GTA pP pwP 01 42 30.1 +0.1
GTA pmax pmax
comp=Z,5.0nm,0.7s
DZM Mont Dzumac 44.91 126 *e*LR LR 01 54 59.0
comp=Z,87nm,25.7s
SONM Songino Array 48.38 340 P **P** **01 42 46.7 -0.6**
comp=Z,0.7nm,0.6s,baz=162,slow=7.1,SNR=4.8
comp=Z,0.7nm,0.6s
WMQ Urumqi 54.12 324 *e*P P 01 43 38.3 +8.0
WMQ pmax pmax
comp=Z,50nm,0.7s
PETK Petropavlovsk- 55.41 21 P **P** **01 43 39.7 +0.3**
comp=Z,3.9nm,0.8s,baz=180,slow=5.1,SNR=7.2
comp=Z,3.9nm,0.8s
MKAR Makanchi Array 58.95 325 **P** **01 44 04.6 0.0**
MKAR Makanchi Array 58.95 325 P **P** **01 44 04.3 -0.2**
comp=Z,3.6nm,0.4s,baz=112,slow=8.3,SNR=27
MKAR ScP **ScP** **01 48 49.2 -2.4**
comp=Z,0.3nm,0.7s,baz=130,slow=6.3,SNR=2.7
MKAR LR LR 02 11 12.8
comp=Z,42nm,18.4s,baz=158,slow=38
comp=Z,3.6nm,0.4s
MAKZ Makanchi 59.14 325 **P** **01 44 06.0 +0.1**
MAKZ IAmb IAmb 01 44 11.1
comp=Z,6.9nm,0.8s
KSH Kashi 59.58 315 P **P** **01 44 12.4 +3.2**
KSH pP pwP 01 44 23.8 +0.2
KSH sP sP 01 44 29.8 +7.5
KSH pmax pmax
comp=Z,9.0nm,1.1s
URZ Urewera 61.03 137 LR LR 02 11 03.8
comp=Z,127nm,19.3s,baz=37,slow=36
ZALV Zalesovo Beam 61.84 333 P **P** **01 44 22.8 -1.4**
comp=Z,0.5nm,0.4s,baz=101,slow=7.5,SNR=4.4
ZALV LR LR 02 13 27.2
comp=Z,37nm,18.9s,baz=139,slow=38
comp=Z,0.5nm,0.4s
AAK Ala-Archa 61.86 318 LR LR 02 13 00.9
comp=Z,76nm,18.6s,baz=117,slow=38
KURBB Kurchatov Arra 63.09 327 P **P** **01 44 31.7 -0.9**
comp=Z,3.9nm,0.7s,baz=127,slow=6.3,SNR=25
KURBB LR LR 02 13 23.6
comp=Z,54nm,18.8s,baz=172,slow=37
comp=Z,3.9nm,0.7s
KURK Kurchatov 63.09 327 **P** **01 44 31.7 -0.9**
GAR Garm 63.48 312 **P** **01 44 35.4 -0.2**
KK31 Karatay Array 64.74 317 **P** **01 44 42.9 -0.7**
KK31 IAmb IAmb 01 44 57.5
comp=Z,5.9nm,0.9s
KKAR Karatay Array 64.74 317 **P** **01 44 42.5 -1.1**
KKAR Karatay Array 64.74 317 **P** **01 44 43.1 -0.6**
KKAR IAmb IAmb 01 44 57.5
comp=Z,6.2nm,0.9s
TIXI Tiksi 68.43 0 LR LR 02 17 37.5
comp=Z,17nm,19.3s,baz=12,slow=38
BVAR Borovoye Array 68.68 327 P **P** **01 45 07.1 -1.4**
comp=Z,2.5nm,0.7s,baz=131,slow=6.1,SNR=17
comp=Z,2.5nm,0.7s
BRVK Borovoye 68.75 327 **P** **01 45 08.5 -0.5**
NRIK Noril'sk 71.39 346 P **P** **01 45 23.9 -0.9**
comp=Z,1.6nm,0.5s,baz=128,slow=6.8,SNR=4.2
NRIK LR LR 02 20 51.5
comp=Z,24nm,19.5s,baz=163,slow=39
comp=Z,1.6nm,0.5s
AB31 Akbulak array 73.61 321 P **P** **01 45 38.5 +0.1**
ABKAR Akbulak array 73.61 321 **P** **01 45 37.9 -0.6**
ABKAR Akbulak array 73.61 321 **P** **01 45 37.5 -1.0**
AKTO Aktyubinsk 75.11 321 LR LR 02 22 08.7
comp=Z,49nm,18.8s,baz=72,slow=38
E18K Tukpahlearik C 79.93 22 **P** **01 46 14.3 +0.5**
D19K Kuna River 81.12 21 P **P** **01 46 20.2 +0.1**
D19K IAmb IAmb 01 46 38.6
comp=Z,7.0nm,1.1s
KIRV Kirov 81.55 329 LR LR 02 26 12.4
comp=Z,43nm,18.2s,baz=114,slow=38
D20K Etivluk River 81.71 21 **P** **01 46 23.7 +0.4**
D20K IAmb IAmb 01 46 41.1
comp=Z,8.3nm,1.1s
RAYN Ar Rayn 82.16 293 **P** **01 46 25.6 -1.0**
VNDA Vanda 82.64 173 P **P** **01 46 26.9 -1.0**
comp=Z,2.2nm,0.7s,baz=315,slow=8.2,SNR=7.8
comp=Z,2.2nm,0.7s
PPT2 Papeete2 83.44 108 *e*LR LR 02 12 45.9
comp=Z,57nm,26.8s
COLD Coldfoot 83.84 23 P **P** **01 46 34.9 +0.5**
G23K Bananza Creek 83.85 23 **P** **01 46 35.6 +1.1**
D23K Nanushuk River 83.87 21 P **P** **01 46 34.5 0.0**
I23K Minto, Yukon-K 83.95 25 P **P** **01 46 34.6 -0.3**
I23K IAmb IAmb 01 46 52.9
comp=Z,6.0nm,1.0s
F24K Squaw Lake 84.76 23 P **P** **01 46 40.6 +1.6**
F24K IAmb IAmb 01 46 53.9
comp=Z,4.5nm,1.1s
G24K Hadweenzic Riv 84.86 23 P **P** **01 46 40.6 +1.1**
G24K IAmb IAmb 01 46 54.1
comp=Z,5.8nm,1.1s
ILAR Eielson Array 84.97 25 P **P** **01 46 39.2 -0.9**
comp=Z,0.2nm,0.4s,baz=238,slow=5.1,SNR=7.7
comp=Z,0.2nm,0.4s
GURO Guroymak-BITLI 85.15 308 P **P** **01 46 41.6 -0.2**
GURO IAmb IAmb 01 46 45.7
comp=Z,8.4nm,1.3s
ARCES ARCESS Array B 91.55 340 P **P** **01 47 09.2 -2.3**
comp=Z,0.6nm,0.6s,baz=76,slow=4.9,SNR=6.2
comp=Z,0.6nm,0.6s
TAOE Nuku Hiva Isla 92.01 99 *e*LR LR 02 16 44.6
comp=Z,52nm,24.4s
QSPA South Pole Qui 93.03 180 P **P** **01 47 18.0 -0.5**
comp=Z,1.1nm,0.7s,baz=301,slow=0.6,SNR=7.1
comp=Z,1.1nm,0.7s
FINES FINESS Array B 93.10 332 P **P** **01 47 17.8 -1.0**
comp=Z,0.4nm,0.5s,baz=35,slow=5.1,SNR=4.1
comp=Z,0.4nm,0.5s
HFS Hagfors 99.28 333 LR LR 02 37 21.2
comp=Z,40nm,18.2s,baz=130,slow=38
YKA Yellowknife Ar 99.39 25 P **Pdif** **01 47 46.5 -0.8**
comp=Z,0.1nm,0.7s,baz=302,slow=5.2,SNR=3.0
comp=Z,0.1nm,0.7s
MODS Modra-Piesok 101.45 321 *e*PDIFF **Pdif** **01 47 57.4 +0.6**
TXAR Lajitas Array 120.72 53 PKP **PKiKP** **01 52 57.8 -0.2**
comp=Z,0.2nm,0.8s,baz=19,slow=4.1,SNR=2.1
TORD Torodi Ar. Bea 124.60 288 PKP **PKPdf** **01 53 04.7 -0.9**
comp=Z,0.8nm,0.7s,baz=67,slow=1.9,SNR=6.6
CO03 El Pedregal 147.11 149 **PKPbc** **01 53 48.0 -0.8**
AC05 El Transito 148.92 147 **PKPab** **01 53 58.0 +0.3**

*OSPL **25** 01:49:25.4±0.3, 18°.95N×70°.25W, h145km±13km, ML1.9*
*SDD **25** 01:49:30.2±1.7, 19°.09N×70°.17W, h81km±13km, MD2.8, ML2.0, MW3.0*
ISC 25 01:49:29.3±2.6, 18°.93N±0°.10×70°.20W±0°.06, h86km±17km, n8, σ1§16/14, 3C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR08	**Loma La Naviza**	**0.17**	**78**	*e*Pg	**Pn**	**01 49 41.5**	**-0.3**
DR08				⇑*e*Sg	**Sn**	**01 49 49.1**	**-1.9**
DR08				IAML		01 49 52.9	
	comp=N,1μm,0.1s						
ABDR	**Alto Bandera**	**0.42**	**254**	*e*Pg	**Pn**	**01 49 43.3**	**-0.1**
ABDR				*e*Sg	**Sn**	**01 49 54.4**	**+0.5**
ABDR				IAML		01 49 56.3	
	comp=N,24nm,0.1s						
BANI	**BANI**	**0.55**	**196**	*e*Pg	**Pn**	**01 49 44.4**	**+0.2**
BANI				*e*Sg	**Sn**	**01 49 56.8**	**+1.6**
BANI				IAML		01 50 01.0	
	comp=N,38nm,0.2s						
SC01	**Santiago de Io**	**0.70**	**315**	*i* P	**Pn**	**01 49 46.1**	**+0.6**
SC01				IAML		01 50 03.5	
	comp=Z,15nm,0.6s						
HATOM	**Hato Mayor del**	**0.79**	**100**	⇑*e*Pg	**Pn**	**01 49 47.4**	**+1.0**
HATOM				⇑*e*Sg	**Sn**	**01 49 58.1**	**-1.0**
HATOM				IAML		01 50 34.6	
	comp=N,8.7nm,2.0s						
SDDR	**Presa de Saban**	**1.03**	**273**	*e*Pg	**Pn**	**01 49 48.5**	**-0.6**
SDDR				*e*Sg	**Sn**	**01 50 04.0**	**+0.1**
SDDR				IAML		01 50 09.8	
	comp=N,10nm,1.0s						
SDDR	**Presa de Saban**	**1.03**	**273**	*i* P	**Pn**	**01 49 48.5**	**-0.6**
SDDR				*e*S	**Sn**	**01 50 05.5**	**+1.6**
SDDR				IAML		01 50 10.5	
	comp=Z,7.6nm,1.2s						
PODR	**Polo**	**1.27**	**234**	*i* P	**Pn**	**01 49 51.1**	**-1.1**

GCG 25 01:54:25.9±1.2, 14°.17N×90°.40W, h136km±17km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.95**	**286**	*e*P	Pn	01 54 51.7	+2.6
STG0				*e*S	Sn	01 55 13.1	+6.5
STG8	**El Palmar, Qui**	**0.96**	**287**	*e*P	Pn	01 54 53.8	+4.5
STG8				*e*S	Sn	01 55 14.7	+7.7
MTO3	**Montecristo**	**1.03**	**77**	*e*P	Pn	01 54 50.5	+0.6
JAYA	**Jayaque - finc**	**1.05**	**119**	*e*P	Pn	01 54 50.0	0.0
JAYA				*e*S	Sn	01 55 08.4	+0.1

*GCG **25** 02:29:57.4±0.5, 15°.02N×92°.13W, h73km±6km, MD3.6*
*MEX **25** 02:29:57.5±0.6, 14°.63N×92°.31W, h79km±9km, MD4.0*
ISC 25 02:29:54.0±1.8, 14°.7N±0°.1×92°.11W±0°.09, h96km±10km, n14, σ1§37/26, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.17**	**10**	*e*P	**Pn**	**02 30 08.2**	**+0.5**
SMCA				*e*S	**Sn**	**02 30 16.8**	**-1.0**
THIG		**0.27**	**325**	*e*P	**Pn**	**02 30 08.2**	**+0.2**
THIG				*e*S	**Sn**	**02 30 16.3**	**-2.0**
RTAL	**Retalhuleu**	**0.43**	**112**	*e*P	**Pn**	**02 30 11.0**	**+2.1**
RTAL				*e*S	**Sn**	**02 30 22.2**	**+2.3**
PATR	**El Naranjo**	**0.45**	**344**	*e*P	**Pn**	**02 30 09.6**	**+0.3**
PATR				*e*S	**Sn**	**02 30 19.8**	**-0.8**
PAVE	**Pavencul**	**0.51**	**352**	*e*P	**Pn**	**02 30 10.7**	**+1.0**
PAVE				*e*S	**Sn**	**02 30 21.8**	**+0.5**
STG8	**El Palmar, Qui**	**0.77**	**108**	*e*P	**Pn**	**02 30 12.1**	**+0.1**
STG8				*i* S	**Sn**	**02 30 24.2**	**-1.2**
STG0	**El Palmar, Qui**	**0.78**	**109**	*e*P	**Pn**	**02 30 12.2**	**+0.2**
STG0				*e*S	**Sn**	**02 30 23.8**	**-1.7**
STG5	**El Palmar, Qui**	**0.79**	**111**	*e*P	**Pn**	**02 30 12.0**	**+0.1**
STG5				*e*S	**Sn**	**02 30 23.6**	**-1.8**
PCIG		**1.48**	**313**	*e*P	**Pn**	**02 30 20.2**	**+0.4**
PCIG				*e*S	**Sn**	**02 30 37.8**	**-1.4**
CCIG	**Comitan**	**1.59**	**359**	*e*P	**Pn**	**02 30 21.1**	**-0.3**
CCIG				*e*S	**Sn**	**02 30 43.3**	**+1.3**
TGIG		**2.30**	**335**	*e*S	**Sn**	**02 30 55.7**	**-2.5**
UXUV	**UXUV**	**3.27**	**323**	*e*P	**Pn**	**02 30 45.1**	**+1.8**
UXUV				*e*S	**Sn**	**02 31 21.2**	**-0.2**
CMIG	**Matias Romero**	**3.59**	**312**	*e*P	**Pn**	**02 30 47.1**	**-0.5**
CMIG				*e*S	**Sn**	**02 31 28.0**	**-1.1**
NEUV	**Arroyo Zacate**	**4.66**	**311**	*e*S	**Sn**	**02 31 56.3**	**+1.4**

*CNRM **25** 02:48:00.8, 35°.59N×3°.64W, h13km, ML2.3*
*MDD **25** 02:48:03.8±0.6, 35°.42N×3°.56W, h18km±5km, mb_Lg2.5/14, Error ellipse: s-maj=5.0km s-min=3.7km az=156.0*
*SFS **25** 02:48:03.7, 35°.44N×3°.54W, h19km, ML3.2/9, ML3.2/9, MLv3.3/9*
ISC 25 02:48:01.5±1.2, 35°.45N±0°.02×3°.58W±0°.02, h17km±10km, n48, σ1§19/71, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38**	**231**	P	**Pb**	**02 48 10.0**	**+0.3**
PALE	**Palemas**	**0.38**	**231**	S	**Sb**	**02 48 15.9**	**+0.6**
GOG	**Mont Gurugu**	**0.53**	**115**	P	**Pn**	**02 48 13.3**	**-1.0**
GOG	**Mont Gurugu**	**0.53**	**115**	S	**Sn**	**02 48 22.4**	**-0.6**
WMELI	**Melilla**	**0.53**	**104**	Sg	**Sb**	**02 48 19.8**	**0.0**
WMELI				Pg	**Pn**	**02 48 13.6**	**-0.6**
EMEL	**Melilla**	**0.53**	**106**	Pg	**Pn**	**02 48 13.6**	**-0.7**
EMEL				Sg	**Sn**	**02 48 20.8**	**-2.0**
EMLI	**Melilla**	**0.54**	**106**	Sg	**Sb**	**02 48 20.7**	**+0.8**
EMLI				Pg	**Pn**	**02 48 13.7**	**-0.7**
AKLM	**AKL**	**0.97**	**194**	P	**Pn**	**02 48 20.6**	**+0.2**
AKLM	**AKL**	**0.97**	**194**	S	**Sn**	**02 48 34.5**	**+0.8**
TAF	**Taforalt**	**1.15**	**123**	P	**Pn**	**02 48 24.3**	**+1.4**
TAF	**Taforalt**	**1.15**	**123**	S	**Sn**	**02 48 41.9**	**+3.7**
ANER	**Nerja**	**1.32**	**351**	Pg	**Pg**	**02 48 27.1**	**+0.1**
ANER				Sg	**Sb**	**02 48 43.1**	**+0.5**
ANER				*i* Vmb_Lg		02 48 46.4	
JBK	**JBK**	**1.39**	**143**	P	**Pg**	**02 48 27.7**	**-0.6**
JBK	**JBK**	**1.39**	**143**	S	**Sg**	**02 48 48.4**	**+1.9**
ELGU	**Los Guajares,**	**1.41**	**359**	Pn	**Pn**	**02 48 26.8**	**+0.3**
ELGU				Sn	**Sn**	**02 48 43.8**	**-1.1**
ELGU	**Los Guajares,**	**1.41**	**359**	Pn	**Pb**	**02 48 27.0**	**-0.5**
ELGU				Sn	**Sn**	**02 48 44.6**	**-0.3**
ELGU				*i* Vmb_Lg		02 48 48.2	
CHEFC	**Chefchaouen**	**1.48**	**257**	P	**Pn**	**02 48 27.0**	**-0.4**
CHEFC	**Chefchaouen**	**1.48**	**257**	S	**Sn**	**02 48 46.8**	**+0.4**
SMIR	**Smir Dam**	**1.49**	**279**	P	**Pn**	**02 48 26.4**	**-1.1**
SMIR	**Smir Dam**	**1.49**	**279**	S	**Sn**	**02 48 46.5**	**+0.1**
EGOR	**Sierra Gorda,**	**1.71**	**346**	Pn	**Pb**	**02 48 32.0**	**-0.5**
EGOR				Sn	**Sn**	**02 48 52.1**	**-0.1**
EGOR				*i* Vmb_Lg		02 49 00.5	
EJIF	**Jimena Fronter**	**1.83**	**304**	Pn	**Pb**	**02 48 33.5**	**-1.0**
EJIF				Sn	**Sn**	**02 48 55.5**	**+0.6**
ENIJ	**Nijar**	**1.88**	**36**	Pn	**Pb**	**02 48 34.0**	**-1.4**
ENIJ				Sn	**Sn**	**02 48 56.1**	**-0.2**
ENIJ	**Nijar**	**1.88**	**36**	Pn	**Pb**	**02 48 34.1**	**-1.3**
ENIJ				Sn	**Sn**	**02 48 56.2**	**0.0**
ENIJ				*i* Vmb_Lg		02 48 60.0	
LCRM	**LCR**	**2.05**	**211**	P	**Pb**	**02 48 38.2**	**-0.2**
LCRM	**LCR**	**2.05**	**211**	S	**Sg**	**02 49 07.5**	**-0.1**
IFR	**Ifrane**	**2.31**	**214**	Pn	**Pn**	**02 48 39.2**	**+0.2**
IFR				Sn	**Sn**	**02 49 07.2**	**0.0**
E0803	**Jimena (Jaen)**	**2.38**	**2**	Pn	**Pn**	**02 48 41.6**	**+1.8**
E0803				Sn	**Sn**	**02 49 09.9**	**+1.2**
EQES	**Quesada**	**2.38**	**10**	Pn	**Pb**	**02 48 43.5**	**-0.6**
EQES				Sn	**Sn**	**02 49 10.1**	**+1.4**
EQES				*i* Vmb_Lg		02 49 15.3	
MD31	**MD31**	**2.76**	**201**	P	**Pn**	**02 48 46.4**	**+1.3**
MD31	**MD31**	**2.76**	**201**	S	**Sb**	**02 49 22.0**	**-1.9**
MDT	**Midelt**	**2.77**	**198**	P	**Pn**	**02 48 46.8**	**+1.7**
MDT	**Midelt**	**2.77**	**198**	S	**Sb**	**02 49 22.6**	**-1.6**
JAND	**Jandula**	**2.78**	**354**	Pn	**Pn**	**02 48 47.2**	**+1.9**
JAND				Sn	**Sn**	**02 49 19.1**	**+0.6**
JAND				*i* Vmb_Lg		02 49 26.3	
EADA	**Adamuz**	**2.83**	**344**	Pn	**Pn**	**02 48 48.2**	**+2.3**
EADA				Sn	**Sn**	**02 49 19.9**	**+0.3**
EADA	**Adamuz**	**2.83**	**344**	Pn	**Pb**	**02 48 48.8**	**-2.7**
EADA				Sn	**Sn**	**02 49 20.6**	**+1.0**
EADA				*i* Vmb_Lg		02 49 26.8	
ECAB	**El Cabril**	**3.01**	**331**	Pn	**Pn**	**02 48 50.4**	**+2.0**
ECAB				Sn	**Sn**	**02 49 24.2**	**+0.2**
ECAB				*i* Vmb_Lg		02 49 37.5	
EMUR	**La Murta**	**3.04**	**38**	Sn	**Sn**	**02 49 23.0**	**-1.8**
EMUR	**La Murta**	**3.04**	**38**	Pn	**Pn**	**02 48 50.3**	**+1.5**
EMUR				Sn	**Sn**	**02 49 24.1**	**-0.7**
EMUR				*i* Vmb_Lg		02 49 36.2	
EMIN	**Mina Concepcio**	**3.40**	**314**	Pn	**Pn**	**02 48 54.4**	**+0.7**
EMIN				Sn	**Sn**	**02 49 33.3**	**-0.3**
EGRO	**El Granado**	**3.77**	**305**	Pn	**Pn**	**02 48 59.5**	**+0.7**
EGRO	**El Granado**	**3.77**	**305**	Pn	**Pb**	**02 48 59.7**	**+0.9**
EGRO				Sn	**Sn**	**02 49 43.6**	**+0.9**
EGRO				*i* Vmb_Lg		02 49 44.5	
PVAQ	**Vaqueiros**	**3.86**	**301**	Pn	**Pn**	**02 49 01.0**	**+0.9**
PVAQ	**Vaqueiros**	**3.86**	**301**	P	**Pn**	**02 48 58.5**	**-1.6**
PVAQ	**Vaqueiros**	**3.86**	**301**	S	**Sn**	**02 49 43.5**	**-1.6**
PBAR	**Barrancos**	**3.88**	**315**	Pn	**Pn**	**02 49 01.3**	**+0.9**
PBAR				Sn	**Sn**	**02 49 45.1**	**-0.6**
EBAD	**Badajoz**	**4.29**	**321**	Pn	**Pn**	**02 49 06.8**	**+0.8**
EBAD				Sn	**Sn**	**02 49 55.3**	**-0.3**
EBAD	**Badajoz**	**4.29**	**321**	Pn	**Pn**	**02 49 07.0**	**+1.0**
EBAD				Sn	**Sn**	**02 49 55.5**	**-0.1**
EBAD				*i* Vmb_Lg		02 50 07.6	

*GII **25** 02:51:41.4±0.0, 35°.45N×25°.88E, h18km, Mws3.8, confirmed*
*IDC **25** 02:51:43.4±0.8, 35°.39N×26°.00E, h0km, mb3.8/8, mbtmp3.7/15, ML3.3/6, MS2.9/1, Error ellipse: s-maj=20.6km s-min=8.2km az=169.0*
*ISK **25** 02:51:44.7, 35°.56N×25°.85E, h8km, ML3.8/21*
*HLW **25** 02:51:45.4, 35°.69N×25°.86E, h21km±15km, Ml3.4*
*ATH **25** 02:51:46.4, 35°.49N×25°.89E, h23km±2km, ML3.7/23, Manual Solution by I.Dede First location: 2019/04/25 02:52:48, This location: 2020/10/14 23:12:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*THE **25** 02:51:46.8, 35°.45N×25°.88E, h18km±2km, ML4.0/8, Error ellipse: s-maj=2.1km s-min=0.6km az=158.0*
*AFAD **25** 02:51:50.0, 35°.61N×25°.98E, h31km, MW3.7*
ISC 25 02:51:45.2±1.1, 35°.47N±0°.02×25°.94E±0°.02, h17km±7km, n158, σ1§71/190, mb3.6/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.42**	**147**	P	**Pn**	**02 51 55.8**	**-0.7**
ZKR				S	**Sb**	**02 52 02.1**	**+1.8**
	28μm,0.3s						
ZKR	**Zakros**	**0.42**	**147**	Pg	**Pn**	**02 51 55.7**	**-0.7**
ZKR				Sg	**Sb**	**02 52 02.2**	**+1.9**
ZKR	**Zakros**	**0.42**	**147**	P	**Pb**	**02 51 55.6**	**+1.4**
IACM	**Heraklion**	**0.73**	**257**	P	**Pb**	**02 51 59.6**	**+0.2**
IACM	**Heraklion**	**0.73**	**257**	P	**Pb**	**02 51 59.8**	**+0.4**
IACM				S	**Sb**	**02 52 09.0**	**0.0**
IDI	**Anoyia**	**0.88**	**258**	P	**Pb**	**02 52 01.8**	**-0.2**
IDI				S	**Sb**	**02 52 12.7**	**-0.6**
	9μm,0.3s						
IDI	**Anoyia**	**0.88**	**258**	Pg	**Pb**	**02 52 01.4**	**-0.6**
IDI				Sg	**Sb**	**02 52 12.8**	**-0.6**
IDI	**Anoyia**	**0.88**	**258**	Pg	**Pb**	**02 52 01.6**	**-0.3**
	246nm,0.3s,baz=57,slow=8.2,SNR=3221						
IDI				Lg	Lg	02 52 12.8	
	509nm,0.3s,baz=324,slow=21,SNR=7.5						
IDI	**Anoyia**	**0.88**	**258**	P	**Pb**	**02 52 01.8**	**-0.2**
IDI				S	**Sb**	**02 52 12.5**	**-0.9**
KARP	**Karpathos**	**1.00**	**85**	P	**Pg**	**02 52 05.6**	**+1.0**
KARP				S	**Sn**	**02 52 19.2**	**+1.0**
	8μm,0.6s						
KARP	**Karpathos**	**1.00**	**85**	Pg	**Pg**	**02 52 05.4**	**+0.8**
KARP	**Karpathos**	**1.00**	**85**	P	**Pg**	**02 52 05.8**	**+1.2**
KARP				S	**Sn**	**02 52 19.4**	**+1.2**
THR9	**Santorini-Faro**	**1.00**	**332**	P	**Pg**	**02 52 04.2**	**-0.4**
THRA	**Thira**	**1.03**	**337**	P	**Pg**	**02 52 05.1**	**0.0**
THRA				S	**Sg**	**02 52 17.8**	**-0.8**
THR3	**Thira Island,**	**1.03**	**335**	P	**Pb**	**02 52 04.5**	**-0.1**
SFIR	**Foira Santorin**	**1.03**	**337**	P	**Pg**	**02 52 05.5**	**+0.2**
SFIR				S	**Sn**	**02 52 19.8**	**+0.8**
	19μm,0.6s						
TMBK	**Timbaki Herakl**	**1.04**	**248**	P	**Pg**	**02 52 05.3**	**-0.1**
TMBK				S	**Sg**	**02 52 18.6**	**-0.4**
TMBK	**Timbaki Herakl**	**1.04**	**248**	P	**Pg**	**02 52 05.2**	**-0.1**
TMBK				S	**Sb**	**02 52 18.0**	**0.0**
SAP3	**Santorini-Thir**	**1.07**	**334**	P	**Pn**	**02 52 05.4**	**-0.1**
SAP3				S	**Sb**	**02 52 18.9**	**-0.1**
CMBO	**Columbo, Santo**	**1.09**	**337**	P	**Pg**	**02 52 06.1**	**-0.2**
CMBO				S	**Sn**	**02 52 20.5**	**+0.3**
	14μm,0.5s						
CMBO	**Columbo, Santo**	**1.09**	**337**	P	**Pb**	**02 52 05.3**	**-0.2**
CMBO				S	**Sb**	**02 52 19.4**	**0.0**
ASTA	**Astypalaia**	**1.12**	**17**	P	**Pb**	**02 52 05.7**	**-0.4**
PRNS	**Prines Rethymn**	**1.18**	**265**	P	**Pb**	**02 52 07.0**	**-0.1**
PRNS				S	**Sg**	**02 52 23.4**	**0.0**
PRNS	**Prines Rethymn**	**1.18**	**265**	P	**Pn**	**02 52 06.8**	**0.0**
NISR	**Nisiros**	**1.49**	**40**	P	**Pn**	**02 52 11.5**	**+0.4**
CHAN	**Chania**	**1.55**	**272**	P	**Pn**	**02 52 11.3**	**-0.6**
CHAN	**Chania**	**1.55**	**272**	P	**Pn**	**02 52 11.3**	**-0.6**
IMMV	**Iera Moni Meta**	**1.60**	**270**	P	**Pn**	**02 52 12.3**	**-0.4**
IMMV	**Iera Moni Meta**	**1.60**	**270**	Pn	**Pn**	**02 52 12.2**	**-0.4**
IMMV				Sn	**Sb**	**02 52 33.5**	**-0.6**
IMMV	**Iera Moni Meta**	**1.60**	**270**	P	**Pn**	**02 52 12.1**	**-0.5**
APE	**Apeiranthos**	**1.63**	**348**	P	**Pn**	**02 52 12.8**	**-0.3**
APE	**Apeiranthos**	**1.63**	**348**	Pn	**Pn**	**02 52 12.7**	**-0.3**
APE	**Apeiranthos**	**1.63**	**348**	P	**Pn**	**02 52 10.1**	**-3.0**
APE	**Apeiranthos**	**1.63**	**348**	P	**Pn**	**02 52 12.6**	**-0.5**
GVD	**Gavdhos**	**1.64**	**248**	P	**Pg**	**02 52 16.0**	**-0.8**
GVD	**Gavdhos**	**1.64**	**248**	Pn	**Pb**	**02 52 14.3**	**-0.7**
GVD				Sn	**Sb**	**02 52 35.8**	**+0.4**
GVD	**Gavdhos**	**1.64**	**248**	P	**Pn**	**02 52 13.9**	**+0.7**
KLNA	**Kalymnos**	**1.70**	**29**	P	**Pn**	**02 52 14.5**	**+0.5**
YAZI	**Mula-Dat§a-**	**1.72**	**45**	P	**Pn**	**02 52 14.3**	**-0.1**
DAT	**Datca**	**1.83**	**46**	Pn	**Pn**	**02 52 16.5**	**+0.6**
KNDR	**Palaiochora Ch**	**1.86**	**263**	Pn	**Pb**	**02 52 17.6**	**-1.0**
KNDR	**Palaiochora Ch**	**1.86**	**263**	P	**Pn**	**02 52 16.8**	**+0.6**
ARG	**Arkhangelos**	**1.93**	**67**	P	**Pb**	**02 52 19.1**	**-0.7**

MET5	Makryloggos,Me	2.99	317	P	Pn	02 52 32.0	+0.2
ESEN	Aydn-Nazilli	3.02	39	P	Pn	02 52 34.5	+2.3
ATHU	Athens Univers	3.03	326	P	Pn	02 52 32.2	-0.1
BLCB	Balcova	3.04	17	Pn	Pn	02 52 33.2	+0.8
DION	Dionisos Attik	3.06	329	P	Pn	02 52 33.5	+0.8
DION	Dionisos Attik	3.06	329	P	Pn	02 52 32.5	-0.3
PTL	Penteli	3.06	328	P	Pn	02 52 32.5	-0.3
AKAS	Kas	3.07	75	P	Pn	02 52 36.2	+3.1
AKAS				S	Sn	02 53 08.6	-0.8
AKAS				*i* AML	AML	02 53 17.0	
	comp=E,122nm,0.4s						
CAME	Cameli-Denizli	3.09	61	Pn	Pn	02 52 35.6	+2.3
TAVA	DENIZLI_Tavas	3.12	49	P	Pn	02 52 35.6	+2.0
TAVA				S	Sn	02 53 10.7	+0.3
TAVA				*i* AML	AML	02 53 19.0	
	comp=E,73nm,0.4s						
NAZL	Nazilli-Aydin	3.12	37	Pn	Pn	02 52 35.4	+1.7
CAEL	Denizli, Camel	3.19	58	P	Pb	02 52 38.9	-2.5
KNIK	Mula-Seydike	3.25	64	P	Pn	02 52 38.5	+3.1
KNIK				S	Sn	02 53 15.0	+1.3
KNIK				*i* AML	AML	02 53 19.0	
	comp=E,136nm,0.6s						
ODEM	Odemis-Izmir	3.28	31	Pn	Pn	02 52 37.8	+2.0
DNIZ	Denizli-Tavas-	3.29	48	P	Pn	02 52 37.3	+1.2
KIRA	zmir-Kiraz	3.36	35	P	Pn	02 52 38.9	+1.9
APMY	Acipayam-Deniz	3.37	53	Pn	Pn	02 52 39.3	+2.3
GOLH	Golhisar	3.41	58	P	Pn	02 52 41.7	+4.0
GOLH				S	Sb	02 53 22.8	-3.7
GOLH				*i* AML	AML	02 53 27.0	
	comp=N,152nm,0.5s						
GOLH				*i* AML	AML	02 53 27.0	
	comp=E,234nm,0.5s						
VILL	Villia	3.41	323	P	Pn	02 52 39.0	+1.3
VLX	Vlachokerasia	3.44	304	P	Pn	02 52 38.5	+0.4
ELL	Elmali	3.46	67	Pn	Pn	02 52 41.2	+2.9
VIL2	Platees	3.47	323	P	Pn	02 52 38.1	-0.3
KYMI	Kymi, Euboea I	3.48	336	P	Pn	02 52 39.0	+0.5
LTK	Loutraki	3.49	318	P	Pn	02 52 39.5	+0.8
SKY	Skiros Island	3.58	342	P	Pn	02 52 40.0	+0.2
ITM	Ithomi	3.66	299	P	Pn	02 52 41.6	+0.6
DKL	Dikili	3.67	12	P	Pn	02 52 41.5	+0.3
PYL	PYLOS	3.68	294	P	Pn	02 52 41.8	+0.5
INCE	Denizli-Bozkur	3.68	52	P	Pn	02 52 43.8	+2.5
INCE				S	Sn	02 53 26.6	+2.2
INCE				*i* AML	AML	02 53 31.0	
	comp=E,58nm,0.5s						
SIGR	SIGRI	3.73	359	P	Pn	02 52 43.5	+1.5
SIGR	SIGRI	3.73	359	P	Pn	02 52 43.0	+1.0
PRK	Paraskevi	3.78	4	P	Pn	02 52 42.8	+0.2
GUR	Goura	3.79	311	P	Pn	02 52 44.0	+1.1
GUR	Goura	3.79	311	P	Pn	02 52 43.7	+0.8
KLV	Kalavryta, Ach	3.98	311	P	Pn	02 52 46.0	+0.6
SLUM	Salum	4.02	189	P	Pn	02 52 48.3	+2.5
SLUM				S	Pb	02 52 55.6	+0.1
PASA	Karahalli, USA	4.04	44	P	Pn	02 52 46.6	+0.3
USAK	Uak-Merkez	4.07	36	P	Pn	02 52 46.6	0.0
DRO	Drossia	4.20	307	P	Pn	02 52 50.4	+1.9
DRO	Drossia	4.20	307	P	Pn	02 52 49.7	+1.2
AXAR	Agios Charalam	4.20	322	P	Pn	02 52 49.3	+0.8
KALE	Kalithea	4.21	315	P	Pn	02 52 49.7	+1.1
MATC	Matruh	4.25	165	P	Pn	02 52 52.2	+3.0
EFP	Efpalio	4.37	314	P	Pn	02 52 52.7	+1.9
EFP	Efpalio	4.37	314	P	Pn	02 52 51.1	+0.3
NEO	Neokhori	4.39	331	P	Pn	02 52 51.1	0.0
XOR	Xorichti	4.46	331	P	Pn	02 52 51.1	-0.9
DB3	El Dabaa	4.93	153	P	Pn	02 53 01.1	+2.6
DB3				S	Sn	02 53 55.5	+0.4
THAS	Thassos island	5.21	350	P	Pn	02 53 02.3	0.0
PLG	Polygyros	5.28	339	P	Pn	02 53 03.5	+0.3
CSS	Mathiatis	6.07	93	P	Pn	02 53 10.6	-3.6
SWA2		6.22	184	P	Pn	02 53 18.4	+2.1
RYAN	Fayoum	7.35	149	P	Pn	02 53 34.7	+2.9
KOT	Kottamia	7.43	136	P	Pn	02 53 35.6	+2.8
BRTR	Keskin Array B	7.44	53	Pn	Pn	02 53 35.6	+2.5
	0.7nm,0.3s,baz=239,slow=17,SNR=31						
BRTR				Sn	Sn	02 54 58.4	+1.3
	0.2nm,0.3s,baz=217,slow=25,SNR=5.2						
	2.1nm,0.5s						
MMA0B	Mount Meron ar	8.21	105	P	Pn	02 53 40.0	-3.6
MMA0B	Mount Meron ar	8.21	105	S	Sn	02 55 13.8	-2.2
MMAI	Mount Meron Ar	8.21	105	Pn	Pn	02 53 43.4	-0.2
	2.0nm,0.3s,baz=297,slow=13,SNR=8.7						
MMAI				Sn	Sn	02 55 15.6	-0.4
	6.1nm,0.3s,baz=300,slow=23,SNR=9.0						
	0.6nm,0.3s						
SLTI	Sal'it	8.23	110	P	Pn	02 53 41.3	-2.5
SLTI	Sal'it	8.23	110	S	Sn	02 55 13.7	-2.6
KZIT	Kziot	8.42	120	P	Pn	02 53 43.6	-2.9
KZIT	Kziot	8.42	120	S	Sn	02 55 17.4	-3.7
AMAZ	Amatzia	8.46	115	P	Pn	02 53 43.2	-3.8
AMAZ	Amatzia	8.46	115	S	Sn	02 55 20.1	-2.0
HMDT	Nahal Hemdat	8.60	109	P	Pn	02 53 44.9	-3.9
HMDT	Nahal Hemdat	8.60	109	S	Sn	02 55 21.8	-3.5
YTIR	Yattir	8.70	116	P	Pn	02 53 47.1	-3.1
YTIR	Yattir	8.70	116	S	Sn	02 55 25.3	-2.6
MSBI	Mazada	8.90	115	P	Pn	02 53 49.7	-3.2
MSBI	Mazada	8.90	115	S	Sn	02 55 30.0	-2.7
PRNI	Paran	9.17	121	P	Pn	02 53 53.6	-3.2
PRNI	Paran	9.17	121	S	Sn	02 55 36.2	-3.3
HRFI	Mount Harif	9.38	123	P	Pn	02 53 56.4	-3.3
HRFI	Mount Harif	9.38	123	S	Sn	02 55 41.9	-2.8
MBRI	Mt Berech	9.45	124	P	Pn	02 53 57.1	-3.4
MBRI	Mt Berech	9.45	124	S	Sn	02 55 43.0	-3.5
EIL	Elat	9.55	125	Pn	Pn	02 54 01.6	-0.3
	0.8nm,0.3s,baz=321,slow=5.2,SNR=10.0						
EIL				Sn	Sn	02 55 44.1	-4.7
	1.9nm,0.3s,baz=326,slow=7.3,SNR=7.1						
	1.8nm,0.3s						
ASF	Jabal al Asfar	9.69	107	Pn	Pn	02 54 03.9	-0.1
	0.3nm,0.3s,baz=311,slow=9.3,SNR=2.9						
ASF				Sn	Sn	02 55 52.0	-0.4
	0.2nm,0.3s,baz=312,slow=14,SNR=1.4						
	0.9nm,0.3s						
MLR	Muntele Rosu	10.01	0	Pn	Pn	02 54 11.7	+3.5
	2.2nm,1.0s,baz=180,slow=11						
AKASG	Malin Array Be	15.41	8	Pn	P	02 55 24.5	-1.6
	2.2nm,0.3s,baz=198,slow=11,SNR=11						
KBZ	Khabaz	15.44	53	Pn	P	02 55 27.6	+1.2
	0.1nm,0.3s,baz=241,slow=8.5,SNR=7.4						
	1.4nm,0.6s						
GERES	GERESS Array B	16.12	330	Pn	P	02 55 33.9	-0.3
	baz=144,slow=14,SNR=3.0						
	0.3nm,0.5s						
ESDC	Sonseca Array	24.01	289	P	P	02 57 01.2	+2.2
	0.7nm,0.8s,baz=90,slow=9.1,SNR=5.6						
	0.7nm,0.8s						
FINES	FINESS Array B	25.99	0	LR	LR	03 08 31.0	
	comp=Z,25nm,19.0s,baz=123,slow=39						
EKA	Eskdalemuir Ar	28.16	324	P	P	02 57 37.9	+1.6
	1.0nm,0.5s,baz=119,slow=9.0,SNR=6.4						
	1.0nm,0.5s						
TORD	Torodi Ar. Bea	31.18	231	P	P	02 58 04.4	+1.0
	0.3nm,0.4s,baz=31,slow=8.6,SNR=6.6						
	0.3nm,0.4s						
ARCES	ARCESS Array B	34.12	360	P	P	02 58 26.4	-2.3
	0.2nm,0.3s,baz=174,slow=9.1,SNR=6.5						
BVAR	Borovoye Array	35.67	47	P	P	02 58 42.4	+0.1
	0.3nm,0.3s,baz=277,slow=4.9,SNR=2.0						
	0.3nm,0.3s						
KURBB	Kurchatov Arra	40.43	51	P	P	02 59 23.2	+0.9
	1.9nm,0.6s,baz=273,slow=8.7,SNR=21						
	1.9nm,0.6s						
MKAR	Makanchi Array	43.07	57	P	P	02 59 45.1	+1.0
	1.2nm,0.4s,baz=267,slow=8.1,SNR=18						
	1.2nm,0.4s						
ZALV	Zalesovo Beam	44.33	46	P	P	02 59 54.0	0.0
	1.1nm,0.4s,baz=264,slow=8.8,SNR=5.3						
	1.1nm,0.4s						
SONM	Songino Array	58.80	51	P	P	03 01 43.1	+0.6
	0.2nm,0.3s,baz=302,slow=11,SNR=1.8						
	0.2nm,0.3s						

IDC 25 03:03:57.4±4.5, 2°.90S×11°.86W, h0km, mb3.8/4, mbtmp3.8/4, MS3.3/14, Error ellipse: s-maj=119.7km s-min=36.1km az=81.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	5.55	208	T	T	03 10 26.0	
	baz=28,slow=74,SNR=332						
H10N1	ASCENSION HYDR	5.56	208	T	T	03 10 29.5	
	baz=28,slow=74,SNR=299						
H10N3	ASCENSION HYDR	5.57	208	T	T	03 10 27.0	
	baz=28,slow=74,SNR=249						
H10S2	ASCENSION HYDR	6.62	205	T	T	03 11 44.5	
	baz=25,slow=74,SNR=158						
H10S3	ASCENSION HYDR	6.63	205	T	T	03 11 42.3	
	baz=195,slow=74,SNR=119						
DBIC	Dimbokro	11.80	36	LR	LR	03 10 42.9	
	comp=Z,133nm,20.4s,baz=188,slow=34						
TORD	Torodi Ar. Bea	20.86	40	P	P	03 08 40.6	-0.5
	2.7nm,0.7s,baz=223,slow=11,SNR=16						
	2.7nm,0.7s						
RCBR	Riachuelo	24.15	262	LR	LR	03 16 11.7	
	comp=Z,23nm,21.3s,baz=64,slow=30						
MDT	Midelt	36.18	10	LR	LR	03 25 37.5	
	comp=Z,57nm,19.1s,baz=172,slow=36						
LSZ	Lusaka	41.32	110	LR	LR	03 25 25.3	
	comp=Z,51nm,18.4s,baz=125,slow=31						
LBTB	Lobatse	42.23	125	LR	LR	03 29 10.7	
	comp=Z,46nm,18.2s,baz=56,slow=36						
SUR	Sutherland	42.42	137	LR	LR	03 26 30.8	
	comp=Z,82nm,19.1s,baz=80,slow=32						
ESDC	Sonseca Array	42.98	9	LR	LR	03 30 56.6	
	comp=Z,22nm,19.0s,baz=223,slow=38						
BOSA	Boshof	43.60	130	P	P	03 12 03.5	-0.4
	2.3nm,0.7s,baz=318,slow=12,SNR=4.0						
	2.3nm,0.7s						
CPUP	Villa Florida	49.40	237	LR	LR	03 30 40.1	
	comp=Z,59nm,20.6s,baz=48,slow=32						
GERES	GERESS Array B	56.12	20	P	P	03 13 38.0	-0.7
	0.6nm,0.6s,baz=209,slow=8.0,SNR=5.7						
	0.6nm,0.6s						
LPAZ	La Paz	56.87	253	LR	LR	03 35 25.2	
	comp=Z,39nm,21.9s,baz=80,slow=33						
SJG	San Juan	57.40	294	LR	LR	03 32 21.7	
	comp=Z,13nm,20.1s,baz=94,slow=30						
VRAC	Vranov	57.54	22	LR	LR	03 39 45.3	
	comp=Z,28nm,18.0s,baz=208,slow=37						
BRTR	Keskin Array B	59.48	40	P	P	03 14 03.8	+1.2
	0.6nm,0.8s,baz=224,slow=4.0,SNR=3.7						
	0.6nm,0.8s						
NNA	Nana	64.94	258	LR	LR	03 42 09.8	
	comp=Z,33nm,19.3s,baz=88,slow=35						
NOA	NORSAR Array B	66.22	12	LR	LR	03 45 12.6	
	comp=Z,6.6nm,19.7s,baz=80,slow=37						
ATAH	Atahualpa	66.37	264	LR	LR	03 41 40.5	
	comp=Z,43nm,21.5s,baz=83,slow=34						

KRSC 25 03:32:40.3±1.7, 55°.34N×166°.09E, h34km±12km, Ml3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.15	208	*e*P	Pb	03 32 47.0	+0.4
BKI				*e*S	Sb	03 32 52.1	+1.3
KBTR	Krutoberegovo	2.05	297	*e*P	Pn	03 33 13.8	+1.5
KBTR				*e*S	Sn	03 33 38.0	+1.5
MKZ	Mys Kozlova	2.64	255	*e*P	Pb	03 33 23.8	-3.0
MKZ				*e*S	Sn	03 33 54.0	+2.9
SMKR	Semkarok	2.88	298	*e*P	Pn	03 33 26.9	+3.1
BDR	Baidarnaya	3.01	296	*e*S	Sb	03 34 06.3	-3.2
ZLN	Zelenaya	3.07	285	*e*P	Pn	03 33 30.3	+3.8
ZLN				*e*S	Sn	03 34 05.6	+3.6
BZGR	Bezymyannyi-Gr	3.12	283	*e*P	Pb	03 33 31.8	-3.3
BZGR				*e*S	Sn	03 34 07.0	+3.8
KLY	Klyuchi	3.22	290	*e*P	Pn	03 33 29.4	+1.0
BZMR	Bezymyannaya	3.23	283	*e*P	Pb	03 33 33.3	-3.7
KRSR	Krestovskiy	3.25	288	*e*P	Pn	03 33 32.3	+3.5
KRSR				*e*S	Sn	03 34 10.4	+4.2
TUMD	Tumrok D	3.26	270	*e*P	Pn	03 33 31.8	+2.8
TUMD				*e*S	Sb	03 34 12.3	-4.4
KIRR	Kirishev	3.32	283	*e*P	Pn	03 33 33.4	+3.5
KIRR				*e*S	Sb	03 34 13.6	-4.8
KMNR	Kamenistaya	3.35	280	*e*P	Pb	03 33 35.3	-3.8
KPT	Kopyto	3.39	283	*e*P	Pn	03 33 34.9	+4.2
KPT				*e*S	Sn	03 34 13.5	+3.7
KOZ	Kozyrevsk	3.59	284	*e*P	Pn	03 33 37.8	+4.3
KOZ				*e*S	Sn	03 34 19.6	+4.9
KII	Karymskiy	4.07	254	*e*P	Pn	03 33 44.5	+4.4
KII				*e*S	Sn	03 34 32.6	+6.0
SPN	Mys Shipunski	4.21	240	*e*P	Pn	03 33 45.4	+3.5
SPN				*e*S	Sn	03 34 32.8	+2.9
NLC	Nalytchevo	4.51	244	*e*P	Pn	03 33 50.0	+3.9
NLC				*e*S	Sn	03 34 42.5	+5.2
SDLR	Sedlovina	4.70	247	*e*P	Pn	03 33 54.0	+5.2
SDLR				*e*S	Sn	03 34 47.6	+5.5
UGLR	Uglovaya	4.76	246	*e*P	Pn	03 33 54.8	+5.1
UGLR				*e*S	Sn	03 34 50.2	+6.5
AVH	Avacha	4.78	247	*e*P	Pn	03 33 55.1	+5.2
AVH				*e*S	Sn	03 34 50.6	+6.5
KRX	Arik	4.79	249	*e*P	Pn	03 33 55.2	+5.2
KRX				*e*S	Sn	03 34 49.6	+5.4
KOK	Koryaka	4.82	248	*e*P	Pn	03 33 55.7	+5.2
KOK				*e*S	Sn	03 34 51.3	+6.2
DALK	Dalny	4.89	245	*e*P	Pn	03 33 55.9	+4.6
DALK				*e*S	Sn	03 34 51.0	+4.4
GNL	Ganaly	5.03	254	*e*P	Pn	03 33 58.5	+5.2
KRMR	Karymshinskiy	5.32	245	*e*P	Pn	03 34 01.7	+4.6
KRMR				*e*S	Sn	03 35 03.3	+6.2
RUS	Russkaya	5.34	240	*e*P	Pn	03 34 02.0	+4.5
RUS				*e*S	Sn	03 35 00.7	+2.9
MTVR	Mutnovka	5.48	242	*e*P	Pn	03 34 04.6	+5.0
MTVR				*e*S	Sn	03 35 05.7	+4.3
GRL	Gorelyy	5.50	243	*e*P	Pn	03 34 04.8	+5.1
GRL				*e*S	Sn	03 35 07.5	+5.8

NEIC ***25*** *03:42:37.7±0.5, 19°.24N±0°.02×155°.42W±0°.02, h40km±2km, Error ellipse: s-maj=3.4km s-min=2.2km az=148.0*

HVO 25 03:42:39.1±0.7, 19°.22N±0°.03×155°.41W±0°.02, h36km±1km, ML2.5/18, ML2.4/38(NEIC), Error ellipse: s-maj=4.3km s-min=2.8km az=201.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.02	29		Pn	03 42 44.6	-0.4
HLP	Hilina Pali	0.12	52		Pn	03 42 44.9	-4.2
HLP					Sn	03 42 49.2	-8.9
HLP	Hilina Pali	0.12	52	IAML		03 42 49.5	
	comp=N,622nm,0.4s						
HLP				IAML		03 42 55.2	
	comp=E,534nm,0.5s						
HPO	Honuapo	0.19	226		Pn	03 42 45.1	-2.3
HPO					Sn	03 42 49.8	-5.0
SDHHI	Sand Hill	0.20	33		Pn	03 42 45.2	-2.3
SDHHI					Sn	03 42 49.8	-5.0
KHU	Kahuku	0.20	277		Pn	03 42 45.2	-2.4
KHU					Sn	03 42 49.6	-5.2
KHU	Kahuku	0.20	277	IAML		03 42 49.8	
	comp=N,894nm,0.9s						
KHU				IAML		03 42 49.9	
	comp=E,1μm,0.3s						
WRMHI	West Rim	0.21	29		Pn	03 42 45.2	-2.2
WRMHI					Sn	03 42 50.2	-4.4
RIM	Rim	0.21	36		Pn	03 42 45.3	-2.1
RIM					Sn	03 42 50.4	-4.1
KKO	Keanakako'i	0.22	37		Pn	03 42 45.4	-1.9
KKO					Sn	03 42 49.9	-4.5
UWE	Uwekahuna	0.22	28		Pn	03 42 45.4	-1.9
UWE					Sn	03 42 50.5	-3.9
UWE	Uwekahuna	0.22	28	IAML		03 42 50.7	
	comp=E,580nm,0.4s						
UWE				IAML		03 42 56.3	
	comp=N,508nm,1.9s						
OBL	Observatory Le	0.23	31		Pn	03 42 45.4	-1.9
OBL					Sn	03 42 50.0	-4.3
BYL	Byron's Ledge	0.23	36		Pn	03 42 45.4	-1.8
BYL	Byron's Ledge	0.23	36	IAML		03 42 50.5	
	comp=N,267nm,1.0s						
BYL				IAML		03 42 51.9	
	comp=E,285nm,1.1s						
PUH	Pauahi	0.23	50		Pn	03 42 45.5	-1.8
PUH					Sn	03 42 50.2	-3.9
PUH	Pauahi	0.23	50	IAML		03 42 50.3	
	comp=E,402nm,0.3s						
PUH				IAML		03 42 55.1	
	comp=N,405nm,1.6s						
UWB	Uwekahuna Bluf	0.23	31		Pn	03 42 45.3	-1.9
UWB					Sn	03 42 50.0	-4.1
SBLHI	Steaming Bluff	0.24	33		Pn	03 42 45.4	-1.8
SBLHI					Sn	03 42 50.2	-3.9
HATHI	Halema'uma'u T	0.24	35		Pn	03 42 45.4	-1.8
HATHI	Halema'uma'u T	0.24	35	IAML		03 42 51.6	
	comp=N,288nm,0.8s						
HATHI				IAML		03 42 53.7	
	comp=E,288nm,0.8s						
RSD	Rainshed	0.27	27		Pn	03 42 45.9	-1.3
RSD					Sn	03 42 51.1	-2.8
MLH	Mauna Loa	0.27	4		Pn	03 42 46.0	-1.3
MLH				IAML		03 42 51.5	
	comp=N,393nm,0.5s						
MLH	Mauna Loa	0.27	4		Sn	03 42 51.3	-2.8
MLH	Mauna Loa	0.27	4	IAML		03 42 51.0	
	comp=E,241nm,0.8s						
KNHH	Kane Nui o Ham	0.27	55		Pn	03 42 45.9	-1.3
STCH	Steam Cracks	0.31	59		Pn	03 42 46.2	-1.1
STCH					Sn	03 42 51.6	-2.1
STCH	Steam Cracks	0.31	59	IAML		03 42 51.7	
	comp=E,364nm,0.2s						
STCH				IAML		03 42 52.2	
	comp=N,352nm,0.1s						
MWH	Mokuaweoweo	0.32	325		Pn	03 42 46.4	-1.5
MWH					Sn	03 42 52.0	-2.8
MWH	Mokuaweoweo	0.32	325	IAML		03 42 52.1	
	comp=E,480nm,0.3s						
MWH				IAML		03 42 53.2	
	comp=N,508nm,0.4s						
NPOC	North of Pu'u	0.33	59		Pn	03 42 46.4	-1.0
NPOC					Sn	03 42 51.9	-2.0
JCUZ	Jacuzzi	0.33	61		Pn	03 42 46.5	-0.9
JCUZ					Sn	03 42 52.0	-1.9
MLOA	Mauna Loa Obse	0.35	333		Pn	03 42 46.8	-1.3
HMH	Humu'ula Sheep	0.39	349		Pn	03 42 47.5	-0.9
HMH					Sn	03 42 53.7	-1.4
HMH	Humu'ula Sheep	0.39	349	IAML		03 42 53.8	
	comp=E,230nm,0.3s						
HMH				IAML		03 42 54.0	
	comp=N,329nm,0.3s						
ALEP	Alea Permanent	0.39	325		Pn	03 42 47.0	-1.4
JOKA	Jonika Flow	0.43	61		Pn	03 42 47.5	-1.2
JOKA					Sn	03 42 53.8	-1.8
JOKA	Jonika Flow	0.43	61	IAML		03 42 53.9	
	comp=E,145nm,0.3s						
JOKA				IAML		03 42 57.5	
	comp=N,282nm,0.3s						
POHA	Pohakuloa	0.55	347		Pn	03 42 48.7	-1.9
POHA					Sn	03 42 56.0	-2.6
POHA	Pohakuloa	0.55	347	IAML		03 42 54.6	
	comp=N,157nm,3.0s						
POHA				IAML		03 42 59.8	
	comp=N,134nm,1.7s						
HUH	Hualalai	0.61	319		Pn	03 42 50.1	-1.6
HUH	Hualalai	0.61	319	IAML		03 42 57.8	
	comp=E,299nm,1.6s						
HUH				IAML		03 43 02.1	
	comp=N,348nm,0.2s						

KOLA ***25*** *04:05:10.4, 67°.64N×33°.78E, h0km, ML1.6, Error ellipse: s-maj=2.2km s-min=1.0km az=140.0, Khibiny, mines Kirovsk, Yukspor*

HEL 25 04:05:10.3±0.1, 67°.66N×33°.72E, h0km, ML1.6, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.15	234	P	Pg	04 05 13.3	+0.2
APA				S	Sg	04 05 15.2	+0.3
APA0	Apatity Array	0.28	260	P	Pg	04 05 15.5	-0.1
APA0				S	Sg	04 05 19.6	+0.3
LVZ	Lovozero	0.43	55	P	Pg	04 05 18.1	-0.5
LVZ				S	Sg	04 05 23.7	-0.4
LVZ	Lovozero	0.43	55	PG	Pg	04 05 18.1	-0.5
LVZ				SG	Sg	04 05 23.9	-0.2
KVDA	Kovda	1.02	199	P	Pg	04 05 27.9	-1.9
KVDA				S	Sg	04 05 42.0	-1.1
VRF	Varrio	1.57	275	PG	Pn	04 05 38.4	-1.0
VRF				MSG		04 05 57.2	
	comp=Z,6.4nm,0.2s						
VRF				SG	Sn	04 05 58.8	-1.6
TERR	Teriberka	1.64	18	P	Pn	04 05 39.4	-0.9
TERR				S	Sn	04 06 00.4	-1.6
OLKF	Oulanka, Finla	2.16	234	PG	Pb	04 05 49.4	-0.8
OLKF				MSG		04 06 14.3	
	comp=Z,3.1nm,0.2s						
OLKF				SG	Sb	04 06 17.4	-0.1
RAJF	Raja-Jooseppi	2.19	295	PG	Pn	04 05 49.0	+1.1
RAJF				SB	Sn	04 06 16.6	+0.9
KU6	Riekki	2.23	224	PG	Pb	04 05 50.1	-1.3
KU6				MSG		04 06 16.4	
	comp=Z,2.1nm,0.2s						
MSF	Maaselka	2.55	229	PG	Pb	04 05 55.8	-1.1
MSF				SG	Sb	04 06 28.5	-0.2
KU2	Taivalkoski	2.93	231	PG	Pb	04 06 02.1	-1.2
VADS	Vadso	2.94	330	S	Sn	04 06 35.1	+1.1
RNF	Rovaniemi	3.19	254	SB	Sn	04 06 40.8	+0.6
RANF	Ranua	3.20	242	PG	Pb	04 06 07.8	0.0
RANF				SG	Sb	04 06 47.3	+0.1
KEV	Kevo	3.23	314	*e*P	Pn	04 06 02.6	+0.4
KEV	Kevo	3.23	314	PN	Pn	04 06 02.5	+0.3
ARA0	ARCESS Array S	3.55	306	PN	Pn	04 06 06.2	-0.4
HEF	Hetta	3.85	286	PG	Pb	04 06 18.0	-1.1
HEF				SN	Sn	04 06 54.0	-2.6
ERTU	Ertsjaerv	4.64	262	PN	Pn	04 06 19.2	-2.3
ERTU				SN	Sn	04 07 15.8	-0.1

KRSC 25 04:09:13.1±1.2, 49°.16N×158°.61E, h32km±39km, Ml3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.22	314	*e*P	Pn	04 09 49.3	+1.6
SKR				*e*S	Sn	04 10 16.

TNSS	**Tian-Shan** 5.5nm,0.3s	**2.80**	**357**	Pg	**Pb**	**04 12 37.3**	**-0.2**
TNSS	18nm,0.4s			Lg	Lg	04 13 12.4	
TNSS	**Tian-Shan** 5.5nm,0.3s	**2.80**	**357**	*e*P	**Pb**	**04 12 37.3**	**-0.2**
TNSS	18nm,0.4s			*e*S	**Sb**	**04 13 12.4**	**+0.3**
TKM2	**Tokmak 2** 3.8nm,0.6s	**2.92**	**337**	⇑Pg	**Pb**	**04 12 39.0**	**-0.3**
TKM2	6.1nm,0.6s			⇑Lg	Lg	04 13 16.5	
TKM2	**Tokmak 2**	**2.92**	**337**	⇑*e*P	**Pb**	**04 12 38.8**	**-0.5**
TKM2				⇑*i*S	**Sb**	**04 13 12.4**	**-2.9**
MDOK	**Medeo** 6.5nm,0.4s	**2.93**	**359**	Pg	**Pb**	**04 12 38.7**	**-0.8**
MDOK	12nm,0.6s			⇑Pg	**Pg**	**04 12 41.1**	**-2.0**
MDOK	13nm,0.6s			Lg	Lg	04 13 15.1	
MDOK	14nm,0.6s			⇑Lg	Lg	04 13 16.8	
KST	**Kastek** 2.7nm,0.3s	**2.94**	**343**	Pg	**Pb**	**04 12 39.5**	**-0.1**
KST	11nm,0.3s			Lg	Lg	04 13 16.4	
KST	**Kastek** 2.7nm,0.3s	**2.94**	**343**	*e*P	**Pb**	**04 12 39.5**	**-0.1**
KST	11nm,0.3s			*e*S	**Sb**	**04 13 16.4**	**+0.6**
MTBS	**Maitube** 2.0nm,0.1s	**2.94**	**350**	Pg	**Pb**	**04 12 39.7**	**+0.1**
MTBS	13nm,0.2s			Lg	Lg	04 13 16.6	
MTBS	**Maitube** 2.0nm,0.1s	**2.94**	**350**	*e*P	**Pb**	**04 12 39.7**	**+0.1**
MTBS	13nm,0.2s			*e*S	**Sb**	**04 13 16.6**	**+0.9**
SATY	**Saty** 5.4nm,0.2s	**2.98**	**18**	Pg	**Pb**	**04 12 39.6**	**-0.7**
SATY	38nm,0.1s			Lg	Lg	04 13 16.4	
KOTS	**Kotyrbulak** 6.5nm,0.4s	**3.00**	**360**	Pg	**Pb**	**04 12 40.7**	**+0.1**
KOTS	35nm,0.3s			Lg	Lg	04 13 18.5	
KOTS	**Kotyrbulak** 6.5nm,0.4s	**3.00**	**360**	*e*P	**Pb**	**04 12 40.7**	**+0.1**
KOTS	35nm,0.3s			*e*S	**Sb**	**04 13 18.5**	**+1.0**
ZHN	**Zhinishke** 1.5nm,0.1s	**3.09**	**18**	Pg	**Pb**	**04 12 41.5**	**-0.7**
ZHN	47nm,0.2s			Lg	Lg	04 13 19.7	
ZHN	**Zhinishke** 4.1nm,0.3s	**3.09**	**18**	*e*P	**Pb**	**04 12 41.5**	**-0.7**
ZHN	47nm,0.2s			*e*S	**Sb**	**04 13 19.7**	**-0.3**
AAK	**Ala-Archa** 5.0nm,0.4s	**3.11**	**321**	⇑Pg	**Pg**	**04 12 46.3**	**-0.3**
AAK	6.4nm,0.6s			⇑Lg	Lg	04 13 25.1	
AAK	**Ala-Archa**	**3.11**	**321**	⇑*e*P	**Pb**	**04 12 42.0**	**-0.6**
AAK				⇑*i*S	**Sb**	**04 13 18.0**	**-2.7**
AML	**Almayashu**	**3.21**	**307**	⇓*i*P	**Pb**	**04 12 44.3**	**-0.1**
AML				⇓*i*S	**Sb**	**04 13 21.6**	**-2.2**
UZB	**Uzynbulak** 3.6nm,0.2s	**3.24**	**25**	Pg	**Pb**	**04 12 44.2**	**-0.5**
UZB	9.6nm,0.5s			Lg	Lg	04 13 24.1	
UZB	**Uzynbulak** 3.6nm,0.2s	**3.24**	**25**	*e*P	**Pb**	**04 12 44.2**	**-0.5**
UZB	9.6nm,0.5s			*e*S	**Sb**	**04 13 24.1**	**-0.2**
KURS	**Kuram** 5.3nm,0.5s	**3.34**	**13**	Pg	**Pb**	**04 12 45.8**	**-0.6**
KURS	16nm,0.4s			Lg	Lg	04 13 27.3	
KURS	**Kuram** 0.8nm,0.0s	**3.34**	**13**	*e*P	**Pg**	**04 12 51.4**	**+0.5**
KURS	18nm,0.2s			*e*S	**Sg**	**04 13 36.7**	**+2.4**
SHLS	**Shalkode** 4.7nm,0.2s	**3.40**	**30**	Pg	**Pg**	**04 12 51.6**	**-0.6**
SHLS	22nm,0.5s			Lg	Lg	04 13 37.0	
SHLS	**Shalkode** 4.7nm,0.2s	**3.40**	**30**	*e*P	**Pg**	**04 12 51.6**	**-0.6**
SHLS	22nm,0.5s			*e*S	**Sg**	**04 13 37.0**	**+0.8**
KPKS	**Kokpek** 2.0nm,0.2s	**3.43**	**19**	Pg	**Pb**	**04 12 47.7**	**-0.3**
KPKS	25nm,0.4s			Lg	Lg	04 13 30.5	
KPKS	**Kokpek** 2.0nm,0.2s	**3.43**	**19**	*e*P	**Pb**	**04 12 47.7**	**-0.3**
KPKS	25nm,0.4s			*e*S	**Sb**	**04 13 30.5**	**+0.6**
KTBS	**Karatobe** 7.3nm,0.4s	**3.49**	**355**	Pg	**Pb**	**04 12 49.0**	**0.0**
KTBS	25nm,0.3s			Lg	Lg	04 13 32.7	
PDGK	**Podgornoye** 6.5nm,0.7s	**3.56**	**29**	⇑Pg	**Pb**	**04 12 50.7**	**+0.4**
PDGK	15nm,0.7s			⇓Lg	Lg	04 13 35.2	
CHKK	**Chushkaly** 0.8nm,0.0s	**3.62**	**358**	Pg	**Pb**	**04 12 51.4**	**+0.3**
CHKK	18nm,0.2s			Lg	Lg	04 13 36.7	
CHKK	**Chushkaly** 0.8nm,0.0s	**3.62**	**358**	*e*P	**Pb**	**04 12 51.4**	**+0.3**
CHKK	18nm,0.2s			*e*S	**Sb**	**04 13 36.7**	**+1.5**
KUU	**Kurty** 1.1nm,0.1s	**3.70**	**351**	Pg	**Pb**	**04 12 52.7**	**+0.1**
KUU	7.6nm,0.3s			Lg	Lg	04 13 39.1	
KUU	**Kurty** 1.1nm,0.1s	**3.70**	**351**	*e*P	**Pb**	**04 12 52.7**	**+0.1**
KUU	7.6nm,0.3s			*e*S	**Sb**	**04 13 39.1**	**+1.5**
MRKS	**Merke** 0.8nm,0.1s	**3.86**	**312**	Pg	**Pb**	**04 12 56.4**	**+1.1**
MRKS	4.5nm,0.4s			Lg	Lg	04 13 45.3	
MRKS	**Merke** 0.8nm,0.1s	**3.86**	**312**	*e*P	**Pb**	**04 12 56.4**	**+1.1**
MRKS	4.5nm,0.4s			*e*S	**Sb**	**04 13 45.3**	**+3.2**
BLB	**Baldybastay** 4.1nm,0.3s	**3.99**	**14**	Pg	**Pb**	**04 12 57.3**	**-0.2**
BLB	27nm,0.2s			Lg	Lg	04 13 47.0	

*NEIC **25** 04:23:05.1±0.8, 19°.0N±0°.1×64°.9W±0°.1, h35km±2km, ML2.3/20, Md2.9/12(RSPR), Error ellipse: s-maj=22.3km s-min=13.3km az=140.0*
*RSPR **25** 04:23:06.7, 19°.01N×64°.99W, h32km±16km, MD2.9/12*
ISC 25 04:22:59.9±2.4, 19°.0N±0°.1×64°.92W±0°.04, h12km±11km, n40, σ0s61/44, 9C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.25**	**225**		**Pg**	**04 23 25.2**	**+1.3**
HUMP					**Sg**	**04 23 39.9**	**-0.3**
HUMP	comp=N,61nm,0.2s			IAML		04 23 41.5	
HUMP	comp=E,88nm,0.2s			IAML		04 23 43.7	
HUMP	**Col San Antoni**	**1.25**	**225**	⇑*e*P	**Pg**	**04 23 25.3**	**+1.3**
HUMP	**Col San Antoni**	**1.25**	**225**	*e*S	**Sn**	**04 23 40.2**	**+0.2**
GCPR	**Guaynabo City**	**1.32**	**237**		**Pg**	**04 23 26.2**	**+1.0**
GCPR					**Sg**	**04 23 41.6**	**-0.8**
GCPR	**Guaynabo City**	**1.32**	**237**	⇑*e*P	**Pg**	**04 23 26.2**	**+1.0**
GCPR	**Guaynabo City**	**1.32**	**237**	*e*S	**Sg**	**04 23 41.6**	**-0.8**
PDPR	**Patillas Dam,**	**1.45**	**226**	Pn	**Pg**	**04 23 28.3**	**+0.5**
PDPR	comp=E,39nm,0.1s			IAML		04 23 51.8	
PDPR	**Patillas Dam,**	**1.45**	**226**	⇓*e*P	**Pg**	**04 23 28.4**	**+0.6**
PDPR	**Patillas Dam,**	**1.45**	**226**	*e*S	**Sn**	**04 23 45.5**	**+0.4**
SJG	**San Juan**	**1.48**	**232**		**Pg**	**04 23 28.6**	**+0.2**
SJG	**San Juan** comp=E,28nm,0.2s	**1.48**	**232**	IAML		04 23 46.8	
SJG	comp=E,31nm,0.2s			IAML		04 23 49.3	
SJG	**San Juan**	**1.48**	**232**	⇑*e*P	**Pg**	**04 23 28.6**	**+0.2**
SJG	**San Juan**	**1.48**	**232**	*e*S	**Sn**	**04 23 45.8**	**0.0**
ECPR	**Experimental S**	**1.54**	**243**	⇑*e*P	**Pg**	**04 23 30.0**	**+0.5**
ECPR	**Experimental S**	**1.54**	**243**	*e*S	**Sn**	**04 23 47.2**	**-0.1**
IGPR	**InterUniversit**	**1.55**	**227**		**Sn**	**04 23 47.8**	**+0.4**
IGPR	**InterUniversit**	**1.55**	**227**		**Pg**	**04 23 29.4**	**-0.3**
IGPR	comp=N,52nm,0.3s			IAML		04 23 48.2	
IGPR	**InterUniversit**	**1.55**	**227**	⇑*e*P	**Pg**	**04 23 29.6**	**0.0**
IGPR	**InterUniversit**	**1.55**	**227**	*e*S	**Sn**	**04 23 47.8**	**+0.4**
CELP	**Cerrillos**	**1.84**	**239**		**Pb**	**04 23 33.6**	**+0.1**
CELP					**Sn**	**04 23 54.3**	**-0.4**
CELP	**Cerrillos** comp=N,19nm,0.8s	**1.84**	**239**	IAML		04 23 58.8	
CELP	**Cerrillos**	**1.84**	**239**	⇑*e*P	**Pb**	**04 23 33.6**	**+0.1**
CELP	**Cerrillos**	**1.84**	**239**	*e*S	**Sn**	**04 23 54.3**	**-0.4**
AOPR	**Arecibo Observ**	**1.87**	**249**		**Pb**	**04 23 33.9**	**-0.2**
AOPR					**Sn**	**04 23 55.5**	**+0.2**
AOPR	**Arecibo Observ**	**1.87**	**249**	⇓*e*P	**Pb**	**04 23 33.9**	**-0.2**
AOPR	**Arecibo Observ**	**1.87**	**249**	*e*S	**Sn**	**04 23 55.5**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.88**	**246**		**Pb**	**04 23 33.9**	**-0.2**
UUPR					**Sn**	**04 23 55.5**	**0.0**
UUPR	**Utuado, UPR, P**	**1.88**	**246**	⇑*e*P	**Pb**	**04 23 33.9**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.88**	**246**	*e*S	**Sn**	**04 23 55.5**	**0.0**
OBIP	**Obispado Ponce**	**1.88**	**239**		**Pb**	**04 23 34.3**	**+0.1**
OBIP					**Sn**	**04 23 54.6**	**-0.9**
OBIP	**Obispado Ponce** comp=E,22nm,0.4s	**1.88**	**239**	IAML		04 23 57.5	
OBIP	**Obispado Ponce**	**1.88**	**239**	⇑*e*P	**Pb**	**04 23 34.3**	**+0.1**
OBIP	**Obispado Ponce**	**1.88**	**239**	*e*S	**Sn**	**04 23 54.6**	**-0.9**
MLPR	**Magueyes Islan**	**2.28**	**243**	⇓*e*P	**Pb**	**04 23 40.2**	**-0.8**
MLPR	**Magueyes Islan**	**2.28**	**243**	*e*S	**Sn**	**04 24 05.8**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.32**	**244**		**Pb**	**04 23 41.3**	**-0.3**
CRPR					**Sn**	**04 24 07.1**	**+0.8**
CRPR	**Cabo Rojo, PR** comp=N,19nm,2.3s	**2.32**	**244**	IAML		04 24 19.7	
CRPR	comp=E,14nm,2.3s			IAML		04 24 26.1	
CRPR	**Cabo Rojo, PR**	**2.32**	**244**	⇑*e*P	**Pb**	**04 23 41.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**2.32**	**244**	*e*S	**Sn**	**04 24 07.1**	**+0.8**
ANBD	**Bethesda, Anti**	**3.59**	**123**	*e*P	**Pb**	**04 24 02.5**	**-1.0**
ANBD				*e*S	**Sn**	**04 24 39.0**	**+1.2**

STR 25 04:33:23.7±0.6, 49°N±2°×°±°, h10km, MLv1.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=61.5, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPP	**Oppenau**	**0.35**	**265**	Pg	Pg	04 33 29.9	-0.7
OPP	**Oppenau**	**0.35**	**265**	Sg	Sg	04 33 35.0	-0.1
BABA	**Baden-Baden-Ne**	**0.39**	**299**	Pg	Pg	04 33 30.3	-1.0
BABA	**Baden-Baden-Ne**	**0.39**	**299**	Sg	Sg	04 33 35.8	-0.7
GUT	**Gutenstein**	**0.54**	**149**	Sg	Sg	04 33 40.9	-0.2
GUT	**Gutenstein**	**0.54**	**149**	Pg	Pg	04 33 33.7	-0.4
NEEW	**Neewiller pres**	**0.58**	**317**	Pg	Pg	04 33 35.2	+0.1
NEEW				Sg	Sg	04 33 43.3	+0.6
SLE	**Schleitheim**	**0.78**	**191**	Pg	Pg	04 33 38.6	-0.1
SLE	**Schleitheim**	**0.78**	**191**	Sg	Sb	04 33 49.5	-0.5
LEMB	**Lembach**	**0.80**	**309**	Pg	Pg	04 33 38.9	-0.3
LEMB				Sg	Sg	04 33 50.1	+0.4
HOHE	**HOHENGOEFT**	**0.82**	**280**	Pg	Pg	04 33 39.6	+0.1
HOHE				Sg	Sg	04 33 50.4	+0.3
VOGT	**Vogtsburg - To**	**0.82**	**237**	Pg	Pg	04 33 39.4	-0.1
VOGT	**Vogtsburg - To**	**0.82**	**237**	Sg	Sb	04 33 50.9	-0.3
WLS	**Welschbruch**	**0.91**	**263**	Pg	Pg	04 33 40.9	-0.2
WLS				Sg	Sb	04 33 53.6	0.0
CIEL	**Dossenheim-sur**	**0.94**	**289**	Pg	Pg	04 33 41.5	-0.3
CIEL				Sg	Sb	04 33 54.8	+0.3
ENDD	**Endenburg**	**1.04**	**219**	Pg	Pg	04 33 43.4	-0.3
ENDD	**Endenburg**	**1.04**	**219**	Sg	Sb	04 33 57.6	0.0
ECH	**Echery**	**1.08**	**254**	Pg	Pg	04 33 44.1	-0.3
ECH				Sg	Sb	04 33 59.0	+0.4
SULZ	**Cheisacher**	**1.08**	**202**	Pg	Pg	04 33 44.0	-0.4
SULZ	**Cheisacher**	**1.08**	**202**	Sg	Sb	04 33 58.9	+0.3

IDC 25 04:39:19.6±3.8, 11°.32S×164°.34E, h0km, mb3.7/3, mbtmp3.8/4, ML4.3/1, MS3.0/1, Error ellipse: s-maj=81.5km s-min=45.5km az=115.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 13nm,0.3s,baz=180,slow=5.1,SNR=2.8	**4.72**	**293**	Pn	Pn	04 40 33.0	+0.9
HNR	9.5nm,0.3s,baz=138,slow=20,SNR=1.6			Sn	Sn	04 41 19.2	-8.3
HNR	comp=Z,170nm,19.1s,baz=101,slow=38 43nm,0.3s			LR	LR	04 42 17.6	
H11S2	**WAKE ISLAND Hy** baz=184,slow=75,SNR=6.2	**29.72**	**5**	T	T	05 16 03.1	
H11S3	**WAKE ISLAND Hy** baz=184,slow=75,SNR=5.0	**29.72**	**4**	T	T	05 16 06.0	
H11S1	**WAKE ISLAND Hy** baz=184,slow=75,SNR=5.1	**29.73**	**5**	T	T	05 16 06.1	
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=77,slow=8.9,SNR=5.6 0.7nm,0.6s	**30.10**	**250**	P	P	04 45 30.9	-0.2
H11N1	**WAKE ISLAND Hy** baz=184,slow=76,SNR=7.5	**30.94**	**5**	T	T	05 17 35.5	
H11N3	**WAKE ISLAND Hy** baz=184,slow=76,SNR=11	**30.95**	**5**	T	T	05 17 34.7	
H11N2	**WAKE ISLAND Hy** baz=184,slow=76,SNR=8.3	**30.96**	**5**	T	T	05 17 35.7	
ASAR	**Alice Springs** 0.3nm,0.6s,baz=67,slow=8.7,SNR=5.1 0.3nm,0.6s	**31.44**	**243**	P	P	04 45 42.9	-0.1
SONM	**Songino Array** 0.7nm,0.8s,baz=131,slow=6.6,SNR=4.1 0.7nm,0.8s	**78.08**	**324**	P	P	04 51 20.6	+0.1

*IDC **25** 04:50:41.5±1.1, 34°.66N×45°.39E, h0km, mb3.9/14, mbtmp3.8/17, ML4.0/3, MS3.0/1, Error ellipse: s-maj=24.3km s-min=16.5km az=155.0*
*ISN **25** 04:50:42.3±0.5, 34°.65N×45°.59E, h11km±15km, ML3.6*
*TEH **25** 04:50:42.5, 34°.62N×45°.69E, h5km±10km*
ISC 25 04:50:43.8±0.5, 34°.61N±0°.03×45°.62E±0°.04, h18km, n50, σ1s83/53, mb3.7/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.11**	**193**	Pg	**Pb**	**04 50 45.6**	**-0.8**
GLG1	**Gilan-e-Gharb**	**0.55**	**154**	Pg	**Pg**	**04 50 53.4**	**-1.5**
IDHR	**Dehrash**	**0.64**	**82**	Pg	**Pb**	**04 50 54.7**	**-1.8**
IGHG	**Ghaleghazi**	**0.83**	**110**	Pg	**Pb**	**04 50 58.9**	**-1.0**
ILIN	**Lien**	**1.15**	**74**	Pg	**Pn**	**04 51 04.8**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.22**	**106**	Pg	**Pn**	**04 51 06.3**	**+0.1**
IKRK	**Kirkuk**	**1.31**	**307**	*e*Pg	**Pn**	**04 51 07.0**	**-0.2**
IKRK				*e*Sg	**Sg**	**04 51 24.5**	**-1.7**
IKRK	comp=E,896nm,0.6s			AML	AML	04 51 32.0	
IKRK	comp=N,1μm,0.5s			AML	AML	04 51 32.8	
IBDR	**Badra**	**1.52**	**170**	*e*Pn	**Pb**	**04 51 11.5**	**0.0**
IBDR				*e*Sn	**Sg**	**04 51 33.0**	**0.0**
IBDR	comp=E,2μm,0.6s			AML	AML	04 51 38.5	
IBDR	comp=N,732nm,0.6s			AML	AML	04 51 49.4	
SNQR	**Sonqor, Kerman**	**1.67**	**81**	Pg	**Pn**	**04 51 13.4**	**+0.9**
BHD	**Baghdad**	**1.69**	**218**	*e*Pn	**Pb**	**04 51 13.5**	**-0.9**
BHD				*e*Sn	**Sg**	**04 51 36.5**	**-1.8**
BHD	comp=E,951nm,0.5s			AML	AML	04 51 51.6	
IKFM	**Kafar-mosalman**	**2.15**	**120**	Pn	**Pn**	**04 51 20.8**	**+2.1**
MAHB	**Mahabad**	**2.15**	**2**	Pn	**Pn**	**04 51 21.4**	**+2.5**
HSAM	**Samen**	**2.50**	**98**	Pn	**Pn**	**04 51 26.0**	**+2.2**
BDRS	**Dareh Seyedi**	**2.78**	**103**	Pn	**Pn**	**04 51 29.8**	**+2.0**
HGHA	**Hamedan- Ghaye**	**2.80**	**71**	Pn	**Pn**	**04 51 30.6**	**+2.7**
HAGD	**Aghdareh**	**2.91**	**85**	Pn	**Pn**	**04 51 31.6**	**+2.1**
RAFI	**Al-Rafai**	**2.91**	**172**	*e*Pn	**Pn**	**04 51 31.0**	**+1.8**
RAFI				*e*Sn	**Sn**	**04 52 06.8**	**+3.0**
RAFI	comp=E,309nm,0.6s			AML	AML	04 52 29.9	
RAFI	comp=N,221nm,0.4s			AML	AML	04 52 31.8	
IHSH	**Hashtrud**	**3.00**	**26**	Pn	**Pn**	**04 51 33.0**	**+2.2**
IAZR	**Azarshahr**	**3.07**	**5**	Pn	**Pn**	**04 51 34.3**	**+2.6**
QABG	**Abgarm-Qazvin**	**3.43**	**70**	Pn	**Pn**	**04 51 39.0**	**+2.5**
IMRD	**Marand**	**4.09**	**1**	Pn	**Pn**	**04 51 48.6**	**+3.0**
IQOM	**Qom**	**4.50**	**86**	Pn	**Pn**	**04 51 53.9**	**+2.7**
GRMI	**Germi**	**4.57**	**23**	Pn	**Pn**	**04 51 54.7**	**+2.6**
MAKU	**Maku**	**4.79**	**351**	Pn	**Pn**	**04 51 58.0**	**+2.8**
IPIR	**Pirpir**	**4.80**	**112**	Pn	**Pn**	**04 51 56.8**	**+1.3**
KLST	**Kelardasht - M**	**4.82**	**65**	Pn	**Pn**	**04 51 58.9**	**+3.1**
JHBN	**Jahan bin**	**4.84**	**118**	Pn	**Pn**	**04 51 58.1**	**+2.0**
ZNGN	**Zangian**	**5.04**	**118**	Pn	**Pn**	**04 52 01.8**	**+3.0**
IKLH	**Kolahrood**	**5.12**	**103**	Pn	**Pn**	**04 52 01.9**	**+2.1**
ISFB	**Sefidab**	**5.48**	**91**	Pn	**Pn**	**04 52 05.8**	**+1.2**
GNI	**Garni** comp=N,0.6nm,0.3s,baz=2.0,slow=24,SNR=1.3	**5.57**	**353**	Pn	**Pn**	04 52 12.5	+6.6
GNI	comp=N,1.3nm,0.3s,baz=19,slow=17,SNR=5.2			Lg	Lg	04 53 43.9	
IZEF	**Zefreh**	**5.85**	**105**	Pn	**Pn**	**04 52 12.0**	**+2.1**
ASF	**Jabal al Asfar** comp=N,0.4nm,0.3s,baz=246,slow=22,SNR=2.1	**7.69**	**254**	Pn	**Pn**	**04 52 32.8**	**-2.2**
ASF	comp=N,0.6nm,0.3s,baz=95,slow=17,SNR=2.0 comp=N,1.1nm,0.5s			Lg	Lg	04 54 37.3	
MMAI	**Mount Meron Ar** comp=N,0.7nm,0.3s,baz=82,slow=12,SNR=1.6	**8.65**	**262**	Pn	**Pn**	**04 52 50.2**	**+2.1**
MLR	**Muntele Rosu** comp=N,0.2nm,0.3s,baz=114,slow=10.0,SNR=1.3 comp=N,0.8nm,0.4s	**18.52**	**312**	P	**P**	**04 54 58.2**	**-1.1**
AKASG	**Malin Array Be** comp=N,0.5nm,0.3s,baz=143,slow=9.8,SNR=8.4 comp=N,0.2nm,0.3s	**20.02**	**328**	P	**P**	**04 55 15.4**	**-0.1**
BVAR	**Borovoye Array** comp=N,0.9nm,0.5s,baz=238,slow=8.5,SNR=4.2	**25.44**	**36**	P	**P**	**04 56 11.8**	**+1.4**
BVAR	comp=N,29nm,18.6s,baz=166,slow=40 comp=N,0.9nm,0.5s			LR	LR	05 07 34.8	
GERES	**GERESS Array B** comp=N,0.2nm,0.4s,baz=146,slow=7.1,SNR=4.2 comp=N,0.2nm,0.4s	**27.50**	**311**	P	**P**	**04 56 27.2**	**-2.0**
KURBB	**Kurchatov Arra** comp=N,1.1nm,0.2s,baz=254,slow=8.6,SNR=4.0 comp=N,1.1nm,0.2s	**28.72**	**46**	P	**P**	**04 56 40.9**	**+1.0**
FINES	**FINESS Array B** comp=N,1.6nm,1.0s,baz=147,slow=8.9,SNR=3.4 comp=N,1.6nm,1.0s	**29.61**	**341**	P	**P**	**04 56 47.3**	**-0.4**
MKAR	**Makanchi Array** comp=N,0.4nm,0.5s,baz=252,slow=9.3,SNR=5.9 comp=N,0.4nm,0.5s	**30.07**	**55**	P	**P**	**04 56 53.5**	**+1.5**
HFS	**Hagfors** comp=N,2.3nm,0.5s,baz=133,slow=7.2,SNR=19 comp=N,2.3nm,0.5s	**32.87**	**331**	P	**P**	**04 57 16.3**	**-0.1**
ZALV	**Zalesovo Beam** comp=N,0.5nm,0.4s,baz=251,slow=9.0,SNR=1.7 comp=N,0.5nm,0.4s	**33.50**	**43**	P	**P**	**04 57 23.6**	**+1.7**
NOA	**NORSAR Array B** comp=N,0.4nm,0.6s,baz=125,slow=8.7,SNR=2.6 comp=N,0.4nm,0.6s	**34.39**	**331**	P	**P**	**04 57 28.5**	**-1.2**
ARCES	**ARCESS Array B** comp=N,0.7nm,0.7s,baz=149,slow=8.3,SNR=4.1 comp=N,0.7nm,0.7s	**36.70**	**348**	P	**P**	**04 57 48.8**	**-0.6**
EKA	**Eskdalemuir Ar** comp=N,1.0nm,0.6s,baz=101,slow=8.5,SNR=4.1 comp=N,1.0nm,0.6s	**39.23**	**317**	P	**P**	**04 58 09.7**	**-1.1**
TORD	**Torodi Ar. Bea** comp=N,0.4nm,0.3s,baz=62,slow=7.0,SNR=2.4 comp=N,0.4nm,0.3s	**45.05**	**253**	P	**P**	**04 58 59.1**	**+0.3**
SPITS	**Spitsbergen Ar** comp=N,3.0nm,1.0s,baz=145,slow=11,SNR=5.4 comp=N,3.0nm,1.0s	**45.44**	**352**	P	**P**	**04 59 01.1**	**0.0**
BOSA	**Boshof** comp=N,2.8nm,0.9s,baz=74,slow=7.4,SNR=2.2 comp=N,2.8nm,0.9s	**65.77**	**200**	P	**P**	**05 01 28.2**	**+0.4**
YKA	**Yellowknife Ar** comp=N,0.4nm,0.9s,baz=24,slow=4.7,SNR=6.3 comp=N,0.4nm,0.9s	**81.92**	**351**	P	**P**	**05 03 01.4**	**-0.6**

*NEIC **25** 04:57:38.8±1.6, 7°.22S±0°.06×12°.69W±0°.08, h10km±1km, mb4.7/13, Error ellipse: s-maj=15.6km s-min=6.9km az=299.0*
*IDC **25** 04:57:39.3±0.8, 7°.07S×12°.46W, h0km, mb4.1/20, mbtmp4.1/21, ML3.6/1, MS3.7/53, Error ellipse: s-maj=28.0km s-min=17.7km az=106.0*
*GCMT **25** 04:57:43.8±0.3, 6°.96S±0°.02×12°.62W±0°.02, h15km±2km, MW4.7/95, Moment Tensor Solution. s18,c21; s95,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.07±.05; $M_{\theta\theta}$-0.72±.06; $M_{\phi\phi}$0.79±.06; $M_{r\theta}$-0.30±.14; $M_{\theta\phi}$1.14±.06; $M_{\phi r}$-0.07±.12; Best double couple: $M_0$1.40600×10^{16} NP1:ϕ_s163.00000°, δ77.00000°, λ-178.00000°. NP2: ϕ_s73.00000°, δ88.00000°, λ-13.00000°. Principal axes: T 1.4350, Plg8.0000°, Azm119.0000°; N -0.0580, Plg77.0000°, Azm246.0000°; P -1.3770, Plg10.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 04:57:40.8±0.5, 7°.23S±0°.08×12°.66W±0°.09, h19km, n89, σ1s96/45, mb4.4/35, MS3.8/52, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**1.82**	**247**		**Pn**	**04 58 10.3**	**-0.9**
H10N1	**ASCENSION HYDR** baz=66,slow=75	**1.90**	**251**	T	T	05 00 57.0	
H10N2	**ASCENSION HYDR** baz=66,slow=75	**1.90**	**252**	T	T	05 00 47.6	
H10N3	**ASCENSION HYDR** baz=66,slow=75	**1.92**	**251**	T	T	05 00 54.2	
H10S2	**ASCENSION HYDR** baz=172,slow=74,SNR=3973	**2.61**	**229**	T	T	05 01 44.8	
H10S3	**ASCENSION HYDR** baz=48,slow=74,SNR=3602	**2.62**	**229**	T	T	05 01 45.4	
SHEL	**Horse Pasture**	**11.01**	**143**		**Pn**	**05 00 17.2**	**-0.2**
DBIC	**Dimbokro**	**15.85**	**30**	Pn	**Pn**	**05 01 21.8**	**-1.3**
DBIC	**Dimbokro** 0.2nm,0.3s,baz=202,slow=15,SNR=4.8	**15.85**	**30**	Pn	**Pn**	**05 01 19.8**	**-3.3**
DBIC	comp=Z,337nm,18.9s,baz=190,slow=32 4.8nm,0.7s			LR	LR	05 06 02.1	
ACRG	**Accra**	**17.83**	**45**	P	**Pn**	**05 01 46.4**	**-1.7**
ACRG	comp=Z,41nm,1.1s			IAmb	IAmb	05 01 55.7	
BBTS	**Babate** comp=Z,14nm,0.7s,baz=57,slow=2.4,SNR=4.7	**22.09**	**350**	P	**P**	**05 02 34.9**	**-0.1**
BBTS	comp=Z,116nm,19.6s,baz=32,slow=32 comp=Z,14nm,0.7s			LR	LR	05 09 21.0	
RCBR	**Riachuelo** comp=Z,46nm,18.5s,baz=85,slow=34	**23.13**	**272**	LR	LR	05 10 56.8	
TORD	**Torodi Ar. Bea**	**24.77**	**35**		**P**	**05 02 59.5**	**-2.1**
TORD	comp=Z,24nm,1.4s			IAmb	IAmb	05 03 11.0	
TORD	**Torodi Ar. Bea** comp=Z,10nm,0.8s,baz=219,slow=9.2,SNR=10.0 comp=Z,10nm,0.8s	**24.77**	**35**	P	**P**	**05 02 59.3**	**-2.2**
TSUM	**Tsumeb** comp=Z,319nm,20.5s,baz=306,slow=32	**31.70**	**115**	LR	LR	05 14 30.3	
TAM	**Tamanrasset**	**34.74**	**30**	P	**P**	**05 04 29.2**	**-1.0**
KOOLE	**Kule**	**35.26**	**120**	P	**P**	**05 04 32.3**	**-2.

comp=Z,105nm,20.6s,baz=170,slow=36
comp=Z,1.4nm,1.1s
KEST Kesra 47.49 24 P **P 05 06 15.7 +0.9**
comp=Z,6.4nm,0.9s,baz=250,slow=12,SNR=4.9
KEST LR LR 05 26 22.3
comp=Z,207nm,19.6s,baz=263,slow=36
comp=Z,6.4nm,0.9s
VAE Valguarnera 51.17 28 LR LR 05 27 48.2
comp=Z,164nm,18.5s,baz=170,slow=36
H05S1 Guadeloupe/Mar 52.40 294 T T 06 03 25.0
SNR=6.9
TRQA Tornquist 54.03 228 P **P 05 07 03.2 -1.0**
TRQA IAmb IAmb 05 07 08.2
comp=Z,17nm,1.4s
LPAZ La Paz 54.90 255 P **P 05 07 08.8 -2.6**
LPAZ La Paz 54.90 255 LR LR 05 29 33.3
comp=Z,52nm,19.9s,baz=92,slow=35
DAVOX Davos/Dischmat 57.39 18 LR LR 05 32 42.1
comp=Z,132nm,18.6s,baz=264,slow=37
DAVA Damuels 57.84 18 *i* P **P 05 07 34.5 +3.2**
comp=Z,13nm,1.4s
FETA Feichten 57.87 19 *e*P **P 05 07 33.6 +2.1**
comp=Z,4.7nm,1.0s
SQTA Sankt Quirin 58.20 19 *i* P **P 05 07 36.3 +2.5**
comp=Z,7.5nm,0.9s
MOTA Moosalm 58.28 19 *i* P P 05 07 40.5 +6.1
comp=Z,2.7nm,0.5s
WTTA Wattenberg 58.38 19 *e*P **P 05 07 36.3 +1.2**
comp=Z,8.9nm,1.3s
WATA Walderalm 58.42 19 *i* P **P 05 07 39.6 +4.2**
comp=Z,3.3nm,0.5s
SJG San Juan 58.48 296 LR LR 05 26 51.6
comp=Z,41nm,20.2s,baz=114,slow=30
EIL Elat 58.63 49 LR LR 05 31 15.9
comp=Z,60nm,21.4s,baz=245,slow=34
OBKA Obir 58.73 22 *e*P P 05 07 43.1 +5.6
comp=Z,8.1nm,1.4s
KBA Koelnbreinsper 58.79 21 *i* P **P 05 07 41.7 +3.7**
comp=Z,4.0nm,0.9s
LESA Schwarzleotal 58.86 20 *e*P **P 05 07 41.4 +3.0**
comp=Z,3.9nm,0.5s
MOA Molln 59.77 21 *i* P **P 05 07 46.3 +1.7**
comp=Z,4.5nm,1.4s
SDV Santo Domingo 59.95 285 LR LR 05 32 15.6
comp=Z,38nm,18.4s,baz=88,slow=34
RONA Rosalia, Austr 60.38 22 *i* P **P 05 07 51.4 +2.6**
comp=Z,7.2nm,1.2s
CONA Conrad Observa 60.41 22 *e*P P 05 07 55.9 +6.9
comp=Z,2.0nm,0.7s
GERES GERESS Array B 60.44 20 P **P 05 07 49.4 +0.2**
comp=Z,0.6nm,0.7s,baz=192,slow=9.0,SNR=6.3
GERES LR LR 05 33 11.6
comp=Z,75nm,21.6s,baz=219,slow=35
comp=Z,0.6nm,0.7s
MMAI Mount Meron Ar 60.71 46 P **P 05 07 51.9 +0.5**
comp=Z,0.5nm,0.3s,baz=187,slow=5.8,SNR=2.3
MMAI LR LR 05 33 49.2
comp=Z,41nm,20.2s,baz=229,slow=36
comp=Z,0.5nm,0.3s
PLCA Paso Flores 61.18 227 LR LR 05 31 52.2
comp=Z,54nm,18.8s,baz=116,slow=33
ASF Jabal al Asfar 61.35 47 LR LR 05 33 57.2
comp=Z,63nm,20.6s,baz=274,slow=36
VRAC Vranov 61.84 21 LR LR 05 36 38.5
comp=Z,74nm,18.1s,baz=214,slow=38
ROSC El Rosal 62.69 279 LR LR 05 33 32.0
comp=Z,117nm,19.8s,baz=98,slow=34
EKA Eskdalemuir Ar 62.84 6 P **P 05 08 05.1 0.0**
comp=Z,0.4nm,0.5s,baz=184,slow=8.3,SNR=4.4
comp=Z,0.4nm,0.5s
BRTR Keskin Array B 63.32 39 P **P 05 08 08.9 +0.1**
comp=Z,1.4nm,1.1s,baz=226,slow=5.8,SNR=6.1
BRTR LR LR 05 38 55.1
comp=Z,42nm,18.7s,baz=216,slow=39
comp=Z,1.4nm,1.1s
NNA Nana 63.34 260 LR LR 05 35 19.5
comp=Z,57nm,19.2s,baz=100,slow=36
SNAA Sanae 64.67 177 P **P 05 08 20.4 +3.3**
comp=Z,1.8nm,0.9s,baz=274,slow=6.4,SNR=3.6
SNAA LR LR 05 31 21.9
comp=Z,74nm,19.7s,baz=20,slow=31
comp=Z,1.8nm,0.9s
ATAH Atahualpa 65.16 265 LR LR 05 36 22.2
comp=Z,74nm,18.6s,baz=95,slow=36
AKASG Malin Array Be 68.09 27 P **P 05 08 38.2 -1.0**
comp=Z,1.4nm,0.6s,baz=229,slow=6.8,SNR=11
AKASG LR LR 05 39 55.8
comp=Z,59nm,19.9s,baz=223,slow=37
comp=Z,1.4nm,0.6s
HFS Hagfors 70.32 14 P **P 05 08 54.0 +1.1**
comp=Z,3.0nm,1.0s,baz=241,slow=3.0,SNR=4.0
HFS LR LR 05 41 33.6
comp=Z,47nm,18.2s,baz=192,slow=38
comp=Z,3.0nm,1.0s
NOA NORSAR Array B 70.59 12 P **P 05 08 54.6 0.0**
comp=Z,0.5nm,0.8s,baz=213,slow=9.1,SNR=3.3
NOA LR LR 05 41 11.4
comp=Z,20nm,19.5s,baz=210,slow=37
comp=Z,0.5nm,0.8s
GNI Garni 70.77 43 LR LR 05 44 46.6
comp=Z,21nm,18.6s,baz=246,slow=40
KBZ Khabaz 71.30 39 P **P 05 08 59.2 0.0**
comp=Z,2.8nm,1.0s,baz=218,slow=4.3,SNR=4.6
KBZ LR LR 05 41 07.6
comp=Z,31nm,20.4s,baz=192,slow=37
comp=Z,2.8nm,1.0s
BORG Borgarnes 72.07 356 LR LR 05 35 37.8
comp=Z,22nm,20.3s,baz=162,slow=32
JTS Las Juntas de 74.05 283 LR LR 05 42 05.4
comp=Z,26nm,18.4s,baz=112,slow=36
FINES FINESS Array B 74.80 18 P **P 05 09 20.9 +1.4**
comp=Z,1.2nm,0.7s,baz=219,slow=1.2,SNR=4.2
FINES LR LR 05 42 07.2
comp=Z,53nm,22.0s,baz=226,slow=36
comp=Z,1.2nm,0.7s
MAW Mawson 77.85 158 LR LR 05 39 04.3
comp=Z,50nm,18.2s,baz=296,slow=32
JMIC Jan Mayen 78.10 1 LR LR 05 40 53.4
comp=Z,14nm,19.7s,baz=234,slow=33
BELG Belogornoye 78.31 33 LR LR 05 45 10.7
comp=Z,31nm,18.0s,baz=200,slow=36
TKL Tuckaleechee C 79.11 308 LR LR 05 37 52.1
comp=Z,41nm,19.8s,baz=132,slow=30
ARCES ARCESS Array B 80.95 13 P **P 05 09 53.1 -0.5**
comp=Z,1.3nm,0.9s,baz=233,slow=5.5,SNR=5.1
ARCES LR LR 05 47 15.6
comp=Z,44nm,19.3s,baz=222,slow=37
comp=Z,1.3nm,0.9s
KIRV Kirov 82.14 28 LR LR 05 49 00.5
comp=Z,70nm,19.1s,baz=233,slow=38
QSPA South Pole Qui 82.89 180 P **P 05 10 04.0 -0.1**
QSPA IAmb IAmb 05 10 16.7
comp=Z,11nm,1.5s
QSPA South Pole Qui 82.89 180 P **P 05 10 06.3 +2.2**
comp=Z,2.1nm,1.0s,baz=238,slow=3.4,SNR=1.8
comp=Z,2.1nm,1.0s
ARTI Arti 85.68 32 LR LR 05 52 59.0
comp=Z,26nm,18.1s,baz=292,slow=39
ULM Lac du Bonnet 91.18 320 LR LR 05 48 53.9
comp=Z,60nm,18.2s,baz=118,slow=34
BVAR Borovoye Array 91.56 37 P **P 05 10 48.6 +2.3**
comp=Z,0.8nm,0.5s,baz=289,slow=4.4,SNR=4.6
BVAR LR LR 05 55 47.9
comp=Z,24nm,18.4s,baz=213,slow=38
comp=Z,0.8nm,0.5s
PALK Pallekele 94.22 83 LR LR 05 49 27.0
comp=Z,59nm,19.8s,baz=13,slow=33
TXAR Lajitas Array 94.36 299 P **P 05 11 01.7 +1.8**
comp=Z,0.2nm,0.7s,baz=101,slow=7.8,SNR=5.0
TXAR LR LR 05 52 55.5
comp=Z,10nm,18.1s,baz=62,slow=35
comp=Z,0.2nm,0.7s
SBA Scott Base 95.05 180 P **P 05 11 01.1 -0.9**
VNDA Vanda 95.33 179 P **P 05 11 01.3 -1.9**
FFC Flin Flon 95.45 324 P **P 05 11 02.7 -1.5**
FFC IAmb IAmb 05 11 09.5
comp=Z,4.2nm,1.4s
ANMO Albuquerque 97.19 304 LR LR 05 50 02.1
comp=Z,60nm,19.0s,baz=249,slow=32
MKAR Makanchi Array 98.61 44 LR LR 05 59 09.3
comp=Z,35nm,18.6s,baz=333,slow=38
PDAR Pinedale Array 99.92 312 LR LR 05 49 54.2
comp=Z,54nm,21.5s,baz=98,slow=31
ZALV Zalesovo Beam 100.21 37 LR LR 06 01 36.4
comp=Z,28nm,19.2s,baz=202,slow=38

IDC 25 05:11:32.6±1.9, 67.2°S×129.0°E, h0km, mb3.6/2,
mbtmp3.6/5, ML3.7/3, Error ellipse: s-maj=99.0km s-min=26.0km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.78**	**196**		Pn	Pn	05 14 22.0	-0.1
	0.3nm,0.3s,baz=350,slow=11,SNR=9.0							
FITZ					Sn	Sn	05 16 12.9	-21
	0.6nm,0.3s,baz=272,slow=20,SNR=5.7							
	0.8nm,0.3s							
WRA	**Warramunga Arr**	**14.12**	**159**		Pn	Pn	05 14 53.8	-0.4
	0.5nm,0.3s,baz=333,slow=14,SNR=8.7							
WRA					Sn	Sn	05 17 17.9	-14
	0.8nm,0.3s,baz=334,slow=22,SNR=9.7							
	0.6nm,0.3s							
ASAR	**Alice Springs**	**17.49**	**165**		P	Pn	05 15 38.5	+0.3
	0.2nm,0.3s,baz=342,slow=11,SNR=11							
ASAR					S	Sn	05 18 38.0	-16
	0.5nm,0.4s,baz=344,slow=26,SNR=4.4							
	1.1nm,0.7s							
MKAR	**Makanchi Array**	**67.46**	**327**		P	P	05 22 30.8	+0.5
	0.1nm,0.3s,baz=126,slow=6.8,SNR=1.7							
	0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**71.77**	**329**		P	P	05 22 56.5	-0.3
	0.6nm,0.8s,baz=129,slow=5.6,SNR=5.8							
	0.6nm,0.8s							

---

*ASRS **25** 05:14:29.0±0.7, 54.°03N×86.°52E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 25 05:14:30.8±2.9, 54.°08N×86.°58E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=23.7km s-min=13.9km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**264**		I	I	05 22 00.0	
	baz=82,slow=331,SNR=3.5							
ZALV	**Zalesovo Beam**	**1.05**	**263**		Pg	Pg	05 14 49.5	-1.4
	0.6nm,0.3s,baz=81,slow=17,SNR=7.8							
ZALV					Lg	Lg	05 15 05.7	
	1.6nm,0.3s,baz=83,slow=29,SNR=9.8							
KURBB	**Kurchatov Arra**	**6.03**	**238**		Pn	Pn	05 16 02.7	+1.6
	0.1nm,0.3s,baz=54,slow=13,SNR=2.7							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**7.79**	**202**		Pn	Pn	05 16 26.2	+0.9
	0.1nm,0.3s,baz=24,slow=13,SNR=5.6							
	0.2nm,0.3s							

---

*SOME **25** 05:20:38.7, 39.°27N×73.°40E, h15km*
*KRNET **25** 05:20:39.8±0.1, 39.°40N×73.°41E, h12km, mb3.2*
*NNC **25** 05:20:46.9±2.4, 39.°82N×73.°21E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=19.1km s-min=9.4km az=171.0*
ISC 25 05:20:39.6±1.7, 39.°43N±0.°07×73.°42E±0.°04, h6km±11km, n31, σ2.9°01/50, 14C-13D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.59**	**6**	*i* P		**Pg**	**05 20 51.6**	**+0.7**
SFK				*i* S		**Sg**	**05 21 00.7**	**+2.1**
OHH	**Osh**	**1.20**	**336**	⇑*e*P		**Pn**	**05 21 02.6**	**-0.3**
OHH				⇑*e*S		**Sn**	**05 21 19.9**	**+0.4**
DRK	**Karamyk**	**1.26**	**273**	⇑*e*P		**Pg**	**05 21 03.7**	**0.0**
DRK				⇑*e*S		**Sn**	**05 21 21.0**	**-0.3**
SALK	**Salom-Alik**	**1.48**	**12**	⇓*i*P		**Pb**	**05 21 08.2**	**+0.6**
SALK				⇓*i*S		**Sg**	**05 21 29.0**	**+1.7**
ARSB	**Arslanbob**	**1.92**	**350**	⇑*i*P		**Pg**	**05 21 16.3**	**-0.1**
ARSB				⇑*i*S		**Sg**	**05 21 43.1**	**+1.7**
BTK	**Batken**	**2.10**	**288**	⇓*e*P		**Pb**	**05 21 18.4**	**+0.2**
BTK				⇓*e*S		**Sg**	**05 21 46.1**	**-1.1**
ARLS	**Aral**	**2.52**	**15**	⇓*e*P		**Pb**	**05 21 24.7**	**-0.6**
ARLS				⇓*e*S		**Sb**	**05 21 57.0**	**+0.3**
AML	**Almayashu**	**2.71**	**4**	⇓*e*P		**Pb**	**05 21 26.9**	**-1.7**
AML				⇓*i*S		**Sb**	**05 22 01.9**	**-0.3**
TRKS	**Terek-Say**	**2.73**	**321**	⇑*i*P		**Pn**	**05 21 26.2**	**+2.2**
TRKS				⇑*i*S		**Sb**	**05 22 00.0**	**-2.5**
NRN	**Naryn**	**2.81**	**44**	⇓*e*P		**Pb**	**05 21 28.1**	**-2.1**
NRN				⇓*e*S		**Sb**	**05 22 03.4**	**-1.6**
MNAS	**Manas**	**3.13**	**347**	⇑*e*P		**Pb**	**05 21 33.0**	**-2.7**
MNAS				⇑*e*S		**Sb**	**05 22 11.6**	**-2.6**
AAK	**Ala-Archa**	**3.31**	**14**	⇑Pn		**Pb**	**05 21 37.3**	**-1.3**
	3.6nm,0.4s							
AAK				⇓Lg		Lg	05 22 19.3	
	21nm,0.9s							
MRKS	**Merke**	**3.32**	**357**	Pg		**Pb**	**05 21 39.8**	**+1.0**
	13nm,0.3s							
MRKS				Lg		Lg	05 22 23.1	
	15nm,0.4s							
MRKS	**Merke**	**3.32**	**357**	*e*P		**Pb**	**05 21 41.2**	**+2.4**
	13nm,0.4s							
MRKS				*e*S		**Sg**	**05 22 26.6**	**+0.5**
	21nm,0.0s							
IUG	**Iuzhnay**	**3.74**	**318**	Pg		**Pb**	**05 21 46.0**	**0.0**
	19nm,0.3s							
IUG				Lg		Lg	05 22 33.8	
	35nm,0.4s							
TKM2	**Tokmak 2**	**3.85**	**24**	⇑Pg		**Pg**	**05 21 52.2**	**-1.2**
	7.6nm,0.6s							
TKM2				⇓Lg		Lg	05 22 41.7	
	14nm,0.8s							
KST	**Kastek**	**4.09**	**27**	Pg		**Pb**	**05 21 55.1**	**+3.1**
	5.0nm,0.5s							
KST				Lg		Lg	05 22 49.7	
	25nm,0.6s							
KST	**Kastek**	**4.09**	**27**	*e*P		**Pb**	**05 21 54.3**	**+2.4**
	5.0nm,0.5s							
KST				*e*S		**Sg**	**05 22 49.3**	**-1.4**
	25nm,0.6s							
KK31	**Karatay Array**	**4.28**	**330**	⇑Pn		**Pn**	**05 21 48.5**	**+3.3**
	1.2nm,0.4s,baz=134,slow=12,SNR=8.6							
KK31				⇑Pg		**Pb**	**05 21 58.7**	**+3.5**
	1.4nm,0.3s,baz=147,slow=18,SNR=7.5							
KK31				⇓Lg		Lg	05 22 41.9	
	1.8nm,0.3s,baz=156,slow=24,SNR=4.4							
MTBS	**Maitube**	**4.33**	**31**	Pg		**Pg**	**05 22 00.9**	**-1.7**
	2.9nm,0.2s							
MTBS				Lg		Lg	05 22 59.2	
	11nm,0.4s							
MTBS	**Maitube**	**4.33**	**31**	*e*P		**Pg**	**05 22 00.6**	**-2.0**
	2.9nm,0.2s							
MTBS				*e*S		**Sg**	**05 22 60.0**	**+1.2**
	11nm,0.4s							
TNSS	**Tian-Shan**	**4.48**	**35**	Pg		**Pb**	**05 22 02.4**	**+3.7**
	3.7nm,0.4s							
TNSS				Lg		Lg	05 23 01.7	
	9.9nm,0.6s							
TNSS	**Tian-Shan**	**4.48**	**35**	*e*P		**Pg**	**05 22 03.2**	**-2.1**
	3.7nm,0.4s							
TNSS				*e*S		**Sg**	**05 23 04.5**	**+1.1**
	9.9nm,0.6s							
BRLS	**Borolday**	**4.50**	**324**	Pg		**Pb**	**05 21 58.9**	**0.0**
	2.0nm,0.3s							
BRLS				Lg		Lg	05 22 55.7	
	3.4nm,0.3s							
BRLS	**Borolday**	**4.50**	**324**	*e*P		**Pb**	**05 22 00.5**	**+1.5**
	2.0nm,0.3s							
BRLS				*e*S		**Sg**	**05 22 59.8**	**-4.2**
	4.2nm,0.4s							
KOTS	**Kotyrbulak**	**4.71**	**35**	Pg		**Pg**	**05 22 07.6**	**-2.1**
	3.8nm,0.6s							
KOTS				Lg		Lg	05 23 10.5	
	50nm,0.8s							
KOTS	**Kotyrbulak**	**4.71**	**35**	*e*P		**Pg**	**05 22 07.3**	**-2.4**
	3.8nm,0.6s							
KOTS				*e*S		**Sg**	**05 23 11.6**	**+0.9**
	50nm,0.8s							
KTBS	**Karatobe**	**4.93**	**29**	Pg		**Pg**	**05 22 11.1**	**-2.8**
	1.3nm,0.2s							
KTBS				Lg		Lg	05 23 17.2	
	11nm,0.5s							
KUU	**Kurty**	**4.96**	**25**	Pg		**Pg**	**05 22 12.2**	**-2.4**
	2.6nm,0.1s							
KUU				Lg		Lg	05 23 19.0	
	23nm,0.3s							
KUU	**Kurty**	**4.96**	**25**	*e*P		**Pg**	**05 22 11.8**	**-2.9**
	2.6nm,0.1s							
KUU				*e*S		**Sg**	**05 23 18.9**	**0.0**
	23nm,0.3s							
BLB	**Baldybastay**	**6.00**	**37**	Pg		**Pg**	**05 22 32.2**	**-2.3**
	2.5nm,0.1s							
BLB				Lg		Lg	05 23 52.5	
	15nm,0.8s							

---

*NEIC **25** 05:31:18.2±1.2, 61.°48N±0.°02×149.°89W±0.°03, h34km±9km, Error ellipse: s-maj=3.5km s-min=2.0km az=154.0*
AEIC 25 05:31:18.7±1.7, 61.°48N±0.°02×149.°91W±0.°04, h26km±7km, ML3.1, ML3.2/178(NEIC), Error ellipse: s-maj=3.2km s-min=1.7km az=53.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
M22K	**Willow**	**0.29**	**340**			Pb	05 31 25.7	0.0
M22K					IAML		05 31 32.7	
	comp=N,3μm,0.5s							
M22K					IAML		05 31 35.4	
	comp=E,3μm,0.5s							
FIS	**Fire Island**	**0.37**	**204**			Pb	05 31 27.4	+0.6
FIS					IAML		05 31 36.3	
	comp=E,2μm,0.3s							
FIS					IAML		05 31 36.4	
	comp=N,2μm,0.6s							
PMR	**Palmer**	**0.39**	**73**			Pb	05 31 26.6	-0.5
PMR						Sb	05 31 33.5	+0.6
PMR					IAML		05 31 34.0	
	comp=N,4μm,0.5s							
PMR					IAML		05 31 34.1	
	comp=E,3μm,0.3s							
RC01	**Rabbit Creek A**	**0.40**	**168**			Pb	05 31 27.1	-0.3
RC01						Sn	05 31 34.5	-1.0
RC01					IAML		05 31 35.6	
	comp=E,2μm,0.2s							
RC01					IAML		05 31 38.4	
	comp=N,1μm,0.2s							
SUA	**Susitna One**	**0.40**	**268**			Pb	05 31 27.4	-0.1
SUA						Sn	05 31 34.9	-0.8
GHO	**Glory Hole Cre**	**0.56**	**58**			Pb	05 31 29.0	-1.0
GHO					Sg	Sb	05 31 37.6	0.0
KNK	**Knik Glacier**	**0.70**	**95**			Pb	05 31 31.1	-1.3
KNK						Sb	05 31 41.6	-0.1
KNK					IAML		05 31 45.0	
	comp=N,2μm,0.4s							
SML	**Sawmill**	**0.82**	**66**			Pb	05 31 32.3	-2.1
SML					Sg	Sb	05 31 43.6	-1.5
SML					IAML		05 31 45.9	
	comp=N,850nm,0.9s							
SML					IAML		05 31 47.0	
	comp=E,909nm,0.8s							
SKT	**Skwentna**	**0.92**	**304**			Pn	05 31 33.9	-2.1
SKT					IAML		05 31 47.1	
	comp=E,1μm,0.4s							
STLK	**Strandline Lak**	**0.92**	**272**			Pn	05 31 34.4	-1.6
STLK					Sg	Sb	05 31 47.2	-0.8
STLK					IAML		05 31 47.8	
	comp=N,768nm,0.3s							
STLK					IAML		05 31 47.9	
	comp=E,483nm,0.3s							
CAPN	**Captain Cook N**	**0.94**	**221**			Pn	05 31 35.9	-0.2
CUT	**Chulitna**	**0.94**	**350**			Pn	05 31 34.3	-1.9
CUT						Sb	05 31 47.2	-1.3
PWL	**Port Wells**	**0.99**	**129**			Pn	05 31 35.1	-1.8
SLKM	**Skilak Lake**	**0.99**	**189**			Pn	05 31 35.1	-1.8
SLKM					IAML		05 31 50.7	
	comp=E,991nm,0.5s							
SLKM					IAML		05 31 51.2	
	comp=N,959nm,0.2s							
O22K	**Cooper Landing**	**1.01**	**175**			Pn	05 31 35.4	-1.7
O22K						Sb	05 31 49.8	-0.5
M23K	**Glacier View**	**1.09**	**72**			Pn	05 31 36.5	-1.8
SPCR	**Spurr Chakacha**	**1.14**	**257**			Pn	05 31 37.6	-1.4
SPBG	**Spurr Blockage**	**1.21**	**260**			Pn	05 31 38.1	-1.4
SCM	**Sheep Creek Mo**	**1.28**	**73**			Pn	05 31 39.8	-1.2
SEW	**Seward**	**1.40**	**171**			Pn	05 31 40.9	-1.6
SEW					IAML		05 32 07.1	
	comp=E,248nm,0.6s							
GLI	**Glacier Island**	**1.49**	**113**			Pn	05 31 42.3	-1.5
GLI					IAML		05 32 04.3	
	comp=N,586nm,0.4s							
RDT	**Redoubt**	**1.52**	**234**			Pn	05 31 43.0	-1.2
M20K	**Styx River**	**1.59**	**286**			Pn	05 31 44.1	-1.1
M20K					IAML		05 32 07.3	
	comp=E,280nm,0.9s							
M20K					IAML		05 32 07.6	
	comp=N,332nm,0.8s							
RDJH	**Redoubt Jeurge**	**1.67**	**239**			Pn	05 31 45.1	-1.2
RDWB	**Redoubt West**	**1.74**	**236**			Pn	05 31 46.5	-0.9
RED	**Redoubt Volcan**	**1.76**	**234**			Pn	05 31 46.5	-1.0
PPLA	**Purkeypile**	**1.78**	**324**			Pn	05 31 46.9	-1.0
PPLA					IAML		05 32 25.0	
	comp=E,185nm,0.6s							
PPLA					IAML		05 32 25.9	
	comp=N,214nm,0.8s							
BRLK	**Bradley Lake**	**1.79**	**196**			Pn	05 31 46.5	-1.4
BRLK					IAML		05 32 13.0	
	comp=N,302nm,0.4s							
BRSE	**Bradley Lake S**	**1.79**	**194**			Pn	05 31 46.1	-1.8
FID	**Port Fidalgo**	**1.82**	**112**			Pn	05 31 46.5	-1.8
M24K	**Tolsona, Glenn**	**1.88**	**69**			Pn	05 31 48.9	-0.3
KLU	**Klutina**	**1.91**	**88**			Pn	05 31 48.3	-1.4
KLU					IAML		05 32 13.3	
	comp=N,275nm,0.5s							
KLU					IAML		05 32 20.9	
	comp=E,202nm,0.5s							
TRF	**Thorofare Moun**	**1.98**	**355**			Pn	05 31 50.2	-0.6
TRF					IAML		05 32 23.7	
	comp=N,172nm,0.7s							
TRF					IAML		05 32 25.6	
	comp=E,139nm,0.9s							
HIN	**Hinchinbrook I**	**1.99**	**122**			Pn	05 31 49.3	-1.3
HIN					IAML		05 32 23.9	
	comp=N,344nm,0.9s							
RND	**Reindeer**	**1.99**	**14**			Pn	05 31 50.0	-0.8
RND					IAML		05 32 25.7	
	comp=E,140nm,0.6s							
HOM	**Homer**	**2.02**	**206**			Pn	05 31 50.3	-0.7
DIV	**Divide**	**2.03**	**98**			Pn	05 31 49.5	-1.8
DIV					IAML		05 32 18.1	
	comp=E,154nm,0.4s							
CNPM	**China Poot**	**2.07**	**199**			Pn	05 31 50.3	-1.5
KTH	**Kantishna Hill**	**2.13**	**348**			Pn	05 31 52.3	-0.4
KTH					IAML		05 32 22.6	
	comp=E,111nm,0.5s							
KTH					IAML		05 32 23.5	
	comp=N,134nm,0.6s							
M19K	**Big River Lodg**	**2.18**	**283**			Pn	05 31 52.3	-0.9
M19K					IAML		05 32 32.3	
	comp=E,145nm,0.9s							
M19K					IAML		05 32 34.5	
	comp=N,109nm,0.6s							
ILS	**Iliamna Low So**	**2.18**	**227**			Pn	05 31 52.5	-0.9
CAST	**Castle Rocks**	**2.19**	**334**			Pn	05 31 52.6	-0.9
EYAK	**Cordova Ski Ar**	**2.23**	**113**			Pn	05 31 52.2	-1.7
EYAK					IAML		05 32 27.3	
	comp=E,109nm,0.3s							
EYAK					IAML		05 32 29.0	
	comp=N,152nm,0.5s							
MCK	**McKinley**	**2.31**	**11**			Pn	05 31 54.9	-0.1
MCK					IAML		05 32 34.0	
	comp=N,207nm,0.9s							
MCK					IAML		05 32 34.0	
	comp=E,129nm,0.8s							
N19K	**Bonanza Creek**	**2.32**	**255**			Pn	05 31 54.7	-0.6
HARP	**HAARP**	**2.43**	**66**			Pn	05 31 56.2	-0.5
L19K	**White Mountain**	**2.45**	**289**			Pn	05 31 56.4	-0.6
O19K	**Port Alsworth**	**2.52**	**241**			Pn	05 31 57.2	-0.6
N25K	**Chitina, Valde**	**2.55**	**85**			Pn	05 31 56.8	-1.6
N25K					IAML		05 32 35.1	
	comp=E,99nm,0.6s							
N25K					IAML		05 32 35.4	
	comp=N,158nm,0.5s							
PAX	**Paxson**	**2.56**	**52**			Pn	05 31 58.6	+0.1
PAX					IAML		05 32 34.8	
	comp=N,143nm,0.7s							
PAX					IAML		05 32 38.0	
	comp=E,75nm,0.5s							
BMRM	**Bremner River**	**2.62**	**99**			Pn	05 31 57.2	-2.1
BMRM					IAML		05 32 37.9	
	comp=N,136nm,0.4s							
BMRM					IAML		05 32 39.9	
	comp=E,140nm,0.6s							
BPAW	**Bear Paw Mtn.**	**2.67**	**350**			Pn	05 31 59.0	-1.1
K20K	**Telida**	**2.70**	**316**			Pn	05 31 59.5	-0.9
WACK	**Wrangell Chich**	**2.71**	**77**			Pn	05 32 00.2	-0.5
BWN	**Browne**	**2.71**	**4**			Pn	05 32 00.3	-0.2
M18K	**Stony River**	**2.84**	**273**			Pn	05 32 01.2	-1.1
GLB	**Gilahina Butte**	**2.93**	**88**			Pn	05 32 01.9	-1.7
GLB					IAML		05 32 47.4	
	comp=E,68nm,0.7s							

comp=N,80nm,0.5s
N18K Kilae Creek 3.01 257 Pn 05 32 03.6 -1.1
WRH Wood River Hil 3.12 15 Pn 05 32 05.7 -0.4
SYI Shuyak Island 3.14 204 Pn Pn 05 32 05.1 -1.2
SYI IAML 05 32 53.0
comp=E,84nm,0.5s
SYI IAML 05 32 54.2
comp=N,88nm,0.7s
NEA2 Nenana 3.15 7 Pn 05 32 05.4 -1.1
HDA Harding Lake 3.24 23 Pn 05 32 07.5 -0.3
HDA IAML 05 33 02.0
comp=N,81nm,0.7s
HDA IAML 05 33 03.4
comp=E,63nm,0.7s
L18K Granite Mounta 3.30 286 Pn 05 32 07.4 -1.1
L18K IAML 05 33 08.0
comp=N,40nm,1.2s
CCB Clear Creek Bu 3.32 16 Pn 05 32 07.9 -1.0
CCB IAML 05 33 02.4
comp=E,43nm,1.0s
J20K Nowinta River 3.33 326 Pn 05 32 08.0 -1.0
J20K IAML 05 33 08.6
comp=N,69nm,0.6s
J20K IAML 05 33 09.6
comp=E,77nm,0.6s
P18K Big Mountain, 3.37 234 Pn 05 32 08.9 -0.7
M26K Nabesna, AK 3.40 71 Pn 05 32 09.0 -1.0
M26K IAML 05 33 03.4
comp=N,62nm,0.5s
M26K IAML 05 33 18.1
comp=E,51nm,0.5s
KHIT Khitrov Hills 3.41 105 Pn 05 32 08.6 -1.6
DOT Dot Lake 3.47 49 Pn 05 32 11.0 0.0
DOT IAML 05 33 07.6
comp=E,69nm,0.8s
DOT IAML 05 33 09.5
comp=N,75nm,0.7s
IL31 3.58 21 Pn 05 32 11.4 -1.0
ILAR Eielson Array 3.58 21 Pn 05 32 12.0 -0.4
WAX Waxell Ridge 3.59 104 Pn 05 32 10.6 -2.2
M17K Holitna River 3.62 272 Pn 05 32 12.2 -0.8
M17K IAML 05 33 28.8
comp=E,68nm,0.8s
M17K IAML 05 33 29.4
comp=N,54nm,0.9s
J19K Poorman 3.64 316 Pn 05 32 12.2 -1.2
J19K IAML 05 33 11.7
comp=E,41nm,1.1s
J19K IAML 05 33 25.3
comp=N,39nm,1.1s
N17K Nushagak Hills 3.67 258 Pn 05 32 12.8 -1.0
N17K IAML 05 33 13.6
comp=E,29nm,0.8s
I23K Minto, Yukon-K 3.69 4 Pn 05 32 13.3 -0.7
I23K IAML 05 33 20.4
comp=N,45nm,1.1s
KIAG Kiagna River 3.70 95 Pn 05 32 12.0 -2.2
SCRK Sand Creek 3.70 45 Pn 05 32 13.9 -0.3
SCRK IAML 05 33 12.9
comp=E,37nm,0.8s
SCRK IAML 05 33 13.4
comp=N,51nm,0.6s
J18K Innoko River 3.73 305 Pn 05 32 13.7 -0.9
J18K IAML 05 32 57.7
comp=N,33nm,0.7s
J25K Salcha River, 3.76 31 Pn 05 32 15.5 +0.5
J25K IAML 05 33 03.6
comp=E,54nm,0.6s
J25K IAML 05 33 05.3
comp=N,39nm,0.4s
POKR Poker Plat Res 3.82 16 Pn Pn 05 32 15.3 -0.4
POKR IAML 05 33 18.0
comp=E,28nm,0.9s
POKR IAML 05 33 22.8
comp=N,26nm,0.8s
I21K Tanana 3.83 347 Pn 05 32 15.1 -0.7
M27K Edge Creek, AK 3.90 73 Pn 05 32 16.4 -0.5
I20K Naaghedeneel 3.92 330 Pn 05 32 16.5 -0.6
L27K Beaver Creek, 4.10 64 Pn 05 32 19.0 -0.6
L27K IAML 05 33 25.9
comp=N,24nm,0.9s
K17K Iditarod 4.13 291 Pn 05 32 19.2 -0.9
K17K IAML 05 33 33.8
comp=E,44nm,0.7s
K17K IAML 05 33 33.9
comp=N,45nm,0.8s
J26L Joseph Creek 4.19 41 Pn 05 32 21.2 +0.2
J26L IAML 05 33 14.2
comp=E,49nm,0.7s
H21K Melozitna Rive 4.39 344 Pn 05 32 23.0 -0.6
M16K Timber Creek 4.39 268 Pn 05 32 22.7 -1.0
H24K Noodor Dome 4.47 11 Pn 05 32 24.2 -0.5
H24K IAML 05 33 45.8
comp=E,16nm,1.2s
PRP Porcupine Dome 4.50 24 Pn 05 32 25.1 -0.1
PRP IAML 05 33 24.0
comp=N,27nm,0.7s
PRP IAML 05 33 38.4
comp=E,28nm,0.6s
L16K Owhat River 4.58 277 Pn 05 32 25.2 -1.0
L16K IAML 05 33 51.3
comp=N,21nm,0.8s
J17K VABM Dome 4.67 298 Pn 05 32 26.4 -1.1
J17K IAML 05 33 51.8
comp=N,14nm,0.8s
O28M Mount Upton 4.77 94 Pn 05 32 28.4 -0.6
O28M IAML 05 33 48.1
comp=N,16nm,0.8s
I26K Coal Creek Min 4.89 35 Pn 05 32 30.9 +0.4
I26K IAML 05 33 50.5
comp=N,31nm,0.8s
H19K Roundabout Mou 5.01 327 Pn 05 32 30.6 -1.4
H19K IAML 05 34 04.5
comp=E,12nm,1.1s
H19K IAML 05 34 04.7
comp=N,12nm,0.7s
N15K Kwethluk River 5.15 260 Pn Pn 05 32 33.5 -0.6
N15K IAML 05 34 07.0
comp=N,18nm,0.8s
N15K IAML 05 34 18.0
comp=E,15nm,0.8s
G23K Bananza Creek 5.25 360 Pn 05 32 35.2 -0.2
J16K Anvik River 5.29 295 Pn 05 32 34.7 -1.3
J16K IAML 05 34 13.6
comp=N,9.2nm,0.9s
G21K Allakaket 5.30 344 Pn 05 32 36.0 0.0
G21K IAML 05 33 36.5
comp=E,12nm,0.8s
G21K IAML 05 33 36.8
comp=N,16nm,0.8s
H18K Honhosa River 5.30 318 Pn 05 32 35.4 -0.7
G24K Hadweenzic Riv 5.35 10 Pn 05 32 36.6 -0.1
G24K IAML 05 34 05.1
comp=N,8.8nm,1.1s
DAWY Dawson 5.48 57 Pn 05 32 38.0 -0.6
M29M Somme Creek 5.49 75 Pn 05 32 37.9 -0.9
I17K Unalakleet 5.52 301 Pn 05 32 38.5 -0.6
I27K Kandik River 5.55 38 Pn 05 32 38.0 -1.6
K15K Wolf Creek Mou 5.56 284 Pn 05 32 38.6 -1.0
G19K Purcell Mounta 5.65 329 Pn Pn 05 32 39.8 -1.1
H17K Granite Mounta 5.70 312 Pn 05 32 41.2 -0.3
L29M L29M 5.74 68 Pn Pn 05 32 41.3 -0.8
COLD Coldfoot 5.77 359 Pn 05 32 42.5 0.0
G18K Tagagawik 5.89 323 Pn 05 32 43.4 -0.8
F21K Alatna River 5.97 347 Pn 05 32 45.4 +0.1
N14K Kuskokwak Cree 5.99 260 Pn Pn 05 32 44.9 -0.6
HYT Haines Junctio 6.04 91 Pn Pn 05 32 45.6 -0.9
F24K Squaw Lake 6.12 7 Pn Pn 05 32 47.8 +0.4
F20K Avaraart Lake 6.13 338 Pn 05 32 47.5 0.0
P29M Windy Craggy 6.28 102 Pn Pn 05 32 48.7 -0.9
F19K Shaleruckik Mo 6.37 331 Pn 05 32 49.8 -0.9
G27K Doyon Strip 6.45 30 Pn 05 32 51.6 -0.3
J14K Nanvaranak Lak 6.53 287 Pn Pn 05 32 52.2 -0.7
M13K Dall Lake 6.63 267 Pn Pn 05 32 53.7 -0.6
E24K Your Creek 6.65 5 Pn 05 32 54.3 -0.3
F26K Sheenjek River 6.71 19 Pn 05 32 54.7 -0.8
E19K Redstone River 6.78 335 Pn 05 32 56.5 +0.2
G16K Koyuk River 6.82 311 Pn 05 32 56.5 -0.4
E25K Arctic Village 6.92 14 Pn 05 32 58.3 0.0
K13K Kusilvak Mount 7.03 280 Pn Pn 05 32 57.4 -2.4
F17K Baldwin Pennin 7.04 320 Pn 05 32 59.3 -0.6
TOLK Toolik Lake Re 7.19 1 Pn Pn 05 33 04.2 +2.1
E18K Tukpahlearik C 7.53 327 Pn 05 33 07.0 +0.3
E27K Coleen River 7.60 24 Pn Pn 05 33 07.4 -0.2

ANM Nome 7.68 300 Pn 05 33 08.3 -0.3
D20K Etivluk River 7.79 342 Pn Pn 05 33 11.1 +0.9
F15K North Star Dit 7.81 309 Pn Pn 05 33 10.0 -0.5
D19K Kuna River 7.84 337 Pn Pn 05 33 11.8 +0.8
B21K Ikpikpuk River 8.40 349 Pn Pn 05 33 18.1 -0.4
C18K Utukok River 8.61 331 Pn Pn 05 33 21.0 -0.6
G31M Satah River 8.72 45 Pn Pn 05 33 22.5 -0.3
MMPY Sheldon Lake, 8.83 74 Pn Pn 05 33 23.1 -1.4
TNA Tin City 9.01 305 Pn Pn 05 33 27.0 +0.1
F31M Tsiigehtchic 9.17 42 Pn Pn 05 33 28.7 -0.3
GAMB Gambell 10.28 292 Pn Pn 05 33 44.0 -0.2

*IDC **25** 05:33:42.9±0.8, 12°.94S×45°.46E, h0km, mb4.0/7, mbtmp4.1/10, ML4.4/3, MS3.5/3, Error ellipse: s-maj=25.5km s-min=22.9km az=123.0*
*NEIC **25** 05:33:45.4±0.7, 12°.87S±0°.04×45°.5E±0°.1, h10km±2km, mb4.3/11, Error ellipse: s-maj=19.4km s-min=5.8km az=82.0*
ISC 25 05:33:44.1±0.6, 12°.97S±0°.05×45°.54E±0°.07, h10km, n42, σ2s06/46, mb4.3/12, MS3.6/3, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.30**	**97**	P	**Pn**	**05 34 50.9**	**+1.4**
SBV				S	**Sn**	**05 35 36.2**	**-3.5**
OPO	**Ambohidratompo**	**5.79**	**164**	Pn	**Pn**	**05 35 12.9**	**+2.5**
	2.8nm,0.3s,baz=336,slow=12,SNR=173						
OPO				Sn	**Sn**	**05 36 13.9**	**-3.1**
	6.2nm,0.3s,baz=333,slow=11,SNR=5.1						
	81nm,0.5s						
OPO	**Ambohidratompo**	**5.79**	**164**	P	**Pn**	**05 35 13.0**	**+2.7**
OPO				S	**Sn**	**05 36 14.3**	**-2.6**
FIRM	**Firavahana**	**5.85**	**167**	P	**Pn**	**05 35 13.7**	**+2.6**
FIRM				S	**Sn**	**05 36 15.1**	**-3.2**
ATG	**Ambohiby**	**5.91**	**174**	P	**Pn**	**05 35 13.9**	**+2.0**
ABPO	**Ambohimpanom**	**6.23**	**165**		**Pn**	**05 35 18.9**	**+2.5**
ABPO	**Ambohimpanom**	**6.23**	**165**	P	**Pn**	**05 35 18.5**	**+2.2**
ABPO				S	**Sn**	**05 36 24.4**	**-3.4**
MDSM	**Mandiavato**	**6.25**	**167**	P	**Pn**	**05 35 19.3**	**+2.7**
MDSM				S	**Sn**	**05 36 25.1**	**-3.2**
AVY	**Angavokely**	**6.29**	**161**	P	**Pn**	**05 35 19.0**	**+1.7**
DGRM	**Ambatolahisoa**	**6.32**	**172**	P	**Pn**	**05 35 19.7**	**+2.2**
DGRM				S	**Sn**	**05 36 26.2**	**-3.6**
ABM	**Ambohimiarambe**	**7.00**	**166**	P	**Pn**	**05 35 29.4**	**+2.4**
VOI	**Vohitsoka**	**8.97**	**173**	Pn	**Pn**	**05 35 56.4**	**+2.5**
RER	**Riviere de l'E**	**12.71**	**131**	Pn	**Pn**	**05 36 45.7**	**+0.6**
MSEY	**Mahe Island**	**12.81**	**51**	Pn	**Pn**	**05 36 46.8**	**+0.3**
KIBK	**Kibwezi**	**12.90**	**324**	Pn	**Pn**	**05 36 44.3**	**-3.4**
KMBO	**Kilima Mbogo**	**14.34**	**324**	Pn	**Pn**	**05 37 06.8**	**-0.9**
LSZ	**Lusaka**	**16.98**	**260**		**Pn**	**05 37 41.3**	**-0.8**
LSZ	**Lusaka**	**16.98**	**260**	Pn	**Pn**	**05 37 39.7**	**-2.4**
	0.9nm,0.3s,baz=93,slow=11,SNR=12						
	3.8nm,0.5s						
MATP	**Matopo**	**17.92**	**243**	P	**Pn**	**05 37 55.0**	**+1.3**
	0.2nm,0.3s,baz=72,slow=11,SNR=7.1						
	1.5nm,0.7s						
LODK	**Lodwar**	**19.16**	**327**	P	**P**	**05 38 07.2**	**-0.8**
MREMI	**Moremi**	**19.68**	**238**	P	**P**	**05 38 14.2**	**+0.6**
MREMI				IAmb	IAmb	05 38 17.8	
	comp=Z,9.5nm,0.8s						
LPHEP	**Lephephe**	**21.34**	**238**		**P**	**05 38 32.2**	**+0.5**
LPHEP				IAmb	IAmb	05 38 35.8	
	comp=Z,14nm,0.8s						
LBTB	**Lobatse**	**22.31**	**235**	P	**P**	**05 38 42.6**	**+0.5**
LBTB				IAmb	IAmb	05 38 45.3	
	comp=Z,12nm,0.9s						
KDWAN	**Kaudwane**	**22.35**	**239**		**P**	**05 38 42.9**	**+0.4**
KDWAN				IAmb	IAmb	05 38 48.5	
	comp=Z,18nm,1.0s						
QNGWA	**Qangwa**	**24.27**	**251**	P	**P**	**05 39 02.3**	**+0.5**
QNGWA				IAmb	IAmb	05 39 04.3	
	comp=Z,4.3nm,0.9s						
BOSA	**Boshof**	**24.47**	**227**	P	**P**	**05 39 03.4**	**-0.2**
BOSA				IAmb	IAmb	05 39 17.9	
	comp=Z,18nm,1.4s						
BOSA	**Boshof**	**24.47**	**227**	P	**P**	**05 39 02.6**	**-1.0**
	comp=Z,3.3nm,0.6s,baz=68,slow=9.4,SNR=9.6						
	comp=Z,3.3nm,0.6s						
GRTLG	**Ghanzi**	**24.67**	**247**	P	**P**	**05 39 05.7**	**+0.2**
GRTLG				IAmb	IAmb	05 39 28.1	
	comp=Z,8.5nm,1.4s						
LKGWB	**Lokgwabe**	**25.54**	**241**		**P**	**05 39 09.8**	**-3.6**
SUR	**Sutherland**	**29.77**	**225**	P	**P**	**05 39 51.2**	**-0.1**
GNI	**Garni**	**52.85**	**359**	LR	LR	06 05 57.7	
	comp=Z,32nm,19.4s,baz=128,slow=37						
ABKAR	**Akbulak array**	**63.24**	**11**	P	**P**	**05 44 13.3**	**+0.7**
GERES	**GERESS Array B**	**67.68**	**338**	P	**P**	**05 44 42.8**	**+1.2**
	comp=Z,0.2nm,0.2s,baz=156,slow=7.5,SNR=5.4						
	comp=Z,0.2nm,0.2s						
MKAR	**Makanchi Array**	**68.00**	**26**	P	**P**	**05 44 43.7**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=224,slow=9.3,SNR=3.7						
	comp=Z,0.2nm,0.6s						
ARTI	**Arti**	**69.92**	**8**	LR	LR	06 18 45.7	
	comp=Z,33nm,19.0s,baz=3.5,slow=39						
KIRV	**Kirov**	**71.36**	**2**	LR	LR	06 18 52.3	
	comp=Z,44nm,18.2s,baz=167,slow=38						
QSPA	**South Pole Qui**	**77.13**	**180**	P	**P**	**05 45 39.0**	**+1.3**
	comp=Z,3.4nm,1.1s,baz=261,slow=1.9,SNR=5.2						
	comp=Z,3.4nm,1.1s						
ASAR	**Alice Springs**	**83.43**	**113**	P	**P**	**05 46 13.7**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=264,slow=4.7,SNR=18						
	comp=Z,0.8nm,0.5s						
WRA	**Warramunga Arr**	**84.56**	**109**	P	**P**	**05 46 17.5**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=267,slow=4.1,SNR=4.9						
	comp=Z,1.2nm,0.9s						
CPUP	**Villa Florida**	**95.54**	**242**	P	**P**	**05 47 10.3**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=24,slow=3.8,SNR=3.5						
	comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array**	**147.12**	**305**	PKPbc	**PKPdf**	**05 53 25.8**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=98,slow=2.4,SNR=3.7						
NVAR	**Mina Array Bea**	**150.85**	**333**	PKPbc	**PKPbc**	**05 53 38.9**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=32,slow=5.1,SNR=2.0						

IDC 25 05:45:02.2±3.7, 54°.25N×87°.56E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=33.0km s-min=20.4km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**260**	I	I	05 54 40.0	
	baz=79,slow=326,SNR=3.3						
ZALV	**Zalesovo Beam**	**1.64**	**260**	Pg	Pn	05 45 31.5	-0.8
	1.6nm,0.3s,baz=81,slow=15,SNR=18						
ZALV				Lg	Lg	05 45 54.7	
	1.5nm,0.3s,baz=77,slow=31,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.61**	**240**	Pn	Pn	05 46 40.8	+0.3
	0.1nm,0.3s,baz=53,slow=14,SNR=4.2						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**8.19**	**206**	Pn	Pn	05 47 03.5	+1.4
	0.1nm,0.3s,baz=26,slow=16,SNR=1.7						
	0.1nm,0.3s						

*IDC **25** 06:03:30.7±1.4, 7°.43S×148°.44E, h0km, mb3.9/4, mbtmp4.0/6, ML3.5/2, MS2.1/1, Error ellipse: s-maj=63.5km s-min=21.5km az=122.0*
ISC 25 06:03:35.7±1.4, 7°.1S±0°.2×147°.8E±0°.3, h35km, n6, σ1s24/8, mb3.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.37**	**195**	Pn	**Pn**	**06 04 12.5**	**+0.5**
	123nm,0.3s,baz=31,slow=12,SNR=127						
PMG				Sn	**Sn**	**06 04 41.1**	**+1.2**
	182nm,0.3s,baz=114,slow=20,SNR=21						
PMG				LR	LR	06 04 45.3	
	comp=Z,38nm,21.1s,baz=80,slow=32						
	341nm,0.3s						
WRA	**Warramunga Arr**	**18.24**	**224**	P	**Pn**	**06 07 47.0**	**+0.7**
	0.6nm,0.3s,baz=53,slow=11,SNR=12						
WRA				S	Sn	06 10 57.9	-11
	0.7nm,0.7s,baz=39,slow=24,SNR=2.5						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**21.18**	**217**	P	**P**	**06 08 18.2**	**0.0**
	1.4nm,0.5s,baz=56,slow=9.1,SNR=39						
ASAR				S	**S**	**06 12 10.7**	**-1.4**
	0.5nm,0.8s,baz=40,slow=23,SNR=4.0						
	1.4nm,0.5s						
STKA	**Stephens Creek**	**25.31**	**192**	P	**P**	**06 08 57.8**	**-1.4**
	0.9nm,0.4s,baz=351,slow=13,SNR=4.2						
	0.9nm,0.4s						
QSPA	**South Pole Qui**	**82.87**	**180**	P	**P**	**06 15 55.6**	**-1.0**
	1.3nm,0.5s,baz=350,slow=0.3,SNR=11						
	1.3nm,0.5s						

ILAR Eielson Array 86.19 23 P P 06 16 13.9 +0.8
0.7nm,0.6s,baz=247,slow=4.7,SNR=11
0.7nm,0.6s

DJA 25 06:07:11.9±0.9, 11°.S±10°.×11°.4E±°, h10km, M3.8/10, mb3.8/3, MLv3.9/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.23**	**15**	P	Pn	06 07 48.2	-0.8
GMJI	**Gumukmas**	**2.35**	**357**	P	Pn	06 07 51.0	+0.3
SRBI	**Singaraja**	**3.02**	**33**	P	Pn	06 07 59.8	0.0
PCJI	**Pacitan**	**3.38**	**316**	P	Pn	06 08 05.1	+0.3
TWSI	**Taliwang, Sumb**	**3.78**	**60**	P	Pn	06 08 10.1	-0.2
UGM	**Wanagama**	**4.04**	**312**	P	Pn	06 08 13.7	-0.2
PLAI	**Plampang**	**4.53**	**67**	P	Pn	06 08 19.9	-0.7
EDFI	**Ende, Flores**	**8.23**	**78**	P	Pn	06 09 11.9	+0.3

*MEX **25** 06:39:49.2±0.4, 14°.72N×93°.04W, h27km±28km, MD3.7*
*GCG **25** 06:39:50.0±0.3, 15°.66N×92°.36W, h55km±330km, MD3.5*
ISC 25 06:39:44.3±2.5, 14°.7N±0°.3×92°.9W±0°.2, h98km±25km, n8, σ2s10/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.60**	**70**	*e*S	**Sn**	**06 40 14.2**	**+1.3**
PATR	**El Naranjo**	**0.72**	**55**	*e*P	**Pn**	**06 40 03.2**	**+1.1**
PATR				*e*S	**Sn**	**06 40 13.9**	**-1.4**
PAVE	**Pavencul**	**0.81**	**53**	*e*P	**Pn**	**06 40 04.5**	**+1.6**
PAVE				*e*S	**Sn**	**06 40 16.4**	**-0.4**
PCIG		**1.06**	**340**	*e*P	**Pn**	**06 40 06.6**	**+1.3**
PCIG				*e*S	**Sn**	**06 40 16.9**	**-4.2**
STG8	**El Palmar, Qui**	**1.47**	**99**	*e*P	**Pn**	**06 40 11.1**	**+0.8**
STG8				*e*S	**Sn**	**06 40 27.5**	**-2.5**
STG5	**El Palmar, Qui**	**1.48**	**101**	*i* P	**Pn**	**06 40 11.4**	**+1.1**
STG0	**El Palmar, Qui**	**1.48**	**100**	*e*P	**Pn**	**06 40 11.4**	**+0.9**
STG0				*e*S	**Sn**	**06 40 28.1**	**-2.1**
UXUV	**UXUV**	**2.89**	**335**	*e*P	**Pn**	**06 40 30.1**	**+1.5**
UXUV				*e*S	**Sn**	**06 41 01.7**	**-0.9**

*SDD **25** 07:09:50.1±2.0, 17°.24N×68°.33W, h23km±177km, MD3.5, ML3.5, MW3.4*
*OSPL **25** 07:09:52.5±3.3, 16°.88N×68°.18W, h31km±72km, ML3.2*
ISC 25 07:09:46.4±1.8, 17°.06N±0°.08×68°.32W±0°.03, h12km±12km, n37, σ1s51/54, 1C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**1.45**	**358**	*i* P	**Pg**	**07 10 17.0**	**+2.8**
PCDR				IAML		07 10 38.8	
	comp=Z,153nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.49**	**51**	*e*Pg	**Pg**	**07 10 15.1**	**0.0**
CRPR				⇓*e*Sg	**Sb**	**07 10 32.0**	**-0.9**
CRPR				IAML		07 10 33.4	
	comp=N,235nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.49**	**51**	*i* P	**Pg**	**07 10 14.9**	**-0.1**
CRPR				IAML		07 10 33.9	
	comp=Z,222nm,0.5s						
MLPR	**Magueyes Islan**	**1.52**	**53**	*e*Pg	**Pg**	**07 10 15.3**	**-0.2**
MLPR				IAML		07 10 36.3	
	comp=N,38nm,0.2s						
PRSN	**Puerto Rico Se**	**1.60**	**44**	*e*Pg	**Pg**	**07 10 16.2**	**-1.0**
PRSN				*e*Sg	**Sb**	**07 10 35.9**	**-0.4**
PRSN				IAML		07 10 39.0	
	comp=N,570nm,0.2s						
AGPR	**Aguadilla, PR**	**1.81**	**39**	*e*Pg	**Pb**	**07 10 19.5**	**-0.1**
AGPR				*e*Sg	**Sb**	**07 10 40.3**	**-1.9**
AGPR				IAML		07 10 41.4	
	comp=N,325nm,0.2s						
AGPR	**Aguadilla, PR**	**1.81**	**39**	*i* P	**Pg**	**07 10 20.2**	**-1.0**
AGPR				IAML		07 10 41.3	
	comp=Z,230nm,0.2s						
CELP	**Cerrillos**	**1.94**	**59**	*e*Pg	**Pb**	**07 10 21.3**	**-0.5**
CELP				IAML		07 10 52.8	
	comp=N,84nm,0.4s						
AOPR	**Arecibo Observ**	**1.96**	**49**	*e*Pg	**Pb**	**07 10 22.0**	**-0.1**
AOPR				⇓*e*Sg	**Sb**	**07 10 46.4**	**-0.3**
AOPR				IAML		07 10 46.5	
	comp=N,347nm,0.2s						
HATOM	**Hato Mayor del**	**1.99**	**330**	*e*Sg	**Sb**	**07 10 45.8**	**-1.6**
HATOM				IAML		07 10 49.9	
	comp=N,421nm,0.5s						
MIDR	**Miches**	**2.03**	**340**	*e*Pg	**Pb**	**07 10 23.2**	**-0.1**
MIDR				*e*Pg	**Pg**	**07 10 23.4**	**-2.0**
MIDR				IAML		07 10 50.4	
	comp=N,426nm,0.3s						
MIDR				IAML		07 10 50.4	
	comp=N,426nm,0.3s						
MIDR				IAML		07 10 50.4	
	comp=N,193nm,0.3s						
SDD	**Santo Domingo**	**2.06**	**313**	*e*Pg	**Pb**	**07 10 24.2**	**+0.5**
SDD				*e*Sg	**Sb**	**07 10 47.7**	**-1.6**
SDD				IAML		07 10 53.1	
	comp=N,40nm,0.2s						
SDD	**Santo Domingo**	**2.06**	**313**	*i* P	**Pg**	**07 10 26.1**	**+0.2**
SDD				*e*S	**Sb**	**07 10 49.3**	**0.0**
SJG	**San Juan**	**2.32**	**63**	*i* P	**Pn**	**07 10 25.4**	**+0.9**
SJG				IAML		07 10 57.0	
	comp=Z,79nm,0.4s						
BANI	**BANI**	**2.35**	**305**	*e*Pg	**Pb**	**07 10 29.1**	**+0.3**
BANI				*e*Sg	**Sb**	**07 10 57.9**	**+0.1**
BANI				IAML		07 11 03.4	
	comp=N,471nm,0.2s						
SMDR	**Samana, DR**	**2.36**	**340**	*e*Pg	**Pb**	**07 10 27.2**	**-1.8**
SMDR				IAML		07 11 08.1	
	comp=N,242nm,0.5s						
DR08	**Loma La Naviza**	**2.49**	**320**	*e*Pg	**Pb**	**07 10 31.4**	**+0.3**
DR08				*e*Sg	**Sb**	**07 10 59.8**	**-2.0**
DR08				IAML		07 11 03.6	
	comp=N,8μm,0.2s						
ABDR	**Alto Bandera**	**2.80**	**309**	*e*Pg	**Pb**	**07 10 36.5**	**-0.1**
ABDR				*e*Sg	**Sb**	**07 11 11.1**	**0.0**
ABDR				IAML		07 11 13.7	
	comp=N,366nm,0.6s						
LOBA2	**Hotel Casa Bon**	**2.83**	**291**	*e*Pg	**Pb**	**07 10 36.4**	**-0.6**
SFDR	**San Fco. de Ma**	**2.87**	**321**	*e*Pg	**Pb**	**07 10 37.1**	**-0.4**
SFDR				*e*Sg	**Sb**	**07 11 10.0**	**-2.7**
SFDR				IAML		07 11 20.1	
	comp=N,634nm,0.4s						
LOVI	**El Cajuil, Ovi**	**3.00**	**285**	*i* P	**Pb**	**07 10 38.4**	**-1.4**
LOVI				*e*S	**Sn**	**07 11 09.8**	**+0.1**
LOVI				IAML		07 11 19.7	
	comp=Z,61nm,0.2s						
PODR	**Polo**	**3.03**	**292**	*e*Pg	**Pb**	**07 10 39.5**	**-1.0**
PODR				IAML		07 11 26.9	
	comp=N,92nm,0.2s						
LOBH	**Bahia de las A**	**3.27**	**285**	*i* P	**Pb**	**07 10 42.5**	**-1.9**
LOBH				IAML		07 11 23.1	
	comp=Z,47nm,0.2s						
SC01	**Santiago de lo**	**3.28**	**316**	*e*Pg	**Pb**	**07 10 44.6**	**-0.1**
SC01				*e*Sg	**Sb**	**07 11 24.4**	**-0.2**
SC01				IAML		07 11 29.0	
	comp=N,591nm,0.8s						
SC01	**Santiago de lo**	**3.28**	**316**	*i* P	**Pb**	**07 10 44.8**	**+0.2**
SC01				*e*S	**Sb**	**07 11 22.2**	**-2.4**
LONE3	**El Aguacate, B**	**3.36**	**298**	*i* P	**Pb**	**07 10 44.9**	**-1.1**
LONE3				IAML		07 11 29.5	
	comp=Z,113nm,0.3s						
SDDR	**Presa de Saban**	**3.41**	**305**	*e*P	**Pb**	**07 10 45.6**	**-1.2**
SDDR				*e*S	**Sn**	**07 11 21.7**	**+1.7**
SDDR				*e*Sg	**Sb**	**07 11 25.3**	**-3.0**
SDDR				IAML		07 11 26.1	
	comp=Z,197nm,0.3s						
SDDR				IAML		07 11 26.7	
	comp=Z,108nm,0.4s						
SDDR	**Presa de Saban**	**3.41**	**305**	*e*Pg	**Pb**	**07 10 46.3**	**-0.5**
SDDR				IAML		07 11 39.7	
	comp=N,112nm,0.5s						
SDDR	**Presa de Saban**	**3.41**	**305**	*i* P	**Pb**	**07 10 45.8**	**-1.0**
SDDR				*e*S	**Sn**	**07 11 22.5**	**+2.6**
SDDR				IAML		07 11 24.6	
	comp=Z,120nm,0.3s						
JIDR	**Jimani**	**3.65**	**293⇑**	*e*Pg	**Pb**	**07 10 51.1**	**+0.2**
JIDR				IAML		07 11 47.7	
	comp=N,49nm,0.8s						
LUDR	**Luperon**	**3.77**	**319**	*e*Pg	**Pb**	**07 10 51.6**	**-1.2**
LUDR				*e*Sg	**Sb**	**07 11 36.3**	**-2.2**
LUDR		

QMBU	Quimbuelo	6.90	298	*e*P	Pn	07 11 31.8 +4.3
QMBU				*e*S	Sn	07 12 44.6 -1.4
GTBY	Guantanamo Bay	7.04	295	*e*P	Pn	07 11 34.5 +5.0
GTBY				*e*S	Sn	07 12 47.2 -2.3
RCC	Rio Carpintero	7.58	294	*e*P	Pn	07 11 41.7 +4.9
MARVS	Santiago de Cu	7.76	293	*e*P	Pn	07 11 44.0 +4.7
MARVS				*e*S	Sn	07 13 04.7 -2.5
PINC	Pinares de May	7.85	297	*e*P	Pn	07 11 46.2 +5.7

TXNET 25 07:10:25.4, 31°.4N±0°.6×103°.5W±0°.7, h4km±1km, ML1.7/6, 1D, Error ellipse: s-maj=1.1km s-min=0.9km az=52.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	Crockett Middl	0.01	353	⇓P	Pg	07 10 26.5	+0.2
PCOS				S	Sg	07 10 27.1	+0.3
TPB07	Mentone	0.23	323	S	Sg	07 10 35.8	+2.9
TPB10	Southeast of T	0.24	242	P	Pg	07 10 30.8	+0.8
TPB10				S	Sg	07 10 34.7	+1.6
TPB04	Verhalen	0.29	135	P	Pg	07 10 32.1	+1.1
TPB04				S	Sb	07 10 37.1	-1.4
PECS	Pecos	0.31	265	P	Pg	07 10 32.0	+0.7
PECS				S	Sg	07 10 37.0	+1.6
TPB03	Saragosa	0.31	181	P	Pg	07 10 32.1	+0.7
TPB03				S	Sg	07 10 36.9	+1.4
TPB16	Coyonosa	0.35	141	P	Pg	07 10 32.8	+0.7
TPB16				S	Sb	07 10 38.5	-1.6
TPB06	Permian Basin	0.35	45	P	Pb	07 10 34.8	+0.5
TPB06				S	Sb	07 10 41.8	+1.5
TPB12	Southwest of T	0.42	245	S	Sg	07 10 40.3	+1.1
TPB05	Hovey Rd	0.50	162	P	Pg	07 10 35.5	+0.6
TPB05				S	Sg	07 10 42.7	+1.3
TPB01	Permian Basin	0.51	208	P	Pg	07 10 35.0	-0.1
TPB01				S	Sg	07 10 42.2	+0.5
MNHN	Monahans	0.64	95	P	Pb	07 10 39.4	+0.2
MNHN				S	Sb	07 10 47.5	-1.0
TPB11	China Draw	0.70	320	S	Sb	07 10 49.9	-0.4
TPB08	Permian Basin	0.72	134	S	Sb	07 10 50.0	-0.8
CLNB	Carlsbad	0.92	340	S	Sn	07 10 58.2	-0.8
NM01	Eunice	0.96	6	S	Sb	07 10 58.9	+1.1
ALPN	Alpine	1.02	186	P	Pg	07 10 44.1	-0.9
ALPN				S	Sg	07 10 58.8	+0.5
HTMS	Hat Mesa	1.08	354	S	Sn	07 11 02.4	-0.6
HTMS	Hat Mesa	1.08	354	P	Pg	07 10 46.2	+0.2
ODSA	Odessa	1.09	48	S	Sn	07 11 05.1	+1.9
TMB01	Midkiff	1.25	77	P	Pg	07 10 48.8	-0.5
TMB01				S	Sn	07 11 06.8	-0.2
TMB02	Rankin	1.27	98	P	Pn	07 10 50.5	+0.4
TMB02				S	Sb	07 11 07.2	+0.4
VHRN	Van Horn	1.41	245	P	Pn	07 10 51.4	-0.6
VHRN				S	Sg	07 11 10.3	-0.2
TMB04	Seminole	1.50	35	P	Pg	07 10 54.5	+0.3
TMB04				S	Sg	07 11 15.2	+1.5
TMB06	Greenwood	1.57	68	S	Sg	07 11 17.2	+1.4
MNTX	Cornudas Mount	1.63	281	P	Pb	07 10 56.1	+0.1
MNTX				S	Sg	07 11 18.4	+0.7
TMB05	Klondike	1.86	48	S	Sg	07 11 24.8	-0.4
SAND	Sanderson	1.87	140	P	Pn	07 10 59.1	+0.9
SAND				S	Sb	07 11 24.3	+0.5
TX31	Lajitas Ar. Si	2.06	184	P	Pn	07 11 01.8	+0.9
TX31				S	Sb	07 11 29.3	-0.1
OZNA	Ozona	2.10	102	P	Pb	07 11 03.7	-0.3
OZNA				S	Sb	07 11 30.6	+0.2
SGCY	Sterling City	2.10	75	S	Sb	07 11 31.3	+0.8

IDC 25 07:19:14.8±2.4, 19°.83N×144°.95E, h0km, mb3.4/3, mbtmp3.4/3, MS3.4/2, Error ellipse: s-maj=389.5km s-min=26.9km az=110.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.87	195	P	P	07 26 58.8	+0.1
	1.0nm,0.8s,baz=19,slow=7.5,SNR=3.9 1.0nm,0.8s						
ASAR	Alice Springs	44.55	195	P	P	07 27 28.3	-0.4
	0.3nm,0.7s,baz=16,slow=9.4,SNR=6.5 0.3nm,0.7s						
MSVF	Nonsavu	49.49	137	LR	LR	07 45 40.8	
	comp=Z,54nm,21.0s,baz=179,slow=32						
ILAR	Eielson Array	62.95	27	P	P	07 29 42.9	0.0
	0.3nm,0.7s,baz=255,slow=4.9,SNR=7.7 0.3nm,0.7s						
NOA	NORSAR Array B	91.27	339	LR	LR	08 16 09.6	
	comp=Z,11nm,19.1s,baz=80,slow=37						

*ASRS **25** 07:22:20.0±1.5, 53°.77N×91°.09E, h0km, M3.2, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **25** 07:22:25.8±7.6, 53°.73N×90°.81E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=56.6km s-min=41.4km az=55.0, Suspected Mining explosion.*
*IDC **25** 07:22:26.1±3.1, 53°.85N×90°.71E, h0km, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=26.2km s-min=21.6km az=57.0*
ISC 25 07:22:27.6±4.0, 53°.8N±0°.1×90°.6E±0°.2, h0km, n9, σ1°.34/15, 6C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.41	274	I	I	07 45 10.0	
	baz=90,slow=326,SNR=11						
ZAA0	Zalesovo Array	3.41	274	⇑Pg	Pb	07 23 28.6	-0.2
	1.9nm,0.8s						
ZAA0				⇑Lg	Lg	07 24 18.8	
	8.4nm,1.1s						
ZALV	Zalesovo Beam	3.41	274	Pn	Pn	07 23 23.0	+1.0
	1.4nm,0.3s,baz=94,slow=16,SNR=16						
ZALV				Pg	Pb	07 23 28.0	-0.8
	1.4nm,0.3s,baz=93,slow=15,SNR=15						
ZALV				Lg	Lg	07 24 13.9	
	1.0nm,0.3s,baz=90,slow=25,SNR=6.1 0.9nm,0.5s						
KURK	Kurchatov	7.97	252	⇓Pn	Pn	07 24 24.5	-0.1
	0.5nm,0.4s						
KURK				⇓Sn	Sn	07 25 57.7	+2.3
	5.2nm,0.9s						
KURK				⇓Lg	Lg	07 26 43.8	
	35nm,1.3s						
KURBB	Kurchatov Arra	8.06	251	Pn	Pn	07 24 25.4	-0.5
	0.1nm,0.3s,baz=66,slow=16,SNR=8.3						
KURBB				Sn	Sn	07 25 57.4	-0.4
	0.1nm,0.3s,baz=69,slow=27,SNR=11						
KURBB				Lg	Lg	07 26 44.7	
	0.1nm,0.3s,baz=64,slow=31,SNR=11 2.3nm,0.7s						
KURBB	Kurchatov Arra	8.06	251	⇓Pn	Pn	07 24 25.8	-0.1
	1.3nm,0.4s						
KURBB				⇑Sn	Sn	07 25 56.2	-1.5
	21nm,0.9s						
KURBB				⇑Lg	Lg	07 26 43.0	
	50nm,1.3s						
MK31	Makanchi Array	8.81	220	⇑Pn	Pn	07 24 38.8	+2.5
	0.4nm,0.5s,baz=47,slow=15,SNR=4.1						
MK31				⇓Sn	Sn	07 26 16.1	-0.2
	2.3nm,0.8s						
MK31				⇓Lg	Lg	07 27 07.6	
	23nm,1.2s,baz=43,slow=30,SNR=4.5						
MKAR	Makanchi Array	8.81	220	Pn	Pn	07 24 35.8	-0.5
	0.2nm,0.3s,baz=32,slow=12,SNR=9.9						
MKAR				Sn	Sn	07 26 16.9	+0.6
	0.1nm,0.3s,baz=32,slow=22,SNR=5.7						
MKAR				Lg	Lg	07 27 04.7	
	0.1nm,0.3s,baz=36,slow=30,SNR=5.8 0.4nm,0.4s						
MAKZ	Makanchi	8.93	221	⇓Pn	Pn	07 24 35.9	-1.9
	1.6nm,0.9s						
MAKZ				⇑Sn	Sn	07 26 20.0	+1.0
	3.7nm,1.1s						
MAKZ				⇓Lg	Lg	07 27 07.6	
	19nm,1.2s						

IDC 25 07:43:48.4±14.0, 7°.96S×127°.87E, h241km±163km, mb3.1/2, mbtmp3.5/5, Error ellipse: s-maj=147.0km s-min=53.7km az=39.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.30	192	P	Pn	07 46 10.8	-0.2
	0.6nm,0.3s,baz=7.6,slow=12,SNR=6.7						
WRA	Warramunga Arr	13.46	153	P	Pn	07 46 50.8	+0.5
	0.3nm,0.3s,baz=333,slow=12,SNR=2.5						
WRA				S	S	07 49 08.2	-11
	0.2nm,0.4s,baz=333,slow=25,SNR=1.5						
ASAR	Alice Springs	16.65	160	P	P	07 47 26.9	-0.1
	0.4nm,0.6s,baz=344,slow=10,SNR=7.3						
MKAR	Makanchi Array	67.89	328	P	P	07 54 21.5	+0.4
	0.2nm,0.4s,baz=116,slow=6.6,SNR=1.9 0.2nm,0.4s						
KURBB	Kurchatov Arra	72.24	330	P	P	07 54 47.0	-0.2
	0.5nm,0.5s,baz=129,slow=5.1,SNR=5.5 0.5nm,0.5s						

*IDC **25** 07:49:43.2±4.0, 53°.78N×88°.45E, h0km, mbtmp2.6/3, ML2.1/3, Error ellipse: s-maj=39.2km s-min=22.1km az=47.0*
ASRS 25 07:49:45.0±1.2, 53°.79N×88°.19E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.00	276	I	I	08 02 50.0	
	baz=91,slow=329,SNR=3.1						
ZALV	Zalesovo Beam	2.00	276	Pn	Pb	07 50 21.4	-0.9
	1.1nm,0.3s,baz=94,slow=20,SNR=7.2						
ZALV				Lg	Lg	07 50 51.8	
	1.9nm,0.3s,baz=94,slow=26,SNR=11 1.6nm,0.4s						
KURBB	Kurchatov Arra	6.73	246	Pn	Pn	07 51 25.0	0.0
	0.1nm,0.3s,baz=62,slow=14,SNR=2.3 0.4nm,0.3s						
MKAR	Makanchi Array	7.96	211	Pn	Pn	07 51 42.2	+0.3
	baz=28,slow=13,SNR=1.4 0.1nm,0.4s						

*IDC **25** 07:59:24.2±3.6, 55°.64N×86°.04E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=31.5km s-min=27.1km az=46.0*
ASRS 25 07:59:18.0±0.6, 55°.87N×86°.08E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.06	201	I	I	08 12 00.0	
	baz=22,slow=333,SNR=1.6						
ZALV	Zalesovo Beam	2.06	201	Pn	Pb	07 59 56.1	-0.1
	2.8nm,0.3s,baz=18,slow=17,SNR=16						
ZALV				Lg	Lg	08 00 22.3	
	1.9nm,0.3s,baz=25,slow=27,SNR=5.7						
KURBB	Kurchatov Arra	6.94	224	Pn	Pn	08 01 04.5	+3.7
	0.1nm,0.3s,baz=43,slow=14,SNR=4.8 0.6nm,0.4s						
MKAR	Makanchi Array	9.39	196	Pn	Pn	08 01 37.9	+3.4
	0.1nm,0.3s,baz=20,slow=13,SNR=1.6 0.1nm,0.3s						

*KRSC **25** 08:02:49.5±1.2, 56°.11N×160°.94E, h172km±8km, Ml4.0*
*IDC **25** 08:02:51.6±1.4, 56°.07N×160°.59E, h176km±17km, mb3.2/13, mbtmp3.7/15, Error ellipse: s-maj=17.3km s-min=14.7km az=175.0*
ISC 25 08:02:51.0±0.6, 56°.08N±0°.04×160°.73E±0°.05, h169km±5km, n50, σ0°.90/66, mb3.4/12, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGNR	Loginova	0.02	273	*e*P	Pn	08 03 14.0	+0.2
LGNR				*e*S	Sn	08 03 32.2	+0.9
CIRR	Tsirk	0.04	19	*e*P	Pn	08 03 13.6	0.0
CIRR				*e*S	Sn	08 03 31.6	+0.6
ZLN	Zelenaya	0.08	147	*e*P	Pn	08 03 13.8	+0.1
ZLN				*e*S	Sn	08 03 32.5	+1.7
BZGR	Bezymyannyi-Gr	0.14	187	*e*P	Pn	08 03 13.8	+0.1
BZGR				*e*S	Sn	08 03 32.4	+1.4
KRSR	Krestovskiy	0.16	326	*e*P	Pn	08 03 13.0	-0.7
KRSR				*e*S	Sn	08 03 30.6	-0.6
BZMR	Bezymyannaya	0.20	222	*e*S	Sn	08 03 31.6	+0.4
KLY	Klyuchi	0.24	350	*e*P	Pn	08 03 13.3	-0.3
KLY				*e*S	Sn	08 03 31.0	-0.1
KIRR	Kirishev	0.25	239	*e*P	Pn	08 03 13.4	-0.5
KIRR				*e*S	Sn	08 03 31.5	0.0
KPT	Kopyto	0.31	248	*e*P	Pn	08 03 13.5	-0.5
KPT				*e*S	Sn	08 03 31.6	+0.1
KMNR	Kamenistaya	0.43	220	*e*P	Pn	08 03 14.2	-0.2
KOZ	Kozyrevsk	0.48	268	*e*P	Pn	08 03 14.0	-0.5
BDR	Baidarnaya	0.56	29	*e*S	Sn	08 03 34.1	+0.8
SMKR	Semkarok	0.65	39	*e*P	Pn	08 03 15.2	-0.1
SMKR				*e*S	Sn	08 03 34.6	+0.4
TUMD	Tumrok D	0.90	192	*e*P	Pn	08 03 16.0	-1.0
ESO	Esso	1.15	263	*e*P	Pn	08 03 18.3	-0.5
KBTR	Krutoberegovo	1.18	83	*e*P	Pn	08 03 18.6	-0.4
KBTR				*e*S	Sn	08 03 40.3	-0.4
MKZ	Mys Kozlova	1.63	159	*e*P	Pn	08 03 22.9	-0.5
MKZ				*e*S	Sn	08 03 47.9	-0.4
KII	Karymskiy	2.18	200	*e*P	Pn	08 03 30.4	+0.9
GNL	Ganaly	2.88	215	*e*P	Pn	08 03 38.5	+0.7
KRX	Arik	2.98	205	*e*P	Pn	08 03 40.1	+1.0
SDLR	Sedlovina	3.01	202	*e*P	Pn	08 03 40.2	+0.9
SPN	Mys Shipunski	3.02	188	*e*S	Sn	08 04 14.1	-2.8
NLC	Nalytchevo	3.03	196	*e*P	Pn	08 03 39.1	-0.3
NLC				*e*S	Sn	08 04 17.0	0.0
KOK	Koryaka	3.05	204	*e*P	Pn	08 03 41.3	+1.4
AVH	Avacha	3.05	203	*e*P	Pn	08 03 41.2	+1.3
UGLR	Uglovaya	3.08	202	*e*P	Pn	08 03 41.4	+1.1
BKI	Bering	3.10	104	*e*P	Pn	08 03 40.7	+0.4
BKI				*e*S	Sn	08 04 17.9	-0.8
DALK	Dalny	3.27	201	*e*P	Pn	08 03 42.9	+0.5
DALK				*e*S	Sn	08 04 23.1	+0.7
PET	Petropavlovsk	3.29	202	*e*P	Pn	08 03 43.5	+0.7
PET				*e*S	Sn	08 04 23.9	+0.9
OSSR	Ossora	3.42	21	*e*P	Pn	08 03 44.7	+0.5
PETK	Petropavlovsk-	3.46	212	P	Pn	08 03 44.8	-0.1
	5.7nm,0.7s,baz=61,slow=17,SNR=12						
PETK				S	Sn	08 04 27.5	+0.6
	4.0nm,0.5s,baz=90,slow=12,SNR=4.2						
KRMR	Karymshinskiy	3.59	206	*e*P	Pn	08 03 47.2	+0.6
APC	Apacha	3.79	215	*e*P	Pn	08 03 50.5	+1.5
GRL	Gorelyy	3.86	205	*e*P	Pn	08 03 51.1	+0.9
RUS	Russkaya	3.88	200	*e*S	Sn	08 04 34.5	-1.9
MTVR	Mutnovka	3.90	204	*e*P	Pn	08 03 51.1	+0.5
MA2	Magadan	6.37	307	P	Pn	08 04 21.3	-1.3
	2.1nm,0.4s,baz=111,slow=12,SNR=4.5						
TIXI	Tiksi	20.57	332	P	P	08 07 16.7	+0.7
	3.8nm,0.4s,baz=122,slow=8.1,SNR=14 3.8nm,0.4s						
ILAR	Eielson Array	26.51	50	P	P	08 08 12.6	+0.2
	0.3nm,0.6s,baz=280,slow=11,SNR=6.2 0.3nm,0.6s						
SONM	Songino Array	33.68	279	P	P	08 09 15.9	+0.2
	0.6nm,0.5s,baz=56,slow=7.7,SNR=2.5 0.6nm,0.5s						
YKA	Yellowknife Ar	40.75	45	P	P	08 10 14.3	-0.4
	0.7nm,0.6s,baz=301,slow=8.1,SNR=18 0.7nm,0.6s						
SPITS	Spitsbergen Ar	44.24	350	P	P	08 10 43.0	+0.2
	1.5nm,0.5s,baz=67,slow=8.5,SNR=17 1.5nm,0.5s						
KURBB	Kurchatov Arra	46.62	300	P	P	08 11 01.0	-0.8
	0.5nm,0.4s,baz=57,slow=7.6,SNR=4.8 0.5nm,0.4s						
MKAR	Makanchi Array	47.24	294	P	P	08 11 05.7	-1.0
	0.6nm,0.6s,baz=56,slow=7.4,SNR=5.5 0.6nm,0.6s						
PDAR	Pinedale Array	55.78	63	P	P	08 12 12.0	+1.7
	0.1nm,0.5s,baz=329,slow=2.3,SNR=3.9 0.1nm,0.5s						
FINES	FINESS Array B	57.52	336	P	P	08 12 21.2	-0.7
	1.0nm,0.7s,baz=46,slow=6.5,SNR=2.3 1.0nm,0.7s						
NOA	NORSAR Array B	60.77	344	P	P	08 12 43.3	-1.0
	0.4nm,0.6s,baz=20,slow=7.6,SNR=1.5 0.4nm,0.6s						
KBZ	Khabaz	67.62	316	P	P	08 13 29.3	+0.2
	1.1nm,0.6s,baz=30,slow=3.8,SNR=4.4 1.1nm,0.6s						
TXAR	Lajitas Array	69.16	68	P	P	08 13 40.2	+1.2
	0.2nm,0.5s,baz=293,slow=5.0,SNR=5.0 0.2nm,0.5s						
ASAR	Alice Springs	82.64	205	P	P	08 14 53.5	-1.6
	0.2nm,0.4s,baz=24,slow=7.1,SNR=1.9 0.2nm,0.4s						

*IDC **25** 08:14:23.6±0.7, 60°.37S×26°.83W, h0km, mb4.3/10, mbtmp4.3/10, MS3.6/16, Error ellipse: s-maj=25.1km s-min=18.2km az=69.0*
*NEIC **25** 08:14:25.0±1.1, 60°.6S±0°.1×26°.9W±0°.2, h10km±1km, mb4.7/36, Error ellipse: s-maj=21.2km s-min=16.1km az=231.0*
ISC 25 08:14:25.9±0.4, 60°.59S±0°.07×26°.75W±0°.09, h19km, n79, σ1°.24/59, mb4.6/25, MS3.5/15, 2C-4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.21	316	Pn	Pn	08 16 25.8	+1.9
VNA1	Neumayer--Stat	12.58	151	⇓P	Pn	08 17 20.8	-2.8
	comp=Z,177nm,0.3s						
VNA3	Neumayer Olymp	12.69	154	⇓P	Pn	08 17 21.6	-3.6
	comp=Z,114nm,0.5s						
VNA2	Neumayer--Watz	12.98	151	⇓P	Pn	08 17 25.3	-3.7
	comp=Z,23nm,0.5s,baz=301,slow=15						
SNAA	Sanae	14.59	149	Pn	Pn	08 17 47.7	-3.3
	comp=Z,7.1nm,0.3s,baz=311,slow=14,SNR=123						
SNAA				Sn	Sn	08 20 16.0	-16
	comp=Z,0.6nm,0.3s,baz=330,slow=22,SNR=4.6						
SNAA				LR	LR	08 22 10.3	
	comp=Z,132nm,19.1s,baz=291,slow=32						
TROLL	Troll, Antarti	16.17	147	⇓P	Pn	08 18 09.4	-2.5
	comp=Z,182nm,0.3s						
BELA	Belgrano 2	17.56	186		Pn	08 18 28.7	-0.5
SMAI	San Martin Ant	18.69	229	P	P	08 18 40.2	-2.4
MG01	Puerto William	22.24	266	P	P	08 19 20.5	-0.7
MG01				IAmb	IAmb	08 19 52.0	
	comp=Z,31nm,1.0s						
SYO	Syowa Base	28.04	135	⇑*e*pP	P	08 20 15.2	-0.2
SYO	Syowa Base	28.04	135	⇑*e*sP	sP	08 20 23.6	+1.3
QSPA	South Pole Qui	29.65	180	P	P	08 20 32.1	+2.2
QSPA	South Pole Qui	29.65	180	P	P	08 20 32.6	+2.6
	comp=Z,18nm,0.8s,baz=211,slow=1.8,SNR=71						
QSPA				LR	LR	08 31 59.4	
	comp=Z,176nm,19.8s,baz=178,slow=35						
	comp=Z,18nm,0.8s						
TRQA	Tornquist	31.55	300	P	P	08 20 46.4	-0.4
TRQA				IAmb	IAmb	08 21 30.5	
	comp=Z,8.8nm,1.1s						
PLCA	Paso Flores	33.27	287	P	P	08 21 00.8	-1.1
PLCA				IAmb	IAmb	08 21 37.9	
	comp=Z,9.5nm,1.5s						
PLCA	Paso Flores	33.27	287	P	P	08 21 00.9	-1.0
	comp=Z,0.6nm,0.7s,baz=176,slow=7.7,SNR=4.2						
PLCA				LR	LR	08 33 39.8	
	comp=Z,77nm,18.4s,baz=154,slow=35						
	comp=Z,0.6nm,0.7s						
PLTB	Pedras Altas	33.83	316	P	P	08 21 05.8	-0.9
PLTB				IAmb	IAmb	08 21 13.7	
	comp=Z,8.6nm,0.8s						
MAW	Mawson	36.43	140	LR	LR	08 34 06.8	
	comp=Z,74nm,20.0s,baz=248,slow=32						
ITQB	Itaqui	36.79	314	P	P	08 21 31.5	-0.7
ITQB				IAmb	IAmb	08 21 47.1	
	comp=Z,14nm,0.8s						
ITAB	Concordia	37.54	321	P	P	08 21 39.0	+0.4
BO01	Tunca	38.65	292	P	P	08 21 47.0	-0.9
MT03	Universidad Ad	39.14	294	P	P	08 21 50.8	-1.3
MT03				IAmb	IAmb	08 22 37.0	
	comp=Z,10nm,0.8s						
MT01	Popeta	39.16	293	P	P	08 21 51.3	-0.9
MT16	CCHEN	39.20	294		P	08 21 52.1	-0.5
MT16				IAmb	IAmb	08 22 36.7	
	comp=Z,14nm,0.8s						
PEL	Peldehue	39.51	294		P	08 21 54.9	-0.3
PEL				IAmb	IAmb	08 22 08.1	
	comp=Z,14nm,0.9s						
MT02	Curacav	39.62	293	P	P	08 21 55.2	-0.8
VA03	San Esteban	39.77	294	P	P	08 21 57.7	+0.3
VA03				IAmb	IAmb	08 21 59.4	
	comp=Z,9.8nm,0.8s						
CPUP	Villa Florida	40.09	315		P	08 21 58.9	-1.1
CPUP	Villa Florida	40.09	315	P	P	08 21 58.8	-1.2
	comp=Z,2.1nm,0.3s,baz=146,slow=6.7,SNR=10						
CPUP				LR	LR	08 36 58.2	
	comp=Z,49nm,22.0s,baz=176,slow=34						
	comp=Z,2.1nm,0.3s						
CO02	Combarbal	41.29	295	P	P	08 22 10.0	0.0
CO02				IAmb	IAmb	08 22 11.6	
	comp=Z,12nm,1.1s						
SUR	Sutherland	41.81	70	P	P	08 22 14.8	+0.4
SUR				IAmb	IAmb	08 22 36.0	
	comp=Z,18nm,1.4s						
SUR	Sutherland	41.81	70	LR	LR	08 35 03.1	
	comp=Z,46nm,21.9s,baz=194,slow=30						
CO01	Juntas del Tor	41.94	297	P	P	08 22 15.8	+0.4
VNDA	Vanda	42.04	183	P	P	08 22 18.5	+3.0
VNDA	Vanda	42.04	183	P	P	08 22 18.0	+2.6
	comp=Z,7.1nm,1.0s,baz=184,slow=7.1,SNR=22						
VNDA				LR	LR	08 37 59.6	
	comp=Z,64nm,21.9s,baz=178,slow=34						
	comp=Z,7.1nm,1.0s						
AC05	El Transito	43.00	298		P	08 22 23.9	-0.1
AC05				IAmb	IAmb	08 22 29.4	
	comp=Z,16nm,0.8s						
AC04	Llanos de Chal	43.90	297	P	P	08 22 30.9	-0.2
AC02	Maricunga	44.25	300		P	08 22 33.9	-0.5
AC02				IAmb	IAmb	08 22 36.1	
	comp=Z,13nm,0.9s						
H04S2	CROZET ISLANDS	45.64	110	T	T	09 12 09.3	
	baz=222,slow=75,SNR=11						
H04S3	CROZET ISLANDS	45.65	110	T	T	09 12 10.4	
	baz=222,slow=75,SNR=10						
H04S1	CROZET ISLANDS	45.65	110	T	T	09 12 05.4	
	baz=222,slow=75,SNR=17						
GO02	Mina Guanaco	45.91	301		P	08 22 46.9	-0.6
BOSA	Boshof	47.04	71	P	P	08 22 55.7	-0.5
BOSA				IAmb	IAmb	08 23 04.8	
	comp=Z,9.1nm,1.2s						
BOSA	Boshof	47.04	71	P	P	08 22 55.6	-0.5
	comp=Z,1.1nm,0.6s,baz=206,slow=7.3,SNR=3.9						
BOSA				LR	LR	08 37 55.5	
	comp=Z,68nm,20.6s,baz=198,slow=30						
	comp=Z,1.1nm,0.6s						
SHEL	Horse Pasture	47.09	28	P	P	08 22 56.7	+0.3
AF01	San Pedro de A	47.28	304		P	08 22 58.1	-0.1
BDFB	Brasilia	47.45	332	P	P	08 22 59.2	-0.2
	comp=Z,1.6nm,0.7s,baz=157,slow=13,SNR=2.3						
BDFB				LR	LR	08 41 27.9	
	comp=Z,32nm,19.5s,baz=147,slow=34						
	comp=Z,1.6nm,0.7s						
PB05	IPOC Station P	48.21	302		P	08 23 04.2	-1.0
PB01	IPOC Station P	49.52	304	P	P	08 23 14.8	-0.4
CASY	Casey	49.56	159	P	P	08 23 16.3	+1.4
LBTB	Lobatse	50.26	69	LR	LR	08 39 28.1	
	comp=Z,50nm,20.6s,baz=180,slow=30					

TORD IAmb IAmb 08 26 29.4
comp=Z,4.3nm,0.7s
TORD Torodi Ar. Bea 76.93 28 P P 08 26 17.4 +0.7
comp=Z,4.8nm,0.4s,baz=204,slow=6.3,SNR=4.2
comp=Z,4.8nm,0.4s
STKA Stephens Creek 87.38 170 LR LR 09 05 02.1
comp=Z,63nm,18.6s,baz=209,slow=35
ASAR Alice Springs 94.58 162 P **P 08 27 46.8 +1.5**
comp=Z,0.3nm,0.6s,baz=181,slow=4.8,SNR=6.2
comp=Z,0.3nm,0.6s
MDT Midelt 94.82 19 LR LR 09 06 26.1
comp=Z,24nm,18.5s,baz=198,slow=33
FINES FINESS Array B 128.27 29 PKP **PKPdf 08 33 28.4 -1.0**
comp=Z,1.2nm,0.7s,baz=177,slow=7.1,SNR=4.7
ARCES ARCESS Array B 135.06 23 PKP **PKiKP 08 33 44.2 +0.7**
comp=Z,1.3nm,0.8s,baz=191,slow=1.2,SNR=4.9
KURBB Kurchatov Arra 138.88 69 PKP **PKiKP 08 33 51.0 -0.8**
comp=Z,0.3nm,0.2s,baz=159,slow=2.8,SNR=4.8
YKA Yellowknife Ar 139.61 314 PKP **PKPdf 08 33 51.1 +0.5**
comp=Z,0.6nm,0.8s,baz=126,slow=2.4,SNR=10
SPITS Spitsbergen Ar 140.96 13 PKP **PKPdf 08 33 52.2 -0.5**
comp=Z,8.3nm,1.1s,baz=242,slow=3.1,SNR=3.4
ZALV Zalesovo Beam 143.98 69 PKP **PKPdf 08 33 58.0 -0.6**
comp=Z,0.7nm,0.4s,baz=242,slow=3.4,SNR=4.0
SONM Songino Array 150.47 94 PKPbc **PKiKP 08 34 16.4 +0.5**
comp=Z,1.5nm,0.8s,baz=204,slow=2.9,SNR=6.0
ILAR Eielson Array 153.12 305 PKPbc **PKiKP 08 34 20.5 -0.2**
comp=Z,0.6nm,0.7s,baz=169,slow=0.8,SNR=6.7

---

*IDC **25** 08:25:12.8±3.6, 53°.62N×88°.01E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=34.9km s-min=19.8km az=52.0*

ASRS 25 08:25:13.0±1.3, 53°.62N×87°.96E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**281**	I	I	08 37 30.0	
	baz=96,slow=328,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.89**	**281**	Pn	Pb	08 25 48.2	-0.2
	0.5nm,0.3s,baz=99,slow=16,SNR=6.0						
ZALV				Lg	Lg	08 26 12.8	
	0.8nm,0.3s,baz=98,slow=27,SNR=9.1						
KURBB	**Kurchatov Arra**	**6.54**	**246**	Pn	Pn	08 26 51.5	+1.2
	baz=59,slow=14,SNR=2.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**7.74**	**210**	Pn	Pn	08 27 07.2	+0.4
	0.1nm,0.3s,baz=32,slow=13,SNR=2.6						
	0.3nm,0.7s						

STR 25 08:35:08.6±1.1, 49°N±4°×°±°, h0km, MLv2.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=50.8, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BABA	**Baden-Baden-Ne**	**0.48**	**270**	Pg	Pg	08 35 17.3	-0.5
BABA	**Baden-Baden-Ne**	**0.48**	**270**	Sg	Sg	08 35 23.9	0.0
OPP	**Oppenau**	**0.53**	**245**	Pg	Pg	08 35 18.6	-0.2
GUT	**Gutenstein**	**0.66**	**168**	Pg	Pg	08 35 21.0	-0.3
GUT	**Gutenstein**	**0.66**	**168**	Sg	Sg	08 35 30.8	+0.9
SLE	**Schleitheim**	**1.00**	**197**	Pg	Pg	08 35 27.2	-0.5
SLE	**Schleitheim**	**1.00**	**197**	Sg	Sb	08 35 41.8	-0.7
KIZ	**Kirchzarten**	**1.01**	**221**	Pg	Pg	08 35 27.4	-0.6
KIZ	**Kirchzarten**	**1.01**	**221**	Sg	Sg	08 35 41.7	+0.5
CIEL	**Dossenheim-sur**	**1.03**	**277**	Pg	Pg	08 35 28.5	+0.1
CIEL				Sg	Sg	08 35 42.6	+0.8
WLS	**Welschbruch**	**1.08**	**254**	Pg	Pb	08 35 29.3	0.0
WLS				Sg	Sb	08 35 44.7	-0.2
VOEL	**Voellerdingen**	**1.21**	**283**	Pg	Pg	08 35 31.2	-0.6
VOEL				Sg	Sb	08 35 48.5	-0.1
ECH	**Echery**	**1.27**	**247**	Pg	Pg	08 35 32.5	-0.5
ENDD	**Endenburg**	**1.28**	**218**	Sg	Sb	08 35 50.1	-0.4
SULZ	**Cheisacher**	**1.31**	**205**	Pg	Pg	08 35 33.4	-0.3

IDC 25 08:38:57.4±25.0, 4°.42N×125°.25E, h594km±218km, mb2.7/3, mbtmp3.9/4, Error ellipse: s-maj=356.5km s-min=57.5km az=32.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**10.87**	**210**	P	P	08 41 25.2	+0.5
	4.7nm,0.5s,baz=80,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**25.81**	**160**	P	P	08 43 41.6	-1.5
	1.2nm,0.8s,baz=340,slow=9.4,SNR=4.9						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**29.17**	**164**	P	P	08 44 11.9	-0.5
	0.4nm,0.5s,baz=338,slow=6.5,SNR=14						
ASAR				PcP	PcP	08 46 59.7	-0.8
	0.2nm,0.4s,baz=0.0,slow=3.7,SNR=2.0						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**39.31**	**158**	P	P	08 45 38.1	+1.4
	2.5nm,0.7s,baz=326,slow=8.5,SNR=7.8						
	2.5nm,0.7s						

---

*IDC **25** 08:39:06.7±1.1, 1°.75N×125°.39E, h0km, mb3.8/5, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=103.4km s-min=18.6km az=70.0*
*DJA **25** 08:39:14.3±2.9, 2°N±3°×12°6E±°, h30km±45km, M3.9/11, mB4.5/1, mb3.9/2, MLv4.0/11, Mw(mB)3.7/1*

ISC 25 08:39:12.7±0.9, 1°.77N±0°.06×125°.87E±0°.08, h35km, n11, σ2°.07/13, mb3.7/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.80**	**123**	P	**Pn**	**08 39 43.6**	**+2.4**
SGSI	**Sangihe**	**1.94**	**350**	P	**Pn**	**08 39 45.2**	**+2.1**
SGSI				S	**Sn**	**08 40 08.6**	**+2.3**
KMSI	**Cibinong**	**2.23**	**238**	P	**Pn**	**08 39 50.2**	**+3.1**
SANI	**Sanana**	**3.79**	**178**	P	**Pn**	**08 40 10.4**	**+1.7**
LUWI	**Luwuk**	**4.17**	**228**	P	**Pn**	**08 40 15.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**19.74**	**181**	P	**P**	**08 43 39.0**	**-0.7**
	0.2nm,0.3s,baz=358,slow=11,SNR=1.9						
	1.7nm,0.8s						
WRA	**Warramunga Arr**	**23.12**	**159**	P	**P**	**08 44 15.2**	**-0.7**
	0.8nm,0.3s,baz=335,slow=11,SNR=18						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**26.46**	**163**	P	**P**	**08 44 47.0**	**+0.3**
	0.7nm,0.5s,baz=342,slow=11,SNR=16						
ASAR				PcP	**PcP**	**08 48 11.7**	**+0.2**
	0.2nm,0.7s,baz=344,slow=2.1,SNR=1.7						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**58.68**	**326**	P	**P**	**08 49 04.7**	**-2.1**
	0.3nm,0.5s,baz=117,slow=8.4,SNR=5.2						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**62.93**	**328**	P	**P**	**08 49 32.9**	**-2.7**
	0.3nm,0.5s,baz=128,slow=5.9,SNR=2.2						
	0.3nm,0.5s						
NRIK	**Noril'sk**	**72.12**	**347**	P	**P**	**08 50 32.1**	**-1.2**
	1.5nm,0.5s,baz=114,slow=7.5,SNR=5.1						
	1.5nm,0.5s						

---

*ASRS **25** 09:00:53.0±0.7, 54°.21N×86°.40E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 09:00:56.5±2.8, 54°.21N×86°.35E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=22.1km s-min=12.9km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**255**	I	I	09 08 10.0	
	baz=74,slow=321,SNR=2.4						
ZALV	**Zalesovo Beam**	**0.94**	**255**	Pg	Pg	09 01 13.4	-1.1
	1.6nm,0.3s,baz=70,slow=17,SNR=26						
ZALV				Lg	Lg	09 01 28.1	
	5.3nm,0.3s,baz=76,slow=30,SNR=6.5						
ZALV				Rg	Rg	09 01 34.1	
	1.3nm,0.3s,baz=68,slow=24,SNR=3.7						
KURBB	**Kurchatov Arra**	**5.98**	**236**	Pn	Pn	09 02 26.8	+0.6
	0.1nm,0.3s,baz=55,slow=13,SNR=4.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.86**	**201**	Pn	Pn	09 02 53.3	+1.3
	0.2nm,0.3s,baz=25,slow=14,SNR=7.2						
	0.3nm,0.3s						

---

*KNET **25** 09:08:05.9±0.4, 43°.22N×74°.60E, h19km±2km, ml1.4, Error ellipse: s-maj=3.3km s-min=1.8km az=165.0*
*KRNET **25** 09:08:05.9±0.1, 43°.24N×74°.59E, h19km, mb2.4*
*NNC **25** 09:08:06.7±0.6, 43°.20N×74°.59E, h4km±3km, mb3.0, mpv2.7, Error ellipse: s-maj=4.2km s-min=3.0km az=151.0, Suspected Mining explosion.*
*SOME **25** 09:08:07.1, 43°.22N×74°.67E*

ISC 25 09:08:06.2±0.7, 43°.17N±0°.02×74°.56E±0°.02, h0km, n34, σ1°.08/66, 31C-19D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka**	**0.11**	**337**	↑P	**Pg**	**09 08 09.7**	**+1.5**
	190nm,0.1s,SNR=556						
USP				↑S	**Sg**	**09 08 11.8**	**+2.2**
	494nm,0.2s						
USP	**Ospenovka**	**0.11**	**337**	↑iP	**Pg**	**09 08 09.5**	**+1.3**
USP				↑iS	**Sg**	**09 08 11.6**	**+2.0**
CHMS	**Chumysh**	**0.22**	**140**	↑P	**Pg**	**09 08 12.6**	**+2.3**
	29nm,0.1s,SNR=38						
CHMS				↑S	**Sg**	**09 08 16.6**	**+3.4**
	54nm,0.1s						
CHMS	**Chumysh**	**0.22**	**140**	↑P	**Pg**	**09 08 12.1**	**+1.7**
	10nm,0.3s						
CHMS				↑S	**Sg**	**09 08 15.8**	**+2.6**
	40nm,0.5s						
CHMS	**Chumysh**	**0.22**	**140**	↑iP	**Pg**	**09 08 11.9**	**+1.5**
CHMS				↑iS	**Sg**	**09 08 15.9**	**+2.6**
SGDS	**Sogindy**	**0.29**	**11**	P	**Pg**	**09 08 12.0**	**+0.3**
	20nm,0.1s						
SGDS				S	**Sg**	**09 08 15.7**	**+0.3**
	316nm,0.1s						
FRU1	**Bishkek**	**0.36**	**171**	↓eP	**Pg**	**09 08 13.9**	**+0.8**
FRU1				↓eS	**Sb**	**09 08 19.9**	**-1.8**
AAK	**Ala-Archa**	**0.53**	**185**	↓P	**Pb**	**09 08 18.5**	**+0.1**
	3.9nm,0.1s,SNR=17						
AAK				↑S	**Sb**	**09 08 26.7**	**0.0**
	39nm,0.2s						
AAK	**Ala-Archa**	**0.53**	**185**	↑P	**Pb**	**09 08 18.4**	**-0.1**
	0.7nm,0.3s						
AAK				↑S	**Sb**	**09 08 26.3**	**-0.4**
	8.5nm,0.2s						
AAK	**Ala-Archa**	**0.53**	**185**	↑iP	**Pb**	**09 08 17.8**	**-0.7**
AAK				↑iS	**Sb**	**09 08 26.1**	**-0.6**
KBK	**Karagaybulak**	**0.59**	**151**	↓P	**Pb**	**09 08 18.9**	**-0.5**
	5.3nm,0.1s						
KBK				↓S	**Sb**	**09 08 28.0**	**-0.3**
	48nm,0.4s						
KBK	**Karagaybulak**	**0.59**	**151**	↑eP	**Pb**	**09 08 18.4**	**-1.0**
KBK				↑iS	**Sb**	**09 08 27.0**	**-1.3**
EKS2	**Erkin-Say**	**0.76**	**229**	↑P	**Pb**	**09 08 22.3**	**-0.1**
	3.1nm,0.1s						
EKS2				↓S	**Sb**	**09 08 33.5**	**+0.1**
	9.6nm,0.2s						
EKS2	**Erkin-Say**	**0.76**	**229**	↑iP	**Pb**	**09 08 21.8**	**-0.6**
EKS2				↑iS	**Sb**	**09 08 33.0**	**-0.4**
TKM2	**Tokmak 2**	**0.80**	**108**	↓P	**Pg**	**09 08 21.8**	**+0.3**
	5.0nm,0.1s,SNR=24						
TKM2				↑S	**Sg**	**09 08 33.0**	**+1.1**
	35nm,0.1s						
TKM2	**Tokmak 2**	**0.80**	**108**	↑P	**Pg**	**09 08 21.5**	**0.0**
	1.3nm,0.3s						
TKM2				↑S	**Sg**	**09 08 32.5**	**+0.6**
	3.0nm,0.2s						
TKM2	**Tokmak 2**	**0.80**	**108**	↓iP	**Pg**	**09 08 21.1**	**-0.4**
TKM2				↓iS	**Sg**	**09 08 32.1**	**+0.2**
UCH	**Uchtor**	**0.94**	**182**	↑iP	**Pb**	**09 08 25.1**	**-0.5**
UCH				↑iS	**Sb**	**09 08 38.7**	**-0.1**
KST	**Kastek**	**1.04**	**96**	P	**Pg**	**09 08 26.6**	**+0.5**
	6.9nm,0.3s						
KST				S	**Sg**	**09 08 40.5**	**+1.1**
	15nm,0.4s						
MRKS	**Merke**	**1.06**	**247**	P	**Pb**	**09 08 27.0**	**-0.5**
	3.1nm,0.1s						
MRKS				S	**Sb**	**09 08 41.2**	**-0.8**
	11nm,0.1s						
AML	**Almayashu**	**1.22**	**212**	↑P	**Pn**	**09 08 30.4**	**-0.4**
	1.5nm,0.2s						
AML				↓S	**Sn**	**09 08 47.5**	**-0.7**
	16nm,0.5s						
AML	**Almayashu**	**1.22**	**212**	↓iP	**Pb**	**09 08 29.9**	**-0.4**
AML				↓iS	**Sn**	**09 08 47.1**	**-1.0**
BOOM	**Boomskoye usch**	**1.22**	**123**	↑iP	**Pg**	**09 08 29.0**	**-0.6**
BOOM				↑iS	**Sg**	**09 08 45.6**	**+0.2**
MTBS	**Maitube**	**1.37**	**91**	P	**Pg**	**09 08 32.3**	**-0.1**
	2.8nm,0.2s						
MTBS				S	**Sg**	**09 08 50.2**	**+0.1**
	14nm,0.3s						
KUU	**Kurty**	**1.48**	**60**	P	**Pn**	**09 08 33.2**	**-0.9**
	1.9nm,0.2s						
KUU				S	**Sg**	**09 08 51.9**	**-2.0**
	27nm,0.2s						
ULHL	**Ulahol**	**1.55**	**126**	↑iP	**Pn**	**09 08 34.5**	**-0.7**
ULHL				↑iS	**Sg**	**09 08 55.4**	**-0.4**
KTBS	**Karatobe**	**1.64**	**70**	P	**Pn**	**09 08 36.5**	**+0.2**
	2.3nm,0.2s						
KTBS				S	**Sn**	**09 08 57.6**	**-0.6**
	11nm,0.3s						
MNAS	**Manas**	**1.66**	**246**	↓iP	**Pn**	**09 08 36.7**	**+0.1**
MNAS				↓iS	**Sg**	**09 08 59.1**	**-0.3**
TNSS	**Tian-Shan**	**1.75**	**93**	P	**Pb**	**09 08 39.8**	**+0.4**
	3.0nm,0.2s						
TNSS				S	**Sg**	**09 09 03.1**	**+0.6**
	8.4nm,0.3s						
MDOK	**Medeo**	**1.82**	**89**	Pg	**Pb**	**09 08 40.6**	**+0.2**
	3.8nm,0.4s						
MDOK				Lg	Lg	09 09 04.6	
	14nm,0.5s						
CHKK	**Chushkaly**	**1.90**	**68**	P	**Pn**	**09 08 41.0**	**+1.2**
	1.9nm,0.1s						
CHKK				S	**Sn**	**09 09 05.4**	**+0.9**
	24nm,0.2s						
TARG	**Taragay, Kyrgy**	**2.80**	**120**	↓iP	**Pn**	**09 08 52.6**	**0.0**
TARG				↓iS	**Sn**	**09 09 26.3**	**-1.0**
KK31	**Karatay Array**	**2.96**	**270**	↓Pg	**Pg**	**09 09 02.6**	**-0.3**
	0.2nm,0.2s,baz=82,slow=15,SNR=5.8						
KK31				↑Lg	Lg	09 09 46.7	
	1.0nm,0.4s,baz=90,slow=28,SNR=6.3						
KKAR	**Karatay Array**	**2.96**	**270**	↓iP	**Pn**	**09 08 54.8**	**+0.4**
KKAR				↓iS	**Sn**	**09 09 30.1**	**-0.6**

---

*IDC **25** 09:15:17.2±1.9, 20°.80S×177°.84W, h479km±20km, mb3.4/13, mbtmp4.2/16, Error ellipse: s-maj=21.0km s-min=15.2km az=132.0*
*NEIC **25** 09:15:17.6±1.2, 20°.8S±0°.1×177°.90W±0°.10, h471km±20km, mb4.3/16, Error ellipse: s-maj=19.4km s-min=12.0km az=202.0*

ISC 25 09:15:18.3±0.5, 20°.82S±0°.09×177°.87W±0°.09, h495km, n42, σ1°.14/44, mb3.9/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.93**	**308**	P	**P**	**09 16 42.0**	**-2.5**
MSVF	**Nonsavu**	**4.93**	**308**	P	**P**	**09 16 42.9**	**-1.6**
	39nm,0.5s,baz=157,slow=4.9,SNR=17						
NIUE	**Niue**	**7.67**	**78**	P	**P**	**09 17 09.8**	**-1.3**
AFI	**Afiamalu**	**9.00**	**41**	P	**P**	**09 17 23.4**	**-1.8**
DZM	**Mont Dzumac**	**14.66**	**262**	P	**P**	**09 18 24.8**	**-0.4**
	5.7nm,0.9s,baz=300,slow=23,SNR=1.4						
URZ	**Urewera**	**17.91**	**193**	P	**P**	**09 18 56.7**	**-1.2**
	5.2nm,0.4s,baz=9.8,slow=2.5,SNR=12						
URZ				S	**S**	**09 21 53.5**	**-3.8**
	2.9nm,0.6s,baz=158,slow=24,SNR=6.9						
RTZ	**Ruatahuna**	**18.29**	**193**	P	**P**	**09 19 01.9**	**+0.5**
RTZ				IAmb	IAmb	09 19 28.0	
	comp=Z,15nm,1.2s						
QRZ	**Quartz Range**	**21.55**	**200**	P	**P**	**09 19 31.4**	**+0.3**
EIDS	**Eidsvold**	**28.89**	**255**	P	**P**	**09 20 36.8**	**+0.4**
ARMA	**Armidale**	**29.04**	**245**	P	**P**	**09 20 38.7**	**+0.9**
CAN	**Canberra**	**32.44**	**236**	P	**P**	**09 21 06.1**	**-0.8**
TOO	**Toolangi**	**35.81**	**234**	P	**P**	**09 21 35.5**	**+0.3**
COEN	**Coen**	**37.73**	**274**	P	**P**	**09 21 52.1**	**+0.7**
COEN				IAmb	IAmb	09 22 04.0	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**37.76**	**245**	P	**P**	**09 21 52.2**	**+0.8**
STKA	**Stephens Creek**	**37.76**	**245**	P	**P**	**09 21 51.8**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=94,slow=11,SNR=6.5						
	comp=Z,1.8nm,0.5s						
BBOO	**Buckleboo**	**42.52**	**244**	P	**P**	**09 22 29.5**	**-0.1**
BBOO				IAmb	IAmb	09 22 49.9	
	comp=Z,18nm,1.4s						
WR8	**Warramunga Arr**	**44.53**	**262**	P	**P**	**09 22 45.1**	**-0.4**
AS31	**Alice Springs**	**44.57**	**257**	P	**P**	**09 22 46.4**	**+0.7**
AS31				IAmb	IAmb	09 22 47.2	
	comp=Z,3.4nm,0.5s						
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**09 22 45.8**	**+0.1**
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**09 22 46.1**	**+0.4**
	comp=Z,6.3nm,0.4s,baz=92,slow=8.1,SNR=159						
ASAR				PcP	**PcP**	**09 24 19.2**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=92,slow=3.5,SNR=4.4						
	comp=Z,6.3nm,0.4s						
WB0	**Warramunga Arr**	**44.66**	**263**	P	**P**	**09 22 46.2**	**-0.3**
WB0				IAmb	IAmb	09 22 47.1	
	comp=Z,6.7nm,0.5s						
WRA	**Warramunga Arr**	**44.68**	**262**	P	**P**	**09 22 46.0**	**-0.7**
WRA	**Warramunga Arr**	**44.68**	**262**	P	**P**	**09 22 46.3**	**-0.3**
	comp=Z,2.1nm,0.4s,baz=97,slow=7.3,SNR=119						
WRA				PcP	**pP**	**09 24 18.3**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=95,slow=3.2,SNR=3.4						
	comp=Z,2.1nm,0.4s						
MBWA	**Marble Bar**	**57.91**	**258**	P	**P**	**09 24 22.8**	**+0.1**
MBWA				IAmb	IAmb	09 24 23.9	
	comp=Z,10nm,0.8s						
QSPA	**South Pole Qui**	**69.25**	**180**	P	**P**	**09 25 36.6**	**+1.8**
QSPA				IAmb	IAmb	09 26 00.3	
	comp=Z,7.9nm,1.4s						
QSPA	**South Pole Qui**	**69.25**	**180**	P	**P**	**09 25 36.3**	**+1.5**
	comp=Z,1.3nm,1.0s,baz=56,slow=5.7,SNR=2.0						
	comp=Z,1.3nm,1.0s						
MJAR	**Matsushiro Arr**	**70.54**	**324**	P	**P**	**09 25 42.6**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=160,slow=5.2,SNR=4.3						
	comp=Z,2.2nm,0.8s						
PETK	**Petropavlovsk-**	**76.61**	**345**	P	**P**	**09 26 17.3**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=167,slow=5.3,SNR=4.4						
	comp=Z,3.0nm,0.7s						
KSRS	**Korea Array**	**77.21**	**319**	P	**P**	**09 26 21.5**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=131,slow=7.1,SNR=1.6						
	comp=Z,0.7nm,0.5s						
USRK	**Ussuriysk Ar.**	**79.30**	**326**	P	**P**	**09 26 33.0**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=129,slow=5.6,SNR=4.6						
	comp=Z,4.4nm,0.8s						
NVAR	**Mina Array Bea**	**81.17**	**43**	P	**P**	**09 26 42.6**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=222,slow=8.7,SNR=8.7						
	comp=Z,1.1nm,0.9s						
J05D	**Fort Rock, OR**	**82.28**	**38**	P	**P**	**09 26 48.9**	**+1.4**
J05D				IAmb	IAmb	09 26 49.7	
	comp=Z,8.1nm,0.9s						
TXAR	**Lajitas Array**	**87.12**	**57**	P	**P**	**09 27 12.9**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=202,slow=6.1,SNR=7.0						
	comp=Z,0.5nm,0.8s						
ILAR	**Eielson Array**	**88.60**	**13**	P	**P**	**09 27 16.5**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=214,slow=5.2,SNR=12						
	comp=Z,0.4nm,0.4s						
PDAR	**Pinedale Array**	**89.11**	**43**	P	**P**	**09 27 20.6**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=180,slow=3.9,SNR=6.7						
	comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.34**	**290**	P	**P**	**09 27 28.4**	**+1.8**
	comp=Z,1.5nm,0.7s,baz=110,slow=3.1,SNR=11						
	comp=Z,1.5nm,0.7s						
BVAR	**Borovoye Array**	**119.40**	**320**	PKP	**PKPdf**	**09 33 09.6**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=99,slow=3.5,SNR=3.5						
ARCES	**ARCESS Array B**	**129.26**	**350**	PKP	**PKPdf**	**09 33 28.9**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=10,slow=0.2,SNR=6.8						
AKASG	**Malin Array Be**	**143.35**	**331**	PKP	PKPab	09 33 53.8	+0.2
	comp=Z,1.7nm,0.6s,baz=45,slow=3.9,SNR=9.6						
BRTR	**Keskin Array B**	**147.15**	**312**	PKPbc	**PKPbc**	**09 34 05.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=149,slow=3.4,SNR=4.2						
MMAI	**Mount Meron Ar**	**148.08**	**299**	PKPbc	**PKiKP**	**09 34 09.2**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=59,slow=5.3,SNR=3.9						
GERES	**GERESS Array B**	**150.54**	**344**	PKPbc	**PKPbc**	**09 34 13.6**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=20,slow=3.3,SNR=2.5						

---

*IDC **25** 09:19:27.9±3.8, 53°.64N×90°.74E, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=35.5km s-min=23.9km az=33.0*

ASRS 25 09:19:21.0±1.8, 53°.80N×91°.10E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.72**	**275**	I	I	09 41 20.0	
	baz=95,slow=329,SNR=5.0						
ZALV	**Zalesovo Beam**	**3.72**	**275**	Pg	Pg	09 20 30.4	-1.9
	1.0nm,0.3s,baz=96,slow=18,SNR=4.1						
ZALV				Lg	Lg	09 21 19.3	
	1.1nm,0.3s,baz=92,slow=26,SNR=3.0						
KURBB	**Kurchatov Arra**	**8.35**	**253**	Pn	Pn	09 21 27.2	+4.0
	0.1nm,0.3s,baz=67,slow=15,SNR=3.2						
KURBB				Sn	Sn	09 22 57.1	-1.0
	0.1nm,0.3s,baz=66,slow=28,SNR=2.4						
KURBB				Lg	Lg	09 23 46.2	
	0.1nm,0.3s,baz=63,slow=33,SNR=6.4						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**8.99**	**222**	Pn	Pn	09 21 35.9	+3.8
	0.1nm,0.3s,baz=34,slow=15,SNR=8.6						
MKAR				Lg	Lg	09 24 06.9	
	baz=38,slow=33,SNR=2.6						
	0.3nm,0.4s						

IDC 25 09:33:21.6±5.9, 19°.70S×178°.23W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=295.2km s-min=55.3km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.49**	**256**	P	P	09 41 34.8	-0.4
	0.7nm,0.6s,baz=97,slow=7.8,SNR=10						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**44.50**	**261**	P	P	09 41 35.3	+0.1
	0.3nm,0.3s,baz=96,slow=7.5,SNR=18						
	0.3nm,0.3s						
GERES	**GERESS Array B**	**149.38**	**344**	PKPbc	PKPbc	09 53 12.2	-0.5
	0.2nm,0.2s,baz=5.5,slow=3.2,SNR=1.4						

NOU 25 09:43:21.9, 15°.01S×166°.97E, h80km, MLv4.5/12, Vanuatu Islands, Vanuatu Islands

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

NMR			*i* S	Sn	09 50 51.6	+0.1
NMR			A	A	09 50 53.1	
	600nm,0.5s					
NMR			A	A	09 50 53.1	
	900nm,0.5s					
SHO	**Shikotan**	**1.03 360**	*e*P	**Pb**	**09 50 39.9**	**-0.6**
SHO			AMB	AMB	09 50 41.1	
	120nm,0.3s					
SHO			*i* S	**Sb**	**09 50 54.5**	**+0.9**
SHO			A	A	09 50 55.9	
	500nm,0.2s					
SHO			A	A	09 50 55.9	
	450nm,0.2s					
YUK	**Yuzh-Kuril'sk**	**1.39 330**	*e*P	**Pn**	**09 50 44.8**	**+0.2**
YUK			AMB	AMB	09 50 45.2	
	150nm,0.4s					
YUK			*e*S	**Sn**	**09 51 03.3**	**+1.3**
YUK			A	A	09 51 04.2	
	640nm,0.5s					
YUK			A	A	09 51 04.2	
	880nm,0.5s					
AKK	**Akkeshi**	**1.47 278**	*e*P	**Pn**	**09 50 45.0**	**-0.8**
AKK			*e*S	**Sn**	**09 51 03.2**	**-0.8**
JAK	**Akkeshi**	**1.58 276**	P	**Pn**	**09 50 46.4**	**-0.8**
JNSB	**Nemuroshibetsu**	**1.63 306**	*e*P	**Pn**	**09 50 47.6**	**-0.4**
JRA	**Rausu**	**1.66 312**	*e*P	**Pn**	**09 50 48.0**	**-0.3**
JRA			*e*S	**Sn**	**09 51 08.4**	**-0.3**
JAR	**Ashorobuto**	**2.29 283**	*e*P	**Pn**	**09 50 56.7**	**-0.4**
JTKR	**Abashiri--Toko**	**2.41 299**	P	**Pn**	**09 50 59.0**	**+0.3**
KUR	**Kuril'sk**	**2.51 17**	*e*P	**Pn**	**09 51 00.0**	**0.0**
KUR			AMB	AMB	09 51 02.5	
	90nm,0.7s					
KUR			*e*S	**Sn**	**09 51 29.0**	**-0.6**
KUR			A	A	09 51 30.0	
	90nm,0.7s					
KUR			A	A	09 51 30.0	
	60nm,0.7s					
JCH	**Churui**	**2.57 266**	P	**Pn**	**09 51 00.6**	**-0.2**
JMP	**Maruseppu**	**2.79 296**	*e*P	**Pn**	**09 51 06.0**	**+2.1**
JEM	**Erimo**	**2.84 254**	*e*P	**Pn**	**09 51 04.9**	**+0.3**
JNBK	**Urakawa-nobuka**	**3.06 261**	P	**Pn**	**09 51 09.3**	**+1.7**
JFR	**Furan**	**3.12 277**	*e*P	**Pn**	**09 51 09.2**	**+0.7**

RSNC 25 09:53:13.5±0.0, 7°N±1°×7°3W±°, h142km±2km, M2.5, mb3.6, ML2.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**186**	P	Pn	09 53 32.7	-0.5
BARC				S	Sn	09 53 47.2	-0.9
BRJC	**Barrancabermej**	**0.60**	**285**	P	Pn	09 53 34.5	0.0
BRJC				S	Sn	09 53 51.4	+1.0
PAMC	**Pamplona, Colo**	**0.69**	**41**	P	Pn	09 53 35.6	-0.1
PAMC				S	Sn	09 53 52.4	-0.1
RUSC	**La Rusia**	**0.93**	**175**	P	Pn	09 53 36.7	-0.8
RUSC				S	Sn	09 53 54.6	-1.0
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	P	Pn	09 53 39.2	-1.4
PTBC				S	Sn	09 54 00.3	-0.9
TAMC	**Tame, Arauca**	**1.41**	**106**	P	Pn	09 53 41.2	-0.4
TAMC				S	Sn	09 54 02.6	-0.4
OCAC	**Ocana**	**1.42**	**354**	P	Pn	09 53 41.1	-0.7
OCAC				S	Sn	09 54 02.7	-0.7
ZARC	**Zaragoza, Cauc**	**1.81**	**292**	P	Pn	09 53 45.9	-0.1
ZARC				S	Sn	09 54 11.5	+0.7
NORC	**Norcasia**	**2.11**	**234**	P	Pn	09 53 48.7	-0.8
NORC				S	Sn	09 54 17.2	0.0
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	09 53 51.2	-0.4
CHIC				S	Sn	09 54 20.0	-0.8
ROSC	**El Rosal**	**2.28**	**210**	P	Pn	09 53 54.3	+2.4
ROSC				S	Sn	09 54 21.9	+0.5
UREC	**San Jos de Ur**	**2.53**	**292**	P	Pn	09 53 54.0	-0.6
UREC				S	Sn	09 54 24.9	-1.4
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P	Pn	09 53 57.9	+0.6
GUY2C				S	Sn	09 54 29.5	-1.5
CBOC	**Ciudad Bolivar**	**2.99**	**252**	P	Pn	09 54 00.9	+0.3
CBOC				S	Sn	09 54 37.9	+1.0
DBBC	**Dabeiba**	**3.03**	**274**	P	Pn	09 54 00.9	-0.2
DBBC				S	Sn	09 54 36.5	-1.3
ARGC	**Ariguani, Magd**	**3.20**	**340**	P	Pn	09 54 03.3	+0.1
ARGC				S	Sn	09 54 41.0	-0.7
ANIL	**Santa Ana**	**3.21**	**224**	P	Pn	09 54 01.8	-1.8
ANIL				S	Sn	09 54 42.8	+0.5
PRAC	**Prado**	**3.53**	**209**	P	Pn	09 54 07.2	-0.3
PRAC				S	Sn	09 54 48.4	-0.9
APAC	**Apartado, Choc**	**3.56**	**288**	P	Pn	09 54 06.8	-1.0
APAC				S	Sn	09 54 48.4	-1.4
SJCC	**San Jacinto, C**	**3.65**	**327**	P	Pn	09 54 07.1	-2.0
SJCC				S	Sn	09 54 49.4	-2.8
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	09 54 09.6	-0.8
URMC				S	Sn	09 54 54.4	-0.1
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	P	Pn	09 54 13.3	-2.8
CRJC				S	Sn	09 55 01.6	-3.1
MACC	**Macarena, Meta**	**4.69**	**188**	P	Pn	09 54 20.0	-2.8
MACC				S	Sn	09 55 10.5	-6.2
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	09 54 24.0	-2.6
BBAC	**Balboa, Cauca**	**6.27**	**221**	P	Pn	09 54 43.3	-0.7

*RSNC **25** 09:57:10.0±1.1, 11°N±4°×7°2W±°, h20km±9km, M1.8, ML1.7*
*FUNV **25** 09:57:12.8, 10°69N×72°07W, h5km, MW2.8*
ISC 25 09:57:11.2±1.1, 10°82N±0°05×72°12W±0°05, h24km, n6, σ0°86/11, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.77**	**285**	P	**Pb**	**09 57 25.6**	**-0.5**
CRJC				S	**Sb**	**09 57 36.6**	**+0.4**
MCQV	**Machiques**	**0.87**	**208**	*e*P	**Pn**	**09 57 27.9**	**0.0**
MCQV				*e*S	**Sb**	**09 57 38.4**	**-0.4**
URIC	**Uribia, Colomb**	**0.89**	**8**	P	**Pn**	**09 57 27.8**	**-0.4**
URIC				S	**Sn**	**09 57 40.4**	**+0.1**
SJCC	**San Jacinto, C**	**3.15**	**253**	P	**Pn**	**09 57 59.6**	**+0.2**
SJCC				S	**Sn**	**09 58 37.1**	**+0.9**
BAUV	**El Baul**	**4.43**	**115**	*e*P	**Pn**	**09 58 17.4**	**+0.4**
BAUV				*e*S	**Sn**	**09 59 06.5**	**-1.4**
BENV	**Beln**	**4.53**	**100**	*e*P	**Pn**	**09 58 19.9**	**+1.5**

*IDC **25** 10:00:00.2±1.8, 55°78S×26°76W, h0km, mb4.4/4, mbtmp4.3/5, ML3.9/1, Error ellipse: s-maj=76.9km s-min=24.1km az=61.0*
ISC 25 10:00:06.6±1.7, 55°8S±0°3×26°7W±0°4, h50km, n9, σ0°91/9, mb4.3/4, 3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.93**	**159**	⇑P	**Pn**	**10 03 59.7**	**+0.1**
	comp=Z,0.6nm,0.2s						
VNA3	**Neumayer Olymp**	**17.14**	**161**	⇑P	**Pn**	**10 04 01.9**	**-0.4**
	comp=Z,0.6nm,0.2s						
VNA2	**Neumayer--Watz**	**17.33**	**159**	⇑P	**Pn**	**10 04 04.6**	**+0.1**
	comp=Z,0.6nm,0.2s,baz=326,slow=14						
SNAA	**Sanae**	**18.86**	**157**	P	**P**	**10 04 20.9**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=311,slow=13,SNR=15						
	comp=Z,3.2nm,0.8s						
QSPA	**South Pole Qui**	**34.46**	**180**	P	**P**	**10 06 49.3**	**0.0**
	comp=Z,5.9nm,0.5s,baz=214,slow=2.2,SNR=98						
	comp=Z,5.9nm,0.5s						
MAW	**Mawson**	**40.19**	**144**	P	**P**	**10 07 37.6**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=222,slow=15,SNR=2.5						
	comp=Z,4.4nm,0.9s						
VNDA	**Vanda**	**46.84**	**183**	P	**P**	**10 08 31.8**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=178,slow=7.2,SNR=16						
	comp=Z,2.1nm,0.6s						
LPAZ	**La Paz**	**50.46**	**304**	P	**P**	**10 08 59.2**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=181,slow=1.1,SNR=4.7						
	comp=Z,2.0nm,0.5s						
ILAR	**Eielson Array**	**150.16**	**312**	PKPbc	**PKPbc**	**10 19 51.5**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=119,slow=1.8,SNR=6.5						

*SDD **25** 10:03:13.2±1.6, 20°11N×70°46W, h23km±29km, MD2.9, ML2.4, MW2.9*
*OSPL **25** 10:03:14.1±2.1, 19°92N×70°31W, h0km±15km, ML1.9*
ISC 25 10:03:10.0±2.6, 20°1N±0°1×70°47W±0°04, h7km±17km, n12, σ0°60/19, 2C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUDR	**Luperon**	**0.50**	**244**	*e*Pg	**Pn**	**10 03 22.8**	**-0.8**
LUDR				⇑*e*Sg	**Sb**	**10 03 30.2**	**+1.5**
LUDR				IAML		10 03 35.5	
	comp=N,296nm,0.4s						
SC01	**Santiago de lo**	**0.72**	**199**	*e*S	**Sg**	**10 03 33.2**	**-0.2**
SC01				IAML		10 03 42.1	
	comp=Z,70nm,0.6s						
DR08	**Loma La Naviza**	**1.22**	**160**	*e*Pg	**Pg**	**10 03 33.6**	**+0.2**
DR08				*e*Sg	**Sb**	**10 03 49.9**	**+0.4**
DR08				IAML		10 03 57.0	
	comp=N,986nm,0.1s						
ABDR	**Alto Bandera**	**1.30**	**186**	*e*Pg	**Pg**	**10 03 35.3**	**+0.3**
ABDR				*e*Sg	**Sg**	**10 03 52.0**	**0.0**
ABDR				IAML		10 03 54.0	
	comp=N,55nm,0.2s						
SDDR	**Presa de Saban**	**1.36**	**214**	*e*Pg	**Pg**	**10 03 36.1**	**-0.1**
SDDR				⇑*e*Sg	**Sg**	**10 03 55.0**	**+1.1**
SDDR				IAML		10 03 57.8	
	comp=N,21nm,0.8s						
SDDR	**Presa de Saban**	**1.36**	**214**	*i* P	**Pg**	**10 03 36.0**	**-0.1**
SDDR				IAML		10 03 55.8	
	comp=Z,20nm,0.6s						
GRTK	**Grand Turk**	**1.52**	**336**	*i* P	Pg	10 03 43.7	+4.6
GRTK				*e*S	Sg	10 04 06.2	+7.3
GRTK				IAML		10 04 16.8	
	comp=Z,22nm,1.1s						
HATOM	**Hato Mayor del**	**1.67**	**142**	*e*Pg	**Pg**	**10 03 42.1**	**+0.1**
HATOM				*e*Sg	**Sg**	**10 04 04.2**	**+0.4**
HATOM				IAML		10 04 05.7	
	comp=N,26nm,0.3s						
BANI	**BANI**	**1.72**	**176**	*e*Pg	**Pg**	**10 03 42.5**	**-0.5**
BANI				*e*Sg	**Sg**	**10 04 04.8**	**-0.4**
MIDR	**Miches**	**1.75**	**130**	*e*Pg	**Pg**	**10 03 43.7**	**+0.1**
MIDR				IAML		10 04 07.9	
	comp=N,20nm,1.4s						
LONE3	**El Aguacate, B**	**1.77**	**212**	*i* P	**Pg**	**10 03 43.7**	**-0.2**
LONE3				*e*S	**Sb**	**10 04 05.7**	**+0.4**
LONE3				IAML		10 04 07.7	
	comp=Z,12nm,0.3s						
PODR	**Polo**	**2.08**	**202**	*e*Pg	**Pg**	**10 03 49.8**	**-0.1**
PODR				*e*Sg	**Sg**	**10 04 16.5**	**-0.5**
PODR				IAML		10 04 24.6	
	comp=N,23nm,0.8s						

ISC 25 10:10:49.5±1.0, 48°98N±0°05×20°85E±0°05, h10km, n6, σ1°58/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STHS	**Stebnicka Huta**	**0.51**	**30**	*e*PG	**Pb**	**10 11 01.5**	**+0.9**
STHS				*e*SG	**Sb**	**10 11 08.7**	**+0.7**
KECS	**Kecovo**	**0.55**	**206**	*e*PG	**Pb**	**10 11 01.9**	**+0.6**
KECS				*e*SG	**Sb**	**10 11 10.4**	**+1.1**
KOLS	**Kolonicke sedl**	**0.94**	**92**	*e*PG	**Pg**	**10 11 07.5**	**-0.1**
KOLS				*e*SG	**Sg**	**10 11 19.7**	**-0.1**
MORC	**Moravsky Berou**	**2.31**	**292**	*e*PG	**Pg**	**10 11 34.4**	**+0.7**
VRAC	**Vranov**	**2.81**	**278**	*e*PG	**Pn**	**10 11 31.2**	**-3.4**
KRUC	**Moravsky**	**2.93**	**273**	*e*PG	**Pn**	**10 11 36.3**	**+0.1**

*NEIC **25** 10:14:44.7±0.6, 18°5N±0°1×67°31W±0°05, h104km±4km, ML3.5/32, Md2.9/18(RSPR), Error ellipse: s-maj=15.4km s-min=5.6km az=194.0*
*RSPR **25** 10:14:46.0, 18°50N×67°30W, h97km, MD2.9/18*
*OSPL **25** 10:14:45.8±0.7, 18°50N×67°32W, h103km±5km, ML3.2*
*SDD **25** 10:14:46.2±1.3, 18°54N×67°26W, h101km±6km, MD3.7, ML3.4, MW3.3*
ISC 25 10:14:44.6±1.3, 18°53N±0°08×67°30W±0°03, h102km±7km, n86, σ0°88/111, 18C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.19**	**110**		**Pn**	**10 14 59.4**	**+0.4**
AGPR					**Sn**	**10 15 09.7**	**-0.2**
AGPR	**Aguadilla, PR**	**0.19**	**110**	IAML		10 15 11.4	
	comp=E,2μm,0.3s						
AGPR	**Aguadilla, PR**	**0.19**	**110**	*e*Pg	**Pn**	**10 14 59.5**	**+0.4**
AGPR				*e*Sg	**Sn**	**10 15 10.0**	**+0.1**
AGPR				IAML		10 15 10.2	
	comp=N,6μm,0.4s						
AGPR	**Aguadilla, PR**	**0.19**	**110**	⇑*e*P	**Pn**	**10 14 59.4**	**+0.4**
AGPR	**Aguadilla, PR**	**0.19**	**110**	*i* P	**Pn**	**10 14 59.4**	**+0.4**
AGPR				*e*S	**Sn**	**10 15 09.6**	**-0.2**
AGPR				IAML		10 15 10.4	
	comp=Z,1μm,0.1s						
IDE	**Isla Desecheo**	**0.22**	**228**		**Pn**	**10 14 59.4**	**+0.3**
IDE					**Sn**	**10 15 10.1**	**+0.1**
IDE	**Isla Desecheo**	**0.22**	**228**	⇑*e*P	**Pn**	**10 14 59.4**	**+0.3**
IDE	**Isla Desecheo**	**0.22**	**228**	*e*S	**Sn**	**10 15 10.1**	**+0.1**
PRSN	**Puerto Rico Se**	**0.35**	**154**		**Pn**	**10 14 59.8**	**+0.1**
PRSN					**Sn**	**10 15 10.6**	**-0.3**
PRSN	**Puerto Rico Se**	**0.35**	**154**	IAML		10 15 14.9	
	comp=N,3μm,0.2s						
PRSN	**Puerto Rico Se**	**0.35**	**154**	*e*Pg	**Pn**	**10 14 59.5**	**-0.1**
PRSN				*e*Sg	**Sn**	**10 15 10.4**	**-0.5**
PRSN				IAML		10 15 13.6	
	comp=N,2μm,0.2s						
PRSN	**Puerto Rico Se**	**0.35**	**154**	⇑*e*P	**Pn**	**10 14 59.8**	**+0.1**
PRSN	**Puerto Rico Se**	**0.35**	**154**	*e*S	**Sn**	**10 15 10.6**	**-0.3**
LSP	**Las Mesas**	**0.41**	**150**		**Pn**	**10 15 00.1**	**0.0**
LSP					**Sn**	**10 15 11.6**	**-0.1**
LSP	**Las Mesas**	**0.41**	**150**	⇑*e*P	**Pn**	**10 15 00.1**	**0.0**
LSP	**Las Mesas**	**0.41**	**150**	*e*S	**Sn**	**10 15 11.6**	**-0.1**
AOPR	**Arecibo Observ**	**0.55**	**109**		**Pn**	**10 15 01.1**	**+0.1**
AOPR					**Sn**	**10 15 13.3**	**-0.1**
AOPR	**Arecibo Observ**	**0.55**	**109**	*e*Pg	**Pn**	**10 15 01.2**	**+0.1**
AOPR				*e*Sg	**Sn**	**10 15 12.2**	**-1.2**
AOPR				IAML		10 15 14.5	
	comp=N,3μm,0.2s						
AOPR	**Arecibo Observ**	**0.55**	**109**	⇑*e*P	**Pn**	**10 15 01.1**	**+0.1**
AOPR	**Arecibo Observ**	**0.55**	**109**	*e*S	**Sn**	**10 15 13.3**	**-0.1**
AOPR	**Arecibo Observ**	**0.55**	**109**	*e*P	**Pn**	**10 15 00.9**	**-0.1**
AOPR				*e*S	**Sn**	**10 15 12.9**	**-0.4**
CRPR	**Cabo Rojo, PR**	**0.56**	**161**		**Pn**	**10 15 01.2**	**+0.2**
CRPR					**Sn**	**10 15 12.6**	**-0.7**
CRPR	**Cabo Rojo, PR**	**0.56**	**161**	*e*Pg	**Pn**	**10 15 01.4**	**+0.4**
CRPR				*e*Sg	**Sn**	**10 15 13.3**	**0.0**
CRPR				IAML		10 15 14.8	
	comp=N,576nm,0.2s						
CRPR	**Cabo Rojo, PR**	**0.56**	**161**	⇑*e*P	**Pn**	**10 15 01.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.56**	**161**	*i* P	**Pn**	**10 15 01.2**	**+0.2**
CRPR				*e*S	**Sn**	**10 15 12.6**	**-0.7**
CRPR				IAML		10 15 15.5	
	comp=Z,867nm,0.5s						
MLPR	**Magueyes Islan**	**0.61**	**156**	*e*Pg	**Pn**	**10 15 01.8**	**+0.4**
MLPR				⇑*e*Sg	**Sn**	**10 15 14.3**	**+0.2**
MLPR				IAML		10 15 15.3	
	comp=N,231nm,0.3s						
MLPR	**Magueyes Islan**	**0.61**	**156**	⇑*e*P	**Pn**	**10 15 01.8**	**+0.4**
MLPR	**Magueyes Islan**	**0.61**	**156**	*e*S	**Sn**	**10 15 13.5**	**-0.6**
UUPR	**Utuado, UPR, P**	**0.62**	**117**		**Pn**	**10 15 01.9**	**+0.4**
UUPR					**Sn**	**10 15 14.4**	**+0.2**
UUPR	**Utuado, UPR, P**	**0.62**	**117**	⇑*e*P	**Pn**	**10 15 01.9**	**+0.4**
UUPR	**Utuado, UPR, P**	**0.62**	**117**	*e*S	**Sn**	**10 15 14.4**	**+0.2**
GBPR	**Guanica, Bosqu**	**0.69**	**144**		**Pn**	**10 15 02.5**	**+0.4**
GBPR					**Sn**	**10 15 15.7**	**+0.5**
GBPR	**Guanica, Bosqu**	**0.69**	**144**	⇑*e*P	**Pn**	**10 15 02.5**	**+0.4**
GBPR	**Guanica, Bosqu**	**0.69**	**144**	*e*S	**Sn**	**10 15 15.7**	**+0.5**
EMPR	**Esperanza - Ma**	**0.74**	**94**		**Pn**	**10 15 03.0**	**+0.5**
EMPR					**Sn**	**10 15 16.3**	**+0.3**
EMPR	**Esperanza - Ma**	**0.74**	**94**	IAML		10 15 17.0	
	comp=N,925nm,0.2s						
EMPR				IAML		10 15 17.6	
	comp=E,873nm,0.2s						
EMPR	**Esperanza - Ma**	**0.74**	**94**	⇑*i* P	**Pn**	**10 15 03.0**	**+0.5**
EMPR	**Esperanza - Ma**	**0.74**	**94**	*e*S	**Sn**	**10 15 16.3**	**+0.3**
OBIP	**Obispado Ponce**	**0.82**	**126**		**Pn**	**10 15 02.7**	**-0.6**
OBIP					**Sn**	**10 15 16.8**	**-0.7**
OBIP	**Obispado Ponce**	**0.82**	**126**	IAML		10 15 17.7	
	comp=E,474nm,0.2s						
OBIP	**Obispado Ponce**	**0.82**	**126**	⇑*i* P	**Pn**	**10 15 02.7**	**-0.6**
OBIP	**Obispado Ponce**	**0.82**	**126**	*e*S	**Sn**	**10 15 16.8**	**-0.7**
CELP	**Cerrillos**	**0.83**	**123**		**Pn**	**10 15 03.7**	**+0.3**
CELP					**Sn**	**10 15 17.8**	**+0.3**
CELP	**Cerrillos**	**0.83**	**123**	IAML		10 15 19.1	
	comp=E,512nm,0.4s						
CELP				IAML		10 15 20.1	
	comp=N,870nm,0.3s						
CELP	**Cerrillos**	**0.83**	**123**	*e*Pg	**Pn**	**10 15 03.9**	**+0.5**
CELP				⇑*e*Sg	**Sn**	**10 15 16.4**	**-1.1**
CELP				IAML		10 15 19.5	
	comp=N,917nm,0.2s						
CELP	**Cerrillos**	**0.83**	**123**	⇑*e*P	**Pn**	**10 15 03.7**	**+0.3**
CELP	**Cerrillos**	**0.83**	**123**	*e*S	**Sn**	**10 15 17.8**	**+0.3**
ECPR	**Experimental S**	**0.92**	**103**	⇑*e*P	**Pn**	**10 15 04.5**	**+0.2**
ECPR	**Experimental S**	**0.92**	**103**	*e*S	**Sn**	**10 15 18.6**	**-0.6**
PCDR	**Punta Cana, DR**	**1.02**	**269**		**Pn**	**10 15 05.2**	**-0.1**
PCDR					**Sn**	**10 15 20.5**	**-0.6**
PCDR	**Punta Cana, DR**	**1.02**	**269**	IAML		10 15 22.1	
	comp=N,945nm,0.3s						
PCDR	**Punta Cana, DR**	**1.02**	**269**	*e*Pg	**Pn**	**10 15 05.5**	**+0.1**
PCDR				IAML		10 15 22.1	
	comp=N,899nm,0.4s						
PCDR	**Punta Cana, DR**	**1.02**	**269**	⇑*e*P	**Pn**	**10 15 05.2**	**-0.1**
PCDR	**Punta Cana, DR**	**1.02**	**269**	*i* P	**Pn**	**10 15 05.2**	**-0.1**
PCDR				*e*S	**Sn**	**10 15 20.5**	**-0.6**
PCDR				IAML		10 15 21.2	
	comp=Z,293nm,0.2s						
SJG	**San Juan**	**1.17**	**111**		**Pn**	**10 15 07.2**	**+0.2**
SJG				IAML		10 15 24.6	
	comp=Z,670nm,0.2s						
SJG				IAML		10 15 25.0	
	comp=Z,493nm,0.3s						
SJG	**San Juan**	**1.17**	**111**	*e*Pg	**Pn**	**10 15 07.5**	**+0.5**
SJG				⇑*e*Sg	**Sn**	**10 15 23.1**	**-0.9**
SJG	**San Juan**	**1.17**	**111**	*i* P	**Pn**	**10 15 07.4**	**+0.3**
SJG				*e*S	**Sn**	**10 15 23.8**	**-0.3**
SJG				IAML		10 15 26.9	
	comp=Z,206nm,0.2s						
GCPR	**Guaynabo City**	**1.18**	**101**		**Pn**	**10 15 07.3**	**+0.2**
GCPR					**Sn**	**10 15 23.3**	**-0.9**
GCPR	**Guaynabo City**	**1.18**	**101**	⇑*e*P	**Pn**	**10 15 07.3**	**+0.2**
GCPR	**Guaynabo City**	**1.18**	**101**	*e*S	**Sn**	**10 15 23.3**	**-0.9**
IGPR	**InterUniversit**	**1.27**	**116**		**Pn**	**10 15 08.7**	**+0.5**
IGPR					**Sn**	**10 15 25.8**	**-0.3**
IGPR	**InterUniversit**	**1.27**	**116**	IAML		10 15 28.4	
	comp=N,580nm,0.2s						
IGPR				IAML		10 15 30.3	
	comp=E,444nm,0.2s						
IGPR	**InterUniversit**	**1.27**	**116**	⇑*e*P	**Pn**	**10 15 08.7**	**+0.5**
IGPR	**InterUniversit**	**1.27**	**116**	*e*S	**Sn**	**10 15 25.8**	**-0.3**
PDPR	**Patillas Dam,**	**1.32**	**113**		**Pn**	**10 15 09.1**	**+0.3**
PDPR				IAML		10 15 29.9	
	comp=E,349nm,0.1s						
PDPR				IAML		10 15 30.5	
	comp=N,378nm,0.1s						
PDPR	**Patillas Dam,**	**1.32**	**113**	⇓*e*P	**Pn**	**10 15 09.2**	**+0.5**
PDPR	**Patillas Dam,**	**1.32**	**113**	*e*S	**Sn**	**10 15 27.6**	**+0.5**
HUMP	**Col San Antoni**	**1.44**	**105**		**Pn**	**10 15 10.8**	**+0.6**
HUMP					**Sn**	**10 15 29.3**	**-0.2**
HUMP	**Col San Antoni**	**1.44**	**105**	IAML		10 15 31.2	
	comp=E,408nm,0.2s						
HUMP				IAML		10 15 33.0	
	comp=N,533nm,0.3s						
HUMP	**Col San Antoni**	**1.44**	**105**	⇑*e*P	**Pn**	**10 15 10.8**	**+0.6**
HUMP	**Col San Antoni**	**1.44**	**105**	*e*S	**Sn**	**10 15 29.3**	**-0.2**
DR12	**Loma Pena Alta**	**1.98**	**278**		**Pn**	**10 15 17.1**	**0.0**
HATOM	**Hato Mayor del**	**1.99**	**278**	*e*Pg	**Pn**	**10 15 17.3**	**+0.3**
HATOM				*e*Sg	**Sn**	**10 15 41.7**	**-0.3**
HATOM				IAML		10 15 46.2	
	comp=N,72nm,0.2s						
DR08	**Loma La Naviza**	**2.61**	**280**	*e*Pg	**Pn**	**10 15 26.0**	**+0.7**
DR08				*e*Sg	**Sn**	**10 15 55.9**	**-0.7**
DR08				IAML		10 15 57.5	
	comp=N,2μm,0.2s						
BANI	**BANI**	**2.90**	**268**	Pn	**Pn**	**10 15 31.0**	**+1.9**
BANI	**BANI**	**2.90**	**268**	*e*Pg	**Pn**	**10 15 29.8**	**+0.7**
BANI				*e*Sg	**Sn**	**10 16 01.8**	**-1.7**
BANI				IAML		10 16 21.3	
	comp=N,80nm,0.2s						
ABDR	**Alto Bandera**	**3.16**	**276**	*e*Pg	**Pn**	**10 15 34.1**	**+1.2**
ABDR				IAML		10 16 20.8	
	comp=N,52nm,0.2s						
PODR	**Polo**	**3.79**	**265**	*e*Pg	**Pn**	**10 15 41.7**	**+0.5**
PODR				*e*Sg	**Sn**	**10 16 21.2**	**-3.9**
PODR				IAML		10 16 34.0	
	comp=N,22nm,1.5s						
SDDR	**Presa de Saban**	**3.80**	**277**		**Pn**	**10 15 42.1**	**+0.9**
SDDR	**Presa de Saban**	**3.80**	**277**	*e*Pg	**Pn**	**10 15 41.6**	**+0.4**
SDDR				*e*Sg	**Sn**	**10 16 22.8**	**-2.2**
SDDR				IAML		10 16 33.2	
	comp=N,12nm,0.8s						
REDR	**Restauracion**	**3.92**	**280**	⇓*e*Pg	**Pn**	**10 15 46.2**	**+3.4**
REDR				*e*Sg	**Sn**	**10 16 31.9**	**+4.1**
REDR				IAML		10 16 35.6	
	comp=N,39nm,0.1s						
GRTK	**Grand Turk**	**4.66**	**310**	Pn	**Pn**	**10 15 51.7**	**-1.0**
ANWB	**Willy Bob**	**5.32**	**98**	*e*P	**Pn**	**10 16 00.7**	**-0.9**
ANWB	**Willy Bob**	**5.32**	**98**	*e*S	**Sn**	**10 17 00.3**	**-1.4**
ANBD	**Bethesda, Anti**	**5.48**	**105**	*e*P	**Pn**	**10 16 04.0**	**+0.2**
ANBD	**Bethesda, Anti**	**5.48**	**105**	*e*S	**Sn**	**10 17 03.6**	**-2.0**

*SOME **25** 10:26:50.5, 46°87N×74°90E*
**NNC 25 10:26:45.1±0.9, 47°19N×75°58E, h14km±7km, mb3.8, mpv3.4, 16C-7D, Error ellipse: s-maj=8.9km s-min=5.6km az

MK31 ⇑Pg Pb 10 28 09.2 +3.5
1.1nm,0.3s,baz=274,slow=16,SNR=9.2
MK31 ⇓Lg Lg 10 29 05.5
12nm,0.8s,baz=279,slow=25,SNR=7.9
UZB Uzynbulak 4.72 148 Pg Pg 10 28 14.4 -1.1
2.9nm,0.3s
UZB Lg Lg 10 29 15.4
9.0nm,0.3s
PDGK Podgornoye 4.75 143 ⇑Pn Pn 10 27 57.4 +1.0
3.7nm,0.6s
PDGK ⇑Sn Sn 10 28 52.2 +0.9
4.9nm,0.8s
PDGK ⇑Lg Lg 10 29 14.9
SHLS Shalkode 4.88 144 Pg Pg 10 28 19.8 +1.3
11nm,0.3s
SHLS Lg Lg 10 29 24.7
10nm,0.5s
KK31 Karatay Array 5.44 223 Pn Pn 10 28 06.3 +0.6
0.7nm,0.2s,baz=31,slow=50,SNR=30
KK31 ⇑Sn Sn 10 29 08.5 +0.4
1.2nm,0.3s,baz=42,slow=24,SNR=6.9
KK31 ⇑Lg Lg 10 29 34.0
2.9nm,0.4s,baz=48,slow=28,SNR=3.7
BVA0 Borovoye Array 6.73 332 ⇓Pn Pn 10 28 23.3 0.0
0.6nm,0.4s,baz=284,slow=21,SNR=4.9
BVA0 ⇓Lg Lg 10 30 16.5
3.0nm,0.8s,baz=147,slow=26,SNR=8.7
BRVK Borovoye 6.79 332 ⇑Pn Pn 10 28 25.1 +0.9
0.8nm,0.6s
BRVK ⇓Lg Lg 10 30 16.0
3.3nm,1.0s

*BJI **25** 11:01:59.0, 7.°80N×126.°90E, h10km, mB4.9/11, mb4.6/42, Ms4.0/5, Ms7 3.8/6*
*NEIC **25** 11:02:05.4±2.1, 7.°73N±0.°06×126.°68E±0.°08, h41km±5km, mb4.8/156, Error ellipse: s-maj=11.4km s-min=9.3km az=82.0*
*IDC **25** 11:02:05.2±0.6, 7.°80N×126.°80E, h55km±5km, mb4.2/29, mbtmp4.5/31, MS3.4/31, Error ellipse: s-maj=11.3km s-min=7.0km az=128.0*
*DJA **25** 11:02:06.3±0.8, 8.°N±6.°×12.°7E±.°, h47km±9km, M5.0/24, mB5.5/16, mb5.0/24, MLv5.3/7, Mw(mB)5.0/16, MwMwp5.0/1, Mwp5.3/1*
ISC 25 11:02:05.1±0.5, 7.76N±0.°05×126.°70E±0.°06, h49km±4km, h49km:pP-P, n434, σ1°40/367, mb4.8/117, MS3.4/29, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.30**	**238**		**Pn**	**11 02 28.8**	**+1.8**
DAV	**Davao City (W)**	**1.30**	**238**	P	**Pn**	**11 02 28.5**	**+1.5**
	3μm,0.8s,baz=50,slow=3.4,SNR=116						
DAV				S	**Sn**	**11 02 46.8**	**+3.5**
	6μm,0.5s,baz=0.6,slow=24,SNR=9.6						
DAV	**Davao City (W)**	**1.30**	**238**	P	**Pn**	**11 02 27.0**	**0.0**
SGSI	**Sangihe**	**4.21**	**196**	P	**Pn**	**11 03 10.2**	**+3.3**
TNTI	**Ternate**	**6.98**	**174**		**Pn**	**11 03 45.4**	**+0.6**
TNTI	**Ternate**	**6.98**	**174**	P	**Pn**	**11 03 49.0**	**+4.2**
	2μm76nm,1.0s						
I39PW	**PALAU INFRASON**	**7.78**	**91**	I	I	11 52 20.0	
	baz=270,slow=317,SNR=2.4						
TGY	**Tagaytay City**	**8.46**	**319**	P	Pn	11 04 10.9	+5.7
	90nm,0.3s,baz=220,slow=2.4,SNR=3.1						
TGY				LR	LR	11 08 18.9	
	comp=Z,191nm,20.4s,baz=142,slow=44						
MYLDM	**Lahad Datu**	**8.54**	**253**		**Pn**	**11 04 06.5**	**+0.2**
TOLI2	**Tolitoli**	**8.86**	**222**		**Pn**	**11 04 09.4**	**-1.1**
LUWI	**Luwuk**	**9.58**	**204**	Pn	**Pn**	**11 04 20.9**	**+0.4**
LUWI	**Luwuk**	**9.58**	**204**	P	Pn	11 04 25.3	+4.8
	5μm211nm,0.8s						
SWI	**Sorong**	**9.70**	**152**	P	**Pn**	**11 04 23.8**	**+1.6**
	94nm,0.8s						
SANI	**Sanana**	**9.77**	**184**	P	**Pn**	**11 04 23.9**	**+0.8**
	1μm52nm,0.6s						
APSI	**Ampana**	**9.98**	**211**	P	**Pn**	**11 04 29.4**	**+3.4**
	912nm81nm,0.8s						
KKM	**Kota Kinabalu**	**10.55**	**261**	Pn	**Pn**	**11 04 34.4**	**+0.5**
NLAI	**Namlea**	**10.94**	**178**	P	**Pn**	**11 04 42.7**	**+3.7**
	1μm40nm,0.5s						
RKPI	**Ransiki, Papua**	**11.85**	**141**	P	**Pn**	**11 04 51.0**	**-0.6**
FAKI	**Fak Fak**	**11.97**	**152**		**Pn**	**11 04 54.1**	**+0.9**
FAKI	**Fak Fak**	**11.97**	**152**	P	**Pn**	**11 04 55.6**	**+2.4**
	39nm,1.0s						
BAKI	**Biak**	**12.93**	**133**	P	**P**	**11 05 12.0**	**-3.6**
	90nm,1.2s						
SPSI	**Sidrap Palu**	**13.55**	**211**	P	**Pn**	**11 05 17.4**	**+2.7**
BNSI	**Bone**	**13.76**	**209**	P	**Pn**	**11 05 17.5**	**-0.1**
	1μm69nm,1.0s						
KAPI	**Kappang**	**14.46**	**209**	P	**Pn**	**11 05 27.9**	**+0.9**
	8.0nm,0.4s,baz=22,slow=17,SNR=1.2						
SBUM	**Sibu**	**15.35**	**251**		**Pn**	**11 05 39.6**	**+0.9**
SMPI	**Sarmi**	**15.41**	**128**	P	**P**	**11 05 42.0**	**-1.2**
	2μm78nm,1.2s						
JAY	**Jayapura**	**17.31**	**126**	LR	LR	11 11 47.1	
	comp=Z,101nm,19.9s,baz=351,slow=34						
DLV	**Lat**	**18.41**	**284**		**P**	**11 06 16.1**	**-0.6**
GUMO	**Guam**	**18.77**	**70**	LR	LR	11 13 09.2	
	comp=Z,27nm,20.5s,baz=192,slow=36						
JOW	**Kunigami**	**19.02**	**4**		**Pn**	**11 06 25.7**	**+1.5**
JOW				IAmb	IAmb	11 06 28.1	
	comp=Z,61nm,0.7s						
JOW	**Kunigami**	**19.02**	**4**	P	**Pn**	**11 06 23.6**	**-0.6**
	comp=Z,56nm,0.7s,baz=205,slow=9.3,SNR=8.6						
QIZ	**Qiongzhong**	**19.83**	**306**	P	**P**	**11 06 32.8**	**+0.8**
QIZ				S	**S**	**11 10 15.3**	**+2.5**
QIZ				pmax	pmax		
	comp=Z,22nm,1.4s						
QIZ				LR	LR		
	comp=Z,250nm,9.5s						
QIZ				LR	LR		
	comp=Z,120nm,11.5s						
QIZ				LR	LR		
	comp=Z,200nm,13.6s						
MTN	**Manton Dam**	**20.94**	**168**		**P**	**11 06 45.2**	**+1.3**
MTN				IAmb	IAmb	11 06 58.4	
	comp=Z,25nm,0.4s						
KNRA	**Kununurra**	**23.38**	**175**		**P**	**11 07 09.9**	**+0.4**
KNRA				IAmb	IAmb	11 07 36.2	
	comp=Z,32nm,0.7s						
LEM	**Lembang**	**23.92**	**233**	LR	LR	11 17 14.7	
	comp=Z,113nm,21.3s,baz=128,slow=38						
NJ2	**Nanjing**	**25.25**	**344**	*e*P	**P**	**11 07 29.0**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
JNU	**Nakatsue**	**25.53**	**8**		**P**	**11 07 29.8**	**+0.5**
JNU				IAmb	IAmb	11 07 30.9	
	comp=Z,33nm,1.0s						
JNU	**Nakatsue**	**25.53**	**8**	LR	LR	11 16 27.5	
	comp=Z,58nm,21.4s,baz=194,slow=34						
FITZ	**Fitzroy Crossi**	**25.72**	**182**		**P**	**11 07 31.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**25.72**	**182**	P	**P**	**11 07 30.2**	**-0.8**
	comp=Z,9.1nm,0.8s,baz=6.1,slow=9.2,SNR=19						
	comp=Z,9.1nm,0.8s						
JMN	**Monobe**	**26.68**	**13**		**P**	**11 07 40.9**	**+1.3**
JMN				IAmb	IAmb	11 07 42.7	
	comp=Z,31nm,0.9s						
COEN	**Coen**	**27.08**	**143**	P	**P**	**11 07 44.0**	**+0.6**
JHJ	**Hachijo jima 2**	**28.00**	**24**	LR	LR	11 18 25.2	
	comp=Z,20nm,20.3s,baz=304,slow=35						
PSI	**Prapat**	**28.08**	**261**	LR	LR	11 22 20.6	
	comp=Z,104nm,19.2s,baz=54,slow=43						
WB0	**Warramunga Arr**	**28.39**	**165**		**P**	**11 07 54.8**	**-0.2**
WB0				IAmb	IAmb	11 08 24.6	
	comp=Z,10nm,0.5s						
WRA	**Warramunga Arr**	**28.54**	**165**	P	**P**	**11 07 56.1**	**-0.2**
WRA	**Warramunga Arr**	**28.54**	**165**	P	**P**	**11 07 55.6**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=350,slow=9.8,SNR=19						
WRA				LR	LR	11 21 22.6	
	comp=Z,65nm,19.4s,baz=76,slow=40						
	comp=Z,1.7nm,0.5s						
WR8	**Warramunga Arr**	**28.59**	**165**		**P**	**11 07 56.7**	**-0.1**
KMI	**Kunming**	**28.65**	**310**	P	**P**	**11 07 58.8**	**+1.2**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**29.00**	**294**	P	**P**	**11 08 00.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**29.00**	**294**	P	**P**	**11 08 01.2**	**+0.7**
	comp=Z,4.2nm,1.0s,baz=125,slow=7.0,SNR=19						
CMAR				PcP	**PcP**	**11 11 09.0**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=142,slow=1.4,SNR=4.3						
CMAR				LR	LR	11 20 17.2	
	comp=Z,71nm,18.0s,baz=105,slow=38						
	comp=Z,4.2nm,1.0s						
INU	**Inuyama**	**29.04**	**18**		**P**	**11 08 01.9**	**+1.2**
INU				IAmb	IAmb	11 08 03.2	
	comp=Z,18nm,0.8s						
CHTO	**Chiang Mai**	**29.11**	**295**	P	**P**	**11 08 00.1**	**-1.4**
JGF	**Kuroka**	**29.38**	**18**	P	**P**	**11 08 04.6**	**+0.8**
KSRS	**Korea Array**	**29.58**	**2**	P	**P**	**11 08 05.8**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=178,slow=11,SNR=13						
KSRS				LR	LR	11 19 17.4	
	comp=Z,53nm,21.8s,baz=185,slow=35						
	comp=Z,4.7nm,0.8s						
LYN	**LuoYang**	**29.70**	**336**	P	**P**	**11 08 09.0**	**+2.4**
LYN				pmax	pmax		
	comp=Z,26nm,0.6s						
PZH	**PanZhiHua**	**30.16**	**311**	P	**P**	**11 08 10.8**	**0.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
MJAR	**Matsushiro Arr**	**30.51**	**18**	P	**P**	**11 08 13.4**	**-0.3**
	comp=Z,7.5nm,0.8s,baz=194,slow=8.8,SNR=12						
MJAR				LR	LR	11 18 16.8	
	comp=Z,50nm,22.0s,baz=214,slow=32						
	comp=Z,7.5nm,0.8s						
ASAR	**Alice Springs**	**32.02**	**167**	P	**P**	**11 08 26.6**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=349,slow=6.8,SNR=38						
ASAR				PcP	**PcP**	**11 11 16.4**	**+0.2**
	comp=Z,4.2nm,0.7s,baz=351,slow=2.9,SNR=11						
ASAR				pPcP		11 11 31.4	
	comp=Z,1.7nm,0.4s,baz=346,slow=2.3,SNR=5.6						
ASAR				LR	LR	11 23 29.3	
	comp=Z,69nm,19.0s,baz=318,slow=40						
	comp=Z,0.9nm,0.3s						
JMM	**Marumori**	**32.58**	**21**	P	**P**	**11 08 31.4**	**-0.4**
HHC	**Hu-ho-hao-te**	**35.60**	**340**	*e*P	**P**	**11 09 01.8**	**+3.7**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
CN2	**Changchun**	**35.91**	**358**	*e*P	**P**	**11 09 04.5**	**+3.9**
CN2				*e*S	**S**	**11 14 37.8**	**+2.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
USA0B	**Ussuriysk Arra**	**36.59**	**6**		**P**	**11 09 06.9**	**+0.5**
USRK	**Ussuriysk Ar.**	**36.59**	**6**		**P**	**11 09 07.3**	**+0.9**
USRK	**Ussuriysk Ar.**	**36.59**	**6**	P	**P**	**11 09 06.2**	**-0.1**
	comp=Z,34nm,0.8s,baz=189,slow=7.9,SNR=51						
USRK				LR	LR	11 22 30.0	
	comp=Z,52nm,21.6s,baz=163,slow=34						
	comp=Z,34nm,0.8s						
MDJ	**Mudanjiang**	**36.80**	**3**	P	**P**	**11 09 09.0**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,19nm,1.0s						
MDJ	**Mudanjiang**	**36.80**	**3**	P	**P**	**11 09 09.2**	**+1.1**
BRDH	**Bariadhala**	**36.81**	**298**	LR	LR	11 24 09.9	
	comp=Z,158nm,20.2s,baz=108,slow=36						
XLT	**XiLinHaoTe**	**37.17**	**347**	*e*P	**P**	**11 09 11.3**	**-0.2**
XLT				sP	pP	11 09 17.5	-6.8
XLT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HNR	**Honiara**	**37.27**	**117**	LR	LR	11 22 32.2	
	comp=Z,37nm,21.5s,baz=230,slow=33						
SHL	**Shillong**	**37.59**	**302**		**P**	**11 09 14.5**	**-0.9**
SHL				IAmb	IAmb	11 09 33.5	
	comp=Z,15nm,0.9s						
MORW	**Morawa**	**38.03**	**195**	P	**P**	**11 09 19.0**	**+0.2**
MORW				IAmb	IAmb	11 09 36.9	
	comp=Z,10nm,0.9s						
FORT	**Forrest**	**38.34**	**178**		**P**	**11 09 21.7**	**+0.3**
ASAJ	**Asahikawa**	**38.78**	**18**	LR	LR	11 24 23.5	
	comp=Z,49nm,21.4s,baz=172,slow=35						
GTA	**Gaotai**	**39.68**	**327**	*e*P	**P**	**11 09 33.3**	**+0.6**
GTA				PcP	**PcP**	**11 11 39.3**	**+0.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GTA				LR	LR		
	comp=Z,77nm,18.5s						
GTA				LR	LR		
	comp=Z,76nm,19.3s						
GTA				LR	LR		
	comp=Z,140nm,24.0s						
GOMU	**GeErMu**	**40.58**	**319**	P	**P**	**11 09 40.3**	**-0.2**
GOMU				pP	pP	11 09 44.3	-9.2
GOMU				sP	sP	11 09 47.8	-11
GOMU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BBOO	**Buckleboo**	**41.32**	**168**		**P**	**11 09 45.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**41.45**	**192**	P	**P**	**11 09 47.5**	**+0.3**
NWAO				IAmb	IAmb	11 10 02.6	
	comp=Z,24nm,0.9s						
KLR	**Kul'dur**	**41.55**	**5**	LR	LR	11 29 14.5	
	comp=Z,31nm,18.2s,baz=196,slow=39						
STKA	**Stephens Creek**	**41.91**	**161**	P	**P**	**11 09 51.0**	**+0.1**
STKA	**Stephens Creek**	**41.91**	**161**	P	**P**	**11 09 51.0**	**+0.1**
	comp=Z,3.9nm,0.4s,baz=340,slow=9.0,SNR=12						
STKA				LR	LR	11 30 33.1	
	comp=Z,42nm,18.6s,baz=18,slow=41						
	comp=Z,3.9nm,0.4s						
HEH	**HeiHe**	**42.36**	**1**	*e*P	**P**	**11 09 54.5**	**+0.2**
HEH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	**Ulaanbaatar**	**43.31**	**341**	P	**P**	**11 10 02.4**	**0.0**
ULN	**Ulaanbaatar**	**43.31**	**341**	P	**P**	**11 10 01.9**	**-0.4**
SONM	**Songino Array**	**43.50**	**340**	P	**P**	**11 10 04.4**	**+0.5**
SONM	**Songino Array**	**43.50**	**340**	P	**P**	**11 10 03.2**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=163,slow=11,SNR=6.3						
SONM				PcP	**PcP**	**11 11 50.3**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=161,slow=4.4,SNR=3.6						
SONM				LR	LR	11 28 40.2	
	comp=Z,71nm,19.4s,baz=94,slow=37						
	comp=Z,0.9nm,0.5s						
ARMA	**Armidale**	**44.88**	**149**	P	**P**	**11 10 15.9**	**+0.9**
ARMA				IAmb	IAmb	11 10 17.3	
	comp=Z,13nm,1.1s						
CAN	**Canberra**	**47.74**	**155**	P	**P**	**11 10 38.5**	**+1.1**
DZM	**Mont Dzumac**	**48.96**	**128**	*e*LR	LR	11 24 47.9	
	comp=Z,144nm,30.4s						
DZM	**Mont Dzumac**	**48.96**	**128**	LR	LR	11 31 13.2	
	comp=Z,45nm,18.7s,baz=222,slow=36						
WMQ	**Urumqi**	**49.46**	**323**	*e*P	**P**	**11 10 49.0**	**-1.5**
WMQ				pmax	pmax		
	comp=Z,28nm,0.7s						
PEA0B	**Petropavlovsk-**	**51.75**	**23**	P	**P**	**11 11 10.1**	**+2.5**
PETK	**Petropavlovsk-**	**51.75**	**23**	P	**P**	**11 11 09.1**	**+1.6**
PETK	**Petropavlovsk-**	**51.75**	**23**	P	**P**	**11 11 08.2**	**+0.7**
	comp=Z,8.0nm,0.6s,baz=204,slow=3.9,SNR=28						
PETK				LR	LR	11 30 29.8	
	comp=Z,13nm,21.9s,baz=216,slow=33						
	comp=Z,8.0nm,0.6s						
YAK	**Yakutsk**	**54.20**	**2**	LR	LR	11 34 01.2	
	comp=Z,26nm,21.7s,baz=197,slow=35						
MKAR	**Makanchi Array**	**54.27**	**324**		**P**	**11 11 26.2**	**-0.1**
MKAR	**Makanchi Array**	**54.27**	**324**	P	**P**	**11 11 26.1**	**-0.3**
	comp=Z,8.8nm,0.6s,baz=121,slow=7.5,SNR=66						
MKAR				PcP	**PcP**	**11 12 29.6**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=106,slow=4.3,SNR=4.6						
MKAR				LR	LR	11 35 32.1	
	comp=Z,48nm,18.8s,baz=118,slow=37						
	comp=Z,8.8nm,0.6s						
MAKZ	**Makanchi**	**54.47**	**324**	P	**P**	**11 11 24.9**	**-2.9**
MAKZ				pP	**pP**	**11 11 35.2**	**-6.1**
MAKZ				PcP	**PcP**	**11 12 30.2**	**-0.5**
MA2	**Magadan**	**54.83**	**15**	P	**P**	**11 11 31.4**	**+1.3**
MA2	**Magadan**	**54.83**	**15**	P	**P**	**11 11 31.4**	**+1.3**
MA2				sP	**sP**	**11 11 47.0**	**-1.1**
NIL	**Nilore**	**55.51**	**306**		**P**	**11 11 34.7**	**-0.7**
NIL	**Nilore**	**55.51**	**306**	P	**P**	**11 11 35.2**	**-0.3**
NIL				sP	**pP**	**11 11 51.3**	**+2.3**
ZALV	**Zalesovo Beam**	**57.02**	**332**		**P**	**11 11 43.9**	**-1.9**
ZALV	**Zalesovo Beam**	**57.02**	**332**	P	**P**	**11 11 44.0**	**-1.8**
	comp=Z,3.5nm,0.7s,baz=113,slow=8.4,SNR=11						
ZALV				LR	LR	11 37 54.1	
	comp=Z,34nm,18.1s,baz=26,slow=38						
	comp=Z,3.5nm,0.7s						
AAK	**Ala-Archa**	**57.40**	**316**	LR	LR	11 40 02.4	
	comp=Z,60nm,18.3s,baz=100,slow=40						
AAK	**Ala-Archa**	**57.40**	**316**	P	**P**	**11 11 48.7**	**-0.3**
AAK				pP	**pP**	**11 11 59.4**	**-3.2**
KURK	**Kurchatov**	**58.37**	**326**		**P**	**11 11 54.2**	**-1.1**
KURK				IAmb	IAmb	11 12 20.8	
	comp=Z,7.4nm,0.8s						
KURK	**Kurchatov**	**58.37**	**326**	P	**P**	**11 11 54.6**	**-0.7**
KURBB	**Kurchatov Arra**	**58.37**	**326**	P	**P**	**11 11 54.7**	**-0.7**
	comp=Z,5.2nm,0.7s,baz=124,slow=6.6,SNR=41						
	comp=Z,5.2nm,0.7s						
GAR	**Garm**	**59.23**	**311**		**P**	**11 12 00.8**	**-0.9**
KKAR	**Karatay Array**	**60.31**	**316**		**P**	**11 12 08.1**	**-0.9**
TIXI	**Tiksi**	**63.84**	**1**		**P**	**11 12 31.2**	**-0.9**
TIXI				IAmb	IAmb	11 12 33.0	
	comp=Z,6.8nm,0.8s						
TIXI	**Tiksi**	**63.84**	**1**	LR	LR	11 41 00.7	
	comp=Z,27nm,20.8s,baz=192,slow=37						
TIXI	**Tiksi**	**63.84**	**1**	P	**P**	**11 12 32.1**	**+0.1**
BVAR	**Borovoye Array**	**63.96**	**326**	P	**P**	**11 12 32.6**	**-0.6**
	comp=Z,4.7nm,0.7s,baz=124,slow=8.0,SNR=11						
	comp=Z,4.7nm,0.7s						
NRIK	**Noril'sk**	**66.53**	**346**	P	**P**	**11 12 48.7**	**-0.8**
	comp=Z,3.0nm,0.7s,baz=128,slow=5.5,SNR=5.0						
	comp=Z,3.0nm,0.7s						
AB31	**Akbulak array**	**69.05**	**320**		**P**	**11 13 04.7**	**-1.1**
ABKAR	**Akbulak array**	**69.05**	**320**		**P**	**11 13 04.4**	**-1.4**
SPIA	**Saint Paul Isl**	**69.08**	**31**	P	**P**	**11 13 06.9**	**+1.2**
	baz=251						
P08K	**Saint George I**	**69.26**	**32**	P	**P**	**11 13 08.1**	**+1.2**
	baz=252						
UNV	**Unalaska Valle**	**70.16**	**35**	P	**P**	**11 13 14.3**	**+1.9**
	baz=256						
AKTO	**Aktyubinsk**	**70.52**	**321**	LR	LR	11 46 26.8	
	comp=Z,52nm,20.8s,baz=234,slow=38						
GAMB	**Gambell**	**70.75**	**24**	IAmb	IAmb	11 13 18.6	
	comp=Z,9.7nm,1.0s						
GAMB	**Gambell**	**70.75**	**24**	P	**P**	**11 13 17.7**	**+1.8**
	baz=248						
M11K	**Mekoryuk**	**72.06**	**29**	P	**P**	**11 13 25.6**	**+1.7**
	baz=254						
FALS	**False Pass**	**72.15**	**35**	P	**P**	**11 13 25.9**	**+1.4**
	baz=258						
TNA	**Tin City**	**72.92**	**23**	P	**P**	**11 13 30.2**	**+1.3**
	baz=251						
K13K	**Kusilvak Mount**	**73.21**	**27**	IAmb	IAmb	11 13 34.2	
	comp=Z,15nm,1.0s						
K13K	**Kusilvak Mount**	**73.21**	**27**	P	**P**	**11 13 32.5**	**+1.8**
	baz=255,SNR=6.7						
M13K	**Dall Lake**	**73.44**	**29**	P	**P**	**11 13 34.0**	**+2.0**
	baz=256						
F14K	**Arctic Creek**	**73.52**	**24**	P	**P**	**11 13 34.2**	**+1.8**
	baz=252						
ANM	**Nome**	**73.63**	**25**	P	**P**	**11 13 34.6**	**+1.5**
ANM	**Nome**	**73.63**	**25**	P	**P**	**11 13 34.7**	**+1.5**
	baz=253						
SDPT	**Sand Point**	**73.90**	**35**	P	**P**	**11 13 36.7**	**+1.9**
	baz=260						
L14K	**Kuka Creek**	**73.97**	**28**	P	**P**	**11 13 36.9**	**+1.7**
	baz=257,SNR=9.6						
N14K	**Kuskokwak Cree**	**74.14**	**30**	P	**P**	**11 13 37.9**	**+1.8**
	baz=258						
M14K	**Bethel**	**74.18**	**29**	P	**P**	**11 13 38.3**	**+1.9**
	baz=258,SNR=6.4						
O14K	**Tigyukauivet M**	**74.21**	**31**	P	**P**	**11 13 38.2**	**+1.6**
	baz=258						
F15K	**North Star Dit**	**74.25**	**24**	P	**P**	**11 13 38.6**	**+1.9**
	baz=254,SNR=5.5						
G15K	**Niukluk**	**74.30**	**24**	P	**P**	**11 13 38.5**	**+1.5**
	baz=254						
L15K	**Ungalak Mounta**	**74.61**	**28**	P	**P**	**11 13 40.7**	**+1.9**
	baz=258						
K15K	**Wolf Creek Mou**	**74.72**	**27**	IAmb	IAmb	11 13 42.6	
	comp=Z,20nm,1.2s						
K15K	**Wolf Creek Mou**	**74.72**	**27**	P	**P**	**11 13 41.3**	**+1.8**
	baz=257						
C16K	**Lisburne Hills**	**74.75**	**21**	IAmb	IAmb	11 13 41.9	
	comp=Z,15nm,1.1s						
C16K	**Lisburne Hills**	**74.75**	**21**	P	**P**	**11 13 41.0**	**+1.4**
	baz=252,SNR=17						
M15K	**Kasigluk River**	**74.78**	**29**	P	**P**	**11 13 41.3**	**+1.4**
	baz=259						
O15K	**Ungalikthiuk R**	**74.92**	**31**	P	**P**	**11 13 42.1**	**+1.4**
	baz=260						
H16K	**Elim**	**74.95**	**25**	P	**P**	**11 13 42.2**	**+1.4**
	baz=256,SNR=5.1						
N15K	**Kwethluk River**	**74.97**	**30**	P	**P**	**11 13 42.7**	**+1.6**
	baz=259,SNR=5.3						
G16K	**Koyuk River**	**75.09**	**24**	P	**P**	**11 13 42.9**	**+1.4**
	baz=256						
CHGN	**Chignik**	**75.20**	**34**	P	**P**	**11 13 44.2**	**+1.8**
	baz=262						
J16K	**Anvik River**	**75.35**	**26**	IAmb	IAmb	11 13 47.2	
	comp=Z,30nm,1.9s						
J16K	**Anvik River**	**75.35**	**26**	P	**P**	**11 13 45.0**	**+1.8**
	baz=258						
D17K	**Noatak River**	**75.40**	**22**	P	**P**	**11 13 45.1**	**+1.8**
	baz=255,SNR=36						
I17K	**Unalakleet**	**75.44**	**26**	P	**P**	**11 13 45.5**	**+1.9**
	baz=258						
L16K	**Owhat River**	**75.55**	**28**	IAmb	IAmb	11 13 47.1	
	comp=Z,13nm,1.1s						
L16K	**Owhat River**	**75.55**	**28**	P	**P**	**11 13 46.0**	**+1.7**
	baz=259,SNR=6.5						
RDOG	**Red Dog Mine**	**75.56**	**21**	IAmb	IAmb	11 13 47.3	
	comp=Z,9.3nm,0.9s						
RDOG	**Red Dog Mine**	**75.56**	**21**	P	**P**	**11 13 45.8**	**+1.5**
	baz=255						
N16K	**Nishlik Lake**	**75.67**	**30**	P	**P**	**11 13 47.1**	**+2.0**
	baz=260,SNR=6.2						
M16K	**Timber Creek**	**75.67**	**29**	P	**P**	**11 13 46.8**	**+1.8**
	baz=260,SNR=6.0						
E17K	**Hotham Inlet**	**75.71**	**23**	P	**P**	**11 13 46.8**	**+1.6**
	baz=256,SNR=18						
F17K	**Baldwin Pennin**	**75.78**	**23**	P	**P**	**11 13 47.2**	**+1.7**
	baz=257						
G17K	**Kiwalik Mounta**	**75.81**	**24**	P	**P**	**11 13 46.8**	**+1.1**
	baz=257,SNR=14						
P16K	**Nushagak River**	**75.83**	**31**	P	**P**	**11 13 47.4**	**+1.5**
	baz=261						
R16K	**Pilot Point**	**75.84**	**33**	P	**P**	**11 13 47.2**	**+1.2**
	baz=262						
O16K	**Kokwok River B**	**75.86**	**30**	IAmb	IAmb	11 13 48.9	
	comp=Z,19nm,0.9s						
O16K	**Kokwok River B**	**75.86**	**30**	P	**P**	**11 13 47.4**	**+1.3**
	baz=261,SNR=5.6						
H17K	**Granite Mounta**	**75.99**	**25**	IAmb	IAmb	11 13 49.5	
	comp=Z,7.1nm,0.8s						
H17K	**Granite Mounta**

	baz=264					
G19K	Purcell Mounta	77.37	24	IAmb	IAmb	11 13 56.9
	comp=Z,7.7nm,1.1s					
G19K	Purcell Mounta	77.37	24	P	P	11 13 55.7 +1.2
	baz=261,SNR=11					
D19K	Kuna River	77.40	21	IAmb	IAmb	11 13 57.1
	comp=Z,12nm,0.8s					
D19K	Kuna River	77.40	21	P	P	11 13 55.9 +1.2
	baz=259,SNR=14					
H19K	Roundabout Mou	77.53	25	IAmb	IAmb	11 13 58.6
	comp=Z,14nm,1.1s					
H19K	Roundabout Mou	77.53	25	P	P	11 13 57.0 +1.6
	baz=261,SNR=12					
E19K	Redstone River	77.54	23	IAmb	IAmb	11 13 58.6
	comp=Z,11nm,0.9s					
E19K	Redstone River	77.54	23	P	P	11 13 57.1 +1.6
	baz=260,SNR=15					
SII	Sitkinak Islan	77.57	34	P	P	11 13 56.9 +1.1
	baz=265					
J19K	Poorman	77.66	26	P	P	11 13 57.8 +1.5
	baz=262					
L19K	White Mountain	77.78	28	P	P	11 13 58.5 +1.6
	baz=264					
N19K	Bonanza Creek	77.81	29	P	P	11 13 58.6 +1.4
	baz=264					
O19K	Port Alsworth	77.83	30	P	P	11 13 58.8 +1.6
	baz=264					
M19K	Big River Lodg	77.97	28	P	P	11 13 59.6 +1.6
	baz=264					
D20K	Etivluk River	77.98	21	IAmb	IAmb	11 14 00.9
	comp=Z,16nm,0.9s					
D20K	Etivluk River	77.98	21	P	P	11 13 59.3 +1.4
	baz=260,SNR=25					
B20K	Meade River	78.02	20	P	P	11 13 59.4 +1.4
	baz=260					
F20K	Avaraart Lake	78.05	23	IAmb	IAmb	11 14 00.9
	comp=Z,7.8nm,1.0s					
F20K	Avaraart Lake	78.05	23	P	P	11 13 60.0 +1.7
	baz=262					
Q19K	Cape Douglas,	78.05	31	P	P	11 13 59.8 +1.3
	baz=265					
E20K	Nigu River	78.06	22	P	P	11 13 59.9 +1.4
	baz=261,SNR=16					
OHAK	Old Harbor	78.11	33	P	P	11 14 00.3 +1.5
	baz=266					
H20K	Anotleneega Mo	78.18	25	P	P	11 14 00.5 +1.5
	baz=263,SNR=7.8					
I20K	Naaghedeneel	78.26	25	P	P	11 14 01.0 +1.5
	baz=263					
L20K	Farewell, AK	78.27	28	P	P	11 14 00.9 +1.3
	baz=264					
K20K	Telida	78.27	27	P	P	11 14 01.2 +1.5
	baz=264					
P19K	Oil Pt	78.33	31	P	P	11 14 01.3 +1.3
	baz=266					
J20K	Nowinta River	78.33	26	IAmb	IAmb	11 14 10.9
	comp=Z,27nm,1.6s					
J20K	Nowinta River	78.33	26	P	P	11 14 01.6 +1.7
	baz=264					
A21K	Barrow	78.43	19	P	P	11 14 01.4 +1.2
	baz=260					
KDAK	Kodiak Island	78.53	33	LR	LR	11 46 50.9
	comp=Z,20nm,19.3s,baz=73,slow=34					
KDAK	Kodiak Island	78.53	33	P	P	11 14 02.4 +1.3
	baz=266					
M20K	Styx River	78.56	28	P	P	11 14 02.7 +1.4
	baz=265					
C21K	Knifeblade Rid	78.70	21	P	P	11 14 03.5 +1.6
	baz=262					
B21K	Ikpikpuk River	78.83	20	IAmb	IAmb	11 14 05.0
	comp=Z,12nm,0.8s					
B21K	Ikpikpuk River	78.83	20	P	P	11 14 04.0 +1.5
	baz=262					
G21K	Allakaket	78.86	24	IAmb	IAmb	11 14 05.4
	comp=Z,9.5nm,0.9s					
G21K	Allakaket	78.86	24	P	P	11 14 04.3 +1.5
	baz=264,SNR=9.9					
RAYN	Ar Rayn	78.90	292		P	11 14 03.1 -0.8
RAYN				IAmb	IAmb	11 14 03.7
	comp=Z,11nm,0.7s					
E21K	Killik River	78.90	22	P	P	11 14 04.2 +1.1
	baz=263					
GNI	Garni	78.90	309	LR	LR	11 54 59.6
	comp=Z,26nm,18.9s,baz=115,slow=40					
A22K	Sinclair Lake	78.91	19	P	P	11 14 04.3 +1.4
	baz=262					
F21K	Alatna River	78.94	23	P	P	11 14 04.8 +1.6
	baz=264					
SPCR	Spurr Chakacha	78.95	29	P	P	11 14 05.0 +1.6
	baz=266					
H21K	Melozitna Rive	79.05	25	P	P	11 14 05.2 +1.3
	baz=265,SNR=5.6					
PPLA	Purkeypile	79.08	27	P	P	11 14 05.6 +1.3
	baz=266					
CHUM	Lake Minchumin	79.10	26	P	P	11 14 05.5 +1.4
	baz=265					
CAST	Castle Rocks	79.17	27		P	11 14 05.8 +1.2
CAST				IAmb	IAmb	11 14 06.8
	comp=Z,9.0nm,0.8s					
CAST	Castle Rocks	79.17	27	P	P	11 14 05.9 +1.4
	baz=266,SNR=8.5					
SKT	Skwentna	79.32	28	P	P	11 14 07.0 +1.5
	baz=266					
B22K	Teshekpuk Lake	79.33	20	IAmb	IAmb	11 14 07.5
	comp=Z,13nm,0.8s					
B22K	Teshekpuk Lake	79.33	20	P	P	11 14 06.7 +1.5
	baz=263,SNR=6.8					
I21K	Tanana	79.35	25	IAmb	IAmb	11 14 08.2
	comp=Z,7.9nm,0.9s					
I21K	Tanana	79.35	25	P	P	11 14 07.1 +1.6
	baz=266,SNR=6.6					
D22K	Ayikyak River	79.42	21	P	P	11 14 07.3 +1.5
	baz=264					
F22K	John River	79.47	23	P	P	11 14 07.8 +1.6
	baz=265					
BRSE	Bradley Lake S	79.59	31	P	P	11 14 08.4 +1.4
	baz=268					
H22K	Ishtalitna Cre	79.66	24	P	P	11 14 08.7 +1.5
	baz=266,SNR=6.4					
SUA	Susitna One	79.67	29	P	P	11 14 08.7 +1.3
	baz=267					
E22K	Anaktuvuk Pass	79.67	22	P	P	11 14 08.6 +1.4
	baz=265					
G22K	Bettles	79.69	23	P	P	11 14 08.1 +0.8
	baz=266					
BPAW	Bear Paw Mtn.	79.70	26		P	11 14 08.6 +1.1
BPAW				IAmb	IAmb	11 14 09.7
	comp=Z,14nm,0.8s					
BPAW	Bear Paw Mtn.	79.70	26	P	P	11 14 08.7 +1.3
	baz=267,SNR=8.3					
TRF	Thorofare Moun	79.98	27	IAmb	IAmb	11 14 11.2
	comp=Z,10nm,0.9s					
TRF	Thorofare Moun	79.98	27	P	P	11 14 09.8 +0.6
	baz=267					
M22K	Willow	79.98	29	P	P	11 14 09.9 +1.0
	baz=268					
O22K	Cooper Landing	80.13	30	P	P	11 14 10.9 +1.1
	baz=268					
RC01	Rabbit Creek A	80.14	29	P	P	11 14 10.6 +0.8
	baz=268					
D23K	Nanushuk River	80.15	21	IAmb	IAmb	11 14 12.7
	comp=Z,10nm,1.1s					
D23K	Nanushuk River	80.15	21	P	P	11 14 10.6 +0.8
	baz=266,SNR=7.6					
COLD	Coldfoot	80.22	23	IAmb	IAmb	11 14 12.8
	comp=Z,12nm,1.2s					
COLD	Coldfoot	80.22	23	P	P	11 14 11.4 +1.3
	baz=267,SNR=11					
C23K	Itkillik River	80.24	20	IAmb	IAmb	11 14 14.4
	comp=Z,9.4nm,0.8s					
C23K	Itkillik River	80.24	20	P	P	11 14 11.5 +1.4
	baz=266,SNR=15					
SEW	Seward	80.25	30	P	P	11 14 11.6 +1.2
	baz=269					
G23K	Bananza Creek	80.26	24	P	P	11 14 11.5 +1.1
	baz=267,SNR=9.6					
H23K	Yukon River	80.41	25	P	P	11 14 12.7 +1.4
	baz=268					
PMR	Palmer	80.45	29	P	P	11 14 12.8 +1.3
	baz=269					
I23K	Minto, Yukon-K	80.46	25	IAmb	IAmb	11 14 15.6
	comp=Z,7.1nm,0.8s					
I23K	Minto, Yukon-K	80.46	25	P	P	11 14 12.7 +1.3
	baz=268,SNR=7.3					
E23K	Chandalar	80.49	22	IAmb	IAmb	11 14 15.1
	comp=Z,12nm,1.0s					
E23K	Chandalar	80.49	22	P	P	11 14 13.1 +1.4
	baz=267,SNR=18					
TOLK	Toolik Lake Re	80.53	22	IAmb	IAmb	11 14 14.4
	comp=Z,7.3nm,0.8s					
TOLK	Toolik Lake Re	80.53	22	P	P	11 14 13.2 +1.3
	baz=267,SNR=9.8					
NEA2	Nenana	80.56	26	IAmb	IAmb	11 14 14.7
	comp=Z,8.6nm,0.8s					
NEA2	Nenana	80.56	26	P	P	11 14 13.1 +1.0
	baz=268,SNR=8.2					
MCK	McKinley	80.59	27	P	P	11 14 12.9 +0.7
	baz=268,SNR=9.0					
RND	Reindeer	80.62	27	IAmb	IAmb	11 14 13.7
	comp=Z,13nm,1.0s					
KNK	Knik Glacier	80.77	29	P	P	11 14 14.3 +1.1
	baz=269					
PWL	Port Wells	80.82	30	P	P	11 14 14.4 +0.9
	baz=270					
D24K	Happy Valley	80.83	21	IAmb	IAmb	11 14 15.9
	comp=Z,8.2nm,0.8s					
D24K	Happy Valley	80.83	21	P	P	11 14 14.9 +1.6
	baz=268					
SML	Sawmill	80.83	29	IAmb	IAmb	11 14 17.6
	comp=Z,18nm,0.8s					
SML	Sawmill	80.83	29	P	P	11 14 14.6 +1.0
	baz=269					
C24K	Franklin Bluff	80.89	21	P	P	11 14 14.8 +1.1
	baz=268					
E24K	Your Creek	80.91	22	P	P	11 14 15.3 +1.4
	baz=268					
WRH	Wood River Hil	80.98	26	IAmb	IAmb	11 14 17.8
	comp=Z,8.2nm,0.9s					
COLA	College	81.09	26	P	P	11 14 16.1 +1.3
	baz=269					
H24K	Noodor Dome	81.09	25	IAmb	IAmb	11 14 19.3
	comp=Z,7.3nm,0.8s					
H24K	Noodor Dome	81.09	25	P	P	11 14 16.4 +1.5
	baz=269,SNR=7.5					
CCB	Clear Creek Bu	81.11	26	IAmb	IAmb	11 14 18.4
	comp=Z,17nm,1.5s					
M23K	Glacier View	81.12	29	P	P	11 14 16.3 +1.2
	baz=270					
F24K	Squaw Lake	81.12	23	P	P	11 14 16.6 +1.6
	baz=269,SNR=5.6					
G24K	Hadweenzic Riv	81.27	24	P	P	11 14 17.3 +1.5
	baz=269,SNR=7.6					
POKR	Poker Plat Res	81.27	25	P	P	11 14 17.1 +1.2
	baz=270					
P23K	Montague Islan	81.28	30	P	P	11 14 17.3 +1.3
	baz=270					
SCM	Sheep Creek Mo	81.31	29	P	P	11 14 17.3 +1.1
	baz=270					
HDA	Harding Lake	81.48	26	IAmb	IAmb	11 14 17.6
	comp=Z,8.4nm,0.9s					
HDA	Harding Lake	81.48	26	P	P	11 14 17.4 +0.5
	baz=270,SNR=5.5					
IL31		81.50	26	IAmb	IAmb	11 14 19.1
	comp=Z,6.8nm,0.8s					
ILAR	Eielson Array	81.50	26		P	11 14 17.3 +0.2
ILAR	Eielson Array	81.50	26	P	P	11 14 16.0 -1.1
	comp=Z,7.3nm,1.0s,baz=245,slow=5.6,SNR=36					
ILAR				pP	pP	11 14 32.1 +1.6
	comp=Z,0.7nm,0.6s,baz=259,slow=6.0,SNR=3.8					
	comp=Z,7.3nm,1.0s					
D25K	Kavik River	81.70	21	P	P	11 14 19.1 +1.0
	baz=270					
G25K	Bearman Lake	81.81	24	P	P	11 14 19.4 +0.8
	baz=271					
M24K	Tolsona, Glenn	81.85	28	P	P	11 14 19.6 +0.6
	baz=271					
KLU	Klutina	81.98	29	P	P	11 14 20.6 +0.9
	baz=272					
F25K	Christian Rive	81.98	23	P	P	11 14 20.6 +1.0
	baz=271					
K24K	Donnelly Dome	82.00	27	P	P	11 14 20.8 +1.0
	baz=271					
E25K	Arctic Village	82.01	22	P	P	11 14 20.8 +1.1
	baz=271,SNR=7.0					
PRP	Porcupine Dome	82.07	25	P	P	11 14 20.6 +0.4
	baz=271					
EYAK	Cordova Ski Ar	82.09	30	P	P	11 14 20.7 +0.5
	baz=272					
J25K	Salcha River,	82.16	26	IAmb	IAmb	11 14 22.1
	comp=Z,5.6nm,0.8s					
J25K	Salcha River,	82.16	26	P	P	11 14 20.7 +0.1
	baz=272,SNR=6.6					
PAX	Paxson	82.16	27	P	P	11 14 21.8 +1.2
	baz=272					
C26K	Camden Bay	82.21	20	P	P	11 14 22.2 +1.6
	baz=271,SNR=8.0					
RIDG	Independent Ri	82.41	27	P	P	11 14 22.8 +0.9
	baz=272					
F26K	Sheenjek River	82.56	23	P	P	11 14 24.0 +1.4
	baz=272					
N25K	Chitina, Valde	82.61	29	P	P	11 14 24.4 +1.4
	baz=273					
C27K	Jago River	82.64	21	P	P	11 14 24.3 +1.4
	baz=272					
BMRM	Bremner River	82.64	29	P	P	11 14 24.5 +1.3
	baz=273					
G26K	Porcupine Rive	82.73	23	IAmb	IAmb	11 15 11.9
	comp=Z,21nm,1.9s					
G26K	Porcupine Rive	82.73	23	P	P	11 14 24.9 +1.5
	baz=273					
KAIM	Kayak Island	82.78	31	P	P	11 14 24.9 +1.1
	baz=273					
SCRK	Sand Creek	82.78	26	IAmb	IAmb	11 15 11.7
	comp=Z,17nm,1.7s					
SCRK	Sand Creek	82.78	26	P	P	11 14 25.1 +1.2
	baz=273					
J26L	Joseph Creek	82.94	26	IAmb	IAmb	11 14 27.1
	comp=Z,4.8nm,0.7s					
J26L	Joseph Creek	82.94	26	P	P	11 14 25.7 +1.0
	baz=273,SNR=6.3					
I26K	Coal Creek Min	83.07	25	IAmb	IAmb	11 14 28.1
	comp=Z,11nm,0.8s					
I26K	Coal Creek Min	83.07	25	P	P	11 14 26.3 +1.1
	baz=274					
L26K	Log Cabin Wild	83.12	27	P	P	11 14 26.9 +1.3
	baz=274					
M26K	Nabesna, AK	83.32	28	P	P	11 14 27.8 +1.2
	baz=274					
E27K	Coleen River	83.49	22	IAmb	IAmb	11 14 30.7
	comp=Z,7.5nm,1.1s					
E27K	Coleen River	83.49	22	P	P	11 14 28.7 +1.3
	baz=275,SNR=12					
G27K	Doyon Strip	83.57	23	P	P	11 14 29.4 +1.6
	baz=275,SNR=10					
K27K	Chicken	83.62	26	P	P	11 14 30.1 +2.0
	baz=275					
D27M	Malcolm River	83.63	21	IAmb	IAmb	11 14 30.8
	comp=Z,10nm,1.2s					
D27M	Malcolm River	83.63	21	P	P	11 14 29.7 +1.6
	baz=275					
H27K	Steamboat Moun	83.67	24	IAmb	IAmb	11 14 31.5
	comp=Z,9.0nm,0.9s					
H27K	Steamboat Moun	83.67	24	P	P	11 14 30.1 +1.8
	baz=275,SNR=11					
I27K	Kandik River	83.69	25	P	P	11 14 30.1 +1.6
	baz=275,SNR=38					
L27K	Beaver Creek,	83.81	27	IAmb	IAmb	11 14 32.1
	comp=Z,11nm,1.0s					
L27K	Beaver Creek,	83.81	27	P	P	11 14 30.8 +1.6
	baz=275					
M27K	Edge Creek, AK	83.85	28	IAmb	IAmb	11 14 32.6
	comp=Z,10nm,1.0s					
M27K	Edge Creek, AK	83.85	28	P	P	11 14 30.7 +1.2
	baz=275					
MESA	MESA	84.00	30	P	P	11 14 31.5 +1.2
	baz=275					
E28M	Babbage River	84.21	22	IAmb	IAmb	11 14 33.6
	comp=Z,15nm,1.1s					
E28M	Babbage River	84.21	22	P	P	11 14 32.4 +1.4
	baz=276,SNR=22					
BVCY	Beaver Creek	84.31	28	P	P	11 14 32.9 +1.1
	baz=276					
I28M	Miner Creek	84.40	25	P	P	11 14 33.4 +1.3
	baz=276,SNR=33					
D28M	Stokes Point	84.41	21	P	P	11 14 33.4 +1.4
	baz=277					
YUK3	Moose Creek	84.57	28	P	P	11 14 34.4 +1.1
	baz=276					
DAWY	Dawson	84.79	26		P	11 14 35.0 +0.8
DAWY				IAmb	IAmb	11 14 36.6
	comp=Z,10nm,1.0s					
DAWY	Dawson	84.79	26	P	P	11 14 35.4 +1.3
	baz=277					
O28M	Mount Upton	84.81	29	P	P	11 14 35.6 +1.1
	baz=277					
E29M	Blow River	84.83	22	P	P	11 14 35.6 +1.4
	baz=278					
PINM	Pinnacle	84.85	30	P	P	11 14 35.7 +1.2
	baz=277					
H29M	Whitestone	84.95	24	P	P	11 14 36.3 +1.5
	baz=278					
YUK8	Steele Glacier	84.95	29	P	P	11 14 36.3 +1.1
	baz=277					
G29M	Pine Creek	84.99	23	P	P	11 14 36.2 +1.2
	baz=278					
I29M	Ogilvie Camp,	85.09	25	P	P	11 14 36.6 +1.1
	baz=278					
J29N	Klondike Camp	85.25	26	IAmb	IAmb	11 14 41.3
	comp=Z,4.8nm,0.8s					
J29N	Klondike Camp	85.25	26	P	P	11 14 37.3 +0.9
	baz=278					
PNL	Peninsula	85.33	31	P	P	11 14 38.0 +1.1
	baz=277					
M29M	Somme Creek	85.42	28	IAmb	IAmb	11 14 40.3
	comp=Z,5.0nm,0.8s					
M29M	Somme Creek	85.42	28	P	P	11 14 38.2 +0.9
	baz=278					
L29M	L29M	85.48	27	P	P	11 14 38.7 +1.2
	baz=278					
YUK4	Talbot Arm	85.48	29	P	P	11 14 39.0 +1.2
	baz=278					
EPYK	Eagle Plains	85.58	24	IAmb	IAmb	11 14 40.4
	comp=Z,7.7nm,0.8s					
EPYK	Eagle Plains	85.58	24	P	P	11 14 39.0 +1.0
	baz=279					
K29M	Barlow Dome	85.64	26	P	P	11 14 39.3 +0.9
	baz=279					
G30M	tAoh Zraii Nji	85.68	23	IAmb	IAmb	11 14 40.4
	comp=Z,4.8nm,0.9s					
G30M	tAoh Zraii Nji	85.68	23	P	P	11 14 39.4 +0.9
	baz=280					
F30M	Barrier River	85.74	22	IAmb	IAmb	11 14 40.6
	comp=Z,13nm,1.2s					
F30M	Barrier River	85.74	22	P	P	11 14 39.6 +0.8
	baz=280					
ASF	Jabal al Asfar	85.75	302	P	P	11 14 39.1 -0.6
	comp=Z,4.5nm,0.8s,baz=89,slow=4.5,SNR=4.5					
	comp=Z,4.5nm,0.8s					
I30M	Mount Dempster	85.91	25	IAmb	IAmb	11 14 48.2
	comp=Z,6.0nm,1.2s					
I30M	Mount Dempster	85.91	25	P	P	11 14 40.6 +0.8
	baz=280					
J30M	Hart River	86.04	25	P	P	11 14 41.2 +0.8
	baz=280					
HYT	Haines Junctio	86.11	29	IAmb	IAmb	11 14 43.8
	comp=Z,6.0nm,0.8s					
HYT	Haines Junctio	86.11	29	P	P	11 14 41.7 +0.8
	baz=279					
M30M	Minto, Yukon	86.16	27	P	P	11 14 42.0 +1.0
	baz=279					
P29M	Windy Craggy	86.17	30	P	P	11 14 41.7 +0.6
	baz=279					
N30M	Aishikik Lake	86.21	29	P	P	11 14 42.1 +0.9
	baz=279					
PPT2	Papeete2	86.39	108	eLR	LR	11 42 11.1
	comp=Z,131nm,29.2s					
G31M	Satah River	86.45	23	IAmb	IAmb	11 14 43.5
	comp=Z,5.5nm,0.9s					
G31M	Satah River	86.45	23	P	P	11 14 42.6 +0.5
	baz=281					
INK	Inuvik	86.45	22	P	P	11 14 42.7 +0.6
	baz=282					
SPITS	Spitsbergen Ar	86.54	349	P	P	11 14 41.6 -0.9
	comp=Z,2.9nm,0.9s,baz=70,slow=12,SNR=2.1					
	comp=Z,2.9nm,0.9s					
F31M	Tsiigehtchic	86.54	22	P	P	11 14 43.1 +0.5
	baz=282					
H31M	Peel River	86.64	24	P	P	11 14 44.1 +0.9
	baz=281					
ARCES	ARCESS Array B	86.68	340	P	P	11 14 42.6 -0.7
	comp=Z,2.3nm,0.8s,baz=65,slow=5.8,SNR=5.1					
ARCES				LR	LR	11 55 53.0
	comp=Z,22nm,20.9s,baz=105,slow=37					
	comp=Z,2.3nm,0.8s					
O30N	Mendenhall	86.80	29	P	P	11 14 45.1 +1.0
	baz=280					
N31M	Braeburn, Yuko	86.82	28	P	P	11 14 45.3 +1.1
	baz=280					
MMAI	Mount Meron Ar	86.91	303	P	P	11 14 45.0 -0.3
	comp=Z,4.0nm,0.7s,baz=61,slow=6.8,SNR=4.4					
	comp=Z,4.0nm,0.7s					
M31M	Drury Creek, Y	87.33	28	P	P	11 14 47.5 +0.9
	baz=282					
WHY	Whitehorse	87.40	29	P	P	11 14 47.9 +0.8
	baz=281					
VNDA	Vanda	87.41	173	P	P	11 14 45.5 -1.0
	comp=Z,2.5nm,0.8s,baz=324,slow=7.7,SNR=7.7					
	comp=Z,2.5nm,0.8s					
SKAG	Skagway	87.41	30	P	P	11 14 48.0 +1.0
	baz=281					
TBI	Tubuai	87.43	114	eLR	LR	11 42 44.8
	comp=Z,775nm,33.8s					
BRTR	Keskin Array B	87.44	310	P	P	11 14 45.8 -2.0
BRTR	Keskin Array B	87.44	310	P	P	11 14 46.4 -1.4
	comp=Z,1.8nm,0.8s,baz=95,slow=4.6,SNR=9.8					
BRTR				pP	pP	11 15 02.9 +1.0
	comp=Z,1.1nm,0.7s,baz=104,slow=7.8,SNR=3.7					
	comp=Z,1.8nm,0.8s					
EIL	Elat	87.72	299	P	P	11 14 48.8 -0.4
	comp=Z,4.9nm,0.8s,baz=42,slow=8.7,SNR=3.6					
	comp=Z,4.9nm,0.8s					
FARO	Faro, Yukon	87.80	27	P	P	11 14 50.0 +1.1
	baz=282					
R32K	Eaglecrest	88.06	32	P	P	11 14 50.9 +0.8
	baz=282					
A36M	Sachs Harbour	88.17	17	IAmb	IAmb	11 14 51.9
	comp=Z,6.6nm,0.9s					
A36M	Sachs Harbour	88.17	17	P	P	11 14 51.2 +0.8
	baz=290					
FINES	FINESS Array B	88.28	332	P	P	11 14 49.5 -1.6
	comp=Z,1.3nm,0.6s,baz=69,slow=6.3,SNR=7.0					
FINES				pP	pP	11 15 05.2 -0.2
	comp=Z,2.4nm,0.5s,baz=80,slow=4.6,SNR=4.9					
FINES				LR	LR	11 56 57.5
	comp=Z,32nm,20.5s,baz=29,slow=37					
	comp=Z,1.3nm,0.6s					
P33M	Teslin, Yukon	88.50	29	P	P	11 14 53.0 +0.7
	baz=283					
MMPY	Sheldon Lake,	88.66	27	P	P	11 14 53.8 +0.8
	baz=284					
AKASG	Malin Array Be	88.76	321	P	P	11 14 52.7 -0.9
	comp=Z,0.6nm,0.5s,baz=73,slow=4.0,SNR=4.1					
	comp=Z,0.6nm,0.5s					
C36M	Paulatuk	89.45	20		P	11 14 56.6 +0.2
C36M				IAmb	IAmb	11 14 57.3
	comp=Z,4.8nm,0.8s					
C36M	Paulatuk	89.45	20	P	P	11 14 57.2 +0.8
	baz=291					
R33M	Jennings River	89.60	30	P	P	11 14 58.1 +0.6
	baz=285					
DLBC	Dease Lake	90.32	31	P	P	11 15 01.3 +0.5
	baz=285					
TOAD	Toad River Com	92.59	30	P	P	11 15 12.0 +0.6
	baz=290					
KOTAN	Kotaneelee Air	92.72	28	P	P	11 15 12.7 +0.9
	baz=291					
TAOE	Nuku Hiva Isla	94.27	98	eLR	LR	11 45 57.1
	comp=Z,52nm,21.5s					
HFS	Hagfors	94.45	332	P	P	11 15 18.0 -1.8
	comp=Z,1.0nm,0.6s,baz=71,slow=9.9,SNR=1.7					
	comp=Z,1.0nm,0.6s					
NOA	NORSAR Array B	95.18	334	P	P	11 15 22.2 -1.0
	comp=Z,0.4nm,0.7s,baz=119,slow=5.3,SNR=1.6					
	comp=Z,0.4nm,0.7s					
YKAW3	Yellowknife Wh	95.83	24	IAmb	IAmb	11 15 27.4
	comp=Z,3.0nm,0.8s					
YKA	Yellowknife Ar	95.86	24	P	P	11 15 26.4 +0.2
	comp=Z,2.2nm,0.8s,baz=303,slow=4.7,SNR=41					
	comp=Z,2.2nm,0.8s					
YKAW1	Yellowknife Wh	95.91	24	IAmb	IAmb	11 15 27.9
	comp=Z,3.7nm,0.9s					
QSPA	South Pole Qui	97.64	180	P	P	11 15 33.7 -0.5
	comp=Z,1.3nm,0.9s,baz=126,slow=0.5,SNR=5.9					
	comp=Z,1.3nm,0.9s					
TXAR	Lajitas Array	119.12	50	PKP	PKPdf	11 20 49.2 -0.2
	comp=Z,0.6nm,0.7s,baz=276,slow=1.0,SNR=9.5					
TXAR				pPKP	pPKPdf	11 21 04.6 +0.6
	comp=Z,0.3nm,0.7s,baz=232,slow=0.6,SNR=3.2					
TORD	Torodi Ar. Bea	121.56	291	PKP	PKPdf	11 20 52.8 -1.5
	comp=Z,1.9nm,0.8s,baz=36,slow=3.3,SNR=10					
TORD				pPKP	pPKPdf	11 21 09.4 +0.2
	comp=Z,0.9nm,0.7s,baz=38,slow=2.4,SNR=5.1					
PLCA	Paso Flores	143.75	158	PKP	PKPbc	11 21 33.2 +0.4
	comp=Z,1.6nm,0.8s,baz=200,slow=4.2,SNR=7.1					
LPAZ	La Paz	163.22	122	PKP	PKPdf	11 22 02.6 -1.4

comp=Z,1.3nm,0.9s,baz=303,slow=2.9,SNR=4.2

ROM 25 11:03:10.7±0.1, 42°888N±0°003×13°153E±0°005, h13km, ML1.1/12, Error ellipse: s-maj=0.3km s-min=0.3km az=71.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.04**	**48**	P	Pg	11 03 13.4	+0.1
MC2				S	Sg	11 03 15.3	+0.1
NRCA	**Norcia**	**0.06**	**207**	P	Pg	11 03 13.5	+0.2
NRCA				S	Sg	11 03 15.3	+0.1
NRCA				AML	AML		
	comp=E,272μm,0.1s						
NRCA				AML	AML		
	comp=N,310μm,0.2s						
NRCA				AML	AML		
	comp=E,271μm,0.1s						
NRCA				AML	AML		
	comp=N,311μm,0.2s						
NRCA				AML	AML		
	comp=E,257μm,0.1s						
NRCA				AML	AML		
	comp=N,261μm,0.1s						
FEMA	**Monte Fema**	**0.11**	**315**	P	Pg	11 03 14.2	+0.3
FEMA				S	Sg	11 03 16.7	+0.5
MTCL	**Monte Cavallo**	**0.15**	**313**	P	Pg	11 03 14.8	+0.4
MTCL				S	Sg	11 03 17.6	+0.5
FDMO	**Fiordimonte**	**0.16**	**342**	P	Pg	11 03 14.8	+0.3
FDMO				S	Sg	11 03 17.7	+0.6
FDMO				AML	AML		
	comp=E,75μm,0.7s						
FDMO				AML	AML		
	comp=N,57μm,0.2s						
FDMO				AML	AML		
	comp=E,69μm,0.1s						
FDMO				AML	AML		
	comp=N,57μm,0.2s						
CSP1	**Cessapalombo**	**0.21**	**11**	P	Pg	11 03 15.7	+0.3
CSP1				S	Sg	11 03 19.2	+0.7
CSP1				AML	AML		
	comp=E,33μm,0.1s						
CSP1				AML	AML		
	comp=N,36μm,0.3s						
CESI	**CESI - Serrava**	**0.22**	**303**	P	Pb	11 03 16.0	-0.5
CESI				S	Sb	11 03 19.8	-0.7
CESI				AML	AML		
	comp=E,17μm,0.1s						
CESI				AML	AML		
	comp=N,48μm,0.1s						
GUMA	**Gualdo di Mace**	**0.22**	**37**	P	Pb	11 03 16.1	-0.5
GUMA				S	Sb	11 03 20.1	-0.4
MTRA	**Matera**	**0.22**	**126**	P	Pg	11 03 15.8	+0.3
MTRA				S	Sg	11 03 19.4	+0.5
MF5	**Montefalcone A**	**0.25**	**66**	P	Pb	11 03 16.6	-0.4
MML1	**Montelago di S**	**0.26**	**330**	P	Pg	11 03 16.6	+0.3
MML1				S	Sb	11 03 21.1	-0.6
PF6	**Pievefavera**	**0.26**	**6**	P	Pg	11 03 16.2	0.0
PF6				S	Sg	11 03 20.2	+0.2
GAVE	**Gavelli**	**0.27**	**224**	P	Pg	11 03 16.4	-0.1
GAVE				AML	AML		
	comp=E,53μm,1.5s						
GAVE				AML	AML		
	comp=N,76μm,0.1s						
GAVE				AML	AML		
	comp=E,50μm,0.2s						
GAVE				AML	AML		
	comp=N,76μm,0.1s						
LNSS	**Leonessa**	**0.30**	**196**	P	Pg	11 03 17.2	+0.3
LNSS				S	Sb	11 03 22.0	-0.7
MNTT	**Montottone**	**0.37**	**62**	P	Pg	11 03 18.6	+0.4
RM33	**Pellescritta (**	**0.38**	**173**	P	Pg	11 03 18.6	+0.2
RM33				S	Sb	11 03 24.7	-0.5
TERO	**Teramo**	**0.42**	**128**	P	Pg	11 03 19.1	0.0
TERO				S	Sb	11 03 25.7	-0.7

NAO ***25*** *11:04:04.0, 35°64N×24°37E, h10km, mb4.1*
GII ***25*** *11:04:16.3±0.0, 37°33N×22°12E, h10km, Mws4.3, confirmed*
MOS ***25*** *11:04:21.3±1.0, 37°29N×22°04E, h11km, mb4.6/11, Error ellipse: s-maj=8.3km s-min=4.1km az=72.3*
ATH ***25*** *11:04:22.7, 37°34N×22°11E, h11km±2km, ML4.1/16, Manual Solution by M.Kolligri First location: 2019/04/25 11:05:19, This location: 2019/04/25 11:38:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
THE ***25*** *11:04:22.9, 37°33N×22°13E, h6km±9km, ML4.1/5, Error ellipse: s-maj=9.6km s-min=0.5km az=236.0*
PDG ***25*** *11:04:23.3±0.7, 37°36N×22°10E, h0km±11km, ML4.2/11, Error ellipse: s-maj=1.1km s-min=1.2km az=0.0*
NEIC ***25*** *11:04:24.4±2.8, 37°38N±0°06×22°12E±0°08, h10km±2km, mb4.5/12, Error ellipse: s-maj=12.0km s-min=9.4km az=233.0*
BEO ***25*** *11:04:24.6±0.9, 37°41N×22°46E, h0km, ML3.9/3*
IDC ***25*** *11:04:26.9±1.2, 37°38N×22°13E, h44km±13km, mb3.8/17, mbtmp4.0/29, ML3.7/9, MS3.2/15, Error ellipse: s-maj=13.0km s-min=10.0km az=40.0*

ISC 25 11:04:23.1±0.6, 37°33N±0°02×22°14E±0°02, h14km±4km, n262, σ2°06/297, mb4.2/30, MS3.2/13, 23C-9D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLX	**Vlachokerasia**	**0.20**	**79**	P	**Pg**	**11 04 27.7**	**0.0**
VLX				S	**Sg**	**11 04 31.2**	**+0.5**
ITM	**Ithomi**	**0.23**	**228**	P	**Pg**	**11 04 27.3**	**-0.8**
ITM				S	**Sg**	**11 04 30.6**	**-0.9**
	94μm,0.2s						
ITM	**Ithomi**	**0.23**	**228**		**Pg**	**11 04 27.4**	**-0.7**
ITM	**Ithomi**	**0.23**	**228**	P	**Pg**	**11 04 27.3**	**-0.7**
ITM				S	**Sg**	**11 04 30.2**	**-1.3**
AMT	**Artemida-Makis**	**0.40**	**300**	P	**Pg**	**11 04 30.3**	**-0.8**
AMT				S	**Sg**	**11 04 35.5**	**-1.0**
ZARO	**Zacharo**	**0.42**	**292**	P	**Pg**	**11 04 31.1**	**-0.4**
PYL	**PYLOS**	**0.54**	**216**	P	**Pg**	**11 04 32.7**	**-1.0**
PYL				S	**Sg**	**11 04 40.8**	**-0.1**
	22μm,0.5s						
PYL	**PYLOS**	**0.54**	**216**	P	**Pg**	**11 04 32.9**	**-0.8**
PYL				S	**Sg**	**11 04 40.6**	**-0.3**
MTHA	**Methoni**	**0.62**	**214**	P	**Pg**	**11 04 35.2**	**+0.1**
MTHA				S	**Sg**	**11 04 43.2**	**-0.2**
GUR	**Goura**	**0.62**	**15**	P	**Pg**	**11 04 34.5**	**-0.9**
GUR				S	**Sg**	**11 04 43.5**	**-0.2**
	23μm,0.5s						
GUR	**Goura**	**0.62**	**15**	P	**Pg**	**11 04 34.7**	**-0.7**
GUR				S	**Sg**	**11 04 43.2**	**-0.4**
DRO	**Drossia**	**0.71**	**331**	P	**Pg**	**11 04 36.2**	**-0.7**
DRO				S	**Sb**	**11 04 46.8**	**0.0**
	32μm,0.6s						
DRO	**Drossia**	**0.71**	**331**	P	**Pg**	**11 04 36.2**	**-0.7**
DRO				S	**Sb**	**11 04 46.4**	**-0.4**
KLV	**Kalavryta, Ach**	**0.71**	**1**	P	**Pg**	**11 04 35.8**	**-1.1**
KLV				S	**Sb**	**11 04 47.0**	**0.0**
	19μm,0.7s						
KLV	**Kalavryta, Ach**	**0.71**	**1**	P	**Pg**	**11 04 35.8**	**-1.1**
KLV				S	**Sg**	**11 04 46.0**	**-0.4**
KRND	**KRANIDI**	**0.81**	**86**	P	**Pg**	**11 04 38.9**	**+0.2**
KRND				S	**Sb**	**11 04 50.1**	**+0.5**
VLI	**Veliai**	**0.89**	**134**	P	**Pb**	**11 04 39.8**	**-0.4**
RLS	**Riolos of Patr**	**0.90**	**324**	P	**Pb**	**11 04 39.3**	**-1.2**
RLS				S	**Sg**	**11 04 52.0**	**-0.3**
LTK	**Loutraki**	**0.95**	**43**	P	**Pb**	**11 04 40.5**	**-0.8**
PATG	**Patra B**	**0.96**	**340**	P	**Pn**	**11 04 42.2**	**0.0**
MNVA	**Monemvasia**	**0.96**	**132**	P	**Pn**	**11 04 42.5**	**+0.3**
MNVA				S	**Sb**	**11 04 54.5**	**+0.3**
CLEM	**Kyllini,Ilia,G**	**0.97**	**305**	P	**Pn**	**11 04 42.2**	**-0.1**
CLEM				S	**Sb**	**11 04 53.1**	**-1.3**
PATC	**Patra C**	**0.98**	**342**	P	**Pb**	**11 04 41.4**	**-0.5**
UPR	**University Cam**	**0.99**	**344**	P	**Pb**	**11 04 41.6**	**-0.4**
UPR				S	**Sg**	**11 04 55.1**	**-0.1**
YRMI	**Loutra Irminis**	**0.99**	**321**	P	**Pb**	**11 04 40.8**	**-1.2**
MET5	**Makryloggos,Me**	**1.01**	**73**	P	**Pb**	**11 04 42.6**	**+0.2**
MET5				S	**Sn**	**11 04 57.0**	**+0.1**
MET4	**Agioi Theodoro**	**1.04**	**73**	P	**Pb**	**11 04 42.9**	**0.0**
AXS	**Araxos**	**1.05**	**325**	P	**Pb**	**11 04 41.9**	**-1.2**
AXS				S	**Sb**	**11 04 56.6**	**-0.1**
KALE	**Kalithea**	**1.06**	**0**	P	**Pb**	**11 04 42.1**	**-1.1**
KALE				S	**Sg**	**11 04 57.5**	**+0.2**
YDRA	**Hydra**	**1.06**	**89**	P	**Pg**	**11 04 43.6**	**+0.2**
SERG	**Sergoula**	**1.08**	**357**	P	**Pb**	**11 04 42.5**	**-1.1**
LTHK	**Lithakia**	**1.10**	**290**	P	**Pb**	**11 04 43.0**	**-0.9**
AGG	**Agios Georgios**	**1.69**	**5**		**Pb**	**11 04 53.3**	**-0.7**
AGG	**Agios Georgios**	**1.69**	**5**	P	**Pb**	**11 04 53.3**	**-0.7**
IGT	**Igoumenitsa**	**2.62**	**328**	*e*Pn	**Pb**	**11 05 09.0**	**-0.7**
IGT				*e*Sn	**Sg**	**11 05 44.5**	**-2.6**
APE	**Apeiranthos**	**2.72**	**95**	⇑P	**Pn**	**11 05 07.3**	**+0.9**
APE	**Apeiranthos**	**2.72**	**95**	P	**Pn**	**11 05 07.3**	**+0.9**
APE	**Apeiranthos**	**2.72**	**95**	P	**Pn**	**11 05 06.5**	**+0.1**
APE				S	**Sn**	**11 05 33.2**	**-5.9**
LIT	**Litokhoron**	**2.78**	**6**		**Pn**	**11 05 08.9**	**+1.7**
LIT	**Litokhoron**	**2.78**	**6**	P	**Pn**	**11 05 08.9**	**+1.7**
KEK	**Kerkira**	**3.00**	**323**		**Pn**	**11 05 12.8**	**+2.5**
IDI	**Anoyia**	**3.02**	**132**		**Pn**	**11 05 13.2**	**+2.7**
IDI	**Anoyia**	**3.02**	**132**	P	**Pn**	**11 05 13.0**	**+2.5**
	20nm,0.3s,baz=283,slow=5.5,SNR=25						
IDI				S	**Sn**	**11 05 48.6**	**+2.2**
	189nm,0.6s,baz=322,slow=24,SNR=7.9						
OHR	**Ohrid**	**3.92**	**345**	*i* Pn	**Pn**	**11 05 26.6**	**+3.8**
OHR				*i* Sn	**Sb**	**11 06 17.3**	**-1.8**
OHR	**Ohrid**	**3.92**	**345**	*e*Pn	**Pn**	**11 05 25.8**	**+3.0**
OHR				*e*Sn	**Sn**	**11 06 11.5**	**+2.9**
SRS	**Serrai**	**3.94**	**16**	*e*Pn	**Pn**	**11 05 24.9**	**+1.7**
SRS				*e*Sn	**Sn**	**11 06 08.2**	**-1.1**
VAY	**Valandovo**	**4.00**	**5**	*i* Sn	**Sn**	**11 06 14.6**	**+4.1**
VAY	**Valandovo**	**4.00**	**5**	*e*Pn	**Pn**	**11 05 26.4**	**+2.5**
VAY				*e*Sn	**Sn**	**11 06 10.8**	**+0.3**
VAY	**Valandovo**	**4.00**	**5**	*i* Pn	**Pn**	**11 05 27.7**	**+3.8**
TIR	**Tirane**	**4.38**	**337**		**Pn**	**11 05 31.6**	**+2.4**
TIR	**Tirane**	**4.38**	**337**	⇑P	**Pn**	**11 05 31.8**	**+2.6**
TIR	**Tirane**	**4.38**	**337**	P	**Pn**	**11 05 31.7**	**+2.6**
KARP	**Karpathos**	**4.42**	**112**		**Pn**	**11 05 33.0**	**+3.1**
TIP	**Timpagrande**	**4.62**	**295**		**Pn**	**11 05 35.4**	**+2.9**
TIP	**Timpagrande**	**4.62**	**295**	⇓P	**Pn**	**11 05 34.4**	**+1.9**
RDO	**Rodhopi**	**4.63**	**34**		**Pn**	**11 05 32.7**	**+0.1**
ALN	**Alexandroupoli**	**4.68**	**39**		**Pn**	**11 05 33.8**	**+0.6**
ALN	**Alexandroupoli**	**4.68**	**39**	P	**Pn**	**11 05 33.8**	**+0.6**
ARG	**Arkhangelos**	**4.93**	**101**		**Pn**	**11 05 40.6**	**+3.8**
ARG	**Arkhangelos**	**4.93**	**101**	P	**Pn**	**11 05 40.6**	**+3.8**
PUK	**Puka**	**5.01**	**340**		**Pn**	**11 05 40.4**	**+2.4**
CEL	**Celeste**	**5.03**	**282**	Pn	**Pn**	**11 05 40.0**	**+1.8**
ULC	**Ulcinj**	**5.14**	**335**	*e*Pn	**Pn**	**11 05 41.1**	**+1.5**
ULC				*e*Sn	**Sn**	**11 06 37.8**	**-0.9**
BOSS	**Bosilegrad**	**5.16**	**3**	*e*Pn	**Pn**	**11 05 42.7**	**+2.7**
DRME	**Dracevica, Mon**	**5.36**	**336**	*e*Pn	**Pn**	**11 05 43.6**	**+1.0**
DRME	**Dracevica, Mon**	**5.36**	**336**	⇑*i*Pn	**Pn**	**11 05 44.1**	**+1.5**
DRME				*e*Sn	**Sn**	**11 06 43.9**	**-0.1**
BARS	**Barje**	**5.48**	**358**	*e*Pn	**Pn**	**11 05 47.3**	**+3.0**
BAND	**Balkesir-Ban**	**5.55**	**55**	⇓P	**Pn**	**11 05 47.0**	**+1.8**
PDG	**Podgorica**	**5.55**	**337**		**Pn**	**11 05 46.5**	**+1.2**
PDG	**Podgorica**	**5.55**	**337**	*e*Pn	**Pn**	**11 05 47.3**	**+2.0**
PDG	**Podgorica**	**5.55**	**337**	⇑P	**Pn**	**11 05 47.9**	**+2.6**
PDG	**Podgorica**	**5.55**	**337**	⇑*i*Pn	**Pn**	**11 05 47.4**	**+2.1**
PDG				*e*Sn	**Sn**	**11 06 49.2**	**+0.3**
BUM	**Brajici-Budva**	**5.55**	**334**	⇑*i*Pn	**Pn**	**11 05 46.3**	**+0.9**
BUM				*e*Sn	**Sn**	**11 06 49.7**	**+0.7**
CUC	**Castrocucco**	**5.62**	**300**		**Pn**	**11 05 48.2**	**+2.0**
CEME	**Cevo**	**5.77**	**336**	⇑*i*Pn	**Pn**	**11 05 49.0**	**+0.7**
CEME				*e*Sn	**Sn**	**11 06 53.4**	**-0.8**
IVA	**Berane**	**5.79**	**343**	*e*Pn	**Pn**	**11 05 50.8**	**+2.1**
IVA				*e*Sn	**Sn**	**11 06 54.8**	**-0.2**
HCY	**Herceg Novi**	**5.83**	**332**	*e*Pn	**Pn**	**11 05 49.6**	**+0.6**
HCY	**Herceg Novi**	**5.83**	**332**	⇑*i*Pn	**Pn**	**11 05 50.4**	**+1.4**
HCY				*e*Sn	**Sn**	**11 06 55.3**	**-0.3**
KOME	**Kolasin**	**5.87**	**341**	*e*Pn	**Pn**	**11 05 51.5**	**+1.8**
KOME				*e*Sn	**Sn**	**11 06 56.0**	**-0.8**
SELS	**Selova**	**5.93**	**353**	*e*Pn	**Pn**	**11 05 52.4**	**+1.9**
ZAPS	**Zavoj**	**5.95**	**3**	*e*Pn	**Pn**	**11 05 53.2**	**+2.5**
NKME	**Niksic**	**5.95**	**337**	⇑*i*Pn	**Pn**	**11 05 52.0**	**+1.2**
AKAS	**Kas**	**6.09**	**98**		**Pn**	**11 05 56.5**	**+3.6**
TREB	**Trebinje**	**6.11**	**333**	*e*Pn	**Pn**	**11 05 52.6**	**-0.4**
SJES	**Sjenica**	**6.15**	**345**	*e*Pn	**Pn**	**11 05 55.1**	**+1.5**
SJES	**Sjenica**	**6.15**	**345**	*e*Pn	**Pn**	**11 05 55.1**	**+1.5**
VAE	**Valguarnera**	**6.15**	**274**	P	**Pn**	**11 05 56.0**	**+2.5**
	5.2nm,0.3s,baz=357,slow=20,SNR=2.0						
VAE				S	**Sn**	**11 07 06.7**	**+2.9**
	45nm,0.8s,baz=147,slow=12,SNR=5.6						
RAFF	**Raffo Rosso**	**6.20**	**271**		**Pn**	**11 05 56.0**	**+1.8**
BRY	**Bratogost**	**6.21**	**335**	*e*Pn	**Pn**	**11 05 54.3**	**-0.1**
BRY	**Bratogost**	**6.21**	**335**	⇑*i*Pn	**Pn**	**11 05 54.6**	**+0.2**
BRY				*e*Sn	**Sn**	**11 07 04.5**	**-0.7**
GOCS	**Kraljevo Serbi**	**6.30**	**352**	*e*Pn	**Pn**	**11 05 57.8**	**+2.2**
BOVS	**Bovan**	**6.30**	**357**	⇑P	**Pn**	**11 05 58.2**	**+2.6**
BOVS	**Bovan**	**6.30**	**357**	*e*Pn	**Pn**	**11 05 57.7**	**+2.1**
PLE	**Pljevlja**	**6.35**	**342**	*e*Pn	**Pn**	**11 05 58.0**	**+1.7**
PLE				*e*Sn	**Sn**	**11 07 07.5**	**-1.1**
UPM	**Unac-Piva**	**6.36**	**338**	*e*Pn	**Pn**	**11 05 58.4**	**+1.8**
UPM	**Unac-Piva**	**6.36**	**338**	*e*Pn	**Pn**	**11 05 58.3**	**+1.7**
UPM				*i* Sn	**Sn**	**11 07 07.6**	**-1.5**
IVAS	**Ivanjica**	**6.42**	**347**	*e*Pn	**Pn**	**11 05 58.4**	**+1.2**
ZAGS	**Zajecar**	**6.47**	**1**	*e*Pn	**Pn**	**11 06 00.7**	**+2.8**
STON	**Ston**	**6.49**	**330**	*e*Pn	**Pn**	**11 05 56.0**	**-2.2**
SGRT	**San Giovanni R**	**6.63**	**314**		**Pn**	**11 06 00.6**	**+0.5**
GRUS	**Gruza**	**6.64**	**351**	*e*Pn	**Pn**	**11 06 01.6**	**+1.4**
BBLS	**Lazi&#263i**	**6.85**	**343**	*e*Pn	**Pn**	**11 06 04.1**	**+1.0**
BBLS	**Lazi&#263i**	**6.85**	**343**	*e*Pn	**Pn**	**11 06 03.8**	**+0.7**
DIVS	**Divibare**	**6.95**	**347**	*e*Pn	**Pn**	**11 06 05.8**	**+1.2**
TRUS	**Trudelj**	**7.01**	**350**	*e*Pn	**Pn**	**11 06 06.7**	**+1.4**
KUBS	**Kucevo**	**7.08**	**357**	*e*Pn	**Pn**	**11 06 07.1**	**+0.8**
HAPS	**Han Pijesak,Bl**	**7.17**	**341**	*e*Pn	**Pn**	**11 06 07.7**	**+0.2**
TEKS	**Tekeris**	**7.47**	**346**	*e*Pn	**Pn**	**11 06 12.0**	**+0.4**
TEKS	**Tekeris**	**7.47**	**346**	*e*Pn	**Pn**	**11 06 12.1**	**+0.4**
INTR	**Introdacqua**	**7.88**	**309**		**Pn**	**11 06 18.1**	**+0.8**
ICOR	**Ion Corvin**	**8.02**	**31**	⇓P	**Pn**	**11 06 21.1**	**+1.9**
GZR	**Gura Zlata**	**8.07**	**3**	⇓P	**Pn**	**11 06 22.4**	**+2.5**
GZR	**Gura Zlata**	**8.07**	**3**	P	**Pn**	**11 06 22.3**	**+2.5**
ARR	**Arges**	**8.24**	**12**	⇑P	**Pn**	**11 06 25.1**	**+2.9**
BZS	**Buzias**	**8.29**	**357**	⇑P	**Pn**	**11 06 24.5**	**+1.7**
BZS	**Buzias**	**8.29**	**357**	P	**Pn**	**11 06 24.5**	**+1.7**
BLY	**Banja Luka**	**8.30**	**335**	*e*Pn	**Pn**	**11 06 23.8**	**+0.8**
A050A	**Klekovaca**	**8.31**	**331**	*e*Pn	**Pn**	**11 06 23.9**	**+0.8**
VOIR		**8.39**	**14**	⇓P	**Pn**	**11 06 27.1**	**+2.8**
VOIR		**8.39**	**14**	P	**Pn**	**11 06 27.0**	**+2.8**
A051A	**Mrakovica**	**8.63**	**334**	*e*Pn	**Pn**	**11 06 27.1**	**-0.4**
MLR	**Muntele Rosu**	**8.64**	**18**		**Pn**	**11 06 30.3**	**+2.6**
MLR	**Muntele Rosu**	**8.64**	**18**	P	**Pn**	**11 06 28.9**	**+1.2**
	0.8nm,0.3s,baz=229,slow=11,SNR=8.2						
MLR				LR	LR	11 09 58.0	
	comp=Z,144nm,21.3s,baz=233,slow=38 2.7nm,0.5s						
MLR	**Muntele Rosu**	**8.64**	**18**	⇑P	**Pn**	**11 06 30.5**	**+2.7**
MLR	**Muntele Rosu**	**8.64**	**18**	P	**Pn**	**11 06 30.4**	**+2.7**
TPGR	**Topolog**	**8.88**	**30**	⇑P	**Pn**	**11 06 33.8**	**+2.8**
DOPR	**Dopca**	**8.96**	**15**	⇑P	**Pn**	**11 06 35.3**	**+3.2**
COVR	**Voineasa-Covas**	**9.03**	**18**	⇓P	**Pn**	**11 06 36.4**	**+3.4**
CFR	**Carcaliu**	**9.04**	**28**	⇑P	**Pn**	**11 06 35.0**	**+1.9**
CFR	**Carcaliu**	**9.04**	**28**	P	**Pn**	**11 06 35.0**	**+1.9**
PLOR	**Plostina**	**9.16**	**20**	⇓P	**Pn**	**11 06 38.6**	**+3.8**
PLOR	**Plostina**	**9.16**	**20**	P	**Pn**	**11 06 38.5**	**+3.8**
VRI	**Vrincioaia**	**9.19**	**20**	⇑P	**Pn**	**11 06 38.9**	**+3.6**
VRI	**Vrincioaia**	**9.19**	**20**	P	**Pn**	**11 06 38.8**	**+3.6**
BR131	**Keskin Array S**	**9.32**	**72**		**Pn**	**11 06 40.1**	**+3.0**
BR131	**Keskin Array S**	**9.32**	**72**	P	**Pn**	**11 06 40.1**	**+3.0**
BRTR	**Keskin Array B**	**9.32**	**72**		**Pn**	**11 06 40.0**	**+2.8**
BRTR	**Keskin Array B**	**9.32**	**72**	P	**Pn**	**11 06 39.0**	**+1.8**
	0.8nm,0.3s,baz=247,slow=13,SNR=16 2.1nm,0.6s						
BRTR	**Keskin Array B**	**9.32**	**72**	P	**Pn**	**11 06 40.0**	**+2.8**
MARR	**Marisel-Cluj**	**9.37**	**4**	⇑P	**Pn**	**11 06 40.7**	**+3.0**
DRGR		**9.46**	**2**	⇑P	**Pn**	**11 06 42.1**	**+3.1**
DRGR		**9.46**	**2**	P	**Pn**	**11 06 42.0**	**+3.1**
BOJS	**Bojanci**	**9.66**	**330**	*e*Pn	**Pn**	**11 06 39.9**	**-1.7**
ILGA	**Ilgaz**	**9.72**	**64**		**Pn**	**11 06 45.6**	**+2.9**
CEY	**Cerknica**	**10.19**	**328**	*e*Pn	**Pn**	**11 06 47.5**	**-1.4**
SKDS	**Skadanscina**	**10.22**	**326**	*e*Pn	**Pn**	**11 06 47.2**	**-2.1**
KEST	**Kesra**	**10.42**	**265**	P	**Pn**	**11 06 53.8**	**+1.7**
	0.4nm,0.3s,baz=41,slow=12,SNR=5.2 4.8nm,0.6s						
BURAR	**Bucovina Array**	**10.52**	**11**	⇓P	**Pn**	**11 06 57.0**	**+3.4**
BURAR	**Bucovina Array**	**10.52**	**11**	P	**Pn**	**11 06 56.9**	**+3.4**
BUR08	**Bucovina Ar. S**	**10.55**	**11**		**Pn**	**11 06 56.5**	**+2.6**
PSZ	**Piszkesteto**	**10.71**	**352**		**Pn**	**11 06 57.8**	**+1.8**
PSZ	**Piszkesteto**	**10.71**	**352**	⇓P	**Pn**	**11 06 57.8**	**+1.8**
PSZ	**Piszkesteto**	**10.71**	**352**	P	**Pn**	**11 06 57.8**	**+1.8**
SOKA	**Soboth**	**10.73**	**333**	*e*Pn	**Pn**	**11 06 56.0**	**-0.2**
	1.1nm,0.2s						
OBKA	**Obir**	**10.77**	**331**	*e*Pn	Pn	11 06 50.3	-6.5
OBKA	**Obir**	**10.77**	**331**	*i* Pn	**Pn**	**11 06 59.6**	**+2.7**
	2.9nm,0.4s						
ARSA	**Arzberg**	**11.05**	**336**	*e*Pn	**Pn**	**11 06 56.8**	**-3.9**
	1.9nm,0.4s						
MYKA	**Terra Mystica**	**11.23**	**328**	*e*Pn	**Pn**	**11 07 02.7**	**-0.5**
	1.4nm,0.2s						
CONA	**Conrad Observa**	**11.55**	**338**	*i* Pn	**Pn**	**11 07 08.3**	**+0.7**
	4.3nm,1.1s						
MMAI	**Mount Meron Ar**	**11.68**	**108**	P	**Pn**	**11 07 10.8**	**+1.5**
	2.4nm,0.3s,baz=288,slow=8.7,SNR=4.6						
MMAI				S	**Sn**	**11 09 14.9**	**-4.6**
	0.6nm,0.3s,baz=308,slow=24,SNR=2.9 0.7nm,0.3s						
YTIR	**Yattir**	**12.26**	**115**	P	Pn	11 07 12.1	-5.3
YTIR	**Yattir**	**12.26**	**115**	S	**Sn**	**11 09 29.1**	**-4.7**
DSI	**Dead Sea**	**12.34**	**114**	P	Pn	11 07 13.0	-5.4
MSBI	**Mazada**	**12.46**	**115**	P	Pn	11 07 13.2	-6.8
MSBI	**Mazada**	**12.46**	**115**	S	**Sn**	**11 09 32.5**	**-6.1**
WTTA	**Wattenberg**	**12.59**	**325**	*e*Pn	**Pn**	**11 07 19.5**	**-2.4**
	0.9nm,0.2s						
GHAJ	**Ghor Haditha**	**12.62**	**115**		**Pn**	**11 07 25.5**	**+3.4**
VRAC	**Vranov**	**12.63**	**343**	LR	LR	11 13 46.8	
	comp=Z,94nm,19.5s,baz=170,slow=44						
PRNI	**Paran**	**12.75**	**119**	P	Pn	11 07 17.7	-6.3
PRNI	**Paran**	**12.75**	**119**	S	**Sn**	**11 09 39.8**	**-6.0**
FETA	**Feichten**	**12.84**	**322**	*e*Pn	**Pn**	**11 07 27.0**	**+1.7**
	0.3nm,0.3s						
MOTA	**Moosalm**	**12.90**	**324**	*e*Pn	**Pn**	**11 07 27.4**	**+1.4**
	1.4nm,0.4s						
HRFI	**Mount Harif**	**12.96**	**120**	P	Pn	11 07 21.2	-5.8
MBRI	**Mt Berech**	**13.03**	**122**	P	Pn	11 07 22.2	-5.7
MBRI	**Mt Berech**	**13.03**	**122**	S	**Sn**	**11 09 46.4**	**-6.3**
GERES	**GERESS Array B**	**13.04**	**335**	P	**Pn**	**11 07 27.6**	**-0.4**
	baz=140,slow=13,SNR=4.9 0.3nm,0.3s						
DAVOX	**Davos/Dischmat**	**13.10**	**320**	LR	LR	11 14 15.9	
	comp=Z,66nm,21.4s,baz=82,slow=45						
EIL	**Elat**	**13.13**	**122**	P	**Pn**	**11 07 31.0**	**+1.8**
	0.7nm,0.3s,baz=272,slow=4.5,SNR=6.3						
EIL				S	**Sn**	**11 09 47.9**	**-7.2**
	8.5nm,0.6s,baz=271,slow=16,SNR=4.6 6.3nm,0.7s						
EIL	**Elat**	**13.13**	**122**	P	Pn	11 07 23.5	-5.7
EIL	**Elat**	**13.13**	**122**	S	**Sn**	**11 09 49.4**	**-5.7**
ASF	**Jabal al Asfar**	**13.18**	**109**	P	**Pn**	**11 07 31.8**	**+2.0**
	0.3nm,0.3s,baz=259,slow=9.1,SNR=3.7 1.5nm,0.4s						
KHC	**Kasperske Hory**	**13.33**	**335**	*e*P	**Pn**	**11 07 32.0**	**+0.2**
KHC	**Kasperske Hory**	**13.33**	**335**	*i* P	**Pn**	**11 07 33.4**	**+1.6**
AKASG	**Malin Array Be**	**14.29**	**19**	P	**Pn**	**11 07 45.4**	**+0.5**
	0.2nm,0.3s,baz=211,slow=13,SNR=7.0						
AKASG				LR	LR	11 13 23.6	
	comp=Z,88nm,20.3s,baz=213,slow=38 2.0nm,0.6s						
AKASG	**Malin Array Be**	**14.29**	**19**	*e*P	**Pn**	**11 07 45.4**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SOC	**Sochi**	**14.76**	**60**	*e*P	**Pn**	**11 07 51.4**	**+0.1**
SOC				*e*		11 10 36.5	
SOC				pmax	pmax		
	comp=Z,15nm,0.7s						
SOC				MLR	MLR		
	comp=Z,49nm,16.0s						
CLL	**Collm**	**15.41**	**338**	*i* P	**P**	**11 08 05.4**	**+1.0**
CLL				pmax	pmax		
	comp=Z,

comp=Z,85nm,18.8s,baz=200,slow=39
comp=Z,1.6nm,0.5s
FINES FINESS Array B 24.26 5 *i* P **P 11 09 39.2 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.4s
NC602 NORSAR Array S 24.37 347 P **P 11 09 40.5 +0.1**
NB2 NORSAR Subarra 24.71 347 P **P 11 09 43.3 -0.3**
comp=Z,2.1nm,0.6s,baz=156,slow=9.3
NOA NORSAR Array B 24.71 347 P **P 11 09 43.1 -0.5**
comp=Z,1.0nm,0.6s,baz=157,slow=8.8,SNR=9.3
NOA LR LR 11 20 13.2
comp=Z,26nm,21.0s,baz=175,slow=38
comp=Z,1.0nm,0.6s
NC303 NORSAR Array S 24.86 348 **P 11 09 45.5 +0.6**
EKA Eskdalemuir Ar 24.86 324 P **P 11 09 44.9 -0.1**
comp=Z,3.9nm,0.6s,baz=124,slow=9.6,SNR=12
comp=Z,3.9nm,0.6s
VAF Vilstaro 25.74 1 *e*P **P 11 09 53.1 +0.3**
KLMR Klimovskoe 25.98 20 *e*P **P 11 09 51.3 -3.7**
KLMR pmax pmax
comp=Z,24nm,1.5s
JOF Joensuu 26.23 10 *e*P **P 11 09 57.4 +0.2**
KIRV Kirov 27.69 31 LR LR 11 21 10.2
comp=Z,40nm,18.1s,baz=236,slow=36
KIRV Kirov 27.69 31 *i* P **P 11 10 12.3 +1.9**
TORD Torodi Ar. Bea 30.23 223 P **P 11 10 33.1 -0.3**
comp=Z,0.6nm,0.5s,baz=35,slow=9.8,SNR=7.1
comp=Z,0.6nm,0.5s
ARTI Arti 30.75 40 P **P 11 10 37.8 +0.1**
ARTI IAmb IAmb 11 10 40.5
comp=Z,6.8nm,1.0s
ARTI Arti 30.75 40 LR LR 11 23 03.5
comp=Z,45nm,20.0s,baz=326,slow=36
ARTI Arti 30.75 40*c* *i* P **P 11 10 37.9 +0.2**
ARTI 11 11 36.0
ARTI S **S 11 15 40.7 +0.6**
ARTI pmax pmax
comp=Z,7.0nm,1.2s
ARCES ARCESS Array B 32.31 2 P **P 11 10 51.2 -0.1**
comp=Z,1.7nm,0.6s,baz=188,slow=10,SNR=19
ARCES LR LR 11 25 04.1
comp=Z,68nm,18.4s,baz=170,slow=38
comp=Z,1.7nm,0.6s
BRVK Borovoye 36.63 49 *i* P **P 11 11 29.8 +1.0**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 36.69 49 P **P 11 11 28.7 -0.7**
comp=Z,1.1nm,0.5s,baz=298,slow=3.2,SNR=4.9
BVAR LR LR 11 27 21.8
comp=Z,27nm,18.8s,baz=147,slow=38
comp=Z,1.1nm,0.5s
DBIC Dimbokro 39.18 226 P **P 11 11 50.4 -0.3**
comp=Z,6.2nm,1.0s,baz=45,slow=8.6,SNR=4.3
comp=Z,6.2nm,1.0s
AAK Ala-Archa 39.93 66 *i* P **P 11 11 58.1 +1.1**
AAK pmax pmax
comp=Z,8.0nm,1.5s
SPITS Spitsbergen Ar 41.03 358 P **P 11 12 05.3 -0.1**
comp=Z,2.3nm,0.6s,baz=148,slow=13,SNR=14
comp=Z,2.3nm,0.6s
KURBB Kurchatov Arra 41.71 53 P **P 11 12 10.9 -0.4**
comp=Z,2.7nm,0.5s,baz=274,slow=8.8,SNR=7.2
comp=Z,2.7nm,0.5s
KURK Kurchatov 41.76 53 P **P 11 12 10.9 -0.8**
MKAR Makanchi Array 44.66 58 P **P 11 12 34.8 -0.4**
comp=Z,1.9nm,0.6s,baz=263,slow=8.0,SNR=5.7
comp=Z,1.9nm,0.6s
MKAR Makanchi Array 44.66 58 *i* P **P 11 12 36.7 +1.5**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 45.31 48 P **P 11 12 39.7 -0.5**
comp=Z,2.7nm,0.6s,baz=266,slow=5.8,SNR=6.6
comp=Z,2.7nm,0.6s
ZALV Zalesovo Beam 45.31 48 *e*P **P 11 12 42.2 +2.0**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
NRIK Noril'sk 46.98 26 *e*P **P 11 12 54.9 +1.7**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
SFJD Kangerlussuaq 49.60 330 LR LR 11 34 30.8
comp=Z,36nm,18.1s,baz=88,slow=36
SONM Songino Array 60.00 51 P **P 11 14 28.6 -0.6**
comp=Z,0.3nm,0.4s,baz=268,slow=5.2,SNR=4.2
comp=Z,0.3nm,0.4s
CMAR Chiang Mai Arr 68.73 83 P **P 11 15 25.9 -0.8**
comp=Z,0.4nm,0.3s,baz=300,slow=8.2,SNR=7.6
comp=Z,0.4nm,0.3s
CMAR Chiang Mai Arr 68.73 83 *e*P **P 11 15 30.7 +4.0**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
ZEA Zeya 68.76 38 *e*P **P 11 15 23.3 -3.0**
BILL Bilibino 71.55 13 *i* P **P 11 15 43.5 +0.4**
BILL pmax pmax
comp=Z,3.0nm,0.9s
E29M Blow River 73.54 352 **P 11 15 56.2 +1.2**
E29M IAmb IAmb 11 15 58.7
comp=Z,3.4nm,0.8s
D23K Nanushuk River 73.88 357 P **P 11 15 57.8 +0.8**
D23K IAmb IAmb 11 16 03.8
comp=Z,4.7nm,0.9s
D20K Etivluk River 74.27 360 P **P 11 16 00.3 +1.0**
D20K IAmb IAmb 11 16 03.4
comp=Z,3.6nm,0.9s
C18K Utukok River 74.31 1 **P 11 16 01.5 +1.9**
C18K IAmb IAmb 11 16 03.2
comp=Z,3.1nm,0.7s
C16K Lisburne Hills 74.56 3 P **P 11 16 02.2 +1.3**
C16K IAmb IAmb 11 16 04.0
comp=Z,2.6nm,0.6s
YKA Yellowknife Ar 74.62 341 *i* P **P 11 16 04.9 +3.5**
E18K Tukpahlearik C 75.55 1 **P 11 16 08.0 +1.3**
F21K Alatna River 75.72 358 P **P 11 16 09.2 +1.5**
F21K IAmb IAmb 11 16 11.6
comp=Z,2.9nm,0.8s
QIZ Qiongzhong 76.94 76 P **P 11 16 14.0 -1.4**
QIZ S **S 11 26 06.3 +2.9**
QIZ LR LR
comp=N,200nm,15.1s
QIZ LR LR
comp=E,190nm,17.9s
QIZ LR LR
comp=Z,290nm,16.5s
ILAR Eielson Array 77.86 355 P **P 11 16 20.2 +0.4**
comp=Z,0.4nm,0.7s,baz=357,slow=4.1,SNR=4.5
comp=Z,0.4nm,0.7s
ILAR Eielson Array 77.86 355 *e*P **P 11 16 21.7 +1.9**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 88.96 327 P **P 11 17 17.0 -0.6**
comp=Z,0.5nm,0.8s,baz=49,slow=4.5,SNR=5.2
PDAR LR LR 11 58 33.1
comp=Z,23nm,18.1s,baz=303,slow=36
comp=Z,0.5nm,0.8s
ANMO Albuquerque 93.68 320 LR LR 11 59 09.7
comp=Z,24nm,21.9s,baz=121,slow=35
WRA Warramunga Arr 119.21 94 PKP **PKPdf 11 23 11.1 -1.0**
comp=Z,0.1nm,0.4s,baz=320,slow=1.8,SNR=1.1
ASAR Alice Springs 120.80 98 PKP **PKPdf 11 23 14.8 -0.3**
comp=Z,0.2nm,0.4s,baz=305,slow=1.4,SNR=9.7

CATAC ***25*** *11:20:15.5±1.0, 13°N±5°×8°9W±°, h1km, M2.8/7, MLv2.8/7, Error ellipse: s-maj=13.6km s-min=4.5km az=46.8, confirmed*
SNET ***25*** *11:20:16.0±1.3, 12°.88N×88°.66W, h12km±27km, ML2.5*
GCG ***25*** *11:20:16.1±0.3, 13°.05N×88°.64W, h80km±23km, MD3.6*
ISC 25 11:20:13.8±2.8, 12°.8N±0°.1×88°.68W±0°.06, h13km±14km, n21, σ1§26/23, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.55**	**12**	P	Pg	11 20 22.9	-1.6
ALJI				S	**Sg**	**11 20 27.5**	**-4.3**
RANC	**El Ranchito**	**0.75**	**31**	P	**Pg**	**11 20 29.3**	**+0.9**
TECO	**Alcaldia de Te**	**0.75**	**353**	P	**Pg**	**11 20 28.6**	**+0.2**
TECO	**Alcaldia de Te**	**0.75**	**353**	S	**Sg**	**11 20 39.6**	**+1.3**
PACA	**Pacayal**	**0.76**	**27**	P	**Pg**	**11 20 29.8**	**+1.2**
PQSS	**Presa 15 de Se**	**0.84**	**8**	P	**Pg**	**11 20 30.4**	**+0.3**
PQSS	**Presa 15 de Se**	**0.84**	**8**	S	**Sg**	**11 20 41.9**	**+0.8**
COEG	**Centro de Oper**	**0.85**	**347**	*e*S	**Sg**	**11 20 41.3**	**-0.1**
COEG				IAML		11 20 45.5	
comp=Z,184nm,0.1s							
LFRS	**El Faro**	**0.91**	**336**	*e*P	**Pg**	**11 20 32.4**	**+1.0**
SCLA	**Alcaldia de Sa**	**0.91**	**357**	P	**Pg**	**11 20 31.6**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.91**	**357**	S	**Sg**	**11 20 43.9**	**+0.6**
LCND	**La Caada**	**0.93**	**56**	*e*S	**Sg**	**11 20 44.3**	**+0.4**
CNCH	**Conchagua**	**0.96**	**60**	*e*P	**Pg**	**11 20 32.3**	**-0.1**
CNCH	**Conchagua**	**0.96**	**60**	P	**Pg**	**11 20 32.3**	**-0.1**
CSGN	**Cosiguina Volc**	**1.11**	**80**	P	**Pb**	**11 20 35.3**	**+0.3**
JAYA	**Jayaque - finc**	**1.14**	**319**	*e*P	**Pb**	**11 20 34.5**	**-0.9**
JAYA				*e*S	**Sb**	**11 20 50.6**	**+0.4**
JAYA	**Jayaque - finc**	**1.14**	**319**	*i* P	**Pb**	**11 20 35.0**	**-0.4**
POTN	**Potosi Cosigui**	**1.17**	**80**	P	**Pb**	**11 20 35.8**	**0.0**
POTN				S	**Sb**	**11 20 50.6**	**-0.2**
CEVE	**Cerro Verde**	**1.38**	**319**	*e*P	Pn	11 20 40.7	+1.7
CEVE				*e*S	**Sn**	**11 20 58.9**	**+1.7**
NUBE	**Las Nubes**	**1.54**	**316**	*i* P	**Pn**	**11 20 40.7**	**-0.4**
NUBE				*i* S	**Sn**	**11 20 59.9**	**-1.1**
MTO3	**Montecristo**	**1.73**	**338**	*i* P	Pn	11 20 42.5	-1.3

DNK 25 11:28:50.7±1.5, 59°.42N×10°.40E, h0km±7km, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STRU	**Stroemstad**	**0.56**	**133**	*i* P	Pg	11 29 00.1	-1.2
STRU				*i* S	Sg	11 29 09.0	+0.5
HOMB	**Homborsund**	**1.51**	**221**	*i* P	Pn	11 29 18.9	-0.1
HOMB				*i* S	Sb	11 29 37.2	-2.0
SNART	**Snartemo**	**1.98**	**238**	*i* P	Pn	11 29 25.1	-0.2
SNART				*i* S	Sn	11 29 51.3	+0.5
BORU	**Boraas**	**2.18**	**144**	*i* P	Pn	11 29 28.1	0.0
BORU				*i* S	Sn	11 29 55.9	+0.2
ONAU	**Onsala**	**2.18**	**158**	*i* S	Sn	11 29 55.3	-0.4

BER 25 11:28:59.5±0.6, 66°.45N×14°.97E, h0km, ML1.4, Explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOR8	**Moi Rana**	**0.35**	**218**	*e*P	Pg	11 29 03.3	-2.9
MOR8				*e*S	Sg	11 29 05.4	-5.3
MOR8				IAML		11 29 07.5	
comp=Z,62nm,0.4s							
VAGH	**Vaagaholmen**	**0.73**	**293**	*e*P	Pg	11 29 12.8	-0.8
STOK	**Stokkvaagen**	**0.80**	**262**	*e*P	Pg	11 29 13.4	-1.3
STOK				*e*S	Sg	11 29 24.5	-0.5

NEIC ***25*** *11:29:14.2±2.1, 9°.99N±0°.07×126°.6E±0°.1, h10km±1km, mb4.5/16, Error ellipse: s-maj=19.3km s-min=12.5km az=88.0*
IDC ***25*** *11:29:18.2±8.4, 9°.63N×126°.34E, h55km±79km, mb3.9/18, mbtmp4.1/18, MS3.6/15, Error ellipse: s-maj=37.3km s-min=15.1km az=64.0*
DJA ***25*** *11:29:25.5±0.9, 10°N±6°×12°7E±°, h107km±9km, M4.9/13, mb4.7/13, mB6.0/3, MLv5.0/3, Mw(mB)5.6/3*
ISC 25 11:29:17.8±0.6, 9°.87N±0°.06×126°.5E±0°.1, h42km, n65, σ1§44/47, mb4.3/26, MS3.4/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.93**	**198**		**Pn**	**11 30 02.8**	**+0.9**
DAV	**Davao City (W)**	**2.93**	**198**	P	**Pn**	**11 30 02.6**	**+0.8**
120nm,0.3s,baz=95,slow=14,SNR=5.8							
DAV				S	**Sn**	**11 30 33.3**	**-2.5**
357nm,0.7s,baz=132,slow=22,SNR=7.6							
DAV				LR	LR	11 31 11.9	
comp=Z,2μm,19.2s,baz=28,slow=43							
TGY	**Tagaytay City**	**6.88**	**308**	LR	LR	11 33 58.9	
comp=Z,591nm,20.1s,baz=156,slow=41							
TNTI	**Ternate**	**9.08**	**175**	Pn	**Pn**	**11 31 25.8**	**-0.5**
TNTI	**Ternate**	**9.08**	**175**	P	**Pn**	**11 31 30.2**	**+3.9**
941nm28nm,1.0s							
MYLDM	**Lahad Datu**	**9.20**	**240**		**Pn**	**11 31 28.6**	**+0.5**
APSI	**Ampana**	**11.75**	**205**	P	Pn	11 32 19.9	+17
SANI	**Sanana**	**11.85**	**183**	P	Pn	11 32 10.2	+5.9
18nm,1.0s							
TPUB	**Ta-pu**	**14.49**	**338**		**Pn**	**11 32 38.7**	**-1.6**
BNSI	**Bone**	**15.54**	**205**	P	P	11 33 08.7	+11
SBUM	**Sibu**	**15.99**	**243**	P	**P**	**11 33 02.4**	**-0.5**
KAPI	**Kappang**	**16.24**	**205**	LR	LR	11 39 09.3	
comp=Z,90nm,20.9s,baz=58,slow=37							
GUMO	**Guam**	**18.35**	**77**	LR	LR	11 40 38.0	
comp=Z,172nm,18.6s,baz=206,slow=37							
JAY	**Jayapura**	**18.74**	**130**	LR	LR	11 41 20.4	
comp=Z,301nm,18.9s,baz=8.5,slow=39							
EDFI	**Ende, Flores**	**19.11**	**195**	P	Pn	11 33 48.6	+10
SOEI	**Soe**	**19.62**	**187**	P	**Pn**	**11 33 45.4**	**+0.7**
SOEI				IAmb	IAmb	11 34 18.7	
comp=Z,33nm,0.8s							
SOEI	**Soe**	**19.62**	**187**	P	Pn	11 33 59.3	+15
JNU	**Natatsue**	**23.49**	**9**	LR	LR	11 45 19.6	
comp=Z,76nm,18.7s,baz=194,slow=40							
MYKOM	**Kota Tinggi**	**23.91**	**252**		**P**	**11 34 28.6**	**+0.7**
TNG	**Tangerang**	**25.40**	**232**	P	**P**	**11 34 44.3**	**+2.7**
TNG				P	**P**	**11 34 44.2**	**+2.7**
KNRA	**Kununurra**	**25.48**	**175**	P	**P**	**11 34 43.6**	**+1.5**
KNRA				IAmb	IAmb	11 34 49.5	
comp=Z,31nm,1.4s							
JHJ	**Hachijo jima 2**	**26.18**	**26**	LR	LR	11 44 42.2	
comp=Z,81nm,19.6s,baz=80,slow=35							
MDSI	**Maura Dua**	**26.42**	**238**	P	**P**	**11 34 54.0**	**+3.2**
comp=Z,11nm,1.0s							
KSRS	**Korea Array**	**27.50**	**2**	LR	LR	11 47 54.3	
comp=Z,90nm,18.7s,baz=180,slow=40							
FITZ	**Fitzroy Crossi**	**27.80**	**182**	P	**P**	**11 35 02.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**28.02**	**291**	P	**P**	**11 35 04.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**28.02**	**291**	P	**P**	**11 35 03.8**	**-1.4**
comp=Z,1.4nm,0.7s,baz=101,slow=7.0,SNR=11							
CMAR				LR	LR	11 47 45.0	
comp=Z,122nm,18.5s,baz=105,slow=40							
comp=Z,1.4nm,0.7s							
MJAR	**Matsushiro Arr**	**28.60**	**20**	LR	LR	11 46 57.7	
comp=Z,99nm,18.7s,baz=204,slow=37							
WRA	**Warramunga Arr**	**30.61**	**165**	P	**P**	**11 35 26.1**	**-2.0**
comp=Z,0.8nm,0.8s,baz=343,slow=10.0,SNR=5.1							
comp=Z,0.8nm,0.8s							
ASAR	**Alice Springs**	**34.10**	**168**	P	**P**	**11 35 55.1**	**-3.6**
comp=Z,0.9nm,0.8s,baz=350,slow=7.2,SNR=9.2							
ASAR				LR	LR	11 52 31.9	
comp=Z,68nm,19.0s,baz=342,slow=41							
comp=Z,0.9nm,0.8s							
BRDH	**Bariadhala**	**35.70**	**295**	LR	LR	11 53 11.4	
comp=Z,173nm,18.2s,baz=145,slow=40							
SHL	**Shillong**	**36.34**	**300**	P	**P**	**11 36 17.9**	**-0.2**
SHL				IAmb	IAmb	11 36 24.5	
comp=Z,6.7nm,0.8s							
HNR	**Honiara**	**38.41**	**119**	LR	LR	11 50 26.2	
comp=Z,44nm,22.0s,baz=215,slow=33							
KLR	**Kul'dur**	**39.48**	**5**	P	**P**	**11 36 45.2**	**+1.2**
comp=Z,1.0nm,0.6s,baz=196,slow=3.5,SNR=4.7							
comp=Z,1.0nm,0.6s							
H11N1	**WAKE ISLAND Hy**	**40.16**	**71**	T	T	12 20 22.0	
baz=265,slow=74,SNR=3.5							
H11N2	**WAKE ISLAND Hy**	**40.17**	**71**	T	T	12 20 06.8	
baz=265,slow=74,SNR=3.8							
H11N3	**WAKE ISLAND Hy**	**40.18**	**71**	T	T	12 20 21.4	
baz=265,slow=74,SNR=3.7							
FORT	**Forrest**	**40.44**	**178**		**P**	**11 36 52.3**	**+0.1**
ULN	**Ulaanbaatar**	**41.28**	**340**		**P**	**11 37 00.5**	**+1.3**
ULN				IAmb	IAmb	11 37 01.7	
comp=Z,6.3nm,0.9s							
SONM	**Songino Array**	**41.48**	**340**		**P**	**11 37 01.9**	**+1.1**
SONM	**Songino Array**	**41.48**	**340**	P	**P**	**11 37 00.9**	**+0.1**
comp=Z,2.9nm,0.8s,baz=158,slow=8.7,SNR=13							
comp=Z,2.9nm,0.8s							
STKA	**Stephens Creek**	**43.95**	**161**	P	**P**	**11 37 19.4**	**-1.4**
comp=Z,1.6nm,0.5s,baz=337,slow=9.0,SNR=5.0							
comp=Z,1.6nm,0.5s							
MKAR	**Makanchi Array**	**52.49**	**323**	P	**P**	**11 38 26.4**	**-0.2**
MKAR	**Makanchi Array**	**52.49**	**323**	P	**P**	**11 38 26.9**	**+0.3**
comp=Z,2.5nm,0.7s,baz=124,slow=8.2,SNR=23							
comp=Z,2.5nm,0.7s							
MAKZ	**Makanchi**	**52.68**	**323**	P	**P**	**11 38 28.0**	**0.0**
ZALV	**Zalesovo Beam**	**55.09**	**331**	P	**P**	**11 38 44.6**	**-0.9**
ZALV	**Zalesovo Beam**	**55.09**	**331**	P	**P**	**11 38 45.0**	**-0.4**
comp=Z,0.9nm,0.4s,baz=120,slow=8.7,SNR=4.9							
comp=Z,0.9nm,0.4s							
AAK	**Ala-Archa**	**55.77**	**315**	LR	LR	12 05 46.7	
comp=Z,104nm,19.0s,baz=89,slow=39							
KURK	**Kurchatov**	**56.53**	**326**	P	**P**	**11 38 55.4**	**-0.4**
KURK				IAmb	IAmb	11 38 56.7	
comp=Z,5.7nm,0.9s							
KURBB	**Kurchatov Arra**	**56.53**	**325**	P	**P**	**11 38 55.7**	**-0.2**
comp=Z,2.1nm,0.8s,baz=127,slow=6.6,SNR=12							
comp=Z,2.1nm,0.8s							
KKAR	**Karatay Array**	**58.70**	**315**	P	**P**	**11 39 10.9**	**-0.4**
TIXI	**Tiksi**	**61.75**	**1**		**P**	**11 39 32.0**	**+0.4**
TIXI				IAmb	IAmb	11 39 46.0	
comp=Z,7.5nm,1.1s							
BVAR	**Borovoye Array**	**62.13**	**325**	P	**P**	**11 39 34.3**	**-0.2**
comp=Z,0.9nm,0.5s,baz=109,slow=11,SNR=6.6							
comp=Z,0.9nm,0.5s							
NRIK	**Noril'sk**	**64.46**	**346**	P	**P**	**11 39 50.5**	**+0.9**
NRIK	**Noril'sk**	**64.46**	**346**	P	**P**	**11 39 49.9**	**+0.3**
comp=Z,5.3nm,0.8s,baz=116,slow=4.1,SNR=4.8							
comp=Z,5.3nm,0.8s							
AB31	**Akbulak array**	**67.33**	**319**	P	**P**	**11 40 07.8**	**-0.6**
AB31				IAmb	IAmb	11 40 08.5	
comp=Z,2.0nm,0.9s							
ABKAR	**Akbulak array**	**67.33**	**319**	P	**P**	**11 40 08.1**	**-0.3**
ABKAR				IAmb	IAmb	11 40 08.5	
comp=Z,2.0nm,0.9s							
KDAK	**Kodiak Island**	**76.87**	**33**	LR	LR	12 11 31.3	
comp=Z,27nm,21.6s,baz=55,slow=33							
ILAR	**Eielson Array**	**79.70**	**26**	P	**P**	**11 41 21.3**	**+0.4**
comp=Z,0.2nm,0.7s,baz=238,slow=5.2,SNR=2.8							
comp=Z,0.2nm,0.7s							
SPITS	**Spitsbergen Ar**	**84.45**	**349**	P	**P**	**11 41 45.9**	**+0.3**
comp=Z,1.9nm,0.7s,baz=54,slow=9.8,SNR=6.2							
comp=Z,1.9nm,0.7s							
ARCES	**ARCESS Array B**	**84.65**	**340**	P	**P**	**11 41 46.6**	**-0.1**
comp=Z,4.7nm,0.8s,baz=75,slow=6.4,SNR=14							
comp=Z,4.7nm,0.8s							
FINES	**FINESS Array B**	**86.35**	**332**	P	**P**	**11 41 55.2**	**-0.1**
comp=Z,3.2nm,0.7s,baz=107,slow=6.6,SNR=13							
comp=Z,3.2nm,0.7s							
HFS	**Hagfors**	**92.51**	**332**	P	**P**	**11 42 22.8**	**-1.6**
comp=Z,2.2nm,0.6s,baz=72,slow=7.0,SNR=5.5							
comp=Z,2.2nm,0.6s							
NOA	**NORSAR Array B**	**93.22**	**334**	P	**P**	**11 42 25.4**	**-2.3**
comp=Z,0.9nm,0.8s,baz=65,slow=4.6,SNR=3.8							
comp=Z,0.9nm,0.8s							
YKA	**Yellowknife Ar**	**94.03**	**24**	P	**P**	**11 42 31.8**	**+0.5**
comp=Z,0.3nm,0.7s,baz=302,slow=4.7,SNR=7.4							
comp=Z,0.3nm,0.7s							

JMA 25 11:32:51.8±0.2, 26°.3N±0°.5×128°.9E±0°.6, h30km±3km, MV1.6/10, NEAR OKINAWAJIMA ISLAND, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.77**	**310**	P	Pn	11 33 06.2	-0.4
JOW	**Kunigami**	**0.77**	**310**	Pn	Pn	11 33 06.4	-0.2
JYRO	**Yoronjima**	**0.81**	**328**	P	Pn	11 33 06.8	-0.3
JYRO				*e*S	Sb	11 33 17.3	-0.7
JNTH	**Nagotoyohara**	**0.84**	**283**	*e*P	Pn	11 33 07.3	-0.2
JNTH				S	Sb	11 33 17.8	-0.9
JOKE	**Okinoerabujima**	**1.07**	**342**	P	Pn	11 33 10.9	+0.2
JIH	**Iheya**	**1.11**	**309**	*e*P	Pn	11 33 11.7	+0.4
JAGN	**Aguni-jima**	**1.54**	**280**	P	Pn	11 33 17.9	+0.8
JMZ	**Minamidaito 2**	**2.12**	**103**	*e*P	Pn	11 33 25.9	+0.7
JKDJ	**Kitadaitoujima**	**2.16**	**100**	*e*P	Pn	11 33 26.5	+0.8

IDC ***25*** *11:40:03.6±4.0, 2°.75S×102°.08E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=182.6km s-min=22.7km az=56.0*
DJA ***25*** *11:40:28.2±1.5, 3°S±5°×10°2E±1°0, h137km±18km, M3.5/5, MLv3.5/5*
ISC 25 11:40:25.5±1.1, 2°.9S±0°.2×102°.3E±0°.2, h200km, n7, σ1§17/7, mb3.1/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.63**	**156**	P	**Pn**	**11 40 59.7**	**-0.7**
SISI	**Saibi**	**3.54**	**296**	P	**Pn**	**11 41 21.8**	**+0.1**
WRA	**Warramunga Arr**	**35.59**	**121**	P	**P**	**11 47 04.3**	**+0.1**
0.3nm,0.8s,baz=304,slow=10,SNR=1.5							
0.3nm,0.8s							
ASAR	**Alice Springs**	**36.90**	**127**	P	**P**	**11 47 16.9**	**+1.6**
0.2nm,0.4s,baz=304,slow=7.7,SNR=16							
0.2nm,0.4s							
SONM	**Songino Array**	**50.62**	**4**	P	**P**	**11 49 04.8**	**+0.6**
0.3nm,0.4s,baz=185,slow=10,SNR=2.2							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**52.50**	**343**	P	**P**	**11 49 16.8**	**-1.2**
0.2nm,0.5s,baz=158,slow=8.3,SNR=5.0							
0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**58.46**	**348**	P	**P**	**11 49 59.5**	**-0.8**
0.6nm,0.3s,baz=162,slow=4.5,SNR=2.9							
0.6nm,0.3s							

IDC ***25*** *11:42:42.3±0.5, 57°.48S×24°.59W, h0km, mb4.6/11, mbtmp4.6/12, ML4.2/1, MS4.2/28, Error ellipse: s-maj=19.7km s-min=16.3km az=66.0*
NEIC ***25*** *11:42:46.8±2.3, 57°.9S±0°.1×24°.6W±0°.2, h42km±3km, mb5.1/42, Error ellipse: s-maj=19.7km s-min=12.4km az=210.0*
GCMT ***25*** *11:42:47.8±0.2, 57°.68S±0°.03×24°.07W±0°.03, h16km, MW5.0/97, Moment Tensor Solution. s38,c44; s97,c138; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.76±.14; $M_{\theta\theta}$-0.30±.08; $M_{\phi\phi}$-2.46±.09; $M_{r\theta}$0.74±.27; $M_{\theta\phi}$0.54±.05; $M_{\phi r}$2.03±.28; Best double couple: $M_0$3.41700×10^{16} NP1:ϕ_s153.00000°, δ29.00000°, λ61.00000°. NP2: ϕ_s5.00000°, δ64.00000°, λ105.00000°. Principal axes: T 3.6510, Plg67.0000°, Azm304.0000°; N -0.4700, Plg14.0000°, Azm179.0000°; P -3.1840, Plg18.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 11:42:43.8±0.3, 57°.55S±0°.07×24°.46W±0°.08, h10km, n172, σ1§51/143, mb5.0/28, MS4.2/28, 3C-4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.51**	**291**		**Pn**	**11 44 35.6**	**+2.4**
VNA1	**Neumayer--Stat**	**14.84**	**159**	⇓P	**Pn**	**11 46 13.3**	**-0.1**
comp=Z,49nm,0.9s							
VNA3	**Neumayer Olymp**	**15.08**	**161**	⇓P	**Pn**	**11 46 16.0**	**-0.6**
comp=Z,46nm,0.8s							
VNA2	**Neumayer--Watz**	**15.23**	**158**	⇓P	**Pn**	**11 46 17.9**	**-0.8**
comp=Z,12nm,0.8s,baz=318,slow=15							
SNAA	**Sanae**	**16.75**	**156**	Pn	**Pn**	**11 46 38.3**	**0.0**
comp=Z,0.8nm,0.3s,baz=328,slow=15,SNR=37							
SNAA				LR	LR	11 52 35.1	
comp=Z,692nm,18.1s,baz=273,slow=35							
comp=Z,28nm,0.8s							
TROLL	**Troll, Antarti**	**18.23**	**153**	⇓P	**P**	**11 46 57.2**	**+0.4**
comp=Z,543nm,1.0s							
TROLL				⇑Sn	Sn	11 50 05.8	-14
TROLL				⇑PcP	PcP	11 51 18.5	-10
PMSA	**Palmer Station**	**20.11**	**233**	P	**P**	**11 47 15.5**	**-1.8**
comp=Z,50nm,0.7s,baz=356,slow=16,SNR=4.9							
PMSA				LR	LR	11 53 46.4	
comp=Z,1μm,18.9s,baz=74,slow=33							
comp=Z,50nm,0.7s							
EFI	**East Falkland**	**20.18**	**272**		**P**	**11 47 17.2**	**-0.9**
EFI				IAmb	IAmb	11 47 33.0

LL02	Futaleuf	32.72 275	P	P	11 49 15.2	-1.1
LL02			IAmb	IAmb	11 49 23.3	
comp=Z,51nm,1.6s						
TBOT	Tacuaremb	33.68 307	eP	P	11 49 23.9	-0.8
CNLB	Canela	33.70 316	eP	P	11 49 24.7	-0.3
PLCA	Paso Flores	33.74 280		P	11 49 22.7	-2.6
PLCA	Paso Flores	33.74 280	P	P	11 49 23.5	-1.8
comp=Z,4.7nm,0.8s,baz=145,slow=7.5,SNR=7.3						
PLCA			LR	LR	12 03 17.2	
comp=Z,272nm,19.1s,baz=125,slow=37						
comp=Z,4.7nm,0.8s						
PLCA	Paso Flores	33.74 280	eP	P	11 49 22.1	-3.2
PLCA	Paso Flores	33.74 280	P	P	11 49 23.8	-1.5
PLCA			pP	pwP	11 49 32.4	-0.6
PLCA			sP	sP	11 49 35.9	+8.2
CPSB	Cacapava Do Su	33.74 311	eP	P	11 49 25.7	+0.4
TER01	Tubaro-SC	33.77 319	eP	P	11 49 26.5	+0.9
MAJ01	Sao Joao Batis	34.77 320	eP	P	11 49 35.4	+1.1
LR05	Currie	34.87 279		P	11 49 33.0	-2.0
LR05			IAmb	IAmb	11 49 48.0	
comp=Z,43nm,1.4s						
ITQB	Itaqui	35.71 307		P	11 49 41.3	-1.0
ITQB	Itaqui	35.71 307	eP	P	11 49 41.1	-1.2
LR04	Corral	35.88 278		P	11 49 41.1	-2.6
ITAB	Concordia	36.05 315	P	P	11 49 45.3	0.0
ITAB	Concordia	36.05 315	eP	P	11 49 45.6	+0.4
SLP01	Ubatuba-SP	37.33 328	eP	P	11 49 59.6	+3.3
PARB	Paraibuna	37.45 327	eP	P	11 49 59.7	+2.4
MAW	Mawson	38.04 142	LR	LR	12 04 23.2	
comp=Z,196nm,18.2s,baz=234,slow=34						
VAO	Valinhos	38.17 325		P	11 50 04.8	+1.4
VAO	Valinhos	38.17 325	eP	P	11 50 05.7	+2.3
PTGB	Pitanga	38.31 317	eP	P	11 50 04.1	-0.5
CPUP	Villa Florida	38.93 309		P	11 50 09.7	+0.1
CPUP			IAmb	IAmb	11 50 18.6	
comp=Z,44nm,1.1s						
CPUP	Villa Florida	38.93 309	P	P	11 50 08.8	-0.8
comp=Z,6.3nm,0.4s,baz=149,slow=8.2,SNR=23						
comp=Z,6.3nm,0.4s						
CPUP	Villa Florida	38.93 309	eP	P	11 50 08.8	-0.8
CPUP	Villa Florida	38.93 309	P	P	11 50 08.9	-0.7
CPUP			pP	pwP	11 50 17.6	+0.2
LDASE	Londrina, Braz	39.18 319	eP	P	11 50 13.5	+1.7
PEL	Peldehue	39.54 288	P	P	11 50 13.5	-1.2
PEL			IAmb	IAmb	11 50 23.1	
comp=Z,32nm,1.4s						
SJPY	San Joaquin	39.61 312	eP	P	11 50 15.1	-0.2
SUR	Sutherland	39.66 70	LR	LR	12 02 18.7	
comp=Z,583nm,21.4s,baz=212,slow=30						
SUR	Sutherland	39.66 70	P	P	11 50 18.6	+2.8
SJMB	Sao Joao De Ma	40.73 335	eP	P	11 50 29.8	+5.2
AMBA	Amambai (Brazi	41.03 314	eP	P	11 50 26.4	-0.7
DIAM	Diamantina, MG	41.72 332	eP	P	11 50 35.3	+2.4
CO01	Juntas del Tor	41.77 291	P	P	11 50 32.5	-1.0
PMNB	Patos De Minas	42.23 328	eP	P	11 50 41.5	+4.4
GUA01	Guaratinga, BA	42.49 338	eP	P	11 50 45.5	+6.5
RPRD	Ribas do Rio P	42.78 318	eP	P	11 50 42.4	+1.0
AC05	El Transito	42.80 292		P	11 50 39.9	-1.8
MURT	Porto Murtinho	43.20 312	eP	P	11 50 43.8	-1.1
IPMB	Ipameri, GO	43.28 326	eP	P	11 50 46.9	+1.4
AQDB	Aquidauana	43.53 315		P	11 50 47.4	-0.1
AQDB			IAmb	IAmb	11 50 56.5	
comp=Z,41nm,1.1s						
AQDB	Aquidauana	43.53 315	eP	P	11 50 47.1	-0.4
AC02	Maricunga	43.88 295		P	11 50 49.8	-1.1
BDQN	Bodoquena, MS	43.96 314	eP	P	11 50 50.1	-0.8
C2SB	Chapadao do Su	44.05 320	eP	P	11 50 54.1	+2.4
BOSA	Boshof	44.95 72	P	P	11 50 58.1	-0.9
comp=Z,5.0nm,1.0s,baz=157,slow=6.4,SNR=3.6						
BOSA			LR	LR	12 05 47.1	
comp=Z,420nm,19.8s,baz=204,slow=31						
comp=Z,5.0nm,1.0s						
BOSA	Boshof	44.95 72	P	P	11 50 58.5	-0.5
JANB	Januaria	44.98 332	eP	P	11 51 04.1	+4.9
VNDA	Vanda	45.13 182	P	P	11 51 01.1	+1.4
comp=Z,4.0nm,0.8s,baz=185,slow=6.0,SNR=22						
VNDA			LR	LR	12 10 08.8	
comp=Z,218nm,18.4s,baz=166,slow=36						
comp=Z,4.0nm,0.8s						
VNDA	Vanda	45.13 182	P	P	11 51 01.4	+1.8
VNDA			pP	pwP	11 51 09.6	+1.7
BDFB	Brasilia	45.43 327		P	11 51 05.4	+2.5
BDFB	Brasilia	45.43 327	P	P	11 51 02.0	-0.8
comp=Z,2.6nm,0.6s,baz=153,slow=13,SNR=4.3						
BDFB			LR	LR	12 10 16.6	
comp=Z,354nm,18.5s,baz=147,slow=36						
comp=Z,2.6nm,0.6s						
GO02	Mina Guanaco	45.51 296		P	11 51 02.1	-1.6
GO02			IAmb	IAmb	11 51 10.6	
comp=Z,64nm,1.8s						
ARAG	Araguaiana, MT	46.55 322	eP	P	11 51 12.5	+1.0
SDBA	SAO DESIDERIO	47.68 333	eP	P	11 51 24.7	+4.3
SALV	Santo Antonio	47.71 318	eP	P	11 51 21.1	+0.5
LBTB	Lobatse	48.07 69	P	P	11 51 23.1	-0.4
LBTB			IAmb	IAmb	11 51 24.4	
comp=Z,26nm,1.4s						
LBTB	Lobatse	48.07 69	LR	LR	12 08 49.8	
comp=Z,400nm,18.6s,baz=212,slow=33						
LBTB	Lobatse	48.07 69	P	P	11 51 23.4	-0.1
PB09	IPOC Station P	48.20 299	P	P	11 51 23.4	-1.2
KGCAE	Kacgae	48.20 64		P	11 51 23.3	-1.3
KGCAE			IAmb	IAmb	11 51 25.2	
comp=Z,20nm,1.0s						
BBSD	Serra de San D	48.44 311	eP	P	11 51 25.9	-0.3
NBAN	Anadia - AL	48.64 344	eP	P	11 51 35.6	+7.8
PB01	IPOC Station P	48.96 299	IAmb	IAmb	11 51 37.4	
comp=Z,16nm,0.9s						
TSUM	Tsumeb	49.18 57	LR	LR	12 08 07.0	
comp=Z,134nm,20.4s,baz=195,slow=31						
PTLB	Pontes e Lacer	49.42 314		P	11 51 33.3	-0.5
PTLB	Pontes e Lacer	49.42 314	eP	P	11 51 33.8	0.0
PB08	IPOC Station P	49.58 300	IAmb	IAmb	11 51 43.0	
comp=Z,10nm,0.7s						
SNDB	Serra Nova Dou	49.89 325	eP	P	11 51 39.0	+1.7
GO01	Chusmiza	50.01 300	IAmb	IAmb	11 51 48.0	
comp=Z,16nm,0.8s						
QNGWA	Qangwa	50.55 61		P	11 51 42.5	+0.1
QNGWA			IAmb	IAmb	11 52 13.7	
comp=Z,36nm,1.8s						
MREMI	Moremi	51.04 69		P	11 51 45.2	-0.8
PB16	IPOC Station P	51.31 301	IAmb	IAmb	11 51 58.9	
comp=Z,29nm,1.7s						
SMTB	Santa Maria do	51.77 330	eP	P	11 51 56.4	+4.9
PDRB	Porto dos Gac	52.05 318	eP	P	11 51 54.1	+0.6
RCBR	Riachuelo	52.37 346	LR	LR	12 11 02.9	
comp=Z,90nm,18.6s,baz=192,slow=32						
CLDB	Colider	52.40 320	eP	P	11 51 59.4	+3.2
LPAZ	La Paz	52.47 303	IAmb	IAmb	11 52 05.2	
comp=Z,15nm,0.7s						
LPAZ	La Paz	52.47 303	P	P	11 51 57.2	-0.2
comp=Z,6.1nm,0.6s,baz=126,slow=5.5,SNR=18						
LPAZ			LR	LR	12 15 49.7	
comp=Z,113nm,19.0s,baz=156,slow=38						
comp=Z,6.1nm,0.6s						
LPAZ	La Paz	52.47 303	eP	P	11 51 57.0	-0.4
LPAZ	La Paz	52.47 303	P	P	11 51 56.6	-0.8
PRPB	Paraupebas	54.95 329	eP	P	11 52 17.9	+3.0
DRV	Dumont d'Urvil	55.55 173	P	P	11 52 20.1	+1.6
DRV			pP	pwP	11 52 29.2	+2.4
NPGB	Novo Progresso	55.82 322	eP	P	11 52 22.8	+1.6
LSZ	Lusaka	57.58 65	LR	LR	12 14 57.7	
comp=Z,342nm,18.0s,baz=190,slow=34						
MACA	Manacapuru-AM	61.29 318	eP	P	11 53 00.0	+0.7
TEFE	Tefe	62.46 313	eP	P	11 53 07.7	+0.5
OPO	Ambohidratompo	64.68 85	LR	LR	12 18 04.3	
comp=Z,116nm,18.3s,baz=3.0,slow=33						
ATAH	Atahualpa	65.24 298	LR	LR	12 22 27.9	
comp=Z,105nm,19.2s,baz=161,slow=37						
DBIC	Dimbokro	65.97 21	P	P	11 53 29.2	-0.8
comp=Z,5.1nm,1.0s,baz=204,slow=4.1,SNR=3.2						
DBIC			LR	LR	12 15 03.3	
comp=Z,106nm,20.2s,baz=175,slow=29						
comp=Z,5.1nm,1.0s						
BOAV	Boa Vista	66.39 320		P	11 53 32.1	-0.8
BOAV			IAmb	IAmb	11 53 43.6	
comp=Z,21nm,0.9s						
BOAV	Boa Vista	66.39 320	eP	P	11 53 32.6	-0.3
BOAV			epP	PcP	11 54 19.5	+17
MDP	Montagnes des	66.49 329	LR	LR	12 21 35.1	
comp=Z,130nm,18.2s,baz=135,slow=35						
OTAV	Otavalo	71.73 302	eP	P	11 54 06.0	-0.6
TORD	Torodi Ar. Bea	73.68 27		P	11 54 17.1	-0.4
TORD	Torodi Ar. Bea	73.68 27	P	P	11 54 17.4	-0.1
comp=Z,5.4nm,0.7s,baz=198,slow=4.6,SNR=13						
comp=Z,5.4nm,0.7s						
ROSC	El Rosal	74.00 308	LR	LR	12 29 15.6	
comp=Z,135nm,18.5s,baz=264,slow=38						
RUSC	La Rusia	74.42 309		P	11 54 21.1	-1.4
RUSC			IAmb	IAmb	11 54 31.9	
comp=Z,49nm,1.6s						
BAUV	El Baul	75.18 315		P	11 54 25.5	-0.8
SDV	Santo Domingo	76.14 313	LR	LR	12 30 45.0	
comp=Z,174nm,18.6s,baz=94,slow=38						
SDV	Santo Domingo	76.14 313	eP	P	11 54 32.2	+0.2
RKT	Rikitea	81.09 241	eLR	LR	12 20 18.4	
comp=Z,819nm,30.0s						
SJG	San Juan	82.96 320	LR	LR	12 34 17.2	
comp=Z,56nm,18.9s,baz=156,slow=37						
JTS	Las Juntas de	83.58 300	LR	LR	12 35 45.7	
comp=Z,45nm,18.8s,baz=137,slow=38						
TBI	Tubuai	87.26 229	eLR	LR	12 23 00.5	
comp=Z,1μm,36.2s						
ATD	Arta Tunnel	87.91 65	LR	LR	12 33 48.4	
comp=Z,6.9nm,18.6s,baz=49,slow=35						
STKA	Stephens Creek	90.14 168	LR	LR	12 34 24.1	
comp=Z,250nm,18.1s,baz=199,slow=34						
MDT	Midelt	91.56 17	LR	LR	12 32 05.6	
comp=Z,170nm,18.1s,baz=180,slow=32						
PPT2	Papeete2	92.45 231	eLR	LR	12 25 25.4	
comp=Z,244nm,31.2s						
PPT2			eLR	LR	12 25 29.1	
comp=Z,401nm,29.5s						
PPT	Papeete	92.47 231	LR	LR	12 32 41.9	
comp=Z,138nm,18.4s,baz=162,slow=32						
RAR	Rarotonga	93.13 221	LR	LR	12 31 43.5	
comp=Z,64nm,18.2s,baz=174,slow=32						
TAOE	Nuku Hiva Isla	95.86 244	eLR	LR	12 27 08.3	
comp=Z,109nm,27.3s						
ASAR	Alice Springs	97.08 160	P	P	11 56 15.2	-0.9
comp=Z,1.8nm,1.1s,baz=175,slow=3.4,SNR=6.4						
comp=Z,1.8nm,1.1s						
KEST	Kesra	97.19 27	LR	LR	12 37 33.9	
comp=Z,157nm,18.0s,baz=27,slow=34						
ESDC	Sonseca Array	98.39 16	LR	LR	12 39 24.8	
comp=Z,93nm,18.4s,baz=176,slow=35						
DZM	Mont Dzumac	100.16 190	eLR	LR	12 29 03.8	
comp=Z,81nm,24.6s						
WRA	Warramunga Arr	100.79 160	P	Pdif	11 56 33.7	+1.0
comp=Z,0.7nm,1.0s,baz=192,slow=4.5,SNR=2.8						
FAKI	Fak Fak	116.86 154		PKPdf	12 01 23.1	-5.6
PDAR	Pinedale Array	122.41 300	PKP	PKPdf	12 01 38.3	-0.3
comp=Z,0.3nm,0.7s,baz=138,slow=7.6,SNR=4.1						
CMAR	Chiang Mai Arr	123.14 109	PKP	PKiKP	12 01 41.0	+0.3
comp=Z,0.6nm,0.3s,baz=221,slow=3.1,SNR=6.3						
NVAR	Mina Array Bea	123.35 290	PKP	PKiKP	12 01 41.1	+0.4
comp=Z,0.4nm,0.6s,baz=111,slow=4.2,SNR=4.8						
FINES	FINESS Array B	125.03 27	PKP	PKPdf	12 01 41.2	-1.4
comp=Z,1.0nm,0.6s,baz=242,slow=3.0,SNR=4.5						
KKAR	Karatay Array	127.42 67		PKPdf	12 01 46.9	-1.0
PZH	PanZhiHua	131.24 106	PKP	PKPdf	12 01 53.5	-2.3
ARCES	ARCESS Array B	131.80 21	PKP	PKPdf	12 01 54.8	-0.6
comp=Z,0.8nm,0.6s,baz=222,slow=1.6,SNR=5.3						
BVAR	Borovoye Array	134.33 57	PKP	PKPdf	12 02 01.1	+0.4
comp=Z,0.3nm,0.3s,baz=249,slow=4.1,SNR=5.0						
MKAR	Makanchi Array	135.95 71	PKP	PKiKP	12 02 05.0	-0.6
comp=Z,0.7nm,0.9s,baz=250,slow=3.6,SNR=4.4						
KURBB	Kurchatov Arra	136.59 65	PKP	PKPdf	12 02 05.0	+0.1
comp=Z,0.2nm,0.5s,baz=227,slow=2.9,SNR=4.6						
KURBB			SKPbc	SKPbc	12 05 36.2	-0.9
comp=Z,0.6nm,0.8s,baz=236,slow=3.6,SNR=5.9						
WMQ	Urumqi	136.74 78	ePKP	PKPdf	12 02 03.3	-2.3
YKA	Yellowknife Ar	138.30 316	PKhKP	PKPpre	12 02 00.1	
comp=Z,0.2nm,0.7s,baz=119,slow=2.9,SNR=4.6						
YKA			PKP	PKPdf	12 02 07.7	0.0
comp=Z,1.7nm,0.9s,baz=124,slow=2.2,SNR=19						
YKA			PP	PP	12 05 01.4	+3.2
comp=Z,2.2nm,1.2s,baz=128,slow=6.8,SNR=8.0						
YKA			SKPbc	SKPbc	12 05 41.9	+0.2
comp=Z,1.6nm,1.0s,baz=124,slow=2.2,SNR=5.4						
RES	Resolute Bay	139.82 337	PKP	PKPdf	12 02 09.8	-0.3
comp=Z,2.0nm,1.0s,baz=294,slow=1.0,SNR=4.9						
GTA	Gaotai	140.15 92	ePKP	PKiKP	12 02 14.5	0.0
XAN	Xi'an	140.96 107	PKP	PKPdf	12 02 13.8	+0.2
XAN			sPKP		12 02 33.8	
ZALV	Zalesovo Beam	141.68 64	PKP	PKPdf	12 02 15.1	+1.0
comp=Z,0.5nm,0.3s,baz=9.9,slow=9.5,SNR=4.0						
EUNU	Eureka	141.75 346		PKPdf	12 02 13.8	+0.2
NJ2	Nanjing	144.28 120	eP	PKPbc	12 02 18.3	+0.6
NJ2			pmax	pmax		
comp=Z,12nm,0.5s						
C36M	Paulatuk	145.03 322		PKPab	12 02 19.1	+0.1
A36M	Sachs Harbour	146.29 327		PKPdf	12 02 21.6	0.0
BTO	Baotou	146.47 100	ePKPbc	PKPab	12 02 25.3	-0.2
BTO			pmax	pmax		
comp=Z,27nm,0.9s						
BTO			pmax	pmax		
comp=Z,400nm,6.5s						
HNS	HongShan	146.53 109	⇑PKPbc	PKPab	12 02 25.3	-0.3
TIA	Tai'an	146.82 113	PKPbc	PKiKP	12 02 29.0	+0.8
HHC	Hu-ho-hao-te	147.47 102	eP	PKPbc	12 02 26.3	-1.0
NRIK	Noril'sk	149.22 40	PKPbc	PKiKP	12 02 31.5	-0.5
comp=Z,2.0nm,0.5s,baz=240,slow=3.2,SNR=7.7						
SONM	Songino Array	149.31 87	PKPbc	PKPbc	12 02 31.6	-0.3
comp=Z,7.0nm,1.1s,baz=212,slow=3.0,SNR=18						
ULN	Ulaanbaatar	149.69 87	PKPdf	PKPdf	12 02 28.7	+0.5
JNU	Nakatsue	150.36 135	PKPbc	PKiKP	12 02 37.2	+1.6
comp=Z,9.8nm,0.8s,baz=71,slow=6.2,SNR=6.1						
BMAR	Burnt Mountain	151.81 315		PKiKP	12 02 37.5	0.0
ILAR	Eielson Array	152.24 309		PKPbc	12 02 37.9	-0.2
ILAR	Eielson Array	152.24 309	PKPbc	PKiKP	12 02 38.4	0.0
comp=Z,6.6nm,0.9s,baz=132,slow=1.3,SNR=28						
COLD	Coldfoot	153.95 314		PKPbc	12 02 38.6	-3.2
CN2	Changchun	156.73 113	eP	PKPdf	12 02 39.5	+1.2
CN2			pmax	pmax		
comp=Z,10.0nm,0.6s						

TAP 25 11:53:14.4, 24°.12N×121°.61E, h20km±1km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	Fush Village	0.04	25	eP	Pg	11 53 19.2	+1.3
ETL				S	Sg	11 53 20.8	+0.4
TWD	Chiawan	0.04	191	P	Pg	11 53 18.0	+0.2
TWD				i S	Sg	11 53 21.0	+0.8
NACB	Ninganchiao	0.05	349	eP	Pg	11 53 17.3	-0.6
NACB				S	Sg	11 53 21.3	+0.9
ETLH	Xiulin Townshi	0.14	307	i P	Pg	11 53 19.1	+0.2
HWA	Hwalien	0.14	180	P	Pg	11 53 19.4	+0.6
HWA				S	Sg	11 53 22.9	+1.2
ETM	Tongmen	0.19	213	eP	Pb	11 53 18.9	+0.1
ETM				S	Sg	11 53 23.6	+0.9
ENA	Nanau	0.33	22	P	Pb	11 53 22.4	+0.8
ENA				i S	Sb	11 53 27.7	+1.2
SHUL	Shoufeng	0.34	187	eP	Pg	11 53 21.4	-0.3
ESL	Shilin	0.35	207	i P	Pb	11 53 22.4	+0.5
FUSS	Fushou	0.35	291	eP	Pn	11 53 23.7	-0.9
NNSB	Datong	0.36	326	i P	Pb	11 53 22.6	+0.3
NNS	Nan Shan	0.38	326	P	Pb	11 53 23.0	+0.4
LATG	Datong	0.42	350	eP	Pg	11 53 22.6	-0.5
OWD	Renai	0.43	247	eP	Pn	11 53 24.6	-1.0
ENTT	Nioudou	0.52	356	eP	Pb	11 53 23.8	-1.0

JMA 25 11:53:24.7±0.2, 24°.2N±0°.3×123°.8E±0°.5, h18km±1km, MV1.0/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.10	339	i P	Pg	11 53 28.4	-0.1
IRIF				eS	Sg	11 53 31.0	+0.1
HATJ	Hateruma jima	0.18	170	i P	Pg	11 53 29.3	-0.2
HATJ				eS	Sg	11 53 32.6	-0.1
JKRS	Kuro-shima	0.22	91	i P	Pg	11 53 30.0	0.0
JKRS				eS	Sg	11 53 34.0	+0.5
JIJ	Ishigaki jima	0.36	70	eP	Pg	11 53 32.2	-0.1
JIJ				eS	Sg	11 53 37.0	-0.5
JISG	Ishigakijimahi	0.60	55	eP	Pb	11 53 36.5	-0.2
JISG				eS	Sb	11 53 45.0	+0.2

JMA 25 11:58:54.0±0.1, 35°.4N±0°.1×136°.5E±0°.2, h14km, MV0.2/17, SHIGA GIFU BORDER REGION, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEG	Eigenji	0.24	193	eS	Sg	11 59 03.1	+0.2
JYTA	Yamagatataniai	0.31	46	P	Pg	11 59 00.6	+0.1
JYTA				S	Sg	11 59 04.9	-0.1

NIED ***25*** *12:00:01.7, 38°.54N×141°.57E, h63km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr-0.65; Mθθ2.43; Mφφ-1.78; Mrθ-0.27; Mθφ-0.20; Mφr1.39; Fault plane solution: M0 2.60000×1015 NP1: φs=233.00000°, δ61.00000°, λ-159.00000°. NP2: φs=133.00000°, δ72.00000°, λ-31.00000°.*

JMA ***25*** *12:00:01.7±0.1, 38°.5N±0°.2×141°.6E±0°.4, h63km, MD4.3/46, MV4.6/46, KINKAZAN REGION*

JMA Felt III J1 at KINKAZAN REGION .

NEIC ***25*** *12:00:01.8±2.1, 38°.50N±0°.07×141°.7E±0°.1, h56km±5km, mb4.5/29, Error ellipse: s-maj=14.1km s-min=7.9km az=119.0*

IDC ***25*** *12:00:01.0±0.6, 38°.52N×141°.67E, h58km±4km, mb3.7/18, mbtmp4.1/24, MS3.0/11, Error ellipse: s-maj=14.2km s-min=11.4km az=112.0*

ISC 25 12:00:01.0±0.5, 38°.49N±0°.03×141°.73E±0°.06, h57km±4km, n130, σ1$24/107, mb4.3/36, MS3.3/4, 13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.27	230	⇓i P	Pn	12 00 11.7	+1.3
JIKH				⇓S	Sn	12 00 18.9	+1.6
JIKH	Ishinomakikobu	0.27	230	A	A	12 00 11.7	
comp=N,57nm,1.0s,comp=E,20nm,0.2s							
JIO	Ouri	0.30	264	⇓i P	Pn	12 00 11.5	+0.8
JIO				⇓S	Sn	12 00 18.4	+0.7
JIO	Ouri	0.30	264	A	A	12 00 11.5	
comp=N,25nm,0.7s,comp=E,46nm,2.2s							
JKMT	Kesennumamotoy	0.38	329	i P	Pn	12 00 12.2	+0.7
JKMT				i S	Sn	12 00 19.3	+0.3
JKMT	Kesennumamotoy	0.38	329	A	A	12 00 12.2	
comp=N,48nm,0.8s,comp=E,41nm,1.0s							
OFUJ	Ofunato	0.60	356	i P	Pn	12 00 14.3	+0.6
OFUJ				S	Sn	12 00 23.6	+0.6
OFUJ	Ofunato	0.60	356	A	A	12 00 14.3	
comp=N,26nm,1.2s,comp=E,14nm,0.4s							
JMK	Ichinoseki	0.61	320	⇓i P	Pn	12 00 13.9	0.0
JMK				⇓S	Sn	12 00 22.7	-0.7
JMK	Ichinoseki	0.61	320	A	A	12 00 13.9	
comp=N,44nm,1.1s,comp=E,41nm,0.3s							
JOFO	Osakifurukawao	0.65	281	A	A	12 00 14.2	
comp=N,102nm,0.3s,comp=E,106nm,0.7s							
JOU	Okura	0.84	262	i P	Pn	12 00 16.6	-0.3
JOU				S	Sn	12 00 27.8	-0.7
JOU	Okura	0.84	262	A	A	12 00 16.6	
comp=N,24nm,1.1s,comp=E,19nm,0.2s							
JMM	Marumori	0.96	230		Pn	12 00 18.2	-0.1
JMM	Marumori	0.96	230	P	Pn	12 00 18.6	+0.2
JMM	Marumori	0.96	230	S	Sn	12 00 29.7	-1.5
JMM	Marumori	0.96	230	⇓i P	Pn	12 00 18.3	-0.1
JMM				⇓S	Sn	12 00 30.4	-0.8
JMM	Marumori	0.96	230	A	A	12 00 18.3	
comp=N,13nm,0.3s,comp=E,16nm,0.4s							
JMST	Minamisoumatoc	1.01	221	A	A	12 00 19.7	
comp=N,51nm,0.5s,comp=E,28nm,0.4s							
JOM	Ohasama	1.04	341	i P	Pn	12 00 19.3	-0.1
JOM				S	Sn	12 00 32.2	-0.9
JOM	Ohasama	1.04	341	A	A	12 00 19.3	
comp=N,23nm,0.3s,comp=E,49nm,0.3s							
JYK	Kaneyama	1.16	292	⇓i P	Pn	12 00 20.3	-0.6
JYK				⇓S	Sn	12 00 34.6	-1.1
JYK	Kaneyama	1.16	292	A	A	12 00 20.3	
comp=N,14nm,2.2s,comp=E,7.0nm,0.6s							
JRG	Rokugo	1.25	317	i P	Pn	12 00 21.9	-0.3
JRG				S	Sn	12 00 37.4	-0.5
JRG	Rokugo	1.25	317	A	A	12 00 21.9	
comp=N,19nm,0.8s,comp=E,19nm,0.4s							
JFK	Kawauchi	1.30	211	i P	Pn	12 00 23.7	+0.7
JFK				S	Sn	12 00 39.9	+0.5
JFK	Kawauchi	1.30	211	A	A	12 00 23.7	
comp=N,9.0nm,1.2s,comp=E,6.0nm,2.2s							
JYS	Shirataka	1.33	259	⇓i P	Pn	12 00 23.1	-0.2
JYS				⇓S	Sn	12 00 39.4	-0.6
JYS	Shirataka	1.33	259	A	A	12 00 23.1	
comp=N,16nm,2.9s,comp=E,21nm,1.3s							
JYAR	Yonezawaarcadi	1.37	246	A	A	12 00 23.9	
comp=N,42nm,1.3s,comp=E,20nm,0.5s							
JSZI	Iwateshizukuis	1.39	335	A	A	12 00 24.0	
comp=N,15nm,2.3s,comp=E,14nm,1.3s							
JOTO	OTAMA OYAMA	1.44	230	i P	Pn	12 00 25.2	+0.5
JOTO				S	Sn	12 00 43.2	+0.6
JOTO	OTAMA OYAMA	1.44	230	A	A	12 00 25.2	
comp=N,13nm,1.5s,comp=E,11nm,1.2s							
JTH	Tanohata	1.46	4	A	A	12 00 25.8	
comp=N,10.0nm,0.3s,comp=E,11nm,0.5s							
JYYZ	Yamagatayuza	1.50	291	A	A	12 00 25.0	
comp=N,11nm,3.4s,comp=E,9.0nm,0.8s							
ONAJ	Iwakimizuishiy	1.56	208	A	A	12 00 27.7	
comp=N,11nm,0.3s,comp=E,20nm,0.3s							
JYA	Atsumi	1.58	275	⇓i P	Pn	12 00 26.1	-0.6
JYW	Yuwa	1.58	312	A	A	12 00 26.4	
comp=N,21nm,0.9s,comp=E,29nm,1.2s							
JKEN	Kujiedanarisaw	1.72	360	A	A	12 00 29.2	
comp=N,23nm,0.8s,comp=E,22nm,0.4s	

comp=E,55nm,20.2s,baz=131,slow=39
comp=E,9.0nm,0.8s

TPUB Ta-pu 23.52 236 P **P 12 05 04.6 -1.4**
SONM Songino Array 27.21 302 P **P 12 05 39.1 -0.3**
comp=E,1.0nm,0.5s,baz=105,slow=9.6,SNR=4.6
comp=E,1.0nm,0.5s
ENH Enshi 27.73 263 **P 12 05 44.5 +0.4**
H11N2 WAKE ISLAND Hy 28.71 123 T T 12 36 08.9
baz=316,slow=75,SNR=841
H11N1 WAKE ISLAND Hy 28.72 124 T T 12 36 21.8
baz=316,slow=75,SNR=908
H11N3 WAKE ISLAND Hy 28.73 123 T T 12 36 33.5
baz=316,slow=75,SNR=800
H11S1 WAKE ISLAND Hy 29.47 125 T T 12 37 08.5
baz=318,slow=76,SNR=352
H11S3 WAKE ISLAND Hy 29.47 126 T T 12 37 06.2
baz=318,slow=76,SNR=473
H11S2 WAKE ISLAND Hy 29.48 125 T T 12 37 07.9
baz=318,slow=76,SNR=331
LZH Lanzhou 30.10 277 *e*P **P 12 06 09.5 +4.2**
LZH pP pP 12 06 18.8 -0.7
LZH pmax pmax
comp=Z,26nm,0.9s
ANM Nome 40.23 32 P **P 12 07 33.5 +1.8**
ZALV Zalesovo Beam 41.13 311 **P 12 07 38.7 -0.6**
ZALV Zalesovo Beam 41.13 311 P **P 12 07 37.2 -2.0**
comp=Z,1.4nm,0.4s,baz=78,slow=7.8,SNR=6.3
comp=Z,1.4nm,0.4s
CMAR Chiang Mai Arr 42.12 254 P **P 12 07 47.6 -0.2**
comp=Z,0.5nm,0.3s,baz=46,slow=8.0,SNR=14
CMAR LR LR 12 25 46.1
comp=Z,24nm,18.1s,baz=215,slow=37
comp=Z,0.5nm,0.3s
F17K Baldwin Pennin 42.34 30 P **P 12 07 50.5 +1.6**
MKAR Makanchi Array 43.57 301 **P 12 07 58.7 -0.5**
MKAR Makanchi Array 43.57 301 P **P 12 07 58.5 -0.7**
comp=Z,1.8nm,0.7s,baz=86,slow=9.6,SNR=18
MKAR pP **pP 12 08 13.8 -0.2**
comp=Z,2.7nm,0.8s,baz=86,slow=8.9,SNR=8.2
comp=Z,1.8nm,0.7s
D19K Kuna River 43.94 27 **P 12 08 03.1 +1.3**
D19K IAmb IAmb 12 08 03.7
comp=Z,14nm,1.5s
D20K Etivluk River 44.52 27 IAmb IAmb 12 08 22.2
comp=Z,6.9nm,1.2s
KURK Kurchatov 45.25 307 **P 12 08 11.9 -0.6**
KURBB Kurchatov Arra 45.32 307 P **P 12 08 12.2 -0.8**
comp=Z,4.1nm,0.5s,baz=81,slow=8.0,SNR=27
KURBB pP **pP 12 08 27.4 -0.4**
comp=Z,6.5nm,0.7s,baz=81,slow=8.2,SNR=8.4
KURBB sP **sP 12 08 33.8 -0.6**
comp=Z,4.8nm,0.4s,baz=81,slow=8.1,SNR=7.5
comp=Z,4.1nm,0.5s
D22K Ayikyak River 45.96 27 P **P 12 08 19.4 +1.5**
D22K IAmb IAmb 12 08 44.5
comp=Z,11nm,1.4s
E22K Anaktuvuk Pass 46.21 28 IAmb IAmb 12 08 47.1
comp=Z,6.1nm,1.1s
C23K Itkillik River 46.78 26 IAmb IAmb 12 08 53.2
comp=Z,7.1nm,1.1s
E23K Chandalar 47.03 29 IAmb IAmb 12 08 53.8
comp=Z,7.8nm,1.0s
D24K Happy Valley 47.37 27 IAmb IAmb 12 08 55.4
comp=Z,4.8nm,0.7s
C24K Franklin Bluff 47.44 26 IAmb IAmb 12 08 55.4
comp=Z,5.3nm,0.8s
E24K Your Creek 47.45 29 IAmb IAmb 12 08 57.5
comp=Z,9.7nm,1.5s
IL31 48.14 33 P **P 12 08 35.6 +0.7**
IL31 IAmb IAmb 12 08 37.4
comp=Z,2.7nm,0.8s
ILAR Eielson Array 48.14 33 P **P 12 08 34.7 -0.2**
comp=Z,1.2nm,0.6s,baz=266,slow=5.8,SNR=20
comp=Z,1.2nm,0.6s
D25K Kavik River 48.24 27 IAmb IAmb 12 09 02.1
comp=Z,3.2nm,0.8s
F26K Sheenjek River 49.10 29 IAmb IAmb 12 08 45.1
comp=Z,3.2nm,0.7s
BVAR Borovoye Array 49.79 311 P **P 12 08 47.4 -0.4**
comp=Z,1.7nm,0.5s,baz=73,slow=8.2,SNR=7.1
comp=Z,1.7nm,0.5s
G30M tAoh Zraii Nji 52.23 30 IAmb IAmb 12 09 19.8
comp=Z,4.8nm,1.3s
I30M Mount Dempster 52.51 32 IAmb IAmb 12 09 50.1
comp=Z,3.8nm,0.8s
H31M Peel River 53.21 31 IAmb IAmb 12 09 17.1
comp=Z,6.0nm,1.1s
ARTI Arti 55.55 318 **P 12 09 29.5 -0.7**
ABKAR Akbulak array 57.20 310 P **P 12 09 42.6 +0.6**
WRA Warramunga Arr 58.53 188 P **P 12 09 50.9 -0.7**
comp=Z,1.5nm,0.6s,baz=4.5,slow=6.8,SNR=24
WRA pP **pP 12 10 07.8 +1.0**
comp=Z,1.7nm,0.5s,baz=2.4,slow=7.5,SNR=6.4
comp=Z,1.5nm,0.6s
RES Resolute Bay 61.13 15 P **P 12 10 08.0 -0.8**
comp=Z,0.9nm,0.5s,baz=308,slow=8.2,SNR=11
comp=Z,0.9nm,0.5s
ASAR Alice Springs 62.26 188 P **P 12 10 16.8 -0.2**
comp=Z,0.4nm,0.4s,baz=357,slow=4.4,SNR=9.6
comp=Z,0.4nm,0.4s
YKA Yellowknife Ar 62.43 31 P **P 12 10 17.2 -0.5**
comp=Z,0.3nm,0.6s,baz=304,slow=6.4,SNR=7.9
comp=Z,0.3nm,0.6s
ARCES ARCESS Array B 62.73 339 P **P 12 10 20.0 +0.4**
comp=Z,1.0nm,0.8s,baz=60,slow=7.6,SNR=5.2
comp=Z,1.0nm,0.8s
FINES FINESS Array B 67.65 332 P **P 12 10 51.4 -0.2**
comp=Z,0.5nm,0.5s,baz=38,slow=7.2,SNR=4.1
FINES pP **pP 12 11 07.0 -0.1**
comp=Z,2.2nm,0.7s,baz=51,slow=6.1,SNR=4.9
FINES sP **sP 12 11 13.4 0.0**
comp=Z,1.1nm,0.5s,baz=37,slow=9.8,SNR=3.5
comp=Z,0.5nm,0.5s
GNI Garni 71.04 306 LR LR 12 45 13.3
comp=Z,88nm,20.0s,baz=210,slow=38
HFS Hagfors 72.87 336 P **P 12 11 23.4 -0.1**
comp=Z,0.3nm,0.3s,baz=41,slow=4.6,SNR=1.5
HFS pP **pP 12 11 39.1 -0.1**
comp=Z,0.8nm,0.4s,baz=54,slow=6.0,SNR=2.6
comp=Z,0.3nm,0.3s
NB2 NORSAR Subarra 72.95 337 P pP 12 11 39.7 0.0
comp=Z,2.7nm,0.9s,baz=41,slow=6.2
NOA NORSAR Array B 72.95 337 pP pP 12 11 39.8 +0.1
comp=Z,1.7nm,0.9s,baz=39,slow=6.1,SNR=5.0
AKASG Malin Array Be 73.30 322 pP **pP 12 11 41.6 -0.4**
comp=Z,0.4nm,0.3s,baz=45,slow=6.0,SNR=2.1
AKASG LR LR 12 44 41.4
comp=Z,26nm,18.6s,baz=242,slow=37
NVAR Mina Array Bea 73.92 54 P **P 12 11 30.6 +0.3**
comp=Z,0.4nm,0.7s,baz=273,slow=8.1,SNR=4.8
comp=Z,0.4nm,0.7s
PD31 Pinedale Array 76.47 46 P **P 12 11 45.6 +0.6**
PDAR Pinedale Array 76.47 46 P **P 12 11 45.6 +0.6**
comp=Z,0.9nm,0.6s,baz=274,slow=2.3,SNR=13
comp=Z,0.9nm,0.6s
TXAR Lajitas Array 89.04 53 P **P 12 12 50.0 -0.1**
comp=Z,0.6nm,0.6s,baz=294,slow=3.2,SNR=12
comp=Z,0.6nm,0.6s
LPAZ La Paz 145.73 58 PKPbc **PKPbc 12 19 34.9 +0.2**
comp=Z,2.1nm,0.5s,baz=355,slow=4.9,SNR=5.9

---

*IDC **25** 12:00:45.2±5.9, 4°.40S×133°.11E, h0km, mb3.3/1, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=357.1km s-min=32.5km az=76.0*
*DJA **25** 12:00:49.5±1.0, 4°.S±6°.×13°.4E±°, h10km, M3.2/3, MLv3.2/3*
ISC 25 12:00:46.8±1.2, 4°.34S±0°.08×133°.7E±0°.1, h21km, n5, σ1§10/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.67**	**4**	P	**Pb**	**12 00 59.9**	**0.0**
KMPI				S	**Sb**	12 01 08.6	**-0.2**
FAKI	**Fak Fak**	**1.99**	**315**	P	**Pb**	**12 01 22.0**	**-0.3**
FAKI				S	**Sb**	**12 01 46.9**	**+0.3**
WRA	**Warramunga Arr**	**15.53**	**178**	Pn	**Pn**	**12 04 23.2**	**-1.5**
	0.1nm,0.3s,baz=353,slow=13,SNR=5.6						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**19.22**	**179**	P	**P**	**12 05 11.2**	**+1.5**
	0.2nm,0.3s,baz=3.7,slow=11,SNR=21						
	2.6nm,0.7s						
MKAR	**Makanchi Array**	**68.09**	**325**	P	**P**	**12 11 45.3**	**+0.1**
	0.2nm,0.7s,baz=123,slow=6.2,SNR=1.8						
	0.2nm,0.7s						

---

*IDC **25** 12:04:37.8±0.7, 30°.26S×176°.49W, h0km, mb4.3/8,*

mbtmp4.3/8, MS3.4/4, Error ellipse: s-maj=27.6km s-min=23.0km az=146.0
*NEIC **25** 12:04:42.9±1.9, 30°.7S±0°.1×176°.7W±0°.2, h24km±7km, mb4.6/12, Error ellipse: s-maj=26.9km s-min=17.4km az=111.0*
*NOU **25** 12:05:19.8, 33°.08S×178°.01W, h118km, mb4.1/10, South of Kermadec Islands*
ISC 25 12:04:42.8±0.6, 30°.55S±0°.06×176°.69W±0°.09, h35km, n76, σ1§90/92, mb4.4/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.67**	**320**	P	**Pn**	**12 05 08.9**	**-0.7**
GLKZ				S	**Sn**	**12 05 30.2**	**+0.5**
RIZ	**Raoul Island**	**1.68**	**320**	P	**Pn**	**12 05 09.3**	**-0.5**
RIZ				S	**Sn**	**12 05 31.8**	**+1.7**
MXZ	**Matakaoa Point**	**8.13**	**209**	Pn	**Pn**	**12 06 36.9**	**-1.5**
MXZ	**Matakaoa Point**	**8.13**	**209**	P	**Pn**	**12 06 39.1**	**+0.7**
MXZ	**Matakaoa Point**	**8.13**	**209**	P	**Pn**	**12 06 38.1**	**-0.3**
MXZ				S	**Sn**	**12 08 10.4**	**+1.4**
WMGZ	**Waiomatatini S**	**8.31**	**208**	P	**Pn**	**12 06 40.5**	**-0.3**
WMGZ				S	**Sn**	**12 08 15.5**	**+2.2**
PKGZ	**Pakihiroa**	**8.48**	**209**	P	**Pn**	**12 06 41.7**	**-1.6**
PKGZ				S	**Sn**	**12 08 19.1**	**+1.4**
HAZ	**Te Kaha**	**8.52**	**211**	P	**Pn**	**12 06 43.3**	**-0.4**
HAZ				S	**Sn**	**12 08 20.6**	**+2.0**
PUZ	**Puketiti**	**8.59**	**208**	P	**Pn**	**12 06 42.6**	**-2.1**
PUZ				S	**Sn**	**12 08 19.7**	**-0.6**
RUGZ	**Raukumara Rang**	**8.74**	**211**	P	**Pn**	**12 06 45.4**	**-1.4**
RUGZ				S	**Sn**	**12 08 23.2**	**-1.0**
TWGZ	**Tauwhareparae**	**8.79**	**209**	P	**Pn**	**12 06 48.0**	**+0.6**
TWGZ				S	**Sn**	**12 08 26.8**	**+1.5**
CNGZ	**Carnagh Statio**	**8.96**	**207**	P	**Pn**	**12 06 47.9**	**-1.8**
CNGZ				S	**Sn**	**12 08 30.3**	**+0.9**
TKGZ	**Te Karaka**	**9.07**	**208**	S	**Sn**	**12 08 31.0**	**-1.0**
MWZ	**Matawai**	**9.11**	**210**	P	**Pn**	**12 06 50.2**	**-1.6**
MWZ				S	**Sn**	**12 08 32.5**	**-0.8**
WCZ	**Waipu Caves**	**9.23**	**232**	P	Pn	12 07 01.8	+8.4
URZ	**Urewera**	**9.24**	**212**	Pn	**Pn**	**12 06 52.1**	**-1.4**
	3.5nm,0.3s,baz=350,slow=3.8,SNR=22						
URZ				Sn	**Sn**	**12 08 35.2**	**-0.9**
	8.7nm,0.3s,baz=203,slow=23,SNR=10						
URZ	**Urewera**	**9.24**	**212**	P	**Pn**	**12 06 52.3**	**-1.2**
RAGZ	**Rawiri**	**9.30**	**210**	P	**Pn**	**12 06 51.3**	**-3.1**
RAGZ				S	**Sn**	**12 08 36.6**	**-1.1**
RIGZ	**Rimuhau**	**9.33**	**208**	P	**Pn**	**12 06 52.7**	**-2.1**
RIGZ				S	**Sn**	**12 08 39.4**	**+0.9**
OUZ	**Omahuta**	**9.40**	**238**	P	Pn	12 07 03.5	+7.8
OUZ	**Omahuta**	**9.40**	**238**	P	Pn	12 07 03.1	+7.3
PRGZ	**Paritu Road**	**9.47**	**207**	P	**Pn**	**12 06 54.9**	**-1.8**
PRGZ				S	**Sn**	**12 08 39.9**	**-2.0**
SNGZ	**Shannon Statio**	**9.57**	**209**	P	**Pn**	**12 06 56.0**	**-2.1**
SNGZ				S	**Sn**	**12 08 45.6**	**+1.3**
MUGZ	**Murupara**	**9.57**	**213**	P	**Pn**	**12 06 54.3**	**-3.8**
MUGZ				S	**Sn**	**12 08 42.3**	**-2.1**
RTZ	**Ruatahuna**	**9.59**	**211**	Pn	**Pn**	**12 06 56.7**	**-1.7**
RTZ					**Sn**	**12 08 44.6**	**-0.2**
MHGZ	**Mahia Peninsul**	**9.66**	**206**	P	**Pn**	**12 06 55.3**	**-4.0**
MHGZ				S	**Sn**	**12 08 41.3**	**-5.3**
RAHZ	**Arahi**	**9.79**	**210**	P	**Pn**	**12 07 00.2**	**-1.0**
RAHZ				S	**Sn**	**12 08 49.6**	**-0.2**
MTHZ	**Maungataniwha**	**9.84**	**211**	P	**Pn**	**12 07 00.8**	**-1.0**
MTHZ				S	**Sn**	**12 08 50.6**	**-0.5**
BKZ	**Black Stump Fm**	**10.26**	**211**	Pn	**Pn**	**12 07 05.1**	**-2.4**
BKZ	**Black Stump Fm**	**10.26**	**211**	P	**Pn**	**12 07 06.9**	**-0.6**
HIZ	**Hauiti**	**10.56**	**219**	Pn	**Pn**	**12 07 08.8**	**-2.9**
OTVZ	**Oturere**	**10.64**	**214**	P	**Pn**	**12 07 09.3**	**-3.6**
OTVZ				S	**Sn**	**12 09 08.5**	**-2.3**
NGZ	**Ngauruhoe**	**10.68**	**214**	S	**Sn**	**12 09 11.8**	**0.0**
WAZ	**Wanganui**	**11.43**	**214**	S	**Sn**	**12 09 28.9**	**-1.0**
BFZ	**Birch Farm**	**11.62**	**208**	P	**Pn**	**12 07 23.6**	**-2.6**
CTZ	**Chatham Island**	**13.16**	**180**	P	**Pn**	**12 07 49.5**	**+2.3**
MSVF	**Nonsavu**	**13.62**	**338**	LR	LR	12 12 39.9	
	comp=Z,71nm,18.9s,baz=177,slow=36						
THZ	**Tophouse**	**13.98**	**214**	P	**Pn**	**12 07 55.5**	**-2.9**
THZ				S	**Sn**	**12 10 25.0**	**-7.4**
KHZ	**Kahutara**	**14.20**	**211**	P	**Pn**	**12 08 00.9**	**-0.4**
KHZ	**Kahutara**	**14.20**	**211**	P	Pn	12 07 55.9	-5.4
KHZ				S	Sn	12 10 26.4	-11
DSZ	**Denniston Nort**	**14.52**	**217**	Pn	**Pn**	**12 08 04.4**	**-1.3**
RPZ	**Rata Peaks**	**16.35**	**213**	P	**Pn**	**12 08 28.8**	**-0.8**
DZM	**Mont Dzumac**	**17.30**	**295**	LR	LR	12 14 39.7	
	comp=Z,108nm,18.5s,baz=182,slow=35						
ODZ	**Otahua Downs**	**17.56**	**211**	Pn	**Pn**	**12 08 43.4**	**-1.3**
ODZ	**Otahua Downs**	**17.56**	**211**	P	**Pn**	**12 08 43.4**	**-1.3**
JCZ	**Jackson Bay**	**17.73**	**216**	P	**Pn**	**12 08 45.4**	**-1.6**
STKA	**Stephens Creek**	**35.54**	**257**	P	**P**	**12 11 39.2**	**+2.6**
STKA	**Stephens Creek**	**35.54**	**257**	P	**P**	**12 11 38.9**	**+2.2**
	4.0nm,0.8s,baz=98,slow=5.1,SNR=4.7						
	4.0nm,0.8s						
BBOO	**Buckleboo**	**40.01**	**254**	P	**P**	**12 12 16.1**	**+1.6**
BBOO				IAmb	IAmb	12 12 33.0	
	comp=Z,28nm,1.4s						
ASAR	**Alice Springs**	**44.23**	**266**	P	**P**	**12 12 49.7**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=107,slow=8.0,SNR=14						
ASAR				PcP	**PcP**	**12 14 34.9**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=120,slow=3.8,SNR=5.1						
	comp=Z,1.7nm,0.7s						
WR8	**Warramunga Arr**	**45.09**	**272**	P	**P**	**12 12 56.9**	**+1.1**
WR8				IAmb	IAmb	12 12 58.0	
	comp=Z,8.4nm,0.8s						
WRAB	**Tennant Creek**	**45.22**	**272**	P	**P**	**12 12 58.3**	**+1.4**
WRAB				IAmb	IAmb	12 12 59.0	
	comp=Z,7.8nm,0.8s						
WRA	**Warramunga Arr**	**45.23**	**272**	P	**P**	**12 12 57.9**	**+0.9**
WRA	**Warramunga Arr**	**45.23**	**272**	P	**P**	**12 12 57.0**	**+0.1**
	comp=Z,7.2nm,0.6s,baz=111,slow=7.7,SNR=38						
	comp=Z,7.2nm,0.6s						
WB0	**Warramunga Arr**	**45.25**	**272**	P	**P**	**12 12 57.6**	**+0.5**
FORT	**Forrest**	**47.10**	**255**	P	**P**	**12 13 12.6**	**+1.1**
KNRA	**Kununurra**	**51.84**	**274**	P	**P**	**12 13 48.8**	**+1.0**
KNRA				IAmb	IAmb	12 14 25.3	
	comp=Z,10nm,1.2s						
FITZ	**Fitzroy Crossi**	**53.49**	**269**	P	**P**	**12 14 00.4**	**+0.4**
QSPA	**South Pole Qui**	**59.56**	**180**	P	**P**	**12 14 44.7**	**+2.0**
QSPA				IAmb	IAmb	12 14 47.1	
	comp=Z,6.0nm,1.0s						
QSPA	**South Pole Qui**	**59.56**	**180**	P	**P**	**12 14 46.1**	**+3.4**
	comp=Z,3.9nm,0.8s,baz=46,slow=1.1,SNR=12						
	comp=Z,3.9nm,0.8s						
KAPI	**Kappang**	**64.74**	**280**	LR	LR	12 43 45.5	
	comp=Z,63nm,18.4s,baz=190,slow=36						
BELA	**Belgrano 2**	**69.48**	**172**	P	**P**	**12 15 48.1**	**+0.9**
BELA				IAmb	IAmb	12 16 14.2	
	comp=Z,4.4nm,1.2s						
SNAA	**Sanae**	**77.97**	**178**	P	**P**	**12 16 37.7**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=203,slow=1.4,SNR=7.1						
	comp=Z,3.2nm,0.9s						
PFO	**Pinyon Flats O**	**85.48**	**47**	LR	LR	12 53 50.7	
	comp=Z,27nm,18.3s,baz=200,slow=35						
NVAR	**Mina Array Bea**	**87.59**	**42**	P	**P**	**12 17 25.8**	**-1.7**
	comp=Z,1.3nm,1.0s,baz=210,slow=8.2,SNR=5.9						
	comp=Z,1.3nm,1.0s						
TXAR	**Lajitas Array**	**91.52**	**57**	P	**P**	**12 17 43.3**	**-2.8**
	comp=Z,0.7nm,1.0s,baz=236,slow=2.7,SNR=4.5						
	comp=Z,0.7nm,1.0s						
ILAR	**Eielson Array**	**97.82**	**12**	P	**P**	**12 18 11.0**	**-2.9**
	comp=Z,0.4nm,0.7s,baz=209,slow=6.3,SNR=4.3						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**122.00**	**313**	PKP	**PKiKP**	**12 23 33.2**	**0.0**
	comp=Z,0.5nm,0.6s,baz=96,slow=2.1,SNR=4.6						
BVAR	**Borovoye Array**	**127.30**	**316**	PKP	**PKiKP**	**12 23 44.2**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=103,slow=4.7,SNR=5.6						
ARCES	**ARCESS Array B**	**138.97**	**348**	PKP	**PKPdf**	**12 24 04.8**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=26,slow=3.5,SNR=4.0						
FINES	**FINESS Array B**	**145.66**	**341**	PKPbc	**PKPab**	**12 24 17.5**	**0.0**
	comp=Z,5.6nm,0.8s,baz=64,slow=4.4,SNR=16						
KBZ	**Khabaz**	**146.13**	**304**	PKPbc	**PKPab**	**12 24 20.6**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=57,slow=1.8,SNR=6.1						
NB2	**NORSAR Subarra**	**149.06**	**353**	PKP	**PKiKP**	**12 24 27.2**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=10.0,slow=2.8						
NOA	**NORSAR Array B**	**149.06**	**353**	PKPbc	**PKiKP**	**12 24 27.2**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=15,slow=4.3,SNR=6.5						
HFS	**Hagfors**	**149.60**	**350**	PKPbc	**PKPbc**	**12 24 28.1**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=85,slow=5.1,SNR=6.0						
AKASG	**Malin Array Be**	**152.09**	**324**	PKPbc	**PKiKP**	**12 24 34.2**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=48,slow=2.7,SNR=15						

---

*TEH **25** 12:30:11.1, 39°.69N×53°.09E, h10km*
ISC 25 12:30:16.4±1.2, 39°.64N±0°.09×53°.06E±0°.06, h35km, n21, σ0§74/21, 3C-1D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**3.01**	**141**	Pn	**Pn**	**12 31 01.8**	**+0.2**
MRVT	**Maraveh tapeh**	**3.09**	**129**	Pn	**Pn**	**12 31 02.4**	**-0.3**
IGLO	**Ghaloghah**	**3.19**	**169**	Pn	**Pn**	**12 31 04.7**	**+0.4**
MZPU	**Pul - Mazandar**	**3.40**	**201**	Pn	**Pn**	**12 31 07.3**	**+0.1**
IPRN	**Peran**	**3.44**	**190**	Pn	**Pn**	**12 31 07.5**	**-0.1**
SIZA	**Siyzn**	**3.48**	**296**	Pn	**Pn**	**12 31 08.3**	**+0.1**
KLST	**Kelardasht - M**	**3.49**	**207**	Pn	**Pn**	**12 31 08.0**	**-0.5**
IALA	**Alasht**	**3.56**	**183**	Pn	**Pn**	**12 31 09.9**	**+0.5**
GLBA	**Ciilabad**	**3.63**	**265**	Pn	**Pn**	**12 31 09.6**	**-0.5**
YRD	**Yardimli**	**3.81**	**261**	Pn	**Pn**	**12 31 11.2**	**-1.5**
IGZV	**Ghazvin**	**3.95**	**215**	Pn	**Pn**	**12 31 14.9**	**+0.3**
GRMI	**Germi**	**4.09**	**260**	Pn	**Pn**	**12 31 15.9**	**-0.7**
ISFR	**Sfrayin**	**4.67**	**122**	Pn	**Pn**	**12 31 24.2**	**-0.5**
SBZV	**Sabzevar**	**4.84**	**131**	Pn	**Pn**	**12 31 27.6**	**+0.6**
IHRS	**Heris**	**4.87**	**256**	Pn	**Pn**	**12 31 27.2**	**-0.2**
IEMG	**Emamgholi**	**4.92**	**115**	Pn	**Pn**	**12 31 26.5**	**-1.6**
IAKL	**Akhelmad**	**5.42**	**122**	Pn	**Pn**	**12 31 34.2**	**-0.8**
IPAY	**Payeh**	**5.67**	**122**	Pn	**Pn**	**12 31 37.6**	**-0.7**
IMYA	**Miami**	**6.46**	**118**	Pn	**Pn**	**12 31 48.7**	**-0.5**
AB31	**Akbulak array**	**10.79**	**25**	⇑Pn	**Pn**	**12 32 49.5**	**+1.1**
	0.1nm,0.3s,baz=202,slow=17,SNR=7.5						
AB31				⇑Sn	Sn	12 34 35.0	-13
	0.3nm,0.2s,baz=202,slow=24,SNR=5.7						
AKTO	**Aktyubinsk**	**11.35**	**16**	⇓Pn	**Pn**	**12 32 55.5**	**-0.4**
	0.5nm,0.7s						
AKTO				⇑Sn	Sn	12 34 50.5	-11
	3.0nm,0.9s						

---

*SJA **25** 12:46:46.1±0.7, 34°.11S×72°.17W, h28km±2km, ML3.2, MW3.5*
*GUC **25** 12:46:47.5±0.6, 34°.13S×72°.14W, h38km±2km, ML3.4*
ISC 25 12:46:45.1±1.7, 34°.15S±0°.03×72°.25W±0°.06, h10km±10km, n46, σ1§32/71, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.42**	**146**	*e*P	**Pn**	**12 46 57.0**	**-0.1**
BO03				*e*S	**Sb**	**12 47 03.5**	**+2.6**
BO03				IAML		12 47 04.0	
	comp=N,5μm,0.3s						
VA05	**Santo Domingo**	**0.72**	**47**	*e*P	**Pn**	**12 47 00.7**	**-0.6**
VA05				*e*S	**Sb**	**12 47 10.1**	**+0.5**
VA05				IAML		12 47 11.8	
	comp=N,6μm,0.1s						
MT01	**Popeta**	**0.87**	**71**	*e*P	**Pb**	**12 47 02.6**	**+0.3**
MT01				*e*S	**Sg**	**12 47 13.4**	**+0.1**
MT01				IAML		12 47 13.8	
	comp=N,2μm,0.2s						
MT01	**Popeta**	**0.87**	**71**	*e*P	**Pg**	**12 47 02.1**	**+0.2**
MT01				IAML		12 47 13.6	
	comp=Z,2μm,0.2s						
MT01				*e*S	**Sg**	**12 47 13.7**	**+0.4**
GO05	**Hualane**	**0.90**	**163**	*e*P	**Pn**	**12 47 03.8**	**0.0**
GO05				IAML		12 47 16.0	
	comp=N,1μm,0.1s						
BO01	**Tunca**	**0.99**	**104**	*e*P	**Pb**	**12 47 04.3**	**-0.1**
BO01	**Tunca**	**0.99**	**104**	*e*P	**Pb**	**12 47 04.3**	**-0.1**
BO01				*e*S	**Sn**	**12 47 18.4**	**-0.7**
BO01				IAML		12 47 20.9	
	comp=Z,340nm,0.1s						
MT09	**Talagante**	**1.11**	**71**	*e*P	**Pg**	**12 47 06.0**	**-0.5**
VA01	**Torpederas**	**1.23**	**24**	*e*P	**Pn**	**12 47 08.1**	**-0.2**
MT02	**Curacav**	**1.28**	**46**	*e*P	**Pn**	**12 47 08.6**	**-0.5**
MT02	**Curacav**	**1.28**	**46**	*e*P	**Pn**	**12 47 08.6**	**-0.5**
MT02				*e*S	**Sb**	**12 47 24.0**	**-1.8**
MT02				IAML		12 47 26.3	
	comp=Z,224nm,0.5s						
BO04	**La Punta**	**1.37**	**84**	*e*P	**Pn**	**12 47 10.3**	**0.0**
BO04				*e*S	**Sb**	**12 47 27.2**	**-1.1**
BO04				IAML		12 47 28.0	
	comp=N,2μm,0.3s						
BO04				IAML		12 47 28.1	
	comp=E,1μm,0.2s						
BO04				⇑*i*		12 47 53.7	
BO02	**Sierra Bellavi**	**1.37**	**118**	*e*P	**Pb**	**12 47 10.7**	**-0.2**
BO02				*e*S	**Sb**	**12 47 27.8**	**-0.6**
BO02				IAML		12 47 28.7	
	comp=N,3μm,0.2s						
BO02	**Sierra Bellavi**	**1.37**	**118**	*e*P	**Pb**	**12 47 10.6**	**-0.2**
BO02				*e*S	**Sb**	**12 47 28.5**	**+0.1**
MT05	**Renca**	**1.47**	**59**	*e*P	**Pn**	**12 47 11.8**	**+0.1**
MT05	**Renca**	**1.47**	**59**	*e*P	**Pn**	**12 47 11.8**	**+0.1**
MT05				*e*S	**Sn**	**12 47 30.5**	**-0.4**
MT05				IAML		12 47 30.9	
	comp=Z,440nm,0.2s						
ROC1	**El Roble**	**1.56**	**42**	*e*P	**Pn**	**12 47 13.0**	**0.0**
ROC1				*e*S	**Sn**	**12 47 33.8**	**+0.4**
MT03	**Universidad Ad**	**1.59**	**66**	*e*P	**Pn**	**12 47 13.4**	**+0.1**
MT03				*e*S	**Sn**	**12 47 33.4**	**-0.5**
MT03				IAML		12 47 35.4	
	comp=Z,382nm,0.3s						
MT14	**Cerro Calı́n**	**1.61**	**63**	*e*P	**Pn**	**12 47 13.9**	**+0.2**
MT14				IAML		12 47 34.2	
	comp=E,847nm,0.3s						
PEL	**Peldehue**	**1.64**	**53**	*e*P	**Pn**	**12 47 14.3**	**+0.3**
PEL				IAML		12 47 35.2	
	comp=E,634nm,0.5s						
PEL	**Peldehue**	**1.64**	**53**	*e*P	Pn	12 47 09.2	-4.9
PEL				*e*S	**Sn**	**12 47 35.4**	**+0.1**
MT13	**San Alfonso**	**1.68**	**77**	*e*P	**Pn**	**12 47 15.2**	**+0.5**
MT13				*e*S	**Sn**	**12 47 36.0**	**-0.2**
MT13				IA

DOCA	**Reserva Natura**	**4.16**	**41**	*eP*	**Pn**	**12 47 50.7**	**+1.7**
DOCA				*eS*	**Sn**	**12 48 39.2**	**+1.4**
CFA	**Coronel Fontan**	**4.22**	**54**	*eP*	**Pn**	**12 47 51.0**	**+1.5**
CFA				*eS*	**Sn**	**12 48 40.0**	**+1.1**
CFA				IAML		12 48 55.0	
	comp=Z,76nm,3.1s						
ACCO	**Cerro Coronel**	**4.46**	**38**	*eP*	**Pn**	**12 47 57.4**	**+4.4**
ACCO				*eS*	**Sb**	**12 48 53.1**	**-4.4**
AROD	**Rodeo**	**4.62**	**31**	*eP*	**Pn**	**12 47 57.6**	**+2.4**

*IDC **25** 12:57:39.0±2.7, 51°.39N×178°.58W, h0km, mb3.3/4, mbtmp3.5/5, ML4.1/1, Error ellipse: s-maj=62.3km s-min=39.5km az=2.0*
*NEIC **25** 12:57:46.5±1.8, 51°.6N±0°.3×178°.37W±0°.09, h20km±17km, mb3.7/9, ML3.8/8, Error ellipse: s-maj=36.7km s-min=7.5km az=182.0*
ISC 25 12:57:46.1±1.8, 51°.4N±0°.2×178°.39W±0°.07, h45km, n32, σ1§32/25, mb3.7/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.88**	**60**		**Pn**	**12 58 01.9**	**-0.1**
ADK	**Adak**	**1.16**	**66**		**Pn**	**12 58 05.5**	**-0.3**
ADK				Sg	**Sn**	**12 58 20.0**	**-0.4**
ADK				IAML		12 58 22.7	
	2μm,0.6s						
ADK				IAML		12 58 23.3	
	3μm,0.3s						
GSTR	**Great Sitkin T**	**1.59**	**64**		**Pn**	**12 58 12.8**	**+1.0**
ATKA	**Atka Island**	**2.71**	**72**		**Pn**	**12 58 27.9**	**+0.8**
ATKA				Sn	**Sn**	**12 58 58.9**	**+0.2**
ATKA				IAML		12 59 06.1	
	comp=E,299nm,0.5s						
SHEM	**Shemya Is, Ala**	**4.82**	**289**	Pn	**Pn**	**12 58 57.5**	**+1.5**
SHEM				IAML		13 00 45.7	
	comp=E,57nm,2.2s						
SMY	**Shemya**	**4.82**	**289**	Pn	**Pn**	**12 58 57.7**	**+1.7**
UNV	**Unalaska Valle**	**7.63**	**67**	Pn	**Pn**	**12 59 37.2**	**+2.7**
M13K	**Dall Lake**	**12.31**	**37**	Pn	**Pn**	**13 00 37.6**	**-0.8**
KDAK	**Kodiak Island**	**16.18**	**57**	Pn	**Pn**	**13 01 27.6**	**-2.4**
	comp=E,0.8nm,0.3s,baz=285,slow=16,SNR=18						
	comp=E,4.0nm,0.8s						
G21K	**Allakaket**	**19.61**	**30**	P	**Pn**	**13 02 12.2**	**+0.3**
G21K				IAmb	IAmb	13 02 13.3	
	comp=Z,4.8nm,1.1s						
D19K	**Kuna River**	**19.72**	**22**	P	**Pn**	**13 02 12.6**	**-0.6**
D20K	**Etivluk River**	**20.25**	**23**	P	Pn	13 02 19.0	-0.5
D20K				IAmb	IAmb	13 02 19.5	
	comp=Z,2.6nm,0.6s						
ILAR	**Eielson Array**	**21.05**	**39**	P	**P**	**13 02 26.0**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=242,slow=11,SNR=6.9						
ILAR				PcP	**PcP**	**13 06 30.4**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=285,slow=3.8,SNR=4.5						
	comp=Z,0.2nm,0.5s						
H24K	**Noodor Dome**	**21.15**	**35**	P	**P**	**13 02 29.8**	**+2.9**
H24K				IAmb	IAmb	13 03 00.8	
	comp=Z,5.5nm,1.5s						
F24K	**Squaw Lake**	**21.99**	**31**	P	**P**	**13 02 37.4**	**+1.4**
TOLK	**Toolik Lake Re**	**22.11**	**28**	P	**P**	**13 02 36.2**	**-0.9**
TOLK				IAmb	IAmb	13 02 40.7	
	comp=Z,3.5nm,1.3s						
C23K	**Itkillik River**	**22.57**	**25**	P	**P**	**13 02 42.5**	**+0.5**
C23K				IAmb	IAmb	13 02 44.3	
	comp=Z,3.5nm,1.0s						
C24K	**Franklin Bluff**	**23.01**	**26**	P	**P**	**13 02 46.7**	**+0.1**
BMAR	**Burnt Mountain**	**23.06**	**33**	P	**P**	**13 02 48.4**	**+1.2**
A36M	**Sachs Harbour**	**30.92**	**29**	P	**P**	**13 03 59.4**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**33.68**	**206**	T	T	13 40 13.9	
	baz=17,slow=76,SNR=140						
H11N3	**WAKE ISLAND Hy**	**33.69**	**206**	T	T	13 40 16.4	
	baz=17,slow=76,SNR=138						
H11N1	**WAKE ISLAND Hy**	**33.70**	**206**	T	T	13 40 14.0	
	baz=17,slow=76,SNR=102						
H11S1	**WAKE ISLAND Hy**	**34.90**	**205**	T	T	13 41 47.9	
	baz=17,slow=76,SNR=233						
H11S2	**WAKE ISLAND Hy**	**34.92**	**205**	T	T	13 41 49.7	
	baz=17,slow=76,SNR=161						
H11S3	**WAKE ISLAND Hy**	**34.92**	**205**	T	T	13 41 48.9	
	baz=17,slow=76,SNR=102						
YKA	**Yellowknife Ar**	**35.01**	**47**	P	**P**	**13 04 32.8**	**-1.0**
	comp=Z,0.1nm,0.7s,baz=282,slow=8.4,SNR=2.6						
	comp=Z,0.1nm,0.7s						
PDAR	**Pinedale Array**	**46.05**	**73**	P	**P**	**13 06 05.5**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=316,slow=8.4,SNR=13						
	comp=Z,0.5nm,0.4s						
ARCES	**ARCESS Array B**	**58.09**	**350**	P	**P**	**13 07 33.4**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=24,slow=6.7,SNR=5.7						
	comp=Z,0.6nm,0.7s						
H03N2	**Juan Fernandez**	**120.91**	**106**	T	T	15 29 05.5	
	baz=317,slow=77,SNR=22						
H03N1	**Juan Fernandez**	**120.92**	**106**	T	T	15 29 19.8	
	baz=317,slow=77,SNR=18						
H03N3	**Juan Fernandez**	**120.92**	**106**	T	T	15 28 54.0	
	baz=317,slow=77,SNR=22						

*UCR **25** 12:59:12.9±1.3, 8°.34N×82°.80W, h10km±7km, MW3.8*
*UPA **25** 12:59:13.1±0.6, 8°.40N×82°.83W, h27km±2km, ML4.2*
ISC 25 12:59:13.8±1.1, 8°.37N±0°.04×82°.78W±0°.03, h27km±8km, n63, σ1§23/69, 2C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.04**	**346**	*eP*	**Pb**	**12 59 17.7**	**-0.8**
LESP3				AMP		12 59 17.8	
	comp=Z,46μm,0.2s						
PTPM	**Petroterminale**	**0.19**	**211**	↑*iP*	**Pb**	**12 59 18.9**	**-0.8**
PTPM				*eS*	**Sb**	**12 59 23.9**	**+0.3**
LIMO3	**Limones**	**0.28**	**197**	*eP*	**Pb**	**12 59 20.1**	**-0.7**
NELY	**Ciudad Neily**	**0.32**	**330**	*eP*	**Pb**	**12 59 20.5**	**-0.9**
NELY				*eS*	**Sb**	**12 59 26.1**	**-0.4**
DVD	**David**	**0.33**	**79**	*eP*	**Pb**	**12 59 21.3**	**-0.3**
DVD				AMP		12 59 21.5	
	comp=Z,45μm,0.1s						
DVD				*eS*	**Sb**	**12 59 27.4**	**+0.7**
LOMA3	**Las Lomas, Chi**	**0.39**	**81**	↓*iP*	**Pb**	**12 59 22.0**	**-0.4**
LOMA3				AMP		12 59 22.1	
	comp=Z,8μm,0.2s						
PTAR3	**Potrerillos Ar**	**0.43**	**41**	↓*iP*	**Pb**	**12 59 22.8**	**-0.3**
PTAR3				AMP		12 59 22.9	
	comp=Z,25μm,0.1s						
BRU2	**Volcan**	**0.43**	**12**	↓*iP*	**Pb**	**12 59 22.5**	**-0.6**
BRU2				*eS*	**Sb**	**12 59 29.8**	**+0.3**
BRU2	**Volcan**	**0.43**	**12**	↓*iP*	**Pb**	**12 59 22.6**	**-0.6**
BRU2				*eS*	**Sb**	**12 59 29.5**	**0.0**
BC3P	**Paso Ancho**	**0.47**	**21**	*eP*	**Pb**	**12 59 23.1**	**-0.8**
BC3P				AMP		12 59 23.4	
	comp=Z,11μm,0.1s						
VITO	**San Vito**	**0.48**	**337**	*eP*	**Pb**	**12 59 23.3**	**-0.7**
LNBQ3	**Los Naranjos,**	**0.54**	**39**	*eP*	**Pb**	**12 59 23.9**	**-1.0**
JIME	**Puerto Jimenez**	**0.56**	**287**	*eP*	**Pb**	**12 59 23.5**	**-1.7**
ALCO	**Alturas Coton,**	**0.58**	**355**	↓*eP*	**Pb**	**12 59 24.3**	**-1.3**
EDP2	**Potrero Grande**	**0.75**	**329**	*eP*	**Pb**	**12 59 27.2**	**-1.2**
FIMO	**Fila Mora**	**0.84**	**317**	↓*eP*	**Pb**	**12 59 28.1**	**-1.8**
CHGR2	**Aguacate**	**0.85**	**48**	*iP*	**Pb**	**12 59 28.5**	**-1.4**
CHGR2				*eS*	**Sb**	**12 59 39.9**	**-1.1**
SAJE	**San Jernim**	**1.21**	**324**	*eP*	**Pn**	**12 59 33.6**	**-1.6**
CEUA	**Cerro Uatsi, L**	**1.25**	**353**	*eP*	**Pb**	**12 59 36.3**	**-0.6**
GMAL	**Guarumal, Vera**	**1.65**	**111**	*eP*	**Pn**	**12 59 41.6**	**+0.6**
GMAL	**Guarumal, Vera**	**1.65**	**111**	*eP*	**Pn**	**12 59 39.7**	**-1.3**
VINA	**Juan Vinas**	**1.79**	**328**	*eP*	**Pn**	**12 59 44.4**	**+1.2**
REPA	**Paraso**	**1.80**	**324**	*eP*	**Pn**	**12 59 43.3**	**0.0**
LCR2	**La Lucha 2**	**1.82**	**319**	*eP*	**Pn**	**12 59 42.8**	**-0.8**
IRES	**Siquirres**	**1.86**	**337**	*eP*	**Pn**	**12 59 45.0**	**+1.0**
RAFA	**San Farael, Vo**	**1.88**	**327**	*eP*	**Pn**	**12 59 44.2**	**-0.3**
CVTV	**Tajo**	**1.89**	**330**	*eP*	**Pn**	**12 59 45.0**	**+0.4**
CVTQ	**Turrialba Volc**	**1.89**	**329**	*eP*	**Pn**	**12 59 45.2**	**+0.4**
VTR0	**Volcan Turrial**	**1.90**	**330**	*eP*	**Pn**	**12 59 45.2**	**+0.3**
RVLA	**Villa Bonita**	**1.90**	**335**	*eP*	**Pn**	**12 59 45.3**	**+0.8**
CVTR	**Volcan Turrial**	**1.90**	**330**	*eP*	**Pn**	**12 59 44.8**	**-0.1**
ACOS	**Acosta**	**1.97**	**316**	*eP*	**Pn**	**12 59 46.6**	**+1.0**
CORON	**Coronado**	**2.00**	**323**	*eP*	**Pb**	**12 59 49.5**	**-0.2**
CVTG	**V. Turrialba,**	**2.02**	**331**	*eP*	**Pn**	**12 59 46.5**	**+0.3**
SANTA	**Santa Ana**	**2.08**	**318**	↓*iP*	**Pn**	**12 59 48.7**	**+1.6**
HEME	**Heredia, Merce**	**2.10**	**320**	*eP*	**Pn**	**12 59 48.7**	**+1.4**
BELE	**Belen**	**2.12**	**319**	*eP*	**Pn**	**12 59 49.0**	**+1.4**
CACAO	**El Cacao, Vera**	**2.16**	**118**	*eP*	**Pn**	**12 59 48.5**	**+0.5**
VBV1	**V. Barva**	**2.17**	**323**	*eP*	**Pn**	**12 59 48.6**	**+0.1**
TRB2	**Turrubares**	**2.25**	**313**	*eP*	**Pn**	**12 59 50.7**	**+1.3**
VPS8	**V Poas**	**2.31**	**321**	*eP*	**Pn**	**12 59 51.8**	**+1.4**
VPS5	**V. Poas**	**2.31**	**322**	*eP*	**Pn**	**12 59 52.1**	**+1.7**
SRA1	**San Ramn**	**2.39**	**316**	*eP*	**Pn**	**12 59 53.2**	**+1.8**
VPL1	**V. Platanar**	**2.44**	**320**	*eP*	**Pn**	**12 59 53.7**	**+1.6**
ITAL	**Pital**	**2.54**	**325**	*eP*	**Pn**	**12 59 55.4**	**+2.1**
AZU	**Azuero**	**2.55**	**103**	*eP*	**Pn**	**12 59 54.5**	**+1.1**
AZU	**Azuero**	**2.55**	**103**	*eP*	**Pn**	**12 59 53.5**	**+0.2**
SOCE	**Pocosol**	**2.70**	**318**	*eP*	**Pn**	**12 59 57.4**	**+1.9**
ARE1	**Arenal 1**	**2.82**	**318**	*eP*	**Pn**	**12 59 58.9**	**+1.7**
JUNT	**Juntas**	**2.87**	**312**	*eP*	**Pn**	**12 59 59.0**	**+1.2**
JTS	**Las Juntas de**	**2.87**	**312**	*eP*	**Pn**	**12 59 57.5**	**-0.4**
JTS	**Las Juntas de**	**2.87**	**312**	*eP*	**Pn**	**12 59 56.3**	**-1.6**
TABAC	**Tabacon**	**2.88**	**317**	*eP*	**Pn**	**13 00 00.3**	**+2.2**
NYURE	**Nandayure**	**2.93**	**304**	*eP*	**Pn**	**12 59 59.7**	**+1.1**
BCIP	**Isla Barro Col**	**3.02**	**75**	↑*eP*	**Pn**	**13 00 00.5**	**+0.6**
QUEB	**Quebradon, Cot**	**3.06**	**317**	*eP*	**Pn**	**13 00 02.2**	**+1.7**
INVE	**Universidad In**	**3.07**	**313**	*eP*	**Pn**	**13 00 03.0**	**+2.3**
CMARA	**Lajas Hojancha**	**3.08**	**302**	*eP*	**Pn**	**13 00 01.1**	**+0.3**
CUI	**Cuipilapa**	**3.27**	**314**	*eP*	**Pn**	**13 00 05.4**	**+2.0**
COLC	**Colonia**	**3.30**	**314**	*eP*	**Pn**	**13 00 05.8**	**+2.0**
ALIBA	**Liberia Airpor**	**3.51**	**309**	*eP*	**Pn**	**13 00 08.7**	**+2.0**
PEJA	**Penjamo Buenos**	**3.54**	**315**	*eP*	**Pn**	**13 00 09.1**	**+2.0**
LCRUZ	**La Cruz**	**3.89**	**314**	*eP*	**Pn**	**13 00 13.7**	**+1.8**

*CATAC **25** 13:02:22.0±1.3, 12°.N±8°.×8°.8W±°., h31km±8km, M2.7/5, MLv2.7/5, Error ellipse: s-maj=20.6km s-min=8.6km az=39.3, confirmed*
*SNET **25** 13:02:22.5±0.7, 12°.42N×87°.91W, h20km±5km, ML2.7*
ISC 25 13:02:20.7±2.3, 12°.3N±0°.1×87°.77W±0°.07, h28km±14km, n14, σ0§50/19, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.68**	**17**	P	**Pb**	**13 02 34.6**	**+0.6**
CSGN				S	**Sn**	**13 02 44.3**	**+0.1**
POTN	**Potosi Cosigui**	**0.71**	**21**	P	**Pb**	**13 02 35.1**	**+0.5**
POTN				S	**Sn**	**13 02 45.1**	**+0.1**
CRIN	**San Cristobal**	**0.79**	**62**	P	**Pb**	**13 02 36.8**	**+0.8**
CNCH	**Conchagua**	**0.94**	**356**	*eP*	**Pb**	**13 02 38.4**	**-0.2**
CNCH				*eS*	**Sn**	**13 02 50.9**	**0.0**
CNCH	**Conchagua**	**0.94**	**356**	P	**Pb**	**13 02 38.4**	**-0.2**
CNCH	**Conchagua**	**0.94**	**356**	S	**Sn**	**13 02 51.1**	**+0.2**
LCND	**La Caada**	**0.98**	**353**	*eS*	**Sb**	**13 02 51.1**	**-0.6**
MOMN	**Momotombo**	**1.20**	**86**	P	**Pn**	**13 02 41.4**	**-0.3**
MOMN				S	**Sn**	**13 02 56.5**	**-0.5**
LCY	**Lacayo**	**1.20**	**335**	*eP*	**Pn**	**13 02 41.8**	**0.0**
RANC	**El Ranchito**	**1.21**	**335**	*eP*	**Pn**	**13 02 42.3**	**+0.4**
RANC				IAML		13 02 58.6	
	comp=Z,86nm,0.1s						
PACA	**Pacayal**	**1.26**	**334**	*eP*	**Pn**	**13 02 43.1**	**+0.5**
PACA				*eS*	**Sb**	**13 02 58.8**	**-0.9**
PACA				IAML		13 03 01.0	
	comp=Z,855nm,0.2s						
CHOHN	**Orocuina**	**1.29**	**27**	P	**Pn**	**13 02 42.8**	**-0.2**
PQSS	**Presa 15 de Se**	**1.50**	**329**	*eS*	**Sn**	**13 03 05.0**	**+0.5**
PQSS				IAML		13 03 06.3	
	comp=Z,34nm,0.1s						
LFRS	**El Faro**	**1.80**	**316**	*eS*	**Sn**	**13 03 11.9**	**-0.2**

*NEIC **25** 13:22:51.7±0.9, 19°.42N±0°.01×155°.269W±0°.007, h3km±2km, Error ellipse: s-maj=1.7km s-min=0.9km az=191.0*
HVO 25 13:22:51.0±0.8, 19°.424N±0°.010×155°.262W±0°.008, h1km±3km, ML2.5/12, ML1.8/28(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=186.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATHI	**Halema'uma'u T**	**0.00**	**112**		Sg	13 22 52.0	+0.5
HATHI	**Halema'uma'u T**	**0.00**	**112**	Pg	Pg	13 22 51.4	+0.1
SBLHI	**Steaming Bluff**	**0.01**	**303**		Pg	13 22 51.9	+0.6
BYL	**Byron's Ledge**	**0.01**	**169**		Sg	13 22 52.4	+0.8
BYL	**Byron's Ledge**	**0.01**	**169**	Pg	Pg	13 22 51.8	+0.5
UWB	**Uwekahuna Bluf**	**0.01**	**275**		Pg	13 22 52.3	+0.9
OBL	**Observatory Le**	**0.02**	**254**		Pg	13 22 52.8	+1.3
KKO	**Keanakako'i**	**0.03**	**188**		Pg	13 22 53.3	+1.8
UWE	**Uwekahuna**	**0.03**	**265**		Sg	13 22 53.0	+1.0
UWE	**Uwekahuna**	**0.03**	**265**	Pg	Pg	13 22 52.2	+0.7
UWE				IAML		13 22 52.4	
	comp=E,199nm,0.3s						
UWE				IAML		13 22 52.5	
	comp=N,338nm,0.2s						
RIM	**Rim**	**0.03**	**201**		Pg	13 22 53.2	+1.7
WRMHI	**West Rim**	**0.04**	**245**		Pg	13 22 53.7	+1.9
SDHHI	**Sand Hill**	**0.04**	**222**		Pg	13 22 52.7	+0.9
KNHH	**Kane Nui o Ham**	**0.10**	**117**		Pg	13 22 53.7	+0.9
HLP	**Hilina Pali**	**0.13**	**199**		Pg	13 22 54.5	+1.0
HLP				IAML		13 22 56.5	
	comp=E,267nm,1.7s						
HLP				IAML		13 22 57.6	
	comp=N,291nm,1.1s						
HLP	**Hilina Pali**	**0.13**	**199**		Sg	13 22 57.3	+2.0
STCH	**Steam Cracks**	**0.14**	**106**		Pg	13 22 54.4	+0.8
STCH					Sg	13 22 57.0	+1.7
STCH	**Steam Cracks**	**0.14**	**106**	IAML		13 22 57.5	
	comp=E,451nm,0.2s						
STCH				IAML		13 22 57.7	
	comp=N,249nm,0.2s						
MLH	**Mauna Loa**	**0.14**	**301**		Pg	13 22 54.8	+1.1
MLH					Sg	13 22 57.8	+2.3
MLH	**Mauna Loa**	**0.14**	**301**	IAML		13 22 58.1	
	comp=E,246nm,0.3s						
MLH				IAML		13 22 58.4	
	comp=N,191nm,0.4s						
NPOC	**North of Pu'u**	**0.15**	**102**		Pg	13 22 54.6	+0.8
NPOC					Sg	13 22 57.4	+1.7
JCUZ	**Jacuzzi**	**0.16**	**104**		Pg	13 22 55.1	+1.2
JCUZ					Sg	13 22 57.7	+1.7
HTC	**Hot Caves**	**0.23**	**215**		Pg	13 22 56.2	+0.9
JOKA	**Jonika Flow**	**0.24**	**88**		Pg	13 22 56.1	+0.5
JOKA					Sg	13 23 00.0	+1.2
JOKA	**Jonika Flow**	**0.24**	**88**	IAML		13 23 00.5	
	comp=E,98nm,1.6s						
JOKA				IAML		13 23 03.5	
	comp=N,118nm,1.0s						
HMH	**Humu'ula Sheep**	**0.27**	**311**		Pg	13 22 57.2	+0.9
HMH	**Humu'ula Sheep**	**0.27**	**311**	IAML		13 22 59.5	
	comp=E,153nm,3.9s						
HMH				IAML		13 23 04.9	
	comp=N,205nm,2.1s						
MWH	**Mokuaweoweo**	**0.32**	**281**		Pg	13 22 57.9	+0.8
MWH	**Mokuaweoweo**	**0.32**	**281**	IAML		13 23 00.1	
	comp=N,170nm,1.8s						
MWH				IAML		13 23 04.5	
	comp=E,228nm,1.9s						
KHU	**Kahuku**	**0.38**	**242**		Pg	13 22 58.6	+0.4
KHU	**Kahuku**	**0.38**	**242**	IAML		13 23 05.0	
	comp=E,258nm,4.2s						
KHU				IAML		13 23 08.9	
	comp=N,172nm,3.1s						
ALEP	**Alea Permanent**	**0.38**	**288**		Pg	13 22 58.7	+0.5
POHA	**Pohakuloa**	**0.42**	**323**		Pg	13 22 59.7	+0.7
POHA	**Pohakuloa**	**0.42**	**323**	IAML		13 23 11.1	
	comp=N,103nm,2.2s						
POHA				IAML		13 23 12.0	
	comp=N,83nm,1.8s						
HUH	**Hualalai**	**0.60**	**296**		Pg	13 23 03.4	+0.9

*NEIC **25** 13:36:30.8±2.1, 33°.05S±0°.10×178°.0W±0°.1, h10km±2km, mb4.2/9, Error ellipse: s-maj=26.3km s-min=4.4km az=127.0*
*IDC **25** 13:36:34.6±1.1, 33°.10S×178°.86W, h0km, mb4.0/4, mbtmp4.1/5, ML4.1/1, MS3.4/3, Error ellipse: s-maj=33.6km s-min=24.2km az=84.0*
*WEL **25** 13:36:38.7±0.8, 33°.S±6°.×17°.8W±1°.5, h33km, mB5.0/10, ML4.8/13, MLv4.6/10, Mw(mB)4.3/10, Error ellipse: s-maj=21.0km s-min=4.1km az=109.3, confirmed*
ISC 25 13:36:37.6±0.8, 33°.25S±0°.06×178°.4W±0°.1, h32km, n74, σ1§94/92, mb4.1/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.00**	**6**	P	**Pn**	**13 37 36.3**	**-0.4**
GLKZ				S	**Sn**	**13 38 24.1**	**+1.7**
MXZ	**Matakaoa Point**	**5.06**	**211**	Pn	**Pn**	**13 37 51.7**	**+0.4**
MXZ	**Matakaoa Point**	**5.06**	**211**	P	**Pn**	**13 37 50.8**	**-0.4**
MXZ				S	**Sn**	**13 38 49.3**	**+0.7**
WMGZ	**Waiomatatini S**	**5.24**	**209**	P	**Pn**	**13 37 55.5**	**+1.9**
WMGZ				S	**Sn**	**13 38 56.9**	**+4.0**
PKGZ	**Pakihiroa**	**5.41**	**211**	P	**Pn**	**13 37 56.3**	**+0.1**
PKGZ				S	**Sn**	**13 38 59.5**	**+2.2**
HAZ	**Te Kaha**	**5.46**	**213**	P	**Pn**	**13 37 57.7**	**+1.0**
HAZ				S	**Sn**	**13 39 00.6**	**+2.4**
PUZ	**Puketiti**	**5.52**	**208**	P	**Pn**	**13 37 57.2**	**-0.4**
PUZ				S	**Sn**	**13 38 58.7**	**-1.2**
RUGZ	**Raukumara Rang**	**5.67**	**213**	P	**Pn**	**13 38 00.9**	**+1.1**
RUGZ				S	**Sn**	**13 39 04.8**	**+0.9**
TWGZ	**Tauwhareparae**	**5.72**	**210**	P	**Pn**	**13 38 03.9**	**+3.5**
TWGZ				S	**Sn**	**13 39 04.8**	**-0.1**
CNGZ	**Carnagh Statio**	**5.89**	**207**	P	**Pn**	**13 38 03.3**	**+0.6**
KUZ	**Kuaotunu**	**5.93**	**232**	P	**Pn**	**13 38 05.8**	**+2.6**
TKGZ	**Te Karaka**	**6.00**	**209**	P	**Pn**	**13 38 07.2**	**+3.1**
TKGZ				S	**Sn**	**13 39 11.1**	**-0.6**
MWZ	**Matawai**	**6.04**	**212**	P	**Pn**	**13 38 05.9**	**+1.1**
MWZ				S	**Sn**	**13 39 12.1**	**-0.8**
OPRZ	**Ohinepanea**	**6.14**	**220**	P	**Pn**	**13 38 09.0**	**+2.9**
URZ	**Urewera**	**6.17**	**215**	Pn	**Pn**	**13 38 07.1**	**+0.6**
	4.9nm,0.3s,baz=351,slow=4.8,SNR=38						
URZ				Sn	**Sn**	**13 39 16.1**	**0.0**
	6.5nm,0.3s,baz=299,slow=2.1,SNR=9.3						
	19nm,0.3s						
URZ	**Urewera**	**6.17**	**215**	P	**Pn**	**13 38 07.1**	**+0.6**
URZ				S	**Sn**	**13 39 14.9**	**-1.1**
MARZ	**Manawahe**	**6.18**	**219**	P	**Pn**	**13 38 09.1**	**+2.4**
SNGZ	**Shannon Statio**	**6.50**	**211**	P	**Pn**	**13 38 14.5**	**+3.4**
SNGZ				S	**Sn**	**13 39 23.7**	**-0.4**
MKAZ	**Moumakai**	**6.50**	**232**	P	Pn	13 38 16.5	+5.4
RTZ	**Ruatahuna**	**6.52**	**213**		**Pn**	**13 38 12.1**	**+0.7**
RTZ	**Ruatahuna**	**6.52**	**213**	P	**Pn**	**13 38 15.1**	**+3.8**
WCZ	**Waipu Caves**	**6.53**	**244**	P	**Pn**	**13 38 13.9**	**+2.4**
KNZ	**Kokohu**	**6.57**	**208**	P	**Pn**	**13 38 10.7**	**-1.2**
KNZ				S	**Sn**	**13 39 24.4**	**-1.2**
MHGZ	**Mahia Peninsul**	**6.59**	**206**	P	**Pn**	**13 38 11.9**	**-0.4**
TOZ	**Tahuroa Road**	**6.67**	**226**		**Pn**	**13 38 14.4**	**+1.1**
TOZ	**Tahuroa Road**	**6.67**	**226**	P	**Pn**	**13 38 17.8**	**+4.5**
PRRZ	**Plateau Road**	**6.71**	**217**	P	**Pn**	**13 38 15.7**	**+1.7**
PRRZ				S	**Sn**	**13 39 30.3**	**+0.9**
RAHZ	**Arahi**	**6.72**	**211**	P	**Pn**	**13 38 16.5**	**+2.5**
RAHZ				S	**Sn**	**13 39 29.6**	**+0.1**
MTHZ	**Maungataniwha**	**6.78**	**213**	P	**Pn**	**13 38 16.8**	**+1.9**
MTHZ				S	**Sn**	**13 39 29.0**	**-2.0**
ALRZ	**Allen Road**	**6.79**	**217**	P	**Pn**	**13 38 18.8**	**+3.8**
WHHZ	**Waihua**	**6.79**	**210**	P	**Pn**	**13 38 18.1**	**+3.1**
WHHZ				S	**Sn**	**13 39 31.5**	**+0.3**
OUZ	**Omahuta**	**6.89**	**251**	P	**Pn**	**13 38 17.6**	**+1.2**
MRHZ	**Matea Rd**	**6.96**	**215**	P	**Pn**	**13 38 17.9**	**+0.5**
MRHZ				S	**Sn**	**13 39 34.3**	**-1.2**
NMHZ	**Naumai**	**6.99**	**212**	P	**Pn**	**13 38 20.0**	**+2.1**
ARHZ	**Aropaoanui**	**7.05**	**210**	P	**Pn**	**13 38 20.4**	**+1.9**
ARHZ				S	**Sn**	**13 39 36.8**	**-0.8**
BKZ	**Black Stump Fm**	**7.19**	**213**		**Pn**	**13 38 21.9**	**+1.4**
BKZ	**Black Stump Fm**	**7.19**	**213**	P	**Pn**	**13 38 21.9**	**+1.4**
MCHZ	**McNeill Hill**	**7.33**	**211**	P	**Pn**	**13 38 23.8**	**+1.5**
MCHZ				S	**Sn**	**13 39 42.8**	**-1.5**
CKHZ	**Cape Kidnapper**	**7.35**	**208**	P	**Pn**	**13 38 23.9**	**+1.2**
CKHZ				S	**Sn**	**13 39 40.2**	**-4.7**
TMVZ	**Te Maari**	**7.53**	**217**	P	**Pn**	**13 38 27.1**	**+1.8**
NTVZ	**North Tongarir**	**7.53**	**218**	P	**Pn**	**13 38 26.6**	**+1.3**
HIZ	**Hauiti**	**7.57**	**224**	Pn	**Pn**	**13 38 25.8**	**+0.1**
HIZ	**Hauiti**	**7.57**	**224**	P	**Pn**	**13 38 28.7**	**+3.0**
OTVZ	**Oturere**	**7.59**	**217**	P	**Pn**	**13 38 27.3**	**+1.2**
SNVZ	**South Ngauruho**	**7.62**	**217**	P	**Pn**	**13 38 27.5**	**+1.0**
NGZ	**Ngauruhoe**	**7.63**	**217**	P	**Pn**	**13 38 28.3**	**+1.6**
KRHZ	**Kereru**	**7.63**	**212**	P	**Pn**	**13 38 26.6**	**0.0**
WNVZ	**Wahianoa**	**7.75**	**217**	P	**Pn**	**13

RIM				Sg	14 02 35.1	+0.8
HATHI	**Halema'uma'u T**	**0.12 318**		Pg	14 02 33.2	+0.4
HATHI				Sg	14 02 35.5	+0.9
HATHI	**Halema'uma'u T**	**0.12 318**	IAML		14 02 35.6	
	comp=N,3μm,0.4s					
HATHI			IAML		14 02 36.1	
	comp=E,2μm,0.3s					
SDHHI	**Sand Hill**	**0.12 296**		Pg	14 02 33.3	+0.3
SDHHI				Sg	14 02 35.5	+0.8
SBLHI	**Steaming Bluff**	**0.12 317**		Pg	14 02 33.2	+0.3
SBLHI				Sg	14 02 35.6	+0.8
OBL	**Observatory Le**	**0.13 309**		Pg	14 02 33.4	+0.4
OBL				Sg	14 02 35.5	+0.6
HLP	**Hilina Pali**	**0.13 252**		Pg	14 02 33.5	+0.5
HLP			Sg	Sg	14 02 36.0	+1.1
HLP			IAML		14 02 36.1	
	comp=N,2μm,0.3s					
HLP			IAML		14 02 37.0	
	comp=E,3μm,0.3s					
UWB	**Uwekahuna Bluf**	**0.13 313**		Pg	14 02 33.4	+0.3
UWB				Sg	14 02 35.7	+0.8
WRMHI	**West Rim**	**0.13 301**		Pg	14 02 33.4	+0.3
WRMHI				Sg	14 02 36.2	+1.1
UWE	**Uwekahuna**	**0.14 308**		Pg	14 02 33.6	+0.4
UWE	**Uwekahuna**	**0.14 308**	IAML		14 02 37.0	
	comp=N,2μm,0.6s					
UWE			IAML		14 02 37.8	
	comp=E,2μm,0.5s					
RSD	**Rainshed**	**0.16 323**		Pg	14 02 36.8	+3.2
JOKA	**Jonika Flow**	**0.19 60**		Pg	14 02 34.2	+0.1
HTC	**Hot Caves**	**0.23 245**		Pg	14 02 35.3	+0.5
MLH	**Mauna Loa**	**0.25 309**		Pg	14 02 35.6	+0.3
MLH	**Mauna Loa**	**0.25 309**	IAML		14 02 40.8	
	comp=E,778nm,0.2s					
MLH			IAML		14 02 41.0	
	comp=N,996nm,0.3s					
HMH	**Humu'ula Sheep**	**0.39 313**		Pg	14 02 37.9	0.0
HMH				Sg	14 02 44.4	+1.2
HMH	**Humu'ula Sheep**	**0.39 313**	IAML		14 02 45.1	
	comp=N,2μm,0.3s					
HMH			IAML		14 02 45.3	
	comp=E,3μm,0.3s					
MWH	**Mokuaweoweo**	**0.42 290**		Pg	14 02 38.4	-0.2
MWH	**Mokuaweoweo**	**0.42 290**	IAML		14 02 46.2	
	comp=N,3μm,0.3s					
MWH			IAML		14 02 46.6	
	comp=E,2μm,0.8s					
KHU	**Kahuku**	**0.42 258**		Pg	14 02 38.3	-0.3
KHU				Sg	14 02 45.0	+0.9
KHU	**Kahuku**	**0.42 258**	IAML		14 02 49.9	
	comp=N,749nm,0.8s					
KHU			IAML		14 02 50.6	
	comp=E,836nm,0.3s					
MLOA	**Mauna Loa Obse**	**0.42 298**		Pg	14 02 38.9	+0.3
MLOA				Sg	14 02 45.5	+1.2
HPO	**Honuapo**	**0.43 235**		Sg	14 02 44.9	+0.6
ALEP	**Alea Permanent**	**0.48 295**		Pg	14 02 39.2	-0.5
ALEP				Sg	14 02 46.9	+0.8
POHA	**Pohakuloa**	**0.54 321**		Sg	14 02 47.7	0.0
POHA	**Pohakuloa**	**0.54 321**		Pg	14 02 39.7	-0.9
POHA			IAML		14 02 48.5	
	comp=E,2μm,0.5s					
POHA			IAML		14 02 49.0	
	comp=E,2μm,0.6s					
HUH	**Hualalai**	**0.71 299**		Pg	14 02 43.0	-0.9
CPH	**Captain Cook**	**0.71 282**		Pg	14 02 43.1	-0.9
HPAH	**Hawaii Prepara**	**0.85 325**		Pg	14 02 44.4	-2.2
HPAH	**Hawaii Prepara**	**0.85 325**	IAML		14 02 57.7	
	comp=N,377nm,0.3s					

*IDC **25** 14:10:41.5±2.0, 21°.01S×179°.19W, h634km±21km, mb3.0/4, mbtmp4.1/5, Error ellipse: s-maj=41.5km s-min=26.5km az=28.0*

ISC 25 14:10:40.8±1.8, 21°.2S±0°.2×179°.1W±0°.3, h619km, n6, σ1§55/7, mb3.7/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.36**	**321**	P	**P**	**14 12 11.6**	**+1.3**
	29nm,0.4s,baz=153,slow=7.3,SNR=19						
STKA	**Stephens Creek**	**36.56**	**245**	P	**P**	**14 16 56.8**	**+0.3**
	1.3nm,0.7s,baz=80,slow=11,SNR=3.6						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**43.36**	**258**	P	**P**	**14 17 50.1**	**-0.5**
	2.7nm,0.6s,baz=93,slow=7.8,SNR=56						
ASAR				ScP	**ScP**	**14 22 18.3**	**+0.1**
	0.4nm,0.7s,baz=95,slow=4.3,SNR=4.9						
	2.7nm,0.6s						
WRA	**Warramunga Arr**	**43.49**	**263**	P	**P**	**14 17 50.7**	**-0.9**
	0.9nm,0.3s,baz=97,slow=7.7,SNR=49						
	0.9nm,0.3s						
QSPA	**South Pole Qui**	**68.89**	**180**	P	**P**	**14 20 45.7**	**+0.8**
	2.0nm,0.9s,baz=213,slow=1.2,SNR=13						
	2.0nm,0.9s						
AKASG	**Malin Array Be**	**143.09**	**330**	PKP	**PKPdf**	**14 29 02.8**	**-2.5**
	0.7nm,0.4s,baz=46,slow=4.3,SNR=8.6						

*HEL **25** 14:45:48.8, 67°.16N×20°.62E, h1km, ML1.4, Confirmed Induced event*

UPP 25 14:45:48.0±0.1, 67°.19N×20°.65E, h0km, ML2.2, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**204**	P	Pg	14 45 49.7	+0.3
DUNU				S	Sg	14 45 50.8	+0.5
DUNU	**Dundret**	**0.07**	**204**	P	Pg	14 45 50.8	+1.4
DUNU				S	Sg	14 45 51.9	+1.6
DUNU	**Dundret**	**0.07**	**204**	*i* P	Pg	14 45 50.8	+1.4
DUNU				*i* S	Sg	14 45 51.9	+1.6
MASU	**Masugnsbyn**	**0.59**	**62**	P	Pg	14 45 59.3	0.0
MASU	**Masugnsbyn**	**0.59**	**62**	P	Pb	14 46 00.8	-0.4
MASU				S	Sb	14 46 09.0	-1.0
MASU	**Masugnsbyn**	**0.59**	**62**	*i* P	Pb	14 46 00.8	-0.4
MASU				*i* S	Sb	14 46 09.0	-1.0
KUA	**Kurravaara**	**0.78**	**351**	P	Pg	14 46 02.4	-0.5
KUA				S	Sg	14 46 13.1	+0.1
KUA	**Kurravaara**	**0.78**	**351**	P	Pb	14 46 04.2	-0.2
KUA				S	Sb	14 46 14.9	-0.6
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pb	14 46 04.2	-0.2
KUA				*i* S	Sb	14 46 14.9	-0.6
SALU	**Saltoluokta**	**0.85**	**284**	P	Pg	14 46 04.0	-0.3
SALU				S	Sg	14 46 15.6	+0.3
SALU	**Saltoluokta**	**0.85**	**284**	P	Pb	14 46 05.2	-0.4
SALU				S	Sb	14 46 16.8	-0.8
SALU	**Saltoluokta**	**0.85**	**284**	*eP*	Pg	14 46 03.9	-0.4
SALU	**Saltoluokta**	**0.85**	**284**	*i* P	Pb	14 46 05.2	-0.4
SALU				*i* S	Sb	14 46 16.8	-0.8
ERTU	**Ertsjaerv**	**0.88**	**136**	P	Pg	14 46 04.2	-0.7
ERTU	**Ertsjaerv**	**0.88**	**136**	P	Pb	14 46 05.3	+0.5
ERTU				S	Sb	14 46 17.6	-0.9
ERTU	**Ertsjaerv**	**0.88**	**136**	*eP*	Pg	14 46 04.2	-0.7
ERTU				*eS*	Sg	14 46 15.4	-0.8
PAJU	**Pajala**	**0.98**	**99**	P	Pg	14 46 06.1	-0.6
PAJU	**Pajala**	**0.98**	**99**	P	Pb	14 46 07.6	-0.2
PAJU	**Pajala**	**0.98**	**99**	*eP*	Pg	14 46 06.3	-0.4
PAJU				*eS*	Sg	14 46 19.1	-0.3
HARU	**Harads**	**1.04**	**173**	P	Pg	14 46 06.9	-1.0
HARU	**Harads**	**1.04**	**173**	P	Pb	14 46 08.6	-0.2
HARU	**Harads**	**1.04**	**173**	*eP*	Pb	14 46 08.6	-0.2
KOVU	**Salmi**	**1.05**	**350**	P	Pg	14 46 07.4	-0.8
KOVU	**Salmi**	**1.05**	**350**	P	Pb	14 46 09.3	+0.2
KOVU	**Salmi**	**1.05**	**350**	*eP*	Pb	14 46 09.3	+0.2
KLF	**Kolari**	**1.29**	**86**	*eP*	Pg	14 46 11.8	-1.0
KLF				*eS*	Sg	14 46 28.9	-0.5
HEF	**Hetta**	**1.68**	**42**	*eP*	Pn	14 46 18.6	0.0
HEF	**Hetta**	**1.68**	**42**	*eP*	Pn	14 46 18.7	+0.1
HEF				*eS*	Sn	14 46 40.8	+0.1
HEF				MSG		14 46 42.7	
	comp=Z,2.4nm,0.1s						
KALU	**Kalix**	**1.72**	**140**	P	Pn	14 46 19.0	-0.1
KALU	**Kalix**	**1.72**	**140**	P	Pg	14 46 20.8	-0.1
KALU	**Kalix**	**1.72**	**140**	*eP*	Pn	14 46 18.8	-0.3
KALU				*eS*	Sn	14 46 41.2	-0.5
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	14 46 19.2	0.0
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pg	14 46 20.9	-0.2
SJUU	**Sjulsmark**	**1.73**	**167**	*eP*	Pg	14 46 20.9	-0.2
KIF	**Kilpisjarvi**	**1.82**	**2**	*eP*	Pb	14 46 22.4	+0.2
KIF				*eS*	Sg	14 46 46.5	0.0
KIF				MSG		14 46 48.6	
	comp=Z,5.6nm,0.1s						
TOF	**Tornio**	**1.84**	**126**	*eP*	Pn	14 46 21.1	+0.3
TOF				*eSN*	Sb	14 46 45.5	-0.5
TOF				MSG		14 46 47.6	
	comp=Z,1.3nm,0.1s						
RNF	**Rovaniemi**	**2.19**	**103**	*eP*	Pn	14 46 26.3	+0.7
RNF				*eSB*	Sb	14 46 55.1	-1.1
RNF				MSG		14 46 58.9	
	comp=Z,1.4nm,0.1s						

DJA 25 15:00:32.9±0.2, 3°S±2°×12°7E±°, h10km, M4.1/13, mB4.7/1, mb4.3/5, MLv4.0/13, Mw(mB)4.0/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.51**	**135**	P	Pg	15 00 42.0	-0.8
NLAI				S	Sg	15 00 50.3	+0.8
SANI	**Sanana**	**1.12**	**318**	P	Pg	15 00 54.4	0.0
SANI				S	Sn	15 01 09.6	-0.4
AAI	**Ambon**	**1.66**	**119**	P	Pb	15 01 04.0	+0.4
AAI				S	Sn	15 01 23.6	+0.1
MSAI	**Masohi**	**2.23**	**102**	P	Pn	15 01 09.8	-0.2
MSAI				S	Sn	15 01 38.8	+1.1
LUWI	**Luwuk**	**4.37**	**295**	P	Pn	15 01 38.7	-0.6
KMSI	**Cibinong**	**4.40**	**321**	P	Pn	15 01 39.7	-0.1
KMSI				S	Sn	15 02 32.0	+0.8
SWI	**Sorong**	**4.94**	**66**	P	Pn	15 01 47.2	-0.1
SWI				S	Sn	15 02 44.1	-0.4
MRSI	**Marisa**	**5.84**	**305**	P	Pn	15 01 59.9	+0.2
BKSI	**Bulukumba**	**7.03**	**250**	P	Pn	15 02 17.0	+1.0
	0.1nm12nm,0.7s						
SPSI	**Sidrap Palu**	**7.04**	**261**	P	Pn	15 02 15.5	-0.6

*FUNV **25** 15:01:00.7, 7°.12N×72°.02W, h7km, MW3.1*
*RSNC **25** 15:01:01.3±0.0, 7°N±2°×7°2W±°, h4km±3km, M2.1, ML2.0*

ISC 25 15:00:58.7±1.2, 7°.13N±0°.03×71°.97W±0°.03, h9km±10km, n15, σ1§61/28, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAMC	**Tame, Arauca**	**0.71**	**166**	P	**Pb**	**15 01 14.3**	**+0.9**
TAMC				S	**Sb**	**15 01 25.0**	**+1.7**
PAMC	**Pamplona, Colo**	**0.75**	**286**	P	**Pg**	**15 01 12.8**	**-0.5**
PAMC				S	**Sg**	**15 01 21.2**	**-2.0**
CAPV	**Capacho**	**0.80**	**335**	*eP*	**Pb**	**15 01 15.2**	**+0.2**
CAPV				*eS*	**Sn**	**15 01 27.6**	**-1.0**
BARC	**Barichara**	**1.32**	**246**	P	**Pn**	**15 01 22.7**	**-0.8**
BARC				S	**Sg**	**15 01 43.3**	**+2.1**
SOCV	**Socops**	**1.59**	**44**	*eP*	**Pg**	**15 01 30.0**	**+0.8**
SOCV				*eS*	**Sg**	**15 01 50.0**	**+0.1**
RUSC	**La Rusia**	**1.66**	**222**	P	**Pn**	**15 01 29.2**	**+0.8**
RUSC				S	**Sn**	**15 01 50.2**	**+0.2**
OCAC	**Ocana**	**1.73**	**310**	P	**Pb**	**15 01 30.8**	**0.0**
OCAC				S	**Sb**	**15 01 52.3**	**-0.4**
BRJC	**Barrancabermej**	**1.77**	**265**	P	**Pb**	**15 01 31.2**	**-0.1**
BRJC				S	**Sb**	**15 01 54.2**	**+0.6**
SDV	**Santo Domingo**	**2.19**	**37**	P	**Pb**	**15 01 38.9**	**+0.3**
SDV				S	**Sb**	**15 02 05.8**	**-0.1**
PTBC	**PUERTO BERRIO,**	**2.54**	**257**	P	**Pb**	**15 01 43.0**	**-1.5**
PTBC				S	**Sn**	**15 02 12.0**	**+0.8**
CHIC	**Chingaza**	**3.04**	**215**	P	**Pb**	**15 01 51.1**	**-2.2**
SJCC	**San Jacinto, C**	**4.20**	**311**	P	**Pn**	**15 02 04.9**	**+1.9**
SJCC				S	**Sn**	**15 02 53.2**	**+0.9**
BAUV	**El Baul**	**4.29**	**65**	*eP*	**Pn**	**15 02 05.8**	**+1.6**
BAUV				*eS*	**Sn**	**15 02 53.1**	**-1.3**
BENV	**Beln**	**5.16**	**57**	*eP*	**Pn**	**15 02 17.6**	**+1.3**
BENV				*eS*	**Sn**	**15 03 15.0**	**-1.0**
CACV	**CAICARA DEL OR**	**5.40**	**85**	*eP*	Pb	15 02 27.3	-6.0
CACV				*eS*	**Sb**	**15 03 33.1**	**-5.3**

*OMAN **25** 15:03:08.4±2.9, 31°.53N×57°.47E, h8km, mb5.1/24, Error ellipse: s-maj=35.4km s-min=22.2km az=55.0*
*MOS **25** 15:03:14.6±1.2, 30°.56N×57°.33E, h12km, mb4.6/28, Error ellipse: s-maj=6.6km s-min=4.9km az=95.2*
*TEH **25** 15:03:15.9, 30°.79N×57°.37E, h8km±24km*
*IDC **25** 15:03:15.4±0.8, 30°.67N×57°.28E, h0km, mb4.2/20, mbtmp4.2/25, ML3.8/5, MS3.5/20, Error ellipse: s-maj=17.7km s-min=13.5km az=8.0*
*NEIC **25** 15:03:16.5±2.0, 30°.70N±0°.07×57°.31E±0°.08, h10km±1km, mb4.4/64, Error ellipse: s-maj=13.5km s-min=10.9km az=133.0*
*THR **25** 15:03:17.0±0.0, 30°.82N×57°.40E, h10km±7km, mb4.5*
*DSN **25** 15:03:21.8±1.3, 30°.29N×58°.51E, h15km, ML3.5/8, Error ellipse: s-maj=57.3km s-min=12.2km az=110.0*

ISC 25 15:03:17.5±0.3, 30°.73N±0°.03×57°.36E±0°.03, h15km, n313, σ1§62/297, mb4.4/76, MS3.4/17, 13C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.24**	**198**	Pg	**Pg**	**15 03 22.0**	**-0.9**
ZRDN	**Zarand Kerman**	**0.75**	**289**	Pg	**Pg**	**15 03 30.5**	**-1.6**
KHGB	**Koh Gabri**	**0.84**	**245**	Pg	**Pb**	**15 03 32.6**	**-1.3**
CHMN	**Cheshme madani**	**0.88**	**170**	Pg	**Pb**	**15 03 33.9**	**-0.8**
KRBR	**Kerman**	**0.90**	**215**	Pg	**Pb**	**15 03 35.1**	**0.0**
KRBR	**Kerman**	**0.90**	**215**	*e*Pg	**Pb**	**15 03 35.2**	**+0.1**
NGRK	**Negar Kerman**	**1.21**	**207**	Pg	**Pn**	**15 03 40.7**	**+0.4**
KBAM	**BAM**	**1.85**	**149**	Pn	**Pn**	**15 03 50.2**	**+1.4**
BSRN	**Basiran**	**1.95**	**50**	Pn	**Pn**	**15 03 50.6**	**+0.3**
BSRN	**Basiran**	**1.95**	**50**	*e*PnA		15 03 50.0	
BSRN				*eS*g	**Sb**	**15 04 16.1**	**-1.0**
IKOO	**Kooshah**	**2.20**	**39**	Pn	**Pn**	**15 03 54.2**	**+0.5**
TPRV	**Parvadeh(Tabas**	**2.36**	**346**	Pn	**Pn**	**15 03 56.0**	**+0.1**
NHDN	**Nehbandan**	**2.40**	**73**	Pn	**Pn**	**15 03 57.5**	**+1.0**
IMEH	**Mehriz**	**2.45**	**286**	Pn	**Pn**	**15 03 58.3**	**+1.2**
ITEG	**Tejag**	**2.47**	**28**	Pn	**Pn**	**15 03 57.8**	**+0.4**
KHNJ	**Kahnooj**	**2.79**	**174**	Pn	**Pn**	**15 04 03.7**	**+2.0**
TKDS	**Koohdasht(Taba**	**2.88**	**356**	Pn	**Pn**	**15 04 03.3**	**+0.2**
YZKH	**Yazd**	**2.88**	**306**	*e*PnA		15 04 03.8	
YZKH				*eS*g	**Sn**	**15 04 42.2**	**+4.6**
TABS	**Tabas**	**2.92**	**356**	*e*PnA		15 04 03.7	
IDAH	**Dahanechah**	**2.93**	**46**	Pn	**Pn**	**15 04 04.3**	**+0.5**
AFRZ	**Afriz**	**3.04**	**27**	Pn	**Pn**	**15 04 05.2**	**0.0**
ZHSF	**Zahedan**	**3.16**	**110**	Pn	**Pn**	**15 04 08.5**	**+1.6**
ZHSF	**Zahedan**	**3.16**	**110**	*e*PnA		15 04 08.5	
TNSJ	**Nastanj**	**3.29**	**349**	Pn	**Pn**	**15 04 09.0**	**+0.4**
ISAD	**Sadrabad**	**3.36**	**292**	Pn	**Pn**	**15 04 11.6**	**+1.9**
BNDS	**Bandar-Abbas**	**3.48**	**198**	Pn	**Pn**	**15 04 14.4**	**+3.1**
BNDS	**Bandar-Abbas**	**3.48**	**198**	*e*Pn	**Pn**	**15 04 15.1**	**+3.9**
SHRT	**Shahrakht**	**3.83**	**40**	Pn	**Pn**	**15 04 17.0**	**+1.0**
SHRT	**Shahrakht**	**3.83**	**40**	*e*PnA		15 04 17.1	
ANAR	**Anarak**	**3.94**	**309**	Pn	**Pn**	**15 04 18.6**	**+1.0**
TAPT	**Tabas- Tapeh t**	**4.15**	**358**	Pn	**Pn**	**15 04 20.5**	**0.0**
SHI	**Shiraz**	**4.33**	**257**	Pn	**Pn**	**15 04 24.4**	**+1.4**
QIR1	**Qir**	**4.38**	**240**	Pn	**Pn**	**15 04 25.9**	**+2.4**
NASN	**Na'in**	**4.39**	**299**	*e*PnA		15 04 25.7	
IRAM	**Ramesheh**	**4.39**	**285**	Pn	**Pn**	**15 04 25.4**	**+1.4**
GHIR	**Ghir-Karzin**	**4.52**	**239**	*e*PnA		15 04 30.3	
SHME	**Shamm**	**4.78**	**193**	P	**Pn**	**15 04 33.7**	**+4.6**
SHME	**Shamm**	**4.78**	**193**	P	**Pn**	**15 04 31.9**	**+2.9**
IZEF	**Zefreh**	**4.79**	**298**	Pn	**Pn**	**15 04 31.3**	**+1.8**
IGAR	**Gharneh**	**4.83**	**292**	Pn	**Pn**	**15 04 31.7**	**+1.7**
BANOM	**Banah**	**4.88**	**191**	P	**Pn**	**15 04 34.2**	**+3.8**
BANOM				S	**Sb**	**15 05 41.3**	**+0.1**
BANOM	**Banah**	**4.88**	**191**	P	**Pn**	**15 04 33.7**	**+3.3**
KLNJ	**Kolanjah**	**4.96**	**275**	Pn	**Pn**	**15 04 33.6**	**+1.7**
KLNJ	**Kolanjah**	**4.96**	**275**	*e*Pn	**Pn**	**15 04 33.3**	**+1.4**
KLNJ				IAML		15 05 02.6	
	comp=Z,130nm,0.6s						
TBJM	**Torbat-e-JAM**	**5.17**	**28**	Pn	**Pn**	**15 04 35.4**	**+0.8**
IBRJ	**Brojen**	**5.35**	**284**	Pn	**Pn**	**15 04 38.6**	**+1.5**
SHRO	**Shahrood**	**5.37**	**348**	*e*PnA		15 04 38.1	
SHRO				IAML		15 06 27.3	
	comp=Z,0.4nm,1.0s						
MASF	**Masafi**	**5.44**	**192**	P	**Pn**	**15 04 42.4**	**+4.2**
	SNR=5.1						
MSFE	**Esma-Masafi**	**5.45**	**191**	P	**Pn**	**15 04 41.4**	**+3.1**
MDH	**Madha**	**5.49**	**190**	P	**Pn**	**15 04 42.5**	**+3.7**
MDH	**Madha**	**5.49**	**190**	P	**Pn**	**15 04 40.5**	**+1.7**
HRA	**Herat**	**5.51**	**47**	Pn	**Pn**	**15 04 40.3**	**+1.0**
SRVN	**Saravan**	**5.52**	**126**	Pn	**Pn**	**15 04 41.5**	**+2.2**
SRVN	**Saravan**	**5.52**	**126**	*e*PnA		15 04 43.2	
SRVN				IAML		15 06 39.8	
	comp=Z,0.3nm,1.0s						
IANJ	**Anjilo**	**5.54**	**329**	Pn	**Pn**	**15 04 40.2**	**+0.6**
IMOG	**Moghan**	**5.62**	**17**	Pn	**Pn**	**15 04 41.5**	**+0.7**
ISFB	**Sefidab**	**5.63**	**311**	Pn	**Pn**	**15 04 41.8**	**+1.0**
SBZV	**Sabzevar**	**5.65**	**2**	Pn	**Pn**	**15 04 41.9**	**+0.7**
SBZV	**Sabzevar**	**5.65**	**2**	*e*PnA		15 04 42.7	
SBZV				IAML		15 07 07.9	
	comp=Z,0.0nm,1.0s						
ZNGN	**Zangian**	**5.73**	**286**	Pn	**Pn**	**15 04 44.3**	**+2.0**
UOSS	**Minazif**	**5.85**	**190**		**Pn**	**15 04 41.7**	**-2.0**
UOSS	**Minazif**	**5.85**	**190**	P	Pn	15 04 48.9	+5.1
UOSS	**Minazif**	**5.85**	**190**	P	**Pn**	**15 04 47.2**	**+3.4**
IPAY	**Payeh**	**5.87**	**13**	Pn	**Pn**	**15 04 45.2**	**+1.0**
JHBN	**Jahan bin**	**5.91**	**286**	Pn	**Pn**	**15 04 46.8**	**+2.0**
NAZ	**Nazwa, Dubai**	**5.91**	**195**	P	**Pn**	**15 04 48.3**	**+3.8**
IAKL	**Akhelmad**	**5.97**	**11**	Pn	**Pn**	**15 04 46.2**	**+0.5**
HATD	**Hatta, Dubai**	**5.98**	**191**	P	Pn	15 04 51.8	+6.3
HATD	**Hatta, Dubai**	**5.98**	**191**	P	**Pn**	**15 04 48.0**	**+2.5**
IMYA	**Miami**	**6.05**	**22**	Pn	**Pn**	**15 04 47.3**	**+0.7**
ASHO	**Ashiyiah**	**6.13**	**191**	P	**Pn**	**15 04 51.0**	**+3.4**
	SNR=5.5						
ASHO	**Ashiyiah**	**6.13**	**191**	P	**Pn**	**15 04 50.8**	**+3.2**
ASHO				S	**Sn**	**15 05 59.9**	**+2.3**
FAQ	**Al Faqa, Dubai**	**6.16**	**195**	P	**Pn**	**15 04 51.9**	**+3.9**
IKIA	**Kiasar**	**6.27**	**332**	Pn	**Pn**	**15 04 50.5**	**+0.9**
NGCH	**Negor - Chabah**	**6.30**	**147**	P	**Pn**	**15 04 51.3**	**+1.3**
ISFR	**Sfrayin**	**6.33**	**5**	Pn	**Pn**	**15 04 51.5**	**+0.9**
ASUD	**Al Ashush, Dub**	**6.34**	**197**	P	**Pn**	**15 04 55.0**	**+4.5**
ASUD	**Al Ashush, Dub**	**6.34**	**197**	P	**Pn**	**15 04 54.1**	**+3.6**
IVRN	**Varamin**	**6.37**	**313**	Pn	**Pn**	**15 04 51.4**	**+0.5**
IGLO	**Ghaloghah**	**6.47**	**334**	Pn	**Pn**	**15 04 53.7**	**+1.3**
AJN	**Ajban**	**6.49**	**199**	P	**Pn**	**15 04 55.7**	**+3.1**
IALA	**Alasht**	**6.56**	**326**	Pn	**Pn**	**15 04 55.0**	**+1.3**
IDMV	**Damavand**	**6.58**	**319**	Pn	**Pn**	**15 04 55.0**	**+1.0**
SOHO	**SOHO**	**6.61**	**187**	P	**Pn**	**15 04 54.8**	**+0.7**
DAMV	**Damavand**	**6.66**	**319**	*e*PnA		15 04 55.6	
DAMV				IAML		15 05 00.8	
	comp=Z,45nm,0.7s						
IMND	**Minoodasht**	**6.71**	**347**	Pn	**Pn**	**15 04 56.7**	**+1.2**
IEMG	**Emamgholi**	**6.76**	**9**	Pn	**Pn**	**15 04 57.1**	**+0.7**
IPRN	**Peran**	**6.92**	**324**	Pn	**Pn**	**15 04 59.8**	**+1.3**
IHSB	**Hasanabad**	**6.94**	**314**	Pn	**Pn**	**15 05 00.5**	**+1.7**
MRVT	**Maraveh tapeh**	**6.99**	**352**	Pn	**Pn**	**15 05 00.4**	**+0.9**
MRVT	**Maraveh tapeh**	**6.99**	**352**	*e*PnA		15 05 00.8	
MRVT				IAML		15 07 21.2	
	comp=Z,0.2nm,1.0s						
JRN	**Qarnain Island**	**7.01**	**216**	P	**Pn**	**15 05 02.0**	**+2.3**
HOQ	**Hoqain**	**7.12**	**180**	P	**Pn**	**15 05 04.9**	**+3.7**
HOQ				S	Sn	15 06 35.2	+13
GTMR	**Gotvand**	**7.25**	**286**	*e*Pn	**Pn**	**15 05 05.7**	**+2.8**
GTMR				IAML		15 05 19.0	
	comp=Z,27nm,0.6s						
CHTH	**Charan**	**7.34**	**316**	*e*PnA		15 05 05.8	
CHTH				IAML		15 06 17.2	
	comp=Z,0.1nm,1.0s						
ARQ	**Araqi**	**7.40**	**186**	P	**Pn**	**15 05 08.3**	**+3.3**
MZPU	**Pul - Mazandar**	**7.47**	**321**	Pn	**Pn**	**15 05 07.4**	**+1.3**
WSAR	**Wadi Sarin**	**7.54**	**171**	Pn	**Pn**	**15 05 07.9**	**+0.9**
	baz=3.4,slow=24,SNR=22						
WSAR	**Wadi Sarin**	**7.54**	**171**	P	**Pn**	**15 05 08.9**	**+1.8**
SMDO	**Samad**	**7.66**	**175**	P	**Pn**	**15 05 10.2**	**+1.5**
IRAZ	**Razeghan**	**7.79**	**309**	Pn	**Pn**	**15 05 11.6**	**+1.1**
KLST	**Kelardasht - M**	**7.80**	**319**	Pn	**Pn**	**15 05 12.0**	**+1.2**
BSY	**Bisya**	**7.95**	**181**	P	**Pn**	**15 05 17.1**	**+4.4**
TRNA	**Turayna**	**8.08**	**224**	P	**Pn**	**15 05 15.2**	**+0.9**
	SNR=7.7						
IGZV	**Ghazvin**	**8.20**	**315**	Pn	**Pn**	**15 05 17.1**	**+0.8**
WBK	**Wadi Bani Khal**	**8.21**	**170**	P	**Pn**	**15 05 17.6**	**+1.4**
UMZA	**Um Al Zommool**	**8.22**	**194**	P	**Pn**	**15 05 18.5**	**+2.2**
SMRA	**Abu-Samra**	**8.31**	**226**	P	**Pn**	**15 05 19.1**	**+1.6**
	SNR=7.9						
SLWR	**Sila**	**8.32**	**219**	P	**Pn**	**15 05 20.9**	**+3.1**
MHTO	**MHTO**	**9.72**	**177**	P	**Pn**	**15 05 40.1**	**+3.3**
GRMI	**Germi**	**11.20**	**319**	*e*PnA		15 06 00.0	
GRMI				IAML		15 10 48.2	
	comp=Z,0.0nm,1.0s						
DOK	**Doka**	**12.41**	**194**	P	**Pn**	**15 06 13.6**

SOC MLR MLR
comp=Z,45nm,12.0s
EIL Elat 19.39 273 P P 15 07 43.9 +0.9
comp=Z,0.3nm,0.3s,baz=80,slow=7.1,SNR=4.2
EIL LR LR 15 16 16.9
comp=Z,65nm,19.6s,baz=120,slow=40
comp=Z,6.6nm,0.8s
BNN Bunyan 19.41 300 P 15 07 41.9 -1.4
BNN IAmb IAmb 15 07 50.2
comp=Z,16nm,0.8s
AKTO Aktyubinsk 19.69 1 P Pn 15 07 47.0 -0.6
comp=Z,0.7nm,0.3s,baz=186,slow=10,SNR=27
AKTO LR LR 15 16 34.1
comp=Z,92nm,18.6s,baz=277,slow=40
comp=Z,8.9nm,0.7s
WUS Wushi 20.50 53 P P 15 07 55.0 -0.2
WUS IAmb IAmb 15 08 06.4
comp=Z,11nm,0.8s
CSS Mathiatis 20.61 288 P P 15 07 56.1 -0.1
CSS IAmb IAmb 15 08 09.2
comp=Z,16nm,1.0s
BR131 Keskin Array S 21.31 301 P 15 08 03.0 -0.8
BR131 Keskin Array S 21.31 301 *i* P **P 15 08 05.1 +1.2**
BRTR Keskin Array B 21.31 301 P 15 08 02.9 -0.9
BRTR Keskin Array B 21.31 301 P **P 15 08 04.7 +0.8**
comp=Z,2.7nm,0.8s,baz=116,slow=14,SNR=22
comp=Z,2.7nm,0.8s
BELG Belogornoye 22.80 344 LR LR 15 17 57.3
comp=Z,46nm,18.5s,baz=73,slow=39
BELG Belogornoye 22.80 344 *i* P **P 15 08 20.6 +1.1**
BELG pmax pmax
comp=Z,8.0nm,1.0s
ISP Isparta 23.23 295 P P 15 08 22.6 -1.6
ISP Isparta 23.23 295 P **P 15 08 22.6 -1.6**
ISP pmax pmax
comp=Z,26nm,0.8s
MDUB Mudurnu 23.32 302 P P 15 08 22.6 -2.4
VRH Novokhopyorsk 23.52 335 *eP* **P 15 08 27.4 +0.5**
VRH pmax pmax
comp=Z,20nm,0.6s
ELL Elmali 23.56 292 P 15 08 26.0 -1.6
ELL Elmali 23.56 292 P **P 15 08 26.0 -1.6**
ELL pmax pmax
comp=Z,51nm,0.8s
BRVK Borovoye 24.23 19 P 15 08 32.9 -0.6
BRVK IAmb IAmb 15 08 35.6
comp=Z,7.8nm,1.1s
BRVK Borovoye 24.23 19*ceP* **P 15 08 34.2 +0.6**
BRVK pmax pmax
comp=Z,23nm,2.5s
BVAR Borovoye Array 24.23 19 P **P 15 08 34.4 +0.8**
comp=Z,7.7nm,0.8s,baz=187,slow=7.5,SNR=3.5
BVAR PcP **PcP 15 12 14.5 +0.9**
comp=Z,1.1nm,0.4s,baz=201,slow=1.8,SNR=5.2
BVAR LR LR 15 18 06.1
comp=Z,40nm,18.1s,baz=202,slow=37
comp=Z,7.7nm,0.8s
VORD Divnogorie 24.28 332 *eP* **P 15 08 32.9 -1.2**
VORD pmax pmax
comp=Z,9.0nm,1.0s
VSR Storozhevoye 24.52 332 *eP* **P 15 08 34.6 -1.7**
VSR pmax pmax
comp=Z,6.0nm,0.8s
VORR Voronezh 24.86 333 *eP* P 15 08 30.8 -8.5
VORR pmax pmax
comp=Z,65nm,0.4s
MAKZ Makanchi 24.88 43 P 15 08 40.0 +0.5
MAKZ IAmb IAmb 15 08 42.3
comp=Z,11nm,0.8s
MAKZ Makanchi 24.88 43 P **P 15 08 40.1 +0.5**
MAKZ pmax pmax
comp=Z,11nm,0.9s
ARG Arkhangelos 24.94 291 P P 15 08 39.0 -1.2
ARG Arkhangelos 24.94 291 P **P 15 08 39.0 -1.2**
ARG pmax pmax
comp=Z,70nm,1.5s
MK31 Makanchi Array 25.05 43*ceP* **P 15 08 42.5 +1.3**
MKAR Makanchi Array 25.05 43 P 15 08 41.2 0.0
MKAR Makanchi Array 25.05 43 P **P 15 08 42.5 +1.3**
comp=Z,4.1nm,0.8s,baz=224,slow=8.5,SNR=37
comp=Z,4.1nm,0.8s
KURBB Kurchatov Arra 25.39 32 P **P 15 08 45.4 +1.3**
comp=Z,6.3nm,0.8s,baz=232,slow=9.1,SNR=60
KURBB LR LR 15 20 15.3
comp=Z,84nm,18.1s,baz=182,slow=40
comp=Z,6.3nm,0.8s
KURK Kurchatov 25.50 32 P 15 08 44.8 -0.3
KURK IAmb IAmb 15 08 49.0
comp=Z,8.3nm,0.9s
KURK Kurchatov 25.50 32*ceP* **P 15 08 46.6 +1.5**
KURK pmax pmax
comp=Z,9.0nm,0.8s
ARTI Arti 25.66 1 P 15 08 47.1 +0.6
ARTI IAmb IAmb 15 08 53.9
comp=Z,9.7nm,0.9s
ARTI Arti 25.66 1*d iP* **P 15 08 48.6 +2.1**
ARTI 15 09 24.1
ARTI S **S 15 13 19.7 +5.4**
ARTI pmax pmax
comp=Z,11nm,1.3s
LPSR Galich'ya Gora 25.69 334 *eP* P 15 08 37.2 -10
LPSR pmax pmax
comp=Z,10.0nm,0.6s
WMQ Urumqi 27.28 53 *eP* **P 15 09 03.3 +1.8**
WMQ sP sP 15 09 10.5 +2.2
WMQ pmax pmax
comp=Z,11nm,0.7s
KIRV Kirov 28.38 351 LR LR 15 22 35.6
comp=Z,83nm,18.2s,baz=178,slow=41
OBN Obninsk 28.52 335*deP* **P 15 09 13.4 +1.2**
OBN *e* 15 10 01.8
OBN *e*S **S 15 13 52.7 -6.6**
OBN pmax pmax
comp=Z,42nm,1.7s
OBN MLR MLR
comp=Z,38nm,14.0s
MLR Muntele Rosu 28.56 310 P **P 15 09 11.4 -1.5**
MLR IAmb IAmb 15 09 19.2
comp=Z,3.3nm,0.7s
MLR Muntele Rosu 28.56 310 P **P 15 09 11.4 -1.5**
MLR pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 28.92 322 P **P 15 09 16.7 +0.8**
comp=Z,0.7nm,0.5s,baz=122,slow=8.4,SNR=8.1
comp=Z,0.7nm,0.5s
AKBB Malin Array Si 28.92 322 **P 15 09 13.1 -2.7**
AKBB IAmb IAmb 15 09 21.5
comp=Z,10nm,1.2s
AKBB Malin Array Si 28.92 322*ceP* **P 15 09 16.7 +0.8**
AKBB pmax pmax
comp=Z,13nm,2.0s
KIEV Kiev 28.93 322 P 15 09 13.4 -2.5
KIEV IAmb IAmb 15 09 21.5
comp=Z,9.0nm,1.2s
KIEV Kiev 28.93 322 P **P 15 09 13.4 -2.5**
KIEV pmax pmax
comp=Z,9.0nm,1.2s
BURAR Bucovina Array 29.81 314 P **P 15 09 22.9 -1.0**
BUR08 Bucovina Ar. S 29.83 314 P 15 09 23.3 -0.8
ZAA0 Zalesovo Array 30.49 32 P 15 09 29.7 0.0
ZALV Zalesovo Beam 30.49 32 P 15 09 29.4 -0.3
ZALV Zalesovo Beam 30.49 32 P **P 15 09 30.3 +0.6**
comp=Z,10nm,0.7s,baz=239,slow=9.0,SNR=47
ZALV LR LR 15 23 35.0
comp=Z,81nm,19.0s,baz=344,slow=40
comp=Z,10nm,0.7s
MNK Minsk 31.76 327 *i* P **P 15 09 40.6 -0.3**
comp=E,7.0nm,0.5s
MNK *i* P **P 15 09 40.6 -0.3**
comp=N,7.0nm,0.5s
MNK *i* P **P 15 09 40.6 -0.3**
comp=Z,12nm,0.7s,baz=126
MNK *i* PP **PnPn 15 10 45.3 +0.2**
MNK *i* PPP PPP 15 10 54.6
MNK *i* S **S 15 14 52.4 +2.1**
MNK *i* SS **SnSn 15 16 38.6 +1.1**
MNK *i* SSS SSS 15 16 58.0
MNK *i* LQ LQ 15 21 00.2
MNK *i* LR LR 15 22 34.0
MNK *i* LRM MLR 15 24 18.8
comp=Z,27nm,13.4s
MNK *i* LRM MLR 15 24 44.0
comp=N,196nm,19.6s
MNK *i* LRM MLR 15 24 46.9
comp=E,307nm,19.7s
MNK Minsk 31.76 327 *i* P **P 15 09 40.6 -0.3**
MNK *i* 15 10 45.3
MNK *i* 15 12 30.8
MNK *i* S **S 15 14 52.3 +2.1**
MNK *i* SS **SnSn 15 16 38.5 +1.1**
MNK *i* 15 20 12.7
MNK pmax pmax
comp=E,7.0nm,0.5s
MNK pmax pmax
comp=N,7.0nm,0.5s
MNK pmax pmax
comp=Z,12nm,0.7s
MNK MLR MLR
comp=Z,27nm,13.0s
MNK MLR MLR
comp=N,196nm,20.0s
MNK MLR MLR
comp=E,307nm,20.0s
KLMR Klimovskoe 32.37 344 *eP* **P 15 09 45.1 -1.1**
KLMR pmax pmax
comp=Z,17nm,1.6s
OJC Ojcow 34.09 316 P **P 15 10 01.1 -0.2**
OJC Ojcow 34.09 316 P **P 15 10 01.2 -0.2**
VYHS Vyhne 34.13 312 *eP* **P 15 10 05.5 +3.8**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 34.13 312 *eP* **P 15 10 05.5 +3.8**
GTA Gaotai 35.54 64 P **P 15 10 16.0 +1.8**
GTA pmax pmax
comp=Z,6.0nm,1.4s
RONA Rosalia, Austr 35.56 310 *ep*P pP 15 10 17.6 -1.6
comp=Z,4.2nm,0.6s
CONA Conrad Observa 35.90 311 *ep*P pP 15 10 22.9 +0.8
comp=Z,2.6nm,1.0s
FIA1 FINESS Array S 36.92 335 P **P 15 10 25.7 +0.2**
FINES FINESS Array B 36.92 335 P **P 15 10 25.7 +0.2**
FINES FINESS Array B 36.92 335 P **P 15 10 26.1 +0.7**
comp=Z,4.8nm,0.7s,baz=120,slow=11,SNR=16
comp=Z,4.8nm,0.7s
SABO M.te Sabotino 37.05 307 P **P 15 10 27.5 +0.6**
PRED Cave del Predi 37.15 308 P **P 15 10 27.2 -0.5**
PRED IAmb IAmb 15 10 31.4
comp=Z,4.1nm,0.8s
ZVC Zvikov 37.33 313 *eP* **P 15 10 32.6 +3.4**
CESX Cesi 37.42 301 P **P 15 10 29.8 -0.2**
CESX IAmb IAmb 15 10 42.2
comp=Z,15nm,1.5s
GEC2 GERESS Array S 37.51 312 P 15 10 30.1 -0.7
GEC2 IAmb IAmb 15 10 34.9
comp=Z,5.8nm,0.8s
GERES GERESS Array B 37.51 312 P 15 10 30.7 -0.2
GERES GERESS Array B 37.51 312 P **P 15 10 31.4 +0.6**
comp=Z,5.0nm,0.8s,baz=106,slow=8.4,SNR=20
comp=Z,5.0nm,0.8s
KHC Kasperske Hory 37.65 312 *eP* **P 15 10 32.6 +0.7**
KHC Kasperske Hory 37.65 312 *eP* **P 15 10 32.6 +0.7**
KIBK Kibwezi 37.69 213 P **P 15 10 32.0 -0.6**
CIMO Cimolais 37.90 307 P **P 15 10 33.1 -0.9**
LESA Schwarzleotal 37.91 309 *eP* **P 15 10 34.5 +0.3**
comp=Z,4.0nm,0.5s
ABTA Abfaltersbach 37.91 308 *eP* **P 15 10 34.4 +0.1**
comp=Z,3.8nm,0.9s
OSSC Osservatorio P 38.45 303 P **P 15 10 38.8 0.0**
OSSC IAmb IAmb 15 11 01.9
comp=Z,7.9nm,1.3s
CLL Collm 38.53 315 P **P 15 10 39.4 +0.1**
CLL IAmb IAmb 15 10 44.3
comp=Z,14nm,1.3s
CLL Collm 38.53 315 *i* P **P 15 10 40.5 +1.2**
CLL *i* 15 10 43.2
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 38.53 315 *i* P **P 15 10 40.5 +1.2**
comp=Z,6.0nm,0.9s
CLL *i* sP **pP 15 10 43.2 -1.1**
comp=Z,11nm,1.2s
WTTA Wattenberg 38.58 309 *eP* **P 15 10 40.3 +0.3**
comp=Z,7.1nm,1.0s
WATA Walderalm 38.63 309 *eP* **P 15 10 41.5 +1.2**
comp=Z,8.9nm,0.9s
SQTA Sankt Quirin 38.86 308 *eP* **P 15 10 41.9 -0.4**
comp=Z,10nm,0.7s
MOTA Moosalm 38.95 309 *eP* **P 15 10 43.0 -0.1**
comp=Z,6.6nm,0.9s
FETA Feichten 39.16 308 *eP* **P 15 10 44.5 -0.3**
comp=Z,8.4nm,0.7s
RETA Reute 39.20 309 *eP* **P 15 10 44.9 -0.2**
comp=Z,2.9nm,0.6s
CHTO Chiang Mai 39.37 98 P **P 15 10 47.2 +0.5**
CHTO IAmb IAmb 15 10 48.6
comp=Z,7.3nm,0.9s
CHTO Chiang Mai 39.37 98 P **P 15 10 47.2 +0.5**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
FUORN Ofenpass-Fuorn 39.43 307 P **P 15 10 47.7 +0.5**
CMAR Chiang Mai Arr 39.52 98 P **P 15 10 47.9 -0.1**
CMAR Chiang Mai Arr 39.52 98 P **P 15 10 49.0 +1.0**
comp=Z,0.5nm,0.3s,baz=292,slow=8.1,SNR=11
CMAR LR LR 15 29 27.0
comp=Z,39nm,19.3s,baz=265,slow=40
comp=Z,0.5nm,0.3s
LVZ Lovozero 39.54 347 P **P 15 10 48.0 +0.5**
LVZ IAmb IAmb 15 11 25.2
comp=Z,16nm,1.3s
LVZ Lovozero 39.54 347 P **P 15 10 48.0 +0.5**
LVZ pmax pmax
comp=Z,16nm,1.3s
TUE Stuetta 40.04 307 P **P 15 10 50.2 -2.0**
TUE IAmb IAmb 15 10 56.3
comp=Z,5.0nm,0.7s
KMI Kunming 40.28 86 P **P 15 10 55.8 +1.4**
KMI sP pP 15 10 59.3 -0.2
KMI pmax pmax
comp=Z,9.0nm,0.9s
DGAR Diego Garcia 40.59 157 P **P 15 10 54.1 -2.6**
DGAR Diego Garcia 40.59 157 P **P 15 10 54.1 -2.6**
DGAR pmax pmax
comp=Z,124nm,1.1s
SONM Songino Array 40.88 51 P **P 15 10 58.0 -1.1**
SONM Songino Array 40.88 51 P **P 15 11 01.1 +2.0**
comp=Z,0.9nm,0.5s,baz=264,slow=9.6,SNR=7.8
comp=Z,0.9nm,0.5s
HFS Hagfors 41.24 328 P **P 15 11 02.4 +0.7**
comp=Z,1.4nm,0.6s,baz=117,slow=8.8,SNR=4.3
comp=Z,1.4nm,0.6s
ULN Ulaanbaatar 41.33 51 P **P 15 11 02.4 -0.3**
ULN Ulaanbaatar 41.33 51*ceP* **P 15 11 03.3 +0.5**
ULN pmax pmax
comp=Z,5.0nm,1.7s
NRIK Noril'sk 42.31 15 **P 15 11 09.5 -0.9**
NRIK IAmb IAmb 15 11 12.6
comp=Z,6.6nm,1.1s
NRIK Noril'sk 42.31 15 P **P 15 11 11.1 +0.7**
comp=Z,1.2nm,0.3s,baz=227,slow=5.8,SNR=5.7
NRIK LR LR 15 31 38.6
comp=Z,58nm,18.8s,baz=182,slow=40
comp=Z,1.2nm,0.3s
NRIK Noril'sk 42.31 15*ceP* **P 15 11 11.4 +1.1**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
NC602 NORSAR Array S 42.46 329 P **P 15 11 09.9 -1.7**
KEV Kevo 42.67 345 P **P 15 11 13.2 0.0**
KEV IAmb IAmb 15 11 15.0
comp=Z,11nm,1.1s
KEV Kevo 42.67 345 P **P 15 11 13.2 0.0**
KEV pmax pmax
comp=Z,11nm,1.1s
ARCES ARCESS Array B 42.85 344 P **P 15 11 15.2 +0.5**
comp=Z,2.3nm,0.7s,baz=141,slow=7.8,SNR=10
comp=Z,2.3nm,0.7s
HHC Hu-ho-hao-te 44.49 61 *eP* **P 15 11 27.8 -0.7**
HHC pmax pmax
comp=Z,6.0nm,0.6s
ESDC Sonseca Array 50.04 298 P **P 15 12 10.6 -1.1**
comp=Z,1.1nm,0.8s,baz=50,slow=9.9,SNR=4.9
comp=Z,1.1nm,0.8s
SPB2 Spitsbergen Ar 50.83 350 P **P 15 12 16.7 -0.3**
SPITS Spitsbergen Ar 50.84 350 P **P 15 12 16.3 -0.8**
comp=Z,4.4nm,0.8s,baz=118,slow=12,SNR=7.7
comp=Z,4.4nm,0.8s
SPITS Spitsbergen Ar 50.84 350 P **P 15 12 17.7 +0.6**
KBS Kingsbay 52.00 350 P **P 15 12 25.6 -0.1**
KBS Kingsbay 52.00 350 P **P 15 12 25.6 -0.1**
KBS pmax pmax
comp=Z,17nm,1.2s
TORD Torodi Ar. Bea 53.98 264 P 15 12 40.4 -0.8
TORD IAmb IAmb 15 12 44.6
comp=Z,3.2nm,0.8s
TORD Torodi Ar. Bea 53.98 264 P **P 15 12 40.5 -0.8**
comp=Z,5.5nm,0.8s,baz=48,slow=7.7,SNR=8.5
comp=Z,5.5nm,0.8s
ZEA Zeya 54.21 43 *eP* **P 15 12 44.5 +2.2**
HEH HeiHe 54.66 48 *eP* **P 15 12 46.5 +0.8**
YAK Yakutsk 55.13 33 P **P 15 12 48.4 -0.5**
YAK Yakutsk 55.13 33 LR LR 15 41 17.4
comp=Z,30nm,18.7s,baz=253,slow=41
YAK Yakutsk 55.13 33 *eP* **P 15 12 49.3 +0.4**
YAK *e**PP **pP 15 12 52.5 -1.6**
YAK *e* 15 13 49.4
YAK *e* 15 14 52.0
YAK *e*S **S 15 20 33.2 +2.1**
YAK *e* 15 22 40.1
YAK pmax pmax
comp=Z,7.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,79nm,3.9s
YAK pmax pmax
comp=N,52nm,4.3s
YAK pmax pmax
comp=E,56nm,3.8s
YAK smax smax
comp=E,50nm,3.5s
YAK smax smax
comp=N,41nm,3.7s
TIXI Tiksi 55.34 21 **P 15 12 50.0 -0.2**
TIXI IAmb IAmb 15 12 50.9
comp=Z,4.0nm,1.1s
TIXI Tiksi 55.34 21 LR LR 15 41 46.6
comp=Z,41nm,19.1s,baz=204,slow=42
TIXI Tiksi 55.34 21*ceP* **P 15 12 50.2 0.0**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
KSAR Wonju Array Be 57.57 63 P **P 15 13 06.1 -0.6**
KSAR Wonju Array Be 57.57 63 P **P 15 13 06.1 -0.6**
KSRS Korea Array 57.60 63 LR LR 15 40 24.9
comp=Z,50nm,18.2s,baz=295,slow=39
KLR Kul'dur 57.60 48 LR LR 15 40 50.2
comp=Z,58nm,20.9s,baz=256,slow=39
KLR Kul'dur 57.60 48*ceP* **P 15 13 06.9 +0.2**
KLR pmax pmax
comp=Z,8.0nm,2.5s
JOW Kunigami 61.33 74 LR LR 15 41 56.8
comp=Z,83nm,18.6s,baz=332,slow=38
DBIC Dimbokro 62.78 261 LR LR 15 41 36.4
comp=Z,44nm,20.7s,baz=98,slow=37
SEY Seymchan 65.32 30 LR LR 15 45 43.5
comp=Z,74nm,19.3s,baz=124,slow=39
SEY Seymchan 65.32 30*ceP* **P 15 13 59.7 +1.1**
SEY pmax pmax
comp=Z,5.0nm,1.3s
EUNU Eureka 67.67 354 P **P 15 14 12.9 -0.6**
BILL Bilibino 68.53 22*ceP* **P 15 14 21.0 +2.0**
BILL pmax pmax
comp=Z,5.0nm,1.7s
PETK Petropavlovsk- 71.79 39 LR LR 15 50 42.8
comp=Z,73nm,18.1s,baz=102,slow=40
B20K Meade River 76.50 12 P **P 15 15 07.8 +1.3**
B20K IAmb IAmb 15 15 08.9
comp=Z,4.3nm,0.8s
C18K Utukok River 76.91 14 P **P 15 15 09.0 +0.1**
C18K IAmb IAmb 15 15 14.6
comp=Z,4.3nm,1.0s
A36M Sachs Harbour 77.55 1 **P 15 15 12.1 -0.3**
E18K Tukpahlearik C 78.06 14 **P 15 15 14.6 -0.7**
E18K IAmb IAmb 15 15 16.9
comp=Z,4.9nm,1.1s
F17K Baldwin Pennin 78.75 15 P **P 15 15 19.7 +0.7**
F17K IAmb IAmb 15 15 20.6
comp=Z,7.4nm,1.3s
E25K Arctic Village 79.97 9 P **P 15 15 26.5 +0.7**
E25K IAmb IAmb 15 15 31.1
comp=Z,3.5nm,1.0s
BMAR Burnt Mountain 80.75 8 P **P 15 15 30.3 +0.3**
FITZ Fitzroy Crossi 81.60 117 P **P 15 15 34.0 -1.1**
ILAR Eielson Array 82.94 10 P **P 15 15 41.4 -0.2**
comp=Z,0.5nm,0.8s,baz=323,slow=4.4,SNR=4.8
comp=Z,0.5nm,0.8s
I30M Mount Dempster 83.77 6 P **P 15 15 44.7 -1.2**
I30M IAmb IAmb 15 15 53.1
comp=Z,2.4nm,1.1s
BCAR Beaver Creek A 85.29 9 P **P 15 15 53.9 +0.3**
YKA Yellowknife Ar 86.88 356 P **P 15 16 00.8 -0.5**
comp=Z,0.8nm,0.9s,baz=1.9,slow=5.4,SNR=11
comp=Z,0.8nm,0.9s
YKA Yellowknife Ar 86.88 356*ceP* **P 15 16 01.7 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 89.42 114 P **P 15 16 14.2 +0.1**
comp=Z,0.5nm,0.3s,baz=306,slow=4.8,SNR=2.2
comp=Z,0.5nm,0.3s
ASAR Alice Springs 91.10 117 P **P 15 16 21.5 -0.4**
comp=Z,1.6nm,1.1s,baz=306,slow=4.9,SNR=13
comp=Z,1.6nm,1.1s

NEIC ***25*** *15:10:55.5±1.1,61°.43N±0°.04×151°.74W±0°.09,h85km±7km, Error ellipse: s-maj=6.5km s-min=5.9km az=74.0*
AEIC 25 15:10:56.6±1.6,61°.45N±0°.04×151°.82W±0°.08,h70km±6km, ML2.4,ML2.7/178(NEIC),**Error ellipse: s-maj=6.1km s-min=5.7km az=219.0,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.05**	**351**		Pn	15 11 07.1	+0.2
STLK				Sn	Sn	15 11 15.9	+1.5
SUA	**Susitna One**	**0.51**	**88**		Pn	15 11 09.8	+0.1
SUA				Sn	Sn	15 11 20.5	+1.2
SKT	**Skwentna**	**0.55**	**14**		Pn	15 11 09.9	-0.1
SKT				Sn	Sn	15 11 20.7	+1.0
CAPN	**Captain Cook N**	**0.76**	**155**	Pn	Pn	15 11 12.3	+0.2
M20K	**Styx River**	**0.76**	**305**		Pn	15 11 13.0	+0.6
FIS	**Fire Island**	**0.83**	**111**	Pn	Pn	15 11 13.3	+0.3
FIS				IAML		15 11 34.2	
FIS	comp=N,214nm,1.5s			IAML		15 11 52.7	
M22K	comp=E,253nm,0.9s **Willow**	**0.87**	**69**		Pn	15 11 13.3	-0.1
M22K				IAML		15 11 28.1	
M22K	comp=E,242nm,0.5s			IAML		15 11 28.5	
RC01	comp=N,207nm,0.4s **Rabbit Creek A**	**1.07**	**109**		Pn	15 11 15.0	-1.0
CUT	**Chulitna**	**1.21**	**37**		Pn	15 11 17.7	+0.1
SLKM	**Skilak Lake**	**1.23**	**140**		Pn	15 11 16.6	-1.4
SLKM				IAML		15 11 35.3	
SLKM	comp=N,120nm,0.2s			IAML		15 11 37.3	
PMR	comp=E,69nm,0.2s **Palmer**	**1.29**	**83**	Pn	Pn	15 11 17.4	-1.4
M19K	**Big River Lodg**	**1.31**	**291**	Pn	Pn	15 11 19.4	+0.3
O22K	**Cooper Landing**	**1.41**	**133**		Pn	15 11 19.3	-1.0
O22K				IAML		15 11 41.1	
O22K	comp=E,169nm,0.4s			IAML		15 11 45.6	
GHO	comp=N,178nm,0.6s **Glory Hole Cre**	**1.42**	**76**		Pn	15 11 19.3	-1.2
N19K	**Bonanza Creek**	**1.44**	**245**	Pn	Pn	15 11 20.8	-0.1
PPLA	**Purkeypile**	**1.46**	**353**		Pn	15 11 21.0	-0.2
ILSW	**Iliamna Southw**	**1.61**	**204**	Pn	Pn	15 11 22.1	-1.0
KNK	**Knik Glacier**	**1.61**	**90**		Pn	15 11 21.5	-1.6
KNK				IAML		15 11 48.0	
L19K	comp=E,37nm,0.2s **White Mountain**	**1.62**	**298**	Pn	Pn	15 11 23.5	+0.4
SML	**Sawmill**	**1.70**	**76**	Pn	Pn	15 11 22.5	-1.8
SML				IAML		15 12 26.2	
BRLK	comp=N,36nm,4.2s **Bradley Lake**	**1.75**	**164**		Pn	15 11 23.9	-1.0
SEW	**Seward**	**1.78**	**138**		Pn	15 11 23.7	-1.6
SEW				IAML		15 11 49.9	
SEW	comp=N,50nm,1.0s			IAML		15 11 53.3	
PWL	comp=E,49nm,0.6s **Port Wells**	**1.79**	**108**		Pn	15 11 23.1	-2.4
PWL				IAML		15 11 56.3	
PWL	comp=E,52nm,3.1s			IAML		15 12 40.4	
HOM	comp=N,45nm,3.7s **Homer**	**1.80**	**177**	Pn	Pn	15 11 24.6	-1.0
P19K	**Oil Pt**	**1.94**	**202**	Pn	Pn	15 11 25.5	-1.9
P19K				IAML		15 11 53.1	

comp=E,58nm,1.6s
P19K IAML 15 11 56.8
comp=N,62nm,2.2s
CNPM China Poot 1.95 171 Pn Pn 15 11 25.9 -1.8
CNPM IAML 15 11 52.6
comp=E,54nm,3.7s
CNPM IAML 15 12 02.2
comp=N,49nm,2.8s
CAST Castle Rocks 1.98 357 Pn 15 11 27.7 -0.2
N18K Kilae Creek 2.13 250 Pn Pn 15 11 29.5 -0.5
TRF Thorofare Moun 2.13 19 Pn 15 11 29.6 -0.5
TRF IAML 15 11 55.6
comp=E,38nm,3.5s
TRF IAML 15 11 57.6
comp=N,55nm,0.5s
KTH Kantishna Hill 2.15 11 Pn 15 11 30.1 -0.2
SCM Sheep Creek Mo 2.18 78 Pn Pn 15 11 29.0 -1.7
SCM IAML 15 12 12.5
comp=N,41nm,3.6s
SCM IAML 15 12 47.4
comp=E,40nm,3.7s
K20K Telida 2.18 332 Pn Pn 15 11 29.7 -1.0
O18K Koktuh Hills 2.31 228 Pn Pn 15 11 31.8 -0.7
O18K IAML 15 12 04.8
comp=N,20nm,4.2s
O18K IAML 15 12 33.0
comp=E,23nm,3.7s
GLI Glacier Island 2.36 102 Pn Pn 15 11 31.2 -1.8
GLI IAML 15 12 31.9
comp=N,61nm,3.2s
GLI IAML 15 12 40.5
comp=E,52nm,3.4s
RND Reindeer 2.40 34 Pn Pn 15 11 32.9 -0.7
RND IAML 15 12 05.5
comp=E,17nm,0.5s
RND IAML 15 12 40.8
comp=N,21nm,4.0s
L18K Granite Mounta 2.44 291 Pn Pn 15 11 33.6 -0.5
MCK McKinley 2.65 29 Pn Pn 15 11 31.9 -5.1
MCK IAML 15 12 04.8
comp=E,20nm,3.5s
MCK IAML 15 12 30.5
comp=N,18nm,3.6s
P18K Big Mountain, 2.67 221 Pn Pn 15 11 36.4 -0.9
P18K IAML 15 12 33.1
comp=N,20nm,3.2s
P18K IAML 15 13 06.0
comp=E,21nm,4.0s
BPAW Bear Paw Mtn. 2.69 8 Pn Pn 15 11 36.5 -1.0
BPAW IAML 15 12 15.8
comp=E,14nm,4.0s
FID Port Fidalgo 2.69 103 Pn Pn 15 11 33.4 -4.2
Q19K Cape Douglas, 2.69 201 Pn Pn 15 11 36.7 -0.9
M17K Holitna River 2.70 271 Pn Pn 15 11 37.4 -0.3
M17K IAML 15 13 09.9
comp=N,22nm,2.9s
M24K Tolsona, Glenn 2.76 74 Pn Pn 15 11 37.5 -1.1
N17K Nushagak Hills 2.78 253 Pn Pn 15 11 37.7 -1.0
N17K IAML 15 12 15.2
comp=N,15nm,3.7s
N17K IAML 15 12 18.6
comp=E,13nm,3.9s
HIN Hinchinbrook I 2.80 110 Pn Pn 15 11 35.8 -3.3
KLU Klutina 2.83 87 Pn Pn 15 11 36.5 -3.0
KLU IAML 15 12 21.1
comp=N,44nm,3.8s
KLU IAML 15 12 44.7
comp=E,22nm,3.6s
SYI Shuyak Island 2.87 186 Pn Pn 15 11 38.4 -1.6
BWN Browne 2.94 21 Pn Pn 15 11 40.5 -0.3
BWN IAML 15 12 14.8
comp=N,33nm,3.0s
BWN IAML 15 13 18.0
comp=E,38nm,3.3s
DIV Divide 2.94 94 Pn Pn 15 11 40.5 -0.4
DIV IAML 15 12 11.4
comp=E,37nm,3.8s
DIV IAML 15 13 07.2
comp=N,32nm,3.7s
J20K Nowinta River 2.94 340 Pn Pn 15 11 40.6 -0.3
J18K Innoko River 3.04 314 Pn Pn 15 11 41.8 -0.5
EYAK Cordova Ski Ar 3.09 104 Pn Pn 15 11 39.1 -3.8
J19K Poorman 3.10 327 Pn Pn 15 11 42.8 -0.2
K17K Iditarod 3.30 295 Pn Pn 15 11 45.6 -0.3
K17K IAML 15 12 23.9
comp=N,22nm,3.9s
K17K IAML 15 13 34.2
comp=E,18nm,3.5s
PAX Paxson 3.34 60 Pn Pn 15 11 45.7 -0.8
PAX IAML 15 13 03.6
comp=N,16nm,4.2s
PAX IAML 15 13 05.8
comp=E,17nm,3.7s
NEA2 Nenana 3.39 20 Pn Pn 15 11 46.1 -1.0
NEA2 IAML 15 12 39.4
comp=N,10nm,3.6s
NEA2 IAML 15 13 29.2
comp=E,13nm,3.5s
N25K Chitina, Valde 3.46 84 Pn Pn 15 11 47.2 -0.9
N25K IAML 15 12 26.9
comp=N,25nm,3.6s
WRH Wood River Hil 3.48 28 Pn Pn 15 11 46.8 -1.4
WRH IAML 15 12 30.1
comp=E,16nm,4.0s
WRH IAML 15 14 07.3
comp=N,18nm,3.9s
M16K Timber Creek 3.48 266 Pn Pn 15 11 47.7 -0.6
M16K IAML 15 12 31.6
comp=E,19nm,3.1s
M16K IAML 15 13 33.7
comp=N,16nm,3.5s
BMRM Bremner River 3.52 95 Pn Pn 15 11 48.8 -0.2
I20K Naaghedeneel 3.57 341 Pn Pn 15 11 48.9 -0.6
K24K Donnelly Dome 3.65 47 Pn Pn 15 11 50.4 -0.2
CCB Clear Creek Bu 3.69 28 Pn Pn 15 11 49.6 -1.5
CCB IAML 15 12 31.2
comp=E,7.6nm,3.7s
CCB IAML 15 13 20.6
comp=N,9.4nm,3.8s
KDAK Kodiak Island 3.70 186 Pn Pn 15 11 49.4 -1.9
HDA Harding Lake 3.71 35 Pn 15 11 50.2 -1.3
HDA IAML 15 12 38.1
comp=N,14nm,0.5s
HDA IAML 15 13 49.4
comp=E,16nm,4.1s
I21K Tanana 3.74 359 Pn Pn 15 11 50.9 -0.9
I21K IAML 15 12 47.3
comp=N,16nm,3.7s
I21K IAML 15 13 08.9
comp=E,13nm,3.4s
GLB Gilahina Butte 3.84 87 Pn Pn 15 11 52.5 -0.8
I23K Minto, Yukon-K 3.87 16 Pn Pn 15 11 53.0 -0.6
I23K IAML 15 12 32.8
comp=N,9.6nm,3.6s
I23K IAML 15 14 29.8
comp=E,12nm,4.2s
COLA College 3.88 26 Pn Pn 15 11 53.6 0.0
COLA IAML 15 12 52.9
comp=E,15nm,0.3s
COLA IAML 15 13 05.6
comp=E,12nm,0.6s
RIDG Independent Ri 3.96 51 Pn 15 11 54.1 -0.7
IL31 4.01 32 Pn 15 11 54.7 -0.8
ILAR Eielson Array 4.01 32 Pn Pn 15 11 54.9 -0.7
VRDI Verde Repeater 4.04 90 Pn Pn 15 11 56.4 +0.4
VRDI IAML 15 13 03.5
comp=E,19nm,3.8s
POKR Poker Plat Res 4.18 26 Pn Pn 15 11 57.8 0.0
POKR IAML 15 12 49.5
comp=E,12nm,4.0s
POKR IAML 15 13 40.8
comp=N,10nm,3.8s
DOT Dot Lake 4.21 55 Pn Pn 15 11 56.8 -1.5
DOT IAML 15 13 02.5
comp=N,12nm,2.8s
H21K Melozitna Rive 4.25 354 Pn 15 11 57.9 -0.9
H21K IAML 15 13 01.7
comp=E,8.5nm,3.8s
H21K IAML 15 14 22.8
comp=N,8.4nm,3.7s
OHAK Old Harbor 4.31 191 Pn Pn 15 12 00.2 +0.6
J25K Salcha River, 4.32 40 Pn 15 11 58.8 -1.0
J25K IAML 15 13 13.1
comp=E,10nm,3.9s
J25K IAML 15 14 53.8
comp=N,9.8nm,4.1s
SCRK Sand Creek 4.41 51 Pn Pn 15 11 59.4 -1.6
SCRK IAML 15 12 38.6
comp=N,12nm,3.8s
SCRK IAML 15 14 16.4
comp=E,11nm,4.1s
H23K Yukon River 4.51 12 Pn Pn 15 12 01.8 -0.5
H23K IAML 15 14 25.1
comp=N,8.6nm,4.1s
H23K IAML 15 15 03.3
comp=E,10nm,3.6s
H24K Noodor Dome 4.74 20 Pn Pn 15 12 05.0 -0.5
H24K IAML 15 14 37.6
comp=N,8.3nm,4.1s
H24K IAML 15 15 02.6
comp=E,8.6nm,4.1s
H18K Honhosa River 4.74 324 Pn Pn 15 12 04.9 -0.6
H18K IAML 15 14 24.8
comp=N,9.1nm,3.9s
H18K IAML 15 14 34.6
comp=E,7.4nm,3.8s
J26L Joseph Creek 4.85 47 Pn 15 12 05.9 -1.2
J26L IAML 15 13 12.0
comp=E,9.4nm,3.3s
J26L IAML 15 15 04.4
comp=N,10nm,4.4s
PRP Porcupine Dome 4.96 32 Pn Pn 15 12 08.7 +0.1
PRP IAML 15 12 47.8
comp=E,7.4nm,4.2s
PRP IAML 15 13 10.9
comp=N,8.9nm,3.3s
G21K Allakaket 5.14 352 Pn Pn 15 12 10.3 -0.6
G21K IAML 15 12 58.9
comp=N,5.7nm,3.6s
K27K Chicken 5.17 56 Pn Pn 15 12 11.5 +0.1
G23K Bananza Creek 5.34 8 Pn Pn 15 12 14.0 +0.3
G23K IAML 15 14 44.8
comp=N,4.6nm,4.1s
G23K IAML 15 15 37.4
comp=E,6.7nm,3.8s
G18K Tagagawik 5.40 329 Pn Pn 15 12 14.4 0.0
I26K Coal Creek Min 5.49 41 Pn Pn 15 12 14.5 -1.2
G24K Hadweenzic Riv 5.60 18 Pn Pn 15 12 17.0 -0.2
F21K Alatna River 5.84 354 Pn Pn 15 12 20.6 +0.1
COLD Coldfoot 5.84 6 Pn Pn 15 12 20.4 -0.1
F20K Avaraart Lake 5.87 345 Pn Pn 15 12 20.7 -0.2
YKU2 Yakutat 6.31 103 Pn Pn 15 12 27.8 +0.9
F24K Squaw Lake 6.32 14 Pn Pn 15 12 26.1 -1.0
M29M Somme Creek 6.38 75 Pn Pn 15 12 27.7 -0.2
E19K Redstone River 6.47 341 Pn Pn 15 12 28.4 -0.6
H27K Steamboat Moun 6.61 39 Pn Pn 15 12 29.9 -1.0
I28M Miner Creek 6.66 48 Pn Pn 15 12 30.2 -1.6
BMAR Burnt Mountain 6.76 24 Pn Pn 15 12 31.9 -1.2
G27K Doyon Strip 6.97 35 Pn Pn 15 12 35.2 -0.7
N30M Aishikik Lake 7.06 83 Pn Pn 15 12 33.6 -3.6

*NEIC **25** 15:16:14.5±1.1, 18°.3N±0°.2×68°.83W±0°.06, h150km±4km, ML2.6/22, Md3.2/10(RSPR), Error ellipse: s-maj=35.9km s-min=6.9km az=185.0*
*RSPR **25** 15:16:15.3, 18°.34N×68°.80W, h150km±2km, MD3.2/10*
*OSPL **25** 15:16:16.8±1.0, 18°.39N×68°.75W, h148km±14km, ML2.5*
*SDD **25** 15:16:29.2±2.0, 18°.56N×68°.92W, h66km±21km, MD3.1, ML2.4, MW3.5*

ISC 25 15:16:14.9±1.6, 18°.3N±0°.1×68°.80W±0°.03, h146km±12km, n61, σ1§47/63, 6C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.46**	**59**			**Pn**	**15 16 35.9**	**+0.2**
PCDR						**Sn**	**15 16 51.8**	**+0.3**
PCDR				IAML			15 16 55.0	
comp=N,69nm,0.9s								
PCDR	**Punta Cana, DR**	**0.46**	**59**	⇓*e*P		**Pn**	**15 16 36.1**	**+0.3**
PCDR	**Punta Cana, DR**	**0.46**	**59**	*e*S		**Sn**	**15 16 53.0**	**+1.5**
PCDR	**Punta Cana, DR**	**0.46**	**59**	*i* P		**Pn**	**15 16 36.0**	**+0.3**
PCDR				IAML			15 16 53.7	
comp=Z,66nm,1.8s								
MIDR	**Miches**	**0.75**	**341**	*e*Pg		**Pn**	**15 16 40.5**	**+3.1**
MIDR				*e*Sg		**Sn**	**15 16 48.5**	**-6.0**
MIDR				IAML			15 16 57.6	
comp=N,24nm,0.4s								
DR12	**Loma Pena Alta**	**0.75**	**313**	Pn		**Pn**	**15 16 37.5**	**0.0**
DR12				Sn		**Sn**	**15 16 54.4**	**-0.3**
HATOM	**Hato Mayor del**	**0.75**	**313**	*e*Pg		**Pn**	**15 16 40.9**	**+3.5**
HATOM				*e*Sg		**Sn**	**15 16 49.7**	**-5.0**
HATOM				IAML			15 16 57.9	
comp=N,47nm,0.1s								
SDD	**Santo Domingo**	**1.07**	**280**	Pn		**Pn**	**15 16 38.4**	**-1.6**
SDD				Sn		**Sn**	**15 16 58.6**	**-0.5**
SDD				IAML			15 16 58.6	
comp=N,56nm,2.0s								
SDD				IAML			15 17 03.0	
comp=E,40nm,0.3s								
SMDR	**Samana, DR**	**1.08**	**340**	⇑*e*P		**Pn**	**15 16 39.8**	**-0.3**
SMDR	**Samana, DR**	**1.08**	**340**	*e*S		**Sn**	**15 16 59.9**	**+0.6**
IDE	**Isla Desecheo**	**1.26**	**85**			**Pn**	**15 16 43.0**	**+1.2**
IDE						**Sn**	**15 17 02.9**	**+0.6**
IDE	**Isla Desecheo**	**1.26**	**85**	⇓*e*P		**Pn**	**15 16 43.0**	**+1.2**
IDE	**Isla Desecheo**	**1.26**	**85**	*e*S		**Sn**	**15 17 02.9**	**+0.6**
DR08	**Loma La Naviza**	**1.35**	**301**	*e*Pg		Pn	15 16 47.2	+4.5
DR08				*e*Sg		**Sn**	**15 17 03.7**	**-0.2**
DR08				IAML			15 17 05.0	
comp=N,1μm,0.1s								
BANI	**BANI**	**1.48**	**275**			**Pn**	**15 16 44.4**	**+0.2**
BANI	**BANI**	**1.48**	**275**	*e*Pg		Pn	15 16 50.0	+5.8
BANI				IAML			15 17 11.4	
comp=N,119nm,0.3s								
AGPR	**Aguadilla, PR**	**1.61**	**83**			**Sn**	**15 17 09.9**	**+1.1**
AGPR	**Aguadilla, PR**	**1.61**	**83**			**Pn**	**15 16 45.5**	**0.0**
AGPR				IAML			15 17 11.5	
comp=N,58nm,1.1s								
AGPR				IAML			15 17 13.0	
comp=E,70nm,0.3s								
AGPR	**Aguadilla, PR**	**1.61**	**83**	*e*Pg		Pn	15 16 56.8	+11
AGPR				IAML			15 17 53.7	
comp=N,28nm,0.8s								
AGPR	**Aguadilla, PR**	**1.61**	**83**	⇓*e*P		**Pn**	**15 16 45.8**	**+0.3**
AGPR	**Aguadilla, PR**	**1.61**	**83**	*e*S		**Sn**	**15 17 09.9**	**+1.1**
AGPR	**Aguadilla, PR**	**1.61**	**83**	*i* P		**Pn**	**15 16 45.6**	**+0.2**
AGPR				IAML			15 17 14.6	
comp=Z,32nm,0.8s								
CRPR	**Cabo Rojo, PR**	**1.63**	**99**			**Sn**	**15 17 07.3**	**-1.7**
CRPR	**Cabo Rojo, PR**	**1.63**	**99**			**Pn**	**15 16 46.1**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.63**	**99**	*e*Pg		Pn	15 16 57.9	+12
CRPR				IAML			15 17 33.2	
comp=N,22nm,1.6s								
CRPR	**Cabo Rojo, PR**	**1.63**	**99**	⇑*e*P		**Pn**	**15 16 46.4**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.63**	**99**	*e*S		**Sn**	**15 17 07.3**	**-1.7**
CRPR	**Cabo Rojo, PR**	**1.63**	**99**	*i* P		**Pn**	**15 16 46.3**	**+0.7**
CRPR				IAML			15 17 18.1	
comp=Z,19nm,0.7s								
LSP	**Las Mesas**	**1.63**	**93**			**Pn**	**15 16 47.1**	**+1.4**
LSP	**Las Mesas**	**1.63**	**93**	⇑*e*P		**Pn**	**15 16 47.1**	**+1.4**
MLPR	**Magueyes Islan**	**1.70**	**100**	*e*Pg		Pn	15 16 59.5	+13
MLPR	**Magueyes Islan**	**1.70**	**100**	⇑*e*P		**Pn**	**15 16 47.8**	**+1.4**
MLPR	**Magueyes Islan**	**1.70**	**100**	*e*S		**Sn**	**15 17 09.4**	**-1.0**
ABDR	**Alto Bandera**	**1.81**	**287**	*e*Pg		Pn	15 16 55.8	+7.7
ABDR				*e*Sg		**Sn**	**15 17 14.5**	**+1.1**
ABDR				IAML			15 17 22.8	
comp=N,22nm,0.3s								
AOPR	**Arecibo Observ**	**1.94**	**88**			**Pn**	**15 16 48.5**	**-0.7**
AOPR						**Sn**	**15 17 14.7**	**-0.8**
AOPR	**Arecibo Observ**	**1.94**	**88**	*e*Pg		Pn	15 16 59.9	+11
AOPR				IAML			15 17 24.2	
comp=N,56nm,0.2s								
AOPR	**Arecibo Observ**	**1.94**	**88**	⇓*e*P		**Pn**	**15 16 48.7**	**-0.5**
AOPR	**Arecibo Observ**	**1.94**	**88**	*e*S		**Sn**	**15 17 15.1**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.98**	**90**			**Pn**	**15 16 49.1**	**-0.5**
UUPR						**Sn**	**15 17 16.1**	**0.0**
UUPR	**Utuado, UPR, P**	**1.98**	**90**	⇓*e*P		**Pn**	**15 16 50.0**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.98**	**90**	*e*S		**Sn**	**15 17 16.6**	**+0.5**
CELP	**Cerrillos**	**2.12**	**95**			**Pn**	**15 16 51.1**	**-0.2**
CELP						**Sn**	**15 17 19.1**	**-0.1**
CELP				IAML			15 17 21.6	
comp=E,19nm,0.5s								
CELP				IAML			15 17 22.4	
comp=N,19nm,0.4s								
CELP	**Cerrillos**	**2.12**	**95**	*e*Pg		Pn	15 17 03.1	+12
CELP				IAML			15 18 00.5	
comp=N,12nm,2.5s								
CELP	**Cerrillos**	**2.12**	**95**	⇓*e*P		**Pn**	**15 16 51.1**	**-0.2**
CELP	**Cerrillos**	**2.12**	**95**	*e*S		**Sn**	**15 17 20.5**	**+1.3**
LOBA2	**Hotel Casa Bon**	**2.19**	**265**	*e*Pg		Pn	15 17 00.9	+8.8
ECPR	**Experimental S**	**2.31**	**88**	⇑*e*P		**Pn**	**15 16 53.2**	**-0.4**
ECPR	**Experimental S**	**2.31**	**88**	*e*S		**Sn**	**15 17 22.1**	**-1.2**
PODR	**Polo**	**2.36**	**268**	*e*Pg		Pn	15 17 04.4	+10
PODR				IAML			15 17 32.9	
comp=N,31nm,0.2s								
PODR	**Polo**	**2.36**	**268**	*i* P		**Pn**	**15 16 55.2**	**+0.9**
PODR				*e*S		**Sn**	**15 17 24.1**	**-0.6**
SDDR	**Presa de Saban**	**2.46**	**287**			**Pn**	**15 16 54.5**	**-1.0**
SDDR	**Presa de Saban**	**2.46**	**287**	*e*Pg		Pn	15 17 03.7	+8.2
SDDR				*e*Sg		**Sn**	**15 17 28.6**	**+1.9**
SDDR				IAML			15 17 36.3	
comp=N,11nm,0.5s								
SDDR	**Presa de Saban**	**2.46**	**287**	⇑*e*P		**Pn**	**15 16 56.8**	**+1.3**
SDDR	**Presa de Saban**	**2.46**	**287**	*e*S		**Sn**	**15 17 26.5**	**-0.2**
SDDR	**Presa de Saban**	**2.46**	**287**	*i* P		**Pn**	**15 16 56.3**	**+0.8**
SDDR				IAML			15 17 34.1	
comp=Z,8.4nm,0.3s								
LOVI	**El Cajuil, Ovi**	**2.49**	**259**	*e*S		**Sn**	**15 17 26.1**	**-1.0**
LOVI				IAML			15 17 31.3	
comp=Z,56nm,0.6s								
SJG	**San Juan**	**2.52**	**93**	*e*Pg		Pn	15 17 08.1	+12
SJG				*e*Sg		Sn	15 17 37.6	+10
IGPR	**InterUniversit**	**2.58**	**96**	Pn		**Pn**	**15 16 57.0**	**+0.2**
IGPR				IAML			15 17 36.7	
comp=N,28nm,0.2s								
PDPR	**Patillas Dam,**	**2.65**	**95**	Pn		**Pn**	**15 16 57.2**	**-0.6**
PDPR				IAML			15 17 34.1	
comp=E,12nm,0.6s								
PDPR				IAML			15 17 37.3	
comp=N,16nm,0.3s								
LOBH	**Bahia de las A**	**2.73**	**262**	*i* P		**Pn**	**15 16 59.5**	**+0.8**
LOBH				*e*S		**Sn**	**15 17 32.2**	**-0.3**
LOBH				IAML			15 17 42.0	
comp=Z,34nm,1.3s								
HUMP	**Col San Antoni**	**2.81**	**92**	Pn		**Pn**	**15 16 58.5**	**-1.3**
HUMP				IAML			15 17 36.0	
comp=N,18nm,0.4s								
HUMP				IAML			15 17 37.6	
comp=E,26nm,0.2s								

*IDC **25** 15:16:15.8±5.1, 58°.49S×26°.21W, h157km±46km, mb4.1/8, mbtmp4.5/9, MS3.6/1, Error ellipse: s-maj=23.3km s-min=16.3km az=42.0*
*NEIC **25** 15:16:20.4±1.2, 58°.6S±0°.1×26°.4W±0°.2, h204km±6km, mb4.4/44, Error ellipse: s-maj=17.6km s-min=14.3km az=46.0*

ISC 25 15:16:16.9±0.4, 58°.65S±0°.07×26°.30W±0°.09, h172km, n200, σ1§28/200, mb4.4/25, 7C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.14**	**303**		Pn	**Pn**	**15 17 57.4**	**-1.4**
VNA1	**Neumayer--Stat**	**14.21**	**155**	⇑P		**P**	**15 19 33.8**	**+1.4**
comp=Z,15nm,0.3s								
VNA1				⇑S		**Sn**	**15 22 02.5**	**-5.3**
comp=Z,0.1nm,0.1s								
VNA3	**Neumayer Olymp**	**14.38**	**158**	⇑P		**P**	**15 19 35.8**	**+1.4**
comp=Z,48nm,0.6s								
VNA3				⇑S		**Sn**	**15 22 04.5**	**-7.5**
comp=Z,0.6nm,0.2s								
VNA2	**Neumayer--Watz**	**14.61**	**155**	⇑P		**P**	**15 19 37.9**	**+1.1**
comp=Z,9.8nm,0.6s,baz=312,slow=13								
VNA2				⇑S		Sn	15 22 09.1	-8.3
comp=Z,0.3nm,0.2s,baz=337,slow=1.3								
SNAA	**Sanae**	**16.18**	**153**	P		**Pn**	**15 19 55.2**	**+0.8**
comp=Z,9.1nm,0.6s,baz=302,slow=11,SNR=54								
SNAA				S		**S**	**15 22 52.6**	**-0.5**
comp=Z,1.8nm,0.6s,baz=320,slow=22,SNR=3.1								
TROLL	**Troll, Antarti**	**17.71**	**150**	⇑P		**P**	**15 20 11.3**	**+0.1**
comp=Z,242nm,0.6s								
EFI	**East Falkland**	**19.30**	**277**			**P**	**15 20 29.0**	**+0.6**
BELA	**Belgrano 2**	**19.51**	**185**			**P**	**15 20 30.8**	**+0.3**
BELA				IAmb		IAmb	15 20 36.1	
comp=Z,11nm,0.6s								
MG02	**Cerro Sombrero**	**24.54**	**265**	P		**P**	**15 21 19.7**	**-0.6**
MG03	**Isla Dawson**	**24.65**	**262**	P		**P**	**15 21 21.9**	**+0.7**
TRQA	**Tornquist**	**30.85**	**296**	P		**P**	**15 22 17.4**	**+0.8**
TRQA				IAmb		IAmb	15 22 28.4	
comp=Z,11nm,1.3s								
AY01	**Puyuhuapi**	**31.44**	**276**	P		**P**	**15 22 21.4**	**-0.3**
AY01				IAmb		IAmb	15 22 26.7	
comp=Z,11nm,1.1s								
QSPA	**South Pole Qui**	**31.59**	**180**	P		**P**	**15 22 25.0**	**+2.0**
QSPA				IAmb		IAmb	15 22 25.7	
comp=Z,9.0nm,0.6s								
QSPA	**South Pole Qui**	**31.59**	**180**	P		**P**	**15 22 25.3**	**+2.3**
comp=Z,9.1nm,0.5s,baz=358,slow=0.6,SNR=195								
comp=Z,9.1nm,0.5s								
PLTB	**Pedras Altas**	**32.62**	**314**	P		**P**	**15 22 30.7**	**-1.5**
PLTB				IAmb		IAmb	15 22 34.2	
comp=Z,22nm,1.4s								
PLCA	**Paso Flores**	**33.00**	**283**			**P**	**15 22 35.3**	**-0.1**
PLCA				IAmb		IAmb	15 22 36.4	
comp=Z,7.2nm,0.8s								
PLCA	**Paso Flores**	**33.00**	**283**	P		**P**	**15 22 35.9**	**+0.4**
comp=Z,5.6nm,0.7s,baz=145,slow=8.1,SNR=15								
comp=Z,5.6nm,0.7s								
LR05	**Currie**	**34.12**	**282**	P		**P**	**15 22 44.6**	**-0.3**
LR05				IAmb		IAmb	15 22 46.1	
comp=Z,6.3nm,0.8s								
LR04	**Corral**	**35.10**	**281**			**P**	**15 22 53.1**	**-0.3**
BI02	**San Fabin de**	**36.47**	**287**	P		**P**	**15 23 04.7**	**-0.5**
BI05	**Punta Hualpn**	**37.37**	**285**	P		**P**	**15 23 12.9**	**+0.3**
BO02	**Sierra Bellavi**	**37.70**	**289**	P		**P**	**15 23 14.1**	**-1.5**
BO02				IAmb		IAmb	15 23 18.3	
comp=Z,11nm,1.3s								
MAW	**Mawson**	**37.78**	**141**	P		**P**	**15 23 16.7**	**+0.9**
MAW	**Mawson**	**37.78**	**141**	P		**P**	**15 23 16.5**	**+0.8**
comp=Z,4.4nm,0.5s,baz=230,slow=7.8,SNR=6.2								
comp=Z,4.4nm,0.5s								
BO01	**Tunca**	**38.17**	**290**	P		**P**	**15 23 19.1**	**-0.3**
BO01				IAmb		IAmb	15 23 20.4	
comp=Z,7.9nm,1.0s								
BO04	**La Punta**	**38.27**	**290**	P		**P**	**15 23 19.4**	**-0.9**
BO04				IAmb		IAmb	15 23 21.6	
comp=Z,7.6nm,0.8s								
MT08	**Bocatoma Ro**	**38.42**	**292**	P		**P**	**15 23 21.0**	**-0.8**
MT08				IAmb		IAmb	15 23 24.4	
comp=Z,9.0nm,0.9s								
MT09	**Talagante**	**38.62**	**290**	P		**P**	**15 23 23.0**	**-0.4**
MT09				IAmb		IAmb	15 23 24.9	
comp=Z,22nm,0.9s								
MT01	**Popeta**	**38.68**	**290**	P		**P**	**15 23 23.2**	**-0.5**
MT01				IAmb		IAmb	15 23 24.4	
comp=Z,9.3nm,0.9s								
PEL	**Peldehue**	**38.99**	**291**			**P**	**15 23 26.1**	**-0.2**
VA05	**Santo Domingo**	**39.03**	**290**	P		**P**	**15 23 26.4**	**-0.1**
MT02	**Curacav**	**39.11**	**291**	P		**P**	**15 23 26.4**	**-0.9**
MT02				IAmb		IAmb	15 23 28.4	
comp=Z,19nm,0.8s								
VA06	**Catapilco**	**39.76**	**291**			**P**	**15 23 32.2**	**-0.3**
VA06				IAmb		IAmb	15 23 34.5	
comp=Z,11nm,0.8s								
CO02	**Combarbal**	**40.73**	**292**	P		**P**	**15 23 41.5**	**+0.8**
CO02				IAmb		IAmb	15 23 49.8	
comp=Z,24nm,1.4s								
SUR	**Sutherland**	**40.94**	**71**	P		**P**	**15 23 43.4**	**+0.9**
CO06	**Fray Jorge**	**41.47**	**292**	P		**P**	**15 23 46.5**	**-0.1**
AC05	**El Transito**	**42.35**	**295**			**P**	**15 23 53.8**	**-0.1**
GRHM	**Grahamstown, E**	**43.02**	**78**	P		**P**	**15 23 59.0**	**-0.2**
GRHM				IAmb		IAmb	15 24 04.7	
comp=Z,12nm,1.0s								
AC04	**Llanos de Chal**	**43.26**	**295**	P		**P**	**15 24 01.6**	**+0.5**
AC04				IAmb		IAmb	15 24 18.0	
comp=Z,11nm,1.1s								
SBA	**Scott Base**	**43.51**	**184**	P		**P**	**15 24 04.8**	**+2.3**
VNDA	**Vanda**	**43.99**	**183**	P		**P**	**15 24 08.6**	**+2.2**
VNDA				IAmb		IAmb	15 24 09.4	
comp=Z,19nm,1.5s								
VNDA	**Vanda**	**43.99**	**183**	P		**P**	**15 24 08.4**	**+2.1**
comp=Z,4.5nm,0.6s,baz=187,slow=7.0,SNR=30								
comp=Z,4.5nm,0.6s								
AC01	**Pan de Azucar**	**44.77**	**297**			**P**	**15 24 14.2**	**+1.0**
AC01				IAmb		IAmb	15 24 14.8	
comp=Z,24nm,1.3s								
BOSA	**Boshof**	**46.22**	**73**	P		**P**	**15 24 24.6**	**-0.1**
BOSA	**Boshof**	**46.22**	**73**	P		**P**	**15 24 24.3**	**-0.3**
comp=Z,3.9nm,0.6s,baz=226,slow=8.9,SNR=7.6								
comp=Z,3.9nm,0.6s								
LBTB	**Lobatse**	**49.37**	**70**	LR		LR	15 41 26.3	
comp=Z,67nm,18.9s,baz=203,slow=31								

KGCAE	**Kacgae**	49.56	65	P	**P**	15 24 50.0	-0.3
KGCAE				IAmb	IAmb	15 24 51.5	
	comp=Z,9.5nm,0.8s						
CASY	**Casey**	51.29	159	P	**P**	15 25 03.6	+1.1
QNGWA	**Qangwa**	51.93	62	P	**P**	15 25 08.2	+0.2
LPAZ	**La Paz**	52.29	306	P	**P**	15 25 10.9	-0.4
	comp=Z,1.1nm,0.6s,baz=173,slow=6.4,SNR=4.1						
	comp=Z,1.1nm,0.6s						
SAML	**Samuel**	56.99	315	P	**P**	15 25 43.4	-1.0
BOAV	**Boa Vista**	66.64	322	P	**P**	15 26 47.5	-1.3
TORD	**Torodi Ar. Bea**	75.11	28	P	**P**	15 27 40.3	+0.6
WHZ	**Wether Hill Ro**	75.15	190	P	**P**	15 27 40.5	+0.7
DSZ	**Denniston Nort**	78.83	194	P	**P**	15 28 00.3	-0.1
STKA	**Stephens Creek**	89.25	170	P	**P**	15 28 52.5	-0.6
STKA	**Stephens Creek**	89.25	170	P	**P**	15 28 53.0	0.0
	comp=Z,2.2nm,0.7s,baz=329,slow=4.1,SNR=3.2						
	comp=Z,2.2nm,0.7s						
ASAR	**Alice Springs**	96.36	162	P	**P**	15 29 25.1	-0.9
ASAR	**Alice Springs**	96.36	162	P	**P**	15 29 26.4	+0.4
	comp=Z,1.0nm,0.7s,baz=185,slow=4.3,SNR=18						
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	123.68	111	PKP	**PKiKP**	15 34 54.7	+0.7
	comp=Z,0.5nm,0.6s,baz=239,slow=2.8,SNR=4.5						
FINES	**FINESS Array B**	126.46	28	PKP	**PKPdf**	15 34 57.6	-0.1
	comp=Z,1.0nm,0.8s,baz=188,slow=11,SNR=4.2						
ARCES	**ARCESS Array B**	133.18	22	PKP	**PKiKP**	15 35 11.2	-0.3
	comp=Z,0.6nm,0.7s,baz=222,slow=1.6,SNR=5.5						
YKA	**Yellowknife Ar**	138.41	316	PKPdf	**PKPdf**	15 35 20.9	+0.7
YKA	**Yellowknife Ar**	138.41	316	PKP	**PKiKP**	15 35 21.3	-1.0
	comp=Z,1.2nm,0.7s,baz=127,slow=2.3,SNR=17						
YKAW3	**Yellowknife Wh**	138.45	316		**PKPdf**	15 35 20.1	-0.1
TOAD	**Toad River Com**	140.40	306	P	**PKPdf**	15 35 25.1	+1.2
	baz=124						
V35K	**Ketchikan**	141.12	299	P	**PKiKP**	15 35 26.7	-1.3
	baz=124						
EUNU	**Eureka**	142.58	346	PKPdf	**PKPdf**	15 35 25.0	-2.3
P33M	**Teslin, Yukon**	144.37	305	PKPdf	**PKPab**	15 35 28.3	-1.4
P33M	**Teslin, Yukon**	144.37	305	P	PKPbc	15 35 29.9	-0.1
	baz=118						
P32M	**Atlin**	144.44	303	P	**PKPab**	15 35 30.0	0.0
	baz=118						
MMPY	**Sheldon Lake,**	144.92	309		PKPbc	15 35 29.6	-1.9
N32M	**Quiet Lake**	144.96	306	P	**PKPdf**	15 35 32.5	+0.6
	baz=117						
SKAG	**Skagway**	145.09	302	P	**PKPab**	15 35 33.0	+0.7
	baz=118						
A36M	**Sachs Harbour**	146.67	326	P	**PKPbc**	15 35 36.2	-0.2
	baz=107						
HYT	**Haines Junctio**	146.70	304	PKPbc	**PKPdf**	15 35 36.0	+0.9
HYT	**Haines Junctio**	146.70	304	P	**PKPbc**	15 35 36.6	-0.5
	baz=115						
N30M	**Aishikik Lake**	146.81	305	P	**PKPdf**	15 35 36.0	+0.9
	baz=114						
O29M	**Mount Kennedy**	146.93	302	P	**PKPdf**	15 35 35.3	-0.2
	baz=115						
PNL	**Peninsula**	147.00	301	P	**PKPdf**	15 35 35.6	+0.2
	baz=115						
YUK6	**Outpost Mounta**	147.13	304	P	**PKPdf**	15 35 36.2	+0.3
	baz=114						
M30M	**Minto, Yukon**	147.18	307	PKPbc	**PKPdf**	15 35 36.1	+0.5
M30M	**Minto, Yukon**	147.18	307	P	**PKPdf**	15 35 36.5	+0.8
	baz=113						
YUK4	**Talbot Arm**	147.43	304	P	**PKPbc**	15 35 38.2	-1.0
	baz=113						
H31M	**Peel River**	147.51	313	PKPbc	**PKPdf**	15 35 36.3	+0.2
H31M	**Peel River**	147.51	313	P	**PKPdf**	15 35 37.2	+1.1
	baz=109						
PINM	**Pinnacle**	147.58	301	P	**PKPbc**	15 35 38.6	-0.8
	baz=114						
J30M	**Hart River**	147.81	310	P	**PKPbc**	15 35 39.4	-0.5
	baz=110						
M29M	**Somme Creek**	147.82	306	PKPbc	**PKPdf**	15 35 37.3	+0.5
M29M	**Somme Creek**	147.82	306	P	**PKPbc**	15 35 38.6	-1.4
	baz=112						
O28M	**Mount Upton**	147.85	303	P	**PKPbc**	15 35 39.8	-0.6
	baz=113						
F31M	**Tsiigehtchic**	147.88	316	P	**PKPbc**	15 35 38.3	-1.6
	baz=107						
YUK8	**Steele Glacier**	147.89	304	P	**PKPbc**	15 35 40.5	0.0
	baz=113						
G31M	**Satah River**	147.89	315	P	**PKPbc**	15 35 38.3	-1.6
	baz=108						
L29M	**L29M**	147.96	307	P	**PKPdf**	15 35 38.6	+1.6
	baz=111						
K29M	**Barlow Dome**	148.00	309	P	**PKPbc**	15 35 40.4	-0.1
	baz=110						
I30M	**Mount Dempster**	148.07	312		**PKPdf**	15 35 36.5	-0.7
I30M	**Mount Dempster**	148.07	312	P	**PKPbc**	15 35 39.2	-1.5
	baz=109,SNR=15						
INK	**Inuvik**	148.10	318	P	**PKPdf**	15 35 38.5	+1.6
	baz=106						
EPYK	**Eagle Plains**	148.62	314	P	**PKPbc**	15 35 41.2	-0.7
	baz=107						
G30M	**tAoh Zraii Nji**	148.63	315	P	**PKPbc**	15 35 40.8	-1.1
	baz=106,SNR=12						
F30M	**Barrier River**	148.68	316	P	**PKPbc**	15 35 41.6	-0.4
	baz=106						
BVCY	**Beaver Creek**	148.83	305	P	**PKPbc**	15 35 42.3	-0.2
	baz=110						
BGLC	**Bering Glacier**	148.95	300	P	**PKPbc**	15 35 43.2	+0.4
	baz=113						
H29M	**Whitestone**	149.19	313	P	**PKPbc**	15 35 43.3	0.0
	baz=106,SNR=8.6						
G29M	**Pine Creek**	149.28	314	P	**PKPbc**	15 35 43.7	+0.2
	baz=105,SNR=8.6						
L27K	**Beaver Creek,**	149.49	306	P	**PKPbc**	15 35 43.9	-0.2
	baz=109						
I28M	**Miner Creek**	149.55	311	P	**PKPbc**	15 35 44.0	-0.3
	baz=106						
E29M	**Blow River**	149.67	317	P	**PKPbc**	15 35 43.9	-0.5
	baz=103						
K27K	**Chicken**	149.94	308	P	**PKPbc**	15 35 45.4	+0.3
	baz=107						
D28M	**Stokes Point**	150.20	319	P	**PKPbc**	15 35 44.9	-0.7
	baz=100						
EYAK	**Cordova Ski Ar**	150.24	300	P	**PKiKP**	15 35 47.2	+0.5
	baz=110						
I27K	**Kandik River**	150.26	311	P	**PKPbc**	15 35 45.5	-0.4
	baz=104						
E28M	**Babbage River**	150.31	317	P	**PKPbc**	15 35 44.5	-1.4
	baz=101						
SONM	**Songino Array**	150.31	90	PKPbc	**PKiKP**	15 35 47.6	+0.1
	comp=Z,2.2nm,0.7s,baz=223,slow=2.4,SNR=12						
H27K	**Steamboat Moun**	150.42	312	P	**PKPbc**	15 35 46.1	-0.2
	baz=104						
G27K	**Doyon Strip**	150.63	313	P	**PKPbc**	15 35 46.6	-0.1
	baz=102						
HARP	**HAARP**	150.68	304	P	**PKiKP**	15 35 48.5	+1.0
	baz=108						
KLU	**Klutina**	150.69	302	P	**PKiKP**	15 35 48.5	+0.8
	baz=109						
J26L	**Joseph Creek**	150.71	308	P	**PKiKP**	15 35 47.4	-0.3
	baz=105						
SCRK	**Sand Creek**	150.72	307	P	**PKiKP**	15 35 48.2	+0.5
	baz=106						
P23K	**Montague Islan**	150.78	298	P	**PKPbc**	15 35 47.0	-0.3
	baz=111						
I26K	**Coal Creek Min**	150.79	310	P	**PKiKP**	15 35 47.8	+0.1
	baz=104						
E27K	**Coleen River**	150.95	316	P	**PKiKP**	15 35 48.0	0.0
	baz=100						
D27M	**Malcolm River**	150.96	318	P	**PKPbc**	15 35 46.9	-0.6
	baz=99						
GLI	**Glacier Island**	150.98	300	P	**PKPbc**	15 35 47.7	0.0
	baz=109						
RIDG	**Independent Ri**	151.00	306	P	**PKPbc**	15 35 46.9	-0.9
	baz=106						
PAX	**Paxson**	151.01	305	P	**PKPbc**	15 35 47.1	-0.8
	baz=106						
M24K	**Tolsona, Glenn**	151.02	303	P	**PKPbc**	15 35 48.0	+0.2
	baz=108						
SCM	**Sheep Creek Mo**	151.44	302	P	**PKPbc**	15 35 48.9	+0.1
	baz=107						
G26K	**Porcupine Rive**	151.48	313	P	**PKPbc**	15 35 48.4	-0.2
	baz=100						
J25K	**Salcha River,**	151.49	308	P	**PKPbc**	15 35 48.5	-0.3
	baz=104						
PWL	**Port Wells**	151.54	299	P	**PKPbc**	15 35 48.9	-0.1
	baz=108						
M23K	**Glacier View**	151.60	302	P	**PKiKP**	15 35 50.0	+0.5
	baz=107						
SEW	**Seward**	151.77	298	P	**PKPbc**	15 35 49.6	+0.1
	baz=109						
F26K	**Sheenjek River**	151.78	314	P	**PKPbc**	15 35 48.6	-0.8
	baz=99						
KNK	**Knik Glacier**	151.79	301	P	**PKPbc**	15 35 49.5	-0.1
	baz=107						
PRP	**Porcupine Dome**	151.80	310	P	**PKPbc**	15 35 48.4	-1.2
	baz=102						
SML	**Sawmill**	151.87	301	P	**PKPbc**	15 35 49.7	-0.1
	baz=107						
C27K	**Jago River**	151.98	319	P	**PKPbc**	15 35 48.6	-1.2
	baz=96						
O22K	**Cooper Landing**	152.03	298	P	**PKPbc**	15 35 50.0	-0.1
	baz=108						
HDA	**Harding Lake**	152.08	307	P	**PKPbc**	15 35 49.6	-0.5
	baz=103						
ILAR	**Eielson Array**	152.16	308	PKPbc	**PKiKP**	15 35 50.8	+0.2
	comp=Z,1.8nm,0.9s,baz=137,slow=1.7,SNR=14						
BRSE	**Bradley Lake S**	152.23	296	P	**PKPbc**	15 35 50.3	-0.3
	baz=109						
RC01	**Rabbit Creek A**	152.26	299	P	**PKPbc**	15 35 50.6	0.0
	baz=107						
F25K	**Christian Rive**	152.32	314	P	**PKPbc**	15 35 49.5	-1.1
	baz=98						
KDAK	**Kodiak Island**	152.32	292	P	**PKPbc**	15 35 50.6	-0.2
	baz=112						
G25K	**Bearman Lake**	152.33	312	P	**PKPbc**	15 35 50.0	-0.6
	baz=99						
E25K	**Arctic Village**	152.39	315	P	**PKPbc**	15 35 49.7	-1.1
	baz=97						
OHAK	**Old Harbor**	152.43	290	P	**PKPbc**	15 35 50.8	-0.2
	baz=113						
C26K	**Camden Bay**	152.44	319	P	**PKPbc**	15 35 49.5	-1.2
	baz=94						
POKR	**Poker Plat Res**	152.47	308	P	**PKPbc**	15 35 49.8	-1.1
	baz=101						
Q20K	**Shuyak Island**	152.57	293	P	**PKiKP**	15 35 51.7	+0.2
	baz=110						
HOM	**Homer**	152.62	296	P	**PKPbc**	15 35 50.4	-1.0
	baz=109						
MCK	**McKinley**	152.74	305	P	**PKPbc**	15 35 51.0	-0.7
	baz=103						
H24K	**Noodor Dome**	152.82	310	P	**PKPbc**	15 35 50.8	-1.0
	baz=99						
G24K	**Hadweenzic Riv**	152.85	312	P	**PKPbc**	15 35 50.5	-1.3
	baz=98						
D25K	**Kavik River**	152.87	318	P	**PKPbc**	15 35 51.2	-0.6
	baz=94						
NEA2	**Nenana**	153.02	307	P	**PKiKP**	15 35 52.5	+0.2
	baz=101						
TRF	**Thorofare Moun**	153.24	304	P	**PKPbc**	15 35 50.6	-2.3
	baz=102						
Q19K	**Cape Douglas,**	153.30	293	P	**PKiKP**	15 35 53.1	0.0
	baz=109						
P19K	**Oil Pt**	153.37	295	P	**PKPbc**	15 35 52.9	-0.3
	baz=108						
SPCR	**Spurr Chakacha**	153.43	299	P	**PKPbc**	15 35 51.9	-1.3
	baz=106						
E24K	**Your Creek**	153.47	315	P	**PKPbc**	15 35 50.4	-2.8
	baz=94						
BPAW	**Bear Paw Mtn.**	153.71	305	P	**PKiKP**	15 35 54.1	+0.3
	baz=100						
G23K	**Bananza Creek**	153.84	311	P	**PKPbc**	15 35 53.5	-0.4
	baz=96						
E23K	**Chandalar**	153.88	314	P	**PKPbc**	15 35 52.7	-1.3
	baz=94						
PPLA	**Purkeypile**	153.92	302	P	**PKPbc**	15 35 53.7	-0.6
	baz=102						
TOLK	**Toolik Lake Re**	153.94	316	P	**PKiKP**	15 35 54.4	+0.2
	baz=92						
COLD	**Coldfoot**	154.00	313	P	**PKPbc**	15 35 54.1	-0.1
	baz=95						
I21K	**Tanana**	154.36	308	P	**PKPbc**	15 35 54.7	-0.3
	baz=98						
C23K	**Itkillik River**	154.39	318	P	**PKPbc**	15 35 54.0	-0.9
	baz=89						
CHNA	**Chernabura Isl**	154.52	282	P	**PKPab**	15 36 12.9	+1.9
	baz=115						
M19K	**Big River Lodg**	154.63	300	P	**PKPbc**	15 35 54.7	-1.0
	baz=103						
P17K	**Kvichak River**	154.74	293	P	**PKPab**	15 36 10.2	-1.7
	baz=107						
H21K	**Melozitna Rive**	154.78	309	P	**PKPbc**	15 35 54.6	-1.3
	baz=96						
L19K	**White Mountain**	154.92	300	P	**PKPab**	15 36 10.2	-2.5
	baz=102						
J20K	**Nowinta River**	155.07	305	P	**PKPab**	15 36 12.9	-0.3
	baz=98						
D22K	**Ayikyak River**	155.08	316	P	**PKPdf**	15 35 54.8	+7.3
	baz=89						
S14K	**Fog Glacier**	155.15	285	P	**PKPab**	15 36 15.3	+1.5
	baz=112						
O17K	**Koliganek Bris**	155.25	294	P	**PKPab**	15 36 14.3	+0.2
	baz=106						
F21K	**Alatna River**	155.26	312	P	**PKPab**	15 36 13.3	-0.7
	baz=92						
N17K	**Nushagak Hills**	155.53	296	P	**PKPab**	15 36 15.9	+0.6
	baz=104						
S12K	**Black Hills**	156.17	282	P	**PKPab**	15 36 20.0	+1.8
	baz=112						
M16K	**Timber Creek**	156.50	296	P	**PKPab**	15 36 20.0	+0.5
	baz=102						
E19K	**Redstone River**	156.73	313	P	**PKPab**	15 36 19.0	-1.3
	baz=88						
H18K	**Honhosa River**	157.02	307	P	**PKPab**	15 36 20.3	-1.3
	baz=92						
UNV	**Unalaska Valle**	157.63	275	P	**PKPab**	15 36 25.3	+0.9
	baz=116						
A19K	**Wainwright**	157.96	320	P	**PKPab**	15 36 23.0	-2.4
	baz=77						
K15K	**Wolf Creek Mou**	157.99	299	P	**PKPab**	15 36 25.0	-0.9
	baz=97						
E17K	**Hotham Inlet**	158.51	312	P	**PKPab**	15 36 26.3	-1.7
	baz=84						
H16K	**Elim**	158.62	305	P	**PKPab**	15 36 27.2	-1.3
	baz=90						
G16K	**Koyuk River**	158.71	307	P	**PKPab**	15 36 27.4	-1.5
	baz=88						
G15K	**Niukluk**	159.41	306	P	**PKPab**	15 36 31.3	-0.6
	baz=88						
F15K	**North Star Dit**	159.67	308	P	**PKPab**	15 36 32.7	-0.4
	baz=85						
C16K	**Lisburne Hills**	159.75	315	P	**PKPab**	15 36 32.1	-1.2
	baz=77						
M11K	**Mekoryuk**	159.80	292	P	**PKPab**	15 36 34.2	+0.5
	baz=99						
P08K	**Saint George I**	160.37	280	P	**PKPab**	15 36 36.1	-0.2
	baz=108						
SPIA	**Saint Paul Isl**	160.94	281	P	**PKPab**	15 36 40.7	+1.9
	baz=106						
TNA	**Tin City**	161.03	307	P	**PKPab**	15 36 35.6	-3.4
	baz=82						

IGQ 25 15:22:40.3±0.6, 4°S±4°×8°1W±°, h10km, MLv3.7/12,
Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNL	**Arenillas**	0.81	91	P	Pg	15 22 55.3	-0.7
ARNL				S	Sg	15 23 05.6	-1.0
ISPG	**Isla Puna-Puer**	0.90	52	P	Pb	15 22 58.1	0.0
LAMO	**ALAMOR**	0.98	119	P	Pg	15 22 59.4	+0.1
LAMO				S	Sb	15 23 12.8	+0.2
MCRA	**Macar, Loja**	1.24	132	P	Pn	15 23 02.6	-1.2
SALI	**Salinas**	1.34	355	P	Pn	15 23 02.7	-2.5
GONZ	**Gonzanam**	1.64	115	P	Pn	15 23 09.0	-0.5
MILO	**Milagro-Astudi**	1.82	47	P	Pn	15 23 12.2	+0.5
MILO				S	Sn	15 23 34.6	-0.2
COHC	**Cochancay**	1.94	57	P	Pn	15 23 11.3	-2.0
ZUMB	**Zumba**	2.18	127	P	Pn	15 23 17.6	+0.8
ISPT	**Isla de la Pla**	2.27	355	P	Pn	15 23 15.3	-2.6
BOSC	**San Juan Bosco**	2.41	81	P	Pn	15 23 19.7	-0.3
JSCH	**Cashca Tororas**	2.62	47	P	Pn	15 23 24.6	+1.6
TAMH	**Tambohuasha Ch**	2.88	47	P	Pb	15 23 30.0	-2.1
PORT	**Chimborazo Vol**	2.94	46	P	Pn	15 23 26.7	-1.0
BMAS	**Trigal station**	3.13	50	P	Pn	15 23 32.2	+2.1
BPAT	**Tungurahua Vol**	3.17	51	P	Pn	15 23 31.5	+0.7
BTAM	**Cotopaxi Volca**	3.77	41	P	Pn	15 23 40.6	+1.6
BVC2	**Cotopaxi Volca**	3.77	41	P	Pn	15 23 40.0	+0.9
TERV	**Terraza Guagua**	4.04	34	P	Pn	15 23 44.8	+2.0
PINO	**Pino**	4.05	34	P	Pn	15 23 42.9	-0.1
PAC1	**Pacto, Paraso**	4.31	29	P	Pn	15 23 43.2	-3.0

*HEL **25** 15:24:01.8±0.2, 67°.53N×34°.22E, h0km, ML1.8, Suspected explosion*
*KOLA **25** 15:24:03.1, 67°.64N×34°.00E, h0km, ML2.1, Error ellipse: s-maj=3.0km s-min=1.2km az=140.0, Khibiny, mines Koashva, Nyurkpakh*
*IDC **25** 15:24:06.1±2.8, 67°.54N×33°.21E, h0km, mbtmp2.4/2, ML1.7/2, Error ellipse: s-maj=31.5km s-min=12.1km az=72.0*

ISC 25 15:24:02.6±0.9, 67°.64N±0°.04×34°.04E±0°.04, h0km, n25,
σ1§10/38, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	0.25	255	P	**Pg**	15 24 07.7	+0.3
APA				S	**Sg**	15 24 10.7	0.0
LVZ	**Lovozero**	0.35	41	P	**Pg**	15 24 09.2	0.0
LVZ				S	**Sg**	15 24 14.2	+0.5
LVZ	**Lovozero**	0.35	41	PG	**Pg**	15 24 09.1	-0.1
LVZ				SG	**Sg**	15 24 14.4	+0.6
APA0	**Apatity Array**	0.40	266	P	**Pg**	15 24 10.3	0.0
APA0				S	**Sg**	15 24 14.9	-0.6
KVDA	**Kovda**	1.05	206	P	**Pg**	15 24 22.0	-0.7
TERR	**Teriberka**	1.62	14	P	**Pn**	15 24 31.9	-0.4
TERR				S	**Sn**	15 24 53.0	-0.9
VRF	**Varrio**	1.70	276	PG	**Pn**	15 24 33.6	+0.2
VRF				MSG		15 24 54.9	
	comp=Z,6.7nm,0.2s						
VRF				SG	**Sn**	15 24 55.7	-0.1
OLKF	**Oulanka, Finla**	2.25	236	PG	**Pn**	15 24 42.1	+1.1
OLKF				MSG		15 25 08.7	
	comp=Z,3.9nm,0.2s						
OLKF				SG	**Sb**	15 25 13.4	+1.0
KU6	**Riekki**	2.31	227	PG	**Pn**	15 24 42.6	+0.9
	baz=50						
KU6				MSG		15 25 09.4	
	comp=Z,3.2nm,0.2s						
RAJF	**Raja-Jooseppi**	2.31	294	PB	**Pn**	15 24 42.2	+0.3
RAJF				SN	**Sn**	15 25 12.3	+1.3
MSF	**Maaselka**	2.63	231	PG	**Pb**	15 24 50.5	-0.1
	baz=47						
MSF				SG	**Sb**	15 25 24.6	+1.3
KU1	**Kurvinen**	2.75	223	PB	**Pn**	15 24 48.6	+0.8
KU2	**Taivalkoski**	3.02	233	PG	**Pb**	15 24 56.0	-1.1
VADS	**Vadso**	3.02	328	S	**Sn**	15 25 26.6	-1.7
RANF	**Ranua**	3.30	244	PB	**Pn**	15 24 57.8	+2.4
RANF				SG	**Sb**	15 25 43.7	+1.3
RNF	**Rovaniemi**	3.30	256	PN	**Pn**	15 24 55.9	+0.5
KEV	**Kevo**	3.34	313	PN	**Pn**	15 24 56.9	+1.0
KEV				SN	**Sn**	15 25 38.9	+2.8
ARA0	**ARCESS Array S**	3.67	305	PN	**Pn**	15 25 00.8	+0.4
ARCES	**ARCESS Array B**	3.67	305	Pn	**Pn**	15 25 00.5	+0.1
	comp=Z,0.1nm,0.3s,baz=121,slow=15,SNR=13						
ARCES				Sn	**Sn**	15 25 43.7	-0.6
	comp=Z,0.2nm,0.3s,baz=119,slow=24,SNR=6.8						
ARCES				Lg	Lg	15 25 53.9	
	comp=Z,0.6nm,0.3s,baz=120,slow=26,SNR=9.6						
	comp=Z,0.2nm,0.3s						
ARCES	**ARCESS Array B**	3.67	305	P	**Pn**	15 25 00.5	+0.1
ARCES				S	**Sn**	15 25 43.1	-1.2
KLF	**Kolari**	3.91	269	PN	**Pn**	15 25 03.7	0.0
KLF				SG	**Sg**	15 26 05.0	-2.9
HEF	**Hetta**	3.98	286	PN	**Pn**	15 25 05.5	+0.7
PAJU	**Pajala**	4.28	267	PN	**Pn**	15 25 09.2	+0.4
	baz=77						
I37NO	**I37NO**	5.89	291	I	I	16 00 50.0	
	baz=99,slow=329,SNR=8.7						
FINES	**FINESS Array B**	7.10	213	Pn	**Pn**	15 25 46.2	-1.3
	baz=30,slow=14,SNR=1.6						
FINES				Lg	Lg	15 27 39.1	
	comp=Z,0.1nm,0.3s,baz=25,slow=28,SNR=5.1						
	comp=Z,0.6nm,0.8s						

TXNET 25 15:45:03.6, 31°.4N±0°.8×103°.2W±0°.8, h5km±2km, ML1.9/6,
1C, Error ellipse: s-maj=1.3km s-min=1.1km az=13.3,
final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB04	**Verhalen**	0.22	189	↑P	Pg	15 45 08.7	+0.8
TPB04				S	Sg	15 45 12.1	+1.3
TPB04	**Verhalen**	0.22	189	P	Pg	15 45 08.8	+0.9
TPB06	**Permian Basin**	0.24	2	P	Pg	15 45 08.9	+0.6
TPB06	**Permian Basin**	0.24	2	P	Pg	15 45 09.0	+0.8
PCOS	**Crockett Middl**	0.24	271	S	Sg	15 45 12.6	+1.2
TPB16	**Coyonosa**	0.28	184	P	Pg	15 45 09.9	+0.9
TPB16				S	Sb	15 45 14.5	-1.7
TPB16	**Coyonosa**	0.28	184	P	Pg	15 45 10.0	+1.0
MNHN	**Monahans**	0.41	99	P	Pg	15 45 11.8	+0.4
MNHN				S	Sb	15 45 18.8	-1.0
MNHN	**Monahans**	0.41	99	P	Pg	15 45 12.0	+0.7
TPB10	**Southeast of T**	0.47	255	S	Sb	15 45 20.4	-1.2
TPB05	**Hovey Rd**	0.49	190	P	Pg	15 45 13.4	+0.4
TPB05				S	Sg	15 45 20.8	+1.3
PECS	**Pecos**	0.55	266	P	Pb	15 45 15.0	-0.8
PECS				S	Sb	15 45 23.0	-0.9
PECS	**Pecos**	0.55	266	P	Pb	15 45 15.2	-0.5
PECS	**Pecos**	0.55	266	P	Pb	15 45 15.7	0.0
PECS				S	Sb	15 45 23.3	-0.6
TPB01	**Permian Basin**	0.66	226	P	Pg	15 45 16.1	-0.2
TPB01				S	Sg	15 45 25.6	+0.7
ODSA	**Odessa**	0.92	39	P	Pg	15 45 21.1	-0.1
ODSA				S	Sb	15 45 34.0	-0.6
TMB02	**Rankin**	1.04	101	P	Pg	15 45 23.1	-0.4
TMB02				S	Sb	15 45 37.7	-0.4
ALPN	**Alpine**	1.09	199	P	Pg	15 45 24.1	-0.3
ALPN				S	Sb	15 45 39.4	-0.2
VHRN	**Van Horn**	1.63	248	P	Pn	15 45 33.2	+0.1
VHRN				S	Sb	15 45 55.3	+0.1
VHRN	**Van Horn**	1.63	248	P	Pb	15 45 33.7	-0.5
VHRN	**Van Horn**	1.63	248	P	Pb	15 45 33.8	-0.4
TMB05	**Klondike**	1.68	43	S	Sg	15 45 57.2	-0.5
CPRX	**Cap Rock**	1.71	342	P	Pb	15 45 35.1	-0.4
SAND	**Sanderson**	1.73	146	P	Pb	15 45 35.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.36**	**225**	Pn	Pn	16 00 19.8	+1.4
	1.2nm,0.3s,baz=267,slow=3.7,SNR=5.9						
PMG				Sn	Sn	16 01 10.0	+0.2
	1.1nm,0.3s,baz=97,slow=23,SNR=1.9 7.9nm,0.7s						
WRA	**Warramunga Arr**	**20.57**	**227**	P	P	16 03 50.3	-1.1
	0.6nm,0.6s,baz=52,slow=11,SNR=4.9 0.6nm,0.6s						
ASAR	**Alice Springs**	**23.36**	**221**	P	P	16 04 20.9	-0.3
	0.3nm,0.7s,baz=56,slow=8.8,SNR=5.4 0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.29**	**285**	PKPbc	PKPbc	16 19 00.1	-0.1
	4.1nm,0.3s,baz=74,slow=4.0,SNR=1.2						

GCG 25 16:08:11.3±0.6, 14°.34N×91°.34W, h95km±4km, MD3.9, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG5	**El Palmar, Qui**	**0.06**	**350**	*e*P	Pn	16 08 26.4	+1.6
STG5				*i* S	Sn	16 08 37.9	+3.1
STG0	**El Palmar, Qui**	**0.08**	**357**	*e*P	Pn	16 08 26.6	+1.7
STG8	**El Palmar, Qui**	**0.11**	**353**	*e*P	Pn	16 08 26.8	+1.8
ESSG	**Sabana Grande**	**0.49**	**85**	*e*P	Pn	16 08 26.8	+0.1
ESSG				*i* S	Sn	16 08 38.9	+0.8
FG8	**Yepocapa, Chim**	**0.76**	**96**	*e*P	Pn	16 08 26.5	-2.5
FG8				*i* S	Sn	16 08 38.8	-3.4
FG16	**Alotenango, Sa**	**0.80**	**95**	*i* P	Pn	16 08 27.1	-2.4
FG16				*i* S	Sn	16 08 39.7	-3.5
CCIG	**Comitan**	**2.08**	**338**	*i* P	Pn	16 08 46.0	+1.0

NEIC ***25*** *16:30:41.9±1.1, 10°.0N±0°.1×126°.7E±0°.2, h10km±1km, mb4.4/13, Error ellipse: s-maj=38.4km s-min=17.6km az=68.0*
IDC ***25*** *16:30:41.1±0.9, 9°.84N×126°.62E, h0km, mb3.9/12, mbtmp3.9/12, MS3.3/2, Error ellipse: s-maj=56.8km s-min=16.3km az=73.0*
ISC 25 16:30:46.0±0.6, 9.75N±0°.10×126°.6E±0°.2, h35km, n32, σ0°.95/31, mb4.2/19, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.84**	**201**	LR	LR	16 32 42.6	
	comp=Z,210nm,20.0s,baz=6.0,slow=41						
FAKI	**Fak Fak**	**13.79**	**156**	Pn	**Pn**	**16 33 59.1**	**+0.1**
TPUB	**Ta-pu**	**14.63**	**338**	P	**Pn**	**16 34 12.4**	**+1.8**
MTN	**Manton Dam**	**22.89**	**169**	P	**P**	**16 35 47.9**	**+1.1**
MTN				IAmb	IAmb	16 35 55.6	
	comp=Z,23nm,1.4s						
MYKOM	**Kota Tinggi**	**23.95**	**252**	P	**P**	**16 35 57.3**	**+0.1**
MYKOM				IAmb	IAmb	16 35 59.6	
	comp=Z,9.5nm,0.9s						
KNRA	**Kununurra**	**25.35**	**175**	P	**P**	**16 36 08.7**	**-1.2**
KNRA				IAmb	IAmb	16 36 13.5	
	comp=Z,6.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.68**	**182**	P	**P**	**16 36 30.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**27.68**	**182**	P	**P**	**16 36 32.2**	**+1.3**
	comp=Z,1.1nm,0.4s,baz=157,slow=1.9,SNR=8.2 comp=Z,1.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**28.15**	**291**	P	**P**	**16 36 35.5**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=97,slow=8.8,SNR=1.6 comp=Z,0.2nm,0.4s						
WB0	**Warramunga Arr**	**30.32**	**165**	P	**P**	**16 36 54.0**	**-0.3**
WB0				IAmb	IAmb	16 37 05.5	
	comp=Z,7.1nm,1.3s						
WRA	**Warramunga Arr**	**30.47**	**166**	P	**P**	**16 36 57.9**	**+2.2**
	comp=Z,0.4nm,0.8s,baz=350,slow=10.0,SNR=2.0 comp=Z,0.4nm,0.8s						
WR8	**Warramunga Arr**	**30.53**	**165**	P	**P**	**16 36 56.0**	**-0.2**
WR8				IAmb	IAmb	16 37 07.4	
	comp=Z,8.1nm,1.4s						
AS31	**Alice Springs**	**33.97**	**168**	P	**P**	**16 37 26.0**	**-0.4**
ASAR	**Alice Springs**	**33.97**	**168**	P	**P**	**16 37 26.4**	**+0.1**
ASAR	**Alice Springs**	**33.97**	**168**	P	**P**	**16 37 26.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=352,slow=7.1,SNR=12 comp=Z,0.2nm,0.4s						
HNR	**Honiara**	**38.27**	**119**	LR	LR	16 53 14.6	
	comp=Z,120nm,19.3s,baz=262,slow=35						
MORW	**Morawa**	**39.91**	**194**	P	**P**	**16 38 17.5**	**+0.7**
MORW				IAmb	IAmb	16 38 55.5	
	comp=Z,22nm,1.5s						
FORT	**Forrest**	**40.32**	**178**	P	**P**	**16 38 20.5**	**+0.4**
SONM	**Songino Array**	**41.62**	**339**	P	**P**	**16 38 30.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=157,slow=10,SNR=4.2 comp=Z,0.7nm,0.5s						
EIDS	**Eidsvold**	**42.28**	**146**	P	**P**	**16 38 35.8**	**-0.5**
EIDS				IAmb	IAmb	16 39 14.2	
	comp=Z,8.9nm,0.9s						
BBOO	**Buckleboo**	**43.27**	**168**	P	**P**	**16 38 44.3**	**0.0**
NWAO	**Narrogin (SRO)**	**43.37**	**191**	P	**P**	**16 38 45.2**	**+0.1**
MKAR	**Makanchi Array**	**52.63**	**323**	P	**P**	**16 39 55.6**	**-1.1**
MKAR				PcP	**PcP**	**16 41 06.5**	**+0.1**
MKAR	**Makanchi Array**	**52.63**	**323**	P	**P**	**16 39 56.2**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=124,slow=8.3,SNR=9.0 comp=Z,0.7nm,0.6s						
MAKZ	**Makanchi**	**52.83**	**323**	P	**P**	**16 39 56.2**	**-1.8**
KURBB	**Kurchatov Arra**	**56.68**	**325**	P	**P**	**16 40 25.7**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=128,slow=6.1,SNR=7.7 comp=Z,0.4nm,0.5s						
NRIK	**Noril'sk**	**64.60**	**346**	P	**P**	**16 41 20.6**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=149,slow=6.2,SNR=6.3 comp=Z,1.6nm,0.6s						
ABKAR	**Akbulak array**	**67.48**	**319**	P	**P**	**16 41 36.2**	**-2.2**
SPITS	**Spitsbergen Ar**	**84.59**	**349**	P	**P**	**16 43 14.5**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=90,slow=5.0,SNR=5.1 comp=Z,1.4nm,0.8s						
ARCES	**ARCESS Array B**	**84.79**	**340**	P	**P**	**16 43 16.9**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=78,slow=6.3,SNR=10 comp=Z,1.5nm,0.7s						
FINES	**FINESS Array B**	**86.50**	**332**	P	**P**	**16 43 25.2**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=70,slow=6.3,SNR=8.0 comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**92.66**	**333**	P	**P**	**16 43 54.3**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=68,slow=3.9,SNR=2.2 comp=Z,1.2nm,0.7s						

IDC ***25*** *16:39:11.7±3.8, 40°.29S×176°.73E, h0km, mb3.4/2, mbtmp3.3/3, ML2.5/1, Error ellipse: s-maj=79.5km s-min=28.8km az=126.0*
NOU ***25*** *16:39:14.2, 40°.42S×176°.91E, h42km, MLv3.4/11, North Island, New Zealand*
WEL ***25*** *16:39:15.7±0.8, 40°S±4°×17°7E±°, h14km±6km, M3.3/67, ML4.0/10, MLv3.3/67, Error ellipse: s-maj=7.3km s-min=3.7km az=124.8, confirmed*
ISC 25 16:39:14.0±1.1, 40°.38S±0°.03×176°.83E±0°.04, h18km±3km, n129, σ0°.79/139, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGFS	**Porangahau Fir**	**0.18**	**295**	P	**Pg**	**16 39 19.3**	**+0.6**
PGFS				S	**Sg**	**16 39 22.7**	**+0.9**
PRHZ	**Porangahau**	**0.19**	**308**	P	**Pg**	**16 39 19.3**	**+0.5**
PRHZ				S	**Sg**	**16 39 22.3**	**+0.3**
ANWZ	**Angora Road**	**0.28**	**254**	P	**Pn**	**16 39 22.4**	**-0.8**
PXZ	**Pawanui**	**0.35**	**4**	P	**Pb**	**16 39 22.7**	**+1.0**
PXZ				S	**Sb**	**16 39 28.5**	**+1.6**
WPHZ	**Waipukurau**	**0.43**	**317**	P	**Pb**	**16 39 23.3**	**+0.2**
WPHZ				S	**Sb**	**16 39 29.8**	**+0.5**
WPWS	**Waipawa Distri**	**0.47**	**337**	P	**Pb**	**16 39 24.0**	**+0.2**
DVHZ	**Dannevirke**	**0.51**	**279**	P	**Pb**	**16 39 25.2**	**+0.8**
DVHZ				S	**Sb**	**16 39 32.5**	**+1.0**
BFZ	**Birch Farm**	**0.54**	**236**	P	**Pn**	**16 39 26.9**	**+0.2**
BFZ	**Birch Farm**	**0.54**	**236**	P	**Pn**	**16 39 27.1**	**+0.4**
BFZ				S	**Sn**	**16 39 36.4**	**+1.1**
KAHZ	**Kahuranaki**	**0.59**	**4**	P	**Pn**	**16 39 27.2**	**-0.2**
KAHZ				S	**Sn**	**16 39 36.7**	**+0.2**
PNHZ	**Pukenui**	**0.67**	**314**	P	**Pg**	**16 39 27.4**	**+0.2**
PNHZ				S	**Sg**	**16 39 36.9**	**+0.8**
PRWZ	**Pori Road**	**0.68**	**255**	P	**Pn**	**16 39 29.1**	**+0.4**
PRWZ				S	**Sn**	**16 39 40.0**	**+1.2**
CPWZ	**Castlepoint**	**0.71**	**222**	P	**Pn**	**16 39 30.3**	**+1.1**
TSZ	**Takapari Road**	**0.74**	**296**	P	**Pg**	**16 39 28.4**	**0.0**
CKHZ	**Cape Kidnapper**	**0.75**	**15**	P	**Pn**	**16 39 29.4**	**-0.2**
POWZ	**Post Office Ro**	**0.81**	**269**	P	**Pn**	**16 39 30.6**	**+0.2**
KRHZ	**Kereru**	**0.82**	**334**	P	**Pg**	**16 39 29.9**	**0.0**
TIWZ	**Tintock**	**0.82**	**241**	P	**Pn**	**16 39 31.0**	**+0.4**
MCHZ	**McNeill Hill**	**0.94**	**354**	P	**Pg**	**16 39 32.5**	**+0.2**
MRZ	**Mangatainoka R**	**0.99**	**253**	P	**Pn**	**16 39 33.0**	**0.0**
KWHZ	**Kaweka Forest**	**1.00**	**342**	P	**Pn**	**16 39 33.4**	**+0.2**
TMWZ	**Te Maipa**	**1.02**	**244**	P	**Pn**	**16 39 33.5**	**+0.2**
ARHZ	**Aropaoanui**	**1.12**	**7**	P	**Pn**	**16 39 34.9**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.12**	**242**	P	**Pn**	**16 39 34.8**	**0.0**
OHWZ	**Ohakea**	**1.17**	**278**	P	**Pg**	**16 39 36.7**	**+0.1**
BKZ	**Black Stump Fm**	**1.24**	**348**	P	**Pn**	**16 39 36.1**	**-0.3**
BKZ	**Black Stump Fm**	**1.24**	**348**	S	**Sb**	**16 39 51.7**	**-0.8**
BKZ	**Black Stump Fm**	**1.24**	**348**	P	**Pn**	**16 39 36.2**	**-0.2**
MTW	**Mount Morrison**	**1.27**	**232**	P	**Pn**	**16 39 36.5**	**-0.3**
MOVZ	**Moawhango**	**1.28**	**319**	P	**Pb**	**16 39 37.2**	**-0.3**
NMHZ	**Naumai**	**1.28**	**359**	P	**Pb**	**16 39 37.4**	**-0.2**
TRWZ	**Traveller**	**1.33**	**220**	P	**Pn**	**16 39 37.7**	**0.0**
OGWZ	**Otaki Gorge**	**1.33**	**250**	P	**Pn**	**16 39 37.6**	**-0.1**
WHHZ	**Waihua**	**1.34**	**14**	P	**Pb**	**16 39 38.5**	**-0.1**
WNVZ	**Wahianoa**	**1.42**	**318**	P	**Pb**	**16 39 39.9**	**0.0**
TUVZ	**Tukino**	**1.43**	**321**	P	**Pb**	**16 39 40.5**	**+0.3**
MTVZ	**Mangateitei**	**1.44**	**313**	P	**Pb**	**16 39 40.6**	**+0.2**
WHVZ	**Whangaehu Hut**	**1.45**	**319**	P	**Pb**	**16 39 40.9**	**+0.3**
PAWZ	**Paruwai Farm**	**1.46**	**226**	P	**Pn**	**16 39 39.0**	**-0.4**
TRVZ	**Turoa**	**1.46**	**317**	P	**Pb**	**16 39 40.6**	**-0.2**
RAHZ	**Arahi**	**1.48**	**8**	P	**Pn**	**16 39 39.6**	**-0.1**
MAVZ	**Matarangi**	**1.48**	**318**	P	**Pb**	**16 39 41.3**	**+0.2**
MHGZ	**Mahia Peninsul**	**1.48**	**34**	P	**Pn**	**16 39 39.6**	**-0.1**
FWVZ	**Far West T-bar**	**1.49**	**318**	P	**Pb**	**16 39 41.5**	**+0.2**
SNVZ	**South Ngauruho**	**1.50**	**322**	P	**Pb**	**16 39 41.0**	**-0.5**
KNZ	**Kokohu**	**1.51**	**26**	P	**Pn**	**16 39 39.4**	**-0.6**
OTVZ	**Oturere**	**1.51**	**323**	P	**Pb**	**16 39 41.6**	**0.0**
ETVZ	**East Tongariro**	**1.51**	**325**	P	**Pb**	**16 39 41.1**	**-0.4**
CAW	**Cannon Point**	**1.52**	**241**	P	**Pn**	**16 39 39.9**	**-0.3**
MTHZ	**Maungataniwha**	**1.53**	**0**	P	**Pn**	**16 39 40.3**	**0.0**
NGZ	**Ngauruhoe**	**1.53**	**321**	P	**Pb**	**16 39 42.0**	**+0.1**
TMVZ	**Te Maari**	**1.53**	**325**	P	**Pb**	**16 39 41.3**	**-0.6**
KIW	**Kapiti Island**	**1.54**	**251**	P	**Pn**	**16 39 40.5**	**0.0**
COVZ	**Chateau Observ**	**1.54**	**320**	P	**Pb**	**16 39 42.2**	**+0.2**
WAZ	**Wanganui**	**1.55**	**293**	P	**Pb**	**16 39 42.6**	**+0.6**
NTVZ	**North Tongarir**	**1.56**	**325**	P	**Pb**	**16 39 41.8**	**-0.6**
NNVZ	**North Ngauruho**	**1.56**	**323**	P	**Pb**	**16 39 42.3**	**-0.1**
KRVZ	**Karewarewa**	**1.58**	**324**	P	**Pb**	**16 39 42.6**	**0.0**
MRHZ	**Matea Rd**	**1.58**	**348**	P	**Pn**	**16 39 41.5**	**+0.4**
PKVZ	**Pokaka**	**1.58**	**313**	P	**Pb**	**16 39 42.7**	**+0.1**
MSWZ	**Moikau Station**	**1.58**	**229**	P	**Pn**	**16 39 40.4**	**-0.7**
WTVZ	**West Tongariro**	**1.58**	**323**	P	**Pb**	**16 39 43.1**	**+0.3**
RITZ	**Rihia Road**	**1.59**	**332**	P	**Pb**	**16 39 42.6**	**-0.2**
HATZ	**Hinemaiaia**	**1.59**	**339**	P	**Pg**	**16 39 44.4**	**-0.2**
SNGZ	**Shannon Statio**	**1.65**	**14**	P	**Pn**	**16 39 42.1**	**+0.1**
PLWZ	**Palliser**	**1.68**	**225**	P	**Pn**	**16 39 41.9**	**-0.6**
TWVZ	**Taurewa**	**1.69**	**320**	P	**Pb**	**16 39 45.4**	**+0.8**
RATZ	**Rangitukua**	**1.72**	**331**	P	**Pg**	**16 39 46.4**	**-0.6**
RTZ	**Ruatahuna**	**1.77**	**4**	P	**Pn**	**16 39 43.7**	**0.0**
BHW	**Baring Head**	**1.80**	**235**	P	**Pn**	**16 39 43.4**	**-0.7**
WEL	**Wellington**	**1.81**	**239**	P	**Pn**	**16 39 43.5**	**-0.6**
RIGZ	**Rimuhau**	**1.82**	**24**	P	**Pn**	**16 39 43.8**	**-0.6**
ALRZ	**Allen Road**	**1.85**	**348**	P	**Pn**	**16 39 45.6**	**+0.8**
SNZO	**South Karori**	**1.86**	**239**	P	**Pn**	**16 39 44.2**	**-0.7**
SNZO	**South Karori**	**1.86**	**239**	S	**Sn**	**16 40 07.3**	**-0.6**
WATZ	**Wairara**	**1.87**	**333**	P	**Pb**	**16 39 48.0**	**+0.4**
MUGZ	**Murupara**	**1.90**	**359**	P	**Pn**	**16 39 45.4**	**-0.1**
PRRZ	**Plateau Road**	**1.91**	**350**	P	**Pg**	**16 39 51.0**	**+0.4**
WPRZ	**Whakapapatarin**	**1.93**	**344**	P	**Pb**	**16 39 49.6**	**+1.0**
RAGZ	**Rawiri**	**1.94**	**14**	P	**Pn**	**16 39 45.8**	**-0.3**
VRZ	**Vera Road**	**2.03**	**308**	P	**Pb**	**16 39 49.3**	**-1.0**
HRRZ	**Handcock Road**	**2.03**	**348**	P	**Pg**	**16 39 52.3**	**-0.7**
KUTZ	**Kaahu Road**	**2.04**	**337**	P	**Pg**	**16 39 53.1**	**-0.1**
RRRZ	**Republican Roa**	**2.05**	**353**	P	**Pg**	**16 39 53.8**	**+0.4**
LREZ	**Lake Rotokare**	**2.08**	**295**	P	**Pb**	**16 39 51.1**	**0.0**
TCW	**Tory Channel**	**2.11**	**246**	P	**Pn**	**16 39 47.6**	**-0.7**
HSRZ	**Hossack Road**	**2.12**	**347**	P	**Pg**	**16 39 53.6**	**-1.0**
MWZ	**Matawai**	**2.12**	**15**	P	**Pn**	**16 39 47.6**	**-0.9**
URZ	**Urewera**	**2.13**	**6**	Pn	**Pn**	**16 39 48.0**	**-0.6**
	1.6nm,0.3s,baz=322,slow=4.0,SNR=39						
URZ				Sn	**Sn**	**16 40 13.7**	**-0.9**
	4.9nm,0.3s,baz=314,slow=15,SNR=6.5 6.1nm,0.3s						
URZ	**Urewera**	**2.13**	**6**	P	**Pn**	**16 39 47.9**	**-0.7**
URZ	**Urewera**	**2.13**	**6**	S	**Sn**	**16 40 13.9**	**-0.6**
URZ	**Urewera**	**2.13**	**6**	P	**Pn**	**16 39 48.0**	**-0.6**
CNGZ	**Carnagh Statio**	**2.17**	**30**	P	**Pn**	**16 39 48.7**	**-0.5**
DUWZ	**D'Urville Isla**	**2.25**	**258**	P	**Pn**	**16 39 50.7**	**+0.3**
TLZ	**Tolley Road**	**2.28**	**334**	P	**Pb**	**16 39 55.8**	**+1.2**
TWGZ	**Tauwhareparae**	**2.38**	**22**	P	**Pn**	**16 39 51.9**	**-0.1**
NEZ	**North Egmont**	**2.38**	**297**	P	**Pb**	**16 39 56.8**	**+0.5**
KHEZ	**Kahui Hut**	**2.42**	**296**	P	**Pn**	**16 39 52.8**	**+0.1**
KHEZ	**Kahui Hut**	**2.42**	**296**	P	**Pb**	**16 39 57.0**	**-0.1**
TUWZ	**Tuamarina**	**2.42**	**243**	P	**Pn**	**16 39 52.1**	**-0.6**
RUGZ	**Raukumara Rang**	**2.50**	**16**	P	**Pn**	**16 39 53.1**	**-0.7**
PUZ	**Puketiti**	**2.56**	**26**	P	**Pn**	**16 39 53.4**	**-1.1**
BSWZ	**Blackbirch Sta**	**2.60**	**238**	P	**Pn**	**16 39 54.0**	**-1.1**
PKGZ	**Pakihiroa**	**2.69**	**22**	P	**Pn**	**16 39 55.4**	**-1.0**
HAZ	**Te Kaha**	**2.72**	**16**	P	**Pn**	**16 39 56.3**	**-0.5**
NNZ	**Nelson**	**2.75**	**251**	P	**Pn**	**16 39 56.7**	**-0.4**
WMGZ	**Waiomatatini S**	**2.84**	**26**	P	**Pn**	**16 39 57.5**	**-0.9**
TKNZ	**Takaka Hill**	**3.01**	**256**	P	**Pn**	**16 40 01.0**	**+0.3**
KHZ	**Kahutara**	**3.20**	**230**	P	**Pn**	**16 40 01.6**	**-1.7**
KHZ	**Kahutara**	**3.20**	**230**	P	**Pn**	**16 40 01.6**	**-1.7**
MRNZ	**Matariki Terra**	**3.25**	**250**	P	**Pn**	**16 40 03.7**	**-0.3**
THZ	**Tophouse**	**3.27**	**244**	P	**Pn**	**16 40 02.9**	**-1.5**
QRZ	**Quartz Range**	**3.30**	**261**	P	**Pn**	**16 40 04.1**	**-0.6**
QRZ	**Quartz Range**	**3.30**	**261**	P	**Pn**	**16 40 04.4**	**-0.3**
GVZ	**Greta Valley S**	**3.84**	**226**	P	**Pn**	**16 40 11.4**	**-0.7**
DSZ	**Denniston Nort**	**4.04**	**249**	P	**Pn**	**16 40 13.5**	**-1.4**
LTZ	**Lake Taylor**	**4.18**	**233**	P	**Pn**	**16 40 14.5**	**-2.3**
OKCZ	**Okains Bay**	**4.36**	**219**	P	**Pn**	**16 40 17.8**	**-1.5**
MQZ	**McQueen's Vall**	**4.55**	**222**	P	**Pn**	**16 40 19.7**	**-2.1**
OXZ	**Oxford**	**4.63**	**229**	P	**Pn**	**16 40 20.9**	**-2.1**
INZ	**Inchbonnie**	**4.67**	**238**	P	**Pn**	**16 40 21.5**	**-2.0**
WACZ	**Wakanui South**	**5.14**	**225**	P	**Pn**	**16 40 28.3**	**-1.6**
ARCZ	**Arundel**	**5.51**	**228**	P	**Pn**	**16 40 33.9**	**-1.2**
TMZ	**Timaru**	**5.88**	**225**	P	**Pn**	**16 40 38.1**	**-2.1**
CTZ	**Chatham Island**	**5.92**	**127**	P	**Pn**	**16 40 42.6**	**+1.9**
ODZ	**Otahua Downs**	**6.51**	**222**	P	**Pn**	**16 40 47.0**	**-1.8**
ASAR	**Alice Springs**	**39.60**	**282**	P	**P**	**16 46 44.0**	**-0.5**
	0.4nm,0.7s,baz=120,slow=6.5,SNR=9.6 0.4nm,0.7s						
WRA	**Warramunga Arr**	**41.52**	**287**	P	**P**	**16 47 00.1**	**-0.2**
	0.4nm,0.5s,baz=125,slow=8.3,SNR=5.3 0.4nm,0.5s						
ARCES	**ARCESS Array B**	**147.12**	**342**	PKPbc	**PKPbc**	**16 58 54.2**	**-0.4**
	0.7nm,0.8s,baz=47,slow=2.3,SNR=3.7						

BJI ***25*** *16:45:47.5, 5°.71S×151°.37E, h122km, mB5.0/10, mb4.6/36*
NEIC ***25*** *16:45:49.5±1.3, 5°.30S±0°.06×151°.49E±0°.07, h112km±7km, mb5.0/57, Error ellipse: s-maj=11.5km s-min=8.3km az=119.0*
IDC ***25*** *16:45:49.4±0.8, 5°.36S×151°.57E, h116km±6km, mb3.9/16, mbtmp4.4/19, MS3.5/21, Error ellipse: s-maj=14.6km s-min=9.8km az=115.0*
GCMT ***25*** *16:45:51.5±0.2, 5°.53S±0°.02×151°.44E±0°.02, h117km±3km, MW4.9/108, Moment Tensor Solution. s33,c41; s108,c154; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}0.92±.09; $M_{\theta\theta}$-1.14±.09; $M_{\phi\phi}$0.22±.12; $M_{r\theta}$0.46±.06; $M_{\theta\phi}$-1.60±.11; $M_{\phi r}$2.14±.06; Best double couple: $M_0$2.90600×10^16 NP1:ϕ_0=274.00000°, δ37.00000°, λ161.00000°. NP2:ϕ_0=20.00000°, δ79.00000°, λ54.00000°. Principal axes: T 2.8730, Plg45.0000°, Azm254.0000°; N 0.0650, Plg35.0000°, Azm28.0000°; P -2.9380, Plg25.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***25*** *16:45:57.1±0.5, 6°S±4°×15°1E±°, h145km±6km, M5.3/17, mb4.8/17, mB5.3/6, MLv6.0/1, Mw(mB)4.7/6*
ISC 25 16:45:48.1±0.3, 5°.34S±0°.04×151°.49E±0°.05, h100km, n145, σ1°.31/145, mb4.9/52, 2C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**1.16**	**27**	P	**Pn**	**16 46 12.3**	**+1.9**
	baz=297,slow=1.8						
I40PG				S	**Sn**	**16 46 30.2**	**+3.1**
	baz=207,slow=49						
I40PG				I	I	16 55 30.0	
	43nm,0.3s,baz=218,slow=303,SNR=1.1						
RABL	**Rabaul**	**1.33**	**31**		**Pn**	**16 46 13.6**	**+1.2**
RABL				Sn	**Sn**	**16 46 31.4**	**+0.8**
MANU	**Manus Island**	**5.25**	**308**		**Pn**	**16 47 05.4**	**+1.1**
PMG	**Port Moresby**	**5.89**	**226**		**Pn**	**16 47 14.5**	**+1.5**
PMG				Sn	**Sn**	**16 48 19.7**	**+0.5**
PMG	**Port Moresby**	**5.89**	**226**	P	**Pn**	**16 47 16.1**	**+3.1**
	283nm,0.8s,baz=48,slow=8.1,SNR=67						
PMG				S	**Sn**	**16 48 21.0**	**+1.8**
	658nm,0.6s,baz=44,slow=15,SNR=6.2						
PMG				LR	LR	16 49 08.5	
	comp=Z,268nm,21.9s,baz=40,slow=34						
HNR	**Honiara**	**9.32**	**116**	Pn	**Pn**	**16 47 58.1**	**-1.5**
HNR	**Honiara**	**9.32**	**116**	P	**Pn**	**16 48 00.0**	**+0.4**
	18nm,0.4s,baz=122,slow=14,SNR=6.5						
JAY	**Jayapura**	**11.12**	**284**	P	**Pn**	**16 48 26.4**	**+2.3**
	15nm,1.0s,baz=150,slow=14,SNR=5.3						
JAY	**Jayapura**	**11.12**	**284**	P	**Pn**	**16 48 27.1**	**+3.0**
	29nm,1.3s						
MMPI	**Merauke**	**11.45**	**254**	P	**Pn**	**16 48 30.4**	**+1.8**
GENI	**Genyem**	**11.62**	**283**	P	**Pn**	**16 48 34.1**	**+3.3**
	1μm61nm,1.6s						
COEN	**Coen**	**11.85**	**223**		**Pn**	**16 48 34.7**	**+0.9**
COEN				Sn	**Sn**	**16 50 42.5**	**-1.7**
SMPI	**Sarmi**	**13.18**	**284**	P	**Pn**	**16 48 55.2**	**+3.8**
	102nm,2.2s						
BAKI	**Biak**	**15.89**	**284**	P	**P**	**16 49 29.5**	**+1.6**
	69nm,1.5s						
EIDS	**Eidsvold**	**19.92**	**181**	P	**P**	**16 50 12.8**	**+0.8**
GUMO	**Guam**	**19.92**	**341**	P	**P**	**16 50 10.8**	**-1.3**
SWI	**Sorong**	**20.68**	**282**	P	**P**	**16 50 22.4**	**+2.1**
	54nm,1.5s						
MTN	**Manton Dam**	**21.42**	**248**		**P**	**16 50 26.9**	**-1.3**
WB0	**Warramunga Arr**	**21.96**	**228**		**P**	**16 50 33.8**	**-0.2**
WR8	**Warramunga Arr**	**22.00**	**227**		**P**	**16 50 34.3**	**-0.1**
DZM	**Mont Dzumac**	**22.05**	**140**		**P**	**16 50 34.8**	**-0.1**
DZM	**Mont Dzumac**	**22.05**	**140**	P	**P**	**16 50 34.3**	**-0.6**
	41nm,1.0s,baz=277,slow=8.4,SNR=13 41nm,1.0s						
WRAB	**Tennant Creek**	**22.10**	**227**	P	**P**	**16 50 35.0**	**-0.4**
WRA	**Warramunga Arr**	**22.11**	**227**	P	**P**	**16 50 35.4**	**-0.2**
	79nm,0.8s,baz=50,slow=10,SNR=126						
WRA				S	**S**	**16 54 33.0**	**-0.2**
	9.2nm,1.2s,baz=56,slow=19,SNR=7.4						
WRA				ScP	**ScP**	**16 57 57.4**	**-0.6**
	0.6nm,0.5s,baz=50,slow=2.7,SNR=6.2						
KNRA	**Kununurra**	**24.56**	**244**		**P**	**16 50 58.9**	**0.0**
AS31	**Alice Springs**	**24.88**	**221**		**P**	**16 51 01.7**	**0.0**
ASAR	**Alice Springs**	**24.88**	**221**	P	**P**	**16 51 02.5**	**+0.8**
	36nm,0.5s,baz=56,slow=8.6,SNR=394						
ASAR				LR	LR	17 00 02.1	
	comp=Z,70nm,18.4s,baz=48,slow=34						
ARMA	**Armidale**	**24.95**	**180**		**P**	**16 51 03.6**	**+1.3**
SOEI	**Soe**	**27.33**	**259**	P	**P**	**16 51 23.7**	**-0.3**
SOEI				IAmb	IAmb	16 51 57.2	
	comp=Z,50nm,1.0s						
STKA	**Stephens Creek**	**27.98**	**198**	P	**P**	**16 51 29.1**	**-0.4**
STKA				IAmb	IAmb	16 52 19.4	
	comp=Z,40nm,1.1s						
STKA	**Stephens Creek**	**27.98**	**198**	P	**P**	**16 51 30.0**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=4.3,slow=11,SNR=5.2 comp=Z,3.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.25**	**241**		**P**	**16 51 31.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**28.25**	**241**	LR	LR	17 04 03.6	

XAN	**Xi'an**	**56.12 317**	P	**P**	**16 55 16.8**	**-0.6**
XAN			pP	pP	16 55 45.8	+4.0
XAN			pmax	pmax		
comp=Z,11nm,0.6s						
KMI	**Kunming**	**56.21 305**	P	**P**	**16 55 20.0**	**+1.5**
KMI			pmax	pmax		
comp=Z,7.0nm,1.4s						
CM31	**Chiang Mai Arr**	**56.93 296**	P	**P**	**16 55 22.3**	**-1.1**
CM31			IAmb	IAmb	16 55 25.4	
comp=Z,25nm,1.4s						
CMAR	**Chiang Mai Arr**	**56.93 296**		**P**	**16 55 23.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**56.93 296**	P	**P**	**16 55 24.6**	**+1.2**
comp=Z,4.8nm,1.0s,baz=113,slow=5.3,SNR=27						
comp=Z,4.8nm,1.0s						
CHTO	**Chiang Mai**	**57.04 296**		**P**	**16 55 23.6**	**-0.6**
CHTO			IAmb	IAmb	16 55 26.6	
comp=Z,17nm,1.4s						
CHTO	**Chiang Mai**	**57.04 296**	P	**P**	**16 55 24.5**	**+0.3**
PZH	**PanZhiHua**	**57.62 306**	P	**P**	**16 55 29.8**	**+1.5**
PZH			pmax	pmax		
comp=Z,10.0nm,0.6s						
PZH			pmax	pmax		
comp=Z,110nm,4.7s						
PETK	**Petropavlovsk-**	**58.47 4**	P	**P**	**16 55 32.2**	**-1.3**
comp=Z,2.3nm,0.6s,baz=186,slow=7.4,SNR=9.1						
PETK			LR	LR	17 18 01.2	
comp=Z,31nm,20.5s,baz=157,slow=33						
comp=Z,2.3nm,0.6s						
XLT	**XiLinHaoTe**	**58.48 331**	*e*P	**P**	**16 55 34.0**	**+0.1**
XLT			pmax	pmax		
comp=Z,9.0nm,1.2s						
XLT			pmax	pmax		
comp=Z,130nm,4.9s						
HHC	**Hu-ho-hao-te**	**58.73 325**	*e*P	**P**	**16 55 38.0**	**+2.3**
HHC			pmax	pmax		
comp=Z,9.0nm,0.7s						
HHC			pmax	pmax		
comp=Z,120nm,5.9s						
PPT	**Papeete**	**58.81 107**	LR	LR	17 16 49.3	
comp=Z,66nm,19.6s,baz=128,slow=32						
DRV	**Dumont d'Urvil**	**61.74 185**	P	**P**	**16 55 56.4**	**+0.8**
DRV			pP	**pP**	**16 56 22.7**	**+2.7**
DRV			sP	**PcP**	**16 56 35.1**	**-0.8**
MA2	**Magadan**	**64.71 360**	LR	LR	17 26 20.7	
comp=Z,24nm,18.4s,baz=142,slow=38						
GTA	**Gaotai**	**65.17 318**	P	**P**	**16 56 20.3**	**+1.4**
GTA			pP	pP	16 56 47.8	+3.8
GTA			pmax	pmax		
comp=Z,3.0nm,1.1s						
ULN	**Ulaanbaatar**	**65.77 329**		**P**	**16 56 21.9**	**-0.7**
ULN	**Ulaanbaatar**	**65.77 329**	P	**P**	**16 56 23.4**	**+0.8**
SONM	**Songino Array**	**66.09 329**		**P**	**16 56 24.2**	**-0.4**
SONM			IAmb	IAmb	16 56 26.4	
comp=Z,16nm,1.5s						
SONM	**Songino Array**	**66.09 329**	P	**P**	**16 56 25.4**	**+0.7**
comp=Z,2.4nm,0.6s,baz=149,slow=5.2,SNR=16						
SONM			pP	**PcP**	**16 56 54.1**	**-0.2**
comp=Z,2.7nm,1.0s,baz=133,slow=4.7,SNR=3.7						
comp=Z,2.4nm,0.6s						
YAK	**Yakutsk**	**69.25 349**	P	**P**	**16 56 41.6**	**-2.4**
CCD	**Concordia, Ant**	**71.56 187**	P	**P**	**16 56 58.6**	**+0.1**
CCD			pP	**pP**	**16 57 26.8**	**+2.9**
PALK	**Pallekele**	**71.73 279**	LR	LR	17 31 45.4	
comp=Z,122nm,18.1s,baz=99,slow=38						
WMQ	**Urumqi**	**75.25 318**	*e*P	**P**	**16 57 21.5**	**+1.2**
WMQ			pmax	pmax		
comp=Z,15nm,0.7s						
TIXI	**Tiksi**	**78.26 353**	P	**P**	**16 57 35.3**	**-1.2**
F17K	**Baldwin Pennin**	**79.23 17**	P	**P**	**16 57 41.7**	**-0.2**
MKAR	**Makanchi Array**	**79.87 319**		**P**	**16 57 45.3**	**-0.6**
MKAR	**Makanchi Array**	**79.87 319**	P	**P**	**16 57 45.6**	**-0.3**
comp=Z,1.0nm,0.4s,baz=96,slow=7.8,SNR=32						
MKAR			LR	LR	17 35 45.4	
comp=Z,27nm,18.0s,baz=208,slow=38						
comp=Z,1.0nm,0.4s						
MAKZ	**Makanchi**	**80.08 319**		**P**	**16 57 46.2**	**-0.8**
ZALV	**Zalesovo Beam**	**80.88 327**		**P**	**16 57 50.0**	**-1.0**
ZALV	**Zalesovo Beam**	**80.88 327**	P	**P**	**16 57 49.5**	**-1.6**
comp=Z,2.8nm,0.4s,baz=114,slow=6.3,SNR=13						
ZALV			LR	LR	17 35 06.6	
comp=Z,31nm,18.9s,baz=66,slow=36						
comp=Z,2.8nm,0.4s						
KSH	**Kashi**	**82.29 311**	P	**P**	**16 57 59.5**	**+0.5**
KSH			pmax	pmax		
comp=Z,4.0nm,1.3s						
ILAR	**Eielson Array**	**83.15 22**	P	**P**	**16 58 00.9**	**-1.8**
comp=Z,1.0nm,0.6s,baz=254,slow=5.1,SNR=18						
ILAR			LR	LR	17 31 41.4	
comp=Z,15nm,20.4s,baz=260,slow=33						
comp=Z,1.0nm,0.6s						
NIL	**Nilore**	**83.20 305**	P	**P**	**16 58 01.6**	**-2.1**
NIL			IAmb	IAmb	16 58 04.1	
comp=Z,12nm,1.1s						
KURK	**Kurchatov**	**83.39 322**		**P**	**16 58 03.0**	**-1.2**
KURBB	**Kurchatov Arra**	**83.42 322**	P	**P**	**16 58 03.1**	**-1.3**
comp=Z,0.8nm,0.4s,baz=101,slow=4.8,SNR=13						
comp=Z,0.8nm,0.4s						
J25K	**Salcha River,**	**83.66 23**		**P**	**16 58 04.7**	**-0.8**
J25K			IAmb	IAmb	16 58 44.9	
comp=Z,23nm,1.8s						
AAK	**Ala-Archa**	**84.09 314**		**P**	**16 58 06.4**	**-1.9**
F24K	**Squaw Lake**	**84.12 20**	P	**P**	**16 58 07.3**	**-0.4**
BCPM	**Bancas Point**	**84.22 28**	P	**P**	**16 58 07.9**	**-0.4**
QSPA	**South Pole Qui**	**84.62 180**	P	**P**	**16 58 08.8**	**-1.6**
comp=Z,3.3nm,1.1s,baz=247,slow=0.6,SNR=5.8						
QSPA			pP	**pP**	**16 58 39.4**	**+2.9**
comp=Z,3.6nm,0.9s,baz=331,slow=4.4,SNR=4.5						
comp=Z,3.3nm,1.1s						
NRIK	**Noril'sk**	**86.05 341**	P	**P**	**16 58 15.3**	**-1.9**
comp=Z,1.4nm,0.4s,baz=100,slow=4.9,SNR=6.9						
NRIK			LR	LR	17 38 58.1	
comp=Z,23nm,18.1s,baz=145,slow=37						
comp=Z,1.4nm,0.4s						
K29M	**Barlow Dome**	**86.51 25**	P	**P**	**16 58 20.1**	**+0.3**
KKAR	**Karatay Array**	**87.05 314**		**P**	**16 58 21.7**	**-1.1**
E28M	**Babbage River**	**87.42 20**		**P**	**16 58 23.8**	**-0.1**
E28M			IAmb	IAmb	16 58 26.8	
comp=Z,15nm,1.8s						
BVAR	**Borovoye Array**	**88.89 323**	P	**P**	**16 58 29.9**	**-1.3**
comp=Z,0.9nm,0.4s,baz=92,slow=7.4,SNR=9.4						
comp=Z,0.9nm,0.4s						
YBH	**Yreka Blue Hor**	**90.39 48**	LR	LR	17 31 32.7	
comp=Z,34nm,20.7s,baz=238,slow=30						
SYO	**Syowa Base**	**92.72 200**	⇑*i*P	**P**	**16 58 48.4**	**-0.3**
NVAR	**Mina Array Bea**	**93.45 52**	P	**P**	**16 58 53.5**	**+0.5**
comp=Z,0.9nm,0.8s,baz=255,slow=5.8,SNR=5.3						
NVAR			pP	**pP**	**16 59 21.5**	**+1.7**
comp=Z,0.5nm,0.6s,baz=272,slow=5.8,SNR=2.9						
comp=Z,0.9nm,0.8s						
PFO	**Pinyon Flats O**	**94.63 57**	LR	LR	17 33 26.9	
comp=Z,29nm,20.9s,baz=155,slow=30						
ELIB	**Princess Elisa**	**95.96 194**	*d*P	P	16 59 12.0	+8.3
ARTI	**Arti**	**96.13 326**	LR	LR	17 43 34.3	
comp=Z,35nm,19.2s,baz=69,slow=36						
YKA	**Yellowknife Ar**	**96.51 28**	P	**P**	**16 59 06.4**	**+0.3**
comp=Z,0.1nm,0.5s,baz=274,slow=4.7,SNR=4.1						
comp=Z,0.1nm,0.5s						
LPIG	**La Paz**	**99.64 67**	LR	LR	17 41 02.5	
comp=Z,21nm,18.1s,baz=218,slow=33						
MODS	**Modra-Piesok**	**122.13 326**	*e*PKP	**PKPdf**	**17 04 27.4**	**-3.9**
CLL	**Collm**	**122.68 330**	*i* PKPdf	**PKPdf**	**17 04 32.3**	**+0.1**
GERES	**GERESS Array B**	**123.82 328**	PKP	**PKPdf**	**17 04 34.4**	**-0.3**
comp=Z,0.9nm,0.4s,baz=72,slow=1.1,SNR=9.9						
EKA	**Eskdalemuir Ar**	**126.16 342**	PKP	**PKPdf**	**17 04 38.9**	**+0.1**
comp=Z,0.7nm,0.4s,baz=5.6,slow=2.3,SNR=9.7						
DOU	**Dourbes**	**127.44 334**	*d*Pdif	**Pdif**	**17 01 24.1**	**0.0**

IDC ***25*** *16:57:03.3±8.4,* **18°.80S×176°.16W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=218.8km s-min=42.0km az=28.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.09**	**243**	P	P	17 04 41.0	+0.1
1.6nm,0.7s,baz=90,slow=12,SNR=1.8							
1.6nm,0.7s							
WRA	**Warramunga Arr**	**46.58**	**260**	P	P	17 05 33.4	0.0
0.3nm,0.3s,baz=98,slow=7.2,SNR=8.3							
0.3nm,0.3s							
ASAR	**Alice Springs**	**46.61**	**255**	P	P	17 05 33.2	-0.4
0.8nm,0.7s,baz=91,slow=7.8,SNR=8.8							
0.8nm,0.7s							
QSPA	**South Pole Qui**	**71.26**	**180**	P	P	17 08 24.4	+0.1
1.6nm,0.8s,baz=160,slow=1.3,SNR=7.5							
1.6nm,0.8s							

NNC ***25*** *16:57:35.3±0.5,43°.12N×78°.34E, h4km±4km, mpv2.8, Error ellipse: s-maj=4.1km s-min=3.2km az=74.0*
SOME ***25*** *16:57:36.5,43°.18N×78°.30E, h10km*
KRNET ***25*** *16:57:40.5±0.1,42°.80N×78°.40E, h35km, mb2.0*
ISC 25 16:57:34.4±0.8, 43°.10N±0°.03×78°.47E±0°.03, h16km±4km, n20, σ0§89/40, 6C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.06**	**230**	P	**Pg**	**16 57 37.5**	**-0.1**
75nm,0.1s							
SATY				S	**Sg**	**16 57 39.0**	**-0.7**
2μm,0.1s							
ZHN	**Zhinishke**	**0.07**	**339**	P	**Pg**	**16 57 38.0**	**+0.2**
10nm,0.1s							
ZHN				S	**Sg**	**16 57 39.8**	**-0.2**
234nm,0.2s							
ZHN	**Zhinishke**	**0.07**	**339**	*e*P	**Pg**	**16 57 38.0**	**+0.2**
10nm,0.1s							
ZHN				*e*S	**Sg**	**16 57 39.8**	**-0.2**
234nm,0.2s							
KPKS	**Kokpek**	**0.40**	**23**	P	**Pb**	**16 57 44.1**	**+0.9**
1.0nm,0.1s							
KPKS				S	**Sb**	**16 57 50.2**	**+1.2**
8.3nm,0.3s							
KPKS	**Kokpek**	**0.40**	**23**	*e*P	**Pb**	**16 57 44.1**	**+0.9**
1.0nm,0.1s							
KPKS				*e*S	**Sb**	**16 57 50.2**	**+1.2**
8.3nm,0.3s							
UZB	**Uzynbulak**	**0.41**	**83**	P	**Pn**	**16 57 45.3**	**-0.5**
3.9nm,0.1s							
UZB				S	**Sn**	**16 57 52.0**	**-1.2**
15nm,0.1s							
UZB	**Uzynbulak**	**0.41**	**83**	*e*P	**Pn**	**16 57 45.2**	**-0.5**
3.9nm,0.1s							
UZB				*e*S	**Sn**	**16 57 52.0**	**-1.2**
15nm,0.1s							
KURS	**Kuram**	**0.45**	**331**	P	**Pg**	**16 57 43.4**	**-0.1**
4.9nm,0.1s							
KURS				S	**Sg**	**16 57 48.9**	**-0.6**
3.6nm,0.2s							
PRZ	**Przheval'sk**	**0.62**	**185**	⇑*e*P	**Pn**	**16 57 48.7**	**0.0**
PRZ				⇑*e*S	**Sg**	**16 57 55.1**	**+0.2**
ANVS	**Anan'yevo**	**0.67**	**242**	⇑*i*P	**Pn**	**16 57 52.4**	**+3.0**
ANVS				⇑*i*S	**Sn**	**16 58 00.2**	**+0.5**
TNSS	**Tian-Shan**	**1.12**	**267**	P	**Pb**	**16 57 55.2**	**-0.4**
0.5nm,0.1s							
TNSS				S	**Sb**	**16 58 09.0**	**-1.1**
1.9nm,0.1s							
TNSS	**Tian-Shan**	**1.12**	**267**	*e*P	**Pb**	**16 57 54.9**	**-0.7**
0.5nm,0.1s							
TNSS				*e*S	**Sb**	**16 58 08.7**	**-1.4**
1.9nm,0.1s							
CHKK	**Chushkaly**	**1.32**	**305**	P	**Pn**	**16 57 58.2**	**0.0**
0.8nm,0.1s							
CHKK				S	**Sn**	**16 58 14.3**	**-1.2**
3.1nm,0.2s							
CHKK	**Chushkaly**	**1.32**	**305**	*e*P	**Pn**	**16 57 58.2**	**0.0**
0.8nm,0.1s							
CHKK				*e*S	**Sn**	**16 58 14.2**	**-1.2**
3.1nm,0.2s							
KDJ	**Kajisay**	**1.36**	**225**	⇑*i*P	**Pg**	**16 58 01.3**	**+0.7**
KDJ				⇑*i*S	**Sn**	**16 58 16.2**	**-0.5**
KTBS	**Karatobe**	**1.44**	**296**	P	**Pn**	**16 58 00.3**	**+0.4**
1.6nm,0.1s							
KTBS				S	**Sn**	**16 58 17.9**	**-0.6**
4.0nm,0.3s							
MTBS	**Maitube**	**1.50**	**272**	P	**Pb**	**16 58 02.2**	**+0.4**
1.9nm,0.1s							
MTBS				S	**Sb**	**16 58 21.4**	**+0.8**
7.0nm,0.3s							
MTBS	**Maitube**	**1.50**	**272**	*e*P	**Pb**	**16 58 02.2**	**+0.4**
1.9nm,0.1s							
MTBS				*e*S	**Sb**	**16 58 21.4**	**+0.8**
7.0nm,0.3s							
BOOM	**Boomskoye usch**	**1.96**	**253**	⇓*e*P	**Pg**	**16 58 11.3**	**-0.7**
BOOM				⇓*e*S	**Sb**	**16 58 33.6**	**-0.5**
TKM2	**Tokmak 2**	**2.12**	**266**	⇓*e*P	**Pg**	**16 58 14.7**	**-0.3**
TKM2				⇓*i*S	**Sb**	**16 58 39.0**	**+0.4**

UPP ***25*** *17:01:27.7±0.1,67°.06N×20°.93E, h0km, ML2.5, Unknown*
IDC ***25*** *17:01:28.9±0.9,67°.05N×21°.26E, h0km, mbtmp2.9/5, ML2.2/5, Error ellipse: s-maj=16.9km s-min=8.3km az=99.0*
ISC 25 17:01:27.9±0.8, 67°.06N±0°.03×20°.92E±0°.03, h10km, n18, σ1§06/24, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**293**	P	**Pg**	**17 01 30.9**	**-0.4**
DUNU				S	**Sg**	**17 01 33.1**	**-0.5**
MASU	**Masugnsbyn**	**0.58**	**46**	P	**Pg**	**17 01 38.8**	**-0.3**
ERTU	**Ertsjaerv**	**0.72**	**135**	P	**Pg**	**17 01 41.1**	**-0.7**
ERTU				S	**Sb**	**17 01 50.7**	**-1.6**
PAJU	**Pajala**	**0.86**	**92**	P	**Pg**	**17 01 43.7**	**-0.7**
PAJU				S	**Sb**	**17 01 55.4**	**-1.2**
HARU	**Harads**	**0.90**	**179**	P	**Pg**	**17 01 44.6**	**-0.7**
HARU				S	**Sg**	**17 01 56.5**	**-0.5**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**17 01 44.8**	**-0.9**
KUA				S	**Sb**	**17 01 58.0**	**-0.4**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**17 01 46.3**	**-0.7**
SALU	**Saltoluokta**	**0.99**	**290**	*e*P	**Pg**	**17 01 46.4**	**-0.6**
KOVU	**Salmi**	**1.20**	**346**	P	**Pn**	**17 01 50.0**	**-0.8**
KALU	**Kalix**	**1.55**	**140**	P	**Pb**	**17 01 56.2**	**-0.5**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pb**	**17 01 56.8**	**-0.5**
HEF	**Hetta**	**1.71**	**36**	*e*P	**Pb**	**17 01 58.7**	**-0.7**
I37NO	**I37NO**	**2.20**	**338**	I	I	17 15 28.6	
0.2nm,0.4s,baz=155,slow=326,SNR=1.6							
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**17 02 17.0**	**+1.3**
0.4nm,0.3s,baz=211,slow=14,SNR=79							
ARCES				Sn	**Sn**	**17 02 54.1**	**+2.3**
0.9nm,0.3s,baz=216,slow=22,SNR=5.7							
1.4nm,0.2s							
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**17 02 58.9**	**+1.3**
0.1nm,0.3s,baz=348,slow=13,SNR=8.8							
FINES				Sn	**Sn**	**17 04 07.9**	**+0.9**
0.3nm,0.3s,baz=347,slow=21,SNR=5.9							
FINES				Lg	Lg	17 04 39.1	
0.3nm,0.3s,baz=346,slow=29,SNR=3.0							
0.5nm,0.4s							
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**17 03 16.9**	**+1.2**
baz=42,slow=16,SNR=1.8							
0.1nm,0.3s							
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**17 03 20.9**	**+1.5**
0.2nm,0.3s,baz=30,slow=15,SNR=1.3							
0.4nm,0.4s							
SPITS	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**17 04 08.9**	**+0.4**
baz=165,slow=17							
1.4nm,0.9s							

NEIC ***25*** *17:04:08.8±1.2,19°.36N±0°.01×155°.215W±0°.009, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=143.0*
HVO 25 17:04:07.6±0.9, 19°.34N±0°.02×155°.18W±0°.01, h2km±6km, ML2.8/41, ML2.5/40(NEIC), Error ellipse: s-maj=2.3km s-min=1.3km az=155.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.04**	**11**		Pg	17 04 09.8	+1.1
PUH	**Pauahi**	**0.05**	**318**		Pg	17 04 09.8	+1.0
STCH	**Steam Cracks**	**0.07**	**45**		Pg	17 04 10.0	+0.9
STCH				IAML		17 04 10.4	
comp=N,1μm,0.1s							
STCH				IAML		17 04 11.1	
comp=E,2μm,0.1s							
NPOC	**North of Pu'u**	**0.09**	**48**		Pg	17 04 12.2	+2.8
JCUZ	**Jacuzzi**	**0.09**	**56**		Pg	17 04 12.1	+2.7
KKO	**Keanakako'i**	**0.10**	**307**		Pg	17 04 10.6	+0.9
KKO					Sg	17 04 12.8	+1.7
BYL	**Byron's Ledge**	**0.11**	**315**		Pg	17 04 10.6	+0.8
RIM	**Rim**	**0.11**	**304**		Pg	17 04 10.7	+0.9
RIM					Sg	17 04 12.8	+1.5
HATHI	**Halema'uma'u T**	**0.12**	**318**		Pg	17 04 10.8	+0.8
HATHI				IAML		17 04 13.2	
comp=N,4μm,0.5s							
HATHI				IAML		17 04 13.3	
comp=E,2μm,0.3s							
SDHHI	**Sand Hill**	**0.12**	**297**		Pg	17 04 10.8	+0.8
SDHHI					Sg	17 04 13.2	+1.5
SBLHI	**Steaming Bluff**	**0.12**	**317**		Pg	17 04 10.8	+0.7
SBLHI					Sg	17 04 13.2	+1.4
HLP	**Hilina Pali**	**0.13**	**253**		Pg	17 04 11.1	+0.9
HLP				IAML		17 04 14.1	
comp=E,2μm,0.2s							
HLP				IAML		17 04 14.4	
comp=N,2μm,0.2s							
OBL	**Observatory Le**	**0.13**	**310**		Pg	17 04 11.0	+0.8
OBL					Sg	17 04 13.1	+1.1
UWB	**Uwekahuna Bluf**	**0.13**	**314**		Pg	17 04 10.9	+0.7
UWB					Sg	17 04 13.3	+1.3
WRMHI	**West Rim**	**0.14**	**302**		Pg	17 04 11.0	+0.7
WRMHI					Sg	17 04 13.7	+1.5
UWE	**Uwekahuna**	**0.14**	**308**		Pg	17 04 11.1	+0.7
UWE				IAML		17 04 14.5	
comp=N,2μm,0.9s							
UWE				IAML		17 04 15.4	
comp=E,2μm,0.5s							
JOKA	**Jonika Flow**	**0.19**	**59**		Pg	17 04 11.7	+0.3
HTC	**Hot Caves**	**0.23**	**245**		Pg	17 04 12.9	+0.9
MLH	**Mauna Loa**	**0.25**	**309**		Pg	17 04 13.1	+0.6
MLH				IAML		17 04 19.8	
comp=E,696nm,0.1s							
MLH				IAML		17 04 20.5	
comp=N,799nm,0.2s							
HMH	**Humu'ula Sheep**	**0.39**	**313**		Pg	17 04 15.5	+0.3
KHU	**Kahuku**	**0.42**	**258**		Pg	17 04 15.9	+0.1
KHU				IAML		17 04 23.0	
comp=N,666nm,0.6s							
KHU				IAML		17 04 28.1	
comp=E,651nm,0.3s							
KHU	**Kahuku**	**0.42**	**258**		Sg	17 04 22.6	+1.4
MWH	**Mokuaweoweo**	**0.42**	**291**		Pg	17 04 16.0	+0.2
MWH	**Mokuaweoweo**	**0.42**	**291**		Sb	17 04 23.5	-1.7
MLOA	**Mauna Loa Obse**	**0.42**	**298**		Pg	17 04 16.5	+0.6
MLOA	**Mauna Loa Obse**	**0.42**	**298**	IAML		17 04 21.1	
comp=E,43nm,0.9s							
MLOA				IAML		17 04 21.1	
comp=N,61nm,1.0s							
HPO	**Honuapo**	**0.43**	**236**		Pg	17 04 16.3	+0.4
ALEP	**Alea Permanent**	**0.48**	**295**		Pg	17 04 16.9	-0.1
ALEP					Sg	17 04 24.6	+1.2
POHA	**Pohakuloa**	**0.54**	**322**		Pg	17 04 17.9	-0.1
POHA	**Pohakuloa**	**0.54**	**322**		Sg	17 04 25.7	+0.7
HUH	**Hualalai**	**0.71**	**299**		Pg	17 04 20.6	-0.7
CPH	**Captain Cook**	**0.71**	**282**		Pg	17 04 20.7	-0.7

IDC ***25*** *17:36:28.6±1.1,35°.32N×27°.87E, h0km, mb3.5/7, mbtmp3.5/12, ML2.9/4, MS4.0/2, Error ellipse: s-maj=23.3km s-min=17.0km az=173.0*
AFAD ***25*** *17:36:32.6,35°.26N×27°.97E, h7km±3km, ML2.9*
ISK ***25*** *17:36:32.2,35°.35N×27°.80E, h8km, ML3.2/17*
GII ***25*** *17:36:33.9±0.0,34°.992N±0°.003×27°.892E±0°.001, h80km, Mws3.0, confirmed*
ISC 25 17:36:29.5±1.6, 35°.18N±0°.04×27°.96E±0°.04, h11km±10km, n78, σ1§43/90, mb3.4/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAZI	**Mula-Dat§a-**	**1.56**	**345**	P	**Pb**	**17 36 58.2**	**-0.2**
YAZI				S	**Sb**	**17 37 18.1**	**0.0**
DAT	**Datca**	**1.58**	**349**	Pn	**Pb**	**17 36 58.7**	**-0.1**
DAT				Sn	**Sn**	**17 37 17.6**	**-0.5**
DAT	**Datca**	**1.58**	**349**	P	**Pb**	**17 36 59.2**	**+0.3**
DAT				S	**Sb**	**17 37 18.8**	**-0.1**
DAT				*i* AML	AML	17 37 25.0	
comp=N,170nm,0.6s							
DAT				*i* AML	AML	17 37 32.0	
comp=E,207nm,0.8s							
DATC	**Datca-Mugla**	**1.60**	**351**	Pn	**Pb**	**17 36 58.8**	**-0.2**
TURN	**Turunc**	**1.61**	**8**	P	**Pg**	**17 37 00.4**	**0.0**
TURN				S	**Sg**	**17 37 23.2**	**+1.9**
TURN				*i* AML	AML	17 37 32.0	
comp=N,157nm,0.4s							
IZZE	**Mula-Seydike**	**1.62**	**39**	P	**Pb**	**17 36 59.2**	**-0.3**
IZZE				S	**Sn**	**17 37 18.8**	**-0.2**
IZZE				*i* AML	AML	17 37 29.0	
comp=N,165nm,0.5s							
AKAS	**Kas**	**1.70**	**51**	P	**Pg**	**17 37 01.9**	**-0.3**
AKAS				S	**Sb**	**17 37 22.5**	**+0.1**
AKAS				*i* AML	AML	17 37 34.0	
comp=N,138nm,0.6s							
FETY	**Fethiye**	**1.71**	**32**	Pn	**Pg**	**17 37 02.1**	**-0.3**
FETY				Sn	**Sg**	**17 37 24.1**	**-0.6**
DALY	**Dalyan (Mula)**	**1.73**	**19**	Pn	**Pb**	**17 37 01.7**	**+0.4**
DALY				Sn	**Sb**	**17 37 23.3**	**+0.3**
SABU	**Mula-Dalaman**	**1.83**	**26**	P	**Pb**	**17 37 03.0**	**-0.1**
BDRM	**Kayabasi**	**1.93**	**348**	P	**Pn**	**17 37 03.3**	**+0.9**
BDRM				S	**Sn**	**17 37 26.9**	**+0.3**
BDRM				*i* AML	AML	17 37 43.0	
comp=E,105nm,0.5s							
BODT	**Bodrum**	**1.95**	**344**	Pn	**Pn**	**17 37 03.7**	**+1.0**
BODT				Sn	**Sn**	**17 37 26.5**	**-0.7**
YER	**Yerkesik**	**1.97**	**7**	Pn	**Pb**	**17 37 04.7**	**-0.8**
CAME	**Cameli-Denizli**	**2.07**	**31**	Pn	**Pb**	**17 37 07.2**	**0.0**
KNIK	**Mula-Seydike**	**2.12**	**38**	P	**Pb**	**17 37 08.0**	**+0.1**
MLSB	**Milas**	**2.12**	**356**	Pn	**Pn**	**17 37 06.4**	**+1.5**
ELL	**Elmali**	**2.22**	**45**	Pn	**Pb**	**17 37 10.1**	**+0.3**
DNZT	**Denizli-Tavas-**	**2.27**	**22**	P	**Pb**	**17 37 09.3**	**-1.2**
DDIM	**Aydin, Didim**	**2.35**	**346**	P	**Pb**	**17 37 10.4**	**-1.5**
DDIM				*i* AML	AML	17 37 56.0	
comp=N,118nm,0.7s							
DDIM				*i* AML	AML	17 38 14.0	
comp=E,109nm,1.1s							
TAVA	**DENIZLI_Tavas**	**2.41**	**18**	P	**Pb**	**17 37 11.5**	**-1.5**
TAVA				*i* AML	AML	17 38 01.0	
comp=N,73nm,1.2s							
GOLH	**Golhisar**	**2.43**	**32**	P	**Pb**	**17 37 12.9**	**-0.4**
GOLH				*i* AML	AML	17 38 06.0	
comp

PRNI	Paran	7.63	127	P	Pn	17 38 21.9	+1.1
PRNI	Paran	7.63	127	S	Sn	17 39 46.4	-0.9
HRFI	Mount Harif	7.87	129	P	Pn	17 38 24.8	+0.9
HRFI	Mount Harif	7.87	129	S	Sn	17 39 52.0	-1.0
MBRI	Mt Berech	7.95	131	P	Pn	17 38 26.0	+0.8
MBRI	Mt Berech	7.95	131	S	Sn	17 39 53.9	-1.3
EIL	Elat	8.06	131	Pn	Pn	17 38 28.6	+1.9
	0.4nm,0.3s,baz=340,slow=7.5,SNR=6.7						
EIL				Sn	Sn	17 39 58.1	+0.3
	0.6nm,0.3s,baz=346,slow=14,SNR=3.7						
	1.1nm,0.3s						
EIL	Elat	8.06	131	P	Pn	17 38 27.8	+1.2
EIL	Elat	8.06	131	S	Sn	17 39 55.5	-2.3
KBZ	Khabaz	14.34	49	Pn	P	17 39 56.8	-2.7
	baz=220,slow=8.9,SNR=7.9						
	1.1nm,1.0s						
GERES	GERESS Array B	17.25	327	P	Pn	17 40 28.7	-1.6
	baz=146,slow=14,SNR=4.1						
	0.3nm,0.6s						
ESDC	Sonseca Array	25.67	290	P	P	17 41 59.0	-0.6
	0.7nm,0.7s,baz=84,slow=9.6,SNR=4.3						
	0.7nm,0.7s						
FINES	FINESS Array B	26.31	358	P	P	17 42 03.9	-1.1
	0.7nm,0.7s,baz=161,slow=14,SNR=4.2						
	0.7nm,0.7s						
HFS	Hagfors	26.64	344	P	P	17 42 06.6	-1.3
	1.1nm,0.6s,baz=173,slow=13,SNR=2.5						
	1.1nm,0.6s						
NOA	NORSAR Array B	28.02	343	P	P	17 42 18.7	-1.7
	0.5nm,1.0s,baz=142,slow=7.2,SNR=1.7						
	0.5nm,1.0s						
TORD	Torodi Ar. Bea	32.31	234	P	P	17 42 58.9	+0.2
	89nm,0.3s,baz=27,slow=9.5,SNR=1.3						
ARCES	ARCESS Array B	34.44	358	P	P	17 43 16.9	+0.1
	1.3nm,1.0s,baz=170,slow=8.8,SNR=2.0						
	1.3nm,1.0s						
BVAR	Borovoye Array	34.68	46	LR	LR	17 59 09.3	
	comp=Z,40nm,20.0s,baz=172,slow=39						
KMBO	Kilima Mbogo	37.15	164	LR	LR	18 00 11.5	
	comp=Z,1μm,21.9s,baz=300,slow=38						
KURBB	Kurchatov Arra	39.33	51	P	P	17 43 59.3	+0.7
	0.5nm,0.7s,baz=274,slow=9.0,SNR=4.1						
	0.5nm,0.7s						
MKAR	Makanchi Array	41.84	57	P	P	17 44 21.4	+1.9
	0.2nm,0.7s,baz=270,slow=7.2,SNR=2.0						
	0.2nm,0.7s						

IDC 25 17:36:49.3±15.0, 17°86N×144°26E, h0km, mb3.5/4, mbtmp3.5/5, MS2.5/2, Error ellipse: s-maj=376.6km s-min=98.8km az=106.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.28	172	LR	LR	17 38 40.1	
	comp=Z,18nm,20.9s,baz=350,slow=26						
MJAR	Matsushiro Arr	19.37	345	P	P	17 41 16.2	-0.4
	1.6nm,1.0s,baz=176,slow=9.5,SNR=2.1						
DAV	Davao City (W)	21.14	242	LR	LR	17 51 34.7	
	comp=Z,37nm,18.2s,baz=36,slow=42						
H11S3	WAKE ISLAND Hy 21.32	85		T	T	18 03 00.3	
	baz=271,slow=75,SNR=34						
H11S1	WAKE ISLAND Hy 21.33	85		T	T	18 03 01.4	
	baz=271,slow=75,SNR=31						
H11S2	WAKE ISLAND Hy 21.33	85		T	T	18 03 02.0	
	baz=271,slow=75,SNR=52						
H11N1	WAKE ISLAND Hy 21.50	81		T	T	18 03 12.9	
	baz=268,slow=75,SNR=11						
H11N2	WAKE ISLAND Hy 21.51	81		T	T	18 03 17.5	
	baz=268,slow=75,SNR=9.1						
H11N3	WAKE ISLAND Hy 21.52	81		T	T	18 03 14.6	
	baz=268,slow=75,SNR=9.5						
SONM	Songino Array	42.96	323	P	P	17 44 50.4	+0.1
	0.2nm,0.3s,baz=127,slow=9.2,SNR=1.8						
	0.2nm,0.3s						
MKAR	Makanchi Array	58.07	314	P	P	17 46 44.3	-0.1
	0.3nm,0.7s,baz=113,slow=4.1,SNR=3.5						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	61.03	318	P	P	17 47 04.8	+0.1
	0.5nm,0.6s,baz=93,slow=7.5,SNR=5.5						
	0.5nm,0.6s						
BVAR	Borovoye Array	66.25	321	P	P	17 47 39.0	-0.2
	0.7nm,0.6s,baz=110,slow=8.0,SNR=4.0						
	0.7nm,0.6s						

*SJA **25** 17:58:57.8±1.9, 33°91S×72°30W, h14km±7km, ML3.9, MW3.7*
*IDC **25** 17:58:57.1±1.8, 33°81S×72°51W, h0km, mb3.8/2, mbtmp3.7/6, ML3.8/4, Error ellipse: s-maj=51.4km s-min=22.3km az=95.0*
*GUC **25** 17:59:01.9±0.8, 33°88S×72°14W, h32km±5km, ML3.8*
ISC 25 17:59:00.4±1.1, 33°87S±0°02×72°18W±0°04, h19km±3km, n68, σ1°06/90, 3C-19D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	Pichilemu	0.65	164	*i* P	Pg	17 59 14.0	+0.7
BO03				*e*S	Sg	17 59 23.1	+1.0
BO03				IAML		17 59 25.5	
	comp=N,4μm,0.5s						
MT01	Popeta	0.77	90	⇓*i*P	Pg	17 59 15.8	+0.2
MT01				*e*S	Sg	17 59 25.6	-0.2
MT01				IAML		17 59 28.4	
	comp=E,6μm,0.2s						
MT01	Popeta	0.77	90	⇓*i*P	Pg	17 59 15.8	+0.2
MT01				*e*S	Sg	17 59 25.5	-0.4
MT01				IAML		17 59 28.6	
	comp=Z,4μm,0.4s						
VA01	Torpederas	0.95	28	*e*P	Pb	17 59 18.8	+0.5
VA01				*e*S	Sg	17 59 31.9	+0.3
VA01				IAML		17 59 36.3	
	comp=N,11μm,0.1s						
VA01	Torpederas	0.95	28	*i* P	Pb	17 59 18.9	+0.5
VA01				⇓*e*S	Sg	17 59 31.9	+0.3
VA01				IAML		17 59 32.8	
	comp=Z,872nm,0.9s						
MT09	Talagante	0.99	85	⇓*i*P	Pb	17 59 19.3	+0.1
MT09				*e*S	Sg	17 59 32.3	-0.7
MT09				IAML		17 59 34.9	
	comp=N,7μm,0.3s						
BO01	Tunca	1.04	120	⇓*i*P	Pb	17 59 19.7	-0.3
BO01				*e*S	Sb	17 59 33.1	-0.2
BO01				IAML		17 59 35.3	
	comp=N,1μm,0.3s						
BO01	Tunca	1.04	120	*i* P	Pb	17 59 19.6	-0.3
BO01				*e*S	Sn	17 59 34.3	+0.1
BO01				IAML		17 59 43.3	
	comp=Z,906nm,0.7s						
MT02	Curacav	1.06	55	⇓*i*P	Pb	17 59 20.2	0.0
MT02				*e*S	Sb	17 59 33.6	-0.1
MT02				IAML		17 59 37.9	
	comp=N,2μm,0.4s						
MT02	Curacav	1.06	55	*i* P	Pb	17 59 20.2	0.0
MT02				IAML		17 59 37.2	
	comp=Z,2μm,0.3s						
GO05	Hualane	1.16	170	⇑*i*P	Pb	17 59 22.2	+0.3
GO05				*e*S	Sb	17 59 36.6	+0.1
GO05				IAML		17 59 41.7	
	comp=E,3μm,0.6s						
MT05	Renca	1.29	69	*e*P	Pn	17 59 23.8	+0.3
MT05				*e*S	Sb	17 59 39.9	-0.5
MT05				IAML		17 59 49.7	
	comp=E,4μm,0.3s						
MT05	Renca	1.29	69	*i* P	Pn	17 59 23.5	0.0
MT05				IAML		17 59 43.8	
	comp=Z,1μm,0.5s						
BO04	La Punta	1.31	96	⇓*i*P	Pb	17 59 24.4	-0.1
BO04				*e*S	Sg	17 59 42.0	-0.9
BO04				IAML		17 59 44.7	
	comp=E,2μm,0.2s						
ROCH	El Roble	1.32	48	⇓*i*P	Pn	17 59 24.6	+0.4
ROCH				*e*S	Sb	17 59 42.4	+0.9
ROCH				IAML		17 59 52.4	
	comp=N,2μm,0.3s						
MT12	Pirque	1.36	85	⇓*i*P	Pn	17 59 25.0	+0.5
MT12				*e*S	Sb	17 59 42.9	+0.4
MT12				IAML		17 59 45.8	
	comp=N,4μm,0.4s						
MT15	Las Vizcachas	1.42	79	⇓*i*P	Pn	17 59 26.0	+0.6
MT15				*e*S	Sb	17 59 44.3	+0.2
MT15				IAML		17 59 48.7	
	comp=N,5μm,0.3s						
MT03	Universidad Ad	1.44	75	⇓*i*P	Pb	17 59 26.4	-0.3
MT03				*e*S	Sb	17 59 45.0	+0.3
MT03				IAML		17 59 47.5	
	comp=E,4μm,0.4s						
MT03	Universidad Ad	1.44	75	*i* P	Pb	17 59 26.4	-0.3
MT03				*e*S	Sg	17 59 46.0	-1.0
MT03				IAML		17 59 50.5	
	comp=Z,2μm,0.2s						
PEL	Peldehue	1.44	60	⇓*i*P	Pb	17 59 26.6	-0.2
PEL				*e*S	Sb	17 59 45.0	+0.2
PEL				IAML		17 59 53.5	
	comp=N,4μm,0.5s						
MT14	Cerro Calın	1.45	71	⇓*i*P	Pb	17 59 26.6	-0.3
MT14				*e*S	Sb	17 59 45.3	+0.3
MT14				IAML		17 59 48.0	
	comp=E,2μm,0.2s						
MT16	CCHEN	1.45	73	⇓*i*P	Pb	17 59 26.6	-0.3
MT16				*e*S	Sb	17 59 45.0	0.0
MT16				IAML		17 59 49.7	
	comp=E,1μm,0.6s						
BO02	Sierra Bellavi	1.48	129	⇓*i*P	Pn	17 59 26.8	+0.7
BO02				*e*S	Sg	17 59 47.7	-0.6
BO02				IAML		17 59 53.5	
	comp=N,5μm,0.2s						
BO02	Sierra Bellavi	1.48	129	*i* P	Pb	17 59 27.6	+0.2
BO02				*e*S	Sg	17 59 48.3	+0.1
BO02				IAML		17 59 53.5	
	comp=Z,3μm,0.2s						
MT10	Hacienda Santa	1.49	67	⇓*i*P	Pb	17 59 27.4	-0.3
MT10				IAML		17 59 49.8	
	comp=N,5μm,0.4s						
VA06	Catapilco	1.50	30	⇑*i*P	Pn	17 59 26.6	+0.3
VA06				IAML		17 59 55.5	
	comp=N,4μm,0.5s						
MT13	San Alfonso	1.58	86	⇓*i*P	Pb	17 59 28.6	-0.5
MT13				IAML		17 59 54.3	
	comp=E,5μm,0.3s						
MT13	San Alfonso	1.58	86	*i* P	Pb	17 59 28.6	-0.5
MT13				IAML		17 59 52.9	
	comp=Z,2μm,0.4s						
LMEL	Las Melosas	1.64	90	*e*P	Pn	17 59 29.4	+0.9
LMEL				IAML		17 59 54.2	
	comp=N,4μm,0.4s						
LMEL	Las Melosas	1.64	90	*i* P	Pb	17 59 29.9	-0.4
LMEL				*e*S	Sg	17 59 53.2	-0.3
LMEL				IAML		17 59 57.8	
	comp=Z,1μm,0.6s						
FCH	Farellones	1.67	72	⇓*i*P	Pb	17 59 30.1	-0.6
FCH				IAML		17 59 57.6	
	comp=E,2μm,0.1s						
VA03	San Esteban	1.75	51	*e*P	Pb	17 59 31.4	-0.7
VA03				IAML		18 00 00.6	
	comp=E,4μm,0.3s						
VA03	San Esteban	1.75	51	*i* P	Pn	17 59 31.1	+1.1
VA03				*e*S	Sg	17 59 58.2	+1.2
VA03				IAML		18 00 00.1	
	comp=Z,2μm,0.3s						
MT04	Ro Olivares	1.77	75	⇓*i*P	Pn	17 59 31.4	+1.2
MT04				IAML		17 59 57.0	
	comp=E,1μm,0.4s						
MT04	Ro Olivares	1.77	75	*i* P	Pn	17 59 31.4	+1.2
MT04				IAML		18 00 05.5	
	comp=Z,784nm,0.3s						
MT08	Bocatoma Ro	1.85	77	*i* P	Pb	17 59 32.9	-1.0
MT08				IAML		18 00 04.1	
	comp=E,1μm,0.3s						
MT08	Bocatoma Ro	1.85	77	*i* P	Pb	17 59 33.2	-0.6
MT08				IAML		18 00 03.5	
	comp=Z,786nm,0.3s						
ML02	Panimavida	1.99	162	*e*P	Pb	17 59 35.1	-1.0
ML02				IAML		18 00 08.9	
	comp=N,2μm,0.5s						
CO02	Combarbal	2.84	21	⇑*i*P	Pn	17 59 45.4	+0.5
CO02	Combarbal	2.84	21	*i* P	Pn	17 59 45.3	+0.4
CO02				*e*S	Sg	18 00 29.8	-2.0
CO02				IAML		18 00 42.7	
	comp=Z,366nm,0.6s						
BI02	San Fabin de	2.88	165	*e*P	Pn	17 59 47.3	+1.8
BI02				IAML		18 00 34.9	
	comp=E,269nm,0.5s						
BI02	San Fabin de	2.88	165	*i* P	Pn	17 59 46.7	+1.2
BI02				*e*S	Sg	18 00 30.1	-3.0
BI02				IAML		18 00 35.4	
	comp=Z,272nm,0.9s						
RTLS	Leoncito	3.19	50	*i* P	Pn	17 59 53.4	+3.6
RTLS				*e*S	Sg	18 00 42.3	-0.5
RTLS				IAML		18 00 50.3	
	comp=Z,810nm,0.8s						
CO03	El Pedregal	3.27	23	*i* P	Pn	17 59 51.1	+0.3
CO03				IAML		18 00 49.1	
	comp=Z,212nm,0.7s						
GO04	Tololo Observa	3.87	18	*i* P	Pn	17 59 59.4	+0.2
GO04				IAML		18 01 11.3	
	comp=Z,357nm,0.4s						
DOCA	Reserva Natura	3.92	43	*i* P	Pn	18 00 02.3	+2.3
DOCA				IAML		18 01 14.6	
	comp=Z,140nm,0.8s						
CFA	Coronel Fontan	4.02	57	Pn	Pn	18 00 03.8	+2.8
	comp=Z,2.2nm,0.3s,baz=229,slow=10.0,SNR=18						
CFA				Sn	Sb	18 00 58.4	-0.4
	comp=Z,11nm,0.3s,baz=72,slow=7.9,SNR=6.2						
	comp=Z,4.7nm,0.3s						
CFA	Coronel Fontan	4.02	57	*i* P	Pn	18 00 03.1	+2.1
CFA				IAML		18 01 06.6	
	comp=Z,72nm,0.5s						
CO01	Juntas del Tor	4.27	25	*e*P	Pn	18 00 05.8	+1.1
CO01	Juntas del Tor	4.27	25	*i* P	Pn	18 00 05.8	+1.1
CO01				IAML		18 01 25.1	
	comp=Z,64nm,0.9s						
AROD	Rodeo	4.35	33	*i* P	Pn	18 00 09.3	+3.4
LCO	Las Campanas	5.01	15	*i* P	Pn	18 00 15.3	+0.5
LCO				IAML		18 01 44.7	
	comp=Z,120nm,0.8s						
AVFE	Valle Fertil	5.12	53	*i* P	Pn	18 00 18.5	+2.3
AVFE				IAML		18 01 33.1	
	comp=Z,48nm,0.7s						
AC05	El Transito	5.28	18	*i* P	Pn	18 00 19.3	+0.8
AC05				IAML		18 01 57.2	
	comp=Z,59nm,0.7s						
H03S1	Juan Fernandez	5.60	268	T	T	18 06 16.2	
	baz=90,slow=74,SNR=112						
H03S3	Juan Fernandez	5.60	269	T	T	18 06 19.6	
	baz=90,slow=74,SNR=61						
H03S2	Juan Fernandez	5.62	268	T	T	18 06 21.9	
	baz=90,slow=74,SNR=118						
H03N1	Juan Fernandez	5.63	272	T	T	18 06 28.2	
	baz=98,slow=74,SNR=23						
H03N3	Juan Fernandez	5.64	272	T	T	18 06 28.4	
	baz=98,slow=74,SNR=29						
H03N2	Juan Fernandez	5.65	272	T	T	18 06 29.7	
	baz=98,slow=74,SNR=23						
PLCA	Paso Flores	6.97	170	Pn	Pn	18 00 42.7	+1.1
	comp=Z,0.4nm,0.3s,baz=332,slow=11,SNR=17						
PLCA				Lg	Lg	18 02 40.3	
	comp=Z,0.2nm,0.3s,baz=4.5,slow=4.4,SNR=4.5						
	comp=Z,1.0nm,0.4s						
CPUP	Villa Florida	14.88	64	Pn	P	18 02 33.9	-1.5
	comp=Z,0.1nm,0.3s,baz=230,slow=11,SNR=4.0						
	comp=Z,0.4nm,0.4s						
LPAZ	La Paz	17.88	13	P	Pn	18 03 08.1	-0.8
	comp=Z,0.3nm,0.3s,baz=191,slow=6.3,SNR=12						
	comp=Z,3.4nm,0.7s						
SIV	San Ignacio	20.43	32	P	P	18 03 35.7	-1.0
	comp=Z,1.2nm,0.6s,baz=214,slow=13,SNR=5.3						
	comp=Z,1.2nm,0.6s						
DBIC	Dimbokro	75.25	71	P	P	18 10 43.1	+0.7
	comp=Z,1.3nm,0.5s,baz=234,slow=9.5,SNR=1.7						
	comp=Z,1.3nm,0.5s						
BVAR	Borovoye Array	147.26	43	PKPbc	PKPbc	18 18 43.1	+1.0
	comp=Z,0.6nm,0.4s,baz=302,slow=3.0,SNR=6.4						
ZALV	Zalesovo Beam	154.18	32	PKPbc	PKPbc	18 18 58.8	+0.2
	comp=Z,1.5nm,0.5s,baz=301,slow=2.9,SNR=6.4						
MKAR	Makanchi Array	156.77	49	PKPab	PKPab	18 19 22.7	-1.1
	comp=Z,0.3nm,0.5s,baz=308,slow=3.2,SNR=6.4						

*MOS **25** 18:12:29.8±0.8, 52°73N×159°83E, h56km, mb4.0/5, Error ellipse: s-maj=9.7km s-min=4.8km az=92.4*
*KRSC **25** 18:12:29.6±0.9, 52°80N×159°83E, h54km±7km, Ml4.1*
*IDC **25** 18:12:33.2±2.1, 52°89N×159°57E, h77km±17km, mb3.4/15, mbtmp3.8/17, MS2.8/1, Error ellipse: s-maj=23.8km s-min=18.4km az=145.0*
ISC 25 18:12:30.2±0.8, 52°79N±0°04×159°80E±0°04, h48km±6km, n102, σ1°87/147, mb3.8/18, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.34	24	PN	Pn	18 12 40.2	+0.7
SPN				S	Sn	18 12 46.8	+0.7
SPN	Mys Shipunski	0.34	24	*e*P	Pn	18 12 40.2	+0.7
SPN				*e*S	Sn	18 12 46.8	+0.7
NLC	Nalytchevo	0.47	324	PN	Pn	18 12 41.7	+0.8
NLC				S	Sn	18 12 49.8	+1.2
NLC	Nalytchevo	0.47	324	*e*P	Pn	18 12 41.8	+0.8
NLC				*e*S	Sn	18 12 49.8	+1.2
DALK	Dalny	0.68	291	PN	Pn	18 12 44.3	+0.8
DALK				S	Sn	18 12 54.1	+1.0
DALK	Dalny	0.68	291	*e*P	Pn	18 12 44.4	+0.8
DALK				*e*S	Sn	18 12 54.2	+1.0
UGLR	Uglovaya	0.72	306	PN	Pn	18 12 45.5	+1.3
UGLR				S	Sn	18 12 56.2	+1.8
UGLR	Uglovaya	0.72	306	*e*P	Pn	18 12 45.6	+1.3
UGLR				*e*S	Sn	18 12 56.2	+1.8
PET	Petropavlovsk	0.73	289	PN	Pn	18 12 45.2	+1.0
PET				S	Sn	18 12 55.4	+1.0
PET	Petropavlovsk	0.73	289	*e*P	Pn	18 12 45.2	+1.0
PET				*e*S	Sn	18 12 55.4	+1.0
SDLR	Sedlovina	0.74	312	PN	Pn	18 12 45.4	+1.0
SDLR				S	Sn	18 12 56.2	+1.5
SDLR	Sedlovina	0.74	312	*e*P	Pn	18 12 45.5	+1.0
SDLR				*e*S	Sn	18 12 56.3	+1.5
INSR	Institute	0.77	291	PN	Pn	18 12 45.7	+0.9
INSR				S	Sn	18 12 56.4	+1.0
INSR	Institute	0.77	291	*e*P	Pn	18 12 45.8	+0.9
INSR				*e*S	Sn	18 12 56.4	+1.0
AVH	Avacha	0.80	307	PN	Pn	18 12 46.6	+1.4
AVH				S	Sn	18 12 57.8	+1.7
AVH	Avacha	0.80	307	*e*P	Pn	18 12 46.6	+1.4
AVH				*e*S	Sn	18 12 57.8	+1.7
KRER	Koryakskii	0.81	309	PN	Pn	18 12 46.9	+1.3
KRER				S	Sn	18 12 58.2	+1.4
KRER	Koryakskii	0.81	309	*e*P	Pn	18 12 47.0	+1.3
KRER				*e*S	Sn	18 12 58.2	+1.4
RUS	Russkaya	0.86	246	PN	Pn	18 12 46.3	+0.3
RUS				S	Sn	18 12 57.8	+0.3
RUS	Russkaya	0.86	246	*e*P	Pn	18 12 46.4	+0.3
RUS				*e*S	Sn	18 12 57.9	+0.3
KOK	Koryaka	0.86	306	PN	Pn	18 12 47.3	+1.2
KOK				S	Sn	18 12 59.4	+1.7
KOK	Koryaka	0.86	306	*e*P	Pn	18 12 47.4	+1.2
KOK				*e*S	Sn	18 12 59.4	+1.7
KRX	Arik	0.90	310	PN	Pn	18 12 47.7	+1.1
KRX				S	Sn	18 12 59.9	+1.3
KRX	Arik	0.90	310	*e*P	Pn	18 12 47.7	+1.1
KRX				*e*S	Sn	18 12 59.9	+1.3
KRMR	Karymshinskiy	1.01	273	PN	Pn	18 12 48.7	+0.7
KRMR				S	Sn	18 13 02.1	+1.0
KRMR	Karymshinskiy	1.01	273	*e*P	Pn	18 12 48.8	+0.7
KRMR				*e*S	Sn	18 13 02.1	+1.0
MTVR	Mutnovka	1.03	253	PN	Pn	18 12 49.4	+1.0
MTVR				S	Sn	18 13 02.8	+1.0
MTVR	Mutnovka	1.03	253	*e*P	Pn	18 12 49.5	+1.0
MTVR				*e*S	Sn	18 13 02.9	+1.0
GRL	Gorelyy	1.08	258	PN	Pn	18 12 50.4	+1.4
GRL				S	Sn	18 13 04.5	+1.6
GRL	Gorelyy	1.08	258	*e*P	Pn	18 12 50.4	+1.4
GRL				*e*S	Sn	18 13 04.5	+1.6
KII	Karymskiy	1.26	351	PN	Pn	18 12 52.7	+1.2
KII				S	Sn	18 13 08.8	+1.4
KII	Karymskiy	1.26	351	*e*P	Pn	18 12 52.7	+1.2
KII				*e*S	Sn	18 13 08.9	+1.4
PEA0B	Petropavlovsk-	1.31	285	*d i* PN	Pn	18 12 53.4	+1.3
PETK	Petropavlovsk-	1.31	285	P	Pn	18 12 53.6	+1.6
	769nm,0.5s,baz=84,slow=18,SNR=2549						
PETK				S	Sn	18 13 10.1	+1.6
	174nm,0.4s,baz=200,slow=35,SNR=9.9						
PETK				LR	LR	18 13 39.6	
	comp=Z,125nm,21.6s,baz=145,slow=58						
GNL	Ganaly	1.44	310	PN	Pn	18 12 55.7	+1.8
GNL				S	Sn	18 13 15.1	+3.4
GNL	Ganaly	1.44	310	*e*P	Pn	18 12 55.7	+1.8
GNL				*e*S	Sn	18 13 15.1	+3.4
APC	Apacha	1.61	276	PN	Pn	18 12 57.9	+1.8
APC				S	Sn	18 13 19.3	+3.7
APC	Apacha	1.61	276	*e*P	Pn	18 12 57.9	+1.8
APC				*e*S	Sn	18 13 19.3	+3.7
PAU	Pauzhetka	2.27	235	PN	Pn	18 13 07.7	+2.5
PAU				S	Sn	18 13 34.4	+2.6
PAU	Pauzhetka	2.27	235	*e*P	Pn	18 13 07.7	+2.5
PAU				*e*S	Sn	18 13 34.5	+2.6
TUMD	Tumrok D	2.44	8	PN	Pn	18 13 08.0	+0.4
TUMD				S	Sn	18 13 36.9	+0.7
TUMD	Tumrok D	2.44	8	*e*P	Pn	18 13 08.0	+0.4
TUMD				*e*S	Sn	18 13 36.9	+0.7
KMNR	Kamenistaya	2.98	5	PN	Pn	18 13 17.8	+2.8
KMNR				S	Sn	18 13 51.8	+2.2
KMNR	Kamenistaya	2.98	5	*e*P	Pn	18 13 17.9	+2.8
KMNR				*e*S	Sn	18 13 51.9	+2.2
BZMR	Bezymyannaya	3.18	7	PN	Pn	18 13 20.5	+2.8
BZMR	Bezymyannaya	3.18	7	*e*P	Pn	18 13 20.5	+2.8
KIRR	Kirishev	3.18	6	PN	Pn	18 13 20.4	+2.5
KIRR	Kirishev	3.18	6	*e*P	Pn	18 13 20.4	+2.5
KPT	Kopyto	3.19	4	PN	Pn	18 13 19.9	+2.0
KPT	Kopyto	3.19	4	*e*P	Pn	18 13 19.9	+2.0
BZGR	Bezymyannyi-Gr	3.20	9	PN	Pn	18 13 21.0	+3.0
BZGR	Bezymyannyi-Gr	3.20	9	*e*P	Pn	18 13 21.1	+3.0
ESO	Esso	3.21	349	PN	Pn	18 13 19.9	+1.9
ESO				S	Sn	18 13 57.5	+2.6
ESO	Esso	3.21	349	*e*P	Pn	18 13 20.0	+1.9
ESO				*e*S	Sn	18 13 57.6	+2.6
KOZ	Kozyrevsk	3.27	1	PN	Pn	18 13 20.8	+1.8
KOZ				S	Sn	18 13 58.5	+1.9
KOZ	Kozyrevsk	3.27	1	*e*P	Pn	18 13 20.8	+1.8
KOZ				*e*S	Sn	18 13 58.5	+1.9
CIRR	Tsirk	3.38	9	PN	Pn	18 13 24.8	+4.3
CIRR	Tsirk	3.38	9	*e*P	Pn	18 13 24.8	+4.3
KRSR	Krestovskiy	3.46	7	PN	Pn	18 13 24.1	+2.5
KRSR	Krestovskiy	3.46	7	*e*P	Pn	18 13 24.2	+2.5
KLY	Klyuchi	3.56	8	PN	Pn	18 13 25.2	+2.3
KLY				S	Sn	18 14 06.2	+2.5
KLY

baz=352,slow=76,SNR=70
H11S2 WAKE ISLAND Hy 34.66 168 T T 18 56 28.0
baz=352,slow=76,SNR=27
NRIK Noril'sk 36.05 325 P **P** **18 19 25.2 -1.3**
comp=E,2.1nm,0.6s,baz=118,slow=5.8,SNR=3.8
comp=E,2.1nm,0.6s
NRIK Noril'sk 36.05 325 *e*P **P** **18 19 26.3 -0.2**
NRIK pmax pmax
comp=Z,2.0nm,1.5s
YKA Yellowknife Ar 43.51 42 P **P** **18 20 28.7 +0.3**
comp=Z,0.3nm,0.7s,baz=305,slow=8.4,SNR=6.4
comp=Z,0.3nm,0.7s
YKA Yellowknife Ar 43.51 42 *e*P **P** **18 20 29.0 +0.6**
SPITS Spitsbergen Ar 47.40 350 P **P** **18 20 58.2 -0.9**
comp=Z,0.9nm,0.4s,baz=57,slow=9.2,SNR=18
comp=Z,0.9nm,0.4s
KURK Kurchatov 47.74 302 *i*P **P** **18 21 02.9 +0.9**
KURK pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 48.12 296 P **P** **18 21 03.1 -1.9**
comp=Z,0.6nm,0.4s,baz=56,slow=7.0,SNR=18
comp=Z,0.6nm,0.4s
BVAR Borovoye Array 50.44 308 P **P** **18 21 20.9 -1.6**
comp=Z,0.5nm,0.5s,baz=61,slow=7.5,SNR=5.6
comp=Z,0.5nm,0.5s
BVAR Borovoye Array 50.44 308 P **P** **18 21 21.0 -1.6**
BRVK Borovoye 50.47 309 *i*P **P** **18 21 23.0 +0.2**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
FINES FINESS Array B 60.33 336 P **P** **18 22 32.4 -1.1**
comp=Z,0.5nm,0.6s,baz=26,slow=11,SNR=4.8
comp=Z,0.5nm,0.6s
FINES FINESS Array B 60.33 336 *e*P **P** **18 22 32.9 -0.6**
FINES pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 63.78 344 P **P** **18 22 54.9 -1.9**
comp=Z,0.3nm,0.6s,baz=15,slow=3.8,SNR=1.7
comp=Z,0.3nm,0.6s
HFS Hagfors 64.18 342 P **P** **18 22 57.6 -1.7**
comp=Z,0.6nm,0.5s,baz=44,slow=4.4,SNR=8.9
comp=Z,0.6nm,0.5s
KBZ Khabaz 69.63 316 *i*P **P** **18 23 35.0 +0.8**
KBZ pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 70.92 67 P **P** **18 23 43.2 +0.8**
comp=Z,0.2nm,0.4s,baz=311,slow=4.5,SNR=3.9
comp=Z,0.2nm,0.4s
EKA Eskdalemuir Ar 71.32 350 P **P** **18 23 44.1 -0.2**
comp=Z,0.5nm,0.4s,baz=14,slow=6.2,SNR=6.5
comp=Z,0.5nm,0.4s
GERES GERESS Array B 74.72 338 P **P** **18 24 04.5 -0.2**
comp=Z,0.4nm,0.5s,baz=23,slow=7.2,SNR=4.5
comp=Z,0.4nm,0.5s
GERES GERESS Array B 74.72 338 *e*P **P** **18 24 05.0 +0.3**
ASAR Alice Springs 79.41 204 P **P** **18 24 30.2 -0.9**
comp=Z,0.4nm,0.7s,baz=21,slow=5.9,SNR=2.7
comp=Z,0.4nm,0.7s
MMAI Mount Meron Ar 81.80 316 P **P** **18 24 42.4 -1.6**
comp=Z,1.3nm,0.7s,baz=14,slow=6.5,SNR=2.2
comp=Z,1.3nm,0.7s

*IDC **25** 18:35:55.2±1.1, 6°.12N×73°.57W, h73km±11km, mb3.3/3, mbtmp3.6/4, MS2.3/1, Error ellipse: s-maj=33.1km s-min=8.7km az=129.0*
*RSNC **25** 18:35:56.1±0.0, 6°N±1°×7°4W±°, h58km±2km, M3.3, mb4.2, ML3.0*
ISC 25 18:35:54.6±0.9, 6°.13N±0°.02×73°.61W±0°.03, h62km±8km, n45, σ1§57/79, mb3.7/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.58**	**114**	P	**Pn**	**18 36 07.5**	**-0.6**
RUSC				S	**Sn**	**18 36 17.0**	**-0.9**
BARC	**Barichara**	**0.63**	**43**	P	**Pn**	**18 36 08.9**	**+0.5**
BARC				S	**Sn**	**18 36 19.4**	**+1.0**
BRJC	**Barrancabermej**	**0.85**	**351**	P	**Pn**	**18 36 11.1**	**+0.3**
BRJC				S	**Sn**	**18 36 24.2**	**+1.5**
PTBC	**PUERTO BERRIO,**	**0.93**	**296**	P	**Pn**	**18 36 10.7**	**-1.2**
PTBC				S	**Sn**	**18 36 22.7**	**-1.9**
VMM09	**Lebrija**	**1.04**	**18**	P	**Pn**	**18 36 14.4**	**+1.0**
VMM09				S	**Sn**	**18 36 29.9**	**+2.6**
VMM07	**Puerto Wilches**	**1.24**	**349**	P	**Pn**	**18 36 16.7**	**+0.7**
VMM07				S	**Sn**	**18 36 34.3**	**+2.4**
NORC	**Norcasia**	**1.37**	**246**	P	**Pn**	**18 36 16.5**	**-1.2**
NORC				S	**Sn**	**18 36 35.8**	**+0.8**
ROSC	**El Rosal**	**1.46**	**209**	P	**Pn**	**18 36 20.9**	**+1.7**
	58nm,0.3s,baz=288,slow=21,SNR=16						
ROSC				S	**Sn**	**18 36 38.9**	**+1.2**
	136nm,0.4s,baz=72,slow=19,SNR=6.5						
ROSC	**El Rosal**	**1.46**	**209**	P	**Pn**	**18 36 20.0**	**+0.8**
ROSC				S	**Sn**	**18 36 39.1**	**+1.4**
CHIC	**Chingaza**	**1.50**	**185**	P	**Pn**	**18 36 20.0**	**+0.3**
CHIC				S	**Sn**	**18 36 40.9**	**+2.4**
PAMC	**Pamplona, Colo**	**1.50**	**37**	P	**Pn**	**18 36 21.0**	**+1.1**
PAMC				S	**Sn**	**18 36 42.7**	**+3.9**
EZNC	**La Esperanza**	**1.51**	**11**	P	**Pn**	**18 36 20.4**	**+0.8**
EZNC				S	**Sn**	**18 36 40.9**	**+2.5**
CVER	**Cruz Verde, Cu**	**1.66**	**196**	P	**Pn**	**18 36 23.3**	**+1.3**
CVER				S	**Sn**	**18 36 44.5**	**+1.9**
ZARC	**Zaragoza, Cauc**	**1.83**	**318**	P	**Pn**	**18 36 22.9**	**-1.0**
ZARC				S	**Sn**	**18 36 41.8**	**-4.2**
TAMC	**Tame, Arauca**	**1.84**	**80**	P	**Pn**	**18 36 25.3**	**+1.4**
TAMC				S	**Sn**	**18 36 43.0**	**-3.2**
GUY2C	**Guyana, Caldas**	**1.96**	**243**	P	**Pn**	**18 36 26.6**	**+0.6**
OCAC	**Ocana**	**2.11**	**8**	P	**Pn**	**18 36 28.2**	**+0.4**
OCAC				S	**Sn**	**18 36 54.7**	**+1.6**
AGCC	**Aguachica**	**2.37**	**1**	P	**Pn**	**18 36 30.7**	**-0.5**
AGCC				S	**Sn**	**18 36 58.5**	**-0.6**
CBOC	**Ciudad Bolivar**	**2.40**	**264**	P	**Pn**	**18 36 32.9**	**+1.2**
CBOC				S	**Sn**	**18 37 02.1**	**+2.0**
ANIL	**Santa Ana**	**2.42**	**228**	P	**Pn**	**18 36 32.1**	**+0.1**
ANIL				S	**Sn**	**18 37 01.3**	**+0.6**
PTGC	**Puerto Gaitan,**	**2.42**	**142**	P	**Pn**	**18 36 31.6**	**-0.3**
UREC	**San Jos de Ur**	**2.49**	**310**	P	**Pn**	**18 36 33.1**	**+0.2**
UREC				S	**Sn**	**18 37 03.3**	**+1.1**
PRAC	**Prado**	**2.72**	**208**	P	**Pn**	**18 36 36.0**	**+0.1**
PRAC				S	**Sn**	**18 37 09.3**	**+1.6**
DBBC	**Dabeiba**	**2.73**	**289**	P	**Pn**	**18 36 38.6**	**+2.5**
DBBC				S	**Sn**	**18 37 10.4**	**+2.4**
ORTC	**Ortega, Tolima**	**2.74**	**216**	P	**Pn**	**18 36 35.8**	**-0.5**
ORTC				S	**Sn**	**18 37 09.7**	**+1.4**
URMC	**La Uribe, Meta**	**2.96**	**195**	P	**Pn**	**18 36 40.6**	**+1.2**
URMC				S	**Sn**	**18 37 16.0**	**+2.2**
APAC	**Apartado, Choc**	**3.43**	**301**	P	**Pn**	**18 36 46.4**	**+0.8**
APAC				S	**Sn**	**18 37 26.3**	**+1.2**
YOTC	**Yotoco, Valle**	**3.46**	**232**	P	**Pn**	**18 36 46.3**	**+0.2**
YOTC				S	**Sn**	**18 37 28.5**	**+2.5**
ARGC	**Ariguani, Magd**	**3.75**	**350**	P	**Pn**	**18 36 53.6**	**+3.5**
ARGC				S	**Sn**	**18 37 34.6**	**+1.5**
LCBC	**Los crdobas,**	**3.85**	**315**	P	**Pn**	**18 36 51.7**	**+0.4**
BETC	**Betania**	**3.88**	**208**	P	**Pn**	**18 36 52.3**	**+0.4**
SDV	**Santo Domingo**	**4.03**	**47**	P	**Pn**	**18 36 55.6**	**+1.6**
	7.5nm,0.3s,baz=194,slow=7.2,SNR=11						
SDV				S	**Sn**	**18 37 40.4**	**+0.3**
	22nm,0.3s,baz=276,slow=19,SNR=8.5						
SDV				LR	LR	18 38 20.7	
	comp=Z,42nm,19.4s,baz=241,slow=36						
SDV	**Santo Domingo**	**4.03**	**47**	P	**Pn**	**18 36 55.8**	**+1.8**
SDV				S	**Sn**	**18 37 40.7**	**+0.6**
SJCC	**San Jacinto, C**	**4.05**	**338**	P	**Pn**	**18 36 54.6**	**+0.4**
SJCC				S	**Sn**	**18 37 40.1**	**-0.3**
MALC	**Bahia Malaga**	**4.26**	**241**	P	**Pn**	**18 36 59.9**	**+2.8**
PTAC	**Punta Ardita,**	**4.29**	**284**	P	**Pn**	**18 36 58.1**	**+0.7**
GARC	**Garzon, Huila**	**4.34**	**206**	P	**Pn**	**18 36 57.5**	**-0.9**
GARC				S	**Sn**	**18 37 47.2**	**-0.7**
CRJC	**Cerrejon, Guaj**	**4.91**	**8**	P	**Pn**	**18 37 07.2**	**+1.2**
CRJC				S	**Sn**	**18 38 00.9**	**-0.7**
FLOC	**Florencia**	**4.96**	**204**	P	**Pn**	**18 37 06.4**	**-0.2**
FLOC				S	**Sn**	**18 38 01.5**	**-1.1**
URIC	**Uribia, Colomb**	**5.76**	**16**	P	**Pn**	**18 37 16.8**	**-0.8**
URIC				S	**Sn**	**18 38 20.0**	**-2.4**
LPAZ	**La Paz**	**22.93**	**166**	P	**P**	**18 40 53.9**	**-0.4**
	1.6nm,0.6s,baz=332,slow=15,SNR=5.1						
	1.6nm,0.6s						
TXAR	**Lajitas Array**	**36.56**	**313**	P	**P**	**18 42 54.5**	**-0.2**
	0.1nm,0.6s,baz=128,slow=6.3,SNR=1.8						
	0.1nm,0.6s						
ARCES	**ARCESS Array B**	**87.48**	**20**	P	**P**	**18 48 34.2**	**-1.0**
	0.7nm,0.7s,baz=263,slow=3.6,SNR=4.7						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**148.31**	**234**	PKPbc	**PKPbc**	**18 55 33.6**	**-1.3**
	1.0nm,0.5s,baz=114,slow=4.1,SNR=37						
WRA	**Warramunga Arr**	**149.58**	**241**	PKPbc	**PKPbc**	**18 55 36.9**	**-1.2**

2.0nm,0.5s,baz=110,slow=2.7,SNR=37

*NDI **25** 18:50:49.9±0.5, 10°.95N×91°.69E, h10km, ML4.0, MW4.0, mb4.2(NEIC)*
*IDC **25** 18:50:50.4±0.9, 10°.86N×91°.72E, h0km, mb4.0/11, mbtmp3.9/13, ML3.8/2, MS3.4/5, Error ellipse: s-maj=30.9km s-min=17.3km az=57.0*
*NEIC **25** 18:50:52.9±2.0, 10°.96N±0°.10×91°.7E±0°.1, h10km±2km, mb4.2/14, Error ellipse: s-maj=18.2km s-min=16.7km az=266.0*
ISC 25 18:50:55.5±0.9, 11°.11N±0°.09×91°.83E±0°.07, h27km, n47, σ1§16/37, mb4.1/18, MS3.4/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.05**	**59**		**Pb**	**18 51 16.1**	**+1.1**
PBA	**Port Blair**	**1.05**	**59**	*e*P	**Pn**	**18 51 13.7**	**-0.7**
PBA				*e*S	**Sb**	**18 51 31.0**	**+2.6**
PBA				IAML		18 51 32.9	
	comp=E,3μm,0.5s						
PBA				IAML		18 51 35.3	
	comp=N,1μm,0.2s						
DGPR	**DIGLIPUR**	**2.32**	**28**	*e*P	**Pn**	**18 51 31.3**	**-0.7**
DGPR				IAML		18 52 32.6	
	comp=N,393nm,0.4s						
DGPR				IAML		18 52 35.2	
	comp=E,1μm,0.5s						
CMBY	**CAMPBELL BAY**	**4.57**	**153**	*e*P	Pn	18 51 56.4	-6.4
CMBY				IAML		18 52 42.3	
	comp=E,785nm,0.2s						
CMBY				IAML		18 52 43.6	
	comp=N,2μm,2.2s						
CMBY				*e*S	Sn	18 52 44.0	-11
SRIT	**Nakonsritamara**	**8.06**	**107**		**Pn**	**18 52 50.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**10.04**	**42**	Pn	**Pn**	**18 53 18.4**	**+0.4**
	comp=N,0.2nm,0.3s,baz=235,slow=16,SNR=6.3						
CMAR				Sn	**Sn**	**18 55 05.8**	**-3.9**
	baz=236,slow=24						
	comp=N,0.6nm,0.6s						
PSI	**Prapat**	**10.85**	**139**	LR	LR	18 57 38.3	
	comp=N,175nm,18.8s,baz=306,slow=38						
MDRS	**Chennai**	**11.49**	**281**	*e*P	Pn	18 53 32.5	-5.4
PALK	**Pallekele**	**11.62**	**252**	Pn	Pn	18 53 36.3	-3.5
	comp=N,0.9nm,0.3s,baz=62,slow=12,SNR=11						
PALK				Sn	Sn	18 55 32.4	-16
	comp=N,4.8nm,0.3s,baz=355,slow=12,SNR=9.4						
	comp=N,4.6nm,0.5s						
SHL	**Shillong**	**14.38**	**0**	P	**P**	**18 54 23.5**	**-0.8**
LSA	**Lhasa**	**18.51**	**358**	P	**P**	**18 55 10.4**	**+0.2**
LSA				IAmb	IAmb	18 55 14.9	
	comp=Z,7.4nm,0.6s						
LEM	**Lembang**	**23.76**	**138**	LR	LR	19 05 57.6	
	comp=Z,96nm,19.8s,baz=8.0,slow=38						
ENH	**Enshi**	**25.16**	**38**		**P**	**18 56 17.9**	**-0.7**
H08S3	**Diego Garcia H**	**26.77**	**227**	T	T	19 24 16.0	
	baz=46,slow=75						
H08S2	**Diego Garcia H**	**26.78**	**227**	T	T	19 24 21.9	
	baz=46,slow=75						
H08S1	**Diego Garcia H**	**26.79**	**227**	T	T	19 24 19.9	
	baz=46,slow=75						
WUS	**Wushi**	**31.96**	**342**	P	**P**	**18 57 20.0**	**+0.7**
WUS				IAmb	IAmb	18 57 22.3	
	comp=Z,5.1nm,0.8s						
DRK	**Karamyk**	**33.40**	**331**	P	**P**	**18 57 32.3**	**+0.2**
AAK	**Ala-Archa**	**34.86**	**337**	LR	LR	19 13 24.9	
	comp=Z,67nm,18.1s,baz=185,slow=39						
MKAR	**Makanchi Array**	**36.48**	**349**		**P**	**18 57 59.3**	**+1.0**
MKAR	**Makanchi Array**	**36.48**	**349**	P	**P**	**18 57 59.8**	**+1.5**
	comp=Z,4.0nm,0.7s,baz=168,slow=8.2,SNR=44						
MKAR				PcP	**PcP**	**19 00 21.4**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=147,slow=3.4,SNR=2.0						
MKAR				LR	LR	19 15 13.1	
	comp=Z,50nm,18.9s,baz=63,slow=40						
	comp=Z,4.0nm,0.7s						
MAKZ	**Makanchi**	**36.55**	**349**		**P**	**18 57 59.7**	**+0.8**
MAKZ				IAmb	IAmb	18 58 01.1	
	comp=Z,3.3nm,0.7s						
KK31	**Karatay Array**	**36.87**	**334**	P	**P**	**18 58 02.2**	**+0.5**
KK31				IAmb	IAmb	18 58 04.3	
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**36.87**	**334**		**P**	**18 58 02.8**	**+1.1**
KKAR	**Karatay Array**	**36.87**	**334**	P	**P**	**18 58 02.2**	**+0.5**
KKAR				IAmb	IAmb	18 58 04.3	
	comp=Z,2.7nm,0.8s						
SONM	**Songino Array**	**38.61**	**16**	P	**P**	**18 58 16.3**	**-0.1**
SONM	**Songino Array**	**38.61**	**16**	P	**P**	**18 58 17.8**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=206,slow=8.8,SNR=8.9						
	comp=Z,0.6nm,0.4s						
ULN	**Ulaanbaatar**	**38.81**	**16**	P	**P**	**18 58 17.3**	**-0.9**
KURBB	**Kurchatov Arra**	**40.89**	**347**	P	**P**	**18 58 36.2**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=164,slow=7.3,SNR=18						
	comp=Z,2.1nm,0.8s						
KURK	**Kurchatov**	**40.96**	**347**	P	**P**	**18 58 35.3**	**-0.4**
KURK				IAmb	IAmb	18 58 38.2	
	comp=Z,5.5nm,1.1s						
ZAA0	**Zalesovo Array**	**43.10**	**354**	P	**P**	**18 58 51.9**	**-1.2**
ZAA0				IAmb	IAmb	18 58 55.3	
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**43.10**	**354**	P	**P**	**18 58 53.1**	**0.0**
ZALV	**Zalesovo Beam**	**43.10**	**354**	P	**P**	**18 58 53.9**	**+0.7**
	comp=Z,2.0nm,0.4s,baz=171,slow=9.7,SNR=11						
	comp=Z,2.0nm,0.4s						
BVAR	**Borovoye Array**	**45.22**	**342**	P	**P**	**18 59 10.8**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=123,slow=11,SNR=4.3						
	comp=Z,0.6nm,0.4s						
AB31	**Akbulak array**	**46.32**	**331**		**P**	**18 59 20.0**	**+1.0**
AB31				IAmb	IAmb	18 59 21.4	
	comp=Z,1.7nm,0.8s						
ABKAR	**Akbulak array**	**46.32**	**331**	P	**P**	**18 59 20.2**	**+1.2**
WRA	**Warramunga Arr**	**51.99**	**126**	P	**P**	**19 00 01.4**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=307,slow=8.2,SNR=20						
	comp=Z,0.4nm,0.4s						
ARTI	**Arti**	**52.08**	**337**	LR	LR	19 26 34.3	
	comp=Z,39nm,18.3s,baz=161,slow=41						
ASAR	**Alice Springs**	**53.73**	**130**	P	**P**	**19 00 14.2**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=304,slow=6.9,SNR=19						
	comp=Z,1.0nm,0.7s						
YAK	**Yakutsk**	**57.71**	**20**	P	**P**	**19 00 43.9**	**+0.4**
H04N2	**CROZET ISLANDS**	**67.37**	**209**	T	T	20 14 58.8	
	baz=42,slow=75						
H04N1	**CROZET ISLANDS**	**67.38**	**209**	T	T	20 15 07.9	
	baz=42,slow=75						
H04N3	**CROZET ISLANDS**	**67.39**	**209**	T	T	20 15 12.2	
	baz=42,slow=75						
FINES	**FINESS Array B**	**68.80**	**332**	P	**P**	**19 01 56.9**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=96,slow=5.7,SNR=4.9						
	comp=Z,1.1nm,0.6s						
ARCES	**ARCESS Array B**	**71.47**	**340**	P	**P**	**19 02 13.7**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=76,slow=5.1,SNR=8.6						
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**74.53**	**329**	P	**P**	**19 02 31.2**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=96,slow=7.6,SNR=5.0						
	comp=Z,1.8nm,1.0s						
NOA	**NORSAR Array B**	**75.81**	**330**	P	**P**	**19 02 38.2**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=93,slow=5.3,SNR=1.9						
	comp=Z,0.7nm,0.9s						

*IDC **25** 18:54:59.5±5.5, 39°.07S×177°.52E, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=235.1km s-min=52.5km az=169.0*
*NOU **25** 18:55:10.3, 40°.87S×176°.41E, h49km, MLv3.4/10, North Island, New Zealand*
*WEL **25** 18:55:12.9±0.4, 41°S±2°×17°6E±°, h27km±3km, M3.3/55, ML3.7/18, MLv3.3/55, Error ellipse: s-maj=3.6km s-min=2.8km az=112.9, confirmed*
ISC 25 18:55:12.6±1.0, 40°.63S±0°.03×175°.96E±0°.03, h41km±6km, n108, σ1§44/115, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRMS	**Tiraumea**	**0.05**	**144**	P	Pn	18 55 19.6	+0.4
TRMS				S	**Sn**	**18 55 24.3**	**+0.5**
PRWZ	**Pori Road**	**0.08**	**8**	P	Pn	18 55 19.4	+0.2
PRWZ				S	**Sn**	**18 55 24.1**	**+0.2**
TIWZ	**Tintock**	**0.15**	**201**	P	Pn	18 55 20.3	+0.6
TIWZ				S	**Sn**	**18 55 25.2**	**+0.6**
BFZ	**Birch Farm**	**0.23**	**102**	P	**Pn**	**18 55 20.7**	**+0.5**
BFZ	**Birch Farm**	**0.23**	**102**	P	**Pn**	**18 55 21.2**	**+1.1**
BFZ				S	**Sn**	**18 55 27.1**	**+1.6**
POWZ	**Post Office Ro**	**0.28**	**329**	P	**Pn**	**18 55 20.4**	**-0.3**
POWZ				S	**Sn**	**18 55 25.4**	**-1.0**
MRZ	**Mangatainoka R**	**0.29**	**265**	P	**Pn**	**18 55 20.8**	**0.0**
MRZ				S	**Sn**	**18 55 25.9**	**-0.6**

WDPS	**Woodville Poli**	**0.30**	**347**	P	**Pn**	**18 55 20.8**	**-0.1**
WDPS				S	**Sn**	**18 55 26.3**	**-0.4**
CPWZ	**Castlepoint**	**0.33**	**146**	P	**Pn**	**18 55 23.5**	**+2.2**
CPWZ				S	**Sn**	**18 55 32.0**	**+4.7**
DVHZ	**Dannevirke**	**0.37**	**26**	P	**Pn**	**18 55 21.9**	**+0.1**
DVHZ				S	**Sn**	**18 55 28.0**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.43**	**232**	P	**Pn**	**18 55 23.1**	**+0.7**
HOWZ				S	**Sn**	**18 55 30.1**	**+0.8**
ANWZ	**Angora Road**	**0.43**	**66**	P	**Pn**	**18 55 23.8**	**+1.3**
ANWZ				S	**Sn**	**18 55 31.8**	**+2.4**
TMWZ	**Te Maipa**	**0.47**	**186**	P	**Pn**	**18 55 24.5**	**+1.4**
TSZ	**Takapari Road**	**0.57**	**0**	P	**Pn**	**18 55 24.6**	**+0.2**
TSZ				S	**Sn**	**18 55 32.5**	**-0.2**
OGWZ	**Otaki Gorge**	**0.62**	**253**	P	**Pn**	**18 55 25.7**	**+0.7**
MTW	**Mount Morrison**	**0.63**	**213**	P	**Pn**	**18 55 26.0**	**+1.0**
PRHZ	**Porangahau**	**0.64**	**55**	P	**Pn**	**18 55 26.4**	**+1.3**
OHWZ	**Ohakea**	**0.65**	**311**	P	**Pn**	**18 55 26.4**	**+1.1**
WPHZ	**Waipukurau**	**0.68**	**33**	P	**Pn**	**18 55 27.1**	**+1.3**
PNHZ	**Pukenui**	**0.74**	**15**	P	**Pn**	**18 55 27.5**	**+0.8**
TRWZ	**Traveller**	**0.79**	**195**	P	**Pn**	**18 55 28.5**	**+1.2**
CAW	**Cannon Point**	**0.82**	**235**	P	**Pn**	**18 55 28.7**	**+0.9**
KIW	**Kapiti Island**	**0.83**	**254**	P	**Pn**	**18 55 28.7**	**+0.9**
PAWZ	**Paruwai Farm**	**0.85**	**208**	P	**Pn**	**18 55 29.0**	**+1.0**
PXZ	**Pawanui**	**0.92**	**49**	P	**Pn**	**18 55 30.1**	**+1.1**
MSWZ	**Moikau Station**	**0.95**	**214**	P	**Pn**	**18 55 30.0**	**+0.6**
KRHZ	**Kereru**	**1.04**	**18**	P	**Pn**	**18 55 31.5**	**+0.8**
PLWZ	**Palliser**	**1.07**	**209**	P	**Pn**	**18 55 31.7**	**+0.5**
KAHZ	**Kahuranaki**	**1.10**	**40**	P	**Pn**	**18 55 32.6**	**+1.1**
WEL	**Wellington**	**1.11**	**234**	P	**Pn**	**18 55 32.4**	**+0.8**
BHW	**Baring Head**	**1.13**	**226**	P	**Pn**	**18 55 32.4**	**+0.5**
WAZ	**Wanganui**	**1.15**	**319**	P	**Pn**	**18 55 34.4**	**+2.2**
SNZO	**South Karori**	**1.16**	**234**	P	**Pn**	**18 55 32.8**	**+0.5**
SNZO	**South Karori**	**1.16**	**234**	S	**Sn**	**18 55 50.3**	**+3.3**
MOVZ	**Moawhango**	**1.24**	**353**	P	**Pn**	**18 55 34.5**	**+1.0**
KWHZ	**Kaweka Forest**	**1.26**	**17**	P	**Pn**	**18 55 34.7**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.30**	**42**	P	**Pn**	**18 55 35.1**	**+0.9**
MTVZ	**Mangateitei**	**1.30**	**343**	P	**Pn**	**18 55 35.7**	**+1.4**
MCHZ	**McNeill Hill**	**1.32**	**26**	P	**Pn**	**18 55 35.5**	**+1.0**
WNVZ	**Wahianoa**	**1.33**	**348**	P	**Pn**	**18 55 36.2**	**+1.3**
TRVZ	**Turoa**	**1.37**	**347**	P	**Pn**	**18 55 36.7**	**+1.3**
WHVZ	**Whangaehu Hut**	**1.38**	**348**	P	**Pn**	**18 55 37.2**	**+1.7**
TUVZ	**Tukino**	**1.38**	**350**	P	**Pn**	**18 55 37.3**	**+1.8**
TCW	**Tory Channel**	**1.40**	**245**	P	**Pn**	**18 55 36.0**	**+0.4**
MAVZ	**Matarangi**	**1.40**	**347**	P	**Pn**	**18 55 37.6**	**+1.7**
FWVZ	**Far West T-bar**	**1.41**	**347**	P	**Pn**	**18 55 37.7**	**+1.7**
PKVZ	**Pokaka**	**1.42**	**341**	P	**Pn**	**18 55 37.4**	**+1.4**
SNVZ	**South Ngauruho**	**1.47**	**350**	P	**Pn**	**18 55 38.3**	**+1.6**
COVZ	**Chateau Observ**	**1.47**	**347**	P	**Pn**	**18 55 38.3**	**+1.7**
NGZ	**Ngauruhoe**	**1.48**	**349**	P	**Pn**	**18 55 38.4**	**+1.5**
OTVZ	**Oturere**	**1.49**	**351**	P	**Pn**	**18 55 38.6**	**+1.7**
ETVZ	**East Tongariro**	**1.51**	**353**	P	**Pn**	**18 55 38.7**	**+1.4**
NNVZ	**North Ngauruho**	**1.52**	**350**	P	**Pn**	**18 55 39.1**	**+1.6**
BKZ	**Black Stump Fm**	**1.52**	**16**	P	**Pn**	**18 55 37.9**	**+0.6**
BKZ	**Black Stump Fm**	**1.52**	**16**	P	**Pn**	**18 55 38.0**	**+0.6**
TMVZ	**Te Maari**	**1.53**	**353**	P	**Pn**	**18 55 38.9**	**+1.4**
WTVZ	**West Tongariro**	**1.54**	**349**	P	**Pn**	**18 55 39.3**	**+1.6**
NTVZ	**North Tongarir**	**1.55**	**352**	P	**Pn**	**18 55 39.2**	**+1.4**
DUWZ	**D'Urville Isla**	**1.56**	**263**	P	**Pn**	**18 55 38.5**	**+0.7**
KRVZ	**Karewarewa**	**1.56**	**351**	P	**Pn**	**18 55 39.8**	**+1.9**
ARHZ	**Aropaoanui**	**1.59**	**31**	P	**Pn**	**18 55 39.0**	**+0.8**
TWVZ	**Taurewa**	**1.61**	**346**	P	**Pn**	**18 55 40.1**	**+1.4**
RITZ	**Rihia Road**	**1.66**	**357**	P	**Pn**	**18 55 40.7**	**+1.6**
NMHZ	**Naumai**	**1.67**	**23**	P	**Pn**	**18 55 40.3**	**+0.9**
TUWZ	**Tuamarina**	**1.72**	**242**	P	**Pn**	**18 55 40.5**	**+0.6**
VRZ	**Vera Road**	**1.77**	**328**	P	**Pn**	**18 55 42.3**	**+1.6**
RATZ	**Rangitukua**	**1.77**	**355**	P	**Pn**	**18 55 42.2**	**+1.5**
MRHZ	**Matea Rd**	**1.83**	**11**	P	**Pn**	**18 55 42.2**	**+0.6**
BSWZ	**Blackbirch Sta**	**1.91**	**235**	P	**Pn**	**18 55 42.6**	**+0.1**
MTHZ	**Maungataniwha**	**1.91**	**21**	P	**Pn**	**18 55 43.2**	**+0.6**
RAHZ	**Arahi**	**1.92**	**27**	P	**Pn**	**18 55 43.2**	**+0.4**
WATZ	**Wairara**	**1.93**	**355**	P	**Pn**	**18 55 43.9**	**+0.9**
NEZ	**North Egmont**	**1.98**	**313**	P	**Pn**	**18 55 47.1**	**+3.5**
DREZ	**Durham Road**	**1.98**	**316**	P	**Pn**	**18 55 48.0**	**+4.5**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB14	**IPOC Station P**	2.88	262	*e*P	Pn	18 57 43.2	+0.6
PB14				*e*S	Sn	18 58 18.6	-0.7
PB14				IAML		18 58 23.8	
	comp=Z,348nm,0.5s						
PB05	**IPOC Station P**	3.02	297	*e*P	Pn	18 57 45.1	+0.9
PB05				*e*S	Sn	18 58 21.8	-0.4
PB05				IAML		18 58 23.7	
	comp=Z,432nm,0.3s						
PB09	**IPOC Station P**	3.04	323	*e*P	Pn	18 57 46.1	+1.7
PB09				*e*S	Sn	18 58 23.8	+1.1
PB09				IAML		18 58 24.0	
	comp=Z,567nm,0.4s						
AC02	**Maricunga**	3.08	213	*e*P	Pn	18 57 46.3	+1.1
AC02	**Maricunga**	3.08	213	*e*P	Pn	18 57 46.5	+1.3
AC02				*e*S	Sn	18 58 22.6	-1.5
PB10	**IPOC Station P**	3.09	283	⇑*i*P	Pn	18 57 45.9	+1.0
PB10	**IPOC Station P**	3.09	283	*e*P	Pn	18 57 45.9	+1.0
PB10				*e*S	Sn	18 58 23.6	+0.1
PB10				IAML		18 58 29.4	
	comp=Z,499nm,0.5s						
PB03	**IPOC Station P**	3.16	313	*e*P	Pn	18 57 46.8	+0.9
PB03				*e*S	Sn	18 58 24.7	-0.6
PB03				IAML		18 58 28.4	
	comp=Z,798nm,0.3s						
AC01	**Pan de Azucar**	3.56	237	*e*P	Pn	18 57 50.3	-0.4
AC01				*e*S	Sn	18 58 31.4	-2.6
AC01				IAML		18 58 32.1	
	comp=Z,186nm,0.5s						
PB01	**IPOC Station P**	3.79	327	*e*P	Pn	18 57 54.2	+0.5
PB01				*e*S	Sn	18 58 38.7	-0.6
PB01				IAML		18 58 43.0	
	comp=Z,319nm,0.4s						
GO03	**Copiapo**	4.27	218	*e*P	Pn	18 57 59.2	-0.6
GO03				*e*S	Sn	18 58 48.4	-1.9
PB08	**IPOC Station P**	4.44	337	*e*P	Pn	18 58 03.4	+1.0
PB08				*e*S	Sn	18 58 54.8	+0.1
PB08				IAML		18 59 03.6	
	comp=Z,74nm,0.4s						
TA01	**Diego Aracena**	4.54	323	*e*P	Pn	18 58 02.9	-0.4
TA01				*e*S	Sn	18 58 52.6	-3.9
TA01				IAML		18 58 58.5	
	comp=Z,111nm,0.6s						
HMBC	**Humberstone**	4.63	328	*e*P	Pn	18 58 03.8	-0.8
HMBC				*e*S	Sn	18 58 49.7	-9.1
HMBC				IAML		18 59 03.5	
	comp=Z,289nm,0.5s						
GO01	**Chusmiza**	4.89	338	*e*P	Pn	18 57 49.8	-18
GO01				*e*S	Sn	18 59 05.2	-0.1
PB11	**IPOC Station P**	4.98	333	*e*P	Pn	18 58 08.2	-0.9
PB11				*e*S	Sn	18 59 04.3	-2.6
PB11				IAML		18 59 05.2	
	comp=Z,145nm,0.4s						
AC05	**El Transito**	5.30	210	*e*P	Pn	18 57 59.4	-14
AC05				*e*S	Sn	18 59 12.8	-1.7
AC05				IAML		18 59 14.4	
	comp=Z,58nm,1.0s						
AGUA	**GUANDACOL**	5.33	191	*e*P	Pn	18 58 14.2	+0.6
AGUA				*e*P		18 58 15.1	
AGUA				*e*S	Sn	18 59 15.1	-0.1
CFA	**Coronel Fontan**	7.38	186	P	Pn	18 58 41.2	+0.8
	comp=Z,0.6nm,0.3s,baz=53,slow=22,SNR=5.8						
CFA				S	Sn	18 59 59.6	-4.0
	comp=Z,1.7nm,0.3s,baz=103,slow=23,SNR=6.6						
LPAZ	**La Paz**	7.96	354	P	Pn	18 58 48.6	-0.1
	comp=Z,1.9nm,0.4s,baz=179,slow=6.5,SNR=9.1						
LPAZ				S	Sn	19 00 11.9	-6.4
	comp=Z,0.9nm,0.4s,baz=342,slow=3.2,SNR=1.5						
CPUP	**Villa Florida**	9.24	105	P	Pn	18 59 03.0	-1.9
	comp=Z,2.4nm,0.7s,baz=281,slow=12,SNR=7.5						
MURT	**Porto Murtinho**	9.27	76	*e*P	Pn	18 59 04.0	-1.3
SIV	**San Ignacio**	10.06	36	P	Pn	18 59 13.4	-2.5
	comp=Z,2.8nm,0.4s,baz=211,slow=11,SNR=19						
SIV				S	Sn	19 00 59.4	-8.5
	comp=Z,0.5nm,0.5s,baz=197,slow=15,SNR=3.7						
BDQN	**Bodoquena, MS**	10.45	71	*e*P	Pn	18 59 18.6	-2.1
AMBA	**Amambai (Brazi**	11.34	86	*e*P	Pn	18 59 29.6	-2.8
PTLB	**Pontes e Lacer**	11.62	43	*e*P	Pn	18 59 38.0	+2.0
SALV	**Santo Antonio**	13.68	55	*e*P	Pn	19 00 03.5	+1.4
PTGB	**Pitanga**	13.86	95	*e*P	Pn	19 00 03.6	-0.9
LDASE	**Londrina, Braz**	14.81	90	*e*P	Pn	19 00 15.6	-0.7
ITRB	**Iturama**	16.32	77	*e*P	P	19 00 34.6	+0.2
PLCA	**Paso Flores**	16.67	189	P	Pn	19 00 40.3	+1.5
	comp=Z,1.9nm,0.9s,baz=13,slow=10,SNR=4.5						
ARAG	**Araguaiana, MT**	16.82	63	*e*P	P	19 00 40.3	+0.4
VAO	**Valinhos**	18.65	90	*e*P	P	19 00 59.1	-0.8
IPMB	**Ipameri, GO**	18.83	74	*e*P	P	19 01 01.6	-0.4
SNDB	**Serra Nova Dou**	19.46	54	*e*P	P	19 01 08.0	-0.6
BDFB	**Brasilia**	20.01	68	P	P	19 01 14.2	-0.5
	comp=Z,8.6nm,0.5s,baz=242,slow=11,SNR=17						
PMNB	**Patos De Minas**	20.21	78	*e*P	P	19 01 16.6	-0.2
JANB	**Januaria**	23.45	71	*e*P	P	19 01 48.0	-0.9
SDBA	**SAO DESIDERIO**	24.24	65	*e*P	P	19 01 55.3	-0.9
SMTB	**Santa Maria do**	24.24	54	*e*P	P	19 01 56.3	+0.2
SNAA	**Sanae**	59.20	161	P	P	19 06 38.8	+1.3
	comp=Z,1.6nm,0.9s,baz=277,slow=8.1,SNR=2.3						
	comp=Z,1.6nm,0.9s						
TXAR	**Lajitas Array**	63.73	325	P	P	19 07 09.9	+1.5
	comp=Z,0.3nm,0.5s,baz=154,slow=5.7,SNR=3.4						
	comp=Z,0.3nm,0.5s						
QSPA	**South Pole Qui**	65.96	180	P	P	19 07 24.3	+1.9
	comp=Z,1.8nm,0.5s,baz=179,slow=3.0,SNR=8.4						
	comp=Z,1.8nm,0.5s						
PDAR	**Pinedale Array**	77.23	329	P	P	19 08 31.6	+1.7
	comp=Z,0.3nm,0.5s,baz=136,slow=6.7,SNR=4.8						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	94.27	340	P	P	19 09 55.2	+1.3
	comp=Z,0.4nm,0.7s,baz=129,slow=4.2,SNR=9.2						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	128.13	205	PKP	PKiKP	19 15 42.1	+0.4
	comp=Z,0.9nm,0.7s,baz=137,slow=2.0,SNR=9.7						
WRA	**Warramunga Arr**	131.30	207	PKP	PKiKP	19 15 48.6	+0.4
	comp=Z,0.8nm,0.5s,baz=159,slow=1.7,SNR=11						
ZALV	**Zalesovo Beam**	143.72	28	PKP	PKPdf	19 16 08.7	-0.2
	comp=Z,1.3nm,0.4s,baz=298,slow=3.2,SNR=5.4						
MKAR	**Makanchi Array**	146.87	40	PKPbc	PKPbc	19 16 16.7	0.0
	comp=Z,1.9nm,0.6s,baz=282,slow=1.1,SNR=18						

GII ***25*** *18:58:47.6*$_{E}$*0.0,34°.155*$_{N}$*0°.002*$_{\times}$*37°.135*$_{E}$*0°.002,h0*^{km}*, confirmed*

GRAL ***25*** *18:58:52.6*$_{E}$*0.4,33°.89*$_{N}$*×37°.12E,h7*^{km}*,3*^{km}*,MD3.1*

ISC 25 18:58:49.6±2.9,34°.05N±0°.06×37°.1E±0°.2,h0^{km},n25,
σ1§05/27,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FKH	**Fakeheh**	0.64	288	*e*P	Pn	18 59 05.0	-1.0
FKH				*e*S	Sb	18 59 13.9	+0.8
BEIL	**Beino**	0.93	302	*e*P	Pn	18 59 10.4	+0.4
BEIL				*e*S	Sn	18 59 23.8	-0.3
HWQ	**Hawqa**	1.01	283	*e*P	Pn	18 59 11.2	0.0
RCY	**Rachaya**	1.22	243	*e*P	Pg	18 59 12.7	-0.2
BHL	**Bhannes**	1.24	264	*e*P	Pb	18 59 13.9	-0.1
DQRL	**Deir Qamar**	1.35	256	*e*P	Pg	18 59 15.4	-0.1
SHBL	**Chebaa**	1.36	239	*e*P	Pg	18 59 14.6	-1.1
NATI	**Neve Ativ**	1.41	236	P	Pn	18 59 14.9	-1.6
NATI	**Neve Ativ**	1.41	236	S	Sn	18 59 36.3	+0.5
KSHT	**Keshet**	1.54	227	P	Pn	18 59 16.8	-1.6
KSHT	**Keshet**	1.54	227	S	Sb	18 59 39.3	+0.2
MMA0B	**Mount Meron ar**	1.78	235	P	Pn	18 59 20.9	-0.8
MMA0B	**Mount Meron ar**	1.78	235	S	Sb	18 59 46.5	+0.5
MMLI	**Mount Malkishu**	2.16	222	P	Pn	18 59 26.3	-0.6
MMLI	**Mount Malkishu**	2.16	222	S	Sb	18 59 56.1	-0.8
HMDT	**Nahal Hemdat**	2.25	217	P	Pn	18 59 27.3	-0.8
HMDT	**Nahal Hemdat**	2.25	217	S	Sn	18 59 57.9	+1.4
OFRI	**`Ofer**	2.30	232	P	Pn	18 59 27.3	-1.5
OFRI	**`Ofer**	2.30	232	S	Sn	18 59 59.1	+1.2
SLTI	**Sal'it**	2.52	225	P	Pn	18 59 31.1	-0.8
SLTI	**Sal'it**	2.52	225	S	Sn	19 00 05.2	+1.9
SALP	**Salfit**	2.57	220	P	Pn	18 59 32.8	+0.3
SALP	**Salfit**	2.57	220	S	Sn	19 00 06.2	+1.7
GHAJ	**Ghor Haditha**	3.04	206	P	Pn	18 59 39.0	+0.1
GHAJ	**Ghor Haditha**	3.04	206	S	Sn	19 00 17.6	+1.5

IDC ***25*** *19:00:06.8*$_{E}$*0.5,17°.91*$_{N}$*×120°.88E,h0*^{km}*,mb4.0/25, mbtmp4.1/28,ML4.3/3,MS3.4/13,Error ellipse: s-maj=20.0km s-min=11.4km az=77.0*

NEIC ***25*** *19:00:14.8*$_{E}$*2.4,18°.23*$_{N}$*0°.08×120°.7E*$_{E}$*0°.1,h35*^{km}*±2*^{km}*, mb4.6/115,Error ellipse: s-maj=20.6km s-min=13.6km az=106.0*

BJI ***25*** *19:00:18.7,18°.57*$_{N}$*×120°.38E,h44*^{km}*,mB4.7/6,mb4.4/31,*

ML3.6/2,Ms3.8/13,Ms7 3.7/14

ISC 25 19:00:11.8±0.4,17°.94N±0°.05×120°.84E±0°.08,h28^{km},n334,
σ1§55/286,mb4.6/85,MS3.6/16,1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	3.81	179	Pn	Pn	19 01 08.5	-0.3
	108nm,0.3s,baz=175,slow=8.1,SNR=6.0						
TGY				Sn	Sn	19 01 54.7	+2.0
	44nm,0.3s,baz=318,slow=6.8,SNR=3.9						
	192nm,0.4s						
TWG	**Pinlang**	4.86	3	Pn	Pn	19 01 17.4	-5.7
TPUB	**Ta-pu**	5.34	358		Pn	19 01 27.3	-2.4
YULB	**Yu-li**	5.44	4	Pn	Pn	19 01 28.9	-2.2
SSLB	**Suanglung**	5.82	1	Pn	Pn	19 01 34.0	-2.3
NACB	**Ninganchiao**	6.25	6	Pn	Pn	19 01 41.4	-0.7
YHNB	**Yeheng**	6.72	4	Pn	Pn	19 01 48.4	-0.3
YOJ	**Yonaguni jima**	6.80	17	Pn	Pn	19 01 50.1	+0.4
JOW	**Kunigami**	11.20	37	Pn	Pn	19 02 48.8	-1.3
	1.8nm,0.3s,baz=242,slow=11,SNR=5.3						
	23nm,1.0s						
MYLDM	**Lahad Datu**	12.88	191	Pn	P	19 03 19.7	-3.9
SLVN	**Son La**	16.31	285	Pn	Pn	19 03 57.9	-1.1
SBUM	**Sibu**	17.56	210		P	19 04 19.7	+4.1
JNU	**Nakatsue**	17.61	29		P	19 04 16.4	+0.4
JNU				IAmb	IAmb	19 04 20.1	
	comp=Z,74nm,1.3s						
JNU	**Nakatsue**	17.61	29	P	Pn	19 04 13.7	-1.5
	comp=Z,1.0nm,0.3s,baz=325,slow=2.5,SNR=9.7						
	comp=Z,14nm,1.1s						
KSM	**Kuching**	19.36	213	P	Pn	19 04 37.6	+1.0
PZH	**PanZhiHua**	19.61	299	P	P	19 04 39.0	+0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,130nm,7.7s						
HNS	**HongShan**	20.12	346	⇓P	P	19 04 44.5	+1.0
HNS				S	S	19 08 16.5	-12
HNS				pmax	pmax		
	comp=Z,11nm,0.8s						
HNS				LR	LR		
	comp=Z,180nm,11.9s						
HNS				LR	LR		
	comp=Z,190nm,12.4s						
KSRS	**Korea Array**	20.41	16	P	P	19 04 46.5	-0.2
	comp=Z,10nm,0.9s,baz=198,slow=10,SNR=24						
KSRS				LR	LR	19 13 11.6	
	comp=Z,35nm,19.5s,baz=250,slow=38						
	comp=Z,10nm,0.9s						
CHTO	**Chiang Mai**	20.80	276	P	P	19 04 50.1	-1.0
CM31	**Chiang Mai Arr**	20.81	275	P	P	19 04 51.5	+0.4
CMAR	**Chiang Mai Arr**	20.81	275	P	P	19 04 51.2	0.0
CMAR	**Chiang Mai Arr**	20.81	275	P	P	19 04 51.4	+0.2
	comp=Z,4.4nm,0.9s,baz=93,slow=8.4,SNR=37						
CMAR				LR	LR	19 12 11.5	
	comp=Z,42nm,19.2s,baz=100,slow=35						
	comp=Z,4.4nm,0.9s						
TNCH	**TengChong**	21.92	293	P	P	19 05 02.8	-0.4
TNCH				pP	sP	19 05 13.0	-1.5
TNCH				sP	pP	19 05 19.0	+8.1
TNCH				PP	PnPn	19 05 26.8	+1.6
TNCH				S	S	19 08 52.0	-12
TNCH				sS	pS	19 09 08.8	-5.7
TNCH				pmax	pmax		
	comp=Z,20nm,1.6s						
TNCH				pmax	pmax		
	comp=Z,150nm,3.5s						
TNCH				LR	LR		
	comp=Z,170nm,4.9s						
TNCH				LR	LR		
	comp=Z,160nm,5.8s						
TNCH				LR	LR		
	comp=Z,310nm,13.0s						
BJT	**Baijiatuau**	22.37	351	P	P	19 05 06.6	-1.1
INU	**Inuyama**	22.52	36	P	P	19 05 08.7	-0.7
INU				IAmb	IAmb	19 05 27.3	
	comp=Z,17nm,1.0s						
MYKOM	**Kota Tinggi**	23.15	228	P	P	19 05 19.6	+3.5
MYKOM				IAmb	IAmb	19 05 22.6	
	comp=Z,22nm,1.1s						
KULM	**Kulim**	23.40	240	P	P	19 05 21.7	+3.1
KULM				IAmb	IAmb	19 05 24.6	
	comp=Z,17nm,1.0s						
GUMO	**Guam**	23.52	97	LR	LR	19 14 59.5	
	comp=Z,90nm,18.4s,baz=247,slow=38						
MJAR	**Matsushiro Arr**	24.05	36	P	P	19 05 23.6	-1.0
	comp=Z,2.0nm,0.7s,baz=219,slow=8.4,SNR=6.7						
	comp=Z,2.0nm,0.7s						
XLT	**XiLinHaoTe**	26.19	352	*e*P	P	19 05 46.3	+2.2
XLT				pP	sP	19 05 55.5	-0.3
XLT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,140nm,4.5s						
USRK	**Ussuriysk Ar.**	27.81	17	P	P	19 05 57.9	-0.7
	comp=Z,1.9nm,0.5s,baz=212,slow=13,SNR=4.2						
	comp=Z,1.9nm,0.5s						
SHL	**Shillong**	27.90	291	P	P	19 05 57.8	-2.1
SHL				IAmb	IAmb	19 06 10.9	
	comp=Z,12nm,1.3s						
GTA	**Gaotai**	28.12	324	*e*P	P	19 06 02.0	+0.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.8s						
GTA				LR	LR		
	comp=Z,98nm,13.8s						
GTA				LR	LR		
	comp=Z,65nm,12.4s						
GTA				LR	LR		
	comp=Z,92nm,14.5s						
BNX	**BinXian**	28.25	10	⇑P	P	19 06 04.0	+1.5
BNX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LSA	**Lhasa**	29.49	299	P	P	19 06 14.4	+0.2
LSA				IAmb	IAmb	19 06 16.3	
	comp=Z,8.6nm,1.0s						
ASAJ	**Asahikawa**	31.88	30	LR	LR	19 20 44.0	
	comp=Z,34nm,18.1s,baz=324,slow=39						
SONM	**Songino Array**	32.08	342	P	P	19 06 36.5	+0.1
	comp=Z,0.9nm,0.7s,baz=159,slow=9.0,SNR=4.3						
SONM				LR	LR	19 19 55.6	
	comp=Z,94nm,19.9s,baz=189,slow=37						
	comp=Z,0.9nm,0.7s						
KLR	**Kul'dur**	32.44	13	LR	LR	19 19 31.7	
	comp=Z,54nm,18.3s,baz=210,slow=36						
HEH	**HeiHe**	32.67	8	*e*P	P	19 06 43.5	+2.1
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FITZ	**Fitzroy Crossi**	36.12	172	P	P	19 07 10.2	-1.3
	comp=Z,1.9nm,0.7s,baz=2.4,slow=6.3,SNR=8.3						
	comp=Z,1.9nm,0.7s						
WRA	**Warramunga Arr**	39.91	160	P	P	19 07 41.1	-2.5
	comp=Z,1.6nm,0.8s,baz=343,slow=9.1,SNR=8.3						
WRA				PcP	PcP	19 09 49.6	+0.7
	comp=Z,0.7nm,0.6s,baz=346,slow=3.4,SNR=1.6						
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	42.78	321	P	P	19 08 06.9	-0.1
MKAR	**Makanchi Array**	42.78	321	P	P	19 08 07.4	+0.4
	comp=Z,2.8nm,0.6s,baz=109,slow=9.1,SNR=44						
MKAR				PcP	PcP	19 09 58.5	+0.5
	comp=Z,1.3nm,0.6s,baz=86,slow=5.5,SNR=6.0						
	comp=Z,2.8nm,0.6s						
MAKZ	**Makanchi**	42.98	321	P	P	19 08 08.6	+0.1
ASAR	**Alice Springs**	43.27	162	P	P	19 08 09.7	-1.5
	comp=Z,1.9nm,0.6s,baz=338,slow=7.1,SNR=40						
	comp=Z,1.9nm,0.6s						
KSH	**Kashi**	44.28	309	P	P	19 08 22.5	+3.2
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YAK	**Yakutsk**	44.48	6	P	P	19 08 19.8	-0.5
YAK				IAmb	IAmb	19 08 27.0	
	comp=Z,10nm,0.9s						
NRN	**Naryn**	44.82	311	IAmb	IAmb	19 08 26.0	
	comp=Z,10nm,1.1s						
NIL	**Nilore**	45.22	300	P	P	19 08 25.4	-1.3
ZALV	**Zalesovo Beam**	45.41	331	P	P	19 08 26.4	-1.4
	comp=Z,1.1nm,0.5s,baz=116,slow=9.1,SNR=5.8						
	comp=Z,1.1nm,0.5s						
AAK	**Ala-Archa**	46.25	312	LR	LR	19 28 06.2	
	comp=Z,66nm,20.0s,baz=104,slow=36						
KURK	**Kurchatov**	46.80	324	P	P	19 08 38.9	0.0
KURBB	**Kurchatov Arra**	46.81	324	P	P	19 08 39.1	+0.2
	comp=Z,4.2nm,0.7s,baz=121,slow=7.9,SNR=21						
	comp=Z,4.2nm,0.7s						
HNR	**Honiara**	47.23	122	LR	LR	19 25 53.0	
	comp=Z,40nm,21.3s,baz=207,slow=33						
KK31	**Karatay Array**	49.19	312	P	P	19 08 57.7	+0.1
KKAR	**Karatay Array**	49.19	312		P	19 08 56.5	-1.1
KKAR	**Karatay Array**	49.19	312	P	P	19 08 57.5	-0.1
BVAR	**Borovoye Array**	52.40	324	P	P	19 09 21.8	+0.3
	comp=Z,0.8nm,0.5s,baz=116,slow=10,SNR=5.4						
BVAR				PcP	PcP	19 10 32.1	0.0
	comp=Z,0.9nm,0.6s,baz=108,slow=4.7,SNR=3.9						
	comp=Z,0.8nm,0.5s						
STKA	**Stephens Creek**	53.38	158	P	P	19 09 28.8	-0.1
	comp=Z,1.2nm,0.5s,baz=9.5,slow=6.1,SNR=3.2						
	comp=Z,1.2nm,0.5s						
TIXI	**Tiksi**	53.92	3	P	P	19 09 31.4	-1.0
TIXI				IAmb	IAmb	19 09 37.3	
	comp=Z,6.6nm,1.1s						
TIXI	**Tiksi**	53.92	3	LR	LR	19 35 28.8	
	comp=Z,67nm,18.2s,baz=199,slow=39						
NRIK	**Noril'sk**	55.34	346	P	P	19 09 42.5	-0.3
	comp=Z,3.3nm,0.6s,baz=143,slow=6.4,SNR=6.4						
NRIK				LR	LR	19 33 56.5	
	comp=Z,67nm,18.5s,baz=148,slow=37						
	comp=Z,3.3nm,0.6s						
BILL	**Bilibino**	57.66	18	P	P	19 09 59.1	-0.1
BILL				IAmb	IAmb	19 10 00.6	
	comp=Z,3.9nm,0.6s						
ABKAR	**Akbulak array**	57.68	317	P	P	19 09 58.9	-0.8
P08K	**Saint George I**	63.99	35	P	P	19 10 44.2	+1.7
	baz=264						
GAMB	**Gambell**	64.12	27	IAmb	IAmb	19 10 45.5	
	comp=Z,4.9nm,0.9s						
GAMB	**Gambell**	64.12	27	P	P	19 10 44.9	+1.6
	baz=258						
UNV	**Unalaska Valle**	65.50	38	P	P	19 10 54.0	+1.6
	baz=267						
M11K	**Mekoryuk**	66.16	31	P	P	19 10 57.8	+1.3
	baz=265						
F14K	**Arctic Creek**	66.70	26	P	P	19 11 01.5	+1.5
	baz=262						
ANM	**Nome**	66.99	27	IAmb	IAmb	19 11 04.4	
	comp=Z,4.0nm,0.8s						
ANM	**Nome**	66.99	27	P	P	19 11 03.3	+1.5
	baz=264						
K13K	**Kusilvak Mount**	67.05	30	IAmb	IAmb	19 11 04.7	
	comp=Z,4.8nm,0.9s						
K13K	**Kusilvak Mount**	67.05	30	P	P	19 11 03.9	+1.7
	baz=265						
F15K	**North Star Dit**	67.43	26	IAmb	IAmb	19 11 07.2	
	comp=Z,6.4nm,1.1s						
F15K	**North Star Dit**	67.43	26	P	P	19 11 06.0	+1.5
	baz=264						
C16K	**Lisburne Hills**	67.49	23	IAmb	IAmb	19 11 07.7	
	comp=Z,6.5nm,1.0s						
C16K	**Lisburne Hills**	67.49	23	P	P	19 11 06.0	+1.2
	baz=262						
M13K	**Dall Lake**	67.57	31	P	P	19 11 07.2	+1.7
	baz=267						
G15K	**Niukluk**	67.61	26	P	P	19 11 07.4	+1.8
	baz=265,SNR=5.4						
J14K	**Nanvaranak Lak**	67.62	29	P	P	19 11 07.6	+1.9
	baz=266						
L14K	**Kuka Creek**	67.94	30	P	P	19 11 09.6	+1.8
	baz=267						
GNI	**Garni**	68.17	307	LR	LR	19 44 34.7	
	comp=Z,40nm,18.1s,baz=112,slow=39						
D17K	**Noatak River**	68.26	24	P	P	19 11 11.5	+1.7
	baz=264,SNR=13						
M14K	**Bethel**	68.27	31	P	P	19 11 11.6	+1.7
	baz=268						
H16K	**Elim**	68.34	27	P	P	19 11 12.1	+1.8
	baz=266,SNR=6.3						
G16K	**Koyuk River**	68.35	26	IAmb	IAmb	19 11 12.8	
	comp=Z,6.8nm,1.2s						
G16K	**Koyuk River**	68.35	26	P	P	19 11 12.2	+1.9
	baz=266,SNR=7.1						
N14K	**Kuskokwak Cree**	68.38	32	P	P	19 11 12.2	+1.6
	baz=269						
L15K	**Ungalak Mounta**	68.53	30	P	P	19 11 12.8	+1.2
	baz=268						
K15K	**Wolf Creek Mou**	68.53	29	P	P	19 11 13.5	+2.0
	baz=268						
O14K	**Tigyukauivet M**	68.58	33	P	P	19 11 13.7	+1.9
	baz=269						
E17K	**Hotham Inlet**	68.69	24	P	P	19 11 14.2	+1.7
	baz=266						
F17K	**Baldwin Pennin**	68.87	25	IAmb	IAmb	19 11 16.7	
	comp=Z,5.0nm,0.7s						
F17K	**Baldwin Pennin**	68.87	25	P	P	19 11 15.0	+1.4
	baz=267						
M15K	**Kasigluk River**	68.89	31	P	P	19 11 15.3	+1.5
	baz=269						
B18K	**Kokolik River**	68.89	22	P	P	19 11 15.5	+1.8
	baz=265						
I17K	**Unalakleet**	68.98	28	P	P	19 11 16.3	+2.1
	baz=268						
J16K	**Anvik River**	69.00	28	P	P	19 11 16.3	+1.9
	baz=268						
SDPT	**Sand Point**	69.02	37	P	P	19 11 16.4	+1.7
	baz=272						
C18K	**Utukok River**	69.05	23	P	P	19 11 16.5	+1.7
	baz=266						
G17K	**Kiwalik Mounta**	69.06	26	P	P	19 11 16.9	+2.1
	baz=268,SNR=7.1						
N15K	**Kwethluk River**	69.18	32	P	P	19 11 17.4	+1.7
	baz=270						
E18K	**Tukpahlearik C**	69.19	24	P	P	19 11 17.0	+1.5

J18K	Innoko River baz=272	70.75	28	P	P	19 11 26.8 +1.6
L18K	Granite Mounta baz=272	70.80	29	P	P	19 11 27.9 +2.4
H19K	Roundabout Mou comp=Z,7.8nm,0.9s	70.81	26	IAmb	IAmb	19 11 28.3
H19K	Roundabout Mou baz=271,SNR=6.4	70.81	26	P	P	19 11 27.8 +2.2
E20K	Nigu River baz=271	70.88	23	P	P	19 11 27.4 +1.4
P17K	Kvichak River baz=274	71.06	33	P	P	19 11 29.1 +1.9
F20K	Avaraart Lake baz=272	71.08	24	P	P	19 11 28.8 +1.8
J19K	Poorman baz=273	71.22	28	P	P	19 11 29.6 +1.6
M18K	Stony River baz=273	71.24	30	P	P	19 11 30.4 +2.2
N18K	Kilae Creek baz=274	71.25	31	P	P	19 11 30.2 +1.9
A22K	Sinclair Lake baz=271	71.29	20	P	P	19 11 30.0 +1.7
C21K	Knifeblade Rid baz=272	71.38	22	P	P	19 11 30.7 +1.8
Q17K	Contact Creek baz=274	71.41	34	P	P	19 11 30.5 +1.1
B21K	Ikpikpuk River baz=272	71.43	22	P	P	19 11 31.1 +1.9
H20K	Anotleneega Mo baz=273	71.47	26	P	P	19 11 30.9 +1.3
O18K	Koktuh Hills	71.64	32	P	P	19 11 32.0 +1.3
O18K	Koktuh Hills baz=274	71.64	32	P	P	19 11 32.0 +1.3
L19K	White Mountain	71.66	29	P	P	19 11 31.4 +0.7
L19K	comp=Z,8.8nm,1.0s			IAmb	IAmb	19 11 34.6
L19K	White Mountain baz=274,SNR=5.5	71.66	29	P	P	19 11 32.2 +1.5
P18K	Big Mountain, baz=274	71.67	32	P	P	19 11 31.6 +0.7
I20K	Naaghedeneel baz=273	71.67	27	P	P	19 11 32.2 +1.5
E21K	Killik River comp=Z,8.5nm,1.4s	71.70	23	IAmb	IAmb	19 11 53.6
E21K	Killik River baz=273	71.70	23	P	P	19 11 32.3 +1.4
CHIR	Chirikof Islan baz=275	71.75	36	P	P	19 11 32.4 +1.1
B22K	Teshekpuk Lake comp=Z,6.8nm,1.2s	71.82	21	IAmb	IAmb	19 11 38.4
B22K	Teshekpuk Lake baz=272	71.82	21	P	P	19 11 33.5 +2.0
Q18K	Katmai Hardscr baz=275	71.84	33	P	P	19 11 33.8 +1.8
J20K	Nowinta River comp=Z,5.5nm,0.8s	71.85	27	IAmb	IAmb	19 11 34.6
J20K	Nowinta River baz=274	71.85	27	P	P	19 11 33.1 +1.3
M19K	Big River Lodg comp=Z,8.4nm,1.0s	71.90	30	IAmb	IAmb	19 11 35.0
M19K	Big River Lodg baz=274	71.90	30	P	P	19 11 33.6 +1.4
N19K	Bonanza Creek baz=275	71.93	31	P	P	19 11 34.2 +1.7
K20K	Telida baz=274	71.94	28	P	P	19 11 34.3 +1.9
G21K	Allakaket comp=Z,12nm,1.4s	71.98	25	IAmb	IAmb	19 11 40.5
G21K	Allakaket baz=274	71.98	25	P	P	19 11 34.4 +1.8
O19K	Port Alsworth baz=275	72.06	32	P	P	19 11 34.9 +1.8
L20K	Farewell, AK baz=275	72.09	29	P	P	19 11 34.9 +1.6
D22K	Ayikyak River baz=274	72.15	22	P	P	19 11 35.0 +1.4
H21K	Melozitna River comp=Z,8.3nm,1.1s	72.32	26	IAmb	IAmb	19 11 37.4
H21K	Melozitna Rive baz=275,SNR=6.4	72.32	26	P	P	19 11 36.7 +2.1
F22K	John River baz=275	72.43	24	P	P	19 11 36.7 +1.4
M20K	Styx River baz=276	72.49	30	P	P	19 11 38.1 +2.3
E22K	Anaktuvuk Pass comp=Z,7.2nm,1.3s	72.52	23	IAmb	IAmb	19 11 43.5
E22K	Anaktuvuk Pass baz=275	72.52	23	P	P	19 11 38.1 +2.2
CHUM	Lake Minchumin baz=276	72.68	28	P	P	19 11 38.3 +1.6
I21K	Tanana comp=Z,5.8nm,1.1s	72.70	26	IAmb	IAmb	19 11 41.3
I21K	Tanana baz=276	72.70	26	P	P	19 11 38.8 +1.9
C23K	Itkillik River comp=Z,11nm,1.5s	72.81	21	IAmb	IAmb	19 11 47.8
C23K	Itkillik River baz=275	72.81	21	P	P	19 11 38.9 +1.4
CAST	Castle Rocks baz=276	72.83	28	P	P	19 11 39.7 +2.0
D23K	Nanushuk River comp=Z,7.7nm,1.1s	72.87	22	IAmb	IAmb	19 11 45.3
D23K	Nanushuk River baz=276	72.87	22	P	P	19 11 39.2 +1.4
H22K	Ishtalitna Cre baz=276	72.89	25	P	P	19 11 39.6 +1.5
OHAK	Old Harbor baz=277	72.89	35	P	P	19 11 40.1 +2.0
Q20K	Shuyak Island baz=277	73.20	33	P	P	19 11 40.8 +0.9
COLD	Coldfoot baz=276	73.22	24	P	P	19 11 42.3 +2.3
SKT	Skwentna baz=277	73.23	30	P	P	19 11 41.6 +1.4
BPAW	Bear Paw Mtn. baz=277,SNR=5.2	73.24	27	P	P	19 11 42.0 +1.9
TOLK	Toolik Lake Re baz=277	73.30	22	P	P	19 11 42.3 +1.8
G23K	Bananza Creek comp=Z,7.6nm,1.3s	73.35	25	IAmb	IAmb	19 11 43.5
G23K	Bananza Creek baz=277	73.35	25	P	P	19 11 43.0 +2.2
E23K	Chandalar baz=277	73.35	23	P	P	19 11 42.6 +1.8
C24K	Franklin Bluff comp=Z,5.4nm,0.9s	73.49	21	IAmb	IAmb	19 11 48.3
C24K	Franklin Bluff baz=277	73.49	21	P	P	19 11 42.8 +1.3
D24K	Happy Valley comp=Z,14nm,1.5s	73.51	22	IAmb	IAmb	19 11 49.3
D24K	Happy Valley baz=277	73.51	22	P	P	19 11 43.8 +2.2
CAPN	Captain Cook N baz=278	73.56	31	P	P	19 11 43.8 +1.8
TRF	Thorofare Moun baz=278	73.63	28	P	P	19 11 44.3 +1.7
H23K	Yukon River comp=Z,6.3nm,0.8s	73.64	25	IAmb	IAmb	19 11 50.9
H23K	Yukon River baz=278	73.64	25	P	P	19 11 44.3 +1.8
SUA	Susitna One baz=278	73.67	30	P	P	19 11 44.2 +1.4
E24K	Your Creek baz=278	73.77	23	P	P	19 11 44.9 +1.7
I23K	Minto, Yukon-K baz=278	73.81	26	P	P	19 11 45.5 +2.1
BRSE	Bradley Lake S baz=278	73.90	32	P	P	19 11 46.0 +1.8
M22K	Willow baz=278	73.93	30	P	P	19 11 45.1 +1.0
NEA2	Nenana baz=278	74.01	27	P	P	19 11 46.1 +1.4
F24K	Squaw Lake baz=278	74.07	24	P	P	19 11 47.1 +2.1
MCK	McKinley baz=279	74.19	28	P	P	19 11 47.2 +1.5
RND	Reindeer comp=Z,8.8nm,0.9s	74.27	28	IAmb	IAmb	19 11 48.5
H24K	Noodor Dome baz=279	74.32	25	P	P	19 11 47.5 +1.0
D25K	Kavik River comp=Z,5.3nm,1.1s	74.35	22	IAmb	IAmb	19 11 53.4
D25K	Kavik River baz=279	74.35	22	P	P	19 11 47.6 +1.0
G24K	Hadweenzic Riv baz=279	74.35	24	P	P	19 11 47.6 +1.0
PMR	Palmer baz=279	74.42	30	P	P	19 11 48.4 +1.4
POKR	Poker Plat Res baz=280	74.62	26	P	P	19 11 50.1 +2.0
C26K	Camden Bay baz=280	74.76	21	P	P	19 11 50.7 +1.9
SML	Sawmill baz=280	74.76	29	P	P	19 11 50.5 +1.4
KNK	Knik Glacier baz=280	74.77	30	P	P	19 11 50.3 +1.2
E25K	Arctic Village baz=280	74.84	23	P	P	19 11 50.9 +1.5
G25K	Bearman Lake baz=280	74.88	24	P	P	19 11 51.9 +2.3
ILAR	Eielson Array comp=Z,0.8nm,0.8s,baz=273,slow=5.0,SNR=9.8 comp=Z,0.8nm,0.8s	74.91	26	P	P	19 11 49.3 -0.5
F25K	Christian Rive baz=280	74.91	23	P	P	19 11 52.4 +2.5
PWL	Port Wells baz=280	74.92	30	P	P	19 11 51.9 +1.9
HDA	Harding Lake baz=280	74.94	27	P	P	19 11 51.2 +1.1
M23K	Glacier View baz=280	75.05	29	P	P	19 11 52.4 +1.7
H25L	Birch Creek baz=281	75.08	25	P	P	19 11 52.7 +1.9
ARCES	ARCESS Array B comp=Z,1.0nm,0.8s,baz=76,slow=8.2,SNR=10 comp=Z,1.0nm,0.8s	75.20	339	P	P	19 11 50.5 -1.0
C27K	Jago River baz=282	75.22	21	P	P	19 11 53.5 +1.9
SCM	Sheep Creek Mo baz=280	75.22	29	P	P	19 11 53.2 +1.4
PRP	Porcupine Dome baz=281	75.34	25	P	P	19 11 54.1 +1.7
F26K	Sheenjek River baz=282	75.45	23	P	P	19 11 54.4 +1.5
SPITS	Spitsbergen Ar comp=Z,0.9nm,0.5s,baz=82,slow=8.6,SNR=14	75.49	348	P	P	19 11 52.4 -0.6
SPITS	comp=Z,29nm,18.1s,baz=20,slow=39 comp=Z,0.9nm,0.5s			LR	LR	19 49 36.7
GLI	Glacier Island baz=281	75.51	30	P	P	19 11 54.8 +1.4
K24K	Donnelly Dome	75.56	27	P	P	19 11 53.4 -0.2
K24K	Donnelly Dome baz=281	75.56	27	P	P	19 11 54.8 +1.2
J25K	Salcha River,	75.58	26	P	P	19 11 53.1 -0.6
J25K	Salcha River, baz=282	75.58	26	P	P	19 11 55.1 +1.3
M24K	Tolsona, Glenn baz=282	75.71	29	P	P	19 11 56.3 +1.7
G26K	Porcupine Rive	75.74	24	P	P	19 11 56.2 +1.7
G26K	Porcupine Rive baz=282	75.74	24	P	P	19 11 55.9 +1.3
PAX	Paxson baz=282	75.86	28	P	P	19 11 57.1 +1.7
KLU	Klutina baz=282	75.95	30	P	P	19 11 57.5 +1.5
RIDG	Independent Ri baz=282	75.98	27	P	P	19 11 57.7 +1.6
EYAK	Cordova Ski Ar baz=282	76.22	31	P	P	19 11 57.8 +0.4
D27M	Malcolm River baz=284	76.25	21	P	P	19 11 59.0 +1.4
E27K	Coleen River comp=Z,6.0nm,1.3s	76.28	22	IAmb	IAmb	19 12 05.4
E27K	Coleen River baz=284	76.28	22	P	P	19 11 58.8 +1.1
SCRK	Sand Creek baz=283	76.30	27	P	P	19 11 58.7 +0.7
I26K	Coal Creek Min comp=Z,8.0nm,1.2s	76.35	25	IAmb	IAmb	19 11 59.9
I26K	Coal Creek Min baz=283	76.35	25	P	P	19 11 59.7 +1.6
J26L	Joseph Creek baz=283	76.36	26	P	P	19 11 59.7 +1.4
N25K	Chitina, Valde baz=283	76.54	29	P	P	19 12 00.5 +1.1
G27K	Doyon Strip baz=284	76.59	24	P	P	19 12 01.1 +1.6
BRTR	Keskin Array B comp=Z,0.1nm,0.3s,baz=100,slow=4.8,SNR=2.0 comp=Z,0.1nm,0.3s	76.66	308	P	P	19 11 58.9 -1.7
FINES	FINESS Array B comp=Z,0.7nm,0.4s,baz=63,slow=5.6,SNR=16 comp=Z,0.7nm,0.4s	76.67	331	P	P	19 11 59.6 -0.4
BMRM	Bremner River baz=283	76.68	30	P	P	19 12 01.5 +1.4
H27K	Steamboat Moun baz=284	76.79	24	P	P	19 12 02.1 +1.5
I27K	Kandik River baz=285	76.91	25	P	P	19 12 02.6 +1.3
E28M	Babbage River comp=Z,7.3nm,1.4s	76.92	22	IAmb	IAmb	19 12 08.3
E28M	Babbage River baz=286	76.92	22	P	P	19 12 02.4 +1.1
D28M	Stokes Point baz=286	77.00	21	P	P	19 12 03.0 +1.4
KAIM	Kayak Island baz=284	77.01	31	P	P	19 12 03.1 +1.3
M26K	Nabesna, AK comp=Z,10nm,1.1s	77.10	28	IAmb	IAmb	19 12 05.6
M26K	Nabesna, AK baz=284	77.10	28	P	P	19 12 04.2 +1.7
K27K	Chicken baz=285	77.11	27	P	P	19 12 03.9 +1.5
AKASG	Malin Array Be comp=Z,0.3nm,0.4s,baz=73,slow=4.1,SNR=4.4 comp=Z,0.3nm,0.4s	77.34	319	P	P	19 12 02.9 -1.1
L27K	Beaver Creek, baz=285	77.46	28	P	P	19 12 06.4 +2.0
E29M	Blow River baz=287	77.56	22	P	P	19 12 06.1 +1.3
M27K	Edge Creek, AK baz=285	77.61	28	P	P	19 12 06.0 +0.6
I28M	Miner Creek comp=Z,7.6nm,1.3s	77.62	25	IAmb	IAmb	19 12 08.0
I28M	Miner Creek baz=286	77.62	25	P	P	19 12 06.3 +0.9
G29M	Pine Creek comp=Z,4.6nm,0.8s	77.95	23	IAmb	IAmb	19 12 13.5
G29M	Pine Creek baz=288	77.95	23	P	P	19 12 08.2 +1.1
H29M	Whitestone baz=287	78.02	24	P	P	19 12 09.1 +1.6
BVCY	Beaver Creek baz=286	78.06	28	P	P	19 12 09.9 +2.1
DAWY	Dawson baz=287	78.23	26	P	P	19 12 10.5 +1.8
I29M	Ogilvie Camp, baz=288	78.30	25	P	P	19 12 10.7 +1.7
YUK3	Moose Creek baz=286	78.41	29	P	P	19 12 11.6 +1.7
F30M	Barrier River comp=Z,3.9nm,0.9s	78.56	22	IAmb	IAmb	19 12 27.1
F30M	Barrier River baz=289	78.56	22	P	P	19 12 12.5 +2.1
G30M	tAoh Zraii Nji baz=289	78.60	23	P	P	19 12 12.3 +1.6
EPYK	Eagle Plains baz=289	78.61	24	P	P	19 12 12.2 +1.4
J29N	Klondike Camp baz=288	78.61	26	P	P	19 12 11.9 +1.1
O28M	Mount Upton baz=287	78.82	30	P	P	19 12 13.6 +1.3
YUK8	Steele Glacier baz=287	78.87	29	P	P	19 12 13.3 +0.7
PINM	Pinnacle baz=287	78.98	30	P	P	19 12 14.0 +1.0
L29M	L29M baz=288	79.06	27	P	P	19 12 15.0 +1.7
K29M	Barlow Dome baz=289	79.09	26	P	P	19 12 14.5 +1.0
I30M	Mount Dempster baz=289	79.11	25	P	P	19 12 14.3 +0.6
M29M	Somme Creek comp=Z,11nm,1.1s	79.12	28	IAmb	IAmb	19 12 17.2
M29M	Somme Creek baz=288	79.12	28	P	P	19 12 14.5 +0.8
INK	Inuvik baz=291	79.12	21	P	P	19 12 15.0 +1.6
G31M	Satah River baz=291	79.34	23	P	P	19 12 15.6 +0.9
J30M	Hart River baz=290	79.35	25	P	P	19 12 16.1 +1.2
YUK6	Outpost Mounta baz=288	79.62	29	P	P	19 12 17.3 +0.7
H31M	Peel River baz=291	79.71	24	P	P	19 12 17.9 +1.1
M30M	Minto, Yukon comp=Z,11nm,1.2s	79.81	27	IAmb	IAmb	19 12 20.2
M30M	Minto, Yukon baz=289	79.81	27	P	P	19 12 18.8 +1.4
N30M	Aishikik Lake baz=289	80.04	28	P	P	19 12 20.8 +2.1
HYT	Haines Junctio baz=289	80.06	29	P	P	19 12 20.7 +1.8
A36M	Sachs Harbour baz=298	80.16	17	P	P	19 12 20.5 +1.4
P29M	Windy Craggy baz=289	80.34	30	P	P	19 12 21.5 +1.3
P30M	Million Dollar baz=290	80.55	30	P	P	19 12 23.2 +1.8
BUR08	Bucovina Ar. S	80.66	317	P	P	19 12 21.8 -0.6
O30N	Mendenhall baz=290	80.73	29	P	P	19 12 24.4 +2.0
M31M	Drury Creek, Y baz=292	80.99	27	P	P	19 12 25.6 +1.9
WHY	Whitehorse baz=291	81.33	29	P	P	19 12 27.6 +1.9
FARO	Faro, Yukon comp=Z,5.2nm,1.0s	81.43	27	IAmb	IAmb	19 12 28.4
FARO	Faro, Yukon baz=292	81.43	27	P	P	19 12 27.9 +1.8
C36M	Paulatuk comp=Z,4.4nm,0.9s	81.78	19	IAmb	IAmb	19 12 33.6
C36M	Paulatuk baz=300	81.78	19	P	P	19 12 28.9 +1.2
KOLS	Kolonicke sedl	82.15	319	eP	P	19 12 30.0 -0.1
P33M	Teslin, Yukon baz=293	82.44	29	P	P	19 12 33.4 +1.9
HFS	Hagfors comp=Z,1.6nm,0.6s,baz=72,slow=11,SNR=9.0 comp=Z,1.6nm,0.6s	82.85	331	P	P	19 12 32.3 -1.1
Q32M	Nakina River baz=294	83.19	30	P	P	19 12 36.8 +1.2
NB2	NORSAR Subarra comp=Z,0.8nm,0.5s,baz=61,slow=5.3	83.58	333	P	P	19 12 36.4 -0.9
NOA	NORSAR Array B comp=Z,0.6nm,0.6s,baz=64,slow=4.9,SNR=8.0	83.58	333	P	P	19 12 36.2 -1.1
NOA	comp=Z,26nm,18.9s,baz=225,slow=38 comp=Z,0.6nm,0.6s			LR	LR	19 53 21.7
R33M	Jennings River baz=295	83.63	29	P	P	19 12 39.0 +1.3
NC204	NORSAR Array S	83.68	333	P	P	19 12 37.0 -0.8
NC204	comp=Z,8.7nm,1.2s			IAmb	IAmb	19 12 38.3
S34M	Telegraph Cree baz=295	84.17	31	P	P	19 12 41.9 +1.6
WTLY	Watson Lake, Y baz=297	84.31	28	P	P	19 12 43.1 +2.1
DLBC	Dease Lake baz=296	84.48	30	P	P	19 12 43.7 +1.7
IDI	Anoyia	84.53	305	P	P	19 12 42.0 -0.7
IDI	comp=Z,6.5nm,1.0s			IAmb	IAmb	19 12 53.9
TOAD	Toad River Com baz=300	86.51	28	P	P	19 12 53.4 +1.4
GERES	GERESS Array B comp=Z,0.2nm,0.4s,baz=72,slow=7.0,SNR=2.2 comp=Z,0.2nm,0.4s	87.45	321	P	P	19 12 56.9 0.0
YKAW3	Yellowknife Wh comp=Z,3.6nm,0.8s	88.78	22	IAmb	IAmb	19 13 10.3
YKA	Yellowknife Ar comp=Z,1.3nm,0.7s,baz=313,slow=4.5,SNR=26 comp=Z,1.3nm,0.7s	88.83	22	P	P	19 13 03.5 +0.4
YKAW1	Yellowknife Wh comp=Z,6.9nm,1.2s	88.88	22	IAmb	IAmb	19 13 05.3

GCG 25 19:00:37.6±1.8, 15°.61N×91°.62W, h8km±406km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUEH	Huehuetenango	0.31	158	eS	Sb	19 00 49.5	-1.5
CCIG	Comitan	0.83	324	eP	Pg	19 00 54.1	+0.4
CCIG				eS	Sb	19 01 05.6	-0.4
STG8	El Palmar, Qui	1.18	167	eP	Pg	19 00 55.3	-5.1
STG8				i S	Sg	19 01 06.7	-9.0
STG0	El Palmar, Qui	1.21	167	eP	Pg	19 00 55.6	-5.2
STG0				eS	Sg	19 01 08.0	-8.5

IDC ***25*** *19:04:23.2±0.8, 0°.97S×134°.52E, h0km, mb4.0/8, mbtmp4.0/11, ML3.7/3, MS3.8/1, Error ellipse: s-maj=29.4km s-min=16.9km az=70.0*
DJA ***25*** *19:04:27.3±0.5, 1°.5S±3°×13°.4E±°, h12km±3km, M4.5/12, mB5.1/1, mb4.8/6, MLv4.3/12, Mw(mB)4.4/1*
ISC 25 19:04:27.4±0.7, 1.03S±0°.07×134°.43E±0°.04, h27km, n23, σ1§26/28, mb4.1/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	0.54	208	P	Pb	19 04 38.2	-0.2
RKPI				S	Sb	19 04 44.6	-1.2
BAKI	Biak	1.69	95	P	Pb	19 04 57.2	-0.6
BAKI				S	Sb	19 05 19.1	+0.5
SRPI	Serui, Papua	1.99	115	P	Pb	19 05 01.9	-1.1
SRPI				S	Sb	19 05 27.4	-0.1
KMPI	Kaimana, Papua	2.71	195	P	Pn	19 05 09.9	+0.7
FAKI	Fak Fak	2.87	229	P	Pn	19 05 11.9	+0.4
FAKI				S	Sn	19 05 46.3	+1.1
SWI	Sorong	3.17	273	P	Pn	19 05 16.1	+0.5
SMPI	Sarmi	4.38	103	P	Pn	19 05 34.2	+1.9
SMPI				S	Sn	19 06 26.6	+4.1
BNDI	Bandanaira	5.69	232	P	Pn	19 05 50.7	+0.4
MSAI	Masohi 0.5nm132nm,0.8s	5.96	247	P	Pn	19 05 55.3	+1.4
JAY	Jayapura 0.3nm,0.3s,baz=18,slow=20,SNR=1.8	6.44	103	Pn	Pn	19 05 58.4	-2.3
JAY				Sn	Sn	19 07 12.9	-0.5
AAI	Ambon 0.7nm,0.3s,baz=136,slow=16,SNR=1.6 6.2nm,0.8s 88nm,1.1s	6.76	247	P	Pn	19 06 06.3	+1.3
SANI	Sanana	8.50	263	P	Pn	19 06 29.5	+0.7
WRA	Warramunga Arr 0.2nm,0.3s,baz=0.7,slow=12,SNR=6.9 0.8nm,0.5s	18.79	180	P	P	19 08 44.3	-0.6
FITZ	Fitzroy Crossi 0.7nm,0.3s,baz=34,slow=9.8,SNR=14 2.3nm,0.5s	19.03	206	P	P	19 08 47.3	-0.2
ASAR	Alice Springs 1.6nm,0.6s,baz=11,slow=11,SNR=8.7 1.6nm,0.6s 3.0nm,1.1s	22.50	181	P	P	19 09 25.9	+0.8
STKA	Stephens Creek 3.0nm,1.1s,baz=345,slow=12,SNR=1.5 3.0nm,1.1s	31.42	168	P	P	19 10 47.0	+0.6
PSI	Prapat comp=Z,125nm,18.1s,baz=216,slow=39	35.70	276	LR	LR	19 27 27.9	
CMAR	Chiang Mai Arr 0.3nm,0.6s,baz=127,slow=4.7,SNR=2.5 0.3nm,0.6s	39.90	301	P	P	19 11 58.5	-0.9
MKAR	Makanchi Array 3.0nm,0.6s,baz=113,slow=8.1,SNR=34 3.0nm,0.6s	65.88	324	P	P	19 15 11.7	+0.8
KURBB	Kurchatov Arra 2.8nm,0.9s,baz=119,slow=5.5,SNR=25 2.8nm,0.9s	69.92	326	P	P	19 15 36.3	+0.2
BVAR	Borovoye Array 1.6nm,0.6s,baz=111,slow=8.1,SNR=9.0 1.6nm,0.6s	75.52	326	P	P	19 16 09.5	+0.1
ILAR	Eielson Array 0.7nm,1.0s,baz=260,slow=5.3,SNR=4.2 0.7nm,1.0s	86.11	25	P	P	19 17 04.7	-1.0
ARCES	ARCESS Array B 0.7nm,0.7s,baz=84,slow=8.3,SNR=3.5 0.7nm,0.7s	97.52	340	P	P	19 17 58.0	-0.7

MOS ***25*** *20:23:24.7±0.8, 37°.39N×134°.91E, h387km, mb4.3/23, Error ellipse: s-maj=7.9km s-min=5.1km az=107.3*
JMA ***25*** *20:23:25.1±0.2, 37°.4N±0°.9×135°.1E±1°.0, h396km±2km, MV4.2/31, SEA OF JAPAN*
IDC ***25*** *20:23:25.6±0.6, 37°.39N×134°.91E, h383km±6km, mb3.8/28, mbtmp4.5/35, Error ellipse: s-maj=9.1km s-min=8.5km az=43.0*
NEIC ***25*** *20:23:25.6±1.6, 37°.44N±0°.09×134°.97E±0°.10, h379km±7km, mb4.2/164, Error ellipse: s-maj=13.1km s-min=10.7km az=146.0*
NIED ***25*** *20:23:25.1, 37°.37N×135°.06E, h396km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;*

M_{rr}~3.16; $M_{\theta\theta}$2.93; $M_{\phi\phi}$0.23; $M_{r\theta}$-2.00; $M_{\theta\phi}$1.69; $M_{\phi r}$~2.40;
Fault plane solution: $M_0$4.68000×10^{15} NP1:
ϕ_s263.00000°, δ28.00000°, λ-57.00000°. NP2:ϕ_s47.00000°,
δ67.00000°, λ-106.00000°.
ISC 25 20:23:24.8±0.4, 37.37N±0.04×134.98E±0.04, h378km±4km, h378km:pP-P, n583, σ1.64/564, mb4.2/141, 38C-14D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**1.51**	**107**	P	**Pn**	**20 24 17.8**	**+2.0**
JKG	**Kaga**	**1.54**	**135**	P	**Pn**	**20 24 17.8**	**+1.8**
JHG	**Hegura jima**	**1.61**	**72**	*e*P	**Pn**	**20 24 18.5**	**+2.2**
JOI	**OKI**	**1.76**	**233**	P	**Pn**	**20 24 19.6**	**+2.3**
JSZ	**Suzu**	**1.90**	**87**	P	**Pn**	**20 24 20.2**	**+2.2**
JWT	**Wachi**	**2.11**	**171**	P	**Pn**	**20 24 21.7**	**+2.1**
JWT				*e*S	**S**	**20 25 05.5**	**+1.9**
JYTA	**Yamagatataniai**	**2.27**	**141**	P	**Pn**	**20 24 22.3**	**+1.7**
JYTA				*e*S	**S**	**20 25 06.5**	**+0.8**
INU	**Inuyama**	**2.60**	**140**		**Pn**	**20 24 24.3**	**+1.1**
INU	**Inuyama**	**2.60**	**140**	P	**Pn**	**20 24 24.6**	**+1.5**
JGF	**Kuroka**	**2.61**	**132**		**Pn**	**20 24 24.5**	**+1.3**
JGF	**Kuroka**	**2.61**	**132**	P	**Pn**	**20 24 24.7**	**+1.5**
JSD	**Sado**	**2.69**	**75**		**Pn**	**20 24 24.7**	**+1.1**
JSD	**Sado**	**2.69**	**75**	P	**Pn**	**20 24 25.2**	**+1.5**
JSD	**Sado**	**2.69**	**75**	*i* P	**Pn**	**20 24 25.1**	**+1.4**
JSD				*e*S	**S**	**20 25 11.9**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.71**	**107**		**Pn**	**20 24 26.4**	**+2.4**
MAJO	**Matsushiro**	**2.71**	**107**		**Pn**	**20 24 25.2**	**+1.2**
MAJO	**Matsushiro**	**2.71**	**107**	P	**Pn**	**20 24 25.6**	**+1.6**
MAJO	**Matsushiro**	**2.71**	**107**	P	**Pn**	**20 24 25.6**	**+1.6**
MAT	**Matsushiro**	**2.71**	**107**	P	**Pn**	**20 24 25.6**	**+1.6**
MAT				*e*S	**S**	**20 25 13.7**	**+2.0**
MJAR	**Matsushiro Arr**	**2.72**	**107**	P	**Pn**	**20 24 26.0**	**+2.0**
	633nm,0.7s,baz=287,slow=9.4,SNR=884						
MJAR				S	**S**	**20 25 14.0**	**+2.2**
	18nm,0.7s,baz=290,slow=18,SNR=1.3						
JHS	**Saijyo**	**2.81**	**213**	P	**Pn**	**20 24 26.8**	**+2.0**
JHS				*e*S	**S**	**20 25 15.4**	**+2.1**
JGT2	**ShimaneMisato**	**3.05**	**222**	P	**Pn**	**20 24 29.0**	**+2.2**
JGT2				*e*S	**S**	**20 25 19.5**	**+2.6**
JIE	**Ise**	**3.29**	**154**	P	**Pn**	**20 24 31.1**	**+2.2**
JIE				S	**S**	**20 25 22.5**	**+1.9**
JRY	**Ryogami san**	**3.43**	**112**	*e*P	**Pn**	**20 24 31.5**	**+1.3**
JTNC	**Tanabenakahech**	**3.58**	**172**	P	**Pn**	**20 24 33.0**	**+1.3**
JTNC				*e*S	**S**	**20 25 25.6**	**-0.1**
JSG	**Sagara**	**3.74**	**135**		**Pn**	**20 24 34.7**	**+1.6**
JMN	**Monobe**	**3.75**	**194**		**Pn**	**20 24 35.3**	**+2.1**
JMN	**Monobe**	**3.75**	**194**	P	**Pn**	**20 24 35.7**	**+2.5**
JOD2	**Odawara 2**	**3.93**	**121**	P	**Pn**	**20 24 35.9**	**+1.0**
JOD2				*e*S	**S**	**20 25 32.1**	**+0.6**
JMM	**Marumori**	**4.64**	**82**		**Pn**	**20 24 42.3**	**+0.3**
JMM	**Marumori**	**4.64**	**82**	P	**Pn**	**20 24 42.7**	**+0.8**
JTO	**Tosashimizu**	**4.84**	**202**	*e*P	**Pn**	**20 24 46.4**	**+2.2**
JMK	**Ichinoseki**	**5.16**	**70**	P	**Pn**	**20 24 47.9**	**+0.5**
JNU	**Nakatsue**	**5.41**	**220**		**Pn**	**20 24 52.7**	**+2.5**
JNU	**Nakatsue**	**5.41**	**220**	P	**Pn**	**20 24 51.8**	**+1.5**
	17nm,0.9s,baz=34,slow=5.6,SNR=8.0						
JNU	**Nakatsue**	**5.41**	**220**	P	**Pn**	**20 24 52.8**	**+2.5**
BSO1	**Boso 1**	**5.57**	**117**	*e*P	**Pn**	**20 24 51.4**	**+0.1**
KSRS	**Korea Array**	**5.62**	**273**	P	**Pn**	**20 24 54.5**	**+2.2**
	28nm,0.7s,baz=90,slow=12,SNR=75						
KSAR	**Wonju Array Be**	**5.65**	**273**		**Pn**	**20 24 52.7**	**0.0**
KSAR	**Wonju Array Be**	**5.65**	**273**	P	**Pn**	**20 24 52.7**	**0.0**
KS19	**Wonju Array Si**	**5.66**	**273**		**Pn**	**20 24 53.3**	**+0.5**
JHJ	**Hachijo jima 2**	**5.78**	**136**	P	**Pn**	**20 24 56.4**	**+2.1**
	25nm,0.3s,baz=347,slow=20,SNR=11						
JHJ				S	**S**	**20 26 07.0**	**0.0**
	79nm,0.3s,baz=86,slow=22,SNR=8.7						
JHJ2	**Mitsune**	**5.81**	**136**	Pn	**Pn**	**20 24 56.7**	**+2.2**
JTM	**Tenmabayashi**	**5.83**	**52**	Pn	**Pn**	**20 24 55.3**	**+0.7**
JTM	**Tenmabayashi**	**5.83**	**52**	P	**Pn**	**20 24 55.9**	**+1.2**
MSHR	**Mys Shultsa**	**5.97**	**332**	*ce*P	**Pn**	**20 24 57.3**	**+1.2**
MSHR				pmax	pmax		
	comp=Z,169nm,0.8s						
JOT	**Ohata**	**6.17**	**48**	*e*P	**Pn**	**20 24 59.3**	**+0.9**
USA0B	**Ussuriysk Arra**	**7.19**	**343**		**P**	**20 25 11.3**	**+0.6**
USA0B	**Ussuriysk Arra**	**7.19**	**343**	P	**P**	**20 25 11.4**	**+0.6**
USRK	**Ussuriysk Ar.**	**7.19**	**343**		**P**	**20 25 11.3**	**+0.6**
USRK	**Ussuriysk Ar.**	**7.19**	**343**	P	**P**	**20 25 11.7**	**+0.9**
	comp=Z,154nm,0.7s,baz=154,slow=11,SNR=241						
TEY	**Ternei**	**7.75**	**9**	⇑*e*P	**P**	**20 25 18.0**	**+0.9**
TEY				pmax	pmax		
	comp=N,60nm,0.8s						
TEY				pmax	pmax		
	comp=Z,70nm,0.9s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.9s						
ERM	**Erimo**	**7.82**	**51**	Pn	**Pn**	**20 25 17.4**	**+0.2**
ERM	**Erimo**	**7.82**	**51**	P	**Pn**	**20 25 17.2**	**0.0**
ERM	**Erimo**	**7.82**	**51**	*i* P	**Pn**	**20 25 17.7**	**+0.5**
JEM	**Erimo**	**7.82**	**51**	P	**Pn**	**20 25 17.4**	**+0.2**
MDJ	**Mudanjiang**	**8.30**	**332**		**P**	**20 25 24.4**	**+0.4**
MDJ	**Mudanjiang**	**8.30**	**332**	P	**P**	**20 25 24.0**	**0.0**
MDJ				pmax	pmax		
	comp=Z,120nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,340nm,3.7s						
ASAJ	**Asahikawa**	**8.87**	**38**	P	**Pn**	**20 25 28.6**	**-0.8**
	comp=Z,27nm,0.4s,baz=233,slow=12,SNR=111						
ASAJ				S	**S**	**20 27 04.3**	**-7.4**
	comp=Z,67nm,0.6s,baz=12,slow=24,SNR=22						
ASAJ	**Asahikawa**	**8.87**	**38**	P	**Pn**	**20 25 29.5**	**+0.1**
JKA	**Kamikawa-asahi**	**8.87**	**38**		**Pn**	**20 25 29.5**	**+0.1**
BNX	**BinXian**	**10.10**	**328**	⇑P	**P**	**20 25 44.5**	**+0.6**
BNX				pmax	pmax		
	comp=Z,140nm,0.8s						
NMR	**Nemuro--Hokkai**	**10.15**	**51**	*e*P	**P**	**20 25 44.3**	**-0.2**
NMR				*i* S	S	20 27 29.6	-9.2
RUSJ	**Misakicho**	**10.29**	**46**	P	Pn	20 25 51.3	+5.4
RUSJ				*i* S	**S**	**20 27 40.3**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**10.60**	**48**	P	**Pn**	**20 25 51.6**	**+2.0**
YUK				*i* S	**S**	**20 27 42.6**	**-5.6**
YUK				pmax	pmax		
	comp=Z,139nm,0.5s						
YUK				pmax	pmax		
	comp=E,45nm,0.4s						
SHO	**Shikotan**	**11.09**	**51**	*e*P	**Pn**	**20 25 57.6**	**+2.2**
SHO				*i* S	**S**	**20 27 51.9**	**-6.8**
SHO				pmax	pmax		
	comp=E,10.0nm,0.3s						
SHO				pmax	pmax		
	comp=Z,16nm,0.3s						
SHO				pmax	pmax		
	comp=N,25nm,0.5s						
YSS	**Yuzhno-Sakhali**	**11.17**	**29**		**P**	**20 25 56.2**	**+0.4**
YSS	**Yuzhno-Sakhali**	**11.17**	**29**	*ke*P	**Pn**	**20 25 57.1**	**+0.8**
YSS				*e*S	**S**	**20 27 54.8**	**-5.4**
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
YSS				pmax	pmax		
	comp=Z,200nm,2.8s						
YSS				smax	smax		
	comp=N,1μm,2.0s						
YSS				smax	smax		
	comp=N,30nm,1.2s						
YSS				smax	smax		
	comp=E,40nm,1.2s						
JCJ	**Chichijima**	**11.92**	**147**	P	**P**	**20 26 00.5**	**-3.9**
	comp=E,44nm,0.4s,baz=94,slow=22,SNR=6.6						
JCJ				S	S	20 28 05.1	-11
	comp=E,57nm,0.4s,baz=253,slow=21,SNR=5.5						
JOW	**Kunigami**	**11.94**	**210**	S	**S**	**20 28 10.4**	**-6.5**
	comp=E,5.7nm,0.6s,baz=45,slow=16,SNR=1.2						
KLR	**Kul'dur**	**12.08**	**350**	P	**P**	**20 26 05.9**	**0.0**
	comp=E,7.9nm,0.3s,baz=168,slow=12,SNR=31						
KLR				S	**S**	**20 28 16.8**	**-2.4**
	comp=E,1.4nm,0.6s,baz=126,slow=17,SNR=1.2						
KLR	**Kul'dur**	**12.08**	**350**	*ce*P	**P**	**20 26 06.2**	**+0.3**
KLR				pmax	pmax		
	comp=Z,11nm,0.7s						
HEH	**HeiHe**	**13.98**	**340**	*e*P	**P**	**20 26 26.8**	**+0.1**
TYV	**Tymovskoe**	**14.56**	**20**	*e*P	**Pn**	**20 26 37.5**	**+2.1**
TYV				pmax	pmax		
	comp=Z,27nm,0.9s						
TYV				pmax	pmax		
	comp=Z,200nm,2.9s						
BJT	**Baijiatuau**	**14.93**	**286**		**P**	**20 26 37.8**	**+0.6**
BJT	**Baijiatuau**	**14.93**	**286**	P	**P**	**20 26 37.8**	**+0.6**
XLT	**XiLinHaoTe**	**15.74**	**300**	*e*P	**P**	**20 26 46.0**	**-0.1**
XLT				S	**S**	**20 29 31.5**	**-1.4**
XLT				pmax	pmax		
	comp=Z,16nm,1.0s						
HNS	**HongShan**	**16.12**	**276**	⇓P	**P**	**20 26 49.8**	**-0.3**
HNS				pmax	pmax		
	comp=Z,73nm,0.9s						
ZEA	**Zeya**	**17.22**	**344**	*e*P	**P**	**20 27 00.8**	**-0.9**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BTO	**Baotou**	**19.65**	**287**	*e*P	**P**	**20 27 28.3**	**+0.9**
BTO				sP	**sP**	**20 29 11.5**	**+0.8**
BTO				pmax	pmax		
	comp=Z,21nm,0.8s						
BTO				pmax	pmax		
	comp=Z,320nm,4.4s						
ENH	**Enshi**	**22.29**	**259**		**P**	**20 27 51.0**	**-0.6**
PETK	**Petropavlovsk-**	**22.29**	**38**	P	**P**	**20 27 51.9**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=182,slow=4.0,SNR=5.5						
	comp=Z,4.0nm,0.9s						
ULN	**Ulaanbaatar**	**22.95**	**306**		**P**	**20 27 56.9**	**-0.6**
ULN				IAmb	IAmb	20 27 58.4	
	comp=Z,5.8nm,0.8s						
ULN	**Ulaanbaatar**	**22.95**	**306**	*ce*P	**P**	**20 27 57.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**23.37**	**306**	P	**P**	**20 28 00.6**	**-0.7**
SONM	**Songino Array**	**23.37**	**306**	P	**P**	**20 28 01.0**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=110,slow=9.3,SNR=30						
SONM				PcP	**PcP**	**20 31 35.7**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=111,slow=1.5,SNR=4.1						
	comp=Z,4.6nm,0.8s						
YAK	**Yakutsk**	**24.90**	**354**	P	**P**	**20 28 13.8**	**-0.8**
YAK				IAmb	IAmb	20 28 20.2	
	comp=Z,7.2nm,0.7s						
YAK	**Yakutsk**	**24.90**	**354**	*ce*P	**P**	**20 28 14.8**	**+0.2**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LZH	**Lanzhou**	**24.93**	**277**	*e*P	**P**	**20 28 19.0**	**+3.5**
LZH				sP	pP	20 28 34.0	-45
LZH				pmax	pmax		
	comp=Z,28nm,0.9s						
GTA	**Gaotai**	**27.54**	**285**	*e*P	**P**	**20 28 38.5**	**0.0**
GTA				PcP	**sP**	**20 30 24.5**	**-6.3**
GTA				pmax	pmax		
	comp=Z,16nm,1.0s						
TIXI	**Tiksi**	**34.49**	**357**		**P**	**20 29 37.8**	**-0.4**
TIXI	**Tiksi**	**34.49**	**357**	*ce*P	**P**	**20 29 38.1**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,15nm,0.8s						
BILL	**Bilibino**	**35.30**	**20**		**P**	**20 29 45.3**	**+0.2**
BILL	**Bilibino**	**35.30**	**20**	*i* P	**P**	**20 29 45.9**	**+0.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.4s						
CHTO	**Chiang Mai**	**36.49**	**250**		**P**	**20 29 55.8**	**+0.1**
CHTO				IAmb	IAmb	20 29 57.1	
	comp=Z,8.9nm,0.7s						
CHTO	**Chiang Mai**	**36.49**	**250**	P	**P**	**20 29 55.8**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**36.71**	**249**	P	**P**	**20 29 57.0**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=44,slow=7.9,SNR=28						
CMAR				PcP	**PcP**	**20 32 11.2**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=49,slow=3.6,SNR=5.1						
CMAR				ScP	**ScP**	**20 35 18.7**	**-2.1**
	comp=Z,0.8nm,0.8s,baz=67,slow=2.9,SNR=6.5						
	comp=Z,3.1nm,0.6s						
LSA	**Lhasa**	**37.06**	**271**	P	**P**	**20 30 01.6**	**+0.6**
LSA	**Lhasa**	**37.06**	**271**	P	**P**	**20 30 01.6**	**+0.6**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZAA0	**Zalesovo Array**	**37.89**	**312**		**P**	**20 30 05.0**	**-1.9**
ZAA0				IAmb	IAmb	20 30 07.0	
	comp=Z,5.5nm,0.4s						
ZAA0					**PcP**	**20 32 13.8**	**0.0**
ZALV	**Zalesovo Beam**	**37.89**	**312**		**P**	**20 30 05.9**	**-1.0**
ZALV					**PcP**	**20 32 13.5**	**-0.3**
ZALV	**Zalesovo Beam**	**37.89**	**312**	P	**P**	**20 30 06.1**	**-0.8**
	comp=Z,4.2nm,0.4s,baz=104,slow=7.7,SNR=16						
ZALV				PcP	**PcP**	**20 32 13.8**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=86,slow=2.8,SNR=13						
ZALV				ScP	**ScP**	**20 35 22.6**	**-2.0**
	comp=Z,1.1nm,0.6s,baz=76,slow=6.4,SNR=3.9						
	comp=Z,4.2nm,0.4s						
MK31	**Makanchi Array**	**39.56**	**301**	*ce*P	**P**	**20 30 20.7**	**-0.1**
MKAR	**Makanchi Array**	**39.56**	**301**		**P**	**20 30 20.3**	**-0.4**
MKAR	**Makanchi Array**	**39.56**	**301**	P	**P**	**20 30 20.7**	**-0.1**
	comp=Z,3.5nm,0.5s,baz=88,slow=10.0,SNR=64						
MKAR				PcP	**PcP**	**20 32 19.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=79,slow=4.5,SNR=5.4						
MKAR				ScP	**ScP**	**20 35 29.6**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=82,slow=6.4,SNR=5.8						
	comp=Z,3.5nm,0.5s						
MAKZ	**Makanchi**	**39.77**	**301**		**P**	**20 30 22.1**	**-0.4**
MAKZ					**PcP**	**20 32 20.4**	**+0.3**
MAKZ	**Makanchi**	**39.77**	**301**	P	**P**	**20 30 22.4**	**-0.1**
NRIK	**Noril'sk**	**40.85**	**336**		**P**	**20 30 30.6**	**-0.3**
NRIK	**Noril'sk**	**40.85**	**336**	P	**P**	**20 30 30.9**	**0.0**
	comp=Z,10nm,0.5s,baz=112,slow=7.2,SNR=16						
	comp=Z,10nm,0.5s						
NRIK	**Noril'sk**	**40.85**	**336**	*ce*P	**P**	**20 30 31.2**	**+0.3**
NRIK				pmax	pmax		
	comp=Z,11nm,0.9s						
GAMB	**Gambell**	**41.16**	**33**	P	**P**	**20 30 34.9**	**+1.6**
	baz=256						
KURK	**Kurchatov**	**41.66**	**307**		**P**	**20 30 37.1**	**-0.5**
KURK				IAmb	IAmb	20 30 38.1	
	comp=Z,14nm,0.7s						
KURK	**Kurchatov**	**41.66**	**307**	P	**P**	**20 30 37.7**	**+0.1**
KURK						20 32 25.7	
KURBB	**Kurchatov Arra**	**41.72**	**307**	P	**P**	**20 30 37.7**	**-0.4**
	comp=Z,4.2nm,0.5s,baz=86,slow=8.2,SNR=37						
KURBB				PcP	**PcP**	**20 32 25.7**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=83,slow=3.4,SNR=6.2						
	comp=Z,4.2nm,0.5s						
WUS	**Wushi**	**42.71**	**293**	IAmb	IAmb	20 30 48.1	
	comp=Z,11nm,0.7s						
TARG	**Taragay, Kyrgy**	**43.61**	**294**	IAmb	IAmb	20 30 55.8	
	comp=Z,11nm,0.8s						
F14K	**Arctic Creek**	**43.78**	**31**	P	**P**	**20 30 56.3**	**+2.1**
	baz=260						
ANM	**Nome**	**44.03**	**32**		**P**	**20 30 57.9**	**+1.8**
ANM	**Nome**	**44.03**	**32**	P	**P**	**20 30 57.9**	**+1.8**
ANM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ANM	**Nome**	**44.03**	**32**	P	**P**	**20 30 58.4**	**+2.2**
	baz=262						
K13K	**Kusilvak Mount**	**44.04**	**36**	P	**P**	**20 30 58.5**	**+2.2**
	baz=265						
F15K	**North Star Dit**	**44.50**	**31**	IAmb	IAmb	20 31 02.4	
	comp=Z,4.6nm,0.6s						
F15K	**North Star Dit**	**44.50**	**31**	P	**P**	**20 31 02.0**	**+2.1**
	baz=261,SNR=6.1						
M13K	**Dall Lake**	**44.57**	**38**	P	**P**	**20 31 03.1**	**+2.7**
	baz=268						
J14K	**Nanvaranak Lak**	**44.62**	**35**	P	**P**	**20 31 03.2**	**+2.4**
	baz=265						
G15K	**Niukluk**	**44.65**	**32**	P	**P**	**20 31 03.2**	**+2.1**
	baz=262,SNR=7.0						
C16K	**Lisburne Hills**	**44.71**	**27**	IAmb	IAmb	20 31 03.4	
	comp=Z,6.6nm,0.7s						
C16K	**Lisburne Hills**	**44.71**	**27**	P	**P**	**20 31 02.7**	**+1.4**
	baz=258						
TKM2	**Tokmak 2**	**44.91**	**296**	P	**P**	**20 31 04.5**	**+0.8**
	SNR=20						
L14K	**Kuka Creek**	**44.94**	**37**	P	**P**	**20 31 05.5**	**+2.3**
	baz=267						
NRN	**Naryn**	**44.99**	**294**	IAmb	IAmb	20 31 06.1	
	comp=Z,6.5nm,0.7s						
M14K	**Bethel**	**45.27**	**38**	P	**P**	**20 31 08.0**	**+2.1**
	baz=269						
H16K	**Elim**	**45.38**	**33**	P	**P**	**20 31 08.5**	**+1.9**
	baz=264,SNR=5.3						
G16K	**Koyuk River**	**45.41**	**31**	P	**P**	**20 31 08.5**	**+1.6**
	baz=264						
D17K	**Noatak River**	**45.44**	**28**	P	**P**	**20 31 08.7**	**+1.7**
	baz=261,SNR=8.1						
KBK	**Karagaybulak**	**45.44**	**296**	P	**P**	**20 31 08.6**	**+0.9**
	SNR=17						
CHMS	**Chumysh**	**45.50**	**297**	P	**P**	**20 31 08.7**	**+0.7**
	SNR=10						
K15K	**Wolf Creek Mou**	**45.53**	**36**	P	**P**	**20 31 10.5**	**+2.6**
	baz=268						
KSH	**Kashi**	**45.54**	**292**	P	**P**	**20 31 13.0**	**+4.5**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
RDOG	**Red Dog Mine**	**45.56**	**28**	P	**P**	**20 31 09.7**	**+1.6**
	baz=260						
USP	**Ospenovka**	**45.61**	**297**	P	**P**	**20 31 09.6**	**+0.7**
	SNR=19						
AAK	**Ala-Archa**	**45.77**	**296**		**P**	**20 31 10.7**	**+0.4**
AAK				IAmb	IAmb	20 31 11.6	
	comp=Z,13nm,0.9s						
AAK	**Ala-Archa**	**45.77**	**296**	P	**P**	**20 31 11.0**	**+0.7**
	SNR=13						
AAK	**Ala-Archa**	**45.77**	**296**	P	**P**	**20 31 10.7**	**+0.4**
AAK				pmax	pmax		
	comp=Z,13nm,1.0s						
E17K	**Hotham Inlet**	**45.83**	**29**	P	**P**	**20 31 12.1**	**+2.0**
	baz=262						
M15K	**Kasigluk River**	**45.89**	**38**	P	**P**	**20 31 12.9**	**+2.2**
	baz=270						
F17K	**Baldwin Pennin**	**45.98**	**30**	IAmb	IAmb	20 31 14.1	
	comp=Z,8.0nm,0.7s						
F17K	**Baldwin Pennin**	**45.98**	**30**	P	**P**	**20 31 13.3**	**+2.1**
	baz=264,SNR=12						
I17K	**Unalakleet**	**45.99**	**34**	P	**P**	**20 31 13.4**	**+2.0**
	baz=267						
J16K	**Anvik River**	**46.00**	**35**	P	**P**	**20 31 13.6**	**+2.1**
	baz=267						
G17K	**Kiwalik Mounta**	**46.13**	**31**	P	**P**	**20 31 14.5**	**+2.0**
	baz=265,SNR=5.7						
B18K	**Kokolik River**	**46.18**	**26**	P	**P**	**20 31 14.9**	**+2.1**
	baz=260,SNR=5.4						
EKS2	**Erkin-Say**	**46.28**	**297**	P	**P**	**20 31 14.5**	**+0.4**
	SNR=12						
C18K	**Utukok River**	**46.28**	**27**	IAmb	IAmb	20 31 15.8	
	comp=Z,9.0nm,1.1s						
C18K	**Utukok River**	**46.28**	**27**	P	**P**	**20 31 15.0**	**+1.4**
	baz=262,SNR=11						
E18K	**Tukpahlearik C**	**46.34**	**29**	P	**P**	**20 31 15.8**	**+1.8**
	baz=263						
O15K	**Ungalikthiuk R**	**46.35**	**40**	P	**P**	**20 31 16.0**	**+1.8**
	baz=272						
H17K	**Granite Mounta**	**46.40**	**32**	P	**P**	**20 31 16.5**	**+2.0**
	baz=266						
AML	**Almayashu**	**46.48**	**296**	P	**P**	**20 31 17.4**	**+1.4**
	SNR=64						
L16K	**Owhat River**	**46.48**	**37**	P	**P**	**20 31 17.2**	**+1.9**
	baz=270						
BVAR	**Borovoye Array**	**46.51**	**311**	P	**P**	**20 31 15.5**	**-0.1**
	comp=Z,6.1nm,0.4s,baz=113,slow=8.4,SNR=73						
BVAR				PcP	**PcP**	**20 32 43.1**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=66,slow=3.1,SNR=7.7						
	comp=Z,6.1nm,0.4s						
BRVK	**Borovoye**	**46.57**	**311**		**P**	**20 31 15.9**	**-0.1**
BRVK				IAmb	IAmb	20 31 17.1	
	comp=Z,10nm,0.9s						
BRVK	**Borovoye**	**46.57**	**311**	*ce*P	**P**	**20 31 16.8**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
F18K	**Selawik**	**46.63**	**30**	P	**P**	**20 31 18.3**	**+2.1**
	baz=265,SNR=7.1						
J17K	**VABM Dome**	**46.69**	**34**	P	**P**	**20 31 19.0**	**+2.2**
	baz=269						
N16K	**Nishlik Lake**	**46.84**	**38**	P	**P**	**20 31 20.2**	**+2.1**
	baz=272						
G18K	**Tagagawik**	**46.98**	**31**	P	**P**	**20 31 20.7**	**+1.7**
	baz=267,SNR=10.0						
K17K	**Iditarod**	**47.04**	**35**	P	**P**	**20 31 21.6**	**+2.2**
	baz=270						
L17K	**Donlin**	**47.04**	**36**	P	**P**	**20 31 22.0**	**+2.5**
	baz=271						
H18K	**Honhosa River**	**47.06**	**32**	IAmb	IAmb	20 31 21.9	
	comp=Z,5.3nm,0.6s						
H18K	**Honhosa River**	**47.06**	**32**	P	**P**	**20 31 21.5**	**+1.8**
	baz=268						
P16K	**Nushagak River**	**47.30**	**40**	P	**P**	**20 31 24.4**	**+2.9**
	baz=274						
D19K	**Kuna River**	**47.39**	**27**	P	**P**	**20 31 23.4**	**+1.3**
	baz=265						
F19K	**Shaleruckik Mo**	**47.39**	**30**	P	**P**	**20 31 23.5**	**+1.5**
	baz=267						
M17K	**Holitna River**	**47.47**	**37**	P	**P**	**20 31 25.0**	**+2.2**
	baz=272						
N17K	**Nushagak Hills**	**47.62**	**38**	P	**P**	**20 31 26.3**	**+2.3**
	baz=273						
G19K	**Purcell Mounta**	**47.63**	**31**	P	**P**	**20 31 25.8**	**+1.8**
	baz=268						
E19K	**Redstone River**	**47.64**	**29**	P	**P**	**20 31 25.7**	**+1.7**
	baz=267						
O17K	**Koliganek Bris**	**47.71**	**39**	P	**P**	**20 31 26.7**	**+2.1**
	baz=274						
J18K	**Innoko River**	**47.76**	**34**	P	**P**	**20 31 26.7**	**+1.8**
	baz=271						
L18K	**Granite Mounta**	**47.79**	**36**	P	**P**	**20 31 27.2**	**+1.9**
	baz=272						
B20K	**Meade River**	**47.87**	**25**	IAmb	IAmb	20 31 28.0	
	comp=Z,8.0nm,0.7s						
B20K	**Meade River**	**47.87**	**25**	P	**P**	**20 31 27.1**	**+1.5**
	baz=264,SNR=6.8						
H19K	**Roundabout Mou**	**47.88**	**32**	IAmb	IAmb	20 31 28.6	
	comp=Z,14nm,0.8s						
H19K	**Roundabout Mou**	**47.88**	**32**	P	**P**	**20 31 27.9**	**+2.1**
	baz=269,SNR=12						
D20K	**Etivluk River**	**47.95**	**27**

CHUM	Lake Minchumin	49.70	34	P	P	20 31 41.8 +2.4
	baz=274					
E22K	Anaktuvuk Pass	49.71	28	IAmb	IAmb	20 31 42.2
	comp=Z,8.5nm,1.1s					
E22K	Anaktuvuk Pass	49.71	28	P	P	20 31 41.3 +1.7
	baz=271,SNR=6.9					
I21K	Tanana	49.76	32	IAmb	IAmb	20 31 43.6
	comp=Z,11nm,1.2s					
I21K	Tanana	49.76	32	P	P	20 31 42.0 +2.2
	baz=273,SNR=5.1					
PPLA	Purkeypile	49.83	35	P	P	20 31 42.9 +2.2
	baz=275					
CAST	Castle Rocks	49.84	34	P	P	20 31 42.8 +2.2
	baz=275					
G22K	Bettles	49.86	30	P	P	20 31 42.2 +1.5
	baz=272					
H22K	Ishtalitna Cre	49.97	31	P	P	20 31 43.7 +2.2
	baz=273					
D23K	Nanushuk River	50.11	27	P	P	20 31 43.9 +1.4
D23K	Nanushuk River	50.11	27	P	P	20 31 44.6 +2.1
	baz=271					
C23K	Itkillik River	50.12	26	IAmb	IAmb	20 31 45.7
	comp=Z,9.7nm,1.2s					
C23K	Itkillik River	50.12	26	P	P	20 31 44.5 +2.0
	baz=271,SNR=5.2					
SKT	Skwentna	50.23	36	P	P	20 31 46.5 +3.0
	baz=276					
BPAW	Bear Paw Mtn.	50.26	33	P	P	20 31 46.0 +2.3
	baz=275					
COLD	Coldfoot	50.36	29	P	P	20 31 46.4 +2.0
	baz=273					
G23K	Bananza Creek	50.46	30	P	P	20 31 47.1 +1.9
	baz=274					
TOLK	Toolik Lake Re	50.52	27	P	P	20 31 47.8 +2.2
	baz=273					
E23K	Chandalar	50.54	28	IAmb	IAmb	20 31 48.6
	comp=Z,9.9nm,1.2s					
E23K	Chandalar	50.54	28	P	P	20 31 47.7 +1.9
	baz=273,SNR=7.5					
TRF	Thorofare Moun	50.64	34	P	P	20 31 48.7 +2.0
	baz=276					
SUA	Susitna One	50.66	37	P	P	20 31 49.3 +2.5
	baz=278					
H23K	Yukon River	50.72	31	P	P	20 31 49.7 +2.6
	baz=275					
CUT	Chulitna	50.77	35	P	P	20 31 49.7 +2.3
	baz=277					
D24K	Happy Valley	50.77	27	IAmb	IAmb	20 31 49.8
	comp=Z,6.7nm,0.8s					
D24K	Happy Valley	50.77	27	P	P	20 31 49.1 +1.8
	baz=273					
C24K	Franklin Bluff	50.79	26	P	P	20 31 48.7 +1.2
	baz=273					
I23K	Minto, Yukon-K	50.86	32	P	P	20 31 50.2 +2.1
	baz=276					
SIMJ	Simiganj	50.95	293		P	20 31 49.2 -0.1
SIMJ				IAmb	IAmb	20 31 50.6
	comp=Z,20nm,1.0s					
E24K	Your Creek	50.96	28	IAmb	IAmb	20 31 51.2
	comp=Z,5.9nm,0.6s					
E24K	Your Creek	50.96	28	P	P	20 31 50.6 +1.8
	baz=274,SNR=12					
NEA2	Nenana	51.04	33	IAmb	IAmb	20 31 52.2
	comp=Z,7.9nm,1.0s					
NEA2	Nenana	51.04	33	P	P	20 31 51.5 +2.0
	baz=276					
RC01	Rabbit Creek A	51.20	37	P	P	20 31 53.1 +2.5
	baz=279					
MCK	McKinley	51.20	34	P	P	20 31 52.6 +1.9
	baz=277					
F24K	Squaw Lake	51.23	29	P	P	20 31 52.7 +1.9
	baz=275,SNR=6.1					
H24K	Noodor Dome	51.41	31		P	20 31 54.3 +2.1
H24K	Noodor Dome	51.41	31	P	P	20 31 54.3 +2.1
	baz=276,SNR=5.5					
SVE	Sverdlovsk	51.46	317	*ce*P	P	20 31 52.9 +0.3
SVE				pmax	pmax	
	comp=Z,30nm,0.9s					
G24K	Hadweenzic Riv	51.47	30	IAmb	IAmb	20 31 55.6
	comp=Z,5.0nm,0.7s					
G24K	Hadweenzic Riv	51.47	30	P	P	20 31 54.8 +2.3
	baz=276,SNR=6.8					
D25K	Kavik River	51.63	26	P	P	20 31 55.2 +1.4
	baz=275,SNR=6.4					
POKR	Poker Plat Res	51.67	32	IAmb	IAmb	20 31 57.1
	comp=Z,10nm,0.7s					
POKR	Poker Plat Res	51.67	32	P	P	20 31 56.1 +2.0
	baz=277					
SML	Sawmill	51.76	36	P	P	20 31 56.8 +2.0
	baz=279					
KNK	Knik Glacier	51.76	37	P	P	20 31 56.6 +1.9
	baz=280					
PWL	Port Wells	51.91	37	P	P	20 31 56.9 +1.0
	baz=280					
ILAR	Eielson Array	51.95	32	P	P	20 31 56.8 +0.7
	comp=Z,2.2nm,0.6s,baz=268,slow=6.1,SNR=42					
ILAR				PcP	PcP	20 33 02.3 -0.3
	comp=Z,0.6nm,0.8s,baz=299,slow=5.0,SNR=2.8					
	comp=Z,2.2nm,0.6s					
HDA	Harding Lake	51.98	33	IAmb	IAmb	20 31 57.9
	comp=Z,10nm,0.8s					
HDA	Harding Lake	51.98	33	P	P	20 31 57.1 +0.8
	baz=278,SNR=9.1					
G25K	Bearman Lake	52.01	30	P	P	20 31 58.8 +2.3
	baz=277					
M23K	Glacier View	52.04	36	P	P	20 31 58.6 +1.8
	baz=280					
E25K	Arctic Village	52.05	28	P	P	20 31 58.5 +1.7
	baz=277					
F25K	Christian Rive	52.08	29	P	P	20 31 59.6 +2.5
	baz=277,SNR=5.9					
C26K	Camden Bay	52.09	26	P	P	20 31 58.6 +1.7
	baz=276					
H25L	Birch Creek	52.19	30	P	P	20 32 00.2 +2.5
	baz=278					
SCM	Sheep Creek Mo	52.22	36	P	P	20 32 00.0 +1.9
	baz=280					
PRP	Porcupine Dome	52.41	31	P	P	20 32 01.4 +1.8
	baz=279,SNR=6.7					
KBL	Kabul	52.46	288		P	20 31 59.5 -1.0
KBL				IAmb	IAmb	20 32 01.2
	comp=Z,11nm,0.8s					
KBL	Kabul	52.46	288	P	P	20 31 59.5 -1.0
KBL				pmax	pmax	
	comp=Z,11nm,0.8s					
C27K	Jago River	52.53	26	P	P	20 32 02.2 +2.0
	baz=277,SNR=5.9					
K24K	Donnelly Dome	52.58	33	P	P	20 32 02.1 +1.4
	baz=280					
J25K	Salcha River,	52.62	32	P	P	20 32 03.1 +2.1
	baz=280					
F26K	Sheenjek River	52.64	28	IAmb	IAmb	20 32 04.5
	comp=Z,8.9nm,1.0s					
F26K	Sheenjek River	52.64	28	P	P	20 32 03.6 +2.5
	baz=278,SNR=14					
M24K	Tolsona, Glenn	52.71	35	P	P	20 32 03.9 +2.3
	baz=281					
ARTI	Arti	52.77	317		P	20 32 02.0 -0.1
ARTI	Arti	52.77	317	*d iP*	P	20 32 01.1 -1.0
ARTI						20 33 05.0
ARTI				*PP	pP	20 33 18.2 -0.8
ARTI						20 34 04.0
ARTI				S	S	20 38 55.6 -4.7
ARTI				pmax	pmax	
	comp=Z,34nm,0.6s					
PAX	Paxson	52.87	34	P	P	20 32 05.1 +2.2
	baz=281					
G26K	Porcupine Rive	52.89	29	P	P	20 32 05.2 +2.4
	baz=279,SNR=8.6					
KLU	Klutina	52.94	36	P	P	20 32 05.2 +1.8
	baz=282					
RIDG	Independent Ri	53.00	33	P	P	20 32 04.9 +1.2
	baz=281					
HARP	HAARP	53.12	35	P	P	20 32 06.5 +1.9
	baz=281					
SCRK	Sand Creek	53.33	33	IAmb	IAmb	20 32 08.0
	comp=Z,9.0nm,0.6s					
SCRK	Sand Creek	53.33	33	P	P	20 32 07.3 +1.1
	baz=281,SNR=11					
DOT	Dot Lake	53.36	33	IAmb	IAmb	20 32 08.1
	comp=Z,5.1nm,0.6s					
J26L	Joseph Creek	53.41	32	P	P	20 32 07.6 +0.9
	baz=281					
I26K	Coal Creek Min	53.43	31	P	P	20 32 07.9 +1.2
	baz=281					
E27K	Coleen River	53.51	28	P	P	20 32 09.1 +1.8
	baz=280					
N25K	Chitina, Valde	53.54	36	P	P	20 32 09.8 +2.1
	baz=282					
D27M	Malcolm River	53.55	26	IAmb	IAmb	20 32 09.9
	comp=Z,4.7nm,0.5s					
D27M	Malcolm River	53.55	26	P	P	20 32 09.4 +1.8
	baz=280,SNR=8.4					
MENT	Mentasta	53.66	34	IAmb	IAmb	20 32 11.3
	comp=Z,9.0nm,0.6s					
BMRM	Bremner River	53.68	37	P	P	20 32 10.6 +1.9
	baz=283					
G27K	Doyon Strip	53.74	29	P	P	20 32 10.9 +1.9
	baz=281					
AB31	Akbulak array	53.74	308	IAmb	IAmb	20 32 09.7
	comp=Z,11nm,0.6s					
ABKAR	Akbulak array	53.74	308		P	20 32 08.8 -0.5
ABKAR	Akbulak array	53.74	308	IAmb	IAmb	20 32 09.7
	comp=Z,12nm,0.6s					
L26K	Log Cabin Wild	53.80	34	P	P	20 32 11.7 +2.2
	baz=282					
H27K	Steamboat Moun	53.90	30	P	P	20 32 12.6 +2.4
	baz=282,SNR=6.5					
I27K	Kandik River	54.00	31	P	P	20 32 13.3 +2.4
	baz=282,SNR=7.3					
M26K	Nabesna, AK	54.10	35	IAmb	IAmb	20 32 14.5
	comp=Z,11nm,0.7s					
M26K	Nabesna, AK	54.10	35	P	P	20 32 13.8 +2.1
	baz=283,SNR=6.7					
K27K	Chicken	54.14	33	IAmb	IAmb	20 32 14.6
	comp=Z,5.2nm,0.7s					
K27K	Chicken	54.14	33	P	P	20 32 13.5 +1.7
	baz=283					
E28M	Babbage River	54.18	27	P	P	20 32 13.8 +1.7
	baz=282					
D28M	Stokes Point	54.31	26	P	P	20 32 14.9 +1.9
	baz=282					
L27K	Beaver Creek,	54.47	34	IAmb	IAmb	20 32 17.3
	comp=Z,8.5nm,0.7s					
L27K	Beaver Creek,	54.47	34	P	P	20 32 16.6 +2.3
	baz=284,SNR=8.6					
M27K	Edge Creek, AK	54.62	35	IAmb	IAmb	20 32 18.1
	comp=Z,6.5nm,0.8s					
M27K	Edge Creek, AK	54.62	35	P	P	20 32 17.9 +2.5
	baz=284					
I28M	Miner Creek	54.71	31	IAmb	IAmb	20 32 19.1
	comp=Z,9.1nm,0.7s					
I28M	Miner Creek	54.71	31	P	P	20 32 18.4 +2.3
	baz=284,SNR=10					
E29M	Blow River	54.81	27	P	P	20 32 18.5 +1.9
	baz=283,SNR=7.3					
BVCY	Beaver Creek	55.06	34	P	P	20 32 20.3 +1.9
	baz=285					
G29M	Pine Creek	55.12	29	P	P	20 32 21.0 +2.2
	baz=284					
MESA	MESA	55.14	37	P	P	20 32 21.5 +2.2
	baz=286					
H29M	Whitestone	55.15	30	P	P	20 32 21.3 +2.2
	baz=284					
DAWY	Dawson	55.28	32	P	P	20 32 21.8 +1.8
	baz=285					
I29M	Ogilvie Camp,	55.40	31	P	P	20 32 22.8 +2.0
	baz=285					
EPYK	Eagle Plains	55.76	29	P	P	20 32 25.1 +1.7
	baz=286,SNR=11					
F30M	Barrier River	55.78	28	IAmb	IAmb	20 32 26.2
	comp=Z,13nm,1.1s					
F30M	Barrier River	55.78	28	P	P	20 32 25.5 +2.1
	baz=286,SNR=6.8					
G30M	tAoh Zraii Nji	55.79	28	IAmb	IAmb	20 32 26.2
	comp=Z,10nm,1.1s					
G30M	tAoh Zraii Nji	55.79	28	P	P	20 32 25.0 +1.5
	baz=286,SNR=8.6					
L29M	L29M	56.09	33	IAmb	IAmb	20 32 28.7
	comp=Z,6.1nm,0.5s					
L29M	L29M	56.09	33	P	P	20 32 28.2 +2.6
	baz=287,SNR=5.5					
M29M	Somme Creek	56.13	34	IAmb	IAmb	20 32 29.3
	comp=Z,5.5nm,0.6s					
M29M	Somme Creek	56.13	34	P	P	20 32 28.6 +2.5
	baz=287					
K29M	Barlow Dome	56.14	32	IAmb	IAmb	20 32 28.7
	comp=Z,12nm,1.4s					
K29M	Barlow Dome	56.14	32	P	P	20 32 28.3 +2.2
	baz=287,SNR=5.3					
I30M	Mount Dempster	56.22	30	IAmb	IAmb	20 32 29.4
	comp=Z,12nm,0.8s					
I30M	Mount Dempster	56.22	30	P	P	20 32 28.6 +1.9
	baz=287,SNR=18					
YUK4	Talbot Arm	56.37	35	P	P	20 32 29.9 +2.1
	baz=287					
INK	Inuvik	56.40	27	P	P	20 32 29.0 +1.3
	baz=287					
J30M	Hart River	56.42	31	P	P	20 32 30.2 +2.0
	baz=287					
PNL	Peninsula	56.52	37	P	P	20 32 30.7 +2.0
	baz=288					
G31M	Satah River	56.54	28	P	P	20 32 29.7 +1.1
	baz=287					
YUK6	Outpost Mounta	56.62	36	P	P	20 32 32.0 +2.3
	baz=288					
O29M	Mount Kennedy	56.72	36	P	P	20 32 32.5 +2.3
	baz=288					
KIRV	Kirov	56.83	321	*ce*P	P	20 32 30.7 -0.1
M30M	Minto, Yukon	56.83	34	P	P	20 32 33.2 +2.3
	baz=288					
WB0	Warramunga Arr	56.84	181	P	P	20 32 31.4 +0.1
WB0				IAmb	IAmb	20 32 32.0
	comp=Z,6.5nm,0.5s					
H31M	Peel River	56.85	29	IAmb	IAmb	20 32 33.3
	comp=Z,5.5nm,0.8s					
H31M	Peel River	56.85	29	P	P	20 32 32.6 +1.6
	baz=288,SNR=7.4					
WRA	Warramunga Arr	57.01	181		P	20 32 32.5 0.0
WRA	Warramunga Arr	57.01	181	P	P	20 32 32.8 +0.2
	comp=Z,4.8nm,0.5s,baz=354,slow=7.6,SNR=71					
	comp=Z,4.8nm,0.5s					
N30M	Aishikik Lake	57.05	35	P	P	20 32 35.0 +2.5
	baz=288					
HYT	Haines Junctio	57.06	36	IAmb	IAmb	20 32 36.3
	comp=Z,17nm,1.2s					
HYT	Haines Junctio	57.06	36	P	P	20 32 34.7 +2.2
	baz=289					
P29M	Windy Craggy	57.33	37	P	P	20 32 36.9 +2.5
	baz=289					
P30M	Million Dollar	57.54	36	P	P	20 32 38.2 +2.4
	baz=289					
A36M	Sachs Harbour	57.84	21	P	P	20 32 38.9 +1.4
	baz=292					
M31M	Drury Creek, Y	58.01	34	P	P	20 32 40.9 +1.9
	baz=290					
WHY	Whitehorse	58.33	35	P	P	20 32 43.2 +2.0
	baz=291					
FARO	Faro, Yukon	58.46	33	IAmb	IAmb	20 32 44.8
	comp=Z,5.7nm,0.7s					
FARO	Faro, Yukon	58.46	33	P	P	20 32 44.1 +2.0
	baz=291					
N32M	Quiet Lake	58.97	34	P	P	20 32 47.2 +1.6
	baz=292					
SPA0	Spitsbergen Ar	59.15	348	*e*P	P	20 32 47.4 +0.8
SPB2	Spitsbergen Ar	59.15	348		P	20 32 47.5 +1.0
SPB2				IAmb	IAmb	20 32 48.1
	comp=Z,7.6nm,0.8s					
SPITS	Spitsbergen Ar	59.15	348	P	P	20 32 46.9 +0.3
	comp=Z,4.3nm,0.6s,baz=74,slow=7.0,SNR=20					
	comp=Z,4.3nm,0.6s					
SPITS	Spitsbergen Ar	59.15	348	P	P	20 32 47.3 +0.8
MMPY	Sheldon Lake,	59.22	32	P	P	20 32 49.2 +1.9
	baz=292					
C36M	Paulatuk	59.24	24	P	P	20 32 48.2 +1.1
	baz=294,SNR=21					
P32M	Atlin	59.26	36	P	P	20 32 49.3 +1.7
	baz=292					
R32K	Eaglecrest	59.37	38	P	P	20 32 50.2 +1.9
	baz=292					
KBS	Kingsbay	59.40	349	*e*P	P	20 32 49.5 +1.4
P33M	Teslin, Yukon	59.44	35	P	P	20 32 50.8 +1.9
	baz=292					
HSPB	Hornsund (broa	59.99	347	*e*P	P	20 32 53.2 +1.0
Q32M	Nakina River	60.19	37	P	P	20 32 56.4 +2.4
	baz=294					
EUNU	Eureka	60.57	8	IAmb	IAmb	20 32 57.5
	comp=Z,5.6nm,0.7s					
KLMR	Klimovskoe	60.66	326	*e*P	P	20 32 52.7 -4.2
KLMR				pmax	pmax	
	comp=Z,11nm,0.7s					
ASAR	Alice Springs	60.72	181	P	P	20 32 58.3 +0.5
	comp=Z,0.9nm,0.4s,baz=2.7,slow=6.0,SNR=29					
	comp=Z,0.9nm,0.4s					
WTLY	Watson Lake, Y	61.32	35	P	P	20 33 03.2 +1.9
	baz=296					
DLBC	Dease Lake	61.47	37	P	P	20 33 04.8 +2.4
	baz=296					
HAMF	Hammerfest	61.75	339	*e*P	P	20 33 04.1 +0.2
ARA0	ARCESS Array S	61.81	338	*e*P	P	20 33 04.5 +0.1
ARCES	ARCESS Array B	61.81	338	P	P	20 33 04.6 +0.2
	comp=Z,3.3nm,0.6s,baz=59,slow=7.9,SNR=40					
ARCES				PcP	PcP	20 33 41.4 0.0
	comp=Z,0.7nm,0.6s,baz=60,slow=4.6,SNR=3.6					
	comp=Z,3.3nm,0.6s					
T35M	Bob Quinn	62.00	38	P	P	20 33 08.6 +2.7
	baz=296					
JOF	Joensuu	63.18	330	*e*P	P	20 33 13.3 -0.1
JETT	Jettan, Norway	63.29	339	*e*P	P	20 33 14.6 +0.6
OBN	Obninsk	64.67	321	*de*P	P	20 33 22.8 -0.3
OBN				*i* *PP	pP	20 34 43.1 -1.2
OBN				*e*		20 35 50.7
OBN				*e*PPP	PPP	20 37 28.3
OBN				*e*SS	SS	20 45 56.5 +6.2
OBN				pmax	pmax	
	comp=Z,6.0nm,0.5s					
AKT	Akhty	64.69	304	*e*P	P	20 33 23.7 0.0
AKT				*e*		20 33 54.3
AKT				*e*PP	pP	20 34 43.7 -0.7
AKT				pmax	pmax	
	comp=Z,24nm,0.5s					
STEI	Steigen	65.78	339	*e*P	P	20 33 30.3 +0.4
YKAW3	Yellowknife Wh	65.99	28	IAmb	IAmb	20 33 34.4
	comp=Z,2.0nm,0.7s					
YKA	Yellowknife Ar	66.03	28	P	P	20 33 31.8 +0.2
	comp=Z,1.5nm,0.8s,baz=309,slow=6.6,SNR=20					
YKA				PcP	PcP	20 33 59.1 +0.2
	comp=Z,0.6nm,0.8s,baz=309,slow=4.3,SNR=5.7					
	comp=Z,1.5nm,0.8s					
FINES	FINESS Array B	66.04	330		P	20 33 31.4 -0.3
FINES	FINESS Array B	66.04	330	P	P	20 33 31.8 +0.1
	comp=Z,9.8nm,0.5s,baz=82,slow=5.6,SNR=114					
FINES				PcP	PcP	20 33 58.5 -0.4
	comp=Z,3.0nm,0.3s,baz=57,slow=5.1,SNR=8.6					
	comp=Z,9.8nm,0.5s					
YKAW1	Yellowknife Wh	66.08	28		P	20 33 32.9 +0.9
YKAW1				IAmb	IAmb	20 33 34.7
	comp=Z,2.8nm,0.8s					
KEF	Keuruu	66.10	331	*e*P	P	20 33 31.5 -0.5
FAUS	Fauske	66.12	338	*e*P	P	20 33 32.5 +0.3
VAF	Ylistaro	66.41	333	*e*P	P	20 33 34.5 +0.5
KBZ	Khabaz	66.71	308	P	P	20 33 35.5 -0.8
	comp=Z,7.2nm,0.8s,baz=40,slow=2.7,SNR=30					
	comp=Z,7.2nm,0.8s					
KBZ	Khabaz	66.71	308	*i* P	P	20 33 36.6 +0.4
KBZ				pmax	pmax	
	comp=Z,8.0nm,0.9s					
KIV	Kislovodsk	66.73	308		P	20 33 36.3 -0.2
KIV	Kislovodsk	66.73	308	⇓P	P	20 33 37.1 +0.5
KIV	Kislovodsk	66.73	308	P	P	20 33 37.0 +0.5
MOR8	Moi Rana	67.18	338	*e*P	P	20 33 37.9 -0.9
ARBE	Arbavere	67.23	328	*e*P	P	20 33 39.6 +0.4
MEF	Metsahovi	67.43	330	*e*P	P	20 33 40.3 -0.1
VSU	Vasula	67.47	327	*ce*P	P	20 33 40.6 -0.1
VSU				pmax	pmax	
	comp=Z,9.0nm,0.8s					
VSU	Vasula	67.47	327	*e*P	P	20 33 39.9 -0.8
RAF	Rauma	67.98	331	*e*P	P	20 33 43.5 -0.2
MTSE	Matsula	68.56	328	*e*P	P	20 33 47.5 +0.2
MNK	Minsk	69.25	323	*i* P	P	20 33 50.7 -1.0
MNK				*i*		20 34 11.4
MNK				*i* *PP	pP	20 35 13.9 -0.2
MNK				*i*		20 36 29.3
MNK				*i* S	S	20 42 25.8 -0.5
MNK				*i* SS	SS	20 47 02.0 +1.3
MNK				pmax	pmax	
	comp=E,10.0nm,0.9s					
MNK				pmax	pmax	
	comp=N,7.0nm,0.7s					
MNK				pmax	pmax	
	comp=Z,19nm,0.9s					
SLIT	Slitere, Latvi	69.87	328	*e*P	P	20 33 55.3 0.0
GURO	Guroymak-BITLI	69.94	304	IAmb	IAmb	20 33 58.2
	comp=Z,7.4nm,0.9s					
ILON	Igloolik, Nuna	70.18	13	IAmb	IAmb	20 33 58.1
	comp=Z,7.7nm,0.8s					
SUMG	Summit	70.25	358		P	20 33 59.1 +1.2
SUMG	Summit	70.25	358	P	P	20 33 59.1 +1.2
SUMG				pmax	pmax	
	comp=Z,19nm,1.0s					
PABE	Paberze	70.45	326	*e*P	P	20 33 59.6 +0.7
AKASG	Malin Array Be	70.80	320		P	20 34 00.1 -1.0
AKASG				IAmb	IAmb	20 34 02.2
	comp=Z,10nm,1.2s					
AKASG	Malin Array Be	70.80	320	P	P	20 34 01.0 0.0
	comp=Z,22nm,0.7s,baz=51,slow=6.3,SNR=60					
	comp=Z,22nm,0.7s					
AKASG	Malin Array Be	70.80	320	*i* P	P	20 34 01.0 0.0
AKASG				pmax	pmax	
	comp=Z,14nm,0.5s					
KIEV	Kiev	70.81	320		P	20 34 00.4 -0.7
KIEV	Kiev	70.81	320	⇑P	P	20 34 00.8 -0.4
KIEV	Kiev	70.81	320	P	P	20 34 00.7 -0.4
HFS	Hagfors	71.57	333	P	P	20 34 05.5 0.0
	comp=Z,12nm,0.4s,baz=67,slow=5.0,SNR=126					
	comp=Z,12nm,0.4s					
DOMB	Dombas	71.77	336	*e*P	P	20 34 07.1 +0.4
NB2	NORSAR Subarra	71.79	335	P	P	20 34 06.7 -0.1
	comp=Z,8.6nm,0.8s,baz=43,slow=6.5					
NB2	NORSAR Subarra	71.79	335	P	P	20 34 06.7 -0.1
	baz=43,slow=6.5					
NOA	NORSAR Array B	71.79	335	P	P	20 34 06.9 +0.1
	comp=Z,7.7nm,0.7s,baz=42,slow=6.0,SNR=62					
	comp=Z,7.7nm,0.7s					
NC602	NORSAR Array S	71.90	334	*e*P	P	20 34 07.2 -0.2
SORM	Soroca	72.78	318	⇑P	P	20 34 12.4 -0.4
SORM	Soroca	72.78	318	P	P	20 34 12.3 -0.4
STRU	Stroemstad	73.25	333	*i* P	P	20 34 15.3 +0.1
MILM	Milestii Mici	73.26	317	⇑P	P	20 34 15.4 -0.2
MILM	Milestii Mici	73.26	317	P	P	20 34 15.4 -0.2
BLEU	Blekinge	73.42	329	*i* P	P	20 34 15.5 -0.8
BORU	Boraas	73.67	332	*i* P	P	20 34 17.6 -0.1
SUE	Sulen	73.87	337	*e*P	P	20 34 19.7 +0.9
PINE	Pine Mountain	73.95	47	P	P	20 34 21.1 +1.2
PINE				IAmb	IAmb	20 34 22.9
	comp=Z,5.2nm,0.7s					
DEL	Delary	74.08	330	*i* P	P	20 34 19.9 -0.2
FABU	Falkenberg	74.14	331	*i* P	P	20 34 20.0 -0.5
ONAU	Onsala	74.16	332	*i* P	P	20 34 20.1 -0.4
TLCR		74.31	315	⇑P	P	20 34 22.3 +0.6
TLCR		74.31	315	P	P	20 34 22.2 +0.6
JURR	Jurilovca	74.53	315	⇑P	P	20 34 22.7 -0.1
BSD	Bornholm Skovb	74.61	329	*i* P	P	20 34 23.1 -0.1
BSD				IAmb	IAmb	20 34 23.2
	comp=Z,11nm,0.7s					
TESR	Tescani	74.69	317	⇑P	P	20 34 24.5 +0.7
BJUU	Bjuv	74.69	330	*i* P	P	20 34 23.9 +0.4
CFR	Carcaliu	74.69	315	⇓P	P	20 34 23.2 -0.6
CFR	Carcaliu	74.69	315	P	P	20 34 23.2 -0.6
BR131	Keskin Array S	74.70	308	IAmb	IAmb	20 34 27.5
	comp=Z,4.1nm,1.1s					
BRTR	Keskin Array B	74.70	308		P	20 34 23.9 -0.3
BRTR	Keskin Array B	74.70	308	P	P	20 34 24.4 +0.2
	comp=Z,1.3nm,0.4s,baz=109,slow=3.0,SNR=21					
	comp=Z,1.3nm,0.4s					
TPGR	Topolog	74.73	315	⇑P	P	20 34 24.8 +0.7
HOMB	Homborsund	74.76	334	*i* P	P	20 34 24.2 +0.3
BURAR	Bucovina Array	74.76	319	⇓P	P	20 34 25.5 +1.1
BURAR	Bucovina Array	74.76	319	P	P	20 34 25.4 +1.1
PANC	Panciu	74.81	316	⇓P	P	20 34 25.5 +1.1
LUNU	Lund	74.84	330	*i* P	P	20 34 24.0 -0.4
ONER	Baraj Valea Uz	74.94	317	⇑P	P	20 34 26.4 +1.2
VRI	Vrincioaia	75.05	317	⇑P	P	20 34 26.0 +0.2
VRI	Vrincioaia	75.05	317	P	P	20 34 27.

STHS Stebnicka Huta 75.62 322 *eP* **P 20 34 29.4 +0.4**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 75.62 322 *eP* **P 20 34 29.4 +0.4**
J08A Circle Bar Ran 75.64 46 IAmb IAmb 20 34 32.7
comp=Z,5.6nm,1.1s
MLR Muntele Rosu 75.71 317 IAmb IAmb 20 34 51.3
comp=Z,3.9nm,0.8s
MLR Muntele Rosu 75.71 317 ⇑P **P 20 34 29.4 -0.3**
MLR Muntele Rosu 75.71 317 P **P 20 34 29.4 -0.3**
DOPR Dopca 75.71 317 ⇑P **P 20 34 30.5 +0.9**
RAYN Ar Rayn 75.73 289 **P 20 34 29.6 -0.5**
RAYN IAmb IAmb 20 34 31.0
comp=Z,4.6nm,0.8s
RAYN Ar Rayn 75.73 289 P **P 20 34 30.2 +0.1**
OJC Ojcow 75.79 323 *eP* **P 20 34 30.6 +0.7**
NIE Niedzica 76.08 322 *eP* **P 20 34 32.9 +1.2**
FFC Flin Flon 76.09 30 **P 20 34 31.7 +0.2**
FFC Flin Flon 76.09 30 P **P 20 34 31.7 +0.2**
FFC pmax pmax
comp=Z,6.0nm,0.7s
CJR Cluj-Napoca 76.19 319 ⇑P **P 20 34 33.1 +0.8**
CJR Cluj-Napoca 76.19 319 P **P 20 34 33.1 +0.8**
VOIR 76.23 317 ⇓P **P 20 34 33.3 +0.7**
VOIR 76.23 317 P **P 20 34 33.3 +0.7**
MARR Marisel-Cluj 76.46 319 ⇓P **P 20 34 34.1 +0.2**
ARR Arges 76.50 317 ⇑P **P 20 34 35.5 +1.4**
DRGR 76.60 319 ⇑P **P 20 34 34.8 +0.1**
DRGR 76.60 319 P **P 20 34 34.7 +0.1**
STEB Steborice 76.94 324 *eP* **P 20 34 37.3 +0.9**
KSP Ksiaz 77.00 325 *eP* **P 20 34 37.4 +0.8**
MORC Moravsky Berou 77.16 324 IAmb IAmb 20 34 38.9
comp=Z,4.0nm,0.7s
MORC Moravsky Berou 77.16 324 *eP* **P 20 34 38.2 +0.6**
MORC Moravsky Berou 77.16 324 ⇑P **P 20 34 38.1 +0.6**
MORC Moravsky Berou 77.16 324 P **P 20 34 38.1 +0.5**
OSTC Ostas 77.23 325 *eP* **P 20 34 41.6 +3.6**
OSTC Ostas 77.23 325 *eP* **P 20 34 41.6 +3.6**
DPC Dobruska-Polom 77.33 325 *eP* **P 20 34 39.7 +1.2**
DPC Dobruska-Polom 77.33 325 *eP* **P 20 34 39.7 +1.2**
UPC Upice 77.36 325 *eP* **P 20 34 39.9 +1.3**
UPC Upice 77.36 325 *eP* **P 20 34 39.9 +1.3**
VYHS Vyhne 77.42 322 *eP* **P 20 34 39.9 +0.9**
VYHS pmax pmax
comp=Z,2.0nm,0.9s
VYHS Vyhne 77.42 322 *eP* **P 20 34 39.9 +0.9**
GZR Gura Zlata 77.48 318 ⇑P **P 20 34 39.2 -0.3**
GZR Gura Zlata 77.48 318 P **P 20 34 39.2 -0.3**
MMAI Mount Meron Ar 77.50 302 P **P 20 34 40.5 +0.6**
comp=Z,1.8nm,0.5s,baz=31,slow=3.4,SNR=12
comp=Z,1.8nm,0.5s
SURR Surduc 77.59 319 ⇑P **P 20 34 41.0 +1.0**
JAVC Velka Javorina 77.73 323 *eP* **P 20 34 42.4 +1.6**
VRAC Vranov 77.93 324 *eP* **P 20 34 42.7 +0.9**
VRAC Vranov 77.93 324 ⇑P **P 20 34 41.9 +0.1**
VRAC Vranov 77.93 324 P **P 20 34 41.9 +0.1**
BZS Buzias 77.95 319 ⇓P **P 20 34 41.8 -0.1**
BZS Buzias 77.95 319 P **P 20 34 41.8 -0.1**
PVCC Panska Ves 78.00 326 *eP* **P 20 34 43.3 +1.2**
PVCC Panska Ves 78.00 326 *eP* **P 20 34 43.3 +1.2**
HERR Herculane 78.01 318 ⇑P **P 20 34 42.6 +0.4**
CLL Collm 78.13 327 ⇓*iP* **P 20 34 43.1 +0.3**
CLL pmax pmax
comp=Z,12nm,0.8s
CLL MLR MLR
comp=Z,400nm,20.9s
CLL Collm 78.13 327 ⇓*iP* **P 20 34 43.1 +0.3**
comp=Z,12nm,0.8s
KRUC Moravsky 78.20 324 *eP* **P 20 34 43.7 +0.5**
GOPC GO Pecny, Ondr 78.34 325 *eP* **P 20 34 44.8 +0.8**
GOPC GO Pecny, Ondr 78.34 325 *eP* **P 20 34 44.8 +0.8**
PRU Pruhonice 78.40 325 *eP* **P 20 34 45.1 +0.8**
PRU Pruhonice 78.40 325 *eP* **P 20 34 45.1 +0.8**
HSKC Hora Svate Kat 78.45 326 *eP* **P 20 34 45.3 +0.7**
TREC Trest 78.46 324 *eP* **P 20 34 45.4 +0.7**
TREC Trest 78.46 324 *eP* **P 20 34 45.4 +0.7**
YHL Hebgen Lake 78.71 42 **P 20 34 47.0 +0.5**
YHL IAmb IAmb 20 34 49.2
comp=Z,4.0nm,1.0s
NVAR Mina Array Bea 78.81 50 P **P 20 34 48.3 +1.3**
comp=Z,1.1nm,0.6s,baz=296,slow=5.0,SNR=8.5
comp=Z,1.1nm,0.6s
ZVC Zvikov 78.95 325 *eP* **P 20 34 48.3 +1.0**
CONA Conrad Observa 79.25 323 *eP* **P 20 34 50.2 +1.2**
comp=Z,2.1nm,0.6s
CKRC Cesky Krumlov 79.34 325 *eP* **P 20 34 50.2 +0.8**
CKRC Cesky Krumlov 79.34 325 *eP* **P 20 34 50.2 +0.8**
KHC Kasperske Hory 79.45 325 *eP* **P 20 34 50.7 +0.7**
KHC Kasperske Hory 79.45 325 *eP* **P 20 34 50.7 +0.7**
RLMT Red Lodge 79.53 40 IAmb IAmb 20 34 53.9
comp=Z,3.7nm,0.6s
GEC2 GERESS Array S 79.60 325 IAmb IAmb 20 34 52.0
comp=Z,2.9nm,0.7s
GERES GERESS Array B 79.60 325 **P 20 34 50.5 -0.4**
GERES GERESS Array B 79.60 325 P **P 20 34 50.9 0.0**
comp=Z,2.1nm,0.5s,baz=38,slow=5.7,SNR=22
comp=Z,2.1nm,0.5s
ARSA Arzberg 79.89 323 *eP* **P 20 34 53.5 +1.1**
comp=Z,1.8nm,0.5s
BIOA Bad Ischl, Aus 80.46 324 *eP* **P 20 34 56.0 +0.6**
comp=Z,4.6nm,0.6s
SOKA Soboth 80.53 323 *i* P **P 20 34 56.6 +0.7**
comp=Z,7.2nm,0.7s,SNR=8.1
EKA Eskdalemuir Ar 80.97 337 P **P 20 34 58.1 +0.3**
comp=Z,2.5nm,0.4s,baz=31,slow=4.8,SNR=36
comp=Z,2.5nm,0.4s
PDAR Pinedale Array 80.98 42 P **P 20 34 59.0 +0.4**
comp=Z,1.4nm,0.8s,baz=332,slow=0.6,SNR=15
comp=Z,1.4nm,0.8s
KBA Koelnbreinsper 81.05 324 *eP* **P 20 34 59.9 +1.2**
comp=Z,2.1nm,0.5s
LESA Schwarzleotal 81.11 324 *i* P **P 20 34 59.6 +0.7**
comp=Z,6.0nm,0.5s,SNR=5.2
MYKA Terra Mystica 81.23 323 *eP* **P 20 34 59.7 +0.2**
comp=Z,2.1nm,0.4s
PDG Podgorica 81.36 318 ⇑P **P 20 35 00.4 +0.3**
WATA Walderalm 81.68 325 *eP* **P 20 35 02.8 +0.9**
comp=Z,2.4nm,0.5s
ABTA Abfaltersbach 81.68 324 *eP* **P 20 35 01.8 0.0**
comp=Z,2.9nm,0.6s
WTTA Wattenberg 81.70 325 *eP* **P 20 35 01.6 -0.5**
comp=Z,4.9nm,1.1s
MOTA Moosalm 81.89 325 *eP* **P 20 35 03.7 +0.8**
comp=Z,2.4nm,0.5s
ULM Lac du Bonnet 81.92 30 P **P 20 35 03.0 +0.1**
comp=Z,5.9nm,0.8s,baz=319,slow=5.5,SNR=4.9
comp=Z,5.9nm,0.8s
SQTA Sankt Quirin 81.93 325 *eP* **P 20 35 03.6 +0.5**
comp=Z,2.5nm,0.6s
RETA Reutte 81.93 325 *i* P **P 20 35 03.7 +0.6**
comp=Z,9.0nm,0.9s
CIMO Cimolais 82.03 324 IAmb IAmb 20 35 06.6
comp=Z,3.7nm,0.9s
FETA Feichten 82.30 325 *i* P **P 20 35 05.7 +0.6**
comp=Z,4.6nm,0.9s
BFO Black Forest 82.37 327 **P 20 35 05.2 -0.1**
BFO Black Forest 82.37 327 P **P 20 35 05.2 -0.1**
BFO pmax pmax
comp=Z,13nm,1.1s
DAVA Damuels 82.48 326 *i* P **P 20 35 06.7 +0.6**
comp=Z,16nm,1.0s
CTI Castel Tesino 82.60 324 P **P 20 35 05.7 -0.9**
CTI IAmb IAmb 20 35 06.7
comp=Z,5.7nm,0.8s
CTI Castel Tesino 82.60 324 P **P 20 35 05.7 -0.9**
CTI pmax pmax
comp=Z,6.0nm,0.8s
MTPU Mount Pierson 82.72 47 IAmb IAmb 20 35 11.0
comp=Z,4.1nm,1.0s
EPLO Experimental L 83.23 29 IAmb IAmb 20 35 10.7
comp=Z,4.8nm,0.6s
U15A North Rim 83.74 48 IAmb IAmb 20 35 15.9
comp=Z,6.2nm,1.2s
EYMN Ely 85.49 29 P **P 20 35 20.6 -0.3**
TXAR Lajitas Array 93.86 48 P **P 20 36 01.2 +0.8**
comp=Z,1.1nm,0.8s,baz=266,slow=3.2,SNR=12
comp=Z,1.1nm,0.8s
ESDC Sonseca Array 94.55 329 P **P 20 36 02.8 -0.5**
comp=Z,0.6nm,0.6s,baz=32,slow=4.2,SNR=4.3
comp=Z,0.6nm,0.6s
MATP Matopo 114.94 263 PKP **PKiKP 20 41 21.9 +0.2**
comp=Z,0.4nm,0.5s,baz=72,slow=2.6,SNR=4.3
DBIC Dimbokro 122.34 311 PKP **PKPdf 20 41 35.5 -0.5**
comp=Z,3.2nm,0.5s,baz=25,slow=2.2,SNR=5.9
QSPA South Pole Qui 127.12 180 PKP **PKPdf 20 41 43.2 -0.4**
comp=Z,2.3nm,1.0s,baz=304,slow=3.6,SNR=2.4
NVL N'lazarevskaya 135.61 203 *eP* **Pdif 20 39 12.6 +7.6**
NVL pmax pmax
comp=Z,25nm,1.6s
LPAZ La Paz 150.71 50 PKPbc **PKPbc 20 42 34.1 +0.1**
comp=Z,2.3nm,0.7s,baz=0.0,slow=6.1,SNR=5.9

SJA ***25*** *20:28:27.8±0.7,29°.65S×71°.57W,h16km±5km,ML4.8, MW4.5*
GUC ***25*** *20:28:31.5±0.9,29°.70S×71°.35W,h53km±2km,ML4.4*
NEIC ***25*** *20:28:31.2±2.1,29°.67S±0°.04×71°.51W±0°.06,h41km±9km, mb4.6/14, Error ellipse: s-maj=8.5km s-min=5.4km az=118.0*
IDC ***25*** *20:28:32.5±0.6,29°.70S×71°.33W,h49km±5km,mb4.1/11, mbtmp4.2/16,MS3.8/21, Error ellipse: s-maj=14.9km s-min=9.9km az=57.0*
VAO ***25*** *20:28:40.5±1.3,29°.11S×70°.66W,h33km±10km,mb4.6*
ISC 25 20:28:30.5±0.4,**29°.66S**±0°.02×**71°.43W**±0°.04,**h32**km±2km, **n144**,σ1°**48**/157,**mb4.6**/16,**MS3.9**/17,**4C-3D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.31**	**147**		**Pn**	**20 28 40.0**	**+1.3**
CO05	**La Serena**	**0.31**	**147**	*eP*	**Pn**	**20 28 40.1**	**+1.3**
CO05				*i* S	**Sn**	**20 28 46.1**	**+1.9**
CO05				IAML		20 28 46.9	
comp=E,59μm,0.7s							
GO04	**Tololo Observa**	**0.75**	**133**		**Pn**	**20 28 45.0**	**-0.1**
GO04	**Tololo Observa**	**0.75**	**133**	*eP*	**Pb**	**20 28 45.2**	**-0.1**
GO04				*i* S	**Sb**	**20 28 55.1**	**-0.3**
GO04	**Tololo Observa**	**0.75**	**133**	*eP*	**Pn**	**20 28 44.5**	**-0.6**
LCO	**Las Campanas**	**0.91**	**45**		**Pb**	**20 28 47.7**	**-0.2**
LCO	**Las Campanas**	**0.91**	**45**	*eP*	**Pb**	**20 28 47.9**	**+0.1**
LCO				*i* S	**Sb**	**20 29 00.3**	**+0.6**
LCO	**Las Campanas**	**0.91**	**45**	*eP*	**Pb**	**20 28 47.2**	**-0.7**
LCO				IAML		20 29 25.5	
comp=Z,26μm,0.3s							
CO06	**Fray Jorge**	**1.03**	**190**		**Pb**	**20 28 49.6**	**-0.2**
CO06	**Fray Jorge**	**1.03**	**190**	*eP*	**Pb**	**20 28 49.9**	**+0.1**
CO06				*i* S	**Sb**	**20 29 03.4**	**+0.4**
CO06				IAML		20 29 09.0	
comp=N,12μm,0.2s							
CO01	**Juntas del Tor**	**1.21**	**106**		**Pb**	**20 28 52.0**	**-0.9**
CO01	**Juntas del Tor**	**1.21**	**106**	*eP*	**Pb**	**20 28 52.2**	**-0.7**
CO01				*i* S	**Sn**	**20 29 07.2**	**+0.5**
CO01				IAML		20 29 15.4	
comp=E,7μm,0.2s							
AC05	**El Transito**	**1.30**	**51**		**Pb**	**20 28 53.8**	**-0.6**
AC05	**El Transito**	**1.30**	**51**	*eP*	**Pb**	**20 28 54.0**	**-0.4**
AC05				*i* S	**Sb**	**20 29 10.6**	**-0.2**
AC05				IAML		20 29 17.9	
comp=E,2μm,0.4s							
AC05	**El Transito**	**1.30**	**51**	*eP*	**Pb**	**20 28 53.1**	**-1.3**
CO03	**El Pedregal**	**1.34**	**152**		**Pn**	**20 28 53.4**	**+0.4**
CO03	**El Pedregal**	**1.34**	**152**	⇓*iP*	**Pn**	**20 28 53.5**	**+0.5**
CO03				*i* S	**Sn**	**20 29 09.6**	**-0.2**
CO03				IAML		20 29 10.8	
comp=E,33μm,0.2s							
CO03	**El Pedregal**	**1.34**	**152**	*eP*	**Pn**	**20 28 52.8**	**-0.2**
CO03				IAML		20 29 33.4	
comp=Z,18μm,0.5s							
AC04	**Llanos de Chal**	**1.48**	**12**		**Pb**	**20 28 56.8**	**-0.5**
AC04	**Llanos de Chal**	**1.48**	**12**	*eP*	**Pb**	**20 28 56.6**	**-0.8**
AC04	**Llanos de Chal**	**1.48**	**12**	*eP*	**Pb**	**20 28 56.3**	**-1.1**
CO02	**Combarbal**	**1.59**	**167**		**Pn**	**20 28 57.0**	**+0.6**
CO02	**Combarbal**	**1.59**	**167**	⇓*iP*	**Pn**	**20 28 57.1**	**+0.6**
CO02				*i* S	**Sn**	**20 29 16.2**	**+0.3**
CO02				IAML		20 29 24.2	
comp=E,48μm,0.1s							
CO02	**Combarbal**	**1.59**	**167**	*eP*	**Pn**	**20 28 56.4**	**-0.1**
CO02				IAML		20 29 23.6	
comp=Z,8μm,0.5s							
AROD	**Rodeo**	**1.77**	**107**	*eP*	**Pb**	**20 29 01.6**	**-0.9**
ACDV	**Cuesta del Vie**	**2.07**	**105**	*eP*	**Pb**	**20 29 06.5**	**-1.0**
ACDV				IAML		20 29 56.6	
comp=Z,2μm,1.0s							
ACCO	**Cerro Coronel**	**2.25**	**115**	*eP*	**Pb**	**20 29 11.3**	**+0.7**
GO03	**Copiapo**	**2.31**	**27**		**Pn**	**20 29 08.3**	**+2.0**
GO03	**Copiapo**	**2.31**	**27**	⇓*iP*	**Pn**	**20 29 08.3**	**+2.0**
GO03	**Copiapo**	**2.31**	**27**	*eP*	**Pn**	**20 29 08.4**	**+2.1**
DOCA	**Reserva Natura**	**2.40**	**123**	*eP*	**Pb**	**20 29 10.6**	**-2.7**
DOCA				IAML		20 29 48.7	
comp=Z,2μm,0.6s							
AC06	**Mina Casimiro**	**2.48**	**23**		**Pn**	**20 29 10.1**	**+1.4**
AC06	**Mina Casimiro**	**2.48**	**23**	*eP*	**Pn**	**20 29 10.1**	**+1.4**
AGUA	**GUANDACOL**	**2.57**	**87**	*eP*	**Pb**	**20 29 14.0**	**-1.9**
RTLS	**Leoncito**	**2.82**	**140**	*eP*	**Pb**	**20 29 17.2**	**-3.1**
RTLS				IAML		20 30 26.2	
comp=Z,6μm,1.4s							
VA06	**Catapilco**	**2.90**	**178**		**Pn**	**20 29 15.6**	**+1.2**
VCA	**Vinchina**	**2.96**	**73**	*eP*	**Pb**	**20 29 19.6**	**-3.1**
VCA				IAML		20 30 29.7	
comp=Z,5μm,0.8s							
ZON	**Zonda**	**3.03**	**129**		**Pn**	**20 29 18.3**	**+2.1**
ZON	**Zonda**	**3.03**	**129**	*eP*	**Pn**	**20 29 19.3**	**+3.1**
ZON				IAML		20 30 29.4	
comp=Z,1μm,0.5s							
VA03	**San Esteban**	**3.19**	**167**		**Pn**	**20 29 18.8**	**+0.3**
VA03	**San Esteban**	**3.19**	**167**	*eP*	**Pn**	**20 29 20.5**	**+2.0**
VA03				IAML		20 30 35.0	
comp=Z,3μm,0.6s							
VA01	**Torpederas**	**3.36**	**183**		**Pn**	**20 29 20.9**	**+0.2**
VA01	**Torpederas**	**3.36**	**183**	*eP*	**Pn**	**20 29 22.2**	**+1.5**
VA01				IAML		20 30 35.4	
comp=Z,903nm,0.5s							
CFA	**Coronel Fontan**	**3.37**	**126**	P	**Pn**	**20 29 22.8**	**+1.9**
comp=Z,94nm,0.4s,baz=310,slow=14,SNR=113							
CFA				S	**Sn**	**20 29 60.0**	**+0.2**
comp=Z,177nm,0.3s,baz=305,slow=16,SNR=12							
CFA				LR	LR	20 30 55.1	
comp=Z,125nm,21.8s,baz=326,slow=44							
CFA	**Coronel Fontan**	**3.37**	**126**	*eP*	**Pn**	**20 29 22.8**	**+1.9**
AC02	**Maricunga**	**3.47**	**36**		**Pn**	**20 29 25.0**	**+2.3**
AC02	**Maricunga**	**3.47**	**36**	*eP*	**Pn**	**20 29 24.8**	**+2.1**
AC02				IAML		20 30 47.0	
comp=Z,1μm,0.9s							
PEL	**Peldehue**	**3.53**	**170**		**Pn**	**20 29 24.0**	**+0.9**
AC01	**Pan de Azucar**	**3.57**	**12**		**Pn**	**20 29 23.8**	**+0.1**
AC01	**Pan de Azucar**	**3.57**	**12**	*eP*	**Pn**	**20 29 23.3**	**-0.3**
AVFE	**Valle Fertil**	**3.58**	**107**	*eP*	**Pn**	**20 29 26.3**	**+2.4**
AVFE				IAML		20 30 48.0	
comp=Z,1μm,2.2s							
MT02	**Curacav**	**3.60**	**176**		**Pn**	**20 29 24.2**	**+0.2**
MT02	**Curacav**	**3.60**	**176**	*eP*	**Pn**	**20 29 25.0**	**+1.0**
MT02				*i* S	**Sn**	**20 30 04.5**	**-0.9**
MT02				IAML		20 30 41.2	
comp=E,2μm,0.3s							
MT02	**Curacav**	**3.60**	**176**	*eP*	**Pn**	**20 29 25.1**	**+1.0**
MT02				*eS*	**Sb**	**20 30 21.1**	**+4.4**
MT02				IAML		20 30 40.5	
comp=Z,2μm,0.7s							
MT05	**Renca**	**3.77**	**171**		**Pn**	**20 29 26.7**	**+0.3**
MT05	**Renca**	**3.77**	**171**	*eP*	**Pn**	**20 29 28.8**	**+2.4**
MT05				IAML		20 30 44.3	
comp=Z,2μm,0.7s							
MT04	**Ro Olivares**	**3.90**	**164**	*eP*	**Pn**	**20 29 32.2**	**+3.9**
MT04				*eS*	**Sn**	**20 30 14.0**	**+0.9**
MT04				IAML		20 30 30.4	
comp=Z,2μm,0.6s							
MT03	**Universidad Ad**	**3.91**	**169**	*eP*	**Pn**	**20 29 31.2**	**+2.9**
MT03				IAML		20 30 37.6	
comp=Z,3μm,0.7s							
ACLC	**CERRO LA CRUZ**	**3.91**	**88**	*eP*	**Pn**	**20 29 30.8**	**+2.3**
ACLC				IAML		20 30 47.0	
comp=Z,1μm,1.1s							
MT08	**Bocatoma Ro**	**3.96**	**163**	*eP*	**Pn**	**20 29 32.6**	**+3.3**
MT08				IAML		20 30 37.5	
comp=Z,1μm,1.1s							
MT13	**San Alfonso**	**4.19**	**167**		**Pn**	**20 29 34.2**	**+2.0**
MT13	**San Alfonso**	**4.19**	**167**	*eP*	**Pn**	**20 29 35.6**	**+3.3**
MT01	**Popeta**	**4.20**	**178**	*eP*	**Pn**	**20 29 33.0**	**+0.8**
MT01				IAML		20 31 01.2	
comp=Z,2μm,0.5s							
LMEL	**Las Melosas**	**4.31**	**166**	*eP*	**Pn**	**20 29 36.7**	**+2.8**
APLL	**PUNTA DE LOS L**	**4.31**	**101**	*eP*	**Pn**	**20 29 36.0**	**+2.0**
ACHE	**Chepes**	**4.38**	**111**	*eP*	**Pn**	**20 29 38.0**	**+3.1**
BO01	**Tunca**	**4.73**	**177**		**Pn**	**20 29 40.2**	**+0.6**
BO01	**Tunca**	**4.73**	**177**	*eP*	**Pn**	**20 29 40.3**	**+0.8**
BO01				IAML		20 31 17.4	
comp=Z,1μm,0.6s							
GO02	**Mina Guanaco**	**4.77**	**20**	*eP*	**Pn**	**20 29 42.5**	**+2.1**
CYA	**Choya**	**5.07**	**78**	*eP*	**Pn**	**20 29 45.5**	**+1.1**
CYA				IAML		20 31 17.3	
comp=Z,712nm,0.7s							
H03N1	**Juan Fernandez**	**7.42**	**238**	T	T	20 38 20.2	
baz=65,slow=72							
H03N2	**Juan Fernandez**	**7.43**	**238**	T	T	20 38 14.0	
baz=65,slow=72							
H03N3	**Juan Fernandez**	**7.43**	**237**	T	T	20 38 20.5	
baz=65,slow=72							
VA04	**Juan Fernndez**	**7.45**	**236**		**Pn**	**20 30 16.5**	**-0.5**
LR05	**Currie**	**10.56**	**182**		**Pn**	**20 30 58.5**	**-1.0**
PLCA	**Paso Flores**	**11.07**	**177**		**Pn**	**20 31 05.0**	**-1.6**
PLCA	**Paso Flores**	**11.07**	**177**	P	**Pn**	**20 31 06.0**	**-0.6**
comp=Z,1.5nm,0.5s,baz=340,slow=11,SNR=14							
PLCA				S	**Sn**	**20 33 10.9**	**+1.5**
comp=Z,6.4nm,1.1s,baz=135,slow=11,SNR=1.2							
PLCA				LR	LR	20 36 22.8	
comp=Z,330nm,18.2s,baz=2.0,slow=43							
PLCA	**Paso Flores**	**11.07**	**177**	*eP*	Pn	20 31 24.0	+17
TRQA	**Tornquist**	**11.48**	**139**		**Pn**	**20 31 11.2**	**-0.9**
ITQB	**Itaqui**	**12.88**	**94**		**Pn**	**20 31 30.1**	**-1.1**
ITQB	**Itaqui**	**12.88**	**94**	*eP*	**Pn**	**20 31 32.4**	**+1.1**
CPUP	**Villa Florida**	**12.89**	**78**	P	**Pn**	**20 31 31.3**	**-0.2**
comp=Z,1.5nm,0.7s,baz=253,slow=9.4,SNR=3.5							
CPUP				S	**Sn**	**20 33 55.6**	**+1.7**
comp=Z,16nm,0.8s,baz=107,slow=11,SNR=2.0							
CPUP				LR	LR	20 37 21.3	
comp=Z,631nm,19.5s,baz=258,slow=41							
TBOT	**Tacuaremb**	**13.49**	**103**	*eP*	**Pn**	**20 31 41.4**	**+1.8**
LPAZ	**La Paz**	**13.65**	**14**	P	**Pn**	**20 31 43.5**	**+1.1**
comp=Z,0.9nm,0.7s,baz=213,slow=5.2,SNR=7.0							
LPAZ				S	**Sn**	**20 34 16.0**	**+2.7**
comp=Z,2.3nm,0.7s,baz=73,slow=5.6,SNR=1.6							
LPAZ				LR	LR	20 37 36.7	
comp=Z,442nm,20.6s,baz=172,slow=40							
LPAZ	**La Paz**	**13.65**	**14**	*eP*	**Pn**	**20 31 42.8**	**+0.4**
AY01	**Puyuhuapi**	**14.77**	**183**		**P**	**20 32 03.7**	**+1.2**
PLTB	**Pedras Altas**	**15.48**	**102**		**P**	**20 32 10.0**	**-0.5**
PLTB				IAmb	IAmb	20 32 18.6	
comp=Z,16nm,0.8s							
PLTB	**Pedras Altas**	**15.48**	**102**	*eP*	**P**	**20 32 10.2**	**-0.4**
COYC	**Coyhaique**	**15.90**	**182**		**Pn**	**20 32 10.2**	**-1.5**
COYC				IAmb	IAmb	20 32 41.1	
comp=Z,28nm,1.0s							
AMBA	**Amambai (Brazi**	**16.19**	**69**	*eP*	**Pn**	**20 32 15.9**	**+0.3**
SIV	**San Ignacio**	**16.60**	**37**	P	**P**	**20 32 22.2**	**-0.9**
comp=Z,2.8nm,0.8s,baz=203,slow=11,SNR=11							
SIV				pP	**pP**	**20 32 31.0**	**-0.6**
comp=Z,4.9nm,0.9s,baz=213,slow=11,SNR=8.1							
SIV				LR	LR	20 39 05.5	
comp=Z,136nm,20.3s,baz=224,slow=38							
AQDB	**Aquidauana**	**16.92**	**61**	Pn	**Pn**	**20 32 23.4**	**-1.4**
PTLB	**Pontes e Lacer**	**18.11**	**41**		**P**	**20 32 40.4**	**+0.6**
PTLB	**Pontes e Lacer**	**18.11**	**41**	*eP*	**P**	**20 32 39.5**	**-0.3**
LDASE	**Londrina, Braz**	**19.20**	**76**	*eP*	**P**	**20 32 52.0**	**+0.2**
MAJ01	**Sao Joao Batis**	**19.82**	**89**	*eP*	**Pn**	**20 33 00.8**	**+0.6**
SALV	**Santo Antonio**	**19.92**	**50**	*eP*	**P**	**20 32 59.5**	**-0.1**
ITRB	**Iturama**	**21.53**	**67**	*eP*	**P**	**20 33 19.1**	**+2.1**
GO09	**Cerro Castillo**	**21.60**	**182**	P	**P**	**20 33 17.2**	**-0.3**
GO09				IAmb	IAmb	20 33 57.9	
comp=Z,43nm,1.3s							
CZSB	**Cruzeiro do Su**	**21.84**	**357**	P	**P**	**20 33 19.8**	**-0.6**
CZSB				IAmb	IAmb	20 34 04.2	
comp=Z,26nm,0.9s							
SAML	**Samuel**	**22.00**	**22**	P	**P**	**20 33 21.2**	**-0.8**
PDRB	**Porto dos Gac**	**22.57**	**40**	*eP*	**P**	**20 33 29.1**	**+0.8**
VAO	**Valinhos**	**22.88**	**79**		**P**	**20 33 29.9**	**-1.6**
VAO	**Valinhos**	**22.88**	**79**	*eP*	**P**	**20 33 32.4**	**+0.9**
ATAH	**Atahualpa**	**23.34**	**342**	LR	LR	20 41 22.6	
comp=Z,189nm,21.6s,baz=214,slow=33							
PMNB	**Patos De Minas**	**25.30**	**70**	*eP*	**P**	**20 33 56.5**	**+2.2**
BDFB	**Brasilia**	**25.65**	**62**		**P**	**20 33 55.2**	**-2.3**
BDFB				IAmb	IAmb	20 34 36.7	
comp=Z,62nm,1.5s							
BDFB	**Brasilia**	**25.65**	**62**	P	**P**	**20 33 56.5**	**-1.0**
comp=Z,3.7nm,0.6s,baz=227,slow=11,SNR=6.6							
BDFB				pP	**sP**	**20 34 09.2**	**-1.7**
comp=Z,4.4nm,0.6s,baz=205,slow=7.0,SNR=3.3							
BDFB				LR	LR	20 45 10.3	
comp=Z,232nm,19.2s,baz=194,slow=39							
comp=Z,3.7nm,0.6s							
SNDB	**Serra Nova Dou**	**25.69**	**51**	*eP*	**P**	**20 34 00.5**	**+2.7**
NPGB	**Novo Progresso**	**27.11**	**37**	*eP*	**P**	**20 34 12.0**	**+1.4**
JANB	**Januaria**	**28.89**	**66**	*eP*	**P**	**20 34 30.0**	**+3.4**
ITTB	**Itaituba**	**29.21**	**34**	*eP*	**P**	**20 34 32.2**	**+2.9**
ROSC	**El Rosal**	**34.41**	**355**	LR	LR	20 50 57.6	
comp=Z,138nm,18.8s,baz=226,slow=39							
RUSC	**La Rusia**	**35.38**	**357**	P	**P**	**20 35 23.2**	**-0.7**
BAUV	**El Baul**	**38.51**	**5**	P	**P**	**20 35 48.7**	**-1.3**
MDP	**Montagnes des**	**38.98**	**31**	LR	LR	20 53 27.0	
comp=Z,205nm,21.1s,baz=172,slow=38							
RCBR	**Riachuelo**	**41.03**	**62**	LR	LR	20 54 42.0	
comp=Z,76nm,18.1s,baz=237,slow=38							
JTS	**Las Juntas de**	**41.80**	**340**	LR	LR	20 50 38.4	
comp=Z,55nm,21.6s,baz=139,slow=32							
VNA3	**Neumayer Olymp**	**53.20**	**159**	⇑P	**P**	**20 37 45.0**	**-0.2**
comp=Z,10nm,0.8s							
VNA2	**Neumayer--Watz**	**53.83**	**159**	⇑P	**P**	**20 37 49.7**	**-0.1**
comp=Z,11nm,0.6s,baz=278,slow=8.5							
SNAA	**Sanae**	**55.42**	**159**	P	**P**	**20 38 00.8**	**-0.6**
SNAA				IAmb	IAmb	20 38 24.7	
comp=Z,12nm,0.9s							
SNAA	**Sanae**	**55.42**	**159**	⇑P	**P**	**20 38 01.0**	**-0.4**
comp=Z,197nm,0.7s							
SNAA	**Sanae**	**55.42**	**159**	P	**P**	**20 38 00.9**	**-0.6**
comp=Z,9.7nm,0.8s,baz=278,slow=7.5,SNR=26							
SNAA				LR	L

comp=Z,71nm,18.1s,baz=228,slow=32
FRB Frobisher Bay 93.11 1 LR LR 21 26 58.1
comp=Z,39nm,18.5s,baz=202,slow=38
YKA Yellowknife Ar 98.12 341 P **P** **20 42 02.9 -0.4**
comp=Z,0.1nm,0.4s,baz=124,slow=7.0,SNR=2.2
comp=Z,0.1nm,0.4s
KEST Kesra 99.94 55 LR LR 21 28 05.7
comp=Z,104nm,20.9s,baz=345,slow=36
WRA Warramunga Arr 124.79 210 PKP **PKPdf** **20 47 26.3 -1.3**
comp=Z,0.9nm,0.8s,baz=154,slow=1.7,SNR=5.6
WRA pPKP **sPKPdf** **20 47 41.9 +0.3**
comp=Z,0.9nm,0.7s,baz=154,slow=1.8,SNR=4.9
KURBB Kurchatov Arra 149.26 39 PKPbc **PKPbc** **20 48 15.7 +0.2**
comp=Z,1.4nm,0.6s,baz=298,slow=3.1,SNR=11
KURBB PKPab **PKPab** **20 48 20.3 +0.3**
comp=Z,2.9nm,0.9s,baz=292,slow=4.0,SNR=7.0
KURBB pPKPbc **sPKPbc** **20 48 27.3 -2.3**
comp=Z,0.5nm,0.3s,baz=300,slow=3.3,SNR=1.7
ZALV Zalesovo Beam 150.23 29 PKPbc **PKPbc** **20 48 17.8 +0.1**
comp=Z,13nm,0.7s,baz=290,slow=3.2,SNR=43
ZALV pPKPbc **sPKPbc** **20 48 31.1 -0.6**
comp=Z,4.8nm,0.7s,baz=285,slow=3.5,SNR=5.6
MKAR Makanchi Array 153.37 43 PKPbc **PKPbc** **20 48 24.9 -0.3**
comp=Z,1.0nm,0.7s,baz=313,slow=2.0,SNR=12
MKAR PKPab **PKPab** **20 48 37.1 -0.3**
comp=Z,1.1nm,0.8s,baz=280,slow=2.8,SNR=9.0

IDC 25 20:30:31.6±51.0, 17.°59S×171.°10W, h0km, mb3.8/3, mbtmp3.8/3, MS3.9/1, Error ellipse: s-maj=998.2km s-min=202.9km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.92**	**242**	P	P	20 38 48.0	-0.5
	2.8nm,1.0s,baz=207,slow=2.3,SNR=1.4						
	2.8nm,1.0s						
WRA	**Warramunga Arr**	**51.53**	**258**	P	P	20 39 39.5	-0.2
	0.2nm,0.4s,baz=96,slow=6.8,SNR=8.7						
WRA				LR	LR	21 02 20.4	
	comp=Z,99nm,18.0s,baz=360,slow=37						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**51.57**	**253**	P	P	20 39 40.2	+0.2
	0.6nm,0.4s,baz=88,slow=8.3,SNR=13						
	0.6nm,0.4s						

DJA 25 20:32:53.4±0.2, 2.°S±1.°×12.°3E±.°, h10km, M4.0/18, mb4.1/5, MLv4.0/18, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.92**	**17**	P	Pg	20 33 10.6	-0.6
LUWI				S	Sb	20 33 23.6	-0.2
APSI	**Ampana**	**1.33**	**320**	P	Pn	20 33 17.5	-0.5
APSI				S	Sb	20 33 34.8	-0.7
PCI	**Palu**	**2.86**	**291**	P	Pn	20 33 40.7	+1.6
PCI				S	Sn	20 34 14.5	+0.9
KMSI	**Cibinong**	**2.89**	**31**	P	Pn	20 33 40.0	+0.5
KMSI				S	Sn	20 34 15.2	+0.8
SPSI	**Sidrap Palu**	**3.40**	**233**	P	Pn	20 33 46.7	+0.1
SPSI				S	Sn	20 34 28.2	+1.2
BNSI	**Bone**	**3.43**	**224**	P	Pn	20 33 47.1	+0.1
BNSI				S	Sn	20 34 28.5	+0.7
MPSI	**Mapaga**	**3.45**	**311**	P	Pn	20 33 47.4	+0.2
MPSI				S	Sn	20 34 29.1	+0.9
SANI	**Sanana**	**3.48**	**92**	P	Pn	20 33 47.8	+0.2
BBSI	**Bau Bau**	**3.53**	**179**	P	Pn	20 33 48.7	+0.3
BBSI				S	Sn	20 34 31.0	+0.7
BKSI	**Bulukumba**	**4.13**	**215**	P	Pn	20 33 56.7	+0.2
BKSI				S	Sn	20 34 45.8	+0.9
BSSI	**Bau Bau, Buton**	**4.64**	**206**	P	Pn	20 34 03.8	+0.1
BSSI				S	Sn	20 34 58.8	+1.1
MMRI	**Maumere**	**6.67**	**182**	P	Pn	20 34 31.3	-0.2
	31nm,0.6s						
EDFI	**Ende, Flores**	**6.82**	**187**	P	Pn	20 34 32.9	-0.8

TAP 25 20:51:06.0, 24.°13N×121.°53E, h24km, ML2.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.07**	**57**	*i* P	Pb	20 51 10.4	0.0
NACB				S	Sb	20 51 13.8	+0.4
TWD	**Chiawan**	**0.08**	**130**	*i* P	Pb	20 51 10.6	+0.1
TWD				S	Sb	20 51 13.8	+0.4
ETLH	**Xiulin Townshi**	**0.08**	**331**	P	Pb	20 51 10.8	+0.2
ETLH				S	Sb	20 51 14.1	+0.4
ETL	**Fush Village**	**0.09**	**74**	P	Pb	20 51 10.6	0.0
ETL				S	Sb	20 51 13.9	+0.3
LXIB	**Xiulin Townshi**	**0.15**	**223**	*i* P	Pb	20 51 11.3	+0.1
LXIB				S	Sb	20 51 15.3	+0.6
ETM	**Tongmen**	**0.17**	**190**	*i* P	Pb	20 51 11.3	0.0
ETM				S	Sb	20 51 15.1	+0.3
HWA	**Hwalien**	**0.17**	**155**	*eP*	Pb	20 51 11.6	+0.3
HWA				*eS*	Sb	20 51 15.9	+1.1
WHF	**Hehuan Shan**	**0.24**	**273**	P	Pb	20 51 12.7	+0.2
WHF				*eS*	Sb	20 51 17.3	+0.4
TEYL	**Yanliau Villag**	**0.27**	**166**	*eP*	Pb	20 51 12.4	-0.2
TEYL				*eS*	Sb	20 51 17.5	+0.5
EAHA	**Aohua**	**0.28**	**45**	*eP*	Pb	20 51 12.8	+0.2
EAHA				*eS*	Sb	20 51 17.2	0.0
FUSS	**Fushou**	**0.28**	**294**	P	Pb	20 51 13.3	+0.4
FUSS				*eS*	Sb	20 51 18.4	+0.7
NNSB	**Datong**	**0.32**	**336**	P	Pb	20 51 13.6	+0.1
NNSB				*eS*	Sb	20 51 18.6	+0.1
ESL	**Shilin**	**0.33**	**195**	P	Pb	20 51 13.0	-0.5
ESL				*eS*	Sb	20 51 18.4	-0.1
NNS	**Nan Shan**	**0.34**	**335**	P	Pb	20 51 13.8	+0.2
NNS				*eS*	Sb	20 51 19.3	+0.4
TWT	**Tachien**	**0.34**	**291**	*eP*	Pb	20 51 14.5	+0.7
TWT				*eS*	Sb	20 51 19.9	+0.8
SHUL	**Shoufeng**	**0.35**	**174**	*eP*	Pb	20 51 13.7	0.0
SHUL				*eS*	Sb	20 51 20.2	+1.3
ENA	**Nanau**	**0.35**	**34**	*eP*	Pb	20 51 13.7	-0.1
ENA				S	Sb	20 51 19.2	0.0
TDCB	**Techi**	**0.36**	**290**	*eP*	Pb	20 51 14.5	+0.5
TDCB				*eS*	Sb	20 51 19.9	+0.4
OWD	**Renai**	**0.37**	**241**	P	Pb	20 51 14.3	+0.2
OWD				*eS*	Sb	20 51 20.1	+0.5
EWUT	**Wuta**	**0.39**	**36**	*eP*	Pb	20 51 14.4	0.0
EWUT				*eS*	Sb	20 51 19.9	-0.1
WUSB	**Renai**	**0.40**	**249**	P	Pb	20 51 15.0	+0.3
WUSB				*eS*	Sb	20 51 20.8	+0.3
LATG	**Datong**	**0.40**	**0**	P	Pb	20 51 14.8	+0.1
LATG				S	Sb	20 51 20.6	0.0
WARBT	**Fenglin Townsh**	**0.43**	**197**	*eP*	Pb	20 51 14.3	-0.9
WARBT				*eS*	Sb	20 51 20.7	-0.6
ENTT	**Nioudou**	**0.51**	**4**	P	Pb	20 51 16.5	+0.1
ENTT				*eS*	Sb	20 51 23.8	+0.4
VWDT	**VWDT**	**0.52**	**223**	*eP*	Pb	20 51 16.9	+0.4
VWDT				*eS*	Sb	20 51 24.5	+0.9
ESAO	**Su ao**	**0.53**	**33**	*eP*	Pb	20 51 16.6	-0.1
ESAO				*eS*	Sb	20 51 23.8	-0.1
NDS	**Dongshan**	**0.53**	**19**	*eP*	Pb	20 51 16.3	-0.5
NDS				*eS*	Sb	20 51 23.5	-0.5
WHP	**Taichung City**	**0.55**	**285**	P	Pb	20 51 17.6	+0.5
WHP				*eS*	Sb	20 51 25.5	+0.9
YHNB	**Yeheng**	**0.55**	**346**	P	Pb	20 51 17.5	+0.3
YHNB				S	Sb	20 51 25.0	+0.3
TWC	**Suao**	**0.56**	**32**	*eP*	Pb	20 51 17.5	+0.3
TWC				S	Sb	20 51 25.1	+0.3
NSK	**Sanguang**	**0.56**	**344**	P	Pb	20 51 17.6	+0.2
NSK				*i* S	Sb	20 51 25.1	+0.1
WCS	**Beigang Elemen**	**0.57**	**262**	*eP*	Pb	20 51 17.9	+0.5
WCS				*eS*	Sb	20 51 25.8	+0.7
TWE	**Neicheng**	**0.60**	**12**	*eP*	Pb	20 51 18.1	+0.2
TWE				*eS*	Sb	20 51 26.4	+0.4
NFF	**Wufeng Townshi**	**0.62**	**323**	*eP*	Pn	20 51 18.9	-0.5
NFF				*eS*	Sb	20 51 27.6	+0.9
SMLT	**Sun Moon Lake**	**0.62**	**247**	*eP*	Pb	20 51 17.9	-0.5
SMLT				*eS*	Sb	20 51 26.1	-0.7
FUSB	**Fushanzhiwuyua**	**0.63**	**5**	P	Pb	20 51 18.8	+0.4
FUSB				*eS*	Sb	20 51 26.9	0.0
SSLB	**Suanglung**	**0.63**	**237**	P	Pb	20 51 18.5	+0.1
SSLB				*eS*	Sb	20 51 26.8	0.0
NWLT	**Wulai**	**0.64**	**358**	*eP*	Pb	20 51 19.0	+0.3
NWLT				*eS*	Sb	20 51 27.1	-0.2
HGSD	**Ruisui**	**0.65**	**188**	*eP*	Pb	20 51 19.0	+0.3
HGSD				*eS*	Sn	20 51 28.4	-0.7
EHY	**Hungye**	**0.65**	**197**	*eP*	Pb	20 51 18.0	-0.8
EHY				*eS*	Sb	20 51 28.0	+0.5
TYC	**Yuchr**	**0.65**	**250**	*eP*	Pb	20 51 19.1	+0.3
TYC				*eS*	Sb	20 51 28.0	+0.5
EHYH	**Wanrong**	**0.66**	**195**	*eP*	Pb	20 51 18.7	-0.2
NSTT	**Nanjuang**	**0.69**	**316**	*eP*	Pn	20 51 20.3	0.0
NSTT				S	Sn	20 51 29.7	-0.5
LIOB	**Emei**	**0.69**	**318**	*eP*	Pn	20 51 20.4	+0.1
LIOB				*eS*	Sn	20 51 29.9	-0.4
KSHI	**Guanxi Townshi**	**0.72**	**334**	*eP*	Pn	20 51 21.4	+0.7
KSHI				*eS*	Sn	20 51 31.3	+0.5
TWQ1	**Liyutan**	**0.72**	**287**	*eP*	Pn	20 51 21.3	+0.6
WHYT	**Xinyi Township**	**0.75**	**235**	*eP*	Pn	20 51 21.3	+0.1
WHYT				*eS*	Sn	20 51 32.2	+0.4
YULB	**Yu-li**	**0.77**	**196**	*eP*	Pb	20 51 18.8	-1.9
YULB				*eS*	Sn	20 51 31.8	-0.4
NMLH	**Miaoli**	**0.78**	**301**	*eP*	Pn	20 51 22.6	+1.0
NMLH				*eS*	Sn	20 51 33.6	+1.1
WJS	**Zhushan**	**0.79**	**247**	*eS*	Sn	20 51 34.3	+1.5
TWF1	**Yuli**	**0.81**	**195**	*eP*	Pb	20 51 20.6	-0.7
TWF1				*eS*	Sn	20 51 32.8	-0.3
WNT	**Mingjian**	**0.81**	**252**	*eP*	Pn	20 51 22.7	+0.8
WNT				*eS*	Sn	20 51 34.6	+1.4
TWA	**Mucha**	**0.84**	**4**	*eP*	Pn	20 51 24.1	+1.7
TWA				*eS*	Sn	20 51 35.0	+0.9
TIPB	**Shuangxi**	**0.88**	**18**	*eP*	Pn	20 51 23.3	+0.3
TIPB				*eS*	Sn	20 51 35.0	0.0
ALS	**Alishan**	**0.91**	**227**	*eP*	Pn	20 51 23.8	+0.3
ALS				*eS*	Sn	20 51 36.3	+0.3
FULB	**Fuli**	**0.95**	**193**	*eP*	Pn	20 51 25.1	+1.1
WDLH	**Douliu**	**1.01**	**244**	*eP*	Pb	20 51 25.9	+1.2
WDLH				*eS*	Sn	20 51 40.6	+2.6
SXI1	**Grass Mountain**	**1.01**	**18**	*eP*	Pb	20 51 24.9	0.0
SXI1				*eS*	Sn	20 51 39.0	+0.8
YM01	**YM01**	**1.01**	**2**	*eP*	Pb	20 51 25.5	+0.6
YM01				*eS*	Sn	20 51 39.6	+1.4
ZUZH	**Zhuzihu**	**1.02**	**1**	*eP*	Pb	20 51 25.5	+0.3
ZUZH				*eS*	Sn	20 51 39.3	+0.8
NTST	**Danshui**	**1.03**	**356**	*eP*	Pb	20 51 25.9	+0.7
NTST				*eS*	Sn	20 51 40.8	+2.2
ELDTW	**Lidau**	**1.05**	**207**	*eP*	Pn	20 51 24.9	-0.4
ELDTW				*eS*	Sn	20 51 39.5	+0.3
YM08	**YM08**	**1.05**	**3**	*eP*	Pb	20 51 25.9	+0.2
YM08				*eS*	Sn	20 51 39.7	+0.5
WCKO	**Fanlu**	**1.09**	**231**	*eP*	Pb	20 51 27.0	+0.8
WTK	**Tuku**	**1.13**	**247**	*eP*	Pb	20 51 27.5	+0.6
WTK				*eS*	Sb	20 51 43.9	+2.7
CHN4	**Tsaushan**	**1.16**	**228**	*eP*	Pb	20 51 28.5	+1.1
CHN4				*eS*	Sb	20 51 45.9	+4.0
TPUB	**Ta-pu**	**1.17**	**225**	*eP*	Pb	20 51 28.2	+0.7
TPUB				*eS*	Sb	20 51 44.8	+2.6
STYH	**Taoyuan**	**1.18**	**216**	P	Pn	20 51 27.1	+0.1
TWK	**Hsinying**	**1.28**	**228**	*eP*	Pb	20 51 30.6	+1.0
CHN1	**Nanshi**	**1.31**	**224**	*eP*	Pb	20 51 31.1	+1.1

---

*IDC **25** 20:51:38.5±1.4, 23.°52N×121.°59E, h0km, mb3.3/4, mbtmp3.4/5, ML3.1/1, MS2.9/5, Error ellipse: s-maj=32.6km s-min=27.9km az=53.0*
*JMA **25** 20:51:42.6±0.1, 23.°5N±0.°6×12.°2E±.°, h37km±1km, MV3.3/17, TAIWAN REGION*
*ASIES **25** 20:51:43.0, 23.°55N×121.°53E, h30km, ML4.3, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}2.34; $M_{\theta\theta}$-3.47; $M_{\phi\phi}$1.11; $M_{r\theta}$-4.39; $M_{\theta\phi}$-4.48; $M_{\phi r}$2.02; Fault plane solution: $M_0$7.26315×10^{21} NP1:ϕ_o20.89000°, δ46.44000°, λ19.40000°. NP2:ϕ_s277.25000°, δ76.07000°, λ134.77000°. Principal axes: T Plg41.1080°, Azm228.6160°; N Plg43.1180°, Azm83.8220°; P Plg18.4860°, Azm335.5780°;*
*TAP **25** 20:51:43.0, 23.°55N×121.°53E, h30km, ML4.3, C*
ISC 25 20:51:43.0±0.8, 23.°53N±0.°02×121.°58E±0.°02, h30km±4km, n168, σ1$03/253, mb3.2/4, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.15**	**254**	P	**Pb**	**20 51 48.9**	**+0.2**
HGSD				S	**Sb**	**20 51 52.8**	**+0.2**
TEGC	**Jichi Village**	**0.18**	**348**	P	**Pb**	**20 51 49.1**	**+0.1**
TEGC				*eS*	**Sb**	**20 51 54.0**	**+0.9**
EGFH	**Guangfu**	**0.20**	**314**	P	**Pb**	**20 51 49.1**	**-0.1**
EGFH				S	**Sb**	**20 51 53.5**	**+0.2**
EHYH	**Wanrong**	**0.22**	**260**	P	**Pb**	**20 51 49.1**	**-0.4**
EHYH				*eS*	**Sb**	**20 51 53.3**	**-0.5**
EHY	**Hungye**	**0.24**	**264**	P	**Pb**	**20 51 49.1**	**-0.6**
EHY				S	**Sb**	**20 51 53.1**	**-1.1**
ECBN	**Changbin**	**0.25**	**209**	*i* P	**Pb**	**20 51 50.0**	**+0.3**
ECBN				S	**Sn**	**20 51 55.2**	**-0.2**
SHUL	**Shoufeng**	**0.25**	**356**	P	**Pb**	**20 51 50.4**	**+0.2**
SHUL				*eS*	**Sb**	**20 51 55.9**	**+1.4**
WARBT	**Fenglin Townsh**	**0.26**	**316**	P	**Pb**	**20 51 49.4**	**-0.6**
WARBT				*eS*	**Sb**	**20 51 53.5**	**-1.2**
YULB	**Yu-li**	**0.30**	**242**	P	**Pb**	**20 51 50.0**	**-0.4**
YULB	**Yu-li**	**0.30**	**242**	S	**Sb**	**20 51 52.6**	**-2.9**
YULB	**Yu-li**	**0.30**	**242**	P	**Pb**	**20 51 50.0**	**-0.4**
YULB				S	**Sb**	**20 51 54.6**	**-0.8**
EYUL	**Yuli**	**0.30**	**233**	P	**Pb**	**20 51 50.5**	**0.0**
ESL	**Shilin**	**0.31**	**334**	*i* P	**Pb**	**20 51 50.1**	**-0.5**
ESL				*eS*	**Sb**	**20 51 55.1**	**-0.7**
TWF1	**Yuli**	**0.32**	**236**	P	**Pb**	**20 51 50.4**	**-0.3**
TEYL	**Yanliau Villag**	**0.33**	**3**	P	**Pn**	**20 51 51.7**	**-0.1**
TEYL				*eS*	**Sn**	**20 51 58.8**	**+1.2**
CHKH	**Chenggong**	**0.38**	**207**	P	**Pb**	**20 51 51.7**	**+0.2**
CHKH				*eS*	**Sn**	**20 51 58.7**	**0.0**
FULB	**Fuli**	**0.42**	**219**	*eP*	**Pb**	**20 51 52.6**	**+0.3**
FULB				*eS*	**Sn**	**20 52 00.8**	**+1.0**
ETM	**Tongmen**	**0.44**	**349**	P	**Pb**	**20 51 52.8**	**-0.8**
ETM				*eS*	**Sb**	**20 51 58.5**	**-0.4**
HWA	**Hwalien**	**0.44**	**3**	*eP*	**Pb**	**20 51 52.9**	**+0.4**
HWA				*eS*	**Sn**	**20 52 00.2**	**-0.1**
VWDT	**VWDT**	**0.46**	**299**	P	**Pb**	**20 51 52.5**	**-0.3**
VWDT				*eS*	**Sb**	**20 51 58.7**	**-0.8**
CHKT	**Chengkung**	**0.47**	**205**	*i* P	**Pb**	**20 51 53.1**	**+0.1**
CHKT				S	**Sb**	**20 52 00.6**	**+0.8**
LXIB	**Xiulin Townshi**	**0.51**	**342**	P	**Pb**	**20 51 53.0**	**-0.7**
LXIB				*eS*	**Sb**	**20 51 59.9**	**-1.2**
EHD	**Haiduan**	**0.52**	**222**	*eP*	**Pb**	**20 51 52.9**	**-0.8**
TWD	**Chiawan**	**0.55**	**1**	P	**Pb**	**20 51 53.8**	**-0.3**
ECS	**Chishang**	**0.55**	**218**	*eP*	**Pb**	**20 51 53.7**	**-0.5**
OWD	**Renai**	**0.56**	**319**	P	**Pb**	**20 51 53.8**	**-0.8**
OWD				S	**Sb**	**20 52 00.7**	**-1.7**
EDH	**Donghe**	**0.61**	**205**	*eP*	**Pb**	**20 51 55.0**	**-0.3**
EDH				*eS*	**Sn**	**20 52 04.9**	**+0.5**
ELDTW	**Lidau**	**0.62**	**237**	P	**Pb**	**20 51 54.5**	**-1.2**
WUSB	**Renai**	**0.62**	**317**	*i* P	**Pb**	**20 51 55.0**	**-0.6**
WUSB				S	**Sb**	**20 52 02.7**	**-1.4**
ETL	**Fush Village**	**0.62**	**3**	*eP*	**Pb**	**20 51 55.0**	**-0.5**
SSLB	**Suanglung**	**0.63**	**294**	P	**Pb**	**20 51 54.6**	**-1.0**
SSLB	**Suanglung**	**0.63**	**294**	P	**Pb**	**20 51 54.7**	**-0.8**
SSLB				*eS*	**Sb**	**20 52 02.2**	**-1.9**
NACB	**Ninganchiao**	**0.64**	**1**	P	**Pb**	**20 51 55.0**	**-0.7**
NACB	**Ninganchiao**	**0.64**	**1**	S	**Sn**	**20 52 05.0**	**-0.1**
NACB	**Ninganchiao**	**0.64**	**1**	P	**Pb**	**20 51 55.0**	**-0.7**
NACB				*eS*	**Sn**	**20 52 05.2**	**+0.1**
WHF	**Hehuan Shan**	**0.68**	**335**	*eP*	**Pb**	**20 51 55.7**	**-0.9**
WHF				*eS*	**Sb**	**20 52 05.3**	**-0.5**
ETLH	**Xiulin Townshi**	**0.68**	**352**	*eP*	**Pb**	**20 51 55.5**	**-1.0**
WHYT	**Xinyi Township**	**0.69**	**284**	P	**Pb**	**20 51 56.0**	**-0.5**
WHYT				*eS*	**Sb**	**20 52 04.8**	**-1.0**
ALS	**Alishan**	**0.71**	**268**	P	**Pb**	**20 51 56.8**	**-0.4**
ALS				*eS*	**Sb**	**20 52 05.8**	**-1.8**
SMLT	**Sun Moon Lake**	**0.72**	**299**	P	**Pb**	**20 51 55.3**	**-1.8**
SMLT				*eS*	**Sb**	**20 52 04.6**	**-2.1**
LONT	**Longtian**	**0.75**	**214**	*eP*	**Pb**	**20 51 56.0**	**-1.5**
LONT				*eS*	**Sn**	**20 52 09.6**	**+1.7**
TYC	**Yuchr**	**0.76**	**299**	P	**Pb**	**20 51 56.9**	**-0.8**
TYC				*eS*	**Sb**	**20 52 07.3**	**-0.4**
FUSS	**Fushou**	**0.78**	**337**	P	**Pb**	**20 51 57.5**	**-0.7**
FUSS				*eS*	**Sb**	**20 52 07.7**	**-0.8**
EAHA	**Aohua**	**0.81**	**10**	*eP*	**Pb**	**20 51 58.3**	**-0.2**
EAHA				*eS*	**Sn**	**20 52 10.8**	**+1.5**
WCS	**Beigang Elemen**	**0.81**	**311**	P	**Pb**	**20 51 58.0**	**-0.5**
TWT	**Tachien**	**0.81**	**333**	P	**Pb**	**20 51 58.4**	**-0.2**
TWT				S	**Sb**	**20 52 08.3**	**-1.0**
TDCB	**Techi**	**0.81**	**332**	P	**Pb**	**20 51 58.3**	**-0.5**
TDCB				*eS*	**Sb**	**20 52 08.1**	**-1.4**
STYH	**Taoyuan**	**0.82**	**244**	P	**Pb**	**20 51 56.8**	**-1.9**
STYH				S	**Sb**	**20 52 07.8**	**-1.7**
CHN5	**Tsauling**	**0.83**	**275**	P	**Pn**	**20 51 59.0**	**+0.3**
CHN5				*eS*	**Sb**	**20 52 09.4**	**-0.5**
WJS	**Zhushan**	**0.83**	**290**	P	**Pn**	**20 51 59.0**	**+0.4**
WJS				*eS*	**Sn**	**20 52 10.4**	**+0.5**
TWGBT	**Beinan**	**0.85**	**213**	P	**Pb**	**20 51 57.1**	**-2.1**
TWGBT	**Beinan**	**0.85**	**213**	S	**Sb**	**20 52 08.4**	**-1.9**
TWGBT	**Beinan**	**0.85**	**213**	*eP*	**Pb**	**20 51 57.2**	**-2.0**
TWG	**Pinlang**	**0.85**	**214**	P	**Pb**	**20 51 57.3**	**-2.0**
LDUT	**Ludao**	**0.86**	**187**	*eP*	**Pb**	**20 51 57.9**	**-1.5**
TTN	**Taitung**	**0.87**	**207**	*eP*	**Pb**	**20 51 58.9**	**-0.7**
TTN				*eS*	**Sb**	**20 52 11.2**	**+0.2**
WNT	**Mingjian**	**0.89**	**293**	*eP*	**Pn**	**20 51 59.9**	**+0.4**
WNT				*eS*	**Sn**	**20 52 12.1**	**+0.7**
WCKO	**Fanlu**	**0.90**	**264**	*eP*	**Pn**	**20 52 00.2**	**+0.6**
WCKO				*eS*	**Sn**	**20 52 12.0**	**+0.4**
ENA	**Nanau**	**0.90**	**9**	P	**Pb**	**20 51 59.2**	**-0.9**
TPUB	**Ta-pu**	**0.91**	**255**	P	**Pb**	**20 52 00.0**	**-0.2**
TPUB	**Ta-pu**	**0.91**	**255**	S	**Sn**	**20 52 12.0**	**+0.3**
TPUB	**Ta-pu**	**0.91**	**255**	P	**Pb**	**20 51 60.0**	**-0.2**
TPUB				S	**Sb**	**20 52 11.6**	**-0.3**
NNSB	**Datong**	**0.91**	**349**	*eP*	**Pb**	**20 51 59.4**	**-0.9**
NNSB				*eS*	**Sb**	**20 52 10.8**	**-1.4**
NNS	**Nan Shan**	**0.92**	**348**	*eP*	**Pb**	**20 51 59.7**	**-0.8**
NNS				*eS*	**Sb**	**20 52 11.4**	**-1.1**
CHN4	**Tsaushan**	**0.93**	**259**	P	**Pb**	**20 52 00.6**	**+0.1**
CHN4				*eS*	**Sn**	**20 52 13.1**	**+0.9**
EWUT	**Wuta**	**0.93**	**11**	*eP*	**Pn**	**20 51 59.8**	**-0.1**
WTP	**Ta-pu**	**0.93**	**252**	P	**Pn**	**20 52 00.3**	**+0.2**
WTP				*eS*	**Sn**	**20 52 13.0**	**+0.5**
WHP	**Taichung City**	**0.94**	**322**	*eP*	**Pn**	**20 52 00.2**	**0.0**
WGK	**Gukeng**	**0.95**	**279**	*eP*	**Pb**	**20 52 00.6**	**-0.3**
WGK				S	**Sn**	**20 52 13.3**	**+0.5**
WDLH	**Douliu**	**0.97**	**279**	*eP*	**Pb**	**20 52 01.2**	**0.0**
WDLH				*eS*	**Sn**	**20 52 14.1**	**+0.8**
WDL	**Douliou City**	**0.97**	**281**	*eP*	**Pb**	**20 52 01.3**	**0.0**
WDL				*eS*	**Sn**	**20 52 14.8**	**+1.5**
LATG	**Datong**	**1.00**	**357**	*eP*	**Pn**	**20 52 00.8**	**-0.3**
EOS3	**EOS3**	**1.01**	**42**	*eS*	**Sn**	**20 52 15.5**	**+1.5**
CHN2	**Minshiung**	**1.02**	**270**	*eP*	**Pb**	**20 52 02.5**	**+0.5**
CHN2				*eS*	**Sn**	**20 52 16.6**	**+2.2**
SGST	**Jiashian**	**1.02**	**244**	P	**Pn**	**20 52 00.9**	**-0.4**
SGST				*eS*	**Sn**	**20 52 15.6**	**+1.0**
CHN1	**Nanshi**	**1.03**	**251**	P	**Pn**	**20 52 01.9**	**+0.5**
CHN1				*eS*	**Sn**	**20 52 16.4**	**+1.7**
TCU	**Taichung**	**1.03**	**307**	*eP*	**Pb**	**20 52 02.5**	**+0.2**
TCU				*eS*	**Sn**	**20 52 16.2**	**+1.4**
TWK	**Hsinying**	**1.04**	**255**	P	**Pn**	**20 52 02.0**	**+0.5**
TWK				*eS*	**Sn**	**20 52 16.3**	**+1.2**
SNST	**Tainan City**	**1.04**	**253**	*eP*	**Pb**	**20 52 02.4**	**-0.1**
SNST				*eS*	**Sn**	**20 52 16.5**	**+1.4**
CHY	**Chiayi**	**1.06**	**268**	*eP*	**Pb**	**20 52 02.6**	**-0.2**
CHY				*eS*	**Sb**	**20 52 17.6**	**+1.2**
ESAO	**Su ao**	**1.07**	**13**	*eP*	**Pb**	**20 52 02.9**	**0.0**
WCHH	**Zhanghua**	**1.08**	**300**	*eP*	**Pb**	**20 52 03.2**	**0.0**
WCHH				*eS*	**Sb**	**20 52 17.9**	**+0.9**
WCH1	**Changhua City**	**1.09**	**300**	*eP*	**Pb**	**20 52 03.4**	**+0.1**
WCH1				*eS*	**Sb**	**20 52 17.8**	**+0.7**
ECL	**Taimali**	**1.10**	**212**	*eP*	**Pn**	**20 52 00.8**	**-1.4**
TWQ1	**Liyutan**	**1.10**	**318**	P	**Pb**	**20 52 03.8**	**+0.4**
TWQ1				*eS*	**Sb**	**20 52 18.5**	**+1.1**
TWC	**Suao**	**1.10**	**13**	*eP*	**Pn**	**20 52 02.8**	**+0.5**
ENTT	**Nioudou**	**1.10**	**359**	*eP*	**Pn**	**20 52 02.3**	**-0.1**
NDS	**Dongshan**	**1.10**	**6**	*eP*	**Pn**	**20 52 02.3**	**-0.1**
WTK	**Tuku**	**1.10**	**278**	*eP*	**Pb**	**20 52 03.2**	**-0.3**
WTK				*eS*	**Sb**	**20 52 17.8**	**+0.2**
YHNB	**Yeheng**	**1.15**	**351**	P	**Pb**	**20 52 03.4**	**+0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	Miyako jima3	3.63	70	eS	Sn	20 53 20.4	+1.5
JOW	Kunigami	6.89	60	Pn	Pn	20 53 21.4	-0.6
	0.9nm,0.3s,baz=125,slow=17,SNR=7.3						
JOW				Sn	Sn	20 54 33.6	-5.9
	baz=150,slow=20 18nm,1.2s						
JOW	Kunigami	6.89	60	P	Pn	20 53 22.3	+0.3
JNU	Nakatsue	12.57	39	LR	LR	21 00 56.4	
	comp=Z,43nm,18.8s,baz=239,slow=44						
KSRS	Korea Array	14.91	20	LR	LR	21 01 25.9	
	comp=Z,30nm,19.4s,baz=200,slow=40						
DAV	Davao City (W)	16.81	166	LR	LR	21 01 46.5	
	comp=Z,62nm,18.1s,baz=246,slow=36						
CMAR	Chiang Mai Arr	21.72	261	P	P	20 56 31.7	-0.2
	0.3nm,0.4s,baz=75,slow=11,SNR=6.9						
CMAR				LR	LR	21 04 45.5	
	comp=Z,33nm,20.1s,baz=100,slow=36 0.3nm,0.4s						
SONM	Songino Array	27.11	337	P	P	20 57 22.4	-0.9
	0.2nm,0.5s,baz=153,slow=9.7,SNR=1.5						
SONM				LR	LR	21 09 50.6	
	comp=Z,38nm,18.8s,baz=87,slow=40 0.2nm,0.5s						
MKAR	Makanchi Array	39.06	316	P	P	20 59 07.5	+0.3
	0.9nm,0.7s,baz=115,slow=9.5,SNR=10 0.9nm,0.7s						
ASAR	Alice Springs	48.42	165	P	P	21 00 22.3	-0.3
	0.3nm,0.8s,baz=341,slow=8.3,SNR=4.6 0.3nm,0.8s						

IDC ***25*** *20:54:13.2±5.5,5°.42S×152°.97E,h50km±49km,mb3.5/10, mbtmp3.7/11,ML1.7/1,MS3.0/2,Error ellipse: s-maj=56.9km s-min=29.3km az=120.0*

ISC 25 20:54:11.8±1.9,5°.4S±0°.3×153°.0E±0°.3,h37km,n12, σ0§60/12,mb3.6/10,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.08	235	P	Pn	20 55 53.1	+0.2
	0.8nm,0.3s,baz=45,slow=17,SNR=1.2						
PMG				S	Sn	20 57 12.6	+0.5
	28nm,0.8s,baz=317,slow=5.9,SNR=4.2						
PMG				LR	LR	20 58 33.2	
	comp=Z,84nm,20.1s,baz=98,slow=37 3.2nm,0.3s						
WRA	Warramunga Arr	23.25	230	P	P	20 59 15.4	-0.8
	0.5nm,0.4s,baz=55,slow=9.8,SNR=5.7 0.5nm,0.4s						
ASAR	Alice Springs	25.90	223	P	P	20 59 40.3	-0.3
	0.5nm,0.6s,baz=55,slow=9.0,SNR=9.4 0.5nm,0.6s						
JOW	Kunigami	39.99	324	LR	LR	21 18 16.6	
	comp=Z,24nm,18.8s,baz=235,slow=36						
CMAR	Chiang Mai Arr	58.33	295	P	P	21 04 03.3	-0.4
	0.3nm,0.4s,baz=104,slow=7.5,SNR=2.2 0.3nm,0.4s						
PETK	Petropavlovsk-	58.39	3	P	P	21 04 04.4	+1.0
	8.2nm,1.1s,baz=185,slow=6.9,SNR=5.1 8.2nm,1.1s						
SONM	Songino Array	66.92	328	P	P	21 04 59.8	-0.8
	0.2nm,0.5s,baz=132,slow=2.1,SNR=1.8 0.2nm,0.5s						
MKAR	Makanchi Array	80.90	319	P	P	21 06 22.9	+0.6
	0.1nm,0.5s,baz=96,slow=5.4,SNR=4.8 0.1nm,0.5s						
ZALV	Zalesovo Beam	81.75	326	P	P	21 06 26.7	+0.1
	1.0nm,0.6s,baz=113,slow=5.4,SNR=5.2 1.0nm,0.6s						
ILAR	Eielson Array	82.59	22	P	P	21 06 30.7	-0.1
	0.2nm,0.5s,baz=257,slow=6.0,SNR=4.1 0.2nm,0.5s						
KURBB	Kurchatov Arra	84.39	322	P	P	21 06 40.3	+0.1
	0.6nm,0.9s,baz=92,slow=4.6,SNR=4.1 0.6nm,0.9s						
BVAR	Borovoye Array	89.83	323	P	P	21 07 06.5	-0.2
	1.3nm,0.8s,baz=123,slow=5.3,SNR=5.2 1.3nm,0.8s						

IDC 25 21:47:29.2±2.2,7°.66S×130°.28E,h0km,mb3.5/1, mbtmp3.4/4,ML3.5/3,Error ellipse: s-maj=82.5km s-min=28.6km az=78.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.32	203	Pn	Pn	21 50 13.9	+1.6
	0.6nm,0.3s,baz=24,slow=11,SNR=27						
FITZ				Sn	Sn	21 52 12.3	-7.2
	0.8nm,0.3s,baz=181,slow=13,SNR=6.2 1.0nm,0.3s						
WRA	Warramunga Arr	12.83	163	Pn	Pn	21 50 31.6	-1.4
	0.2nm,0.3s,baz=339,slow=13,SNR=7.4						
WRA				Sn	Sn	21 52 47.5	-9.2
	0.4nm,0.3s,baz=339,slow=21,SNR=7.3 0.3nm,0.4s						
ASAR	Alice Springs	16.29	168	Pn	Pn	21 51 19.3	-0.3
	0.2nm,0.3s,baz=343,slow=8.4,SNR=9.2						
ASAR				Sn	Sn	21 54 12.7	-8.4
	0.1nm,0.3s,baz=340,slow=24,SNR=2.2 0.2nm,0.4s						
MKAR	Makanchi Array	68.92	327	P	P	21 58 36.1	0.0
	0.3nm,0.5s,baz=128,slow=7.1,SNR=6.1 0.3nm,0.5s						

NEIC ***25*** *21:52:01.7±2.0,20°.4S±0°.2×177°.39W±0°.10,h415km±11km, mb4.4/17,Error ellipse: s-maj=24.1km s-min=13.3km az=178.0*

IDC ***25*** *21:52:02.5±2.8,20°.69S×177°.57W,h409km±24km,mb3.5/7, mbtmp4.3/10,Error ellipse: s-maj=34.2km s-min=21.0km az=72.0*

ISC 25 21:52:01.0±0.7,20°.72S±0°.09×177°.40W±0°.08,h400km, n42,σ1§86/44,mb4.2/13,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.22	304	P	Pn	21 53 25.7	+0.2
	12nm,0.6s,baz=135,slow=15,SNR=7.6						
NIUE	Niue	7.22	78	P	P	21 53 48.1	+0.3
NIUE	Niue	7.22	78	S	S	21 55 15.5	+1.5
PINNC	Pines Island,	14.21	260	P	P	21 55 07.0	+2.1
DZM	Mont Dzumac	15.11	262	P	P	21 55 15.0	+0.2
DZM				IAmb	IAmb	21 55 22.1	
	comp=Z,11nm,0.9s						
DZM	Mont Dzumac	15.11	262	P	P	21 55 15.2	+0.4
	comp=Z,8.0nm,0.8s,baz=122,slow=6.2,SNR=6.1						
MXZ	Matakaoa Point	17.19	192	P	P	21 55 39.1	+2.3
WMGZ	Waiomatatini S	17.42	191	P	P	21 55 40.7	+1.5
HAZ	Te Kaha	17.48	193	P	P	21 55 40.6	+0.8
HAZ				S	S	21 58 37.7	-3.4
PKGZ	Pakihiroa	17.53	192	P	P	21 55 41.4	+1.0
PUZ	Puketiti	17.69	191	P	P	21 55 43.3	+1.2
PUZ				S	S	21 58 42.9	-2.3
RUGZ	Raukumara Rang	17.70	193	P	P	21 55 42.8	+0.4
RUGZ				S	S	21 58 42.4	-3.2
TWGZ	Tauwhareparae	17.85	192	P	P	21 55 44.2	+0.4
MWZ	Matawai	18.09	193	P	P	21 55 45.0	-1.3
URZ	Urewera	18.11	194	P	P	21 55 47.0	+0.5
	comp=Z,12nm,0.4s,baz=92,slow=3.7,SNR=13						
URZ	Urewera	18.11	194	P	P	21 55 46.4	-0.1
RTZ	Ruatahuna	18.48	194	P	P	21 55 51.8	+1.2
RTZ				IAmb	IAmb	21 56 18.9	
	comp=Z,26nm,1.3s						
MTHZ	Maungataniwha	18.74	194	P	P	21 55 54.4	+1.2
MTHZ				S	S	21 59 04.9	+0.7
BKZ	Black Stump Fm	19.12	195	P	P	21 55 58.7	+1.7
BKZ				IAmb	IAmb	21 56 21.2	
	comp=Z,24nm,1.4s						
KAHZ	Kahuranaki	19.63	193	P	P	21 56 04.1	+2.1
BFZ	Birch Farm	20.62	194	P	P	21 56 12.9	+2.0
MRZ	Mangatainoka R	20.75	195	P	P	21 56 14.6	+2.4
STKA	Stephens Creek	38.20	245	P	P	21 58 44.1	-0.3
	comp=Z,0.9nm,0.3s,baz=90,slow=9.1,SNR=3.1 comp=Z,0.9nm,0.3s						
JAY	Jayapura	44.64	288	P	P	21 59 36.2	0.0
	comp=Z,13nm,0.9s,baz=232,slow=3.2,SNR=4.3 comp=Z,13nm,0.9s						
AS31	Alice Springs	45.01	257	P	P	21 59 38.5	-0.5
ASAR	Alice Springs	45.01	257	P	P	21 59 38.6	-0.4
	comp=Z,4.1nm,0.8s,baz=86,slow=8.4,SNR=44 comp=Z,4.1nm,0.8s						
WB0	Warramunga Arr	45.10	262	P	P	21 59 38.9	-0.8
WB2	Warramunga Arr	45.11	262	P	P	21 59 38.9	-1.0
WRA	Warramunga Arr	45.12	262	P	P	21 59 39.0	-0.9
WRA	Warramunga Arr	45.12	262	P	P	21 59 38.6	-1.3
	comp=Z,3.1nm,0.6s,baz=96,slow=7.5,SNR=54						
	comp=Z,3.1nm,0.6s						
FITZ	Fitzroy Crossi	53.55	262	P	P	22 00 43.1	+0.3
	comp=Z,1.6nm,0.7s,baz=79,slow=5.2,SNR=1.8 comp=Z,1.6nm,0.7s						
QSPA	South Pole Qui	69.35	180	P	P	22 02 29.0	+2.5
QSPA	South Pole Qui	69.35	180	P	P	22 02 28.3	+1.8
	comp=Z,1.6nm,1.1s,baz=112,slow=5.4,SNR=2.1 comp=Z,1.6nm,1.1s						
MJAR	Matsushiro Arr	70.72	323	P	P	22 02 35.4	+0.4
	comp=Z,1.2nm,0.7s,baz=124,slow=6.0,SNR=4.0 comp=Z,1.2nm,0.7s						
PV18	Skein Mesa, Pa	86.94	47	P	P	22 03 58.0	-4.3
PV18				IAmb	IAmb	22 04 10.1	
	comp=Z,8.8nm,1.0s						
PV13	Radium Mtn., P	86.96	47	P	P	22 03 58.6	-3.9
PV13				IAmb	IAmb	22 04 00.4	
	comp=Z,6.1nm,1.0s						
PV16	Nyswonger Mesa	86.97	47	P	P	22 03 58.7	-3.8
PV16				IAmb	IAmb	22 04 05.7	
	comp=Z,5.1nm,0.8s						
PV23	Carpenter Ridg	86.97	47	P	P	22 04 00.6	-1.9
PV04	Paradox Valley	87.02	47	P	P	22 04 01.2	-1.4
PV04				IAmb	IAmb	22 04 02.8	
	comp=Z,9.5nm,1.1s						
PV12	Saucer Basin,	87.05	47	P	P	22 03 58.1	-4.7
PV12				IAmb	IAmb	22 04 01.8	
	comp=Z,7.9nm,0.9s						
PV07	Paradox Valley	87.22	47	P	P	22 04 01.2	-2.5
PV07				IAmb	IAmb	22 04 43.8	
	comp=Z,5.5nm,1.2s						
AKASG	Malin Array Be	143.48	331	PKP	PKPab	22 10 46.6	+0.2
	comp=Z,1.1nm,0.5s,baz=38,slow=0.4,SNR=9.7						

MOS ***25*** *21:57:43.7±1.1,1°.82S×122°.50E,h11km,mb5.5/57, MS4.7/5,Error ellipse: s-maj=7.3km s-min=4.4km az=116.7*

NEIC ***25*** *21:57:46,1°.93S×123°.00E,h18km,Moment Tensor Solution. Duration: 2§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.26; $M_{\theta\theta}$1.13; $M_{\phi\phi}$-0.87; $M_{r\theta}$0.20; $M_{r\phi}$0.94; $M_{\theta\phi}$-0.02; Fault plane solution: $M_0$1.39000×10^{17} NP1:ϕ_s23.19000°, δ82.10000°,λ179.68000°. NP2:ϕ_s113.24000°,δ89.68000°, λ7.90000°. Principal axes: T 1.5215, Plg6.0000°, Azm338.0000°; N -0.2686, Plg82.0000°, Azm116.0000°; P -1.2529, Plg5.0000°, Azm248.0000°;*

NEIC ***25*** *21:57:46,1°.93S×122°.49E,h18km*

NEIC ***25*** *21:57:46.0±1.3,1°.92S±0°.04×122°.49E±0°.06,h10km±1km, mb5.6/324,Mww5.4/44,Error ellipse: s-maj=9.6km s-min=7.1km az=284.0*

GCMT ***25*** *21:57:48.0±0.1,1°.81S×122°.52E,h18km,MW5.4/157, Moment Tensor Solution. s128,c224; s157,c320; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.35±.02; $M_{\theta\theta}$1.22±.02; $M_{\phi\phi}$-0.87±.02; $M_{r\theta}$0.34±.04; $M_{\theta\phi}$0.97±.01; $M_{r\phi}$-0.56±.04; Best double couple: $M_0$1.59900×10^{17} NP1:ϕ_s27.00000°,δ68.00000°, λ-162.00000°. NP2:ϕ_s290.00000°,δ74.00000°, λ-23.00000°. Principal axes: T 1.6110, Plg3.0000°, Azm339.0000°; N -0.0200, Plg62.0000°, Azm76.0000°; P -1.5880, Plg27.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***25*** *21:57:49.0±0.2,2°.S±1°.×12°.2E±°,h27km±1km,M5.5/99, mb5.7/99,mB6.0/72,MLv6.0/29,Mw(mB)5.6/72, MwMwp5.1/33,Mwp5.3/33*

IDC ***25*** *21:57:49.4±1.8,1°.84S×122°.47E,h41km±16km,mb4.4/27, mbtmp4.7/30,ML5.3/5,MS4.5/60,Error ellipse: s-maj=13.3km s-min=8.8km az=93.0*

ISC 25 21:57:45.7±0.2,1°.94S±0°.03×122°.48E±0°.03,h10km,n1029, σ1§52/1041,mb5.5/288,MS4.6/93,23C-4D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.94	18	Pg	Pb	21 58 04.1	0.0
LUWI	Luwuk	0.94	18	P	Pb	21 58 04.4	+0.3
LUWI				S	Sb	21 58 16.4	-0.3
APSI	Ampana	1.32	321	P	Pn	21 58 10.0	-0.2
KDI	Kendari	2.00	176	P	Pn	21 58 20.4	+0.8
MRSI	Marisa	2.46	347	P	Pn	21 58 25.6	-0.4
PCI	Palu	2.84	291	P	Pn	21 58 32.1	+1.0
TTSI	Tana Toraja	2.88	248	P	Pn	21 58 32.7	+1.1
KMSI	Cibinong	2.92	31	P	Pn	21 58 32.7	+0.5
SPSI	Sidrap Palu	3.37	233	P	Pn	21 58 40.3	+1.9
BNSI	Bone	3.40	224	P	Pn	21 58 40.3	+1.5
MPSI	Mapaga	3.44	311	P	Pn	21 58 39.3	0.0
TOLI2	Tolitoli	3.48	331		Pn	21 58 39.9	0.0
TOLI2	Tolitoli	3.48	331	P	Pn	21 58 41.6	+1.7
SANI	Sanana	3.51	92	P	Pn	21 58 39.8	-0.5
SANI	Sanana	3.51	92	S	Sn	21 59 21.1	-0.8
SANI	Sanana	3.51	92	P	Pn	21 58 39.3	-1.0
BBSI	Bau Bau	3.52	179	P	Pn	21 58 42.3	+1.8
KAPI	Kappang	4.09	222		Pn	21 58 49.8	+1.5
KAPI	Kappang	4.09	222	P	Pn	21 58 51.0	+2.7
	1μm,0.3s,baz=37,slow=7.2,SNR=613						
KAPI				S	Sn	21 59 37.6	+1.4
	5μm,0.5s,baz=52,slow=22,SNR=12						
KAPI				LR	LR	22 00 28.4	
	comp=Z,7μm,20.8s,baz=72,slow=38						
KAPI	Kappang	4.09	222	P	Pn	21 58 50.8	+2.5
KAPI	Kappang	4.09	222	S	Sn	21 59 39.3	+3.0
BKSI	Bulukumba	4.10	215	P	Pn	21 58 49.8	+1.4
BSSI	Bau Bau, Buton	4.62	205	P	Pn	21 58 57.5	+1.9
NLAI	Namlea	4.79	106	P	Pn	21 58 59.5	+1.6
SMKI	Samarinda	5.48	286	P	Pn	21 59 09.0	+1.6
	9.2nm8μm16μm846nm,0.5s						
TNTI	Ternate	5.58	61		Pn	21 59 08.1	-0.8
TNTI	Ternate	5.58	61	P	Pn	21 59 09.7	+0.9
TNTI	Ternate	5.58	61	P	Pn	21 59 09.7	+0.9
	8μm9μm855nm,1.0s						
BKB	Balikpapan	5.62	277		Pn	21 59 10.2	+0.8
BKB	Balikpapan	5.62	277	P	Pn	21 59 11.5	+2.1
BKB	Balikpapan	5.62	277	P	Pn	21 59 11.2	+1.8
AAI	Ambon	5.96	107	P	Pn	21 59 16.9	+2.8
	5.3nm13μm2μm,0.9s						
SGSI	Sangihe	6.37	29	P	Pn	21 59 20.7	+1.0
MSAI	Masohi	6.59	102	P	Pn	21 59 25.0	+2.3
	4.8nm15μm1μm,1.1s						
MMRI	Maumere	6.65	182		Pn	21 59 25.0	+1.4
MMRI	Maumere	6.65	182	P	Pn	21 59 25.5	+1.9
MMRI	Maumere	6.65	182	P	Pn	21 59 25.2	+1.6
EDFI	Ende, Flores	6.81	187	P	Pn	21 59 27.3	+1.5
	3.1nm8μm763nm,0.7s						
BNDI	Bandanaira	7.84	109	P	Pb	21 59 53.9	-7.9
SOEI	Soe	7.96	167		Pn	21 59 43.8	+2.1
SOEI	Soe	7.96	167	P	Pn	21 59 46.1	+4.4
WSI	Waingapu	7.97	196	P	Pn	21 59 44.1	+2.4
	8μm14μm2μm,1.4s						
MYLDM	Lahad Datu	8.12	331		Pn	21 59 45.2	+1.5
WBSI	Waikabubak, Su	8.24	202	P	Pn	21 59 47.8	+2.4
	7μm5μm511nm,1.0s						
PLAI	Plampang	8.29	214	P	Pn	21 59 48.4	+2.4
PLAI	Plampang	8.29	214	P	Pn	21 59 48.2	+2.2
	273nm,1.0s						
SWI	Sorong	8.84	83	P	Pn	21 59 54.4	+0.8
	5μm6μm762nm,1.1s						
SRBI	Singaraja	9.46	230	P	Pn	22 00 03.7	+1.5
	5μm5μm484nm,0.5s						
DAV	Davao City (W)	9.47	19	Pn	Pn	22 00 04.5	+2.1
DAV	Davao City (W)	9.47	19	P	Pn	22 00 04.0	+1.7
	36nm,0.3s,baz=216,slow=3.9,SNR=6.7						
DAV				LR	LR	22 03 14.1	
	comp=Z,4μm,21.6s,baz=20,slow=35 56nm,0.3s						
FAKI	Fak Fak	9.81	96		Pn	22 00 06.8	-0.1
FAKI	Fak Fak	9.81	96	P	Pn	22 00 07.0	+0.1
FAKI	Fak Fak	9.81	96	P	Pn	22 00 07.0	+0.1
	3μm269nm,1.0s						
KMMI	Kalianget	9.89	239	P	Pn	22 00 10.6	+2.6
	6μm5μm653nm,1.0s						
KKM	Kota Kinabalu	10.11	322		Pn	22 00 11.8	+0.7
KKM	Kota Kinabalu	10.11	322	P	Pn	22 00 13.3	+2.2
JAGI	Jajag, Banyuwa	10.52	232		Pn	22 00 17.6	+0.8
JAGI	Jajag, Banyuwa	10.52	232	P	Pn	22 00 19.3	+2.6
JAGI	Jajag, Banyuwa	10.52	232	P	Pn	22 00 18.6	+1.9
	5μm3μm262nm,1.0s						
SAUI	Saumlaki	10.63	125		Pn	22 00 19.2	+1.0
SAUI	Saumlaki	10.63	125	P	Pn	22 00 20.3	+2.1
GMJI	Gumukmas	10.98	235	P	Pn	22 00 25.2	+2.3
	3μm187nm,1.1s						
GRJI	Gresik	11.12	243	P	Pn	22 00 27.3	+2.4
	5μm4μm497nm,1.2s						
SBUM	Sibu	11.15	293		Pn	22 00 25.6	+0.3
SBUM	Sibu	11.15	293	P	Pn	22 00 27.9	+2.6
STKI	Sintang	11.18	280	P	Pn	22 00 27.4	+1.7
	4μm111nm,1.0s						
KMPI	Kaimana, Papua	11.34	99	P	Pn	22 00 29.4	+1.5
	6μm755nm,1.1s						
RKPI	Ransiki, Papua	11.70	88	P	Pn	22 00 34.8	+2.0
	3μm361nm,0.9s						
NGJI	Ngawi	12.23	244	P	Pn	22 00 42.2	+2.1
	160nm,1.4s						
KSM	Kuching	12.63	286		Pn	22 00 45.9	+0.3
PCJI	Pacitan	12.85	241	P	Pn	22 00 50.7	+2.1
	4μm339nm,1.2s						
SMRI	Semarang	13.03	247	Pn	Pn	22 00 52.5	+1.4
UGM	Wanagama	13.30	243	P	Pn	22 00 57.5	+2.7
UGM	Wanagama	13.30	243	P	Pn	22 00 56.5	+1.7
	5μm288nm,1.9s						
DRS	Darwin Rock St	13.35	142	P	Pn	22 00 56.3	+1.0
YOGI	Yogyakarta	13.47	244	P	Pn	22 00 59.6	+2.6
	5μm438nm,1.7s						
BAKI	Biak	13.64	87	P	Pn	22 01 01.4	+2.0
	2μm4μm386nm,1.0s						
SRPI	Serui, Papua	13.75	90	P	Pn	22 01 01.7	+0.8
	120nm,1.2s						
MTN	Manton Dam	13.81	142		Pn	22 01 01.8	+0.1
MTN	Manton Dam	13.81	142	P	Pn	22 01 02.9	+1.2
	comp=Z,0.0nmcomp=Z,197nm,1.0s						
MTN	Manton Dam	13.81	142	P	Pn	22 01 02.7	+1.1
KDU	Kakadu	14.55	138	P	Pn	22 01 12.6	+0.7
	comp=Z,0.0nmcomp=Z,374nm,1.4s						
TPI	Tanjungpandan	14.84	267	P	Pn	22 01 17.4	+1.7
	comp=Z,4μmcomp=Z,295nm,1.3s						
KNRA	Kununurra	14.98	156		Pn	22 01 15.9	-1.8
KNRA	Kununurra	14.98	156	P	Pn	22 01 15.7	-2.1
I39PW	PALAU INFRASON	15.28	52	I	I	23 26 50.0	
	baz=233,slow=316,SNR=1.2						
LEM	Lembang	15.59	251	P	Pn	22 01 27.9	+2.0
	comp=Z,1.6nm,0.3s,baz=73,slow=7.0,SNR=8.5 comp=Z,92nm,1.2s						
LEM	Lembang	15.59	251	P	Pn	22 01 27.6	+1.7
	comp=Z,4μmcomp=Z,192nm,1.4s						
BBJI	Bungbulang	15.76	249	P	Pn	22 01 30.3	+2.3
TGY	Tagaytay City	16.02	355	P	Pn	22 01 31.7	+0.5
	comp=Z,54nm,0.3s,baz=161,slow=18,SNR=12						
TGY				LR	LR	22 06 59.4	
	comp=Z,2μm,21.1s,baz=162,slow=35						
CNJI	Cibinong	16.20	250	P	Pn	22 01 35.5	+1.9
	comp=Z,165nm,1.2s						
SMPI	Sarmi	16.22	90	P	Pn	22 01 35.6	+1.7
	comp=Z,3μmcomp=Z,5μmcomp=Z,383nm,1.3s						
FITZ	Fitzroy Crossi	16.35	169		Pn	22 01 32.9	-2.6
FITZ	Fitzroy Crossi	16.35	169	P	Pn	22 01 33.0	-2.4
FITZ	Fitzroy Crossi	16.35	169	P	Pn	22 01 33.4	-2.1
	comp=Z,75nm,0.9s,baz=6.2,slow=10,SNR=58						
FITZ				LR	LR	22 08 32.6	
	comp=Z,2μm,19.1s,baz=338,slow=39						
CGJI	Cibinong	17.37	254	P	P	22 01 50.3	+0.6
	comp=Z,6μmcomp=Z,328nm,1.2s						
GENI	Genyem	17.68	92	P	P	22 01 55.2	+2.0
	comp=Z,3μmcomp=Z,5μmcomp=Z,338nm,1.1s						
JAY	Jayapura	18.22	92	P	Pn	22 01 59.2	+0.2
	comp=Z,1.6nm,0.3s,baz=276,slow=9.2,SNR=15						
JAY				LR	LR	22 10 31.9	
	comp=Z,3μm,19.9s,baz=26,slow=42 comp=Z,9.8nm,0.7s						
JAY	Jayapura	18.22	92	P	P	22 02 01.6	+2.4
	comp=Z,106nm,1.0s						
MDSI	Maura Dua	18.45	262	P	Pn	22 02 03.5	+1.8
	comp=Z,4μmcomp=Z,5μmcomp=Z,416nm,1.3s						
LWLI	Liwa	18.64	260	P	Pn	22 02 05.6	+1.4
	comp=Z,8μmcomp=Z,782nm,1.1s						
XMIS	Christmas Isla	18.74	242		P	22 02 03.9	-1.0
XMIS				IAmb	IAmb	22 02 08.1	
	comp=Z,260nm,1.1s						
MYKOM	Kota Tinggi	18.99	281		P	22 02 07.9	+0.2
MYKOM				IAmb	IAmb	22 02 12.5	
	comp=Z,774nm,1.8s						
MYKOM	Kota Tinggi	18.99	281	P	Pn	22 02 09.9	+1.6
MBWA	Marble Bar	19.29	188		P	22 02 11.5	+0.7
MBWA	Marble Bar	19.29	188	P	Pn	22 02 12.1	+0.4
	comp=Z,0.0nmcomp=Z,91nm,1.5s						
MBWA	Marble Bar	19.29	188	P	Pn	22 02 12.2	+0.4
PSAD1	Pilbara Seismi	19.56	187	P	P	22 02 14.9	+1.1
	comp=Z,71nm,1.0s						
DLV	Lat	19.59	315		P	22 02 13.8	-0.6
DLV				IAmb	IAmb	22 02 23.7	
	comp=Z,209nm,0.9s						
MNAI	Manna	19.64	263		Pn	22 02 16.1	-0.1
MNAI	Manna	19.64	263	P	Pn	22 02 17.1	+0.9
MNAI	Manna	19.64	263	P	Pn	22 02 17.0	+0.9
	comp=Z,12μmcomp=Z,316nm,1.0s						
PSAC1	Pilbara Seismi	19.64	187	P	P	22 02 15.9	+1.2
	comp=Z,89nm,1.1s						
PSA00	Pilbara Seismi	19.68	187		P	22 02 15.8	+0.7
PSA00	Pilbara Seismi	19.68	187	P	P	22 02 15.2	+0.1
PSA00				IAmb	IAmb	22 02 29.1	
	comp=Z,38nm,1.1s						
PSA00	Pilbara Seismi	19.68	187	P	P	22 02 16.2	+1.1
	comp=Z,104nm,1.2s						
PSA00	Pilbara Seismi	19.68	187	P	Pn	22 02 17.1	+0.6
KSI	Kapahiang	19.94	265	P	Pn	22 02 20.3	+0.6
	comp=Z,14μmcomp=Z,634nm,0.9s						
WB0	Warramunga Arr	21.20	147		P	22 02 31.1	-0.6
WRAB	Tennant Creek	21.31	148	P	P	22 02 32.7	-0.2
WRAB				IAmb	IAmb	22 02 37.2	
	comp=Z,426nm,1.2s						
WRAB	Tennant Creek	21.31	148	*i* P	P	22 02 33.0	+0.1
WRAB				pmax	pmax		
	comp=Z,404nm,1.2s						
WRA	Warramunga Arr	21.32	148	P	P	22 02 33.1	+0.2
	comp=Z,128nm,0.9s,baz=322,slow=11,SNR=61						
WR8	Warramunga Ar

comp=Z,421nm,0.9s
AS01 Alice Springs 24.28 154 P P 22 03 04.4 +1.0
comp=Z,246nm,1.1s
AS01 Alice Springs 24.28 154 P P 22 03 04.3 +0.9
TSI Tuntungan 24.51 283 P P 22 03 06.6 +1.0
TWG Pinlang 24.65 357 P P 22 03 06.2 -0.5
TWG IAmb IAmb 22 03 36.8
comp=Z,160nm,1.0s
MEEK Meekatharra 24.83 188 P P 22 03 08.2 -0.1
comp=Z,244nm,1.2s
MEEK Meekatharra 24.83 188 P P 22 03 08.6 +0.2
MANU Manus Island 24.87 91 P P 22 03 08.1 -0.7
QIS Mount Isa 24.93 139 P P 22 03 09.2 -0.1
comp=Z,178nm,0.9s
QIS Mount Isa 24.93 139 P P 22 03 09.2 -0.1
SRIT Nakonsritamara 25.10 295 P 22 03 11.1 +0.2
GSI Gunungsitoli 25.11 277 P 22 03 10.2 -0.8
GSI Gunungsitoli 25.11 277 P P 22 03 10.5 -0.5
comp=Z,8μmcomp=Z,707nm,1.1s
TPUB Ta-pu 25.16 356 P 22 03 10.9 -0.4
YULB Yu-li 25.21 357 P P 22 03 09.9 -1.9
YULB IAmb IAmb 22 03 33.9
comp=Z,174nm,1.0s
YULB Yu-li 25.21 357 P P 22 03 11.4 -0.4
HKPS Hong Kong Po S 25.41 342 P 22 03 13.2 -0.4
HKPS IAmb IAmb 22 03 30.6
comp=Z,210nm,1.1s
SSLB Suanglung 25.62 357 P 22 03 14.7 -0.8
SSLB Suanglung 25.62 357 P P 22 03 15.3 -0.2
PMG Port Moresby 25.64 108 P 22 03 16.2 +0.5
PMG Port Moresby 25.64 108 LR LR 22 15 31.4
comp=Z,1μm,20.6s,baz=307,slow=41
PMG Port Moresby 25.64 108 P P 22 03 16.3 +0.6
PMG Port Moresby 25.64 108 P P 22 03 16.2 +0.5
PMG pmax pmax
comp=Z,263nm,0.9s
NACB Ninganchiao 25.98 358 P P 22 03 18.5 -0.2
NACB IAmb IAmb 22 03 33.7
comp=Z,172nm,1.3s
NACB Ninganchiao 25.98 358 P P 22 03 19.7 +1.0
YOJ Yonaguni jima 26.25 1 P P 22 03 21.9 +0.7
YOJ IAmb IAmb 22 03 40.3
comp=Z,160nm,0.8s
YOJ Yonaguni jima 26.25 1 P P 22 03 22.3 +1.1
YOJ Yonaguni jima 26.25 1 P P 22 03 21.9 +0.7
YOJ pmax pmax
comp=Z,161nm,0.8s
GZH Guangzhou 26.43 341 P P 22 03 27.5 +4.7
GZH S **S 22 08 04.5 +8.0**
GZH pmax pmax
comp=Z,76nm,1.0s
GZH LR LR
comp=Z,2μm,17.8s
GZH LR LR
comp=Z,1μm,14.0s
GZH LR LR
comp=Z,3μm,16.5s
YHNB Yeheng 26.48 358 P 22 03 22.6 -0.7
YHNB Yeheng 26.48 358 P P 22 03 23.9 +0.6
LHMI Lhok Sumawe 26.48 286 P 22 03 24.3 +0.8
LHMI Lhok Sumawe 26.48 286 P P 22 03 23.6 +0.2
comp=Z,325nm,1.1s
KNMB Chin-men Tao 26.55 352 P P 22 03 24.7 +0.8
KNMB IAmb IAmb 22 03 42.1
comp=Z,241nm,1.2s
TATO Taipei 26.78 358 P P 22 03 25.3 -0.6
TATO IAmb IAmb 22 03 41.7
comp=Z,158nm,1.1s
MLSI Meulaboh, Aceh 26.78 283 P P 22 03 25.6 -0.5
comp=Z,4μmcomp=Z,449nm,1.0s
MTSU Mount Surprise 26.79 128 P P 22 03 27.0 +0.7
comp=Z,19nm,0.9s
QZH Quanzhou 26.99 352 *e*P **P 22 03 25.3 -2.5**
QZH S **S 22 08 01.3 -4.1**
QZH LR LR
comp=Z,1μm,14.8s
QZH LR LR
comp=Z,2μm,12.7s
QZH LR LR
comp=Z,2μm,17.8s
MORW Morawa 27.66 192 P P 22 03 35.7 +1.8
comp=Z,72nm,1.4s
OOD Oodnadatta 28.64 155 P P 22 03 43.6 +1.0
BLDU Ballidu 29.04 190 P P 22 03 47.7 +1.6
JOW Kunigami 29.15 11 P P 22 03 45.6 -1.5
comp=Z,6.7nm,0.6s,baz=166,slow=8.3,SNR=2.0
JOW LR LR 22 15 40.4
comp=Z,1μm,19.8s,baz=188,slow=37
comp=Z,6.7nm,0.6s
FORT Forrest 29.16 170 P 22 03 47.0 -0.2
FORT IAmb IAmb 22 04 49.7
comp=Z,78nm,0.9s
FORT Forrest 29.16 170 P P 22 03 47.7 +0.5
comp=Z,81nm,0.8s
FORT Forrest 29.16 170 P P 22 03 48.0 +0.8
KMBL Kambalda 29.27 181 P P 22 03 47.3 -0.8
comp=Z,37nm,1.3s
SLVN Son La 29.42 323 P 22 03 49.3 -0.4
SLVN IAmb IAmb 22 04 02.3
comp=Z,113nm,1.2s
GULI GuiLin 29.51 337 P P 22 03 53.5 +3.1
GULI S **S 22 08 45.8 +0.7**
GULI pmax pmax
comp=Z,10.0nm,1.9s
GULI LR LR
comp=Z,900nm,18.8s
GULI LR LR
comp=Z,1μm,20.0s
GULI LR LR
comp=Z,1μm,18.3s
RABL Rabaul 29.72 95 P P 22 03 53.0 +0.5
KLBR Kellerberrin 29.82 188 P P 22 03 54.4 +1.3
comp=Z,57nm,0.9s
CM31 Chiang Mai Arr 30.78 312 P P 22 04 02.9 +1.2
CMAR Chiang Mai Arr 30.78 312 P 22 04 02.1 +0.4
CMAR Chiang Mai Arr 30.78 312 P P 22 04 01.1 -0.7
comp=Z,17nm,0.9s,baz=138,slow=7.2,SNR=83
CMAR LR LR 22 18 31.0
comp=Z,431nm,18.8s,baz=115,slow=40
comp=Z,17nm,0.9s
CMAR Chiang Mai Arr 30.78 312 P P 22 04 02.1 +0.4
CHTO Chiang Mai 31.00 313 P 22 04 04.2 +0.5
CHTO IAmb IAmb 22 04 19.2
comp=Z,60nm,0.9s
CHTO Chiang Mai 31.00 313 P P 22 04 04.4 +0.7
CHTO Chiang Mai 31.00 313 P P 22 04 04.2 +0.5
CHTO pmax pmax
comp=Z,60nm,1.0s
INKA Innaminka 31.04 147 P P 22 04 05.0 +1.1
NWAO Narrogin (SRO) 31.21 189 P P 22 04 05.7 +0.4
NWAO Narrogin (SRO) 31.21 189 P P 22 04 07.2 +1.9
comp=Z,67nm,2.4s
NWAO Narrogin (SRO) 31.21 189 LR LR 22 18 03.0
comp=Z,535nm,18.3s,baz=47,slow=39
NWAO Narrogin (SRO) 31.21 189 P P 22 04 07.4 +2.1
NWAO Narrogin (SRO) 31.21 189 P P 22 04 05.7 +0.4
NWAO pmax pmax
comp=Z,53nm,1.3s
CNSH ChangSha 31.33 344 P P 22 04 13.8 +7.4
CNSH S S 22 09 23.0 +9.5
CNSH pmax pmax
comp=Z,12nm,0.7s
CNSH LR LR
comp=N,1μm,15.4s
CNSH LR LR
comp=E,3μm,19.5s
CNSH LR LR
comp=Z,850nm,23.3s
LCRK Leigh Creek 32.03 154 P P 22 04 14.3 +1.7
GYA Guiyang 32.10 333 ⇑P **P 22 04 15.5 +2.1**
GYA sP sP 22 04 20.8 +3.4
GYA S **S 22 09 17.5 -8.5**
GYA pmax pmax
comp=Z,14nm,1.3s
GYA LR LR
comp=Z,1μm,14.4s
GYA LR LR
comp=Z,1μm,15.4s
GYA LR LR
comp=Z,1μm,20.0s
QLP Quilpie 32.19 141 P P 22 04 14.7 +0.6
comp=Z,126nm,1.2s
QLP Quilpie 32.19 141 P P 22 04 14.9 +0.8
PBA Port Blair 32.50 295 P P 22 04 17.9 +1.0
PBA IAmb IAmb 22 04 56.1
comp=Z,157nm,1.4s
SSE Sheshan 32.88 358 P P 22 04 20.3 +0.3
SSE S **S 22 09 40.0 +2.4**
SSE pmax pmax
comp=Z,12nm,1.4s
SSE pmax pmax
comp=Z,74nm,4.4s
SSE LR LR
comp=Z,400nm,22.7s
SSE LR LR
comp=Z,310nm,22.7s
RKGY Rocky Gully 32.90 188 P P 22 04 22.0 +1.9
comp=Z,31nm,1.2s
KMI Kunming 33.02 326 ⇑P **P 22 04 23.5 +1.9**
KMI S **S 22 09 41.3 +0.8**
KMI pmax pmax
comp=Z,59nm,1.0s
KMI LR LR
comp=Z,1μm,17.6s
KMI LR LR
comp=Z,810nm,23.3s
KMI LR LR
comp=Z,920nm,17.9s
WHN Wuhan 33.22 347 P P 22 04 24.0 +1.0
WHN pP **sP 22 04 28.0 +1.0**
WHN S **S 22 09 41.0 -2.0**
WHN sS **sS 22 09 53.8 +6.2**
WHN LR LR
comp=Z,2μm,14.4s
WHN LR LR
comp=Z,1μm,11.8s
WHN LR LR
comp=Z,3μm,17.9s
BBOO Buckleboo 33.25 159 P 22 04 23.2 -0.1
BBOO IAmb IAmb 22 04 31.9
comp=Z,61nm,0.8s
BBOO Buckleboo 33.25 159 P P 22 04 23.7 +0.5
comp=Z,88nm,0.8s
BBOO Buckleboo 33.25 159 P P 22 04 23.6 +0.4
NJ2 Nanjing 33.98 354 ⇓P **P 22 04 30.0 +0.4**
NJ2 sP **sP 22 04 36.0 +2.4**
NJ2 PP **PnPn 22 05 41.8 -1.0**
NJ2 S **S 22 09 47.5 -7.3**
NJ2 pmax pmax
comp=Z,29nm,0.9s
NJ2 pmax pmax
comp=Z,230nm,3.5s
NJ2 LR LR
comp=Z,690nm,18.9s
NJ2 LR LR
comp=Z,1μm,19.0s
NJ2 LR LR
comp=Z,1μm,18.9s
ENH Enshi 34.35 340 P P 22 04 33.0 +0.2
RK1H Rockhampton Ha 34.51 130 P P 22 04 34.8 +0.5
JCJ Chichijima 34.56 32 P 22 04 33.9 -0.8
JCJ Chichijima 34.56 32 P P 22 04 34.2 -0.5
comp=Z,144nm,0.5s,baz=285,slow=8.4,SNR=11
JCJ LR LR 22 18 28.0
comp=Z,294nm,21.3s,baz=226,slow=36
PZH PanZhiHua 34.65 326 P P 22 04 37.0 +1.3
PZH S **S 22 10 03.8 -1.8**
PZH pmax pmax
comp=Z,110nm,1.0s
PZH pmax pmax
comp=Z,300nm,3.5s
PZH LR LR
comp=Z,640nm,19.6s
PZH LR LR
comp=Z,980nm,19.6s
PZH LR LR
comp=Z,870nm,18.4s
STKA Stephens Creek 34.80 151 P 22 04 36.2 -0.5
STKA Stephens Creek 34.80 151 P P 22 04 37.3 +0.5
comp=Z,483nm,1.1s
STKA Stephens Creek 34.80 151 P P 22 04 37.2 +0.5
comp=Z,57nm,0.9s,baz=319,slow=8.8,SNR=42
STKA LR LR 22 20 42.7
comp=Z,1μm,18.1s,baz=327,slow=39
comp=Z,57nm,0.9s
STKA Stephens Creek 34.80 151 P P 22 04 37.1 +0.3
HTT Hallett 34.91 156 P P 22 04 38.7 +1.0
comp=Z,29nm,1.1s
HTT Hallett 34.91 156 P P 22 04 38.5 +0.8
TNCH TengChong 35.48 321 ⇑P **P 22 04 43.8 +0.9**
TNCH pP pP 22 04 46.3 +0.6
TNCH sP sP 22 04 50.5 +3.6
TNCH S **S 22 10 17.0 -1.4**
TNCH sS sS 22 10 26.0 +3.0
TNCH pmax pmax
comp=Z,48nm,1.1s
TNCH LR LR
comp=Z,730nm,16.7s
TNCH LR LR
comp=Z,770nm,16.7s
TNCH LR LR
comp=Z,2μm,18.8s
JNU Nakatsue 35.77 12 P P 22 04 44.1 -1.0
comp=Z,7.6nm,0.7s,baz=198,slow=6.4,SNR=4.8
comp=Z,7.6nm,0.7s
CMSA Cobar Meteorol 36.69 146 P P 22 04 53.7 +0.7
comp=Z,116nm,0.9s
CMSA Cobar Meteorol 36.69 146 P P 22 04 53.7 +0.7
JMN Monobe 37.07 16 P 22 04 54.4 -1.8
JMN IAmb IAmb 22 05 04.3
comp=Z,79nm,0.9s
JMN Monobe 37.07 16 P P 22 04 55.7 -0.5
CD2 Chengdu 37.22 333 P P 22 04 58.3 +0.8
CD2 sP sP 22 05 03.3 +1.8
CD2 S **S 22 10 47.5 +2.8**
CD2 sS sS 22 10 51.5 +2.1
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,250nm,2.8s
CD2 LR LR
comp=Z,960nm,20.6s
CD2 LR LR
comp=Z,1μm,17.5s
LYN LuoYang 37.50 346 P P 22 05 00.0 +0.2
LYN pP sP 22 05 05.8 +2.0
LYN S **S 22 10 43.0 -5.7**
LYN sS sS 22 10 56.3 +3.0
LYN pmax pmax
comp=Z,37nm,0.6s
LYN LR LR
comp=Z,2μm,16.8s
LYN LR LR
comp=Z,1μm,14.8s
LYN LR LR
comp=Z,2μm,16.5s
HNR Honiara 37.99 103 P P 22 05 04.2 0.0
HNR Honiara 37.99 103 LR LR 22 24 57.8
comp=Z,316nm,18.2s,baz=288,slow=43
HNR Honiara 37.99 103 P P 22 05 04.2 0.0
HNR pmax pmax
comp=Z,219nm,1.1s
XAN Xi'an 38.00 342 ⇑P **P 22 05 05.3 +1.2**
XAN pP sP 22 05 09.5 +1.4
XAN S **S 22 10 58.0 +1.6**
XAN pmax pmax
comp=Z,100nm,1.2s
XAN pmax pmax
comp=Z,690nm,3.9s
XAN LR LR
comp=Z,2μm,17.2s
XAN LR LR
comp=Z,3μm,17.9s
XAN LR LR
comp=Z,2μm,20.6s
TIA Tai'an 38.29 353 P P 22 05 05.8 -0.6
TIA sP **sP 22 05 11.0 +0.6**
TIA S **S 22 11 03.0 +2.4**
TIA pmax pmax
comp=Z,11nm,1.1s
TIA pmax pmax
comp=Z,220nm,4.1s
TIA LR LR
comp=Z,790nm,22.7s
TIA LR LR
comp=Z,230nm,22.3s
TIA LR LR
comp=Z,1μm,20.6s
JHJ Hachijo jima 2 38.52 24 LR LR 22 20 34.3
comp=Z,596nm,21.6s,baz=271,slow=36
ARPS Mount Arapiles 38.99 155 P P 22 05 13.6 +1.3
comp=Z,278nm,0.9s
ARPS Mount Arapiles 38.99 155 P P 22 05 13.6 +1.3
KSAR Wonju Array Be 39.51 7 P 22 05 17.3 +0.7
INU Inuyama 39.52 19 P 22 05 14.7 -2.0
KSRS Korea Array 39.52 7 P P 22 05 15.3 -1.4
comp=Z,4.8nm,0.9s,baz=182,slow=9.7,SNR=7.4
KSRS LR LR 22 20 46.5
comp=Z,757nm,21.4s,baz=195,slow=35
comp=Z,4.8nm,0.9s
ARMA Armidale 39.56 139 P 22 05 16.8 -0.5
ARMA Armidale 39.56 139 P P 22 05 18.6 +1.2
comp=Z,36nm,1.3s
HNS HongShan 39.80 350 ⇑P **P 22 05 19.0 -0.1**
HNS S **S 22 11 28.0 +4.6**
HNS pmax pmax
comp=Z,48nm,1.2s
HNS LR LR
comp=Z,780nm,18.2s
HNS LR LR
comp=Z,750nm,17.6s
HNS LR LR
comp=Z,1μm,18.4s
JGF Kuroka 39.86 19 P 22 05 17.1 -2.5
SHL Shillong 40.31 315 P 22 05 23.1 -0.5
SHL IAmb IAmb 22 05 43.1
comp=Z,131nm,1.3s
SHL Shillong 40.31 315 P P 22 05 23.2 -0.5
SHL pmax pmax
comp=Z,131nm,1.3s
TIY Taiyuan 40.54 348 *e*P P 22 05 31.8 +6.5
TIY pP sP 22 05 53.0 +24
TIY S **S 22 11 33.5 -1.1**
TIY sS sS 22 12 10.5 +31
TIY pmax pmax
comp=Z,22nm,0.8s
TIY LR LR
comp=N,690nm,21.3s
TIY LR LR
comp=E,430nm,19.9s
TIY LR LR
comp=Z,760nm,20.6s
MAJO Matsushiro 41.00 19 P 22 05 26.0 -3.0
MAJO IAmb IAmb 22 05 43.6
comp=Z,76nm,1.1s
MAJO Matsushiro 41.00 19 P P 22 05 26.0 -3.0
MAJO pmax pmax
comp=Z,76nm,1.1s
MJAR Matsushiro Arr 41.00 19 P P 22 05 26.1 -3.0
comp=Z,23nm,0.9s,baz=194,slow=8.5,SNR=49
MJAR LR LR 22 23 34.3
comp=Z,664nm,19.2s,baz=209,slow=38
comp=Z,23nm,0.9s
MJB9 Matsu-Tunnel 41.00 19 P 22 05 27.0 -2.0
MJB9 IAmb IAmb 22 05 44.6
comp=Z,72nm,1.0s
SYDH Sydney Hard Ro 41.24 143 P P 22 05 32.0 +1.0
TOO Toolangi 41.29 152 P 22 05 32.3 +0.9
TOO Toolangi 41.29 152 P P 22 05 33.1 +1.6
comp=Z,31nm,1.4s
TOO Toolangi 41.29 152 P P 22 05 32.3 +0.9
TOO pmax pmax
comp=Z,61nm,1.5s
CAN Canberra 41.35 146 P 22 05 32.1 +0.1
CAN IAmb IAmb 22 05 42.4
comp=Z,70nm,0.9s
CAN Canberra 41.35 146 P P 22 05 33.0 +1.0
comp=Z,82nm,1.1s
CAN Canberra 41.35 146 P P 22 05 33.2 +1.2
CAN Canberra 41.35 146 P P 22 05 32.1 +0.1
CAN pmax pmax
comp=Z,70nm,0.9s
RIV Riverview 41.53 143 P P 22 05 35.3 +1.8
comp=Z,83nm,1.3s
CNB Canberra Magne 41.55 146 P P 22 05 35.0 +1.4
comp=Z,68nm,1.8s
LZH Lanzhou 41.64 337 *e*P **P 22 05 37.5 +3.0**
LZH pP sP 22 05 41.5 +3.0
LZH S **S 22 11 57.5 +6.3**
LZH pmax pmax
comp=Z,42nm,1.7s
LZH pmax pmax
comp=Z,320nm,4.7s
LZH LR LR
comp=Z,1μm,16.2s
LZH LR LR
comp=Z,920nm,17.9s
LZH LR LR
comp=Z,1μm,18.6s
BJT Baijiatuau 42.16 353 P P 22 05 38.2 -0.2
BJT Baijiatuau 42.16 353 P P 22 05 38.3 -0.2
BJT pmax pmax
comp=Z,38nm,0.9s
BJI Beijing 42.18 353 P P 22 05 38.3 -0.3
BJI sP **sP 22 05 44.8 +2.2**
BJI pmax pmax
comp=Z,6.0nm,1.0s
BJI LR LR
comp=Z,300nm,21.0s
BJI LR LR
comp=Z,300nm,22.2s
BJI LR LR
comp=Z,430nm,21.3s
JSD Sado 42.38 19 P P 22 05 39.0 -1.2
PALK Pallekele 42.68 283 P P 22 05 42.1 -1.1
PALK Pallekele 42.68 283 LR LR 22 24 34.8
comp=Z,576nm,18.4s,baz=98,slow=38
PALK Pallekele 42.68 283 P P 22 05 42.1 -1.1
PALK pmax pmax
comp=Z,58nm,1.6s
JMM Marumori 43.09 21 P P 22 05 46.2 +0.2
JMM IAmb IAmb 22 06 22.7
comp=Z,140nm,1.2s
JMM Marumori 43.09 21 P P 22 05 46.7 +0.7
LSA Lhasa 43.44 319 P P 22 05 49.0 -0.6
LSA IAmb IAmb 22 06 09.7
comp=Z,46nm,0.7s
LSA Lhasa 43.44 319 P P 22 05 51.0 +1.4
LSA pmax pmax
comp=Z,7.0nm,0.4s
LSA LR LR
comp=Z,420nm,24.4s
LSA LR LR
comp=Z,710nm,22.3s
LSA Lhasa 43.44 319 P P 22 05 49.0 -0.6
LSA pmax pmax
comp=Z,46nm,0.7s
HHC Hu-ho-hao-te 43.74 348 *e*P **P 22 05 55.0 +3.6**
HHC sP sP 22 06 02.8 +7.4
HHC S **S 22 12 21.5 -0.3**
HHC pmax pmax
comp=Z,31nm,0.9s
HHC pmax pmax
comp=Z,220nm,6.7s
HHC LR LR
comp=Z,720nm,18.6s
HHC LR LR
comp=Z,660nm,13.8s
HHC LR LR
comp=Z,940nm,17.5s
BTO Baotou 43.85 346 *e*P **P 22 05 55.5 +3.2**
BTO pP **sP 22 05 59.8 +3.5**
BTO sP **pP 22 06 02.8 +7.6**
BTO PP **PcP 22 07 40.0 +1.4**
BTO S **S 22 12 30.3 +6.9**
BTO sS sS 22 12 36.3 +8.0
BTO pmax pmax
comp=Z,23nm,1.7s
BTO pmax pmax
comp=Z,380nm,8.4s
BTO LR LR
comp=Z,2μm,22.9s
BTO LR LR
comp=Z,3μm,21.2s
BTO LR LR
comp=Z,2μm,20.9s
CN2 Changchun 45.62 3 *e*P **P 22 06 09.0 +2.8**
CN2 *es*P sP 22 06 15.0 +4.8
CN2 *e*S **S 22 12 51.5 +2.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s

```
CN2                                LR    LR
      comp=Z,600nm,19.0s
GOMU  GeErMu      45.88 328        P     P     22 06 09.5 +0.6
GOMU                               pP    sP    22 06 13.0 +0.1
GOMU                               sP    pP    22 06 17.0 +5.2
GOMU                               PP    PP    22 07 59.0 +2.5
GOMU                               S     S     22 12 51.0 -2.6
GOMU                               SS    ScS   22 16 09.5 +3.8
GOMU                               pmax  pmax
      comp=Z,9.0nm,1.0s
GOMU                               LR    LR
      comp=Z,1µm,17.8s
GOMU                               LR    LR
      comp=Z,2µm,17.4s
GOMU                               LR    LR
      comp=Z,1µm,17.2s
XLT   XiLinHaoTe  46.00 354 eP     P     P     22 06 14.0 +4.7
XLT                                S     S     22 12 58.5 +4.0
XLT                                ScS   ScS   22 16 08.5 +3.0
XLT                                pmax  pmax
      comp=Z,20nm,1.9s
XLT                                LR    LR
      comp=Z,46nm,19.6s
XLT                                LR    LR
      comp=Z,410nm,21.2s
XLT                                LR    LR
      comp=Z,530nm,22.2s
GTA   Gaotai      46.12 336        P     P     22 06 11.5 +1.1
GTA                                pP    sP    22 06 17.0 +2.5
GTA                                PP    PP    22 08 05.5 +6.8
GTA                                S     S     22 12 54.8 -1.7
GTA                                ScS   ScS   22 16 03.0 -3.6
GTA                                pmax  pmax
      comp=Z,8.0nm,1.3s
GTA                                pmax  pmax
      comp=Z,130nm,5.3s
GTA                                LR    LR
      comp=Z,680nm,18.9s
GTA                                LR    LR
      comp=Z,700nm,20.0s
GTA                                LR    LR
      comp=Z,570nm,20.7s
USA0B Ussuriysk Arra  46.72  9     P     P     22 06 14.0 -0.9
USA0B                              IAmb  IAmb  22 06 31.9
      comp=Z,34nm,0.9s
USA0B Ussuriysk Arra  46.72  9 i   P     P     22 06 14.6 -0.3
USRK  Ussuriysk Ar.   46.72  9     P     P     22 06 12.4 -2.4
      comp=Z,7.6nm,0.5s,baz=198,slow=5.6,SNR=18
USRK                               LR    LR    22 27 46.8
      comp=Z,229nm,19.8s,baz=187,slow=39
      comp=Z,7.6nm,0.5s
MDJ   Mudanjiang  46.79  7         P     P     22 06 13.6 -1.8
MDJ                                IAmb  IAmb  22 06 32.7
      comp=Z,63nm,1.0s
MDJ   Mudanjiang  46.79  7         P     P     22 06 13.3 -2.1
MDJ                                S     S     22 13 08.5 +2.9
MDJ                                pmax  pmax
      comp=Z,23nm,1.1s
MDJ                                pmax  pmax
      comp=Z,230nm,4.8s
MDJ                                LR    LR
      comp=Z,600nm,23.4s
MDJ                                LR    LR
      comp=Z,660nm,17.9s
MDJ                                LR    LR
      comp=Z,910nm,22.0s
DZM   Mont Dzumac 47.17 119        P     P     22 06 17.9 -1.0
DZM                                IAmb  IAmb  22 06 26.0
      comp=Z,36nm,1.1s
DZM   Mont Dzumac 47.17 119 eP     P     P     22 06 18.8 -0.1
      comp=Z,92nm,1.3s
DZM                                eS    S     22 13 12.4 +0.5
      comp=Z,368nm,29.3s
DZM                                eLQ   LQ    22 17 33.5
      comp=Z,2µm,31.9s
DZM                                eLR   LR    22 19 38.0
      comp=Z,1µm,25.4s
DZM   Mont Dzumac 47.17 119        P     P     22 06 19.1 +0.2
ERM   Erimo       47.60 21         P     P     22 06 23.1 +1.4
BNX   BinXian     47.68  5 ⇓P      P     P     22 06 19.5 -2.8
BNX                                pP    pP    22 06 25.3 +0.1
BNX                                S     S     22 13 14.3 -3.9
BNX                                pmax  pmax
      comp=Z,7.0nm,1.1s
BNX                                LR    LR
      comp=Z,400nm,18.8s
BNX                                LR    LR
      comp=Z,390nm,19.7s
BNX                                LR    LR
      comp=Z,690nm,23.1s
TEY   Ternei      48.44 13 eP      P     P     22 06 25.8 -2.4
TEY                                e           22 13 22.3
ASAJ  Asahikawa   49.27 19         LR    LR    22 28 08.2
      comp=Z,784nm,20.9s,baz=167,slow=37
ASAJ  Asahikawa   49.27 19         P     P     22 06 33.0 -1.6
ASAJ                               pmax  pmax
      comp=Z,66nm,0.7s
JKA   Kamikawa-asahi 49.27 19      P     P     22 06 33.0 -1.6
JKA                                IAmb  IAmb  22 06 41.5
      comp=Z,66nm,0.7s
DGAR  Diego Garcia 50.13 262       P     P     22 06 41.0 -0.7
DGAR  Diego Garcia 50.13 262 ceP   P     P     22 06 41.9 +0.2
DGAR                               pmax  pmax
      comp=Z,157nm,1.5s
HIA   Hailar      51.06 358        P     P     22 06 47.4 -0.8
HIA   Hailar      51.06 358 i P    P     P     22 06 48.0 -0.2
HIA                                pmax  pmax
      comp=Z,29nm,1.1s
ULN   Ulaanbaatar 51.41 347        P     P     22 06 50.5 -0.4
ULN                                IAmb  IAmb  22 07 13.3
      comp=Z,104nm,1.4s
ULN   Ulaanbaatar 51.41 347 ceP    P     P     22 06 50.6 -0.4
ULN                                pmax  pmax
      comp=Z,33nm,2.5s
SONM  Songino Array 51.53 346      P     P     22 06 51.1 -0.8
SONM                               IAmb  IAmb  22 07 14.1
      comp=Z,85nm,1.4s
SONM  Songino Array 51.53 346      P     P     22 06 50.9 -0.9
      comp=Z,4.2nm,0.7s,baz=162,slow=8.2,SNR=11
SONM                               LR    LR    22 30 50.0
      comp=Z,657nm,18.9s,baz=160,slow=38
      comp=Z,4.2nm,0.7s
SONM  Songino Array 51.53 346      P     P     22 06 51.1 -0.8
SONM                               pmax  pmax
      comp=Z,85nm,1.4s
KLR   Kul'dur     51.60  8         LR    LR    22 29 33.3
      comp=Z,371nm,21.8s,baz=198,slow=37
KLR   Kul'dur     51.60  8 ceP     P     P     22 06 50.2 -2.0
KLR                                pmax  pmax
      comp=Z,7.0nm,1.7s
YSS   Yuzhno-Sakhali 51.85 18      P     P     22 06 52.4 -1.7
YSS                                IAmb  IAmb  22 07 09.4
      comp=Z,42nm,0.9s
YSS   Yuzhno-Sakhali 51.85 18 eP   P     P     22 06 52.7 -1.4
YSS                                e           22 08 09.5
YSS                                eS    S     22 14 08.3 -8.3
YSS                                pmax  pmax
      comp=Z,30nm,1.0s
HEH   HeiHe       52.17  4 eP      P     P     22 06 54.3 -2.1
HEH                                pP    sP    22 07 00.3 -0.1
HEH                                S     S     22 14 26.0 +5.2
HEH                                pmax  pmax
      comp=Z,16nm,1.0s
HEH                                LR    LR
      comp=Z,710nm,20.6s
HEH                                LR    LR
      comp=Z,330nm,21.0s
HEH                                LR    LR
      comp=Z,840nm,20.0s
GRNR  Gornyy      53.85 11⇑ iP     P     P     22 07 07.2 -1.6
GRNR                               pmax  pmax
      comp=Z,9.0nm,1.1s
CIT   Chita       54.30 353 eP     P     P     22 07 15.2 +3.1
CIT                                e           22 08 13.4
ZAK   Zakamensk   54.66 345 eP     P     P     22 07 15.8 +0.9
ZAK                                pmax  pmax
      comp=Z,19nm,1.4s
WMQ   Urumqi      55.19 330 eP     P     P     22 07 22.5 +3.7
WMQ                                sP    sP    22 07 31.5 +8.6
WMQ                                pmax  pmax
      comp=Z,24nm,1.7s
WMQ                                pmax  pmax
      comp=Z,400nm,3.7s
WMQ                                LR    LR
      comp=Z,700nm,20.7s
WMQ                                LR    LR
      comp=Z,770nm,20.7s
WMQ                                LR    LR
      comp=Z,350nm,22.9s
TYV   Tymovskoe   55.36 15 eP      P     P     22 07 24.5 +4.8
TYV                                pmax  pmax
      comp=Z,300nm,3.5s
TYV                                pmax  pmax
      comp=Z,20nm,1.0s
ZEA   Zeya        55.63  3 eP      P     P     22 07 25.7 +4.1
ZEA                                eS    S     22 15 17.9 +10
ZEA                                pmax  pmax
      comp=Z,30nm,0.8s
IRK   Irkutsk     56.14 347 eP     P     P     22 07 30.6 +5.2
IRK                                pmax  pmax
      comp=Z,40nm,3.0s
MOY   Mondy       56.44 344 eP     P     P     22 07 27.7 +0.1
MOY                                pmax  pmax
      comp=Z,46nm,2.8s
MSVF  Nonsavu     56.72 110        P     P     22 07 29.4 -0.8
MSVF  Nonsavu     56.72 110        LR    LR    22 31 45.9
      comp=Z,310nm,20.9s,baz=258,slow=36
MSVF  Nonsavu     56.72 110        P     P     22 07 29.4 -0.8
MSVF                               pmax  pmax
      comp=Z,33nm,1.0s
WUS   Wushi       58.19 323        P     P     22 07 40.2 -0.1
WUS                                IAmb  IAmb  22 08 08.9
      comp=Z,63nm,1.2s
NIL   Nilore      58.28 312        P     P     22 07 40.6 -0.3
NIL                                IAmb  IAmb  22 08 17.3
      comp=Z,90nm,1.6s
NIL   Nilore      58.28 312        P     P     22 07 40.6 -0.3
NIL                                pmax  pmax
      comp=Z,90nm,1.6s
DCZ   Deep Cove   58.39 144        P     P     22 07 41.7 +0.3
JCZ   Jackson Bay 58.60 142        P     P     22 07 44.5 +1.5
ZSN   Zaisan      59.17 331 eP     P     P     22 07 46.3 -0.4
ZSN                                pmax  pmax
      comp=Z,11nm,0.8s
ZSN   Zaisan      59.17 331 eP     P     P     22 07 46.4 -0.4
      comp=Z,12nm,0.8s
SHLS  Shalkode    59.22 324 eP     P     P     22 07 45.0 -2.4
SHLS                               pmax  pmax
      comp=Z,17nm,1.4s
SHLS  Shalkode    59.22 324 eP     P     P     22 07 45.0 -2.4
      comp=Z,17nm,1.4s
KSH   Kashi       59.29 319        P     P     22 07 48.0 +0.1
KSH                                sP    sP    22 07 55.0 +2.9
KSH                                pmax  pmax
      comp=Z,10.0nm,1.1s
KSH                                LR    LR
      comp=Z,400nm,24.5s
KSH                                LR    LR
      comp=Z,520nm,21.1s
KSH                                LR    LR
      comp=Z,650nm,22.6s
TARG  Taragay, Kyrgy 59.36 322     P     P     22 07 48.7  0.0
TARG                               IAmb  IAmb  22 08 33.9
      comp=Z,33nm,1.1s
TARG  Taragay, Kyrgy 59.36 322     P     P     22 07 48.7  0.0
TARG                               pmax  pmax
      comp=Z,33nm,1.1s
PRZ   Przheval'sk 59.44 323        P     P     22 07 49.2 +0.2
PRZ                                IAmb  IAmb  22 08 34.0
      comp=Z,64nm,1.4s
PRZ   Przheval'sk 59.44 323        P     P     22 07 49.2 +0.2
PRZ                                pmax  pmax
      comp=Z,64nm,1.4s
UZB   Uzynbulak   59.47 324 eP     P     P     22 07 48.3 -0.8
UZB                                pmax  pmax
      comp=Z,9.0nm,1.2s
UZB   Uzynbulak   59.47 324 eP     P     P     22 07 48.4 -0.8
      comp=Z,9.1nm,1.2s
RPZ   Rata Peaks  59.82 141        P     P     22 07 51.5 +0.1
RPZ   Rata Peaks  59.82 141        LR    LR    22 35 31.1
      comp=Z,820nm,18.2s,baz=308,slow=38
ZHN   Zhinishke   59.83 324 eP     P     P     22 07 50.8 -0.8
ZHN                                pmax  pmax
      comp=Z,16nm,1.2s
ZHN   Zhinishke   59.83 324 eP     P     P     22 07 50.8 -0.8
      comp=Z,16nm,1.2s
KPKS  Kokpek      59.86 324 eP     P     P     22 07 51.0 -0.8
KPKS                               pmax  pmax
      comp=Z,14nm,1.2s
KPKS  Kokpek      59.86 324 eP     P     P     22 07 51.0 -0.8
      comp=Z,14nm,1.2s
BOD   Bodaibo     59.96 355 eP     P     P     22 07 55.3 +3.3
BOD                                pmax  pmax
      comp=Z,68nm,1.5s
MK31  Makanchi Array 60.00 329 ceP P     P     22 07 51.6 -0.9
MKAR  Makanchi Array 60.00 329 P   P     P     22 07 51.6 -0.9
      comp=Z,4.2nm,0.9s,baz=128,slow=5.9,SNR=32
MKAR                               LR    LR    22 35 48.9
      comp=Z,517nm,21.1s,baz=128,slow=38
      comp=Z,4.2nm,0.9s
MKAR  Makanchi Array 60.00 329     P     P     22 07 51.7 -0.8
THZ   Tophouse    60.09 138        P     P     22 07 53.3  0.0
THZ                                IAmb  IAmb  22 08 03.1
      comp=Z,25nm,0.9s
MAKZ  Makanchi    60.17 329        P     P     22 07 52.2 -1.5
MAKZ                               IAmb  IAmb  22 08 39.6
      comp=Z,46nm,1.2s
MAKZ  Makanchi    60.17 329        P     P     22 07 52.2 -1.5
MAKZ                               pmax  pmax
      comp=Z,46nm,1.3s
NRN   Naryn       60.31 321        P     P     22 07 54.5 -0.7
NRN   Naryn       60.31 321        P     P     22 07 54.5 -0.7
NRN                                pmax  pmax
      comp=Z,19nm,1.2s
ROCAM Rodrigues Isla 60.36 248     P     P     22 07 55.0 -0.5
TUWZ  Tuamarina   60.63 138        P     P     22 07 56.1 -0.8
TNSS  Tian-Shan   60.63 323 eP     P     P     22 07 56.3 -1.1
TNSS  Tian-Shan   60.63 323 eP     P     P     22 07 56.4 -1.1
MDOK  Medeo       60.65 323 eP     P     P     22 07 56.5 -0.7
MDOK  Medeo       60.65 323 eP     P     P     22 07 56.6 -0.7
BSWZ  Blackbirch Sta 60.71 138     P     P     22 07 55.4 -2.1
TCW   Tory Channel 60.76 137       P     P     22 07 57.6 -0.3
KHZ   Kahutara    60.80 139        P     P     22 07 58.9 +0.8
TDK   Taldyqorghan 60.95 326 eP    P     P     22 07 58.6 -0.4
TDK                                pmax  pmax
      comp=Z,26nm,1.4s
TDK   Taldyqorghan 60.95 326 eP    P     P     22 07 58.7 -0.4
      comp=Z,26nm,1.4s
MRZ   Mangatainoka R 61.42 136     P     P     22 08 02.2 -0.2
MRZ                                IAmb  IAmb  22 08 14.5
      comp=Z,40nm,1.1s
BKZ   Black Stump Fm 61.46 134     P     P     22 08 02.0 -0.7
BKZ                                IAmb  IAmb  22 08 45.7
      comp=Z,82nm,1.6s
KUU   Kurty       61.49 324 eP     P     P     22 08 02.1 -0.6
KUU                                pmax  pmax
      comp=Z,29nm,1.7s
KUU   Kurty       61.49 324 eP     P     P     22 08 02.2 -0.6
      comp=Z,29nm,1.7s
MSWZ  Moikau Station 61.51 137     P     P     22 08 02.8 -0.2
URZ   Urewera     61.56 133        P     P     22 08 03.4 +0.1
      comp=Z,7.8nm,0.9s,baz=315,slow=4.3,SNR=2.5
URZ                                LR    LR    22 37 37.8
      comp=Z,688nm,18.3s,baz=26,slow=39
      comp=Z,7.8nm,0.9s
RTZ   Ruatahuna   61.60 134        P     P     22 08 02.6 -1.1
RTZ                                IAmb  IAmb  22 08 51.2
      comp=Z,60nm,1.0s
KBK   Karagaybulak 61.64 322       P     P     22 08 05.2 +1.2
      SNR=9.1
KBL   Kabul       61.81 311        P     P     22 08 03.6 -1.7
KBL   Kabul       61.81 311        P     P     22 08 03.6 -1.7
KBL                                pmax  pmax
      comp=Z,84nm,1.1s
BFZ   Birch Farm  61.89 136        P     P     22 08 04.8 -0.7
AAK   Ala-Archa   61.91 322        P     P     22 08 04.8 -1.0
AAK                                IAmb  IAmb  22 08 48.9
      comp=Z,47nm,1.4s
AAK   Ala-Archa   61.91 322        P     P     22 08 06.5 +0.6
      SNR=6.9
AAK   Ala-Archa   61.91 322 ceP    P     P     22 08 06.6 +0.8
AAK                                pmax  pmax
      comp=Z,19nm,1.7s
FRU1  Bishkek     61.92 322        P     P     22 08 05.9 +0.1
FRU1                               IAmb  IAmb  22 09 15.6
      comp=Z,93nm,1.7s
FRU1  Bishkek     61.92 322        P     P     22 08 05.9 +0.1
FRU1                               pmax  pmax
      comp=Z,93nm,1.7s
DRK   Karamyk     62.05 317        P     P     22 08 06.9 -0.1
DRK                                IAmb  IAmb  22 08 50.7
      comp=Z,35nm,1.1s
DRK   Karamyk     62.05 317        P     P     22 08 06.9 -0.1
DRK                                pmax  pmax
      comp=Z,35nm,1.1s
AML   Almayashu   62.14 321        P     P     22 08 07.6  0.0
      SNR=9.1
MXZ   Matakaoa Point 62.19 132     P     P     22 08 07.1 -0.5
USP   Ospenovka   62.25 322        P     P     22 08 08.0 +0.1
      SNR=8.0
PEA0B Petropavlovsk- 62.27 23      P     P     22 08 07.0 -0.8
PEA0B Petropavlovsk- 62.27 23      P     P     22 08 07.0 -0.8
PEA0B                              pmax  pmax
      comp=Z,204nm,1.8s
PETK  Petropavlovsk- 62.27 23      P     P     22 08 08.8 +1.0
PETK  Petropavlovsk- 62.27 23      P     P     22 08 06.6 -1.2
      comp=Z,1.1nm,0.5s,baz=235,slow=1.7,SNR=4.4
PETK                               LR    LR    22 35 14.5
      comp=Z,256nm,21.9s,baz=212,slow=36
      comp=Z,1.1nm,0.5s
PETK  Petropavlovsk- 62.27 23      P     P     22 08 08.8 +1.0
EKS2  Erkin-Say   62.37 321        P     P     22 08 09.5 +0.7
      SNR=8.9
PET   Petropavlovsk 62.58 24 i P   P     P     22 08 09.8  0.0
PET                                pmax  pmax
      comp=Z,114nm,1.7s
GAR   Garm        62.83 316        P     P     22 08 11.1 -1.0
BTK   Batken      62.99 317        P     P     22 08 12.6 -0.4
BTK                                IAmb  IAmb  22 08 49.4
      comp=Z,78nm,1.6s
BTK   Batken      62.99 317        P     P     22 08 12.6 -0.4
BTK                                pmax  pmax
      comp=Z,78nm,1.6s
CHGR  Chuyangaron 63.48 315        P     P     22 08 16.8 +0.5
CHGR  Chuyangaron 63.48 315        P     P     22 08 16.8 +0.5
SIMJ  Simiganj    63.59 315        P     P     22 08 16.2 -0.9
SIMJ                               IAmb  IAmb  22 09 13.5
      comp=Z,41nm,1.1s
ZAA0  Zalesovo Array 63.87 336     P     P     22 08 18.1 -0.3
ZAA0                               IAmb  IAmb  22 08 25.1
      comp=Z,39nm,1.0s
ZALV  Zalesovo Beam 63.87 336      P     P     22 08 16.8 -1.6
      comp=Z,2.8nm,0.7s,baz=133,slow=5.2,SNR=12
      comp=Z,2.8nm,0.7s
YAK   Yakutsk     64.04  4         P     P     22 08 18.4 -1.0
YAK   Yakutsk     64.04  4         LR    LR    22 37 21.0
      comp=Z,293nm,21.6s,baz=188,slow=37
YAK   Yakutsk     64.04  4 eP      P     P     22 08 23.2 +3.9
YAK                                e           22 08 58.9
YAK                                e           22 10 44.0
YAK                                eS    S     22 17 00.2 +4.6
YAK                                e           22 18 16.0
YAK                                eSS   SS    22 21 08.5 +3.9
YAK                                pmax  pmax
      comp=Z,82nm,0.9s
YAK                                pmax  pmax
      comp=E,4.0nm,1.1s
YAK                                pmax  pmax
      comp=N,15nm,1.3s
YAK                                pmax  pmax
      comp=Z,98nm,2.6s
YAK                                pmax  pmax
      comp=N,92nm,2.8s
YAK                                pmax  pmax
      comp=E,47nm,2.7s
YAK                                smax  smax
      comp=N,90nm,3.8s
YAK                                smax  smax
      comp=E,29nm,2.0s
KURBB Kurchatov Arra 64.38 331     P     P     22 08 20.4 -1.4
      comp=E,12nm,1.2s,baz=130,slow=6.2,SNR=26
KURBB                              PKPPKP P'P'df 22 37 10.4 -0.2
      comp=E,0.9nm,1.1s,baz=305,slow=3.0,SNR=4.6
KURBB                              LR    LR    22 38 47.4
      comp=E,341nm,20.9s,baz=168,slow=38
      comp=E,12nm,1.2s
KURK  Kurchatov   64.40 331        P     P     22 08 20.1 -1.9
KURK  Kurchatov   64.40 331 ceP    P     P     22 08 20.6 -1.3
KURK                               pmax  pmax
      comp=Z,25nm,1.3s
IUG   Iuzhnay     64.50 319 eP     P     P     22 08 22.3 -0.7
IUG                                pmax  pmax
      comp=Z,11nm,1.0s
IUG   Iuzhnay     64.50 319 eP     P     P     22 08 22.3 -0.7
      comp=Z,11nm,1.0s
KK31  Karatay Array 64.66 320      P     P     22 08 23.5 -0.4
KK31  Karatay Array 64.66 320      P     P     22 08 23.5 -0.4
KK31                               pmax  pmax
      comp=Z,24nm,1.2s
KKAR  Karatay Array 64.66 320      P     P     22 08 23.5 -0.4
KKAR  Karatay Array 64.66 320      P     P     22 08 22.9 -0.9
KKAR  Karatay Array 64.66 320      P     P     22 08 23.5 -0.4
KKAR                               pmax  pmax
      comp=Z,25nm,1.2s
CASY  Casey       64.76 185        P     P     22 08 23.9 -0.1
CASY                               IAmb  IAmb  22 08 53.7
      comp=Z,44nm,1.4s
MIDW  Midway      64.97 58         P     P     22 08 25.9 -0.1
MA2   Magadan     65.23 15         P     P     22 08 27.7 +0.5
MA2   Magadan     65.23 15         LR    LR    22 38 04.0
      comp=Z,128nm,19.4s,baz=212,slow=37
MA2   Magadan     65.23 15         P     P     22 08 27.7 +0.5
MA2                                pmax  pmax
      comp=Z,66nm,0.9s
AFI   Afiamalu    66.00 104        P     P     22 08 32.1 -1.0
AFI   Afiamalu    66.00 104        P     P     22 08 32.1 -1.0
AFI                                pmax  pmax
      comp=Z,221nm,1.9s
MSEY  Mahe Island 66.92 266        P     P     22 08 38.0 -1.0
MSEY                               IAmb  IAmb  22 08 40.1
      comp=Z,52nm,1.4s
MSEY  Mahe Island 66.92 266        P     P     22 08 38.1 -1.0
MSEY                               pmax  pmax
      comp=Z,52nm,1.4s
HRA   Herat       66.96 309        P     P     22 08 38.5 -0.6
BRZS  Berezniki   67.00 328 eP     P     P     22 08 38.2 -0.6
BRZS  Berezniki   67.00 328 eP     P     P     22 08 38.3 -0.6
SEY   Seymchan    68.51 14         LR    LR    22 36 54.6
      comp=Z,196nm,21.6s,baz=213,slow=34
SEY   Seymchan    68.51 14 ceP     P     P     22 08 48.2 +0.2
SEY                                pmax  pmax
      comp=Z,8.0nm,1.3s
SHEM  Shemya Is, Ala 69.47 31      LR    LR    22 36 37.4
      comp=Z,184nm,19.7s,baz=96,slow=34
SMY   Shemya      69.47 31         P     P     22 08 54.0 -0.2
SMY   Shemya      69.47 31         P     P     22 08 54.0 -0.2
SMY                                pmax  pmax
      comp=Z,234nm,1.1s
BVAR  Borovoye Array 69.88 329     P     P     22 08 55.0 -1.7
      comp=Z,4.0nm,1.0s,baz=138,slow=7.0,SNR=16
BVAR                               LR    LR    22 42 48.9
      comp=Z,352nm,21.4s,baz=137,slow=39
      comp=Z,4.0nm,1.0s
BRVK  Borovoye    69.95 329        P     P     22 08 56.0 -1.1
BRVK                               IAmb  IAmb  22 09 46.0
      comp=Z,56nm,1.4s
BRVK  Borovoye    69.95 329 ceP    P     P     22 08 56.0 -1.1
BRVK                               pmax  pmax
      comp=Z,10.0nm,1.3s
TIXI  Tiksi       73.58  2         P     P     22 09 18.6 -0.1
TIXI                               IAmb  IAmb  22 09 37.6
      comp=Z,84nm,1.2s
TIXI  Tiksi       73.58  2         LR    LR    22 45 15.2
      comp=Z,211nm,20.1s,baz=201,slow=39
TIXI  Tiksi       73.58  2 i P     P     P     22 09 19.1 +0.5
TIXI                               pmax  pmax
      comp=Z,18nm,0.9s
KIWB  Kanaga Island 73.74 34       P     P     22 09 19.2 -0.7
AB31  Akbulak array 73.95 323      P     P     22 09 20.6 -0.7
ABKAR Akbulak array 73.95 323      P     P     22 09 20.2 -1.1
ABKAR Akbulak array 73.95 323      P     P     22 09 20.9 -0.4
ABKAR                              IAmb  IAmb  22 09 46.6
      comp=Z,20nm,1.1s
NRIK  Noril'sk    74.97 348        P     P     22 09 26.3 -0.5
NRIK  Noril'sk    74.97 348        P     P     22 09 25.5 -1.3
      comp=Z,5.5nm,0.8s,baz=147,slow=8.4,SNR=7.7
NRIK                               LR    LR    22 43 24.1
      comp=Z,357nm,21.0s,baz=151,slow=36
      comp=Z,5.5nm,0.8s
NRIK  Noril'sk    74.97 348 ceP    P     P     22 09 26.3 -0.5
NRIK                               pmax  pmax
      comp=Z,4.0nm,0.9s
AKTO  Aktyubinsk  75.55 323        LR    LR    22 46 15.6
      comp=Z,300nm,20.8s,baz=85,slow=38
ATKA  Atka Island 75.55 35         P     P     22 09 29.7 -0.7
ATKA  Atka Island 75.55 35         P     P     22 09 31.9 +1.5
VOI   Vohitsoka   76.00 248        P     P     22 09 33.0 -0.9
```

VOI IAmb IAmb 22 10 15.3
comp=Z,43nm,1.2s
BILL Bilibino 76.11 16 P 22 09 33.8 +0.4
BILL Bilibino 76.11 16 *i* P P 22 09 34.1 +0.8
BILL pmax pmax
comp=Z,8.0nm,1.0s
SVE Sverdlovsk 76.64 330 *e*P P 22 09 40.0 +3.4
SVE pmax pmax
comp=Z,41nm,1.1s
MAW Mawson 77.00 200 P P 22 09 38.4 0.0
MAW Mawson 77.00 200 P P 22 09 38.8 +0.4
comp=Z,7.0nm,0.9s,baz=74,slow=8.9,SNR=4.7
MAW LR LR 22 38 00.8
comp=Z,204nm,21.2s,baz=58,slow=31
comp=Z,7.0nm,0.9s
ARTI Arti 77.59 329 P 22 09 40.3 -1.6
ARTI IAmb IAmb 22 10 32.4
comp=Z,48nm,1.5s
ARTI Arti 77.59 329*d i*P P 22 09 39.7 -2.3
ARTI 22 12 33.1
ARTI PPP PPP 22 14 19.6
ARTI S **S** **22 19 33.5 0.0**
ARTI SS **SS** **22 24 29.1 -3.9**
ARTI pmax pmax
comp=Z,8.0nm,1.2s
VNDA Vanda 78.41 172 P 22 09 46.1 0.0
VNDA IAmb IAmb 22 10 03.4
comp=Z,76nm,1.9s
VNDA Vanda 78.41 172 P **P 22 09 45.5 -0.6**
comp=Z,5.6nm,0.8s,baz=310,slow=6.6,SNR=21
VNDA LR LR 22 44 59.9
comp=Z,319nm,19.1s,baz=329,slow=36
comp=Z,5.6nm,0.8s
VNDA Vanda 78.41 172 P **P 22 09 46.1 0.0**
VNDA pmax pmax
comp=Z,76nm,1.9s
RAYN Ar Rayn 78.85 294 P 22 09 47.8 -1.9
RAYN Ar Rayn 78.85 294 P **P 22 09 47.8 -1.9**
RAYN pmax pmax
comp=Z,7.0nm,0.9s
SPIA Saint Paul Isl 79.51 31 P P 22 09 52.6 +0.1
SPIA Saint Paul Isl 79.51 31 P **P 22 09 53.8 +1.3**
baz=250
P08K Saint George I 79.67 31 P **P 22 09 54.3 +0.9**
baz=250
AKT Akhty 79.91 313 *e*P P 22 09 51.9 -3.3
AKT *e* 22 09 59.5
AKT *e* 22 12 50.8
AKT pmax pmax
comp=Z,16nm,1.2s
AKT MLR MLR
comp=Z,409nm,25.0s
ATD Arta Tunnel 80.24 282 LR LR 22 44 25.7
comp=Z,12nm,19.8s,baz=56,slow=35
MAK Makhachkala 80.37 314 *e*P P 22 09 51.7 -5.7
MAK *e*PPP PPP 22 14 49.9
MAK *e*S **S** **22 19 55.5 -8.1**
MAK *e*SS **SS** **22 25 10.7 -4.5**
MAK *e*SSS SSS 22 28 37.5
MAK pmax pmax
comp=Z,18nm,0.5s
LVA Lava Point 80.83 34 P **P 22 09 59.7 0.0**
AKUT Akutan 80.97 34 P 22 09 59.8 -0.6
AKUT Akutan 80.97 34 P **P 22 09 59.8 -0.6**
GAMB Gambell 81.27 24 P 22 10 02.0 +0.2
GAMB Gambell 81.27 24 P **P 22 10 02.5 +0.7**
baz=247,SNR=12
GNI Garni 81.89 311 P 22 10 05.2 -0.7
GNI Garni 81.89 311 LR LR 22 54 21.0
comp=Z,85nm,18.6s,baz=106,slow=42
GNI Garni 81.89 311*ce*P P 22 10 05.5 -0.4
GNI pmax pmax
comp=Z,9.0nm,1.3s
BELG Belogornoye 82.34 323 LR LR 22 50 51.1
comp=Z,155nm,18.6s,baz=110,slow=39
FALS False Pass 82.48 34 P **P 22 10 09.0 +0.7**
FALS False Pass 82.48 34 P **P 22 10 09.4 +1.0**
baz=256
M11K Mekoryuk 82.55 28 P **P 22 10 09.8 +1.3**
baz=253
KIRV Kirov 82.89 330 LR LR 22 50 43.8
comp=Z,287nm,21.3s,baz=109,slow=38
KIRV Kirov 82.89 330 *i* P **P 22 10 10.7 +0.3**
GEVA Gevas 82.91 309 P 22 10 11.6 +0.4
NCK Nalchik 83.28 314 *i* P **P 22 10 12.8 0.0**
NCK pmax pmax
comp=Z,6.0nm,0.9s
TNA Tin City 83.44 23 P **P 22 10 13.5 +0.4**
baz=250
S12K Black Hills 83.44 33 P **P 22 10 14.2 +0.8**
baz=257
K13K Kusilvak Mount 83.71 27 P P 22 10 14.5 -0.1
K13K Kusilvak Mount 83.71 27 P **P 22 10 15.0 +0.4**
baz=254,SNR=47
GURO Guroymak-BITLI 83.74 309 P **P 22 10 14.9 -0.6**
GURO IAmb IAmb 22 10 23.4
comp=Z,32nm,1.3s
KBZ Khabaz 83.81 314 P **P 22 10 14.2 -1.3**
comp=Z,5.5nm,1.0s,baz=170,slow=1.2,SNR=14
KBZ LR LR 22 53 54.5
comp=Z,162nm,19.2s,baz=72,slow=40
comp=Z,5.5nm,1.0s
KBZ Khabaz 83.81 314*ce*P P 22 10 14.8 -0.7
KBZ pmax pmax
comp=Z,7.0nm,1.0s
GOF Gofitskoye 83.91 316*ce*P P 22 10 15.4 -0.6
M13K Dall Lake 83.91 29 P 22 10 14.9 -0.8
M13K Dall Lake 83.91 29 P **P 22 10 16.5 +0.9**
baz=255
SHA1 Shidzhatmaz 83.99 314 *i* P **P 22 10 16.4 -0.3**
KVAR Kislovodsk Arr 83.99 314 LR LR 22 53 44.1
comp=Z,147nm,21.5s,baz=206,slow=40
KIV Kislovodsk 84.00 314 P P 22 10 16.0 -0.7
KIV Kislovodsk 84.00 314 *e*P P 22 10 16.4 -0.2
KIV pmax pmax
comp=Z,7.0nm,1.1s
F14K Arctic Creek 84.04 23 P **P 22 10 17.3 +1.1**
baz=252,SNR=19
ANM Nome 84.15 24 P 22 10 16.6 -0.1
ANM IAmb IAmb 22 10 25.0
comp=Z,26nm,0.8s
ANM Nome 84.15 24 P **P 22 10 16.7 -0.1**
ANM pmax pmax
comp=Z,26nm,0.8s
ANM Nome 84.15 24 P **P 22 10 17.6 +0.8**
baz=253,SNR=16
SDPT Sand Point 84.24 34 P 22 10 17.5 +0.1
SDPT Sand Point 84.24 34 P **P 22 10 18.4 +0.9**
baz=258
KIBK Kibwezi 84.36 268 P 22 10 18.3 -0.8
J14K Nanvaranak Lak 84.42 26 P 22 10 18.3 +0.1
J14K IAmb IAmb 22 10 26.0
comp=Z,44nm,1.0s
J14K Nanvaranak Lak 84.42 26 P **P 22 10 19.1 +0.9**
baz=255,SNR=22
L14K Kuka Creek 84.46 28 P 22 10 18.4 0.0
L14K Kuka Creek 84.46 28 P **P 22 10 19.5 +1.1**
baz=256,SNR=19
N14K Kuskokwak Cree 84.60 29 P 22 10 19.4 +0.2
N14K Kuskokwak Cree 84.60 29 P **P 22 10 20.1 +0.9**
baz=257
CHNA Chernabura Isl 84.64 35 P **P 22 10 20.7 +1.2**
baz=259
O14K Tigyukauivet M 84.66 30 P 22 10 20.1 +0.6
O14K IAmb IAmb 22 10 28.3
comp=Z,60nm,1.1s
O14K Tigyukauivet M 84.66 30 P **P 22 10 20.3 +0.8**
baz=257
M14K Bethel 84.66 29 P 22 10 19.8 +0.4
M14K Bethel 84.66 29 P **P 22 10 20.2 +0.7**
baz=256,SNR=29
F15K North Star Dit 84.77 23 P 22 10 20.5 +0.6
F15K IAmb IAmb 22 10 31.7
comp=Z,74nm,1.2s
F15K North Star Dit 84.77 23 P **P 22 10 20.8 +0.9**
baz=254,SNR=36
G15K Niukluk 84.82 24 P **P 22 10 20.6 +0.4**
baz=254,SNR=43
S14K Fog Glacier 84.94 33 P **P 22 10 21.0 -0.1**
baz=259
KOPT Kop Dagi 85.10 310 P 22 10 22.7 +0.1
L15K Ungalak Mounta 85.10 28 P **P 22 10 22.4 +0.7**
baz=257
KMBO Kilima Mbogo 85.19 269 P 22 10 23.3 -0.2
KMBO Kilima Mbogo 85.19 269 P **P 22 10 22.8 -0.7**

KMBO IAmb IAmb 22 10 41.7
comp=Z,22nm,1.2s
KMBO Kilima Mbogo 85.19 269 P **P 22 10 22.8 -0.7**
comp=Z,7.9nm,0.9s,baz=104,slow=4.2,SNR=17
KMBO LR LR 22 44 55.1
comp=Z,321nm,21.4s,baz=94,slow=33
comp=Z,7.9nm,0.9s
KMBO Kilima Mbogo 85.19 269*ce*P P 22 10 23.0 -0.5
KMBO pmax pmax
comp=Z,8.0nm,0.9s
K15K Wolf Creek Mou 85.22 27 P 22 10 23.2 +0.9
K15K Wolf Creek Mou 85.22 27 P **P 22 10 23.3 +1.0**
baz=257,SNR=13
M15K Kasigluk River 85.26 29 P **P 22 10 23.3 +0.8**
baz=258,SNR=15
C16K Lisburne Hills 85.26 21 P **P 22 10 23.0 +0.6**
baz=253
O15K Ungalikthiuk R 85.37 30 P 22 10 23.6 +0.6
O15K Ungalikthiuk R 85.37 30 P **P 22 10 23.7 +0.6**
baz=258
N15K Kwethluk River 85.44 29 P 22 10 23.8 +0.4
N15K Kwethluk River 85.44 29 P **P 22 10 23.7 +0.3**
baz=258,SNR=11
H16K Elim 85.47 25 P **P 22 10 24.3 +0.9**
baz=256,SNR=12
LABN Labinsk 85.49 315 *e*P P 22 10 22.8 -1.2
LABN *e*S **SKSac** **22 20 47.9 -1.6**
LABN pmax pmax
comp=Z,14nm,1.0s
CHGN Chignik 85.57 33 P **P 22 10 23.6 -0.4**
CHGN Chignik 85.57 33 P **P 22 10 25.0 +0.9**
baz=260
G16K Koyuk River 85.61 24 P **P 22 10 24.2 +0.1**
G16K IAmb IAmb 22 10 32.4
comp=Z,32nm,0.8s
G16K Koyuk River 85.61 24 P **P 22 10 25.1 +1.0**
baz=256,SNR=48
SYO Syowa Base 85.64 201⇑*e*sP sP 22 10 31.4 +3.0
VRH Novokhopyorsk 85.71 321 *e*P P 22 10 23.5 -1.4
VRH pmax pmax
comp=Z,24nm,1.2s
ERBR Yeremizino-Bor 85.79 316 *e*P P 22 10 23.6 -1.9
ERBR *e* 22 13 45.2
ERBR *e*S **SKSac** **22 20 46.1 -5.3**
ERBR pmax pmax
comp=Z,23nm,1.2s
ERBR MLR MLR
comp=Z,225nm,19.0s
J16K Anvik River 85.86 26 P **P 22 10 25.6 +0.2**
J16K IAmb IAmb 22 10 55.9
comp=Z,37nm,1.2s
J16K Anvik River 85.86 26 P **P 22 10 26.3 +0.8**
baz=257
D17K Noatak River 85.92 22 P **P 22 10 26.3 +0.7**
baz=255,SNR=60
I17K Unalakleet 85.95 26 P **P 22 10 26.5 +0.6**
I17K IAmb IAmb 22 11 02.7
comp=Z,35nm,1.1s
I17K Unalakleet 85.95 26 P **P 22 10 26.9 +1.1**
baz=257
L16K Owhat River 86.04 28 P 22 10 26.7 +0.4
L16K IAmb IAmb 22 10 51.7
comp=Z,39nm,1.2s
L16K Owhat River 86.04 28 P **P 22 10 27.5 +1.2**
baz=258
RDOG Red Dog Mine 86.07 21 P **P 22 10 26.5 +0.1**
RDOG IAmb IAmb 22 11 11.2
comp=Z,36nm,1.2s
RDOG Red Dog Mine 86.07 21 P **P 22 10 27.1 +0.7**
baz=255
SOC Sochi 86.08 314 *e*P P 22 10 22.3 -4.7
SOC *e*S **SKSac** **22 20 46.9 -6.4**
SOC pmax pmax
comp=Z,11nm,0.7s
SOC MLR MLR
comp=Z,201nm,18.0s
N16K Nishlik Lake 86.14 29 P **P 22 10 27.4 +0.5**
baz=259
M16K Timber Creek 86.15 29 P P 22 10 25.9 -1.0
M16K IAmb IAmb 22 11 46.3
comp=Z,84nm,1.6s
M16K Timber Creek 86.15 29 P **P 22 10 27.7 +0.7**
baz=259
E17K Hotham Inlet 86.23 22 P **P 22 10 28.1 +0.9**
baz=256
P16K Nushagak River 86.27 31 P P 22 10 28.6 +1.1
P16K Nushagak River 86.27 31 P **P 22 10 28.5 +1.1**
baz=260,SNR=5.1
F17K Baldwin Pennin 86.30 23 P 22 10 28.1 +0.6
F17K Baldwin Pennin 86.30 23 P **P 22 10 28.3 +0.8**
baz=257,SNR=16
O16K Kokwok River B 86.31 30 P 22 10 27.4 -0.3
O16K IAmb IAmb 22 10 36.5
comp=Z,57nm,1.1s
O16K Kokwok River B 86.31 30 P **P 22 10 28.0 +0.3**
baz=260,SNR=8.6
G17K Kiwalik Mounta 86.33 24 P **P 22 10 28.7 +1.0**
baz=257,SNR=25
H17K Granite Mounta 86.51 25 P P 22 10 28.0 -0.7
H17K IAmb IAmb 22 10 36.3
comp=Z,34nm,0.7s
H17K Granite Mounta 86.51 25 P **P 22 10 29.0 +0.4**
baz=258,SNR=50
J17K VABM Dome 86.56 26 P P 22 10 28.9 +0.1
J17K VABM Dome 86.56 26 P **P 22 10 29.5 +0.7**
baz=259
L17K Donlin 86.67 28 P **P 22 10 30.2 +0.8**
baz=260
E18K Tukpahlearik C 86.77 22 P **P 22 10 30.2 +0.3**
E18K IAmb IAmb 22 11 15.0
comp=Z,26nm,1.1s
E18K Tukpahlearik C 86.77 22 P **P 22 10 30.8 +1.0**
baz=257
K17K Iditarod 86.78 27 P P 22 10 30.4 +0.5
K17K IAmb IAmb 22 10 45.9
comp=Z,32nm,1.2s
K17K Iditarod 86.78 27 P **P 22 10 30.8 +0.9**
baz=260
B18K Kokolik River 86.80 20 P **P 22 10 30.9 +1.0**
baz=256,SNR=21
C18K Utukok River 86.84 21 P 22 10 30.5 +0.2
C18K IAmb IAmb 22 11 27.6
comp=Z,71nm,1.8s
C18K Utukok River 86.84 21 P **P 22 10 31.0 +0.8**
baz=256,SNR=18
O17K Koliganek Bris 86.84 30 P **P 22 10 31.2 +0.8**
baz=261
Q16K King Salmon 86.89 31 P **P 22 10 31.6 +1.1**
baz=261
N17K Nushagak Hills 86.92 29 P P 22 10 30.6 -0.1
N17K Nushagak Hills 86.92 29 P **P 22 10 31.4 +0.7**
baz=261
M17K Holitna River 86.95 28 P 22 10 31.1 +0.3
M17K Holitna River 86.95 28 P **P 22 10 31.3 +0.5**
baz=260
F18K Selawik 86.96 23 P **P 22 10 31.9 +1.1**
baz=258
CHIR Chirikof Islan 87.04 34 P **P 22 10 32.0 +0.6**
baz=262
P17K Kvichak River 87.08 31 P **P 22 10 31.7 +0.3**
baz=261
H18K Honhosa River 87.20 25 P P 22 10 32.2 +0.2
H18K Honhosa River 87.20 25 P **P 22 10 32.6 +0.7**
baz=259
VORD Divnogorie 87.20 321 *e*P P 22 10 30.4 -1.8
VORD pmax pmax
comp=Z,30nm,1.0s
G18K Tagagawik 87.22 24 P P 22 10 32.3 +0.2
G18K Tagagawik 87.22 24 P **P 22 10 33.1 +1.0**
baz=259
Q17K Contact Creek 87.23 32 P **P 22 10 32.7 +0.3**
baz=262
LODK Lodwar 87.24 273 P 22 10 32.6 -0.8
A19K Wainwright 87.24 19 P P 22 10 33.1 +1.1
baz=257
ASF Jabal al Asfar 87.28 302 LR LR 22 57 49.5
comp=Z,201nm,18.2s,baz=119,slow=41
VSR Storozhevoye 87.31 321 *e*P P 22 10 28.5 -4.3
VSR pmax pmax
comp=Z,20nm,1.1s
VORR Voronezh 87.33 322 *e*P P 22 10 31.4 -1.5
VORR pmax pmax
comp=Z,23nm,0.4s
GAZ Gaziantep 87.39 307 P 22 10 33.2 -0.4
GAZ IAmb IAmb 22 11 04.7
comp=Z,21nm,1.0s

L18K Granite Mounta 87.43 28 P 22 10 33.5 +0.3
L18K Granite Mounta 87.43 28 P **P 22 10 34.1 +1.0**
baz=261
TBI Tubuai 87.45 113 *e*S **S** **22 21 17.7 +2.1**
comp=Z,1μm,30.2s
TBI *e*SS **SS** **22 26 54.0 -6.9**
comp=Z,2μm,39.2s
TBI *e*LQ LQ 22 34 32.6
comp=Z,2μm,32.0s
TBI *e*LR LR 22 38 18.0
comp=Z,2μm,33.2s
PPT2 Papeete2 87.46 107 *e*S **S** **22 21 15.7 -0.3**
comp=Z,331nm,25.5s
PPT2 *e*SS **SS** **22 27 02.9 +1.6**
comp=Z,159nm,27.2s
PPT2 *e*LQ LQ 22 34 32.6
comp=Z,980nm,37.8s
PPT2 *e*LR LR 22 38 21.0
comp=Z,668nm,34.0s
PPT2 *e*LR LR 22 38 21.6
comp=Z,386nm,38.0s
N18K Kilae Creek 87.58 29 P P 22 10 34.6 +0.7
N18K Kilae Creek 87.58 29 P **P 22 10 35.0 +1.1**
baz=262
LPSR Galich'ya Gora 87.61 323 *e*P P 22 10 32.9 -1.3
LPSR pmax pmax
comp=Z,25nm,1.2s
J18K Innoko River 87.61 26 P **P 22 10 34.2 +0.2**
J18K IAmb IAmb 22 10 42.0
comp=Z,74nm,1.6s
J18K Innoko River 87.61 26 P **P 22 10 35.1 +1.1**
baz=261,SNR=6.2
M18K Stony River 87.72 28 P **P 22 10 35.2 +0.6**
baz=262
P18K Big Mountain, 87.73 30 P **P 22 10 35.6 +0.9**
baz=262
F19K Shaleruckik Mo 87.74 23 P 22 10 34.0 -0.5
F19K Shaleruckik Mo 87.74 23 P **P 22 10 34.7 +0.2**
baz=260
Q18K Katmai Hardscr 87.74 31 P **P 22 10 35.8 +0.9**
baz=263
GCSA Galena City Sc 87.75 25 P **P 22 10 35.2 +0.6**
baz=261,SNR=5.1
O18K Koktuh Hills 87.80 30 P P 22 10 34.2 -0.8
O18K IAmb IAmb 22 10 43.2
comp=Z,72nm,1.6s
O18K Koktuh Hills 87.80 30 P **P 22 10 35.4 +0.4**
baz=262
ANN Anapa 87.84 315 *e*P P 22 10 33.0 -2.4
ANN *e*S **SKSac** **22 21 00.6 -3.3**
ANN *e* 22 21 09.7
ANN pmax pmax
comp=Z,55nm,1.3s
G19K Purcell Mounta 87.89 24 P 22 10 35.0 -0.3
G19K IAmb IAmb 22 10 42.7
comp=Z,30nm,0.8s
G19K Purcell Mounta 87.89 24 P **P 22 10 35.9 +0.6**
baz=260,SNR=26
R18K Karluk 87.90 32 P **P 22 10 36.4 +1.0**
baz=263
D19K Kuna River 87.91 21 P P 22 10 35.2 -0.2
D19K IAmb IAmb 22 10 45.6
comp=Z,18nm,0.8s
D19K Kuna River 87.91 21 P **P 22 10 35.8 +0.4**
baz=259
SII Sitkinak Islan 87.93 33 P P 22 10 36.0 +0.3
SII Sitkinak Islan 87.93 33 P **P 22 10 36.3 +0.6**
baz=263
QSPA South Pole Qui 88.00 180 P P 22 10 35.7 -0.3
QSPA IAmb IAmb 22 11 29.8
comp=Z,39nm,1.4s
QSPA South Pole Qui 88.00 180 P **P 22 10 35.0 -1.0**
comp=Z,4.1nm,1.0s,baz=322,slow=1.8,SNR=12
QSPA LR LR 22 49 36.5
comp=Z,197nm,20.6s,baz=356,slow=35
comp=Z,4.1nm,1.0s
H19K Roundabout Mou 88.05 24 P 22 10 35.9 -0.1
H19K Roundabout Mou 88.05 24 P **P 22 10 36.5 +0.5**
baz=261,SNR=37
E19K Redstone River 88.06 22 P P 22 10 35.5 -0.5
E19K IAmb IAmb 22 10 49.4
comp=Z,20nm,0.8s
E19K Redstone River 88.06 22 P **P 22 10 36.7 +0.7**
baz=260
J19K Poorman 88.17 26 P 22 10 36.9 +0.2
J19K IAmb IAmb 22 10 45.9
comp=Z,44nm,1.4s
J19K Poorman 88.17 26 P **P 22 10 36.9 +0.2**
baz=262,SNR=16
TOKA Tokat 88.19 310 P P 22 10 36.5 -0.8
KLMR Klimovskoe 88.25 331 *e*P P 22 10 33.2 -3.9
KLMR *e* 22 14 04.2
KLMR S **SKSac** **22 21 01.0 -4.8**
KLMR 22 21 27.4
KLMR pmax pmax
comp=Z,36nm,1.2s
L19K White Mountain 88.28 28 P P 22 10 37.0 -0.3
L19K IAmb IAmb 22 10 44.0
comp=Z,39nm,1.6s
L19K White Mountain 88.28 28 P **P 22 10 37.5 +0.3**
baz=263
N19K Bonanza Creek 88.28 29 P 22 10 37.7 +0.3
N19K IAmb IAmb 22 10 45.8
comp=Z,46nm,1.1s
N19K Bonanza Creek 88.28 29 P **P 22 10 38.2 +0.9**
baz=263
O19K Port Alsworth 88.28 30 P **P 22 10 37.9 +0.7**
baz=263
GHAJ Ghor Haditha 88.36 301 P P 22 10 37.6 -0.7
GHAJ IAmb IAmb 22 12 14.0
comp=Z,44nm,1.4s
M19K Big River Lodg 88.46 28 P 22 10 38.4 +0.3
M19K Big River Lodg 88.46 28 P **P 22 10 38.4 +0.3**
baz=263
Q19K Cape Douglas, 88.48 31 P **P 22 10 38.9 +0.7**
baz=264
OHAK Old Harbor 88.49 33 P **P 22 10 38.9 +0.7**
baz=264
D20K Etivluk River 88.49 21 P P 22 10 37.5 -0.6
D20K Etivluk River 88.49 21 P **P 22 10 38.6 +0.4**
baz=261
B20K Meade River 88.52 20 P 22 10 38.2 +0.1
B20K IAmb IAmb 22 11 03.4
comp=Z,23nm,1.1s
B20K Meade River 88.52 20 P **P 22 10 38.1 -0.1**
baz=260,SNR=8.2
F20K Avaraart Lake 88.57 23 P 22 10 38.0 -0.4
F20K IAmb IAmb 22 10 47.0
comp=Z,53nm,1.9s
F20K Avaraart Lake 88.57 23 P **P 22 10 38.4 -0.1**
baz=262,SNR=6.9
E20K Nigu River 88.58 22 P **P 22 10 39.0 +0.5**
baz=261
BNN Bunyan 88.58 309 P **P 22 10 37.4 -2.0**
BNN IAmb IAmb 22 11 21.6
comp=Z,53nm,1.2s
MMAI Mount Meron Ar 88.59 303 P **P 22 10 38.6 -0.9**
comp=Z,11nm,1.1s,baz=74,slow=7.0,SNR=4.9
MMAI LR LR 22 56 45.8
comp=Z,268nm,19.6s,baz=94,slow=40
comp=Z,11nm,1.1s
MOS Moscow 88.69 326 *e*P P 22 10 40.6 +1.4
MOS pmax pmax
comp=Z,28nm,1.1s
H20K Anotleneega Mo 88.69 24 P **P 22 10 39.1 0.0**
baz=262,SNR=18
L20K Farewell, AK 88.76 28 P **P 22 10 40.0 +0.5**
baz=263
P19K Oil Pt 88.77 30 P P 22 10 40.2 +0.6
P19K Oil Pt 88.77 30 P **P 22 10 39.7 +0.1**
baz=264
I20K Naaghedeneel 88.77 25 P **P 22 10 40.0 +0.5**
I20K IAmb IAmb 22 10 47.0
comp=Z,28nm,0.8s
I20K Naaghedeneel 88.77 25 P **P 22 10 39.9 +0.4**
baz=263
K20K Telida 88.78 27 P P 22 10 39.6 0.0
K20K IAmb IAmb 22 10 48.8
comp=Z,37nm,1.3s
K20K Telida 88.78 27 P **P 22 10 40.1 +0.5**
baz=263
EIL Elat 88.80 300 LR LR 22 55 50.1
comp=Z,273nm,19.5s,baz=72,slow=39
J20K Nowinta River 88.84 26 P 22 10 39.5 -0.3
J20K IAmb IAmb 22 10 48.3
comp=Z,23nm,0.9s
J20K Nowinta River 88.84 26 P **P 22 10 39.9 +0.1**

baz=263,SNR=18
A21K Barrow 88.91 19 P **P 22 10 40.5 +0.6**
baz=261
KDAK Kodiak Island 88.92 32 LR LR 22 46 46.5
comp=Z,189nm,21.0s,baz=102,slow=33
KDAK Kodiak Island 88.92 32 P **P 22 10 40.7 +0.4**
baz=265
M20K Styx River 89.05 28 **P 22 10 41.8 +0.9**
M20K IAmb IAmb 22 10 58.8
comp=Z,29nm,1.2s
M20K Styx River 89.05 28 P **P 22 10 41.2 +0.3**
baz=264
Q20K Shuyak Island 89.10 31 P **P 22 10 41.6 +0.5**
baz=265
C21K Knifeblade Rid 89.21 21 P **P 22 10 41.8 +0.4**
baz=262
OBN Obninsk 89.23 325 P **P 22 10 41.4 -0.4**
OBN Obninsk 89.23 325*ce*P **P 22 10 40.9 -0.9**
OBN *e*PPP PPP 22 16 12.2
OBN *i* S S 22 21 20.9 -10
OBN pmax pmax
comp=Z,10.0nm,1.1s
OBN MLR MLR
comp=Z,481nm,24.0s
B21K Ikpikpuk River 89.33 20 **P 22 10 42.1 +0.1**
B21K Ikpikpuk River 89.33 20 P **P 22 10 42.8 +0.8**
baz=263
G21K Allakaket 89.38 23 P **P 22 10 41.8 -0.5**
G21K IAmb IAmb 22 10 59.1
comp=Z,26nm,1.1s
G21K Allakaket 89.38 23 P **P 22 10 42.9 +0.6**
baz=264
A22K Sinclair Lake 89.39 19 P **P 22 10 42.7 +0.5**
baz=262,SNR=12
E21K Killik River 89.42 22 P **P 22 10 42.4 -0.1**
E21K Killik River 89.42 22 P **P 22 10 42.2 -0.3**
baz=263
SPCR Spurr Chakacha 89.42 29 P **P 22 10 42.9 +0.2**
baz=265
F21K Alatna River 89.46 23 **P 22 10 42.8 +0.1**
F21K Alatna River 89.46 23 P **P 22 10 43.6 +0.9**
baz=264
H21K Melozitna Rive 89.57 24 P **P 22 10 43.4 +0.2**
H21K IAmb IAmb 22 10 52.4
comp=Z,35nm,1.4s
H21K Melozitna Rive 89.57 24 P **P 22 10 44.2 +1.0**
baz=264,SNR=18
PPLA Purkeypile 89.58 27 P **P 22 10 43.3 -0.2**
PPLA IAmb IAmb 22 11 05.6
comp=Z,44nm,1.4s
PPLA Purkeypile 89.58 27 P **P 22 10 43.9 +0.4**
baz=265
CHUM Lake Minchumin 89.61 26 P **P 22 10 43.8 +0.4**
baz=265
STLK Strandline Lak 89.63 29 P **P 22 10 43.0 -0.7**
CAST Castle Rocks 89.67 27 **P 22 10 43.9 +0.1**
CAST Castle Rocks 89.67 27 P **P 22 10 43.9 +0.1**
baz=265,SNR=6.8
CNPM China Poot 89.77 31 P **P 22 10 44.4 +0.1**
CNPM IAmb IAmb 22 10 51.8
comp=Z,25nm,1.0s
SKT Skwentna 89.81 28 **P 22 10 44.3 -0.2**
SKT Skwentna 89.81 28 P **P 22 10 44.9 +0.5**
baz=266
B22K Teshekpuk Lake 89.83 20 **P 22 10 44.2 -0.1**
B22K IAmb IAmb 22 10 53.3
comp=Z,36nm,1.2s
B22K Teshekpuk Lake 89.83 20 P **P 22 10 45.1 +0.8**
baz=264,SNR=13
I21K Tanana 89.87 25 P **P 22 10 44.0 -0.6**
I21K IAmb IAmb 22 10 53.8
comp=Z,28nm,1.1s
I21K Tanana 89.87 25 P **P 22 10 45.1 +0.5**
baz=265
D22K Ayikyak River 89.93 21 **P 22 10 45.5 +0.7**
D22K Ayikyak River 89.93 21 P **P 22 10 45.0 +0.2**
baz=264,SNR=6.4
F22K John River 89.99 23 P **P 22 10 45.4 +0.2**
baz=265,SNR=17
BRSE Bradley Lake S 90.03 30 P **P 22 10 46.3 +0.7**
baz=266
SUA Susitna One 90.15 29 P **P 22 10 45.8 -0.3**
SUA IAmb IAmb 22 10 53.2
comp=Z,82nm,1.7s
SUA Susitna One 90.15 29 P **P 22 10 46.4 +0.2**
baz=266
H22K Ishtalitna Cre 90.18 24 P **P 22 10 46.9 +0.8**
baz=266,SNR=25
E22K Anaktuvuk Pass 90.18 22 **P 22 10 45.3 -0.8**
E22K Anaktuvuk Pass 90.18 22 P **P 22 10 45.7 -0.4**
baz=265,SNR=19
G22K Bettles 90.20 23 P **P 22 10 46.7 +0.6**
baz=266
KTH Kantishna Hill 90.20 27 P **P 22 10 46.1 -0.2**
BPAW Bear Paw Mtn. 90.21 26 **P 22 10 45.6 -0.7**
BPAW Bear Paw Mtn. 90.21 26 P **P 22 10 47.0 +0.7**
baz=266
BRTR Keskin Array B 90.34 310 **P 22 10 45.7 -1.9**
BRTR Keskin Array B 90.34 310 P **P 22 10 45.6 -2.0**
comp=Z,1.5nm,0.9s,baz=108,slow=4.7,SNR=11
BRTR LR LR 22 57 03.9
comp=Z,116nm,21.4s,baz=110,slow=39
comp=Z,1.5nm,0.9s
BRTR Keskin Array B 90.34 310 P **P 22 10 45.7 -1.9**
BR131 Keskin Array S 90.34 310 **P 22 10 46.0 -1.5**
BR131 Keskin Array S 90.34 310 *i* P **P 22 10 47.2 -0.4**
SLKM Skilak Lake 90.34 30 P **P 22 10 46.2 -0.8**
CSS Mathiatis 90.40 305 **P 22 10 46.2 -1.7**
CUT Chulitna 90.43 28 P **P 22 10 48.0 +0.8**
baz=267
M22K Willow 90.46 28 P **P 22 10 47.7 +0.3**
M22K IAmb IAmb 22 11 01.3
comp=Z,57nm,1.1s
M22K Willow 90.46 28 P **P 22 10 48.3 +0.9**
baz=267
TRF Thorofare Moun 90.48 27 **P 22 10 48.1 +0.4**
TRF Thorofare Moun 90.48 27 P **P 22 10 47.7 0.0**
baz=267
O22K Cooper Landing 90.59 30 P **P 22 10 48.8 +0.8**
baz=267
RC01 Rabbit Creek A 90.61 29 P **P 22 10 49.0 +0.8**
baz=267
D23K Nanushuk River 90.66 21 P **P 22 10 48.4 +0.1**
D23K Nanushuk River 90.66 21 P **P 22 10 49.4 +1.2**
baz=266
SEW Seward 90.70 30 P **P 22 10 49.4 +0.8**
baz=267
COLD Coldfoot 90.74 23 P **P 22 10 48.7 +0.1**
COLD Coldfoot 90.74 23 P **P 22 10 49.4 +0.8**
baz=267,SNR=17
C23K Itkillik River 90.74 20 **P 22 10 48.3 -0.2**
C23K IAmb IAmb 22 10 55.4
comp=Z,22nm,0.9s
C23K Itkillik River 90.74 20 P **P 22 10 49.5 +1.0**
baz=266,SNR=19
G23K Bananza Creek 90.78 23 **P 22 10 49.0 +0.1**
G23K IAmb IAmb 22 10 56.5
comp=Z,23nm,0.8s
G23K Bananza Creek 90.78 23 P **P 22 10 50.0 +1.1**
baz=267,SNR=31
BWN Browne 90.88 26 P **P 22 10 49.6 +0.2**
PMR Palmer 90.93 29 P **P 22 10 48.5 -1.1**
PMR IAmb IAmb 22 11 00.2
comp=Z,21nm,1.1s
PMR Palmer 90.93 29 P **P 22 10 48.5 -1.1**
PMR pmax pmax
comp=Z,21nm,1.1s
PMR Palmer 90.93 29 P **P 22 10 50.4 +0.8**
baz=268
H23K Yukon River 90.93 24 P **P 22 10 49.9 +0.3**
H23K IAmb IAmb 22 10 58.0
comp=Z,24nm,0.9s
H23K Yukon River 90.93 24 P **P 22 10 49.7 +0.1**
baz=267,SNR=26
LVZ Lovozero 90.97 338 P **P 22 10 47.1 -2.6**
LVZ IAmb IAmb 22 12 14.1
comp=Z,18nm,1.0s
LVZ Lovozero 90.97 338 P **P 22 10 47.1 -2.6**
LVZ pmax pmax
comp=Z,18nm,1.0s
I23K Minto, Yukon-K 90.97 25 P **P 22 10 49.8 +0.1**
I23K Minto, Yukon-K 90.97 25 P **P 22 10 50.4 +0.7**
baz=268,SNR=21
ELIB Princess Elisa 91.00 198 *d*P **P 22 10 48.5 -1.5**
E23K Chandalar 91.00 22 P **P 22 10 50.8 +0.8**
E23K Chandalar 91.00 22 P **P 22 10 50.1 +0.1**
baz=267,SNR=21
TOLK Toolik Lake Re 91.05 21 **P 22 10 50.0 -0.1**
TOLK Toolik Lake Re 91.05 21 P **P 22 10 49.4 -0.7**
TOLK IAmb IAmb 22 10 58.0
comp=Z,55nm,1.9s
TOLK Toolik Lake Re 91.05 21 P **P 22 10 50.5 +0.4**
baz=267
NEA2 Nenana 91.07 26 P **P 22 10 50.1 -0.1**
NEA2 Nenana 91.07 26 P **P 22 10 50.6 +0.3**
baz=268
MCK McKinley 91.10 26 **P 22 10 49.7 -0.7**
MCK IAmb IAmb 22 10 57.6
comp=Z,34nm,1.3s
MCK McKinley 91.10 26 P **P 22 10 49.7 -0.7**
MCK pmax pmax
comp=Z,34nm,1.3s
MCK McKinley 91.10 26 P **P 22 10 50.4 -0.1**
baz=268
RND Reindeer 91.12 27 P **P 22 10 49.4 -1.2**
RND IAmb IAmb 22 10 57.5
comp=Z,19nm,0.8s
RND Reindeer 91.12 27 P **P 22 10 49.4 -1.2**
RND pmax pmax
comp=Z,19nm,0.8s
KNK Knik Glacier 91.24 29 P **P 22 10 51.0 -0.2**
KNK IAmb IAmb 22 10 59.6
comp=Z,45nm,1.2s
KNK Knik Glacier 91.24 29 P **P 22 10 51.7 +0.6**
baz=268
PWL Port Wells 91.28 29 P **P 22 10 51.1 -0.2**
PWL Port Wells 91.28 29 P **P 22 10 52.3 +1.0**
baz=268
SML Sawmill 91.31 28 P **P 22 10 47.9 -3.6**
SML IAmb IAmb 22 10 59.1
comp=Z,31nm,1.1s
SML Sawmill 91.31 28 P **P 22 10 51.9 +0.4**
baz=268
D24K Happy Valley 91.34 21 P **P 22 10 51.6 +0.2**
D24K Happy Valley 91.34 21 P **P 22 10 51.7 +0.4**
baz=268
C24K Franklin Bluff 91.40 20 P **P 22 10 50.9 -0.7**
C24K Franklin Bluff 91.40 20 P **P 22 10 52.1 +0.5**
baz=268
E24K Your Creek 91.43 22 P **P 22 10 52.3 +0.4**
E24K Your Creek 91.43 22 P **P 22 10 52.8 +0.9**
baz=268,SNR=9.2
WRH Wood River Hil 91.49 26 **P 22 10 51.6 -0.5**
WRH IAmb IAmb 22 10 59.1
comp=Z,25nm,1.1s
M23K Glacier View 91.60 28 P **P 22 10 53.1 +0.3**
baz=269
H24K Noodor Dome 91.61 24 **P 22 10 53.3 +0.5**
H24K Noodor Dome 91.61 24 P **P 22 10 53.1 +0.3**
baz=269,SNR=14
CCB Clear Creek Bu 91.62 26 **P 22 10 52.4 -0.4**
CCB IAmb IAmb 22 10 59.6
comp=Z,20nm,1.1s
F24K Squaw Lake 91.64 23 **P 22 10 52.9 0.0**
F24K IAmb IAmb 22 11 01.7
comp=Z,75nm,1.9s
F24K Squaw Lake 91.64 23 P **P 22 10 52.9 0.0**
baz=269,SNR=7.2
P23K Montague Islan 91.73 30 P **P 22 10 54.1 +0.8**
baz=269
POKR Poker Plat Res 91.79 25 P **P 22 10 54.6 +1.1**
baz=269
G24K Hadweenzic Riv 91.79 23 **P 22 10 53.6 0.0**
G24K IAmb IAmb 22 11 00.6
comp=Z,15nm,0.9s
G24K Hadweenzic Riv 91.79 23 P **P 22 10 54.2 +0.6**
baz=269,SNR=6.6
SCM Sheep Creek Mo 91.79 28 P **P 22 10 54.4 +0.6**
baz=269
GLI Glacier Island 91.89 29 P **P 22 10 55.0 +0.9**
baz=269
HDA Harding Lake 91.99 26 P **P 22 10 53.7 -0.8**
HDA Harding Lake 91.99 26 P **P 22 10 55.4 +0.9**
baz=270
IL31 92.02 25 P **P 22 10 54.5 -0.1**
IL31 IAmb IAmb 22 11 01.0
comp=Z,47nm,1.9s
ILAR Eielson Array 92.02 25 P **P 22 10 54.1 -0.5**
ILAR Eielson Array 92.02 25 P **P 22 10 53.0 -1.6**
comp=Z,0.8nm,0.7s,baz=259,slow=4.6,SNR=15
ILAR LR LR 22 50 54.7
comp=Z,99nm,20.0s,baz=272,slow=35
comp=Z,0.8nm,0.7s
ILAR Eielson Array 92.02 25 P **P 22 10 54.1 -0.5**
D25K Kavik River 92.21 21 P **P 22 10 55.0 -0.5**
D25K Kavik River 92.21 21 P **P 22 10 56.1 +0.6**
baz=270
G25K Bearman Lake 92.33 23 P **P 22 10 56.9 +0.9**
baz=270,SNR=6.4
M24K Tolsona, Glenn 92.34 28 P **P 22 10 55.7 -0.6**
M24K Tolsona, Glenn 92.34 28 P **P 22 10 56.8 +0.5**
baz=270
H25L Birch Creek 92.45 24 P **P 22 10 57.1 +0.5**
baz=271
KLU Klutina 92.46 29 P **P 22 10 57.9 +1.1**
baz=270
F25K Christian Rive 92.50 23 P **P 22 10 56.3 -0.5**
F25K Christian Rive 92.50 23 P **P 22 10 57.5 +0.7**
baz=271
K24K Donnelly Dome 92.50 26 P **P 22 10 56.9 0.0**
K24K Donnelly Dome 92.50 26 P **P 22 10 58.2 +1.3**
baz=271
E25K Arctic Village 92.52 22 P **P 22 10 56.8 -0.1**
E25K IAmb IAmb 22 11 04.1
comp=Z,15nm,0.9s
E25K Arctic Village 92.52 22 P **P 22 10 57.2 +0.3**
baz=271,SNR=6.5
DIV Divide 92.54 29 P **P 22 10 56.5 -0.7**
EYAK Cordova Ski Ar 92.55 30 P **P 22 10 58.0 +0.9**
baz=271
PRP Porcupine Dome 92.59 25 P **P 22 10 57.7 +0.3**
PRP Porcupine Dome 92.59 25 P **P 22 10 58.6 +1.1**
baz=271
PAX Paxson 92.65 27 P **P 22 10 58.0 +0.3**
PAX IAmb IAmb 22 11 05.8
comp=Z,33nm,1.3s
PAX Paxson 92.65 27 P **P 22 10 58.0 +0.3**
PAX pmax pmax
comp=Z,33nm,1.3s
PAX Paxson 92.65 27 P **P 22 10 59.1 +1.4**
baz=271
J25K Salcha River, 92.67 26 **P 22 10 57.5 -0.2**
J25K IAmb IAmb 22 11 03.0
comp=Z,39nm,1.9s
J25K Salcha River, 92.67 26 P **P 22 10 58.3 +0.6**
baz=271
FYU Fort Yukon 92.69 24 P **P 22 10 58.3 +0.7**
FYU IAmb IAmb 22 11 06.2
comp=Z,45nm,1.4s
C26K Camden Bay 92.71 20 P **P 22 10 59.0 +1.3**
baz=272,SNR=14
BORA Eskisehir 92.79 310 P **P 22 10 56.9 -1.9**
HARP HAARP 92.81 28 P **P 22 10 58.5 +0.1**
baz=271
BMAR Burnt Mountain 92.92 23 P **P 22 10 58.5 -0.3**
RIDG Independent Ri 92.92 26 **P 22 10 58.8 -0.1**
RIDG IAmb IAmb 22 11 20.9
comp=Z,58nm,1.5s
RIDG Independent Ri 92.92 26 P **P 22 10 59.3 +0.5**
baz=272
MATP Matopo 93.06 250 LR LR 22 49 14.6
comp=Z,193nm,19.3s,baz=62,slow=33
F26K Sheenjek River 93.07 22 P **P 22 10 59.5 0.0**
F26K IAmb IAmb 22 11 24.1
comp=Z,35nm,1.8s
F26K Sheenjek River 93.07 22 P **P 22 10 59.9 +0.5**
baz=272
RAGM Ragged Mountai 93.09 30 P **P 22 10 57.4 -2.4**
N25K Chitina, Valde 93.09 29 P **P 22 10 59.5 -0.3**
N25K Chitina, Valde 93.09 29 P **P 22 10 59.8 0.0**
baz=272,SNR=7.5
BMRM Bremner River 93.11 29 P **P 22 10 59.0 -0.8**
BMRM Bremner River 93.11 29 P **P 22 10 60.0 +0.2**
baz=272
C27K Jago River 93.14 20 P **P 22 10 59.0 -0.7**
C27K IAmb IAmb 22 11 54.5
comp=Z,34nm,1.4s
C27K Jago River 93.14 20 P **P 22 11 00.1 +0.4**
baz=273,SNR=18
KAIM Kayak Island 93.23 30 P **P 22 10 59.9 -0.4**
baz=272
G26K Porcupine Rive 93.25 23 P **P 22 11 00.0 -0.2**
G26K IAmb IAmb 22 11 09.1
comp=Z,43nm,1.4s
G26K Porcupine Rive 93.25 23 P **P 22 11 00.8 +0.6**
baz=273,SNR=16
DOT Dot Lake 93.27 26 P **P 22 11 01.1 +0.7**
DOT IAmb IAmb 22 11 08.4
comp=Z,47nm,1.7s
SCRK Sand Creek 93.29 26 P **P 22 11 00.7 0.0**
SCRK IAmb IAmb 22 11 08.7
comp=Z,18nm,1.2s
SCRK Sand Creek 93.29 26 P **P 22 11 01.0 +0.3**
baz=272
J26L Joseph Creek 93.45 26 **P 22 11 00.8 -0.5**
J26L Joseph Creek 93.45 26 P **P 22 11 01.5 +0.2**
baz=273
MENT Mentasta 93.45 27 P **P 22 11 01.7 +0.4**
MENT IAmb IAmb 22 11 12.5
comp=Z,18nm,1.0s
GLB Gilahina Butte 93.48 29 P **P 22 11 01.4 -0.1**
GLB IAmb IAmb 22 11 10.4
comp=Z,42nm,1.2s
AKASG Malin Array Be 93.56 320 P **P 22 11 00.8 -1.2**
AKASG Malin Array Be 93.56 320 P **P 22 11 00.3 -1.8**
comp=Z,1.2nm,0.8s,baz=82,slow=3.7,SNR=8.8
AKASG LR LR 22 56 06.3
comp=Z,236nm,21.9s,baz=92,slow=37
comp=Z,1.2nm,0.8s
AKASG Malin Array Be 93.56 320 P **P 22 11 00.8 -1.2**
AKASG pmax pmax
comp=Z,11nm,1.5s
AKBB Malin Array Si 93.56 320 P **P 22 11 00.6 -1.4**
AKBB Malin Array Si 93.56 320*ce*P **P 22 11 01.5 -0.5**
KIEV Kiev 93.57 320 P **P 22 11 00.0 -2.0**
KIEV Kiev 93.57 320 P **P 22 11 00.0 -2.0**
KIEV pmax pmax
comp=Z,11nm,1.3s
I26K Coal Creek Min 93.59 25 P **P 22 11 01.1 -0.7**
I26K IAmb IAmb 22 11 10.3
comp=Z,43nm,1.2s
I26K Coal Creek Min 93.59 25 P **P 22 11 02.3 +0.4**
baz=273
L26K Log Cabin Wild 93.62 27 **P 22 11 03.4 +1.3**
L26K IAmb IAmb 22 11 11.1
comp=Z,24nm,1.2s
LSZ Lusaka 93.63 255 P **P 22 11 01.8 -1.5**
LSZ IAmb IAmb 22 11 15.1
comp=Z,22nm,1.1s
LSZ Lusaka 93.63 255 LR LR 22 51 15.3
comp=Z,442nm,19.7s,baz=106,slow=34
LSZ Lusaka 93.63 255 P **P 22 11 01.8 -1.5**
LSZ pmax pmax
comp=Z,22nm,1.2s
BGLC Bering Glacier 93.79 30 P **P 22 11 03.1 +0.3**
baz=273
M26K Nabesna, AK 93.81 28 P **P 22 11 02.6 -0.5**
M26K IAmb IAmb 22 11 14.8
comp=Z,37nm,1.4s
M26K Nabesna, AK 93.81 28 P **P 22 11 03.8 +0.7**
baz=273
WAX Waxell Ridge 93.99 30 P **P 22 11 03.2 -0.7**
E27K Coleen River 94.00 22 **P 22 11 03.6 -0.2**
E27K Coleen River 94.00 22 P **P 22 11 03.3 -0.4**
baz=275,SNR=16
SNH Sunshine Point 94.01 30 P **P 22 11 03.5 -0.5**
G27K Doyon Strip 94.09 23 **P 22 11 04.7 +0.5**
G27K IAmb IAmb 22 11 12.9
comp=Z,24nm,1.4s
G27K Doyon Strip 94.09 23 P **P 22 11 05.0 +0.8**
baz=275
K27K Chicken 94.13 26 P **P 22 11 03.9 -0.5**
K27K IAmb IAmb 22 11 14.2
comp=Z,60nm,1.4s
K27K Chicken 94.13 26 P **P 22 11 04.7 +0.4**
baz=274
D27M Malcolm River 94.14 21 **P 22 11 04.3 0.0**
D27M Malcolm River 94.14 21 P **P 22 11 04.8 +0.4**
baz=275
H27K Steamboat Moun 94.19 24 **P 22 11 04.7 +0.1**
H27K IAmb IAmb 22 11 14.3
comp=Z,45nm,1.4s
H27K Steamboat Moun 94.19 24 P **P 22 11 05.6 +0.9**
baz=275
I27K Kandik River 94.21 24 P **P 22 11 05.7 +0.9**
baz=275,SNR=24
MNK Minsk 94.25 324 *i* P **P 22 11 03.6 -1.5**
MNK *i* 22 14 50.4
MNK *i* PPP PPP 22 16 51.4
MNK *i* S **SKSac 22 21 38.4 -1.9**
MNK *i* 22 22 16.3
MNK *i* SS **SS 22 28 38.1 +0.6**
MNK *i* SSS SSS 22 32 19.7
MNK pmax pmax
comp=Z,8.0nm,0.7s
MNK pmax pmax
comp=E,10.0nm,1.1s
MNK pmax pmax
comp=N,11nm,0.8s
MNK MLR MLR
comp=E,386nm,21.0s
MNK MLR MLR
comp=Z,389nm,20.0s
MNK MLR MLR
comp=N,315nm,22.0s
ARCES ARCESS Array B 94.26 340 P **P 22 11 02.4 -2.4**
comp=N,1.8nm,0.9s,baz=77,slow=5.2,SNR=6.5
ARCES LR LR 22 57 27.3
comp=N,324nm,20.9s,baz=85,slow=38
comp=N,1.8nm,0.9s
MANT Manisa 94.28 308 P **P 22 11 03.3 -2.6**
L27K Beaver Creek, 94.31 27 P **P 22 11 04.5 -0.7**
L27K IAmb IAmb 22 11 14.1
comp=Z,49nm,1.4s
L27K Beaver Creek, 94.31 27 P **P 22 11 06.3 +1.1**
baz=274
BCAR Beaver Creek A 94.33 27 **P 22 11 05.4 0.0**
M27K Edge Creek, AK 94.34 28 P **P 22 11 06.1 +0.6**
M27K IAmb IAmb 22 11 26.6
comp=Z,19nm,1.2s
M27K Edge Creek, AK 94.34 28 P **P 22 11 05.7 +0.1**
baz=274
MESA MESA 94.45 30 P **P 22 11 06.2 0.0**
MESA MESA 94.45 30 P **P 22 11 06.6 +0.4**
baz=274
YAH Yahtse 94.54 30 P **P 22 11 06.6 0.0**
E28M Babbage River 94.72 21 **P 22 11 06.7 -0.3**
E28M Babbage River 94.72 21 P **P 22 11 07.4 +0.4**
baz=277,SNR=18
FINES FINESS Array B 94.77 331 P **P 22 11 04.7 -2.6**
comp=Z,1.0nm,0.7s,baz=62,slow=3.3,SNR=4.4
comp=Z,1.0nm,0.7s
FINES FINESS Array B 94.77 331*ce*P **P 22 11 07.5 +0.2**
FINES pmax pmax
comp=Z,1.0nm,0.7s
BVCY Beaver Creek 94.81 28 P **P 22 11 07.4 -0.2**
baz=275
D28M Stokes Point 94.92 21 P **P 22 11 07.6 -0.2**
baz=278
I28M Miner Creek 94.92 25 **P 22 11 07.9 -0.2**
I28M Miner Creek 94.92 25 P **P 22 11 08.4 +0.4**
baz=276,SNR=32
YUK3 Moose Creek 95.05 28 P **P 22 11 08.4 -0.6**
baz=275
SPITS Spitsbergen Ar 95.17 349 P **P 22 11 07.0 -1.9**
comp=Z,2.2nm,0.7s,baz=101,slow=7.5,SNR=16
SPITS LR LR 22 58 19.8
comp=Z,161nm,19.9s,baz=22,slow=38
comp=Z,2.2nm,0.7s
SPITS Spitsbergen Ar 95.17 349 P **P 22 11 07.0 -1.9**
O28M Mount Upton 95.28 29 **P 22 11 10.4 +0.3**
O28M IAmb IAmb 22 11 19.4
comp=Z,37nm,1.1s
O28M Mount Upton 95.28 29 P **P 22 11 09.9 -0.1**
baz=275
DAWY Dawson 95.30 26 P **P 22 11 10.0 +0.2**
DAWY IAmb IAmb 22 11 19.2
comp=Z,19nm,1.0s
DAWY Dawson 95.30 26 P **P 22 11 10.1 +0.3**
baz=276
PINM Pinnacle 95.31 30 P **P 22 11 09.8 -0.2**
baz=275
E29M Blow River 95.35 22 P **P 22 11 10.0 +0.2**
E29M Blow River 95.35 22 P **P 22 11 10.0 +0.2**
baz=278
BOSA Boshof 95.42 241 LR LR 22 49 05.3
comp=Z,564nm,20.6s,baz=99,slow=32
LBTB Lobatse 95.42 245 LR LR 22 49 20.5

comp=Z,266nm,18.9s,baz=90,slow=32
YUK8 Steele Glacier 95.43 29 P P 22 11 10.4 -0.3
baz=276
H29M Whitestone 95.47 24 P P 22 11 10.5 +0.1
H29M IAmb IAmb 22 11 19.2
comp=Z,41nm,1.3s
H29M Whitestone 95.47 24 P P 22 11 10.8 +0.3
baz=278
G29M Pine Creek 95.51 23 P P 22 11 10.3 -0.3
G29M IAmb IAmb 22 11 18.8
comp=Z,46nm,1.4s
G29M Pine Creek 95.51 23 P P 22 11 11.2 +0.6
baz=278,SNR=14
I29M Ogilvie Camp, 95.61 25 P P 22 11 10.8 -0.3
I29M IAmb IAmb 22 11 19.8
comp=Z,39nm,1.2s
I29M Ogilvie Camp, 95.61 25 P P 22 11 11.3 +0.2
baz=278,SNR=19
BCPM Bancas Point 95.63 30 P P 22 11 11.4 +0.1
J29N Klondike Camp 95.76 25 P P 22 11 11.9 0.0
J29N IAmb IAmb 22 11 27.1
comp=Z,21nm,0.9s
J29N Klondike Camp 95.76 25 P P 22 11 12.6 +0.6
baz=278
PNL Peninsula 95.78 30 P P 22 11 12.8 +0.7
baz=276
M29M Somme Creek 95.91 27 P 22 11 13.3 +0.6
M29M IAmb IAmb 22 11 21.7
comp=Z,21nm,0.9s
M29M Somme Creek 95.91 27 P P 22 11 13.0 +0.3
baz=277
YUK4 Talbot Arm 95.96 29 P P 22 11 13.8 +0.7
baz=277
MLR Muntele Rosu 95.97 315 P P 22 11 12.5 -0.9
MLR Muntele Rosu 95.97 315 LR LR 23 02 15.4
comp=Z,124nm,18.1s,baz=75,slow=40
MLR Muntele Rosu 95.97 315 P P 22 11 12.5 -0.9
MLR pmax pmax
comp=Z,9.0nm,1.1s
L29M L29M 95.98 27 P 22 11 13.6 +0.7
L29M L29M 95.98 27 P P 22 11 13.5 +0.5
baz=278
EPYK Eagle Plains 96.10 23 P P 22 11 15.2 +1.8
EPYK IAmb IAmb 22 11 39.1
comp=Z,31nm,1.1s
EPYK Eagle Plains 96.10 23 P P 22 11 13.3 -0.1
baz=279
O29M Mount Kennedy 96.12 30 P P 22 11 14.9 +1.2
O29M IAmb IAmb 22 11 23.3
comp=Z,25nm,1.2s
O29M Mount Kennedy 96.12 30 P P 22 11 13.8 0.0
baz=277
YUK6 Outpost Mounta 96.15 29 P P 22 11 14.1 +0.1
baz=277
K29M Barlow Dome 96.15 26 P 22 11 13.3 -0.5
K29M IAmb IAmb 22 11 22.3
comp=Z,50nm,1.6s
K29M Barlow Dome 96.15 26 P P 22 11 14.3 +0.5
baz=278,SNR=5.7
G30M tAoh Zraii Nji 96.20 23 P 22 11 13.3 -0.5
G30M IAmb IAmb 22 11 21.2
comp=Z,52nm,1.8s
G30M tAoh Zraii Nji 96.20 23 P P 22 11 13.9 0.0
baz=280,SNR=5.7
F30M Barrier River 96.26 22 P 22 11 13.9 -0.1
F30M IAmb IAmb 22 11 22.0
comp=Z,14nm,1.0s
F30M Barrier River 96.26 22 P P 22 11 14.6 +0.6
baz=280
BURAR Bucovina Array 96.33 318 P P 22 11 13.3 -1.6
BUR08 Bucovina Ar. S 96.34 318 P 22 11 13.8 -1.2
I30M Mount Dempster 96.43 25 P 22 11 14.1 -0.9
I30M IAmb IAmb 22 11 42.5
comp=Z,16nm,1.2s
I30M Mount Dempster 96.43 25 P P 22 11 15.0 0.0
baz=279
J30M Hart River 96.55 25 P 22 11 16.2 +0.6
J30M IAmb IAmb 22 11 23.9
comp=Z,46nm,1.6s
J30M Hart River 96.55 25 P P 22 11 16.1 +0.6
baz=279,SNR=8.0
HYT Haines Junctio 96.58 29 P 22 11 15.2 -0.6
HYT IAmb IAmb 22 11 28.8
comp=Z,18nm,1.0s
HYT Haines Junctio 96.58 29 P P 22 11 16.3 +0.5
baz=278
P29M Windy Craggy 96.62 30 P P 22 11 15.7 -0.2
P29M Windy Craggy 96.62 30 P P 22 11 16.6 +0.7
baz=278
M30M Minto, Yukon 96.66 27 P P 22 11 15.9 -0.2
M30M Minto, Yukon 96.66 27 P P 22 11 16.2 +0.2
baz=279
N30M Aishikik Lake 96.69 28 P 22 11 15.8 -0.3
N30M IAmb IAmb 22 11 25.2
comp=Z,24nm,1.1s
N30M Aishikik Lake 96.69 28 P P 22 11 16.2 0.0
baz=278
INK Inuvik 96.96 21 P P 22 11 17.2 +0.1
baz=282
G31M Satah River 96.97 23 P 22 11 16.5 -0.6
G31M IAmb IAmb 22 11 23.2
comp=Z,14nm,0.9s
G31M Satah River 96.97 23 P P 22 11 17.4 +0.2
baz=282,SNR=6.3
TAOE Nuku Hiva Isla 96.98 99 *e*LR LR 22 42 40.9
comp=Z,355nm,25.1s
SUW Suwalki 97.04 324 P P 22 11 17.8 0.0
SUW Suwalki 97.04 324 P P 22 11 17.8 0.0
F31M Tsiigehtchic 97.06 22 P 22 11 17.7 0.0
F31M Tsiigehtchic 97.06 22 P P 22 11 17.6 0.0
baz=282
H31M Peel River 97.16 24 P 22 11 17.4 -0.8
H31M IAmb IAmb 22 12 01.6
comp=Z,19nm,1.1s
H31M Peel River 97.16 24 P Pdif 22 11 18.8 +0.6
baz=281
O30N Mendenhall 97.27 29 P Pdif 22 11 19.3 +0.4
O30N IAmb IAmb 22 11 27.7
comp=Z,17nm,1.1s
O30N Mendenhall 97.27 29 P Pdif 22 11 19.2 +0.3
baz=279
N31M Braeburn, Yuko 97.31 28 P P 22 11 19.2 +0.2
N31M Braeburn, Yuko 97.31 28 P P 22 11 19.2 +0.2
baz=279
S31K Pelican 97.63 32 P Pdif 22 11 20.7 +0.3
baz=279
M31M Drury Creek, Y 97.83 27 P Pdif 22 11 22.1 +0.8
M31M IAmb IAmb 22 11 29.7
comp=Z,20nm,1.3s
M31M Drury Creek, Y 97.83 27 P Pdif 22 11 21.9 +0.6
baz=281
SKAG Skagway 97.86 30 P Pdif 22 11 21.7 +0.3
SKAG IAmb IAmb 22 11 30.4
comp=Z,23nm,1.0s
SKAG Skagway 97.86 30 P Pdif 22 11 22.7 +1.2
baz=280
WHY Whitehorse 97.88 29 P Pdif 22 11 23.0 +1.4
WHY Whitehorse 97.88 29 P Pdif 22 11 22.2 +0.6
baz=280
KOLS Kolonicke sedl 98.17 319 *e*PP **PP 22 15 25.2 +2.8**
SIT Sitka 98.25 33 P Pdif 22 11 24.0 +0.8
baz=279
FARO Faro, Yukon 98.30 27 P P 22 11 23.2 -0.2
FARO Faro, Yukon 98.30 27 P Pdif 22 11 24.2 +0.7
baz=282
R32K Eaglecrest 98.48 31 P Pdif 22 11 24.9 +0.7
baz=280
N32M Quiet Lake 98.65 28 P P 22 11 24.6 -0.4
P32M Atlin 98.65 30 P Pdif 22 11 25.7 +0.6
baz=281
SNAA Sanae 98.67 195 LR LR 22 54 29.7
comp=Z,324nm,19.6s,baz=145,slow=34
SUR Sutherland 98.81 237 LR LR 22 52 03.3
comp=Z,405nm,19.6s,baz=108,slow=33
P33M Teslin, Yukon 98.97 29 P P 22 11 26.4 -0.1
baz=282
MMPY Sheldon Lake, 99.16 27 P Pdif 22 11 27.4 +0.1
MMPY IAmb IAmb 22 11 39.8
comp=Z,33nm,1.5s
MMPY Sheldon Lake, 99.16 27 P Pdif 22 11 27.3 0.0
baz=284
Q32M Nakina River 99.50 30 P Pdif 22 11 28.8 -0.3
baz=282
U33K Whale Pass 99.62 33 P Pdif 22 11 29.2 -0.1
baz=281
C36M Paulatuk 99.94 19 Pdif **Pdif 22 11 29.7 -0.7**
C36M IAmb IAmb 22 11 36.5
comp=Z,11nm,0.9s
C36M Paulatuk 99.94 19 P Pdif 22 11 31.3 +0.9
baz=291
LANS Liptovska Anna 99.97 319 *e*P **Pdif 22 11 32.2 +1.0**
LANS Liptovska Anna 99.97 319 *e*PDIFF **Pdif 22 11 32.2 +1.0**
WRAK Wrangell Islan 99.98 33 P Pdif 22 11 31.0 +0.1
baz=282
R33M Jennings River 100.06 30 Pdif **Pdif 22 11 33.3 +1.9**
R33M Jennings River 100.06 30 P Pdif 22 11 30.9 -0.5
baz=283
S34M Telegraph Cree 100.31 31 P Pdif 22 11 33.2 +0.7
baz=283
V35K Ketchikan 100.61 34 P Pdif 22 11 33.7 -0.1
baz=282
DLBC Dease Lake 100.76 31 P Pdif 22 11 34.7 +0.2
baz=284
HFS Hagfors 100.97 331 P Pdif 22 11 32.8 -2.5
comp=Z,1.4nm,1.0s,baz=64,slow=3.4,SNR=2.2
T35M Bob Quinn 100.99 32 P Pdif 22 11 35.3 -0.3
baz=284
NB2 NORSAR Subarra101.88 332 P Pdif 22 11 36.5 -2.9
comp=Z,2.6nm,1.1s,baz=73,slow=4.6
NOA NORSAR Array B101.88 332 P Pdif 22 11 36.9 -2.5
comp=Z,1.4nm,0.9s,baz=71,slow=4.5,SNR=5.6
BRG Berggiesshubel 103.14 322 *e*P **Pdif 22 11 50.7 +5.5**
BRG Amp 22 11 52.5
comp=Z,5.4nm,1.2s
YKA Yellowknife Ar 106.38 24 Pdiff **Pdif 22 11 58.5 -0.8**
comp=Z,0.4nm,0.8s,baz=296,slow=4.2,SNR=6.1
YKA PKKPbc **PKKPbc 22 27 30.4 -3.1**
comp=Z,0.8nm,0.9s,baz=117,slow=2.7,SNR=9.6
PDAR Pinedale Array 118.39 41 PKP **PKPdf 22 16 33.4 -0.8**
comp=Z,0.6nm,0.8s,baz=284,slow=4.9,SNR=1.8
PDAR PKKPbc **PKKPbc 22 26 51.0 -2.0**
comp=Z,1.4nm,0.9s,baz=123,slow=5.5,SNR=8.6
ESDC Sonseca Array 118.66 315 PKP **PKPdf 22 16 33.6 -0.9**
comp=Z,0.6nm,0.9s,baz=48,slow=1.9,SNR=2.3
TORD Torodi Ar. Bea 120.39 284 PKPdf 22 16 36.9 -1.5
PV23 Carpenter Ridg 120.63 46 PKPdf **PKPdf 22 16 38.1 -0.6**
PV14 Lion Creek, Pa 120.65 46 PKPdf **PKPdf 22 16 37.0 -1.7**
DBIC Dimbokro 127.30 277 PKP **PKPdf 22 16 51.5 -0.3**
comp=Z,6.3nm,1.1s,baz=90,slow=3.0,SNR=3.3
TXAR Lajitas Array 128.39 53 PKP **PKPdf 22 16 53.4 -0.2**
comp=Z,0.8nm,0.6s,baz=308,slow=3.0,SNR=5.7
PLCA Paso Flores 135.89 166 PKP **PKPdf 22 17 08.0 +0.6**
comp=Z,1.3nm,0.9s,baz=189,slow=7.4,SNR=3.3
PLCA Paso Flores 135.89 166 PKIKP **PKPdf 22 17 08.0 +0.6**
V53A Saluda 139.05 32 PKPdf 22 17 12.5 -0.9
CO06 Fray Jorge 144.88 159 PKPbc 22 17 23.4 +0.6
PLTB Pedras Altas 146.27 186 *e*P **PKPbc 22 17 27.8 +0.6**
TBOT Tacuaremb 146.52 182 *e*P **PKPbc 22 17 28.4 +0.5**
SOR Soroa 147.73 48 PKPbc 22 17 32.0 +0.4
SOR Soroa 147.73 48 PKP2 **PKPbc 22 17 32.0 +0.4**
ITQB Itaqui 148.55 181 PKiKP 22 17 34.8 -0.3
ITAB Concordia 150.53 190 *e*P **PKPdf 22 17 34.8 +1.6**
CPUP Villa Florida 151.89 180 PKPbc **PKPbc 22 17 40.9 -0.9**
comp=Z,12nm,1.0s,baz=189,slow=0.7,SNR=14
VAO Valinhos 153.16 202 *e*P **PKPdf 22 17 36.7 -0.7**
SJPY San Joaquin 153.18 183 *e*P **PKPdf 22 17 37.0 -0.3**
PB16 IPOC Station P 156.65 150 PKPab 22 18 10.1 -1.7
OTAV Otavalo 159.00 94 *e*P **PKPdf 22 17 44.5 -1.3**
LPAZ La Paz 159.07 150 PKP **PKPdf 22 17 45.2 -0.8**
comp=Z,0.7nm,0.4s,baz=236,slow=3.6,SNR=3.8
LPAZ PKPab **PKPab 22 18 20.8 -1.5**
comp=Z,6.9nm,1.0s,baz=203,slow=7.7,SNR=7.9
SALV Santo Antonio 162.18 186 *e*P **PKPdf 22 17 48.7 0.0**
PTLB Pontes e Lacer 162.65 175 *e*P **PKPdf 22 17 50.8 +1.7**
SNDB Serra Nova Dou 164.85 204 *e*P **PKPdf 22 17 54.2 +3.0**
SMTB Santa Maria do 165.40 223 *e*P **PKPdf 22 17 53.3 +1.6**

SOME ***25*** *22:00:10.4, 42°.62N×79°.28E, h5km*
KRNET ***25*** *22:00:11.4±0.1, 42°.64N×79°.29E, h18km, mb2.6*
NNC ***25*** *22:00:14.0±1.9, 43°.44N×78°.69E, h0km, mb2.6, mpv2.1,*
Error ellipse: s-maj=20.0km s-min=9.8km az=17.0
ISC 25 22:00:07.1±2.0, 42°.53N±0°.06×79°.55E±0°.06, h4km±11km,
n21, σ1§38/41, 15C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.63**	**354**	*e*P	**Pn**	**22 00 24.2**	**+1.3**
SHLS				*e*S	**Sn**	**22 00 34.4**	**+1.0**
SHLS	**Shalkode**	**0.63**	**354**	*e*P	**Pn**	**22 00 24.2**	**+1.3**
SHLS	8.5nm,0.2s			*e*S	**Sn**	**22 00 34.4**	**+1.0**
UZB	**Uzynbulak**	**0.73**	**328**	*e*P	**Pg**	**22 00 21.7**	**+0.6**
UZB				*e*S	**Sg**	**22 00 29.8**	**-0.7**
UZB	**Uzynbulak**	**0.73**	**328**	*e*P	**Pg**	**22 00 21.7**	**+0.6**
UZB	4.1nm,0.2s			*e*S	**Sg**	**22 00 29.8**	**-0.7**
PDGK	**Podgornoye**	**0.80**	**357**	⇑P	**Pb**	**22 00 24.2**	**+0.6**
PDGK	1.4nm,0.3s			⇑S	**Sg**	**22 00 34.4**	**+1.6**
PRZ	**Przheval'sk**	**0.85**	**267**	⇑*i*P	**Pg**	**22 00 24.1**	**+0.7**
PRZ				⇑*i*S	**Sg**	**22 00 33.8**	**-0.7**
KPKS	**Kokpek**	**1.13**	**326**	*e*P	**Pg**	**22 00 28.5**	**-0.3**
KPKS				*e*S	**Sg**	**22 00 41.7**	**-1.8**
KPKS	**Kokpek**	**1.13**	**326**	*e*P	**Pg**	**22 00 28.5**	**-0.3**
KPKS	1.6nm,0.2s			*e*S	**Sg**	**22 00 41.7**	**-1.8**
ANVS	**Anan'yevo**	**1.41**	**281**	⇓*e*P	**Pb**	**22 00 34.1**	**0.0**
ANVS				⇓*e*S	**Sb**	**22 00 50.2**	**-2.3**
KDJ	**Kajisay**	**1.80**	**258**	⇑*i*P	**Pb**	**22 00 41.1**	**+0.4**
KDJ				⇑*i*S	**Sb**	**22 01 02.8**	**-1.0**
TNSS	**Tian-Shan**	**1.98**	**286**	*e*P	**Pb**	**22 00 43.6**	**-0.4**
TNSS	1.3nm,0.2s			*e*S	**Sn**	**22 01 07.5**	**+0.3**
CHKK	**Chushkaly**	**2.29**	**306**	*e*P	**Pb**	**22 00 49.2**	**+0.2**
CHKK	2.5nm,0.5s			*e*S	**Sb**	**22 01 17.0**	**-0.7**
MTBS	**Maitube**	**2.37**	**286**	*e*P	**Pb**	**22 00 50.9**	**+0.5**
MTBS	2.0nm,0.1s			*e*S	**Sb**	**22 01 20.0**	**-0.1**
ULHL	**Ulahol**	**2.47**	**264**	⇓*i*P	**Pb**	**22 00 50.6**	**-1.5**
ULHL				⇓*i*S	**Sn**	**22 01 19.3**	**+0.4**
BOOM	**Boomskoye usch**	**2.67**	**270**	⇓*e*P	**Pb**	**22 00 53.3**	**-2.2**
BOOM				⇓*i*S	**Sn**	**22 01 24.2**	**+0.3**
KST	**Kastek**	**2.69**	**282**	*e*P	**Pb**	**22 00 56.5**	**+0.7**
KST	1.7nm,0.2s			*e*S	**Sb**	**22 01 29.9**	**+0.7**
KUU	**Kurty**	**2.71**	**301**	*e*P	**Pb**	**22 00 56.2**	**+0.1**
KUU	0.9nm,0.3s			*e*S	**Sb**	**22 01 29.3**	**-0.5**
TKM2	**Tokmak 2**	**2.94**	**279**	⇑Pg	**Pb**	**22 00 58.3**	**-1.8**
TKM2	0.7nm,0.3s			⇑Lg	Lg	22 01 32.1	
TKM2	**Tokmak 2**	**2.94**	**279**	⇑*e*P	**Pn**	**22 00 56.9**	**+2.2**
TKM2	1.5nm,0.4s			⇑*i*S	**Sn**	**22 01 30.4**	**-0.1**
MAKZ	**Makanchi**	**4.61**	**21**	⇑Pn	**Pn**	**22 01 20.3**	**+2.8**
MAKZ	0.2nm,0.2s			⇑Sn	**Sn**	**22 02 07.7**	**-3.8**
MAKZ	0.2nm,0.5s			⇑Lg	Lg	22 02 24.1	
MK31	**Makanchi Array**	**4.69**	**24**	⇑Pn	**Pn**	**22 01 18.4**	**-0.2**
MK31	0.1nm,0.3s,baz=208,slow=13,SNR=11			⇓Sn	**Sn**	**22 02 10.9**	**-2.5**
MK31	0.1nm,0.3s,baz=214,slow=27,SNR=6.5			⇑Lg	Lg	22 02 26.6	
	0.1nm,0.3s						

IDC ***25*** *22:16:08.4±1.2, 26°.75S×66°.52W, h0km, mb3.8/2,*
mbtmp3.9/3, ML4.1/1, MS3.7/2, Error ellipse: s-maj=42.4km
s-min=29.9km az=6.0
SJA ***25*** *22:16:10.3±1.1, 26°.76S×66°.38W, h10km±14km, ML3.6,*
MW3.7
ISC 25 22:16:14.0±0.9, 26°.69S±0°.04×66°.26W±0°.07, h35km, n23,
σ1§35/23, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSA	**Cafayete**	**0.63**	**24**	*e*P	**Pn**	**22 16 25.6**	**-1.1**
FSA				*e*S	**Sn**	**22 16 35.7**	**+0.1**
CYA	**Choya**	**1.79**	**167**	*e*P	**Pn**	**22 16 43.0**	**+0.6**
CYA				*e*S	**Sn**	**22 17 07.0**	**+3.0**
CYA				IAML		22 17 08.1	
	comp=Z,1μm,0.8s						
SLA	**San Lorenzo**	**2.08**	**19**	*e*P	Pn	22 16 51.3	+4.8
SLA				IAML		22 17 31.3	
	comp=Z,338nm,0.5s						
AC02	**Maricunga**	**2.57**	**266**	*e*P	**Pn**	**22 16 53.8**	**+0.2**
AC02				IAML		22 17 53.5	
	comp=Z,21nm,0.9s						
VCA	**Vinchina**	**2.67**	**220**	*e*P	**Pn**	**22 16 53.5**	**-1.1**
VCA				*e*S	**Sn**	**22 17 26.6**	**+0.8**
VCA				IAML		22 17 36.0	
	comp=Z,1μm,0.4s						
ACLC	**CERRO LA CRUZ**	**2.79**	**192**	*e*P	**Pn**	**22 16 54.7**	**-1.6**
ACLC				IAML		22 17 35.5	
	comp=Z,268nm,0.5s						
GO02	**Mina Guanaco**	**3.36**	**296**	*e*P	**Pn**	**22 17 05.5**	**+1.2**
AGUA	**GUANDACOL**	**3.41**	**215**	*e*P	**Pn**	**22 17 03.8**	**-1.0**
AGUA				IAML		22 17 53.3	
	comp=Z,452nm,0.5s						
GO03	**Copiapo**	**3.65**	**255**	*i*P	**Pn**	**22 17 06.8**	**-1.2**
APLL	**PUNTA DE LOS L**	**3.69**	**184**	*e*P	**Pn**	**22 17 06.8**	**-1.8**
APLL				*e*S	**Sn**	**22 17 50.5**	**-0.5**
APLL				IAML		22 18 14.6	
	comp=Z,56nm,0.6s						
AVFE	**Valle Fertil**	**4.09**	**195**	*e*P	**Pn**	**22 17 12.5**	**-1.6**
AVFE				IAML		22 18 21.4	
	comp=Z,124nm,0.7s						
ACHE	**Chepes**	**4.46**	**184**	*e*P	**Pn**	**22 17 18.4**	**-0.9**
AROD	**Rodeo**	**4.47**	**219**	*e*P	**Pn**	**22 17 18.9**	**-0.7**
ACCO	**Cerro Coronel**	**4.60**	**212**	*e*P	**Pn**	**22 17 22.4**	**+1.2**
RTLL	**Cerro Villicun**	**5.01**	**202**	*e*P	**Pn**	**22 17 26.1**	**-0.6**
CPUP	**Villa Florida**	**8.01**	**89**	Pn	**Pn**	**22 18 10.3**	**+2.5**
	comp=Z,0.6nm,0.3s,baz=266,slow=16,SNR=6.0						
CPUP				Lg	Lg	22 20 27.4	
	comp=Z,3.2nm,0.3s,baz=170,slow=16,SNR=4.1						
	comp=Z,9.4nm,0.8s						
LPAZ	**La Paz**	**10.50**	**350**	LR	LR	22 23 17.3	
	comp=Z,101nm,19.4s,baz=127,slow=41						
QSPA	**South Pole Qui**	**63.52**	**180**	P	**P**	**22 26 39.8**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=153,slow=6.8,SNR=2.0						
	comp=Z,1.1nm,0.7s						
PDAR	**Pinedale Array**	**79.79**	**329**	P	**P**	**22 28 17.7**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=143,slow=7.0,SNR=1.1						
	comp=Z,0.3nm,0.6s						
ULM	**Lac du Bonnet**	**80.98**	**341**	LR	LR	23 07 59.0	
	comp=Z,185nm,20.5s,baz=302,slow=38						
KURBB	**Kurchatov Arra**	**144.10**	**39**	PKP	PKPbc	22 35 44.1	+0.4
	comp=Z,0.4nm,0.7s,baz=314,slow=3.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**145.41**	**30**	PKPbc	**PKPab**	**22 35 48.0**	**0.0**
	comp=Z,1.5nm,0.5s,baz=299,slow=3.6,SNR=7.6						
MKAR	**Makanchi Array**	**148.11**	**43**	PKPbc	**PKPbc**	**22 35 56.4**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=298,slow=3.7,SNR=9.5						

OSPL ***25*** *22:27:33.8±1.5, 18°.64N×71°.64W, h0km±172km, ML1.5*
SDD ***25*** *22:27:36.3±1.5, 18°.60N×71°.51W, h20km±10km, MD2.9,*
ML1.5, MW2.5
ISC 25 22:27:33.0±1.3, 18°.63N±0°.05×71°.59W±0°.07, h16km±6km,
n11, σ1§00/17, 8C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONE3	**El Aguacate, B**	**0.13**	**100**	*i*P	**Pg**	**22 27 36.8**	**-0.1**
LONE3				*e*S	**Sg**	**22 27 38.8**	**-0.6**
LONE3				IAML		22 27 39.1	
	comp=Z,239nm,0.1s						
NEDR	**Neiba UASD**	**0.22**	**131**	⇑*e*Sg	**Sg**	**22 27 42.3**	**+0.9**
NEDR				IAML		22 27 43.0	
	comp=N,104nm,0.3s						
JIDR	**Jimani**	**0.28**	**241**	⇑*e*Sg	**Sn**	**22 27 48.6**	**+0.2**
JIDR				IAML		22 27 48.9	
	comp=N,131nm,0.3s						
LODU1	**El Espartillar**	**0.29**	**158**	*i*P	**Pb**	**22 27 40.4**	**+0.5**
LODU1				*e*S	**Sg**	**22 27 44.3**	**+0.7**
LODU1				IAML		22 27 45.9	
	comp=Z,64nm,0.3s						
SDDR	**Presa de Saban**	**0.45**	**39**	⇑*e*Sg	**Sn**	**22 27 51.4**	**-1.4**
SDDR				IAML		22 27 54.0	
	comp=N,14nm,0.6s						
SDDR	**Presa de Saban**	**0.45**	**39**	*i*P	**Pb**	**22 27 42.9**	**+0.2**
SDDR				IAML		22 27 52.7	
	comp=Z,12nm,0.3s						
PODR	**Polo**	**0.54**	**147**	⇑*e*Pg	**Pb**	**22 27 44.7**	**+0.4**
PODR				⇑*e*Sg	**Sb**	**22 27 52.6**	**+0.6**
PODR				IAML		22 27 53.1	
	comp=N,56nm,0.1s						
PODR	**Polo**	**0.54**	**147**	*i*P	**Pb**	**22 27 44.5**	**+0.2**
PODR				*e*S	**Sb**	**22 27 52.5**	**+0.6**
REDR	**Restauracion**	**0.57**	**19**	⇑*e*Sg	**Sn**	**22 27 57.4**	**+2.0**
REDR				IAML		22 27 57.9	
	comp=N,26nm,0.1s						
LOBH	**Bahia de las A**	**0.76**	**184**	*i*P	**Pb**	**22 27 46.5**	**-1.4**
LOBH				*e*S	**Sb**	**22 27 58.2**	**+0.2**
LOBH				IAML		22 28 06.6	
	comp=Z,57nm,1.2s						
ABDR	**Alto Bandera**	**0.93**	**78**	⇑*e*Pg	**Pn**	**22 27 51.4**	**-0.3**
ABDR				⇑*e*Sg	**Sn**	**22 28 03.5**	**-1.4**
ABDR				IAML		22 28 48.5	
	comp=N,14nm,4.0s						

IDC 25 22:31:07.6±1.8, 17°.18S×177°.69W, h0km, mb4.0/4,
mbtmp4.0/4, Error ellipse: s-maj=167.2km
s-min=29.5km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.58**	**241**	P	P	22 38 41.7	+0.8
	0.9nm,0.4s,baz=49,slow=9.3,SNR=2.8						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**45.44**	**259**	P	P	22 39 28.5	-0.2
	0.9nm,0.5s,baz=96,slow=7.4,SNR=15						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**45.65**	**254**	P	P	22 39 29.8	-0.6
	4.2nm,0.6s,baz=87,slow=8.8,SNR=48						
	4.2nm,0.6s						
TXAR	**Lajitas Array**	**85.03**	**57**	P	P	22 43 45.6	0.0
	0.5nm,0.7s,baz=222,slow=6.7,SNR=7.1						
	0.5nm,0.7s						

TAP ***25*** *22:41:29.1, 23°.93N×121°.46E, h17km, ML2.8, B*
ISC 25 22:41:29.2±0.8, 23°.93N±0°.01×121°.47E±0°.02, h17km±4km,
n79, σ0§53/136, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.04**	**26**	*i*P	**Pg**	**22 41 32.5**	**+0.2**
ETM				S	**Sg**	**22 41 34.8**	**+0.4**
LXIB	**Xiulin Townshi**	**0.10**	**328**	*i*P	**Pg**	**22 41 33.0**	**0.0**
LXIB				S	**Sg**	**22 41 35.7**	**+0.1**
ESL	**Shilin**	**0.12**	**198**	*i*P	**Pb**	**22 41 33.0**	**0.0**
ESL				S	**Sg**	**22 41 35.6**	**0.0**
HWA	**Hwalien**	**0.13**	**69**	P	**Pb**	**22 41 33.8**	**+0.7**
HWA				*e*S	**Sb**	**22 41 37.1**	**+1.3**
TEYL	**Yanliau Villag**	**0.13**	**119**	P	**Pb**	**22 41 33.4**	**+0.2**
TEYL				S	**Sb**	**22 41 36.8**	**+1.0**
SHUL	**Shoufeng**	**0.16**	**151**	P	**Pb**	**22 41 34.0**	**+0.2**
SHUL				S	**Sb**	**22 41 37.7**	**+0.9**
TWD	**Chiawan**	**0.18**	**37**	P	**Pb**	**22 41 34.1**	**0.0**
TWD				S	**Sb**	**22 41 37.4**	**-0.1**
WARBT	**Fenglin Townsh**	**0.23**	**201**	*i*P	**Pg**	**22 41 34.2**	**-0.3**
WARBT				*i*S	**Sg**	**22 41 37.5**	**-0.5**
TEGC	**Jichi Village**	**0.23**	**165**	*e*P	**Pb**	**22 41 35.1**	**+0.2**
TEGC				*e*S	**Sb**	**22 41 39.6**	**+1.0**
ETL	**Fush Village**	**0.26**	**31**	P	**Pg**	**22 41 35.2**	**+0.1**
ETL				S	**Sg**	**22 41 39.0**	**-0.1**
EGFH	**Guangfu**	**0.27**	**189**	*e*P	**Pg**	**22 41 35.0**	**0.0**
EGFH				*e*S	**Sg**	**22 41 38.9**	**-0.2**
NACB	**Ninganchiao**	**0.27**	**24**	P	**Pg**	**22 41 35.0**	**-0.1**
NACB	**Ninganchiao**	**0.27**	**24**	S	**Sg**	**22 41 38.7**	**-0.4**
NACB	**Ninganchiao**	**0.27**	**24**	P	**Pg**	**22 41 35.0**	**-0.1**
NACB				S	**Sg**	**22 41 38.9**	**-0.2**
ETLH	**Xiulin Townshi**	**0.27**	**1**	*e*P	**Pg**	**22 41 35.3**	**0.0**
ETLH				*e*S	**Sg**	**22 41 39.3**	**-0.2**
OWD	**Renai**	**0.27**	**275**	P	**Pg**	**22 41 35.4**	**+0.1**
OWD				S	**Sg**	**22 41 39.4**	**-0.1**
WHF	**Hehuan Shan**	**0.29**	**318**	P	**Pg**	**22 41 35.7**	**-0.1**
WHF				*e*S	**Sg**	**22 41 40.2**	**0.0**
WUSB	**Renai**	**0.33**	**281**	P	**Pb**	**22 41 36.6**	**-0.1**
WUSB				S	**Sb**	**22 41 41.3**	**-0.5**
VWDT	**VWDT**	**0.35**	**240**	P	**Pb**	**22 41 36.9**	**-0.1**

VWDT				S	Sb	22 41 42.1	-0.2
FUSS	**Fushou**	**0.38**	**326**	P	Pb	22 41 37.5	-0.1
FUSS				S	Sb	22 41 43.1	-0.2
TWT	**Tachien**	**0.42**	**320**	*eP*	Pb	22 41 38.4	+0.1
TWT				*eS*	Sb	22 41 44.1	-0.3
TDCB	**Techi**	**0.43**	**318**	*eP*	Pb	22 41 38.4	0.0
TDCB				*eS*	Sg	22 41 44.0	0.0
HGSD	**Ruisui**	**0.44**	**186**	*eP*	Pb	22 41 38.3	-0.2
EHY	**Hungye**	**0.45**	**198**	*eP*	Pg	22 41 37.8	-0.4
EHY				*eS*	Sg	22 41 43.7	-0.6
EHYH	**Wanrong**	**0.45**	**195**	*eP*	Pg	22 41 38.0	-0.4
EHYH				*eS*	Sg	22 41 44.3	-0.2
EAHA	**Aohua**	**0.46**	**31**	*eP*	Pg	22 41 38.4	-0.2
EAHA				*eS*	Sg	22 41 44.5	-0.4
SSLB	**Suanglung**	**0.50**	**253**	P	Pb	22 41 39.6	+0.1
SSLB	**Suanglung**	**0.50**	**253**	P	Pn	22 41 44.9	+3.4
SSLB	**Suanglung**	**0.50**	**253**	*eP*	Pb	22 41 39.2	-0.3
SSLB				S	Sg	22 41 45.5	-0.4
NNSB	**Datong**	**0.50**	**350**	P	Pg	22 41 39.4	+0.1
NNSB				*eS*	Sg	22 41 46.1	0.0
NNS	**Nan Shan**	**0.52**	**350**	P	Pb	22 41 39.8	-0.1
NNS				*eS*	Sb	22 41 46.8	-0.3
SMLT	**Sun Moon Lake**	**0.53**	**265**	*eP*	Pg	22 41 38.9	-0.9
SMLT				*eS*	Sg	22 41 46.4	-0.5
WCS	**Beigang Elemen**	**0.53**	**284**	*eP*	Pg	22 41 39.8	0.0
WCS				*eS*	Sb	22 41 47.1	-0.3
ENA	**Nanau**	**0.55**	**26**	*eP*	Pg	22 41 39.7	-0.5
ENA				*eS*	Sg	22 41 47.4	-0.2
YULB	**Yu-li**	**0.56**	**197**	P	Pg	22 41 40.0	-0.4
YULB	**Yu-li**	**0.56**	**197**	S	Sg	22 41 47.4	-0.5
YULB	**Yu-li**	**0.56**	**197**	*eP*	Pg	22 41 39.4	-1.0
YULB				*eS*	Sg	22 41 47.2	-0.7
TYC	**Yuchr**	**0.57**	**267**	*eP*	Pg	22 41 40.3	-0.2
TYC				*eS*	Sg	22 41 48.0	-0.1
EWUT	**Wuta**	**0.58**	**28**	*eP*	Pg	22 41 40.5	-0.3
EWUT				*eS*	Sg	22 41 48.1	-0.5
WHP	**Taichung City**	**0.59**	**306**	P	Pb	22 41 41.2	0.0
EYUL	**Yuli**	**0.60**	**194**	*eP*	Pg	22 41 40.9	-0.2
EYUL				*eS*	Sb	22 41 49.2	-0.1
TWF1	**Yuli**	**0.60**	**196**	*eP*	Pg	22 41 40.6	-0.5
TWF1				*eS*	Sg	22 41 48.6	-0.5
LATG	**Datong**	**0.60**	**4**	P	Pg	22 41 41.0	-0.2
LATG				S	Sg	22 41 49.1	-0.2
WHYT	**Xinyi Township**	**0.61**	**248**	*eP*	Pb	22 41 41.7	+0.2
WHYT				*eS*	Sb	22 41 50.1	+0.2
WJS	**Zhushan**	**0.69**	**261**	*eS*	Sn	22 41 54.1	-0.4
ENTT	**Nioudou**	**0.71**	**7**	*eP*	Pg	22 41 43.3	+0.1
ENTT				*eS*	Sb	22 41 52.3	-0.3
WNT	**Mingjian**	**0.72**	**266**	*eS*	Sn	22 41 55.0	-0.4
NDS	**Dongshan**	**0.73**	**17**	*eP*	Pb	22 41 42.7	-0.8
NDS				*eS*	Sb	22 41 52.2	-1.0
CHKH	**Chenggong**	**0.74**	**186**	*eP*	Pb	22 41 43.6	0.0
CHKH				*eS*	Sb	22 41 53.3	-0.1
YHNB	**Yeheng**	**0.74**	**353**	P	Pg	22 41 44.2	+0.5
YHNB	**Yeheng**	**0.74**	**353**	S	Sb	22 41 53.3	-0.2
YHNB	**Yeheng**	**0.74**	**353**	P	Pg	22 41 43.9	+0.2
YHNB				*eS*	Sb	22 41 53.2	-0.3
ALS	**Alishan**	**0.74**	**236**	*eP*	Pb	22 41 43.9	+0.1
ALS				*eS*	Sb	22 41 54.1	+0.3
FULB	**Fuli**	**0.75**	**193**	*eP*	Pb	22 41 43.6	-0.1
FULB				*eS*	Sn	22 41 55.3	-0.6
NSK	**Sanguang**	**0.75**	**352**	*eP*	Pg	22 41 44.2	+0.3
NSK				*eS*	Sb	22 41 53.6	-0.2
TWC	**Suao**	**0.76**	**27**	*eP*	Pb	22 41 43.9	0.0
TWC				*eS*	Sb	22 41 53.6	-0.2
TWQ1	**Liyutan**	**0.76**	**303**	*eP*	Pn	22 41 45.1	-0.1
NFF	**Wufeng Townshi**	**0.77**	**335**	*eP*	Pg	22 41 44.4	+0.1
EOS4	**EOS4**	**0.79**	**76**	S	Sn	22 41 56.1	-0.4
CHN5	**Tsauling**	**0.80**	**246**	*eP*	Pn	22 41 45.5	-0.2
CHN5				*eS*	Sn	22 41 57.4	+0.1
TWE	**Neicheng**	**0.81**	**13**	*eP*	Pg	22 41 45.0	+0.1
TWE				*eS*	Sb	22 41 55.3	0.0
EHD	**Haiduan**	**0.82**	**198**	*eP*	Pb	22 41 44.7	-0.2
EHD				*eS*	Sb	22 41 55.5	-0.1
NSTT	**Nanjuang**	**0.82**	**328**	*eP*	Pg	22 41 45.0	-0.2
NSTT				*eS*	Sg	22 41 56.3	+0.3
LIOB	**Emei**	**0.82**	**330**	*eP*	Pg	22 41 45.4	+0.1
FUSB	**Fushanzhiwuyua**	**0.83**	**7**	*eP*	Pg	22 41 45.4	0.0
FUSB				*eS*	Sb	22 41 56.1	-0.1
CHKT	**Chengkung**	**0.83**	**187**	*eP*	Pb	22 41 44.2	-1.0
CHKT				*eS*	Sb	22 41 55.8	-0.3
NWLT	**Wulai**	**0.84**	**2**	*eP*	Pg	22 41 45.6	0.0
NWLT				*eS*	Sb	22 41 56.1	-0.3
EOS2	**EOS2**	**0.84**	**55**	*eP*	Pn	22 41 46.2	0.0
ELDTW	**Lidau**	**0.85**	**210**	*eP*	Pb	22 41 45.1	-0.4
ELDTW				*eS*	Sb	22 41 56.2	-0.5
WCKO	**Fanlu**	**0.94**	**239**	*eS*	Sn	22 42 01.3	+0.8
EDH	**Donghe**	**0.97**	**189**	*eP*	Pb	22 41 46.3	-1.1
EDH				*eS*	Sb	22 41 59.3	-0.6
STYH	**Taoyuan**	**0.99**	**220**	*eP*	Pb	22 41 46.9	-1.0
STYH				*eS*	Sb	22 42 00.2	-0.5
CHN4	**Tsaushan**	**0.99**	**235**	*eP*	Pg	22 41 48.6	+0.2
TPUB	**Ta-pu**	**1.00**	**231**	P	Pg	22 41 50.0	+1.5
TPUB	**Ta-pu**	**1.00**	**231**	S	Sn	22 42 02.9	+0.8
TIPB	**Shuangxi**	**1.08**	**17**	*eP*	Pn	22 41 49.6	0.0
TIPB				*eS*	Sb	22 42 03.4	0.0
CHN1	**Nanshi**	**1.14**	**230**	*eP*	Pg	22 41 51.0	-0.3
CHN1				*eS*	Sg	22 42 07.2	+0.9
SXI1	**Grass Mountain**	**1.21**	**17**	*eP*	Pg	22 41 52.3	-0.4
PHUB	**P'eng-hu**	**1.79**	**257**	*eP*	Pn	22 41 59.5	+0.2
PHUB				*eS*	Sn	22 42 22.4	+0.7

NEIC ***25*** *22:46:09.9±1.6, 66°.31N±0°.01×157°.15W±0°.06, h8km±3km, Error ellipse: s-maj=3.2km s-min=2.0km az=91.0*

AEIC 25 22:46:10.2±2.8, 66°.31N±0°.01×156°.96W±0°.05, h0km±7km, ML3.5, ML3.4/158(NEIC), Error ellipse: s-maj=3.0km s-min=2.0km az=102.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.17**	**197**		Pg	22 46 13.5	-0.1
G19K				Sg	Sg	22 46 16.4	+0.6
F19K	**Shaleruckik Mo**	**0.62**	**329**		Pg	22 46 20.6	-1.5
F19K				Sg	Sg	22 46 29.1	-0.9
G18K	**Tagagawik**	**0.81**	**240**		Pg	22 46 23.5	-2.1
G18K				Sg	Sg	22 46 33.8	-2.3
H19K	**Roundabout Mou**	**0.81**	**165**		Pg	22 46 25.9	+0.1
H19K				Sg	Sg	22 46 37.0	+0.7
H19K				IAML		22 46 41.5	
	comp=E,1μm,0.4s						
F20K	**Avaraart Lake**	**0.89**	**33**		Pg	22 46 27.6	+0.3
F20K				Sg	Sg	22 46 39.4	+0.6
F20K				IAML		22 46 44.4	
	comp=N,2μm,0.7s						
E19K	**Redstone River**	**1.16**	**355**		Pg	22 46 31.4	-1.0
E19K				IAML		22 46 52.4	
	comp=N,652nm,0.8s						
E19K				IAML		22 46 52.9	
	comp=E,817nm,0.6s						
H18K	**Honhosa River**	**1.30**	**207**		Pg	22 46 33.0	-2.1
H18K				IAML		22 46 52.9	
	comp=E,804nm,0.7s						
G21K	**Allakaket**	**1.41**	**80**		Pn	22 46 36.8	-0.3
F21K	**Alatna River**	**1.66**	**55**		Pn	22 46 40.1	-0.5
F21K				IAML		22 47 07.9	
	comp=E,661nm,0.7s						
F21K				IAML		22 47 10.7	
	comp=N,466nm,0.7s						
F17K	**Baldwin Pennin**	**1.73**	**276**		Pn	22 46 38.6	-3.0
F17K				IAML		22 47 04.2	
	comp=E,388nm,0.8s						
F17K				IAML		22 47 06.2	
	comp=N,436nm,1.0s						
E18K	**Tukpahlearik C**	**1.82**	**309**		Pn	22 46 41.5	-1.2
H21K	**Melozitna Rive**	**1.82**	**109**		Pn	22 46 42.7	-0.1
H21K				IAML		22 47 13.9	
	comp=N,334nm,0.5s						
H21K				IAML		22 47 14.3	
	comp=E,423nm,0.7s						
I20K	**Naaghedeneel**	**1.84**	**145**		Pn	22 46 43.2	+0.2
H17K	**Granite Mounta**	**1.84**	**223**		Pn	22 46 40.5	-2.6
H17K				IAML		22 47 06.6	
	comp=N,301nm,0.8s						
H17K				IAML		22 47 06.7	
	comp=E,540nm,0.8s						
D19K	**Kuna River**	**2.24**	**349**		Pn	22 46 47.6	-0.9
D19K				IAML		22 47 22.2	
	comp=E,226nm,0.7s						
D19K				IAML		22 47 30.0	
	comp=N,254nm,0.8s						
I21K	**Tanana**	**2.35**	**117**		Pn	22 46 49.3	-0.7
I21K				IAML		22 47 29.4	
	comp=N,256nm,0.7s						
I21K				IAML		22 47 34.6	
	comp=E,297nm,0.8s						
J19K	**Poorman**	**2.40**	**166**		Pn	22 46 50.3	-0.4
G16K	**Koyuk River**	**2.40**	**250**		Pn	22 46 47.0	-3.8
G16K				IAML		22 47 25.6	
	comp=N,167nm,0.8s						
D20K	**Etivluk River**	**2.42**	**3**		Pn	22 46 50.1	-0.9
D20K				IAML		22 47 31.0	
	comp=E,176nm,0.9s						
E21K	**Killik River**	**2.43**	**27**		Pn	22 46 51.4	+0.2
E21K				IAML		22 47 34.6	
	comp=E,190nm,0.8s						
E21K				IAML		22 47 38.8	
	comp=N,187nm,0.7s						
J20K	**Nowinta River**	**2.45**	**150**		Pn	22 46 51.6	+0.2
J20K				IAML		22 47 34.8	
	comp=E,177nm,1.1s						
J20K				IAML		22 47 37.6	
	comp=N,164nm,0.8s						
E22K	**Anaktuvuk Pass**	**2.71**	**45**		Pn	22 46 55.7	+0.6
E22K				IAML		22 47 45.6	
	comp=E,129nm,1.0s						
G23K	**Bananza Creek**	**2.81**	**79**		Pn	22 46 56.6	+0.3
G23K				IAML		22 47 52.3	
	comp=E,131nm,1.0s						
COLD	**Coldfoot**	**2.83**	**68**		Pn	22 46 56.4	-0.3
COLD				IAML		22 47 55.7	
	comp=E,116nm,1.2s						
C18K	**Utukok River**	**2.86**	**327**		Pn	22 46 55.3	-1.7
J18K	**Innoko River**	**2.86**	**178**		Pn	22 46 55.4	-1.7
I17K	**Unalakleet**	**2.90**	**215**		Pn	22 46 55.5	-2.0
I17K				IAML		22 47 44.7	
	comp=N,167nm,1.0s						
I17K				IAML		22 47 47.1	
	comp=E,159nm,0.8s						
RDOG	**Red Dog Mine**	**2.90**	**310**		Pn	22 46 55.4	-2.2
D22K	**Ayikyak River**	**3.06**	**30**	IAML		22 48 02.9	
	comp=N,162nm,1.2s						
J17K	**VABM Dome**	**3.06**	**198**	IAML		22 47 50.2	
	comp=E,106nm,1.2s						
F15K	**North Star Dit**	**3.20**	**263**	IAML		22 47 50.3	
	comp=N,92nm,1.4s						
BPAW	**Bear Paw Mtn.**	**3.36**	**129**	IAML		22 48 06.9	
	comp=N,82nm,1.1s						
J16K	**Anvik River**	**3.41**	**209**	IAML		22 48 00.4	
	comp=N,105nm,1.3s						
B21K	**Ikpikpuk River**	**3.44**	**14**	IAML		22 48 09.2	
	comp=N,102nm,0.9s						
D23K	**Nanushuk River**	**3.59**	**39**	IAML		22 48 13.4	
	comp=N,111nm,0.9s						
K17K	**Iditarod**	**3.66**	**190**	IAML		22 48 17.5	
	comp=E,62nm,1.1s						
K17K				IAML		22 48 32.2	
	comp=N,85nm,1.1s						
TOLK	**Toolik Lake Re**	**3.68**	**47**	IAML		22 48 15.1	
	comp=N,100nm,1.2s						
B20K	**Meade River**	**3.72**	**359**	IAML		22 48 19.4	
	comp=E,89nm,1.2s						
B20K				IAML		22 48 23.8	
	comp=N,69nm,1.2s						
NEA2	**Nenana**	**3.72**	**114**	IAML		22 48 14.1	
	comp=E,54nm,1.5s						
NEA2				IAML		22 48 18.5	
	comp=N,54nm,1.0s						
H24K	**Noodor Dome**	**3.73**	**93**	IAML		22 48 15.1	
	comp=N,99nm,1.2s						
H24K				IAML		22 48 25.1	
	comp=E,82nm,1.1s						
E24K	**Your Creek**	**3.75**	**58**	IAML		22 48 17.7	
	comp=N,83nm,0.7s						
E24K				IAML		22 48 21.3	
	comp=E,87nm,0.8s						
F24K	**Squaw Lake**	**3.77**	**67**	IAML		22 48 18.1	
	comp=N,88nm,0.7s						
KTH	**Kantishna Hill**	**3.78**	**134**	IAML		22 48 18.7	
	comp=N,64nm,1.4s						
KTH				IAML		22 48 22.1	
	comp=E,58nm,1.0s						
PPLA	**Purkeypile**	**4.00**	**147**	IAML		22 48 22.2	
	comp=E,44nm,0.9s						
PPLA				IAML		22 48 26.5	
	comp=N,50nm,0.9s						
TRF	**Thorofare Moun**	**4.04**	**132**	IAML		22 48 24.0	
	comp=E,70nm,1.2s						
TRF				IAML		22 48 32.7	
	comp=N,62nm,1.3s						
L18K	**Granite Mounta**	**4.11**	**178**	IAML		22 48 29.4	
	comp=N,55nm,1.4s						
L18K				IAML		22 48 30.4	
	comp=E,41nm,1.0s						
POKR	**Poker Plat Res**	**4.12**	**103**	IAML		22 48 24.4	
	comp=E,54nm,1.0s						
POKR				IAML		22 48 27.3	
	comp=N,63nm,1.3s						
WRH	**Wood River Hil**	**4.14**	**112**	IAML		22 48 25.6	
	comp=E,40nm,1.1s						
CCB	**Clear Creek Bu**	**4.17**	**109**	IAML		22 48 26.8	
	comp=E,48nm,0.8s						
L19K	**White Mountain**	**4.25**	**167**	IAML		22 48 33.1	
	comp=N,34nm,0.8s						
L19K				IAML		22 48 42.5	
	comp=E,44nm,1.2s						
B22K	**Teshekpuk Lake**	**4.26**	**16**	IAML		22 48 33.0	
	comp=E,59nm,1.5s						
B22K				IAML		22 48 37.4	
	comp=N,59nm,0.8s						
C23K	**Itkillik River**	**4.27**	**31**	IAML		22 48 39.8	
	comp=E,51nm,0.7s						
K15K	**Wolf Creek Mou**	**4.50**	**208**	IAML		22 48 50.0	
	comp=E,31nm,1.1s						
K15K				IAML		22 48 53.5	
	comp=N,29nm,1.4s						
M19K	**Big River Lodg**	**4.57**	**165**	IAML		22 48 45.2	
	comp=N,50nm,0.8s						
J14K	**Nanvaranak Lak**	**4.57**	**222**	IAML		22 48 43.4	
	comp=N,50nm,0.8s						
J14K				IAML		22 48 51.4	
	comp=E,42nm,1.1s						
HDA	**Harding Lake**	**4.61**	**110**	IAML		22 48 43.1	
	comp=N,44nm,0.6s						
HDA				IAML		22 48 46.7	
	comp=E,30nm,1.4s						
F25K	**Christian Rive**	**4.63**	**69**	IAML		22 48 53.8	
	comp=N,51nm,0.9s						
F25K				IAML		22 48 54.1	
	comp=E,42nm,1.5s						
M20K	**Styx River**	**4.75**	**158**	IAML		22 48 48.2	
	comp=E,36nm,1.3s						
PRP	**Porcupine Dome**	**4.75**	**94**	IAML		22 48 44.3	
	comp=E,33nm,0.7s						
E25K	**Arctic Village**	**4.79**	**63**	IAML		22 48 47.6	
	comp=N,44nm,0.7s						
SKT	**Skwentna**	**4.95**	**149**	IAML		22 49 06.1	
	comp=E,28nm,1.2s						
SKT				IAML		22 49 07.0	
	comp=N,20nm,1.5s						
J25K	**Salcha River,**	**5.12**	**104**	IAML		22 48 55.4	
	comp=E,29nm,0.5s						
J25K				IAML		22 48 60.0	
	comp=N,31nm,1.5s						

UPA ***25*** *22:53:06.8±1.5, 9°.56N×83°.08W, h3km±4km, MW3.8*
UCR ***25*** *22:53:07.0±1.0, 9°.58N×83°.13W, h5km±4km, MW3.6*

ISC 25 22:53:07.7±1.2, 9°.58N±0°.04×83°.13W±0°.03, h21km±2km, n35, σ0°80/53, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEUA	**Cerro Uatsi, L**	**0.19**	**77**	*eP*	**Pb**	**22 53 12.9**	**-0.7**
CEUA				*eS*	**Sb**	**22 53 18.1**	**+0.5**
DRK0	**Durika**	**0.34**	**200**	*eP*	**Pb**	**22 53 14.4**	**-0.6**
DRK0				*eS*	**Sb**	**22 53 19.9**	**-0.2**
SAJE	**San Jernim**	**0.44**	**238**	*eP*	**Pb**	**22 53 15.9**	**-0.9**
SAJE				*eS*	**Sb**	**22 53 22.4**	**-0.7**
BURE	**Buenos Aires**	**0.45**	**207**	*eP*	**Pb**	**22 53 16.5**	**-0.5**
BURE				*eS*	**Sb**	**22 53 23.2**	**-0.1**
EDP2	**Potrero Grande**	**0.56**	**185**	*eP*	**Pb**	**22 53 18.3**	**-0.7**
BUS1	**Rivas**	**0.61**	**268**	*eP*	**Pb**	**22 53 19.1**	**-1.0**
FIMO	**Fila Mora**	**0.63**	**201**	*eP*	**Pb**	**22 53 19.8**	**-0.4**
VERB	**Verbena**	**0.67**	**303**	*eP*	**Pb**	**22 53 20.2**	**-0.7**
ALCO	**Alturas Coton,**	**0.69**	**155**	*eP*	**Pb**	**22 53 19.9**	**-1.3**
CVTV	**Tajo**	**0.74**	**305**	*eP*	**Pb**	**22 53 21.7**	**-0.5**
CVTQ	**Turrialba Volc**	**0.76**	**304**	*eP*	**Pb**	**22 53 21.8**	**-0.7**
VTR0	**Volcan Turrial**	**0.76**	**305**	*eP*	**Pb**	**22 53 21.9**	**-0.6**
REPA	**Paraso**	**0.77**	**289**	*eP*	**Pb**	**22 53 21.8**	**-0.8**
RAFA	**San Farael, Vo**	**0.77**	**299**	*eP*	**Pb**	**22 53 21.8**	**-0.9**
CVTG	**V. Turrialba,**	**0.85**	**312**	*eP*	**Pb**	**22 53 23.5**	**-0.4**
LCR2	**La Lucha 2**	**0.88**	**281**	*eP*	**Pb**	**22 53 23.4**	**-1.1**
LCR2				*eS*	**Sb**	**22 53 35.1**	**-0.8**
BRU2	**Volcan**	**0.89**	**151**	*eP*	**Pb**	**22 53 23.3**	**-1.3**
BRU2	**Volcan**	**0.89**	**151**	*eP*	**Pb**	**22 53 23.6**	**-1.0**
BRU2				*eS*	**Sb**	**22 53 35.9**	**-0.2**
BC3P	**Paso Ancho**	**0.92**	**146**	*eP*	**Pb**	**22 53 24.4**	**-0.6**
BC3P				*eS*	**Sb**	**22 53 37.5**	**+0.6**
ABE2	**San Pablo**	**0.92**	**278**	*eP*	**Pb**	**22 53 24.1**	**-1.1**
EDAD	**Golfito**	**0.92**	**182**	*eP*	**Pb**	**22 53 24.2**	**-0.8**
LNBQ3	**Los Naranjos,**	**1.04**	**139**	*eP*	**Pn**	**22 53 26.6**	**-0.7**
LNBQ3				*eS*	**Sb**	**22 53 40.0**	**-0.3**
PTJ1	**Puerto Jimnez**	**1.05**	**189**	*eP*	**Pn**	**22 53 26.9**	**-0.4**
PTJ1				*eS*	**Sn**	**22 53 42.4**	**+1.1**
PTAR3	**Potrerillos Ar**	**1.08**	**145**	*eP*	**Pn**	**22 53 27.9**	**+0.1**
PTAR3				*eS*	**Sb**	**22 53 41.8**	**+0.3**
VBV1	**V. Barva**	**1.09**	**299**	*eP*	**Pn**	**22 53 27.1**	**-1.0**
CHGR2	**Aguacate**	**1.16**	**123**	*eP*	**Pn**	**22 53 27.8**	**-1.0**
CHGR2				*eS*	**Sb**	**22 53 43.8**	**0.0**
PIRO	**Carate, Puerto**	**1.19**	**190**	*eP*	**Pn**	**22 53 28.4**	**-0.8**
PIRO	**Carate, Puerto**	**1.19**	**190**	*eP*	**Pn**	**22 53 29.0**	**-0.1**
PIRO				*eS*	**Sn**	**22 53 45.8**	**+1.2**
DVD	**David**	**1.32**	**149**	*eP*	**Pn**	**22 53 31.5**	**+0.5**
DVD				*eS*	**Sb**	**22 53 49.7**	**+1.5**
LOMA3	**Las Lomas, Chi**	**1.35**	**147**	*eP*	**Pn**	**22 53 30.3**	**-1.2**
LOMA3				*eS*	**Sb**	**22 53 49.9**	**+0.6**
PEDE3	**Pedregal, Chir**	**1.38**	**150**	*eP*	**Pn**	**22 53 31.5**	**-0.3**
PEDE3				*eS*	**Sb**	**22 53 50.1**	**+0.2**
PTPM	**Petroterminale**	**1.39**	**170**	*eP*	**Pn**	**22 53 32.3**	**+0.4**
PTPM				*eS*	**Sb**	**22 53 50.9**	**+0.6**
JTS	**Las Juntas de**	**1.93**	**292**	*eP*	**Pn**	**22 53 40.6**	**+1.2**
JTS	**Las Juntas de**	**1.93**	**292**	*eP*	**Pn**	**22 53 40.6**	**+1.2**
JTS				*eS*	**Sb**	**22 54 06.3**	**+0.4**
GMAL	**Guarumal, Vera**	**2.60**	**134**	*eP*	**Pn**	**22 53 48.8**	**+0.2**
GMAL				*eS*	**Sn**	**22 54 20.6**	**+0.9**

TRN 25 23:07:55.4, 15°.01N×61°.15W, h18km, MD4.3, 2D, North of Dominica. Felt in Dominica, MMI IV, V., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	**Savane Anatole**	**0.16**	**185**	‖*iP*	Pg	23 08 01.3	+1.4
SVN				*eS*	Sg	23 08 04.0	+1.1
ILAM	**Ilet Lapin Mar**	**0.35**	**130**	*eP*	Pn	23 08 05.3	-0.4
ILAM				*eS*	Sn	23 08 10.8	-1.4
MDN	**Morne-Daniel**	**0.39**	**323**	*eP*	Pn	23 08 05.5	-0.7
MDN				*eS*	Sn	23 08 11.6	-1.5
BIM	**Bigot**	**0.49**	**171**	‖*iP*	Pn	23 08 07.2	-0.4
BIM				*eS*	Sn	23 08 14.3	-1.4
DSLB	**Salisbury**	**0.50**	**329**	*eP*	Pn	23 08 07.4	-0.4
DSLB				*eS*	Sn	23 08 15.2	-0.8
DWS	**Wesley**	**0.58**	**345**	*eP*	Pn	23 08 09.2	+0.4
DWS				*eS*	Sn	23 08 18.0	0.0
MAGL	**Barre de l'ile**	**0.95**	**352**	*eP*	Pn	23 08 14.7	+0.8
MAGL				*eS*	Sn	23 08 28.6	+1.7
TBG	**Guadaloupe-3**	**0.97**	**331**	*eP*	Pg	23 08 14.9	+0.7
SLBI	**Saint Lucia, B**	**0.99**	**170**	*eP*	Pg	23 08 14.7	+0.1
SLBI				*eS*	Sn	23 08 30.6	+2.6
SLAC	**Saint Lucia, A**	**1.13**	**167**	*eP*	Pg	23 08 17.4	+0.1
SLAC				*eS*	Sg	23 08 33.8	+1.7
SVT	**Saint Vincent**	**1.83**	**183**	*eP*	Pb	23 08 28.9	+0.6
SVT				*eS*	Sg	23 08 52.9	-1.5
SVOC	**Richmond Hill,**	**1.84**	**182**	*eP*	Pb	23 08 28.5	-0.1
ANBD	**Bethesda, Anti**	**2.12**	**344**	*eP*	Pb	23 08 32.2	-1.1
ANBD				*eS*	Sb	23 08 59.2	0.0
BBGH	**Gun Hill**	**2.41**	**140**	*eP*	Pb	23 08 37.8	-0.5
BBGH				*eS*	Sb	23 09 08.3	+0.5
GCMP	**Grenada, Carri**	**2.52**	**186**	*eP*	Pn	23 08 37.6	+2.1
ANWB	**Willy Bob**	**2.72**	**347**	*eP*	Pn	23 08 40.0	+1.8
ANWB				*eS*	Sn	23 09 12.2	+1.5
SKI	**Saint Kitts**	**2.77**	**327**	*eP*	Pn	23 08 41.5	+2.5
SKI				*eS*	Sn	23 09 13.6	+1.5
GRGR	**Grenville**	**2.90**	**190**	*eP*	Pn	23 08 42.1	+1.4
GRFF	**Grenada Fort F**	**2.99**	**191**	*eP*	Pn	23 08 42.8	+0.7
TRN	**Trinidad (W)**	**4.34**	**183**	*eP*	Pn	23 09 03.2	+2.7

STR 25 23:33:33.7±0.4, 46°N±2°×°±°, h7km±4km, MLv2.1/8, Error ellipse: s-maj=0.0km s-min=0.0km az=90.4, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG35	**Corcelles**	**0.07**	**277**	Pg	Pg	23 33 35.4	-0.1
OG35				Sg	Sg	23 33 36.8	0.0
OGMY	**Moye**	**0.22**	**134**	Pg	Pg	23 33 38.1	0.0
OGMY				Sg	Sg	23 33 41.4	+0.3
OGSM	**Saint Maurice**	**0.43**	**177**	Pg	Pg	23 33 42.1	+0.1
OGSM				Sg	Sg	23 33 47.5	0.0
BRANT	**Les Verrieres**	**1.06**	**32**	Pn	Pb	23 33 54.8	+0.3
BRANT				Sn	Sn	23 34 10.3	+0.1
SSB	**Saint Sauveur**	**1.09**	**227**	Pg	Pg	23 33 54.7	+0.1
SSB				Sg	Sg	23 34 08.7

SHL IAML 23 39 38.3
comp=E,2μm,0.2s
SHL IAML 23 39 38.6
comp=N,2μm,0.3s
GUWA GUWAHATI 4.16 312 *e*P Pn 23 39 04.8 +5.1
GUWA IAML 23 39 47.5
comp=N,1μm,0.4s
GUWA IAML 23 39 48.4
comp=E,1μm,0.2s
GUWA *e*S **Sn 23 39 49.3 +1.0**
CHTO Chiang Mai 5.82 142 Pn 23 39 22.4 -0.1
PAYA Payao 6.00 132 P **Pn 23 39 25.8 +0.8**
CM31 Chiang Mai Arr 6.10 144 Pn Pn 23 39 25.5 -1.0
CMAR Chiang Mai Arr 6.10 144 Pn **Pn 23 39 26.7 +0.3**
CMAR Chiang Mai Arr 6.10 144 Pn **Pn 23 39 26.9 +0.5**
comp=E,1.3nm,0.3s,baz=316,slow=14,SNR=25
CMAR Pg **Pb 23 39 46.9 +4.3**
comp=E,2.4nm,0.3s,baz=323,slow=16,SNR=4.9
CMAR Lg Lg 23 41 10.4
comp=E,3.4nm,0.3s,baz=317,slow=20,SNR=5.1
CMAR LR LR 23 42 13.9
comp=E,170nm,19.1s,baz=325,slow=42
comp=E,3.7nm,0.5s
CM13 Chiang Mai Arr 6.12 144 P **Pn 23 39 27.0 +0.4**
comp=E,0.2nmcomp=E,0.2nmcomp=E,462nmcomp=E,51nm,0.7s
CM02 Chiang Mai Arr 6.12 144 P **Pn 23 39 27.3 +0.6**
comp=E,0.3nmcomp=E,0.2nmcomp=E,475nmcomp=E,70nm,0.8s
CM09 Chiang Mai Arr 6.14 143 P **Pn 23 39 27.5 +0.5**
CM01 Chiang Mai Arr 6.14 144 P **Pn 23 39 26.8 -0.2**
CM04 Chiang Mai Arr 6.17 144 P **Pn 23 39 27.8 +0.4**
comp=E,0.3nmcomp=E,0.2nmcomp=E,633nmcomp=E,65nm,0.6s
PZH PanZhiHua 6.72 62 Pn Pn 23 39 45.0 +10
PZH Pg Pg 23 40 10.0 +5.1
PZH Sg **Sg 23 41 34.5 +2.5**
PZH smax smax
comp=N,10.0nm,1.0s
PZH smax smax
comp=E,20nm,0.9s
PZH LR LR
comp=N,600nm,9.4s
PZH LR LR
comp=E,400nm,9.0s
PZH LR LR
comp=Z,440nm,9.4s
GTK Tadong 7.06 304 *e*P Pn 23 39 45.0 +5.3
GTK *e*S **Sn 23 40 57.3 -2.7**
QIZ Qiongzhong 14.40 105 P **Pn 23 41 19.0 -1.1**
QIZ S **Sn 23 43 56.5 -3.4**
QIZ LR LR
comp=Z,450nm,10.3s
QIZ LR LR
comp=Z,280nm,9.6s
QIZ LR LR
comp=Z,150nm,13.1s
WMQ Urumqi 21.23 345 *e*P **P 23 42 46.0 +3.8**
WMQ PP **PnPn 23 43 07.8 +6.1**
WMQ pmax pmax
comp=Z,20nm,0.7s
PALK Pallekele 21.23 223 LR LR 23 52 19.5
comp=Z,88nm,19.6s,baz=56,slow=41
NIL Nilore 21.71 303 P 23 42 47.4 -0.1
NIL IAmb IAmb 23 42 51.3
comp=Z,34nm,1.2s
HNS HongShan 21.81 46 ⇑P **P 23 42 52.8 +4.4**
HNS pmax pmax
comp=Z,6.0nm,0.9s
GSI Gunungsitoli 22.14 174 P **P 23 42 54.9 +2.8**
HHC Hu-ho-hao-te 22.18 35 *e*P **P 23 42 51.0 -1.5**
HHC pmax pmax
comp=Z,6.0nm,0.6s
KSH Kashi 22.81 319 P **P 23 43 00.5 +1.2**
KSH pmax pmax
comp=Z,7.0nm,1.0s
NRN Naryn 24.05 323 P **P 23 43 09.7 -2.1**
KBL Kabul 25.29 302 P 23 43 22.4 -0.7
KBL IAmb IAmb 23 43 28.1
comp=Z,6.3nm,0.7s
DRK Karamyk 25.42 314 P **P 23 43 23.0 -1.3**
DRK IAmb IAmb 23 43 25.6
comp=Z,12nm,0.7s
MKAR Makanchi Array 25.49 339 P 23 43 22.9 -1.6
MKAR Makanchi Array 25.49 339 P **P 23 43 23.8 -0.7**
comp=Z,5.0nm,0.5s,baz=146,slow=10.0,SNR=52
MKAR LR LR 23 54 56.5
comp=Z,70nm,20.4s,baz=186,slow=40
comp=Z,5.0nm,0.5s
MAKZ Makanchi 25.61 339 P 23 43 23.8 -1.8
MAKZ IAmb IAmb 23 43 30.0
comp=Z,11nm,1.4s
AAK Ala-Archa 25.68 323 P 23 43 25.3 -1.1
SONM Songino Array 25.95 17 P **P 23 43 28.6 -0.1**
comp=Z,0.3nm,0.6s,baz=208,slow=8.5,SNR=3.7
SONM LR LR 23 53 58.2
comp=Z,52nm,20.1s,baz=212,slow=37
comp=Z,0.3nm,0.6s
GAR Garm 26.17 312 P **P 23 43 29.9 -1.0**
BTK Batken 26.37 315 P **P 23 43 31.3 -1.3**
BTK IAmb IAmb 23 43 34.2
comp=Z,6.5nm,0.7s
KURBB Kurchatov Arra 30.05 339 P **P 23 44 03.9 -1.3**
comp=Z,1.2nm,0.6s,baz=148,slow=8.9,SNR=6.5
KURBB LR LR 23 57 36.2
comp=Z,48nm,18.4s,baz=172,slow=39
comp=Z,1.2nm,0.6s
KSRS Korea Array 31.35 56 LR LR 23 57 46.7
comp=Z,50nm,18.1s,baz=245,slow=38
ZALV Zalesovo Beam 31.44 348 P 23 44 16.2 -1.3
comp=Z,0.3nm,0.2s,baz=139,slow=34,SNR=1.6
comp=Z,0.3nm,0.2s
BVAR Borovoye Array 35.01 334 P **P 23 44 47.4 -1.3**
comp=Z,0.7nm,0.5s,baz=146,slow=10,SNR=7.2
BVAR LR LR 00 00 55.8
comp=Z,87nm,20.5s,baz=127,slow=40
comp=Z,0.7nm,0.5s
AB31 Akbulak array 37.76 322 P 23 45 10.8 -1.4
ABKAR Akbulak array 37.76 322 P 23 45 10.3 -1.9
AKTO Aktyubinsk 39.42 323 LR LR 00 01 33.4
comp=Z,65nm,19.4s,baz=64,slow=36
ARTI Arti 42.44 330 P **P 23 45 49.2 -1.7**
ARTI IAmb IAmb 23 45 54.2
comp=Z,7.1nm,0.8s
ARTI Arti 42.44 330 P **P 23 45 49.4 -1.5**
comp=Z,1.8nm,0.3s,baz=112,slow=4.9,SNR=5.4
comp=Z,1.8nm,0.3s
KBZ Khabaz 47.14 309 P P 23 46 25.9 -2.7
comp=Z,0.4nm,0.6s,baz=117,slow=4.5,SNR=2.2
comp=Z,0.4nm,0.6s
KIV Kislovodsk 47.32 309 ⇑P **P 23 46 29.5 -0.6**
SMPI Sarmi 49.36 115 P **P 23 46 45.9 -0.2**
MMAI Mount Meron Ar 52.88 294 P **P 23 47 11.6 -0.9**
comp=Z,0.3nm,0.4s,baz=101,slow=4.6,SNR=1.4
comp=Z,0.3nm,0.4s
OBN Obninsk 53.20 322 ⇑P **P 23 47 12.9 -1.5**
KIRS Kirsehir-Merke 53.66 302 ⇑P **P 23 47 17.2 -1.0**
BRTR Keskin Array B 53.85 303 P **P 23 47 18.0 -1.6**
comp=Z,0.6nm,0.6s,baz=107,slow=6.4,SNR=6.5
comp=Z,0.6nm,0.6s
ELL Elmali 56.99 300 P **P 23 47 40.6 -1.7**
AKASG Malin Array Be 57.07 316 P P 23 47 39.3 -3.1
comp=Z,0.2nm,0.3s,baz=77,slow=7.1,SNR=4.2
comp=Z,0.2nm,0.3s
WRA Warramunga Arr 57.63 135 P **P 23 47 46.9 +0.2**
comp=Z,3.9nm,0.6s,baz=322,slow=7.4,SNR=12
comp=Z,3.9nm,0.6s
SCTR Scanteiesti 57.84 310 ⇑P **P 23 47 46.8 -1.2**
HARR Harsova 57.92 309 ⇑P **P 23 47 48.4 -0.1**
TUDR 58.08 310 ⇓P **P 23 47 48.7 -0.8**
VRI Vrincioaia 58.73 311 ⇑P **P 23 47 52.5 -1.7**
LEHL Lehliu 58.73 309 ⇓P **P 23 47 53.2 -0.9**
TESR Tescani 58.76 311 ⇓P **P 23 47 53.6 -0.7**
PLOR Plostina 58.78 311 ⇓P **P 23 47 54.2 -0.4**
ISR Istrita 58.89 310 ⇑P **P 23 47 54.0 -1.3**
ONER Baraj Valea Uz 58.94 311 ⇑P **P 23 47 54.5 -1.1**
COVR Voineasa-Covas 59.09 311 ⇑P **P 23 47 55.7 -1.1**
MLR Muntele Rosu 59.29 310 P 23 47 56.2 -2.1
MLR IAmb IAmb 23 47 58.1
comp=Z,5.5nm,0.9s
FINES FINESS Array B 59.69 329 P **P 23 47 58.5 -2.0**
comp=Z,1.1nm,0.6s,baz=103,slow=5.3,SNR=12
comp=Z,1.1nm,0.6s
VOIR 59.92 310 ⇓P **P 23 48 00.8 -1.7**
ASAR Alice Springs 60.09 139 P **P 23 48 04.2 +0.4**
comp=Z,2.0nm,0.6s,baz=321,slow=6.9,SNR=17
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 61.13 338 P **P 23 48 08.6 -1.7**
comp=Z,1.6nm,0.7s,baz=94,slow=8.9,SNR=8.2
comp=Z,1.6nm,0.7s
MARR Marisel-Cluj 61.18 312 ⇓P **P 23 48 09.4 -1.7**
SPITS Spitsbergen Ar 64.91 347 P **P 23 48 33.9 -1.4**
comp=Z,2.2nm,0.9s,baz=102,slow=6.6,SNR=1.7
comp=Z,2.2nm,0.9s
VRAC Vranov 65.26 315 LR LR 00 20 44.4
comp=Z,33nm,18.2s,baz=260,slow=40
VRAC Vranov 65.26 315 ⇑P **P 23 48 37.1 -0.9**
HFS Hagfors 65.74 327 P **P 23 48 38.9 -2.0**
comp=Z,2.1nm,0.6s,baz=68,slow=5.5,SNR=6.4
comp=Z,2.1nm,0.6s
NB2 NORSAR Subarra 66.86 328 P P 23 48 45.4 -2.8
comp=Z,0.5nm,0.6s,baz=83,slow=6.5
NOA NORSAR Array B 66.86 328 P P 23 48 45.4 -2.7
comp=Z,0.9nm,0.7s,baz=83,slow=6.3,SNR=6.7
NOA LR LR 00 20 20.7
comp=Z,31nm,18.4s,baz=235,slow=38
comp=Z,0.9nm,0.7s
GERES GERESS Array B 67.21 315 P P 23 48 48.1 -2.6
comp=Z,0.5nm,0.4s,baz=59,slow=6.1,SNR=5.7
comp=Z,0.5nm,0.4s
WLF Walferdange 71.86 317 *d*PP **PP 23 51 56.7 -1.8**
EKA Eskdalemuir Ar 75.58 324 P **P 23 49 39.5 -1.5**
comp=Z,1.9nm,0.7s,baz=64,slow=6.0,SNR=3.8
comp=Z,1.9nm,0.7s
K20K Telida 78.11 26 P **P 23 49 53.2 -1.9**
K20K IAmb IAmb 23 49 55.6
comp=Z,3.1nm,0.5s
INK Inuvik 81.85 16 LR LR 00 30 26.7
comp=Z,89nm,21.3s,baz=240,slow=38
BOSA Boshof 84.88 236 P P 23 50 29.2 -2.4
comp=Z,1.5nm,0.6s,baz=71,slow=5.7,SNR=6.2
comp=Z,1.5nm,0.6s

---

*IDC **25** 23:38:57.5±2.7, 37°.89N×19°.98E, h0km, mb3.3/3, mbtmp3.2/5, ML2.3/2, Error ellipse: s-maj=44.3km s-min=29.5km az=163.0*
*ATH **25** 23:38:58.1, 37°.60N×20°.63E, h14km±1km, ML3.3/26, Manual Solution by N.Liadopoulou First location: 2019/04/25 23:39:57, This location: 2020/07/02 08:45:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **25** 23:38:59.0, 37°.60N×20°.66E, h7km±6km, ML3.1/5, Error ellipse: s-maj=6.6km s-min=0.8km az=53.0*
*PDG **25** 23:38:59.6±0.3, 37°.61N×20°.59E, h19km±1km, ML3.5/10, Error ellipse: s-maj=0.7km s-min=1.7km az=0.0*
ISC 25 23:38:58.1±1.3, 37°.61N±0°.04×20°.59E±0°.05, h13km±7km, n80, σ1§25/99, mb3.4/3, 1C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.22**	**62**	P	**Pg**	**23 39 02.8**	**-0.1**
LTHK				S	**Sg**	**23 39 05.2**	**-1.0**
30μm,0.1s							
LTHK	**Lithakia**	**0.22**	**62**	P	**Pg**	**23 39 02.7**	**-0.2**
LTHK				S	**Sg**	**23 39 05.4**	**-0.8**
ORTH	**Orthonies,Zaky**	**0.26**	**19**	P	**Pg**	**23 39 04.4**	**+0.8**
ORTH				S	**Sg**	**23 39 07.6**	**+0.3**
KYPS	**Kipseli, Zakin**	**0.28**	**41**	P	**Pg**	**23 39 04.6**	**+0.6**
KYPS				S	**Sg**	**23 39 07.9**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.49**	**17**	P	**Pg**	**23 39 08.1**	**+0.3**
RTZL				S	**Sg**	**23 39 15.3**	**+0.9**
PSDA	**Pessada-Kefalo**	**0.51**	**360**	P	**Pg**	**23 39 08.7**	**+0.6**
PSDA				S	**Sb**	**23 39 16.7**	**+0.6**
4μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.51**	**360**	P	**Pg**	**23 39 08.6**	**+0.6**
CLEM	**Kyllini,Ilia,G**	**0.52**	**56**	P	**Pg**	**23 39 08.5**	**+0.2**
LCHA	**Lechaina**	**0.63**	**58**	P	**Pg**	**23 39 10.6**	**+0.3**
SMHA	**Samh**	**0.65**	**4**	P	**Pg**	**23 39 10.0**	**-0.7**
SMHA				S	**Sg**	**23 39 19.7**	**+0.5**
DMLN	**Damoulianata-K**	**0.66**	**345**	P	**Pg**	**23 39 11.6**	**+0.7**
YRMI	**Loutra Irminis**	**0.78**	**50**	P	**Pg**	**23 39 12.7**	**-0.6**
YRMI				S	**Sg**	**23 39 23.0**	**-0.5**
RLS	**Riolos of Patr**	**0.83**	**57**	P	**Pg**	**23 39 13.5**	**-0.6**
RLS				S	**Sb**	**23 39 25.2**	**-0.2**
1μm,0.7s							
ZARO	**Zacharo**	**0.85**	**98**	P	**Pg**	**23 39 14.8**	**+0.2**
FSK	**Fiskardo**	**0.85**	**359**	P	**Pg**	**23 39 14.6**	**0.0**
AXS	**Araxos**	**0.86**	**46**	P	**Pg**	**23 39 14.2**	**-0.5**
AMT	**Artemida-Makis**	**0.89**	**94**	P	**Pg**	**23 39 14.8**	**-0.6**
DRO	**Drossia**	**0.95**	**68**	P	**Pb**	**23 39 15.8**	**-0.7**
EVGI	**Lefkada island**	**1.01**	**3**	P	**Pb**	**23 39 17.6**	**0.0**
DRAG	**Dragano-Lefkad**	**1.08**	**359**	P	**Pb**	**23 39 18.7**	**+0.1**
PATG	**Patra B**	**1.10**	**55**	P	**Pb**	**23 39 18.6**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.11**	**4**	P	**Pb**	**23 39 18.7**	**-0.4**
PATC	**Patra C**	**1.14**	**54**	P	**Pb**	**23 39 19.8**	**+0.2**
ITM	**Ithomi**	**1.15**	**111**	P	**Pb**	**23 39 19.0**	**-0.8**
PYL	**PYLOS**	**1.16**	**127**	P	**Pb**	**23 39 19.3**	**-0.6**
PYL				S	**Sn**	**23 39 37.0**	**+1.3**
948nm,0.6s							
PYL	**PYLOS**	**1.16**	**127**	P	**Pb**	**23 39 19.4**	**-0.6**
UPR	**University Cam**	**1.16**	**54**	P	**Pn**	**23 39 20.4**	**+0.4**
LKD2	**Lefkada island**	**1.18**	**3**	P	**Pn**	**23 39 20.3**	**0.0**
MTHA	**Methoni**	**1.19**	**131**	P	**Pn**	**23 39 19.9**	**-0.4**
TSLK	**Tsoukalades, L**	**1.22**	**2**	P	**Pn**	**23 39 20.9**	**+0.1**
PVO	**Paravola**	**1.25**	**36**	P	**Pn**	**23 39 21.3**	**+0.1**
KLMT	**Kalamata**	**1.29**	**114**	P	**Pn**	**23 39 21.0**	**-0.8**
EFP	**Efpalio**	**1.32**	**51**	P	**Pn**	**23 39 21.8**	**-0.5**
SERG	**Sergoula**	**1.41**	**55**	P	**Pn**	**23 39 23.1**	**-0.4**
GUR	**Goura**	**1.43**	**76**	P	**Pn**	**23 39 23.6**	**-0.2**
VLX	**Vlachokerasia**	**1.44**	**99**	P	**Pn**	**23 39 24.0**	**0.0**
KALE	**Kalithea**	**1.46**	**57**	P	**Pn**	**23 39 23.8**	**-0.3**
LTK	**Loutraki**	**1.93**	**77**	P	**Pn**	**23 39 30.7**	**+0.1**
IGT	**Igoumenitsa**	**1.94**	**354**	P	**Pn**	**23 39 31.1**	**+0.5**
AGG	**Agios Georgios**	**1.97**	**44**	P	**Pn**	**23 39 32.4**	**+1.2**
AXAR	**Agios Charalam**	**2.00**	**54**	P	**Pn**	**23 39 31.9**	**+0.4**
KRND	**KRANIDI**	**2.05**	**95**	P	**Pn**	**23 39 32.1**	**-0.1**
VLI	**Veliai**	**2.07**	**115**	P	**Pn**	**23 39 32.5**	**-0.1**
MET5	**Makryloggos,Me**	**2.20**	**89**	P	**Pn**	**23 39 34.0**	**-0.3**
VIL2	**Platees**	**2.20**	**73**	P	**Pn**	**23 39 34.9**	**+0.6**
TYRN	**Tyrnavos**	**2.46**	**31**	P	**Pn**	**23 39 38.2**	**+0.3**
ATHU	**Athens Univers**	**2.56**	**81**	P	**Pn**	**23 39 39.1**	**-0.1**
PENT	**Pentalofos**	**2.62**	**9**	P	**Pn**	**23 39 40.1**	**-0.1**
XOR	**Xorichti**	**2.69**	**48**	P	**Pn**	**23 39 40.9**	**-0.2**
NEST	**Nestorio**	**2.83**	**7**	P	**Pn**	**23 39 43.7**	**+0.7**
OHR	**Ohrid**	**3.50**	**3**	*i* Pn	**Pb**	**23 39 59.3**	**-0.7**
ULC	**Ulcinj**	**4.47**	**347**	*e*Pn	**Pn**	**23 40 06.7**	**+1.1**
ULC				*i* Sn	**Sn**	**23 40 56.3**	**-1.2**
DRME	**Dracevica, Mon**	**4.70**	**347**	*e*Pn	**Pn**	**23 40 09.1**	**+0.4**
DRME	**Dracevica, Mon**	**4.70**	**347**	*e*Pn	**Pn**	**23 40 09.8**	**+1.1**
DRME				*i* Sn	**Sn**	**23 41 01.8**	**-1.2**
BUM	**Brajici-Budva**	**4.87**	**345**	*e*Pn	**Pn**	**23 40 12.2**	**+1.2**
BUM				*i* Sn	**Sn**	**23 41 05.4**	**-1.8**
PDG	**Podgorica**	**4.93**	**348**	*e*Pn	**Pn**	**23 40 12.2**	**+0.5**
PDG	**Podgorica**	**4.93**	**348**	*e*Pn	**Pn**	**23 40 13.0**	**+1.3**
PDG				*i* Sn	**Sn**	**23 41 07.2**	**-1.4**
HCY	**Herceg Novi**	**5.10**	**342**	*e*Pn	**Pn**	**23 40 15.1**	**+1.0**
HCY				*i* Sn	**Sn**	**23 41 10.4**	**-2.4**
CEME	**Cevo**	**5.10**	**346**	⇑*i*Pn	**Pn**	**23 40 14.4**	**+0.2**
CEME				*i* Sn	**Sn**	**23 41 11.3**	**-1.6**
IVA	**Berane**	**5.29**	**354**	*e*Pn	**Pn**	**23 40 18.0**	**+1.2**
IVA				*i* Sn	**Sn**	**23 41 15.7**	**-1.9**
KOME	**Kolasin**	**5.30**	**351**	*e*Pn	**Pn**	**23 40 18.2**	**+1.2**
KOME				*i* Sn	**Sn**	**23 41 16.1**	**-1.9**
TREB	**Trebinje**	**5.39**	**342**	*e*Pn	**Pn**	**23 40 14.2**	**-3.9**
BRY	**Bratogost**	**5.52**	**344**	*e*Pn	**Pn**	**23 40 20.4**	**+0.4**
BRY				*i* Sn	**Sn**	**23 41 20.9**	**-2.5**
SJES	**Sjenica**	**5.67**	**355**	*e*Pn	**Pn**	**23 40 25.6**	**+3.5**
STON	**Ston**	**5.71**	**338**	*e*Pn	**Pn**	**23 40 22.1**	**-0.3**
UPM	**Unac-Piva**	**5.74**	**348**	*e*Pn	**Pn**	**23 40 24.1**	**+1.0**
UPM				*i* Sn	**Sn**	**23 41 26.4**	**-2.4**
RUDO	**Rudo**	**6.08**	**352**	*e*Pn	**Pn**	**23 40 29.2**	**+1.6**
BBLS	**Lazi&#263i**	**6.32**	**352**	*e*Pn	**Pn**	**23 40 31.9**	**+1.0**
HAPS	**Han Pijesak,Bl**	**6.59**	**350**	*e*Pn	**Pn**	**23 40 37.9**	**+3.2**
A050A	**Klekovaca**	**7.52**	**337**	*e*Pn	**Pn**	**23 40 48.8**	**+1.3**
BLY	**Banja Luka**	**7.58**	**341**	*e*Pn	**Pn**	**23 40 49.9**	**+1.7**
A051A	**Mrakovica**	**7.90**	**341**	*e*Pn	**Pn**	**23 40 52.7**	**0.0**
BOJS	**Bojanci**	**8.85**	**335**	*e*Pn	**Pn**	**23 41 04.0**	**-1.5**
KEST	**Kesra**	**9.22**	**262**	Pn	Pn	23 41 06.2	-4.7
0.1nm,0.3s,baz=73,slow=19,SNR=1.3							
KEST				Sn	Sn	23 42 46.6	-7.9
baz=72,slow=20,SNR=1.3							
0.8nm,0.7s							
CEY	**Cerknica**	**9.34**	**332**	*e*Pn	**Pn**	**23 41 11.5**	**-0.8**
OBKA	**Obir**	**9.96**	**335**	*e*Pn	**Pn**	**23 41 23.1**	**+2.2**
GERES	**GERESS Array B**	**12.30**	**338**	Pn	**Pn**	**23 41 49.4**	**-3.5**
baz=159,slow=17,SNR=1.4							
0.2nm,0.6s							
HFS	**Hagfors**	**22.97**	**351**	P	**P**	**23 44 00.2**	**-1.8**
0.7nm,0.7s,baz=163,slow=10,SNR=1.9							
0.7nm,0.7s							
FINES	**FINESS Array B**	**24.11**	**6**	P	**P**	**23 44 11.6**	**-1.6**
2.0nm,1.2s,baz=196,slow=9.8,SNR=5.4							
2.0nm,1.2s							
MKAR	**Makanchi Array**	**45.56**	**58**	P	**P**	**23 47 21.1**	**+3.6**
0.2nm,0.4s,baz=285,slow=6.4,SNR=2.1							
0.2nm,0.4s							

---

*NOU **25** 23:41:28.5, 10°.87S×161°.81E, h5km, MLv5.3/17, Solomon Islands*
*NEIC **25** 23:41:31.6±1.4, 10°.74S±0°.10×161°.9E±0°.1, h36km±7km, mb4.7/110, Error ellipse: s-maj=19.0km s-min=10.7km az=51.0*
*IDC **25** 23:41:32.4±2.2, 10°.77S×161°.85E, h60km±19km, mb3.9/9, mbtmp4.3/12, MS3.7/32, Error ellipse: s-maj=24.0km s-min=12.5km az=61.0*
ISC 25 23:41:30.8±0.4, 10°.83S±0°.05×161°.92E±0°.06, h36km, n179, σ1§10/151, mb4.7/70, MS3.6/29, 2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**0.37**	**357**	P	**Pn**	**23 41 37.1**	**-2.3**
HURO	**Huro Makira**	**0.37**	**357**	S	**Sn**	**23 41 43.2**	**-2.8**
NGOA	**Tingoa Renbel**	**1.96**	**248**	P	**Pn**	**23 41 59.1**	**-2.4**
HNR	**Honiara**	**2.39**	**305**	P	**Pn**	**23 42 06.3**	**-1.2**
HNR				Sn	**Sn**	**23 42 34.5**	**-1.0**
HNR	**Honiara**	**2.39**	**305**	P	**Pn**	**23 42 06.7**	**-0.8**
388nm,0.3s,baz=178,slow=1.3,SNR=28							
HNR				S	**Sn**	**23 42 36.2**	**+0.6**
1μm,0.5s,baz=171,slow=23,SNR=12							
HNR				LR	LR	23 43 21.1	
comp=Z,2μm,21.0s,baz=176,slow=47							
HNR	**Honiara**	**2.39**	**305**	P	**Pn**	**23 42 07.1**	**-0.4**
ALEG	**Aligegeo Malai**	**2.39**	**330**	P	**Pn**	**23 42 08.5**	**+1.0**
ALEG	**Aligegeo Malai**	**2.39**	**330**	P	**Sn**	**23 42 38.6**	**+3.0**
SAVO	**Savo Central**	**2.67**	**309**	P	**Pn**	**23 42 11.6**	**+0.3**
TATA	**Tatamba Isabel**	**3.20**	**319**	P	**Pn**	**23 42 20.0**	**+1.4**
LUES	**Luesalemba Tem**	**3.93**	**88**	P	**Pn**	**23 42 28.9**	**+0.3**
VLAKA	**Lakatoro**	**7.49**	**135**	P	**Pn**	**23 43 19.8**	**+2.3**
DVP	**Devils Point**	**9.15**	**139**	P	**Pn**	**23 43 40.8**	**+0.4**
KOUNC	**Koumac, New Ca**	**9.93**	**167**	P	**Pn**	**23 43 52.1**	**+1.1**
DZM	**Mont Dzumac**	**11.98**	**159**	Pn	**Pn**	**23 44 21.5**	**+2.2**
DZM	**Mont Dzumac**	**11.98**	**159**	*e*LR	LR	23 47 04.0	
697nm,24.6s							
DZM	**Mont Dzumac**	**11.98**	**159**	P	**Pn**	**23 44 21.8**	**+2.6**
7.6nm,0.5s,baz=347,slow=14,SNR=2.6							
DZM				S	**Sn**	**23 46 30.5**	**-1.3**
8.1nm,0.9s,baz=146,slow=21,SNR=1.8							
DZM	**Mont Dzumac**	**11.98**	**159**	P	**Pn**	**23 44 20.6**	**+1.3**
ONTNC	**Ouen Toro**	**12.21**	**160**	Pn	**Pn**	**23 44 20.7**	**-1.5**
OUENC	**Ouen Island, N**	**12.45**	**158**	P	**Pn**	**23 44 26.9**	**+1.4**
PINNC	**Pines Island,**	**12.85**	**156**	Pn	**Pn**	**23 44 32.6**	**+1.6**
PMG	**Port Moresby**	**14.60**	**274**	LR	LR	23 50 04.7	
comp=Z,760nm,20.6s,baz=106,slow=35							
MSVF	**Nonsavu**	**17.06**	**116**	P	**P**	**23 45 28.7**	**+0.5**
7.7nm,0.7s,baz=306,slow=18,SNR=1.9							
MSVF				LR	LR	23 50 59.6	
comp=Z,313nm,19.6s,baz=272,slow=33							
EIDS	**Eidsvold**	**17.74**	**214**		**P**	**23 45 36.9**	**+1.3**
PATS	**Pohnpei**	**17.92**	**348**		**Pn**	**23 45 36.1**	**-1.1**
COEN	**Coen**	**18.57**	**258**		**Pn**	**23 45 45.7**	**+0.4**
ARMA	**Armidale**	**21.71**	**205**	P	**P**	**23 46 18.7**	**-0.3**
WR8	**Warramunga Arr**	**27.91**	**248**	P	**P**	**23 47 18.6**	**+0.8**
WB0	**Warramunga Arr**	**27.96**	**248**	P	**P**	**23 47 17.2**	**-1.0**
WB0				IAmb	IAmb	23 47 25.5	
comp=Z,16nm,1.2s							
WRA	**Warramunga Arr**	**28.06**	**248**	P	**P**	**23 47 19.6**	**+0.5**
WRA	**Warramunga Arr**	**28.06**	**248**	P	**P**	**23 47 17.1**	**-2.0**
comp=Z,1.2nm,0.7s,baz=77,slow=9.2,SNR=4.6							
WRA				LR	LR	23 58 39.2	
comp=Z,466nm,18.1s,baz=90,slow=37							
comp=Z,1.2nm,0.7s							
STKA	**Stephens Creek**	**28.13**	**219**	P	**P**	**23 47 20.0**	**+0.5**
comp=Z,3.1nm,0.8s,baz=45,slow=4.3,SNR=3.1							
STKA				LR	LR	23 58 32.7	
comp=Z,419nm,18.4s,baz=29,slow=36							
comp=Z,3.1nm,0.8s							
ASAR	**Alice Springs**	**29.57**	**241**	P	**P**	**23 47 30.3**	**-2.3**
comp=Z,0.7nm,0.3s,baz=72,slow=8.9,SNR=5.8							
ASAR				LR	LR	23 59 14.7	
comp=Z,307nm,18.6s,baz=89,slow=36							
comp=Z,0.7nm,0.3s							
GUMO	**Guam**	**29.58**	**325**	LR	LR	23 58 29.4	
comp=Z,186nm,21.2s,baz=98,slow=34							
URZ	**Urewera**	**30.51**	**156**	LR	LR	23 58 26.3	
comp=Z,245nm,18.2s,baz=46,slow=33							
RTZ	**Ruatahuna**	**30.77**	**157**		**P**	**23 47 44.4**	**+1.5**
BKZ	**Black Stump Fm**	**31.06**	**158**	P	**P**	**23 47 46.4**	**+0.9**
BKZ				IAmb	IAmb	23 47 48.1	
comp=Z,25nm,1.5s							
TCW	**Tory Channel**	**32.16**	**162**	P	**P**	**23 47 56.4**	**+1.3**
KNRA	**Kununurra**	**32.61**	**258**	P	**P**	**23 47 58.3**	**-1.0**
DAV	**Davao City (W)**	**40.31**	**295**	LR	LR	00 04 41.9	
comp=Z,50nm,20.9s,baz=120,slow=35							
KAPI	**Kappang**	**42.13**	**274**	LR	LR	00 07 11.9	
comp=Z,62nm,20.1s,baz=98,slow=37							
NWAO	**Narrogin (SRO)**	**46.49**	**235**	LR	LR	00 09 48.1	
comp=Z,168nm,18.1s,baz=37,slow=36							
PPT	**Papeete**	**47.39**	**104**	LR	LR	00 05 17.6	
comp=Z,74nm,21.3s,baz=274,slow=30							
PPT2	**Papeete2**	**47.39**	**104**	*e*LR	LR	00 03 28.5	
comp=Z,212nm,26.2s							
PPT2				*e*LR	LR	00 03 30.1	
comp=Z,172nm,27.2s							
MJAR	**Matsushiro Arr**	**52.14**	**336**	LR	LR	00 12 17.2	
comp=Z,35nm,20.3s,baz=189,slow=35							
JNU	**Nakatsue**	**52.79**	**327**	LR	LR	00 11 25.7	
comp=Z,36nm,19.3s,baz=158,slow=34							
TAOE	**Nuku Hiva Isla**	**57.04**	**94**	*e*LR	LR	00 07 56.8	
comp=Z,122nm,25.4s							
ASAJ	**Asahikawa**	**57.44**	**344**	LR	LR	00 15 40.2	
comp=Z,49nm,19.5s,baz=348,slow=36							
KSRS	**Korea Array**	**57.65**	**328**	LR	LR	00 14 08.4	
comp=Z,44nm,21.2s,baz=150,slow=34							
NJ2	**Nanjing**	**59.28**	**318**	*e*P	**P**	**23 51 31.5**	**+2.5**
NJ2				pmax	pmax		
comp=Z,11nm,0.6s							
USRK	**Ussuriysk Ar.**

comp=Z,1.3nm,0.7s
BRDH Bariadhala 76.43 297 LR LR 00 28 30.1
comp=Z,107nm,18.1s,baz=124,slow=37
YAK Yakutsk 76.88 345 LR LR 00 24 04.2
comp=Z,23nm,21.8s,baz=112,slow=33
QSPA South Pole Qui 79.17 180 **P** **23 53 31.8 -0.1**
QSPA IAmb IAmb 23 53 35.5
comp=Z,10.0nm,1.1s
QSPA South Pole Qui 79.17 180 P **P** **23 53 31.5 -0.4**
comp=Z,8.5nm,1.0s,baz=345,slow=2.6,SNR=17
comp=Z,8.5nm,1.0s
J16K Anvik River 79.29 16 P **P** **23 53 33.0 +0.8**
J16K IAmb IAmb 23 53 44.5
comp=Z,14nm,1.5s
TNA Tin City 79.42 12 P **P** **23 53 33.6 +0.8**
TNA IAmb IAmb 23 53 50.6
comp=Z,11nm,1.0s
K17K Iditarod 79.50 17 P **P** **23 53 33.9 +0.5**
K17K IAmb IAmb 23 53 36.1
comp=Z,6.5nm,1.0s
CNPM China Poot 79.52 22 P **P** **23 53 34.8 +1.2**
L18K Granite Mounta 79.61 18 **P** **23 53 34.5 +0.6**
L18K IAmb IAmb 23 53 45.2
comp=Z,12nm,1.1s
J17K VABM Dome 79.81 17 P **P** **23 53 35.5 +0.4**
J17K IAmb IAmb 23 53 58.0
comp=Z,9.4nm,1.2s
M19K Big River Lodg 80.11 19 P **P** **23 53 37.0 +0.3**
M19K IAmb IAmb 23 53 48.4
comp=Z,13nm,1.2s
L19K White Mountain 80.16 19 **P** **23 53 37.2 +0.2**
L19K IAmb IAmb 23 53 39.7
comp=Z,8.7nm,1.0s
F15K North Star Dit 80.26 13 **P** **23 53 37.3 -0.1**
F15K IAmb IAmb 23 53 47.9
comp=Z,9.0nm,1.4s
M20K Styx River 80.50 20 P **P** **23 53 38.0 -1.0**
M20K IAmb IAmb 23 53 41.8
comp=Z,12nm,1.5s
G16K Koyuk River 80.54 14 P **P** **23 53 39.0 +0.1**
J18K Innoko River 80.54 18 P **P** **23 53 39.7 +0.7**
STLK Strandline Lak 80.67 21 P **P** **23 53 38.5 -1.4**
SUA Susitna One 81.03 21 P **P** **23 53 42.1 +0.3**
SUA IAmb IAmb 23 53 43.1
comp=Z,11nm,1.1s
J19K Poorman 81.26 18 P **P** **23 53 43.3 +0.4**
J19K IAmb IAmb 23 53 53.7
comp=Z,11nm,1.4s
K20K Telida 81.26 18 P **P** **23 53 43.6 +0.7**
K20K IAmb IAmb 23 53 53.8
comp=Z,9.7nm,1.3s
H18K Honhosa River 81.37 16 P **P** **23 53 43.0 -0.4**
PWL Port Wells 81.50 22 P **P** **23 53 45.0 +0.8**
PPLA Purkeypile 81.53 19 P **P** **23 53 43.9 -0.6**
PPLA IAmb IAmb 23 54 13.8
comp=Z,15nm,1.4s
F17K Baldwin Pennin 81.66 14 P **P** **23 53 45.1 +0.2**
F17K IAmb IAmb 23 53 55.9
comp=Z,10nm,1.4s
KNK Knik Glacier 81.81 22 P **P** **23 53 46.6 +0.8**
J20K Nowinta River 81.84 18 **P** **23 53 46.7 +0.8**
G18K Tagagawik 81.87 15 P **P** **23 53 45.6 -0.4**
GHO Glory Hole Cre 81.88 21 P **P** **23 53 47.7 +1.4**
HIN Hinchinbrook I 81.89 23 P **P** **23 53 45.5 -0.8**
CAST Castle Rocks 81.94 19 **P** **23 53 45.7 -0.8**
CAST IAmb IAmb 23 53 56.6
comp=Z,10nm,1.2s
SML Sawmill 82.12 21 P **P** **23 53 47.7 +0.2**
H19K Roundabout Mou 82.18 16 P **P** **23 53 48.2 +0.7**
H19K IAmb IAmb 23 54 09.7
comp=Z,8.7nm,1.3s
G19K Purcell Mounta 82.47 16 **P** **23 53 49.9 +0.7**
G19K IAmb IAmb 23 54 00.3
comp=Z,11nm,1.3s
SCM Sheep Creek Mo 82.50 22 P **P** **23 53 50.1 +0.6**
TRF Thorofare Moun 82.54 20 P **P** **23 53 49.2 -0.6**
E18K Tukpahlearik C 82.60 14 **P** **23 53 49.9 +0.1**
KLU Klutina 82.80 22 P **P** **23 53 51.7 +0.6**
KLU IAmb IAmb 23 53 56.0
comp=Z,9.8nm,1.0s
PALK Pallekele 82.80 279 LR LR 00 33 00.7
comp=Z,12nm,18.2s,baz=108,slow=37
F19K Shaleruckik Mo 82.82 15 P **P** **23 53 50.6 -0.3**
F19K IAmb IAmb 23 54 01.2
comp=Z,6.5nm,1.2s
RND Reindeer 82.99 20 P **P** **23 53 51.7 -0.4**
RND IAmb IAmb 23 54 02.5
comp=Z,12nm,1.3s
M24K Tolsona, Glenn 83.09 22 P **P** **23 53 53.2 +0.6**
MCK McKinley 83.18 20 **P** **23 53 52.2 -0.7**
I21K Tanana 83.21 18 **P** **23 53 52.6 -0.4**
H21K Melozitna Rive 83.30 17 P **P** **23 53 54.2 +0.7**
WAX Waxell Ridge 83.36 24 P **P** **23 53 53.4 -0.7**
N25K Chitina, Valde 83.37 23 P **P** **23 53 54.6 +0.6**
N25K IAmb IAmb 23 53 57.7
comp=Z,5.7nm,0.9s
E19K Redstone River 83.44 15 **P** **23 53 54.6 +0.4**
E19K IAmb IAmb 23 54 04.8
comp=Z,10.0nm,1.1s
C18K Utukok River 83.45 13 P **P** **23 53 53.8 -0.5**
C18K IAmb IAmb 23 54 04.2
comp=Z,6.5nm,1.1s
GLB Gilahina Butte 83.57 23 P **P** **23 53 53.4 -1.6**
GLB IAmb IAmb 23 54 12.3
comp=Z,7.8nm,1.2s
VRDI Verde Repeater 83.58 23 P **P** **23 53 55.2 -0.1**
VRDI IAmb IAmb 23 53 55.8
comp=Z,8.1nm,1.0s
WRH Wood River Hil 83.95 19 P **P** **23 53 55.9 -0.9**
WRH IAmb IAmb 23 53 59.3
comp=Z,6.4nm,1.1s
CCB Clear Creek Bu 84.16 19 P **P** **23 53 57.2 -0.6**
F21K Alatna River 84.24 16 **P** **23 53 56.8 -1.5**
HDA Harding Lake 84.29 20 P **P** **23 53 58.9 +0.3**
M26K Nabesna, AK 84.45 23 P **P** **23 54 00.6 +1.1**
MENT Mentasta 84.50 22 P **P** **23 54 00.3 +0.6**
MENT IAmb IAmb 23 54 15.8
comp=Z,8.4nm,1.4s
IL31 84.54 20 P **P** **23 54 00.2 +0.4**
IL31 IAmb IAmb 23 54 01.6
comp=Z,9.5nm,1.4s
ILAR Eielson Array 84.54 20 P **P** **23 53 59.0 -0.8**
ILAR Eielson Array 84.54 20 P **P** **23 53 58.8 -1.0**
comp=Z,1.1nm,0.7s,baz=241,slow=5.0,SNR=12
comp=Z,1.1nm,0.7s
O28M Mount Upton 84.63 25 P **P** **23 53 59.7 -1.1**
DOT Dot Lake 84.81 21 P **P** **23 54 01.1 -0.1**
DOT IAmb IAmb 23 54 02.5
comp=Z,3.0nm,0.7s
G23K Bananza Creek 84.85 17 P **P** **23 54 02.0 +0.6**
M27K Edge Creek, AK 84.85 23 P **P** **23 54 02.2 +0.6**
J25K Salcha River, 84.95 20 **P** **23 54 02.1 +0.1**
J25K IAmb IAmb 23 54 04.3
comp=Z,3.4nm,0.7s
SCRK Sand Creek 85.03 21 P **P** **23 54 03.2 +0.7**
TIXI Tiksi 85.20 350 P **P** **23 54 02.4 -0.5**
TIXI IAmb IAmb 23 54 04.0
comp=Z,3.2nm,0.5s
E22K Anaktuvuk Pass 85.34 16 P **P** **23 54 04.2 +0.3**
B20K Meade River 85.41 13 P **P** **23 54 04.5 +0.5**
B20K IAmb IAmb 23 54 14.3
comp=Z,8.0nm,1.2s
J26L Joseph Creek 85.50 21 P **P** **23 54 05.1 +0.4**
G24K Hadweenzic Riv 85.60 18 P **P** **23 54 06.5 +1.3**
D22K Ayikyak River 85.64 15 P **P** **23 54 05.3 0.0**
D22K IAmb IAmb 23 54 20.5
comp=Z,4.3nm,1.1s
B21K Ikpikpuk River 85.71 14 P **P** **23 54 05.8 +0.3**
B21K IAmb IAmb 23 54 18.4
comp=Z,4.4nm,1.0s
E23K Chandalar 85.88 16 P **P** **23 54 07.2 +0.6**
F24K Squaw Lake 86.01 17 P **P** **23 54 07.5 +0.5**
D23K Nanushuk River 86.22 15 **P** **23 54 08.9 +0.8**
D23K IAmb IAmb 23 54 19.4
comp=Z,7.1nm,1.3s
M29M Somme Creek 86.23 24 P **P** **23 54 09.0 +0.6**
M29M IAmb IAmb 23 54 26.6
comp=Z,6.4nm,1.5s
TOLK Toolik Lake Re 86.29 16 P **P** **23 54 09.2 +0.6**
TOLK IAmb IAmb 23 54 22.9
comp=Z,8.6nm,1.4s
B22K Teshekpuk Lake 86.51 14 P **P** **23 54 10.0 +0.5**
B22K IAmb IAmb 23 54 24.9
comp=Z,8.0nm,1.4s

L29M L29M 86.71 23 **P** **23 54 11.4 +0.7**
L29M IAmb IAmb 23 54 12.5
comp=Z,5.0nm,0.8s
F25K Christian Rive 86.72 18 P **P** **23 54 11.0 +0.3**
C23K Itkillik River 86.84 15 P **P** **23 54 12.4 +1.3**
G26K Porcupine Rive 86.90 19 **P** **23 54 12.4 +1.0**
BMAR Burnt Mountain 86.94 18 **P** **23 54 12.6 +0.9**
M30M Minto, Yukon 86.96 24 P **P** **23 54 12.2 +0.3**
M30M IAmb IAmb 23 54 24.5
comp=Z,8.0nm,1.5s
H27K Steamboat Moun 87.20 20 **P** **23 54 13.5 +0.5**
I28M Miner Creek 87.31 21 P **P** **23 54 14.0 +0.4**
I28M IAmb IAmb 23 54 38.1
comp=Z,7.5nm,1.4s
K29M Barlow Dome 87.33 23 P **P** **23 54 14.3 +0.5**
G27K Doyon Strip 87.49 19 P **P** **23 54 15.5 +1.0**
D25K Kavik River 87.61 16 P **P** **23 54 15.4 +0.5**
I30M Mount Dempster 88.46 22 **P** **23 54 19.5 +0.4**
I30M IAmb IAmb 23 54 20.6
comp=Z,3.2nm,0.8s
C27K Jago River 88.54 17 P **P** **23 54 20.3 +1.0**
G29M Pine Creek 88.75 20 P **P** **23 54 20.5 +0.1**
G29M IAmb IAmb 23 54 22.6
comp=Z,5.7nm,1.2s
NVAR Mina Array Bea 88.77 51 LR LR 00 28 53.5
comp=Z,40nm,18.1s,baz=265,slow=32
EPYK Eagle Plains 88.92 21 P **P** **23 54 21.7 +0.5**
PFO Pinyon Flats O 89.05 56 LR LR 00 25 47.3
comp=Z,72nm,21.6s,baz=241,slow=30
D27M Malcolm River 89.10 17 P **P** **23 54 22.8 +0.8**
D27M IAmb IAmb 23 54 33.0
comp=Z,3.8nm,1.3s
MMPY Sheldon Lake, 89.24 25 P **P** **23 54 24.2 +1.4**
MMPY IAmb IAmb 23 54 33.4
comp=Z,3.5nm,1.1s
G30M tAoh Zraii Nji 89.39 20 P **P** **23 54 23.9 +0.5**
H31M Peel River 89.48 22 P **P** **23 54 24.6 +0.8**
H31M IAmb IAmb 23 54 26.4
comp=Z,6.0nm,1.2s
F30M Barrier River 89.86 20 P **P** **23 54 26.2 +0.7**
F30M IAmb IAmb 23 54 49.0
comp=Z,6.5nm,1.5s
G31M Satah River 90.04 21 P **P** **23 54 25.9 -0.4**
MKAR Makanchi Array 90.81 317 P **P** **23 54 28.4 -2.1**
MKAR Makanchi Array 90.81 317 P **P** **23 54 27.8 -2.7**
comp=Z,0.3nm,0.3s,baz=96,slow=6.4,SNR=9.5
MKAR LR LR 00 35 01.1
comp=Z,38nm,20.2s,baz=291,slow=35
comp=Z,0.3nm,0.3s
BELA Belgrano 2 90.95 177 P **P** **23 54 30.1 -0.5**
BELA IAmb IAmb 23 54 30.1
comp=Z,4.2nm,1.0s
ZALV Zalesovo Beam 91.20 325 LR LR 00 38 11.9
comp=Z,22nm,18.1s,baz=58,slow=37
KURBB Kurchatov Arra 94.12 321 LR LR 00 39 34.1
comp=Z,29nm,18.2s,baz=173,slow=37
C36M Paulatuk 94.51 20 P **P** **23 54 45.8 -1.1**
C36M IAmb IAmb 23 54 56.7
comp=Z,4.2nm,1.1s
NRIK Noril'sk 94.62 340 LR LR 00 37 34.5
comp=Z,17nm,20.7s,baz=81,slow=36
PV03 Paradox Valley 96.01 52 P **P** **23 54 53.9 -1.0**
PV03 IAmb IAmb 23 54 56.8
comp=Z,3.4nm,1.2s
YKA Yellowknife Ar 96.52 28 P **P** **23 54 55.3 -1.0**
YKAW3 Yellowknife Wh 96.53 28 P **P** **23 54 55.0 -1.3**
YKAW3 IAmb IAmb 23 54 58.7
comp=Z,4.1nm,1.5s
YKAW1 Yellowknife Wh 96.57 28 P **P** **23 54 55.2 -1.3**
YKAW1 IAmb IAmb 23 55 02.0
comp=Z,3.5nm,1.4s
ANMO Albuquerque 97.43 56 LR LR 00 29 58.0
comp=Z,31nm,21.6s,baz=58,slow=30
TXAR Lajitas Array 99.03 62 LR LR 00 34 52.3
comp=Z,31nm,18.5s,baz=232,slow=32

WEL 26 00:01:40.2±1.3, 32°S±25°×17°9E±5°4, h461km±40km, mB4.2/4, MLA.1/7, MLv4.0/6, Mw(mB)3.3/4, Error ellipse: s-maj=75.8km s-min=17.6km az=112.4, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.07**	**39**	P	P	00 03 00.5	+3.8
RIZ				S	S	00 03 59.4	+0.5
MXZ	**Matakaoa Point**	**5.15**	**187**	P	P	00 03 06.4	+0.1
MXZ				S	S	00 04 15.6	-1.2
WMGZ	**Waiomatatini S**	**5.39**	**186**	P	P	00 03 07.7	-1.0
WMGZ				S	S	00 04 22.2	+1.1
HAZ	**Te Kaha**	**5.41**	**191**	P	P	00 03 08.9	+0.1
HAZ				S	S	00 04 22.0	+0.6
PKGZ	**Pakihiroa**	**5.47**	**189**	P	P	00 03 08.7	-0.9
RUGZ	**Raukumara Rang**	**5.63**	**192**	P	P	00 03 10.8	-0.4
RUGZ				P	S	00 04 22.9	-2.7
PUZ	**Puketiti**	**5.66**	**187**	S	S	00 04 26.2	+0.2
MWZ	**Matawai**	**6.02**	**192**	P	P	00 03 15.1	+0.1
MWZ				S	S	00 04 35.0	+2.5
URZ	**Urewera**	**6.03**	**195**	P	P	00 03 14.0	-1.0
CNGZ	**Carnagh Statio**	**6.07**	**187**	P	P	00 03 16.7	+1.3
RAGZ	**Rawiri**	**6.20**	**193**	P	P	00 03 17.7	+0.9
RAGZ				S	S	00 04 38.5	+2.6
MUGZ	**Murupara**	**6.32**	**197**	P	P	00 03 19.0	+1.0
MUGZ				S	S	00 04 38.2	+0.1
RTZ	**Ruatahuna**	**6.40**	**195**	P	P	00 03 19.4	+0.5
RTZ				S	S	00 04 38.5	-1.2
KAHZ	**Kahuranaki**	**7.55**	**193**	P	P	00 03 32.2	+1.3
KAHZ				S	S	00 05 01.0	-0.7

*NNC **26** 00:13:16.0±0.5, 43°.04N×78°.32E, h0km, mb2.8, mpv2.9, Error ellipse: s-maj=5.9km s-min=2.2km az=171.0*
*SOME **26** 00:13:16.4, 43°.05N×78°.27E, h10km*
*KRNET **26** 00:13:16.9±0.1, 42°.98N×78°.41E, h35km, mb2.3*
ISC 26 00:13:16.1±1.0, 43°.03N±0°.02×78°.26E±0°.02, h5km±9km, n44, σ1°08/88, 17C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.19**	**42**	P	**Pg**	**00 13 19.7**	**-0.1**
	93nm,0.1s						
ZHN				S	**Sg**	**00 13 22.4**	**+0.1**
	937nm,0.2s						
ZHN	**Zhinishke**	**0.19**	**42**	*e*P	**Pg**	**00 13 19.7**	**-0.1**
	90nm,0.1s						
ZHN				*e*S	**Sg**	**00 13 22.4**	**+0.1**
	744nm,0.1s						
KURS	**Kuram**	**0.46**	**352**	P	**Pg**	**00 13 25.4**	**+0.4**
	0.9nm,0.1s						
KURS				S	**Sg**	**00 13 31.6**	**+0.6**
	9.8nm,0.3s						
ANVS	**Anan'yevo**	**0.50**	**241**	⇓*e*P	**Pn**	**00 13 29.8**	**-0.3**
ANVS				⇓*e*S	**Sn**	**00 13 38.4**	**-0.8**
KPKS	**Kokpek**	**0.53**	**35**	P	**Pg**	**00 13 26.1**	**-0.2**
	12nm,0.2s						
KPKS				S	**Sg**	**00 13 33.1**	**-0.2**
	22nm,0.2s						
KPKS	**Kokpek**	**0.53**	**35**	*e*P	**Pg**	**00 13 26.1**	**-0.2**
	5.1nm,0.1s						
KPKS				*e*S	**Sg**	**00 13 33.1**	**-0.2**
	21nm,0.2s						
PRZ	**Przheval'sk**	**0.56**	**170**	⇑*i*P	**Pg**	**00 13 27.6**	**+0.8**
PRZ				⇑*i*S	**Sg**	**00 13 35.8**	**+1.8**
UZB	**Uzynbulak**	**0.57**	**78**	P	**Pg**	**00 13 26.2**	**-0.8**
	7.4nm,0.1s						
UZB				S	**Sg**	**00 13 33.3**	**-1.1**
	65nm,0.2s						
UZB	**Uzynbulak**	**0.57**	**78**	*e*P	**Pg**	**00 13 26.2**	**-0.8**
	7.4nm,0.1s						
UZB				*e*S	**Sg**	**00 13 33.3**	**-1.1**
	29nm,0.1s						
KOTS	**Kotyrbulak**	**0.87**	**284**	P	**Pg**	**00 13 33.2**	**+0.4**
	4.1nm,0.2s						
KOTS				S	**Sb**	**00 13 45.1**	**-0.5**
	13nm,0.2s						
KOTS	**Kotyrbulak**	**0.87**	**284**	*e*P	**Pg**	**00 13 33.1**	**+0.4**
	4.0nm,0.1s						
KOTS				*e*S	**Sb**	**00 13 45.2**	**-0.5**
	13nm,0.2s						
SHLS	**Shalkode**	**0.89**	**81**	P	**Pn**	**00 13 37.5**	**+2.2**
	4.5nm,0.2s						
SHLS				S	**Sn**	**00 13 52.9**	**+4.3**
	9.4nm,0.2s						
SHLS	**Shalkode**	**0.89**	**81**	*e*P	**Pn**	**00 13 38.1**	**+2.8**
	2.3nm,0.1s						
SHLS				*e*S	**Sn**	**00 13 53.6**	**+5.1**
	6.5nm,0.1s						
MDOK	**Medeo**	**0.90**	**279**	Pg	**Pg**	**00 13 33.4**	**+0.1**
	2.8nm,0.2s						
MDOK				P	**Pb**	**00 13 34.4**	**+0.1**
	0.3nm,0.2s						
MDOK				Lg	Lg	00 13 45.9	
	9.6nm,0.2s						
MDOK				⇑S	**Sb**	**00 13 46.9**	**+0.3**
	4.8nm,0.4s						
PDGK	**Podgornoye**	**0.94**	**71**	⇑P	**Pg**	**00 13 33.3**	**-0.9**
	1.7nm,0.2s						
PDGK				⇑S	**Sg**	**00 13 46.0**	**-0.5**
	6.9nm,0.6s						
TNSS	**Tian-Shan**	**0.96**	**271**	P	**Pg**	**00 13 34.8**	**+0.2**
	3.0nm,0.2s						
TNSS				S	**Sb**	**00 13 48.4**	**-0.3**
	5.2nm,0.2s						
TNSS	**Tian-Shan**	**0.96**	**271**	*e*P	**Pg**	**00 13 35.0**	**+0.4**
	3.0nm,0.1s						
TNSS				*e*S	**Sb**	**00 13 48.4**	**-0.3**
	5.3nm,0.1s						
BLB	**Baldybastay**	**1.08**	**8**	P	**Pg**	**00 13 36.5**	**-0.2**
	16nm,0.1s						
BLB				S	**Sb**	**00 13 51.0**	**-0.7**
	18nm,0.2s						
KDJ	**Kajisay**	**1.20**	**222**	⇑*i*P	**Pb**	**00 13 38.9**	**-0.5**
KDJ				⇑*i*S	**Sb**	**00 13 54.9**	**-0.5**
IZV	**Izvestkoviy**	**1.21**	**271**	*e*P	**Pb**	**00 13 39.4**	**-0.2**
	2.6nm,0.1s						
IZV				*e*S	**Sn**	**00 13 55.9**	**-0.7**
	6.0nm,0.1s						
ARXS	**Arharly**	**1.22**	**345**	P	**Pb**	**00 13 39.3**	**-0.4**
	2.4nm,0.1s						
ARXS				S	**Sn**	**00 13 55.8**	**-1.0**
	10nm,0.2s						
CHKK	**Chushkaly**	**1.24**	**312**	P	**Pb**	**00 13 39.8**	**-0.1**
	2.4nm,0.2s						
CHKK				S	**Sn**	**00 13 56.6**	**-0.6**
	5.2nm,0.3s						
CHKK	**Chushkaly**	**1.24**	**312**	*e*P	**Pb**	**00 13 39.8**	**-0.1**
	1.3nm,0.1s						
CHKK				*e*S	**Sn**	**00 13 56.6**	**-0.6**
	14nm,0.3s						
KTBS	**Karatobe**	**1.34**	**301**	P	**Pb**	**00 13 41.7**	**0.0**
	4.8nm,0.3s						
KTBS				S	**Sg**	**00 13 59.8**	**+0.6**
	4.0nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.34**	**195**	⇓*i*P	**Pn**	**00 13 40.8**	**-1.0**
TARG				⇓*i*S	**Sb**	**00 13 58.1**	**-1.5**
MTBS	**Maitube**	**1.35**	**275**	P	**Pb**	**00 13 41.7**	**-0.1**
	2.5nm,0.2s						
MTBS				S	**Sg**	**00 14 00.1**	**+0.7**
	4.3nm,0.3s						
MTBS	**Maitube**	**1.35**	**275**	*e*P	**Pb**	**00 13 41.7**	**-0.1**
	1.7nm,0.1s						
MTBS				*e*S	**Sg**	**00 14 00.1**	**+0.7**
	2.8nm,0.1s						
KNOS	**Konyrlen**	**1.48**	**26**	P	**Pb**	**00 13 43.6**	**-0.6**
	5.7nm,0.1s						
KNOS				S	**Sb**	**00 14 03.0**	**-0.4**
	10nm,0.1s						
KTMS	**Ketmen**	**1.58**	**74**	P	**Pn**	**00 13 44.4**	**-0.5**
	0.9nm,0.1s						
KTMS				S	**Sn**	**00 14 04.4**	**-1.4**
	5.4nm,0.3s						
KTMS	**Ketmen**	**1.58**	**74**	*e*P	**Pn**	**00 13 45.1**	**+0.2**
	0.8nm,0.1s						
KTMS				*e*S	**Sb**	**00 14 05.6**	**-0.6**
	5.6nm,0.1s						
KUU	**Kurty**	**1.65**	**302**	P	**Pb**	**00 13 47.0**	**+0.1**
	4.1nm,0.2s						
KUU				S	**Sg**	**00 14 09.1**	**+0.2**
	23nm,0.4s						
KUU	**Kurty**	**1.65**	**302**	*e*P	**Pg**	**00 13 47.5**	**-0.1**
	2.0nm,0.1s						
KUU				*e*S	**Sg**	**00 14 09.9**	**+0.9**
	5.5nm,0.2s						
ULHL	**Ulahol**	**1.69**	**243**	⇑*i*P	**Pn**	**00 13 46.5**	**+0.1**
ULHL				⇑*i*S	**Sn**	**00 14 08.2**	**-0.2**
KST	**Kastek**	**1.69**	**271**	P	**Pg**	**00 13 48.7**	**+0.3**
	2.6nm,0.3s						
KST				S	**Sg**	**00 14 11.9**	**+1.6**
	4.2nm,0.4s						
KST	**Kastek**	**1.69**	**271**	*e*P	**Pg**	**00 13 48.6**	**+0.2**
	1.0nm,0.1s						
KST				*e*S	**Sg**	**00 14 11.9**	**+1.6**
	4.6nm,0.2s						
BOOM	**Boomskoye usch**	**1.79**	**253**	⇓*i*P	**Pn**	**00 13 48.2**	**+0.4**
BOOM				⇓*i*S	**Sn**	**00 14 10.9**	**-0.1**
TKM2	**Tokmak 2**	**1.96**	**268**	⇑Pn	**Pb**	**00 13 52.6**	**+0.3**
	1.3nm,0.7s						
TKM2				⇓Sn	**Sg**	**00 14 19.6**	**+0.5**
	3.0nm,0.4s						
NRN	**Naryn**	**2.32**	**227**	⇓*i*P	**Pn**	**00 13 55.4**	**+0.3**
NRN				⇓*i*S	**Sn**	**00 14 23.4**	**-0.8**
KBK	**Karagaybulak**	**2.47**	**262**	⇓*i*P	**Pn**	**00 13 57.7**	**+0.6**
KBK				⇓*i*S	**Sn**	**00 14 27.4**	**-0.2**
USP	**Ospenovka**	**2.77**	**276**	⇑*i*P	**Pn**	**00 14 01.8**	**+0.8**
USP				⇑*i*S	**Sn**	**00 14 34.7**	**-0.1**
AAK	**Ala-Archa**	**2.80**	**263**	⇑Pn	**Pb**	**00 14 04.4**	**-2.2**
AAK				⇓Sn	**Sb**	**00 14 40.1**	**-1.2**
	2.2nm,0.5s						
AAK	**Ala-Archa**	**2.80**	**263**	⇑*i*P	**Pn**	**00 14 02.3**	**+0.7**
AAK				⇑*i*S	**Sn**	**00 14 35.3**	**-0.5**
AML	**Almayashu**	**3.49**	**257**	⇑*i*P	**Pn**	**00 14 12.1**	**+0.7**
AML				⇑*i*S	**Sn**	**00 14 52.1**	**-1.1**
MK31	**Makanchi Array**	**4.73**	**36**	P	**Pn**	**00 14 28.7**	**+0.8**
	0.1nm,0.2s,baz=76,slow=11,SNR=9.2						

DJA 26 00:35:34.0±0.3, 9°S±3°×11°9E±°, h48km±14km, M4.1/14, mb4.2/4, MLv4.0/14, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.48**	**151**	P	Pn	00 35 45.8	+0.9
WBSI				S	Sn	00 35 51.1	-1.6
WSI	**Waingapu**	**1.21**	**112**	P	Pn	00 35 54.7	+0.2
WSI				S	Sn	00 36 10.8	+1.0
PLAI	**Plampang**	**1.42**	**286**	P	Pn	00 35 57.4	0.0
PLAI				S	Sn	00 36 16.0	+1.0
TWSI	**Taliwang, Sumb**	**2.30**	**282**	P	Pn	00 36 09.7	+0.2
TWSI				S	Sn	00 36 37.5	+0.9
EDFI	**Ende, Flores**	**2.54**	**80**	P	Pn	00 36 12.5	-0.4
EDFI				S	Sn	00 36 42.2	-0.5
MMRI	**Maumere**	**3.10**	**79**	P	Pn	00 36 20.6	+0.2
MMRI				S	Sn	00 36 57.2	+1.0
BSSI	**Bau Bau, Buton**	**3.33**	**23**	P	Pn	00 36 23.5	-0.1
BSSI				S	Sn	00 37 02.5	+0.5
BKSI	**Bulukumba**	**3.99**	**14**	P	Pn	00 36 32.6	-0.1
BKSI				S	Sn	00 37 18.4	+0.2
SRBI	**Singaraja**	**4.06**	**286**	P	Pn	00 36 33.7	0.0
BNSI	**Bone**	**4.88**	**11**	P	Pn	00 36 45.1	+0.2
JAGI	**Jajag, Banyuwa**	**5.00**	**278**	P	Pn	00 36 46.4	-0.2
	0.2nm32nm,2.6s						
JAGI				S	Sn	00 37 43.6	+0.4
	0.2nm32nm,2.6s						
BBSI	**Bau Bau**	**5.02**	**43**	P	Pn	00 36 47.0	+0.2
	0.2nm58nm,1.2s						
SOEI	**Soe**	**5.07**	**96**	P	Pn	00 36 47.3	-0.3
	0.2nm22nm,0.7s						
SOEI				S	Sn	00 37 45.2	+0.3
	0.2nm22nm,0.7s						
SPSI	**Sidrap Palu**	**5.26**	**7**	P	Pn	00 36 50.5	+0.4

*IDC **26** 00:36:55.6±0.7, 51°.37N×178°.01W, h0km, mb3.8/20, mbtmp3.9/23, ML4.0/3, MS3.2/10, Error ellipse: s-maj=19.7km s-min=13.4km az=172.0*
*NEIC **26** 00:37:01.8±2.2, 51°.24N±0°.06×177°.99W±0°.03, h35km±2km, mb4.1/162, ML3.7(AEIC), Error ellipse: s-maj=10.1km s-min=3.0km az=196.0*
*AEIC **26** 00:37:01.4±2.1, 51°.15N±0°.05×178°.00W±0°.07, h26km±5km, Error ellipse: s-maj=7.7km s-min=6.6km az=201.0*
ISC 26 00:37:02.5±1.4, 51°.3N±0°.1×177°.99W±0°.04, h50km±11km, n244, σ1°33/219, mb4.0/66, MS3.2/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPA	**Tanaga Point A**	**0.51**	**13**		**Pn**	**00 37 13.1**	**-0.8**
TASE	**Tanaga Southea**	**0.52**	**357**		**Pn**	**00 37 13.5**	**-0.5**
TAFP	**Tanaga Falls P**	**0.58**	**1**		**Pn**	**00 37 14.2**	**-0.6**
TAFP					**Sn**	**00 37 24.1**	**+0.5**
TANO	**Tanaga North**	**0.60**	**352**		**Pn**	**00 37 14.8**	**-0.3**

TANO Sn 00 37 24.9 +0.9
GALAA Gareloi Lava P 0.66 313 Pn 00 37 15.3 -0.5
GASW Gareloi Southw 0.71 311 Pn 00 37 15.8 -0.6
GANO Gareloi North 0.71 315 Pn 00 37 15.7 -0.7
KIWB Kanaga Island 0.75 44 Pn 00 37 16.1 -0.8
KIWB Sn 00 37 27.3 0.0
KICM Kanaga Island 0.78 39 Pn 00 37 16.8 -0.5
KICM Sn 00 37 29.3 +1.2
KIRH Kanaga Island 0.81 44 Pn 00 37 17.1 -0.6
GSCK Great Sitkin C 1.33 58 Pn 00 37 24.5 -0.3
GSSP Great Sitkin S 1.37 55 Pn 00 37 25.3 +0.1
GSSP Sn 00 37 43.5 +1.3
GSTR Great Sitkin T 1.43 56 Pn 00 37 26.1 0.0
ATKA Atka Island 2.52 68 Pn 00 37 40.1 -0.8
ATKA Sn 00 38 11.8 +1.4
SHEM Shemya Is, Ala 5.08 289 Pn Pn 00 38 13.4 -2.6
8.4nm,0.3s,baz=87,slow=4.0,SNR=5.2
SHEM Sn Sn 00 39 13.7 +0.3
2.4nm,0.3s,baz=84,slow=22,SNR=1.4
26nm,0.3s
SMY Shemya 5.08 289 Pn Pn 00 38 16.1 0.0
P08K Saint George I 7.26 40 Pn Pn 00 38 45.6 -0.3
SPIA Saint Paul Isl 7.41 35 Pn Pn 00 38 48.6 +0.6
LVA Lava Point 7.80 64 Pn Pn 00 38 52.1 -1.2
AKUT Akutan 7.94 64 Pn Pn 00 38 55.6 +0.4
S12K Black Hills 10.45 59 Pn Pn 00 39 29.8 +0.3
SDPT Sand Point 11.22 62 Pn Pn 00 39 39.3 -0.7
M11K Mekoryuk 11.22 31 Pn Pn 00 39 41.5 +1.5
CNBA Chernabura Isl 11.61 65 Pn Pn 00 39 44.2 -1.1
O14K Tigyukauivet M 12.38 44 Pn Pn 00 39 58.4 +2.6
N14K Kuskokwak Cree 12.59 40 Pn Pn 00 40 01.2 +2.6
K13K Kusilvak Mount 12.89 29 Pn Pn 00 40 06.9 +4.1
GAMB Gambell 12.93 13 Pn Pn 00 40 04.1 +0.9
O15K Ungalikthiuk R 12.98 46 Pn Pn 00 40 05.9 +1.9
M14K Bethel 12.99 37 Pn Pn 00 40 05.9 +1.8
L14K Kuka Creek 13.11 34 Pn Pn 00 40 07.3 +1.5
N15K Kwethluk River 13.38 42 Pn Pn 00 40 11.8 +2.3
P16K Nushagak River 13.75 48 Pn Pn 00 40 17.5 +2.9
O16K Kokwok River B 13.96 46 Pn Pn 00 40 20.1 +2.8
K15K Wolf Creek Mou 14.17 33 P 00 40 28.1 +1.7
M16K Timber Creek 14.32 40 P P 00 40 28.7 +0.5
L16K Owhat River 14.53 37 P P 00 40 29.3 -1.0
ACHA Angle Creek He 14.74 53 Pn Pn 00 40 27.9 +0.1
N17K Nushagak Hills 14.80 43 P 00 40 32.8 -0.6
ANM Nome 14.83 22 P P 00 40 36.7 +3.0
SII Sitkinak Islan 14.93 60 Pn Pn 00 40 28.1 -2.2
PETK Petropavlovsk- 14.99 286 LR LR 00 46 47.8
comp=Z,69nm,19.2s,baz=86,slow=40
M17K Holitna River 15.15 40 Pn 00 40 34.7 +1.7
J16K Anvik River 15.16 31 P 00 40 36.6 -0.8
J16K IAmb IAmb 00 40 49.0
comp=Z,10nm,1.2s
P18K Big Mountain, 15.20 49 Pn Pn 00 40 35.4 +1.7
P18K IAmb IAmb 00 41 03.4
comp=Z,18nm,1.4s
O18K Koktuh Hills 15.39 47 Pn P 00 40 38.2 -1.7
N18K Kilae Creek 15.44 44 Pn P 00 40 38.8 -1.7
N18K IAmb IAmb 00 41 18.4
comp=Z,17nm,1.4s
OHAK Old Harbor 15.54 58 Pn Pn 00 40 36.2 -1.9
OHAK IAmb IAmb 00 41 18.4
comp=Z,13nm,0.9s
K17K Iditarod 15.58 35 P 00 40 41.6 -0.4
J17K VABM Dome 15.74 33 P 00 40 44.1 +0.2
J17K IAmb IAmb 00 40 55.8
comp=Z,24nm,1.2s
Q19K Cape Douglas, 15.80 52 Pn Pn 00 40 41.8 +0.3
L18K Granite Mounta 15.89 38 Pn 00 40 44.1 +1.5
F15K North Star Dit 15.96 29 P P 00 40 49.1 +2.8
KDAK Kodiak Island 16.04 56 Pn Pn 00 40 42.9 -1.5
KDAK Kodiak Island 16.04 56 Pn Pn 00 40 41.0 -3.4
comp=Z,0.5nm,0.3s,baz=268,slow=0.2,SNR=16
KDAK Sn Sn 00 43 33.9 -7.0
comp=Z,0.1nm,0.3s,baz=292,slow=23,SNR=1.3
KDAK LR LR 00 46 56.7
comp=Z,102nm,21.3s,baz=87,slow=38
comp=Z,5.0nm,0.4s
N19K Bonanza Creek 16.12 45 Pn Pn 00 40 45.1 -0.4
N19K IAmb IAmb 00 41 07.6
comp=Z,21nm,1.4s
G16K Koyuk River 16.24 24 Pn 00 40 47.6 +0.6
SYI Shuyak Island 16.34 54 Pn Pn 00 40 44.7 -3.5
ILSW Iliamna Southw 16.40 48 Pn Pn 00 40 49.0 -0.1
H17K Granite Mounta 16.56 28 P 00 40 52.4 -0.5
L19K White Mountain 16.60 40 P Pn 00 40 52.1 +0.6
M19K Big River Lodg 16.66 41 Pn 00 40 53.1 +0.9
CNPM China Poot 17.16 51 Pn Pn 00 40 58.2 -0.4
CNPM IAmb IAmb 00 41 18.6
comp=Z,13nm,1.0s
H18K Honhosa River 17.17 29 P P 00 41 00.8 +1.1
H18K IAmb IAmb 00 41 14.0
comp=Z,17nm,1.5s
M20K Styx River 17.17 42 P 00 41 00.7 +0.9
M20K IAmb IAmb 00 41 10.4
comp=Z,15nm,1.4s
J19K Poorman 17.32 34 P 00 41 02.3 +1.1
F17K Baldwin Pennin 17.36 23 P 00 41 03.6 +1.9
BRLK Bradley Lake 17.40 50 Pn 00 41 01.7 +0.2
STLK Strandline Lak 17.57 44 P P 00 41 06.0 +1.8
G18K Tagagawik 17.62 27 P P 00 41 06.3 +1.7
SKT Skwentna 17.90 43 P P 00 41 08.8 +1.1
SKT IAmb IAmb 00 41 20.9
comp=Z,13nm,1.1s
SLKM Skilak Lake 17.95 48 P 00 41 09.8 +1.5
SLKM IAmb IAmb 00 41 12.8
comp=Z,22nm,1.2s
J20K Nowinta River 17.95 35 P P 00 41 09.1 +0.9
H19K Roundabout Mou 18.02 30 P 00 41 11.6 +2.7
PPLA Purkeypile 18.03 40 P 00 41 11.7 +2.4
PPLA IAmb IAmb 00 41 33.4
comp=Z,27nm,1.4s
SUA Susitna One 18.04 45 P 00 41 10.0 +0.6
SUA IAmb IAmb 00 41 23.0
comp=Z,13nm,1.3s
SEW Seward 18.19 50 P 00 41 09.5 -1.4
G19K Purcell Mounta 18.25 28 Pn 00 41 14.2 +2.5
E18K Tukpahlearik C 18.30 22 Pn 00 41 14.8 +2.5
CAST Castle Rocks 18.32 39 Pn 00 41 13.8 +1.0
BILL Bilibino 18.45 341 Pn 00 41 17.4 +3.2
KTH Kantishna Hill 18.85 39 Pn 00 41 20.2 +1.1
KTH IAmb IAmb 00 41 31.6
comp=Z,14nm,1.0s
PWL Port Wells 18.94 48 P Pn 00 41 19.9 -0.3
PWL IAmb IAmb 00 41 35.5
comp=Z,19nm,1.2s
GHO Glory Hole Cre 18.96 45 P Pn 00 41 20.7 +0.2
GHO IAmb IAmb 00 41 43.9
comp=Z,10nm,1.1s
KNK Knik Glacier 19.05 47 P Pn 00 41 21.6 +0.1
KNK IAmb IAmb 00 41 26.9
comp=Z,7.3nm,0.8s
TRF Thorofare Moun 19.05 40 Pn 00 41 22.1 +0.4
TRF IAmb IAmb 00 41 40.8
comp=Z,12nm,1.0s
E19K Redstone River 19.16 25 IAmb IAmb 00 41 32.0
comp=Z,8.6nm,1.1s
SML Sawmill 19.24 46 P Pn 00 41 24.3 +0.5
SML IAmb IAmb 00 42 05.7
comp=Z,20nm,1.3s
F20K Avaraart Lake 19.27 27 Pn 00 41 24.2 +0.2
H21K Melozitna Rive 19.28 32 IAmb IAmb 00 41 36.8
comp=Z,9.1nm,1.2s
MA2 Magadan 19.39 307 LR LR 00 48 29.7
comp=Z,50nm,19.1s,baz=84,slow=36
GLI Glacier Island 19.53 49 P P 00 41 26.0 +0.5
GLI IAmb IAmb 00 41 31.9
comp=Z,12nm,0.9s
G21K Allakaket 19.58 30 IAmb IAmb 00 41 31.0
comp=Z,7.2nm,0.8s
RND Reindeer 19.62 41 P 00 41 26.5 -0.1
SEY Seymchan 19.63 318 P P 00 41 24.8 -1.8
comp=Z,0.4nm,0.3s,baz=118,slow=12,SNR=11
SEY LR LR 00 48 49.7
comp=Z,73nm,18.3s,baz=46,slow=36
comp=Z,2.2nm,0.2s
HIN Hinchinbrook I 19.69 50 P P 00 41 28.1 +0.8
SCM Sheep Creek Mo 19.70 46 P P 00 41 27.9 +0.4
SCM IAmb IAmb 00 41 56.3
comp=Z,19nm,1.2s
MCK McKinley 19.72 40 P P 00 41 28.0 +0.4
MCK IAmb IAmb 00 41 43.6
comp=Z,11nm,1.3s
D19K Kuna River 19.72 22 P 00 41 28.8 +1.2
D19K IAmb IAmb 00 41 44.9
comp=Z,6.2nm,0.8s
FID Port Fidalgo 19.79 49 P P 00 41 28.3 -0.1
F21K Alatna River 20.04 28 Pn 00 41 32.5 -0.7
F21K IAmb IAmb 00 41 39.7
comp=Z,4.0nm,0.6s
I23K Minto, Yukon-K 20.21 36 P Pn 00 41 34.6 -0.6
KLU Klutina 20.24 47 P Pn 00 41 35.5 -0.1
KLU IAmb IAmb 00 42 10.7
comp=Z,9.9nm,1.1s
M24K Tolsona, Glenn 20.30 46 P Pn 00 41 36.7 +0.3
CCB Clear Creek Bu 20.57 38 Pn 00 41 38.5 -0.8
E21K Killik River 20.72 25 P Pn 00 41 40.4 -0.9
E21K IAmb IAmb 00 41 52.4
comp=Z,4.9nm,0.8s
BMRM Bremner River 20.73 49 P Pn 00 41 41.4 0.0
HDA Harding Lake 20.80 39 P Pn 00 41 41.0 -1.2
G23K Bananza Creek 20.81 32 Pn 00 41 42.0 -0.4
G23K IAmb IAmb 00 41 51.6
comp=Z,10nm,1.4s
PAX Paxson 20.88 44 P 00 41 41.3 +1.0
PAX IAmb IAmb 00 41 56.5
comp=Z,8.6nm,1.0s
N25K Chitina, Valde 20.88 48 P Pn 00 41 42.6 -0.7
N25K IAmb IAmb 00 41 55.0
comp=Z,4.7nm,0.8s
IL31 20.98 38 P P 00 41 41.9 +0.7
IL31 IAmb IAmb 00 42 05.6
comp=Z,7.0nm,1.2s
ILAR Eielson Array 20.98 38 P P 00 41 44.0 +2.8
ILAR Eielson Array 20.98 38 P P 00 41 39.4 -1.7
comp=Z,0.4nm,0.6s,baz=237,slow=8.6,SNR=6.4
ILAR LR LR 00 50 29.2
comp=Z,44nm,19.7s,baz=254,slow=39
comp=Z,0.4nm,0.6s
K24K Donnelly Dome 21.04 41 P P 00 41 42.2 +0.3
BERG Berg Lake 21.05 51 P P 00 41 44.8 +2.8
H24K Noodor Dome 21.09 35 P 00 41 44.4 +1.9
E22K Anaktuvuk Pass 21.12 27 IAmb IAmb 00 41 49.1
comp=Z,4.4nm,0.7s
B20K Meade River 21.12 20 P 00 41 44.0 +1.4
B20K IAmb IAmb 00 41 46.1
comp=Z,7.2nm,0.8s
GLB Gilahina Butte 21.21 48 P P 00 41 45.0 +1.2
GLB IAmb IAmb 00 42 03.3
comp=Z,13nm,1.2s
VRDI Verde Repeater 21.33 49 P P 00 41 45.7 +0.5
VRDI IAmb IAmb 00 42 19.4
comp=Z,10nm,1.2s
D22K Ayikyak River 21.37 25 P 00 41 46.6 +1.2
D22K IAmb IAmb 00 41 49.3
comp=Z,6.3nm,0.8s
RIDG Independent Ri 21.40 42 P P 00 41 45.8 0.0
RIDG IAmb IAmb 00 42 13.2
comp=Z,6.5nm,1.0s
B21K Ikpikpuk River 21.41 22 IAmb IAmb 00 41 49.0
comp=Z,7.4nm,0.8s
WAX Waxell Ridge 21.48 51 P P 00 41 48.0 +1.3
J25K Salcha River, 21.51 39 P P 00 41 47.0 0.0
MENT Mentasta 21.63 44 P P 00 41 49.2 +0.9
MENT IAmb IAmb 00 42 22.5
comp=Z,9.6nm,1.2s
G24K Hadweenzic Riv 21.66 33 P 00 41 50.3 +1.8
G24K IAmb IAmb 00 42 05.6
comp=Z,6.8nm,0.9s
DOT Dot Lake 21.70 42 P 00 41 48.6 -0.4
E23K Chandalar 21.72 29 P 00 41 50.7 +1.5
M26K Nabesna, AK 21.81 46 P P 00 41 51.5 +1.3
M26K IAmb IAmb 00 42 20.0
comp=Z,7.2nm,1.3s
PRP Porcupine Dome 21.81 37 P P 00 41 51.9 +1.6
SCRK Sand Creek 21.84 42 P 00 41 50.0 -0.6
SCRK IAmb IAmb 00 42 19.7
comp=Z,10nm,1.5s
F24K Squaw Lake 21.95 31 P 00 41 52.8 +1.2
D23K Nanushuk River 21.97 26 P 00 41 52.3 +0.5
E24K Your Creek 22.07 29 P P 00 41 54.0 +1.0
E24K IAmb IAmb 00 41 57.9
comp=Z,5.4nm,1.1s
TOLK Toolik Lake Re 22.08 28 P 00 41 53.2 +0.2
TOLK Toolik Lake Re 22.08 28 P P 00 41 53.0 0.0
TOLK IAmb IAmb 00 41 59.5
comp=Z,4.2nm,0.7s
J26L Joseph Creek 22.19 40 P 00 41 53.5 -0.8
B22K Teshekpuk Lake 22.21 22 P P 00 41 54.7 +0.4
B22K IAmb IAmb 00 42 09.9
comp=Z,7.3nm,1.1s
M27K Edge Creek, AK 22.31 46 P P 00 41 56.4 +0.8
M27K IAmb IAmb 00 42 05.2
comp=Z,9.5nm,1.2s
FYU Fort Yukon 22.38 35 P P 00 41 56.9 +0.7
FYU IAmb IAmb 00 42 39.5
comp=Z,14nm,1.5s
L27K Beaver Creek, 22.50 45 P P 00 41 58.2 +0.6
BCAR Beaver Creek A 22.52 45 P P 00 41 58.0 +0.2
C23K Itkillik River 22.56 25 P 00 41 58.4 +0.3
D24K Happy Valley 22.61 27 P P 00 42 00.1 +1.5
D24K IAmb IAmb 00 42 04.4
comp=Z,6.5nm,0.7s
F25K Christian Rive 22.73 32 P 00 42 00.5 +0.5
C24K Franklin Bluff 22.99 26 P P 00 42 03.9 +1.3
BMAR Burnt Mountain 23.01 33 P P 00 42 03.6 +0.8
E25K Arctic Village 23.02 31 P P 00 42 02.7 -0.2
E25K IAmb IAmb 00 42 06.8
comp=Z,12nm,1.4s
G26K Porcupine Rive 23.07 34 P 00 42 02.7 -0.7
F26K Sheenjek River 23.28 33 P P 00 42 06.0 +0.5
F26K IAmb IAmb 00 42 10.6
comp=Z,3.6nm,0.7s
D25K Kavik River 23.42 28 P P 00 42 07.1 +0.3
D25K IAmb IAmb 00 42 10.7
comp=Z,5.8nm,0.7s
O29M Mount Kennedy 23.57 52 P P 00 42 10.2 +1.8
O29M IAmb IAmb 00 42 37.4
comp=Z,11nm,1.2s
H27K Steamboat Moun 23.61 37 P P 00 42 09.6 +1.0
G27K Doyon Strip 23.78 36 P P 00 42 10.1 -0.1
DAWY Dawson 23.80 43 P P 00 42 10.3 -0.1
M29M Somme Creek 23.89 47 P P 00 42 10.5 -0.8
M29M IAmb IAmb 00 42 52.4
comp=Z,5.0nm,1.2s
I28M Miner Creek 23.96 39 P 00 42 11.5 -0.4
I28M IAmb IAmb 00 42 40.3
comp=Z,4.1nm,0.8s
HYT Haines Junctio 24.14 51 P P 00 42 14.2 +0.5
L29M L29M 24.15 45 P P 00 42 13.0 -0.7
L29M IAmb IAmb 00 42 44.8
comp=Z,8.0nm,1.4s
E27K Coleen River 24.36 33 P 00 42 17.5 +2.0
E27K IAmb IAmb 00 42 20.8
comp=Z,8.4nm,1.4s
C27K Jago River 24.37 29 IAmb IAmb 00 42 19.1
comp=Z,3.0nm,0.6s
N30M Aishikik Lake 24.40 50 P P 00 42 14.9 -1.0
N30M IAmb IAmb 00 42 25.1
comp=Z,6.8nm,1.2s
K29M Barlow Dome 24.56 44 P 00 42 16.6 -0.9
K29M IAmb IAmb 00 42 18.5
comp=Z,4.2nm,0.7s
H29M Whitestone 24.81 38 P P 00 42 20.3 +0.7
H29M IAmb IAmb 00 42 40.6
comp=Z,6.1nm,1.5s
D27M Malcolm River 25.04 30 P P 00 42 23.8 +2.2
D27M IAmb IAmb 00 42 27.2
comp=Z,5.3nm,1.4s
G29M Pine Creek 25.16 37 P P 00 42 24.6 +1.9
G29M IAmb IAmb 00 42 26.8
comp=Z,8.8nm,1.4s
E28M Babbage River 25.23 32 P 00 42 25.3 +1.9
E28M IAmb IAmb 00 42 30.1
comp=Z,2.9nm,0.7s
I30M Mount Dempster 25.34 41 P P 00 42 23.7 -0.8
EPYK Eagle Plains 25.49 38 P P 00 42 27.8 +2.0
EPYK IAmb IAmb 00 43 02.8
comp=Z,4.1nm,1.2s
E29M Blow River 25.71 33 P 00 42 29.4 +1.7
E29M IAmb IAmb 00 42 33.7
comp=Z,2.9nm,0.8s
M31M Drury Creek, Y 25.74 48 P P 00 42 28.2 +0.1
M31M IAmb IAmb 00 42 52.3
comp=Z,8.6nm,1.4s
F30M Barrier River 26.20 36 P P 00 42 34.3 +2.1
F30M IAmb IAmb 00 43 11.8
comp=Z,7.3nm,1.4s
H31M Peel River 26.30 40 P P 00 42 33.7 +0.6
H31M IAmb IAmb 00 43 08.1
comp=Z,9.9nm,1.5s
MMPY Sheldon Lake, 27.22 47 P P 00 42 41.1 -0.3
BBB Bella Bella 30.40 68 LR LR 00 54 17.5
comp=Z,32nm,20.3s,baz=172,slow=34
A36M Sachs Harbour 30.89 29 P 00 43 16.8 +3.0
TIXI Tiksi 30.94 330 LR LR 00 55 27.9
comp=Z,56nm,20.7s,baz=30,slow=36
H11N2 WAKE ISLAND Hy 33.70 206 T T 01 19 30.4
baz=17,slow=76,SNR=268
H11N3 WAKE ISLAND Hy 33.70 206 T T 01 19 31.0
baz=17,slow=76,SNR=249
H11N1 WAKE ISLAND Hy 33.71 206 T T 01 19 28.9
baz=17,slow=76,SNR=252
YKAW3 Yellowknife Wh 34.89 46 P P 00 43 49.3 +0.6
YKAW3 IAmb IAmb 00 43 54.0
comp=Z,3.7nm,1.1s
YKA Yellowknife Ar 34.91 47 P P 00 43 49.1 +0.3
YKA Yellowknife Ar 34.91 47 P P 00 43 48.1 -0.8
comp=Z,0.4nm,0.7s,baz=285,slow=8.5,SNR=5.9
YKA LR LR 00 58 28.2
comp=Z,44nm,18.7s,baz=306,slow=37
comp=Z,0.4nm,0.7s
H11S1 WAKE ISLAND Hy 34.91 206 T T 01 21 01.8
baz=17,slow=76,SNR=545
H11S2 WAKE ISLAND Hy 34.93 206 T T 01 20 57.8
baz=17,slow=76,SNR=339
H11S3 WAKE ISLAND Hy 34.93 206 T T 01 21 02.9
baz=17,slow=76,SNR=241
YKAW1 Yellowknife Wh 34.96 47 P P 00 43 49.2 -0.2
YKAW1 IAmb IAmb 00 44 00.4
comp=Z,2.1nm,0.9s
B08A Colville Reser 37.08 71 P 00 44 08.5 +0.8
DBO Dodson Butte 37.30 81 P P 00 44 11.0 +1.3
NEW Newport 38.43 70 P 00 44 19.7 +0.6
NEW Newport 38.43 70 LR LR 00 58 46.5
comp=Z,45nm,19.1s,baz=359,slow=34
J05D Fort Rock, OR 38.45 79 P P 00 44 20.8 +1.3
KSRS Korea Array 40.14 271 P P 00 44 33.2 -0.3
comp=Z,1.0nm,0.7s,baz=50,slow=6.8,SNR=1.8
comp=Z,1.0nm,0.7s
NVAR Mina Array Bea 43.06 83 P P 00 44 57.5 0.0
comp=Z,1.2nm,0.9s,baz=303,slow=6.2,SNR=5.0
comp=Z,1.2nm,0.9s
ELK Elko 43.57 79 P 00 45 02.1 +0.4
ELK IAmb IAmb 00 45 03.7
comp=Z,3.0nm,0.8s
YHL Hebgen Lake 43.70 71 P P 00 45 03.0 +0.3
YHL IAmb IAmb 00 45 04.5
comp=Z,3.3nm,0.9s
HVU Hansel Valley 44.48 76 P 00 45 08.4 -0.4
HVU IAmb IAmb 00 45 10.8
comp=Z,3.2nm,0.7s
MOOW Moose Ponds 44.57 72 P P 00 45 08.8 -0.8
MOOW IAmb IAmb 00 45 26.1
comp=Z,2.6nm,1.4s
RLMT Red Lodge 44.68 70 P 00 45 11.3 +0.8
RLMT IAmb IAmb 00 45 27.6
comp=Z,3.9nm,1.1s
R11B Troy Canyon, C 44.80 81 P P 00 45 12.1 +0.6
ILON Igloolik, Nuna 45.24 30 P P 00 45 14.0 -0.3
TPNV Topopah Spring 45.25 84 P 00 45 15.8 +0.7
TPNV IAmb IAmb 00 45 16.9
comp=Z,2.9nm,0.8s
DUG Dugway, Tooele 45.39 78 P 00 45 17.4 +1.3
PRN Pahroc Range 45.71 82 P 00 45 19.0 +0.4
PSUT Pine Spring 45.76 80 P P 00 45 18.8 -0.3
PSUT IAmb IAmb 00 45 20.7
comp=Z,2.2nm,0.8s
PD31 Pinedale Array 45.84 73 P 00 45 19.8 0.0
PD31 IAmb IAmb 00 45 22.0
comp=Z,2.8nm,0.8s
PDAR Pinedale Array 45.84 73 P P 00 45 19.8 0.0
comp=Z,1.8nm,0.6s,baz=300,slow=4.1,SNR=26
comp=Z,1.8nm,0.6s
SONM Songino Array 47.12 297 P P 00 45 30.0 +0.4
comp=Z,0.2nm,0.4s,baz=64,slow=12,SNR=1.5
comp=Z,0.2nm,0.4s
U15A North Rim 48.04 81 P 00 45 37.4 +0.4
O20A White River Ci 48.21 75 P P 00 45 38.5 +0.3
PV22 Blue Mesa, Par 48.87 77 P 00 45 43.7 +0.5
PV20 West Nyswonger 48.88 77 P P 00 45 43.1 -0.3
PV04 Paradox Valley 48.89 77 P P 00 45 44.0 +0.6
PV19 Morning Glory 48.89 77 P P 00 45 42.4 -1.0
PV17 East Wray Mesa 48.92 77 P P 00 45 43.7 0.0
SPITS Spitsbergen Ar 50.47 356 P P 00 45 53.8 -0.9
comp=Z,1.9nm,0.7s,baz=46,slow=4.8,SNR=9.6
comp=Z,1.9nm,0.7s
T25A Trinidad 52.42 75 P 00 46 11.2 +1.1
MNTX Cornudas Mount 55.46 81 P 00 46 32.8 +0.7
P40A Paris 58.14 65 P 00 46 50.1 -0.8
TXAR Lajitas Array 58.16 82 P P 00 46 51.4 +0.1
comp=Z,0.7nm,0.7s,baz=306,slow=5.9,SNR=8.6
comp=Z,0.7nm,0.7s
ARCES ARCESS Array B 58.23 351 P P 00 46 50.6 -0.6
comp=Z,0.5nm,0.5s,baz=27,slow=8.8,SNR=6.2
comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra 59.53 314 P P 00 47 00.1 -0.3
comp=Z,2.1nm,0.2s,baz=39,slow=7.4,SNR=2.0
comp=Z,2.1nm,0.2s
MKAR Makanchi Array 60.47 309 P P 00 47 06.8 -0.1
comp=Z,0.2nm,0.4s,baz=35,slow=6.9,SNR=6.5
comp=Z,0.2nm,0.4s
BVAR Borovoye Array 61.26 320 P P 00 47 11.8 -0.4
comp=Z,0.8nm,0.4s,baz=54,slow=8.7,SNR=4.7
comp=Z,0.8nm,0.4s
T50A Nancy 63.95 63 P 00 47 30.3 -0.1
FINES FINESS Array B 65.95 348 P P 00 47 42.5 -0.4
comp=Z,0.6nm,0.8s,baz=46,slow=4.0,SNR=3.9
comp=Z,0.6nm,0.8s
NOA NORSAR Array B 67.75 355 P P 00 47 53.5 -1.0
comp=Z,0.5nm,0.8s,baz=355,slow=6.7,SNR=2.1
comp=Z,0.5nm,0.8s
HFS Hagfors 68.50 354 P P 00 47 58.2 -0.9
comp=Z,0.6nm,0.7s,baz=48,slow=2.2,SNR=5.0
comp=Z,0.6nm,0.7s
BELG Belogornoye 69.74 332 LR LR 01 22 51.8
comp=Z,31nm,18.4s,baz=15,slow=40
EKA Eskdalemuir Ar 73.63 3 P P 00 48 30.1 -0.1
comp=Z,0.7nm,0.5s,baz=352,slow=5.8,SNR=2.1
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 75.76 343 P P 00 48 41.8 -0.7
comp=Z,0.2nm,0.3s,baz=20,slow=6.6,SNR=2.2
comp=Z,0.2nm,0.3s
BUR08 Bucovina Ar. S 79.42 344 P 00 49 03.0 -0.2
BUR08 IAmb IAmb 00 49 37.2
comp=Z,2.5nm,1.2s
BURAR Bucovina Array 79.45 344 P P 00 49 03.4 0.0
WRA Warramunga Arr 82.32 225 P P 00 49 17.7 -1.1
comp=Z,0.8nm,0.7s,baz=31,slow=5.7,SNR=3.6
comp=Z,0.8nm,0.7s
ASAR Alice Springs 85.79 223 P P 00 49 36.8 +0.4
comp=Z,1.5nm,0.7s,baz=219,slow=38,SNR=9.3
comp=Z,1.5nm,0.7s
STKA Stephens Creek 90.15 213 P P 00 49 59.0 +2.1
comp=Z,3.0nm,0.9s,baz=351,slow=6.2,SNR=3.7
comp=Z,3.0nm,0.9s
H03N2 Juan Fernandez 120.64 106 T T 03 08 21.7
baz=317,slow=77,SNR=22
H03N1 Juan Fernandez 120.66 106 T T 03 08 23.0
baz=317,slow=77,SNR=31
H03N3 Juan Fernandez 120.66 106 T T 03 08 32.7
baz=317,slow=77,SNR=26
VNDA Vanda 129.18 186 PKP PKPdf 00 56 01.7 -1.6
comp=Z,0.4nm,0.6s,baz=359,slow=1.8,SNR=2.3
QSPA South Pole Qui 141.07 180 PKhKP PKPpre 00 56 20.0
comp=Z,0.7nm,0.6s,baz=254,slow=1.8,SNR=7.1
BOSA Boshof 151.39 314 PKPbc PKPbc 00 56 50.7 +0.1
comp=Z,1.4nm,0.6s,baz=10,slow=3.2,SNR=6.8

NNC 26 00:44:09.2±7.0, 37.05N×70.87E, h0km, mb4.0, mpv4.0,
Error ellipse: s-maj=62.8km s-min=52.4km az=52.0
ISC 26 00:44:10.5±3.5, 36.8N±0.2×70.9E±0.2, h88km, n16,
σ0.76/16, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay 75nm,0.3s	5.39	353	Lg	Lg	00 46 31.3	
AML	Almayashu SNR=151	5.76	21	P	Pn	00 45 34.4	+0.6
MRKS	Merke 20nm,0.4s	6.21	16	Lg	Lg	00 46 49.1	
EKS2	Erkin-Say SNR=18	6.27	20	P	Pn	00 45 41.0	+0.5

KK31	**Karatay Array**	**6.31**	**358**	P	**Pn**	**00 45 41.2**	**+0.3**
	2.0nm,0.2s,baz=176,slow=11,SNR=82						
KK31				⇓S	**Sn**	**00 46 50.9**	**-0.6**
	17nm,0.6s,baz=176,slow=16						
AAK	**Ala-Archa**	**6.47**	**24**	P	**Pn**	**00 45 43.6**	**+0.3**
	SNR=17						
AAK	**Ala-Archa**	**6.47**	**24**	⇑P	**Pn**	**00 45 43.0**	**-0.2**
	3.4nm,0.3s						
AAK				⇑S	**Sn**	**00 46 56.0**	**+0.4**
	6.9nm,0.5s						
CHMS	**Chumysh**	**6.88**	**24**	P	**Pn**	**00 45 48.6**	**-0.1**
	SNR=8.6						
USP	**Ospenovka**	**7.04**	**22**	P	**Pn**	**00 45 50.6**	**-0.3**
	SNR=15						
TKM2	**Tokmak 2**	**7.12**	**29**	P	**Pn**	**00 45 51.8**	**-0.4**
	SNR=28						
TKM2	**Tokmak 2**	**7.12**	**29**	⇑P	**Pn**	**00 45 51.5**	**-0.6**
	15nm,0.5s						
KST	**Kastek**	**7.37**	**30**	P	**Pn**	**00 45 55.1**	**-0.3**
MTBS	**Maitube**	**7.63**	**32**	P	**Pn**	**00 45 58.3**	**-0.7**
MDOK	**Medeo**	**7.93**	**35**	P	**Pn**	**00 46 01.8**	**-1.4**
	2.7nm,0.5s						
MK31	**Makanchi Array**	**13.12**	**37**	⇑P	**Pn**	**00 47 15.0**	**+1.8**
	0.2nm,0.5s,baz=43,slow=6.7,SNR=5.2						
AB31	**Akbulak array**	**14.78**	**331**	P	**Pn**	**00 47 35.0**	**+0.2**
	0.6nm,0.5s,baz=163,slow=11,SNR=6.0						

*IDC **26** 00:50:19.8±1.9, 18°.43S×177°.70W, h612km±23km, mb3.0/9, mbtmp3.9/10, Error ellipse: s-maj=22.6km s-min=17.7km az=111.0*

ISC 26 00:50:18.9±0.7, 18°.4S±0°.2×177°.6W±0°.2, h600km, n12, σ0s97/12, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.16**	**279**	P	**P**	**00 51 46.6**	**+1.0**
	2.9nm,0.3s,baz=128,slow=21,SNR=3.5						
URZ	**Urewera**	**20.28**	**192**	P	**P**	**00 54 14.2**	**-0.8**
	3.1nm,0.4s,baz=28,slow=2.4,SNR=6.5						
	3.1nm,0.4s						
WRA	**Warramunga Arr**	**45.26**	**260**	P	**P**	**00 57 44.5**	**-0.1**
	1.6nm,0.4s,baz=97,slow=7.3,SNR=23						
	1.6nm,0.4s						
ASAR	**Alice Springs**	**45.36**	**255**	P	**P**	**00 57 45.5**	**+0.2**
	2.0nm,0.6s,baz=81,slow=9.0,SNR=6.1						
	2.0nm,0.6s						
VNDA	**Vanda**	**59.99**	**185**	P	**P**	**00 59 28.9**	**+0.7**
	1.0nm,0.9s,baz=130,slow=7.5,SNR=1.9						
	1.0nm,0.9s						
QSPA	**South Pole Qui**	**71.63**	**180**	P	**P**	**01 00 40.7**	**0.0**
	1.9nm,0.6s,baz=23,slow=0.5,SNR=14						
	1.9nm,0.6s						
NVAR	**Mina Array Bea**	**79.29**	**43**	P	**P**	**01 01 24.2**	**+0.5**
	0.2nm,0.3s,baz=282,slow=2.7,SNR=1.9						
	0.2nm,0.3s						
TXAR	**Lajitas Array**	**85.66**	**57**	P	**P**	**01 01 56.9**	**+1.1**
	0.6nm,0.7s,baz=217,slow=5.1,SNR=9.9						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**86.23**	**13**	P	**P**	**01 01 56.9**	**-0.6**
	0.5nm,0.5s,baz=216,slow=4.7,SNR=7.6						
	0.5nm,0.5s						
PDAR	**Pinedale Array**	**87.23**	**43**	P	**P**	**01 02 02.9**	**-0.1**
	0.2nm,0.5s,baz=222,slow=2.0,SNR=3.6						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**126.95**	**350**	PKP	**PKPdf**	**01 08 13.3**	**-1.7**
	0.6nm,0.8s,baz=222,slow=1.2,SNR=5.3						
BRTR	**Keskin Array B**	**145.67**	**315**	PKPbc	**PKPdf**	**01 08 49.1**	**-1.2**
	0.3nm,0.7s,baz=17,slow=5.3,SNR=2.0						

*ISK **26** 00:50:29.9, 38°.58N×26°.50E, h3km, ML3.0/29*
*AFAD **26** 00:50:30.0, 38°.57N×26°.48E, h5km±1km, ML2.9*
*ATH **26** 00:50:30.9, 38°.54N×26°.47E, h15km±5km, ML2.5/9, Manual Solution by N.Liadopoulou First location: 2019/04/26 00:52:00, This location: 2019/04/26 06:17:14 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 10 km*

ISC 26 00:50:30.0±0.8, 38°.56N±0°.02×26°.47E±0°.02, h12km±6km, n72, σ0s85/100, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.11**	**338**	P	**Pg**	**00 50 32.8**	**-0.3**
KARB				S	**Sg**	**00 50 34.3**	**-1.0**
URLA	**Izmir**	**0.22**	**153**	P	**Pg**	**00 50 34.9**	**+0.1**
URLA				S	**Sg**	**00 50 38.7**	**+0.6**
URLA				*i* AML	AML	00 50 41.0	
	comp=E,3μm,0.3s						
FOCM	**Foa**	**0.26**	**53**	Pg	**Pg**	**00 50 34.7**	**-0.7**
FOCM				Sg	**Sg**	**00 50 39.3**	**+0.3**
CESE	**eme**	**0.26**	**210**	Pg	**Pb**	**00 50 36.6**	**-0.1**
CESE				Sg	**Sb**	**00 50 40.9**	**-0.3**
EAG2	**Marmaro, Chios**	**0.28**	**267**	P	**Pb**	**00 50 36.9**	**-0.1**
EAG2				S	**Sb**	**00 50 41.5**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**0.32**	**175**	P	**Pg**	**00 50 37.1**	**+0.6**
ZEYE				S	**Sb**	**00 50 42.2**	**-0.6**
ZEYE				*i* AML	AML	00 50 44.0	
	comp=E,2μm,0.4s						
ZEYE				*i* AML	AML	00 50 48.0	
	comp=N,2μm,0.4s						
BLCB	**Balcova**	**0.48**	**111**	Pg	**Pg**	**00 50 39.8**	**+0.2**
IZMD	**zmir-Dikili-**	**0.56**	**40**	P	**Pg**	**00 50 40.6**	**-0.3**
IZMD				S	**Sg**	**00 50 47.7**	**-0.7**
GMLD	**Gumuldur**	**0.60**	**144**	Pg	**Pg**	**00 50 41.9**	**+0.2**
GMLD				Sg	**Sb**	**00 50 50.9**	**+0.1**
DGB	**zmir**	**0.60**	**147**	P	**Pg**	**00 50 41.7**	**-0.1**
DGB				S	**Sg**	**00 50 49.9**	**+0.1**
DKL	**Dikili**	**0.61**	**34**	Pg	**Pg**	**00 50 41.9**	**-0.1**
ZEDA	**zmir-Bergama**	**0.63**	**49**	P	**Pg**	**00 50 42.1**	**-0.2**
ZEDA				S	**Sb**	**00 50 51.1**	**-0.5**
AYVA	**Ayvalik**	**0.77**	**13**	P	**Pg**	**00 50 44.6**	**-0.3**
AYVA				S	**Sb**	**00 50 56.0**	**+0.3**
AYVA				*i* AML	AML	00 50 59.0	
	comp=N,559nm,0.6s						
SIGR	**SIGRI**	**0.81**	**324**	Pg	**Pb**	**00 50 46.6**	**+0.6**
SIGR	**SIGRI**	**0.81**	**324**	P	**Pb**	**00 50 47.0**	**+1.0**
KOCA	**Canakkale, Ayv**	**0.97**	**345**	P	**Pb**	**00 50 49.1**	**+0.2**
KOCA				S	**Sb**	**00 51 02.5**	**+0.7**
KOCA				*i* AML	AML	00 51 05.0	
	comp=N,478nm,0.3s						
KOCA				*i* AML	AML	00 51 07.0	
	comp=E,329nm,0.4s						
SOMA	**Soma-Manisa**	**1.02**	**54**	Pg	**Pg**	**00 50 49.6**	**-0.2**
GCAM	**G?zelcaml?**	**1.05**	**145**	P	**Pb**	**00 50 50.4**	**+0.3**
GCAM				S	**Sg**	**00 51 03.6**	**-0.4**
GCAM				*i* AML	AML	00 51 08.0	
	comp=N,283nm,0.3s						
BUHA	**Balikesir, Bur**	**1.05**	**27**	P	**Pg**	**00 50 50.1**	**-0.3**
BUHA				S	**Sb**	**00 51 04.6**	**+0.6**
BUHA				*i* AML	AML	00 51 07.0	
	comp=N,383nm,0.7s						
BUHA				*i* AML	AML	00 51 09.0	
	comp=E,512nm,0.5s						
AKHS	**Akhisar**	**1.10**	**73**	P	**Pg**	**00 50 50.5**	**-0.7**
AKHS				S	**Sb**	**00 51 06.2**	**+0.9**
AKHS				*i* AML	AML	00 51 09.0	
	comp=E,257nm,0.3s						
AKS	**Akhisar**	**1.10**	**73**	Pg	**Pb**	**00 50 51.2**	**+0.2**
YAYO	**Edremit-Balk**	**1.15**	**24**	Pn	**Pg**	**00 50 52.0**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.18**	**3**	P	**Pg**	**00 50 52.3**	**-0.5**
BAYC				S	**Sg**	**00 51 06.9**	**-1.2**
BAYC				*i* AML	AML	00 51 11.0	
	comp=N,194nm,0.4s						
BAYC				*i* AML	AML	00 51 11.0	
	comp=E,221nm,0.5s						
IZMR	**zmir-demi**	**1.24**	**109**	P	**Pg**	**00 50 53.6**	**-0.3**
IZMR				S	**Sg**	**00 51 08.3**	**-1.8**
DDIM	**Aydin, Didim**	**1.26**	**151**	P	**Pg**	**00 50 53.7**	**-0.5**
DDIM				S	**Sb**	**00 51 11.0**	**+1.1**
STEP	**BALIKESIR_Sava**	**1.27**	**50**	P	**Pg**	**00 50 53.5**	**-1.0**
STEP				S	**Sb**	**00 51 11.1**	**+0.8**
STEP				*i* AML	AML	00 51 15.0	
	comp=E,500nm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**1.28**	**118**	Pn	**Pg**	**00 50 54.1**	**-0.5**
ODEM	**Odemis-Izmir**	**1.29**	**102**	Pn	**Pb**	**00 50 54.8**	**+0.4**
BOZC	**Bozcaada**	**1.32**	**346**	P	**Pn**	**00 50 54.2**	**-0.1**
BOZC				S	**Sg**	**00 51 11.7**	**-0.9**
BOZC				*i* AML	AML	00 51 14.0	
	comp=N,163nm,0.4s						
GORD	**Gordes-Manisa**	**1.38**	**75**	Pn	**Pg**	**00 50 56.4**	**-0.2**
AYDN	**Tasoluk**	**1.43**	**128**	P	**Pn**	**00 50 56.2**	**+0.3**
AYDN				S	**Sb**	**00 51 13.4**	**-1.5**
AYDN				*i* AML	AML	00 51 20.0	
	comp=N,140nm,0.3s						
AYDN				*i* AML	AML	00 51 20.0	
	comp=E,168nm,0.3s						
TNSA	**Tinos**	**1.45**	**226**	P	**Pn**	**00 50 56.1**	**+0.1**
BALY	**Balya**	**1.48**	**37**	P	**Pn**	**00 50 57.0**	**+0.5**
BALY				S	**Sn**	**00 51 15.9**	**0.0**
BALY				*i* AML	AML	00 51 21.0	
	comp=E,266nm,0.4s						
BALY				*i* AML	AML	00 51 22.0	
	comp=N,325nm,0.4s						
CNKL	**anakkale-Mer**	**1.51**	**358**	P	**Pn**	**00 50 57.3**	**+0.4**
CNKL				S	**Sn**	**00 51 17.2**	**+0.8**
CNKL				*i* AML	AML	00 51 21.0	
	comp=E,142nm,0.5s						
EFSA	**Agios Efstrati**	**1.51**	**311**	P	**Pn**	**00 50 57.5**	**+0.6**
CANM	**Can-anakkale**	**1.52**	**17**	Pn	**Pb**	**00 50 58.2**	**0.0**
COMU	**Canakkale**	**1.54**	**0**	Pn	**Pb**	**00 50 58.6**	**+0.1**
NAZL	**Nazilli-Aydin**	**1.56**	**112**	Pn	**Pn**	**00 50 58.6**	**+1.0**
KIRA	**zmir-Kiraz**	**1.56**	**103**	P	**Pn**	**00 50 58.3**	**+0.5**
KIRA				S	**Sn**	**00 51 16.4**	**-1.6**
BKES	**Balkesir-Mer**	**1.63**	**44**	P	**Pn**	**00 50 59.0**	**+0.4**
BKES				S	**Sn**	**00 51 18.4**	**-1.1**
BKES				*i* AML	AML	00 51 26.0	
	comp=E,121nm,0.4s						
BKES				*i* AML	AML	00 51 28.0	
	comp=N,108nm,0.5s						
MLSB	**Milas**	**1.63**	**140**	Pn	**Pb**	**00 51 00.5**	**+0.4**
BODT	**Bodrum**	**1.64**	**156**	Pn	**Pb**	**00 51 00.7**	**+0.5**
MANT	**Manisa**	**1.64**	**92**	P	**Pn**	**00 50 58.0**	**-0.9**
MANT				S	**Sn**	**00 51 19.4**	**-0.7**
KLNA	**Kalymnos**	**1.65**	**166**	P	**Pn**	**00 50 59.2**	**+0.4**
GOAD	**anakkale-G¶**	**1.66**	**345**	P	**Pn**	**00 50 59.7**	**+0.8**
GOAD				S	**Sn**	**00 51 19.0**	**-1.2**
ESEN	**Aydn-Nazilli**	**1.67**	**117**	P	**Pn**	**00 50 59.4**	**+0.4**
ESEN				S	**Sn**	**00 51 19.2**	**-1.1**
BDRM	**Kayabasi**	**1.68**	**152**	P	**Pn**	**00 51 00.3**	**+1.1**
KARY	**Karystos**	**1.68**	**252**	P	**Pn**	**00 50 59.7**	**+0.5**
GADA	**Gvkgeada**	**1.69**	**345**	Pn	**Pn**	**00 51 00.7**	**+1.4**
KULA	**Kula-Manisa**	**1.72**	**91**	Pn	**Pn**	**00 51 01.2**	**+1.3**
GONE	**Gonen-Balikesi**	**1.76**	**32**	Pn	**Pn**	**00 51 01.7**	**+1.3**
LPK	**Lapseki**	**1.82**	**7**	Pn	**Pn**	**00 51 02.8**	**+1.6**
GELI	**Tayfur-Gelibol**	**1.84**	**0**	Pn	**Pn**	**00 51 03.0**	**+1.6**
SUSR	**Susurluk-Balik**	**1.88**	**41**	Pn	**Pn**	**00 51 03.4**	**+1.4**
YER	**Yerkesik**	**2.02**	**134**	Pn	**Pn**	**00 51 05.9**	**+1.9**
DAT	**Datca**	**2.03**	**154**	Pn	**Pb**	**00 51 06.3**	**-0.6**
EDC	**Edincik**	**2.09**	**31**	Pn	**Pn**	**00 51 06.1**	**+1.2**
ATHU	**Athens Univers**	**2.19**	**255**	P	**Pn**	**00 51 07.2**	**+0.9**
KCTX	**Karacabey (Bur**	**2.25**	**40**	Pn	**Pn**	**00 51 08.5**	**+1.4**
SAP3	**Santorini-Thir**	**2.30**	**203**	P	**Pn**	**00 51 08.3**	**+0.5**
THAS	**Thassos island**	**2.45**	**327**	P	**Pn**	**00 51 10.1**	**+0.3**
DALY	**Dalyan (Mula)**	**2.46**	**134**	Pn	**Pn**	**00 51 12.0**	**+2.1**
TVSB	**Tavsanli**	**2.50**	**68**	Pn	**Pn**	**00 51 12.4**	**+1.8**
VIL2	**Platees**	**2.54**	**263**	P	**Pn**	**00 51 11.3**	**+0.3**
OUR	**Ouranopolis**	**2.62**	**313**	P	**Pn**	**00 51 13.1**	**+1.0**
MET5	**Makryloggos,Me**	**2.62**	**250**	P	**Pn**	**00 51 13.0**	**+0.8**
XOR	**Xorichti**	**2.68**	**289**	P	**Pn**	**00 51 13.9**	**+0.9**
LTK	**Loutraki**	**2.81**	**260**	P	**Pn**	**00 51 15.6**	**+0.9**
KAVA	**Kavala**	**2.86**	**329**	P	**Pn**	**00 51 16.5**	**+1.0**
KRND	**KRANIDI**	**2.87**	**247**	P	**Pn**	**00 51 16.6**	**+0.9**
KOKK	**Kokkinochori,**	**2.95**	**321**	P	**Pn**	**00 51 17.4**	**+0.7**
HORT	**Hortiatis**	**3.30**	**309**	P	**Pn**	**00 51 22.8**	**+1.1**

DJA 26 01:05:34.8±1.0, 8°.S±14°.×12°.3E±°, h233km±9km, M3.6/7, mb3.8/1, MLv3.6/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.21**	**237**	P	Pn	01 06 09.4	0.0
EDFI	**Ende, Flores**	**1.74**	**244**	P	Pn	01 06 13.6	0.0
EDFI				S	S	01 06 45.2	+1.2
SOEI	**Soe**	**2.02**	**151**	P	Pn	01 06 16.4	+0.2
SOEI				S	S	01 06 48.8	+0.1
WSI	**Waingapu**	**3.38**	**240**	P	Pn	01 06 31.4	+0.8
WSI				S	S	01 07 13.6	-0.9
WBSI	**Waikabubak, Su**	**4.17**	**246**	P	Pn	01 06 40.3	+0.3
WBSI				S	S	01 07 28.6	-2.9
PLAI	**Plampang**	**5.50**	**261**	P	Pn	01 06 56.4	0.0
PLAI				S	S	01 08 00.6	-0.5

*NEIC **26** 01:09:08.3±2.0, 20°.36S±0°.10×173°.28W±0°.07, h10km±1km, mb4.7/22, Error ellipse: s-maj=16.6km s-min=11.5km az=176.0*
*IDC **26** 01:09:09.4±0.6, 20°.25S×173°.85W, h0km, mb4.1/12, mbtmp4.1/15, ML4.5/3, Error ellipse: s-maj=24.6km s-min=16.2km az=142.0*

ISC 26 01:09:08.6±0.4, 20°.32S±0°.07×173°.31W±0°.06, h10km, n50, σ2s01/52, mb4.5/22, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.42**	**69**		**Pn**	**01 10 01.4**	**-0.7**
NIUE				Sn	**Sn**	**01 10 37.9**	**-4.8**
AFI	**Afiamalu**	**6.54**	**13**	Pn	**Pn**	**01 10 44.6**	**-0.4**
AFI				Sn	**Sn**	**01 11 55.9**	**-3.9**
MSVF	**Nonsavu**	**8.56**	**286**	Pn	**Pn**	**01 11 13.0**	**+0.2**
MSVF	**Nonsavu**	**8.56**	**286**	Pn	Pn	01 11 07.8	-5.0
	0.6nm,0.3s,baz=245,slow=22,SNR=1.2						
	3.0nm,0.5s						
RAR	**Rarotonga**	**12.70**	**96**	Pn	**Pn**	**01 12 06.9**	**-2.4**
DZM	**Mont Dzumac**	**18.95**	**261**	P	**P**	**01 13 30.3**	**+0.1**
DZM	**Mont Dzumac**	**18.95**	**261**	P	**P**	**01 13 26.7**	**-3.5**
	0.5nm,0.3s,baz=222,slow=18,SNR=2.7						
	7.6nm,1.1s						
URZ	**Urewera**	**19.71**	**203**	P	**Pn**	**01 13 38.7**	**-0.9**
	0.5nm,0.3s,baz=316,slow=5.9,SNR=4.1						
	7.1nm,0.7s						
BFZ	**Birch Farm**	**22.16**	**201**	P	**P**	**01 14 04.1**	**-0.6**
BFZ				IAmb	IAmb	01 14 27.3	
	comp=Z,84nm,1.5s						
MRZ	**Mangatainoka R**	**22.38**	**203**	P	**P**	**01 14 05.8**	**-1.2**
MRZ				IAmb	IAmb	01 14 09.3	
	comp=Z,38nm,1.5s						
EIDS	**Eidsvold**	**33.13**	**255**	P	**P**	**01 15 43.6**	**-1.6**
EIDS				IAmb	IAmb	01 16 23.4	
	comp=Z,11nm,1.2s						
STKA	**Stephens Creek**	**41.83**	**245**	P	**P**	**01 16 57.4**	**-1.4**
STKA	**Stephens Creek**	**41.83**	**245**	P	**P**	**01 16 57.7**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=298,slow=5.8,SNR=3.9						
	comp=Z,2.2nm,0.6s						
JAY	**Jayapura**	**48.20**	**285**	P	**P**	**01 17 48.2**	**-1.5**
	comp=Z,9.8nm,0.6s,baz=206,slow=4.7,SNR=4.8						
	comp=Z,9.8nm,0.6s						
ASAR	**Alice Springs**	**48.83**	**256**	P	**P**	**01 17 52.5**	**-2.1**
ASAR	**Alice Springs**	**48.83**	**256**	P	**P**	**01 17 53.6**	**-0.9**
	comp=Z,2.9nm,0.7s,baz=98,slow=7.5,SNR=26						
ASAR				PcP	**PcP**	**01 19 21.2**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=97,slow=4.3,SNR=5.5						
	comp=Z,2.9nm,0.7s						
WB0	**Warramunga Arr**	**48.95**	**261**	P	**P**	**01 17 52.7**	**-2.8**
WB0				IAmb	IAmb	01 18 22.1	
	comp=Z,8.5nm,1.2s						
WB2	**Warramunga Arr**	**48.96**	**261**	P	**P**	**01 17 53.5**	**-2.1**
WB2				IAmb	IAmb	01 18 05.6	
	comp=Z,9.1nm,1.3s						
WRA	**Warramunga Arr**	**48.97**	**261**	P	**P**	**01 17 53.7**	**-2.0**
	comp=Z,1.3nm,0.7s,baz=96,slow=7.5,SNR=9.0						
WRA				PcP	**PcP**	**01 19 20.4**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=87,slow=3.7,SNR=4.7						
	comp=Z,1.3nm,0.7s						
MTN	**Manton Dam**	**53.56**	**269**	P	**P**	**01 18 28.9**	**-1.3**
MTN				IAmb	IAmb	01 18 30.7	
	comp=Z,9.7nm,0.8s						
KNRA	**Kununurra**	**55.05**	**265**	P	**P**	**01 18 40.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**57.40**	**261**	P	**P**	**01 18 56.8**	**-0.9**
SBA	**Scott Base**	**58.38**	**185**	P	**P**	**01 19 07.2**	**+3.5**
VNDA	**Vanda**	**58.52**	**186**	P	**P**	**01 19 04.6**	**-0.1**
VNDA	**Vanda**	**58.52**	**186**	P	**P**	**01 19 07.2**	**+2.6**
	comp=Z,1.1nm,0.8s,baz=346,slow=5.5,SNR=5.7						
	comp=Z,1.1nm,0.8s						
PSA00	**Pilbara Seismi**	**61.98**	**256**	P	**P**	**01 19 27.5**	**-1.8**
QSPA	**South Pole Qui**	**69.75**	**180**		**P**	**01 20 17.9**	**-0.8**
QSPA				IAmb	IAmb	01 20 33.0	
	comp=Z,5.2nm,1.1s						
QSPA	**South Pole Qui**	**69.75**	**180**	P	**P**	**01 20 21.0**	**+2.2**
	comp=Z,1.8nm,0.9s,baz=116,slow=2.5,SNR=5.8						
	comp=Z,1.8nm,0.9s						
YUH	**Yuha Desert**	**76.03**	**47**	P	**P**	**01 20 56.5**	**+0.1**
YUH				IAmb	IAmb	01 21 01.2	
	comp=Z,1.1nm,1.4s						
PETK	**Petropavlovsk-**	**77.32**	**343**	P	**P**	**01 21 02.7**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=89,slow=7.9,SNR=2.4						
	comp=Z,3.7nm,0.8s						
NVAR	**Mina Array Bea**	**77.94**	**41**	P	**P**	**01 21 07.5**	**+0.3**
NVAR	**Mina Array Bea**	**77.94**	**41**	P	**P**	**01 21 11.1**	**+3.8**
	comp=Z,2.4nm,0.8s,baz=225,slow=9.2,SNR=18						
	comp=Z,2.4nm,0.8s						
X16A	**Lo Mia Camp, P**	**80.12**	**48**	P	**P**	**01 21 20.4**	**+1.1**
K15K	**Wolf Creek Mou**	**82.86**	**6**	P	**P**	**01 21 36.2**	**+3.3**
TMUT	**Trail Mountain**	**82.94**	**44**	P	**P**	**01 21 35.3**	**+1.1**
TMUT				IAmb	IAmb	01 21 40.8	
	comp=Z,4.9nm,0.9s						
VHRN	**Van Horn**	**82.97**	**54**	P	**P**	**01 21 34.9**	**+0.5**
TX31	**Lajitas Ar. Si**	**83.29**	**56**	P	**P**	**01 21 35.7**	**-0.3**
TX31				IAmb	IAmb	01 22 14.6	
	comp=Z,5.7nm,1.4s						
TXAR	**Lajitas Array**	**83.30**	**56**	P	P	01 21 41.1	+5.1
	comp=Z,0.8nm,0.8s,baz=216,slow=8.6,SNR=13						
	comp=Z,0.8nm,0.8s						
ANMO	**Albuquerque**	**83.91**	**49**		**P**	**01 21 38.4**	**-0.7**
ANMO				IAmb	IAmb	01 21 56.9	
	comp=Z,4.2nm,1.4s						
PDAR	**Pinedale Array**	**85.87**	**41**	P	**P**	**01 21 52.2**	**+3.3**
	comp=Z,0.5nm,0.8s,baz=174,slow=1.5,SNR=5.2						
	comp=Z,0.5nm,0.8s						
ILAR	**Eielson Array**	**87.23**	**11**	P	**P**	**01 21 58.1**	**+3.4**
	comp=Z,0.5nm,0.8s,baz=209,slow=3.8,SNR=4.7						
	comp=Z,0.5nm,0.8s						
YKA	**Yellowknife Ar**	**94.56**	**23**	P	**P**	**01 22 32.1**	**+3.2**
	comp=Z,0.3nm,0.8s,baz=240,slow=4.0,SNR=5.0						
	comp=Z,0.3nm,0.8s						
BVAR	**Borovoye Array**	**121.75**	**320**	PKP	**PKiKP**	**01 28 04.3**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=76,slow=6.3,SNR=4.2						
SPITS	**Spitsbergen Ar**	**121.91**	**358**	PKP	**PKiKP**	**01 28 04.3**	**+1.8**
	comp=Z,2.1nm,0.9s,baz=229,slow=0.9,SNR=1.6						
ARCES	**ARCESS Array B**	**129.47**	**352**	PKP	**PKiKP**	**01 28 19.8**	**+2.1**
	comp=Z,1.2nm,1.0s,baz=280,slow=0.7,SNR=5.0						
FINES	**FINESS Array B**	**136.73**	**347**	PKP	**PKiKP**	**01 28 32.8**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=210,slow=14,SNR=2.0						
AKASG	**Malin Array Be**	**144.85**	**335**	PKP	**PKPdf**	**01 28 47.1**	**+1.4**
	comp=Z,2.5nm,0.5s,baz=41,slow=4.2,SNR=21						
BURAR	**Bucovina Array**	**148.90**	**335**		**PKPab**	**01 29 01.0**	**+0.3**
BRTR	**Keskin Array B**	**149.88**	**316**	PKPbc	**PKiKP**	**01 28 60.0**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=128,slow=2.4,SNR=5.3						
GERES	**GERESS Array B**	**150.99**	**350**	PKPbc	**PKiKP**	**01 29 02.9**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=197,slow=3.0,SNR=1.5						

*CATAC **26** 01:35:26.8±0.7, 13°N±5°.×9°.0W±°., h34km±4km, M3.1/10, MLv3.1/10, Error ellipse: s-maj=11.5km s-min=6.5km az=34.2, confirmed*
*SNET **26** 01:35:27.5±1.0, 13°.35N×89°.59W, h54km±6km, ML3.1*
*GCG **26** 01:35:27.3±1.6, 13°.36N×89°.65W, h55km±18km, MD3.9*

ISC 26 01:35:29.5±1.8, 13°.40N±0°.09×89°.56W±0°.06, h48km±8km, n43, σ1s07/49, 4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.25**	**69**	*e*P	**Pn**	**01 35 37.2**	**-0.8**
LALI				*e*S	**Sn**	**01 35 43.8**	**-0.2**
LALI	**Alcalda de L**	**0.25**	**69**	*i* P	**Pn**	**01 35 37.2**	**-0.8**
LALI				*e*S	**Sn**	**01 35 43.7**	**-0.2**
LALI	**Alcalda de L**	**0.25**	**69**	P	**Pn**	**01 35 37.1**	**-0.8**
LALI	**Alcalda de L**	**0.25**	**69**	S	**Sn**	**01 35 45.3**	**+1.4**
JAYA	**Jayaque - finc**	**0.28**	**22**	⇓*e*P	**Pn**	**01 35 37.6**	**-0.8**
JAYA				IAML		01 35 48.9	
	comp=Z,895nm,0.2s						
JAYA	**Jayaque - finc**	**0.28**	**22**	*i* P	**Pn**	**01 35 37.6**	**-0.8**
JAYA				*e*S	**Sn**	**01 35 45.9**	**+1.2**
JAYA	**Jayaque - finc**	**0.28**	**22**	P	**Pn**	**01 35 37.6**	**-0.8**
PMON	**Piamonte**	**0.39**	**37**	*e*P	**Pn**	**01 35 38.9**	**-0.6**
PMON	**Piamonte**	**0.39**	**37**	P	**Pn**	**01 35 39.0**	**-0.5**
PMON	**Piamonte**	**0.39**	**37**	S	**Sn**	**01 35 48.0**	**+1.4**
PANCS	**Alcalda de**	**0.42**	**60**	P	**Pn**	**01 35 40.0**	**+0.2**
BOQS	**Boqueron**	**0.43**	**39**	*e*P	**Pn**	**01 35 39.6**	**-0.5**
CEVE	**Cerro Verde**	**0.43**	**351**	*e*P	**Pn**	**01 35 39.2**	**-0.9**
CEVE				IAML		01 35 52.4	

comp=Z,23nm,18.2s,baz=120,slow=37
comp=Z,0.8nm,0.3s
STKA Stephens Creek 37.44 160 P **P 01 44 08.9 +1.1**
STKA Stephens Creek 37.44 160 P **P 01 44 07.1 -0.7**
comp=Z,3.5nm,0.6s,baz=320,slow=8.0,SNR=5.4
comp=Z,3.5nm,0.6s
SONM Songino Array 47.98 341 P **P 01 45 31.5 -1.6**
comp=Z,0.4nm,0.5s,baz=119,slow=8.4,SNR=2.7
comp=Z,0.4nm,0.5s
PETK Petropavlovsk- 55.81 22 P **P 01 46 30.7 -0.6**
MKAR Makanchi Array 58.27 325 P **P 01 46 48.9 +0.1**
MKAR Makanchi Array 58.27 325 P **P 01 46 49.2 +0.5**
comp=Z,0.8nm,0.5s,baz=120,slow=8.2,SNR=12
MKAR LR LR 02 14 22.6
comp=Z,55nm,18.2s,baz=169,slow=39
comp=Z,0.8nm,0.5s
ZALV Zalesovo Beam 61.29 333 P **P 01 47 09.1 -0.3**
comp=Z,0.4nm,0.4s,baz=146,slow=10,SNR=1.8
comp=Z,0.4nm,0.4s
KURBB Kurchatov Arra 62.45 327 P **P 01 47 17.8 +0.5**
comp=Z,1.8nm,0.7s,baz=128,slow=6.4,SNR=25
comp=Z,1.8nm,0.7s
KURK Kurchatov 62.45 328 P **P 01 47 17.2 0.0**
KKAR Karatay Array 63.94 317 P **P 01 47 27.3 0.0**
BVAR Borovoye Array 68.03 327 P **P 01 47 53.9 +0.5**
comp=Z,0.7nm,0.6s,baz=128,slow=9.3,SNR=5.8
comp=Z,0.7nm,0.6s
NRIK Noril'sk 71.09 346 P **P 01 48 11.5 -0.4**
comp=Z,1.3nm,0.4s,baz=133,slow=7.6,SNR=4.0
comp=Z,1.3nm,0.4s
AB31 Akbulak array 72.86 321 P **P 01 48 23.1 +0.1**
ABKAR Akbulak array 72.86 321 P **P 01 48 23.1 +0.2**
E18K Tukpahlearik C 80.34 22 P **P 01 49 06.1 +1.2**
E18K IAmb IAmb 01 49 17.1
comp=Z,2.9nm,1.2s
D19K Kuna River 81.52 21 P **P 01 49 12.4 +1.3**
D19K IAmb IAmb 01 49 32.6
comp=Z,3.0nm,1.3s
E25K Arctic Village 86.09 22 P **P 01 49 37.8 +3.3**
E25K IAmb IAmb 01 50 09.0
comp=Z,1.7nm,1.3s

---

*RSNC **26** 02:02:16.2±1.0, 1°S±8°×8°1W±°, h0km, M3.6, mB4.3, mb4.5, ML3.3, Mw(mB)3.5*
*IGQ **26** 02:02:20.0±0.2, 1°S±1°×8°1W±°, h2km±1km, MLv3.8/44*
ISC 26 02:02:19.3±0.9, 1°28S±0°03×80°89W±0°04, h10km, n85, σ1°72/99, 10C-8D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	**Isla de la Pla**	**0.18**	**274**	⇑P	**Pg**	**02 02 22.5**	**-0.8**
ISPT				S	**Sg**	**02 02 25.0**	**-1.0**
PPLP	**Puerto Lpez**	**0.29**	**157**	P	**Pb**	**02 02 25.9**	**-0.9**
PPLP				S	**Sb**	**02 02 31.0**	**-0.7**
PPLP	**Puerto Lpez**	**0.29**	**157**	⇓P	**Pb**	**02 02 25.9**	**-0.9**
PPLP				S	**Sb**	**02 02 31.0**	**-0.7**
AMNT	**Manta-Manabi**	**0.37**	**25**	P	**Pg**	**02 02 26.7**	**+0.1**
AMNT				S	**Sb**	**02 02 32.7**	**-1.1**
SALI	**Salinas**	**0.91**	**186**	⇑P	**Pg**	**02 02 36.4**	**-0.5**
SALI				S	**Sg**	**02 02 49.0**	**+0.2**
JAMA	**Jama**	**1.22**	**34**	P	**Pb**	**02 02 40.8**	**-1.8**
FLF1	**Flavio Alfaro-**	**1.39**	**49**	P	**Pn**	**02 02 44.4**	**-0.5**
FLF1	**Flavio Alfaro-**	**1.39**	**49**	P	**Pn**	**02 02 44.3**	**-0.5**
FLF1				S	**Sg**	**02 03 06.4**	**+2.3**
AQUE	**Quevedo**	**1.42**	**81**	P	**Pn**	**02 02 44.7**	**-0.5**
MILO	**Milagro-Astudi**	**1.67**	**127**	P	**Pn**	**02 02 47.1**	**-1.5**
JSCH	**Cashca Tororas**	**1.96**	**103**	P	**Pn**	**02 02 52.2**	**-0.9**
COHC	**Cochancay**	**2.02**	**126**	P	**Pn**	**02 02 52.8**	**-0.7**
CHSH	**Refugio Sur-Vo**	**2.03**	**96**	P	**Pn**	**02 02 54.4**	**+0.2**
PORT	**Chimborazo Vol**	**2.12**	**95**	⇓P	**Pn**	**02 02 55.6**	**+0.1**
TAMH	**Tambohuasha Ch**	**2.13**	**97**	⇓P	**Pn**	**02 02 55.4**	**0.0**
ILLI	**Illinizas Sur**	**2.23**	**76**	⇑P	**Pn**	**02 02 56.2**	**-0.7**
IGUA	**Igualata**	**2.26**	**95**	P	**Pn**	**02 02 57.8**	**+0.5**
PCRA	**Pucara 2**	**2.37**	**144**	P	**Pn**	**02 03 00.1**	**+1.4**
ARNL	**Arenillas**	**2.40**	**160**	P	**Pb**	**02 03 01.4**	**-1.3**
BBIL	**Ulba Tungurahu**	**2.41**	**94**	P	**Pn**	**02 03 00.6**	**+1.5**
BMAS	**Trigal station**	**2.42**	**95**	P	**Pn**	**02 02 59.3**	**-0.1**
JUI6	**Juive**	**2.43**	**94**	P	**Pn**	**02 03 00.6**	**+1.2**
POND	**Pondoa**	**2.44**	**93**	P	**Pn**	**02 03 01.1**	**+1.5**
ARRY	**Arrayan**	**2.45**	**95**	P	**Pn**	**02 03 00.6**	**+0.8**
SLOR	**San Lorenzo -**	**2.46**	**77**	P	**Pn**	**02 03 00.3**	**+0.4**
CAMI	**Rancho Maria**	**2.46**	**76**	P	**Pn**	**02 03 00.7**	**+0.7**
BRRN	**Barrancas-Volc**	**2.46**	**79**	P	**Pb**	**02 03 02.0**	**-2.1**
BPAT	**Tungurahua Vol**	**2.47**	**95**	P	**Pn**	**02 03 01.1**	**+1.0**
HPAL	**Hacienda Las P**	**2.47**	**65**	P	**Pn**	**02 03 00.3**	**+0.2**
SUCR	**Mariscal Sucre**	**2.48**	**75**	P	**Pn**	**02 03 01.3**	**+1.1**
BULB	**Ulba Tungurahu**	**2.49**	**94**	P	**Pb**	**02 03 02.1**	**-2.3**
BMOR	**Cotopaxi Volca**	**2.49**	**77**	P	**Pb**	**02 03 02.1**	**-2.4**
GGPT	**Toaza - Volcan**	**2.50**	**65**	P	**Pn**	**02 03 00.9**	**+0.5**
PIS1	**Pisayambo**	**2.51**	**85**	P	**Pb**	**02 03 03.4**	**-1.5**
JUA2	**San Juan 2**	**2.52**	**65**	P	**Pn**	**02 03 01.6**	**+0.8**
BREF	**Cotopaxi Volca**	**2.52**	**76**	⇑P	**Pn**	**02 03 02.1**	**+1.1**
TERV	**Terraza Guagua**	**2.54**	**64**	P	**Pn**	**02 03 02.0**	**+0.9**
PINO	**Pino**	**2.54**	**64**	P	**Pn**	**02 03 01.5**	**+0.3**
GGPC	**Guagua Pichinc**	**2.54**	**65**	P	**Pn**	**02 03 01.6**	**+0.4**
VCES	**Cotopaxi**	**2.54**	**79**	P	**Pn**	**02 03 02.7**	**+1.6**
BVC2	**Cotopaxi Volca**	**2.55**	**76**	⇓P	**Pn**	**02 03 02.1**	**+0.7**
PITA	**Cotopaxi Volc**	**2.56**	**74**	P	**Pn**	**02 03 02.5**	**+1.1**
BTAM	**Cotopaxi Volca**	**2.56**	**77**	P	**Pn**	**02 03 03.0**	**+1.5**
VC1	**Cotopaxi 1**	**2.57**	**76**	P	**Pb**	**02 03 03.6**	**-2.2**
TOMA	**Boca Toma-Volc**	**2.58**	**73**	P	**Pn**	**02 03 02.6**	**+1.1**
TAMB	**Tambo**	**2.59**	**77**	P	**Pb**	**02 03 03.8**	**-2.4**
YANA	**Yana**	**2.59**	**64**	P	**Pn**	**02 03 02.4**	**+0.6**
PAC1	**Pacto, Paraso**	**2.60**	**54**	P	**Pn**	**02 03 01.2**	**-0.4**
PAC1	**Pacto, Paraso**	**2.60**	**54**	P	**Pn**	**02 03 01.9**	**+0.3**
PAC1				S	**Sb**	**02 03 35.4**	**-2.8**
PIAT	**Ana Tenorio**	**2.64**	**84**	P	**Pn**	**02 03 03.4**	**+1.0**
PIAT	**Ana Tenorio**	**2.64**	**84**	P	**Pn**	**02 03 03.7**	**+1.3**
PIAT				S	**Sb**	**02 03 39.1**	**-0.7**
PULU	**Pululahua**	**2.71**	**62**	P	**Pn**	**02 03 04.7**	**+1.3**
ANTG	**Antisana-Guama**	**2.75**	**74**	P	**Pn**	**02 03 05.5**	**+1.5**
ANTM	**Antisana-La Mi**	**2.77**	**75**	P	**Pn**	**02 03 05.7**	**+1.4**
RVRD	**Rio Verde**	**2.77**	**33**	P	**Pb**	**02 03 07.9**	**-1.1**
ANTS	**Antisana-Sarah**	**2.83**	**74**	P	**Pn**	**02 03 06.9**	**+1.7**
ANTI	**Antisana**	**2.85**	**73**	P	**Pn**	**02 03 07.5**	**+2.0**
OTAV	**Otavalo**	**2.87**	**58**	P	**Pn**	**02 03 05.9**	**+0.3**
OTAV	**Otavalo**	**2.87**	**58**	P	**Pn**	**02 03 05.9**	**+0.3**
OTAV				S	**Sb**	**02 03 42.8**	**-3.4**
CUSE	**Cuicocha Este**	**2.94**	**58**	P	**Pn**	**02 03 07.3**	**+0.7**
CUSE	**Cuicocha Este**	**2.94**	**58**	P	**Pn**	**02 03 07.3**	**+0.7**
CUSE				S	**Sb**	**02 03 48.8**	**+0.3**
CUIC	**Cuicocha-Domo**	**2.98**	**58**	⇑P	**Pn**	**02 03 08.0**	**+1.0**
CUSW	**Cuicocha Oeste**	**2.98**	**59**	P	**Pb**	**02 03 10.4**	**-2.3**
BOSC	**San Juan Bosco**	**3.03**	**128**	⇑P	**Pb**	**02 03 11.4**	**-2.2**
ARDO	**Archidona, Ten**	**3.10**	**85**	⇓P	**Pb**	**02 03 11.5**	**-3.2**
IMBA	**Imbabura, San**	**3.10**	**60**	⇓P	**Pb**	**02 03 11.8**	**-3.1**
URCU	**Urcuqui**	**3.14**	**57**	⇓P	**Pn**	**02 03 10.9**	**+1.7**
CAYR	**Refugio Cayamb**	**3.16**	**66**	⇑P	**Pb**	**02 03 13.3**	**-2.7**
ANGU	**Angureal**	**3.17**	**66**	⇑P	**Pb**	**02 03 12.7**	**-3.4**
YAHU	**Yahuarcocha**	**3.26**	**60**	P	**Pn**	**02 03 13.5**	**+2.6**
LITE1	**Lita**	**3.26**	**51**	P	**Pn**	**02 03 12.9**	**+2.2**
LNGL	**El Angel-Carch**	**3.51**	**55**	P	**Pn**	**02 03 17.5**	**+2.9**
CHMA	**Chilma**	**3.54**	**53**	P	**Pn**	**02 03 17.3**	**+2.6**
ECEN	**Cerro Negro**	**3.59**	**54**	P	**Pn**	**02 03 16.8**	**+1.3**
CHL1	**Volc¡n Chiles**	**3.59**	**55**	⇑P	**Pn**	**02 03 17.8**	**+2.2**
CHL2	**Volc¡n Chiles**	**3.62**	**55**	⇑P	**Pn**	**02 03 18.4**	**+2.4**
TULM	**Tulcn-Chalpat**	**3.68**	**58**	P	**Pb**	**02 03 21.0**	**-3.8**
TULM	**Tulcn-Chalpat**	**3.68**	**58**	P	**Pb**	**02 03 24.0**	**-0.8**
TULM				S	**Sb**	**02 04 10.5**	**+0.8**
CASC	**Dorado de Casc**	**3.82**	**68**	⇓P	**Pb**	**02 03 24.5**	**-2.5**
ZUMB	**Zumba**	**3.97**	**154**	P	**Pn**	**02 03 23.5**	**+3.0**
GCUF	**Volcan Galeras**	**4.33**	**55**	P	**Pb**	**02 03 32.9**	**-3.0**
GCUF				S	**Sg**	**02 04 37.9**	**-0.7**
CRUC	**La Cruz**	**4.85**	**54**	P	**Pb**	**02 03 44.7**	**+0.1**
BBAC	**Balboa, Cauca**	**4.90**	**48**	P	**Pn**	**02 03 33.9**	**+0.6**
	384nm21nm,0.9s						
BBAC				S	**Sn**	**02 04 32.8**	**+2.5**
	384nm21nm,0.9s						
BBAC	**Balboa, Cauca**	**4.90**	**48**	P	**Pn**	**02 03 34.2**	**+0.9**
POPC	**Popayan, Colom**	**5.67**	**48**	P	**Pn**	**02 03 45.0**	**+1.1**
POPC				S	**Sn**	**02 04 55.1**	**+5.8**

---

*NOU **26** 02:27:21.3, 38°56S×176°22E, h11km, MLv3.5/7, North Island, New Zealand*
*WEL **26** 02:27:23.9±0.3, 39°S±2°×17°6E±°, h5km, M3.4/18, ML3.7/18, MLv3.4/18, Error ellipse: s-maj=3.6km s-min=2.4km az=129.3, confirmed*
ISC 26 02:27:23.9±0.8, 38°82S±0°02×175°90E±0°02, h12km±6km, n129, σ0°96/135, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.11**	**242**	P	**Pg**	**02 27 27.4**	**+0.5**
WHTZ	**Whakaora**	**0.16**	**18**	P	**Pb**	**02 27 28.6**	**-0.2**
RITZ	**Rihia Road**	**0.16**	**190**	P	**Pg**	**02 27 27.5**	**-0.2**
RITZ				S	**Sg**	**02 27 30.2**	**-0.1**
WATZ	**Wairara**	**0.17**	**310**	P	**Pb**	**02 27 28.8**	**-0.2**
WATZ				S	**Sb**	**02 27 32.0**	**+1.7**
HATZ	**Hinemaiaia**	**0.17**	**116**	P	**Pg**	**02 27 26.5**	**-1.2**
HATZ				S	**Sg**	**02 27 28.4**	**-2.1**
KATZ	**Kakaramea**	**0.22**	**225**	P	**Pg**	**02 27 28.9**	**+0.2**
KATZ				S	**Sg**	**02 27 32.7**	**+0.7**
KUTZ	**Kaahu Road**	**0.33**	**350**	P	**Pb**	**02 27 31.7**	**0.0**
TMVZ	**Te Maari**	**0.33**	**206**	P	**Pg**	**02 27 30.5**	**-0.2**
TMVZ				S	**Sg**	**02 27 35.1**	**-0.2**
KRVZ	**Karewarewa**	**0.34**	**215**	P	**Pg**	**02 27 30.5**	**-0.3**
WPRZ	**Whakapataparin**	**0.36**	**35**	P	**Pb**	**02 27 31.8**	**-0.4**
NNVZ	**North Ngauruho**	**0.38**	**215**	P	**Pg**	**02 27 31.6**	**0.0**
NNVZ				S	**Sg**	**02 27 37.6**	**+0.9**
OTVZ	**Oturere**	**0.39**	**207**	P	**Pg**	**02 27 31.6**	**-0.2**
OTVZ				S	**Sg**	**02 27 37.0**	**0.0**
MRHZ	**Matea Rd**	**0.41**	**93**	P	**Pg**	**02 27 31.1**	**-0.9**
MRHZ				S	**Sg**	**02 27 36.1**	**-1.4**
SNVZ	**South Ngauruho**	**0.42**	**208**	P	**Pg**	**02 27 32.1**	**-0.1**
NGZ	**Ngauruhoe**	**0.43**	**212**	P	**Pg**	**02 27 32.3**	**-0.1**
ALRZ	**Allen Road**	**0.43**	**54**	P	**Pg**	**02 27 32.2**	**-0.2**
TWVZ	**Taurewa**	**0.44**	**234**	P	**Pg**	**02 27 32.7**	**+0.2**
COVZ	**Chateau Observ**	**0.47**	**216**	P	**Pg**	**02 27 33.2**	**0.0**
TUVZ	**Tukino**	**0.49**	**203**	P	**Pg**	**02 27 33.3**	**-0.2**
GRRZ	**Galatos Road**	**0.49**	**20**	P	**Pb**	**02 27 35.2**	**+0.6**
PRRZ	**Plateau Road**	**0.50**	**51**	P	**Pb**	**02 27 33.6**	**-0.1**
FWVZ	**Far West T-bar**	**0.51**	**211**	P	**Pg**	**02 27 33.8**	**-0.2**
MAVZ	**Matarangi**	**0.52**	**210**	P	**Pg**	**02 27 33.9**	**-0.2**
HRRZ	**Handcock Road**	**0.52**	**36**	P	**Pb**	**02 27 35.1**	**+0.1**
WHVZ	**Whangaehu Hut**	**0.52**	**207**	P	**Pg**	**02 27 33.9**	**-0.3**
TRVZ	**Turoa**	**0.55**	**209**	P	**Pg**	**02 27 34.4**	**-0.4**
WNVZ	**Wahianoa**	**0.56**	**204**	P	**Pg**	**02 27 34.4**	**-0.4**
TLZ	**Tolley Road**	**0.56**	**330**	P	**Pb**	**02 27 35.5**	**-0.2**
TLZ				S	**Sb**	**02 27 42.4**	**-1.2**
HSRZ	**Hossack Road**	**0.57**	**29**	P	**Pb**	**02 27 36.3**	**+0.5**
BKZ	**Black Stump Fm**	**0.58**	**127**	P	**Pg**	**02 27 34.5**	**-0.7**
BKZ	**Black Stump Fm**	**0.58**	**127**	P	**Pg**	**02 27 34.6**	**-0.6**
MOVZ	**Moawhango**	**0.60**	**191**	P	**Pg**	**02 27 34.7**	**-0.9**
PKVZ	**Pokaka**	**0.64**	**222**	P	**Pg**	**02 27 36.4**	**+0.1**
MTVZ	**Mangateitei**	**0.66**	**210**	P	**Pg**	**02 27 36.1**	**-0.5**
HLRZ	**Highlands Stat**	**0.67**	**33**	P	**Pn**	**02 27 39.0**	**-0.2**
RRRZ	**Republican Roa**	**0.68**	**46**	P	**Pb**	**02 27 37.6**	**-0.1**
UTU	**Utuhina**	**0.68**	**20**	P	**Pn**	**02 27 39.0**	**-0.4**
KWHZ	**Kaweka Forest**	**0.73**	**146**	P	**Pg**	**02 27 37.6**	**-0.4**
MTHZ	**Maungataniwha**	**0.74**	**93**	P	**Pg**	**02 27 37.5**	**-0.7**
NGRZ	**Ngongotaha**	**0.75**	**18**	P	**Pn**	**02 27 40.2**	**-0.1**
TARZ	**Mount Tarawera**	**0.75**	**40**	P	**Pn**	**02 27 39.9**	**-0.5**
MUGZ	**Murupara**	**0.76**	**64**	P	**Pg**	**02 27 38.0**	**-0.6**
NMHZ	**Naumai**	**0.76**	**112**	P	**Pg**	**02 27 38.8**	**+0.1**
KARZ	**Kaharoa**	**0.84**	**19**	P	**Pn**	**02 27 41.7**	**+0.1**
HIZ	**Hauiti**	**0.87**	**290**	P	**Pn**	**02 27 41.3**	**-0.6**
HIZ	**Hauiti**	**0.87**	**290**	P	**Pn**	**02 27 41.5**	**-0.5**
RTZ	**Ruatahuna**	**0.87**	**77**	P	**Pb**	**02 27 40.1**	**-1.0**
MCHZ	**McNeill Hill**	**0.88**	**135**	P	**Pb**	**02 27 41.6**	**+0.4**
KRHZ	**Kereru**	**0.91**	**156**	P	**Pb**	**02 27 40.8**	**-0.7**
RAHZ	**Arahi**	**0.94**	**97**	P	**Pb**	**02 27 41.9**	**-0.2**
VRZ	**Vera Road**	**0.94**	**250**	P	**Pn**	**02 27 42.5**	**-0.4**
ARHZ	**Aropaoanui**	**0.97**	**118**	P	**Pg**	**02 27 43.2**	**+0.7**
KMRZ	**Kaimai**	**0.97**	**2**	P	**Pn**	**02 27 43.8**	**+0.4**
MARZ	**Manawahe**	**1.03**	**37**	P	**Pn**	**02 27 44.4**	**+0.2**
WHHZ	**Waihua**	**1.08**	**104**	P	**Pn**	**02 27 45.1**	**+0.3**
OPRZ	**Ohinepanea**	**1.10**	**28**	P	**Pg**	**02 27 45.2**	**+0.2**
URZ	**Urewera**	**1.10**	**60**	P	**Pb**	**02 27 36.2**	**-8.7**
URZ	**Urewera**	**1.10**	**60**	P	**Pb**	**02 27 44.3**	**-0.6**
PNHZ	**Pukenui**	**1.12**	**168**	P	**Pb**	**02 27 44.6**	**-0.6**
TGRZ	**Tauranga**	**1.12**	**15**	P	**Pg**	**02 27 45.9**	**+0.4**
TOZ	**Tahuroa Road**	**1.13**	**344**	P	**Pg**	**02 27 45.8**	**+0.2**
SNGZ	**Shannon Statio**	**1.13**	**89**	P	**Pn**	**02 27 45.5**	**0.0**
WAZ	**Wanganui**	**1.17**	**217**	P	**Pg**	**02 27 47.1**	**+0.7**
RAGZ	**Rawiri**	**1.23**	**75**	P	**Pn**	**02 27 46.7**	**-0.3**
KAHZ	**Kahuranaki**	**1.24**	**142**	P	**Pg**	**02 27 48.1**	**+0.4**
TSZ	**Takapari Road**	**1.24**	**178**	P	**Pn**	**02 27 46.9**	**-0.2**
CKHZ	**Cape Kidnapper**	**1.25**	**133**	P	**Pg**	**02 27 48.7**	**+0.9**
WHRZ	**Whale Island**	**1.28**	**42**	P	**Pg**	**02 27 51.6**	**+3.1**
WPHZ	**Waipukurau**	**1.32**	**161**	P	**Pb**	**02 27 49.1**	**+0.5**
LREZ	**Lake Rotokare**	**1.33**	**241**	P	**Pg**	**02 27 50.1**	**+0.7**
MWZ	**Matawai**	**1.37**	**70**	P	**Pn**	**02 27 48.6**	**-0.3**
DREZ	**Durham Road**	**1.37**	**254**	P	**Pg**	**02 27 51.0**	**+0.8**
KNZ	**Kokohu**	**1.40**	**99**	P	**Pb**	**02 27 50.2**	**+0.2**
PXZ	**Pawanui**	**1.43**	**149**	P	**Pg**	**02 27 51.6**	**+0.4**
PREZ	**Palmer Road**	**1.45**	**248**	P	**Pg**	**02 27 53.4**	**+1.7**
OHWZ	**Ohakea**	**1.46**	**198**	P	**Pb**	**02 27 50.9**	**-0.1**
RIGZ	**Rimuhau**	**1.46**	**86**	P	**Pb**	**02 27 51.8**	**+0.7**
NEZ	**North Egmont**	**1.47**	**251**	P	**Pg**	**02 27 52.4**	**+0.2**
DVHZ	**Dannevirke**	**1.50**	**172**	P	**Pb**	**02 27 51.8**	**+0.2**
KHEZ	**Kahui Hut**	**1.54**	**251**	P	**Pg**	**02 27 53.4**	**0.0**
KHEZ	**Kahui Hut**	**1.54**	**251**	P	**Pg**	**02 27 53.4**	**0.0**
PRHZ	**Porangahau**	**1.56**	**159**	P	**Pb**	**02 27 52.3**	**-0.3**
TKGZ	**Te Karaka**	**1.57**	**77**	P	**Pb**	**02 27 53.3**	**+0.4**
POWZ	**Post Office Ro**	**1.58**	**184**	P	**Pb**	**02 27 53.0**	**0.0**
MHGZ	**Mahia Peninsul**	**1.60**	**103**	P	**Pb**	**02 27 54.1**	**+0.7**
RUGZ	**Raukumara Rang**	**1.64**	**59**	P	**Pn**	**02 27 51.3**	**-1.3**
NBEZ	**Newall Road No**	**1.64**	**253**	P	**Pg**	**02 27 55.3**	**-0.1**
NMEZ	**Namu Road**	**1.68**	**249**	P	**Pg**	**02 27 56.0**	**-0.1**
ANWZ	**Angora Road**	**1.70**	**165**	P	**Pn**	**02 27 54.3**	**+0.9**
PRWZ	**Pori Road**	**1.74**	**178**	P	**Pb**	**02 27 56.2**	**+0.4**
TWGZ	**Tauwhareparae**	**1.76**	**69**	P	**Pb**	**02 27 56.5**	**+0.4**
MKAZ	**Moumakai**	**1.81**	**341**	P	**Pg**	**02 27 57.6**	**-0.9**
HAZ	**Te Kaha**	**1.82**	**55**	P	**Pn**	**02 27 55.3**	**+0.3**
CNGZ	**Carnagh Statio**	**1.84**	**80**	P	**Pg**	**02 28 02.1**	**+3.0**
MRZ	**Mangatainoka R**	**1.86**	**187**	P	**Pn**	**02 27 56.7**	**+1.1**
BFZ	**Birch Farm**	**1.88**	**172**	P	**Pn**	**02 27 56.4**	**+0.5**
BFZ	**Birch Farm**	**1.88**	**172**	P	**Pn**	**02 27 56.5**	**+0.6**
TIWZ	**Tintock**	**1.96**	**180**	P	**Pn**	**02 27 57.8**	**+0.9**
PUZ	**Puketiti**	**2.00**	**69**	P	**Pb**	**02 27 59.9**	**-0.3**
AWAZ	**Awhitu Peninsu**	**2.01**	**330**	P	**Pg**	**02 28 02.7**	**+0.3**
KUZ	**Kuaotunu**	**2.07**	**356**	P	**Pn**	**02 27 53.0**	**-5.5**
KUZ	**Kuaotunu**	**2.07**	**356**	P	**Pg**	**02 28 04.3**	**+0.7**
OGWZ	**Otaki Gorge**	**2.08**	**195**	P	**Pn**	**02 27 60.0**	**+1.4**
HOWZ	**Holdsworth Sta**	**2.10**	**188**	P	**Pn**	**02 27 59.6**	**+0.7**
CPWZ	**Castlepoint**	**2.10**	**174**	P	**Pn**	**02 27 57.7**	**-1.2**
WIAZ	**Waiheke Island**	**2.11**	**343**	P	**Pg**	**02 28 03.0**	**-1.3**
KIW	**Kapiti Island**	**2.18**	**200**	P	**Pb**	**02 28 01.8**	**-1.5**
MBAZ	**Motutapu North**	**2.19**	**339**	P	**Pg**	**02 28 04.2**	**-1.6**
MXZ	**Matakaoa Point**	**2.27**	**57**	P	**Pn**	**02 27 54.0**	**-7.3**
TMWZ	**Te Maipa**	**2.29**	**180**	P	**Pn**	**02 28 01.7**	**+0.2**
MTW	**Mount Morrison**	**2.36**	**187**	P	**Pn**	**02 28 02.5**	**+0.1**
CAW	**Cannon Point**	**2.38**	**195**	P	**Pn**	**02 28 03.3**	**+0.6**
DUWZ	**D'Urville Isla**	**2.50**	**217**	P	**Pb**	**02 28 06.9**	**-1.8**
TRWZ	**Traveller**	**2.58**	**183**	P	**Pn**	**02 28 05.6**	**0.0**
PAWZ	**Paruwai Farm**	**2.59**	**188**	P	**Pn**	**02 28 05.3**	**-0.3**
MSWZ	**Moikau Station**	**2.64**	**191**	P	**Pn**	**02 28 06.0**	**-0.4**
TCW	**Tory Channel**	**2.69**	**207**	P	**Pn**	**02 28 08.8**	**+1.7**
BHW	**Baring Head**	**2.71**	**197**	P	**Pn**	**02 28 07.3**	**+0.1**
PLWZ	**Palliser**	**2.79**	**190**	P	**Pn**	**02 28 07.9**	**-0.6**
TUWZ	**Tuamarina**	**3.01**	**209**	P	**Pn**	**02 28 13.2**	**+1.9**
NNZ	**Nelson**	**3.08**	**218**	P	**Pb**	**02 28 17.1**	**-1.5**
TKNZ	**Takaka Hill**	**3.16**	**225**	P	**Pb**	**02 28 17.4**	**-2.6**
QRZ	**Quartz Range**	**3.28**	**231**	P	**Pb**	**02 28 18.5**	**-3.4**
BSWZ	**Blackbirch Sta**	**3.28**	**207**	P	**Pb**	**02 28 21.8**	**-0.3**
MRNZ	**Matariki Terra**	**3.53**	**222**	P	**Pn**	**02 28 20.6**	**+2.1**
THZ	**Tophouse**	**3.73**	**217**	P	**Pn**	**02 28 23.8**	**+2.5**
KHZ	**Kahutara**	**4.02**	**206**	P	**Pn**	**02 28 25.3**	**+0.1**
DSZ	**Denniston Nort**	**4.28**	**226**	P	**Pn**	**02 28 32.1**	**+3.1**
GVZ	**Greta Valley S**	**4.68**	**207**	P	**Pn**	**02 28 34.8**	**+0.5**

---

*SDD **26** 02:40:14.3±0.8, 18°19N×72°63W, h20km±35km, MD3.4, ML2.7, MW3.1*
*OSPL **26** 02:40:14.7±0.6, 18°12N×72°55W, h8km±4km, ML2.3*
*SSNC **26** 02:40:15.0±1.5, 18°10N×72°50W, h5km, MD3.3, ML2.4, MW2.5*
ISC 26 02:40:14.2±1.4, 18°18N±0°06×72°50W±0°04, h10km±11km, n16, σ1°11/30, 1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**0.39**	**28**	*e*P	**Pb**	**02 40 23.1**	**0.0**
PAPH				*e*S	**Sb**	**02 40 29.5**	**+0.1**
PAPH				IAML		02 40 31.5	
	comp=N,423nm,0.2s						
PAPH				IAML		02 40 31.9	
	comp=E,401nm,0.1s						
PAPH	**Port-au-Prince**	**0.39**	**28**	*i* P	**Pb**	**02 40 23.2**	**0.0**
PAPH				*e*S	**Sb**	**02 40 29.5**	**+0.2**
PAPH				IAML		02 40 29.9	
	comp=Z,211nm,0.1s						
JIDR	**Jimani**	**0.69**	**63**	*e*Pg	**Pb**	**02 40 28.3**	**+0.1**
JIDR				*e*Sg	**Sb**	**02 40 38.9**	**+1.1**
JIDR				IAML		02 40 39.0	
	comp=N,245nm,0.4s						
LOBH	**Bahia de las A**	**0.87**	**111**	*i* P	**Pg**	**02 40 30.7**	**-0.3**
LOBH				*e*S	**Sg**	**02 40 42.6**	**+0.2**
LOBH				IAML		02 40 48.2	
	comp=Z,75nm,0.3s						
NEDR	**Neiba UASD**	**1.07**	**73**	*e*Pg	**Pg**	**02 40 34.7**	**0.0**
NEDR				*e*Sg	**Sg**	**02 40 49.3**	**+0.7**
NEDR				IAML		02 40 50.9	
	comp=N,138nm,0.4s						
LONE3	**El Aguacate, B**	**1.07**	**66**	*i* P	**Pg**	**02 40 34.5**	**-0.4**
LONE3				*e*S	**Sg**	**02 40 49.9**	**+1.1**
LONE3				IAML		02 40 50.6	
	comp=Z,90nm,0.8s						
LOVI	**El Cajuil, Ovi**	**1.14**	**109**	*i* P	**Pg**	**02 40 35.3**	**-0.8**
LOVI				*e*S	**Sg**	**02 40 50.8**	**-0.1**
LOVI				IAML		02 40 53.6	
	comp=Z,74nm,1.3s						
PODR	**Polo**	**1.16**	**90⇓**	*e*Pg	**Pb**	**02 40 36.5**	**+0.1**
PODR				*e*Sg	**Sn**	**02 40 53.5**	**+0.9**
PODR				IAML		02 40 56.8	
	comp=N,80nm,0.4s						
PODR	**Polo**	**1.16**	**90**	*i* P	**Pg**	**02 40 36.3**	**-0.1**
SDDR	**Presa de Saban**	**1.40**	**55**	*e*P	**Pn**	**02 40 39.5**	**-0.3**
SDDR				*e*S	**Sb**	**02 40 58.9**	**+0.5**
SDDR				IAML		02 41 03.3	
	comp=N,58nm,0.4s						
SDDR				IAML		02 41 06.6	
	comp=N,41nm,0.4s						
SDDR	**Presa de Saban**	**1.40**	**55**

PCOS	**Crockett Middl**	**0.12 213**	P	Pg	02 46 10.3	+0.2
PCOS			S	Sg	02 46 13.7	+1.9
PCOS	**Crockett Middl**	**0.12 213**	P	Pg	02 46 10.0	-0.1
PCOS			S	Sg	02 46 14.2	+2.4
TPB07	**Mentone**	**0.21 288**	⇓P	Pg	02 46 12.3	+0.7
TPB07			S	Sg	02 46 16.4	+1.9
TPB06	**Permian Basin**	**0.23 54**	P	Pg	02 46 12.2	+0.3
TPB06			S	Sg	02 46 16.6	+1.6
TPB04	**Verhalen**	**0.35 157**	P	Pg	02 46 15.0	+0.6
TPB10	**Southeast of T**	**0.36 230**	P	Pg	02 46 15.1	+0.7
TPB10			S	Sb	02 46 22.9	+0.5
PECS	**Pecos**	**0.40 249**	⇓P	Pg	02 46 15.6	+0.4
PECS			⇓S	Sb	02 46 22.1	-1.4
TPB16	**Coyonosa**	**0.42 158**	P	Pg	02 46 16.0	+0.4
TPB16			S	Sb	02 46 22.8	-1.2
TPB03	**Saragosa**	**0.43 189**	P	Pg	02 46 16.4	+0.6
TPB03			S	Sb	02 46 23.5	-1.0
TPB12	**Southwest of T**	**0.54 237**	P	Pg	02 46 18.2	+0.3
TPB12			S	Sb	02 46 26.5	-1.1
TPB05	**Hovey Rd**	**0.60 171**	P	Pg	02 46 19.3	+0.3
TPB05			S	Sb	02 46 29.3	0.0
MNHN	**Monahans**	**0.60 107**	P	Pg	02 46 19.4	+0.4
MNHN			S	Sg	02 46 27.5	+0.7
TPB01	**Permian Basin**	**0.64 208**	P	Pg	02 46 19.7	-0.1
TPB01			S	Sb	02 46 30.7	+0.1
TPB11	**China Draw**	**0.66 310**	P	Pg	02 46 20.9	+0.6
TPB11			S	Sg	02 46 29.9	+1.0
CLNB	**Carlsbad**	**0.84 333**	P	Pb	02 46 24.6	-0.1
NM01	**Eunice**	**0.84 2**	P	Pb	02 46 24.7	0.0
NM01			S	Sn	02 46 37.8	-1.2
CLN7	**Carlsbad 7**	**0.95 340**	P	Pb	02 46 26.9	+0.3
ODSA	**Odessa**	**0.96 51**	P	Pg	02 46 25.4	-0.7
ODSA			S	Sg	02 46 38.8	+0.2
HTMS	**Hat Mesa**	**0.97 350**	P	Pb	02 46 27.2	+0.3
HTMS			S	Sb	02 46 40.6	+0.5
GDL2	**Guadalupe Moun**	**1.05 311**	P	Pg	02 46 27.9	+0.3
ALPN	**Alpine**	**1.15 189**	P	Pg	02 46 29.3	-0.3
ALPN			S	Sn	02 46 47.1	+0.6
TMB02	**Rankin**	**1.23 104**	P	Pg	02 46 30.8	-0.3
TMB02			S	Sg	02 46 47.4	+0.2
TMB04	**Seminole**	**1.37 36**	P	Pn	02 46 33.1	-0.2
TMB04			S	Sn	02 46 53.8	+1.9
TMB06	**Greenwood**	**1.47 71**	P	Pn	02 46 34.5	-0.2
TMB06			S	Sg	02 46 55.2	+0.6
VHRN	**Van Horn**	**1.52 242**	P	Pn	02 46 35.6	+0.2
VHRN			S	Sg	02 46 57.3	+1.0
MNTX	**Cornudas Mount**	**1.67 277**	P	Pb	02 46 38.2	-0.6
MNTX			S	Sg	02 47 01.0	-0.3
TMB05	**Klondike**	**1.74 50**	P	Pb	02 46 39.4	-0.5
TMB05			S	Sb	02 47 02.6	+0.5
SAND	**Sanderson**	**1.92 144**	P	Pb	02 46 42.4	-0.6
SAND			S	Sg	02 47 09.1	0.0
SGCY	**Sterling City**	**2.00 78**	P	Pb	02 46 43.6	-0.9
SGCY			S	Sb	02 47 10.6	+0.8
OZNA	**Ozona**	**2.06 106**	P	Pb	02 46 44.5	-1.0
OZNA			S	Sb	02 47 11.9	+0.5
TX31	**Lajitas Ar. Si**	**2.18 185**	P	Pn	02 46 46.0	+1.4
TX31			S	Sb	02 47 16.1	+1.2

RSNC 26 02:53:51.1±0.0,5°N±1°×7°4W±°,h148km±3km,M2.2,mb3.8, ML2.0,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	**Chingaza**	**0.62**	**182**	P	Pn	02 54 13.3	-0.1
CHIC				S	Sn	02 54 30.0	-0.3
ROSC	**El Rosal**	**0.73**	**236**	P	Pn	02 54 14.8	+0.7
ROSC				S	Sn	02 54 33.6	+2.1
CVER	**Cruz Verde, Cu**	**0.81**	**207**	P	Pn	02 54 14.9	+0.1
CVER				S	Sn	02 54 32.1	-0.6
RUSC	**La Rusia**	**0.89**	**44**	P	Pn	02 54 15.9	+0.5
RUSC				S	Sn	02 54 33.7	-0.1
NORC	**Norcasia**	**1.20**	**285**	P	Pn	02 54 16.9	-0.6
NORC				S	Sn	02 54 36.4	-1.2
BARC	**Barichara**	**1.43**	**21**	P	Pn	02 54 19.5	-0.6
BARC				S	Sn	02 54 41.0	-1.3
PTBC	**PUERTO BERRIO,**	**1.48**	**330**	P	Pn	02 54 19.1	-1.3
PTBC				S	Sn	02 54 41.0	-1.8
GUY2C	**Guyana, Caldas**	**1.65**	**269**	P	Pn	02 54 22.4	-0.2
GUY2C				S	Sn	02 54 48.5	+1.9
BRJC	**Barrancabermej**	**1.71**	**359**	P	Pn	02 54 22.9	0.0
BRJC				S	Sn	02 54 47.2	0.0
ANIL	**Santa Ana**	**1.85**	**246**	P	Pn	02 54 23.9	-0.8
ANIL				S	Sn	02 54 50.0	-0.3
PTGC	**Puerto Gaitan,**	**1.89**	**124**	P	Pn	02 54 24.3	-0.5
PTGC				S	Sn	02 54 50.0	-0.7
PRAC	**Prado**	**1.92**	**218**	P	Pn	02 54 24.9	-0.4
PRAC				S	Sn	02 54 50.5	-1.1
URMC	**La Uribe, Meta**	**2.10**	**199**	P	Pn	02 54 26.5	-0.9
URMC				S	Sn	02 54 55.2	-0.1
TAMC	**Tame, Arauca**	**2.24**	**58**	P	Pn	02 54 30.1	+1.0
TAMC				S	Sn	02 54 57.9	-0.3
PAMC	**Pamplona, Colo**	**2.31**	**26**	P	Pn	02 54 30.3	0.0
PAMC				S	Sn	02 54 59.6	-0.8
CBOC	**Ciudad Bolivar**	**2.37**	**285**	P	Pn	02 54 30.5	-0.2
CBOC				S	Sn	02 55 01.4	+0.2
ZARC	**Zaragoza, Cauc**	**2.50**	**333**	P	Pn	02 54 30.1	-2.1
ZARC				S	Sn	02 55 01.0	-2.9
OCAC	**Ocana**	**3.00**	**7**	P	Pn	02 54 37.9	-0.6
OCAC				S	Sn	02 55 14.3	-0.9
UREC	**San Jos de Ur**	**3.08**	**324**	P	Pn	02 54 36.4	-3.0
UREC				S	Sn	02 55 12.7	-4.1
MACC	**Macarena, Meta**	**3.09**	**183**	P	Pn	02 54 37.9	-1.7
MACC				S	Sn	02 55 14.3	-2.8
SJCC	**San Jacinto, C**	**4.84**	**343**	P	Pn	02 54 59.2	-3.3
SJCC				S	Sn	02 55 51.7	-6.4
CRJC	**Cerrejon, Guaj**	**5.79**	**8**	P	Pn	02 55 15.0	-0.1
CRJC				S	Sn	02 56 15.3	-5.5

*IDC **26** 03:13:28.7±6.2,21°.12S×178°.21W,h476km±46km,mb3.1/4, mbtmp4.0/5,Error ellipse: s-maj=96.3km s-min=23.2km az=135.0*

ISC 26 03:13:31.5±1.5,20°.9S±0°.2×178°.5W±0°.2,h500km,n9, σ0.57/9,mb3.6/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.52**	**313**	P	**P**	**03 14 53.7**	**-0.8**
MSVF	56nm,0.6s,baz=130,slow=14,SNR=21			S	**S**	**03 16 02.5**	**+0.6**
STKA	2.0nm,0.3s,baz=72,slow=23,SNR=0.9 **Stephens Creek**	**37.21**	**245**	P	**P**	**03 19 59.5**	**-0.4**
ASAR	2.9nm,0.8s,baz=97,slow=13,SNR=3.3 **Alice Springs**	**43.98**	**257**	P	**P**	**03 20 54.8**	**+0.6**
WRA	2.2nm,0.8s,baz=85,slow=8.6,SNR=20 **Warramunga Arr**	**44.09**	**263**	P	**P**	**03 20 55.2**	**+0.2**
ILAR	1.4nm,0.9s,baz=96,slow=7.8,SNR=12 **Eielson Array**	**88.78**	**13**	P	**P**	**03 25 31.4**	**+0.3**
AKASG	0.3nm,0.7s,baz=218,slow=5.7,SNR=5.1 **Malin Array Be**	**143.12**	**330**	PKP	PKPbc	03 32 06.4	+0.4
BRTR	1.6nm,0.5s,baz=45,slow=4.1,SNR=12 **Keskin Array B**	**146.75**	**312**	PKPbc	**PKPbc**	**03 32 17.8**	**+0.4**
MMAI	0.5nm,0.7s,baz=135,slow=3.5,SNR=4.3 **Mount Meron Ar**	**147.60**	**299**	PKPbc	**PKPbc**	**03 32 20.0**	**+0.2**
GERES	1.0nm,0.5s,baz=119,slow=1.0,SNR=4.2 **GERESS Array B**	**150.43**	**344**	PKPbc	**PKiKP**	**03 32 26.3**	**-0.4**
	0.2nm,0.4s,baz=130,slow=1.5,SNR=4.2						

*NEIC **26** 03:54:06.3±2.5,20°.7S±0°.1×176°.69W±0°.10,h250km±6km, mb4.4/122,Error ellipse: s-maj=19.3km s-min=11.7km az=159.0*

*NOU **26** 03:54:08.7,20°.58S×176°.26W,h308km,mb4.8/23,Fiji Islands Region*

*IDC **26** 03:54:10.5±1.5,20°.82S×176°.90W,h297km±12km, mb3.7/15,mbtmp4.4/17,Error ellipse: s-maj=15.2km s-min=9.5km az=105.0*

ISC 26 03:54:10.6±0.4,20°.88S±0°.05×176°.72W±0°.08,h300km, n425,σ19/17/382,mb4.4/76,34C-13D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.29**	**323**	P	**Pn**	**03 55 07.9**	**-1.4**
TAVE	**Taveuni**	**5.12**	**323**	P	**Pn**	**03 55 28.8**	**-0.9**
DGTI	**Dogotuki**	**5.65**	**323**	P	**Pn**	**03 55 34.9**	**-1.0**
DGTI	**Dogotuki**	**5.65**	**323**	S	**S**	**03 56 44.8**	**+0.2**
MSVF	**Nonsavu**	**5.84**	**301**		**Pn**	**03 55 37.8**	**-0.4**
MSVF	**Nonsavu**	**5.84**	**301**	P	**Pn**	**03 55 36.7**	**-1.5**
	17nm,0.5s,baz=136,slow=13,SNR=8.3						
MSVF	**Nonsavu**	**5.84**	**301**	P	**Pn**	**03 55 39.0**	**+0.8**
NIUE	**Niue**	**6.64**	**76**		Pn	03 55 42.1	-5.5
NIUE				Sn	S	03 56 54.7	-11
NIUE	**Niue**	**6.64**	**76**	P	Pn	03 55 41.3	-6.3
NIUE	**Niue**	**6.64**	**76**	S	S	03 56 54.2	-12
NIUE	**Niue**	**6.64**	**76**	P	Pn	03 55 42.0	-5.6
NIUE				S	S	03 56 54.1	-12
AFI	**Afiamalu**	**8.38**	**35**		Pn	03 56 00.4	-8.6
AFI	**Afiamalu**	**8.38**	**35**	P	Pn	03 56 00.3	-8.8
GLKZ	**Green Lake**	**8.42**	**187**	P	Pn	03 56 03.2	-6.1
GLKZ				S	**S**	**03 57 38.9**	**-6.8**
PINNC	**Pines Island,**	**14.81**	**260**	Pn	**Pn**	**03 57 29.8**	**+2.9**
YATNC	**Mamie plateau,**	**15.30**	**263**	P	**Pn**	**03 57 33.7**	**+1.0**
OUENC	**Ouen Island, N**	**15.36**	**261**	P	**Pn**	**03 57 35.3**	**+2.0**
ONTNC	**Ouen Toro**	**15.71**	**262**	P	**Pn**	**03 57 38.4**	**+1.0**
DZM	**Mont Dzumac**	**15.72**	**263**		**Pn**	**03 57 38.3**	**+0.7**
DZM	**Mont Dzumac**	**15.72**	**263**	P	**Pn**	**03 57 37.7**	**+0.1**
	50nm,0.6s,baz=76,slow=18,SNR=13						
DZM	**Mont Dzumac**	**15.72**	**263**	P	**Pn**	**03 57 39.0**	**+1.4**
VLAKA	**Lakatoro**	**15.77**	**285**	P	**Pn**	**03 57 38.6**	**+0.5**
MXZ	**Matakaoa Point**	**17.18**	**193**	P	**P**	**03 57 51.1**	**-0.3**
MXZ				S	**S**	**04 00 51.7**	**-2.9**
HAZ	**Te Kaha**	**17.48**	**195**	P	**P**	**03 57 54.4**	**-0.3**
HAZ				S	**S**	**04 00 58.0**	**-2.6**
PUZ	**Puketiti**	**17.68**	**193**	P	**P**	**03 57 57.6**	**+0.8**
PUZ				S	**S**	**04 01 00.1**	**-4.5**
RUGZ	**Raukumara Rang**	**17.71**	**195**	P	**P**	**03 57 57.5**	**+0.3**
RUGZ				S	**S**	**04 01 02.6**	**-2.7**
KOUNC	**Koumac, New Ca**	**17.77**	**268**	P	**Pn**	**03 58 00.4**	**-1.1**
MWZ	**Matawai**	**18.10**	**195**	P	**P**	**03 58 01.1**	**-0.2**
MWZ				S	**S**	**04 01 10.8**	**-1.9**
URZ	**Urewera**	**18.13**	**196**	P	**P**	**03 58 00.3**	**-1.2**
	6.9nm,0.3s,baz=347,slow=3.1,SNR=16						
URZ				S	**S**	**04 01 11.7**	**-1.5**
	15nm,0.6s,baz=235,slow=16,SNR=9.7						
URZ	**Urewera**	**18.13**	**196**	P	**P**	**03 58 00.3**	**-1.2**
URZ				S	**S**	**04 01 11.0**	**-2.2**
RAGZ	**Rawiri**	**18.28**	**195**	P	**P**	**03 58 03.4**	**+0.2**
RAGZ				S	**S**	**04 01 12.9**	**-3.4**
MUGZ	**Murupara**	**18.42**	**196**	P	**P**	**03 58 03.3**	**-1.4**
MUGZ				S	**S**	**04 01 16.1**	**-2.9**
NMHZ	**Naumai**	**19.00**	**196**	P	**P**	**03 58 11.1**	**+0.2**
NMHZ				S	**S**	**04 01 30.0**	**-0.2**
ARHZ	**Aropaoanui**	**19.11**	**195**	P	**P**	**03 58 12.7**	**+0.7**
ARHZ				S	**S**	**04 01 30.8**	**-1.4**
TMVZ	**Te Maari**	**19.31**	**198**	P	**P**	**03 58 15.6**	**+1.3**
TMVZ				S	**S**	**04 01 40.2**	**+3.8**
TWVZ	**Taurewa**	**19.35**	**199**	P	**P**	**03 58 16.8**	**+2.1**
OTVZ	**Oturere**	**19.37**	**198**	P	**P**	**03 58 14.9**	**-0.1**
OTVZ				S	**S**	**04 01 41.3**	**+3.8**
SNVZ	**South Ngauruho**	**19.40**	**198**	P	**P**	**03 58 16.3**	**+1.0**
SNVZ				S	**S**	**04 01 39.0**	**+0.9**
NGZ	**Ngauruhoe**	**19.40**	**198**	P	**P**	**03 58 16.2**	**+0.9**
COVZ	**Chateau Observ**	**19.44**	**198**	P	**P**	**03 58 18.0**	**+2.3**
TUVZ	**Tukino**	**19.47**	**198**	P	**P**	**03 58 18.5**	**+2.5**
WNVZ	**Wahianoa**	**19.54**	**198**	P	**P**	**03 58 17.5**	**+0.7**
WNVZ				S	**S**	**04 01 47.4**	**+6.6**
PXZ	**Pawanui**	**19.87**	**195**	P	**P**	**03 58 20.1**	**+0.1**
PXZ				S	**S**	**04 01 46.2**	**-0.1**
TSZ	**Takapari Road**	**20.12**	**197**	P	**P**	**03 58 23.4**	**+0.8**
QRZ	**Quartz Range**	**21.89**	**202**		**P**	**03 58 39.8**	**+0.3**
QRZ	**Quartz Range**	**21.89**	**202**	P	**P**	**03 58 40.8**	**+1.3**
TKNZ	**Takaka Hill**	**21.92**	**201**	P	**P**	**03 58 40.6**	**+0.8**
TUWZ	**Tuamarina**	**21.96**	**199**	P	**P**	**03 58 40.2**	**0.0**
KHZ	**Kahutara**	**22.99**	**199**	P	**P**	**03 58 49.4**	**-0.1**
LTZ	**Lake Taylor**	**23.72**	**200**		**P**	**03 58 58.1**	**+2.0**
LTZ	**Lake Taylor**	**23.72**	**200**	P	**P**	**03 58 58.2**	**+2.0**
INZ	**Inchbonnie**	**23.95**	**202**		**P**	**03 58 58.6**	**+0.5**
OXZ	**Oxford**	**24.28**	**200**	P	**P**	**03 59 00.9**	**-0.3**
MQZ	**McQueen's Vall**	**24.43**	**199**	P	**P**	**03 59 07.6**	**+5.1**
WVZ	**Waitaha Valley**	**24.50**	**203**	P	**P**	**03 59 04.7**	**+1.6**
RPZ	**Rata Peaks**	**24.95**	**201**	P	**P**	**03 59 07.9**	**+0.7**
	10nm,0.5s,baz=349,slow=2.3,SNR=10						
RPZ	**Rata Peaks**	**24.95**	**201**	P	**P**	**03 59 08.8**	**+1.6**
CAN	**Canberra**	**33.30**	**237**	P	**P**	**04 00 20.6**	**-0.3**
CMSA	**Cobar Meteorol**	**35.20**	**245**	P	**P**	**04 00 37.5**	**+0.4**
QLP	**Quilpie**	**36.09**	**253**	P	**P**	**04 00 44.9**	**+0.2**
PMG	**Port Moresby**	**36.59**	**283**		**P**	**04 00 49.1**	**+0.1**
PMG	**Port Moresby**	**36.59**	**283**	P	**P**	**04 00 50.0**	**+1.0**
PMG	**Port Moresby**	**36.59**	**283**	P	**P**	**04 00 49.9**	**+1.0**
TOO	**Toolangi**	**36.65**	**235**	P	**P**	**04 00 49.4**	**+0.1**
MTSU	**Mount Surprise**	**36.77**	**267**	P	**P**	**04 00 51.1**	**+0.6**
STKA	**Stephens Creek**	**38.71**	**245**	P	**P**	**04 01 06.5**	**+0.1**
STKA	**Stephens Creek**	**38.71**	**245**	P	**P**	**04 01 05.8**	**-0.6**
	3.1nm,0.4s,baz=93,slow=10,SNR=14						
	3.1nm,0.4s						
COEN	**Coen**	**38.80**	**274**	P	**P**	**04 01 08.2**	**+0.8**
COEN				IAmb	IAmb	04 01 08.5	
	comp=Z,13nm,0.8s						
COEN	**Coen**	**38.80**	**274**	P	**P**	**04 01 08.0**	**+0.6**
BBOO	**Buckleboo**	**43.45**	**244**	P	**P**	**04 01 43.5**	**-1.3**
BBOO				IAmb	IAmb	04 02 07.3	
	comp=Z,27nm,1.3s						
AS01	**Alice Springs**	**45.55**	**257**	P	**P**	**04 02 01.4**	**-0.1**
AS31	**Alice Springs**	**45.60**	**257**		**P**	**04 02 01.1**	**-0.7**
ASAR	**Alice Springs**	**45.60**	**257**	P	**P**	**04 02 00.8**	**-1.0**
ASAR	**Alice Springs**	**45.60**	**257**	P	**P**	**04 02 01.2**	**-0.7**
	comp=Z,5.4nm,0.6s,baz=91,slow=8.3,SNR=45						
ASAR				PcP	**PcP**	**04 03 34.3**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=105,slow=4.0,SNR=7.6						
ASAR				ScP	**ScP**	**04 07 00.6**	**+2.0**
	comp=Z,1.1nm,0.9s,baz=102,slow=3.8,SNR=5.3						
	comp=Z,5.4nm,0.6s						
WB0	**Warramunga Arr**	**45.71**	**262**	P	**P**	**04 02 02.2**	**-0.6**
WRA	**Warramunga Arr**	**45.73**	**262**		**P**	**04 02 01.9**	**-1.1**
WRA	**Warramunga Arr**	**45.73**	**262**	P	**P**	**04 02 01.7**	**-1.2**
	comp=Z,3.2nm,0.8s,baz=95,slow=7.9,SNR=18						
	comp=Z,3.2nm,0.8s						
FORT	**Forrest**	**50.25**	**247**	P	**P**	**04 02 36.2**	**-0.9**
FORT				IAmb	IAmb	04 02 37.6	
	comp=Z,14nm,0.7s						
SBA	**Scott Base**	**57.58**	**184**	P	**P**	**04 03 32.5**	**+3.4**
SBA				IAmb	IAmb	04 03 33.2	
	comp=Z,10.0nm,0.9s						
VNDA	**Vanda**	**57.65**	**185**	P	**P**	**04 03 32.1**	**+2.5**
VNDA	**Vanda**	**57.65**	**185**	P	**P**	**04 03 31.1**	**+1.6**
	comp=Z,2.1nm,0.9s,baz=351,slow=5.8,SNR=11						
	comp=Z,2.1nm,0.9s						
QSPA	**South Pole Qui**	**69.20**	**180**		**P**	**04 04 46.6**	**+1.6**
QSPA	**South Pole Qui**	**69.20**	**180**	P	**P**	**04 04 46.3**	**+1.2**
	comp=Z,9.7nm,0.9s,baz=24,slow=0.6,SNR=43						
	comp=Z,9.7nm,0.9s						
MJAR	**Matsushiro Arr**	**71.22**	**323**	P	**P**	**04 04 55.8**	**-1.7**
	comp=Z,2.0nm,0.5s,baz=134,slow=0.8,SNR=5.9						
	comp=Z,2.0nm,0.5s						
CHNA	**Chernabura Isl**	**76.81**	**10**	P	**P**	**04 05 30.0**	**+0.8**
	baz=196						
ISA	**Isabella, Lake**	**78.75**	**45**	IAmb	IAmb	04 05 42.4	
	comp=Z,7.9nm,0.9s						
SII	**Sitkinak Islan**	**79.44**	**12**	P	**P**	**04 05 44.4**	**+0.8**
	baz=201						
R16K	**Pilot Point**	**79.77**	**10**	P	**P**	**04 05 46.0**	**+0.8**
	baz=198						
WAKR	**Walker**	**79.81**	**42**	IAmb	IAmb	04 05 48.2	
	comp=Z,7.3nm,0.9s						
YBH	**Yreka Blue Hor**	**79.84**	**38**	IAmb	IAmb	04 05 48.1	
	comp=Z,5.8nm,0.7s						
R18K	**Karluk**	**80.33**	**12**	P	**P**	**04 05 48.2**	**0.0**
	baz=201						
BLYC	**Blythe**	**80.36**	**48**	IAmb	IAmb	04 05 51.0	
	comp=Z,5.8nm,0.8s						
NVAR	**Mina Array Bea**	**80.48**	**43**	P	**P**	**04 05 50.8**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=223,slow=8.4,SNR=16						
	comp=Z,1.8nm,0.7s						
Q17K	**Contact Creek**	**80.72**	**11**	P	**P**	**04 05 50.2**	**-0.3**
	baz=200						
V12A	**Nelson**	**81.21**	**47**		**P**	**04 05 53.9**	**+0.3**
V12A				IAmb	IAmb	04 05 55.7	
	comp=Z,8.3nm,1.4s						
Q18K	**Katmai Hardscr**	**81.24**	**11**	P	**P**	**04 05 52.6**	**-0.6**
	baz=200						
M11K	**Mekoryuk**	**81.42**	**5**	P	**P**	**04 05 53.6**	**-0.3**
	baz=190						
N14K	**Kuskokwak Cree**	**81.44**	**8**	P	**P**	**04 05 53.7**	**-0.3**
	baz=194						
P17K	**Kvichak River**	**81.51**	**10**	P	**P**	**04 05 54.6**	**+0.2**
	baz=199						
Y14A	**Wickenburg**	**81.52**	**49**	IAmb	IAmb	04 05 57.1	
	comp=Z,5.9nm,0.8s						
O16K	**Kokwok River B**	**81.62**	**9**	P	**P**	**04 05 55.0**	**0.0**
	baz=198						
J05D	**Fort Rock, OR**	**81.67**	**37**		**P**	**04 05 57.0**	**+1.1**
Q20K	**Shuyak Island**	**81.71**	**13**	P	**P**	**04 05 55.3**	**-0.2**
	baz=203						
M13K	**Dall Lake**	**81.72**	**7**	P	**P**	**04 05 56.1**	**+0.6**
	baz=193						
Q19K	**Cape Douglas,**	**81.76**	**12**	P	**P**	**04 05 55.4**	**-0.3**
	baz=202						
N15K	**Kwethluk River**	**81.88**	**8**	P	**P**	**04 05 56.1**	**-0.3**
	baz=196						
P18K	**Big Mountain,**	**81.90**	**11**	P	**P**	**04 05 56.3**	**-0.2**
	baz=200						
O17K	**Koliganek Bris**	**81.95**	**10**	P	**P**	**04 05 56.2**	**-0.5**
	baz=198						
PRN	**Pahroc Range**	**82.00**	**45**	IAmb	IAmb	04 05 59.9	
	comp=Z,5.0nm,0.8s						
PINE	**Pine Mountain**	**82.15**	**37**	IAmb	IAmb	04 06 00.5	
	comp=Z,8.8nm,0.9s						
M14K	**Bethel**	**82.21**	**7**	P	**P**	**04 05 57.6**	**-0.4**
	baz=194						
M15K	**Kasigluk River**	**82.31**	**8**	P	**P**	**04 05 58.1**	**-0.5**
	baz=195						
O18K	**Koktuh Hills**	**82.34**	**11**	P	**P**	**04 05 58.1**	**-0.7**
	baz=200						
N16K	**Nishlik Lake**	**82.36**	**9**	P	**P**	**04 05 58.7**	**-0.2**
	baz=197						
P19K	**Oil Pt**	**82.51**	**12**	P	**P**	**04 05 59.8**	**+0.1**
	baz=202						
N17K	**Nushagak Hills**	**82.65**	**10**	P	**P**	**04 06 00.1**	**-0.2**
	baz=198						
WVOR	**Wild Horse Val**	**82.66**	**39**	IAmb	IAmb	04 06 02.7	
	comp=Z,8.4nm,1.3s						
L14K	**Kuka Creek**	**82.70**	**7**	IAmb	IAmb	04 06 02.3	
	comp=Z,8.4nm,0.9s						
L14K	**Kuka Creek**	**82.70**	**7**	P	**P**	**04 06 00.7**	**+0.1**
	baz=193						
M16K	**Timber Creek**	**82.86**	**9**	P	**P**	**04 06 01.7**	**+0.3**
	baz=197						
X16A	**Lo Mia Camp, P**	**82.88**	**49**	IAmb	IAmb	04 06 04.8	
	comp=Z,7.3nm,0.9s						
319A	**Douglas**	**82.92**	**53**	IAmb	IAmb	04 06 04.4	
	comp=Z,4.9nm,0.6s						
N18K	**Kilae Creek**	**83.00**	**10**	P	**P**	**04 06 02.2**	**0.0**
	baz=200						
K13K	**Kusilvak Mount**	**83.08**	**6**	P	**P**	**04 06 03.3**	**+0.8**
	baz=191						
I07A	**Izee**	**83.15**	**38**	IAmb	IAmb	04 06 05.2	
	comp=Z,5.6nm,0.9s						
L15K	**Ungalak Mounta**	**83.17**	**7**	P	**P**	**04 06 02.6**	**-0.3**
	baz=194,SNR=10.0						
KNB	**Kanab**	**83.28**	**46**	IAmb	IAmb	04 06 06.5	
	comp=Z,6.0nm,1.0s						
J08A	**Circle Bar Ran**	**83.30**	**39**	IAmb	IAmb	04 06 06.0	
	comp=Z,8.9nm,1.3s						
N19K	**Bonanza Creek**	**83.37**	**11**	P	**P**	**04 06 04.0**	**-0.1**
	baz=201						
M17K	**Holitna River**	**83.44**	**9**	P	**P**	**04 06 04.9**	**+0.5**
	baz=198						
L16K	**Owhat River**	**83.45**	**8**	IAmb	IAmb	04 06 05.9	
	comp=Z,6.7nm,0.9s						
L16K	**Owhat River**	**83.45**	**8**	P	**P**	**04 06 04.7**	**+0.3**
	baz=196,SNR=5.7						
K15K	**Wolf Creek Mou**	**83.76**	**7**	P	**P**	**04 06 06.2**	**+0.3**
	baz=194,SNR=13						
M18K	**Stony River**	**83.78**	**10**	P	**P**	**04 06 06.1**	**+0.1**
	baz=200						
J14K	**Nanvaranak Lak**	**83.99**	**6**	P	**P**	**04 06 07.2**	**+0.1**
	baz=192						
L17K	**Donlin**	**84.02**	**9**	P	**P**	**04 06 07.5**	**+0.3**
	baz=197						
G08A	**Pilot Rock**	**84.19**	**37**	IAmb	IAmb	04 06 10.3	
	comp=Z,6.6nm,0.9s						
MTPU	**Mount Pierson**	**84.26**	**46**	IAmb	IAmb	04 06 12.0	
	comp=Z,7.6nm,1.0s						
L18K	**Granite Mounta**	**84.34**	**9**	IAmb	IAmb	04 06 10.2	
	comp=Z,9.5nm,1.1s						
L18K	**Granite Mounta**	**84.34**	**9**	P	**P**	**04 06 09.0**	**+0.2**
	baz=199						
M19K	**Big River Lodg**	**84.41**	**10**	P	**P**	**04 06 09.1**	**-0.1**
	baz=201						
GAMB	**Gambell**	**84.46**	**2**	P	**P**	**04 06 09.5**	**+0.2**
	baz=185						
MVU	**Marysvale**	**84.48**	**45**	IAmb	IAmb	04 06 12.7	
	comp=Z,9.1nm,1.4s						
K17K	**Iditarod**	**84.58**	**8**	P	**P**	**04 06 09.9**	**0.0**
	baz=197						
L19K	**White Mountain**	**84.59**	**10**	P	**P**	**04 06 10.2**	**+0.1**
	baz=200						
SUA	**

comp=Z,8.4nm,0.9s
TX31 **Lajitas Ar. Si** 86.25 57 IAmb IAmb 04 06 21.3
comp=Z,5.8nm,1.1s
TXAR **Lajitas Array** 86.25 57 P **P** **04 06 19.9 +0.7**
TXAR **Lajitas Array** 86.25 57 P **P** **04 06 20.3 +1.2**
comp=Z,2.8nm,0.9s,baz=216,slow=7.0,SNR=28
comp=Z,2.8nm,0.9s
P18A **Preston Nutter** 86.38 45 IAmb IAmb 04 06 21.1
comp=Z,6.1nm,1.2s
ELIB **Princess Elisa** 86.40 186 *d*P **P** **04 06 19.6 +0.4**
comp=Z,4.6nm,0.7s
H17K **Granite Mounta** 86.51 7 P **P** **04 06 19.6 +0.2**
baz=196
TRF **Thorofare Moun** 86.57 12 P **P** **04 06 19.3 -0.6**
baz=205,SNR=5.1
J20K **Nowinta River** 86.58 10 P **P** **04 06 20.0 +0.3**
baz=201
CHUM **Lake Minchumin** 86.60 11 P **P** **04 06 19.8 -0.1**
baz=203
PV23 **Carpenter Ridg** 86.61 47 IAmb IAmb 04 06 23.5
comp=Z,6.4nm,0.8s
G16K **Koyuk River** 86.70 6 P **P** **04 06 20.4 +0.1**
baz=193
F15K **North Star Dit** 86.80 5 P **P** **04 06 20.9 +0.1**
baz=191
RND **Reindeer** 86.81 12 **P** **04 06 20.9 0.0**
H18K **Honhosa River** 86.91 8 P **P** **04 06 21.7 +0.4**
baz=197
G17K **Kiwalik Mounta** 86.98 7 P **P** **04 06 22.2 +0.5**
baz=195
BPAW **Bear Paw Mtn.** 87.03 11 P **P** **04 06 22.6 +0.7**
baz=204
MCK **McKinley** 87.08 12 IAmb IAmb 04 06 22.6
comp=Z,7.8nm,1.0s
MCK **McKinley** 87.08 12 P **P** **04 06 22.4 +0.2**
baz=206
YUK8 **Steele Glacier** 87.09 17 P **P** **04 06 22.8 +0.1**
baz=214
I20K **Naaghedeneel** 87.11 9 P **P** **04 06 22.6 +0.4**
baz=201
S34M **Telegraph Cree** 87.15 22 P **P** **04 06 23.6 +1.0**
baz=222
M26K **Nabesna, AK** 87.21 15 P **P** **04 06 23.5 +0.7**
baz=211
YUK3 **Moose Creek** 87.32 16 P **P** **04 06 24.2 +0.5**
baz=214
TROLL **Troll, Antarti** 87.36 180 ⇑P **P** **04 06 23.7 -0.1**
comp=Z,123nm,0.4s
M27K **Edge Creek, AK** 87.44 15 P **P** **04 06 24.4 +0.3**
baz=212
YUK4 **Talbot Arm** 87.45 17 P **P** **04 06 24.6 +0.3**
baz=215
H19K **Roundabout Mou** 87.51 8 P **P** **04 06 24.8 +0.7**
baz=199
Q32M **Nakina River** 87.54 21 P **P** **04 06 24.8 +0.1**
baz=221
G18K **Tagagawik** 87.58 7 P **P** **04 06 25.2 +0.7**
baz=197
SNAA **Sanae** 87.60 178 P **P** **04 06 25.1 +0.2**
comp=Z,1.8nm,0.8s,baz=162,slow=2.8,SNR=6.2
comp=Z,1.8nm,0.8s
L26K **Log Cabin Wild** 87.66 15 P **P** **04 06 25.7 +0.7**
baz=211
H20K **Anotleneega Mo** 87.70 9 P **P** **04 06 25.7 +0.6**
baz=200
BVCY **Beaver Creek** 87.75 16 P **P** **04 06 25.9 +0.4**
baz=213
K24K **Donnelly Dome** 87.79 13 P **P** **04 06 26.0 +0.4**
baz=209
F17K **Baldwin Pennin** 87.83 6 P **P** **04 06 25.8 +0.2**
baz=194
I21K **Tanana** 87.86 10 IAmb IAmb 04 06 26.7
comp=Z,3.7nm,0.8s
I21K **Tanana** 87.86 10 P **P** **04 06 25.9 +0.1**
baz=203
WRH **Wood River Hil** 87.91 12 IAmb IAmb 04 06 26.3
comp=Z,5.1nm,0.8s
DLBC **Dease Lake** 87.93 23 P **P** **04 06 26.6 +0.2**
baz=223
RIDG **Independent Ri** 87.94 14 P **P** **04 06 26.4 +0.1**
baz=210
G19K **Purcell Mounta** 88.02 8 P **P** **04 06 25.9 -0.6**
G19K **Purcell Mounta** 88.02 8 P **P** **04 06 27.1 +0.6**
baz=198
L27K **Beaver Creek,** 88.05 15 P **P** **04 06 27.4 +0.6**
baz=212
HDA **Harding Lake** 88.08 12 P **P** **04 06 27.0 +0.1**
baz=208,SNR=7.3
VNA2 **Neumayer--Watz** 88.14 177 ⇑P **P** **04 06 27.9 +0.6**
comp=Z,5.9nm,0.6s,baz=191,slow=5.4
PLCA **Paso Flores** 88.15 133 P **P** **04 06 30.1 +2.1**
comp=Z,0.9nm,0.8s,baz=246,slow=12,SNR=3.3
comp=Z,0.9nm,0.8s
F18K **Selawik** 88.15 7 P **P** **04 06 27.4 +0.3**
baz=196
H21K **Melozitna Rive** 88.17 10 P **P** **04 06 27.3 0.0**
baz=202
I23K **Minto, Yukon-K** 88.28 11 P **P** **04 06 27.8 0.0**
baz=205
SCRK **Sand Creek** 88.33 14 P **P** **04 06 27.9 -0.3**
baz=210
E17K **Hotham Inlet** 88.40 6 P **P** **04 06 27.8 -0.5**
baz=194
M29M **Somme Creek** 88.40 17 P **P** **04 06 28.2 -0.4**
baz=215
IL31 88.42 12 IAmb IAmb 04 06 28.8
comp=Z,7.9nm,1.3s
ILAR **Eielson Array** 88.42 12 P **P** **04 06 27.5 -1.0**
comp=Z,1.2nm,0.5s,baz=201,slow=5.6,SNR=33
comp=Z,1.2nm,0.5s
PDAR **Pinedale Array** 88.42 43 P **P** **04 06 29.4 0.0**
comp=Z,0.5nm,0.7s,baz=195,slow=4.1,SNR=6.6
comp=Z,0.5nm,0.7s
YHL **Hebgen Lake** 88.48 40 IAmb IAmb 04 06 31.9
comp=Z,5.6nm,0.8s
J25K **Salcha River,** 88.59 13 IAmb IAmb 04 06 30.7
comp=Z,2.3nm,0.5s
J25K **Salcha River,** 88.59 13 P **P** **04 06 29.3 0.0**
baz=209
F19K **Shaleruckik Mo** 88.59 7 IAmb IAmb 04 06 29.7
comp=Z,3.8nm,0.8s
F19K **Shaleruckik Mo** 88.59 7 P **P** **04 06 28.8 -0.4**
baz=198
H22K **Ishtalitna Cre** 88.62 10 P **P** **04 06 29.0 -0.4**
baz=204,SNR=5.7
POKR **Poker Plat Res** 88.62 12 P **P** **04 06 28.8 -0.6**
baz=207
E18K **Tukpahlearik C** 88.84 6 IAmb IAmb 04 06 30.6
comp=Z,2.3nm,0.6s
E18K **Tukpahlearik C** 88.84 6 P **P** **04 06 30.1 -0.3**
baz=195,SNR=5.7
G21K **Allakaket** 88.86 9 IAmb IAmb 04 06 31.2
comp=Z,4.2nm,0.7s
G21K **Allakaket** 88.86 9 P **P** **04 06 30.1 -0.4**
baz=202,SNR=5.6
J26L **Joseph Creek** 88.88 14 IAmb IAmb 04 06 32.6
comp=Z,6.0nm,0.8s
J26L **Joseph Creek** 88.88 14 P **P** **04 06 30.7 -0.1**
baz=211,SNR=6.8
M30M **Minto, Yukon** 88.97 17 P **P** **04 06 31.0 -0.2**
baz=217
L29M **L29M** 89.03 16 IAmb IAmb 04 06 32.5
comp=Z,4.9nm,0.8s
L29M **L29M** 89.03 16 P **P** **04 06 31.4 0.0**
baz=216
F20K **Avaraart Lake** 89.05 8 IAmb IAmb 04 06 32.1
comp=Z,2.9nm,0.8s
F20K **Avaraart Lake** 89.05 8 P **P** **04 06 31.4 0.0**
baz=200,SNR=5.9
E19K **Redstone River** 89.25 7 P **P** **04 06 32.4 +0.1**
baz=198,SNR=9.8
PRP **Porcupine Dome** 89.35 12 P **P** **04 06 32.8 -0.2**
baz=209
DAWY **Dawson** 89.50 15 IAmb IAmb 04 06 34.2
comp=Z,4.2nm,0.6s
DAWY **Dawson** 89.50 15 P **P** **04 06 33.8 +0.2**
baz=214
F21K **Alatna River** 89.52 9 P **P** **04 06 33.6 0.0**
baz=202
G22K **Bettles** 89.54 10 P **P** **04 06 33.8 +0.1**
baz=203
G23K **Bananza Creek** 89.59 10 P **P** **04 06 34.3 +0.4**
baz=205
I26K **Coal Creek Min** 89.66 13 P **P** **04 06 34.7 +0.4**
baz=211
FARO **Faro, Yukon** 89.69 19 P **P** **04 06 34.9 +0.4**
baz=220
K29M **Barlow Dome** 89.79 16 IAmb IAmb 04 06 36.3
comp=Z,4.6nm,0.7s
K29M **Barlow Dome** 89.79 16 P **P** **04 06 35.2 +0.2**
baz=216,SNR=5.4
C18K **Utukok River** 89.98 6 P **P** **04 06 36.2 +0.4**
baz=194
F22K **John River** 89.98 9 P **P** **04 06 35.9 +0.2**
baz=203
TOAD **Toad River Com** 90.00 24 P **P** **04 06 36.6 +0.6**
baz=227,SNR=5.3
G24K **Hadweenzic Riv** 90.03 11 P **P** **04 06 36.1 +0.2**
baz=207
COLD **Coldfoot** 90.03 10 IAmb IAmb 04 06 37.1
comp=Z,3.5nm,0.9s
COLD **Coldfoot** 90.03 10 P **P** **04 06 36.4 +0.4**
baz=205
J29N **Klondike Camp** 90.11 16 P **P** **04 06 36.4 -0.1**
baz=216,SNR=5.8
E20K **Nigu River** 90.14 8 P **P** **04 06 36.6 +0.2**
baz=199,SNR=17
D19K **Kuna River** 90.14 7 IAmb IAmb 04 06 37.0
comp=Z,4.6nm,0.8s
D19K **Kuna River** 90.14 7 P **P** **04 06 36.6 +0.1**
baz=197,SNR=6.4
I27K **Kandik River** 90.26 14 P **P** **04 06 37.1 0.0**
baz=212
G25K **Bearman Lake** 90.34 12 P **P** **04 06 37.8 +0.5**
baz=208
HHC **Hu-ho-hao-te** 90.47 314 *e*P **P** **04 06 40.5 +1.8**
HHC pmax pmax
comp=Z,8.0nm,0.7s
I28M **Miner Creek** 90.51 14 P **P** **04 06 38.2 -0.1**
baz=214
D20K **Etivluk River** 90.52 7 P **P** **04 06 38.3 +0.1**
baz=199,SNR=8.1
E21K **Killik River** 90.60 8 IAmb IAmb 04 06 39.1
comp=Z,4.4nm,1.0s
E22K **Anaktuvuk Pass** 90.61 9 IAmb IAmb 04 06 39.5
comp=Z,4.7nm,0.9s
E22K **Anaktuvuk Pass** 90.61 9 P **P** **04 06 39.1 +0.4**
baz=203
MMPY **Sheldon Lake,** 90.62 19 P **P** **04 06 39.2 +0.3**
baz=222
B18K **Kokolik River** 90.62 5 P **P** **04 06 39.1 +0.5**
baz=194
F24K **Squaw Lake** 90.68 11 P **P** **04 06 39.5 +0.5**
baz=207
J30M **Hart River** 90.69 16 P **P** **04 06 39.6 +0.4**
baz=217
TGTN **Hyland Airport** 90.78 21 P **P** **04 06 39.5 -0.2**
baz=224
H27K **Steamboat Moun** 90.81 14 P **P** **04 06 39.6 0.0**
baz=213
I29M **Ogilvie Camp,** 90.83 15 P **P** **04 06 40.1 +0.4**
baz=216
E23K **Chandalar** 90.88 10 P **P** **04 06 40.1 +0.1**
baz=205
G26K **Porcupine Rive** 90.95 12 P **P** **04 06 40.5 +0.3**
baz=210
E24K **Your Creek** 91.08 10 P **P** **04 06 40.8 -0.1**
baz=206
F25K **Christian Rive** 91.15 11 P **P** **04 06 41.5 +0.3**
baz=209
C21K **Knifeblade Rid** 91.16 8 P **P** **04 06 41.8 +0.7**
baz=200,SNR=5.3
D22K **Ayikyak River** 91.18 8 P **P** **04 06 41.9 +0.7**
baz=202,SNR=6.8
I30M **Mount Dempster** 91.20 16 P **P** **04 06 41.7 +0.2**
baz=217
G27K **Doyon Strip** 91.27 13 P **P** **04 06 42.3 +0.6**
baz=212
CMAR **Chiang Mai Arr** 91.37 289 P **P** **04 06 43.0 -0.3**
comp=Z,0.9nm,0.3s,baz=120,slow=3.9,SNR=4.2
comp=Z,0.9nm,0.3s
A19K **Wainwright** 91.50 5 P **P** **04 06 43.3 +0.6**
baz=195
H29M **Whitestone** 91.51 15 IAmb IAmb 04 06 43.7
comp=Z,4.4nm,0.8s
H29M **Whitestone** 91.51 15 P **P** **04 06 43.3 +0.5**
baz=216
F26K **Sheenjek River** 91.52 12 P **P** **04 06 43.6 +0.7**
baz=210
D23K **Nanushuk River** 91.55 9 IAmb IAmb 04 06 45.1
comp=Z,4.1nm,1.1s
D23K **Nanushuk River** 91.55 9 P **P** **04 06 43.7 +0.8**
baz=204
B21K **Ikpikpuk River** 91.62 8 P **P** **04 06 43.7 +0.5**
baz=201
E25K **Arctic Village** 91.63 11 P **P** **04 06 44.0 +0.6**
baz=209
B20K **Meade River** 91.69 7 P **P** **04 06 43.7 +0.2**
baz=198
EPYK **Eagle Plains** 92.03 15 P **P** **04 06 45.5 +0.3**
baz=217
G29M **Pine Creek** 92.16 14 P **P** **04 06 45.9 +0.1**
baz=216
H31M **Peel River** 92.18 16 P **P** **04 06 46.0 0.0**
baz=219
C23K **Itkillik River** 92.36 9 P **P** **04 06 46.9 +0.3**
baz=204
B22K **Teshekpuk Lake** 92.44 8 P **P** **04 06 47.6 +0.6**
baz=202
E27K **Coleen River** 92.45 12 P **P** **04 06 47.2 +0.1**
baz=213
C24K **Franklin Bluff** 92.53 9 P **P** **04 06 48.1 +0.7**
baz=206
D25K **Kavik River** 92.55 10 P **P** **04 06 47.8 +0.2**
baz=208
G30M **tAoh Zraii Nji** 92.64 15 P **P** **04 06 48.1 0.0**
baz=217
A22K **Sinclair Lake** 92.88 7 P **P** **04 06 49.2 +0.2**
baz=200
G31M **Satah River** 93.07 15 IAmb IAmb 04 06 50.5
comp=Z,6.5nm,1.1s
G31M **Satah River** 93.07 15 P **P** **04 06 49.9 0.0**
baz=219
E28M **Babbage River** 93.22 13 IAmb IAmb 04 06 51.5
comp=Z,3.7nm,1.0s
E28M **Babbage River** 93.22 13 P **P** **04 06 51.0 +0.3**
baz=214
F30M **Barrier River** 93.24 15 P **P** **04 06 51.0 +0.2**
baz=218
C27K **Jago River** 93.28 11 P **P** **04 06 51.2 +0.4**
baz=211
C26K **Camden Bay** 93.32 11 P **P** **04 06 51.4 +0.4**
baz=210
E29M **Blow River** 93.39 13 P **P** **04 06 51.4 0.0**
baz=216
D27M **Malcolm River** 93.47 12 P **P** **04 06 52.1 +0.3**
baz=213
F31M **Tsiigehtchic** 93.60 15 P **P** **04 06 52.4 0.0**
baz=220
D28M **Stokes Point** 93.98 13 P **P** **04 06 54.0 -0.1**
baz=215
INK **Inuvik** 94.32 15 P **P** **04 06 55.5 -0.1**
baz=220
YKA **Yellowknife Ar** 96.36 24 P **P** **04 07 04.7 -0.3**
comp=Z,0.3nm,0.6s,baz=245,slow=4.7,SNR=6.9
comp=Z,0.3nm,0.6s
A36M **Sachs Harbour** 98.94 14 P **P** **04 07 16.4 0.0**
baz=228
ZALV **Zalesovo Beam** 111.53 321 PKiKP **PKiKP** **04 12 07.8 -1.2**
comp=Z,1.1nm,0.5s,baz=132,slow=2.2,SNR=4.2
MKAR **Makanchi Array** 112.32 313 PKiKP **PKiKP** **04 12 09.4 -1.4**
comp=Z,0.8nm,0.6s,baz=212,slow=0.7,SNR=12
KURBB **Kurchatov Arra** 115.13 317 PKP PKPdf 04 12 14.9 -1.1
comp=Z,0.9nm,0.6s,baz=98,slow=1.7,SNR=12
BVAR **Borovoye Array** 120.13 320 PKP **PKPdf** **04 12 24.9 -0.7**
comp=Z,2.7nm,0.4s,baz=80,slow=1.9,SNR=13
KKAR **Karatay Array** 120.41 308 PKPdf **PKPdf** **04 12 25.4 -1.1**
SPITS **Spitsbergen Ar** 122.31 357 PKP **PKPdf** **04 12 28.4 -0.8**
comp=Z,5.0nm,0.8s,baz=56,slow=5.1,SNR=11
ABKAR **Akbulak array** 127.18 317 PKPdf **PKPdf** **04 12 38.9 -0.4**
ARCES **ARCESS Array B** 129.50 350 PKP **PKPdf** **04 12 42.7 -0.4**
comp=Z,2.3nm,0.4s,baz=7.5,slow=1.3,SNR=32
FINES **FINESS Array B** 136.46 344 PKhKP PKPpre 04 12 48.2
comp=Z,0.7nm,0.6s,baz=64,slow=4.4,SNR=5.8
FINES PKP **PKPdf** **04 12 54.6 -1.8**
comp=Z,1.3nm,0.4s,baz=96,slow=1.9,SNR=9.4
NB2 **NORSAR Subarra** 139.48 354 PKP **PKPdf** **04 12 55.9 -6.1**
comp=Z,1.6nm,0.7s,baz=17,slow=2.6
NB2 pPKP PP 04 16 12.3 +13
comp=Z,1.3nm,0.9s,baz=11,slow=3.1
NOA **NORSAR Array B** 139.48 354 PKP **PKPdf** **04 13 02.6 +0.5**
comp=Z,0.9nm,0.6s,baz=14,slow=3.9,SNR=6.7
NOA SKPbc **SKPbc** **04 16 08.9 +0.2**
comp=Z,1.5nm,0.8s,baz=14,slow=4.5,SNR=6.5
HFS **Hagfors** 140.09 352 PKhKP PKPpre 04 12 54.5
comp=Z,1.9nm,0.4s,baz=72,slow=4.8,SNR=32
HFS SKPbc **SKPbc** **04 16 09.2 -1.0**
comp=Z,1.3nm,1.0s,baz=48,slow=4.3,SNR=5.3
AKASG **Malin Array Be** 143.91 332 PKP PKPab 04 13 07.2 -1.1
comp=Z,2.6nm,0.5s,baz=44,slow=4.3,SNR=24
AKASG SKPbc **SKPbc** **04 16 19.3 -0.7**
comp=Z,0.7nm,0.6s,baz=47,slow=1,7,SNR=5.9
KIEV **Kiev** 143.93 332 ⇑P PKPab 04 13 06.8 -1.5
LODK **Lodwar** 144.29 245 PKPdf **PKPdf** **04 13 11.4 -0.7**
EKA **Eskdalemuir Ar** 145.25 6 PKPbc **PKPdf** **04 13 11.8 -0.5**
comp=Z,2.2nm,0.4s,baz=326,slow=2.8,SNR=24
ESK **Eskdalemuir** 145.26 7 **PKPdf** **04 13 11.8 -0.5**
PURM **Purcari** 146.47 326 ⇑P **PKPdf** **04 13 07.2 -7.5**
DSB **Dublin** 146.84 11 PKPbc **PKPbc** **04 13 17.3 -0.2**
BUR08 **Bucovina Ar. S** 147.95 332 **PKPbc** **04 13 21.1 +0.4**
BURAR **Bucovina Array** 147.97 332 PKPbc **PKPdf** **04 13 18.5 +1.2**
BURAR **Bucovina Array** 147.97 332 ⇑P **PKPbc** **04 13 20.9 +0.1**
BRTR **Keskin Array B** 147.97 313 PKPbc **PKPbc** **04 13 20.6 -0.5**
BRTR **Keskin Array B** 147.97 313 PKPbc **PKPbc** **04 13 20.4 -0.7**
comp=Z,1.7nm,0.5s,baz=142,slow=3.2,SNR=20
KIRS **Kirsehir-Merke** 148.04 312 ⇑P **PKPbc** **04 13 20.2 -1.1**
CFR **Carcaliu** 148.27 326 ⇑P **PKPbc** **04 13 20.8 -0.7**
ONER **Baraj Valea Uz** 148.36 329 ⇑P **PKiKP** **04 13 22.3 -0.8**
VRI **Vrincioaia** 148.53 328 ⇑P **PKiKP** **04 13 22.5 -0.9**
OSTC **Ostas** 148.67 344⇑*e*PKP **PKiKP** **04 13 23.1 -0.5**
CHVC **Chvalec** 148.68 344⇑*e*PKP **PKiKP** **04 13 23.0 -0.6**
CLL **Collm** 148.68 348 *i* PKPbc **PKPbc** **04 13 22.6 +0.3**
comp=Z,23nm,0.6s
UPC **Upice** 148.76 344⇑*e*PKP **PKiKP** **04 13 23.0 -0.8**
STEB **Steborice** 148.80 342⇑*e*PKP **PKiKP** **04 13 23.1 -0.8**
DPC **Dobruska-Polom** 148.83 344⇑*e*PKP **PKiKP** **04 13 23.5 -0.5**
BRG **Berggiesshubel** 148.91 347 *i* PKP **PKiKP** **04 13 23.4 -0.7**
BRG Amp 04 13 23.9
comp=Z,11nm,0.5s
MANR **Mangalia** 148.91 323 ⇑P **PKiKP** **04 13 24.8 +0.5**
KRLC **Kraliky** 148.96 343⇑*e*PKP **PKiKP** **04 13 23.6 -0.7**
LANS **Liptovska Anna** 148.96 339 *e*PKP **PKiKP** **04 13 24.2 -0.1**
MORC **Moravsky Berou** 149.01 342 *e*PKP **PKPbc** **04 13 23.2 -0.1**
MMAI **Mount Meron Ar** 149.04 300 PKPbc **PKiKP** **04 13 24.4 -0.6**
comp=Z,3.9nm,0.5s,baz=77,slow=5.5,SNR=17
PVCC **Panska Ves** 149.09 346⇑*e*PKP **PKiKP** **04 13 24.0 -0.4**
DOPR **Dopca** 149.11 329 ⇑P **PKPbc** **04 13 23.2 -0.4**
SAHE **Sakarya_HENDEK** 149.27 317 ⇓P **PKPab** **04 13 33.8 +4.0**
MAUC **Maruska** 149.29 341⇑*e*PKP **PKiKP** **04 13 24.8 -0.2**
PRA **Prague** 149.55 346⇑*e*PKP **PKiKP** **04 13 25.1 -0.3**
PRU **Pruhonice** 149.60 346⇑*e*PKP **PKiKP** **04 13 24.8 -0.7**
MARR **Marisel-Cluj** 149.61 332 ⇑P **PKPbc** **04 13 24.8 -0.1**
GOPC **GO Pecny, Ondr** 149.62 345⇑*e*PKP **PKiKP** **04 13 25.1 -0.5**
VRAC **Vranov** 149.70 343 *e*PKP **PKiKP** **04 13 25.1 -0.7**
VRAC **Vranov** 149.70 343 ⇑P **PKiKP** **04 13 25.1 -0.7**
VYHS **Vyhne** 149.74 339 *e*PKP **PKiKP** **04 13 25.5 -0.4**
JAVC **Velka Javorina** 149.79 341 *e*PKP **PKiKP** **04 13 26.4 +0.4**
NKC **Novy Kostel** 149.82 348⇑*e*PKP **PKiKP** **04 13 25.6 -0.4**
ARR **Arges** 149.91 329 ⇑P **PKiKP** **04 13 26.2 -0.2**
KRUC **Moravsky** 149.98 343 *e*PKP **PKiKP** **04 13 25.7 -0.6**
ZVC **Zvikov** 150.20 346⇑*e*PKP **PKiKP** **04 13 26.4 -0.4**
MEM **Membach** 150.25 356 *d*PKP **PKPbc** **04 13 26.1 -0.1**
BTNL **Ternell** 150.26 356 *d*PKP **PKPbc** **04 13 26.2 0.0**
BTNL *d*PKPab **PKPab** **04 13 33.2 -0.3**
BSTI **Sart Tilman** 150.30 357 *d*PKP **PKiKP** **04 13 26.4 -0.6**
MODS **Modra-Piesok** 150.34 341 *e*PKP **PKiKP** **04 13 27.4 +0.3**
BHOU **Houvegnez** 150.50 356 *d*PKPdf **PKPdf** **04 13 21.5 +0.4**
BHOU *d*PKP **PKiKP** **04 13 27.2 -0.2**
SRO **Srobarova** 150.51 339 *e*PKP **PKiKP** **04 13 27.6 +0.2**
BMRD **Maredsous** 150.61 358 *d*PKP **PKiKP** **04 13 27.2 -0.4**
KHC **Kasperske Hory** 150.63 346⇑*e*PKP **PKiKP** **04 13 27.5 -0.2**
CKRC **Cesky Krumlov** 150.75 345⇑*e*PKP **PKiKP** **04 13 27.7 -0.3**
GZR **Gura Zlata** 150.75 331 ⇑P **PKPbc** **04 13 26.7 -0.9**
SURR **Surduc** 150.76 332 ⇑P **PKPbc** **04 13 27.4 -0.1**
DOU **Dourbes** 150.82 358 *d*PKP **PKPbc** **04 13 27.5 0.0**
DOU *d*PKPab **PKPab** **04 13 35.2 -0.6**
GERES **GERESS Array B** 150.87 346 **PKiKP** **04 13 28.0 -0.3**
GERES **GERESS Array B** 150.87 346 PKPbc **PKPbc** **04 13 27.7 -0.1**
comp=Z,3.1nm,0.4s,baz=32,slow=1,9,SNR=33
BZS **Buzias** 151.09 333 ⇑P **PKPbc** **04 13 27.5 -0.8**
CONA **Conrad Observa** 151.16 342 *e*PKP **PKiKP** **04 13 28.8 -0.1**
comp=Z,5.7nm,0.6s
WLF **Walferdange** 151.18 356 *d*PKP **PKiKP** **04 13 28.9 +0.1**
RONA **Rosalia, Austr** 151.24 342 *i* PKP **PKiKP** **04 13 28.8 -0.2**
comp=Z,11nm,0.5s,SNR=9.8
HERR **Herculane** 151.31 331 ⇑P **PKPbc** **04 13 28.0 -0.8**
MOA **Molln** 151.66 344 *e*PKP **PKPbc** **04 13 29.0 -0.5**
comp=Z,2.7nm,0.5s
MDVR **Moldovita** 151.70 332 ⇑P **PKPbc** **04 13 29.3 -0.5**
MORH **Mrgy, Hungar** 151.77 337 ⇓P **PKiKP** **04 13 29.6 -0.5**
LESA **Schwarzleotal** 152.44 346 *e*PKP **PKPbc** **04 13 31.0 -0.4**
comp=Z,3.1nm,0.8s
SOKA **Soboth** 152.53 342 *e*PKP **PKPbc** **04 13 31.1 -0.5**
comp=Z,3.6nm,0.8s
PERS **Pernice** 152.55 342 *i* PKPbc **PKPbc** **04 13 30.9 -0.8**
KBA **Koelnbreinsper** 152.61 345 *e*PKP **PKPbc** **04 13 31.6 -0.3**
comp=Z,2.7nm,0.4s
WATA **Walderalm** 152.76 348 *e*PKP **PKiKP** **04 13 32.2 -0.1**
comp=Z,5.2nm,0.5s
RETA **Reutte** 152.77 349 *e*PKP **PKiKP** **04 13 32.1 -0.2**
comp=Z,6.6nm,1.1s
WTTA **Wattenberg** 152.81 347 *i* PKP **PKPbc** **04 13 32.1 -0.3**
comp=Z,9.6nm,0.7s,SNR=7.2
SQTA **Sankt Quirin** 152.94 348 *e*PKP **PKPbc** **04 13 32.0 -0.5**
comp=Z,3.3nm,0.5s
ABTA **Abfaltersbach** 153.12 346 *i* PKP **PKPbc** **04 13 32.3 -0.6**
comp=Z,7.2nm,0.6s,SNR=4.9
FETA **Feichten** 153.22 349 *e*PKP **PKiKP** **04 13 33.2 -0.1**
comp=Z,3.9nm,0.6s
LJU **Ljubljana** 153.25 342 *i* PKPbc **PKPbc** **04 13 32.8 -0.3**
CRNS **Crni Vrh** 153.29 343 *i* PKPbc **PKPbc** **04 13 32.5 -0.7**

WEL 26 03:54:52.0±1.0, 39°S±6°×17°6E±°, h12km±8km, M0.8/6, ML0.9/5, MLv0.8/6, Error ellipse: s-maj=8.0km s-min=5.4km az=22.9, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.09**	**33**	P	Pg	03 54 55.9	+1.1
MOVZ				S	Sg	03 54 58.3	+1.5
WNVZ	**Wahianoa**	**0.17**	**336**	P	Pb	03 54 57.3	+0.1
WNVZ				S	Sg	03 55 00.8	+2.1
MTVZ	**Mangateitei**	**0.20**	**301**	S	Sg	03 55 01.3	+2.1
TRVZ	**Turoa**	**0.21**	**330**	P	Pb	03 54 58.1	+0.1
TRVZ				S	Sg	03 55 01.5	+1.6
WHVZ	**Whangaehu Hut**	**0.22**	**339**	P	Pb	03 54 58.0	0.0
WHVZ				S	Sg	03 55 01.4	+1.4
TUVZ	**Tukino**	**0.22**	**353**	P	Pb	03 54 58.0	0.0
TUVZ				S	Sg	03 55 02.4	+2.5
FWVZ	**Far West T-bar**	**0.25**	**335**	P	Pb	03 54 58.4	-0.2
FWVZ				S	Sb	03 55 02.4	-0.7
COVZ	**Chateau Observ**	**0.31**	**338**	P	Pb	03 54 59.3	-0.2
COVZ				S	Sb	03 55 04.0	-0.5
NGZ	**Ngauruhoe**	**0.32**	**348**	P	Pb	03 54 59.3	-0.4
OTVZ	**Oturere**	**0.32**	**357**	P	Pb	03 54 59.5	-0.3
ETVZ	**East Tongariro**	**0.35**	**3**	P	Pb	03 54 59.8	-0.4
NNVZ	**North Ngauruho**	**0.36**	**351**	P	Pb	03 55 00.1	-0.2
TMVZ	**Te Maari**	**0.37**	**2**	P	Pb	03 55 00.1	-0.5
TMVZ				S	Sb	03 55 06.1	-0.2
WTVZ	**West Tongariro**	**0.38**	**348**	P	Pb	03 55 00.4	-0.3
NTVZ	**North Tongarir**	**0.39**	**359**	P	Pb	03 55 00.4	-0.5
KRHZ	**Kereru**	**0.55**	**107**	P	Pb	03 55 03.2	-0.4
PNHZ	**Pukenui**	**0.58**	**137**	P	Pg	03 55 03.6	+0.2

KOLA ***26*** *04:05:13.3, 67°.66N×33°.66E, h0km, ML1.6, Error ellipse: s-maj=3.5km s-min=1.8km az=120.0, Khibiny, mines Kirovsk, Yukspor*

HEL 26 04:05:12.6±0.1, 67°.67N×33°.69E, h0km, ML1.4, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.14**	**228**	S	Sg	04 05 17.3	+0.1
APA0	**Apatity Array**	**0.27**	**258**	P	Pg	04 05 17.4	-0.4
APA0				S	Sg	04 05 21.5	+0.2
LVZ	**Lovozero**	**0.43**	**57**	PG	Pg	04 05 20.4	-0.5
LVZ				SG	Sg	04 05 23.7	-2.8
KVDA	**Kovda**	**1.03**	**198**	S	Sg	04 05 44.5	-1.0
VRF	**Varrio**	**1.56**	**275**	PG	Pn	04 05 40.4	-1.1
VRF	baz=96			MSG		04 05 59.3	
VRF	comp=Z,3.2nm,0.2s			SG	Sn	04 06 00.6	-1.8
TERR	**Teriberka**	**1.63**	**18**	P	Pn	04 05 42.8	+0.3
TERR				S	Sn	04 06 02.1	-2.0
OLKF	**Oulanka, Finla**	**2.16**	**233**	PG	Pn	04 05 51.1	+1.3

OLKF			MSG			04 06 16.6	
	comp=Z,1.6nm,0.2s						
PRVG	**Vayda Guba**	**2.16 346**	P		Pb	04 05 51.5	-1.0
PRVG			S		Sb	04 06 19.3	-0.5
RAJF	**Raja-Jooseppi**	**2.17 294**	PG		Pb	04 05 51.7	-1.1
RAJF			SN		Sn	04 06 16.9	-0.7
KU6	**Riekki**	**2.23 224**	PG		Pb	04 05 52.6	-1.1
KU6			MSG			04 06 18.7	
	comp=Z,1.0nm,0.2s						
KU6			SG		Sb	04 06 22.4	+0.7
MSF	**Maaselka**	**2.55 228**	PG		Pb	04 05 58.2	-1.0
MSF			SG		Sb	04 06 32.0	+1.1
RANF	**Ranua**	**3.19 242**	SG		Sb	04 06 50.9	+1.5
KEV	**Kevo**	**3.21 314**	PN		Pn	04 06 04.7	+0.4
ARA0	**ARCESS Array S**	**3.54 306**	PN		Pn	04 06 08.7	0.0
	baz=119						
ARA0			SN		Sn	04 06 49.4	-1.8
ARCES	**ARCESS Array B**	**3.54 306**	P		Pn	04 06 08.2	-0.5
ARCES			S		Sn	04 06 49.1	-2.0
RMF	**Romuvaara**	**3.79 206**	SB		Sb	04 07 02.8	-3.8
PAJU	**Pajala**	**4.14 266**	PN		Pn	04 06 16.6	-0.4
ERTU	**Ertsjaerv**	**4.63 261**	SN		Sn	04 07 17.6	-0.4

*FUNV **26** 04:18:18.3, 10.28N×70.00W, h5km, MW4.0*
*RSNC **26** 04:18:19.8±0.0, 10.N±5.°×7.0W±.°, h32km±31km, M2.5, mB4.0, mb3.4, ML2.3, Mw(mB)3.0*

ISC 26 04:18:14.2±1.6, 10.37N±0.05×69.88W±0.03, h1km±13km, n17, σ1°67/31, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEPV	**Terepaima**	**0.79**	**121**	*eP*	**Pn**	**04 18 33.9**	**+1.4**
TEPV				*eS*	**Sn**	**04 18 45.5**	**+0.4**
SDV	**Santo Domingo**	**1.65**	**207**	P	**Pg**	**04 18 45.8**	**-0.1**
SDV				S	**Sn**	**04 19 06.4**	**-0.2**
BENV	**Beln**	**2.28**	**100**	*eP*	**Pg**	**04 18 57.3**	**-0.7**
BENV				*eS*	**Sg**	**04 19 27.1**	**-0.4**
SOCV	**Socops**	**2.29**	**205**	*eP*	**Pn**	**04 18 54.2**	**+1.0**
SOCV				*eS*	**Sn**	**04 19 21.0**	**-1.0**
BAUV	**El Baul**	**2.30**	**128**	*eP*	**Pb**	**04 18 56.6**	**+0.1**
BAUV				*eS*	**Sb**	**04 19 25.0**	**-0.5**
URIC	**Uribia, Colomb**	**2.46**	**303**	P	**Pn**	**04 18 56.0**	**+0.5**
MCQV	**Machiques**	**2.63**	**263**	*eP*	**Pn**	**04 18 58.6**	**+0.7**
MCQV				*eS*	**Sn**	**04 19 29.4**	**-1.2**
TACV	**Tcata**	**2.82**	**94**	*eP*	**Pb**	**04 19 05.0**	**-0.4**
TACV				*eS*	**Sb**	**04 19 39.8**	**-0.6**
CRJC	**Cerrejon, Guaj**	**3.02**	**283**	P	**Pn**	**04 19 04.6**	**+1.3**
CRJC				S	**Sn**	**04 19 38.3**	**-2.0**
CAPV	**Capacho**	**3.46**	**224**	*eP*	**Pn**	**04 19 09.1**	**-0.5**
CAPV				*eS*	**Sn**	**04 19 48.1**	**-3.2**
OCAC	**Ocana**	**4.00**	**238**	P	**Pn**	**04 19 18.5**	**+1.6**
OCAC				S	**Sb**	**04 20 17.2**	**+2.5**
PAMC	**Pamplona, Colo**	**4.10**	**223**	P	**Pn**	**04 19 21.3**	**+2.7**
PAMC				S	**Sn**	**04 20 06.8**	**-0.7**
CACV	**CAICARA DEL OR**	**4.32**	**130**	*eP*	**Pb**	**04 19 30.0**	**-1.0**
CACV				*eS*	**Sb**	**04 20 23.8**	**+0.1**
PCRV	**Puerto La Cruz**	**5.16**	**92**	*eP*	**Pn**	**04 19 36.7**	**+3.9**
SJCC	**San Jacinto, C**	**5.24**	**265**	P	**Pn**	**04 19 35.9**	**+2.0**
	8.6nm,1.3s						
SJCC				S	**Sn**	**04 20 35.4**	**+0.4**
	8.6nm,1.3s						
RUSC	**La Rusia**	**5.46**	**216**	P	**Pn**	**04 19 39.4**	**+2.1**
	4.9nm,1.7s						
PTBC	**PUERTO BERRIO,**	**5.92**	**230**	P	**Pn**	**04 19 42.8**	**-0.3**
PTBC				S	**Sn**	**04 20 48.4**	**-3.2**

*UCR **26** 04:19:56.1±1.2, 9.34N×83.24W, h1km±4km, MW3.6*
*UPA **26** 04:19:56.0±1.5, 9.33N×83.17W, h1km±4km, ML3.9*
*CATAC **26** 04:19:56.6±0.4, 9.N±3.°×8.3W±.°, h10km, M3.8/8, MLv3.8/8, Error ellipse: s-maj=7.8km s-min=3.5km az=44.4, confirmed*

ISC 26 04:19:56.6±0.8, 9.32N±0.02×83.26W±0.02, h14km±5km, n97, σ0°98/111, 2C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK0	**Durika**	**0.06**	**167**	P	**Pg**	**04 19 59.3**	**-0.2**
DRK0				S	**Sg**	**04 20 01.6**	**+0.1**
BURE	**Buenos Aires**	**0.16**	**209**	*eP*	**Pg**	**04 20 00.8**	**+0.1**
BURE				*eS*	**Sg**	**04 20 03.7**	**+0.3**
EDP2	**Potrero Grande**	**0.31**	**165**	*eP*	**Pg**	**04 20 03.5**	**+0.5**
EDP2				*eS*	**Sb**	**04 20 08.6**	**-0.4**
FIMO	**Fila Mora**	**0.34**	**196**	*eP*	**Pg**	**04 20 04.4**	**+0.7**
CEUA	**Cerro Uatsi, L**	**0.43**	**46**	*eP*	**Pb**	**04 20 06.8**	**+0.6**
OCHAL	**Ojochal**	**0.44**	**240**	P	**Pg**	**04 20 06.0**	**+0.6**
OCHAL	**Ojochal**	**0.44**	**240**	S	**Sb**	**04 20 12.6**	**-0.1**
ALCO	**Alturas Coton,**	**0.56**	**131**	*eP*	**Pg**	**04 20 07.1**	**-0.5**
EDAD	**Golfito**	**0.67**	**172**	*eP*	**Pg**	**04 20 09.7**	**0.0**
TURIB	**Turrialba**	**0.72**	**324**	*eP*	**Pg**	**04 20 10.1**	**-0.6**
NELY	**Ciudad Neily**	**0.73**	**155**	*eP*	**Pn**	**04 20 12.2**	**-0.4**
VINA	**Juan Vinas**	**0.75**	**320**	*eP*	**Pb**	**04 20 11.7**	**+0.1**
VERB	**Verbena**	**0.76**	**325**	*eP*	**Sn**	**04 20 23.5**	**-1.0**
RVSTA	**Santa Teresita**	**0.76**	**330**	*eP*	**Sn**	**04 20 30.9**	**+6.5**
BRU2	**Volcan**	**0.76**	**133**	*eP*	**Pg**	**04 20 11.0**	**-0.5**
BRU2	**Volcan**	**0.76**	**133**	⇑*iP*	**Pg**	**04 20 11.1**	**-0.4**
BRU2				AMP		04 20 11.4	
	comp=Z,13μm,0.1s						
BRU2				*eS*	**Sb**	**04 20 22.2**	**0.0**
BRU2	**Volcan**	**0.76**	**133**	P	**Pg**	**04 20 11.1**	**-0.4**
BRU2	**Volcan**	**0.76**	**133**	S	**Sg**	**04 20 21.5**	**-0.1**
PTJ1	**Puerto Jimnez**	**0.78**	**183**	*eP*	**Pg**	**04 20 11.8**	**0.0**
PTJ1				*eS*	**Sn**	**04 20 25.1**	**+0.4**
REPA	**Paraso**	**0.79**	**310**	*eP*	**Pg**	**04 20 11.2**	**-0.8**
PCAYA	**Pacayas**	**0.81**	**318**	*eP*	**Pg**	**04 20 11.8**	**-0.6**
BC3P	**Paso Ancho**	**0.81**	**128**	⇑*iP*	**Pg**	**04 20 11.6**	**-0.9**
BC3P				AMP		04 20 11.9	
	comp=Z,3μm,0.2s						
BC3P				*eS*	**Sg**	**04 20 22.8**	**-0.3**
IRES	**Siquirres**	**0.81**	**343**	*eP*	**Pg**	**04 20 12.1**	**-0.2**
RAZU	**San Marcos de**	**0.83**	**294**	*eP*	**Pg**	**04 20 11.8**	**-0.9**
CDITO	**Canoas**	**0.83**	**153**	P	**Pn**	**04 20 15.0**	**+1.0**
CVTV	**Tajo**	**0.84**	**325**	*eP*	**Pg**	**04 20 12.6**	**-0.3**
LLNJ	**Naranjito**	**0.85**	**281**	*eP*	**Pg**	**04 20 12.9**	**-0.1**
CVTQ	**Turrialba Volc**	**0.85**	**324**	*eP*	**Pg**	**04 20 12.7**	**-0.4**
LCR2	**La Lucha 2**	**0.85**	**300**	*eP*	**Pg**	**04 20 11.6**	**-1.5**
LCR2	**La Lucha 2**	**0.85**	**300**	P	**Pg**	**04 20 11.9**	**-1.3**
LCR2	**La Lucha 2**	**0.85**	**300**	S	**Sg**	**04 20 23.4**	**-0.9**
TAGO	**Cartago**	**0.85**	**310**	*eP*	**Pg**	**04 20 12.5**	**-0.7**
VTR0	**Volcan Turrial**	**0.85**	**325**	*eP*	**Pg**	**04 20 12.9**	**-0.4**
CVTR	**Volcan Turrial**	**0.85**	**325**	*eP*	**Pg**	**04 20 12.8**	**-0.5**
ABE2	**San Pablo**	**0.87**	**296**	*eP*	**Pg**	**04 20 12.4**	**-1.2**
QUEP	**Quepos**	**0.90**	**277**	*eP*	**Pb**	**04 20 13.5**	**-0.6**
PISJ	**San Jernim**	**0.91**	**290**	*eP*	**Pg**	**04 20 13.1**	**-1.2**
PIRO	**Carate, Puerto**	**0.91**	**185**	*eP*	**Pb**	**04 20 13.8**	**-0.4**
PIRO	**Carate, Puerto**	**0.91**	**185**	P	**Pn**	**04 20 15.3**	**+0.3**
TRIO	**Tres Rios**	**0.93**	**309**	*eP*	**Pb**	**04 20 13.3**	**-1.4**
LNBQ3	**Los Naranjos,**	**0.96**	**123**	*eP*	**Pb**	**04 20 14.1**	**-1.1**
LNBQ3				AMP		04 20 15.5	
	comp=Z,4μm,0.1s						
LNBQ3				*eS*	**Sb**	**04 20 27.8**	**-0.1**
CVTG	**V. Turrialba,**	**0.97**	**328**	*eP*	**Pb**	**04 20 14.8**	**-0.5**
PICV	**PH. Pirrs**	**0.97**	**288**	*eP*	Pn	04 20 22.1	+6.2
PTAR3	**Potrerillos Ar**	**0.97**	**129**	⇓*iP*	**Pb**	**04 20 14.8**	**-0.6**
PTAR3				AMP		04 20 15.6	
	comp=Z,2μm,0.1s						
PTAR3				*eS*	**Sg**	**04 20 28.9**	**+0.6**
CORON	**Coronado**	**0.98**	**312**	*eP*	**Pb**	**04 20 15.0**	**-0.5**
SJS3	**Mercedes San J**	**1.00**	**308**	*eP*	**Pb**	**04 20 15.0**	**-0.8**
SJS	**Escuela Geolog**	**1.00**	**308**	*eP*	**Pb**	**04 20 14.9**	**-0.9**
LUPE	**Guadalupe**	**1.00**	**309**	*eP*	**Pb**	**04 20 15.1**	**-0.9**
ACOS	**Acosta**	**1.01**	**298**	*eP*	**Pb**	**04 20 14.7**	**-1.3**
PILE	**Guapiles**	**1.03**	**330**	*eP*	**Pn**	**04 20 16.9**	**+0.1**
HEME	**Heredia, Merce**	**1.10**	**308**	*eP*	**Pb**	**04 20 16.5**	**-1.0**
BELE	**Belen**	**1.13**	**306**	*eP*	**Pb**	**04 20 16.9**	**-1.1**
CARI	**Cariari**	**1.14**	**336**	*eP*	**Pg**	**04 20 18.8**	**+0.2**
VBV1	**V. Barva**	**1.15**	**314**	*eP*	**Pb**	**04 20 17.6**	**-0.9**
CHGR2	**Aguacate**	**1.16**	**109**	*eP*	**Pb**	**04 20 17.0**	**-1.5**
CHGR2				*eS*	**Sb**	**04 20 32.8**	**-0.7**
PURI	**Puriscal**	**1.16**	**297**	*eP*	**Pb**	**04 20 18.0**	**-0.7**
PTPM	**Petroterminale**	**1.17**	**161**	*eP*	**Pn**	**04 20 18.6**	**0.0**
PTPM				*eS*	**Sg**	**04 20 35.1**	**+0.7**
DVD	**David**	**1.19**	**138**	*eP*	**Pn**	**04 20 18.8**	**0.0**
DVD				*eS*	**Sg**	**04 20 35.2**	**+0.3**
LOMA3	**Las Lomas, Chi**	**1.23**	**136**	*eP*	**Pn**	**04 20 19.4**	**0.0**
LOMA3				*eS*	**Sn**	**04 20 36.1**	**+0.2**
POAS	**San Pedro de P**	**1.23**	**308**	*eP*	**Pn**	**04 20 19.4**	**-0.2**
PEDE3	**Pedregal, Chir**	**1.24**	**138**	*eP*	**Pb**	**04 20 19.9**	**0.0**
PEDE3				*eS*	**Sn**	**04 20 36.2**	**0.0**

TCS1	**Tacares**	**1.25**	**305**	*eP*	**Pn**	**04 20 19.5**	**-0.4**
TCS1	**Tacares**	**1.25**	**305**	P	**Pn**	**04 20 20.0**	**+0.1**
VPS5	**V. Poas**	**1.29**	**312**	*eP*	**Pg**	**04 20 21.4**	**-0.2**
VPS8	**V Poas**	**1.29**	**311**	*eP*	**Pn**	**04 20 20.3**	**-0.4**
TRB2	**Turrubares**	**1.31**	**297**	*eP*	**Pn**	**04 20 20.2**	**-0.5**
OROT	**Orotina**	**1.38**	**295**	*eP*	**Pn**	**04 20 21.1**	**-0.4**
ARTO	**Ro Cuarto**	**1.39**	**317**	*eP*	**Pn**	**04 20 21.9**	**+0.2**
RAMO	**San Ramon**	**1.42**	**303**	*eP*	**Pb**	**04 20 23.3**	**+0.3**
SRA1	**San Ramn**	**1.43**	**302**	*eP*	**Pn**	**04 20 21.9**	**-0.4**
VPL1	**V. Platanar**	**1.44**	**311**	*eP*	**Pn**	**04 20 22.3**	**-0.2**
VPL2	**V. Platanar**	**1.48**	**312**	*eP*	**Pn**	**04 20 23.4**	**0.3**
ITAL	**Pital**	**1.51**	**318**	*eP*	**Pb**	**04 20 23.9**	**-0.5**
SOCE	**Pocosol**	**1.71**	**308**	*eP*	**Pn**	**04 20 27.1**	**+1.0**
SOCE	**Pocosol**	**1.71**	**308**	P	**Pb**	**04 20 27.2**	**-0.6**
COVE	**Coope Vega, Sa**	**1.79**	**321**	P	**Pn**	**04 20 28.1**	**+0.9**
FORC	**Fortuna**	**1.80**	**309**	*eP*	**Pb**	**04 20 28.6**	**-0.9**
CBL1	**Cabuya**	**1.83**	**279**	*eP*	**Pn**	**04 20 28.0**	**+0.3**
ARE1	**Arenal 1**	**1.83**	**308**	*eP*	**Pb**	**04 20 29.1**	**-1.0**
VARE2	**V. Arenal**	**1.83**	**308**	*eP*	**Pb**	**04 20 29.1**	**-0.9**
CEDE	**Laguna Cedeo**	**1.84**	**309**	*eP*	**Pb**	**04 20 29.7**	**-0.4**
MTEVE	**Monteverde**	**1.84**	**303**	*eP*	**Pb**	**04 20 29.9**	**-0.3**
TABAC	**Tabacon**	**1.89**	**308**	*eP*	**Pb**	**04 20 30.8**	**-0.3**
JTS	**Las Juntas de**	**1.93**	**300**	*eP*	**Pn**	**04 20 29.9**	**+0.8**
JTS	**Las Juntas de**	**1.93**	**300**	*eP*	**Pn**	**04 20 30.0**	**+0.9**
JTS				*eS*	**Sb**	**04 20 56.4**	**+0.7**
QUEB	**Quebradon, Cot**	**2.07**	**309**	*eP*	**Pb**	**04 20 32.6**	**+1.5**
INVE	**Universidad In**	**2.12**	**303**	*eP*	**Pb**	**04 20 33.5**	**-1.3**
TENO	**El Achiote**	**2.18**	**309**	*eP*	**Pb**	**04 20 34.6**	**-1.4**
CMARA	**Lajas Hojancha**	**2.25**	**288**	*eP*	**Pn**	**04 20 34.2**	**+0.7**
CMARA	**Lajas Hojancha**	**2.25**	**288**	P	**Pn**	**04 20 34.0**	**+0.5**
CUI	**Cuipilapa**	**2.30**	**306**	*eP*	**Pb**	**04 20 36.5**	**-1.6**
VMAR	**Armenia, Volca**	**2.35**	**309**	*eP*	**Pn**	**04 20 36.7**	**+1.7**
GMAL	**Guarumal, Vera**	**2.53**	**127**	*eP*	**Pn**	**04 20 38.5**	**+1.2**
GMAL	**Guarumal, Vera**	**2.53**	**127**	*eP*	**Pn**	**04 20 37.8**	**+0.5**
GMAL				*eS*	**Sn**	**04 21 07.8**	**-0.2**
CALO3	**Calobre, Verag**	**2.59**	**112**	*eP*	**Pn**	**04 20 38.0**	**-0.1**
ELI1	**Hacienda Flor**	**2.62**	**300**	*eP*	**Pb**	**04 20 41.1**	**-2.2**
ESPN	**Las Esperanzas**	**3.04**	**340**	*eP*	**Pn**	**04 20 44.7**	**+0.4**

*IDC **26** 04:21:44.8±2.1, 5.80S×130.29E, h0km, mb4.1/2, mbtmp4.0/5, ML4.1/3, Error ellipse: s-maj=112.8km s-min=25.1km az=77.0*
*DJA **26** 04:22:07.4±1.2, 5.S±4.×13.1E±.°, h20km±11km, M4.3/10, mB5.5/1, mb4.5/3, MLv4.2/10, Mw(mB)5.0/1*

ISC 26 04:21:57.1±0.8, 6.38S±0.05×130.68E±0.08, h150km, n15, σ3°62/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.71**	**159**	P	**Sn**	**04 22 47.1**	**-6.3**
BNDI	**Bandanaira**	**2.00**	**337**	P	**Pn**	**04 22 31.8**	**-0.5**
MSAI	**Masohi**	**3.48**	**330**	P	**Pn**	**04 22 50.5**	**-0.2**
FAKI	**Fak Fak**	**3.77**	**24**	P	**Pn**	**04 22 53.3**	**-1.2**
FAKI				S	**Sn**	**04 23 32.8**	**-6.2**
KMPI	**Kaimana, Papua**	**4.04**	**48**	P	**Pn**	**04 23 00.1**	**+2.2**
KMPI				S	**Sn**	**04 23 41.7**	**-3.5**
NLAI	**Namlea**	**4.74**	**311**	P	**Pn**	**04 23 11.6**	**+4.5**
SWI	**Sorong**	**5.51**	**6**	P	**Pn**	**04 23 15.0**	**-2.3**
SWI				S	Sn	04 24 09.6	-10
RKPI	**Ransiki, Papua**	**5.96**	**36**	P	**Pn**	**04 23 24.0**	**+0.7**
	4μm55nm,0.4s						
SOEI	**Soe**	**7.19**	**242**	P	**Pn**	**04 23 41.3**	**+1.5**
BAKI	**Biak**	**7.47**	**47**	P	**Pn**	**04 23 46.6**	**+3.1**
FITZ	**Fitzroy Crossi**	**12.65**	**202**	Pn	**Pn**	**04 24 52.7**	**+0.9**
	1.4nm,0.3s,baz=15,slow=8.4,SNR=34						
FITZ				Sn	**Sn**	**04 27 05.2**	**-6.5**
	1.9nm,0.3s,baz=141,slow=20,SNR=8.3						
	4.6nm,0.3s						
WRA	**Warramunga Arr**	**13.95**	**166**	Pn	**P**	**04 25 12.1**	**+0.4**
	0.8nm,0.3s,baz=338,slow=14,SNR=23						
WRA				Sn	**Sn**	**04 27 41.0**	**-2.1**
	1.3nm,0.3s,baz=352,slow=24,SNR=7.2						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**17.47**	**170**	P	**Pn**	**04 25 57.7**	**+6.0**
	0.3nm,0.3s,baz=337,slow=9.5,SNR=13						
ASAR				S	**Sn**	**04 29 07.8**	**+0.3**
	0.9nm,0.7s,baz=348,slow=26,SNR=4.0						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**68.08**	**326**	P	**P**	**04 32 42.5**	**+1.8**
	1.4nm,0.4s,baz=118,slow=8.2,SNR=22						
	1.4nm,0.4s						
KURBB	**Kurchatov Arra**	**72.34**	**328**	P	**P**	**04 33 07.8**	**+1.4**
	0.6nm,0.6s,baz=127,slow=5.2,SNR=8.8						
	0.6nm,0.6s						

*DJA **26** 05:00:08.7±0.2, 7.S±2.×12.6E±.°, h513km±3km, M4.5/30, mb4.7/30, mB4.9/16, MLv5.0/24, Mw(mB)4.2/16*
*IDC **26** 05:00:08.6±1.1, 7.01S×125.65E, h523km±13km, mb3.6/16, mbtmp4.6/20, Error ellipse: s-maj=19.5km s-min=7.5km az=72.0*
*NEIC **26** 05:00:09.1±1.3, 7.04S±0.10×125.6E±0.1, h524km±9km, mb4.6/41, Error ellipse: s-maj=17.0km s-min=13.2km az=67.0*

ISC 26 05:00:07.9±0.3, 7.05S±0.05×125.62E±0.06, h511km, n147, σ1°42/159, mb4.4/41, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.00**	**206**		**P**	**05 01 21.9**	**+2.1**
SOEI	**Soe**	**3.00**	**206**	P	**P**	**05 01 22.1**	**+2.2**
SOEI	**Soe**	**3.00**	**206**	P	**P**	**05 01 21.6**	**+1.7**
SOEI				S	**S**	**05 02 20.2**	**+1.8**
BBSI	**Bau Bau**	**3.41**	**297**	P	**P**	**05 01 23.3**	**+0.7**
BBSI				S	**S**	**05 02 26.9**	**+3.6**
MMRI	**Maumere**	**3.70**	**245**		**P**	**05 01 25.1**	**+0.4**
MMRI	**Maumere**	**3.70**	**245**	P	**P**	**05 01 25.8**	**+1.1**
MMRI	**Maumere**	**3.70**	**245**	S	**S**	**05 02 29.6**	**+2.3**
MMRI	**Maumere**	**3.70**	**245**	P	**P**	**05 01 25.5**	**+0.8**
NLAI	**Namlea**	**4.06**	**21**	P	**P**	**05 01 28.9**	**+1.3**
NLAI				S	**S**	**05 02 32.5**	**0.0**
AAI	**Ambon**	**4.21**	**38**	P	**P**	**05 01 29.8**	**+1.0**
EDFI	**Ende, Flores**	**4.24**	**246**	P	**P**	**05 01 29.6**	**+0.5**
MSAI	**Masohi**	**4.94**	**42**	P	**P**	**05 01 37.1**	**+2.1**
BNDI	**Bandanaira**	**4.95**	**60**	P	**P**	**05 01 35.9**	**+0.9**
SANI	**Sanana**	**4.98**	**4**	P	**P**	**05 01 36.2**	**+0.8**
SANI	**Sanana**	**4.98**	**4**	S	**S**	**05 02 48.0**	**+1.3**
SANI	**Sanana**	**4.98**	**4**	P	**P**	**05 01 35.9**	**+0.5**
	1.1nm3μm290nm,0.8s						
BSSI	**Bau Bau, Buton**	**5.17**	**280**	P	**P**	**05 01 39.3**	**+2.2**
	1.0nm3μm215nm,0.6s						
SAUI	**Saumlaki**	**5.71**	**100**	P	**P**	**05 01 44.1**	**+2.2**
SAUI	**Saumlaki**	**5.71**	**100**	P	**P**	**05 01 42.5**	**+0.6**
	2.4nm243nm,0.7s						
BKSI	**Bulukumba**	**5.73**	**287**	P	**P**	**05 01 44.1**	**+2.0**
	0.7nm2μm212nm,0.6s						
BNSI	**Bone**	**6.08**	**295**	P	**P**	**05 01 48.3**	**+2.8**
	0.8nm2μm227nm,0.8s						
KAPI	**Kappang**	**6.18**	**289**		**P**	**05 01 49.1**	**+2.7**
KAPI	**Kappang**	**6.18**	**289**	P	**P**	**05 01 48.9**	**+2.6**
	104nm,0.6s,baz=128,slow=6.1,SNR=63						
KAPI	**Kappang**	**6.18**	**289**	P	**P**	**05 01 49.0**	**+2.6**
SPSI	**Sidrap Palu**	**6.58**	**297**	P	**P**	**05 01 51.7**	**+1.4**
	0.5nm130nm,0.9s						
LUWI	**Luwuk**	**6.61**	**334**		**P**	**05 01 52.8**	**+2.2**
LUWI	**Luwuk**	**6.61**	**334**	P	**P**	**05 01 52.5**	**+1.9**
LUWI	**Luwuk**	**6.61**	**334**	P	**P**	**05 01 52.6**	**+1.9**
	1.1nm4μm338nm,0.9s						
WBSI	**Waikabubak, Su**	**6.68**	**247**	P	**P**	**05 01 50.5**	**-0.8**
WBSI				S	**S**	**05 03 09.8**	**-6.2**
APSI	**Ampana**	**7.27**	**327**	P	**P**	**05 01 59.5**	**+2.3**
	0.8nm2μm275nm,0.9s						
DRS	**Darwin Rock St**	**7.46**	**136**	P	**P**	**05 02 01.2**	**+2.2**
KMSI	**Cibinong**	**7.75**	**348**	P	**P**	**05 02 03.9**	**+1.9**
KMSI				S	**S**	**05 03 37.0**	**+1.4**
FAKI	**Fak Fak**	**7.78**	**58**		**P**	**05 02 02.9**	**+0.5**
FAKI	**Fak Fak**	**7.78**	**58**	P	**P**	**05 02 03.2**	**+0.9**
FAKI	**Fak Fak**	**7.78**	**58**	P	**P**	**05 02 02.6**	**+0.3**
FAKI				S	**S**	**05 03 31.5**	**-4.6**
MTN	**Manton Dam**	**7.91**	**137**		**P**	**05 02 05.0**	**+1.4**
MTN	**Manton Dam**	**7.91**	**137**	P	**P**	**05 02 05.1**	**+1.4**
TNTI	**Ternate**	**7.96**	**13**	P	**P**	**05 02 05.7**	**+1.4**
TNTI	**Ternate**	**7.96**	**13**	P	**P**	**05 02 05.3**	**+1.1**
	0.3nm1μm45nm,0.5s						
PLAI	**Plampang**	**7.97**	**257**	P	**P**	**05 02 03.6**	**-0.6**
	0.5nm60nm,0.8s						
SWI	**Sorong**	**8.33**	**43**	P	**P**	**05 02 09.3**	**+1.3**
	91nm,0.8s						
PCI	**Palu**	**8.40**	**316**	P	**P**	**05 02 11.2**	**+2.5**
	114nm,1.0s						
KDU	**Kakadu**	**8.77**	**130**	P	**P**	**05 02 13.4**	**+0.9**

TWSI	**Taliwang, Sumb**	**8.82**	**258**	P	**P**	**05 02 10.9**	**-2.1**
KNRA	**Kununurra**	**9.11**	**161**		**P**	**05 02 17.7**	**+1.7**
MPSI	**Mapaga**	**9.30**	**322**	P	**P**	**05 02 19.8**	**+1.8**
	1μm40nm,0.9s						
TOLI2	**Tolitoli**	**9.44**	**329**		**P**	**05 02 20.0**	**+0.5**
TOLI2	**Tolitoli**	**9.44**	**329**	P	**P**	**05 02 20.1**	**+0.6**
RKPI	**Ransiki, Papua**	**10.15**	**58**	P	**P**	05 02 33.1	+6.1
FITZ	**Fitzroy Crossi**	**10.98**	**180**		**P**	**05 02 37.0**	**+1.4**
FITZ	**Fitzroy Crossi**	**10.98**	**180**	P	**P**	**05 02 36.5**	**+0.9**
	21nm,0.4s,baz=12,slow=9.3,SNR=106						
FITZ				S	**S**	**05 04 36.5**	**-0.7**
	23nm,0.6s,baz=0.6,slow=18,SNR=12						
JAGI	**Jajag, Banyuwa**	**11.45**	**262**		**P**	**05 02 39.9**	**-0.8**
JAGI	**Jajag, Banyuwa**	**11.45**	**262**	P	**P**	**05 02 39.2**	**-1.5**
	42nm,0.6s						
PCJI	**Pacitan**	**14.36**	**265**	P	**P**	**05 03 11.6**	**+0.3**
UGM	**Wanagama**	**14.99**	**266**	P	**P**	**05 03 17.2**	**-0.8**
MBWA	**Marble Bar**	**15.14**	**202**	P	**P**	**05 03 19.6**	**+0.3**
MBWA				IAmb	IAmb	05 03 36.9	
	comp=Z,22nm,1.2s						
WB0	**Warramunga Arr**	**15.24**	**147**	P	**P**	**05 03 20.6**	**+0.1**
WB0				IAmb	IAmb	05 03 23.7	
	comp=Z,29nm,0.8s						
WRAB	**Tennant Creek**	**15.35**	**147**	P	**P**	**05 03 22.0**	**+0.3**
WRAB				IAmb	IAmb	05 03 24.9	
	comp=Z,38nm,1.0s						
WRA	**Warramunga Arr**	**15.36**	**147**	P	**P**	**05 03 21.8**	**+0.1**
	comp=Z,21nm,0.6s,baz=334,slow=8.4,SNR=75						
WRA				S	**S**	**05 06 00.2**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=321,slow=22,SNR=2.3						
WR8	**Warramunga Arr**	**15.45**	**147**	P	**P**	**05 03 22.8**	**+0.1**
PSA00	**Pilbara Seismi**	**15.48**	**201**	P	**P**	**05 03 23.1**	**+0.2**
PSA00				IAmb	IAmb	05 03 48.1	
	comp=Z,43nm,1.5s						
SBUM	**Sibu**	**16.37**	**305**	P	**P**	**05 03 32.1**	**-0.1**
SBUM				IAmb	IAmb	05 03 32.8	
	comp=Z,5.9nm,0.7s						
SBUM	**Sibu**	**16.37**	**305**	P	**P**	**05 03 33.8**	**+1.6**
KSM	**Kuching**	**17.47**	**298**	P	**P**	**05 03 44.1**	**+1.1**
WRKA	**Warakurna**	**18.07**	**172**	P	**P**	**05 03 49.6**	**+1.3**
AS31	**Alice Springs**	**18.34**	**155**	P	**P**	**05 03 52.3**	**+1.5**
ASAR	**Alice Springs**	**18.34**	**155**	P	**P**	**05 03 51.8**	**+1.0**
	comp=Z,20nm,0.4s,baz=329,slow=8.3,SNR=260						
ASAR				S	**S**	**05 06 52.7**	**+0.2**
	comp=Z,8.0nm,0.9s,baz=344,slow=23,SNR=14						
ASAR				ScP	**ScP**	**05 10 40.4**	**-2.1**

comp=Z,14nm,0.9s
ZALV Zalesovo Beam 69.77 336 P P 05 10 25.5 -0.7
ZALV Zalesovo Beam 69.77 336 P P 05 10 25.1 -1.1
comp=Z,11nm,0.4s,baz=134,slow=5.0,SNR=40
comp=Z,11nm,0.4s
KURBB Kurchatov Arra 70.34 330 P P 05 10 29.2 -0.4
comp=Z,5.9nm,0.6s,baz=136,slow=5.0,SNR=66
comp=Z,5.9nm,0.6s
KURK Kurchatov 70.36 330 P P 05 10 29.8 +0.1
KURK IAmb IAmb 05 10 30.3
comp=Z,13nm,0.9s
VNDA Vanda 72.95 172 P P 05 10 44.5 0.0
comp=Z,0.4nm,0.5s,baz=330,slow=6.4,SNR=7.3
comp=Z,0.4nm,0.5s
BVAR Borovoye Array 75.83 329 P P 05 11 00.8 -0.4
comp=Z,4.7nm,0.6s,baz=130,slow=6.4,SNR=22
comp=Z,4.7nm,0.6s
TIXI Tiksi 78.57 1 P 05 11 15.2 -0.4
TIXI IAmb IAmb 05 11 15.6
comp=Z,12nm,0.6s
ABKAR Akbulak array 79.88 323 P P 05 11 22.5 -0.5
NRIK Noril'sk 80.60 347 P 05 11 26.6 +0.2
NRIK Noril'sk 80.60 347 P P 05 11 26.1 -0.3
comp=Z,2.3nm,0.6s,baz=158,slow=8.1,SNR=4.7
comp=Z,2.3nm,0.6s
QSPA South Pole Qui 82.93 180 P P 05 11 38.7 +0.1
QSPA South Pole Qui 82.93 180 P P 05 11 38.1 -0.5
comp=Z,1.6nm,1.0s,baz=106,slow=2.1,SNR=7.8
comp=Z,1.6nm,1.0s
AKUT Akutan 83.43 33 P P 05 11 40.8 -0.3
SDPT Sand Point 86.73 33 P P 05 11 56.8 -0.2
K13K Kusilvak Mount 86.83 26 P P 05 11 57.7 +0.3
G16K Koyuk River 89.00 23 P P 05 12 06.5 -1.0
G16K IAmb IAmb 05 12 08.1
comp=Z,4.1nm,0.9s
J16K Anvik River 89.05 26 P P 05 12 07.7 -0.2
F17K Baldwin Pennin 89.77 23 P P 05 12 10.9 -0.1
F17K IAmb IAmb 05 12 25.8
comp=Z,5.0nm,1.4s
G19K Purcell Mounta 91.30 23 P 05 12 17.6 -0.5
G19K IAmb IAmb 05 12 18.4
comp=Z,4.1nm,0.8s
D20K Etivluk River 92.11 21 P 05 12 21.1 -0.8
D20K IAmb IAmb 05 12 22.0
comp=Z,3.8nm,0.6s
B21K Ikpikpuk River 93.01 20 P 05 12 25.2 -0.7
B21K IAmb IAmb 05 12 26.2
comp=Z,2.6nm,0.7s
ILAR Eielson Array 95.25 25 P P 05 12 33.5 -2.8
comp=Z,0.5nm,0.8s,baz=266,slow=5.5,SNR=7.1
comp=Z,0.5nm,0.8s
BRTR Keskin Array B 95.97 309 P P 05 12 38.3 -2.0
comp=Z,0.7nm,0.8s,baz=68,slow=0.8,SNR=4.6
comp=Z,0.7nm,0.8s
ARCES ARCESS Array B 100.11 339 P Pdif 05 12 56.0 -1.8
comp=Z,0.3nm,0.5s,baz=83,slow=4.9,SNR=4.2
PDAR Pinedale Array 119.99 44 PKP PKPdf 05 17 59.4 -1.4
comp=Z,0.2nm,0.3s,baz=314,slow=3.7,SNR=5.2
TXAR Lajitas Array 128.66 58 PKP PKPdf 05 18 17.5 -0.1
comp=Z,0.2nm,0.4s,baz=200,slow=2.9,SNR=5.4
CPUP Villa Florida 146.69 175 PKPbc PKPbc 05 18 52.3 -0.6
comp=Z,1.6nm,0.6s,baz=163,slow=1.6,SNR=6.6

---

*AFAD **26** 05:17:56.1,38°.56N×26°.48E, h5km±1km, ML2.6*
*ATH **26** 05:17:56.9,38°.57N×26°.47E, h15km±5km, ML2.2/7,*
Manual Solution by N.Liadopoulou First location:
2019/04/26 07:43:52, This location: 2019/04/26 09:52:45
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 6
km; Longitude uncertainty: 11 km
*ISK **26** 05:17:56.4,38°.56N×26°.52E, h9km, ML2.6/31*
ISC 26 05:17:56.3±0.9, 38°.56N±0°.02×26°.48E±0°.02, h10km±6km,
n67, σ0s53/90, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.12**	**332**	P	**Pg**	**05 17 58.7**	**-0.4**
KARB				S	**Sg**	**05 18 00.6**	**-0.4**
KARB				*i* AML	AML	05 18 01.0	
	comp=E,2μm,0.5s						
KARB				*i* AML	AML	05 18 02.0	
	comp=N,2μm,0.4s						
URLA	**Izmir**	**0.22**	**156**	P	**Pg**	**05 18 01.1**	**+0.2**
URLA				S	**Sg**	**05 18 04.5**	**+0.6**
URLA				*i* AML	AML	05 18 07.0	
	comp=E,1μm,0.5s						
FOCM	**Foa**	**0.25**	**52**	Pg	**Pg**	**05 18 01.0**	**-0.3**
FOCM				Sg	**Sg**	**05 18 05.1**	**+0.4**
CESE	**eme**	**0.27**	**212**	Pg	**Pg**	**05 18 02.3**	**+0.5**
EAG2	**Marmaro, Chios**	**0.29**	**267**	P	**Pg**	**05 18 02.8**	**+0.6**
EAG2				S	**Sb**	**05 18 07.8**	**-0.8**
ZEYE	**Izmir, Urla-Ze**	**0.32**	**177**	P	**Pg**	**05 18 03.1**	**+0.4**
ZEYE				S	**Sb**	**05 18 08.5**	**-1.0**
ZEYE				*i* AML	AML	05 18 10.0	
	comp=E,1μm,0.4s						
ZEYE				*i* AML	AML	05 18 11.0	
	comp=N,905nm,0.5s						
BLCB	**Balcova**	**0.47**	**112**	Pg	**Pg**	**05 18 05.9**	**+0.4**
BLCB				Sg	**Sg**	**05 18 12.2**	**+0.4**
IZMD	**zmir-Dikili-**	**0.55**	**40**	P	**Pg**	**05 18 07.0**	**0.0**
IZMD				S	**Sg**	**05 18 13.8**	**-0.5**
GMLD	**Gumuldur**	**0.59**	**145**	Pg	**Pg**	**05 18 07.8**	**0.0**
GMLD				Sg	**Sg**	**05 18 16.0**	**+0.4**
DGB	**zmir**	**0.60**	**148**	P	**Pg**	**05 18 07.8**	**-0.1**
DGB				S	**Sg**	**05 18 16.4**	**+0.6**
DKL	**Dikili**	**0.61**	**33**	Pg	**Pg**	**05 18 08.3**	**+0.2**
ZEDA	**zmir-Bergama**	**0.62**	**49**	P	**Pg**	**05 18 08.5**	**+0.2**
ZEDA				S	**Sg**	**05 18 16.7**	**+0.3**
PRK	**Paraskevi**	**0.70**	**347**	P	**Pg**	**05 18 10.2**	**+0.4**
PRK				S	**Sb**	**05 18 20.2**	**-0.2**
AYVA	**Ayvalik**	**0.76**	**12**	P	**Pg**	**05 18 10.3**	**-0.7**
AYVA				S	**Sb**	**05 18 22.1**	**0.0**
AYVA				*i* AML	AML	05 18 26.0	
	comp=N,314nm,0.3s						
SIGR	**SIGRI**	**0.81**	**323**	Pg	**Pb**	**05 18 12.9**	**+0.4**
SIGR	**SIGRI**	**0.81**	**323**	P	**Pb**	**05 18 13.1**	**+0.6**
SIGR				S	**Sb**	**05 18 23.3**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.93**	**343**	Pg	**Pn**	**05 18 15.2**	**-0.3**
KOCA	**Canakkale, Ayv**	**0.98**	**344**	P	**Pg**	**05 18 15.0**	**-0.1**
KOCA				S	**Sb**	**05 18 28.8**	**+0.5**
KOCA				*i* AML	AML	05 18 31.0	
	comp=N,206nm,0.4s						
KOCA				*i* AML	AML	05 18 32.0	
	comp=E,158nm,0.5s						
SOMA	**Soma-Manisa**	**1.01**	**54**	Pg	**Pg**	**05 18 15.7**	**-0.1**
GCAM	**G?zelcaml?**	**1.04**	**145**	P	**Pb**	**05 18 16.6**	**+0.1**
GCAM				S	**Sg**	**05 18 29.7**	**-0.2**
GCAM				*i* AML	AML	05 18 34.0	
	comp=N,157nm,0.3s						
BUHA	**Balikesir, Bur**	**1.05**	**26**	P	**Pg**	**05 18 16.2**	**-0.2**
BUHA				S	**Sb**	**05 18 31.1**	**+0.7**
BUHA				*i* AML	AML	05 18 33.0	
	comp=N,192nm,0.6s						
BUHA				*i* AML	AML	05 18 38.0	
	comp=E,272nm,0.6s						
AKS	**Akhisar**	**1.09**	**73**	Pg	**Pg**	**05 18 17.1**	**-0.1**
AKHS	**Akhisar**	**1.09**	**73**	P	**Pb**	**05 18 17.6**	**+0.3**
AKHS				S	**Sb**	**05 18 32.1**	**+0.5**
AKHS				*i* AML	AML	05 18 35.0	
	comp=E,115nm,0.3s						
YAYO	**Edremit-Balk**	**1.15**	**24**	Pn	**Pb**	**05 18 18.3**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.18**	**2**	P	**Pb**	**05 18 18.1**	**-0.7**
BAYC				S	**Sb**	**05 18 33.9**	**-0.3**
BAYC				*i* AML	AML	05 18 36.0	
	comp=E,115nm,0.5s						
BAYC				*i* AML	AML	05 18 37.0	
	comp=N,124nm,0.5s						
EZNE	**Ezine-Canakkal**	**1.20**	**356**	Pn	**Pg**	**05 18 20.0**	**+0.7**
IZMR	**zmir-demi**	**1.23**	**110**	P	**Pn**	**05 18 19.2**	**-0.4**
IZMR				S	**Sb**	**05 18 33.2**	**-2.4**
DDIM	**Aydin, Didim**	**1.26**	**151**	P	**Pg**	**05 18 21.1**	**+0.7**
STEP	**BALIKESIR_Sava**	**1.26**	**49**	P	**Pn**	**05 18 19.8**	**-0.3**
STEP				S	**Sn**	**05 18 37.4**	**+0.3**
STEP				*i* AML	AML	05 18 41.0	
	comp=E,255nm,0.4s						
EZN	**Ezine**	**1.27**	**355**	Pn	**Pg**	**05 18 20.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.27**	**119**	Pn	**Pn**	**05 18 20.2**	**0.0**
ODEM	**Odemis-Izmir**	**1.28**	**102**	Pn	**Pn**	**05 18 20.4**	**0.0**
BOZC	**Bozcaada**	**1.32**	**346**	P	**Pn**	**05 18 20.7**	**-0.2**
GORD	**Gordes-Manisa**	**1.37**	**75**	Pn	**Pn**	**05 18 21.7**	**+0.1**
AYDN	**Tasoluk**	**1.42**	**129**	P	**Pn**	**05 18 22.1**	**-0.2**
AYDN				*i* AML	AML	05 18 46.0	
	comp=N,82nm,0.3s						
AYDN				*i* AML	AML	05 18 46.0	
	comp=E,89nm,0.3s						
TNSA	**Tinos**	**1.46**	**226**	P	**Pb**	**05 18 23.5**	**0.0**
BALY	**Balya**	**1.47**	**37**	P	**Pn**	**05 18 22.7**	**-0.3**
BALY				*i* AML	AML	05 18 47.0	
	comp=E,141nm,0.4s						
BALY				*i* AML	AML	05 18 48.0	
	comp=N,165nm,0.4s						
ECEA	**Canakkale, Ece**	**1.50**	**351**	P	**Pb**	**05 18 24.4**	**+0.2**
ECEA				S	**Sn**	**05 18 42.7**	**-0.2**
ECEA				*i* AML	AML	05 18 49.0	
	comp=E,170nm,0.4s						
ECEA				*i* AML	AML	05 18 51.0	
	comp=N,150nm,0.4s						
CNKL	**anakkale-Mer**	**1.50**	**357**	P	**Pb**	**05 18 24.8**	**+0.5**
CNKL				S	**Sn**	**05 18 42.7**	**-0.3**
CNKL				*i* AML	AML	05 18 49.0	
	comp=N,79nm,0.5s						
CANM	**Can-anakkale**	**1.51**	**17**	Pn	**Pb**	**05 18 24.4**	**-0.1**
COMU	**Canakkale**	**1.54**	**360**	Pn	**Pb**	**05 18 24.6**	**-0.3**
SKY	**Skiros Island**	**1.54**	**282**	P	**Pn**	**05 18 23.6**	**-0.3**
NAZL	**Nazilli-Aydin**	**1.55**	**112**	Pn	**Pn**	**05 18 24.0**	**0.0**
KIRA	**zmir-Kiraz**	**1.55**	**103**	P	**Pn**	**05 18 24.3**	**+0.2**
BKES	**Balkesir-Mer**	**1.62**	**43**	P	**Pb**	**05 18 26.3**	**-0.1**
BKES				*i* AML	AML	05 18 52.0	
	comp=E,66nm,0.4s						
MLSB	**Milas**	**1.63**	**141**	Pn	**Pn**	**05 18 25.7**	**+0.6**
MANT	**Manisa**	**1.63**	**92**	P	**Pn**	**05 18 25.3**	**0.0**
BODT	**Bodrum**	**1.64**	**156**	Pn	**Pb**	**05 18 26.1**	**-0.5**
GOAD	**anakkale-G¶**	**1.66**	**345**	P	**Pb**	**05 18 26.7**	**-0.3**
GOAD				S	**Sn**	**05 18 45.7**	**-1.2**
GADA	**Gvkgeada**	**1.69**	**345**	Pn	**Pn**	**05 18 26.1**	**+0.2**
KARY	**Karystos**	**1.69**	**252**	P	**Pn**	**05 18 25.6**	**-0.3**
KULA	**Kula-Manisa**	**1.71**	**91**	Pn	**Pn**	**05 18 26.0**	**-0.3**
GONE	**Gonen-Balikesi**	**1.75**	**32**	Pn	**Pn**	**05 18 27.6**	**+0.8**
LPK	**Lapseki**	**1.82**	**7**	Pn	**Pn**	**05 18 28.5**	**+0.8**
GELI	**Tayfur-Gelibol**	**1.83**	**360**	Pn	**Pn**	**05 18 28.9**	**+1.0**
KYMI	**Kymi, Euboea I**	**1.87**	**273**	P	**Pn**	**05 18 28.2**	**-0.1**
SUSR	**Susurluk-Balik**	**1.87**	**41**	Pn	**Pn**	**05 18 29.2**	**+0.8**
KRBG	**Karabiga-Canak**	**1.94**	**19**	Pn	**Pn**	**05 18 30.0**	**+0.7**
YER	**Yerkesik**	**2.02**	**134**	Pn	**Pn**	**05 18 31.3**	**+0.8**
SIMA	**Simav-Kutahya**	**2.02**	**74**	Pn	**Pn**	**05 18 31.2**	**+0.6**
SMTH	**Samothraki Isl**	**2.04**	**339**	P	**Pn**	**05 18 31.4**	**+0.6**
DION	**Dionisos Attik**	**2.06**	**257**	P	**Pn**	**05 18 31.0**	**0.0**
EDC	**Edincik**	**2.08**	**31**	Pn	**Pn**	**05 18 32.2**	**+0.9**
VLY	**Voula,Athens**	**2.23**	**252**	P	**Pn**	**05 18 33.1**	**-0.3**
KCTX	**Karacabey (Bur**	**2.24**	**40**	Pn	**Pn**	**05 18 34.1**	**+0.6**
THAS	**Thassos island**	**2.45**	**327**	P	**Pn**	**05 18 36.4**	**0.0**
TVSB	**Tavsanli**	**2.49**	**68**	Pn	**Pn**	**05 18 37.3**	**+0.3**

---

*SJA **26** 05:25:58.3±0.8, 22°.31S×70°.01W, h59km±6km, ML3.6,*
MW3.8
*GUC **26** 05:26:00.3±0.9, 22°.28S×69°.98W, h54km±2km, ML3.6*
ISC 26 05:26:00.9±1.2, 22°.28S±0°.03×70°.05W±0°.05, h42km±14km,
n30, σ1s12/41, 10C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB03	**IPOC Station P**	**0.36**	**49**	⇑*iP*	**Pn**	**05 26 10.0**	**-0.2**
PB03				*i* S	**Sn**	**05 26 16.8**	**+0.1**
PB03				IAML		05 26 17.2	
	comp=N,6μm,0.2s						
PB03	**IPOC Station P**	**0.36**	**49**	*eP*	**Pn**	**05 26 09.2**	**-0.9**
PB03				IAML		05 26 18.9	
	comp=Z,4μm,0.2s						
PB05	**IPOC Station P**	**0.58**	**194**	⇑*iP*	**Pn**	**05 26 13.1**	**+0.1**
PB05				*i* S	**Sn**	**05 26 22.4**	**+0.8**
PB05				IAML		05 26 23.9	
	comp=E,4μm,0.3s						
PB05	**IPOC Station P**	**0.58**	**194**	*eP*	**Pn**	**05 26 12.4**	**-0.6**
PB05				*e*S	**Sn**	**05 26 25.6**	**+4.1**
PB05				IAML		05 26 27.4	
	comp=Z,2μm,0.5s						
PB06	**IPOC Station P**	**0.61**	**134**	⇑*iP*	**Pn**	**05 26 12.4**	**-1.0**
PB06				*i* S	**Sn**	**05 26 21.3**	**-0.9**
PB06	**IPOC Station P**	**0.61**	**134**	*eP*	**Pn**	**05 26 11.6**	**-1.7**
PB06				IAML		05 26 23.0	
	comp=Z,3μm,0.6s						
PB09	**IPOC Station P**	**0.89**	**57**	⇑*iP*	**Pn**	**05 26 16.5**	**-0.7**
PB09				*i* S	**Sn**	**05 26 28.2**	**-0.8**
PB09				IAML		05 26 29.4	
	comp=E,3μm,0.4s						
PB09	**IPOC Station P**	**0.89**	**57**	*eP*	**Pn**	**05 26 16.4**	**-0.7**
PB09				IAML		05 26 31.7	
	comp=Z,1μm,0.3s						
PB10	**IPOC Station P**	**1.31**	**201**	⇑*iP*	**Pn**	**05 26 22.2**	**-0.6**
PB10				*e*S	**Sn**	**05 26 39.7**	**+0.7**
PB10	**IPOC Station P**	**1.31**	**201**	*eP*	**Pn**	**05 26 21.6**	**-1.1**
PB10				IAML		05 26 43.6	
	comp=Z,522nm,0.3s						
PB01	**IPOC Station P**	**1.34**	**23**	⇑*iP*	**Pn**	**05 26 22.9**	**-0.4**
PB01				*i* S	**Sn**	**05 26 40.3**	**+0.4**
PB01				IAML		05 26 42.2	
	comp=E,3μm,0.2s						
PB01	**IPOC Station P**	**1.34**	**23**	*eP*	**Pn**	**05 26 23.1**	**-0.1**
PB01				IAML		05 26 44.0	
	comp=Z,716nm,0.3s						
PATCX	**Punta Patache**	**1.46**	**356**	⇑*iP*	**Pn**	**05 26 24.7**	**-0.2**
PATCX				*i* S	**Sn**	**05 26 43.8**	**+1.0**
PATCX				IAML		05 26 49.4	
	comp=E,1μm,0.4s						
PATCX	**Punta Patache**	**1.46**	**356**	*eP*	**Pn**	**05 26 24.1**	**-0.8**
PATCX				IAML		05 26 49.8	
	comp=Z,442nm,0.3s						
TA01	**Diego Aracena**	**1.71**	**356**	⇑*iP*	**Pn**	**05 26 27.7**	**-0.6**
TA01				*i* S	**Sn**	**05 26 49.5**	**+0.5**
TA01				IAML		05 26 57.1	
	comp=E,600nm,0.3s						
TA01	**Diego Aracena**	**1.71**	**356**	*eP*	**Pn**	**05 26 27.0**	**-1.3**
TA01				IAML		05 26 55.1	
	comp=Z,564nm,0.7s						
AF01	**San Pedro de A**	**1.85**	**111**	*iP*	**Pn**	**05 26 32.0**	**+1.6**
AF01	**San Pedro de A**	**1.85**	**111**	*eP*	**Pn**	**05 26 31.6**	**+1.2**
AF01				IAML		05 27 14.7	
	comp=Z,3μm,0.5s						
HMBC	**Humberstone**	**2.00**	**4**	⇑*iP*	**Pn**	**05 26 32.0**	**-0.4**
HMBC	**Humberstone**	**2.00**	**4**	*eP*	**Pn**	**05 26 31.6**	**-0.7**
HMBC				IAML		05 27 05.8	
	comp=Z,668nm,0.3s						
TA02	**Huaiquique**	**2.00**	**358**	*eP*	**Pn**	**05 26 32.1**	**-0.2**
TA02				IAML		05 27 05.2	
	comp=Z,345nm,0.6s						
PB08	**IPOC Station P**	**2.29**	**22**	*eP*	**Pn**	**05 26 36.8**	**+0.3**
PB08				*i* S	**Sn**	**05 27 04.3**	**+0.6**
PB08				IAML		05 27 09.8	
	comp=E,388nm,0.4s						
PB08	**IPOC Station P**	**2.29**	**22**	*eP*	**Pn**	**05 26 36.5**	**-0.1**
PB08				IAML		05 27 09.7	
	comp=Z,259nm,0.4s						
PB11	**IPOC Station P**	**2.54**	**8**	⇑*iP*	**Pn**	**05 26 38.9**	**-0.8**
PB11				*i* S	**Sn**	**05 27 10.2**	**+0.7**
PB11				IAML		05 27 23.5	
	comp=E,548nm,0.4s						
PB11	**IPOC Station P**	**2.54**	**8**	*eP*	**Pn**	**05 26 38.4**	**-1.3**
PB11				IAML		05 27 21.4	
	comp=Z,253nm,0.6s						
GO01	**Chusmiza**	**2.72**	**17**	*eP*	**Pn**	**05 26 42.7**	**+0.1**
GO02	**Mina Guanaco**	**2.90**	**172**	*eP*	**Pn**	**05 26 44.1**	**-0.7**
AC01	**Pan de Azucar**	**3.88**	**187**	*eP*	**Pn**	**05 26 55.4**	**-2.6**
AC01				IAML		05 28 05.7	
	comp=Z,89nm,0.6s						
PB16	**IPOC Station P**	**3.96**	**7**	*eP*	**Pn**	**05 26 59.8**	**+0.1**
PB16				IAML		05 28 05.8	
	comp=Z,62nm,1.3s						
AC02	**Maricunga**	**4.61**	**170**	*eP*	**Pn**	**05 27 08.0**	**-0.5**
AC02				IAML		05 28 25.2	
	comp=Z,54nm,0.7s						

---

*MOS **26** 05:26:57.5±0.9, 9°.76N×126°.43E, h10km, mb5.4/73,*
MS5.1/20, Error ellipse: s-maj=8.9km s-min=4.0km
az=119.1
*IDC **26** 05:26:57.4±0.4, 9°.71N×126°.48E, h0km, mb4.8/29,*
mbtmp4.8/31, ML4.2/2, MS4.9/66, Error ellipse:
s-maj=20.7km s-min=10.4km az=74.0
*MAN **26** 05:26:58.7, 9°.75N×126°.82E, h9km, mb6.0, ML5.0, MS5.5*
MAN INTENSITY IV - BURGOS DAPA AND GENERAL LUNA
SURIGAO DEL NORTE; INTENSITY III - SOCORRO
SURIGAO DEL NORTE; LIBJO DINAGAT ISLANDS;
INTENSITY II - SURIGAO CITY SURIGAO DEL NORTE;
LORETO AND TUBAJON DINAGAT ISLANDS;
INTENSITY I - SISON SURIGAO DEL NORTE.
*NEIC **26** 05:26:59.7±2.1, 9°.79N±0°.06×126°.69E±0°.08, h10km±1km,*
mb5.3/142, Mwb5.4/42, Mww5.4/28, Error ellipse:
s-maj=13.8km s-min=8.1km az=244.0, Moment Tensor
Solution. Moment tensor: Scale 10^17Nm; M_{rr}0.99;
$M_{\theta\theta}$0.31; $M_{\phi\phi}$-1.30; $M_{r\theta}$0.19; $M_{\theta\phi}$0.07; $M_{\phi r}$0.91; Fault
plane solution: $M_0$1.50000×10^17 NP1:ϕ_s8.66000°,
δ65.01000°, λ101.91000°. NP2:ϕ_s162.14000°, δ27.52000°,
λ66.12000°. Principal axes: T 1.3459, Plg68.0000°,
Azm301.0000°; N 0.2714, Plg11.0000°, Azm184.0000°; P
-1.6174, Plg19.0000°, Azm90.0000°;
*NEIC **26** 05:26:59.7, 9°.85N×126°.76E, h20km*
*NEIC **26** 05:26:59.7, 9°.95N×127°.00E, h20km, Moment Tensor*
Solution. Duration: 2s3 Moment tensor: Scale 10^17Nm;
M_{rr}1.57; $M_{\theta\theta}$0.18; $M_{\phi\phi}$-1.75; $M_{r\theta}$-0.42; $M_{\theta\phi}$-0.11; $M_{\phi r}$0.03;
Fault plane solution: $M_0$1.73000×10^17 NP1:
ϕ_s198.30000°, δ46.96000°, λ111.49000°. NP2:
ϕ_s348.33000°, δ47.15000°, λ68.58000°. Principal axes: T
1.6907, Plg74.0000°, Azm184.0000°; N 0.0690,
Plg16.0000°, Azm3.0000°; P -1.7596, Plg0.0000°,
Azm93.0000°;
*NEIC **26** 05:26:59.7, 9°.86N×126°.63E, h10km*
*GCMT **26** 05:27:03.7±0.1, 9°.74N±0°.01×126°.67E±0°.01, h17km,*
MW5.5/149, Moment Tensor Solution. s141, c250;
s149, c296; Duration: 1s4 Moment tensor: Scale 10^17
Nm; M_{rr}1.71±.02; $M_{\theta\theta}$0.04±.02; $M_{\phi\phi}$-1.75±.02;
$M_{r\theta}$-0.12±.04; $M_{\theta\phi}$0.08±.01; $M_{\phi r}$1.78±.06; Best double
couple: $M_0$2.48600×10^17 NP1:ϕ_s179.00000°, δ22.00000°,
λ92.00000°. NP2:ϕ_s356.00000°, δ68.00000°, λ89.00000°.
Principal axes: T 2.4650, Plg67.0000°, Azm265.0000°; N
0.0450, Plg1.0000°, Azm357.0000°; P -2.5080,
Plg23.0000°, Azm87.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
*BJI **26** 05:27:05.6, 9°.74N×126°.38E, h76km, mB5.4/78, mb5.0/88,*
Ms5.4/96, Ms7 5.2/94
*DJA **26** 05:27:05.2±0.3, 10°N±2°×12°7E±°, h61km±3km, M5.3/96,*
mB5.7/65, mb5.3/96, MLv6.1/5, Mw5.4/55, Mw(mB)5.3/65,
MwMwp5.2/42, Mwp5.5/42
ISC 26 05:27:06.4±0.4, 9.75N±0°.03×126°.60E±0°.04, h64km±3km,
h65km: pP-P, n1036, σ1s63/1086, mb5.2/210, 46C-14D,
Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.85**	**201**		**Pn**	**05 27 47.0**	**-2.5**
DAV	**Davao City (W)**	**2.85**	**201**	Pn	**Pn**	**05 27 50.8**	**+1.3**
	83nm,0.3s,baz=6.2,slow=4.0,SNR=16						
DAV				Sn	**Sn**	**05 28 28.6**	**+6.0**
	262nm,0.3s,baz=313,slow=19,SNR=6.2						
DAV				LR	LR	05 28 60.0	
	comp=Z,50μm,20.1s,baz=28,slow=44						
DAV	**Davao City (W)**	**2.85**	**201**	P	**Pn**	**05 27 50.1**	**+0.6**
DAV	**Davao City (W)**	**2.85**	**201**	P	Pn	05 27 55.3	+5.8
DAV	**Davao City (W)**	**2.85**	**201**	P	**Pn**	**05 27 48.0**	**-1.5**
SGSI	**Sangihe**	**6.12**	**190**	P	**Pn**	**05 28 35.6**	**+1.3**
TGY	**Tagaytay City**	**7.03**	**309**	Pn	**Pn**	**05 28 46.0**	**-0.8**
	82nm,0.3s,baz=109,slow=8.9,SNR=6.3						
TGY				LR	LR	05 31 46.7	
	comp=Z,16μm,19.7s,baz=148,slow=42						
I39PW	**PALAU INFRASON**	**8.16**	**105**	I	I	06 20 40.0	
	baz=281,slow=309,SNR=0.6						
TNTI	**Ternate**	**8.95**	**175**		**Pn**	**05 29 15.3**	**+2.2**
TNTI	**Ternate**	**8.95**	**175**	P	Pn	05 29 18.4	+5.3
TNTI	**Ternate**	**8.95**	**175**	P	**Pn**	**05 29 12.4**	**-0.7**
	4μm280nm,1.4s						
MYLDM	**Lahad Datu**	**9.22**	**241**		**Pn**	**05 29 16.2**	**-0.5**
MYLDM	**Lahad Datu**	**9.22**	**241**	P	**Pn**	**05 29 20.9**	**+4.1**
KMSI	**Cibinong**	**9.48**	**196**	P	**Pn**	**05 29 21.7**	**+1.4**
TOLI2	**Tolitoli**	**10.35**	**214**		**Pn**	**05 29 30.2**	**-2.0**
TOLI2	**Tolitoli**	**10.35**	**214**	P	**Pn**	**05 29 35.1**	**+2.9**
KKM	**Kota Kinabalu**	**10.92**	**251**		**Pn**	**05 29 39.4**	**-0.7**
KKM	**Kota Kinabalu**	**10.92**	**251**	P	**Pn**	**05 29 42.1**	**+2.0**
LUWI	**Luwuk**	**11.38**	**200**		**Pn**	**05 29 43.7**	**-2.5**
LUWI	**Luwuk**	**11.38**	**200**	P	Pn	05 29 51.3	+5.1
LUWI	**Luwuk**	**11.38**	**200**	P	**Pn**	**05 29 47.3**	**+1.1**
	5μm6μm382nm,1.0s						
MPSI	**Mapaga**	**11.48**	**216**	P	**Pn**	**05 29 50.2**	**+2.5**
SWI	**Sorong**	**11.52**	**156**	P	**Pn**	**05 29 47.6**	**-0.6**
	6μm84nm,1.1s						
APSI	**Ampana**	**11.68**	**205**	P	**Pn**	**05 29 52.4**	**+2.0**
	4μm327nm,1.1s						
SANI	**Sanana**	**11.74**	**183**	P	**Pn**	**05 29 49.3**	**-1.9**
	133nm,1.1s						
PCI	**Palu**	**12.54**	**213**	P	**Pn**	**05 30 04.3**	**+2.1**
	5μm5μm167nm,1.3s						
NLAI	**Namlea**	**12.91**	**178**	P	**Pn**	**05 30 05.1**	**-2.1**
	107nm,0.7s						
MSAI	**Masohi**	**13.22**	**170**	P	**Pn**	**05 30 10.6**	**-0.7**
	4μm3μm160nm,1.2s						
RKPI	**Ransiki, Papua**	**13.50**	**146**	P	**Pn**	**05 30 15.2**	**+0.1**
	7μm224nm,1.1s						
SMKI	**Samarinda**	**13.78**	**223**	P	**Pn**	**05 30 20.1**	**+1.2**
	8μm194nm,1.4s						
FAKI	**Fak Fak**	**13.79**	**156**		Pn	05 30 14.8	-4.2
FAKI	**Fak Fak**	**13.79**	**156**	P	**Pn**	**05 30 17.4**	**-1.6**
	4μm2μm147nm,1.4s						
TWGBT	**Beinan**	**14.03**	**339**	P	**P**	**05 30 26.1**	**-1.9**
BAKI	**Biak**	**14.42**	**138**	P	**Pn**	**05 30 26.9**	**-0.4**
	8μm4μm275nm,1.4s						
YULB	**Yu-li**	**14.48**	**340**		Pn	05 30 23.3	-4.8
**Y

STKI	**Sintang**	**17.86 238**	P	**Pn**	**05 31 11.4 +0.7**
	comp=Z,176nm,0.9s				
DLV	**Lat**	**17.92 279**	P	**P**	**05 31 10.0 -1.4**
DLV	**Lat**	**17.92 279**	P	**Pn**	**05 31 12.4 +0.8**
KSM	**Kuching**	**18.16 244**	P	**Pn**	**05 31 14.6 +0.3**
KSM	**Kuching**	**18.16 244**	P	**Pn**	**05 31 14.9 +0.5**
GENI	**Genyem**	**18.25 132**	P	**Pn**	**05 31 16.9 +1.5**
GENI	**Genyem**	**18.25 132**	P	**P**	**05 31 15.9 +1.0**
	comp=Z,7μmcomp=Z,169nm,0.8s				
GUMO	**Guam**	**18.30 76**	LR	LR	05 38 51.6
	comp=Z,6μm,18.3s,baz=255,slow=39				
GZH	**Guangzhou**	**18.35 318**	P	**Pn**	**05 31 18.0 +1.5**
GZH			LR	LR	
	comp=Z,8μm,16.7s				
GZH			LR	LR	
	comp=Z,12μm,17.5s				
GZH			LR	LR	
	comp=Z,15μm,17.2s				
JAY	**Jayapura**	**18.60 130**	P	**P**	**05 31 17.3 -1.5**
	comp=Z,0.8nm,0.3s,baz=296,slow=8.6,SNR=17				
JAY			LR	LR	05 38 06.7
	comp=Z,7μm,18.3s,baz=312,slow=36				
	comp=Z,129nm,1.1s				
JAY	**Jayapura**	**18.60 130**	P	**P**	**05 31 17.8 -1.0**
	comp=Z,8μmcomp=Z,2μmcomp=Z,135nm,2.1s				
QIZ	**Qiongzhong**	**18.65 301**	P	**Pn**	**05 31 19.4 -0.8**
QIZ	**Qiongzhong**	**18.65 301**	P	**P**	**05 31 18.0 -1.2**
QIZ			pmax	pmax	
	comp=Z,29nm,1.4s				
QIZ			pmax	pmax	
	comp=Z,3μm,8.6s				
QIZ			LR	LR	
	comp=Z,3μm,11.7s				
QIZ			LR	LR	
	comp=Z,4μm,16.5s				
QIZ			LR	LR	
	comp=Z,6μm,17.3s				
QIZ	**Qiongzhong**	**18.65 301**	P	**Pn**	**05 31 21.4 +1.2**
MMRI	**Maumere**	**18.77 194**	P	**Pn**	**05 31 21.9 +0.2**
MMRI	**Maumere**	**18.77 194**	P	**Pn**	**05 31 22.2 +0.5**
	comp=Z,3μmcomp=Z,5μmcomp=Z,264nm,0.8s				
EDFI	**Ende, Flores**	**19.02 195**	P	**Pn**	**05 31 24.2 -0.5**
	comp=Z,2μmcomp=Z,85nm,0.7s				
SOEI	**Soe**	**19.52 187**	P	**P**	**05 31 27.7 -1.2**
SOEI	**Soe**	**19.52 187**	P	**Pn**	**05 31 31.8 +1.2**
SOEI	**Soe**	**19.52 187**	P	**P**	**05 31 27.6 -1.2**
	comp=Z,6μmcomp=Z,372nm,1.2s				
WSI	**Waingapu**	**20.29 198**	P	Pn	05 31 42.4 +2.8
PLAI	**Plampang**	**20.44 206**	P	Pn	05 31 39.8 -1.6
PLAI	**Plampang**	**20.44 206**	P	Pn	05 31 39.7 -1.6
	comp=Z,4μmcomp=Z,3μmcomp=Z,134nm,0.8s				
WBSI	**Waikabubak, Su**	**20.56 201**	P	**P**	**05 31 40.9 +0.9**
	comp=Z,161nm,1.0s				
TWSI	**Taliwang, Sumb**	**20.76 208**	P	Pn	05 31 43.9 -1.3
	comp=Z,2μmcomp=Z,145nm,1.1s				
KMMI	**Kalianget**	**20.90 217**	P	Pn	05 31 45.3 -1.5
	comp=Z,7μmcomp=Z,4μmcomp=Z,209nm,1.2s				
SRBI	**Singaraja**	**21.03 213**	P	**P**	**05 31 47.0 +1.9**
	comp=Z,4μmcomp=Z,100nm,1.2s				
UBPT	**Khong Chiam**	**21.34 287**	P	**P**	**05 31 47.5 -0.9**
SSE	**Sheshan**	**21.83 347**	P	**P**	**05 31 53.5 0.0**
SSE			S	**S**	**05 35 52.0 +0.7**
SSE			pmax	pmax	
	comp=Z,27nm,1.3s				
SSE			pmax	pmax	
	comp=Z,930nm,4.2s				
SSE			LR	LR	
	comp=Z,2μm,19.8s				
SSE			LR	LR	
	comp=Z,1μm,19.2s				
GULI	**GuiLin**	**21.83 317**	P	**P**	**05 31 52.0 -1.6**
GULI			pmax	pmax	
	comp=Z,40nm,1.2s				
GULI			LR	LR	
	comp=Z,4μm,15.7s				
GULI			LR	LR	
	comp=Z,8μm,16.3s				
JAGI	**Jajag, Banyuwa**	**21.94 215**	P	**P**	**05 31 54.4 -0.4**
JAGI			IAmb	IAmb	05 32 04.7
	comp=Z,100nm,1.1s				
JAGI	**Jajag, Banyuwa**	**21.94 215**	P	**P**	**05 31 55.8 +1.0**
JAGI	**Jajag, Banyuwa**	**21.94 215**	P	**P**	**05 31 56.6 +1.8**
	comp=Z,2μmcomp=Z,97nm,1.6s				
GMJI	**Gumukmas**	**22.18 217**	P	**P**	**05 31 59.3 +1.8**
	comp=Z,2μmcomp=Z,103nm,1.2s				
CNSH	**ChangSha**	**22.39 327**	P	**P**	**05 31 57.5 -2.1**
CNSH			pmax	pmax	
	comp=Z,17nm,1.8s				
CNSH			LR	LR	
	comp=Z,5μm,16.9s				
CNSH			LR	LR	
	comp=Z,4μm,17.7s				
CNSH			LR	LR	
	comp=Z,7μm,16.2s				
DRS	**Darwin Rock St**	**22.45 169**	P	**P**	**05 32 01.1 +0.8**
TPI	**Tanjungpandan**	**22.59 238**	P	**P**	**05 32 01.8 -0.1**
	comp=Z,4μmcomp=Z,3μmcomp=Z,127nm,1.0s				
JCJ	**Chichijima**	**22.68 38**	LR	LR	05 41 21.7
	comp=Z,4μm,18.7s,baz=276,slow=38				
NGJI	**Ngawi**	**22.73 222**	P	**P**	**05 32 03.2 -0.1**
	comp=Z,168nm,1.1s				
MTN	**Manton Dam**	**22.89 169**	P	**P**	**05 32 04.4 -0.6**
MTN			IAmb	IAmb	05 32 18.4
	comp=Z,106nm,0.9s				
MTN	**Manton Dam**	**22.89 169**	P	**P**	**05 32 04.0 -1.0**
	comp=Z,118nm,0.8s				
MTN	**Manton Dam**	**22.89 169**	P	**P**	**05 32 05.3 +0.3**
KDU	**Kakadu**	**23.04 165**	P	**P**	**05 32 04.5 -1.9**
	comp=Z,178nm,1.0s				
KDU	**Kakadu**	**23.04 165**	P	**P**	**05 32 06.2 -0.3**
SMRI	**Semarang**	**23.18 225**	P	**P**	**05 32 07.5 -0.4**
SMRI			IAmb	IAmb	05 32 16.2
	comp=Z,195nm,1.2s				
SMRI	**Semarang**	**23.18 225**	P	**P**	**05 32 08.3 +0.4**
SMRI	**Semarang**	**23.18 225**	P	**P**	**05 32 09.1 +1.2**
	comp=Z,6μmcomp=Z,143nm,1.0s				
NJ2	**Nanjing**	**23.32 343**	⇑P	**P**	**05 32 08.3 -0.7**
NJ2			pmax	pmax	
	comp=Z,44nm,0.9s				
NJ2			pmax	pmax	
	comp=Z,2μm,4.0s				
NJ2			LR	LR	
	comp=Z,4μm,19.4s				
NJ2			LR	LR	
	comp=Z,3μm,17.5s				
NJ2			LR	LR	
	comp=Z,5μm,18.0s				
PCJI	**Pacitan**	**23.53 221**	P	**P**	**05 32 11.3 +0.2**
	comp=Z,106nm,1.8s				
PPBI	**Pangkal Pinang**	**23.57 241**	P	**P**	**05 32 11.8 +0.3**
JNU	**Nakatsue**	**23.59 9**	P	**P**	**05 32 11.2 -0.3**
JNU			IAmb	IAmb	05 32 23.6
	comp=Z,111nm,1.4s				
JNU	**Nakatsue**	**23.59 9**	LR	LR	05 42 46.5
	comp=Z,3μm,19.1s,baz=182,slow=40				
JNU	**Nakatsue**	**23.59 9**	P	**P**	**05 32 11.3 -0.3**
WHN	**Wuhan**	**23.63 333**	P	**P**	**05 32 12.3 +0.4**
WHN			pmax	pmax	
	comp=Z,4μm,7.4s				
WHN			LR	LR	
	comp=Z,6μm,10.7s				
WHN			LR	LR	
	comp=Z,7μm,12.3s				
WHN			LR	LR	
	comp=Z,16μm,14.5s				
UGM	**Wanagama**	**23.75 223**	P	**P**	**05 32 13.8 +0.6**
UGM	**Wanagama**	**23.75 223**	P	**P**	**05 32 15.0 +1.8**
	comp=Z,185nm,1.4s				
MANU	**Manus Island**	**23.77 118**	P	**P**	**05 32 12.2 -1.2**
MANU			IAmb	IAmb	05 32 39.2
	comp=Z,107nm,1.4s				
MYKOM	**Kota Tinggi**	**23.95 252**	P	**P**	**05 32 14.7 -0.3**
MYKOM	**Kota Tinggi**	**23.95 252**	P	**P**	**05 32 16.1 +1.1**
SLVN	**Son La**	**24.67 300**	P	**P**	**05 32 19.6 -1.9**
SLVN	**Son La**	**24.67 300**	P	**P**	**05 32 20.5 -1.0**
JMN	**Monobe**	**24.79 15**	P	**P**	**05 32 22.0 -0.4**
JMN			IAmb	IAmb	05 32 25.9
	comp=Z,118nm,1.3s				
JMN	**Monobe**	**24.79 15**	P	**P**	**05 32 25.7 +3.3**
LEM	**Lembang**	**25.07 230**	P	**P**	**05 32 25.6 +0.2**
	comp=Z,3μmcomp=Z,144nm,1.1s				
NAYO	**Nakonayok**	**25.12 283**	P	**P**	**05 32 25.1 -0.5**
PMBI	**Palembang**	**25.12 241**	P	**P**	**05 32 27.3 +1.7**
KNRA	**Kununurra**	**25.36 175**	P	**P**	**05 32 27.0 -0.6**
KNRA	**Kununurra**	**25.36 175**	P	**P**	**05 32 27.9 +0.2**
	comp=Z,161nm,0.8s				
BBJI	**Bungbulang**	**25.47 228**	P	**P**	**05 32 29.7 +0.9**
CNJI	**Cibinong**	**25.75 230**	P	**P**	**05 32 32.8 +1.5**
	comp=Z,996nmcomp=Z,52nm,1.2s				
ENH	**Enshi**	**25.92 324**	P	**P**	**05 32 30.2 -2.5**
ENH			IAmb	IAmb	05 32 33.1
	comp=Z,38nm,0.9s				
ENH	**Enshi**	**25.92 324**	P	**P**	**05 32 31.3 -1.4**
BLSI	**Bandar Lampung**	**26.04 236**	P	**P**	**05 32 40.1 +6.1**
KULM	**Kulim**	**26.09 262**	P	**P**	**05 32 35.2 +0.7**
KULM	**Kulim**	**26.09 262**	P	**P**	**05 32 34.8 +0.3**
JHJ	**Hachijo jima 2**	**26.24 26**	LR	LR	05 42 18.0
	comp=Z,4μm,19.8s,baz=265,slow=35				
CGJI	**Cibinong**	**26.42 233**	P	**P**	**05 32 38.1 +0.7**
	comp=Z,120nm,1.6s				
MDSI	**Maura Dua**	**26.44 239**	P	**P**	**05 32 37.6 +0.1**
	comp=Z,2μmcomp=Z,127nm,1.6s				
SRIT	**Nakonsritamara**	**26.67 270**	P	**P**	**05 32 39.1 -0.6**
SRIT			IAmb	IAmb	05 32 54.6
	comp=Z,95nm,1.1s				
SRIT	**Nakonsritamara**	**26.67 270**	P	**P**	**05 32 40.1 +0.4**
KASI	**Kota Agung**	**26.74 236**	P	**P**	**05 32 34.8 -5.5**
LWLI	**Liwa**	**26.82 238**	P	**P**	**05 32 41.9 +0.7**
BKNI	**Bangkinang**	**27.10 251**	P	**P**	**05 32 42.8 -0.7**
BKNI	**Bangkinang**	**27.10 251**	P	**P**	**05 32 43.9 +0.4**
BKNI	**Bangkinang**	**27.10 251**	P	**P**	**05 32 43.1 -0.4**
	comp=Z,3μmcomp=Z,205nm,1.6s				
KMI	**Kunming**	**27.34 307**	P	**P**	**05 32 44.0 -1.9**
KMI			PP	**PnPn**	**05 33 30.3 -2.8**
KMI			S	**S**	**05 37 19.8 -1.7**
KMI			sS	sS	05 37 44.3 -0.1
KMI			pmax	pmax	
	comp=Z,9.0nm,1.1s				
KMI			pmax	pmax	
	comp=Z,530nm,10.3s				
KMI			LR	LR	
	comp=Z,3μm,16.1s				
KMI			LR	LR	
	comp=Z,2μm,22.5s				
KMI			LR	LR	
	comp=Z,4μm,17.7s				
KSI	**Kapahiang**	**27.37 242**	P	**P**	**05 32 52.1 +6.1**
MNAI	**Manna**	**27.41 240**	P	**P**	**05 32 45.6 -0.7**
MNAI	**Manna**	**27.41 240**	P	**P**	**05 32 46.0 -0.3**
KSAR	**Wonju Array Be**	**27.59 2**	P	**P**	**05 32 47.3 -0.3**
KSAR	**Wonju Array Be**	**27.59 2**	P	**P**	**05 32 47.3 -0.3**
KSRS	**Korea Array**	**27.61 2**	P	**P**	**05 32 48.0 +0.2**
	comp=Z,9.8nm,1.0s,baz=181,slow=9.6,SNR=16				
KSRS			LR	LR	05 45 40.5
	comp=Z,4μm,18.9s,baz=195,slow=41				
	comp=Z,9.8nm,1.0s				
KSRS	**Korea Array**	**27.61 2**	P	**P**	**05 32 48.0 +0.2**
FITZ	**Fitzroy Crossi**	**27.69 182**	P	**P**	**05 32 48.3 -0.4**
FITZ	**Fitzroy Crossi**	**27.69 182**	P	**P**	**05 32 48.0 -0.6**
	comp=Z,25nm,0.8s				
FITZ	**Fitzroy Crossi**	**27.69 182**	P	**P**	**05 32 48.9 +0.3**
TIA	**Tai'an**	**27.71 343**	P	**P**	**05 32 48.3 -0.5**
TIA			S	**S**	**05 37 29.3 +2.7**
TIA			SS	**SnSn**	**05 38 47.3 +2.7**
TIA			ScP	**ScP**	**05 39 41.5 +1.8**
TIA			pmax	pmax	
	comp=Z,30nm,1.3s				
TIA			pmax	pmax	
	comp=Z,740nm,4.2s				
TIA			LR	LR	
	comp=Z,3μm,19.0s				
TIA			LR	LR	
	comp=Z,3μm,16.9s				
TIA			LR	LR	
	comp=Z,5μm,18.6s				
LYN	**LuoYang**	**27.87 334**	⇑P	**P**	**05 32 50.0 -0.2**
LYN			pP	pP	05 33 07.5 +3.8
LYN			PP	**PnPn**	**05 33 37.5 -2.4**
LYN			S	**S**	**05 37 31.8 +2.7**
LYN			sS	sS	05 38 00.0 +7.9
LYN			pmax	pmax	
	comp=Z,84nm,1.7s				
LYN			pmax	pmax	
	comp=Z,1μm,8.7s				
LYN			LR	LR	
	comp=Z,5μm,14.8s				
LYN			LR	LR	
	comp=Z,2μm,11.0s				
LYN			LR	LR	
	comp=Z,5μm,15.5s				
PMG	**Port Moresby**	**27.95 132**	P	**P**	**05 32 50.1 -0.9**
PMG			IAmb	IAmb	05 33 05.7
	comp=Z,63nm,1.0s				
PMG	**Port Moresby**	**27.95 132**	LR	LR	05 45 40.0
	comp=Z,2μm,18.6s,baz=299,slow=40				
PMG	**Port Moresby**	**27.95 132**	P	**P**	**05 32 51.3 +0.2**
PMG	**Port Moresby**	**27.95 132**	P	**P**	**05 32 51.6 +0.5**
PMG	**Port Moresby**	**27.95 132**	*ce*P	**P**	**05 32 50.6 -0.5**
PMG			pmax	pmax	
	comp=Z,54nm,1.3s				
CM31	**Chiang Mai Arr**	**28.15 291**	P	**P**	**05 32 51.9 -0.9**
CM31			IAmb	IAmb	05 33 06.8
	comp=Z,46nm,1.1s				
CMAR	**Chiang Mai Arr**	**28.15 291**	P	**P**	**05 32 51.4 -1.5**
CMAR	**Chiang Mai Arr**	**28.15 291**	P	**P**	**05 32 51.9 -1.0**
	comp=Z,13nm,0.9s,baz=102,slow=6.7,SNR=52				
CMAR			PcP	**PcP**	**05 36 06.5 +0.7**
	comp=Z,2.0nm,0.5s,baz=67,slow=3.0,SNR=4.3				
CMAR			ScP	**ScP**	**05 39 46.3 +4.9**
	comp=Z,0.7nm,0.4s,baz=71,slow=1.9,SNR=4.5				
CMAR			LR	LR	05 45 32.5
	comp=Z,3μm,18.8s,baz=110,slow=40				
	comp=Z,13nm,0.9s				
CHTO	**Chiang Mai**	**28.23 292**	P	**P**	**05 32 52.2 -1.5**
CHTO	**Chiang Mai**	**28.23 292**	P	**P**	**05 32 51.9 -1.7**
CHTO			P	**P**	**05 32 51.9 -1.7**
CHTO			P	**P**	**05 32 51.9 -1.7**
CHTO			S	**S**	**05 37 36.6 +1.3**
CHTO			S	**S**	**05 37 36.6 +1.3**
CHTO			S	**S**	**05 37 36.6 +1.3**
CHTO	**Chiang Mai**	**28.23 292**	P	**P**	**05 32 52.3 -1.4**
CHTO	**Chiang Mai**	**28.23 292**	P	**P**	**05 32 52.2 -1.5**
CHTO			pmax	pmax	
	comp=Z,30nm,1.1s				
MNSI	**Mandailing Nat**	**28.31 253**	P	**P**	**05 32 54.7 +0.4**
	comp=Z,3μmcomp=Z,136nm,1.1s				
PSI	**Prapat**	**28.34 258**	P	**P**	**05 32 54.6 -0.2**
PSI	**Prapat**	**28.34 258**	P	**P**	**05 32 54.3 -0.5**
PSI			pmax	pmax	
	comp=Z,160nm,1.4s				
RPSI	**Rantau Prapat**	**28.37 258**	P	**P**	**05 32 54.3 -0.6**
MJAR	**Matsushiro Arr**	**28.68 20**	P	**P**	**05 32 56.8 -0.5**
	comp=Z,3.2nm,0.7s,baz=195,slow=9.3,SNR=8.5				
MJAR			LR	LR	05 44 34.0
	comp=Z,4μm,18.8s,baz=204,slow=37				
	comp=Z,3.2nm,0.7s				
COEN	**Coen**	**28.73 145**	P	**P**	**05 32 58.0 -0.1**
COEN			IAmb	IAmb	05 33 09.9
	comp=Z,66nm,1.2s				
COEN	**Coen**	**28.73 145**	P	**P**	**05 32 56.0 -2.0**
	comp=Z,49nm,2.1s				
COEN	**Coen**	**28.73 145**	P	**P**	**05 32 58.9 +0.9**
PZH	**PanZhiHua**	**28.81 309**	P	**P**	**05 32 58.0 -0.8**
PZH			PP	**PnPn**	**05 33 52.5 -0.4**
PZH			S	**S**	**05 37 48.5 +4.1**
PZH			sS	**sS**	**05 38 10.3 +2.9**
PZH			pmax	pmax	
	comp=Z,10.0nm,0.9s				
PZH			pmax	pmax	
	comp=Z,400nm,8.8s				
PZH			LR	LR	
	comp=Z,3μm,14.8s				
PZH			LR	LR	
	comp=Z,3μm,16.8s				
PZH			LR	LR	
	comp=Z,4μm,16.9s				
XAN	**Xi'an**	**29.11 329**	⇑P	**P**	**05 32 59.8 -1.5**
XAN			pP	pP	05 33 17.0 +1.7
XAN			PP	**PnPn**	**05 33 55.0 -1.7**
XAN			S	**S**	**05 37 47.5 -1.3**
XAN			pmax	pmax	
	comp=Z,100nm,0.7s				
XAN			pmax	pmax	
	comp=Z,860nm,6.7s				
XAN			LR	LR	
	comp=Z,5μm,15.8s				
XAN			LR	LR	
	comp=Z,4μm,16.5s				
XAN			LR	LR	
	comp=Z,7μm,16.3s				
DL2	**Dalian**	**29.37 352**	P	**P**	**05 33 03.8 +0.4**
DL2			S	**S**	**05 37 55.3 +2.7**
DL2			pmax	pmax	
	comp=Z,81nm,1.4s				
DL2			pmax	pmax	
	comp=Z,900nm,8.5s				
DL2			LR	LR	
	comp=Z,3μm,20.8s				
DL2			LR	LR	
	comp=Z,4μm,12.6s				
DL2			LR	LR	
	comp=Z,5μm,19.9s				
HNS	**HongShan**	**29.55 341**	⇑P	**P**	**05 33 04.8 -0.2**
HNS			sP	sP	05 33 34.3 +8.7
HNS			PP	**PnPn**	**05 34 01.8 -0.5**
HNS			S	**S**	**05 37 57.3 +1.9**
HNS			sS	**sS**	**05 38 21.0 +2.6**
HNS			SS	**SnSn**	**05 39 30.8 +1.6**
HNS			pmax	pmax	
	comp=Z,70nm,1.5s				
HNS			pmax	pmax	
	comp=Z,810nm,4.5s				
HNS			LR	LR	
	comp=Z,1μm,13.7s				
HNS			LR	LR	
	comp=Z,3μm,16.0s				
HNS			LR	LR	
	comp=Z,4μm,16.3s				
LHMI	**Lhok Sumawe**	**29.73 263**	P	**P**	**05 33 07.3 +0.4**
LHMI	**Lhok Sumawe**	**29.73 263**	P	**P**	**05 33 08.1 +1.2**
LHMI	**Lhok Sumawe**	**29.73 263**	P	**P**	**05 33 06.8 -0.1**
CD2	**Chengdu**	**29.91 318**	P	**P**	**05 33 07.5 -0.9**
CD2			S	**S**	**05 38 02.3 +0.9**
CD2			sS	sS	05 38 31.8 +7.4
CD2			pmax	pmax	
	comp=Z,10.0nm,0.3s				
CD2			pmax	pmax	
	comp=Z,460nm,10.3s				
CD2			LR	LR	
	comp=Z,6μm,20.5s				
CD2			LR	LR	
	comp=Z,6μm,17.7s				
GSI	**Gunungsitoli**	**30.05 256**	P	**P**	**05 33 09.2 -0.6**
GSI	**Gunungsitoli**	**30.05 256**	P	**P**	**05 33 09.8 0.0**
	comp=Z,95nm,1.1s				
WB0	**Warramunga Arr**	**30.32 165**	P	**P**	**05 33 11.1 -1.0**
WB0			IAmb	IAmb	05 33 34.7
	comp=Z,26nm,0.8s				
WRAB	**Tennant Creek**	**30.47 166**	P	**P**	**05 33 13.1 -0.3**
WRAB			IAmb	IAmb	05 33 41.4
	comp=Z,28nm,0.9s				
WRAB	**Tennant Creek**	**30.47 166**	P	**P**	**05 33 13.1 -0.3**
WRAB			pmax	pmax	
	comp=Z,28nm,1.0s				
WRA	**Warramunga Arr**	**30.48 166**	P	**P**	**05 33 12.2 -1.3**
WRA	**Warramunga Arr**	**30.48 166**	P	**P**	**05 33 11.4 -2.1**
	comp=Z,3.6nm,0.8s,baz=346,slow=9.1,SNR=15				
WRA			LR	LR	05 48 28.8
	comp=Z,1μm,18.7s,baz=343,slow=42				
	comp=Z,3.6nm,0.8s				
WRA	**Warramunga Arr**	**30.48 166**	*ce*P	**P**	**05 33 14.0 +0.6**
WRA			pmax	pmax	
	comp=Z,4.0nm,0.8s				
WR8	**Warramunga Arr**	**30.53 165**	P	**P**	**05 33 12.2 -1.7**
WR8			IAmb	IAmb	05 34 15.3
	comp=Z,34nm,1.0s				
TIY	**Taiyuan**	**30.63 338**	*e*P	**P**	**05 33 15.0 +0.3**
TIY			S	**S**	**05 38 10.5 -2.0**
TIY			pmax	pmax	
	comp=Z,36nm,0.6s				
TIY			pmax	pmax	
	comp=Z,630nm,5.1s				
TIY			LR	LR	
	comp=Z,2μm,15.8s				
TIY			LR	LR	
	comp=Z,2μm,15.8s				
TIY			LR	LR	
	comp=Z,2μm,17.9s				
BSI	**Banda Aceh**	**31.30 265**	P	**P**	**05 33 21.0 +0.2**
	comp=Z,64nm,1.5s				
MBWA	**Marble Bar**	**31.45 192**	P	**P**	**05 33 21.3 -0.6**
MBWA	**Marble Bar**	**31.45 192**	P	**P**	**05 33 20.9 -1.1**
	comp=Z,40nm,0.8s				
MBWA	**Marble Bar**	**31.45 192**	P	**P**	**05 33 21.4 -0.6**
BJT	**Baijiatuau**	**31.54 345**	P	**P**	**05 33 19.7 -2.9**
BJT	**Baijiatuau**	**31.54 345**	P	**P**	**05 33 22.8 +0.2**
BJT	**Baijiatuau**	**31.54 345**	P	**P**	**05 33 19.7 -2.9**
BJT			pmax	pmax	
	comp=Z,198nm,2.0s				
BJI	**Beijing**	**31.56 345**	P	**P**	**05 33 22.3 -0.4**
BJI			S	**S**	**05 38 27.8 +1.0**
BJI			pmax	pmax	
	comp=Z,14nm,2.0s				
BJI			pmax	pmax	
	comp=Z,350nm,4.0s				
BJI			LR	LR	
	comp=Z,1μm,18.7s				
BJI			LR	LR	
	comp=Z,650nm,17.5s				
BJI			LR	LR	
	comp=Z,1μm,16.3s				
PSAD1	**Pilbara Seismi**	**31.71 192**	P	**P**	**05 33 23.3 -1.0**
	comp=Z,64nm,0.8s				
PSA00	**Pilbara Seismi**	**31.83 192**	P	**P**	**05 33 24.1 -1.2**
PSA00	**Pilbara Seismi**	**31.83 192**	P	**P**	**05 33 23.9 -1.3**
PSA00	**Pilbara Seismi**	**31.83 192**	P	**P**	**05 33 24.5 -0.8**
SNY	**Shenyang**	**32.06 356**	⇑P	**P**	**05 33 25.5 -1.6**
SNY			S	**S**	**05 38 29.5 -5.1**
SNY			pmax	pmax	
	comp=Z,18nm,1.7s				
SNY			pmax	pmax	
	comp=Z,420nm,5.4s				
SNY			LR	LR	
	comp=Z,2μm,21.8s				
SNY			LR	LR	
	comp=Z,1μm,15.7s				
SNY			LR	LR	
	comp=Z,2μm,22.0s				
QIS	**Mount Isa**	**32.72 157**	P	**P**	**05 33 32.0 -1.1**
	comp=Z,109nm,1.1s				
QIS	**Mount Isa**	**32.72 157**	P	**P**	**05 33 32.1 -1.1**
MTSU	**Mount Surprise**	**32.77 148**	P	**P**	**05 33 32.9 -0.7**
	comp=Z,27nm,0.8s				
MTSU	**Mount Surprise**	**32.77 148**	P	**P**	**05 33 33.9 +0.3**
LZH	**Lanzhou**	**33.38 325**	*e*P	**P**	**05 33 38.0 -1.0**
LZH			pP	pP	05 33 51.8 -1.6
LZH			PcP	**PcP**	**05 36 21.0 +1.5**
LZH			SS	SS	05 40 58.8 -23
LZH			pmax	pmax	
	comp=Z,34nm,1.3s				
LZH			pmax	pmax	
	comp=Z,690nm,6.9s				
LZH			LR	LR	
	comp=Z,5μm,15.5s				
LZH			LR	LR	
	comp=Z,4μm,16.2s				
LZH			LR	LR	
	comp=Z,3μm,15.8s				
HHC	**Hu-ho-hao-te**	**33.71 339**	⇑*i*P	**P**	**05 33 42.3 +0.6**
HHC			S	**S**	**05 39 05.8 +5.2**
HHC			SS	**SnSn**	**05 41 08.0 -2.4**
HHC			pmax	pmax	
	comp=Z,84nm,1.2s				
HHC			pmax	pmax	
	comp=Z,690nm,8.4s				
HHC			LR	LR	
	comp=Z,3μm,15.9s				
HHC			LR	LR	
	comp=Z,2μm,16.3s				
HHC			LR	LR	
	comp=Z,4μm,15.9s				
CN2	**Changchun**	**33.94 359**	P	**P**	**05 33 46.5 +3.0**
CN2			PP	**PP**	**05 35 02.3 +0.9**
CN2			S	**S**	**05 39 01.5 -2.2**
CN2			SS	**SnSn**	**05 41 11.0 -4.6**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.6s				
CN2			pmax	pmax	
	comp=Z,400nm,10.0s				
CN2			LR	LR	
	comp=Z,3μm,18.0s				
CN2			LR	LR	
	comp=Z,2μm,18.0s				
CN2			LR	LR	
	comp=Z,3μm,21.0s				
AS15	**Alice Springs**	**33.94 168**	P	**P**	**05 33 42.8 -1.0**
	comp=Z,16nm,0.7s				

AS31	**Alice Springs**	**33.97 168**	P	**P**	**05 33 43.1**	**-0.9**
ASAR	**Alice Springs**	**33.97 168**	P	**P**	**05 33 42.9**	**-1.1**
ASAR	**Alice Springs**	**33.97 168**	P	**P**	**05 33 42.3**	**-1.8**
	comp=Z,2.9nm,0.4s,baz=345,slow=8.4,SNR=22					
ASAR			PcP	**PcP**	**05 36 21.2**	**+0.1**
	comp=Z,4.2nm,0.7s,baz=344,slow=3.0,SNR=4.7					
ASAR			ScP	**ScP**	**05 40 06.8**	**+6.2**
	comp=Z,2.2nm,0.9s,baz=336,slow=2.5,SNR=4.6					
ASAR			LR	LR	05 49 15.9	
	comp=Z,1μm,20.0s,baz=356,slow=39					
	comp=Z,2.9nm,0.4s					
AS01	**Alice Springs**	**33.98 168**	P	**P**	**05 33 44.6**	**+0.5**
AS08	**Alice Springs**	**34.00 168**	P	**P**	**05 33 43.0**	**-1.3**
	comp=Z,16nm,0.9s					
BTO	**Baotou**	**34.06 337**	*e*P	**P**	**05 33 45.5**	**+0.7**
BTO			sP	**pwP**	**05 34 07.0**	**+0.3**
BTO			S	**S**	**05 39 11.0**	**+5.0**
BTO			pmax	pmax		
	comp=Z,46nm,1.2s					
BTO			pmax	pmax		
	comp=Z,540nm,6.0s					
BTO			LR	LR		
	comp=Z,3μm,14.1s					
BTO			LR	LR		
	comp=Z,7μm,16.9s					
BTO			LR	LR		
	comp=Z,4μm,15.3s					
WRKA	**Warakurna**	**34.62 177**	P	**P**	**05 33 49.4**	**-0.2**
	comp=Z,64nm,0.9s					
WRKA	**Warakurna**	**34.62 177**	P	**P**	**05 33 50.2**	**+0.6**
USA0B	**Ussuriysk Arra**	**34.64 7**	P	**P**	**05 33 48.0**	**-1.6**
USA0B			IAmb	IAmb	05 34 17.9	
	comp=Z,25nm,0.9s					
USA0B	**Ussuriysk Arra**	**34.64 7**	*i* P	**P**	**05 33 48.1**	**-1.4**
USRK	**Ussuriysk Ar.**	**34.64 7**	P	**P**	**05 33 48.2**	**-1.3**
USRK	**Ussuriysk Ar.**	**34.64 7**	P	**P**	**05 33 49.2**	**-0.3**
	comp=Z,5.2nm,0.7s,baz=199,slow=10,SNR=13					
USRK			LR	LR	05 48 58.3	
	comp=Z,1μm,19.2s,baz=182,slow=38					
	comp=Z,5.2nm,0.7s					
MDJ	**Mudanjiang**	**34.83 4**	P	**P**	**05 33 49.2**	**-2.0**
MDJ			IAmb	IAmb	05 34 10.5	
	comp=Z,36nm,1.0s					
MDJ	**Mudanjiang**	**34.83 4**	P	**P**	**05 33 52.3**	**+1.1**
MDJ			PP	**PP**	**05 35 10.0**	**-1.3**
MDJ			S	**S**	**05 39 20.0**	**+2.5**
MDJ			pmax	pmax		
	comp=Z,35nm,1.3s					
MDJ			pmax	pmax		
	comp=Z,660nm,9.6s					
MDJ			LR	LR		
	comp=Z,2μm,15.1s					
MDJ			LR	LR		
	comp=Z,930nm,17.2s					
MDJ			LR	LR		
	comp=Z,2μm,16.5s					
MDJ	**Mudanjiang**	**34.83 4**	P	**P**	**05 33 52.5**	**+1.3**
TV1H	**Townsville Har**	**35.04 145**	P	**P**	**05 33 53.7**	**+0.5**
XLT	**XiLinHaoTe**	**35.23 347**	*e*P	**P**	**05 33 54.5**	**-0.3**
XLT			pP	pP	05 34 11.5	+3.3
XLT			sP	sP	05 34 22.8	+8.0
XLT			PP	**PP**	**05 35 19.3**	**+3.5**
XLT			S	**S**	**05 39 23.3**	**-0.5**
XLT			pmax	pmax		
	comp=Z,31nm,1.2s					
XLT			pmax	pmax		
	comp=Z,810nm,7.9s					
XLT			LR	LR		
	comp=Z,280nm,18.7s					
XLT			LR	LR		
	comp=Z,2μm,14.9s					
XLT			LR	LR		
	comp=Z,5μm,19.6s					
BRDH	**Bariadhala**	**35.83 295**	LR	LR	05 49 48.2	
	comp=Z,969nm,20.2s,baz=144,slow=38					
BNX	**BinXian**	**35.87 1**	⇑P	**P**	**05 33 59.5**	**-0.6**
BNX			pP	**sP**	**05 34 19.8**	**+0.2**
BNX			sP	**pwP**	**05 34 24.3**	**-0.3**
BNX			PP	**PP**	**05 35 25.0**	**+2.3**
BNX			S	**S**	**05 39 33.8**	**+0.4**
BNX			sS	**ScP**	**05 40 06.8**	**-0.2**
BNX			pmax	pmax		
	comp=Z,11nm,1.0s					
BNX			pmax	pmax		
	comp=Z,500nm,7.0s					
BNX			LR	LR		
	comp=Z,3μm,19.5s					
BNX			LR	LR		
	comp=Z,2μm,14.1s					
BNX			LR	LR		
	comp=Z,4μm,18.4s					
TEY	**Ternei**	**36.20 12**	*e*P	P	05 33 56.3	-6.6
SHL	**Shillong**	**36.48 300**	P	**P**	**05 34 03.1**	**-2.7**
SHL			IAmb	IAmb	05 34 27.8	
	comp=Z,45nm,0.8s					
SHL	**Shillong**	**36.48 300**	P	**P**	**05 34 03.4**	**-2.5**
	SNR=21					
SHL	**Shillong**	**36.48 300**	P	**P**	**05 34 03.1**	**-2.7**
SHL			pmax	pmax		
	comp=Z,45nm,0.8s					
ASAJ	**Asahikawa**	**36.95 19**	LR	LR	05 49 06.1	
	comp=Z,3μm,19.0s,baz=187,slow=36					
ASAJ	**Asahikawa**	**36.95 19**	P	**P**	**05 34 08.6**	**-0.7**
ASAJ			pmax	pmax		
	comp=Z,26nm,0.9s					
JKA	**Kamikawa-asahi**	**36.95 19**	P	**P**	**05 34 08.6**	**-0.7**
MEEK	**Meekatharra**	**36.99 192**	P	**P**	**05 34 08.8**	**-1.1**
	comp=Z,101nm,1.5s					
MEEK	**Meekatharra**	**36.99 192**	P	**P**	**05 34 09.1**	**-0.8**
TATA	**Tatamba Isabel**	**37.66 118**	P	**P**	**05 34 15.7**	**0.0**
GTA	**Gaotai**	**37.99 325**	P	**P**	**05 34 18.3**	**-0.1**
GTA			sP	sP	05 34 44.3	+4.4
GTA			PP	**PnPn**	**05 35 53.3**	**+5.1**
GTA			S	**S**	**05 40 09.5**	**+3.4**
GTA			pmax	pmax		
	comp=Z,16nm,0.8s					
GTA			pmax	pmax		
	comp=Z,420nm,9.5s					
GTA			LR	LR		
	comp=Z,2μm,20.7s					
GTA			LR	LR		
	comp=Z,2μm,21.1s					
GTA			LR	LR		
	comp=Z,4μm,16.7s					
HNR	**Honiara**	**38.28 119**	LR	LR	05 50 55.9	
	comp=Z,952nm,19.1s,baz=294,slow=38					
OOD	**Oodnadatta**	**38.35 167**	P	**P**	**05 34 22.0**	**+0.7**
LSA	**Lhasa**	**38.59 306**	P	**P**	**05 34 22.5**	**-1.5**
LSA			LR	LR		
	comp=Z,1μm,20.8s					
LSA			LR	LR		
	comp=Z,2μm,21.6s					
GOMU	**GeErMu**	**39.04 317**	P	**P**	**05 34 25.8**	**-1.7**
GOMU			PP	**PnPn**	**05 36 03.8**	**+2.7**
GOMU			S	**S**	**05 40 26.5**	**+4.0**
GOMU			pmax	pmax		
	comp=Z,15nm,1.1s					
GOMU			LR	LR		
	comp=Z,4μm,14.7s					
GOMU			LR	LR		
	comp=Z,4μm,15.8s					
GOMU			LR	LR		
	comp=Z,11μm,16.6s					
YSS	**Yuzhno-Sakhali**	**39.54 17**	P	**P**	**05 34 33.1**	**+2.0**
YSS	**Yuzhno-Sakhali**	**39.54 17**	*e*P	**P**	**05 34 29.0**	**-2.1**
YSS			*e*S	**S**	**05 40 25.5**	**-3.5**
YSS			pmax	pmax		
	comp=N,200nm,5.2s					
YSS			pmax	pmax		
	comp=Z,200nm,5.2s					
YSS			pmax	pmax		
	comp=Z,20nm,1.0s					
YSS			smax	smax		
	comp=E,400nm,5.8s					
YSS			MLR	MLR		
	comp=N,800nm,17.0s					
YSS			MLR	MLR		
	comp=Z,1μm,17.0s					
YSS			MLR	MLR		
	comp=E,1μm,20.0s					
KLR	**Kul'dur**	**39.59 5**	LR	LR	05 52 05.2	
	comp=E,2μm,19.3s,baz=198,slow=38					
KLR	**Kul'dur**	**39.59 5**	*c*e*P*	**P**	**05 34 30.2**	**-1.2**
KLR			pmax	pmax		
	comp=Z,31nm,1.7s					
INKA	**Innaminka**	**39.71 160**	P	**P**	**05 34 33.9**	**+1.2**
HIA	**Hailar**	**39.80 353**	P	**P**	**05 34 32.6**	**-0.7**
HIA	**Hailar**	**39.80 353**	P	**P**	**05 34 36.0**	**+2.7**
HIA	**Hailar**	**39.80 353**	P	**P**	**05 34 32.6**	**-0.7**
HIA			pmax	pmax		
	comp=Z,15nm,0.9s					
MORW	**Morawa**	**39.91 194**	P	**P**	**05 34 33.6**	**-0.7**
MORW			IAmb	IAmb	05 34 35.3	
	comp=Z,121nm,1.2s					
MORW	**Morawa**	**39.91 194**	P	**P**	**05 34 33.7**	**-0.7**
	comp=Z,88nm,1.2s					
MORW	**Morawa**	**39.91 194**	P	**P**	**05 34 33.8**	**-0.6**
QLP	**Quilpie**	**39.97 155**	P	**P**	**05 34 34.8**	**-0.1**
H11N1	**WAKE ISLAND Hy**	**40.12 71**	T	T	06 18 04.1	
	baz=264,slow=74,SNR=106					
H11N2	**WAKE ISLAND Hy**	**40.12 71**	T	T	06 18 04.4	
	baz=264,slow=74,SNR=103					
H11N3	**WAKE ISLAND Hy**	**40.13 71**	T	T	06 18 05.6	
	baz=264,slow=74,SNR=108					
FORT	**Forrest**	**40.32 178**	P	**P**	**05 34 37.0**	**-0.7**
FORT	**Forrest**	**40.32 178**	P	**P**	**05 34 36.7**	**-1.0**
	comp=Z,198nm,0.9s					
FORT	**Forrest**	**40.32 178**	P	**P**	**05 34 37.5**	**-0.2**
HEH	**HeiHe**	**40.38 1**	*e*P	**P**	**05 34 38.5**	**+0.5**
HEH			PcP	**PcP**	**05 36 41.0**	**+0.9**
HEH			S	**S**	**05 40 42.8**	**+1.3**
HEH			pmax	pmax		
	comp=Z,21nm,1.7s					
HEH			pmax	pmax		
	comp=Z,800nm,8.0s					
HEH			LR	LR		
	comp=Z,3μm,17.1s					
HEH			LR	LR		
	comp=Z,2μm,17.3s					
HEH			LR	LR		
	comp=Z,4μm,18.4s					
RK1H	**Rockhampton Ha**	**40.39 145**	P	**P**	**05 34 38.7**	**+0.3**
KMBL	**Kambalda**	**41.13 186**	P	**P**	**05 34 43.6**	**-0.8**
	comp=Z,143nm,1.1s					
KMBL	**Kambalda**	**41.13 186**	P	**P**	**05 34 44.5**	**+0.1**
BLDU	**Ballidu**	**41.24 193**	P	**P**	**05 34 44.4**	**-0.9**
	comp=Z,92nm,1.6s					
BLDU	**Ballidu**	**41.24 193**	P	**P**	**05 34 44.7**	**-0.6**
ULN	**Ulaanbaatar**	**41.42 340**	P	**P**	**05 34 46.9**	**+0.1**
ULN			IAmb	IAmb	05 34 48.0	
	comp=Z,48nm,1.1s					
ULN	**Ulaanbaatar**	**41.42 340**	P	**P**	**05 34 46.6**	**-0.1**
ULN			P	**P**	**05 34 46.6**	**-0.1**
ULN			P	**P**	**05 34 46.6**	**-0.1**
ULN			S	**S**	**05 40 59.9**	**+2.6**
ULN			S	**S**	**05 40 59.9**	**+2.6**
ULN			S	**S**	**05 40 59.9**	**+2.6**
ULN	**Ulaanbaatar**	**41.42 340**	P	**P**	**05 34 46.9**	**+0.1**
ULN			pmax	pmax		
	comp=Z,48nm,1.1s					
LCRK	**Leigh Creek**	**41.50 165**	P	**P**	**05 34 49.2**	**+1.8**
SONM	**Songino Array**	**41.62 339**	P	**P**	**05 34 48.0**	**-0.3**
SONM			IAmb	IAmb	05 34 50.1	
	comp=Z,125nm,1.6s					
SONM	**Songino Array**	**41.62 339**	P	**P**	**05 34 48.0**	**-0.3**
	comp=Z,9.9nm,0.6s,baz=161,slow=8.6,SNR=83					
SONM			ScP	**ScP**	**05 40 33.2**	**+4.0**
	comp=Z,14nm,1.4s,baz=158,slow=4.7,SNR=5.7					
SONM			LR	LR	05 55 04.7	
	comp=Z,3μm,18.5s,baz=141,slow=40					
	comp=Z,9.9nm,0.6s					
GRNR	**Gornyy**	**41.69 9**	⇓*i* P	**P**	**05 34 49.4**	**+0.6**
GRNR			pmax	pmax		
	comp=Z,8.0nm,0.9s					
GRNR			MLR	MLR		
	comp=E,870nm,18.0s					
GRNR			MLR	MLR		
	comp=N,1μm,20.0s					
GRNR			MLR	MLR		
	comp=Z,2μm,17.0s					
KLBR	**Kellerberrin**	**41.97 191**	P	**P**	**05 34 50.6**	**-0.6**
	comp=Z,94nm,1.4s					
KLBR	**Kellerberrin**	**41.97 191**	P	**P**	**05 34 50.9**	**-0.4**
EIDS	**Eidsvold**	**42.28 146**	P	**P**	**05 34 53.0**	**-0.9**
EIDS	**Eidsvold**	**42.28 146**	P	**P**	**05 34 51.7**	**-2.2**
	comp=Z,46nm,1.0s					
EIDS	**Eidsvold**	**42.28 146**	P	**P**	**05 34 53.3**	**-0.6**
MUN	**Mundaring**	**42.67 193**	P	**P**	**05 34 56.6**	**-0.3**
	comp=Z,119nm,0.8s					
MUN	**Mundaring**	**42.67 193**	P	**P**	**05 34 57.5**	**+0.6**
DMN	**Daman**	**42.88 300**	Pn	**P**	**05 34 56.5**	**-2.6**
	baz=236,slow=0.0					
TYV	**Tymovskoe**	**43.07 15**	*e*P	P	05 34 53.2	-6.8
TYV			pmax	pmax		
	comp=Z,7.0nm,1.3s					
TYV			pmax	pmax		
	comp=Z,200nm,3.6s					
TYV			MLR	MLR		
	comp=Z,2μm,22.0s					
TYV			MLR	MLR		
	comp=N,3μm,23.0s					
BBOO	**Buckleboo**	**43.27 168**	P	**P**	**05 35 01.4**	**-0.4**
BBOO			IAmb	IAmb	05 35 19.3	
	comp=Z,72nm,0.9s					
BBOO	**Buckleboo**	**43.27 168**	P	**P**	**05 35 00.9**	**-0.9**
	comp=Z,73nm,1.5s					
BBOO	**Buckleboo**	**43.27 168**	P	**P**	**05 35 02.5**	**+0.7**
NWAO	**Narrogin (SRO)**	**43.37 191**	P	**P**	**05 35 02.1**	**-0.5**
NWAO	**Narrogin (SRO)**	**43.37 191**	P	**P**	**05 35 01.9**	**-0.6**
	comp=Z,174nm,1.0s					
NWAO	**Narrogin (SRO)**	**43.37 191**	LR	LR	05 54 04.4	
	comp=Z,397nm,21.6s,baz=2.0,slow=38					
NWAO	**Narrogin (SRO)**	**43.37 191**	P	**P**	**05 35 02.9**	**+0.3**
NWAO	**Narrogin (SRO)**	**43.37 191**	P	**P**	**05 35 02.5**	**-0.1**
NWAO	**Narrogin (SRO)**	**43.37 191**	P	**P**	**05 35 02.1**	**-0.5**
NWAO			pmax	pmax		
	comp=Z,151nm,1.3s					
CIT	**Chita**	**43.47 348**	*e*P	**P**	**05 35 04.2**	**+0.9**
CIT			*e*		05 36 45.6	
CIT			pmax	pmax		
	comp=Z,217nm,2.2s					
STKA	**Stephens Creek**	**43.81 161**	P	**P**	**05 35 05.6**	**-0.5**
STKA	**Stephens Creek**	**43.81 161**	P	**P**	**05 35 05.2**	**-1.0**
	comp=Z,103nm,1.1s					
STKA	**Stephens Creek**	**43.81 161**	P	**P**	**05 35 05.3**	**-0.8**
	comp=Z,11nm,0.6s,baz=334,slow=9.3,SNR=23					
STKA			LR	LR	05 54 34.3	
	comp=Z,633nm,21.1s,baz=333,slow=38					
	comp=Z,11nm,0.6s					
STKA	**Stephens Creek**	**43.81 161**	P	**P**	**05 35 06.6**	**+0.5**
STKA	**Stephens Creek**	**43.81 161**	P	**P**	**05 35 05.6**	**-0.5**
STKA			pmax	pmax		
	comp=Z,124nm,1.0s					
WHYH	**Whyalla**	**43.81 167**	P	**P**	**05 35 05.9**	**-0.2**
ZEA	**Zeya**	**43.87 1**	*e*P	**P**	**05 35 06.5**	**+0.2**
ZEA			*e*		05 36 52.6	
ZEA			*e*S	**S**	**05 41 28.8**	**-4.0**
ZEA			*e*		05 45 02.0	
ZEA			pmax	pmax		
	comp=Z,200nm,9.6s					
ZEA			pmax	pmax		
	comp=Z,20nm,1.1s					
ZEA			smax	smax		
	comp=N,200nm,15.3s					
ZEA			smax	smax		
	comp=E,300nm,11.4s					
ZEA			MLR	MLR		
	comp=E,300nm,13.0s					
ZEA			MLR	MLR		
	comp=N,2μm,18.0s					
ZEA			MLR	MLR		
	comp=Z,2μm,19.0s					
KOLN	**Koldanda**	**44.20 300**	Pn	**P**	**05 35 08.8**	**-0.9**
	baz=241,slow=0.0					
HTT	**Hallett**	**44.52 165**	P	**P**	**05 35 10.9**	**-0.9**
	comp=Z,9.9nm,1.4s					
HTT	**Hallett**	**44.52 165**	P	**P**	**05 35 12.5**	**+0.7**
PYUN	**Piuthan**	**44.81 300**	Pn	**P**	**05 35 12.8**	**-1.8**
	baz=244,slow=0.0					
ZAK	**Zakamensk**	**44.86 339**	*e*P	**P**	**05 35 13.7**	**-0.8**
ZAK			pmax	pmax		
	comp=Z,20nm,1.5s					
ZAK			pmax	pmax		
	comp=Z,17nm,1.7s					
CMSA	**Cobar Meteorol**	**44.95 157**	P	**P**	**05 35 14.7**	**-0.5**
	comp=Z,26nm,0.8s					
CMSA	**Cobar Meteorol**	**44.95 157**	P	**P**	**05 35 15.6**	**+0.4**
RKGY	**Rocky Gully**	**45.05 191**	P	**P**	**05 35 16.5**	**+0.5**
PALK	**Pallekele**	**45.43 271**	P	**P**	**05 35 18.3**	**-1.1**
PALK	**Pallekele**	**45.43 271**	LR	LR	05 55 35.9	
	comp=Z,1μm,18.9s,baz=97,slow=38					
PALK	**Pallekele**	**45.43 271**	P	**P**	**05 35 19.2**	**-0.2**
PALK			P	**P**	**05 35 19.2**	**-0.2**
PALK			S	**S**	**05 41 58.7**	**+2.1**
PALK			S	**S**	**05 41 58.7**	**+2.1**
PALK	**Pallekele**	**45.43 271**	P	**P**	**05 35 18.3**	**-1.1**
PALK			pmax	pmax		
	comp=Z,130nm,1.8s					
IRK	**Irkutsk**	**46.10 341**	*e*P	**P**	**05 35 23.4**	**-0.7**
IRK			pmax	pmax		
	comp=Z,126nm,1.8s					
ARMA	**Armidale**	**46.63 150**	P	**P**	**05 35 28.2**	**-0.4**
ARMA			IAmb	IAmb	05 35 34.4	
	comp=Z,64nm,1.4s					
ARMA	**Armidale**	**46.63 150**	P	**P**	**05 35 29.1**	**+0.5**
	comp=Z,31nm,1.3s					
ARMA	**Armidale**	**46.63 150**	P	**P**	**05 35 30.5**	**+1.9**
MOY	**Mondy**	**46.74 338**	*e*P	**P**	**05 35 28.8**	**-0.5**
MOY			pmax	pmax		
	comp=Z,144nm,3.5s					
HYB	**Hyderabad**	**47.21 285**	*e*P	**P**	**05 35 33.0**	**-0.4**
HYB			*e*PP	**PP**	**05 37 25.2**	**+0.3**
HYB			*e*ScP	**ScP**	**05 40 58.0**	**+5.3**
WMQ	**Urumqi**	**47.83 322**	*e*P	**P**	**05 35 36.8**	**-1.0**
WMQ			pmax	pmax		
	comp=Z,360nm,5.3s					
WMQ			LR	LR		
	comp=Z,5μm,18.1s					
WMQ			LR	LR		
	comp=Z,2μm,17.1s					
WMQ			LR	LR		
	comp=Z,2μm,18.1s					
VLAKA	**Lakatoro**	**47.88 122**	P	**P**	**05 35 41.3**	**+2.8**
ARPS	**Mount Arapiles**	**48.44 164**	P	**P**	**05 35 41.9**	**-0.6**
	comp=Z,66nm,1.6s					
ARPS	**Mount Arapiles**	**48.44 164**	P	**P**	**05 35 44.1**	**+1.7**
BOD	**Bodaibo**	**48.93 351**	*e*P	**P**	**05 35 45.9**	**0.0**
BOD			pmax	pmax		
	comp=Z,53nm,1.5s					
SYDH	**Sydney Hard Ro**	**48.98 153**	P	**P**	**05 35 48.4**	**+1.8**
CAN	**Canberra**	**49.58 156**	P	**P**	**05 35 49.8**	**-1.5**
CAN	**Canberra**	**49.58 156**	P	**P**	**05 35 50.1**	**-1.2**
	comp=Z,56nm,1.6s					
CAN	**Canberra**	**49.58 156**	P	**P**	**05 35 49.8**	**-1.5**
CAN			pmax	pmax		
	comp=Z,88nm,1.3s					
CNB	**Canberra Magne**	**49.72 155**	P	**P**	**05 35 51.6**	**-0.8**
	comp=Z,57nm,2.3s					
CNB	**Canberra Magne**	**49.72 155**	P	**P**	**05 35 54.4**	**+2.0**
PETK	**Petropavlovsk-**	**49.98 24**	P	**P**	**05 35 51.8**	**-2.3**
PETK	**Petropavlovsk-**	**49.98 24**	P	**P**	**05 35 54.5**	**+0.5**
	comp=Z,7.5nm,0.7s,baz=213,slow=6.5,SNR=12					
PETK			LR	LR	05 57 46.3	
	comp=Z,2μm,19.0s,baz=216,slow=37					
	comp=Z,7.5nm,0.7s					
DZM	**Mont Dzumac**	**50.27 129**	*e*P	**P**	**05 35 57.4**	**+0.6**
	comp=Z,91nm,1.4s					
DZM			*e*S	**S**	**05 42 56.6**	**-8.4**
	comp=Z,392nm,35.4s					
DZM			*e*SS	**SS**	**05 46 36.5**	**-3.0**
	comp=Z,631nm,23.4s					
DZM			*e*LR	LR	05 50 23.2	
	comp=Z,2μm,28.8s					
DZM	**Mont Dzumac**	**50.27 129**	LR	LR	05 55 23.8	
	comp=Z,665nm,21.0s,baz=296,slow=34					
DZM	**Mont Dzumac**	**50.27 129**	P	**P**	**05 35 59.5**	**+2.7**
TOO	**Toolangi**	**50.29 160**	P	**P**	**05 35 56.1**	**-0.5**
TOO			IAmb	IAmb	05 36 15.7	
	comp=Z,95nm,1.8s					
TOO	**Toolangi**	**50.29 160**	P	**P**	**05 35 56.4**	**-0.2**
	comp=Z,25nm,2.2s					
TOO	**Toolangi**	**50.29 160**	P	**P**	**05 35 56.1**	**-0.5**
TOO			pmax	pmax		
	comp=Z,95nm,1.8s					
PET	**Petropavlovsk**	**50.30 25**	*e*P	**P**	**05 35 58.5**	**+2.1**
PET			*e*S	**S**	**05 43 09.7**	**+5.4**
PET			pmax	pmax		
	comp=Z,200nm,10.9s					
PET			MLR	MLR		
	comp=Z,2μm,20.0s					
PET			MLR	MLR		
	comp=Z,2μm,18.0s					
MILA	**Mila**	**51.15 157**	P	**P**	**05 36 02.2**	**-0.9**
	comp=Z,19nm,1.5s					
ZSN	**Zaisan**	**51.48 325**	*e*P	**P**	**05 36 04.3**	**-1.1**
ZSN			pmax	pmax		
	comp=Z,12nm,1.3s					
ZSN	**Zaisan**	**51.48 325**	*e*P	**P**	**05 36 04.3**	**-1.1**
	comp=Z,12nm,1.3s					
WUS	**Wushi**	**52.11 315**	P	**P**	**05 36 09.2**	**-1.2**
YAK	**Yakutsk**	**52.23 2**	P	**P**	**05 36 10.5**	**-0.3**
YAK	**Yakutsk**	**52.23 2**	*e*P	**P**	**05 36 10.0**	**-0.7**
YAK			*e*		05 38 10.0	
YAK			*e*S	**S**	**05 43 31.2**	**+0.5**
YAK			*e*		05 45 54.6	
YAK			*e*SS	**SS**	**05 47 09.0**	**+0.1**
YAK			pmax	pmax		
	comp=Z,35nm,1.4s					
YAK			pmax	pmax		
	comp=N,20nm,1.3s					
YAK			pmax	pmax		
	comp=E,10.0nm,1.4s					
YAK			pmax	pmax		
	comp=Z,37nm,1.1s					
YAK			pmax	pmax		
	comp=N,30nm,1.9s					
YAK			pmax	pmax		
	comp=E,15nm,1.5s					
YAK			smax	smax		
	comp=N,134nm,2.3s					
YAK			smax	smax		
	comp=E,524nm,6.5s					
YAK			MLR	MLR		
	comp=Z,2μm,19.0s					
YAK			MLR	MLR		
	comp=E,404nm,14.0s					
YAK			MLR	MLR		
	comp=N,2μm,20.0s					
MK31	**Makanchi Array**	**52.63 323**	P	**P**	**05 36 12.6**	**-1.5**
MK31	**Makanchi Array**	**52.63 323**	*c*e*P*	**P**	**05 36 13.0**	**-1.0**
MKAR	**Makanchi Array**	**52.63 323**	P	**P**	**05 36 13.1**	**-0.9**
	comp=N,16nm,0.8s,baz=119,slow=7.1,SNR=61					
MKAR			LR	LR	05 57 46.9	
	comp=N,2μm,20.5s,baz=123,slow=35					
	comp=N,16nm,0.8s					
SHLS	**Shalkode**	**52.74 318**	*e*P	**P**	**05 36 11.8**	**-3.2**
SHLS			pmax	pmax		
	comp=Z,23nm,1.8s					
SHLS	**Shalkode**	**52.74 318**	*e*P	**P**	**05 36 11.8**	**-3.2**
	comp=Z,23nm,1.8s					
MAKZ	**Makanchi**	**52.83 323**	P	**P**	**05 36 14.6**	**-0.9**
MAKZ			IAmb	IAmb	05 36 49.5	
	comp=Z,24nm,1.1s					
MAKZ	**Makanchi**	**52.83 323**	P	**P**	**05 36 14.6**	**-0.9**
MAKZ			pmax	pmax		
	comp=Z,25nm,1.1s					
MA2	**Magadan**	**52.95 15**	P	**P**	**05 36 15.3**	**-0.8**
MA2	**Magadan**	**52.95 15**	LR	LR	05 59 09.9	
	comp=Z,737nm,19.7s,baz=193,slow=36					
MA2	**Magadan**	**52.95 15**	P	**P**	**05 36 15.3**	**-0.8**
MA2			pmax	pmax		
	comp=Z,18nm,0.8s					
UZB	**Uzynbulak**	**53.03 317**	*e*P	**P**	**05 36 16.0**	**-1.2**
UZB			pmax	pmax		
	comp=Z,20nm,1.7s					
UZB	**Uzynbulak**	**53.03 317**	*e*P	**P**	**05 36 16.0**	**-1.2**
	comp=Z,20nm,1.7s					
PRZ	**Przheval'sk**	**53.18 316**	P	**P**	**05 36 17.5**	**-0.9**
PRZ			IAmb	IAmb	05 36 53.8	
	comp=Z,33nm,1.2s					
PRZ	**Przheval'sk**	**53.18 316**	P	**P**	**05 36 17.5**	**-0.9**
PRZ			pmax	pmax		
	comp=Z,33nm,1.2s					
TARG	**Taragay, Kyrgy**	**53.30 315**	P	**P**	**05 36 18.3**	**-1.2**
TARG			IAmb	IAmb	05 36 33.4	
	comp=Z,42nm,1.6s					
TARG	**Taragay, Kyrgy**	**53.30 315**	P	**P**	**05 36 18.3**	**-1.2**
TARG			pmax	pmax		
	comp=Z,42nm,1.6s					
SATY	**Saty**	**53.41 317**	*e*P	**P**	**05 36 18.7**	**-1.2**
SATY			pmax	pmax		
	comp=Z,29nm,2.1s					
SATY	**Saty**	**53.41 317**	*e*P	**P**	**05 36 18.8**	**-1.2**
	comp=Z,29nm,2.1s					
ZHN	**Zhinishke**	**53.43 317**	*e*P	**P**	**05 36 18.9**	**-1.2**
ZHN			pmax	pmax		
	comp=Z,24nm,1.8s					
ZHN	**Zhinishke**	**53.43 317**	*e*P	**P**	**05 36 18.9**	**-1.2**

comp=Z,24nm,1.8s
KSH Kashi 53.82 312 P **P 05 36 24.0 +1.0**
KSH pmax pmax
comp=Z,19nm,1.3s
KSH pmax pmax
comp=Z,410nm,10.0s
KSH LR LR
comp=Z,3µm,17.8s
KSH LR LR
comp=Z,3µm,17.6s
KSH LR LR
comp=Z,3µm,18.4s
KDJ Kajisay 53.88 316 P **P 05 36 22.8 -0.7**
KDJ Kajisay 53.88 316 P **P 05 36 22.8 -0.7**
KDJ pmax pmax
comp=Z,12nm,0.8s
TDK Taldyqorghan 54.21 319 *e*P **P 05 36 24.4 -1.2**
TDK Taldyqorghan 54.21 319 *e*P **P 05 36 24.4 -1.2**
NIL Nilore 54.29 304 P **P 05 36 25.3 -1.1**
NIL Nilore 54.29 304 P **P 05 36 24.1 -2.3**
NIL Nilore 54.29 304 P **P 05 36 25.3 -1.1**
NIL pmax pmax
comp=Z,51nm,0.9s
MDOK Medeo 54.36 317 *e*P **P 05 36 25.7 -1.2**
MDOK Medeo 54.36 317 *e*P **P 05 36 25.7 -1.2**
TNSS Tian-Shan 54.38 317 *e*P **P 05 36 25.8 -1.6**
TNSS Tian-Shan 54.38 317 *e*P **P 05 36 25.9 -1.6**
NRN Naryn 54.45 314 P **P 05 36 26.2 -1.6**
NRN Naryn 54.45 314 P **P 05 36 26.2 -1.6**
NRN pmax pmax
comp=Z,20nm,1.3s
AAA Alma-Ata 54.47 317 *e*P **P 05 36 26.4 -1.2**
AAA pmax pmax
comp=Z,12nm,0.9s
AAA Alma-Ata 54.47 317 *e*P **P 05 36 26.4 -1.2**
comp=Z,12nm,0.9s
CHKK Chushkaly 54.67 318 *e*P **P 05 36 27.5 -1.5**
CHKK Chushkaly 54.67 318 *e*P **P 05 36 27.6 -1.5**
KUU Kurty 55.12 317 *e*P **P 05 36 31.1 -1.1**
KUU Kurty 55.12 317 *e*P **P 05 36 31.1 -1.1**
ZAA0 Zalesovo Array 55.23 331 P **P 05 36 31.8 -1.1**
ZAA0 IAmb IAmb 05 37 19.9
comp=Z,39nm,1.8s
ZALV Zalesovo Beam 55.23 331 P **P 05 36 31.6 -1.3**
comp=Z,3.4nm,0.4s,baz=118,slow=6.6,SNR=13
ZALV LR LR 06 02 12.9
comp=Z,2µm,18.4s,baz=134,slow=38
comp=Z,3.4nm,0.4s
TKM2 Tokmak 2 55.26 316 P **P 05 36 34.0 +0.5**
SNR=8.6
KBK Karagaybulak 55.61 315 P **P 05 36 35.5 -0.5**
SNR=8.2
CHMS Chumysh 55.87 316 P **P 05 36 37.1 -0.6**
SNR=5.1
AAK Ala-Archa 55.92 315 P **P 05 36 36.8 -1.4**
AAK IAmb IAmb 05 36 49.8
comp=Z,44nm,1.9s
AAK Ala-Archa 55.92 315 LR LR 06 03 25.0
comp=Z,2µm,18.6s,baz=80,slow=39
AAK Ala-Archa 55.92 315 P **P 05 36 37.3 -0.8**
AAK Ala-Archa 55.92 315 P **P 05 36 36.8 -1.4**
AAK pmax pmax
comp=Z,44nm,1.9s
SGDS Sogindy 56.11 316 *e*P **P 05 36 37.9 -1.5**
SGDS Sogindy 56.11 316 *e*P **P 05 36 38.0 -1.5**
USP Ospenovka 56.13 316 P **P 05 36 38.1 -1.4**
SNR=12
SEY Seymchan 56.24 14 LR LR 06 03 10.3
comp=Z,697nm,18.1s,baz=216,slow=39
SEY Seymchan 56.24 14 *e*P **P 05 36 42.1 +2.2**
SEY pmax pmax
comp=Z,24nm,1.8s
AML Almayashu 56.31 315 P **P 05 36 40.8 -0.4**
SNR=19
EKS2 Erkin-Say 56.42 315 P **P 05 36 41.2 -0.5**
SNR=10
KURK Kurchatov 56.67 326 P **P 05 36 42.2 -0.9**
KURK IAmb IAmb 05 37 26.8
comp=Z,42nm,1.0s
KURK Kurchatov 56.67 326 P **P 05 36 41.6 -1.5**
KURK Kurchatov 56.67 326 P **P 05 36 42.3 -0.9**
KURBB Kurchatov Arra 56.68 325 P **P 05 36 42.2 -1.0**
comp=Z,6.6nm,0.7s,baz=126,slow=6.5,SNR=51
KURBB LR LR 06 02 52.5
comp=Z,790nm,18.9s,baz=160,slow=38
comp=Z,6.6nm,0.7s
KURBB Kurchatov Arra 56.68 325 P **P 05 36 41.2 -2.0**
DRK Karamyk 56.88 311 P **P 05 36 44.0 -1.2**
DRK IAmb IAmb 05 37 08.2
comp=Z,17nm,0.7s
DRK Karamyk 56.88 311 P **P 05 36 44.1 -1.2**
DRK pmax pmax
comp=Z,17nm,0.7s
SHEM Shemya Is, Ala 57.41 32 LR LR 06 04 55.9
comp=Z,346nm,18.1s,baz=172,slow=40
MSVF Nonsavu 57.69 118 LR LR 06 01 01.4
comp=Z,1µm,18.5s,baz=327,slow=35
MSVF Nonsavu 57.69 118 P **P 05 36 53.5 +2.5**
BTK Batken 57.77 311 P **P 05 36 50.2 -1.0**
BTK IAmb IAmb 05 37 17.0
comp=Z,40nm,1.4s
BTK Batken 57.77 311 P **P 05 36 50.2 -1.0**
BTK pmax pmax
comp=Z,40nm,1.4s
GAR Garm 57.87 310 P **P 05 36 50.0 -2.0**
KBL Kabul 57.89 305 P **P 05 36 50.6 -1.8**
KBL IAmb IAmb 05 36 55.7
comp=Z,26nm,0.7s
KBL Kabul 57.89 305 P **P 05 36 51.3 -1.0**
SNR=16
KBL P **P 05 36 51.3 -1.0**
SNR=16
KBL Kabul 57.89 305 P **P 05 36 50.6 -1.8**
KBL pmax pmax
comp=Z,27nm,0.7s
DGTI Dogotuki 58.61 116 P **P 05 36 58.6 +1.3**
SIMJ Simiganj 58.78 309 P **P 05 36 56.7 -1.7**
KK31 Karatay Array 58.84 315 P **P 05 36 57.2 -1.4**
KK31 IAmb IAmb 05 36 58.8
comp=Z,26nm,1.2s
KK31 Karatay Array 58.84 315 P **P 05 36 57.2 -1.4**
KK31 pmax pmax
comp=Z,26nm,1.2s
KKAR Karatay Array 58.84 315 P **P 05 36 57.2 -1.4**
KKAR IAmb IAmb 05 36 58.8
comp=Z,28nm,1.2s
KKAR Karatay Array 58.84 315 P **P 05 36 57.2 -1.4**
KKAR pmax pmax
comp=Z,28nm,1.2s
IUG Iuzhnay 58.91 314 *e*P **P 05 36 57.9 -1.3**
IUG Iuzhnay 58.91 314 *e*P **P 05 36 57.9 -1.3**
BRZS Berezniki 59.78 323 *e*P **P 05 37 03.7 -1.2**
BRZS Berezniki 59.78 323 *e*P **P 05 37 03.8 -1.2**
TIXI Tiksi 61.86 1 P **P 05 37 18.1 -0.5**
TIXI Tiksi 61.86 1 LR LR 06 04 31.0
comp=Z,2µm,20.6s,baz=196,slow=36
TIXI Tiksi 61.86 1 P **P 05 37 18.1 -0.5**
TIXI pmax pmax
comp=Z,35nm,0.9s
BVA0 Borovoye Array 62.27 325 P **P 05 37 20.2 -1.5**
BVAR Borovoye Array 62.27 325 P **P 05 37 20.7 -1.1**
comp=Z,5.2nm,0.6s,baz=122,slow=7.3,SNR=27
BVAR LR LR 06 03 52.8
comp=Z,1µm,20.5s,baz=118,slow=36
comp=Z,5.2nm,0.6s
BRVK Borovoye 62.34 325 P **P 05 37 21.0 -1.2**
BRVK IAmb IAmb 05 37 36.4
comp=Z,18nm,0.8s
BRVK Borovoye 62.34 325 P **P 05 37 20.5 -1.7**
BRVK Borovoye 62.34 325 P **P 05 37 21.0 -1.2**
BRVK pmax pmax
comp=Z,18nm,0.8s
OUZ Omahuta 63.01 138 P **P 05 37 30.1 +3.2**
HRA Herat 63.42 304 P **P 05 37 28.6 -1.4**
HRA IAmb IAmb 05 37 37.0
comp=Z,16nm,0.8s
BILL Bilibino 63.81 16 P **P 05 37 31.7 0.0**
BILL IAmb IAmb 05 37 52.6
comp=Z,36nm,1.2s
BILL Bilibino 63.81 16 *ce*P **P 05 37 32.2 +0.5**
BILL pmax pmax
comp=Z,19nm,1.3s
BILL MLR MLR
comp=Z,1µm,20.0s
NRIK Noril'sk 64.59 346 P **P 05 37 36.8 0.0**
NRIK Noril'sk 64.59 346 P **P 05 37 37.1 +0.3**
comp=Z,23nm,0.6s,baz=125,slow=6.5,SNR=62
NRIK LR LR 06 10 36.6
comp=Z,2µm,18.1s,baz=148,slow=40
comp=Z,23nm,0.6s
JLN Jalan Bani Buh 65.33 290 P **P 05 37 40.3 -2.1**
TOZ Tahuroa Road 65.72 139 P **P 05 37 48.5 +4.0**
WBK Wadi Bani Khal 65.73 290 P **P 05 37 43.2 -1.8**
QRZ Quartz Range 65.75 143 P **P 05 37 46.1 +1.4**
HIZ Hauiti 65.76 140 P **P 05 37 48.6 +3.8**
MSZ Milford Sound 65.78 149 P **P 05 37 46.7 +2.0**
JCZ Jackson Bay 65.81 148 P **P 05 37 45.6 +0.5**
JCZ Jackson Bay 65.81 148 P **P 05 37 47.1 +2.0**
DSZ Denniston Nort 65.92 144 P **P 05 37 45.8 0.0**
BIDO Bidbid 66.50 291 P **P 05 37 48.4 -1.5**
JMDO Jabal Madar 66.53 290 P **P 05 37 48.4 -1.7**
THZ Tophouse 66.56 144 P **P 05 37 50.6 +0.6**
THZ Tophouse 66.56 144 P **P 05 37 50.2 +0.3**
SMDO Samad 66.57 291 P **P 05 37 48.6 -1.9**
NNVZ North Ngauruho 66.61 140 P **P 05 37 52.9 +2.5**
NGZ Ngauruhoe 66.62 140 P **P 05 37 52.9 +2.4**
TMVZ Te Maari 66.65 140 P **P 05 37 53.3 +2.6**
ETVZ East Tongariro 66.67 140 P **P 05 37 53.4 +2.6**
MHTO MHTO 66.70 289 P **P 05 37 49.2 -2.0**
SNR=6.6
MHTO P **P 05 37 49.2 -2.0**
SNR=6.6
LBZ Lake Benmore 66.76 147 P **P 05 37 51.7 +0.6**
RPZ Rata Peaks 66.78 146 P **P 05 37 51.7 +0.5**
RPZ Rata Peaks 66.78 146 LR LR 06 08 58.3
comp=Z,930nm,18.2s,baz=298,slow=38
LTZ Lake Taylor 66.85 145 P **P 05 37 51.5 -0.2**
LTZ Lake Taylor 66.85 145 P **P 05 37 52.3 +0.6**
URZ Urewera 67.06 139 LR LR 06 09 27.8
comp=Z,1µm,18.8s,baz=36,slow=38
URZ Urewera 67.06 139 P **P 05 37 54.9 +1.8**
DQM DQM 67.14 288 P **P 05 37 52.6 -1.5**
BKZ Black Stump Fm 67.18 140 P **P 05 37 55.0 +1.1**
BKZ Black Stump Fm 67.18 140 P **P 05 37 55.1 +1.1**
HAZ Te Kaha 67.22 138 P **P 05 37 55.8 +1.6**
MTHZ Maungataniwha 67.23 139 P **P 05 37 55.6 +1.4**
HOQ Hoqain 67.24 291 P **P 05 37 52.7 -1.9**
KHZ Kahutara 67.34 144 P **P 05 37 54.1 -0.6**
NMHZ Naumai 67.34 140 P **P 05 37 57.2 +2.2**
BSY Bisya 67.36 291 P **P 05 37 53.8 -1.6**
BSY P **P 05 37 53.8 -1.6**
TSZ Takapari Road 67.37 141 P **P 05 37 56.5 +1.5**
MWZ Matawai 67.38 139 P **P 05 37 56.3 +1.2**
KRHZ Kereru 67.38 140 P **P 05 37 56.4 +1.3**
GVZ Greta Valley S 67.40 145 P **P 05 37 55.5 +0.4**
SPIA Saint Paul Isl 67.45 32 P **P 05 37 56.5 +1.2**
baz=252
MCHZ McNeill Hill 67.47 140 P **P 05 37 57.4 +1.7**
AB31 Akbulak array 67.48 319 P **P 05 37 53.2 -2.4**
ABKAR Akbulak array 67.48 319 P **P 05 37 54.3 -1.3**
ARHZ Aropaoanui 67.56 140 P **P 05 37 58.2 +2.0**
WMGZ Waiomatatini S 67.68 138 P **P 05 37 57.9 +0.9**
BFZ Birch Farm 67.91 141 P **P 05 38 00.4 +2.0**
BFZ Birch Farm 67.91 141 P **P 05 37 59.3 +0.9**
SOHO SOHO 67.94 292 P **P 05 37 56.8 -2.3**
ARQ Araqi 67.97 291 P **P 05 37 57.9 -1.4**
UOSS Minazif 68.23 293 P **P 05 37 58.8 -2.1**
MASF Masafi 68.27 293 P **P 05 38 00.5 -0.5**
SHME Shamm 68.28 294 P **P 05 37 59.8 -1.3**
HATD Hatta, Dubai 68.30 293 P **P 05 38 00.2 -1.1**
ASHO Ashiyiah 68.37 293 P **P 05 38 00.4 -1.3**
ALNE Al Ain 68.66 292 P **P 05 38 02.8 -0.8**
NAZ Nazwa, Dubai 68.72 293 P **P 05 38 02.3 -1.6**
SVE Sverdlovsk 68.82 327 *de*P **P 05 38 03.2 -0.7**
SVE *e*S **S 05 47 04.3 +1.6**
SVE pmax pmax
comp=Z,32nm,0.9s
SVE MLR MLR
comp=Z,1µm,18.0s
AKTO Aktyubinsk 68.93 320 LR LR 06 10 47.9
comp=Z,2µm,18.6s,baz=68,slow=38
GAMB Gambell 69.00 25 P **P 05 38 06.3 +1.5**
baz=248
ASUD Al Ashush, Dub 69.03 293 P **P 05 38 04.9 -0.9**
UMZA Um Al Zommool 69.24 291 P **P 05 38 05.5 -1.6**
AJN Ajban 69.34 293 P **P 05 38 06.5 -1.3**
DMTO DMTO 69.71 285 P **P 05 38 09.5 -0.6**
ARTI Arti 69.92 327 P **P 05 38 09.2 -1.5**
ARTI IAmb IAmb 05 38 23.4
comp=Z,24nm,1.0s
ARTI Arti 69.92 327 LR LR 06 08 26.2
comp=Z,861nm,21.4s,baz=113,slow=36
ARTI Arti 69.92 327 *c i*P **P 05 38 09.5 -1.2**
ARTI 05 38 31.8
ARTI 05 40 39.0
ARTI PPP PPP 05 42 27.5
ARTI S **S 05 47 15.1 -0.6**
ARTI 05 48 01.3
ARTI SS **SS 05 51 44.1 -1.5**
ARTI pmax pmax
comp=Z,35nm,1.9s
M11K Mekoryuk 70.38 29 P **P 05 38 14.6 +1.2**
baz=255
MZWR Madinat Zayed 70.38 292 P **P 05 38 11.2 -2.9**
DOK Doka 70.43 286 P **P 05 38 13.4 -1.1**
SNR=9.5
RBK Rabkut 70.44 285 P **P 05 38 13.8 -0.8**
SNR=8.6
FALS False Pass 70.59 35 P **P 05 38 15.5 +0.8**
baz=259
MZR Muzera 70.78 291 P **P 05 38 15.8 -0.8**
WHFO Wadi Hawf 70.82 286 P **P 05 38 15.4 -1.6**
TNA Tin City 71.14 24 P **P 05 38 18.8 +0.8**
baz=251
JRN Qarnain Island 71.28 293 P **P 05 38 17.8 -1.8**
GHWR Ruwais 71.29 292 P **P 05 38 18.4 -1.3**
ABTO Aybut 71.31 285 P **P 05 38 19.2 -0.8**
SNR=7.5
K13K Kusilvak Mount 71.50 28 P **P 05 38 20.5 +0.3**
K13K IAmb IAmb 05 38 36.4
comp=Z,69nm,1.8s
K13K Kusilvak Mount 71.50 28 P **P 05 38 21.5 +1.3**
baz=256,SNR=13
S12K Black Hills 71.51 34 P **P 05 38 20.8 +0.5**
baz=260
F14K Arctic Creek 71.75 24 P **P 05 38 21.9 +0.3**
baz=253,SNR=11
M13K Dall Lake 71.76 29 P **P 05 38 22.4 +0.6**
baz=257
ANM Nome 71.88 25 P **P 05 38 23.4 +1.0**
baz=254
J14K Nanvaranak Lak 72.20 27 P **P 05 38 25.7 +1.4**
baz=256,SNR=5.8
L14K Kuka Creek 72.28 29 P **P 05 38 26.1 +1.3**
baz=258
SDPT Sand Point 72.34 35 P **P 05 38 25.3 0.0**
baz=262
SLWR Sila 72.37 292 P **P 05 38 25.3 -0.8**
N14K Kuskokwak Cree 72.48 30 P **P 05 38 26.6 +0.6**
baz=259
F15K North Star Dit 72.48 24 P **P 05 38 26.9 +0.9**
F15K IAmb IAmb 05 38 59.1
comp=Z,25nm,1.3s
F15K North Star Dit 72.48 24 P **P 05 38 26.8 +0.8**
baz=254,SNR=12
M14K Bethel 72.50 29 P **P 05 38 26.9 +0.7**
baz=258,SNR=8.1
G15K Niukluk 72.55 25 P **P 05 38 26.8 +0.4**
baz=255,SNR=8.0
O14K Tigyukauivet M 72.56 31 P **P 05 38 27.6 +1.0**
baz=260
CHNA Chernabura Isl 72.77 36 P **P 05 38 29.0 +1.2**
baz=262
TRNA Turayna 72.77 293 P **P 05 38 27.5 -1.0**
L15K Ungalak Mounta 72.91 28 P **P 05 38 29.5 +0.9**
baz=259
C16K Lisburne Hills 72.94 21 P **P 05 38 29.4 +0.7**
baz=253
S14K Fog Glacier 72.99 34 P **P 05 38 29.5 +0.2**
baz=262
K15K Wolf Creek Mou 73.02 28 P **P 05 38 29.9 +0.7**
baz=258,SNR=6.6
M15K Kasigluk River 73.11 29 P **P 05 38 30.4 +0.7**
baz=260
SMRA Abu-Samra 73.12 293 P **P 05 38 29.6 -1.0**
H16K Elim 73.21 25 P **P 05 38 31.5 +1.2**
baz=257
O15K Ungalikthiuk R 73.28 31 P **P 05 38 31.9 +1.1**
baz=261
N15K Kwethluk River 73.31 30 P **P 05 38 31.9 +1.0**
baz=260,SNR=5.6
SAKB Bahrain 73.32 294 P **P 05 38 30.5 -1.2**
G16K Koyuk River 73.33 24 P **P 05 38 32.2 +1.2**
baz=257
D17K Noatak River 73.61 22 P **P 05 38 33.4 +0.8**
baz=255,SNR=19
CHGN Chignik 73.62 34 P **P 05 38 33.3 +0.5**
baz=263
J16K Anvik River 73.63 27 P **P 05 38 33.2 +0.3**
baz=259,SNR=5.3
I17K Unalakleet 73.71 26 P **P 05 38 34.5 +1.3**
baz=259,SNR=6.3
RDOG Red Dog Mine 73.76 22 P **P 05 38 34.7 +1.2**
baz=255
L16K Owhat River 73.86 28 P **P 05 38 35.1 +0.9**
baz=260,SNR=9.7
E17K Hotham Inlet 73.93 23 P **P 05 38 35.0 +0.5**
baz=257,SNR=17
M16K Timber Creek 74.00 29 P **P 05 38 36.2 +1.2**
M16K IAmb IAmb 05 38 48.0
comp=Z,23nm,0.9s
M16K Timber Creek 74.00 29 P **P 05 38 35.5 +0.5**
baz=261,SNR=9.4
N16K Nishlik Lake 74.01 30 P **P 05 38 35.0 -0.1**
baz=261,SNR=6.7
F17K Baldwin Pennin 74.01 23 P **P 05 38 35.6 +0.7**
F17K Baldwin Pennin 74.01 23 P **P 05 38 36.0 +1.1**
baz=258,SNR=9.1
G17K Kiwalik Mounta 74.05 24 P **P 05 38 36.6 +1.4**
baz=258,SNR=11
P16K Nushagak River 74.19 31 P **P 05 38 36.4 +0.3**
baz=262
O16K Kokwok River B 74.22 31 P **P 05 38 36.9 +0.6**
baz=262,SNR=8.2
H17K Granite Mounta 74.24 25 P **P 05 38 38.0 +1.6**
baz=259,SNR=9.7
J17K VABM Dome 74.33 27 P **P 05 38 38.1 +1.2**
baz=260,SNR=8.3
E18K Tukpahlearik C 74.47 23 P **P 05 38 39.0 +1.4**
baz=258,SNR=23
B18K Kokolik River 74.48 20 P **P 05 38 39.2 +1.6**
baz=256,SNR=23
L17K Donlin 74.48 28 P **P 05 38 38.5 +0.8**
baz=261,SNR=15
C18K Utukok River 74.52 21 P **P 05 38 38.6 +0.6**
C18K Utukok River 74.52 21 P **P 05 38 39.0 +1.0**
baz=257,SNR=15
K17K Iditarod 74.57 28 P **P 05 38 40.0 +1.7**
baz=261,SNR=12
F18K Selawik 74.67 23 P **P 05 38 39.7 +1.0**
baz=259,SNR=12
O17K Koliganek Bris 74.74 31 P **P 05 38 40.1 +0.7**
baz=263
M17K Holitna River 74.78 29 P **P 05 38 41.1 +1.5**
baz=262,SNR=18
N17K Nushagak Hills 74.79 30 P **P 05 38 41.1 +1.5**
baz=263,SNR=13
Q16K King Salmon 74.84 32 P **P 05 38 41.3 +1.4**
baz=264
A19K Wainwright 74.92 20 P **P 05 38 41.9 +1.7**
baz=257
H18K Honhosa River 74.93 25 P **P 05 38 41.5 +1.2**
H18K Honhosa River 74.93 25 P **P 05 38 41.8 +1.5**
baz=260,SNR=7.4
G18K Tagagawik 74.94 24 P **P 05 38 40.7 +0.4**
G18K Tagagawik 74.94 24 P **P 05 38 41.4 +1.0**
baz=260,SNR=11
P17K Kvichak River 75.01 31 P **P 05 38 42.0 +1.2**
baz=264
KIRV Kirov 75.06 328 LR LR 06 15 09.0
comp=Z,2µm,19.4s,baz=104,slow=38
KIRV Kirov 75.06 328 *ce*P **P 05 38 40.5 -0.6**
CHIR Chirikof Islan 75.13 35 P **P 05 38 42.9 +1.2**
baz=265
Q17K Contact Creek 75.20 32 P **P 05 38 42.9 +0.8**
baz=265
L18K Granite Mounta 75.24 28 P **P 05 38 43.3 +1.1**
baz=263,SNR=8.2
AKT Akhty 75.28 310 *e*P **P 05 38 42.2 -0.8**
AKT *e* 05 38 54.5
AKT *e* 05 41 27.1
AKT *e*PPP PPP 05 43 18.9
AKT *e*S **S 05 48 15.4 -2.3**
AKT *e*SS **SS 05 53 13.3 +4.9**
AKT pmax pmax
comp=Z,36nm,1.2s
AKT MLR MLR
comp=Z,1µm,20.0s
J18K Innoko River 75.39 27 P **P 05 38 43.6 +0.6**
baz=262,SNR=5.3
N18K Kilae Creek 75.44 30 P **P 05 38 44.6 +1.2**
baz=264
F19K Shaleruckik Mo 75.44 23 P **P 05 38 44.1 +0.8**
baz=261
MAK Makhachkala 75.45 312 *e*P **P 05 38 39.5 -4.2**
MAK *e**PP **pP 05 38 59.3 -0.3**
MAK *e* 05 41 30.8
MAK *e*PPP PPP 05 43 25.8
MAK *e*S **S 05 48 12.5 -6.7**
MAK *e**SS **SKKSac 05 48 47.7 -0.8**
MAK *e*SS **SS 05 53 10.8 +0.2**
MAK pmax pmax
comp=Z,19nm,0.3s
MAK MLR MLR
comp=Z,1µm,17.0s
GCSA Galena City Sc 75.49 26 P **P 05 38 44.5 +0.9**
baz=262
M18K Stony River 75.56 29 P **P 05 38 45.7 +1.6**
baz=264,SNR=9.3
D19K Kuna River 75.60 22 P **P 05 38 45.2 +1.0**
baz=260,SNR=18
G19K Purcell Mounta 75.61 24 P **P 05 38 44.9 +0.7**
baz=261,SNR=12
BELG Belogornoye 75.61 322 LR LR 06 14 25.4
comp=Z,557nm,18.1s,baz=95,slow=38
BELG Belogornoye 75.61 322 *c i*P **P 05 38 43.2 -1.2**
BELG pmax pmax
comp=Z,18nm,1.8s
P18K Big Mountain, 75.64 31 P **P 05 38 45.2 +0.6**
baz=265
KBD Kabd 75.67 298 P **P 05 38 43.6 -1.7**
Q18K Katmai Hardscr 75.69 32 P **P 05 38 45.3 +0.3**
baz=265
O18K Koktuh Hills 75.70 31 P **P 05 38 45.4 +0.5**
O18K IAmb IAmb 05 38 58.0
comp=Z,46nm,0.9s
O18K Koktuh Hills 75.70 31 P **P 05 38 45.4 +0.5**
baz=265,SNR=9.4
E19K Redstone River 75.75 23 P **P 05 38 45.0 0.0**
E19K IAmb IAmb 05 39 02.9
comp=Z,26nm,0.9s
E19K Redstone River 75.75 23 P **P 05 38 46.1 +1.0**
baz=261,SNR=35
H19K Roundabout Mou 75.78 25 P **P 05 38 45.9 +0.7**
H19K IAmb IAmb 05 39 07.2
comp=Z,52nm,1.4s
H19K Roundabout Mou 75.78 25 P **P 05 38 46.3 +1.2**
baz=262,SNR=19
R18K Karluk 75.91 33 P **P 05 38 46.4 +0.3**
baz=266
J19K Poorman 75.94 26 P **P 05 38 46.9 +0.7**
baz=263,SNR=7.5
SII Sitkinak Islan 75.98 34 P **P 05 38 46.7 +0.1**
baz=266
L19K White Mountain 76.09 28 P **P 05 38 47.7 +0.7**
baz=264,SNR=11
N19K Bonanza Creek 76.14 30 P **P 05 38 47.1 -0.4**
N19K IAmb IAmb 05 39 00.7
comp=Z,23nm,0.9s
N19K Bonanza Creek 76.14 30 P **P 05 38 48.4 +0.9**
baz=265,SNR=8.9
O19K Port Alsworth 76.17 30 P **P 05 38 48.7 +1.2**
baz=265
D20K Etivluk River 76.18 21 P **P 05 38 48.4 +0.9**
baz=261,SNR=33
B20K Meade River 76.19 20 P **P 05 38 48.3 +0.9**
baz=260,SNR=15
E20K Nigu River 76.27 22 P **P 05 38 48.6 +0.6**
baz=262,SNR=15
F20K Avaraart Lake 76.27 23 P **P 05 38 48.1 +0.2**
F20K Avaraart Lake 76.27 23 P **P 05 38 49.4 +1.4**
baz=262,SNR=19
M19K Big River Lodg 76.28 29 P **P 05 38 49.1 +0.9**
baz=265
Q19K Cape Douglas, 76.42 32 P **P 05 38 49.5 +0.5**
baz=266

H20K	Anotleneega Mo	76.42	25	P	P	05 38 49.4	+0.5
	baz=264,SNR=16						
OHAK	Old Harbor	76.51	33	P	P	05 38 50.0	+0.5
	baz=267						
I20K	Naaghedeneel	76.52	26	P	P	05 38 50.7	+1.4
	baz=264,SNR=9.3						
K20K	Telida	76.56	27	P	P	05 38 51.0	+1.3
	baz=265						
L20K	Farewell, AK	76.57	28	P	P	05 38 51.1	+1.3
	baz=265						
A21K	Barrow	76.59	19	P	P	05 38 50.6	+0.9
	baz=261						
J20K	Nowinta River	76.60	26	P	P	05 38 49.2	-0.7
J20K	Nowinta River	76.60	26	P	P	05 38 50.7	+0.9
	baz=265,SNR=6.7						
P19K	Oil Pt	76.68	31	P	P	05 38 51.0	+0.5
	baz=266						
CASY	Casey	76.74	187	P	P	05 38 50.4	-0.1
CASY				IAmb	IAmb	05 39 00.1	
	comp=Z,18nm,0.9s						
M20K	Styx River	76.87	29	P	P	05 38 51.9	+0.3
	baz=266,SNR=8.1						
C21K	Knifeblade Rid	76.90	21	P	P	05 38 52.7	+1.2
	baz=263						
KDAK	Kodiak Island	76.92	33	LR	LR	06 09 07.2	
	comp=Z,929nm,21.2s,baz=95,slow=33						
KDAK	Kodiak Island	76.92	33	P	P	05 38 53.1	+1.3
	baz=268						
B21K	Ikpikpuk River	77.01	21	P	P	05 38 53.0	+0.9
B21K				IAmb	IAmb	05 39 04.9	
	comp=Z,35nm,0.8s						
B21K	Ikpikpuk River	77.01	21	P	P	05 38 53.3	+1.2
	baz=263,SNR=18						
Q20K	Shuyak Island	77.06	32	P	P	05 38 53.1	+0.5
	baz=268						
A22K	Sinclair Lake	77.07	19	P	P	05 38 53.6	+1.2
	baz=262,SNR=26						
G21K	Allakaket	77.09	24	P	P	05 38 53.4	+0.8
G21K				IAmb	IAmb	05 39 06.4	
	comp=Z,18nm,0.9s						
G21K	Allakaket	77.09	24	P	P	05 38 53.4	+0.8
	baz=265,SNR=23						
E21K	Killik River	77.11	22	P	P	05 38 53.8	+1.1
	baz=264						
F21K	Alatna River	77.17	23	P	P	05 38 53.9	+0.8
	baz=264						
SPCR	Spurr Chakacha	77.27	29	P	P	05 38 54.6	+0.8
	baz=267						
H21K	Melozitna Rive	77.30	25	P	P	05 38 55.0	+1.2
	baz=266,SNR=8.7						
PPLA	Purkeypile	77.38	28	P	P	05 38 55.4	+1.0
	baz=267						
CHUM	Lake Minchumin	77.38	27	P	P	05 38 55.1	+0.8
	baz=266						
CAST	Castle Rocks	77.45	27	P	P	05 38 55.6	+0.9
	baz=267,SNR=12						
HOM	Homer	77.49	31	P	P	05 38 55.4	+0.5
	baz=268						
B22K	Teshekpuk Lake	77.50	20	P	P	05 38 55.9	+1.1
	baz=264						
GNI	Garni	77.58	309	LR	LR	06 16 29.8	
	comp=Z,541nm,21.7s,baz=96,slow=38						
GNI	Garni	77.58	309	P	P	05 38 55.5	-0.6
GNI	Garni	77.58	309 *c i*	P	P	05 38 56.2	+0.1
GNI				pmax	pmax		
	comp=Z,44nm,1.3s						
I21K	Tanana	77.61	25	P	P	05 38 56.6	+1.1
	baz=266,SNR=12						
D22K	Ayikyak River	77.62	21	P	P	05 38 56.4	+0.9
	baz=265,SNR=7.5						
SKT	Skwentna	77.64	29	P	P	05 38 55.7	0.0
	baz=268						
F22K	John River	77.69	23	P	P	05 38 56.8	+0.8
	baz=266						
CAPN	Captain Cook N	77.77	30	P	P	05 38 57.6	+1.2
	baz=268						
BRLK	Bradley Lake	77.87	31	P	P	05 38 57.0	-0.2
BRLK				IAmb	IAmb	05 39 03.2	
	comp=Z,39nm,1.0s						
E22K	Anaktuvuk Pass	77.88	22	P	P	05 38 58.1	+1.0
	baz=266,SNR=9.6						
H22K	Ishtalitna Cre	77.90	25	P	P	05 38 58.4	+1.3
	baz=267,SNR=14						
G22K	Bettles	77.91	24	P	P	05 38 58.3	+1.1
	baz=266						
BRSE	Bradley Lake S	77.94	31	P	P	05 38 57.6	0.0
	baz=269						
BPAW	Bear Paw Mtn.	77.98	26	P	P	05 38 58.2	+0.5
	baz=268,SNR=14						
SUA	Susitna One	77.99	29	P	P	05 38 57.8	-0.1
	baz=268						
RAYN	Ar Rayn	78.06	292	P	P	05 38 57.8	-1.2
RAYN				IAmb	IAmb	05 39 07.3	
	comp=Z,16nm,0.7s						
RAYN	Ar Rayn	78.06	292	P	P	05 38 57.4	-1.6
RAYN	Ar Rayn	78.06	292	P	P	05 38 58.8	-0.1
CUT	Chulitna	78.24	28	P	P	05 38 59.2	+0.1
	baz=268						
TRF	Thorofare Moun	78.26	27	P	P	05 38 59.0	-0.4
TRF				IAmb	IAmb	05 39 16.2	
	comp=Z,15nm,0.9s						
TRF	Thorofare Moun	78.26	27	P	P	05 39 00.1	+0.7
	baz=268						
M22K	Willow	78.30	29	P	P	05 38 59.4	0.0
	baz=269,SNR=6.8						
D23K	Nanushuk River	78.35	21	P	P	05 39 01.0	+1.4
	baz=267,SNR=11						
C23K	Itkillik River	78.42	21	P	P	05 39 01.5	+1.6
	baz=267,SNR=18						
COLD	Coldfoot	78.44	23	P	P	05 39 00.8	+0.7
	baz=268,SNR=10.0						
O22K	Cooper Landing	78.47	30	P	P	05 39 00.7	+0.3
	baz=269						
RC01	Rabbit Creek A	78.47	30	P	P	05 39 00.2	-0.2
	baz=269						
G23K	Bananza Creek	78.49	24	P	P	05 39 01.8	+1.3
	baz=268,SNR=12						
RAR	Rarotonga	78.54	114	LR	LR	06 11 15.6	
	comp=Z,677nm,18.0s,baz=279,slow=34						
SEW	Seward	78.60	31	P	P	05 39 02.1	+1.0
	baz=270						
GOF	Gofitskoye	78.63	314 *ce*	P	P	05 39 00.8	-0.8
H23K	Yukon River	78.65	25	P	P	05 39 02.7	+1.3
	baz=268						
E23K	Chandalar	78.70	22	P	P	05 39 02.2	+0.6
	baz=268,SNR=20						
I23K	Minto, Yukon-K	78.71	25	P	P	05 39 02.2	+0.6
	baz=269,SNR=6.9						
TOLK	Toolik Lake Re	78.73	22	P	P	05 39 02.8	+1.0
	baz=268,SNR=11						
PMR	Palmer	78.77	29	P	P	05 39 03.3	+1.4
PMR	Palmer	78.77	29	P	P	05 39 02.6	+0.7
	baz=270						
KBZ	Khabaz	78.79	313	P	P	05 39 01.9	-0.6
	comp=Z,9.2nm,1.1s,baz=78,slow=5.1,SNR=26						
KBZ				LR	LR	06 18 22.4	
	comp=Z,1μm,18.5s,baz=84,slow=39						
	comp=Z,9.2nm,1.1s						
NEA2	Nenana	78.83	26	P	P	05 39 02.8	+0.5
	baz=269						
MCK	McKinley	78.87	27	P	P	05 39 02.7	+0.1
MCK				IAmb	IAmb	05 39 19.3	
	comp=Z,27nm,1.0s						
MCK	McKinley	78.87	27	P	P	05 39 02.7	+0.1
MCK				pmax	pmax		
	comp=Z,27nm,1.0s						
MCK	McKinley	78.87	27	P	P	05 39 03.0	+0.4
	baz=269,SNR=14						
KIV	Kislovodsk	78.94	313	P	P	05 39 03.4	0.0
KIV				IAmb	IAmb	05 39 13.8	
	comp=Z,42nm,0.9s						
KIV	Kislovodsk	78.94	313	P	P	05 39 02.7	-0.7
KIV	Kislovodsk	78.94	313	⇑P	P	05 39 04.1	+0.6
KIV	Kislovodsk	78.94	313	*e*P	P	05 39 02.1	-1.3
KIV				*e*S	S	05 48 55.2	-2.0
KIV				pmax	pmax		
	comp=Z,29nm,1.0s						
KIV				MLR	MLR		
	comp=Z,1μm,19.0s						
SHA1	Shidzhatmaz	78.97	313 *c i*	P	P	05 39 02.9	-0.9
D24K	Happy Valley	79.02	21	P	P	05 39 03.8	+0.5
D24K				IAmb	IAmb	05 39 14.6	
	comp=Z,65nm,1.6s						
D24K	Happy Valley	79.02	21	P	P	05 39 04.6	+1.3
	baz=268,SNR=15						
C24K	Franklin Bluff	79.08	21	P	P	05 39 04.2	+0.7
	baz=268						
KNK	Knik Glacier	79.09	29	P	P	05 39 04.0	+0.2
KNK				IAmb	IAmb	05 39 32.0	
	comp=Z,28nm,1.1s						
KNK	Knik Glacier	79.09	29	P	P	05 39 03.6	-0.2
	baz=270						
E24K	Your Creek	79.12	22	P	P	05 39 04.9	+1.0
	baz=269,SNR=21						
SML	Sawmill	79.15	29	P	P	05 39 04.8	+0.7
	baz=270						
PWL	Port Wells	79.15	30	P	P	05 39 03.5	-0.6
PWL				IAmb	IAmb	05 39 25.1	
	comp=Z,38nm,1.0s						
PWL	Port Wells	79.15	30	P	P	05 39 05.3	+1.1
	baz=270,SNR=7.4						
VRH	Novokhopyorsk	79.27	320	*e*P	P	05 39 03.7	-1.2
VRH				pmax	pmax		
	comp=Z,75nm,1.6s						
H24K	Noodor Dome	79.34	25	P	P	05 39 05.6	+0.5
	baz=270,SNR=7.8						
F24K	Squaw Lake	79.34	23	P	P	05 39 05.4	+0.3
	baz=270,SNR=17						
COLA	College	79.35	26	P	P	05 39 07.6	+2.5
COLA	College	79.35	26	P	P	05 39 05.8	+0.7
	baz=270						
M23K	Glacier View	79.44	29	P	P	05 39 05.7	0.0
	baz=271						
G24K	Hadweenzic Riv	79.50	24	P	P	05 39 06.8	+0.9
	baz=270,SNR=8.5						
POKR	Poker Plat Res	79.53	25	P	P	05 39 06.5	+0.4
	baz=270						
SCM	Sheep Creek Mo	79.62	29	P	P	05 39 07.5	+0.7
	baz=271						
P23K	Montague Islan	79.63	31	P	P	05 39 07.1	+0.4
	baz=272						
HDA	Harding Lake	79.75	26	P	P	05 39 06.8	-0.5
HDA	Harding Lake	79.75	26	P	P	05 39 07.0	-0.3
	baz=271						
GLI	Glacier Island	79.76	30	P	P	05 39 07.7	+0.2
	baz=272						
ILAR	Eielson Array	79.77	26	P	P	05 39 06.3	-1.1
ILAR	Eielson Array	79.77	26	P	P	05 39 06.7	-0.7
	comp=Z,1.9nm,0.7s,baz=236,slow=4.8,SNR=13						
ILAR				LR	LR	06 16 24.7	
	comp=Z,648nm,19.1s,baz=267,slow=37						
	comp=Z,1.9nm,0.7s						
D25K	Kavik River	79.90	21	P	P	05 39 08.2	+0.2
D25K				IAmb	IAmb	05 39 20.1	
	comp=Z,20nm,0.9s						
D25K	Kavik River	79.90	21	P	P	05 39 08.4	+0.3
	baz=271,SNR=17						
G25K	Bearman Lake	80.05	24	P	P	05 39 09.8	+0.9
	baz=271,SNR=9.6						
KLMR	Klimovskoe	80.14	330	*e*P	P	05 39 05.2	-4.2
KLMR				*e*		05 39 12.3	
KLMR				S	S	05 49 02.9	-6.1
KLMR				pmax	pmax		
	comp=Z,114nm,1.5s						
KLMR				MLR	MLR		
	comp=Z,1μm,16.0s						
M24K	Tolsona, Glenn	80.16	28	P	P	05 39 10.4	+0.7
	baz=272						
F25K	Christian Rive	80.20	23	P	P	05 39 09.8	0.0
F25K	Christian Rive	80.20	23	P	P	05 39 10.4	+0.6
	baz=272,SNR=16						
E25K	Arctic Village	80.22	22	P	P	05 39 11.2	+1.4
	baz=272						
K24K	Donnelly Dome	80.28	27	P	P	05 39 10.8	+0.6
	baz=272						
LABN	Labinsk	80.30	314	*e*P	P	05 39 09.9	-0.8
LABN				*e*S	S	05 49 13.0	+1.6
LABN				pmax	pmax		
	comp=Z,26nm,0.7s						
KLU	Klutina	80.30	29	P	P	05 39 11.2	+0.7
	baz=272						
PRP	Porcupine Dome	80.32	25	P	P	05 39 11.4	+0.9
	baz=272						
C26K	Camden Bay	80.39	20	P	P	05 39 12.1	+1.4
	baz=272,SNR=12						
ERBR	Yeremizino-Bor	80.39	315	*e*P	P	05 39 09.6	-1.6
ERBR				*e*S	S	05 49 13.2	+0.9
ERBR				pmax	pmax		
	comp=Z,57nm,1.5s						
ERBR				MLR	MLR		
	comp=Z,2μm,19.0s						
J25K	Salcha River,	80.42	26	P	P	05 39 11.5	+0.5
	baz=272						
EYAK	Cordova Ski Ar	80.43	30	P	P	05 39 12.4	+1.4
	baz=273						
PAX	Paxson	80.45	28	P	P	05 39 12.3	+1.0
	baz=273						
BMAR	Burnt Mountain	80.62	23	P	P	05 39 13.2	+1.2
HARP	HAARP	80.62	28	P	P	05 39 12.7	+0.7
	baz=273						
RIDG	Independent Ri	80.69	27	P	P	05 39 11.8	-0.7
RIDG				IAmb	IAmb	05 39 23.9	
	comp=Z,29nm,1.0s						
RIDG	Independent Ri	80.69	27	P	P	05 39 12.8	+0.3
	baz=273,SNR=7.3						
F26K	Sheenjek River	80.77	23	P	P	05 39 13.6	+0.8
	baz=273,SNR=7.1						
VORD	Divnogorie	80.81	320	*e*P	P	05 39 10.4	-2.8
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VORR	Voronezh	80.81	321	P	P	05 39 12.5	-0.8
VORR				pmax	pmax		
	comp=Z,65nm,1.4s						
C27K	Jago River	80.83	21	P	P	05 39 13.4	+0.4
	baz=273,SNR=16						
VSR	Storozhevoye	80.87	320	*e*P	P	05 39 09.7	-3.9
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSLR	Vesyoloye	80.89	313	*i* P	P	05 39 12.3	-1.6
VSLR				pmax	pmax		
	comp=Z,21nm,1.0s						
LPSR	Galich'ya Gora	80.92	322	*e*P	P	05 39 12.8	-1.0
LPSR				pmax	pmax		
	comp=Z,88nm,1.7s						
N25K	Chitina, Valde	80.93	29	P	P	05 39 14.6	+0.8
	baz=274						
G26K	Porcupine Rive	80.95	23	P	P	05 39 14.5	+0.8
	baz=274,SNR=11						
BMRM	Bremner River	80.97	30	P	P	05 39 14.6	+0.6
	baz=274						
SCRK	Sand Creek	81.06	27	P	P	05 39 14.9	+0.4
	baz=274						
SOC	Sochi	81.11	313 *c i*	P	P	05 39 12.2	-2.8
SOC				*e*PPP	PPP	05 44 12.5	
SOC				*e*S	S	05 49 16.4	-3.4
SOC				pmax	pmax		
	comp=Z,11nm,0.6s						
KAIM	Kayak Island	81.13	31	P	P	05 39 15.0	+0.2
	baz=274						
J26L	Joseph Creek	81.21	26	P	P	05 39 15.7	+0.5
	baz=274						
MENT	Mentasta	81.25	28	P	P	05 39 18.2	+2.8
I26K	Coal Creek Min	81.32	25	P	P	05 39 16.4	+0.7
	baz=274						
L26K	Log Cabin Wild	81.41	27	P	P	05 39 17.3	+1.0
	baz=274						
MOS	Moscow	81.44	325	*e*P	P	05 39 13.7	-2.8
MOS				*e*		05 39 21.0	
MOS				*e*S	S	05 49 19.2	-3.6
MOS				*e*		05 49 37.4	
MOS				pmax	pmax		
	comp=Z,59nm,1.5s						
MOS				pmax	pmax		
	comp=Z,200nm,2.0s						
MOS				MLR	MLR		
	comp=Z,800nm,18.0s						
M26K	Nabesna, AK	81.63	28	P	P	05 39 18.1	+0.7
	baz=275						
E27K	Coleen River	81.69	22	P	P	05 39 18.4	+0.7
	baz=275,SNR=17						
LVZ	Lovozero	81.77	338	P	P	05 39 17.9	-0.2
LVZ	Lovozero	81.77	338	P	P	05 39 18.9	+0.8
G27K	Doyon Strip	81.80	24	P	P	05 39 19.7	+1.5
	baz=276						
D27M	Malcolm River	81.82	21	P	P	05 39 19.6	+1.3
D27M				IAmb	IAmb	05 39 30.9	
	comp=Z,18nm,0.9s						
D27M	Malcolm River	81.82	21	P	P	05 39 19.4	+1.0
	baz=276,SNR=17						
K27K	Chicken	81.89	26	P	P	05 39 19.8	+1.0
	baz=276						
H27K	Steamboat Moun	81.91	24	P	P	05 39 19.3	+0.4
	baz=276,SNR=7.6						
I27K	Kandik River	81.94	25	P	P	05 39 18.8	-0.2
	baz=276,SNR=25						
ATD	Arta Tunnel	82.03	280	LR	LR	06 15 42.9	
	comp=Z,20nm,18.6s,baz=78,slow=36						
L27K	Beaver Creek,	82.10	27	P	P	05 39 20.8	+0.9
	baz=276,SNR=5.8						
OBN	Obninsk	82.10	325	LR	LR	06 19 56.6	
	comp=Z,920nm,18.1s,baz=31,slow=39						
OBN	Obninsk	82.10	325 *c i*	P	P	05 39 19.0	-0.9
OBN				*i*		05 39 22.3	
OBN				*i* S	S	05 49 28.3	-1.3
OBN				*e*PPS	PPS	05 50 48.7	
OBN				SS	SS	05 54 51.0	+1.3
OBN				SSS	SSS	05 58 20.0	
OBN				pmax	pmax		
	comp=Z,71nm,1.7s						
OBN				MLR	MLR		
	comp=Z,732nm,18.0s						
BCAR	Beaver Creek A	82.12	27	P	P	05 39 21.5	+1.5
M27K	Edge Creek, AK	82.15	28	P	P	05 39 20.0	-0.3
	baz=276						
APA	Apatity	82.28	337 ⇓ *i*	P	P	05 39 19.5	-1.2
APA				*i*		05 42 34.0	
APA				*i* S	S	05 49 32.4	+1.4
APA				*i* PS	PnS	05 50 42.0	+14
APA				*i* SS	SS	05 54 51.0	-0.9
APA				pmax	pmax		
	comp=Z,25nm,1.1s						
APA				MLR	MLR		
	comp=Z,1μm,19.0s						
MESA	MESA	82.34	30	P	P	05 39 21.8	+0.4
	baz=276						
E28M	Babbage River	82.41	22	P	P	05 39 22.4	+1.1
E28M				IAmb	IAmb	05 39 33.8	
	comp=Z,16nm,0.8s						
E28M	Babbage River	82.41	22	P	P	05 39 22.5	+1.1
	baz=277,SNR=27						
D28M	Stokes Point	82.60	21	P	P	05 39 23.5	+1.2
	baz=278						
BVCY	Beaver Creek	82.61	28	P	P	05 39 22.8	+0.2
	baz=277,SNR=5.7						
ANN	Anapa	82.62	314	*e*P	P	05 39 21.6	-1.3
ANN				*e*		05 42 34.5	
ANN				*e*S	S	05 49 34.0	-1.3
ANN				pmax	pmax		
	comp=Z,44nm,0.9s						
I28M	Miner Creek	82.65	25	P	P	05 39 23.8	+1.0
	baz=277,SNR=32						
YUK3	Moose Creek	82.88	29	P	P	05 39 24.1	-0.1
	baz=277						
E29M	Blow River	83.04	22	P	P	05 39 25.2	+0.6
	baz=279						
DAWY	Dawson	83.06	26	P	P	05 39 25.4	+0.5
	baz=278,SNR=9.6						
O28M	Mount Upton	83.14	30	P	P	05 39 25.1	-0.6
	baz=278						
H29M	Whitestone	83.18	24	P	P	05 39 26.1	+0.6
H29M	Whitestone	83.18	24	P	P	05 39 26.3	+0.9
	baz=279						
PINM	Pinnacle	83.20	30	P	P	05 39 26.0	+0.3
	baz=278						
G29M	Pine Creek	83.21	23	P	P	05 39 25.8	+0.2
	baz=279,SNR=13						
ABPO	Ambohimpanom	83.25	249	P	P	05 39 25.8	-1.1
ABPO				IAmb	IAmb	05 39 35.8	
	comp=Z,17nm,0.9s						
ABPO	Ambohimpanom	83.25	249	P	P	05 39 25.8	-1.1
YUK8	Steele Glacier	83.27	29	P	P	05 39 26.3	0.0
	baz=278						
I29M	Ogilvie Camp,	83.34	25	P	P	05 39 27.1	+0.8
	baz=279,SNR=25						
VADS	Vadso	83.36	340	*e*P	P	05 39 26.7	+0.5
J29N	Klondike Camp	83.51	26	P	P	05 39 27.9	+0.6
	baz=279,SNR=8.5						
PNL	Peninsula	83.68	31	P	P	05 39 28.7	+0.5
	baz=278						
GAZ	Gaziantep	83.70	307	P	P	05 39 28.8	0.0
M29M	Somme Creek	83.72	28	P	P	05 39 29.5	+1.1
M29M				IAmb	IAmb	05 39 46.3	
	comp=Z,52nm,1.6s						
M29M	Somme Creek	83.72	28	P	P	05 39 28.6	+0.2
	baz=279						
L29M	L29M	83.76	27	P	P	05 39 30.3	+1.8
L29M	L29M	83.76	27	P	P	05 39 28.9	+0.4
	baz=279,SNR=15						
YUK4	Talbot Arm	83.80	29	P	P	05 39 29.2	+0.2
	baz=279						
EPYK	Eagle Plains	83.81	24	P	P	05 39 29.4	+0.7
	baz=280,SNR=8.8						
G30M	tAoh Zraii Nji	83.90	23	P	P	05 39 29.8	+0.7
	baz=280,SNR=6.8						
K29M	Barlow Dome	83.91	26	P	P	05 39 30.4	+1.0
	baz=280,SNR=12						
F30M	Barrier River	83.95	22	P	P	05 39 30.3	+1.0
	baz=281,SNR=9.5						
O29M	Mount Kennedy	84.00	30	P	P	05 39 30.9	+1.1
	baz=279						
YUK6	Outpost Mounta	84.00	29	P	P	05 39 30.7	+0.7
	baz=279						
I30M	Mount Dempster	84.16	25	P	P	05 39 31.8	+1.2
	baz=280,SNR=15						
J30M	Hart River	84.30	26	P	P	05 39 32.2	+0.9
	baz=281,SNR=13						
HYT	Haines Junctio	84.43	29	P	P	05 39 33.0	+0.9
	baz=280						
M30M	Minto, Yukon	84.46	28	P	P	05 39 33.5	+1.4
	baz=280,SNR=9.5						
N30M	Aishikik Lake	84.52	29	P	P	05 39 32.5	+0.1
	baz=280,SNR=6.3						
P29M	Windy Craggy	84.52	31	P	P	05 39 33.1	+0.7
	baz=280,SNR=5.5						
SPA0	Spitsbergen Ar	84.58	349	*e*P	P	05 39 32.8	+0.5
SPITS	Spitsbergen Ar	84.58	349	P	P	05 39 32.6	+0.2
	comp=Z,17nm,0.7s,baz=84,slow=7.6,SNR=45						
	comp=Z,17nm,0.7s						
ASF	Jabal al Asfar	84.63	302	LR	LR	06 22 21.6	
	comp=Z,396nm,18.7s,baz=101,slow=39						
INK	Inuvik	84.64	22	LR	LR	06 21 03.7	
	comp=Z,491nm,19.2s,baz=253,slow=38						
INK	Inuvik	84.64	22	P	P	05 39 33.5	+0.7
	baz=283,SNR=13						
G31M	Satah River	84.67	23	P	P	05 39 33.8	+0.9
G31M				IAmb	IAmb	05 39 44.0	
	comp=Z,30nm,1.1s						
G31M	Satah River	84.67	23	P	P	05 39 33.6	+0.7
	baz=282,SNR=8.9						
F31M	Tsiigehtchic	84.76	22	P	P	05 39 33.7	+0.4
F31M				IAmb	IAmb	05 39 44.3	
	comp=Z,31nm,1.1s						
F31M	Tsiigehtchic	84.76	22	P	P	05 39 34.1	+0.7
	baz=283,SNR=11						
ARA0	ARCESS Array S	84.79	340	*e*P	P	05 39 33.6	+0.1
ARCES	ARCESS Array B	84.79	340	P	P	05 39 33.4	-0.2
	comp=Z,12nm,0.6s,baz=82,slow=7.1,SNR=71						
ARCES				LR	LR	06 21 48.2	
	comp=Z,805nm,19.4s,baz=82,slow=39						
	comp=Z,12nm,0.6s						
P30M	Million Dollar	84.82	30	P	P	05 39 34.4	+0.4
	baz=280						
H31M	Peel River	84.88	24	P	P	05 39 34.4	+0.3
	baz=282,SNR=13						
SIM	Simferopol'	84.94	315	*e*P	P	05 39 33.6	-1.2
SIM				*e*S	SKSac	05 49 51.5	-2.5
SIM				pmax	pmax		
	comp=Z,58nm,1.1s						
SIM				smax	smax		
	comp=N,145nm,16.3s						
SIM				MLR	MLR		
	comp=Z,352nm,18.4s						
KBS	Kingsbay	85.09	350 *ce*	P	P	05 39 34.9	0.0
KBS				pmax	pmax		
	comp=Z,11nm,0.7s						
KBS	Kingsbay	85.09	350	*e*P	P	05 39 35.2	+0.3
HAMF	Hammerfest	85.11	341	*e*P	P	05 39 34.6	-0.5
O30N	Mendenhall	85.12	29	P	P	05 39 36.7	+1.2
O30N				IAmb	IAmb	05 39 46.2	
	comp=Z,20nm,1.2s						
O30N	Mendenhall	85.12	29	P	P	05 39 36.6	+1.2
	baz=281						
N31M	Braeburn, Yuko	85.13	29	P	P	05 39 36.0	+0.6
	baz=281,SNR=8.1						
S31K	Pelican	85.60	32	P	P	05 39 37.8	+0.1
	baz=281						
M31M	Drury Creek, Y	85.63	28	P	P	05 39 37.8	-0.1
M31M	Drury Creek, Y	85.63	28	P	P	05 39 38.4	+0.5
	baz=282						
WHY	Whitehorse	85.73	29	P	P	05 39 38.5	0.0
	baz=282						

MMAI Mount Meron Ar 85.76 303 P **P 05 39 39.2 0.0**
comp=Z,10nm,1.1s,baz=64,slow=6.6,SNR=14
MMAI LR LR 06 21 48.8
comp=Z,487nm,21.3s,baz=64,slow=38
comp=Z,10nm,1.1s
SKAG Skagway 85.76 30 P **P 05 39 38.7 +0.2**
baz=282
R31K City Hall, Gus 85.76 32 P **P 05 39 39.1 +0.5**
baz=282
KIRS Kirsehir-Merke 85.99 309 ⇑P **P 05 39 40.4 +0.1**
FARO Faro, Yukon 86.10 28 P **P 05 39 40.7 +0.5**
baz=283,SNR=13
BR131 Keskin Array S 86.11 309 P **P 05 39 39.0 -1.9**
SNR=11
BR131 Keskin Array S 86.11 309 *c i* P **P 05 39 39.0 -1.9**
BRTR Keskin Array B 86.11 309 P **P 05 39 39.2 -1.7**
BRTR Keskin Array B 86.11 309 P **P 05 39 39.8 -1.2**
comp=Z,2.0nm,0.6s,baz=104,slow=5.2,SNR=12
comp=Z,2.0nm,0.6s
SIT Sitka 86.26 33 P **P 05 39 41.6 +0.6**
baz=282
CIDE Kastamonu/Cide 86.27 312 ⇓P **P 05 39 41.9 +0.5**
A36M Sachs Harbour 86.31 17 P **P 05 39 41.5 +0.5**
baz=290
R32K Eaglecrest 86.42 32 P **P 05 39 42.2 +0.3**
baz=283
N32M Quiet Lake 86.47 29 P **P 05 39 43.0 +0.9**
baz=284
FIA1 FINESS Array S 86.50 332 P **P 05 39 41.5 -0.7**
FINES FINESS Array B 86.50 332 P **P 05 39 41.6 -0.6**
FINES FINESS Array B 86.50 332 P **P 05 39 41.2 -0.9**
comp=Z,27nm,1.0s,baz=91,slow=7.6,SNR=47
comp=Z,27nm,1.0s
FINES FINESS Array B 86.50 332 *ce* P **P 05 39 41.7 -0.4**
FINES pmax pmax
comp=Z,27nm,1.0s
JETT Jettan, Norway 86.50 340 *e* P **P 05 39 41.7 -0.4**
P32M Atlin 86.53 30 P **P 05 39 42.6 +0.2**
baz=283
S32K Killisnoo 86.57 32 P **P 05 39 42.3 -0.2**
baz=283
EIL Elat 86.66 299 LR LR 06 23 21.1
comp=Z,511nm,19.9s,baz=67,slow=39
ANTO Ankara 86.72 310 P **P 05 39 42.5 -1.4**
P33M Teslin, Yukon 86.83 29 P **P 05 39 43.7 -0.2**
baz=284
VSU Vasula 86.88 329 *ce* P **P 05 39 42.2 -1.8**
VSU pmax pmax
comp=Z,91nm,1.7s
MMPY Sheldon Lake, 86.94 27 P **P 05 39 44.6 +0.2**
baz=285
TRO Tromso 86.97 340 *e* P **P 05 39 43.9 -0.3**
PPT Papeete 87.10 108 LR LR 06 14 36.6
comp=Z,872nm,18.4s,baz=271,slow=33
PPT2 Papeete2 87.10 108 *e* P **P 05 39 47.6 +1.6**
comp=Z,73nm,22.8s
PPT2 Papeete2 87.10 108 *e* PP PP 05 43 00.1 -10
PPT2 *e* S **SKSac 05 50 17.9 +9.4**
comp=Z,520nm,25.5s
PPT2 *e* SS **SS 05 56 04.0 -1.8**
comp=Z,272nm,24.5s
PPT2 *e* LQ LQ 06 03 30.5
comp=Z,386nm,28.0s
PPT2 *e* LR LR 06 07 18.8
comp=Z,1μm,21.8s
PPT2 *e* LR LR 06 07 20.7
comp=Z,901nm,22.0s
MNK Minsk 87.16 325 *i* P **P 05 39 42.3 -3.2**
MNK *i* 05 43 06.6
MNK *i* PPP PPP 05 45 01.5
MNK *i* S **SKSac 05 50 02.6 -4.7**
MNK *i* SS **SS 05 56 09.4 +5.2**
MNK pmax pmax
comp=E,6.0nm,0.6s
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK pmax pmax
comp=Z,16nm,0.6s
MNK MLR MLR
comp=Z,999nm,18.0s
MNK MLR MLR
comp=N,633nm,18.0s
MNK MLR MLR
comp=E,783nm,20.0s
AKASG Malin Array Be 87.17 321 P **P 05 39 44.6 -1.0**
AKASG IAmb IAmb 05 39 47.7
comp=Z,48nm,1.6s
AKASG Malin Array Be 87.17 321 P **P 05 39 44.6 -1.0**
comp=Z,2.8nm,0.5s,baz=69,slow=4.7,SNR=37
comp=Z,2.8nm,0.5s
AKASG Malin Array Be 87.17 321 P **P 05 39 44.7 -1.0**
AKASG pmax pmax
comp=Z,48nm,1.6s
AKBB Malin Array Si 87.17 321 *ce* P **P 05 39 44.1 -1.5**
AKBB pmax pmax
comp=Z,15nm,1.1s
KIEV Kiev 87.18 321 P **P 05 39 44.1 -1.5**
KIEV Kiev 87.18 321 P **P 05 39 44.2 -1.5**
KIEV pmax pmax
comp=Z,62nm,1.6s
Q32M Nakina River 87.41 31 P **P 05 39 47.5 +0.6**
baz=285
C36M Paulatuk 87.62 20 P **P 05 39 48.2 +0.8**
baz=292
U33K Whale Pass 87.66 33 P **P 05 39 47.9 +0.1**
baz=284
R33M Jennings River 87.94 30 P **P 05 39 49.0 -0.3**
baz=286
WRAK Wrangell Islan 88.00 33 P **P 05 39 49.8 +0.3**
baz=285
MILM Milestii Mici 88.22 317 ⇑ *i* P **P 05 39 49.0 -1.7**
comp=Z,340nm,11.0s
MILM *e* SKS **SKSac 05 50 17.0 +2.9**
MILM *e* S **S 05 50 29.0 -1.4**
MILM Milestii Mici 88.22 317 *e* PS PS 05 51 32.0 -9.4
MILM *e* L L 06 09 17.0
MILM LQM 06 17 10.0
comp=Z,600nm,21.5s
MILM LRM MLR 06 22 36.0
comp=Z,600nm,20.0s
MILM Milestii Mici 88.22 317 *i* P **P 05 39 49.0 -1.7**
MILM *e* 05 50 17.0
MILM *e* S **S 05 50 29.0 -1.4**
MILM *e* PS **PnS 05 51 32.0 -8.2**
MILM pmax pmax
comp=Z,340nm,11.0s
MILM MLR MLR
comp=Z,600nm,20.0s
S34M Telegraph Cree 88.26 31 P **P 05 39 51.2 +0.5**
baz=286
SORM Soroca 88.27 318 ⇑P **P 05 39 50.5 -0.4**
SORM Soroca 88.27 318 P **P 05 39 50.5 -0.4**
TBI Tubuai 88.32 114 *e* S **S 05 50 30.4 -1.7**
comp=Z,3μm,27.5s
TBI *e* SS **SS 05 56 20.4 -2.8**
comp=Z,1μm,38.8s
TBI *e* LQ LQ 06 04 14.2
comp=Z,2μm,34.8s
TBI *e* LR LR 06 07 56.5
comp=Z,6μm,24.5s
TBI *e* LR LR 06 08 03.4
comp=Z,2μm,25.5s
TLCR 88.59 316 ⇑P **P 05 39 52.4 -0.1**
TLCR 88.59 316 P **P 05 39 52.4 -0.1**
TGTN Hyland Airport 88.60 28 P **P 05 39 53.0 +0.7**
baz=288
DLBC Dease Lake 88.67 31 LR LR 06 14 41.3
comp=Z,260nm,21.8s,baz=284,slow=32
DLBC Dease Lake 88.67 31 P **P 05 39 53.7 +1.0**
baz=286
V35K Ketchikan 88.68 34 P **P 05 39 53.4 +0.7**
baz=285
STEI Steigen 88.85 339 *e* P **P 05 39 52.6 -0.6**
TPGR Topolog 88.94 315 ⇑P **P 05 39 54.2 0.0**
KIBK Kibwezi 88.96 267 P **P 05 39 54.5 -0.6**
KIBK IAmb IAmb 05 40 05.0
comp=Z,23nm,1.1s
KIBK Kibwezi 88.96 267 P **P 05 39 54.9 -0.1**
SNR=7.8
T35M Bob Quinn 88.97 32 P **P 05 39 54.2 +0.1**
baz=286
TIRR Tirgusor 89.03 315 ⇑P **P 05 39 54.5 -0.1**
TIRR Tirgusor 89.03 315 P **P 05 39 54.5 -0.1**
FAUS Fauske 89.05 339 *e* P **P 05 39 53.5 -0.7**
CFR Carcaliu 89.06 316 ⇑P **P 05 39 53.9 -0.8**
CFR Carcaliu 89.06 316 P **P 05 39 53.9 -0.8**
PABE Paberze 89.10 326 P **P 05 39 53.4 -1.2**
MAW Mawson 89.32 200 P **P 05 39 55.5 +0.2**
MAW Mawson 89.32 200 P **P 05 39 56.3 +1.0**
comp=Z,4.9nm,0.9s,baz=25,slow=5.1,SNR=3.8
MAW LR LR 06 17 18.9
comp=Z,329nm,19.4s,baz=52,slow=34
comp=Z,4.9nm,0.9s
VNDA Vanda 89.38 173 P **P 05 39 55.4 0.0**
VNDA Vanda 89.38 173 P **P 05 39 54.9 -0.5**
comp=Z,3.9nm,0.8s,baz=333,slow=6.5,SNR=9.2
VNDA LR LR 06 21 33.3
comp=Z,906nm,18.6s,baz=344,slow=37
comp=Z,3.9nm,0.8s
VNDA Vanda 89.38 173 P **P 05 39 55.4 0.0**
VNDA pmax pmax
comp=Z,8.0nm,0.9s
KMBO Kilima Mbogo 89.54 269 P **P 05 39 57.7 -0.3**
KMBO IAmb IAmb 05 40 08.0
comp=Z,19nm,1.1s
KMBO Kilima Mbogo 89.54 269 P **P 05 39 57.7 -0.3**
KMBO Kilima Mbogo 89.54 269 P **P 05 39 57.7 -0.3**
KMBO pmax pmax
comp=Z,19nm,1.1s
TESR Tescani 89.77 317 ⇑P **P 05 39 58.2 +0.1**
MOR8 Moi Rana 89.84 338 *e* P **P 05 39 56.1 -1.9**
VRI Vrincioaia 89.87 316 ⇓P **P 05 39 59.0 +0.5**
VRI Vrincioaia 89.87 316 P **P 05 39 59.0 +0.5**
PLOR Plostina 89.92 316 ⇑P **P 05 39 58.5 -0.4**
PLOR Plostina 89.92 316 P **P 05 39 58.4 -0.4**
SUW Suwalki 89.95 325 *e* P **P 05 39 58.3 -0.4**
WRGLY Wrigley 90.13 25 P **P 05 39 59.7 +0.3**
baz=292
NEHR Nehoiu 90.27 316 ⇑P **P 05 40 00.2 -0.2**
LIRD Liard River Hi 90.31 29 P **P 05 40 00.6 +0.3**
baz=290
LEIR Leirfjorden 90.36 338 *e* P **P 05 40 01.0 +0.6**
BURAR Bucovina Array 90.44 318 P **P 05 40 00.6 -0.7**
BURAR Bucovina Array 90.44 318 ⇑P **P 05 40 01.7 +0.3**
BURAR Bucovina Array 90.44 318 P **P 05 40 01.6 +0.3**
BUR08 Bucovina Ar. S 90.44 318 P **P 05 40 00.7 -0.7**
MLR Muntele Rosu 90.49 316 LR LR 06 27 55.5
comp=Z,952nm,18.6s,baz=65,slow=40
MLR Muntele Rosu 90.49 316 ⇑P **P 05 40 01.0 -0.6**
MLR Muntele Rosu 90.49 316 P **P 05 40 01.0 -0.6**
TOAD Toad River Com 90.92 30 P **P 05 40 03.7 +0.5**
baz=291
KOTAN Kotaneelee Air 91.02 28 P **P 05 40 04.4 +0.8**
baz=292
VOIR 91.11 316 ⇑P **P 05 40 04.7 +0.3**
VOIR 91.11 316 P **P 05 40 04.7 +0.3**
NSS Namsos 91.48 337 *e* P **P 05 40 04.5 -1.0**
BBB Bella Bella 91.57 36 LR LR 06 17 29.4
comp=Z,232nm,19.7s,baz=304,slow=33
KOLS Kolonicke sedl 91.97 320 *e* P **P 05 40 10.3 +2.1**
KOLS Kolonicke sedl 91.97 320 *e* P **P 05 40 10.3 +2.1**
MARR Marisel-Cluj 92.07 318 ⇓P **P 05 40 08.8 -0.1**
DRGR 92.31 318 ⇑P **P 05 40 09.7 -0.2**
DRGR 92.31 318 P **P 05 40 09.7 -0.2**
STHS Stebnicka Huta 92.47 321 *e* P **P 05 40 09.5 -1.0**
STHS Stebnicka Huta 92.47 321 *e* P **P 05 40 09.5 -1.0**
HFS Hagfors 92.66 333 P **P 05 40 10.2 -1.0**
comp=Z,6.5nm,0.5s,baz=74,slow=5.1,SNR=25
comp=Z,6.5nm,0.5s
SURR Surduc 93.00 317 ⇑P **P 05 40 12.8 -0.2**
NIE Niedzica 93.05 321 *e* P **P 05 40 14.2 +1.0**
OJC Ojcow 93.10 322 *e* P **P 05 40 13.8 +0.4**
NC405 NORSAR Array S 93.11 334 P **P 05 40 12.1 -1.1**
NC405 IAmb IAmb 05 40 24.5
comp=Z,18nm,0.8s
NC303 NORSAR Array S 93.21 334 P **P 05 40 12.9 -0.8**
NC602 NORSAR Array S 93.36 334 *e* P **P 05 40 13.2 -1.1**
NB2 NORSAR Subarra 93.36 334 P **P 05 40 13.0 -1.4**
comp=Z,69nm,2.0s,baz=68,slow=4.6
NB2 NORSAR Subarra 93.36 334 P **P 05 40 13.0 -1.4**
baz=68,slow=4.6
NOA NORSAR Array B 93.36 334 P **P 05 40 13.2 -1.2**
comp=Z,2.8nm,0.7s,baz=65,slow=4.5,SNR=19
NOA LR LR 06 26 52.7
comp=Z,772nm,18.2s,baz=50,slow=38
comp=Z,2.8nm,0.7s
BZS Buzias 93.38 317 ⇑P **P 05 40 14.6 -0.2**
BZS Buzias 93.38 317 P **P 05 40 14.6 -0.2**
DOMB Dombas 93.80 335 *e* P **P 05 40 16.0 -0.4**
IDI Anoyia 93.83 307 LR LR 06 29 53.6
comp=Z,262nm,18.6s,baz=84,slow=40
JMIC Jan Mayen 94.01 347 LR LR 06 29 28.3
comp=Z,630nm,18.2s,baz=71,slow=40
YKA Yellowknife Ar 94.10 24 P **P 05 40 18.3 +0.6**
comp=Z,4.6nm,0.7s,baz=303,slow=4.6,SNR=41
YKA PKKP **PKKPdf 05 57 17.9 -1.8**
comp=Z,0.5nm,0.8s,baz=119,slow=2.3,SNR=3.9
YKA LR LR 06 26 34.4
comp=Z,295nm,19.3s,baz=299,slow=38
comp=Z,4.6nm,0.7s
YKA Yellowknife Ar 94.10 24 *ce* P **P 05 40 18.7 +1.0**
YKA pmax pmax
comp=Z,5.0nm,0.7s
AKN Aaknes 94.58 336 *e* P **P 05 40 20.1 +0.1**
MORC Moravsky Berou 94.62 322 *e* P **P 05 40 19.8 -0.7**
TAOE Nuku Hiva Isla 94.65 98 *e* S **S 05 51 22.1 -7.9**
comp=Z,527nm,26.6s
TAOE *e* SS **SS 05 57 56.9 +2.0**
comp=Z,219nm,26.0s
TAOE Nuku Hiva Isla 94.65 98 *e* LR LR 06 10 49.5
comp=Z,2μm,31.4s
KONO Kongsberg 94.72 333 *ce* P **P 05 40 20.4 -0.2**
KONO pmax pmax
comp=Z,18nm,1.7s
SKAR Skarslia 94.79 334 *e* P **P 05 40 20.1 -0.9**
JAVC Velka Javorina 94.86 321 *e* P **P 05 40 22.5 +0.9**
KSP Ksiaz 94.97 323 *e* P **P 05 40 22.4 +0.4**
MODS Modra-Piesok 95.28 321 *e* P **P 05 40 24.9 +1.4**
VRAC Vranov 95.36 322 *e* P **P 05 40 23.9 +0.1**
KRUC Moravsky 95.58 322 *e* P **P 05 40 24.9 +0.1**
PDG Podgorica 95.99 315 ⇓P **P 05 40 26.9 +0.1**
BLS5 Blasjo 96.22 334 *e* P **P 05 40 28.8 +1.3**
BRG Berggiesshubel 96.34 324 *e* P **P 05 40 28.6 +0.4**
BRG Amp 05 40 31.4
comp=Z,3.2nm,0.7s
CLL Collm 96.70 325 *i* P **P 05 40 28.7 -1.1**
CLL *e* 05 51 02.0
CLL *e* S **S 05 51 49.0 +2.8**
CLL pmax pmax
comp=Z,15nm,1.4s
CLL MLR MLR
comp=Z,1μm,18.4s
KHC Kasperske Hory 97.26 322 *e* P **P 05 40 30.0 -2.5**
KHC Kasperske Hory 97.26 322 *ce* P **P 05 40 31.7 -0.8**
KHC pmax pmax
comp=Z,6.0nm,0.8s
GERES GERESS Array B 97.30 322 P Pdif 05 40 32.6 -0.2
comp=Z,1.0nm,0.6s,baz=71,slow=5.8,SNR=7.7
comp=Z,1.0nm,0.6s
SYO Syowa Base 97.95 201 ⇓ *e* P Pdif 05 40 35.6 +0.6
SYO Syowa Base 97.95 201 ⇓ *ep* P Pdif 05 40 40.0 +5.0
YBH Yreka Blue Hor 98.58 45 LR LR 06 20 38.2
comp=Z,366nm,19.6s,baz=266,slow=33
NEW Newport 99.58 37 LR LR 06 22 26.3
comp=Z,324nm,19.2s,baz=306,slow=33
QSPA South Pole Qui 99.62 180 P **Pdif 05 40 43.1 +0.5**
comp=Z,1.7nm,1.1s,baz=340,slow=1.0,SNR=2.0
comp=Z,1.7nm,1.1s
BTNL Ternell 100.89 326 *d* Pdif **Pdif 05 40 47.6 -1.0**
MEM Membach 100.95 326 *d* Pdif **Pdif 05 40 48.8 0.0**
WLF Walferdange 101.34 325 *d* Pdif **Pdif 05 40 51.4 +0.8**
RKT Rikitea 101.46 112 *e* S 05 52 18.1
comp=Z,1μm,36.5s
BMRD Maredsous 101.79 326 *d* Pdif **Pdif 05 40 52.2 -0.4**
DOU Dourbes 101.99 326 *d* Pdif **Pdif 05 40 53.3 -0.2**
EKA Eskdalemuir Ar 102.83 333 Pdiff **Pdif 05 40 54.9 -2.3**
comp=Z,0.9nm,0.6s,baz=38,slow=3.6,SNR=3.5
NVAR Mina Array Bea 102.96 47 Pdiff **Pdif 05 40 59.2 +0.8**
comp=Z,1.3nm,0.9s,baz=286,slow=5.4,SNR=5.7
PDAR Pinedale Array 106.89 40 PKKP 05 56 55.3
comp=Z,1.1nm,0.9s,baz=92,slow=3.1,SNR=8.2
TXAR Lajitas Array 117.92 49 PKP **PKiKP 05 45 47.1 +0.4**
comp=Z,0.5nm,0.5s,baz=333,slow=1.0,SNR=8.5
TXAR PKKPab **PKKPab 05 56 09.9 -1.3**
comp=Z,0.5nm,0.9s,baz=101,slow=3.2,SNR=4.3
TORD Torodi Ar. Bea 120.76 292 PKP **PKPdf 05 45 51.9 -0.4**
comp=Z,1.1nm,0.5s,baz=78,slow=0.4,SNR=4.7
PLCA Paso Flores 145.60 157 PKPbc **PKPab 05 46 38.8 +0.3**
comp=Z,7.8nm,0.7s,baz=224,slow=3.3,SNR=23
PLCA Paso Flores 145.60 157 *eP* **PKPab 05 46 39.5 +1.0**
TRQA Tornquist 150.78 166 *eP* **PKPdf 05 46 47.9 +1.5**
OTAV Otavalo 153.17 70 *eP* **PKPdf 05 46 52.7 +1.4**
CFA Coronel Fontan 154.26 150 PKP **PKPdf 05 46 51.0 -0.8**
comp=Z,3.5nm,1.0s,baz=180,slow=1.7,SNR=3.9
CFA PKPbc **PKPbc 05 46 58.5 -1.6**
comp=Z,3.2nm,0.9s,baz=150,slow=3.9,SNR=5.5
SDV Santo Domingo 154.76 43 *eP* **PKPdf 05 46 54.9 +1.8**
CZSB Cruzeiro do Su 160.82 86 *eP* **PKPdf 05 47 01.7 +1.4**
HMBC Humberstone 160.97 125 *eP* **PKPab 05 47 44.0 +0.5**
PB18 Visviri 162.55 118 *eP* **PKPab 05 47 43.8 -7.2**
TBTG Tabatinga, AM 162.72 72 *eP* **PKPdf 05 47 03.3 +1.0**
CPUP Vila Florida 163.09 168 PKPab **PKPab 05 47 53.5 +1.3**
comp=Z,2.2nm,0.8s,baz=90,slow=3.0,SNR=3.8
LPAZ La Paz 164.25 116 PKP **PKPdf 05 47 04.9 +0.5**
comp=Z,4.2nm,1.0s,baz=236,slow=3.6,SNR=9.0
LPAZ La Paz 164.25 116 *eP* **PKPdf 05 47 06.1 +1.7**
NBPB Pedra_Branca-C 165.68 286 *eP* **PKPdf 05 47 06.7 +1.7**
BOAV Boa Vista 166.00 31 *eP* **PKPdf 05 47 06.5 +1.3**
TEFE Tefe 167.24 62 *eP* **PKPdf 05 47 08.5 +2.3**
MURT Porto Murtinho 167.49 162 *eP* **PKPdf 05 47 08.0 +1.8**
BDQN Bodoquena, MS 168.88 164 *eP* **PKPdf 05 47 08.5 +1.4**
JANB Januaria 169.67 238 *eP* **PKPdf 05 47 08.5 +0.7**
BBSD Serra de San D 169.82 137 *eP* **PKPdf 05 47 09.6 +1.9**
PTLB Pontes e Lacer 172.04 136 *eP* **PKPdf 05 47 10.5 +1.6**
SALV Santo Antonio 173.49 160 *eP* **PKPdf 05 47 11.0 +1.5**
ARAG Araguaiana, MT 173.88 195 *eP* **PKPdf 05 47 11.9 +2.2**
ITTB Itaituba 174.17 24 *eP* **PKPdf 05 47 11.0 +1.1**
SMTB Santa Maria do 174.19 278 *eP* **PKPdf 05 47 11.3 +1.4**
PDRB Porto dos Gac 176.24 120 *eP* **PKPdf 05 47 12.4 +2.0**
NPGB Novo Progresso 176.69 36 *eP* **PKPdf 05 47 11.6 +1.0**
SNDB Serra Nova Dou 176.97 223 *eP* **PKPdf 05 47 11.9 +1.3**
CLDB Colider 177.40 116 *eP* **PKPdf 05 47 11.6 +0.9**

NEIC ***26*** *05:31:04.5±1.9, 9°.89N±0°.08×126°.6E±0°.1, h10km±1km, mb4.9/35, Error ellipse: s-maj=19.0km s-min=13.8km az=87.0*
IDC ***26*** *05:31:12.5±2.8, 9°.72N×126°.32E, h84km±26km, mb4.2/22, mbtmp4.5/24, Error ellipse: s-maj=28.4km s-min=12.9km az=74.0*
ISC 26 05:31:08.1±0.4,**9°.82N**±0°.06×**126°.54E**±0°.10,**h42**km,**n77**,
σ1°**03**/73,**mb4.7**/39,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.89**	**199**	Pn	**Pn**		**05 31 54.0**	**+2.3**
DAV	**Davao City (W)**	**2.89**	**199**	P	**Pn**		**05 31 54.7**	**+3.0**
306nm,0.4s,baz=86,slow=19,SNR=2.1								
TNTI	**Ternate**	**9.03**	**175**	Pn	**Pn**		**05 33 16.1**	**+0.1**
FAKI	**Fak Fak**	**13.88**	**156**	Pn	**Pn**		**05 34 20.4**	**-1.9**
SBUM	**Sibu**	**16.00**	**244**		**P**		**05 34 52.5**	**-0.8**
KAPI	**Kappang**	**16.21**	**205**	P	**Pn**		**05 34 54.0**	**+1.0**
JOW	**Kunigami**	**17.00**	**5**	P	**P**		**05 35 06.0**	**+1.6**
20nm,0.7s,baz=207,slow=6.8,SNR=3.5								
MTN	**Manton Dam**	**22.98**	**168**		**P**		**05 36 08.5**	**-0.8**
MTN				IAmb	IAmb		05 36 11.4	
comp=Z,43nm,1.1s								
SMRI	**Semarang**	**23.19**	**224**	P	**P**		**05 36 11.9**	**+0.4**
MANU	**Manus Island**	**23.86**	**119**	P	**P**		**05 36 17.1**	**-0.8**
MYKOM	**Kota Tinggi**	**23.92**	**252**		**P**		**05 36 18.4**	**0.0**
KNRA	**Kununurra**	**25.43**	**175**	P	**P**		**05 36 33.3**	**+1.2**
KNRA				IAmb	IAmb		05 37 00.1	
comp=Z,23nm,0.8s								
KULM	**Kulim**	**26.04**	**262**		**P**		**05 36 38.8**	**+1.0**
KULM				IAmb	IAmb		05 36 44.0	
comp=Z,31nm,1.1s								
BKNI	**Bangkinang**	**27.06**	**251**	P	**P**		**05 36 47.7**	**+0.7**
KSRS	**Korea Array**	**27.54**	**2**	P	**P**		**05 36 51.7**	**+0.8**
comp=Z,2.6nm,0.9s,baz=195,slow=8.8,SNR=3.6								
comp=Z,2.6nm,0.9s								
FITZ	**Fitzroy Crossi**	**27.75**	**182**		**P**		**05 36 52.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**28.07**	**291**	P	**P**		**05 36 55.8**	**-0.1**
comp=Z,3.8nm,0.9s,baz=104,slow=9.7,SNR=4.6								
comp=Z,3.8nm,0.9s								
MJAR	**Matsushiro Arr**	**28.63**	**20**	PcP	**PcP**		**05 40 10.9**	**-0.1**
comp=Z,2.3nm,0.8s,baz=235,slow=3.1,SNR=7.0								
WRA	**Warramunga Arr**	**30.56**	**165**	P	**P**		**05 37 18.0**	**+0.1**
comp=Z,0.8nm,0.6s,baz=346,slow=9.1,SNR=2.7								
comp=Z,0.8nm,0.6s								
ASAR	**Alice Springs**	**34.05**	**168**	P	**P**		**05 37 50.4**	**+1.9**
ASAR	**Alice Springs**	**34.05**	**168**	P	**P**		**05 37 48.5**	**-0.1**
comp=Z,1.1nm,0.5s,baz=345,slow=8.4,SNR=1.5								
ASAR				PcP	**PcP**		**05 40 23.4**	**-2.3**
comp=Z,6.2nm,1.1s,baz=348,slow=3.6,SNR=4.7								
comp=Z,1.1nm,0.5s								
USRK	**Ussuriysk Ar.**	**34.58**	**7**	P	**P**		**05 37 53.9**	**+1.1**
USRK	**Ussuriysk Ar.**	**34.58**	**7**	P	**P**		**05 37 54.4**	**+1.5**
comp=Z,5.7nm,0.9s,baz=168,slow=7.4,SNR=4.0								
comp=Z,5.7nm,0.9s								
H11S3	**WAKE ISLAND Hy 39.80**	**73**		T	T		06 21 44.4	
baz=262,slow=74,SNR=11								
H11S1	**WAKE ISLAND Hy 39.81**	**73**		T	T		06 21 40.5	
baz=262,slow=74,SNR=8.8								
H11S2	**WAKE ISLAND Hy 39.82**	**73**		T	T		06 21 44.0	
baz=262								
MORW	**Morawa**	**39.97**	**194**	P	**P**		**05 38 38.4**	**-0.3**
MORW				IAmb	IAmb		05 38 38.7	
comp=Z,31nm,1.1s								
H11N1	**WAKE ISLAND Hy 40.15**	**71**		T	T		06 22 16.1	
baz=265,slow=74,SNR=9.5								
H11N2	**WAKE ISLAND Hy 40.16**	**71**		T	T		06 22 08.7	
baz=265,slow=74,SNR=6.9								
H11N3	**WAKE ISLAND Hy 40.17**	**71**		T	T		06 22 15.1	
baz=265,slow=74,SNR=10								
ULN	**Ulaanbaatar**	**41.33**	**340**		**P**		**05 38 50.1**	**+0.1**
ULN				IAmb	IAmb		05 38 52.2	
comp=Z,11nm,0.8s								
SONM	**Songino Array**	**41.53**	**340**	P	**P**		**05 38 52.8**	**+1.3**
SONM	**Songino Array**	**41.53**	**340**	P	**P**		**05 38 52.5**	**+1.0**
comp=Z,5.5nm,0.7s,baz=157,slow=9.8,SNR=6.4								
comp=Z,5.5nm,0.7s								
NWAO	**Narrogin (SRO)**	**43.42**	**191**	P	**P**		**05 39 06.9**	**0.0**
NWAO				IAmb	IAmb		05 39 18.7	
comp=Z,29nm,0.9s								
STKA	**Stephens Creek**	**43.90**	**161**	P	**P**		**05 39 10.4**	**-0.3**
STKA				IAmb	IAmb		05 39 21.1	
comp=Z,35nm,1.0s								
STKA	**Stephens Creek**	**43.90**	**161**	P	**P**		**05 39 09.9**	**-0.8**
comp=Z,1.7nm,0.4s,baz=349,slow=10,SNR=1.3								
comp=Z,1.7nm,0.4s								
MKAR	**Makanchi Array**	**52.54**	**323**	P	**P**		**05 40 16.9**	**-0.4**
comp=Z,4.6nm,0.7s,baz=121,slow=8.3,SNR=6.4								
comp=Z,4.6nm,0.7s								
MKAR				PcP	**PcP**		**05 41 27.0**	**-0.3**
comp=Z,3.5nm,0.9s,baz=119,slow=5.1,SNR=2.3								
comp=Z,4.6nm,0.7s								
MAKZ	**Makanchi**	**52.73**	**323**	P	**P**		**05 40 18.5**	**-0.3**
ZALV	**Zalesovo Beam**	**55.14**	**331**	P	**P**		**05 40 35.4**	**-0.8**
comp=Z,2.4nm,0.7s,baz=118,slow=7.4,SNR=3.7								
comp=Z,2.4nm,0.7s								
KURK	**Kurchatov**	**56.58**	**326**		**P**		**05 40 46.5**	**-0.1**
KURK				IAmb	IAmb		05 40 47.2	
comp=Z,12nm,0.9s								
KURBB	**Kurchatov Arra**	**56.59**	**325**	P	**P**		**05 40 46.0**	**-0.6**
comp=Z,4.5nm,0.8s,baz=126,slow=6.8,SNR=8.2								
comp=Z,4.5nm,0.8s								
GAR	**Garm**	**57.78**	**310**	P	**P**		**05 40 54.9**	**-0.5**
GAR				IAmb	IAmb		05 40 55.7	
comp=Z,17nm,0.9s								
KBL	**Kabul**	**57.80**	**305**	P	**P**		**05 40 54.6**	**-1.2**
KBL				IAmb	IAmb		05 40 55.8	
comp=Z,11nm,0.7s								
KK31	**Karatay Array**	**58.75**	**315**		**P**		**05 41 01.0**	**-1.0**
KKAR	**Karatay Array**	**58.75**	**315**		**P**		**05 41 00.9**	**-1.1**
KKAR				IAmb	IAmb		05 41 02.3	
comp=Z,4.9nm,0.8s								
BVAR	**Borovoye Array**	**62.18**	**325**	P	**P**		**05 41 24.1**	**-1.1**
comp=Z,3.1nm,0.7s,baz=119,slow=8.6,SNR=4.2								
comp=Z,3.1nm,0.7s								
NRIK	**Noril'sk**	**64.51**	**346**	P	**P**		**05 41 41.0**	**+0.7**
NRIK	**Noril'sk**	**64.51**	**346**	P	**P**		**05 41 40.6**	**+0.3**
comp=Z,11nm,0.7s,baz=137,slow=5.4,SNR=8.2								
comp=Z,11nm,0.7s								
RTZ	**Ruatahuna**	**67.27**	**139**		**P**		**05 41 59.3**	**+0.6**
BKZ	**Black Stump Fm**	**67.27**	**140**		**P**		**05 41 59.2**	**+0.5**
ABKAR	**Akbulak array**	**67.38**	**319**	P	**P**		**05 41 58.3**	**-0.8**
ABKAR	**Akbulak array**	**67.38**	**319**		**P**		**05 41 58.1**	**-1.1**
ABKAR				IAmb	IAmb		05 42 11.9	
comp=Z,3.2nm,0.8s								
L14K	**Kuka Creek**	**72.25**	**29**	P	**P**		**05 42 29.2**	**+0.4**
L14K				IAmb	IAmb		05 42 35.2	
comp=Z,13nm,1.1s								
M17K	**Holitna River**	**74.75**	**29**		**P**		**05 42 44.5**	**+0.9**
M17K				IAmb	IAmb		05 43 01.1	
comp=Z,8.6nm,1.0s								
O18K	**Koktuh Hills**	**75.67**	**31**		**P**		**05 42 49.6**	**+0.7**

O18K IAmb IAmb 05 42 52.8
comp=Z,12nm,0.9s
B21K Ikpikpuk River 76.97 21 P **P 05 45 56.5 +0.5**
B21K IAmb IAmb 05 43 03.0
comp=Z,9.0nm,1.0s
RAYN Ar Rayn 77.98 292 **P 05 43 01.8 -0.9**
RAYN IAmb IAmb 05 43 04.7
comp=Z,4.8nm,0.6s
C23K Itkillik River 78.38 21 **P 05 43 04.8 +0.9**
C23K IAmb IAmb 05 43 17.2
comp=Z,6.3nm,0.6s
ILAR Eielson Array 79.73 26 P **P 05 43 11.8 +0.4**
comp=Z,0.5nm,0.7s,baz=270,slow=7.2,SNR=6.2
comp=Z,0.5nm,0.7s
SPB2 Spitsbergen Ar 84.50 349 **P 05 43 36.8 +0.6**
SPITS Spitsbergen Ar 84.50 349 P **P 05 43 36.2 0.0**
comp=Z,6.6nm,0.8s,baz=91,slow=7.8,SNR=7.6
comp=Z,6.6nm,0.8s
ARCES ARCESS Array B 84.70 340 P **P 05 43 37.1 -0.2**
comp=Z,6.3nm,0.7s,baz=69,slow=6.8,SNR=12
comp=Z,6.3nm,0.7s
BRTR Keskin Array B 86.02 309 P **P 05 43 43.2 -1.5**
comp=Z,1.1nm,0.7s,baz=97,slow=4.8,SNR=2.5
comp=Z,1.1nm,0.7s
FIA1 FINESS Array S 86.41 332 P **P 05 43 45.6 -0.3**
FINES FINESS Array B 86.41 332 **P 05 43 46.0 +0.1**
FINES FINESS Array B 86.41 332 P **P 05 43 45.1 -0.8**
comp=Z,9.6nm,0.9s,baz=57,slow=5.9,SNR=8.7
comp=Z,9.6nm,0.9s
AKASG Malin Array Be 87.08 321 **P 05 43 48.4 -1.1**
comp=Z,1.3nm,0.6s,baz=67,slow=5.0,SNR=4.2
comp=Z,1.3nm,0.6s
C36M Paulatuk 87.58 20 P **P 05 43 52.4 +0.9**
C36M IAmb IAmb 05 43 53.5
comp=Z,6.2nm,1.0s
HFS Hagfors 92.57 333 P **P 05 44 14.1 -0.9**
comp=Z,5.2nm,0.8s,baz=72,slow=4.7,SNR=4.9
comp=Z,5.2nm,0.8s
NB2 NORSAR Subarra 93.27 334 **P 05 44 16.9 -1.4**
comp=Z,2.4nm,0.7s,baz=66,slow=4.6
NB2 NORSAR Subarra 93.27 334 **P 05 44 16.9 -1.4**
baz=66,slow=4.6
NOA NORSAR Array B 93.27 334 P **P 05 44 17.0 -1.3**
comp=Z,1.9nm,0.7s,baz=64,slow=4.6,SNR=7.1
comp=Z,1.9nm,0.7s
YKAW3 Yellowknife Wh 94.02 24 **P 05 44 22.4 +0.8**
YKAW3 IAmb IAmb 05 44 27.1
comp=Z,2.7nm,0.9s
YKA Yellowknife Ar 94.06 24 P **P 05 44 22.3 +0.5**
comp=Z,1.5nm,0.8s,baz=302,slow=4.5,SNR=11
comp=Z,1.5nm,0.8s
QSPA South Pole Qui 99.69 180 P **Pdif 05 44 45.3 -1.9**
comp=Z,3.9nm,0.9s,baz=357,slow=4.6,SNR=5.5
comp=Z,3.9nm,0.9s
TXAR Lajitas Array 117.92 49 PKP **PKiKP 05 49 52.2 +1.2**
comp=Z,0.2nm,0.6s,baz=312,slow=1.8,SNR=4.6
PLCA Paso Flores 145.69 157 PKPbc **PKPdf 05 50 42.0 -0.5**
comp=Z,5.7nm,0.9s,baz=230,slow=4.9,SNR=7.0

*IDC **26** 05:39:44.6±2.3, 24°.28N×142°.52E, h0km, mb3.9/6, mbtmp3.9/7, ML3.0/1, Error ellipse: s-maj=49.2km s-min=45.7km az=121.0*

ISC 26 05:39:48.3±1.8, 24°.3N±0°.2×142°.5E±0°.3, h25km, n10, σ0°69/8, mb4.0/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.84**	**354**	Pn	**Pn**	**05 40 31.1**	**-1.0**
	2.4nm,0.3s,baz=260,slow=19,SNR=1.8						
JCJ				Sn	**Sn**	**05 41 06.5**	**+0.8**
	11nm,0.3s,baz=287,slow=19,SNR=2.0						
	29nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**23.20**	**100**	T	T	06 08 31.9	
	baz=290						
H11S1	**WAKE ISLAND Hy**	**23.21**	**100**	T	T	06 08 32.2	
	baz=290						
H11S2	**WAKE ISLAND Hy**	**23.22**	**100**	T	T	06 08 33.9	
	baz=290						
MKAR	**Makanchi Array**	**52.54**	**311**	P	**P**	**05 48 59.8**	**+0.1**
	0.2nm,0.5s,baz=95,slow=8.8,SNR=2.1						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**55.26**	**316**	P	**P**	**05 49 19.3**	**-0.1**
	0.6nm,0.4s,baz=93,slow=7.6,SNR=9.5						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**60.35**	**319**	P	**P**	**05 49 54.9**	**-0.2**
	2.1nm,0.5s,baz=85,slow=8.2,SNR=7.8						
	2.1nm,0.5s						
YKA	**Yellowknife Ar**	**74.49**	**28**	P	**P**	**05 51 24.4**	**+0.1**
	0.3nm,0.7s,baz=292,slow=5.7,SNR=4.6						
	0.3nm,0.7s						
ARCES	**ARCESS Array B**	**76.32**	**341**	P	**P**	**05 51 35.5**	**+0.7**
	1.8nm,0.8s,baz=62,slow=6.3,SNR=5.7						
	1.8nm,0.8s						
FINES	**FINESS Array B**	**80.62**	**334**	P	**P**	**05 51 58.9**	**+0.2**
	0.7nm,0.6s,baz=48,slow=4.1,SNR=7.1						
	0.7nm,0.6s						

*IDC **26** 05:40:29.4±6.2, 7°.18S×129°.44E, h93km±55km, mb3.7/3, mbtmp4.0/6, ML4.1/3, Error ellipse: s-maj=73.1km s-min=25.0km az=64.0*

ISC 26 05:40:29.7±1.2, 7°.32S±0°.09×129°.8E±0°.2, h100km, n8, σ2°58/10, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.44**	**200**	P	**Pn**	**05 43 12.1**	**+2.2**
	2.3nm,0.3s,baz=34,slow=13,SNR=33						
FITZ				S	**Sn**	**05 45 13.9**	**-1.7**
	11nm,0.6s,baz=90,slow=20,SNR=7.9						
	6.3nm,0.3s						
WRA	**Warramunga Arr**	**13.31**	**161**	P	**Pn**	**05 43 36.0**	**+1.2**
	0.6nm,0.3s,baz=339,slow=13,SNR=16						
WRA				S	Sn	05 45 55.5	-5.8
	5.7nm,0.5s,baz=332,slow=23,SNR=11						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**16.73**	**167**	P	**P**	**05 44 21.6**	**+2.8**
	0.4nm,0.3s,baz=334,slow=9.8,SNR=8.1						
ASAR				S	**Sn**	**05 47 19.4**	**-4.5**
	1.2nm,0.5s,baz=359,slow=27,SNR=6.5						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**68.36**	**327**	P	**P**	**05 51 19.8**	**-0.7**
	1.2nm,0.4s,baz=119,slow=8.4,SNR=18						
	1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**71.76**	**334**	P	**P**	**05 51 38.7**	**-2.3**
	0.6nm,0.4s,baz=132,slow=6.0,SNR=1.8						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**72.66**	**329**	P	**P**	**05 51 45.0**	**-1.4**
	0.8nm,0.6s,baz=123,slow=5.3,SNR=8.6						
	0.8nm,0.6s						
CPUP	**Villa Florida**	**145.85**	**169**	PKPbc	**PKPbc**	**05 59 58.7**	**+0.5**
	0.4nm,0.4s,baz=198,slow=0.9,SNR=3.1						
LPAZ	**La Paz**	**150.61**	**143**	PKPbc	**PKiKP**	**06 00 13.1**	**+0.6**
	0.5nm,0.3s,baz=252,slow=6.4,SNR=7.4						

*NEIC **26** 05:49:28.4±1.7, 9°.84N±0°.08×126°.5E±0°.1, h10km±1km, mb4.7/34, Error ellipse: s-maj=24.1km s-min=13.9km az=84.0*

*IDC **26** 05:49:39.8±2.7, 9°.64N×126°.35E, h113km±24km, mb3.9/19, mbtmp4.2/20, MS3.8/1, Error ellipse: s-maj=33.9km s-min=12.2km az=68.0*

ISC 26 05:49:32.1±0.5, 9°.88N±0°.06×126°.6E±0°.1, h42km, n63, σ1°39/63, mb4.5/35, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.97**	**200**	Pn	**Pn**	**05 50 17.7**	**+0.9**
DAV	**Davao City (W)**	**2.97**	**200**	P	**Pn**	**05 50 20.8**	**+4.0**
	212nm,0.4s,baz=72,slow=6.4,SNR=5.8						
DAV				S	**Sn**	**05 50 54.9**	**+3.6**
	464nm,0.6s,baz=12,slow=20,SNR=4.7						
DAV				LR	LR	05 51 37.1	
	comp=Z,2μm,20.2s,baz=30,slow=44						
TNTI	**Ternate**	**9.08**	**175**	Pn	**Pn**	**05 51 42.4**	**+1.8**
TPUB	**Ta-pu**	**14.53**	**337**		**P**	**05 52 60.0**	**-0.9**
SBUM	**Sibu**	**16.10**	**244**		**P**	**05 53 16.8**	**-1.6**
SOEI	**Soe**	**19.64**	**187**	P	**P**	**05 53 57.4**	**-0.2**
SOEI				IAmb	IAmb	05 54 34.3	
	comp=Z,65nm,1.1s						
MYKOM	**Kota Tinggi**	**24.02**	**252**	P	**P**	**05 54 43.5**	**+0.2**
KNRA	**Kununurra**	**25.48**	**175**	P	**P**	**05 54 55.8**	**-0.7**
KNRA				IAmb	IAmb	05 55 15.8	
	comp=Z,27nm,1.2s						
FITZ	**Fitzroy Crossi**	**27.81**	**182**		**P**	**05 55 16.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**27.81**	**182**	P	**P**	**05 55 15.4**	**-2.1**
	comp=Z,7.0nm,0.7s,baz=1.8,slow=8.3,SNR=11						
	comp=Z,7.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.13**	**291**	P	**P**	**05 55 19.8**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=102,slow=8.9,SNR=9.7						
	comp=Z,1.6nm,0.7s						
WRA	**Warramunga Arr**	**30.59**	**166**	P	**P**	**05 55 42.2**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=342,slow=9.1,SNR=4.8						
	comp=Z,0.5nm,0.4s						
WR8	**Warramunga Arr**	**30.64**	**165**	P	**P**	**05 55 41.4**	**-1.2**
WR8				IAmb	IAmb	05 56 14.5	
	comp=Z,6.5nm,1.1s						
MBWA	**Marble Bar**	**31.58**	**192**	P	**P**	**05 55 48.8**	**-2.1**
PSA00	**Pilbara Seismi**	**31.95**	**192**	P	**P**	**05 55 52.3**	**-1.8**
ASAR	**Alice Springs**	**34.09**	**168**	P	**P**	**05 56 11.0**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=348,slow=6.8,SNR=6.3						
ASAR				PcP	**PcP**	**05 58 48.6**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=346,slow=3.8,SNR=1.9						
	comp=Z,0.5nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**40.05**	**71**	T	T	06 40 37.2	
	baz=264,slow=74,SNR=16						
H11N2	**WAKE ISLAND Hy**	**40.06**	**71**	T	T	06 40 37.9	
	baz=264,slow=74,SNR=19						
H11N3	**WAKE ISLAND Hy**	**40.07**	**71**	T	T	06 40 40.8	
	baz=264,slow=74,SNR=13						
FORT	**Forrest**	**40.45**	**178**	P	**P**	**05 57 05.3**	**-1.2**
FORT				IAmb	IAmb	05 57 22.0	
	comp=Z,22nm,0.9s						
ULN	**Ulaanbaatar**	**41.31**	**340**		**P**	**05 57 13.6**	**-0.1**
ULN				IAmb	IAmb	05 57 28.0	
	comp=Z,5.6nm,0.6s						
SONM	**Songino Array**	**41.51**	**339**	P	**P**	**05 57 16.5**	**+1.2**
SONM	**Songino Array**	**41.51**	**339**	P	**P**	**05 57 17.2**	**+1.9**
	comp=Z,2.3nm,0.7s,baz=158,slow=10.0,SNR=11						
	comp=Z,2.3nm,0.7s						
BBOO	**Buckleboo**	**43.39**	**168**	P	**P**	**05 57 28.6**	**-2.0**
BBOO				IAmb	IAmb	05 57 56.1	
	comp=Z,22nm,1.1s						
STKA	**Stephens Creek**	**43.92**	**162**	P	**P**	**05 57 33.1**	**-1.8**
STKA	**Stephens Creek**	**43.92**	**162**	P	**P**	**05 57 33.4**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=330,slow=11,SNR=3.8						
	comp=Z,2.2nm,0.7s						
MKAR	**Makanchi Array**	**52.55**	**323**		**P**	**05 58 41.6**	**+0.3**
MKAR	**Makanchi Array**	**52.55**	**323**	P	**P**	**05 58 42.0**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=120,slow=8.2,SNR=18						
MKAR				PcP	**PcP**	**05 59 51.2**	**0.0**
	comp=Z,1.6nm,0.8s,baz=102,slow=6.0,SNR=4.0						
	comp=Z,2.1nm,0.7s						
NIL	**Nilore**	**54.24**	**304**	P	**P**	**05 58 53.8**	**-0.2**
NIL				IAmb	IAmb	05 59 07.8	
	comp=Z,9.4nm,0.8s						
ZAA0	**Zalesovo Array**	**55.14**	**331**	P	**P**	**05 58 59.9**	**-0.2**
ZALV	**Zalesovo Beam**	**55.14**	**331**	P	**P**	**05 58 59.9**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=110,slow=7.1,SNR=4.2						
	comp=Z,1.7nm,0.6s						
KURK	**Kurchatov**	**56.59**	**326**	P	**P**	**05 59 10.6**	**+0.1**
KURK				IAmb	IAmb	05 59 12.0	
	comp=Z,4.7nm,0.8s						
KURBB	**Kurchatov Arra**	**56.59**	**325**	P	**P**	**05 59 10.6**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=125,slow=6.4,SNR=4.3						
	comp=Z,1.8nm,0.7s						
GAR	**Garm**	**57.81**	**310**		**P**	**05 59 19.8**	**+0.2**
GAR				IAmb	IAmb	05 59 20.3	
	comp=Z,8.4nm,0.8s						
KK31	**Karatay Array**	**58.77**	**315**	P	**P**	**05 59 25.9**	**-0.2**
KK31				IAmb	IAmb	05 59 27.1	
	comp=Z,2.9nm,0.7s						
KKAR	**Karatay Array**	**58.77**	**315**	P	**P**	**05 59 26.1**	**0.0**
TIXI	**Tiksi**	**61.74**	**1**		**P**	**05 59 46.0**	**+0.3**
TIXI				IAmb	IAmb	05 59 58.8	
	comp=Z,3.3nm,0.8s						
NRIK	**Noril'sk**	**64.48**	**346**		**P**	**06 00 05.4**	**+1.4**
NRIK	**Noril'sk**	**64.48**	**346**	P	**P**	**06 00 04.0**	**-0.1**
	comp=Z,5.2nm,0.6s,baz=134,slow=7.2,SNR=10.0						
	comp=Z,5.2nm,0.6s						
BKZ	**Black Stump Fm**	**67.26**	**140**	P	**P**	**06 00 22.6**	**+0.1**
AB31	**Akbulak array**	**67.40**	**319**		**P**	**06 00 22.8**	**-0.4**
ABKAR	**Akbulak array**	**67.40**	**319**		**P**	**06 00 22.8**	**-0.4**
ILAR	**Eielson Array**	**79.64**	**26**	P	**P**	**06 01 35.5**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=250,slow=5.6,SNR=5.0						
	comp=Z,0.5nm,0.9s						
BCAR	**Beaver Creek A**	**82.00**	**27**	P	**P**	**06 01 49.8**	**+2.3**
E28M	**Babbage River**	**82.28**	**22**	P	**P**	**06 01 50.1**	**+1.2**
I28M	**Miner Creek**	**82.52**	**25**	P	**P**	**06 01 52.5**	**+2.2**
I28M				IAmb	IAmb	06 02 08.1	
	comp=Z,4.3nm,0.7s						
DAWY	**Dawson**	**82.94**	**26**	P	**P**	**06 01 54.3**	**+1.8**
DAWY				IAmb	IAmb	06 02 31.7	
	comp=Z,6.5nm,1.4s						
H29M	**Whitestone**	**83.06**	**24**	P	**P**	**06 01 55.2**	**+2.2**
H29M				IAmb	IAmb	06 02 08.2	
	comp=Z,3.7nm,1.1s						
G29M	**Pine Creek**	**83.09**	**23**	P	**P**	**06 01 55.3**	**+2.2**
G29M				IAmb	IAmb	06 02 36.3	
	comp=Z,9.3nm,1.4s						
SPB2	**Spitsbergen Ar**	**84.47**	**349**	P	**P**	**06 02 00.3**	**+0.3**
SPITS	**Spitsbergen Ar**	**84.47**	**349**	P	**P**	**06 02 01.2**	**+1.2**
	comp=Z,3.0nm,0.7s,baz=81,slow=8.9,SNR=7.2						
	comp=Z,3.0nm,0.7s						
F31M	**Tsiigehtchic**	**84.63**	**22**	P	**P**	**06 02 01.6**	**+0.7**
F31M				IAmb	IAmb	06 02 06.1	
	comp=Z,5.8nm,1.2s						
ARCES	**ARCESS Array B**	**84.68**	**340**	P	**P**	**06 02 02.1**	**+0.9**
	comp=Z,3.5nm,0.7s,baz=76,slow=6.7,SNR=20						
	comp=Z,3.5nm,0.7s						
H31M	**Peel River**	**84.75**	**24**	P	**P**	**06 02 03.2**	**+1.6**
H31M				IAmb	IAmb	06 02 05.8	
	comp=Z,7.5nm,1.4s						
BRTR	**Keskin Array B**	**86.05**	**309**	P	**P**	**06 02 07.2**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=0.0,slow=0.6,SNR=4.2						
	comp=Z,0.8nm,0.8s						
FINES	**FINESS Array B**	**86.40**	**332**	P	**P**	**06 02 10.0**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=86,slow=5.9,SNR=11						
	comp=Z,2.3nm,0.6s						
AKASG	**Malin Array Be**	**87.09**	**321**	P	**P**	**06 02 12.1**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=68,slow=4.8,SNR=4.5						
	comp=Z,0.6nm,0.4s						
HFS	**Hagfors**	**92.56**	**333**	P	**P**	**06 02 38.7**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=83,slow=6.0,SNR=5.8						
	comp=Z,1.9nm,0.6s						
NB2	**NORSAR Subarra**	**93.26**	**334**	P	**P**	**06 02 41.7**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=67,slow=4.6						
NOA	**NORSAR Array B**	**93.26**	**334**	P	**P**	**06 02 41.5**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=65,slow=4.6,SNR=6.2						
	comp=Z,0.7nm,0.6s						
YKA	**Yellowknife Ar**	**93.97**	**24**	P	**P**	**06 02 47.1**	**+1.7**
	comp=Z,0.6nm,0.9s,baz=293,slow=4.7,SNR=7.0						
	comp=Z,0.6nm,0.9s						
TXAR	**Lajitas Array**	**117.82**	**49**	PKP	**PKiKP**	**06 08 15.4**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=324,slow=2.2,SNR=1.9						
PLCA	**Paso Flores**	**145.71**	**157**	PKPbc	**PKPdf**	**06 09 06.3**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=244,slow=7.0,SNR=5.8						

IDC 26 05:58:08.3±5.1, 62°.15N×32°.35E, h0km, mbtmp2.5/1, ML1.8/1, Error ellipse: s-maj=72.1km s-min=43.3km az=167.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**3.06**	**259**	Pn	Pn	05 58 59.0	+1.1
	0.4nm,0.3s,baz=72,slow=14,SNR=14						
FINES				Sn	Sn	05 59 35.8	+0.6
	0.4nm,0.3s,baz=76,slow=23,SNR=7.4						
	0.9nm,0.3s						
I43RU	**DUBNA INFRASON**	**5.99**	**153**	I	I	06 32 30.0	
	baz=340,slow=326,SNR=3.5						
I37NO	**I37NO**	**8.95**	**327**	I	I	06 49 55.0	
	baz=133,slow=325,SNR=5.3						

*MOS **26** 06:04:18.1±0.9, 9°.75N×126°.35E, h12km, mb5.2/71, MS4.7/4, Error ellipse: s-maj=10.9km s-min=4.7km az=120.4*

*MAN **26** 06:04:19.7, 9°.78N×126°.74E, h9km, mb5.8, ML4.8, MS5.2*

MAN INTENSITY III - BURGOS AND GENERAL LUNA SURIGAO DEL NORTE; INTENSITY II - SOCORRO SURIGAO DEL NORTE; SAN JOSE DINAGAT ISLANDS; INTENSITY I - SURIGAO CITY; SISON SURIGAO DEL NORTE; LORETO DINAGAT ISLANDS.

*NEIC **26** 06:04:20.4±1.7, 9°.78N±0°.07×126°.47E±0°.09, h10km±1km, mb5.1/129, Error ellipse: s-maj=14.5km s-min=11.2km az=82.0*

*BJI **26** 06:04:23.7, 9°.50N×126°.51E, h73km, mB5.3/14, mb4.8/57, Ms4.9/34, Ms7 4.7/37*

*GCMT **26** 06:04:26.4±0.2, 9°.81N±0°.02×126°.65E±0°.01, h17km, MW5.2/111, Moment Tensor Solution. s64,c84; s111,c163; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.32±.19; Mθθ0.41±.11; Mφφ-4.73±.14; Mrθ-0.76±.30; Mrφ0.56±.08; Mθφ5.07±.39; Best double couple: M=6.85800×10^16 NP1:φs176.00000°, δ21.00000°, λ94.00000°. NP2:φs352.00000°, δ69.00000°, λ89.00000°. Principal axes: T 6.6250, Plg66.0000°, Azm260.0000°; N 0.4670, Plg1.0000°, Azm353.0000°; P -7.0910, Plg24.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **26** 06:04:28.0±0.7, 10°N±4°×12°7E±°, h76km±6km, M5.1/47, mb5.0/47, mB5.5/13, MLv5.6/1, Mw(mB)5.0/13*

*IDC **26** 06:04:28.2±1.6, 9°.67N×126°.34E, h78km±15km, mb4.4/29, mbtmp4.7/33, MS4.4/28, Error ellipse: s-maj=15.9km s-min=8.8km az=77.0*

ISC 26 06:04:24.7±0.3, 9°.80N±0°.04×126°.43E±0°.05, h42km, n715, σ1°18/697, mb5.0/189, MS4.5/39, 13C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.84**	**197**		Pn	06 05 02.1	-5.5
DAV	**Davao City (W)**	**2.84**	**197**	P	**Pn**	**06 05 11.2**	**+3.6**
	295nm,0.4s,baz=78,slow=2.6,SNR=8.8						
DAV				S	**Sn**	**06 05 41.2**	**+0.6**
	1μm,0.9s,baz=106,slow=22,SNR=8.6						
DAV				LR	LR	06 06 20.3	
	comp=Z,11μm,20.9s,baz=25,slow=42						
DAV	**Davao City (W)**	**2.84**	**197**	P	Pn	06 05 19.2	+12
DAV	**Davao City (W)**	**2.84**	**197**	P	**Pn**	**06 05 09.0**	**+1.4**
TGY	**Tagaytay City**	**6.87**	**309**	P	Pn	06 06 08.3	+5.3
	311nm,0.3s,baz=72,slow=14,SNR=4.0						
TGY				LR	LR	06 09 05.3	
	comp=Z,5μm,18.7s,baz=134,slow=40						
TNTI	**Ternate**	**9.02**	**174**	Pn	**Pn**	**06 06 30.1**	**-2.4**
TNTI	**Ternate**	**9.02**	**174**	P	Pn	06 06 36.9	+4.4
	69nm,0.7s						
MYLDM	**Lahad Datu**	**9.10**	**240**		**Pn**	**06 06 33.1**	**-0.5**
MYLDM	**Lahad Datu**	**9.10**	**240**	P	Pn	06 06 41.3	+7.7
TOLI2	**Tolitoli**	**10.30**	**213**	Pn	**Pn**	**06 06 49.8**	**-0.2**
LUWI	**Luwuk**	**11.37**	**199**	Pn	**Pn**	**06 07 03.9**	**-0.8**
MPSI	**Mapaga**	**11.43**	**215**	P	Pn	06 07 30.1	+25
APSI	**Ampana**	**11.66**	**204**	P	Pn	06 07 22.5	+14
SANI	**Sanana**	**11.78**	**182**	P	**Pn**	**06 07 10.1**	**-0.2**
NLAI	**Namlea**	**12.97**	**177**	P	**P**	**06 07 36.8**	**+0.6**
RKPI	**Ransiki, Papua**	**13.63**	**145**	P	P	06 07 52.8	+9.2
FAKI	**Fak Fak**	**13.90**	**155**		**Pn**	**06 07 37.9**	**-1.4**
FAKI	**Fak Fak**	**13.90**	**155**	P	**Pn**	**06 07 38.8**	**-0.5**
TWGBT	**Beinan**	**13.92**	**339**	P	**P**	**06 07 47.6**	**+0.9**
YULB	**Yu-li**	**14.38**	**341**		**Pn**	**06 07 45.6**	**-0.1**
YULB	**Yu-li**	**14.38**	**341**	P	**P**	**06 07 52.9**	**+1.0**
TPUB	**Ta-pu**	**14.52**	**338**	P	**P**	**06 07 53.5**	**0.0**
BAKI	**Biak**	**14.56**	**138**	P	**Pn**	**06 07 46.6**	**-1.7**
SSLB	**Suanglung**	**14.86**	**340**	P	**P**	**06 07 57.6**	**+0.4**
SPSI	**Sidrap Palu**	**15.20**	**206**	P	**P**	**06 08 02.3**	**+1.3**
	34nm,1.2s						
BNSI	**Bone**	**15.45**	**204**	P	**P**	**06 08 04.1**	**+0.3**
	2μm89nm,1.5s						
YHNB	**Yeheng**	**15.55**	**343**		**Pn**	**06 08 00.5**	**-0.7**
YHNB	**Yeheng**	**15.55**	**343**	P	**P**	**06 08 07.9**	**+3.0**
BBSI	**Bau Bau**	**15.67**	**194**	P	P	06 08 27.7	+21
SBUM	**Sibu**	**15.89**	**244**		**Pn**	**06 08 05.6**	**0.0**
SBUM	**Sibu**	**15.89**	**244**	P	**P**	**06 08 11.3**	**+2.6**
KAPI	**Kappang**	**16.15**	**205**	P	**P**	**06 08 09.6**	**-2.0**
KAPI	**Kappang**	**16.15**	**205**	P	**Pn**	**06 08 07.2**	**-1.6**
	5.1nm,0.3s,baz=56,slow=6.3,SNR=3.9						
KAPI				LR	LR	06 14 50.5	
	comp=Z,761nm,20.0s,baz=37,slow=39						
KAPI	**Kappang**	**16.15**	**205**	P	**P**	**06 08 14.8**	**+3.2**
KAPI	**Kappang**	**16.15**	**205**	P	**P**	**06 08 09.6**	**-2.0**
KAPI				pmax	pmax		
	comp=Z,13nm,1.0s						
BKSI	**Bulukumba**	**16.28**	**203**	P	**P**	**06 08 14.2**	**+1.2**
QZH	**Quanzhou**	**16.80**	**335**	*e*P	**P**	**06 08 20.8**	**+2.1**
QZH				LR	LR		
	comp=Z,2μm,17.2s						
QZH				LR	LR		
	comp=Z,1μm,17.5s						
QZH				LR	LR		
	comp=Z,3μm,18.9s						
SMPI	**Sarmi**	**16.94**	**133**	P	**Pn**	**06 08 18.8**	**0.0**
	comp=Z,97nm,1.3s						
JOW	**Kunigami**	**17.03**	**6**	P	**P**	**06 08 23.6**	**+2.4**
	comp=Z,75nm,1.2s,baz=171,slow=4.7,SNR=3.8						
JOW				LR	LR	06 14 18.5	
	comp=Z,1μm,19.1s,baz=132,slow=34						
JOW	**Kunigami**	**17.03**	**6**	P	**P**	**06 08 26.1**	**+4.8**
HKPS	**Hong Kong Po S**	**17.11**	**318**	P	**P**	**06 08 21.6**	**-0.5**
STKI	**Sintang**	**17.74**	**238**	P	**P**	**06 08 32.7**	**+3.5**
	comp=Z,74nm,1.0s						
DLV	**Lat**	**17.75**	**279**		**P**	**06 08 29.7**	**+0.3**
DLV	**Lat**	**17.75**	**279**	P	**P**	**06 08 32.6**	**+3.1**
KSM	**Kuching**	**18.04**	**244**	P	**P**	**06 08 32.5**	**0.0**
KSM				IAmb	IAmb	06 08 42.0	
	comp=Z,217nm,2.0s						
KSM	**Kuching**	**18.04**	**244**	P	**P**	**06 08 34.8**	**+2.3**
GENI	**Genyem**	**18.41**	**131**	P	**Pn**	**06 08 36.7**	**-0.2**
	comp=Z,4μmcomp=Z,167nm,1.4s						
GUMO	**Guam**	**18.45**	**76**	LR	LR	06 15 45.5	
	comp=Z,1μm,18.8s,baz=262,slow=36						
QIZ	**Qiongzhong**	**18.48**	**302**	P	**P**	**06 08 36.6**	**-0.8**
QIZ	**Qiongzhong**	**18.48**	**302**	P	**Pn**	**06 08 38.8**	**+1.0**
QIZ				sP	sP	06 09 01.0	+8.2
QIZ				S	**S**	**06 12 08.5**	**+2.2**
QIZ				LR	LR		
	comp=Z,740nm,16.5s						
QIZ				LR	LR

comp=Z,1μm,5.7s
NJ2 LR LR
comp=Z,890nm,17.0s
NJ2 LR LR
comp=Z,880nm,15.2s
NJ2 LR LR
comp=Z,2μm,14.7s
PPBI Pangkal Pinang 23.44 241 P **P 06 09 31.9 +1.3**
WHN Wuhan 23.51 333 P **P 06 09 32.5 +1.5**
WHN pmax pmax
comp=Z,190nm,1.2s
JNU Nakatsue 23.57 9 P **P 06 09 31.9 +0.3**
JNU Nakatsue 23.57 9 LR LR 06 20 06.7
comp=Z,638nm,18.9s,baz=184,slow=40
MYKOM Kota Tinggi 23.81 252 **P 06 09 33.8 -0.3**
MYKOM Kota Tinggi 23.81 252 P **P 06 09 36.0 +2.0**
MANU Manus Island 23.94 118 P **P 06 09 34.3 -1.0**
MANU IAmb IAmb 06 09 35.4
comp=Z,88nm,1.6s
SLVN Son La 24.50 301 P **P 06 09 39.6 -0.7**
SLVN Son La 24.50 301 P **P 06 09 39.7 -0.7**
NAYO Nakonayok 24.95 283 P **P 06 09 45.3 +0.9**
LEM Lembang 24.98 229 P **P 06 09 43.7 -1.1**
comp=Z,17nm,0.4s,baz=47,slow=11,SNR=5.7
comp=Z,17nm,0.4s
PMBI Palembang 25.00 241 P **P 06 09 46.3 +1.4**
KNRA Kununurra 25.42 175 P **P 06 09 47.0 -1.6**
KNRA IAmb IAmb 06 10 07.5
comp=Z,100nm,1.5s
KNRA Kununurra 25.42 175 P **P 06 09 46.9 -1.6**
comp=Z,40nm,0.5s
ENH Enshi 25.78 325 P **P 06 09 50.8 -1.1**
ENH Enshi 25.78 325 P **P 06 09 53.0 +1.1**
KULM Kulim 25.94 262 P **P 06 09 53.3 -0.1**
KULM IAmb IAmb 06 09 57.3
comp=Z,89nm,1.4s
KULM Kulim 25.94 262 P **P 06 09 54.8 +1.4**
JHJ Hachijo jima 2 26.27 26 LR LR 06 20 26.5
comp=Z,559nm,19.1s,baz=71,slow=36
SRIT Nakonsritamara 26.50 270 P **P 06 09 58.1 -0.5**
SRIT Nakonsritamara 26.50 270 P **P 06 09 59.6 +1.1**
BKNI Bangkinang 26.95 251 P **P 06 10 02.5 -0.1**
MNAI Manna 27.29 240 P **P 06 10 04.9 -0.7**
KSAR Wonju Array Be 27.55 3 P **P 06 10 05.5 -2.2**
KSAR Wonju Array Be 27.55 3 P **P 06 10 05.5 -2.2**
KSRS Korea Array 27.57 3 P **P 06 10 08.6 +0.8**
comp=Z,4.5nm,0.9s,baz=179,slow=10,SNR=9.4
KSRS LR LR 06 23 10.9
comp=Z,680nm,18.6s,baz=180,slow=40
comp=Z,4.5nm,0.9s
TIA Tai'an 27.62 344 P **P 06 10 09.0 +0.7**
TIA pmax pmax
comp=Z,27nm,1.1s
FITZ Fitzroy Crossi 27.73 182 **P 06 10 08.4 -1.0**
FITZ Fitzroy Crossi 27.73 182 P **P 06 10 08.3 -1.1**
comp=Z,13nm,1.1s
FITZ Fitzroy Crossi 27.73 182 P **P 06 10 09.9 +0.5**
LYN LuoYang 27.75 335 P **P 06 10 10.3 +0.8**
LYN pmax pmax
comp=Z,48nm,1.4s
CM31 Chiang Mai Arr 27.97 291 P **P 06 10 11.3 -0.4**
CM31 IAmb IAmb 06 10 13.5
comp=Z,70nm,1.6s
CMAR Chiang Mai Arr 27.97 291 P **P 06 10 11.6 -0.1**
CMAR Chiang Mai Arr 27.97 291 P **P 06 10 12.1 +0.4**
comp=Z,3.7nm,0.7s,baz=102,slow=7.2,SNR=38
CMAR LR LR 06 22 42.6
comp=Z,674nm,19.0s,baz=110,slow=39
comp=Z,3.7nm,0.7s
CMAR Chiang Mai Arr 27.97 291 *i* P **P 06 10 12.1 +0.4**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 28.06 292 P **P 06 10 12.1 -0.4**
CHTO Chiang Mai 28.06 292 P **P 06 10 12.2 -0.4**
CHTO Chiang Mai 28.06 292 P **P 06 10 12.1 -0.4**
CHTO pmax pmax
comp=Z,19nm,1.3s
PMG Port Moresby 28.11 132 P **P 06 10 10.9 -1.9**
PMG IAmb IAmb 06 10 15.3
comp=Z,34nm,1.1s
PMG Port Moresby 28.11 132 P **P 06 10 12.9 0.0**
comp=Z,43nm,1.2s,baz=326,slow=13,SNR=3.9
PMG LR LR 06 23 01.9
comp=Z,636nm,18.1s,baz=322,slow=40
comp=Z,43nm,1.2s
PMG Port Moresby 28.11 132 P **P 06 10 13.6 +0.7**
PMG Port Moresby 28.11 132 *ce*P **P 06 10 12.1 -0.8**
PMG pmax pmax
comp=Z,55nm,1.7s
PSI Prapat 28.19 258 P **P 06 10 14.5 +0.7**
PSI Prapat 28.19 258 P **P 06 10 13.9 +0.1**
PSI pmax pmax
comp=Z,24nm,1.1s
RPSI Rantau Prapat 28.22 257 P **P 06 10 13.9 0.0**
RPSI IAmb IAmb 06 10 33.8
comp=Z,24nm,1.1s
PZH PanZhiHua 28.65 309 P **P 06 10 21.0 +3.2**
PZH S **S 06 15 02.8 -1.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH LR LR
comp=Z,570nm,14.7s
PZH LR LR
comp=Z,820nm,16.7s
PZH LR LR
comp=Z,1μm,15.3s
MJAR Matsushiro Arr 28.69 20 P **P 06 10 20.1 +2.3**
comp=Z,6.4nm,0.9s,baz=194,slow=9.1,SNR=8.1
MJAR LR LR 06 22 23.3
comp=Z,675nm,18.5s,baz=206,slow=37
comp=Z,6.4nm,0.9s
COEN Coen 28.87 145 P **P 06 10 18.3 -1.4**
COEN IAmb IAmb 06 10 22.1
comp=Z,98nm,1.9s
COEN Coen 28.87 145 P **P 06 10 18.5 -1.1**
comp=Z,21nm,1.4s
COEN Coen 28.87 145 P **P 06 10 21.1 +1.5**
XAN Xi'an 28.98 329 ⇑P **P 06 10 20.0 -0.6**
XAN pP pwP 06 10 33.8 -1.7
XAN pmax pmax
comp=Z,56nm,1.0s
XAN LR LR
comp=Z,1μm,16.3s
XAN LR LR
comp=Z,1μm,17.0s
XAN LR LR
comp=Z,1μm,15.3s
HNS HongShan 29.45 341 ⇑P **P 06 10 25.3 +0.8**
HNS S **S 06 15 13.5 -2.4**
HNS pmax pmax
comp=Z,56nm,1.3s
HNS LR LR
comp=Z,400nm,10.3s
HNS LR LR
comp=Z,1μm,14.1s
HNS LR LR
comp=Z,1μm,15.9s
LHMI Lhok Sumawe 29.57 263 P **P 06 10 27.9 +2.0**
CD2 Chengdu 29.76 318 P **P 06 10 27.3 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,1μm,18.3s
CD2 LR LR
comp=Z,2μm,16.3s
WB0 Warramunga Arr 30.41 165 P **P 06 10 30.8 -2.5**
WB0 IAmb IAmb 06 10 46.4
comp=Z,17nm,0.9s
WRA Warramunga Arr 30.57 165 P **P 06 10 34.1 -0.5**
WRA Warramunga Arr 30.57 165 P **P 06 10 32.6 -2.1**
comp=Z,3.1nm,1.0s,baz=347,slow=9.3,SNR=11
comp=Z,3.1nm,1.0s
WRA Warramunga Arr 30.57 165 P **P 06 10 34.1 -0.5**
WR8 Warramunga Arr 30.62 165 P **P 06 10 32.6 -2.5**
WR8 IAmb IAmb 06 11 13.7
comp=Z,28nm,1.4s
BJT Baijiatuau 31.45 345 P **P 06 10 42.4 +0.2**
BJT IAmb IAmb 06 10 44.3
comp=Z,47nm,1.4s
BJT Baijiatuau 31.45 345 P **P 06 10 43.2 +1.0**
BJT Baijiatuau 31.45 345 P **P 06 10 42.4 +0.2**
BJT pmax pmax
comp=Z,47nm,1.4s
MBWA Marble Bar 31.46 192 P **P 06 10 41.2 -1.3**
MBWA Marble Bar 31.46 192 P **P 06 10 41.6 -0.9**
comp=Z,38nm,1.6s
MBWA Marble Bar 31.46 192 P **P 06 10 42.2 -0.3**
BJI Beijing 31.47 345 P **P 06 10 42.8 +0.5**
BJI pmax pmax
comp=Z,10.0nm,1.4s
BJI LR LR
comp=Z,460nm,12.8s
BJI LR LR
comp=Z,190nm,12.3s
BJI LR LR
comp=Z,600nm,15.5s
PSAC1 Pilbara Seismi 31.81 192 P **P 06 10 44.1 -1.5**
comp=Z,33nm,1.0s
PSA00 Pilbara Seismi 31.84 192 P **P 06 10 44.5 -1.3**
PSA00 IAmb IAmb 06 10 47.7
comp=Z,33nm,0.9s
PSA00 Pilbara Seismi 31.84 192 P **P 06 10 44.4 -1.4**
PSA00 Pilbara Seismi 31.84 192 P **P 06 10 44.8 -1.0**
comp=Z,40nm,1.4s
PSA00 Pilbara Seismi 31.84 192 P **P 06 10 45.0 -0.8**
QIS Mount Isa 32.84 157 P **P 06 10 53.0 -1.6**
comp=Z,49nm,0.9s
QIS Mount Isa 32.84 157 P **P 06 10 53.5 -1.1**
MTSU Mount Surprise 32.90 147 P **P 06 10 54.0 -1.3**
comp=Z,14nm,0.9s
MTSU Mount Surprise 32.90 147 P **P 06 10 57.7 +2.5**
MSHR Mys Shultsa 32.91 6 *i* P **P 06 10 53.9 -1.1**
MSHR pmax pmax
comp=Z,16nm,1.0s
LZH Lanzhou 33.25 325 *eP* **P 06 10 58.5 +0.2**
LZH pmax pmax
comp=Z,29nm,1.2s
LZH LR LR
comp=Z,1μm,16.5s
LZH LR LR
comp=Z,930nm,15.8s
LZH LR LR
comp=Z,1μm,16.1s
HHC Hu-ho-hao-te 33.61 339 ⇑*i*P **P 06 11 02.5 +1.2**
HHC pP sP 06 11 15.8 +0.2
HHC S **S 06 16 21.8 +0.7**
HHC pmax pmax
comp=Z,51nm,1.2s
HHC pmax pmax
comp=Z,240nm,5.0s
HHC LR LR
comp=Z,920nm,14.0s
HHC LR LR
comp=Z,710nm,13.8s
HHC LR LR
comp=Z,940nm,15.5s
CN2 Changchun 33.88 359 P **P 06 11 05.5 +2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
BTO Baotou 33.95 337 *eP* **P 06 11 06.3 +2.0**
BTO S **S 06 16 28.3 +1.9**
BTO SS **SnSn 06 18 43.0 +7.6**
BTO pmax pmax
comp=Z,23nm,0.6s
BTO pmax pmax
comp=Z,920nm,6.5s
BTO LR LR
comp=Z,900nm,16.1s
BTO LR LR
comp=Z,1μm,14.2s
BTO LR LR
comp=Z,1μm,18.6s
AS15 Alice Springs 34.03 168 P **P 06 11 04.6 -0.4**
comp=Z,13nm,0.9s
AS16 Alice Springs 34.03 168 P **P 06 11 03.5 -1.5**
comp=Z,8.8nm,1.2s
AS13 Alice Springs 34.04 168 P **P 06 11 03.7 -1.4**
comp=Z,11nm,0.8s
AS31 Alice Springs 34.05 168 P **P 06 11 03.3 -2.0**
AS31 Alice Springs 34.05 168 P **P 06 11 03.9 -1.3**
comp=Z,2.9nm,0.5s
AS12 Alice Springs 34.06 168 P **P 06 11 03.9 -1.3**
comp=Z,9.8nm,0.9s
ASAR Alice Springs 34.06 168 P **P 06 11 02.9 -2.3**
ASAR Alice Springs 34.06 168 P **P 06 11 03.2 -2.0**
comp=Z,1.4nm,0.5s,baz=354,slow=7.0,SNR=22
ASAR PcP **PcP 06 13 41.0 -1.4**
comp=Z,1.3nm,0.6s,baz=344,slow=2.6,SNR=5.1
ASAR LR LR 06 26 37.0
comp=Z,332nm,19.0s,baz=348,slow=39
comp=Z,1.4nm,0.5s
ASAR Alice Springs 34.06 168 P **P 06 11 02.9 -2.3**
AS01 Alice Springs 34.06 168 P **P 06 11 03.7 -1.6**
comp=Z,7.2nm,0.7s
AS01 Alice Springs 34.06 168 P **P 06 11 07.5 +2.2**
AS11 Alice Springs 34.07 168 P **P 06 11 04.1 -1.2**
comp=Z,9.2nm,1.0s
AS03 Alice Springs 34.07 168 P **P 06 11 04.0 -1.4**
comp=Z,9.6nm,0.9s
AS07 Alice Springs 34.07 168 P **P 06 11 03.9 -1.4**
comp=Z,9.0nm,1.1s
AS17 Alice Springs 34.07 168 P **P 06 11 04.1 -1.2**
comp=Z,15nm,1.0s
AS02 Alice Springs 34.08 168 P **P 06 11 04.1 -1.3**
comp=Z,9.8nm,0.9s
AS08 Alice Springs 34.08 168 P **P 06 11 03.7 -1.7**
comp=Z,9.5nm,0.9s
GIRL Giralia 34.39 200 P **P 06 11 06.9 -1.1**
USA0B Ussuriysk Arra 34.61 7 P **P 06 11 08.2 -1.6**
USA0B Ussuriysk Arra 34.61 7 P **P 06 11 08.2 -1.6**
USA0B pmax pmax
comp=Z,14nm,1.1s
USRK Ussuriysk Ar. 34.61 7 P **P 06 11 09.6 -0.1**
comp=Z,5.9nm,0.8s,baz=189,slow=8.6,SNR=8.5
comp=Z,5.9nm,0.8s
WRKA Warakurna 34.67 177 P **P 06 11 09.3 -1.2**
comp=Z,18nm,1.1s
WRKA Warakurna 34.67 177 P **P 06 11 12.1 +1.5**
MDJ Mudanjiang 34.80 4 P **P 06 11 10.6 -0.7**
MDJ IAmb IAmb 06 11 24.8
comp=Z,55nm,1.5s
MDJ Mudanjiang 34.80 4 P **P 06 11 12.5 +1.1**
MDJ pmax pmax
comp=Z,23nm,1.2s
MDJ Mudanjiang 34.80 4 P **P 06 11 12.4 +1.1**
XLT XiLinHaoTe 35.14 347 *eP* **P 06 11 15.0 +0.5**
XLT pP sP 06 11 28.8 -0.2
XLT S **S 06 16 37.3 -7.3**
XLT pmax pmax
comp=Z,18nm,1.0s
XLT LR LR
comp=Z,82nm,16.2s
XLT LR LR
comp=Z,490nm,13.6s
XLT LR LR
comp=Z,1μm,17.9s
TV1H Townsville Har 35.17 145 P **P 06 11 17.2 +2.3**
BRDH Bariadhala 35.66 295 LR LR 06 26 31.7
comp=Z,570nm,19.2s,baz=140,slow=37
BNX BinXian 35.82 1 ⇓P **P 06 11 20.8 +0.7**
BNX pmax pmax
comp=Z,9.0nm,1.0s
SHL Shillong 36.31 300 P **P 06 11 24.0 -0.9**
SHL IAmb IAmb 06 11 31.7
comp=Z,26nm,1.0s
SHL Shillong 36.31 300 P **P 06 11 24.0 -0.9**
SHL pmax pmax
comp=Z,26nm,1.0s
MEEK Meekatharra 37.01 192 P **P 06 11 29.0 -1.5**
comp=Z,39nm,0.9s
MEEK Meekatharra 37.01 192 P **P 06 11 29.6 -0.9**
TATA Tatamba Isabel 37.83 117 P **P 06 11 40.2 +2.6**
GTA Gaotai 37.85 326 P **P 06 11 38.5 +0.8**
GTA pmax pmax
comp=Z,14nm,0.7s
GTA LR LR
comp=Z,600nm,16.4s
GTA LR LR
comp=Z,650nm,17.1s
GTA LR LR
comp=Z,1μm,17.5s
LSA Lhasa 38.42 306 P **P 06 11 42.4 -0.7**
LSA Lhasa 38.42 306 P **P 06 11 42.4 -0.7**
LSA pmax pmax
comp=Z,46nm,1.8s
OOD Oodnadatta 38.43 167 P **P 06 11 44.1 +1.6**
HNR Honiara 38.45 119 LR LR 06 28 54.9
comp=Z,209nm,18.2s,baz=267,slow=38
GOMU GeErMu 38.89 318 P **P 06 11 47.5 +0.7**
GOMU pmax pmax
comp=Z,13nm,1.2s
GOMU LR LR
comp=Z,1μm,15.0s
GOMU LR LR
comp=Z,1μm,18.0s
GOMU LR LR
comp=Z,2μm,16.5s
YSS Yuzhno-Sakhali 39.54 18 *eP* **P 06 11 52.7 +1.1**
YSS pmax pmax
comp=Z,20nm,1.2s
KLR Kul'dur 39.55 5 *ceP* **P 06 11 50.7 -1.0**
KLR pmax pmax
comp=Z,17nm,1.7s
INKA Innaminka 39.81 160 P **P 06 11 56.0 +2.0**
H11S3 WAKE ISLAND Hy 39.91 73 T T 06 54 56.2
baz=262,slow=74,SNR=39
MORW Morawa 39.92 194 P **P 06 11 54.1 -0.9**
MORW IAmb IAmb 06 11 59.1
comp=Z,112nm,1.4s
MORW Morawa 39.92 194 P **P 06 11 54.0 -0.9**
comp=Z,59nm,1.1s
MORW Morawa 39.92 194 P **P 06 11 54.4 -0.5**
H11S1 WAKE ISLAND Hy 39.92 73 T T 06 54 55.6
baz=262,slow=74,SNR=25
H11S2 WAKE ISLAND Hy 39.92 73 T T 06 54 58.5
baz=262,slow=74,SNR=19
QLP Quilpie 40.09 155 P **P 06 11 54.8 -1.6**
comp=Z,40nm,1.6s
QLP Quilpie 40.09 155 P **P 06 11 58.7 +2.3**
H11N1 WAKE ISLAND Hy 40.26 71 T T 06 55 25.5
baz=265,slow=74,SNR=50
H11N2 WAKE ISLAND Hy 40.27 71 T T 06 55 22.3
baz=265,slow=74,SNR=53
H11N3 WAKE ISLAND Hy 40.28 71 T T 06 55 32.5
baz=265,slow=74,SNR=38
HEH HeiHe 40.34 1 *eP* **P 06 11 58.8 +0.7**
HEH PcP **PcP 06 14 00.0 -0.9**
HEH pmax pmax
comp=Z,13nm,1.0s
FORT Forrest 40.38 178 P **P 06 11 56.5 -2.1**
FORT IAmb IAmb 06 12 08.6
comp=Z,46nm,0.6s
FORT Forrest 40.38 178 P **P 06 11 57.9 -0.7**
comp=Z,62nm,0.6s
FORT Forrest 40.38 178 P **P 06 11 58.7 0.0**
RK1H Rockhampton Ha 40.53 145 P **P 06 12 02.5 +2.5**
KMBL Kambalda 41.16 186 P **P 06 12 04.4 -0.7**
comp=Z,60nm,1.3s
KMBL Kambalda 41.16 186 P **P 06 12 05.8 +0.6**
BLDU Ballidu 41.25 193 P **P 06 12 05.2 -0.7**
comp=Z,56nm,1.4s
BLDU Ballidu 41.25 193 P **P 06 12 05.5 -0.4**
ULN Ulaanbaatar 41.31 340 P **P 06 12 07.1 +0.7**
ULN IAmb IAmb 06 12 08.7
comp=Z,47nm,1.3s
ULN Ulaanbaatar 41.31 340 P **P 06 12 07.1 +0.7**
ULN pmax pmax
comp=Z,47nm,1.3s
SONM Songino Array 41.51 340 P **P 06 12 08.3 +0.3**
SONM IAmb IAmb 06 12 10.2
comp=Z,41nm,1.4s
SONM Songino Array 41.51 340 P **P 06 12 09.2 +1.2**
comp=Z,5.1nm,0.5s,baz=161,slow=9.0,SNR=49
SONM LR LR 06 32 06.3
comp=Z,662nm,18.4s,baz=128,slow=40
comp=Z,5.1nm,0.5s
SONM Songino Array 41.51 340 P **P 06 12 08.3 +0.3**
SONM pmax pmax
comp=Z,41nm,1.4s
LCRK Leigh Creek 41.59 165 P **P 06 12 11.4 +2.7**
GRNR Gornyy 41.67 10 ⇓*i*P **P 06 12 10.2 +1.1**
GRNR pmax pmax
comp=Z,8.0nm,1.1s
GRNR MLR MLR
comp=E,590nm,18.0s
GRNR MLR MLR
comp=N,480nm,20.0s
GRNR MLR MLR
comp=Z,510nm,17.0s
KLBR Kellerberrin 41.99 191 P **P 06 12 11.6 -0.3**
comp=Z,67nm,1.1s
KLBR Kellerberrin 41.99 191 P **P 06 12 11.9 0.0**
EIDS Eidsvold 42.41 146 P **P 06 12 15.2 -0.3**
EIDS IAmb IAmb 06 12 18.2
comp=Z,32nm,1.0s
EIDS Eidsvold 42.41 146 P **P 06 12 14.7 -0.8**
comp=Z,34nm,1.3s
EIDS Eidsvold 42.41 146 P **P 06 12 17.1 +1.6**
MUN Mundaring 42.68 193 P **P 06 12 17.2 -0.3**
comp=Z,53nm,0.8s
MUN Mundaring 42.68 193 P **P 06 12 17.5 0.0**
BBOO Buckleboo 43.36 168 **P 06 12 22.0 -1.0**
BBOO IAmb IAmb 06 12 25.1
comp=Z,88nm,1.5s
BBOO Buckleboo 43.36 168 P **P 06 12 23.1 +0.1**
comp=Z,43nm,1.1s
BBOO Buckleboo 43.36 168 P **P 06 12 24.6 +1.6**
NWAO Narrogin (SRO) 43.38 191 **P 06 12 22.3 -0.9**
NWAO IAmb IAmb 06 12 36.4
comp=Z,55nm,1.0s
NWAO Narrogin (SRO) 43.38 191 P **P 06 12 23.6 +0.4**
NWAO Narrogin (SRO) 43.38 191 P **P 06 12 25.0 +1.8**
NWAO Narrogin (SRO) 43.38 191 P **P 06 12 22.3 -0.9**
NWAO pmax pmax
comp=Z,55nm,1.0s
CIT Chita 43.39 348 *eP* **P 06 12 24.2 +1.1**
CIT pmax pmax
comp=Z,85nm,1.9s
ZEA Zeya 43.82 1 *eP* **P 06 12 26.8 +0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
STKA Stephens Creek 43.91 161 **P 06 12 25.3 -2.2**
STKA Stephens Creek 43.91 161 P **P 06 12 26.1 -1.4**
STKA Stephens Creek 43.91 161 P **P 06 12 26.1 -1.4**
comp=Z,7.6nm,0.8s,baz=330,slow=8.2,SNR=12
comp=Z,7.6nm,0.8s
STKA Stephens Creek 43.91 161 P **P 06 12 29.2 +1.7**
STKA Stephens Creek 43.91 161 *i* P **P 06 12 27.3 -0.2**
ZAK Zakamensk 44.76 339 *eP* **P 06 12 33.4 -0.8**
ZAK pmax pmax
comp=Z,12nm,1.3s
ZAK pmax pmax
comp=Z,7.0nm,1.6s
CMSA Cobar Meteorol 45.06 157 P **P 06 12 39.7 +3.1**
CMSA Cobar Meteorol 45.06 157 P **P 06 12 38.8 +2.2**
RKGY Rocky Gully 45.07 191 P **P 06 12 37.7 +1.0**
comp=Z,34nm,1.1s
PALK Pallekele 45.26 271 P **P 06 12 38.4 -0.3**
PALK IAmb IAmb 06 12 42.1
comp=Z,66nm,1.8s
PALK Pallekele 45.26 271 LR LR 06 32 45.7
comp=Z,299nm,18.7s,baz=80,slow=38
PALK Pallekele 45.26 271 P **P 06 12 38.4 -0.3**
PALK pmax pmax
comp=Z,65nm,1.8s
IRK Irkutsk 46.00 341 *eP* **P 06 12 43.4 -0.5**
IRK pmax pmax
comp=Z,54nm,1.9s
MOY Mondy 46.63 338 *eP* **P 06 12 49.6 +0.6**
MOY pmax pmax
comp=Z,55nm,1.7s
ARMA Armidale 46.75 150 **P 06 12 49.6 -0.6**
ARMA IAmb IAmb 06 12 54.1
comp=Z,38nm,1.4s
ARMA Armidale 46.75 150 P **P 06 12 52.0 +1.8**
HYB Hyderabad 47.04 285 *eP* **P 06 12 52.4 -0.2**
HYB *ep*P pP 06 12 55.3 -9.0
HYB *e* 06 14 34.1
WMQ Urumqi 47.69 322 *eP* **P 06 12 59.3 +2.0**
WMQ LR LR
comp=Z,1μm,15.7s
WMQ LR LR
comp=Z,640nm,18.3s
WMQ LR LR
comp=Z,530nm,18.7s
PEA0B Petropavlovsk- 50.00 24 P **P 06 13 14.5 -0.3**
PEA0B Petropavlovsk- 50.00 24 P **P 06 13 14.5 -0.3**
PEA0B pmax pmax
comp=Z,182nm,1.8s
PETK Petropavlovsk- 50.00 24 P **P 06 13 15.6 +0.8**
comp=Z,6.1nm,0.8s,baz=200,slow=5.0,SNR=8.0
PETK LR LR 06 35 25.9
comp=Z,390nm,18.9s,baz=215,slow=37
comp=Z,6.1nm,0.8s
TOO Toolangi 50.40 160 P **P 06 13 18.4 +0.4**
ZSN Zaisan 51.34 325 *eP* **P 06 13 24.5 -0.5**
ZSN Zaisan 51.34 325 *eP* **P 06 13 24.5 -0.5**
YAK Yakutsk 52.19 2 *eP* **P 06 13 32.7 +1.7**

YAK pmax pmax
comp=Z,14nm,0.6s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=N,16nm,1.5s
MK31 Makanchi Array 52.49 323*ce*P **P** 06 13 33.1 -0.5
MKAR Makanchi Array 52.49 323 P **P** 06 13 33.0 -0.6
MKAR Makanchi Array 52.49 323 P **P** 06 13 33.4 -0.2
comp=N,6.2nm,0.6s,baz=120,slow=8.1,SNR=74
MKAR PcP **PcP** 06 14 43.7 -0.1
comp=N,1.9nm,0.6s,baz=105,slow=4.7,SNR=4.5
MKAR LR LR 06 36 05.8
comp=N,408nm,19.0s,baz=122,slow=36
comp=N,6.2nm,0.6s
SHLS Shalkode 52.59 318 *e*P **P** 06 13 31.8 -2.8
SHLS pmax pmax
comp=Z,7.0nm,1.1s
SHLS Shalkode 52.59 318 *e*P **P** 06 13 31.8 -2.8
comp=Z,7.4nm,1.1s
MAKZ Makanchi 52.69 323 P **P** 06 13 34.8 -0.3
MAKZ Makanchi 52.69 323 P **P** 06 13 34.8 -0.3
MAKZ pmax pmax
comp=Z,11nm,1.1s
UZB Uzynbulak 52.88 317 *e*P **P** 06 13 36.1 -0.6
UZB pmax pmax
comp=Z,4.0nm,0.6s
UZB Uzynbulak 52.88 317 *e*P **P** 06 13 36.1 -0.6
comp=Z,4.3nm,0.6s
PRZ Przheval'sk 53.03 317 P **P** 06 13 36.3 -1.6
PRZ IAmb IAmb 06 13 52.8
comp=Z,16nm,0.5s
PRZ Przheval'sk 53.03 317 P **P** 06 13 36.3 -1.6
PRZ pmax pmax
comp=Z,16nm,0.5s
TARG Taragay, Kyrgy 53.14 315 **P** 06 13 38.1 -0.9
TARG Taragay, Kyrgy 53.14 315 P **P** 06 13 38.1 -0.9
TARG pmax pmax
comp=Z,24nm,1.8s
KPKS Kokpek 53.24 318 *e*P **P** 06 13 38.6 -0.7
KPKS pmax pmax
comp=Z,11nm,1.6s
KPKS Kokpek 53.24 318 *e*P **P** 06 13 38.6 -0.7
comp=Z,11nm,1.6s
SATY Saty 53.26 317 *e*P **P** 06 13 38.7 -0.8
SATY pmax pmax
comp=Z,9.0nm,1.3s
SATY Saty 53.26 317 *e*P **P** 06 13 38.8 -0.8
comp=Z,9.2nm,1.3s
ZHN Zhinishke 53.28 317 *e*P **P** 06 13 39.0 -0.6
ZHN pmax pmax
comp=Z,6.0nm,1.1s
ZHN Zhinishke 53.28 317 *e*P **P** 06 13 39.0 -0.6
comp=Z,6.3nm,1.1s
KSH Kashi 53.66 312 P **P** 06 13 44.5 +2.0
KSH pmax pmax
comp=Z,12nm,1.4s
KDJ Kajisay 53.73 316 P **P** 06 13 42.9 -0.1
KDJ Kajisay 53.73 316 P **P** 06 13 42.9 -0.1
KDJ pmax pmax
comp=Z,7.0nm,0.8s
TDK Taldyqorghan 54.06 319 *e*P **P** 06 13 44.5 -0.7
TDK pmax pmax
comp=Z,9.0nm,1.2s
TDK Taldyqorghan 54.06 319 *e*P **P** 06 13 44.6 -0.7
comp=Z,8.8nm,1.2s
NIL Nilore 54.12 305 **P** 06 13 45.3 -0.5
NIL Nilore 54.12 305 P **P** 06 13 45.3 -0.5
NIL pmax pmax
comp=Z,55nm,1.4s
MDOK Medeo 54.21 317 *e*P **P** 06 13 45.6 -0.8
MDOK Medeo 54.21 317 *e*P **P** 06 13 45.7 -0.8
TNSS Tian-Shan 54.23 317 *e*P **P** 06 13 45.6 -1.3
TNSS Tian-Shan 54.23 317 *e*P **P** 06 13 45.6 -1.3
NRN Naryn 54.30 314 **P** 06 13 46.9 -0.4
NRN Naryn 54.30 314 P **P** 06 13 46.9 -0.4
NRN pmax pmax
comp=Z,6.0nm,0.8s
KUU Kurty 54.97 317 *e*P **P** 06 13 51.0 -0.8
KUU pmax pmax
comp=Z,10.0nm,0.7s
KUU Kurty 54.97 317 *e*P **P** 06 13 51.1 -0.8
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 55.11 331 P **P** 06 13 51.8 -0.8
comp=Z,2.7nm,0.5s,baz=123,slow=7.8,SNR=10
comp=Z,2.7nm,0.5s
ZALV Zalesovo Beam 55.11 331 **P** 06 13 51.9 -0.7
AAK Ala-Archa 55.77 315 P **P** 06 13 56.7 -1.1
AAK Ala-Archa 55.77 315 LR LR 06 40 53.4
comp=Z,670nm,18.1s,baz=86,slow=39
AAK Ala-Archa 55.77 315*ce*P **P** 06 13 57.0 -0.7
AAK pmax pmax
comp=Z,8.0nm,1.7s
SGDS Sogindy 55.96 316 *e*P **P** 06 13 58.3 -0.6
SGDS Sogindy 55.96 316 *e*P **P** 06 13 58.4 -0.6
SEY Seymchan 56.24 14 *e*P **P** 06 14 02.8 +2.3
SEY pmax pmax
comp=Z,14nm,1.4s
KURK Kurchatov 56.54 326 P **P** 06 14 02.4 -0.5
KURK IAmb IAmb 06 14 03.7
comp=Z,15nm,0.9s
KURK Kurchatov 56.54 326 P **P** 06 14 02.4 -0.5
KURK pmax pmax
comp=Z,15nm,1.0s
KURBB Kurchatov Arra 56.55 325 P **P** 06 14 02.5 -0.4
comp=Z,6.3nm,0.7s,baz=126,slow=6.7,SNR=49
comp=Z,6.3nm,0.7s
SHEM Shemya Is, Ala 57.46 32 LR LR 06 43 55.4
comp=Z,75nm,18.0s,baz=228,slow=41
BTK Batken 57.61 311 P **P** 06 14 10.7 -0.1
BTK Batken 57.61 311 P **P** 06 14 10.7 -0.1
BTK pmax pmax
comp=Z,13nm,1.2s
GAR Garm 57.71 310 **P** 06 14 10.6 -1.0
KBL Kabul 57.72 305 **P** 06 14 11.2 -0.6
KBL IAmb IAmb 06 14 11.8
comp=Z,13nm,0.8s
KBL Kabul 57.72 305 P **P** 06 14 11.2 -0.6
KBL pmax pmax
comp=Z,13nm,0.8s
MSVF Nonsavu 57.86 118 LR LR 06 38 59.1
comp=Z,255nm,18.2s,baz=321,slow=36
SIMJ Simiganj 58.62 309 **P** 06 14 16.6 -1.3
SIMJ IAmb IAmb 06 14 20.0
comp=Z,16nm,1.4s
KK31 Karatay Array 58.69 315 **P** 06 14 17.2 -1.0
KK31 IAmb IAmb 06 14 18.8
comp=Z,26nm,1.4s
KK31 Karatay Array 58.69 315 P **P** 06 14 17.2 -1.0
KK31 pmax pmax
comp=Z,26nm,1.5s
KKAR Karatay Array 58.69 315 P **P** 06 14 16.8 -1.4
KKAR Karatay Array 58.69 315 P **P** 06 14 16.8 -1.4
IUG Iuzhnay 58.75 314 *e*P **P** 06 14 17.9 -0.8
IUG pmax pmax
comp=Z,7.0nm,0.6s
IUG Iuzhnay 58.75 314 *e*P **P** 06 14 18.0 -0.8
comp=Z,7.0nm,0.6s
BRZS Berezniki 59.64 323 *e*P **P** 06 14 24.1 -0.5
BRZS Berezniki 59.64 323 *e*P **P** 06 14 24.1 -0.5
TIXI Tiksi 61.82 1 P **P** 06 14 38.8 -0.1
TIXI Tiksi 61.82 1*ce*P **P** 06 14 38.9 -0.1
TIXI pmax pmax
comp=Z,61nm,2.5s
BVAR Borovoye Array 62.14 325 P **P** 06 14 41.4 -0.2
comp=Z,3.7nm,0.7s,baz=131,slow=8.1,SNR=14
BVAR LR LR 06 41 02.4
comp=Z,379nm,21.3s,baz=128,slow=35
comp=Z,3.7nm,0.7s
BRVK Borovoye 62.21 325 **P** 06 14 41.4 -0.6
BRVK IAmb IAmb 06 14 51.6
comp=Z,8.9nm,0.8s
BRVK Borovoye 62.21 325 P **P** 06 14 41.4 -0.6
BRVK pmax pmax
comp=Z,9.0nm,0.8s
HRA Herat 63.25 304 **P** 06 14 48.3 -1.3
BILL Bilibino 63.81 16 P **P** 06 14 52.5 +0.1
BILL Bilibino 63.81 16*ce*P **P** 06 14 53.3 +0.9
BILL pmax pmax
comp=Z,18nm,1.3s
NRIK Noril'sk 64.50 346 P **P** 06 14 57.2 +0.3
NRIK Noril'sk 64.50 346 P **P** 06 14 57.1 +0.3
comp=Z,19nm,0.8s,baz=132,slow=6.4,SNR=42
NRIK LR LR 06 43 44.4
comp=Z,416nm,21.9s,baz=146,slow=36
comp=Z,19nm,0.8s
NRIK Noril'sk 64.50 346 P **P** 06 14 57.2 +0.3
NRIK pmax pmax
comp=Z,76nm,1.4s
RPZ Rata Peaks 66.91 146 **P** 06 15 11.1 -1.8
BKZ Black Stump Fm 67.33 140 P **P** 06 15 15.4 -0.2
RTZ Ruatahuna 67.33 139 **P** 06 15 15.7 +0.1
ABKAR Akbulak array 67.33 319 **P** 06 15 14.8 -0.7
ABKAR IAmb IAmb 06 15 16.1
comp=Z,20nm,1.4s
ABKAR Akbulak array 67.33 319 P **P** 06 15 14.1 -1.3
SPIA Saint Paul Isl 67.49 32 P **P** 06 15 15.9 -0.3
baz=252
AKTO Aktyubinsk 68.78 320 LR LR 06 48 15.2
comp=Z,577nm,18.1s,baz=79,slow=38
GAMB Gambell 69.03 25 P **P** 06 15 24.3 -1.4
GAMB IAmb IAmb 06 15 44.5
comp=Z,26nm,1.5s
GAMB Gambell 69.03 25 P **P** 06 15 25.4 -0.3
baz=248
ARTI Arti 69.79 327 **P** 06 15 29.3 -1.3
ARTI Arti 69.79 327 LR LR 06 48 02.3
comp=Z,187nm,18.2s,baz=98,slow=37
ARTI Arti 69.79 327*c i*P **P** 06 15 29.5 -1.1
ARTI 06 18 01.3
ARTI S **S** 06 24 34.3 -2.5
ARTI SS **SS** 06 29 05.7 0.0
ARTI pmax pmax
comp=Z,14nm,1.4s
M11K Mekoryuk 70.42 29 P **P** 06 15 34.2 -0.2
baz=255
TNA Tin City 71.16 24 P **P** 06 15 39.2 +0.4
baz=252
K13K Kusilvak Mount 71.54 28 P **P** 06 15 40.6 -0.5
K13K IAmb IAmb 06 15 47.5
comp=Z,20nm,1.1s
K13K Kusilvak Mount 71.54 28 P **P** 06 15 41.4 +0.2
baz=256
S12K Black Hills 71.56 34 P **P** 06 15 41.7 +0.2
baz=260
F14K Arctic Creek 71.77 24 P **P** 06 15 42.9 +0.4
baz=253
M13K Dall Lake 71.80 29 P **P** 06 15 42.1 -0.6
baz=257
ANM Nome 71.91 25 P **P** 06 15 43.6 +0.3
baz=254
J14K Nanvaranak Lak 72.23 27 **P** 06 15 45.9 +0.6
J14K Nanvaranak Lak 72.23 27 P **P** 06 15 45.2 -0.1
baz=256
L14K Kuka Creek 72.32 29 **P** 06 15 45.8 0.0
L14K Kuka Creek 72.32 29 P **P** 06 15 46.0 +0.2
baz=258
SDPT Sand Point 72.39 35 P **P** 06 15 45.9 -0.5
baz=262
F15K North Star Dit 72.51 24 P **P** 06 15 47.5 +0.5
F15K North Star Dit 72.51 24 P **P** 06 15 46.6 -0.3
baz=254
N14K Kuskokwak Cree 72.52 30 P **P** 06 15 46.6 -0.4
baz=259
M14K Bethel 72.54 29 **P** 06 15 47.3 +0.1
M14K IAmb IAmb 06 16 00.1
comp=Z,36nm,1.2s
M14K Bethel 72.54 29 P **P** 06 15 46.5 -0.6
baz=259
G15K Niukluk 72.57 25 P **P** 06 15 45.8 -1.4
baz=255
O14K Tigyukauivet M 72.61 31 P **P** 06 15 46.6 -1.0
baz=260
CHNA Chernabura Isl 72.83 36 P **P** 06 15 48.6 -0.4
baz=262
L15K Ungalak Mounta 72.95 28 P **P** 06 15 48.7 -0.9
baz=259
C16K Lisburne Hills 72.96 21 P **P** 06 15 49.4 -0.2
C16K IAmb IAmb 06 16 02.9
comp=Z,44nm,1.5s
C16K Lisburne Hills 72.96 21 P **P** 06 15 49.3 -0.2
baz=253
S14K Fog Glacier 73.04 34 P **P** 06 15 49.8 -0.6
baz=262
K15K Wolf Creek Mou 73.05 28 **P** 06 15 51.0 +0.8
K15K IAmb IAmb 06 15 56.5
comp=Z,17nm,1.1s
K15K Wolf Creek Mou 73.05 28 P **P** 06 15 50.2 0.0
baz=258
M15K Kasigluk River 73.15 29 P **P** 06 15 50.7 -0.1
baz=260
H16K Elim 73.23 25 P **P** 06 15 51.3 +0.1
baz=257
O15K Ungalikthiuk R 73.32 31 P **P** 06 15 51.5 -0.4
baz=261
N15K Kwethluk River 73.35 30 P **P** 06 15 51.2 -0.8
baz=260
G16K Koyuk River 73.36 24 P **P** 06 15 51.6 -0.3
G16K Koyuk River 73.36 24 P **P** 06 15 52.0 0.0
baz=257
D17K Noatak River 73.62 22 P **P** 06 15 53.7 +0.2
baz=255
J16K Anvik River 73.66 27 P **P** 06 15 54.1 +0.3
J16K IAmb IAmb 06 16 14.8
comp=Z,60nm,2.0s
J16K Anvik River 73.66 27 P **P** 06 15 53.5 -0.3
baz=259
I17K Unalakleet 73.74 26 P **P** 06 15 54.0 -0.1
I17K IAmb IAmb 06 16 22.8
comp=Z,25nm,1.4s
I17K Unalakleet 73.74 26 P **P** 06 15 54.2 0.0
baz=259
RDOG Red Dog Mine 73.78 22 P **P** 06 15 54.6 +0.2
baz=256
L16K Owhat River 73.90 28 P **P** 06 15 55.0 -0.2
baz=260
E17K Hotham Inlet 73.95 23 P **P** 06 15 55.1 -0.3
baz=257,SNR=13
F17K Baldwin Pennin 74.03 23 P **P** 06 15 56.1 +0.3
baz=258
M16K Timber Creek 74.03 29 P **P** 06 15 56.6 +0.5
M16K IAmb IAmb 06 16 14.8
comp=Z,21nm,1.1s
M16K Timber Creek 74.03 29 P **P** 06 15 55.6 -0.4
baz=261
N16K Nishlik Lake 74.05 30 P **P** 06 15 55.5 -0.7
baz=262
G17K Kiwalik Mounta 74.07 24 P **P** 06 15 55.7 -0.5
baz=258,SNR=12
P16K Nushagak River 74.24 31 P **P** 06 15 56.9 -0.3
baz=263
O16K Kokwok River B 74.26 31 **P** 06 15 57.5 +0.2
O16K IAmb IAmb 06 16 03.8
comp=Z,37nm,1.4s
O16K Kokwok River B 74.26 31 P **P** 06 15 57.2 -0.2
baz=262,SNR=5.5
H17K Granite Mounta 74.27 25 P **P** 06 15 58.0 +0.7
H17K Granite Mounta 74.27 25 P **P** 06 15 56.8 -0.5
baz=259
R16K Pilot Point 74.28 33 P **P** 06 15 57.3 -0.2
baz=263
J17K VABM Dome 74.36 27 **P** 06 15 58.7 +0.8
J17K IAmb IAmb 06 16 04.2
comp=Z,14nm,0.9s
J17K VABM Dome 74.36 27 P **P** 06 15 57.4 -0.4
baz=260,SNR=12
E18K Tukpahlearik C 74.49 23 P **P** 06 15 58.6 0.0
baz=258,SNR=21
B18K Kokolik River 74.49 20 P **P** 06 15 58.6 +0.1
baz=256,SNR=11
L17K Donlin 74.52 28 P **P** 06 15 58.4 -0.4
baz=261,SNR=9.5
C18K Utukok River 74.54 21 P **P** 06 15 58.8 0.0
baz=257,SNR=14
K17K Iditarod 74.60 28 **P** 06 15 59.7 +0.4
K17K IAmb IAmb 06 16 05.7
comp=Z,28nm,1.1s
K17K Iditarod 74.60 28 P **P** 06 15 59.4 +0.1
baz=261,SNR=17
F18K Selawik 74.69 23 P **P** 06 15 59.7 0.0
baz=259,SNR=10
O17K Koliganek Bris 74.78 31 P **P** 06 16 00.4 +0.1
baz=263
M17K Holitna River 74.82 29 **P** 06 16 01.0 +0.5
M17K IAmb IAmb 06 16 07.0
comp=Z,27nm,1.1s
M17K Holitna River 74.82 29 P **P** 06 16 00.3 -0.3
baz=262
N17K Nushagak Hills 74.83 30 P **P** 06 16 00.6 -0.1
baz=263
Q16K King Salmon 74.89 32 P **P** 06 16 01.0 0.0
baz=264
KIRV Kirov 74.92 328 *i*P **P** 06 16 01.3 +0.1
A19K Wainwright 74.93 20 P **P** 06 16 01.6 +0.6
baz=257
H18K Honhosa River 74.95 25 P **P** 06 16 01.4 +0.1
baz=261
G18K Tagagawik 74.96 24 P **P** 06 16 01.1 -0.2
baz=260
P17K Kvichak River 75.05 31 P **P** 06 16 01.6 -0.3
baz=264
AKT Akhty 75.12 310 *e*P **P** 06 16 02.4 -0.5
AKT *e* 06 16 15.8
AKT *e*PPP PPP 06 20 36.7
AKT *e*S **S** 06 25 36.3 -2.3
AKT pmax pmax
comp=Z,20nm,1.2s
AKT MLR MLR
comp=Z,528nm,18.0s
CHIR Chirikof Islan 75.18 35 P **P** 06 16 02.7 -0.1
baz=266
Q17K Contact Creek 75.25 32 P **P** 06 16 02.9 -0.3
baz=265
L18K Granite Mounta 75.28 28 P **P** 06 16 04.5 +1.3
L18K IAmb IAmb 06 16 09.6
comp=Z,16nm,1.1s
L18K Granite Mounta 75.28 28 P **P** 06 16 03.6 +0.4
baz=263
J18K Innoko River 75.42 27 P **P** 06 16 03.6 -0.4
baz=262
F19K Shaleruckik Mo 75.47 23 **P** 06 16 04.7 +0.5
F19K Shaleruckik Mo 75.47 23 P **P** 06 16 04.6 +0.5
baz=261
BELG Belogornoye 75.47 322*c i*P **P** 06 16 03.3 -1.1
BELG pmax pmax
comp=Z,8.0nm,1.4s
N18K Kilae Creek 75.48 30 **P** 06 16 05.0 +0.6
N18K IAmb IAmb 06 16 27.5
comp=Z,18nm,1.2s
N18K Kilae Creek 75.48 30 P **P** 06 16 04.5 +0.1
baz=264
GCSA Galena City Sc 75.52 26 P **P** 06 16 04.6 +0.1
baz=262
M18K Stony River 75.60 29 P **P** 06 16 05.0 -0.1
baz=264
D19K Kuna River 75.61 22 **P** 06 16 05.3 +0.2
D19K Kuna River 75.61 22 P **P** 06 16 05.1 +0.1
baz=260,SNR=16
G19K Purcell Mounta 75.63 24 P **P** 06 16 05.7 +0.5
baz=262
P18K Big Mountain, 75.69 31 P **P** 06 16 05.9 +0.3
baz=265
O18K Koktuh Hills 75.74 31 **P** 06 16 06.3 +0.4
O18K IAmb IAmb 06 16 11.9
comp=Z,28nm,1.1s
O18K Koktuh Hills 75.74 31 P **P** 06 16 05.7 -0.3
baz=265
Q18K Katmai Hardscr 75.74 32 P **P** 06 16 05.9 -0.2
baz=265
E19K Redstone River 75.77 23 **P** 06 16 06.7 +0.8
E19K IAmb IAmb 06 16 12.1
comp=Z,24nm,1.1s
E19K Redstone River 75.77 23 P **P** 06 16 06.5 +0.5
baz=261,SNR=23
H19K Roundabout Mou 75.80 25 **P** 06 16 07.0 +0.9
H19K IAmb IAmb 06 16 12.3
comp=Z,20nm,1.1s
H19K Roundabout Mou 75.80 25 P **P** 06 16 05.7 -0.4
baz=262,SNR=12
R18K Karluk 75.95 33 P **P** 06 16 06.6 -0.5
baz=266
J19K Poorman 75.97 26 P **P** 06 16 07.1 0.0
baz=263
SII Sitkinak Islan 76.04 34 P **P** 06 16 07.8 +0.1
baz=266
L19K White Mountain 76.12 28 P **P** 06 16 07.9 -0.2
baz=264
N19K Bonanza Creek 76.18 30 **P** 06 16 09.0 +0.5
N19K IAmb IAmb 06 16 14.7
comp=Z,13nm,0.9s
N19K Bonanza Creek 76.18 30 P **P** 06 16 08.4 -0.1
baz=265
D20K Etivluk River 76.19 21 **P** 06 16 08.6 +0.2
D20K IAmb IAmb 06 16 14.4
comp=Z,29nm,1.1s
D20K Etivluk River 76.19 21 P **P** 06 16 08.5 +0.2
baz=261,SNR=29
B20K Meade River 76.21 20 P **P** 06 16 09.5 +1.2
baz=260
O19K Port Alsworth 76.21 30 P **P** 06 16 08.5 -0.1
baz=266
E20K Nigu River 76.28 22 P **P** 06 16 09.6 +0.7
baz=262,SNR=18
F20K Avaraart Lake 76.30 23 P **P** 06 16 09.2 +0.3
baz=262,SNR=15
M19K Big River Lodg 76.32 29 P **P** 06 16 09.7 +0.6
baz=265
H20K Anotleneega Mo 76.45 25 P **P** 06 16 10.4 +0.6
baz=264,SNR=8.9
I20K Naaghedeneel 76.55 26 P **P** 06 16 10.5 +0.2
baz=264
OHAK Old Harbor 76.56 33 P **P** 06 16 10.8 +0.2
baz=267
K20K Telida 76.59 27 P **P** 06 16 10.8 +0.2
baz=265
A21K Barrow 76.60 19 P **P** 06 16 10.6 +0.1
baz=261
L20K Farewell, AK 76.60 28 P **P** 06 16 11.4 +0.6
baz=265
J20K Nowinta River 76.63 26 P **P** 06 16 10.7 -0.1
baz=265,SNR=6.3
P19K Oil Pt 76.72 31 P **P** 06 16 10.9 -0.7
baz=267
CASY Casey 76.77 187 **P** 06 16 11.0 -0.4
CASY IAmb IAmb 06 16 22.3
comp=Z,8.7nm,0.8s
C21K Knifeblade Rid 76.91 21 P **P** 06 16 12.2 -0.1
baz=263
M20K Styx River 76.91 29 P **P** 06 16 12.7 +0.1
baz=266
KDAK Kodiak Island 76.97 33 P **P** 06 16 12.5 -0.4
baz=268
B21K Ikpikpuk River 77.03 21 **P** 06 16 13.0 0.0
B21K IAmb IAmb 06 16 19.2
comp=Z,19nm,1.0s
B21K Ikpikpuk River 77.03 21 P **P** 06 16 13.7 +0.7
baz=263,SNR=20
A22K Sinclair Lake 77.08 19 P **P** 06 16 13.5 +0.3
baz=262,SNR=16
Q20K Shuyak Island 77.10 32 P **P** 06 16 13.9 +0.3
baz=268
G21K Allakaket 77.11 24 P **P** 06 16 13.9 +0.3
baz=265,SNR=14
E21K Killik River 77.12 22 P **P** 06 16 14.2 +0.6
baz=264
F21K Alatna River 77.19 23 P **P** 06 16 14.4 +0.5
baz=265
SPCR Spurr Chakacha 77.31 29 P **P** 06 16 14.2 -0.7
baz=267
H21K Melozitna Rive 77.32 25 P **P** 06 16 14.8 +0.1
baz=266,SNR=5.4
PPLA Purkeypile 77.41 28 P **P** 06 16 15.0 -0.5
baz=267
CHUM Lake Minchumin 77.41 27 P **P** 06 16 14.9 -0.4
baz=266
GNI Garni 77.42 309 LR LR 06 55 36.4
comp=Z,196nm,19.9s,baz=66,slow=40
GNI Garni 77.42 309*ce*P **P** 06 16 15.9 -0.1
GNI pmax pmax
comp=Z,26nm,1.7s
CAST Castle Rocks 77.49 27 P **P** 06 16 15.4 -0.3
baz=267
B22K Teshekpuk Lake 77.52 20 **P** 06 16 15.7 0.0
B22K Teshekpuk Lake 77.52 20 P **P** 06 16 15.7 0.0
baz=264
HOM Homer 77.53 31 P **P** 06 16 15.5 -0.5
baz=268
D22K Ayikyak River 77.63 21 P **P** 06 16 16.8 +0.4
baz=265
I21K Tanana 77.64 25 P **P** 06 16 16.0 -0.5
baz=266,SNR=6.5
SKT Skwentna 77.67 29 P **P** 06 16 16.4 -0.4
baz=268
F22K John River 77.71 23 P **P** 06 16 16.8 -0.1
baz=266
CAPN Captain Cook N 77.81 30 P **P** 06 16 17.7 +0.2
baz=268
RAYN Ar Rayn 77.89 292 **P** 06 16 17.8 -1.0
RAYN IAmb IAmb 06 16 25.8
comp=Z,8.6nm,0.7s

RAYN	Ar Rayn	77.89	292	P	P	06 16 17.8	-1.0	
RAYN				pmax	pmax			
	comp=Z,9.0nm,0.7s							
E22K	Anaktuvuk Pass	77.89	22	P	P	06 16 17.9	0.0	
	baz=266							
H22K	Ishtalitna Cre	77.93	25	P	P	06 16 17.6	-0.5	
	baz=267,SNR=5.9							
G22K	Bettles	77.93	24	P	P	06 16 18.3	+0.3	
	baz=266							
BRSE	Bradley Lake S	77.99	31	P	P	06 16 18.4	-0.2	
	baz=269							
BPAW	Bear Paw Mtn.	78.01	26	P	P	06 16 18.5	-0.1	
	baz=268,SNR=15							
SUA	Susitna One	78.03	29	P	P	06 16 18.5	-0.4	
	baz=268							
TRF	Thorofare Moun	78.30	27	P	P	06 16 19.6	-0.8	
	baz=268							
M22K	Willow	78.33	29	P	P	06 16 20.1	-0.3	
	baz=269							
D23K	Nanushuk River	78.36	21	P	P	06 16 20.8	+0.4	
	baz=267,SNR=13							
C23K	Itkillik River	78.43	21	P	P	06 16 21.0	+0.2	
	baz=267,SNR=13							
COLD	Coldfoot	78.46	23	P	P	06 16 21.4	+0.3	
COLD	Coldfoot	78.46	23	P	P	06 16 21.4	+0.3	
	baz=268							
RC01	Rabbit Creek A	78.51	30	P	P	06 16 21.1	-0.3	
	baz=269							
O22K	Cooper Landing	78.51	30	P	P	06 16 21.0	-0.4	
	baz=269							
G23K	Bananza Creek	78.51	24	P	P	06 16 21.6	+0.3	
	baz=268,SNR=6.1							
KBZ	Khabaz	78.64	313	P	P	06 16 22.1	-0.4	
	comp=Z,9.0nm,1.1s,baz=108,slow=3.1,SNR=15							
	comp=Z,9.0nm,1.1s							
SEW	Seward	78.64	31	P	P	06 16 22.0	-0.2	
	baz=270							
H23K	Yukon River	78.68	25	P	P	06 16 22.7	+0.4	
	baz=268							
E23K	Chandalar	78.71	22	P	P	06 16 22.9	+0.3	
	baz=268,SNR=8.1							
I23K	Minto, Yukon-K	78.74	25	P	P	06 16 23.3	+0.7	
I23K				IAmb	IAmb	06 16 36.3		
	comp=Z,9.7nm,0.8s							
I23K	Minto, Yukon-K	78.74	25	P	P	06 16 23.2	+0.7	
	baz=269							
TOLK	Toolik Lake Re	78.75	22	P	P	06 16 23.0	+0.3	
	baz=268							
KIV	Kislovodsk	78.78	313	eP	P	06 16 22.0	-1.4	
KIV				pmax	pmax			
	comp=Z,16nm,1.1s							
PMR	Palmer	78.80	29	P	P	06 16 22.9	-0.1	
	baz=270							
SHA1	Shidzhatmaz	78.81	313	i P	P	06 16 23.7	0.0	
NEA2	Nenana	78.86	26	P	P	06 16 22.9	-0.3	
	baz=269							
MCK	McKinley	78.91	27	P	P	06 16 23.2	-0.4	
	baz=270							
D24K	Happy Valley	79.04	21	P	P	06 16 24.1	-0.1	
	baz=268							
C24K	Franklin Bluff	79.09	21	P	P	06 16 24.3	-0.2	
	baz=268							
VRH	Novokhopyorsk	79.12	320	eP	P	06 16 23.4	-1.6	
VRH				pmax	pmax			
	comp=Z,29nm,1.6s							
KNK	Knik Glacier	79.13	29	P	P	06 16 24.2	-0.7	
	baz=270							
E24K	Your Creek	79.14	22	P	P	06 16 24.6	-0.2	
	baz=269,SNR=5.2							
SML	Sawmill	79.18	29	P	P	06 16 24.8	-0.4	
	baz=270							
PWL	Port Wells	79.19	30	P	P	06 16 25.0	-0.2	
	baz=271							
F24K	Squaw Lake	79.36	23	P	P	06 16 26.2	+0.1	
	baz=270,SNR=5.3							
H24K	Noodor Dome	79.36	25	P	P	06 16 26.3	+0.2	
	baz=270							
COLA	College	79.38	26	P	P	06 16 26.2	+0.1	
	baz=270							
M23K	Glacier View	79.47	29	P	P	06 16 26.6	-0.1	
	baz=271							
G24K	Hadweenzic Riv	79.52	24		P	06 16 26.2	-0.7	
G24K	Hadweenzic Riv	79.52	24	P	P	06 16 26.7	-0.2	
	baz=270,SNR=6.0							
POKR	Poker Plat Res	79.55	25	P	P	06 16 26.7	-0.4	
	baz=271							
SCM	Sheep Creek Mo	79.66	29	P	P	06 16 27.4	-0.4	
	baz=271							
HDA	Harding Lake	79.77	26	P	P	06 16 27.9	-0.4	
HDA				IAmb	IAmb	06 16 49.7		
	comp=Z,34nm,1.8s							
HDA	Harding Lake	79.77	26	P	P	06 16 28.6	+0.3	
	baz=271							
ILAR	Eielson Array	79.79	26	P	P	06 16 28.1	-0.2	
	comp=Z,1.1nm,0.9s,baz=254,slow=6.1,SNR=7.8							
	comp=Z,1.1nm,0.9s							
GLI	Glacier Island	79.80	30	P	P	06 16 28.7	+0.2	
	baz=272							
D25K	Kavik River	79.91	21	P	P	06 16 29.0	0.0	
D25K	Kavik River	79.91	21	P	P	06 16 29.1	+0.1	
	baz=271,SNR=6.1							
KLMR	Klimovskoe	80.01	330	eP	P	06 16 26.6	-3.0	
KLMR				e		06 16 34.6		
KLMR				pmax	pmax			
	comp=Z,57nm,1.5s							
G25K	Bearman Lake	80.07	24	P	P	06 16 29.7	0.0	
	baz=272							
LABN	Labinsk	80.15	314	eP	P	06 16 28.0	-2.7	
LABN				pmax	pmax			
	comp=Z,37nm,0.6s							
F25K	Christian Rive	80.22	23	P	P	06 16 30.9	+0.2	
	baz=272,SNR=6.8							
E25K	Arctic Village	80.23	22	P	P	06 16 30.8	+0.1	
	baz=272,SNR=5.2							
ERBR	Yeremizino-Bor	80.24	315	eP	P	06 16 30.4	-0.8	
ERBR				pmax	pmax			
	comp=Z,31nm,1.2s							
K24K	Donnelly Dome	80.31	27	P	P	06 16 30.8	-0.5	
	baz=272							
KLU	Klutina	80.34	29	P	P	06 16 30.5	-1.0	
	baz=273							
PRP	Porcupine Dome	80.34	25	P	P	06 16 31.0	-0.5	
	baz=272							
C26K	Camden Bay	80.41	20	P	P	06 16 31.0	-0.6	
	baz=272,SNR=19							
J25K	Salcha River,	80.45	26	P	P	06 16 31.4	-0.6	
	baz=272							
EYAK	Cordova Ski Ar	80.47	30	P	P	06 16 32.3	+0.2	
	baz=273							
PAX	Paxson	80.48	28	P	P	06 16 31.6	-0.7	
	baz=273							
HARP	HAARP	80.66	28	P	P	06 16 32.8	-0.2	
	baz=273							
VORD	Divnogorie	80.67	320	eP	P	06 16 30.6	-2.7	
VORD				pmax	pmax			
	comp=Z,9.0nm,1.0s							
VORR	Voronezh	80.67	321	eP	P	06 16 32.6	-0.7	
VORR				pmax	pmax			
	comp=Z,22nm,1.4s							
MARD	Mardin	80.69	306	P	P	06 16 33.6	-0.3	
RIDG	Independent Ri	80.72	27	P	P	06 16 33.0	-0.5	
	baz=273							
VSR	Storozhevoye	80.73	320	eP	P	06 16 30.4	-3.2	
VSR				pmax	pmax			
	comp=Z,7.0nm,1.0s							
VSLR	Vesyoloye	80.73	313	i P	P	06 16 34.0	+0.1	
VSLR				pmax	pmax			
	comp=Z,25nm,1.1s							
LPSR	Galich'ya Gora	80.78	322	eP	P	06 16 33.2	-0.7	
LPSR				pmax	pmax			
	comp=Z,34nm,1.7s							
F26K	Sheenjek River	80.79	23	P	P	06 16 33.9	+0.2	
	baz=273							
C27K	Jago River	80.84	21	P	P	06 16 33.8	-0.1	
	baz=273							
N25K	Chitina, Valde	80.97	29	P	P	06 16 34.0	-0.8	
	baz=274							
G26K	Porcupine Rive	80.97	23		P	06 16 35.7	+1.0	
G26K				IAmb	IAmb	06 16 41.2		
	comp=Z,22nm,1.4s							
G26K	Porcupine Rive	80.97	23	P	P	06 16 34.7	0.0	
	baz=274							
BMRM	Bremner River	81.01	30	P	P	06 16 35.4	+0.3	
	baz=274							
SCRK	Sand Creek	81.09	27	P	P	06 16 35.1	-0.4	
	baz=274							
KAIM	Kayak Island	81.17	31	P	P	06 16 36.4	+0.5	
	baz=274							
J26L	Joseph Creek	81.23	26	P	P	06 16 36.1	-0.1	
J26L				IAmb	IAmb	06 16 41.3		
	comp=Z,33nm,1.9s							
J26L	Joseph Creek	81.23	26	P	P	06 16 36.6	+0.4	
	baz=274							
MOS	Moscow	81.31	325	eP	P	06 16 33.3	-3.3	
MOS				pmax	pmax			
	comp=Z,44nm,1.2s							
I26K	Coal Creek Min	81.35	25	P	P	06 16 37.2	+0.5	
	baz=274							
L26K	Log Cabin Wild	81.45	27	P	P	06 16 37.6	+0.3	
	baz=275							
M26K	Nabesna, AK	81.66	28	P	P	06 16 38.4	-0.1	
	baz=275							
LVZ	Lovozero	81.66	338	P	P	06 16 38.1	-0.2	
LVZ	Lovozero	81.66	338	eP	P	06 16 38.4	0.0	
LVZ				pmax	pmax			
	comp=Z,60nm,2.5s							
E27K	Coleen River	81.71	22	P	P	06 16 38.7	+0.1	
	baz=275							
G27K	Doyon Strip	81.82	24	P	P	06 16 40.3	+1.1	
	baz=276							
D27M	Malcolm River	81.84	21		P	06 16 40.0	+0.7	
D27M				IAmb	IAmb	06 16 46.3		
	comp=Z,12nm,1.1s							
D27M	Malcolm River	81.84	21	P	P	06 16 39.6	+0.3	
	baz=276							
K27K	Chicken	81.92	26	P	P	06 16 40.3	+0.6	
	baz=276							
H27K	Steamboat Moun	81.93	24	P	P	06 16 40.6	+0.8	
	baz=276							
I27K	Kandik River	81.96	25	P	P	06 16 40.4	+0.4	
	baz=276							
OBN	Obninsk	81.96	325	i P	P	06 16 39.8	-0.3	
OBN				i		06 16 44.2		
OBN				eS	SKSac	06 26 59.3	+2.3	
OBN				pmax	pmax			
	comp=Z,37nm,1.7s							
OBN				MLR	MLR			
	comp=Z,256nm,16.0s							
L27K	Beaver Creek,	82.13	27		P	06 16 40.0	-0.9	
L27K				IAmb	IAmb	06 16 47.1		
	comp=Z,16nm,1.3s							
L27K	Beaver Creek,	82.13	27	P	P	06 16 40.5	-0.4	
	baz=276							
APA	Apatity	82.17	337	i P	P	06 16 39.4	-1.5	
APA				pmax	pmax			
	comp=Z,18nm,1.1s							
APA				MLR	MLR			
	comp=Z,400nm,18.0s							
M27K	Edge Creek, AK	82.18	28	P	P	06 16 41.2	-0.1	
	baz=276							
MESA	MESA	82.39	30	P	P	06 16 42.6	+0.1	
	baz=276							
E28M	Babbage River	82.42	22	P	P	06 16 42.7	+0.4	
	baz=277							
ANN	Anapa	82.47	314	eP	P	06 16 41.2	-1.8	
ANN				pmax	pmax			
	comp=Z,17nm,0.7s							
D28M	Stokes Point	82.61	21	P	P	06 16 43.4	+0.2	
	baz=278							
BVCY	Beaver Creek	82.65	28	P	P	06 16 43.3	-0.3	
	baz=277							
I28M	Miner Creek	82.67	25		P	06 16 44.6	+0.8	
I28M	Miner Creek	82.67	25	P	P	06 16 44.0	+0.2	
	baz=277							
YUK3	Moose Creek	82.92	29	P	P	06 16 44.5	-0.7	
	baz=277							
E29M	Blow River	83.05	22	P	P	06 16 45.8	+0.3	
	baz=279							
DAWY	Dawson	83.09	26	P	P	06 16 46.0	+0.1	
	baz=278							
O28M	Mount Upton	83.18	30	P	P	06 16 45.7	-1.1	
	baz=278							
H29M	Whitestone	83.20	24	P	P	06 16 46.6	+0.2	
	baz=279							
G29M	Pine Creek	83.23	23	P	P	06 16 46.8	+0.3	
G29M	Pine Creek	83.23	23	P	P	06 16 46.4	-0.1	
	baz=279							
PINM	Pinnacle	83.24	30	P	P	06 16 46.7	-0.1	
	baz=278							
YUK8	Steele Glacier	83.31	29	P	P	06 16 47.6	+0.2	
	baz=278							
I29M	Ogilvie Camp,	83.36	25	P	P	06 16 47.5	+0.3	
	baz=279							
J29N	Klondike Camp	83.54	26	P	P	06 16 48.4	+0.2	
	baz=279							
PNL	Peninsula	83.73	31	P	P	06 16 48.3	-0.9	
	baz=278							
M29M	Somme Creek	83.75	28	P	P	06 16 49.7	+0.3	
	baz=279							
L29M	L29M	83.79	27	P	P	06 16 50.2	+0.6	
	baz=279							
YUK4	Talbot Arm	83.84	29	P	P	06 16 49.4	-0.6	
	baz=279							
EPYK	Eagle Plains	83.84	24	P	P	06 16 49.5	-0.2	
	baz=280							
G30M	tAoh Zraii Nji	83.92	23	P	P	06 16 49.9	-0.2	
	baz=280							
K29M	Barlow Dome	83.94	26	P	P	06 16 50.0	-0.3	
	baz=280							
F30M	Barrier River	83.97	22	P	P	06 16 50.3	0.0	
	baz=281							
O29M	Mount Kennedy	84.04	30	P	P	06 16 50.3	-0.7	
	baz=279							
YUK6	Outpost Mounta	84.04	29	P	P	06 16 51.1	0.0	
	baz=279							
KEV	Kevo	84.12	340		P	06 16 49.4	-1.6	
KEV	Kevo	84.12	340	P	P	06 16 49.4	-1.6	
KEV				pmax	pmax			
	comp=Z,46nm,1.6s							
VOI	Vohitsoka	84.15	247	P	P	06 16 50.9	-1.4	
I30M	Mount Dempster	84.18	25	P	P	06 16 51.3	-0.3	
	baz=280							
J30M	Hart River	84.32	25	P	P	06 16 52.4	+0.1	
	baz=281							
HYT	Haines Junctio	84.47	29	P	P	06 16 53.0	-0.1	
	baz=280							
M30M	Minto, Yukon	84.49	28	P	P	06 16 52.9	-0.2	
	baz=280							
SPA0	Spitsbergen Ar	84.50	349	eP	P	06 16 53.3	+0.5	
SPITS	Spitsbergen Ar	84.50	349	P	P	06 16 52.8	-0.1	
	comp=Z,14nm,0.9s,baz=80,slow=6.0,SNR=28							
	comp=Z,14nm,0.9s							
N30M	Aishikik Lake	84.56	29	P	P	06 16 53.6	+0.1	
	baz=280							
P29M	Windy Craggy	84.56	31	P	P	06 16 53.5	0.0	
	baz=280							
INK	Inuvik	84.66	22	P	P	06 16 53.2	-0.5	
	baz=283							
ARA0	ARCESS Array S	84.69	340	eP	P	06 16 54.0	+0.1	
ARCES	ARCESS Array B	84.69	340	P	P	06 16 53.7	-0.1	
	comp=Z,14nm,0.8s,baz=80,slow=6.7,SNR=57							
	comp=Z,14nm,0.8s							
G31M	Satah River	84.69	23		P	06 16 53.8	-0.1	
G31M	Satah River	84.69	23	P	P	06 16 53.4	-0.4	
	baz=282							
F31M	Tsiigehtchic	84.77	22	P	P	06 16 53.7	-0.6	
	baz=283							
P30M	Million Dollar	84.86	30	P	P	06 16 54.4	-0.6	
	baz=280							
H31M	Peel River	84.90	24		P	06 16 54.6	-0.5	
H31M	Peel River	84.90	24	P	P	06 16 55.1	0.0	
	baz=282							
O30N	Mendenhall	85.16	29	P	P	06 16 56.2	-0.2	
	baz=281							
N31M	Braeburn, Yuko	85.17	28	P	P	06 16 56.9	+0.4	
	baz=281							
MMAI	Mount Meron Ar	85.59	303	P	P	06 16 58.7	-0.5	
	comp=Z,13nm,1.1s,baz=72,slow=5.5,SNR=11							
	comp=Z,13nm,1.1s							
S31K	Pelican	85.64	32	P	P	06 16 58.4	-0.4	
	baz=281							
M31M	Drury Creek, Y	85.66	28	P	P	06 16 58.6	-0.3	
	baz=283							
WHY	Whitehorse	85.77	29	P	P	06 16 59.7	+0.1	
	baz=282							
R31K	City Hall, Gus	85.81	32	P	P	06 16 59.1	-0.5	
	baz=282							
BR131	Keskin Array S	85.95	309	i P	P	06 17 00.4	-0.6	
BRTR	Keskin Array B	85.95	309		P	06 17 00.1	-0.9	
BRTR	Keskin Array B	85.95	309	P	P	06 16 59.8	-1.2	
	comp=Z,1.1nm,0.7s,baz=121,slow=5.9,SNR=6.3							
	comp=Z,1.1nm,0.7s							
BRTR	Keskin Array B	85.95	309	P	P	06 17 00.1	-0.9	
FARO	Faro, Yukon	86.13	28	P	P	06 17 01.3	0.0	
	baz=284							
SIT	Sitka	86.31	33	P	P	06 17 02.2	+0.1	
	baz=282							
A36M	Sachs Harbour	86.31	17		P	06 17 01.4	-0.5	
A36M				IAmb	IAmb	06 17 09.0		
	comp=Z,18nm,0.9s							
A36M	Sachs Harbour	86.31	17	P	P	06 17 01.8	0.0	
	baz=290							
FIA1	FINESS Array S	86.37	332		P	06 17 01.8	-0.5	
FINES	FINESS Array B	86.38	332		P	06 17 02.2	-0.1	
FINES	FINESS Array B	86.38	332	P	P	06 17 02.0	-0.3	
	comp=Z,18nm,1.0s,baz=77,slow=4.8,SNR=30							
	comp=Z,18nm,1.0s							
FINES	FINESS Array B	86.38	332	P	P	06 17 02.3	-0.1	
JETT	Jettan, Norway	86.40	340	eP	P	06 17 02.2	-0.2	
R32K	Eaglecrest	86.47	32	P	P	06 17 02.0	-1.0	
	baz=283							
N32M	Quiet Lake	86.51	29	P	P	06 17 02.9	-0.3	
	baz=284							
P32M	Atlin	86.58	30	P	P	06 17 02.7	-0.8	
	baz=283							
S32K	Killisnoo	86.62	32	P	P	06 17 03.2	-0.5	
	baz=283							
VSU	Vasula	86.75	329	i P	P	06 17 03.1	-1.2	
VSU				pmax	pmax			
	comp=Z,34nm,1.1s							
P33M	Teslin, Yukon	86.86	29	P	P	06 17 03.8	-1.2	
	baz=284							
MMPY	Sheldon Lake,	86.97	27	P	P	06 17 04.7	-0.7	
	baz=285							
MNK	Minsk	87.02	325	i P	P	06 16 57.5	-8.2	
MNK				pmax	pmax			
	comp=E,4.0nm,0.7s							
MNK				pmax	pmax			
	comp=Z,6.0nm,0.5s							
MNK				pmax	pmax			
	comp=N,10.0nm,0.6s							
AKASG	Malin Array Be	87.02	321	P	P	06 17 04.8	-1.0	
	comp=N,1.6nm,0.6s,baz=65,slow=4.3,SNR=14							
	comp=N,1.6nm,0.6s							
AKBB	Malin Array Si	87.02	321	i P	P	06 17 04.4	-1.4	
AKBB				pmax	pmax			
	comp=Z,9.0nm,1.2s							
Q32M	Nakina River	87.45	31	P	P	06 17 08.0	0.0	
	baz=285							
C36M	Paulatuk	87.63	20		P	06 17 07.8	-0.5	
C36M	Paulatuk	87.63	20	P	P	06 17 08.4	+0.1	
	baz=292							
R33M	Jennings River	87.98	30	P	P	06 17 10.3	-0.1	
	baz=286							
WRAK	Wrangell Islan	88.05	33	P	P	06 17 09.8	-0.8	
	baz=285							
TGTN	Hyland Airport	88.64	28	P	P	06 17 13.5	+0.1	
	baz=288							
DLBC	Dease Lake	88.72	31	P	P	06 17 13.6	-0.2	
	baz=286							
STEI	Steigen	88.74	339	eP	P	06 17 12.8	-0.8	
TIRR	Tirgusor	88.88	315	P	P	06 17 13.3	-1.4	
TIRR				IAmb	IAmb	06 17 14.4		
	comp=Z,11nm,1.0s							
TIRR	Tirgusor	88.88	315	P	P	06 17 13.3	-1.4	
TIRR				pmax	pmax			
	comp=Z,11nm,1.0s							
FAUS	Fauske	88.94	339	eP	P	06 17 13.4	-1.2	
VNDA	Vanda	89.45	173		P	06 17 16.0	-0.6	
VNDA	Vanda	89.45	173	P	P	06 17 15.4	-1.2	
	comp=Z,2.3nm,0.7s,baz=316,slow=5.8,SNR=12							
	comp=Z,2.3nm,0.7s							
VNDA	Vanda	89.45	173	P	P	06 17 16.0	-0.6	
VNDA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BURAR	Bucovina Array	90.29	318	P	P	06 17 20.5	-1.0	
NSS	Namsos	91.37	337	eP	P	06 17 24.9	-1.1	
HFS	Hagfors	92.53	332	P	P	06 17 30.8	-0.7	
	comp=Z,6.0nm,0.6s,baz=92,slow=4.9,SNR=15							
	comp=Z,6.0nm,0.6s							
NIE	Niedzica	92.91	321	eP	P	06 17 34.0	+0.6	
OJC	Ojcow	92.96	322	eP	P	06 17 33.5	-0.2	
NB2	NORSAR Subarra	93.25	334	P	P	06 17 33.4	-1.4	
	comp=Z,23nm,1.7s,baz=65,slow=4.6							
NB2	NORSAR Subarra	93.25	334	P	P	06 17 33.4	-1.4	
	baz=65,slow=4.6							
NOA	NORSAR Array B	93.25	334	P	P	06 17 33.5	-1.2	
	comp=Z,2.5nm,0.8s,baz=66,slow=4.6,SNR=9.5							
	comp=Z,2.5nm,0.8s							
LANS	Liptovska Anna	93.51	321	eP	P	06 17 38.1	+1.8	
LANS	Liptovska Anna	93.51	321	eP	P	06 17 38.1	+1.8	
DOMB	Dombas	93.69	335	eP	P	06 17 36.1	-0.7	
YKA	Yellowknife Ar	94.12	24	P	P	06 17 36.7	-2.0	
YKA	Yellowknife Ar	94.12	24	P	P	06 17 39.2	+0.5	
	comp=Z,2.3nm,0.8s,baz=303,slow=4.6,SNR=24							
	comp=Z,2.3nm,0.8s							
VYHS	Vyhne	94.12	321	eP	P	06 17 43.3	+4.2	
VYHS	Vyhne	94.12	321	eP	P	06 17 43.3	+4.2	
AKN	Aaknes	94.47	336	eP	P	06 17 39.1	-1.2	
MORC	Moravsky Berou	94.48	322	eP	P	06 17 40.5	-0.2	
JAVC	Velka Javorina	94.72	321	eP	P	06 17 42.2	+0.3	
KSP	Ksiaz	94.84	323	eP	P	06 17 40.9	-1.3	
MODS	Modra-Piesok	95.14	321	eP	P	06 17 47.8	+4.1	
VRAC	Vranov	95.22	322	eP	P	06 17 43.4	-0.7	
KRUC	Moravsky	95.43	322	eP	P	06 17 44.6	-0.4	
CLL	Collm	96.56	325	eP	P	06 17 50.0	-0.1	
CLL				pmax	pmax			
	comp=Z,10.0nm,1.2s							
CLL	Collm	96.56	325	eP	P	06 17 50.0	-0.1	
	comp=Z,10.0nm,1.2s							
CLL				ex	x	06 18 09.0		
GERES	GERESS Array B	97.16	322	P	Pdif	06 17 52.7	-0.4	
	comp=Z,0.8nm,0.6s,baz=76,slow=5.6,SNR=5.9							
	comp=Z,0.8nm,0.6s							
SYO	Syowa Base	97.94	201	ep	P	Pdif	06 18 00.8	+5.0
TXAR	Lajitas Array	118.01	49	PKP	PKiKP	06 23 08.8	+0.9	
	comp=Z,0.6nm,0.8s,baz=165,slow=1.3,SNR=6.2							
PLCA	Paso Flores	145.72	157	PKPbc	PKPab	06 23 59.8	-0.1	
	comp=Z,2.9nm,0.5s,baz=269,slow=4.4,SNR=19							
SIV	San Ignacio	170.45	131	PKP	PKPdf	06 24 29.3	+0.1	
	comp=Z,3.1nm,1.0s,baz=186,slow=4.0,SNR=4.9							

GCG 26 06:09:34.6±0.3, 14°.99N×92°.26W, h72km±4km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	Catarina	0.22	127	eP	Pn	06 09 45.6	0.0
SMCA				eS	Sn	06 09 54.2	+0.5
STG8	El Palmar, Qui	1.03	121	eP	Pn	06 09 50.5	-3.3
STG8				eS	Sn	06 10 02.8	-5.3
STG0	El Palmar, Qui	1.05	122	eP	Pn	06 09 50.3	-3.6
STG0				eS	Sn	06 10 03.0	-5.5
STG5	El Palmar, Qui	1.05	123	eP	Pn	06 09 50.4	-3.6
STG5				eS	Sn	06 10 02.5	-5.9

*IDC **26** 06:20:24.7±2.8, 54°.20N×87°.09E, h0km, mbtmp3.2/3, ML2.2/3, Error ellipse: s-maj=25.1km s-min=14.8km az=70.0*

ASRS 26 06:20:21.0±0.9, 54°.24N×87°.08E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.36	259	I	I	06 30 10.0	
	0.2nm,0.7s,baz=74,slow=334,SNR=3.3						
ZALV	Zalesovo Beam	1.36	259	Pg	Pb	06 20 49.0	+1.6
	1.6nm,0.3s,baz=75,slow=16,SNR=11						
ZALV				Lg	Lg	06 21 08.2	
	1.5nm,0.3s,baz=79,slow=26,SNR=9.4						
KURBB	Kurchatov Arra	6.36	239	Pn	Pn	06 22 00.0	+4.1
	baz=56,

*IDC **26** 06:21:16.4±3.8, 9.69N×126.28E, h91km±36km, mb3.6/15, mbtmp4.0/16, Error ellipse: s-maj=47.5km s-min=17.2km az=68.0*

ISC 26 06:21:11.4±0.7, 9.90N±0.08×126.6E±0.2, h42km, n23, σ1§18/18, mb3.9/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.00**	**200**	P	**Pn**	**06 21 58.9**	**+2.5**
	345nm,0.4s,baz=11,slow=16,SNR=1.9						
DAV				S	**Sn**	**06 22 30.1**	**-1.0**
	343nm,0.4s,baz=132,slow=19,SNR=4.0						
WRA	**Warramunga Arr**	**30.61**	**166**	P	**P**	**06 27 20.5**	**-1.2**
	0.4nm,0.6s,baz=345,slow=9.2,SNR=1.9						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**34.11**	**168**	P	**P**	**06 27 51.2**	**-1.1**
	0.4nm,0.3s,baz=344,slow=7.2,SNR=6.5						
	0.4nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**39.70**	**73**	T	T	07 11 47.8	
	baz=262,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**39.71**	**73**	T	T	07 11 49.0	
	baz=262,slow=74,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**39.71**	**73**	T	T	07 11 40.8	
	baz=262,slow=74,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**40.05**	**71**	T	T	07 12 09.3	
	baz=265,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hy**	**40.05**	**71**	T	T	07 12 15.4	
	baz=265,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hy**	**40.06**	**71**	T	T	07 12 19.4	
	baz=265,slow=74,SNR=9.5						
SONM	**Songino Array**	**41.48**	**339**	P	**P**	**06 28 55.5**	**+1.1**
	0.8nm,0.5s,baz=160,slow=8.7,SNR=4.2						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**52.53**	**323**	P	**P**	**06 30 19.9**	**-0.6**
	1.2nm,0.7s,baz=117,slow=8.1,SNR=14						
	1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**56.57**	**325**	P	**P**	**06 30 49.2**	**-0.5**
	0.8nm,0.6s,baz=125,slow=7.2,SNR=8.8						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**62.16**	**325**	P	**P**	**06 31 28.3**	**-0.1**
	0.5nm,0.4s,baz=124,slow=7.9,SNR=3.8						
	0.5nm,0.4s						
NRIK	**Noril'sk**	**64.45**	**346**	P	**P**	**06 31 44.1**	**+0.9**
	2.5nm,0.6s,baz=114,slow=4.5,SNR=4.7						
	2.5nm,0.6s						
ILAR	**Eielson Array**	**79.62**	**26**	P	**P**	**06 33 14.7**	**+0.6**
	0.2nm,0.6s,baz=233,slow=5.5,SNR=4.7						
	0.2nm,0.6s						
SPITS	**Spitsbergen Ar**	**84.44**	**349**	P	**P**	**06 33 39.6**	**+0.4**
	2.2nm,0.7s,baz=56,slow=6.2,SNR=6.7						
	2.2nm,0.7s						
ARCES	**ARCESS Array B**	**84.66**	**340**	P	**P**	**06 33 40.5**	**+0.1**
	1.8nm,0.6s,baz=78,slow=5.6,SNR=16						
	1.8nm,0.6s						
BRTR	**Keskin Array B**	**86.03**	**309**	P	**P**	**06 33 46.5**	**-1.5**
	0.5nm,0.7s,baz=115,slow=5.4,SNR=1.6						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**86.38**	**332**	P	**P**	**06 33 48.6**	**-0.4**
	0.8nm,0.5s,baz=34,slow=7.1,SNR=5.8						
	0.8nm,0.5s						
HFS	**Hagfors**	**92.53**	**333**	P	**P**	**06 34 16.7**	**-1.4**
	1.0nm,0.6s,baz=94,slow=4.3,SNR=3.0						
	1.0nm,0.6s						
NOA	**NORSAR Array B**	**93.24**	**334**	P	**P**	**06 34 19.8**	**-1.6**
	0.3nm,0.6s,baz=73,slow=4.7,SNR=1.4						
	0.3nm,0.6s						
YKA	**Yellowknife Ar**	**93.95**	**24**	P	**P**	**06 34 25.4**	**+0.8**
	0.3nm,0.7s,baz=301,slow=4.5,SNR=5.6						
	0.3nm,0.7s						
PLCA	**Paso Flores**	**145.73**	**157**	PKPbc	**PKPbc**	**06 40 46.0**	**-0.2**
	1.3nm,0.9s,baz=273,slow=4.1,SNR=4.1						

*SJA **26** 06:22:31.8±1.3, 25.91S×71.07W, h40km±6km, ML5.4, MW5.2*

*NEIC **26** 06:22:32.2, 25.92S×71.00W, h15km*

*MOS **26** 06:22:33.3±1.1, 25.95S×70.80W, h27km, mb5.6/38, MS5.1/6, Error ellipse: s-maj=12.4km s-min=6.6km az=94.5*

*ISC-PP **26** 06:22:34, 25.90S×71.02W, h36km±1km, Moment Tensor Solution. s32 Moment tensor: M_{rr}0.60±.15; $M_{\theta\theta}$0.08±.20; $M_{\phi\phi}$-0.66±.21; $M_{r\theta}$-0.32±.20; $M_{\theta\phi}$-0.02±.31; $M_{\phi r}$-0.03±.18; Fault plane solution: NP1:ϕ_s205.60000°, δ52.00000°, λ122.70000°. NP2:ϕ_s339.40000°, δ48.50000°, λ55.40000°.*

*NEIC **26** 06:22:34.3±2.1, 25.90S±0.04×71.02W±0.06, h29km±1km, mb5.5/132, Ms_20 5.1/289, Mwr5.3/75, Mww5.5/36 Error ellipse: s-maj=9.1km s-min=5.1km az=241.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.28; $M_{\theta\theta}$-0.28; $M_{\phi\phi}$-1.00; $M_{r\theta}$-0.05; $M_{\theta\phi}$-0.37; $M_{\phi r}$0.29; Fault plane solution: $M_0$1.26000×10^{17} NP1:ϕ_s16.39000°, δ51.22000°, λ82.13000°. NP2:ϕ_s208.83000°, δ39.45000°, λ99.67000°. Principal axes: T 1.3198, Plg81.0000°, Azm246.0000°; N -0.1367, Plg6.0000°, Azm21.0000°; P -1.1831, Plg6.0000°, Azm112.0000°;*

*BJI **26** 06:22:34.5, 25.90S×70.90W, h24km, mB5.5/19, Ms5.5/29, Ms7 5.4/31*

*NEIC **26** 06:22:34.3, 25.90S×71.35W, h30km, Moment Tensor Solution. Duration: 3§0 Moment tensor: Scale 10^{17}Nm; M_{rr}2.38; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$-2.18; $M_{r\theta}$-0.36; $M_{\theta\phi}$-0.52; $M_{\phi r}$-0.07; Fault plane solution: $M_0$2.37000×10^{17} NP1: ϕ_s6.38000°, δ43.66000°, λ79.02000°. NP2:ϕ_s201.39000°, δ47.33000°, λ100.30000°. Principal axes: T 2.4326, Plg82.0000°, Azm180.0000°; N -0.1246, Plg8.0000°, Azm14.0000°; P -2.3080, Plg2.0000°, Azm284.0000°;*

*NEIC **26** 06:22:34.3, 25.90S×71.01W, h30km*

*VAO **26** 06:22:35.7±1.4, 25.69S×70.53W, h22km±9km, mb5.2*

*GUC **26** 06:22:35.2±0.6, 26.00S×70.75W, h50km±2km, ML5.6*

*IDC **26** 06:22:35.4±0.4, 25.94S×70.68W, h33km±2km, mb4.9/16, mbtmp5.0/20, ML4.4/4, MS5.0/43, Error ellipse: s-maj=16.1km s-min=10.5km az=76.0*

*GCMT **26** 06:22:38.3±0.1, 25.81S±0.01×71.10W±0.01, h34km, MW5.5/156, Moment Tensor Solution. s138, c222; s156, c289; Duration: 1§5 Moment tensor: Scale 10^{17} Nm; M_{rr}2.76±.03; $M_{\theta\theta}$-0.61±.02; $M_{\phi\phi}$-2.15±.03; $M_{r\theta}$-0.61±.03; $M_{\theta\phi}$-0.73±.02; $M_{\phi r}$0.23±.04; Best double couple: $M_0$2.66500×10^{17} NP1:ϕ_s10.00000°, δ46.00000°, λ74.00000°. NP2:ϕ_s213.00000°, δ46.00000°, λ106.00000°. Principal axes: T 2.8920, Plg79.0000°, Azm201.0000°; N -0.4550, Plg11.0000°, Azm22.0000°; P -2.4380, Plg0.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*RSNC **26** 06:22:50.9±3.2, 25.S±25.×.7.0W±1.0, h108km±14km, M5.2, mB5.7, mb5.2, Mw(mB)5.2, MwMwp5.4, Mwp5.6*

ISC 26 06:22:34.3±0.2, 25.94S±0.02×71.04W±0.03, h32km±1km, h33km:pP-P, n798, σ1§74/737, mb5.5/126, MS5.1/188, 30C-25D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.45**	**118**		**Pb**	**06 22 42.8**	**-1.3**
AC01	**Pan de Azucar**	**0.45**	**118**	⇓*iP*	**Pb**	**06 22 42.8**	**-1.3**
AC01				*i* S	**Sb**	**06 22 48.5**	**-2.4**
AC01				IAML		06 22 50.0	
	comp=E,1366μm,0.4s						
AC01	**Pan de Azucar**	**0.45**	**118**	⇑*e*P	**Pb**	**06 22 42.6**	**-1.5**
AC01				*e*S	**Sb**	**06 22 48.5**	**-2.4**
AC01				IAML		06 22 50.0	
	comp=E,1385μm,0.4s						
AC01	**Pan de Azucar**	**0.45**	**118**	*i* P	**Pb**	**06 22 42.8**	**-1.3**
AC01				IAML		06 22 52.4	
	comp=Z,123μm,0.9s						
PB14	**IPOC Station P**	**1.43**	**24**		**Pn**	**06 22 57.5**	**-0.7**
PB14	**IPOC Station P**	**1.43**	**24**	P	Pn	06 22 53.1	-5.2
PB14	**IPOC Station P**	**1.43**	**24**	*i* P	**Pn**	**06 22 57.3**	**-1.0**
PB14				*i* S	**Sn**	**06 23 13.8**	**-2.2**
PB14	**IPOC Station P**	**1.43**	**24**	⇑*e*P	**Pn**	**06 22 57.2**	**-1.0**
PB14				*e*S	**Sn**	**06 23 14.2**	**-1.9**
PB14	**IPOC Station P**	**1.43**	**24**	*i* P	**Pn**	**06 22 57.5**	**-0.7**
PB14				*i* S	**Sn**	**06 23 15.1**	**-1.0**
PB14				IAML		06 23 17.1	
	comp=Z,22μm,0.7s						
GO02	**Mina Guanaco**	**1.52**	**60**		**Pn**	**06 22 59.1**	**-0.4**
GO02	**Mina Guanaco**	**1.52**	**60**	⇑*i*P	**Pn**	**06 22 58.7**	**-0.8**
GO02				*i* S	**Sn**	**06 23 17.3**	**-1.0**
GO02				IAML		06 23 22.2	
	comp=E,78μm,0.7s						
GO02	**Mina Guanaco**	**1.52**	**60**	⇑*e*P	**Pn**	**06 22 58.7**	**-0.8**
GO02				*e*S	**Sn**	**06 23 17.1**	**-1.2**
GO02				IAML		06 23 22.2	
	comp=E,78μm,0.6s						
GO02	**Mina Guanaco**	**1.52**	**60**	*i* P	**Pn**	**06 22 59.3**	**-0.2**
GO02				*i* S	**Sn**	**06 23 18.1**	**-0.3**
AC06	**Mina Casimiro**	**1.54**	**157**		**Pn**	**06 22 59.7**	**+0.1**
AC06	**Mina Casimiro**	**1.54**	**157**	⇓*i*P	**Pn**	**06 22 59.5**	**-0.2**
AC06				*i* S	**Sn**	**06 23 17.0**	**-1.6**
AC06	**Mina Casimiro**	**1.54**	**157**	⇓*e*P	**Pn**	**06 22 59.4**	**-0.3**
AC06				*e*S	**Sn**	**06 23 18.3**	**-0.3**
AC06				IAML		06 23 22.1	
	comp=E,104μm,0.4s						
GO03	**Copiapo**	**1.80**	**157**		**Pn**	**06 23 03.8**	**+0.6**
GO03	**Copiapo**	**1.80**	**157**	⇓*i*P	**Pn**	**06 23 03.6**	**+0.4**
GO03				*i* S	**Sn**	**06 23 23.7**	**-1.3**
GO03	**Copiapo**	**1.80**	**157**	⇓*i*P	**Pn**	**06 23 03.5**	**+0.4**
GO03				*e*S	**Sn**	**06 23 25.4**	**+0.3**
GO03	**Copiapo**	**1.80**	**157**	*i* P	**Pn**	**06 23 03.9**	**+0.6**
GO03				*i* S	**Sn**	**06 23 25.5**	**+0.5**
AC02	**Maricunga**	**1.94**	**118**		**Pn**	**06 23 06.0**	**+0.5**
AC02	**Maricunga**	**1.94**	**118**	⇓*i*P	**Pn**	**06 23 05.6**	**+0.2**
AC02				*i* S	**Sn**	**06 23 28.6**	**-0.3**
AC02				IAML		06 23 31.2	
	comp=N,79μm,0.5s						
AC02	**Maricunga**	**1.94**	**118**	⇓*e*P	**Pn**	**06 23 05.6**	**+0.2**
AC02				*e*S	**Sn**	**06 23 28.5**	**-0.4**
AC02				IAML		06 23 31.2	
	comp=N,80μm,0.5s						
AC02	**Maricunga**	**1.94**	**118**	*i* P	**Pn**	**06 23 05.9**	**+0.5**
AC02				*i* S	**Sn**	**06 23 28.9**	**0.0**
AC04	**Llanos de Chal**	**2.26**	**181**		**Pn**	**06 23 08.3**	**-1.2**
AC04	**Llanos de Chal**	**2.26**	**181**	⇓*i*P	**Pn**	**06 23 08.2**	**-1.2**
AC04	**Llanos de Chal**	**2.26**	**181**	*e*P	**Pn**	**06 23 08.2**	**-1.2**
AC04	**Llanos de Chal**	**2.26**	**181**	*i* P	**Pn**	**06 23 08.4**	**-1.1**
PB10	**IPOC Station P**	**2.45**	**10**		**Pn**	**06 23 10.8**	**-1.2**
PB10	**IPOC Station P**	**2.45**	**10**	⇑*i*P	**Pn**	**06 23 10.7**	**-1.4**
PB10	**IPOC Station P**	**2.45**	**10**	⇑*e*P	**Pn**	**06 23 10.7**	**-1.4**
PB10	**IPOC Station P**	**2.45**	**10**	*i* P	**Pn**	**06 23 10.9**	**-1.2**
PB10				IAML		06 23 57.4	
	comp=Z,7μm,0.6s						
AC05	**El Transito**	**2.97**	**167**		**Pn**	**06 23 20.4**	**+1.1**
AC05	**El Transito**	**2.97**	**167**	⇓*i*P	**Pn**	**06 23 19.9**	**+0.6**
AC05				*i* S	**Sn**	**06 23 52.4**	**-1.6**
AC05				IAML		06 24 09.7	
	comp=N,12μm,0.7s						
AC05	**El Transito**	**2.97**	**167**	⇓*e*P	**Pn**	**06 23 19.9**	**+0.6**
AC05				IAML		06 24 09.8	
	comp=N,13μm,0.8s						
AC05	**El Transito**	**2.97**	**167**	*i* P	**Pn**	**06 23 20.1**	**+0.8**
AC05				IAML		06 24 08.1	
	comp=Z,9μm,1.6s						
LCO	**Las Campanas**	**3.08**	**174**		**Pn**	**06 23 20.6**	**-0.4**
LCO	**Las Campanas**	**3.08**	**174**	*i* P	**Pn**	**06 23 20.4**	**-0.6**
LCO				IAML		06 24 07.3	
	comp=Z,34μm,0.3s						
LCO	**Las Campanas**	**3.08**	**174**	*i* P	**Pn**	**06 23 20.7**	**-0.3**
LCO				IAML		06 24 16.8	
	comp=Z,12μm,0.6s						
LCO	**Las Campanas**	**3.08**	**174**	P	**Pn**	**06 23 20.6**	**-0.3**
PB05	**IPOC Station P**	**3.16**	**14**		**Pn**	**06 23 20.7**	**-1.3**
PB05	**IPOC Station P**	**3.16**	**14**	*i* P	**Pn**	**06 23 20.9**	**-1.1**
PB05				IAML		06 24 20.6	
	comp=Z,6μm,0.8s						
PB06	**IPOC Station P**	**3.48**	**23**	⇑*i*P	**Pn**	**06 23 25.6**	**-0.8**
PB06				IAML		06 24 31.3	
	comp=N,10μm,0.7s						
PB06	**IPOC Station P**	**3.48**	**23**	⇑*e*P	**Pn**	**06 23 25.3**	**-1.1**
PB06				IAML		06 24 31.3	
	comp=N,11μm,0.8s						
PB06	**IPOC Station P**	**3.48**	**23**	*i* P	**Pn**	**06 23 25.9**	**-0.5**
PB06				IAML		06 24 28.4	
	comp=Z,8μm,0.9s						
VCA	**Vinchina**	**3.76**	**139**	*i* P	**Pn**	**06 23 33.8**	**+3.6**
VCA				IAML		06 24 40.6	
	comp=Z,9μm,1.9s						
AF01	**San Pedro de A**	**3.95**	**42**		**Pn**	**06 23 33.2**	**+0.2**
AF01	**San Pedro de A**	**3.95**	**42**	*i* P	**Pn**	**06 23 33.9**	**+0.9**
CO05	**La Serena**	**3.97**	**182**		**Pn**	**06 23 32.2**	**-0.8**
PB03	**IPOC Station P**	**4.04**	**17**	*i* P	**Pn**	**06 23 32.8**	**-1.3**
PB03				IAML		06 24 47.2	
	comp=Z,6μm,1.2s						
CO01	**Juntas del Tor**	**4.11**	**168**		**Pn**	**06 23 36.1**	**+0.9**
CO01	**Juntas del Tor**	**4.11**	**168**	*i* P	**Pn**	**06 23 35.9**	**+0.8**
CO01				IAML		06 24 53.4	
	comp=Z,3μm,1.1s						
AGUA	**GUANDACOL**	**4.20**	**148**	*i* P	**Pn**	**06 23 39.4**	**+3.2**
AGUA				IAML		06 24 55.5	
	comp=Z,10μm,1.5s						
GO04	**Tololo Observa**	**4.23**	**177**		**Pn**	**06 23 36.7**	**0.0**
GO04	**Tololo Observa**	**4.23**	**177**	*i* P	**Pn**	**06 23 36.7**	**0.0**
AROD	**Rodeo**	**4.44**	**162**	*i* P	**Pn**	**06 23 42.3**	**+2.6**
PB09	**IPOC Station P**	**4.44**	**22**		**Pn**	**06 23 39.3**	**-0.2**
PB09	**IPOC Station P**	**4.44**	**22**	⇑*i*P	**Pn**	**06 23 39.1**	**-0.4**
PB09	**IPOC Station P**	**4.44**	**22**	*i* P	**Pn**	**06 23 39.5**	**-0.1**
PB09				IAML		06 25 03.5	
	comp=Z,10μm,1.0s						
ACDV	**Cuesta del Vie**	**4.55**	**159**	*i* P	**Pn**	**06 23 44.3**	**+3.2**
ACDV				IAML		06 24 57.0	
	comp=Z,5μm,1.8s						
FSA	**Cafayete**	**4.56**	**93**	*i* P	**Pn**	**06 23 43.9**	**+2.6**
CO06	**Fray Jorge**	**4.75**	**186**		**Pn**	**06 23 41.8**	**-1.8**
ACLC	**CERRO LA CRUZ**	**5.02**	**135**	*i* P	**Pn**	**06 23 49.1**	**+1.5**
ACLC				IAML		06 25 12.8	
	comp=Z,3μm,2.0s						
PB01	**IPOC Station P**	**5.07**	**17**		**Pn**	**06 23 46.5**	**-1.8**
PB01	**IPOC Station P**	**5.07**	**17**	*i* P	**Pn**	**06 23 47.0**	**-1.3**
PB01				IAML		06 25 16.4	
	comp=Z,2μm,0.9s						
PATCX	**Punta Patache**	**5.16**	**9**		**Pn**	**06 23 46.6**	**-2.7**
PATCX	**Punta Patache**	**5.16**	**9**	*i* P	**Pn**	**06 23 46.8**	**-2.5**
PATCX				IAML		06 25 30.5	
	comp=Z,2μm,1.0s						
CO02	**Combarbal**	**5.25**	**180**		**Pn**	**06 23 50.2**	**-0.5**
CO02	**Combarbal**	**5.25**	**180**	*i* P	**Pn**	**06 23 49.6**	**-1.0**
CO02				IAML		06 25 23.8	
	comp=Z,5μm,1.1s						
TA01	**Diego Aracena**	**5.40**	**9**		**Pn**	**06 23 50.6**	**-2.0**
TA01	**Diego Aracena**	**5.40**	**9**	*i* P	**Pn**	**06 23 49.8**	**-2.8**
TA01				IAML		06 25 29.6	
	comp=Z,3μm,0.8s						
TA02	**Huaiquique**	**5.70**	**9**		**Pn**	**06 23 54.2**	**-2.6**
HMBC	**Humberstone**	**5.73**	**11**		**Pn**	**06 23 54.9**	**-2.4**
ZON	**Zonda**	**5.96**	**160**		**Pn**	**06 24 01.2**	**+0.8**
ZON	**Zonda**	**5.96**	**160**	P	**Pn**	**06 24 01.2**	**+0.8**
PB08	**IPOC Station P**	**6.02**	**17**		**Pn**	**06 23 59.8**	**-1.7**
PB08	**IPOC Station P**	**6.02**	**17**	P	**Pn**	**06 23 58.3**	**-3.2**
CFA	**Coronel Fontan**	**6.16**	**157**	Pn	**Pn**	**06 24 04.1**	**+1.0**
	comp=Z,13nm,0.3s,baz=352,slow=14,SNR=182						
CFA				Sn	**Sn**	**06 25 09.9**	**-2.5**
	comp=Z,42nm,0.3s,baz=24,slow=15,SNR=4.1						
CFA				LR	LR	06 26 26.1	
	comp=Z,9μm,18.6s,baz=333,slow=38						
	comp=Z,38nm,0.3s						
PB11	**IPOC Station P**	**6.28**	**12**		**Pn**	**06 24 02.5**	**-2.3**
GO01	**Chusmiza**	**6.46**	**16**		**Pn**	**06 24 05.5**	**-2.2**
VA06	**Catapilco**	**6.61**	**182**		**Pn**	**06 24 07.7**	**-1.4**
VA03	**San Esteban**	**6.82**	**177**		**Pn**	**06 24 11.7**	**-0.5**
VA01	**Torpederas**	**7.08**	**184**		**Pn**	**06 24 13.2**	**-2.5**
PEL	**Peldehue**	**7.19**	**178**		**Pn**	**06 24 16.1**	**-1.1**
PEL	**Peldehue**	**7.19**	**178**	P	**Pn**	**06 24 16.1**	**-1.1**
MT02	**Curacav**	**7.30**	**181**		**Pn**	**06 24 16.7**	**-2.0**
MT05	**Renca**	**7.44**	**178**		**Pn**	**06 24 19.2**	**-1.4**
MT16	**CCHEN**	**7.48**	**177**		**Pn**	**06 24 20.9**	**-0.3**
MT08	**Bocatoma Ro**	**7.54**	**173**		**Pn**	**06 24 23.4**	**+1.3**
MT03	**Universidad Ad**	**7.55**	**177**		**Pn**	**06 24 21.7**	**-0.5**
AP01	**Chacalluta**	**7.56**	**5**		**Pn**	**06 24 20.2**	**-2.0**
PB16	**IPOC Station P**	**7.70**	**11**		**Pn**	**06 24 22.1**	**-2.6**
PB18	**Visviri**	**8.43**	**10**		**Pn**	**06 24 34.6**	**-0.1**
ML02	**Panimavida**	**9.80**	**182**		**Pn**	**06 24 49.8**	**-3.2**
LPAZ	**La Paz**	**9.97**	**16**	Pn	**Pn**	**06 24 55.8**	**-0.2**
	comp=Z,8.5nm,0.3s,baz=191,slow=4.6,SNR=181						
LPAZ				LR	LR	06 29 15.4	
	comp=Z,16μm,19.3s,baz=209,slow=40						
	comp=Z,31nm,0.4s						
LPAZ	**La Paz**	**9.97**	**16**	P	**Pn**	**06 24 55.1**	**-0.9**
	comp=Z,10μmcomp=Z,1μmcomp=Z,79nm,0.7s						
H03N1	**Juan Fernandez**	**10.13**	**221**	Pn	**Pn**	**06 24 54.0**	**-3.4**
	baz=111,slow=15						
H03N1				Sn	**Sn**	**06 26 43.6**	**-6.1**
H03N1				T	T	06 35 26.4	
	baz=46,slow=71						
H03N2	**Juan Fernandez**	**10.15**	**221**	Pn	**Pn**	**06 24 56.2**	**-1.3**
	baz=111,slow=15						
H03N2				Sn	**Sn**	**06 26 43.0**	**-7.0**
H03N2				T	T	06 35 38.5	
	baz=46,slow=71						
H03N3	**Juan Fernandez**	**10.15**	**221**	Pn	**Pn**	**06 24 55.7**	**-1.9**
	baz=111,slow=15						
H03N3				Sn	**Sn**	**06 26 43.2**	**-7.0**
H03N3				T	T	06 35 29.0	
	baz=46,slow=71						
VA04	**Juan Fernndez**	**10.23**	**220**		**Pn**	**06 24 56.5**	**-2.4**
H03S3	**Juan Fernandez**	**10.41**	**219**	Pn	**Pn**	**06 24 58.7**	**-2.4**
	baz=31,slow=20						
H03S3				Sn	**Sn**	**06 26 48.7**	**-7.8**
	baz=280,slow=26						
H03S3				T	T	06 35 54.6	
	baz=49,slow=77,SNR=52						
H03S1	**Juan Fernandez**	**10.42**	**219**	Pn	**Pn**	**06 24 58.6**	**-2.6**
	baz=31,slow=20						
H03S1				Sn	**Sn**	**06 26 50.2**	**-6.6**
	baz=280,slow=26						
H03S1				T	T	06 35 51.0	
	baz=49,slow=77,SNR=168						
H03S2	**Juan Fernandez**	**10.43**	**219**	Pn	**Pn**	**06 24 59.0**	**-2.4**
	baz=31,slow=20						
H03S2				Sn	**Sn**	**06 26 49.8**	**-7.2**
	baz=280,slow=26						
H03S2				T	T	06 35 53.3	
	baz=49,slow=77,SNR=125						
BI05	**Punta Hualpn**	**10.93**	**189**		**Pn**	**06 25 05.6**	**-2.9**
CPUP	**Villa Florida**	**12.33**	**95**	Pn	**Pn**	**06 25 25.5**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=266,slow=9.9,SNR=11						
CPUP				LR	LR	06 30 58.3	
	comp=Z,7μm,21.6s,baz=271,slow=42						
	comp=Z,14nm,1.0s						
MURT	**Porto Murtinho**	**13.01**	**74**	*e*P	Pn	06 25 29.1	-7.9
BBSD	**Serra de San D**	**13.03**	**50**	*e*P	**Pn**	**06 25 32.8**	**-4.4**
ITQB	**Itaqui**	**13.29**	**110**		**Pn**	**06 25 38.8**	**-2.0**
ITQB	**Itaqui**	**13.29**	**110**	*e*P	**Pn**	**06 25 38.6**	**-2.1**
SJPY	**San Joaquin**	**13.53**	**89**	*e*P	**Pn**	**06 25 41.0**	**-3.0**
SIV	**San Ignacio**	**13.58**	**45**	Pn	Pn	06 25 39.9	-4.8
	comp=Z,1.3nm,0.3s,baz=228,slow=8.9,SNR=278						
SIV				Sn	Sn	06 27 59.4	-15
	baz=266,slow=23						
LR03	**Panguipulli**	**13.70**	**184**		**Pn**	**06 25 43.3**	**-3.0**
LR04	**Corral**	**14.05**	**188**		**Pn**	**06 25 46.5**	**-4.5**
BDQN	**Bodoquena, MS**	**14.23**	**70**	*e*P	Pn	06 25 48.7	-4.9
LR05	**Currie**	**14.28**	**183**		**Pn**	**06 25 52.9**	**-1.3**
LPA	**La Plata**	**14.41**	**131**	*e*P	**Pn**	**06 25 51.4**	**-4.5**
LPA	**La Plata**	**14.41**	**131**	PN	**Pn**	**06 25 56.7**	**+0.8**
LPA				pP	**P**	**06 26 02.3**	**-0.1**
LPA				sP		06 26 08.2	
LPA				PP	PnPn	06 26 17.0	+13
LPA				pPP		06 26 42.1	
LPA				PPP	PPP	06 26 51.0	
LPA				S	**Sn**	**06 28 42.2**	**+7.7**
LPA	**La Plata**	**14.41**	**131**	SN	**S**	**06 28 50.0**	**-3.7**
LPA				SS	**SnSn**	**06 28 57.0**	**+10**
LPA				SSS	SSS	06 29 13.1	
LPA				PCP	**PcP**	**06 31 12.2**	**+1.5**
LPA				SCS	**ScS**	**06 38 14.3**	**-5.3**
LPA				PKIKP	**PKiKP**	**06 39 02.7**	**-3.7**
LPA				SKIKP		06 42 26.2	
LPA				PKIKS		06 42 37.8	
LPA				SKIKS		06 46 10.6	
TBOT	**Tacuaremb**	**14.42**	**117**	*e*P	**Pn**	**06 25 54.3**	**-1.9**
PLCA	**Paso Flores**	**14.76**	**179**		**Pn**	**06 26 00.4**	**-0.4**
PLCA	**Paso Flores**	**14.76**	**179**	Pn	**Pn**	**06 26 01.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=4.4,slow=12,SNR=8.3						
PLCA				LR	LR	06 32 03.2	
	comp=Z,12μm,19.1s,baz=1.5,slow=38						
	comp=Z,5.5nm,0.7s						
PLCA	**Paso Flores**	**14.76**	**179**	*e*P	**P**	**06 26 07.1**	**+0.6**
NNA	**Nana**	**14.91**	**337**	Pn	**Pn**	**06 26 02.7**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=124,slow=5.7,SNR=3.6						
NNA				Sn	**Sn**	**06 28 41.2**	**-6.0**
	comp=Z,1.5nm,0.3s,baz=240,slow=18,SNR=1.4						
NNA				LR	LR	06 30 43.7	
	comp=Z,7μm,21.8s,baz=161,slow=32						
NNA	**Nana**	**14.91**	**337**	*i* P	**Pn**	**06 26 03.3**	**+0.3**
NNA	**Nana**	**14.91**	**337**	P	**Pn**	**06 26 01.8**	**-1.2**
	comp=Z,9μmcomp=Z,2μmcomp=Z,46nm,1.5s						
AMBA	**Amambai (Brazi**	**14.92**	**82**	*e*P	**Pn**	**06 25 58.9**	**-4.1**
AQDB	**Aquidauana**	**15.11**	**72**		**Pn**	**06 26 02.2**	**-3.3**
AQDB	**Aquidauana**	**15.11**	**72**	*

comp=Z,3µmcomp=Z,175nm,0.9s
MG02 Cerro Sombrero 26.85 178 P **P 06 28 12.3 +0.7**
OTAV Otavalo 26.99 343 *e*P **P 06 28 15.2 +1.3**
OTAV Otavalo 26.99 343 P **P 06 28 13.7 -0.1**
comp=Z,5µmcomp=Z,1µmcomp=Z,40nm,1.7s
CAM01 Campos-RJ 27.15 88 *e*P **P 06 28 14.1 -0.7**
JANB Januaria 27.22 72 *e*P **P 06 28 13.4 -2.2**
TULM Tulcn-Chalpat 27.29 345 P **P 06 28 16.5 0.0**
comp=Z,1µmcomp=Z,41nm,1.4s
EFI East Falkland 27.54 162 *ce*P **P 06 28 17.1 -0.8**
EFI pmax pmax
comp=Z,27nm,1.0s
GCUF Volcan Galeras 27.68 346 P **P 06 28 21.5 +1.4**
comp=Z,1µmcomp=Z,47nm,1.0s
FLOC Florencia 27.72 350 P **P 06 28 17.7 -2.2**
FLOC IAmb IAmb 06 28 23.4
comp=Z,203nm,1.4s
FLOC Florencia 27.72 350 P **P 06 28 19.5 -0.4**
comp=Z,2µmcomp=Z,104nm,1.6s
MG03 Isla Dawson 27.88 179 P **P 06 28 20.4 -0.6**
SMTB Santa Maria do 28.01 57 *e*P **P 06 28 20.7 -1.8**
SDBA SAO DESIDERIO 28.04 66 *e*P **P 06 28 21.1 -1.8**
MACC Macarena, Meta 28.05 354 P **P 06 28 21.7 -1.1**
comp=Z,27nm,1.4s
PRPB Parauapebas 28.23 50 *e*P **P 06 28 23.1 -1.4**
GARC Garzon, Huila 28.29 351 P **P 06 28 26.2 +1.0**
comp=Z,825nmcomp=Z,35nm,0.8s
BBAC Balboa, Cauca 28.43 347 P **P 06 28 27.3 +0.8**
comp=Z,988nmcomp=Z,68nm,1.5s
SJMB Sao Joao De Ma 28.50 81 *e*P **P 06 28 26.0 -0.8**
MAL2 Monte Alegre, 28.79 37 P **P 06 28 27.5 -2.0**
MAL2 IAmb IAmb 06 28 44.4
comp=Z,110nm,1.2s
MAL2 IAms_20 IAms_20 06 41 25.8
comp=Z,6µm,18.0s
POPC Popayan, Colom 28.83 348 P **P 06 28 31.2 +1.2**
comp=Z,830nmcomp=Z,59nm,1.6s
RIB01 Linhares ES 29.00 83 *e*P **P 06 28 31.0 -0.3**
URMC La Uribe, Meta 29.19 353 P **P 06 28 32.6 -0.5**
comp=Z,1µmcomp=Z,56nm,1.1s
JAMC Jamundí, Valle 29.49 349 P **P 06 28 35.4 -0.5**
comp=Z,466nmcomp=Z,21nm,1.7s
PRAC Prado 29.71 352 P **P 06 28 37.9 +0.3**
comp=Z,5µmcomp=Z,2µmcomp=Z,111nm,1.6s
BOAV Boa Vista 29.95 21 P **P 06 28 38.0 -1.6**
BOAV IAmb IAmb 06 28 40.6
comp=Z,104nm,1.3s
BOAV Boa Vista 29.95 21 *e*P **P 06 28 39.0 -0.7**
BOAV Boa Vista 29.95 21 P **P 06 28 35.9 -3.8**
comp=Z,74nm,1.5s
PTGC Puerto Gaitan, 29.97 358 P **P 06 28 37.9 -2.0**
comp=Z,1µmcomp=Z,100nm,2.2s
YOTC Yotoco, Valle 30.18 349 P **P 06 28 41.2 -0.7**
CVER Cruz Verde, Cu 30.42 354 P **P 06 28 44.0 -0.4**
comp=Z,408nmcomp=Z,20nm,1.7s
GUA01 Guaratinga, BA 30.49 78 *e*P **P 06 28 43.7 -0.9**
CHIC Chingaza 30.50 355 P **P 06 28 44.2 -0.8**
comp=Z,41nm,1.4s
ANIL Santa Ana 30.54 351 P **P 06 28 44.5 -0.8**
comp=Z,1µmcomp=Z,51nm,0.4s
ROSC El Rosal 30.76 354 P **P 06 28 45.2 -2.1**
ROSC El Rosal 30.76 354 P **P 06 28 49.4 +2.1**
comp=Z,12nm,0.5s,baz=131,slow=12,SNR=8.6
ROSC LR LR 06 41 12.0
comp=Z,4µm,21.9s,baz=213,slow=36
comp=Z,12nm,0.5s
ROSC El Rosal 30.76 354 P **P 06 28 46.7 -0.6**
comp=Z,928nmcomp=Z,49nm,1.1s
PAYG Puerto Ayora 31.23 321 IAms_20 IAms_20 06 38 00.6
comp=Z,5µm,21.0s
CMC01 Camacan, BA 31.24 77 *e*P **P 06 28 47.4 -3.8**
GUY2C Guyana, Caldas 31.26 352 P **P 06 28 52.6 +0.8**
comp=Z,960nmcomp=Z,44nm,1.6s
NORC Norcasia 31.53 353 P **P 06 28 54.5 +0.8**
comp=Z,978nmcomp=Z,39nm,1.4s
RUSC La Rusia 31.70 356 P **P 06 28 54.0 -1.7**
comp=Z,2µmcomp=Z,125nm,1.5s
CBOC Ciudad Bolivar 31.98 351 P **P 06 28 58.1 +0.3**
comp=Z,857nmcomp=Z,52nm,1.0s
TMAB Tom-Au,PA,Br 32.18 47 *e*P **P 06 28 58.8 -0.6**
BARC Barichara 32.40 356 P **P 06 29 00.4 -1.2**
PTBC PUERTO BERRIO, 32.45 354 P **P 06 28 59.8 -2.0**
comp=Z,840nmcomp=Z,57nm,0.5s
BRJC Barrancabermej 32.82 355 P **P 06 29 03.1 -1.8**
comp=Z,982nmcomp=Z,75nm,1.4s
DBBC Dabeiba 33.14 351 P **P 06 29 10.6 +2.8**
ZARC Zaragoza, Cauc 33.43 353 P **P 06 29 08.4 -1.9**
comp=Z,1µmcomp=Z,73nm,1.5s
PTAC Punta Ardita, 33.53 348 P **P 06 29 13.4 +2.2**
comp=Z,929nmcomp=Z,42nm,1.8s
UREC San Jos de Ur 33.77 352 P **P 06 29 12.3 -1.0**
comp=Z,2µmcomp=Z,96nm,1.4s
OCAC Ocana 34.04 356 P **P 06 29 13.4 -2.4**
comp=Z,30nm,0.5s
APAC Apartado, Choc 34.06 350 P **P 06 29 17.6 +1.8**
comp=Z,1µmcomp=Z,77nm,0.9s
SDV Santo Domingo 34.61 1 P **P 06 29 19.2 -1.6**
SDV IAms_20 IAms_20 06 44 35.8
comp=Z,4µm,18.0s
SDV Santo Domingo 34.61 1 LR LR 06 44 46.9
comp=Z,4µm,18.1s,baz=200,slow=38
SDV Santo Domingo 34.61 1 *e*P **P 06 29 19.8 -1.0**
BAUV El Baul 34.79 5 P **P 06 29 20.6 -1.5**
GMAL Guarumal, Vera 34.93 342 P **P 06 29 26.2 +2.9**
comp=Z,3µmcomp=Z,37nm,1.1s
LCBC Los crdobas, 34.97 351 P **P 06 29 23.4 -0.2**
comp=Z,19µmcomp=Z,153nm,2.2s
MDP Montagnes des 35.64 33 LR LR 06 44 49.3
comp=Z,6µm,18.0s,baz=208,slow=38
MPGF Montagnes des 35.65 33 P **P 06 29 29.2 -0.3**
MPGF pP **pP 06 29 39.0 +0.6**
ARGC Ariguani, Magd 35.71 355 P **P 06 29 29.0 -1.0**
comp=Z,2µmcomp=Z,63nm,0.5s
SJCC San Jacinto, C 35.84 353 P **P 06 29 30.3 -0.9**
comp=Z,2µmcomp=Z,197nm,1.1s
NBPB Pedra_Branca-C 36.26 61 *e*P **P 06 29 32.3 -2.6**
NBAN Anadia - AL 36.69 70 *e*P **P 06 29 37.4 -1.1**
SMRC Santa Marta, M 37.01 355 P **P 06 29 40.1 -0.9**
HDC Heredia 37.92 339 P **P 06 29 52.1 +3.2**
HDC pP **sP 06 30 02.1 +0.6**
HDC sP **pwP 06 30 06.3 +4.2**
NBCL Cascavel-CE 38.08 61 *e*P **P 06 29 49.8 -0.5**
JTS Las Juntas de 38.47 338 P **P 06 29 56.3 +2.8**
JTS pP **sP 06 30 06.0 -0.1**
RCBR Riachuelo 39.06 65 P **P 06 29 58.3 -0.3**
RCBR Riachuelo 39.06 65 LR LR 06 48 10.1
comp=Z,606nm,18.6s,baz=234,slow=40
RCBR Riachuelo 39.06 65 P **P 06 29 58.3 -0.3**
RCBR pmax pmax
comp=Z,220nm,1.1s
RCBR Riachuelo 39.06 65 *e*P **P 06 29 56.7 -1.9**
RCBR Riachuelo 39.06 65 P **P 06 29 58.8 +0.2**
RCBR pP **pP 06 30 08.3 +0.4**
RCBR sP **sP 06 30 12.9 +1.6**
PMSA Palmer Station 39.10 175 LR LR 06 46 12.9
comp=Z,3µm,18.5s,baz=331,slow=36
ACON Acoyapa 40.11 338 P **P 06 30 09.5 +2.4**
comp=Z,37nm,1.1s
BOAB BOACO BROADBAN 40.72 338 P **P 06 30 12.4 +0.2**
BOAB IAmb IAmb 06 30 31.0
comp=Z,112nm,1.4s
BOAB BOACO BROADBAN 40.72 338 P **P 06 30 12.7 +0.5**
CNGN Cerro Negro 41.13 336 P **P 06 30 13.1 -2.5**
MPOM Morne Pois Mar 41.34 15 P **P 06 30 15.3 -1.9**
BIM Bigot 41.36 15 P **P 06 30 16.1 -1.4**
BIM IAmb IAmb 06 30 16.6
comp=Z,267nm,1.4s
FDF Fort de France 41.55 15 P **P 06 30 16.5 -2.6**
FDF IAmb IAmb 06 30 28.3
comp=Z,126nm,1.3s
FDF Fort de France 41.55 15 P **P 06 30 16.5 -2.6**
FDF pmax pmax
comp=Z,126nm,1.3s
FDF Fort de France 41.55 15 P **P 06 30 16.4 -2.7**
ILAM Ilet Lapin Mar 41.66 15 IAms_20 IAms_20 06 49 06.6
comp=Z,3µm,20.0s
MAGL Barre de l'ile 42.70 14 IAms_20 IAms_20 06 50 30.3
comp=Z,2µm,18.0s
CBE Ff, Capester 42.75 13 IAms_20 IAms_20 06 49 28.5
comp=Z,2µm,20.0s
TGUH Tegucigalpa,Un 42.78 336 P **P 06 30 30.2 +1.0**
TGUH IAmb IAmb 06 30 32.1
comp=Z,91nm,1.1s
GDHS Morne Mazeau, 42.91 13 IAms_20 IAms_20 06 49 43.4
comp=Z,3µm,20.0s
ABD La Joyeuse, An 43.17 13 IAms_20 IAms_20 06 49 40.6
comp=Z,3µm,21.0s
MTO3 Montecristo 43.88 334 P **P 06 30 39.1 +0.9**
OBIP Obispado Ponce 43.93 6 P **P 06 30 35.5 -2.8**
OBIP IAmb IAmb 06 30 38.3
comp=Z,98nm,1.1s
CELP Cerrillos 43.96 6 P **P 06 30 37.1 -1.4**
CELP IAmb IAmb 06 30 38.9
comp=Z,64nm,0.8s
PDPR Patillas Dam, 43.96 7 P **P 06 30 36.7 -1.8**
PDPR IAmb IAmb 06 30 37.7
comp=Z,65nm,0.7s
SJG San Juan 44.04 7 P **P 06 30 37.3 -1.8**
SJG IAmb IAmb 06 30 38.3
comp=Z,57nm,0.7s
SJG San Juan 44.04 7 IAMs_20 IAMs_20 06 50 19.8
comp=Z,2µm,20.0s
SJG San Juan 44.04 7 LR LR 06 50 41.2
comp=Z,2µm,19.7s,baz=192,slow=38
SJG San Juan 44.04 7 P **P 06 30 37.3 -1.8**
SJG pmax pmax
comp=Z,57nm,0.7s
SJG MLR MLR
comp=Z,2µm,20.0s
SJG San Juan 44.04 7 P **P 06 30 37.5 -1.6**
SJG San Juan 44.04 7 P **P 06 30 37.3 -1.8**
SJG pP **pP 06 30 46.9 -1.0**
PRSN Puerto Rico Se 44.05 5 P **P 06 30 37.6 -1.6**
PRSN IAmb IAmb 06 30 48.3
comp=Z,110nm,1.2s
HUMP Col San Antoni 44.10 7 P **P 06 30 37.9 -1.7**
HUMP IAMs_20 IAMs_20 06 50 18.5
comp=Z,2µm,20.0s
UUPR Utuado, UPR, P 44.12 6 P **P 06 30 38.1 -1.7**
AOPR Arecibo Observ 44.21 6 P **P 06 30 38.6 -1.9**
AOPR IAmb IAmb 06 30 39.9
comp=Z,135nm,1.4s
AOPR Arecibo Observ 44.21 6 *e*P **P 06 30 37.7 -2.9**
ANWB Willy Bob 44.27 13 IAMs_20 IAMs_20 06 50 20.8
comp=Z,3µm,20.0s
EMPR Esperanza - Ma 44.36 6 IAMs_20 IAMs_20 06 52 34.4
comp=Z,2µm,19.0s
SDDR Presa de Saban 44.65 360 IAMs_20 IAMs_20 06 50 52.1
comp=Z,2µm,20.0s
GTBY Guantanamo Bay 45.76 355 P **P 06 30 52.6 -0.2**
CHIV Chivirico 45.94 353 P **P 06 30 54.3 +0.1**
CHIV IAmb IAmb 06 31 21.2
comp=Z,40nm,1.0s
CHIV IAMs_20 IAMs_20 06 51 57.3
comp=Z,658nm,20.0s
PETF Flores 46.37 335 P **P 06 30 58.4 +0.8**
NMDO Nuevo Mundo 46.38 355 IAMs_20 IAMs_20 06 53 29.9
comp=Z,2µm,19.0s
CCIG Comitan 46.72 332 IAMs_20 IAMs_20 06 47 05.3
comp=Z,2µm,20.0s
GRTK Grand Turk 47.16 360 P **P 06 31 02.6 -1.2**
GRTK IAMs_20 IAMs_20 06 52 28.8
comp=Z,2µm,20.0s
TEIG Tepich 48.84 338 P **P 06 31 16.9 0.0**
TEIG IAmb IAmb 06 31 18.6
comp=Z,47nm,0.9s
TEIG Tepich 48.84 338 P **P 06 31 18.2 +1.3**
TEIG pP **pwP 06 31 27.9 -2.3**
SOR Soroa 49.81 345 P **P 06 31 24.3 +0.1**
SOR Soroa 49.81 345 P **P 06 31 24.3 +0.1**
SOR pmax pmax
comp=Z,49nm,1.3s
TLIG Tlapa 50.85 325 P **P 06 31 33.9 +1.6**
TLIG IAmb IAmb 06 31 36.5
comp=Z,70nm,1.5s
TLIG IAMs_20 IAMs_20 06 49 11.0
comp=Z,2µm,18.0s
BELA Belgrano 2 54.67 171 P **P 06 32 00.3 +0.6**
VNA3 Neumayer Olymp 56.55 160 ⇓P **P 06 32 13.3 0.0**
comp=Z,18nm,0.8s
VNA3 ⇑sP **pP 06 32 23.0 +0.2**
VNA1 Neumayer--Stat 56.81 159 ⇓P **P 06 32 15.8 +0.7**
comp=Z,19nm,1.2s
VNA1 ⇑sP **pP 06 32 25.5 +1.0**
VNA2 Neumayer--Watz 57.17 159 ⇓P **P 06 32 17.6 -0.1**
comp=Z,15nm,0.6s,baz=282,slow=8.7
VNA2 ⇑sP **pP 06 32 27.3 +0.3**
baz=282,slow=8.6
456A Hilliard 57.31 349 P **P 06 32 18.5 -0.6**
RKT Rikitea 57.72 258 *e*P **P 06 32 24.9 +2.7**
comp=Z,1µm,26.8s
RKT *e*S **S 06 40 23.7 +4.6**
comp=Z,6µm,29.8s
RKT *e*SS **SS 06 44 12.1 +2.3**
comp=Z,3µm,32.2s
RKT *e*LR LR 06 49 12.8
comp=Z,11µm,24.5s
BBSR BB Station 58.30 6 P **P 06 32 25.8 -0.1**
BBSR IAmb IAmb 06 32 26.9
comp=Z,33nm,0.8s
BBSR BB Station 58.30 6 P **P 06 32 26.4 +0.5**
BBSR pP **pP 06 32 36.3 +1.3**
TIGA Tifton 58.30 347 P **P 06 32 26.5 +0.5**
TIGA IAmb IAmb 06 32 26.7
comp=Z,34nm,0.8s
SNAA Sanae 58.77 160 P **P 06 32 28.9 -0.1**
SNAA IAmb IAmb 06 32 39.8
comp=Z,74nm,1.1s
SNAA Sanae 58.77 160 ⇓P **P 06 32 28.9 -0.1**
comp=Z,410nm,0.7s
SNAA ⇑sP **pP 06 32 38.6 +0.1**
SNAA Sanae 58.77 160 P **P 06 32 28.9 -0.1**
comp=Z,11nm,0.5s,baz=275,slow=6.7,SNR=60
SNAA pP **pP 06 32 38.8 +0.3**
comp=Z,32nm,0.7s,baz=268,slow=8.7,SNR=28
SNAA LR LR 06 56 27.3
comp=Z,972nm,20.6s,baz=284,slow=35
comp=Z,11nm,0.5s
CSU Charleston Sou 59.22 351 P **P 06 32 32.6 +0.3**
154A Montrose 59.35 348 P **P 06 32 33.1 -0.1**
NHSC New Hope 59.36 351 P **P 06 32 34.0 +0.7**
NHSC IAMs_20 IAMs_20 06 57 09.8
comp=Z,1µm,22.0s
250A Grady 59.40 345 P **P 06 32 33.9 +0.3**
250A IAmb IAmb 06 32 36.5
comp=Z,68nm,1.3s
Y58A Scranton 60.07 352 IAMs_20 IAMs_20 06 59 47.8
comp=Z,2µm,20.0s
GOGA Godfrey 60.19 348 P **P 06 32 38.6 -0.4**
GOGA Godfrey 60.19 348 P **P 06 32 38.6 -0.4**
GOGA pmax pmax
comp=Z,20nm,0.8s
HKT Hockley 60.44 335 P **P 06 32 42.3 +1.6**
HKT pP **pwP 06 32 52.5 -1.9**
TROLL Troll, Antarti 60.49 160 ⇓P **P 06 32 41.0 +0.1**
comp=Z,638nm,0.5s
TROLL ⇑sP **pP 06 32 50.7 +0.3**
LRAL Lakeview Retre 60.58 345 P **P 06 32 41.4 -0.3**
X58A Rowland 60.67 352 P **P 06 32 42.8 +0.6**
MLDN Muldoon 60.76 334 P **P 06 32 43.8 +0.8**
MLDN IAmb IAmb 06 32 45.6
comp=Z,38nm,0.9s
BIRD Birdtown, Kers 60.91 351 P **P 06 32 44.0 +0.1**
HNDO Hondo 61.44 332 P **P 06 32 49.1 +1.4**
HNDO IAmb IAmb 06 33 02.6
comp=Z,42nm,0.9s
SACV Santiago Islan 61.51 54 IAMs_20 IAMs_20 06 58 14.2
comp=Z,1µm,20.0s
KMSC Kings Mountain 61.52 350 P **P 06 32 47.7 -0.4**
KMSC IAmb IAmb 06 32 49.6
comp=Z,60nm,1.2s
435B Jarrell 61.85 334 P **P 06 32 50.9 +0.5**
DRIO Del Rio 61.93 331 P **P 06 32 51.8 +0.8**
DRIO IAmb IAmb 06 32 53.8
comp=Z,83nm,1.4s
X48A Hartselle 61.95 345 P **P 06 32 50.7 -0.2**
X48A IAmb IAmb 06 32 51.6
comp=Z,31nm,0.8s
SLBS Sierra La Lagu 62.05 319 P **P 06 32 55.1 +3.2**
SLBS pP **sP 06 33 04.9 +0.8**
SLBS sP **pwP 06 33 08.3 +3.2**
TKL Tuckaleechee C 62.43 348 LR LR 07 01 57.9
comp=Z,544nm,18.6s,baz=149,slow=38
LPIG La Paz 62.59 319 LR LR 06 53 41.5
comp=Z,526nm,21.1s,baz=156,slow=30
CCAR Cane Creek 62.70 341 P **P 06 32 56.4 +0.4**
CCAR IAmb IAmb 06 32 58.0
comp=Z,52nm,0.8s
BRDY Brady 62.86 333 P **P 06 32 57.7 +0.5**
BRDY IAmb IAmb 06 32 59.1
comp=Z,29nm,0.9s
TXAR Lajitas Array 63.25 328 P **P 06 33 01.7 +1.9**
TXAR Lajitas Array 63.25 328 P **P 06 33 01.3 +1.5**
comp=Z,3.0nm,0.6s,baz=148,slow=8.6,SNR=58
TXAR PcP **PcP 06 33 38.9 +1.9**
comp=Z,2.4nm,0.5s,baz=140,slow=4.0,SNR=9.0
TXAR PKP2bc 07 02 03.4
comp=Z,1.4nm,1.0s,baz=262,slow=2.3,SNR=8.0
comp=Z,3.0nm,0.6s
TZTN Tazewell 63.25 349 P **P 06 32 59.1 -0.5**
NVL N'lazarevskaya 63.42 158 *e*P **P 06 33 01.5 +1.1**
NVL pmax pmax
comp=Z,88nm,1.6s
BLA Blacksburg 63.43 352 P **P 06 32 59.6 -1.2**
BLA Blacksburg 63.43 352 P **P 06 32 59.6 -1.2**
BLA pmax pmax
comp=Z,20nm,0.8s
WVT Waverly 63.73 345 P **P 06 33 02.6 -0.2**
WVT IAmb IAmb 06 33 03.1
comp=Z,29nm,0.7s
WVT Waverly 63.73 345 P **P 06 33 02.6 -0.2**
WVT pmax pmax
comp=Z,29nm,0.7s
WVT Waverly 63.73 345 P **P 06 33 02.4 -0.4**
WVT pP **pP 06 33 12.7 +0.7**
WVT sP **sP 06 33 17.2 +1.6**
MIAR Mount Ida 63.83 339 P **P 06 33 03.0 -0.5**
MIAR IAmb IAmb 06 33 05.0
comp=Z,38nm,1.2s
MIAR Mount Ida 63.83 339 P **P 06 33 03.0 -0.5**
MIAR pmax pmax
comp=Z,38nm,1.2s
R58B Mineral 63.88 354 P **P 06 33 05.1 +1.3**
R58B IAmb IAmb 06 33 06.0
comp=Z,75nm,1.0s
HALT Halls 63.90 344 P **P 06 33 03.7 -0.2**
HALT IAmb IAmb 06 33 21.0
comp=Z,31nm,0.7s
S54A Dingess, Beckl 64.13 351 IAMs_20 IAMs_20 07 02 25.1
comp=Z,1µm,21.0s
WHAR Wooly Hollow 64.13 341 P **P 06 33 05.2 -0.2**
GLAT Glass 64.22 344 P **P 06 33 05.8 -0.2**
GLAT IAmb IAmb 06 33 26.6
comp=Z,36nm,0.7s
QSPA South Pole Qui 64.28 180 P **P 06 33 07.7 +1.4**
QSPA South Pole Qui 64.28 180 P **P 06 33 07.5 +1.2**
comp=Z,91nm,1.0s,baz=191,slow=0.3,SNR=336
comp=Z,91nm,1.0s
QSPA South Pole Qui 64.28 180 P **P 06 33 07.4 +1.2**
QSPA pP **pwP 06 33 17.8 -0.6**
R50A Paris 65.08 348 P **P 06 33 10.8 -0.8**
VHRN Van Horn 65.08 328 P **P 06 33 12.8 +0.9**
VHRN IAmb IAmb 06 33 15.3
comp=Z,120nm,1.5s
Q56A Snyder Ridge, 65.08 353 P **P 06 33 12.7 +1.1**
Q56A IAmb IAmb 06 33 14.1
comp=Z,108nm,1.4s
WCI Wyandotte Cave 65.41 347 P **P 06 33 12.9 -0.8**
WCI pP **pP 06 33 23.5 +0.5**
USIN University of 65.45 346 P **P 06 33 13.3 -0.7**
W35A Tecumseh 65.49 337 P **P 06 33 14.0 -0.3**
W35A IAmb IAmb 06 33 15.9
comp=Z,29nm,0.9s
MNTX Cornudas Mount 66.03 328 IAMs_20 IAMs_20 06 58 35.5
comp=Z,1µm,19.0s
OK052 Battle Ridge R 66.23 337 P **P 06 33 18.8 -0.2**
OK052 IAmb IAmb 06 33 20.3
comp=Z,42nm,0.6s
OLIL Olney 66.28 345 P **P 06 33 19.0 -0.3**
OLIL IAmb IAmb 06 33 21.0
comp=Z,58nm,1.3s
LUPA Lehigh Univers 66.31 356 IAMs_20 IAMs_20 07 05 09.9
comp=Z,945nm,19.0s
QUOK Quay 66.35 338 P **P 06 33 20.0 +0.2**
QUOK IAMs_20 IAMs_20 06 51 52.3
comp=Z,1µm,19.0s
BRNJ Basking Ridge 66.36 357 IAMs_20 IAMs_20 07 03 14.0
comp=Z,1µm,20.0s
BLO Bloomington 66.37 347 P **P 06 33 19.2 -0.6**
BLO IAmb IAmb 06 33 19.9
comp=Z,26nm,0.6s
BLO Bloomington 66.37 347 P **P 06 33 19.2 -0.6**
BLO pmax pmax
comp=Z,26nm,0.6s
CCM Cathedral Cave 66.42 343 P **P 06 33 20.7 +0.5**
CCM IAmb IAmb 06 33 21.3
comp=Z,36nm,0.7s
CCM Cathedral Cave 66.42 343 P **P 06 33 20.7 +0.5**
CCM pmax pmax
comp=Z,36nm,0.7s
CCM Cathedral Cave 66.42 343 P **P 06 33 20.3 +0.1**
CCM pP **pwP 06 33 31.1 -1.3**
P48A Milroy 66.43 348 P **P 06 33 19.1 -1.1**
P48A IAmb IAmb 06 33 20.0
comp=Z,22nm,0.6s
SSPA Standing Stone 66.53 354 P **P 06 33 21.9 +1.0**
SSPA IAmb IAmb 06 33 22.4
comp=Z,31nm,0.8s
SSPA Standing Stone 66.53 354 P **P 06 33 21.6 +0.7**
SSPA pP **pwP 06 33 31.9 -1.5**
N62A Caumsett State 66.56 358 IAMs_20 IAMs_20 07 03 45.5
comp=Z,1µm,19.0s
BBTS Babate 66.64 59 LR LR 07 01 51.1
comp=Z,2µm,20.2s,baz=98,slow=36
PAL Palisades 66.65 358 IAMs_20 IAMs_20 07 03 59.8
comp=Z,999nm,20.0s
ODNJ Ogdensburg 66.76 357 IAMs_20 IAMs_20 07 03 36.6
comp=Z,1µm,20.0s
ELIB Princess Elisa 66.93 160 *d*P **P 06 33 23.1 -0.3**
comp=Z,28nm,0.5s
AMTX Amarillo 67.09 333 P **P 06 33 25.5 +0.8**
AMTX IAmb IAmb 06 33 26.6
comp=Z,47nm,1.4s
TAOE Nuku Hiva Isla 67.43 271 *e*P **P 06 33 25.1 -2.2**
comp=Z,408nm,24.5s
TAOE *e*S **S 06 42 20.6 -1.0**
comp=Z,533nm,28.5s
TAOE *e*SS **SS 06 46 40.9 -1.2**
comp=Z,529nm,32.0s
TAOE *e*LR LR 06 53 43.5
comp=Z,2µm,24.0s
KAN09 Caldwell North 67.54 337 P **P 06 33 27.4 0.0**
KAN09 IAmb IAmb 06 33 29.1
comp=Z,44nm,0.9s
L59A Walton 67.88 357 IAMs_20 IAMs_20 07 04 32.4
comp=Z,1µm,20.0s
BINY Binghamton 67.95 356 IAMs_20 IAMs_20 07 06 21.1
comp=Z,1µm,19.0s
HRV Adam Dziewonsk 68.10 360 P **P 06 33 31.2 +0.5**
HRV Adam Dziewonsk 68.10 360 P **P 06 33 31.2 +0.5**
HRV pmax pmax
comp=Z,166nm,1.5s
HRV Adam Dziewonsk 68.10 360 P **P 06 33 31.9 +1.1**
HRV pP **pwP 06 33 42.5 -0.9**
HDIL Hopedale 68.30 345 P **P 06 33 32.2 +0.2**
J59A Piesco 69.13 357 IAMs_20 IAMs_20 07 06 31.4
comp=Z,1µm,20.0s
TUC Tucson 69.21 325 P **P 06 33 40.3 +2.2**
TUC pP **sP 06 33 50.4 -0.6**
ANMO Albuquerque 69.22 329 *ce*P **P 06 33 40.3 +2.1**
ANMO pmax pmax
comp=Z,43nm,1.9s
ANMO Albuquerque 69.22 329 P **P 06 33 40.6 +2.4**
ANMO pP **pwP 06 33 50.8 -1.0**
ANMO sP **sP 06 33 54.8 +3.7**
ANMO PcP **PcP 06 34 02.6 +0.8**
NCB Newcomb 69.62 358 P **P 06 33 40.2 0.0**
NCB IAmb IAmb 06 33 42.4
comp=Z,70nm,1.4s
PECO Prince Edward 69.74 355 P **P 06 33 40.8 -0.1**
PECO IAMs_20 IAMs_20 07 07 36.6
comp=Z,1µm,18.0s
L42A Oliver, Polo 69.76 345 P **P 06 33 40.3 -0.8**
L42A IAmb IAmb 06 33 43.2
comp=Z,94nm,1.4s
TBI Tubuai 70.27 253 *e*P **P 06 33 43.6 -1.2**
comp=Z,1µm,25.0s
TBI *e*S **S 06 42 57.3 +2.4**
comp=Z,3µm,29.8s
TBI *e*SS **SS 06 47 28.9 +3.5**
comp=Z,1µm,25.0s
TBI *e*LQ LQ 06 52 03.0
comp=Z,4µm,35.0s
TBI *e*LR LR 06 55 00.8
comp=Z,1µm,26.2s
TBI *e*LR LR 06 55 03.7

comp=Z,4μm,27.0s
LONY Lake Ozonia 70.29 357 IAMs_20 IAMs_20 07 07 24.0
comp=Z,906nm,19.0s
DELO Deloro Mine 70.37 355 IAMs_20 IAMs_20 07 06 10.2
comp=Z,1μm,19.0s
SFX San Felipe 70.45 321 IAMs_20 IAMs_20 06 58 43.2
comp=Z,1μm,21.0s
SADO Sadowa 70.75 354 LR LR 07 07 32.5
comp=Z,45nm,19.3s,baz=160,slow=38
GGN Saint George 70.81 3 P **P** **06 33 48.5 +1.1**
GGN IAmb IAmb 06 33 50.8
comp=Z,50nm,1.4s
SBA Scott Base 71.13 191 P **P** **06 33 49.5 +0.4**
SBA IAmb IAmb 06 33 52.5
comp=Z,71nm,1.4s
SBA Scott Base 71.13 191 P **P** **06 33 49.5 +0.4**
SBA pmax pmax
comp=Z,71nm,1.4s
SBA Scott Base 71.13 191 P **P** **06 33 51.9 +2.8**
SBA pP **sP** **06 34 02.3 +0.3**
SBA PcP **PcP** **06 34 11.8 +2.8**
SDCO Great Sand Dun 71.13 332 P **P** **06 33 51.4 +1.5**
I42A Draeger Farm, 71.39 346 P **P** **06 33 51.0 0.0**
I42A IAmb IAmb 06 33 51.9
comp=Z,40nm,0.5s
F64A Sherman 71.50 2 P **P** **06 33 51.7 +0.1**
F64A IAmb IAmb 06 33 53.4
comp=Z,33nm,0.7s
BGNE Belgrade 71.56 339 P **P** **06 33 53.0 +0.8**
DBIC Dimbokro 71.88 73 P **P** **06 33 53.5 -1.1**
DBIC Dimbokro 71.88 73 P **P** **06 33 53.8 -0.8**
comp=Z,26nm,0.5s,baz=233,slow=6.2,SNR=49
DBIC pP **pP** **06 34 04.1 0.0**
comp=Z,101nm,0.7s,baz=231,slow=6.2,SNR=32
DBIC LR LR 07 03 22.7
comp=Z,2μm,20.4s,baz=206,slow=34
comp=Z,26nm,0.5s
DBIC Dimbokro 71.88 73 P **P** **06 33 53.8 -0.8**
DBIC P **P** **06 33 53.9 -0.8**
DBIC pP **pP** **06 34 04.2 0.0**
MVCO Mesa Verde 72.02 329 IAMs_20 IAMs_20 07 02 05.2
comp=Z,1μm,19.0s
VNDA Vanda 72.16 191 P **P** **06 33 56.6 +1.3**
VNDA Vanda 72.16 191 P **P** **06 33 57.5 +2.2**
comp=Z,14nm,1.0s,baz=126,slow=6.6,SNR=46
comp=Z,14nm,1.0s
E62A Clayton Lake 72.22 1 IAMs_20 IAMs_20 07 06 15.9
comp=Z,974nm,21.0s
BLYC Blythe 72.31 323 IAMs_20 IAMs_20 07 02 25.5
comp=Z,1μm,21.0s
PPT2 Papeete2 72.46 259 *e*P **P** **06 33 54.7 -3.5**
PPT2 comp=Z,368nm,25.2s *e*S **S** **06 43 17.6 -2.9**
PPT2 comp=Z,932nm,26.8s *e*SS **SS** **06 48 01.5 +2.1**
PPT2 comp=Z,272nm,23.2s *e*LQ LQ 06 53 02.4
PPT2 comp=Z,344nm,22.5s *e*LR LR 06 56 02.4
PPT2 comp=Z,2μm,26.5s *e*LR LR 06 56 03.5
comp=Z,1μm,28.2s
TKX Tecate 72.59 321 IAMs_20 IAMs_20 07 00 09.8
comp=Z,1μm,20.0s
D62A Allapoint, All 72.70 1 P **P** **06 33 58.8 +0.1**
D62A IAmb IAmb 06 34 00.4
comp=Z,40nm,0.8s
TJX Tijuana 72.80 320 IAMs_20 IAMs_20 06 59 29.4
comp=Z,992nm,19.0s
SYO Syowa Base 73.06 159 ‖ *i*P **P** **06 33 59.9 -0.8**
SYO Syowa Base 73.06 159 ‖ *i*pP pP 06 34 07.2 -2.8
SYO Syowa Base 73.06 159 ‖ *i*sP sP 06 34 12.4 -1.1
PV19 Morning Glory 73.14 330 P **P** **06 34 02.9 +1.0**
ECSD EROS Data Cent 73.19 341 P **P** **06 34 01.9 +0.1**
PFO Pinyon Flats O 73.28 322 LR LR 07 00 09.6
comp=Z,796nm,21.0s,baz=138,slow=31
PFO Pinyon Flats O 73.28 322 *i*P **P** **06 34 03.4 +0.7**
PFO pmax pmax
comp=Z,68nm,1.6s
LDAQ Lac Daran 73.56 360 IAMs_20 IAMs_20 07 04 30.1
comp=Z,899nm,21.0s
ELS Elsinore Mount 73.85 321 P **P** **06 34 06.5 +0.6**
VLDQ Val d'Or 73.93 356 IAMs_20 IAMs_20 07 09 47.8
comp=Z,820nm,19.0s
KNB Kanab 73.94 326 IAMs_20 IAMs_20 07 02 25.0
comp=Z,2μm,21.0s
LCMT Little Creek M 74.15 326 IAMs_20 IAMs_20 07 02 41.5
comp=Z,1μm,21.0s
O20A White River Ci 74.30 331 IAMs_20 IAMs_20 07 03 42.8
comp=Z,1μm,19.0s
E38A The Farm, Brul 74.55 345 P **P** **06 34 09.9 +0.3**
E38A IAmb IAmb 06 34 11.2
comp=Z,104nm,1.5s
P18A Preston Nutter 74.78 330 IAMs_20 IAMs_20 07 03 08.5
comp=Z,1μm,20.0s
MVU Marysvale 74.81 328 IAMs_20 IAMs_20 07 03 21.2
comp=Z,1μm,20.0s
TCRU Three Creeks R 75.00 328 IAMs_20 IAMs_20 07 03 28.1
comp=Z,1μm,20.0s
ACRG Accra 75.42 76 P **P** **06 34 14.4 -1.1**
EOSO Osorio 75.69 49 P **P** **06 34 16.4 -0.3**
BSUT Blindstream Ca 75.75 330 IAMs_20 IAMs_20 07 03 30.7
comp=Z,1μm,21.0s
HWUT Hardware Ranch 76.97 330 IAMs_20 IAMs_20 07 04 41.0
comp=Z,1μm,21.0s
PDAR Pinedale Array 77.03 332 P **P** **06 34 24.7 +0.5**
PDAR Pinedale Array 77.03 332 P **P** **06 34 25.8 +1.5**
comp=Z,2.5nm,0.6s,baz=101,slow=7.7,SNR=4.0
PDAR PKKPbc **PKKPbc** **06 53 38.4 +4.2**
comp=Z,0.5nm,0.6s,baz=256,slow=1.8,SNR=6.3
PDAR LR LR 07 06 09.9
comp=Z,262nm,20.4s,baz=148,slow=34
comp=Z,2.5nm,0.6s
AGMN Agassiz Nation 77.18 343 P **P** **06 34 24.8 +0.2**
AHID Auburn Hatcher 77.69 331 P **P** **06 34 29.1 +1.2**
AHID IAmb IAmb 06 34 30.4
comp=Z,36nm,0.9s
AHID IAMs_20 IAMs_20 07 04 53.1
comp=Z,1μm,21.0s
MDND Maddock 77.81 341 P **P** **06 34 28.9 +0.7**
LHV Little Huntoon 77.81 324 IAMs_20 IAMs_20 07 02 47.7
comp=Z,851nm,21.0s
NVAR Mina Array Bea 77.84 324 P **P** **06 34 30.9 +2.1**
comp=Z,7.5nm,0.7s,baz=150,slow=5.6,SNR=48
NVAR PKKPbc **PKKPbc** **06 53 35.9 +3.8**
comp=Z,0.7nm,0.6s,baz=326,slow=1.2,SNR=7.2
NVAR LR LR 07 05 59.0
comp=Z,456nm,19.5s,baz=174,slow=33
comp=Z,7.5nm,0.7s
ELK Elko 78.01 327 IAMs_20 IAMs_20 07 05 09.9
comp=Z,1μm,21.0s
ELK Elko 78.01 327 LR LR 07 05 10.7
comp=Z,1μm,21.6s,baz=138,slow=33
SUR Sutherland 78.04 120 P **P** **06 34 30.7 +0.4**
SUR Sutherland 78.04 120 LR LR 07 05 24.9
comp=Z,2μm,19.5s,baz=234,slow=33
LOHW Long Hollow 78.16 332 IAMs_20 IAMs_20 07 06 25.8
comp=Z,807nm,19.0s
TPAW Teton Pass 78.21 332 IAMs_20 IAMs_20 07 05 36.9
comp=Z,1μm,21.0s
MOOW Moose Ponds 78.33 332 IAMs_20 IAMs_20 07 05 53.0
comp=Z,818nm,21.0s
FXWY Fox Creek 78.36 332 IAMs_20 IAMs_20 07 05 29.8
comp=Z,866nm,22.0s
WAKR Walker 78.50 323 IAMs_20 IAMs_20 07 03 31.8
comp=Z,1μm,21.0s
H17A Grant Village 78.78 332 IAMs_20 IAMs_20 07 09 05.0
comp=Z,729nm,18.0s
YFT Old Faithful 78.94 332 IAMs_20 IAMs_20 07 05 14.1
comp=Z,969nm,22.0s
ULM Lac du Bonnet 78.98 344 P **P** **06 34 35.2 +0.6**
comp=Z,25nm,0.6s,baz=163,slow=4.7,SNR=30
ULM LR LR 07 12 51.4
comp=Z,414nm,19.8s,baz=148,slow=38
comp=Z,25nm,0.6s
PNTR Pine Nut 79.01 324 IAMs_20 IAMs_20 07 04 11.3
comp=Z,970nm,20.0s
YHB Horse Butte 79.33 332 IAMs_20 IAMs_20 07 06 18.8
comp=Z,782nm,20.0s
RAR Rarotonga 79.92 251 LR LR 07 01 10.1
comp=Z,911nm,20.5s,baz=106,slow=29
DLMT Dillon 80.41 332 IAMs_20 IAMs_20 07 06 45.5
comp=Z,1μm,22.0s
TSUM Tsumeb 80.64 107 P **P** **06 34 43.3 -1.3**
TSUM IAmb IAmb 06 34 56.0
comp=Z,53nm,0.8s
TSUM Tsumeb 80.64 107 LR LR 07 08 20.9
comp=Z,941nm,18.4s,baz=226,slow=34
MAW Mawson 80.65 164 P **P** **06 34 43.9 +0.4**
MAW Mawson 80.65 164 P **P** **06 34 44.2 +0.7**
comp=Z,56nm,0.8s,baz=214,slow=7.1,SNR=50
MAW pP **pP** **06 34 54.5 +1.6**
comp=Z,74nm,0.7s,baz=196,slow=6.5,SNR=21
MAW LR LR 07 11 22.0
comp=Z,951nm,19.0s,baz=230,slow=36
comp=Z,56nm,0.8s
TORD Torodi Ar. Bea 80.68 71 P **P** **06 34 43.9 -0.7**
TORD Torodi Ar. Bea 80.68 71 P **P** **06 34 43.7 -0.9**
comp=Z,35nm,0.5s,baz=267,slow=4.3,SNR=76
TORD pP **pP** **06 34 54.5 +0.3**
comp=Z,113nm,0.6s,baz=267,slow=4.5,SNR=40
TORD LR LR 07 10 30.8
comp=Z,2μm,18.7s,baz=236,slow=36
comp=Z,35nm,0.5s
WVOR Wild Horse Val 80.96 326 IAMs_20 IAMs_20 07 06 39.9
comp=Z,982nm,22.0s
MOD Modoc Plateau 81.42 325 IAMs_20 IAMs_20 07 08 22.0
comp=Z,972nm,18.0s
SOE Somerset East 81.57 122 P **P** **06 34 48.5 -0.7**
SOE IAmb IAmb 06 35 00.0
comp=Z,34nm,0.6s
GRHM Grahamstown, E 81.94 123 P **P** **06 34 49.8 -1.4**
GRHM IAmb IAmb 06 34 52.3
comp=Z,59nm,1.1s
BMO Blue Mountains 82.12 329 IAMs_20 IAMs_20 07 07 36.9
comp=Z,789nm,20.0s
MSO Missoula 82.15 332 IAMs_20 IAMs_20 07 07 37.0
comp=Z,1μm,22.0s
YBH Yreka Blue Hor 82.56 324 LR LR 07 08 33.7
comp=Z,370nm,19.7s,baz=156,slow=33
I07A Izee 82.60 327 IAMs_20 IAMs_20 07 07 45.3
comp=Z,1μm,21.0s
L04D Klamath Falls 82.69 324 P **P** **06 34 55.4 +0.7**
GRTLG Ghanzi 82.85 110 *i* P P 06 34 49.9 -6.3
KGCAE Kacgae 83.05 112 *i* P P 06 34 50.3 -6.9
BOSA Boshof 83.08 118 P **P** **06 34 57.0 -0.3**
BOSA IAmb IAmb 06 34 57.9
comp=Z,57nm,1.1s
BOSA Boshof 83.08 118 P **P** **06 34 56.9 -0.4**
comp=Z,27nm,1.0s,baz=250,slow=5.2,SNR=23
BOSA pP **pP** **06 35 06.8 -0.2**
comp=Z,20nm,0.7s,baz=257,slow=4.2,SNR=13
BOSA LR LR 07 07 15.1
comp=Z,1μm,21.9s,baz=241,slow=32
comp=Z,27nm,1.0s
TIO Tiouine 83.14 51 P **P** **06 34 58.0 +0.6**
G08A Pilot Rock 83.23 328 IAMs_20 IAMs_20 07 08 29.2
comp=Z,1μm,20.0s
QNGWA Qangwa 83.58 108 P **P** **06 34 58.8 -1.3**
QNGWA IAmb IAmb 06 35 11.3
comp=Z,53nm,1.2s
QNGWA Qangwa 83.58 108 *i* P P 06 34 54.5 -5.5
MAKGR Makgori 83.93 116 *i* P **P** **06 35 00.3 -1.3**
G06A Carlson Farm, 84.00 327 IAMs_20 IAMs_20 07 09 02.2
comp=Z,817nm,21.0s
H04A Detroit Lake 84.37 326 IAMs_20 IAMs_20 07 08 26.4
comp=Z,774nm,20.0s
AVE Averroes 84.42 49 P **P** **06 35 03.3 -0.4**
AVE Averroes 84.42 49 P **P** **06 35 03.6 -0.1**
HOOD Mount Hood Mea 84.56 327 IAMs_20 IAMs_20 07 08 57.3
comp=Z,908nm,22.0s
FFC Flin Flon 84.62 343 P **P** **06 35 04.2 0.0**
FFC IAmb IAmb 06 35 05.8
comp=Z,34nm,1.3s
FFC Flin Flon 84.62 343 P **P** **06 35 04.2 0.0**
FFC pmax pmax
comp=Z,34nm,1.3s
NEW Newport 84.62 331 P **P** **06 35 04.5 +0.1**
NEW IAmb IAmb 06 35 06.7
comp=Z,46nm,1.5s
NEW Newport 84.62 331 P **P** **06 35 04.5 +0.1**
NEW pmax pmax
comp=Z,46nm,1.5s
KDWAN Kaudwane 84.87 113 *i* P **P** **06 35 06.0 -0.4**
LBTB Lobatse 84.92 115 P **P** **06 35 05.8 -0.8**
LBTB IAmb IAmb 06 35 18.5
comp=Z,67nm,1.4s
LBTB Lobatse 84.92 115 LR LR 07 11 23.3
comp=Z,652nm,18.3s,baz=238,slow=35
LBTB Lobatse 84.92 115 P **P** **06 35 05.9 -0.8**
LBTB pmax pmax
comp=Z,67nm,1.4s
LTY Liberty 85.48 329 IAMs_20 IAMs_20 07 09 52.6
comp=Z,995nm,20.0s
PFVI Vila Bisbo 85.76 45 P **P** **06 35 10.7 +0.4**
LPHEP Lephephe 85.86 114 *i* P **P** **06 35 09.7 -1.7**
MORF Marmelete 85.97 45 *e*P **P** **06 35 12.4 +1.0**
MORF IAmb IAmb 06 35 13.6
comp=Z,213nm,1.8s
MORF Marmelete 85.97 45 *e*P **P** **06 35 12.4 +1.0**
MDT Midelt 86.07 51 LR LR 07 12 54.6
comp=Z,971nm,20.4s,baz=238,slow=35
IFR Ifrane 86.10 50 P **P** **06 35 12.8 +0.4**
LIS Lisbon 86.51 44 *e*P **P** **06 35 15.1 +1.2**
LIS IAmb IAmb 06 35 17.7
comp=Z,267nm,1.4s
LIS Lisbon 86.51 44 *e*P **P** **06 35 15.1 +1.2**
PCVE Castro Verde 86.56 45 P **P** **06 35 13.6 -0.6**
MESJ Messejana 86.56 45 *e*P **P** **06 35 15.2 +0.9**
MESJ IAmb IAmb 06 35 17.2
comp=Z,199nm,1.6s
MESJ Messejana 86.56 45 *e*P **P** **06 35 15.2 +0.9**
PVAQ Vaqueiros 86.63 45 P **P** **06 35 15.9 +1.3**
EGRO El Granado 86.86 45 P **P** **06 35 16.2 +0.5**
CNIL Conil 87.11 47 P **P** **06 35 18.5 +1.6**
EMIN Mina Concepcio 87.51 46 P **P** **06 35 19.5 +0.6**
PBAR Barrancos 87.52 45 P **P** **06 35 19.2 +0.3**
ESPR Espera 87.52 47 P **P** **06 35 20.0 +1.1**
PESTR Estremoz 87.57 44 P **P** **06 35 19.5 +0.3**
CASY Casey 88.07 181 P **P** **06 35 21.9 +0.7**
CLRS Cowichan Lake 88.22 328 IAMs_20 IAMs_20 07 09 42.3
comp=Z,869nm,22.0s
BFZ Birch Farm 88.97 225 P **P** **06 35 24.0 -1.9**
PUZ Puketiti 89.09 228 P **P** **06 35 28.8 +2.2**
MATP Matopo 89.37 112 LR LR 07 11 07.1
comp=Z,1μm,21.9s,baz=240,slow=33
FRB Frobisher Bay 89.40 1 LR LR 07 19 43.4
comp=Z,288nm,18.1s,baz=170,slow=38
MRZ Mangatainoka R 89.40 224 P **P** **06 35 28.0 0.0**
MQZ McQueen's Vall 89.42 221 P **P** **06 35 29.5 +1.6**
TSZ Takapari Road 89.50 225 P **P** **06 35 32.1 +3.6**
HAZ Te Kaha 89.58 228 P **P** **06 35 28.4 -0.4**
CBB Campbell River 89.64 328 IAMs_20 IAMs_20 07 10 40.5
comp=Z,638nm,21.0s
KHZ Kahutara 89.65 222 P **P** **06 35 31.3 +2.2**
URZ Urewera 89.75 227 LR LR 07 06 08.3
comp=Z,1μm,21.4s,baz=246,slow=29
TCW Tory Channel 89.90 223 P **P** **06 35 29.0 -1.3**
APZ The Paps 90.11 216 P **P** **06 35 33.8 +2.6**
LTZ Lake Taylor 90.19 221 P **P** **06 35 27.9 -3.8**
ESDC Sonseca Array 90.34 45 P **P** **06 35 32.1 -0.1**
comp=Z,5.6nm,1.2s,baz=235,slow=4.6,SNR=11
ESDC pP **pP** **06 35 42.5 +0.4**
comp=Z,3.5nm,0.8s,baz=241,slow=4.6,SNR=6.9
ESDC LR LR 07 14 23.9
comp=Z,1μm,19.9s,baz=230,slow=34
comp=Z,5.6nm,1.2s
RPZ Rata Peaks 90.35 220 LR LR 07 08 16.6
comp=Z,802nm,18.0s,baz=130,slow=30
RPZ Rata Peaks 90.35 220 P **P** **06 35 35.2 +2.9**
EAZ Earnscleugh 90.40 218 P **P** **06 35 35.0 +2.5**
THZ Tophouse 90.42 222 P **P** **06 35 36.4 +3.6**
NNZ Nelson 90.45 223 P **P** **06 35 35.9 +3.0**
WVZ Waitaha Valley 90.92 220 P **P** **06 35 36.3 +1.4**
HIZ Hauiti 91.07 226 P **P** **06 35 38.6 +2.8**
DSZ Denniston Nort 91.09 222 P **P** **06 35 36.1 +0.2**
QRZ Quartz Range 91.20 223 P **P** **06 35 38.3 +1.9**
LSZ Lusaka 91.46 108 P **P** **06 35 37.5 -0.6**
LSZ IAmb IAmb 06 35 42.3
comp=Z,26nm,1.4s
LSZ Lusaka 91.46 108 LR LR 07 12 56.9
comp=Z,825nm,21.4s,baz=239,slow=33
LSZ Lusaka 91.46 108 P **P** **06 35 37.5 -0.6**
LSZ pmax pmax
comp=Z,26nm,1.4s
BBB Bella Bella 92.37 329 LR LR 07 14 13.2
comp=Z,338nm,21.0s,baz=146,slow=34
HG4B Hotspring 93.90 328 IAMs_20 IAMs_20 07 14 40.2
comp=Z,833nm,21.0s
SFJD Kangerlussuaq 93.92 8 LR LR 07 19 41.0
comp=Z,401nm,19.6s,baz=194,slow=36
YKA Yellowknife Ar 94.72 341 P **P** **06 35 51.9 +0.1**
comp=Z,6.5nm,0.8s,baz=141,slow=4.4,SNR=68
YKA pP **pwP** **06 36 03.9 -0.3**
comp=Z,1.1nm,0.6s,baz=140,slow=4.7,SNR=4.5
YKA PKKP **PKKPbc** **06 52 48.7 -2.8**
comp=Z,0.2nm,0.6s,baz=316,slow=3.3,SNR=4.5
YKA LR LR 07 22 48.7
comp=Z,560nm,19.3s,baz=126,slow=38
comp=Z,6.5nm,0.8s
ILON Igloolik, Nuna 95.35 356 IAMs_20 IAMs_20 07 21 10.4
comp=Z,662nm,21.0s
U35K Hyder 95.64 331 IAMs_20 IAMs_20 07 15 47.3
comp=Z,632nm,20.0s
DLBC Dease Lake 97.23 333 LR LR 07 19 28.8
comp=Z,191nm,21.1s,baz=112,slow=35
BORG Borgarnes 98.23 19 LR LR 07 18 52.4
comp=Z,280nm,19.9s,baz=217,slow=34
N32M Quiet Lake 100.12 334 IAMs_20 IAMs_20 07 18 07.4
comp=Z,646nm,22.0s
BMRD Maredsous 101.08 39 *d*Pdif **Pdif** **06 36 20.9 +0.2**
N31M Braeburn, Yuko 101.38 334 IAMs_20 IAMs_20 07 18 59.8
comp=Z,619nm,20.0s
WLF Walferdange 101.59 40 *d*Pdif **Pdif** **06 36 23.1 +0.1**
N30M Aishikik Lake 101.89 333 IAMs_20 IAMs_20 07 21 15.3
comp=Z,597nm,20.0s
TULEG Thule 102.24 1 IAMs_20 IAMs_20 07 25 22.5
comp=Z,654nm,21.0s
GUMA Gualdo di Mace 103.37 49 IAMs_20 IAMs_20 07 27 06.3
comp=Z,728nm,20.0s
PAOL Paolisi 103.43 51 IAMs_20 IAMs_20 07 23 12.0
comp=Z,800nm,20.0s
G31M Satah River 103.88 339 IAMs_20 IAMs_20 07 29 04.7
comp=Z,616nm,18.0s
CUC Castrocucco 103.92 52 IAMs_20 IAMs_20 07 30 17.9
comp=Z,488nm,19.0s
F31M Tsiigehtchic 104.00 339 IAMs_20 IAMs_20 07 29 02.9
comp=Z,600nm,18.0s
I29M Ogilvie Camp, 104.42 336 IAMs_20 IAMs_20 07 22 20.1
comp=Z,479nm,20.0s
VRDI Verde Repeater 104.42 332 IAMs_20 IAMs_20 07 21 17.5
comp=Z,799nm,22.0s
GLB Gilahina Butte 104.67 332 IAMs_20 IAMs_20 07 21 34.1
comp=Z,687nm,21.0s
E29M Blow River 105.84 339 IAMs_20 IAMs_20 07 25 28.4
comp=Z,581nm,20.0s
J26L Joseph Creek 105.97 335 IAMs_20 IAMs_20 07 24 14.1
comp=Z,570nm,19.0s
G27K Doyon Strip 106.32 337 IAMs_20 IAMs_20 07 30 41.3
comp=Z,504nm,19.0s
E28M Babbage River 106.47 339 IAMs_20 IAMs_20 07 23 19.1
comp=Z,658nm,22.0s
DZM Mont Dzumac 106.65 235 *e*SS SS 06 56 10.0 -3.9
comp=Z,296nm,26.7s
DZM Mont Dzumac 106.65 235 *e*LQ LQ 07 07 17.0
comp=Z,554nm,28.9s
DZM *e*LR LR 07 11 58.7
comp=Z,690nm,21.4s
J25K Salcha River, 106.72 334 IAMs_20 IAMs_20 07 24 16.9
comp=Z,512nm,20.0s
E27K Coleen River 106.94 338 IAMs_20 IAMs_20 07 24 21.7
comp=Z,643nm,22.0s
PDG Podgorica 107.21 51 IAMs_20 IAMs_20 07 25 48.1
comp=Z,676nm,22.0s
ILAR Eielson Array 107.38 334 Pdiff **Pdif** **06 36 49.8 +1.4**
comp=Z,0.2nm,0.6s,baz=112,slow=5.7,SNR=4.1
ILAR PKiKP **PKiKP** **06 40 57.8 +1.0**
comp=Z,0.9nm,1.1s,baz=94,slow=1.5,SNR=5.6
ILAR PKKPbc **PKKPbc** **06 52 11.6 -3.0**
comp=Z,0.5nm,0.8s,baz=301,slow=3.9,SNR=5.9
F26K Sheenjek River 107.59 337 IAMs_20 IAMs_20 07 31 45.7
comp=Z,609nm,19.0s
CCB Clear Creek Bu 107.69 334 IAMs_20 IAMs_20 07 23 30.6
comp=Z,519nm,21.0s
WRH Wood River Hil 107.73 334 IAMs_20 IAMs_20 07 23 20.9
comp=Z,715nm,21.0s
MCK McKinley 107.79 333 IAMs_20 IAMs_20 07 32 03.4
comp=Z,464nm,20.0s
F25K Christian Rive 108.06 337 IAMs_20 IAMs_20 07 32 03.4
comp=Z,556nm,20.0s
NEA2 Nenana 108.17 334 IAMs_20 IAMs_20 07 23 09.4
comp=Z,790nm,22.0s
E25K Arctic Village 108.25 338 IAMs_20 IAMs_20 07 32 24.4
comp=Z,549nm,19.0s
C27K Jago River 108.27 339 IAMs_20 IAMs_20 07 27 04.7
comp=Z,535nm,20.0s
G24K Hadweenzic Riv 108.36 336 IAMs_20 IAMs_20 07 24 41.4
comp=Z,496nm,20.0s
D25K Kavik River 109.00 339 IAMs_20 IAMs_20 07 27 54.1
comp=Z,581nm,20.0s
E24K Your Creek 109.25 337 IAMs_20 IAMs_20 07 32 59.5
comp=Z,522nm,19.0s
G23K Bananza Creek 109.31 336 IAMs_20 IAMs_20 07 24 10.4
comp=Z,564nm,21.0s
I21K Tanana 109.54 334 IAMs_20 IAMs_20 07 23 50.2
comp=Z,719nm,21.0s
COLD Coldfoot 109.56 336 IAMs_20 IAMs_20 07 25 17.0
comp=Z,584nm,22.0s
HFS Hagfors 109.59 32 PKKPbc PKKPbc 06 52 07.8 +0.4
comp=Z,2.1nm,0.8s,baz=9.9,slow=9.5,SNR=3.7
D24K Happy Valley 109.75 338 IAMs_20 IAMs_20 07 28 29.8
comp=Z,581nm,20.0s
H21K Melozitna Rive 110.02 334 IAMs_20 IAMs_20 07 24 17.3
comp=Z,544nm,22.0s
E22K Anaktuvuk Pass 110.44 337 IAMs_20 IAMs_20 07 26 43.2
comp=Z,499nm,20.0s
G21K Allakaket 110.56 335 IAMs_20 IAMs_20 07 25 01.5
comp=Z,486nm,22.0s
KARP Karpathos 110.89 60 IAMs_20 IAMs_20 07 29 53.7
comp=Z,702nm,21.0s
E21K Killik River 111.30 337 IAMs_20 IAMs_20 07 27 19.4
comp=Z,527nm,21.0s
F20K Avaraart Lake 111.56 335 IAMs_20 IAMs_20 07 26 18.7
comp=Z,528nm,22.0s
G19K Purcell Mounta 111.85 334 IAMs_20 IAMs_20 07 25 00.6
comp=Z,488nm,22.0s
F19K Shaleruckik Mo 112.28 335 IAMs_20 IAMs_20 07 25 49.7
comp=Z,498nm,21.0s
G18K Tagagawik 112.41 334 IAMs_20 IAMs_20 07 28 43.4
comp=Z,416nm,20.0s
E18K Tukpahlearik C 113.49 335 IAMs_20 IAMs_20 07 26 53.9
comp=Z,569nm,22.0s
PABE Paberze 113.73 38 IAMs_20 IAMs_20 07 30 13.9
comp=Z,599nm,19.0s
KBS Kingsbay 113.92 12 IAMs_20 IAMs_20 07 29 44.9
comp=Z,574nm,21.0s
C18K Utukok River 113.93 336 IAMs_20 IAMs_20 07 33 46.5
comp=Z,530nm,21.0s
ISP Isparta 114.11 58 IAMs_20 IAMs_20 07 31 32.0
comp=Z,509nm,21.0s
RDOG Red Dog Mine 114.46 336 IAMs_20 IAMs_20 07 36 29.6
comp=Z,433nm,20.0s
BORA Eskisehir 114.57 56 IAMs_20 IAMs_20 07 29 45.2
comp=Z,739nm,22.0s
SPITS Spitsbergen Ar 114.66 13 PKKPbc PKKPbc 06 51 55.0 +4.2
comp=Z,1.6nm,0.5s,baz=100,slow=9.4,SNR=12
CSS Mathiatis 115.58 62 IAMs_20 IAMs_20 07 31 55.0
comp=Z,752nm,22.0s
VSU Vasula 115.73 35*c* *i*PKIKP **PKPdf** **06 41 12.5 -0.3**
VSU pmax pmax
comp=Z,13nm,1.7s
MNK Minsk 115.77 40 *i* P **Pdif** **06 37 26.5 +0.5**
MNK *i* 06 41 13.8
MNK *i* PPP PPP 06 44 43.5
MNK *i* PS **PS** **06 51 58.2 +0.3**
MNK *i* SS SS 06 58 32.1 +17
MNK *i* SSS SSS 07 02 35.5
MNK pmax pmax
comp=Z,7.0nm,0.7s
MNK pmax pmax
comp=N,5.0nm,0.6s
MNK pmax pmax
comp=E,4.0nm,0.5s
MNK MLR MLR
comp=Z,459nm,19.0s
MNK MLR MLR
comp=N,1μm,21.0s
MNK MLR MLR
comp=E,1μm,23.0s
P08K Saint George I 115.85 323 IAMs_20 IAMs_20 07 20 54.4
comp=Z,566nm,22.0s
KIEV Kiev 115.95 44 IAMs_20 IAMs_20 07 33 16.2
comp=Z,510nm,19.0s
AKASG Malin Array Be 115.96 44 PKP **PKPdf** **06 41 12.8 -0.7**
comp=Z,1.3nm,0.4s,baz=267,slow=2.6,SNR=8.2
AKASG pPKP PKiKP 06 41 23.4 +10
comp=Z,1.6nm,0.4s,baz=268,slow=2.8,SNR=5.0
AKASG PKKPbc **PKKPbc** **06 51 46.2 +0.7**
comp=Z,0.6nm,0.5s,baz=70,slow=3.6,SNR=5.4
AKBB Malin Array Si 115.96 44*c* *i*PKIKP **PKPdf** **06 41 13.5 0.0**

ARCES ARCESS Array B 116.31 23 PKP **PKiKP 06 41 13.9 +0.2**
comp=Z,0.9nm,0.9s,baz=49,slow=2.2,SNR=4.4
ARCES PKKPbc **PKKPbc 06 51 44.1 -0.7**
comp=Z,1.3nm,0.5s,baz=89,slow=3.7,SNR=26
MMAI Mount Meron Ar 116.75 64 PKP **PKiKP 06 41 15.8 +0.1**
comp=Z,1.5nm,0.5s,baz=42,slow=1.4,SNR=5.6
MMAI pPKP pPKPdf 06 41 26.8 +1.3
comp=Z,1.4nm,0.4s,baz=29,slow=1.9,SNR=3.1
BRTR Keskin Array B 116.93 57 PKP **PKiKP 06 41 16.2 +0.2**
comp=Z,1.2nm,0.6s,baz=202,slow=2.0,SNR=10
BRTR pPKP pPKPdf 06 41 27.1 +1.4
comp=Z,2.0nm,0.7s,baz=195,slow=2.7,SNR=7.6
GAZ Gaziantep 119.14 60 IAMs_20 IAMs_20 07 34 29.3
comp=Z,418nm,20.0s
APA Apatity 119.20 25⇓*i*PKIKP **PKPdf 06 41 18.9 -0.3**
APA pmax pmax
comp=Z,3.0nm,0.9s
ANN Anapa 120.57 52 *i* PKIKP **PKiKP 06 41 22.9 +0.2**
ANN pmax pmax
comp=Z,31nm,1.5s
ANN MLR MLR
comp=E,387nm,17.0s
ANN MLR MLR
comp=N,560nm,21.0s
ANN MLR MLR
comp=Z,618nm,21.0s
OBN Obninsk 120.83 40*d* *i*PKIKP **PKiKP 06 41 23.3 +0.5**
OBN *e* 06 41 30.0
OBN *e* 06 41 33.0
OBN SS SS 06 59 22.0 +1.2
OBN pmax pmax
comp=Z,54nm,1.7s
OBN MLR MLR
comp=Z,776nm,19.0s
MOS Moscow 121.45 39 *i* PKIKP **PKPdf 06 41 22.3 -1.6**
MOS *e* 06 41 34.0
SOC Sochi 122.05 53 *i* PKIKP **PKPdf 06 41 24.5 -1.0**
SOC *e* 06 42 57.3
SOC *e*PPP PPP 06 45 37.4
SOC *e*SS SS 06 59 32.7 -4.5
SOC *e*SSS SSS 07 04 07.3
SOC pmax pmax
comp=Z,7.0nm,0.5s
LPSR Galich'ya Gora 122.16 43 *e*PKIKP **PKiKP 06 41 25.7 +0.2**
LPSR pmax pmax
comp=Z,33nm,1.2s
VSR Storozhevoye 122.26 44 *e*PKIKP **PKPdf 06 41 23.3 -2.3**
VSR pmax pmax
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 122.28 33 *e*PKIKP **PKPdf 06 41 18.2 -7.1**
KLMR 06 48 30.2
KLMR pmax pmax
comp=Z,37nm,1.4s
KLMR MLR MLR
comp=Z,662nm,19.0s
VORR Voronezh 122.30 44 PKIKP **PKiKP 06 41 26.3 +0.4**
VORR pmax pmax
comp=Z,16nm,0.7s
VORD Divnogorie 122.33 45 *e*PKIKP **PKPdf 06 41 22.4 -3.3**
VORD pmax pmax
comp=Z,9.0nm,1.1s
ERBR Yeremizino-Bor 122.81 51 *i* PKIKP **PKPdf 06 41 26.8 -0.1**
ERBR pmax pmax
comp=Z,18nm,0.6s
LABN Labinsk 122.88 52 *i* PKIKP **PKiKP 06 41 27.3 0.0**
LABN pmax pmax
comp=Z,33nm,0.6s
VRH Novokhopyorsk 123.87 44 *e*PKIKP **PKiKP 06 41 28.9 -0.1**
VRH pmax pmax
comp=Z,30nm,1.3s
SHA1 Shidzhatmaz 124.19 53 *i* PKIKP **PKiKP 06 41 30.5 +0.3**
KIV Kislovodsk 124.23 53 *i* PKIKP **PKiKP 06 41 30.4 +0.3**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,144nm,22.0s
KBZ Khabaz 124.37 53 PKP **PKiKP 06 41 30.1 0.0**
comp=Z,8.3nm,1.0s,baz=239,slow=4.0,SNR=18
ASAR Alice Springs 125.10 208 PKP **PKPdf 06 41 32.2 +0.1**
comp=Z,9.0nm,0.6s,baz=135,slow=1.7,SNR=82
ASAR pPKP **pPKPdf 06 41 42.6 +0.6**
comp=Z,12nm,0.7s,baz=148,slow=2.0,SNR=19
ASAR PP **PP 06 43 19.7 -0.4**
comp=Z,1.6nm,1.1s,baz=152,slow=4.9,SNR=4.1
GNI Garni 125.42 58 IAMs_20 IAMs_20 07 37 47.0
comp=Z,454nm,22.0s
GNI Garni 125.42 58*c* *i*PKIKP **PKiKP 06 41 33.9 +1.2**
GNI pmax pmax
comp=Z,15nm,1.3s
BILL Biiibino 125.87 337*c* *i*PKIKP **PKiKP 06 41 33.0 +0.5**
BILL pmax pmax
comp=Z,12nm,1.2s
H11S2 WAKE ISLAND Hyl 26.38 275 T T 09 00 58.0
baz=106,slow=75
H11S1 WAKE ISLAND Hyl 26.39 275 T T 09 00 57.4
baz=106,slow=75
H11S3 WAKE ISLAND Hyl 26.40 275 T T 09 00 59.3
baz=106,slow=75
H11N3 WAKE ISLAND Hyl 26.59 276 T T 09 01 12.2
baz=108,slow=75
H11N1 WAKE ISLAND Hyl 26.60 276 T T 09 01 15.1
baz=108,slow=75
H11N2 WAKE ISLAND Hyl 26.60 276 T T 09 01 14.2
baz=108,slow=75
BELG Belogornoye 127.47 43 *i* PKIKP **PKPdf 06 41 35.4 -0.1**
KIRV Kirov 127.56 35*c* *i*PKIKP **PKiKP 06 41 36.9 +0.8**
MAK Makhachkala 127.68 55 *e*P **Pdif 06 38 18.7 -0.5**
MAK *i* 06 41 35.7
MAK *e* 06 43 36.1
MAK *e*PPP PPP 06 46 19.9
MAK *e* 06 48 41.9
MAK *e*PS **PS 06 53 48.7 +4.2**
MAK *e*SS SS 07 00 54.5 +6.5
MAK *e*SSS SSS 07 05 31.8
MAK pmax pmax
comp=Z,22nm,0.3s
AKT Akhty 127.78 56 *i* PKIKP **PKiKP 06 41 37.5 +0.2**
AKT *e* 06 43 39.9
AKT pmax pmax
comp=Z,20nm,1.4s
WRA Warramunga Arr 128.16 211 PKP **PKiKP 06 41 38.8 +0.1**
comp=Z,16nm,0.6s,baz=159,slow=1.7,SNR=76
WRA pPKP **pPKPdf 06 41 48.3 +0.4**
comp=Z,21nm,0.8s,baz=157,slow=1.6,SNR=17
PMG Port Moresby 128.87 232 *i* PKIKP **PKPdf 06 41 39.5 +0.1**
ARTI Arti 132.81 36 *i* PKIKP **PKiKP 06 41 46.8 +0.1**
ARTI 07 44 10.9
ARTI pmax pmax
comp=Z,669nm,21.2s
TIXI Tiksi 132.90 352 IAMs_20 IAMs_20 07 39 56.0
comp=Z,466nm,21.0s
TIXI Tiksi 132.90 352 *i* PKIKP **PKiKP 06 41 46.1 -0.4**
SEY Seymchan 133.31 334*c* *i*PKIKP **PKiKP 06 41 48.2 +0.7**
SEY pmax pmax
comp=Z,45nm,1.3s
NRIK Noril'sk 134.76 11 PKP **PKiKP 06 41 49.8 -0.5**
comp=Z,2.2nm,0.8s,baz=19,slow=0.8,SNR=13
NRIK Noril'sk 134.76 11*c* *i*PKIKP **PKiKP 06 41 50.0 -0.3**
PETK Petropavlovsk- 134.83 320 PKP **PKiKP 06 41 51.3 +0.3**
comp=Z,4.3nm,0.6s,baz=72,slow=2.3,SNR=5.2
MA2 Magadan 135.73 331 IAMs_20 IAMs_20 07 52 47.7
comp=Z,412nm,20.0s
BRVK Borovoye 140.45 36*c* *i*PKIKP **PKPdf 06 42 00.7 +0.8**
BRVK pmax pmax
comp=Z,16nm,1.7s
BVAR Borovoye Array 140.53 36 PKP **PKPdf 06 41 58.6 -1.4**
comp=Z,2.9nm,0.7s,baz=293,slow=2.8,SNR=12
BVAR pPKP **sPKPdf 06 42 12.2 -1.0**
comp=Z,3.0nm,0.5s,baz=260,slow=2.4,SNR=6.0
YAK Yakutsk 141.32 345 IAMs_20 IAMs_20 07 46 53.5
comp=Z,382nm,22.0s
YAK Yakutsk 141.32 345*c* *i*PKIKP **PKPdf 06 42 02.2 +1.1**
YAK pmax pmax
comp=Z,65nm,1.3s
BRZS Berezniki 143.21 40 *e*PKIKP **PKPdf 06 42 05.7 +0.8**
BRZS Berezniki 143.21 40 *e*PKP **PKPdf 06 42 05.8 +0.8**
EDFI Ende, Flores 143.37 201 PKP PKPbc 06 42 03.1 -0.4
GUMO Guam 144.17 257 PKP **PKPdf 06 42 07.2 -0.4**
comp=Z,112nm,0.5s,baz=164,slow=7.4,SNR=6.2
TYV Tymovskoe 144.22 323 *e*PKIKP **PKPdf 06 42 06.4 -0.2**
TYV pmax pmax
comp=Z,28nm,0.8s
TYV pmax pmax
comp=Z,300nm,3.0s
IUG Iuzhnay 144.26 53 *e*PKIKP **PKPdf 06 42 07.5 +0.4**
IUG Iuzhnay 144.26 53 *e*PKP **PKPdf 06 42 07.6 +0.4**
KKAR Karatay Array 144.36 51 PKPbc 06 42 05.8 +0.2
KKAR Karatay Array 144.36 51 PKIKP PKPbc 06 42 05.8 +0.2
PLAI Plampang 144.40 195 PKP PKPbc 06 42 06.4 -0.1
KBL Kabul 144.65 66 **PKPab 06 42 06.3 -0.6**
KBL Kabul 144.65 66 PKIKP **PKPab 06 42 06.3 -0.6**
TWSI Taliwang, Sumb 144.68 194 PKP PKPbc 06 42 08.0 +0.6
AAI Ambon 145.15 215 PKP **PKPdf 06 42 09.4 0.0**
JAGI Jajag, Banyuwa 145.43 189 PKP **PKPbc 06 42 09.6 -0.2**
UGL Uglegorsk 145.46 321 *e*PKIKP **PKPdf 06 42 08.9 +0.1**
UGL pmax pmax
comp=Z,1μm,2.6s
UGL pmax pmax
comp=Z,200nm,1.3s
SRBI Singaraja 145.64 191 PKP **PKPbc 06 42 10.6 +0.2**
GMJI Gumukmas 145.72 188 PKP **PKPab 06 42 11.6 +0.6**
PCJI Pacitan 146.01 184 PKP **PKPdf 06 42 11.2 +0.3**
YSS Yuzhno-Sakhali 146.05 317 *e*PKP2 **PKPab 06 42 11.3 -0.1**
YSS pmax pmax
comp=Z,50nm,1.2s
YSS pmax pmax
comp=Z,800nm,2.1s
KURK Kurchatov 146.08 35 PKP2 **PKPbc 06 42 10.9 +0.2**
KURBB Kurchatov Arra 146.09 35 PKPbc **PKPbc 06 42 10.9 +0.1**
comp=Z,4.7nm,0.4s,baz=301,slow=4.2,SNR=80
KURBB pPKPbc pPKPab 06 42 21.9 +0.4
comp=Z,11nm,0.5s,baz=307,slow=3.7,SNR=15
KURBB PP **PP 06 45 36.5 +3.9**
comp=Z,7.1nm,1.2s,baz=293,slow=7.4,SNR=6.1
CMJI Cimerak 146.48 179 PKP **PKPbc 06 42 12.6 -0.4**
EKS2 Erkin-Say 146.78 51 P **PKPbc 06 42 13.6 +0.3**
SNR=43
ZALV Zalesovo Beam 146.78 26 **PKPdf 06 42 11.8 +0.9**
ZALV Zalesovo Beam 146.78 26 PKPbc **PKPbc 06 42 12.1 -0.6**
comp=Z,44nm,0.5s,baz=310,slow=3.2,SNR=78
KMMI Kalianget 146.85 189 PKP **PKPdf 06 42 12.8 +0.5**
KMMI PKP **PKPbc 06 42 14.7 +0.6**
AML Almayashu 146.89 52 P **PKPbc 06 42 14.0 +0.1**
SNR=56
CNJI Cibinong 146.91 177 PKP **PKPbc 06 42 14.2 0.0**
USP Ospenovka 147.08 50 P **PKPbc 06 42 13.7 -0.3**
SNR=28
BKSI Bulukumba 147.09 201 PKP **PKPbc 06 42 14.2 -0.6**
SGDS Sogindy 147.10 49 *e*PKIKP **PKPdf 06 42 12.3 +0.4**
SGDS Sogindy 147.10 49 *e*PKP **PKPdf 06 42 12.4 +0.4**
AAK Ala-Archa 147.29 51 P **PKPbc 06 42 14.5 -0.2**
SNR=100
AAK Ala-Archa 147.29 51*c* *i*PKIKP **PKPdf 06 42 12.9 +0.5**
AAK pmax pmax
comp=Z,200nm,1.3s
CHMS Chumysh 147.34 50 P **PKPab 06 42 16.4 -0.3**
SNR=30
LEM Lembang 147.41 178 PKP **PKPdf 06 42 13.3 -0.1**
LEM PKP **PKPbc 06 42 16.2 +0.3**
UCH Uchtor 147.43 51 P **PKPbc 06 42 15.4 -0.1**
SNR=7.5
GRNR Gornyy 147.50 327⇑*i*PKIKP **PKPbc 06 42 13.8 -1.0**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
KAPI Kappang 147.50 200 PKPdf **PKPdf 06 42 11.8 -1.6**
KAPI PKPbc **PKPbc 06 42 15.4 -0.5**
KAPI Kappang 147.50 200 PKPbc **PKPbc 06 42 15.6 -0.3**
comp=Z,90nm,1.0s,baz=184,slow=3.6,SNR=17
KAPI Kappang 147.50 200 PKHKP PKPpre 06 42 11.8
KAPI 06 42 15.4
KBK Karagaybulak 147.59 50 P **PKPbc 06 42 14.8 -0.8**
SNR=34
SANI Sanana 147.67 213 PKP **PKPdf 06 42 14.4 +0.7**
SANI Sanana 147.67 213 PKP **PKPbc 06 42 16.6 +0.2**
BOD Bodaibo 147.94 355 *e*PKIKP **PKPdf 06 42 13.0 +0.3**
BOD pmax pmax
comp=Z,94nm,1.8s
TKM2 Tokmak 2 147.95 50 P **PKPbc 06 42 15.2 -1.4**
SNR=38
KUU Kurty 148.08 47 *e*PKIKP **PKPdf 06 42 14.0 +0.5**
KUU Kurty 148.08 47 *e*PKP **PKPdf 06 42 14.0 +0.5**
NIL Nilore 148.19 67 **PKPdf 06 42 13.8 -0.2**
NIL Nilore 148.19 67 PKIKP **PKPdf 06 42 13.8 -0.2**
CHKK Chushkaly 148.53 47 *e*PKIKP **PKPdf 06 42 14.6 +0.4**
CHKK Chushkaly 148.53 47 *e*PKP **PKPdf 06 42 14.6 +0.4**
ULHL Ulahol 148.63 50 P **PKPbc 06 42 16.8 -1.7**
SNR=34
AAA Alma-Ata 148.74 48 *e*PKIKP **PKPdf 06 42 15.0 +0.4**
AAA Alma-Ata 148.74 48 *e*PKP **PKPdf 06 42 15.0 +0.4**
TNSS Tian-Shan 148.83 49 *e*PKIKP **PKPdf 06 42 15.2 0.0**
TNSS Tian-Shan 148.83 49 *e*PKP **PKPdf 06 42 15.2 0.0**
MDOK Medeo 148.84 48 *e*PKIKP **PKPdf 06 42 15.2 +0.3**
MDOK Medeo 148.84 48 *e*PKP **PKPdf 06 42 15.2 +0.3**
TDK Taldyqorghan 148.94 44 *e*PKIKP **PKPdf 06 42 15.3 +0.5**
TDK Taldyqorghan 148.94 44 *e*PKP **PKPdf 06 42 15.3 +0.5**
ZEA Zeya 149.07 339 *i* PKP2 **PKPbc 06 42 19.5 +0.7**
ZEA pmax pmax
comp=Z,60nm,1.4s
ZEA MLR MLR
comp=Z,300nm,22.0s
KSH Kashi 149.31 56 PKPbc **PKPdf 06 42 16.5 +0.8**
KSH PP **PP 06 45 50.3 -2.1**
KSH LR LR
comp=Z,390nm,21.3s
KSH LR LR
comp=Z,460nm,22.0s
KSH LR LR
comp=Z,870nm,23.5s
ZHN Zhinishke 149.77 48 *e*PKHKP PKPpre 06 42 16.5
ZHN Zhinishke 149.77 48 *e*PKP **PKPdf 06 42 16.6 +0.2**
SATY Saty 149.80 48 *e*PKHKP PKPpre 06 42 16.5
SATY Saty 149.80 48 *e*PKP **PKPdf 06 42 16.6 +0.1**
KPKS Kokpek 149.81 47 *e*PKHKP PKPpre 06 42 16.6
KPKS Kokpek 149.81 47 *e*PKP **PKPdf 06 42 16.6 +0.3**
LUWI Luwuk 150.04 209 PKP **PKPdf 06 42 18.6 +1.1**
MAKZ Makanchi 150.15 39 PKPdf **PKPdf 06 42 15.8 -0.9**
MAKZ PKPbc **PKPbc 06 42 21.2 -0.5**
MAKZ Makanchi 150.15 39 PKIKP **PKPdf 06 42 15.8 -0.9**
MAKZ 06 42 21.2
UZB Uzynbulak 150.17 47 *e*PKIKP **PKPdf 06 42 17.2 +0.2**
UZB Uzynbulak 150.17 47 *e*PKP **PKPdf 06 42 17.3 +0.2**
MKAR Makanchi Array 150.33 39 PKPbc **PKPbc 06 42 22.0 -0.2**
MKAR Makanchi Array 150.33 39 PKPbc **PKPbc 06 42 22.2 0.0**
comp=Z,22nm,0.6s,baz=316,slow=2.4,SNR=133
MKAR Makanchi Array 150.33 39 PKIKP **PKPbc 06 42 22.0 -0.2**
SHLS Shalkode 150.45 47 *e*PKIKP **PKPdf 06 42 18.0 +0.6**
SHLS Shalkode 150.45 47 *e*PKP **PKPdf 06 42 18.1 +0.6**
HYB Hyderabad 150.56 101 *e*PKIKP **PKPbc 06 42 23.5 -0.1**
TEY Ternei 150.73 318⇑*e*PKIKP **PKiKP 06 42 23.8 0.0**
TEY pmax pmax
comp=Z,20nm,1.7s
TEY pmax pmax
comp=E,10.0nm,1.2s
KLR Kul'dur 150.77 329 *i* PKIKP **PKPdf 06 42 16.7 -0.8**
KLR pmax pmax
comp=Z,82nm,1.7s
WUS Wushi 151.09 51 IAMs_20 IAMs_20 07 56 32.7
comp=Z,389nm,20.0s
ZSN Zaisan 151.32 35 *e*PKIKP **PKPdf 06 42 18.8 +0.4**
ZSN Zaisan 151.32 35 *e*PKP **PKPdf 06 42 18.9 +0.4**
HEH HeiHe 151.86 334 PKPbc **PKPdf 06 42 18.8 -0.3**
HEH sPKP 06 42 35.8
HEH PP **PP 06 46 07.0 +1.1**
HEH AMB AMB
comp=Z,190nm,6.5s
HEH LR LR
comp=Z,350nm,21.4s
HEH LR LR
comp=Z,220nm,22.0s
HEH LR LR
comp=Z,490nm,20.8s
TOLI2 Tolitoli 152.82 207 IAMs_20 IAMs_20 07 50 07.7
comp=Z,445nm,22.0s
MJAR Matsushiro Arr 152.94 300 PKP **PKPdf 06 42 22.4 +1.2**
comp=Z,2.2nm,0.6s,baz=204,slow=0.3,SNR=9.0
MJAR PKPbc **PKiKP 06 42 29.8 +1.1**
comp=Z,11nm,0.9s,baz=66,slow=0.6,SNR=18
IRK Irkutsk 153.49 6 *e*PKIKP **PKPdf 06 42 22.3 +0.8**
IRK *e* 06 42 40.3
IRK pmax pmax
comp=Z,76nm,2.0s
MOY Mondy 153.60 11 *e*PKIKP **PKPdf 06 42 23.2 +1.4**
MOY pmax pmax
comp=Z,71nm,2.2s
CIT Chita 153.72 354 *e*PKIKP **PKPdf 06 42 23.6 +1.7**
CIT *e* 06 42 30.0
CIT *e* 06 42 40.8
USRK Ussuriysk Ar. 153.93 320 **PKPdf 06 42 22.6 +0.2**
USRK Ussuriysk Ar. 153.93 320 PKP **PKPdf 06 42 23.5 +1.2**
comp=Z,1.9nm,0.6s,baz=209,slow=3.5,SNR=8.2
USRK PKPbc **pPKPdf 06 42 31.7 -0.6**
comp=Z,5.3nm,0.5s,baz=37,slow=1.0,SNR=11
MDJ Mudanjiang 155.00 323 IAMs_20 IAMs_20 07 44 04.4
comp=Z,424nm,21.0s
MDJ Mudanjiang 155.00 323 PKPbc **PKPdf 06 42 25.0 +1.1**
WMQ Urumqi 155.16 39 PKP **PKPdf 06 42 23.3 -0.9**
WMQ PKPab **PKPab 06 42 51.5 +2.5**
WMQ PP **PP 06 46 29.3 +4.2**
WMQ AMB AMB
comp=Z,300nm,4.9s
WMQ LR LR
comp=Z,440nm,20.5s
WMQ LR LR
comp=Z,590nm,21.9s
WMQ LR LR
comp=Z,600nm,24.3s
ZAK Zakamensk 155.20 9 *e*PKP2 **PKPab 06 42 49.1 +0.1**
ZAK *e* 06 46 23.3
ZAK pmax pmax
comp=Z,20nm,1.5s
ZAK pmax pmax
comp=Z,10.0nm,1.8s
BNX BinXian 155.33 328⇓P **PKPab 06 42 50.8 +1.3**
BNX pmax pmax
comp=Z,43nm,1.2s
BNX BinXian 155.33 328⇓PKP **PKPdf 06 42 24.3 0.0**
BNX sPKP 06 42 33.5
BNX PP **PP 06 46 28.3 +2.6**
BNX SS SS 07 06 11.8 +3.7
BNX AMB AMB
comp=Z,420nm,9.8s
BNX LR LR
comp=Z,190nm,17.4s
BNX LR LR
comp=Z,320nm,13.6s
BNX LR LR
comp=Z,410nm,20.6s
DAV Davao City (W) 155.44 223 IAMs_20 IAMs_20 07 42 48.1
comp=Z,412nm,20.0s
SBUM Sibu 156.44 188 IAMs_20 IAMs_20 08 09 08.5
comp=Z,384nm,22.0s
CN2 Changchun 157.70 327 PKP **PKPdf 06 42 27.3 -0.1**
CN2 PP **PP 06 46 41.5 +2.7**
CN2 SS SS 07 06 35.8 +2.2
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,100nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,400nm,16.0s
SONM Songino Array 158.05 5 PKP **PKPdf 06 42 29.5 +1.6**
comp=Z,11nm,1.1s,baz=240,slow=0.4,SNR=50
SONM pPKP **sPKPdf 06 42 40.4 -0.8**
comp=Z,5.8nm,0.9s,baz=262,slow=1.2,SNR=8.4
SONM PKPab **PKPab 06 43 02.5 +1.2**
comp=Z,5.2nm,0.8s,baz=323,slow=3.4,SNR=8.4
SONM pPKPab **sPKPab 06 43 13.9 -0.4**
comp=Z,4.4nm,0.8s,baz=328,slow=3.3,SNR=4.2
KSRS Korea Array 160.24 310 PKP **PKPdf 06 42 32.1 +1.5**
comp=Z,8.5nm,1.0s,baz=36,slow=0.7,SNR=22
KSRS pPKP **sPKPdf 06 42 42.9 -1.0**
comp=Z,4.7nm,0.9s,baz=106,slow=1.3,SNR=4.6
KSRS PKPab **PKPab 06 43 13.6 +2.6**
comp=Z,4.1nm,0.8s,baz=72,slow=3.0,SNR=5.2
XLT XiLinHaoTe 161.16 344 *e*PKP **PKPdf 06 42 27.5 -4.0**
XLT sPKP 06 42 47.5
XLT PKPab **PKPab 06 43 15.8 +0.9**
XLT AMB AMB
comp=Z,320nm,13.6s
XLT LR LR
comp=Z,310nm,23.0s
XLT LR LR
comp=Z,320nm,24.7s
LSA Lhasa 163.80 73 PKP **PKPdf 06 42 36.0 +0.9**
GOMU GeErMu 164.16 46 PKP **PKPdf 06 42 36.5 +1.4**
GTA Gaotai 164.53 27 PKP **PKPdf 06 42 36.0 +1.0**
GTA sPKP 06 42 47.0
GTA PKPab **PKPab 06 43 30.0 +0.1**
GTA LR LR
comp=Z,190nm,20.7s
GTA LR LR
comp=Z,170nm,20.0s
GTA LR LR
comp=Z,450nm,22.5s
BJI Beijing 164.70 339 PKP **PKPdf 06 42 36.0 +1.1**
HHC Hu-ho-hao-te 164.97 352 *e*PKP **PKPdf 06 42 32.0 -3.3**
BTO Baotou 165.34 357 *e*PKP **PKPdf 06 42 36.3 +0.7**
BTO PKPab **PKPab 06 43 32.0 -1.3**
BTO SS SS 07 07 51.8 -0.8
BTO LR LR
comp=Z,480nm,16.1s
BTO LR LR
comp=Z,390nm,12.7s
BTO LR LR
comp=Z,500nm,13.2s
HNS HongShan 167.57 338⇓PKP **PKPdf 06 42 38.0 +0.7**
HNS PKPab **PKPab 06 43 43.8 +0.7**
TIA Tai'an 167.60 328 PKP **PKPdf 06 42 38.8 +1.4**
TIA AMB AMB
comp=Z,320nm,10.8s
CMAR Chiang Mai Arr 168.11 127 **PKPdf 06 42 37.9 -0.3**
CMAR **PKPab 06 43 45.3 -0.8**
CMAR Chiang Mai Arr 168.11 127 PKP **PKPdf 06 42 39.5 +1.2**
comp=Z,3.1nm,0.6s,baz=262,slow=1.9,SNR=36
CMAR pPKP **sPKPdf 06 42 50.2 -1.3**
comp=Z,4.1nm,0.7s,baz=261,slow=2.4,SNR=2.9
CMAR PKPab **PKPab 06 43 45.7 -0.5**
comp=Z,1.1nm,0.3s,baz=240,slow=4.3,SNR=5.4
CHTO Chiang Mai 168.34 125 **PKPdf 06 42 36.7 -1.7**
CHTO **PKPab 06 43 45.7 -1.4**
CHTO Chiang Mai 168.34 125 PKIKP **PKPdf 06 42 36.7 -1.7**
CHTO 06 43 45.7
UBPT Khong Chiam 168.91 162 **PKPab 06 43 48.6 -0.9**
LZH Lanzhou 168.97 22 *e*PKP **PKPdf 06 42 40.0 +1.5**
LZH pPKP pPKPdf 06 42 49.8 +1.4
LZH PKPab **PKPab 06 43 51.0 +1.4**
LZH SS SS 07 08 32.5 +2.6
NJ2 Nanjing 169.41 307 *e*PKP **PKPdf 06 42 40.3 +1.6**
NJ2 LR LR
comp=Z,390nm,20.8s
NJ2 LR LR
comp=Z,530nm,21.8s
NJ2 LR LR
comp=Z,700nm,22.3s
LYN LuoYang 170.89 341 PKP **PKPdf 06 42 41.0 +1.5**
LYN PKPab **PKPab 06 43 58.5 +0.6**
LYN PP PP 06 47 56.0 +8.5
LYN AMB AMB
comp=Z,210nm,4.3s
LYN LR LR
comp=Z,720nm,19.9s
LYN LR LR
comp=Z,350nm,18.2s
LYN LR LR
comp=Z,630nm,17.9s
XAN Xi'an 171.92 0⇑PKP **PKPdf 06 42 41.3 +1.2**
XAN pPKP pPKPdf 06 42 51.5 +1.5
XAN PKPab **PKPab 06 44 02.8 +0.3**
XAN PP **PP 06 47 52.3 -0.2**
XAN LR LR
comp=Z,420nm,22.7s
XAN LR LR
comp=Z,390nm,20.6s
XAN LR LR
comp=Z,730nm,22.2s
QIZ Qiongzhong 173.08 187 PKP **PKPdf 06 42 41.8 +0.9**
QIZ LR LR
comp=Z,310nm,18.6s
QIZ LR LR
comp=Z,350nm,21.4s
QIZ LR LR
comp=Z,580nm,22.0s
PZH PanZhiHua 173.49 83 PKP **PKPdf 06 42 41.8 +0.8**
PZH PKPab **PKPab 06 44 10.3 +0.1**
PZH PP **PP 06 48 07.5 +5.0**
PZH SS SS 07 09 16.0 -1.6
PZH AMB AMB
comp=Z,290nm,8.6s
PZH LR LR
comp=Z,370nm,21.6s
PZH LR LR
comp=Z,390nm,21.1s

PZH LR LR
comp=Z,430nm,20.6s
KMI Kunming 174.32 97 PKP **PKPdf 06 42 41.3 -0.2**
KMI sPKP 06 42 53.3
KMI PP **PP 06 48 05.8 -0.9**
KMI SS SS 07 09 22.8 -3.1
KMI AMB AMB
comp=Z,350nm,5.5s
KMI LR LR
comp=Z,430nm,18.8s
KMI LR LR
comp=Z,170nm,18.2s
KMI LR LR
comp=Z,630nm,23.8s
CNSH ChangSha 175.81 303 PKP **PKPdf 06 42 42.0 +0.5**

GCG 26 06:22:49.2±0.5, 14°.95N×92°.07W, h94km±5km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.09**	**184**	*e*P	Pn	06 23 02.6	+0.1
SMCA				*e*S	Sn	06 23 12.7	+0.4
STG8	**El Palmar, Qui**	**0.85**	**126**	*e*P	Pn	06 23 05.0	-2.9
STG8				*e*S	Sn	06 23 17.8	-4.1
STG0	**El Palmar, Qui**	**0.87**	**126**	*e*P	Pn	06 23 05.4	-2.7
STG0				*e*S	Sn	06 23 17.9	-4.2
STG5	**El Palmar, Qui**	**0.88**	**128**	*e*P	Pn	06 23 05.2	-2.8
STG5				*e*S	Sn	06 23 17.9	-4.3

*NEIC **26** 06:29:13.8±1.8, 9°.74N±0°.09×126°.5E±0°.1, h10km±1km, mb4.6/25, Error ellipse: s-maj=19.0km s-min=14.7km az=93.0*
*IDC **26** 06:29:25.9±2.2, 9°.53N×126°.29E, h120km±22km, mb3.7/18, mbtmp4.1/19, MS4.1/2, Error ellipse: s-maj=29.1km s-min=13.3km az=69.0*
ISC 26 06:29:17.7±0.5, 9.72N±0°.06×126°.5E±0°.1, h43km, n62, σ1$35/55, mb4.4/29, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.79**	**200**	Pn	**Pn**	**06 29 58.5**	**-1.5**
DAV	**Davao City (W)**	**2.79**	**200**	P	Pn	06 30 07.2	+7.3
	205nm,0.3s,baz=46,slow=17,SNR=4.1						
DAV				S	**Sn**	**06 30 38.2**	**+5.8**
	411nm,0.7s,baz=52,slow=18,SNR=3.6						
DAV				LR	LR	06 31 28.9	
	comp=Z,1μm,20.1s,baz=12,slow=48						
MYLDM	**Lahad Datu**	**9.14**	**241**	Pn	**Pn**	**06 31 26.2**	**-1.0**
FAKI	**Fak Fak**	**13.79**	**155**	Pn	**Pn**	**06 32 30.1**	**-0.6**
MTN	**Manton Dam**	**22.88**	**168**	P	**P**	**06 34 16.1**	**-1.6**
MYKOM	**Kota Tinggi**	**23.88**	**252**	P	**P**	**06 34 28.1**	**+0.6**
KNRA	**Kununurra**	**25.33**	**175**	P	**P**	**06 34 40.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**27.65**	**182**	P	**P**	**06 35 00.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**28.10**	**291**	P	**P**	**06 35 05.2**	**-0.4**
	2.2nm,0.3s,baz=99,slow=7.3,SNR=6.9						
	2.2nm,0.3s						
WB0	**Warramunga Arr**	**30.30**	**165**	P	**P**	**06 35 24.9**	**-0.3**
WRA	**Warramunga Arr**	**30.46**	**165**	P	**P**	**06 35 27.4**	**+0.8**
WRA	**Warramunga Arr**	**30.46**	**165**	P	**P**	**06 35 24.5**	**-2.1**
	0.4nm,0.5s,baz=346,slow=8.6,SNR=1.2						
	0.4nm,0.5s						
MBWA	**Marble Bar**	**31.40**	**192**	P	**P**	**06 35 34.1**	**-0.7**
ASAR	**Alice Springs**	**33.95**	**168**	P	**P**	**06 35 58.8**	**+1.6**
ASAR	**Alice Springs**	**33.95**	**168**	P	**P**	**06 35 55.4**	**-1.8**
	0.4nm,0.4s,baz=354,slow=7.0,SNR=6.2						
	0.4nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**39.84**	**73**	T	T	07 19 46.7	
	baz=262,slow=70,SNR=18						
H11S1	**WAKE ISLAND Hy**	**39.85**	**73**	T	T	07 19 47.3	
	baz=262,slow=70,SNR=11						
H11S2	**WAKE ISLAND Hy**	**39.85**	**73**	T	T	07 19 49.0	
	baz=262,slow=70,SNR=13						
H11N1	**WAKE ISLAND Hy**	**40.19**	**71**	T	T	07 20 23.9	
	baz=265,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.20**	**71**	T	T	07 20 13.2	
	baz=265,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**40.21**	**71**	T	T	07 20 21.0	
	baz=265,slow=75,SNR=11						
SONM	**Songino Array**	**41.62**	**340**	P	**P**	**06 37 01.4**	**-0.4**
SONM	**Songino Array**	**41.62**	**340**	P	**P**	**06 37 02.9**	**+1.1**
	1.1nm,0.5s,baz=158,slow=10,SNR=6.2						
	1.1nm,0.5s						
NWAO	**Narrogin (SRO)**	**43.32**	**191**	P	**P**	**06 37 15.4**	**-0.2**
NWAO				IAmb	IAmb	06 37 16.5	
	comp=Z,17nm,1.1s						
STKA	**Stephens Creek**	**43.80**	**161**	P	**P**	**06 37 18.4**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=337,slow=13,SNR=3.1						
	comp=Z,2.1nm,0.7s						
PEA0B	**Petropavlovsk-**	**50.04**	**24**	P	**P**	**06 38 08.3**	**+0.3**
PETK	**Petropavlovsk-**	**50.04**	**24**	P	**P**	**06 38 08.6**	**+0.7**
PETK	**Petropavlovsk-**	**50.04**	**24**	P	**P**	**06 38 09.8**	**+1.9**
	comp=Z,1.8nm,0.6s,baz=213,slow=3.9,SNR=7.2						
	comp=Z,1.8nm,0.6s						
MK31	**Makanchi Array**	**52.62**	**323**	P	**P**	**06 38 27.1**	**-0.3**
MKAR	**Makanchi Array**	**52.62**	**323**	P	**P**	**06 38 26.9**	**-0.6**
MKAR	**Makanchi Array**	**52.62**	**323**	P	**P**	**06 38 27.1**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=126,slow=8.4,SNR=8.1						
	comp=Z,1.5nm,0.6s						
ZALV	**Zalesovo Beam**	**55.23**	**331**	P	**P**	**06 38 45.2**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=141,slow=7.4,SNR=2.0						
	comp=Z,0.4nm,0.3s						
KURK	**Kurchatov**	**56.66**	**326**	P	**P**	**06 38 55.8**	**-0.8**
KURK				IAmb	IAmb	06 38 57.1	
	comp=Z,3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**56.67**	**325**	P	**P**	**06 38 56.5**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=126,slow=6.8,SNR=8.2						
	comp=Z,1.3nm,0.6s						
KK31	**Karatay Array**	**58.82**	**315**	P	**P**	**06 39 11.6**	**-0.3**
KKAR	**Karatay Array**	**58.82**	**315**	P	**P**	**06 39 11.5**	**-0.5**
TIXI	**Tiksi**	**61.90**	**1**	P	**P**	**06 39 32.4**	**0.0**
TIXI				IAmb	IAmb	06 39 47.9	
	comp=Z,5.0nm,0.9s						
BRVK	**Borovoye**	**62.33**	**325**	P	**P**	**06 39 35.3**	**-0.4**
BRVK				IAmb	IAmb	06 39 51.3	
	comp=Z,5.0nm,1.2s						
NRIK	**Noril'sk**	**64.61**	**346**	P	**P**	**06 39 50.8**	**+0.3**
NRIK				IAmb	IAmb	06 39 51.5	
	comp=Z,3.8nm,0.8s						
NRIK	**Noril'sk**	**64.61**	**346**	P	**P**	**06 39 51.1**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=133,slow=5.1,SNR=6.9						
	comp=Z,2.7nm,0.6s						
ABKAR	**Akbulak array**	**67.46**	**319**	P	**P**	**06 40 08.3**	**-0.8**
L14K	**Kuka Creek**	**72.35**	**29**	P	**P**	**06 40 40.8**	**+2.0**
L14K				IAmb	IAmb	06 40 56.5	
	comp=Z,11nm,1.4s						
F15K	**North Star Dit**	**72.54**	**24**	P	**P**	**06 40 41.2**	**+1.2**
F15K				IAmb	IAmb	06 41 13.8	
	comp=Z,7.0nm,1.4s						
M14K	**Bethel**	**72.57**	**29**	P	**P**	**06 40 41.1**	**+0.9**
M14K				IAmb	IAmb	06 40 51.7	
	comp=Z,5.6nm,0.8s						
L16K	**Owhat River**	**73.92**	**28**	P	**P**	**06 40 49.3**	**+1.1**
L16K				IAmb	IAmb	06 41 07.6	
	comp=Z,5.5nm,1.2s						
E18K	**Tukpahlearik C**	**74.53**	**23**	P	**P**	**06 40 53.6**	**+2.0**
E18K				IAmb	IAmb	06 41 10.4	
	comp=Z,7.2nm,1.4s						
L18K	**Granite Mounta**	**75.30**	**28**	P	**P**	**06 40 57.6**	**+1.4**
L18K				IAmb	IAmb	06 41 32.2	
	comp=Z,4.7nm,1.2s						
B21K	**Ikpikpuk River**	**77.07**	**21**	P	**P**	**06 41 06.3**	**+0.3**
B21K				IAmb	IAmb	06 41 22.7	
	comp=Z,3.5nm,0.8s						
C23K	**Itkillik River**	**78.48**	**21**	P	**P**	**06 41 15.3**	**+1.3**
ILAR	**Eielson Array**	**79.83**	**26**	P	**P**	**06 41 21.8**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=235,slow=4.3,SNR=7.2						
	comp=Z,0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**84.61**	**349**	P	**P**	**06 41 46.7**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=84,slow=7.7,SNR=6.7						
	comp=Z,2.9nm,0.6s						
ARCES	**ARCESS Array B**	**84.80**	**340**	P	**P**	**06 41 47.7**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=82,slow=6.6,SNR=16						
	comp=Z,2.5nm,0.6s						
FINES	**FINESS Array B**	**86.50**	**332**	P	**P**	**06 41 55.5**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=72,slow=6.2,SNR=7.9						
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**89.35**	**173**	P	**P**	**06 42 08.7**	**-0.4**
VNDA				IAmb	IAmb	06 42 34.8	
	comp=Z,3.5nm,1.2s						
VNDA	**Vanda**	**89.35**	**173**	P	**P**	**06 42 08.7**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=321,slow=5.1,SNR=2.0						
	comp=Z,0.6nm,0.8s						
RES	**Resolute Bay**	**91.99**	**10**	LR	LR	07 24 40.9	
	comp=Z,288nm,20.9s,baz=180,slow=36						
HFS	**Hagfors**	**92.65**	**332**	P	**P**	**06 42 24.2**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=64,slow=5.0,SNR=4.9						
	comp=Z,1.1nm,0.5s						
NB2	**NORSAR Subarra**	**93.36**	**334**	P	**P**	**06 42 25.3**	**-2.9**
	comp=Z,0.8nm,0.7s,baz=67,slow=5.3						
NOA	**NORSAR Array B**	**93.36**	**334**	P	**P**	**06 42 26.8**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=42,slow=1.8,SNR=2.0						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**94.16**	**24**	P	**P**	**06 42 32.8**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=303,slow=4.5,SNR=8.5						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**117.99**	**49**	PKP	**PKiKP**	**06 48 02.0**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=334,slow=2.4,SNR=4.0						
PLCA	**Paso Flores**	**145.60**	**157**	PKPbc	**PKPdf**	**06 48 51.0**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=225,slow=4.9,SNR=7.0						

*IDC **26** 06:40:07.2±3.6, 54°.35N×87°.30E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=31.9km s-min=20.4km az=48.0*
ASRS 26 06:40:06.0±0.7, 54°.26N×87°.11E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**258**	I	I	06 49 40.0	
	0.1nm,0.8s,baz=74,slow=337,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.39**	**258**	Pg	Pb	06 40 33.9	+1.2
	1.3nm,0.3s,baz=72,slow=16,SNR=7.1						
ZALV				Lg	Lg	06 40 55.4	
	1.7nm,0.3s,baz=74,slow=26,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.38**	**239**	Pn	Pn	06 41 45.2	+3.9
	0.1nm,0.3s,baz=55,slow=14,SNR=4.0						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**8.08**	**204**	Pn	Pn	06 42 08.5	+4.0
	0.1nm,0.3s,baz=24,slow=14,SNR=2.8						
	0.3nm,0.5s						

GCG 26 06:41:12.1±0.4, 14°.04N×91°.80W, h68km±120km, MD3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG5	**El Palmar, Qui**	**0.56**	**50**	*i*P	Pn	06 41 27.0	+1.5
STG5				*i*S	Sn	06 41 38.3	+2.9
STG0	**El Palmar, Qui**	**0.58**	**49**	*i*P	Pn	06 41 27.6	+1.7
STG8	**El Palmar, Qui**	**0.59**	**47**	*i*P	Pn	06 41 28.1	+2.1
STG8				*i*S	Sn	06 41 40.8	+4.6

*IDC **26** 06:45:10.4±4.0, 53°.77N×88°.20E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=37.4km s-min=20.2km az=48.0*
ASRS 26 06:45:10.0±1.6, 53°.72N×88°.17E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**278**	I	I	06 58 20.0	
	baz=94,slow=337,SNR=1.1						
ZALV	**Zalesovo Beam**	**2.00**	**278**	Pg	Pb	06 45 47.2	0.0
	1.1nm,0.3s,baz=94,slow=14,SNR=7.4						
ZALV				Lg	Lg	06 46 14.4	
	1.7nm,0.3s,baz=95,slow=26,SNR=9.2						
KURBB	**Kurchatov Arra**	**6.69**	**246**	Pn	Pn	06 46 50.4	+1.0
	0.1nm,0.3s,baz=62,slow=13,SNR=2.0						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.89**	**211**	Pn	Pn	06 47 08.4	+2.5
	0.1nm,0.3s,baz=33,slow=15,SNR=1.1						
	0.2nm,0.4s						

RSNC 26 06:51:13.9±0.4, 2°.S±3°.×7°.9W±°, h0km, M3.1, mb3.2, mB6.0, ML2.7, Mw(mB)5.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FLF1	**Flavio Alfaro-**	**2.04**	**337**	P	Pn	06 51 49.8	+0.2
FLF1				S	Sn	06 52 13.7	-2.1
MCRA	**Macar, Loja**	**2.31**	**204**	P	Pn	06 51 53.9	+0.6
MCRA				S	Sn	06 52 23.1	+0.7
PAC1	**Pacto, Paraso**	**2.50**	**5**	P	Pn	06 51 56.2	+0.2
PAC1				S	Sn	06 52 27.1	-0.2
OTAV	**Otavalo**	**2.53**	**13**	P	Pn	06 51 57.5	+0.8
CUSE	**Cuicocha Este**	**2.61**	**14**	P	Pn	06 51 58.1	+0.4
CUSE				S	Sg	06 52 38.1	+0.3
TUMC	**Tumaco**	**4.05**	**4**	P	Pn	06 52 16.3	-0.9
TUMC				S	Sn	06 53 06.4	+1.1
BBAC	**Balboa, Cauca**	**4.59**	**23**	P	Pn	06 52 25.0	+0.1
BBAC				S	Sn	06 53 18.7	-0.4
POPC	**Popayan, Colom**	**5.30**	**26**	P	Pn	06 52 32.5	-2.1
	2.7nm,1.0s						
POPC				S	Sn	06 53 33.1	-3.5
	2.7nm,1.0s						
JAMC	**Jamundi, Valle**	**5.91**	**24**	P	Pn	06 52 41.3	-1.7
	3.4nm,1.8s						
MALC	**Bahia Malaga**	**6.44**	**15**	P	Pn	06 52 47.2	-2.8

IDC 26 06:59:42.0±407.0, 52°.57N×33°.13E, h0km, Error ellipse: s-maj=168.4km s-min=97.7km az=21.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.79**	**28**	I	I	07 30 40.0	
	0.1nm,0.6s,baz=211,slow=325,SNR=4.3						
I26DE	**FREYUNG INFRAS**	**12.85**	**261**	I	I	08 15 00.0	
	baz=64,slow=324,SNR=2.4						
I37NO	**I37NO**	**17.92**	**343**	I	I	08 46 58.3	
	baz=148,slow=325,SNR=0.2						

IDC 26 07:02:51.9±1.8, 9°.47N×125°.83E, h0km, mb3.6/5, mbtmp3.6/5, MS4.3/3, Error ellipse: s-maj=175.8km s-min=28.9km az=70.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.86**	**167**	P	P	07 09 36.6	+0.1
	0.2nm,0.7s,baz=344,slow=8.6,SNR=1.9						
ASAR				LR	LR	07 25 38.7	
	comp=Z,490nm,20.8s,baz=154,slow=40						
	0.2nm,0.7s						
SONM	**Songino Array**	**41.62**	**340**	P	P	07 10 42.6	+0.7
	0.5nm,0.3s,baz=153,slow=9.7,SNR=3.5						
	0.5nm,0.3s						
PETK	**Petropavlovsk-**	**50.54**	**24**	LR	LR	07 31 35.3	
	comp=Z,207nm,21.0s,baz=71,slow=34						
MKAR	**Makanchi Array**	**52.41**	**323**	P	P	07 12 06.8	+0.6
	0.7nm,0.7s,baz=121,slow=8.1,SNR=5.8						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**56.49**	**326**	P	P	07 12 34.9	-0.9
	0.5nm,0.7s,baz=124,slow=7.4,SNR=5.5						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**62.08**	**326**	LR	LR	07 42 24.9	
	comp=Z,448nm,20.2s,baz=301,slow=38						
ARCES	**ARCESS Array B**	**84.79**	**340**	P	P	07 15 27.4	-0.5
	0.8nm,0.6s,baz=74,slow=5.0,SNR=7.6						
	0.8nm,0.6s						

LJU 26 07:05:40.0, 46°.39N×15°.07E, h0km, 1D, Confirmed Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAVS	**Zavodnje**	**0.05**	**325**	⇓*i*Pg	Pg	07 05 40.0	-1.1

VIE 26 07:06:04.5±1.3, 48°.00N×16°.69E, h0km, mb1.8/1, ml1.4/3, Error ellipse: s-maj=7.5km s-min=3.6km az=86.0 7 km WSW of Bruck a.d. Leitha Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RONA	**Rosalia, Austr**	**0.40**	**221**	*e*Pg	Pg	07 06 11.6	-0.5
	1.0nm,0.1s						
RONA				Sg	Sg	07 06 16.2	-1.1
	8.0nm,0.3s						
MODS	**Modra-Piesok**	**0.54**	**46**	*e*PG	Pb	07 06 16.8	-0.1
MODS				*e*SG	Sb	07 06 25.7	+0.5
MODS				*e*		07 33 11.1	
MODS				*e*		07 33 26.9	
MODS				*e*		07 33 43.4	
MODS				*e*		07 34 06.5	
CONA	**Conrad Observa**	**0.56**	**263**	*i*Pg	Pg	07 06 15.3	+0.1
	0.4nm,0.1s						
CONA				*e*Sg	Sg	07 06 22.7	+0.2
	4.0nm,0.4s						
JAVC	**Velka Javorina**	**1.08**	**37**	*e*PG	Pn	07 06 28.4	+1.5
KRUC	**Moravsky**	**1.08**	**350**	*e*PG	Pb	07 06 25.8	-0.2
KRUC				*e*SG	Sb	07 06 41.1	+0.5
ARSA	**Arzberg**	**1.09**	**227**	Sg	Sn	07 06 42.6	-0.2
	7.7nm,0.7s						

*VAO **26** 07:07:14.0±1.9, 20°.70S×69°.22W, h91km±8km, mb3.8*
*SJA **26** 07:07:16.6±0.8, 20°.45S×69°.22W, h107km±3km, ML3.9, MW3.8*
*GUC **26** 07:07:18.4±0.7, 20°.47S×69°.17W, h99km±3km, ML3.9*
ISC 26 07:07:16.5±0.8, 20°.49S±0°.03×69°.18W±0°.06, h106km±6km, n52, σ1$47/72, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.35**	**4**	*i*P	**Pn**	**07 07 33.1**	**+0.6**
PB08				*e*S	**Sn**	**07 07 44.9**	**+0.5**
PB08				IAML		07 07 45.8	
	comp=E,8μm,0.2s						
PB08	**IPOC Station P**	**0.35**	**4**	*e*P	**Pn**	**07 07 33.1**	**+0.6**
PB08				*e*S	**Sn**	**07 07 45.0**	**+0.5**
PB08				IAML		07 07 45.6	
	comp=Z,3μm,0.3s						
PB01	**IPOC Station P**	**0.62**	**208**	*e*P	**Pn**	**07 07 35.0**	**+1.0**
PB01				*e*S	**Sn**	**07 07 47.7**	**+0.6**
PB01				IAML		07 07 49.7	
	comp=E,9μm,0.2s						
PB01	**IPOC Station P**	**0.62**	**208**	*e*P	**Pn**	**07 07 35.0**	**+1.0**
PB01				*e*S	**Sn**	**07 07 48.7**	**+1.7**
PB01				IAML		07 07 49.8	
	comp=Z,4μm,0.2s						
HMBC	**Humberstone**	**0.70**	**288**	*e*P	**Pn**	**07 07 35.4**	**+0.8**
HMBC				*e*S	**Sn**	**07 07 48.5**	**+0.4**
HMBC				IAML		07 07 50.0	
	comp=N,7μm,0.1s						
HMBC	**Humberstone**	**0.70**	**288**	*e*P	**Pn**	**07 07 34.6**	**0.0**
HMBC				IAML		07 07 50.3	
	comp=Z,4μm,0.2s						
GO01	**Chusmiza**	**0.82**	**359**	*e*P	**Pn**	**07 07 36.7**	**+0.6**
GO01				*e*S	**Sn**	**07 07 51.2**	**+0.4**
GO01				IAML		07 07 52.5	
	comp=N,7μm,0.3s						
GO01	**Chusmiza**	**0.82**	**359**	*e*P	**Pn**	**07 07 36.6**	**+0.4**
GO01				*e*S	**Sn**	**07 07 51.8**	**+1.0**
PB11	**IPOC Station P**	**0.85**	**328**	⇓*e*P	**Pn**	**07 07 36.7**	**+0.6**
PB11				*e*S	**Sn**	**07 07 51.2**	**+0.4**
PB11	**IPOC Station P**	**0.85**	**328**	*e*P	**Pn**	**07 07 36.7**	**+0.6**
PB11				*e*S	**Sn**	**07 07 51.4**	**+0.6**
PB11				IAML		07 07 51.8	
	comp=Z,5μm,0.2s						
TA02	**Huaiquique**	**0.92**	**284**	*e*P	**Pn**	**07 07 37.7**	**+1.2**
TA02				*e*S	**Sn**	**07 07 51.8**	**+0.2**
TA02	**Huaiquique**	**0.92**	**284**	*e*P	**Pn**	**07 07 37.5**	**+0.9**
TA02				IAML		07 07 55.8	
	comp=Z,3μm,0.1s						
TA01	**Diego Aracena**	**0.94**	**265**	⇑*e*P	**Pn**	**07 07 37.6**	**+0.8**
TA01	**Diego Aracena**	**0.94**	**265**	*e*P	**Pn**	**07 07 37.5**	**+0.8**
TA01				*e*S	**Sn**	**07 07 54.3**	**+2.3**
PB09	**IPOC Station P**	**1.30**	**182**	*e*P	**Pn**	**07 07 42.7**	**+1.8**
PB09				*e*S	**Sn**	**07 08 01.3**	**+2.0**
PB09				IAML		07 08 02.3	
	comp=N,2μm,0.4s						
PB09	**IPOC Station P**	**1.30**	**182**	*e*P	**Pn**	**07 07 42.7**	**+1.8**
PB09				*e*S	**Sn**	**07 08 01.8**	**+2.4**
PB09				IAML		07 08 03.1	
	comp=Z,1μm,0.4s						
PB03	**IPOC Station P**	**1.64**	**199**	*e*P	**Pn**	**07 07 46.4**	**+1.4**
PB03				*e*S	**Sn**	**07 08 07.7**	**+1.2**
PB03				IAML		07 08 08.8	
	comp=E,1μm,0.3s						
PB03	**IPOC Station P**	**1.64**	**199**	*e*P	**Pn**	**07 07 46.3**	**+1.3**
PB03				*e*S	**Sn**	**07 08 08.3**	**+1.7**
PB03				IAML		07 08 12.7	
	comp=Z,1μm,0.3s						
PB16	**IPOC Station P**	**2.17**	**352**	*e*P	**Pn**	**07 07 53.7**	**+1.7**
PB16				*e*S	**Sn**	**07 08 21.2**	**+2.1**
PB16	**IPOC Station P**	**2.17**	**352**	*e*P	**Pn**	**07 07 53.4**	**+1.4**
PB16				*e*S	**Sn**	**07 08 23.3**	**+4.2**
PB06	**IPOC Station P**	**2.23**	**189**	*e*P	**Pn**	**07 07 54.1**	**+1.6**
PB06				IAML		07 08 21.2	
	comp=E,789nm,0.2s						
PB06	**IPOC Station P**	**2.23**	**189**	*e*P	**Pn**	**07 07 53.2**	**+0.7**
PB06				*e*S	**Sn**	**07 08 20.3**	**+0.3**
PB06				IAML		07 08 25.9	
	comp=Z,580nm,0.3s						
AP01	**Chacalluta**	**2.38**	**332**	*e*P	**Pn**	**07 07 54.6**	**+0.4**
AP01	**Chacalluta**	**2.38**	**332**	*e*P	**Pn**	**07 07 54.4**	**+0.2**
AP01				IAML		07 08 49.3	
	comp=Z,574nm,0.2s						
PB05	**IPOC Station P**	**2.53**	**202**	*e*P	**Pn**	**07 07 57.6**	**+1.2**
PB05				IAML		07 08 27.6	
	comp=E,434nm,0.4s						
PB05	**IPOC Station P**	**2.53**	**202**	*e*P	**Pn**	**07 07 57.1**	**+0.7**
PB05				*e*S	**Sn**	**07 08 23.6**	**-3.4**
PB05				IAML		07 08 50.1	
	comp=Z,246nm,0.6s						
AF01	**San Pedro de A**	**2.62**	**159**	*e*P	**Pn**	**07 07 59.9**	**+2.2**
AF01	**San Pedro de A**	**2.62**	**159**	*e*P	**Pn**	**07 08 00.1**	**+2.4**
AF01				*e*S	Sn	07 08 15.2	-14
AF01				IAML		07 09 05.5	
	comp=Z,248nm,0.5s						
PB10	**IPOC Station P**	**3.27**	**203**	*e*P	**Pn**	**07 08 06.1**	**+0.1**
PB10				*e*S	Sn	07 08 37.4	-6.8
LPAZ	**La Paz**	**4.30**	**14**	*e*P	**Pn**	**07 08 23.1**	**+2.7**
LPAZ	**La Paz**	**4.30**	**14**	*e*P	**Pn**	**07 08 21.3**	**+0.8**
GO02	**Mina Guanaco**	**4.66**	**185**	*e*P	**Pn**	**07 08 26.7**	**+1.6**
GO02				*e*S	**Sn**	**07 09 20.1**	**+1.8**
BBSD	**Serra de San D**	**8.76**	**69**	*e*P	**Pn**	**07 09 17.3**	**-3.1**
PTLB	**Pontes e Lacer**	**10.79**	**64**	*e*P	**Pn**	**07 09 47.7**	**-0.3**
MURT	**Porto Murtinho**	**10.87**	**98**	*e*P	**Pn**	**07 09 46.6**	**-2.4**
BDQN	**Bodoquena, MS**	**11.65**	**92**	*e*P	**Pn**	**07 09 56.2**	**-3.3**
SALV	**Santo Antonio**	**13.60**	**73**

CCIG				*i* S	**Sb**	**07 09 15.3**	**+1.3**
RTAL	**Retalhuleu**	**2.68**	**106**	*e*P	**Pb**	**07 08 49.7**	**-0.3**
RTAL				*i* S	**Sn**	**07 09 16.5**	**-1.4**
HUEH	**Huehuetenango**	**2.76**	**89**	*e*P	**Pb**	**07 08 49.9**	**-1.5**
HUEH				*i* S	**Sn**	**07 09 20.0**	**-0.1**
PEIG	**Puerto Escondi**	**2.78**	**285**	*e*P	**Pb**	**07 08 50.9**	**-0.9**
PEIG				*e*S	**Sn**	**07 09 19.7**	**-0.8**
NEUV	**Arroyo Zacate**	**2.79**	**330**	*e*P	**Pb**	**07 08 50.4**	**-1.5**
NEUV				*e*S	**Sn**	**07 09 21.7**	**+1.1**
VHO	**Vista Hermosa**	**2.90**	**308**	*e*P	**Pg**	**07 08 55.8**	**-1.6**
VHO				*e*S	**Sn**	**07 09 26.5**	**+3.0**
STG8	**El Palmar, Qui**	**3.02**	**105**	*i* P	**Pn**	**07 08 50.5**	**+0.4**
STG0	**El Palmar, Qui**	**3.04**	**106**	*i* P	**Pn**	**07 08 50.7**	**+0.4**
STG5	**El Palmar, Qui**	**3.04**	**106**	*i* P	**Pn**	**07 08 50.6**	**+0.4**
PMUV	**Sontecomapan**	**3.33**	**347**	*e*P	**Pn**	**07 08 53.6**	**-0.7**
PMUV				*e*S	**Sn**	**07 09 33.2**	**-0.9**
YOIG	**Yosondua**	**3.44**	**298**	*e*P	**Pb**	**07 09 03.1**	**-0.1**
YOIG				*e*S	**Sn**	**07 09 39.1**	**+1.9**
PNIG	**Pinotepa**	**3.79**	**288**	*e*P	**Pb**	**07 09 05.4**	**-3.6**
PNIG				*e*S	**Sn**	**07 09 43.7**	**-1.7**
TOIG	**Toxpalan**	**3.82**	**318**	*e*P	**Pb**	**07 09 07.4**	**-2.1**
TOIG				*e*S	**Sn**	**07 09 49.4**	**+3.2**
TXIG	**Tlaxiaco**	**3.82**	**301**	*e*P	**Pb**	**07 09 07.4**	**-2.2**
TXIG				*e*S	**Sn**	**07 09 48.5**	**+2.0**
HLIG	**Huajuapan de L**	**4.17**	**308**	*e*P	**Pb**	**07 09 14.4**	**-1.1**
HLIG				*e*S	**Sn**	**07 09 56.4**	**+1.5**
FTIG	**Fresnillo de T**	**4.47**	**306**	*e*P	**Pb**	**07 09 17.6**	**-2.9**
FTIG				*e*S	**Sn**	**07 10 03.1**	**+1.0**
PETF	**Flores**	**4.62**	**69**	*e*P	**Pn**	**07 09 15.9**	**+4.1**
PETF				*i* S	**Sn**	**07 10 05.0**	**-0.7**
TLIG	**Tlapa**	**4.63**	**300**	*e*P	Pn	07 09 17.2	+5.0
TLIG				*i* S	**Sn**	**07 10 03.9**	**-2.4**
JAUV	**Jalcomulco**	**4.69**	**330**	*e*P	**Pn**	**07 09 15.5**	**+2.6**
JAUV				*e*S	**Sn**	**07 10 08.3**	**+0.7**
SCIG	**Sabancuy**	**4.76**	**39**	*i* P	**Pn**	**07 09 16.6**	**+2.8**
SCIG				*i* S	**Sn**	**07 10 01.2**	**-8.0**

*IDC **26** 07:20:35.3±1.4, 39°.90N×106°.61E, h0km, mb3.5/3, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=61.7km s-min=22.9km az=54.0*

ISC 26 07:20:37.9±0.7, 39°.87N±0°.05×106°.56E±0°.05, h16km, n9, σ3°30/16, mb3.7/3, 1D, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**4.34**	**210**	Pg	**Pg**	**07 22 03.3**	**+2.3**
LZH				Sn	**Sb**	**07 22 43.3**	**-2.7**
LZH				Sg	Sg	07 23 14.0	+17
LZH				smax	smax		
	comp=N,470nm,1.4s						
LZH				smax	smax		
	comp=E,380nm,1.4s						
GTA	**Gaotai**	**5.23**	**267**	Pn	Pn	07 22 00.0	+4.5
GTA				Pg	**Pg**	**07 22 20.5**	**+2.6**
GTA				Sn	**Sg**	**07 23 28.3**	**+2.7**
GTA				smax	smax		
	comp=N,310nm,1.0s						
GTA				smax	smax		
	comp=E,190nm,0.6s						
GTA				LR	LR		
	comp=N,500nm,8.0s						
GTA				LR	LR		
	comp=E,250nm,5.1s						
GTA				LR	LR		
	comp=Z,96nm,6.9s						
XAN	**Xi'an**	**6.12**	**161**	Pn	**Pn**	**07 22 10.8**	**+3.2**
XAN				Pg	**Pg**	**07 22 33.3**	**-1.6**
XAN				Sn	**Sn**	**07 23 18.0**	**+0.7**
XAN				Sg	**Sg**	**07 23 46.5**	**-7.6**
XAN				smax	smax		
	comp=N,350nm,0.7s						
XAN				smax	smax		
	comp=E,200nm,0.9s						
HNS	**HongShan**	**6.84**	**109**	⇓Pg	**Pb**	**07 22 38.5**	**+2.2**
HNS				Sg	**Sb**	**07 24 01.3**	**+3.6**
HNS				smax	smax		
	comp=N,210nm,0.9s						
HNS				smax	smax		
	comp=E,200nm,0.9s						
SONM	**Songino Array**	**7.97**	**359**	Pn	**Pn**	**07 22 31.4**	**-1.7**
	comp=E,1.1nm,0.3s,baz=180,slow=15,SNR=12						
SONM				Sn	**Sn**	**07 23 58.2**	**-4.6**
	comp=E,3.4nm,0.3s,baz=184,slow=21,SNR=7.7						
SONM				Lg	Lg	07 24 39.1	
	comp=E,5.7nm,0.3s,baz=174,slow=27,SNR=5.6						
	comp=E,3.1nm,0.5s						
MKAR	**Makanchi Array**	**18.92**	**299**	P	**Pn**	**07 24 57.4**	**-1.1**
	comp=E,0.2nm,0.3s,baz=96,slow=12,SNR=5.5						
	comp=E,0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**22.34**	**308**	P	**P**	**07 25 35.0**	**+0.1**
	comp=E,0.6nm,0.6s,baz=109,slow=12,SNR=6.0						
	comp=E,0.6nm,0.6s						
WRA	**Warramunga Arr**	**64.90**	**151**	P	**P**	**07 31 16.8**	**+0.3**
	comp=E,0.7nm,0.9s,baz=338,slow=6.6,SNR=1.5						
	comp=E,0.7nm,0.9s						
ASAR	**Alice Springs**	**68.16**	**153**	P	**P**	**07 31 37.2**	**-0.1**
	comp=E,0.4nm,0.6s,baz=340,slow=6.5,SNR=5.5						
	comp=E,0.4nm,0.6s						

*SNET **26** 07:26:41.7±1.0, 13°.28N×89°.73W, h55km±14km, ML2.3*
*GCG **26** 07:26:42.1±0.8, 13°.34N×89°.72W, h57km±12km, MD3.5*

ISC 26 07:26:41.1±4.2, 13°.2N±0°.2×89°.8W±0°.2, h50km±27km, n14, σ0°.24/20, 3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.53**	**60**	*e*P	**Pn**	**07 26 52.8**	**+0.1**
LALI				*e*S	**Sn**	**07 27 00.6**	**-0.4**
LALI	**Alcalda de L**	**0.53**	**60**	*i* P	**Pn**	**07 26 52.9**	**+0.1**
LALI				*e*S	**Sn**	**07 27 00.6**	**-0.4**
JAYA	**Jayaque - finc**	**0.54**	**37**	⇓*i*P	**Pn**	**07 26 53.2**	**+0.1**
JAYA				*e*S	**Sn**	**07 27 02.0**	**+0.3**
JAYA				IAML		07 27 03.4	
	comp=Z,173nm,0.1s						
JAYA	**Jayaque - finc**	**0.54**	**37**	*i* P	**Pn**	**07 26 53.2**	**+0.1**
JAYA				*e*S	**Sn**	**07 27 01.5**	**-0.2**
CEVE	**Cerro Verde**	**0.62**	**15**	*e*P	**Pn**	**07 26 54.3**	**+0.1**
CEVE				IAML		07 27 07.2	
	comp=Z,158nm,0.2s						
SBLS	**San Blas**	**0.63**	**15**	*e*P	**Pn**	**07 26 54.4**	**+0.1**
SNJE	**San Jose**	**0.67**	**15**	⇓*e*P	**Pn**	**07 26 54.6**	**-0.1**
PMON	**Piamonte**	**0.67**	**43**	*e*P	**Pn**	**07 26 55.0**	**+0.4**
NUBE	**Las Nubes**	**0.68**	**1**	⇓*e*P	**Pn**	**07 26 54.8**	**0.0**
NUBE				*e*S	**Sn**	**07 27 04.7**	**+0.1**
NUBE	**Las Nubes**	**0.68**	**1**	*i* P	**Pn**	**07 26 54.8**	**0.0**
LOMA	**Loma Larga**	**0.73**	**55**	*e*P	**Pn**	**07 26 55.4**	**-0.1**
LOMA				*e*S	**Sn**	**07 27 06.1**	**+0.2**
LOMA				IAML		07 27 07.9	
	comp=Z,134nm,0.1s						
SLOZ	**Alcaldia de Sa**	**0.80**	**0**	*e*P	**Pn**	**07 26 56.3**	**0.0**
COEG	**Centro de Oper**	**0.97**	**66**	*e*P	**Pn**	**07 26 58.6**	**+0.1**
COEG				IAML		07 27 14.1	
	comp=Z,49nm,0.2s						
MTO3	**Montecristo**	**1.24**	**19**	*i* P	**Pn**	**07 27 02.2**	**-0.2**

ISC 26 07:28:22.0±1.1, 27°.72N±0°.07×111°.66W±0°.05, h10km, n6, σ0°.56/11, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.65**	**233**	*e*P	**Pb**	**07 28 36.0**	**+0.5**
SRIG				*e*S	**Sb**	**07 28 45.0**	**+0.4**
SRIG				⇑*e*		07 28 45.9	
SRIG				IAML		07 28 45.9	
	comp=N,216nm,0.5s						
SRIG				IAML		07 28 46.0	
	comp=E,238nm,0.7s						
SRIG				⇓*e*		07 28 46.0	
GUYB	**Guaymas**	**0.72**	**75**	⇑*e*P	**Pb**	**07 28 36.8**	**+0.3**
GUYB				*e*S	**Sb**	**07 28 46.6**	**+0.2**
GUYB				IAML		07 28 47.7	
	comp=E,300nm,0.2s						
GUYB				*e*		07 28 47.7	
BKIRB	**Bahia Kino**	**1.18**	**345**	*e*P	**Pn**	**07 28 44.6**	**+0.1**
BKIRB				*e*S	**Sb**	**07 29 00.4**	**+0.7**
SFQB	**San Francisqui**	**1.27**	**303**	*e*P	**Pn**	**07 28 44.6**	**-1.1**
HSIG		**1.44**	**25**	*e*P	**Pn**	**07 28 48.2**	**+0.1**
HSIG				*e*S	**Sn**	**07 29 07.1**	**0.0**
NOVRB	**El Novillo Son**	**2.15**	**55**	*e*P	**Pg**	**07 29 02.8**	**-0.5**
NOVRB				*e*S	**Sb**	**07 29 28.1**	**+0.3**

*HEL **26** 07:30:20.4±0.1, 63°.98N×28°.11E, h0km, ML2.1, Suspected explosion*
*IDC **26** 07:30:20.4±1.6, 63°.83N×28°.52E, h0km, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=22.9km s-min=8.6km az=105.0*
*BER **26** 07:30:21.4±1.0, 63°.86N×28°.18E, h0km, ML1.9, ML2.1(HEL), Suspected explosion*
*UPP **26** 07:30:22.6±2.2, 63°.93N×27°.62E, h0km, ML2.0*

ISC 26 07:30:20.3±0.8, 64°.01N±0°.02×28°.06E±0°.03, h0km, n73, σ1°35/113, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.63**	**190**	PG	**Pg**	**07 30 31.0**	**-1.4**
	baz=8.0						
NIF				SG	**Sg**	**07 30 40.6**	**+0.1**
RMF	**Romuvaara**	**0.85**	**75**	PG	**Pg**	**07 30 35.9**	**-0.7**
	baz=257						
RMF				MSG		07 30 46.3	
	comp=Z,28nm,0.2s						
OUL	**Oulu**	**1.43**	**320**	PG	**Pn**	**07 30 47.2**	**-0.2**
OUL				SN	**Sg**	**07 31 06.9**	**+0.8**
OUF	**Merijarvi**	**1.50**	**285**	PG	**Pn**	**07 30 47.7**	**-0.7**
OUF				MSG		07 31 06.3	
	comp=Z,23nm,0.2s						
OUF				SN	**Sg**	**07 31 08.3**	**-0.1**
OBF4	**Vikkela, Lumij**	**1.52**	**304**	PG	**Pn**	**07 30 48.5**	**-0.1**
OBF4				MSG		07 31 07.1	
	comp=Z,16nm,0.2s						
OBF4				SN	**Sn**	**07 31 11.5**	**+2.5**
SUF	**Sumiainen**	**1.55**	**214**	PG	**Pn**	**07 30 48.1**	**-1.1**
	baz=32						
SUF				MSG		07 31 06.5	
	comp=Z,7.4nm,0.2s						
KU1	**Kurvinen**	**1.69**	**22**	PG	**Pn**	**07 30 51.2**	**+0.2**
	baz=204						
KU1				SG	**Sn**	**07 31 14.1**	**+0.8**
KU2	**Taivalkoski**	**1.71**	**2**	PG	**Pn**	**07 30 51.5**	**+0.2**
KU2				SN	**Sg**	**07 31 16.1**	**+1.0**
OBF0	**Syolatti, Pyha**	**1.74**	**288**	PG	**Pn**	**07 30 52.2**	**+0.6**
OBF0				MSG		07 31 13.3	
	comp=Z,23nm,0.2s						
OBF0				SG	**Sn**	**07 31 15.3**	**+0.8**
JOF	**Joensuu**	**1.83**	**125**	*e*P	**Pn**	**07 30 52.4**	**-0.5**
JOF	**Joensuu**	**1.83**	**125**	PG	**Pn**	**07 30 52.4**	**-0.5**
	baz=305						
JOF				SN	**Sn**	**07 31 16.2**	**-0.5**
MSF	**Maaselka**	**1.96**	**12**	PG	**Pn**	**07 30 55.5**	**+0.8**
	baz=192						
MSF				SG	**Sn**	**07 31 20.8**	**+0.9**
KAF	**Kangasniemi**	**2.06**	**203**	PG	**Pn**	**07 30 56.4**	**+0.3**
	baz=19						
KAF				MSG		07 31 21.0	
	comp=Z,12nm,0.2s						
KAF				SG	**Sn**	**07 31 24.2**	**+1.6**
RANF	**Ranua**	**2.08**	**346**	PG	**Pn**	**07 30 58.0**	**+1.6**
	baz=167						
RANF				SG	**Sb**	**07 31 25.5**	**+0.2**
KU6	**Riekki**	**2.17**	**20**	PG	**Pn**	**07 30 59.1**	**+1.5**
KU6				MSG		07 31 25.4	
	comp=Z,6.9nm,0.2s						
KU6				SG	**Sn**	**07 31 27.1**	**+1.9**
KEF	**Keuruu**	**2.35**	**220**	*e*P	**Pn**	**07 31 00.6**	**+0.6**
KEF	**Keuruu**	**2.35**	**220**	PG	**Pn**	**07 31 01.0**	**+1.0**
KEF				MSG		07 31 29.6	
	comp=Z,14nm,0.2s						
KEF				SG	**Sb**	**07 31 32.4**	**-0.5**
OLKF	**Oulanka, Finla**	**2.39**	**13**	PG	**Pn**	**07 31 03.0**	**+2.3**
	baz=191						
OLKF				MSG		07 31 31.9	
	comp=Z,10nm,0.2s						
OLKF				SG	**Sb**	**07 31 33.8**	**-0.3**
VAF	**Ylistaro**	**2.60**	**250**	*e*P	**Pn**	**07 31 05.6**	**+2.1**
VAF	**Ylistaro**	**2.60**	**250**	PB	**Pn**	**07 31 05.6**	**+2.1**
VAF				MSG		07 31 37.6	
	comp=Z,8.5nm,0.2s						
VAF				SG	**Sb**	**07 31 39.4**	**-0.8**
TOF	**Tornio**	**2.61**	**324**	PN	**Pn**	**07 31 04.7**	**+1.1**
TOF				SN	**Sn**	**07 31 36.9**	**+0.9**
TOF				MSG		07 31 38.6	
	comp=Z,5.3nm,0.2s						
RUF	**Ruokolahti**	**2.63**	**171**	PB	**Pn**	**07 31 05.4**	**+1.5**
RUF				MSG		07 31 36.8	
	comp=Z,11nm,0.2s						
RUF				SG	**Sb**	**07 31 41.5**	**+0.6**
KALU	**Kalix**	**2.73**	**315**	P	**Pn**	**07 31 06.5**	**+1.2**
KALU				S	**Sn**	**07 31 39.9**	**+0.9**
KALU	**Kalix**	**2.73**	**315**	P	**Pn**	**07 31 06.5**	**+1.2**
KALU				S	**Sn**	**07 31 39.9**	**+0.9**
KALU	**Kalix**	**2.73**	**315**	PN	**Pn**	**07 31 06.4**	**+1.2**
	baz=132						
KALU				SN	**Sn**	**07 31 40.5**	**+1.6**
FIA0	**FINESS Array S**	**2.73**	**200**	PB	**Pn**	**07 31 06.8**	**+1.5**
	baz=16						
FIA0				MSG		07 31 40.2	
	comp=Z,5.8nm,0.2s						
FIA0				SG	**Sn**	**07 31 41.8**	**+2.8**
FINES	**FINESS Array B**	**2.73**	**200**	Pn	**Pn**	**07 31 07.2**	**+1.9**
	comp=Z,1.8nm,0.3s,baz=27,slow=15,SNR=49						
FINES				Lg	Lg	07 31 42.0	
	comp=Z,2.0nm,0.3s,baz=20,slow=28,SNR=37						
	comp=Z,3.7nm,0.3s						
RNF	**Rovaniemi**	**2.75**	**343**	PB	**Pn**	**07 31 08.3**	**+2.7**
RNF				SB	**Sb**	**07 31 44.2**	**-0.1**
BURU	**Burvik**	**2.97**	**284**	P	**Pn**	**07 31 08.7**	**+0.1**
BURU	**Burvik**	**2.97**	**284**	P	**Pn**	**07 31 08.7**	**+0.1**
BURU	**Burvik**	**2.97**	**284**	PN	**Pn**	**07 31 08.8**	**+0.3**
BURU				SN	**Sn**	**07 31 46.1**	**+1.3**
SJUU	**Sjulsmark**	**3.15**	**301**	P	**Pn**	**07 31 11.7**	**+0.7**
SJUU	**Sjulsmark**	**3.15**	**301**	P	**Pn**	**07 31 11.7**	**+0.7**
UMAU	**Umeaa**	**3.26**	**271**	PN	**Pn**	**07 31 12.4**	**-0.1**
	baz=83						
VJF	**Virojoki**	**3.49**	**184**	SG	**Sb**	**07 32 04.2**	**-1.5**
KPF	**Kankaanpaa**	**3.50**	**234**	PN	**Pn**	**07 31 17.6**	**+1.8**
ERTU	**Ertsjaerv**	**3.55**	**319**	P	**Pn**	**07 31 18.1**	**+1.5**
ERTU				S	**Sn**	**07 31 59.3**	**+0.2**
ERTU	**Ertsjaerv**	**3.55**	**319**	P	**Pn**	**07 31 18.1**	**+1.5**
ERTU				S	**Sn**	**07 31 59.3**	**+0.2**
ERTU	**Ertsjaerv**	**3.55**	**319**	PN	**Pn**	**07 31 17.9**	**+1.4**
ERTU				SN	**Sn**	**07 32 00.6**	**+1.4**
PVF	**Pernaja**	**3.62**	**197**	PB	**Pn**	**07 31 21.1**	**+3.6**
KLF	**Kolari**	**3.66**	**334**	PN	**Pn**	**07 31 19.3**	**+1.3**
	baz=153						
KLF				SN	**Sn**	**07 32 02.0**	**+0.2**
PAJU	**Pajala**	**3.66**	**328**	P	**Pn**	**07 31 19.5**	**+1.4**
PAJU				S	**Sn**	**07 32 02.3**	**+0.4**
PAJU	**Pajala**	**3.66**	**328**	P	**Pn**	**07 31 19.5**	**+1.4**
PAJU				S	**Sn**	**07 32 02.3**	**+0.4**
PAJU	**Pajala**	**3.66**	**328**	PN	**Pn**	**07 31 19.4**	**+1.4**
PAJU				SN	**Sn**	**07 32 02.7**	**+0.8**
HARU	**Harads**	**3.69**	**309**	P	**Pn**	**07 31 19.5**	**+0.9**
HARU	**Harads**	**3.69**	**309**	P	**Pn**	**07 31 19.5**	**+0.9**
SVAU	**Svanoeiden**	**3.73**	**281**	P	**Pn**	**07 31 18.9**	**-0.2**
SVAU	**Svanoeiden**	**3.73**	**281**	P	**Pn**	**07 31 18.9**	**-0.2**
LILU	**Lilltraesk**	**3.76**	**294**	P	**Pn**	**07 31 19.7**	**+0.4**
LILU	**Lilltraesk**	**3.76**	**294**	P	**Pn**	**07 31 19.7**	**+0.4**
VRF	**Varrio**	**3.81**	**9**	PB	**Pn**	**07 31 24.7**	**+4.6**
VRF				SB	**Sb**	**07 32 14.0**	**-0.9**
HUSU	**Husum**	**3.99**	**264**	PN	**Pn**	**07 31 24.4**	**+1.8**
RAF	**Rauma**	**4.18**	**227**	*e*P	**Pn**	**07 31 26.4**	**+1.2**
MASU	**Masugnsbyn**	**4.27**	**327**	P	**Pn**	**07 31 28.0**	**+1.5**
MASU				S	**Sn**	**07 32 17.4**	**+0.5**
MASU	**Masugnsbyn**	**4.27**	**327**	P	**Pn**	**07 31 28.0**	**+1.5**
MASU				S	**Sn**	**07 32 17.4**	**+0.5**
DUNU	**Dundret**	**4.41**	**318**	P	**Pn**	**07 31 29.8**	**+1.4**
DUNU				S	**Sn**	**07 32 20.1**	**-0.2**
DUNU	**Dundret**	**4.41**	**318**	P	**Pn**	**07 31 29.8**	**+1.4**
DUNU				S	**Sn**	**07 32 20.1**	**-0.2**
RAJF	**Raja-Jooseppi**	**4.49**	**1**	PN	**Pn**	**07 31 31.1**	**+1.7**
RAJF				SN	**Sn**	**07 32 23.1**	**+0.9**
LVZ	**Lovozero**	**4.74**	**32**	SG	**Sg**	**07 32 48.6**	**-3.9**
HEF	**Hetta**	**4.76**	**340**	*e*P	**Pn**	**07 31 34.5**	**+1.3**
HEF				*e*S	**Sn**	**07 32 27.4**	**-1.7**
SALU	**Saltoluokta**	**5.19**	**315**	*e*P	**Pn**	**07 31 40.0**	**+0.9**
SALU				*e*S	**Sn**	**07 32 39.0**	**-0.7**
ARA0	**ARCESS Array S**	**5.64**	**351**	*e*P	**Pn**	**07 31 46.4**	**+1.1**
ARA0				*e*S	**Sn**	**07 32 48.7**	**-1.9**
ARA0				IAML		07 32 54.3	
	comp=Z,2.3nm,0.2s						
ARCES	**ARCESS Array B**	**5.64**	**351**	Pn	**Pn**	**07 31 46.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=164,slow=14,SNR=25						
ARCES				Sn	**Sn**	**07 32 48.5**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=169,slow=24,SNR=10						
ARCES				Lg	Lg	07 33 11.8	
	comp=Z,0.4nm,0.3s,baz=164,slow=30,SNR=8.5						
	comp=Z,0.2nm,0.2s						
KEV	**Kevo**	**5.79**	**356**	*e*P	**Pn**	**07 31 48.3**	**+1.1**
KEV				*e*S	**Sn**	**07 32 52.1**	**-2.1**
MOR8	**Moi Rana**	**6.15**	**297**	*e*P	**Pn**	**07 31 52.5**	**+0.3**
I37NO	**I37NO**	**6.33**	**328**	I	I	08 08 10.0	
	baz=140,slow=323,SNR=3.4						
JETT	**Jettan, Norway**	**6.33**	**335**	*e*P	**Pn**	**07 31 55.5**	**+0.8**
JETT				IAML		07 33 14.5	
	comp=Z,3.0nm,0.2s						
STEI	**Steigen**	**6.54**	**313**	*e*P	**Pn**	**07 31 57.8**	**+0.2**
KONS	**Konsvik**	**6.75**	**298**	*e*P	**Pn**	**07 32 00.9**	**+0.5**
VAGH	**Vaagaholmen**	**6.75**	**300**	*e*P	**Pn**	**07 32 00.2**	**-0.2**
HFS	**Hagfors**	**7.78**	**247**	Pn	**Pn**	**07 32 14.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=62,slow=11,SNR=8.0						
HFS				Sn	**Sn**	**07 33 40.9**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=60,slow=27,SNR=2.3						
HFS				Lg	Lg	07 34 15.4	
	comp=Z,0.1nm,0.3s,baz=49,slow=31,SNR=4.2						
	comp=Z,0.6nm,0.3s						
NOA	**NORSAR Array B**	**8.33**	**257**	Pn	**Pn**	**07 32 21.6**	**-0.6**
	baz=71,slow=11,SNR=4.6						
	comp=Z,0.1nm,0.3s						
I43RU	**DUBNA INFRASON**	**8.60**	**144**	I	I	08 22 30.0	
	baz=332,slow=324,SNR=3.4						

GCG 26 07:30:41.7±0.9, 15°.62N×92°.42W, h77km±124km, MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.72**	**168**	*i* S	Sn	07 31 10.1	+1.1
SMCA	**Catarina**	**0.83**	**157**	*e*P	Pn	07 30 59.0	+0.4
SMCA				*e*S	Sn	07 31 11.1	+0.1
STG8	**El Palmar, Qui**	**1.55**	**138**	*e*P	Pn	07 31 03.8	-4.1
STG8				*e*S	Sn	07 31 20.6	-6.9
STG0	**El Palmar, Qui**	**1.57**	**139**	*e*P	Pn	07 31 03.6	-4.5
STG0				*i* S	Sn	07 31 21.9	-6.0
STG5	**El Palmar, Qui**	**1.59**	**139**	*i* P	Pn	07 31 03.7	-4.5

*ASRS **26** 07:39:05.0±1.0, 54°.36N×86°.94E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 07:39:09.0±2.9, 54°.36N×86°.69E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=24.3km s-min=15.2km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.18**	**250**	I	I	07 48 20.0	
	baz=70,slow=337,SNR=0.8						
ZALV	**Zalesovo Beam**	**1.18**	**250**	Pg	Pg	07 39 30.9	-0.6
	2.1nm,0.3s,baz=69,slow=17,SNR=10						
ZALV				Lg	Lg	07 39 46.5	
	2.2nm,0.3s,baz=68,slow=28,SNR=6.7						
ZALV				Rg	Rg	07 40 07.4	
	2.5nm,0.3s,baz=67,slow=23,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.23**	**236**	Pn	Pn	07 40 43.4	+1.3
	0.2nm,0.3s,baz=55,slow=14,SNR=7.6						
KURBB				Lg	Lg	07 42 26.6	
	baz=55,slow=31,SNR=1.3						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**8.08**	**202**	Pn	Pn	07 41 08.0	+0.5
	0.3nm,0.3s,baz=25,slow=13,SNR=10.0						
MKAR				Sn	Sn	07 42 40.6	+1.0
	0.1nm,0.3s,baz=15,slow=24,SNR=2.3						
MKAR				Lg	Lg	07 43 25.7	
	0.1nm,0.3s,baz=24,slow=28,SNR=1.8						
	0.3nm,0.3s						

*IDC **26** 07:47:21.9±4.2, 9°.55N×126°.70E, h160km±39km, mb3.5/11, mbtmp3.9/12, Error ellipse: s-maj=67.9km s-min=17.3km az=68.0*

ISC 26 07:47:09.1±0.9, 9°.6N±0°.2×126°.8E±0°.5, h41km, n12, σ0°.87/12, mb3.9/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.83**	**206**	P	Pn	07 48 05.4	+14
	203nm,0.3s,baz=294,slow=21,SNR=1.3						
DAV				S	Sn	07 48 41.1	+16
	286nm,0.4s,baz=248,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**30.32**	**166**	P	**P**	**07 53 16.8**	**0.0**
	0.3nm,0.6s,baz=352,slow=14,SNR=1.3						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**33.82**	**168**	P	**P**	**07 53 48.1**	**+0.5**
	0.2nm,0.4s,baz=352,slow=7.0,SNR=6.9						
	0.2nm,0.4s						
SONM	**Songino Array**	**41.79**	**339**	P	**P**	**07 54 55.6**	**+0.9**
	0.7nm,0.5s,baz=157,slow=9.3,SNR=4.8						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**52.85**	**323**	P	**P**	**07 56 20.1**	**-0.6**
	0.8nm,0.6s,baz=118,slow=7.9,SNR=9.1						
MKAR				PcP	**PcP**	**07 57 28.8**	**-0.7**
	0.2nm,0.5s,baz=116,slow=5.0,SNR=1.6						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**56.89**	**325**	P	**P**	**07 56 49.1**	**-0.7**
	0.7nm,0.8s,baz=128,slow=6.8,SNR=7.5						
	0.7nm,0.8s						
NRIK	**Noril'sk**	**64.75**	**346**	P	**P**	**07 57 43.4**	**+0.5**
	1.7nm,0.5s,baz=129,slow=7.3,SNR=4.2						
	1.7nm,0.5s			

1.8nm,0.8s,baz=46,slow=8.2,SNR=5.0
1.8nm,0.8s
VNDA Vanda 89.27 173 P **P 08 03 43.0 -0.6**
0.6nm,0.7s,baz=51,slow=4.3,SNR=4.0
0.6nm,0.7s
HFS Hagfors 92.69 332 P **P 08 03 58.9 -1.1**
1.0nm,0.7s,baz=57,slow=5.3,SNR=2.1
1.0nm,0.7s
YKA Yellowknife Ar 94.28 24 P **P 08 04 06.7 -0.5**
0.1nm,0.6s,baz=305,slow=4.9,SNR=4.6
0.1nm,0.6s

---

*IDC **26** 07:57:15.4±1.6, 3.°06N×129.°07E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=103.4km s-min=18.1km az=71.0*

ISC 26 07:57:21.7±1.7, 2.°9N±0.°3×129.°0E±0.°6, h44km, n6, σ0.°56/6, mb3.8/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.16**	**189**	P	**P**	**08 02 03.5**	**+0.2**
	3.3nm,0.9s,baz=9.5,slow=12,SNR=2.4						
	3.3nm,0.9s						
WRA	**Warramunga Arr**	**23.34**	**167**	P	**P**	**08 02 27.1**	**+0.8**
	1.2nm,0.5s,baz=346,slow=9.9,SNR=8.7						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**26.88**	**170**	P	**P**	**08 02 58.4**	**-0.2**
	0.5nm,0.5s,baz=355,slow=8.0,SNR=12						
	0.5nm,0.5s						
STKA	**Stephens Creek**	**36.64**	**162**	P	**P**	**08 04 23.9**	**-0.3**
	1.3nm,0.7s,baz=0.0,slow=8.1,SNR=1.4						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**59.49**	**325**	P	**P**	**08 07 20.8**	**+0.3**
	0.4nm,0.4s,baz=117,slow=7.7,SNR=7.8						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.62**	**327**	P	**P**	**08 07 47.9**	**-0.3**
	1.1nm,0.5s,baz=124,slow=6.0,SNR=8.7						
	1.1nm,0.5s						

---

*IDC **26** 07:59:54.7±1.2, 24.°06N×125.°64E, h0km, mb3.4/4, mbtmp3.4/5, ML2.7/1, Error ellipse: s-maj=35.5km s-min=23.1km az=83.0*

*JMA **26** 07:59:57.2±0.3, 24.°N±1.°×125.°2E±0.°8, h35km, MV3.5/11, NEAR MIYAKOJIMA ISLAND*

ISC 26 07:59:56.4±1.6, 24.°24N±0.°08×125.°21E±0.°05, h29km±12km, n15, σ0.°66/21, mb3.5/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.51**	**13**	*i* P	**Pb**	**08 00 07.2**	**+0.3**
JMJ2				S	**Sb**	**08 00 14.9**	**+0.9**
JOGS	**Gusukube**	**0.55**	**20**	*i* P	**Pn**	**08 00 07.9**	**-0.4**
JOGS				S	**Sn**	**08 00 16.3**	**-0.2**
JIRB	**Irabujima**	**0.58**	**357**	*i* P	**Pb**	**08 00 07.9**	**-0.2**
JIRB				S	**Sb**	**08 00 15.9**	**-0.2**
JTJ	**Tarama**	**0.61**	**311**	*i* P	**Pn**	**08 00 08.4**	**-0.7**
JTJ				*e*S	**Sb**	**08 00 16.6**	**-0.1**
JIKM	**Ikemajima**	**0.68**	**3**	P	**Pb**	**08 00 09.6**	**-0.1**
JIKM				S	**Sb**	**08 00 19.0**	**+0.2**
JISG	**Ishigakijimahi**	**0.89**	**293**	P	**Pn**	**08 00 12.6**	**-0.3**
JISG				*e*S	**Sn**	**08 00 25.3**	**+0.5**
JIJ	**Ishigaki jima**	**0.98**	**277**	*i* P	**Pb**	**08 00 14.6**	**-0.1**
JIJ				S	**Sn**	**08 00 28.6**	**+1.5**
JKRS	**Kuro-shima**	**1.09**	**270**	*e*P	**Pb**	**08 00 16.9**	**+0.3**
HATJ	**Hateruma jima**	**1.29**	**262**	*e*P	**Pb**	**08 00 19.1**	**-1.0**
IRIF	**Iriomote-Funau**	**1.35**	**274**	P	**Pb**	**08 00 20.2**	**-0.8**
JOW	**Kunigami**	**3.79**	**46**	Pn	**Pn**	**08 00 52.7**	**-0.1**
	1.2nm,0.3s,baz=234,slow=14,SNR=15						
JOW				Sn	**Sn**	**08 01 35.4**	**-1.1**
	3.6nm,0.3s,baz=275,slow=26,SNR=1.5						
	3.4nm,0.3s						
MKAR	**Makanchi Array**	**40.89**	**314**	P		08 07 40.7	+4.7
	0.2nm,0.4s,baz=100,slow=8.2,SNR=2.4						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**44.46**	**319**	P		08 08 11.7	+6.9
	0.3nm,0.5s,baz=112,slow=9.0,SNR=3.4						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.81**	**168**	P	**P**	**08 08 08.2**	**+0.3**
	0.5nm,0.5s,baz=348,slow=8.8,SNR=5.0						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**48.37**	**169**	P	**P**	**08 08 36.5**	**+0.6**
	0.3nm,0.6s,baz=355,slow=7.1,SNR=4.6						
	0.3nm,0.6s						

---

*MAN **26** 08:04:21.3, 9.°85N×126.°80E, h7km, mb5.9, ML5.0, MS5.5*

MAN INTENSITY III - BURGOS DAPA AND GENERAL LUNA SURIGAO DEL NORTE; INTENSITY II - SOCORRO SURIGAO DEL NORTE; CAGDIANAO AND LIBJO DINAGAT ISLANDS; INTENSITY I - SURIGAO CITY; SISON SURIGAO DEL NORTE; LORETO DINAGAT ISLANDS.

*MOS **26** 08:04:21.5±1.1, 9.°81N×126.°42E, h13km, mb5.2/63, MS5.1/14, Error ellipse: s-maj=8.6km s-min=4.3km az=118.6*

*NEIC **26** 08:04:23.4±1.5, 9.°85N±0.°06×126.°50E±0.°08, h10km±1km, mb5.2/111, Mwb5.4/34, Mww5.3/32, Error ellipse: s-maj=13.6km s-min=9.3km az=254.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.23; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-1.29; $M_{r\theta}$0.22; $M_{\theta\phi}$0.06; $M_{\phi r}$0.86; Fault plane solution: M_o1.54000×10^{17} NP1:ϕ_s7.31000°, δ62.68000°, λ99.38000°. NP2:ϕ_s167.51000°, δ28.77000°, λ72.49000°. Principal axes: T 1.5303, Plg71.0000°, Azm298.0000°; N 0.0234, Plg8.0000°, Azm183.0000°; P -1.5536, Plg17.0000°, Azm90.0000°;*

*NEIC **26** 08:04:23.5, 9.°84N×127.°00E, h12km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^{17}Nm; M_{rr}1.04; $M_{\theta\theta}$0.11; $M_{\phi\phi}$-1.14; $M_{r\theta}$-0.29; $M_{\theta\phi}$0.19; $M_{\phi r}$0.48; Fault plane solution: M_o1.24000×10^{17} NP1: ϕ_s183.73000°, δ33.62000°, λ109.67000°. NP2: ϕ_s340.50000°, δ58.58000°, λ77.38000°. Principal axes: T 1.1945, Plg73.0000°, Azm218.0000°; N 0.0910, Plg11.0000°, Azm347.0000°; P -1.2855, Plg13.0000°, Azm80.0000°;*

*NEIC **26** 08:04:23.5, 9.°83N×126.°52E, h11km*

*NEIC **26** 08:04:23.5, 9.°84N×126.°51E, h12km*

*DJA **26** 08:04:27.7±0.4, 10.°N±2.°×12.°7E±.°, h51km±3km, M5.3/71, mb5.3/71, mB5.7/45, MLv6.1/4, Mw(mB)5.2/45, MwMwp5.3/25, Mwp5.5/25*

*BJI **26** 08:04:28.4, 9.°81N×126.°38E, h63km, mB5.4/60, mb4.8/66, Ms5.3/82, Ms7 5.2/80*

*IDC **26** 08:04:28.6±1.5, 9.°79N×126.°55E, h62km±13km, mb4.4/38, mbtmp4.7/43, MS4.9/70, Error ellipse: s-maj=14.7km s-min=8.2km az=69.0*

*GCMT **26** 08:04:28.4±0.1, 9.°78N±0.°01×126.°64E±0.°01, h19km, MW5.5/155, Moment Tensor Solution. s129, c209; s155, c289; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.74±.03; $M_{\theta\theta}$0.07±.02; $M_{\phi\phi}$-1.81±.02; $M_{r\theta}$-0.29±.05; $M_{\theta\phi}$0.34±.02; $M_{\phi r}$1.80±.07; Best double couple: M_o2.56600×10^{17} NP1:ϕ_s169.00000°, δ22.00000°, λ89.00000°. NP2:ϕ_s351.00000°, δ68.00000°, λ91.00000°. Principal axes: T 2.5000, Plg67.0000°, Azm262.0000°; N 0.1310, Plg1.0000°, Azm170.0000°; P -2.6310, Plg23.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 08:04:29.8±0.4, 9.°78N±0.°03×126.°54E±0.°04, h65km±3km, h65km:pP-P, n781, σ1s73/803, mb5.0/189, 32C-27D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.86**	**199**		**Pn**	**08 05 10.7**	**-2.3**
DAV	**Davao City (W)**	**2.86**	**199**	P	**Pn**	**08 05 12.8**	**-0.2**
	188nm,0.3s,baz=66,slow=4.4,SNR=20						
DAV				LR	LR	08 06 24.0	
	comp=Z,50μm,19.2s,baz=24,slow=40						
DAV	**Davao City (W)**	**2.86**	**199**	P	**Pn**	**08 05 12.0**	**-1.0**
SGSI	**Sangihe**	**6.14**	**189**	P	Pn	08 06 03.2	+5.3
SGSI				S	Sn	08 07 20.3	+13
TGY	**Tagaytay City**	**6.96**	**309**	P	**Pn**	**08 06 08.3**	**-0.9**
	84nm,0.3s,baz=195,slow=16,SNR=8.9						
TGY				LR	LR	08 09 08.0	
	comp=Z,21μm,19.6s,baz=144,slow=40						
I39PW	**PALAU INFRASON**	**8.22**	**105**	I	I	08 56 00.0	
	baz=281,slow=303,SNR=0.6						
TNTI	**Ternate**	**8.99**	**175**		**Pn**	**08 06 38.7**	**+1.8**
TNTI	**Ternate**	**8.99**	**175**	P	**Pn**	**08 06 40.3**	**+3.4**
	2μm182nm,0.9s						
MYLDM	**Lahad Datu**	**9.19**	**241**		**Pn**	**08 06 41.5**	**+1.8**
KMSI	**Cibinong**	**9.50**	**196**	P	Pn	08 06 50.5	+6.7
MRSI	**Marisa**	**10.32**	**207**	P	**Pn**	**08 06 58.1**	**+3.1**
	8μm106nm,1.3s						
TOLI2	**Tolitoli**	**10.35**	**214**		**Pn**	**08 06 53.4**	**-2.0**
KKM	**Kota Kinabalu**	**10.88**	**251**		**Pn**	**08 07 02.2**	**-0.6**
LUWI	**Luwuk**	**11.39**	**199**	Pn	**Pn**	**08 07 08.5**	**-1.2**
LUWI	**Luwuk**	**11.39**	**199**	P	Pn	08 07 15.6	+5.9
	6μm4μm285nm,0.8s						
MPSI	**Mapaga**	**11.48**	**216**	P	Pn	08 07 18.7	+7.8
SWI	**Sorong**	**11.57**	**156**	P	**Pn**	**08 07 10.5**	**-1.7**
	4μm50nm,0.8s						
APSI	**Ampana**	**11.69**	**205**	P	**Pn**	**08 07 16.4**	**+2.6**
	2μm188nm,0.9s						
SANI	**Sanana**	**11.77**	**183**	P	**Pn**	**08 07 13.8**	**-1.1**
NLAI	**Namlea**	**12.95**	**178**	P	**Pn**	**08 07 30.7**	**-0.3**
	88nm,0.8s						
MSAI	**Masohi**	**13.26**	**170**	P	**Pn**	**08 07 37.8**	**+2.6**
	4μm143nm,0.8s						
RKPI	**Ransiki, Papua**	**13.55**	**145**	P	**Pn**	**08 07 35.3**	**-3.9**
	9μm141nm,1.1s						
FAKI	**Fak Fak**	**13.84**	**155**	Pn	**Pn**	**08 07 41.3**	**-1.8**
FAKI	**Fak Fak**	**13.84**	**155**	P	**Pn**	**08 07 44.6**	**+1.6**
	4μm2μm102nm,1.1s						
YULB	**Yu-li**	**14.43**	**340**		**Pn**	**08 07 46.6**	**-4.1**
BAKI	**Biak**	**14.48**	**138**	P	**Pn**	**08 07 47.4**	**-4.0**
	7μm2μm112nm,1.1s						
TPUB	**Ta-pu**	**14.58**	**338**		Pn	08 07 47.7	-5.0
SSLB	**Suanglung**	**14.91**	**340**		**Pn**	**08 07 56.7**	**-0.3**
SPSI	**Siedrap Palu**	**15.23**	**207**	P	**P**	**08 08 07.9**	**+3.2**
BNSI	**Bone**	**15.48**	**205**	P	**P**	**08 08 09.3**	**+1.8**
	5μm5μm176nm,2.2s						
YHNB	**Yeheng**	**15.60**	**342**		**Pn**	**08 08 02.5**	**-3.3**
SBUM	**Sibu**	**15.99**	**244**		**Pn**	**08 08 08.2**	**-2.5**
KAPI	**Kappang**	**16.18**	**205**		**Pn**	**08 08 11.1**	**-2.1**
KAPI	**Kappang**	**16.18**	**205**	P	**Pn**	**08 08 11.8**	**-1.4**
	10nm,0.8s,baz=30,slow=11,SNR=4.4						
KAPI				LR	LR	08 14 55.8	
	comp=Z,3μm,20.5s,baz=30,slow=39						
BKSI	**Bulukumba**	**16.31**	**203**	P	**P**	**08 08 19.3**	**+2.6**
KNMB	**Chin-men Tao**	**16.54**	**333**	Pn	**Pn**	**08 08 13.4**	**-4.1**
SMPI	**Sarmi**	**16.84**	**133**	P	**Pn**	**08 08 22.0**	**+0.6**
	8μm3μm161nm,1.3s						
QZH	**Quanzhou**	**16.87**	**334**	P	**Pn**	**08 08 18.5**	**-3.1**
QZH				S	**Sn**	**08 11 31.3**	**+2.9**
QZH				pmax	pmax		
	comp=Z,2μm,7.9s						
QZH				LR	LR		
	comp=N,8μm,17.2s						
QZH				LR	LR		
	comp=E,4μm,16.8s						
QZH				LR	LR		
	comp=Z,10μm,18.6s						
JOW	**Kunigami**	**17.04**	**5**		**Pn**	**08 08 20.9**	**-2.9**
JOW	**Kunigami**	**17.04**	**5**	P	**P**	**08 08 24.4**	**-0.2**
	28nm,0.8s,baz=212,slow=7.9,SNR=7.1						
JOW				LR	LR	08 14 20.4	
	comp=Z,6μm,19.2s,baz=188,slow=35						
STKI	**Sintang**	**17.83**	**238**	P	**Pn**	**08 08 38.3**	**+4.7**
	10μm137nm,1.9s						
DLV	**Lat**	**17.86**	**279**	P	**P**	**08 08 32.4**	**-1.6**
KSM	**Kuching**	**18.13**	**244**	P	**P**	**08 08 35.4**	**-1.4**
GZH	**Guangzhou**	**18.29**	**318**	P	**Pn**	**08 08 39.5**	**+0.4**
GZH				LR	LR		
	comp=N,12μm,16.0s						
GZH				LR	LR		
	comp=E,9μm,16.2s						
GZH				LR	LR		
	comp=Z,16μm,17.1s						
GENI	**Genyem**	**18.32**	**131**	P	**P**	**08 08 38.2**	**-0.6**
	9μm6μm191nm,2.1s						
GUMO	**Guam**	**18.34**	**76**	P	**P**	**08 08 37.9**	**-1.2**
GUMO				IAmb	IAmb	08 09 06.0	
	comp=Z,155nm,1.1s						
GUMO	**Guam**	**18.34**	**76**	LR	LR	08 15 58.6	
	comp=Z,6μm,18.4s,baz=244,slow=38						
GUMO	**Guam**	**18.34**	**76**	P	**P**	**08 08 37.9**	**-1.2**
GUMO				pmax	pmax		
	comp=Z,155nm,1.1s						
QIZ	**Qiongzhong**	**18.59**	**301**	P	**P**	**08 08 39.3**	**-2.5**
QIZ	**Qiongzhong**	**18.59**	**301**	P	**P**	**08 08 41.0**	**-0.8**
QIZ				sP	**pP**	**08 08 57.5**	**+2.3**
QIZ				S	**Sn**	**08 12 05.8**	**-4.3**
QIZ				pmax	pmax		
	comp=Z,25nm,2.1s						
QIZ				pmax	pmax		
	comp=Z,2μm,9.2s						
QIZ				LR	LR		
	comp=Z,3μm,16.5s						
QIZ				LR	LR		
	comp=Z,5μm,17.2s						
QIZ				LR	LR		
	comp=Z,7μm,19.2s						
JAY	**Jayapura**	**18.66**	**130**	P	**P**	**08 08 40.7**	**-2.1**
	comp=Z,30nm,0.7s,baz=309,slow=6.3,SNR=7.2						
JAY				LR	LR	08 15 23.6	
	comp=Z,7μm,18.6s,baz=316,slow=35						
JAY	**Jayapura**	**18.66**	**130**	P	**Pn**	**08 08 43.8**	**+0.1**
MMRI	**Maumere**	**18.79**	**193**	P	**P**	**08 08 42.6**	**-1.5**
MMRI				IAmb	IAmb	08 09 03.7	
	comp=Z,179nm,1.0s						
MMRI	**Maumere**	**18.79**	**193**	P	**Pn**	**08 08 48.0**	**+2.8**
	comp=Z,164nm,0.8s						
EDFI	**Ende, Flores**	**19.03**	**195**	P	**Pn**	**08 08 50.5**	**+2.3**
	comp=Z,97nm,0.7s						
SOEI	**Soe**	**19.54**	**187**		**P**	**08 08 51.2**	**-1.1**
SOEI	**Soe**	**19.54**	**187**	P	**Pn**	**08 08 57.9**	**+3.7**
	comp=Z,4μmcomp=Z,315nm,0.8s						
PLAI	**Plampang**	**20.44**	**206**	P	Pn	08 09 06.7	+2.0
	comp=Z,4μmcomp=Z,2μmcomp=Z,151nm,0.8s						
WBSI	**Waikabubak, Su**	**20.57**	**200**	P	**P**	**08 09 04.5**	**+1.1**
TWSI	**Taliwang, Sumb**	**20.76**	**208**	P	Pn	08 09 09.9	+1.4
	comp=Z,4μmcomp=Z,2μmcomp=Z,66nm,1.3s						
KMMI	**Kalianget**	**20.89**	**217**	P	Pn	08 09 15.2	+5.2
UBPT	**Khong Chiam**	**21.27**	**287**	P	**P**	**08 09 09.6**	**-1.4**
SSE	**Sheshan**	**21.78**	**348**	P	**P**	**08 09 18.0**	**+1.7**
SSE				pmax	pmax		
	comp=Z,24nm,1.0s						
SSE				pmax	pmax		
	comp=Z,670nm,7.0s						
SSE				LR	LR		
	comp=Z,1μm,19.2s						
SSE				LR	LR		
	comp=Z,1μm,18.9s						
JAGI	**Jajag, Banyuwa**	**21.93**	**215**	P	**P**	**08 09 16.8**	**-1.3**
JAGI				IAmb	IAmb	08 09 26.5	
	comp=Z,60nm,1.0s						
JAGI	**Jajag, Banyuwa**	**21.93**	**215**	P	P	08 09 25.8	+7.8
GMJI	**Gumukmas**	**22.18**	**216**	P	P	08 09 30.0	+9.3
CNSH	**ChangSha**	**22.33**	**327**	P	**P**	**08 09 22.5**	**+0.2**
CNSH				pmax	pmax		
	comp=Z,650nm,9.8s						
CNSH				LR	LR		
	comp=Z,3μm,16.9s						
CNSH				LR	LR		
	comp=Z,3μm,17.5s						
CNSH				LR	LR		
	comp=Z,6μm,16.4s						
TPI	**Tanjungpandan**	**22.56**	**237**	P	**P**	**08 09 27.8**	**+2.9**
	comp=Z,5μmcomp=Z,2μmcomp=Z,79nm,0.7s						
JCJ	**Chichijima**	**22.69**	**39**	P	**P**	**08 09 24.3**	**-1.8**
JCJ	**Chichijima**	**22.69**	**39**	P	**P**	**08 09 24.2**	**-1.9**
	comp=Z,74nm,0.7s,baz=254,slow=18,SNR=4.6						
JCJ				LR	LR	08 18 44.9	
	comp=Z,3μm,18.7s,baz=282,slow=38						
	comp=Z,74nm,0.7s						
NGJI	**Ngawi**	**22.71**	**222**	P	**P**	**08 09 33.1**	**+6.7**
	comp=Z,87nm,1.2s						
MTN	**Manton Dam**	**22.94**	**168**	P	**P**	**08 09 28.1**	**-0.6**
MTN				IAmb	IAmb	08 09 34.7	
	comp=Z,175nm,1.5s						
MTN	**Manton Dam**	**22.94**	**168**	P	**P**	**08 09 28.3**	**-0.4**
	comp=Z,69nm,0.7s						
KDU	**Kakadu**	**23.09**	**165**	P	**P**	**08 09 28.9**	**-1.3**
	comp=Z,125nm,0.9s						
SMRI	**Semarang**	**23.17**	**224**	P	**P**	**08 09 29.9**	**-1.1**
SMRI				IAmb	IAmb	08 09 37.9	
	comp=Z,104nm,0.9s						
SMRI	**Semarang**	**23.17**	**224**	P	**P**	**08 09 33.8**	**+2.8**
	comp=Z,6μmcomp=Z,123nm,1.0s						
NJ2	**Nanjing**	**23.27**	**343**	⇑P	**P**	**08 09 30.8**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,29nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,1μm,4.7s						
NJ2				LR	LR		
	comp=Z,4μm,17.5s						
NJ2				LR	LR		
	comp=Z,2μm,17.5s						
NJ2				LR	LR		
	comp=Z,5μm,18.0s						
PPBI	**Pangkal Pinang**	**23.53**	**241**	P	**P**	**08 09 40.2**	**+5.8**
JNU	**Nakatsue**	**23.57**	**9**	P	**P**	**08 09 33.4**	**-1.2**
JNU				IAmb	IAmb	08 09 45.3	
	comp=Z,46nm,1.0s						
JNU	**Nakatsue**	**23.57**	**9**	P	**P**	**08 09 33.4**	**-1.2**
	comp=Z,19nm,0.8s,baz=166,slow=3.7,SNR=7.1						
JNU				LR	LR	08 20 18.3	
	comp=Z,3μm,18.9s,baz=188,slow=40						
	comp=Z,19nm,0.8s						
WHN	**Wuhan**	**23.57**	**333**	P	**P**	**08 09 35.0**	**+0.4**
WHN				pP	**pP**	**08 09 43.3**	**-4.6**
WHN				pmax	pmax		
	comp=Z,150nm,1.0s						
WHN				pmax	pmax		
	comp=Z,3μm,10.1s						
WHN				LR	LR		
	comp=Z,13μm,16.5s						
WHN				LR	LR		
	comp=Z,8μm,11.5s						
WHN				LR	LR		
	comp=Z,17μm,16.3s						
MANU	**Manus Island**	**23.84**	**118**	P	**P**	**08 09 36.1**	**-1.1**
MANU				IAmb	IAmb	08 09 55.9	
	comp=Z,66nm,1.2s						
MYKOM	**Kota Tinggi**	**23.91**	**252**	P	**P**	**08 09 37.2**	**-0.7**
SLVN	**Son La**	**24.61**	**300**	P	**P**	**08 09 42.6**	**-1.6**
JMN	**Monobe**	**24.77**	**15**	P	**P**	**08 09 43.7**	**-1.8**
JMN				IAmb	IAmb	08 10 04.0	
	comp=Z,72nm,1.1s						
PMBI	**Palembang**	**25.09**	**241**	P	**P**	**08 09 49.9**	**+1.3**
KNRA	**Kununurra**	**25.39**	**175**	P	**P**	**08 09 50.7**	**-0.5**
KNRA	**Kununurra**	**25.39**	**175**	P	**P**	**08 09 52.0**	**+0.8**
	comp=Z,84nm,0.6s						
ENH	**Enshi**	**25.86**	**324**	P	**P**	**08 09 53.8**	**-1.7**
ENH				IAmb	IAmb	08 10 09.7	
	comp=Z,74nm,1.3s						
KULM	**Kulim**	**26.04**	**262**	P	**P**	**08 09 56.2**	**-1.1**
KULM				IAmb	IAmb	08 10 04.2	
	comp=Z,75nm,1.2s						
JHJ	**Hachijo jima 2**	**26.24**	**26**	LR	LR	08 19 50.7	
	comp=Z,3μm,19.7s,baz=285,slow=35						
CGJI	**Cibinong**	**26.39**	**233**	P	**P**	**08 10 05.4**	**+5.0**
	comp=Z,64nm,0.8s						
MDSI	**Maura Dua**	**26.41**	**239**	P	**P**	**08 10 01.7**	**+1.2**
	comp=Z,4μmcomp=Z,2μmcomp=Z,92nm,0.9s						
TJN	**Taejon**	**26.48**	**1**	⇑*e*P	**P**	**08 10 01.7**	**+0.7**
SRIT	**Nakonsritamara**	**26.62**	**270**	P	**P**	**08 10 02.0**	**-0.4**
KASI	**Kota Agung**	**26.71**	**236**	P	P	08 10 10.2	+6.9
	comp=Z,651nmcomp=Z,52nm,0.7s						
LWLI	**Liwa**	**26.79**	**238**	P	**P**	**08 10 06.8**	**+2.7**
BKNI	**Bangkinang**	**27.05**	**251**	P	**P**	**08 10 12.7**	**+6.3**
KMI	**Kunming**	**27.28**	**307**	P	**P**	**08 10 08.0**	**-0.6**
KMI				PP	**PnPn**	**08 10 53.5**	**-2.0**
KMI				S	**S**	**08 14 43.0**	**-0.7**
KMI				sS	sS	08 15 09.0	+1.2
KMI				LR	LR		
	comp=Z,3μm,18.2s						
KMI				LR	LR		
	comp=Z,3μm,16.9s						
KMI				LR	LR		
	comp=Z,4μm,17.4s						
KSI	**Kapahiang**	**27.34**	**242**	P	**P**	**08 10 15.8**	**+6.8**
KSRS	**Korea Array**	**27.58**	**2**	P	**P**	**08 10 09.0**	**-1.7**
	comp=Z,4.0nm,1.0s,baz=190,slow=10,SNR=8.1						
KSRS				LR	LR	08 23 12.3	
	comp=Z,3μm,18.7s,baz=190,slow=41						
	comp=Z,4.0nm,1.0s						
TIA	**Tai'an**	**27.66**	**343**	P	**P**	**08 10 11.5**	**-0.1**
TIA				PcP	**PcP**	**08 13 25.8**	**-1.7**
TIA				S	**S**	**08 14 51.3**	**+2.3**
TIA				ScP	**ScP**	**08 17 05.5**	**+2.8**
TIA				pmax	pmax		
	comp=Z,16nm,1.1s						
TIA				pmax	pmax		
	comp=Z,590nm,6.6s						
TIA				LR	LR		
	comp=Z,4μm,16.7s						
TIA				LR	LR		
	comp=Z,2μm,13.5s						
TIA				LR	LR		
	comp=Z,5μm,18.4s						
FITZ	**Fitzroy Crossi**	**27.72**	**182**	P	**P**	**08 10 11.3**	**-0.8**
	comp=Z,23nm,0.8s,baz=11,slow=11,SNR=19						
	comp=Z,23nm,0.8s						
LYN	**LuoYang**	**27.82**	**335**	P	**P**	**08 10 14.0**	**+1.0**
LYN				S	**S**	**08 14 54.0**	**+2.6**
LYN				pmax	pmax		
	comp=Z,42nm,1.3s						
LYN				pmax	pmax		
	comp=Z,980nm,8.1s						
LYN				LR	LR		
	comp=Z,3μm,13.7s						
LYN				LR	LR		
	comp=Z,2μm,13.4s						
LYN				LR	LR		
	comp=Z,5μm,15.8s						
PPI	**Padang Panjang**	**27.94**	**250**	P	**P**	**08 10 15.8**	**+1.5**
	comp=Z,2μmcomp=Z,102nm,1.3s						
PMG	**Port Moresby**	**28.01**	**132**	P	**P**	**08 10 13.8**	**-1.1**
PMG				IAmb	IAmb	08 10 21.8	
	comp=Z,38nm,1.0s						
PMG	**Port Moresby**	**28.01**	**132**	P	**P**	**08 10 13.5**	**-1.4**
	comp=Z,21nm,0.9s,baz=280,slow=6.3,SNR=4.6						
PMG				LR	LR	08 23 14.8	
	comp=Z,2μm,18.1s,baz=325,slow=40						
	comp=Z,21nm,0.9s						
PMG	**Port Moresby**	**28.01**	**132**	*ce*P	**P**	**08 10 15.0**	**+0.1**
PMG				pmax	pmax		
	comp=Z,31nm,1.1s						
CM31	**Chiang Mai Arr**	**28.09**	**291**	P	**P**	**08 10 14.2**	**-1.3**
CM31				IAmb	IAmb	08 10 17.9	
	comp=Z,47nm,1.4s						
CMAR	**Chiang Mai Arr**	**28.09**	**291**	P	**P**	**08 10 13.6**	**-2.0**
CMAR	**Chiang Mai Arr**	**28.09**	**291**	P	**P**	**08 10 14.7**	**-0.9**
	comp=Z,4.6nm,0.8s,baz=103,slow=6.6,SNR=33						
CMAR				PcP	**PcP**	**08 13 29.7**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=106,slow=4.6,SNR=6.1						
CMAR				LR	LR	08 22 55.2	
	comp=Z,4μm,18.1s,baz=110,slow=39						
	comp=Z,4.6nm,0.8s						
CHTO	**Chiang Mai**	**28.17**	**292**	P	**P**	**08 10 14.8**	**-1.6**
CHTO	**Chiang Mai**	**28.17**	**292**	P	**P**	**08 10 14.8**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,15nm,0.9s						
MNSI	**Mandailing Nat**	**28.26**	**253**	P	**P**	**08 10 18.7**	**+1.5**
MAJO	**Matsushiro**	**28.66

XAN			LR	LR	
	comp=Z,7μm,16.0s				
DL2	**Dalian**	**29.33 352**	P	**P**	**08 10 28.5 +2.2**
DL2			S	**S**	**08 15 21.0 +5.9**
DL2			pmax	pmax	
	comp=Z,34nm,1.0s				
DL2			pmax	pmax	
	comp=Z,630nm,6.3s				
DL2			LR	LR	
	comp=Z,2μm,23.7s				
DL2			LR	LR	
	comp=Z,3μm,12.2s				
DL2			LR	LR	
	comp=Z,3μm,23.7s				
SISI	**Saibi**	**29.48 249**	P	P	08 10 32.8 +4.9
HNS	**HongShan**	**29.50 341**	⇓P	**P**	**08 10 27.5 -0.3**
HNS			pP	**pP**	**08 10 38.5 -3.4**
HNS			PP	**PnPn**	**08 11 25.0 +0.1**
HNS			S	**S**	**08 15 19.8 +2.0**
HNS			sS	**sS**	**08 15 44.0 +2.0**
HNS			SS	**SnSn**	**08 16 55.8 +4.5**
HNS			pmax	pmax	
	comp=Z,50nm,1.5s				
HNS			LR	LR	
	comp=Z,1μm,14.3s				
HNS			LR	LR	
	comp=Z,3μm,16.2s				
HNS			LR	LR	
	comp=Z,4μm,16.5s				
CD2	**Chengdu**	**29.85 318**	P	**P**	**08 10 30.5 -0.6**
CD2			S	**S**	**08 15 26.3 +2.7**
CD2			sS	sS	08 15 49.3 +1.5
CD2			pmax	pmax	
	comp=Z,10.0nm,0.5s				
CD2			pmax	pmax	
	comp=Z,290nm,11.4s				
CD2			LR	LR	
	comp=Z,6μm,15.5s				
CD2			LR	LR	
	comp=Z,8μm,16.5s				
GSI	**Gunungsitoli**	**30.01 255**	P	**P**	**08 10 31.7 -1.0**
WB0	**Warramunga Arr**	**30.37 165**	P	**P**	**08 10 34.9 -0.8**
WB0			IAmb	IAmb	08 10 50.5
	comp=Z,38nm,1.2s				
WRAB	**Tennant Creek**	**30.51 165**	⇑*e*P	**P**	**08 10 38.4 +1.4**
WRAB			pmax	pmax	
	comp=Z,14nm,0.7s				
WRA	**Warramunga Arr**	**30.52 165**	P	**P**	**08 10 37.6 +0.5**
WRA	**Warramunga Arr**	**30.52 165**	P	**P**	**08 10 34.6 -2.5**
	comp=Z,1.6nm,0.7s,baz=345,slow=9.5,SNR=11				
WRA			LR	LR	08 26 56.7
	comp=Z,2μm,18.2s,baz=349,slow=44				
	comp=Z,1.6nm,0.7s				
WRA	**Warramunga Arr**	**30.52 165**	P	**P**	**08 10 37.6 +0.5**
WR8	**Warramunga Arr**	**30.57 165**		**P**	**08 10 35.9 -1.7**
TIY	**Taiyuan**	**30.58 338**	*e*P	P	08 10 46.0 +8.5
TIY			S	**S**	**08 15 37.8 +2.9**
TIY			sS	ScP	08 16 35.5 -37
TIY			pmax	pmax	
	comp=Z,35nm,0.7s				
TIY			pmax	pmax	
	comp=Z,470nm,7.1s				
TIY			LR	LR	
	comp=N,3μm,17.9s				
TIY			LR	LR	
	comp=E,2μm,17.2s				
TIY			LR	LR	
	comp=Z,3μm,17.2s				
TNCH	**TengChong**	**30.64 303**	⇑P	**P**	**08 10 34.0 -4.4**
TNCH			pP	pP	08 10 50.5 -2.8
TNCH			sP	sP	08 10 59.5 -1.1
TNCH			S	**S**	**08 15 33.8 -2.6**
TNCH			sS	sS	08 15 57.5 -3.2
TNCH			SS	**SnSn**	**08 17 21.0 +1.4**
TNCH			pmax	pmax	
	comp=Z,58nm,0.5s				
TNCH			pmax	pmax	
	comp=Z,410nm,7.7s				
TNCH			LR	LR	
	comp=Z,1μm,17.5s				
TNCH			LR	LR	
	comp=Z,2μm,16.8s				
TNCH			LR	LR	
	comp=Z,3μm,19.3s				
MBWA	**Marble Bar**	**31.47 192**	P	**P**	**08 10 44.9 -0.5**
MBWA			IAmb	IAmb	08 10 50.2
	comp=Z,29nm,0.8s				
MBWA	**Marble Bar**	**31.47 192**	P	**P**	**08 10 44.5 -0.9**
	comp=Z,42nm,1.4s				
BJI	**Beijing**	**31.51 345**	P	**P**	**08 10 45.8 +0.2**
BJI			S	**S**	**08 15 50.8 +1.5**
BJI			pmax	pmax	
	comp=Z,7.0nm,0.7s				
BJI			pmax	pmax	
	comp=Z,250nm,4.8s				
BJI			LR	LR	
	comp=Z,1μm,16.8s				
BJI			LR	LR	
	comp=Z,610nm,16.4s				
BJI			LR	LR	
	comp=Z,2μm,17.2s				
PATS	**Pohnpei**	**31.57 93**	P	**P**	**08 10 45.5 -0.9**
	comp=Z,155nm,1.4s				
PSAD1	**Pilbara Seismi**	**31.73 192**	P	**P**	**08 10 47.1 -0.6**
	comp=Z,95nm,0.8s				
PSAC1	**Pilbara Seismi**	**31.82 192**	P	**P**	**08 10 47.9 -0.5**
	comp=Z,84nm,1.6s				
PSA00	**Pilbara Seismi**	**31.85 192**	P	**P**	**08 10 47.5 -1.2**
PSA00	**Pilbara Seismi**	**31.85 192**	P	**P**	**08 10 47.2 -1.5**
SNY	**Shenyang**	**32.02 356**	⇑P	**P**	**08 10 51.3 +1.3**
SNY			S	**S**	**08 15 59.3 +2.1**
SNY			pmax	pmax	
	comp=Z,14nm,1.0s				
SNY			pmax	pmax	
	comp=Z,520nm,5.5s				
SNY			LR	LR	
	comp=Z,2μm,21.4s				
SNY			LR	LR	
	comp=Z,800nm,18.2s				
SNY			LR	LR	
	comp=Z,2μm,22.8s				
QIS	**Mount Isa**	**32.78 157**	P	**P**	**08 10 55.7 -1.2**
	comp=Z,55nm,1.2s				
MTSU	**Mount Surprise**	**32.83 148**	P	**P**	**08 10 57.6 +0.2**
	comp=Z,15nm,0.8s				
LZH	**Lanzhou**	**33.33 325**	*e*P	**P**	**08 11 02.8 +1.0**
LZH			pP	pP	08 11 13.5 -3.0
LZH			sP	sP	08 11 22.5 -1.2
LZH			S	**S**	**08 16 22.0 +4.0**
LZH			SS	**SnSn**	**08 18 22.0 -2.5**
LZH			pmax	pmax	
	comp=Z,30nm,1.2s				
LZH			pmax	pmax	
	comp=Z,470nm,5.8s				
LZH			LR	LR	
	comp=Z,5μm,15.8s				
LZH			LR	LR	
	comp=Z,4μm,15.5s				
LZH			LR	LR	
	comp=Z,4μm,15.5s				
HHC	**Hu-ho-hao-te**	**33.66 339**	⇓*i*P	**P**	**08 11 05.8 +1.2**
HHC			sP	pwP	08 11 23.3 -1.6
HHC			S	**S**	**08 16 27.8 +4.8**
HHC			SS	**SnSn**	**08 18 29.5 -3.0**
HHC			pmax	pmax	
	comp=Z,50nm,1.2s				
HHC			pmax	pmax	
	comp=Z,860nm,8.4s				
HHC			LR	LR	
	comp=Z,3μm,17.8s				
HHC			LR	LR	
	comp=Z,2μm,16.2s				
HHC			LR	LR	
	comp=Z,4μm,18.0s				
CN2	**Changchun**	**33.90 359**	P	**P**	**08 11 05.8 -0.6**
CN2			S	**S**	**08 16 21.5 -4.9**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.5s				
CN2			pmax	pmax	
	comp=Z,500nm,9.0s				
CN2			LR	LR	
	comp=Z,3μm,18.0s				
CN2			LR	LR	
	comp=Z,2μm,18.0s				
CN2			LR	LR	
	comp=Z,2μm,21.0s				
AS16	**Alice Springs**	**33.99 168**	P	**P**	**08 11 06.9 -0.6**
	comp=Z,18nm,0.8s				
BTO	**Baotou**	**34.01 337**	*e*P	**P**	**08 11 09.8 +2.2**
BTO			S	**S**	**08 16 32.3 +3.9**
BTO			pmax	pmax	
	comp=Z,24nm,0.7s				
BTO			pmax	pmax	
	comp=Z,580nm,8.1s				
BTO			LR	LR	
	comp=Z,3μm,17.1s				
BTO			LR	LR	
	comp=Z,5μm,19.0s				
BTO			LR	LR	
	comp=Z,4μm,16.6s				
AS31	**Alice Springs**	**34.02 168**	P	**P**	**08 11 06.8 -0.8**
ASAR	**Alice Springs**	**34.02 168**	P	**P**	**08 11 06.1 -1.6**
	comp=Z,2.1nm,0.5s,baz=352,slow=7.0,SNR=29				
ASAR			PcP	**PcP**	**08 13 44.9 +0.4**
	comp=Z,3.0nm,0.7s,baz=348,slow=2.6,SNR=2.6				
ASAR			LR	LR	08 26 41.4
	comp=Z,1μm,19.8s,baz=360,slow=39				
	comp=Z,2.1nm,0.5s				
GIRL	**Giralia**	**34.41 200**	P	**P**	**08 11 12.2 +1.1**
	comp=Z,106nm,1.1s				
USA0B	**Ussuriysk Arra**	**34.61 7**	P	**P**	**08 11 12.0 -0.5**
USA0B			IAmb	IAmb	08 11 17.7
	comp=Z,26nm,1.3s				
USA0B	**Ussuriysk Arra**	**34.61 7**	⇓*e*P	**P**	**08 11 13.1 +0.5**
USRK	**Ussuriysk Ar.**	**34.61 7**	s	**P**	**08 11 12.8 +0.3**
USRK	**Ussuriysk Ar.**	**34.61 7**	P	**P**	**08 11 11.4 -1.1**
	comp=Z,8.1nm,0.8s,baz=194,slow=11,SNR=13				
USRK			LR	LR	08 26 21.0
	comp=Z,2μm,19.3s,baz=185,slow=38				
	comp=Z,8.1nm,0.8s				
USRK	**Ussuriysk Ar.**	**34.61 7**	P	**P**	**08 11 12.8 +0.3**
WRKA	**Warakurna**	**34.65 177**	P	**P**	**08 11 12.9 -0.3**
	comp=Z,37nm,0.6s				
MDJ	**Mudanjiang**	**34.80 4**	P	**P**	**08 11 15.8 +1.6**
MDJ			S	**S**	**08 16 43.3 +3.0**
MDJ			pmax	pmax	
	comp=Z,21nm,1.4s				
MDJ			LR	LR	
	comp=Z,2μm,16.5s				
MDJ			LR	LR	
	comp=Z,2μm,19.2s				
MDJ			LR	LR	
	comp=Z,2μm,19.9s				
XLT	**XiLinHaoTe**	**35.18 347**	*e*P	**P**	**08 11 13.0 -4.6**
XLT			pP	pP	08 11 33.3 +1.5
XLT			sP	sP	08 11 39.3 +0.7
XLT			PP	**PP**	**08 12 40.0 +1.4**
XLT			S	**S**	**08 16 42.3 -4.0**
XLT			sS	sS	08 17 12.0 +1.2
XLT			SS	**SnSn**	**08 19 03.5 -5.7**
XLT			pmax	pmax	
	comp=Z,790nm,8.9s				
XLT			LR	LR	
	comp=N,280nm,18.3s				
XLT			LR	LR	
	comp=E,1μm,16.2s				
XLT			LR	LR	
	comp=Z,4μm,17.9s				
BRDH	**Bariadhala**	**35.77 295**	LR	LR	08 26 13.3
	comp=Z,2μm,21.6s,baz=140,slow=36				
BNX	**BinXian**	**35.84 1**	⇓P	**P**	**08 11 24.0 +0.9**
BNX			pP	**pP**	**08 11 39.3 +2.5**
BNX			PP	**PP**	**08 12 47.5 +1.9**
BNX			S	**S**	**08 16 58.8 +2.8**
BNX			sS	**sS**	**08 17 24.5 +4.0**
BNX			pmax	pmax	
	comp=Z,11nm,1.0s				
BNX			pmax	pmax	
	comp=Z,450nm,5.7s				
BNX			LR	LR	
	comp=Z,3μm,20.1s				
BNX			LR	LR	
	comp=Z,2μm,15.2s				
BNX			LR	LR	
	comp=Z,4μm,17.3s				
SHL	**Shillong**	**36.41 300**	P	**P**	**08 11 27.7 -0.8**
SHL			IAmb	IAmb	08 11 37.1
	comp=Z,38nm,0.7s				
SHL	**Shillong**	**36.41 300**	P	**P**	**08 11 27.7 -0.8**
SHL			pmax	pmax	
	comp=Z,38nm,0.7s				
ASAJ	**Asahikawa**	**36.93 19**	LR	LR	08 28 00.7
	comp=Z,2μm,18.1s,baz=192,slow=38				
MEEK	**Meekatharra**	**37.01 192**	P	**P**	**08 11 32.6 -0.8**
	comp=Z,61nm,1.0s				
GTA	**Gaotai**	**37.93 325**	*e*P	**P**	**08 11 41.3 +0.2**
GTA			sP	sP	08 12 02.5 -0.8
GTA			PP	**PP**	**08 13 09.0 +0.1**
GTA			S	**S**	**08 17 34.5 +6.1**
GTA			pmax	pmax	
	comp=Z,11nm,0.7s				
GTA			pmax	pmax	
	comp=Z,440nm,9.5s				
GTA			LR	LR	
	comp=Z,2μm,17.1s				
GTA			LR	LR	
	comp=Z,3μm,16.7s				
GTA			LR	LR	
	comp=Z,4μm,17.8s				
HNR	**Honiara**	**38.34 119**	LR	LR	08 28 21.3
	comp=Z,880nm,18.8s,baz=294,slow=37				
YSS	**Yuzhno-Sakhali**	**39.53 17**	*e*P	**P**	**08 11 55.7 +1.5**
YSS			*e*		08 13 24.2
YSS			*e*S	**S**	**08 17 54.9 +3.0**
YSS			pmax	pmax	
	comp=Z,30nm,0.8s				
YSS			pmax	pmax	
	comp=Z,200nm,6.3s				
YSS			smax	smax	
	comp=N,300nm,4.0s				
YSS			MLR	MLR	
	comp=Z,1μm,18.0s				
YSS			MLR	MLR	
	comp=N,1μm,16.0s				
YSS			MLR	MLR	
	comp=E,900nm,19.0s				
KLR	**Kul'dur**	**39.56 5**	LR	LR	08 29 37.6
	comp=E,2μm,19.3s,baz=196,slow=38				
KLR	**Kul'dur**	**39.56 5**	*c*e*P	**P**	**08 11 55.6 +1.1**
KLR			pmax	pmax	
	comp=Z,24nm,1.7s				
H11S3	**WAKE ISLAND Hy**	**39.81 73**	T	T	08 55 06.1
	baz=262,slow=75,SNR=104				
H11S1	**WAKE ISLAND Hy**	**39.82 73**	T	T	08 55 04.0
	baz=262,slow=75,SNR=56				
H11S2	**WAKE ISLAND Hy**	**39.82 73**	T	T	08 55 04.8
	baz=262,slow=75,SNR=53				
MORW	**Morawa**	**39.93 194**		**P**	**08 11 56.8 -1.0**
MORW	**Morawa**	**39.93 194**	P	**P**	**08 11 57.6 -0.2**
	comp=Z,148nm,0.9s				
H11N1	**WAKE ISLAND Hy**	**40.16 71**	T	T	08 55 32.5
	baz=265,slow=74,SNR=145				
H11N2	**WAKE ISLAND Hy**	**40.16 71**	T	T	08 55 34.9
	baz=265,slow=74,SNR=112				
H11N3	**WAKE ISLAND Hy**	**40.18 71**	T	T	08 55 34.0
	baz=265,slow=74,SNR=112				
HEH	**HeiHe**	**40.35 1**	*e*P	**P**	**08 12 01.5 +0.5**
HEH			pP	**pP**	**08 12 14.0 -1.1**
HEH			PcP	**PcP**	**08 14 04.5 +1.3**
HEH			S	**S**	**08 18 04.5 +0.3**
HEH			pmax	pmax	
	comp=Z,11nm,1.1s				
HEH			pmax	pmax	
	comp=Z,730nm,5.0s				
HEH			LR	LR	
	comp=Z,3μm,17.1s				
HEH			LR	LR	
	comp=Z,1μm,19.4s				
HEH			LR	LR	
	comp=Z,4μm,18.8s				
FORT	**Forrest**	**40.36 178**	P	**P**	**08 11 59.9 -1.3**
FORT	**Forrest**	**40.36 178**	P	**P**	**08 12 01.0 -0.2**
	comp=Z,122nm,0.7s				
KMBL	**Kambalda**	**41.16 186**	P	**P**	**08 12 07.7 -0.2**
	comp=Z,84nm,0.7s				
BLDU	**Ballidu**	**41.26 193**	P	**P**	**08 12 07.7 -1.0**
	comp=Z,72nm,0.9s				
ULN	**Ulaanbaatar**	**41.37 340**	P	**P**	**08 12 09.1 -0.5**
ULN			IAmb	IAmb	08 12 18.9
	comp=Z,61nm,1.2s				
ULN	**Ulaanbaatar**	**41.37 340**	*c i*P	**P**	**08 12 09.8 +0.2**
ULN			pmax	pmax	
	comp=Z,46nm,1.7s				
SONM	**Songino Array**	**41.56 340**	P	**P**	**08 12 10.8 -0.4**
SONM			IAmb	IAmb	08 12 20.3
	comp=Z,64nm,1.5s				
SONM	**Songino Array**	**41.56 340**	P	**P**	**08 12 10.4 -0.8**
	comp=Z,7.3nm,0.6s,baz=158,slow=10,SNR=34				
SONM			LR	LR	08 32 17.5
	comp=Z,3μm,18.3s,baz=152,slow=40				
	comp=Z,7.3nm,0.6s				
SONM	**Songino Array**	**41.56 340**	P	**P**	**08 12 10.8 -0.4**
SONM			pmax	pmax	
	comp=Z,64nm,1.5s				
GRNR	**Gornyy**	**41.67 9**	⇑*i*P	**P**	**08 12 14.0 +2.2**
GRNR			pmax	pmax	
	comp=Z,10.0nm,0.9s				
GRNR			MLR	MLR	
	comp=E,830nm,18.0s				
GRNR			MLR	MLR	
	comp=N,1μm,20.0s				
GRNR			MLR	MLR	
	comp=Z,780nm,18.0s				
KLBR	**Kellerberrin**	**41.99 191**	P	**P**	**08 12 14.8 +0.1**
	comp=Z,107nm,0.9s				
EIDS	**Eidsvold**	**42.34 146**	P	**P**	**08 12 17.4 -0.2**
EIDS	**Eidsvold**	**42.34 146**	P	**P**	**08 12 17.6 +0.1**
	comp=Z,25nm,1.0s				
MUN	**Mundaring**	**42.69 193**	P	**P**	**08 12 20.4 +0.1**
	comp=Z,108nm,0.9s				
TYV	**Tymovskoe**	**43.06 15**	*e*P	**P**	**08 12 22.0 -1.1**
TYV			*e*S	**S**	**08 18 44.6 +0.5**
TYV			pmax	pmax	
	comp=Z,300nm,4.6s				
TYV			pmax	pmax	
	comp=Z,9.0nm,0.8s				
TYV			smax	smax	
	comp=N,300nm,3.8s				
TYV			smax	smax	
	comp=E,400nm,3.8s				
TYV			MLR	MLR	
	comp=Z,1μm,17.0s				
BBOO	**Buckleboo**	**43.32 168**	P	**P**	**08 12 24.0 -1.4**
BBOO			IAmb	IAmb	08 12 43.2
	comp=Z,44nm,0.6s				
BBOO	**Buckleboo**	**43.32 168**	P	**P**	**08 12 24.6 -0.8**
	comp=Z,65nm,0.6s				
NWAO	**Narrogin (SRO)**	**43.39 191**	P	**P**	**08 12 26.1 +0.2**
NWAO			IAmb	IAmb	08 12 30.2
	comp=Z,57nm,0.8s				
NWAO	**Narrogin (SRO)**	**43.39 191**	P	**P**	**08 12 25.9 -0.1**
NWAO	**Narrogin (SRO)**	**43.39 191**	LR	LR	08 33 50.2
	comp=Z,380nm,18.4s,baz=342,slow=41				
NWAO	**Narrogin (SRO)**	**43.39 191**	P	**P**	**08 12 26.2 +0.2**
NWAO			pmax	pmax	
	comp=Z,57nm,0.8s				
CIT	**Chita**	**43.43 348**	*e*P	**P**	**08 12 26.4 +0.2**
CIT			*e*		08 14 08.4
CIT			*e*		08 14 20.6
CIT			pmax	pmax	
	comp=Z,137nm,2.8s				
ZEA	**Zeya**	**43.84 1**	*e*P	**P**	**08 12 29.8 +0.5**
ZEA			*e*		08 14 18.4
ZEA			*e*S	**S**	**08 18 52.9 -2.6**
ZEA			*e*		08 22 28.1
ZEA			pmax	pmax	
	comp=Z,200nm,5.6s				
ZEA			pmax	pmax	
	comp=Z,10.0nm,1.2s				
ZEA			smax	smax	
	comp=N,100nm,13.8s				
ZEA			smax	smax	
	comp=E,300nm,14.7s				
ZEA			MLR	MLR	
	comp=E,300nm,12.0s				
ZEA			MLR	MLR	
	comp=N,2μm,18.0s				
ZEA			MLR	MLR	
	comp=Z,2μm,17.0s				
STKA	**Stephens Creek**	**43.86 161**	P	**P**	**08 12 29.4 -0.3**
STKA	**Stephens Creek**	**43.86 161**	P	**P**	**08 12 28.4 -1.3**
	comp=Z,150nm,0.7s				
STKA	**Stephens Creek**	**43.86 161**	P	**P**	**08 12 28.6 -1.2**
	comp=Z,8.1nm,0.6s,baz=338,slow=8.3,SNR=16				
STKA			LR	LR	08 31 47.9
	comp=Z,665nm,21.9s,baz=332,slow=37				
	comp=Z,8.1nm,0.6s				
STKA	**Stephens Creek**	**43.86 161**	P	**P**	**08 12 29.5 -0.3**
STKA			pmax	pmax	
	comp=Z,85nm,0.8s				
HTT	**Hallett**	**44.56 165**	P	**P**	**08 12 37.2 +1.8**
	comp=Z,8.2nm,1.3s				
ZAK	**Zakamensk**	**44.81 339**	*e*P	**P**	**08 12 36.0 -1.3**
ZAK			pmax	pmax	
	comp=Z,13nm,1.1s				
CMSA	**Cobar Meteorol**	**45.00 157**	P	**P**	**08 12 40.6 +1.7**
	comp=Z,31nm,0.9s				
RKGY	**Rocky Gully**	**45.07 191**	P	**P**	**08 12 41.2 +1.8**
	comp=Z,43nm,1.0s				
PALK	**Pallekele**	**45.37 271**	P	**P**	**08 12 41.3 -0.9**
PALK			IAmb	IAmb	08 12 58.8
	comp=Z,28nm,1.4s				
PALK	**Pallekele**	**45.37 271**	LR	LR	08 32 49.2
	comp=Z,1μm,19.0s,baz=89,slow=38				
PALK	**Pallekele**	**45.37 271**	⇓*e*P	**P**	**08 12 43.0 +0.8**
PALK			pmax	pmax	
	comp=Z,50nm,1.7s				
IRK	**Irkutsk**	**46.05 341**	*e*P	**P**	**08 12 46.3 -0.7**
IRK			pmax	pmax	
	comp=Z,88nm,2.2s				
ARMA	**Armidale**	**46.68 150**	P	**P**	**08 12 52.4 +0.1**
ARMA	**Armidale**	**46.68 150**	P	**P**	**08 12 53.9 +1.6**
	comp=Z,13nm,0.9s				
HYB	**Hyderabad**	**47.15 285**	*e*P	**P**	**08 12 55.2 -1.0**
WMQ	**Urumqi**	**47.77 322**	*e*P	**P**	**08 13 03.8 +3.2**
WMQ			LR	LR	
	comp=Z,5μm,16.9s				
WMQ			LR	LR	
	comp=Z,2μm,18.5s				
WMQ			LR	LR	
	comp=Z,2μm,18.1s				
ARPS	**Mount Arapiles**	**48.49 164**	P	**P**	**08 13 07.3 +1.3**
	comp=Z,70nm,0.9s				
BOD	**Bodaibo**	**48.89 351**	*e*P	**P**	**08 13 09.3 +0.4**
BOD			pmax	pmax	
	comp=Z,37nm,1.6s				
CAN	**Canberra**	**49.63 156**	P	**P**	**08 13 17.2 +2.4**
	comp=Z,40nm,1.8s				
CNB	**Canberra Magne**	**49.77 155**	P	**P**	**08 13 18.7 +2.6**
	comp=Z,27nm,1.1s				
PETK	**Petropavlovsk-**	**49.97 24**	P	**P**	**08 13 16.1 -1.1**
PETK	**Petropavlovsk-**	**49.97 24**	P	**P**	**08 13 16.9 -0.3**
	comp=Z,9.6nm,0.7s,baz=204,slow=6.5,SNR=8.9				
PETK			LR	LR	08 35 18.5
	comp=Z,2μm,19.0s,baz=217,slow=37				
	comp=Z,9.6nm,0.7s				
DZM	**Mont Dzumac**	**50.34 129**	*e*P	**P**	**08 13 21.3 +0.8**
	comp=Z,78nm,21.9s				
DZM			*e*S	**S**	**08 20 29.2 +0.2**
	comp=Z,2μm,25.9s				
DZM			*e*SS	**SS**	**08 24 00.4 -3.3**
	comp=Z,539nm,23.4s				
DZM			*e*LR	LR	08 27 47.7
	comp=Z,2μm,29.1s				
DZM	**Mont Dzumac**	**50.34 129**	P	**P**	**08 13 19.0 -1.5**
	comp=Z,10nm,1.1s,baz=265,slow=13,SNR=7.8				
	comp=Z,10nm,1.1s				
TOO	**Toolangi**	**50.34 160**	P	**P**	**08 13 22.1 +1.9**
	comp=Z,17nm,1.7s				
MILA	**Mila**	**51.20 157**	P	**P**	**08 13 28.1 +1.4**
	comp=Z,30nm,1.9s				
ZSN	**Zaisan**	**51.42 325**	*e*P	**P**	**08 13 27.3 -0.9**
ZSN	**Zaisan**	**51.42 325**	*e*P	**P**	**08 13 27.4 -0.9**
YAK	**Yakutsk**	**52.20 2**	*e*P	**P**	**08 13 34.8 +1.1**
YAK			*e*		08 15 34.5
YAK			*e*S	**S**	**08 20 54.0 +0.6**
YAK			*e*		08 23 17.5
YAK			*e*SS	**SS**	**08 24 39.5 +7.9**
YAK			pmax	pmax	
	comp=Z,20nm,1.1s				
YAK			pmax	pmax	
	comp=E,3.0nm,0.8s				
YAK			pmax	pmax	
	comp=N,18nm,1.4s				
YAK			pmax	pmax	
	comp=Z,12nm,0.4s				
YAK			pmax	pmax	
	comp=N,7.0nm,0.4s				
YAK			pmax	pmax	

comp=E,4.0nm,0.9s
YAK smax smax
comp=E,164nm,3.3s
YAK smax smax
comp=N,137nm,2.8s
YAK MLR MLR
comp=Z,2µm,20.0s
YAK MLR MLR
comp=N,1µm,19.0s
YAK MLR MLR
comp=E,937nm,22.0s
MK31 Makanchi Array 52.57 323 *ce*P **P 08 13 35.7 -1.1**
MKAR Makanchi Array 52.57 323 P **P 08 13 35.8 -1.1**
comp=E,7.2nm,0.6s,baz=120,slow=7.8,SNR=18
MKAR ScP **ScP 08 18 37.0 -1.2**
comp=E,0.6nm,0.7s,baz=64,slow=5.5,SNR=1.9
MKAR LR LR 08 35 09.8
comp=E,2µm,20.5s,baz=122,slow=35
comp=E,7.2nm,0.6s
SHLS Shalkode 52.68 318 *e*P **P 08 13 34.6 -3.2**
SHLS Shalkode 52.68 318 *e*P **P 08 13 34.6 -3.2**
MAKZ Makanchi 52.77 323 P **P 08 13 37.2 -1.1**
MAKZ Makanchi 52.77 323 P **P 08 13 37.2 -1.1**
MAKZ pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 52.93 15 P **P 08 13 39.5 +0.3**
MA2 IAmb IAmb 08 13 56.9
comp=Z,25nm,1.1s
MA2 Magadan 52.93 15 *de*P **P 08 13 40.1 +0.9**
MA2 pmax pmax
comp=Z,12nm,0.8s
UZB Uzynbulak 52.97 317 *e*P **P 08 13 38.8 -1.2**
UZB Uzynbulak 52.97 317 *e*P **P 08 13 38.8 -1.2**
KPKS Kokpek 53.33 318 *e*P **P 08 13 41.3 -1.2**
KPKS Kokpek 53.33 318 *e*P **P 08 13 41.4 -1.2**
SATY Saty 53.35 317 *e*P **P 08 13 41.5 -1.2**
SATY pmax pmax
comp=Z,10.0nm,1.1s
SATY Saty 53.35 317 *e*P **P 08 13 41.5 -1.2**
comp=Z,10nm,1.1s
ZHN Zhinishke 53.37 317 *e*P **P 08 13 41.8 -1.1**
ZHN Zhinishke 53.37 317 *e*P **P 08 13 41.8 -1.1**
KSH Kashi 53.75 312 P **P 08 13 48.0 +2.2**
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH LR LR
comp=Z,4µm,18.6s
KSH LR LR
comp=Z,2µm,18.6s
KSH LR LR
comp=Z,2µm,18.8s
KDJ Kajisay 53.82 316 P **P 08 13 45.8 -0.5**
KDJ Kajisay 53.82 316 P **P 08 13 45.8 -0.5**
KDJ pmax pmax
comp=Z,8.0nm,0.7s
TDK Taldyqorghan 54.15 319 *e*P **P 08 13 47.5 -0.9**
TDK pmax pmax
comp=Z,12nm,0.6s
TDK Taldyqorghan 54.15 319 *e*P **P 08 13 47.6 -0.9**
comp=Z,12nm,0.6s
NIL Nilore 54.23 304 **P 08 13 47.7 -1.5**
NIL IAmb IAmb 08 14 11.8
comp=Z,24nm,0.8s
NIL Nilore 54.23 304 P **P 08 13 47.7 -1.5**
NIL pmax pmax
comp=Z,24nm,0.8s
MDOK Medeo 54.30 317 *e*P **P 08 13 48.5 -1.2**
MDOK Medeo 54.30 317 *e*P **P 08 13 48.6 -1.2**
TNSS Tian-Shan 54.32 317 *e*P **P 08 13 48.7 -1.5**
TNSS Tian-Shan 54.32 317 *e*P **P 08 13 48.7 -1.5**
NRN Naryn 54.39 314 **P 08 13 49.9 -0.7**
NRN Naryn 54.39 314 P **P 08 13 49.9 -0.7**
NRN pmax pmax
comp=Z,6.0nm,0.8s
AAA Alma-Ata 54.41 317 *e*P **P 08 13 49.3 -1.1**
AAA pmax pmax
comp=Z,11nm,0.4s
AAA Alma-Ata 54.41 317 *e*P **P 08 13 49.4 -1.1**
comp=Z,11nm,0.4s
CHKK Chushkaly 54.61 318 *e*P **P 08 13 50.7 -1.1**
CHKK Chushkaly 54.61 318 *e*P **P 08 13 50.8 -1.1**
KUU Kurty 55.06 317 *e*P **P 08 13 54.0 -1.0**
KUU pmax pmax
comp=Z,13nm,0.8s
KUU Kurty 55.06 317 *e*P **P 08 13 54.0 -1.0**
comp=Z,13nm,0.8s
ZAA0 Zalesovo Array 55.18 331 P **P 08 13 55.1 -0.5**
ZALV Zalesovo Beam 55.18 331 P **P 08 13 54.4 -1.2**
ZALV Zalesovo Beam 55.18 331 P **P 08 13 54.6 -1.0**
comp=Z,2.7nm,0.4s,baz=133,slow=5.7,SNR=8.0
ZALV LR LR 08 39 34.6
comp=Z,2µm,18.0s,baz=146,slow=38
comp=Z,2.7nm,0.4s
ZALV Zalesovo Beam 55.18 331 *i*P **P 08 13 55.7 0.0**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
AAK Ala-Archa 55.86 315 P **P 08 13 59.9 -1.1**
AAK Ala-Archa 55.86 315 P **P 08 14 00.2 -0.7**
comp=Z,1.7nm,0.5s,baz=84,slow=11,SNR=4.0
AAK LR LR 08 40 56.0
comp=Z,2µm,18.4s,baz=82,slow=39
comp=Z,1.7nm,0.5s
AAK Ala-Archa 55.86 315 *ce*P **P 08 14 00.3 -0.7**
AAK pmax pmax
comp=Z,12nm,1.8s
SGDS Sogindy 56.05 316 *e*P **P 08 14 01.2 -1.0**
SGDS Sogindy 56.05 316 *e*P **P 08 14 01.3 -1.0**
SEY Seymchan 56.23 14⇑*i*P **P 08 14 05.5 +2.5**
SEY pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 56.62 326 P **P 08 14 05.4 -0.6**
KURK IAmb IAmb 08 14 22.0
comp=Z,21nm,0.8s
KURK Kurchatov 56.62 326 *ce*P **P 08 14 06.0 0.0**
KURK pmax pmax
comp=Z,35nm,1.6s
KURBB Kurchatov Arra 56.62 325 P **P 08 14 05.3 -0.8**
comp=Z,5.5nm,0.6s,baz=125,slow=6.9,SNR=14
KURBB LR LR 08 40 23.3
comp=Z,1µm,18.1s,baz=151,slow=38
comp=Z,5.5nm,0.6s
SHEM Shemya Is, Ala 57.42 32 LR LR 08 42 55.7
comp=Z,355nm,18.1s,baz=132,slow=40
BTK Batken 57.70 311 P **P 08 14 12.8 -1.2**
BTK Batken 57.70 311 P **P 08 14 12.8 -1.2**
BTK pmax pmax
comp=Z,15nm,1.1s
MSVF Nonsavu 57.75 118 P **P 08 14 14.5 -0.2**
comp=Z,3.8nm,0.3s,baz=221,slow=19,SNR=4.6
MSVF LR LR 08 38 26.7
comp=Z,1µm,18.5s,baz=314,slow=35
comp=Z,3.8nm,0.3s
MSVF Nonsavu 57.75 118⇑*e*P **P 08 14 15.1 +0.5**
MSVF pmax pmax
comp=Z,59nm,1.3s
GAR Garm 57.81 310 P **P 08 14 13.9 -0.9**
KBL Kabul 57.83 305 P **P 08 14 14.2 -0.9**
KBL IAmb IAmb 08 14 25.4
comp=Z,15nm,0.7s
KBL Kabul 57.83 305 P **P 08 14 14.2 -0.9**
KBL pmax pmax
comp=Z,15nm,0.7s
DZA Taraz 58.14 315 *e*P **P 08 14 16.0 -0.9**
DZA Taraz 58.14 315 *e*P **P 08 14 16.1 -0.9**
SIMJ Simiganj 58.72 309 P **P 08 14 19.4 -1.8**
KK31 Karatay Array 58.78 315 P **P 08 14 20.0 -1.4**
KK31 IAmb IAmb 08 14 22.6
comp=Z,17nm,1.2s
KK31 Karatay Array 58.78 315 P **P 08 14 20.0 -1.4**
KK31 pmax pmax
comp=Z,17nm,1.3s
KKAR Karatay Array 58.78 315 P **P 08 14 20.0 -1.4**
KKAR Karatay Array 58.78 315 P **P 08 14 20.0 -1.4**
IUG Iuzhnay 58.85 314 *e*P **P 08 14 20.9 -1.0**
IUG pmax pmax
comp=Z,8.0nm,0.8s
IUG Iuzhnay 58.85 314 *e*P **P 08 14 21.0 -1.0**
comp=Z,8.1nm,0.8s
TIXI Tiksi 61.83 1 P **P 08 14 41.5 -0.1**
TIXI IAmb IAmb 08 14 59.8
comp=Z,26nm,0.8s
TIXI Tiksi 61.83 1 LR LR 08 43 56.1
comp=Z,2µm,19.6s,baz=198,slow=38
TIXI Tiksi 61.83 1⇓*e*P **P 08 14 41.8 +0.2**
TIXI pmax pmax
comp=Z,34nm,1.7s

BVAR Borovoye Array 62.21 325 P **P 08 14 42.8 -1.8**
comp=Z,3.9nm,0.6s,baz=99,slow=4.9,SNR=14
BVAR LR LR 08 41 15.7
comp=Z,1µm,20.7s,baz=119,slow=36
comp=Z,3.9nm,0.6s
BRVK Borovoye 62.29 325 P **P 08 14 44.6 -0.5**
BRVK IAmb IAmb 08 14 53.1
comp=Z,11nm,0.8s
BRVK Borovoye 62.29 325 *ce*P **P 08 14 44.8 -0.2**
BRVK pmax pmax
comp=Z,17nm,1.3s
HRA Herat 63.36 304 P **P 08 14 51.4 -1.4**
HRA IAmb IAmb 08 14 54.4
comp=Z,9.5nm,0.7s
BILL Bilibino 63.80 16⇓*e*P **P 08 14 55.5 +0.7**
BILL pmax pmax
comp=Z,32nm,1.7s
BILL MLR MLR
comp=Z,967nm,20.0s
NRIK Noril'sk 64.55 346 P **P 08 14 59.8 +0.1**
NRIK Noril'sk 64.55 346 P **P 08 14 58.9 -0.8**
comp=Z,19nm,0.6s,baz=126,slow=7.0,SNR=36
NRIK LR LR 08 47 50.1
comp=Z,2µm,18.2s,baz=146,slow=40
comp=Z,19nm,0.6s
NRIK Noril'sk 64.55 346 P **P 08 14 59.8 +0.1**
NRIK pmax pmax
comp=Z,27nm,0.8s
MKAZ Moumakai 65.20 139 P **P 08 15 07.5 +3.1**
TOZ Tahuroa Road 65.78 139 **P 08 15 10.1 +2.0**
TOZ IAmb IAmb 08 15 16.0
comp=Z,29nm,1.0s
QRZ Quartz Range 65.81 143 P **P 08 15 10.4 +2.1**
VRZ Vera Road 66.12 141 P **P 08 15 14.4 +4.1**
INZ Inchbonnie 66.40 145 P **P 08 15 15.5 +3.5**
NNZ Nelson 66.56 143 P **P 08 15 14.5 +1.4**
THZ Tophouse 66.62 144 P **P 08 15 14.7 +1.1**
NNVZ North Ngauruho 66.67 140 P **P 08 15 15.6 +1.5**
NGZ Ngauruhoe 66.68 140 P **P 08 15 16.2 +2.1**
OTVZ Oturere 66.72 140 P **P 08 15 14.9 +0.6**
ETVZ East Tongariro 66.73 140 P **P 08 15 17.3 +2.9**
LBZ Lake Benmore 66.81 147 P **P 08 15 16.5 +1.8**
RPZ Rata Peaks 66.83 146 LR LR 08 46 33.1
comp=Z,1µm,18.2s,baz=293,slow=38
RPZ Rata Peaks 66.83 146 P **P 08 15 13.5 -1.3**
URZ Urewera 67.13 139 LR LR 08 47 02.6
comp=Z,1µm,18.7s,baz=34,slow=38
URZ Urewera 67.13 139 P **P 08 15 15.8 -1.0**
RTZ Ruatahuna 67.24 139 P **P 08 15 18.6 +1.1**
BKZ Black Stump Fm 67.24 140 **P 08 15 17.7 +0.2**
BKZ Black Stump Fm 67.24 140 P **P 08 15 18.5 +1.0**
TMZ Timaru 67.25 147 P **P 08 15 20.2 +2.7**
HAZ Te Kaha 67.29 138 P **P 08 15 20.7 +2.9**
MTHZ Maungataniwha 67.29 139 P **P 08 15 18.8 +1.0**
KHZ Kahutara 67.40 144 P **P 08 15 19.3 +0.9**
NMHZ Naumai 67.40 140 P **P 08 15 20.9 +2.3**
AB31 Akbulak array 67.42 319 **P 08 15 17.1 -1.3**
ABKAR Akbulak array 67.42 319 **P 08 15 17.0 -1.4**
ABKAR Akbulak array 67.42 319 **P 08 15 17.2 -1.2**
ABKAR IAmb IAmb 08 15 19.8
comp=Z,8.7nm,0.9s
MWZ Matawai 67.44 139 P **P 08 15 20.1 +1.3**
KRHZ Kereru 67.44 140 P **P 08 15 20.0 +1.2**
SPIA Saint Paul Isl 67.45 32 P **P 08 15 18.7 +0.3**
baz=252
MCHZ McNeill Hill 67.53 140 P **P 08 15 21.0 +1.7**
MRZ Mangatainoka R 67.54 142 P **P 08 15 20.2 +0.8**
SNGZ Shannon Statio 67.57 139 P **P 08 15 21.9 +2.3**
P08K Saint George I 67.64 32 P **P 08 15 20.6 +0.9**
baz=253
PUZ Puketiti 67.77 138 P **P 08 15 24.5 +3.6**
CNGZ Carnagh Statio 67.97 138 P **P 08 15 23.5 +1.4**
BFZ Birch Farm 67.97 141 P **P 08 15 20.5 -1.5**
SVE Sverdlovsk 68.76 327 *e*P **P 08 15 27.8 +1.1**
SVE *e*S **S 08 24 27.1 +1.9**
SVE pmax pmax
comp=Z,29nm,1.4s
SVE MLR MLR
comp=Z,1µm,19.0s
AKTO Aktyubinsk 68.87 320 P **P 08 15 26.4 -1.1**
comp=Z,4.3nm,0.6s,baz=90,slow=7.4,SNR=12
AKTO LR LR 08 48 09.2
comp=Z,2µm,19.0s,baz=97,slow=38
comp=Z,4.3nm,0.6s
GAMB Gambell 68.99 25 P **P 08 15 27.3 -0.7**
GAMB IAmb IAmb 08 15 43.8
comp=Z,21nm,1.2s
GAMB Gambell 68.99 25 P **P 08 15 29.2 +1.2**
baz=248
ARTI Arti 69.86 327 P **P 08 15 32.6 -0.9**
ARTI IAmb IAmb 08 15 34.5
comp=Z,11nm,0.6s
ARTI Arti 69.86 327 P **P 08 15 32.3 -1.3**
comp=Z,5.1nm,0.5s,baz=132,slow=3.1,SNR=8.9
ARTI LR LR 08 45 48.7
comp=Z,762nm,21.4s,baz=112,slow=36
comp=Z,5.1nm,0.5s
ARTI Arti 69.86 327 P **P 08 15 32.6 -0.9**
ARTI pmax pmax
comp=Z,11nm,0.6s
M11K Mekoryuk 70.38 29 P **P 08 15 38.1 +1.5**
baz=255
FALS False Pass 70.59 35 P **P 08 15 39.1 +1.1**
baz=259
TNA Tin City 71.14 24 P **P 08 15 42.7 +1.6**
baz=252
K13K Kusilvak Mount 71.50 28 P **P 08 15 44.2 +0.8**
K13K IAmb IAmb 08 15 50.5
comp=Z,28nm,1.1s
K13K Kusilvak Mount 71.50 28 P **P 08 15 45.1 +1.7**
baz=256,SNR=17
S12K Black Hills 71.51 34 P **P 08 15 44.5 +0.9**
baz=260
F14K Arctic Creek 71.74 24 P **P 08 15 46.1 +1.3**
baz=253
M13K Dall Lake 71.76 29 P **P 08 15 46.4 +1.5**
baz=257
ANM Nome 71.87 25 P **P 08 15 46.8 +1.2**
baz=254
J14K Nanvaranak Lak 72.20 27 P **P 08 15 48.8 +1.3**
baz=256
L14K Kuka Creek 72.28 29 **P 08 15 49.0 +0.9**
L14K Kuka Creek 72.28 29 P **P 08 15 49.3 +1.3**
baz=258,SNR=22
SDPT Sand Point 72.34 35 P **P 08 15 49.0 +0.5**
baz=262
N14K Kuskokwak Cree 72.48 30 P **P 08 15 49.8 +0.5**
baz=259
F15K North Star Dit 72.48 24 **P 08 15 49.6 +0.4**
F15K IAmb IAmb 08 16 05.1
comp=Z,23nm,1.2s
F15K North Star Dit 72.48 24 P **P 08 15 50.2 +1.0**
baz=255
M14K Bethel 72.50 29 **P 08 15 50.2 +0.8**
M14K Bethel 72.50 29 P **P 08 15 50.3 +0.9**
baz=259,SNR=13
G15K Niukluk 72.54 25 P **P 08 15 50.4 +0.8**
baz=255,SNR=8.8
O14K Tigyukauivet M 72.56 31 P **P 08 15 50.1 +0.3**
baz=260
CHNA Chernabura Isl 72.78 36 P **P 08 15 51.5 +0.3**
baz=262
L15K Ungalak Mounta 72.91 28 P **P 08 15 52.2 +0.4**
baz=259
C16K Lisburne Hills 72.94 21 P **P 08 15 52.2 +0.4**
baz=253
S14K Fog Glacier 72.99 34 P **P 08 15 52.6 +0.1**
baz=262
K15K Wolf Creek Mou 73.01 28 P **P 08 15 52.7 +0.3**
baz=258
M15K Kasigluk River 73.11 29 P **P 08 15 53.0 +0.1**
baz=260,SNR=6.3
H16K Elim 73.20 25 P **P 08 15 53.1 -0.3**
baz=257
O15K Ungalikthiuk R 73.28 31 P **P 08 15 54.3 +0.2**
baz=261
N15K Kwethluk River 73.31 30 P **P 08 15 55.2 +1.0**
baz=260,SNR=7.8
G16K Koyuk River 73.33 24 P **P 08 15 55.5 +1.3**
baz=257
D17K Noatak River 73.60 22 P **P 08 15 56.9 +1.2**
baz=256,SNR=21
CHGN Chignik 73.62 34 P **P 08 15 57.2 +1.1**
baz=263
J16K Anvik River 73.63 27 P **P 08 15 56.8 +0.8**
baz=259,SNR=13

I17K Unalakleet 73.70 26 P **P 08 15 57.4 +1.0**
baz=259
RDOG Red Dog Mine 73.75 22 P **P 08 15 58.2 +1.5**
baz=256,SNR=15
L16K Owhat River 73.86 28 P **P 08 15 58.6 +1.2**
baz=260,SNR=14
E17K Hotham Inlet 73.92 23 P **P 08 15 58.8 +1.2**
baz=257,SNR=21
M16K Timber Creek 74.00 29 P **P 08 15 59.5 +1.3**
baz=261,SNR=8.3
F17K Baldwin Pennin 74.00 23 P **P 08 15 59.4 +1.3**
baz=258,SNR=9.1
N16K Nishlik Lake 74.00 30 P **P 08 15 59.4 +1.1**
baz=262,SNR=8.8
G17K Kiwalik Mounta 74.04 24 P **P 08 15 59.8 +1.3**
baz=258,SNR=15
P16K Nushagak River 74.19 31 P **P 08 16 00.4 +1.1**
baz=263
O16K Kokwok River B 74.22 31 P **P 08 16 00.6 +1.0**
baz=262,SNR=11
R16K Pilot Point 74.23 33 P **P 08 16 00.5 +0.9**
baz=263
H17K Granite Mounta 74.24 25 P **P 08 16 00.7 +1.1**
baz=259,SNR=16
J17K VABM Dome 74.32 27 P **P 08 16 01.5 +1.4**
baz=260,SNR=15
E18K Tukpahlearik C 74.46 23 P **P 08 16 02.3 +1.5**
baz=258,SNR=25
B18K Kokolik River 74.47 20 P **P 08 16 01.6 +0.8**
baz=256
L17K Donlin 74.48 28 P **P 08 16 02.7 +1.7**
baz=262,SNR=15
C18K Utukok River 74.51 21 P **P 08 16 02.6 +1.4**
baz=257,SNR=19
K17K Iditarod 74.56 28 P **P 08 16 03.0 +1.5**
baz=261,SNR=15
F18K Selawik 74.66 23 P **P 08 16 03.3 +1.4**
baz=259,SNR=21
O17K Koliganek Bris 74.74 31 P **P 08 16 03.8 +1.3**
baz=263
M17K Holitna River 74.78 29 P **P 08 16 04.4 +1.6**
baz=262,SNR=14
N17K Nushagak Hills 74.79 30 P **P 08 16 04.4 +1.6**
baz=263,SNR=12
Q16K King Salmon 74.84 32 P **P 08 16 04.5 +1.4**
baz=264
A19K Wainwright 74.91 20 P **P 08 16 05.3 +2.0**
baz=257
H18K Honhosa River 74.92 25 P **P 08 16 05.0 +1.4**
baz=261,SNR=9.7
G18K Tagagawik 74.93 24 P **P 08 16 05.5 +2.0**
baz=260,SNR=12
KIRV Kirov 75.00 328 P **P 08 16 02.1 -1.9**
comp=Z,14nm,0.6s,baz=88,slow=7.4,SNR=8.8
KIRV LR LR 08 52 30.9
comp=Z,1µm,19.6s,baz=104,slow=38
comp=Z,14nm,0.6s
KIRV Kirov 75.00 328 *de*P **P 08 16 04.7 +0.7**
P17K Kvichak River 75.01 31 P **P 08 16 05.7 +1.6**
baz=264
CHIR Chirikof Islan 75.13 35 P **P 08 16 06.7 +1.8**
baz=266
Q17K Contact Creek 75.20 32 P **P 08 16 07.3 +1.9**
baz=265
AKT Akhty 75.22 310 *e*P **P 08 16 01.8 -4.1**
AKT pmax pmax
comp=Z,30nm,1.0s
L18K Granite Mounta 75.24 28 P **P 08 16 07.3 +2.0**
baz=263,SNR=11
J18K Innoko River 75.38 27 P **P 08 16 07.8 +1.6**
baz=263
MAK Makhachkala 75.39 312 *e*P **P 08 16 03.9 -2.7**
MAK *e**PP **PcP 08 16 17.2 -2.4**
MAK *e*S **S 08 25 41.6 0.0**
MAK *e**SS **pS 08 26 04.6 +1.4**
MAK *e*SS **SS 08 30 35.1 +2.2**
MAK *e*SSS SSS 08 33 51.5
MAK pmax pmax
comp=Z,21nm,0.3s
MAK MLR MLR
comp=Z,1µm,19.0s
F19K Shaleruckik Mo 75.44 23 P **P 08 16 08.2 +1.8**
baz=261,SNR=5.7
N18K Kilae Creek 75.44 30 P **P 08 16 08.3 +1.7**
baz=264
GCSA Galena City Sc 75.49 26 P **P 08 16 08.4 +1.7**
baz=262
BELG Belogornoye 75.55 322 LR LR 08 51 37.8
comp=Z,570nm,19.8s,baz=95,slow=37
BELG Belogornoye 75.55 322 *c i*P **P 08 16 06.1 -1.2**
BELG pmax pmax
comp=Z,9.0nm,1.5s
M18K Stony River 75.56 29 P **P 08 16 09.0 +1.7**
baz=264,SNR=12
D19K Kuna River 75.59 22 P **P 08 16 08.1 +0.7**
D19K Kuna River 75.59 22 P **P 08 16 08.6 +1.3**
baz=260,SNR=21
G19K Purcell Mounta 75.60 24 P **P 08 16 08.3 +0.9**
baz=262,SNR=14
P18K Big Mountain, 75.65 31 P **P 08 16 08.9 +1.1**
baz=265
Q18K Katmai Hardscr 75.69 32 P **P 08 16 08.8 +0.6**
baz=265
O18K Koktuh Hills 75.70 31 **P 08 16 08.4 +0.3**
O18K Koktuh Hills 75.70 31 P **P 08 16 09.4 +1.3**
baz=265,SNR=18
E19K Redstone River 75.75 23 P **P 08 16 09.3 +1.1**
baz=261,SNR=28
H19K Roundabout Mou 75.77 25 P **P 08 16 09.5 +1.1**
baz=262,SNR=19
R18K Karluk 75.91 33 P **P 08 16 10.0 +0.8**
baz=266
J19K Poorman 75.93 26 P **P 08 16 09.9 +0.6**
baz=263
SII Sitkinak Islan 75.99 34 P **P 08 16 09.9 +0.1**
baz=266
L19K White Mountain 76.09 28 **P 08 16 11.1 +0.8**
L19K IAmb IAmb 08 16 29.1
comp=Z,17nm,1.1s
L19K White Mountain 76.09 28 P **P 08 16 11.0 +0.8**
baz=265,SNR=12
N19K Bonanza Creek 76.14 30 P **P 08 16 12.3 +1.6**
baz=265,SNR=11
D20K Etivluk River 76.17 21 **P 08 16 11.4 +0.8**
D20K IAmb IAmb 08 16 17.6
comp=Z,30nm,0.9s
D20K Etivluk River 76.17 21 P **P 08 16 11.8 +1.2**
baz=261,SNR=32
O19K Port Alsworth 76.17 30 P **P 08 16 11.1 +0.4**
baz=266
B20K Meade River 76.18 20 P **P 08 16 11.6 +0.9**
baz=260
E20K Nigu River 76.26 22 P **P 08 16 12.1 +0.9**
baz=262,SNR=24
F20K Avaraart Lake 76.27 23 P **P 08 16 12.3 +1.1**
baz=263
M19K Big River Lodg 76.28 29 P **P 08 16 12.5 +1.1**
baz=265
H20K Anotleneega Mo 76.42 25 P **P 08 16 13.2 +1.1**
baz=264,SNR=19
Q19K Cape Douglas, 76.42 32 P **P 08 16 13.3 +1.0**
baz=266
I20K Naaghedeneel 76.51 26 P **P 08 16 13.8 +1.2**
baz=264
OHAK Old Harbor 76.52 33 P **P 08 16 13.5 +0.8**
baz=267
K20K Telida 76.56 27 P **P 08 16 13.2 +0.3**
baz=265
L20K Farewell, AK 76.57 28 P **P 08 16 14.0 +1.0**
baz=265
A21K Barrow 76.58 19 P **P 08 16 13.8 +1.0**
baz=261
J20K Nowinta River 76.60 26 P **P 08 16 13.7 +0.6**
baz=265
P19K Oil Pt 76.68 31 P **P 08 16 14.1 +0.4**
baz=267
CASY Casey 76.77 187 P **P 08 16 13.9 0.0**
CASY IAmb IAmb 08 16 24.3
comp=Z,20nm,0.7s
M20K Styx River 76.87 29 P **P 08 16 15.3 +0.5**
baz=266
C21K Knifeblade Rid 76.89 21 P **P 08 16 15.5 +0.9**
baz=263
KDAK Kodiak Island 76.92 33 LR LR 08 45 57.4
comp=Z,840nm,21.8s,baz=97,slow=32
KDAK Kodiak Island 76.92 33 P **P 08 16 15.5 +0.5**
baz=268
B21K Ikpikpuk River 77.00 21 P **P 08 16 16.4 +1.1**

baz=263,SNR=34
Q20K Shuyak Island 77.06 32 P **P 08 16 16.5 +0.7**
baz=268
A22K Sinclair Lake 77.06 19 P **P 08 16 16.5 +0.9**
baz=262
G21K Allakaket 77.08 24 P **P 08 16 17.1 +1.3**
baz=265,SNR=35
E21K Killik River 77.09 22 P **P 08 16 17.0 +1.1**
baz=264
F21K Alatna River 77.16 23 P **P 08 16 17.0 +0.8**
baz=265
SPCR Spurr Chakacha 77.27 29 P **P 08 16 17.5 +0.4**
baz=267
H21K Melozitna Rive 77.29 25 P **P 08 16 17.5 +0.4**
baz=266
PPLA Purkeypile 77.37 28 P **P 08 16 17.6 -0.1**
baz=267
CHUM Lake Minchumin 77.38 27 P **P 08 16 17.9 +0.5**
baz=266
CAST Castle Rocks 77.45 27 P **P 08 16 18.9 +1.0**
baz=267,SNR=13
HOM Homer 77.49 31 P **P 08 16 19.0 +0.8**
baz=268
B22K Teshekpuk Lake 77.49 20 **P 08 16 19.0 +1.0**
B22K IAmb IAmb 08 16 30.6
comp=Z,21nm,0.8s
B22K Teshekpuk Lake 77.49 20 P **P 08 16 19.1 +1.1**
baz=264,SNR=19
GNI Garni 77.51 309 LR LR 08 55 39.4
comp=Z,573nm,21.2s,baz=94,slow=40
GNI Garni 77.51 309 *ce*P **P 08 16 19.1 +0.1**
GNI pmax pmax
comp=Z,19nm,1.4s
I21K Tanana 77.60 25 P **P 08 16 20.1 +1.4**
baz=266
D22K Ayikyak River 77.61 21 P **P 08 16 19.5 +0.8**
baz=265,SNR=5.4
SKT Skwentna 77.63 29 P **P 08 16 19.7 +0.7**
baz=268
F22K John River 77.68 23 P **P 08 16 20.8 +1.6**
baz=266
CAPN Captain Cook N 77.77 30 P **P 08 16 20.6 +0.9**
baz=268
E22K Anaktuvuk Pass 77.87 22 P **P 08 16 21.4 +1.2**
baz=266,SNR=13
H22K Ishtalitna Cre 77.90 25 P **P 08 16 21.6 +1.2**
baz=267,SNR=13
G22K Bettles 77.90 24 P **P 08 16 21.2 +0.8**
baz=266
BRSE Bradley Lake S 77.95 31 P **P 08 16 21.0 +0.2**
baz=269
BPAW Bear Paw Mtn. 77.97 26 P **P 08 16 21.3 +0.5**
baz=268,SNR=21
SUA Susitna One 77.99 29 P **P 08 16 21.4 +0.4**
baz=268
RAYN Ar Rayn 78.00 292 P **P 08 16 20.8 -1.1**
RAYN IAmb IAmb 08 16 29.5
comp=Z,10nm,0.8s
RAYN Ar Rayn 78.00 292 P **P 08 16 21.4 -0.4**
CUT Chulitna 78.24 28 P **P 08 16 23.2 +0.9**
baz=269
TRF Thorofare Moun 78.26 27 P **P 08 16 23.0 +0.4**
baz=268
M22K Willow 78.30 29 P **P 08 16 22.6 0.0**
baz=269
D23K Nanushuk River 78.34 21 P **P 08 16 23.8 +1.0**
baz=267
C23K Itkillik River 78.41 21 **P 08 16 24.2 +1.1**
C23K IAmb IAmb 08 16 35.7
comp=Z,24nm,0.8s
C23K Itkillik River 78.41 21 P **P 08 16 23.5 +0.4**
baz=267,SNR=18
COLD Coldfoot 78.43 23 P **P 08 16 24.1 +0.8**
baz=268,SNR=13
O22K Cooper Landing 78.47 30 P **P 08 16 24.8 +1.2**
baz=270
RC01 Rabbit Creek A 78.47 30 P **P 08 16 23.9 +0.3**
baz=269
G23K Bananza Creek 78.48 24 **P 08 16 23.9 +0.3**
G23K IAmb IAmb 08 16 45.6
comp=Z,24nm,1.2s
G23K Bananza Creek 78.48 24 P **P 08 16 24.6 +1.0**
baz=268,SNR=14
GOF Gofitskoye 78.57 314 *ce*P **P 08 16 24.7 +0.2**
SEW Seward 78.60 31 P **P 08 16 24.2 0.0**
baz=270
RAR Rarotonga 78.60 114 LR LR 08 45 28.8
comp=Z,664nm,18.8s,baz=279,slow=31
H23K Yukon River 78.65 25 P **P 08 16 25.0 +0.5**
baz=269
E23K Chandalar 78.69 22 P **P 08 16 25.5 +0.7**
baz=268,SNR=26
I23K Minto, Yukon-K 78.71 25 P **P 08 16 25.7 +0.9**
baz=269,SNR=8.3
TOLK Toolik Lake Re 78.72 22 P **P 08 16 25.4 +0.5**
baz=268,SNR=19
KBZ Khabaz 78.73 313 P **P 08 16 23.9 -1.4**
comp=Z,16nm,1.2s,baz=76,slow=3.1,SNR=18
KBZ LR LR 08 55 35.4
comp=Z,921nm,18.5s,baz=86,slow=39
comp=Z,16nm,1.2s
KBZ Khabaz 78.73 313 *ce*P **P 08 16 25.3 -0.1**
KBZ pmax pmax
comp=Z,13nm,1.2s
PMR Palmer 78.77 29 P **P 08 16 25.6 +0.4**
baz=270
NEA2 Nenana 78.82 26 P **P 08 16 26.5 +1.0**
NEA2 Nenana 78.82 26 P **P 08 16 25.9 +0.4**
baz=269
MCK McKinley 78.87 27 P **P 08 16 26.5 +0.7**
baz=270,SNR=12
KIV Kislovodsk 78.87 313 *e*P **P 08 16 27.2 +0.9**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,1μm,19.0s
RND Reindeer 78.90 27 **P 08 16 26.3 +0.2**
RND IAmb IAmb 08 16 40.6
comp=Z,36nm,1.3s
RND Reindeer 78.90 27 P **P 08 16 26.3 +0.2**
RND pmax pmax
comp=Z,36nm,1.3s
SHA1 Shidzhatmaz 78.91 313 *de*P **P 08 16 26.9 +0.2**
D24K Happy Valley 79.01 21 P **P 08 16 27.4 +0.9**
baz=269
C24K Franklin Bluff 79.07 21 P **P 08 16 27.1 +0.4**
baz=269
KNK Knik Glacier 79.09 29 P **P 08 16 27.0 0.0**
baz=270
E24K Your Creek 79.11 22 P **P 08 16 27.8 +0.7**
baz=269
SML Sawmill 79.14 29 P **P 08 16 27.8 +0.4**
baz=270
PWL Port Wells 79.15 30 P **P 08 16 27.7 +0.3**
baz=271
VRH Novokhopyorsk 79.21 320 *e*P **P 08 16 27.6 -0.2**
VRH pmax pmax
comp=Z,57nm,1.6s
F24K Squaw Lake 79.33 23 P **P 08 16 29.0 +0.7**
baz=270,SNR=5.4
H24K Noodor Dome 79.33 25 P **P 08 16 28.5 +0.2**
baz=270,SNR=5.3
COLA College 79.35 26 ⇑P **P 08 16 25.0 -3.3**
COLA College 79.35 26 P **P 08 16 28.5 +0.2**
baz=270
M23K Glacier View 79.43 29 P **P 08 16 28.5 -0.4**
baz=271
G24K Hadweenzic Riv 79.49 24 P **P 08 16 29.1 -0.1**
baz=270
POKR Poker Plat Res 79.52 25 P **P 08 16 29.2 -0.1**
baz=271
SCM Sheep Creek Mo 79.62 29 P **P 08 16 30.2 +0.2**
baz=271
P23K Montague Islan 79.63 31 P **P 08 16 30.0 0.0**
baz=272
GURO Guroymak-BITLI 79.70 308 **P 08 16 31.1 +0.1**
GURO IAmb IAmb 08 16 49.9
comp=Z,19nm,0.9s
HDA Harding Lake 79.74 26 P **P 08 16 30.9 +0.4**
baz=271
GLI Glacier Island 79.76 30 P **P 08 16 31.0 +0.3**
baz=272
ILAR Eielson Array 79.76 26 P **P 08 16 30.3 -0.2**
ILAR Eielson Array 79.76 26 P **P 08 16 30.8 +0.2**
comp=Z,1.0nm,0.6s,baz=241,slow=4.8,SNR=24
ILAR LR LR 08 53 57.1
comp=Z,562nm,19.1s,baz=267,slow=37
comp=Z,1.0nm,0.6s

D25K Kavik River 79.89 21 P **P 08 16 31.5 +0.2**
D25K IAmb IAmb 08 16 46.9
comp=Z,34nm,1.4s
D25K Kavik River 79.89 21 P **P 08 16 31.6 +0.4**
baz=271,SNR=16
G25K Bearman Lake 80.04 24 P **P 08 16 32.1 +0.1**
baz=272
KLMR Klimovskoe 80.08 330 *e*P P 08 16 27.5 -4.8
KLMR *e* 08 16 36.9
KLMR S **S 08 26 27.0 -4.6**
KLMR pmax pmax
comp=Z,68nm,1.5s
KLMR MLR MLR
comp=Z,1μm,14.0s
M24K Tolsona, Glenn 80.16 28 P **P 08 16 32.8 -0.1**
baz=272
F25K Christian Rive 80.19 23 P **P 08 16 33.6 +0.7**
baz=272,SNR=5.3
E25K Arctic Village 80.21 22 P **P 08 16 32.8 -0.2**
baz=272,SNR=16
LABN Labinsk 80.24 314 *e*P **P 08 16 32.5 -1.1**
LABN *e*S **S 08 26 36.1 +2.2**
LABN pmax pmax
comp=Z,39nm,0.7s
K24K Donnelly Dome 80.27 27 P **P 08 16 33.4 0.0**
baz=272
KLU Klutina 80.30 29 P **P 08 16 33.9 +0.2**
baz=273
PRP Porcupine Dome 80.31 25 P **P 08 16 34.1 +0.3**
baz=272
ERBR Yeremizino-Bor 80.33 315 *e*P **P 08 16 32.8 -1.3**
ERBR *e*S **S 08 26 34.3 -0.5**
ERBR pmax pmax
comp=Z,27nm,0.6s
ERBR MLR MLR
comp=Z,1μm,18.0s
C26K Camden Bay 80.38 21 P **P 08 16 34.9 +1.0**
baz=272
J25K Salcha River, 80.42 26 P **P 08 16 34.4 +0.2**
baz=273
EYAK Cordova Ski Ar 80.43 30 P **P 08 16 35.3 +1.0**
baz=273
PAX Paxson 80.45 28 P **P 08 16 35.2 +0.8**
baz=273
BMAR Burnt Mountain 80.61 23 P **P 08 16 36.2 +1.1**
HARP HAARP 80.62 28 P **P 08 16 35.9 +0.6**
baz=273
RIDG Independent Ri 80.69 27 P **P 08 16 36.3 +0.6**
baz=273
VORD Divnogorie 80.75 320 *e*P **P 08 16 32.8 -3.4**
VORD pmax pmax
comp=Z,8.0nm,1.0s
VORR Voronezh 80.75 321 P **P 08 16 36.6 +0.4**
VORR pmax pmax
comp=Z,45nm,1.6s
F26K Sheenjek River 80.76 23 P **P 08 16 36.3 +0.3**
baz=273
MARD Mardin 80.79 306 **P 08 16 36.8 0.0**
VSR Storozhevoye 80.81 320 *e*P **P 08 16 34.1 -2.4**
VSR pmax pmax
comp=Z,6.0nm,1.0s
C27K Jago River 80.81 21 P **P 08 16 37.0 +0.9**
baz=273,SNR=18
VSLR Vesyoloye 80.83 313 ⇑*e*P **P 08 16 36.9 +0.1**
VSLR pmax pmax
comp=Z,37nm,1.3s
LPSR Galich'ya Gora 80.86 322 *e*P **P 08 16 36.9 +0.2**
LPSR pmax pmax
comp=Z,55nm,1.7s
N25K Chitina, Valde 80.93 29 P **P 08 16 37.2 +0.2**
baz=274
G26K Porcupine Rive 80.94 23 **P 08 16 38.4 +1.6**
G26K IAmb IAmb 08 16 44.3
comp=Z,18nm,1.2s
G26K Porcupine Rive 80.94 23 P **P 08 16 37.5 +0.6**
baz=274,SNR=9.1
BMRM Bremner River 80.97 30 P **P 08 16 37.4 +0.2**
baz=274
SOC Sochi 81.05 313 *c i*P **P 08 16 35.3 -2.6**
SOC *e*PPP PPP 08 21 28.2
SOC *e*S **S 08 26 36.9 -5.4**
SOC *e*S **SKSac 08 26 41.8 -10**
SOC *e*SS **SS 08 32 00.2 +2.3**
SOC *e*SSS SSS 08 35 24.6
SOC pmax pmax
comp=Z,10.0nm,0.4s
SCRK Sand Creek 81.05 27 P **P 08 16 38.0 +0.3**
baz=274
KAIM Kayak Island 81.13 31 P **P 08 16 38.1 +0.1**
baz=274
J26L Joseph Creek 81.20 26 P **P 08 16 38.3 -0.1**
baz=274
I26K Coal Creek Min 81.32 25 P **P 08 16 39.1 +0.2**
baz=274
MOS Moscow 81.39 325 *e*P **P 08 16 38.2 -1.2**
MOS *e*S **S 08 26 44.4 -1.0**
MOS pmax pmax
comp=Z,47nm,0.7s
MOS MLR MLR
comp=Z,900nm,18.0s
L26K Log Cabin Wild 81.41 27 P **P 08 16 39.7 +0.2**
baz=275
M26K Nabesna, AK 81.62 28 P **P 08 16 41.1 +0.5**
baz=275
E27K Coleen River 81.69 22 **P 08 16 42.2 +1.4**
E27K IAmb IAmb 08 16 54.5
comp=Z,16nm,1.2s
E27K Coleen River 81.69 22 P **P 08 16 41.3 +0.4**
baz=275,SNR=14
LVZ Lovozero 81.72 338 P **P 08 16 40.9 -0.1**
LVZ Lovozero 81.72 338 ⇓P **P 08 16 43.3 +2.3**
G27K Doyon Strip 81.80 24 P **P 08 16 41.6 +0.2**
baz=276
D27M Malcolm River 81.81 21 P **P 08 16 42.6 +1.1**
baz=276
K27K Chicken 81.89 26 P **P 08 16 42.7 +0.8**
baz=276
H27K Steamboat Moun 81.90 24 P **P 08 16 42.6 +0.5**
baz=276,SNR=5.4
I27K Kandik River 81.93 25 P **P 08 16 42.6 +0.4**
baz=276,SNR=29
ATD Arta Tunnel 81.97 280 LR LR 08 52 55.7
comp=Z,20nm,18.8s,baz=64,slow=36
OBN Obninsk 82.04 325 LR LR 08 57 28.3
comp=Z,946nm,18.2s,baz=31,slow=39
OBN Obninsk 82.04 325 *d i*P **P 08 16 43.5 +0.6**
OBN *i* 08 16 50.2
OBN PPP PPP 08 21 49.0
OBN *e*S **S 08 26 51.7 -0.4**
OBN *e* 08 27 00.8
OBN SS SS 08 32 24.0 +12
OBN SSS SSS 08 35 33.0
OBN pmax pmax
comp=Z,13nm,0.9s
L27K Beaver Creek, 82.10 27 P **P 08 16 43.7 +0.6**
baz=276
BCAR Beaver Creek A 82.11 27 P **P 08 16 43.2 0.0**
M27K Edge Creek, AK 82.15 28 P **P 08 16 44.1 +0.6**
baz=276
MESA MESA 82.34 30 P **P 08 16 45.1 +0.5**
baz=276
E28M Babbage River 82.40 22 **P 08 16 45.7 +1.1**
E28M IAmb IAmb 08 16 59.8
comp=Z,26nm,1.4s
E28M Babbage River 82.40 22 P **P 08 16 45.3 +0.8**
baz=277,SNR=13
ANN Anapa 82.56 314 *e*P **P 08 16 44.3 -1.5**
ANN pmax pmax
comp=Z,22nm,1.1s
ANN MLR MLR
comp=E,1μm,23.0s
ANN MLR MLR
comp=Z,1μm,21.0s
ANN MLR MLR
comp=N,775nm,20.0s
D28M Stokes Point 82.59 21 P **P 08 16 46.1 +0.6**
baz=278
BVCY Beaver Creek 82.61 28 P **P 08 16 46.3 +0.5**
baz=277
I28M Miner Creek 82.64 25 P **P 08 16 46.4 +0.4**
baz=277,SNR=21
YUK3 Moose Creek 82.88 29 P **P 08 16 48.0 +0.5**
baz=277
E29M Blow River 83.03 22 P **P 08 16 48.5 +0.7**
baz=279
DAWY Dawson 83.06 26 P **P 08 16 48.5 +0.4**

baz=278,SNR=12
O28M Mount Upton 83.14 30 P **P 08 16 48.9 0.0**
baz=278
H29M Whitestone 83.17 24 P **P 08 16 48.8 +0.2**
baz=279,SNR=7.4
PINM Pinnacle 83.20 30 P **P 08 16 48.8 -0.1**
baz=278
G29M Pine Creek 83.21 23 P **P 08 16 49.9 +1.1**
baz=279,SNR=8.9
YUK8 Steele Glacier 83.27 29 P **P 08 16 49.3 -0.2**
baz=278
VADS Vadso 83.31 340 *e*P **P 08 16 50.8 +1.6**
I29M Ogilvie Camp, 83.33 25 P **P 08 16 50.3 +0.8**
I29M Ogilvie Camp, 83.33 25 P **P 08 16 50.5 +1.1**
baz=279,SNR=19
J29N Klondike Camp 83.51 26 P **P 08 16 50.9 +0.4**
baz=279,SNR=6.5
PNL Peninsula 83.68 31 P **P 08 16 51.3 -0.1**
baz=278
M29M Somme Creek 83.71 28 P **P 08 16 52.0 +0.4**
baz=279,SNR=6.0
L29M L29M 83.76 27 **P 08 16 53.6 +1.8**
L29M L29M 83.76 27 P **P 08 16 52.1 +0.4**
baz=279,SNR=15
YUK4 Talbot Arm 83.80 29 P **P 08 16 52.4 +0.2**
baz=279
EPYK Eagle Plains 83.81 24 P **P 08 16 52.1 +0.2**
baz=280,SNR=8.5
G30M tAoh Zraii Nji 83.89 23 P **P 08 16 52.8 +0.5**
baz=280,SNR=8.4
K29M Barlow Dome 83.91 26 P **P 08 16 53.0 +0.4**
baz=280,SNR=8.2
F30M Barrier River 83.94 22 P **P 08 16 53.3 +0.7**
baz=281,SNR=6.2
O29M Mount Kennedy 84.00 30 P **P 08 16 53.2 +0.2**
baz=279
YUK6 Outpost Mounta 84.00 29 P **P 08 16 52.9 -0.3**
baz=279
I30M Mount Dempster 84.15 25 P **P 08 16 54.1 +0.3**
baz=281,SNR=12
KEV Kevo 84.18 340 P **P 08 16 53.8 +0.2**
KEV IAmb IAmb 08 17 09.4
comp=Z,9.7nm,0.8s
KEV Kevo 84.18 340 P **P 08 16 53.8 +0.2**
KEV pmax pmax
comp=Z,10.0nm,0.8s
J30M Hart River 84.29 25 P **P 08 16 55.4 +0.9**
baz=281,SNR=14
HYT Haines Junctio 84.43 29 P **P 08 16 55.8 +0.5**
baz=280
M30M Minto, Yukon 84.45 28 P **P 08 16 55.8 +0.5**
baz=280,SNR=11
BNN Bunyan 84.48 308 **P 08 16 55.1 -1.0**
N30M Aishikik Lake 84.52 29 **P 08 16 57.6 +1.9**
N30M IAmb IAmb 08 17 12.2
comp=Z,31nm,1.2s
N30M Aishikik Lake 84.52 29 P **P 08 16 56.2 +0.6**
baz=280,SNR=6.7
P29M Windy Craggy 84.52 31 P **P 08 16 56.0 +0.4**
baz=280
SPB2 Spitsbergen Ar 84.54 349 **P 08 16 55.4 0.0**
SPA0 Spitsbergen Ar 84.54 349 *e*P **P 08 16 56.3 +0.9**
SPITS Spitsbergen Ar 84.54 349 P **P 08 16 55.0 -0.4**
comp=Z,14nm,0.8s,baz=78,slow=7.9,SNR=17
SPITS LR LR 09 01 28.0
comp=Z,982nm,18.9s,baz=36,slow=40
comp=Z,14nm,0.8s
SPITS Spitsbergen Ar 84.54 349 P **P 08 16 55.0 -0.4**
ASF Jabal al Asfar 84.57 302 LR LR 08 59 43.4
comp=Z,531nm,19.5s,baz=106,slow=39
INK Inuvik 84.64 22 LR LR 08 58 36.3
comp=Z,404nm,19.0s,baz=251,slow=38
INK Inuvik 84.64 22 P **P 08 16 56.4 +0.5**
baz=283,SNR=11
G31M Satah River 84.66 23 P **P 08 16 57.2 +1.1**
baz=282,SNR=11
ARA0 ARCESS Array S 84.74 340 *e*P **P 08 16 57.0 +0.5**
ARCES ARCESS Array B 84.74 340 P **P 08 16 55.7 -0.9**
comp=Z,14nm,0.6s,baz=81,slow=6.6,SNR=64
ARCES LR LR 08 59 19.4
comp=Z,705nm,18.6s,baz=84,slow=39
comp=Z,14nm,0.6s
F31M Tsiigehtchic 84.75 22 **P 08 16 57.5 +1.0**
F31M Tsiigehtchic 84.75 22 P **P 08 16 57.7 +1.2**
baz=283,SNR=15
P30M Milin Dollar 84.82 30 P **P 08 16 57.2 0.0**
baz=281
H31M Peel River 84.87 24 P **P 08 16 57.7 +0.4**
baz=282,SNR=11
KBS Kingsbay 85.05 350 ⇑*e*P **P 08 16 58.5 +0.6**
KBS pmax pmax
comp=Z,7.0nm,1.2s
KBS Kingsbay 85.05 350 *e*P **P 08 17 01.4 +3.5**
O30N Mendenhall 85.12 29 P **P 08 16 58.7 0.0**
baz=281
N31M Braeburn, Yuko 85.13 29 P **P 08 16 59.3 +0.6**
N31M Braeburn, Yuko 85.13 29 P **P 08 16 58.8 +0.1**
baz=281
S31K Pelican 85.60 32 P **P 08 17 01.1 +0.1**
baz=281
M31M Drury Creek, Y 85.62 28 P **P 08 17 01.1 0.0**
baz=283
MMAI Mount Meron Ar 85.69 303 P **P 08 17 01.5 -0.6**
comp=Z,4.2nm,0.8s,baz=64,slow=14,SNR=11
MMAI LR LR 08 59 10.8
comp=Z,520nm,21.6s,baz=66,slow=38
comp=Z,4.2nm,0.8s
WHY Whitehorse 85.73 29 P **P 08 17 01.7 -0.1**
baz=282
SKAG Skagway 85.76 30 P **P 08 17 01.8 +0.1**
baz=282
R31K City Hall, Gus 85.77 32 P **P 08 17 02.1 +0.3**
baz=282
KIRS Kirsehir-Merke 85.93 309 ⇑P **P 08 17 04.2 +1.0**
BR131 Keskin Array S 86.04 309 ⇓*e*P **P 08 17 02.8 -1.0**
BRTR Keskin Array B 86.04 309 P **P 08 17 02.1 -1.7**
BRTR Keskin Array B 86.04 309 P **P 08 17 02.6 -1.2**
comp=Z,1.3nm,0.7s,baz=132,slow=6.8,SNR=9.0
BRTR LR LR 09 01 00.2
comp=Z,421nm,20.4s,baz=81,slow=39
comp=Z,1.3nm,0.7s
BRTR Keskin Array B 86.04 309 *i*P **P 08 17 04.0 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
FARO Faro, Yukon 86.09 28 P **P 08 17 04.4 +0.9**
baz=284,SNR=14
SIT Sitka 86.26 33 P **P 08 17 04.7 +0.4**
baz=282
A36M Sachs Harbour 86.30 17 P **P 08 17 05.1 +0.9**
A36M IAmb IAmb 08 17 24.6
comp=Z,24nm,0.8s
A36M Sachs Harbour 86.30 17 P **P 08 17 04.8 +0.7**
baz=290
R32K Eaglecrest 86.42 32 P **P 08 17 05.3 +0.2**
baz=283
FIA1 FINESS Array S 86.44 332 P **P 08 17 04.9 -0.2**
FINES FINESS Array B 86.44 332 P **P 08 17 05.0 -0.1**
FINES FINESS Array B 86.44 332 P **P 08 17 04.8 -0.3**
comp=Z,12nm,0.7s,baz=65,slow=4.2,SNR=34
FINES LR LR 09 00 06.7
comp=Z,938nm,18.7s,baz=80,slow=39
comp=Z,12nm,0.7s
FINES FINESS Array B 86.44 332 P **P 08 17 05.0 -0.1**
JETT Jettan, Norway 86.45 340 *e*P **P 08 17 06.2 +1.2**
N32M Quiet Lake 86.47 29 P **P 08 17 05.7 +0.3**
baz=284
P32M Atlin 86.53 30 P **P 08 17 06.0 +0.3**
baz=283
S32K Killisnoo 86.57 32 P **P 08 17 06.4 +0.6**
baz=283
EIL Elat 86.60 299 LR LR 09 02 40.4
comp=Z,556nm,20.1s,baz=68,slow=40
P33M Teslin, Yukon 86.83 29 P **P 08 17 07.8 +0.7**
baz=284
VSU Vasula 86.83 329 ⇓*e*P **P 08 17 05.9 -1.1**
VSU pmax pmax
comp=Z,48nm,1.7s
MMPY Sheldon Lake, 86.94 27 P **P 08 17 08.0 +0.4**
baz=285
MNK Minsk 87.10 325 *i*P **P 08 17 05.5 -2.9**
MNK *i* 08 20 29.3
MNK *i*S **SKSac 08 27 28.6 -1.5**
MNK *i* *SS **ScS 08 27 53.7 +3.9**
MNK *i*SS **SS 08 33 26.5 -0.1**
MNK pmax pmax
comp=N,14nm,0.7s
MNK pmax pmax

comp=Z,9.0nm,1.3s
MNK pmax pmax
comp=E,20nm,0.8s
MNK MLR MLR
comp=N,603nm,16.0s
MNK MLR MLR
comp=Z,1μm,18.0s
MNK MLR MLR
comp=E,569nm,18.0s
AKASG Malin Array Be 87.11 321 P P 08 17 07.4 -1.1
comp=E,1.7nm,0.5s,baz=68,slow=4.3,SNR=24
AKASG LR LR 09 00 50.2
comp=E,829nm,18.4s,baz=74,slow=39
comp=E,1.7nm,0.5s
AKASG Malin Array Be 87.11 321 *i* P **P 08 17 08.1 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 87.11 321 ⇓*e*P **P 08 17 07.9 -0.7**
KIEV Kiev 87.12 321 P **P 08 17 07.8 -0.8**
KIEV IAmb IAmb 08 17 28.4
comp=Z,15nm,1.1s
KIEV Kiev 87.12 321 ⇓P **P 08 17 08.4 -0.2**
KIEV Kiev 87.12 321 ⇓P **P 08 17 08.4 -0.2**
PPT Papeete 87.16 108 LR LR 08 51 33.0
comp=Z,751nm,19.1s,baz=273,slow=32
PPT2 Papeete2 87.17 108 *e*P **P 08 17 08.4 -1.2**
comp=Z,109nm,23.8s
PPT2 Papeete2 87.17 108 *e*S **SKSac 08 27 41.6 +10**
comp=Z,489nm,25.2s
PPT2 *e*SS **SS 08 33 21.4 -8.5**
comp=Z,214nm,24.0s
PPT2 *e*LQ LQ 08 41 01.8
comp=Z,494nm,28.0s
PPT2 *e*LR LR 08 44 47.2
comp=Z,901nm,21.8s
PPT2 *e*LR LR 08 44 47.3
comp=Z,1μm,21.8s
Q32M Nakina River 87.41 31 P **P 08 17 10.0 -0.2**
baz=285
C36M Paulatuk 87.61 20 P **P 08 17 10.4 -0.2**
C36M IAmb IAmb 08 17 23.6
comp=Z,12nm,0.8s
C36M Paulatuk 87.61 20 P **P 08 17 10.5 -0.1**
baz=292
U33K Whale Pass 87.66 33 P **P 08 17 11.1 0.0**
baz=284
R33M Jennings River 87.94 30 P **P 08 17 12.6 0.0**
baz=286
WRAK Wrangell Islan 88.01 33 P **P 08 17 12.9 +0.2**
baz=285
MILM Milestii Mici 88.16 317 ⇑*i*P P 08 17 08.0 -5.7
MILM *e*L L 08 54 47.0
MILM LRM MLR 08 59 59.0
comp=Z,700nm,20.0s
MILM Milestii Mici 88.16 317 *c i*P P 08 17 08.0 -5.7
MILM MLR MLR
comp=N,700nm,17.5s
MILM pmax pmax
comp=Z,18nm,0.1s
SORM Soroca 88.21 318 ⇓P **P 08 17 14.2 +0.3**
SORM Soroca 88.21 318 ⇓P **P 08 17 14.2 +0.3**
S34M Telegraph Cree 88.26 31 P **P 08 17 14.0 +0.1**
baz=286
TBI Tubuai 88.39 114 *e*P **P 08 17 16.1 +0.9**
comp=Z,816nm,29.2s
TBI Tubuai 88.39 114 *e*S **S 08 27 52.7 -3.2**
comp=Z,2μm,26.2s
TBI *e*SS **SS 08 33 46.6 -0.7**
comp=Z,955nm,28.2s
TBI *e*LQ LQ 08 41 38.5
comp=Z,3μm,39.8s
TBI *e*LR LR 08 45 17.6
comp=Z,2μm,24.5s
TBI *e*LR LR 08 45 22.6
comp=Z,6μm,23.8s
DLBC Dease Lake 88.67 31 LR LR 09 01 00.8
comp=Z,252nm,18.1s,baz=298,slow=38
DLBC Dease Lake 88.67 31 P **P 08 17 15.6 -0.4**
baz=287
V35K Ketchikan 88.69 34 P **P 08 17 16.3 +0.3**
baz=285
STEI Steigen 88.80 339 *e*P **P 08 17 15.4 -0.8**
KIBK Kibwezi 88.91 267 P **P 08 17 16.8 -1.2**
KIBK IAmb IAmb 08 17 20.3
comp=Z,21nm,1.3s
T35M Bob Quinn 88.97 32 P **P 08 17 17.6 +0.2**
baz=286
FAUS Fauske 89.00 339 *e*P **P 08 17 16.6 -0.6**
CFR Carcaliu 89.00 316 ⇓P **P 08 17 17.7 0.0**
CFR Carcaliu 89.00 316 ⇓P **P 08 17 17.7 0.0**
MAW Mawson 89.34 200 P **P 08 17 20.3 +1.7**
comp=Z,5.2nm,0.6s,baz=85,slow=5.9,SNR=11
MAW LR LR 08 55 13.8
comp=Z,300nm,19.4s,baz=58,slow=34
U35K Hyder 89.39 33 P **P 08 17 19.1 -0.2**
baz=287
VNDA Vanda 89.42 173 P **P 08 17 19.8 +1.0**
VNDA IAmb IAmb 08 17 38.7
comp=Z,8.8nm,0.7s
VNDA Vanda 89.42 173 P **P 08 17 19.2 +0.3**
comp=Z,5.1nm,1.0s,baz=309,slow=6.7,SNR=13
VNDA LR LR 08 58 58.1
comp=Z,904nm,18.9s,baz=344,slow=37
comp=Z,5.1nm,1.0s
VNDA Vanda 89.42 173 P **P 08 17 19.8 +1.0**
VNDA pmax pmax
comp=Z,9.0nm,0.7s
TESR Tescani 89.70 317 ⇑P **P 08 17 22.0 +1.0**
MOR8 Moi Rana 89.79 338 *e*P **P 08 17 20.8 -0.2**
VRI Vrincioaia 89.81 316 ⇑P **P 08 17 22.4 +0.9**
VRI Vrincioaia 89.81 316 ⇑P **P 08 17 22.4 +0.9**
PLOR Plostina 89.86 316 ⇓P **P 08 17 22.8 +1.0**
PLOR Plostina 89.86 316 ⇓P **P 08 17 22.8 +1.0**
WRGLY Wrigley 90.12 25 P **P 08 17 23.2 +0.7**
baz=292
LIRD Liard River Hi 90.31 29 P **P 08 17 24.4 +0.9**
baz=290
LEIR Leirfjorden 90.31 338 *e*P **P 08 17 23.7 +0.3**
BURAR Bucovina Array 90.38 318 P **P 08 17 23.8 -0.4**
BURAR Bucovina Array 90.38 318 ⇓P **P 08 17 24.9 +0.7**
BURAR Bucovina Array 90.38 318 ⇓P **P 08 17 24.9 +0.7**
BUR08 Bucovina Ar. S 90.38 318 P **P 08 17 23.2 -1.1**
MLR Muntele Rosu 90.43 316 P **P 08 17 24.5 0.0**
comp=Z,2.6nm,0.7s,baz=13,slow=6.4,SNR=3.5
MLR LR LR 09 05 08.3
comp=Z,1μm,19.3s,baz=64,slow=40
comp=Z,2.6nm,0.7s
MLR Muntele Rosu 90.43 316 ⇓P **P 08 17 24.5 0.0**
TOAD Toad River Com 90.92 30 P **P 08 17 26.7 +0.3**
baz=291
KOTAN Kotaneelee Air 91.02 28 P **P 08 17 27.1 +0.3**
baz=292
NSS Namsos 91.43 337 *e*P **P 08 17 27.4 -1.2**
BBB Bella Bella 91.58 36 LR LR 08 54 13.2
comp=Z,218nm,19.9s,baz=306,slow=33
KOLS Kolonicke sedl 91.91 320 *e*P **P 08 17 32.1 +0.9**
KOLS Kolonicke sedl 91.91 320 *e*P **P 08 17 32.1 +0.9**
RES Resolute Bay 91.93 10 LR LR 09 03 58.5
comp=Z,451nm,18.5s,baz=358,slow=39
MARR Marisel-Cluj 92.01 318 ⇑P **P 08 17 33.1 +1.3**
HFS Hagfors 92.60 333 P **P 08 17 32.8 -1.3**
comp=Z,8.2nm,0.6s,baz=90,slow=4.4,SNR=24
comp=Z,8.2nm,0.6s
NC405 NORSAR Array S 93.06 334 P **P 08 17 35.5 -0.7**
KECS Kecovo 93.17 320 *e*P **P 08 17 39.7 +2.7**
KECS Kecovo 93.17 320 *e*P **P 08 17 39.7 +2.7**
NB2 NORSAR Subarra 93.31 334 P **P 08 17 36.2 -1.2**
comp=Z,8.8nm,0.9s,baz=66,slow=4.6
NB2 NORSAR Subarra 93.31 334 P **P 08 17 36.2 -1.2**
baz=66,slow=4.6
NOA NORSAR Array B 93.31 334 P **P 08 17 36.0 -1.4**
comp=Z,2.0nm,0.6s,baz=66,slow=4.5,SNR=18
NOA LR LR 09 04 23.7
comp=Z,587nm,18.6s,baz=85,slow=38
comp=Z,2.0nm,0.6s
MDVR Moldovita 93.50 316 ⇓P **P 08 17 40.3 +1.6**
JMIC Jan Mayen 93.96 347 LR LR 09 06 59.9
comp=Z,596nm,18.2s,baz=76,slow=40
YKA Yellowknife Ar 94.09 24 P **P 08 17 38.8 -2.1**
comp=Z,2.7nm,0.8s,baz=300,slow=4.3,SNR=8.8
YKA PKKP **PKKPbc 08 34 44.6 -0.2**
comp=Z,0.5nm,0.8s,baz=121,slow=2.5,SNR=7.9
YKA LR LR 09 03 58.3
comp=Z,274nm,19.3s,baz=286,slow=38
comp=Z,2.7nm,0.8s
STEB Steborice 94.36 322 *e*P P 08 17 48.4 +5.9
AKN Aaknes 94.53 336 *e*P **P 08 17 43.0 0.0**

MORC Moravsky Berou 94.56 322 *e*P **P 08 17 44.7 +1.3**
TAOE Nuku Hiva Isla 94.71 98 *e*S **S 08 28 47.5 -6.2**
comp=Z,464nm,27.7s
TAOE *e*SS **SS 08 35 24.5 +5.6**
comp=Z,164nm,24.5s
TAOE Nuku Hiva Isla 94.71 98 *e*LR LR 08 48 16.8
comp=Z,1μm,23.0s
JAVC Velka Javorina 94.80 321 *e*P **P 08 17 47.0 +2.4**
VRAC Vranov 95.30 322 LR LR 09 02 01.5
comp=Z,322nm,20.0s,baz=82,slow=36
VRAC Vranov 95.30 322 *e*P **P 08 17 48.5 +1.7**
KRUC Moravsky 95.52 322 *e*P **P 08 17 49.1 +1.4**
BLS5 Blasjo 96.17 334 *e*P **P 08 17 50.5 -0.1**
BRG Berggiesshubel 96.28 324 *e*P **P 08 17 53.3 +2.2**
BRG Amp 08 17 57.7
comp=Z,4.0nm,0.8s
CLL Collm 96.64 325 *e*P **P 08 17 54.0 +1.2**
CLL *e* 08 28 25.0
CLL *e*S **ScS 08 29 12.0 +2.8**
CLL pmax pmax
comp=Z,25nm,2.0s
CLL MLR MLR
comp=Z,1μm,18.1s
CLL Collm 96.64 325 *e*P **P 08 17 54.0 +1.2**
comp=Z,25nm,2.0s
CLL *e*x x 08 18 12.0
CLL *e*PP **PP 08 21 48.0 +0.5**
CLL *e*SKSac **SKSac 08 28 25.0 +0.9**
CLL *e*S **ScS 08 29 12.0 +2.8**
CLL *e*PS **PS 08 30 40.0 +2.7**
CLL *e*PPS PPS 08 31 26.0
CLL *e*SS **SS 08 35 36.0 -7.6**
CLL *e*x x 08 37 18.0
CLL *e*x x 08 41 00.0
CLL AMS AMS 09 01 00.0
comp=N,700nm,20.8s
CLL AMS AMS 09 01 00.0
comp=E,600nm,20.1s
CLL AMS AMS 09 09 00.0
comp=Z,1μm,18.1s
CKRC Cesky Krumlov 96.88 322 *e*P P 08 18 01.0 +7.0
KHC Kasperske Hory 97.20 322 *e*P Pdif 08 17 57.5 +2.0
KHC Kasperske Hory 97.20 322 *e*P Pdif 08 17 57.0 +1.5
GERES GERESS Array B 97.24 322 P Pdif 08 17 55.8 0.0
comp=Z,0.9nm,0.6s,baz=73,slow=6.4,SNR=6.7
GERES LR LR 09 03 59.8
comp=Z,460nm,21.5s,baz=80,slow=37
comp=Z,0.9nm,0.6s
SYO Syowa Base 97.97 201 ⇑*i*P **PP 08 22 00.3 +2.7**
YBH Yreka Blue Hor 98.59 45 LR LR 08 58 02.0
comp=Z,391nm,19.7s,baz=296,slow=33
NEW Newport 99.59 37 LR LR 08 59 59.6
comp=Z,377nm,19.2s,baz=310,slow=34
QSPA South Pole Qui 99.65 180 Pdiff **Pdif 08 18 05.3 -0.7**
comp=Z,1.1nm,0.6s,baz=299,slow=1.3,SNR=7.2
QSPA LR LR 09 05 52.7
comp=Z,437nm,18.7s,baz=352,slow=37
RKT Rikitea 101.53 112 *e*LR LR 08 51 15.9
comp=Z,4μm,27.0s
NVAR Mina Array Bea 102.98 47 Pdiff **Pdif 08 18 23.4 +1.7**
comp=Z,0.5nm,0.7s,baz=274,slow=4.5,SNR=4.9
NVAR PKKP **PKKPdf 08 34 26.8 -0.1**
comp=Z,0.4nm,0.6s,baz=141,slow=4.4,SNR=3.8
PDAR Pinedale Array 106.90 40 PKKP 08 34 19.9
comp=Z,0.8nm,0.7s,baz=116,slow=3.4,SNR=4.6
TXAR Lajitas Array 117.94 49 PKP **PKPdf 08 23 09.1 -0.9**
comp=Z,0.5nm,0.6s,baz=240,slow=0.6,SNR=6.1
TXAR SKP 08 26 37.8
comp=Z,0.4nm,1.0s,baz=29,slow=2.9,SNR=3.6
TXAR PKKPbc **PKKPbc 08 33 28.1 -2.4**
comp=Z,0.4nm,0.8s,baz=121,slow=4.8,SNR=3.7
PLCA Paso Flores 145.66 157 **PKPbc 08 24 01.6 0.0**
PLCA Paso Flores 145.66 157 PKPbc **PKPdf 08 24 00.8 -0.4**
comp=Z,11nm,0.8s,baz=249,slow=3.5,SNR=31
PLCA Paso Flores 145.66 157 PKP2 **PKPbc 08 24 01.6 0.0**
SDDR Presa de Saban 146.44 32 **PKPdf 08 24 01.4 -1.8**
LPAZ La Paz 164.32 116 PKP **PKPdf 08 24 27.4 -0.4**
comp=Z,3.8nm,1.0s,baz=314,slow=2.9,SNR=9.9

*SOME **26** 08:07:36.7, 41°.82N×81°.75E, h5km*
*NNC **26** 08:07:38.1±1.4, 41°.89N×82°.01E, h0km, mb4.3, mpv3.9,*
Error ellipse: s-maj=11.1km s-min=6.0km az=156.0
ISC 26 08:07:37.8±2.1, 41°.81N±0°.10×81°.65E±0°.06, h10km, n32,
σ1°99/46, 4C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.90**	**330**	Pg	**Pg**	**08 08 13.1**	**-1.0**
	41nm,0.2s						
KTMS				Lg	Lg	08 08 39.5	
	254nm,0.3s						
KTMS	**Ketmen**	**1.90**	**330**	*e*P	**Pg**	**08 08 13.5**	**-0.7**
	37nm,0.2s						
KTMS				*e*S	**Sg**	**08 08 39.5**	**+0.8**
	185nm,0.3s						
SHLS	**Shalkode**	**2.11**	**310**	Lg	Lg	08 08 40.7	
	751nm,0.3s						
SHLS	**Shalkode**	**2.11**	**310**	*e*P	**Pn**	**08 08 13.7**	**+0.4**
	97nm,0.1s						
SHLS				*e*S	**Sn**	**08 08 40.4**	**+0.9**
	1μm,0.3s						
PDGK	**Podgornoye**	**2.20**	**314**	⇑Pn	**Pb**	**08 08 17.9**	**+0.1**
	20nm,0.3s						
PDGK				⇑Sn	**Sg**	**08 08 49.0**	**+0.4**
	68nm,0.3s						
UZB	**Uzynbulak**	**2.36**	**305**	Pg	**Pg**	**08 08 22.3**	**-0.8**
	40nm,0.2s						
UZB				Lg	Lg	08 08 55.7	
	315nm,0.7s						
UZB	**Uzynbulak**	**2.36**	**305**	*e*P	**Pb**	**08 08 21.5**	**+1.0**
	40nm,0.1s						
UZB				*e*S	**Sg**	**08 08 54.4**	**+0.8**
	317nm,0.3s						
SATY	**Saty**	**2.71**	**299**	Lg	Lg	08 09 07.2	
	266nm,0.3s						
ZHN	**Zhinishke**	**2.74**	**301**	Pg	**Pg**	**08 08 29.6**	**-0.7**
	44nm,0.3s						
ZHN				Lg	Lg	08 09 08.2	
	428nm,0.4s						
ZHN	**Zhinishke**	**2.74**	**301**	*e*P	**Pg**	**08 08 28.7**	**-1.6**
	15nm,0.2s						
ZHN				*e*S	**Sg**	**08 09 06.2**	**+0.4**
	462nm,0.2s						
KPKS	**Kokpek**	**2.75**	**308**	*e*P	**Pg**	**08 08 28.6**	**-1.8**
	13nm,0.2s						
KPKS				*e*S	**Sg**	**08 09 05.8**	**-0.1**
	371nm,0.3s						
BLB	**Baldybastay**	**3.27**	**316**	Pg	**Pb**	**08 08 37.5**	**+1.6**
	42nm,0.2s						
BLB				Lg	Lg	08 09 21.7	
	77nm,0.4s						
KOTS	**Kotyrbulak**	**3.65**	**295**	Pg	**Pb**	**08 08 44.2**	**+1.8**
	16nm,0.5s						
KOTS				Lg	Lg	08 09 33.2	
	96nm,0.6s						
KOTS	**Kotyrbulak**	**3.65**	**295**	*e*P	**Pb**	**08 08 45.0**	**+2.6**
	11nm,0.2s						
KOTS				*e*S	**Sg**	**08 09 34.0**	**-0.9**
	98nm,0.4s						
MDOK	**Medeo**	**3.66**	**293**	Pg	**Pg**	**08 08 45.5**	**-2.5**
	9.4nm,0.4s						
MDOK				Lg	Lg	08 09 34.9	
	17nm,0.4s						
TNSS	**Tian-Shan**	**3.69**	**291**	Pg	**Pg**	**08 08 46.3**	**-2.3**
	11nm,0.3s						
TNSS				Lg	Lg	08 09 36.8	
	14nm,0.3s						
TNSS	**Tian-Shan**	**3.69**	**291**	*e*P	**Pg**	**08 08 46.3**	**-2.3**
	11nm,0.2s						
TNSS				*e*S	**Sg**	**08 09 36.3**	**-0.1**
	17nm,0.3s						
TDK	**Taldyqorghan**	**3.97**	**325**	*e*P	**Pg**	**08 08 51.0**	**-2.8**
	31nm,0.2s						
TDK				*e*S	**Sg**	**08 09 44.3**	**-1.0**
	163nm,0.3s						
CHKK	**Chushkaly**	**3.99**	**302**	Pg	**Pg**	**08 08 51.8**	**-2.5**
	7.9nm,0.4s						
CHKK				Lg	Lg	08 09 45.9	
	58nm,0.4s						
CHKK	**Chushkaly**	**3.99**	**302**	*e*P	**Pg**	**08 08 51.6**	**-2.6**
	0.9nm,0.1s						
CHKK				*e*S	**Sg**	**08 09 45.5**	**-0.4**
	58nm,0.3s						
MTBS	**Maitube**	**4.08**	**291**	Pg	**Pb**	**08 08 52.3**	**+2.5**
	5.4nm,0.6s						
MTBS				Lg	Lg	08 09 46.7	
	25nm,0.5s						
MTBS	**Maitube**	**4.08**	**291**	*e*P	**Pg**	**08 08 53.4**	**-2.6**
	5.2nm,0.3s						
MTBS				*e*S	**Sg**	**08 09 48.7**	**-0.2**
	20nm,0.3s						
KTBS	**Karatobe**	**4.12**	**299**	Pg	**Pg**	**08 08 54.0**	**-2.7**
	9.7nm,0.3s						
KTBS				Lg	Lg	08 09 49.7	
	61nm,0.6s						
KST	**Kastek**	**4.39**	**288**	Pg	**Pg**	**08 09 00.1**	**-1.7**
	11nm,0.6s						
KST	**Kastek**	**4.39**	**288**	*e*P	**Pg**	**08 08 58.6**	**-3.2**
	1.8nm,0.2s						
KST				*e*S	**Sg**	**08 09 57.2**	**-1.4**
	39nm,0.4s						
KUU	**Kurty**	**4.43**	**300**	Pg	**Pg**	**08 08 59.5**	**-3.0**
	12nm,0.5s						
KUU				Lg	Lg	08 09 59.0	
	24nm,0.6s						
KUU	**Kurty**	**4.43**	**300**	*e*P	**Pg**	**08 08 59.5**	**-3.0**
	9.1nm,0.3s						
KUU				*e*S	**Sg**	**08 09 59.0**	**-0.9**
	71nm,0.6s						
MAKZ	**Makanchi**	**5.00**	**3**	⇓Pn	**Pn**	**08 08 53.7**	**+0.8**
	4.2nm,0.4s						
MAKZ				⇑Sn	**Sn**	**08 09 52.5**	**+1.7**
	4.0nm,0.3s						
MAKZ				⇓Lg	Lg	08 10 13.8	
	44nm,1.1s						
MK31	**Makanchi Array**	**5.00**	**5**	⇓Pn	**Pn**	**08 08 53.6**	**+0.7**
	0.3nm,0.1s,baz=187,slow=12,SNR=141						
MK31				⇓Sn	**Sn**	**08 09 51.3**	**+0.5**
	4.6nm,0.5s,baz=181,slow=23						
MK31				⇑Lg	Lg	08 10 13.6	
	22nm,0.5s,baz=186,slow=29						
ZSN	**Zaisan**	**6.09**	**21**	Pg	**Pb**	**08 09 26.3**	**+2.4**
	10.0nm,0.3s						
ZSN	**Zaisan**	**6.09**	**21**	*e*P	**Pg**	**08 09 29.6**	**-4.7**
	7.4nm,0.3s						
ZSN				*e*S	**Sg**	**08 10 50.4**	**-2.7**
	16nm,0.2s						
MRKS	**Merke**	**6.32**	**281**	Pg	**Pg**	**08 09 35.4**	**-3.3**
	3.1nm,0.4s						

DJA 26 08:12:56.8±2.4, 12°S±22°×11°8E±°, h10km, M4.2/9,
mb4.2/5, MLv4.2/9, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.73**	**34**	P	Pn	08 13 39.4	-1.4
PLAI	**Plampang**	**3.07**	**359**	P	Pn	08 13 45.4	-0.1
TWSI	**Taliwang, Sumb**	**3.30**	**343**	P	Pn	08 13 47.7	-0.9
SRBI	**Singaraja**	**4.61**	**326**	P	Pn	08 14 07.3	+0.8
JAGI	**Jajag, Banyuwa**	**4.99**	**313**	P	Pn	08 14 11.3	-0.6
	0.4nm26nm,0.8s						
GMJI	**Gumukmas**	**5.64**	**310**	P	Pn	08 14 20.7	-0.1
	0.2nm20nm,0.6s						
BKSI	**Bulukumba**	**6.93**	**19**	P	Pn	08 14 40.3	+1.8
	0.1nm12nm,0.9s						
PCJI	**Pacitan**	**7.53**	**299**	P	Pn	08 14 47.5	+0.7

*IDC **26** 08:15:09.7±1.1, 4°.95N×127°.11E, h0km, mb4.0/8,*
mbtmp4.1/8, Error ellipse: s-maj=95.2km s-min=15.8km
az=69.0
*NEIC **26** 08:15:18.6±1.5, 4°.93N±0°.06×127°.3E±0°.1, h70km±9km,*
mb4.2/13, Error ellipse: s-maj=22.3km s-min=5.7km
az=74.0
ISC 26 08:15:18.7±0.7, 4°.91N±0°.07×127°.2E±0°.1, h76km, n25,
σ0°92/26, mb4.2/14, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.71**	**323**	Pn	**Pn**	**08 15 60.0**	**0.0**
TNTI	**Ternate**	**4.11**	**178**	Pn	**Pn**	**08 16 18.1**	**-1.0**
TOLI2	**Tolitoli**	**7.46**	**240**	Pn	**Pn**	**08 17 03.0**	**-1.9**
MYLDM	**Lahad Datu**	**8.70**	**272**	Pn	**Pn**	**08 17 23.4**	**+1.6**
KNRA	**Kununurra**	**20.51**	**176**	P	**P**	**08 19 49.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**22.91**	**184**	P	**P**	**08 20 16.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**22.91**	**184**	P	**P**	**08 20 16.9**	**+0.5**
	2.9nm,0.7s,baz=6.1,slow=7.9,SNR=2.6						
	2.9nm,0.7s						
WB0	**Warramunga Arr**	**25.51**	**164**	P	**P**	**08 20 40.2**	**-0.1**
WB0				IAmb	IAmb	08 20 43.0	
	comp=Z,10nm,1.0s						
WRA	**Warramunga Arr**	**25.66**	**164**	P	**P**	**08 20 42.4**	**+0.8**
	comp=Z,2.9nm,0.6s,baz=343,slow=10,SNR=12						
	comp=Z,2.9nm,0.6s						
WR8	**Warramunga Arr**	**25.72**	**164**	P	**P**	**08 20 42.3**	**+0.2**
WR8				IAmb	IAmb	08 20 45.5	
	comp=Z,13nm,1.3s						
ASAR	**Alice Springs**	**29.14**	**167**	P	**P**	**08 21 12.0**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=348,slow=8.9,SNR=6.9						
ASAR				PcP	**PcP**	**08 24 20.1**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=335,slow=2.5,SNR=2.2						
	comp=Z,0.3nm,0.3s						
STKA	**Stephens Creek**	**39.05**	**160**	P	**P**	**08 22 39.1**	**+0.8**
STKA	**Stephens Creek**	**39.05**	**160**	P	**P**	**08 22 39.4**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=339,slow=9.9,SNR=9.2						
	comp=Z,1.5nm,0.3s						
JKA	**Kamikawa-asahi**	**41.33**	**17**	P	**P**	**08 22 54.9**	**-2.1**
MKAR	**Makanchi Array**	**56.89**	**325**	P	**P**	**08 24 54.9**	**-0.9**
MKAR	**Makanchi Array**	**56.89**	**325**	P	**P**	**08 24 56.1**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=114,slow=7.4,SNR=10.0						
	comp=Z,0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**61.03**	**327**	P	**P**	**08 25 24.6**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=125,slow=6.1,SNR=19						
	comp=Z,1.7nm,0.6s						
KURK	**Kurchatov**	**61.03**	**327**	P	**P**	**08 25 24.3**	**0.0**
BVAR	**Borovoye Array**	**66.61**	**327**	P	**P**	**08 26 01.0**	**0.0**
	comp=Z,1.1nm,0.6s,baz=126,slow=7.3,SNR=6.0						
	comp=Z,1.1nm,0.6s						
ANM	**Nome**	**76.00**	**24**	P	**P**	**08 26 57.5**	**+0.2**
ANM				IAmb	IAmb	08 26 57.9	
	comp=Z,2.7nm,1.0s						
E18K	**Tukpahlearik C**	**78.69**	**22**	P	**P**	**08 27 12.1**	**-0.3**
B20K	**Meade River**	**80.51**	**20**	P	**P**	**08 27 22.0**	**-0.1**
B20K				IAmb	IAmb	08 27 22.6	
	comp=Z,3.2nm,1.1s						
B21K	**Ikpikpuk River**	**81.30**	**20**	P	**P**	**08 27 26.6**	**+0.3**
B21K				IAmb	IAmb	08 28 02.3	
	comp=Z,4.5nm,1.5s						
E22K	**Anaktuvuk Pass**	**82.10**	**22**	P	**P**	**08 27 31.4**	**+0.7**
E22K				IAmb	IAmb	08 27 52.5	
	comp=Z,5.9nm,1.5s						
ARCES	**ARCESS Array B**	**89.52**	**340**	P	**P**	**08 28 07.9**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=83,slow=4.8,SNR=2.4						
	comp=Z,1.2nm,0.9s						

*IDC **26** 08:15:31.4±4.0, 53°.65N×88°.15E, h0km, mbtmp2.9/2,*
ML2.2/2, Error ellipse: s-maj=38.3km s-min=20.0km
az=50.0
ASRS 26 08:15:33.0±0.9, 53°.65N×87°.88E, h0km, M2.4, The
earthquakes of Russia in 2019. Obninsk, GS RAS, 214
p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**281**	I	I	08 27 50.0	
	baz=97,slow=334,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.84**	**281**	Pg	Pg	08 16 08.7	+0.4
	0.9nm,0.3s,baz=94,slow=16,SNR=6.5						
ZALV				Lg	Lg	08 16 34.5	
	1.2nm,0.3s,baz=96,slow=28,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.50**	**246**	Pn	Pn	08 17 10.4	+0.6
	baz=64,slow=15,SNR=1.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.74**	**210**	Pn	Pn	08 17 27.4	+0.5
	baz=26,slow=14,SNR=2.2						
	1.3nm,1.0s						

GCG 26 08:16:58.6±0.3, 13°.09N×90°.15W, h23km±5km, MD3.8,
Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.89**	**50**	*e*P	Pb	08 17 14.7	-0.7
NUBE	**Las Nubes**	**0.89**	**24**	*e*P	Pb	08 17 15.3	-0.2
NUBE				*i* S	Sn	08 17 28.3	+0.2
MTO3	**Montecristo**	**1.51**	**30**	*e*P	Pn	08 17 25.0	+0.4

IDC 26 08:21:28.5±3.8, 54°.30N×87°.41E, h0km, mbtmp2.7/2,

ML2.4/2, Error ellipse: s-maj=33.7km s-min=21.1km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**258**	I	I	08 31 10.0	
	0.1nm,0.6s,baz=77,slow=336,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.56**	**258**	Pg	Pn	08 21 55.6	-1.8
	1.1nm,0.3s,baz=76,slow=18,SNR=9.5						
ZALV				Lg	Lg	08 22 18.4	
	0.8nm,0.3s,baz=78,slow=21,SNR=4.6						
KURBB	**Kurchatov Arra**	**6.55**	**239**	Pn	Pn	08 23 06.8	+0.8
	0.1nm,0.3s,baz=52,slow=13,SNR=3.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.19**	**205**	Pn	Pn	08 23 29.8	+1.3
	baz=27,slow=14,SNR=1.8						
	0.1nm,0.4s						

*JMA **26** 08:22:14.8±0.1, 43°.0N±0°.5×145°.8E±0°.6, h47km, MV3.3/38, OFF NEMURO PENINSULA*
*SKHL **26** 08:22:15.2±0.4, 43°.00N×145°.80E, h40km±2km, mb4.4/4*

ISC 26 08:22:14.6±1.7, 43°.00N±0°.08×145°.80E±0°.06, h42km±13km, n14, σ0°.54/28, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.37**	**353**	P	**Pn**	**08 22 23.9**	**+0.1**
NEM2				S	**Sn**	**08 22 30.3**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.37**	**352**	*i* P	**Pn**	**08 22 23.8**	**0.0**
NMR				AMB	AMB	08 22 24.0	
	250nm,0.2s						
NMR				*e*S	**Sn**	**08 22 30.4**	**+0.1**
NMR				A	A	08 22 30.8	
	630nm,0.2s						
NMR				A	A	08 22 30.8	
	2μm,0.2s						
JKHN	**Kushirohamanak**	**0.48**	**280**	P	**Pn**	**08 22 25.2**	**+0.1**
JKHN				S	**Sn**	**08 22 32.1**	**-0.3**
AKK	**Akkeshi**	**0.70**	**272**	*e*P	**Pn**	**08 22 28.0**	**-0.1**
AKK				*e*S	**Sn**	**08 22 37.7**	**-0.1**
JAK	**Akkeshi**	**0.81**	**270**	*i* P	**Pn**	**08 22 29.4**	**-0.2**
JAK				S	**Sn**	**08 22 40.3**	**-0.1**
JNSB	**Nemuroshibetsu**	**0.97**	**323**	P	**Pn**	**08 22 31.6**	**-0.1**
JNSB				*e*S	**Sn**	**08 22 44.2**	**-0.1**
JNK	**Nakash**	**0.98**	**307**	*i* P	**Pn**	**08 22 31.5**	**-0.5**
JNK				S	**Sn**	**08 22 43.9**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**1.04**	**2**	*i* P	**Pn**	**08 22 32.4**	**-0.2**
YUK				AMB	AMB	08 22 33.4	
	220nm,0.2s						
YUK				*e*S	**Sn**	**08 22 44.8**	**-1.1**
YUK				A	A	08 22 47.0	
	1μm,0.3s						
YUK				A	A	08 22 47.0	
	2μm,0.3s						
JRA	**Rausu**	**1.06**	**332**	P	**Pn**	**08 22 32.9**	**-0.1**
JRA				S	**Sn**	**08 22 46.1**	**-0.4**
SHO	**Shikotan**	**1.15**	**40**	*i* P	**Pn**	**08 22 33.9**	**-0.3**
SHO				AMB	AMB	08 22 34.7	
	30nm,0.3s						
SHO				*i* S	**Sn**	**08 22 47.9**	**-0.8**
SHO				A	A	08 22 49.0	
	110nm,0.2s						
SHO				A	A	08 22 49.0	
	310nm,0.2s						
JOB	**Onbets**	**1.45**	**267**	P	**Pn**	**08 22 38.2**	**0.0**
JOB				S	**Sn**	**08 22 55.6**	**-0.4**
JAR	**Ashorobuto**	**1.52**	**282**	*i* P	**Pn**	**08 22 39.4**	**+0.2**
JAR				S	**Sn**	**08 22 57.9**	**+0.1**
JTKR	**Abashiri--Toko**	**1.69**	**306**	*i* P	**Pn**	**08 22 42.2**	**+0.7**
JTKR				*e*S	**Sn**	**08 23 03.3**	**+1.4**
KUR	**Kuril'sk**	**2.68**	**33**	*e*P	**Pn**	**08 22 56.2**	**+1.0**
KUR				AMB	AMB	08 22 57.3	
	40nm,0.3s						
KUR				*e*S	**Sn**	**08 23 26.7**	**+0.3**
KUR				A	A	08 23 28.4	
	130nm,0.3s						
KUR				A	A	08 23 28.4	
	40nm,0.3s						

*IDC **26** 08:26:56.2±0.9, 9°.45N×126°.19E, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=75.2km s-min=21.4km az=69.0*

ISC 26 08:27:05.0±0.9, 9°.4N±0°.2×126°.1E±0°.4, h67km, n10, σ0°.78/10, mb3.7/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.23**	**165**	P	**P**	**08 33 09.3**	**-0.3**
	0.4nm,0.6s,baz=347,slow=8.9,SNR=1.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**33.70**	**167**	P	**P**	**08 33 40.1**	**+0.1**
	0.1nm,0.4s,baz=354,slow=6.7,SNR=4.5						
	0.1nm,0.4s						
SONM	**Songino Array**	**41.81**	**340**	P	**P**	**08 34 48.6**	**+0.4**
	0.8nm,0.6s,baz=160,slow=9.0,SNR=3.6						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**52.65**	**323**	P	**P**	**08 36 12.0**	**-0.5**
	0.5nm,0.6s,baz=109,slow=8.8,SNR=3.8						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**56.73**	**326**	P	**P**	**08 36 41.1**	**-0.7**
	0.4nm,0.4s,baz=128,slow=7.5,SNR=2.5						
	0.4nm,0.4s						
ARCES	**ARCESS Array B**	**84.98**	**340**	P	**P**	**08 39 33.2**	**+0.5**
	0.7nm,0.6s,baz=70,slow=7.0,SNR=5.4						
	0.7nm,0.6s						
BRTR	**Keskin Array B**	**85.98**	**309**	P	**P**	**08 39 39.4**	**+1.0**
	0.3nm,0.7s,baz=58,slow=11,SNR=1.3						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**86.61**	**332**	P	**P**	**08 39 39.6**	**-1.3**
	1.3nm,0.8s,baz=67,slow=6.2,SNR=3.6						
	1.3nm,0.8s						
YKA	**Yellowknife Ar**	**94.64**	**24**	P	**P**	**08 40 18.0**	**-0.3**
	0.3nm,0.7s,baz=304,slow=4.8,SNR=4.1						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**118.53**	**49**	PKP	**PKiKP**	**08 45 46.7**	**+0.7**
	0.1nm,0.3s,baz=283,slow=1.4,SNR=1.7						

*ASRS **26** 08:30:14.0±0.6, 53°.93N×86°.62E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 08:30:17.8±2.8, 53°.91N×86°.59E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=22.9km s-min=13.6km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**273**	I	I	08 34 30.0	
	baz=90,slow=335,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.05**	**273**	Pg	Pg	08 30 37.0	-0.9
	1.3nm,0.3s,baz=91,slow=16,SNR=9.3						
ZALV				Lg	Lg	08 30 52.4	
	2.8nm,0.3s,baz=93,slow=26,SNR=18						
KURBB	**Kurchatov Arra**	**5.95**	**240**	Pn	Pn	08 31 49.1	+2.1
	0.1nm,0.3s,baz=58,slow=14,SNR=4.1						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.64**	**203**	Pn	Pn	08 32 10.5	+0.2
	0.1nm,0.3s,baz=27,slow=15,SNR=4.6						
	0.2nm,0.3s						

*IDC **26** 08:30:32.9±3.4, 54°.22N×87°.30E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=31.0km s-min=19.4km az=55.0*

ASRS 26 08:30:32.0±0.5, 54°.11N×87°.13E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**264**	I	I	08 40 30.0	
	0.5nm,0.8s,baz=80,slow=336,SNR=15						
ZALV	**Zalesovo Beam**	**1.37**	**264**	Pg	Pb	08 30 59.2	+0.7
	7.2nm,0.3s,baz=80,slow=17,SNR=21						
ZALV				Lg	Lg	08 31 20.1	
	1.6nm,0.3s,baz=77,slow=29,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.32**	**240**	Pn	Pn	08 32 10.2	+3.9
	0.2nm,0.3s,baz=53,slow=13,SNR=7.1						
	1.4nm,0.4s						
MKAR	**Makanchi Array**	**7.95**	**205**	Pn	Pn	08 32 32.5	+3.8
	0.1nm,0.3s,baz=24,slow=13,SNR=2.5						
	0.2nm,0.3s						

*IDC **26** 08:34:36.6±1.8, 34°.28N×78°.55E, h0km, mb3.5/6, mbtmp3.5/10, ML2.9/3, Error ellipse: s-maj=40.6km s-min=21.4km az=54.0*

ISC 26 08:34:42.1±1.4, 34°.3N±0°.1×78°.8E±0°.2, h35km, n10, σ1°.28/12, mb3.6/5, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**8.94**	**339**	Pn	**Pn**	**08 36 49.7**	**+0.8**
	0.2nm,0.3s,baz=173,slow=8.1,SNR=1.5						
AAK				Sn	**Sn**	**08 38 30.8**	**+2.3**
	0.2nm,0.3s,baz=186,slow=22,SNR=1.3						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**12.74**	**11**	Pn	**Pn**	**08 37 41.3**	**+0.6**
	0.1nm,0.3s,baz=199,slow=13,SNR=2.8						
MKAR				Sn	**Sn**	**08 39 59.8**	**-1.4**
	baz=186,slow=18,SNR=3.8						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**16.29**	**359**	Pn	**Pn**	**08 38 27.0**	**-1.0**
	0.3nm,0.3s,baz=172,slow=7.5,SNR=1.0						
BVAR	**Borovoye Array**	**19.62**	**345**	P	**P**	**08 39 07.1**	**-0.3**
	baz=149,slow=12,SNR=2.1						
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**20.08**	**10**	P	**P**	**08 39 12.6**	**+0.3**
	0.6nm,0.4s,baz=171,slow=10,SNR=1.9						
	0.6nm,0.4s						
AKTO	**Aktyubinsk**	**22.11**	**323**	P	**P**	**08 39 32.9**	**-1.4**
	1.7nm,0.7s,baz=101,slow=10,SNR=5.0						
	1.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**23.94**	**126**	P	**P**	**08 39 54.0**	**+0.9**
	1.4nm,0.3s,baz=318,slow=9.4,SNR=4.4						
	1.4nm,0.3s						
SONM	**Songino Array**	**24.66**	**48**	P	**P**	**08 40 00.1**	**+0.5**
	0.3nm,0.4s,baz=246,slow=9.3,SNR=4.8						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**42.83**	**326**	P	**P**	**08 42 34.9**	**-1.5**
	0.6nm,0.5s,baz=111,slow=10,SNR=3.9						
	0.6nm,0.5s						
YKA	**Yellowknife Ar**	**82.92**	**6**	P	**P**	**08 47 03.2**	**+0.3**
	0.1nm,0.5s,baz=346,slow=5.6,SNR=2.9						
	0.1nm,0.5s						

*ASRS **26** 08:40:33.0±1.0, 54°.33N×86°.83E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 08:40:36.5±3.0, 54°.33N×86°.68E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=23.3km s-min=15.4km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.16**	**252**	I	I	08 49 20.0	
	0.1nm,0.7s,baz=70,slow=342,SNR=7.3						
ZALV	**Zalesovo Beam**	**1.16**	**252**	Pg	Pg	08 40 57.3	-1.5
	1.0nm,0.3s,baz=69,slow=14,SNR=3.8						
ZALV				Lg	Lg	08 41 15.8	
	1.2nm,0.3s,baz=68,slow=23,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.21**	**237**	Pn	Pn	08 42 10.6	+1.2
	0.2nm,0.3s,baz=55,slow=14,SNR=5.9						
KURBB				Sn	Sn	08 43 19.0	-2.0
	baz=56,slow=22						
KURBB				Lg	Lg	08 43 53.4	
	baz=47,slow=30,SNR=5.6						
	1.0nm,0.2s						
MKAR	**Makanchi Array**	**8.04**	**202**	Pn	Pn	08 42 35.6	+1.0
	0.2nm,0.3s,baz=24,slow=12,SNR=6.1						
MKAR				Sn	Sn	08 44 06.3	+0.1
	0.1nm,0.3s,baz=25,slow=27,SNR=4.1						
MKAR				Lg	Lg	08 44 48.7	
	0.1nm,0.3s,baz=26,slow=8.0,SNR=2.5						
	0.2nm,0.3s						

*IDC **26** 08:42:37.1±1.0, 9°.85N×125°.80E, h0km, mb3.6/9, mbtmp3.6/9, Error ellipse: s-maj=61.3km s-min=22.3km az=76.0*

ISC 26 08:42:44.4±0.9, 9°.9N±0°.2×125°.7E±0°.4, h50km, n10, σ1°.36/10, mb3.5/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**27.80**	**180**	P	**P**	**08 48 26.4**	**-2.6**
	2.6nm,0.8s,baz=5.2,slow=11,SNR=2.3						
	2.6nm,0.8s						
WRA	**Warramunga Arr**	**30.83**	**164**	P	**P**	**08 48 57.7**	**+1.8**
	1.0nm,0.7s,baz=335,slow=9.8,SNR=2.2						
ASAR	**Alice Springs**	**34.30**	**167**	P	**P**	**08 49 26.5**	**+0.2**
	0.2nm,0.6s,baz=351,slow=32,SNR=1.7						
	0.2nm,0.6s						
SONM	**Songino Array**	**41.19**	**340**	P	**P**	**08 50 24.2**	**-0.1**
	0.3nm,0.4s,baz=160,slow=4.6,SNR=2.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**52.00**	**323**	P	**P**	**08 51 48.9**	**+0.1**
	0.2nm,0.6s,baz=118,slow=8.0,SNR=4.1						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**56.08**	**326**	P	**P**	**08 52 19.4**	**+1.0**
	0.2nm,0.4s,baz=124,slow=7.0,SNR=1.9						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**80.03**	**26**	P	**P**	**08 54 48.8**	**+0.4**
	0.2nm,0.6s,baz=246,slow=10,SNR=1.8						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**84.36**	**340**	P	**P**	**08 55 11.4**	**+0.4**
	1.8nm,1.0s,baz=64,slow=5.5,SNR=6.1						
	1.8nm,1.0s						
FINES	**FINESS Array B**	**85.97**	**332**	P	**P**	**08 55 18.8**	**-0.3**
	1.5nm,0.8s,baz=113,slow=7.7,SNR=3.7						
	1.5nm,0.8s						
YKA	**Yellowknife Ar**	**94.33**	**24**	P	**P**	**08 55 57.2**	**-1.2**
	0.1nm,0.5s,baz=22,slow=8.2,SNR=2.2						
	0.1nm,0.5s						

*IDC **26** 08:42:55.4±0.9, 9°.98N×126°.61E, h0km, mb3.9/10, mbtmp3.9/11, ML4.4/1, Error ellipse: s-maj=49.7km s-min=15.5km az=79.0*

ISC 26 08:43:01.2±0.8, 9°.98N±0°.08×126°.7E±0°.2, h42km, n11, σ1°.35/12, mb3.8/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.09**	**201**	Pn	**Pn**	**08 43 46.7**	**-0.8**
	47nm,0.3s,baz=318,slow=2.6,SNR=1.8						
DAV				Sn	**Sn**	**08 44 24.9**	**+1.8**
	7.4nm,0.3s,baz=286,slow=19,SNR=3.6						
	134nm,0.4s						
FITZ	**Fitzroy Crossi**	**27.92**	**182**	P	**P**	**08 48 47.4**	**-0.2**
	8.0nm,0.9s,baz=360,slow=4.3,SNR=5.8						
	8.0nm,0.9s						
WRA	**Warramunga Arr**	**30.68**	**166**	P	**P**	**08 49 10.2**	**-1.9**
	0.6nm,0.8s,baz=344,slow=9.1,SNR=3.6						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**34.18**	**168**	P	**P**	**08 49 43.1**	**+0.3**
	0.2nm,0.3s,baz=342,slow=8.4,SNR=2.1						
	0.2nm,0.3s						
SONM	**Songino Array**	**41.43**	**339**	P	**P**	**08 50 42.9**	**-1.0**
	0.5nm,0.5s,baz=193,slow=1.9,SNR=2.2						
	0.5nm,0.5s						
STKA	**Stephens Creek**	**44.00**	**162**	P	**P**	**08 51 04.7**	**-0.1**
	1.0nm,0.5s,baz=327,slow=10,SNR=3.1						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**52.49**	**323**	P	**P**	**08 52 10.3**	**+0.1**
	0.6nm,0.7s,baz=121,slow=8.5,SNR=5.5						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**56.53**	**325**	P	**P**	**08 52 37.8**	**-1.5**
	0.6nm,0.6s,baz=126,slow=6.8,SNR=5.5						
	0.6nm,0.6s						
ARCES	**ARCESS Array B**	**84.60**	**340**	P	**P**	**08 55 30.2**	**+0.3**
	1.1nm,0.6s,baz=69,slow=6.6,SNR=6.0						
	1.1nm,0.6s						
FINES	**FINESS Array B**	**86.33**	**332**	P	**P**	**08 55 40.0**	**+1.3**
	1.5nm,0.8s,baz=28,slow=6.5,SNR=3.9						
	1.5nm,0.8s						
YKA	**Yellowknife Ar**	**93.86**	**24**	P	**P**	**08 56 16.0**	**+2.0**
	0.4nm,0.7s,baz=302,slow=4.9,SNR=5.2						
	0.4nm,0.7s						

OTT 26 08:48:44.9±0.2, 44°.59N×56°.28W, h18km, ML3.5/6, 282km south from Grand Bank, NI Laurentian Slope Seismic Zone., North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHEG	**Cheticamp, Nov**	**3.80**	**307**	PN	Pn	08 49 41.6	-0.9
CHEG				SN	Sn	08 50 24.2	-2.4
CHEG				Trac		08 50 29.4	
	comp=Z,3.0nm,0.1s						
GBN	**Guysborough**	**3.80**	**284**	PN	Pn	08 49 42.1	-0.3
GBN				SN	Sn	08 50 25.0	-1.7
GBN				Trac		08 50 31.1	
	comp=Z,98nm,0.8s						
DRLN	**Deer Lake**	**4.75**	**350**	PN	Pn	08 49 55.4	0.0
DRLN				SN	Sn	08 50 46.7	-3.3
DRLN				Trac		08 50 49.4	
	comp=Z,122nm,1.0s						
HAL	**Halifax**	**5.22**	**273**	SN	Sn	08 50 12.2	-50
LMN	**Caledonia Moun**	**6.16**	**285**	PN	Pn	08 50 13.8	-1.0
LMN				SN	Sn	08 51 21.1	-3.6
LMN				Trac		08 51 22.5	
	comp=Z,12nm,0.6s						
SVNB	**Stilesville Qu**	**6.26**	**288**	PN	Pn	08 50 15.4	-0.8
SVNB				SN	Sn	08 51 21.7	-5.5
SVNB				Trac		08 51 30.2	
	comp=Z,2.0nm,0.1s						
HKNB	**Havelock Quarr**	**6.57**	**285**	PN	Pn	08 50 19.6	-1.0
HKNB				SN	Sn	08 51 30.6	-4.3
HKNB				Trac		08 51 31.9	
	comp=Z,1.4nm,0.2s						
SRNB	**Snider Mountai**	**6.73**	**284**	PN	Pn	08 50 21.6	-1.0
BJBQ	**Baie Johan-Bee**	**7.22**	**325**	PN	Pn	08 50 29.4	0.0
BJBQ				SN	Sn	08 51 45.6	-5.1
BJBQ				Trac		08 51 48.3	
	comp=Z,391nm,2.5s						
HSNB	**Heath Steele M**	**7.33**	**295**	PN	Pn	08 50 29.8	-1.1
HSNB				Trac		08 51 48.1	
	comp=Z,5.0nm,0.3s						
HSNB				SN	Sn	08 51 48.1	-5.5
PMAQ	**Port Menier**	**7.58**	**317**	PN	Pn	08 50 33.3	-1.0
PMAQ				SN	Sn	08 51 52.6	-7.1
PMAQ				Trac		08 51 58.4	
	comp=Z,31nm,0.7s						

TXNET 26 08:56:31.6, 31°.6N±0°.7×103°.8W±0°.8, h5km±3km, ML1.6/6, 1C, Error ellipse: s-maj=1.2km s-min=1.0km az=105.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB07	**Mentone**	**0.13**	**98**	P	Pg	08 56 34.7	+0.4
TPB07				S	Sg	08 56 37.0	+0.9
PECS	**Pecos**	**0.23**	**190**	↑↑P	Pg	08 56 36.9	+0.8
PECS				S	Sg	08 56 40.8	+1.6
TPB10	**Southeast of T**	**0.32**	**170**	P	Pg	08 56 38.2	+0.4
TPB10				S	Sb	08 56 43.8	-1.5
PCOS	**Crockett Middl**	**0.33**	**125**	P	Pg	08 56 38.3	+0.4
PCOS				S	Sg	08 56 43.8	+1.5
TPB11	**China Draw**	**0.38**	**331**	S	Sb	08 56 45.9	-1.3
TPB12	**Southwest of T**	**0.40**	**197**	P	Pg	08 56 39.9	+0.5
TPB12				S	Sb	08 56 46.3	-1.4
TPB06	**Permian Basin**	**0.52**	**84**	S	Sb	08 56 50.2	-0.8
TPB03	**Saragosa**	**0.58**	**153**	P	Pg	08 56 42.7	0.0
TPB03				S	Sg	08 56 51.4	+1.3
TPB04	**Verhalen**	**0.62**	**131**	P	Pg	08 56 43.0	-0.6
TPB04				S	Sg	08 56 52.8	+1.1
TPB01	**Permian Basin**	**0.65**	**177**	P	Pg	08 56 44.7	+0.5
TPB01				S	Sg	08 56 53.4	+0.8
CLNB	**Carlsbad**	**0.67**	**356**	S	Sb	08 56 55.0	-0.4
TPB16	**Coyonosa**	**0.68**	**134**	S	Sb	08 56 54.6	-1.0
TPB05	**Hovey Rd**	**0.80**	**148**	S	Sg	08 56 58.0	+0.7
HTMS	**Hat Mesa**	**0.89**	**10**	S	Sb	08 57 01.1	-0.6
MNHN	**Monahans**	**0.94**	**106**	S	Sg	08 57 02.1	+0.3
TPB08	**Permian Basin**	**1.05**	**132**	P	Pg	08 56 51.3	-0.5
TPB08				S	Sg	08 57 05.6	+0.2
ODSA	**Odessa**	**1.20**	**64**	S	Sb	08 57 10.8	+0.1
VHRN	**Van Horn**	**1.29**	**231**	P	Pb	08 56 56.6	+0.3
VHRN				S	Sn	08 57 14.8	+0.8
MNTX	**Cornudas Mount**	**1.34**	**275**	P	Pg	08 56 57.6	+0.3
MNTX				S	Sn	08 57 15.8	+0.7
TMB02	**Rankin**	**1.57**	**104**	S	Sb	08 57 21.4	-0.1

STR 26 08:59:14.6±0.7, 45°N±4°×°±°, h0km, MLv1.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=128.9, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRN	**Grenoble**	**0.06**	**59**	Pg	Pg	08 59 15.7	+0.1
GRN				Sg	Sg	08 59 16.9	+0.5
ORIF	**Oris-en-Rattie**	**0.33**	**154**	Pg	Pg	08 59 21.0	+0.2
ORIF				Sg	Sg	08 59 25.7	+0.7
OGSM	**Saint Maurice**	**0.40**	**2**	Pg	Pg	08 59 21.9	-0.2
OGSM				Sg	Sg	08 59 26.7	-0.6

*VKMS **26** 09:00:08.0, 52°.31N×35°.45E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **26** 09:00:09.4±2.3, 52°.64N×34°.99E, h0km, mb3.1/1, mbtmp3.0/4, ML2.9/2, Error ellipse: s-maj=28.9km s-min=13.3km az=117.0*

ISC 26 09:00:15.4±2.5, 53°.0N±0°.1×33°.3E±0°.2, h0km, n7, σ1°.36/6, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.83**	**41**	Lg	Lg	09 01 35.5	
	5.3nm,0.3s,baz=162,slow=3.2,SNR=3.2						
AKASG	**Malin Array Be**	**3.45**	**229**	Pn	**Pn**	**09 01 10.8**	**+0.4**
	1.6nm,0.3s,baz=57,slow=10,SNR=5.2						
AKASG				Sn	**Sb**	**09 02 00.1**	**+0.3**
	2.0nm,0.3s,baz=64,slow=28,SNR=4.6						
AKASG				Lg	Lg	09 02 19.3	
	2.8nm,0.3s,baz=63,slow=29,SNR=4.0						
	0.2nm,0.3s						
I43RU	**DUBNA INFRASON**	**4.33**	**30**	I	I	09 29 20.0	
	baz=192,slow=327,SNR=5.4						
FINES	**FINESS Array B**	**9.30**	**338**	Pn	**Pn**	**09 02 30.0**	**-0.6**
	0.9nm,0.8s,baz=147,slow=13,SNR=1.6						
FINES				Sn	**Sn**	**09 04 17.4**	**+1.6**
	0.1nm,0.3s,baz=155,slow=23,SNR=1.6						
I26DE	**FREYUNG INFRAS**	**13.05**	**259**	I	I	10 27 45.0	
	baz=68,slow=326,SNR=4.3						
NOA	**NORSAR Array B**	**14.40**	**313**	Pn	**Pn**	**09 03 38.8**	**-1.6**
	baz=119,slow=13,SNR=1.7						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**62.08**	**344**	P	**P**	**09 10 37.3**	**0.0**
	0.1nm,0.4s,baz=21,slow=7.1,SNR=5.1						
	0.1nm,0.4s						

*UPP **26** 09:02:54.9±0.3, 67°.42N×23°.32E, h0km, ML1.8, Unknown*
*IDC **26** 09:02:55.1±1.6, 67°.45N×23°.55E, h0km, mbtmp2.4/2, ML2.2/2, Error ellipse: s-maj=32.6km s-min=8.3km az=96.0*
*HEL **26** 09:02:55.9±0.1, 67°.43N×23°.26E, h0km, ML1.8, Explosion*

ISC 26 09:02:54.7±0.8, 67°.44N±0°.02×23°.24E±0°.02, h0km, n36, σ1°.12/57, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLF	**Kolari**	**0.35**	**126**	PG	**Pg**	**09 03 00.8**	**-0.6**
KLF				SG	**Sg**	**09 03 04.9**	**-1.0**
PAJU	**Pajala**	**0.42**	**187**	P	**Pg**	**09 03 02.7**	**-0.1**
PAJU				S	**Sg**	**09 03 08.3**	**+0.1**
PAJU	**Pajala**	**0.42**	**187**	PG	**Pg

KALU	**Kalix**	**1.59**	**178**	P	**Pn**	**09 03 23.6**	**-0.5**
KALU	**Kalix**	**1.59**	**178**	PG	**Pn**	**09 03 23.7**	**-0.3**
	baz=354						
KALU				SN	**Sg**	**09 03 46.3**	**+0.6**
KIF	**Kilpisjarvi**	**1.81**	**331**	*e*P	**Pb**	**09 03 28.8**	**0.0**
KIF	**Kilpisjarvi**	**1.81**	**331**	PG	**Pb**	**09 03 28.8**	**0.0**
KIF				MSG		09 03 51.1	
	comp=Z,7.3nm,0.2s						
KIF				SN	**Sg**	**09 03 54.0**	**+1.0**
RANF	**Ranua**	**2.01**	**134**	PB	**Pn**	**09 03 30.7**	**+0.8**
RANF				SB	**Sn**	**09 03 56.6**	**+1.0**
RAJF	**Raja-Jooseppi**	**2.18**	**59**	PN	**Pn**	**09 03 32.9**	**+0.7**
RAJF				SG	**Sb**	**09 04 02.5**	**+0.1**
ARA0	**ARCESS Array S**	**2.26**	**21**	PB	**Pn**	**09 03 34.0**	**+0.7**
	baz=207						
ARA0				SG	**Sb**	**09 04 04.2**	**-0.8**
ARCES	**ARCESS Array B**	**2.26**	**21**	Pn	**Pn**	**09 03 33.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=199,slow=14,SNR=16						
ARCES				Lg	Lg	09 04 04.5	
	comp=Z,0.4nm,0.3s,baz=200,slow=29,SNR=15						
	comp=Z,0.4nm,0.4s						
I37NO	**I37NO**	**2.38**	**316**	I	I	09 18 10.0	
	baz=131,slow=323,SNR=1.7						
VRF	**Varrio**	**2.46**	**80**	PN	**Pn**	**09 03 37.5**	**+1.4**
	baz=267						
VRF				MSG		09 04 08.5	
	comp=Z,5.2nm,0.2s						
VRF				SB	**Sb**	**09 04 10.2**	**-0.3**
OUL	**Oulu**	**2.60**	**154**	PN	**Pn**	**09 03 38.9**	**+0.9**
OUL				SG	**Sb**	**09 04 14.0**	**-0.5**
KU2	**Taivalkoski**	**2.65**	**129**	PN	**Pn**	**09 03 39.4**	**+0.8**
KU2				SB	**Sb**	**09 04 15.6**	**-0.3**
OLKF	**Oulanka, Finla**	**2.68**	**112**	PN	**Pn**	**09 03 40.4**	**+1.4**
OLKF				MSG		09 04 14.4	
	comp=Z,3.4nm,0.2s						
OLKF				SB	**Sb**	**09 04 16.8**	**0.0**
KEV	**Kevo**	**2.70**	**29**	PB	**Pn**	**09 03 41.2**	**+1.8**
KEV				MSG		09 04 15.7	
	comp=Z,4.3nm,0.2s						
KEV				SB	**Sb**	**09 04 17.3**	**-0.2**
OBF4	**Vikkela, Lumij**	**2.75**	**163**	PN	**Pn**	**09 03 41.5**	**+1.6**
OBF4				MSG		09 04 16.5	
	comp=Z,1.7nm,0.2s						
MSF	**Maaselka**	**2.77**	**121**	SG	**Sb**	**09 04 21.2**	**+1.7**
KU6	**Riekki**	**3.00**	**115**	PN	**Pn**	**09 03 44.3**	**+0.9**
KU6				MSG		09 04 23.7	
	comp=Z,2.1nm,0.2s						
KU6				SB	**Sb**	**09 04 25.2**	**-0.8**
OUF	**Merijarvi**	**3.15**	**168**	PN	**Pn**	**09 03 47.4**	**+1.9**
OUF				SB	**Sb**	**09 04 27.1**	**-3.2**
OUF				MSG		09 04 28.1	
	comp=Z,1.9nm,0.2s						
KU1	**Kurvinen**	**3.15**	**124**	PN	**Pn**	**09 03 46.1**	**+0.5**
	baz=310						
UMAU	**Umeaa**	**3.73**	**198**	PN	**Pn**	**09 03 55.3**	**+1.9**
FINES	**FINESS Array B**	**6.14**	**167**	Pn	**Pn**	**09 04 27.7**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=354,slow=12,SNR=3.6						
FINES				Sn	**Sn**	**09 05 35.9**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=348,slow=23,SNR=1.7						
	comp=Z,0.8nm,0.6s						

NEIC ***26*** *09:05:59.1±1.0, 19°.250N±0°.005×155°.495W±0°.008, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.2km az=182.0*

HVO 26 09:05:58.8±0.8, 19°.254N±0°.005×155°.511W±0°.008, h6km±3km, ML2.6/35, ML2.5/40(NEIC), Error ellipse: s-maj=1.2km s-min=0.7km az=116.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**0.10**	**265**		Pg	09 06 01.8	+0.6
KHU					Sg	09 06 04.0	+1.2
HTC	**Hot Caves**	**0.11**	**99**		Pg	09 06 01.7	+0.5
HPO	**Honuapo**	**0.17**	**194**		Pg	09 06 03.0	+0.7
HPO	**Honuapo**	**0.17**	**194**		Sg	09 06 05.5	+1.0
HLP	**Hilina Pali**	**0.20**	**78**		Pg	09 06 03.1	+0.3
HLP				IAML		09 06 08.2	
	comp=E,858nm,0.1s						
HLP				IAML		09 06 09.2	
	comp=N,963nm,0.2s						
MWH	**Mokuaweoweo**	**0.24**	**340**		Pg	09 06 03.8	0.0
MWH					Sg	09 06 07.8	+0.7
MWH	**Mokuaweoweo**	**0.24**	**340**	IAML		09 06 12.6	
	comp=E,447nm,0.4s						
MWH				IAML		09 06 13.2	
	comp=N,623nm,0.4s						
SDHHI	**Sand Hill**	**0.24**	**57**		Pg	09 06 03.8	+0.1
SDHHI					Sg	09 06 07.5	+0.5
WRMHI	**West Rim**	**0.25**	**53**		Pg	09 06 03.9	+0.1
WRMHI					Sg	09 06 07.7	+0.5
RIM	**Rim**	**0.26**	**58**		Pg	09 06 04.4	+0.3
RIM					Sg	09 06 08.7	+1.1
UWE	**Uwekahuna**	**0.26**	**51**		Pg	09 06 04.2	+0.1
UWE	**Uwekahuna**	**0.26**	**51**		Sg	09 06 09.1	+1.4
MLH	**Mauna Loa**	**0.27**	**26**		Pg	09 06 04.2	0.0
MLH				IAML		09 06 11.9	
	comp=N,961nm,0.1s						
MLH	**Mauna Loa**	**0.27**	**26**		Sg	09 06 08.6	+0.9
OBL	**Observatory Le**	**0.27**	**53**		Pg	09 06 04.3	+0.1
OBL					Sg	09 06 08.4	+0.6
KKO	**Keanakako'i**	**0.27**	**58**		Pg	09 06 04.3	0.0
KKO					Sg	09 06 08.7	+0.8
UWB	**Uwekahuna Bluf**	**0.28**	**52**		Pg	09 06 04.2	-0.1
UWB					Sg	09 06 09.0	+0.9
BYL	**Byron's Ledge**	**0.28**	**56**		Pg	09 06 04.8	+0.3
BYL					Sg	09 06 09.3	+1.0
BYL	**Byron's Ledge**	**0.28**	**56**	IAML		09 06 10.8	
	comp=E,497nm,0.5s						
BYL				IAML		09 06 12.3	
	comp=N,458nm,0.6s						
SBLHI	**Steaming Bluff**	**0.29**	**53**		Pg	09 06 04.6	+0.1
SBLHI					Sg	09 06 09.1	+0.8
HATHI	**Halema'uma'u T**	**0.29**	**55**		Pg	09 06 04.4	-0.2
HATHI				IAML		09 06 11.0	
	comp=N,921nm,0.2s						
HATHI	**Halema'uma'u T**	**0.29**	**55**		Sg	09 06 09.5	+1.1
PUH	**Pauahi**	**0.30**	**67**		Pg	09 06 04.6	-0.2
PUH				IAML		09 06 10.2	
	comp=N,691nm,0.3s						
PUH				IAML		09 06 11.8	
	comp=E,619nm,0.3s						
PUH	**Pauahi**	**0.30**	**67**		Sg	09 06 09.7	+0.9
ALEP	**Alea Permanent**	**0.31**	**336**		Pg	09 06 04.8	-0.3
ALEP					Sg	09 06 10.3	+1.1
KNHH	**Kane Nui o Ham**	**0.35**	**69**		Pg	09 06 05.5	-0.2
HMH	**Humu'ula Sheep**	**0.35**	**4**		Pg	09 06 05.6	-0.1
HMH					Sg	09 06 11.7	+1.3
HMH	**Humu'ula Sheep**	**0.35**	**4**	IAML		09 06 12.2	
	comp=N,807nm,0.2s						
HMH				IAML		09 06 15.3	
	comp=E,549nm,0.3s						
STCH	**Steam Cracks**	**0.39**	**70**		Pg	09 06 06.2	-0.2
STCH				IAML		09 06 12.6	
	comp=E,348nm,0.7s						
NPOC	**North of Pu'u**	**0.40**	**70**		Pg	09 06 06.4	-0.3
NPOC					Sg	09 06 12.7	+0.7
JCUZ	**Jacuzzi**	**0.41**	**71**		Pg	09 06 06.7	-0.1
JCUZ					Sg	09 06 12.8	+0.6
CPH	**Captain Cook**	**0.45**	**301**		Pg	09 06 07.3	-0.3
POHA	**Pohakuloa**	**0.50**	**358**		Pg	09 06 08.3	-0.3
POHA					Sg	09 06 15.7	+0.5
POHA	**Pohakuloa**	**0.50**	**358**	IAML		09 06 17.1	
	comp=E,337nm,0.4s						
POHA				IAML		09 06 20.7	
	comp=E,238nm,0.3s						
JOKA	**Jonika Flow**	**0.51**	**69**		Pg	09 06 07.8	-0.9
JOKA					Sg	09 06 15.6	+0.2
JOKA				IAML		09 06 20.1	
	comp=N,250nm,0.9s						
HUH	**Hualalai**	**0.53**	**324**		Pg	09 06 09.2	+0.1
HPAH	**Hawaii Prepara**	**0.79**	**347**		Pg	09 06 12.2	-1.9
HPAH	**Hawaii Prepara**	**0.79**	**347**	IAML		09 06 23.7	
	comp=E,182nm,0.3s						
HPAH				IAML		09 06 34.2	
	comp=N,175nm,0.6s						

HLW ***26*** *09:16:08.2, 36°.10N×27°.92E, h25km±11km, Ml4.3*
AFAD ***26*** *09:16:12.9, 34°.98N×27°.36E, h9km±1km, MW4.4*
IDC ***26*** *09:16:15.2±0.7, 35°.29N×27°.75E, h0km, mb4.1/19, mbtmp4.0/32, ML3.8/12, MS3.4/5, Error ellipse:*

s-maj=14.6km s-min=11.2km az=172.0
NAO ***26*** *09:16:15.1, 35°.16N×27°.89E, h10km, mb4.3*
MOS ***26*** *09:16:15.3±1.5, 35°.17N×27°.84E, h10km, mb4.4/19, Error ellipse: s-maj=6.6km s-min=3.8km az=85.3*
NEIC ***26*** *09:16:16.9±2.1, 35°.20N±0°.05×27°.78E±0°.06, h10km±1km, mb4.4/67, Error ellipse: s-maj=8.7km s-min=7.7km az=337.0*
NIC ***26*** *09:16:16.4, 35°.01N×27°.62E, h55km±8km, Ml3.9/12*
ATH ***26*** *09:16:18.4±0.2, 35°.20N×27°.92E, h10km, ML3.9/29, Manual Solution by N.Liadopoulou First location: 2019/04/26 09:17:44, This location: 2020/07/02 08:13:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
ISK ***26*** *09:16:18.6, 35°.28N×27°.80E, h6km, ML4.0/25*
GII ***26*** *09:16:18.4±0.0, 34°.965N±0°.002×28°.026E±0°.001, h1km, Mws4.4/7, confirmed*
PDG ***26*** *09:16:18.0±1.0, 35°.13N×27°.87E, h8km±7km, ML4.4/10, Error ellipse: s-maj=1.7km s-min=1.4km az=90.0*
THE ***26*** *09:16:19.8, 35°.32N×27°.71E, h1km, ML3.7/8, Error ellipse: s-maj=1.7km s-min=0.7km az=161.0*
MED_RC ***26*** *09:16:21.0±0.5, 35°.16N×27°.89E, h45km, MW4.6/13, Moment Tensor Solution.Mantle waves: s13,c14; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.94±.09; $M_{\theta\theta}$-0.67±.14; $M_{\phi\phi}$-0.27±.14; $M_{r\theta}$-0.28±.08; $M_{r\phi}$0.55±.05; $M_{\theta\phi}$0.01±.06; Best double couple: $M_0$1.03000×10^{16} NP1:ϕ=135.00000°,δ39.00000°, λ105.00000°. NP2:ϕ=296.00000°,δ52.00000°,λ78.00000°. Principal axes: T 0.9900, Plg78.0000°, Azm159.0000°; N 0.0900, Plg9.0000°, Azm303.0000°; P -1.0800, Plg7.0000°, Azm34.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ISC 26 09:16:17.4±0.8, 35°.21N±0°.03×27°.80E±0°.02, h16km±4km, n460, σ1°85/515, mb4.3/60, MS3.3/4, 19C-20D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.62**	**303**	P	**Pb**	**09 16 30.2**	**+0.2**
KARP				S	**Sb**	**09 16 37.8**	**-0.7**
	15μm,0.6s						
KARP	**Karpathos**	**0.62**	**303**	Pg	**Pb**	**09 16 30.0**	**0.0**
KARP	**Karpathos**	**0.62**	**303**		**Pb**	**09 16 29.6**	**-0.4**
KARP	**Karpathos**	**0.62**	**303**	⇑P	**Pb**	**09 16 29.5**	**-0.4**
KARP				S	**Sn**	**09 16 40.7**	**-0.6**
KARP				AML	AML	09 16 48.6	
	36nm,0.6s						
KARP				AML	AML	09 16 54.8	
	27nm,0.6s						
KARP	**Karpathos**	**0.62**	**303**	P	**Pb**	**09 16 30.6**	**+0.6**
KARP				S	**Sn**	**09 16 42.2**	**+0.9**
ARG	**Arkhangelos**	**1.04**	**15**	P	**Pn**	**09 16 38.2**	**+0.8**
ARG				S	**Sn**	**09 16 52.9**	**+1.3**
	6μm,0.7s						
ARG	**Arkhangelos**	**1.04**	**15**	Pg	**Pn**	**09 16 38.1**	**+0.7**
ARG	**Arkhangelos**	**1.04**	**15**	Pg	**Pb**	**09 16 37.3**	**+0.2**
ARG	**Arkhangelos**	**1.04**	**15**	P	**Pb**	**09 16 37.3**	**+0.2**
ARG	**Arkhangelos**	**1.04**	**15**	P	**Pn**	**09 16 37.7**	**+0.3**
ARG				S	**Sn**	**09 16 55.1**	**+3.5**
ARG				AML	AML	09 17 01.6	
	11nm,0.6s						
ARG				AML	AML	09 17 04.4	
	13nm,0.8s						
ARG	**Arkhangelos**	**1.04**	**15**	P	**Pn**	**09 16 38.0**	**+0.6**
ARG				S	**Sn**	**09 16 52.3**	**+0.7**
RODB	**Rodos**	**1.28**	**15**	P	**Pg**	**09 16 41.8**	**-0.3**
RODB				S	**Sg**	**09 16 59.2**	**+0.3**
ZKR	**Zakros**	**1.30**	**266**	P	**Pg**	**09 16 42.4**	**-0.1**
ZKR				S	**Sg**	**09 17 00.4**	**+1.0**
	3μm,0.9s						
ZKR	**Zakros**	**1.30**	**266**	Pn	**Pg**	**09 16 44.5**	**+2.0**
ZKR	**Zakros**	**1.30**	**266**	P	**Pg**	**09 16 43.9**	**+1.4**
YAZI	**Mula-Dat§a-**	**1.50**	**349**	P	**Pb**	**09 16 44.9**	**0.0**
YAZI				S	**Sg**	**09 17 06.2**	**+0.4**
NISR	**Nisiros**	**1.50**	**339**	P	**Pb**	**09 16 44.7**	**-0.3**
NISR				S	**Sb**	**09 17 03.9**	**+0.1**
	4μm,0.8s						
DAT	**Datca**	**1.53**	**353**	Pn	**Pg**	**09 16 46.1**	**-0.8**
DAT				Sn	**Sg**	**09 17 06.7**	**-0.1**
DAT	**Datca**	**1.53**	**353**	P	**Pb**	**09 16 45.6**	**+0.1**
DAT				S	**Sg**	**09 17 07.1**	**+0.4**
DATC	**Datca-Mugla**	**1.55**	**356**	Pn	**Pg**	**09 16 46.4**	**-0.9**
TURN	**Turunc**	**1.60**	**13**	P	**Pb**	**09 16 47.3**	**+0.6**
TURN				S	**Sg**	**09 17 10.9**	**+1.8**
KSL	**Kastellorizon**	**1.73**	**57**	P	**Pb**	**09 16 48.5**	**-0.3**
KSL				S	**Sg**	**09 17 13.0**	**-0.1**
	1μm,1.8s						
KSL	**Kastellorizon**	**1.73**	**57**	P	**Pn**	**09 16 47.8**	**+0.9**
KSL				AML	AML	09 17 41.1	
	2.1nm,1.3s						
KSL				AML	AML	09 17 52.1	
	2.7nm,1.9s						
KSL	**Kastellorizon**	**1.73**	**57**	P	**Pn**	**09 16 47.5**	**+0.6**
DALY	**Dalyan (Mula)**	**1.75**	**23**	Pn	**Pb**	**09 16 49.4**	**+0.3**
FETY	**Fethiye**	**1.77**	**36**	Pn	**Pb**	**09 16 49.0**	**-0.4**
ASTA	**Astypalaia**	**1.78**	**319**	P	**Pb**	**09 16 49.5**	**-0.1**
AKAS	**Kas**	**1.79**	**55**	Pn	**Pn**	**09 16 48.9**	**+1.1**
KLNA	**Kalymnos**	**1.87**	**339**	P	**Pb**	**09 16 51.3**	**+0.1**
SABU	**Mula-Dalaman**	**1.87**	**30**	P	**Pn**	**09 16 48.4**	**-0.4**
SABU				S	**Sg**	**09 17 24.1**	**+6.4**
BDRM	**Kayabasi**	**1.88**	**351**	P	**Pb**	**09 16 50.3**	**-1.1**
BDRM				S	**Sb**	**09 17 15.6**	**+1.1**
BODT	**Bodrum**	**1.89**	**348**	Pn	**Pb**	**09 16 51.4**	**-0.2**
BODT				Sn	**Sb**	**09 17 14.9**	**-0.1**
YKAV	**Yalikavak-Bodr**	**1.96**	**348**	Pn	**Pb**	**09 16 51.9**	**-0.8**
YKAV				Sn	**Sb**	**09 17 16.7**	**-0.2**
YER	**Yerkesik**	**1.96**	**11**	Pn	**Pb**	**09 16 52.7**	**-0.1**
YER				Sn	**Sb**	**09 17 17.0**	**-0.1**
DEMR	**Demre-Antalya**	**2.00**	**58**	Pn	**Pb**	**09 16 53.5**	**+0.1**
MLSB	**Milas**	**2.08**	**359**	Pn	**Pb**	**09 16 54.2**	**-0.7**
MLSB				Sn	**Sb**	**09 17 19.9**	**-0.7**
MULA	**Mugla, Merkez-**	**2.09**	**11**	P	**Pb**	**09 16 55.9**	**+0.9**
MULA				S	**Sg**	**09 17 27.2**	**+2.6**
CAME	**Cameli-Denizli**	**2.12**	**35**	Pn	**Pb**	**09 16 54.7**	**-0.8**
THR8	**Santorini-Mono**	**2.23**	**303**	P	**Pn**	**09 16 55.4**	**+1.6**
IACM	**Heraklion**	**2.24**	**273**	P	**Pb**	**09 16 56.9**	**-0.5**
THR6	**Thira Island,**	**2.27**	**301**	P	**Pb**	**09 16 56.1**	**-1.8**
DDIM	**Aydin, Didim**	**2.29**	**349**	P	**Pn**	**09 16 56.5**	**+2.0**
DDIM				S	**Sb**	**09 17 28.6**	**+2.2**
DNZT	**Denizli-Tavas-**	**2.29**	**25**	P	**Pb**	**09 16 57.3**	**-1.2**
DNZT				S	**Sg**	**09 17 33.1**	**+2.0**
THR9	**Santorini-Faro**	**2.29**	**301**	P	**Pn**	**09 16 55.6**	**+1.0**
ELL	**Elmali**	**2.30**	**47**	Pn	**Pb**	**09 16 57.2**	**-1.4**
ELL	**Elmali**	**2.30**	**47**		**Pb**	**09 16 57.1**	**-1.4**
ELL	**Elmali**	**2.30**	**47**	P	**Pb**	**09 16 57.2**	**-1.4**
ELL	**Elmali**	**2.30**	**47**	P	**Pn**	**09 16 56.9**	**+2.0**
ELL				AML	AML	09 17 57.4	
	3.6nm,1.0s						
ELL				AML	AML	09 18 04.0	
	3.8nm,1.2s						
ELL	**Elmali**	**2.30**	**47**	P	**Pn**	**09 16 55.6**	**+0.8**
CMBO	**Columbo, Santo**	**2.32**	**304**	P	**Pn**	**09 16 56.3**	**+1.4**
CMBO	**Columbo, Santo**	**2.32**	**304**	P	**Pb**	**09 16 57.5**	**-1.3**
SAP3	**Santorini-Thir**	**2.34**	**302**	P	**Pb**	**09 16 57.8**	**-1.4**
IDI	**Anoyia**	**2.38**	**273**	P	**Pb**	**09 16 59.2**	**-0.8**
IDI				S	**Sb**	**09 17 27.4**	**-1.8**
	722nm,0.7s						
IDI	**Anoyia**	**2.38**	**273**	Pn	**Pb**	**09 16 59.6**	**-0.4**
IDI	**Anoyia**	**2.38**	**273**		**Pb**	**09 16 58.8**	**-1.2**
IDI	**Anoyia**	**2.38**	**273**	Pn	**Pn**	**09 16 55.9**	**0.0**
	76nm,0.7s,baz=66,slow=15,SNR=77						
IDI				LR	LR	09 17 35.6	
	comp=Z,250nm,19.4s,baz=67,slow=34						
IDI	**Anoyia**	**2.38**	**273**	P	**Pb**	**09 16 59.0**	**-1.0**
TAVA	**DENIZLI_Tavas**	**2.43**	**21**	P	**Pn**	**09 16 58.6**	**+2.1**
TAVA				S	**Sg**	**09 17 36.5**	**+1.0**
AYDN	**Tasoluk**	**2.45**	**1**	P	**Pn**	**09 16 58.9**	**+2.1**
AYDN				S	**Sg**	**09 17 34.3**	**-1.9**
TMBK	**Timbaki Herakl**	**2.49**	**268**	P	**Pb**	**09 17 01.4**	**-0.4**
APMY	**Acipayam-Deniz**	**2.56**	**28**	Pn	**Pn**	**09 17 00.7**	**+2.3**
APE	**Apeiranthos**	**2.61**	**316**	Pn	**Pb**	**09 17 01.7**	**-2.2**
APE	**Apeiranthos**	**2.61**	**316**	⇑P	**Pb**	**09 17 03.5**	**-0.4**
APE				⇓S	**Sb**	**09 17 37.3**	**+1.6**
APE	**Apeiranthos**	**2.61**	**316**	P	**Pb**	**09 17 03.5**	**-0.4**
ESEN	**Aydn-Nazilli**	**2.62**	**10**	P	**Pn**	**09 17 01.2**	**+2.1**
ESEN				S	**Sg**	**09 17 39.5**	**-2.2**
PRNS	**Prines Rethymn**	**2.70**	**274**	P	**Pb**	**09 17 04.4**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**2.73**	**2**	Pn	**Pn**	**09 17 03.4**	**+2.6**

NAZL	**Nazilli-Aydin**	**2.78**	**8**	Pn	**Pn**	**09 17 04.1**	**+2.8**
ANTB	**Antalya**	**2.86**	**53**	Pn	**Pb**	**09 17 05.7**	**-2.4**
GVD	**Gavdhos**	**3.07**	**264**	Pn	**Pb**	**09 17 08.7**	**-3.0**
GVD	**Gavdhos**	**3.07**	**264**	P	**Pb**	**09 17 08.3**	**-3.4**
ODEM	**Odemis-Izmir**	**3.07**	**4**	Pn	**Pn**	**09 17 07.8**	**+2.4**
CHAN	**Chania**	**3.09**	**277**	P	**Pn**	**09 17 07.2**	**+1.7**
CHAN				S	**Sn**	**09 17 43.8**	**+1.7**
	315nm,1.5s						
CHAN	**Chania**	**3.09**	**277**	P	**Pb**	**09 17 08.7**	**-3.2**
IMMV	**Iera Moni Meta**	**3.13**	**276**	P	**Pn**	**09 17 09.0**	**+2.9**
IMMV				S	**Sn**	**09 17 45.1**	**+1.9**
	898nm,1.2s						
IMMV	**Iera Moni Meta**	**3.13**	**276**	Pn	**Pb**	**09 17 10.3**	**-2.4**
IMMV	**Iera Moni Meta**	**3.13**	**276**	P	**Pb**	**09 17 09.4**	**-3.3**
TNSA	**Tinos**	**3.15**	**318**	P	**Pn**	**09 17 08.9**	**+2.5**
BLCB	**Balcova**	**3.23**	**349**	Pn	**Pn**	**09 17 09.7**	**+2.2**
MANT	**Manisa**	**3.33**	**10**		**Pn**	**09 17 10.4**	**+1.3**
KNDR	**Palaiochora Ch**	**3.37**	**272**	Pn	**Pn**	**09 17 10.4**	**+1.0**
ISP	**Isparta**	**3.41**	**39**	Pn	**Pn**	**09 17 10.4**	**+0.4**
ISP	**Isparta**	**3.41**	**39**	P	**Pn**	**09 17 10.4**	**+0.4**
ISP	**Isparta**	**3.41**	**39**	P	**Pb**	**09 17 14.3**	**-3.2**
ISP	**Isparta**	**3.41**	**39**	P	**Pn**	**09 17 10.7**	**+0.7**
AKMS	**Akamas**	**3.72**	**92**	P	**Pn**	**09 17 14.1**	**-0.2**
AKMS				S	**Sn**	**09 17 59.0**	**+1.2**
AKMS				AML	AML	09 18 03.5	
	0.5nm,0.7s						
AKMS				AML	AML	09 18 11.1	
	0.5nm,0.9s						
AKMS	**Akamas**	**3.72**	**92**	P	**Pn**	**09 17 14.6**	**+0.3**
ANKY	**Antikythira Is**	**3.73**	**281**	P	**Pn**	**09 17 16.6**	**+2.3**
ANKY	**Antikythira Is**	**3.73**	**281**	P	**Pn**	**09 17 17.4**	**+3.0**
MATC	**Matruh**	**3.88**	**187**	P	**Pn**	**09 17 18.1**	**+1.7**
KARY	**Karystos**	**3.91**	**317**	P	**Pn**	**09 17 19.5**	**+2.7**
DKL	**Dikili**	**3.92**	**350**	P	**Pn**	**09 17 19.2**	**+2.2**
ALFC	**Alefka**	**3.93**	**89**	P	**Pn**	**09 17 17.0**	**-0.2**
ALFC				S	**Sn**	**09 18 04.1**	**+1.1**
ALFC				AML	AML	09 18 08.0	
	0.6nm,0.6s						
ALFC				AML	AML	09 18 17.9	
	0.5nm,0.6s						
ALFC	**Alefka**	**3.93**	**89**	P	**Pn**	**09 17 16.8**	**-0.4**
NATA	**Nata**	**3.94**	**95**	P	**Pn**	**09 17 17.8**	**+0.6**
NATA				S	**Sn**	**09 18 03.9**	**+0.8**
NATA				AML	AML	09 18 09.2	
	2.2nm,0.5s						
NATA				AML	AML	09 18 09.2	
	1.4nm,1.0s						
NATA	**Nata**	**3.94**	**95**	P	**Pn**	**09 17 17.6**	**+0.3**
TROD	**Troodos**	**4.16**	**92**	P	**Pn**	**09 17 19.8**	**-0.7**
TROD				S	**Sn**	**09 18 10.6**	**+1.6**
TROD				AML	AML	09 18 18.4	
	0.6nm,0.6s						
TROD				AML	AML	09 18 18.6	
	0.5nm,0.5s						
TROD	**Troodos**	**4.16**	**92**	P	**Pn**	**09 17 20.2**	**-0.3**
APOL	**The Sanctuary**	**4.19**	**96**	P	**Pn**	**09 17 21.3**	**+0.6**
APOL				S	**Sn**	**09 18 10.0**	**+0.6**
APOL				AML	AML	09 18 12.8	
	0.8nm,0.9s						
APOL				AML	AML	09 18 13.5	
	0.7nm,0.8s						
DB3	**El Dabaa**	**4.21**	**171**	P	**Pn**	**09 17 22.5**	**+1.6**
PRK	**Paraskevi**	**4.21**	**344**	P	**Pn**	**09 17 22.9**	**+1.9**
PRK	**Paraskevi**	**4.21**	**344**	P	**Pn**	**09 17 23.5**	**+2.5**
VLI	**Veliai**	**4.22**	**292**	P	**Pn**	**09 17 22.4**	**+1.3**
VLI				S	**Sn**	**09 18 11.3**	**+1.2**
VLI	**Veliai**	**4.22**	**292**	P	**Pn**	**09 17 23.2**	**+2.1**
DION	**Dionisos Attik**	**4.23**	**314**	P	**Pn**	**09 17 24.1**	**+2.8**
ATHU	**Athens Univers**	**4.25**	**312**	P	**Pn**	**09 17 24.4**	**+2.9**
SIGR	**SIGRI**	**4.29**	**339**	P	**Pn**	**09 17 23.2**	**+1.2**
SIGR	**SIGRI**	**4.29**	**339**	P	**Pn**	**09 17 24.6**	**+2.6**
ATH	**Athens Observa**	**4.29**	**311**	P	**Pn**	**09 17 25.3**	**+3.3**
SLUM	**Salum**	**4.29**	**211**	P	**Pn**	**09 17 23.0**	**+0.9**
MET5	**Makryloggos,Me**	**4.32**	**305**	P	**Pn**	**09 17 24.9**	**+2.5**
KRND	**KRANIDI**	**4.34**	**301**	P	**Pn**	**09 17 26.0**	**+3.3**
KRND	**KRANIDI**	**4.34**	**301**	P	**Pn**	**09 17 26.0**	**+3.3**
ASGA	**Asgata**	**4.49**	**94**	P	**Pn**	**09 17 24.4**	**-0.4**
ASGA				S	**Sn**	**09 18 18.8**	**+2.0**
ASGA				AML	AML	09 18 23.8	
	1.0nm,0.8s						
ASGA				AML	AML	09 18 24.4	
	0.4nm,0.7s						
ASGA	**Asgata**	**4.49**	**94**	P	**Pn**	**09 17 25.3**	**+0.5**
SKY	**Skiros Island**	**4.49**	**326**	P	**Pn**	**09 17 26.1**	**+1.3**
KYMI	**Kymi, Euboea I**	**4.53**	**320**	P	**Pn**	**09 17 27.8**	**+2.5**
KYMI	**Kymi, Euboea I**	**4.53**	**320**	P	**Pn**	**09 17 28.0**	**+2.7**
CSS	**Mathiatis**	**4.54**

BEIL Beino 6.92 93 *eP* **Pn 09 17 57.0 -1.3**
AMAZ Amatzia 6.99 120 P **Pn 09 17 59.1 0.0**
AMAZ Amatzia 6.99 120 S **Sn 09 19 16.2 -2.2**
KZIT Kziot 7.00 126 P **Pn 09 17 58.3 -1.0**
KZIT Kziot 7.00 126 S **Sn 09 19 16.2 -2.5**
HMDT Nahal Hemdat 7.08 112 P **Pn 09 18 00.1 -0.3**
HMDT Nahal Hemdat 7.08 112 S **Sn 09 19 18.7 -1.8**
MMB Musomishta 7.08 335 *eP* **Pn 09 18 05.1 +4.7**
FKH Fakeheh 7.15 95 *eP* **Pn 09 18 00.3 -1.2**
YTIR Yattir 7.22 120 P **Pn 09 18 02.3 -0.1**
YTIR Yattir 7.22 120 S **Sn 09 19 21.9 -2.3**
DSI Dead Sea 7.30 118 P **Pn 09 18 02.9 -0.6**
DSI Dead Sea 7.30 118 S **Sn 09 19 23.7 -2.4**
VAY Valandovo 7.36 328 *i P* Pn 09 18 10.0 +5.9
BNN Bunyan 7.39 58 **Pn 09 18 04.2 -0.5**
MSBI Mazada 7.43 119 P **Pn 09 18 04.1 -1.0**
MSBI Mazada 7.43 119 S **Sn 09 19 26.9 -2.1**
ILGA Ilgaz 7.47 37 Pn **Pn 09 18 05.6 -0.3**
KKB Krupnik 7.57 332 *i P* **Pn 09 18 10.6 +3.5**
GHAJ Ghor Haditha 7.58 119 **Pn 09 18 07.4 +0.2**
GHAJ Ghor Haditha 7.58 119 P **Pn 09 18 06.9 -0.4**
GHAJ Ghor Haditha 7.58 119 S **Sn 09 19 30.9 -1.9**
KRMI Paran Flat 7.73 129 P **Pn 09 18 08.9 -0.6**
ZFRI Zfri 7.75 125 P **Pn 09 18 08.6 -0.9**
PRNI Paran 7.76 127 P **Pn 09 18 09.5 -0.2**
PRNI Paran 7.76 127 S **Sn 09 19 34.7 -2.7**
KEK Kerkira 7.79 308 Pn **Pn 09 18 09.6 -0.5**
GAZ Gaziantep 7.86 73 Pn **Pn 09 18 11.2 +0.1**
HRFI Mount Harif 7.99 128 P **Pn 09 18 11.9 -1.0**
HRFI Mount Harif 7.99 128 S **Sn 09 19 40.4 -2.5**
PLNA Plana 8.02 336 *i P* Pn 09 18 18.8 +5.4
OHR Ohrid 8.07 319 *i P* Pn 09 18 22.6 +8.6
MBRI Mt Berech 8.07 130 P **Pn 09 18 13.4 -0.8**
MBRI Mt Berech 8.07 130 S **Sn 09 19 42.7 -2.5**
ASF Jabal al Asfar 8.16 109 Pn **Pn 09 18 15.8 +0.5**
0.8nm,0.3s,baz=291,slow=7.0,SNR=11
ASF Sn **Sn 09 19 47.6 +0.2**
0.6nm,0.3s,baz=331,slow=19,SNR=3.7
ASF LR LR 09 21 52.9
comp=Z,209nm,20.1s,baz=306,slow=41
6.0nm,0.7s
EIL Elat 8.18 130 Pn **Pn 09 18 15.8 +0.3**
1.6nm,0.3s,baz=307,slow=4.2,SNR=26
EIL Sn **Sn 09 19 44.9 -2.8**
2.6nm,0.3s,baz=5.4,slow=18,SNR=6.3
6.9nm,0.5s
EIL Elat 8.18 130 P **Pn 09 18 14.9 -0.7**
EIL Elat 8.18 130 S **Sn 09 19 44.4 -3.3**
VTS Vitosha 8.21 336 *i P* **Pn 09 18 20.4 +4.4**
HKAT Jabal Katrina 8.49 140 P **Pn 09 18 19.1 -0.9**
MPEP Malo Peshtene 8.72 340 *i P* Pn 09 18 28.7 +5.8
ULC Ulcinj 9.50 318 *ePn* **Pn 09 18 37.1 +3.5**
ULC *i* Sn **Sn 09 20 19.4 -0.7**
BOVS Bovan 9.64 333 ⇓P **Pn 09 18 40.0 +4.5**
TIP Timpagrande 9.66 297 Pn **Pn 09 18 35.0 -0.8**
DRME Dracevica, Mon 9.69 319 *ePn* **Pn 09 18 39.6 +3.5**
DRME *i* Sn **Sn 09 20 23.7 -0.9**
IVA Berane 9.81 324 *ePn* **Pn 09 18 41.4 +3.5**
IVA *i* Sn **Sn 09 20 26.8 -1.0**
PDG Podgorica 9.82 320 **Pn 09 18 36.6 -1.3**
PDG Podgorica 9.82 320 ⇑P **Pn 09 18 41.9 +4.1**
PDG Podgorica 9.82 320 *ePn* **Pn 09 18 41.4 +3.5**
PDG *i* Sn **Sn 09 20 26.9 -0.8**
BUM Brajici-Budva 9.92 318 *ePn* **Pn 09 18 42.9 +3.5**
BUM *i* Sn **Sn 09 20 29.4 -1.0**
KOME Kolasin 9.98 322 *ePn* **Pn 09 18 43.8 +3.5**
KOME *i* Sn **Sn 09 20 30.8 -1.2**
CEME Cevo 10.08 319 *ePn* **Pn 09 18 44.5 +3.0**
CEME *i* Sn **Sn 09 20 33.0 -1.2**
HCY Herceg Novi 10.24 318 *ePn* **Pn 09 18 47.2 +3.5**
HCY *i* Sn **Sn 09 20 37.0 -1.1**
MLR Muntele Rosu 10.37 353 **Pn 09 18 44.2 -1.3**
MLR Muntele Rosu 10.37 353 Pn **Pn 09 18 46.5 +0.9**
0.2nm,0.3s,baz=181,slow=16,SNR=7.7
4.6nm,1.0s
MLR Muntele Rosu 10.37 353 ⇓P **Pn 09 18 49.9 +4.3**
MLR Muntele Rosu 10.37 353 P **Pn 09 18 49.9 +4.3**
BRY Bratogost 10.52 320 *ePn* **Pn 09 18 51.2 +3.5**
BRY *i* Sn **Sn 09 20 43.8 -1.5**
UPM Unac-Piva 10.55 322 *ePn* **Pn 09 18 51.5 +3.4**
UPM *i* Sn **Sn 09 20 44.4 -1.6**
MDVR Moldovita 10.64 336 ⇓P **Pn 09 18 53.5 +4.3**
CUC Castrocucco 10.64 300 **Pn 09 18 49.9 +0.7**
PLOR Plostina 10.67 356 ⇑P **Pn 09 18 53.1 +3.5**
PLOR Plostina 10.67 356 P **Pn 09 18 53.1 +3.5**
VRI Vrincioaia 10.68 356 ⇓P **Pn 09 18 53.9 +4.2**
VRI Vrincioaia 10.68 356 P **Pn 09 18 53.9 +4.2**
COVR Voineasa-Covas 10.70 354 ⇓P **Pn 09 18 54.1 +4.1**
GZR Gura Zlata 10.87 341 ⇑P **Pn 09 18 56.6 +4.3**
GZR Gura Zlata 10.87 341 P **Pn 09 18 56.6 +4.3**
DOPR Dopca 10.90 351 ⇑P **Pn 09 18 56.8 +4.0**
VAE Valguarnera 11.03 286 Pn **Pn 09 18 54.9 +0.3**
5.8nm,0.4s,baz=187,slow=17,SNR=3.8
VAE Sn Sn 09 20 44.0 -14
1.3nm,0.3s,baz=119,slow=19,SNR=1.2
RAFF Raffo Rosso 11.04 284 **Pn 09 18 53.9 -0.8**
KOPT Kop Dagi 11.15 61 Pn **Pn 09 18 55.5 -0.9**
SURR Surduc 11.38 339 ⇑P **Pn 09 19 03.8 +4.5**
DRGR 12.19 343 ⇑P **Pn 09 19 14.9 +4.5**
DRGR 12.19 343 P **Pn 09 19 14.9 +4.5**
SOC Sochi 12.44 44 *eP* **Pn 09 19 15.1 +1.4**
SOC *e* 09 21 35.6
SOC MLR MLR
comp=Z,199nm,16.0s
VSLR Vesyoloye 12.54 45⇑*eP* **Pn 09 19 14.9 -0.3**
VSLR pmax pmax
comp=Z,4.0nm,0.6s
BURAR Bucovina Array 12.55 352 Pn **Pn 09 19 14.3 -1.0**
BURAR Bucovina Array 12.55 352 ⇑P **Pn 09 19 19.9 +4.6**
BURAR Bucovina Array 12.55 352 P **Pn 09 19 19.9 +4.6**
BUR08 Bucovina Ar. S 12.58 352 **Pn 09 19 14.6 -1.2**
NRCA Norcia 13.71 308 Pn **Pn 09 19 30.9 -0.3**
FDMO Fiordimonte 13.83 309 Pn **Pn 09 19 31.5 -1.2**
PSZ Piszkesteto 14.00 338 Pn **Pn 09 19 35.7 +0.6**
PSZ Piszkesteto 14.00 338 ⇑P **P 09 19 39.7 -3.3**
PSZ Piszkesteto 14.00 338 P **P 09 19 39.7 -3.3**
SHA1 Shidzhatmaz 14.28 49⇑*eP* **Pn 09 19 39.3 +0.2**
KECS Kecovo 14.33 340 *eP* **P 09 19 45.1 -1.5**
KECS Kecovo 14.33 340 *eP* **P 09 19 45.1 -1.5**
KIV Kislovodsk 14.41 48 *eP* **Pn 09 19 40.7 -0.1**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KVAR Kislovodsk Arr 14.41 48 Pn **P 09 19 46.1 -1.6**
baz=270,slow=19
comp=Z,2.1nm,0.4s
KBZ Khabaz 14.42 49 Pn **P 09 19 45.1 -2.5**
comp=Z,0.2nm,0.3s,baz=225,slow=8.1,SNR=23
comp=Z,0.3nm,0.3s
VYHS Vyhne 14.85 336 *eP* **P 09 19 52.4 0.0**
VYHS Vyhne 14.85 336 *eP* **P 09 19 52.4 0.0**
SOKA Soboth 14.96 324 *ePn* **Pn 09 19 50.5 +2.3**
comp=Z,14nm,0.9s
STHS Stebnicka Huta 14.99 343 *eP* **P 09 19 54.4 +0.4**
STHS Stebnicka Huta 14.99 343 *eP* **P 09 19 54.4 +0.4**
KEST Kesra 15.05 277 Pn **Pn 09 19 50.2 +0.7**
comp=Z,0.4nm,0.3s,baz=24,slow=9.6,SNR=7.0
KEST LR LR 09 26 38.2
comp=Z,428nm,18.2s,baz=21,slow=42
comp=Z,3.6nm,0.7s
OBKA Obir 15.07 323 *ePn* **Pn 09 19 51.2 +1.4**
comp=Z,16nm,1.5s
ARSA Arzberg 15.14 326 Pn **Pn 09 19 49.7 -0.9**
ARSA IAmb IAmb 09 20 09.4
comp=Z,13nm,1.1s
ARSA Arzberg 15.14 326 *eP* **P 09 19 54.4 -1.3**
comp=Z,6.1nm,0.8s
SABO M.te Sabotino 15.21 319 Pn **Pn 09 19 51.9 +0.4**
SABO IAmb IAmb 09 19 59.5
comp=Z,26nm,1.1s
OSSC Osservatorio P 15.24 308 Pn **Pn 09 19 50.3 -1.6**
OSSC IAmb IAmb 09 20 18.9
comp=Z,18nm,1.2s
MODS Modra-Piesok 15.30 333 *eP* **P 09 19 59.1 +1.7**
MODS Modra-Piesok 15.30 333 *eP* **P 09 19 59.1 +1.7**
CONA Conrad Observa 15.51 329 *eP* **P 09 19 59.4 -0.4**
comp=Z,4.5nm,1.2s
KIEV Kiev 15.51 3 Pn **Pn 09 19 55.6 +0.2**
KIEV Kiev 15.51 3 P **Pn 09 19 55.6 +0.2**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 15.52 3 Pn **Pn 09 19 55.0 -0.5**
comp=Z,0.7nm,0.3s,baz=193,slow=10,SNR=11

AKBB Malin Array Si 15.52 3 Pn **Pn 09 19 56.0 +0.5**
AKBB Malin Array Si 15.52 3 P **Pn 09 19 56.0 +0.5**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
MYKA Terra Mystica 15.62 321 *ePn* **P 09 19 59.3 -1.7**
comp=Z,5.1nm,0.6s
STAL STALIGIAL 15.87 319 **Pn 09 19 58.3 -1.8**
TEOL Teolo 15.92 314 Pn **Pn 09 19 59.6 -1.1**
TEOL IAmb IAmb 09 20 17.2
comp=Z,68nm,1.5s
MAUC Maruska 15.93 336 *eP* **P 09 20 05.5 +1.0**
CIMO Cimolais 16.05 318 **Pn 09 20 02.3 -0.1**
KBA Koelnbreinsper 16.07 322 *eP* **P 09 20 05.4 -0.7**
comp=Z,53nm,1.1s
OJC Ojcow 16.10 341 Pn **Pn 09 20 02.9 -0.1**
OJC Ojcow 16.10 341 P **Pn 09 20 02.9 -0.1**
MOA Molln 16.16 326 *epP* pP 09 20 09.5 -1.6
comp=Z,12nm,1.2s
KRUC Moravsky 16.20 332 *e*PN **P 09 20 08.0 +0.7**
ABTA Abfaltersbach 16.28 320 *epP* pP 09 20 10.4 -2.1
comp=Z,10nm,0.7s
VRAC Vranov 16.32 333 Pn **Pn 09 20 07.0 +1.1**
comp=Z,0.5nm,0.3s,baz=158,slow=9.6,SNR=6.2
comp=Z,2.9nm,0.6s
VRAC Vranov 16.32 333 *e*PN **P 09 20 08.2 -0.6**
VRAC Vranov 16.32 333 P **Pn 09 20 07.0 +1.1**
BIOA Bad Ischl, Aus 16.34 324 *eP* **P 09 20 09.6 +0.6**
comp=Z,21nm,1.6s
MORC Moravsky Berou 16.38 336 *e*PN **P 09 20 09.0 -0.5**
LESA Schwarzleotal 16.64 322 *ePn* **Pn 09 20 11.0 +1.0**
comp=Z,12nm,0.7s
AKT Akhty 16.83 62 *eP* **Pn 09 20 13.0 +0.6**
AKT pmax pmax
comp=Z,11nm,1.2s
GEC2 GERESS Array S 17.15 327 Pn **Pn 09 20 15.0 -1.4**
GERES GERESS Array B 17.15 327 Pn **Pn 09 20 14.9 -1.4**
GERES GERESS Array B 17.15 327 P **Pn 09 20 14.4 -2.0**
baz=133,slow=11,SNR=13
comp=Z,2.1nm,0.8s
GERES GERESS Array B 17.15 327 P **Pn 09 20 14.9 -1.4**
WATA Walderalm 17.15 320 *eP* **P 09 20 19.6 +1.6**
comp=Z,30nm,1.0s
SQTA Sankt Quirin 17.27 319 Pn **Pn 09 20 18.3 +0.3**
comp=Z,11nm,0.9s
DPC Dobruska-Polom 17.29 335 *eP* **P 09 20 20.9 +1.4**
DPC Dobruska-Polom 17.29 335 *eP* **P 09 20 20.9 +1.4**
MOTA Moosalm 17.41 319 pP pP 09 20 23.1 -1.9
comp=Z,15nm,0.9s
FETA Feichten 17.41 318 *eP* **P 09 20 22.6 +1.6**
comp=Z,35nm,0.9s
KHC Kasperske Hory 17.41 327*d i P* **P 09 20 20.9 +0.1**
KHC pmax pmax
comp=Z,27nm,0.9s
KHC Kasperske Hory 17.41 327 *eP* **P 09 20 20.8 0.0**
FUORN Ofenpass-Fuorn 17.44 316 P **Pn 09 20 20.3 +0.1**
RETA Reutte 17.68 319 Pn **P 09 20 25.3 +1.5**
comp=Z,32nm,1.7s
DAVOX Davos/Dischmat 17.75 316 P **Pn 09 20 24.4 +0.4**
comp=Z,0.4nm,0.3s,baz=135,slow=15,SNR=8.5
comp=Z,2.1nm,0.7s
TUE Stuetta 17.89 315 **Pn 09 20 24.4 -1.3**
VSR Storozhevoye 17.98 24 *eP* **Pn 09 20 25.9 -0.7**
VSR pmax pmax
comp=Z,7.0nm,0.8s
DAVA Damuels 18.04 317 *ePn* **P 09 20 29.0 +1.2**
comp=Z,35nm,1.5s
VORR Voronezh 18.39 23 P **P 09 20 28.3 -3.2**
VORR pmax pmax
comp=Z,12nm,1.3s
VRH Novokhopyorsk 18.88 28 P **P 09 20 36.8 -0.1**
VRH pmax pmax
comp=Z,12nm,1.0s
SENIN Lac Senin/Sane 19.05 312 P **P 09 20 39.6 +0.5**
SENIN IAmb IAmb 09 20 49.8
comp=Z,16nm,0.6s
SUW Suwalki 19.08 352 P **P 09 20 38.3 -0.8**
SUW Suwalki 19.08 352 P **P 09 20 38.3 -0.8**
LPSR Galich'ya Gora 19.11 21 P **Pn 09 20 40.7 +0.5**
LPSR pmax pmax
comp=Z,13nm,0.8s
MNK Minsk 19.29 0 *i P* **P 09 20 38.3 -3.2**
comp=E,27nm,0.9s
MNK *i* P **P 09 20 38.3 -3.2**
comp=N,22nm,0.7s
MNK *i* P **P 09 20 38.3 -3.2**
comp=Z,7.0nm,0.6s,baz=177
MNK *i* PP **PnPn 09 20 51.2 -4.3**
MNK *i* S **Sn 09 24 14.8 -3.5**
MNK *i* SS **SnSn 09 24 29.7 -2.8**
MNK *i* LR LR 09 27 08.1
MNK *i* LRM MLR 09 27 56.2
comp=Z,195nm,14.3s
MNK Minsk 19.29 0 *i P* **P 09 20 38.2 -3.2**
MNK *i* S **Sn 09 24 14.8 -3.5**
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK pmax pmax
comp=E,27nm,0.9s
MNK pmax pmax
comp=N,22nm,0.7s
MNK MLR MLR
comp=Z,195nm,14.0s
CLL Collm 19.31 331 P **P 09 20 40.9 -0.7**
CLL Collm 19.31 331 *i P* **Pn 09 20 44.1 +1.4**
CLL pmax pmax
comp=Z,17nm,1.2s
CLL Collm 19.31 331 *i P* **Pn 09 20 44.1 +1.4**
comp=Z,17nm,1.2s
CLL *i* PP **PnPn 09 20 54.7 -1.0**
CLL *i* pPP 09 20 58.6
CLL *i* PPP PPP 09 21 03.9
CLL AMS AMS 11 58 00.0
comp=Z,200nm,18.9s
SSB Saint Sauveur 20.34 307 P **P 09 20 53.7 +0.7**
SSB Saint Sauveur 20.34 307 P **P 09 20 53.7 +0.7**
SSB pmax pmax
comp=Z,8.0nm,1.1s
PABE Paberze 20.47 354 P **P 09 20 53.9 -0.4**
OBN Obninsk 20.81 14 P **P 09 20 59.1 +1.3**
OBN Obninsk 20.81 14 P **P 09 20 58.9 +1.0**
comp=Z,16nm,0.5s,baz=228,slow=12,SNR=5.3
comp=Z,16nm,0.5s
OBN Obninsk 20.81 14⇓*eP* **P 09 20 59.2 +1.3**
OBN *e**SP **sP 09 21 02.4 -1.5**
OBN *e*PPP PPP 09 21 28.7
OBN S **S 09 24 42.0 -7.4**
OBN SSS SSS 09 25 18.0
OBN pmax pmax
comp=Z,21nm,1.1s
OBN MLR MLR
comp=Z,97nm,16.0s
WLF Walferdange 21.43 319 *d*P **P 09 21 06.8 +2.2**
MOS Moscow 21.61 15 *eP* **P 09 21 05.7 -0.8**
MOS pmax pmax
comp=Z,40nm,0.7s
BSD Bornholm Skovb 21.81 340 *i P* **P 09 21 12.9 +4.2**
BSD IAmb IAmb 09 21 18.2
comp=Z,21nm,0.8s
BTNL Ternell 21.98 321 *d*P **P 09 21 10.8 +0.3**
MEM Membach 22.05 321 *d*P **P 09 21 11.7 +0.4**
BELG Belogornoye 22.23 33*deP* **P 09 21 14.3 +1.1**
BELG pmax pmax
comp=Z,3.0nm,0.9s
BCLA Clavier 22.31 320 *d*P **P 09 21 15.8 +1.7**
DOU Dourbes 22.51 318 *d*P **P 09 21 19.3 +3.0**
BMRD Maredsous 22.53 319 *d*P **P 09 21 17.4 +1.0**
BLEU Blekinge 22.63 342 *i P* **P 09 21 17.8 +0.3**
LUNU Lund 22.69 339 *i P* **P 09 21 17.1 -1.0**
TAM Tamanrasset 23.02 243 P **P 09 21 23.8 +1.8**
TAM Tamanrasset 23.02 243 P **P 09 21 23.8 +1.8**
TAM pmax pmax
comp=Z,14nm,0.7s
DEL Delary 23.29 340 *i P* **P 09 21 22.2 -2.0**
FABU Falkenberg 24.07 340 *i P* **P 09 21 31.5 -0.2**
BORU Boraas 24.60 340 *i P* **P 09 21 36.1 -0.5**
ONAU Onsala 24.64 339 *i P* **P 09 21 32.8 -4.2**
ESBB Sonseca Array 25.53 290 P **P 09 21 45.8 +0.4**
ESBB IAmb IAmb 09 21 56.5
comp=Z,7.4nm,0.9s
ESDC Sonseca Array 25.54 290 P **P 09 21 44.2 -1.2**
comp=Z,3.2nm,0.6s,baz=83,slow=9.5,SNR=17
comp=Z,3.2nm,0.6s
PAB San Pablo 25.83 289 P **P 09 21 47.6 -0.5**
PAB IAmb IAmb 09 21 56.5
comp=Z,16nm,1.3s

PAB San Pablo 25.83 289 P **P 09 21 47.6 -0.5**
PAB pmax pmax
comp=Z,16nm,1.3s
STRU Stroemstad 26.23 340 *i P* **P 09 21 51.1 -0.3**
FINES FINESS Array B 26.28 358 P **P 09 21 52.1 +0.3**
FINES FINESS Array B 26.28 358 P **P 09 21 50.7 -1.1**
comp=Z,1.7nm,0.6s,baz=146,slow=14,SNR=7.2
comp=Z,1.7nm,0.6s
FINES FINESS Array B 26.28 358 P **P 09 21 52.1 +0.3**
FIA1 FINESS Array S 26.28 358 P **P 09 21 52.2 +0.4**
HFS Hagfors 26.57 344 P **P 09 21 53.4 -1.0**
comp=Z,2.9nm,0.6s,baz=158,slow=13,SNR=8.8
comp=Z,2.9nm,0.6s
KLMR Klimovskoe 26.75 13 *eP* **P 09 21 53.0 -3.0**
KLMR pmax pmax
comp=Z,24nm,1.1s
ATD Arta Tunnel 27.25 146 LR LR 09 33 27.7
comp=Z,5.1nm,18.3s,baz=108,slow=38
AB31 Akbulak array 27.39 49 P **P 09 22 02.9 +0.9**
ABKAR Akbulak array 27.39 49 P **P 09 22 02.7 +0.8**
NC602 NORSAR Array S 27.61 343 P **P 09 22 04.0 +0.3**
NC602 IAmb IAmb 09 22 18.7
comp=Z,12nm,1.2s
NAO01 NORSAR Array S 27.86 342 P **P 09 22 05.5 -0.6**
NC405 NORSAR Array S 27.89 343 P **P 09 22 06.3 -0.1**
NC405 IAmb IAmb 09 22 11.4
comp=Z,4.1nm,0.7s
NB201 NORSAR Array S 27.94 343 P **P 09 22 07.0 +0.2**
NB201 IAmb IAmb 09 22 07.1
comp=Z,6.3nm,0.8s
NB2 NORSAR Subarra 27.95 343 P **P 09 22 05.2 -1.7**
comp=Z,2.8nm,0.8s,baz=150,slow=9.3
NOA NORSAR Array B 27.95 343 P **P 09 22 05.3 -1.7**
comp=Z,1.1nm,0.6s,baz=150,slow=10,SNR=7.4
NOA LR LR 09 34 22.0
comp=Z,77nm,19.0s,baz=35,slow=39
comp=Z,1.1nm,0.6s
EKA Eskdalemuir Ar 29.28 323 P **P 09 22 17.9 -0.8**
comp=Z,0.3nm,0.4s,baz=112,slow=11,SNR=2.4
comp=Z,0.3nm,0.4s
ARTI Arti 29.65 35 P **P 09 22 23.7 +1.7**
ARTI Arti 29.65 35*d i P* **P 09 22 23.4 +1.4**
ARTI S **S 09 27 19.9 +3.2**
ARTI pmax pmax
comp=Z,2.0nm,0.6s
TORD Torodi Ar. Bea 32.22 234 **P 09 22 45.5 +0.4**
TORD IAmb IAmb 09 22 52.6
comp=Z,6.8nm,1.4s
TORD Torodi Ar. Bea 32.22 234 P **P 09 22 46.2 +1.2**
comp=Z,3.8nm,0.6s,baz=27,slow=9.7,SNR=82
comp=Z,3.8nm,0.6s
KK31 Karatay Array 33.75 63 P **P 09 22 59.5 +1.2**
KK31 IAmb IAmb 09 23 08.0
comp=Z,3.7nm,1.0s
KK31 Karatay Array 33.75 63 P **P 09 22 59.5 +1.2**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 33.75 63 P **P 09 22 58.9 +0.7**
KKAR Karatay Array 33.75 63 P **P 09 22 58.9 +0.7**
GAR Garm 33.90 71 P **P 09 22 59.9 +0.2**
ARCES ARCESS Array B 34.41 359 P **P 09 23 02.3 -1.3**
comp=Z,2.2nm,0.7s,baz=167,slow=7.0,SNR=10
comp=Z,2.2nm,0.7s
BRVK Borovoye 34.70 46⇓*eP* **P 09 23 08.8 +2.5**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 34.76 46 P **P 09 23 07.7 +0.9**
comp=Z,1.5nm,0.8s,baz=224,slow=14,SNR=3.6
comp=Z,1.5nm,0.8s
AAK Ala-Archa 36.70 64⇓*eP* **P 09 23 26.0 +2.2**
AAK pmax pmax
comp=Z,6.0nm,1.7s
NIL Nilore 37.27 79 P **P 09 23 27.2 -1.5**
NIL IAmb IAmb 09 23 34.1
comp=Z,9.0nm,0.9s
NIL Nilore 37.27 79 P **P 09 23 27.2 -1.5**
NIL pmax pmax
comp=Z,9.0nm,1.0s
NRN Naryn 37.93 66 P **P 09 23 33.5 -0.9**
NRN IAmb IAmb 09 23 45.1
comp=Z,5.6nm,1.0s
NRN Naryn 37.93 66 P **P 09 23 33.5 -0.9**
NRN pmax pmax
comp=Z,6.0nm,1.0s
MACI Morro de la Ar 38.07 272 P **P 09 23 33.6 -2.0**
KURBB Kurchatov Arra 39.41 51 P **P 09 23 46.5 +0.1**
comp=Z,2.2nm,0.6s,baz=275,slow=8.9,SNR=18
KURBB PcP **PcP 09 25 55.5 +1.3**
comp=Z,0.5nm,0.6s,baz=277,slow=3.8,SNR=5.2
comp=Z,2.2nm,0.6s
KURK Kurchatov 39.47 51 **P 09 23 45.7 -1.1**
KURK Kurchatov 39.47 51 P **P 09 23 46.5 -0.4**
KURK 09 25 55.5
DBIC Dimbokro 41.32 234 P **P 09 24 01.8 -0.7**
DBIC IAmb IAmb 09 24 04.6
comp=Z,7.7nm,1.1s
DBIC Dimbokro 41.32 234 P **P 09 24 03.1 +0.6**
comp=Z,2.2nm,0.5s,baz=33,slow=7.7,SNR=5.1
comp=Z,2.2nm,0.5s
MAKZ Makanchi 41.73 57 P **P 09 24 05.6 0.0**
MAKZ Makanchi 41.73 57 P **P 09 24 05.6 0.0**
MAKZ pmax pmax
comp=Z,1.0nm,0.9s
MK31 Makanchi Array 41.94 57 P **P 09 24 08.3 +0.9**
MK31 Makanchi Array 41.94 57⇑*eP* **P 09 24 08.4 +1.0**
MKAR Makanchi Array 41.94 57 **P 09 24 08.1 +0.8**
MKAR Makanchi Array 41.94 57 P **P 09 24 08.0 +0.7**
comp=Z,1.3nm,0.6s,baz=280,slow=5.6,SNR=16
comp=Z,1.3nm,0.6s
MKAR Makanchi Array 41.94 57*ceP* **P 09 24 08.5 +1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
SPB2 Spitsbergen Ar 43.35 357 P **P 09 24 18.7 +0.3**
SPB2 IAmb IAmb 09 25 02.0
comp=Z,11nm,1.1s
SPITS Spitsbergen Ar 43.35 357 P **P 09 24 17.5 -0.9**
comp=Z,5.1nm,0.8s,baz=143,slow=12,SNR=9.1
comp=Z,5.1nm,0.8s
SPITS Spitsbergen Ar 43.35 357 P **P 09 24 19.3 +0.9**
ZAA0 Zalesovo Array 43.41 46 P **P 09 24 19.0 -0.2**
ZALV Zalesovo Beam 43.41 46 P **P 09 24 19.4 +0.2**
ZALV Zalesovo Beam 43.41 46 P **P 09 24 17.5 -1.7**
comp=Z,1.5nm,0.7s,baz=290,slow=8.3,SNR=5.8
comp=Z,1.5nm,0.7s
ZALV Zalesovo Beam 43.41 46 *i P* **P 09 24 20.6 +1.5**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
KBS Kingsbay 44.32 356 P **P 09 24 27.5 +1.4**
KBS Kingsbay 44.32 356⇓*eP* **P 09 24 27.7 +1.6**
KBS pmax pmax
comp=Z,7.0nm,1.1s
NRIK Noril'sk 46.92 25 P **P 09 24 47.2 +0.4**
comp=Z,0.8nm,0.3s,baz=245,slow=6.6,SNR=4.8
comp=Z,0.8nm,0.3s
NRIK Noril'sk 46.92 25⇑*eP* **P 09 24 49.3 +2.5**
NRIK pmax pmax
comp=Z,8.0nm,1.9s
GTA Gaotai 56.03 63 *eP* **P 09 25 56.8 +1.2**
GTA pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 57.78 51 P **P 09 26 09.1 +1.2**
SONM IAmb IAmb 09 26 13.2
comp=Z,2.2nm,0.8s
SONM Songino Array 57.78 51 P **P 09 26 09.0 +1.2**
comp=Z,1.9nm,0.7s,baz=284,slow=8.7,SNR=8.0
comp=Z,1.9nm,0.7s
ULN Ulaanbaatar 58.19 51⇑*eP* **P 09 26 12.6 +1.8**
ULN pmax pmax
comp=Z,8.0nm,1.7s
PZH PanZhiHua 62.76 76 P **P 09 26 43.3 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 63.80 57 *eP* **P 09 26 49.5 +0.5**
HHC pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 64.42 85 P **P 09 26 53.4 +0.2**
comp=Z,0.6nm,0.3s,baz=293,slow=7.8,SNR=8.1
comp=Z,0.6nm,0.3s
CMAR Chiang Mai Arr 64.42 85 *i P* **P 09 26 56.5 +3.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
BATG Bathurst New B 67.49 313 P **P 09 27 11.7 -0.9**
HEH HeiHe 69.37 43 *eP* **P 09 27 26.3 +2.1**
A36M Sachs Harbour 71.44 351 P **P 09 27 36.5 +0.1**
BLKN Baker Lake 71.45 338 P **P 09 27 36.0 -0.7**
BLKN IAmb IAmb 09 27 42.8

comp=Z,6.0nm,1.3s
RCBR Riachuelo 72.36 249 P **P 09 27 42.1 -0.8**
RCBR Riachuelo 72.36 249 P P 09 27 42.1 -0.8
RCBR pmax pmax
comp=Z,41nm,1.4s
B22K Teshekpuk Lake 74.75 0 P **P 09 27 57.4 +1.4**
B22K IAmb IAmb 09 28 29.8
comp=Z,4.9nm,1.2s
E29M Blow River 76.16 355 P **P 09 28 04.1 -0.1**
E29M IAmb IAmb 09 28 15.4
comp=Z,4.8nm,1.0s
D22K Ayikyak River 76.22 0 P **P 09 28 04.7 +0.1**
D22K IAmb IAmb 09 28 38.6
comp=Z,3.5nm,1.1s
C18K Utukok River 76.24 3 **P 09 28 04.4 -0.4**
C18K IAmb IAmb 09 28 14.5
comp=Z,2.7nm,0.8s
D19K Kuna River 76.52 2 P **P 09 28 06.6 +0.3**
D19K IAmb IAmb 09 28 24.7
comp=Z,3.2nm,1.0s
F30M Barrier River 76.75 354 P **P 09 28 08.5 +0.9**
F30M IAmb IAmb 09 28 37.2
comp=Z,4.9nm,1.1s
E22K Anaktuvuk Pass 76.97 360 P **P 09 28 08.7 -0.2**
E18K Tukpahlearik C 77.49 3 P **P 09 28 12.8 +1.1**
E18K IAmb IAmb 09 28 16.9
comp=Z,2.4nm,0.8s
F24K Squaw Lake 77.54 358 **P 09 28 13.2 +1.1**
F24K IAmb IAmb 09 28 26.1
comp=Z,2.0nm,0.7s
E19K Redstone River 77.58 2 P **P 09 28 13.2 +0.9**
E19K IAmb IAmb 09 28 26.1
comp=Z,4.5nm,0.9s
G26K Porcupine Rive 77.96 357 **P 09 28 14.4 0.0**
YKA Yellowknife Ar 78.05 343 P **P 09 28 12.9 -2.0**
comp=Z,0.4nm,0.9s,baz=34,slow=5.5,SNR=9.2
comp=Z,0.4nm,0.9s
YKA Yellowknife Ar 78.05 343 *i* P **P 09 28 18.6 +3.7**
YKA pmax pmax
comp=Z,1.0nm,0.8s
H29M Whitestone 78.33 354 P **P 09 28 16.9 +0.4**
H29M IAmb IAmb 09 28 23.2
comp=Z,5.2nm,1.2s
E46A Sault Ste Mari 78.42 319 P **P 09 28 17.9 +0.6**
H27K Steamboat Moun 78.55 356 P **P 09 28 19.0 +1.3**
H27K IAmb IAmb 09 28 26.3
comp=Z,2.4nm,0.9s
I29M Ogilvie Camp, 79.17 354 P **P 09 28 21.5 +0.4**
I29M IAmb IAmb 09 28 33.0
comp=Z,8.5nm,1.4s
J30M Hart River 79.76 353 P **P 09 28 25.0 +0.5**
J30M IAmb IAmb 09 28 46.7
comp=Z,3.5nm,0.9s
ILAR Eielson Array 80.26 358 P **P 09 28 26.2 -0.8**
comp=Z,0.6nm,1.2s,baz=356,slow=4.2,SNR=5.8
comp=Z,0.6nm,1.2s
J26L Joseph Creek 80.39 356 P **P 09 28 29.9 +2.1**
J26L IAmb IAmb 09 28 54.8
comp=Z,7.3nm,1.4s
FFC Flin Flon 80.58 333 **P 09 28 28.8 -0.1**
FFC IAmb IAmb 09 28 34.0
comp=Z,2.3nm,0.7s
FFC Flin Flon 80.58 333 P **P 09 28 28.8 -0.1**
FFC pmax pmax
comp=Z,2.0nm,0.7s
J20K Nowinta River 80.94 1 P **P 09 28 32.4 +1.8**
CAST Castle Rocks 81.71 360 P **P 09 28 35.5 +0.7**
CAST IAmb IAmb 09 28 39.4
comp=Z,4.6nm,1.1s
PETK Petropavlovsk- 81.88 28 LR LR 10 07 34.9
comp=Z,37nm,18.7s,baz=38,slow=38
M29M Somme Creek 82.06 354 P **P 09 28 38.2 +1.4**
M29M IAmb IAmb 09 28 42.4
comp=Z,4.7nm,1.1s
PPLA Purkeypile 82.23 360 P **P 09 28 38.6 +0.9**

IDC 26 09:33:56.2±1.7, 6°.68S×129°.51E, h0km, mb3.8/3, mbtmp3.8/6, ML3.8/3, Error ellipse: s-maj=87.4km s-min=24.7km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.96**	**198**	Pn	Pn	09 36 48.4	+0.3
	0.6nm,0.3s,baz=23,slow=12,SNR=6.3						
FITZ				Sn	Sn	09 38 48.0	-14
	1.5nm,0.3s,baz=30,slow=22,SNR=6.1						
	2.5nm,0.5s						
WRA	**Warramunga Arr**	**13.99**	**161**	Pn	Pn	09 37 15.9	-0.1
	0.3nm,0.3s,baz=343,slow=13,SNR=14						
WRA				Sn	Sn	09 39 34.1	-18
	0.9nm,0.3s,baz=333,slow=22,SNR=10						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**17.41**	**166**	P	Pn	09 38 00.6	-0.1
	0.5nm,0.3s,baz=345,slow=13,SNR=41						
ASAR				S	Sn	09 40 59.7	-16
	0.3nm,0.4s,baz=332,slow=20,SNR=3.3						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	09 44 55.9	+0.4
	0.4nm,0.5s,baz=122,slow=7.2,SNR=5.1						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**71.08**	**334**	P	P	09 45 16.0	-0.2
	0.8nm,0.3s,baz=123,slow=6.8,SNR=7.8						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**71.99**	**329**	P	P	09 45 21.6	-0.1
	0.4nm,0.6s,baz=132,slow=4.7,SNR=5.2						
	0.4nm,0.6s						

DJA 26 09:33:57.7±1.2, 3°N±11°×12°6E±°, h27km±20km, M3.5/6, MLv3.5/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.90**	**283**	P	Pb	09 34 14.9	+0.1
SGSI				S	Sn	09 34 27.0	+0.2

DJA 26 09:34:10.4±1.1, 5°S±3°×13°2E±°, h37km±24km, M3.9/9, mB5.1/2, mb4.1/3, MLv3.8/9, Mw(mB)4.5/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.71**	**7**	P	Pn	09 34 38.5	+0.8
FAKI				S	Sn	09 34 59.3	+1.0
KMPI	**Kaimana, Papua**	**1.92**	**60**	P	Pn	09 34 40.8	+0.3
KMPI				S	Sn	09 35 03.7	+0.3
BNDI	**Bandanaira**	**2.13**	**273**	P	Pn	09 34 44.1	+0.7
BNDI				S	Sn	09 35 09.8	+1.1
MSAI	**Masohi**	**3.36**	**292**	P	Pn	09 35 00.4	+0.1
SAUI	**Saumlaki**	**3.41**	**192**	P	Pn	09 34 49.9	-11
SWI	**Sorong**	**3.82**	**348**	P	Pn	09 35 07.2	+0.5
SWI	**Sorong**	**3.82**	**348**	P	Pn	09 35 06.7	0.0
NLAI	**Namlea**	**5.12**	**285**	P	Pn	09 35 24.3	-0.2
	0.1nm1μm12nm,0.4s						
SANI	**Sanana**	**6.56**	**293**	P	Pn	09 35 44.3	-0.1

---

*NNC **26** 09:34:22.6±13.0, 43°.99N×69°.62E, h0km, mb3.5, mpv2.7, Error ellipse: s-maj=135.4km s-min=98.7km az=116.0, Suspected Mining explosion.*
*KRNET **26** 09:34:29.2±0.1, 43°.39N×69°.42E, mb2.8*
*SOME **26** 09:34:29.2, 43°.70N×69°.68E*
ISC 26 09:34:32.5±3.0, 43°.6N±0°.1×69°.7E±0°.1, h0km, n9, σ1§27/14, 8C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.76**	**127**	⇑Pn	**Pg**	**09 34 45.3**	**-1.7**
	0.3nm,0.1s,baz=322,slow=16,SNR=26						
KK31				⇑Lg	Lg	09 34 58.5	
	42nm,0.8s,baz=322,slow=34						
KKAR	**Karatay Array**	**0.76**	**127**	⇑*iP*	**Pg**	**09 34 45.3**	**-1.7**
KKAR				⇑*iS*	**Sg**	**09 34 56.9**	**+0.1**
IUG	**Iuzhnay**	**1.44**	**170**	S	**Sn**	**09 35 21.7**	**+2.0**
	43nm,0.7s						
MNAS	**Manas**	**2.33**	**117**	⇑*iP*	**Pn**	**09 35 11.7**	**-0.5**
MNAS				⇑*iS*	**Sn**	**09 35 43.0**	**+1.4**
EKS2	**Erkin-Say**	**3.12**	**105**	⇓*eP*	**Pn**	**09 35 23.4**	**+0.2**
EKS2				⇓*iS*	**Sn**	**09 36 03.2**	**+1.9**
AML	**Almayashu**	**3.27**	**115**	⇑*iP*	**Pn**	**09 35 25.2**	**-0.3**
AML				⇑*iS*	**Sn**	**09 36 06.1**	**+0.8**
SGDS	**Sogindy**	**3.59**	**90**	Pg	**Pb**	**09 35 36.9**	**-0.1**
	1.3nm,0.4s						
SGDS				Lg	Lg	09 36 26.1	
	1.7nm,0.4s						
ARLS	**Aral**	**3.81**	**115**	⇓*eP*	**Pn**	**09 35 32.9**	**+0.2**
ARLS				⇓*eS*	**Sn**	**09 36 18.9**	**+0.6**
KTBS	**Karatobe**	**5.08**	**86**	Pg	**Pb**	**09 36 02.9**	**+0.7**
	1.8nm,0.6s						

---

*IDC **26** 09:41:15.8±0.6, 9°.86N×126°.29E, h0km, mb4.2/19, mbtmp4.2/19, MS3.5/11, Error ellipse: s-maj=33.6km s-min=14.0km az=73.0*
ISC 26 09:41:23.1±0.6, 9°.8N±0°.1×126°.2E±0°.2, h54km, n34, σ0§71/21, mb4.2/19, MS3.5/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.81**	**193**	Pn	Pn	09 42 11.6	+6.0
	21nm,0.3s,baz=65,slow=22,SNR=1.5						
DAV				Sn	Sn	09 42 50.8	+12
	41nm,0.3s,baz=90,slow=20,SNR=3.6						
DAV				LR	LR	09 43 18.4	
	comp=Z,829nm,20.8s,baz=22,slow=43						
GUMO	**Guam**	**18.62**	**77**	LR	LR	09 53 01.7	
	comp=Z,91nm,18.6s,baz=266,slow=38						
JCJ	**Chichijima**	**22.85**	**39**	LR	LR	09 55 39.1	
	comp=Z,71nm,18.9s,baz=132,slow=38						
JHJ	**Hachijo jima 2**	**26.34**	**26**	LR	LR	09 57 05.9	
	comp=Z,36nm,19.9s,baz=329,slow=36						
KSRS	**Korea Array**	**27.55**	**3**	LR	LR	09 59 57.6	
	comp=Z,46nm,18.5s,baz=125,slow=41						
FITZ	**Fitzroy Crossi**	**27.75**	**181**	P	**P**	**09 47 06.4**	**-0.4**
	11nm,0.8s,baz=21,slow=7.6,SNR=8.8						
	11nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.80**	**291**	P	**P**	**09 47 07.5**	**+0.1**
	0.7nm,0.3s,baz=99,slow=7.3,SNR=8.8						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**30.63**	**165**	P	**P**	**09 47 32.6**	**+0.2**
	0.4nm,0.5s,baz=350,slow=9.4,SNR=2.9						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**34.11**	**167**	P	**P**	**09 48 02.4**	**-0.5**
	0.2nm,0.4s,baz=353,slow=7.2,SNR=6.6						
	0.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**34.61**	**7**	P	**P**	**09 48 06.8**	**-0.2**
	1.8nm,0.6s,baz=185,slow=31,SNR=2.6						
	1.8nm,0.6s						
ASAJ	**Asahikawa**	**37.00**	**20**	LR	LR	10 04 18.9	
	comp=Z,50nm,18.1s,baz=180,slow=37						
HNR	**Honiara**	**38.62**	**119**	LR	LR	10 04 15.0	
	comp=Z,61nm,18.0s,baz=220,slow=36						
H11N1	**WAKE ISLAND Hy**	**40.43**	**71**	T	T	10 32 32.1	
	baz=251,slow=75,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**40.45**	**71**	T	T	10 32 14.5	
	baz=262,slow=75,SNR=4.0						
SONM	**Songino Array**	**41.43**	**340**	P	**P**	**09 49 05.6**	**+1.1**
	2.3nm,0.7s,baz=159,slow=9.2,SNR=9.9						
	2.3nm,0.7s						
STKA	**Stephens Creek**	**43.99**	**161**	P	**P**	**09 49 26.6**	**+1.3**
	1.6nm,0.6s,baz=328,slow=7.7,SNR=3.5						
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**52.37**	**323**	P	**P**	**09 50 30.3**	**+0.5**
	2.5nm,0.7s,baz=120,slow=8.0,SNR=21						
	2.5nm,0.7s						
AAK	**Ala-Archa**	**55.62**	**315**	LR	LR	10 16 50.7	
	comp=Z,82nm,18.2s,baz=76,slow=38						
KURBB	**Kurchatov Arra**	**56.42**	**326**	P	**P**	**09 50 59.2**	**0.0**
	1.8nm,0.7s,baz=125,slow=6.8,SNR=17						
	1.8nm,0.7s						
BVAR	**Borovoye Array**	**62.02**	**326**	P	**P**	**09 51 37.7**	**-0.1**
	1.2nm,0.6s,baz=116,slow=6.8,SNR=5.0						
	1.2nm,0.6s						
NRIK	**Noril'sk**	**64.44**	**346**	P	**P**	**09 51 54.2**	**+0.7**
	3.0nm,0.5s,baz=151,slow=5.5,SNR=6.0						
	3.0nm,0.5s						
GNI	**Garni**	**77.26**	**309**	LR	LR	10 30 07.9	
	comp=Z,32nm,19.0s,baz=256,slow=38						
ILAR	**Eielson Array**	**79.86**	**26**	P	**P**	**09 53 24.6**	**-1.1**
	0.3nm,0.7s,baz=274,slow=8.0,SNR=2.1						
	0.3nm,0.7s						
OPO	**Ambohidratompo**	**82.88**	**250**	LR	LR	10 28 00.2	
	comp=Z,27nm,20.5s,baz=70,slow=34						
SPITS	**Spitsbergen Ar**	**84.45**	**349**	P	**P**	**09 53 49.7**	**+0.1**
	3.1nm,0.8s,baz=70,slow=7.2,SNR=5.2						
	3.1nm,0.8s						
ARCES	**ARCESS Array B**	**84.60**	**340**	P	**P**	**09 53 50.8**	**+0.3**
	2.9nm,0.6s,baz=81,slow=7.5,SNR=20						
	2.9nm,0.6s						
FINES	**FINESS Array B**	**86.27**	**332**	P	**P**	**09 53 59.1**	**+0.3**
	3.3nm,0.8s,baz=92,slow=5.7,SNR=9.1						
	3.3nm,0.8s						
EIL	**Elat**	**86.32**	**299**	P	**P**	**09 53 58.9**	**-0.9**
	4.2nm,0.6s,baz=90,slow=2.0,SNR=4.4						
	4.2nm,0.6s						
DLBC	**Dease Lake**	**88.80**	**31**	LR	LR	10 31 11.7	
	comp=Z,48nm,19.5s,baz=93,slow=34						
HFS	**Hagfors**	**92.43**	**332**	P	**P**	**09 54 27.0**	**-1.0**
	5.9nm,1.1s,baz=36,slow=2.8,SNR=5.0						
	5.9nm,1.1s						
NB2	**NORSAR Subarra**	**93.15**	**334**	P	**P**	**09 54 30.6**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=63,slow=4.6						
NOA	**NORSAR Array B**	**93.15**	**334**	P	**P**	**09 54 30.2**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=62,slow=4.5,SNR=4.9						
	comp=Z,0.8nm,0.7s						
YKA	**Yellowknife Ar**	**94.18**	**24**	P	**P**	**09 54 35.9**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=300,slow=4.6,SNR=8.8						
	comp=Z,0.4nm,0.7s						
PLCA	**Paso Flores**	**145.81**	**157**	PKPbc	**PKPab**	**10 00 57.1**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=249,slow=8.6,SNR=3.3						

---

*IDC **26** 09:45:14.3±3.5, 54°.26N×87°.53E, h0km, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=30.3km s-min=20.3km az=36.0.*
ASRS 26 09:45:15.0±1.6, 54°.17N×87°.15E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**262**	I	I	09 55 10.0	
	0.1nm,0.6s,baz=78,slow=337,SNR=4.6						
ZALV	**Zalesovo Beam**	**1.39**	**262**	Pg	Pb	09 45 43.2	+1.4
	2.4nm,0.3s,baz=80,slow=15,SNR=13						
ZALV				Lg	Lg	09 46 05.7	
	3.8nm,0.3s,baz=80,slow=25,SNR=9.9						
KURBB	**Kurchatov Arra**	**6.36**	**240**	Pn	Pn	09 46 52.8	+2.9
	0.1nm,0.3s,baz=57,slow=14,SNR=4.4						
KURBB				Lg	Lg	09 48 46.0	
	baz=52,slow=30,SNR=3.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.01**	**205**	Pn	Pn	09 47 15.6	+3.0
	0.1nm,0.3s,baz=27,slow=13,SNR=1.5						
	0.1nm,0.3s						

---

*ISK **26** 09:46:54.9, 38°.55N×26°.56E, h2km, ML2.7/21*
*AFAD **26** 09:46:54.8, 38°.56N×26°.48E, h1km, ML2.5*
*ATH **26** 09:46:54.4±0.6, 38°.54N×26°.49E, h10km±3km, ML2.2/4, Manual Solution by N.Liadopoulou First location: 2019/04/26 09:47:43, This location: 2020/07/02 08:06:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
*THE **26** 09:46:56.4, 38°.68N×26°.68E, h0km±5km, ML2.5/3, Error ellipse: s-maj=9.1km s-min=1.2km az=157.0*
ISC 26 09:46:55.3±0.8, 38°.56N±0°.02×26°.52E±0°.02, h12km±6km, n44, σ0§76/65, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.14**	**322**	P	**Pg**	**09 46 57.9**	**-0.7**
KARB				S	**Sg**	**09 46 59.8**	**-1.3**
KARB				*i* AML	AML	09 47 00.0	
	comp=E,2μm,0.2s						
KARB				*i* AML	AML	09 47 01.0	
	comp=N,2μm,0.5s						
URLA	**Izmir**	**0.20**	**163**	P	**Pg**	**09 47 00.0**	**+0.3**
URLA				S	**Sg**	**09 47 04.2**	**+1.4**
URLA				*i* AML	AML	09 47 05.0	
	comp=N,770nm,0.4s						
URLA				*i* AML	AML	09 47 06.0	
	comp=E,2μm,0.3s						
FOCM	**Foa**	**0.23**	**47**	Pg	**Pg**	**09 47 00.0**	**-0.1**
FOCM				Sg	**Sg**	**09 47 03.9**	**+0.5**
CESE	**eme**	**0.28**	**217**	Pg	**Pg**	**09 47 01.4**	**+0.3**
CESE				Sg	**Sg**	**09 47 05.9**	**+0.9**
ZEYE	**Izmir, Urla-Ze**	**0.32**	**182**	P	**Pg**	**09 47 02.0**	**+0.3**
ZEYE				S	**Sb**	**09 47 08.0**	**0.0**
ZEYE				*i* AML	AML	09 47 09.0	
	comp=E,1μm,0.4s						
ZEYE				*i* AML	AML	09 47 10.0	
	comp=N,1μm,0.5s						
EAG2	**Marmaro, Chios**	**0.32**	**268**	P	**Pg**	**09 47 00.6**	**-1.2**
EAG2				S	**Sg**	**09 47 06.6**	**+0.4**
IZMD	**zmir-Dikili-**	**0.53**	**37**	P	**Pb**	**09 47 06.0**	**-0.8**
IZMD				S	**Sb**	**09 47 14.1**	**-0.4**
GMLD	**Gumuldur**	**0.57**	**147**	Pg	**Pg**	**09 47 06.3**	**-0.1**
GMLD				Sg	**Sb**	**09 47 14.6**	**-0.7**
DGB	**zmir**	**0.58**	**150**	P	**Pb**	**09 47 06.8**	**-0.6**
DGB				S	**Sb**	**09 47 15.9**	**+0.4**
DGB				*i* AML	AML	09 47 16.0	
	comp=N,254nm,0.3s						
DGB				*i* AML	AML	09 47 20.0	
	comp=E,237nm,0.3s						
DKL	**Dikili**	**0.60**	**30**	Pg	**Pb**	**09 47 07.3**	**-0.4**
DKL				Sg	**Sb**	**09 47 16.2**	**+0.1**
DKL	**Dikili**	**0.60**	**30**	P	**Pb**	**09 47 07.0**	**-0.7**
DKL				S	**Sb**	**09 47 15.9**	**-0.2**
ZEDA	**zmir-Bergama**	**0.60**	**47**	P	**Pb**	**09 47 07.3**	**-0.4**
ZEDA				S	**Sb**	**09 47 16.7**	**+0.5**
PRK	**Paraskevi**	**0.72**	**344**	P	**Pg**	**09 47 09.2**	**0.0**
PRK				S	**Sg**	**09 47 18.9**	**+0.3**
	538nm,0.4s						
PRK	**Paraskevi**	**0.72**	**344**	P	**Pg**	**09 47 09.2**	**0.0**
PRK				S	**Sg**	**09 47 19.2**	**+0.6**
AYVA	**Ayvalik**	**0.76**	**10**	P	**Pb**	**09 47 10.9**	**+0.4**
AYVA				S	**Sb**	**09 47 21.8**	**+0.9**
AYVA				*i* AML	AML	09 47 25.0	
	comp=N,266nm,0.3s						
SIGR	**SIGRI**	**0.83**	**322**	P	**Pb**	**09 47 12.5**	**+0.7**
SIGR				S	**Sb**	**09 47 25.2**	**+2.2**
	470nm,0.4s						
SIGR	**SIGRI**	**0.83**	**322**	Pg	**Pb**	**09 47 13.0**	**+1.2**
SIGR	**SIGRI**	**0.83**	**322**	P	**Pg**	**09 47 11.5**	**+0.1**
SIGR				S	**Sg**	**09 47 22.4**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.95**	**342**	Pg	**Pb**	**09 47 14.4**	**+0.7**
KOCA	**Canakkale, Ayv**	**0.99**	**343**	P	**Pb**	**09 47 14.5**	**+0.1**
KOCA				S	**Sb**	**09 47 28.4**	**+0.9**
KOCA				*i* AML	AML	09 47 31.0	
	comp=N,175nm,0.6s						
KOCA				*i* AML	AML	09 47 31.0	
	comp=E,149nm,0.5s						
SOMA	**Soma-Manisa**	**0.99**	**53**	Pg	**Pb**	**09 47 14.5**	**0.0**
BUHA	**Balikesir, Bur**	**1.04**	**25**	P	**Pb**	**09 47 15.4**	**+0.2**
BUHA				S	**Sn**	**09 47 30.8**	**+0.6**
BUHA				*i* AML	AML	09 47 34.0	
	comp=N,198nm,0.6s						
BUHA				*i* AML	AML	09 47 37.0	
	comp=E,243nm,0.5s						
YAYO	**Edremit-Balk**	**1.14**	**22**	Pn	**Pb**	**09 47 17.3**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.18**	**1**	P	**Pg**	**09 47 17.2**	**-0.9**
BAYC				S	**Sg**	**09 47 33.2**	**-0.3**
BAYC				*i* AML	AML	09 47 35.0	
	comp=E,113nm,0.5s						
BAYC				*i* AML	AML	09 47 36.0	
	comp=N,110nm,0.5s						
EZNE	**Ezine-Canakkal**	**1.20**	**354**	Pn	**Pn**	**09 47 19.1**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**1.24**	**119**	Pn	**Pn**	**09 47 18.9**	**+0.3**
ODEM	**Odemis-Izmir**	**1.25**	**102**	Pn	**Pn**	**09 47 19.2**	**+0.5**
EZN	**Ezine**	**1.28**	**353**	P	**Pg**	**09 47 18.4**	**-1.5**
EZN				S	**Sg**	**09 47 36.1**	**-0.4**
	132nm,0.5s						
EZN	**Ezine**	**1.28**	**353**	Pn	**Pn**	**09 47 20.4**	**+1.4**
GORD	**Gordes-Manisa**	**1.34**	**74**	Pn	**Pb**	**09 47 21.2**	**+0.7**
TNSA	**Tinos**	**1.48**	**227**	P	**Pn**	**09 47 20.4**	**-1.3**
NAZL	**Nazilli-Aydin**	**1.52**	**112**	Pn	**Pg**	**09 47 23.6**	**-0.8**
COMU	**Canakkale**	**1.54**	**359**	Pn	**Pg**	**09 47 24.3**	**-0.6**
SKY	**Skiros Island**	**1.57**	**282**	P	**Pn**	**09 47 21.9**	**-1.2**
BODT	**Bodrum**	**1.62**	**157**	Pn	**Pb**	**09 47 25.1**	**0.0**
KULA	**Kula-Manisa**	**1.68**	**91**	Pn	**Pb**	**09 47 25.9**	**-0.3**
GADA	**Gvkgeada**	**1.70**	**344**	Pn	**Pb**	**09 47 26.9**	**+0.3**
KARY	**Karystos**	**1.72**	**253**	P	**Pn**	**09 47 24.0**	**-1.1**
GONE	**Gonen-Balikesi**	**1.74**	**31**	Pn	**Pb**	**09 47 27.1**	**-0.1**
LPK	**Lapseki**	**1.82**	**6**	Pn	**Pb**	**09 47 28.3**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.84**	**359**	Pn	**Pb**	**09 47 28.7**	**-0.2**
SUSR	**Susurluk-Balik**	**1.86**	**40**	Pn	**Pb**	**09 47 28.6**	**-0.6**
SMTH	**Samothraki Isl**	**2.06**	**339**	P	**Pn**	**09 47 28.7**	**-1.1**
DION	**Dionisos Attik**	**2.09**	**258**	P	**Pn**	**09 47 29.3**	**-0.9**

TRN 26 09:47:13.7, 14°.98N×61°.17W, h17km, MD3.7, North of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	**Savane Anatole**	**0.14**	**181**	*eP*	Pb	09 47 19.9	+1.9
SVN				*eS*	Sb	09 47 22.5	+1.7
ILAM	**Ilet Lapin Mar**	**0.35**	**126**	*eP*	Pn	09 47 23.8	-0.2
ILAM				*eS*	Sn	09 47 29.3	-1.3
DRTD	**Roseau, Domini**	**0.37**	**326**	*eP*	Pn	09 47 23.7	-0.6
DRTD				*eS*	Sn	09 47 29.7	-1.5
MDN	**Morne-Daniel**	**0.40**	**327**	*eP*	Pn	09 47 24.0	-0.6
MDN				*eS*	Sn	09 47 31.3	-0.5
BIM	**Bigot**	**0.47**	**169**	*eP*	Pn	09 47 25.7	-0.1
BIM				*eS*	Sn	09 47 32.6	-1.1
DSLB	**Salisbury**	**0.51**	**331**	*eP*	Pn	09 47 25.9	-0.4
DSLB				*eS*	Sn	09 47 34.2	-0.4
DWS	**Wesley**	**0.60**	**346**	*eP*	Pn	09 47 27.6	+0.2
DWS				*eS*	Sn	09 47 36.6	-0.1
SLBI	**Saint Lucia, B**	**0.97**	**169**	*eP*	Pg	09 47 33.5	+0.8
SLBI				*eS*	Sn	09 47 47.7	+1.7
TBG	**Guadaloupe-3**	**0.98**	**332**	*eP*	Pg	09 47 33.4	+0.7
TBG				*eS*	Sn	09 47 49.8	+3.6
SLAC	**Saint Lucia, A**	**1.11**	**166**	*eP*	Pg	09 47 35.4	+0.1
SLAC				*eS*	Sg	09 47 51.9	+2.1
SVT	**Saint Vincent**	**1.81**	**182**	*eP*	Pb	09 47 45.7	-0.6
SVT				*eS*	Sg	09 48 11.0	-1.0
SVOC	**Richmond Hill,**	**1.82**	**182**	*eP*	Pb	09 47 46.2	-0.4
SVOC				*eS*	Sg	09 48 11.5	-0.9
MBWH		**2.01**	**331**	*eP*	Pb	09 47 49.0	-0.8
MBWH				*eS*	Sb	09 48 13.8	-0.7
MBFL	**Flemmings, Mon**	**2.02**	**330**	*eP*	Pb	09 47 49.2	-0.9
MBFL				*eS*	Sb	09 48 14.3	-0.6
ANBD	**Bethesda, Anti**	**2.13**	**344**	*eP*	Pb	09 47 51.4	-0.4
ANBD				*eS*	Sb	09 48 17.8	-0.2
ANWB	**Willy Bob**	**2.73**	**348**	*eP*	Pn	09 47 59.5	+2.7
ANWB				*eS*	Sn	09 48 32.0	+2.6

---

*AFAD **26** 09:50:32.3, 35°.10N×27°.58E, h21km±1km, MW3.6*
*ATH **26** 09:50:34.9±0.3, 35°.19N×27°.89E, h10km, ML3.2/12, Manual Solution by N.Liadopoulou First location: 2019/04/26 09:51:28, This location: 2020/06/29 18:21:29 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*
*ISK **26** 09:50:35.1, 35°.25N×27°.78E, h9km, ML3.1/16*
**ISC 26 09:50:34.2±1.3, 35°.15N±0°.04×27°.84E±0°.03, h11km±10km, n47,

FETY	Fethiye	1.79	34	Pn	Pn	09 51 06.2	+1.0
SABU	Mula-Dalaman	1.91	28	P	Pn	09 51 06.8	0.0
SABU				S	Sg	09 51 38.3	+2.8
BDRM	Kayabasi	1.94	351	P	Pn	09 51 07.0	-0.2
BDRM				S	Sb	09 51 33.3	-0.5
BODT	Bodrum	1.96	348	Pn	Pn	09 51 07.8	+0.4
YER	Yerkesik	2.01	10	Pn	Pn	09 51 09.5	+1.2
MULA	Mugla, Merkez-	2.14	10	P	Pb	09 51 12.2	-0.9
MULA				S	Sg	09 51 42.5	-0.4
MLSB	Milas	2.14	359	Pn	Pn	09 51 10.4	+0.4
CAME	Cameli-Denizli	2.15	33	Pn	Pn	09 51 11.4	+1.2
ELL	Elmali	2.32	46	P	Pn	09 51 12.8	+0.3
DNZT	Denizli-Tavas-	2.33	24	P	Pn	09 51 13.7	+1.0
DNZT				S	Sg	09 51 50.2	+1.1
IDI	Anoyia	2.42	274	P	Pb	09 51 17.2	-0.6
IDI	Anoyia	2.42	274	P	Pn	09 51 15.0	+1.2
TAVA	DENİZLİ_Tavas	2.47	20	P	Pn	09 51 14.4	-0.2
TAVA				S	Sb	09 51 50.5	+1.3
AYDN	Tasoluk	2.51	1	P	Pn	09 51 15.3	+0.3
AYDN				S	Sb	09 51 51.2	+1.0
APMY	Acipayam-Deniz	2.60	27	Pn	Pn	09 51 17.5	+1.1
AYDB	Zeytinkoy-Aydi	2.79	1	Pn	Pn	09 51 19.7	+0.7
NAZL	Nazilli-Aydin	2.83	7	Pn	Pn	09 51 20.5	+1.0
GVD	Gavdhos	3.09	265	P	Pn	09 51 24.7	+1.7
ODEM	Odemis-Izmir	3.13	3	Pn	Pn	09 51 24.7	+1.1
IMMV	Iera Moni Meta	3.17	277	P	Pn	09 51 25.6	+1.5
KULA	Kula-Manisa	3.42	11	Pn	Pn	09 51 29.0	+1.3
AKMS	Akamas	3.69	91	P	Pn	09 51 31.3	0.0
GORD	Gordes-Manisa	3.76	4	Pn	Pn	09 51 33.4	+1.1
ANKY	Antikythira Is	3.77	282	P	Pn	09 51 34.4	+2.1
ALFC	Alefka	3.90	89	P	Pn	09 51 34.0	-0.2
NATA	Nata	3.91	94	P	Pn	09 51 34.2	-0.1
TROD	Troodos	4.13	91	P	Pn	09 51 37.1	-0.4
VLI	Veliai	4.27	293	P	Pn	09 51 40.3	+1.0
ASGA	Asgata	4.46	93	P	Pn	09 51 41.8	0.0
CSS	Mathiatis	4.51	91	P	Pn	09 51 42.9	+0.4

*SDD **26** 09:51:28.1±1.1, 19°.66N×70°.71W, h20km±11km, MD3.1, ML2.2, MW3.1*
*OSPL **26** 09:51:28.7±0.5, 19°.67N×70°.90W, h0km±6km, ML1.6*

ISC 26 09:51:28.3±1.4, 19°.64N±0°.05×70°.78W±0°.06, h18km±6km, n10, σ1°.04/17, 1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	Santiago de lo	0.22	167	*i* P	Pg	09 51 33.8	+0.3
SC01				*e*S	Sg	09 51 37.9	+0.9
SC01				IAML		09 51 40.6	
	comp=Z,92nm,0.3s						
LUDR	Luperon	0.30	327	*e*Pg	Pb	09 51 34.8	-0.4
LUDR				*e*Sg	Sb	09 51 39.7	-0.1
LUDR				IAML		09 51 43.1	
	comp=N,513nm,0.4s						
MADR	Mao Valverde	0.31	257	*e*Pg	Pg	09 51 35.0	0.0
MADR				*e*Sg	Sb	09 51 41.1	+1.0
MADR				IAML		09 51 41.9	
	comp=N,136nm,0.8s						
SDDR	Presa de Saban	0.81	216	*e*Pg	Pg	09 51 42.8	-1.4
SDDR				*e*Sg	Sg	09 51 54.6	-0.3
SDDR				IAML		09 51 54.9	
	comp=N,50nm,0.3s						
SDDR	Presa de Saban	0.81	216	*i* P	Pg	09 51 42.5	-1.6
SDDR				IAML		09 51 55.7	
	comp=Z,25nm,0.3s						
ABDR	Alto Bandera	0.83	170	*e*Pg	Pg	09 51 43.4	-1.2
ABDR				*e*Sg	Sg	09 51 54.8	-1.1
ABDR				IAML		09 51 55.9	
	comp=N,43nm,0.2s						
MCDR	Montecristi	0.86	287	*e*Pg	Pg	09 51 44.4	-0.8
MCDR				*e*Sg	Sb	09 51 57.2	+1.2
MCDR				IAML		09 52 00.9	
	comp=N,66nm,0.5s						
JIDR	Jimani	1.53	222	*e*Pg	Pn	09 51 55.0	+0.4
JIDR				*e*Sg	Sb	09 52 16.3	+1.2
JIDR				IAML		09 52 17.1	
	comp=N,40nm,0.8s						
PODR	Polo	1.54	198	*e*Pg	Pn	09 51 55.9	+0.8
PODR				IAML		09 52 54.0	
	comp=N,29nm,2.1s						
PODR	Polo	1.54	198	*i* P	Pn	09 51 55.9	+0.8

*ASRS **26** 09:55:18.0±0.8, 53°.66N×86°.83E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 09:55:19.8±3.0, 53°.75N×86°.99E, h0km, mbtmp2.6/2, ML2.0/2, Error ellipse: s-maj=27.6km s-min=16.5km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.30	280	I	I	10 04 10.0	
	0.1nm,0.6s,baz=98,slow=336,SNR=3.4						
ZALV	Zalesovo Beam	1.30	280	Pg	Pg	09 55 43.3	-1.4
	0.9nm,0.3s,baz=101,slow=16,SNR=5.3						
ZALV				Lg	Lg	09 56 01.8	
	1.2nm,0.3s,baz=101,slow=29,SNR=6.3						
KURBB	Kurchatov Arra	6.07	242	Pn	Pn	09 56 51.7	+1.0
	baz=56,slow=13,SNR=4.2						
	0.2nm,0.4s						
MKAR	Makanchi Array	7.58	205	Pn	Pn	09 57 12.9	+1.3
	baz=26,slow=13,SNR=1.3						
	0.2nm,0.3s						

*ASRS **26** 09:59:23.0±0.9, 53°.55N×87°.69E, h0km, M3.1, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **26** 09:59:25.4±0.8, 53°.56N×87°.68E, h0km, mb2.6, mpv2.4, Error ellipse: s-maj=5.3km s-min=3.4km az=71.0, Suspected Mining explosion.*
*IDC **26** 09:59:26.1±2.9, 53°.53N×87°.62E, h0km, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=24.0km s-min=14.2km az=63.0*

ISC 26 09:59:26.3±3.5, 53°.6N±0°.1×87°.6E±0°.2, h0km, n8, σ0°.84/9, 7C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.67	284	I	I	10 11 00.0	
	0.1nm,1.0s,baz=99,slow=327,SNR=4.7						
ZAA0	Zalesovo Array	1.67	284	⇑P	Pn	09 59 56.8	+0.1
	1.1nm,0.8s,baz=100,slow=15						
ZAA0				⇑S	Sb	10 00 20.2	+0.8
	4.1nm,0.8s,baz=102,slow=24						
ZALV	Zalesovo Beam	1.67	284	Pg	Pb	09 59 57.4	-0.4
	0.8nm,0.3s,baz=100,slow=17,SNR=16						
ZALV				Lg	Lg	10 00 21.3	
	1.9nm,0.3s,baz=104,slow=24,SNR=13						
KURK	Kurchatov	6.20	246	⇑Lg	Lg	10 02 44.1	
	12nm,1.1s,baz=36,slow=24						
KURBB	Kurchatov Arra	6.30	246	Pn	Pn	10 01 01.0	+0.7
	baz=62,slow=14,SNR=5.0						
KURBB				Sn	Sn	10 02 11.8	-1.1
	baz=64,slow=8.4,SNR=1.0						
KURBB				Lg	Lg	10 02 43.0	
	baz=63,slow=33,SNR=14						
	0.8nm,0.6s						
KURBB	Kurchatov Arra	6.30	246	⇑Lg	Lg	10 02 47.1	
	12nm,0.8s,baz=36,slow=24						
MK31	Makanchi Array	7.58	209	⇑Pn	Pn	10 01 17.3	-0.7
	0.2nm,0.4s,baz=26,slow=14,SNR=4.8						
MK31				⇑Sn	Sn	10 02 44.9	+0.4
	1.4nm,0.8s,baz=36,slow=24						
MK31				⇑Lg	Lg	10 03 26.7	
	3.5nm,0.9s						
MKAR	Makanchi Array	7.58	209	Pn	Pn	10 01 18.9	+0.9
	0.1nm,0.3s,baz=24,slow=11,SNR=5.5						
MKAR				Sn	Sn	10 02 44.0	-0.5
	0.1nm,0.3s,baz=29,slow=28,SNR=6.1						
MKAR				Lg	Lg	10 03 25.5	
	0.1nm,0.3s,baz=21,slow=32,SNR=6.8						
	0.4nm,0.6s						

*MEX **26** 10:04:04.5±0.4, 14°.00N×93°.20W, h16km±15km, MD4.1*
*GCG **26** 10:04:05.3±2.0, 13°.91N×92°.85W, h19km±13km, MD4.3, MW3.3*
*IDC **26** 10:04:19.6±8.6, 14°.76N×92°.30W, h108km±59km, mb3.0/3, mbtmp3.3/4, Error ellipse: s-maj=78.5km s-min=46.9km az=171.0*

ISC 26 10:04:03.5±2.2, 14°.07N±0°.06×92°.98W±0°.03, h9km±13km, n37, σ3°.06/55, mb3.4/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.09	39	*e*P	Pb	10 04 23.9	-0.6
THIG				*e*S	Sn	10 04 38.1	-2.0
THIG		1.09	39	*e*P	Pn	10 04 24.5	-0.5
SMCA	Catarina	1.18	48	*e*P	Pb	10 04 25.6	-0.4
PATR	El Naranjo	1.27	35	*e*P	Pb	10 04 26.7	-1.1
PATR				*i* S	Sn	10 04 44.1	-0.9
RTAL	Retalhuleu	1.33	70	*e*P	Pn	10 04 27.9	-0.3
RTAL				*e*S	Sg	10 04 46.2	-0.1
PAVE	Pavencul	1.36	35	*e*P	Pn	10 04 28.1	-0.9
PAVE				*e*S	Sg	10 04 47.0	-0.5
STG5	El Palmar, Qui	1.62	78	*e*P	Pn	10 04 29.9	-2.4
STG8	El Palmar, Qui	1.62	76	*i* P	Pn	10 04 30.5	-2.1
STG0	El Palmar, Qui	1.63	77	*i* P	Pn	10 04 30.7	-1.9
PCIG		1.65	352	*e*P	Pn	10 04 29.7	-3.0
PCIG				*i* S	Sn	10 04 51.6	-2.4
SOKI	Kika Raxquin	1.70	64	*e*P	Pn	10 04 34.1	+0.3
HUEH	Huehuetenango	1.90	49	*e*P	Pn	10 04 36.6	+0.3
HUEH				*i* S	Sn	10 04 57.1	-3.4
HUEH	Huehuetenango	1.90	49	*e*P	Pb	10 04 37.6	-0.9
CCIG	Comitan	2.35	20	*e*P	Pb	10 04 45.1	-1.1
CCIG				*i* S	Sb	10 05 13.0	-2.4
CCIG	Comitan	2.35	20	*e*P	Pb	10 04 45.5	-0.7
CCIG				*e*S	Sg	10 05 17.2	-1.9
FG8	Yepocapa, Chim	2.35	85	*e*P	Pn	10 04 37.4	-5.1
FG16	Alotenango, Sa	2.40	85	*e*P	Pn	10 04 39.2	-4.1
NUBE	Las Nubes	3.11	93	*i* P	Pn	10 04 53.4	+0.5
NUBE				*i* S	Sn	10 05 26.6	-3.7
UXUV	UXUV	3.42	341	*e*P	Pn	10 04 59.7	+2.6
UXUV				*i* S	Sn	10 05 34.1	-3.8
JAYA	Jayaque - finc	3.45	96	*e*P	Pn	10 04 57.2	-0.5
HUIG	Huatulco	3.47	300	*e*P	Pn	10 04 58.3	+0.6
HUIG				*e*S	Sn	10 05 33.2	-5.7
CMIG	Matias Romero	3.52	329	*e*P	Pn	10 04 59.5	+1.0
CMIG				*e*S	Sn	10 05 39.6	-0.8
PETF	Flores	4.13	46	*e*P	Pn	10 05 08.4	+1.6
PEIG	Puerto Escondi	4.46	296	*e*P	Pn	10 05 12.6	+1.2
PEIG				*e*S	Sn	10 05 57.2	-6.4
NEUV	Arroyo Zacate	4.53	324	*e*P	Pn	10 05 09.4	-3.0
NEUV				*e*S	Sn	10 06 01.3	-4.0
YOIG	Yosondua	5.21	303	*e*P	Pn	10 05 23.6	+1.7
YOIG				*e*S	Sn	10 06 18.8	-3.4
PNIG	Pinotepa	5.48	296	*e*P	Pn	10 05 27.0	+1.6
PNIG				*e*S	Sn	10 06 22.1	-6.7
TXIG	Tlaxiaco	5.60	305	*e*P	Pn	10 05 28.4	+1.1
TXIG				*e*S	Sn	10 06 25.2	-6.7
TOIG	Toxpalan	5.61	316	*e*P	Pn	10 05 28.4	+1.1
TOIG				*e*S	Sn	10 06 23.2	-8.8
MGIG	Malinaltepec	6.29	301	*e*P	Pn	10 05 39.6	+2.9
JAUV	Jalcomulco	6.42	326	*e*P	Pn	10 05 37.7	-0.7
JAUV				*e*S	Sn	10 06 48.0	-3.9
TEIG	Tepich	7.60	36	P	Pn	10 05 54.9	+0.4
	0.2nm,0.6s,baz=230,slow=20,SNR=19						
TEIG				S	Sn	10 07 09.5	-11
	0.1nm,0.6s,baz=21,slow=24,SNR=1.3						
TXAR	Lajitas Array	18.13	329	P	P	10 08 22.0	+5.8
	0.5nm,0.8s,baz=156,slow=12,SNR=6.4						
NVAR	Mina Array Bea	33.03	322	P	P	10 10 43.3	+3.8
	0.3nm,0.6s,baz=133,slow=4.8,SNR=1.3						
	0.3nm,0.6s						
YKA	Yellowknife Ar	50.75	347	P	P	10 13 04.7	+1.1
	0.7nm,0.8s,baz=152,slow=7.6,SNR=11						
	0.7nm,0.8s						
ILAR	Eielson Array	62.41	337	P	P	10 14 27.9	+1.3
	0.2nm,0.8s,baz=129,slow=7.1,SNR=1.7						
	0.2nm,0.8s						
CMAR	Chiang Mai Arr	145.61	340	PKPbc	PKPab	10 23 44.1	+0.3
	0.4nm,0.3s,baz=30,slow=2.4,SNR=4.1						

*IDC **26** 10:07:14.5±0.8, 9°.69N×126°.69E, h0km, mb3.8/13, mbtmp3.9/15, ML4.0/2, MS3.3/7, Error ellipse: s-maj=28.0km s-min=13.3km az=94.0*

ISC 26 10:07:20.3±0.7, 9°.65N±0°.09×126°.6E±0°.2, h43km, n25, σ1°.50/16, mb3.8/13, MS3.4/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.76	202	Pn	Pn	10 08 00.4	-1.7
	33nm,0.3s,baz=57,slow=4.1,SNR=1.7						
DAV				Lg	Lg	10 08 44.1	
	46nm,0.3s,baz=284,slow=23,SNR=7.0						
DAV				LR	LR	10 09 15.2	
	comp=Z,549nm,20.3s,baz=22,slow=43						
	107nm,0.3s						
JOW	Kunigami	17.16	5	P	Pn	10 11 13.9	-3.2
	0.8nm,0.3s,baz=140,slow=5.2,SNR=3.6						
JOW				LR	LR	10 18 10.0	
	comp=Z,37nm,19.6s,baz=255,slow=38						
	26nm,0.9s						
GUMO	Guam	18.29	76	LR	LR	10 17 07.1	
	comp=Z,60nm,21.7s,baz=90,slow=32						
JCJ	Chichijima	22.74	38	LR	LR	10 22 26.5	
	comp=Z,25nm,18.1s,baz=112,slow=40						
CMAR	Chiang Mai Arr	28.22	291	P	P	10 13 08.7	-0.6
	0.4nm,0.3s,baz=93,slow=12,SNR=1.2						
	0.4nm,0.3s						
MJAR	Matsushiro Arr	28.76	20	P	P	10 13 12.0	-2.0
	0.6nm,0.4s,baz=187,slow=9.4,SNR=4.4						
MJAR				LR	LR	10 24 25.7	
	comp=Z,35nm,19.4s,baz=159,slow=36						
	0.6nm,0.4s						
WRA	Warramunga Arr	30.37	166	P	P	10 13 28.8	+0.4
	0.3nm,0.5s,baz=344,slow=8.8,SNR=1.6						
	0.3nm,0.5s						
ASAR	Alice Springs	33.86	168	P	P	10 13 59.2	+0.3
	0.2nm,0.5s,baz=347,slow=8.0,SNR=7.8						
ASAR				PcP	PcP	10 16 38.6	+1.4
	0.3nm,0.7s,baz=332,slow=2.2,SNR=4.7						
	0.2nm,0.5s						
H11S3	WAKE ISLAND Hy	39.76	73	T	T	10 57 48.7	
	baz=262,slow=70,SNR=3.9						
H11S1	WAKE ISLAND Hy	39.77	73	T	T	10 57 51.4	
	baz=262,slow=70,SNR=4.1						
H11S2	WAKE ISLAND Hy	39.78	73	T	T	10 57 50.4	
	baz=262,slow=70,SNR=5.0						
H11N1	WAKE ISLAND Hy	40.12	71	T	T	10 58 14.7	
	baz=265,slow=74,SNR=5.4						
H11N2	WAKE ISLAND Hy	40.13	71	T	T	10 58 10.8	
	baz=265,slow=74,SNR=7.4						
H11N3	WAKE ISLAND Hy	40.14	71	T	T	10 58 24.2	
	baz=265,slow=74,SNR=5.1						
SONM	Songino Array	41.72	340	P	P	10 15 07.0	+1.8
	0.6nm,0.5s,baz=157,slow=8.3,SNR=4.2						
	0.6nm,0.5s						
STKA	Stephens Creek	43.70	161	LR	LR	10 39 32.3	
	comp=Z,158nm,18.7s,baz=197,slow=44						
MKAR	Makanchi Array	52.73	323	P	P	10 16 31.3	+0.4
	0.7nm,0.6s,baz=116,slow=8.7,SNR=7.4						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	56.78	325	P	P	10 17 00.3	+0.3
	0.7nm,0.6s,baz=126,slow=6.9,SNR=6.9						
	0.7nm,0.6s						
BVAR	Borovoye Array	62.38	325	P	P	10 17 39.0	+0.4
	0.5nm,0.5s,baz=111,slow=8.2,SNR=2.3						
	0.5nm,0.5s						
NRIK	Noril'sk	64.70	346	P	P	10 17 54.4	+0.8
	2.7nm,0.7s,baz=130,slow=5.2,SNR=5.7						
	2.7nm,0.7s						
ARTI	Arti	70.03	327	LR	LR	10 53 23.8	
	comp=Z,44nm,19.4s,baz=354,slow=40						
ILAR	Eielson Array	79.84	26	P	P	10 19 23.5	-0.6
	0.1nm,0.6s,baz=288,slow=4.5,SNR=5.2						
	0.1nm,0.6s						
ARCES	ARCESS Array B	84.90	340	P	P	10 19 50.1	-0.2
	1.6nm,0.7s,baz=74,slow=5.0,SNR=8.3						
	1.6nm,0.7s						
FINES	FINESS Array B	86.60	332	P	P	10 19 59.6	+0.7
	1.5nm,0.7s,baz=79,slow=4.5,SNR=5.6						
	1.5nm,0.7s						
YKA	Yellowknife Ar	94.18	24	P	P	10 20 36.5	+2.1
	0.2nm,0.5s,baz=303,slow=4.4,SNR=5.0						
	0.2nm,0.5s						

*IDC **26** 10:09:33.2±0.7, 26°.70S×114°.38W, h0km, mb4.1/10, mbtmp4.0/10, MS3.9/21, Error ellipse: s-maj=32.7km s-min=19.7km az=75.0*
*NEIC **26** 10:09:36.0±1.4, 26°.7S±0°.1×114°.4W±0°.1, h10km±2km, mb4.6/71, Error ellipse: s-maj=24.1km s-min=20.3km az=204.0*

ISC 26 10:09:35.6±0.6, 26°.7S±0°.1×114°.4W±0°.1, h14km, n113, σ0°.95/63, mb4.6/44, MS3.8/21, 3C-1D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	Isla de Pascua	4.44	97	Pn	Pn	10 10 43.3	+0.7
RKT	Rikitea	19.01	276	*e*LR	LR	10 18 22.2	
	1μm,28.2s						
TAOE	Nuku Hiva Isla	30.17	301	*e*LR	LR	10 23 31.2	
	324nm,24.3s						
H03N2	Juan Fernandez	31.30	111	T	T	10 48 34.3	
	baz=277,slow=74,SNR=1630						
H03N3	Juan Fernandez	31.31	111	T	T	10 48 33.0	
	baz=277,slow=74,SNR=3394						
H03N1	Juan Fernandez	31.32	111	T	T	10 48 35.3	
	baz=277,slow=74,SNR=2484						
TBI	Tubuai	31.90	268	*e*LR	LR	10 24 11.1	
	1μm,26.2s						
TBI				*e*LR	LR	10 24 14.7	
	1μm,29.0s						
PPT2	Papeete2	33.74	278	*e*LR	LR	10 25 06.9	
	279nm,23.8s						
PPT2				*e*LR	LR	10 25 07.5	
	249nm,24.8s						
PPT	Papeete	33.75	278	LR	LR	10 26 43.4	
	comp=Z,141nm,19.4s,baz=110,slow=30						
LR05	Currie	37.50	122		P	10 16 47.4	-1.6
LR05				IAmb	IAmb	10 16 56.9	
	comp=Z,14nm,1.2s						
NNA	Nana	38.16	75	LR	LR	10 28 44.6	
	comp=Z,144nm,18.3s,baz=240,slow=30						
PLCA	Paso Flores	38.66	123		P	10 16 59.3	+0.4
PLCA				IAmb	IAmb	10 17 02.2	
	comp=Z,18nm,1.4s						
PLCA	Paso Flores	38.66	123	P	P	10 16 59.1	+0.2
	comp=Z,4.1nm,0.9s,baz=269,slow=8.1,SNR=6.8						
	comp=Z,4.1nm,0.9s						
ATAH	Atahualpa	39.33	67	LR	LR	10 28 59.4	
	comp=Z,290nm,21.8s,baz=242,slow=30						
RAR	Rarotonga	41.67	267	LR	LR	10 29 17.1	
	comp=Z,112nm,22.0s,baz=62,slow=28						
CZSB	Cruzeiro do Su	43.78	72	P	P	10 17 40.4	-0.9
CZSB				IAmb	IAmb	10 17 43.5	
	comp=Z,11nm,1.1s						
LPAZ	La Paz	44.05	86		P	10 17 43.8	-0.3
LPAZ	La Paz	44.05	86	P	P	10 17 43.5	-0.6
	comp=Z,2.3nm,1.0s,baz=245,slow=4.9,SNR=4.2						
LPAZ				LR	LR	10 31 52.5	
	comp=Z,110nm,20.3s,baz=249,slow=30						
	comp=Z,2.3nm,1.0s						
JTS	Las Juntas de	46.56	42	LR	LR	10 32 29.5	
	comp=Z,199nm,20.5s,baz=218,slow=30						
ROSC	El Rosal	49.84	57	LR	LR	10 34 56.6	
	comp=Z,191nm,19.5s,baz=212,slow=31						
SIV	San Ignacio	50.47	89	LR	LR	10 35 43.3	
	comp=Z,124nm,20.2s,baz=274,slow=31						
RUSC	La Rusia	51.46	57	P	P	10 18 42.1	+0.7
RUSC				IAmb	IAmb	10 18 49.0	
	comp=Z,8.8nm,1.0s						
TEIG	Tepich	53.06	31	P	P	10 18 51.4	-1.1
SDV	Santo Domingo	55.24	56	P	P	10 19 09.8	+1.0
SDV	Santo Domingo	55.24	56	LR	LR	10 38 19.3	
	comp=Z,194nm,20.5s,baz=252,slow=31						
HBVL	Hebbronville	55.54	17		P	10 19 11.8	+1.3
TX31	Lajitas Ar. Si	56.64	11	P	P	10 19 19.1	+0.6
TXAR	Lajitas Array	56.64	11	P	P	10 19 19.3	+0.8
TXAR	Lajitas Array	56.64	11	P	P	10 19 18.8	+0.3
	comp=Z,0.5nm,0.9s,baz=198,slow=7.9,SNR=6.5						
	comp=Z,0.5nm,0.9s						
BAUV	El Baul	57.23	58		P	10 19 22.5	-0.3
SAND	Sanderson	57.53	13		P	10 19 25.9	+1.2
HNDO	Hondo	57.74	16	P	P	10 19 26.4	+0.2
HNDO				IAmb	IAmb	10 19 36.8	
	comp=Z,4.0nm,0.8s						
URZ	Urewera	57.76	240	LR	LR	10 38 44.2	
	comp=Z,238nm,19.9s,baz=236,slow=30						
VHRN	Van Horn	57.85	10		P	10 19 27.5	+0.4
319A	Douglas	57.94	5	P	P	10 19 29.4	+1.7
319A				IAmb	IAmb	10 19 37.2	
	comp=Z,8.0nm,1.2s						
JCT	Junction City	58.53	15	P	P	10 19 32.6	+0.9
MNHN	Monahans	58.76	12	P	P	10 19 33.8	+0.5
MNHN				IAmb	IAmb	10 19 43.7	
	comp=Z,5.9nm,1.2s						
HKT	Hockley	59.05	19	P	P	10 19 35.2	0.0
DUN6	Lazy B Ranch	59.13	5	P	P	10 19 37.0	+1.1
113A	Mohawk Valley,	59.13	1		P	10 19 37.3	+1.6
113A				IAmb	IAmb	10 19 43.8	
	comp=Z,8.3nm,1.4s						
435B	Jarrell	59.36	17	P	P	10 19 39.3	+1.9
BRDY	Brady	59.49	15		P	10 19 38.8	+0.5
BRDY				IAmb	IAmb	10 19 50.7	
	comp=Z,6.6nm,1.2s						
ODSA	Odessa	59.56	12	P	P	10 19 38.8	0.0
SGCY	Sterling City	59.63	13	P	P	10 19 40.0	+0.6
HTMS	Hat Mesa	59.71	11	P	P	10 19 40.2	+0.3
SNCC	San Nicolas Is	59.80	355	P	P	10 19 41.4	+0.9
Y14A	Wickenburg	60.31	1	P	P	10 19 45.6	+1.7
Y14A				IAmb	IAmb	10 19 48.3	
	comp=Z,6.6nm,1.5s						
X18A	Snowflake	61.03	4	P	P	10 19 50.5	+1.5
X18A				IAmb	IAmb	10 19 51.3	
	comp=Z,3.9nm,0.9s						
APMT	Aspermont	61.20	14		P	10 19 50.7	+0.7
RPZ	Rata Peaks	61.30	233	LR	LR	10 42 51.1	
	comp=Z,112nm,18.8s,baz=148,slow=33						
MSTX	Muleshoe	61.32	11	P	P	10 19 49.9	-1.0
GSC	Goldstone, Bar	61.70	358	IAmb	IAmb	10 19 55.7	
	comp=Z,3.4nm,0.9s						
ANMO	Albuquerque	61.75	7	LR	LR	10 42 10.8	
	comp=Z,52nm,18.7s,baz=354,slow=32						
BELA	Belgrano 2	61.95	166	P	P	10 19 55.8	+1.2
BELA				IAmb	IAmb	10 19 57.0	
	comp=Z,6.1nm,1.0s						
BDFB	Brasilia	62.27	94	LR	LR	10 45 33.4	
	comp=Z,55nm,18.7s,baz=242,slow=35						
GWY	Greenwater Val	62.57	358	IAmb	IAmb	10 20 03.1	
	comp=Z,6.3nm,1.2s						
VNDA	Vanda	62.80	194	LR	LR	10 40 15.6	
	comp=

comp=Z,0.8nm,0.7s,baz=159,slow=7.1,SNR=8.2
comp=Z,0.8nm,0.7s
VNA3 Neumayer Olymp 69.56 160 ⇑P **P 10 20 44.6 +0.9**
comp=Z,5.2nm,0.8s
J08A Circle Bar Ran 69.80 357 IAmb IAmb 10 20 48.0
comp=Z,3.4nm,0.8s
HLID Hailey 69.90 360 IAmb IAmb 10 20 48.3
comp=Z,4.1nm,0.9s
FXWY Fox Creek 70.05 3 P **P 10 20 47.1 -0.1**
FXWY IAmb IAmb 10 20 54.2
comp=Z,6.4nm,1.4s
MOOW Moose Ponds 70.17 3 P **P 10 20 48.1 +0.2**
VNA2 Neumayer--Watz 70.37 160 ⇑P **P 10 20 48.6 -0.1**
comp=Z,4.0nm,0.8s,baz=318,slow=8.7
PINE Pine Mountain 70.39 355 IAmb IAmb 10 20 51.6
comp=Z,5.7nm,0.9s
I07A Izee 70.58 356 IAmb IAmb 10 20 52.7
comp=Z,4.2nm,1.0s
DZM Mont Dzumac 71.17 254 *e*LR LR 10 42 22.7
comp=Z,156nm,24.1s
DZM Mont Dzumac 71.17 254 LR LR 10 44 01.9
comp=Z,89nm,21.0s,baz=189,slow=29
YHL Hebgen Lake 71.25 2 P **P 10 20 55.6 +1.0**
SNAA Sanae 71.35 162 ⇑P **P 10 20 53.7 -1.0**
comp=Z,51nm,1.0s
SNAA Sanae 71.35 162 P **P 10 20 53.6 -1.1**
comp=Z,2.3nm,1.0s,baz=259,slow=7.6,SNR=3.7
comp=Z,2.3nm,1.0s
PLID Pearl Lake 71.44 359 IAmb IAmb 10 20 57.0
comp=Z,4.3nm,1.1s
G08A Pilot Rock 71.75 357 IAmb IAmb 10 20 59.7
comp=Z,5.7nm,0.9s
RCBR Riachuelo 77.12 90 LR LR 10 51 19.5
comp=Z,30nm,19.1s,baz=243,slow=32
ELIB Princess Elisa 77.41 168 *d*P **P 10 21 31.4 +1.3**
comp=Z,3.0nm,1.1s
H11S2 WAKE ISLAND Hy 88.71 291 T T 12 00 46.0
baz=119,slow=75,SNR=57
H11S1 WAKE ISLAND Hy 88.73 291 T T 12 00 46.1
baz=119,slow=75,SNR=212
H11S3 WAKE ISLAND Hy 88.73 291 T T 12 00 50.7
baz=119,slow=75,SNR=66
YKA Yellowknife Ar 88.87 360 P **P 10 22 29.0 +0.2**
comp=Z,0.7nm,0.8s,baz=183,slow=5.0,SNR=9.9
comp=Z,0.7nm,0.8s
H11N3 WAKE ISLAND Hy 89.13 292 T T 12 01 18.2
baz=115,slow=79,SNR=12
H11N1 WAKE ISLAND Hy 89.14 292 T T 12 01 24.8
baz=115,slow=79,SNR=30
H11N2 WAKE ISLAND Hy 89.14 292 T T 12 01 21.6
baz=115,slow=79,SNR=14
KTH Kantishna Hill 94.45 344 **P 10 22 54.6 -0.2**
ILAR Eielson Array 94.60 347 P **P 10 22 55.0 -0.3**
comp=Z,0.7nm,1.0s,baz=192,slow=4.3,SNR=5.1
comp=Z,0.7nm,1.0s
BMAR Burnt Mountain 96.52 349 P **P 10 23 04.9 +0.8**
WRA Warramunga Arr 98.86 243 P **P 10 23 14.7 -1.2**
comp=Z,0.6nm,0.9s,baz=143,slow=3.7,SNR=2.9
comp=Z,0.6nm,0.9s
SONM Songino Array 141.87 315 PKhKP PKPpre 10 29 00.5
comp=Z,0.4nm,0.4s,baz=122,slow=1.9,SNR=2.0
CMAR Chiang Mai Arr 148.23 262 PKPbc **PKPbc 10 29 21.6 -0.3**
comp=Z,1.0nm,0.5s,baz=116,slow=2.1,SNR=9.2
ZALV Zalesovo Beam 149.29 338 PKPbc **PKPbc 10 29 22.8 -0.8**
comp=Z,1.4nm,0.6s,baz=30,slow=3.4,SNR=5.9
ARTI Arti 149.87 8 PKPbc **PKPbc 10 29 23.4 -1.5**
comp=Z,4.0nm,0.6s,baz=74,slow=2.1,SNR=5.0
BRTR Keskin Array B 150.42 56 PKPbc **PKPbc 10 29 26.1 -0.9**
comp=Z,3.1nm,1.0s,baz=208,slow=2.4,SNR=8.2
KURBB Kurchatov Arra 154.14 341 PKPbc **PKPbc 10 29 34.2 -0.6**
comp=Z,0.3nm,0.6s,baz=5.2,slow=2.5,SNR=2.3
MKAR Makanchi Array 155.98 331 PKPbc PKPdf 10 29 37.1 +7.7
comp=Z,0.3nm,0.7s,baz=288,slow=1.4,SNR=2.3

---

*IDC **26** 10:16:32.1±1.2,29.°80S×177.°71W,h0km,mb4.0/4, mbtmp4.0/5,ML3.1/1,Error ellipse: s-maj=33.6km s-min=32.6km az=82.0*

ISC 26 10:16:37.4±1.2,29.°9S±0.°2×177.°7W±0.°2,h35km,n18, σ0.°76/10,mb3.9/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.39**	**206**	Pn	**Pn**	**10 18 49.8**	**-0.3**
	0.2nm,0.3s,baz=242,slow=11,SNR=1.4						
URZ				Sn	Sn	10 20 22.5	-12
	1.5nm,0.3s,baz=160,slow=19,SNR=12						
	7.4nm,0.9s						
STKA	**Stephens Creek**	**34.83**	**256**	P	**P**	**10 23 26.4**	**+1.2**
	2.9nm,0.6s,baz=47,slow=5.4,SNR=5.1						
	2.9nm,0.6s						
ASAR	**Alice Springs**	**43.38**	**266**	P	**P**	**10 24 36.5**	**-0.2**
	1.0nm,0.8s,baz=106,slow=7.5,SNR=11						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**44.32**	**271**	P	**P**	**10 24 43.1**	**-1.2**
	1.7nm,0.7s,baz=110,slow=7.9,SNR=9.6						
	1.7nm,0.7s						
QSPA	**South Pole Qui**	**60.23**	**180**	P	**P**	**10 26 42.0**	**+0.2**
	0.8nm,0.8s,baz=36,slow=0.7,SNR=10						
	0.8nm,0.8s						
H03S2	**Juan Fernandez**	**80.55**	**124**	T	T	11 57 56.7	
	baz=238,slow=74,SNR=4.1						
H03S1	**Juan Fernandez**	**80.56**	**124**	T	T	11 57 56.7	
	baz=238,slow=74,SNR=3.5						
H03S3	**Juan Fernandez**	**80.57**	**123**	T	T	11 57 59.5	
	baz=238,slow=74,SNR=3.9						
KURBB	**Kurchatov Arra**	**120.90**	**314**	PKP	**PKPdf**	**10 35 25.1**	**-0.5**
	0.5nm,0.2s,baz=73,slow=0.9,SNR=1.6						
BVAR	**Borovoye Array**	**126.20**	**316**	PKP	**PKiKP**	**10 35 36.6**	**+0.4**
	0.5nm,0.6s,baz=135,slow=0.8,SNR=1.3						
H10S3	**ASCENSION HYDR**	**138.09**	**154**	T	T	13 10 16.1	
	baz=15,slow=74,SNR=3.9						
H10S2	**ASCENSION HYDR**	**138.09**	**154**	T	T	13 10 18.7	
	baz=205,slow=74,SNR=4.0						
H10N3	**ASCENSION HYDR**	**139.17**	**154**	T	T	13 11 34.3	
	baz=202,slow=75,SNR=7.1						
H10N1	**ASCENSION HYDR**	**139.17**	**154**	T	T	13 11 33.5	
	baz=202,slow=75,SNR=7.1						
H10N2	**ASCENSION HYDR**	**139.19**	**154**	T	T	13 11 33.7	
	baz=202,slow=75,SNR=7.5						
FINES	**FINESS Array B**	**144.74**	**340**	PKP	**PKPdf**	**10 36 10.1**	**+0.3**
	1.7nm,0.7s,baz=46,slow=6.4,SNR=5.9						
HFS	**Hagfors**	**148.78**	**349**	PKPbc	**PKPbc**	**10 36 20.8**	**+0.2**
	1.0nm,0.8s,baz=321,slow=2.0,SNR=2.1						
AKASG	**Malin Array Be**	**151.03**	**323**	PKPbc	**PKPbc**	**10 36 25.7**	**-0.6**
	0.6nm,0.5s,baz=47,slow=3.6,SNR=4.1						

IDC 26 10:23:58.0±3.8,9.°25N×127.°02E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=293.7km s-min=29.3km az=66.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.89**	**166**	P	P	10 30 08.8	+1.2
	0.3nm,0.7s,baz=347,slow=9.9,SNR=1.4						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**33.40**	**168**	P	P	10 30 37.5	-1.0
	0.1nm,0.5s,baz=350,slow=7.2,SNR=6.3						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**53.29**	**323**	P	P	10 33 18.7	-0.1
	0.3nm,0.5s,baz=120,slow=8.6,SNR=4.0						
	0.3nm,0.5s						

---

*IDC **26** 10:24:44.2±2.0,30.°55S×178.°68W,h0km,mb3.9/3, mbtmp3.9/4,ML3.6/1,MS3.3/2,Error ellipse: s-maj=50.9km s-min=32.1km az=52.0*
*NEIC **26** 10:24:45.3±1.1,30.°9S±0.°1×178.°67W±0.°05,h10km±2km, mb4.2/6,Error ellipse: s-maj=24.3km s-min=7.9km az=2.0*

ISC 26 10:24:46.7±0.8,30.°64S±0.°07×179.°1W±0.°1,h10km,n41, σ1.°82/35,mb4.0/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.71**	**37**	P	**Pg**	**10 25 18.0**	**-1.5**
GLKZ				S	**Sg**	**10 25 45.0**	**+3.4**
WMGZ	**Waiomatatini S**	**7.46**	**195**	P	**Pn**	**10 26 33.9**	**-1.6**
HAZ	**Te Kaha**	**7.56**	**199**	P	**Pn**	**10 26 35.6**	**-1.3**
PKGZ	**Pakihiroa**	**7.58**	**197**	P	**Pn**	**10 26 37.9**	**+0.7**
PKGZ				S	**Sn**	**10 28 03.3**	**0.0**
WCZ	**Waipu Caves**	**7.62**	**224**	P	**Pn**	**10 26 38.6**	**+0.8**
OUZ	**Omahuta**	**7.65**	**231**	P	**Pn**	**10 26 39.6**	**+1.3**
OUZ				S	**Sn**	**10 28 03.3**	**-1.7**
PUZ	**Puketiti**	**7.73**	**196**	P	**Pn**	**10 26 38.0**	**-1.4**
PUZ				S	**Sn**	**10 28 10.0**	**+3.0**
RUGZ	**Raukumara Rang**	**7.78**	**199**	P	**Pn**	**10 26 42.0**	**+1.9**
CNGZ	**Carnagh Statio**	**8.14**	**195**	P	**Pn**	**10 26 45.8**	**+0.9**
CNGZ				S	**Sn**	**10 28 21.7**	**+4.8**
MWZ	**Matawai**	**8.17**	**199**	P	**Pn**	**10 26 45.2**	**-0.1**
URZ	**Urewera**	**8.22**	**201**	Pn	**Pn**	**10 26 47.1**	**+1.0**
	0.8nm,0.3s,baz=25,slow=3.4,SNR=7.0						
URZ				Sn	**Sn**	**10 28 19.5**	**+0.5**
	baz=314,slow=20						
	7.8nm,0.7s						
URZ	**Urewera**	**8.22**	**201**	P	**Pn**	**10 26 47.2**	**+1.2**
URZ				S	**Sn**	**10 28 19.6**	**+0.6**
RIGZ	**Rimuhau**	**8.46**	**197**	P	**Pn**	**10 26 50.9**	**+1.6**
RTZ	**Ruatahuna**	**8.59**	**201**	Pn	**Pn**	**10 26 49.6**	**-1.6**
SNGZ	**Shannon Statio**	**8.64**	**199**	P	**Pn**	**10 26 51.6**	**-0.2**
BKZ	**Black Stump Fm**	**9.25**	**202**	Pn	**Pn**	**10 26 56.8**	**-3.4**
MSVF	**Nonsavu**	**13.10**	**348**	LR	LR	10 32 01.8	
	comp=Z,135nm,19.3s,baz=203,slow=33						
DZM	**Mont Dzumac**	**15.50**	**300**	LR	LR	10 33 20.4	
	comp=Z,120nm,18.7s,baz=194,slow=33						
AS31	**Alice Springs**	**42.15**	**268**	P	**P**	**10 32 39.6**	**0.0**
ASAR	**Alice Springs**	**42.15**	**268**	P	**P**	**10 32 39.7**	**+0.1**
ASAR	**Alice Springs**	**42.15**	**268**	P	**P**	**10 32 41.5**	**+1.9**
	0.9nm,0.7s,baz=99,slow=7.4,SNR=10						
	0.9nm,0.7s						
WR8	**Warramunga Arr**	**43.02**	**273**	P	**P**	**10 32 47.5**	**+0.9**
WR8				IAmb	IAmb	10 32 56.7	
	comp=Z,3.9nm,1.1s						
WRA	**Warramunga Arr**	**43.16**	**273**	P	**P**	**10 32 49.6**	**+1.8**
	comp=Z,1.8nm,0.7s,baz=114,slow=7.5,SNR=9.2						
	comp=Z,1.8nm,0.7s						
WB0	**Warramunga Arr**	**43.18**	**273**	P	**P**	**10 32 49.2**	**+1.2**
WB0				IAmb	IAmb	10 33 12.5	
	comp=Z,11nm,1.4s						
KNRA	**Kununurra**	**49.78**	**275**	P	**P**	**10 33 40.4**	**+0.6**
KNRA				IAmb	IAmb	10 34 05.5	
	comp=Z,9.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.41**	**271**	P	**P**	**10 33 52.8**	**+0.7**
FITZ				IAmb	IAmb	10 33 56.3	
	comp=Z,1.1nm,1.0s						
QSPA	**South Pole Qui**	**59.48**	**180**	P	**P**	**10 34 46.5**	**-3.2**
QSPA	**South Pole Qui**	**59.48**	**180**	P	**P**	**10 34 49.7**	**0.0**
	comp=Z,1.0nm,0.8s,baz=35,slow=6.6,SNR=6.5						
	comp=Z,1.0nm,0.8s						
H03S2	**Juan Fernandez**	**81.12**	**124**	T	T	12 06 04.5	
	baz=237,slow=74,SNR=9.1						
H03S1	**Juan Fernandez**	**81.13**	**124**	T	T	12 06 06.6	
	baz=237,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**81.14**	**124**	T	T	12 06 05.0	
	baz=237,slow=74,SNR=14						
H03N3	**Juan Fernandez**	**81.32**	**124**	T	T	12 06 17.4	
	baz=241,slow=74						
H03N2	**Juan Fernandez**	**81.32**	**124**	T	T	12 06 14.1	
	baz=241						
H03N1	**Juan Fernandez**	**81.34**	**124**	T	T	12 06 13.1	
	baz=241,slow=74						
H10S2	**ASCENSION HYDR**	**137.90**	**157**	T	T	13 18 01.3	
	baz=203						
H10S3	**ASCENSION HYDR**	**137.90**	**157**	T	T	13 18 01.8	
	baz=17						
H10N3	**ASCENSION HYDR**	**138.99**	**156**	T	T	13 19 24.9	
	baz=202,slow=76,SNR=8.1						
H10N1	**ASCENSION HYDR**	**138.99**	**156**	T	T	13 19 25.1	
	baz=202,slow=76,SNR=9.1						
H10N2	**ASCENSION HYDR**	**139.01**	**156**	T	T	13 19 26.2	
	baz=202,slow=76,SNR=9.4						
FINES	**FINESS Array B**	**145.03**	**339**	PKPbc	**PKPbc**	**10 44 21.2**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=45,slow=2.8,SNR=1.6						
TORD	**Torodi Ar. Bea**	**162.58**	**183**	PKPab	**PKPab**	**10 45 36.3**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=172,slow=4.7,SNR=2.5						

---

*IDC **26** 10:53:33.5±0.9,11.°83N×143.°38E,h0km,mb3.9/10, mbtmp3.9/11,ML3.7/1,Error ellipse: s-maj=29.8km s-min=18.5km az=113.0*
*NEIC **26** 10:53:36.2±1.0,11.°7N±0.°1×143.°6E±0.°2,h10km±1km, mb4.5/34,Error ellipse: s-maj=33.3km s-min=13.6km az=118.0*

ISC 26 10:53:39.2±0.7,11.°7N±0.°1×143.°5E±0.°1,h37km,n54, σ1.°04/52,mb4.3/27,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.30**	**37**	Pn	**Pn**	**10 54 13.4**	**-1.1**
GUMO				Sn	**Sn**	**10 54 40.9**	**-0.6**
GUMO	**Guam**	**2.30**	**37**	Pn	**Pn**	**10 54 13.4**	**-1.1**
	19nm,0.3s,baz=308,slow=3.9,SNR=11						
GUMO				Sn	**Sn**	**10 54 42.0**	**+0.5**
	29nm,0.3s,baz=120,slow=22,SNR=8.8						
	44nm,0.3s						
JOW	**Kunigami**	**20.72**	**319**	P	Pn	10 58 17.9	-1.0
JOW				IAmb	IAmb	10 58 22.1	
	comp=Z,23nm,1.1s						
YOJ	**Yonaguni jima**	**23.14**	**306**	P	**P**	**10 58 42.9**	**+0.6**
H11N1	**WAKE ISLAND Hy**	**23.89**	**68**	T	T	11 23 46.9	
	baz=255,slow=74,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**23.90**	**68**	T	T	11 23 44.5	
	baz=255,slow=74,SNR=2.9						
H11N3	**WAKE ISLAND Hy**	**23.91**	**68**	T	T	11 23 46.0	
	baz=255,slow=74,SNR=3.3						
KNRA	**Kununurra**	**30.88**	**208**	P	**P**	**10 59 51.3**	**-1.0**
WB0	**Warramunga Arr**	**32.56**	**196**	P	**P**	**11 00 05.9**	**-1.2**
WB0				IAmb	IAmb	11 00 12.4	
	comp=Z,6.7nm,1.1s						
WR8	**Warramunga Arr**	**32.71**	**196**	P	**P**	**11 00 08.4**	**+0.1**
WRA	**Warramunga Arr**	**32.74**	**196**	P	**P**	**11 00 08.4**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=20,slow=9.9,SNR=7.1						
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**36.41**	**195**	P	**P**	**11 00 38.1**	**-2.3**
ASAR	**Alice Springs**	**36.41**	**195**	P	**P**	**11 00 38.6**	**-1.8**
ASAR	**Alice Springs**	**36.41**	**195**	P	**P**	**11 00 40.6**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=18,slow=12,SNR=4.3						
	comp=Z,0.4nm,0.9s						
PSA00	**Pilbara Seismi**	**40.42**	**215**	P	**P**	**11 01 14.7**	**+0.6**
PSA00	**Pilbara Seismi**	**40.42**	**215**	P	**P**	**11 01 14.4**	**+0.4**
PSA00	**Pilbara Seismi**	**40.42**	**215**	P	**P**	**11 01 14.8**	**+0.8**
MKAR	**Makanchi Array**	**61.87**	**317**	P	**P**	**11 03 54.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=96,slow=7.4,SNR=4.6						
	comp=Z,0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**65.15**	**321**	P	**P**	**11 04 15.9**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=105,slow=6.6,SNR=11						
	comp=Z,2.2nm,0.9s						
E18K	**Tukpahlearik C**	**66.53**	**20**	P	**P**	**11 04 26.0**	**+1.1**
G18K	**Tagagawik**	**66.54**	**22**	P	**P**	**11 04 25.6**	**+0.6**
G18K				IAmb	IAmb	11 04 33.9	
	comp=Z,6.1nm,1.5s						
G19K	**Purcell Mounta**	**67.22**	**22**	P	**P**	**11 04 30.2**	**+0.9**
G19K				IAmb	IAmb	11 04 30.5	
	comp=Z,3.3nm,0.8s						
F19K	**Shaleruckik Mo**	**67.26**	**22**	P	**P**	**11 04 30.7**	**+1.1**
NRIK	**Noril'sk**	**67.42**	**341**	P	**P**	**11 04 30.1**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=152,slow=2.8,SNR=3.7						
	comp=Z,1.2nm,0.6s						
D19K	**Kuna River**	**67.85**	**20**	P	**P**	**11 04 33.7**	**+0.3**
CAST	**Castle Rocks**	**68.25**	**26**	P	**P**	**11 04 36.8**	**+0.8**
CAST				IAmb	IAmb	11 04 37.9	
	comp=Z,5.7nm,1.4s						
D20K	**Etivluk River**	**68.44**	**20**		**P**	**11 04 38.0**	**+0.9**
G21K	**Allakaket**	**68.70**	**23**	P	**P**	**11 04 39.5**	**+0.8**
G21K				IAmb	IAmb	11 04 40.6	
	comp=Z,3.6nm,1.4s						
B20K	**Meade River**	**68.81**	**19**	P	**P**	**11 04 40.2**	**+1.0**
BPAW	**Bear Paw Mtn.**	**68.92**	**25**	P	**P**	**11 04 40.8**	**+0.6**
PMR	**Palmer**	**69.06**	**28**	P	**P**	**11 04 41.6**	**+0.7**
PMR				IAmb	IAmb	11 04 43.8	
	comp=Z,3.8nm,1.4s						
B21K	**Ikpikpuk River**	**69.46**	**19**	P	**P**	**11 04 44.1**	**+0.8**
D22K	**Ayikyak River**	**69.83**	**20**		**P**	**11 04 46.6**	**+1.0**
D22K				IAmb	IAmb	11 04 47.4	
	comp=Z,2.8nm,0.7s						
E22K	**Anaktuvuk Pass**	**69.87**	**21**		**P**	**11 04 46.9**	**+1.0**
E22K				IAmb	IAmb	11 04 47.6	
	comp=Z,3.0nm,0.8s						
COLD	**Coldfoot**	**70.17**	**22**	P	**P**	**11 04 48.9**	**+1.2**
COLD				IAmb	IAmb	11 04 50.0	
	comp=Z,6.3nm,1.2s						
BVAR	**Borovoye Array**	**70.52**	**322**	P	**P**	**11 04 49.6**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=107,slow=8.6,SNR=7.6						
	comp=Z,1.6nm,0.4s						
D23K	**Nanushuk River**	**70.54**	**20**	P	**P**	**11 04 51.3**	**+1.3**
D23K				IAmb	IAmb	11 04 52.1	
	comp=Z,4.9nm,1.1s						
E23K	**Chandalar**	**70.63**	**22**		**P**	**11 04 52.3**	**+1.6**
H24K	**Noodor Dome**	**70.67**	**24**	P	**P**	**11 04 51.3**	**+0.3**
ILAR	**Eielson Array**	**70.82**	**25**	P	**P**	**11 04 50.0**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=257,slow=6.0,SNR=18						
	comp=Z,1.1nm,0.7s						
TOLK	**Toolik Lake Re**	**70.82**	**21**	P	**P**	**11 04 52.8**	**+1.1**
TOLK				IAmb	IAmb	11 04 53.1	
	comp=Z,1.6nm,0.6s						
C23K	**Itkillik River**	**70.84**	**20**	P	**P**	**11 04 52.8**	**+1.1**
C23K				IAmb	IAmb	11 04 53.4	
	comp=Z,4.5nm,1.0s						
G24K	**Hadweenzic Riv**	**71.05**	**23**	P	**P**	**11 04 54.3**	**+1.1**
G24K				IAmb	IAmb	11 04 54.3	
	comp=Z,3.0nm,0.9s						
D24K	**Happy Valley**	**71.23**	**20**	P	**P**	**11 04 55.6**	**+1.4**
C24K	**Franklin Bluff**	**71.44**	**20**	P	**P**	**11 04 56.6**	**+1.2**
C24K				IAmb	IAmb	11 04 57.0	
	comp=Z,2.9nm,0.8s						
D25K	**Kavik River**	**72.12**	**21**	P	**P**	**11 05 00.5**	**+0.9**
D25K				IAmb	IAmb	11 05 01.6	
	comp=Z,5.2nm,1.2s						
F26K	**Sheenjek River**	**72.55**	**22**	P	**P**	**11 05 03.8**	**+1.7**
F26K				IAmb	IAmb	11 05 04.3	
	comp=Z,2.9nm,0.9s						
H27K	**Steamboat Moun**	**73.29**	**24**	P	**P**	**11 05 07.8**	**+1.2**
H27K				IAmb	IAmb	11 05 08.4	
	comp=Z,4.5nm,0.9s						
E28M	**Babbage River**	**74.40**	**22**		**P**	**11 05 14.5**	**+1.5**
AB31	**Akbulak array**	**76.98**	**318**	P	**P**	**11 05 27.9**	**-0.2**
ABKAR	**Akbulak array**	**76.98**	**318**	P	**P**	**11 05 27.7**	**-0.4**
YKA	**Yellowknife Ar**	**85.12**	**27**	P	**P**	**11 06 11.5**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=292,slow=4.9,SNR=3.7						
	comp=Z,0.3nm,0.9s						
ARCES	**ARCESS Array B**	**88.40**	**342**	P	**P**	**11 06 26.7**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=64,slow=8.2,SNR=5.1						
	comp=Z,0.8nm,0.7s						
NVAR	**Mina Array Bea**	**89.15**	**51**	P	**P**	**11 06 33.0**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=256,slow=7.5,SNR=6.9						
	comp=Z,0.8nm,0.7s						

---

*IDC **26** 10:54:49.2±0.4,9.°63N×126.°35E,h0km,mb4.6/32, mbtmp4.6/34,ML4.2/2,MS4.2/41,Error ellipse: s-maj=17.7km s-min=8.9km az=86.0*
*MOS **26** 10:54:49.2±1.0,9.°72N×126.°42E,h11km,mb5.2/56, MS4.4/5,Error ellipse: s-maj=9.4km s-min=4.9km az=117.3*
*NEIC **26** 10:54:50.5±1.6,9.°81N±0.°07×126.°72E±0.°09,h10km±1km, mb5.0/186,Error ellipse: s-maj=14.4km s-min=11.0km az=80.0*
*BJI **26** 10:54:52.3,9.°54N×126.°57E,h40km,mB4.9/40,mb4.8/63, Ms4.6/72,Ms7 4.4/71*
*DJA **26** 10:54:54.2±0.4,10.°N±3.°×12.°7E±.°,h43km±4km,M5.0/45, mb5.0/45,mB5.5/15,Mw(mB)4.9/15,MwMwp5.0/3, Mwp5.3/3*
*GCMT **26** 10:54:57.5±0.2,9.°69N±0.°02×126.°62E±0.°01,h18km±1km, MW5.1/101,Moment Tensor Solution. s58,c74; s101,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.32±.17; $M_{\theta\theta}$0.33±.10; $M_{\phi\phi}$-3.65±.12; $M_{r\theta}$-0.21±.23; $M_{r\phi}$0.36±.07; $M_{\theta\phi}$3.96±.30; Best double couple: $M_0$5.29000×10^{16} NP1:ϕ_s173.00000°,δ21.00000°, λ87.00000°. NP2:ϕ_s357.00000°,δ69.00000°,λ91.00000°. Principal axes: T 5.1110, Plg66.0000°, Azm269.0000°; N 0.3570, Plg1.0000°, Azm176.0000°; P -5.4690, Plg24.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 10:54:51.0±0.6,9.°78N±0.°03×126.°67E±0.°04,h13km±3km, h14km:pP-P,n648,σ1.°62/610,mb5.0/188,MS4.3/65, 18C-11D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.90**	**202**		**Pn**	**10 55 37.2**	**+0.3**
DAV	**Davao City (W)**	**2.90**	**202**	Pg	**Pn**	**10 55 38.1**	**+1.2**
	154nm,0.3s,baz=87,slow=2.1,SNR=15						
DAV				LR	LR	10 56 10.8	
	comp=Z,1μm,21.4s,baz=22,slow=31						
DAV				Lg	Lg	10 56 11.5	
	50nm,0.3s,baz=337,slow=13,SNR=8.4						
DAV	**Davao City (W)**	**2.90**	**202**	P	**Pb**	**10 55 41.2**	**-1.5**
DAV	**Davao City (W)**	**2.90**	**202**	P	**Pn**	**10 55 40.0**	**+3.1**
TGY	**Tagaytay City**	**7.06**	**308**	Pn	**Pn**	**10 56 35.5**	**+1.3**
	56nm,0.3s,baz=54,slow=4.8,SNR=7.2						
TGY				LR	LR	10 59 37.1	
	comp=Z,5μm,19.6s,baz=144,slow=42						
I39PW	**PALAU INFRASON**	**8.10**	**105**	I	I	11 49 40.0	
	baz=282,slow=312,SNR=0.4						
TNTI	**Ternate**	**8.98**	**176**		**Pn**	**10 56 59.0**	**-1.4**
TNTI	**Ternate**	**8.98**	**176**	P	**Pn**	**10 57 03.5**	**+3.0**
	1μm85nm,1.1s						
MYLDM	**Lahad Datu**	**9.30**	**241**		**Pn**	**10 57 04.6**	**-0.3**
MYLDM	**Lahad Datu**	**9.30**	**241**	P	Pn	10 57 12.6	+7.7
TOLI2	**Tolitoli**	**10.41**	**215**		**Pn**	**10 57 18.8**	**-1.4**
LUWI	**Luwuk**	**11.43**	**200**	Pn	**Pn**	**10 57 34.2**	**+0.1**
LUWI	**Luwuk**	**11.43**	**200**	P	Pn	10 57 43.1	+9.0
SWI	**Sorong**	**11.52**	**156**	P	**Pn**	**10 57 37.7**	**+2.4**
	48nm,0.9s						
MPSI	**Mapaga**	**11.55**	**216**	P	Pn	10 57 46.3	+11
APSI	**Ampana**	**11.74**	**205**	P	Pn	10 57 43.9	+5.6
SANI	**Sanana**	**11.77**	**183**	P	**Pn**	**10 57 41.2**	**+2.4**
	39nm,0.9s						
RKPI	**Ransiki, Papua**	**13.48**	**146**	P	**Pn**	**10 58 05.1**	**+3.0**
	6μm116nm,1.2s						
FAKI	**Fak Fak**	**13.79**	**156**	Pn	**Pn**	**10 58 04.6**	**-1.7**
FAKI	**Fak Fak**	**13.79**	**156**	P	**Pn**	**10 58 08.5**	**+2.2**
SMKI	**Samarinda**	**13.85**	**223**	P	P	10 58 27.2	+12
TWG	**Pinlang**	**14.03**	**338**	P	**P**	**10 58 18.1**	**+0.6**
BAKI	**Biak**	**14

comp=Z,390nm,8.8s
QIZ LR LR
comp=Z,420nm,15.1s
QIZ LR LR
comp=Z,830nm,17.9s
QIZ LR LR
comp=Z,1µm,19.2s
MMRI Maumere 18.82 194 P **P 10 59 09.5 -1.1**
MMRI Maumere 18.82 194 P **Pn 10 59 13.1 +2.0**
comp=Z,93nm,1.4s
EDFI Ende, Flores 19.07 195 P **P 10 59 13.8 +0.4**
comp=Z,46nm,1.1s
SOEI Soe 19.55 187 **P 10 59 18.4 -0.4**
SOEI IAmb IAmb 10 59 32.1
comp=Z,90nm,0.8s
SOEI Soe 19.55 187 P **P 10 59 19.6 +0.8**
comp=Z,3µmcomp=Z,149nm,0.9s
PLAI Plampang 20.50 206 P **P 10 59 26.5 -2.4**
PLAI Plampang 20.50 206 P Pn 10 59 30.7 -0.4
comp=Z,66nm,0.8s
TWSI Taliwang, Sumb 20.82 208 P **P 10 59 33.6 +1.2**
comp=Z,1µmcomp=Z,53nm,1.0s
UBPT Khong Chiam 21.39 287 **P 10 59 38.5 -0.1**
SSE Sheshan 21.81 347 P **P 10 59 43.8 +0.8**
SSE S **S 11 03 44.8 +0.9**
SSE pmax pmax
comp=Z,5.0nm,0.5s
SSE LR LR
comp=Z,310nm,17.7s
SSE LR LR
comp=Z,270nm,17.7s
JAGI Jajag, Banyuwa 22.00 215 P **P 10 59 41.8 -3.4**
JAGI IAmb IAmb 10 59 56.6
comp=Z,68nm,1.4s
JAGI Jajag, Banyuwa 22.00 215 P **P 10 59 45.5 +0.3**
CNSH ChangSha 22.41 327 P **P 10 59 47.5 -1.9**
CNSH S **S 11 03 53.3 -2.0**
CNSH pmax pmax
comp=Z,11nm,1.1s
CNSH LR LR
comp=Z,510nm,15.7s
CNSH LR LR
comp=Z,880nm,14.0s
CNSH LR LR
comp=Z,970nm,16.9s
DRS Darwin Rock St 22.46 169 P **P 10 59 49.7 -0.4**
JCJ Chichijima 22.61 38 P **P 10 59 48.2 -3.4**
JCJ Chichijima 22.61 38 P **P 10 59 51.8 +0.2**
comp=Z,95nm,0.9s,baz=149,slow=22,SNR=2.9
JCJ LR LR 11 09 15.7
comp=Z,513nm,18.9s,baz=305,slow=38
MTN Manton Dam 22.91 169 P **P 10 59 53.3 -1.5**
MTN IAmb IAmb 11 00 09.5
comp=Z,41nm,0.9s
MTN Manton Dam 22.91 169 P **P 10 59 54.8 0.0**
KDU Kakadu 23.05 165 P **P 10 59 55.6 -0.7**
SMRI Semarang 23.26 225 P **P 10 59 58.4 0.0**
SMRI IAmb IAmb 11 00 10.5
comp=Z,76nm,1.1s
NJ2 Nanjing 23.31 343 ⇑P **P 11 00 00.5 +1.7**
NJ2 pmax pmax
comp=Z,56nm,0.9s
NJ2 LR LR
comp=Z,770nm,17.1s
NJ2 LR LR
comp=Z,340nm,18.9s
NJ2 LR LR
comp=Z,960nm,17.1s
JNU Nakatsue 23.55 9 P **P 10 59 59.3 -1.9**
JNU IAmb IAmb 11 00 09.8
comp=Z,39nm,1.0s
JNU Nakatsue 23.55 9 P **P 11 00 02.2 +1.0**
comp=Z,21nm,1.0s,baz=188,slow=8.8,SNR=4.5
comp=Z,21nm,1.0s
WHN Wuhan 23.63 333 P **P 11 00 03.8 +1.8**
WHN pmax pmax
comp=Z,130nm,1.0s
WHN pmax pmax
comp=Z,930nm,4.0s
WHN LR LR
comp=Z,2µm,13.7s
WHN LR LR
comp=Z,2µm,17.3s
WHN LR LR
comp=Z,3µm,17.9s
MANU Manus Island 23.73 119 P **P 11 00 01.6 -1.5**
MANU IAmb IAmb 11 00 24.7
comp=Z,112nm,1.9s
MYKOM Kota Tinggi 24.03 252 P **P 11 00 07.1 +1.1**
SLVN Son La 24.71 300 P **P 11 00 12.9 +0.7**
JMN Monobe 24.74 14 P **P 11 00 11.4 -0.9**
JMN IAmb IAmb 11 00 31.6
comp=Z,62nm,1.1s
LEM Lembang 25.15 230 P **P 11 00 15.1 -1.3**
comp=Z,11nm,0.3s,baz=154,slow=23,SNR=1.7
comp=Z,11nm,0.3s
KNRA Kununurra 25.38 175 P **P 11 00 19.0 +0.8**
KNRA IAmb IAmb 11 00 38.5
comp=Z,57nm,1.2s
ENH Enshi 25.93 324 P **P 11 00 22.9 -0.2**
ENH IAmb IAmb 11 00 25.2
comp=Z,27nm,1.0s
KULM Kulim 26.17 262 P **P 11 00 24.9 -0.6**
KULM IAmb IAmb 11 00 42.1
comp=Z,53nm,1.2s
MDSI Maura Dua 26.51 239 P **P 11 00 29.0 +0.5**
comp=Z,49nm,1.1s
LWLI Liwa 26.90 238 P **P 11 00 31.7 -0.5**
BKNI Bangkinang 27.17 251 P **P 11 00 35.1 +0.5**
KMI Kunming 27.38 307 P **P 11 00 39.0 +2.5**
KMI sS sS 11 05 37.3 +18
KMI pmax pmax
comp=Z,180nm,10.5s
KMI LR LR
comp=Z,580nm,16.2s
KMI LR LR
comp=Z,490nm,20.9s
KMI LR LR
comp=Z,790nm,19.3s
KSAR Wonju Array Be 27.56 2 P **P 11 00 35.6 -2.1**
KSAR Wonju Array Be 27.56 2 P **P 11 00 35.6 -2.1**
KSRS Korea Array 27.57 2 P **P 11 00 40.2 +2.5**
comp=Z,9.8nm,1.0s,baz=181,slow=11,SNR=15
comp=Z,9.8nm,1.0s
TIA Tai'an 27.70 343 P **P 11 00 40.3 +1.3**
TIA S **S 11 05 15.0 -6.0**
TIA SS **SnSn 11 06 43.8 +11**
TIA pmax pmax
comp=Z,44nm,1.1s
TIA pmax pmax
comp=Z,150nm,3.6s
TIA LR LR
comp=Z,530nm,20.1s
TIA LR LR
comp=Z,450nm,17.4s
TIA LR LR
comp=Z,900nm,19.7s
FITZ Fitzroy Crossi 27.72 182 P **P 11 00 39.0 -0.2**
FITZ Fitzroy Crossi 27.72 182 P **P 11 00 39.2 -0.1**
comp=Z,37nm,0.8s,baz=27,slow=8.9,SNR=28
comp=Z,37nm,0.8s
LYN LuoYang 27.87 334 P **P 11 00 42.0 +1.5**
LYN pP pwP 11 00 55.3 +3.7
LYN S **S 11 05 28.8 +5.1**
LYN pmax pmax
comp=Z,35nm,1.0s
LYN pmax pmax
comp=Z,310nm,8.5s
LYN LR LR
comp=Z,560nm,11.3s
LYN LR LR
comp=Z,310nm,11.0s
LYN LR LR
comp=Z,490nm,13.7s
PMG Port Moresby 27.92 132 LR LR 11 12 05.6
comp=Z,154nm,19.2s,baz=304,slow=37
PPI Padang Panjang 28.06 250 P **P 11 00 41.8 -0.6**
comp=Z,47nm,1.3s
CM31 Chiang Mai Arr 28.20 291 P **P 11 00 42.7 -1.0**
CMAR Chiang Mai Arr 28.20 291 P **P 11 00 42.6 -1.1**
comp=Z,4.1nm,0.8s,baz=101,slow=7.1,SNR=30
CMAR PcP **PcP 11 03 57.5 0.0**
comp=Z,2.9nm,1.0s,baz=105,slow=6.8,SNR=6.2
CMAR LR LR 11 13 22.1
comp=Z,612nm,18.4s,baz=105,slow=40
comp=Z,4.1nm,0.8s

CHTO Chiang Mai 28.29 292 P **P 11 00 44.3 -0.2**
CHTO Chiang Mai 28.29 292 P **P 11 00 44.3 -0.2**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
MNSI Mandailing Nat 28.39 253 P **P 11 00 45.7 +0.4**
comp=Z,5µmcomp=Z,52nm,1.1s
PSI Prapat 28.42 258 LR LR 11 13 25.8
comp=Z,494nm,20.9s,baz=82,slow=40
PSI Prapat 28.42 258 P **P 11 00 45.8 0.0**
PSI pmax pmax
comp=Z,39nm,1.3s
RPSI Rantau Prapat 28.45 257 P **P 11 00 45.8 -0.1**
RPSI IAmb IAmb 11 00 57.2
comp=Z,39nm,1.3s
MJAR Matsushiro Arr 28.62 20 P **P 11 00 48.4 +1.2**
comp=Z,1.9nm,0.6s,baz=196,slow=7.6,SNR=4.5
MJAR PcP **PcP 11 03 58.7 +0.5**
comp=Z,2.4nm,1.1s,baz=212,slow=2.2,SNR=3.0
comp=Z,1.9nm,0.6s
COEN Coen 28.71 145 P **P 11 00 45.8 -2.5**
COEN IAmb IAmb 11 01 03.7
comp=Z,25nm,1.1s
COEN Coen 28.71 145 P **P 11 00 52.7 +4.5**
PZH PanZhiHua 28.85 308 P **P 11 00 50.5 +1.0**
PZH S **S 11 05 42.5 +3.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,7.3s
PZH LR LR
comp=Z,420nm,17.3s
PZH LR LR
comp=Z,490nm,16.7s
PZH LR LR
comp=Z,650nm,16.7s
XAN Xi'an 29.12 329 ⇑P **P 11 00 51.3 -0.5**
XAN S **S 11 05 44.8 +1.3**
XAN pmax pmax
comp=Z,37nm,0.9s
XAN LR LR
comp=Z,710nm,17.0s
XAN LR LR
comp=Z,830nm,14.7s
XAN LR LR
comp=Z,1µm,17.2s
DL2 Dalian 29.35 352 P **P 11 00 51.3 -2.3**
DL2 S **S 11 05 45.0 -1.8**
DL2 pmax pmax
comp=Z,39nm,1.3s
DL2 pmax pmax
comp=Z,370nm,6.1s
DL2 LR LR
comp=Z,480nm,16.1s
DL2 LR LR
comp=Z,400nm,9.4s
DL2 LR LR
comp=Z,370nm,10.4s
HNS HongShan 29.54 340 ⇓P **P 11 00 56.5 +1.2**
HNS S **S 11 05 53.8 +4.0**
HNS pmax pmax
comp=Z,68nm,1.0s
HNS LR LR
comp=Z,750nm,15.0s
HNS LR LR
comp=Z,750nm,17.1s
LHMI Lhok Sumawe 29.80 263 P **P 11 00 56.9 -1.0**
LHMI Lhok Sumawe 29.80 263 P **P 11 00 58.6 +0.7**
CD2 Chengdu 29.93 318 P **P 11 01 00.5 +1.5**
CD2 S **S 11 05 58.3 +2.0**
CD2 SS **SnSn 11 07 36.0 +8.3**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,240nm,4.3s
CD2 LR LR
comp=Z,1µm,16.7s
CD2 LR LR
comp=Z,1µm,16.6s
WB0 Warramunga Arr 30.33 165 P **P 11 01 00.8 -1.8**
WB0 IAmb IAmb 11 01 45.0
comp=Z,36nm,1.4s
WRA Warramunga Arr 30.49 166 P **P 11 01 03.0 -0.9**
WRA Warramunga Arr 30.49 166 P **P 11 01 02.6 -1.3**
comp=Z,1.3nm,0.7s,baz=342,slow=8.1,SNR=9.9
comp=Z,1.3nm,0.7s
WRA Warramunga Arr 30.49 166 *i*P **P 11 01 06.0 +2.1**
WRA pmax pmax
comp=Z,3.0nm,0.9s
WR8 Warramunga Arr 30.54 165 P **P 11 01 03.9 -0.5**
MBWA Marble Bar 31.49 192 P **P 11 01 12.2 -0.6**
MBWA IAmb IAmb 11 02 12.8
comp=Z,26nm,1.2s
MBWA Marble Bar 31.49 192 P **P 11 01 11.5 -1.2**
BJT Baijiatuau 31.53 344 P **P 11 01 12.8 -0.1**
BJT Baijiatuau 31.53 344 P **P 11 01 12.8 -0.1**
BJT pmax pmax
comp=Z,62nm,1.5s
BJI Beijing 31.55 345 P **P 11 01 14.5 +1.5**
BJI S **S 11 06 29.0 +7.8**
BJI pmax pmax
comp=Z,14nm,1.3s
BJI pmax pmax
comp=Z,110nm,3.8s
BJI LR LR
comp=Z,150nm,16.9s
BJI LR LR
comp=Z,97nm,14.6s
BJI LR LR
comp=Z,210nm,13.8s
QIS Mount Isa 32.73 157 P **P 11 01 24.0 +0.4**
LZH Lanzhou 33.40 325 *e*P **P 11 01 30.5 +0.9**
LZH pP pwP 11 01 39.3 -0.5
LZH pmax pmax
comp=Z,12nm,1.2s
LZH LR LR
comp=Z,820nm,14.8s
LZH LR LR
comp=Z,660nm,15.1s
LZH LR LR
comp=Z,840nm,14.4s
HHC Hu-ho-hao-te 33.71 339 ⇑*i*P **P 11 01 34.0 +1.9**
HHC S **S 11 06 59.5 +4.3**
HHC pmax pmax
comp=Z,41nm,1.1s
HHC pmax pmax
comp=Z,130nm,7.6s
HHC LR LR
comp=Z,570nm,18.5s
HHC LR LR
comp=Z,290nm,13.5s
HHC LR LR
comp=Z,660nm,16.2s
CN2 Changchun 33.91 358 P **P 11 01 36.8 +3.1**
CN2 S **S 11 06 55.8 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,6.0s
CN2 LR LR
comp=Z,400nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,500nm,15.0s
AS31 Alice Springs 33.99 168 P **P 11 01 33.2 -1.4**
ASAR Alice Springs 33.99 168 P **P 11 01 33.1 -1.5**
ASAR Alice Springs 33.99 168 P **P 11 01 33.9 -0.8**
comp=Z,0.9nm,0.4s,baz=353,slow=7.0,SNR=32
ASAR PcP **PcP 11 04 13.0 +0.3**
comp=Z,1.1nm,0.7s,baz=347,slow=3.0,SNR=4.8
comp=Z,0.9nm,0.4s
AS01 Alice Springs 34.00 168 P **P 11 01 34.1 -0.6**
BTO Baotou 34.06 337 *e*P **P 11 01 38.5 +3.3**
BTO pP **pwP 11 01 47.5 +1.3**
BTO PP **PP 11 02 52.3 -0.1**
BTO S **S 11 07 04.8 +4.2**
BTO pmax pmax
comp=Z,26nm,0.9s
BTO pmax pmax
comp=Z,200nm,4.1s
BTO LR LR
comp=Z,470nm,14.3s
BTO LR LR
comp=Z,1µm,15.1s
BTO LR LR
comp=Z,760nm,16.6s

GIRL Giralia 34.45 201 P **P 11 01 39.0 +0.4**
USA0B Ussuriysk Arra 34.60 7⇑*e*P **P 11 01 39.2 -0.4**
USRK Ussuriysk Ar. 34.60 7 P **P 11 01 42.5 +2.9**
comp=Z,7.7nm,0.8s,baz=188,slow=8.8,SNR=9.6
comp=Z,7.7nm,0.8s
WRKA Warakurna 34.64 177 P **P 11 01 39.5 -0.8**
MDJ Mudanjiang 34.80 4 IAmb IAmb 11 01 45.4
comp=Z,36nm,1.2s
MDJ Mudanjiang 34.80 4 P **P 11 01 44.5 +3.1**
MDJ S **S 11 07 17.5 +5.8**
MDJ pmax pmax
comp=Z,30nm,1.2s
MDJ LR LR
comp=Z,340nm,23.7s
MDJ LR LR
comp=Z,290nm,15.5s
MDJ LR LR
comp=Z,320nm,23.0s
XLT XiLinHaoTe 35.21 347 *e*P **P 11 01 46.8 +1.7**
XLT pP pwP 11 01 56.3 +0.4
XLT sP sP 11 02 00.8 +13
XLT PP **PP 11 03 11.5 +6.4**
XLT S **S 11 07 14.5 -3.8**
XLT pmax pmax
comp=Z,34nm,1.4s
XLT pmax pmax
comp=Z,96nm,5.3s
XLT LR LR
comp=Z,480nm,17.9s
XLT LR LR
comp=Z,330nm,16.6s
XLT LR LR
comp=Z,870nm,19.1s
BNX BinXian 35.84 1 ⇓P **P 11 01 52.3 +2.0**
BNX pP **pwP 11 02 02.5 -1.1**
BNX sP sP 11 02 07.3 +15
BNX S **S 11 07 27.3 -0.3**
BNX pmax pmax
comp=Z,11nm,1.0s
BNX pmax pmax
comp=Z,100nm,6.0s
BNX LR LR
comp=Z,320nm,14.6s
BNX LR LR
comp=Z,380nm,17.4s
BNX LR LR
comp=Z,720nm,17.4s
BRDH Bariadhala 35.88 295 LR LR 11 17 46.2
comp=Z,510nm,18.6s,baz=126,slow=39
SHL Shillong 36.52 300 P **P 11 01 55.1 -1.6**
SHL IAmb IAmb 11 02 09.2
comp=Z,30nm,1.0s
SHL Shillong 36.52 300 P **P 11 01 55.1 -1.6**
SHL pmax pmax
comp=Z,29nm,1.0s
MEEK Meekatharra 37.04 192 P **P 11 02 00.2 -0.6**
GTA Gaotai 38.00 325 *e*P **P 11 02 09.8 +0.8**
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA LR LR
comp=Z,490nm,17.1s
GTA LR LR
comp=Z,460nm,17.8s
GTA LR LR
comp=Z,840nm,18.9s
HNR Honiara 38.23 119 LR LR 11 18 48.3
comp=Z,177nm,18.8s,baz=298,slow=38
OOD Oodnadatta 38.36 167 P **P 11 02 12.1 +0.2**
YSS Yuzhno-Sakhali 39.49 17 P **P 11 02 20.6 -0.5**
YSS Yuzhno-Sakhali 39.49 17 *e*P **P 11 02 20.2 -1.0**
YSS *e*S **S 11 08 19.0 -4.0**
YSS *e*SS **SS 11 11 10.3 -7.3**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,100nm,4.4s
YSS MLR MLR
comp=Z,300nm,14.0s
YSS MLR MLR
comp=N,200nm,13.0s
YSS MLR MLR
comp=E,200nm,17.0s
KLR Kul'dur 39.55 5⇑*e*P **P 11 02 23.0 +1.3**
KLR pmax pmax
comp=Z,18nm,1.6s
H11S3 WAKE ISLAND Hy 39.69 73 T T 11 45 26.9
baz=262,slow=75,SNR=64
H11S1 WAKE ISLAND Hy 39.70 73 T T 11 45 29.2
baz=262,slow=75,SNR=40
H11S2 WAKE ISLAND Hy 39.70 73 T T 11 45 29.8
baz=262,slow=75,SNR=27
MORW Morawa 39.96 195 **P 11 02 24.7 -0.6**
MORW IAmb IAmb 11 02 25.9
comp=Z,68nm,1.2s
MORW Morawa 39.96 195 P **P 11 02 25.1 -0.2**
H11N1 WAKE ISLAND Hy 40.04 71 T T 11 45 50.8
baz=265,slow=74,SNR=62
H11N2 WAKE ISLAND Hy 40.05 71 T T 11 45 50.2
baz=265,slow=74,SNR=51
H11N3 WAKE ISLAND Hy 40.06 71 T T 11 45 55.6
baz=265,slow=74,SNR=58
FORT Forrest 40.35 178 P **P 11 02 27.2 -1.3**
FORT Forrest 40.35 178 P **P 11 02 28.7 +0.2**
HEH HeiHe 40.35 1 *e*P **P 11 02 30.3 +2.0**
HEH PcP **PcP 11 04 31.8 +0.3**
HEH S **S 11 08 35.0 -0.8**
HEH SS **SS 11 11 27.3 -7.4**
HEH pmax pmax
comp=Z,12nm,1.1s
HEH pmax pmax
comp=Z,170nm,7.4s
HEH LR LR
comp=Z,460nm,18.0s
HEH LR LR
comp=Z,420nm,18.6s
HEH LR LR
comp=Z,650nm,19.2s
KMBL Kambalda 41.17 186 P **P 11 02 35.7 +0.4**
BLDU Ballidu 41.29 193 P **P 11 02 36.4 +0.1**
ULN Ulaanbaatar 41.41 340 P **P 11 02 36.7 -0.6**
ULN Ulaanbaatar 41.41 340 *ce*P **P 11 02 38.2 +0.9**
ULN pmax pmax
comp=Z,29nm,1.7s
LCRK Leigh Creek 41.51 165 P **P 11 02 39.3 +1.2**
SONM Songino Array 41.61 339 P **P 11 02 38.7 -0.2**
SONM Songino Array 41.61 339 P **P 11 02 40.6 +1.7**
comp=Z,5.7nm,0.7s,baz=160,slow=9.6,SNR=28
comp=Z,5.7nm,0.7s
TYV Tymovskoe 43.03 15 *e*P **P 11 02 53.0 +2.8**
TYV pmax pmax
comp=Z,7.0nm,0.9s
TYV pmax pmax
comp=Z,100nm,4.1s
NWAO Narrogin (SRO) 43.41 192 P **P 11 02 53.0 -0.5**
NWAO Narrogin (SRO) 43.41 192 LR LR 11 23 49.0
comp=Z,194nm,18.1s,baz=44,slow=40
NWAO Narrogin (SRO) 43.41 192 P **P 11 02 53.1 -0.5**
NWAO pmax pmax
comp=Z,55nm,1.0s
CIT Chita 43.46 348 *e*P **P 11 02 55.8 +2.0**
CIT *e* 11 02 59.8
CIT pmax pmax
comp=Z,106nm,2.2s
STKA Stephens Creek 43.82 162 P **P 11 02 56.2 -0.6**
comp=Z,3.8nm,0.8s,baz=339,slow=8.4,SNR=7.6
STKA PP **PP 11 04 40.6 +1.6**
comp=Z,3.0nm,0.7s,baz=343,slow=11,SNR=2.9
comp=Z,3.8nm,0.8s
ZEA Zeya 43.84 0 *e*P **P 11 02 58.2 +1.5**
ZEA *e* 11 12 56.1
ZEA pmax pmax
comp=Z,10.0nm,0.4s
ZEA MLR MLR
comp=N,200nm,14.0s
ZEA MLR MLR
comp=Z,300nm,17.0s
ZAK Zakamensk 44.86 339 *e*P **P 11 03 05.7 +0.6**
ZAK *e* 11 10 01.6
ZAK pmax pmax
comp=Z,7.0nm,1.4s
PALK Pallekele 45.50 271 LR LR 11 24 14.4
comp=Z,169nm,18.3s,baz=92,slow=39
PALK Pallekele 45.50 271⇑*e*P **P 11 03 10.6 -0.1**
PALK pmax pmax
comp=Z,25nm,1.5s
IRK Irkutsk 46.10 341 *e*P **P 11 03 16.0 +1.3**

IRK pmax pmax
comp=Z,46nm,1.4s
MOY Mondy 46.74 338 *e*P **P 11 03 20.8 +0.9**
MOY pmax pmax
comp=Z,40nm,2.0s
HYB Hyderabad 47.27 285 *e*P **P 11 03 23.7 -0.8**
HYB *e*PP **PP 11 05 14.6 -1.1**
HYB *e* 11 08 47.8
WMQ Urumqi 47.85 322 *e*P **P 11 03 31.3 +2.6**
WMQ LR LR
comp=Z,750nm,18.5s
WMQ LR LR
comp=Z,520nm,18.5s
WMQ LR LR
comp=Z,380nm,16.5s
BOD Bodaibo 48.91 351 *e*P **P 11 03 38.1 +1.6**
BOD pmax pmax
comp=Z,38nm,1.4s
PETK Petropavlovsk- 49.92 24 P **P 11 03 47.4 +3.0**
comp=Z,2.8nm,0.5s,baz=207,slow=3.5,SNR=23
comp=Z,2.8nm,0.5s
DZM Mont Dzumac 50.24 129 *e*S **S 11 11 00.1 +0.5**
comp=Z,344nm,29.3s
DZM *e*SS **SS 11 14 32.1 -1.3**
comp=Z,147nm,22.4s
DZM *e*LR LR 11 18 05.2
comp=Z,351nm,27.0s
DZM Mont Dzumac 50.24 129 LR LR 11 24 39.4
comp=Z,76nm,19.4s,baz=302,slow=36
YAK Yakutsk 52.20 2 *e*P **P 11 04 03.9 +2.6**
YAK *e**PP **pwP 11 04 11.0 -2.7**
YAK *e* 11 06 02.5
YAK *e*S **S 11 11 24.5 -0.9**
YAK *e**SS sS 11 11 43.7 +16
YAK *e* 11 13 47.2
YAK *e*SS **SS 11 14 59.3 -3.6**
YAK *e*SSS SSS 11 16 49.1
YAK pmax pmax
comp=Z,40nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,0.4s
YAK smax smax
comp=N,11nm,1.5s
YAK smax smax
comp=E,32nm,2.2s
YAK MLR MLR
comp=Z,231nm,18.0s
YAK MLR MLR
comp=E,113nm,16.0s
YAK MLR MLR
comp=N,156nm,18.0s
MK31 Makanchi Array 52.65 323 *c e*P **P 11 04 04.6 -0.4**
MKAR Makanchi Array 52.65 323 **P 11 04 04.6 -0.3**
MKAR Makanchi Array 52.65 323 P **P 11 04 04.8 -0.2**
comp=N,4.7nm,0.7s,baz=121,slow=8.2,SNR=46
MKAR PcP **PcP 11 05 14.9 0.0**
comp=N,3.5nm,0.8s,baz=112,slow=4.8,SNR=3.6
MKAR LR LR 11 30 04.1
comp=N,306nm,18.1s,baz=122,slow=40
comp=N,4.7nm,0.7s
SHLS Shalkode 52.77 318 *e*P **P 11 04 03.1 -2.9**
SHLS Shalkode 52.77 318 *e*P **P 11 04 03.2 -2.9**
MAKZ Makanchi 52.84 323 P **P 11 04 05.9 -0.5**
MAKZ Makanchi 52.84 323 P **P 11 04 05.9 -0.5**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
MA2 Magadan 52.90 15⇑ *e*P **P 11 04 08.6 +2.1**
MA2 pmax pmax
comp=Z,9.0nm,1.0s
UZB Uzynbulak 53.06 317 *e*P **P 11 04 07.4 -0.8**
UZB pmax pmax
comp=Z,7.0nm,1.0s
UZB Uzynbulak 53.06 317 *e*P **P 11 04 07.5 -0.8**
comp=Z,7.1nm,1.0s
KPKS Kokpek 53.41 318 *e*P **P 11 04 10.0 -0.7**
KPKS Kokpek 53.41 318 *e*P **P 11 04 10.1 -0.7**
SATY Saty 53.43 317 *e*P **P 11 04 10.2 -0.7**
SATY pmax pmax
comp=Z,10.0nm,1.5s
SATY Saty 53.43 317 *e*P **P 11 04 10.3 -0.7**
comp=Z,9.9nm,1.5s
KSH Kashi 53.85 312 P **P 11 04 15.8 +1.8**
KSH pmax pmax
comp=Z,11nm,0.8s
KSH LR LR
comp=Z,490nm,19.1s
KSH LR LR
comp=Z,430nm,18.6s
KSH LR LR
comp=Z,520nm,19.6s
TDK Taldyqorghan 54.23 319 *e*P **P 11 04 16.1 -0.5**
TDK pmax pmax
comp=Z,7.0nm,0.8s
TDK Taldygorghan 54.23 319 *e*P **P 11 04 16.2 -0.5**
comp=Z,6.9nm,0.8s
NIL Nilore 54.33 304 **P 11 04 17.2 -0.3**
NIL Nilore 54.33 304 P **P 11 04 17.2 -0.3**
NIL pmax pmax
comp=Z,38nm,1.1s
MDOK Medeo 54.39 317 *e*P **P 11 04 17.2 -0.8**
MDOK Medeo 54.39 317 *e*P **P 11 04 17.2 -0.8**
TNSS Tian-Shan 54.41 317 *e*P **P 11 04 17.4 -1.0**
TNSS Tian-Shan 54.41 317 *e*P **P 11 04 17.4 -1.0**
NRN Naryn 54.48 314 P **P 11 04 18.5 -0.3**
NRN IAmb IAmb 11 04 19.7
comp=Z,18nm,1.5s
NRN Naryn 54.48 314 P **P 11 04 18.5 -0.3**
NRN pmax pmax
comp=Z,18nm,1.5s
CHKK Chushkaly 54.70 317 *e*P **P 11 04 19.2 -0.8**
CHKK Chushkaly 54.70 317 *e*P **P 11 04 19.3 -0.8**
ZALV Zalesovo Beam 55.24 331 P **P 11 04 22.8 -0.9**
ZALV Zalesovo Beam 55.24 331 P **P 11 04 23.1 -0.6**
comp=Z,4.1nm,0.7s,baz=114,slow=7.2,SNR=16
ZALV LR LR 11 29 54.7
comp=Z,312nm,18.4s,baz=108,slow=38
comp=Z,4.1nm,0.7s
AAK Ala-Archa 55.95 315 P **P 11 04 28.4 -0.8**
AAK Ala-Archa 55.95 315 LR LR 11 31 07.7
comp=Z,436nm,18.4s,baz=88,slow=39
AAK Ala-Archa 55.95 315⇓ *e*P **P 11 04 29.4 +0.2**
AAK pmax pmax
comp=Z,5.0nm,1.7s
SEY Seymchan 56.20 14 LR LR 11 31 33.9
comp=Z,130nm,18.1s,baz=206,slow=39
SEY Seymchan 56.20 14 *e*P **P 11 04 32.5 +2.1**
SEY pmax pmax
comp=Z,18nm,1.6s
KURK Kurchatov 56.69 326 **P 11 04 33.9 -0.2**
KURK IAmb IAmb 11 04 35.1
comp=Z,19nm,0.9s
KURK Kurchatov 56.69 326 P **P 11 04 33.9 -0.2**
KURK pmax pmax
comp=Z,19nm,1.0s
KURBB Kurchatov Arra 56.70 325 P **P 11 04 33.8 -0.4**
comp=Z,4.0nm,0.6s,baz=128,slow=6.9,SNR=33
comp=Z,4.0nm,0.6s
SHEM Shemya Is, Ala 57.35 32 LR LR 11 24 18.2
comp=Z,130nm,21.4s,baz=241,slow=31
MSVF Nonsavu 57.64 118 LR LR 11 29 21.4
comp=Z,187nm,18.4s,baz=58,slow=36
KBL Kabul 57.93 305 P **P 11 04 42.8 -0.7**
KBL IAmb IAmb 11 04 43.5
comp=Z,18nm,0.9s
KBL Kabul 57.93 305 P **P 11 04 42.8 -0.7**
KBL pmax pmax
comp=Z,18nm,1.0s
DZA Taraz 58.23 315 *e*P **P 11 04 44.4 -0.9**
DZA pmax pmax
comp=Z,5.0nm,0.5s
DZA Taraz 58.23 315 *e*P **P 11 04 44.4 -0.9**
comp=Z,5.4nm,0.5s
SIMJ Simiganj 58.81 309 P **P 11 04 48.6 -0.9**
SIMJ IAmb IAmb 11 06 59.1
comp=Z,10nm,0.6s
KK31 Karatay Array 58.87 315 P **P 11 04 49.0 -0.7**
KK31 IAmb IAmb 11 04 50.1
comp=Z,12nm,0.9s
KK31 Karatay Array 58.87 315 P **P 11 04 49.0 -0.7**
KK31 pmax pmax
comp=Z,13nm,1.0s
KKAR Karatay Array 58.87 315 P **P 11 04 48.9 -0.8**
KKAR Karatay Array 58.87 315 P **P 11 04 48.9 -0.8**
IUG Iuzhnay 58.94 314 *e*P **P 11 04 49.5 -0.8**
IUG pmax pmax
comp=Z,16nm,1.2s
IUG Iuzhnay 58.94 314 *e*P **P 11 04 49.5 -0.8**
comp=Z,16nm,1.2s
TIXI Tiksi 61.83 1 **P 11 05 10.4 +1.1**
TIXI Tiksi 61.83 1 P **P 11 05 10.4 +1.1**
TIXI pmax pmax
comp=Z,23nm,1.1s
BVAR Borovoye Array 62.29 325 P **P 11 05 12.5 -0.3**
comp=Z,7.5nm,0.9s,baz=111,slow=8.3,SNR=15
BVAR LR LR 11 31 34.9
comp=Z,267nm,21.5s,baz=117,slow=35
comp=Z,7.5nm,0.9s
BRVK Borovoye 62.36 325 P **P 11 05 13.0 -0.2**
BRVK IAmb IAmb 11 05 14.1
comp=Z,13nm,1.0s
BRVK Borovoye 62.36 325 P **P 11 05 13.0 -0.2**
BRVK pmax pmax
comp=Z,13nm,1.0s
HRA Herat 63.46 304 P **P 11 05 20.1 -1.2**
HRA IAmb IAmb 11 05 21.2
comp=Z,10nm,1.0s
BILL Bilibino 63.77 16 P **P 11 05 23.9 +1.5**
BILL IAmb IAmb 11 05 41.2
comp=Z,14nm,1.1s
BILL Bilibino 63.77 16⇑ *e*P **P 11 05 24.3 +2.0**
BILL pmax pmax
comp=Z,16nm,1.7s
NRIK Noril'sk 64.58 346 P **P 11 05 28.5 +0.8**
NRIK Noril'sk 64.58 346 P **P 11 05 28.8 +1.2**
comp=Z,20nm,0.8s,baz=125,slow=6.6,SNR=39
NRIK LR LR 11 36 50.6
comp=Z,300nm,19.2s,baz=146,slow=39
comp=Z,20nm,0.8s
RPZ Rata Peaks 66.76 146 LR LR 11 36 50.1
comp=Z,193nm,18.3s,baz=287,slow=38
URZ Urewera 67.04 139 LR LR 11 37 09.2
comp=Z,247nm,18.1s,baz=25,slow=38
RTZ Ruatahuna 67.16 139 P **P 11 05 45.4 +0.5**
BKZ Black Stump Fm 67.16 140 P **P 11 05 44.4 -0.5**
SPIA Saint Paul Isl 67.38 32 P **P 11 05 45.5 -0.3**
baz=252
AB31 Akbulak array 67.50 319 **P 11 05 46.5 -0.3**
AB31 IAmb IAmb 11 05 47.3
comp=Z,10nm,0.9s
ABKAR Akbulak array 67.50 319 **P 11 05 46.0 -0.8**
SVE Sverdlovsk 68.83 327 *e*P **P 11 05 54.9 -0.1**
GAMB Gambell 68.94 25 P **P 11 05 56.0 +0.5**
baz=248
AKTO Aktyubinsk 68.95 320 P **P 11 05 55.3 -0.6**
comp=Z,5.9nm,0.8s,baz=91,slow=5.2,SNR=8.7
AKTO LR LR 11 38 47.1
comp=Z,537nm,18.2s,baz=131,slow=38
comp=Z,5.9nm,0.8s
ARTI Arti 69.93 327 P **P 11 06 00.8 -1.0**
comp=Z,2.7nm,0.4s,baz=81,slow=5.6,SNR=2.6
ARTI LR LR 11 36 18.5
comp=Z,152nm,22.0s,baz=110,slow=36
comp=Z,2.7nm,0.4s
ARTI Arti 69.93 327 *c i*P **P 11 06 00.9 -1.0**
ARTI 11 06 20.0
ARTI 11 08 32.8
ARTI S **S 11 15 11.5 0.0**
ARTI SS **SS 11 19 35.3 -5.2**
ARTI pmax pmax
comp=Z,7.0nm,0.9s
M11K Mekoryuk 70.32 29 P **P 11 06 05.0 +0.9**
baz=255
FALS False Pass 70.52 35 P **P 11 06 04.7 -0.7**
baz=259
TNA Tin City 71.09 24 P **P 11 06 08.5 -0.2**
baz=251
S12K Black Hills 71.44 34 P **P 11 06 11.2 +0.1**
baz=260
K13K Kusilvak Mount 71.44 28 P **P 11 06 11.2 +0.3**
baz=256
F14K Arctic Creek 71.69 24 P **P 11 06 14.1 +1.7**
baz=253
M13K Dall Lake 71.70 29 P **P 11 06 13.1 +0.7**
baz=257
ANM Nome 71.82 25 P **P 11 06 13.5 +0.3**
baz=254
J14K Nanvaranak Lak 72.14 27 P **P 11 06 15.9 +0.8**
baz=256
L14K Kuka Creek 72.22 29 P **P 11 06 17.0 +1.4**
baz=258,SNR=12
SDPT Sand Point 72.27 35 P **P 11 06 16.7 +0.7**
baz=261
N14K Kuskokwak Cree 72.41 30 P **P 11 06 16.9 +0.2**
baz=259
F15K North Star Dit 72.43 24 IAmb IAmb 11 06 32.7
comp=Z,17nm,1.5s
F15K North Star Dit 72.43 24 P **P 11 06 17.1 +0.3**
baz=254
M14K Bethel 72.44 29 P **P 11 06 18.4 +1.5**
baz=258
G15K Niukluk 72.49 25 P **P 11 06 17.4 +0.3**
baz=255
O14K Tigyukauivet M 72.50 31 P **P 11 06 17.0 -0.3**
baz=259
CHNA Chernabura Isl 72.70 36 P **P 11 06 18.9 +0.4**
baz=262
L15K Ungalak Mounta 72.85 28 P **P 11 06 19.3 0.0**
baz=258
C16K Lisburne Hills 72.89 21 P **P 11 06 20.7 +1.2**
baz=253
KIP Kipapa 72.90 71⇓ *e*P **P 11 06 20.9 +0.5**
KIP pmax pmax
comp=Z,21nm,1.4s
S14K Fog Glacier 72.92 34 P **P 11 06 20.8 +0.7**
baz=262
K15K Wolf Creek Mou 72.96 28 P **P 11 06 21.0 +1.0**
baz=258
M15K Kasigluk River 73.05 29 P **P 11 06 20.8 +0.3**
baz=260
H16K Elim 73.15 25 P **P 11 06 21.9 +0.8**
baz=257
O15K Ungalikthiuk R 73.22 31 P **P 11 06 21.9 +0.3**
baz=261
N15K Kwethluk River 73.25 30 IAmb IAmb 11 06 37.1
comp=Z,26nm,1.4s
N15K Kwethluk River 73.25 30 P **P 11 06 22.5 +0.8**
baz=260
G16K Koyuk River 73.27 24 P **P 11 06 22.9 +1.1**
baz=257
D17K Noatak River 73.55 22 P **P 11 06 24.5 +1.1**
baz=255,SNR=10
CHGN Chignik 73.56 34 P **P 11 06 22.2 -1.3**
J16K Anvik River 73.57 27 P **P 11 06 21.1 -2.4**
J16K IAmb IAmb 11 06 39.8
comp=Z,13nm,1.2s
J16K Anvik River 73.57 27 P **P 11 06 25.2 +1.6**
baz=259
I17K Unalakleet 73.65 26 P **P 11 06 25.4 +1.4**
baz=259
RDOG Red Dog Mine 73.71 22 P **P 11 06 25.8 +1.5**
baz=255
L16K Owhat River 73.80 28 IAmb IAmb 11 06 40.4
comp=Z,19nm,1.1s
L16K Owhat River 73.80 28 P **P 11 06 25.5 +0.5**
baz=260,SNR=6.0
E17K Hotham Inlet 73.87 23 P **P 11 06 25.7 +0.4**
baz=257,SNR=6.8
M16K Timber Creek 73.94 29 P **P 11 06 24.9 -0.9**
M16K IAmb IAmb 11 06 41.8
comp=Z,12nm,0.9s
M16K Timber Creek 73.94 29 P **P 11 06 26.0 +0.2**
baz=261
N16K Nishlik Lake 73.94 30 P **P 11 06 26.5 +0.6**
baz=261,SNR=6.5
F17K Baldwin Pennin 73.95 23 P **P 11 06 26.3 +0.6**
baz=257
G17K Kiwalik Mounta 73.99 24 P **P 11 06 26.3 +0.3**
baz=258,SNR=6.7
O16K Kokwok River B 74.15 31 IAmb IAmb 11 06 42.9
comp=Z,28nm,1.1s
O16K Kokwok River B 74.15 31 P **P 11 06 26.9 -0.1**
baz=262
R16K Pilot Point 74.17 33 P **P 11 06 27.4 +0.3**
baz=263
H17K Granite Mounta 74.19 25 IAmb IAmb 11 06 45.1
comp=Z,16nm,1.1s
H17K Granite Mounta 74.19 25 P **P 11 06 28.1 +0.9**
baz=259,SNR=6.5
J17K VABM Dome 74.27 27 IAmb IAmb 11 06 45.8
comp=Z,17nm,1.2s
J17K VABM Dome 74.27 27 P **P 11 06 28.2 +0.5**
baz=260,SNR=5.2
E18K Tukpahlearik C 74.41 23 IAmb IAmb 11 06 46.3
comp=Z,11nm,1.0s
E18K Tukpahlearik C 74.41 23 P **P 11 06 28.9 +0.4**
baz=258,SNR=11
L17K Donlin 74.42 28 P **P 11 06 28.9 +0.3**
baz=261
B18K Kokolik River 74.42 20 P **P 11 06 28.7 +0.2**
baz=256
C18K Utukok River 74.47 21 IAmb IAmb 11 06 46.3
comp=Z,24nm,1.4s
C18K Utukok River 74.47 21 P **P 11 06 29.4 +0.6**
baz=257,SNR=8.2
K17K Iditarod 74.51 28 P **P 11 06 29.9 +0.8**
baz=261,SNR=6.1
F18K Selawik 74.61 23 P **P 11 06 30.7 +1.1**
baz=259,SNR=8.4
O17K Koliganek Bris 74.68 31 P **P 11 06 30.7 +0.6**
baz=263
M17K Holitna River 74.72 29 P **P 11 06 31.4 +1.0**
baz=262,SNR=5.6
N17K Nushagak Hills 74.73 30 P **P 11 06 31.4 +1.0**
baz=263,SNR=7.2
Q16K King Salmon 74.78 32 P **P 11 06 31.9 +1.2**
baz=264
H18K Honhosa River 74.87 25 IAmb IAmb 11 06 34.7
comp=Z,19nm,1.4s
H18K Honhosa River 74.87 25 P **P 11 06 32.4 +1.2**
baz=260
G18K Tagagawik 74.88 24 P **P 11 06 32.0 +0.8**
baz=260
P17K Kvichak River 74.94 31 P **P 11 06 32.4 +0.8**
baz=264
CHIR Chirikof Islan 75.06 35 P **P 11 06 33.1 +0.7**
baz=265
KIRV Kirov 75.07 328 *c i*P **P 11 06 31.8 -0.5**
Q17K Contact Creek 75.14 32 P **P 11 06 33.3 +0.3**
baz=264
L18K Granite Mounta 75.18 28 P **P 11 06 34.0 +1.0**
baz=263,SNR=5.4
J18K Innoko River 75.33 27 P **P 11 06 34.7 +0.8**
baz=262
N18K Kilae Creek 75.38 30 P **P 11 06 34.8 +0.6**
baz=264
F19K Shaleruckik Mo 75.39 23 P **P 11 06 34.8 +0.7**
baz=260
GCSA Galena City Sc 75.43 26 P **P 11 06 35.7 +1.4**
baz=262
M18K Stony River 75.50 29 P **P 11 06 35.7 +0.9**
baz=264,SNR=7.6
D19K Kuna River 75.54 22 IAmb IAmb 11 06 53.5
comp=Z,25nm,1.1s
D19K Kuna River 75.54 22 P **P 11 06 36.4 +1.4**
baz=260,SNR=10
G19K Purcell Mounta 75.55 24 IAmb IAmb 11 06 52.6
comp=Z,15nm,1.2s
G19K Purcell Mounta 75.55 24 P **P 11 06 36.4 +1.4**
baz=261
P18K Big Mountain, 75.58 31 P **P 11 06 36.1 +0.7**
baz=265
BELG Belogornoye 75.63 322 *c i*P **P 11 06 34.9 -0.8**
BELG pmax pmax
comp=Z,5.0nm,1.0s
Q18K Katmai Hardscr 75.63 32 P **P 11 06 35.8 0.0**
baz=265
O18K Koktuh Hills 75.64 31 P **P 11 06 36.2 +0.5**
baz=265,SNR=7.4
E19K Redstone River 75.70 23 P **P 11 06 36.9 +1.0**
baz=261,SNR=15
H19K Roundabout Mou 75.72 25 P **P 11 06 37.6 +1.6**
baz=262
R18K Karluk 75.84 33 P **P 11 06 37.7 +0.8**
baz=266
J19K Poorman 75.88 26 IAmb IAmb 11 06 54.7
comp=Z,18nm,1.4s
J19K Poorman 75.88 26 P **P 11 06 38.4 +1.4**
baz=263
L19K White Mountain 76.03 28 IAmb IAmb 11 06 55.7
comp=Z,24nm,1.5s
L19K White Mountain 76.03 28 P **P 11 06 38.7 +0.7**
baz=264
N19K Bonanza Creek 76.08 30 IAmb IAmb 11 06 54.4
comp=Z,17nm,0.9s
N19K Bonanza Creek 76.08 30 P **P 11 06 38.7 +0.4**
baz=265
O19K Port Alsworth 76.11 30 P **P 11 06 39.2 +0.9**
baz=265
D20K Etivluk River 76.12 21 P **P 11 06 39.0 +0.7**
baz=261,SNR=16
B20K Meade River 76.14 20 P **P 11 06 37.2 -1.1**
B20K IAmb IAmb 11 06 56.2
comp=Z,24nm,1.2s
B20K Meade River 76.14 20 P **P 11 06 38.7 +0.4**
baz=260
E20K Nigu River 76.21 22 P **P 11 06 39.3 +0.4**
baz=262,SNR=8.6
F20K Avaraart Lake 76.22 23 P **P 11 06 38.3 -0.5**
F20K IAmb IAmb 11 06 56.6
comp=Z,10nm,1.0s
F20K Avaraart Lake 76.22 23 P **P 11 06 39.9 +1.1**
baz=262
M19K Big River Lodg 76.22 29 P **P 11 06 38.9 0.0**
baz=265
Q19K Cape Douglas, 76.36 32 P **P 11 06 39.9 +0.1**
baz=266
H20K Anotleneega Mo 76.37 25 P **P 11 06 41.5 +1.8**
baz=264,SNR=6.6
I20K Naaghedeneel 76.46 26 P **P 11 06 40.8 +0.6**
baz=264
K20K Telida 76.50 27 IAmb IAmb 11 06 56.1
comp=Z,14nm,1.3s
K20K Telida 76.50 27 P **P 11 06 40.4 -0.1**
baz=265
L20K Farewell, AK 76.51 28 P **P 11 06 41.4 +0.7**
baz=265
A21K Barrow 76.54 19 P **P 11 06 42.0 +1.4**
baz=260
J20K Nowinta River 76.54 26 P **P 11 06 40.9 +0.2**
baz=264
P19K Oil Pt 76.62 31 P **P 11 06 42.1 +0.8**
baz=266
M20K Styx River 76.81 29 P **P 11 06 42.7 +0.3**
baz=266
C21K Knifeblade Rid 76.84 21 P **P 11 06 42.6 +0.3**
baz=263
KDAK Kodiak Island 76.86 33 LR LR 11 36 50.2
comp=Z,130nm,21.0s,baz=96,slow=33
KDAK Kodiak Island 76.86 33 P **P 11 06 43.2 +0.6**
baz=267
B21K Ikpikpuk River 76.96 21 P **P 11 06 43.8 +0.9**
baz=263
Q20K Shuyak Island 76.99 32 P **P 11 06 44.3 +0.9**
baz=267
A22K Sinclair Lake 77.02 19 P **P 11 06 44.4 +1.2**
baz=262
G21K Allakaket 77.03 24 IAmb IAmb 11 06 59.4
comp=Z,16nm,1.0s
G21K Allakaket 77.03 24 P **P 11 06 43.9 +0.4**
baz=264,SNR=8.8
E21K Killik River 77.05 22 IAmb IAmb 11 07 01.1
comp=Z,23nm,1.1s
E21K Killik River 77.05 22 P **P 11 06 44.1 +0.5**
baz=264
F21K Alatna River 77.11 23 P **P 11 06 44.4 +0.5**
baz=264
SPCR Spurr Chakacha 77.21 29 P **P 11 06 45.7 +1.0**
baz=267
H21K Melozitna Rive 77.24 25 IAmb IAmb 11 07 02.5
comp=Z,13nm,1.1s
H21K Melozitna Rive 77.24 25 P **P 11 06 46.0 +1.3**
baz=265,SNR=6.0
PPLA Purkeypile 77.32 28 P **P 11 06 45.8 +0.5**
baz=267
CHUM Lake Minchumin 77.32 27 P **P 11 06 46.1 +0.9**
baz=266
CAST Castle Rocks 77.39 27 P **P 11 06 46.5 +0.9**
baz=266
HOM Homer 77.42 31 P **P 11 06 46.6 +0.8**
baz=268
B22K Teshekpuk Lake 77.45 20 IAmb IAmb 11 07 03.3
comp=Z,16nm,1.0s
B22K Teshekpuk Lake 77.45 20 P **P 11 06 47.1 +1.3**
baz=264,SNR=9.7
I21K Tanana 77.55 25 IAmb IAmb 11 07 04.3
comp=Z,19nm,1.1s
I21K Tanana 77.55 25 P **P 11 06 47.1 +0.7**

baz=266
D22K Ayikyak River 77.56 21 P P 11 06 45.4 -1.1
D22K IAmb IAmb 11 07 04.4
comp=Z,16nm,1.3s
D22K Ayikyak River 77.56 21 P P 11 06 47.3 +0.9
baz=265
SKT Skwentna 77.57 29 P P 11 06 47.2 +0.6
baz=267
GNI Garni 77.61 309 *ce*P P **11 06 47.6 +0.1**
GNI pmax pmax
comp=Z,20nm,1.5s
F22K John River 77.64 23 P P 11 06 48.1 +1.2
baz=266
CAPN Captain Cook N 77.71 30 P P 11 06 47.4 +0.1
baz=268
E22K Anaktuvuk Pass 77.82 22 IAmb IAmb 11 07 05.8
comp=Z,14nm,1.1s
E22K Anaktuvuk Pass 77.82 22 P P 11 06 49.1 +1.2
baz=266,SNR=6.5
H22K Ishtalitna Cre 77.84 25 P P 11 06 48.9 +0.8
baz=267,SNR=5.6
G22K Bettles 77.86 24 P P 11 06 48.7 +0.7
baz=266
BRSE Bradley Lake S 77.88 31 P P 11 06 48.9 +0.5
baz=268
BPAW Bear Paw Mtn. 77.92 26 P P 11 06 49.0 +0.5
baz=267,SNR=8.6
SUA Susitna One 77.93 29 IAmb IAmb 11 07 04.5
comp=Z,14nm,1.0s
SUA Susitna One 77.93 29 P P 11 06 49.2 +0.5
baz=268
RAYN Ar Rayn 78.11 292 P P 11 06 49.0 -1.4
RAYN IAmb IAmb 11 06 50.7
comp=Z,11nm,0.8s
RAYN Ar Rayn 78.11 292 P P 11 06 49.0 -1.4
RAYN pmax pmax
comp=Z,11nm,0.9s
CUT Chulitna 78.18 28 P P 11 06 50.7 +0.8
baz=268
TRF Thorofare Moun 78.20 27 P P 11 06 50.8 +0.5
baz=268
M22K Willow 78.23 29 P P 11 06 50.9 +0.7
baz=269
D23K Nanushuk River 78.29 21 IAmb IAmb 11 07 08.6
comp=Z,14nm,1.1s
D23K Nanushuk River 78.29 21 P P 11 06 51.9 +1.5
baz=267,SNR=8.0
C23K Itkillik River 78.37 21 IAmb IAmb 11 07 06.4
comp=Z,15nm,0.8s
C23K Itkillik River 78.37 21 P P 11 06 52.1 +1.3
baz=266,SNR=11
COLD Coldfoot 78.38 23 IAmb IAmb 11 07 08.9
comp=Z,16nm,1.2s
COLD Coldfoot 78.38 23 P P 11 06 52.5 +1.5
baz=267,SNR=8.7
O22K Cooper Landing 78.41 30 P P 11 06 52.5 +1.3
baz=269
RC01 Rabbit Creek A 78.41 30 P P 11 06 52.1 +0.9
baz=269
G23K Bananza Creek 78.43 24 IAmb IAmb 11 07 09.3
comp=Z,17nm,1.2s
G23K Bananza Creek 78.43 24 P P 11 06 52.7 +1.3
baz=268,SNR=6.9
RAR Rarotonga 78.49 114 LR LR 11 35 20.8
comp=Z,170nm,19.2s,baz=323,slow=31
H23K Yukon River 78.60 25 P P 11 06 53.2 +1.0
baz=268
E23K Chandalar 78.64 22 P P 11 06 53.4 +0.9
baz=268,SNR=22
I23K Minto, Yukon-K 78.66 25 P P 11 06 51.5 -1.0
I23K IAmb IAmb 11 07 08.2
comp=Z,23nm,1.6s
I23K Minto, Yukon-K 78.66 25 P P 11 06 53.3 +0.8
baz=269
TOLK Toolik Lake Re 78.68 22 IAmb IAmb 11 07 10.5
comp=Z,14nm,1.1s
TOLK Toolik Lake Re 78.68 22 P P 11 06 53.4 +0.7
baz=268,SNR=6.2
PMR Palmer 78.70 29 P P 11 06 51.1 -1.7
PMR IAmb IAmb 11 07 06.8
comp=Z,13nm,1.1s
PMR Palmer 78.70 29 P P 11 06 51.1 -1.7
PMR pmax pmax
comp=Z,13nm,1.1s
PMR Palmer 78.70 29 P P 11 06 53.2 +0.4
baz=270
NEA2 Nenana 78.77 26 P P 11 06 53.7 +0.5
baz=269,SNR=5.9
MCK McKinley 78.81 27 IAmb IAmb 11 07 08.2
comp=Z,22nm,1.0s
MCK McKinley 78.81 27 P P 11 06 54.3 +0.8
baz=269,SNR=6.2
KBZ Khabaz 78.83 313 P P 11 06 53.3 -0.5
comp=Z,5.6nm,1.0s,baz=104,slow=4.7,SNR=13
comp=Z,5.6nm,1.0s
KBZ Khabaz 78.83 313 *de*P P **11 06 53.6 -0.3**
KBZ pmax pmax
comp=Z,9.0nm,1.1s
RND Reindeer 78.85 27 IAmb IAmb 11 07 10.8
comp=Z,18nm,1.3s
KIV Kislovodsk 78.97 313 *e*P P **11 06 54.2 -0.6**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,299nm,19.0s
D24K Happy Valley 78.97 21 IAmb IAmb 11 07 12.0
comp=Z,18nm,1.1s
D24K Happy Valley 78.97 21 P P 11 06 55.2 +1.0
baz=268,SNR=10
C24K Franklin Bluff 79.03 21 IAmb IAmb 11 07 12.0
comp=Z,15nm,1.1s
C24K Franklin Bluff 79.03 21 P P 11 06 54.8 +0.4
baz=268
KNK Knik Glacier 79.03 29 IAmb IAmb 11 07 15.0
comp=Z,26nm,1.3s
KNK Knik Glacier 79.03 29 P P 11 06 55.2 +0.5
baz=270
E24K Your Creek 79.06 22 P P 11 06 55.5 +0.7
baz=269
SML Sawmill 79.09 29 P P 11 06 55.5 +0.5
baz=270
PWL Port Wells 79.09 30 IAmb IAmb 11 07 09.9
comp=Z,25nm,1.0s
PWL Port Wells 79.09 30 P P 11 06 55.7 +0.7
baz=270
H24K Noodor Dome 79.28 25 P 11 06 54.1 -1.9
H24K Noodor Dome 79.28 25 P P 11 06 56.9 +0.8
baz=270,SNR=7.5
F24K Squaw Lake 79.28 23 P P 11 06 57.3 +1.3
baz=270,SNR=7.7
VRH Novokhopyorsk 79.29 320 *e*P P **11 06 55.9 -0.3**
VRH pmax pmax
comp=Z,23nm,1.4s
COLA College 79.29 26⇑ *e*P P **11 06 58.0 +2.0**
COLA pmax pmax
comp=Z,3.0nm,0.9s
COLA College 79.29 26 P P 11 06 57.1 +1.2
baz=270
CCB Clear Creek Bu 79.31 26 P 11 06 54.4 -1.7
CCB IAmb IAmb 11 07 13.3
comp=Z,38nm,1.8s
M23K Glacier View 79.37 29 P P 11 06 57.2 +0.7
baz=271
G24K Hadweenzic Riv 79.44 24 IAmb IAmb 11 07 12.7
comp=Z,11nm,0.9s
G24K Hadweenzic Riv 79.44 24 P P 11 06 58.2 +1.4
baz=270
POKR Poker Plat Res 79.47 25 P P 11 06 58.3 +1.3
baz=270
SCM Sheep Creek Mo 79.56 29 P P 11 06 58.6 +0.9
baz=271
P23K Montague Islan 79.57 31 P P 11 06 58.5 +0.9
baz=271
HDA Harding Lake 79.69 26 P P 11 06 59.0 +0.9
baz=271
GLI Glacier Island 79.70 30 P P 11 06 59.5 +1.2
baz=272
ILAR Eielson Array 79.71 26 P P 11 06 58.0 -0.3
ILAR Eielson Array 79.71 26 P P 11 06 59.9 +1.6
comp=Z,1.2nm,0.6s,baz=240,slow=4.6,SNR=23
ILAR PP **PP 11 10 02.1 +3.1**
comp=Z,0.4nm,1.0s,baz=272,slow=7.4,SNR=2.3
comp=Z,1.2nm,0.6s
D25K Kavik River 79.84 21 IAmb IAmb 11 07 14.5
comp=Z,14nm,1.1s
D25K Kavik River 79.84 21 P P 11 06 59.9 +0.9
baz=271
G25K Bearman Lake 79.99 24 P P 11 07 01.3 +1.5
baz=271
M24K Tolsona, Glenn 80.10 28 P P 11 07 01.5 +0.9
baz=272
KLMR Klimovskoe 80.14 330 *e*P **P 11 06 56.6 -4.1**
KLMR *e**PP **sP 11 07 02.9 -1.1**
KLMR pmax pmax
comp=Z,50nm,1.6s
F25K Christian Rive 80.15 23 P P 11 07 02.0 +1.3
baz=272,SNR=7.7
E25K Arctic Village 80.16 22 P P 11 07 02.1 +1.3
baz=272,SNR=7.8
K24K Donnelly Dome 80.22 27 IAmb IAmb 11 07 18.9
comp=Z,28nm,1.4s
K24K Donnelly Dome 80.22 27 P P 11 07 02.5 +1.3
baz=272
KLU Klutina 80.24 29 P P 11 07 02.7 +1.3
baz=272
PRP Porcupine Dome 80.26 25 P P 11 07 02.5 +1.0
baz=272
C26K Camden Bay 80.34 21 P P 11 07 02.9 +1.3
baz=272,SNR=12
J25K Salcha River, 80.36 26 P P 11 07 02.9 +1.0
baz=272
EYAK Cordova Ski Ar 80.37 30 P P 11 07 02.6 +0.7
baz=273
PAX Paxson 80.39 28 P P 11 07 03.4 +1.2
baz=272
ERBR Yeremizino-Bor 80.42 315 *e*P **P 11 07 01.1 -1.4**
ERBR pmax pmax
comp=Z,11nm,0.5s
BMAR Burnt Mountain 80.56 23 P P 11 07 05.3 +2.4
HARP HAARP 80.56 28 P P 11 07 04.4 +1.4
baz=273
RIDG Independent Ri 80.63 27 IAmb IAmb 11 07 20.0
comp=Z,21nm,1.1s
RIDG Independent Ri 80.63 27 P P 11 07 05.0 +1.6
baz=273,SNR=5.7
F26K Sheenjek River 80.72 23 P P 11 07 05.6 +1.9
baz=273,SNR=5.6
C27K Jago River 80.77 21 P P 11 07 03.6 -0.3
C27K Jago River 80.77 21 P P 11 07 05.2 +1.3
baz=273
VORD Divnogorie 80.83 320 *e*P **P 11 07 01.6 -3.0**
VORD pmax pmax
comp=Z,9.0nm,1.1s
VORR Voronezh 80.83 321 *e*P **P 11 07 04.3 -0.3**
VORR pmax pmax
comp=Z,25nm,1.4s
N25K Chitina, Valde 80.87 29 P P 11 07 05.6 +0.9
baz=274
VSR Storozhevoye 80.89 320 *e*P **P 11 07 02.0 -2.9**
VSR pmax pmax
comp=Z,10.0nm,1.0s
G26K Porcupine Rive 80.90 24 P P 11 07 06.4 +1.8
baz=273
BMRM Bremner River 80.91 30 P P 11 07 06.1 +1.2
baz=274
LPSR Galich'ya Gora 80.94 322 *e*P **P 11 07 04.5 -0.6**
LPSR pmax pmax
comp=Z,19nm,1.3s
SCRK Sand Creek 81.00 27 P 11 07 03.3 -2.1
SCRK IAmb IAmb 11 07 23.9
comp=Z,17nm,1.3s
SCRK Sand Creek 81.00 27 P P 11 07 06.3 +0.9
baz=274
KAIM Kayak Island 81.07 31 P P 11 07 06.4 +0.7
baz=274
J26L Joseph Creek 81.15 26 P P 11 07 07.3 +1.1
baz=274
I26K Coal Creek Min 81.26 25 IAmb IAmb 11 07 26.9
comp=Z,15nm,1.1s
I26K Coal Creek Min 81.26 25 P P 11 07 07.9 +1.3
baz=274
L26K Log Cabin Wild 81.35 27 P P 11 07 07.9 +0.7
baz=274
M26K Nabesna, AK 81.56 28 IAmb IAmb 11 07 34.8
comp=Z,15nm,1.1s
M26K Nabesna, AK 81.56 28 P P 11 07 09.2 +0.8
baz=275
BGLC Bering Glacier 81.62 30 P P 11 07 09.2 +0.7
baz=275
E27K Coleen River 81.64 22 IAmb IAmb 11 07 26.5
comp=Z,12nm,1.1s
E27K Coleen River 81.64 22 P P 11 07 10.2 +1.5
baz=275,SNR=9.2
G27K Doyon Strip 81.75 24 P P 11 07 09.8 +0.6
baz=275,SNR=6.1
D27M Malcolm River 81.77 21 P P 11 07 10.6 +1.3
baz=276
LVZ Lovozero 81.77 338 P P 11 07 08.3 -1.1
LVZ Lovozero 81.77 338 *de*P **P 11 07 10.3 +1.0**
LVZ pmax pmax
comp=Z,20nm,1.3s
K27K Chicken 81.83 26 P P 11 07 10.7 +1.0
baz=275
H27K Steamboat Moun 81.85 24 P P 11 07 10.6 +0.8
baz=276,SNR=7.7
I27K Kandik River 81.88 25 P P 11 07 10.5 +0.5
baz=276,SNR=15
L27K Beaver Creek, 82.04 27 P 11 07 10.8 0.0
L27K IAmb IAmb 11 07 29.4
comp=Z,14nm,1.1s
L27K Beaver Creek, 82.04 27 P P 11 07 12.5 +1.6
baz=276
M27K Edge Creek, AK 82.09 28 P P 11 07 12.1 +0.9
baz=276
OBN Obninsk 82.12 325 *de*P **P 11 07 11.0 -0.3**
OBN *PP **sP 11 07 14.0 -0.6**
OBN *SP **PcP 11 07 16.0 -0.7**
OBN *e*S **SKSac 11 17 32.0 +0.5**
OBN PS **PnS 11 18 14.9 +0.2**
OBN *i* PPS PPS 11 18 38.0
OBN *e*SSS SSS 11 26 14.9
OBN pmax pmax
comp=Z,15nm,1.3s
MESA MESA 82.28 30 P P 11 07 13.2 +0.9
baz=276
E28M Babbage River 82.35 22 P P 11 07 13.2 +0.9
baz=277,SNR=8.9
D28M Stokes Point 82.55 21 P P 11 07 14.5 +1.3
baz=278
BVCY Beaver Creek 82.55 28 P P 11 07 14.1 +0.6
baz=277
I28M Miner Creek 82.59 25 P P 11 07 14.8 +1.0
baz=277,SNR=9.2
ANN Anapa 82.65 314 *e*P **P 11 07 13.1 -1.2**
ANN pmax pmax
comp=Z,39nm,1.6s
YUK3 Moose Creek 82.82 29 P P 11 07 16.0 +0.9
baz=277
E29M Blow River 82.98 22 IAmb IAmb 11 07 34.0
comp=Z,29nm,1.9s
E29M Blow River 82.98 22 P P 11 07 16.6 +1.0
baz=279
O28M Mount Upton 83.08 30 P P 11 07 17.5 +0.9
baz=278
H29M Whitestone 83.12 24 P P 11 07 17.3 +0.9
baz=278
PINM Pinnacle 83.13 30 P P 11 07 18.3 +1.7
baz=278
G29M Pine Creek 83.16 23 P P 11 07 18.3 +1.7
baz=279,SNR=7.2
YUK8 Steele Glacier 83.21 29 P P 11 07 18.2 +0.9
baz=278
I29M Ogilvie Camp, 83.28 25 P P 11 07 18.3 +1.1
baz=279,SNR=11
J29N Klondike Camp 83.45 26 P P 11 07 19.5 +1.3
baz=279,SNR=7.8
PNL Peninsula 83.62 31 P P 11 07 21.2 +2.1
baz=278
M29M Somme Creek 83.66 28 P P 11 07 18.9 -0.4
M29M IAmb IAmb 11 07 37.8
comp=Z,16nm,1.1s
M29M Somme Creek 83.66 28 P P 11 07 20.2 +0.9
baz=279
L29M L29M 83.70 27 P P 11 07 21.0 +1.6
baz=279,SNR=7.6
YUK4 Talbot Arm 83.74 29 P P 11 07 21.0 +1.1
baz=279
EPYK Eagle Plains 83.76 24 P P 11 07 20.9 +1.2
baz=280,SNR=6.3
G30M tAoh Zraii Nji 83.84 23 P 11 07 20.4 +0.3
G30M tAoh Zraii Nji 83.84 23 P P 11 07 20.6 +0.5
baz=280,SNR=6.2
K29M Barlow Dome 83.85 26 P P 11 07 20.3 0.0
baz=280,SNR=5.7
F30M Barrier River 83.90 22 IAmb IAmb 11 07 37.8
comp=Z,13nm,1.0s
F30M Barrier River 83.90 22 P P 11 07 21.9 +1.6
baz=281,SNR=6.2
O29M Mount Kennedy 83.93 30 P P 11 07 21.9 +1.0
baz=279
YUK6 Outpost Mounta 83.94 29 P P 11 07 22.4 +1.5
baz=279
I30M Mount Dempster 84.10 25 P P 11 07 22.5 +0.9
baz=280,SNR=12
KEV Kevo 84.22 340 P 11 07 21.8 -0.1
KEV IAmb IAmb 11 07 23.6
comp=Z,16nm,1.0s
KEV Kevo 84.22 340 P P 11 07 21.8 -0.1
KEV pmax pmax
comp=Z,17nm,1.0s
J30M Hart River 84.24 26 P P 11 07 23.5 +1.2
baz=280,SNR=6.3
HYT Haines Junctio 84.37 29 P 11 07 22.2 -0.9
HYT Haines Junctio 84.37 29 P P 11 07 24.4 +1.4
baz=280,SNR=5.7
M30M Minto, Yukon 84.40 28 P P 11 07 23.8 +0.7
baz=280,SNR=6.3
N30M Aishikik Lake 84.46 29 P P 11 07 24.2 +0.8
baz=280
P29M Windy Craggy 84.46 31 P P 11 07 23.8 +0.5
baz=280
SPA0 Spitsbergen Ar 84.57 349 *e*P **P 11 07 23.7 +0.1**
SPITS Spitsbergen Ar 84.57 349 P P 11 07 24.3 +0.7
comp=Z,11nm,0.8s,baz=88,slow=9.3,SNR=19
SPITS LR LR 11 51 39.5
comp=Z,213nm,18.8s,baz=26,slow=40
comp=Z,11nm,0.8s
INK Inuvik 84.59 22 P P 11 07 24.9 +1.1
baz=283,SNR=8.4
G31M Satah River 84.61 23 P P 11 07 24.6 +0.7
baz=282,SNR=7.5
F31M Tsiigehtchic 84.70 22 P P 11 07 25.2 +0.8
baz=282,SNR=5.7
P30M Million Dollar 84.76 30 P P 11 07 25.9 +1.0
baz=280
ARA0 ARCESS Array S 84.78 340 *e*P **P 11 07 25.8 +1.0**
ARCES ARCESS Array B 84.78 340 P P 11 07 25.8 +1.0
comp=Z,14nm,0.8s,baz=76,slow=6.5,SNR=47
ARCES PP **PP 11 10 42.4 +1.8**
comp=Z,1.6nm,0.7s,baz=78,slow=5.8,SNR=4.6
comp=Z,14nm,0.8s
H31M Peel River 84.82 24 P P 11 07 26.1 +1.0
baz=282,SNR=10.0
SIM Simferopol' 84.97 315 *e*P P 11 07 17.8 -8.4
SIM pmax pmax
comp=Z,21nm,0.8s
O30N Mendenhall 85.06 29 P P 11 07 27.2 +0.8
baz=281
N31M Braeburn, Yuko 85.07 29 P P 11 07 27.1 +0.7
baz=281
KBS Kingsbay 85.07 350⇓ *e*P **P 11 07 27.0 +0.9**
KBS pmax pmax
comp=Z,5.0nm,0.9s
M31M Drury Creek, Y 85.57 28 IAmb IAmb 11 07 46.4
comp=Z,11nm,1.1s
M31M Drury Creek, Y 85.57 28 P P 11 07 29.9 +1.1
baz=282
WHY Whitehorse 85.67 29 P P 11 07 30.4 +0.9
baz=282
MMAI Mount Meron Ar 85.80 303 P P 11 07 30.9 +0.2
comp=Z,3.4nm,0.8s,baz=90,slow=2.5,SNR=6.3
MMAI LR LR 11 51 14.4
comp=Z,110nm,18.9s,baz=62,slow=40
comp=Z,3.4nm,0.8s
ILGA Ilgaz 85.87 311 P P 11 07 30.3 -0.8
FARO Faro, Yukon 86.04 28 P P 11 07 32.6 +1.4
baz=283,SNR=11
BR131 Keskin Array S 86.14 309⇓ *e*P **P 11 07 31.1 -1.2**
BRTR Keskin Array B 86.14 309 P 11 07 30.9 -1.5
BRTR Keskin Array B 86.14 309 P P 11 07 31.1 -1.3
comp=Z,1.8nm,0.9s,baz=84,slow=5.1,SNR=9.9
comp=Z,1.8nm,0.9s
A36M Sachs Harbour 86.26 17 P P 11 07 33.3 +1.2
baz=290,SNR=24
P32M Atlin 86.47 30 P P 11 07 34.0 +0.5
baz=283
JETT Jettan, Norway 86.50 340 *e*P **P 11 07 33.9 +0.5**
FIA1 FINESS Array S 86.50 332 P P 11 07 33.6 +0.2
FINES FINESS Array B 86.50 332 P 11 07 33.3 -0.2
FINES FINESS Array B 86.50 332 P P 11 07 33.6 +0.1
comp=Z,10nm,0.8s,baz=72,slow=6.2,SNR=17
FINES PP **PP 11 10 56.1 +1.4**
comp=Z,2.1nm,1.0s,baz=64,slow=9.4,SNR=4.1
comp=Z,10nm,0.8s
S32K Killisnoo 86.50 32 P P 11 07 33.8 +0.2
baz=283
EIL Elat 86.71 299 LR LR 11 52 59.3
comp=Z,106nm,19.6s,baz=68,slow=40
P33M Teslin, Yukon 86.77 29 P P 11 07 35.1 +0.2
baz=284
PPT Papeete 87.04 108 LR LR 11 41 40.9
comp=Z,119nm,18.7s,baz=295,slow=32
PPT2 Papeete2 87.04 108 *e*S **S 11 18 15.2 -1.2**
PPT2 comp=Z,121nm,24.8s *e*SS **SS 11 23 53.0 -6.8**
PPT2 comp=Z,127nm,22.8s *e*LQ LQ 11 31 25.0
PPT2 comp=Z,100nm,23.0s *e*LR LR 11 35 05.3
PPT2 comp=Z,182nm,21.5s *e*LR LR 11 35 06.9
PPT2 comp=Z,195nm,22.8s
MNK Minsk 87.17 325 *i* P **P 11 07 36.2 -0.7**
MNK *i* 11 11 00.5
MNK *i* PPP PPP 11 12 53.3
MNK *i* S **SKSac 11 18 01.8 -2.2**
MNK pmax pmax
comp=E,27nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.7s
MNK pmax pmax
comp=N,13nm,0.7s
MNK MLR MLR
comp=N,217nm,21.0s
MNK MLR MLR
comp=Z,190nm,17.0s
CSS Mathiatis 87.18 305 P P 11 07 37.1 -0.3
CSS IAmb IAmb 11 08 20.4
comp=Z,7.8nm,0.7s
AKASG Malin Array Be 87.19 321 P P 11 07 36.3 -0.7
comp=Z,2.2nm,0.7s,baz=65,slow=4.5,SNR=13
comp=Z,2.2nm,0.7s
AKBB Malin Array Si 87.19 321 IAmb IAmb 11 07 47.0
comp=Z,11nm,1.2s
AKBB Malin Array Si 87.19 321⇑ *e*P **P 11 07 35.5 -1.5**
KIEV Kiev 87.20 321 P 11 07 35.7 -1.4
KIEV IAmb IAmb 11 07 47.0
comp=Z,9.6nm,1.2s
KIEV Kiev 87.20 321 P P 11 07 35.7 -1.4
KIEV pmax pmax
comp=Z,10.0nm,1.2s
C36M Paulatuk 87.57 20 IAmb IAmb 11 07 54.7
comp=Z,11nm,0.8s
C36M Paulatuk 87.57 20 P P 11 07 39.3 +0.8
baz=291,SNR=14
U33K Whale Pass 87.59 33 P P 11 07 38.8 0.0
baz=284
R33M Jennings River 87.88 30 P P 11 07 41.4 +1.0
baz=286
TBI Tubuai 88.27 114 *e*S **S 11 18 27.6 -0.2**
comp=Z,736nm,30.2s
TBI Tubuai 88.27 114 *e*LR LR 11 35 44.6
comp=Z,1μm,25.2s
DLBC Dease Lake 88.61 31 LR LR 11 52 17.6
comp=Z,39nm,18.5s,baz=294,slow=39
STEI Steigen 88.84 339 *e*P **P 11 07 44.6 +0.1**
KIBK Kibwezi 89.03 267 P 11 07 45.9 -0.8
KIBK IAmb IAmb 11 07 47.3
comp=Z,13nm,1.1s
FAUS Fauske 89.05 339 *e*P **P 11 07 45.3 -0.2**
MAW Mawson 89.38 200 LR LR 11 45 18.8
comp=Z,54nm,20.4s,baz=68,slow=34
VNDA Vanda 89.40 173 P P 11 07 45.7 -1.2
VNDA IAmb IAmb 11 08 30.8
comp=Z,9.0nm,1.3s
VNDA Vanda 89.40 173 P P 11 07 46.9 0.0
comp=Z,2.3nm,1.0s,baz=303,slow=5.6,SNR=7.4
comp=Z,2.3nm,1.0s
KMBO Kilima Mbogo 89.61 269 P P 11 07 49.0 -0.6
KMBO IAmb IAmb 11 07 50.4
comp=Z,11nm,1.1s
KMBO Kilima Mbogo 89.61 269 P P 11 07 49.0 -0.6

KMBO pmax pmax
comp=Z,11nm,1.1s
MOR8 Moi Rana 89.84 338 *e*P **P 11 07 50.0 +0.6**
WRGLY **Wrigley 90.07 25** P **P 11 07 49.1 -1.3**
LIRD Liard River Hi 90.25 29 P **P 11 07 52.2 +0.9**
baz=290
BURAR **Bucovina Array 90.46 318** P **P 11 07 51.8 -0.9**
BUR08 **Bucovina Ar. S 90.47 318** **P 11 07 51.8 -1.0**
TOAD Toad River Com 90.86 30 P **P 11 07 55.2 +0.9**
baz=290
NSS Namsos 91.48 337 *e*P **P 11 07 57.5 +0.5**
RES Resolute Bay 91.91 10 LR LR 11 54 40.4
comp=Z,71nm,18.4s,baz=4.0,slow=39
HFS Hagfors 92.66 333 P **P 11 08 02.0 -0.5**
comp=Z,6.5nm,0.8s,baz=55,slow=5.6,SNR=12
comp=Z,6.5nm,0.8s
NB2 NORSAR Subarra 93.37 334 P **P 11 08 04.6 -1.2**
comp=Z,13nm,1.2s,baz=65,slow=4.6
NB2 NORSAR Subarra 93.37 334 P **P 11 08 04.6 -1.2**
baz=65,slow=4.6
NOA NORSAR Array B 93.37 334 P **P 11 08 05.1 -0.7**
comp=Z,3.0nm,0.8s,baz=64,slow=4.6,SNR=12
comp=Z,3.0nm,0.8s
NC204 NORSAR Array S 93.45 334 P **P 11 08 05.2 -1.0**
JMIC Jan Mayen 93.99 347 LR LR 11 56 54.7
comp=Z,111nm,18.4s,baz=67,slow=40
YKAW3 **Yellowknife Wh 94.00 24** **P 11 08 09.0 +0.4**
YKAW3 IAmb IAmb 11 08 25.3
comp=Z,5.6nm,0.8s
YKA Yellowknife Ar 94.04 24 P **P 11 08 10.8 +2.0**
comp=Z,2.6nm,0.8s,baz=302,slow=4.6,SNR=49
YKA LR LR 11 49 40.3
comp=Z,50nm,21.6s,baz=341,slow=35
comp=Z,2.6nm,0.8s
YKAW1 **Yellowknife Wh 94.09 24** **P 11 08 08.7 -0.4**
YKAW1 IAmb IAmb 11 08 25.8
comp=Z,6.5nm,0.9s
TAOE Nuku Hiva Isla 94.58 98 *e*S **S 11 19 26.0 +0.3**
comp=Z,103nm,24.9s
TAOE Nuku Hiva Isla 94.58 98 *e*LR LR 11 38 27.7
comp=Z,351nm,31.0s
KONO Kongsberg 94.72 333 *e*P **P 11 08 12.9 +0.9**
KONO pmax pmax
comp=Z,8.0nm,1.1s
VRAC Vranov 95.38 322 LR LR 11 52 52.9
comp=Z,91nm,21.7s,baz=87,slow=37
GERES **GERESS Array B 97.32 322** P **P 11 08 24.1 -0.1**
comp=Z,0.3nm,0.3s,baz=90,slow=2.7,SNR=4.7
comp=Z,0.3nm,0.3s
SYO Syowa Base 98.01 201 ‖ *i*pP pP 11 08 29.6 +0.6
YBH Yreka Blue Hor 98.50 45 LR LR 11 48 31.7
comp=Z,48nm,19.4s,baz=316,slow=33
NEW Newport 99.51 37 LR LR 11 49 51.2
comp=Z,43nm,19.4s,baz=315,slow=33
QSPA South Pole Qui 99.65 180 LR LR 11 56 00.4
comp=Z,115nm,18.9s,baz=1.5,slow=37
RKT Rikitea 101.41 112 *e*LR LR 11 41 46.1
comp=Z,1μm,35.5s
NVAR Mina Array Bea 102.89 47 Pdiff **Pdif 11 08 52.0 +2.5**
comp=Z,0.1nm,0.3s,baz=290,slow=4.6,SNR=1.9
ELIB Princess Elisa 103.37 198 *d*PKP **PKiKP 11 13 08.7 -0.9**
TXAR Lajitas Array 117.84 49 PKP **PKiKP 11 13 38.9 +0.7**
comp=Z,0.4nm,0.5s,baz=7.3,slow=1.7,SNR=9.8
TORD Torodi Ar. Bea 120.81 292 PKP **PKPdf 11 13 42.7 -1.3**
comp=Z,51nm,0.3s,baz=47,slow=1.8,SNR=4.6
LR05 Currie 145.43 154 PKPbc **PKPbc 11 14 27.5 -1.5**
PLCA Paso Flores 145.60 157 PKPdf **PKPdf 11 14 27.0 -2.6**
PLCA Paso Flores 145.60 157 PKPbc **PKPab 11 14 30.4 +0.3**
comp=Z,4.4nm,0.8s,baz=171,slow=4.1,SNR=12
SDDR Presa de Saban 146.38 32 PKPdf **PKPdf 11 14 28.8 -2.6**
BI02 San Fabin de 148.69 152 PKPbc **PKPbc 11 14 39.1 +0.5**
LPAZ La Paz 164.20 116 PKP **PKPdf 11 14 56.7 +0.6**
comp=Z,1.3nm,0.8s,baz=5.7,slow=4.3,SNR=4.8

DJA 26 10:59:12.1±1.0, 2°S±2°×12°3E±°, h31km±14km, M3.8/10, mb4.0/2, MLv3.7/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.97**	**14**	P	Pn	10 59 29.2	-0.4
LUWI				S	Sb	10 59 43.8	+0.8
APSI	**Ampana**	**1.39**	**321**	P	Pn	10 59 35.9	+0.6
MRSI	**Marisa**	**2.52**	**346**	P	Pn	10 59 51.3	+0.4
SPSI	**Sidrap Palu**	**3.38**	**235**	P	Pn	11 00 04.1	+1.3
SPSI				S	Sn	11 00 43.9	+2.0
BNSI	**Bone**	**3.40**	**225**	P	Pn	11 00 02.5	-0.6
SANI	**Sanana**	**3.46**	**91**	P	Pn	11 00 03.2	-0.6
MPSI	**Mapaga**	**3.50**	**311**	P	Pn	11 00 03.6	-0.9
MPSI				S	Sn	11 00 45.6	+0.7
BKSI	**Bulukumba**	**4.09**	**216**	P	Pn	11 00 12.0	-0.5
BSSI	**Bau Bau, Buton**	**4.60**	**206**	P	Pn	11 00 20.4	+0.8
EDFI	**Ende, Flores**	**6.77**	**187**	P	Pn	11 00 49.3	-0.2

HEL 26 11:05:47.0±0.2, 62°67N×21°27E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.74**	**59**	PG	Pg	11 06 00.9	-0.3
	baz=237						
VAF				MSG		11 06 10.1	
	comp=Z,3.2nm,0.2s						
VAF				SB	Sg	11 06 11.5	+0.7
KPF	**Kankaanpaa**	**0.92**	**156**	PG	Pg	11 06 03.6	-1.0
KPF				SB	Sg	11 06 16.2	-0.3
HUSU	**Husum**	**1.15**	**307**	PN	Pb	11 06 09.9	+0.1
HUSU				SN	Sn	11 06 26.3	-0.5
UMAU	**Umeaa**	**1.25**	**348**	PN	Pn	11 06 12.1	+0.5
UMAU				SN	Sn	11 06 28.7	-0.4
RAF	**Rauma**	**1.67**	**172**	MSG		11 06 37.0	
	comp=Z,2.3nm,0.2s						
RAF				SN	Sn	11 06 39.7	+0.2
KEF	**Keuruu**	**1.75**	**105**	PG	Pn	11 06 18.3	-0.3
KEF				MSG		11 06 39.1	
	comp=Z,2.0nm,0.2s						
KEF				SG	Sn	11 06 40.3	-1.3
SUF	**Sumiainen**	**2.25**	**87**	PG	Pn	11 06 26.7	+1.3
	baz=266						
SUF				MSG		11 06 53.6	
	comp=Z,1.5nm,0.2s						
SUF				SG	Sb	11 06 56.3	-0.5
OBF0	**Syolatti, Pyha**	**2.26**	**35**	MSG		11 06 53.9	
	comp=Z,0.6nm,0.2s						
OBF0				SG	Sb	11 06 57.5	+0.3
OUF	**Merijarvi**	**2.30**	**41**	PG	Pb	11 06 28.3	-1.1
OUF				MSG		11 06 55.1	
	comp=Z,0.5nm,0.2s						
OUF				SG	Sb	11 06 58.3	0.0
KAF	**Kangasniemi**	**2.41**	**101**	MSG		11 06 58.3	
	comp=Z,2.2nm,0.2s						
KAF				SG	Sb	11 07 00.5	-1.0
FIA0	**FINESS Array S**	**2.58**	**116**	SN	Sn	11 06 58.1	-3.8
FIA0				MSG		11 07 02.9	
	comp=Z,1.9nm,0.2s						
MEF	**Metsahovi**	**2.88**	**147**	MSG		11 07 12.0	
	comp=Z,4.6nm,0.2s						
TOF	**Tornio**	**3.67**	**20**	SB	Sb	11 07 35.4	-2.2

*IDC **26** 11:23:53.8±3.7, 13°47S×166°72E, h42km±31km, mb3.5/7, mbtmp3.9/9, ML4.0/2, MS3.7/1, Error ellipse: s-maj=33.3km s-min=17.7km az=65.0*

ISC 26 11:23:53.6±1.1, 13°45S±0°10×166°7E±0°1, h39km, n9, σ0°97/11, mb3.7/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.76**	**300**	P	**Pn**	**11 25 45.0**	**+0.8**
	7.4nm,0.3s,baz=356,slow=2.6,SNR=5.3						
HNR				S	**Sn**	**11 27 10.1**	**-0.7**
	37nm,0.5s,baz=171,slow=20,SNR=2.2						
	51nm,0.6s						
DZM	**Mont Dzumac**	**8.58**	**182**	P	**Pn**	**11 25 56.4**	**+0.9**
	0.5nm,0.3s,baz=321,slow=20,SNR=7.5						
DZM				S	**Sn**	**11 27 30.4**	**-0.7**
	6.3nm,0.8s,baz=144,slow=21,SNR=1.6						
	5.4nm,0.8s						
WRA	**Warramunga Arr**	**31.66**	**254**	P	**P**	**11 30 12.8**	**-0.8**
	0.4nm,0.6s,baz=84,slow=7.6,SNR=4.9						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**32.67**	**247**	P	**P**	**11 30 21.3**	**-1.2**
	0.5nm,0.6s,baz=79,slow=8.5,SNR=15						
ASAR				LR	LR	11 42 13.7	
	comp=Z,123nm,18.4s,baz=124,slow=34						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**73.97**	**294**	P	**P**	**11 35 26.9**	**+1.3**
	0.3nm,0.3s,baz=109,slow=5.9,SNR=4.1						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**76.57**	**180**	P	**P**	**11 35 39.8**	**-0.1**
	1.8nm,1.0s,baz=297,slow=1.4,SNR=5.8						
	1.8nm,1.0s						
SONM	**Songino Array**	**81.17**	**324**	P	**P**	**11 36 05.4**	**0.0**
	0.3nm,0.5s,baz=140,slow=3.2,SNR=2.0						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**85.47**	**18**	P	**P**	**11 36 25.8**	**-1.2**
	0.3nm,0.5s,baz=239,slow=5.1,SNR=8.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**95.93**	**317**	P	**P**	**11 37 16.8**	**+0.3**
	0.3nm,0.6s,baz=101,slow=6.2,SNR=2.4						
	0.3nm,0.6s						

*JMA **26** 11:34:27.6±0.1, 24°N±2°×122°5E±0°5, h69km±1km, MV2.0/11, NW OFF ISHIGAKIJIMA IS*
*TAP **26** 11:34:27.7, 24°39N×122°55E, h70km, ML2.6, C*

ISC 26 11:34:27.9±1.4, 24°33N±0°04×122°54E±0°03, h70km±8km, n55, σ0°78/81, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS3	**EOS3**	**0.21**	**257**	*i* P	**Pn**	**11 34 38.9**	**+0.6**
EOS4	**EOS4**	**0.30**	**224**	P	**Pn**	**11 34 38.7**	**+0.1**
EOS4				*i* S	**Sn**	**11 34 47.7**	**+1.3**
EOS2	**EOS2**	**0.30**	**287**	*i* P	**Pn**	**11 34 39.4**	**+0.5**
EOS2				*i* S	**Sn**	**11 34 48.5**	**+1.5**
JYNG	**Yonaguni jima**	**0.38**	**72**	P	**Pn**	**11 34 39.4**	**-0.2**
JYNG				*e*S	**Sn**	**11 34 48.3**	**0.0**
YOJ	**Yonaguni jima**	**0.45**	**73**	P	**Pn**	**11 34 40.0**	**-0.1**
YOJ				S	**Sn**	**11 34 48.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.45**	**73**	*i* P	**Pn**	**11 34 40.1**	**-0.1**
YOJ				*i* S	**Sn**	**11 34 48.9**	**-0.3**
ESAO	**Su ao**	**0.68**	**291**	*e*P	**Pn**	**11 34 42.5**	**0.0**
TWC	**Suao**	**0.69**	**294**	*e*P	**Pn**	**11 34 42.2**	**-0.5**
TWC				*i* S	**Sn**	**11 34 52.5**	**-1.0**
ENA	**Nanau**	**0.74**	**277**	*e*P	**Pn**	**11 34 43.3**	**+0.1**
EGS		**0.76**	**313**	*e*P	**Pn**	**11 34 43.4**	**0.0**
NACB	**Ninganchiao**	**0.88**	**260**	*e*P	**Pn**	**11 34 44.3**	**-0.6**
NACB				S	**Sn**	**11 34 56.6**	**-0.9**
TWE	**Neicheng**	**0.89**	**296**	P	**Pn**	**11 34 45.0**	**0.0**
TWE				*e*S	**Sn**	**11 34 56.9**	**-0.7**
TWD	**Chiawan**	**0.90**	**254**	*e*S	**Sn**	**11 34 56.9**	**-1.0**
TIPB	**Shuangxi**	**0.91**	**314**	S	**Sn**	**11 34 56.7**	**-1.5**
ENTT	**Nioudou**	**0.94**	**289**	*e*P	**Pn**	**11 34 46.0**	**+0.4**
ENTT				S	**Sn**	**11 34 58.8**	**-0.1**
LATG	**Datong**	**0.95**	**282**	*e*P	**Pn**	**11 34 46.1**	**+0.3**
FUSB	**Fushanzhiwuyua**	**0.97**	**296**	*e*P	**Pn**	**11 34 46.4**	**+0.3**
FUSB				*e*S	**Sn**	**11 34 58.7**	**-0.8**
SXI1	**Grass Mountain**	**0.97**	**321**	*e*P	**Pn**	**11 34 45.9**	**-0.2**
SXI1				*e*S	**Sn**	**11 34 58.8**	**-0.9**
ETLH	**Xiulin Townshi**	**0.98**	**263**	*e*P	**Pn**	**11 34 46.3**	**+0.1**
TEYL	**Yanliau Villag**	**0.98**	**242**	*e*P	**Pn**	**11 34 45.8**	**-0.3**
TEYL				*e*S	**Sn**	**11 34 59.6**	**-0.1**
ETM	**Tongmen**	**1.03**	**249**	*e*P	**Pn**	**11 34 46.3**	**-0.4**
SHUL	**Shoufeng**	**1.05**	**239**	*e*P	**Pn**	**11 34 46.7**	**-0.2**
SHUL				*e*S	**Sn**	**11 35 00.8**	**-0.4**
NNSB	**Datong**	**1.06**	**275**	P	**Pn**	**11 34 47.1**	**-0.2**
NNSB				*e*S	**Sn**	**11 35 01.0**	**-0.7**
NNS	**Nan Shan**	**1.07**	**276**	*e*P	**Pn**	**11 34 48.1**	**+0.7**
IRIF	**Iriomote-Funau**	**1.08**	**90**	P	**Pn**	**11 34 47.3**	**-0.1**
IRIF				S	**Sn**	**11 35 01.9**	**0.0**
YHNB	**Yeheng**	**1.11**	**288**	*e*P	**Pn**	**11 34 48.0**	**+0.1**
YHNB				S	**Sn**	**11 35 02.5**	**-0.4**
NSK	**Sanguang**	**1.13**	**288**	*e*S	**Sn**	**11 35 03.0**	**-0.2**
ESL	**Shilin**	**1.14**	**243**	*e*P	**Pn**	**11 34 47.8**	**-0.3**
WHF	**Hehuan Shan**	**1.18**	**261**	*e*P	**Pn**	**11 34 49.1**	**0.0**
FUSS	**Fushou**	**1.19**	**266**	*e*P	**Pn**	**11 34 49.3**	**+0.3**
FUSS				*e*S	**Sn**	**11 35 04.5**	**-0.3**
WARBT	**Fenglin Townsh**	**1.22**	**240**	*e*P	**Pn**	**11 34 48.6**	**-0.6**
WARBT				*e*S	**Sn**	**11 35 04.2**	**-1.0**
TWT	**Tachien**	**1.25**	**267**	*e*S	**Sn**	**11 35 06.2**	**+0.1**
OWD	**Renai**	**1.30**	**253**	*e*P	**Pn**	**11 34 50.4**	**-0.1**
OWD				*e*S	**Sn**	**11 35 06.4**	**-0.9**
HGSD	**Ruisui**	**1.32**	**231**	*e*P	**Pn**	**11 34 50.1**	**-0.4**
HGSD				*e*S	**Sn**	**11 35 07.2**	**-0.3**
NFF	**Wufeng Townshi**	**1.33**	**283**	*e*P	**Pn**	**11 34 51.2**	**+0.5**
JKRS	**Kuro-shima**	**1.34**	**94**	P	**Pn**	**11 34 51.3**	**+0.6**
JKRS				*e*S	**Sn**	**11 35 09.0**	**+1.1**
WUSB	**Renai**	**1.35**	**256**	*e*P	**Pn**	**11 34 51.5**	**+0.6**
EHY	**Hungye**	**1.39**	**234**	*e*P	**Pn**	**11 34 51.4**	**0.0**
VWDT	**VWDT**	**1.41**	**246**	*e*P	**Pn**	**11 34 52.0**	**+0.4**
LIOB	**Emei**	**1.43**	**283**	*e*P	**Pn**	**11 34 52.2**	**+0.3**
LIOB				*e*S	**Sn**	**11 35 10.7**	**+0.7**
NSTT	**Nanjuang**	**1.44**	**282**	*e*S	**Sn**	**11 35 10.3**	**+0.2**
JIJ	**Ishigaki jima**	**1.46**	**89**	P	**Pn**	**11 34 52.3**	**0.0**
WHP	**Taichung City**	**1.46**	**268**	*e*P	**Pn**	**11 34 53.7**	**+1.3**
YULB	**Yu-li**	**1.48**	**231**	*e*P	**Pn**	**11 34 52.1**	**-0.5**
YULB				*e*S	**Sn**	**11 35 10.1**	**-1.0**
TWF1	**Yuli**	**1.50**	**230**	*e*P	**Pn**	**11 34 52.9**	**+0.1**
WCS	**Beigang Elemen**	**1.52**	**260**	*e*P	**Pn**	**11 34 54.3**	**+1.3**
SSLB	**Suanglung**	**1.55**	**250**	*e*P	**Pn**	**11 34 55.1**	**+1.6**
TYC	**Yuchr**	**1.60**	**255**	*e*P	**Pn**	**11 34 55.7**	**+1.6**
FULB	**Fuli**	**1.61**	**226**	*e*P	**Pn**	**11 34 54.0**	**-0.3**
FULB				*e*S	**Sn**	**11 35 13.5**	**-0.8**
JISG	**Ishigakijimahi**	**1.63**	**81**	P	**Pn**	**11 34 54.5**	**0.0**
JISG				*e*S	**Sn**	**11 35 13.9**	**-0.8**
WHYT	**Xinyi Township**	**1.67**	**248**	*e*P	**Pn**	**11 34 56.6**	**+1.5**
WHYT				*e*S	**Sn**	**11 35 16.6**	**+0.8**
WJS	**Zhushan**	**1.74**	**253**	*e*P	**Pn**	**11 34 57.9**	**+1.9**
EDH	**Donghe**	**1.77**	**220**	*e*S	**Sn**	**11 35 16.1**	**-2.0**
ALS	**Alishan**	**1.79**	**243**	*e*P	**Pn**	**11 34 58.4**	**+1.5**
CHN5	**Tsauling**	**1.86**	**247**	*e*P	**Pn**	**11 34 59.2**	**+1.5**

*NOU **26** 11:51:23.2, 38°70S×177°54E, h28km, MLv3.6/13, North Island, New Zealand*
*WEL **26** 11:51:24.2±0.6, 39°S±4°×17°7E±°, h51km±6km, M3.3/48, ML3.7/26, MLv3.3/48, Error ellipse: s-maj=5.4km s-min=4.2km az=136.9, confirmed*

ISC 26 11:51:23.9±1.4, 38°61S±0°03×177°49E±0°04, h68km±7km, n83, σ0°62/90, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAGZ	**Rawiri**	**0.13**	**334**	P	**Pn**	**11 51 33.7**	**-0.5**
SNGZ	**Shannon Statio**	**0.21**	**214**	P	**Pn**	**11 51 34.4**	**-0.1**
SNGZ				S	**Sn**	**11 51 42.0**	**-0.1**
RIGZ	**Rimuhau**	**0.24**	**114**	P	**Pn**	**11 51 34.6**	**0.0**
RIGZ				S	**Sn**	**11 51 42.8**	**+0.5**
MWZ	**Matawai**	**0.28**	**7**	P	**Pn**	**11 51 34.2**	**-0.7**
MWZ				S	**Sn**	**11 51 41.8**	**-0.9**
TKGZ	**Te Karaka**	**0.33**	**59**	P	**Pn**	**11 51 35.0**	**-0.1**
TKGZ				S	**Sn**	**11 51 43.3**	**0.0**
RTZ	**Ruatahuna**	**0.40**	**269**	P	**Pn**	**11 51 35.5**	**-0.2**
RTZ				S	**Sn**	**11 51 44.2**	**-0.2**
KNZ	**Kokohu**	**0.44**	**160**	P	**Pn**	**11 51 36.0**	**0.0**
RAHZ	**Arahi**	**0.44**	**226**	P	**Pn**	**11 51 36.2**	**+0.1**
PRGZ	**Paritu Road**	**0.44**	**135**	P	**Pn**	**11 51 36.0**	**-0.1**
URZ	**Urewera**	**0.46**	**320**	P	**Pn**	**11 51 35.5**	**-0.7**
URZ	**Urewera**	**0.46**	**320**	S	**Sn**	**11 51 44.2**	**-0.9**
URZ	**Urewera**	**0.46**	**320**	P	**Pn**	**11 51 35.5**	**-0.7**
WHHZ	**Waihua**	**0.51**	**203**	P	**Pn**	**11 51 37.0**	**+0.4**
WHHZ				S	**Sn**	**11 51 47.5**	**+1.5**
MTHZ	**Maungataniwha**	**0.56**	**244**	P	**Pn**	**11 51 37.2**	**0.0**
MUGZ	**Murupara**	**0.58**	**283**	P	**Pn**	**11 51 36.9**	**-0.5**
CNGZ	**Carnagh Statio**	**0.58**	**78**	P	**Pn**	**11 51 37.8**	**+0.4**
TWGZ	**Tauwhareparae**	**0.58**	**42**	P	**Pn**	**11 51 37.6**	**+0.1**
TWGZ				S	**Sn**	**11 51 48.4**	**+1.0**
MHGZ	**Mahia Peninsul**	**0.63**	**149**	P	**Pn**	**11 51 38.4**	**+0.4**
RUGZ	**Raukumara Rang**	**0.66**	**13**	P	**Pn**	**11 51 37.8**	**-0.7**
NMHZ	**Naumai**	**0.72**	**227**	P	**Pn**	**11 51 39.5**	**+0.5**
ARHZ	**Aropaoanui**	**0.76**	**210**	P	**Pn**	**11 51 39.8**	**+0.4**
RRRZ	**Republican Roa**	**0.81**	**289**	P	**Pn**	**11 51 39.7**	**-0.4**
PUZ	**Puketiti**	**0.81**	**49**	P	**Pn**	**11 51 39.7**	**-0.3**
WHRZ	**Whale Island**	**0.85**	**332**	P	**Pn**	**11 51 40.1**	**-0.5**
TARZ	**Mount Tarawera**	**0.86**	**296**	P	**Pn**	**11 51 40.5**	**-0.1**
PRRZ	**Plateau Road**	**0.86**	**277**	P	**Pn**	**11 51 40.3**	**-0.4**
MRHZ	**Matea Rd**	**0.87**	**255**	P	**Pn**	**11 51 40.6**	**-0.1**
PKGZ	**Pakihiroa**	**0.88**	**32**	P	**Pn**	**11 51 40.4**	**-0.4**
HAZ	**Te Kaha**	**0.88**	**15**	P	**Pn**	**11 51 40.3**	**-0.6**
ALRZ	**Allen Road**	**0.90**	**273**	P	**Pn**	**11 51 40.9**	**-0.2**
BKZ	**Black Stump Fm**	**0.95**	**234**	P	**Pn**	**11 51 41.4**	**-0.4**
BKZ	**Black Stump Fm**	**0.95**	**234**	P	**Pn**	**11 51 42.0**	**+0.2**
HLRZ	**Highlands Stat**	**0.96**	**292**	P	**Pn**	**11 51 41.5**	**-0.4**
HRRZ	**Handcock Road**	**0.97**	**283**	P	**Pn**	**11 51 41.7**	**-0.3**
OMRZ	**Omania**	**1.01**	**300**	P	**Pn**	**11 51 41.9**	**-0.6**
HSRZ	**Hossack Road**	**1.02**	**287**	P	**Pn**	**11 51 42.3**	**-0.3**
MCHZ	**McNeill Hill**	**1.03**	**216**	P	**Pn**	**11 51 43.1**	**+0.3**
WPRZ	**Whakappataran**	**1.04**	**275**	P	**Pn**	**11 51 42.8**	**-0.1**
WMGZ	**Waiomatatini S**	**1.08**	**43**	P	**Pn**	**11 51 43.1**	**-0.2**
CKHZ	**Cape Kidnapper**	**1.09**	**197**	P	**Pn**	**11 51 43.3**	**-0.3**
UTU	**Utuhina**	**1.10**	**293**	P	**Pn**	**11 51 43.8**	**+0.1**
WIZ	**White Island**	**1.11**	**348**	P	**Pn**	**11 51 42.4**	**-1.3**
GRRZ	**Galatos Road**	**1.11**	**283**	P	**Pn**	**11 51 43.8**	**0.0**
KWHZ	**Kaweka Forest**	**1.16**	**225**	P	**Pn**	**11 51 44.3**	**-0.1**
MXZ	**Matakaoa Point**	**1.23**	**32**	P	**Pn**	**11 51 44.9**	**-0.4**
MXZ	**Matakaoa Point**	**1.23**	**32**	S	**Sn**	**11 52 02.5**	**+1.3**
MXZ	**Matakaoa Point**	**1.23**	**32**	P	**Pn**	**11 51 45.1**	**-0.2**
KAHZ	**Kahuranaki**	**1.27**	**202**	P	**Pn**	**11 51 45.5**	**-0.4**
TGRZ	**Tauranga**	**1.31**	**312**	P	**Pn**	**11 51 45.8**	**-0.5**
KUTZ	**Kaahu Road**	**1.31**	**275**	P	**Pn**	**11 51 46.2**	**-0.1**
RITZ	**Rihia Road**	**1.32**	**253**	P	**Pn**	**11 51 46.5**	**0.0**
KRHZ	**Kereru**	**1.35**	**220**	P	**Pn**	**11 51 46.3**	**-0.6**
RATZ	**Rangitukua**	**1.36**	**259**	P	**Pn**	**11 51 47.1**	**0.0**
WATZ	**Wairara**	**1.38**	**265**	P	**Pn**	**11 51 47.3**	**+0.1**
KATZ	**Kakaramea**	**1.45**	**255**	P	**Pn**	**11 51 47.9**	**-0.4**
TMVZ	**Te Maari**	**1.48**	**250**	P	**Pn**	**11 51 48.5**	**-0.2**
ETVZ	**East Tongariro**	**1.48**	**249**	P	**Pn**	**11 51 48.5**	**-0.2**
NTVZ	**North Tongarir**	**1.50**	**250**	P	**Pn**	**11 51 48.6**	**-0.3**
PXZ	**Pawanui**	**1.50**	**199**	P	**Pn**	**11 51 47.7**	**-1.1**
KRVZ	**Karewarewa**	**1.52**	**251**	P	**Pn**	**11 51 49.0**	**-0.2**
OTVZ	**Oturere**	**1.52**	**248**	P	**Pn**	**11 51 49.1**	**-0.2**
NNVZ	**North Ngauruho**	**1.55**	**250**	P	**Pn**	**11 51 49.5**	**-0.2**
SNVZ	**South Ngauruho**	**1.55**	**248**	P	**Pn**	**11 51 49.5**	**-0.2**
WTVZ	**West Tongariro**	**1.56**	**251**	P	**Pn**	**11 51 49.6**	**-0.2**
MOVZ	**Moawhango**	**1.57**	**239**	P	**Pn**	**11 51 49.4**	**-0.5**
TUVZ	**Tukino**	**1.57**	**245**	P	**Pn**	**11 51 49.8**	**-0.2**
NGZ	**Ngauruhoe**	**1.58**	**248**	P	**Pn**	**11 51 49.8**	**-0.2**
WHVZ	**Whangaehu Hut**	**1.62**	**245**	P	**Pn**	**11 51 50.4**	**-0.3**
COVZ	**Chateau Observ**	**1.63**	**248**	P	**Pn**	**11 51 50.4**	**-0.2**
WNVZ	**Wahianoa**	**1.64**	**243**	P	**Pn**	**11 51 50.6**	**-0.3**
MAVZ	**Matarangi**	**1.64**	**246**	P	**Pn**	**11 51 50.7**	**-0.3**
FWVZ	**Far West T-bar**	**1.64**	**246**	P	**Pn**	**11 51 50.6**	**-0.3**
PNHZ	**Pukenui**	**1.64**	**217**	P	**Pn**	**11 51 49.7**	**-1.0**
WPHZ	**Waipukurau**	**1.66**	**209**	P	**Pn**	**11 51 49.9**	**-1.1**
PKVZ	**Pokaka**	**1.80**	**247**	P	**Pn**	**11 51 52.7**	**-0.2**
HIZ	**Hauiti**	**2.06**	**272**	P	**Pn**	**11 51 56.5**	**+0.1**
HIZ	**Hauiti**	**2.06**	**272**	S	**Sn**	**11 52 21.6**	**+0.4**
BFZ	**Birch Farm**	**2.28**	**204**	P	**Pn**	**11 51 57.1**	**-2.2**
BFZ	**Birch Farm**	**2.28**	**204**	S	**Sn**	**11 52 25.0**	**-1.4**
KHEZ	**Kahui Hut**	**2.79**	**255**	P	**Pn**	**11 52 07.5**	**+1.2**
KHEZ	**Kahui Hut**	**2.79**	**255**	S	**Sn**	**11 52 40.8**	**+1.8**
QRZ	**Quartz Range**	**4.42**	**238**	P	**Pn**	**11 52 27.8**	**-0.6**
OUZ	**Omahuta**	**4.60**	**316**	P	**Pn**	**11 52 32.0**	**+1.0**

*IDC **26** 11:57:34.8±0.7, 9°61N×126°53E, h0km, mb4.0/16, mbtmp4.0/16, MS3.3/13, Error ellipse: s-maj=28.0km s-min=12.5km az=88.0*

ISC 26 11:57:41.2±0.7, 9°70N±0°10×126°6E±0°2, h43km, n33, σ1°10/20, mb4.0/16, MS3.3/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.81**	**202**	Pg	**Pn**	**11 58 25.7**	**+2.1**
	90nm,0.3s,baz=80,slow=2.5,SNR=5.6						
DAV				Lg	Lg	11 59 00.2	
	43nm,0.3s,baz=79,slow=21,SNR=6.4						
DAV				LR	LR	11 59 36.0	
	comp=Z,750nm,20.5s,baz=18,slow=45						
TGY	**Tagaytay City**	**7.08**	**309**	LR	LR	12 02 14.0	
	comp=Z,202nm,18.5s,baz=250,slow=40						
JOW	**Kunigami**	**17.12**	**5**	LR	LR	12 07 27.1	
	comp=Z,72nm,21.8s,baz=312,slow=34						
GUMO	**Guam**	**18.29**	**76**	LR	LR	12 09 19.7	
	comp=Z,109nm,18.2s,baz=180,slow=38						
JAY	**Jayapura**	**18.55**	**130**	LR	LR	12 09 01.1	
	comp=Z,119nm,18.1s,baz=246,slow=37						
JHJ	**Hachijo jima 2**	**26.28**	**26**	LR	LR	12 13 44.0	
	comp=Z,49nm,19.9s,baz=297,slow=37						
KSRS	**Korea Array**	**27.66**	**2**	LR	LR	12 14 08.0	
	comp=Z,

*GUC **26** 12:05:28.4±0.5,23°.15S×66°.93W,h252km±8km,ML4.5*
*VAO **26** 12:05:29.1±0.5,23°.01S×66°.49W,h225km±5km,mb4.2*
ISC 26 12:05:26.8±0.6,**23°.20S**±0°.04×**66°.60W**±0°.05,**h214**km±6km,
n172,σ1§**41**/196,**mb4.1/14,11C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**1.05**	**167**	*eP*	**Pn**	**12 06 01.2**	**+2.2**
YJA	**Yavi**	**1.43**	**45**	*eP*	**Pn**	**12 06 03.5**	**+1.7**
YJA				*eS*	**S**	**12 06 24.7**	**-3.9**
YJA				*eS*	S	12 06 29.8	+1.1
AF01	**San Pedro de A**	**1.47**	**279**		**Pn**	**12 06 04.3**	**+2.3**
AF01	**San Pedro de A**	**1.47**	**279**	*eP*	**Pn**	**12 06 04.2**	**+2.3**
AF01	**San Pedro de A**	**1.47**	**279**	*eP*	**Pn**	**12 06 03.8**	**+1.9**
AZAP	**Zapla**	**1.74**	**126**	*eP*	**Pn**	**12 06 05.6**	**+1.4**
SLA	**San Lorenzo**	**1.82**	**147**	*eP*	**Pn**	**12 06 07.3**	**+2.5**
PB06	**IPOC Station P**	**2.78**	**280**	*eP*	**Pn**	**12 06 15.8**	**+1.0**
PB06				*eS*	**S**	**12 06 51.6**	**-0.4**
PB06				IAML		12 06 54.2	
	comp=E,584nm,0.1s						
PB06	**IPOC Station P**	**2.78**	**280**	*eP*	**Pn**	**12 06 15.9**	**+1.0**
PB06				*eS*	**S**	**12 06 53.1**	**+1.1**
PB06				IAML		12 06 55.8	
	comp=Z,521nm,0.3s						
PB09	**IPOC Station P**	**2.81**	**299**		**Pn**	**12 06 16.8**	**+1.6**
PB09				Sn	**S**	**12 06 52.9**	**+0.2**
PB09	**IPOC Station P**	**2.81**	**299**	*eP*	**Pn**	**12 06 16.8**	**+1.6**
PB09				*eS*	**S**	**12 06 52.9**	**+0.2**
PB09				IAML		12 06 58.3	
	comp=E,553nm,0.4s						
PB09	**IPOC Station P**	**2.81**	**299**	*eP*	**Pn**	**12 06 16.1**	**+0.8**
PB09				*eS*	**S**	**12 06 54.5**	**+1.9**
PB09				IAML		12 06 55.1	
	comp=Z,484nm,0.7s						
FSA	**Cafayete**	**2.96**	**169**	*eP*	**Pn**	**12 06 18.9**	**+2.1**
PB03	**IPOC Station P**	**3.13**	**291**	*eP*	**Pn**	**12 06 19.4**	**+0.6**
PB03	**IPOC Station P**	**3.13**	**291**	*eP*	**Pn**	**12 06 19.5**	**+0.6**
PB03				*eS*	**S**	**12 06 58.5**	**-0.7**
PB03				IAML		12 06 59.6	
	comp=Z,901nm,0.4s						
PB05	**IPOC Station P**	**3.33**	**275**		**Pn**	**12 06 21.7**	**+0.5**
PB05				Sn	**S**	**12 07 02.6**	**-0.9**
PB05	**IPOC Station P**	**3.33**	**275**	⇑*iP*	**Pn**	**12 06 21.7**	**+0.5**
PB05	**IPOC Station P**	**3.33**	**275**	*eP*	**Pn**	**12 06 21.9**	**+0.7**
PB05				*eS*	**S**	**12 07 04.3**	**+0.9**
PB05				IAML		12 07 06.3	
	comp=Z,332nm,0.5s						
GO02	**Mina Guanaco**	**3.36**	**234**		**Pn**	**12 06 23.0**	**+1.3**
GO02				Sn	**S**	**12 07 05.4**	**+1.0**
GO02	**Mina Guanaco**	**3.36**	**234**	*eP*	**Pn**	**12 06 23.3**	**+1.6**
GO02				*eS*	**S**	**12 07 05.3**	**+1.0**
GO02	**Mina Guanaco**	**3.36**	**234**	*eP*	**Pn**	**12 06 22.5**	**+0.9**
GO02				*eS*	**S**	**12 07 05.5**	**+1.2**
PB01	**IPOC Station P**	**3.43**	**308**		**Pn**	**12 06 22.9**	**+0.6**
PB01	**IPOC Station P**	**3.43**	**308**	*eP*	**Pn**	**12 06 23.0**	**+0.6**
PB01				*eS*	**S**	**12 07 04.6**	**-0.9**
PB01	**IPOC Station P**	**3.43**	**308**	*eP*	**Pn**	**12 06 22.9**	**+0.6**
PB01				*eS*	**S**	**12 07 05.5**	**0.0**
PB01				IAML		12 07 06.3	
	comp=Z,988nm,0.2s						
PB10	**IPOC Station P**	**3.64**	**264**		**Pn**	**12 06 25.7**	**+0.9**
PB10	**IPOC Station P**	**3.64**	**264**	⇑*eP*	**Pn**	**12 06 25.6**	**+0.8**
PB10	**IPOC Station P**	**3.64**	**264**	*eP*	**Pn**	**12 06 25.7**	**+0.8**
PB10				*eS*	**S**	**12 07 09.5**	**-0.5**
PB14	**IPOC Station P**	**3.76**	**247**		**Pn**	**12 06 27.2**	**+0.7**
PB14	**IPOC Station P**	**3.76**	**247**	⇑*iP*	**Pn**	**12 06 27.2**	**+0.7**
PB14				*i* S	**S**	**12 07 11.8**	**-1.2**
PB14	**IPOC Station P**	**3.76**	**247**	*eP*	**Pn**	**12 06 27.2**	**+0.7**
PB14				*eS*	**S**	**12 07 12.8**	**-0.1**
PB14				IAML		12 07 13.8	
	comp=Z,541nm,0.5s						
PB08	**IPOC Station P**	**3.86**	**322**		**Pn**	**12 06 29.2**	**+1.4**
PB08	**IPOC Station P**	**3.86**	**322**	⇑*iP*	**Pn**	**12 06 29.1**	**+1.4**
PB08				*i* S	**S**	**12 07 15.4**	**+0.1**
PB08	**IPOC Station P**	**3.86**	**322**	*eP*	**Pn**	**12 06 28.6**	**+0.8**
PB08				*eS*	**S**	**12 07 16.0**	**+0.7**
PB08				IAML		12 07 21.1	
	comp=Z,296nm,0.3s						
PATCX	**Punta Patache**	**4.05**	**305**		**Pn**	**12 06 29.9**	**0.0**
PATCX	**Punta Patache**	**4.05**	**305**	⇑*iP*	**Pn**	**12 06 29.6**	**-0.4**
PATCX	**Punta Patache**	**4.05**	**305**	*eP*	Pn	12 06 18.9	-11
PATCX				*eP*		12 06 29.6	
HMBC	**Humberstone**	**4.21**	**313**		**Pn**	**12 06 31.3**	**-0.7**
TA01	**Diego Aracena**	**4.23**	**308**		**Pn**	**12 06 31.4**	**-0.6**
TA01	**Diego Aracena**	**4.23**	**308**	*eP*	**Pn**	**12 06 31.4**	**-0.6**
TA01	**Diego Aracena**	**4.23**	**308**	*eP*	**Pn**	**12 06 31.4**	**-0.6**
TA01				*eS*	**S**	**12 07 20.7**	**-2.2**
TA01				IAML		12 07 26.4	
	comp=Z,337nm,0.8s						
GO01	**Chusmiza**	**4.26**	**325**		**Pn**	**12 06 33.7**	**+0.8**
GO01	**Chusmiza**	**4.26**	**325**	⇑*iP*	**Pn**	**12 06 33.7**	**+0.8**
GO01				*i* S	**S**	**12 07 24.0**	**-0.5**
GO01	**Chusmiza**	**4.26**	**325**	*eP*	**Pn**	**12 06 33.4**	**+0.6**
GO01				*eS*	**S**	**12 07 24.7**	**+0.3**
AC02	**Maricunga**	**4.29**	**212**		**Pn**	**12 06 34.6**	**+1.5**
AC02	**Maricunga**	**4.29**	**212**	⇓*iP*	**Pn**	**12 06 34.6**	**+1.5**
AC02	**Maricunga**	**4.29**	**212**	*eP*	**Pn**	**12 06 34.7**	**+1.6**
AC02				*eS*	**S**	**12 07 19.2**	**-5.8**
TA02	**Huaiquique**	**4.38**	**311**		**Pn**	**12 06 34.5**	**+0.6**
TA02	**Huaiquique**	**4.38**	**311**	*eP*	**Pn**	**12 06 34.4**	**+0.5**
PB11	**IPOC Station P**	**4.45**	**320**		**Pn**	**12 06 34.5**	**-0.4**
PB11	**IPOC Station P**	**4.45**	**320**	*eP*	**Pn**	**12 06 33.7**	**-1.1**
PB11				IAML		12 07 27.5	
	comp=Z,534nm,0.4s						
AC01	**Pan de Azucar**	**4.67**	**230**		**Pn**	**12 06 37.4**	**0.0**
AC06	**Mina Casimiro**	**5.36**	**219**		**Pn**	**12 06 45.8**	**-0.3**
GO03	**Copiapo**	**5.47**	**216**		**Pn**	**12 06 47.3**	**-0.3**
PB16	**IPOC Station P**	**5.55**	**330**		**Pn**	**12 06 49.7**	**+0.5**
AP01	**Chacalluta**	**5.94**	**323**	Pn	**Pn**	**12 06 53.6**	**0.0**
PB18	**Visviri**	**6.20**	**334**		**Pn**	**12 06 58.8**	**+1.4**
AC04	**Llanos de Chal**	**6.41**	**218**		**Pn**	**12 06 58.6**	**-1.0**
AC05	**El Transito**	**6.51**	**210**		**Pn**	**12 07 00.9**	**-0.1**
LCO	**Las Campanas**	**6.86**	**212**		**Pn**	**12 07 04.5**	**-1.1**
LPAZ	**La Paz**	**7.02**	**348**		**Pn**	**12 07 08.3**	**+0.1**
LPAZ	**La Paz**	**7.02**	**348**	P	**Pn**	**12 07 08.7**	**+0.6**
	comp=Z,35nm,0.5s,baz=157,slow=7.1,SNR=105						
LPAZ				S	**S**	**12 08 21.9**	**-6.7**
	comp=Z,5.3nm,0.7s,baz=211,slow=7.2,SNR=0.9						
LPAZ	**La Paz**	**7.02**	**348**	*eP*	**Pn**	**12 07 08.5**	**+0.3**
CO01	**Juntas del Tor**	**7.44**	**204**		**Pn**	**12 07 13.3**	**+0.2**
GO04	**Tololo Observa**	**7.89**	**207**		**Pn**	**12 07 17.6**	**-1.3**
BBSD	**Serra de San D**	**8.21**	**44**	*eP*	**Pn**	**12 07 21.5**	**-1.4**
MURT	**Porto Murtinho**	**8.46**	**81**	*eP*	**Pn**	**12 07 26.5**	**+0.4**
CFA	**Coronel Fontan**	**8.50**	**189**	P	**Pn**	**12 07 25.9**	**-0.7**
	comp=Z,11nm,0.3s,baz=281,slow=21,SNR=57						
CFA				S	**S**	**12 08 55.1**	**-7.3**
	comp=Z,4.9nm,0.3s,baz=274,slow=22,SNR=3.6						
ZON	**Zonda**	**8.52**	**192**		**Pn**	**12 07 26.1**	**-0.7**
CO06	**Fray Jorge**	**8.69**	**210**	Pn	**Pn**	**12 07 28.0**	**-1.0**
SIV	**San Ignacio**	**8.86**	**37**	P	**Pn**	**12 07 29.8**	**-1.5**
	comp=Z,19nm,0.5s,baz=212,slow=12,SNR=104						
CO02	**Combarbal**	**8.88**	**205**		**Pn**	**12 07 31.3**	**-0.2**
CPUP	**Villa Florida**	**8.99**	**112**	P	**Pn**	**12 07 31.7**	**-1.1**
	comp=Z,6nm,0.8s,baz=266,slow=12,SNR=3.6						
BDQN	**Bodoquena, MS**	**9.55**	**75**	*eP*	**Pn**	**12 07 39.2**	**-0.9**
SJPY	**San Joaquin**	**9.76**	**103**	*eP*	**Pn**	**12 07 44.4**	**+1.6**
VA06	**Catapilco**	**10.21**	**203**	Pn	**Pn**	**12 07 46.4**	**-2.1**
PTLB	**Pontes e Lacer**	**10.44**	**44**		**Pn**	**12 07 50.6**	**-1.0**
PTLB	**Pontes e Lacer**	**10.44**	**44**	*eP*	**Pn**	**12 07 50.8**	**-0.9**
AQDB	**Aquidauana**	**10.48**	**77**		**Pn**	**12 07 53.5**	**+1.4**
AQDB	**Aquidauana**	**10.48**	**77**	*eP*	**Pn**	**12 07 51.3**	**-0.8**
AMBA	**Amambai (Brazi**	**10.70**	**91**	*eP*	**Pn**	**12 07 54.0**	**-0.8**
MT02	**Curacav**	**10.79**	**201**		**Pn**	**12 07 53.9**	**-2.0**
MT13	**San Alfonso**	**10.99**	**196**		**Pn**	**12 07 59.3**	**+0.6**
ITQB	**Itaqui**	**11.02**	**128**	Pn	**Pn**	**12 08 00.2**	**+1.3**
LMEL	**Las Melosas**	**11.07**	**196**		**Pn**	**12 08 00.5**	**+0.8**
MT09	**Talagante**	**11.22**	**199**		**Pn**	**12 08 00.3**	**-1.3**
BO04	**La Punta**	**11.31**	**197**		**Pn**	**12 08 03.0**	**+0.3**
MT01	**Popeta**	**11.38**	**200**		**Pn**	**12 08 02.6**	**-0.9**
BO01	**Tunca**	**11.82**	**198**		**Pn**	**12 08 07.8**	**-1.2**
BO02	**Sierra Bellavi**	**12.12**	**197**		**Pn**	**12 08 12.6**	**-0.2**
SALV	**Santo Antonio**	**12.58**	**57**	*eP*	**Pn**	**12 08 18.2**	**-0.6**
TBOT	**Tacuaremb**	**12.69**	**134**	*eP*	**P**	**12 08 24.9**	**+1.8**
ML02	**Panimavida**	**13.20**	**197**		**Pn**	**12 08 24.8**	**-1.6**
PTGB	**Pitanga**	**13.38**	**99**	*eP*	**P**	**12 08 30.3**	**-0.8**
C2SB	**Chapadao do Su**	**13.59**	**74**	*eP*	**P**	**12 08 32.4**	**-0.9**
ITAB	**Concordia**	**13.70**	**110**		**P**	**12 08 33.9**	**-0.6**
ITAB	**Concordia**	**13.70**	**110**	*eP*	**P**	**12 08 36.0**	**+1.5**
CPSB	**Cacapava Do Su**	**13.77**	**124**	*eP*	**Pn**	**12 08 33.7**	**+0.4**
BI02	**San Fabin de**	**14.01**	**196**	Pn	**Pn**	**12 08 33.7**	**-2.8**
LDASE	**Londrina, Braz**	**14.23**	**94**	*eP*	**P**	**12 08 39.8**	**-0.6**
PLTB	**Pedras Altas**	**14.34**	**129**	P	**Pn**	**12 08 40.5**	**+0.1**
PLTB	**Pedras Altas**	**14.34**	**129**	*eP*	**P**	**12 08 43.0**	**+1.4**
NNA	**Nana**	**14.81**	**317**	P	**P**	**12 08 46.8**	**-0.1**
	comp=Z,5.0nm,0.3s,baz=198,slow=12,SNR=2.0						
PDRB	**Porto dos Gac**	**14.87**	**41**	*eP*	**Pn**	**12 08 46.6**	**-0.4**
TRQA	**Tornquist**	**15.33**	**166**	P	**Pn**	**12 08 51.8**	**-0.7**
TRQA				IAmb	IAmb	12 09 07.1	
	comp=Z,9.0nm,0.9s						
CNLB	**Canela**	**15.38**	**117**	*eP*	**Pn**	**12 08 53.8**	**+0.6**
ITRB	**Iturama**	**15.52**	**80**	*eP*	**Pn**	**12 08 55.8**	**+0.9**
ARAG	**Araguaiana, MT**	**15.81**	**65**	*eP*	**Pn**	**12 08 58.4**	**0.0**
MAJ01	**Sao Joao Batis**	**16.45**	**108**	*eP*	**P**	**12 09 05.0**	**+0.2**
CZSB	**Cruzeiro do Su**	**16.46**	**338**	P	**P**	**12 09 03.9**	**-1.1**
CZSB				IAmb	IAmb	12 09 08.3	
	comp=Z,37nm,1.3s						
CZSB	**Cruzeiro do Su**	**16.46**	**338**	*eP*	**P**	**12 09 05.0**	**0.0**
TER01	**Tubaro-SC**	**16.60**	**112**	*eP*	**Pn**	**12 09 07.0**	**-0.7**
BB19B	**Bebedouro**	**16.88**	**86**	*eP*	**Pn**	**12 09 11.6**	**+0.4**
PET01	**Itanhaem-SP**	**17.73**	**97**	*eP*	**P**	**12 09 19.5**	**+0.6**
PLCA	**Paso Flores**	**17.80**	**190**	P	**P**	**12 09 18.3**	**-1.3**
PLCA	**Paso Flores**	**17.80**	**190**	*eP*	**Pn**	**12 09 20.9**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=9.6,slow=13,SNR=6.9						
PLCA				S	**S**	**12 12 29.1**	**-3.9**
	comp=Z,1.4nm,1.0s,baz=30,slow=20,SNR=2.1						
PLCA	**Paso Flores**	**17.80**	**190**	*eP*	**Pn**	**12 09 21.9**	**+0.1**
IPMB	**Ipameri, GO**	**17.98**	**77**	*eP*	**P**	**12 09 21.8**	**+0.1**
VAO	**Valinhos**	**18.07**	**93**	P	**P**	**12 09 22.8**	**+0.1**
VAO	**Valinhos**	**18.07**	**93**	*eP*	**P**	**12 09 22.6**	**0.0**
SNDB	**Serra Nova Dou**	**18.35**	**55**	*eP*	**P**	**12 09 25.5**	**-0.3**
LL03	**Petrohue**	**18.54**	**194**	P	**P**	**12 09 27.6**	**+0.1**
BDFB	**Brasilia**	**19.06**	**70**	P	**P**	**12 09 34.0**	**+0.4**
BDFB	**Brasilia**	**19.06**	**70**	P	**P**	**12 09 33.8**	**+0.2**
	comp=Z,20nm,0.5s,baz=250,slow=12,SNR=34						
TBTG	**Tabatinga, AM**	**19.17**	**350**	P	**P**	**12 09 35.3**	**+0.8**
TBTG	**Tabatinga, AM**	**19.17**	**350**	*eP*	**P**	**12 09 35.7**	**+1.2**
PARB	**Paraibuna**	**19.28**	**95**	*eP*	**P**	**12 09 36.4**	**+0.6**
PMNB	**Patos De Minas**	**19.40**	**80**	*eP*	**P**	**12 09 37.4**	**+0.3**
TEFE	**Tefe**	**19.66**	**6**	*eP*	**P**	**12 09 38.6**	**-1.2**
SLP01	**Ubatuba-SP**	**19.71**	**95**	*eP*	**P**	**12 09 41.1**	**+0.7**
MACA	**Manacapuru-AM**	**20.73**	**17**	P	**P**	**12 09 48.7**	**-2.5**
MACA				IAmb	IAmb	12 09 51.0	
	comp=Z,21nm,0.7s						
MACA	**Manacapuru-AM**	**20.73**	**17**	*eP*	**P**	**12 09 49.2**	**-1.9**
VAS01	**Vassouras-RJ**	**21.38**	**92**	*eP*	**P**	**12 09 58.7**	**+0.8**
ITTB	**Itaituba**	**21.47**	**31**	*eP*	**P**	**12 09 57.5**	**-1.4**
AY01	**Puyuhuapi**	**21.75**	**192**	P	**P**	**12 10 00.5**	**-0.7**
AY01				IAmb	IAmb	12 10 03.6	
	comp=Z,4.8nm,0.7s						
DIAM	**Diamantina, MG**	**21.98**	**81**	*eP*	**P**	**12 10 03.8**	**-0.2**
DUB01	**Friburgo-RJ**	**22.39**	**92**	*eP*	**P**	**12 10 07.6**	**-0.1**
JANB	**Januaria**	**22.54**	**73**	*eP*	**P**	**12 10 08.2**	**-1.0**
CAM01	**Campos-RJ**	**23.08**	**91**	*eP*	**P**	**12 10 13.6**	**-0.3**
SMTB	**Santa Maria do**	**23.13**	**55**	*eP*	**P**	**12 10 13.6**	**-0.8**
SDBA	**SAO DESIDERIO**	**23.25**	**66**	*eP*	**P**	**12 10 14.6**	**-0.9**
PRPB	**Parauapebas**	**23.41**	**46**	*eP*	**P**	**12 10 16.4**	**-0.5**
SJMB	**Sao Joao De Ma**	**24.14**	**84**	*eP*	**P**	**12 10 23.1**	**-0.5**
RIB01	**Linhares ES**	**24.72**	**86**	*eP*	**P**	**12 10 28.5**	**-0.3**
GUA01	**Guaratinga, BA**	**26.02**	**80**	*eP*	**P**	**12 10 39.8**	**-0.7**
BOAV	**Boa Vista**	**26.12**	**14**	P	**P**	**12 10 40.9**	**-0.4**
BOAV				IAmb	IAmb	12 11 00.3	
	comp=Z,6.9nm,1.2s						
BOAV	**Boa Vista**	**26.12**	**14**	*eP*	**P**	**12 10 41.3**	**0.0**
FLOC	**Florencia**	**26.16**	**339**	P	**P**	**12 10 42.4**	**+0.6**
FLOC				IAmb	IAmb	12 10 43.0	
	comp=Z,7.9nm,0.6s						
CMC01	**Camacan, BA**	**26.70**	**78**	*eP*	**P**	**12 10 47.2**	**+0.7**
RUSC	**La Rusia**	**29.60**	**347**	P	**P**	**12 11 10.7**	**-2.0**
RUSC				IAmb	IAmb	12 11 23.8	
	comp=Z,4.9nm,0.7s						
NBPB	**Pedra_Branca-C**	**31.41**	**60**	*eP*	**P**	**12 11 27.8**	**-0.4**
NBAN	**Anadia - AL**	**31.96**	**70**	*eP*	**P**	**12 11 32.5**	**-0.6**
VNA3	**Neumayer Olymp**	**57.79**	**161**	⇑P	**P**	**12 14 57.3**	**+1.9**
	comp=Z,3.5nm,0.8s						
VNA2	**Neumayer--Watz**	**58.35**	**161**	⇑P	**P**	**12 15 01.1**	**+1.9**
	comp=Z,5.9nm,0.7s,baz=282,slow=7.2						
SNAA	**Sanae**	**59.98**	**161**	P	**P**	**12 15 12.5**	**+2.0**
SNAA	**Sanae**	**59.98**	**161**	⇑P	**P**	**12 15 12.3**	**+1.8**
	comp=Z,44nm,0.5s						
SNAA	**Sanae**	**59.98**	**161**	P	**P**	**12 15 12.1**	**+1.6**
	comp=Z,2.3nm,0.6s,baz=275,slow=11,SNR=4.7						
	comp=Z,2.3nm,0.6s						
TROLL	**Troll, Antarti**	**61.70**	**161**	⇑P	**P**	**12 15 24.1**	**+2.0**
	comp=Z,170nm,0.5s						
TX31	**Lajitas Ar. Si**	**63.24**	**324**	P	**P**	**12 15 33.5**	**+0.7**
TXAR	**Lajitas Array**	**63.24**	**324**	P	**P**	**12 15 33.9**	**+1.1**
TXAR	**Lajitas Array**	**63.24**	**324**	P	**P**	**12 15 33.7**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=147,slow=7.4,SNR=6.4						
	comp=Z,0.5nm,0.6s						
QSPA	**South Pole Qui**	**67.00**	**180**	P	**P**	**12 15 58.8**	**+2.2**
	comp=Z,2.8nm,0.5s,baz=348,slow=0.8,SNR=53						
	comp=Z,2.8nm,0.5s						
DBIC	**Dimbokro**	**67.20**	**72**	P	**P**	**12 15 57.7**	**-0.8**
DBIC				IAmb	IAmb	12 16 15.9	
	comp=Z,10.0nm,1.3s						
DBIC	**Dimbokro**	**67.20**	**72**	P	**P**	**12 15 57.2**	**-1.3**
	comp=Z,2.2nm,0.5s,baz=232,slow=6.6,SNR=4.6						
	comp=Z,2.2nm,0.5s						
SDCO	**Great Sand Dun**	**70.80**	**328**	P	**P**	**12 16 22.5**	**+2.1**
TORD	**Torodi Ar. Bea**	**75.94**	**69**	P	**P**	**12 16 49.8**	**-0.8**
TORD				IAmb	IAmb	12 16 51.6	
	comp=Z,2.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**75.94**	**69**	P	**P**	**12 16 49.8**	**-0.8**
	comp=Z,126nm,0.3s,baz=256,slow=5.3,SNR=3.3						
PDAR	**Pinedale Array**	**76.65**	**329**	P	**P**	**12 16 55.5**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=123,slow=11,SNR=4.1						
	comp=Z,0.4nm,0.7s						
ESDC	**Sonseca Array**	**85.57**	**43**	P	**P**	**12 17 40.7**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=230,slow=5.4,SNR=3.4						
	comp=Z,0.9nm,0.9s						
YKA	**Yellowknife Ar**	**93.50**	**340**	P	**P**	**12 18 18.6**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=130,slow=4.5,SNR=2.6						
	comp=Z,0.1nm,0.5s						
WRA	**Warramunga Arr**	**132.50**	**207**	PKP	**PKiKP**	**12 24 17.7**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=144,slow=1.9,SNR=2.1						
ZALV	**Zalesovo Beam**	**142.52**	**28**	PKhKP	PKPpre	12 24 31.7	
	comp=Z,0.8nm,0.6s,baz=311,slow=3.3,SNR=3.8						
CMAR	**Chiang Mai Arr**	**165.69**	**107**	PKPab	**PKPab**	**12 26 07.0**	**0.0**
	comp=Z,1.4nm,0.7s,baz=236,slow=4.0,SNR=8.7						

*STR **26** 12:16:13.9±0.6,48°.N±5°.×°.±°,h0km,MLv1.5/7,Error ellipse: s-maj=0.0km s-min=0.0km az=13.5,preliminary*
ZUR 26 12:16:14.2,47°.91N×8°.24E,h-1km±2km,MLh0.7/5,4C-2D, Error ellipse: s-maj=4322.5km s-min=1187.1km az=246.0,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BERGE	**Lenzkirch (DE)**	**0.06**	**224**	⇑Pg	Pg	12 16 15.2	-0.1
METMA	**Mettma DE**	**0.20**	**177**	⇑Pg	Pg	12 16 17.7	-0.3
METMA				Sg	Sg	12 16 20.4	-0.2
KIZ	**Kirchzarten**	**0.22**	**281**	⇓Pg	Pg	12 16 18.6	+0.2
KIZ	**Kirchzarten**	**0.22**	**281**	Pg	Pg	12 16 18.5	+0.1
KIZ	**Kirchzarten**	**0.22**	**281**	Sg	Sg	12 16 22.0	+0.8
SLE	**Schleitheim**	**0.23**	**131**	⇑Pg	Pg	12 16 18.2	-0.3
SLE				Sg	Sg	12 16 21.5	+0.1
SLE	**Schleitheim**	**0.23**	**131**	Pg	Pg	12 16 18.2	-0.3
ENDD	**Endenburg**	**0.39**	**240**	Pg	Pg	12 16 21.2	-0.5
ENDD	**Endenburg**	**0.39**	**240**	Sg	Sg	12 16 27.1	+0.4
SULZ	**Cheisacher**	**0.40**	**192**	⇓Pg	Pg	12 16 21.7	0.0
SULZ	**Cheisacher**	**0.40**	**192**	Pg	Pg	12 16 21.6	-0.1
SULZ	**Cheisacher**	**0.40**	**192**	Sg	Sg	12 16 24.7	-2.2
BFO	**Black Forest**	**0.42**	**8**	⇑Pg	Pg	12 16 22.5	+0.2
OPP	**Oppenau**	**0.58**	**357**	Pg	Pg	12 16 25.5	+0.1
GUT	**Gutenstein**	**0.61**	**75**	Pg	Pg	12 16 24.8	-1.1
BALST	**Balsthal**	**0.69**	**213**	Pg	Pg	12 16 26.5	-0.8

*ZUR **26** 12:16:46.0,47°.91N×8°.24E,h-1km±2km,MLh0.3/4,Error ellipse: s-maj=5053.3km s-min=1201.4km az=242.0*
STR 26 12:16:46.2±0.6,**48°N**±3°.×°.±°,**h0km,MLv1.4/6,3C,Error ellipse: s-maj=0.0km s-min=0.0km az=37.9,preliminary, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BERGE	**Lenzkirch (DE)**	**0.04**	**257**	⇑Pg	Pg	12 16 47.0	-0.1
METMA	**Mettma DE**	**0.17**	**178**	⇑Pg	Pg	12 16 49.5	0.0
METMA				Sg	Sg	12 16 52.3	+0.6
SLE	**Schleitheim**	**0.21**	**125**	⇑Pg	Pg	12 16 50.0	-0.1
SLE				Sg	Sg	12 16 53.3	+0.5
SLE	**Schleitheim**	**0.21**	**125**	Pg	Pg	12 16 50.0	-0.1
SLE	**Schleitheim**	**0.21**	**125**	Sg	Sg	12 16 53.2	+0.4
KIZ	**Kirchzarten**	**0.23**	**289**	Pg	Pg	12 16 50.4	-0.3
KIZ	**Kirchzarten**	**0.23**	**289**	Pg	Pg	12 16 50.3	-0.3
KIZ	**Kirchzarten**	**0.23**	**289**	Sg	Sg	12 16 53.9	+0.3
SULZ	**Cheisacher**	**0.37**	**194**	Pg	Pg	12 16 53.2	-0.1
ENDD	**Endenburg**	**0.38**	**244**	Pg	Pg	12 16 53.4	-0.1
ENDD	**Endenburg**	**0.38**	**244**	Sg	Sg	12 16 58.9	+0.5
BFO	**Black Forest**	**0.45**	**7**	Pg	Pg	12 16 54.3	-0.6
OPP	**Oppenau**	**0.62**	**356**	Pg	Pg	12 16 57.3	-0.7
OPP	**Oppenau**	**0.62**	**356**	Sg	Sg	12 17 07.3	+1.2
BALST	**Balsthal**	**0.66**	**214**	Pg	Pg	12 16 59.6	+0.8

*SDD **26** 12:20:33.7±2.7,19°.38N×67°.23W,h21km±14km,MD2.6, ML1.9,MW2.4*
*RSPR **26** 12:20:43.9,19°.01N×66°.63W,h49km±5km,MD3.0/4*
ISC 26 12:20:40.5±3.5,**19°.1N**±0°.2×**66°.72W**±0°.07,**h28**km,**n22,**
σ1§**69**/24,**6C-3D,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.63**	**164**	⇑*eP*	**Pn**	**12 20 54.1**	**+0.6**
EMPR	**Esperanza - Ma**	**0.63**	**164**	*eS*	**Sn**	**12 21 03.3**	**+0.7**
AOPR	**Arecibo Observ**	**0.73**	**183**	*i* P	**Pb**	**12 20 51.1**	**-3.6**
AOPR				*i* S	**Sn**	**12 21 05.9**	**+0.6**
AOPR				IAML		12 21 13.5	
	comp=N,51nm,0.4s						
AOPR	**Arecibo Observ**	**0.73**	**183**	⇓*eP*	**Pn**	**12 20 55.8**	**+0.8**
AOPR	**Arecibo Observ**	**0.73**	**183**	*eS*	**Sn**	**12 21 06.8**	**+1.6**
ECPR	**Experimental S**	**0.83**	**156**	⇑*eP*	**Pn**	**12 20 57.4**	**+1.1**
ECPR	**Experimental S**	**0.83**	**156**	*eS*	**Sn**	**12 21 07.5**	**-0.1**
LSP	**Las Mesas**	**0.97**	**201**	⇓*eP*	**Pb**	**12 21 00.6**	**+2.0**
CELP	**Cerrillos**	**1.01**	**173**	*e*Pg	**Pb**	**12 20 59.9**	**+0.5**
CELP				*i* S	**Sn**	**12 21 16.2**	**+4.1**

KTBS				Lg	Lg	12 25 23.9	
	197nm,0.7s						
TNSS	**Tian-Shan**	**3.34 242**		Pg	**Pb**	**12 24 44.7**	**+1.7**
	14nm,0.4s						
TNSS				Lg	Lg	12 25 28.0	
	32nm,0.4s						
TNSS	**Tian-Shan**	**3.34 242**		*e*P	**Pb**	**12 24 44.7**	**+1.7**
	4.9nm,0.2s						
TNSS				*e*S	**Sb**	**12 25 27.7**	**+3.8**
	32nm,0.4s						
KUU	**Kurty**	**3.41 258**		Pg	**Pb**	**12 24 44.8**	**+0.8**
	18nm,0.8s						
KUU				Lg	Lg	12 25 27.6	
	162nm,0.7s						
KUU	**Kurty**	**3.41 258**		*e*P	**Pb**	**12 24 44.8**	**+0.8**
	6.6nm,0.4s						
KUU				*e*S	**Sb**	**12 25 27.6**	**+2.1**
	162nm,0.7s						
MTBS	**Maitube**	**3.63 246**		Pg	**Pb**	**12 24 49.2**	**+1.5**
	12nm,0.4s						
MTBS				Lg	Lg	12 25 35.1	
	70nm,0.4s						
MTBS	**Maitube**	**3.63 246**		*e*P	**Pb**	**12 24 49.2**	**+1.5**
	5.2nm,0.2s						
MTBS				*e*S	**Sb**	**12 25 35.1**	**+3.3**
	70nm,0.4s						
ZSN	**Zaisan**	**3.87 43**		*e*P	**Pb**	**12 24 54.2**	**+2.4**
	9.8nm,0.2s						
ZSN				*e*S	**Sg**	**12 25 44.1**	**-3.6**
	66nm,0.3s						
KST	**Kastek**	**3.97 247**		Pg	**Pg**	**12 24 57.6**	**-1.9**
	14nm,0.6s						
KST	**Kastek**	**3.97 247**		*e*P	**Pb**	**12 24 55.7**	**+2.1**
	2.7nm,0.2s						
KST				*e*S	**Sg**	**12 25 47.1**	**-3.9**
	49nm,0.5s						
TKM2	**Tokmak 2**	**4.27 247**		⇑Pg	**Pb**	**12 25 01.5**	**+2.8**
	4.7nm,0.6s						
TKM2				⇑Lg	Lg	12 25 58.3	
	34nm,0.7s						
SGDS	**Sogindy**	**4.72 257**		Pg	**Pb**	**12 25 10.0**	**+3.6**
	3.7nm,0.8s						
SGDS				Lg	Lg	12 26 10.8	
	16nm,0.6s						
WMQ	**Urumqi**	**4.92 98**		Pn	**Pn**	**12 24 59.3**	**+1.8**
WMQ				smax	smax		
	comp=N,40nm,0.9s						
WMQ				smax	smax		
	comp=E,27nm,0.9s						
AAK	**Ala-Archa**	**5.12 249**		Pg	**Pb**	**12 25 16.5**	**+3.3**
	comp=E,2.6nm,0.5s						
AAK				Lg	Lg	12 26 25.2	
	comp=E,15nm,0.6s						
MRKS	**Merke**	**5.93 253**		Pg	**Pg**	**12 25 32.8**	**-4.3**
	comp=E,2.0nm,0.7s						
MRKS				Lg	Lg	12 26 49.8	
	comp=E,6.8nm,0.6s						
MRKS	**Merke**	**5.93 253**		*e*P	**Pg**	**12 25 34.0**	**-3.1**
	comp=E,2.5nm,0.2s						
MRKS				*e*S	**Sg**	**12 26 52.3**	**-1.6**
	comp=E,8.9nm,0.5s						
KURBB	**Kurchatov Arra**	**6.15 345**		⇑Pg	Pg	12 25 35.4	-5.8
	comp=E,1.6nm,0.5s,baz=158,slow=15						
KURBB				Sn	**Sn**	**12 26 28.1**	**+3.5**
KURBB				⇓Lg	Lg	12 26 59.2	
	comp=E,75nm,0.7s						
KURK	**Kurchatov**	**6.22 346**		Pg	Pb	12 25 36.1	+4.3
KURK				Sn	**Sn**	**12 26 29.3**	**+2.9**
KURK				Lg	Lg	12 27 01.8	
KK31	**Karatay Array**	**7.71 262**		⇑Pg	Pg	12 26 04.8	-6.2
	comp=E,0.8nm,0.4s,baz=77,slow=16,SNR=4.7						
KK31				⇓Lg	Lg	12 27 48.8	
	comp=E,2.9nm,0.4s,baz=74,slow=25						
BRZS	**Berezniki**	**7.71 316**		Pg	Pg	12 26 04.9	-6.1
	comp=E,1.1nm,0.4s						
BRZS	**Berezniki**	**7.71 316**		*e*P	**Pg**	**12 26 06.3**	**-4.7**
	comp=E,0.9nm,0.2s						
BRZS				*e*S	**Sg**	**12 27 48.1**	**-2.7**
	comp=E,21nm,0.5s						

ATH 26 12:55:02.5,37°.43N×20°.44E, h8km±4km, ML2.4/5, Manual Solution by A.Moschou First location: 2019/04/26 12:55:31, This location: 2019/04/26 15:29:50 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 6 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.43**	**48**	P	Pg	12 55 10.7	-0.1
LTHK				S	Sg	12 55 16.9	+0.5
LTHK	**Lithakia**	**0.43**	**48**	P	Pg	12 55 10.6	-0.2
LTHK				S	Sg	12 55 17.6	+1.2
ORTH	**Orthonies,Zaky**	**0.47**	**26**	P	Pg	12 55 11.8	+0.1
ORTH				S	Sg	12 55 17.9	0.0
ORTH	**Orthonies,Zaky**	**0.47**	**26**	P	Pg	12 55 11.8	+0.1
ORTH				S	Sg	12 55 18.9	+1.0
KYPS	**Kipseli, Zakin**	**0.50**	**38**	P	Pg	12 55 12.3	+0.1
KYPS				S	Sg	12 55 19.1	+0.4
KYPS	**Kipseli, Zakin**	**0.50**	**38**	P	Pg	12 55 12.3	+0.2
KYPS				S	Sb	12 55 21.0	+0.1
PSDA	**Pessada-Kefalo**	**0.70**	**10**	P	Pg	12 55 15.3	-0.7
PSDA				S	Sg	12 55 25.2	+0.2
PSDA	**Pessada-Kefalo**	**0.70**	**10**	P	Pg	12 55 14.9	-1.0
PSDA				S	Sb	12 55 26.1	-0.5
VLS	**Valsamata**	**0.76**	**9**	P	Pg	12 55 17.0	-0.1
VLS				S	Sb	12 55 28.0	-0.4
VLS	**Valsamata**	**0.76**	**9**	P	Pg	12 55 17.0	-0.1
VLS				S	Sg	12 55 26.9	-0.1
DMLN	**Damoulianata-K**	**0.81**	**357**	P	Pb	12 55 19.0	+0.1
DMLN				S	Sb	12 55 29.8	-0.2
YRMI	**Loutra Irminis**	**0.99**	**47**	P	Pg	12 55 20.8	-0.7
YRMI				S	Sn	12 55 36.5	-0.3
AMT	**Artemida-Makis**	**1.02**	**84**	P	Pg	12 55 22.0	-0.1
AMT				S	Sn	12 55 37.3	-0.2
AXS	**Araxos**	**1.07**	**44**	P	Pg	12 55 22.3	-0.8
AXS				S	Sb	12 55 37.8	+0.4
AXS	**Araxos**	**1.07**	**44**	P	Pg	12 55 22.4	-0.7
AXS				S	Sn	12 55 39.6	+0.9
DRO	**Drossia**	**1.14**	**62**	P	Pg	12 55 24.0	-0.4
DRO	**Drossia**	**1.14**	**62**	P	Pg	12 55 24.1	-0.3
PYL	**PYLOS**	**1.17**	**117**	P	Pb	12 55 24.5	-0.4
PYL				S	Sg	12 55 39.9	-0.3
ITM	**Ithomi**	**1.22**	**101**	P	Pb	12 55 25.1	-0.6
ITM				S	Sn	12 55 42.4	0.0
ITM	**Ithomi**	**1.22**	**101**	P	Pb	12 55 25.1	-0.6
ITM				S	Sn	12 55 42.7	+0.3

*IDC **26** 13:04:31.0±1.1, 41°.30N×50°.19E, h0km, mb3.6/12, mbtmp3.7/22, ML3.9/10, Error ellipse: s-maj=19.0km s-min=7.9km az=158.0*
*AZER **26** 13:04:33.0, 41°.47N×50°.53E, h42km, ml3.9*
*DRS **26** 13:04:35.6, 41°.28N×50°.67E, h33km*
*MOS **26** 13:04:36.7±1.6, 41°.67N×50°.25E, h32km, mb3.6/2, Error ellipse: s-maj=8.9km s-min=7.2km az=118.1*
ISC 26 13:04:36.2±1.2, 41°.44N±0°.03×50°.33E±0°.04, h33km±5km, n83, σ1§93/133, mb3.5/12, 6C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**0.90**	**197**	P	**Pn**	**13 04 53.9**	**+1.5**
NDR				S	**Sn**	**13 05 09.4**	**+5.2**
GOBA	**Gobu**	**1.13**	**204**	P	**Pb**	**13 04 58.6**	**+1.4**
GOBA				S	**Sb**	**13 05 11.9**	**+0.3**
SIZA	**Siyzn**	**1.14**	**252**	P	**Pn**	**13 04 55.9**	**+0.1**
SIZA				S	**Sb**	**13 05 13.4**	**+1.6**
ATGJ	**Altiaghaj**	**1.20**	**242**	Pn	**Pn**	**13 04 57.5**	**+0.7**
ATGJ				Sn	**Sb**	**13 05 14.8**	**+1.2**
QUBA	**Quba, Azerbaij**	**1.38**	**267**	Pn	**Pn**	**13 05 00.2**	**+1.0**
QUBA				Sn	**Sb**	**13 05 19.0**	**+0.2**
GBS	**Qobustan**	**1.38**	**230**	Pg	**Pb**	**13 05 02.1**	**+0.6**
GBS				Sg	**Sb**	**13 05 22.4**	**+3.6**
PQL	**Pirkuli**	**1.46**	**244**	Pn	**Pb**	**13 05 01.9**	**-1.0**
PQL				Sn	**Sb**	**13 05 22.3**	**+1.1**
QSAR	**Qusar**	**1.55**	**273**	Pn	**Pn**	**13 05 02.6**	**+1.0**
QSAR				Sn	**Sb**	**13 05 24.6**	**+0.9**
DRN	**Derbent**	**1.60**	**292**	*e*Pg	**Pn**	**13 05 03.6**	**+1.4**
	1μm,0.4s						
DRN				*e*Sg	**Sb**	**13 05 26.3**	**+1.2**
	1μm,0.4s						
DRN	**Derbent**	**1.60**	**292**	*e*PG	**Pn**	**13 05 02.3**	**+0.1**
DRN				*e*S	**Sb**	**13 05 25.1**	**0.0**
DRN				pmax	pmax		
	comp=Z,369nm,0.4s						
DRN				smax	smax		
	comp=N,1μm,0.5s						
KSMR	**Kasumkent**	**1.66**	**276**	*e*Pg	**Pn**	**13 05 04.1**	**+1.1**
	comp=N,797nm,0.5s						
KSMR				*e*Sg	**Sb**	**13 05 27.2**	**+0.5**
	comp=N,10μm,0.4s						
XNQ	**Khinaliq**	**1.67**	**261**	Pn	**Pn**	**13 05 04.5**	**+1.2**
XNQ				Sn	**Sb**	**13 05 27.5**	**+0.4**
IML	**Ismayilli**	**1.74**	**249**	Pn	**Pn**	**13 05 05.7**	**+1.5**
IML				Sn	**Sb**	**13 05 29.1**	**0.0**
ALIB	**&Aumlli-Bayram**	**1.79**	**215**	Pg	**Pb**	**13 05 07.8**	**-0.5**
ALIB				Sg	**Sb**	**13 05 33.2**	**+2.9**
KDMR	**Kurdemir**	**1.94**	**237**	Sn	**Sb**	**13 05 34.5**	**-0.1**
QBL	**Gabala**	**1.94**	**256**	Pg	**Pb**	**13 05 09.9**	**-1.1**
QBL				Sn	**Sb**	**13 05 33.9**	**-0.9**
AKT	**Akhty**	**1.95**	**272**	*i* Pg	**Pn**	**13 05 08.8**	**+1.7**
	comp=N,527nm,0.6s						
AKT				*e*Sg	**Sb**	**13 05 35.7**	**+0.6**
	comp=N,2μm,0.4s						
AKT	**Akhty**	**1.95**	**272**	⇓*i* PN	**Pn**	**13 05 08.5**	**+1.4**
AKT				pmax	pmax		
	comp=Z,390nm,0.3s						
URKR	**Urkarakh**	**2.14**	**291**	*e*Pn	**Pn**	**13 05 11.1**	**+1.3**
	comp=Z,294nm,0.3s						
URKR				*e*Sn	**Sb**	**13 05 40.5**	**0.0**
	comp=Z,537nm,0.5s						
SGKR	**Sergokala**	**2.23**	**298**	*e*Pn	**Pn**	**13 05 12.4**	**+1.5**
	comp=Z,244nm,0.4s						
SGKR				*e*Sn	**Sb**	**13 05 43.1**	**-0.1**
	comp=Z,447nm,0.3s						
ZRD	**Zardab**	**2.31**	**241**	Pn	**Pn**	**13 05 12.1**	**+0.1**
ZRD				Sn	**Sb**	**13 05 43.4**	**-2.1**
SEKA	**Sheki**	**2.37**	**265**	Pn	**Pn**	**13 05 14.3**	**+1.6**
SEKA				Sn	**Sn**	**13 05 41.7**	**+1.0**
KMKR	**Kumukh**	**2.51**	**287**	*e*Pn	**Pn**	**13 05 16.7**	**+1.8**
	comp=Z,177nm,0.3s						
KMKR				*e*Sn	**Sb**	**13 05 50.3**	**-1.0**
	comp=Z,363nm,0.3s						
MAK	**Makhachkala**	**2.59**	**307**	*e*Pn	**Pn**	**13 05 16.9**	**+1.2**
	comp=Z,429nm,0.4s						
MAK	**Makhachkala**	**2.59**	**307**	*e*PN	**Pb**	**13 05 21.7**	**-0.2**
MAK				*e*		13 05 25.3	
MAK				*e*		13 05 26.5	
MAK				*e*S	**Sb**	**13 05 59.2**	**+5.9**
MAK				pmax	pmax		
	comp=Z,435nm,0.4s						
MAK				smax	smax		
	comp=N,1μm,0.5s						
MAK				smax	smax		
	comp=N,2μm,0.5s						
MAK				MLR	MLR		
	comp=Z,140nm,10.0s						
GLBA	**Clilabad**	**2.65**	**215**	Pn	**Pn**	**13 05 18.0**	**+1.4**
GLBA				Sn	**Sn**	**13 05 49.1**	**+1.6**
BRDA	**Brd**	**2.66**	**245**	Pn	**Pn**	**13 05 18.5**	**+1.7**
BRDA				Sn	**Sn**	**13 05 51.0**	**+3.1**
GNBR	**Gunib**	**2.68**	**292**	*e*Pn	**Pn**	**13 05 18.6**	**+1.5**
	comp=Z,181nm,0.5s						
GNBR				*e*Sn	**Sb**	**13 05 54.0**	**-2.0**
	comp=Z,334nm,0.5s						
GNBR	**Gunib**	**2.68**	**292**	*e*PN	**Pn**	**13 05 18.9**	**+1.8**
GNBR				*e*S	**Sb**	**13 05 54.0**	**-2.0**
GNBR				pmax	pmax		
	comp=Z,7.0nm,0.1s						
GNBR				smax	smax		
	comp=N,340nm,0.5s						
BLQ	**Beylaqan**	**2.72**	**232**	Pn	**Pn**	**13 05 18.2**	**+0.7**
BLQ				Sn	**Sn**	**13 05 49.8**	**+0.6**
ARKR	**Arakani**	**2.74**	**296**	*e*Pn	**Pn**	**13 05 19.4**	**+1.5**
	comp=N,95nm,0.6s						
ARKR				*e*Sn	**Sb**	**13 05 55.4**	**-2.4**
	comp=N,172nm,0.6s						
BUJR	**Buynaksk**	**2.76**	**301**	*e*Pn	**Pn**	**13 05 19.4**	**+1.2**
	comp=N,350nm,0.4s						
BUJR				*e*Sn	**Sn**	**13 05 55.6**	**+5.1**
	comp=N,462nm,0.5s						
AGDM	**Agdam**	**2.78**	**242**	Pn	**Pn**	**13 05 18.8**	**+0.3**
AGDM				Sn	**Sn**	**13 05 53.4**	**+2.5**
ZKTA	**Zakatala**	**2.79**	**275**	Pn	**Pn**	**13 05 19.5**	**+1.0**
ZKTA				Sn	**Sn**	**13 05 54.2**	**+3.1**
KRNR	**Karanay**	**2.90**	**300**	*e*Pn	**Pn**	**13 05 21.3**	**+1.2**
	comp=N,79nm,0.4s						
KRNR				*e*Sn	**Sn**	**13 05 59.1**	**+5.3**
	comp=N,94nm,0.3s						
XNZR	**Khunzakh**	**2.91**	**293**	*e*Pn	**Pn**	**13 05 22.3**	**+1.9**
	comp=N,90nm,0.4s						
XNZR				*e*Sn	**Sb**	**13 06 00.8**	**-2.1**
	comp=N,119nm,0.4s						
UNCR	**Uncukul**	**2.92**	**297**	*e*Pn	**Pn**	**13 05 22.5**	**+2.1**
	comp=N,98nm,0.4s						
UNCR				*e*Sn	**Sb**	**13 06 00.9**	**-2.0**
	comp=N,137nm,0.4s						
YRD	**Yardimli**	**2.98**	**213**	Pn	**Pn**	**13 05 20.4**	**-1.0**
YRD				Sn	**Sn**	**13 05 55.8**	**-0.3**
QRD	**Qoradiz**	**3.03**	**230**	Sn	**Sn**	**13 05 57.4**	**+0.5**
DBC	**Dubki**	**3.04**	**302**	*e*Pn	**Pn**	**13 05 24.0**	**+2.0**
	comp=N,34nm,0.6s						
DBC				*e*Sn	**Sn**	**13 06 03.1**	**+5.8**
	comp=N,258nm,0.5s						
DBC	**Dubki**	**3.04**	**302**	*e*PN	**Pn**	**13 05 23.8**	**+1.8**
DBC				*e*S	**Sn**	**13 06 00.8**	**+3.5**
DBC				smax	smax		
	comp=E,233nm,0.4s						
ASTR	**Astara**	**3.11**	**203**	Pn	**Pn**	**13 05 23.0**	**+0.1**
ASTR				Sn	**Sn**	**13 05 58.8**	**-0.1**
GANJ	**Ganja**	**3.13**	**257**	Pn	**Pn**	**13 05 23.1**	**-0.2**
GANJ				Sn	**Sn**	**13 05 59.3**	**-0.2**
LRK	**Lerik**	**3.18**	**209**	Pn	**Pn**	**13 05 23.5**	**-0.6**
LRK				Sn	**Sn**	**13 06 01.4**	**+0.4**
DLMR	**Dylym**	**3.19**	**302**	*e*Pn	**Pn**	**13 05 25.9**	**+1.8**
	comp=E,229nm,0.5s						
BTLR	**Botlikh**	**3.29**	**293**	*e*Pn	**Pn**	**13 05 27.2**	**+1.7**
	comp=E,51nm,0.5s						
GDB	**GEDABAY**	**3.53**	**260**	Pn	**Pn**	**13 05 28.8**	**-0.1**
GDB				Sn	**Sn**	**13 06 09.2**	**-0.4**
QZX	**Qazax, Azerbai**	**3.75**	**266**	Pn	**Pn**	**13 05 32.0**	**+0.2**
QZX				Sn	**Sn**	**13 06 14.8**	**0.0**
ORD	**Ordubad**	**4.16**	**234**	Pn	**Pn**	**13 05 38.0**	**+0.6**
ORD				Sn	**Sn**	**13 06 25.4**	**+0.5**
GNI	**Garni**	**4.43**	**255**	Pg	**Pb**	**13 05 51.5**	**-1.8**
	comp=E,2.2nm,0.3s,baz=154,slow=7.9,SNR=4.6						
GNI				Sn	**Sn**	**13 06 32.4**	**+0.6**
	comp=E,3.3nm,0.3s,baz=341,slow=20,SNR=5.3						
GNI				Lg	Lg	13 06 50.9	
	comp=E,2.3nm,0.3s,baz=53,slow=23,SNR=1.7						
KBZ	**Khabaz**	**5.94**	**295**	Pn	**Pn**	**13 06 01.7**	**-0.1**
	comp=E,0.5nm,0.3s,baz=165,slow=4.5,SNR=6.8						
KBZ				Sn	**Sn**	**13 07 06.7**	**-2.0**
	comp=E,0.8nm,0.3s,baz=101,slow=23,SNR=1.7						
	comp=E,1.2nm,0.4s						
SHA1	**Shidzhatmaz**	**6.11**	**295**	*e*Pn	**Pn**	**13 06 03.4**	**-0.9**
KVAR	**Kislovodsk Arr**	**6.16**	**297**	Pn	**Pn**	**13 06 03.9**	**-1.0**
	baz=257,slow=14						
KVAR				Sn	Sn	13 07 07.5	-6.7
	baz=156,slow=14						
KVAR				Lg	Lg	13 07 45.2	
	baz=167,slow=18						
	comp=E,3.0nm,0.4s						
KIV	**Kislovodsk**	**6.16**	**297**	*e*P	**Pn**	**13 06 04.0**	**-1.0**
KIV				*e*S	**Sn**	**13 07 14.5**	**+0.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,14nm,11.0s						
GOF	**Gofitskoye**	**6.43**	**307**	*ce*P	Pn	13 06 17.0	+8.5
AKTO	**Aktyubinsk**	**10.46**	**28**	Pn	**Pn**	**13 07 03.0**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=208,slow=7.5,SNR=11						
AKTO				Sn	**Sn**	**13 08 51.9**	**-7.9**
	comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=1.2						
	comp=Z,0.9nm,0.3s						
AKTO	**Aktyubinsk**	**10.46**	**28**	P	**Pn**	**13 07 03.0**	**-0.8**
BELG	**Belogornoye**	**11.11**	**351**	Pn	**Pn**	**13 07 12.8**	**+0.1**
	comp=Z,3.8nm,0.3s,baz=172,slow=4.6,SNR=7.9						
BELG				Sn	Sn	13 09 05.7	-10
	comp=Z,0.9nm,0.3s,baz=217,slow=18,SNR=2.1						
	comp=Z,8.0nm,0.4s						
BRTR	**Keskin Array B**	**12.80**	**268**	Pn	**Pn**	**13 07 36.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=68,slow=8.4,SNR=2.0						
	comp=Z,0.3nm,0.6s						
ARTI	**Arti**	**15.85**	**17**	Pn	**Pn**	**13 08 15.3**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=187,slow=7.0,SNR=4.4						
ARTI				Sn	Sn	13 10 59.5	-12
	comp=Z,0.4nm,0.3s,baz=150,slow=20,SNR=1.5						
	comp=Z,4.8nm,0.4s						
ARTI	**Arti**	**15.85**	**17**	P	**Pn**	**13 08 14.0**	**-2.7**
ARTI				S	**Sn**	**13 11 09.0**	**-2.2**
OBN	**Obninsk**	**16.42**	**331**	⇓*i* P	**Pn**	**13 08 23.2**	**-0.7**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,24nm,12.0s						
KIRV	**Kirov**	**17.17**	**358**	P	**P**	**13 08 34.2**	**-0.4**
	comp=Z,3.2nm,0.3s,baz=240,slow=8.1,SNR=4.8						
KIRV				S	**Sn**	**13 11 46.7**	**+3.5**
	comp=Z,6.9nm,0.5s,baz=270,slow=20,SNR=1.8						
	comp=Z,7.5nm,0.5s						
AKASG	**Malin Array Be**	**17.27**	**310**	P	**Pn**	**13 08 33.6**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=114,slow=11,SNR=5.7						
AKASG				S	**Sn**	**13 11 46.5**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=120,slow=23,SNR=3.2						
	comp=Z,1.3nm,0.6s						
AKBB	**Malin Array Si**	**17.27**	**310**	⇑*e*P	**Pn**	**13 08 34.0**	**-0.7**
BRVK	**Borovoye**	**17.78**	**42**	⇑*e*P	**P**	**13 08 42.9**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**17.82**	**43**	P	**P**	**13 08 42.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=235,slow=10.0,SNR=8.0						
BVAR				S	**S**	**13 12 03.3**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=228,slow=21,SNR=3.1						
	comp=Z,0.7nm,0.5s						
AAK	**Ala-Archa**	**17.98**	**78**	P	**Pn**	**13 08 42.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=274,slow=10,SNR=3.5						
	comp=Z,1.5nm,0.7s						
IDI	**Anoyia**	**20.83**	**261**	P	**P**	**13 09 11.1**	**-3.9**
	comp=Z,0.8nm,0.3s,baz=50,slow=16,SNR=7.9						
	comp=Z,0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**21.52**	**55**	P	**P**	**13 09 21.9**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=259,slow=12,SNR=6.5						
	comp=Z,1.6nm,0.3s						
KURK	**Kurchatov**	**21.59**	**55**	⇑*e*P	**P**	**13 09 24.7**	**+1.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**23.46**	**66**	⇑*e*P	**P**	**13 09 45.6**	**+2.9**
MKAR	**Makanchi Array**	**23.46**	**66**	P	**P**	**13 09 42.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=263,slow=11,SNR=4.9						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**23.46**	**66**	*i* P	**P**	**13 09 43.0**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**24.82**	**332**	P	**P**	**13 09 56.5**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=135,slow=10,SNR=13						
	comp=Z,1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**26.09**	**50**	P	**P**	**13 10 08.6**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=267,slow=9.5,SNR=1.8						
	comp=Z,0.2nm,0.3s						
HFS	**Hagfors**	**29.22**	**322**	P	**P**	**13 10 32.9**	**-1.6**
	comp=Z,2.2nm,1.0s,baz=115,slow=9.7,SNR=1.5						
	comp=Z,2.2nm,1.0s						
NOA	**NORSAR Array B**	**30.69**	**323**	P	**P**	**13 10 48.4**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=115,slow=8.8,SNR=1.4						
	comp=Z,0.1nm,0.4s						
ARCES	**ARCESS Array B**	**31.00**	**343**	P	**P**	**13 10 52.3**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=153,slow=8.4,SNR=5.5						
	comp=Z,0.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**37.18**	**311**	P	**P**	**13 11 44.3**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=87,slow=8.3,SNR=1.5						
	comp=Z,0.3nm,0.4s						
SPITS	**Spitsbergen Ar**	**39.31**	**350**	P	**P**	**13 12 02.4**	**+0.8**
	comp=Z,3.9nm,1.1s,baz=144,slow=9.5,SNR=1.3						
	comp=Z,3.9nm,1.1s						
ESDC	**Sonseca Array**	**40.72**	**286**	P	**P**	**13 12 12.9**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=60,slow=7.6,SNR=2.3						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**75.71**	**353**	P	**P**	**13 16 20.1**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=12,slow=5.6,SNR=8.6						
	comp=Z,0.2nm,0.6s						

*IDC **26** 13:25:11.7±1.9, 5°.38S×152°.12E, h0km, mb3.6/6, mbtmp3.6/7, ML1.7/1, Error ellipse: s-maj=74.1km s-min=22.7km az=122.0*
ISC 26 13:25:18.4±1.6, 5°.4S±0°.3×151°.9E±0°.3, h45km, n7, σ1§59/8, mb3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.12**	**230**	Pn	**Pn**	**13 26 48.0**	**+1.6**
	1.0nm,0.3s,baz=43,slow=13,SNR=4.9						
PMG				Sn	**Sn**	**13 27 52.7**	**-2.6**
	1.6nm,0.3s,baz=57,slow=17,SNR=3.5						
	20nm,0.9s						
WRA	**Warramunga Arr**	**22.34**	**228**	P	**P**	**13 30 13.1**	**+0.3**
	1.2nm,0.6s,baz=52,slow=10,SNR=9.9						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**25.07**	**222**	P	**P**	**13 30 39.9**	**+1.0**
	1.4nm,0.7s,baz=58,slow=8.8,SNR=26						
	1.4nm,0.7s						
SONM	**Songino Array**	**66.39**	**328**	P	**P**	**13 36 03.5**	**+0.5**
	0.4nm,0.5s,baz=138,slow=5.1,SNR=2.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**80.22**	**319**	P	**P**	**13 37 24.4**	**0.0**
	0.2nm,0.4s,baz=93,slow=5.8,SNR=2.4						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**83.09**	**22**	P	**P**	**13 37 39.1**	**0.0**
	0.3nm,0.9s,baz=259,slow=5.7,SNR=2.3						
	0.3nm,0.9s						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**13 38 41.0**	**-1.4**
	0.1nm,0.6s,baz=294,slow=4.1

MRZ	Mangatainoka R	2.18 181	P	Pn	13 28 33.5 -1.0
BFZ	Birch Farm	2.25 168	P	Pn	13 28 34.6 -0.8
OGWZ	Otaki Gorge	2.36 188	P	Pn	13 28 35.6 -1.0
TCW	Tory Channel	2.92 200	P	Pn	13 28 41.2 -2.1
MSWZ	Moikau Station	2.95 186	P	Pn	13 28 41.4 -2.3
NNZ	Nelson	3.23 212	P	Pn	13 28 45.4 -1.8
QRZ	Quartz Range	3.35 225	P	Pn	13 28 45.6 -3.0
THZ	Tophouse	3.88 212	P	Pn	13 28 54.2 -1.5
KHZ	Kahutara	4.24 201	P	Pn	13 28 57.4 -2.7

*SNET **26** 13:28:44.4±0.8, 13°.28N×89°.68W, h52km±9km, ML2.7*
*GCG **26** 13:28:44.7±0.3, 13°.71N×90°.29W, h59km±7km, MD3.7*
ISC 26 13:28:43.4±3.8, 13°.2N±0°.2×89°.7W±0°.1, h50km, n9, σ0°26/13, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.51	54	eP	Pn	13 29 02.3	+7.5
NUBE	Las Nubes	0.71	357	eP	Pn	13 28 57.5	0.0
NUBE				eS	Sn	13 29 07.5	-0.2
NUBE	Las Nubes	0.71	357	i P	Pn	13 28 57.5	0.0
NUBE				i S	Sn	13 29 07.5	-0.2
LOMA	Loma Larga	0.72	51	eP	Pn	13 28 57.5	-0.1
LOMA				eS	Sn	13 29 07.8	-0.1
LOMA				IAML		13 29 10.7	
	comp=Z,280nm,0.1s						
LFRS	El Faro	0.79	57	eP	Pn	13 28 58.3	-0.3
LFRS				eS	Sn	13 29 09.2	-0.3
COEG	Centro de Oper	0.94	63	eS	Sn	13 29 13.4	+0.3
MTO3	Montecristo	1.26	17	eP	Pn	13 29 05.3	+0.4
MTO3				eS	Sn	13 29 20.8	-0.1
MTO3	Montecristo	1.26	17	i P	Pn	13 29 05.3	+0.4
PACA	Pacayal	1.41	78	eP	Pn	13 29 07.0	+0.2

*IDC **26** 13:30:09.0±2.3, 9°.65N×126°.37E, h118km±21km, mb3.7/21, mbtmp4.0/22, MS3.5/7, Error ellipse: s-maj=28.6km s-min=12.0km az=68.0*
ISC 26 13:30:00.5±0.6, 9°.6N±0°.1×126°.4E±0°.2, h43km, n37, σ0°56/28, mb4.1/21, MS3.4/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.64	197	P	Pn	13 30 50.4	+10
	243nm,0.4s,baz=8.0,slow=4.3,SNR=4.5						
DAV				S	Sn	13 31 25.1	+14
	315nm,0.4s,baz=283,slow=21,SNR=5.8						
DAV				LR	LR	13 31 55.5	
	comp=Z,906nm,20.4s,baz=24,slow=40						
DAV	Davao City (W)	2.64	197	P	Pn	13 30 57.0	+16
TGY	Tagaytay City	6.95	311	LR	LR	13 34 45.2	
	comp=Z,259nm,19.1s,baz=292,slow=40						
GUMO	Guam	18.54	76	LR	LR	13 41 37.7	
	comp=Z,104nm,18.5s,baz=242,slow=37						
JCJ	Chichijima	22.93	39	LR	LR	13 44 09.8	
	comp=Z,68nm,19.5s,baz=136,slow=37						
CMAR	Chiang Mai Arr	28.00	291	P	P	13 35 47.4	-0.2
	1.9nm,0.8s,baz=102,slow=7.2,SNR=10						
	1.9nm,0.8s						
MJAR	Matsushiro Arr	28.88	20	LR	LR	13 47 12.1	
	comp=Z,77nm,19.4s,baz=210,slow=36						
WRA	Warramunga Arr	30.39	165	P	P	13 36 09.4	+0.7
	0.4nm,0.6s,baz=347,slow=9.2,SNR=2.3						
WRA				PcP	PcP	13 39 07.7	-0.2
	0.4nm,0.8s,baz=323,slow=3.2,SNR=2.0						
	0.4nm,0.6s						
ASAR	Alice Springs	33.88	168	P	P	13 36 39.0	-0.3
	0.2nm,0.5s,baz=353,slow=6.8,SNR=6.6						
ASAR				PcP	PcP	13 39 18.1	+0.6
	0.4nm,0.6s,baz=350,slow=2.9,SNR=5.2						
	0.2nm,0.5s						
ASAJ	Asahikawa	37.15	19	LR	LR	13 51 53.9	
	comp=Z,64nm,19.7s,baz=198,slow=35						
H11S3	WAKE ISLAND Hy 40.01	73		T	T	14 20 32.5	
	baz=246						
H11S1	WAKE ISLAND Hy 40.03	73		T	T	14 20 34.3	
	baz=246						
H11S2	WAKE ISLAND Hy 40.03	73		T	T	14 20 35.5	
	baz=246						
H11N1	WAKE ISLAND Hy 40.37	71		T	T	14 21 06.6	
	baz=265,slow=74,SNR=12						
H11N2	WAKE ISLAND Hy 40.38	71		T	T	14 21 12.0	
	baz=265,slow=74,SNR=10						
H11N3	WAKE ISLAND Hy 40.38	71		T	T	14 21 14.8	
	baz=265,slow=74,SNR=9.3						
SONM	Songino Array	41.67	340	P	P	13 37 44.9	-0.1
	1.9nm,0.7s,baz=160,slow=9.3,SNR=11						
SONM				PcP	PcP	13 39 41.6	+0.4
	0.3nm,0.5s,baz=177,slow=2.7,SNR=2.3						
	1.9nm,0.7s						
STKA	Stephens Creek	43.74	161	P	P	13 38 01.9	+0.1
	1.3nm,0.7s,baz=320,slow=19,SNR=1.6						
	1.3nm,0.7s						
PETK	Petropavlovsk-	50.20	24	P	P	13 38 52.1	+0.2
	2.4nm,0.7s,baz=228,slow=3.8,SNR=1.8						
	2.4nm,0.7s						
MKAR	Makanchi Array	52.62	323	P	P	13 39 10.6	+0.5
	2.0nm,0.7s,baz=120,slow=8.4,SNR=16						
MKAR				PcP	PcP	13 40 20.1	+0.3
	0.7nm,0.6s,baz=124,slow=4.1,SNR=2.1						
	2.0nm,0.7s						
ZALV	Zalesovo Beam	55.25	331	P	P	13 39 28.9	-0.4
	0.7nm,0.3s,baz=100,slow=8.1,SNR=4.5						
	0.7nm,0.3s						
KURBB	Kurchatov Arra	56.67	326	P	P	13 39 39.4	0.0
	1.4nm,0.7s,baz=126,slow=6.7,SNR=10						
	1.4nm,0.7s						
BVAR	Borovoye Array	62.27	326	P	P	13 40 18.4	+0.4
	0.8nm,0.6s,baz=122,slow=5.6,SNR=4.0						
	0.8nm,0.6s						
NRIK	Noril'sk	64.68	346	P	P	13 40 34.5	+0.8
	2.9nm,0.6s,baz=140,slow=6.9,SNR=6.7						
	2.9nm,0.6s						
KBZ	Khabaz	78.73	313	P	P	13 41 58.9	+0.3
	0.4nm,0.3s,baz=61,slow=7.4,SNR=4.1						
	0.4nm,0.3s						
ILAR	Eielson Array	79.99	26	P	P	13 42 04.8	-0.2
	0.2nm,0.7s,baz=233,slow=5.7,SNR=4.4						
	0.2nm,0.7s						
SPITS	Spitsbergen Ar	84.68	349	P	P	13 42 29.2	-0.2
	2.0nm,0.6s,baz=74,slow=5.0,SNR=7.9						
	2.0nm,0.6s						
ARCES	ARCESS Array B	84.85	340	P	P	13 42 30.0	-0.3
	2.0nm,0.6s,baz=73,slow=6.3,SNR=20						
	2.0nm,0.6s						
BRTR	Keskin Array B	86.03	309	P	P	13 42 36.9	-0.1
	0.5nm,0.6s,baz=90,slow=4.3,SNR=3.2						
BRTR				LR	LR	14 24 50.5	
	comp=Z,75nm,21.6s,baz=132,slow=38						
	0.5nm,0.6s						
FINES	FINESS Array B	86.52	332	P	P	13 42 38.8	+0.1
	2.3nm,0.6s,baz=58,slow=5.2,SNR=20						
	2.3nm,0.6s						
VNDA	Vanda	89.26	173	P	P	13 42 51.0	-0.4
	0.5nm,0.9s,baz=322,slow=1.4,SNR=4.4						
	0.5nm,0.9s						
HFS	Hagfors	92.68	332	P	P	13 43 07.5	-0.3
	1.4nm,0.5s,baz=76,slow=4.7,SNR=12						
	1.4nm,0.5s						
NB2	NORSAR Subarra	93.39	334	P	P	13 43 10.2	-0.9
	comp=Z,0.7nm,0.6s,baz=65,slow=4.4						
NOA	NORSAR Array B	93.39	334	P	P	13 43 10.2	-0.9
	comp=Z,0.6nm,0.6s,baz=65,slow=4.5,SNR=5.8						
	comp=Z,0.6nm,0.6s						
YKA	Yellowknife Ar	94.31	24	P	P	13 43 14.3	-0.9
	comp=Z,0.4nm,0.8s,baz=302,slow=4.7,SNR=7.6						
	comp=Z,0.4nm,0.8s						
TXAR	Lajitas Array	118.18	49	PKP	PKiKP	13 48 45.1	+1.3
	comp=Z,0.1nm,0.5s,baz=293,slow=1.5,SNR=2.3						
PLCA	Paso Flores	145.56	157	PKPbc	PKPdf	13 49 33.7	-0.8
	comp=Z,1.5nm,0.9s,baz=248,slow=5.6,SNR=4.4						

*NEIC **26** 13:46:50.4±2.0, 6°.56S±0°.04×129°.69E±0°.09, h148km±9km, mb4.4/11, Error ellipse: s-maj=14.1km s-min=3.5km az=68.0*
*DJA **26** 13:46:52.0±0.4, 7°.S±2°.×13°.0E±°, h168km±8km, M4.4/13, mB5.1/4, mb4.2/6, MLv4.4/13, Mw(mB)4.5/4*
*IDC **26** 13:46:52.1±5.0, 6°.89S×129°.56E, h168km±49km, mb3.8/5, mbtmp4.3/8, Error ellipse: s-maj=43.4km s-min=19.1km az=66.0*
ISC 26 13:46:50.5±0.5, 6°.57S±0°.04×129°.88E±0°.06, h150km, n66, σ2°25/71, mb4.3/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.99	135	Pn	Pn	13 47 28.0	+2.5
SAUI				Sn	Sn	13 47 54.1	+1.8
SAUI	Saumlaki	1.99	135	P	Pn	13 47 28.2	+2.7
SAUI	Saumlaki	1.99	135	P	Pn	13 47 28.5	+3.0
SAUI				S	Sn	13 47 54.0	+1.6
BNDI	Bandanaira	2.04	1	P	Pn	13 47 30.5	+4.5
BNDI	Bandanaira	2.04	1	P	Pn	13 47 29.8	+3.8
MSAI	Masohi	3.34	343	P	Pn	13 47 46.4	+4.2
NLAI	Namlea	4.32	320	P	Pn	13 47 59.2	+4.3
FAKI	Fak Fak	4.33	33		Pn	13 47 56.0	+0.9
FAKI				Sn	Sn	13 48 44.8	-0.6
FAKI	Fak Fak	4.33	33	P	Pn	13 47 54.8	-0.3
FAKI				S	Sn	13 48 44.1	-1.3
KMPI	Kaimana, Papua	4.78	53	P	Pn	13 48 03.0	+2.0
KMPI				S	Sn	13 48 55.3	-0.7
SWI	Sorong	5.84	14	P	Pn	13 48 15.1	+0.1
SWI				S	Sn	13 49 18.1	-3.1
DRS	Darwin Rock St	5.91	170	P	Pn	13 48 15.8	-0.2
SANI	Sanana	5.94	319	P	Pn	13 48 21.8	+5.4
SANI	Sanana	5.94	319	P	Pn	13 48 20.3	+3.9
	0.1nm21nm,1.0s						
MTN	Manton Dam	6.35	169		Pn	13 48 21.7	-0.3
MTN	Manton Dam	6.35	169	P	Pn	13 48 21.6	-0.3
SOEI	Soe	6.39	240	Pn	Pn	13 48 23.2	+0.7
SOEI	Soe	6.39	240	P	Pn	13 48 24.7	+2.1
SOEI	Soe	6.39	240	P	Pn	13 48 23.7	+1.1
	0.3nm22nm,0.7s						
KDU	Kakadu	6.59	157	P	Pn	13 48 24.6	-0.5
RKPI	Ransiki, Papua	6.61	41	P	Pn	13 48 26.9	+1.6
BAKI	Biak	8.20	50	P	Pn	13 48 49.4	+2.9
EDFI	Ende, Flores	8.40	255	P	Pn	13 48 51.5	+2.1
KNRA	Kununurra	9.12	187		Pn	13 48 57.0	-1.8
TOLI2	Tolitoli	11.86	310	Pn	Pn	13 49 31.7	-3.3
FITZ	Fitzroy Crossi	12.18	199	Pn	Pn	13 49 36.3	-2.9
FITZ	Fitzroy Crossi	12.18	199	P	Pn	13 49 36.1	-3.0
	5.1nm,0.3s,baz=32,slow=13,SNR=31						
FITZ				S	Sn	13 51 43.7	-10
	3.8nm,0.3s,baz=90,slow=20,SNR=3.4						
PLAI	Plampang	12.20	259	P	Pn	13 49 39.9	+0.4
WB0	Warramunga Arr	13.83	162		Pn	13 49 56.8	-3.5
WRAB	Tennant Creek	13.97	162		Pn	13 49 58.8	-3.3
WRA	Warramunga Arr	13.98	162	Pn	Pn	13 49 58.3	-3.9
WRA	Warramunga Arr	13.98	162	P	Pn	13 49 58.7	-3.5
	3.8nm,0.7s,baz=338,slow=13,SNR=26						
WRA				S	Sn	13 52 26.5	-11
	5.4nm,0.6s,baz=341,slow=24,SNR=8.9						
WR8	Warramunga Arr	14.04	162		Pn	13 49 59.5	-3.5
COEN	Coen	14.99	120	Pn	P	13 50 16.0	-0.7
COEN	Coen	14.99	120	P	P	13 50 18.1	+1.4
JAGI	Jajag, Banyuwa	15.71	262		Pn	13 50 22.1	-1.7
JAGI				IAmb	IAmb	13 50 28.3	
	comp=Z,20nm,0.9s						
QIS	Mount Isa	16.80	147	P	Pn	13 50 36.9	-0.1
AS31	Alice Springs	17.43	168		Pn	13 50 44.0	-0.6
ASAR	Alice Springs	17.43	168		Pn	13 50 44.1	-0.5
ASAR	Alice Springs	17.43	168	P	P	13 50 43.1	-0.5
	comp=Z,6.0nm,0.6s,baz=342,slow=9.6,SNR=98						
ASAR				S	S	13 53 49.7	-7.9
	comp=Z,1.6nm,0.8s,baz=348,slow=24,SNR=7.9						
AS01	Alice Springs	17.44	167	P	Pn	13 50 44.4	-0.3
WRKA	Warakurna	18.42	185	P	P	13 50 55.0	+0.5
OOD	Oodnadatta	21.82	166	P	P	13 51 30.4	-0.4
INKA	Innaminka	23.44	155	P	P	13 51 47.7	+1.4
FORT	Forrest	24.14	184	P	P	13 51 52.8	+0.2
FORT				IAmb	IAmb	13 52 12.8	
	comp=Z,17nm,0.9s						
FORT	Forrest	24.14	184	P	P	13 51 53.6	+1.0
QLP	Quilpie	24.15	147	P	P	13 51 54.0	+1.3
LCRK	Leigh Creek	25.01	163	P	P	13 52 02.3	+1.8
BBOO	Buckleboo	26.73	168	P	P	13 52 14.5	-1.5
BBOO	Buckleboo	26.73	168	P	P	13 52 18.9	+2.9
STKA	Stephens Creek	27.45	158	P	P	13 52 22.4	0.0
STKA				IAmb	IAmb	13 52 51.5	
	comp=Z,8.7nm,0.8s						
STKA	Stephens Creek	27.45	158	P	P	13 52 22.1	-0.4
	comp=Z,1.6nm,0.4s,baz=338,slow=12,SNR=5.9						
	comp=Z,1.6nm,0.4s						
STKA	Stephens Creek	27.45	158	P	P	13 52 22.3	-0.2
MTKN	Mount Kenneth	28.46	206	P	P	13 52 34.8	+3.4
CMSA	Cobar Meteorol	28.91	151	P	P	13 52 36.0	+0.6
ARPS	Mount Arapiles	31.98	162	P	P	13 53 02.4	0.0
CAN	Canberra	33.59	151	P	P	13 53 17.9	+1.4
XLT	XiLinHaoTe	51.76	347	eP	P	13 55 41.8	-0.9
XLT				pP	pwP	13 56 20.5	-0.8
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XLT				LR	LR		
	comp=N,13nm,19.6s						
XLT				LR	LR		
	comp=E,140nm,11.1s						
XLT				LR	LR		
	comp=Z,180nm,18.7s						
YSS	Yuzhno-Sakhali	54.50	11	P	P	13 56 02.9	+0.3
YSS				IAmb	IAmb	13 56 25.6	
	comp=Z,11nm,1.1s						
PETK	Petropavlovsk-	63.96	18	P	P	13 57 07.6	+0.2
PETK	Petropavlovsk-	63.96	18	P	P	13 57 08.6	+1.1
	comp=Z,2.6nm,0.9s,baz=242,slow=6.1,SNR=1.6						
	comp=Z,2.6nm,0.9s						
MK31	Makanchi Array	67.80	327	P	P	13 57 33.0	+0.7
MK31				IAmb	IAmb	13 57 37.8	
	comp=Z,3.1nm,0.8s						
MKAR	Makanchi Array	67.80	327	P	P	13 57 32.8	+0.5
	comp=Z,3.5nm,0.5s,baz=127,slow=7.6,SNR=33						
	comp=Z,3.5nm,0.5s						
KURBB	Kurchatov Arra	72.08	328	P	P	13 57 58.4	+0.2
	comp=Z,0.7nm,0.4s,baz=126,slow=5.3,SNR=7.8						
	comp=Z,0.7nm,0.4s						
KURK	Kurchatov	72.09	329	P	P	13 57 56.7	-1.6
KURK				IAmb	IAmb	13 58 07.0	
	comp=Z,5.4nm,0.8s						
BVAR	Borovoye Array	77.64	328	P	P	13 58 30.0	-0.2
	comp=Z,0.5nm,0.5s,baz=111,slow=6.4,SNR=3.2						
	comp=Z,0.5nm,0.5s						

*DNK **26** 13:47:32.7±1.2, 51°.50N×16°.18E, h30km±36km, ML2.1*
*PRU **26** 13:47:33.8, 51°.42N×16°.09E, h0km*
*VIE **26** 13:47:33.8±0.6, 51°.39N×16°.47E, h0km, mb2.5/4, ml2.7/5, Error ellipse: s-maj=9.1km s-min=4.3km az=100.0 50 km NW of Wroclaw Suspected Mining induced.*
ISC 26 13:47:29.8±0.8, 51°.60N±0°.03×16°.16E±0°.03, h0km, n36, σ1°58/62, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.76	173	ePg	Pg	13 47 44.7	+0.3
KSP				eSg	Sg	13 47 53.4	-0.8
CHVC	Chvalec	1.01	184	ePG	Pg	13 47 49.1	-0.1
CHVC				eSG	Sg	13 48 00.7	-1.6
OSTC	Ostas	1.04	178	ePG	Pg	13 47 49.9	+0.1
OSTC				eSG	Sg	13 48 02.5	-0.8
	comp=Z,46nm,0.4s						
UPC	Upice	1.09	185	ePG	Pg	13 47 50.7	-0.1
UPC				eSG	Sg	13 48 03.9	-1.0
	comp=Z,76nm,0.7s						
DPC	Dobruska-Polom	1.25	175	ePG	Pg	13 47 53.5	-0.3
DPC				eSG	Sg	13 48 08.2	-1.8
	comp=Z,32nm,0.7s						
PVCC	Panska Ves	1.47	224	ePG	Pn	13 47 57.4	-0.1
PVCC				eSG	Sg	13 48 15.6	-1.3
BRG	Berggiesshubel	1.57	243	Pg	Pb	13 48 00.0	+0.3
BRG				Sg	Sn	13 48 20.0	+0.1
BRG				Amp		13 48 21.1	
	comp=Z,34nm,0.4s						
KRLC	Kraliky	1.57	165	ePG	Pb	13 47 59.4	-0.4
KRLC				eSG	Sn	13 48 17.7	-2.4
	comp=Z,21nm,0.7s						
GOPC	GO Pecny, Ondr	1.90	208	ePG	Pb	13 48 04.6	-0.7
PRU	Pruhonice	1.91	213	ePG	Pb	13 48 05.5	0.0
PRU				eSG	Sn	13 48 29.1	+0.8
	comp=Z,18nm,0.4s						
STEB	Steborice	1.96	148	ePG	Pg	13 48 07.2	-0.1
STEB				eSG	Sg	13 48 31.4	-1.2
HSKC	Hora Svate Kat	1.98	241	ePG	Pb	13 48 06.7	-0.1
HSKC				eSG	Sn	13 48 31.5	+1.3
	comp=Z,29nm,0.3s						
CLL	Collm	1.99	263	ePn	Pn	13 48 05.0	+0.2
CLL				i Pg	Pb	13 48 07.8	+0.8
CLL				ex	x	13 48 11.0	
CLL				eSg	Sb	13 48 34.0	+1.7
	comp=Z,17nm,0.5s						
MORC	Moravsky Berou	2.02	154	ePN	Pn	13 48 05.3	+0.1
MORC				eSG	Sb	13 48 32.2	-1.0
OKC	Ostrava-Krasne	2.17	144	eSG	Sg	13 48 37.8	-1.7
	comp=Z,22nm,0.3s						
VRAC	Vranov	2.31	173	ePN	Pn	13 48 10.5	+1.4
VRAC				eSG	Sb	13 48 42.2	+0.8
TREC	Trest	2.34	191	eSG	Sb	13 48 42.9	+0.5
KRUC	Moravsky	2.54	176	eSG	Sb	13 48 48.8	+0.7
OJC	Ojcow	2.69	119	ePg	Pg	13 48 23.6	+2.3
OJC				eSg	Sg	13 48 57.5	+1.4
NKC	Novy Kostel	2.71	241	ePG	Pg	13 48 21.5	-0.3
NKC				eSG	Sg	13 48 57.2	+0.2
	comp=Z,38nm,0.3s						
KHC	Kasperske Hory	2.97	215	ePN	Pn	13 48 18.4	+0.2
KHC				ePG	Pb	13 48 24.0	+0.4
KHC				eSG	Sb	13 49 01.6	+1.2
	comp=Z,12nm,0.5s						
CKRC	Cesky Krumlov	3.02	204	ePG	Pb	13 48 25.1	+0.6
CKRC				eSG	Sb	13 49 04.2	+2.3
	comp=Z,10nm,0.5s						
LANS	Liptovska Anna	3.24	138	eSG	Sg	13 49 13.1	-0.7
MODS	Modra-Piesok	3.31	167	eSG	Sg	13 49 16.6	+0.6
BSD	Bornholm Skovb	3.60	349	i P	Pn	13 48 28.2	+1.4
BSD				i S	Sn	13 49 08.3	-1.7
BSD				IAML		13 49 11.3	
	comp=Z,1.8nm,0.2s						
CONA	Conrad Observa	3.68	183	i Pn	Pn	13 48 29.7	+1.7
	comp=Z,1.0nm,0.7s						
CONA				Sg	Sg	13 49 24.4	-3.5
	comp=Z,5.5nm,0.7s						
RONA	Rosalia, Austr	3.90	179	Sg	Sg	13 49 32.1	-3.0
	comp=Z,5.3nm,0.6s						
MOA	Molln	3.95	199	ePn	Pn	13 48 32.0	+0.4
	comp=Z,0.2nm,0.1s						
LUNU	Lund	4.35	339	i P	Pn	13 48 38.8	+1.7
LUNU				i S	Sn	13 49 27.2	-1.4
ARSA	Arzberg	4.37	186	eSg	Sg	13 49 49.8	-0.4
	comp=Z,2.8nm,0.5s						
BLEU	Blekinge	4.72	358	i P	Pn	13 48 44.4	+2.2
BLEU				i S	Sn	13 49 36.0	-1.6
BJUU	Bjuv	4.85	339	i P	Pn	13 48 46.1	+2.1
BJUU				i S	Sn	13 49 38.9	-1.9
KBA	Koelnbreinsper	4.88	203	i Pn	Pn	13 48 46.9	+2.3
	comp=Z,1.1nm,0.3s						
DEL	Delary	5.07	345	i P	Pn	13 48 47.5	+0.5
DEL				i S	Sn	13 49 43.4	-2.7
FABU	Falkenberg	5.78	341	i S	Sn	13 50 00.5	-3.1
ONAU	Onsala	6.31	339	i S	Sn	13 50 11.4	-5.4

*IDC **26** 13:48:21.4±0.5, 9°.78N×126°.51E, h0km, mb4.4/27, mbtmp4.4/29, ML4.2/2, MS3.6/16, Error ellipse: s-maj=23.1km s-min=11.1km az=77.0*
*NEIC **26** 13:48:23.1±1.2, 9°.83N±0°.07×126°.6E±0°.1, h10km±1km, mb4.7/43, Error ellipse: s-maj=21.4km s-min=12.4km az=84.0*
ISC 26 13:48:27.2±0.4, 9°.82N±0°.05×126°.63E±0°.09, h42km, n112, σ1°20/92, mb4.5/50, MS3.6/15, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.92	201	Pn	Pn	13 49 10.8	-0.4
DAV	Davao City (W)	2.92	201	Pn	Pn	13 49 09.4	-1.8
	101nm,0.3s,baz=19,slow=6.0,SNR=9.3						
DAV				Sn	Sn	13 49 50.6	+5.4
	117nm,0.3s,baz=90,slow=15,SNR=6.9						
DAV				LR	LR	13 50 21.8	
	comp=Z,2μm,20.1s,baz=24,slow=42						
	258nm,0.4s						
DAV	Davao City (W)	2.92	201	P	Pn	13 49 13.0	+1.8
TNTI	Ternate	9.02	175		Pn	13 50 33.1	-1.9
YULB	Yu-li	14.43	340	Pn	Pn	13 51 44.7	-4.1
KAPI	Kappang	16.25	205	LR	LR	13 58 52.9	
	comp=Z,103nm,19.9s,baz=46,slow=39						
KSM	Kuching	18.22	244		Pn	13 52 38.6	+1.4
GUMO	Guam	18.25	76	LR	LR	14 00 13.8	
	comp=Z,209nm,18.3s,baz=239,slow=39						
JAY	Jayapura	18.62	130	P	P	13 52 41.4	0.0
	0.3nm,0.3s,baz=327,slow=7.0,SNR=2.6						
	18nm,1.1s						
MMRI	Maumere	18.85	194		P	13 52 40.0	-3.8
MMRI				IAmb	IAmb	13 52 51.4	
	comp=Z,52nm,0.8s						
SOEI	Soe	19.59	187		P	13 52 51.2	-0.8
SOEI				IAmb	IAmb	13 53 14.0	
	comp=Z,53nm,0.8s						
JCJ	Chichijima	22.60	38	LR	LR	14 01 11.5	
	comp=Z,156nm,21.1s,baz=145,slow=34						
JNU	Nakatsue	23.52	9	LR	LR	14 04 09.7	
	comp=Z,88nm,18.5s,baz=177,slow=40						
MYKOM	Kota Tinggi	24.01	252	P	P	13 53 38.4	+0.1
KNRA	Kununurra	25.42	175	P	P	13 53 50.5	-0.6
KNRA				IAmb	IAmb	13 54 10.8	
	comp=Z,17nm,0.8s						
KULM	Kulim	26.14	262	P	P	13 53 56.1	-1.5
KULM				IAmb	IAmb	13 54 00.4	
	comp=Z,10nm,0.9s						
KSRS	Korea Array	27.54	2	P	P	13 54 10.3	+0.4
	comp=Z,1.4nm,0.8s,baz=221,slow=37,SNR=3.4						
KSRS				LR	LR	14 07 04.0	
	comp=Z,124nm,18.9s,baz=180,slow=41						
	comp=Z,1.4nm,0.8s						
FITZ	Fitzroy Crossi	27.76	182	P	P	13 54 11.4	-0.8
FITZ	Fitzroy Crossi	27.76	182	P	P	13 54 11.8	-0.3
	comp=Z,17nm,0.8s,baz=3.9,slow=7.5,SNR=5.4						
	comp=Z,17nm,0.8s						
CMAR	Chiang Mai Arr	28.15	291	P	P	13 54 15.7	-0.1
CMAR	Chiang Mai Arr	28.15	291	P	P	13 54 15.2	-0.5
	comp=Z,3.3nm,0.8s,baz=102,slow=7.0,SNR=17						
CMAR				PcP	PcP	13 57 29.6	+0.3
	comp=Z,0.4nm,0.3s,baz=110,slow=1.0,SNR=4.3						
	comp=

H11S2 WAKE ISLAND Hy 39.73 73 T T 14 39 04.1
baz=253,slow=79,SNR=5.5
MORW Morawa 39.99 194 **P** **13 55 57.1 -0.8**
MORW IAmb IAmb 13 55 58.1
comp=Z,19nm,1.0s
H11N1 WAKE ISLAND Hy 40.06 71 T T 14 39 31.0
baz=265,slow=74,SNR=8.6
H11N2 WAKE ISLAND Hy 40.07 71 T T 14 39 38.4
baz=265,slow=74,SNR=6.6
H11N3 WAKE ISLAND Hy 40.08 71 T T 14 39 39.3
baz=265,slow=74,SNR=7.6
HEH HeiHe 40.31 1 *eP* **P** **13 56 00.8 +0.5**
FORT Forrest 40.39 178 P **P** **13 56 00.6 -0.6**
ULN Ulaanbaatar 41.36 340 **P** **13 56 09.9 +0.7**
ULN IAmb IAmb 13 56 12.0
comp=Z,7.8nm,0.8s
SONM Songino Array 41.56 339 **P** **13 56 11.8 +1.0**
SONM Songino Array 41.56 339 P **P** **13 56 11.7 +0.8**
comp=Z,4.0nm,0.7s,baz=158,slow=9.3,SNR=23
SONM PcP **PcP** **13 58 08.6 +1.0**
comp=Z,0.4nm,0.3s,baz=129,slow=2.0,SNR=2.2
comp=Z,4.0nm,0.7s
BBOO Buckleboo 43.34 168 P **P** **13 56 24.5 -0.8**
NWAO Narrogin (SRO) 43.44 192 P **P** **13 56 25.9 -0.3**
NWAO IAmb IAmb 13 56 37.3
comp=Z,14nm,0.9s
NWAO Narrogin (SRO) 43.44 192 P **P** **13 56 25.6 -0.5**
comp=Z,9.4nm,0.7s,baz=2.7,slow=7.6,SNR=8.5
comp=Z,9.4nm,0.7s
STKA Stephens Creek 43.87 162 P **P** **13 56 28.6 -0.9**
STKA Stephens Creek 43.87 162 P **P** **13 56 28.3 -1.3**
comp=Z,1.6nm,0.5s,baz=337,slow=3.8,SNR=3.2
comp=Z,1.6nm,0.5s
PALK Pallekele 45.46 271 LR LR 14 16 26.2
comp=Z,43nm,19.3s,baz=102,slow=37
PETK Petropavlovsk- 49.90 24 P **P** **13 57 17.7 +1.3**
comp=Z,4.1nm,0.8s,baz=140,slow=1.7,SNR=6.0
PETK LR LR 14 19 09.9
comp=Z,74nm,18.9s,baz=222,slow=37
comp=Z,4.1nm,0.8s
MKAR Makanchi Array 52.59 323 P **P** **13 57 37.3 +0.5**
comp=Z,3.5nm,0.7s,baz=121,slow=8.2,SNR=16
MKAR PcP **PcP** **13 58 46.9 +0.3**
comp=Z,1.7nm,0.7s,baz=107,slow=5.0,SNR=4.0
comp=Z,3.5nm,0.7s
MAKZ Makanchi 52.79 323 **P** **13 57 37.8 -0.5**
NIL Nilore 54.27 304 P **P** **13 57 48.5 -0.9**
ZAA0 Zalesovo Array 55.19 331 **P** **13 57 54.6 -0.9**
ZALV Zalesovo Beam 55.19 331 **P** **13 57 54.8 -0.7**
ZALV Zalesovo Beam 55.19 331 P **P** **13 57 55.4 -0.2**
comp=Z,1.9nm,0.6s,baz=112,slow=6.6,SNR=8.2
comp=Z,1.9nm,0.6s
AAK Ala-Archa 55.89 315 LR LR 14 21 35.6
comp=Z,70nm,21.4s,baz=78,slow=36
KURK Kurchatov 56.63 326 **P** **13 58 05.7 -0.3**
KURBB Kurchatov Arra 56.64 325 P **P** **13 58 05.9 -0.1**
comp=Z,2.9nm,0.7s,baz=126,slow=6.7,SNR=22
comp=Z,2.9nm,0.7s
GAR Garm 57.85 310 P **P** **13 58 14.2 -0.7**
KBL Kabul 57.88 305 P **P** **13 58 14.5 -0.8**
KBL IAmb IAmb 13 58 15.5
comp=Z,9.0nm,0.7s
KK31 Karatay Array 58.81 315 P **P** **13 58 20.8 -0.7**
KK31 IAmb IAmb 13 58 22.0
comp=Z,4.3nm,0.8s
KKAR Karatay Array 58.81 315 **P** **13 58 20.4 -1.1**
TIXI Tiksi 61.79 1 **P** **13 58 40.7 -0.6**
TIXI IAmb IAmb 13 59 02.8
comp=Z,5.3nm,0.8s
BVAR Borovoye Array 62.23 325 P **P** **13 58 44.8 +0.2**
comp=Z,2.4nm,0.8s,baz=117,slow=8.7,SNR=12
comp=Z,2.4nm,0.8s
BRVK Borovoye 62.30 325 **P** **13 58 44.4 -0.7**
BRVK IAmb IAmb 13 58 46.0
comp=Z,3.6nm,0.8s
HRA Herat 63.41 303 **P** **13 58 52.1 -0.9**
HRA IAmb IAmb 13 58 53.2
comp=Z,4.6nm,0.7s
NRIK Noril'sk 64.53 346 **P** **13 58 59.8 +0.3**
NRIK Noril'sk 64.53 346 P **P** **13 59 00.2 +0.7**
comp=Z,7.7nm,0.5s,baz=130,slow=6.1,SNR=14
comp=Z,7.7nm,0.5s
AB31 Akbulak array 67.44 319 **P** **13 59 17.6 -0.9**
ABKAR Akbulak array 67.44 319 P **P** **13 59 17.8 -0.8**
ABKAR Akbulak array 67.44 319 **P** **13 59 18.0 -0.6**
ABKAR IAmb IAmb 13 59 18.7
comp=Z,2.3nm,0.8s
D19K Kuna River 75.52 22 **P** **14 00 08.5 +1.5**
D19K IAmb IAmb 14 00 11.1
comp=Z,4.0nm,0.8s
E19K Redstone River 75.68 23 IAmb IAmb 14 00 14.0
comp=Z,9.1nm,1.2s
D20K Etivluk River 76.10 21 IAmb IAmb 14 00 16.3
comp=Z,5.7nm,1.1s
B20K Meade River 76.12 20 IAmb IAmb 14 00 16.4
comp=Z,6.7nm,1.2s
KDAK Kodiak Island 76.84 33 LR LR 14 31 02.2
comp=Z,34nm,20.1s,baz=93,slow=33
B21K Ikpikpuk River 76.94 21 IAmb IAmb 14 00 21.6
comp=Z,5.2nm,1.1s
B22K Teshekpuk Lake 77.43 20 IAmb IAmb 14 00 21.1
comp=Z,4.2nm,0.8s
RAYN Ar Rayn 78.06 292 **P** **14 00 21.6 -0.6**
RAYN IAmb IAmb 14 00 22.2
comp=Z,5.1nm,0.8s
E23K Chandalar 78.62 22 IAmb IAmb 14 00 40.9
comp=Z,6.3nm,1.1s
KBZ Khabaz 78.77 313 P **P** **14 00 25.7 +0.1**
comp=Z,2.0nm,1.0s,baz=308,slow=2.1,SNR=4.5
comp=Z,2.0nm,1.0s
ILAR Eielson Array 79.69 26 P **P** **14 00 30.8 +0.6**
comp=Z,0.5nm,0.7s,baz=263,slow=5.2,SNR=9.6
comp=Z,0.5nm,0.7s
F25K Christian Rive 80.12 23 P **P** **14 00 32.1 -0.6**
BMAR Burnt Mountain 80.54 23 P **P** **14 00 35.4 +0.6**
I28M Miner Creek 82.57 25 **P** **14 00 46.6 +0.9**
I28M IAmb IAmb 14 00 49.5
comp=Z,4.9nm,0.8s
SPA0 Spitsbergen Ar 84.52 349 *eP* **P** **14 00 56.7 +1.3**
SPITS Spitsbergen Ar 84.52 349 P **P** **14 00 56.4 +1.0**
comp=Z,7.2nm,0.7s,baz=82,slow=6.8,SNR=8.7
comp=Z,7.2nm,0.7s
ARA0 ARCESS Array S 84.73 340 *eP* **P** **14 00 57.5 +0.9**
ARCES ARCESS Array B 84.73 340 P **P** **14 00 57.2 +0.7**
comp=Z,4.8nm,0.7s,baz=80,slow=6.8,SNR=22
comp=Z,4.8nm,0.7s
H31M Peel River 84.80 24 P **P** **14 00 58.2 +1.3**
MMAI Mount Meron Ar 85.74 303 P **P** **14 01 03.0 +0.5**
comp=Z,2.2nm,0.9s,baz=86,slow=4.6,SNR=2.5
comp=Z,2.2nm,0.9s
BRTR Keskin Array B 86.09 309 P **P** **14 01 03.0 -1.1**
comp=Z,0.9nm,0.8s,baz=90,slow=4.8,SNR=3.7
comp=Z,0.9nm,0.8s
FINES FINESS Array B 86.45 332 **P** **14 01 05.4 +0.2**
FINES FINESS Array B 86.45 332 P **P** **14 01 05.5 +0.4**
comp=Z,4.9nm,0.6s,baz=73,slow=6.4,SNR=26
comp=Z,4.9nm,0.6s
AKASG Malin Array Be 87.13 321 P **P** **14 01 08.3 -0.4**
comp=Z,1.5nm,0.7s,baz=71,slow=3.0,SNR=5.2
comp=Z,1.5nm,0.7s
STEI Steigen 88.79 339 *eP* **P** **14 01 15.5 -0.8**
FAUS Fauske 88.99 339 *eP* **P** **14 01 16.3 -0.9**
VNDA Vanda 89.44 173 P **P** **14 01 19.1 +0.1**
comp=Z,1.9nm,0.9s,baz=298,slow=5.8,SNR=7.2
comp=Z,1.9nm,0.9s
HFS Hagfors 92.61 333 P **P** **14 01 33.9 -0.3**
comp=Z,3.4nm,0.7s,baz=88,slow=3.4,SNR=13
comp=Z,3.4nm,0.7s
NB2 NORSAR Subarra 93.31 334 P **P** **14 01 36.7 -0.8**
comp=Z,1.5nm,0.7s,baz=65,slow=4.6
NB2 NORSAR Subarra 93.31 334 P **P** **14 01 36.7 -0.8**
baz=65,slow=4.6
NOA NORSAR Array B 93.31 334 P **P** **14 01 36.8 -0.8**
comp=Z,1.2nm,0.7s,baz=66,slow=4.5,SNR=10
NOA LR LR 14 46 36.2
comp=Z,30nm,18.6s,baz=25,slow=38
comp=Z,1.2nm,0.7s
YKA Yellowknife Ar 94.02 24 P **P** **14 01 41.8 +1.1**
comp=Z,0.9nm,0.8s,baz=304,slow=4.5,SNR=13
comp=Z,0.9nm,0.8s
YBH Yreka Blue Hor 98.50 45 LR LR 14 37 05.0
comp=Z,17nm,21.6s,baz=242,slow=30
TXAR Lajitas Array 117.85 49 PKP **PKiKP** **14 07 11.4 +1.4**
comp=Z,0.2nm,0.5s,baz=280,slow=1.8,SNR=2.8
PLCA Paso Flores 145.66 157 PKPbc **PKPab** **14 08 02.3 +0.2**
comp=Z,2.5nm,0.7s,baz=242,slow=4.2,SNR=9.1
CPUP Villa Florida 163.16 168 PKP **PKPdf** **14 08 26.4 +0.6**
comp=Z,1.6nm,0.6s,baz=73,slow=3.8,SNR=4.4
LPAZ La Paz 164.26 116 PKP **PKPdf** **14 08 28.8 +0.9**
comp=Z,2.4nm,1.0s,baz=340,slow=6.0,SNR=4.2

IDC 26 14:01:17.4±1.4, 18°.99N×121°.21E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=77.8km s-min=28.6km az=62.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.20**	**320**	P	P	14 09 11.9	0.0
	0.6nm,0.9s,baz=108,slow=9.3,SNR=3.7						
	0.6nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**43.01**	**81**	T	T	14 55 13.3	
	baz=277,slow=74,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**43.01**	**81**	T	T	14 55 13.5	
	baz=277,slow=74,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**43.03**	**81**	T	T	14 55 14.8	
	baz=277,slow=74,SNR=6.3						
ASAR	**Alice Springs**	**44.17**	**163**	P	P	14 09 28.0	-0.2
	0.1nm,0.3s,baz=343,slow=8.2,SNR=1.5						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**44.67**	**330**	P	P	14 09 31.4	-0.4
	0.8nm,0.6s,baz=120,slow=7.5,SNR=3.6						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**46.17**	**323**	P	P	14 09 43.8	0.0
	0.7nm,0.6s,baz=123,slow=7.8,SNR=7.6						
	0.7nm,0.6s						
YKA	**Yellowknife Ar**	**87.73**	**23**	P	P	14 14 07.9	0.0
	0.2nm,0.5s,baz=314,slow=4.8,SNR=6.3						
	0.2nm,0.5s						

---

*IDC **26** 14:07:01.8±0.6, 9°.61N×126°.48E, h0km, mb4.2/24, mbtmp4.2/24, MS3.4/14, Error ellipse: s-maj=30.3km s-min=13.6km az=69.0*
*NEIC **26** 14:07:05.2±1.2, 9°.73N±0°.06×126°.32E±0°.09, h10km±1km, mb4.6/71, Error ellipse: s-maj=16.5km s-min=9.1km az=290.0*
ISC 26 14:07:03.7±2.7, 9°.68N±0°.07×126°.3E±0°.1, h6km±16km, n128, σ0°85/118, mb4.5/61, MS3.4/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.69**	**195**	Pn	**Pn**	**14 07 48.5**	**+0.9**
DAV	**Davao City (W)**	**2.69**	**195**	Pn	**Pb**	**14 07 52.9**	**+0.6**
	88nm,0.3s,baz=4.3,slow=6.3,SNR=4.7						
DAV				Sn	**Sg**	**14 08 28.8**	**-1.4**
	52nm,0.3s,baz=255,slow=21,SNR=4.6						
DAV	**Davao City (W)**	**2.69**	**195**	P	**Pg**	**14 07 55.0**	**-0.3**
TGY	**Tagaytay City**	**6.84**	**310**	LR	LR	14 11 51.3	
	comp=Z,93nm,19.0s,baz=133,slow=41						
TNTI	**Ternate**	**8.92**	**173**		**Pn**	**14 09 13.5**	**+0.3**
TOLI2	**Tolitoli**	**10.13**	**213**	Pn	**Pn**	**14 09 30.0**	**+0.2**
FAKI	**Fak Fak**	**13.85**	**154**	Pn	**Pn**	**14 10 21.8**	**+1.0**
SBUM	**Sibu**	**15.73**	**244**		**Pn**	**14 10 45.1**	**-0.9**
KAPI	**Kappang**	**15.99**	**204**	LR	LR	14 17 44.9	
	comp=Z,54nm,18.7s,baz=96,slow=40						
GUMO	**Guam**	**18.60**	**76**	LR	LR	14 18 27.9	
	comp=Z,90nm,18.6s,baz=203,slow=37						
JAY	**Jayapura**	**18.78**	**129**	LR	LR	14 19 18.1	
	comp=Z,201nm,18.5s,baz=304,slow=40						
MTN	**Manton Dam**	**22.89**	**168**		**P**	**14 12 08.9**	**+0.6**
MTN				IAmb	IAmb	14 12 33.5	
	comp=Z,9.9nm,0.6s						
KNRA	**Kununurra**	**25.31**	**174**		**P**	**14 12 32.7**	**+1.3**
KNRA				IAmb	IAmb	14 12 51.9	
	comp=Z,9.8nm,0.6s						
JHJ	**Hachijo jima 2**	**26.43**	**26**	LR	LR	14 22 23.0	
	comp=Z,93nm,21.0s,baz=101,slow=35						
FITZ	**Fitzroy Crossi**	**27.61**	**181**		**P**	**14 12 52.4**	**+0.3**
KSRS	**Korea Array**	**27.69**	**3**	LR	LR	14 25 45.9	
	comp=Z,57nm,18.8s,baz=200,slow=40						
CM31	**Chiang Mai Arr**	**27.90**	**291**	P	**P**	**14 12 56.5**	**+1.7**
CM31				IAmb	IAmb	14 13 15.5	
	comp=Z,6.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**27.90**	**291**	P	**P**	**14 12 55.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**27.90**	**291**	P	**P**	**14 12 56.5**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=100,slow=7.2,SNR=12						
CMAR				PcP	**PcP**	**14 16 11.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=128,slow=2.8,SNR=1.8						
	comp=Z,1.8nm,0.8s						
MJAR	**Matsushiro Arr**	**28.84**	**20**	LR	LR	14 24 01.1	
	comp=Z,72nm,19.5s,baz=193,slow=35						
WB0	**Warramunga Arr**	**30.33**	**165**	P	**P**	**14 13 17.1**	**+0.8**
WRA	**Warramunga Arr**	**30.48**	**165**	P	**P**	**14 13 14.6**	**-3.1**
	comp=Z,0.5nm,0.6s,baz=344,slow=8.6,SNR=5.4						
	comp=Z,0.5nm,0.6s						
WR8	**Warramunga Arr**	**30.54**	**165**	P	**P**	**14 13 17.7**	**-0.4**
WR8				IAmb	IAmb	14 14 01.7	
	comp=Z,15nm,1.5s						
WR0	**Warramunga Arr**	**30.55**	**165**	P	**P**	**14 13 18.9**	**+0.6**
MBWA	**Marble Bar**	**31.32**	**192**	P	**P**	**14 13 24.8**	**-0.3**
PSA00	**Pilbara Seismi**	**31.70**	**191**	P	**P**	**14 13 28.9**	**+0.5**
ASAR	**Alice Springs**	**33.97**	**167**	P	**P**	**14 13 49.3**	**+1.1**
ASAR	**Alice Springs**	**33.97**	**167**	P	**P**	**14 13 45.9**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=344,slow=8.8,SNR=8.5						
ASAR				PcP	**PcP**	**14 16 25.6**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=347,slow=2.7,SNR=5.5						
	comp=Z,0.6nm,0.6s						
HNR	**Honiara**	**38.50**	**119**	LR	LR	14 30 26.0	
	comp=Z,32nm,19.6s,baz=145,slow=37						
KLR	**Kul'dur**	**39.68**	**6**	P	**P**	**14 14 36.1**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=179,slow=5.5,SNR=12						
KLR				PcP	**PcP**	**14 16 42.1**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=238,slow=4.8,SNR=3.0						
	comp=Z,2.2nm,0.6s						
MORW	**Morawa**	**39.78**	**194**	P	**P**	**14 14 38.8**	**+1.2**
MORW				IAmb	IAmb	14 15 04.4	
	comp=Z,19nm,1.3s						
H11S3	**WAKE ISLAND Hy**	**40.06**	**73**	T	T	14 57 37.5	
	baz=262,slow=73,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**40.08**	**73**	T	T	14 57 38.8	
	baz=262,slow=73,SNR=8.9						
H11S2	**WAKE ISLAND Hy**	**40.08**	**73**	T	T	14 57 44.4	
	baz=262,slow=73,SNR=5.0						
FORT	**Forrest**	**40.27**	**178**	P	**P**	**14 14 41.8**	**+0.2**
H11N1	**WAKE ISLAND Hy**	**40.41**	**71**	T	T	14 58 12.6	
	baz=265,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hy**	**40.42**	**71**	T	T	14 58 14.8	
	baz=265,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hy**	**40.43**	**71**	T	T	14 58 13.6	
	baz=265,slow=74,SNR=12						
ULN	**Ulaanbaatar**	**41.38**	**340**		**P**	**14 14 51.6**	**+0.7**
ULN				IAmb	IAmb	14 14 53.1	
	comp=Z,4.6nm,0.7s						
SONM	**Songino Array**	**41.58**	**340**		**P**	**14 14 53.6**	**+1.2**
SONM	**Songino Array**	**41.58**	**340**	P	**P**	**14 14 53.8**	**+1.4**
	comp=Z,2.3nm,0.6s,baz=156,slow=9.4,SNR=14						
SONM				PcP	**PcP**	**14 16 49.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=152,slow=4.2,SNR=2.2						
SONM				LR	LR	14 34 59.9	
	comp=Z,79nm,18.4s,baz=98,slow=40						
	comp=Z,2.3nm,0.6s						
NWAO	**Narrogin (SRO)**	**43.24**	**191**	P	**P**	**14 15 07.3**	**+1.3**
NWAO				IAmb	IAmb	14 15 35.4	
	comp=Z,20nm,1.4s						
BBOO	**Buckleboo**	**43.27**	**168**	P	**P**	**14 15 06.7**	**+0.5**
BBOO				IAmb	IAmb	14 15 26.3	
	comp=Z,13nm,0.9s						
STKA	**Stephens Creek**	**43.84**	**161**	P	**P**	**14 15 10.0**	**-0.9**
STKA	**Stephens Creek**	**43.84**	**161**	P	**P**	**14 15 08.8**	**-2.0**
	comp=Z,1.6nm,0.6s,baz=352,slow=12,SNR=2.1						
	comp=Z,1.6nm,0.6s						
PALK	**Pallekele**	**45.14**	**271**	LR	LR	14 35 17.9	
	comp=Z,49nm,18.8s,baz=100,slow=37						
PETK	**Petropavlovsk-**	**50.16**	**24**	P	**P**	**14 16 00.3**	**+0.3**
ONTNC	**Ouen Toro**	**50.60**	**129**	P	**P**	**14 16 04.5**	**+0.8**
MKAR	**Makanchi Array**	**52.51**	**323**	P	**P**	**14 16 18.1**	**+0.3**
MKAR				PcP	**PcP**	**14 17 28.4**	**+0.2**
MKAR	**Makanchi Array**	**52.51**	**323**	P	**P**	**14 16 17.5**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=122,slow=8.5,SNR=28						
MKAR				PcP	**PcP**	**14 17 28.0**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=108,slow=4.4,SNR=4.4						
MKAR				LR	LR	14 42 26.8	
	comp=Z,35nm,18.0s,baz=116,slow=40						
	comp=Z,2.5nm,0.7s						
MAKZ	**Makanchi**	**52.70**	**323**	P	**P**	**14 16 18.3**	**-0.9**
ZALV	**Zalesovo Beam**	**55.15**	**332**	P	**P**	**14 16 36.3**	**-0.7**
ZALV	**Zalesovo Beam**	**55.15**	**332**	P	**P**	**14 16 36.4**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=120,slow=5.4,SNR=6.4						
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**56.56**	**326**		**P**	**14 16 47.5**	**+0.4**
KURK				IAmb	IAmb	14 16 51.7	
	comp=Z,5.2nm,0.8s						
KURBB	**Kurchatov Arra**	**56.57**	**326**	P	**P**	**14 16 47.1**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=125,slow=6.8,SNR=24						
	comp=Z,2.6nm,0.6s						
BTK	**Batken**	**57.59**	**311**	P	**P**	**14 16 55.0**	**+0.2**
BTK				IAmb	IAmb	14 17 06.9	
	comp=Z,3.3nm,1.0s						
KBL	**Kabul**	**57.69**	**305**		**P**	**14 16 55.8**	**+0.1**
GAR	**Garm**	**57.69**	**310**	P	**P**	**14 16 55.7**	**+0.2**
KK31	**Karatay Array**	**58.68**	**315**	P	**P**	**14 17 02.2**	**0.0**
KK31				IAmb	IAmb	14 17 03.1	
	comp=Z,3.4nm,0.8s						
KKAR	**Karatay Array**	**58.68**	**315**		**P**	**14 17 02.5**	**+0.3**
TIXI	**Tiksi**	**61.94**	**1**		**P**	**14 17 25.3**	**+1.4**
TIXI				IAmb	IAmb	14 17 38.6	
	comp=Z,3.6nm,0.8s						
BVAR	**Borovoye Array**	**62.16**	**326**	P	**P**	**14 17 26.0**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=134,slow=8.5,SNR=8.1						
BVAR				LR	LR	14 43 48.6	
	comp=Z,19nm,21.7s,baz=112,slow=35						
	comp=Z,1.8nm,0.8s						
BRVK	**Borovoye**	**62.23**	**326**	P	**P**	**14 17 26.3**	**0.0**
BRVK				IAmb	IAmb	14 17 27.1	
	comp=Z,2.9nm,0.7s						
HRA	**Herat**	**63.21**	**304**		**P**	**14 17 33.4**	**0.0**
HRA				IAmb	IAmb	14 17 35.6	
	comp=Z,3.5nm,0.8s						
NRIK	**Noril'sk**	**64.59**	**346**		**P**	**14 17 41.8**	**+0.3**
NRIK	**Noril'sk**	**64.59**	**346**	P	**P**	**14 17 41.5**	**-0.1**
	comp=Z,6.0nm,0.7s,baz=141,slow=6.3,SNR=11						
	comp=Z,6.0nm,0.7s						
AB31	**Akbulak array**	**67.34**	**319**	P	**P**	**14 17 59.8**	**+0.2**
AB31				IAmb	IAmb	14 18 11.3	
	comp=Z,2.0nm,0.8s						
ABKAR	**Akbulak array**	**67.34**	**319**	P	**P**	**14 17 59.8**	**+0.1**
AKTO	**Aktyubinsk**	**68.79**	**320**	P	**P**	**14 18 09.0**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=79,slow=7.0,SNR=4.0						
	comp=Z,1.3nm,0.6s						
N15K	**Kwethluk River**	**73.51**	**30**	P	**P**	**14 18 36.0**	**-1.2**
N15K				IAmb	IAmb	14 18 50.5	
	comp=Z,5.4nm,0.9s						
F17K	**Baldwin Pennin**	**74.19**	**23**	P	**P**	**14 18 41.2**	**+0.2**
F17K				IAmb	IAmb	14 19 08.1	
	comp=Z,8.1nm,1.4s						
C18K	**Utukok River**	**74.69**	**21**	P	**P**	**14 18 44.2**	**+0.2**
D19K	**Kuna River**	**75.77**	**22**	P	**P**	**14 18 50.5**	**+0.3**
D19K				IAmb	IAmb	14 18 54.3	
	comp=Z,7.2nm,1.3s						
E19K	**Redstone River**	**75.93**	**23**	P	**P**	**14 18 51.9**	**+0.8**
E19K				IAmb	IAmb	14 18 55.3	
	comp=Z,9.7nm,1.4s						
D20K	**Etivluk River**	**76.35**	**21**	P	**P**	**14 18 53.3**	**-0.2**
D20K				IAmb	IAmb	14 19 07.3	
	comp=Z,4.1nm,1.1s						
CASY	**Casey**	**76.64**	**186**	P	**P**	**14 18 56.5**	**+1.6**
CASY				IAmb	IAmb	14 19 23.9	
	comp=Z,8.8nm,1.3s						
KDAK	**Kodiak Island**	**77.14**	**33**	LR	LR	14 48 51.1	
	comp=Z,20nm,20.9s,baz=82,slow=32						
B21K	**Ikpikpuk River**	**77.18**	**21**		**P**	**14 18 58.8**	**+0.7**
B21K				IAmb	IAmb	14 19 02.8	
	comp=Z,4.0nm,1.0s						
E21K	**Killik River**	**77.28**	**22**	P	**P**	**14 18 59.1**	**+0.3**
E21K				IAmb	IAmb	14 19 21.6	
	comp=Z,6.7nm,1.4s						
B22K	**Teshekpuk Lake**	**77.67**	**20**	P	**P**	**14 19 01.2**	**+0.4**
B22K				IAmb	IAmb	14 19 02.5	
	comp=Z,3.8nm,0.7s						
D22K	**Ayikyak River**	**77.79**	**21**	P	**P**	**14 19 02.3**	**+0.8**
RAYN	**Ar Rayn**	**77.81**	**292**	P	**P**	**14 19 02.4**	**-0.3**
RAYN				IAmb	IAmb	14 19 03.4	
	comp=Z,3.3nm,0.8s						
E22K	**Anaktuvuk Pass**	**78.05**	**22**	P	**P**	**14 19 03.6**	**+0.5**
E22K				IAmb	IAmb	14 19 40.0	
	comp=Z,6.0nm,1.4s						
SUA	**Susitna One**	**78.19**	**29**	P	**P**	**14 19 05.0**	**+0.9**
SUA				IAmb	IAmb	14 19 05.3	
	comp=Z,6.4nm,1.0s						
D23K	**Nanushuk River**	**78.52**	**21**	P	**P**	**14 19 06.0**	**+0.4**
C23K	**Itkillik River**	**78.59**	**21**		**P**	**14 19 06.3**	**+0.4**
C23K				IAmb	IAmb	14 19 07.4	
	comp=Z,5.2nm,0.6s						
COLD	**Coldfoot**	**78.62**	**23**	P	**P**	**14 19 06.8**	**+0.7**
KBZ	**Khabaz**	**78.62**	**313**	P	**P**	**14 19 06.7**	**+0.1**
	comp=Z,1.7nm,1.0s,baz=75,slow=3.6,SNR=3.6						
	comp=Z,1.7nm,1.0s						
KVAR	**Kislovodsk Arr**	**78.76**	**313**	LR	LR	14 59 19.3	
	comp=Z,22nm,18.1s,baz=266,slow=40						
E23K	**Chandalar**	**78.87**	**22**	P	**P**	**14 19 08.8**	**+1.1**
E23K				IAmb	IAmb	14 19 21.5	
	comp=Z,5.8nm,1.3s						
TOLK	**Toolik Lake Re**	**78.91**	**22**	P	**P**	**14 19 08.7**	**+0.9**
D24K	**Happy Valley**	**79.19**	**21**	P	**P**	**14 19 10.2**	**+0.9**
F24K	**Squaw Lake**	**79.52**	**23**	P	**P**	**14 19 11.7**	**+0.5**
G24K	**Hadweenzic Riv**	**79.68**	**24**	P	**P**	**14 19 12.4**	**+0.4**
ILAR	**Eielson Array**	**79.95**	**26**	P	**P**	**14 19 12.1**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=253,slow=5.1,SNR=10						
	comp=Z,0.5nm,0.7s						
GLI	**Glacier Island**	**79.96**	**30**	P	**P**	**14 19 13.8**	**+0.1**
D25K	**Kavik River**	**80.06**	**21**	P	**P**	**14 19 14.5**	**+0.4**
E25K	**Arctic Village**	**80.39**	**22**	P	**P**	**14 19 15.7**	**-0.2**
BMAR	**Burnt Mountain**	**80.79**	**23**	P	**P**	**14 19 19.1**	**+1.0**
F26K	**Sheenjek River**	**80.95**	**23**	P	**P**	**14 19 18.8**	**-0.1**
C27K	**Jago River**	**80.99**	**21**	P	**P**	**14 19 19.9**	**+0.9**
C27K				IAmb	IAmb	14 19 30.1	
	comp=Z,5.7nm,1.5s						
I26K	**Coal Creek Min**	**81.51**	**25**	P	**P**	**14 19 21.5**	**-0.3**
I26K				IAmb	IAmb	14 19 49.5	
	comp=Z,4.9nm,1.4s						
K27K	**Chicken**	**82.08**	**26**	P	**P**	**14 19 25.0**	**+0.1**
K27K				IAmb	IAmb	14 19 29.0	
	comp=Z,3.8nm,1.0s						
E28M	**Babbage River**	**82.58**	**22**	P	**P**	**14 19 27.6**	**+0.1**
E28M				IAmb	IAmb	14 19 45.9	
	comp=Z,3.5nm,1.3s						
I28M	**Miner Creek**	**82.83**	**25**		**P**	**14 19 29.6**	**+0.7**
I28M				IAmb	IAmb	14 19 43.6	
	comp=Z,3.7nm,0.7s						
G29M	**Pine Creek**	**83.39**	**23**	P	**P**	**14 19 32.2**	**+0.5**
G29M				IAmb	IAmb	14 20 07.7	
	comp=Z,5.1nm,1.1s						
SPB2	**Spitsbergen Ar**	**84.59**	**349**

*IDC **26** 14:24:15.5±1.1, 34°.67S×179°.66W, h0km, mb4.0/3, mbtmp4.0/4, ML4.0/1, MS2.9/1, Error ellipse: s-maj=33.9km s-min=30.4km az=90.0*

*NEIC **26** 14:24:18.8±1.4, 35°.07S±0°.08×179°.8W±0°.1, h10km±1km, mb4.2/9, Error ellipse: s-maj=18.9km s-min=13.4km az=78.0*

*WEL **26** 14:24:22.3±1.1, 35°S±11°×18°0W±1°.2, h132km±42km, M4.2/24, MLv4.2/24, Error ellipse: s-maj=19.0km s-min=10.5km az=51.1, confirmed*

ISC 26 14:24:21.5±0.9, 34°.96S±0°.07×179°.8W±0°.1, h39km, n76, σ1§57/89, mb4.0/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.03**	**210**		**Pn**	**14 25 05.1**	**-1.7**
MXZ				Sn	Sn	14 25 33.3	-8.6
MXZ	**Matakaoa Point**	**3.03**	**210**	P	**Pn**	**14 25 06.1**	**-0.8**
MXZ				S	Sn	**14 25 43.3**	**+1.4**
WMGZ	**Waiomatatini S**	**3.21**	**207**	P	**Pn**	**14 25 10.7**	**+1.3**
WMGZ				S	Sn	**14 25 48.5**	**+2.1**
PKGZ	**Pakihiroa**	**3.38**	**210**	P	**Pn**	**14 25 12.2**	**+0.5**
PKGZ				S	Sn	**14 25 51.9**	**+1.3**
HAZ	**Te Kaha**	**3.42**	**215**	P	**Pn**	**14 25 13.9**	**+1.6**
HAZ				S	Sn	**14 25 53.9**	**+2.4**
PUZ	**Puketiti**	**3.49**	**206**	P	**Pn**	**14 25 13.7**	**+0.5**
PUZ				S	Sn	**14 25 54.1**	**+0.8**
RUGZ	**Raukumara Rang**	**3.64**	**214**	P	**Pn**	**14 25 17.0**	**+1.6**
RUGZ				S	Sn	**14 25 59.1**	**+2.0**
TWGZ	**Tauwhareparae**	**3.69**	**209**	P	**Pn**	**14 25 16.6**	**+0.7**
TWGZ				S	Sn	**14 26 00.4**	**+2.1**
CNGZ	**Carnagh Statio**	**3.88**	**204**	P	**Pn**	**14 25 19.2**	**+0.7**
CNGZ				S	Sn	**14 26 03.9**	**+1.1**
TKGZ	**Te Karaka**	**3.97**	**208**	P	**Pn**	**14 25 20.5**	**+0.8**
TKGZ				S	Sn	**14 26 04.7**	**-0.2**
MWZ	**Matawai**	**4.01**	**212**	P	**Pn**	**14 25 20.6**	**+0.3**
MWZ				S	Sn	**14 26 07.2**	**+1.1**
KUZ	**Kuaotunu**	**4.07**	**243**	P	**Pn**	**14 25 22.2**	**+1.0**
GRZ	**Great Barrier**	**4.09**	**250**	P	**Pn**	**14 25 21.5**	**0.0**
OPRZ	**Ohinepanea**	**4.13**	**225**	P	**Pn**	**14 25 22.9**	**+0.9**
URZ	**Urewera**	**4.14**	**216**	Pn	**Pn**	**14 25 22.4**	**+0.3**
URZ	7.9nm,0.3s,baz=344,slow=3.4,SNR=65			Sn	**Sn**	**14 26 07.1**	**-2.2**
URZ	9.1nm,0.3s,baz=220,slow=21,SNR=6.1			LR	LR	14 27 01.9	
	comp=Z,140nm,18.4s,baz=84,slow=38 27nm,0.5s						
URZ	**Urewera**	**4.14**	**216**	P	**Pn**	**14 25 22.4**	**+0.3**
RAGZ	**Rawiri**	**4.19**	**212**	P	**Pn**	**14 25 24.0**	**+1.0**
TGRZ	**Tauranga**	**4.23**	**228**	P	**Pn**	**14 25 24.1**	**+0.8**
RIGZ	**Rimuhau**	**4.23**	**207**	P	**Pn**	**14 25 24.1**	**+0.6**
PRGZ	**Paritu Road**	**4.38**	**205**	P	**Pn**	**14 25 24.9**	**-0.6**
SNGZ	**Shannon Statio**	**4.47**	**210**	P	**Pn**	**14 25 27.7**	**+1.1**
MUGZ	**Murupara**	**4.48**	**217**	P	**Pn**	**14 25 27.6**	**+0.8**
RTZ	**Ruatahuna**	**4.49**	**215**		**Pn**	**14 25 25.2**	**-1.8**
RTZ				Sn	**Sn**	**14 26 11.2**	**-6.7**
WIAZ	**Waiheke Island**	**4.52**	**245**	P	**Pn**	**14 25 28.5**	**+1.1**
KNZ	**Kokohu**	**4.54**	**206**	P	**Pn**	**14 25 27.7**	**+0.1**
KNZ				S	**Sn**	**14 26 16.1**	**-3.1**
MHGZ	**Mahia Peninsul**	**4.58**	**203**	P	**Pn**	**14 25 26.2**	**-2.0**
MKAZ	**Moumakai**	**4.63**	**241**	P	**Pn**	**14 25 30.0**	**+1.1**
ABAZ	**Army Bay**	**4.68**	**248**	P	**Pn**	**14 25 31.0**	**+1.5**
RAHZ	**Arahi**	**4.69**	**212**	P	**Pn**	**14 25 31.6**	**+1.9**
TOZ	**Tahuroa Road**	**4.71**	**233**		**Pn**	**14 25 29.6**	**-0.4**
ETAZ	**East Tamaki Re**	**4.74**	**244**	P	**Pn**	**14 25 31.4**	**+1.1**
MTHZ	**Maungataniwha**	**4.74**	**214**	P	**Pn**	**14 25 31.1**	**+0.7**
WHHZ	**Waihua**	**4.76**	**209**	P	**Pn**	**14 25 31.3**	**+0.6**
WCZ	**Waipu Caves**	**4.90**	**257**	P	**Pn**	**14 25 33.2**	**+0.7**
RVAZ	**Riverhead Bore**	**4.93**	**247**	P	**Pn**	**14 25 35.3**	**+2.4**
NMHZ	**Naumai**	**4.96**	**212**	P	**Pn**	**14 25 34.5**	**+1.0**
BKZ	**Black Stump Fm**	**5.16**	**214**		**Pn**	**14 25 34.9**	**-1.2**
OUZ	**Omahuta**	**5.44**	**265**	P	**Pn**	**14 25 40.6**	**+0.6**
HIZ	**Hauiti**	**5.59**	**229**	Pn	**Pn**	**14 25 40.6**	**-1.4**
BFZ	**Birch Farm**	**6.53**	**208**	Pn	**Pn**	**14 25 52.8**	**-2.1**
MRZ	**Mangatainoka R**	**6.78**	**211**	Pn	**Pn**	**14 25 56.5**	**-1.9**
TCW	**Tory Channel**	**7.81**	**215**	Pn	**Pn**	**14 26 11.3**	**-1.1**
TUWZ	**Tuamarina**	**8.14**	**216**	Pn	**Pn**	**14 26 14.4**	**-2.6**
NNZ	**Nelson**	**8.26**	**219**	Pn	**Pn**	**14 26 16.0**	**-2.6**
BSWZ	**Blackbirch Sta**	**8.39**	**215**	Pn	**Pn**	**14 26 18.0**	**-2.4**
QRZ	**Quartz Range**	**8.45**	**224**	Pn	**Pn**	**14 26 19.3**	**-1.9**
THZ	**Tophouse**	**8.90**	**218**	Pn	**Pn**	**14 26 25.5**	**-1.9**
KHZ	**Kahutara**	**9.10**	**213**	Pn	**Pn**	**14 26 27.8**	**-2.3**
CTZ	**Chatham Island**	**9.10**	**165**	Pn	**Pn**	**14 26 28.6**	**-1.5**
CTZ	**Chatham Island**	**9.10**	**165**	P	**Pn**	**14 26 30.5**	**+0.4**
CTZ				S	Sn	14 28 00.5	-11
GVZ	**Greta Valley S**	**9.76**	**213**	Pn	**Pn**	**14 26 36.4**	**-2.8**
LTZ	**Lake Taylor**	**9.97**	**216**	Pn	**Pn**	**14 26 40.3**	**-1.8**
MQZ	**McQueen's Vall**	**10.52**	**212**	Pn	**Pn**	**14 26 47.9**	**-1.7**
ONTNC	**Ouen Toro**	**17.44**	**313**		**P**	**14 28 23.3**	**+0.7**
ONTNC				IAmb	IAmb	14 28 40.5	
	comp=Z,64nm,1.3s						
AS31	**Alice Springs**	**41.60**	**273**	P	**P**	**14 32 06.6**	**+0.8**
ASAR	**Alice Springs**	**41.60**	**273**	P	**P**	**14 32 06.6**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=115,slow=7.5,SNR=31 comp=Z,0.7nm,0.4s						
WR8	**Warramunga Arr**	**42.87**	**278**	P	**P**	**14 32 16.1**	**0.0**
WR8				IAmb	IAmb	14 32 55.0	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**43.01**	**278**	P	**P**	**14 32 17.5**	**+0.2**
WRA	**Warramunga Arr**	**43.01**	**278**	P	**P**	**14 32 17.1**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=119,slow=7.6,SNR=14 comp=Z,1.5nm,0.6s						
WB0	**Warramunga Arr**	**43.05**	**278**	P	**P**	**14 32 18.1**	**+0.4**
WB0				IAmb	IAmb	14 32 46.8	
	comp=Z,4.8nm,1.2s						
KNRA	**Kununurra**	**49.75**	**279**	P	**P**	**14 33 09.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**51.04**	**274**	P	**P**	**14 33 20.2**	**+0.3**
FITZ				IAmb	IAmb	14 33 43.6	
	comp=Z,2.4nm,1.3s						
PSA00	**Pilbara Seismi**	**54.10**	**267**	P	**P**	**14 33 41.8**	**-0.8**
QSPA	**South Pole Qui**	**55.17**	**180**	P	**P**	**14 33 52.5**	**+2.7**
QSPA				IAmb	IAmb	14 34 08.9	
	comp=Z,5.2nm,1.4s						
QSPA	**South Pole Qui**	**55.17**	**180**	P	**P**	**14 33 52.2**	**+2.3**
	comp=Z,1.5nm,0.7s,baz=49,slow=1.2,SNR=12 comp=Z,1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**123.08**	**312**	PKP	**PKPdf**	**14 43 11.2**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=117,slow=2.2,SNR=5.1						
ARCES	**ARCESS Array B**	**142.67**	**346**	PKP	**PKPdf**	**14 43 50.3**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=31,slow=1.7,SNR=5.7						
GEVA	**Gevas**	**145.69**	**288**	PKPdf	**PKPdf**	**14 43 56.2**	**+0.4**
KARS	**Kars**	**145.92**	**293**	PKPdf	**PKPdf**	**14 43 56.0**	**0.0**
FIA1	**FINESS Array S**	**148.80**	**336**	PKPbc	**PKPbc**	**14 44 03.7**	**-0.1**
FINES	**FINESS Array B**	**148.80**	**336**	PKPbc	**PKPbc**	**14 44 03.8**	**-0.1**
FINES	**FINESS Array B**	**148.80**	**336**	PKPbc	**PKPbc**	**14 44 03.5**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=64,slow=4.4,SNR=11						
NB2	**NORSAR Subarra**	**152.96**	**348**	PKP	**PKPbc**	**14 44 13.5**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**152.96**	**348**	PKPbc	**PKPbc**	**14 44 13.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=30,slow=2.1,SNR=7.2						
BRTR	**Keskin Array B**	**153.11**	**290**	PKPbc	**PKPbc**	**14 44 14.2**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=102,slow=2.6,SNR=5.0						
HFS	**Hagfors**	**153.33**	**345**	PKPbc	**PKPbc**	**14 44 14.0**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=27,slow=2.5,SNR=5.8						

IDC 26 14:27:06.5±1.2, 13°.44N×119°.95E, h0km, mb3.7/4, mbtmp3.7/4, MS2.7/1, Error ellipse: s-maj=22.8km s-min=13.7km az=137.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.16**	**56**	Pg	Pb	14 27 29.5	-0.1
	181nm,0.3s,baz=243,slow=0.6,SNR=8.7						
TGY				Lg	Lg	14 27 44.2	
	526nm,0.3s,baz=221,slow=20,SNR=13						
KSRS	**Korea Array**	**24.95**	**15**	LR	LR	14 43 51.1	
	comp=Z,18nm,18.3s,baz=190,slow=40						
WRA	**Warramunga Arr**	**36.07**	**157**	P	P	14 34 09.3	-0.9
	1.2nm,0.7s,baz=335,slow=9.1,SNR=6.5 1.2nm,0.7s						
ASAR	**Alice Springs**	**39.33**	**160**	P	P	14 34 38.0	+0.4
	0.6nm,0.6s,baz=340,slow=6.9,SNR=8.3 0.6nm,0.6s						
MKAR	**Makanchi Array**	**45.81**	**324**	P	P	14 35 31.1	+0.9
	0.2nm,0.6s,baz=108,slow=7.7,SNR=2.1 0.2nm,0.6s						
ARCES	**ARCESS Array B**	**79.06**	**339**	P	P	14 39 11.8	-0.6
	2.1nm,1.1s,baz=77,slow=9.3,SNR=4.7 2.1nm,1.1s						

*IDC **26** 14:42:16.6±0.8, 9°.84N×126°.60E, h0km, mb3.9/12, mbtmp3.8/12, MS3.1/5, Error ellipse: s-maj=51.8km s-min=18.1km az=68.0*

ISC 26 14:42:22.5±0.8, 9°.97N±0°.09×126°.8E±0°.2, h41km, n21, σ1§45/15, mb3.8/12, MS2.9/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.14**	**203**	Sn	**Sn**	**14 43 47.3**	**+1.6**
	43nm,0.3s,baz=338,slow=16,SNR=4.0						
DAV				LR	LR	14 44 32.1	
	comp=Z,535nm,20.9s,baz=358,slow=46						
TGY	**Tagaytay City**	**7.07**	**306**	LR	LR	14 47 38.9	
	comp=Z,158nm,19.4s,baz=111,slow=46						
JHJ	**Hachijo jima 2**	**25.95**	**25**	LR	LR	14 58 36.1	
	comp=Z,39nm,19.0s,baz=124,slow=37						
KSRS	**Korea Array**	**27.38**	**2**	LR	LR	15 01 37.6	
	comp=Z,27nm,18.1s,baz=35,slow=42						
CMAR	**Chiang Mai Arr**	**28.27**	**290**	P	**P**	**14 48 10.6**	**-1.6**
	0.2nm,0.3s,baz=103,slow=9.2,SNR=1.6 0.2nm,0.3s						
MJAR	**Matsushiro Arr**	**28.39**	**20**	LR	LR	15 00 59.3	
	comp=Z,28nm,18.1s,baz=106,slow=39						
WRA	**Warramunga Arr**	**30.64**	**166**	P	**P**	**14 48 32.4**	**-0.8**
	0.3nm,0.6s,baz=347,slow=9.2,SNR=2.0 0.3nm,0.6s						
ASAR	**Alice Springs**	**34.15**	**168**	P	**P**	**14 49 01.5**	**-2.4**
	0.2nm,0.4s,baz=350,slow=7.0,SNR=8.6						
ASAR				PcP	**PcP**	**14 51 41.4**	**+0.9**
	0.4nm,0.8s,baz=345,slow=3.5,SNR=3.1 0.2nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**39.84**	**71**	T	T	15 33 29.8	
	baz=266						
H11N2	**WAKE ISLAND Hy**	**39.84**	**71**	T	T	15 33 21.2	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**39.85**	**71**	T	T	15 33 27.7	
	baz=266						
SONM	**Songino Array**	**41.48**	**339**	P	**P**	**14 50 07.5**	**+1.9**
	0.7nm,0.5s,baz=157,slow=8.6,SNR=4.0 0.7nm,0.5s						
MKAR	**Makanchi Array**	**52.59**	**323**	P	**P**	**14 51 31.6**	**-0.6**
	0.8nm,0.6s,baz=115,slow=8.5,SNR=8.9 0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**56.62**	**325**	P	**P**	**14 52 00.1**	**-1.2**
	0.6nm,0.6s,baz=125,slow=7.0,SNR=8.2 0.6nm,0.6s						
NRIK	**Noril'sk**	**64.43**	**346**	P	**P**	**14 52 54.2**	**0.0**
	1.5nm,0.5s,baz=125,slow=9.5,SNR=2.3 1.5nm,0.5s						
ARCES	**ARCESS Array B**	**84.66**	**340**	P	**P**	**14 54 52.8**	**+1.2**
	2.4nm,0.8s,baz=74,slow=5.0,SNR=6.8 2.4nm,0.8s						
FINES	**FINESS Array B**	**86.41**	**332**	P	**P**	**14 54 59.5**	**-0.9**
	0.7nm,0.5s,baz=76,slow=5.9,SNR=8.0 0.7nm,0.5s						
HFS	**Hagfors**	**92.56**	**333**	P	**P**	**14 55 30.9**	**+1.4**
	1.3nm,0.8s,baz=76,slow=4.7,SNR=4.0 1.3nm,0.8s						
NOA	**NORSAR Array B**	**93.26**	**334**	P	**P**	**14 55 34.2**	**+1.4**
	0.5nm,0.7s,baz=65,slow=4.5,SNR=3.2 0.5nm,0.7s						
YKA	**Yellowknife Ar**	**93.81**	**24**	P	**P**	**14 55 35.0**	**-0.1**
	0.2nm,0.7s,baz=305,slow=4.7,SNR=5.8 0.2nm,0.7s						
PLCA	**Paso Flores**	**145.72**	**156**	PKPbc	**PKPab**	**15 01 58.9**	**+1.1**
	1.7nm,1.1s,baz=153,slow=9.0,SNR=3.9						

IDC 26 14:48:00.3±1.8, 9°.51N×126°.37E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=186.0km s-min=23.2km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.30**	**165**	P	P	14 54 13.5	-0.1
	0.2nm,0.8s,baz=344,slow=8.5,SNR=1.4 0.2nm,0.8s						
ASAR	**Alice Springs**	**33.79**	**168**	P	P	14 54 44.3	+0.1
	0.2nm,0.9s,baz=346,slow=7.1,SNR=4.2 0.2nm,0.9s						
MKAR	**Makanchi Array**	**52.69**	**323**	P	P	14 57 17.6	+0.9
	0.4nm,0.7s,baz=120,slow=8.7,SNR=4.2 0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**56.75**	**326**	P	P	14 57 45.1	-0.9
	0.2nm,0.5s,baz=123,slow=6.8,SNR=1.1 0.2nm,0.5s						
ARCES	**ARCESS Array B**	**84.93**	**340**	P	P	15 00 36.8	-0.2
	1.2nm,0.8s,baz=72,slow=4.5,SNR=2.0 1.2nm,0.8s						
FINES	**FINESS Array B**	**86.60**	**332**	P	P	15 00 45.4	-0.1
	1.8nm,1.0s,baz=84,slow=5.5,SNR=3.7 1.8nm,1.0s						

*MOS **26** 14:51:17.0±0.9, 42°.19N×143°.93E, h85km, mb4.1/7, Error ellipse: s-maj=11.2km s-min=6.4km az=82.2*

*SKHL **26** 14:51:18.0±0.3, 42°.20N×143°.90E, h85km±5km, mb5.4/3, msh6.2/3*

*IDC **26** 14:51:18.9±1.6, 42°.29N×143°.76E, h83km±12km, mb3.6/21, mbtmp4.0/24, Error ellipse: s-maj=15.9km s-min=10.3km az=98.0*

*NIED **26** 14:51:18.9, 42°.29N×143°.81E, h79km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr~0.33; Mθθ0.64; Mφφ~0.31; Mrθ5.51; Mθφ1.65; Mφr~1.16; Fault plane solution: M0 5.89000×1014 NP1:φs14.00000°, δ17.00000°, λ~176.00000°. NP2:φs280.00000°, δ89.00000°, λ~73.00000°.*

*JMA **26** 14:51:18.9±0.2, 42°.3N±0°.5×143°.8E±0°.7, h79km±1km, MV3.9/38, SE OFF TOKACHI*

JMA Felt I J1 at SE OFF TOKACHI .

*NEIC **26** 14:51:20.2±1.6, 42°.27N±0°.06×143°.7E±0°.1, h89km±6km, mb4.3/28, Error ellipse: s-maj=15.5km s-min=8.1km az=105.0*

ISC 26 14:51:18.7±0.7, 42°.28N±0°.04×143°.90E±0°.03, h78km±5km, n135, σ1§10/160, mb4.2/42, 3C-24D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.44**	**272**	P	**Pn**	**14 51 31.5**	**-0.3**
JTHR				S	**Sn**	**14 51 40.6**	**-0.9**
JCH	**Churui**	**0.52**	**310**	⇓P	**Pn**	**14 51 32.3**	**-0.1**
JCH				⇓S	**Sn**	**14 51 41.7**	**-0.9**
JEM	**Erimo**	**0.61**	**245**	*e*P	**Pn**	**14 51 33.2**	**-0.1**
JEM				*e*S	**Sn**	**14 51 45.2**	**+1.1**
ERM	**Erimo**	**0.61**	**245**		**Pn**	**14 51 33.7**	**+0.4**
ERM				Sn	**Sn**	**14 51 45.4**	**+1.3**
ERM	**Erimo**	**0.61**	**245**	PN	**Pn**	**14 51 33.7**	**+0.4**
ERM						14 51 45.4	
JOB	**Onbets**	**0.62**	**356**	⇓P	**Pn**	**14 51 34.0**	**+0.5**
JOB				⇓S	**Sn**	**14 51 45.3**	**+0.9**
JNBK	**Urakawa-nobuka**	**0.85**	**270**	P	**Pn**	**14 51 35.9**	**+0.1**
JNBK				*e*S	**Sn**	**14 51 48.6**	**0.0**
JAK	**Akkeshi**	**0.93**	**39**	⇓P	**Pn**	**14 51 37.2**	**+0.4**
JAK				⇓S	**Sn**	**14 51 51.0**	**+0.7**
AKK	**Akkeshi**	**1.01**	**43**	*e*P	**Pn**	**14 51 38.2**	**+0.4**
AKK				*e*S	**Sn**	**14 51 52.8**	**+0.7**
JAR	**Ashorobuto**	**1.02**	**355**	⇓P	**Pn**	**14 51 38.0**	**+0.1**
JAR				⇓S	**Sn**	**14 51 52.0**	**-0.2**
JSHD	**Hidakashinhida**	**1.07**	**277**	*e*P	**Pn**	**14 51 39.0**	**+0.5**
JKHN	**Kushirohamanak**	**1.23**	**49**	P	**Pn**	**14 51 41.2**	**+0.7**
JKHN				*e*S	**Sn**	**14 51 57.7**	**+0.9**
JBT2	**Biratori 2**	**1.24**	**294**	⇓P	**Pn**	**14 51 39.8**	**-0.8**
JFR	**Furan**	**1.30**	**313**	P	**Pn**	**14 51 40.5**	**-0.9**
JFR				S	**Sn**	**14 51 57.6**	**-0.9**
JNK	**Nakash**	**1.44**	**25**	⇓P	**Pn**	**14 51 43.1**	**0.0**
JNK				⇓S	**Sn**	**14 52 01.2**	**-0.4**
JTKR	**Abashiri--Toko**	**1.69**	**0**	⇓P	**Pn**	**14 51 46.8**	**+0.4**
JTKR				⇓*e*S	**Sn**	**14 52 07.8**	**+0.4**
NMR	**Nemuro--Hokkai**	**1.73**	**50**	⇓*i*PN	**Pn**	**14 51 46.7**	**-0.2**
NMR				*i* S	**Sn**	**14 52 06.9**	**-1.5**
NMR	**Nemuro--Hokkai**	**1.73**	**50**	*i* P	**Pn**	**14 51 46.8**	**-0.2**
JAB	**Ashibetsu**	**1.73**	**315**	*e*P	**Pn**	**14 51 47.4**	**+0.4**
NEM2	**Nemuro 2**	**1.74**	**51**	⇓P	**Pn**	**14 51 46.7**	**-0.3**
NEM2				⇓S	**Sn**	**14 52 07.0**	**-1.5**
JMP	**Maruseppu**	**1.77**	**347**	⇓P	**Pn**	**14 51 47.5**	**0.0**
JMP				⇓S	**Sn**	**14 52 09.1**	**-0.3**
JKK2	**Kamakawa 2**	**1.80**	**333**	P	**Pn**	**14 51 48.0**	**+0.1**
JKA	**Kamikawa-asahi**	**2.07**	**333**		**Pn**	**14 51 52.0**	**+0.6**
JKA				Sn	**Sn**	**14 52 16.8**	**+0.5**
ASAJ	**Asahikawa**	**2.07**	**333**	P	**Pn**	**14 51 52.0**	**+0.6**
	19nm,0.3s,baz=180,slow=15,SNR=120						
ASAJ				S	**Sn**	**14 52 16.1**	**-0.3**
	61nm,0.4s,baz=129,slow=9.8,SNR=7.6						
RUSJ	**Misakicho**	**2.08**	**28**	⇓*i*PN	**Pn**	**14 51 52.4**	**+0.9**
RUSJ				*e*S	**Sn**	**14 52 18.2**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**2.27**	**39**	*d i*PN	**Pn**	**14 51 54.6**	**+0.5**
YUK				*e*S	**Sn**	**14 52 21.0**	**-0.1**
YUK				pmax	pmax		
	comp=Z,931nm,0.2s						
YUK				pmax	pmax		
	comp=N,217nm,0.1s						
YUK				smax	smax		
	comp=N,3μm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.27**	**39**	*i* P	**Pn**	**14 51 54.7**	**+0.6**
YUK				AMB	AMB	14 51 57.8	
	comp=E,930nm,0.2s						
YUK				*e*S	**Sn**	**14 52 21.1**	**-0.1**
YUK				A	A	14 52 22.3	
	comp=E,3μm,0.3s						
YUK				A	A	14 52 22.3	
	comp=E,3μm,0.3s						
JTM	**Tenmabayashi**	**2.59**	**236**		**Pn**	**14 51 57.5**	**-1.0**
SHO	**Shikotan**	**2.67**	**53**	*d i*PN	**Pn**	**14 51 59.3**	**-0.2**
SHO				*e*S	**Sn**	**14 52 28.8**	**-2.1**
SHO				pmax	pmax		
	comp=N,55nm,0.2s						
SHO				pmax	pmax		
	comp=Z,141nm,0.2s						
SHO				pmax	pmax		
	comp=E,48nm,0.1s						
SHO				smax	smax		
	comp=N,759nm,0.2s						
SHO				smax	smax		
	comp=E,902nm,0.2s						
SHO	**Shikotan**	**2.67**	**53**	*i* P	**Pn**	**14 51 59.7**	**+0.2**
SHO				AMB	AMB	14 52 00.5	
	comp=E,140nm,0.2s						
SHO				*e*S	**Sn**	**14 52 29.4**	**-1.5**
SHO				A	A	14 52 30.9	
	comp=E,790nm,0.2s						
SHO				A	A	14 52 30.9	
	comp=E,830nm,0.2s						
KUR	**Kuril'sk**	**4.12**	**43**	*e*PN	**Pn**	**14 52 19.4**	**+0.2**
KUR				*i* S	**Sn**	**14 53 07.0**	**+0.9**
KUR				pmax	pmax		
	comp=Z,47nm,0.5s						
KUR				smax	smax		
	comp=N,141nm,0.2s						
KUR				smax	smax		
	comp=E,75nm,0.2s						
KUR	**Kuril'sk**	**4.12**	**43**	*e*P	**Pn**	**14 52 20.4**	**+1.2**
KUR				AMB	AMB	14 52 21.6	
	comp=E,100nm,0.5s						
KUR				*e*S	**Sn**	**14 53 07.0**	**+0.9**
KUR				A	A	14 53 08.5	
	comp=E,150nm,0.2s						
KUR				A	A	14 53 08.5	
	comp=E,120nm,0.2s						
YSS	**Yuzhno-Sakhali**	**4.74**	**351**		**Pn**	**14 52 28.8**	**+1.1**
YSS				Sn	**Sn**	**14 53 20.4**	**-0.9**
YSS	**Yuzhno-Sakhali**	**4.74**	**351**	*e*PN	**Pn**	**14 52 28.7**	**+1.1**
YSS				*e*S	**Sn**	**14 53 20.2**	**-1.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YSS				smax	smax		
	comp=N,40nm,0.4s						
YSS				smax	smax		
	comp=E,50nm,0.5s						
YSS	**Yuzhno-Sakhali**	**4.74**	**351**	*e*P	**Pn**	**14 52 28.7**	**+1.1**
YSS				*e*S	**Sn**	**14 53 20.3**	**-1.1**
JMM	**Marumori**	**5.01**	**209**	Pn	**Pn**	**14 52 29.8**	**-1.6**
JSD	**Sado**	**6.05**	**227**	Pn	**Pn**	**14 52 44.7**	**-0.8**
MJA0	**Matsu Arr-Jizo**	**7.21**	**219**	*e*PN	**Pn**	**14 53 00.7**	**-0.7**
MJB9	**Matsu-Tunnel**	**7.22**	**219**	Pn	**Pn**	**14 53 00.6**	**-1.0**
MAJO	**Matsushiro**	**7.22**	**219**	Pn	**Pn**	**14 53 01.3**	**-0.3**
MAJO	**Matsushiro**	**7.22**	**219**	PN	**Pn**	**14 53 01.3**	**-0.3**
MJAR	**Matsushiro Arr**	**7.22**	**219**	P	**Pn**	**14 53 00.8**	**-0.9**
	comp=E,2.5nm,0.5s,baz=29,slow=14,SNR=13						
MJAR				S	**Sn**	**14 54 21.5**	**-0.7**
	comp=E,0.9nm,0.3s,baz=33,slow=28,SNR=2.5						
JGF	**Kuroka**	**8.39**	**219**	Pn	**Pn**	**14 53 17.2**	**-0.3**
TYV	**Tymovskoe**	**8.63**	**355**	*e*PN	**Pn**	**14 53 21.5**	**+0.9**
TYV				*e*S	**Sn**	**14 54 58.4**	**+2.2**
TYV				pmax	pmax		
	comp=Z,6.0nm,1.5s						
TYV				pmax	pmax		
	comp=Z,100nm,4.1s						
TYV				smax	smax		
	comp=N,6.0nm,1.8s						
TYV				smax	smax		
	comp=E,9.0nm,1.8s						
TYV	**Tymovskoe**	**8.63**	**355**	*e*P	**Pn**	**14 53 21.5**	**+0.9**
INU	**Inuyama**	**8.76**	**220**	Pn	**Pn**	**14 53 21.8**	**-0.7**
JHJ	**Hachijo jima 2**	**9.71**	**201**	P	**Pn**	**14 53 36.2**	**+0.8**
	comp=E,109nm,0.9s,baz=98,slow=13,SNR=1.6						
JHJ				S	Sn	14 55 11.4	-11
	comp=E,81nm,0.5s,baz=65,slow=22,SNR=5.8						
KLR	**Kul'dur**	**10.96**	**313**	P

MKAR	Makanchi Array	43.16	298	eP	P		14 59	15.5 +4.1
MKAR				pmax	pmax			
comp=Z,2.0nm,0.5s								
COLA	College	43.66	35⇑	eP	P		14 59	16.5 +1.4
COLA				pmax	pmax			
comp=Z,5.0nm,0.9s								
POKR	Poker Plat Res	43.82	35	P	P		14 59	18.2 +1.7
POKR				IAmb	IAmb		14 59	18.6
comp=Z,6.2nm,0.8s								
IL31		44.07	35	P	P		14 59	18.9 +0.5
IL31				IAmb	IAmb		14 59	19.6
comp=Z,3.4nm,0.9s								
ILAR	Eielson Array	44.07	35	P	P		14 59	19.4 +0.9
ILAR	Eielson Array	44.07	35	P	P		14 59	18.1 -0.4
comp=Z,1.5nm,0.7s,baz=269,slow=6.2,SNR=21								
comp=Z,1.5nm,0.7s								
ILAR	Eielson Array	44.07	35	P	P		14 59	19.4 +0.9
KURK	Kurchatov	44.38	304	P	P		14 59	20.5 -0.6
KURK				IAmb	IAmb		14 59	24.6
comp=Z,6.9nm,0.9s								
KURK	Kurchatov	44.38	304	P	P		14 59	21.4 +0.3
KURK	Kurchatov	44.38	304	eP	P		14 59	20.7 -0.4
KURBB	Kurchatov Arra	44.46	304	P	P		14 59	21.4 -0.3
comp=Z,4.7nm,0.5s,baz=72,slow=8.9,SNR=28								
comp=Z,4.7nm,0.5s								
PRP	Porcupine Dome	44.59	34	P	P		14 59	24.1 +1.3
PRP				IAmb	IAmb		14 59	24.6
comp=Z,4.5nm,0.7s								
BMAR	Burnt Mountain	44.84	31	P	P		14 59	26.6 +2.1
KLU	Klutina	44.86	40	P	P		14 59	25.9 +1.0
F26K	Sheenjek River	44.99	31	P	P		14 59	27.3 +1.5
G26K	Porcupine Rive	45.18	32	P	P		14 59	29.6 +2.4
BCAR	Beaver Creek A	46.52	37	P	P		14 59	39.4 +1.5
J30M	Hart River	48.59	35	P	P		14 59	54.7 +0.8
J30M				IAmb	IAmb		14 59	57.7
comp=Z,4.0nm,1.5s								
BVAR	Borovoye Array	48.59	309	P	P		14 59	53.9 -0.1
comp=Z,4.4nm,0.5s,baz=72,slow=8.7,SNR=26								
comp=Z,4.4nm,0.5s								
O29M	Mount Kennedy	48.62	40	P	P		14 59	56.8 +2.5
O29M				IAmb	IAmb		15 00	05.9
comp=Z,7.5nm,1.1s								
BRVK	Borovoye	48.64	310⇑	eP	P		14 59	54.2 -0.2
BRVK				pmax	pmax			
comp=Z,5.0nm,1.7s								
BRVK	Borovoye	48.64	310	eP	P		14 59	54.2 -0.2
G31M	Satah River	48.89	31	P	P		14 59	56.8 +0.8
G31M				IAmb	IAmb		14 59	57.4
comp=Z,3.2nm,0.6s								
H31M	Peel River	49.12	33	P	P		14 59	59.3 +1.4
ARTI	Arti	53.89	317	d iP	P		15 00	33.1 -0.5
ARTI							15 02	33.3
ARTI				S	S		15 08	05.5 +2.9
ARTI				SS	SKiKP		15 11	38.5 0.0
ARTI				pmax	pmax			
comp=Z,5.0nm,0.7s								
SPITS	Spitsbergen Ar	55.76	349	P	P		15 00	46.0 -0.8
comp=Z,1.5nm,0.7s,baz=47,slow=8.5,SNR=9.4								
comp=Z,1.5nm,0.7s								
SPITS	Spitsbergen Ar	55.76	349	P	P		15 00	46.0 -0.8
AB31	Akbulak array	56.11	308	P	P		15 00	49.3 -0.4
ABKAR	Akbulak array	56.11	308	P	P		15 00	49.1 -0.5
YKA	Yellowknife Ar	58.34	32	P	P		15 01	05.6 +0.5
comp=Z,0.6nm,0.8s,baz=307,slow=6.7,SNR=9.6								
comp=Z,0.6nm,0.8s								
YKA	Yellowknife Ar	58.34	32	eP	P		15 01	06.1 +1.0
ARCES	ARCESS Array B	59.78	339	P	P		15 01	14.3 -0.7
comp=Z,0.9nm,0.7s,baz=40,slow=7.4,SNR=5.5								
comp=Z,0.9nm,0.7s								
WRA	Warramunga Arr	62.53	190	P	P		15 01	32.9 -1.3
comp=Z,0.6nm,0.6s,baz=8.3,slow=6.8,SNR=4.8								
comp=Z,0.6nm,0.6s								
FIA1	FINESS Array S	65.08	332	P	P		15 01	49.5 -0.9
FINES	FINESS Array B	65.08	332	P	P		15 01	49.8 -0.6
FINES	FINESS Array B	65.08	332	P	P		15 01	49.5 -0.8
comp=Z,3.4nm,0.5s,baz=50,slow=7.6,SNR=28								
comp=Z,3.4nm,0.5s								
FINES	FINESS Array B	65.08	332	P	P		15 01	49.8 -0.6
ASAR	Alice Springs	66.26	190	P	P		15 01	58.1 -0.3
comp=Z,0.3nm,0.8s,baz=9.3,slow=5.5,SNR=5.1								
comp=Z,0.3nm,0.8s								
KIV	Kislovodsk	68.94	311	eP	P		15 02	14.7 -0.6
KIV				pmax	pmax			
comp=Z,7.0nm,1.1s								
KIV	Kislovodsk	68.94	311	eP	P		15 02	15.9 +0.6
KBZ	Khabaz	68.96	310	P	P		15 02	14.2 -1.1
comp=Z,0.7nm,0.5s,baz=9.5,slow=6.1,SNR=2.8								
comp=Z,0.7nm,0.5s								
NB2	NORSAR Subarra	70.08	338	P	P		15 02	21.2 -0.8
comp=Z,0.5nm,0.5s,baz=34,slow=6.5								
NOA	NORSAR Array B	70.08	338	P	P		15 02	21.6 -0.5
comp=Z,0.7nm,0.6s,baz=34,slow=6.4,SNR=6.4								
comp=Z,0.7nm,0.6s								
HFS	Hagfors	70.09	336	P	P		15 02	21.3 -0.7
comp=Z,1.5nm,0.5s,baz=54,slow=7.5,SNR=14								
comp=Z,1.5nm,0.5s								
NVAR	Mina Array Bea	70.38	56	P	P		15 02	25.4 +1.0
comp=Z,0.3nm,0.5s,baz=311,slow=5.0,SNR=3.6								
comp=Z,0.3nm,0.5s								
AKASG	Malin Array Be	71.32	322	P	P		15 02	29.1 -0.6
comp=Z,1.1nm,0.7s,baz=42,slow=5.9,SNR=6.6								
comp=Z,1.1nm,0.7s								
AKASG	Malin Array Be	71.32	322	i P	P		15 02	29.7 +0.1
AKASG				pmax	pmax			
comp=Z,1.0nm,0.5s								
AKBB	Malin Array Si	71.32	322⇓	eP	P		15 02	28.7 -0.9
PDAR	Pinedale Array	72.67	48	P	P		15 02	38.4 +0.2
comp=Z,0.2nm,0.5s,baz=313,slow=3.5,SNR=2.4								
comp=Z,0.2nm,0.5s								
CLL	Collm	77.48	331	i P	P		15 03	05.0 -0.3
comp=Z,5.0nm,0.7s								
EKA	Eskdalemuir Ar	78.80	342	P	P		15 03	12.6 0.0
comp=Z,0.2nm,0.3s,baz=36,slow=5.2,SNR=1.7								
comp=Z,0.2nm,0.3s								
TXAR	Lajitas Array	85.45	54	P	P		15 03	47.8 -0.1
comp=Z,0.6nm,0.7s,baz=296,slow=4.0,SNR=5.2								
comp=Z,0.6nm,0.7s								

IDC ***26*** *15:02:05.7±2.4, 10°.04N×84°.75W, h114km±5km, mb2.8/3, mbtmp3.2/3, MS3.6/1, Error ellipse: s-maj=49.8km s-min=12.3km az=140.0*
UCR ***26*** *15:02:05.0±1.2, 10°.28N×84°.19W, h97km±3km, MW4.0*
CATAC ***26*** *15:02:06.4±0.4, 10°.N±2°×8°.4W±°, h76km±4km, M3.7/13, MLv3.7/13, Error ellipse: s-maj=6.6km s-min=3.7km az=48.7, confirmed*
ISC 26 15:02:04.2±0.8, 10°.23N±0°.04×84°.21W±0°.04, h102km±5km, n121, σ1§02/132, mb3.2/3, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VPS5	V. Poas	0.05	214	eP	Pn	15 02 19.1	+0.3
VPS8	V Poas	0.06	216	eP	Pn	15 02 19.1	+0.3
ARTO	Ro Cuarto	0.11	355	eP	Pn	15 02 19.0	+0.5
ARTO				eS	Sn	15 02 29.2	+0.1
VBV1	V. Barva	0.16	138	eP	Pn	15 02 19.2	+0.3
POAS	San Pedro de P	0.16	194	eP	Pn	15 02 17.8	-0.9
GREC	Grecia	0.19	213	eP	Pn	15 02 19.4	+0.6
VPL2	V. Platanar	0.19	293	eP	Pn	15 02 19.5	+0.7
VPL2				eS	Sn	15 02 30.5	+0.7
TCS1	Tacares	0.21	207	eP	Pn	15 02 19.3	+0.5
TCS1				eS	Sn	15 02 30.5	+0.8
TCS1	Tacares	0.21	207	P	Pn	15 02 19.3	+0.5
UELA	Alajuela	0.21	182	eP	Pn	15 02 20.4	+1.5
NARAN	Naranjo de Ala	0.21	232	eP	Pn	15 02 19.6	+0.8
ITAL	Pital	0.23	343	eP	Pn	15 02 19.2	+0.4
ITAL				eS	Sn	15 02 29.5	-0.1
HEME	Heredia, Merce	0.24	164	eP	Pn	15 02 19.4	+0.4
BELE	Belen	0.25	176	eP	Pn	15 02 19.3	+0.3
DOMI	Santo Domingo	0.27	155	eP	Pn	15 02 19.6	+0.6
SARA	Sarapiqu	0.28	39	eP	Pn	15 02 19.2	+0.3
SARA				eS	Sn	15 02 29.9	-0.1
RAMO	San Ramon	0.29	241	i P	Pn	15 02 20.7	+1.6
RAMO				eP	Pn	15 02 20.7	+1.6
SANTA	Santa Ana	0.30	176	eP	Pn	15 02 19.5	+0.4
SRA1	San Ramn	0.31	242	eP	Pn	15 02 19.5	+0.3
MEXI	Barrio Mexico	0.31	158	eP	Pn	15 02 19.6	+0.3
LUPE	Guadalupe	0.32	152	eP	Pn	15 02 19.8	+0.5
CENT	San Jose	0.32	157	eP	Pn	15 02 19.6	+0.3
CORON	Coronado	0.32	142	eP	Pn	15 02 19.9	+0.5
SJS	Escuela Geolog	0.33	153	eP	Pn	15 02 19.9	+0.6
SJS3	Mercedes San J	0.33	153	eP	Pn	15 02 20.0	+0.6
CVIMO	Finca Echandi	0.33	128	eP	Pn	15 02 19.8	+0.4
CVIMO				eS	Sn	15 02 31.2	+0.4
LUJA	Lujan	0.33	157	eP	Pn	15 02 20.7	+1.3
AMPA	Desamparados	0.36	157	eP	Pn	15 02 20.9	+1.4
TRIO	Tres Rios	0.38	147	eP	Pn	15 02 19.9	+0.3
TRIO				eS	Sn	15 02 31.2	0.0
PURI	Puriscal	0.40	195	eP	Pn	15 02 20.2	+0.5
PILE	Guapiles	0.41	92	eP	Pn	15 02 21.2	+1.6
PILE				eS	Sn	15 02 32.8	+1.7
VICA	Volcano Irazu	0.43	124	eP	Pn	15 02 20.7	+0.4
CVTG	V. Turrialba,	0.43	101	eP	Pn	15 02 20.4	+0.6
CVTG				eS	Sn	15 02 32.1	+0.6
ACOS	Acosta	0.43	175	eP	Pn	15 02 20.5	+0.5
SOCE	Pocosol	0.43	291	eP	Pn	15 02 20.6	+0.9
SOCE				eS	Sn	15 02 32.2	+0.7
SOCE	Pocosol	0.43	291	P	Pn	15 02 20.7	+0.9
CARI	Cariari	0.48	74	eP	Pn	15 02 21.7	+1.7
VTLA	Turrialba Volc	0.48	118	eP	Pn	15 02 21.1	+0.6
CVTQ	Turrialba Volc	0.49	117	eP	Pn	15 02 21.0	+0.5
CVTR	Volcan Turrial	0.49	115	eP	Pn	15 02 20.8	+0.2
VTR0	Volcan Turrial	0.49	116	eP	Pn	15 02 20.9	+0.3
TUNA	La Fortuna	0.49	299	eP	Pn	15 02 21.1	+0.9
PCAYA	Pacayas	0.50	129	eP	Pn	15 02 21.3	+0.9
CVTV	Tajo	0.50	117	eP	Pn	15 02 21.3	+0.7
ARZA	Esparza	0.51	243	eP	Pn	15 02 21.0	+0.7
FORC	Fortuna	0.51	297	eP	Pn	15 02 21.4	+1.1
REPA	Paraso	0.52	140	eP	Pn	15 02 21.1	+0.6
COVE	Coope Vega, Sa	0.52	338	S	Sn	15 02 32.1	-0.4
COVE	Coope Vega, Sa	0.52	338	P	Pn	15 02 20.8	+0.5
LCR2	La Lucha 2	0.52	158	eP	Pn	15 02 21.0	+0.4
LCR2	La Lucha 2	0.52	158	P	Pn	15 02 21.1	+0.4
LCR2	La Lucha 2	0.52	158	S	Sn	15 02 32.8	-0.1
VACR	Volcan Arenal	0.52	297	eP	Pn	15 02 21.2	+0.8
VTCV	VTCV, Calle Va	0.53	117	eP	Pn	15 02 21.5	+0.8
ABE2	San Pablo	0.54	164	eP	Pn	15 02 21.3	+0.5
CEDE	Laguna Cedeo	0.55	298	eP	Pn	15 02 21.6	+0.9
ARE1	Arenal 1	0.56	294	eP	Pn	15 02 21.4	+0.7
VERB	Verbena	0.58	119	eP	Pn	15 02 21.9	+1.0
RAZU	San Marcos de	0.59	162	eP	Pn	15 02 21.7	+0.5
PICV	PH. Pirrs	0.60	179	eP	Pn	15 02 21.5	+0.5
PISJ	San Jernim	0.60	172	eP	Pn	15 02 21.7	+0.6
RVSTA	Santa Teresita	0.60	115	eP	Pn	15 02 22.1	+1.0
TURIB	Turrialba	0.60	122	eP	Pn	15 02 21.8	+0.7
MTEVE	Monteverde	0.62	278	eP	Pn	15 02 23.2	+1.9
RVLA	Villa Bonita	0.62	101	eP	Pn	15 02 22.1	+1.0
PIEC	Cerro El Cedra	0.65	158	eP	Pn	15 02 21.9	+0.2
IRES	Siquirres	0.70	101	eP	Pn	15 02 22.7	+0.9
JTS	Las Juntas de	0.74	275	LR	LR	15 02 16.1	
comp=Z,30nm,19.6s,baz=32,slow=32							
JTS				P	Pn	15 02 23.0	+0.8
300nm,0.3s,baz=76,slow=17,SNR=373							
JTS				S	Sn	15 02 36.1	+0.5
788nm,0.3s,baz=140,slow=24,SNR=14							
JTS	Las Juntas de	0.74	275	eP	Pn	15 02 23.0	+0.8
JUNT	Juntas	0.74	274	eP	Pn	15 02 22.9	+0.8
LLNJ	Naranjito	0.76	172	eP	Pn	15 02 23.2	+0.9
TILA	Tilaran	0.79	288	eP	Pn	15 02 23.6	+0.9
PAQE	Paquera	0.83	240	eP	Pn	15 02 24.2	+1.2
TENO	El Achiote	0.89	302	eP	Pn	15 02 24.9	+1.2
JCR1	Jicaral	0.97	247	eP	Pn	15 02 25.4	+0.9
CUI	Cuipilapa	1.03	294	eP	Pn	15 02 26.3	+1.1
NYURE	Nandayure	1.06	257	eP	Pn	15 02 26.4	+1.0
COLC	Colonia	1.07	294	eP	Pn	15 02 26.7	+1.1
CBL1	Cabuya	1.08	234	eP	Pn	15 02 26.5	+0.9
CMARA	Lajas Hojancha	1.22	260	eP	Pn	15 02 28.1	+0.8
CMARA	Lajas Hojancha	1.22	260	S	Sn	15 02 45.9	+1.2
CMARA	Lajas Hojancha	1.22	260	P	Pn	15 02 28.2	+1.0
NICO	Nicoya	1.23	266	eP	Pn	15 02 28.8	+1.5
GPS2	Hotel Rincn d	1.24	295	eP	Pn	15 02 28.7	+1.2
OCHAL	Ojochal	1.25	154	P	Pn	15 02 29.0	+1.3
OCHAL	Ojochal	1.25	154	S	Sn	15 02 46.9	+1.6
GPS3	Bodega del ICE	1.25	295	eP	Pn	15 02 29.3	+1.6
VORI	VORI	1.27	298	eP	Pn	15 02 28.9	+0.9
VRLE	La Escondida,	1.27	296	eP	Pn	15 02 28.9	+1.0
PEJA	Penjamo Buenos	1.27	301	eP	Pn	15 02 28.9	+1.0
INDI	Punta indio, G	1.33	254	S	Sn	15 02 46.9	+0.1
INDI	Punta indio, G	1.33	254	P	Pn	15 02 28.9	+0.5
ALIBA	Liberia Airpor	1.37	285	eP	Pn	15 02 30.3	+1.3
CEUA	Cerro Uatsi, L	1.39	116	eP	Pn	15 02 30.9	+1.6
ELI1	Hacienda Flor	1.39	287	eP	Pn	15 02 30.2	+1.0
EDP2	Potrero Grande	1.58	140	eP	Pn	15 02 32.8	+1.3
CARN	Rivas	1.61	306	P	Pn	15 02 33.0	+1.2
LCRUZ	La Cruz	1.64	301	eP	Pn	15 02 33.5	+1.2
BLUN	Bluefields	1.81	13	P	Pn	15 02 35.2	+0.7
ALCO	Alturas Coton,	1.86	133	eP	Pn	15 02 36.0	+0.8
EDAD	Golfito	1.87	147	eP	Pn	15 02 35.6	+0.3
CONN	Concepcion	1.93	314	P	Pn	15 02 36.9	+1.0
JAPN	Al SSO del Vol	1.94	312	P	Pn	15 02 37.5	+1.4
ESPN	Las Esperanzas	1.96	357	eP	Pn	15 02 37.6	+1.3
ESPN	Las Esperanzas	1.96	357	P	Pn	15 02 37.5	+1.2
ACON	Acoyapa	1.97	331	eP	Pn	15 02 37.6	+1.1
ACON	Acoyapa	1.97	331	P	Pn	15 02 37.6	+1.1
ACON	Acoyapa	1.97	331	S	Sn	15 03 02.2	+1.0
PIRO	Carate, Puerto	2.01	155	eP	Pn	15 02 39.3	+2.3
BRU2	Volcan	2.07	134	eP	Pn	15 02 39.0	+1.1
BRU2	Volcan	2.07	134	S	Sn	15 03 04.7	+1.2
BRU2	Volcan	2.07	134	P	Pn	15 02 39.1	+1.2
CDITO	Canoas	2.11	141	P	Pn	15 02 39.2	+0.9
BOAB	BOACO BROADBAN	2.63	327	P	Pn	15 02 46.3	+1.2
COPN	Copaltepe	3.04	310	P	Pn	15 02 52.3	+1.8
ROSC	El Rosal	11.16	118	LR	LR	15 10 07.2	
comp=Z,301nm,19.4s,baz=88,slow=42							
PDAR	Pinedale Array	39.25	330	P	P	15 09 21.6	-1.4
0.2nm,0.5s,baz=147,slow=8.8,SNR=2.0							
0.2nm,0.5s							
YKA	Yellowknife Ar	56.60	344	P	P	15 11 36.3	+0.2
0.3nm,0.8s,baz=136,slow=6.9,SNR=6.3							
0.3nm,0.8s							
ILAR	Eielson Array	69.33	336	P	P	15 13 01.6	+1.2
0.2nm,0.9s,baz=110,slow=7.1,SNR=1.7							
0.2nm,0.9s							
ASAR	Alice Springs	141.31	245	PKP	PKPdf	15 21 21.2	-2.7
0.1nm,0.5s,baz=98,slow=2.2,SNR=4.4							
WRA	Warramunga Arr	141.64	251	PKP	PKPdf	15 21 21.2	-3.3
0.2nm,0.9s,baz=104,slow=3.2,SNR=5.1							

NEIC ***26*** *15:04:10.4±2.5, 5°.28N±0°.07×82°.75W±0°.09, h10km±1km, mb4.9/191, Mww5.1/35, Error ellipse: s-maj=15.9km s-min=10.2km az=240.0*
IDC ***26*** *15:04:10.8±0.6, 5°.35N×82°.70W, h0km, mb4.5/16, mbtmp4.5/19, MLJ3.6/3, MS4.0/39, Error ellipse: s-maj=21.3km s-min=12.9km az=52.0*
NEIC ***26*** *15:04:11, 5°.27N×82°.70W, h22km*
NEIC ***26*** *15:04:11, 5°.17N×82°.00W, h22km, Moment Tensor Solution. Duration: 1§7 Moment tensor: Scale 10^16 Nm; Mrr0.46; Mθθ-0.35; Mφφ-0.11; Mrθ-1.24; Mθφ4.68; Mφr0.20; Fault plane solution: Mo4.84000×10^16 NP1: φs179.44000°, δ75.26000°, λ-179.76000°. NP2: φs89.37000°, δ89.77000°, λ-14.74000°. Principal axes: T 4.5841, Plg10.0000°, Azm135.0000°; N 0.5172, Plg75.0000°, Azm269.0000°; P -5.1013, Plg11.0000°, Azm43.0000°;*
CATAC ***26*** *15:04:14.0±0.5, 5°N±7°×8°3W±°, h11km±7km, M5.7/20, mb6.0/18, mB6.0/20, MLv5.8/18, Mw(mB)5.7/20, MwMwp4.8/1, Mwp5.2/1 Error ellipse: s-maj=14.9km s-min=5.5km az=8.6, confirmed*
UPA ***26*** *15:04:13.1±1.1, 5°.58N×82°.59W, h0km±14km, MW4.9*
GCMT ***26*** *15:04:14.4±0.2, 5°.17N±0°.01×82°.61W±0°.01, h16km, MW5.0/129, Moment Tensor Solution. s73,c101; s129,c193; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.23±.09; Mθθ0.27±.08; Mφφ-0.50±.10; Mrθ0.86±.22; Mθφ4.39±.08; Mφr0.36±.22; Best double couple: Mo4.50900×10^16 NP1:φs2.00000°, δ79.00000°, λ174.00000°. NP2:φs93.00000°, δ84.00000°, λ11.00000°. Principal axes: T 4.4730, Plg12.0000°, Azm318.0000°; N 0.0740, Plg78.0000°, Azm119.0000°; P -4.5460, Plg4.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 15:04:11.6±0.3, 5°.31N±0°.05×82°.70W±0°.04, h15km, n579, σ1§38/490, mb4.9/104, MS4.0/37, 16C-10D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	El Cacao, Vera	2.73	42	eP	Pn	15 04 53.5	-1.4
CACAO				eS	Sn	15 05 24.9	-2.8
LIMO3	Limones	2.77	357	eP	Pn	15 04 54.8	-0.8
GMAL	Guarumal, Vera	2.84	31	eP	Pn	15 04 55.4	-1.1
PTPM	Petroterminale	2.88	357	eP	Pn	15 04 56.2	-0.8
LESP3	La Esperanza,	3.07	358	eP	Pn	15 04 58.8	-0.9
DVD	David	3.11	5	eP	Pn	15 04 58.9	-1.4
DVD				eS	Sn	15 05 34.1	-3.0
LOMA3	Las Lomas, Chi	3.11	6	eP	Pn	15 05 00.1	-0.2
MESA3	La Mesa, Verag	3.19	28	eP	Pn	15 05 00.6	-0.7
CDITO	Canoas	3.24	357	⇓P	Pn	15 05 01.6	-0.4
CDITO	Canoas	3.24	357	P	Pn	15 05 01.5	-0.5
STIA3	Santiago, Vera	3.26	32	eP	Pn	15 05 00.5	-1.8
ACHO3	Achotines, Los	3.27	50	eP	Pn	15 05 01.0	-1.4
AZU	Azuero	3.45	44	⇓iP	Pn	15 05 03.7	-1.1
AZU				eS	Sn	15 05 43.1	-2.3
BRU2	Volcan	3.46	0			15 05 04.6	-0.6
BRU2	Volcan	3.46	0	⇑iP		15 05 04.6	-0.6
BRU2				eS	Sn	15 05 44.3	-1.6
BRU2	Volcan	3.46	0	S	Sn	15 05 46.4	+0.4
BRU2	Volcan	3.46	0	P	Pn	15 05 04.8	-0.4
BRU2	Volcan	3.46	0	P	Pn	15 05 04.2	-1.0
CHIT3	Chitre	3.47	41	eP	Pn	15 05 04.7	-0.5
CHIT3				eS	Sn	15 05 43.8	-2.2
BC3P	Paso Ancho	3.48	2	eP	Pn	15 05 05.1	-0.4
CRIS3	El Cristo, Coc	3.58	35	eP	Pn	15 05 06.2	-0.5
CHGR2	Aguacate	3.64	9	eP	Pn	15 05 07.5	-0.1
OCHAL	Ojochal	3.88	346	S	Sn	15 05 56.0	-0.1
OCHAL	Ojochal	3.88	346	⇑P	Pn	15 05 10.1	-0.6
OCHAL	Ojochal	3.88	346	P	Pn	15 05 10.2	-0.5
OCHAL	Ojochal	3.88	346	S	Sn	15 05 55.9	-0.1
DRK0	Durika	3.96	352	eP	Pn	15 05 12.0	-0.1
LCR2	La Lucha 2	4.58	344			15 05 20.4	-0.2
LCR2	La Lucha 2	4.58	344	S	Sn	15 06 16.8	+2.9
LCR2	La Lucha 2	4.58	344	⇑P	Pn	15 05 20.7	+0.1
LCR2	La Lucha 2	4.58	344	P	Pn	15 05 20.8	+0.1
LCR2	La Lucha 2	4.58	344	S	Sn	15 06 15.8	+2.0
CHOR3	La Chorrera	4.60	39	eP	Pn	15 05 20.3	-0.4
CHOR3				eS	Sn	15 06 11.0	-3.0
BCIP	Isla Barro Col	4.77	36			15 05 23.2	+0.2
BCIP	Isla Barro Col	4.77	36	eP	Pn	15 05 22.2	-0.8
BCIP				eS	Sn	15 06 14.7	-3.4
UPA	Univ. de Panam	4.81	41	eP	Pn	15 05 23.0	-0.6
UPA				eS	Sn	15 06 15.0	-4.1
TCS1	Tacares	4.96	341	⇓P	Pn	15 05 26.5	+0.8
TCS1	Tacares	4.96	341	P	Pn	15 05 26.0	+0.3
CHPO	Chepo, Panama	5.23	43	eP	Pn	15 05 28.9	-0.4
INDI	Punta indio, G	5.31	329	S	Sn	15 06 32.5	+1.2
INDI	Punta indio, G	5.31	329	⇑P	Pn	15 05 29.8	-0.6
INDI	Punta indio, G	5.31	329	S	Sn	15 06 30.4	-1.0
INDI	Punta indio, G	5.31	329	P	Pn	15 05 29.4	-1.0
SOCE	Pocosol	5.38	339		Pn	15 05 32.0	+0.5
SOCE	Pocosol	5.38	339	S	Sn	15 06 34.5	+1.2
SOCE	Pocosol	5.38	339	⇓P	Pn	15 05 32.7	+1.1
SOCE	Pocosol	5.38	339	P	Pn	15 05 32.6	+1.1
SOCE	Pocosol	5.38	339	S	Sn	15 06 33.8	+0.5
CMARA	Lajas Hojancha	5.40	330	S	Sn	15 06 34.6	+0.9
CMARA	Lajas Hojancha	5.40	330	⇓P	Pn	15 05 31.2	-0.5
CMARA	Lajas Hojancha	5.40	330	P	Pn	15 05 31.1	-0.6
CMARA	Lajas Hojancha	5.40	330	S	Sn	15 06 30.4	-3.3
JTS	Las Juntas de	5.42	336		Pn	15 05 31.8	-0.3
JTS	Las Juntas de	5.42	336	Pn	Pn	15 05 31.8	-0.3
241nm,0.3s,baz=94,slow=11,SNR=36							
JTS				Sn	Sn	15 06 35.6	+1.3
78nm,0.3s,baz=350,slow=23,SNR=16							
JTS	Las Juntas de	5.42	336	eP	Pn	15 05 32.4	+0.4
COVE	Coope Vega, Sa	5.63	343	S	Sn	15 06 40.3	+1.0
COVE	Coope Vega, Sa	5.63	343	⇓P	Pn	15 05 36.1	+1.3
COVE	Coope Vega, Sa	5.63	343	P	Pn	15 05 36.0	+1.2
CAP2	Capurgana	6.25	58	⇓P	Pn	15 05 45.0	+1.6
CAP2				S

comp=Z,718nm,19.6s,baz=246,slow=37
90nm,0.9s
SDV Santo Domingo 12.49 73 eP Pn 15 07 11.1 +1.9
ATAH Atahualpa 13.09 161 Pn Pn 15 07 19.7 +2.1
0.4nm,0.3s,baz=134,slow=23,SNR=3.7
ATAH LR LR 15 11 51.4
comp=Z,3µm,19.8s,baz=337,slow=35
4.8nm,0.7s
CCIG Comitan 14.30 320 Pn 15 07 33.7 -0.2
BAUV El Baul 14.99 75 Pn 15 07 40.4 -2.7
BAUV IAmb IAmb 15 07 43.1
comp=Z,71nm,1.0s
TBTG Tabatinga, AM 15.89 126 eP Pn 15 07 51.9 -3.0
CZSB Cruzeiro do Su 16.35 142 Pn Pn 15 07 57.5 -3.3
CZSB Cruzeiro do Su 16.35 142 eP Pn 15 07 57.6 -3.3
PAPH Port-au-Prince 16.60 37 Pn 15 08 01.2 -2.8
SOR Soroa 17.38 359 Pn 15 08 11.8 -1.9
SOR IAmb IAmb 15 08 18.1
comp=Z,76nm,1.0s
SDDR Presa de Saban 17.57 38 P 15 08 19.0 +1.8
NNA Nana 18.15 161 LR LR 15 14 44.8
comp=Z,532nm,19.0s,baz=320,slow=35
TEFE Tefe 20.06 116 eP P 15 08 44.9 +0.3
CELP Cerrillos 20.23 50 P P 15 08 44.7 -1.7
CELP IAmb IAmb 15 08 52.0
comp=Z,58nm,0.8s
AOPR Arecibo Observ 20.26 49 P P 15 08 43.8 -2.9
SJG San Juan 20.58 50 P Pn 15 08 51.9 -0.5
comp=Z,57nm,0.6s,baz=237,slow=8.1,SNR=23
SJG LR LR 15 15 43.6
comp=Z,262nm,21.3s,baz=232,slow=34
comp=Z,57nm,0.6s
PDPR Patillas Dam, 20.62 51 P P 15 08 51.5 +0.9
PDPR IAmb IAmb 15 09 01.1
comp=Z,51nm,0.9s
BOAV Boa Vista 22.32 97 P P 15 09 08.6 -0.3
BOAV Boa Vista 22.32 97 eP P 15 09 09.7 +0.7
MACA Manacapuru-AM 23.55 110 P P 15 09 17.8 -4.0
MACA Manacapuru-AM 23.55 110 eP P 15 09 20.8 -1.0
SAML Samuel 24.07 126 P P 15 09 23.8 -2.9
SAML IAmb IAmb 15 09 26.9
comp=Z,82nm,1.6s
LPAZ La Paz 25.86 146 P P 15 09 41.1 -2.4
LPAZ La Paz 25.86 146 P P 15 09 45.6 +2.0
comp=Z,1.2nm,0.6s,baz=99,slow=3.1,SNR=5.1
LPAZ LR LR 15 20 59.6
comp=Z,1µm,20.1s,baz=300,slow=39
comp=Z,1.2nm,0.6s
LPAZ La Paz 25.86 146 eP P 15 09 44.4 +0.8
LRAL Lakeview Retre 27.87 352 P P 15 10 01.4 +0.5
Y52A Lilburn 28.44 358 P P 15 10 05.1 -0.8
Y52A IAmb IAmb 15 10 08.6
comp=Z,21nm,1.1s
VILB Vilhena 28.80 129 P P 15 10 07.3 -2.1
VILB IAmb IAmb 15 10 16.2
comp=Z,16nm,0.8s
VILB Vilhena 28.80 129 eP P 15 10 09.7 +0.3
BG3 Lake Jocassee 29.54 360 P P 15 10 15.5 -0.2
BG3 IAmb IAmb 15 10 20.9
comp=Z,24nm,0.9s
KMSC Kings Mountain 29.71 2 P P 15 10 16.0 -1.2
KMSC IAmb IAmb 15 10 20.0
comp=Z,23nm,1.1s
OXF Oxford 29.71 349 P P 15 10 15.4 -1.8
JCT Junction City 29.77 329 P P 15 10 16.3 -1.5
NPGB Novo Progresso 29.92 114 eP P 15 10 19.9 +0.5
MDP Montagnes des 29.94 89 LR LR 15 22 36.8
comp=Z,419nm,18.4s,baz=275,slow=37
Z38A Mt. Pleasant 30.07 339 P P 15 10 19.8 -0.6
SIV San Ignacio 30.11 135 LR LR 15 22 29.3
comp=Z,1µm,19.3s,baz=307,slow=36
TKL Tuckaleechee C 30.21 358 LR LR 15 22 05.0
comp=Z,249nm,20.0s,baz=180,slow=36
SAND Sanderson 30.60 325 IAmb IAmb 15 11 16.9
comp=Z,13nm,0.9s
OZNA Ozona 30.80 328 IAmb IAmb 15 11 31.3
comp=Z,18nm,1.1s
CLTN Cedars of Leba 30.81 354 IAmb IAmb 15 10 29.2
comp=Z,14nm,0.9s
PDRB Porto dos Gac 30.83 123 eP P 15 10 27.4 0.0
WVT Waverly 31.03 352 P 15 10 29.2 +0.3
TXAR Lajitas Array 31.05 323 P P 15 10 27.4 -1.9
TXAR Lajitas Array 31.05 323 P P 15 10 31.1 +1.9
comp=Z,1.3nm,0.8s,baz=143,slow=8.8,SNR=8.1
TXAR LR LR 15 23 07.6
comp=Z,108nm,20.3s,baz=127,slow=37
comp=Z,1.3nm,0.8s
WHAR Wooly Hollow 31.12 345 P P 15 10 30.0 +0.4
PTLB Pontes e Lacer 31.15 132 P P 15 10 28.9 -1.2
PTLB Pontes e Lacer 31.15 132 eP P 15 10 30.1 0.0
GNAR Gosnell 31.24 349 P P 15 10 29.4 -1.3
BBSD Serra de San D 31.25 136 eP P 15 10 32.6 +1.6
SLBS Sierra La Lagu 31.97 308 P P 15 10 35.2 -2.2
SLBS IAmb IAmb 15 10 41.9
comp=Z,22nm,1.1s
LPIG La Paz 32.46 308 LR LR 15 21 02.3
comp=Z,229nm,19.5s,baz=145,slow=31
FNO Franklin 32.74 337 P P 15 10 41.3 -2.7
CCM Cathedral Cave 33.51 348 P 15 10 50.9 +0.3
Q56A Snyder Ridge, 33.73 5 IAmb IAmb 15 10 55.8
comp=Z,26nm,1.0s
SMWD Samnorwood 33.78 334 IAmb IAmb 15 10 56.9
comp=Z,25nm,1.1s
Q44A Meyer Farm, Va 33.92 351 P P 15 10 52.5 -1.6
SALV Santo Antonio 34.05 129 eP P 15 10 55.4 -0.1
P48A Milroy 34.08 356 P 15 10 53.1 -2.5
P38A Dawn 35.53 346 IAmb IAmb 15 11 10.0
comp=Z,17nm,0.9s
HDIL Hopedale 35.59 351 P P 15 11 07.8 -0.8
KSU1 Kansas State U 35.92 341 IAmb IAmb 15 11 13.2
comp=Z,18nm,0.8s
319A Douglas 35.97 319 P 15 11 09.4 -2.7
319A IAmb IAmb 15 11 17.0
comp=Z,32nm,1.4s
BDQN Bodoquena, MS 36.13 136 eP P 15 11 13.0 -0.5
M57A Sunshine Farm, 36.21 7 IAmb IAmb 15 11 16.9
comp=Z,26nm,0.9s
MURT Porto Murtinho 36.38 138 eP P 15 11 16.1 +0.6
LENM Lemitar 36.48 325 P P 15 11 17.0 +0.5
ANMO Albuquerque 36.76 326 P P 15 11 17.6 -1.4
ANMO IAmb IAmb 15 11 23.5
comp=Z,21nm,1.1s
AQDB Aquidauana 36.89 135 IAmb IAmb 15 11 21.8
comp=Z,31nm,1.5s
AQDB Aquidauana 36.89 135 eP P 15 11 20.0 +0.1
ARAG Araguaiana, MT 37.04 125 eP P 15 11 20.9 -0.4
K57A Scipio Center 37.66 7 IAmb IAmb 15 11 31.3
comp=Z,39nm,1.2s
SMTB Santa Maria do 37.73 112 eP P 15 11 28.8 +1.6
C2SB Chapadao do Su 37.93 130 eP P 15 11 28.4 -0.4
JFWS Jewell Farm 38.04 351 IAmb IAmb 15 11 33.3
comp=Z,60nm,1.5s
KSCO Kaye Shedlock' 38.09 335 P P 15 11 28.4 -1.7
KSCO IAmb IAmb 15 12 03.9
comp=Z,26nm,0.8s
SDCO Great Sand Dun 38.39 330 P P 15 11 31.1 -1.8
SDCO IAmb IAmb 15 11 37.4
comp=Z,33nm,1.1s
J59A Piesco 38.68 10 P 15 11 32.9 -1.9
J59A IAmb IAmb 15 11 38.2
comp=Z,29nm,1.2s
H03N2 Juan Fernandez 38.71 175 T T 15 52 38.8
baz=354,slow=76,SNR=14
H03N1 Juan Fernandez 38.71 175 T T 15 52 42.5
baz=354,slow=76,SNR=22
H03N3 Juan Fernandez 38.72 175 T T 15 52 43.2
baz=354,slow=76,SNR=23
I42A Draeger Farm, 38.81 353 IAmb IAmb 15 11 36.9
comp=Z,49nm,1.1s
OGNE Ogallala 39.48 337 P P 15 11 38.8 -2.9
MVCO Mesa Verde 39.54 327 IAmb IAmb 15 11 46.8
comp=Z,35nm,1.0s
LONY Lake Ozonia 39.79 9 P P 15 11 44.1 0.0
CPUP Villa Florida 39.93 143 P P 15 11 46.2 +0.8
comp=Z,1.3nm,0.4s,baz=198,slow=1.5,SNR=4.4
CPUP LR LR 15 29 17.2
comp=Z,261nm,20.0s,baz=324,slow=38
comp=Z,1.3nm,0.4s
WUAZ Wupatki 40.01 322 P P 15 11 44.8 -1.5
WUAZ IAmb IAmb 15 11 50.9
comp=Z,24nm,0.9s
BDFB Brasilia 40.17 122 LR LR 15 27 38.3
comp=Z,363nm,21.7s,baz=302,slow=35
ECSD EROS Data Cent 40.18 344 P P 15 11 46.3 -1.0
PV15 Paradox Valley 40.37 328 IAmb IAmb 15 11 53.8
comp=Z,34nm,1.0s
BO02 Sierra Bellavi 41.44 165 P P 15 11 55.3 -2.6
SDBA SAO DESIDERIO 41.49 115 eP P 15 12 00.9 +2.3
O20A White River Ci 41.59 330 IAmb IAmb 15 12 25.4
comp=Z,28nm,1.3s
PKCU Pink Cliffs 41.86 324 IAmb IAmb 15 12 06.5
comp=Z,29nm,0.9s
PFO Pinyon Flats O 42.13 316 P 15 12 04.0 +0.3
PFO Pinyon Flats O 42.13 316 LR LR 15 28 54.5
comp=Z,250nm,18.5s,baz=120,slow=35
V12A Nelson 42.31 320 IAmb IAmb 15 12 09.5
comp=Z,28nm,0.9s
ELS Elsinore Mount 42.83 316 P 15 12 09.0 -0.3
JANB Januaria 43.09 119 eP P 15 12 11.9 +0.2
BSUT Blindstream Ca 43.17 328 IAmb IAmb 15 12 18.4
comp=Z,17nm,1.0s
D62A Allapoint, All 43.25 14 P 15 12 12.8 +0.5
D62A IAmb IAmb 15 12 38.7
comp=Z,47nm,1.7s
LDAQ Lac Daran 43.61 11 P 15 12 15.8 +0.4
LDAQ IAmb IAmb 15 12 19.7
comp=Z,12nm,0.8s
PDAR Pinedale Array 44.24 332 P P 15 12 18.9 -1.8
PDAR Pinedale Array 44.24 332 P P 15 12 22.2 +1.5
comp=Z,4.0nm,0.8s,baz=132,slow=10,SNR=33
PDAR LR LR 15 33 15.9
comp=Z,132nm,18.8s,baz=132,slow=40
comp=Z,4.0nm,0.8s
AGMN Agassiz Nation 44.28 347 IAmb IAmb 15 12 23.7
comp=Z,13nm,0.9s
HWUT Hardware Ranch 44.37 329 IAmb IAmb 15 12 25.1
comp=Z,20nm,0.8s
BGU Big Grassy Mou 44.66 327 IAmb IAmb 15 12 27.8
comp=Z,14nm,1.0s
DIAM Diamantina, MG 45.08 122 eP P 15 12 27.8 +0.1
EPLO Experimental L 45.18 350 IAmb IAmb 15 12 31.2
comp=Z,23nm,0.9s
DSP Deep Springs 45.31 320 IAmb IAmb 15 12 33.5
comp=Z,14nm,1.1s
ELK Elko 45.76 325 LR LR 15 31 27.9
comp=Z,430nm,21.2s,baz=130,slow=36
RLMT Red Lodge 45.93 334 IAmb IAmb 15 12 37.3
comp=Z,20nm,1.2s
NV11 Mina Array Sit 46.05 321 IAmb IAmb 15 12 39.3
comp=Z,18nm,0.9s
ULM Lac du Bonnet 46.13 348 IAmb IAmb 15 12 36.1
comp=Z,15nm,0.9s
ULM Lac du Bonnet 46.13 348 P P 15 12 34.9 -0.5
comp=Z,13nm,0.8s,baz=161,slow=7.7,SNR=8.5
comp=Z,13nm,0.8s
NVAR Mina Array Bea 46.15 321 P 15 12 35.8 -0.1
NVAR Mina Array Bea 46.15 321 P P 15 12 39.0 +3.0
comp=Z,14nm,0.8s,baz=135,slow=7.5,SNR=75
NVAR LR LR 15 32 15.8
comp=Z,332nm,18.5s,baz=164,slow=37
comp=Z,14nm,0.8s
PMPB Monarch Peak 46.54 317 P 15 12 37.0 -1.9
PLCA Paso Flores 47.16 167 P P 15 12 45.5 +1.8
comp=Z,1.8nm,0.9s,baz=346,slow=12,SNR=3.4
comp=Z,1.8nm,0.9s
PLCA Paso Flores 47.16 167 eP P 15 12 46.0 +2.4
CMC01 Camacan, BA 47.45 116 eP P 15 12 48.7 +2.5
MFID Camas Ranch 47.88 328 IAmb IAmb 15 12 53.0
comp=Z,14nm,1.4s
RIB01 Linhares ES 48.30 122 eP P 15 12 54.5 +1.8
EGMT Eagleton 48.43 336 IAmb IAmb 15 12 57.0
comp=Z,15nm,0.9s
NBAN Anadia - AL 48.60 108 eP P 15 12 58.9 +3.7
MSO Missoula 49.35 332 IAmb IAmb 15 13 05.6
comp=Z,8.9nm,0.9s
YBH Yreka Blue Hor 50.81 322 LR LR 15 35 13.1
comp=Z,218nm,20.3s,baz=144,slow=37
FFC Flin Flon 51.67 346 P 15 13 17.6 -0.2
H04A Detroit Lake 52.21 325 IAmb IAmb 15 13 25.3
comp=Z,15nm,1.1s
GNW Green Mountain 54.31 328 IAmb IAmb 15 13 40.0
comp=Z,14nm,0.9s
RKT Rikitea 58.33 239 eLR LR 15 31 08.0
comp=Z,3µm,34.2s
TAOE Nuku Hiva Isla 58.97 256 eS S 15 22 14.2 -3.5
comp=Z,71nm,25.8s
TAOE eLR LR 15 31 26.7
comp=Z,237nm,26.0s
FRB Frobisher Bay 59.22 7 LR LR 15 41 48.3
comp=Z,128nm,18.5s,baz=202,slow=38
BLKN Baker Lake 59.67 353 IAmb IAmb 15 14 18.9
comp=Z,7.9nm,1.1s
YKA Yellowknife Ar 61.71 344 P P 15 14 30.1 +1.1
comp=Z,9.1nm,0.9s,baz=141,slow=6.3,SNR=88
YKA LR LR 15 42 54.1
comp=Z,59nm,19.6s,baz=60,slow=38
comp=Z,9.1nm,0.9s
TOAD Toad River Com 62.61 337 P P 15 14 36.2 +1.0
baz=131
KOTAN Kotaneelee Air 63.01 338 P P 15 14 38.5 +0.7
baz=133
V35K Ketchikan 63.29 331 P P 15 14 39.5 -0.2
baz=123
T35M Bob Quinn 63.58 333 P P 15 14 41.5 -0.2
baz=125
ILON Igloolik, Nuna 63.97 0 P P 15 14 43.1 -0.9
ILON IAmb IAmb 15 14 46.9
comp=Z,9.3nm,1.0s
WRAK Wrangell Islan 64.23 332 P P 15 14 46.6 +0.8
baz=123
DLBC Dease Lake 64.33 335 LR LR 15 45 56.3
comp=Z,181nm,18.7s,baz=105,slow=39
DLBC Dease Lake 64.33 335 P P 15 14 47.4 +0.8
baz=126
U33K Whale Pass 64.43 331 P P 15 14 47.4 +0.2
baz=122
S34M Telegraph Cree 64.50 334 P P 15 14 48.6 +0.9
baz=124
WRGLY Wrigley 64.94 341 P P 15 14 52.0 +1.6
baz=134
R33M Jennings River 65.28 335 IAmb IAmb 15 14 56.4
comp=Z,9.8nm,0.9s
R33M Jennings River 65.28 335 P P 15 14 53.9 +1.0
baz=125
SFJD Kangerlussuaq 65.41 13 LR LR 15 41 39.8
comp=Z,78nm,21.9s,baz=219,slow=34
Q32M Nakina River 65.59 334 P P 15 14 56.2 +1.2
baz=124
BBTS Babate 65.64 76 LR LR 15 42 01.7
comp=Z,65nm,20.6s,baz=140,slow=35
S32K Killisnoo 65.82 332 P P 15 14 57.0 +0.8
baz=121
SIT Sitka 65.96 332 P P 15 14 58.1 +1.0
baz=120
R32K Eaglecrest 66.21 333 P P 15 14 59.0 +0.3
baz=121
P33M Teslin, Yukon 66.51 335 IAmb IAmb 15 15 05.9
comp=Z,15nm,1.2s
P33M Teslin, Yukon 66.51 335 P P 15 15 01.4 +0.7
baz=124
P32M Atlin 66.55 334 P P 15 15 01.7 +0.7
baz=123
S31K Pelican 66.84 332 P P 15 15 03.3 +0.6
baz=120
SKAG Skagway 67.19 334 P P 15 15 05.3 +0.4
baz=121
MMPY Sheldon Lake, 67.28 338 IAmb IAmb 15 15 09.2
comp=Z,15nm,1.2s
MMPY Sheldon Lake, 67.28 338 P P 15 15 05.4 -0.1
baz=126,SNR=5.0
FARO Faro, Yukon 67.85 337 P P 15 15 09.7 +0.5
baz=124
O30N Mendenhall 68.18 335 P P 15 15 11.4 +0.1
baz=121,SNR=5.6
P30M Million Dollar 68.23 334 P P 15 15 11.8 +0.2
baz=120
M31M Drury Creek, Y 68.24 337 P P 15 15 11.6 0.0
baz=123
P29M Windy Craggy 68.33 333 P P 15 15 11.7 -0.5
baz=119
N31M Braeburn, Yuko 68.42 336 P P 15 15 12.0 -0.8
baz=121
HYT Haines Junctio 68.81 335 P P 15 15 14.7 -0.6
baz=119
N30M Aishikik Lake 68.95 335 P P 15 15 15.5 -0.6
baz=120,SNR=7.0
O29M Mount Kennedy 69.03 334 P P 15 15 16.8 +0.2
baz=118
PNL Peninsula 69.10 333 P P 15 15 17.5 +0.5
baz=117
YUK6 Outpost Mounta 69.24 334 P P 15 15 18.2 +0.1
baz=119
M30M Minto, Yukon 69.39 336 IAmb IAmb 15 15 21.9
comp=Z,19nm,1.2s
M30M Minto, Yukon 69.39 336 P P 15 15 19.0 +0.3
baz=121,SNR=7.4
C36M Paulatuk 69.44 345 P P 15 15 19.5 +0.7
baz=136
YUK4 Talbot Arm 69.55 335 P P 15 15 19.3 -0.6
baz=119
PINM Pinnacle 69.68 333 P P 15 15 20.1 -0.5
baz=116
RES Resolute Bay 69.68 357 LR LR 15 46 19.9
comp=Z,170nm,19.4s,baz=202,slow=36
PPT Papeete 69.79 249 LR LR 15 38 54.9
comp=Z,159nm,18.6s,baz=101,slow=30
PPT2 Papeete2 69.79 249 eS S 15 24 27.2 -4.2
comp=Z,53nm,23.5s
PPT2 eSS SS 15 28 56.1 -4.2
comp=Z,80nm,28.2s
PPT2 eLR LR 15 36 27.3
comp=Z,183nm,24.8s
PPT2 eLR LR 15 36 28.9
comp=Z,143nm,28.2s
O28M Mount Upton 69.95 334 P P 15 15 22.5 0.0
baz=117
YUK8 Steele Glacier 70.00 334 P P 15 15 22.5 -0.3
baz=117
M29M Somme Creek 70.00 336 P P 15 15 22.3 -0.3
baz=119,SNR=9.3
L29M L29M 70.19 337 IAmb IAmb 15 15 26.9
comp=Z,15nm,1.1s
L29M L29M 70.19 337 P P 15 15 24.1 +0.4
baz=120,SNR=8.1
H31M Peel River 70.22 340 IAmb IAmb 15 15 27.3
comp=Z,17nm,1.3s
H31M Peel River 70.22 340 P P 15 15 24.0 +0.3
baz=124,SNR=6.5
J30M Hart River 70.25 338 IAmb IAmb 15 15 27.8
comp=Z,12nm,1.1s
J30M Hart River 70.25 338 P P 15 15 24.7 +0.5
baz=122,SNR=8.2
K29M Barlow Dome 70.32 337 IAmb IAmb 15 15 27.6
comp=Z,13nm,1.0s
K29M Barlow Dome 70.32 337 P P 15 15 25.0 +0.4
baz=120,SNR=10.0
MESA MESA 70.48 333 P P 15 15 26.0 +0.3
baz=115
YUK3 Moose Creek 70.52 335 P P 15 15 26.1 +0.2
baz=117,SNR=5.7
I30M Mount Dempster 70.61 339 IAmb IAmb 15 15 29.8
comp=Z,18nm,1.3s
I30M Mount Dempster 70.61 339 P P 15 15 26.9 +0.5
baz=122,SNR=10
G31M Satah River 70.82 341 P P 15 15 27.4 0.0
baz=124,SNR=6.3
J29N Klondike Camp 70.89 338 P P 15 15 28.5 +0.6
baz=120
F31M Tsiigehtchic 70.95 341 IAmb IAmb 15 15 33.5
comp=Z,15nm,1.1s
F31M Tsiigehtchic 70.95 341 P P 15 15 28.9 +0.8
baz=125,SNR=7.4
BVCY Beaver Creek 70.97 335 P P 15 15 28.8 +0.3
baz=117,SNR=6.3
TBI Tubuai 71.04 243 eLR LR 15 37 00.9
comp=Z,2µm,28.8s
TBI eLR LR 15 37 04.3
comp=Z,813nm,31.5s
BGLC Bering Glacier 71.06 333 P P 15 15 29.4 +0.5
baz=114
DAWY Dawson 71.15 337 P P 15 15 30.2 +0.7
baz=119,SNR=6.1
EPYK Eagle Plains 71.34 340 P P 15 15 31.4 +0.8
baz=122
I29M Ogilvie Camp, 71.38 339 P P 15 15 31.3 +0.4
baz=120
M27K Edge Creek, AK 71.38 335 P P 15 15 31.4 +0.4
baz=116
INK Inuvik 71.38 342 P P 15 15 31.0 +0.3
baz=126,SNR=13
G30M tAoh Zraii Nji 71.49 341 P P 15 15 32.3 +0.8
baz=122
KAIM Kayak Island 71.51 332 P P 15 15 31.7 0.0
baz=112
A36M Sachs Harbour 71.60 347 P P 15 15 32.6 +0.6
baz=135,SNR=45
BCAR Beaver Creek A 71.65 336 P 15 15 32.7 +0.1
L27K Beaver Creek, 71.66 336 IAmb IAmb 15 15 36.2
comp=Z,18nm,1.1s
L27K Beaver Creek, 71.66 336 P P 15 15 32.9 +0.3
baz=116,SNR=12
F30M Barrier River 71.69 341 P P 15 15 32.7 +0.1
baz=123,SNR=11
GLB Gilahina Butte 71.83 334 IAmb IAmb 15 15 37.7
comp=Z,17nm,1.2s
H29M Whitestone 71.83 339 P P 15 15 34.3 +0.8
baz=120,SNR=7.9
M26K Nabesna, AK 71.87 335 P P 15 15 33.9 0.0
baz=115
BMRM Bremner River 72.00 333 P P 15 15 34.8 +0.1
baz=113
I28M Miner Creek 72.02 338 IAmb IAmb 15 15 41.7
comp=Z,13nm,1.4s
I28M Miner Creek 72.02 338 P P 15 15 35.4 +0.6
baz=118
G29M Pine Creek 72.06 340 P P 15 15 35.8 +0.9
baz=121,SNR=7.5
K27K Chicken 72.19 337 P P 15 15 36.5 +0.8
baz=116
N25K Chitina, Valde 72.24 334 P P 15 15 37.1 +1.0
baz=113
L26K Log Cabin Wild 72.27 335 P P 15 15 36.6 +0.3
baz=114,SNR=5.8
EYAK Cordova Ski Ar 72.36 332 P P 15 15 36.7 -0.1
baz=112
SUMG Summit 72.39 13 P 15 15 37.1 -0.1
I27K Kandik River 72.71 338 P P 15 15 39.5 +0.7
baz=117,SNR=19
E29M Blow River 72.78 341 IAmb IAmb 15 15 48.7
comp=Z,12nm,1.2s
E29M Blow River 72.78 341 P P 15 15 40.1 +1.0
baz=121,SNR=7.5
KLU Klutina 72.78 333 P P 15 15 39.9 +0.5
baz=112
HARP HAARP 72.79 334 P P 15 15 40.1 +0.7
baz=113
DOT Dot Lake 72.82 336 IAmb IAmb 15 15 42.7
comp=Z,14nm,1.0s
SCRK Sand Creek 72.93 336 P P 15 15 40.5 +0.2
baz=114,SNR=7.6
P23K Montague Islan 72.94 332 P P 15 15 40.8 +0.6
baz=110
H27K Steamboat Moun 72.96 339 IAmb IAmb 15 15 44.3
comp=Z,12nm,1.1s
H27K Steamboat Moun 72.96 339 P P 15 15 40.6 +0.2
baz=117,SNR=16
J26L Joseph Creek 72.97 337 IAmb IAmb 15 15 44.0
comp=Z,17nm,1.0s
J26L Joseph Creek 72.97 337 P P 15 15 40.3 -0.2
baz=115,SNR=16
GLI Glacier Island 73.10 333 P P 15 15 41.3 +0.1
baz=110
M24K Tolsona, Glenn 73.12 334 P P 15 15 39.9 -1.5
baz=112
PAX Paxson 73.14 335 P P 15 15 41.1 -0.4
baz=112
I26K Coal Creek Min 73.16 338 P P 15 15 41.4 -0.1
baz=115
RIDG Independent Ri 73.18 336 IAmb IAmb 15 15 44.9
comp=Z,12nm,1.0s
RIDG Independent Ri 73.18 336 P P 15 15 41.1 -0.5
baz=113,SNR=5.7
G27K Doyon Strip 73.27 339 IAmb IAmb 15 15 46.8
comp=Z,19nm,1.6s
G27K Doyon Strip 73.27 339 P P 15 15 41.7 -0.4
baz=117,SNR=9.4
BORG Borgarnes 73.28 23 LR LR 15 44 02.2
comp=Z,77nm,21.0s,baz=234,slow=33
E28M Babbage River 73.41 341 IAmb IAmb 15 15 51.2
comp=Z,8.9nm,1.1s
E28M Babbage River 73.41 341 P P 15 15 43.0 +0.1
baz=120,SNR=15
D28M Stokes Point 73.53 342 P P 15 15 43.2 -0.3
baz=121,SNR=13
SCM Sheep Creek Mo 73.53 333 P P 15 15 43.2 -0.6
baz=110
K24K Donnelly Dome 73.59 336 P P 15 15 44.0 0.0
baz=112
M23K Glacier View 73.70 333 P P 15 15 44.4 -0.4
baz=110,SNR=5.4
J25K Salcha River, 73.73 336 P P 15 15 44.4 -0.6

baz=113,SNR=7.7
E27K Coleen River 73.88 341 P **P** **15 15 45.1 -0.6**
baz=118,SNR=9.4
KNK Knik Glacier 73.90 333 P **P** **15 15 45.9 0.0**
baz=109,SNR=7.3
SEW Seward 73.95 331 P **P** **15 15 46.1 -0.1**
baz=108
SML Sawmill 73.97 333 P **P** **15 15 45.5 -0.8**
baz=109
G26K Porcupine Rive 74.09 339 P **P** **15 15 46.3 -0.6**
baz=115
PRP Porcupine Dome 74.15 337 IAmb IAmb 15 15 50.3
comp=Z,18nm,1.5s
PRP Porcupine Dome 74.15 337 P **P** **15 15 47.4 -0.1**
baz=113,SNR=7.6
D27M Malcolm River 74.18 342 P **P** **15 15 47.2 -0.3**
baz=118
O22K Cooper Landing 74.19 332 P **P** **15 15 47.2 -0.3**
baz=108
PMR Palmer 74.26 333 P **P** **15 15 47.8 -0.2**
baz=109
HDA Harding Lake 74.29 336 P **P** **15 15 47.3 -0.8**
baz=111,SNR=12
RC01 Rabbit Creek A 74.38 332 P **P** **15 15 48.1 -0.6**
baz=108
ILAR Eielson Array 74.40 336 **P** **15 15 49.4 +0.6**
ILAR Eielson Array 74.40 336 P **P** **15 15 50.0 +1.3**
comp=Z,3.7nm,0.9s,baz=120,slow=3.9,SNR=38
ILAR PP **PP** **15 18 36.0 +1.1**
comp=Z,0.6nm,0.9s,baz=105,slow=6.2,SNR=4.1
ILAR LR LR 15 51 37.8
comp=Z,113nm,19.1s,baz=100,slow=38
comp=Z,3.7nm,0.9s
BRSE Bradley Lake S 74.46 331 P **P** **15 15 48.8 -0.4**
baz=107
F26K Sheenjek River 74.53 340 P **P** **15 15 49.1 -0.4**
baz=115,SNR=10
BMAR Burnt Mountain 74.57 339 **P** **15 15 51.3 +1.6**
EUNU Eureka 74.73 359 IAmb IAmb 15 15 55.0
comp=Z,13nm,1.1s
POKR Poker Plat Res 74.74 337 P **P** **15 15 50.5 -0.2**
baz=111
G25K Bearman Lake 74.85 338 P **P** **15 15 50.8 -0.5**
baz=113,SNR=11
KDAK Kodiak Island 74.86 329 LR LR 15 50 02.7
comp=Z,71nm,21.2s,baz=298,slow=37
KDAK Kodiak Island 74.86 329 P **P** **15 15 51.0 -0.5**
baz=104
MCK McKinley 74.87 335 IAmb IAmb 15 15 57.9
comp=Z,15nm,1.0s
MCK McKinley 74.87 335 P **P** **15 15 51.1 -0.4**
baz=109,SNR=7.5
HOM Homer 74.88 331 P **P** **15 15 51.2 -0.4**
baz=106
CAPN Captain Cook N 74.95 332 P **P** **15 15 51.4 -0.6**
baz=107
SUA Susitna One 74.96 333 IAmb IAmb 15 15 54.5
comp=Z,10nm,0.9s
SUA Susitna One 74.96 333 P **P** **15 15 51.8 -0.4**
baz=107
Q20K Shuyak Island 74.97 329 P **P** **15 15 51.5 -0.7**
baz=105
F25K Christian Rive 75.01 339 P **P** **15 15 52.1 -0.3**
baz=114,SNR=8.3
CUT Chulitna 75.03 334 P **P** **15 15 51.7 -0.7**
baz=108,SNR=5.3
OHAK Old Harbor 75.09 328 P **P** **15 15 52.4 -0.5**
baz=104
H24K Noodor Dome 75.17 337 IAmb IAmb 15 15 56.3
comp=Z,17nm,1.1s
H24K Noodor Dome 75.17 337 P **P** **15 15 52.5 -0.8**
baz=111,SNR=12
E25K Arctic Village 75.20 340 P **P** **15 15 52.9 -0.4**
baz=114,SNR=11
NEA2 Nenana 75.22 336 P **P** **15 15 53.0 -0.5**
baz=110
C27K Jago River 75.22 342 P **P** **15 15 53.3 -0.1**
baz=116,SNR=6.9
G24K Hadweenzic Riv 75.33 338 IAmb IAmb 15 15 57.6
comp=Z,17nm,1.2s
G24K Hadweenzic Riv 75.33 338 P **P** **15 15 54.1 0.0**
baz=112,SNR=10
TRF Thorofare Moun 75.36 335 IAmb IAmb 15 16 03.8
comp=Z,10nm,1.0s
TRF Thorofare Moun 75.36 335 P **P** **15 15 54.0 -0.5**
baz=108,SNR=7.0
SII Sitkinak Islan 75.42 327 P **P** **15 15 53.9 -0.9**
baz=103
SKT Skwentna 75.47 333 IAmb IAmb 15 15 57.6
comp=Z,15nm,1.0s
SKT Skwentna 75.47 333 P **P** **15 15 54.3 -0.8**
baz=106,SNR=8.3
I23K Minto, Yukon-K 75.52 336 P **P** **15 15 54.8 -0.3**
baz=109,SNR=9.6
P19K Oil Pt 75.65 330 P **P** **15 15 55.8 -0.3**
baz=104
KTH Kantishna Hill 75.66 335 IAmb IAmb 15 15 58.5
comp=Z,14nm,1.0s
Q19K Cape Douglas, 75.68 330 P **P** **15 15 55.6 -0.7**
baz=104
C26K Camden Bay 75.72 342 P **P** **15 15 56.2 0.0**
baz=115,SNR=20
F24K Squaw Lake 75.78 339 P **P** **15 15 56.7 0.0**
baz=111,SNR=7.7
H23K Yukon River 75.81 337 P **P** **15 15 56.9 0.0**
baz=109
BPAW Bear Paw Mtn. 75.85 335 IAmb IAmb 15 15 59.5
comp=Z,11nm,0.9s
BPAW Bear Paw Mtn. 75.85 335 P **P** **15 15 56.9 -0.2**
baz=108,SNR=9.6
D25K Kavik River 75.94 341 P **P** **15 15 57.6 0.0**
baz=113,SNR=17
PPLA Purkeypile 76.02 334 P **P** **15 15 58.2 -0.1**
baz=106,SNR=6.0
CHIR Chirikof Islan 76.06 326 P **P** **15 15 58.8 +0.4**
baz=101
CAST Castle Rocks 76.12 334 IAmb IAmb 15 16 00.8
comp=Z,12nm,1.0s
CAST Castle Rocks 76.12 334 P **P** **15 15 58.7 0.0**
baz=106,SNR=8.7
M20K Styx River 76.17 333 IAmb IAmb 15 16 01.4
comp=Z,7.5nm,0.8s
M20K Styx River 76.17 333 P **P** **15 15 59.3 +0.2**
baz=105
E24K Your Creek 76.19 339 P **P** **15 15 59.7 +0.7**
baz=111
G23K Bananza Creek 76.29 338 P **P** **15 15 59.6 0.0**
baz=109,SNR=14
Q18K Katmai Hardscr 76.31 329 P **P** **15 15 59.7 -0.3**
baz=103
CHUM Lake Minchumin 76.35 335 P **P** **15 16 00.8 +0.9**
baz=106
COLD Coldfoot 76.52 338 P **P** **15 16 01.4 +0.6**
baz=109,SNR=7.3
H22K Ishtalitna Cre 76.55 337 P **P** **15 16 01.3 +0.2**
baz=108
I21K Tanana 76.58 336 P **P** **15 16 01.3 +0.1**
baz=107
E23K Chandalar 76.59 339 IAmb IAmb 15 16 04.8
comp=Z,13nm,1.1s
E23K Chandalar 76.59 339 P **P** **15 16 02.0 +0.7**
baz=110,SNR=18
L20K Farewell, AK 76.66 333 P **P** **15 16 01.7 -0.1**
baz=104,SNR=12
O18K Koktuh Hills 76.67 330 P **P** **15 16 01.4 -0.5**
baz=103
M19K Big River Lodg 76.75 333 IAmb IAmb 15 16 46.6
comp=Z,14nm,0.9s
M19K Big River Lodg 76.75 333 P **P** **15 16 02.4 0.0**
baz=104
TOLK Toolik Lake Re 76.77 340 P **P** **15 16 02.5 +0.2**
baz=110
C24K Franklin Bluff 76.85 341 P **P** **15 16 02.8 +0.1**
baz=111
G22K Bettles 76.91 338 P **P** **15 16 03.2 +0.1**
baz=108
K20K Telida 76.97 334 P **P** **15 16 03.9 +0.4**
baz=104,SNR=8.2
L19K White Mountain 77.03 333 P **P** **15 16 04.1 +0.2**
baz=104
H21K Melozitna Rive 77.05 336 P **P** **15 16 04.0 +0.2**
baz=106
MDT Midelt 77.14 58 LR LR 15 47 56.9
comp=Z,63nm,18.2s,baz=330,slow=34
P17K Kvichak River 77.15 330 P **P** **15 16 04.8 +0.3**
baz=102
Q16K King Salmon 77.16 329 P **P** **15 16 04.6 0.0**
baz=101

N18K Kilae Creek 77.18 331 IAmb IAmb 15 16 09.1
comp=Z,21nm,1.3s
N18K Kilae Creek 77.18 331 P **P** **15 16 04.6 -0.2**
baz=102,SNR=5.9
J20K Nowinta River 77.20 335 P **P** **15 16 04.9 +0.1**
baz=105,SNR=9.6
D23K Nanushuk River 77.26 340 IAmb IAmb 15 16 08.6
comp=Z,14nm,1.2s
D23K Nanushuk River 77.26 340 P **P** **15 16 06.5 +1.5**
baz=109,SNR=9.5
M18K Stony River 77.33 332 P **P** **15 16 05.2 -0.3**
baz=102,SNR=6.4
DBIC Dimbokro 77.36 84 P **P** **15 16 08.2 +1.5**
comp=Z,3.4nm,0.9s,baz=288,slow=6.6,SNR=5.0
comp=Z,3.4nm,0.9s
E22K Anaktuvuk Pass 77.39 339 P **P** **15 16 06.2 +0.4**
baz=108
C23K Itkillik River 77.52 341 IAmb IAmb 15 16 09.6
comp=Z,13nm,1.2s
C23K Itkillik River 77.52 341 P **P** **15 16 07.8 +1.4**
baz=109,SNR=7.2
O17K Koliganek Bris 77.59 330 P **P** **15 16 07.5 +0.5**
baz=101,SNR=5.5
F21K Alatna River 77.74 338 P **P** **15 16 08.4 +0.6**
baz=106
N17K Nushagak Hills 77.78 331 P **P** **15 16 08.5 +0.4**
baz=101
J19K Poorman 77.79 334 P **P** **15 16 08.4 +0.3**
baz=103
L18K Granite Mounta 77.88 333 IAmb IAmb 15 16 13.6
comp=Z,14nm,1.4s
L18K Granite Mounta 77.88 333 P **P** **15 16 08.6 0.0**
baz=102
P16K Nushagak River 77.91 329 P **P** **15 16 08.7 0.0**
baz=100
D22K Ayikyak River 77.92 340 P **P** **15 16 07.3 -1.4**
baz=107
ESDC Sonseca Array 77.96 51 **P** **15 16 10.2 +0.6**
ESDC Sonseca Array 77.96 51 P **P** **15 16 11.2 +1.6**
comp=Z,6.9nm,1.0s,baz=269,slow=5.0,SNR=20
comp=Z,6.9nm,1.0s
O16K Kokwok River B 78.06 330 P **P** **15 16 08.2 -1.4**
baz=100
M17K Holitna River 78.07 332 P **P** **15 16 08.4 -1.3**
baz=101
CHNA Chernabura Isl 78.13 325 P **P** **15 16 08.4 -1.7**
baz=98
J18K Innoko River 78.15 334 P **P** **15 16 09.1 -1.0**
baz=102,SNR=6.3
S14K Fog Glacier 78.31 326 P **P** **15 16 09.5 -1.7**
baz=98
N16K Nishlik Lake 78.54 331 P **P** **15 16 11.8 -0.5**
baz=100
B22K Teshekpuk Lake 78.59 341 IAmb IAmb 15 16 17.4
comp=Z,11nm,1.0s
B22K Teshekpuk Lake 78.59 341 P **P** **15 16 11.6 -0.8**
baz=107,SNR=11
L17K Donlin 78.60 332 P **P** **15 16 11.8 -0.8**
baz=100
SDPT Sand Point 78.70 325 P **P** **15 16 12.6 -0.6**
baz=97
K17K Iditarod 78.71 333 IAmb IAmb 15 16 15.7
comp=Z,11nm,0.9s
K17K Iditrod 78.71 333 P **P** **15 16 12.2 -1.0**
baz=100,SNR=5.3
C21K Knifeblade Rid 78.72 340 P **P** **15 16 12.4 -0.7**
baz=105
M16K Timber Creek 78.72 331 P **P** **15 16 12.7 -0.6**
baz=100
B21K Ikpikpuk River 78.79 340 P **P** **15 16 13.3 -0.1**
baz=105,SNR=6.7
O15K Ungalikthiuk R 78.86 329 P **P** **15 16 13.2 -0.9**
baz=98
E20K Nigu River 79.00 339 P **P** **15 16 14.2 -0.6**
baz=104
L16K Owhat River 79.08 332 **P** **15 16 17.4 +2.2**
L16K IAmb IAmb 15 16 18.5
comp=Z,14nm,1.1s
L16K Owhat River 79.08 332 P **P** **15 16 15.9 +0.7**
baz=99,SNR=6.7
N15K Kwethluk River 79.14 330 P **P** **15 16 14.8 -0.8**
baz=98
J17K VABM Dome 79.18 334 P **P** **15 16 14.6 -1.1**
baz=100,SNR=7.9
D20K Etivluk River 79.26 339 P **P** **15 16 15.6 -0.5**
baz=103
A22K Sinclair Lake 79.27 341 P **P** **15 16 15.6 -0.4**
baz=105
F19K Shaleruckik Mo 79.28 337 P **P** **15 16 15.9 -0.3**
baz=102
G18K Tagagawik 79.45 336 P **P** **15 16 16.4 -0.8**
baz=101
M15K Kasigluk River 79.51 331 P **P** **15 16 16.6 -1.0**
baz=98
O14K Tigyukauivet M 79.61 329 P **P** **15 16 17.1 -1.0**
baz=97
S12K Black Hills 79.64 326 P **P** **15 16 17.2 -1.2**
baz=96
EKA Eskdalemuir Ar 79.70 35 P **P** **15 16 20.6 +1.9**
comp=Z,5.6nm,0.9s,baz=257,slow=7.6,SNR=6.4
comp=Z,5.6nm,0.9s
B20K Meade River 79.74 340 P **P** **15 16 17.4 -1.3**
baz=103,SNR=5.6
H17K Granite Mounta 79.80 335 P **P** **15 16 18.0 -1.1**
baz=100
J16K Anvik River 79.84 333 P **P** **15 16 19.1 -0.2**
baz=99
A21K Barrow 79.86 342 P **P** **15 16 19.3 +0.1**
baz=104
JMIC Jan Mayen 79.88 19 LR LR 15 50 25.5
comp=Z,56nm,20.5s,baz=74,slow=35
N14K Kuskokwak Cree 79.90 330 P **P** **15 16 18.7 -1.0**
baz=97
RAR Rarotonga 79.93 247 LR LR 15 43 12.4
comp=Z,78nm,21.1s,baz=44,slow=29
I17K Unalakleet 79.97 334 P **P** **15 16 19.6 -0.4**
baz=99
F18K Selawik 79.97 337 P **P** **15 16 19.2 -0.8**
baz=100
L15K Ungalak Mounta 80.03 332 P **P** **15 16 19.4 -1.0**
baz=98
K15K Wolf Creek Mou 80.12 332 P **P** **15 16 20.4 -0.5**
baz=98
M14K Bethel 80.14 331 P **P** **15 16 20.7 -0.3**
baz=97
L14K Kuka Creek 80.55 331 P **P** **15 16 22.9 -0.3**
baz=96
H16K Elim 80.74 335 P **P** **15 16 24.1 0.0**
baz=97
M13K Dall Lake 80.78 330 P **P** **15 16 23.3 -1.1**
baz=96
G16K Koyuk River 80.88 335 P **P** **15 16 24.3 -0.5**
baz=97
C18K Utukok River 80.89 339 P **P** **15 16 24.6 -0.3**
baz=99
E17K Hotham Inlet 80.90 337 P **P** **15 16 24.4 -0.5**
baz=98
A19K Wainwright 81.09 340 P **P** **15 16 26.1 +0.2**
baz=99
J14K Nanvaranak Lak 81.11 333 P **P** **15 16 25.1 -1.1**
baz=96,SNR=6.1
B18K Kokolik River 81.21 339 P **P** **15 16 26.7 +0.1**
baz=98
RDOG Red Dog Mine 81.44 338 IAmb IAmb 15 16 39.6
comp=Z,12nm,1.3s
RDOG Red Dog Mine 81.44 338 P **P** **15 16 27.7 -0.2**
baz=97
D17K Noatak River 81.46 338 P **P** **15 16 27.5 -0.4**
baz=97
G15K Niukluk 81.55 335 P **P** **15 16 27.8 -0.7**
baz=96
K13K Kusilvak Mount 81.55 332 P **P** **15 16 28.0 -0.5**
baz=95
F15K North Star Dit 81.87 336 P **P** **15 16 29.7 -0.5**
baz=95
ANM Nome 82.08 334 P **P** **15 16 30.4 -0.9**
baz=94
M11K Mekoryuk 82.19 330 P **P** **15 16 31.2 -0.7**
baz=93
C16K Lisburne Hills 82.36 338 P **P** **15 16 32.4 -0.3**
baz=95
F14K Arctic Creek 82.55 335 P **P** **15 16 33.4 -0.3**
baz=94
TNA Tin City 83.21 335 P **P** **15 16 37.2 +0.1**
baz=92
TORD Torodi Ar. Bea 83.37 77 **P** **15 16 37.4 -1.5**
TORD IAmb IAmb 15 16 42.3
comp=Z,14nm,1.8s

GAMB Gambell 84.83 334 P **P** **15 16 45.0 -0.4**
baz=89
SPITS Spitsbergen Ar 86.70 12 LR LR 15 55 11.2
comp=Z,57nm,21.9s,baz=224,slow=35
NB2 NORSAR Subarra 87.29 29 P **P** **15 17 00.1 +2.4**
comp=Z,12nm,1.2s,baz=278,slow=5.1
NOA NORSAR Array B 87.29 29 P **P** **15 16 59.2 +1.5**
comp=Z,4.2nm,1.1s,baz=277,slow=4.7,SNR=6.9
NOA LR LR 15 53 03.6
comp=Z,31nm,20.2s,baz=265,slow=34
comp=Z,4.2nm,1.1s
DAVOX Davos/Dischmat 87.94 43 LR LR 15 52 26.3
comp=Z,47nm,18.4s,baz=264,slow=33
HFS Hagfors 88.62 30 LR LR 15 59 02.5
comp=Z,45nm,18.4s,baz=285,slow=37
GERES GERESS Array B 90.25 41 P **P** **15 17 14.1 +2.0**
comp=Z,1.2nm,0.8s,baz=278,slow=3.6,SNR=6.3
comp=Z,1.2nm,0.8s
ARCES ARCESS Array B 91.34 20 LR LR 15 53 07.4
comp=Z,47nm,21.6s,baz=276,slow=32
VRAC Vranov 92.05 40 LR LR 15 51 37.5
comp=Z,150nm,21.0s,baz=283,slow=31
FINES FINESS Array B 94.21 27 LR LR 15 56 53.0
comp=Z,42nm,21.2s,baz=283,slow=34
QSPA South Pole Qui 95.33 180 P **P** **15 17 37.3 +2.3**
comp=Z,2.7nm,1.1s,baz=165,slow=1.2,SNR=6.8
comp=Z,2.7nm,1.1s
MLR Muntele Rosu 99.13 42 LR LR 15 58 33.4
comp=Z,52nm,19.6s,baz=266,slow=33
AKASG Malin Array Be 99.53 37 LR LR 15 57 56.6
comp=Z,58nm,20.6s,baz=276,slow=32
SYO Syowa Base 106.11 162||*e*Pdiff **Pdif** **15 18 22.0 -1.0**
H11N3 WAKE ISLAND Hyl07.21 292 T T 17 18 25.9
baz=79,slow=75,SNR=36
H11N2 WAKE ISLAND Hyl07.22 292 T T 17 18 26.6
baz=79,slow=75,SNR=26
H11N1 WAKE ISLAND Hyl07.23 292 T T 17 18 25.8
baz=79,slow=75,SNR=26
H11S2 WAKE ISLAND Hyl07.66 291 T T 17 18 59.8
baz=77,slow=75,SNR=7.4
H11S1 WAKE ISLAND Hyl07.66 291 T T 17 19 02.5
baz=77,slow=75,SNR=8.9
H11S3 WAKE ISLAND Hyl07.67 291 T T 17 19 00.7
baz=77,slow=75,SNR=6.8
KURBB Kurchatov Arra 121.98 14 PKP **PKiKP** **15 23 06.3 +0.5**
comp=Z,0.5nm,0.8s,baz=330,slow=2.4,SNR=4.2
MKAR Makanchi Array 126.44 13 PKP **PKPdf** **15 23 14.5 +0.1**
comp=Z,0.6nm,1.0s,baz=337,slow=1.5,SNR=3.9
SONM Songino Array 126.47 352 PKP **PKPdf** **15 23 14.6 +0.1**
comp=Z,0.6nm,0.6s,baz=23,slow=2.2,SNR=2.0
WMQ Urumqi 130.33 9 *e*PKP **PKPdf** **15 23 21.3 -0.6**
WMQ LR LR
comp=Z,100nm,23.1s
HHC Hu-ho-hao-te 132.23 345 *e*P **PKPdf** **15 23 20.5 -5.2**
NJ2 Nanjing 137.55 332 *e*P **PKPdf** **15 23 33.3 -2.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
ASAR Alice Springs 140.32 239 PKhKP PKPpre 15 23 32.4
comp=Z,0.5nm,0.6s,baz=111,slow=3.2,SNR=5.5
WRA Warramunga Arr 141.16 245 PKP **PKiKP** **15 23 44.3 -1.0**
comp=Z,1.2nm,0.8s,baz=106,slow=2.9,SNR=4.7
CD2 Chengdu 143.46 351 PKP PKPab 15 23 42.0 -0.6
H01W1 Cape Leeuwin H 146.69 206 T T 18 08 34.8
baz=150,slow=76,SNR=6.4
H01W2 Cape Leeuwin H 146.70 206 T T 18 08 33.7
baz=150,slow=76,SNR=6.3
H01W3 Cape Leeuwin H 146.71 206 T T 18 08 37.1
baz=150,slow=76,SNR=5.2
PZH PanZhiHua 148.08 352 PKPbc **PKPbc** **15 23 57.8 +0.1**
CMAR Chiang Mai Arr 156.32 356 PKP **PKPdf** **15 24 08.2 +1.3**
comp=Z,0.2nm,0.3s,baz=289,slow=1.8,SNR=4.2
CMAR PKPab **PKPab** **15 24 35.0 +0.3**
comp=Z,1.8nm,0.9s,baz=348,slow=4.6,SNR=9.2

UCR 26 15:06:57.1±1.2,**3.76N**×**82.18W,h10**km,**MW4.0,South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	**Carate, Puerto**	**4.76**	**346**	*e*P	Pn	15 08 07.9	-1.0
NELY	**Ciudad Neily**	**4.92**	**351**	*e*P	Pn	15 08 11.2	0.0
EDAD	**Golfito**	**4.96**	**349**	*e*P	Pn	15 08 10.8	-1.0
BRU2	**Volcan**	**5.03**	**354**	*e*P	Pn	15 08 12.9	+0.1
ALCO	**Alturas Coton,**	**5.20**	**353**	*e*P	Pn	15 08 15.0	-0.2
EDP2	**Potrero Grande**	**5.32**	**349**	*e*P	Pn	15 08 17.0	+0.3
FIMO	**Fila Mora**	**5.33**	**347**	*e*P	Pn	15 08 17.2	+0.3
SAJE	**San Jernim**	**5.71**	**347**	*e*P	Pn	15 08 21.9	-0.3
CEUA	**Cerro Uatsi, L**	**5.88**	**353**	*e*P	Pn	15 08 26.9	+2.5
LLNJ	**Naranjito**	**5.99**	**342**	*e*P	Pn	15 08 25.5	-0.4
PIEC	**Cerro El Cedra**	**6.09**	**343**	*e*P	Pn	15 08 27.1	-0.4
PISJ	**San Jernim**	**6.15**	**342**	*e*P	Pn	15 08 28.1	-0.1
PICV	**PH. Pirrs**	**6.17**	**341**	*e*P	Pn	15 08 28.1	-0.3
ABE2	**San Pablo**	**6.20**	**343**	*e*P	Pn	15 08 29.0	+0.1
LCR2	**La Lucha 2**	**6.22**	**343**	*e*P	Pn	15 08 29.0	-0.2
ACOS	**Acosta**	**6.32**	**342**	*e*P	Pn	15 08 30.1	-0.4
VERB	**Verbena**	**6.33**	**346**	*e*P	Pn	15 08 31.6	+0.9
VTCV	**VTCV, Calle Va**	**6.37**	**346**	*e*P	Pn	15 08 31.6	+0.3
CVTV	**Tajo**	**6.40**	**346**	*e*P	Pn	15 08 32.9	+1.1
CVTQ	**Turrialba Volc**	**6.41**	**346**	*e*P	Pn	15 08 32.9	+0.9
VICA	**Volcano Irazu**	**6.41**	**345**	*e*P	Pn	15 08 32.7	+0.7
VTLA	**Turrialba Volc**	**6.41**	**346**	*e*P	Pn	15 08 32.8	+0.9
VTR0	**Volcan Turrial**	**6.42**	**346**	*e*P	Pn	15 08 33.3	+1.2
CVTR	**Volcan Turrial**	**6.42**	**346**	*e*P	Pn	15 08 33.2	+1.1
CVIMO	**Finca Echandi**	**6.47**	**344**	*e*P	Pn	15 08 33.5	+0.9
CVTG	**V. Turrialba,**	**6.54**	**346**	*e*P	Pn	15 08 34.5	+1.0
VBV1	**V. Barva**	**6.60**	**343**	*e*P	Pn	15 08 34.9	+0.3
VPS8	**V Poas**	**6.70**	**342**	*e*P	Pn	15 08 36.1	+0.1
JCR1	**Jicaral**	**6.72**	**335**	*e*P	Pn	15 08 35.6	-0.4
VPL2	**V. Platanar**	**6.87**	**342**	*e*P	Pn	15 08 38.4	+0.3
NYURE	**Nandayure**	**6.91**	**334**	*e*P	Pn	15 08 38.5	0.0
SOCE	**Pocosol**	**7.01**	**340**	*e*P	Pn	15 08 40.5	+0.5
JTS	**Las Juntas de**	**7.05**	**337**	*e*P	Pn	15 08 40.6	+0.1
ARE1	**Arenal 1**	**7.12**	**339**	*e*P	Pn	15 08 42.8	+1.3
VARE2	**V. Arenal**	**7.12**	**339**	*e*P	Pn	15 08 42.9	+1.4
CEDE	**Laguna Cedeo**	**7.14**	**340**	*e*P	Pn	15 08 43.1	+1.4
COLC	**Colonia**	**7.49**	**337**	*e*P	Pn	15 08 48.7	+2.2
VMAR	**Armenia, Volca**	**7.59**	**338**	*e*P	Pn	15 08 49.0	+1.1
VRLE	**La Escondida,**	**7.67**	**336**	*e*P	Pn	15 08 51.0	+1.9

TAP ***26*** *15:23:38.9,24.°05N×121.°55E,h12*km*,ML2.5,B*
ISC 26 15:23:39.0±**0.8,24.°05N**±**0.°01**×**121.°56E**±**0.°02,h14**km±**4**km**,**
n98,σ°49/**184,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.05**	**45**	*i* P	**Pg**	**15 23 41.6**	**0.0**
TWD				S	**Sg**	**15 23 43.5**	**+0.2**
HWA	**Hwalien**	**0.08**	**149**	*i* P	**Pg**	**15 23 42.2**	**+0.3**
HWA				S	**Sg**	**15 23 44.9**	**+1.0**
ETM	**Tongmen**	**0.10**	**217**	*i* P	**Pg**	**15 23 42.0**	**-0.1**
ETM				*i* S	**Sg**	**15 23 44.2**	**-0.1**
ETL	**Fush Village**	**0.12**	**27**	*i* P	**Pg**	**15 23 42.4**	**-0.1**
ETL				S	**Sg**	**15 23 44.8**	**-0.1**
NACB	**Ninganchiao**	**0.13**	**14**	P	**Pg**	**15 23 42.3**	**-0.2**
NACB	**Ninganchiao**	**0.13**	**14**	S	**Sg**	**15 23 44.7**	**-0.2**
NACB	**Ninganchiao**	**0.13**	**14**	P	**Pg**	**15 23 42.4**	**-0.1**
NACB				*e*S	**Sg**	**15 23 44.9**	**0.0**
LXIB	**Xiulin Townshi**	**0.14**	**259**	*i* P	**Pg**	**15 23 42.6**	**-0.1**
LXIB				S	**Sg**	**15 23 45.3**	**+0.1**
ETLH	**Xiulin Townshi**	**0.17**	**336**	P	**Pg**	**15 23 43.2**	**-0.1**
ETLH				S	**Sg**	**15 23 46.0**	**-0.1**
TEYL	**Yanliau Villag**	**0.18**	**169**	*i* P	**Pg**	**15 23 42.9**	**-0.3**
TEYL				*e*S	**Sb**	**15 23 47.6**	**0.0**
SHUL	**Shoufeng**	**0.26**	**179**	P	**Pg**	**15 23 44.7**	**+0.2**
SHUL				*i* S	**Sb**	**15 23 49.2**	**-0.6**
ESL	**Shilin**	**0.26**	**207**	*i* P	**Pg**	**15 23 44.0**	**-0.5**
ESL				*e*S	**Sg**	**15 23 47.7**	**-0.6**
WHF	**Hehuan Shan**	**0.29**	**290**	*i* P	**Pg**	**15 23 45.2**	**-0.1**
WHF				*i* S	**Sg**	**15 23 49.4**	**-0.1**
EAHA	**Aohua**	**0.33**	**30**	*e*P	**Pg**	**15 23 46.0**	**+0.3**
EAHA				*e*S	**Sg**	**15 23 50.2**	**0.0**
TEGC	**Jichi Village**	**0.34**	**183**	*e*P	**Pg**	**15 23 46.2**	**+0.3**
TEGC				*e*S	**Sb**	**15 23 53.0**	**+1.0**
FUSS	**Fushou**	**0.35**	**305**	*i* P	**Pg**	**15 23 46.5**	**+0.2**
FUSS				*i* S	**Sg**	**15 23 51.7**	**+0.5**
OWD	**Renai**	**0.36**	**255**	P	**Pg**	**15 23 46.5**	**+0.1**
OWD				*e*S	**Sg**	**15 23 51.1**	**-0.4**
WARBT	**Fenglin Townsh**	**0.36**	**206**	P	**Pg**	**15 23 45.8**	**-0.7**
WARBT				S	**Sg**	**15 23 50.8**	**-0.6**
EGFH	**Guangfu**	**0.40**	**198**	*i* P	**Pg**	**15 23 46.7**	**-0.3**
EGFH				*e*S	**Sg**	**15 23 52.9**	**+0.6**
TWT	**Tachien**	**0.41**	**300**	P	**Pb**	**15 23 47.9**	**-0.3**

TWT				eS	Sb	15 23 53.9	-0.4
WUSB	Renai	0.41	262	P	Pg	15 23 47.5	+0.3
WUSB				i S	Sg	15 23 53.0	+0.2
NNSB	Datong	0.41	337	P	Pg	15 23 47.5	+0.2
NNSB				i S	Sg	15 23 53.1	+0.1
NNSH	Datong	0.41	337	P	Pg	15 23 47.6	+0.2
NNSH				S	Sg	15 23 52.8	-0.1
ENA	Nanau	0.41	24	i P	Pg	15 23 47.2	-0.1
ENA				eS	Sg	15 23 52.9	0.0
TDCB	Techi	0.42	299	eP	Pb	15 23 48.0	-0.3
TDCB				eS	Sb	15 23 53.9	-0.7
NNS	Nan Shan	0.43	336	i P	Pg	15 23 47.8	+0.2
NNS				S	Sg	15 23 53.0	-0.4
EWUT	Wuta	0.44	27	i P	Pg	15 23 47.7	-0.1
EWUT				eS	Sg	15 23 53.5	-0.3
VWDT	VWDT	0.48	233	P	Pg	15 23 48.8	+0.3
VWDT				eS	Sg	15 23 55.5	+0.5
LATG	Datong	0.49	356	P	Pg	15 23 48.7	0.0
LATG				S	Sg	15 23 55.6	+0.3
WPL	Puli Township	0.55	266	eP	Pb	15 23 50.6	+0.1
WPL				S	Sg	15 23 57.3	+0.1
HGSD	Ruisui	0.57	193	eP	Pb	15 23 51.4	+0.6
HGSD				eS	Sn	15 24 00.9	-0.9
DPDB	Guoxing	0.58	269	P	Pg	15 23 50.6	+0.1
DPDB				S	Sg	15 23 58.1	0.0
EHY	Hungye	0.58	202	eP	Pg	15 23 49.7	-0.7
EHY				S	Sg	15 23 57.6	-0.5
EHYH	Wanrong	0.58	200	P	Pg	15 23 50.4	-0.1
EHYH				S	Sg	15 23 58.5	+0.2
ESAO	Su ao	0.59	26	eP	Pg	15 23 50.6	+0.1
ESAO				eS	Sg	15 23 57.6	-0.7
ENTT	Nioudou	0.59	1	i P	Pg	15 23 50.8	+0.2
ENTT				eS	Sg	15 23 58.1	-0.4
WCS	Beigang Elemen	0.59	271	eP	Pb	15 23 51.2	+0.1
WCS				eS	Sb	15 23 59.1	-0.4
NDS	Dongshan	0.60	14	eP	Pg	15 23 50.0	-0.8
NDS				eS	Sg	15 23 58.2	-0.6
WHP	Taichung City	0.61	292	eP	Pb	15 23 51.5	0.0
WHP				eS	Sb	15 23 59.9	0.0
SSLB	Suanglung	0.61	245	P	Pg	15 23 50.8	-0.2
SSLB	Suanglung	0.61	245	S	Sg	15 23 58.7	-0.4
SSLB	Suanglung	0.61	245	P	Pg	15 23 51.1	+0.1
SSLB				i S	Sg	15 23 58.8	-0.3
TWC	Suao	0.62	25	eP	Pg	15 23 51.0	-0.2
TWC				S	Sg	15 23 59.0	-0.4
SMLT	Sun Moon Lake	0.63	255	eP	Pg	15 23 50.4	-0.9
SMLT				S	Sg	15 23 59.0	-0.6
YHNB	Yeheng	0.64	345	P	Pg	15 23 51.4	-0.2
YHNB	Yeheng	0.64	345	S	Sg	15 24 00.2	+0.1
YHNB	Yeheng	0.64	345	P	Pg	15 23 51.8	+0.2
YHNB				S	Sg	15 24 00.7	0.0
NSK	Sanguang	0.65	344	P	Pg	15 23 51.9	+0.1
NSK				S	Sg	15 24 00.2	-0.2
TYC	Yuchr	0.66	258	P	Pg	15 23 51.9	0.0
TYC				i S	Sg	15 24 00.1	-0.4
TWE	Neicheng	0.68	8	P	Pg	15 23 52.5	+0.2
TWE				S	Sg	15 24 01.4	+0.2
YULB	Yu-li	0.69	200	P	Pg	15 23 51.8	-0.8
YULB	Yu-li	0.69	200	S	Sg	15 24 01.3	-0.4
YULB	Yu-li	0.69	200	eP	Pg	15 23 51.9	-0.6
YULB				S	Sg	15 24 01.5	-0.2
EOS4	EOS4	0.70	84	P	Pg	15 23 52.6	+0.1
EOS4				i S	Sn	15 24 04.1	-0.5
NFF	Wufeng Townshi	0.71	325	i P	Pg	15 23 53.0	+0.1
NFF				S	Sb	15 24 03.0	+0.2
FUSB	Fushanzhiwuyua	0.71	2	i P	Pb	15 23 53.2	0.0
FUSB				eS	Sg	15 24 01.9	-0.3
EOS2	EOS2	0.72	59	eP	Pn	15 23 54.6	0.0
EOS2				eS	Sb	15 24 04.1	+1.2
NWLT	Wulai	0.73	356	P	Pb	15 23 53.4	-0.1
NWLT				eS	Sg	15 24 02.5	-0.3
EYUL	Yuli	0.73	198	eP	Pg	15 23 53.3	0.0
EYUL				eS	Sb	15 24 04.0	+0.6
EOS3	EOS3	0.73	71	eP	Pn	15 23 54.8	0.0
EOS3				eS	Sb	15 24 04.4	+1.1
TWF1	Yuli	0.73	199	P	Pg	15 23 53.0	-0.3
TWF1				eS	Sb	15 24 03.4	-0.1
WHYT	Xinyi Township	0.73	242	eP	Pb	15 23 54.0	+0.4
WHYT				S	Sb	15 24 03.4	-0.2
NSTT	Nanjuang	0.77	319	i P	Pb	15 23 54.3	0.0
NSTT				S	Sb	15 24 05.1	+0.4
LIOB	Emei	0.78	320	i P	Pb	15 23 54.5	+0.1
LIOB				S	Sb	15 24 05.0	+0.3
TWQ1	Liyutan	0.78	293	eP	Pn	15 23 55.6	0.0
TWQ1				eS	Sb	15 24 04.7	-0.1
WWF	Wufeng	0.79	270	eP	Pn	15 23 55.9	+0.1
WWF				eS	Sn	15 24 08.8	+1.5
WJS	Zhushan	0.79	254	eP	Pn	15 23 55.7	-0.1
WJS				eS	Sn	15 24 08.1	+0.6
KSHI	Guanxi Townshi	0.81	334	eP	Pn	15 23 55.9	-0.1
KSHI				eS	Sn	15 24 06.8	-1.0
TCU	Taichung	0.81	277	P	Pn	15 23 55.7	-0.4
TCU				eS	Sn	15 24 08.6	+0.6
WNT	Mingjian	0.82	258	P	Pn	15 23 55.9	-0.3
WNT				eS	Sn	15 24 08.1	0.0
NMLH	Miaoli	0.85	305	P	Pn	15 23 57.1	+0.4
NMLH				S	Sn	15 24 08.4	-0.7
CHKH	Chenggong	0.86	190	eP	Pg	15 23 55.9	+0.1
CHKH				eS	Sb	15 24 07.1	-0.2
ALS	Alishan	0.87	232	P	Pb	15 23 56.2	+0.1
ALS				S	Sb	15 24 07.9	+0.1
FULB	Fuli	0.88	196	eP	Pg	15 23 56.4	+0.3
FULB				i S	Sg	15 24 08.6	+1.0
CHN5	Tsauling	0.92	241	eP	Pn	15 23 57.7	0.0
CHN5				eS	Sn	15 24 10.3	-0.5
TWA	Mucha	0.93	1	i P	Pg	15 23 57.1	+0.1
TWA				eS	Sn	15 24 10.5	-0.4
TIPB	Shuangxi	0.95	15	i P	Pb	15 23 57.3	-0.1
TIPB				eS	Sb	15 24 09.8	-0.1
CHKT	Chengkung	0.96	191	eP	Pb	15 23 57.5	+0.1
CHKT				eS	Sb	15 24 09.8	-0.2
ELDTW	Lidau	0.99	210	i P	Pb	15 23 57.2	-0.9
ELDTW				S	Sb	15 24 09.8	-1.2
WCKO	Fanlu	1.06	236	P	Pg	15 23 59.8	+0.2
WCKO				eS	Sn	15 24 14.6	+0.4
SXI1	Grass Mountain	1.08	15	P	Pg	15 24 00.3	+0.4
SXI1				eS	Sn	15 24 14.8	0.0
YM01	YM01	1.09	0	eP	Pg	15 24 00.8	+0.7
YM01				eS	Sn	15 24 16.3	+1.3
EDH	Donghe	1.09	192	eP	Pb	15 23 59.6	-0.1
ZUZH	Zhuzihu	1.11	359	eP	Pb	15 24 00.1	0.0
ZUZH				eS	Sn	15 24 15.2	-0.1
CHN4	Tsaushan	1.12	232	P	Pg	15 24 01.1	+0.3
CHN4				eS	Sn	15 24 17.9	+2.3
WTK	Tuku	1.13	252	eP	Pb	15 24 00.3	-0.1
WTK				S	Sn	15 24 16.4	+0.7
STYH	Taoyuan	1.13	220	P	Pb	15 23 59.9	-0.5
STYH				S	Sn	15 24 15.8	0.0
TPUB	Ta-pu	1.13	229	P	Pg	15 24 01.3	+0.5
TPUB	Ta-pu	1.13	229	S	Sn	15 24 16.0	+0.1
TPUB	Ta-pu	1.13	229	P	Pg	15 24 01.1	+0.3
TPUB				S	Sn	15 24 16.5	+0.7
ANP	Anpu	1.14	358	P	Pb	15 24 00.5	0.0
STYT	Tauyuan	1.15	220	eP	Pb	15 23 59.4	-1.3
STYT				eS	Sb	15 24 15.4	0.0
WTP	Ta-pu	1.18	228	eP	Pb	15 24 01.5	+0.3
WTP				S	Sg	15 24 17.9	+0.8
TWK	Hsinying	1.25	232	P	Pg	15 24 03.1	0.0
TWK				i S	Sg	15 24 20.9	+1.4
WSF	Szhu	1.29	252	eP	Pn	15 24 02.5	-0.2
WSF				i S	Sg	15 24 21.1	+0.4
YOJ	Yonaguni jima	1.39	72	eP	Pn	15 24 03.3	-0.7
YOJ				eS	Sn	15 24 22.0	-0.1
MASBT	Mashibuluo	1.66	211	eP	Pb	15 24 08.7	-0.7
MASBT				eS	Sb	15 24 30.2	-0.1
PTMZ	Houxiangcun	2.43	294	eP	Pn	15 24 18.7	+0.4
PTMZ				eS	Sn	15 24 47.1	-0.8

*IDC **26** 15:31:01.0±1.8, 53.98N×164.12W, h0km, mb3.5/4, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=37.3km s-min=27.0km az=171.0*
*NEIC **26** 15:31:00.1±1.6, 54.08N±0.04×164.32W±0.06, h10km±2km, mb3.6/8, ML4.2/16, ML3.7(AEIC), Error ellipse: s-maj=9.4km s-min=3.0km az=321.0*
*AEIC **26** 15:31:01.3±1.5, 54.2N±0.2×164.4W±0.2, h10km±9km, Error ellipse: s-maj=22.5km s-min=18.1km az=196.0*
ISC 26 15:31:01.0±0.8, 54.13N±0.06×164.33W±0.04, h10km, n85,

σ1°15/80, mb3.5/4, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	0.38	336		Pg	15 31 09.0	+0.5
WECS	Westdahl Cape	0.48	327		Pg	15 31 10.6	+0.2
WEBT	Westdahl Beart	0.53	332		Pg	15 31 11.3	0.0
WEBT					Sg	15 31 19.2	+1.0
SSLW	Shishaldin Wes	0.66	10		Pg	15 31 13.3	-0.4
ISLZ	Isanotski Laza	0.70	31		Pg	15 31 13.8	-0.7
ISLZ					Sg	15 31 23.4	-0.2
ISNN	Isanotski Nort	0.77	24		Pg	15 31 15.6	-0.3
AKUT	Akutan	0.85	271		Pg	15 31 16.8	-0.6
AKUT				IAML		15 31 29.0	
	comp=E,13μm,0.2s						
AKUT	Akutan	0.85	271		Sb	15 31 28.8	-0.5
FALS	False Pass	0.90	36		Pg	15 31 17.2	-1.1
FALS	False Pass	0.90	36	P	Pg	15 31 17.2	-1.1
AKGG	Akutan Green G	0.98	275		Pg	15 31 18.9	-0.9
AKMO	Akutan Morgan	0.99	268		Pg	15 31 19.2	-0.9
AKMO					Sb	15 31 32.5	-0.8
LVA	Lava Point	1.01	273		Pg	15 31 19.2	-1.1
LVA				IAML		15 31 33.4	
	comp=E,3μm,0.1s						
LVA				IAML		15 31 35.1	
	comp=N,8μm,0.5s						
AKRB	Akutan Reef Bi	1.03	271		Pg	15 31 19.8	-0.9
HAG	Hague Volcano	1.84	49		Pn	15 31 32.9	+0.3
PS4A	Pavlof South-4	1.88	49		Pn	15 31 33.5	+0.3
PS4A					Sb	15 31 58.7	-0.2
S12K	Black Hills	2.05	39		Pn	15 31 35.0	-0.5
S12K				IAML		15 32 05.6	
	comp=N,1μm,0.3s						
S12K				IAML		15 32 07.8	
	comp=E,1μm,0.3s						
OKRE	Okmok R'deer P	2.36	257		Pn	15 31 38.8	-0.9
SDPT	Sand Point	2.54	60		Pn	15 31 42.7	+0.4
SDPT				IAML		15 32 22.1	
	comp=N,1μm,0.8s						
SDPT				IAML		15 32 25.1	
	comp=E,806nm,0.7s						
SDPT	Sand Point	2.54	60	P	Pn	15 31 42.7	+0.4
CNBA	Chernabura Isl	2.85	74		Pn	15 31 45.7	-0.8
CHNA	Chernabura Isl	2.85	74	P	Pn	15 31 45.8	-0.7
VNFG	Fog Glacier, M	3.48	50		Pn	15 31 54.9	-0.4
VNFG	Fog Glacier, M	3.48	50	IAML		15 33 01.0	
	comp=N,629nm,0.7s						
CHGN	Chignik	4.03	55	Pn	Pn	15 32 03.7	+1.1
CHIR	Chirikof Islan	5.29	68	P	Pn	15 32 19.1	-0.9
O14K	Tigyukauivet M	5.41	17		Pn	15 32 21.1	-0.5
O15K	Ungalikthiuk R	5.63	24		Pn	15 32 24.5	-0.2
N14K	Kuskokwak Cree	5.99	13		Pn	15 32 29.4	-0.1
P16K	Nushagak River	6.03	33	Pn	Pn	15 32 29.9	-0.2
SII	Sitkinak Islan	6.28	63	P	Pn	15 32 33.8	+0.3
M13K	Dall Lake	6.32	4		Pn	15 32 35.0	+0.8
O16K	Kokwok River B	6.45	29		Pn	15 32 35.3	-0.7
N15K	Kwethluk River	6.48	19		Pn	15 32 35.1	-1.2
ACHA	Angle Creek He	6.48	47	Pn	Pn	15 32 36.4	+0.1
M14K	Bethel	6.76	10		Pn	15 32 38.5	-1.6
OHAK	Old Harbor	6.97	59	P	Pn	15 32 42.1	-0.9
N17K	Nushagak Hills	7.48	28		Pn	15 32 49.3	-0.8
M16K	Timber Creek	7.49	20		Pn	15 32 49.0	-1.1
KDAK	Kodiak Island	7.54	56	Pn	Pn	15 32 50.1	-0.6
	comp=N,0.8nm,0.3s,baz=223,slow=14,SNR=14						
KDAK				Sn	Sn	15 34 12.6	-3.6
	comp=N,0.2nm,0.3s,baz=307,slow=3.5,SNR=1.4						
	comp=N,6.4nm,1.0s						
O18K	Koktuh Hills	7.59	37	Pn	Pn	15 32 52.0	+0.5
N18K	Kilae Creek	7.99	31	Pn	Pn	15 32 56.1	-0.9
L16K	Owhat River	8.03	17		Pn	15 32 55.5	-1.9
M17K	Holitna River	8.16	24		Pn	15 32 58.3	-1.1
K15K	Wolf Creek Mou	8.32	9		Pn	15 33 01.3	-0.2
K17K	Iditarod	9.17	18	Pn	Pn	15 33 11.8	-1.3
M19K	Big River Lodg	9.40	30	Pn	Pn	15 33 16.2	-0.1
L19K	White Mountain	9.49	28	Pn	Pn	15 33 17.1	-0.5
K20K	Telida	10.66	26		Pn	15 33 31.6	-2.0
PWL	Port Wells	10.91	45	Pn	Pn	15 33 39.6	+2.6
H17K	Granite Mounta	11.07	10	Pn	Pn	15 33 40.2	+1.1
J20K	Nowinta River	11.33	23		Pn	15 33 42.0	-0.7
G16K	Koyuk River	11.34	4	Pn	Pn	15 33 41.3	-1.5
H18K	Honhosa River	11.45	13	Pn	Pn	15 33 44.4	0.0
HIN	Hinchinbrook I	11.49	50	Pn	Pn	15 33 46.0	+1.1
DIV	Divide	12.13	47	Pn	Pn	15 33 55.3	+1.5
KLU	Klutina	12.24	46		Pn	15 33 54.2	-1.0
H21K	Melozitna Rive	12.89	22	Pn	Pn	15 34 00.8	-3.3
MESA	MESA	13.53	54	Pn	Pn	15 34 10.8	-2.1
F20K	Avaraart Lake	13.61	14	Pn	Pn	15 34 13.9	+0.1
ILAR	Eielson Array	13.81	33	Pn	Pn	15 34 16.8	+0.2
	comp=N,0.1nm,0.3s,baz=231,slow=13,SNR=2.1						
	comp=N,0.4nm,0.9s						
MENT	Mentasta	13.85	42		Pn	15 34 18.0	+0.8
O28M	Mount Upton	14.53	53	Pn	Pn	15 34 25.4	-1.3
E22K	Anaktuvuk Pass	15.24	18		P	15 34 39.4	-1.6
D22K	Ayikyak River	15.76	16	P	P	15 34 46.0	-0.7
D22K				IAmb	IAmb	15 34 49.9	
	comp=Z,3.9nm,1.2s						
M29M	Somme Creek	15.84	48	P	P	15 34 48.8	+1.0
M29M				IAmb	IAmb	15 34 54.1	
	comp=Z,3.7nm,0.8s						
N30M	Aishikik Lake	16.17	52	P	P	15 34 53.0	+1.6
N30M				IAmb	IAmb	15 34 57.5	
	comp=Z,5.7nm,1.0s						
BMAR	Burnt Mountain	16.34	28		Pn	15 34 51.0	+0.8
H29M	Whitestone	17.52	36	Pn	Pn	15 35 03.8	-1.3
EPYK	Eagle Plains	18.18	37		Pn	15 35 12.7	-0.4
EPYK				IAmb	IAmb	15 35 18.4	
	comp=Z,4.7nm,1.4s						
G30M	tAoh Zraii Nji	18.65	35	P	Pn	15 35 18.7	-0.2
H31M	Peel River	18.79	40	P	P	15 35 19.8	-0.4
PETK	Petropavlovsk-	22.38	283	P	P	15 36 01.8	+2.8
	comp=Z,4.7nm,1.0s,baz=74,slow=11,SNR=1.5						
	comp=Z,4.7nm,1.0s						
YKA	Yellowknife Ar	26.78	52	P	P	15 36 42.4	+1.7
	comp=Z,0.3nm,0.6s,baz=278,slow=10,SNR=6.2						
	comp=Z,0.3nm,0.6s						
NVAR	Mina Array Bea	34.77	98	P	P	15 37 52.3	+0.7
	comp=Z,0.6nm,0.6s,baz=311,slow=8.2,SNR=4.5						
	comp=Z,0.6nm,0.6s						
H11N2	WAKE ISLAND Hy	40.78	224	T	T	16 22 00.8	
	baz=26,slow=76,SNR=33						
H11N3	WAKE ISLAND Hy	40.78	224	T	T	16 22 00.0	
	baz=26,slow=76,SNR=38						
H11N1	WAKE ISLAND Hy	40.80	224	T	T	16 22 00.9	
	baz=26,slow=76,SNR=31						
H11S1	WAKE ISLAND Hy	41.95	223	T	T	16 23 41.0	
	baz=25,slow=76,SNR=40						
H11S2	WAKE ISLAND Hy	41.97	223	T	T	16 23 43.1	
	baz=25,slow=76,SNR=32						
H11S3	WAKE ISLAND Hy	41.97	223	T	T	16 23 42.1	
	baz=25,slow=76,SNR=25						
TXAR	Lajitas Array	49.77	94	P	P	15 39 53.9	+0.3
	comp=Z,0.2nm,0.5s,baz=304,slow=5.2,SNR=3.6						
	comp=Z,0.2nm,0.5s						
H03N2	Juan Fernandez	113.82	114	T	T	17 53 33.7	
	baz=322,slow=77,SNR=7.3						
H03N1	Juan Fernandez	113.83	114	T	T	17 53 12.4	
	baz=322,slow=77,SNR=12						
H03N3	Juan Fernandez	113.84	114	T	T	17 53 22.9	
	baz=322,slow=77,SNR=9.8						

*KRNET **26** 15:46:53.6±0.1, 39.46N×73.72E, h12km, mb3.5*
*SOME **26** 15:46:55.4, 39.68N×73.32E, h5km*
*NNC **26** 15:46:57.3±8.7, 39.22N×73.59E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=68.9km s-min=49.0km az=167.0*
ISC 26 15:46:56.7±1.0, 39.71N±0.05×73.41E±0.03, h10km, n43,

σ2°50/73, 29C-14D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.31	14	↓iP	Pb	15 47 05.1	+0.6
SFK				↓iS	Sb	15 47 13.5	+3.8
OHH	Osh	0.94	330	↑iP	Pn	15 47 17.9	+1.8
OHH				↑iS	Sn	15 47 35.8	+6.2
SALK	Salom-Alik	1.21	15	↓iP	Pg	15 47 20.7	+0.7
SALK				↓iS	Sn	15 47 40.1	+3.6
DRK	Karamyk	1.26	260	↑iP	Pn	15 47 21.5	+0.8
DRK				↑iS	Sn	15 47 42.1	+4.2
BTK	Batken	2.02	281	↑iP	Pg	15 47 35.0	-0.5
BTK				↑iS	Sg	15 48 05.1	+3.4
ARLS	Aral	2.26	18	↓iP	Pb	15 47 36.7	-0.9
ARLS				↓iS	Sg	15 48 08.0	-1.2
AML	Almayashu	2.43	5	↑iP	Pb	15 47 40.2	-0.5
AML				↑iS	Sg	15 48 14.2	-0.5
GAR	Garm	2.50	254	↓iP	Pb	15 47 40.0	-1.7
GAR				↓iS	Sg	15 48 14.0	-3.0
TRKS	Terek-Say	2.50	317	↑iP	Pg	15 47 41.6	-3.1
TRKS				↑iS	Sg	15 48 16.7	-0.5
NRN	Naryn	2.62	48	↓iP	Pn	15 47 39.1	-0.2
NRN				↓iS	Sn	15 48 12.2	+0.8
UCH	Uchtor	2.65	18	↑iP	Pb	15 47 42.4	-2.1
UCH				↑iS	Sb	15 48 17.9	+0.7
MNAS	Manas	2.85	346	↑iP	Pb	15 47 46.9	-0.9
MNAS				↑iS	Sg	15 48 25.5	-2.9
EKS2	Erkin-Say	2.96	5	↑iP	Pb	15 47 47.3	-2.3
EKS2				↑iS	Sb	15 48 26.4	+0.5
MRKS	Merke	3.03	357	Pg	Pg	15 47 52.4	-2.4
	11nm,0.4s						
MRKS	Merke	3.03	357	eP	Pg	15 47 52.4	-2.4
	5.5nm,0.3s						
MRKS				eS	Sg	15 48 32.4	-1.7
	20nm,0.3s						
AAK	Ala-Archa	3.04	15	↑Pn	Pb	15 47 52.0	+1.1
	5.1nm,0.6s						
AAK				↑Sn	Sg	15 48 36.8	+2.6
	18nm,0.7s						
AAK	Ala-Archa	3.04	15	↑iP	Pb	15 47 47.7	-3.2
AAK				↑iS	Sb	15 48 27.4	-0.7
KBK	Karagaybulak	3.16	21	↑iP	Pn	15 47 49.1	+2.4
KBK				↑iS	Sb	15 48 29.6	-2.2
ULHL	Ulahol	3.32	39	↑iP	Pn	15 47 50.0	+1.1
ULHL				↑iS	Sn	15 48 30.8	+2.3
BOOM	Boomskoye usch	3.37	34	↓eP	Pn	15 47 50.6	+1.0
BOOM				↓eS	Sn	15 48 33.0	+3.3
IUG	Iuzhnay	3.53	315	Pg	Pb	15 47 59.8	+0.5
	14nm,0.6s						
IUG				Lg	Lg	15 48 45.3	
	30nm,0.8s						
TKM2	Tokmak 2	3.60	27	↑Pn	Pb	15 47 59.7	-0.9
	2.9nm,0.7s						
TKM2				↓Sn	Sg	15 48 50.4	-2.0
	8.1nm,0.7s						
KST	Kastek	3.84	29	Pg	Pg	15 48 08.7	-1.6
	3.8nm,0.6s						
KST				Lg	Lg	15 49 00.7	
	22nm,0.5s						
KST	Kastek	3.84	29	eP	Pg	15 48 07.8	-2.5
	1.3nm,0.2s						
KST				eS	Sg	15 48 59.0	-1.1
	22nm,0.5s						
SGDS	Sogindy	3.85	13	Pg	Pg	15 48 09.3	-1.1
	2.2nm,0.5s						
SGDS				Lg	Lg	15 49 02.0	
	6.9nm,0.5s						
KK31	Karatay Array	4.03	328	↑Pn	Pb	15 48 06.0	-1.7
	1.2nm,0.5s,baz=135,slow=13,SNR=7.1						
KK31				↑Sn	Sg	15 49 00.2	-5.8
	2.6nm,0.5s,baz=138,slow=24						
KKAR	Karatay Array	4.03	328	↑iP	Pb	15 48 03.4	-4.3
KKAR				↑iS	Sb	15 48 54.4	-2.1
MTBS	Maitube	4.10	33	Pg	Pg	15 48 12.4	-2.8
	4.6nm,0.4s						
MTBS				Lg	Lg	15 49 07.4	
	12nm,0.3s						
MTBS	Maitube	4.10	33	eP	Pg	15 48 12.4	-2.8
	2.2nm,0.2s						
MTBS				eS	Sg	15 49 07.0	-1.3
	8.4nm,0.2s						
IZV	Izvestkoviy	4.10	35	Pg	Pg	15 48 13.3	-2.0
	2.6nm,0.3s						
IZV				Lg	Lg	15 49 08.8	
	15nm,0.9s						
IZV	Izvestkoviy	4.10	35	eP	Pg	15 48 12.9	-2.4
	2.3nm,0.2s						
IZV				eS	Sg	15 49 07.6	-0.9
	9.6nm,0.3s						
TNSS	Tian-Shan	4.26	38	Pg	Pg	15 48 15.2	-3.1
	3.2nm,0.3s						
TNSS				Lg	Lg	15 49 11.5	
	7.8nm,0.8s						
TNSS	Tian-Shan	4.26	38	eP	Pg	15 48 15.8	-2.4
	1.2nm,0.1s						
TNSS				eS	Sg	15 49 12.8	-0.7
	7.7nm,0.4s						
MDOK	Medeo	4.40	37	↓P	Pb	15 48 10.0	-4.1
	2.8nm,0.5s						
MDOK				Pg	Pg	15 48 17.5	-3.5
	3.7nm,0.5s						
MDOK				Lg	Lg	15 49 16.2	
	12nm,0.8s						
KOTS	Kotyrbulak	4.49	37	Pg	Pg	15 48 20.2	-2.4
	5.4nm,0.5s						
KOTS				Lg	Lg	15 49 20.1	
	41nm,0.8s						
KOTS	Kotyrbulak	4.49	37	eP	Pg	15 48 20.2	-2.4
	1.2nm,0.2s						
KOTS				eS	Sg	15 49 20.1	-0.6
	41nm,0.8s						
KTBS	Karatobe	4.69	30	Pg	Pg	15 48 23.0	-3.5
	2.2nm,0.5s						
KTBS				Lg	Lg	15 49 25.6	
	9.5nm,0.9s						
KUU	Kurty	4.72	27	Pg	Pb	15 48 23.0	+3.5
	1.2nm,0.2s						
KUU				Lg	Lg	15 49 25.2	
	8.2nm,0.4s						
KUU	Kurty	4.72	27	eP	Pg	15 48 24.1	-2.9
	0.9nm,0.1s						
KUU				eS	Sg	15 49 26.9	-1.1
	11nm,0.3s						
CHKK	Chushkaly	4.93	32	Pg	Pg	15 48 27

MSF	**Maaselka**	**2.59**	**231**	PB	**Pn**	**15 55 43.3**	**+2.5**
MSF				SG	**Sb**	**15 56 18.2**	**+0.9**
KU1	**Kurvinen**	**2.71**	**222**	PN	**Pn**	**15 55 43.8**	**+1.4**
KU2	**Taivalkoski**	**2.98**	**232**	PB	**Pn**	**15 55 48.9**	**+2.8**
VADS	**Vadso**	**3.00**	**329**	P	**Pn**	**15 55 45.9**	**-0.4**
VADS				S	**Sn**	**15 56 23.4**	**+0.4**
VADS	**Vadso**	**3.00**	**329**	*e*P	**Pn**	**15 55 46.9**	**+0.5**
RANF	**Ranua**	**3.25**	**243**	PN	**Pn**	**15 55 51.5**	**+1.6**
RANF				SG	**Sb**	**15 56 37.0**	**+0.7**
RNF	**Rovaniemi**	**3.26**	**255**	PN	**Pn**	**15 55 50.5**	**+0.6**
	baz=65						
RNF				SB	**Sn**	**15 56 31.0**	**+1.7**
KEV	**Kevo**	**3.31**	**313**	*e*P	**Pn**	**15 55 51.8**	**+1.2**
KEV				*e*S	**Sn**	**15 56 31.1**	**+0.6**
KEV	**Kevo**	**3.31**	**313**	PN	**Pn**	**15 55 51.5**	**+0.9**
	baz=128						
KEV				SN	**Sn**	**15 56 30.4**	**-0.1**
ARA0	**ARCESS Array S**	**3.63**	**306**	*e*P	**Pn**	**15 55 55.4**	**+0.3**
ARA0				*e*S	**Sn**	**15 56 37.3**	**-1.3**
ARA0				IAML		15 56 39.7	
	comp=Z,4.9nm,0.3s						
ARA0	**ARCESS Array S**	**3.63**	**306**	PN	**Pn**	**15 55 55.2**	**+0.2**
ARA0				SN	**Sn**	**15 56 38.0**	**-0.6**
ARCES	**ARCESS Array B**	**3.63**	**306**	Pn	**Pn**	**15 55 55.2**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=122,slow=15,SNR=146						
ARCES				Sn	**Sn**	**15 56 37.7**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=120,slow=25,SNR=16						
ARCES				Lg	Lg	15 56 49.4	
	comp=Z,0.7nm,0.3s,baz=116,slow=32,SNR=6.2 comp=Z,1.9nm,0.2s						
ARCES	**ARCESS Array B**	**3.63**	**306**	P	**Pn**	**15 55 55.2**	**+0.1**
ARCES				S	**Sn**	**15 56 37.5**	**-1.0**
RMF	**Romuvaara**	**3.80**	**207**	PN	**Pn**	**15 55 57.8**	**+0.5**
KLF	**Kolari**	**3.86**	**269**	PN	**Pn**	**15 55 59.1**	**+0.9**
KLF				SG	**Sb**	**15 56 57.0**	**+3.3**
HEF	**Hetta**	**3.94**	**286**	*e*P	**Pn**	**15 55 59.8**	**+0.5**
HEF	**Hetta**	**3.94**	**286**	PN	**Pn**	**15 56 00.0**	**+0.7**
HEF				SN	**Sn**	**15 56 46.0**	**-0.1**
TOF	**Tornio**	**4.10**	**252**	PG	**Pb**	**15 56 10.2**	**-0.3**
TOF				SG	**Sb**	**15 57 01.2**	**+0.7**
OUL	**Oulu**	**4.12**	**235**	PN	**Pn**	**15 56 03.8**	**+2.1**
OUL				SB	**Sb**	**15 56 59.8**	**-1.3**
PAJU	**Pajala**	**4.23**	**267**	PN	**Pn**	**15 56 04.0**	**+0.7**
PAJU				SN	**Sn**	**15 56 52.9**	**-0.4**
KALU	**Kalix**	**4.55**	**252**	PB	**Pb**	**15 56 16.7**	**-1.6**
ERTU	**Ertsjaerv**	**4.71**	**262**	PN	**Pn**	**15 56 10.3**	**+0.4**
ERTU				SN	**Sn**	**15 57 04.8**	**-0.3**
KIF	**Kilpisjarvi**	**5.06**	**292**	*e*P	**Pn**	**15 56 14.9**	**+0.3**
KIF				*e*S	**Sn**	**15 57 10.4**	**-3.2**
I37NO	**I37NO**	**5.85**	**291**	I	I	16 32 30.0	
	baz=100,slow=326,SNR=4.0						
FINES	**FINESS Array B**	**7.07**	**212**	Pn	**Pn**	**15 56 39.9**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=31,slow=13,SNR=2.1						
FINES				Sn	Sn	15 57 52.0	-11
	comp=Z,0.1nm,0.3s,baz=25,slow=24,SNR=2.2						
FINES				Lg	Lg	15 58 31.3	
	comp=Z,0.4nm,0.3s,baz=24,slow=20,SNR=7.6 comp=Z,1.0nm,0.9s						
FAUS	**Fauske**	**7.15**	**277**	S	**Sn**	**15 58 02.2**	**-2.8**
SPITS	**Spitsbergen Ar**	**11.70**	**342**	Pn	**Pn**	**15 57 43.0**	**-2.5**
	baz=143,slow=16 comp=Z,3.6nm,0.8s						

*THE **26** 16:18:09.1,35.°54N×27.°42E,h14km±1km,ML2.5/3,Error ellipse: s-maj=3.4km s-min=0.6km az=325.0*
*ATH **26** 16:18:10.9,35.°64N×27.°14E,h16km±4km,ML2.5/4, Manual Solution by F.Xalaris First location: 2019/04/26 16:20:02, This location: 2019/04/26 20:07:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 11 km; Longitude uncertainty: 8 km*
*AFAD **26** 16:18:20.7,36.°38N×27.°48E,h8km±7km,ML1.8*

ISC 26 16:18:09.4±1.0,35.°75N±0.°04×27.°15E±0.°03,h13km±8km, n22,σ1.9°31/33,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.20**	**178**	P	**Pb**	**16 18 14.5**	**-0.6**
KARP				S	**Sg**	**16 18 17.3**	**+0.4**
	4μm,0.1s						
KARP	**Karpathos**	**0.20**	**178**	P	**Pb**	**16 18 14.4**	**-0.6**
KARP				S	**Sg**	**16 18 16.8**	**-0.1**
ARG	**Arkhangelos**	**0.92**	**59**	P	**Pb**	**16 18 24.9**	**-2.4**
ARG				S	**Sb**	**16 18 38.0**	**-1.4**
	228nm,0.2s						
ARG	**Arkhangelos**	**0.92**	**59**	P	**Pn**	**16 18 29.6**	**+1.5**
ARG				S	**Sn**	**16 18 42.5**	**+1.3**
ZKR	**Zakros**	**0.99**	**231**	P	**Pb**	**16 18 27.9**	**-0.6**
ZKR				S	**Sn**	**16 18 42.9**	**-0.1**
	142nm,0.4s						
ZKR	**Zakros**	**0.99**	**231**	P	**Pb**	**16 18 28.0**	**-0.5**
ZKR				S	**Sb**	**16 18 41.0**	**-0.4**
TURN	**Turunc**	**1.35**	**40**	P	**Pg**	**16 18 36.0**	**+0.5**
TURN				*i* AML	AML	16 18 59.0	
	comp=E,38nm,0.7s						
TURN				*i* AML	AML	16 19 06.0	
	comp=N,28nm,0.3s						
THR6	**Thira Island,**	**1.55**	**294**	P	**Pg**	**16 18 38.7**	**-0.4**
THR3	**Thira Island,**	**1.56**	**295**	P	**Pg**	**16 18 39.1**	**-0.4**
THR5	**Thira Island,**	**1.61**	**295**	P	**Pb**	**16 18 39.3**	**+0.3**
FETY	**Fethiye**	**1.80**	**60**	P	**Pg**	**16 18 45.0**	**+1.0**
FETY				S	**Sg**	**16 19 11.5**	**+4.3**
IZZE	**Mula-Seydike**	**1.81**	**67**	P	**Pb**	**16 18 42.7**	**+0.1**
IZZE				S	**Sg**	**16 19 07.2**	**-0.6**
IZZE				*i* AML	AML	16 19 10.0	
	comp=E,21nm,0.3s						
IZZE				*i* AML	AML	16 19 23.0	
	comp=N,29nm,0.4s						
SABU	**Mula-Dalaman**	**1.82**	**53**	P	**Pg**	**16 18 43.4**	**-1.0**
SABU				S	**Sn**	**16 19 03.3**	**-0.2**
SABU				*i* AML	AML	16 19 05.0	
	comp=N,33nm,0.9s						
SABU				*i* AML	AML	16 19 14.0	
	comp=E,22nm,0.4s						
IDI	**Anoyia**	**1.90**	**257**	P	**Pn**	**16 18 41.9**	**+0.2**
IDI	**Anoyia**	**1.90**	**257**	P	**Pn**	**16 18 42.1**	**+0.4**
IDI				S	**Sn**	**16 19 06.0**	**+0.4**
DNZT	**Denizli-Tavas-**	**2.15**	**44**	P	**Pg**	**16 18 50.5**	**-0.1**
DNZT				S	Sn	16 18 59.6	-12
DNZT				*i* AML	AML	16 19 20.0	
	comp=E,8.1nm,0.4s						
DNZT				*i* AML	AML	16 19 21.0	
	comp=N,9.2nm,0.4s						
TAVA	**DENIZLI_Tavas**	**2.22**	**39**	P	**Pg**	**16 18 50.9**	**-1.2**
TAVA				*i* AML	AML	16 19 22.0	
	comp=E,14nm,0.6s						
TAVA				*i* AML	AML	16 19 28.0	
	comp=N,12nm,0.7s						
ESEN	**Aydn-Nazilli**	**2.26**	**25**	P	**Pb**	**16 18 50.0**	**-0.2**
ESEN				S	**Sn**	**16 19 11.6**	**-2.7**
ESEN				*i* AML	AML	16 19 12.0	
	comp=N,10nm,0.3s						
ESEN				*i* AML	AML	16 19 15.0	
	comp=E,12nm,0.6s						
DNIZ	**Denizli-Tavas-**	**2.41**	**38**	P	**Pg**	**16 18 53.9**	**-1.8**
DNIZ				*i* AML	AML	16 19 18.0	
	comp=N,20nm,0.3s						
DNIZ				*i* AML	AML	16 19 20.0	
	comp=E,32nm,0.4s						
GOLH	**Golhisar**	**2.44**	**52**	P	**Pb**	**16 18 52.9**	**-0.5**
GOLH				*i* AML	AML	16 19 40.0	
	comp=N,14nm,0.5s						
GOLH				*i* AML	AML	16 19 42.0	
	comp=E,10nm,0.5s						
IMMV	**Iera Moni Meta**	**2.60**	**265**	P	**Pn**	**16 18 52.3**	**+1.0**
ANKY	**Antikythira Is**	**3.13**	**273**	P	**Pn**	**16 18 59.7**	**+1.1**

TRN 26 16:35:12.5,11.°23N×61.°89W,h59km,MD3.7,North-west of Trinidad.,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.75**	**141**	*e*P	Pn	16 35 27.5	+0.1
TRN				*e*S	Sn	16 35 38.0	-0.2
GRFF	**Grenada Fort F**	**0.82**	**10**	*e*P	Pn	16 35 28.5	+0.2
GRFF				*e*S	Sn	16 35 40.4	+0.5
GRGR	**Grenville**	**0.92**	**15**	*e*P	Pn	16 35 29.4	-0.1
GRW	**Mount Saint Ca**	**0.95**	**14**	*e*P	Pn	16 35 28.9	-1.0
GRW				*e*S	Sn	16 35 43.4	+0.7
GRSS	**Sisters**	**1.09**	**14**	*e*P	Pn	16 35 31.8	+0.1
GRSS				*e*S	Sn	16 35 46.6	+0.6
TPR	**Prospect**	**1.09**	**92**	*e*P	Pn	16 35 30.6	-1.1
TBH	**Brigand Hill**	**1.10**	**133**	*e*P	Pn	16 35 33.3	+1.5
TBH				*e*S	Sn	16 35 46.8	+0.6
GCMP	**Grenada, Carri**	**1.32**	**20**	*e*P	Pn	16 35 34.5	-0.3
GCMP				*e*S	Sn	16 35 51.1	-0.4
SLAC	**Saint Lucia, A**	**2.82**	**20**	*e*P	Pn	16 35 55.2	+0.1
SLAC				*e*S	Sn	16 36 27.1	-0.9
PCRV	**Puerto La Cruz**	**2.90**	**249**	*e*P	Pn	16 35 57.2	+1.0
SLBI	**Saint Lucia, B**	**2.91**	**18**	*e*P	Pn	16 35 56.8	+0.4
SLBI				*e*S	Sn	16 36 29.6	-0.7
BIM	**Bigot**	**3.36**	**14**	*e*P	Pn	16 36 02.5	0.0
BIM				*e*S	Sn	16 36 40.1	-1.2
ILAM	**Ilet Lapin Mar**	**3.66**	**16**	*e*S	Sn	16 36 47.5	-1.0
DSLB	**Salisbury**	**4.20**	**6**	*e*P	Pn	16 36 16.0	+1.9
ANBD	**Bethesda, Anti**	**5.78**	**1**	*e*P	Pn	16 36 36.5	+0.8
BAUV	**El Baul**	**6.47**	**250**	*e*P	Pn	16 36 44.9	-0.2
BAUV				*e*S	Sn	16 37 54.4	-3.3

*NNC **26** 16:57:08.0±2.9,45.°99N×75.°51E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=21.6km s-min=14.5km az=156.0*
*SOME **26** 16:57:08.7,40.47N×77.°03E,h10km*

KRNET 26 16:57:09.4±0.1,40.°53N×77.°07E,h17km,mb2.7,21C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.21**	**318**	⇑*i*P	Pg	16 57 32.6	-0.2
NRN				⇑*i*S	Sg	16 57 49.4	+0.7
TARG	**Taragay, Kyrgy**	**1.32**	**25**	⇑*i*P	Pb	16 57 34.3	+0.4
TARG				⇑*i*S	Sg	16 57 52.2	+0.1
KDJ	**Kajisay**	**1.60**	**3**	⇑*i*P	Pg	16 57 39.4	-0.7
KDJ				⇑*i*S	Sg	16 58 00.8	-0.2
ULHL	**Ulahol**	**1.82**	**340**	⇑*i*P	Pg	16 57 43.4	-1.0
ULHL				⇑*i*S	Sg	16 58 07.8	-0.3
BOOM	**Boomskoye usch**	**2.13**	**337**	⇑*i*P	Pb	16 57 48.1	+0.5
BOOM				⇑*i*S	Sg	16 58 16.2	-1.8
PRZ	**Przheval'sk**	**2.19**	**27**	⇓*e*P	Pb	16 57 49.0	+0.4
PRZ				⇓*e*S	Sg	16 58 18.2	-1.6
ANVS	**Anan'yevo**	**2.29**	**11**	⇓*e*P	Pb	16 57 50.2	-0.2
ANVS				⇓*e*S	Sb	16 58 20.5	+2.0
ARLS	**Aral**	**2.46**	**304**	⇓*e*P	Pb	16 57 52.2	-1.1
ARLS				⇑*e*S	Sb	16 58 24.5	+1.1
SALK	**Salom-Alik**	**2.50**	**279**	⇓*i*P	Pb	16 57 53.0	-0.8
SALK				⇓*i*S	Sb	16 58 24.9	+0.6
TNSS	**Tian-Shan**	**2.50**	**358**	Pg	Pg	16 57 57.3	-0.1
	9.0nm,0.2s						
TNSS				Lg	Lg	16 58 32.6	
	5.1nm,0.5s						
TNSS	**Tian-Shan**	**2.50**	**358**	*e*P	Pg	16 57 57.5	+0.1
	9.0nm,0.2s						
TNSS				*e*S	Sg	16 58 31.9	+1.9
	4.8nm,0.2s						
IZV	**Izvestkoviy**	**2.52**	**352**	Pg	Pg	16 57 57.3	-0.5
	3.1nm,0.3s						
IZV				Lg	Lg	16 58 32.5	
	7.5nm,0.5s						
IZV	**Izvestkoviy**	**2.52**	**352**	*e*P	Pg	16 57 57.5	-0.3
	1.0nm,0.1s						
IZV				*e*S	Sg	16 58 31.6	+1.0
	4.3nm,0.2s						
MDOK	**Medeo**	**2.63**	**360**	Pg	Pg	16 57 59.2	-0.6
	5.2nm,0.3s						
MDOK				⇑Pn	Pb	16 57 59.2	+3.1
	1.3nm,0.5s						
MDOK				Sn	Sg	16 58 35.2	+1.4
	5.0nm,0.7s						
MDOK				Lg	Lg	16 58 35.4	
	3.2nm,0.6s						
TKM2	**Tokmak 2**	**2.63**	**336**	⇑Pn	Pb	16 57 57.2	+1.1
	2.3nm,0.5s						
TKM2				⇓Sn	Sg	16 58 36.2	+2.3
	8.1nm,0.5s						
TKM2	**Tokmak 2**	**2.63**	**336**	⇓*i*P	Pb	16 57 54.9	-1.2
TKM2				⇓*i*S	Sb	16 58 28.2	0.0
MTBS	**Maitube**	**2.64**	**350**	Pg	Pg	16 57 59.1	-0.9
	1.7nm,0.2s						
MTBS				Lg	Lg	16 58 35.4	
	7.2nm,0.4s						
MTBS	**Maitube**	**2.64**	**350**	*e*P	Pg	16 57 59.1	-0.9
	1.7nm,0.1s						
MTBS				*e*S	Sg	16 58 34.2	0.0
	4.7nm,0.2s						
KST	**Kastek**	**2.64**	**342**	Pg	Pg	16 57 59.3	-0.7
	2.3nm,0.1s						
KST				Lg	Lg	16 58 36.2	
	8.9nm,0.4s						
KST	**Kastek**	**2.64**	**342**	*e*P	Pg	16 57 59.4	-0.7
	2.3nm,0.1s						
KST				*e*S	Sg	16 58 34.7	+0.4
	5.7nm,0.2s						
KOTS	**Kotyrbulak**	**2.70**	**1**	Pg	Pg	16 58 00.5	-0.7
	6.4nm,0.4s						
KOTS				Lg	Lg	16 58 37.7	
	12nm,0.5s						
KOTS	**Kotyrbulak**	**2.70**	**1**	*e*P	Pg	16 58 00.5	-0.7
	5.4nm,0.2s						
KOTS				*e*S	Sg	16 58 36.7	+0.5
	15nm,0.3s						
SATY	**Saty**	**2.71**	**21**	Pg	Pg	16 58 01.3	-0.1
	3.1nm,0.3s						
SATY				Lg	Lg	16 58 39.4	
	10nm,0.3s						
AAK	**Ala-Archa**	**2.86**	**318**	Pn	Pb	16 58 01.5	+1.6
	4.0nm,1.1s						
AAK				Sn	Sg	16 58 44.8	+3.6
	4.5nm,0.5s						
AAK	**Ala-Archa**	**2.86**	**318**	⇑*i*P	Pb	16 57 58.2	-1.8
AAK				⇑*i*S	Sb	16 58 33.5	-1.2
UZB	**Uzynbulak**	**2.99**	**29**	Pg	Pg	16 58 05.1	-1.6
	2.5nm,0.2s						
UZB				Lg	Lg	16 58 45.5	
	7.4nm,1.0s						
UZB	**Uzynbulak**	**2.99**	**29**	*e*P	Pg	16 58 05.1	-1.6
	0.9nm,0.1s						
UZB				*e*S	Sg	16 58 44.7	-0.8
	11nm,0.7s						
AML	**Almayashu**	**3.00**	**303**	⇑*i*P	Pb	16 58 00.2	-2.4
AML				⇑*i*S	Sb	16 58 37.3	-1.8
CHMS	**Chumysh**	**3.01**	**326**	⇑Pn	Pn	16 57 57.4	+1.0
	3.6nm,0.6s						
CHMS				⇑Sn	Sb	16 58 36.4	-2.6
	6.8nm,0.6s						
KPKS	**Kokpek**	**3.17**	**22**	*e*P	Pg	16 58 07.9	-2.2
	0.4nm,0.1s						
KPKS				*e*S	Sg	16 58 49.5	-1.6
	1.8nm,0.2s						
SHLS	**Shalkode**	**3.17**	**33**	*e*P	Pg	16 58 11.8	+1.6
	0.9nm,0.1s						
SHLS				*e*S	Sg	16 58 56.1	+4.9
	3.0nm,0.1s						
KTBS	**Karatobe**	**3.19**	**355**	Pg	Pg	16 58 09.1	-1.3
	2.2nm,0.3s						
KTBS				Lg	Lg	16 58 52.6	
	7.8nm,0.6s						
PDGK	**Podgornoye**	**3.33**	**32**	⇓Pn	Pb	16 58 09.0	+1.1
	4.0nm,1.0s						
PDGK				⇑Sn	Sg	16 58 56.2	0.0
	13nm,1.2s						
KUU	**Kurty**	**3.40**	**351**	*e*P	Pg	16 58 12.7	-1.8
	0.6nm,0.1s						
KUU				*e*S	Sg	16 58 57.8	-0.8
	5.4nm,0.1s						
BLB	**Baldybastay**	**3.71**	**16**	Lg	Lg	16 59 07.8	
	3.9nm,0.6s						

*IDC **26** 17:10:28.9±1.4,36.°68N×55.°06E,h0km,mb3.6/9, mbtmp3.7/18,ML3.5/8,MS3.1/13,Error ellipse: s-maj=27.8km s-min=14.3km az=4.0*
*TEH **26** 17:10:30.6,36.°84N×55.°26E,h8km±36km*
*THR **26** 17:10:32.7±0.0,36.°72N×55.°32E,h5km±8km,mb4.1*
*NEIC **26** 17:10:36.5±1.5,37.°40N±0.°09×55.°60E±0.°05,h10km±1km, mb4.2/20,Error ellipse: s-maj=15.9km s-min=4.8km az=158.0*

ISC 26 17:10:32.0±0.4,36.°97N±0.°04×55.°30E±0.°02,h10km,n118, σ2.3°30/111,mb4.0/19,MS2.9/5,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.30**	**16**	Pg	**Pg**	**17 10 39.6**	**+1.6**
MRVT	**Maraveh tapeh**	**0.93**	**42**	Pg	**Pn**	**17 10 51.4**	**+0.2**
SHRO	**Shahrood**	**1.13**	**149**	*e*PgA		17 10 50.0	
IGLO	**Ghaloghah**	**1.27**	**249**	Pg	**Pb**	**17 10 53.5**	**-2.6**
IKIA	**Kiasar**	**1.51**	**240**	Pg	**Pg**	**17 10 59.2**	**-1.8**
BJRD	**Bojnurd**	**1.83**	**66**	*e*Pn	**Pg**	**17 11 06.8**	**-0.3**
BJRD				*e*Sg	**Sg**	**17 11 35.5**	**+4.6**
IANJ	**Anjilo**	**1.87**	**217**	Pg	**Pb**	**17 11 03.4**	**-3.0**
SBZV	**Sabzevar**	**1.95**	**107**	Pn	**Pg**	**17 11 07.2**	**-2.1**
ISFR	**Sfrayin**	**2.16**	**87**	Pn	**Pb**	**17 11 11.0**	**-0.4**
IALA	**Alasht**	**2.19**	**247**	Pn	**Pb**	**17 11 09.6**	**-2.3**
ILAS	**Lasjerd**	**2.47**	**231**	Pn	**Pb**	**17 11 12.9**	**-3.7**
IPRN	**Peran**	**2.49**	**254**	Pn	**Pb**	**17 11 13.7**	**-3.2**
TAPT	**Tabas- Tapeh t**	**2.57**	**144**	Pn	**Pb**	**17 11 13.8**	**-4.4**
IEMG	**Emamgholi**	**2.71**	**80**	Pn	**Pb**	**17 11 18.6**	**-2.2**
IAKL	**Akhelmad**	**2.80**	**97**	Pn	**Pb**	**17 11 19.3**	**-3.0**
IDMV	**Damavand**	**2.98**	**243**	Pn	Pb	17 11 20.7	-4.8
DAMV	**Damavand**	**3.00**	**245**	*e*PnA		17 11 22.7	
IPAY	**Payeh**	**3.01**	**99**	Pn	**Pb**	**17 11 21.9**	**-4.0**
MZPU	**Pul - Mazandar**	**3.04**	**261**	Pn	**Pb**	**17 11 21.9**	**-4.5**
IKRD	**Kardeh**	**3.38**	**92**	Pn	**Pb**	**17 11 28.0**	**-4.2**
KLST	**Kelardasht - M**	**3.44**	**264**	Pn	**Pn**	**17 11 27.3**	**+1.4**
IVRN	**Varamin**	**3.50**	**237**	Pn	Pb	17 11 27.6	-6.6
CHTH	**Charan**	**3.53**	**254**	*e*Pn	Pb	17 11 29.1	-5.6
ISFB	**Sefidab**	**3.61**	**225**	Pn	**Pn**	**17 11 27.8**	**-0.3**
TABS	**Tabas**	**3.63**	**155**	*e*PnA		17 11 29.2	
TKDS	**Koohdasht(Taba**	**3.67**	**155**	Pn	**Pn**	**17 11 29.1**	**+0.3**
THKV	**Tehran--Karaj**	**3.72**	**255**	*e*Pn	**Pb**	**17 11 33.6**	**-4.3**
ANAR	**Anarak**	**3.99**	**199**	Pn	**Pn**	**17 11 32.9**	**-0.3**
TPRV	**Parvadeh(Tabas**	**4.09**	**163**	Pn	**Pn**	**17 11 35.1**	**+0.4**
IGZV	**Ghazvin**	**4.13**	**263**	Pn	**Pn**	**17 11 36.8**	**+1.5**
TBJM	**Torbat-e-JAM**	**4.41**	**111**	Pn	**Pn**	**17 11 41.2**	**+2.0**
YZKH	**Yazd**	**4.61**	**187**	*e*Pn	**Pn**	**17 11 40.7**	**-1.1**
IRAZ	**Razeghan**	**4.62**	**252**	Pn	**Pn**	**17 11 43.6**	**+1.5**
AFRZ	**Afriz**	**4.66**	**138**	Pn	**Pn**	**17 11 43.7**	**+1.1**
IZEF	**Zefreh**	**4.74**	**212**	Pn	**Pn**	**17 11 43.5**	**-0.3**
IKLH	**Kolahrood**	**4.75**	**221**	Pn	**Pn**	**17 11 44.5**	**+0.6**
QABG	**Abgarm-Qazvin**	**4.79**	**256**	Pn	**Pn**	**17 11 45.8**	**+1.5**
ASAO	**Ashtian**	**4.92**	**242**	*e*PnA		17 11 48.5	
ITEG	**Tejag**	**4.95**	**144**	Pn	**Pn**	**17 11 47.8**	**+1.1**
SHRT	**Shahrakht**	**5.26**	**128**	Pn	**Pn**	**17 11 51.3**	**+0.6**
SHRT	**Shahrakht**	**5.26**	**128**	*e*PnA		17 11 51.5	
SHRT				IAML		17 12 18.9	
	comp=Z,31nm,0.9s						
ZNJK	**Zanjan**	**5.32**	**269**	*e*PnA		17 11 56.4	
ZNJK				IAML		17 12 54.9	
	comp=Z,0.1nm,1.0s						
IKOO	**Kooshah**	**5.46**	**145**	Pn	**Pn**	**17 11 54.3**	**+0.6**
IMEH	**Mehriz**	**5.59**	**186**	Pn	**Pn**	**17 11 56.0**	**+0.5**
IPIR	**Pirpir**	**5.61**	**222**	Pn	**Pn**	**17 11 56.8**	**+1.1**
IRAM	**Ramesheh**	**5.69**	**206**	Pn	**Pn**	**17 11 57.7**	**+1.0**
BSRN	**Basiran**	**5.91**	**147**	Pn	**Pn**	**17 12 00.6**	**+0.9**
BSRN	**Basiran**	**5.91**	**147**	*e*PnA		17 12 01.7	
BSRN				IAML		17 13 59.5	
	comp=Z,0.1nm,1.0s						
BDRS	**Dareh Seyedi**	**6.04**	**242**	Pn	**Pn**	**17 12 03.0**	**+1.3**
ZNGN	**Zangian**	**6.07**	**218**	Pn	**Pn**	**17 12 03.4**	**+1.3**
JHBN	**Jahan bin**	**6.08**	**220**	Pn	**Pn**	**17 12 02.8**	**+0.6**
HSAM	**Samen**	**6.11**	**245**	Pn	**Pn**	**17 12 04.1**	**+1.4**
KLNJ	**Kolanjah**	**6.70**	**208**	Pn	**Pn**	**17 12 11.7**	**+1.0**
KLNJ	**Kolanjah**	**6.70**	**208**	*e*Pn	**Pn**	**17 12 11.9**	**+1.2**
KLNJ				IAML		17 14 31.8	
	comp=Z,0.1nm,1.0s						
SNGE	**Sanandaj**	**6.71**	**256**	*e*Pn	**Pn**	**17 12 12.7**	**+1.9**
SNGE				IAML		17 14 30.3	
	comp=Z,0.0nm,1.0s						
VSHL	**Vashlovani**	**8.12**	**304**	P	**Pn**	**17 12 31.5**	**+1.6**
VSHL				S	**Sn**	**17 14 00.7**	**-1.1**
GNI	**Garni**	**8.86**	**294**	Pn	Pn	17 12 45.4	+5.2
GNI	**Garni**	**8.86**	**294**	Pn	Pn	17 12 44.7	+4.5
	comp=Z,1.1nm,0.3s,baz=106,slow=19,SNR=3.8						
GNI				Sn	**Sn**	**17 14 23.6**	**+3.5**
	comp=Z,0.5nm,0.3s,baz=92,slow=18,SNR=1.6						
GNI				LR	LR	17 17 24.1	
	comp=Z,103nm,19.0s,baz=93,slow=47						
GHIR	**Ghir-Karzin**	**8.88**	**193**	*e*PnA		17 12 42.4	
GHIR				IAML		17 12 52.4	
	comp=Z,8.2nm,0.8s						
CHRG	**Chargali**	**9.62**	**307**	P	**Pn**	**17 12 51.0**	**+0.3**
SHTL	**Shatili**	**9.65**	**309**	P	**Pn**	**17 12 51.7**	**+0.7**
KBL	**Kabul**	**11.43**	**98**	Pn	**Pn**	**17 13 18.1**	**+2.7**
KBZ	**Khabaz**	**11.62**	**309**	Pn	**Pn**	**17 13 18.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=129,slow=6.5,SNR=2.1						
KBZ				Sn	**Sn**	**17 15 25.1**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=135,slow=20,SNR=2.2						
KBZ				LR	LR	17 19 54.0	
	comp=Z,22nm,20.4s,baz=131,slow=48 comp=Z,0.3nm,0.3s						
KVAR	**Kislovodsk Arr**	**11.86**	**310**	Pn	**Pn**	**17 13 21.3**	**0.0**
	baz=90,slow=19						
KVAR				Sn	**Sn**	**17 15 29.5**	**-4.2**
	baz=120,slow=20 comp=Z,1.3nm,0.5s						
GAR	**Garm**	**12.02**	**76**		**Pn**	**17 13 23.1**	**-0.4**
AB31	**Akbulak array**	**12.73**

MKAR LR LR 17 25 35.7
comp=Z,49nm,21.6s,baz=239,slow=40
comp=Z,2.6nm,0.8s
ALN Alexandroupoli 23.04 289 P **P 17 15 39.4 +2.1**
AKASG Malin Array Be 23.13 315 P **P 17 15 38.0 -0.2**
comp=Z,3.1nm,0.8s,baz=121,slow=9.0,SNR=13
comp=Z,3.1nm,0.8s
AKBB Malin Array Si 23.13 315 P **P 17 15 38.6 +0.5**
AKBB IAmb IAmb 17 15 41.1
comp=Z,6.4nm,0.8s
KIEV Kiev 23.14 315 **P 17 15 38.8 +0.6**
KIEV IAmb IAmb 17 15 41.1
comp=Z,5.6nm,0.7s
RDO Rodhopi 23.43 289 P **P 17 15 43.5 +2.2**
MLR Muntele Rosu 23.56 300 **P 17 15 45.0 +2.3**
MLR IAmb IAmb 17 15 56.2
comp=Z,8.1nm,1.0s
BUR08 Bucovina Ar. S 24.54 305 **P 17 15 53.9 +2.1**
BUR08 IAmb IAmb 17 16 16.7
comp=Z,4.4nm,1.2s
WMQ Urumqi 25.49 64 *eP* **P 17 16 01.5 +1.1**
WMQ pP sP 17 16 05.8 +0.6
WMQ pmax pmax
comp=Z,43nm,0.7s
ZALV Zalesovo Beam 26.50 41 P **P 17 16 11.0 +1.7**
comp=Z,0.3nm,0.3s,baz=238,slow=8.3,SNR=4.0
ZALV LR LR 17 28 26.0
comp=Z,25nm,18.3s,baz=134,slow=40
comp=Z,0.3nm,0.3s
GERES GERESS Array B 32.31 305 P **P 17 16 59.3 -1.8**
comp=Z,0.3nm,0.5s,baz=108,slow=9.8,SNR=1.8
comp=Z,0.3nm,0.5s
HFS Hagfors 35.10 325 P **P 17 17 22.7 -2.4**
comp=Z,1.2nm,0.8s,baz=116,slow=16,SNR=4.6
comp=Z,1.2nm,0.8s
STU Stuttgart 35.27 304 P **P 17 17 30.1 +3.3**
NC405 NORSAR Array S 36.37 326 P **P 17 17 38.9 +2.8**
NC405 IAmb IAmb 17 17 54.9
comp=Z,7.4nm,1.2s
NOA NORSAR Array B 36.57 325 P **P 17 17 37.6 -0.2**
comp=Z,0.8nm,0.9s,baz=112,slow=8.4,SNR=3.0
NOA LR LR 17 32 28.8
comp=Z,11nm,19.4s,baz=285,slow=36
comp=Z,0.8nm,0.9s
NRIK Noril'sk 36.85 18 LR LR 17 36 03.9
comp=Z,65nm,18.6s,baz=186,slow=41
CMAR Chiang Mai Arr 42.39 104 P **P 17 18 26.1 -0.7**
comp=Z,0.7nm,0.8s,baz=304,slow=6.2,SNR=6.1
comp=Z,0.7nm,0.8s
HHC Hu-ho-hao-te 43.32 67 *eP* **P 17 18 36.0 +1.8**
HHC pmax pmax
comp=Z,12nm,0.7s
ESDC Sonseca Array 45.84 292 P **P 17 18 52.7 -1.6**
comp=Z,0.4nm,0.6s,baz=85,slow=8.1,SNR=1.7
comp=Z,0.4nm,0.6s
LSZ Lusaka 57.91 211 LR LR 17 46 24.1
comp=Z,61nm,21.1s,baz=110,slow=37
EUNU Eureka 61.29 353 P **P 17 20 51.0 +4.0**
B20K Meade River 70.74 11 P **P 17 21 50.7 +3.0**
C18K Utukok River 71.25 13 P **P 17 21 53.1 +2.1**
E18K Tukpahlearik C 72.43 14 P **P 17 22 00.3 +2.3**
E18K IAmb IAmb 17 22 07.9
comp=Z,2.6nm,1.3s
TOLK Toolik Lake Re 73.08 9 P **P 17 22 04.3 +2.3**
TOLK IAmb IAmb 17 22 07.3
comp=Z,2.3nm,1.1s
BMAR Burnt Mountain 74.83 8 P **P 17 22 14.9 +2.7**

---

*IDC **26** 17:12:51.4±3.5, 51°.21N×159°.99E, h0km, mb3.6/4, mbtmp3.5/5, ML2.3/1, Error ellipse: s-maj=112.9km s-min=48.9km az=62.0*
*KRSC **26** 17:12:58.3±1.3, 51°.55N×159°.86E, h58km±22km, Ml3.5*
ISC 26 17:12:56.8±1.7, 51°.52N±0°.08×160°.1E±0°.1, h26km, n24, σ1§14/24, mb3.8/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.27**	**284**	*eP*	**Pn**	**17 13 19.1**	**+0.3**
KDTR				*eS*	**Sn**	**17 13 34.8**	**-0.1**
RUS	**Russkaya**	**1.32**	**315**	*eP*	**Pn**	**17 13 19.8**	**+0.2**
MTVR	**Mutnovka**	**1.51**	**311**	*eP*	**Pn**	**17 13 23.0**	**+0.8**
GRL	**Gorelyy**	**1.60**	**311**	*eP*	**Pb**	**17 13 24.9**	**-0.9**
DALK	**Dalny**	**1.71**	**333**	*eP*	**Pb**	**17 13 26.4**	**-1.2**
PET	**Petropavlovsk**	**1.74**	**331**	*eP*	**Pb**	**17 13 26.7**	**-1.3**
KRMR	**Karymshinskiy**	**1.77**	**319**	*eP*	**Pn**	**17 13 26.4**	**+0.6**
KRMR				*eS*	**Sn**	**17 13 47.3**	**-0.1**
UGLR	**Uglovaya**	**1.86**	**337**	*eP*	**Pn**	**17 13 28.3**	**+1.3**
SDLR	**Sedlovina**	**1.91**	**338**	*eP*	**Pn**	**17 13 28.9**	**+1.2**
AVH	**Avacha**	**1.93**	**336**	*eP*	**Pb**	**17 13 30.0**	**-1.3**
KOK	**Koryaka**	**1.98**	**335**	*eP*	**Pb**	**17 13 30.9**	**-1.2**
PAU	**Pauzhetka**	**2.03**	**270**	*eP*	**Pb**	**17 13 32.1**	**-0.8**
KRX	**Arik**	**2.04**	**336**	*eP*	**Pn**	**17 13 30.8**	**+1.3**
PETK	**Petropavlovsk-**	**2.15**	**319**	Pn	**Pn**	**17 13 31.5**	**+0.6**
	3.3nm,0.3s,baz=120,slow=17,SNR=80						
PETK				Sn	**Sb**	**17 14 02.4**	**+1.1**
	3.5nm,0.3s,baz=126,slow=22,SNR=4.9						
	8.6nm,0.6s						
APC	**Apacha**	**2.27**	**310**	*eP*	**Pn**	**17 13 34.6**	**+2.0**
GNL	**Ganaly**	**2.54**	**330**	*eP*	**Pn**	**17 13 38.4**	**+2.1**
SKR	**Severo-Kuril's**	**2.62**	**253**	*eP*	**Pn**	**17 13 38.7**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**32.17**	**168**	T	T	17 53 26.1	
	baz=352						
H11N3	**WAKE ISLAND Hy**	**32.19**	**168**	T	T	17 53 24.8	
	baz=352						
H11N1	**WAKE ISLAND Hy**	**32.19**	**168**	T	T	17 53 24.2	
	baz=352						
KURBB	**Kurchatov Arra**	**48.66**	**303**	P	**P**	**17 21 37.8**	**-0.5**
	0.8nm,0.7s,baz=62,slow=8.4,SNR=4.8						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**48.83**	**297**	P	**P**	**17 21 39.4**	**-0.2**
	0.2nm,0.6s,baz=45,slow=6.3,SNR=1.9						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**51.36**	**309**	P	**P**	**17 21 57.7**	**-1.0**
	0.6nm,0.4s,baz=54,slow=7.1,SNR=8.1						
	0.6nm,0.4s						
AKASG	**Malin Array Be**	**69.96**	**329**	P	**P**	**17 24 05.9**	**+0.5**
	0.4nm,0.5s,baz=32,slow=5.9,SNR=4.1						
	0.4nm,0.5s						

---

*FUNV **26** 17:15:57.2, 6°.81N×73°.20W, h170km, MW3.3*
*RSNC **26** 17:15:58.6±0.0, 7°.N±1°.×7°.3W±°, h151km±2km, M2.9, mb3.5, ML2.7*
ISC 26 17:15:56.6±1.3, 6°.86N±0°.03×73°.11W±0°.03, h161km±8km, n35, σ1§58/66, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.28**	**196**	P	**Pn**	**17 16 18.9**	**+0.2**
BARC				S	**Sn**	**17 16 32.9**	**-2.6**
PAMC	**Pamplona, Colo**	**0.62**	**40**	P	**Pn**	**17 16 21.9**	**+1.5**
PAMC				S	**Sn**	**17 16 38.7**	**+0.1**
BRJC	**Barrancabermej**	**0.64**	**280**	P	**Pn**	**17 16 20.6**	**+0.7**
BRJC				S	**Sn**	**17 16 37.8**	**+0.1**
RUSC	**La Rusia**	**0.96**	**179**	P	**Pn**	**17 16 23.1**	**+0.4**
RUSC				S	**Sn**	**17 16 41.5**	**-1.1**
CAPV	**Capacho**	**1.27**	**38**	*eP*	**Pn**	**17 16 26.8**	**+1.8**
CAPV				*eS*	**Sn**	**17 16 48.0**	**+1.1**
TAMC	**Tame, Arauca**	**1.37**	**108**	P	**Pn**	**17 16 27.4**	**+1.7**
TAMC				S	**Sn**	**17 16 49.2**	**+1.1**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	P	**Pn**	**17 16 25.6**	**-0.2**
PTBC				S	**Sn**	**17 16 46.7**	**-1.5**
OCAC	**Ocana**	**1.39**	**351**	P	**Pn**	**17 16 26.7**	**+0.7**
OCAC				S	**Sn**	**17 16 48.6**	**-0.2**
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P	**Pn**	**17 16 31.1**	**+0.4**
ZARC				S	**Sn**	**17 16 57.1**	**+0.1**
NORC	**Norcasia**	**2.17**	**234**	P	**Pn**	**17 16 35.0**	**+0.5**
NORC				S	**Sn**	**17 17 03.1**	**-0.6**
CHIC	**Chingaza**	**2.30**	**196**	P	**Pn**	**17 16 37.2**	**+0.9**
CHIC				S	**Sn**	**17 17 07.3**	**+0.3**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**17 16 38.7**	**+1.9**
ROSC				S	**Sn**	**17 17 09.3**	**+1.5**
CVER	**Cruz Verde, Cu**	**2.51**	**203**	P	**Pn**	**17 16 40.4**	**+1.5**
CVER				S	**Sn**	**17 17 12.0**	**+0.4**
UREC	**San Jos de Ur**	**2.57**	**290**	P	**Pn**	**17 16 38.6**	**-0.5**
UREC				S	**Sn**	**17 17 09.5**	**-2.4**
SOCV	**Socops**	**2.64**	**57**	*eP*	**Pn**	**17 16 41.9**	**+1.9**
SOCV				*eS*	**Sn**	**17 17 13.8**	**+0.2**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	P	**Pn**	**17 16 43.0**	**+1.0**
GUY2C				S	**Sn**	**17 17 20.3**	**+3.1**
PTGC	**Puerto Gaitan,**	**2.81**	**160**	P	**Pn**	**17 16 42.1**	**0.0**
PTGC				S	**Sn**	**17 17 15.5**	**-1.9**
CBOC	**Ciudad Bolivar**	**3.05**	**251**	P	**Pn**	**17 16 46.4**	**+1.2**
CBOC				S	**Sn**	**17 17 23.2**	**+0.3**
DBBC	**Dabeiba**	**3.09**	**273**	P	**Pn**	**17 16 46.8**	**+1.3**
DBBC				S	**Sn**	**17 17 23.3**	**-0.2**
ARGC	**Ariguani, Magd**	**3.19**	**339**	P	**Pn**	**17 16 49.6**	**+2.8**
ARGC				S	**Sn**	**17 17 27.7**	**+1.9**
ANIL	**Santa Ana**	**3.28**	**224**	P	**Pn**	**17 16 49.2**	**+1.0**
ANIL				S	**Sn**	**17 17 30.2**	**+1.9**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**17 16 52.3**	**+0.3**
PRAC				S	**Sn**	**17 17 34.7**	**-0.3**
APAC	**Apartado, Choc**	**3.60**	**287**	P	**Pn**	**17 16 52.8**	**+0.8**
APAC				S	**Sn**	**17 17 34.6**	**-0.4**
ORTC	**Ortega, Tolima**	**3.62**	**216**	P	**Pn**	**17 16 53.2**	**+0.8**
ORTC				S	**Sn**	**17 17 36.5**	**+0.8**
SJCC	**San Jacinto, C**	**3.65**	**326**	P	**Pn**	**17 16 52.8**	**+0.1**
SJCC				S	**Sn**	**17 17 34.3**	**-2.1**
URMC	**La Uribe, Meta**	**3.81**	**200**	P	**Pn**	**17 16 56.2**	**+1.5**
URMC				S	**Sn**	**17 17 39.2**	**-0.8**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**17 16 59.2**	**+0.1**
CRJC				S	**Sn**	**17 17 46.6**	**-1.2**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P	**Pn**	**17 17 01.6**	**+0.3**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**17 17 06.2**	**-0.6**
MACC				S	**Sn**	**17 17 56.8**	**-4.9**
TEPV	**Terepaima**	**4.95**	**51**	*eP*	**Pn**	**17 17 09.3**	**-0.3**
JAMC	**Jamundi, Valle**	**5.07**	**225**	P	**Pn**	**17 17 11.4**	**0.0**
JAMC				S	**Sn**	**17 18 08.5**	**-1.3**
BAUV	**El Baul**	**5.43**	**67**	*eP*	**Pn**	**17 17 16.0**	**+0.2**
BAUV				*eS*	**Sn**	**17 18 15.1**	**-2.8**
MAPV	**Macapo**	**5.47**	**57**	*eP*	**Pn**	**17 17 17.1**	**+0.7**
MAPV				*eS*	**Sn**	**17 18 15.0**	**-3.9**
BENV	**Beln**	**6.26**	**60**	*eP*	**Pn**	**17 17 27.1**	**+0.1**
BENV				*eS*	**Sn**	**17 18 33.6**	**-4.2**
CACV	**CAICARA DEL OR**	**6.55**	**83**	*eP*	Pn	17 17 36.9	+6.1

---

*NEIC **26** 17:19:13.0±1.3, 28°.2N±0°.1×104°.9E±0°.1, h10km±1km, mb4.3/35, Error ellipse: s-maj=20.4km s-min=19.1km az=190.0*
*IDC **26** 17:19:12.3±0.7, 28°.14N×104°.82E, h0km, mb3.8/20, mbtmp3.8/22, ML3.9/2, MS3.1/6, Error ellipse: s-maj=23.0km s-min=13.7km az=59.0*
ISC 26 17:19:13.2±0.4, 28°.19N±0°.03×104°.86E±0°.04, h10km, n79, σ1§58/89, mb4.1/37, MS3.0/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.88**	**341**	Pn	**Pb**	**17 20 01.5**	**-3.2**
CD2				Pg	**Pg**	**17 20 07.5**	**-0.9**
CD2				Sn	**Sb**	**17 20 36.5**	**-3.6**
CD2				Sg	**Sg**	**17 20 46.5**	**+0.7**
CD2				smax	smax		
	comp=N,2μm,0.7s						
PZH	**PanZhiHua**	**3.24**	**240**	Pn	**Pn**	**17 20 06.5**	**+2.3**
PZH				Pg	**Pg**	**17 20 14.3**	**-1.0**
PZH				Sn	**Sn**	**17 20 46.0**	**+3.1**
PZH				Sg	**Sg**	**17 20 54.8**	**-2.5**
PZH				smax	smax		
	comp=N,180nm,0.9s						
PZH				smax	smax		
	comp=E,200nm,1.1s						
PZH				LR	LR		
	comp=N,1μm,6.6s						
PZH				LR	LR		
	comp=E,580nm,7.1s						
KMI	**Kunming**	**3.59**	**212**	Pg	**Pg**	**17 20 20.5**	**-1.6**
KMI				Sn	**Sn**	**17 20 53.3**	**+1.5**
KMI				smax	smax		
	comp=N,51nm,0.5s						
KMI				smax	smax		
	comp=E,69nm,1.1s						
KMI				LR	LR		
	comp=N,1μm,7.6s						
KMI				LR	LR		
	comp=E,990nm,6.8s						
KMI				LR	LR		
	comp=Z,920nm,9.2s						
ENH	**Enshi**	**4.55**	**62**		**Pn**	**17 20 25.7**	**+3.5**
XAN	**Xi'an**	**6.80**	**30**	Pn	**Pn**	**17 20 55.5**	**+2.4**
XAN				Pg	**Pg**	**17 21 20.3**	**-3.1**
XAN				Sn	**Sn**	**17 22 13.5**	**+2.9**
XAN				Sg	**Sg**	**17 22 51.8**	**+0.4**
XAN				smax	smax		
	comp=N,159μm,1.0s						
XAN				smax	smax		
	comp=E,225μm,0.9s						
CNSH	**ChangSha**	**7.13**	**88**	Pg	**Pn**	**17 21 00.8**	**+3.2**
CNSH				Sg	**Sn**	**17 22 16.3**	**-2.3**
CNSH				smax	smax		
	comp=N,130nm,1.1s						
CNSH				smax	smax		
	comp=E,130nm,1.0s						
LZH	**Lanzhou**	**7.92**	**354**	*e*Pn	**Pn**	**17 21 12.5**	**+3.8**
LZH				Pg	**Pb**	**17 21 29.8**	**-1.0**
LZH				Sg	**Sg**	**17 23 27.3**	**-0.3**
LZH				smax	smax		
	comp=N,64nm,1.4s						
LZH				smax	smax		
	comp=E,99nm,1.4s						
LZH				LR	LR		
	comp=N,390nm,8.6s						
LZH				LR	LR		
	comp=E,680nm,8.2s						
LZH				LR	LR		
	comp=Z,470nm,7.9s						
QIZ	**Qiongzhong**	**10.19**	**152**	P	**Pn**	**17 21 41.3**	**+1.6**
QIZ				S	**Sn**	**17 23 34.0**	**-0.1**
QIZ				smax	smax		
	comp=N,16nm,1.0s						
QIZ				smax	smax		
	comp=E,31nm,1.4s						
QIZ				LR	LR		
	comp=N,250nm,5.5s						
QIZ				LR	LR		
	comp=E,450nm,5.3s						
QIZ				LR	LR		
	comp=Z,130nm,5.5s						
CMAR	**Chiang Mai Arr**	**11.10**	**211**	Pn	**Pn**	**17 21 52.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=28,slow=12,SNR=10						
CMAR				LR	LR	17 26 34.1	
	comp=Z,92nm,19.5s,baz=65,slow=40						
	comp=Z,1.2nm,0.8s						
HHC	**Hu-ho-hao-te**	**13.78**	**22**	*eP*	**Pn**	**17 22 29.5**	**+0.7**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,54nm,5.9s						
XLT	**XiLinHaoTe**	**18.09**	**27**	*eP*	**P**	**17 23 25.8**	**+0.7**
XLT				pP	sP	17 23 38.5	+8.9
XLT				sP	pP	17 23 46.5	+18
XLT				pmax	pmax		
	comp=Z,12nm,0.8s						
XLT				pmax	pmax		
	comp=Z,60nm,4.5s						
SONM	**Songino Array**	**19.66**	**3**		**P**	**17 23 40.1**	**-2.2**
SONM	**Songino Array**	**19.66**	**3**	P	**Pn**	**17 23 44.2**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=186,slow=11,SNR=12						
	comp=Z,1.6nm,0.4s						
WMQ	**Urumqi**	**20.82**	**323**	*eP*	Pn	17 23 57.0	-0.4
KSAR	**Wonju Array Be**	**21.40**	**59**	P	**P**	**17 23 59.4**	**-1.7**
KSRS	**Korea Array**	**21.43**	**59**	P	**P**	**17 24 02.8**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=242,slow=10,SNR=9.3						
	comp=Z,1.4nm,0.5s						
JMN	**Monobe**	**25.45**	**70**	P	**P**	**17 24 40.2**	**-1.2**
MKAR	**Makanchi Array**	**25.65**	**322**		**P**	**17 24 42.2**	**-0.9**
MKAR	**Makanchi Array**	**25.65**	**322**	P	**P**	**17 24 43.1**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=123,slow=8.6,SNR=20						
MKAR				LR	LR	17 34 52.0	
	comp=Z,26nm,18.4s,baz=128,slow=37						
	comp=Z,1.6nm,0.5s						
MAKZ	**Makanchi**	**25.83**	**322**	P	**P**	**17 24 43.6**	**-1.1**
KSH	**Kashi**	**26.41**	**303**	P	**P**	**17 24 53.0**	**+2.9**
KSH				pmax	pmax		
	comp=Z,2.0nm,1.4s						
USRK	**Ussuriysk Ar.**	**26.94**	**46**	P	**P**	**17 24 55.3**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=253,slow=8.8,SNR=2.2						
	comp=Z,2.7nm,0.9s						
AAK	**Ala-Archa**	**28.46**	**308**	LR	LR	17 38 23.6	
	comp=Z,40nm,18.5s,baz=106,slow=40						
KLR	**Kul'dur**	**29.44**	**37**	LR	LR	17 37 26.0	
	comp=Z,31nm,18.2s,baz=282,slow=37						
ZAA0	**Zalesovo Array**	**29.64**	**336**	P	**P**	**17 25 17.3**	**-1.3**
ZALV	**Zalesovo Beam**	**29.64**	**336**	P	**P**	**17 25 17.3**	**-1.3**
ZALV	**Zalesovo Beam**	**29.64**	**336**	P	**P**	**17 25 19.1**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=143,slow=8.1,SNR=5.8						
ZALV				LR	LR	17 38 03.2	
	comp=Z,29nm,21.5s,baz=66,slow=38						
	comp=Z,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**29.98**	**326**	P	**P**	**17 25 22.3**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=131,slow=9.7,SNR=25						
	comp=Z,2.4nm,0.8s						
KURK	**Kurchatov**	**30.00**	**326**		**P**	**17 25 21.2**	**-0.7**
KURK				IAmb	IAmb	17 25 29.5	
	comp=Z,2.2nm,0.7s						
BVAR	**Borovoye Array**	**35.51**	**324**	P	**P**	**17 26 11.6**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=120,slow=8.5,SNR=4.3						
	comp=Z,0.5nm,0.5s						
AB31	**Akbulak array**	**40.13**	**314**	P	**P**	**17 26 48.9**	**-0.3**
ABKAR	**Akbulak array**	**40.13**	**314**	P	**P**	**17 26 49.3**	**+0.2**
ABKAR	**Akbulak array**	**40.13**	**314**	P	**P**	**17 26 48.9**	**-0.3**
ABKAR				IAmb	IAmb	17 27 15.5	
	comp=Z,1.0nm,0.8s						
NRIK	**Noril'sk**	**42.41**	**351**		**P**	**17 27 06.5**	**-1.0**
NRIK				IAmb	IAmb	17 27 10.8	
	comp=Z,2.6nm,0.8s						
NRIK	**Noril'sk**	**42.41**	**351**	P	**P**	**17 27 08.5**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=153,slow=14,SNR=8.4						
	comp=Z,1.9nm,0.6s						
TIXI	**Tiksi**	**45.49**	**10**		**P**	**17 27 31.4**	**-0.8**
TIXI				IAmb	IAmb	17 27 34.4	
	comp=Z,2.5nm,0.8s						
WB0	**Warramunga Arr**	**55.57**	**146**	P	**P**	**17 28 48.1**	**-1.0**
WRA	**Warramunga Arr**	**55.70**	**146**	P	**P**	**17 28 50.1**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=332,slow=7.4,SNR=12						
	comp=Z,1.3nm,0.7s						
WR8	**Warramunga Arr**	**55.79**	**146**	P	**P**	**17 28 49.9**	**-0.8**
WR8				IAmb	IAmb	17 29 20.3	
	comp=Z,4.0nm,1.1s						
AS31	**Alice Springs**	**58.67**	**149**	P	**P**	**17 29 10.4**	**-0.6**
ASAR	**Alice Springs**	**58.67**	**149**	P	**P**	**17 29 10.7**	**-0.3**
ASAR	**Alice Springs**	**58.67**	**149**	P	**P**	**17 29 11.5**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=328,slow=7.0,SNR=28						
	comp=Z,1.4nm,0.7s						
BR131	**Keskin Array S**	**58.78**	**301**	P	**P**	**17 29 11.0**	**-0.9**
BRTR	**Keskin Array B**	**58.78**	**301**	P	**P**	**17 29 11.0**	**-0.9**
BRTR	**Keskin Array B**	**58.78**	**301**	P	**P**	**17 29 12.7**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=93,slow=7.2,SNR=4.2						
	comp=Z,0.4nm,0.7s						
KEV	**Kevo**	**59.66**	**337**	P	**P**	**17 29 17.3**	**0.0**
AKASG	**Malin Array Be**	**59.87**	**315**	P	**P**	**17 29 20.1**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=71,slow=6.8,SNR=3.6						
	comp=Z,0.4nm,0.5s						
ARCES	**ARCESS Array B**	**60.18**	**337**	P	**P**	**17 29 21.1**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=82,slow=8.3,SNR=4.8						
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**60.36**	**327**	P	**P**	**17 29 23.6**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=74,slow=10,SNR=3.8						
	comp=Z,0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**62.32**	**347**	P	**P**	**17 29 36.9**	**+1.6**
	comp=Z,3.2nm,1.0s,baz=76,slow=6.1,SNR=1.5						
	comp=Z,3.2nm,1.0s						
C16K	**Lisburne Hills**	**64.07**	**24**	P	**P**	**17 29 46.1**	**-0.9**
C18K	**Utukok River**	**65.48**	**24**	P	**P**	**17 29 55.9**	**-0.4**
C18K				IAmb	IAmb	17 30 38.2	
	comp=Z,4.6nm,1.4s						
B20K	**Meade River**	**66.48**	**22**		**P**	**17 30 02.5**	**-0.1**
HFS	**Hagfors**	**66.56**	**327**	P	**P**	**17 30 03.5**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=74,slow=11,SNR=2.3						
	comp=Z,0.7nm,0.6s						
IDI	**Anoyia**	**66.67**	**299**	P	**P**	**17 30 04.6**	**+0.1**
H17K	**Granite Mounta**	**67.00**	**27**	P	**P**	**17 30 04.6**	**-1.4**
H17K				IAmb	IAmb	17 30 46.3	
	comp=Z,5.7nm,1.4s						
AGG	**Agios Georgios**	**67.41**	**303**	P	**P**	**17 30 08.8**	**-0.3**
AGG				IAmb	IAmb	17 30 09.4	
	comp=Z,2.4nm,1.0s						
B21K	**Ikpikpuk River**	**67.44**	**22**	P	**P**	**17 30 08.8**	**+0.1**
B21K				IAmb	IAmb	17 30 34.2	
	comp=Z,3.7nm,1.1s						
NOA	**NORSAR Array B**	**67.47**	**328**	P	**P**	**17 30 08.4**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=73,slow=4.7,SNR=2.5						
	comp=Z,0.4nm,0.6s						
B22K	**Teshekpuk Lake**	**67.58**	**21**	P	**P**	**17 30 08.9**	**-0.6**
B22K				IAmb	IAmb	17 30 29.0	
	comp=Z,2.3nm,1.0s						
NC204	**NORSAR Array S**	**67.61**	**329**	P	**P**	**17 30 09.6**	**-0.4**
H19K	**Roundabout Mou**	**68.19**	**26**	P	**P**	**17 30 12.6**	**-0.8**
H19K				IAmb	IAmb	17 30 23.6	
	comp=Z,4.9nm,1.5s						
D22K	**Ayikyak River**	**68.35**	**22**	P	**P**	**17 30 13.7**	**-0.8**
D22K				IAmb	IAmb	17 30 46.5	
	comp=Z,3.4nm,1.1s						
STKA	**Stephens Creek**	**69.21**	**147**	P	**P**	**17 30 19.9**	**-0.3**
STKA	**Stephens Creek**	**69.21**	**147**	P	**P**	**17 30 20.7**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=331,slow=18,SNR=1.2						
	comp=Z,1.3nm,0.8s						
O16K	**Kokwok River B**	**69.55**	**33**	P	**P**	**17 30 20.9**	**-1.1**
J20K	**Nowinta River**	**69.59**	**27**	P	**P**	**17 30 20.7**	**-1.6**
J20K				IAmb	IAmb	17 30 49.3	
	comp=Z,3.9nm,1.4s						
E23K	**Chandalar**	**69.72**	**23**	P	**P**	**17 30 20.8**	**-2.3**
E23K				IAmb	IAmb	17 30 36.2	
	comp=Z,3.2nm,1.2s						
GERES	**GERESS Array B**	**70.06**	**315**	P	**P**	**17 30 27.4**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=89,slow=7.0,SNR=1.8						
	comp=Z,0.5nm,0.5s						
E24K	**Your Creek**	**70.10**	**22**	P	**P**	**17 30 22.8**	**-2.5**
E24K				IAmb	IAmb	17 30 29.8	
	comp=Z,4.1nm,1.4s						
PPLA	**Purkeypile**	**70.91**	**28**	P	**P**	**17 30 28.7**	**-1.8**
SKT	**Skwentna**	**71.58**	**29**	P	**P**	**17 30 31.8**	**-2.6**
SKT				IAmb	IAmb	17 30 47.7	
	comp=Z,5.2nm,1.3s						
BMAR	**Burnt Mountain**	**71.72**	**22**	P	**P**	**17 30 36.3**	**+1.1**
ILAR	**Eielson Array**	**72.18**	**25**	P	**P**	**17 30 40.6**	**+2.6**
	comp=Z,0.2nm,0.7s,baz=270,slow=8.4,SNR=2.6						
	comp=Z,0.2nm,0.7s						
DAVOX	**Davos/Dischmat**	**73.22**	**314**	LR	LR	18 05 56.6	
	comp=Z,45nm,19.7s,baz=278,slow=38						
J26L	**Joseph Creek**	**73.56**	**25**	P	**P**	**17 30 45.4**	**-0.8**
J26L				IAmb	IAmb	17 30 55.2	
	comp=Z,1.6

EGRO	**El Granado**	**1.17**	**10**	Pn	**Pb**	**18 36 22.9**	**+0.9**
EGRO				Sn	**Sb**	**18 36 37.0**	**-0.2**
EGRO	**El Granado**	**1.17**	**10**	Pg	**Pb**	**18 36 23.0**	**+1.0**
EGRO				Sn	**Sb**	**18 36 37.0**	**-0.2**
EGRO				*i* Vmb_Lg		18 36 38.3	
MORF	**Marmelete**	**1.17**	**322**	*eP*	**Pb**	**18 36 22.0**	**-0.1**
PCVE	**Castro Verde**	**1.27**	**350**	Pn	**Pn**	**18 36 24.2**	**+0.7**
PCVE				Sn	**Sb**	**18 36 39.4**	**-0.7**
MESJ	**Messejana**	**1.50**	**346**	*eP*	**Pn**	**18 36 27.2**	**+0.5**
MESJ				*eS*	**Sn**	**18 36 44.5**	**-1.9**
MESJ				IAML		18 36 47.1	
comp=N,15nm,0.1s							
ESPR	**Espera**	**1.60**	**72**	Pn	**Pn**	**18 36 28.9**	**+1.0**
ESPR				Sn	**Sn**	**18 36 47.4**	**-1.3**
ESPR	**Espera**	**1.60**	**72**	Pn	**Pn**	**18 36 28.5**	**+0.5**
ESPR				Sn	**Sn**	**18 36 48.1**	**-0.6**
ESPR				*i* Vmb_Lg		18 36 49.0	
EMIN	**Mina Concepcio**	**1.63**	**32**	Pn	**Pn**	**18 36 29.0**	**+0.5**
EMIN	**Mina Concepcio**	**1.63**	**32**	Pn	**Pn**	**18 36 28.8**	**+0.4**
EMIN				Sn	**Sn**	**18 36 48.2**	**-1.3**
EMIN				*i* Vmb_Lg		18 36 53.1	
PBAR	**Barrancos**	**1.88**	**17**	Pn	**Pn**	**18 36 32.9**	**+1.1**
PBAR				Sn	**Sn**	**18 36 53.6**	**-2.0**
SMIR	**Smir Dam**	**2.04**	**109**	P	**Pn**	**18 36 34.6**	**+0.5**
SMIR	**Smir Dam**	**2.04**	**109**	S	**Sn**	**18 37 01.5**	**+1.9**
EVO	**Evora**	**2.16**	**354**	Sn	**Sn**	**18 37 00.0**	**-2.5**
EBAD	**Badajoz**	**2.44**	**14**	Pn	**Pn**	**18 36 40.3**	**+0.7**
EBAD				Sn	**Sn**	**18 37 07.7**	**-1.8**
EBAD	**Badajoz**	**2.44**	**14**	Pn	**Pn**	**18 36 40.5**	**+0.9**
EBAD				Sn	**Sn**	**18 37 07.4**	**-2.1**
EBAD				*i* Vmb_Lg		18 37 11.0	
ESTP	**Estepa**	**2.48**	**68**	Sn	**Sn**	**18 37 09.0**	**-1.5**
PESTR	**Estremoz**	**2.49**	**3**	P	**Pn**	**18 36 37.7**	**-2.5**
PESTR	**Estremoz**	**2.49**	**3**	S	**Sn**	**18 37 07.0**	**-3.7**
ECAB	**El Cabril**	**2.51**	**47**	Pn	**Pn**	**18 36 41.3**	**+0.7**
ECAB				Sn	**Sn**	**18 37 08.5**	**-2.8**
ECAB	**El Cabril**	**2.51**	**47**	Pn	**Pn**	**18 36 40.8**	**+0.2**
ECAB				Sn	**Sn**	**18 37 08.8**	**-2.6**
ECAB				*i* Vmb_Lg		18 37 38.4	
EGOR	**Sierra Gorda,**	**3.01**	**75**	Pn	**Pn**	**18 36 48.3**	**+0.8**
EGOR				Sn	**Sn**	**18 37 22.4**	**-1.4**
EGOR				*i* Vmb_Lg		18 37 37.3	
EADA	**Adamuz**	**3.10**	**54**	Pn	**Pn**	**18 36 49.5**	**+0.9**
EADA				Sn	**Sn**	**18 37 23.7**	**-1.9**
EADA	**Adamuz**	**3.10**	**54**	Pn	**Pn**	**18 36 49.3**	**+0.7**
EADA				Sn	**Sn**	**18 37 24.1**	**-1.6**
EADA				*i* Vmb_Lg		18 37 46.7	
ELGU	**Los Guajares,**	**3.35**	**80**	Pn	**Pn**	**18 36 52.8**	**+0.6**
ELGU				Sn	**Sn**	**18 37 30.0**	**-2.0**
ELGU				*i* Vmb_Lg		18 37 38.9	
JAND	**Jandula**	**3.53**	**58**	Pn	**Pn**	**18 36 55.1**	**+0.5**
JAND				Sn	**Sn**	**18 37 33.1**	**-3.3**
JAND				*i* Vmb_Lg		18 37 36.4	
AKLM	**AKL**	**3.68**	**119**	P	**Pn**	**18 36 54.8**	**-1.9**
AKLM	**AKL**	**3.68**	**119**	S	**Sn**	**18 37 37.8**	**-2.4**
EPLA	**Plasencia**	**3.91**	**19**	Pn	**Pn**	**18 37 00.2**	**+0.4**
EPLA				Sn	**Sn**	**18 37 42.8**	**-2.9**
EPLA				*i* Vmb_Lg		18 39 17.0	
PSIM	**Granatula de C**	**4.00**	**51**	Pn	**Pn**	**18 37 02.0**	**+1.0**
PSIM				Sn	**Sn**	**18 37 45.1**	**-2.9**
EQES	**Quesada**	**4.00**	**68**	Pn	**Pn**	**18 37 02.4**	**+1.3**
EQES				Sn	**Sn**	**18 37 45.8**	**-2.3**
EQES				*i* Vmb_Lg		18 37 48.0	
PAB	**San Pablo**	**4.15**	**39**	Pn	**Pn**	**18 37 03.8**	**+0.7**
PAB				Sn	**Sn**	**18 37 48.3**	**-3.4**
PAB				*i* Vmb_Lg		18 37 49.2	
MD31	**MD31**	**4.28**	**144**	P	**Pn**	**18 37 05.4**	**+0.4**
MDT	**Midelt**	**4.40**	**143**	P	**Pn**	**18 37 06.3**	**-0.3**
EZAR	**Zarzadilla de**	**5.06**	**71**	Pn	**Pn**	**18 37 16.9**	**+1.2**
EZAR				Sn	**Sn**	**18 38 10.6**	**-3.7**
EZAR				*i* Vmb_Lg		18 39 35.0	
GUD	**Guadarrama**	**5.10**	**32**	Pn	**Pn**	**18 37 17.2**	**+0.9**
GUD				Sn	**Sn**	**18 38 11.7**	**-3.6**
ELOB	**Lobios**	**5.49**	**358**	Pn	**Pn**	**18 37 21.8**	**+0.3**
ELOB				Sn	**Sn**	**18 38 19.8**	**-4.9**
ELOB				*i* Vmb_Lg		18 41 05.4	
ETOR	**Torete**	**6.29**	**43**	Pn	**Pn**	**18 37 33.3**	**+0.8**
ETOR				*i* Vmb_Lg		18 38 31.3	
ETOR				Sn	Sn	18 38 32.6	-12

*IDC **26** 18:43:55.3±1.3, 9°.79N×126°.14E, h0km, mb3.7/11, mbtmp3.7/11, MS3.4/4, Error ellipse: s-maj=62.1km s-min=27.0km az=67.0*

ISC 26 18:44:05.6±1.4, 10°.14N±0°.09×125°.9E±0°.4, h54km, n15, σ1§28/12, mb3.7/11, MS3.9/3, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.06**	**185**	Pn	**Pn**	**18 44 50.5**	**-1.1**
	29nm,0.3s,baz=37,slow=5.1,SNR=3.6						
DAV				Sn	**Sn**	**18 45 27.7**	**+0.7**
	28nm,0.3s,baz=108,slow=23,SNR=3.5						
DAV				LR	LR	18 45 58.2	
	comp=Z,216nm,21.7s,baz=60,slow=44						
KSRS	**Korea Array**	**27.26**	**4**	LR	LR	19 01 59.3	
	comp=Z,16nm,18.7s,baz=35,slow=39						
CMAR	**Chiang Mai Arr**	**27.32**	**291**	P	**P**	**18 49 47.2**	**+1.6**
	0.2nm,0.3s,baz=86,slow=8.9,SNR=4.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**34.51**	**167**	P	P	18 50 41.0	-7.8
	0.2nm,0.8s,baz=343,slow=8.8,SNR=4.3						
	0.2nm,0.8s						
SONM	**Songino Array**	**41.00**	**340**	P	**P**	**18 51 41.9**	**-1.5**
	0.1nm,0.3s,baz=153,slow=9.7,SNR=4.0						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**51.88**	**323**	P	**P**	**18 53 07.2**	**-1.5**
	0.8nm,1.1s,baz=124,slow=7.5,SNR=4.1						
	0.8nm,1.1s						
KURBB	**Kurchatov Arra**	**55.95**	**326**	P	**P**	**18 53 37.1**	**-1.1**
	0.3nm,0.6s,baz=125,slow=6.8,SNR=4.0						
	0.3nm,0.6s						
MSVF	**Nonsavu**	**58.52**	**118**	LR	LR	19 16 48.7	
	comp=Z,209nm,21.4s,baz=139,slow=34						
BVAR	**Borovoye Array**	**61.54**	**326**	P	**P**	**18 54 16.5**	**-0.6**
	0.3nm,0.6s,baz=121,slow=10,SNR=3.9						
	0.3nm,0.6s						
URZ	**Urewera**	**67.84**	**138**	LR	LR	19 27 18.2	
	comp=Z,69nm,18.1s,baz=93,slow=39						
SPITS	**Spitsbergen Ar**	**84.06**	**349**	P	**P**	**18 56 31.5**	**+1.5**
	2.0nm,0.7s,baz=68,slow=11,SNR=1.4						
	2.0nm,0.7s						
ARCES	**ARCESS Array B**	**84.17**	**340**	P	**P**	**18 56 32.1**	**+1.4**
	1.9nm,0.7s,baz=56,slow=6.0,SNR=5.3						
	1.9nm,0.7s						
FINES	**FINESS Array B**	**85.81**	**332**	P	**P**	**18 56 38.9**	**-0.2**
	1.3nm,0.8s,baz=62,slow=4.8,SNR=6.3						
	1.3nm,0.8s						
HFS	**Hagfors**	**91.97**	**332**	P	**P**	**18 57 08.6**	**+0.3**
	0.8nm,0.8s,baz=57,slow=10,SNR=1.9						
	0.8nm,0.8s						
NOA	**NORSAR Array B**	**92.69**	**334**	P	**P**	**18 57 11.4**	**-0.3**
	0.3nm,0.6s,baz=66,slow=4.4,SNR=2.2						
	0.3nm,0.6s						

*SJA **26** 18:56:17.3±0.6, 20°.86S×69°.18W, h114km±3km, ML4.1, MW4.0*

*NEIC **26** 18:56:17.5±1.2, 20°.90S±0°.04×69°.11W±0°.06, h111km±5km, mb4.4/13, Error ellipse: s-maj=7.8km s-min=4.8km az=102.0*

*GUC **26** 18:56:18.5±0.7, 20°.86S×69°.13W, h103km±3km, ML4.3*

*IDC **26** 18:56:19.8±0.7, 20°.84S×69°.01W, h113km±5km, mb3.6/5, mbtmp3.9/7, Error ellipse: s-maj=27.2km s-min=16.1km az=87.0*

*VAO **26** 18:56:20.8±1.1, 20°.80S×68°.75W, h104km, mb4.3*

ISC 26 18:56:17.9±0.5, 20°.87S±0°.03×69°.10W±0°.05, h110km±4km, n122, σ1§64/148, mb4.1/8, 6C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.40**	**245**		**Pn**	**18 56 33.4**	**-0.9**
PB01				Sn	**Sn**	**18 56 45.9**	**-0.8**
PB01	**IPOC Station P**	**0.40**	**245**	⇓*iP*	**Pn**	**18 56 34.4**	**0.0**
PB01				*eS*	**Sn**	**18 56 46.2**	**-0.5**
PB01				IAML		18 56 47.7	
comp=E,20μm,0.2s							
PB01	**IPOC Station P**	**0.40**	**245**	*eP*	**Pn**	**18 56 34.3**	**0.0**
PB01				*eS*	**Sn**	**18 56 47.1**	**+0.5**
PB01				IAML		18 56 47.8	
comp=Z,13μm,0.2s							
PX03	**IPOC Station P**	**0.68**	**313**	*eP*	**Pn**	**18 56 35.8**	**-0.6**
PX03				*eS*	**Sn**	**18 56 49.6**	**-0.5**
PX03				IAML		18 56 50.3	
comp=N,14μm,0.2s							
PB08	**IPOC Station P**	**0.73**	**356**		**Pn**	**18 56 37.1**	**0.0**
PB08				Sn	**Sn**	**18 56 50.4**	**-1.0**
PB08	**IPOC Station P**	**0.73**	**356**	⇓*iP*	**Pn**	**18 56 37.5**	**+0.4**
PB08				*eS*	**Sn**	**18 56 51.6**	**+0.2**
PB08				IAML		18 56 52.6	
comp=E,9μm,0.3s							
PB08	**IPOC Station P**	**0.73**	**356**	*eP*	**Pn**	**18 56 37.5**	**+0.4**
PB08				*eS*	**Sn**	**18 56 52.0**	**+0.6**
PB08				IAML		18 56 52.5	
comp=Z,5μm,0.2s							
PB09	**IPOC Station P**	**0.93**	**188**		**Pn**	**18 56 39.0**	**+0.3**
PB09				Sn	**Sn**	**18 56 54.7**	**+0.5**
PB09	**IPOC Station P**	**0.93**	**188**	⇑*iP*	**Pn**	**18 56 39.4**	**+0.8**
PB09				*eS*	**Sn**	**18 56 55.1**	**+0.9**
PB09	**IPOC Station P**	**0.93**	**188**	*eP*	**Pn**	**18 56 38.8**	**+0.2**
PB09				IAML		18 56 56.9	
comp=Z,5μm,0.3s							
HMBC	**Humberstone**	**0.95**	**309**		**Pn**	**18 56 38.1**	**-0.7**
HMBC				Sn	**Sn**	**18 56 53.9**	**-0.6**
HMBC	**Humberstone**	**0.95**	**309**	⇑*iP*	**Pn**	**18 56 38.8**	**0.0**
HMBC				*eS*	**Sn**	**18 56 54.1**	**-0.4**
HMBC				IAML		18 56 55.0	
comp=N,14μm,0.3s							
HMBC	**Humberstone**	**0.95**	**309**	*eP*	**Pn**	**18 56 38.8**	**0.0**
HMBC				*eS*	**Sn**	**18 56 54.5**	**0.0**
HMBC				IAML		18 56 54.7	
comp=Z,7μm,0.4s							
PATCX	**Punta Patache**	**0.99**	**273**		**Pn**	**18 56 38.7**	**-0.4**
PATCX				Sn	**Sn**	**18 56 54.7**	**-0.3**
PATCX	**Punta Patache**	**0.99**	**273**	⇑*iP*	**Pn**	**18 56 39.4**	**+0.3**
PATCX				*eS*	**Sn**	**18 56 54.9**	**-0.2**
PATCX				IAML		18 56 56.8	
comp=N,11μm,0.3s							
PATCX	**Punta Patache**	**0.99**	**273**	*eP*	**Pn**	**18 56 38.8**	**-0.3**
PATCX				IAML		18 56 56.9	
comp=Z,3μm,0.3s							
TA01	**Diego Aracena**	**1.06**	**287**		**Pn**	**18 56 39.5**	**-0.2**
TA01				Sn	**Sn**	**18 56 55.2**	**-1.0**
TA01	**Diego Aracena**	**1.06**	**287**	⇑*iP*	**Pn**	**18 56 39.7**	**0.0**
TA01				*eS*	**Sn**	**18 56 55.8**	**-0.4**
TA01				IAML		18 56 57.6	
comp=E,8μm,0.3s							
TA01	**Diego Aracena**	**1.06**	**287**	*eP*	**Pn**	**18 56 39.7**	**0.0**
TA01				*eS*	**Sn**	**18 56 55.8**	**-0.4**
TA01				IAML		18 56 57.8	
comp=Z,2μm,0.2s							
TA02	**Huaiquique**	**1.14**	**302**		**Pn**	**18 56 40.6**	**0.0**
TA02				Sn	**Sn**	**18 56 57.1**	**-0.7**
TA02	**Huaiquique**	**1.14**	**302**	*eP*	**Pn**	**18 56 40.8**	**+0.2**
TA02				*eS*	**Sn**	**18 56 57.5**	**-0.3**
TA02	**Huaiquique**	**1.14**	**302**	*eP*	Pn	18 56 35.3	-5.3
TA02				*eP*		18 56 40.2	
TA02				IAML		18 56 59.0	
comp=Z,4μm,0.6s							
GO01	**Chusmiza**	**1.20**	**356**		**Pn**	**18 56 42.3**	**+0.5**
GO01				Sn	**Sn**	**18 56 59.8**	**-0.1**
GO01	**Chusmiza**	**1.20**	**356**	⇓*iP*	**Pn**	**18 56 42.4**	**+0.5**
GO01				*eS*	**Sn**	**18 56 60.0**	**+0.1**
GO01				IAML		18 57 01.3	
comp=N,7μm,0.4s							
GO01	**Chusmiza**	**1.20**	**356**	*eP*	**Pn**	**18 56 42.4**	**+0.5**
GO01				*eS*	**Sn**	**18 57 00.8**	**+1.0**
PB11	**IPOC Station P**	**1.22**	**335**		**Pn**	**18 56 41.8**	**0.0**
PB11				Sn	**Sn**	**18 56 59.4**	**-0.3**
PB11	**IPOC Station P**	**1.22**	**335**	⇓*iP*	**Pn**	**18 56 42.0**	**+0.2**
PB11				*eS*	**Sn**	**18 56 59.5**	**-0.3**
PB11				IAML		18 57 00.6	
comp=E,10μm,0.3s							
PB11	**IPOC Station P**	**1.22**	**335**	*eP*	**Pn**	**18 56 41.3**	**-0.5**
PB11				*eS*	**Sn**	**18 56 59.8**	**+0.1**
PB11				IAML		18 57 00.5	
comp=Z,4μm,0.2s							
PB03	**IPOC Station P**	**1.32**	**207**	⇑*iP*	**Pn**	**18 56 43.3**	**+0.5**
PB03				*eS*	**Sn**	**18 57 01.7**	**+0.1**
PB03	**IPOC Station P**	**1.32**	**207**	*eP*	**Pn**	**18 56 43.1**	**+0.3**
PB03				*eS*	**Sn**	**18 57 02.4**	**+0.8**
PB03				IAML		18 57 03.4	
comp=Z,3μm,0.2s							
PB06	**IPOC Station P**	**1.88**	**193**	⇑*iP*	**Pn**	**18 56 50.0**	**+0.4**
PB06	**IPOC Station P**	**1.88**	**193**	*eP*	**Pn**	**18 56 50.0**	**+0.4**
PB06				IAML		18 57 17.6	
comp=Z,1μm,0.3s							
PB05	**IPOC Station P**	**2.22**	**207**		**Pn**	**18 56 53.7**	**-0.1**
PB05				Sn	**Sn**	**18 57 17.4**	**-4.0**
PB05	**IPOC Station P**	**2.22**	**207**	*eP*	Pn	18 56 41.3	-13
PB05				*eS*	**Sn**	**18 57 20.9**	**-0.4**
PB05				IAML		18 57 23.3	
comp=Z,468nm,0.4s							
AF01	**San Pedro de A**	**2.24**	**158**		**Pn**	**18 56 55.5**	**+1.3**
AF01	**San Pedro de A**	**2.24**	**158**	*eP*	Pn	18 56 40.6	-14
AF01				*eS*	Sn	18 57 07.2	-15
AF01				IAML		18 57 57.8	
comp=Z,640nm,0.7s							
PB16	**IPOC Station P**	**2.56**	**351**		**Pn**	**18 56 59.9**	**+1.2**
PB16	**IPOC Station P**	**2.56**	**351**	*eP*	**Pn**	**18 56 59.5**	**+0.8**
PB16				*eS*	**Sn**	**18 57 35.3**	**+5.5**
AP01	**Chacalluta**	**2.75**	**335**	Pn	**Pn**	**18 57 00.1**	**-0.6**
AP01	**Chacalluta**	**2.75**	**335**	*eP*	**Pn**	**18 57 00.5**	**-0.2**
AP01				*eS*	Sn	18 57 21.9	-12
AP01				IAML		18 58 01.9	
comp=Z,652nm,0.3s							
PB10	**IPOC Station P**	**2.95**	**207**		**Pn**	**18 57 02.4**	**-0.9**
PB10	**IPOC Station P**	**2.95**	**207**	*eP*	**Pn**	**18 57 02.6**	**-0.7**
PB10				*eS*	Sn	18 57 24.6	-14
PB10				IAML		18 57 32.0	
comp=Z,200nm,0.5s							
PB18	**Visviri**	**3.29**	**354**		**Pn**	**18 57 11.2**	**+2.9**
YJA	**Yavi**	**3.58**	**112**	*eP*	**Pn**	**18 57 14.7**	**+2.6**
PB14	**IPOC Station P**	**3.92**	**198**		**Pn**	**18 57 14.9**	**-1.7**
PB14	**IPOC Station P**	**3.92**	**198**	*eP*	**Pn**	**18 57 15.5**	**-1.1**
PB14				IAML		18 58 02.8	
comp=Z,140nm,0.6s							
GO02	**Mina Guanaco**	**4.29**	**186**		**Pn**	**18 57 20.5**	**-1.0**
GO02	**Mina Guanaco**	**4.29**	**186**	*eP*	**Pn**	**18 57 21.0**	**-0.5**
GO02				*eS*	**Sn**	**18 58 11.3**	**+0.5**
LPAZ	**La Paz**	**4.65**	**12**		**Pn**	**18 57 28.5**	**+1.8**
LPAZ	**La Paz**	**4.65**	**12**	P	**Pn**	**18 57 28.2**	**+1.5**
comp=Z,6.6nm,0.4s,baz=188,slow=7.3,SNR=32							
LPAZ				S	**Sn**	**18 58 11.3**	**-8.7**
comp=Z,21nm,0.8s,baz=186,slow=14,SNR=6.8							
LPAZ	**La Paz**	**4.65**	**12**	*eP*	**Pn**	**18 57 23.6**	**-3.1**
LPAZ	**La Paz**	**4.65**	**12**	*eP*	**Pn**	**18 57 28.1**	**+1.4**
AC01	**Pan de Azucar**	**5.43**	**194**		**Pn**	**18 57 33.9**	**-2.6**
AC01	**Pan de Azucar**	**5.43**	**194**	*eP*	Pn	18 57 30.0	-6.5
AC01				IAML		18 59 23.3	
comp=Z,56nm,0.7s							
AC02	**Maricunga**	**5.93**	**180**		**Pn**	**18 57 43.5**	**-0.4**
AC06	**Mina Casimiro**	**6.55**	**190**		**Pn**	**18 57 48.9**	**-2.9**
GO03	**Copiapo**	**6.77**	**189**	Pn	**Pn**	**18 57 51.7**	**-3.1**
AC04	**Llanos de Chal**	**7.52**	**193**	Pn	**Pn**	**18 58 00.2**	**-4.6**
AC05	**El Transito**	**8.00**	**187**	Pn	**Pn**	**18 58 08.3**	**-3.2**
LCO	**Las Campanas**	**8.23**	**190**	Pn	**Pn**	**18 58 10.8**	**-4.0**
BBSD	**Serra de San D**	**8.83**	**67**	*eP*	**Pn**	**18 58 19.9**	**-2.8**
SIV	**San Ignacio**	**9.03**	**59**	P	**Pn**	**18 58 23.2**	**-2.3**
comp=Z,16nm,0.4s,baz=251,slow=11,SNR=82							
GO04	**Tololo Observa**	**9.38**	**189**	Pn	Pn	18 58 25.2	-5.2
CO06	**Fray Jorge**	**10.02**	**193**	Pn	Pn	18 58 31.7	-7.1
CO03	**El Pedregal**	**10.03**	**188**	Pn	**Pn**	**18 58 34.6**	**-4.4**
CO02	**Combarbal**	**10.43**	**189**		**Pn**	**18 58 40.0**	**-4.4**
CFA	**Coronel Fontan**	**10.71**	**176**	P	**Pn**	**18 58 45.3**	**-3.0**
comp=Z,0.7nm,0.3s,baz=356,slow=16,SNR=8.7							
CFA				S	Sn	19 00 36.9	-9.3
comp=Z,1.0nm,0.4s,baz=328,slow=6.0,SNR=1.9							
MURT	**Porto Murtinho**	**10.74**	**96**	*eP*	**Pn**	**18 58 46.3**	**-2.3**
PTLB	**Pontes e Lacer**	**10.90**	**62**		**Pn**	**18 58 48.2**	**-2.6**
PTLB	**Pontes e Lacer**	**10.90**	**62**	*eP*	**Pn**	**18 58 48.8**	**-2.0**
BDQN	**Bodoquena, MS**	**11.57**	**90**	*eP*	**Pn**	**18 58 57.0**	**-2.8**
VA01	**Torpederas**	**12.31**	**190**		**Pn**	**18 59 07.1**	**-2.3**
PDRB	**Porto dos Gac**	**15.02**	**54**	*eP*	**Pn**	**18 59 45.4**	**+0.8**
H03N1	**Juan Fernandez**	**15.25**	**213**	T	T	19 15 14.5	
baz=34,slow=72,SNR=6.4							
H03N2	**Juan Fernandez**	**15.26**	**213**	T	T	19 15 17.8	
baz=34,slow=72,SNR=5.9							
H03N3	**Juan Fernandez**	**15.27**	**213**	T	T	19 15 13.5	
baz=34,slow=72,SNR=6.9							
BI02	**San Fabin de**	**15.85**	**186**		**Pn**	**18 59 53.5**	**-1.3**
ITAB	**Concordia**	**16.73**	**116**		**Pn**	**19 00 04.3**	**-1.4**
ITAB				IAmb	IAmb	19 00 47.9	
comp=Z,35nm,1.3s							
ARAG	**Araguaiana, MT**	**17.20**	**75**	*eP*	**Pn**	**19 00 11.7**	**+0.2**
TEFE	**Tefe**	**17.80**	**15**	*eP*	**Pn**	**19 00 19.1**	**+0.4**
NPGB	**Novo Progresso**	**19.13**	**46**	*eP*	**Pn**	**19 00 34.1**	**-0.4**
BB19B	**Bebedouro**	**19.21**	**94**	*eP*	**P**	**19 00 33.7**	**+0.3**
SNDB	**Serra Nova Dou**	**19.22**	**65**	*eP*	**P**	**19 00 32.8**	**-0.7**
MACA	**Manacapuru-AM**	**19.42**	**26**		**P**	**19 00 34.5**	**-1.2**
MACA	**Manacapuru-AM**	**19.42**	**26**	*eP*	**Pn**	**19 00 37.1**	**-0.9**
PLCA	**Paso Flores**	**19.84**	**183**	P	**P**	**19 00 39.3**	**-0.8**
PLCA	**Paso Flores**	**19.84**	**183**	P	**Pn**	**19 00 42.0**	**-0.7**
comp=Z,3.3nm,0.8s,baz=1.5,slow=9.8,SNR=8.9							
IPMB	**Ipameri, GO**	**19.91**	**85**	*eP*	**P**	**19 00 41.0**	**0.0**
BDFB	**Brasilia**	**20.68**	**79**	P	**P**	**19 00 48.3**	**-1.1**
BDFB				IAmb	IAmb	19 00 52.7	
comp=Z,6.0nm,0.4s							
BDFB	**Brasilia**	**20.68**	**79**	P	**P**	**19 00 49.8**	**+0.4**
comp=Z,4.8nm,0.3s,baz=238,slow=7.3,SNR=6.7							
comp=Z,4.8nm,0.3s							
ITTB	**Itaituba**	**20.93**	**40**	*eP*	**P**	**19 00 51.2**	**-0.8**
MAL2	**Monte Alegre,**	**23.73**	**40**	P	**P**	**19 01 19.4**	**-0.8**
MAL2				IAmb	IAmb	19 01 20.7	
comp=Z,17nm,0.9s							
SMTB	**Santa Maria do**	**23.94**	**63**	*eP*	**P**	**19 01 23.4**	**+1.3**
DIAM	**Diamantina, MG**	**24.09**	**88**	*eP*	**P**	**19 01 24.1**	**+0.5**
JANB	**Januaria**	**24.26**	**80**	*eP*	**P**	**19 01 25.1**	**0.0**
BOAV	**Boa Vista**	**24.61**	**21**	P	**P**	**19 01 27.5**	**-0.6**
BOAV	**Boa Vista**	**24.61**	**21**	*eP*	**P**	**19 01 29.5**	**+1.5**
SDBA	**SAO DESIDERIO**	**24.64**	**74**	*eP*	**P**	**19 01 28.4**	**-0.1**
RUSC	**La Rusia**	**26.89**	**351**	P	**P**	**19 01 48.3**	**-0.9**
RUSC				IAmb	IAmb	19 01 52.3	
comp=Z,5.0nm,0.9s							
GUA01	**Guaratinga, BA**	**28.05**	**86**	*eP*	**P**	**19 02 00.1**	**+1.0**
NBPB	**Pedra_Branca-C**	**32.43**	**66**	*eP*	**P**	**19 02 38.1**	**+0.3**
RCBR	**Riachuelo**	**35.49**	**70**	P	**P**	**19 03 03.8**	**-0.4**
RCBR	**Riachuelo**	**35.49**	**70**	*eP*	**P**	**19 03 05.8**	**+1.6**
CELP	**Cerrillos**	**38.79**	**4**	P	**P**	**19 03 31.3**	**-0.7**
CELP				IAmb	IAmb	19 03 41.8	
comp=Z,9.9nm,1.0s							
WVT	**Waverly**	**59.40**	**342**	P	**P**	**19 06 07.9**	**-0.9**
TXAR	**Lajitas Array**	**60.02**	**325**	P	**P**	**19 06 14.5**	**+1.2**
comp=Z,0.2nm,0.5s,baz=136,slow=4.6,SNR=2.5							
TXAR				pP	**pP**	**19 06 40.9**	**+0.4**
comp=Z,0.1nm,0.4s,baz=120,slow=8.0,SNR=1.9							
comp=Z,0.2nm,0.5s							
WMOK	**Wichita Mounta**	**62.09**	**333**	P	**P**	**19 06 26.2**	**-0.9**
WMOK				IAmb	IAmb	19 06 28.9	
comp=Z,4.5nm,0.9s							
SNAA	**Sanae**	**62.93**	**161**	P	**P**	**19 06 31.2**	**-1.1**
SNAA				IAmb	IAmb	19 07 03.1	
comp=Z,3.9nm,1.2s							
SNAA	**Sanae**	**62.93**	**161**	P	**P**	**19 06 33.9**	**+1.6**
comp=Z,1.0nm,0.7s,baz=298,slow=10,SNR=2.4							
comp=Z,1.0nm,0.7s							
QSPA	**South Pole Qui**	**69.31**	**180**	P	**P**	**19 07 15.4**	**+2.1**
comp=Z,0.9nm,0.5s,baz=188,slow=1.8,SNR=10							
QSPA				pP	**pP**	**19 07 42.5**	**+1.1**
comp=Z,0.7nm,0.5s,baz=225,slow=1.4,SNR=2.0							
comp=Z,0.9nm,0.5s							
TORD	**Torodi Ar. Bea**	**77.31**	**71**	P	**P**	**19 08 00.6**	**-0.3**
comp=Z,48nm,0.3s,baz=255,slow=4.9,SNR=3.2							
TORD				pP	**pP**	**19 08 30.2**	**-0.1**
comp=Z,46nm,0.3s,baz=245,slow=5.0,SNR=1.5							
YKA	**Yellowknife Ar**	**90.54**	**341**	P	**P**	**19 09 08.2**	**+1.2**
comp=Z,0.6nm,0.6s,baz=138,slow=4.6,SNR=17							
YKA				pP	**pP**	**19 09 38.6**	**+2.1**
comp=Z,0.7nm,0.8s,baz=136,slow=4.4,SNR=5.3							
comp=Z,0.6nm,0.6s							

comp=Z,77nm,20.4s,baz=136,slow=40
FINES FINESS Array B 37.12 326 P **P 19 07 21.5 +0.5**
0.8nm,0.8s,baz=109,slow=12,SNR=3.8
0.8nm,0.8s
ARCES ARCESS Array B 40.86 338 P **P 19 07 52.5 +0.7**
2.7nm,1.0s,baz=95,slow=7.8,SNR=6.0
2.7nm,1.0s
HFS Hagfors 42.69 322 P **P 19 08 06.8 +0.1**
0.6nm,0.5s,baz=90,slow=14,SNR=5.9
0.6nm,0.5s
NOA NORSAR Array B 44.00 323 P **P 19 08 17.1 -0.2**
0.2nm,0.5s,baz=98,slow=7.9,SNR=3.7
0.2nm,0.5s
SPITS Spitsbergen Ar 47.27 347 P **P 19 08 44.1 +1.5**
0.5nm,0.4s,baz=140,slow=11,SNR=5.3
0.5nm,0.4s
WRA Warramunga Arr 82.45 122 P **P 19 12 27.6 -2.6**
0.7nm,1.1s,baz=299,slow=3.8,SNR=1.7
0.7nm,1.1s
ASAR Alice Springs 84.71 125 P **P 19 12 39.0 -2.6**
0.3nm,0.8s,baz=314,slow=4.7,SNR=6.1
0.3nm,0.8s

---

*BJI **26** 19:10:12.1, 23.°73S×176.°04W, h28km, mB5.4/12, mb5.4/42, Ms5.1/6, Ms7 4.8/6*
*MOS **26** 19:10:13.0±1.5, 24.°10S×176.°50W, h33km, mb5.2/25, Error ellipse: s-maj=12.1km s-min=10.1km az=105.9*
*NEIC **26** 19:10:14.3±2.0, 24.°15S±0.°09×176.°35W±0.°08, h35km±1km, mb5.1/91, Error ellipse: s-maj=15.5km s-min=12.1km az=171.0*
*NOU **26** 19:10:16.5, 24.°11S×175.°46W, h118km, mb5.3/54, South of Tonga Islands*
*GCMT **26** 19:10:23.3±0.2, 24.°06S±0.°02×176.°16W±0.°01, h93km±3km, MW5.0/113, Moment Tensor Solution. s46,c53; s113,c161; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}1.29±.11; $M_{\theta\theta}$-3.35±.10; $M_{\phi\phi}$2.06±.11; $M_{r\theta}$-0.06±.08; $M_{\theta\phi}$1.13±.10; $M_{\phi r}$2.05±.06; Best double couple: $M_0$3.74300×10^16^ NP1:ϕ_s63.00000°, δ59.00000°, λ25.00000°. NP2:ϕ_s320.00000°, δ69.00000°, λ147.00000°. Principal axes: T 3.8590, Plg38.0000°, Azm279.0000°; N -0.2330, Plg51.0000°, Azm111.0000°; P -3.6260, Plg6.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **26** 19:10:29.4±1.8, 24.°14S×176.°84W, h158km±15km, mb4.4/20, mbtmp4.8/21, MS3.6/21 Error ellipse: s-maj=12.0km s-min=10.8km az=68.0*
ISC 26 19:10:13.4±0.4, 24.°31S±0.°04×176.°35W±0.°05, h31km±2km, h31km:pP-P, n526, σ1§82/498, mb5.2/120, MS3.8/23, 68C-35D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.12**	**196**	P		Pb		19 11 36.0	-6.2
RIZ				S		**Sb**		**19 12 36.8**	**-6.3**
GLKZ	**Green Lake**	**5.13**	**196**	P		Pb		19 11 36.0	-6.4
GLKZ				S		**Sn**		**19 12 34.6**	**+8.3**
NIUE	**Niue**	**7.92**	**50**			**Pn**		**19 12 06.5**	**0.0**
NIUE				Sn		Sn		19 13 25.4	-10
NIUE	**Niue**	**7.92**	**50**	P		**Pn**		**19 12 08.6**	**+2.1**
NIUE	**Niue**	**7.92**	**50**	P		**Pn**		**19 12 09.1**	**+2.6**
NIUE				S		Sn		19 13 25.4	-10
MSVF	**Nonsavu**	**8.38**	**320**			**Pn**		**19 12 11.6**	**-1.3**
MSVF	**Nonsavu**	**8.38**	**320**	P		Pn		19 12 21.2	+8.4
MSVF	82nm,0.6s,baz=152,slow=19,SNR=22			S		**Sn**		**19 13 52.7**	**+6.3**
MSVF	136nm,0.9s,baz=35,slow=18,SNR=13 **Nonsavu**	**8.38**	**320**	P		Pn		19 12 21.4	+8.5
MSVF	**Nonsavu**	**8.38**	**320**	P		**Pn**		**19 12 11.6**	**-1.3**
FUTU	**Fugatoga**	**10.09**	**350**			**Pn**		**19 12 36.1**	**-0.2**
AFI	**Afiamalu**	**11.21**	**23**			**Pn**		**19 12 49.4**	**-2.2**
AFI	**Afiamalu**	**11.21**	**23**	P		**Pn**		**19 12 49.4**	**-2.2**
AFI	**Afiamalu**	**11.21**	**23**	P		**Pn**		**19 12 50.2**	**-1.5**
OUZ	**Omahuta**	**13.94**	**216**	P		**P**		**19 13 37.6**	**+1.1**
OUZ	**Omahuta**	**13.94**	**216**	P		**P**		**19 13 36.8**	**+0.3**
MXZ	**Matakaoa Point**	**13.98**	**198**	Pn		**Pn**		**19 13 29.9**	**+0.5**
WMGZ	**Waiomatatini S**	**14.19**	**197**	P		**Pn**		**19 13 32.9**	**+0.7**
WMGZ				S		Sn		19 16 00.1	-8.5
HAZ	**Te Kaha**	**14.31**	**199**	P		**Pn**		**19 13 34.3**	**+0.4**
HAZ				S		**Sn**		**19 16 03.9**	**-7.6**
PKGZ	**Pakihiroa**	**14.33**	**198**	P		**Pn**		**19 13 33.4**	**-0.7**
PKGZ				S		Sn		19 16 02.8	-9.2
PUZ	**Puketiti**	**14.47**	**197**	P		**Pn**		**19 13 35.4**	**-0.7**
PUZ				S		Sn		19 16 05.0	-10
RUGZ	**Raukumara Rang**	**14.54**	**199**	P		**Pn**		**19 13 37.1**	**+0.1**
RUGZ				S		Sn		19 16 06.1	-11
TWGZ	**Tauwhareparae**	**14.64**	**198**	P		**Pn**		**19 13 40.7**	**+2.3**
CNGZ	**Carnagh Statio**	**14.87**	**197**	P		**Pn**		**19 13 37.4**	**-4.0**
CNGZ				S		Sn		19 16 13.3	-12
MWZ	**Matawai**	**14.92**	**199**	P		**Pn**		**19 13 41.5**	**-0.7**
MWZ				S		**Sn**		**19 16 19.1**	**-7.4**
TKGZ	**Te Karaka**	**14.93**	**198**	P		**P**		**19 13 47.1**	**-0.4**
PINNC	**Pines Island,**	**14.97**	**273**			**P**		**19 13 48.9**	**+0.8**
PINNC	**Pines Island,**	**14.97**	**273**	P		**P**		**19 13 52.3**	**+4.2**
URZ	**Urewera**	**14.98**	**200**	P		**Pn**		**19 13 45.5**	**+2.6**
URZ	7.1nm,0.4s,baz=231,slow=3.4,SNR=9.9			S		**Sn**		**19 16 20.3**	**-7.6**
URZ	34nm,0.7s,baz=318,slow=21,SNR=8.2 **Urewera**	**14.98**	**200**	P		**P**		**19 13 46.8**	**-1.3**
URZ	**Urewera**	**14.98**	**200**	P		**Pn**		**19 13 43.1**	**+0.1**
URZ				S		**Sn**		**19 16 19.7**	**-8.1**
RIGZ	**Rimuhau**	**15.20**	**198**	P		**P**		**19 13 49.1**	**-1.5**
MUGZ	**Murupara**	**15.29**	**201**	P		**Pn**		**19 13 47.1**	**0.0**
SNGZ	**Shannon Statio**	**15.39**	**199**	P		**Pn**		**19 13 43.9**	**-4.5**
SNGZ				S		**Sn**		**19 16 30.8**	**-7.1**
YATNC	**Mamie plateau,**	**15.58**	**275**	P		**P**		**19 14 00.0**	**+5.2**
RAR	**Rarotonga**	**15.60**	**82**			**Pn**		**19 13 52.1**	**+1.1**
RAR	comp=Z,158nm,1.4s			IAmb		IAmb		19 13 54.2	
RAR				Sn				19 16 30.7	-12
RAR	**Rarotonga**	**15.60**	**82**	P		**P**		**19 13 55.8**	**+0.8**
RAR	comp=Z,82nm,0.8s,baz=239,slow=7.1,SNR=7.5			S		Sn		19 16 32.0	-11
RAR	comp=Z,47nm,0.5s,baz=112,slow=9.1,SNR=7.5 **Rarotonga**	**15.60**	**82**	P		**P**		**19 13 54.9**	**-0.1**
DVP	**Devils Point**	**15.85**	**291**	P		**P**		**19 14 00.6**	**+2.7**
ONTNC	**Ouen Toro**	**15.93**	**274**			**P**		**19 13 59.0**	**+0.3**
ONTNC	**Ouen Toro**	**15.93**	**274**	P		**P**		**19 14 04.1**	**+5.4**
DZM	**Mont Dzumac**	**15.98**	**275**			**P**		**19 13 58.6**	**-0.8**
DZM	**Mont Dzumac**	**15.98**	**275**	*e*P		**P**		**19 14 03.4**	**+4.0**
DZM	comp=Z,516nm,1.3s			*e*LR		LR		19 17 34.1	
DZM	comp=Z,606nm,32.0s **Mont Dzumac**	**15.98**	**275**	P		**P**		**19 14 03.6**	**+4.2**
DZM	comp=Z,90nm,0.6s,baz=78,slow=13,SNR=53			LR		LR		19 17 51.2	
DZM	comp=Z,191nm,18.5s,baz=146,slow=28 **Mont Dzumac**	**15.98**	**275**	P		**P**		**19 14 04.4**	**+5.0**
BKZ	**Black Stump Fm**	**16.00**	**201**	P		**P**		**19 14 00.6**	**+1.1**
BKZ	**Black Stump Fm**	**16.00**	**201**	P		**P**		**19 13 59.5**	**0.0**
BKZ				S		**Sn**		**19 16 44.0**	**-8.8**
ETVZ	**East Tongariro**	**16.24**	**203**	P		**P**		**19 14 02.0**	**-0.3**
ETVZ				S		**Sn**		**19 16 52.8**	**-5.9**
KAHZ	**Kahuranaki**	**16.46**	**199**	P		**Pn**		**19 14 03.9**	**+1.7**
KAHZ				S		Sn		19 16 53.6	-10
KRHZ	**Kereru**	**16.48**	**200**	P		**P**		**19 14 05.5**	**+0.7**
KRHZ				S		Sn		19 16 51.4	-13
PXZ	**Pawanui**	**16.69**	**198**	P		**P**		**19 14 07.1**	**+0.1**
PXZ				S		Sn		19 16 55.9	-13
MRZ	**Mangatainoka R**	**17.66**	**201**			**Pn**		**19 14 14.8**	**-2.1**
TCW	**Tory Channel**	**18.59**	**203**	P		**P**		**19 14 27.4**	**-0.6**
KHZ	**Kahutara**	**19.91**	**202**	P		**P**		**19 14 39.1**	**-3.3**
KHZ	**Kahutara**	**19.91**	**202**	P		**P**		**19 14 43.2**	**+0.8**
KHZ	**Kahutara**	**19.91**	**202**	P		**P**		**19 14 41.0**	**-1.4**
KHZ				S		S		19 18 07.8	-17
LHI	**Lord Howe Isla**	**22.86**	**246**	P		**P**		**19 15 17.6**	**+3.3**
LHI	comp=Z,46nm,0.7s			IAmb		IAmb		19 15 19.9	
TBI	**Tubuai**	**24.60**	**93**	*e*P		**P**		**19 15 29.5**	**-1.5**
TBI	comp=Z,875nm,36.2s			*e*S		**S**		**19 19 46.3**	**-4.0**
TBI	comp=Z,2μm,28.2s			*e*LR		LR		19 21 25.2	
WHZ	comp=Z,3μm,32.8s **Wether Hill Ro**	**24.99**	**207**	P		**P**		**19 15 33.0**	**-1.3**
WHZ				IAmb		IAmb		19 15 48.0	
PPT2	comp=Z,172nm,1.8s **Papeete2**	**25.85**	**80**	*e*S		**S**		**19 20 10.3**	**-0.2**
PPT2	comp=Z,628nm,27.8s			*e*LR		LR		19 21 57.8	
PPT2	comp=Z,803nm,37.5s			*e*LR		LR		19 22 05.2	
ALEG	comp=Z,381nm,39.2s **Aligegeo Malai**	**26.83**	**301**	P		**P**		**19 15 50.8**	**-0.5**
HNR	**Honiara**	**27.02**	**299**			**P**		**19 15 51.2**	**-1.7**
HNR	**Honiara**	**27.02**	**299**	P		**P**		**19 15 51.2**	**-1.7**
HNR	comp=Z,73nm,0.8s			pmax		pmax			
TATA	**Tatamba Isabel**	**27.75**	**301**	P		**P**		**19 15 58.0**	**-1.5**
ARMA	**Armidale**	**29.02**	**251**	P		**P**		**19 16 13.1**	**+2.2**
ARMA	comp=Z,33nm,0.8s			IAmb		IAmb		19 16 14.8	
ARMA	**Armidale**	**29.02**	**251**	P		**P**		**19 16 13.9**	**+3.0**
ARMA	comp=Z,50nm,0.9s **Armidale**	**29.02**	**251**	P		**P**		**19 16 13.7**	**+2.8**
EIDS	**Eidsvold**	**29.54**	**261**			**P**		**19 16 16.2**	**+0.8**
EIDS	**Eidsvold**	**29.54**	**261**	P		**P**		**19 16 16.5**	**+1.1**
EIDS	comp=Z,26nm,1.1s **Eidsvold**	**29.54**	**261**	P		**P**		**19 16 16.8**	**+1.4**
RK1H	**Rockhampton Ha**	**30.30**	**265**	P		**P**		**19 16 23.3**	**+1.1**
CNB	**Canberra Magne**	**31.57**	**242**	P		**P**		**19 16 35.1**	**+1.8**
CAN	**Canberra**	**31.86**	**242**	P		**P**		**19 16 36.8**	**+1.0**
CAN	comp=Z,89nm,1.8s			IAmb		IAmb		19 17 38.7	
CAN	**Canberra**	**31.86**	**242**	P		**P**		**19 16 38.0**	**+2.2**
CAN	**Canberra**	**31.86**	**242**	P		**P**		**19 16 36.8**	**+1.0**
CAN	comp=Z,89nm,1.8s			pmax		pmax			
CAN	**Canberra**	**31.86**	**242**	P		**P**		**19 16 38.1**	**+2.2**
XMAS	**Kiritimati**	**31.99**	**38**	P		**P**		**19 16 35.2**	**-1.8**
XMAS	**Kiritimati**	**31.99**	**38**	P		**P**		**19 16 38.5**	**+1.5**
XMAS				pP		**sP**		**19 16 49.2**	**-0.3**
CMSA	**Cobar Meteorol**	**34.18**	**249**	P		**P**		**19 16 57.9**	**+1.8**
CMSA	comp=Z,44nm,0.7s **Cobar Meteorol**	**34.18**	**249**	P		**P**		**19 16 57.7**	**+1.6**
TOO	**Toolangi**	**35.06**	**239**	P		**P**		**19 17 04.6**	**+0.9**
TOO				IAmb		IAmb		19 17 18.8	
TOO	comp=Z,36nm,1.8s **Toolangi**	**35.06**	**239**	P		**P**		**19 17 04.6**	**+0.9**
TOO				pmax		pmax			
TAU	comp=Z,36nm,1.8s **Tasmania Unive**	**35.14**	**229**	P		**P**		**19 17 05.5**	**+1.3**
TAU	**Tasmania Unive**	**35.14**	**229**	P		**P**		**19 17 05.5**	**+1.3**
TAU				pmax		pmax			
QLP	comp=Z,188nm,1.6s **Quilpie**	**35.57**	**258**	P		**P**		**19 17 08.9**	**+0.8**
RABL	comp=Z,70nm,0.9s **Rabaul**	**36.33**	**298**			**P**		**19 17 13.9**	**-0.8**
RABL				IAmb		IAmb		19 17 31.5	
MTSU	comp=Z,17nm,0.8s **Mount Surprise**	**37.09**	**272**	P		**P**		**19 17 22.1**	**+0.8**
STKA	comp=Z,111nm,0.8s **Stephens Creek**	**37.68**	**249**			**P**		**19 17 26.5**	**+0.5**
STKA	**Stephens Creek**	**37.68**	**249**	P		**P**		**19 17 27.4**	**+1.3**
STKA	comp=Z,152nm,1.8s **Stephens Creek**	**37.68**	**249**	P		**P**		**19 17 27.1**	**+1.0**
STKA	comp=Z,13nm,0.6s,baz=98,slow=11,SNR=28			LR		LR		19 30 38.0	
PMG	comp=Z,191nm,20.7s,baz=74,slow=32 **Port Moresby**	**37.80**	**287**			**P**		**19 17 26.6**	**-0.6**
PMG	comp=Z,13nm,0.6s **Port Moresby**	**37.80**	**287**	P		**P**		**19 17 27.3**	**+0.1**
PMG	**Port Moresby**	**37.80**	**287**	P		**P**		**19 17 27.2**	**+0.1**
PMG	**Port Moresby**	**37.80**	**287**	P		**P**		**19 17 26.6**	**-0.6**
PMG	comp=Z,152nm,0.8s			pmax		pmax			
PMG	**Port Moresby**	**37.80**	**287**	P		**P**		**19 17 26.7**	**-0.5**
PMG				pP		**pP**		**19 17 37.0**	**+0.9**
RKT	**Rikitea**	**37.80**	**97**	*e*LR		LR		19 27 31.7	
ARPS	comp=Z,2μm,43.5s **Mount Arapiles**	**37.81**	**241**	P		**P**		**19 17 29.3**	**+2.2**
INKA	**Innaminka**	**38.57**	**255**	P		**P**		**19 17 34.9**	**+1.3**
COEN	**Coen**	**39.48**	**278**	P		**P**		**19 17 41.3**	**-0.1**
COEN				IAmb		IAmb		19 17 43.1	
COEN	comp=Z,26nm,0.7s **Coen**	**39.48**	**278**	P		**P**		**19 17 42.2**	**+0.9**
COEN	comp=Z,36nm,0.9s **Coen**	**39.48**	**278**	P		**P**		**19 17 41.4**	**+0.1**
HTT	**Hallett**	**39.96**	**246**	P		**P**		**19 17 46.0**	**+0.8**
HTT	comp=Z,17nm,1.0s **Hallett**	**39.96**	**246**	P		**P**		**19 17 46.1**	**+0.8**
LCRK	**Leigh Creek**	**40.60**	**251**	P		**P**		**19 17 51.1**	**+0.6**
QIS	**Mount Isa**	**40.76**	**266**	P		**P**		**19 17 52.1**	**+0.1**
QIS	comp=Z,39nm,1.2s **Mount Isa**	**40.76**	**266**	P		**P**		**19 17 52.1**	**+0.1**
MANU	**Manus Island**	**41.46**	**297**	P		**P**		**19 17 56.1**	**-1.6**
BBOO	**Buckleboo**	**42.36**	**247**			**P**		**19 18 03.8**	**-1.2**
BBOO				IAmb		IAmb		19 18 05.8	
BBOO	comp=Z,34nm,0.8s **Buckleboo**	**42.36**	**247**	P		**P**		**19 18 04.9**	**0.0**
BBOO	**Buckleboo**	**42.36**	**247**	P		**P**		**19 18 04.8**	**-0.1**
OOD	**Oodnadatta**	**43.02**	**255**	P		**P**		**19 18 11.0**	**+0.7**
AS31	**Alice Springs**	**45.26**	**260**	P		**P**		**19 18 28.0**	**-0.4**
AS31	**Alice Springs**	**45.26**	**260**	P		**P**		**19 18 28.7**	**+0.3**
ASAR	comp=Z,12nm,0.9s **Alice Springs**	**45.26**	**260**	P		**P**		**19 18 27.6**	**-0.8**
ASAR	comp=Z,29nm,0.8s,baz=97,slow=7.9,SNR=102			PcP		**PcP**		**19 20 07.3**	**-0.8**
ASAR	comp=Z,1.5nm,0.5s,baz=88,slow=3.7,SNR=2.1			ScP		ScP		19 23 45.1	-14
ASAR	comp=Z,1.0nm,0.8s,baz=94,slow=4.1,SNR=3.6			S		S		19 24 53.4	-14
ASAR	comp=Z,0.9nm,1.0s,baz=98,slow=15,SNR=4.3			LR		LR		19 36 02.2	
WR8	comp=Z,113nm,18.6s,baz=86,slow=34 comp=Z,29nm,0.8s **Warramunga Arr**	**45.56**	**265**			**P**		**19 18 29.4**	**-1.3**
WR8				IAmb		IAmb		19 18 30.9	
H11S2	comp=Z,21nm,0.7s **WAKE ISLAND Hy**	**45.64**	**337**	T		T		20 08 17.7	
H11S3	baz=148,slow=75,SNR=7.7 **WAKE ISLAND Hy**	**45.65**	**337**	T		T		20 08 21.3	
H11S1	baz=148,slow=75,SNR=6.0 **WAKE ISLAND Hy**	**45.66**	**337**	T		T		20 08 18.5	
WRAB	baz=148,slow=75,SNR=4.1 **Tennant Creek**	**45.70**	**265**	P		**P**		**19 18 30.1**	**-1.8**
WRAB	comp=Z,18nm,0.8s			IAmb		IAmb		19 18 32.0	
WRAB	**Tennant Creek**	**45.70**	**265**	P		**P**		**19 18 30.1**	**-1.8**
WRAB	comp=Z,18nm,0.9s			pmax		pmax			
WB0	**Warramunga Arr**	**45.70**	**266**			**P**		**19 18 30.3**	**-1.6**
WRA	**Warramunga Arr**	**45.71**	**265**			**P**		**19 18 30.3**	**-1.6**
WRA				PcP		**PcP**		**19 20 09.5**	**-0.1**
WRA	**Warramunga Arr**	**45.71**	**265**	P		**P**		**19 18 30.7**	**-1.2**
WRA	comp=Z,23nm,0.6s,baz=97,slow=8.2,SNR=91			PcP		**PcP**		**19 20 09.5**	**-0.1**
WRA	comp=Z,7.0nm,0.9s,baz=100,slow=3.4,SNR=6.7			S		S		19 25 00.2	-13
WRA	comp=Z,3.1nm,1.2s,baz=110,slow=14,SNR=4.1 comp=Z,23nm,0.6s **Warramunga Arr**	**45.71**	**265**	P		**P**		**19 18 30.3**	**-1.6**
WRA								19 20 09.5	
JAY	comp=Z,7.0nm,0.7s	**46.76**	**291**	P		**P**		**19 18 38.9**	**-1.5**
	comp=Z,43nm,0.7s,baz=177,slow=5.4,SNR=29 comp=Z,43nm,0.7s								
JAY	**Jayapura**	**46.76**	**291**	P		**P**		**19 18 39.3**	**-1.0**
GENI	**Genyem**	**47.18**	**290**	P		**P**		**19 18 43.2**	**-0.3**
	comp=Z,80nm,0.9s								
SMPI	**Sarmi**	**48.74**	**290**	P		**P**		**19 18 53.4**	**-2.2**
	comp=Z,31nm,1.3s								
FORT	**Forrest**	**49.30**	**250**			**P**		**19 18 59.1**	**-0.5**
FORT	**Forrest**	**49.30**	**250**	P		**P**		**19 18 59.5**	**-0.2**
	comp=Z,102nm,0.8s								
FORT	**Forrest**	**49.30**	**250**	P		**P**		**19 18 59.2**	**-0.5**
KDU	**Kakadu**	**49.65**	**274**	P		**P**		**19 19 00.1**	**-2.4**
KDU	**Kakadu**	**49.65**	**274**	P		**P**		**19 19 01.0**	**-1.5**
WRKA	**Warakurna**	**50.00**	**257**	P		**P**		**19 19 04.9**	**-0.3**
	comp=Z,61nm,0.7s								
WRKA	**Warakurna**	**50.00**	**257**	P		**P**		**19 19 04.2**	**-1.0**
DRV	**Dumont d'Urvil**	**50.32**	**201**	P		**P**		**19 19 09.5**	**+2.6**
MTN	**Manton Dam**	**50.81**	**273**			**P**		**19 19 09.0**	**-2.4**
MTN				IAmb		IAmb		19 19 12.3	
	comp=Z,15nm,0.7s								
MTN	**Manton Dam**	**50.81**	**273**	P		**P**		**19 19 09.8**	**-1.5**
MTN	**Manton Dam**	**50.81**	**273**	P		**P**		**19 19 09.7**	**-1.7**
SRPI	**Serui, Papua**	**50.92**	**289**	P		**P**		**19 19 10.6**	**-1.6**
	comp=Z,1μmcomp=Z,60nm,0.8s								
DRS	**Darwin Rock St**	**51.17**	**273**	P		**P**		**19 19 12.6**	**-1.5**
BAKI	**Biak**	**51.38**	**289**	P		**P**		**19 19 16.3**	**+0.7**
	comp=Z,87nm,0.9s								
KNRA	**Kununurra**	**52.02**	**269**			**P**		**19 19 19.3**	**-1.1**
KNRA	**Kununurra**	**52.02**	**269**	P		**P**		**19 19 19.8**	**-0.6**
	comp=Z,60nm,0.7s								
GUMO	**Guam**	**53.42**	**311**	LR		LR		19 40 18.0	
	comp=Z,22nm,19.3s,baz=98,slow=34								
FAKI	**Fak Fak**	**53.91**	**285**	P		**P**		**19 19 32.5**	**-1.9**
FAKI				IAmb		IAmb		19 19 33.7	
	comp=Z,41nm,1.3s								
FAKI	**Fak Fak**	**53.91**	**285**	P		**P**		**19 19 33.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**54.12**	**265**	P		**P**		**19 19 34.7**	**-1.2**
SBA	**Scott Base**	**54.20**	**184**			**P**		**19 19 37.8**	**+2.2**
SBA	**Scott Base**	**54.20**	**184**	P		**P**		**19 19 37.8**	**+2.2**
SBA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
SBA	**Scott Base**	**54.20**	**184**	P		**P**		19 19 40.7	+5.2
VNDA	**Vanda**	**54.28**	**186**	P		**P**		**19 19 39.6**	**+3.5**
VNDA	**Vanda**	**54.28**	**186**	P		**P**		**19 19 40.2**	**+4.1**
	comp=Z,1.4nm,0.8s,baz=294,slow=3.4,SNR=12								
VNDA				LR		LR		19 43 23.4	
	comp=Z,31nm,18.1s,baz=349,slow=36								
VNDA				PKP2bc				19 50 03.6	
	comp=Z,0.2nm,0.4s,baz=100,slow=10,SNR=5.3								
	comp=Z,1.4nm,0.8s								
VNDA	**Vanda**	**54.28**	**186**	P		**P**		**19 19 39.7**	**+3.5**
VNDA				pmax		pmax			
	comp=Z,6.0nm,1.3s								
VNDA	**Vanda**	**54.28**	**186**	P		**P**		**19 19 40.2**	**+4.1**
BNDI	**Bandanaira**	**55.26**	**282**	P		**P**		**19 19 43.2**	**-1.0**
SWI	**Sorong**	**55.75**	**287**	P		**P**		**19 19 46.3**	**-1.4**
MSAI	**Masohi**	**56.65**	**283**	P		**P**		**19 19 53.2**	**-1.0**
	comp=Z,93nm,0.6s								
AAI	**Ambon**	**57.15**	**282**	P		**P**		**19 19 56.9**	**-0.8**
KLBR	**Kellerberrin**	**57.90**	**247**	P		**P**		**19 20 02.6**	**-0.2**
	comp=Z,175nm,0.7s								
KLBR	**Kellerberrin**	**57.90**	**247**	P		**P**		**19 20 02.6**	**-0.2**
NWAO	**Narrogin (SRO)**	**58.10**	**245**	LR		LR		19 42 34.2	
	comp=Z,101nm,19.0s,baz=290,slow=33								
NWAO	**Narrogin (SRO)**	**58.10**	**245**	P		**P**		**19 20 04.5**	**+0.3**
NWAO				pP		**sP**		**19 20 15.7**	**-1.3**
MEEK	**Meekatharra**	**58.19**	**253**	P		**P**		**19 20 04.4**	**-0.5**
SOEI	**Soe**	**58.20**	**274**	P		**P**		**19 20 04.5**	**-0.8**
SOEI	**Soe**	**58.20**	**274**	P		**P**		**19 20 06.2**	**+0.9**
NLAI	**Namlea**	**58.33**	**282**	P		**P**		**19 20 04.8**	**-1.2**
	comp=Z,862nmcomp=Z,51nm,0.7s								
PSA00	**Pilbara Seismi**	**58.37**	**259**	P		**P**		**19 20 04.5**	**-1.7**
PSA00				IAmb		IAmb		19 20 34.7	
	comp=Z,39nm,1.4s								
PSA00	**Pilbara Seismi**	**58.37**	**259**	P		**P**		**19 20 06.4**	**+0.2**
MBWA	**Marble Bar**	**58.58**	**259**	P		**P**		**19 20 06.2**	**-1.5**
MBWA				IAmb		IAmb		19 20 10.2	
	comp=Z,16nm,0.6s								
MBWA	**Marble Bar**	**58.58**	**259**	P		**P**		**19 20 07.3**	**-0.4**
	comp=Z,26nm,0.6s								
MBWA	**Marble Bar**	**58.58**	**259**	P		**P**		**19 20 06.7**	**-1.0**
MBWA	**Marble Bar**	**58.58**	**259**	P		**P**		**19 20 07.0**	**-0.7**
MBWA				pP		**pP**		**19 20 18.0**	**+1.0**
BLDU	**Ballidu**	**58.97**	**248**	P		**P**		**19 20 10.0**	**-0.3**
	comp=Z,48nm,0.6s								
BLDU	**Ballidu**	**58.97**	**248**	P		**P**		**19 20 10.2**	**-0.1**
MUN	**Mundaring**	**59.13**	**246**	P		**P**		**19 20 12.0**	**+0.7**
CCD	**Concordia, Ant**	**59.19**	**195**	P		**P**		**19 20 14.7**	**+3.2**
SANI	**Sanana**	**59.85**	**282**	P		**P**		**19 20 15.0**	**-1.5**
SANI	**Sanana**	**59.85**	**282**	P		**P**		**19 20 16.3**	**-0.2**
	comp=Z,42nm,0.6s								
MORW	**Morawa**	**59.86**	**249**	P		**P**		**19 20 16.1**	**-0.3**
MORW	**Morawa**	**59.86**	**249**	P		**P**		**19 20 17.0**	**+0.6**
	comp=Z,42nm,0.8s								
MORW	**Morawa**	**59.86**	**249**	P		**P**		**19 20 16.7**	**+0.2**
TNTI	**Ternate**	**59.94**	**286**			**P**		**19 20 15.4**	**-1.7**
TNTI	**Ternate**	**59.94**	**286**	P		**P**		**19 20 16.8**	**-0.3**
	comp=Z,33nm,0.7s								
EDFI	**Ende, Flores**	**60.94**	**273**	P		**P**		**19 20 22.6**	**-1.5**
	comp=Z,42nm,0.7s								
CASY	**Casey**	**61.21**	**206**			**P**		**19 20 26.1**	**+1.2**
CASY	**Casey**	**61.21**	**206**	P		**P**		**19 20 26.9**	**+1.9**
CASY				pP		**sP**		**19 20 37.7**	**-0.1**
WSI	**Waingapu**	**61.85**	**272**	P		**P**		**19 20 29.5**	**-0.7**
WBSI	**Waikabubak, Su**	**62.69**	**272**	P		**P**		**19 20 34.4**	**-1.4**
	comp=Z,62nm,0.9s								
GIRL	**Giralia**	**63.06**	**256**	P		**P**		**19 20 38.4**	**+0.2**
PLAI	**Plampang**	**64.47**	**272**	P		**P**		**19 20 46.2**	**-1.4**
PLAI	**Plampang**	**64.47**	**272**	P		**P**		**19 20 47.0**	**-0.6**
	comp=Z,79nm,0.7s								
QSPA	**South Pole Qui**	**65.78**	**180**	P		**P**		**19 20 58.2**	**+2.8**

baz=293,slow=74,SNR=127
H03N2 Juan Fernandez 82.76 123 T T 20 54 43.8
baz=250,slow=72,SNR=170
H03N3 Juan Fernandez 82.76 123 T T 20 54 45.8
baz=250,slow=72,SNR=464
NVAR Mina Array Bea 82.77 42 P **P** **19 22 36.7 +2.0**
comp=Z,0.2nm,0.4s,baz=268,slow=8.1,SNR=1.9
H03N1 Juan Fernandez 82.77 123 T T 20 54 43.6
baz=250,slow=72,SNR=251
USA0B Ussuriysk Arra 82.96 325 P **P** **19 22 35.2 0.0**
USA0B IAmb IAmb 19 22 37.0
comp=Z,21nm,1.1s
USA0B Ussuriysk Arra 82.96 325 *c i*P **P** **19 22 35.4 +0.1**
USRK Ussuriysk Ar. 82.96 325 P **P** **19 22 35.4 +0.1**
USRK Ussuriysk Ar. 82.96 325 P **P** **19 22 35.8 +0.6**
comp=Z,8.7nm,0.7s,baz=140,slow=3.6,SNR=11
comp=Z,8.7nm,0.7s
USRK Ussuriysk Ar. 82.96 325 P **P** **19 22 35.4 +0.1**
ELIB Princess Elisa 83.04 186 *d*P **P** **19 22 37.1 +1.5**
comp=Z,13nm,0.0s
SYO Syowa Base 83.36 192⇑ *i*P **P** **19 22 38.0 +0.9**
SYO Syowa Base 83.36 192⇓ *es*P sP 19 22 51.4 +1.3
NJ2 Nanjing 83.47 309 ⇑P **P** **19 22 38.5 +0.3**
NJ2 pmax pmax
comp=Z,15nm,0.7s
LL02 Futaleuf 83.56 135 P **P** **19 22 39.2 +0.5**
LL02 IAmb IAmb 19 22 43.2
comp=Z,12nm,0.9s
TROLL Troll, Antarti 83.94 180 ⇑P **P** **19 22 42.0 +1.7**
comp=Z,693nm,0.5s
SNAA Sanae 84.17 178 P **P** **19 22 42.3 +1.0**
SNAA IAmb IAmb 19 22 43.8
comp=Z,11nm,0.8s
SNAA Sanae 84.17 178 ⇑P **P** **19 22 42.6 +1.2**
comp=Z,238nm,0.8s
SNAA Sanae 84.17 178 P **P** **19 22 42.7 +1.4**
comp=Z,9.3nm,0.8s,baz=203,slow=6.8,SNR=27
comp=Z,9.3nm,0.8s
SNAA Sanae 84.17 178⇑ *e*P **P** **19 22 42.7 +1.4**
SNAA pmax pmax
comp=Z,10.0nm,0.9s
VNA3 Neumayer Olymp 84.25 176 ⇑P **P** **19 22 43.0 +1.3**
comp=Z,23nm,0.8s
MDJ Mudanjiang 84.50 324 P **P** **19 22 43.8 +0.6**
MDJ pmax pmax
comp=Z,14nm,1.2s
VNA2 Neumayer--Watz 84.71 176 ⇑P **P** **19 22 45.6 +1.6**
comp=Z,16nm,0.7s,baz=188,slow=4.3
N14K Kuskokwak Cree 84.78 7 P **P** **19 22 44.1 -0.1**
N14K IAmb IAmb 19 23 10.7
comp=Z,20nm,0.9s
VNA1 Neumayer--Stat 84.93 176 ⇑P **P** **19 22 46.9 +1.8**
comp=Z,18nm,0.9s
N15K Kwethluk River 85.22 8 P **P** **19 22 46.5 +0.1**
N15K IAmb IAmb 19 22 48.9
comp=Z,7.3nm,0.8s
PLCA Paso Flores 85.56 133 P **P** **19 22 49.8 +0.9**
PLCA Paso Flores 85.56 133 P **P** **19 22 52.0 +3.0**
comp=Z,4.8nm,1.0s,baz=229,slow=6.1,SNR=7.6
PLCA LR LR 19 58 23.0
comp=Z,41nm,18.1s,baz=212,slow=33
comp=Z,4.8nm,1.0s
PLCA Paso Flores 85.56 133 P **P** **19 22 49.8 +0.9**
PLCA pmax pmax
comp=Z,8.0nm,1.1s
KULM Kulim 85.80 278 P **P** **19 22 49.6 -0.9**
KULM IAmb IAmb 19 22 52.4
comp=Z,14nm,0.7s
UBPT Khong Chiam 85.81 289 IAmb IAmb 19 22 52.4
comp=Z,8.8nm,0.9s
O19K Port Alsworth 86.11 11 IAmb IAmb 19 22 52.0
comp=Z,12nm,0.7s
ILSW Iliamna Southw 86.12 11 IAmb IAmb 19 22 53.0
comp=Z,19nm,1.2s
CN2 Changchun 86.23 322 P **P** **19 22 51.8 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
RPSI Rantau Prapat 86.30 275 P **P** **19 22 52.9 0.0**
PSI Prapat 86.34 275 P **P** **19 22 52.3 -1.0**
comp=Z,14nm,0.7s,baz=101,slow=2.8,SNR=8.5
comp=Z,14nm,0.7s
PSI Prapat 86.34 275 P **P** **19 22 52.9 -0.4**
PSI pmax pmax
comp=Z,22nm,0.9s
BNX BinXian 86.40 324 ⇓P **P** **19 22 53.0 +0.4**
BNX pmax pmax
comp=Z,17nm,0.5s
K13K Kusilvak Mount 86.45 6 IAmb IAmb 19 22 54.8
comp=Z,11nm,1.2s
KLR Kul'dur 86.57 329 P **P** **19 22 53.7 +0.3**
comp=Z,9.0nm,0.9s,baz=113,slow=3.7,SNR=20
comp=Z,9.0nm,0.9s
KLR Kul'dur 86.57 329 *c i*P **P** **19 22 53.9 +0.5**
KLR pmax pmax
comp=Z,11nm,0.9s
M17K Holitna River 86.77 9 P **P** **19 22 54.9 +0.8**
M17K IAmb IAmb 19 22 56.7
comp=Z,7.7nm,0.8s
TIA Tai'an 86.96 312 P **P** **19 22 52.3 -3.3**
TIA pmax pmax
comp=Z,5.0nm,1.1s
TIA pmax pmax
comp=Z,140nm,4.0s
BI02 San Fabin de 86.98 129 P **P** **19 22 56.8 +0.7**
BBB Bella Bella 87.04 27 LR LR 19 52 48.1
comp=Z,22nm,21.5s,baz=158,slow=29
L18K Granite Mounta 87.66 9 P **P** **19 22 59.0 +0.7**
TXAR Lajitas Array 87.84 57 P **P** **19 23 02.7 +2.5**
comp=Z,0.2nm,0.5s,baz=245,slow=4.6,SNR=2.0
TXAR LR LR 19 57 49.3
comp=Z,14nm,18.4s,baz=233,slow=32
ANMO Albuquerque 88.61 51 LR LR 19 56 38.5
comp=Z,38nm,19.1s,baz=56,slow=31
LYN LuoYang 89.33 309 P **P** **19 23 08.0 +1.1**
LYN pmax pmax
comp=Z,51nm,0.5s
HEH HeiHe 89.34 328 *e*P **P** **19 23 06.8 +0.3**
HEH pmax pmax
comp=Z,32nm,0.6s
CAST Castle Rocks 89.51 11 **P** **19 23 06.0 -1.1**
CAST IAmb IAmb 19 23 39.1
comp=Z,8.9nm,1.1s
NEW Newport 89.58 35 LR LR 19 59 14.7
comp=Z,41nm,18.0s,baz=199,slow=33
BJI Beijing 89.66 315 P **P** **19 23 08.8 +0.5**
BJI pmax pmax
comp=Z,5.0nm,0.8s
KTH Kantishna Hill 89.83 11 IAmb IAmb 19 23 34.5
comp=Z,6.3nm,0.9s
TRF Thorofare Moun 89.85 11 IAmb IAmb 19 23 09.8
comp=Z,8.9nm,0.8s
J20K Nowinta River 89.89 10 IAmb IAmb 19 24 10.9
comp=Z,14nm,1.6s
G16K Koyuk River 90.06 6 IAmb IAmb 19 24 48.1
comp=Z,16nm,1.9s
RND Reindeer 90.08 12 P **P** **19 23 09.4 -0.4**
RND IAmb IAmb 19 23 11.3
comp=Z,10nm,1.0s
RND Reindeer 90.08 12 P **P** **19 23 09.4 -0.4**
RND pmax pmax
comp=Z,10.0nm,1.0s
MCK McKinley 90.36 12 P **P** **19 23 10.1 -0.9**
MCK McKinley 90.36 12 P **P** **19 23 10.1 -0.9**
MCK pmax pmax
comp=Z,6.0nm,0.8s
SEY Seymchan 90.42 346⇓ *e*P **P** **19 23 11.5 +0.2**
SEY pmax pmax
comp=Z,4.0nm,0.9s
M27K Edge Creek, AK 90.65 15 IAmb IAmb 19 23 17.6
comp=Z,22nm,1.5s
PDAR Pinedale Array 90.70 43 P **P** **19 23 14.6 +1.2**
comp=Z,0.6nm,0.9s,baz=263,slow=2.7,SNR=3.4
comp=Z,0.6nm,0.9s
F17K Baldwin Pennin 91.19 6 **P** **19 23 14.4 -0.3**
F17K IAmb IAmb 19 24 22.3
comp=Z,10nm,1.4s
CCB Clear Creek Bu 91.40 12 IAmb IAmb 19 24 48.8
comp=Z,20nm,1.9s
COLA College 91.59 12⇑ *e*P **P** **19 23 17.5 +0.8**
COLA pmax pmax
comp=Z,4.0nm,0.9s
XAN Xi'an 91.64 307 P **P** **19 23 19.0 +1.2**
XAN pP sP 19 23 30.0 -0.9
ILAR Eielson Array 91.69 12 P **P** **19 23 16.9 -0.3**
comp=Z,0.8nm,0.7s,baz=211,slow=4.7,SNR=7.0
comp=Z,0.8nm,0.7s
ZEA Zeya 91.69 330 *e*P **P** **19 23 18.0 +0.6**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
XLT XiLinHaoTe 91.79 318 *e*P **P** **19 23 16.8 -1.5**
XLT sP sP 19 23 34.5 +3.1
XLT PP **PP** **19 26 54.0 -3.8**
XLT pmax pmax
comp=Z,14nm,0.6s
XLT pmax pmax
comp=Z,76nm,3.8s
J26L Joseph Creek 92.12 14 IAmb IAmb 19 24 15.4
comp=Z,8.7nm,1.2s
G21K Allakaket 92.18 9 IAmb IAmb 19 23 26.7
comp=Z,5.0nm,0.9s
F20K Avaraart Lake 92.39 8 IAmb IAmb 19 23 24.1
comp=Z,8.1nm,1.4s
KMI Kunming 92.42 296 ⇑P **P** **19 23 22.8 +1.0**
KMI pmax pmax
comp=Z,20nm,1.2s
CMAR Chiang Mai Arr 92.81 289 P **P** **19 23 24.5 +1.0**
comp=Z,18nm,0.9s,baz=136,slow=3.3,SNR=95
CMAR Chiang Mai Arr 92.81 289 *i* P **P** **19 23 24.7 +1.2**
CMAR pmax pmax
comp=Z,18nm,0.9s
CHTO Chiang Mai 92.95 289 P **P** **19 23 24.9 +0.8**
CHTO Chiang Mai 92.95 289 P **P** **19 23 24.9 +0.8**
CHTO pmax pmax
comp=Z,26nm,0.8s
BILL Bilibino 92.97 354⇑ *e*P **P** **19 23 23.0 0.0**
BILL pmax pmax
comp=Z,19nm,3.0s
HHC Hu-ho-hao-te 93.09 314⇓ *i*P **P** **19 23 25.5 +1.1**
HHC pmax pmax
comp=Z,28nm,0.7s
E22K Anaktuvuk Pass 93.94 9 IAmb IAmb 19 23 58.2
comp=Z,13nm,1.5s
BTO Baotou 94.00 313 *e*P **P** **19 23 30.0 +1.5**
BTO PP **PP** **19 27 19.8 +4.6**
BTO S **S** **19 34 38.3 +1.4**
BTO pmax pmax
comp=Z,32nm,0.6s
BTO pmax pmax
comp=Z,260nm,4.0s
BTO LR LR
comp=Z,230nm,5.1s
BTO LR LR
comp=Z,140nm,5.2s
BTO LR LR
comp=Z,94nm,5.8s
ATAH Atahualpa 94.29 100 LR LR 19 56 30.4
comp=Z,31nm,19.4s,baz=247,slow=29
D23K Nanushuk River 94.87 9 IAmb IAmb 19 23 33.4
comp=Z,7.6nm,1.2s
D24K Happy Valley 95.31 10 IAmb IAmb 19 24 04.0
comp=Z,11nm,1.2s
JTS Las Juntas de 95.42 81 LR LR 19 57 45.4
comp=Z,17nm,20.1s,baz=240,slow=30
YAK Yakutsk 96.20 337⇓ *e*P **P** **19 23 37.5 -0.4**
YAK pmax pmax
comp=Z,10.0nm,1.0s
LZH Lanzhou 96.28 307 *e*P **P** **19 23 40.0 +0.8**
LZH pP sP 19 23 51.0 -1.3
LZH pmax pmax
comp=Z,23nm,1.3s
LZH LR LR
comp=Z,160nm,15.5s
LZH LR LR
comp=Z,220nm,16.5s
LPAZ La Paz 99.19 112 LR LR 19 59 46.6
comp=Z,16nm,21.4s,baz=193,slow=30
ULN Ulaanbaatar 99.22 318⇓ *i*P **Pdif** **19 23 51.6 -0.6**
ULN pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 99.32 24 PKKPbc PKKPbc 19 40 15.8 -2.3
comp=Z,0.3nm,0.7s,baz=49,slow=3.0,SNR=6.1
SONM Songino Array 99.61 318 P **Pdif** **19 23 52.4 -1.5**
comp=Z,1.4nm,0.9s,baz=120,slow=5.8,SNR=5.8
comp=Z,1.4nm,0.9s
GTA Gaotai 100.55 308 *e*P **Pdif** **19 23 59.0 +0.8**
GTA pmax pmax
comp=Z,4.0nm,0.7s
WMQ Urumqi 110.55 310 *e*PKP **PKiKP** **19 28 42.3 -0.6**
ZALV Zalesovo Beam 114.39 320 PKiKP PKPdf 19 28 48.2 -1.6
comp=Z,1.4nm,0.6s,baz=126,slow=1.8,SNR=7.8
NRIK Noril'sk 114.65 337 PKP PKPdf 19 28 48.5 -1.3
comp=Z,2.6nm,0.6s,baz=94,slow=3.4,SNR=4.5
MK31 Makanchi Array 114.89 312 *c i*PKIKP PKPdf 19 28 49.6 -1.4
MKAR Makanchi Array 114.89 312 PKP PKPdf 19 28 49.5 -1.5
comp=Z,1.2nm,0.7s,baz=71,slow=2.5,SNR=12
MKAR PKKPbc **PKKPbc** **19 39 29.4 +0.7**
comp=Z,0.7nm,0.8s,baz=274,slow=3.3,SNR=6.8
KURK Kurchatov 117.80 316⇓ *i*PKIKP **PKPdf** **19 28 55.3 -1.1**
KURBB Kurchatov Arra 117.85 316 PKP **PKPdf** **19 28 55.0 -1.6**
comp=Z,2.1nm,0.3s,baz=114,slow=1.9,SNR=6.9
KSH Kashi 118.28 303 PKP **PKiKP** **19 28 58.5 +0.5**
GAR Garm 122.56 302 **PKPdf** **19 29 04.5 -1.7**
KK31 Karatay Array 122.78 307 **PKPdf** **19 29 04.5 -1.8**
KK31 Karatay Array 122.78 307 PKIKP **PKPdf** **19 29 04.5 -1.8**
KKAR Karatay Array 122.78 307 **PKPdf** **19 29 04.8 -1.5**
KKAR Karatay Array 122.78 307 PKIKP **PKPdf** **19 29 04.8 -1.5**
BVAR Borovoye Array 122.95 319 PKP **PKPdf** **19 29 05.2 -1.1**
comp=Z,4.1nm,0.7s,baz=75,slow=0.8,SNR=20
KBL Kabul 123.00 297 **PKPdf** **19 29 05.7 -1.6**
KBL Kabul 123.00 297 PKIKP **PKPdf** **19 29 05.7 -1.6**
BRVK Borovoye 123.01 319 *c i*PKIKP **PKPdf** **19 29 04.9 -1.5**
BOSA Boshof 123.42 203 PKP **PKPdf** **19 29 07.8 -0.5**
comp=Z,2.6nm,0.7s,baz=106,slow=3.0,SNR=4.6
SPITS Spitsbergen Ar 125.74 357 PKP **PKPdf** **19 29 10.3 -0.8**
comp=Z,6.5nm,0.8s,baz=96,slow=4.2,SNR=5.6
ARTI Arti 129.29 324 **PKPdf** **19 29 17.1 -1.2**
ARTI Arti 129.29 324 PKP **PKPdf** **19 29 17.8 -0.5**
comp=Z,3.9nm,0.5s,baz=9.2,slow=2.2,SNR=8.1
ARTI Arti 129.29 324 *i* PKIKP **PKPdf** **19 29 18.3 0.0**
ARTI 19 31 26.9
ARTI 19 36 26.3
ARTI SP SP 19 41 29.9 -2.5
ARTI SS SS 19 48 44.0 -2.4
AKTO Aktyubinsk 130.90 317 PKP **PKPdf** **19 29 20.1 -1.5**
comp=Z,2.3nm,0.7s,baz=18,slow=3.4,SNR=5.1
ARCES ARCESS Array B 132.93 350 PKP **PKPdf** **19 29 23.7 -1.2**
comp=Z,4.2nm,0.7s,baz=30,slow=1.1,SNR=20
KIRV Kirov 133.01 329⇑ *i*PKIKP **PKPdf** **19 29 25.2 0.0**
KLMR Klimovskoe 135.97 336 *e*PKIKP **PKPdf** **19 29 25.7 -5.0**
KLMR pmax pmax
comp=Z,9.0nm,1.4s
BELG Belogornoye 136.54 322 PKP **PKPdf** **19 29 32.1 +0.1**
comp=Z,11nm,0.8s,baz=271,slow=4.6,SNR=3.1
AKT Akhty 139.70 306 *e*PKIKP **PKPdf** **19 29 36.3 -2.1**
AKT pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 139.84 343 PKhKP PKPpre 19 29 28.5
comp=Z,0.9nm,0.5s,baz=37,slow=2.3,SNR=9.7
FINES PKP **PKPdf** **19 29 38.2 +0.3**
comp=Z,2.1nm,0.8s,baz=95,slow=1.7,SNR=8.1
OBN Obninsk 140.81 330⇓ *e*PKIKP **PKPdf** **19 29 39.2 -0.6**
OBN SSS SSS 19 56 22.0
OBN pmax pmax
comp=Z,12nm,1.3s
OBN pmax pmax
comp=Z,9.0nm,0.7s
OBN MLR MLR
comp=Z,52nm,15.0s
RAYN Ar Rayn 141.84 278 PKPpre 19 29 36.9
RAYN Ar Rayn 141.84 278 ⇓PKHKP PKPpre 19 29 37.9
KBZ Khabaz 142.58 311 PKP **PKPdf** **19 29 40.1 -3.2**
comp=Z,1.2nm,0.8s,baz=72,slow=6.0,SNR=3.7
KIV Kislovodsk 142.66 311 *e*PKIKP **PKPdf** **19 29 44.4 +0.8**
KIV pmax pmax
comp=Z,3.0nm,1.1s
NB2 NORSAR Subarra 142.92 354 PKP **PKPdf** **19 29 38.5 -5.0**
comp=Z,1.5nm,0.9s,baz=16,slow=3.2
NOA NORSAR Array B 142.92 354 PKhKP PKPpre 19 29 39.1
comp=Z,1.7nm,0.8s,baz=22,slow=3.9,SNR=10
ERBR Yeremizino-Bor 143.49 315 *i* PKIKP PKPbc 19 29 42.0 -0.2
ERBR pmax pmax
comp=Z,11nm,0.8s
HFS Hagfors 143.52 352 PKhKP PKPpre 19 29 40.9
comp=Z,4.4nm,0.5s,baz=66,slow=3.7,SNR=39
LABN Labinsk 143.74 313 *i* PKIKP **PKiKP** **19 29 55.4 +6.6**
LABN pmax pmax
comp=Z,16nm,0.8s
GEVA Gevas 143.83 302 PKPbc 19 29 43.4 -0.3
KONO Kongsberg 144.44 355 **PKPab** **19 29 44.2 -0.2**
KONO Kongsberg 144.44 355 PKIKP **PKPab** **19 29 44.2 -0.2**
SOC Sochi 144.80 312 *e*PKIKP **PKPab** **19 29 44.8 -1.4**
SOC *e* 19 33 01.8
SOC *e*PPP PPP 19 36 15.3
SOC *e*SS SS 19 51 47.4 -4.1
SOC *e*SSS SSS 19 57 09.6
SOC pmax pmax
comp=Z,16nm,0.7s
MNK Minsk 144.87 335 *i* PKIKP **PKPdf** **19 29 46.7 -0.3**
MNK *i* 19 33 01.2
MNK *i* PPP PPP 19 36 16.8
MNK *i* 19 36 53.3
MNK *i* SS SS 19 51 51.7 +0.9
MNK pmax pmax
comp=N,7.0nm,1.0s
MNK pmax pmax
comp=Z,48nm,0.8s
MNK pmax pmax
comp=E,19nm,0.7s
MNK MLR MLR
comp=Z,31nm,12.0s
MNK MLR MLR
comp=E,35nm,16.0s
MNK MLR MLR
comp=N,34nm,16.0s
STRU Stroemstad 144.89 353 *i* P **PKPab** **19 29 45.4 -0.7**
ANN Anapa 145.83 315 *i* PKP2 **PKPdf** **19 29 49.0 +0.1**
ANN pmax pmax
comp=Z,46nm,1.1s
HOMB Homborsund 145.89 355 *i* P **PKPbc** **19 29 49.2 -0.1**
BORU Boraas 146.06 351 *i* P **PKPdf** **19 29 48.9 0.0**
ONAU Onsala 146.41 352 *i* P **PKPdf** **19 29 50.0 +0.5**
FABU Falkenberg 146.68 351 *i* P **PKPbc** **19 29 51.0 -0.6**
SUW Suwalki 146.93 339 *e*PKP **PKPbc** **19 29 52.4 -0.1**
DEL Delary 147.02 350 *i* P **PKPbc** **19 29 52.4 -0.3**
AKASG Malin Array Be 147.07 330 PKPbc **PKPbc** **19 29 52.0 -0.9**
comp=Z,5.6nm,0.4s,baz=44,slow=4.1,SNR=59
KIEV Kiev 147.08 330 **PKPbc** **19 29 52.0 -1.0**
KIEV Kiev 147.08 330 ⇓P **PKPbc** **19 29 51.9 -1.0**
KIEV Kiev 147.08 330 PKP2 **PKPbc** **19 29 52.0 -1.0**
BJUU Bjuv 147.53 350 *i* P **PKPbc** **19 29 53.3 -0.8**
MUD Monsted U'grnd 147.64 354 *i* P **PKPbc** **19 29 54.7 +0.3**
SIM Simferopol' 147.85 317 *e*PKP2 **PKPbc** **19 29 55.6 +0.2**
SIM pmax pmax
comp=Z,30nm,0.9s
SIM pmax pmax
comp=Z,11nm,0.5s
LUNU Lund 147.89 350 *i* P **PKPbc** **19 29 54.5 -0.5**
BSD Bornholm Skovb 148.12 348 *i* P **PKPab** **19 29 59.2 +0.7**
SSRD Sdr. Stenderup 148.55 353 *i* P **PKPab** **19 30 00.9 +0.6**
DIKM Dikmen 148.58 311 ⇑P **PKPab** **19 30 00.3 -0.6**
EKA Eskdalemuir Ar 148.60 7 PKPbc **PKPbc** **19 29 56.0 -0.9**
comp=Z,4.3nm,0.8s,baz=348,slow=3.1,SNR=6.9
SORM Soroca 149.23 327 ⇑P **PKPbc** **19 29 58.9 +0.2**
SORM Soroca 149.23 327 ⇑PKP2 **PKPbc** **19 29 58.9 +0.2**
BZK Bozkurt 149.31 312 ⇑P **PKiKP** **19 30 00.0 -0.3**
GKP Gorka Klasztor 149.31 344 *e*PKP **PKPdf** **19 29 50.2 -4.3**
PURM Purcari 149.46 323 ⇑P **PKPbc** **19 29 58.0 -1.4**
MILM Milestii Mici 149.78 325 ⇓P **PKPbc** **19 29 58.9 -1.3**
MILM Milestii Mici 149.78 325 ⇓PKP2 **PKPbc** **19 29 58.9 -1.3**
FKH Fakeheh 149.87 297 *e*P **PKiKP** **19 30 01.5 -0.5**
BEIL Beino 150.00 297 *e*P **PKPbc** **19 30 01.5 +0.3**
CIDE Kastamonu/Cide 150.05 313 ⇑P **PKPbc** **19 30 01.1 +0.1**
HWQ Hawqa 150.25 297 *e*P **PKPbc** **19 30 01.6 -0.3**
BRTR Keskin Array B 150.47 309 **PKPdf** **19 29 54.4 -2.6**
BRTR PKPbc **PKPbc** **19 30 01.1 -1.2**
BRTR Keskin Array B 150.47 309 PKP **PKPdf** **19 29 56.0 -0.9**
comp=Z,0.9nm,0.9s,baz=111,slow=1.7,SNR=4.9
BRTR PKPbc **PKPbc** **19 30 01.8 -0.5**
comp=Z,4.1nm,0.6s,baz=144,slow=5.4,SNR=27
BRTR Keskin Array B 150.47 309 PKIKP **PKPdf** **19 29 54.4 -2.6**
BRTR 19 30 01.1
RCY Rachaya 150.47 295 *e*P **PKPbc** **19 30 02.6 +0.1**
KIRS Kirsehir-Merke 150.48 307 ⇓P **PKPbc** **19 30 02.4 +0.1**
BHL Bhannes 150.55 296 *e*P **PKPbc** **19 30 02.4 -0.2**
SHBL Chebaa 150.57 295 *e*P **PKPbc** **19 30 02.9 +0.2**
QRWL Qaraoun 150.59 296 *e*P **PKiKP** **19 30 02.9 -0.5**
DQRL Deir Qamar 150.66 296 *e*P **PKiKP** **19 30 03.2 -0.3**
PRAR RASCA 150.80 328 ⇓P **PKiKP** **19 30 03.4 +0.1**
VLDR Vladesti 150.86 324 ⇓P **PKiKP** **19 30 03.9 +0.5**
TLCR 150.86 322 ⇓P **PKiKP** **19 30 03.0 -0.4**
TLCR 150.86 322 ⇓PKIKP **PKiKP** **19 30 03.0 -0.4**
MMAI Mount Meron Ar 150.91 295 PKPbc **PKiKP** **19 30 03.9 -0.2**
comp=Z,15nm,0.7s,baz=72,slow=5.4,SNR=32
ANTO Ankara 151.01 309 **PKPbc** **19 30 02.2 -1.3**
ANTO Ankara 151.01 309 ⇑P **PKiKP** **19 30 04.1 +0.1**
ANTO Ankara 151.01 309 ⇑PKIKP **PKiKP** **19 30 04.1 +0.1**
JURR Jurilovca 151.08 321 ⇓P **PKiKP** **19 30 03.6 -0.3**
GHRR 151.08 325 ⇑P **PKiKP** **19 30 04.6 +0.8**
BURAR Bucovina Array 151.11 329 ⇑P **PKiKP** **19 30 04.2 +0.2**
BURAR Bucovina Array 151.11 329 ⇑PKIKP **PKiKP** **19 30 04.2 +0.2**
TESR Tescani 151.18 326 ⇑P **PKiKP** **19 30 03.9 -0.2**
CFR Carcaliu 151.24 322 ⇓P **PKPbc** **19 30 03.6 -0.1**
OJC Ojcow 151.25 338 *e*PKP **PKPbc** **19 30 03.4 -0.2**
TPGR Topolog 151.28 322 ⇑P **PKiKP** **19 30 04.8 +0.4**
PANC Panciu 151.34 324 ⇓P **PKiKP** **19 30 04.4 0.0**
KOLS Kolonicke sedl 151.39 334 *e*PKIKP **PKiKP** **19 30 05.0 +0.5**
KOLS Kolonicke sedl 151.39 334 *e*PKP **PKiKP** **19 30 05.0 +0.5**
STHS Stebnicka Huta 151.40 336 *e*PKIKP **PKPbc** **19 30 03.4 -0.6**
STHS Stebnicka Huta 151.40 336 *e*PKP **PKPbc** **19 30 03.4 -0.6**
ONER Baraj Valea Uz 151.43 326 ⇓P **PKiKP** **19 30 04.6 0.0**
VRI Vrincioaia 151.57 325 ⇓P **PKPbc** **19 30 04.5 0.0**
VRI Vrincioaia 151.57 325 ⇓PKIKP **PKPbc** **19 30 04.5 0.0**
PLOR Plostina 151.62 325 ⇑P **PKPbc** **19 30 04.1 -0.5**
PLOR Plostina 151.62 325 ⇑PKIKP **PKPbc** **19 30 04.1 -0.5**
HARR Harsova 151.66 322 ⇓P **PKiKP** **19 30 05.1 0.0**
MFTR Murfatlar 151.69 321 ⇑P **PKPbc** **19 30 04.8 0.0**
NIE Niedzica 151.75 337 *e*PKP **PKiKP** **19 30 06.0 +0.7**
KSP Ksiaz 151.76 343 *e*PKP **PKiKP** **19 30 05.0 -0.1**
BMR Baia Mare 151.85 331 ⇑P **PKPbc** **19 30 03.7 -1.3**
BMR Baia Mare 151.85 331 ⇑PKIKP **PKPbc** **19 30 03.7 -1.3**
ARCR ARCALIA 151.90 329 ⇑P **PKiKP** **19 30 06.1 +0.5**
OZUR 151.90 326 ⇑P **PKPbc** **19 30 05.1 -0.2**
OSTC Ostas 152.04 343⇑ *e*PKP **PKiKP** **19 30 06.1 +0.3**
OSTC Ostas 152.04 343 *e*PKIKP **PKiKP** **19 30 06.1 +0.3**
NEHR Nehoiu 152.08 325 ⇑P **PKPbc** **19 30 05.3 -0.4**
CLL Collm 152.10 347 **PKPbc** **19 30 05.2 -0.3**
CLL Collm 152.10 347⇑ *i*PKIKP **PKiKP** **19 30 05.5 -0.3**
CLL *i* 19 30 14.9
CLL pmax pmax
comp=Z,16nm,0.9s
CLL Collm 152.10 347⇑ *i*PKPbc **PKiKP** **19 30 05.5 -0.3**
comp=Z,16nm,0.9s
CLL *i* pPKPdf **pPKPdf** **19 30 09.7 +0.9**
comp=Z,12nm,0.7s
CLL *i* PKPab **PKPab** **19 30 14.9 -0.1**
comp=Z,21nm,0.7s
UPC Upice 152.14 343⇑ *e*PKP **PKiKP** **19 30 05.9 0.0**
UPC Upice 152.14 343 *e*PKIKP **PKiKP** **19 30 05.9 0.0**
STEB Steborice 152.15 340⇑ *e*PKP **PKiKP** **19 30 05.8 -0.2**
STEB *ex* x 19 30 09.0
DOPR Dopca 152.19 326 ⇓P **PKiKP** **19 30 06.8 +0.6**
CSS Mathiatis 152.20 299 **PKPbc** **19 30 05.2 -1.0**
DPC Dobruska-Polom 152.20 342⇑ *e*PKP **PKiKP** **19 30 06.3 +0.2**
DPC *ex* x 19 30 10.0
DPC Dobruska-Polom 152.20 342 *e*PKIKP **PKiKP** **19 30 06.3 +0.2**
DPC *e* 19 30 10.0
MLR Muntele Rosu 152.22 325 **PKPbc** **19 30 03.8 -2.3**
MLR Muntele Rosu 152.22 325 ⇓P **PKPbc** **19 30 06.0 -0.2**
MLR Muntele Rosu 152.22 325 PKIKP **PKPbc** **19 30 03.8 -2.3**
LANS Liptovska Anna 152.27 337 *e*PKIKP **PKiKP** **19 30 07.1 +0.8**
LANS Liptovska Anna 152.27 337 *e*PKP **PKiKP** **19 30 07.1 +0.8**
BRG Berggiesshubel 152.31 346 *i* PKP **PKiKP** **19 30 06.1 -0.1**
BRG Amp 19 30 07.1
comp=Z,13nm,0.8s
BRG Berggiesshubel 152.31 346 P **PKiKP** **19 30 10.6 +4.4**
BRG Amp 19 30 11.3
comp=Z,10nm,0.7s
BRG Berggiesshubel 152.31 346 P **PKPab** **19 30 15.9 -0.1**
BRG Amp 19 30 16.4
comp=Z,12nm,0.7s
KRLC Kraliky 152.32 342⇑ *e*PKP **PKPbc** **19 30 06.0 -0.1**
KRLC Kraliky 152.32 342 *e*PKIKP **PKPbc** **19 30 06.0 -0.1**
MORC Moravsky Berou 152.36 340 *e*PKP **PKPbc** **19 30 06.1 -0.1**
MORC Moravsky Berou 152.36 340 ⇑P **PKiKP** **19 30 06.3 -0.2**
MORC Moravsky Berou 152.36 340 ⇑PKIKP **PKiKP** **19 30 06.3 -0.2**
PVCC Panska Ves 152.49 345⇑ *e*PKP **PKiKP** **19 30 06.7 +0.1**
PVCC *ep*PKP **sPKPdf** **19 30 11.1 -1.8**
PVCC *e*PKPAB **pPKPbc** **19 30 15.8 -0.5**
PVCC Panska Ves 152.49 345 *e*PKIKP **PKiKP** **19 30 06.7 +0.1**
PVCC *e* 19 30 11.1
PVCC *e* 19 30 15.8
MESR Meseseni 152.49 331 ⇑P **PKiKP** **19 30 06.8 0.0**
CJR Cluj-Napoca 152.52 329 ⇓P **PKPbc** **19 30 05.1 -1.6**

MAUC	**Maruska**	**152.63 340**	⇑*e*PKP	**PKiKP**	**19 30 07.3**	**+0.3**
MAUC			*ex*	x	19 30 10.8	
VOIR		**152.72 326**	⇑P	**PKiKP**	**19 30 07.4**	**0.0**
VOIR		**152.72 326**	⇑PKiKP	**PKiKP**	**19 30 07.4**	**0.0**
MARR	**Marisel-Cluj**	**152.77 330**	⇓P	**PKPbc**	**19 30 06.8**	**-0.5**
DRGR		**152.87 331**	⇓P	**PKiKP**	**19 30 07.6**	**0.0**
DRGR		**152.87 331**	⇓PKiKP	**PKiKP**	**19 30 07.6**	**0.0**
ARR	**Arges**	**152.98 326**	⇑P	**PKiKP**	**19 30 09.0**	**+1.1**
PRU	**Pruhonice**	**153.00 344**	⇑*e*PKP	**PKiKP**	**19 30 10.3**	**+2.6**
PRU	**Pruhonice**	**153.00 344**	*e*PKiKP	**PKiKP**	**19 30 10.3**	**+2.6**
VYHS	**Vyhne**	**153.05 337**	*e*PKiKP	**PKiKP**	**19 30 07.7**	**-0.2**
VYHS			*e*		19 30 17.9	
VYHS	**Vyhne**	**153.05 337**	*e*PKP	**PKiKP**	**19 30 07.7**	**-0.2**
VYHS			*e*		19 30 17.9	
VRAC	**Vranov**	**153.06 341**	*e*PKP	**PKiKP**	**19 30 08.0**	**+0.1**
VRAC	**Vranov**	**153.06 341**	⇑P	**PKiKP**	**19 30 07.7**	**-0.2**
VRAC	**Vranov**	**153.06 341**	⇑PKiKP	**PKiKP**	**19 30 07.7**	**-0.2**
JAVC	**Velka Javorina**	**153.12 339**	*e*PKP	**PKiKP**	**19 30 08.7**	**+0.6**
PSZ	**Piszkesteto**	**153.14 335**	⇑P	**PKiKP**	**19 30 09.7**	**+1.5**
PSZ	**Piszkesteto**	**153.14 335**	⇑PKiKP	**PKiKP**	**19 30 09.7**	**+1.5**
KRUC	**Moravsky**	**153.34 341**	*e*PKP	**PKPbc**	**19 30 08.2**	**-0.1**
LOT	**Lotru**	**153.36 327**	⇑P	**PKPdf**	**19 30 01.3**	**+0.2**
MODS	**Modra-Piesok**	**153.68 339**	*e*PKiKP	**PKPbc**	**19 30 08.3**	**-0.8**
MODS	**Modra-Piesok**	**153.68 339**	*e*PKP	**PKPbc**	**19 30 08.3**	**-0.8**
SIRR	**Siria**	**153.74 331**	⇑P	**PKiKP**	**19 30 09.8**	**+0.4**
GZR	**Gura Zlata**	**153.88 328**	⇑P	**PKiKP**	**19 30 10.5**	**+0.7**
GZR	**Gura Zlata**	**153.88 328**	⇑PKiKP	**PKiKP**	**19 30 10.5**	**+0.7**
SURR	**Surduc**	**153.92 330**	⇓P	**PKPbc**	**19 30 09.5**	**-0.2**
BAND	**Balkesir-Ban**	**154.00 314**	⇑P	**PKPab**	**19 30 24.3**	**+0.9**
KHC	**Kasperske Hory**	**154.03 345**	⇑*e*PKP	**PKiKP**	**19 30 09.9**	**0.0**
KHC			*ex*	x	19 30 14.0	
KHC			*e*pPKP	**pPKPbc**	**19 30 19.8**	**0.0**
KHC	**Kasperske Hory**	**154.03 345**	*e*PKiKP	**PKiKP**	**19 30 09.9**	**0.0**
KHC			*e*		19 30 19.8	
EDRB	**Edirne**	**154.05 318**	P	**PKPab**	**19 30 22.3**	**-1.3**
CKRC	**Cesky Krumlov**	**154.13 344**	⇑*e*PKP	**PKiKP**	**19 30 10.3**	**+0.2**
CKRC			*ex*	x	19 30 14.2	
CKRC	**Cesky Krumlov**	**154.13 344**	*e*PKiKP	**PKiKP**	**19 30 10.3**	**+0.2**
BZS	**Buzias**	**154.25 330**	⇑P	**PKPdf**	**19 30 01.9**	**-0.3**
BZS	**Buzias**	**154.25 330**	⇑PKiKP	**PKPdf**	**19 30 01.9**	**-0.3**
GERES	**GERESS Array B**	**154.26 345**	PKP	**PKPdf**	**19 30 00.8**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=347,slow=5.5,SNR=4.5					
GERES			PKPbc	**PKPbc**	**19 30 10.0**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=64,slow=2.7,SNR=4.9					
HERR	**Herculane**	**154.43 328**	⇓P	**PKiKP**	**19 30 10.7**	**-0.1**
CONA	**Conrad Observa**	**154.51 341**	*e*PKiKP	**PKiKP**	**19 30 11.5**	**+0.5**
	comp=Z,3.2nm,0.8s					
MORH	**Mrgy. Hungar**	**155.03 335**	⇑P	**PKPdf**	**19 30 03.3**	**0.0**
PRK	**Paraskevi**	**155.77 313**	P	**PKPab**	**19 30 30.6**	**-0.4**
SOKA	**Soboth**	**155.88 341**	*i* pPKP	PKPab	19 30 23.3	-8.1
	comp=Z,2.0nm,0.8s					
SIGR	**SIGRI**	**156.07 314**	P	**PKPab**	**19 30 33.5**	**+1.2**
OBKA	**Obir**	**156.18 341**	*i* pPKP	**PKPab**	**19 30 25.2**	**-7.4**
	comp=Z,1.3nm,0.7s					
ABTA	**Abfaltersbach**	**156.51 345**	*e*PKP	**PKPdf**	**19 30 03.8**	**-1.5**
	comp=Z,1.4nm,0.6s					
FETA	**Feichten**	**156.64 348**	PKP	**PKPdf**	**19 30 05.9**	**+0.3**
	comp=Z,2.7nm,1.0s					
KNT	**Kendrikon**	**156.75 321**	P	**PKPab**	**19 30 35.5**	**+0.3**
VAY	**Valandovo**	**156.83 322**	*i* P	**PKPab**	**19 30 36.3**	**+0.8**
PLG	**Polygyros**	**156.93 319**	P	**PKPab**	**19 30 35.9**	**-0.1**
LIT	**Litokhoron**	**157.67 319**	P	**PKPab**	**19 30 38.7**	**-0.5**
GUR	**Goura**	**159.06 315**	P	**PKPab**	**19 30 44.2**	**-1.3**
KLV	**Kalavryta, Ach**	**159.13 315**	P	**PKPab**	**19 30 44.4**	**-1.3**
IMMV	**Iera Moni Meta**	**159.21 307**	P	**PKPab**	**19 30 46.0**	**0.0**
ITM	**Ithomi**	**159.77 314**		**PKPdf**	**19 30 06.4**	**-3.1**
ITM				**PKPab**	**19 30 46.6**	**-1.8**
KEST	**Kesra**	**167.60 338**	PKPab	**PKPab**	**19 31 21.6**	**-1.2**
	comp=Z,6.0nm,1.1s,baz=357,slow=8.3,SNR=4.1					
TORD	**Torodi Ar. Bea**	**168.74 170**	PKPab	**PKPab**	**19 31 29.6**	**+1.5**
	comp=Z,30nm,0.3s,baz=188,slow=3.9,SNR=1.8					

*IDC **26** 19:11:25.9±0.5,9°.63N×126°.47E,h0km,mb4.4/28,*
mbtmp4.4/30,ML4.0/1,MS3.8/15,Error ellipse:
s-maj=20.7km s-min=12.0km az=71.0
*NEIC **26** 19:11:28.2±1.7,9°.95N±0°.07×126°.71E±0°.07,h10km±1km,*
mb4.8/82,Error ellipse: s-maj=13.1km s-min=9.1km
az=41.0
*DJA **26** 19:11:36.0±0.9,10°N±6°×12°7E±°,h77km±8km,M4.9/18,*
mb4.7/18,mB5.1/6,MLv5.4/4,Mw(mB)4.5/6,MwMwp4.8/1,
Mwp5.1/1

ISC 26 19:11:32.2±0.9,9°.82N±0°.05×126°.56E±0°.06,h41km±9km,
n165,σ1°35/136,mb4.7/75,MS3.9/20,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.90**	**200**			**Pn**	**19 12 17.7**	**+1.7**
DAV	**Davao City (W)**	**2.90**	**200**	Pn		**Pn**	**19 12 16.2**	**+0.2**
	41nm,0.3s,baz=32,slow=2.4,SNR=12							
DAV				LR		LR	19 13 28.4	
	comp=Z,3μm,21.9s,baz=36,slow=46							
DAV	**Davao City (W)**	**2.90**	**200**	P		**Pn**	**19 12 18.0**	**+2.0**
SGSI	**Sangihe**	**6.18**	**190**	P		Pn	19 13 07.4	+6.4
TGY	**Tagaytay City**	**6.96**	**308**	Pn		**Pn**	**19 13 12.8**	**+1.0**
	44nm,0.3s,baz=106,slow=18,SNR=1.3							
TNTI	**Ternate**	**9.02**	**175**			**Pn**	**19 13 40.2**	**+0.2**
TNTI	**Ternate**	**9.02**	**175**	P		Pn	19 13 44.8	+4.7
	672nm63nm,1.2s							
MYLDM	**Lahad Datu**	**9.22**	**241**			**Pn**	**19 13 45.2**	**+2.3**
MRSI	**Marisa**	**10.36**	**207**	P		Pn	19 14 05.7	+7.3
	25nm,1.3s							
KKM	**Kota Kinabalu**	**10.91**	**251**	Pn		**Pn**	**19 14 07.0**	**+0.9**
LUWI	**Luwuk**	**11.43**	**199**	Pn		**Pn**	**19 14 13.5**	**+0.5**
FAKI	**Fak Fak**	**13.87**	**156**			**Pn**	**19 14 45.3**	**-1.0**
FAKI	**Fak Fak**	**13.87**	**156**	P		**Pn**	**19 14 48.4**	**+2.1**
	590nm47nm,1.2s							
YULB	**Yu-li**	**14.40**	**340**			**Pn**	**19 14 50.7**	**-2.9**
TPUB	**Ta-pu**	**14.56**	**338**			**Pn**	**19 14 53.9**	**-1.7**
SSLB	**Suanglung**	**14.89**	**340**			**Pn**	**19 14 57.7**	**-2.3**
BNSI	**Bone**	**15.52**	**205**	P		**P**	**19 15 15.2**	**+3.0**
	993nm38nm,1.3s							
YHNB	**Yeheng**	**15.57**	**342**	Pn		**Pn**	**19 15 07.0**	**-2.1**
SBUM	**Sibu**	**16.02**	**244**			**P**	**19 15 16.1**	**-1.6**
KAPI	**Kappang**	**16.22**	**205**	Pn		**P**	**19 15 18.8**	**-1.2**
	5.0nm,0.3s,baz=349,slow=5.2,SNR=2.0							
KAPI				LR		LR	19 22 58.9	
	comp=Z,154nm,18.7s,baz=34,slow=43							
QZH	**Quanzhou**	**16.84**	**334**	*e*P		**P**	**19 15 30.0**	**+3.2**
QZH				S		**S**	**19 18 37.5**	**-3.0**
QZH				LR		LR		
	comp=N,510nm,16.5s							
QZH				LR		LR		
	comp=E,400nm,13.1s							
QZH				LR		LR		
	comp=Z,550nm,13.7s							
SMPI	**Sarmi**	**16.85**	**133**	P		**P**	**19 15 26.0**	**-1.0**
	comp=Z,37nm,2.1s							
JOW	**Kunigami**	**17.00**	**5**	P		**P**	**19 15 29.5**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=187,slow=13,SNR=2.1							
	comp=Z,24nm,1.0s							
KSM	**Kuching**	**18.16**	**244**			**Pn**	**19 15 41.6**	**+0.1**
GUMO	**Guam**	**18.31**	**76**	LR		LR	19 21 48.0	
	comp=Z,256nm,20.9s,baz=246,slow=34							
GENI	**Genyem**	**18.32**	**132**	P		**Pn**	**19 15 45.5**	**+2.0**
	comp=Z,53nm,0.7s							
QIZ	**Qiongzhong**	**18.59**	**301**	P		**P**	**19 15 44.8**	**-1.3**
QIZ				S		**S**	**19 19 17.5**	**+1.5**
QIZ				pmax		pmax		
	comp=Z,210nm,8.3s							
QIZ				LR		LR		
	comp=Z,170nm,11.0s							
QIZ				LR		LR		
	comp=Z,250nm,13.7s							
QIZ				LR		LR		
	comp=Z,340nm,13.4s							
JAY	**Jayapura**	**18.67**	**130**	P		**P**	**19 15 44.0**	**-3.1**
	comp=Z,18nm,1.1s,baz=336,slow=10.0,SNR=6.6							
JAY				LR		LR	19 23 40.8	
	comp=Z,598nm,18.0s,baz=345,slow=40							
JAY	**Jayapura**	**18.67**	**130**	P		**Pn**	**19 15 48.6**	**+0.9**
MMRI	**Maumere**	**18.83**	**193**	P		**Pn**	**19 15 49.3**	**-0.3**
MMRI				IAmb		IAmb	19 16 01.9	
	comp=Z,59nm,0.8s							
EDFI	**Ende, Flores**	**19.07**	**195**	P		**Pn**	**19 15 55.3**	**+2.7**
	comp=Z,40nm,0.7s							
SOEI	**Soe**	**19.58**	**187**			**Pn**	**19 15 57.5**	**-1.1**
SOEI				IAmb		IAmb	19 16 10.3	
	comp=Z,36nm,0.8s							
TPI	**Tanjungpandan**	**22.60**	**237**	P		**P**	**19 16 31.1**	**+1.5**
	comp=Z,41nm,0.8s							
JCJ	**Chichijima**	**22.65**	**39**	P		**P**	**19 16 29.9**	**-0.1**
	comp=Z,35nm,0.7s,baz=283,slow=22,SNR=1.2							
JCJ				LR		LR	19 24 26.6	
	comp=Z,169nm,19.9s,baz=212,slow=34							
	comp=Z,35nm,0.7s							
MTN	**Manton Dam**	**22.97**	**169**			**P**	**19 16 35.0**	**+1.6**
MTN				IAmb		IAmb	19 16 45.4	
	comp=Z,56nm,1.6s							
NJ2	**Nanjing**	**23.25**	**343**	*e*P		**P**	**19 16 36.0**	**-0.1**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,150nm,4.3s							
JNU	**Nakatsue**	**23.53**	**9**	LR		LR	19 27 05.3	
	comp=Z,138nm,19.3s,baz=190,slow=40							
MYKOM	**Kota Tinggi**	**23.94**	**252**			**P**	**19 16 44.0**	**+1.1**
SLVN	**Son La**	**24.61**	**300**	P		**P**	**19 16 49.4**	**+0.4**
KNRA	**Kununurra**	**25.43**	**175**			**P**	**19 16 55.1**	**-1.2**
KNRA				IAmb		IAmb	19 17 08.3	
	comp=Z,24nm,1.0s							
SRIT	**Nakonsritamara**	**26.64**	**270**	P		**P**	**19 17 07.9**	**+0.6**
KSRS	**Korea Array**	**27.54**	**2**	P		**P**	**19 17 12.4**	**-2.8**
	comp=Z,2.0nm,1.0s,baz=192,slow=9.0,SNR=4.7							
KSRS				LR		LR	19 29 59.2	
	comp=Z,238nm,19.1s,baz=180,slow=40							
CM31	**Chiang Mai Arr**	**28.09**	**291**	P		**P**	**19 17 19.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**28.09**	**291**	P		**P**	**19 17 19.4**	**-1.0**
	comp=Z,4.1nm,1.0s,baz=102,slow=6.9,SNR=25							
CMAR				PcP		**PcP**	**19 20 35.1**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=96,slow=3.3,SNR=4.4							
CMAR				LR		LR	19 29 52.0	
	comp=Z,77nm,19.5s,baz=115,slow=39							
	comp=Z,4.1nm,1.0s							
CHTO	**Chiang Mai**	**28.18**	**292**			**P**	**19 17 19.8**	**-1.3**
RPSI	**Rantau Prapat**	**28.35**	**257**	P		**P**	**19 17 22.9**	**+0.2**
RPSI				IAmb		IAmb	19 17 32.3	
	comp=Z,12nm,0.8s							
MJAR	**Matsushiro Arr**	**28.62**	**20**	P		**P**	**19 17 26.4**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=196,slow=7.4,SNR=2.7							
MJAR				LR		LR	19 28 43.3	
	comp=Z,313nm,19.0s,baz=195,slow=36							
	comp=Z,1.0nm,0.7s							
PZH	**PanZhiHua**	**28.74**	**309**	P		**P**	**19 17 27.0**	**+0.7**
PZH				S		**S**	**19 22 12.8**	**-0.3**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,100nm,6.1s							
PZH				LR		LR		
	comp=Z,180nm,14.5s							
PZH				LR		LR		
	comp=Z,160nm,14.1s							
PZH				LR		LR		
	comp=Z,220nm,13.7s							
XAN	**Xi'an**	**29.04**	**329**	P		**P**	**19 17 28.8**	**+0.1**
XAN				pmax		pmax		
	comp=Z,41nm,0.8s							
HNS	**HongShan**	**29.47**	**341**	⇓P		**P**	**19 17 34.5**	**+2.1**
HNS				S		S	19 22 33.3	+9.3
HNS				pmax		pmax		
	comp=Z,26nm,1.3s							
HNS				LR		LR		
	comp=Z,250nm,15.6s							
HNS				LR		LR		
	comp=Z,220nm,14.5s							
CD2	**Chengdu**	**29.83**	**318**	P		**P**	**19 17 35.5**	**-0.3**
CD2				LR		LR		
	comp=Z,400nm,20.7s							
CD2				LR		LR		
	comp=Z,330nm,20.8s							
WRA	**Warramunga Arr**	**30.55**	**165**	P		**P**	**19 17 39.1**	**-3.0**
	comp=Z,0.9nm,0.7s,baz=342,slow=9.1,SNR=4.8							
	comp=Z,0.9nm,0.7s							
LZH	**Lanzhou**	**33.31**	**325**	*e*P		**P**	**19 18 08.0**	**+1.6**
LZH				sP		pwP	19 18 19.0	-3.7
LZH				pmax		pmax		
	comp=Z,11nm,1.2s							
LZH				LR		LR		
	comp=Z,360nm,14.8s							
LZH				LR		LR		
	comp=Z,270nm,14.1s							
LZH				LR		LR		
	comp=Z,310nm,13.7s							
HHC	**Hu-ho-hao-te**	**33.64**	**339**	*e*P		**P**	**19 18 11.8**	**+2.7**
HHC				S		**S**	**19 23 31.0**	**+1.7**
HHC				pmax		pmax		
	comp=Z,36nm,1.1s							
HHC				pmax		pmax		
	comp=Z,93nm,5.0s							
HHC				LR		LR		
	comp=Z,200nm,13.5s							
HHC				LR		LR		
	comp=Z,170nm,16.8s							
HHC				LR		LR		
	comp=Z,250nm,15.5s							
AS31	**Alice Springs**	**34.05**	**168**	P		**P**	**19 18 12.6**	**-0.1**
AS31				IAmb		IAmb	19 18 30.3	
	comp=Z,8.9nm,0.8s							
ASAR	**Alice Springs**	**34.05**	**168**	P		**P**	**19 18 10.4**	**-2.3**
	comp=Z,0.8nm,0.8s,baz=348,slow=8.4,SNR=11							
ASAR				PcP		**PcP**	**19 20 47.7**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=333,slow=2.3,SNR=1.4							
	comp=Z,0.8nm,0.8s							
USRK	**Ussuriysk Ar.**	**34.57**	**7**	P		**P**	**19 18 17.3**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=188,slow=7.1,SNR=2.6							
USRK				LR		LR	19 31 42.8	
	comp=Z,88nm,19.9s,baz=178,slow=35							
	comp=Z,1.9nm,0.6s							
XLT	**XiLinHaoTe**	**35.15**	**347**	*e*P		P	19 18 25.3	+3.1
XLT				sP		pP	19 18 31.5	+0.2
XLT				pmax		pmax		
	comp=Z,8.0nm,0.7s							
XLT				pmax		pmax		
	comp=Z,100nm,4.2s							
XLT				LR		LR		
	comp=Z,19nm,15.7s							
XLT				LR		LR		
	comp=Z,160nm,12.3s							
XLT				LR		LR		
	comp=Z,240nm,20.0s							
BRDH	**Bariadhala**	**35.77**	**295**	LR		LR	19 34 18.1	
	comp=Z,207nm,18.3s,baz=122,slow=38							
BNX	**BinXian**	**35.80**	**1**	⇑P		**P**	**19 18 29.3**	**+1.7**
BNX				pmax		pmax		
	comp=Z,7.0nm,1.2s							
SHL	**Shillong**	**36.41**	**300**	P		**P**	**19 18 31.7**	**-1.7**
SHL				IAmb		IAmb	19 18 42.0	
	comp=Z,11nm,0.7s							
ASAJ	**Asahikawa**	**36.89**	**19**	LR		LR	19 33 05.6	
	comp=Z,237nm,19.7s,baz=199,slow=35							
GTA	**Gaotai**	**37.91**	**325**	*e*P		**P**	**19 18 47.3**	**+1.4**
GTA				sP		sP	19 18 58.0	-1.9
GTA				pmax		pmax		
	comp=Z,5.0nm,0.7s							
GTA				LR		LR		
	comp=Z,150nm,17.1s							
GTA				LR		LR		
	comp=Z,140nm,15.3s							
GTA				LR		LR		
	comp=Z,210nm,16.0s							
KLR	**Kul'dur**	**39.52**	**5**	P		**P**	**19 18 59.5**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=168,slow=5.0,SNR=13							
KLR				PcP		**PcP**	**19 21 06.1**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=217,slow=5.1,SNR=2.4							
KLR				LR		LR	19 36 14.3	
	comp=Z,119nm,19.1s,baz=195,slow=38							
	comp=Z,2.3nm,0.5s							
H11S3	**WAKE ISLAND Hy 39.77**		**73**	T		T	20 02 06.4	
	baz=144,slow=76,SNR=7.8							
H11S1	**WAKE ISLAND Hy 39.79**		**73**	T		T	20 02 13.9	
	baz=144,slow=76,SNR=5.5							
H11S2	**WAKE ISLAND Hy 39.79**		**73**	T		T	20 02 11.0	
	baz=144,slow=76,SNR=6.1							
MORW	**Morawa**	**39.97**	**194**	P		**P**	**19 19 02.9**	**-0.1**
H11N1	**WAKE ISLAND Hy 40.13**		**71**	T		T	20 02 43.2	
	baz=265,slow=74,SNR=7.8							
H11N2	**WAKE ISLAND Hy 40.13**		**71**	T		T	20 02 40.5	
	baz=265,slow=74,SNR=4.1							
H11N3	**WAKE ISLAND Hy 40.14**		**71**	T		T	20 02 43.0	
	baz=265,slow=74,SNR=4.9							
HEH	**HeiHe**	**40.31**	**1**	*e*P		**P**	**19 19 07.0**	**+1.4**
HEH				PcP		**PcP**	**19 21 09.0**	**+0.5**
HEH				pmax		pmax		
	comp=Z,7.0nm,1.2s							
HEH				LR		LR		
	comp=Z,240nm,19.4s							
HEH				LR		LR		
	comp=Z,140nm,18.7s							
HEH				LR		LR		
	comp=Z,250nm,18.0s							
ULN	**Ulaanbaatar**	**41.34**	**340**	P		**P**	**19 19 12.8**	**-1.5**
ULN				IAmb		IAmb	19 19 17.5	
	comp=Z,41nm,1.4s							
SONM	**Songino Array**	**41.54**	**339**	P		**P**	**19 19 16.0**	**+0.1**
SONM				IAmb		IAmb	19 19 18.9	
	comp=Z,24nm,1.3s							
SONM	**Songino Array**	**41.54**	**339**	P		**P**	**19 19 17.6**	**+1.7**
	comp=Z,10.0nm,1.0s,baz=160,slow=9.0,SNR=41							
SONM				PcP		**PcP**	**19 21 13.1**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=152,slow=6.5,SNR=2.4							
SONM				ScP		**ScP**	**19 25 02.0**	**+2.2**
	comp=Z,1.0nm,1.1s,baz=162,slow=6.1,SNR=1.8							
	comp=Z,10.0nm,1.0s							
STKA	**Stephens Creek**	**43.89**	**161**	P		**P**	**19 19 33.8**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=321,slow=13,SNR=1.5							
STKA				ScP		**ScP**	**19 25 10.2**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=88,slow=2.7,SNR=2.9							
	comp=Z,2.2nm,0.6s							
WMQ	**Urumqi**	**47.75**	**322**	*e*P		**P**	**19 20 06.8**	**+1.4**
WMQ				LR		LR		
	comp=Z,280nm,15.3s							
WMQ				LR		LR		
	comp=Z,120nm,18.1s							
PETK	**Petropavlovsk-**	**49.93**	**24**	P		**P**	**19 20 24.1**	**+2.2**
	comp=Z,1.9nm,0.6s,baz=215,slow=3.0,SNR=9.9							
	comp=Z,1.9nm,0.6s							
DZM	**Mont Dzumac**	**50.34**	**129**	*e*LR		LR	19 34 43.0	
	comp=Z,93nm,25.6s							
YAK	**Yakutsk**	**52.17**	**2**	P		**P**	**19 20 37.9**	**-0.6**
YAK				IAmb		IAmb	19 21 06.3	
	comp=Z,11nm,0.9s							
MKAR	**Makanchi Array**	**52.56**	**323**	P		**P**	**19 20 41.7**	**-0.1**
MKAR	**Makanchi Array**	**52.56**	**323**	P		**P**	**19 20 42.3**	**+0.6**
	comp=Z,4.7nm,0.8s,baz=120,slow=8.0,SNR=26							
	comp=Z,4.7nm,0.8s							
MAKZ	**Makanchi**	**52.75**	**323**	P		**P**	**19 20 42.6**	**-0.5**
KSH	**Kashi**	**53.74**	**312**	P		**P**	**19 20 53.3**	**+2.6**
KSH				pP		pP	19 21 02.3	+1.5
KSH				pmax		pmax		
	comp=Z,5.0nm,1.1s							
NIL	**Nilore**	**54.22**	**304**	P		**P**	**19 20 53.5**	**-0.7**
NRN	**Naryn**	**54.38**	**314**	P		**P**	**19 20 55.0**	**-0.6**
ZAA0	**Zalesovo Array**	**55.16**	**331**	P		**P**	**19 20 59.9**	**-0.7**
ZALV	**Zalesovo Beam**	**55.16**	**331**	P		**P**	**19 20 59.1**	**-1.4**
ZALV	**Zalesovo Beam**	**55.16**	**331**	P		**P**	**19 21 00.3**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=110,slow=7.8,SNR=12							
	comp=Z,2.7nm,0.7s							
AAK	**Ala-Archa**	**55.85**	**315**	P		**P**	**19 21 04.7**	**-1.2**
KURK	**Kurchatov**	**56.60**	**326**	P		**P**	**19 21 10.6**	**-0.3**
KURK				IAmb		IAmb	19 21 27.2	
	comp=Z,11nm,1.0s							
KURBB	**Kurchatov Arra**	**56.60**	**325**	P		**P**	**19 21 11.2**	**+0.2**
	comp=Z,3.5nm,0.9s,baz=126,slow=6.7,SNR=21							
	comp=Z,3.5nm,0.9s							
MSVF	**Nonsavu**	**57.75**	**118**	LR		LR	19 45 28.0	
	comp=Z,87nm,18.9s,baz=241,slow=35							
KBL	**Kabul**	**57.82**	**305**	P		**P**	**19 21 19.5**	**-0.7**
KBL				IAmb		IAmb	19 21 32.1	
	comp=Z,8.4nm,0.8s							
SIMJ	**Simiganj**	**58.71**	**309**	P		**P**	**19 21 25.9**	**-0.3**
SIMJ				IAmb		IAmb	19 21 29.5	
	comp=Z,9.2nm,1.2s							
KK31	**Karatay Array**	**58.77**	**315**	IAmb		IAmb	19 21 38.6	
	comp=Z,7.6nm,1.0s							
KKAR	**Karatay Array**	**58.77**	**315**	P		**P**	**19 21 25.9**	**-0.5**
KKAR	**Karatay Array**	**58.77**	**315**	IAmb		IAmb	19 21 38.6	
	comp=Z,8.0nm,1.0s							
TIXI	**Tiksi**	**61.80**	**1**	P		**P**	**19 21 47.1**	**+0.6**
BVAR	**Borovoye Array**	**62.20**	**325**	P		**P**	**19 21 50.3**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=142,slow=6.7,SNR=15							
	comp=Z,2.9nm,0.6s							
BRVK	**Borovoye**	**62.27**	**325**	P		**P**	**19 21 49.8**	**-0.2**
BRVK				IAmb		IAmb	19 21 51.7	
	comp=Z,16nm,1.6s							
HRA	**Herat**	**63.35**	**304**	IAmb		IAmb	19 21 59.5	
	comp=Z,6.9nm,0.8s							
NRIK	**Noril'sk**	**64.52**	**346**	P		**P**	**19 22 04.8**	**+0.2**
NRIK	**Noril'sk**	**64.52**	**346**	P		**P**	**19 22 06.4**	**+1.8**
	comp=Z,12nm,0.8s,baz=138,slow=7.2,SNR=21							
	comp=Z,12nm,0.8s							
RTZ	**Ruatahuna**	**67.26**	**139**	P		**P**	**19 22 23.1**	**+0.2**
BKZ	**Black Stump Fm**	**67.26**	**140**	P		**P**	**19 22 23.2**	**+0.4**
AB31	**Akbulak array**	**67.40**	**319**	IAmb		IAmb	19 22 35.9	
	comp=Z,5.4nm,0.9s							
ABKAR	**Akbulak array**	**67.40**	**319**	P		**P**	**19 22 23.3**	**-0.3**
ABKAR	**Akbulak array**	**67.40**	**319**	IAmb		IAmb

comp=Z,1.5nm,0.9s
KMBO Kilima Mbogo 89.51 269 P **P** **19 24 26.2 -0.2**
KMBO IAmb IAmb 19 24 39.2
comp=Z,10nm,1.4s
BUR08 Bucovina Ar. S 90.37 318 IAmb IAmb 19 25 12.0
comp=Z,12nm,1.9s
KOLS Kolonicke sedl 91.89 320 *e*P **P** **19 24 37.9 +1.5**
HFS Hagfors 92.58 333 P **P** **19 24 38.7 -0.7**
comp=Z,4.2nm,0.6s,baz=94,slow=4.6,SNR=6.2
comp=Z,4.2nm,0.6s
NC405 NORSAR Array S 93.04 334 P **P** **19 24 40.7 -0.8**
NB2 NORSAR Subarra 93.29 334 P **P** **19 24 42.1 -0.5**
comp=Z,5.4nm,1.0s,baz=66,slow=4.6
NB2 NORSAR Subarra 93.29 334 P **P** **19 24 42.1 -0.5**
baz=66,slow=4.6
NOA NORSAR Array B 93.29 334 P **P** **19 24 42.2 -0.4**
comp=Z,1.4nm,0.7s,baz=66,slow=4.6,SNR=13
comp=Z,1.4nm,0.7s
YKA Yellowknife Ar 94.05 24 P **P** **19 24 47.0 +0.9**
comp=Z,0.7nm,0.7s,baz=305,slow=4.4,SNR=12
comp=Z,0.7nm,0.7s
TAOE Nuku Hiva Isla 94.69 98 *e*LR LR 19 55 14.2
comp=Z,112nm,26.9s
MODS Modra-Piesok 95.21 321 *e*P **P** **19 24 52.5 +0.8**
BEHE Becsehely 96.21 319 P **P** **19 24 54.6 -1.7**
GERES GERESS Array B 97.22 322 P Pdif 19 25 00.7 -0.4
comp=Z,0.5nm,0.7s,baz=128,slow=7.7,SNR=2.3
comp=Z,0.5nm,0.7s
TXAR Lajitas Array 117.90 49 PKP **PKiKP** **19 30 15.5 +0.1**
comp=Z,0.2nm,0.5s,baz=347,slow=1.5,SNR=2.4
TORD Torodi Ar. Bea 120.70 292 PKhKP PKPpre 19 30 16.1
comp=Z,23nm,0.3s,baz=106,slow=0.9,SNR=1.9
TORD PKP **PKiKP** **19 30 21.2 +0.3**
comp=Z,23nm,0.3s,baz=84,slow=1.4,SNR=1.6
PLCA Paso Flores 145.68 157 PKPbc **PKiKP** **19 31 07.7 -3.1**
comp=Z,5.1nm,1.1s,baz=231,slow=2.8,SNR=9.4
LPAZ La Paz 164.31 116 PKP **PKPdf** **19 31 34.5 +1.3**
comp=Z,1.6nm,1.0s,baz=144,slow=1.2,SNR=4.8
LPAZ PKPab **PKPab** **19 32 27.9 +0.5**
comp=Z,1.0nm,0.6s,baz=183,slow=9.5,SNR=2.0

*IDC **26** 19:24:17.2±1.1, 5.°25S×80.°84W, h0km, mb3.9/7, mbtmp3.9/8, ML3.8/1, MS3.5/9, Error ellipse: s-maj=50.7km s-min=24.3km az=67.0*
ISC 26 19:24:22.6±0.9, 5.°3S±0.°2×80.°9W±0.°3, h35km, n24, σ0§55/10, mb4.0/7, MS3.5/5, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**11.97**	**33**	LR	LR	19 32 15.6	
	comp=Z,398nm,18.9s,baz=230,slow=40						
JTS	**Las Juntas de**	**15.98**	**345**	LR	LR	19 32 54.0	
	comp=Z,100nm,19.9s,baz=139,slow=32						
LPAZ	**La Paz**	**16.61**	**132**	Pn	**Pn**	**19 28 13.3**	**-0.2**
	0.2nm,0.3s,baz=306,slow=11,SNR=5.1						
LPAZ				LR	LR	19 34 52.9	
	comp=Z,110nm,21.0s,baz=306,slow=38						
	2.1nm,1.0s						
SDV	**Santo Domingo**	**17.36**	**36**	LR	LR	19 36 11.3	
	comp=Z,137nm,18.8s,baz=248,slow=41						
SIV	**San Ignacio**	**22.16**	**120**	LR	LR	19 38 46.6	
	comp=Z,256nm,19.6s,baz=285,slow=39						
TEIG	**Tepich**	**26.36**	**344**	P	**P**	**19 29 55.8**	**+0.2**
	0.4nm,0.5s,baz=140,slow=24,SNR=3.6						
	0.4nm,0.5s						
MDP	**Montagnes des**	**30.00**	**70**	LR	LR	19 43 31.8	
	comp=Z,116nm,20.8s,baz=313,slow=38						
CPUP	**Villa Florida**	**30.73**	**135**	LR	LR	19 44 24.8	
	comp=Z,71nm,21.5s,baz=308,slow=39						
BDFB	**Brasilia**	**33.86**	**110**	LR	LR	19 45 44.4	
	comp=Z,147nm,18.9s,baz=291,slow=38						
RCBR	**Riachuelo**	**44.74**	**93**	LR	LR	19 54 00.3	
	comp=Z,48nm,18.4s,baz=254,slow=40						
PDAR	**Pinedale Array**	**54.43**	**334**	P	**P**	**19 33 47.0**	**+0.2**
	1.0nm,0.8s,baz=143,slow=7.4,SNR=3.4						
	1.0nm,0.8s						
YKA	**Yellowknife Ar**	**72.31**	**344**	P	**P**	**19 35 43.4**	**-0.9**
	0.1nm,0.3s,baz=140,slow=5.9,SNR=5.6						
	0.1nm,0.3s						
SNAA	**Sanae**	**81.27**	**162**	P	**P**	**19 36 34.9**	**0.0**
	1.3nm,0.8s,baz=324,slow=11,SNR=3.2						
	1.3nm,0.8s						
ESDC	**Sonseca Array**	**83.32**	**49**	P	**P**	**19 36 47.1**	**+0.9**
	0.9nm,0.8s,baz=258,slow=4.6,SNR=4.8						
	0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.97**	**76**	P	**P**	**19 36 49.5**	**-0.5**
	47nm,0.3s,baz=276,slow=3.7,SNR=2.2						
QSPA	**South Pole Qui**	**84.83**	**180**	P	**P**	**19 36 53.7**	**+0.2**
	1.1nm,0.9s,baz=207,slow=3.2,SNR=2.2						
	1.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**87.34**	**34**	P	**P**	**19 37 05.8**	**-0.1**
	3.4nm,1.0s,baz=255,slow=6.0,SNR=3.9						
	3.4nm,1.0s						
H11N3	**WAKE ISLAND Hyl**	**12.67**	**289**	T	T	21 44 50.8	
	baz=89,slow=74,SNR=3.9						
H11N2	**WAKE ISLAND Hyl**	**12.68**	**289**	T	T	21 45 02.9	
	baz=89,slow=74						
H11N1	**WAKE ISLAND Hyl**	**12.69**	**289**	T	T	21 44 50.3	
	baz=89						
H11S2	**WAKE ISLAND Hyl**	**12.92**	**288**	T	T	21 45 11.9	
	baz=88						
H11S1	**WAKE ISLAND Hyl**	**12.92**	**288**	T	T	21 45 08.3	
	baz=88						
H11S3	**WAKE ISLAND Hyl**	**12.93**	**288**	T	T	21 45 13.8	
	baz=88						
BVAR	**Borovoye Array**	**126.87**	**21**	PKP	**PKPdf**	**19 43 22.8**	**+0.1**
	0.3nm,0.6s,baz=296,slow=4.6,SNR=2.6						

*IDC **26** 19:35:03.8±0.8, 6.°46N×60.°33E, h0km, mb3.8/18, mbtmp3.8/18, MS3.8/38, Error ellipse: s-maj=20.8km s-min=17.7km az=32.0*
*NEIC **26** 19:35:04.0±0.9, 6.°3N±0.°1×60.°1E±0.°1, h10km±1km, mb4.4/39, Error ellipse: s-maj=22.7km s-min=19.0km az=132.0*
*GCMT **26** 19:35:07.0±0.4, 6.°61N±0.°03×60.°00E±0.°04, h12km±1km, MW4.7/74, Moment Tensor Solution. s8,c9; s74,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.22±.12; Mθθ0.82±.08; Mφφ0.40±.08; Mrθ0.41±.22; Mφφ-0.44±.04; Mφr1.18±.32; Best double couple: M0 1.56700×10^16 NP1:φs289.00000°, δ37.00000°, λ-136.00000°. NP2: φs162.00000°, δ65.00000°, λ-61.00000°. Principal axes: T 1.1790, Plg15.0000°, Azm231.0000°; N 0.7780, Plg26.0000°, Azm329.0000°; P -1.9550, Plg59.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 19:35:06.0±0.6, 6.°39N±0.°09×60.°18E±0.°08, h23km, n102, σ1§11/73, mb4.2/37, MS3.8/38, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**11.95**	**203**		**Pn**	**19 37 52.3**	**-2.9**
UOSS	**Minazif**	**18.84**	**349**		**P**	**19 39 23.6**	**-0.9**
UOSS				IAmb	IAmb	19 39 27.0	
	comp=Z,25nm,0.9s						
PALK	**Pallekele**	**20.39**	**86**	P	**P**	**19 39 42.1**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=248,slow=16,SNR=1.9						
PALK				LR	LR	19 45 37.8	
	comp=Z,220nm,20.8s,baz=270,slow=31						
	comp=Z,3.3nm,0.8s						
RAYN	**Ar Rayn**	**22.13**	**322**		**P**	**19 39 59.2**	**-0.9**
KIBK	**Kibwezi**	**23.74**	**249**		**P**	**19 40 15.6**	**-1.4**
KIBK				IAmb	IAmb	19 40 27.9	
	comp=Z,13nm,1.5s						
LODK	**Lodwar**	**24.90**	**264**		**P**	**19 40 26.4**	**-1.2**
OPO	**Ambohidratompo**	**27.92**	**207**	LR	LR	19 49 22.8	
	comp=Z,157nm,21.1s,baz=180,slow=31						
KBL	**Kabul**	**29.18**	**15**	P	**P**	**19 41 06.4**	**+0.3**
KBL				IAmb	IAmb	19 41 19.9	
	comp=Z,4.6nm,0.9s						
NIL	**Nilore**	**29.71**	**22**	P	**P**	**19 41 10.9**	**+0.4**
SIMJ	**Simiganj**	**33.10**	**13**	P	**P**	**19 41 40.5**	**+0.1**
EIL	**Elat**	**33.19**	**317**	LR	LR	19 54 31.8	
	comp=Z,121nm,19.0s,baz=66,slow=35						
ASF	**Jabal al Asfar**	**33.61**	**323**	LR	LR	19 55 10.6	
	comp=Z,137nm,18.6s,baz=155,slow=36						
GAR	**Garm**	**33.73**	**14**	P	**P**	**19 41 46.1**	**+0.2**
BRDH	**Bariadhala**	**34.37**	**59**	LR	LR	19 55 45.0	
	comp=Z,312nm,18.2s,baz=258,slow=36						
DRK	**Karamyk**	**34.57**	**16**	P	**P**	**19 41 53.0**	**-0.4**
BTK	**Batken**	**34.85**	**14**		**P**	**19 41 55.4**	**-0.2**
BTK				IAmb	IAmb	19 42 03.7	
	comp=Z,6.4nm,0.7s						

MMAI	**Mount Meron Ar**	**35.10**	**322**	LR	LR	19 56 07.5	
	comp=Z,148nm,18.1s,baz=123,slow=36						
GEVA	**Gevas**	**35.37**	**336**	P	**P**	**19 41 59.5**	**-0.6**
MARD	**Mardin**	**35.50**	**333**	P	**P**	**19 42 00.8**	**-0.5**
KSH	**Kashi**	**35.92**	**21**	P	**P**	**19 42 07.0**	**+2.2**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GURO	**Guroymak-BITLI**	**35.99**	**335**	P	**P**	**19 42 05.6**	**+0.1**
GNI	**Garni**	**36.36**	**340**	P	**P**	**19 42 08.1**	**-0.5**
GNI				IAmb	IAmb	19 42 17.6	
	comp=Z,8.1nm,0.9s						
GNI	**Garni**	**36.36**	**340**	LR	LR	19 57 22.2	
	comp=Z,76nm,21.2s,baz=124,slow=37						
ARSB	**Arslanbob**	**36.61**	**16**	P	**P**	**19 42 10.2**	**-0.5**
LSA	**Lhasa**	**37.25**	**48**		**P**	**19 42 16.4**	**-0.4**
KK31	**Karatay Array**	**37.68**	**12**	P	**P**	**19 42 19.3**	**-0.3**
KK31				IAmb	IAmb	19 42 32.4	
	comp=Z,6.2nm,1.1s						
KKAR	**Karatay Array**	**37.68**	**12**	P	**P**	**19 42 19.8**	**+0.2**
KKAR				IAmb	IAmb	19 42 32.4	
	comp=Z,6.5nm,1.1s						
KKAR	**Karatay Array**	**37.68**	**12**		**P**	**19 42 19.7**	**0.0**
AAK	**Ala-Archa**	**38.26**	**17**		**P**	**19 42 24.6**	**-0.1**
AAK				IAmb	IAmb	19 42 32.7	
	comp=Z,5.7nm,0.9s						
AAK	**Ala-Archa**	**38.26**	**17**	P	**P**	**19 42 26.0**	**+1.3**
	comp=Z,1.6nm,0.9s,baz=223,slow=6.6,SNR=4.3						
AAK				LR	LR	19 59 37.0	
	comp=Z,145nm,18.1s,baz=174,slow=39						
	comp=Z,1.6nm,0.9s						
LSZ	**Lusaka**	**38.32**	**236**	LR	LR	19 56 32.2	
	comp=Z,197nm,19.5s,baz=66,slow=34						
FRU1	**Bishkek**	**38.45**	**17**	P	**P**	**19 42 26.1**	**-0.1**
FRU1				IAmb	IAmb	19 42 34.2	
	comp=Z,9.3nm,0.9s						
PSI	**Prapat**	**38.77**	**93**	LR	LR	19 55 50.5	
	comp=Z,106nm,20.5s,baz=207,slow=32						
BNN	**Bunyan**	**39.09**	**329**	P	**P**	**19 42 31.2**	**-0.5**
BNN				IAmb	IAmb	19 42 40.4	
	comp=Z,8.3nm,0.8s						
SRIT	**Nakonsritamara**	**39.13**	**84**	P	**P**	**19 42 31.8**	**-0.4**
SRIT				IAmb	IAmb	19 42 44.1	
	comp=Z,13nm,1.3s						
CMAR	**Chiang Mai Arr**	**39.61**	**69**	P	**P**	**19 42 35.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**39.61**	**69**	P	**P**	**19 42 37.4**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=257,slow=7.7,SNR=8.1						
CMAR				LR	LR	19 57 51.1	
	comp=Z,60nm,19.2s,baz=265,slow=35						
	comp=Z,1.0nm,0.9s						
CHTO	**Chiang Mai**	**39.69**	**68**	P	**P**	**19 42 37.0**	**+0.1**
KBZ	**Khabaz**	**40.17**	**340**	P	**P**	**19 42 43.0**	**+2.6**
	comp=Z,2.2nm,0.9s,baz=144,slow=11,SNR=5.0						
	comp=Z,2.2nm,0.9s						
KVAR	**Kislovodsk Arr**	**40.44**	**340**	LR	LR	20 01 55.0	
	comp=Z,86nm,18.1s,baz=83,slow=40						
KIV	**Kislovodsk**	**40.44**	**340**	P	**P**	**19 42 43.3**	**+0.4**
KIV				IAmb	IAmb	19 42 57.3	
	comp=Z,13nm,1.2s						
BR131	**Keskin Array S**	**40.88**	**328**	P	**P**	**19 42 46.1**	**-0.4**
BRTR	**Keskin Array B**	**40.88**	**328**	P	**P**	**19 42 46.0**	**-0.5**
BRTR	**Keskin Array B**	**40.88**	**328**	P	**P**	**19 42 47.9**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=151,slow=9.2,SNR=5.5						
	comp=Z,0.8nm,0.9s						
MATP	**Matopo**	**40.99**	**229**	LR	LR	19 59 15.6	
	comp=Z,115nm,18.7s,baz=60,slow=35						
MDUB	**Mudurnu**	**42.72**	**327**	P	**P**	**19 43 00.2**	**-1.3**
AB31	**Akbulak array**	**42.72**	**360**	P	**P**	**19 43 00.2**	**-1.0**
ABKAR	**Akbulak array**	**42.72**	**360**	P	**P**	**19 43 00.8**	**-0.4**
ABKAR	**Akbulak array**	**42.72**	**360**	P	**P**	**19 42 59.8**	**-1.5**
ABKAR				IAmb	IAmb	19 43 13.0	
	comp=Z,4.7nm,1.1s						
IDI	**Anoyia**	**43.35**	**316**	P	**P**	**19 43 05.0**	**-1.6**
IDI				IAmb	IAmb	19 43 20.6	
	comp=Z,5.4nm,0.9s						
AKTO	**Aktyubinsk**	**43.93**	**358**	P	**P**	**19 43 12.4**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=179,slow=4.5,SNR=3.6						
AKTO				LR	LR	20 03 02.1	
	comp=Z,129nm,18.6s,baz=159,slow=38						
	comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**44.52**	**22**		**P**	**19 43 14.8**	**-1.1**
MKAR	**Makanchi Array**	**44.52**	**22**	P	**P**	**19 43 14.6**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=214,slow=9.2,SNR=8.1						
MKAR				LR	LR	20 03 28.8	
	comp=Z,74nm,18.1s,baz=176,slow=38						
	comp=Z,0.3nm,0.6s						
LBTB	**Lobatse**	**45.91**	**226**	LR	LR	20 00 03.1	
	comp=Z,133nm,21.5s,baz=45,slow=33						
KURBB	**Kurchatov Arra**	**46.67**	**16**	P	**P**	**19 43 31.8**	**-1.0**
	comp=Z,1.3nm,1.0s,baz=217,slow=7.4,SNR=7.3						
KURBB				LR	LR	20 02 58.9	
	comp=Z,124nm,21.2s,baz=170,slow=36						
	comp=Z,1.3nm,1.0s						
KURK	**Kurchatov**	**46.78**	**16**		**P**	**19 43 33.2**	**-0.4**
KURK				IAmb	IAmb	19 43 40.2	
	comp=Z,3.2nm,0.7s						
BELG	**Belogornoye**	**47.01**	**350**	LR	LR	20 06 11.1	
	comp=Z,69nm,18.6s,baz=128,slow=40						
BVAR	**Borovoye Array**	**47.24**	**8**	P	**P**	**19 43 38.2**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=180,slow=5.8,SNR=2.8						
BVAR				LR	LR	20 04 16.8	
	comp=Z,213nm,21.0s,baz=195,slow=37						
	comp=Z,0.4nm,0.6s						
BOSA	**Boshof**	**48.41**	**222**	P	**P**	**19 43 50.2**	**+3.4**
	comp=Z,2.8nm,1.0s,baz=77,slow=5.8,SNR=4.1						
BOSA				LR	LR	20 02 50.4	
	comp=Z,132nm,18.9s,baz=42,slow=34						
	comp=Z,2.8nm,1.0s						
TSUM	**Tsumeb**	**49.06**	**238**	LR	LR	20 03 21.3	
	comp=Z,83nm,19.7s,baz=102,slow=34						
ARTI	**Arti**	**49.88**	**359**	LR	LR	20 06 47.5	
	comp=Z,55nm,18.6s,baz=143,slow=38						
BURAR	**Bucovina Array**	**50.77**	**330**	P	**P**	**19 44 03.8**	**-0.6**
BUR08	**Bucovina Ar. S**	**50.80**	**330**	P	**P**	**19 44 04.5**	**-0.2**
AKASG	**Malin Array Be**	**51.15**	**335**	P	**P**	**19 44 08.4**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=137,slow=6.3,SNR=5.2						
AKASG				LR	LR	20 09 41.5	
	comp=Z,66nm,18.5s,baz=116,slow=41						
	comp=Z,1.1nm,0.7s						
AKBB	**Malin Array Si**	**51.15**	**335**	P	**P**	**19 44 06.5**	**-0.6**
AKBB				IAmb	IAmb	19 44 18.6	
	comp=Z,13nm,1.5s						
KIEV	**Kiev**	**51.15**	**335**	P	**P**	**19 44 06.3**	**-0.8**
KIEV				IAmb	IAmb	19 44 18.7	
	comp=Z,11nm,1.5s						
ZAA0	**Zalesovo Array**	**51.45**	**18**	P	**P**	**19 44 08.8**	**-0.5**
ZAA0				IAmb	IAmb	19 44 22.1	
	comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	**51.45**	**18**		**P**	**19 44 09.1**	**-0.3**
ZALV	**Zalesovo Beam**	**51.45**	**18**	P	**P**	**19 44 09.9**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=226,slow=9.1,SNR=6.9						
ZALV				LR	LR	20 06 43.5	
	comp=Z,75nm,18.2s,baz=196,slow=37						
	comp=Z,2.4nm,0.8s						
XAN	**Xi'an**	**52.71**	**52**	*e*P	**P**	**19 44 18.5**	**-0.6**
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
KIRV	**Kirov**	**52.73**	**353**	LR	LR	20 08 52.8	
	comp=Z,82nm,19.0s,baz=122,slow=38						
H04N1	**CROZET ISLANDS**	**52.85**	**187**	T	T	20 41 27.8	
	baz=11,slow=75,SNR=222						
H04N2	**CROZET ISLANDS**	**52.85**	**187**	T	T	20 41 16.7	
	baz=11,slow=75,SNR=209						
H04N3	**CROZET ISLANDS**	**52.87**	**187**	T	T	20 41 28.7	
	baz=11,slow=75,SNR=160						
KOLS	**Kolonicke sedl**	**53.11**	**330**	*e*P	**P**	**19 44 22.9**	**+1.1**
SUR	**Sutherland**	**53.76**	**222**	LR	LR	20 06 01.8	
	comp=Z,156nm,19.0s,baz=64,slow=34						
VYHS	**Vyhne**	**54.63**	**327**	*e*P	**P**	**19 44 32.8**	**-0.1**
MODS	**Modra-Piesok**	**55.40**	**327**	*e*P	**P**	**19 44 40.5**	**+2.0**
SONM	**Songino Array**	**56.97**	**35**	P	**P**	**19 44 50.3**	**+0.4**
SONM				IAmb	IAmb	19 44 56.9	
	comp=Z,2.9nm,1.0s						
SONM	**Songino Array**	**56.97**	**35**	P	**P**	**19 44 50.3**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=248,slow=5.4,SNR=8.0						
SONM				LR	LR	20 10 11.2	
	comp=Z,40nm,18.6s,baz=240,slow=37						
	comp=Z,0.7nm,0.9s						
CIMO	**Cimolais**	**57.11**	**322**	P	**P**	**19 44 50.7**	**-0.1**
CIMO				IAmb	IAmb	19 45 14.2	
	comp=Z,6.9nm,1.3s						
HHC	**Hu-ho-hao-te**	**57.14**	**45**	*e*P	**P**	**19 44 53.0**	**+1.8**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
TORD	**Torodi Ar. Bea**	**57.93**	**281**	P	**P**	**19 44 59.8**	**+2.8**
	comp=Z,30nm,0.4s,baz=54,slow=7.4,SNR=1.6						
SENIN	**Lac Senin/Sane**	**60.32**	**321**	P	**P**	**19 45 12.7**	**-0.7**
FINES	**FINESS Array B**	**60.50**	**342**	P	**P**	**19 45 13.2**	**-0.7**

FINES	**FINESS Array B**	**60.50**	**342**	P	**P**	**19 45 15.4**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=129,slow=11,SNR=3.6						
	comp=Z,1.5nm,0.8s						
HFS	**Hagfors**	**64.01**	**336**	P	**P**	**19 45 36.6**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=168,slow=14,SNR=4.0						
NRIK	**Noril'sk**	**65.38**	**10**	LR	LR	20 15 54.3	
	comp=Z,117nm,21.7s,baz=204,slow=38						
NOA	**NORSAR Array B**	**65.53**	**336**	P	**P**	**19 45 48.4**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=121,slow=6.8,SNR=2.9						
NOA				LR	LR	20 16 04.6	
	comp=Z,25nm,19.0s,baz=115,slow=38						
	comp=Z,0.3nm,0.7s						
ESDC	**Sonseca Array**	**66.12**	**311**	P	**P**	**19 45 51.8**	**0.0**
ESDC	**Sonseca Array**	**66.12**	**311**	P	**P**	**19 45 52.3**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=98,slow=6.2,SNR=4.7						
	comp=Z,0.9nm,1.0s						
ARCES	**ARCESS Array B**	**66.98**	**347**	LR	LR	20 17 26.7	
	comp=Z,84nm,19.6s,baz=98,slow=38						
KLR	**Kul'dur**	**73.17**	**41**	LR	LR	20 19 52.4	
	comp=Z,156nm,19.2s,baz=286,slow=37						
MAW	**Mawson**	**73.84**	**179**	LR	LR	20 11 14.5	
	comp=Z,46nm,21.6s,baz=220,slow=29						
JMIC	**Jan Mayen**	**77.12**	**342**	LR	LR	20 22 18.1	
	comp=Z,53nm,18.1s,baz=68,slow=37						
TIXI	**Tiksi**	**77.33**	**18**	LR	LR	20 21 41.2	
	comp=Z,50nm,20.9s,baz=3.0,slow=36						
WRA	**Warramunga Arr**	**77.42**	**112**	P	**P**	**19 47 00.2**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=282,slow=5.0,SNR=2.9						
	comp=Z,0.7nm,0.9s						
ASAR	**Alice Springs**	**77.80**	**116**	P	**P**	**19 47 02.5**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=285,slow=5.7,SNR=14						
	comp=Z,1.1nm,0.8s						
SNAA	**Sanae**	**87.84**	**196**	LR	LR	20 21 16.8	
	comp=Z,45nm,18.8s,baz=303,slow=32						
QSPA	**South Pole Qui**	**96.34**	**180**	LR	LR	20 26 07.8	
	comp=Z,82nm,19.7s,baz=326,slow=32						
RES	**Resolute Bay**	**97.64**	**354**	LR	LR	20 37 47.2	
	comp=Z,38nm,20.1s,baz=20,slow=39						
VNDA	**Vanda**	**98.72**	**168**	LR	LR	20 27 25.4	
	comp=Z,60nm,18.0s,baz=294,slow=32						

*IDC **26** 20:08:48.4±1.1, 9.°67N×126.°69E, h0km, mb3.4/7, mbtmp3.4/7, Error ellipse: s-maj=65.1km s-min=22.3km az=73.0*
ISC 26 20:08:54.4±1.0, 9.°7N±0.°2×126.°7E±0.°4, h43km, n7, σ0§64/7, mb3.2/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.36**	**166**	P	**P**	**20 15 02.9**	**+0.5**
	0.3nm,0.8s,baz=346,slow=8.8,SNR=1.1						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**33.86**	**168**	P	**P**	**20 15 32.7**	**-0.4**
	0.2nm,0.6s,baz=340,slow=8.4,SNR=1.8						
	0.2nm,0.6s						
SONM	**Songino Array**	**41.74**	**339**	P	**P**	**20 16 40.4**	**+0.9**
	0.2nm,0.4s,baz=163,slow=10,SNR=2.9						
	0.2nm,0.4s						
PETK	**Petropavlovsk-**	**50.01**	**24**	P	**P**	**20 17 44.1**	**-0.3**
	1.9nm,0.9s,baz=210,slow=7.8,SNR=1.5						
	1.9nm,0.9s						
MKAR	**Makanchi Array**	**52.78**	**323**	P	**P**	**20 18 04.8**	**-0.5**
	0.1nm,0.5s,baz=126,slow=6.1,SNR=1.4						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**56.83**	**325**	P	**P**	**20 18 34.2**	**-0.3**
	0.2nm,0.5s,baz=119,slow=7.6,SNR=2.6						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**86.64**	**332**	P	**P**	**20 21 32.9**	**-0.3**
	0.5nm,0.4s,baz=86,slow=6.8,SNR=8.5						
	0.5nm,0.4s						

*IDC **26** 20:21:07.1±0.7, 13.°50S×45.°75E, h0km, mb3.9/13, mbtmp3.8/14, ML3.5/1, Error ellipse: s-maj=22.3km s-min=17.9km az=120.0*
*NEIC **26** 20:21:10.7±1.4, 13.°19S±0.°07×45.°2E±0.°1, h10km±1km, mb4.3/15, Error ellipse: s-maj=21.2km s-min=10.6km az=107.0*
ISC 26 20:21:09.9±0.6, 13.°31S±0.°06×45.°18E±0.°08, h10km, n47, σ2§10/54, mb4.2/21, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.62**	**92**	P	Pn	20 22 13.1	-6.7
SBV				S	Sn	20 22 58.4	-15
OPO	**Ambohidratompo**	**5.57**	**160**	Pn	**Pn**	**20 22 35.1**	**+2.0**
	3.2nm,0.3s,baz=336,slow=12,SNR=300						
OPO				Sn	**Sn**	**20 23 36.5**	**-0.8**
	9.9nm,0.3s,baz=95,slow=19,SNR=17						
OPO	**Ambohidratompo**	**5.57**	**160**	P	**Pn**	**20 22 35.2**	**+2.1**
OPO				S	**Sn**	**20 23 37.0**	**-0.3**
FIRM	**Firavahana**	**5.60**	**163**	P	**Pn**	**20 22 36.1**	**+2.6**
FIRM				S	**Sn**	**20 23 37.4**	**-0.7**
ATG	**Ambohiby**	**5.62**	**170**	P	**Pn**	**20 22 36.2**	**+2.5**
ABPO	**Ambohimpanom**	**6.00**	**161**		**Pn**	**20 22 40.4**	**+1.4**
ABPO	**Ambohimpanom**	**6.00**	**161**	P	**Pn**	**20 22 40.9**	**+1.9**
ABPO				S	**Sn**	**20 23 47.7**	**-0.3**
MDSM	**Mandiavato**	**6.01**	**163**	P	**Pn**	**20 22 41.4**	**+2.4**
M

BVAR Borovoye Array 69.53 16 P P 20 32 17.5 -1.2
comp=Z,0.6nm,0.7s,baz=258,slow=5.7,SNR=2.6
comp=Z,0.6nm,0.7s
ESDC Sonseca Array 69.76 322 P P 20 32 22.9 +2.5
comp=Z,1.0nm,0.9s,baz=130,slow=5.5,SNR=5.5
comp=Z,1.0nm,0.9s
KURBB Kurchatov Arra 70.03 22 P P 20 32 21.1 -0.7
comp=Z,0.2nm,0.5s,baz=221,slow=7.1,SNR=4.8
comp=Z,0.2nm,0.5s
KAPI Kappang 73.87 91 P P 20 32 39.9 -5.8
comp=Z,27nm,1.0s,baz=49,slow=11,SNR=5.3
ZALV Zalesovo Beam 75.01 23 P P 20 32 49.1 -2.4
comp=Z,0.2nm,0.5s,baz=198,slow=4.1,SNR=2.7
comp=Z,0.2nm,0.5s
FINES FINESS Array B 76.03 351 P P 20 32 56.9 -0.2
comp=Z,0.6nm,0.7s,baz=122,slow=5.1,SNR=3.8
comp=Z,0.6nm,0.7s
QSPA South Pole Qui 76.79 180 P P 20 33 01.8 +0.1
QSPA South Pole Qui 76.79 180 P P 20 33 01.2 -0.4
comp=Z,4.0nm,1.0s,baz=265,slow=2.4,SNR=6.1
comp=Z,4.0nm,1.0s
HFS Hagfors 77.44 344 P P 20 33 08.8 +3.7
comp=Z,0.6nm,0.5s,baz=148,slow=8.6,SNR=6.3
ASAR Alice Springs 83.61 113 P P 20 33 35.0 -4.2
comp=Z,1.4nm,0.8s,baz=266,slow=4.9,SNR=15
comp=Z,1.4nm,0.8s
WRA Warramunga Arr 84.78 109 P P 20 33 40.9 -4.3
comp=Z,2.3nm,1.0s,baz=265,slow=4.8,SNR=6.8
comp=Z,2.3nm,1.0s

---

*BJI **26** 20:28:27.3, 9.˚40N×126.˚57E, h22km, mB5.2/67, mb4.8/81, Ms5.1/89, Ms7 4.9/87*
*MOS **26** 20:28:28.6±1.1, 9.˚73N×126.˚38E, h12km, mb5.3/59, MS4.9/14, Error ellipse: s-maj=9.2km s-min=4.3km az=116.8*
*IDC **26** 20:28:28.2±0.4, 9.˚68N×126.˚29E, h0km, mb4.7/39, mbtmp4.7/40, ML4.1/1, MS4.7/29, Error ellipse: s-maj=16.4km s-min=8.4km az=68.0*
*NEIC **26** 20:28:30.1, 9.˚79N×126.˚59E, h26km*
*NEIC **26** 20:28:30.7±1.7, 9.˚70N±0.˚06×126.˚61E±0.˚08, h16km±3km, mb5.2/274, Mww5.3/36, Error ellipse: s-maj=11.3km s-min=8.3km az=80.0*
*NEIC **26** 20:28:30.1, 9.˚99N×127.˚00E, h26km, Moment Tensor Solution. Duration: 2≧1 Moment tensor: Scale 10^{17}Nm; M_{rr}1.14; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-1.06; $M_{r\theta}$-0.10; $M_{\theta\phi}$0.15; $M_{\phi r}$0.36; Fault plane solution: $M_0$1.17000×10^{17} NP1: ϕ_s173.33000°, δ35.83000°, λ93.38000°. NP2: ϕ_s349.17000°, δ54.24000°, λ87.56000°. Principal axes: T 1.2001, Plg81.0000°, Azm249.0000°; N -0.0543, Plg2.0000°, Azm351.0000°; P -1.1458, Plg9.0000°, Azm81.0000°;*
*DJA **26** 20:28:34.1±0.8, 10˚N±3˚×12˚7E±˚, h32km±6km, M5.2/77, mb5.1/77, mB5.6/51, MLv5.9/5, Mw(mB)5.1/51, MwMwp5.0/24, Mwp5.3/24*
*GCMT **26** 20:28:35.7±0.1, 9.˚76N±0.˚01×126.˚72E±0.˚01, h18km, MW5.4/141, Moment Tensor Solution. s113,c192; s141,c258; Duration: 1≧2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.01±.02; $M_{\theta\theta}$0.03±.01; $M_{\phi\phi}$-1.03±.01; $M_{r\theta}$-0.16±.03; $M_{\theta\phi}$0.18±.01; $M_{\phi r}$1.01±.04; Best double couple: $M_0$1.45600×10^{17} NP1:ϕ_s170.00000°, δ23.00000°, λ89.00000°. NP2:ϕ_s351.00000°, δ67.00000°, λ90.00000°. Principal axes: T 1.4300, Plg68.0000°, Azm261.0000°; N 0.0580, Plg0.0000°, Azm171.0000°; P -1.4810, Plg22.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 20:28:31.6±0.3, 9.71N±0.˚03×126.˚55E±0.˚04, h21km±3km, h22km:pP-P, n953, σ1≧85/951, mb5.2/252, MS4.8/64, 32C-13D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.79**	**200**		**Pn**	**20 29 14.1**	**-1.0**
DAV					**Sb**	**20 29 54.9**	**+0.3**
DAV	**Davao City (W)**	**2.79**	**200**	Pn	**Pb**	**20 29 19.0**	**-1.8**
	84nm,0.3s,baz=26,slow=4.4,SNR=22						
DAV				Sn	**Sb**	**20 29 51.8**	**-2.9**
	104nm,0.3s,baz=125,slow=11,SNR=7.7						
DAV				LR	LR	20 30 29.9	
	comp=Z,29μm,20.1s,baz=31,slow=45						
DAV	**Davao City (W)**	**2.79**	**200**	P	**Pb**	**20 29 21.4**	**+0.5**
DAV	**Davao City (W)**	**2.79**	**200**	P	**Pb**	**20 29 18.0**	**-2.9**
SGSI	**Sangihe**	**6.07**	**190**	P	Pn	20 30 06.6	+6.4
SGSI	**Sangihe**	**6.07**	**190**	P	**Pn**	**20 30 03.9**	**+3.7**
TGY	**Tagaytay City**	**7.02**	**309**	Pn	**Pn**	**20 30 17.4**	**+4.1**
	12nm,0.3s,baz=68,slow=4.0,SNR=5.6						
TGY				LR	LR	20 33 17.8	
	comp=Z,8μm,19.9s,baz=150,slow=42						
TNTI	**Ternate**	**8.92**	**175**	Pn	**Pn**	**20 30 36.3**	**-3.0**
TNTI	**Ternate**	**8.92**	**175**	P	**Pn**	**20 30 43.5**	**+4.2**
TNTI	**Ternate**	**8.92**	**175**	P	Pn	20 30 45.1	+5.8
	2μm135nm,1.0s						
TNTI	**Ternate**	**8.92**	**175**	P	**Pn**	**20 30 42.8**	**+3.5**
	2μm135nm,1.0s						
MYLDM	**Lahad Datu**	**9.17**	**241**	Pn	**Pn**	**20 30 42.2**	**-0.5**
MYLDM	**Lahad Datu**	**9.17**	**241**	P	Pn	20 30 49.4	+6.7
KMSI	**Cibinong**	**9.43**	**196**	P	Pn	20 30 53.6	+7.3
MRSI	**Marisa**	**10.26**	**207**	P	Pn	20 31 02.5	+4.9
	4μm73nm,1.1s						
MRSI	**Marisa**	**10.26**	**207**	P	**Pn**	**20 30 59.8**	**+2.2**
	4μm1μm73nm,1.1s						
TOLI2	**Tolitoli**	**10.29**	**214**	Pn	**Pn**	**20 30 57.8**	**-0.3**
KKM	**Kota Kinabalu**	**10.87**	**251**		**Pn**	**20 31 06.5**	**+0.4**
LUWI	**Luwuk**	**11.33**	**200**		**Pn**	**20 31 12.9**	**+0.7**
LUWI	**Luwuk**	**11.33**	**200**	P	Pn	20 31 18.4	+6.1
LUWI	**Luwuk**	**11.33**	**200**	P	Pn	20 31 19.8	+7.5
	3μm252nm,1.3s						
LUWI	**Luwuk**	**11.33**	**200**	P	**Pn**	**20 31 11.7**	**-0.6**
	3μm237nm,1.4s						
MPSI	**Mapaga**	**11.43**	**216**	P	Pn	20 31 21.5	+7.8
MPSI	**Mapaga**	**11.43**	**216**	P	**Pn**	**20 31 13.9**	**+0.2**
SWI	**Sorong**	**11.50**	**156**	P	Pn	20 31 19.6	+4.9
	2μm52nm,1.2s						
SWI	**Sorong**	**11.50**	**156**	P	**Pn**	**20 31 13.7**	**-1.0**
	2μm749nm52nm,1.2s						
APSI	**Ampana**	**11.63**	**205**	P	Pn	20 31 23.3	+6.9
	2μm152nm,1.3s						
SANI	**Sanana**	**11.70**	**183**	P	**Pn**	**20 31 21.8**	**+4.5**
SANI	**Sanana**	**11.70**	**183**	P	Pn	20 31 23.9	+6.6
	2μm61nm,1.1s						
PCI	**Palu**	**12.49**	**213**	P	**P**	**20 31 35.8**	**-4.0**
	2μm62nm,1.3s						
NLAI	**Namlea**	**12.88**	**178**	P	**Pn**	**20 31 32.3**	**-1.2**
	1μm54nm,0.6s						
RKPI	**Ransiki, Papua**	**13.49**	**145**	P	**P**	**20 31 46.4**	**-4.5**
	3μm144nm,1.8s						
FAKI	**Fak Fak**	**13.77**	**155**		**Pn**	**20 31 46.0**	**+0.3**
FAKI	**Fak Fak**	**13.77**	**155**	P	**Pn**	**20 31 49.0**	**+3.2**
FAKI	**Fak Fak**	**13.77**	**155**	P	**Pn**	**20 31 48.9**	**+3.2**
	2μm2μm112nm,1.4s						
TWGBT	**Beinan**	**14.05**	**339**	P	**P**	**20 31 56.8**	**-0.3**
TWG	**Pinlang**	**14.05**	**339**		**Pn**	**20 31 47.5**	**-2.0**
BAKI	**Biak**	**14.41**	**138**	P	**Pn**	**20 31 57.0**	**+2.5**
	4μm3μm162nm,2.0s						
BAKI	**Biak**	**14.41**	**138**	P	Pn	20 31 46.5	-8.0
YULB	**Yu-li**	**14.50**	**340**		**Pn**	**20 31 56.2**	**+0.5**
YULB	**Yu-li**	**14.50**	**340**	P	**P**	**20 32 02.9**	**+0.7**
BKB	**Balikpapan**	**14.54**	**222**		**Pn**	**20 31 54.1**	**-2.0**
BKB	**Balikpapan**	**14.54**	**222**	P	**Pn**	**20 31 59.1**	**+2.9**
BKB	**Balikpapan**	**14.54**	**222**	P	**P**	**20 31 59.9**	**-2.7**
	5μm3μm126nm,1.8s						
TPUB	**Ta-pu**	**14.65**	**338**		**Pn**	**20 31 58.4**	**+0.6**
TPUB	**Ta-pu**	**14.65**	**338**	P	**P**	**20 32 03.9**	**0.0**
SSLB	**Suanglung**	**14.99**	**340**		**Pn**	**20 32 02.7**	**+0.4**
SSLB	**Suanglung**	**14.99**	**340**	P	**P**	**20 32 09.0**	**+1.4**
SRPI	**Serui, Papua**	**15.01**	**140**	P	**P**	**20 32 05.7**	**-2.2**
	2μm47nm,0.8s						
BNSI	**Bone**	**15.42**	**205**	P	**P**	**20 32 15.6**	**+3.2**
	4μm6μm132nm,1.3s						
YHNB	**Yeheng**	**15.67**	**342**		**Pn**	**20 32 11.2**	**-0.1**
YHNB	**Yeheng**	**15.67**	**342**	P	**P**	**20 32 18.0**	**+2.7**
SBUM	**Sibu**	**15.97**	**244**		**P**	**20 32 17.0**	**-1.5**
SBUM	**Sibu**	**15.97**	**244**	P	**P**	**20 32 21.2**	**+2.7**
KAPI	**Kappang**	**16.12**	**205**	P	**P**	**20 32 19.4**	**-0.8**
KAPI	**Kappang**	**16.12**	**205**	Pn	**P**	**20 32 21.5**	**+1.3**
	baz=59,slow=8.9						
KAPI	**Kappang**	**16.12**	**205**	P	**P**	**20 32 19.4**	**-0.8**
KAPI				pmax	pmax		
	comp=Z,33nm,1.5s						
BKSI	**Bulukumba**	**16.25**	**203**	P	**P**	**20 32 24.3**	**+2.7**
	comp=Z,2μmcomp=Z,43nm,1.0s						
QZH	**Quanzhou**	**16.94**	**334**	P	**Pn**	**20 32 26.0**	**-1.4**
QZH				S	**Sn**	**20 35 39.5**	**+4.4**
QZH				pmax	pmax		
	comp=Z,1μm,6.8s						
QZH				LR	LR		
	comp=Z,4μm,15.1s						
QZH				LR	LR		
	comp=Z,2μm,19.6s						
QZH				LR	LR		
	comp=Z,5μm,18.9s						
JOW	**Kunigami**	**17.11**	**5**		**Pn**	**20 32 28.1**	**-1.4**
JOW				IAmb	IAmb	20 32 37.5	
	comp=Z,254nm,1.4s						
JOW	**Kunigami**	**17.11**	**5**	P	**P**	**20 32 33.4**	**+2.3**
	comp=Z,34nm,0.8s,baz=165,slow=7.3,SNR=8.8						
JOW				LR	LR	20 40 40.6	
	comp=Z,3μm,18.1s,baz=180,slow=43						
JOW	**Kunigami**	**17.11**	**5**	P	**P**	**20 32 36.3**	**+5.2**
STKI	**Sintang**	**17.80**	**238**	P	**P**	**20 32 44.9**	**+6.0**
	comp=Z,5μmcomp=Z,71nm,1.2s						
DLV	**Lat**	**17.88**	**279**		**P**	**20 32 40.5**	**+0.5**
DLV	**Lat**	**17.88**	**279**	P	**P**	**20 32 44.5**	**+4.5**
KSM	**Kuching**	**18.11**	**244**		**Pn**	**20 32 39.5**	**-2.5**
KSM	**Kuching**	**18.11**	**244**	P	**P**	**20 32 46.6**	**+4.4**
SAUI	**Saumlaki**	**18.20**	**165**	Pn	**Pn**	**20 32 40.2**	**-2.9**
SAUI				IAmb	IAmb	20 32 41.0	
	comp=Z,277nm,1.0s						
GENI	**Genyem**	**18.26**	**131**	P	**P**	**20 32 49.2**	**+5.3**
GENI	**Genyem**	**18.26**	**131**	P	**P**	**20 32 49.1**	**+5.2**
	comp=Z,5μmcomp=Z,198nm,2.0s						
GUMO	**Guam**	**18.34**	**76**	LR	LR	20 40 21.5	
	comp=Z,3μm,18.2s,baz=246,slow=38						
JAY	**Jayapura**	**18.61**	**130**	P	**Pn**	**20 32 48.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=296,slow=8.7,SNR=22						
JAY				LR	LR	20 39 27.0	
	comp=Z,4μm,18.9s,baz=314,slow=35						
	comp=Z,114nm,1.1s						
JAY	**Jayapura**	**18.61**	**130**	P	**Pn**	**20 32 49.9**	**+1.8**
	comp=Z,3μmcomp=Z,123nm,1.3s						
QIZ	**Qiongzhong**	**18.64**	**302**	P	**P**	**20 32 47.3**	**-0.7**
QIZ	**Qiongzhong**	**18.64**	**302**	P	**Pn**	**20 32 49.3**	**+0.9**
QIZ				S	**S**	**20 36 19.5**	**0.0**
QIZ				pmax	pmax		
	comp=Z,25nm,2.1s						
QIZ				pmax	pmax		
	comp=Z,2μm,7.7s						
QIZ				LR	LR		
	comp=Z,2μm,15.1s						
QIZ				LR	LR		
	comp=Z,2μm,15.1s						
QIZ				LR	LR		
	comp=Z,3μm,17.2s						
MMRI	**Maumere**	**18.73**	**193**		**P**	**20 32 48.0**	**-1.0**
MMRI	**Maumere**	**18.73**	**193**	P	**Pn**	**20 32 53.5**	**+4.0**
MMRI	**Maumere**	**18.73**	**193**	P	**Pn**	**20 32 54.5**	**+5.0**
	comp=Z,2μmcomp=Z,3μmcomp=Z,185nm,1.3s						
EDFI	**Ende, Flores**	**18.97**	**195**	P	**Pn**	**20 32 59.4**	**+6.9**
	comp=Z,2μmcomp=Z,58nm,0.9s						
SOEI	**Soe**	**19.47**	**187**		**P**	**20 32 55.6**	**-1.8**
SOEI				IAmb	IAmb	20 33 10.9	
	comp=Z,137nm,1.1s						
SOEI	**Soe**	**19.47**	**187**	P	**Pn**	**20 33 02.4**	**+3.8**
SOEI	**Soe**	**19.47**	**187**	P	**Pn**	**20 33 02.8**	**+4.2**
WSI	**Waingapu**	**20.23**	**198**	P	Pn	20 33 10.8	+3.3
	comp=Z,193nm,0.8s						
PLAI	**Plampang**	**20.38**	**206**	P	Pn	20 33 10.5	+1.2
PLAI	**Plampang**	**20.38**	**206**	P	Pn	20 33 16.2	+6.9
	comp=Z,2μmcomp=Z,85nm,1.7s						
WBSI	**Waikabubak, Su**	**20.50**	**201**	P	Pn	20 33 15.0	+4.3
	comp=Z,1μmcomp=Z,82nm,0.9s						
UBPT	**Khong Chiam**	**21.31**	**287**	P	**P**	**20 33 18.9**	**+1.8**
DNP	**Denpasar**	**21.48**	**212**	P	**P**	**20 33 24.3**	**+5.4**
SSE	**Sheshan**	**21.86**	**348**	P	**P**	**20 33 24.5**	**+1.6**
SSE				S	**S**	**20 37 24.0**	**+0.5**
SSE				pmax	pmax		
	comp=Z,39nm,1.4s						
SSE				pmax	pmax		
	comp=Z,600nm,7.3s						
SSE				LR	LR		
	comp=Z,1μm,16.6s						
SSE				LR	LR		
	comp=Z,620nm,16.7s						
JAGI	**Jajag, Banyuwa**	**21.88**	**215**		**P**	**20 33 24.3**	**+1.0**
JAGI				IAmb	IAmb	20 33 30.3	
	comp=Z,282nm,2.0s						
JAGI	**Jajag, Banyuwa**	**21.88**	**215**	P	**P**	**20 33 27.7**	**+4.4**
JAGI	**Jajag, Banyuwa**	**21.88**	**215**	P	**P**	**20 33 27.6**	**+4.3**
	comp=Z,2μmcomp=Z,61nm,1.5s						
CNSH	**ChangSha**	**22.40**	**327**	P	**P**	**20 33 27.8**	**-1.0**
CNSH				S	**S**	**20 37 33.8**	**-0.1**
CNSH				pmax	pmax		
	comp=Z,550nm,6.3s						
CNSH				LR	LR		
	comp=Z,2μm,14.7s						
CNSH				LR	LR		
	comp=Z,2μm,14.8s						
CNSH				LR	LR		
	comp=Z,4μm,15.8s						
DRS	**Darwin Rock St**	**22.42**	**169**	P	**P**	**20 33 32.5**	**+3.5**
TPI	**Tanjungpandan**	**22.54**	**238**	P	**P**	**20 33 33.2**	**+2.8**
	comp=Z,2μmcomp=Z,2μmcomp=Z,72nm,0.8s						
JCJ	**Chichijima**	**22.74**	**38**	P	**P**	**20 33 33.1**	**+0.7**
JCJ	**Chichijima**	**22.74**	**38**	LR	LR	20 42 52.2	
	comp=Z,2μm,18.9s,baz=297,slow=38						
MTN	**Manton Dam**	**22.86**	**168**	P	**P**	**20 33 34.6**	**+0.8**
MTN				IAmb	IAmb	20 33 44.7	
	comp=Z,77nm,1.1s						
MTN	**Manton Dam**	**22.86**	**168**	P	**P**	**20 33 35.5**	**+1.8**
	comp=Z,64nm,1.0s						
MTN	**Manton Dam**	**22.86**	**168**	P	**P**	**20 33 37.0**	**+3.2**
KDU	**Kakadu**	**23.02**	**165**	P	**P**	**20 33 33.8**	**-1.5**
	comp=Z,89nm,0.9s						
KDU	**Kakadu**	**23.02**	**165**	P	**P**	**20 33 36.7**	**+1.4**
SMRI	**Semarang**	**23.13**	**225**	P	**P**	**20 33 36.5**	**0.0**
SMRI				IAmb	IAmb	20 33 47.3	
	comp=Z,98nm,1.1s						
SMRI	**Semarang**	**23.13**	**225**	P	**P**	**20 33 41.2**	**+4.7**
SMRI	**Semarang**	**23.13**	**225**	P	**P**	**20 33 41.8**	**+5.3**
	comp=Z,1μmcomp=Z,82nm,1.0s						
NJ2	**Nanjing**	**23.35**	**343**	⇑P	**P**	**20 33 39.0**	**+0.4**
NJ2				sP	**pwP**	**20 33 51.0**	**+0.6**
NJ2				S	**S**	**20 37 55.5**	**+5.2**
NJ2				SS	**SnSn**	**20 38 32.5**	**+6.5**
NJ2				pmax	pmax		
	comp=Z,50nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,1μm,4.3s						
NJ2				LR	LR		
	comp=Z,2μm,18.0s						
NJ2				LR	LR		
	comp=Z,2μm,17.1s						
NJ2				LR	LR		
	comp=Z,3μm,15.6s						
PCJI	**Pacitan**	**23.47**	**221**	P	**P**	**20 33 44.5**	**+4.6**
	comp=Z,94nm,2.0s						
PPBI	**Pangkal Pinang**	**23.51**	**241**	P	**P**	**20 33 44.3**	**+4.0**
JNU	**Nakatsue**	**23.64**	**9**	P	**P**	**20 33 40.8**	**-0.7**
JNU				IAmb	IAmb	20 34 07.0	
	comp=Z,62nm,1.1s						
JNU	**Nakatsue**	**23.64**	**9**	P	**P**	**20 33 45.3**	**+3.8**
WHN	**Wuhan**	**23.64**	**333**	P	**P**	**20 33 42.8**	**+1.3**
WHN				S	**S**	**20 37 58.5**	**+3.4**
WHN				pmax	pmax		
	comp=Z,490nm,1.5s						
WHN				pmax	pmax		
	comp=Z,2μm,8.4s						
WHN				LR	LR		
	comp=Z,4μm,12.4s						
WHN				LR	LR		
	comp=Z,6μm,13.3s						
WHN				LR	LR		
	comp=Z,9μm,16.5s						
UGM	**Wanagama**	**23.69**	**223**	P	**P**	**20 33 41.5**	**-0.7**
MANU	**Manus Island**	**23.79**	**118**		**P**	**20 33 41.6**	**-1.4**
MYKOM	**Kota Tinggi**	**23.90**	**252**	P	**P**	**20 33 44.1**	**0.0**
MYKOM	**Kota Tinggi**	**23.90**	**252**	P	**P**	**20 33 47.1**	**+3.0**
NONG	**Nongkai**	**24.17**	**293**	P	**P**	**20 33 47.8**	**+1.2**
SLVN	**Son La**	**24.65**	**301**	P	**P**	**20 33 50.4**	**-0.7**
SLVN	**Son La**	**24.65**	**301**	P	**P**	**20 33 52.4**	**+1.3**
JMN	**Monobe**	**24.84**	**15**	P	**P**	**20 33 51.3**	**-1.3**
LEM	**Lembang**	**25.02**	**230**	P	**P**	**20 33 57.8**	**+3.3**
	comp=Z,3μmcomp=Z,66nm,1.6s						
PMBI	**Palembang**	**25.07**	**241**	P	**P**	**20 33 54.5**	**-0.3**
PMBI	**Palembang**	**25.07**	**241**	P	**P**	**20 33 58.0**	**+3.2**
PMBI	**Palembang**	**25.07**	**241**	P	P	20 34 03.7	+8.9
NAYO	**Nakonayok**	**25.09**	**283**	P	**P**	**20 33 58.9**	**+3.9**
GYA	**Guiyang**	**25.13**	**314**	⇑P	**P**	**20 33 57.0**	**+1.6**
GYA				S	**S**	**20 38 17.8**	**-1.6**
GYA				pmax	pmax		
	comp=Z,16nm,2.0s						
GYA				pmax	pmax		
	comp=Z,580nm,10.5s						
GYA				LR	LR		
	comp=Z,3μm,16.8s						
GYA				LR	LR		
	comp=Z,3μm,18.3s						
GYA				LR	LR		
	comp=Z,6μm,16.9s						
KNRA	**Kununurra**	**25.32**	**175**	P	**P**	**20 33 56.3**	**-0.6**
KNRA				IAmb	IAmb	20 34 16.2	
	comp=Z,44nm,0.8s						
KNRA	**Kununurra**	**25.32**	**175**	P	**P**	**20 33 57.0**	**+0.1**
	comp=Z,56nm,0.9s						
BBJI	**Bungbulang**	**25.41**	**228**	P	**P**	**20 34 01.5**	**+3.6**
ENH	**Enshi**	**25.92**	**324**		**P**	**20 34 01.4**	**-1.1**
ENH	**Enshi**	**25.92**	**324**	P	**P**	**20 34 03.1**	**+0.6**
KULM	**Kulim**	**26.05**	**262**	P	**P**	**20 34 03.5**	**-0.2**
KULM				IAmb	IAmb	20 34 11.9	
	comp=Z,68nm,1.2s						
KULM	**Kulim**	**26.05**	**262**	P	**P**	**20 34 07.6**	**+3.9**
JHJ	**Hachijo jima 2**	**26.30**	**26**	LR	LR	20 43 48.9	
	comp=Z,2μm,19.6s,baz=232,slow=35						
MDSI	**Maura Dua**	**26.38**	**239**	P	**P**	**20 34 09.1**	**+2.4**
	comp=Z,67nm,0.9s						
TJN	**Taejon**	**26.56**	**1⇑**	eP	**P**	**20 34 08.2**	**+0.2**
SRIT	**Nakonsritamara**	**26.63**	**270**	P	**P**	**20 34 08.7**	**-0.3**
SRIT				IAmb	IAmb	20 34 49.6	
	comp=Z,115nm,1.9s						
SRIT	**Nakonsritamara**	**26.63**	**270**	P	**P**	**20 34 12.6**	**+3.6**
LWLI	**Liwa**	**26.77**	**238**	P	**P**	**20 34 15.6**	**+5.3**
BKNI	**Bangkinang**	**27.05**	**251**	P	**P**	**20 34 11.3**	**-1.4**
KMI	**Kunming**	**27.33**	**307**	P	**P**	**20 34 14.0**	**-1.5**
KMI				PP	**PnPn**	**20 35 01.5**	**+1.8**
KMI				S	**S**	**20 38 51.0**	**-3.4**
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
KMI				pmax	pmax		
	comp=Z,250nm,8.8s						
KMI				LR	LR		
	comp=Z,860nm,16.6s						
KMI				LR	LR		
	comp=Z,2μm,19.0s						
KMI				LR	LR		
	comp=Z,2μm,17.6s						
JGF	**Kuroka**	**27.59**	**19**	P	**P**	**20 34 15.1**	**-2.4**
KSAR	**Wonju Array Be**	**27.64**	**2**	P	**P**	**20 34 15.8**	**-1.9**
KSAR	**Wonju Array Be**	**27.64**	**2**	P	**P**	**20 34 15.8**	**-1.9**
FITZ	**Fitzroy Crossi**	**27.65**	**182**	P	**P**	**20 34 16.6**	**-1.4**
FITZ	**Fitzroy Crossi**	**27.65**	**182**	P	**P**	**20 34 16.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**27.65**	**182**	P	**P**	**20 34 18.3**	**+0.4**
	comp=Z,29nm,0.8s,baz=18,slow=9.8,SNR=24						
FITZ				S	**S**	**20 38 58.1**	**-0.8**
	comp=Z,5.7nm,1.1s,baz=62,slow=20,SNR=1.9						
	comp=Z,29nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.65**	**182**	P	**P**	**20 34 20.1**	**+2.1**
KSRS	**Korea Array**	**27.65**	**2**	P	**P**	**20 34 19.3**	**+1.5**
	comp=Z,4.8nm,0.8s,baz=182,slow=10.0,SNR=13						
KSRS				LR	LR	20 47 11.5	
	comp=Z,2μm,18.9s,baz=185,slow=41						
	comp=Z,4.8nm,0.8s						
TIA	**Tai'an**	**27.74**	**343**	P	**P**	**20 34 19.0**	**+0.3**
TIA				sP	**sP**	**20 34 26.5**	**+0.8**
TIA				PcP	**PcP**	**20 37 34.0**	**-1.2**
TIA				S	**S**	**20 38 52.8**	**-7.3**
TIA				SS	**SnSn**	**20 40 17.3**	**+4.1**
TIA				pmax	pmax		
	comp=Z,19nm,1.5s						
TIA				pmax	pmax		
	comp=Z,550nm,7.3s						
TIA				LR	LR		
	comp=Z,2μm,18.4s						
TIA				LR	LR		
	comp=Z,2μm,16.7s						
TIA				LR	LR		
	comp=Z,3μm,17.5s						
LYN	**LuoYang**	**27.89**	**335**	⇓P	**P**	**20 34 21.5**	**+1.5**
LYN				pP	pwP	20 34 32.5	+0.2
LYN				S	**S**	**20 39 03.8**	**+1.3**
LYN				sS	sS	20 39 11.5	+0.6
LYN				pmax	pmax		
	comp=Z,67nm,1.7s						
LYN				pmax	pmax		
	comp=Z,860nm,8.3s						
LYN				LR	LR		
	comp=Z,3μm,14.1s						
LYN				LR	LR		
	comp=Z,970nm,13.4s						
LYN				LR	LR		
	comp=Z,3μm,16.5s						
PPI	**Padang Panjang**	**27.93**	**250**	P	**P**	**20 34 22.9**	**+2.3**
	comp=Z,2μmcomp=Z,65nm,1.9s						
PMG	**Port Moresby**	**27.95**	**132**	P	**P**	**20 34 21.1**	**+0.3**
	comp=Z,9.0nm,0.8s,baz=16,slow=12,SNR=3.2						
PMG				LR	LR	20 47 09.5	
	comp=Z,1μm,18.5s,baz=318,slow=40						
	comp=Z,9.0nm,0.8s						
CM31	**Chiang Mai Arr**	**28.12**	**291**	P	**P**	**20 34 21.0**	**-1.3**
CM31				IAmb	IAmb	20 34 38.7	
	comp=Z,46nm,1.2s						
CMAR	**Chiang Mai Arr**	**28.12**	**291**	P	**P**	**20 34 21.8**	**-0.6**
	comp=Z,5.5nm,0.8s,baz=104,slow=7.0,SNR=33						
CMAR				PcP	**PcP**	**20 37 37.6**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=88,slow=4.0,SNR=1.9						
CMAR				S	**S**	**20 39 05.4**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=106,slow=14,SNR=1.2						
CMAR				ScP	**ScP**	**20 41 17.4**	**+0.9**
	comp=Z,0.8nm,1.0s,baz=74,slow=4.3,SNR=5.5						
CMAR				LR	LR	20 47 03.3	
	comp=Z,2μm,19.0s,baz=110,slow=40						
	comp=Z,5.5nm,0.8s						
CHTO	**Chiang Mai**	**28.21**	**292**	P	**P**	**20 34 22.4**	**-0.8**
CHTO	**Chiang Mai**	**28.21**

	comp=Z,430nm,5.3s					
XAN				LR	LR	
	comp=Z,3μm,15.7s					
XAN				LR	LR	
	comp=Z,2μm,16.2s					
XAN				LR	LR	
	comp=Z,4μm,17.2s					
DL2	**Dalian**	**29.41**	**352**	P	**P**	**20 34 34.3 +0.8**
DL2				S	**S**	**20 39 29.5 +3.3**
DL2				pmax	pmax	
	comp=Z,31nm,1.6s					
DL2				pmax	pmax	
	comp=Z,370nm,6.8s					
DL2				LR	LR	
	comp=Z,2μm,16.2s					
DL2				LR	LR	
	comp=Z,1μm,16.7s					
DL2				LR	LR	
	comp=Z,2μm,16.5s					
HNS	**HongShan**	**29.57**	**341**	⇑P	**P**	**20 34 35.5 +0.6**
HNS				PP	**PP**	**20 35 37.8 -4.1**
HNS				S	**S**	**20 39 28.0 -0.9**
HNS				pmax	pmax	
	comp=Z,76nm,1.2s					
HNS				LR	LR	
	comp=Z,710nm,13.1s					
HNS				LR	LR	
	comp=Z,2μm,16.5s					
HNS				LR	LR	
	comp=Z,2μm,16.3s					
LHMI	**Lhok Sumawe**	**29.68**	**264**	P	**P**	**20 34 35.4 -0.8**
CD2	**Chengdu**	**29.91**	**318**	P	**P**	**20 34 37.8 -0.3**
CD2				S	**S**	**20 39 36.3 +1.8**
CD2				pmax	pmax	
	comp=Z,10.0nm,0.4s					
CD2				pmax	pmax	
	comp=Z,320nm,10.3s					
CD2				LR	LR	
	comp=Z,3μm,21.7s					
CD2				LR	LR	
	comp=Z,3μm,18.0s					
WB0	**Warramunga Arr**	**30.29**	**165**		**P**	**20 34 41.0 -0.5**
WRAB	**Tennant Creek**	**30.44**	**165**	P	**P**	**20 34 41.3 -1.6**
WRAB	**Tennant Creek**	**30.44**	**165**⇑	*e*P	**P**	**20 34 42.8 0.0**
WRAB				pmax	pmax	
	comp=Z,10.0nm,1.0s					
WRA	**Warramunga Arr**	**30.45**	**165**		**P**	**20 34 42.0 -0.9**
WRA	**Warramunga Arr**	**30.45**	**165**	P	**P**	**20 34 41.4 -1.5**
	comp=Z,3.7nm,1.0s,baz=345,slow=9.3,SNR=13					
	comp=Z,3.7nm,1.0s					
WRA	**Warramunga Arr**	**30.45**	**165**	*i* P	**P**	**20 34 44.2 +1.3**
WRA				pmax	pmax	
	comp=Z,2.0nm,0.6s					
WB2	**Warramunga Arr**	**30.45**	**165**	P	**P**	**20 34 41.7 -1.2**
WB2				IAmb	IAmb	20 35 25.0
	comp=Z,35nm,1.2s					
WR8	**Warramunga Arr**	**30.50**	**165**	P	**P**	**20 34 41.8 -1.6**
WR0	**Warramunga Arr**	**30.51**	**165**	P	**P**	**20 34 42.4 -1.1**
TIY	**Taiyuan**	**30.65**	**338**	*e*P	**P**	**20 34 46.0 +1.4**
TIY				S	**S**	**20 39 41.3 -4.7**
TIY				pmax	pmax	
	comp=Z,34nm,0.8s					
TIY				pmax	pmax	
	comp=Z,370nm,5.5s					
TIY				LR	LR	
	comp=Z,1μm,17.2s					
TIY				LR	LR	
	comp=Z,1μm,17.2s					
TIY				LR	LR	
	comp=Z,1μm,17.2s					
TNCH	**TengChong**	**30.69**	**303**	⇑P	**P**	**20 34 44.0 -1.3**
TNCH				pP	pP	20 34 50.8 +0.3
TNCH				PP	**PnPn**	**20 35 45.5 +0.3**
TNCH				S	**S**	**20 39 45.0 -2.2**
TNCH				sS	sS	20 39 55.3 -2.6
TNCH				pmax	pmax	
	comp=Z,12nm,2.4s					
TNCH				pmax	pmax	
	comp=Z,190nm,5.1s					
TNCH				LR	LR	
	comp=Z,740nm,12.5s					
TNCH				LR	LR	
	comp=Z,690nm,15.1s					
TNCH				LR	LR	
	comp=Z,2μm,21.5s					
JMM	**Marumori**	**30.83**	**22**		**P**	**20 34 45.8 -0.3**
JMM				IAmb	IAmb	20 35 13.0
	comp=Z,89nm,1.6s					
MBWA	**Marble Bar**	**31.40**	**192**	P	**P**	**20 34 50.1 -1.2**
MBWA					**pP**	**20 34 51.0 -5.2**
MBWA	**Marble Bar**	**31.40**	**192**	P	**P**	**20 34 50.1 -1.2**
MBWA	**Marble Bar**	**31.40**	**192**	P	**P**	**20 34 51.3 0.0**
MBWA				P	**P**	**20 34 51.3 0.0**
BJT	**Baijiatuau**	**31.57**	**345**		**P**	**20 34 51.7 -0.9**
BJT	**Baijiatuau**	**31.57**	**345**	P	**P**	**20 34 54.5 +1.9**
BJT	**Baijiatuau**	**31.57**	**345**	P	**P**	**20 34 51.7 -0.9**
BJT				pmax	pmax	
	comp=Z,110nm,1.8s					
BJI	**Beijing**	**31.59**	**345**	P	**P**	**20 34 52.8 +0.1**
BJI				S	**S**	**20 39 58.8 -1.6**
BJI				pmax	pmax	
	comp=Z,13nm,1.8s					
BJI				pmax	pmax	
	comp=Z,150nm,3.5s					
BJI				LR	LR	
	comp=Z,650nm,18.1s					
BJI				LR	LR	
	comp=Z,410nm,18.5s					
BJI				LR	LR	
	comp=Z,690nm,20.3s					
PSA00	**Pilbara Seismi**	**31.78**	**192**		**P**	**20 34 53.3 -1.3**
PSA00	**Pilbara Seismi**	**31.78**	**192**	P	**P**	**20 34 53.2 -1.4**
PSA00	**Pilbara Seismi**	**31.78**	**192**	P	**P**	**20 34 54.0 -0.6**
PSA00	**Pilbara Seismi**	**31.78**	**192**	P	**P**	**20 34 56.2 +1.6**
QIS	**Mount Isa**	**32.70**	**157**	P	**P**	**20 35 00.7 -2.1**
	comp=Z,80nm,1.1s					
QIS	**Mount Isa**	**32.70**	**157**	P	**P**	**20 35 04.4 +1.6**
MTSU	**Mount Surprise**	**32.76**	**148**	P	**P**	**20 35 03.1 -0.2**
	comp=Z,18nm,1.4s					
MTSU	**Mount Surprise**	**32.76**	**148**	P	**P**	**20 35 06.5 +3.2**
PBA	**Port Blair**	**33.27**	**276**	P	**P**	**20 35 10.9 +3.0**
LZH	**Lanzhou**	**33.39**	**325**	*e*P	**P**	**20 35 06.0 -2.9**
LZH				pP	sP	20 35 16.5 +0.5
LZH				PP	**PP**	**20 36 25.3 +0.7**
LZH				SS	SS	20 42 30.5 -23
LZH				pmax	pmax	
	comp=Z,370nm,5.8s					
LZH				LR	LR	
	comp=Z,3μm,14.8s					
LZH				LR	LR	
	comp=Z,2μm,14.4s					
LZH				LR	LR	
	comp=Z,2μm,14.4s					
HHC	**Hu-ho-hao-te**	**33.74**	**339**⇓	*i*P	**P**	**20 35 14.0 +2.3**
HHC				sP	pwP	20 35 24.8 +0.9
HHC				S	**S**	**20 40 35.0 +0.9**
HHC				pmax	pmax	
	comp=Z,67nm,1.6s					
HHC				pmax	pmax	
	comp=Z,220nm,5.9s					
HHC				LR	LR	
	comp=Z,2μm,15.4s					
HHC				LR	LR	
	comp=Z,1μm,16.5s					
HHC				LR	LR	
	comp=Z,2μm,15.8s					
AS31	**Alice Springs**	**33.94**	**168**		**P**	**20 35 12.0 -1.6**
AS31	**Alice Springs**	**33.94**	**168**	P	**P**	**20 35 12.2 -1.4**
	comp=Z,3.1nm,0.5s					
ASAR	**Alice Springs**	**33.94**	**168**		**P**	**20 35 11.8 -1.8**
ASAR	**Alice Springs**	**33.94**	**168**	P	**P**	**20 35 13.2 -0.3**
	comp=Z,1.9nm,0.6s,baz=352,slow=7.0,SNR=26					
ASAR				PcP	**PcP**	**20 37 51.4 -0.4**
	comp=Z,1.5nm,0.7s,baz=338,slow=2.4,SNR=4.3					
ASAR				S	S	20 40 27.6 -10
	comp=Z,1.6nm,0.9s,baz=354,slow=24,SNR=4.2					
ASAR				ScP	**ScP**	**20 41 35.7 +0.1**
	comp=Z,0.8nm,0.8s,baz=343,slow=4.0,SNR=3.3					
	comp=Z,1.9nm,0.6s					
CN2	**Changchun**	**33.98**	**359**	P	**P**	**20 35 15.5 +1.9**
CN2				S	**S**	**20 40 33.5 -4.0**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
CN2				pmax	pmax	
	comp=Z,200nm,5.0s					
CN2				LR	LR	
	comp=Z,2μm,15.0s					
CN2				LR	LR	
	comp=Z,900nm,15.0s					
CN2				LR	LR	
	comp=Z,2μm,19.0s					
BTO	**Baotou**	**34.09**	**337**	*e*P	**P**	**20 35 16.5 +1.8**
BTO				pP	**pwP**	**20 35 25.5 -1.5**
BTO				S	**S**	**20 40 42.5 +3.0**
BTO				SS	**SnSn**	**20 42 52.0 +4.4**
BTO				pmax	pmax	
	comp=Z,44nm,1.0s					
BTO				pmax	pmax	
	comp=Z,600nm,4.2s					
BTO				LR	LR	
	comp=Z,1μm,13.1s					
BTO				LR	LR	
	comp=Z,2μm,16.4s					
BTO				LR	LR	
	comp=Z,2μm,19.0s					
WRKA	**Warakurna**	**34.58**	**177**	P	**P**	**20 35 18.5 -0.5**
	comp=Z,30nm,1.2s					
WRKA	**Warakurna**	**34.58**	**177**	P	**P**	**20 35 22.5 +3.4**
USA0B	**Ussuriysk Arra**	**34.68**	**7**	P	**P**	**20 35 18.1 -1.6**
USA0B				IAmb	IAmb	20 35 22.4
	comp=Z,43nm,1.4s					
USA0B	**Ussuriysk Arra**	**34.68**	**7**	*de*P	**P**	**20 35 21.5 +1.8**
USRK	**Ussuriysk Ar.**	**34.68**	**7**		**P**	**20 35 18.5 -1.2**
USRK	**Ussuriysk Ar.**	**34.68**	**7**	P	**P**	**20 35 20.9 +1.2**
	comp=Z,6.2nm,0.8s,baz=180,slow=7.6,SNR=11					
USRK				LR	LR	20 50 19.8
	comp=Z,754nm,19.2s,baz=182,slow=38					
	comp=Z,6.2nm,0.8s					
MDJ	**Mudanjiang**	**34.88**	**4**		**P**	**20 35 19.5 -1.9**
MDJ				IAmb	IAmb	20 35 25.3
	comp=Z,77nm,1.4s					
MDJ	**Mudanjiang**	**34.88**	**4**	P	**P**	**20 35 23.3 +1.9**
MDJ				S	**S**	**20 40 49.3 -2.1**
MDJ				ScS	**ScS**	**20 45 44.0 +2.2**
MDJ				pmax	pmax	
	comp=Z,43nm,1.4s					
MDJ				LR	LR	
	comp=Z,800nm,19.2s					
MDJ				LR	LR	
	comp=Z,850nm,17.9s					
MDJ				LR	LR	
	comp=Z,1μm,17.9s					
XLT	**XiLinHaoTe**	**35.26**	**347**	*e*P	**P**	**20 35 23.5 -1.3**
XLT				pP	sP	20 35 33.0 +2.0
XLT				sP	pwP	20 35 37.8 +1.0
XLT				PP	**PP**	**20 36 50.3 +5.3**
XLT				S	**S**	**20 40 51.5 -6.0**
XLT				sS	sS	20 41 10.0 +4.9
XLT				ScS	**ScS**	**20 45 44.3 +0.2**
XLT				pmax	pmax	
	comp=Z,30nm,1.8s					
XLT				pmax	pmax	
	comp=Z,360nm,4.5s					
XLT				LR	LR	
	comp=Z,140nm,17.9s					
XLT				LR	LR	
	comp=Z,1μm,14.0s					
XLT				LR	LR	
	comp=Z,3μm,17.4s					
BNX	**BinXian**	**35.91**	**1**	⇓P	**P**	**20 35 30.8 +0.6**
BNX				PP	**PP**	**20 36 53.3 +1.2**
BNX				S	**S**	**20 41 09.5 +2.3**
BNX				pmax	pmax	
	comp=Z,14nm,1.3s					
BNX				pmax	pmax	
	comp=Z,210nm,6.0s					
BNX				LR	LR	
	comp=Z,2μm,18.4s					
BNX				LR	LR	
	comp=Z,1μm,15.2s					
BNX				LR	LR	
	comp=Z,2μm,19.5s					
SHL	**Shillong**	**36.46**	**300**	P	**P**	**20 35 33.8 -1.7**
SHL	**Shillong**	**36.46**	**300**	P	**P**	**20 35 34.6 -0.9**
	SNR=9.6					
SHL	**Shillong**	**36.46**	**300**	P	**P**	**20 35 33.8 -1.7**
SHL				pmax	pmax	
	comp=Z,19nm,0.9s					
MEEK	**Meekatharra**	**36.95**	**192**	P	**P**	**20 35 38.5 -0.8**
MEEK	**Meekatharra**	**36.95**	**192**	P	**P**	**20 35 40.4 +1.1**
ASAJ	**Asahikawa**	**37.00**	**19**	LR	LR	20 50 46.6
	comp=Z,2μm,18.9s,baz=202,slow=36					
ASAJ	**Asahikawa**	**37.00**	**19**	P	**P**	**20 35 37.6 -2.0**
ASAJ				pmax	pmax	
	comp=Z,114nm,1.7s					
JKA	**Kamikawa-asahi**	**37.00**	**19**		**P**	**20 35 37.6 -2.0**
JKA				IAmb	IAmb	20 35 45.4
	comp=Z,114nm,1.7s					
TATA	**Tatamba Isabel**	**37.68**	**117**	P	**P**	**20 35 49.5 +3.8**
GTA	**Gaotai**	**38.00**	**326**	*e*P	**P**	**20 35 48.0 -0.3**
GTA				sP	pwP	20 36 03.5 +4.8
GTA				PP	**PP**	**20 37 15.5 +0.2**
GTA				S	**S**	**20 41 40.0 +0.5**
GTA				pmax	pmax	
	comp=Z,16nm,0.7s					
GTA				LR	LR	
	comp=Z,950nm,17.4s					
GTA				LR	LR	
	comp=Z,1μm,16.4s					
GTA				LR	LR	
	comp=Z,2μm,17.8s					
HNR	**Honiara**	**38.29**	**119**	LR	LR	20 52 25.6
	comp=Z,552nm,19.2s,baz=290,slow=37					
OOD	**Oodnadatta**	**38.32**	**167**	P	**P**	**20 35 53.4 +2.5**
LSA	**Lhasa**	**38.58**	**306**		**P**	**20 35 52.0 -1.7**
LSA	**Lhasa**	**38.58**	**306**	P	**P**	**20 35 54.5 +0.7**
LSA				P	**P**	**20 35 54.5 +0.7**
LSA	**Lhasa**	**38.58**	**306**	P	**P**	**20 35 52.0 -1.7**
LSA				pmax	pmax	
	comp=Z,31nm,1.5s					
ALEG	**Aligegeo Malai**	**38.63**	**117**	P	**P**	**20 35 55.3 +1.6**
YSS	**Yuzhno-Sakhali**	**39.59**	**17**		**P**	**20 35 59.9 -1.5**
YSS	**Yuzhno-Sakhali**	**39.59**	**17**	P	**P**	**20 36 04.1 +2.7**
YSS	**Yuzhno-Sakhali**	**39.59**	**17**	*e*P	**P**	**20 36 02.7 +1.3**
YSS				*e*		20 38 08.7
YSS				*e*S	**S**	**20 42 03.6 +0.6**
YSS				*e*SSS	SSS	20 46 03.3
YSS				pmax	pmax	
	comp=Z,20nm,0.8s					
YSS				pmax	pmax	
	comp=Z,100nm,2.3s					
YSS				smax	smax	
	comp=N,100nm,4.4s					
YSS				smax	smax	
	comp=E,200nm,5.8s					
YSS				MLR	MLR	
	comp=Z,700nm,14.0s					
YSS				MLR	MLR	
	comp=N,400nm,16.0s					
YSS				MLR	MLR	
	comp=E,700nm,15.0s					
KLR	**Kul'dur**	**39.63**	**5**	LR	LR	20 53 26.6
	comp=E,1μm,19.2s,baz=196,slow=38					
KLR	**Kul'dur**	**39.63**	**5**	*ce*P	**P**	**20 36 02.5 +0.8**
KLR				pmax	pmax	
	comp=Z,42nm,1.7s					
INKA	**Innaminka**	**39.69**	**160**	P	**P**	**20 36 06.5 +4.1**
H11S3	**WAKE ISLAND Hy**	**39.81**	**73**	T	T	21 19 04.5
	baz=261,slow=73					
H11S1	**WAKE ISLAND Hy**	**39.83**	**73**	T	T	21 19 07.0
	baz=261,slow=73					
H11S2	**WAKE ISLAND Hy**	**39.83**	**73**	T	T	21 19 08.2
	baz=261,slow=73					
HIA	**Hailar**	**39.84**	**353**	P	**P**	**20 36 02.8 -0.7**
HIA	**Hailar**	**39.84**	**353**	P	**P**	**20 36 02.8 -0.7**
HIA				pmax	pmax	
	comp=Z,57nm,1.7s					
MORW	**Morawa**	**39.87**	**194**		**P**	**20 36 03.6 -0.2**
MORW	**Morawa**	**39.87**	**194**	P	**P**	**20 36 03.2 -0.6**
MORW	**Morawa**	**39.87**	**194**	P	**P**	**20 36 04.3 +0.4**
QLP	**Quilpie**	**39.96**	**155**	P	**P**	**20 36 03.0 -1.6**
	comp=Z,72nm,1.6s					
QLP	**Quilpie**	**39.96**	**155**	P	**P**	**20 36 08.1 +3.5**
H11N1	**WAKE ISLAND Hy**	**40.17**	**71**	T	T	21 19 40.0
	baz=266,slow=74					
H11N2	**WAKE ISLAND Hy**	**40.18**	**71**	T	T	21 19 40.2
	baz=266,slow=74					
H11N3	**WAKE ISLAND Hy**	**40.19**	**71**	T	T	21 19 41.1
	baz=266,slow=74					
FORT	**Forrest**	**40.28**	**178**	P	**P**	**20 36 05.9 -1.4**
FORT				IAmb	IAmb	20 36 20.1
	comp=Z,54nm,0.8s					
FORT	**Forrest**	**40.28**	**178**	P	**P**	**20 36 07.5 +0.3**
	comp=Z,82nm,0.8s					
FORT	**Forrest**	**40.28**	**178**	P	**P**	**20 36 11.5 +4.2**
RK1H	**Rockhampton Ha**	**40.38**	**145**	P	**P**	**20 36 11.3 +3.1**
HEH	**HeiHe**	**40.42**	**1**	*e*P	**P**	**20 36 09.3 +1.1**
HEH				PcP	**PcP**	**20 38 11.5 +0.5**
HEH				S	**S**	**20 42 12.0 -3.4**
HEH				pmax	pmax	
	comp=Z,21nm,1.4s					
HEH				pmax	pmax	
	comp=Z,490nm,5.9s					
HEH				LR	LR	
	comp=Z,1μm,17.1s					
HEH				LR	LR	
	comp=Z,1μm,17.3s					
HEH				LR	LR	
	comp=Z,2μm,19.6s					
KMBL	**Kambalda**	**41.09**	**186**	P	**P**	**20 36 12.7 -1.2**
KMBL	**Kambalda**	**41.09**	**186**	P	**P**	**20 36 16.0 +2.1**
BLDU	**Ballidu**	**41.19**	**193**	P	**P**	**20 36 14.1 -0.8**
BLDU	**Ballidu**	**41.19**	**193**	P	**P**	**20 36 16.2 +1.4**
ULN	**Ulaanbaatar**	**41.44**	**340**		**P**	**20 36 16.9 0.0**
ULN					**P**	**20 36 17.5 +0.6**
ULN				IAmb	IAmb	20 36 19.7
	comp=Z,92nm,1.5s					
ULN	**Ulaanbaatar**	**41.44**	**340**	P	**P**	**20 36 17.5 +0.6**
ULN				P	**P**	**20 36 17.5 +0.6**
ULN	**Ulaanbaatar**	**41.44**	**340**	*i* P	**P**	**20 36 17.9 +1.0**
ULN				pmax	pmax	
	comp=Z,83nm,1.7s					
LCRK	**Leigh Creek**	**41.47**	**165**	P	**P**	**20 36 20.5 +3.4**
SONM	**Songino Array**	**41.64**	**340**	P	**P**	**20 36 17.6 -0.9**
SONM				IAmb	IAmb	20 36 21.1
	comp=Z,83nm,1.5s					
SONM	**Songino Array**	**41.64**	**340**	P	**P**	**20 36 19.4 +0.9**
	comp=Z,9.0nm,0.7s,baz=157,slow=9.3,SNR=66					
SONM				ScP	**ScP**	**20 42 05.3 +1.0**
	comp=Z,1.5nm,1.1s,baz=194,slow=0.6,SNR=5.2					
SONM				LR	LR	20 56 35.8
	comp=Z,2μm,18.4s,baz=152,slow=41					
	comp=Z,9.0nm,0.7s					
KLBR	**Kellerberrin**	**41.92**	**191**	P	**P**	**20 36 19.9 -0.9**
KLBR	**Kellerberrin**	**41.92**	**191**	P	**P**	**20 36 23.2 +2.4**
EIDS	**Eidsvold**	**42.27**	**146**	P	**P**	**20 36 23.6 -0.1**
EIDS				IAmb	IAmb	20 36 27.4
	comp=Z,55nm,1.2s					
EIDS	**Eidsvold**	**42.27**	**146**	P	**P**	**20 36 23.3 -0.4**
	comp=Z,44nm,1.5s					
EIDS	**Eidsvold**	**42.27**	**146**	P	**P**	**20 36 25.0 +1.3**
MUN	**Mundaring**	**42.62**	**193**	P	**P**	**20 36 26.4 0.0**
	comp=Z,78nm,0.9s					
MUN	**Mundaring**	**42.62**	**193**	P	**P**	**20 36 28.4 +2.0**
TYV	**Tymovskoe**	**43.12**	**15**	*e*P	**P**	**20 36 32.6 +2.3**
TYV				*e*S	**S**	**20 42 57.8 +2.4**
TYV				pmax	pmax	
	comp=Z,13nm,1.3s					
TYV				pmax	pmax	
	comp=Z,200nm,3.5s					
TYV				smax	smax	
	comp=N,300nm,4.9s					
TYV				smax	smax	
	comp=E,300nm,4.9s					
BBOO	**Buckleboo**	**43.24**	**168**		**P**	**20 36 30.9 -0.6**
BBOO	**Buckleboo**	**43.24**	**168**	P	**P**	**20 36 31.2 -0.3**
	comp=Z,41nm,1.2s					
BBOO	**Buckleboo**	**43.24**	**168**	P	**P**	**20 36 34.4 +2.9**
NWAO	**Narrogin (SRO)**	**43.32**	**191**		**P**	**20 36 32.6 +0.5**
NWAO				IAmb	IAmb	20 36 45.5
	comp=Z,51nm,0.9s					
NWAO	**Narrogin (SRO)**	**43.32**	**191**	P	**P**	**20 36 31.8 -0.4**
NWAO	**Narrogin (SRO)**	**43.32**	**191**	LR	LR	20 58 42.3
	comp=Z,226nm,18.4s,baz=348,slow=42					
NWAO	**Narrogin (SRO)**	**43.32**	**191**	P	**P**	**20 36 33.5 +1.3**
NWAO	**Narrogin (SRO)**	**43.32**	**191**	P	**P**	**20 36 34.0 +1.8**
NWAO	**Narrogin (SRO)**	**43.32**	**191**	P	**P**	**20 36 33.9 +1.8**
NWAO	**Narrogin (SRO)**	**43.32**	**191**	P	**P**	**20 36 32.6 +0.5**
NWAO				pmax	pmax	
	comp=Z,51nm,0.9s					
CIT	**Chita**	**43.50**	**348**	*e*P	**P**	**20 36 33.2 -0.3**
CIT				*e*		20 36 42.4
CIT				*e*		20 38 20.2
CIT				*e*		20 42 56.2
CIT				pmax	pmax	
	comp=Z,205nm,2.1s					
STKA	**Stephens Creek**	**43.79**	**161**	P	**P**	**20 36 35.6 -0.2**
STKA	**Stephens Creek**	**43.79**	**161**	P	**P**	**20 36 35.0 -0.9**
	comp=Z,124nm,1.8s					
STKA	**Stephens Creek**	**43.79**	**161**	P	**P**	**20 36 35.7 -0.2**
	comp=Z,2.6nm,0.3s,baz=353,slow=7.7,SNR=13					
	comp=Z,2.6nm,0.3s					
STKA	**Stephens Creek**	**43.79**	**161**	P	**P**	**20 36 39.2 +3.3**
ZEA	**Zeya**	**43.91**	**1**	*e*P	**P**	**20 36 37.0 +0.4**
ZEA				*e*		20 38 23.2
ZEA				*e*S	**S**	**20 43 03.7 -3.1**
ZEA				*e*		20 46 35.7
ZEA				pmax	pmax	
	comp=N,100nm,3.9s					
ZEA				pmax	pmax	
	comp=Z,200nm,5.2s					
ZEA				pmax	pmax	
	comp=Z,10.0nm,1.5s					
ZEA				smax	smax	
	comp=E,200nm,12.1s					
ZEA				MLR	MLR	
	comp=N,800nm,19.0s					
ZEA				MLR	MLR	
	comp=Z,900nm,19.0s					
LUES	**Luesalemba Tem**	**44.07**	**116**	P	**P**	**20 36 41.9 +3.4**
HTT	**Hallett**	**44.49**	**165**	P	**P**	**20 36 42.4 +0.8**
ZAK	**Zakamensk**	**44.88**	**339**	*e*P	**P**	**20 36 44.5 -0.1**
ZAK				pmax	pmax	
	comp=Z,18nm,1.7s					
ZAK				pmax	pmax	
	comp=Z,12nm,2.0s					
CMSA	**Cobar Meteorol**	**44.92**	**157**	P	**P**	**20 36 44.8 -0.2**
	comp=Z,22nm,2.6s					
CMSA	**Cobar Meteorol**	**44.92**	**157**	P	**P**	**20 36 48.9 +3.9**
AUWSH	**Wavell State H**	**44.94**	**146**	P	**P**	**20 36 48.7 +3.5**
RKGY	**Rocky Gully**	**45.00**	**191**	P	**P**	**20 36 45.4 -0.2**
	comp=Z,42nm,1.2s					
PALK	**Pallekele**	**45.39**	**271**	P	**P**	**20 36 49.4 +0.3**
PALK				IAmb	IAmb	20 36 52.2
	comp=Z,75nm,1.7s					
PALK	**Pallekele**	**45.39**	**271**	LR	LR	20 57 06.5
	comp=Z,636nm,19.0s,baz=100,slow=38					
PALK	**Pallekele**	**45.39**	**271**	P	**P**	**20 36 49.4 +0.3**
PALK				pmax	pmax	
	comp=Z,75nm,1.7s					
IRK	**Irkutsk**	**46.13**	**341**	*e*P	**P**	**20 36 55.3 +1.0**
IRK				*e*S	S	20 43 55.0 +16
IRK				pmax	pmax	
	comp=Z,127nm,2.0s					
ARMA	**Armidale**	**46.61**	**150**	P	**P**	**20 36 57.3 -1.3**
ARMA	**Armidale**	**46.61**	**150**	P	**P**	**20 36 59.4 +0.9**
	comp=Z,44nm,1.5s					
ARMA	**Armidale**	**46.61**	**150**	P	**P**	**20 37 02.0 +3.5**
MOY	**Mondy**	**46.76**	**338**	*e*P	**P**	**20 37 00.0 +0.5**
MOY				pmax	pmax	
	comp=Z,138nm,2.1s					
HYB	**Hyderabad**	**47.18**	**285**	*e*P	**P**	**20 37 03.7 +0.5**
HYB				*e*ScP	**ScP**	**20 42 27.1 -0.5**
HYB				*e*S	**S**	**20 43 56.2 +1.0**
WMQ	**Urumqi**	**47.83**	**322**	*e*P	**P**	**20 37 08.0 +0.1**
WMQ				S	**S**	**20 44 07.5 +3.7**
WMQ				pmax	pmax	
	comp=Z,290nm,6.5s					
WMQ				LR	LR	
	comp=Z,3μm,18.5s					
WMQ				LR	LR	
	comp=Z,1μm,20.3s					
WMQ				LR	LR	
	comp=Z,1μm,18.5s					
ARPS	**Mount Arapiles**	**48.41**	**164**	P	P	20 37 06.7 -5.6
ARPS	**Mount Arapiles**	**48.41**	**164**	P	**P**	**20 37 15.8 +3.5**
BOD	**Bodaibo**	**48.96**	**351**	*e*P	**P**	**20 37 17.1 +0.9**
BOD				pmax	pmax	
	comp=Z,66nm,1.8s					
CAN	**Canberra**	**49.56**	**156**	P	**P**	**20 37 21.2 +0.1**
CAN	**Canberra**	**49.56**	**156**	P	**P**	**20 37 23.1 +2.0**
CAN	**Canberra**	**49.56**	**156**	P	**P**	**20 37 24.4 +3.2**
CAN	**Canberra**	**49.56**	**156**	P	**P**	**20 37 21.2 +0.1**
CAN				pmax	pmax	
	comp=Z,109nm,1.5s					
CNB	**Canberra Magne**	**49.70**	**155**	P	**P**	**20 37 25.5 +3.2**

PETK Petropavlovsk- 50.03 24 P **P 20 37 22.8 -1.7**
PETK Petropavlovsk- 50.03 24 P **P 20 37 26.2 +1.7**
comp=Z,6.4nm,0.7s,baz=211,slow=4.3,SNR=17
PETK PcP **PcP 20 38 44.9 +0.8**
comp=Z,5.8nm,0.9s,baz=222,slow=7.0,SNR=2.2
PETK LR LR 20 59 07.9
comp=Z,1μm,19.0s,baz=216,slow=37
comp=Z,6.4nm,0.7s
TOO Toolangi 50.27 160 pP 20 37 31.0 -0.8
TOO Toolangi 50.27 160 P **P 20 37 28.4 +1.9**
comp=Z,14nm,1.8s
DZM Mont Dzumac 50.28 129 P **P 20 37 25.4 -1.5**
DZM Mont Dzumac 50.28 129 *e*S **S 20 44 39.7 +1.0**
comp=Z,1μm,25.9s
DZM *e*LQ LQ 20 49 42.2
comp=Z,768nm,39.4s
DZM *e*LR LR 20 51 47.8
comp=Z,927nm,28.4s
PET Petropavlovsk 50.35 25 *e*P P 20 37 31.7 +4.8
PET *e*S **S 20 44 39.9 +1.2**
PET pmax pmax
comp=Z,100nm,11.1s
PET MLR MLR
comp=Z,1μm,13.0s
PET MLR MLR
comp=Z,900nm,15.0s
ZSN Zaisan 51.48 325 *e*P **P 20 37 34.5 -1.0**
ZSN Zaisan 51.48 325 *e*P **P 20 37 34.6 -1.0**
YAK Yakutsk 52.27 2 P **P 20 37 41.0 -0.1**
YAK IAmb IAmb 20 37 46.6
comp=Z,58nm,1.2s
YAK Yakutsk 52.27 2*c i*P **P 20 37 41.3 +0.2**
YAK *e**PP **pwP 20 37 50.5 -2.6**
YAK *e*S **S 20 45 03.4 -1.5**
YAK *e**SS **sS 20 45 15.1 +2.6**
YAK *e* 20 47 28.0
YAK *e*SS **SS 20 48 34.4 -8.2**
YAK *e*SSS SSS 20 50 22.2
YAK pmax pmax
comp=Z,44nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=Z,233nm,5.2s
YAK pmax pmax
comp=N,124nm,4.2s
YAK pmax pmax
comp=E,60nm,3.3s
YAK smax smax
comp=E,104nm,2.7s
YAK smax smax
comp=N,118nm,2.8s
YAK MLR MLR
comp=Z,1μm,21.0s
YAK MLR MLR
comp=N,834nm,21.0s
YAK MLR MLR
comp=E,199nm,12.0s
MK31 Makanchi Array 52.64 323*c i*P **P 20 37 43.7 -0.5**
MKAR Makanchi Array 52.64 323 P **P 20 37 43.1 -1.1**
MKAR Makanchi Array 52.64 323 P **P 20 37 43.5 -0.7**
comp=E,6.7nm,0.7s,baz=121,slow=8.2,SNR=88
MKAR ScP **ScP 20 42 49.2 -1.1**
comp=E,0.6nm,0.9s,baz=122,slow=5.2,SNR=2.4
MKAR S **S 20 45 06.3 -4.3**
comp=E,0.4nm,0.4s,baz=111,slow=20,SNR=8.4
comp=E,6.7nm,0.7s
SHLS Shalkode 52.74 318 *e*P **P 20 37 42.0 -3.1**
SHLS Shalkode 52.74 318 *e*P **P 20 37 42.0 -3.1**
MAKZ Makanchi 52.83 323 P **P 20 37 44.8 -0.8**
MAKZ Makanchi 52.83 323 P **P 20 37 44.8 -0.8**
MAKZ pmax pmax
comp=Z,15nm,1.2s
HMDM Hanimaadhoo 52.86 271 P **P 20 37 48.9 +2.6**
MA2 Magadan 53.00 15 P **P 20 37 46.1 -0.5**
MA2 IAmb IAmb 20 37 52.4
comp=Z,26nm,1.1s
MA2 Magadan 53.00 15 P **P 20 37 49.2 +2.6**
MA2 Magadan 53.00 15 P **P 20 37 46.1 -0.5**
MA2 pmax pmax
comp=Z,26nm,1.1s
UZB Uzynbulak 53.03 317 *e*P **P 20 37 46.3 -1.0**
UZB Uzynbulak 53.03 317 *e*P **P 20 37 46.4 -1.0**
KPKS Kokpek 53.39 318 *e*P **P 20 37 48.8 -1.0**
KPKS Kokpek 53.39 318 *e*P **P 20 37 48.9 -1.0**
SATY Saty 53.41 317 *e*P **P 20 37 48.9 -1.1**
SATY Saty 53.41 317 *e*P **P 20 37 49.0 -1.1**
KSH Kashi 53.81 312 P **P 20 37 54.8 +1.7**
KSH pP sP 20 38 02.0 +1.6
KSH pmax pmax
comp=Z,13nm,1.5s
KSH pmax pmax
comp=Z,280nm,8.5s
KSH LR LR
comp=Z,2μm,17.3s
KSH LR LR
comp=Z,1μm,16.7s
KSH LR LR
comp=Z,2μm,17.8s
TDK Taldyqorghan 54.21 319 *e*P **P 20 37 55.1 -0.7**
TDK pmax pmax
comp=Z,27nm,1.3s
TDK Taldyqorghan 54.21 319 *e*P **P 20 37 55.2 -0.7**
comp=Z,27nm,1.3s
NIL Nilore 54.28 305 P **P 20 37 55.8 -0.6**
NIL IAmb IAmb 20 37 57.7
comp=Z,42nm,1.1s
NIL Nilore 54.28 305 P **P 20 37 56.5 0.0**
NIL P **P 20 37 56.5 0.0**
NIL Nilore 54.28 305 P **P 20 37 55.8 -0.6**
NIL pmax pmax
comp=Z,42nm,1.1s
MDOK Medeo 54.36 317 *e*P **P 20 37 56.2 -0.9**
MDOK Medeo 54.36 317 *e*P **P 20 37 56.2 -0.9**
TNSS Tian-Shan 54.38 317 *e*P **P 20 37 56.4 -1.1**
TNSS Tian-Shan 54.38 317 *e*P **P 20 37 56.5 -1.1**
CHKK Chushkaly 54.67 318 *e*P **P 20 37 58.1 -1.0**
CHKK Chushkaly 54.67 318 *e*P **P 20 37 58.2 -1.0**
KUU Kurty 55.12 317 *e*P **P 20 38 01.2 -1.2**
KUU pmax pmax
comp=Z,25nm,1.1s
KUU Kurty 55.12 317 *e*P **P 20 38 01.2 -1.2**
comp=Z,25nm,1.1s
ZALV Zalesovo Beam 55.25 331 P **P 20 38 01.7 -1.4**
ZALV Zalesovo Beam 55.25 331 P **P 20 38 02.2 -0.9**
comp=Z,4.3nm,0.7s,baz=114,slow=7.2,SNR=19
ZALV ScP **ScP 20 43 06.2 +4.7**
comp=Z,0.2nm,0.3s,baz=132,slow=4.3,SNR=1.6
comp=Z,4.3nm,0.7s
TKM2 Tokmak 2 55.26 316 P **P 20 38 05.2 +1.5**
SNR=6.2
KBK Karagaybulak 55.61 316 P **P 20 38 06.2 0.0**
SNR=7.9
CHMS Chumysh 55.87 316 P **P 20 38 09.0 +1.2**
SNR=5.3
AAK Ala-Archa 55.92 315 P **P 20 38 07.1 -1.2**
AAK Ala-Archa 55.92 315 LR LR 21 04 56.2
comp=Z,1μm,18.6s,baz=80,slow=39
AAK Ala-Archa 55.92 315 P **P 20 38 08.2 -0.1**
AAK P **P 20 38 08.2 -0.1**
AAK Ala-Archa 55.92 315*de*P **P 20 38 08.3 -0.1**
AAK pmax pmax
comp=Z,18nm,1.9s
SGDS Sogindy 56.11 316 *e*P **P 20 38 08.7 -0.9**
SGDS Sogindy 56.11 316 *e*P **P 20 38 08.7 -0.9**
USP Ospenovka 56.13 316 P **P 20 38 10.1 +0.4**
SNR=8.0
SEY Seymchan 56.29 14⇑ *e*P **P 20 38 12.1 +1.7**
SEY pmax pmax
comp=Z,49nm,1.7s
AML Almayashu 56.31 315 P **P 20 38 11.8 +0.4**
SNR=14
EKS2 Erkin-Say 56.42 315 P **P 20 38 13.6 +1.7**
SNR=9.4
KURK Kurchatov 56.68 326 P **P 20 38 12.5 -0.9**
KURK Kurchatov 56.68 326 P **P 20 38 12.9 -0.5**
KURK P **P 20 38 12.9 -0.5**
KURK Kurchatov 56.68 326 P **P 20 38 12.9 -0.5**
KURBB Kurchatov Arra 56.69 325 P **P 20 38 12.9 -0.5**
comp=Z,5.9nm,0.6s,baz=126,slow=6.9,SNR=78
KURBB ScP **ScP 20 43 11.2 +3.3**
comp=Z,1.1nm,1.2s,baz=116,slow=6.4,SNR=2.3
comp=Z,5.9nm,0.6s

SHEM Shemya Is, Ala 57.47 32 LR LR 21 05 59.0
comp=Z,207nm,18.2s,baz=285,slow=39
MSVF Nonsavu 57.71 118 LR LR 21 02 31.2
comp=Z,812nm,18.6s,baz=332,slow=35
GAR Garm 57.86 310 P **P 20 38 20.8 -1.3**
GAR IAmb IAmb 20 38 23.1
comp=Z,34nm,1.0s
KBL Kabul 57.88 305 P **P 20 38 21.3 -1.1**
KBL IAmb IAmb 20 38 23.2
comp=Z,20nm,0.8s
KBL Kabul 57.88 305 P **P 20 38 22.0 -0.4**
SNR=12
KBL P **P 20 38 22.0 -0.4**
SNR=12
KBL Kabul 57.88 305 P **P 20 38 21.3 -1.1**
KBL pmax pmax
comp=Z,20nm,0.8s
SIMJ Simiganj 58.77 309 P **P 20 38 27.9 -0.6**
KKAR Karatay Array 58.84 315 P **P 20 38 27.6 -1.2**
KKAR Karatay Array 58.84 315 IAmb IAmb 20 38 29.8
comp=Z,11nm,0.9s
KKAR Karatay Array 58.84 315 P **P 20 38 27.6 -1.2**
IUG Iuzhnay 58.91 314 *e*P **P 20 38 28.6 -0.7**
IUG pmax pmax
comp=Z,13nm,0.9s
IUG Iuzhnay 58.91 314 *e*P **P 20 38 28.6 -0.7**
comp=Z,12nm,0.9s
BRZS Berezniki 59.79 323 *e*P **P 20 38 34.6 -0.6**
BRZS Berezniki 59.79 323 *e*P **P 20 38 34.6 -0.6**
TIXI Tiksi 61.90 1 P **P 20 38 48.5 -0.6**
TIXI Tiksi 61.90 1⇓ *e*P **P 20 38 49.6 +0.5**
TIXI pmax pmax
comp=Z,52nm,1.7s
BVAR Borovoye Array 62.28 325 P **P 20 38 51.4 -0.6**
comp=Z,4.4nm,0.6s,baz=116,slow=10,SNR=23
BVAR LR LR 21 05 13.9
comp=Z,874nm,20.9s,baz=119,slow=36
comp=Z,4.4nm,0.6s
BRVK Borovoye 62.35 325 P **P 20 38 51.2 -1.3**
BRVK Borovoye 62.35 325 P **P 20 38 52.3 -0.2**
BRVK P **P 20 38 52.3 -0.2**
BRVK Borovoye 62.35 325*ce*P **P 20 38 52.0 -0.5**
BRVK pmax pmax
comp=Z,24nm,1.7s
BILL Bilibino 63.86 16 P **P 20 39 02.3 0.0**
BILL IAmb IAmb 20 39 08.1
comp=Z,39nm,1.3s
BILL Bilibino 63.86 16*ce*P **P 20 39 03.6 +1.3**
BILL pmax pmax
comp=Z,50nm,1.7s
NRIK Noril'sk 64.62 346 P **P 20 39 06.8 -0.4**
NRIK Noril'sk 64.62 346 P **P 20 39 07.7 +0.4**
comp=Z,16nm,0.7s,baz=137,slow=6.4,SNR=57
NRIK S **S 20 47 44.3 -1.3**
comp=Z,0.7nm,0.3s,baz=347,slow=20,SNR=6.9
comp=Z,16nm,0.7s
KUZ Kuaotunu 65.30 138 P **P 20 39 15.7 +3.6**
JLN Jalan Bani Buh 65.30 290 P **P 20 39 13.5 +1.0**
JLN P **P 20 39 13.5 +1.0**
WBK Wadi Bani Khal 65.70 290 P **P 20 39 14.9 -0.3**
TOZ Tahuroa Road 65.72 139 **P 20 39 14.0 -0.8**
QRZ Quartz Range 65.75 143 P **P 20 39 16.7 +1.8**
JCZ Jackson Bay 65.80 148 P **P 20 39 18.1 +2.8**
WSAR Wadi Sarin 66.01 291 P **P 20 39 17.8 +0.8**
BIDO Bidbid 66.47 291 P **P 20 39 20.2 +0.2**
BIDO P **P 20 39 20.2 +0.2**
JMDO Jabal Madar 66.51 290 P **P 20 39 19.4 -0.9**
SMDO Samad 66.55 291 P **P 20 39 20.8 +0.1**
MHTO MHTO 66.67 289 P **P 20 39 20.3 -1.0**
SNR=6.4
MHTO P **P 20 39 20.3 -1.0**
SNR=6.4
LBZ Lake Benmore 66.75 147 P **P 20 39 22.1 +0.8**
RPZ Rata Peaks 66.77 146 P **P 20 39 22.2 +0.8**
NIKH Nikolski High 67.09 36 P **P 20 39 24.5 +1.1**
baz=255
BSWZ Blackbirch Sta 67.09 143 P **P 20 39 22.7 -0.9**
DQM DQM 67.11 288 P **P 20 39 24.4 +0.3**
BKZ Black Stump Fm 67.18 140 P **P 20 39 23.8 -0.4**
BKZ Black Stump Fm 67.18 140 P **P 20 39 27.8 +3.6**
RTZ Ruatahuna 67.18 139 P **P 20 39 23.8 -0.5**
HOQ Hoqain 67.22 291 P **P 20 39 25.1 +0.3**
KHZ Kahutara 67.33 144 P **P 20 39 24.9 -0.1**
BSY Bisya 67.34 291 P **P 20 39 26.3 +0.7**
BSY P **P 20 39 26.3 +0.7**
AB31 Akbulak array 67.48 319 P **P 20 39 24.9 -1.0**
ABKAR Akbulak array 67.48 319 P **P 20 39 24.3 -1.6**
MRZ Mangatainoka R 67.48 142 P **P 20 39 25.6 -0.4**
SPIA Saint Paul Isl 67.50 32 P **P 20 39 27.4 +1.5**
baz=252
P08K Saint George I 67.70 32 P **P 20 39 28.7 +1.6**
baz=253
BFZ Birch Farm 67.90 141 **P 20 39 27.9 -0.8**
BFZ Birch Farm 67.90 141 P **P 20 39 32.8 +4.1**
SOHO SOHO 67.92 292 P **P 20 39 29.6 +0.4**
SOHO P **P 20 39 29.6 +0.4**
ARQ Araqi 67.95 291 P **P 20 39 27.9 -1.5**
BANOM Banah 68.11 294 P **P 20 39 29.0 -1.5**
HATD Hatta, Dubai 68.28 293 P **P 20 39 31.9 +0.4**
ASHO Ashiyiah 68.34 293 P **P 20 39 31.6 -0.3**
ASHO P **P 20 39 31.6 -0.3**
ALNE Al Ain 68.64 292 P **P 20 39 33.7 0.0**
ALNE P **P 20 39 33.7 0.0**
UNV Unalaska Valle 68.67 36 P **P 20 39 34.7 +1.5**
baz=257
SVE Sverdlovsk 68.83 327*de*P **P 20 39 34.1 -0.2**
SVE *e*S **S 20 48 39.5 +2.6**
SVE pmax pmax
comp=Z,30nm,1.8s
SVE MLR MLR
comp=Z,501nm,16.0s
AKTO Aktyubinsk 68.93 320 P **P 20 39 34.2 -0.8**
comp=Z,4.1nm,0.7s,baz=97,slow=4.0,SNR=13
AKTO PKP2bc 21 07 48.3
comp=Z,0.6nm,0.5s,baz=225,slow=4.3,SNR=4.9
comp=Z,4.1nm,0.7s
GAMB Gambell 69.05 25 P **P 20 39 34.6 -0.9**
GAMB IAmb IAmb 20 39 38.6
comp=Z,31nm,1.4s
GAMB Gambell 69.05 25 P **P 20 39 37.0 +1.5**
baz=248
DMTO DMTO 69.68 285 P **P 20 39 40.2 -0.1**
DMTO P **P 20 39 40.2 -0.1**
ARTI Arti 69.93 327 P **P 20 39 39.3 -1.8**
ARTI IAmb IAmb 20 39 54.0
comp=Z,11nm,0.8s
ARTI Arti 69.93 327 P **P 20 39 40.3 -0.8**
comp=Z,3.6nm,0.5s,baz=114,slow=1.8,SNR=11
ARTI PKP2bc 21 07 42.6
comp=Z,1.2nm,0.6s,baz=285,slow=8.3,SNR=6.5
ARTI LR LR 21 09 57.5
comp=Z,501nm,20.8s,baz=113,slow=36
comp=Z,3.6nm,0.5s
ARTI Arti 69.93 327*c i*P **P 20 39 40.3 -0.8**
ARTI 20 40 07.1
ARTI 20 42 18.0
ARTI S **S 20 48 51.8 +1.9**
ARTI 20 49 36.5
ARTI SS **SS 20 53 23.1 +4.1**
ARTI pmax pmax
comp=Z,28nm,2.0s
DOK Doka 70.40 286 P **P 20 39 43.8 -0.9**
SNR=8.4
DOK P **P 20 39 43.8 -0.9**
SNR=8.4
RBK Rabkut 70.41 285 P **P 20 39 46.0 +1.2**
RBK P **P 20 39 46.0 +1.2**
M11K Mekoryuk 70.44 29 P **P 20 39 45.3 +1.3**
baz=255
FALS False Pass 70.64 35 P **P 20 39 46.8 +1.3**
baz=259
MZR Muzera 70.76 291 P **P 20 39 47.3 +0.5**
WHFO Wadi Hawf 70.79 286 P **P 20 39 45.8 -1.3**
WHFO P **P 20 39 45.8 -1.3**
TNA Tin City 71.20 24 P **P 20 39 50.1 +1.5**
baz=251
ABTO Aybut 71.28 285 P **P 20 39 49.7 -0.4**
SNR=6.9
ABTO P **P 20 39 49.7 -0.4**
SNR=6.9
K13K Kusilvak Mount 71.56 28 IAmb IAmb 20 39 54.3
comp=Z,40nm,1.4s
K13K Kusilvak Mount 71.56 28 P **P 20 39 52.2 +1.3**
baz=256

S12K Black Hills 71.56 34 P **P 20 39 52.5 +1.4**
baz=260
F14K Arctic Creek 71.80 24 P **P 20 39 54.0 +1.7**
baz=253
M13K Dall Lake 71.82 29 P **P 20 39 53.7 +1.3**
baz=257
ANM Nome 71.93 25 **P 20 39 52.9 -0.2**
ANM Nome 71.93 25 P **P 20 39 52.9 -0.2**
ANM pmax pmax
comp=Z,14nm,1.3s
ANM Nome 71.93 25 P **P 20 39 54.9 +1.8**
baz=254
MSEY Mahe Island 72.23 262 P **P 20 39 55.1 -0.8**
J14K Nanvaranak Lak 72.25 27 **P 20 39 54.8 -0.2**
J14K IAmb IAmb 20 40 13.6
comp=Z,41nm,1.6s
J14K Nanvaranak Lak 72.25 27 P **P 20 39 56.8 +1.8**
baz=256
L14K Kuka Creek 72.34 29 P **P 20 39 56.8 +1.3**
baz=258,SNR=19
SLWR Sila 72.34 292 P **P 20 39 56.3 -0.1**
SLWR P **P 20 39 56.3 -0.1**
SDPT Sand Point 72.39 35 P **P 20 39 57.1 +1.1**
baz=262
N14K Kuskokwak Cree 72.53 30 P **P 20 39 56.7 0.0**
N14K IAmb IAmb 20 40 02.4
comp=Z,50nm,1.4s
N14K Kuskokwak Cree 72.53 30 P **P 20 39 57.8 +1.1**
baz=259
F15K North Star Dit 72.54 24 IAmb IAmb 20 39 59.9
comp=Z,24nm,1.4s
F15K North Star Dit 72.54 24 P **P 20 39 58.0 +1.3**
baz=254
M14K Bethel 72.56 29 **P 20 39 57.1 +0.2**
M14K Bethel 72.56 29 P **P 20 39 58.6 +1.7**
baz=258,SNR=7.2
G15K Niukluk 72.60 25 P **P 20 39 58.4 +1.3**
baz=255
O14K Tigyukauivet M 72.62 31 P **P 20 39 58.2 +1.0**
baz=260
CHNA Chernabura Isl 72.83 36 P **P 20 39 59.4 +0.9**
baz=262
L15K Ungalak Mounta 72.97 28 P **P 20 40 00.4 +1.1**
baz=259,SNR=8.2
C16K Lisburne Hills 73.00 21 IAmb IAmb 20 40 05.8
comp=Z,41nm,1.4s
C16K Lisburne Hills 73.00 21 P **P 20 40 00.7 +1.3**
baz=253
S14K Fog Glacier 73.05 34 P **P 20 40 00.6 +0.6**
baz=262
K15K Wolf Creek Mou 73.07 28 **P 20 39 59.6 -0.3**
K15K IAmb IAmb 20 40 06.2
comp=Z,34nm,1.4s
K15K Wolf Creek Mou 73.07 28 P **P 20 40 01.3 +1.4**
baz=258
SMRA Abu-Samra 73.10 293 P **P 20 40 01.2 +0.4**
M15K Kasigluk River 73.16 29 P **P 20 40 01.6 +1.1**
baz=260
H16K Elim 73.26 25 P **P 20 40 02.2 +1.2**
baz=257
O15K Ungalikthiuk R 73.33 31 P **P 20 40 01.1 -0.4**
O15K Ungalikthiuk R 73.33 31 P **P 20 40 02.8 +1.3**
baz=261
N15K Kwethluk River 73.36 30 IAmb IAmb 20 40 23.1
comp=Z,66nm,1.6s
N15K Kwethluk River 73.36 30 P **P 20 40 03.1 +1.3**
baz=260
G16K Koyuk River 73.39 24 P **P 20 40 02.8 +1.1**
baz=257
D17K Noatak River 73.66 22 P **P 20 40 04.7 +1.5**
baz=255
J16K Anvik River 73.69 27 IAmb IAmb 20 40 10.4
comp=Z,25nm,1.4s
J16K Anvik River 73.69 27 P **P 20 40 04.8 +1.2**
baz=259
I17K Unalakleet 73.76 26 **P 20 40 03.7 -0.2**
I17K IAmb IAmb 20 40 10.2
comp=Z,45nm,1.5s
I17K Unalakleet 73.76 26 P **P 20 40 05.1 +1.2**
baz=259
RDOG Red Dog Mine 73.81 22 IAmb IAmb 20 40 10.8
comp=Z,35nm,1.3s
RDOG Red Dog Mine 73.81 22 P **P 20 40 05.8 +1.6**
baz=255
L16K Owhat River 73.92 28 IAmb IAmb 20 40 11.5
comp=Z,37nm,1.4s
L16K Owhat River 73.92 28 P **P 20 40 06.1 +1.2**
baz=260,SNR=12
E17K Hotham Inlet 73.98 23 P **P 20 40 06.8 +1.6**
baz=257
M16K Timber Creek 74.05 29 IAmb IAmb 20 40 26.3
comp=Z,36nm,1.3s
M16K Timber Creek 74.05 29 P **P 20 40 06.7 +1.0**
baz=261
N16K Nishlik Lake 74.06 30 P **P 20 40 06.5 +0.7**
baz=261,SNR=9.0
F17K Baldwin Pennin 74.06 23 P **P 20 40 05.8 +0.1**
F17K Baldwin Pennin 74.06 23 P **P 20 40 06.5 +0.8**
baz=258
G17K Kiwalik Mounta 74.10 24 P **P 20 40 06.7 +0.7**
baz=258
P16K Nushagak River 74.25 31 P **P 20 40 08.0 +1.1**
baz=262
O16K Kokwok River B 74.27 31 IAmb IAmb 20 40 27.5
comp=Z,38nm,1.3s
O16K Kokwok River B 74.27 31 P **P 20 40 08.2 +1.2**
baz=262
R16K Pilot Point 74.29 33 P **P 20 40 07.6 +0.5**
baz=263
H17K Granite Mounta 74.30 25 P **P 20 40 08.2 +1.1**
baz=259,SNR=10
J17K VABM Dome 74.38 27 **P 20 40 07.3 -0.3**
J17K IAmb IAmb 20 40 13.8
comp=Z,53nm,1.6s
J17K VABM Dome 74.38 27 P **P 20 40 09.1 +1.5**
baz=260,SNR=15
E18K Tukpahlearik C 74.52 23 P **P 20 40 09.3 +1.0**
baz=258
B18K Kokolik River 74.53 20 P **P 20 40 09.7 +1.4**
baz=256,SNR=11
L17K Donlin 74.53 28 P **P 20 40 10.2 +1.7**
baz=261,SNR=14
C18K Utukok River 74.57 21 IAmb IAmb 20 40 15.0
comp=Z,18nm,1.0s
C18K Utukok River 74.57 21 P **P 20 40 10.3 +1.6**
baz=257
K17K Iditarod 74.62 28 P **P 20 40 10.6 +1.6**
baz=261
F18K Selawik 74.72 23 P **P 20 40 10.9 +1.4**
baz=259,SNR=19
O17K Koliganek Bris 74.80 31 P **P 20 40 11.5 +1.5**
baz=263,SNR=8.1
M17K Holitna River 74.84 29 **P 20 40 10.2 -0.1**
M17K IAmb IAmb 20 40 31.4
comp=Z,31nm,1.2s
M17K Holitna River 74.84 29 P **P 20 40 11.8 +1.5**
baz=262,SNR=8.7
N17K Nushagak Hills 74.84 30 IAmb IAmb 20 40 17.4
comp=Z,31nm,1.2s
N17K Nushagak Hills 74.84 30 P **P 20 40 11.5 +1.1**
baz=263,SNR=7.4
Q16K King Salmon 74.90 32 P **P 20 40 11.3 +0.6**
baz=264
A19K Wainwright 74.97 20 P **P 20 40 11.3 +0.4**
baz=257
H18K Honhosa River 74.98 25 IAmb IAmb 20 40 13.9
comp=Z,36nm,1.6s
H18K Honhosa River 74.98 25 P **P 20 40 12.0 +0.9**
baz=260
G18K Tagagawik 74.99 24 P **P 20 40 12.1 +1.0**
baz=260,SNR=12
P17K Kvichak River 75.06 31 P **P 20 40 12.7 +1.1**
baz=264
KIRV Kirov 75.07 328 P **P 20 40 11.3 -0.3**
comp=Z,18nm,0.7s,baz=89,slow=4.4,SNR=14
comp=Z,18nm,0.7s
KIRV Kirov 75.07 328*ce*P **P 20 40 11.7 +0.1**
CHIR Chirikof Islan 75.19 35 P **P 20 40 13.2 +0.9**
baz=265
Q17K Contact Creek 75.26 32 P **P 20 40 14.1 +1.2**
baz=265
AKT Akhty 75.28 310 *e*P **P 20 40 12.5 -0.9**
AKT *e* 20 40 26.8
AKT *e* 20 43 00.3
AKT *e*S **S 20 49 54.0 +2.2**
AKT pmax pmax
comp=Z,28nm,1.2s

AKT				MLR	MLR	
	comp=Z,536nm,12.0s					
L18K	**Granite Mounta**	**75.30**	**28**	P	**P**	**20 40 13.3 +0.4**
L18K				IAmb	IAmb	20 40 19.8
	comp=Z,22nm,1.2s					
L18K	**Granite Mounta**	**75.30**	**28**	P	**P**	**20 40 14.0 +1.1**
	baz=263,SNR=11					
J18K	**Innoko River**	**75.44**	**27**	IAmb	IAmb	20 40 54.0
	comp=Z,35nm,1.8s					
J18K	**Innoko River**	**75.44**	**27**	P	**P**	**20 40 15.1 +1.3**
	baz=262					
MAK	**Makhachkala**	**75.45**	**312**	*e*P	**P**	**20 40 09.8 -4.3**
MAK				*e*		20 42 56.7
MAK				*e*PPP	PPP	20 44 44.9
MAK				*e*S	**S**	**20 49 46.8 -6.5**
MAK				*e*SS	**SS**	**20 54 36.2 -7.6**
MAK				*e*SSS	SSS	20 58 04.4
MAK				pmax	pmax	
	comp=Z,12nm,0.2s					
MAK				MLR	MLR	
	comp=Z,651nm,19.0s					
N18K	**Kilae Creek**	**75.50**	**30**		**P**	**20 40 13.1 -1.1**
N18K				IAmb	IAmb	20 40 36.5
	comp=Z,49nm,1.6s					
N18K	**Kilae Creek**	**75.50**	**30**	P	**P**	**20 40 15.8 +1.6**
	baz=264					
F19K	**Shaleruckik Mo**	**75.50**	**23**	P	**P**	**20 40 14.8 +0.9**
	baz=261					
GCSA	**Galena City Sc**	**75.55**	**26**	P	**P**	**20 40 15.3 +1.1**
	baz=262					
ACHA	**Angle Creek He**	**75.55**	**32**	P	**P**	**20 40 15.0 +0.5**
BELG	**Belogornoye**	**75.61**	**322**	P	**P**	**20 40 14.2 -0.7**
	comp=Z,22nm,0.7s,baz=279,slow=7.6,SNR=15					
BELG				LR	LR	21 15 56.6
	comp=Z,301nm,18.2s,baz=93,slow=38					
	comp=Z,22nm,0.7s					
M18K	**Stony River**	**75.62**	**29**	P	**P**	**20 40 15.3 +0.5**
	baz=264,SNR=7.8					
KBD	**Kabd**	**75.65**	**298**	P	**P**	**20 40 15.2 -0.4**
D19K	**Kuna River**	**75.65**	**22**	IAmb	IAmb	20 40 21.5
	comp=Z,47nm,1.2s					
D19K	**Kuna River**	**75.65**	**22**	P	**P**	**20 40 15.8 +0.9**
	baz=260					
G19K	**Purcell Mounta**	**75.66**	**24**	P	**P**	**20 40 16.0 +1.0**
	baz=261,SNR=11					
P18K	**Big Mountain,**	**75.70**	**31**	P	**P**	**20 40 16.3 +1.0**
	baz=265					
Q18K	**Katmai Hardscr**	**75.75**	**32**	P	**P**	**20 40 17.0 +1.3**
	baz=265					
O18K	**Koktuh Hills**	**75.75**	**31**	P	**P**	**20 40 14.1 -1.6**
O18K	**Koktuh Hills**	**75.75**	**31**	P	**P**	**20 40 16.5 +0.9**
	baz=265,SNR=7.5					
E19K	**Redstone River**	**75.81**	**23**	IAmb	IAmb	20 40 22.5
	comp=Z,40nm,1.3s					
E19K	**Redstone River**	**75.81**	**23**	P	**P**	**20 40 16.6 +0.8**
	baz=261					
H19K	**Roundabout Mou**	**75.83**	**25**	P	**P**	**20 40 16.0 +0.1**
H19K				IAmb	IAmb	20 40 22.6
	comp=Z,30nm,1.1s					
H19K	**Roundabout Mou**	**75.83**	**25**	P	**P**	**20 40 17.3 +1.4**
	baz=262,SNR=18					
R18K	**Karluk**	**75.96**	**33**	P	**P**	**20 40 17.3 +0.6**
	baz=266					
J19K	**Poorman**	**75.99**	**26**	P	**P**	**20 40 18.4 +1.6**
	baz=263					
SII	**Sitkinak Islan**	**76.04**	**34**	P	**P**	**20 40 18.5 +1.2**
	baz=266					
L19K	**White Mountain**	**76.14**	**28**	IAmb	IAmb	20 40 24.4
	comp=Z,23nm,1.2s					
L19K	**White Mountain**	**76.14**	**28**	P	**P**	**20 40 19.2 +1.4**
	baz=264,SNR=12					
N19K	**Bonanza Creek**	**76.20**	**30**	IAmb	IAmb	20 40 24.4
	comp=Z,32nm,1.3s					
N19K	**Bonanza Creek**	**76.20**	**30**	P	**P**	**20 40 19.4 +1.1**
	baz=265,SNR=7.5					
O19K	**Port Alsworth**	**76.23**	**30**	P	**P**	**20 40 17.7 -0.5**
O19K				IAmb	IAmb	20 40 24.4
	comp=Z,19nm,1.1s					
O19K	**Port Alsworth**	**76.23**	**30**	P	**P**	**20 40 19.3 +1.1**
	baz=265					
D20K	**Etivluk River**	**76.23**	**21**	IAmb	IAmb	20 40 24.8
	comp=Z,38nm,1.1s					
D20K	**Etivluk River**	**76.23**	**21**	P	**P**	**20 40 19.0 +0.8**
	baz=261					
B20K	**Meade River**	**76.25**	**20**	P	**P**	**20 40 19.2 +1.1**
	baz=260,SNR=15					
E20K	**Nigu River**	**76.32**	**22**	P	**P**	**20 40 19.9 +1.1**
	baz=262					
F20K	**Avaraart Lake**	**76.33**	**23**	P	**P**	**20 40 17.6 -1.1**
F20K				IAmb	IAmb	20 40 24.7
	comp=Z,32nm,1.4s					
F20K	**Avaraart Lake**	**76.33**	**23**	P	**P**	**20 40 19.6 +0.9**
	baz=262,SNR=20					
M19K	**Big River Lodg**	**76.34**	**29**		**P**	**20 40 17.2 -1.6**
M19K				IAmb	IAmb	20 40 25.9
	comp=Z,32nm,1.5s					
M19K	**Big River Lodg**	**76.34**	**29**	P	**P**	**20 40 20.4 +1.5**
	baz=265					
H20K	**Anotleneega Mo**	**76.48**	**25**	P	**P**	**20 40 21.2 +1.6**
	baz=264,SNR=18					
Q19K	**Cape Douglas,**	**76.48**	**32**	P	**P**	**20 40 20.8 +1.0**
	baz=266					
OHAK	**Old Harbor**	**76.57**	**33**	P	**P**	**20 40 21.6 +1.3**
	baz=267					
I20K	**Naaghedeneel**	**76.57**	**26**	P	**P**	**20 40 22.1 +2.0**
	baz=264,SNR=9.3					
K20K	**Telida**	**76.61**	**27**	IAmb	IAmb	20 40 24.0
	comp=Z,27nm,1.6s					
K20K	**Telida**	**76.61**	**27**	P	**P**	**20 40 21.6 +1.2**
	baz=265					
L20K	**Farewell, AK**	**76.62**	**28**	P	**P**	**20 40 21.0 +0.4**
	baz=265					
A21K	**Barrow**	**76.64**	**19**	P	**P**	**20 40 21.7 +1.3**
	baz=261,SNR=15					
J20K	**Nowinta River**	**76.66**	**26**	IAmb	IAmb	20 40 27.5
	comp=Z,26nm,1.5s					
J20K	**Nowinta River**	**76.66**	**26**	P	**P**	**20 40 22.6 +2.0**
	baz=265,SNR=7.9					
CASY	**Casey**	**76.70**	**187**	P	**P**	**20 40 21.3 +0.6**
CASY				IAmb	IAmb	20 40 28.0
	comp=Z,62nm,1.9s					
P19K	**Oil Pt**	**76.74**	**31**	P	**P**	**20 40 22.2 +0.9**
	baz=266					
M20K	**Styx River**	**76.93**	**29**	IAmb	IAmb	20 40 28.4
	comp=Z,22nm,1.1s					
M20K	**Styx River**	**76.93**	**29**	P	**P**	**20 40 23.6 +1.3**
	baz=266,SNR=5.0					
C21K	**Knifeblade Rid**	**76.95**	**21**	P	**P**	**20 40 23.1 +0.9**
	baz=263					
KDAK	**Kodiak Island**	**76.98**	**33**	P	**P**	**20 40 23.7 +1.2**
	baz=268					
B21K	**Ikpikpuk River**	**77.07**	**21**	IAmb	IAmb	20 40 29.5
	comp=Z,28nm,1.0s					
B21K	**Ikpikpuk River**	**77.07**	**21**	P	**P**	**20 40 24.3 +1.5**
	baz=263,SNR=22					
Q20K	**Shuyak Island**	**77.11**	**32**	P	**P**	**20 40 24.4 +1.1**
	baz=268					
A22K	**Sinclair Lake**	**77.12**	**19**	P	**P**	**20 40 24.3 +1.2**
	baz=262					
G21K	**Allakaket**	**77.14**	**24**	IAmb	IAmb	20 40 30.0
	comp=Z,24nm,1.1s					
G21K	**Allakaket**	**77.14**	**24**	P	**P**	**20 40 24.2 +0.9**
	baz=265					
E21K	**Killik River**	**77.16**	**22**	IAmb	IAmb	20 40 29.2
	comp=Z,57nm,1.6s					
E21K	**Killik River**	**77.16**	**22**	P	**P**	**20 40 24.7 +1.3**
	baz=264,SNR=13					
F21K	**Alatna River**	**77.22**	**23**	P	**P**	**20 40 23.9 +0.1**
F21K	**Alatna River**	**77.22**	**23**	P	**P**	**20 40 25.0 +1.2**
	baz=264,SNR=5.9					
SPCR	**Spurr Chakacha**	**77.33**	**29**	P	**P**	**20 40 25.6 +1.0**
	baz=267					
H21K	**Melozitna Rive**	**77.35**	**25**	IAmb	IAmb	20 40 45.2
	comp=Z,28nm,1.4s					
H21K	**Melozitna Rive**	**77.35**	**25**	P	**P**	**20 40 25.9 +1.3**
	baz=266,SNR=14					
PPLA	**Purkeypile**	**77.43**	**28**	P	**P**	**20 40 26.5 +1.2**
	baz=267					
CHUM	**Lake Minchumin**	**77.44**	**27**	P	**P**	**20 40 26.1 +1.1**
	baz=266					
CAST	**Castle Rocks**	**77.51**	**27**	P	**P**	**20 40 26.6 +1.1**
	baz=267,SNR=12					
HOM	**Homer**	**77.54**	**31**	P	**P**	**20 40 26.7 +1.0**
	baz=268					
B22K	**Teshekpuk Lake**	**77.56**	**20**	IAmb	IAmb	20 40 41.2
	comp=Z,46nm,1.4s					
B22K	**Teshekpuk Lake**	**77.56**	**20**	P	**P**	**20 40 26.8 +1.3**
	baz=264,SNR=14					
GNI	**Garni**	**77.57**	**309**	P	**P**	**20 40 26.3 -0.2**
GNI	**Garni**	**77.57**	**309**	P	**P**	**20 40 26.7 +0.2**
	comp=Z,1.6nm,0.5s,baz=65,slow=2.1,SNR=11					
	comp=Z,1.6nm,0.5s					
GNI	**Garni**	**77.57**	**309***c*	*i*P	**P**	**20 40 27.1 +0.6**
GNI				pmax	pmax	
	comp=Z,12nm,1.4s					
I21K	**Tanana**	**77.66**	**25**	IAmb	IAmb	20 40 33.0
	comp=Z,25nm,1.1s					
I21K	**Tanana**	**77.66**	**25**	P	**P**	**20 40 27.4 +1.1**
	baz=266					
D22K	**Ayikyak River**	**77.67**	**21**	IAmb	IAmb	20 40 42.3
	comp=Z,39nm,1.4s					
D22K	**Ayikyak River**	**77.67**	**21**	P	**P**	**20 40 27.3 +1.0**
	baz=265,SNR=12					
SKT	**Skwentna**	**77.69**	**29**	IAmb	IAmb	20 40 31.6
	comp=Z,27nm,1.3s					
SKT	**Skwentna**	**77.69**	**29**	P	**P**	**20 40 27.6 +1.1**
	baz=268,SNR=5.8					
F22K	**John River**	**77.75**	**23**	P	**P**	**20 40 28.4 +1.7**
	baz=266,SNR=16					
CAPN	**Captain Cook N**	**77.83**	**30**	P	**P**	**20 40 28.0 +0.8**
	baz=268					
E22K	**Anaktuvuk Pass**	**77.93**	**22**	IAmb	IAmb	20 40 34.5
	comp=Z,24nm,1.2s					
E22K	**Anaktuvuk Pass**	**77.93**	**22**	P	**P**	**20 40 29.0 +1.2**
	baz=266,SNR=17					
H22K	**Ishlatina Cre**	**77.96**	**25**	P	**P**	**20 40 29.5 +1.6**
	baz=267,SNR=12					
G22K	**Bettles**	**77.97**	**24**	P	**P**	**20 40 29.0 +1.0**
	baz=266					
BRSE	**Bradley Lake S**	**78.00**	**31**	P	**P**	**20 40 29.1 +0.8**
	baz=269					
BPAW	**Bear Paw Mtn.**	**78.03**	**26**	IAmb	IAmb	20 40 34.5
	comp=Z,33nm,1.2s					
BPAW	**Bear Paw Mtn.**	**78.03**	**26**	P	**P**	**20 40 29.4 +1.0**
	baz=268,SNR=16					
RAYN	**Ar Rayn**	**78.04**	**292**	P	**P**	**20 40 27.2 -2.0**
RAYN	**Ar Rayn**	**78.04**	**292**	P	**P**	**20 40 28.4 -0.9**
RAYN	**Ar Rayn**	**78.04**	**292**	⇑P	**P**	**20 40 28.6 -0.7**
KTH	**Kantishna Hill**	**78.04**	**27**	P	**P**	**20 40 28.9 +0.4**
KTH				IAmb	IAmb	20 40 31.8
	comp=Z,29nm,1.6s					
SUA	**Susitna One**	**78.05**	**29**	IAmb	IAmb	20 40 33.2
	comp=Z,19nm,1.0s					
SUA	**Susitna One**	**78.05**	**29**	P	**P**	**20 40 28.9 +0.3**
	baz=268					
SLKM	**Skilak Lake**	**78.28**	**30**	IAmb	IAmb	20 40 34.9
	comp=Z,58nm,1.5s					
CUT	**Chulitna**	**78.30**	**28**	P	**P**	**20 40 30.4 +0.6**
	baz=268					
TRF	**Thorofare Moun**	**78.32**	**27**	IAmb	IAmb	20 40 34.9
	comp=Z,71nm,1.7s					
TRF	**Thorofare Moun**	**78.32**	**27**	P	**P**	**20 40 30.4 +0.3**
	baz=268,SNR=8.9					
M22K	**Willow**	**78.35**	**29**	P	**P**	**20 40 30.3 +0.2**
	baz=269					
D23K	**Nanushuk River**	**78.40**	**21**	IAmb	IAmb	20 40 37.4
	comp=Z,29nm,1.2s					
D23K	**Nanushuk River**	**78.40**	**21**	P	**P**	**20 40 31.0 +0.7**
	baz=267,SNR=17					
C23K	**Itkillik River**	**78.47**	**21**	IAmb	IAmb	20 40 37.2
	comp=Z,35nm,1.1s					
C23K	**Itkillik River**	**78.47**	**21**	P	**P**	**20 40 31.8 +1.1**
	baz=267,SNR=19					
COLD	**Coldfoot**	**78.49**	**23**	P	**P**	**20 40 32.0 +1.1**
	baz=268,SNR=8.7					
RC01	**Rabbit Creek A**	**78.53**	**30**	P	**P**	**20 40 31.6 +0.5**
	baz=269					
G23K	**Bananza Creek**	**78.54**	**24**	P	**P**	**20 40 31.5 +0.3**
G23K				IAmb	IAmb	20 40 38.1
	comp=Z,24nm,1.2s					
G23K	**Bananza Creek**	**78.54**	**24**	P	**P**	**20 40 32.2 +1.1**
	baz=268,SNR=16					
SEW	**Seward**	**78.66**	**31**	P	**P**	**20 40 32.7 +0.9**
	baz=270					
H23K	**Yukon River**	**78.71**	**25**	IAmb	IAmb	20 40 36.5
	comp=Z,66nm,1.9s					
H23K	**Yukon River**	**78.71**	**25**	P	**P**	**20 40 33.1 +1.1**
	baz=268					
E23K	**Chandalar**	**78.75**	**22**	IAmb	IAmb	20 40 38.6
	comp=Z,48nm,1.4s					
E23K	**Chandalar**	**78.75**	**22**	P	**P**	**20 40 33.8 +1.5**
	baz=268,SNR=17					
I23K	**Minto, Yukon-K**	**78.77**	**25**	IAmb	IAmb	20 40 36.4
	comp=Z,62nm,1.9s					
I23K	**Minto, Yukon-K**	**78.77**	**25**	P	**P**	**20 40 33.7 +1.3**
	baz=269,SNR=12					
TOLK	**Toolik Lake Re**	**78.79**	**22**	P	**P**	**20 40 33.9 +1.4**
	baz=268,SNR=14					
KBZ	**Khabaz**	**78.79**	**313**	P	**P**	**20 40 32.6 -0.3**
	comp=Z,3.7nm,0.9s,baz=71,slow=6.4,SNR=13					
	comp=Z,3.7nm,0.9s					
KBZ	**Khabaz**	**78.79**	**313**⇓	*e*P	**P**	**20 40 33.2 +0.3**
KBZ				pmax	pmax	
	comp=Z,14nm,1.1s					
PMR	**Palmer**	**78.82**	**29**	IAmb	IAmb	20 40 52.8
	comp=Z,56nm,1.8s					
PMR	**Palmer**	**78.82**	**29**	P	**P**	**20 40 37.4 +4.7**
PMR	**Palmer**	**78.82**	**29**	P	**P**	**20 40 33.5 +0.8**
	baz=270					
NEA2	**Nenana**	**78.88**	**26**	P	**P**	**20 40 31.8 -1.3**
NEA2	**Nenana**	**78.88**	**26**	P	**P**	**20 40 34.1 +1.1**
	baz=269,SNR=8.4					
MCK	**McKinley**	**78.93**	**27**	IAmb	IAmb	20 40 36.1
	comp=Z,27nm,1.2s					
MCK	**McKinley**	**78.93**	**27**	P	**P**	**20 40 33.7 +0.3**
	baz=269,SNR=9.6					
KIV	**Kislovodsk**	**78.93**	**313**	P	**P**	**20 40 32.6 -1.2**
KIV				IAmb	IAmb	20 41 06.8
	comp=Z,17nm,0.9s					
KIV	**Kislovodsk**	**78.93**	**313**	P	**P**	**20 40 32.7 -1.2**
KIV				P	**P**	**20 40 32.7 -1.2**
KIV	**Kislovodsk**	**78.93**	**313**	⇑P	**P**	**20 40 33.2 -0.6**
KIV	**Kislovodsk**	**78.93**	**313**	*e*P	**P**	**20 40 32.7 -1.2**
KIV				*e*S	**S**	**20 50 31.2 -0.3**
KIV				pmax	pmax	
	comp=Z,13nm,1.0s					
KIV				MLR	MLR	
	comp=Z,423nm,19.0s					
RND	**Reindeer**	**78.96**	**27**	IAmb	IAmb	20 40 53.4
	comp=Z,44nm,1.6s					
D24K	**Happy Valley**	**79.07**	**21**	IAmb	IAmb	20 40 40.1
	comp=Z,27nm,1.2s					
D24K	**Happy Valley**	**79.07**	**21**	P	**P**	**20 40 35.2 +1.2**
	baz=268,SNR=14					
C24K	**Franklin Bluff**	**79.13**	**21**	IAmb	IAmb	20 40 40.0
	comp=Z,42nm,1.4s					
C24K	**Franklin Bluff**	**79.13**	**21**	P	**P**	**20 40 35.4 +1.1**
	baz=268					
KNK	**Knik Glacier**	**79.14**	**29**	IAmb	IAmb	20 40 56.4
	comp=Z,58nm,1.7s					
KNK	**Knik Glacier**	**79.14**	**29**	P	**P**	**20 40 35.4 +0.8**
	baz=270					
E24K	**Your Creek**	**79.17**	**22**	IAmb	IAmb	20 40 38.0
	comp=Z,32nm,1.7s					
E24K	**Your Creek**	**79.17**	**22**	P	**P**	**20 40 35.3 +0.7**
	baz=269,SNR=12					
SML	**Sawmill**	**79.20**	**29**	IAmb	IAmb	20 41 10.7
	comp=Z,51nm,1.5s					
SML	**Sawmill**	**79.20**	**29**	P	**P**	**20 40 35.1 +0.2**
	baz=270					
PWL	**Port Wells**	**79.21**	**30**	P	**P**	**20 40 35.4 +0.5**
	baz=270					
VRH	**Novokhopyorsk**	**79.27**	**320**	*e*P	**P**	**20 40 35.1 -0.3**
VRH				pmax	pmax	
	comp=Z,62nm,1.8s					
WRH	**Wood River Hil**	**79.30**	**26**	IAmb	IAmb	20 40 40.0
	comp=Z,57nm,2.0s					
H24K	**Noodor Dome**	**79.39**	**25**	P	**P**	**20 40 37.1 +1.2**
	baz=270,SNR=6.0					
F24K	**Squaw Lake**	**79.39**	**23**	P	**P**	**20 40 35.7 -0.2**
F24K				IAmb	IAmb	20 40 39.4
	comp=Z,45nm,1.8s					
F24K	**Squaw Lake**	**79.39**	**23**	P	**P**	**20 40 37.3 +1.4**
	baz=270,SNR=14					
COLA	**College**	**79.41**	**26**	P	**P**	**20 40 36.7 +0.8**
	baz=270					
M23K	**Glacier View**	**79.49**	**29**	P	**P**	**20 40 36.8 +0.3**
	baz=271					
G24K	**Hadweenzic Riv**	**79.56**	**24**	IAmb	IAmb	20 40 40.8
	comp=Z,62nm,1.9s					
G24K	**Hadweenzic Riv**	**79.56**	**24**	P	**P**	**20 40 37.0 +0.3**
	baz=270,SNR=13					
POKR	**Poker Plat Res**	**79.58**	**25**	P	**P**	**20 40 37.3 +0.4**
	baz=270					
SCM	**Sheep Creek Mo**	**79.68**	**29**	P	**P**	**20 40 38.1 +0.5**
	baz=271					
P23K	**Montague Islan**	**79.69**	**31**	P	**P**	**20 40 38.1 +0.6**
	baz=272					
GURO	**Guroymak-BITLI**	**79.76**	**308**	IAmb	IAmb	20 40 51.8
	comp=Z,17nm,0.9s					
HDA	**Harding Lake**	**79.80**	**26**	IAmb	IAmb	20 40 40.3
	comp=Z,62nm,2.0s					
HDA	**Harding Lake**	**79.80**	**26**	P	**P**	**20 40 39.1 +1.0**
	baz=271					
GLI	**Glacier Island**	**79.81**	**30**	P	**P**	**20 40 38.8 +0.6**
	baz=272					
IL31		**79.82**	**26**	P	**P**	**20 40 37.3 -0.8**
ILAR	**Eielson Array**	**79.82**	**26**	P	**P**	**20 40 37.2 -1.0**
ILAR	**Eielson Array**	**79.82**	**26**	P	**P**	**20 40 37.9 -0.3**
	comp=Z,1.1nm,0.7s,baz=245,slow=5.1,SNR=24					
ILAR				LR	LR	21 17 36.7
	comp=Z,373nm,19.1s,baz=274,slow=37					
	comp=Z,1.1nm,0.7s					
D25K	**Kavik River**	**79.95**	**21**	IAmb	IAmb	20 40 44.6
	comp=Z,27nm,1.4s					
D25K	**Kavik River**	**79.95**	**21**	P	**P**	**20 40 39.9 +1.1**
	baz=271,SNR=14					
G25K	**Bearman Lake**	**80.10**	**24**	P	**P**	**20 40 41.0 +1.5**
	baz=271					
KLMR	**Klimovskoe**	**80.15**	**330**	*e*P	**P**	**20 40 37.3 -2.7**
KLMR				*e*		20 40 44.5
KLMR				*e*		20 43 39.3
KLMR				S	**S**	**20 50 39.3 -4.1**
KLMR				pmax	pmax	
	comp=Z,87nm,1.6s					
KLMR				MLR	MLR	
	comp=Z,675nm,15.0s					
M24K	**Tolsona, Glenn**	**80.22**	**28**	P	**P**	**20 40 41.3 +0.9**
	baz=272					
F25K	**Christian Rive**	**80.25**	**23**	P	**P**	**20 40 41.9 +1.4**
	baz=272,SNR=12					
E25K	**Arctic Village**	**80.27**	**22**	IAmb	IAmb	20 40 47.5
	comp=Z,27nm,1.2s					
E25K	**Arctic Village**	**80.27**	**22**	P	**P**	**20 40 42.0 +1.4**
	baz=272,SNR=18					
LABN	**Labinsk**	**80.30**	**314**	*e*P	**P**	**20 40 40.1 -1.0**
LABN				*e*PP	**pP**	**20 40 43.9 -2.4**
LABN				*e*S	**S**	**20 50 48.5 +2.8**
LABN				pmax	pmax	
	comp=Z,14nm,0.6s					
K24K	**Donnelly Dome**	**80.33**	**27**	IAmb	IAmb	20 40 48.2
	comp=Z,48nm,1.6s					
K24K	**Donnelly Dome**	**80.33**	**27**	P	**P**	**20 40 42.2 +1.2**
	baz=272					
KLU	**Klutina**	**80.36**	**29**	P	**P**	**20 40 42.3 +1.1**
	baz=272					
PRP	**Porcupine Dome**	**80.37**	**25**	P	**P**	**20 40 42.4 +1.1**
	baz=272					
ERBR	**Yeremizino-Bor**	**80.39**	**315**	*e*P	**P**	**20 40 40.9 -0.7**
ERBR				*e*PP	**pP**	**20 40 44.3 -2.5**
ERBR				*e*S	**S**	**20 50 48.2 +1.6**
ERBR				pmax	pmax	
	comp=Z,20nm,0.9s					
ERBR				MLR	MLR	
	comp=Z,767nm,18.0s					
ERBR				MLR	MLR	
	comp=E,1μm,18.0s					
ERBR				MLR	MLR	
	comp=N,638nm,17.0s					
C26K	**Camden Bay**	**80.45**	**20**	P	**P**	**20 40 42.9 +1.5**
	baz=272,SNR=13					
DIV	**Divide**	**80.45**	**29**	IAmb	IAmb	20 40 47.2
	comp=Z,74nm,1.6s					
J25K	**Salcha River,**	**80.48**	**26**	P	**P**	**20 40 42.4 +0.6**
	baz=272					
EYAK	**Cordova Ski Ar**	**80.49**	**30**	P	**P**	**20 40 43.0 +1.2**
	baz=273					
PAX	**Paxson**	**80.50**	**28**	IAmb	IAmb	20 40 47.4
	comp=Z,26nm,1.4s					
PAX	**Paxson**	**80.50**	**28**	P	**P**	**20 40 43.0 +1.0**
	baz=273,SNR=8.9					
BMAR	**Burnt Mountain**	**80.67**	**23**	P	**P**	**20 40 42.6 -0.1**
HARP	**HAARP**	**80.68**	**28**	P	**P**	**20 40 44.0 +1.2**
	baz=273					
RIDG	**Independent Ri**	**80.75**	**27**	IAmb	IAmb	20 40 48.9
	comp=Z,26nm,1.1s					
RIDG	**Independent Ri**	**80.75**	**27**	P	**P**	**20 40 44.2 +0.9**
	baz=273,SNR=11					
VORD	**Divnogorie**	**80.81**	**320**	*e*P	**P**	**20 40 41.3 -2.5**
VORD				pmax	pmax	
	comp=Z,10.0nm,1.1s					
VORR	**Voronezh**	**80.82**	**321**	*e*P	**P**	**20 40 43.8 0.0**
VORR				pmax	pmax	
	comp=Z,52nm,1.8s					
F26K	**Sheenjek River**	**80.82**	**23**	P	**P**	**20 40 45.3 +1.8**
	baz=273,SNR=10					
C27K	**Jago River**	**80.88**	**21**	IAmb	IAmb	20 40 50.0
	comp=Z,51nm,1.9s					
C27K	**Jago River**	**80.88**	**21**	P	**P**	**20 40 45.3 +1.6**
	baz=273,SNR=15					
VSR	**Storozhevoye**	**80.88**	**320**	*e*P	**P**	**20 40 41.6 -2.5**
VSR				pmax	pmax	
	comp=Z,10.0nm,1.0s					
LPSR	**Galich'ya Gora**	**80.93**	**322**	*e*P	**P**	**20 40 44.3 0.0**
LPSR				pmax	pmax	
	comp=Z,65nm,2.0s					
N25K	**Chitina, Valde**	**80.99**	**29**	IAmb	IAmb	20 40 51.0
	comp=Z,38nm,1.6s					
N25K	**Chitina, Valde**	**80.99**	**29**	P	**P**	**20 40 45.7 +1.1**
	baz=274					
G26K	**Porcupine Rive**	**81.01**	**23**	IAmb	IAmb	20 40 50.6
	comp=Z,67nm,2.0s					
G26K	**Porcupine Rive**	**81.01**	**23**	P	**P**	**20 40 45.9 +1.4**
	baz=274,SNR=9.6					
BMRM	**Bremner River**	**81.03**	**30**	IAmb	IAmb	20 41 05.8
	comp=Z,50nm,1.5s					
BMRM	**Bremner River**	**81.03**	**30**	P	**P**	**20 40 45.3 +0.5**
	baz=274					
DOT	**Dot Lake**	**81.10**	**27**	IAmb	IAmb	20 40 50.8
	comp=Z,28nm,1.6s					
SOC	**Sochi**	**81.10**	**313**	*e*P	**P**	**20 40 42.6 -2.9**
SOC				*e*		20 43 48.1
SOC				*e*PPP	PPP	20 45 41.6
SOC				*e*S	**S**	**20 50 51.7 -2.4**
SOC				*e*SS	**SS**	**20 56 10.6 +1.7**
SOC				*e*SSS	SSS	20 59 35.8
SOC				pmax	pmax	
	comp=Z,8.0nm,0.7s					
SCRK	**Sand Creek**	**81.11**	**27**	P	**P**	**20 40 44.8 -0.5**
SCRK				IAmb	IAmb	20 40 51.1
	comp=Z,49nm,1.8s					
SCRK	**Sand Creek**	**81.11**	**27**	P	**P**	**20 40 46.0 +0.7**
	baz=274,SNR=11					
KAIM	**Kayak Island**	**81.19**	**31**	P	**P**	**20 40 46.2 +0.6**
	baz=274					
J26L	**Joseph Creek**	**81.26**	**26**	IAmb	IAmb	20 40 51.1
	comp=Z,39nm,1.9s					
J26L	**Joseph Creek**	**81.26**	**26**	P	**P**	**20 40 46.9 +0.9**
	baz=274,SNR=6.0					
GLB	**Gilahina Butte**	**81.38**	**29**	IAmb	IAmb	20 40 49.5
	comp=Z,39nm,1.6s					
I26K	**Coal Creek Min**	**81.38**	**25**	P	**P**	**20 40 46.8 +0.3**
	baz=274					
MOS	**Moscow**	**81.45**	**325**	*e*P	**P**	**20 40 45.5 -1.5**
MOS				*e*S	**S**	**20 50 52.1 -5.1**
MOS				pmax	pmax	
	comp=Z,34nm

H27K	Steamboat Moun	81.96	24	P		P	20 40 50.6 +1.0
	baz=276						
I27K	Kandik River	81.99	25	P		P	20 40 51.6 +1.8
	baz=276,SNR=24						
OBN	Obninsk	82.11	325	P		P	20 40 49.0 -1.5
	comp=Z,18nm,0.5s,baz=43,slow=4.8,SNR=7.7						
OBN				LR		LR	21 21 37.1
	comp=Z,478nm,18.5s,baz=40,slow=39						
	comp=Z,18nm,0.5s						
OBN	Obninsk	82.11	325	*c*	*i*P	P	20 40 50.3 -0.2
OBN					*i* *PP	pP	20 40 54.4 -1.3
OBN					*i*		20 40 56.9
OBN					*e*		20 43 58.8
OBN					PPP	PPP	20 45 47.0
OBN					*i* S	S	20 51 06.6 +2.6
OBN					*e*PS	PnS	20 51 44.0 -10
OBN					*e*PPS	PPS	20 52 20.9
OBN					*e*SS	SS	20 56 25.5 +2.3
OBN					pmax	pmax	
	comp=Z,47nm,1.7s						
OBN					MLR	MLR	
	comp=Z,487nm,17.0s						
L27K	Beaver Creek,	82.16	27	P		P	20 40 51.9 +1.2
	baz=276,SNR=6.9						
BCAR	Beaver Creek A	82.17	27	P		P	20 40 51.1 +0.3
M27K	Edge Creek, AK	82.20	28	P		P	20 40 51.3 +0.2
M27K	Edge Creek, AK	82.20	28	P		P	20 40 52.2 +1.1
	baz=276						
MESA	MESA	82.40	30	P		P	20 40 53.1 +0.9
	baz=276						
E28M	Babbage River	82.46	22	IAmb		IAmb	20 40 55.5
	comp=Z,34nm,1.7s						
E28M	Babbage River	82.46	22	P		P	20 40 53.2 +1.0
	baz=277,SNR=12						
ANN	Anapa	82.62	314	*e*P		P	20 40 51.7 -1.7
ANN				*e** PP		pP	20 40 54.8 -3.8
ANN				*e*S		S	20 51 09.4 -0.3
ANN				pmax		pmax	
	comp=Z,25nm,1.1s						
ANN				MLR		MLR	
	comp=E,396nm,18.0s						
ANN				MLR		MLR	
	comp=Z,582nm,20.0s						
ANN				MLR		MLR	
	comp=N,188nm,17.0s						
D28M	Stokes Point	82.65	21	P		P	20 40 54.1 +1.0
	baz=278						
BVCY	Beaver Creek	82.67	28	P		P	20 40 54.4 +1.0
	baz=277						
I28M	Miner Creek	82.70	25	P		P	20 40 54.7 +1.1
	baz=277,SNR=23						
YUK3	Moose Creek	82.93	29	P		P	20 40 55.5 +0.5
	baz=277						
E29M	Blow River	83.09	22	IAmb		IAmb	20 41 01.1
	comp=Z,20nm,1.6s						
E29M	Blow River	83.09	22	P		P	20 40 56.4 +1.0
	baz=279,SNR=7.7						
DAWY	Dawson	83.12	26	P		P	20 40 56.7 +1.0
	baz=278,SNR=9.9						
O28M	Mount Upton	83.19	30	P		P	20 40 56.7 +0.3
O28M	Mount Upton	83.19	30	P		P	20 40 56.7 +0.3
	baz=278						
ABPO	Ambohimpanom	83.20	249	P		P	20 40 56.5 -0.6
ABPO				IAmb		IAmb	20 43 51.3
	comp=Z,23nm,1.3s						
ABPO	Ambohimpanom	83.20	249	P		P	20 40 56.5 -0.6
ABPO				pmax		pmax	
	comp=Z,23nm,1.3s						
H29M	Whitestone	83.23	24	P		P	20 40 57.5 +1.3
	baz=279,SNR=9.9						
PINM	Pinnacle	83.25	30	P		P	20 40 57.3 +0.8
	baz=278						
G29M	Pine Creek	83.27	23	P		P	20 40 57.5 +1.1
	baz=279,SNR=11						
YUK8	Steele Glacier	83.33	29	P		P	20 40 58.5 +1.3
	baz=278						
VADS	Vadso	83.38	340	*e*P		P	20 40 55.3 -1.5
PNL	Peninsula	83.74	31	P		P	20 40 60.0 +1.0
	baz=278						
M29M	Somme Creek	83.77	28	IAmb		IAmb	20 41 06.5
	comp=Z,27nm,1.4s						
M29M	Somme Creek	83.77	28	P		P	20 41 00.1 +0.9
	baz=279,SNR=9.4						
L29M	L29M	83.82	27	P		P	20 41 00.5 +1.2
	baz=279,SNR=18						
YUK4	Talbot Arm	83.85	29	P		P	20 40 59.8 +0.1
	baz=279						
EPYK	Eagle Plains	83.87	24	P		P	20 40 59.9 +0.4
	baz=280,SNR=12						
G30M	tAoh Zrail Nji	83.95	23	P		P	20 41 00.9 +0.9
	baz=280,SNR=16						
K29M	Barlow Dome	83.97	26	P		P	20 41 00.4 +0.2
	baz=280,SNR=10						
F30M	Barrier River	84.00	22	P		P	20 41 01.6 +1.4
	baz=281,SNR=11						
O29M	Mount Kennedy	84.05	30	P		P	20 41 01.8 +1.1
	baz=279						
YUK6	Outpost Mounta	84.05	29	P		P	20 41 01.9 +1.1
	baz=279						
I30M	Mount Dempster	84.21	25	IAmb		IAmb	20 41 07.1
	comp=Z,22nm,1.1s						
I30M	Mount Dempster	84.21	25	P		P	20 41 02.3 +0.9
	baz=280,SNR=18						
KEV	Kevo	84.25	340			P	20 41 01.2 -0.1
KEV				IAmb		IAmb	20 41 14.3
	comp=Z,17nm,0.9s						
KEV	Kevo	84.25	340	P		P	20 41 01.2 -0.1
KEV				pmax		pmax	
	comp=Z,17nm,0.9s						
J30M	Hart River	84.35	25	P		P	20 41 03.1 +1.0
	baz=281,SNR=14						
HYT	Haines Junctio	84.49	29	IAmb		IAmb	20 41 09.2
	comp=Z,22nm,1.1s						
HYT	Haines Junctio	84.49	29	P		P	20 41 03.2 +0.3
	baz=280						
M30M	Minto, Yukon	84.51	28	IAmb		IAmb	20 41 10.0
	comp=Z,33nm,1.3s						
M30M	Minto, Yukon	84.51	28	P		P	20 41 03.5 +0.6
	baz=280						
N30M	Aishikik Lake	84.58	29	IAmb		IAmb	20 41 10.4
	comp=Z,25nm,1.2s						
N30M	Aishikik Lake	84.58	29	P		P	20 41 04.3 +1.1
	baz=280						
P29M	Windy Craggy	84.58	31			P	20 41 02.2 -1.0
P29M	Windy Craggy	84.58	31	P		P	20 41 03.4 +0.2
	baz=280						
SPA0	Spitsbergen Ar	84.62	349	*e*P		P	20 41 03.4 +0.4
SPITS	Spitsbergen Ar	84.62	349	P		P	20 41 02.9 -0.1
	comp=Z,5.3nm,0.6s,baz=96,slow=8.5,SNR=24						
	comp=Z,5.3nm,0.6s						
SPITS	Spitsbergen Ar	84.62	349	P		P	20 41 03.0 -0.1
ASF	Jabal al Asfar	84.62	302	P		P	20 41 04.8 +0.7
	comp=Z,2.7nm,0.8s,baz=157,slow=2.2,SNR=11						
	comp=Z,2.7nm,0.8s						
INK	Inuvik	84.70	22	LR		LR	21 22 34.6
	comp=Z,263nm,19.1s,baz=236,slow=38						
INK	Inuvik	84.70	22	P		P	20 41 04.2 +0.6
	baz=283,SNR=12						
G31M	Satah River	84.72	23	P		P	20 41 04.4 +0.7
	baz=282,SNR=21						
F31M	Tsiigehtchic	84.81	22	P		P	20 41 04.7 +0.6
	baz=283,SNR=7.4						
ARA0	ARCESS Array S	84.81	340	*e*P		P	20 41 04.8 +0.6
ARCES	ARCESS Array B	84.81	340	P		P	20 41 04.5 +0.3
	comp=Z,10nm,0.7s,baz=81,slow=5.8,SNR=30						
	comp=Z,10nm,0.7s						
P30M	Million Dollar	84.88	30	P		P	20 41 04.8 +0.1
	baz=280						
H31M	Peel River	84.93	24	IAmb		IAmb	20 41 10.8
	comp=Z,32nm,1.1s						
H31M	Peel River	84.93	24	P		P	20 41 05.9 +1.0
	baz=282,SNR=15						
SIM	Simferopol'	84.94	315	*e*P		P	20 41 02.2 -3.1
SIM				*e*S		SKSac	20 51 25.8 -3.0
SIM				pmax		pmax	
	comp=Z,17nm,0.8s						
SIM				smax		smax	
	comp=E,118nm,17.6s						
SIM				MLR		MLR	
	comp=Z,423nm,24.5s						
HAMF	Hammerfest	85.14	341	*e*P		P	20 41 05.0 -0.8
O30N	Mendenhall	85.18	29	P		P	20 41 06.7 +0.4
	baz=281						
N31M	Braeburn, Yuko	85.19	29	IAmb		IAmb	20 41 13.2
	comp=Z,16nm,0.9s						
N31M	Braeburn, Yuko	85.19	29	P		P	20 41 07.3 +1.1
	baz=281						
S31K	Pelican	85.65	32	P		P	20 41 08.8 +0.3
	baz=281						
M31M	Drury Creek, Y	85.68	28	IAmb		IAmb	20 41 15.0
	comp=Z,14nm,1.1s						
M31M	Drury Creek, Y	85.68	28	P		P	20 41 09.0 +0.3
	baz=282						
MMAI	Mount Meron Ar	85.74	303	P		P	20 41 09.8 +0.1
	comp=Z,2.5nm,0.8s,baz=25,slow=10,SNR=4.5						
	comp=Z,2.5nm,0.8s						
WHY	Whitehorse	85.78	29	P		P	20 41 09.9 +0.6
	baz=282						
SKAG	Skagway	85.81	30	P		P	20 41 10.5 +1.2
	baz=282						
BR131	Keskin Array S	86.10	309	P		P	20 41 11.1 -0.3
BR131	Keskin Array S	86.10	309	⇓*e*P		P	20 41 10.3 -1.1
BRTR	Keskin Array B	86.10	309			P	20 41 09.4 -2.0
BRTR	Keskin Array B	86.10	309	P		P	20 41 10.7 -0.8
	comp=Z,1.3nm,0.7s,baz=108,slow=4.4,SNR=12						
	comp=Z,1.3nm,0.7s						
BRTR	Keskin Array B	86.10	309	*i* P		P	20 41 11.1 -0.3
BRTR				pmax		pmax	
	comp=Z,1.0nm,0.7s						
FARO	Faro, Yukon	86.15	28	P		P	20 41 11.6 +0.6
	baz=283						
SIT	Sitka	86.32	33	P		P	20 41 12.7 +0.8
	baz=282						
A36M	Sachs Harbour	86.36	17	IAmb		IAmb	20 41 17.9
	comp=Z,32nm,1.2s						
A36M	Sachs Harbour	86.36	17	P		P	20 41 12.7 +0.9
	baz=290						
R32K	Eaglecrest	86.48	32	P		P	20 41 13.5 +0.8
	baz=283						
FINES	FINESS Array B	86.51	332			P	20 41 11.7 -1.1
FINES	FINESS Array B	86.51	332	P		P	20 41 12.3 -0.4
	comp=Z,11nm,0.7s,baz=72,slow=6.2,SNR=44						
	comp=Z,11nm,0.7s						
JETT	Jettan, Norway	86.53	340	*e*P		P	20 41 12.8 +0.1
N32M	Quiet Lake	86.53	29	P		P	20 41 13.6 +0.6
	baz=284						
P32M	Atlin	86.59	30	P		P	20 41 14.1 +0.8
	baz=283						
S32K	Killisnoo	86.62	32	P		P	20 41 14.4 +1.0
	baz=283						
P33M	Teslin, Yukon	86.88	29	P		P	20 41 15.5 +0.8
	baz=284						
VSU	Vasula	86.89	329	*c*e	P	P	20 41 13.0 -1.7
VSU					pmax	pmax	
	comp=Z,28nm,1.5s						
MMPY	Sheldon Lake,	87.00	27	P		P	20 41 15.9 +0.6
	baz=285						
CSS	Mathiatis	87.13	305	IAmb		IAmb	20 41 28.7
	comp=Z,14nm,0.9s						
PPT2	Papeete2	87.13	108	*e*P		P	20 41 18.6 +1.9
	comp=Z,44nm,22.5s						
PPT2	Papeete2	87.13	108	*e*S		S	20 51 52.9 -2.7
	comp=Z,254nm,25.2s						
PPT2				*e*SS		SS	20 57 38.4 -1.2
	comp=Z,132nm,24.2s						
PPT2				*e*LQ		LQ	21 04 48.9
	comp=Z,483nm,34.5s						
PPT2				*e*LR		LR	21 08 48.4
	comp=Z,465nm,21.2s						
PPT2				*e*LR		LR	21 08 51.8
	comp=Z,424nm,21.8s						
MNK	Minsk	87.17	325	*i* P		P	20 41 16.3 +0.2
MNK				*i*			20 44 39.5
MNK				*i* PPP		PPP	20 46 35.8
MNK				*i* S		SKSac	20 51 41.8 -0.5
MNK				*i* SS		SS	20 57 32.3 -5.5
MNK				*i* SSS		SSS	21 01 13.3
MNK				pmax		pmax	
	comp=E,9.0nm,0.9s						
MNK				pmax		pmax	
	comp=Z,10.0nm,0.8s						
MNK				pmax		pmax	
	comp=N,9.0nm,1.0s						
AKASG	Malin Array Be	87.17	321			P	20 41 15.1 -1.1
AKASG	Malin Array Be	87.17	321	P		P	20 41 15.5 -0.7
	comp=N,2.3nm,0.6s,baz=71,slow=4.3,SNR=28						
	comp=N,2.3nm,0.6s						
AKASG	Malin Array Be	87.17	321	*i* P		P	20 41 15.8 -0.4
AKASG				pmax		pmax	
	comp=Z,3.0nm,0.6s						
AKBB	Malin Array Si	87.17	321	⇓*e*P		P	20 41 15.4 -0.8
KIEV	Kiev	87.18	321			P	20 41 14.7 -1.5
KIEV	Kiev	87.18	321	⇑P		P	20 41 15.6 -0.7
KIEV	Kiev	87.18	321	⇑P		P	20 41 15.6 -0.7
Q32M	Nakina River	87.46	31	P		P	20 41 18.2 +0.5
	baz=285						
C36M	Paulatuk	87.67	20	P		P	20 41 19.1 +0.9
	baz=292						
U33K	Whale Pass	87.72	33	P		P	20 41 19.3 +0.7
	baz=284						
R33M	Jennings River	88.00	30	P		P	20 41 20.6 +0.5
	baz=286						
WRAK	Wrangell Islan	88.06	33	P		P	20 41 20.6 +0.3
	baz=285						
SORM	Soroca	88.27	318	⇑P		P	20 41 20.2 -1.3
SORM	Soroca	88.27	318	⇑P		P	20 41 20.2 -1.3
S34M	Telegraph Cree	88.31	31	P		P	20 41 21.9 +0.4
	baz=286						
TBI	Tubuai	88.34	114	*e*S		S	20 52 02.5 -4.3
	comp=Z,1μm,27.5s						
TBI	Tubuai	88.34	114	*e*LQ		LQ	21 05 35.2
	comp=Z,2μm,44.8s						
TBI				*e*LR		LR	21 09 24.3
	comp=Z,1μm,24.0s						
TBI				*e*LR		LR	21 09 26.8
	comp=Z,3μm,24.5s						
TGTN	Hyland Airport	88.66	28	P		P	20 41 23.8 +0.6
	baz=288						
V35K	Ketchikan	88.74	34	P		P	20 41 23.9 +0.4
	baz=285						
WTLY	Watson Lake, Y	88.84	29	P		P	20 41 24.9 +0.8
	baz=288						
STEI	Steigen	88.87	339	*e*P		P	20 41 23.3 -0.6
KIBK	Kibwezi	88.92	267			P	20 41 23.7 -1.7
KIBK	Kibwezi	88.92	267	P		P	20 41 26.0 +0.6
T35M	Bob Quinn	89.03	32	P		P	20 41 25.6 +0.7
	baz=286						
FAUS	Fauske	89.07	339	*e*P		P	20 41 24.2 -0.7
MAW	Mawson	89.27	200	P		P	20 41 28.1 +2.4
	comp=Z,1.6nm,0.8s,baz=215,slow=10,SNR=1.8						
VNDA	Vanda	89.34	173			P	20 41 25.6 -0.3
VNDA				IAmb		IAmb	20 42 12.5
	comp=Z,18nm,1.4s						
VNDA	Vanda	89.34	173	P		P	20 41 26.4 +0.5
	comp=Z,3.8nm,0.9s,baz=310,slow=6.0,SNR=7.0						
	comp=Z,3.8nm,0.9s						
MOR8	Moi Rana	89.86	338	*e*		P	20 41 20.3 -8.3
VRI	Vrincioaia	89.87	316	⇑P		P	20 41 30.2 +1.1
VRI	Vrincioaia	89.87	316	⇑P		P	20 41 30.2 +1.1
SUW	Suwalki	89.96	325	*e*P		P	20 41 29.4 +0.1
NEHR	Nehoiu	90.27	316	⇑P		P	20 41 31.7 +0.7
LEIR	Leirfjorden	90.38	338	*e*P		P	20 41 30.6 -0.4
BURAR	Bucovina Array	90.44	318	P		P	20 41 30.3 -1.6
BURAR	Bucovina Array	90.44	318	⇑P		P	20 41 31.9 0.0
BURAR	Bucovina Array	90.44	318	⇑P		P	20 41 31.9 0.0
MLR	Muntele Rosu	90.49	316	P		P	20 41 32.0 -0.1
	comp=Z,1.0nm,0.6s,baz=343,slow=2.9,SNR=4.3						
	comp=Z,1.0nm,0.6s						
MLR	Muntele Rosu	90.49	316	⇑P		P	20 41 32.8 +0.6
MLR	Muntele Rosu	90.49	316	⇑P		P	20 41 32.8 +0.6
NSS	Namsos	91.50	337	*e*P		P	20 41 34.3 -2.0
KOLS	Kolonicke sedl	91.97	320	*e*P		P	20 41 39.6 +0.8
KOLS	Kolonicke sedl	91.97	320	*e*P		P	20 41 39.6 +0.8
DRGR		92.31	318	⇓P		P	20 41 40.6 +0.1
DRGR		92.31	318	⇓P		P	20 41 40.6 +0.1
HFS	Hagfors	92.67	333	P		P	20 41 41.0 -0.8
	comp=Z,5.1nm,0.6s,baz=84,slow=4.6,SNR=27						
	comp=Z,5.1nm,0.6s						
NIE	Niedzica	93.06	321	*e*P		P	20 41 45.2 +1.3
OJC	Ojcow	93.10	322	*e*P		P	20 41 44.7 +0.7
NB2	NORSAR Subarra	93.38	334	P		P	20 41 44.1 -1.0
	comp=Z,63nm,2.0s,baz=65,slow=4.6						
NB2	NORSAR Subarra	93.38	334	P		P	20 41 44.1 -1.0
	baz=65,slow=4.6						
NOA	NORSAR Array B	93.38	334	P		P	20 41 43.9 -1.3
	comp=Z,2.6nm,0.7s,baz=64,slow=4.5,SNR=26						
	comp=Z,2.6nm,0.7s						
DOMB	Dombas	93.82	335	*e*P		P	20 41 47.0 -0.2
YKAW3	Yellowknife Wh	94.11	24	IAmb		IAmb	20 41 54.2
	comp=Z,16nm,1.2s						
YKA	Yellowknife Ar	94.15	24	P		P	20 41 48.4 -0.1
YKA	Yellowknife Ar	94.15	24	P		P	20 41 49.3 +0.7
	comp=Z,3.3nm,0.9s,baz=303,slow=4.5,SNR=27						
	comp=Z,3.3nm,0.9s						
YKA	Yellowknife Ar	94.15	24	*i* P		P	20 41 49.9 +1.4
YKA				pmax		pmax	
	comp=Z,3.0nm,0.9s						
YKAW1	Yellowknife Wh	94.20	24	IAmb		IAmb	20 41 54.6
	comp=Z,12nm,1.2s						
VYHS	Vyhne	94.27	321	*e*P		P	20 41 50.9 +1.5
VYHS	Vyhne	94.27	321	*e*P		P	20 41 50.9 +1.5
AKN	Aaknes	94.60	336	*e*P		P	20 41 50.9 +0.2
MORC	Morasky Berou	94.62	322	*e*P		P	20 41 50.5 -0.6
TAOE	Nuku Hiva Isla	94.69	98	*e*S		S	20 52 57.7 -7.2
	comp=Z,287nm,26.2s						
TAOE				*e*SS		SS	20 59 26.5 -2.5
	comp=Z,188nm,25.8s						
TAOE	Nuku Hiva Isla	94.69	98	*e*LR		LR	21 12 18.5
	comp=Z,969nm,31.1s						
JAVC	Velka Javorina	94.87	321	*e*P		P	20 41 53.0 +0.8
KSP	Ksiaz	94.98	323	*e*P		P	20 41 53.4 +0.8
VRAC	Vranov	95.37	322	P		P	20 41 54.1 -0.4
	comp=Z,1.3nm,0.5s,baz=95,slow=9.5,SNR=4.3						
	comp=Z,1.3nm,0.5s						
VRAC	Vranov	95.37	322	*e*P		P	20 41 55.4 +0.9
KRUC	Moravsky	95.58	322	*e*P		P	20 41 56.4 +1.0
BLS5	Blasjo	96.24	334	*e*P		P	20 41 58.4 +0.2
BRG	Berggiesshubel	96.34	324	*e*P		P	20 42 02.4 +3.6
BRG				Amp			20 42 07.1
	comp=Z,3.1nm,0.9s						
CLL	Collm	96.71	325	*i* P		P	20 42 00.7 +0.2
CLL				pmax		pmax	
	comp=Z,23nm,1.8s						
CLL				MLR		MLR	
	comp=Z,600nm,18.4s						
CLL	Collm	96.71	325	*i* P		P	20 42 00.7 +0.2
	comp=Z,23nm,1.8s						
CLL				*e*SKSac		SKSac	20 52 36.0 -0.3
CLL				*e*S		ScS	20 53 24.0 +2.7
CLL				AMS		AMS	21 33 00.0
	comp=Z,600nm,18.4s						
GERES	GERESS Array B	97.30	322	P		P	20 42 02.7 -0.6
	comp=Z,0.9nm,0.7s,baz=38,slow=6.8,SNR=4.9						
	comp=Z,0.9nm,0.7s						
ILON	Igloolik, Nuna	98.67	10	IAmb		IAmb	20 42 21.9
	comp=Z,21nm,1.8s						
QSPA	South Pole Qui	99.58	180	P		Pdif	20 42 14.7 +1.6
	comp=Z,0.8nm,0.9s,baz=252,slow=3.2,SNR=7.2						
	comp=Z,0.8nm,0.9s						
NEW	Newport	99.64	37	LR		LR	21 23 56.7
	comp=Z,172nm,19.2s,baz=340,slow=33						
RKT	Rikitea	101.49	112	*e*LR		LR	21 15 28.7
	comp=Z,2μm,26.0s						
BMRD	Maredsous	101.80	326	*d*PKiKP		PKiKP	20 46 43.0 -3.4
TXAR	Lajitas Array	117.98	49	PKP		PKiKP	20 47 18.7 +1.1
	comp=Z,1.1nm,0.9s,baz=316,slow=1.7,SNR=6.5						
TORD	Torodi Ar. Bea	120.73	292	PKP		PKPdf	20 47 22.3 -0.8
	comp=Z,33nm,0.3s,baz=52,slow=2.4,SNR=1.9						
U49A	Red Boiling Sp	124.88	32			PKPpre	20 47 20.7
PLCA	Paso Flores	145.59	157	PKPbc		PKPab	20 48 09.4 +0.2
	comp=Z,5.0nm,0.7s,baz=257,slow=2.7,SNR=16						
BI02	San Fabin de	148.68	152			PKPdf	20 48 11.3 -2.8
CELP	Cerrillos	149.50	25	PKPdf		PKPdf	20 48 12.6 -3.1
CELP						PKiKP	20 48 21.2 -0.1
OBIP	Obispado Ponce	149.51	25			PKPdf	20 48 12.5 -3.3
BO02	Sierra Bellavi	150.43	150			PKPdf	20 48 14.2 -2.7
VA01	Torpederas	151.37	147			PKPdf	20 48 15.0 -3.2
MT05	Renca	151.56	149	PKPdf		PKPdf	20 48 16.2 -2.4
MT05						pPKPbc	20 48 29.4 -1.0
RUSC	La Rusia	155.04	52			PKPdf	20 48 22.2 -2.6
RUSC						PKPab	20 48 48.9 -0.1
LPAZ	La Paz	164.28	116	PKP		PKPdf	20 48 35.9 +0.6
	comp=Z,6.1nm,1.1s,baz=270,slow=6.1,SNR=6.5						

*IDC **26** 20:30:01.8±3.1, 9°.13N×126°.31E, h0km, mb4.5/14, mbtmp4.4/14, Error ellipse: s-maj=88.9km s-min=54.6km az=6.0*

*NEIC **26** 20:30:02.3±1.2, 9°.49N±0°.08×127°.0E±0°.1, h6km±4km, mb4.8/15, Error ellipse: s-maj=19.3km s-min=10.5km az=67.0*

ISC 26 20:30:08.0±0.7, 9°.40N±0°.08×126°.7E±0°.2, h43km, n35, σt 39/31, mb4.7/21, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	8.59	176	Pn	Pn	20 32 07.9	-2.0
LUWI	Luwuk	11.10	201	Pn	Pn	20 32 43.4	-0.9
TPUB	Ta-pu	15.01	338		Pn	20 33 36.9	-0.5
YHNB	Yeheng	16.02	342	P	Pn	20 33 50.4	-0.2
YHNB				IAmb	IAmb	20 34 09.5	
	comp=Z,90nm,1.5s						
MYKOM	Kota Tinggi	23.98	253	P	P	20 35 20.2	+1.3
MORW	Morawa	39.61	195	P	P	20 37 37.6	+2.0
MORW				IAmb	IAmb	20 37 44.6	
	comp=Z,20nm,1.0s						
H11N1	WAKE ISLAND Hy	40.10	71	T	T	21 20 59.8	
	baz=266						
H11N2	WAKE ISLAND Hy	40.11	71	T	T	21 21 04.0	
	baz=266						
H11N3	WAKE ISLAND Hy	40.12	71	T	T	21 21 01.4	
	baz=266						
SONM	Songino Array	41.99	340	P	P	20 37 54.3	-0.9
SONM	Songino Array	41.99	340	P	P	20 37 55.6	+0.4
	comp=Z,4.3nm,0.9s,baz=152,slow=9.4,SNR=1.9						
	comp=Z,4.3nm,0.9s						
BBOO	Buckleboo	42.90	168	P	P	20 38 03.0	+0.4
BBOO				IAmb	IAmb	20 38 11.3	
	comp=Z,30nm,1.2s						
MKAR	Makanchi Array	53.00	323	P	P	20 39 20.9	+0.4
	comp=Z,2.7nm,0.6s,baz=116,slow=7.2,SNR=1.0						
	comp=Z,2.7nm,0.6s						
KURK	Kurchatov	57.04	326	P	P	20 39 49.3	-0.4
KURK				IAmb	IAmb	20 39 54.0	
	comp=Z,13nm,1.1s						
KURBB	Kurchatov Arra	57.05	326	P	P	20 39 49.1	-0.6
	comp=Z,4.6nm,0.9s,baz=124,slow=6.7,SNR=2.3						
	comp=Z,4.6nm,0.9s						
KKAR	Karatay Array	59.19	315	P	P	20 40 04.6	-0.2
HRA	Herat	63.73	304	P	P	20 40 34.0	-2.0
HRA				IAmb	IAmb	20 40 36.6	
	comp=Z,4.6nm,0.8s						
NRIK	Noril'sk	64.97	346	P	P	20 40 44.2	+1.1
	comp=Z,12nm,1.0s,baz=132,slow=7.4,SNR=2.5						
	comp=Z,12nm,1.0s						
BRLK	Bradley Lake	78.10	31	P	P	20 42 00.5	-1.9
BRLK				IAmb	IAmb	20 42 09.3	
	comp=Z,10nm,1.2s						
RAYN	Ar Rayn	78.32	292	P	P	20 42 03.8	-0.6
C23K	Itkillik River	78.70	21	P	P	20 42 04.1	-1.3
H23K	Yukon River	78.91	25	P	P	20 42 05.6	-1.1
H23K				IAmb	IAmb	20 42 12.1	
	comp=Z,13nm,1.4s	

comp=Z,0.5nm,0.6s

*IDC **26** 20:45:49.1±10.0, 9°46N×126°14E, h220km±102km, mb3.1/7, mbtmp3.6/7, Error ellipse: s-maj=59.2km s-min=20.9km az=66.0*

ISC 26 20:45:30.2±1.1, 9°9N±0°2×126°6E±0°3, h42km, n8, σ0°77/7, mb3.5/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**28.16**	**291**	P	**P**	**20 51 19.5**	**+0.6**
	0.3nm,0.6s,baz=86,slow=10,SNR=2.2 0.3nm,0.6s						
ASAR	**Alice Springs**	**34.06**	**168**	P	**P**	**20 52 10.6**	**-0.2**
	0.1nm,0.6s,baz=345,slow=8.6,SNR=1.5 0.1nm,0.6s						
MKAR	**Makanchi Array**	**52.58**	**323**	P	**P**	**20 54 39.6**	**-0.2**
	0.4nm,0.6s,baz=118,slow=7.1,SNR=5.4 0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**56.62**	**325**	P	**P**	**20 55 07.8**	**-1.1**
	0.2nm,0.4s,baz=119,slow=7.6,SNR=2.9 0.2nm,0.4s						
FINES	**FINESS Array B**	**86.43**	**332**	P	**P**	**20 58 08.1**	**-0.1**
	0.8nm,0.7s,baz=64,slow=4.8,SNR=6.7 0.8nm,0.7s						
MAW	**Mawson**	**89.44**	**200**	P	P	20 58 17.0	-5.2
	10nm,1.0s,baz=73,slow=17,SNR=6.4						
HFS	**Hagfors**	**92.59**	**333**	P	**P**	**20 58 36.8**	**-0.4**
	0.5nm,0.5s,baz=134,slow=4.2,SNR=5.5 0.5nm,0.5s						
YKA	**Yellowknife Ar**	**93.98**	**24**	P	**P**	**20 58 44.3**	**+0.7**
	0.1nm,0.6s,baz=294,slow=4.6,SNR=2.4 0.1nm,0.6s						

NNC 26 20:52:49.8±5.2, 36°93N×70°77E, h0km, mb4.2, mpv3.9, 4C, Error ellipse: s-maj=42.6km s-min=34.4km az=153.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.24**	**354**	Pg	Pn	20 54 12.6	+3.0
	10nm,0.2s						
IUG				Lg	Lg	20 55 16.1	
	23nm,0.3s						
MRKS	**Merke**	**6.11**	**17**	Pg	Pn	20 54 22.3	+0.9
	2.4nm,0.3s						
MRKS				Lg	Lg	20 55 32.8	
	8.4nm,0.5s						
KK31	**Karatay Array**	**6.17**	**358**	⇑P	Pn	20 54 23.3	+1.0
	3.6nm,0.2s,baz=180,slow=12,SNR=57						
KK31				⇑S	Sn	20 55 35.2	+1.7
	1.9nm,0.2s,baz=181,slow=22						
AAK	**Ala-Archa**	**6.38**	**26**	⇑P	Pn	20 54 24.8	-0.5
	6.0nm,1.6s						
AAK				⇑S	Sn	20 55 39.1	+0.2
	3.8nm,0.8s						
AB31	**Akbulak array**	**14.62**	**331**	P	Pn	20 56 17.2	-0.7
	0.5nm,0.3s,baz=157,slow=11,SNR=31						

*DJA **26** 21:07:03.5±0.3, 10°S±3°×11°9E±°, h10km, M4.5/18, mB4.9/1, mb4.6/6, MLv4.4/18, Mw(mB)4.1/1*
*NEIC **26** 21:07:05.6±1.3, 9°74S±0°07×119°07E±0°06, h34km±7km, mb4.2/7, Error ellipse: s-maj=11.6km s-min=7.8km az=215.0*
*IDC **26** 21:07:06.8±3.4, 9°61S×119°26E, h46km±33km, mb3.6/9, mbtmp3.9/13, ML3.8/4, MS3.4/4, Error ellipse: s-maj=52.6km s-min=13.6km az=72.0*

ISC 26 21:07:04.8±0.5, 9°78S±0°05×119°18E±0°04, h33km, n51, σ1°98/59, mb4.0/12, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.25**	**58**	P	**Pb**	**21 07 09.0**	**-3.0**
WBSI				S	**Sn**	**21 07 13.7**	**-2.6**
WSI	**Waingapu**	**1.11**	**85**	P	**Pn**	**21 07 24.2**	**+0.1**
WSI				S	**Sb**	**21 07 41.1**	**+1.4**
PLAI	**Plampang**	**1.67**	**304**	P	**Pn**	**21 07 29.5**	**-2.3**
PLAI				S	**Sn**	**21 07 52.0**	**-0.1**
EDFI	**Ende, Flores**	**2.69**	**68**	P	**Pn**	**21 07 46.1**	**+0.3**
EDFI				S	**Sn**	**21 08 20.5**	**+3.2**
MMRI	**Maumere**	**3.23**	**70**		**Pn**	**21 07 54.5**	**+1.3**
MMRI	**Maumere**	**3.23**	**70**	P	**Pn**	**21 07 55.9**	**+2.7**
BSSI	**Bau Bau, Buton**	**3.84**	**20**	P	**Pn**	**21 08 01.9**	**+0.3**
BSSI				S	**Sn**	**21 08 46.0**	**+0.4**
DNP	**Denpasar**	**4.06**	**285**	P	**Pn**	**21 08 05.3**	**+0.6**
SRBI	**Singaraja**	**4.26**	**293**	P	**Pn**	**21 08 06.2**	**-1.2**
SRBI				S	**Sn**	**21 08 58.4**	**+2.4**
BKSI	**Bulukumba**	**4.53**	**12**	P	**Pn**	**21 08 11.7**	**+0.7**
KAPI	**Kappang**	**4.77**	**7**		**Pn**	**21 08 14.2**	**-0.1**
KAPI	**Kappang**	**4.77**	**7**	P	**Pn**	**21 08 13.2**	**-1.1**
	11nm,0.3s,baz=174,slow=11,SNR=12						
KAPI				S	**Sn**	**21 09 06.7**	**-1.8**
	24nm,0.4s,baz=336,slow=11,SNR=5.3						
KAPI				LR	LR	21 10 35.8	
	comp=Z,204nm,18.4s,baz=208,slow=46 33nm,0.4s						
SOEI	**Soe**	**5.02**	**90**		**Pn**	**21 08 20.9**	**+2.9**
SOEI	**Soe**	**5.02**	**90**	P	**Pn**	**21 08 20.2**	**+2.2**
	0.3nm74nm,1.4s						
JAGI	**Jajag, Banyuwa**	**5.13**	**284**		**Pn**	**21 08 18.2**	**-1.1**
JAGI	**Jajag, Banyuwa**	**5.13**	**284**	P	**Pn**	**21 08 18.0**	**-1.3**
BNSI	**Bone**	**5.42**	**10**	P	**Pn**	**21 08 25.0**	**+1.6**
	0.3nm1μm80nm,0.8s						
SPSI	**Sidrap Palu**	**5.80**	**6**	P	**Pn**	**21 08 29.8**	**+1.2**
	0.2nm33nm,1.0s						
GMJI	**Gumukmas**	**5.85**	**284**	P	**Pn**	**21 08 28.3**	**-1.0**
	0.3nm56nm,1.1s						
UGM	**Wanagama**	**8.75**	**282**	Pn	**Pn**	**21 09 07.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**10.38**	**144**	Pn	**Pn**	**21 09 33.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**10.38**	**144**	P	**Pn**	**21 09 33.6**	**+2.1**
	0.4nm,0.3s,baz=333,slow=13,SNR=8.5						
FITZ				S	**Sn**	**21 11 22.1**	**-4.5**
	2.1nm,0.3s,baz=168,slow=20,SNR=11						
FITZ				LR	LR	21 13 27.1	
	comp=Z,172nm,19.1s,baz=22,slow=36 3.4nm,0.8s						
TOLI2	**Tolitoli**	**10.93**	**9**	Pn	**Pn**	**21 09 40.0**	**+1.0**
KNRA	**Kununurra**	**11.04**	**123**	Pn	**Pn**	**21 09 42.0**	**+1.5**
MBWA	**Marble Bar**	**11.33**	**177**	Pn	**Pn**	**21 09 45.3**	**+0.9**
PSA00	**Pilbara Seismi**	**11.75**	**177**	Pn	**Pn**	**21 09 50.7**	**+0.5**
MTN	**Manton Dam**	**12.12**	**106**		**Pn**	**21 09 55.7**	**+0.5**
GIRL	**Giralia**	**13.64**	**200**	Pn	**Pn**	**21 10 14.9**	**-1.1**
FAKI	**Fak Fak**	**14.66**	**63**	Pn	**Pn**	**21 10 32.2**	**+2.2**
WB0	**Warramunga Arr**	**17.74**	**126**		**P**	**21 11 11.2**	**+1.3**
WB0				IAmb	IAmb	21 11 15.2	
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**17.79**	**126**	P	**P**	**21 11 11.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=300,slow=13,SNR=16						
WRA				S	**Sn**	**21 14 20.3**	**-7.1**
	comp=Z,1.5nm,0.9s,baz=303,slow=26,SNR=4.6 comp=Z,5.2nm,0.8s						
WR8	**Warramunga Arr**	**17.92**	**126**		**P**	**21 11 13.1**	**+1.1**
WR8				IAmb	IAmb	21 11 17.5	
	comp=Z,10nm,0.8s						
MORW	**Morawa**	**19.42**	**188**	Pn	**Pn**	**21 11 30.4**	**+0.8**
MORW				IAmb	IAmb	21 11 38.1	
	comp=Z,19nm,1.4s						
AS31	**Alice Springs**	**19.71**	**136**		**Pn**	**21 11 35.3**	**+1.9**
ASAR	**Alice Springs**	**19.71**	**136**	P	**Pn**	**21 11 34.1**	**+0.8**
ASAR	**Alice Springs**	**19.71**	**136**	P	**Pn**	**21 11 33.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=314,slow=11,SNR=23						
ASAR				S	**S**	**21 15 07.8**	**-4.6**
	comp=Z,1.0nm,0.8s,baz=306,slow=22,SNR=4.7						
ASAR				LR	LR	21 20 08.7	
	comp=Z,147nm,19.3s,baz=274,slow=40 comp=Z,3.1nm,0.9s						
FORT	**Forrest**	**22.48**	**160**	P	**P**	**21 12 01.5**	**+0.1**
FORT				IAmb	IAmb	21 12 07.6	
	comp=Z,16nm,0.8s						
COEN	**Coen**	**23.85**	**102**	P	**P**	**21 12 17.8**	**+2.4**
COEN				IAmb	IAmb	21 12 25.6	
	comp=Z,33nm,1.4s						
HKPS	**Hong Kong Po S**	**32.24**	**351**	P	**P**	**21 13 28.1**	**-2.1**
CMAR	**Chiang Mai Arr**	**34.43**	**325**	P	**P**	**21 13 50.5**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=136,slow=8.6,SNR=4.9 comp=Z,0.4nm,0.5s						
XLT	**XiLinHaoTe**	**53.49**	**357**	*e*P	P	21 16 30.0	+7.9
XLT				pmax	pmax		
	comp=Z,15nm,0.8s						
USRK	**Ussuriysk Ar.**	**54.97**	**11**	P	**P**	**21 16 32.2**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=198,slow=8.8,SNR=2.7 comp=Z,2.1nm,0.6s						
SONM	**Songino Array**	**58.47**	**350**	P	**P**	**21 16 58.0**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=166,slow=7.6,SNR=8.2 comp=Z,1.1nm,0.8s						
HEH	**HeiHe**	**60.21**	**6**	*e*P	**P**	**21 17 09.0**	**-0.4**
MKAR	**Makanchi Array**	**65.22**	**333**	P	**P**	**21 17 41.7**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=138,slow=6.9,SNR=12 comp=Z,1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**69.74**	**334**	P	**P**	**21 18 10.5**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=144,slow=5.3,SNR=3.5 comp=Z,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**69.82**	**339**	P	**P**	**21 18 10.7**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=158,slow=4.8,SNR=6.1 comp=Z,1.1nm,0.6s						
OPO	**Ambohidratompo**	**69.97**	**254**	LR	LR	21 44 11.3	
	comp=Z,36nm,19.0s,baz=178,slow=32						
BVAR	**Borovoye Array**	**75.06**	**332**	P	**P**	**21 18 42.2**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=118,slow=8.6,SNR=2.4 comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**80.22**	**180**	P	**P**	**21 19 14.0**	**+2.1**
	comp=Z,1.4nm,1.0s,baz=336,slow=0.9,SNR=5.5 comp=Z,1.4nm,1.0s						
MMAI	**Mount Meron Ar**	**90.09**	**303**	P	**P**	**21 20 03.5**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=85,slow=8.8,SNR=1.2 comp=Z,0.2nm,0.4s						

*IPEC **26** 21:12:40.7±0.2, 50°07N×18°46E, h1km, ML3.0/4, Error ellipse: s-maj=1.8km s-min=1.0km az=163.0*
*VIE **26** 21:12:40.1±0.5, 50°15N×18°35E, h0km, mb2.8/12, ml2.9/12, ms3.7/3, Error ellipse: s-maj=5.1km s-min=2.6km az=158.0 36 km N of Ostrava Suspected Mining induced.*
*IDC **26** 21:12:40.7±0.8, 50°22N×18°19E, h0km, mbtmp3.2/7, ML2.3/6, Error ellipse: s-maj=13.1km s-min=7.2km az=138.0*
*PRU **26** 21:12:42.9, 50°05N×18°31E, h0km*

ISC 26 21:12:40.3±0.7, 50°09N±0°03×18°44E±0°02, h0km, n68, σ1°39/111, 4C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.16**	**269**	*e*PG	**Pg**	**21 12 45.0**	**+1.7**
RAC				*e*SG	**Sg**	**21 12 48.0**	**+2.6**
OKC	**Ostrava-Krasne**	**0.31**	**218**	*e*PG	**Pg**	**21 12 47.1**	**+0.8**
OKC				*e*SG	**Sg**	**21 12 51.1**	**+0.8**
	comp=Z,687nm,0.5s						
STEB	**Steborice**	**0.46**	**251**	*e*PG	**Pg**	**21 12 49.9**	**+0.9**
STEB				*e*SG	**Sg**	**21 12 55.9**	**+0.9**
	comp=Z,431nm,0.5s						
MORC	**Moravsky Berou**	**0.66**	**242**	*e*Pg	**Pg**	**21 12 53.1**	**+0.2**
	baz=63						
MORC				*e*Sg	**Sg**	**21 13 01.5**	**+0.1**
	206nm,0.4s,baz=63						
MORC	**Moravsky Berou**	**0.66**	**242**	*e*PG	**Pg**	**21 12 53.2**	**+0.3**
MORC				*e*SG	**Sg**	**21 13 01.6**	**+0.1**
MORC	**Moravsky Berou**	**0.66**	**242**	⇑P	**Pg**	**21 12 53.5**	**+0.6**
OJC	**Ojcow**	**0.88**	**81**	*e*Pg	**Pg**	**21 12 57.6**	**+0.5**
OJC				*e*Sg	**Sb**	**21 13 10.4**	**-0.4**
KRLC	**Kraliky**	**1.07**	**270**	*e*PG	**Pg**	**21 13 00.4**	**-0.4**
KRLC				*e*SG	**Sg**	**21 13 14.7**	**+0.1**
	comp=Z,229nm,0.4s						
LANS	**Liptovska Anna**	**1.15**	**144**	*e*PG	**Pb**	**21 13 02.8**	**-0.2**
LANS				*e*SG	**Sg**	**21 13 16.7**	**-0.5**
LANS				*e*LG	Lg	21 13 23.3	
JAVC	**Velka Javorina**	**1.33**	**203**	*e*Pg	**Pg**	**21 13 05.6**	**-0.1**
	baz=23						
JAVC	**Velka Javorina**	**1.33**	**203**	*e*PG	**Pg**	**21 13 05.7**	**0.0**
NIE	**Niedzica**	**1.38**	**118**	*e*Pg	**Pn**	**21 13 06.8**	**0.0**
NIE				*e*Sg	**Sn**	**21 13 26.5**	**+0.8**
DPC	**Dobruska-Polom**	**1.39**	**282**	*e*PG	**Pg**	**21 13 06.8**	**-0.1**
DPC				*e*SG	**Sb**	**21 13 25.4**	**0.0**
	comp=Z,222nm,0.7s						
VRAC	**Vranov**	**1.43**	**238**	Pg	**Pn**	**21 13 07.0**	**-0.5**
	16nm,0.3s,baz=51,slow=18,SNR=92						
VRAC				Lg	Lg	21 13 25.8	
	41nm,0.3s,baz=139,slow=20,SNR=21						
VRAC	**Vranov**	**1.43**	**238**	*e*Pg	**Pn**	**21 13 07.0**	**-0.5**
	baz=57						
VRAC				*e*Sg	**Sg**	**21 13 25.6**	**-0.6**
	130nm,0.3s,baz=57						
VRAC	**Vranov**	**1.43**	**238**	*e*PG	**Pn**	**21 13 07.1**	**-0.5**
VRAC				*e*SG	**Sg**	**21 13 25.7**	**-0.5**
VRAC	**Vranov**	**1.43**	**238**	⇓P	**Pn**	**21 13 07.3**	**-0.2**
OSTC	**Ostas**	**1.50**	**289**	*e*PG	**Pn**	**21 13 08.2**	**-0.3**
OSTC				*e*SG	**Sn**	**21 13 29.2**	**+0.4**
	comp=Z,82nm,0.6s						
KSP	**Ksiaz**	**1.57**	**300**	*e*Pg	**Pn**	**21 13 09.0**	**-0.4**
KSP				*e*Sg	**Sn**	**21 13 29.3**	**-1.1**
CHVC	**Chvalec**	**1.61**	**289**	*e*PG	**Pn**	**21 13 10.1**	**+0.1**
VYHS	**Vyhne**	**1.61**	**171**	*e*PG	**Pn**	**21 13 09.8**	**-0.2**
VYHS				*e*SG	**Sn**	**21 13 31.2**	**-0.3**
KRUC	**Moravsky**	**1.68**	**233**	*e*Pn	**Pn**	**21 13 11.0**	**+0.1**
	baz=52						
KRUC				*e*Sg	**Sn**	**21 13 33.3**	**+0.1**
	147nm,0.5s,baz=52						
MODS	**Modra-Piesok**	**1.88**	**204**	*e*PG	**Pn**	**21 13 13.4**	**-0.2**
MODS				*e*SG	**Sn**	**21 13 37.7**	**-0.3**
STHS	**Stebnicka Huta**	**1.94**	**109**	*e*PG	**Pg**	**21 13 17.1**	**-0.2**
STHS				*e*SG	**Sg**	**21 13 45.4**	**+3.0**
STHS				*e*LG	Lg	21 13 48.0	
KECS	**Kecovo**	**2.09**	**139**	*e*PN	**Pn**	**21 13 16.2**	**-0.3**
KECS				*e*SN	**Sn**	**21 13 41.5**	**-1.7**
KECS				*e*LG	Lg	21 13 52.0	
PSZ	**Piszkesteto**	**2.37**	**156**	⇑P	**Pn**	**21 13 21.3**	**+0.8**
PRU	**Pruhonice**	**2.52**	**269**	*e*PN	**Pn**	**21 13 21.0**	**-1.4**
PRU				*e*PG	**Pb**	**21 13 25.7**	**-0.6**
PRU				*e*SG	**Sb**	**21 13 59.0**	**+1.2**
	comp=Z,31nm,0.5s						
PRA	**Prague**	**2.58**	**271**	*e*PN	**Pn**	**21 13 23.6**	**+0.3**
PRA				*e*PG	**Pb**	**21 13 27.2**	**-0.2**
CONA	**Conrad Observa**	**2.75**	**219**	*i* Pn	**Pn**	**21 13 25.1**	**-0.6**
	1.1nm,0.2s						
CONA				Sn	**Sn**	**21 13 57.5**	**-2.1**
	0.3nm,0.1s						
KOLS	**Kolonicke sedl**	**2.75**	**113**	*e*PN	**Pn**	**21 13 25.6**	**0.0**
KOLS				*e*SN	**Sn**	**21 13 58.8**	**-0.7**
KOLS				*e*LG	Lg	21 14 19.2	
RONA	**Rosalia, Austr**	**2.78**	**211**	Pn	**Pn**	**21 13 25.9**	**-0.2**
	1.9nm,0.2s						
RONA				Sn	**Sn**	**21 13 59.6**	**-0.6**
	4.9nm,0.2s						
ZVC	**Zvikov**	**2.83**	**258**	*e*PG	**Pb**	**21 13 32.8**	**+1.1**
BRG	**Berggiesshubel**	**2.98**	**287**	Pg	**Pb**	**21 13 35.3**	**+1.1**
BRG				Sg	**Sg**	**21 14 16.1**	**+0.1**
BRG				Amp		21 14 22.0	
	comp=Z,33nm,0.4s						
CKRC	**Cesky Krumlov**	**2.98**	**246**	*e*SG	**Sg**	**21 14 14.9**	**-1.1**
HSKC	**Hora Svate Kat**	**3.25**	**281**	*e*PN	**Pn**	**21 13 32.8**	**+0.3**
HSKC				*e*PG	**Pb**	**21 13 39.3**	**+0.4**
KHC	**Kasperske Hory**	**3.31**	**255**	*e*PN	**Pn**	**21 13 32.8**	**-0.5**
KHC				*e*PG	**Pg**	**21 13 41.7**	**-1.9**
KHC				*e*SN	**Sn**	**21 14 11.5**	**-1.8**
KHC				*e*SG	**Sb**	**21 14 22.6**	**+2.0**
	comp=Z,34nm,0.4s						
GERES	**GERESS Array B**	**3.33**	**250**	Pn	**Pn**	**21 13 33.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=60,slow=14,SNR=8.7						
GERES				Lg	Lg	21 14 21.9	
	comp=Z,0.4nm,0.3s,baz=64,slow=20,SNR=5.1 comp=Z,0.7nm,0.4s						
ARSA	**Arzberg**	**3.44**	**215**	*e*Pn	**Pn**	**21 13 34.5**	**-0.6**
	comp=Z,0.4nm,0.2s						
ARSA				*e*Sn	**Sn**	**21 14 15.9**	**-0.6**
	comp=Z,2.9nm,0.3s						
MOA	**Molln**	**3.55**	**232**	*i* Pn	**Pn**	**21 13 35.7**	**-0.9**
	comp=Z,0.6nm,0.1s						
MOA				*e*Sn	**Sn**	**21 14 20.1**	**+0.8**
	comp=Z,5.7nm,0.4s						
CLL	**Collm**	**3.67**	**292**	*i* Pg	**Pb**	**21 13 47.2**	**+1.3**
CLL				*i* Pgmax		21 13 51.3	
CLL				*e*Sg	**Sg**	**21 14 38.0**	**-0.1**
	comp=Z,25nm,0.7s						
NKC	**Novy Kostel**	**3.86**	**274**	*e*PN	**Pn**	**21 13 41.1**	**+0.2**
NKC				*e*PG	**Pb**	**21 13 50.7**	**+1.5**
MORH	**Mrgy, Hungar**	**3.88**	**178**	⇓P	**Pn**	**21 13 41.3**	**+0.2**
BIOA	**Bad Ischl, Aus**	**3.98**	**235**	*i* Pn	**Pn**	**21 13 43.5**	**+1.0**
	comp=Z,1.3nm,0.2s						
BIOA				*i* Sn	**Sn**	**21 14 30.6**	**+0.9**
	comp=Z,10nm,0.4s						
SOKA	**Soboth**	**4.10**	**215**	*i* Pn	**Pn**	**21 13 44.0**	**-0.2**
	comp=Z,0.2nm,0.1s						
DRGR		**4.35**	**138**	⇑P	**Pn**	**21 13 47.7**	**0.0**
SIRR	**Siria**	**4.38**	**149**	⇓P	**Pn**	**21 13 48.3**	**+0.2**
OBKA	**Obir**	**4.42**	**217**	*i* Pn	**Pn**	**21 13 48.9**	**+0.2**
	comp=Z,0.8nm,0.2s						
KBA	**Koelnbreinsper**	**4.53**	**230**	*e*Pn	**Pn**	**21 13 51.6**	**+1.4**
	comp=Z,0.1nm,0.1s						
KBA				*e*Sn	**Sn**	**21 14 43.1**	**-0.6**
	comp=Z,0.2nm,0.1s						
LESA	**Schwarzleotal**	**4.65**	**237**	*e*Pn	**Pn**	**21 13 52.4**	**+0.5**
	comp=Z,0.7nm,0.8s						
LESA				*e*Sg	**Sg**	**21 15 06.7**	**-2.9**
	comp=Z,8.5nm,0.4s						
SURR	**Surduc**	**4.99**	**149**	⇑P	**Pn**	**21 13 53.7**	**-2.7**
BURAR	**Bucovina Array**	**5.11**	**116**	⇓P	**Pn**	**21 13 59.1**	**+1.0**
ABTA	**Abfaltersbach**	**5.17**	**232**	*e*Pn	**Pn**	**21 13 59.2**	**+0.2**
	comp=Z,1.4nm,0.9s						
ABTA				*i* Sn	**Sn**	**21 14 59.6**	**+0.2**
	comp=Z,0.1nm,0.1s						
WATA	**Walderalm**	**5.31**	**241**	*e*Pg	**Pg**	**21 14 20.6**	**-1.5**
	comp=Z,1.3nm,0.3s						
WATA				*e*Sg	**Sg**	**21 15 28.4**	**-2.5**
	comp=Z,5.2nm,0.4s						
WTTA	**Wattenberg**	**5.32**	**241**	*i* Pn	**Pn**	**21 14 00.2**	**-0.8**
	comp=Z,0.2nm,0.2s						
WTTA				*e*Sg	**Sg**	**21 15 33.5**	**+2.4**
	comp=Z,5.0nm,0.6s						
BSD	**Bornholm Skovb**	**5.47**	**338**	*i* P	**Pn**	**21 14 01.0**	**-2.0**
MOTA	**Moosalm**	**5.58**	**243**	*e*Pg	**Pg**	**21 14 25.3**	**-1.8**
	comp=Z,0.6nm,0.2s						
MOTA				*i* Sn	**Sn**	**21 15 07.7**	**-1.8**
	comp=Z,0.4nm,0.2s						
SQTA	**Sankt Quirin**	**5.59**	**242**	*e*Pg	**Pg**	**21 14 28.5**	**+1.2**
	comp=Z,0.9nm,0.3s						
SQTA				*e*Sg	**Sb**	**21 15 32.5**	**+6.2**
	comp=Z,5.8nm,0.5s						
FETA	**Feichten**	**5.97**	**242**	Pg	**Pg**	**21 14 32.6**	**-2.0**
	comp=Z,0.5nm,0.3s						
FETA				Sg	**Sg**	**21 15 46.5**	**-5.4**
	comp=Z,0.1nm,0.1s						
LUNU	**Lund**	**6.32**	**333**	*i* P	**Pn**	**21 14 12.5**	**-2.1**
BLEU	**Blekinge**	**6.43**	**347**	*i* P	**Pn**	**21 14 15.0**	**-1.0**
DAVOX	**Davos/Dischmat**	**6.59**	**243**	Pn	**Pn**	**21 14 19.1**	**+0.6**
	comp=Z,2.3nm,0.4s,baz=54,slow=8.7,SNR=12						
DAVOX				Sn	**Sn**	**21 15 32.9**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=38,slow=15,SNR=1.6						
DAVOX				Lg	Lg	21 16 06.8	
	comp=Z,1.0nm,0.3s,baz=241,slow=18,SNR=5.4						
BJUU	**Bjuv**	**6.83**	**334**	*i* P	**Pn**	**21 14 21.6**	**0.0**
AKASG	**Malin Array Be**	**6.92**	**81**	Pn	**Pn**	**21 14 21.2**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=266,slow=12,SNR=2.3						
AKASG				Pg	**Pb**	**21 14 43.3**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=275,slow=14,SNR=4.3						
AKASG				Sn	**Sn**	**21 15 39.3**	**-3.0**
	comp=Z,1.4nm,0.3s,baz=274,slow=21,SNR=5.1						
AKASG				Lg	Lg	21 16 18.9	
	comp=Z,0.9nm,0.3s,baz=265,slow=30,SNR=4.0 comp=Z,0.4nm,0.5s						
DEL	**Delary**	**6.96**	**339**	*i* P	**Pn**	**21 14 22.1**	**-1.2**
HFS	**Hagfors**	**10.43**	**347**	Pn	**Pn**	**21 15 04.3**	**-6.5**
	comp=Z,0.1nm,0.3s,baz=165,slow=12,SNR=2.3						
HFS				Sn	Sn	21 16 54.0	-14
	baz=164,slow=27,SNR=1.3 comp=Z,0.7nm,0.9s						
NOA	**NORSAR Array B**	**11.71**	**342**	Pn	Pn	21 15 21.9	-6.5
	baz=160,slow=14,SNR=1.4 comp=Z,0.2nm,0.7s						
FINES	**FINESS Array B**	**12.15**	**18**	Pn	Pn	21 15 28.5	-6.0
	comp=Z,0.1nm,0.3s,baz=202,slow=10,SNR=4.0						
FINES				Sn	Sn	21 17 38.0	-13
	comp=Z,0.2nm,0.3s,baz=200,slow=20,SNR=5.4 comp=Z,1.2nm,1.0s						
ARCES	**ARCESS Array B**	**19.80**	**7**	P	**P**	**21 17 10.5**	**-1.4**
	baz=195,slow=12,SNR=2.2 comp=Z,1.5nm,0.8s						

*IDC **26** 21:16:23.7±3.2, 7°62S×123°67E, h232km±58km, mb3.6/1, mbtmp4.1/5, Error ellipse: s-maj=98.2km s-min=35.0km az=64.0*
*NEIC **26** 21:16:24.4±1.9, 7°70S±0°09×123°5E±0°1, h242km±8km, mb4.3/9, Error ellipse: s-maj=15.4km s-min=12.3km az=113.0*

ISC 26 21:16:24.6±0.8, 7°83S±0°08×123°46E±0°09, h250km, n23, σ1°71/26, mb4.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.45**	**236**		**Pn**	**21 17 02.1**	**-0.4**
SOEI	**Soe**	**2.07**	**157**		**Pn**	**21 17 07.5**	**-0.4**
KAPI	**Kappang**	**4.63**	**307**	P	**Pn**	**21 17 35.4**	**-0.5**
	7.7nm,0.6s,baz=124,slow=14,SNR=1.3						
MTN	**Manton Dam**	**9.04**	**124**	Pn	**Pn**	**21 18 31.0**	**-0.1**
KNRA	**Kununurra**	**9.37**	**147**	Pn	**Pn**	**21 18 35.7**	**+0.4**
FAKI	**Fak Fak**	**10.01**	**61**	Pn	**Pn**	**21 18 43.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**10.43**	**168**	Pn	**Pn**	**21 18 50.3**	**+1.8**
FITZ	**Fitzroy Crossi**	**10.43**	**168**	P	**Pn**	**21 18 49.8**	**+1.2**
	1.2nm,0.3s,baz=2.9,slow=12,SNR=9.5						
FITZ				S	**S**	**21 20 41.5**	**-4.2**
	4.8nm,0.5s,baz=122,slow=21,SNR=7.3			

46nm,0.7s
RKPI Ransiki, Papua 13.50 146 P Pn 21 26 03.1 +3.7
38nm,1.0s
FAKI Fak Fak 13.81 156 Pn 21 26 03.0 -0.6
FAKI Fak Fak 13.81 156 P Pn 21 26 04.2 +0.5
36nm,1.0s
TPUB Ta-pu 14.61 337 P 21 26 17.0 -3.0
SSLB Suanglung 14.94 339 P 21 26 21.0 -2.7
SPSI Sidrap Palu 15.33 207 P P 21 26 28.0 -0.1
BNSI Bone 15.57 205 P P 21 26 33.7 +2.9
43nm,1.4s
SBUM Sibu 16.14 244 P 21 26 35.2 -1.9
SBUM Sibu 16.14 244 P P 21 26 42.4 +5.4
KAPI Kappang 16.28 205 LR LR 21 33 06.2
comp=Z,136nm,19.3s,baz=44,slow=39
SMPI Sarmi 16.76 134 P Pn 21 26 42.1 0.0
50nm,1.2s
JOW Kunigami 16.99 5 LR LR 21 32 11.8
comp=Z,147nm,20.0s,baz=78,slow=33
STKI Sintang 17.98 238 P P 21 27 00.5 +3.1
11um36nm,1.1s
DLV Lat 18.00 278 P 21 26 57.6 -0.3
KSM Kuching 18.28 244 Pn 21 27 00.9 -0.1
JAY Jayapura 18.57 131 P Pn 21 27 05.4 +0.9
1.2nm,0.3s,baz=120,slow=11,SNR=5.0
5.4nm,0.6s
JAY Jayapura 18.57 131 P P 21 27 04.8 +0.8
20nm,0.9s
QIZ Qiongzhong 18.70 301 P Pn 21 27 05.3 -0.7
QIZ S Sn 21 30 32.8 -1.6
QIZ LR LR
comp=N,170nm,11.0s
QIZ LR LR
comp=E,210nm,13.1s
QIZ LR LR
comp=Z,250nm,12.4s
MMRI Maumere 18.86 194 Pn 21 27 08.4 +0.4
MMRI IAmb IAmb 21 27 18.7
comp=Z,73nm,1.0s
MMRI Maumere 18.86 194 P Pn 21 27 13.0 +5.0
comp=Z,59nm,1.0s
EDFI Ende, Flores 19.11 195 P Pn 21 27 15.6 +4.6
comp=Z,20nm,0.7s
SOEI Soe 19.59 187 P 21 27 14.9 -0.3
SOEI IAmb IAmb 21 27 27.4
comp=Z,94nm,1.3s
PLAI Plampang 20.54 206 P Pn 21 27 29.4 +1.5
comp=Z,36nm,0.9s
JCJ Chichijima 22.57 38 LR LR 21 37 17.7
comp=Z,146nm,18.4s,baz=152,slow=38
MTN Manton Dam 22.94 169 P 21 27 50.3 -0.8
MTN IAmb IAmb 21 28 03.7
comp=Z,23nm,0.8s
NJ2 Nanjing 23.29 343 eP P 21 27 56.0 +1.6
NJ2 pmax pmax
comp=Z,21nm,0.9s
SMRI Semarang 23.30 225 P P 21 27 54.3 -0.4
SMRI IAmb IAmb 21 28 06.5
comp=Z,39nm,1.0s
JNU Nakatsue 23.51 9 LR LR 21 39 01.8
comp=Z,108nm,18.3s,baz=178,slow=41
PPBI Pangkal Pinang 23.68 241 P P 21 27 58.8 +0.4
MANU Manus Island 23.72 119 P P 21 27 57.5 -1.3
MANU IAmb IAmb 21 28 12.1
comp=Z,74nm,2.0s
MYKOM Kota Tinggi 24.07 252 P P 21 28 01.5 -0.5
LEM Lembang 25.19 230 P P 21 28 10.6 -1.8
comp=Z,7.0nm,0.4s,baz=173,slow=15,SNR=4.6
comp=Z,7.0nm,0.4s
KNRA Kununurra 25.41 175 P 21 28 15.3 +1.1
KNRA IAmb IAmb 21 28 26.2
comp=Z,22nm,0.8s
JHJ Hachijo jima 2 26.14 26 LR LR 21 38 35.0
comp=Z,123nm,19.1s,baz=133,slow=36
KULM Kulim 26.20 262 P P 21 28 21.1 -0.3
KULM IAmb IAmb 21 28 23.2
comp=Z,18nm,1.0s
MDSI Maura Dua 26.55 239 P P 21 28 24.4 -0.2
comp=Z,25nm,1.2s
LWLI Liwa 26.94 238 P P 21 28 32.8 +4.6
KMI Kunming 27.38 307 P P 21 28 27.5 -4.7
KMI pmax pmax
comp=Z,7.0nm,0.7s
KSRS Korea Array 27.54 2 P P 21 28 35.1 +2.0
comp=Z,1.7nm,0.8s,baz=173,slow=11,SNR=4.9
KSRS LR LR 21 41 46.4
comp=Z,102nm,18.4s,baz=180,slow=41
comp=Z,1.7nm,0.8s
TIA Tai'an 27.68 343 P P 21 28 35.5 +1.1
TIA pmax pmax
comp=Z,12nm,1.0s
FITZ Fitzroy Crossi 27.76 182 P P 21 28 35.2 0.0
FITZ Fitzroy Crossi 27.76 182 P P 21 28 34.6 -0.7
comp=Z,26nm,0.7s,baz=8.8,slow=6.7,SNR=20
comp=Z,26nm,0.7s
LYN LuoYang 27.85 334 P P 21 28 37.0 +1.0
LYN pmax pmax
comp=Z,17nm,0.5s
PMG Port Moresby 27.92 133 LR LR 21 41 43.7
comp=Z,120nm,18.1s,baz=338,slow=41
CM31 Chiang Mai Arr 28.21 291 P P 21 28 38.2 -1.2
CMAR Chiang Mai Arr 28.21 291 P P 21 28 38.1 -1.4
CMAR Chiang Mai Arr 28.21 291 P P 21 28 37.2 -2.2
comp=Z,3.1nm,0.8s,baz=100,slow=7.2,SNR=23
comp=Z,3.1nm,0.8s
CHTO Chiang Mai 28.30 292 P P 21 28 38.5 -1.7
RPSI Rantau Prapat 28.48 257 P P 21 28 41.1 -0.7
RPSI IAmb IAmb 21 28 53.8
comp=Z,18nm,1.1s
MJAR Matsushiro Arr 28.58 20 P P 21 28 43.1 +0.6
comp=Z,0.6nm,0.5s,baz=193,slow=7.9,SNR=1.7
MJAR LR LR 21 40 41.1
comp=Z,100nm,18.0s,baz=194,slow=37
comp=Z,0.6nm,0.5s
XAN Xi'an 29.11 329 P P 21 28 47.0 -0.3
XAN pP pP 21 28 51.8 -4.9
XAN pmax pmax
comp=Z,22nm,1.0s
XAN LR LR
comp=Z,290nm,13.1s
XAN LR LR
comp=Z,340nm,13.7s
XAN LR LR
comp=Z,510nm,11.9s
HNS HongShan 29.52 340 ⇑P P 21 28 52.0 +1.2
HNS pmax pmax
comp=Z,28nm,0.9s
WRA Warramunga Arr 30.52 166 P P 21 28 57.8 -2.0
comp=Z,1.2nm,0.6s,baz=346,slow=9.1,SNR=6.8
WRA PcP PcP 21 31 57.5 -0.7
comp=Z,0.6nm,0.6s,baz=331,slow=2.8,SNR=2.1
comp=Z,1.2nm,0.6s
JMM Marumori 30.68 22 P P 21 29 00.4 -0.6
TNCH TengChong 30.75 303 ⇓P P 21 29 03.0 +0.9
TNCH pP pP 21 29 07.5 -4.6
TNCH S S 21 34 05.0 +2.3
TNCH pmax pmax
comp=Z,11nm,2.5s
TNCH pmax pmax
comp=Z,140nm,3.8s
TNCH LR LR
comp=Z,250nm,7.1s
TNCH LR LR
comp=Z,120nm,8.6s
TNCH LR LR
comp=Z,190nm,11.2s
MBWA Marble Bar 31.53 192 P P 21 29 08.3 -0.4
PSA00 Pilbara Seismi 31.91 192 P P 21 29 11.2 -0.8
PSA00 Pilbara Seismi 31.91 192 P P 21 29 10.2 -1.8
QIS Mount Isa 32.75 157 P P 21 29 19.1 -0.3
HHC Hu-ho-hao-te 33.69 339 ⇓iP P 21 29 29.5 +2.0
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,79nm,5.0s
AS31 Alice Springs 34.02 168 P P 21 29 30.7 +0.2
ASAR Alice Springs 34.02 168 P P 21 29 28.7 -1.8
comp=Z,1.3nm,0.6s,baz=353,slow=7.5,SNR=17
ASAR PcP PcP 21 32 07.3 -0.5
comp=Z,1.0nm,0.7s,baz=348,slow=4.1,SNR=4.3
comp=Z,1.3nm,0.6s
AS01 Alice Springs 34.02 168 P P 21 29 29.4 -1.1
GIRL Giralia 34.49 201 P P 21 29 34.5 0.0
USRK Ussuriysk Ar. 34.56 7 P P 21 29 36.8 +1.9
comp=Z,3.1nm,0.8s,baz=191,slow=7.3,SNR=5.1
comp=Z,3.1nm,0.8s

WRKA Warakurna 34.68 177 P P 21 29 35.1 -1.1
XLT XiLinHaoTe 35.19 347 eP P 21 29 41.5 +1.1
XLT PP PP 21 31 05.0 +4.2
XLT pmax pmax
comp=Z,12nm,0.8s
BNX BinXian 35.80 1 ⇓P P 21 29 43.8 -1.8
BNX pmax pmax
comp=Z,6.0nm,1.0s
SHL Shillong 36.53 300 P P 21 29 51.3 -1.0
SHL IAmb IAmb 21 29 57.9
comp=Z,24nm,1.0s
MEEK Meekatharra 37.08 192 P P 21 29 55.5 -1.2
GTA Gaotai 37.99 325 eP P 21 30 04.8 +0.3
GTA pmax pmax
comp=Z,5.0nm,0.9s
HNR Honiara 38.22 119 LR LR 21 44 21.5
comp=Z,56nm,20.4s,baz=274,slow=34
OOD Oodnadatta 38.39 167 P P 21 30 07.0 -0.7
YSS Yuzhno-Sakhali 39.45 17 P P 21 30 15.5 -0.9
MORW Morawa 40.00 195 P P 21 30 20.5 -0.7
MORW Morawa 40.00 195 P P 21 30 20.9 -0.3
HEH HeiHe 40.31 1 eP P 21 30 25.0 +1.5
FORT Forrest 40.38 178 P P 21 30 23.8 -0.6
FORT Forrest 40.38 178 P P 21 30 23.7 -0.6
KMBL Kambalda 41.21 186 P P 21 30 30.7 -0.4
BLDU Ballidu 41.33 193 P P 21 30 32.3 +0.2
ULN Ulaanbaatar 41.39 340 P P 21 30 31.8 -0.8
LCRK Leigh Creek 41.54 165 P P 21 30 34.4 +0.6
SONM Songino Array 41.59 339 P P 21 30 33.2 -1.1
SONM Songino Array 41.59 339 P P 21 30 35.0 +0.7
comp=Z,3.0nm,0.7s,baz=159,slow=9.4,SNR=16
comp=Z,3.0nm,0.7s
KLBR Kellerberrin 42.05 191 P P 21 30 38.1 0.0
MUN Mundaring 42.75 193 P P 21 30 44.2 +0.5
BBOO Buckleboo 43.32 168 P P 21 30 49.0 +0.7
NWAO Narrogin (SRO) 43.45 192 P P 21 30 49.0 -0.4
NWAO IAmb IAmb 21 30 49.7
comp=Z,22nm,0.9s
NWAO Narrogin (SRO) 43.45 192 P P 21 30 49.4 0.0
STKA Stephens Creek 43.84 162 P P 21 30 51.1 -1.4
comp=Z,3.0nm,0.7s,baz=335,slow=9.1,SNR=6.7
comp=Z,3.0nm,0.7s
STKA Stephens Creek 43.84 162 P P 21 30 54.5 +2.0
HTT Hallett 44.55 165 P P 21 30 59.9 +1.6
PALK Pallekele 45.53 271 LR LR 21 52 18.1
comp=Z,69nm,18.4s,baz=80,slow=39
WMQ Urumqi 47.83 322 eP P 21 31 25.5 +1.5
PETK Petropavlovsk- 49.88 24 P P 21 31 41.5 +2.0
comp=Z,3.8nm,0.8s,baz=203,slow=5.5,SNR=4.9
PETK LR LR 21 53 43.3
comp=Z,39nm,19.2s,baz=260,slow=37
comp=Z,3.8nm,0.8s
DZM Mont Dzumac 50.24 130 eLR LR 21 46 03.7
comp=Z,132nm,27.3s
YAK Yakutsk 52.16 2 P P 21 31 57.6 +1.2
MKAR Makanchi Array 52.64 323 P P 21 31 59.2 -1.1
MKAR Makanchi Array 52.64 323 P P 21 31 59.9 -0.4
comp=Z,3.4nm,0.8s,baz=116,slow=8.2,SNR=31
MKAR LR LR 21 54 23.1
comp=Z,90nm,18.7s,baz=68,slow=36
comp=Z,3.4nm,0.8s
MAKZ Makanchi 52.83 323 P P 21 32 00.5 -1.2
HMDM Hanimaadhoo 53.00 271 P P 21 32 03.0 -0.4
KSH Kashi 53.84 312 P P 21 32 09.3 -0.1
KSH pmax pmax
comp=Z,3.0nm,1.2s
NIL Nilore 54.33 304 P P 21 32 11.0 -2.0
NIL IAmb IAmb 21 32 13.4
comp=Z,13nm,0.9s
NRN Naryn 54.47 314 P P 21 32 13.4 -0.8
ZAA0 Zalesovo Array 55.22 331 P P 21 32 18.2 -0.8
ZALV Zalesovo Beam 55.22 331 P P 21 32 18.2 -0.8
ZALV Zalesovo Beam 55.22 331 P P 21 32 18.3 -0.6
comp=Z,3.4nm,0.8s,baz=111,slow=8.1,SNR=13
comp=Z,3.4nm,0.8s
AAK Ala-Archa 55.94 315 P P 21 32 22.3 -2.3
comp=Z,0.8nm,0.5s,baz=142,slow=14,SNR=3.8
AAK LR LR 21 59 20.7
comp=Z,137nm,18.1s,baz=83,slow=39
comp=Z,0.8nm,0.5s
KURK Kurchatov 56.67 326 P P 21 32 28.8 -0.6
KURK IAmb IAmb 21 32 30.5
comp=Z,7.5nm,0.9s
KURBB Kurchatov Arra 56.68 325 P P 21 32 28.9 -0.6
comp=Z,3.3nm,0.9s,baz=128,slow=6.6,SNR=27
comp=Z,3.3nm,0.9s
DRK Karamyk 56.91 311 P P 21 32 31.0 -0.7
DRK IAmb IAmb 21 32 32.6
comp=Z,4.5nm,0.6s
SHEM Shemya Is, Ala 57.31 32 LR LR 21 52 33.1
comp=Z,27nm,20.5s,baz=298,slow=31
BTK Batken 57.80 311 P P 21 32 36.4 -1.3
GAR Garm 57.90 310 P P 21 32 37.0 -1.5
KBL Kabul 57.93 305 P P 21 32 37.4 -1.5
KBL IAmb IAmb 21 32 39.0
comp=Z,7.7nm,0.8s
CHGR Chuyangaron 58.70 309 P P 21 32 42.4 -1.6
SIMJ Simiganj 58.81 309 P P 21 32 43.6 -1.3
SIMJ IAmb IAmb 21 32 46.0
comp=Z,7.5nm,1.1s
KK31 Karatay Array 58.86 315 P P 21 32 44.0 -1.0
KKAR Karatay Array 58.86 315 P P 21 32 43.9 -1.2
KKAR IAmb IAmb 21 32 45.0
comp=Z,4.7nm,0.9s
TIXI Tiksi 61.80 1 P P 21 33 04.8 +0.4
TIXI IAmb IAmb 21 33 09.3
comp=Z,6.3nm,0.8s
TIXI Tiksi 61.80 1 LR LR 22 02 30.4
comp=Z,79nm,19.0s,baz=198,slow=39
BVAR Borovoye Array 62.27 325 P P 21 33 06.9 -1.1
comp=Z,3.0nm,0.9s,baz=126,slow=9.3,SNR=12
comp=Z,3.0nm,0.9s
BRVK Borovoye 62.34 325 P P 21 33 06.8 -1.7
BRVK IAmb IAmb 21 33 20.1
comp=Z,4.9nm,0.8s
BILL Bilibino 63.72 16 P P 21 33 18.9 +1.6
NRIK Noril'sk 64.55 346 P P 21 33 23.4 +0.6
NRIK Noril'sk 64.55 346 P P 21 33 23.4 +0.6
comp=Z,12nm,0.8s,baz=134,slow=4.5,SNR=17
comp=Z,12nm,0.8s
MRNZ Matariki Terra 66.24 144 pP P 21 33 33.8 -0.4
INZ Inchbonnie 66.34 146 P P 21 33 35.2 +0.4
BKZ Black Stump Fm 67.17 140 P P 21 33 39.5 -0.7
AB31 Akbulak array 67.49 319 P P 21 33 40.6 -1.4
AB31 IAmb IAmb 21 33 42.7
comp=Z,4.7nm,1.0s
ABKAR Akbulak array 67.49 319 P P 21 33 40.6 -1.5
ABKAR Akbulak array 67.49 319 P P 21 33 40.3 -1.7
ABKAR IAmb IAmb 21 33 42.7
comp=Z,4.7nm,1.0s
ARTI Arti 69.92 327 P P 21 33 56.4 -0.7
ARTI IAmb IAmb 21 34 07.8
comp=Z,4.1nm,0.7s
L14K Kuka Creek 72.18 29 P P 21 34 10.3 -0.3
L14K IAmb IAmb 21 34 19.0
comp=Z,12nm,1.1s
L16K Owhat River 73.76 28 P P 21 34 20.7 +0.8
L16K IAmb IAmb 21 34 28.0
comp=Z,19nm,1.6s
KHLH Kahului Airpor 74.38 71 P P 21 34 23.2 -1.1
C18K Utukok River 74.42 21 P P 21 34 23.7 -0.1
M17K Holitna River 74.68 29 P 21 34 25.3 -0.1
N17K Nushagak Hills 74.68 30 P 21 34 24.0 -1.4
O18K Koktuh Hills 75.59 31 P P 21 34 31.1 +0.4
L19K White Mountain 75.99 28 P P 21 34 34.1 +1.2
L19K IAmb IAmb 21 34 48.4
comp=Z,6.5nm,1.1s
N19K Bonanza Creek 76.04 30 P P 21 34 33.2 -0.1
N19K IAmb IAmb 21 34 36.8
comp=Z,6.7nm,1.0s
B20K Meade River 76.10 20 P P 21 34 32.5 -0.8
B20K IAmb IAmb 21 34 50.9
comp=Z,5.4nm,0.9s
KDAK Kodiak Island 76.81 33 LR LR 22 03 46.2
comp=Z,34nm,21.4s,baz=123,slow=32
B21K Ikpikpuk River 76.92 21 P P 21 34 39.4 +1.5
B21K IAmb IAmb 21 34 57.7
comp=Z,8.3nm,0.9s
E21K Killik River 77.01 22 P P 21 34 38.2 -0.3
E21K IAmb IAmb 21 35 07.7
comp=Z,8.1nm,1.1s
H21K Melozitna Rive 77.20 25 P P 21 34 39.5 -0.2
H21K IAmb IAmb 21 34 52.2
comp=Z,11nm,1.6s
CAST Castle Rocks 77.35 27 P P 21 34 41.1 +0.5

B22K Teshekpuk Lake 77.41 20 P P 21 34 40.7 0.0
B22K IAmb IAmb 21 34 47.9
comp=Z,6.2nm,0.9s
BPAW Bear Paw Mtn. 77.88 26 P 21 34 42.9 -0.6
SUA Susitna One 77.89 29 P P 21 34 42.8 -0.9
RAYN Ar Rayn 78.13 292 P P 21 34 44.3 -1.4
RAYN IAmb IAmb 21 34 45.8
comp=Z,6.3nm,0.9s
M22K Willow 78.19 29 P P 21 34 45.4 +0.2
D23K Nanushuk River 78.25 21 P P 21 34 45.9 +0.5
D23K IAmb IAmb 21 35 06.2
comp=Z,8.6nm,1.2s
C23K Itkillik River 78.33 21 P P 21 34 46.7 +0.9
C23K IAmb IAmb 21 34 52.4
comp=Z,5.9nm,0.7s
COLD Coldfoot 78.34 23 P P 21 34 46.4 +0.4
COLD IAmb IAmb 21 35 01.2
comp=Z,3.9nm,0.7s
RC01 Rabbit Creek A 78.36 30 P P 21 34 45.6 -0.6
G23K Bananza Creek 78.39 24 P P 21 34 46.0 -0.3
E23K Chandalar 78.60 22 P P 21 34 48.3 +0.8
TOLK Toolik Lake Re 78.64 22 P P 21 34 47.9 +0.3
TOLK IAmb IAmb 21 35 03.1
comp=Z,9.4nm,1.3s
KBZ Khabaz 78.82 313 P P 21 34 48.5 -0.6
comp=Z,2.4nm,1.0s,baz=75,slow=5.7,SNR=5.3
comp=Z,2.4nm,1.0s
KIV Kislovodsk 78.96 313 P P 21 34 49.4 -0.6
KIV IAmb IAmb 21 34 59.9
comp=Z,7.6nm,0.6s
H24K Noodor Dome 79.24 25 P P 21 34 51.4 +0.4
F24K Squaw Lake 79.24 23 P P 21 34 51.5 +0.5
G24K Hadweenzic Riv 79.40 24 P P 21 34 52.7 +0.9
HDA Harding Lake 79.64 26 P P 21 34 53.3 +0.1
GLI Glacier Island 79.65 30 P 21 34 52.4 -0.9
ILAR Eielson Array 79.66 26 P P 21 34 52.7 -0.5
ILAR Eielson Array 79.66 26 P P 21 34 53.3 0.0
comp=Z,0.9nm,0.7s,baz=239,slow=4.9,SNR=14
comp=Z,0.9nm,0.7s
D25K Kavik River 79.80 21 P P 21 34 53.9 -0.1
D25K IAmb IAmb 21 35 01.1
comp=Z,14nm,1.6s
GURO Guroymak-BITLI 79.80 308 P P 21 34 54.1 -0.7
GURO IAmb IAmb 21 34 56.1
comp=Z,9.1nm,1.0s
F25K Christian Rive 80.10 23 P P 21 34 55.9 +0.2
C27K Jago River 80.73 21 P P 21 34 59.7 +0.8
KOPT Kop Dagi 80.87 309 P P 21 35 00.3 -0.3
E28M Babbage River 82.31 22 P P 21 35 08.4 +1.1
I28M Miner Creek 82.55 25 P P 21 35 10.2 +1.5
I28M IAmb IAmb 21 35 25.3
comp=Z,6.1nm,0.7s
O28M Mount Upton 83.03 30 P P 21 35 11.5 -0.1
G29M Pine Creek 83.11 23 P P 21 35 11.9 +0.3
G29M IAmb IAmb 21 35 42.1
comp=Z,12nm,1.2s
I29M Ogilvie Camp, 83.23 25 P P 21 35 12.9 +0.7
I29M IAmb IAmb 21 35 28.6
comp=Z,5.2nm,1.0s
OPO Ambohidratompo 83.30 250 P P 21 35 12.4 -1.2
comp=Z,4.5nm,0.8s,baz=84,slow=3.2,SNR=4.2
comp=Z,4.5nm,0.8s
M29M Somme Creek 83.61 28 P P 21 35 13.8 -0.5
L29M L29M 83.66 27 P P 21 35 12.8 -1.6
L29M IAmb IAmb 21 35 45.9
comp=Z,7.6nm,1.0s
F30M Barrier River 83.85 22 P P 21 35 15.8 +0.5
F30M IAmb IAmb 21 35 28.3
comp=Z,7.8nm,1.1s
I30M Mount Dempster 84.06 25 P P 21 35 17.3 +0.8
I30M IAmb IAmb 21 35 34.9
comp=Z,6.9nm,1.1s
HYT Haines Junctio 84.33 29 P 21 35 17.9 -0.1
SPB2 Spitsbergen Ar 84.54 349 P P 21 35 18.8 +0.3
SPITS Spitsbergen Ar 84.54 349 P P 21 35 17.2 -1.4
comp=Z,9.4nm,0.9s,baz=70,slow=10.0,SNR=7.2
comp=Z,9.4nm,0.9s
G31M Satah River 84.57 23 P P 21 35 19.4 +0.6
G31M IAmb IAmb 21 35 26.0
comp=Z,9.5nm,1.2s
BNN Bunyan 84.58 308 P P 21 35 19.0 -0.8
ARCES ARCESS Array B 84.76 340 P P 21 35 20.0 +0.2
comp=Z,9.8nm,0.9s,baz=72,slow=7.8,SNR=14
comp=Z,9.8nm,0.9s
H31M Peel River 84.78 24 P P 21 35 20.9 +0.9
H31M IAmb IAmb 21 35 35.2
comp=Z,7.2nm,0.8s
MMAI Mount Meron Ar 85.80 303 P P 21 35 24.9 -1.0
comp=Z,2.0nm,0.9s,baz=90,slow=7.5,SNR=5.7
comp=Z,2.0nm,0.9s
ILGA Ilgaz 85.86 311 P P 21 35 25.7 -0.5
ILGA IAmb IAmb 21 35 35.3
comp=Z,7.4nm,0.8s
FARO Faro, Yukon 86.00 28 P P 21 35 27.2 +1.0
FARO IAmb IAmb 21 35 42.0
comp=Z,6.8nm,0.8s
BR131 Keskin Array S 86.14 309 P P 21 35 26.1 -1.4
BRTR Keskin Array B 86.14 309 P P 21 35 25.8 -1.7
BRTR Keskin Array B 86.14 309 P P 21 35 26.1 -1.4
comp=Z,1.1nm,0.8s,baz=90,slow=4.3,SNR=7.4
comp=Z,1.1nm,0.8s
A36M Sachs Harbour 86.22 17 P P 21 35 27.7 +0.7
FIA1 FINESS Array S 86.48 332 P P 21 35 28.1 -0.4
FINES FINESS Array B 86.48 332 P P 21 35 27.8 -0.8
FINES FINESS Array B 86.48 332 P P 21 35 28.6 0.0
comp=Z,7.6nm,0.8s,baz=88,slow=6.1,SNR=28
FINES LR LR 22 15 23.7
comp=Z,48nm,21.0s,baz=174,slow=36
comp=Z,7.6nm,0.8s
PPT2 Papeete2 87.03 108 eLR LR 22 03 06.3
comp=Z,50nm,23.2s
AKASG Malin Array Be 87.18 321 P P 21 35 31.5 -0.7
comp=Z,1.0nm,0.7s,baz=67,slow=4.4,SNR=2.5
comp=Z,1.0nm,0.7s
CSS Mathiatis 87.18 305 P P 21 35 31.8 -0.8
CSS IAmb IAmb 21 35 33.5
comp=Z,6.6nm,0.9s
C36M Paulatuk 87.53 20 P P 21 35 34.1 +0.6
C36M IAmb IAmb 21 35 36.1
comp=Z,5.3nm,0.8s
KIBK Kibwezi 89.06 267 P P 21 35 40.5 -1.4
KIBK IAmb IAmb 21 35 42.9
comp=Z,4.4nm,0.9s
VNDA Vanda 89.43 173 P P 21 35 42.3 +0.1
VNDA IAmb IAmb 21 36 05.5
comp=Z,4.0nm,1.0s
VNDA Vanda 89.43 173 P P 21 35 41.8 -0.4
comp=Z,1.7nm,0.8s,baz=300,slow=5.2,SNR=9.7
comp=Z,1.7nm,0.8s
BUR08 Bucovina Ar. S 90.46 318 P P 21 35 47.5 -0.4
HFS Hagfors 92.64 333 P P 21 35 57.1 -0.4
comp=Z,4.7nm,0.8s,baz=54,slow=7.7,SNR=10
comp=Z,4.7nm,0.8s
NC405 NORSAR Array S 93.09 334 P P 21 35 58.7 -1.0
NB2 NORSAR Subarra 93.34 334 P P 21 35 59.9 -0.9
comp=Z,3.4nm,0.9s,baz=63,slow=4.6
NOA NORSAR Array B 93.34 334 P P 21 35 59.9 -0.9
comp=Z,1.7nm,0.8s,baz=62,slow=4.7,SNR=12
NOA LR LR 22 21 00.4
comp=Z,20nm,18.3s,baz=245,slow=38
comp=Z,1.7nm,0.8s
NC204 NORSAR Array S 93.43 334 P P 21 36 00.6 -0.6
YKAW3 Yellowknife Wh 93.96 24 P P 21 36 04.4 +0.8
YKAW3 IAmb IAmb 21 36 17.6
comp=Z,2.7nm,0.8s
YKA Yellowknife Ar 94.00 24 P P 21 36 05.2 +1.5
comp=Z,1.4nm,0.7s,baz=304,slow=4.5,SNR=29
comp=Z,1.4nm,0.7s
GERES GERESS Array B 97.30 322 P Pdif 21 36 19.2 -0.1
comp=Z,0.9nm,0.8s,baz=77,slow=5.8,SNR=4.7
comp=Z,0.9nm,0.8s
TXAR Lajitas Array 117.80 49 PKiKP PKiKP 21 41 33.6 +0.5
comp=Z,0.2nm,0.7s,baz=342,slow=4.4,SNR=3.5
PLCA Paso Flores 145.63 156 PKPbc PKPab 21 42 25.5 +0.4
comp=Z,4.4nm,0.7s,baz=199,slow=3.4,SNR=18

SKHL ***26*** *21:35:56.5±0.1, 42°.70N×144°.80E, h55km±2km, mb4.9/3*
JMA ***26*** *21:35:56.2±0.1, 42°.8N±0°.4×144°.8E±0°.5, h53km±1km,*
MD3.7/40, MV3.7/40, OFF NEMURO PENINSULA
JMA Felt I J1 at OFF NEMURO PENINSULA .
ISC 26 21:35:56.3±1.5, 42°.77N±0°.07×144°.82E±0°.04, h52km±8km,
n18, σ0°66/30, Hokkaido region

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

JAK	**Akkeshi**	**0.24**	**338**	*i* P	**Pn**	**21 36 04.9**	**-0.2**
JAK				S	**Sn**	**21 36 11.4**	**0.0**
JAK	**Akkeshi**	**0.24**	**338**	A	A	21 36 04.9	
comp=N,11nm,0.3s,comp=E,19nm,0.3s							
AKK	**Akkeshi**	**0.24**	**4**	*e*P	**Pn**	**21 36 05.1**	**-0.1**
AKK				*e*S	**Sn**	**21 36 11.7**	**+0.2**
JKHN	**Kushirohamanak**	**0.40**	**39**	*i* P	**Pn**	**21 36 07.0**	**+0.4**
JKHN				S	**Sn**	**21 36 14.9**	**+1.0**
JOB	**Onbets**	**0.74**	**280**	*i* P	**Pn**	**21 36 10.3**	**-0.3**
JOB				S	**Sn**	**21 36 20.7**	**-0.3**
JNK	**Nakash**	**0.81**	**355**	*i* P	**Pn**	**21 36 11.2**	**-0.4**
JNK				S	**Sn**	**21 36 22.1**	**-0.7**
NMR	**Nemuro--Hokkai**	**0.89**	**48**	*i* P	**Pn**	**21 36 12.3**	**-0.3**
NMR				*e*S	**Sn**	**21 36 24.1**	**-0.5**
NEM2	**Nemuro 2**	**0.90**	**48**	*i* P	**Pn**	**21 36 12.3**	**-0.4**
NEM2				S	**Sn**	**21 36 24.1**	**-0.7**
JAR	**Ashorobuto**	**0.93**	**304**	*i* P	**Pn**	**21 36 12.8**	**-0.4**
JAR				*e*S	**Sn**	**21 36 25.2**	**-0.3**
JAR	**Ashorobuto**	**0.93**	**304**	A	A	21 36 12.8	
comp=N,6.0nm,0.4s,comp=E,6.0nm,0.2s							
JCH	**Churui**	**1.09**	**262**	*i* P	**Pn**	**21 36 14.8**	**-0.4**
JCH				S	**Sn**	**21 36 29.1**	**-0.2**
JRA	**Rausu**	**1.18**	**11**	*i* P	**Pn**	**21 36 16.6**	**+0.1**
JRA				S	**Sn**	**21 36 31.8**	**+0.2**
JTKR	**Abashiri--Toko**	**1.37**	**331**	*i* P	**Pn**	**21 36 19.5**	**+0.5**
JTKR				S	**Sn**	**21 36 37.6**	**+1.6**
JEM	**Erimo**	**1.45**	**239**	P	**Pn**	**21 36 21.3**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**1.47**	**31**	*e*P	**Pn**	**21 36 20.5**	**+1.0**
YUK				AMB	AMB	21 36 21.3	
comp=E,600nm,0.2s							
YUK				*e*S	**Sn**	**21 36 38.3**	**-0.2**
YUK				A	A	21 36 39.6	
comp=E,2μm,0.4s							
YUK				A	A	21 36 39.6	
comp=E,2μm,0.4s							
JNBK	**Urakawa-nobuka**	**1.61**	**253**	*i* P	**Pn**	**21 36 21.6**	**-0.7**
SHO	**Shikotan**	**1.83**	**53**	*e*P	**Pn**	**21 36 25.3**	**0.0**
SHO				AMB	AMB	21 36 26.2	
comp=E,120nm,0.2s							
SHO				*e*S	**Sn**	**21 36 46.5**	**-0.8**
SHO				A	A	21 36 47.8	
comp=E,270nm,0.2s							
SHO				A	A	21 36 47.8	
comp=E,2μm,0.2s							
KUR	**Kuril'sk**	**3.30**	**41**	*e*P	**Pn**	**21 36 46.7**	**+1.3**
KUR				AMB	AMB	21 36 48.3	
comp=E,100nm,0.3s							
KUR				*e*S	**Sn**	**21 37 22.5**	**-0.8**
KUR				A	A	21 37 27.3	
comp=E,100nm,0.2s							
KUR				A	A	21 37 27.3	
comp=E,70nm,0.2s							

NAO ***26*** *21:40:48.1,35°.16N×27°.89E,h10km,mb4.2*
HLW ***26*** *21:40:49.6,35°.30N×27°.88E,h8km±13km,Ml3.8*
MOS ***26*** *21:40:49.1±1.2,35°.15N×27°.85E,h11km,mb4.5/10,Error ellipse: s-maj=7.7km s-min=3.8km az=90.0*
NIC ***26*** *21:40:50.5,35°.08N×27°.71E,h32km±32km,Ml4.0/12*
PDG ***26*** *21:40:50.7±0.4,35°.15N×27°.97E,h10km±3km,ML4.1/10, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0*
IDC ***26*** *21:40:50.1±0.7,35°.48N×27°.75E,h0km,mb4.0/21, mbtmp4.0/28,ML3.5/6,MS3.3/3,Error ellipse: s-maj=16.7km s-min=11.8km az=164.0*
NEIC ***26*** *21:40:51.5±2.6,35°.19N±0°.08×27°.85E±0°.01,h10km±2km, mb4.1/29,Error ellipse: s-maj=14.2km s-min=3.0km az=180.0*
GII ***26*** *21:40:51.5±0.0,34°.970N±0°.003×27°.924E±0°.001,h10km, Mws4.2/7,confirmed*
ATH ***26*** *21:40:52.5,35°.17N×27°.94E,h14km±6km,ML3.8/6, Manual Solution by F.Xalaris First location: 2019/04/26 21:42:17, This location: 2019/04/26 22:02:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 4 km*
THE ***26*** *21:40:53.3,35°.33N×27°.78E,h2km±1km,ML3.6/6,Error ellipse: s-maj=1.6km s-min=0.6km az=166.0*
ISK ***26*** *21:40:53.1,35°.36N×27°.73E,h22km,ML3.9/17*
ISC 26 21:40:51.1±0.8,35°.20N±0°.03×27°.86E±0°.02,h12km±4km, n364,σ1s71/414,mb4.1/37,MS3.2/4,17C-9D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.67**	**302**	P	**Pg**	**21 41 03.6**	**-0.4**
KARP				S	**Sg**	**21 41 13.4**	**+0.7**
7μm,0.9s							
KARP	**Karpathos**	**0.67**	**302**	Pg	**Pg**	**21 41 03.7**	**-0.3**
KARP	**Karpathos**	**0.67**	**302**		**Pg**	**21 41 02.5**	**-1.5**
KARP	**Karpathos**	**0.67**	**302**	P	**Pg**	**21 41 02.7**	**-1.3**
KARP				S	**Sg**	**21 41 13.2**	**+0.4**
KARP				AML	AML	21 41 21.7	
19nm,0.8s							
KARP				AML	AML	21 41 24.8	
12nm,0.6s							
KARP	**Karpathos**	**0.67**	**302**	P	**Pg**	**21 41 03.6**	**-0.4**
KARP				S	**Sg**	**21 41 13.7**	**+0.9**
ARG	**Arkhangelos**	**1.04**	**12**	P	**Pg**	**21 41 11.5**	**+0.5**
ARG				S	**Sb**	**21 41 25.6**	**+1.0**
6μm,0.9s							
ARG	**Arkhangelos**	**1.04**	**12**	Pg	**Pg**	**21 41 11.0**	**0.0**
ARG				Sg	**Sg**	**21 41 23.9**	**-0.7**
ARG	**Arkhangelos**	**1.04**	**12**		**Pg**	**21 41 10.4**	**-0.6**
ARG	**Arkhangelos**	**1.04**	**12**	P	**Pg**	**21 41 10.4**	**-0.6**
ARG	**Arkhangelos**	**1.04**	**12**	P	**Pg**	**21 41 10.3**	**-0.8**
ARG				S	**Sb**	**21 41 26.2**	**+1.7**
ARG				AML	AML	21 41 38.5	
13nm,1.0s							
ARG				AML	AML	21 41 43.5	
11nm,0.7s							
ARG	**Arkhangelos**	**1.04**	**12**	P	**Pg**	**21 41 11.2**	**+0.1**
ARG				S	**Sn**	**21 41 26.8**	**+0.9**
ZKR	**Zakros**	**1.35**	**267**	P	**Pg**	**21 41 17.0**	**+0.1**
ZKR				S	**Sg**	**21 41 35.0**	**+0.6**
2μm,0.8s							
ZKR	**Zakros**	**1.35**	**267**	Pn	**Pn**	**21 41 16.1**	**+0.4**
ZKR				Sn	**Sb**	**21 41 32.5**	**-0.9**
ZKR	**Zakros**	**1.35**	**267**	P	**Pg**	**21 41 18.0**	**+1.0**
NISR	**Nisiros**	**1.53**	**337**	P	**Pn**	**21 41 17.9**	**-0.3**
NISR				S	**Sn**	**21 41 37.2**	**-0.8**
3μm,0.6s							
DAT	**Datca**	**1.54**	**352**	Pn	**Pn**	**21 41 18.1**	**-0.4**
KSL	**Kastellorizon**	**1.70**	**56**	P	**Pn**	**21 41 21.4**	**+0.9**
KSL				S	**Sb**	**21 41 44.6**	**+1.1**
1μm,1.6s							
KSL	**Kastellorizon**	**1.70**	**56**	P	**Pn**	**21 41 20.7**	**+0.2**
KSL				AML	AML	21 42 16.9	
2.0nm,1.1s							
KSL				AML	AML	21 42 25.2	
3.0nm,2.1s							
KSL	**Kastellorizon**	**1.70**	**56**	P	**Pn**	**21 41 21.2**	**+0.7**
KSL				S	**Sn**	**21 41 42.4**	**+0.2**
DALY	**Dalyan (Mula)**	**1.74**	**22**	Pn	**Pn**	**21 41 21.7**	**+0.6**
FETY	**Fethiye**	**1.74**	**34**	Pn	**Pn**	**21 41 21.6**	**+0.4**
AKAS	**Kas**	**1.76**	**54**		**Pn**	**21 41 21.7**	**+0.2**
BODT	**Bodrum**	**1.91**	**347**	Pn	**Pn**	**21 41 23.1**	**-0.4**
YER	**Yerkesik**	**1.96**	**10**	Pn	**Pn**	**21 41 24.2**	**0.0**
YKAV	**Yalikavak-Bodr**	**1.98**	**347**	Pn	**Pn**	**21 41 23.9**	**-0.5**
YKAV				Sn	**Sn**	**21 41 45.9**	**-3.2**
MLSB	**Milas**	**2.09**	**358**	Pn	**Pn**	**21 41 25.7**	**-0.3**
CAME	**Cameli-Denizli**	**2.10**	**34**	Pn	**Pn**	**21 41 27.1**	**+0.9**
ELL	**Elmali**	**2.27**	**47**	Pn	**Pn**	**21 41 29.9**	**+1.3**
ELL	**Elmali**	**2.27**	**47**		**Pn**	**21 41 29.6**	**+1.1**
ELL	**Elmali**	**2.27**	**47**	P	**Pn**	**21 41 29.6**	**+1.1**
ELL	**Elmali**	**2.27**	**47**	P	**Pn**	**21 41 29.7**	**+1.1**
ELL				AML	AML	21 42 17.1	
3.1nm,0.9s							
ELL				AML	AML	21 42 35.5	
3.0nm,1.7s							
ELL	**Elmali**	**2.27**	**47**	P	**Pn**	**21 41 29.8**	**+1.2**
ELL				S	**Sn**	**21 41 57.2**	**+0.7**
THR8	**Santorini-Mono**	**2.28**	**303**	P	**Pn**	**21 41 29.1**	**+0.6**
THR6	**Thira Island,**	**2.31**	**301**	P	**Pn**	**21 41 29.4**	**+0.5**
SFIR	**Foira Santorin**	**2.32**	**302**	P	**Pn**	**21 41 29.5**	**+0.4**
THR3	**Thira Island,**	**2.33**	**302**	P	**Pn**	**21 41 30.0**	**+0.7**
THR9	**Santorini-Faro**	**2.34**	**300**	P	**Pn**	**21 41 30.5**	**+1.2**
CMBO	**Columbo, Santo**	**2.36**	**303**	P	**Pn**	**21 41 30.7**	**+1.0**
CMBO				S	**Sn**	**21 41 57.6**	**-1.0**
2μm,0.7s							
CMBO	**Columbo, Santo**	**2.36**	**303**	P	**Pb**	**21 41 32.3**	**-1.2**
CMBO				S	**Sb**	**21 42 01.7**	**-1.0**
THR5	**Thira Island,**	**2.37**	**302**	P	**Pn**	**21 41 30.4**	**+0.6**
IDI	**Anoyia**	**2.43**	**273**	P	**Pn**	**21 41 32.3**	**+1.6**
IDI	**Anoyia**	**2.43**	**273**	Pn	**Pn**	**21 41 31.5**	**+0.9**
IDI	**Anoyia**	**2.43**	**273**		**Pn**	**21 41 31.4**	**+0.7**
IDI	**Anoyia**	**2.43**	**273**	Pn	**Pn**	**21 41 31.6**	**+0.9**
53nm,0.8s,baz=63,slow=15,SNR=52							
IDI				Sn	**Sn**	**21 42 02.2**	**+1.8**
15nm,0.3s,baz=194,slow=14,SNR=5.2							
IDI	**Anoyia**	**2.43**	**273**	P	**Pb**	**21 41 33.2**	**-1.5**
IDI				S	**Sn**	**21 41 02.9**	**+1.5**
APMY	**Acipayam-Deniz**	**2.55**	**27**	Pn	**Pn**	**21 41 33.9**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**2.74**	**1**	Pn	**Pn**	**21 41 35.0**	**0.0**
NAZL	**Nazilli-Aydin**	**2.78**	**7**	Pn	**Pn**	**21 41 35.8**	**+0.3**
GVD	**Gavdhos**	**3.11**	**264**	P	**Pn**	**21 41 42.2**	**+2.2**
GVD	**Gavdhos**	**3.11**	**264**	Pn	**Pn**	**21 41 41.4**	**+1.4**
GVD	**Gavdhos**	**3.11**	**264**	P	**Pn**	**21 41 42.0**	**+2.0**
CHAN	**Chania**	**3.13**	**277**	P	**Pn**	**21 41 41.5**	**+1.2**
IMMV	**Iera Moni Meta**	**3.18**	**276**	P	**Pn**	**21 41 43.6**	**+2.7**
IMMV	**Iera Moni Meta**	**3.18**	**276**	Pn	**Pn**	**21 41 41.9**	**+1.0**
IMMV	**Iera Moni Meta**	**3.18**	**276**	P	**Pn**	**21 41 43.5**	**+2.5**
MANT	**Manisa**	**3.33**	**10**		**Pn**	**21 41 43.4**	**+0.1**
ISP	**Isparta**	**3.38**	**39**		**Pn**	**21 41 45.7**	**+1.8**
ISP	**Isparta**	**3.38**	**39**	P	**Pn**	**21 41 45.7**	**+1.8**
ISP	**Isparta**	**3.38**	**39**	P	**Pn**	**21 41 47.1**	**+3.2**
KNDR	**Palaiochora Ch**	**3.42**	**272**	P	**Pn**	**21 41 46.0**	**+1.9**
KNDR	**Palaiochora Ch**	**3.42**	**272**	P	**Pn**	**21 41 47.4**	**+3.2**
AKMS	**Akamas**	**3.68**	**92**	P	**Pn**	**21 41 47.1**	**-0.6**
AKMS				S	**Sn**	**21 42 31.3**	**+0.2**
AKMS				AML	AML	21 42 35.5	
1.0nm,0.7s							
AKMS				AML	AML	21 42 36.5	
0.9nm,0.6s							
ANKY	**Antikythira Is**	**3.77**	**281**	P	**Pn**	**21 41 49.9**	**+0.8**
MATC	**Matruh**	**3.88**	**188**	⇑P	**Pn**	**21 41 51.4**	**+0.8**
ALFC	**Alefka**	**3.88**	**89**	P	**Pn**	**21 41 50.2**	**-0.5**
ALFC				S	**Sn**	**21 42 36.5**	**+0.2**
ALFC				AML	AML	21 42 41.1	
0.9nm,0.7s							
ALFC				AML	AML	21 42 41.2	
0.8nm,0.5s							
ALFC	**Alefka**	**3.88**	**89**	P	**Pn**	**21 41 50.6**	**-0.1**
NATA	**Nata**	**3.89**	**95**	P	**Pn**	**21 41 50.8**	**0.0**
NATA				S	**Sn**	**21 42 36.5**	**+0.1**
NATA				AML	AML	21 42 41.6	
2.8nm,0.5s							
NATA				AML	AML	21 42 42.3	
1.6nm,0.7s							
NATA	**Nata**	**3.89**	**95**	P	**Pn**	**21 41 50.8**	**0.0**
KARY	**Karystos**	**3.94**	**317**	P	**Pn**	**21 41 51.7**	**+0.3**
TROD	**Troodos**	**4.12**	**92**	P	**Pn**	**21 41 53.2**	**-0.8**
TROD				S	**Sn**	**21 42 42.7**	**+0.5**
TROD				AML	AML	21 42 50.8	
0.8nm,0.6s							
TROD				AML	AML	21 42 52.7	
0.6nm,0.6s							
APOL	**The Sanctuary**	**4.15**	**96**	P	**Pn**	**21 41 54.0**	**-0.3**
APOL				S	**Sn**	**21 42 43.7**	**+1.0**
APOL				AML	AML	21 42 45.9	
1.3nm,0.8s							
APOL				AML	AML	21 42 47.3	
1.1nm,0.7s							
DB3	**El Dabaa**	**4.19**	**172**	P	**Pn**	**21 41 55.2**	**+0.3**
DB3				S	**Sn**	**21 42 43.1**	**-0.7**
DION	**Dionisos Attik**	**4.27**	**313**	P	**Pn**	**21 41 56.3**	**+0.4**
VLI	**Veliai**	**4.27**	**292**	P	**Pn**	**21 41 56.8**	**+0.9**
PTL	**Penteli**	**4.29**	**313**	P	**Pn**	**21 41 57.9**	**+1.7**
SIGR	**SIGRI**	**4.31**	**339**	P	**Pn**	**21 41 58.6**	**+2.1**
SLUM	**Salum**	**4.31**	**212**	P	**Pn**	**21 41 56.0**	**-0.5**
ATH	**Athens Observa**	**4.33**	**311**	P	**Pn**	**21 41 58.8**	**+2.1**
KRND	**KRANIDI**	**4.38**	**301**	P	**Pn**	**21 41 59.2**	**+1.8**
ASGA	**Asgata**	**4.45**	**94**	P	**Pn**	**21 41 57.6**	**-0.7**
ASGA				S	**Sn**	**21 42 50.3**	**+0.2**
ASGA				AML	AML	21 42 55.5	
1.0nm,0.7s							
ASGA				AML	AML	21 42 57.0	
2.3nm,0.7s							
CSS	**Mathiatis**	**4.50**	**91**		**Pn**	**21 41 59.2**	**+0.2**
CSS	**Mathiatis**	**4.50**	**91**	P	**Pn**	**21 41 58.3**	**-0.7**
CSS				S	**Sn**	**21 42 52.3**	**+1.0**
CSS				AML	AML	21 42 55.9	
0.6nm,0.8s							
CSS				AML	AML	21 42 58.7	
0.5nm,0.7s							
CSS	**Mathiatis**	**4.50**	**91**	P	**Pn**	**21 41 59.1**	**0.0**
CSS	**Mathiatis**	**4.50**	**91**	S	**Sn**	**21 42 50.9**	**-0.4**
KYMI	**Kymi, Euboea I**	**4.56**	**320**	P	**Pn**	**21 42 00.7**	**+0.8**
VILL	**Villia**	**4.70**	**310**	P	**Pn**	**21 42 04.1**	**+2.2**
MVOU	**Mavrovouni**	**4.74**	**91**	P	**Pn**	**21 42 02.6**	**+0.2**
MVOU				S	**Sn**	**21 42 57.4**	**+0.2**
MVOU				AML	AML	21 43 04.7	
0.4nm,1.1s							
MVOU				AML	AML	21 43 07.0	
0.4nm,0.8s							
EZN	**Ezine**	**4.78**	**346**	P	**Pn**	**21 42 04.2**	**+1.4**
AOS	**Alonnisos**	**5.08**	**322**	P	**Pn**	**21 42 07.9**	**+0.9**
BORA	**Eskisehir**	**5.11**	**23**		**Pn**	**21 42 08.2**	**+0.6**
ITM	**Ithomi**	**5.19**	**294**	P	**Pn**	**21 42 09.3**	**+0.8**
ITM	**Ithomi**	**5.19**	**294**		**Pn**	**21 42 10.9**	**+2.3**
GUR	**Goura**	**5.21**	**303**	P	**Pn**	**21 42 09.5**	**+0.6**
KLV	**Kalavryta, Ach**	**5.39**	**303**	P	**Pn**	**21 42 12.4**	**+1.0**
AXAR	**Agios Charalam**	**5.47**	**312**	P	**Pn**	**21 42 11.8**	**-0.7**
CAVK	**Edirne/Enez-Ca**	**5.64**	**347**	⇓P	**Pn**	**21 42 17.8**	**+3.0**
AGG	**Agios Georgios**	**5.83**	**312**		**Pn**	**21 42 19.4**	**+2.0**
AGG	**Agios Georgios**	**5.83**	**312**	P	**Pn**	**21 42 19.4**	**+2.0**
ALN	**Alexandroupoli**	**5.86**	**346**		**Pn**	**21 42 19.4**	**+1.6**
ALN	**Alexandroupoli**	**5.86**	**346**	P	**Pn**	**21 42 19.4**	**+1.6**
MDUB	**Mudurnu**	**5.89**	**26**	Pn	**Pn**	**21 42 18.9**	**+0.6**
HMYD	**Mayadein**	**5.94**	**154**	⇑P	**Pn**	**21 42 18.9**	**+0.1**
RDO	**Rodhopi**	**6.21**	**344**		**Pn**	**21 42 23.4**	**+0.9**
KIRS	**Kirsehir-Merke**	**6.23**	**49**	⇑P	**Pn**	**21 42 24.3**	**+1.3**
KOT	**Kottamia**	**6.24**	**146**	⇑P	**Pn**	**21 42 22.8**	**-0.2**
SWA2		**6.28**	**200**	⇑P	**Pn**	**21 42 24.0**	**+0.4**
SWA2				S	**Sn**	**21 43 34.4**	**-0.8**
HNTI	**Hanita**	**6.42**	**107**	P	**Pn**	**21 42 23.9**	**-1.6**
HNTI	**Hanita**	**6.42**	**107**	S	**Sn**	**21 43 37.2**	**-1.7**
RYAN	**Fayoum**	**6.44**	**161**	P	**Pn**	**21 42 26.1**	**+0.4**
BR131	**Keskin Array S**	**6.45**	**44**		**Pn**	**21 42 26.2**	**+0.3**
BR131	**Keskin Array S**	**6.45**	**44**	P	**Pn**	**21 42 26.3**	**+0.3**
BRTR	**Keskin Array B**	**6.45**	**44**	Pn	**Pn**	**21 42 26.5**	**+0.6**
0.3nm,0.3s,baz=219,slow=14,SNR=9							
BRTR				Sn	**Sn**	**21 43 37.7**	**-1.8**
0.9nm,0.3s,baz=210,slow=25,SNR=8.7							
3.0nm,0.8s							
OFRI	**`Ofer**	**6.46**	**111**	P	**Pn**	**21 42 24.4**	**-1.6**
OFRI	**`Ofer**	**6.46**	**111**	S	**Sn**	**21 43 37.7**	**-2.1**
LIT	**Litokhoron**	**6.48**	**321**		**Pn**	**21 42 28.0**	**+1.6**
LIT	**Litokhoron**	**6.48**	**321**	P	**Pn**	**21 42 28.0**	**+1.6**
MMC7	**Mount Meron ar**	**6.62**	**107**	P	**Pn**	**21 42 26.6**	**-1.7**
MMA0B	**Mount Meron ar**	**6.63**	**107**	P	**Pn**	**21 42 27.9**	**-0.5**
MMA0B	**Mount Meron ar**	**6.63**	**107**	S	**Sn**	**21 43 42.7**	**-1.3**
MMAI	**Mount Meron Ar**	**6.63**	**107**	Pn	**Pn**	**21 42 26.9**	**-1.5**
5.3nm,0.3s,baz=300,slow=12,SNR=46							
MMAI				Sn	**Sn**	**21 43 42.8**	**-1.2**
11nm,0.3s,baz=305,slow=30,SNR=9.8							
SLTI	**Sal'it**	**6.67**	**114**	P	**Pn**	**21 42 28.2**	**-0.7**
SLTI	**Sal'it**	**6.67**	**114**	S	**Sn**	**21 43 42.7**	**-2.3**
NATI	**Neve Ativ**	**6.81**	**104**	P	**Pn**	**21 42 29.3**	**-1.5**
NATI	**Neve Ativ**	**6.81**	**104**	S	**Sn**	**21 43 46.9**	**-1.3**
MMLI	**Mount Malkishu**	**6.87**	**111**	P	**Pn**	**21 42 30.5**	**-1.2**
MMLI	**Mount Malkishu**	**6.87**	**111**	S	**Sn**	**21 43 47.7**	**-2.2**
AMAZ	**Amatzia**	**6.95**	**120**	P	**Pn**	**21 42 31.6**	**-1.1**
AMAZ	**Amatzia**	**6.95**	**120**	S	**Sn**	**21 43 48.9**	**-2.8**
KZIT	**Kziot**	**6.96**	**126**	P	**Pn**	**21 42 31.5**	**-1.5**
KZIT	**Kziot**	**6.96**	**126**	S	**Sn**	**21 43 48.7**	**-3.4**
HMDT	**Nahal Hemdat**	**7.03**	**113**	P	**Pn**	**21 42 33.0**	**-0.9**
HMDT	**Nahal Hemdat**	**7.03**	**113**	S	**Sn**	**21 43 51.2**	**-2.6**
UJAP	**Al Uja**	**7.13**	**115**	P	**Pn**	**21 42 34.1**	**-1.0**
UJAP	**Al Uja**	**7.13**	**115**	S	**Sn**	**21 43 53.5**	**-2.6**
YTIR	**Yattir**	**7.18**	**120**	P	**Pn**	**21 42 35.2**	**-0.8**
YTIR	**Yattir**	**7.18**	**120**	S	**Sn**	**21 43 55.2**	**-2.4**
DSI	**Dead Sea**	**7.26**	**118**	P	**Pn**	**21 42 35.6**	**-1.4**
DSI	**Dead Sea**	**7.26**	**118**	S	**Sn**	**21 43 56.8**	**-2.6**
BNN	**Bunyan**	**7.36**	**58**		**Pn**	**21 42 40.2**	**+1.7**
MSBI	**Mazada**	**7.38**	**120**	P	**Pn**	**21 42 37.7**	**-0.9**
MSBI	**Mazada**	**7.38**	**120**	S	**Sn**	**21 43 59.7**	**-2.6**
VAY	**Valandovo**	**7.39**	**327**	*i* P	**Pn**	**21 42 42.8**	**+4.0**
ILGA	**Ilgaz**	**7.45**	**37**	Pn	**Pn**	**21 42 41.5**	**+1.7**
GHAJ	**Ghor Haditha**	**7.54**	**119**		**Pn**	**21 42 40.9**	**+0.2**
GHAJ	**Ghor Haditha**	**7.54**	**119**	P	**Pn**	**21 42 40.1**	**-0.6**
GHAJ	**Ghor Haditha**	**7.54**	**119**	S	**Sn**	**21 44 03.5**	**-2.7**
KRMI	**Paran Flat**	**7.69**	**129**	P	**Pn**	**21 42 41.4**	**-1.6**
ZFRI	**Zfri**	**7.71**	**125**	P	**Pn**	**21 42 41.9**	**-1.2**
ZFRI	**Zfri**	**7.71**	**125**	S	**Sn**	**21 44 06.7**	**-3.6**
PRNI	**Paran**	**7.72**	**127**	P	**Pn**	**21 42 42.1**	**-1.3**
PRNI	**Paran**	**7.72**	**127**	S	**Sn**	**21 44 07.2**	**-3.5**
GAZ	**Gaziantep**	**7.82**	**73**		**Pn**	**21 42 44.9**	**+0.1**
KEK	**Kerkira**	**7.83**	**307**		**Pn**	**21 42 46.3**	**+1.5**
TAMRE	**El Minia**	**7.94**	**160**	P	**Pn**	**21 42 46.4**	**+0.1**
HRFI	**Mount Harif**	**7.95**	**128**	P	**Pn**	**21 42 44.9**	**-1.6**
HRFI	**Mount Harif**	**7.95**	**128**	S	**Sn**	**21 44 11.2**	**-5.2**
MBRI	**Mt Berech**	**8.04**	**130**	P	**Pn**	**21 42 46.4**	**-1.3**
MBRI	**Mt Berech**	**8.04**	**130**	S	**Sn**	**21 44 15.5**	**-3.1**
OHR	**Ohrid**	**8.11**	**319**	*i* P	Pn	21 42 55.1	+6.5
ASF	**Jabal al Asfar**	**8.12**	**109**	Pn	**Pn**	**21 42 47.6**	**-1.3**
0.8nm,0.3s,baz=318,slow=11,SNR=9.3							
ASF				Sn	**Sn**	**21 44 26.4**	**+5.7**
1.0nm,0.3s,baz=126,slow=22,SNR=7.8							
EIL	**Elat**	**8.14**	**131**	Pn	**Pn**	**21 42 49.1**	**-0.1**
1.4nm,0.3s,baz=252,slow=3.1,SNR=17							
EIL				Sn	**Sn**	**21 44 17.6**	**-3.6**
3.4nm,0.3s,baz=305,slow=14,SNR=6.5							
EIL	**Elat**	**8.14**	**131**	P	**Pn**	**21 42 47.6**	**-1.5**
EIL	**Elat**	**8.14**	**131**	S	**Sn**	**21 44 17.2**	**-4.0**
HKAT	**Jabal Katrina**	**8.46**	**140**	P	**Pn**	**21 42 53.8**	**+0.1**
TOKA	**Tokat**	**8.53**	**51**	Pn	**Pn**	**21 42 55.7**	**+1.3**
TR1	**Tor 1**	**8.86**	**142**	P	**Pn**	**21 42 59.0**	**+0.1**
SCTE	**Santa Cesarea**	**8.89**	**306**	Pn	**Pn**	**21 43 01.0**	**+1.6**
ULC	**Ulcinj**	**9.54**	**318**	*e*Pn	**Pn**	**21 43 11.6**	**+3.4**
ULC				*i* Sn	**Sn**	**21 44 55.0**	**-0.4**
DRME	**Dracevica, Mon**	**9.72**	**318**	*e*Pn	**Pn**	**21 43 14.1**	**+3.4**
DRME				*i* Sn	**Sn**	**21 44 59.5**	**-0.4**
IVA	**Berane**	**9.85**	**323**	*e*Pn	**Pn**	**21 43 15.8**	**+3.3**
IVA				*i* Sn	**Sn**	**21 45 02.4**	**-0.6**
PDG	**Podgorica**	**9.85**	**320**		**Pn**	**21 43 13.9**	**+1.4**
PDG	**Podgorica**	**9.85**	**320**	⇓P	**Pn**	**21 43 15.0**	**+2.5**
PDG	**Podgorica**	**9.85**	**320**	*e*Pn	**Pn**	**21 43 16.0**	**+3.5**
PDG				*i* Sn	**Sn**	**21 45 02.6**	**-0.4**
BUM	**Brajici-Budva**	**9.96**	**318**	*e*Pn	**Pn**	**21 43 17.3**	**+3.3**
BUM				*i* Sn	**Sn**	**21 45 05.2**	**-0.5**
KOME	**Kolasin**	**10.02**	**322**	*e*Pn	**Pn**	**21 43 18.2**	**+3.3**
KOME				*i* Sn	**Sn**	**21 45 06.6**	**-0.7**
CEL	**Celeste**	**10.07**	**291**		**Pn**	**21 43 16.2**	**+0.6**
CEME	**Cevo**	**10.11**	**319**	*e*Pn	**Pn**	**21 43 19.5**	**+3.3**
CEME				*i* Sn	**Sn**	**21 45 08.9**	**-0.6**
NEHR	**Nehoiu**	**10.28**	**354**	⇑P	**Pn**	**21 43 21.8**	**+3.3**
MLR	**Muntele Rosu**	**10.38**	**353**		**Pn**	**21 43 21.6**	**+1.7**
MLR	**Muntele Rosu**	**10.38**	**353**	⇓P	**Pn**	**21 43 23.0**	**+3.0**
MLR	**Muntele Rosu**	**10.38**	**353**	P	**Pn**	**21 43 22.9**	**+3.0**
PLE	**Pljevlja**	**10.43**	**324**	*e*Pn	**Pn**	**21 43 24.0**	**+3.4**
PLE				*i* Sn	**Sn**	**21 45 16.5**	**-1.0**
HERR	**Herculane**	**10.53**	**338**	⇑P	**Pn**	**21 43 24.5**	**+2.7**
BRY	**Bratogost**	**10.56**	**320**	*e*Pn	**Pn**	**21 43 25.7**	**+3.4**
BRY				*i* Sn	**Sn**	**21 45 19.6**	**-1.0**
UPM	**Unac-Piva**	**10.58**	**322**	*e*Pn	**Pn**	**21 43 26.2**	**+3.5**
UPM				*i* Sn	**Sn**	**21 45 20.1**	**-

comp=Z,20nm,1.1s
GEC2 GERESS Array S 17.18 327 Pn 21 44 50.9 -0.1
GEC2 IAmb IAmb 21 44 59.9
comp=Z,12nm,1.0s
GERES GERESS Array B 17.18 327 Pn 21 44 50.3 -0.6
GERES GERESS Array B 17.18 327 Pn **Pn 21 44 50.5 -0.4**
baz=138,slow=12,SNR=12
comp=Z,1.7nm,0.7s
WATA Walderalm 17.18 320 *i* Pn **P 21 44 53.1 +0.4**
comp=Z,17nm,1.1s
SQTA Sankt Quirin 17.31 319 *e*Pn **Pn 21 44 53.7 +1.1**
comp=Z,16nm,1.0s
DPC Dobruska-Polom 17.31 335 *e*PN **Pn 21 44 52.9 +0.3**
DPC Dobruska-Polom 17.31 335 *e*P **Pn 21 44 52.9 +0.3**
MOTA Moosalm 17.44 319 *e*Pn **Pn 21 44 55.1 +0.8**
comp=Z,13nm,0.9s
KHC Kasperske Hory 17.44 327 *e*PN **Pn 21 44 53.8 -0.4**
KHC Kasperske Hory 17.44 327 *e*P **Pn 21 44 53.8 -0.4**
FETA Feichten 17.45 318 *e*Pn **Pn 21 44 55.0 +0.6**
comp=Z,20nm,1.0s
FUORN Ofenpass-Fuorn 17.48 316 Pn 21 44 54.2 -0.7
OSTC Ostas 17.52 335 *e*PN **P 21 44 56.6 +0.3**
OSTC Ostas 17.52 335 *e*P **P 21 44 56.6 +0.3**
UPC Upice 17.55 334 *e*PN **Pn 21 44 56.3 +0.8**
UPC Upice 17.55 334 *e*P **Pn 21 44 56.3 +0.8**
RETA Reutte 17.71 319 *e*Pn **P 21 45 01.8 +3.4**
comp=Z,12nm,1.0s
KSP Ksiaz 17.74 335 *e*P **P 21 44 59.0 +0.4**
DAVOX Davos/Dischmat 17.79 316 P **Pn 21 44 57.4 -1.2**
comp=Z,0.2nm,0.3s,baz=138,slow=14,SNR=5.0
comp=Z,1.3nm,0.8s
VSR Storozhevoye 17.97 24 *e*P **Pn 21 45 00.5 -0.1**
VSR pmax pmax
comp=Z,6.0nm,0.8s
DAVA Damuels 18.07 317 *i* Pn **Pn 21 45 01.7 -0.4**
comp=Z,17nm,1.3s
VORR Voronezh 18.38 23 P **P 21 45 06.6 +1.0**
VORR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 18.87 28 *e*P **Pn 21 45 12.3 +0.7**
VRH pmax pmax
comp=Z,8.0nm,0.9s
SENIN Lac Senin/Sane 19.09 312 P 21 45 13.0 -0.7
SENIN IAmb IAmb 21 45 22.8
comp=Z,8.6nm,0.7s
SUW Suwalki 19.09 352 *e*P **P 21 45 14.3 +0.8**
SUW Suwalki 19.09 352 P **P 21 45 13.3 -0.2**
SUW Suwalki 19.09 352 P **P 21 45 13.3 -0.2**
LPSR Galich'ya Gora 19.10 21 *e*P **P 21 45 13.7 +0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 19.25 122 P **P 21 45 14.8 -0.7**
RAYN Ar Rayn 19.25 122 P **P 21 45 14.8 -0.7**
RAYN pmax pmax
comp=Z,5.0nm,1.0s
MNK Minsk 19.30 0 *i* P **P 21 45 14.7 -1.0**
comp=E,6.0nm,1.0s
MNK *i* P **P 21 45 14.7 -1.0**
comp=N,6.0nm,1.0s
MNK *i* P **P 21 45 14.7 -1.0**
comp=Z,3.0nm,0.7s,baz=180
MNK *i* PP **PnPn 21 45 28.4 -1.4**
MNK *i* S **Sn 21 48 51.4 -1.5**
MNK *i* SS **SnSn 21 49 07.9 +0.8**
MNK *i* LQ LQ 21 51 00.4
MNK *i* LR LR 21 52 28.0
MNK Minsk 19.30 0 *i* P **P 21 45 14.7 -1.0**
MNK *i* S **Sn 21 48 51.4 -1.5**
MNK pmax pmax
comp=N,6.0nm,1.0s
MNK pmax pmax
comp=Z,3.0nm,0.7s
MNK pmax pmax
comp=E,6.0nm,1.0s
CLL Collm 19.34 331 P **P 21 45 14.6 -1.5**
CLL Collm 19.34 331 *i* P **P 21 45 16.9 +0.8**
CLL pmax pmax
comp=Z,18nm,1.6s
CLL Collm 19.34 331 *i* P **P 21 45 16.9 +0.8**
comp=Z,18nm,1.6s
GKP Gorka Klasztor 19.56 341 *e*P **P 21 45 17.6 -1.0**
NACGM Naroch 19.72 358 *e*P **P 21 45 20.7 +0.4**
ECH Echery 20.12 317 P **P 21 45 25.1 +0.3**
ECH IAmb IAmb 21 45 29.4
comp=Z,7.7nm,1.0s
ECH Echery 20.12 317 P **P 21 45 25.1 +0.3**
ECH pmax pmax
comp=Z,8.0nm,1.0s
PABE Paberze 20.48 354 P 21 45 27.3 -1.3
OBN Obninsk 20.81 14 P **P 21 45 31.7 -0.4**
OBN Obninsk 20.81 14 P **P 21 45 31.4 -0.7**
comp=Z,6.5nm,0.4s,baz=194,slow=4.2,SNR=4.4
comp=Z,6.5nm,0.4s
OBN Obninsk 20.81 14*c* *i* P **P 21 45 32.4 +0.3**
OBN *i* *SP **sP 21 45 36.0 -0.4**
OBN *e*PPP PPP 21 45 56.8
OBN S **S 21 49 23.0 -0.9**
OBN SSS SSS 21 50 03.0
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN MLR MLR
comp=Z,77nm,16.0s
WLF Walferdange 21.47 319 *d*P **P 21 45 42.6 +3.2**
MOS Moscow 21.61 15 *e*P **P 21 45 40.7 0.0**
MOS *e*S **S 21 49 37.3 -2.5**
BSD Bornholm Skovb 21.84 340 *i* P **P 21 45 44.4 +1.3**
BSD IAmb IAmb 21 46 10.7
comp=Z,29nm,1.1s
MEM Membach 22.09 321 *d*P **P 21 45 46.2 +0.3**
BELG Belogornoye 22.22 33 P **P 21 45 47.1 -0.2**
comp=Z,12nm,0.6s,baz=161,slow=0.8,SNR=13
comp=Z,12nm,0.6s
BELG Belogornoye 22.22 33*ce*P **P 21 45 48.3 +1.0**
BELG pmax pmax
comp=Z,3.0nm,0.9s
BCLA Clavier 22.35 320 *d*P **P 21 45 49.6 +0.9**
DOU Dourbes 22.55 318 *d*P **P 21 45 51.8 +1.0**
BLEU Blekinge 22.65 342 *i* P **P 21 45 48.0 -3.9**
LUNU Lund 22.71 339 *i* P **P 21 45 49.0 -3.5**
TAM Tamanrasset 23.06 244 P **P 21 45 55.6 -0.9**
TAM Tamanrasset 23.06 244 P **P 21 45 55.7 -0.9**
TAM pmax pmax
comp=Z,12nm,0.4s
BJUU Bjuv 23.21 339 *i* P **P 21 45 53.4 -4.3**
DEL Delary 23.31 340 *i* P **P 21 45 55.0 -3.7**
BORU Boraas 24.62 340 *i* P **P 21 46 07.7 -3.4**
ESDC Sonseca Array 25.58 290 P **P 21 46 18.8 -1.3**
comp=Z,3.0nm,0.7s,baz=81,slow=9.4,SNR=20
comp=Z,3.0nm,0.7s
FINES FINESS Array B 26.29 358 P **P 21 46 25.0 -1.2**
FINES FINESS Array B 26.29 358 P **P 21 46 24.1 -2.0**
comp=Z,2.0nm,0.7s,baz=152,slow=12,SNR=11
comp=Z,2.0nm,0.7s
FINES FINESS Array B 26.29 358 P **P 21 46 25.0 -1.2**
FIA1 FINESS Array S 26.29 358 P **P 21 46 25.5 -0.6**
FIA1 IAmb IAmb 21 46 32.9
comp=Z,5.3nm,0.7s
HFS Hagfors 26.59 344 P **P 21 46 26.0 -2.9**
comp=Z,5.6nm,0.8s,baz=157,slow=7.9,SNR=14
HFS LR LR 21 58 46.1
comp=Z,83nm,19.3s,baz=115,slow=41
comp=Z,5.6nm,0.8s
KLMR Klimovskoe 26.74 13 *e*P **P 21 46 27.3 -3.0**
KLMR pmax pmax
comp=Z,10.0nm,0.9s
KONO Kongsberg 27.21 340 P **P 21 46 34.4 -0.1**
KONO IAmb IAmb 21 46 52.3
comp=Z,6.5nm,1.1s
KONO Kongsberg 27.21 340 P **P 21 46 34.4 -0.1**
KONO pmax pmax
comp=Z,7.0nm,1.1s
AB31 Akbulak array 27.36 49 P **P 21 46 35.2 -0.8**
AB31 IAmb IAmb 21 46 46.3
comp=Z,2.4nm,0.7s
ABKAR Akbulak array 27.36 49 P **P 21 46 35.9 -0.1**
NC602 NORSAR Array S 27.63 343 P **P 21 46 36.5 -1.7**
NC602 IAmb IAmb 21 46 38.3
comp=Z,5.1nm,1.1s
NAO01 NORSAR Array S 27.88 342 P **P 21 46 38.0 -2.5**
NAO01 IAmb IAmb 21 46 40.7
comp=Z,6.0nm,0.8s
NB2 NORSAR Subarra 27.97 343 P **P 21 46 38.4 -2.9**
comp=Z,2.4nm,0.8s,baz=150,slow=9.3
NOA NORSAR Array B 27.97 343 P **P 21 46 38.5 -2.9**
comp=Z,1.1nm,0.6s,baz=153,slow=8.0,SNR=12
NOA LR LR 21 58 22.2
comp=Z,27nm,19.8s,baz=145,slow=38
comp=Z,1.1nm,0.6s
NC204 NORSAR Array S 28.29 343 P **P 21 46 43.7 -0.5**
NC204 IAmb IAmb 21 46 57.8
comp=Z,5.2nm,1.1s
ESK Eskdalemuir 29.32 323 *i* P **P 21 46 53.0 -0.4**
ARTI Arti 29.63 35 P **P 21 46 55.8 -0.3**
ARTI Arti 29.63 35 P **P 21 46 55.8 -0.3**
ARTI pmax pmax
comp=Z,5.0nm,0.5s
LVZ Lovozero 32.97 5 P **P 21 47 23.3 -2.2**
LVZ Lovozero 32.97 5⇑ *e*P **P 21 47 24.9 -0.6**
ARCES ARCESS Array B 34.41 359 P **P 21 47 36.6 -1.4**
comp=Z,1.3nm,0.7s,baz=161,slow=8.5,SNR=8.9
comp=Z,1.3nm,0.7s
AAK Ala-Archa 36.66 64 P **P 21 47 58.9 +1.2**
AAK IAmb IAmb 21 48 03.6
comp=Z,1.8nm,0.8s
AAK Ala-Archa 36.66 64 P **P 21 47 58.4 +0.6**
comp=Z,1.6nm,0.6s,baz=236,slow=7.3,SNR=6.7
comp=Z,1.6nm,0.6s
AAK Ala-Archa 36.66 64 P **P 21 47 58.9 +1.2**
AAK pmax pmax
comp=Z,2.0nm,0.8s
NIL Nilore 37.23 79 P **P 21 48 04.2 +1.6**
NIL IAmb IAmb 21 48 11.7
comp=Z,7.7nm,1.1s
NIL Nilore 37.23 79 P **P 21 48 04.2 +1.6**
NIL pmax pmax
comp=Z,8.0nm,1.1s
NRN Naryn 37.89 66 IAmb IAmb 21 48 19.5
comp=Z,2.6nm,0.9s
KURBB Kurchatov Arra 39.38 51 P **P 21 48 20.0 -0.3**
comp=Z,2.0nm,0.5s,baz=275,slow=8.8,SNR=18
comp=Z,2.0nm,0.5s
KURK Kurchatov 39.44 51*ce*P **P 21 48 21.9 +1.0**
KURK pmax pmax
comp=Z,8.0nm,2.5s
DBIC Dimbokro 41.35 234 P **P 21 48 38.3 +1.2**
comp=Z,3.4nm,0.8s,baz=22,slow=8.1,SNR=3.6
comp=Z,3.4nm,0.8s
MK31 Makanchi Array 41.91 57⇑ *e*P **P 21 48 41.6 +0.2**
MKAR Makanchi Array 41.91 57 P **P 21 48 41.6 +0.2**
comp=Z,1.5nm,0.6s,baz=278,slow=6.6,SNR=20
MKAR PcP **PcP 21 50 38.1 +1.3**
comp=Z,0.5nm,0.7s,baz=270,slow=4.3,SNR=2.7
comp=Z,1.5nm,0.6s
SPITS Spitsbergen Ar 43.36 357 P **P 21 48 51.6 -1.2**
comp=Z,2.3nm,0.7s,baz=135,slow=9.5,SNR=6.5
comp=Z,2.3nm,0.7s
ZAA0 Zalesovo Array 43.38 46 P **P 21 48 55.4 +2.2**
ZAA0 IAmb IAmb 21 49 05.6
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 43.38 46 P **P 21 48 55.0 +1.8**
ZALV Zalesovo Beam 43.38 46 P **P 21 48 52.4 -0.8**
comp=Z,1.8nm,0.6s,baz=280,slow=8.4,SNR=8.7
comp=Z,1.8nm,0.6s
NRIK Noril'sk 46.91 25 P **P 21 49 21.2 +0.2**
comp=Z,1.3nm,0.5s,baz=228,slow=5.2,SNR=1.8
comp=Z,1.3nm,0.5s
MATP Matopo 55.32 179 P **P 21 50 28.5 +3.7**
comp=Z,0.4nm,0.6s,baz=343,slow=9.2,SNR=4.0
comp=Z,0.4nm,0.6s
GTA Gaotai 55.99 63 *e*P **P 21 50 29.5 -0.1**
GTA pP pP 21 50 33.3 +0.4
GTA sP sP 21 50 36.5 +2.3
GTA pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 57.74 51 P **P 21 50 42.2 +0.3**
comp=Z,0.9nm,0.6s,baz=290,slow=7.2,SNR=8.2
comp=Z,0.9nm,0.6s
ULN Ulaanbaatar 58.16 51⇑ *e*P **P 21 50 45.7 +0.8**
ULN pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 60.35 21*ce*P **P 21 51 01.1 +1.7**
HHC Hu-ho-hao-te 63.77 57 *e*P **P 21 51 23.5 +0.4**
HHC pmax pmax
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 64.37 85 P **P 21 51 27.2 0.0**
comp=Z,0.5nm,0.3s,baz=296,slow=7.6,SNR=7.3
comp=Z,0.5nm,0.3s
KSRS Korea Array 76.49 54 P **P 21 52 41.7 +0.7**
comp=Z,1.0nm,0.5s,baz=302,slow=5.4,SNR=3.2
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 78.07 343 P **P 21 52 47.0 -2.4**
comp=Z,0.3nm,0.7s,baz=31,slow=5.7,SNR=6.8
comp=Z,0.3nm,0.7s
YKA Yellowknife Ar 78.07 343 *i* P **P 21 52 49.5 +0.1**
ILAR Eielson Array 80.27 358 P **P 21 53 00.6 -0.8**
comp=Z,0.2nm,0.5s,baz=6.3,slow=9.1,SNR=5.9
comp=Z,0.2nm,0.5s
BDFB Brasilia 87.77 249 P **P 21 53 41.7 +1.2**
comp=Z,1.6nm,0.6s,baz=67,slow=7.7,SNR=3.2
comp=Z,1.6nm,0.6s
SIV San Ignacio 98.19 256 LR LR 22 39 08.8
comp=Z,538nm,19.9s,baz=213,slow=36

NAO ***26*** *21:53:37.2, 35.°16N×27.°89E, h10km, mb3.9*
IDC ***26*** *21:53:38.8±0.8, 35.°29N×27.°81E, h0km, mb4.0/19, mbtmp4.0/29, ML3.6/8, MS3.1/5, Error ellipse: s-maj=17.5km s-min=11.1km az=5.0*
ISK ***26*** *21:53:38.3, 35.°14N×27.°95E, h2km, ML4.0/36*
MOS ***26*** *21:53:38.4±1.0, 35.°09N×27.°86E, h10km, mb4.2/8, Error ellipse: s-maj=7.8km s-min=4.2km az=93.1*
NIC ***26*** *21:53:39.5, 35.°16N×27.°83E, h11km±2km, Ml3.7/12*
PDG ***26*** *21:53:40.9±0.7, 35.°16N×27.°96E, h6km±5km, ML4.1/10, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0*
THE ***26*** *21:53:41.8, 35.°23N×27.°76E, h2km±1km, ML3.7/6, Error ellipse: s-maj=2.0km s-min=0.8km az=169.0*
GII ***26*** *21:53:41.7±0.0, 34.°95N±0.°02×28.°058E±0.°007, h5km, Mws4.2/7, confirmed*
NEIC ***26*** *21:53:41.6±1.8, 35.°21N±0.°06×27.°86E±0.°04, h10km±1km, mb4.1/21, Error ellipse: s-maj=10.4km s-min=6.1km az=3.0*
HLW ***26*** *21:53:41.4, 35.°37N×27.°90E, h29km±7km, Ml3.9*
ATH ***26*** *21:53:42.0, 35.°20N×27.°96E, h15km±7km, ML3.6/10, Manual Solution by F.Xalaris First location: 2019/04/26 21:55:04, This location: 2019/04/26 22:24:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 4 km*

ISC 26 21:53:40.6±0.6, 35.°20N±0.°03×27.°87E±0.°02, h12km±4km, n352, σ1°73/392, mb4.0/28, MS3.1/4, 26C-11D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.67**	**301**	P	**Pg**	**21 53 53.2**	**-0.5**
KARP				S	**Sg**	**21 54 02.7**	**+0.2**
8μm,0.6s							
KARP	**Karpathos**	**0.67**	**301**	Pg	**Pg**	**21 53 53.5**	**-0.2**
KARP	**Karpathos**	**0.67**	**301**		**Pg**	**21 53 52.8**	**-0.9**
KARP	**Karpathos**	**0.67**	**301**	P	**Pg**	**21 53 52.7**	**-0.9**
KARP				S	**Sg**	**21 54 02.7**	**+0.2**
KARP				AML	AML	21 54 10.5	
17nm,0.5s							
KARP				AML	AML	21 54 16.0	
15nm,0.7s							
KARP	**Karpathos**	**0.67**	**301**	P	**Pg**	**21 53 52.7**	**-0.9**
ARG	**Arkhangelos**	**1.04**	**12**	P	**Pg**	**21 54 00.8**	**+0.2**
ARG				S	**Sn**	**21 54 16.8**	**+1.4**
5μm,1.1s							
ARG	**Arkhangelos**	**1.04**	**12**	Pn	**Pb**	**21 54 00.1**	**-0.4**
ARG				Sn	**Sn**	**21 54 15.8**	**+0.4**
ARG	**Arkhangelos**	**1.04**	**12**		**Pb**	**21 53 59.9**	**-0.6**
ARG	**Arkhangelos**	**1.04**	**12**	P	**Pb**	**21 53 59.9**	**-0.6**
ARG	**Arkhangelos**	**1.04**	**12**	P	**Pb**	**21 53 59.9**	**-0.6**
ARG				S	**Sn**	**21 54 15.8**	**+0.4**
ARG				AML	AML	21 54 28.2	
11nm,1.1s							
ARG				AML	AML	21 54 33.2	
8.4nm,0.9s							
ARG	**Arkhangelos**	**1.04**	**12**	P	**Pg**	**21 54 00.9**	**+0.3**
ARG				S	**Sg**	**21 54 14.6**	**+0.4**
ZKR	**Zakros**	**1.35**	**267**	P	**Pn**	**21 54 05.2**	**-0.1**
ZKR				S	**Sn**	**21 54 22.6**	**-0.6**
2μm,0.6s							
ZKR	**Zakros**	**1.35**	**267**	Pn	**Pb**	**21 54 06.0**	**+0.1**
ZKR	**Zakros**	**1.35**	**267**	P	**Pg**	**21 54 07.4**	**+0.8**
NISR	**Nisiros**	**1.53**	**337**	P	**Pn**	**21 54 07.2**	**-0.6**
NISR				S	**Sn**	**21 54 28.3**	**+0.7**
3μm,0.7s							
DAT	**Datca**	**1.55**	**351**	Pn	**Pn**	**21 54 08.9**	**+0.8**
KSL	**Kastellorizon**	**1.69**	**55**	P	**Pb**	**21 54 11.0**	**-0.6**
KSL				S	**Sg**	**21 54 34.4**	**-0.6**
812nm,1.2s							
KSL	**Kastellorizon**	**1.69**	**55**	P	**Pn**	**21 54 09.1**	**-0.9**
KSL				AML	AML	21 55 06.5	
1.0nm,1.3s							
KSL				AML	AML	21 55 14.7	
2.1nm,1.4s							
KSL	**Kastellorizon**	**1.69**	**55**	P	**Sn**	**21 54 30.0**	**-1.5**
KSL				S	**Sb**	**21 54 32.2**	**-0.7**
DALY	**Dalyan (Mula)**	**1.74**	**21**	Pn	**Pn**	**21 54 10.9**	**+0.3**
FETY	**Fethiye**	**1.74**	**34**	Pn	**Pn**	**21 54 10.8**	**+0.1**
AKAS	**Kas**	**1.75**	**53**		**Pn**	**21 54 11.5**	**+0.6**
KLNA	**Kalymnos**	**1.90**	**338**	P	**Pb**	**21 54 14.7**	**-0.5**
BODT	**Bodrum**	**1.91**	**347**	Pn	**Pn**	**21 54 14.0**	**+1.0**
YER	**Yerkesik**	**1.96**	**10**	Pn	**Pn**	**21 54 14.4**	**+0.6**
YKAV	**Yalikavak-Bodr**	**1.98**	**346**	Pn	**Pn**	**21 54 14.9**	**+1.0**
MLSB	**Milas**	**2.09**	**358**	Pn	**Pn**	**21 54 16.5**	**+1.0**
CAME	**Cameli-Denizli**	**2.10**	**33**	Pn	**Pn**	**21 54 15.8**	**+0.1**
ELL	**Elmali**	**2.27**	**46**	Pn	**Pn**	**21 54 18.3**	**+0.3**
ELL	**Elmali**	**2.27**	**46**		**Pn**	**21 54 19.4**	**+1.4**
ELL	**Elmali**	**2.27**	**46**	P	**Pn**	**21 54 19.4**	**+1.4**
ELL	**Elmali**	**2.27**	**46**	P	**Pn**	**21 54 19.1**	**+1.1**
ELL				AML	AML	21 55 24.7	
2.4nm,1.8s							
ELL				AML	AML	21 55 25.1	
2.0nm,1.6s							
ELL	**Elmali**	**2.27**	**46**	P	**Pn**	**21 54 19.1**	**+1.1**
THR6	**Thira Island,**	**2.32**	**301**	P	**Pn**	**21 54 19.1**	**+0.6**
SFIR	**Foira Santorin**	**2.33**	**302**	P	**Pn**	**21 54 17.9**	**-0.8**
THR3	**Thira Island,**	**2.34**	**302**	P	**Pn**	**21 54 19.4**	**+0.5**
THR9	**Santorini-Faro**	**2.34**	**300**	P	**Pn**	**21 54 19.4**	**+0.5**
CMBO	**Columbo, Santo**	**2.37**	**303**	P	**Pn**	**21 54 19.0**	**-0.3**
CMBO				S	**Sn**	**21 54 47.0**	**-1.2**
2μm,0.6s							
CMBO	**Columbo, Santo**	**2.37**	**303**	P	**Pn**	**21 54 21.2**	**+1.9**
CMBO				S	**Sb**	**21 54 50.8**	**-1.5**
IDI	**Anoyia**	**2.44**	**273**	P	**Pn**	**21 54 21.4**	**+1.1**
IDI	**Anoyia**	**2.44**	**273**	Pn	**Pn**	**21 54 21.5**	**+1.1**
IDI	**Anoyia**	**2.44**	**273**		**Pn**	**21 54 21.8**	**+1.5**
IDI	**Anoyia**	**2.44**	**273**	Pn	**Pn**	**21 54 21.4**	**+1.1**
34nm,0.4s,baz=63,slow=15,SNR=72							
IDI				Sn	**Sn**	**21 54 49.5**	**-0.6**
14nm,0.3s,baz=64,slow=21,SNR=6.8							
IDI				LR	LR	21 55 25.6	
comp=Z,368nm,18.0s,baz=89,slow=45							
IDI	**Anoyia**	**2.44**	**273**	P	**Pb**	**21 54 22.9**	**-1.5**
IDI				S	**Sb**	**21 54 53.0**	**-1.5**
APMY	**Acipayam-Deniz**	**2.55**	**27**	Pn	**Pn**	**21 54 22.4**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.74**	**0**	Pn	**Pn**	**21 54 25.4**	**+0.8**
NAZL	**Nazilli-Aydin**	**2.78**	**7**	Pn	**Pn**	**21 54 26.1**	**+1.1**
ANTB	**Antalya**	**2.83**	**52**	Pn	**Pn**	**21 54 25.8**	**+0.3**
ODEM	**Odemis-Izmir**	**3.08**	**3**	Pn	**Pn**	**21 54 30.2**	**+1.1**
GVD	**Gavdhos**	**3.12**	**264**	P	**Pn**	**21 54 29.6**	**0.0**
GVD	**Gavdhos**	**3.12**	**264**	Pn	**Pn**	**21 54 31.1**	**+1.5**
GVD	**Gavdhos**	**3.12**	**264**	P	**Pn**	**21 54 32.1**	**+2.5**
CHAN	**Chania**	**3.14**	**277**	P	**Pn**	**21 54 30.0**	**+0.1**
IMMV	**Iera Moni Meta**	**3.19**	**276**	P	**Pn**	**21 54 30.3**	**-0.2**
IMMV	**Iera Moni Meta**	**3.19**	**276**	Pn	**Pn**	**21 54 32.4**	**+1.9**
IMMV	**Iera Moni Meta**	**3.19**	**276**	P	**Pn**	**21 54 33.3**	**+2.8**
BASM	**Basmaki-Afyon**	**3.24**	**32**	Pn	**Pn**	**21 54 31.9**	**+0.6**
BLCB	**Balcova**	**3.25**	**349**	Pn	**Pn**	**21 54 32.5**	**+1.1**
ISP	**Isparta**	**3.38**	**38**	Pn	**Pn**	**21 54 33.9**	**+0.6**
ISP	**Isparta**	**3.38**	**38**		**Pn**	**21 54 34.6**	**+1.3**
ISP	**Isparta**	**3.38**	**38**	P	**Pn**	**21 54 34.6**	**+1.3**
ISP	**Isparta**	**3.38**	**38**	P	**Pn**	**21 54 36.8**	**+3.5**
ISP	**Isparta**	**3.38**	**38**	P	**Pn**	**21 54 34.2**	**+0.9**
KNDR	**Palaiochora Ch**	**3.42**	**272**	P	**Pn**	**21 54 34.1**	**+0.4**
KNDR	**Palaiochora Ch**	**3.42**	**272**	Pn	**Pn**	**21 54 36.1**	**+2.4**
AKMS	**Akamas**	**3.67**	**92**	P	**Pn**	**21 54 36.9**	**-0.2**
AKMS				S	**Sn**	**21 55 21.0**	**+0.7**
AKMS				AML	AML	21 55 25.2	
0.4nm,0.6s							
AKMS				AML	AML	21 55 26.2	
0.4nm,0.6s							
AKMS	**Akamas**	**3.67**	**92**	P	**Pn**	**21 54 37.0**	**-0.2**
ANKY	**Antikythira Is**	**3.78**	**281**	P	**Pn**	**21 54 38.5**	**-0.2**
ALFC	**Alefka**	**3.88**	**89**	P	**Pn**	**21 54 39.6**	**-0.4**
ALFC				S	**Sn**	**21 55 26.6**	**+1.1**
ALFC				AML	AML	21 55 28.1	
0.5nm,0.5s							
ALFC				AML	AML	21 55 30.1	
0.5nm,0.6s							
ALFC	**Alefka**	**3.88**	**89**	P	**Pn**	**21 54 39.9**	**-0.2**
MATC	**Matruh**	**3.88**	**188**	P	**Pn**	**21 54 41.1**	**+1.1**
MATC				S	**Sn**	**21 55 27.4**	**+1.9**
NATA	**Nata**	**3.88**	**95**	P	**Pn**	**21 54 40.3**	**+0.2**
NATA				S	**Sn**	**21 55 27.1**	**+1.4**
NATA				AML	AML	21 55 29.5	
0.9nm,0.6s							
NATA				AML	AML	21 55 30.8	
1.5nm,0.6s							
NATA	**Nata**	**3.88**	**95**	P	**Pn**	**21 54 40.4**	**+0.2**
SEYD	**Seydisehir-KON**	**3.89**	**54**	Pn	**Pn**	**21 54 40.9**	**+0.6**
DKL	**Dikili**	**3.94**	**349**	P	**Pn**	**21 54 42.4**	**+1.6**
KARY	**Karystos**	**3.95**	**317**	P	**Pn**	**21 54 41.2**	**+0.2**
KARY	**Karystos**	**3.95**	**317**	P	**Pn**	**21 54 42.6**	**+1.6**
TROD	**Troodos**	**4.11**	**92**	P	**Pn**	**21 54 42.7**	**-0.7**
TROD				S	**Sn**	**21 55 33.0**	**+1.5**
TROD				AML	AML	21 55 40.5	
0.4nm,0.6s							
TROD				AML	AML	21 55 42.4	
0.4nm,0.5s							
TROD	**Troodos**	**4.11**	**92**	P	**Pn**	**21 54 43.0**	**-0.4**
LEF	**Lefka**	**4.12**	**90**	Pn	**Pn**	**21 54 42.7**	**-0.6**
HDMB	**Hadim**	**4.14**	**63**	Pn	**Pn**	**21 54 44.3**	**+0.5**
APOL	**The Sanctuary**	**4.14**	**96**	P	**Pn**	**21 54 43.7**	**+0.1**
APOL				S	**Sn**	**21 55 33.0**	**+1.1**
APOL				AML	AML	21 55 35.5	
0.6nm,0.9s							
APOL				AML	AML	21 55 37.0	
0.5nm,0.6s							
DB3	**El Dabaa**	**4.19**	**172**	⇑P	**Pn**	**21 54 45.4**	**+1.1**
DB3				S	**Sn**	**21 55 32.9**	**-0.3**
VLY	**Voula,Athens**	**4.21**	**310**	P	**Pn**	**21 54 46.1**	**+1.5**
PRK	**Paraskevi**	**4.24**	**343**	P	**Pn**	**21 54 46.8**	**+1.8**
DION	**Dionisos Attik**	**4.27**	**313**	P	**Pn**	**21 54 47.4**	**+1.9**
VLI	**Veliai**	**4.28**	**292**	P	**Pn**	**21 54 46.7**	**+1.2**
ATHU	**Athens Univers**	**4.29**	**311**	P	**Pn**	**21 54 47.8**	**+2.0**
SLUM	**Salum**	**4.31**	**212**	⇑P	**Pn**	**21 54 47.1**	**+1.1**
SLUM				S	**Sn**	**21 55 36.2**	**0.0**
SIGR	**SIGRI**	**4.32**	**339**	P	**Pn**	**21 54 48.5**	**+2.5**
TEKE	**Tekeli-Mersin**	**4.38**	**76**	Pn	**Pn**	**21 54 47.1**	**+0.2**
ASGA	**Asgata**	**4.44**	**94**	P	**Pn**	**21 54 47.7**	**-0.1**
ASGA				S	**Sn**	**21 55 40.8**	**+1.5**
ASGA				AML	AML	21 55 45.2	
0.4nm,0.7s							
ASGA				AML	AML	21 55 46.7	
0.9nm,0.8s							
ASGA	**Asgata**	**4.44**	**94**	P	**Pn**	**21 54 47.7**	**-0.1**
CSS	**Mathiatis**	**4.49**	**91**	Pn	**Pn**	**21 54 48.7**	**+0.3**
CSS	**Mathiatis**	**4.49**	**91**		**Pn**	**21 54 48.8**	**+0.3**
CSS	**Mathiatis**	**4.49**	**91**	P	**Pn**	**21 54 48.2**	**-0.2**
CSS				S	**Sn**	**21 55 42.3**	**+1.7**
CSS				AML	AML	21 55 46.3	
0.3nm,0.6s							
CSS				AML	AML	21 55 48.4	
0.3nm,0.6s							
CSS	**Mathiatis**	**4.49**	**91**	P	**Pn**	**21 54 48.8**	**+0.3**
CSS	**Mathiatis**	**4.49**	**91**	S	**Sn**	**21 55 39.5**	**-1.1**
CSS	**Mathiatis**	**4.49**	**91**	P	**Pn**	**21 54 48.4**	**0.0**
BERE	**Bereket-Mersin**	**4.50**	**74**	Pn	**Pn**	**21 54 49.2**	**+0.4**
KONT	**Konya--Tatoy**	**4.54**	**52**	Pn	**Pn**	**21 54 50.4**	**+1.2**
TEVE	**Tevekalti-Mers**	**4.70**	**73**	Pn	**Pn**	**21 54 52.1**	**+0.7**
AKKU	**Akkuyu-Mersin**	**4.73**	**77**	Pn	**Pn**	**21 54 52.5**	**+0.8**
MVOU	**Mavrovouni**	**4.73**	**91**	P	**Pn**	**21 54 51.2**	**-0.6**
MVOU				S	**Sn**	**21 55 48.4**	**+1.9**
MVOU				AML	AML	21 55 54.1	
0.2nm,0.5s							
MVOU				AML	AML	21 55 57.4	
0.2nm,0.7s							
KRMN	**Karaman**	**4.79**	**64**	Pn	**Pn**	**21 54 53.7**	**+1.0**
KEBE	**Keben-Mersin**	**4.91**	**74**	Pn	**P

AGG Agios Georgios 5.84 312 Pn 21 55 08.6 +1.6
AGG Agios Georgios 5.84 312 P **Pn 21 55 08.6 +1.6**
ALN Alexandroupoli 5.87 346 Pn 21 55 08.9 +1.5
ALN Alexandroupoli 5.87 346 P **Pn 21 55 08.9 +1.5**
MDUB Mudurnu 5.89 26 Pn **Pn 21 55 08.9 +1.1**
HMYD Mayadein 5.93 154 P **Pn 21 55 09.3 +1.0**
RDO Rodhopi 6.21 344 Pn 21 55 13.6 +1.4
SWA2 6.28 200 ⇑P **Pn 21 55 14.4 +1.4**
SWA2 S **Sn 21 56 24.6 -0.1**
HNTI Hanita 6.42 107 P **Pn 21 55 13.8 -1.1**
HNTI Hanita 6.42 107 S **Sn 21 56 24.5 -3.7**
RYAN Fayoum 6.43 161 ⇑P **Pn 21 55 16.3 +1.2**
RYAN S **Sn 21 56 27.7 -0.8**
BR131 Keskin Array S 6.44 44 Pn 21 55 15.4 +0.1
BR131 Keskin Array S 6.44 44 *de*P **Pn 21 55 16.1 +0.7**
BRTR Keskin Array B 6.44 44 Pn 21 55 17.1 +1.7
BRTR Keskin Array B 6.44 44 Pn **Pn 21 55 15.8 +0.5**
0.4nm,0.3s,baz=221,slow=15,SNR=15
BRTR Sn **Sn 21 56 28.8 -0.1**
0.6nm,0.3s,baz=211,slow=25,SNR=6.5
1.4nm,0.5s
OFRI `Ofer 6.45 111 P **Pn 21 55 14.3 -1.2**
OFRI `Ofer 6.45 111 S **Sn 21 56 26.3 -2.7**
LIT Litokhoron 6.49 321 Pn 21 55 17.5 +1.6
LIT Litokhoron 6.49 321 P **Pn 21 55 17.5 +1.6**
DQRL Deir Qamar 6.54 101 *e*P **Pn 21 55 17.4 +0.7**
BLGI Bet Lehem HaGe 6.56 110 P **Pn 21 55 16.2 -0.8**
BLGI Bet Lehem HaGe 6.56 110 S **Sn 21 56 28.5 -3.2**
MMC7 Mount Meron ar 6.61 107 P **Pn 21 55 16.8 -0.8**
MMA0B Mount Meron ar 6.62 107 P **Pn 21 55 16.6 -1.1**
MMA0B Mount Meron ar 6.62 107 S **Sn 21 56 31.1 -2.1**
MMAI Mount Meron Ar 6.62 107 Pn **Pn 21 55 16.6 -1.2**
5.0nm,0.3s,baz=295,slow=13,SNR=42
MMAI Sn **Sn 21 56 33.1 -0.1**
7.5nm,0.3s,baz=309,slow=30,SNR=8.0
2.3nm,0.3s
SLTI Sal'it 6.67 114 P **Pn 21 55 17.4 -0.9**
SLTI Sal'it 6.67 114 S **Sn 21 56 30.9 -3.3**
QRWL Qaraoun 6.67 102 *e*P **Pn 21 55 17.9 -0.5**
HWQ Hawqa 6.72 96 *e*P **Pn 21 55 20.0 +0.9**
ZAHL Zahle 6.75 99 *e*P **Pn 21 55 19.8 +0.1**
SHBL Chebaa 6.78 104 *e*P **Pn 21 55 18.9 -1.1**
NATI Neve Ativ 6.80 104 P **Pn 21 55 19.1 -1.0**
NATI Neve Ativ 6.80 104 S **Sn 21 56 36.2 -1.3**
RCY Rachaya 6.81 102 *e*P **Pn 21 55 19.9 -0.5**
MMLI Mount Malkishu 6.86 112 P **Pn 21 55 19.8 -1.4**
MMLI Mount Malkishu 6.86 112 S **Sn 21 56 36.3 -2.8**
BEIL Beino 6.87 93 *e*P **Pn 21 55 19.6 -1.6**
AMAZ Amatzia 6.94 120 P **Pn 21 55 21.1 -1.0**
AMAZ Amatzia 6.94 120 S **Sn 21 56 37.7 -3.3**
KZIT Kziot 6.96 126 P **Pn 21 55 21.0 -1.4**
KZIT Kziot 6.96 126 S **Sn 21 56 37.5 -3.8**
HMDT Nahal Hemdat 7.03 113 P **Pn 21 55 22.4 -0.8**
HMDT Nahal Hemdat 7.03 113 S **Sn 21 56 40.6 -2.5**
UJAP Al Uja 7.12 115 P **Pn 21 55 23.6 -1.0**
UJAP Al Uja 7.12 115 S **Sn 21 56 42.3 -3.1**
NBNS Bani Suef 7.17 155 P **Pn 21 55 26.9 +1.5**
YTIR Yattir 7.17 120 P **Pn 21 55 24.4 -1.0**
YTIR Yattir 7.17 120 S **Sn 21 56 43.6 -3.3**
DSI Dead Sea 7.25 118 P **Pn 21 55 25.3 -1.1**
DSI Dead Sea 7.25 118 S **Sn 21 56 45.7 -3.0**
BNN Bunyan 7.35 58 Pn **Pn 21 55 29.0 +1.1**
MSBI Mazada 7.37 120 P **Pn 21 55 26.8 -1.2**
MSBI Mazada 7.37 120 S **Sn 21 56 48.2 -3.4**
VAY Valandovo 7.40 327 *i* P **Pn 21 55 32.0 +3.7**
ILGA Ilgaz 7.44 37 Pn **Pn 21 55 29.5 +0.3**
GHAJ Ghor Haditha 7.53 119 Pn 21 55 30.8 +0.6
GHAJ Ghor Haditha 7.53 119 P **Pn 21 55 28.9 -1.3**
GHAJ Ghor Haditha 7.53 119 S **Sn 21 56 52.3 -3.1**
KRMI Paran Flat 7.69 129 P **Pn 21 55 30.7 -1.7**
ZFRI Zfri 7.70 125 P **Pn 21 55 31.0 -1.5**
ZFRI Zfri 7.70 125 S **Sn 21 56 55.5 -4.1**
PRNI Paran 7.71 127 P **Pn 21 55 31.4 -1.4**
PRNI Paran 7.71 127 S **Sn 21 56 55.5 -4.5**
CIDE Kastamonu/Cide 7.77 29 ⇑P **Pn 21 55 35.3 +1.9**
GAZ Gaziantep 7.81 73 Pn 21 55 34.1 0.0
KEK Kerkira 7.84 307 Pn 21 55 36.7 +2.3
HRFI Mount Harif 7.94 128 P **Pn 21 55 34.5 -1.4**
HRFI Mount Harif 7.94 128 S **Sn 21 57 02.0 -3.7**
MBRI Mt Berech 8.03 130 P **Pn 21 55 35.5 -1.6**
MBRI Mt Berech 8.03 130 S **Sn 21 57 04.4 -3.5**
HFRF Wahat Farafira 8.03 177 P **Pn 21 55 38.5 +1.4**
ASF Jabal al Asfar 8.11 109 Pn **Pn 21 55 38.1 -0.1**
1.4nm,0.3s,baz=306,slow=3.7,SNR=22
ASF Sn **Sn 21 57 13.8 +3.9**
1.1nm,0.3s,baz=173,slow=23,SNR=6.2
4.3nm,0.4s
OHR Ohrid 8.11 319 *i* P Pn 21 55 44.5 +6.3
EIL Elat 8.14 131 Pn **Pn 21 55 38.6 +0.1**
2.8nm,0.3s,baz=340,slow=13,SNR=24
EIL Sn **Sn 21 57 09.2 -1.3**
3.8nm,0.3s,baz=178,slow=18,SNR=6.5
EIL LR LR 22 00 19.2
comp=Z,77nm,21.6s,baz=247,slow=49
11nm,0.6s
EIL Elat 8.14 131 P **Pn 21 55 36.9 -1.6**
EIL Elat 8.14 131 S **Sn 21 57 06.6 -3.9**
RAZG Razgrad 8.42 353 ⇓P **Pn 21 55 45.3 +2.9**
HKAT Jabal Katrina 8.45 140 ⇑P **Pn 21 55 44.2 +1.2**
TR1 Tor 1 8.85 142 ⇑P **Pn 21 55 49.4 +1.0**
TIRR Tirgusor 9.26 2 ⇑P **Pn 21 55 56.3 +2.5**
TIRR Tirgusor 9.26 2 ⇑P **Pn 21 55 56.3 +2.5**
ULC Ulcinj 9.54 318 *e*Pn **Pn 21 56 00.7 +2.9**
ULC *i* Sn **Sn 21 57 43.6 -1.4**
BOVS Bovan 9.68 332 ⇑P **Pn 21 56 04.1 +4.5**
DRME Dracevica, Mon 9.73 318 *e*Pn **Pn 21 56 03.4 +3.1**
DRME *i* Sn **Sn 21 57 48.0 -1.5**
IVA Berane 9.85 323 *e*Pn **Pn 21 56 05.1 +3.0**
IVA *i* Sn **Sn 21 57 50.9 -1.8**
PDG Podgorica 9.86 320 Pn 21 56 03.9 +1.8
PDG Podgorica 9.86 320 ⇑P **Pn 21 56 05.2 +3.2**
PDG Podgorica 9.86 320 *e*Pn **Pn 21 56 05.0 +2.9**
PDG *i* Sn **Sn 21 57 51.1 -1.5**
BUM Brajici-Budva 9.96 318 *e*Pn **Pn 21 56 06.5 +2.9**
BUM *i* Sn **Sn 21 57 53.7 -1.7**
KOME Kolasin 10.02 322 *e*Pn **Pn 21 56 07.4 +2.9**
KOME *i* Sn **Sn 21 57 55.1 -1.8**
CEL Celeste 10.08 291 Pn 21 56 04.4 -0.8
CEME Cevo 10.12 319 *e*Pn **Pn 21 56 07.9 +2.2**
CEME *i* Sn **Sn 21 57 57.6 -1.6**
HCY Herceg Novi 10.28 318 *e*Pn **Pn 21 56 10.9 +3.0**
HCY *i* Sn **Sn 21 58 01.3 -1.8**
NEHR Nehoiu 10.29 354 ⇑P **Pn 21 56 12.5 +4.5**
BISRR Bisoca 10.38 355 ⇑P Pn 21 56 14.1 +4.9
MLR Muntele Rosu 10.38 352 Pn 21 56 10.3 +0.9
MLR Muntele Rosu 10.38 352 ⇑P **Pn 21 56 14.0 +4.6**
MLR Muntele Rosu 10.38 352 ⇑P **Pn 21 56 14.0 +4.6**
PLE Pljevlja 10.44 324 *e*Pn **Pn 21 56 13.0 +2.8**
PLE *i* Sn **Sn 21 58 04.9 -2.2**
VOIR 10.45 349 ⇓P **Pn 21 56 12.3 +2.0**
VOIR 10.45 349 ⇓P **Pn 21 56 12.3 +2.0**
BRY Bratogost 10.57 320 *e*Pn **Pn 21 56 14.8 +2.9**
BRY *i* Sn **Sn 21 58 08.1 -2.1**
PLOR Plostina 10.68 355 ⇑P **Pn 21 56 17.4 +4.0**
PLOR Plostina 10.68 355 ⇑P **Pn 21 56 17.4 +4.0**
CUC Castrocucco 10.69 300 Pn 21 56 13.3 -0.2
VRI Vrincioaia 10.69 356 ⇑P **Pn 21 56 17.6 +4.1**
VRI Vrincioaia 10.69 356 ⇑P **Pn 21 56 17.6 +4.1**
SIM Simferopol' 10.85 24 *e*P Pn 21 56 25.6 +10
SIM *e*S **Sn 21 58 17.7 +0.8**
SIM pmax pmax
comp=Z,8μm,1.1s
GZR Gura Zlata 10.90 341 ⇑P **Pn 21 56 19.7 +3.3**
GZR Gura Zlata 10.90 341 ⇑P **Pn 21 56 19.7 +3.3**
DOPR Dopca 10.92 351 ⇑P **Pn 21 56 20.4 +3.7**
OZUR 11.00 352 ⇑P **Pn 21 56 22.1 +4.3**
VAE Valguarnera 11.09 286 Pn **Pn 21 56 19.0 0.0**
comp=Z,2.5nm,0.4s,baz=127,slow=20,SNR=1.3
VAE Sn **Sn 21 58 24.2 +1.2**
comp=Z,0.7nm,0.3s,baz=91,slow=13,SNR=2.1
ONER Baraj Valea Uz 11.18 355 ⇑P **Pn 21 56 23.7 +3.5**
BZS Buzias 11.44 337 ⇑P **Pn 21 56 26.9 +3.2**
BZS Buzias 11.44 337 ⇑P **Pn 21 56 26.9 +3.2**
BURAR Bucovina Array 12.56 352 ⇑P **Pn 21 56 42.8 +3.6**
BURAR Bucovina Array 12.56 352 ⇑P **Pn 21 56 42.8 +3.6**
BEHE Becsehely 14.03 327 Pn **Pn 21 57 00.1 +1.0**
PSZ Piszkesteto 14.03 337 Pn **Pn 21 57 01.0 +1.8**
PSZ Piszkesteto 14.03 337 P **Pn 21 57 01.0 +1.8**
GNI Garni 14.25 65 Pn **Pn 21 57 04.4 +2.1**
comp=Z,0.1nm,0.3s,baz=186,slow=19,SNR=1.8
comp=Z,1.3nm,0.5s

KOLS Kolonicke sedl 14.33 345 *e*P **P 21 57 08.6 -1.8**
KOLS Kolonicke sedl 14.33 345 *e*P **P 21 57 08.6 -1.8**
KIV Kislovodsk 14.38 48 P **P 21 57 11.3 +0.4**
KIV Kislovodsk 14.38 48 *e*P **Pn 21 57 04.6 +0.7**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 14.38 49 Pn **P 21 57 10.9 0.0**
comp=Z,0.1nm,0.3s,baz=226,slow=8.3,SNR=21
VYHS Vyhne 14.88 336 *e*P **P 21 57 17.6 +1.2**
VYHS Vyhne 14.88 336 *e*P **P 21 57 17.6 +1.2**
SOKA Soboth 14.99 324 *e*Pn **Pn 21 57 12.3 0.0**
comp=Z,5.5nm,1.0s
KEST Kesra 15.10 277 P **P 21 57 19.0 -0.1**
KEST IAmb IAmb 21 57 26.9
comp=Z,12nm,0.9s
KEST Kesra 15.10 277 Pn **P 21 57 18.3 -0.8**
comp=Z,0.4nm,0.3s,baz=10,slow=3.8,SNR=6.4
OBKA Obir 15.12 322 *e*Pn **Pn 21 57 15.3 +1.3**
comp=Z,4.6nm,0.8s
LANS Liptovska Anna 15.25 339 *e*P **P 21 57 23.5 +2.9**
LANS Liptovska Anna 15.25 339 *e*P **P 21 57 23.5 +2.9**
KIEV Kiev 15.52 3 P **P 21 57 24.1 +0.6**
KIEV IAmb IAmb 21 57 37.0
comp=Z,9.9nm,1.2s
KIEV Kiev 15.52 3 P **P 21 57 24.1 +0.6**
KIEV pmax pmax
comp=Z,10.0nm,1.3s
AKASG Malin Array Be 15.53 3 Pn **Pn 21 57 19.9 +0.7**
comp=Z,0.8nm,0.3s,baz=192,slow=10,SNR=6.6
AKBB Malin Array Si 15.53 3 P **P 21 57 23.6 0.0**
AKBB IAmb IAmb 21 57 37.1
comp=Z,11nm,1.2s
AKBB Malin Array Si 15.53 3 P **P 21 57 23.6 0.0**
AKBB pmax pmax
comp=Z,11nm,1.3s
MYKA Terra Mystica 15.66 321 *e*Pn **Pn 21 57 22.4 +1.3**
comp=Z,2.7nm,0.9s
CIMO Cimolais 16.09 318 P **Pn 21 57 26.6 0.0**
CIMO IAmb IAmb 21 57 39.7
comp=Z,15nm,1.2s
KBA Koelnbreinsper 16.11 322 *e*pP pP 21 57 32.7 -0.6
comp=Z,16nm,1.0s
OJC Ojcow 16.12 341 Pn **Pn 21 57 27.8 +0.8**
OJC Ojcow 16.12 341 P **Pn 21 57 27.8 +0.8**
KRUC Moravsky 16.23 332 *e*PN **Pn 21 57 29.2 +0.9**
ABTA Abfaltersbach 16.32 320 *i* Pn **Pn 21 57 31.3 +1.6**
comp=Z,6.3nm,0.8s
VRAC Vranov 16.36 333 Pn **Pn 21 57 31.4 +1.5**
comp=Z,0.2nm,0.3s,baz=135,slow=12,SNR=5.9
comp=Z,2.5nm,0.6s
VRAC Vranov 16.36 333 *e*PN **Pn 21 57 31.6 +1.6**
BIOA Bad Ischl, Aus 16.38 324 *e*Pn **P 21 57 32.5 -0.7**
comp=Z,3.9nm,0.6s
MORC Moravsky Berou 16.41 336 Pn **Pn 21 57 31.6 +0.9**
MORC Moravsky Berou 16.41 336 *e*PN **P 21 57 33.5 0.0**
MORC Moravsky Berou 16.41 336 P **Pn 21 57 31.6 +0.9**
MORC pmax pmax
comp=Z,11nm,1.3s
LESA Schwarzleotal 16.68 322 *i* Pn **Pn 21 57 34.9 +0.7**
comp=Z,9.4nm,0.8s
AKT Akhty 16.79 62 *e*P **Pn 21 57 35.9 +0.3**
AKT pmax pmax
comp=Z,4.0nm,1.0s
WTTA Wattenberg 17.11 320 *e*Pn **P 21 57 41.5 0.0**
comp=Z,8.9nm,1.2s
GERES GERESS Array B 17.18 327 Pn 21 57 40.7 +0.2
GERES GERESS Array B 17.18 327 P **Pn 21 57 40.3 -0.2**
baz=138,slow=12,SNR=16
comp=Z,2.3nm,0.8s
GERES GERESS Array B 17.18 327 P **Pn 21 57 40.7 +0.2**
WATA Walderalm 17.19 320 *i* Pn **P 21 57 43.6 +1.3**
comp=Z,7.6nm,1.6s
SQTA Sankt Quirin 17.32 319 *i* Pn **Pn 21 57 42.9 +0.7**
comp=Z,2.1nm,0.7s
DPC Dobruska-Polom 17.32 334 *e*P **P 21 57 43.3 -0.2**
DPC Dobruska-Polom 17.32 334 *e*P **P 21 57 43.3 -0.2**
MOTA Moosalm 17.45 319 *e*Pn **Pn 21 57 44.2 +0.3**
comp=Z,4.6nm,0.9s
KHC Kasperske Hory 17.45 327 *e*P **Pn 21 57 43.7 0.0**
KHC Kasperske Hory 17.45 327 *d i*P **Pn 21 57 43.8 0.0**
KHC pmax pmax
comp=Z,16nm,1.1s
FETA Feichten 17.46 318 *e*Pn **P 21 57 45.4 +0.2**
comp=Z,6.3nm,0.9s
FUORN Ofenpass-Fuorn 17.48 316 Pn **Pn 21 57 45.0 +0.6**
FUORN **pP 21 57 47.7 -1.0**
FUORN IAmb IAmb 21 57 55.9
comp=Z,12nm,1.1s
UPC Upice 17.56 334 *e*P **Pn 21 57 45.6 +0.5**
UPC Upice 17.56 334 *e*P **Pn 21 57 45.6 +0.5**
RETA Reutte 17.72 319 *e*P **P 21 57 49.0 +1.0**
comp=Z,2.5nm,0.8s
DAVOX Davos/Dischmat 17.79 316 P **Pn 21 57 48.6 +0.5**
comp=Z,0.2nm,0.3s,baz=132,slow=9.9,SNR=3.8
DAVOX LR LR 22 07 16.2
comp=Z,72nm,19.5s,baz=86,slow=46
comp=Z,2.6nm,0.7s
VSR Storozhevoye 17.97 24 *e*P **Pn 21 57 49.7 -0.4**
VSR pmax pmax
comp=Z,4.0nm,0.8s
DAVA Damuels 18.08 317 *e*Pn **P 21 57 52.5 +0.4**
comp=Z,6.4nm,1.3s
SENIN Lac Senin/Sane 19.10 312 IAmb IAmb 21 58 12.5
comp=Z,7.4nm,0.6s
SUW Suwalki 19.10 352 P **Pn 21 58 03.8 0.0**
SUW Suwalki 19.10 352 P **Pn 21 58 03.8 0.0**
RAYN Ar Rayn 19.25 122 P **Pn 21 58 06.6 +0.7**
RAYN **pP 21 58 08.0 0.0**
CLL Collm 19.34 331 P **P 21 58 06.4 +0.7**
CLL Collm 19.34 331 *i* P **Pn 21 58 08.2 +1.4**
CLL Collm 19.34 331 *i* P **Pn 21 58 08.2 +1.4**
BFO Black Forest 19.54 318 P **Pn 21 58 10.2 +1.1**
BFO IAmb IAmb 21 58 19.1
comp=Z,23nm,1.5s
BFO Black Forest 19.54 318 P **Pn 21 58 10.3 +1.1**
BFO pmax pmax
comp=Z,23nm,1.5s
NACGM Naroch 19.72 358 *e*P **Pn 21 58 15.2 +3.9**
comp=N,3.0nm,0.9s
PABE Paberze 20.49 354 P 21 58 19.3 +1.2
OBN Obninsk 20.81 14 P **P 21 58 20.9 -0.7**
comp=N,8.6nm,0.5s,baz=220,slow=20,SNR=1.9
comp=N,8.6nm,0.5s
OBN Obninsk 20.81 14⇑*e*P **P 21 58 22.2 +0.6**
OBN *PP **sP 21 58 26.0 -0.1**
OBN *e*PPP PPP 21 58 48.0
OBN SS Sn 22 02 34.0 +15
OBN pmax pmax
comp=Z,27nm,2.0s
OBN MLR MLR
comp=Z,48nm,15.0s
WLF Walferdange 21.48 319 *d*P **P 21 58 34.8 +6.0**
MOS Moscow 21.61 15 *e*P **P 21 58 27.7 -2.5**
BTNL Ternell 22.02 321 *d*P **P 21 58 36.2 +1.5**
comp=Z,6.2nm,1.2s
MEM Membach 22.09 321 *d*P **P 21 58 38.3 +2.8**
comp=Z,7.2nm,1.1s
BELG Belogornoye 22.21 33 P **P 21 58 36.3 -0.4**
comp=Z,8.3nm,0.5s,baz=252,slow=9.6,SNR=7.5
comp=Z,8.3nm,0.5s
BELG Belogornoye 22.21 33 *ce*P **P 21 58 37.9 +1.2**
BELG pmax pmax
comp=Z,3.0nm,0.9s
BCLA Clavier 22.35 320 *d*P **P 21 58 42.2 +3.9**
comp=Z,6.2nm,1.1s
ESDC Sonseca Array 25.59 290 P **P 21 59 08.5 -1.1**
comp=Z,3.4nm,0.8s,baz=81,slow=9.0,SNR=19
comp=Z,3.4nm,0.8s
PAB San Pablo 25.89 289 P **P 21 59 12.4 0.0**
PAB San Pablo 25.89 289 P **P 21 59 12.4 0.0**
PAB pmax pmax
comp=Z,8.0nm,1.1s
FINES FINESS Array B 26.29 358 P **P 21 59 14.8 -0.8**
FINES FINESS Array B 26.29 358 P **P 21 59 14.0 -1.7**
comp=Z,1.6nm,0.6s,baz=160,slow=13,SNR=12
comp=Z,1.6nm,0.6s
FINES FINESS Array B 26.29 358 P **P 21 59 14.8 -0.8**
FIA1 FINESS Array S 26.29 358 P **P 21 59 15.2 -0.5**
HFS Hagfors 26.59 344 P **P 21 59 16.0 -2.4**
comp=Z,2.6nm,0.4s,baz=155,slow=12,SNR=32
comp=Z,2.6nm,0.4s
KLMR Klimovskoe 26.75 13 *e*P **P 21 59 14.9 -4.9**
KLMR pmax pmax
comp=Z,11nm,1.4s
AB31 Akbulak array 27.36 49 P **P 21 59 26.2 +0.8**
AB31 IAmb IAmb 21 59 35.8
comp=Z,3.4nm,1.1s
ABKAR Akbulak array 27.36 49 P **P 21 59 26.2 +0.8**
ABKAR IAmb IAmb 21 59 35.8
comp=Z,3.4nm,1.1s
ABKAR Akbulak array 27.36 49 P **P 21 59 26.2 +0.8**
NB2 NORSAR Subarra 27.98 343 P **P 21 59 28.1 -2.8**
comp=Z,0.8nm,0.6s,baz=150,slow=9.3
NOA NORSAR Array B 27.98 343 P **P 21 59 28.2 -2.7**
comp=Z,0.9nm,0.7s,baz=149,slow=8.4,SNR=8.6
NOA LR LR 22 11 11.3
comp=Z,36nm,18.4s,baz=50,slow=38
comp=Z,0.9nm,0.7s
EKA Eskdalemuir Ar 29.32 323 P **P 21 59 41.4 -1.4**
comp=Z,0.4nm,0.5s,baz=122,slow=9.1,SNR=1.5
comp=Z,0.4nm,0.5s
ARTI Arti 29.63 35 P **P 21 59 45.8 +0.2**
ARTI Arti 29.63 35 *d i*P **P 21 59 45.3 -0.3**
ARTI S **S 22 04 41.3 +0.8**
ARTI pmax pmax
comp=Z,2.0nm,0.6s
TORD Torodi Ar. Bea 32.25 234 P **P 22 00 09.4 +0.3**
TORD IAmb IAmb 22 00 14.2
comp=Z,3.1nm,1.1s
KK31 Karatay Array 33.71 63 P **P 22 00 22.0 +0.4**
KK31 Karatay Array 33.71 63 P **P 22 00 22.0 +0.4**
KK31 pmax pmax
comp=Z,2.0nm,1.0s
KKAR Karatay Array 33.71 63 P **P 22 00 22.0 +0.4**
KKAR Karatay Array 33.71 63 P **P 22 00 22.0 +0.4**
ARCES ARCESS Array B 34.42 359 P **P 22 00 26.2 -1.3**
comp=Z,5.2nm,1.1s,baz=170,slow=7.6,SNR=9.2
comp=Z,5.2nm,1.1s
BVAR Borovoye Array 34.72 46 P **P 22 00 31.0 +0.7**
comp=Z,0.4nm,0.6s,baz=270,slow=4.4,SNR=4.7
comp=Z,0.4nm,0.6s
BVAR Borovoye Array 34.72 46 P **P 22 00 31.0 +0.7**
KURBB Kurchatov Arra 39.38 51 P **P 22 01 09.8 0.0**
comp=Z,1.0nm,0.5s,baz=275,slow=9.0,SNR=10.0
comp=Z,1.0nm,0.5s
KURK Kurchatov 39.44 51 P **P 22 01 09.8 -0.5**
JMIC Jan Mayen 40.69 343 LR LR 22 21 01.9
comp=Z,29nm,19.4s,baz=72,slow=40
DBIC Dimbokro 41.35 234 P **P 22 01 26.4 -0.2**
comp=Z,1.4nm,0.4s,baz=53,slow=7.7,SNR=5.4
comp=Z,1.4nm,0.4s
MK31 Makanchi Array 41.90 57⇑*e*P **P 22 01 31.8 +1.0**
MKAR Makanchi Array 41.90 57 P **P 22 01 32.4 +1.6**
MKAR Makanchi Array 41.90 57 P **P 22 01 31.0 +0.2**
comp=Z,0.9nm,0.6s,baz=279,slow=6.9,SNR=15
comp=Z,0.9nm,0.6s
MKAR Makanchi Array 41.90 57 P **P 22 01 32.4 +1.6**
SPITS Spitsbergen Ar 43.37 357 P **P 22 01 42.1 -0.2**
comp=Z,0.8nm,0.4s,baz=150,slow=9.9,SNR=14
comp=Z,0.8nm,0.4s
ZALV Zalesovo Beam 43.38 46 P **P 22 01 43.6 +0.9**
comp=Z,0.7nm,0.3s,baz=269,slow=8.5,SNR=5.3
comp=Z,0.7nm,0.3s
ZALV Zalesovo Beam 43.38 46 *i* P **P 22 01 44.9 +2.3**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
SONM Songino Array 57.74 51 P **P 22 03 32.4 +1.0**
comp=Z,0.8nm,0.5s,baz=297,slow=8.3,SNR=5.1
comp=Z,0.8nm,0.5s
CMAR Chiang Mai Arr 64.36 85 P **P 22 04 17.1 +0.4**
comp=Z,0.6nm,0.3s,baz=284,slow=6.9,SNR=4.3
comp=Z,0.6nm,0.3s
CMAR Chiang Mai Arr 64.36 85 *i* P **P 22 04 17.3 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
KSRS Korea Array 76.49 54 P **P 22 05 30.8 +0.3**
comp=Z,1.1nm,0.7s,baz=319,slow=5.0,SNR=2.1
comp=Z,1.1nm,0.7s
YKA Yellowknife Ar 78.07 343 P **P 22 05 38.0 -0.9**
comp=Z,0.2nm,0.6s,baz=36,slow=6.0,SNR=5.0
comp=Z,0.2nm,0.6s
YKA Yellowknife Ar 78.07 343 *i* P **P 22 05 41.0 +2.1**
ILAR Eielson Array 80.28 358 P **P 22 05 51.5 +0.6**
comp=Z,0.2nm,0.6s,baz=349,slow=3.1,SNR=4.4
comp=Z,0.2nm,0.6s
ROSC El Rosal 97.13 281 LR LR 22 54 22.6
comp=Z,136nm,18.1s,baz=218,slow=38

---

*IDC **26** 22:06:38.7±1.4, 8.°01S×126.°81E, h0km, mb3.5/4, mbtmp3.6/7, ML3.8/3, Error ellipse: s-maj=96.0km s-min=24.0km az=73.0*
ISC 26 22:06:43.2±1.1, 8.°13S±0.°09×127.°1E±0.°2, h35km, n7, σ1°30/10, mb3.6/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.01**	**188**	Pn	**Pn**	**22 09 05.8**	**+1.2**
0.4nm,0.3s,baz=13,slow=8.7,SNR=18							
FITZ				Sn	**Sn**	**22 10 55.1**	**-0.6**
0.9nm,0.3s,baz=116,slow=7.2,SNR=4.4							
1.1nm,0.3s							
WRA	**Warramunga Arr**	**13.70**	**150**	Pn	**Pn**	**22 09 57.0**	**+1.9**
0.7nm,0.3s,baz=322,slow=14,SNR=18							
WRA				Sn	**Sn**	**22 12 24.3**	**-1.9**
0.4nm,0.3s,baz=328,slow=23,SNR=6.4							
1.6nm,0.5s							
ASAR	**Alice Springs**	**16.79**	**158**	Pn	**P**	**22 10 37.6**	**-0.1**
0.3nm,0.3s,baz=330,slow=11,SNR=32							
ASAR				Sn	**Sn**	**22 13 40.2**	**-1.1**
0.1nm,0.3s,baz=312,slow=18,SNR=2.7							
1.1nm,0.7s							
SONM	**Songino Array**	**58.64**	**344**	P	**P**	**22 16 37.4**	**+0.4**
0.3nm,0.6s,baz=165,slow=6.0,SNR=2.4							
0.3nm,0.6s							
MKAR	**Makanchi Array**	**67.61**	**328**	P	**P**	**22 17 35.6**	**-0.9**
0.2nm,0.6s,baz=123,slow=5.3,SNR=2.4							
0.2nm,0.6s							
ZALV	**Zalesovo Beam**	**71.33**	**335**	P	**P**	**22 17 58.4**	**-0.8**
0.4nm,0.4s,baz=155,slow=7.6,SNR=1.6							
0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**71.97**	**330**	P	**P**	**22 18 02.6**	**-0.5**
0.3nm,0.5s,baz=141,slow=10,SNR=2.2							
0.3nm,0.5s							

---

*IDC **26** 22:43:08.8±1.9, 3.°54S×148.°88E, h0km, mb3.8/7, mbtmp3.8/7, MS3.5/9, Error ellipse: s-maj=61.2km s-min=24.7km az=107.0*
ISC 26 22:43:11.9±1.8, 3.°6S±0.°2×148.°9E±0.°4, h19km, n16, σ0°94/7, mb3.9/7, MS3.5/7, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**12.45**	**118**	LR	LR	22 50 27.2	
comp=Z,185nm,19.9s,baz=334,slow=35							
GUMO	**Guam**	**17.49**	**347**	LR	LR	22 52 17.6	
comp=Z,216nm,21.5s,baz=106,slow=31							
WRA	**Warramunga Arr**	**21.59**	**220**	P	**P**	**22 48 01.2**	**+0.3**
6.9nm,0.9s,baz=44,slow=10,SNR=21							
6.9nm,0.9s							
ASAR	**Alice Springs**	**24.68**	**215**	P	**P**	**22 48 31.4**	**-0.5**
2.5nm,0.8s,baz=49,slow=8.1,SNR=28							
2.5nm,0.8s							
STKA	**Stephens Creek**	**28.99**	**193**	LR	LR	23 00 01.1	
comp=Z,205nm,19.8s,baz=176,slow=35							
JCJ	**Chichijima**	**31.15**	**348**	LR	LR	23 02 03.2	
comp=Z,39nm,18.8s,baz=86,slow=36							
JHJ	**Hachijo jima 2**	**37.48**	**347**	LR	LR	23 02 58.3	
comp=Z,81nm,19.5s,baz=84,slow=32							
MJAR	**Matsushiro Arr**	**41.12**	**347**	LR	LR	23 07 22.5	
comp=Z,25nm,19.6s,baz=158,slow=35							
USRK	**Ussuriysk Ar.**	**49.90**	**344**	LR	LR	23 11 25.3	
comp=Z,28nm,19.2s,baz=132,slow=34							
CMAR	**Chiang Mai Arr**	**53.81**	**296**	P	**P**	**22 52 34.8**	**+0.9**
0.5nm,0.3s,baz=101,slow=5.7,SNR=1.6							
0.5nm,0.3s							
SONM	**Songino Array**	**63.23**	**329**	P	**P**	**22 53 38.7**	**-0.5**
0.3nm,0.6s,baz=133,slow=8.1,SNR=1.9							
0.3nm,0.6s							
VNDA	**Vanda**	**74.23**	**177**	LR	LR	23 22 32.9	
comp=Z,31nm,20.1s,baz=346,slow=32							
KURBB	**Kurchatov Arra**	**80.42**	**323**	P	**P**	**22 55 22.1**	**-0.3**
0.5nm,0.9s,baz=104,slow=5.5,SNR=3.4							
0.5nm,0.9s							
ILAR	**Eielson Array**	**82.52**	**23**	P	**P**	**22 55 33.9**	**+0.7**
0.3nm,0.7s,baz=238,slow=5.2,SNR=2.5							
0.3nm,0.7s							
BVAR	**Borovoye Array**	**85.92**	**324**	P	**P**	**22 55 49.5**	**-1.2**
0.7nm,0.8s,baz=100,slow=5.0,SNR=2.4							
0.7nm,0.8s							
PFO	**Pinyon Flats O**	**95.84**	**57**	LR	LR	23 33 22.2	
comp=Z,24nm,18.5s,baz=220,slow=31							

MEX 26 22:53:52.8±2.2, 15°.48N×96°.29W, h4km±21km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.34	32	*i* P	Pg	22 53 58.3	-1.0
HUIG				eS	Sg	22 54 03.9	+0.1
PEIG	Puerto Escondi	0.97	302	eP	Pg	22 54 06.4	-5.0
PEIG				eS	Sg	22 54 15.9	-8.2
OXLC	Oaxaca	1.62	346	eS	Sn	22 54 37.5	-6.5
OXBJ	Oaxaca	1.63	345	eS	Sn	22 54 35.9	-8.3
VHO	Vista Hermosa	1.64	345	eP	Pn	22 54 18.9	-3.7
VHO				eS	Sn	22 54 39.4	-5.0
YOIG	Yosondua	1.82	319	eP	Pn	22 54 19.7	-5.5
YOIG				eS	Sn	22 54 45.7	-3.3
PNIG	Pinotepa	1.98	297	eP	Pn	22 54 23.3	-4.0
CMIG	Matias Romero	2.10	40	eP	Pn	22 54 27.1	-1.6
CMIG				eS	Sn	22 54 53.7	-1.6
TXIG	Tlaxiaco	2.26	321	eP	Pn	22 54 28.2	-3.0
TXIG				eS	Sn	22 54 56.7	-3.1
NEUV	Arroyo Zacate	2.27	12	eP	Pn	22 54 28.7	-2.4
NEUV				eS	Sn	22 54 55.2	-4.4
TOIG	Toxpalan	2.70	344	eS	Sn	22 55 07.6	-2.9
UXUV	UXUV	2.75	48	eP	Pn	22 54 34.5	-3.3
UXUV				eS	Sn	22 55 09.3	-2.2
FTIG	Fresnillo de T	2.99	324	eS	Sn	22 55 17.0	-0.6
TLIG	Tlapa	3.01	314	eP	Pn	22 54 35.4	-6.0
TLIG				eS	Sn	22 55 16.6	-1.4
TPIG	Tehuac#an	3.10	341	eS	Sn	22 55 19.9	-0.4
TGIG		3.31	67	eS	Sn	22 55 23.2	-2.2
DAIG	Los Arroyos	3.57	296	eS	Sn	22 55 31.4	-0.3
MEIG	Mezcala	4.01	308	eS	Sn	22 55 32.8	-10
CCIG	Comitan	4.08	78	eS	Sn	22 55 41.2	-3.3
PPM	Popocatepetl	4.21	328	eP	Pn	22 54 57.6	-0.6
PPM				eS	Sn	22 55 46.6	-1.6
LVIG	Laguna Verde	4.22	358	eP	Pn	22 54 54.0	-4.0
LVIG				eS	Sn	22 55 49.2	+1.4
PLIG	Platanillo	4.22	314	eP	Pn	22 54 55.2	-2.9
YAIG	Yautepec	4.28	322	eS	Sn	22 55 48.4	-1.1
ARIG	Puente Sto Nin	4.78	306	eP	Pn	22 55 05.0	-0.7
ARIG				eS	Sn	22 55 59.8	-1.8

IDC 26 22:58:36.6±8.2, 3°.90S×149°.41E, h123km±70km, mb3.4/4, mbtmp3.8/5, Error ellipse: s-maj=136.2km s-min=37.6km az=143.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.91	202	P	Pn	23 00 01.8	-0.1
	28nm,0.9s,baz=27,slow=6.8,SNR=3.8						
PMG				S	Sn	23 01 00.3	-8.2
	32nm,0.7s,baz=259,slow=19,SNR=3.7						
WRA	Warramunga Arr	21.68	221	P	P	23 03 18.4	+0.6
	0.5nm,0.5s,baz=63,slow=11,SNR=8.6						
	0.5nm,0.5s						
ASAR	Alice Springs	24.71	216	P	P	23 03 47.0	+0.5
	1.2nm,0.9s,baz=54,slow=9.2,SNR=9.5						
	1.2nm,0.9s						
FITZ	Fitzroy Crossi	27.21	237	P	P	23 04 07.7	-1.4
	1.4nm,0.9s,baz=46,slow=8.9,SNR=1.2						
	1.4nm,0.9s						
NVAR	Mina Array Bea	94.19	52	P	P	23 11 42.2	0.0
	0.4nm,0.5s,baz=257,slow=5.1,SNR=2.6						
	0.4nm,0.5s						

RSNC 26 23:06:46.3±0.0, 5°N±1°×7°4W±°, h146km±3km, M2.9, mb3.6, ML2.7, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	Chingaza	0.60	184	P	Pn	23 07 08.4	+0.1
CHIC				S	Sn	23 07 25.1	+0.2
ROSC	El Rosal	0.74	238	P	Pn	23 07 10.1	+1.0
ROSC				S	Sn	23 07 25.2	-1.2
CVER	Cruz Verde, Cu	0.80	209	P	Pn	23 07 10.5	+0.8
CVER				S	Sn	23 07 28.7	+1.3
RUSC	La Rusia	0.89	43	P	Pn	23 07 10.7	+0.3
RUSC				S	Sn	23 07 29.2	+0.5
NORC	Norcasia	1.22	286	P	Pn	23 07 12.2	-0.6
NORC				S	Sn	23 07 32.1	-0.8
BARC	Barichara	1.45	20	P	Pn	23 07 14.6	-0.7
BARC				S	Sn	23 07 36.6	-0.8
PTBC	PUERTO BERRIO,	1.51	330	P	Pn	23 07 14.1	-1.6
PTBC				S	Sn	23 07 36.8	-1.4
GUY2C	Guyana, Caldas	1.67	270	P	Pn	23 07 17.1	-0.8
BRJC	Barrancabermej	1.73	358	P	Pn	23 07 18.0	-0.1
BRJC				S	Sn	23 07 42.8	+0.2
NIZA	Niza - Manizal	1.78	265	P	Pn	23 07 19.8	+0.8
NIZA				S	Sn	23 07 45.5	+1.6
ANIL	Santa Ana	1.86	247	P	Pn	23 07 19.6	-0.2
ANIL				S	Sn	23 07 45.7	+0.2
PTGC	Puerto Gaitan,	1.86	123	P	Pn	23 07 19.6	0.0
PTGC				S	Sn	23 07 44.2	-0.9
PRAC	Prado	1.92	218	P	Pn	23 07 20.1	-0.2
PRAC				S	Sn	23 07 46.0	-0.5
ORTC	Ortega, Tolima	2.03	230	P	Pn	23 07 21.3	-0.3
ORTC				S	Sn	23 07 47.8	-0.9
URMC	La Uribe, Meta	2.09	199	P	Pn	23 07 22.7	+0.4
URMC				S	Sn	23 07 50.9	+0.9
TAMC	Tame, Arauca	2.24	58	P	Pn	23 07 24.2	+0.1
TAMC				S	Sn	23 07 53.1	0.0
PAMC	Pamplona, Colo	2.31	25	P	Pn	23 07 25.7	+0.2
PAMC				S	Sn	23 07 56.0	+0.4
CBOC	Ciudad Bolivar	2.40	285	P	Pn	23 07 25.3	-0.8
CBOC				S	Sn	23 07 55.6	-1.1
ZARC	Zaragoza, Cauc	2.53	333	P	Pn	23 07 25.1	-2.5
ZARC				S	Sn	23 07 56.4	-3.1
YOTC	Yotoco, Valle	2.92	245	P	Pn	23 07 31.8	-0.9
OCAC	Ocana	3.01	7	P	Pn	23 07 33.1	-0.7
OCAC				S	Sn	23 08 10.3	-0.3
MACC	Macarena, Meta	3.07	183	P	Pn	23 07 33.3	-1.2
MACC				S	Sn	23 08 09.9	-1.8
DBBC	Dabeiba	3.07	305	P	Pn	23 07 33.9	-0.6
DBBC				S	Sn	23 08 11.5	-0.3
UREC	San Jos de Ur	3.10	324	P	Pn	23 07 31.7	-3.2
UREC				S	Sn	23 08 08.0	-4.4
GARC	Garzon, Huila	3.52	211	P	Pn	23 07 39.1	-1.3
JAMC	Jamundi, Valle	3.59	236	P	Pn	23 07 34.1	-7.2
APAC	Apartado, Choc	3.91	313	P	Pn	23 07 46.9	+1.6
APAC				S	Sn	23 08 28.6	-2.5
SJCC	San Jacinto, C	4.87	342	P	Pn	23 07 53.9	-4.1
SJCC				S	Sn	23 08 47.1	-6.7
CRJC	Cerrejon, Guaj	5.81	8	P	Pn	23 08 07.9	-2.6
CRJC				S	Sn	23 09 08.6	-7.8

*NEIC **26** 23:10:09.6±1.4, 9°.84N±0°.09×126°.6E±0°.1, h10km±1km, mb4.5/22, Error ellipse: s-maj=20.6km s-min=8.5km az=128.0*
*IDC **26** 23:10:17.6±4.0, 9°.83N×126°.70E, h84km±35km, mb3.7/18, mbtmp4.1/19, MS3.1/2, Error ellipse: s-maj=45.4km s-min=13.6km az=70.0*

ISC 26 23:10:12.6±0.6, 9°.95N±0°.06×126°.9E±0°.1, h41km, n45, σ1°15/47, mb4.2/29, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.14	204	P	Pn	23 11 02.5	+3.0
	170nm,0.4s,baz=238,slow=5.8,SNR=8.1						
DAV				S	Sn	23 11 37.9	+2.1
	154nm,0.5s,baz=319,slow=15,SNR=3.8						
DAV				LR	LR	23 12 37.9	
	comp=Z,396nm,20.1s,baz=16,slow=48						
TPUB	Ta-pu	14.56	337		P	23 13 42.4	+0.6
GUMO	Guam	17.98	77	LR	LR	23 20 13.3	
	comp=Z,54nm,19.4s,baz=132,slow=33						
MYKOM	Kota Tinggi	24.28	252	P	P	23 15 24.6	-1.8
MYKOM				IAmb	IAmb	23 15 26.2	
	comp=Z,18nm,0.8s						
KNRA	Kununurra	25.53	176	P	P	23 15 37.2	-0.3
KNRA				IAmb	IAmb	23 15 46.8	
	comp=Z,16nm,1.2s						
FITZ	Fitzroy Crossi	27.89	183	P	P	23 15 58.5	-0.3
GSI	Gunungsitoli	30.38	255	P	P	23 16 19.1	-1.9
WB0	Warramunga Arr	30.44	166	P	P	23 16 20.3	-1.2
WB0				IAmb	IAmb	23 16 20.8	
	comp=Z,4.7nm,1.1s						
WRA	Warramunga Arr	30.60	166	P	P	23 16 22.7	-0.2
WRA	Warramunga Arr	30.60	166	P	P	23 16 22.1	-0.8
	comp=Z,0.4nm,0.6s,baz=343,slow=9.5,SNR=2.0						
	comp=Z,0.4nm,0.6s						
WR8	Warramunga Arr	30.65	166	P	P	23 16 22.7	-0.6
WR8				IAmb	IAmb	23 16 34.4	
	comp=Z,6.0nm,1.1s						
MBWA	Marble Bar	31.70	193	P	P	23 16 31.4	-1.1
PSA00	Pilbara Seismi	32.08	192	P	P	23 16 33.2	-2.6
ASAR	Alice Springs	34.11	168	P	P	23 16 53.0	-0.6
	comp=Z,0.2nm,0.3s,baz=349,slow=7.0,SNR=5.3						
ASAR				PcP	PcP	23 19 30.6	+0.1
	comp=Z,0.3nm,0.5s,baz=345,slow=3.5,SNR=2.4						
	comp=Z,0.2nm,0.3s						
MORW	Morawa	40.17	195	P	P	23 17 44.2	-0.8
MORW				IAmb	IAmb	23 17 44.7	
	comp=Z,7.0nm,0.8s						
FORT	Forrest	40.51	178	P	P	23 17 47.5	-0.2
FORT				IAmb	IAmb	23 17 55.4	
	comp=Z,26nm,1.2s						
ULN	Ulaanbaatar	41.33	340	P	P	23 17 55.8	+1.3
SONM	Songino Array	41.53	339	P	P	23 17 57.5	+1.4
SONM	Songino Array	41.53	339	P	P	23 17 57.1	+1.0
	comp=Z,1.3nm,0.5s,baz=156,slow=10,SNR=10						
	comp=Z,1.3nm,0.5s						
BBOO	Buckleboo	43.41	169	P	P	23 18 11.2	-0.2
BBOO				IAmb	IAmb	23 18 19.8	
	comp=Z,27nm,1.4s						
NWAO	Narrogin (SRO)	43.62	192	P	P	23 18 11.8	-1.3
STKA	Stephens Creek	43.91	162	P	P	23 18 15.3	-0.1
STKA	Stephens Creek	43.91	162	P	P	23 18 15.4	-0.1
	comp=Z,2.6nm,0.8s,baz=344,slow=7.1,SNR=4.6						
	comp=Z,2.6nm,0.8s						
MKAR	Makanchi Array	52.65	323	P	P	23 19 22.8	+0.1
	comp=Z,2.3nm,0.8s,baz=121,slow=8.3,SNR=18						
MKAR				PcP	PcP	23 20 33.3	+0.9
	comp=Z,0.3nm,0.5s,baz=116,slow=5.5,SNR=4.5						
	comp=Z,2.3nm,0.8s						
MAKZ	Makanchi	52.84	323	P	P	23 19 24.4	+0.2
KDJ	Kajisay	53.94	315	P	P	23 19 32.0	-0.5
KDJ				IAmb	IAmb	23 19 32.3	
	comp=Z,4.9nm,0.9s						
ZALV	Zalesovo Beam	55.20	331	P	P	23 19 41.2	0.0
	comp=Z,0.5nm,0.4s,baz=107,slow=7.9,SNR=3.6						
	comp=Z,0.5nm,0.4s						
KURK	Kurchatov	56.67	325	P	P	23 19 51.7	-0.1
KURK				IAmb	IAmb	23 19 52.8	
	comp=Z,3.3nm,0.9s						
KURBB	Kurchatov Arra	56.68	325	P	P	23 19 51.8	0.0
	comp=Z,1.2nm,0.7s,baz=123,slow=6.8,SNR=14						
	comp=Z,1.2nm,0.7s						
GAR	Garm	57.96	310	P	P	23 19 59.0	-2.3
GAR				IAmb	IAmb	23 20 04.6	
	comp=Z,5.5nm,1.1s						
KBL	Kabul	58.01	305	P	P	23 20 00.6	-1.2
KBL				IAmb	IAmb	23 20 01.4	
	comp=Z,3.1nm,0.7s						
NRIK	Noril'sk	64.47	346	P	P	23 20 46.8	+2.2
NRIK				IAmb	IAmb	23 20 47.1	
	comp=Z,3.2nm,0.7s						
NRIK	Noril'sk	64.47	346	P	P	23 20 46.0	+1.3
	comp=Z,2.6nm,0.5s,baz=135,slow=10.0,SNR=9.5						
	comp=Z,2.6nm,0.5s						
KBZ	Khabaz	78.87	313	P	P	23 22 11.2	-0.4
	comp=Z,1.0nm,0.8s,baz=90,slow=5.1,SNR=2.8						
	comp=Z,1.0nm,0.8s						
SPITS	Spitsbergen Ar	84.45	349	P	P	23 22 41.4	+0.9
	comp=Z,5.5nm,0.9s,baz=54,slow=3.7,SNR=9.6						
	comp=Z,5.5nm,0.9s						
ARCES	ARCESS Array B	84.70	340	P	P	23 22 42.9	+1.0
	comp=Z,2.0nm,0.6s,baz=77,slow=6.5,SNR=14						
	comp=Z,2.0nm,0.6s						
MMAI	Mount Meron Ar	85.89	303	P	P	23 22 47.0	-1.7
	comp=Z,1.0nm,0.9s,baz=67,slow=3.7,SNR=1.6						
	comp=Z,1.0nm,0.9s						
BRTR	Keskin Array B	86.20	309	P	P	23 22 49.4	-0.8
	comp=Z,0.3nm,0.6s,baz=59,slow=8.7,SNR=2.2						
	comp=Z,0.3nm,0.6s						
FINES	FINESS Array B	86.46	332	P	P	23 22 51.0	+0.2
	comp=Z,1.9nm,0.5s,baz=71,slow=4.5,SNR=25						
	comp=Z,1.9nm,0.5s						
VNDA	Vanda	89.54	173	P	P	23 23 05.0	-0.1
	comp=Z,0.5nm,0.8s,baz=325,slow=6.1,SNR=2.7						
	comp=Z,0.5nm,0.8s						
HFS	Hagfors	92.61	333	P	P	23 23 20.0	+0.2
	comp=Z,1.3nm,0.5s,baz=72,slow=4.7,SNR=12						
	comp=Z,1.3nm,0.5s						
NB2	NORSAR Subarra	93.31	334	P	P	23 23 22.7	-0.4
	comp=Z,0.7nm,0.6s,baz=67,slow=4.6						
NOA	NORSAR Array B	93.31	334	P	P	23 23 22.9	-0.1
	comp=Z,0.7nm,0.8s,baz=63,slow=4.7,SNR=4.9						
	comp=Z,0.7nm,0.8s						
YKA	Yellowknife Ar	93.80	24	P	P	23 23 25.2	0.0
	comp=Z,0.2nm,0.7s,baz=301,slow=4.4,SNR=5.9						
	comp=Z,0.2nm,0.7s						
PLCA	Paso Flores	145.67	156	PKPbc	PKPdf	23 29 46.8	-0.3
	comp=Z,2.0nm,0.9s,baz=243,slow=3.1,SNR=4.4						

KRSC 26 23:13:34.2±1.4, 49°.46N×156°.90E, h47km±28km, Ml3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.32	338	eP	Pn	23 13 57.2	+1.0
SKR				eS	Sn	23 14 13.2	+0.5
PAU	Pauzhetka	2.01	358	eP	Pn	23 14 08.0	+2.4
PAU				eS	Sn	23 14 32.3	+2.8
KDTR	Khodutka, Kamc	2.47	17	eP	Pn	23 14 15.3	+3.4
KDTR				eS	Sn	23 14 45.1	+4.4
MTVR	Mutnovka	3.13	14	eP	Pn	23 14 24.9	+3.8
MTVR				eS	Sn	23 15 01.7	+4.4
RUS	Russkaya	3.15	18	eS	Sn	23 15 01.2	+3.8
GRL	Gorelyy	3.18	13	eP	Pn	23 14 25.8	+3.9
GRL				eS	Sn	23 15 03.4	+4.9
UGLR	Uglovaya	3.94	17	eP	Pn	23 14 36.3	+4.1
KOK	Koryaka	3.99	15	eP	Pn	23 14 37.7	+4.8
SDLR	Sedlovina	4.02	17	eP	Pn	23 14 36.8	+3.5
MKZ	Mys Kozlova	5.91	28	eP	Pn	23 15 02.6	+3.5

*NEIC **26** 23:14:09.9±1.2, 15°.57N±0°.07×119°.2E±0°.1, h10km±1km, mb4.4/67, Error ellipse: s-maj=24.1km s-min=11.6km az=266.0*
*IDC **26** 23:14:16.7±2.4, 15°.49N×119°.24E, h76km±23km, mb3.7/16, mbtmp4.1/17, Error ellipse: s-maj=30.8km s-min=12.9km az=66.0*

ISC 26 23:14:12.0±0.5, 15°.55N±0°.08×119°.24E±0°.09, h29km, n92, σ1°04/95, mb4.3/50, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	2.18	131	P	Pb	23 14 51.0	+0.2
	244nm,0.5s,baz=289,slow=7.7,SNR=3.7						
TGY				S	Sb	23 15 17.2	-0.4
	605nm,0.5s,baz=142,slow=21,SNR=7.4						
KKM	Kota Kinabalu	9.90	198	Pn	Pn	23 16 30.2	-2.3
CMAR	Chiang Mai Arr	19.62	281	P	Pn	23 18 44.4	+4.5
	1.5nm,0.5s,baz=93,slow=8.1,SNR=6.1						
KSRS	Korea Array	23.14	18	P	P	23 19 15.1	-0.8
	2.8nm,0.9s,baz=194,slow=11,SNR=7.3						
	2.8nm,0.9s						
MTN	Manton Dam	30.57	157	P	P	23 20 23.9	+0.6
SONM	Songino Array	33.90	344	P	P	23 20 52.6	+0.1
	1.6nm,0.6s,baz=169,slow=9.1,SNR=5.4						
	1.6nm,0.6s						
PMG	Port Moresby	37.15	130	P	P	23 21 23.0	+2.5
WB0	Warramunga Arr	38.13	156	P	P	23 21 27.6	-1.2
WRAB	Tennant Creek	38.26	157	P	P	23 21 32.1	+2.2
WRA	Warramunga Arr	38.27	157	P	P	23 21 27.9	-2.0
	1.7nm,0.6s,baz=336,slow=9.4,SNR=7.3						
WRA				PcP	PcP	23 23 41.4	-2.5
	0.7nm,0.6s,baz=356,slow=3.2,SNR=2.7						
	1.7nm,0.6s						
WB2	Warramunga Arr	38.27	157	P	P	23 21 28.9	-1.0
WB2				IAmb	IAmb	23 21 32.1	
	comp=Z,8.7nm,1.2s						
WR8	Warramunga Arr	38.34	156	P	P	23 21 29.8	-0.8
WR8				IAmb	IAmb	23 21 40.8	
	comp=Z,10nm,1.4s						
AS31	Alice Springs	41.53	159	P	P	23 21 56.5	-0.5
ASAR	Alice Springs	41.53	160	P	P	23 21 56.9	-0.2
ASAR	Alice Springs	41.53	160	P	P	23 21 56.2	-0.8
	comp=Z,1.5nm,0.3s,baz=336,slow=7.1,SNR=42						
ASAR				PcP	PcP	23 23 54.1	-0.1
	comp=Z,0.3nm,0.3s,baz=330,slow=2.5,SNR=4.7						
	comp=Z,1.5nm,0.3s						
MK31	Makanchi Array	43.71	323	P	P	23 22 14.1	-0.5
MKAR	Makanchi Array	43.71	323	P	P	23 22 13.8	-0.8
MKAR	Makanchi Array	43.71	323	P	P	23 22 14.9	+0.4
	comp=Z,1.5nm,0.8s,baz=128,slow=9.6,SNR=8.6						
	comp=Z,1.5nm,0.8s						
MAKZ	Makanchi	43.90	323	P	P	23 22 15.3	-0.8
NRN	Naryn	45.28	314	P	P	23 22 27.1	-0.4
ZAA0	Zalesovo Array	46.78	333	P	P	23 22 37.4	-1.3
ZALV	Zalesovo Beam	46.78	333	P	P	23 22 37.5	-1.2
ZALV	Zalesovo Beam	46.78	333	P	P	23 22 38.0	-0.7
	comp=Z,2.1nm,0.8s,baz=121,slow=5.4,SNR=7.0						
	comp=Z,2.1nm,0.8s						
ARSB	Arslanbob	47.38	312	P	P	23 22 42.7	-1.1
ARSB				IAmb	IAmb	23 22 45.0	
	comp=Z,3.0nm,1.0s						
KURBB	Kurchatov Arra	47.87	326	P	P	23 22 47.4	+0.1
	comp=Z,2.8nm,0.9s,baz=120,slow=8.6,SNR=18						
	comp=Z,2.8nm,0.9s						
KURK	Kurchatov	47.88	326		P	23 22 47.1	-0.2
PETK	Petropavlovsk-	48.12	30	P	P	23 22 49.8	+0.5
	comp=Z,3.8nm,0.7s,baz=197,slow=4.6,SNR=5.7						
	comp=Z,3.8nm,0.7s						
BTK	Batken	48.57	310	P	P	23 22 52.4	-0.6
BTK				IAmb	IAmb	23 23 06.1	
	comp=Z,4.3nm,1.4s						
GAR	Garm	48.66	309	P	P	23 22 53.6	-0.2
KBL	Kabul	48.72	302	P	P	23 22 54.1	-0.3
KBL				IAmb	IAmb	23 23 03.8	
	comp=Z,1.9nm,0.7s						
KK31	Karatay Array	49.68	314	P	P	23 23 00.7	-0.6
KKAR	Karatay Array	49.68	314	P	P	23 23 01.4	+0.1
BVAR	Borovoye Array	53.46	326	P	P	23 23 29.3	-0.1
	comp=Z,0.9nm,0.5s,baz=141,slow=9.3,SNR=2.7						
	comp=Z,0.9nm,0.5s						
BRVK	Borovoye	53.53	326	P	P	23 23 29.4	-0.5
BRVK				IAmb	IAmb	23 23 30.6	
	comp=Z,2.9nm,0.8s						
TIXI	Tiksi	56.38	4	P	P	23 23 49.4	-0.9
TIXI				IAmb	IAmb	23 23 50.5	
	comp=Z,5.7nm,1.1s						
NRIK	Noril'sk	57.31	347		P	23 23 56.9	0.0
NRIK	Noril'sk	57.31	347	P	P	23 23 56.5	-0.4
	comp=Z,4.2nm,0.7s,baz=133,slow=6.7,SNR=11						
	comp=Z,4.2nm,0.7s						
CAN	Canberra	57.93	151	P	P	23 24 04.1	+2.4
AB31	Akbulak array	58.42	319		P	23 24 04.6	-0.4
AB31				IAmb	IAmb	23 24 06.0	
	comp=Z,4.1nm,0.9s						
ABKAR	Akbulak array	58.42	319		P	23 24 05.0	+0.1
ABKAR				IAmb	IAmb	23 24 06.0	
	comp=Z,4.1nm,0.9s						
ABKAR	Akbulak array	58.42	319		P	23 24 05.1	+0.1
ARTI	Arti	61.15	326	P	P	23 24 22.9	-0.8
KBZ	Khabaz	69.60	311	P	P	23 25 18.7	+0.1
	comp=Z,3.2nm,0.9s,baz=111,slow=4.3,SNR=7.9						
	comp=Z,3.2nm,0.9s						
KIV	Kislovodsk	69.75	312		P	23 25 20.4	+0.7
J17K	VABM Dome	72.51	28	P	P	23 25 37.0	+1.2
J17K				IAmb	IAmb	23 25 38.4	
	comp=Z,4.6nm,0.9s						
K17K	Iditarod	72.86	29	P	P	23 25 39.6	+1.7
D19K	Kuna River	72.96	22	P	P	23 25 39.4	+0.8
D19K				IAmb	IAmb	23 25 40.5	
	comp=Z,4.2nm,0.8s						
D20K	Etivluk River	73.51	22	P	P	23 25 42.8	+1.1
D20K				IAmb	IAmb	23 25 54.1	
	comp=Z,4.1nm,0.9s						
H19K	Roundabout Mou	73.62	26	P	P	23 25 43.3	+0.9
H19K				IAmb	IAmb	23 25 44.7	
	comp=Z,4.7nm,1.1s						
L18K	Granite Mounta	73.62	29	P	P	23 25 42.8	+0.3
L18K				IAmb	IAmb	23 25 55.2	
	comp=Z,4.0nm,1.1s						
F20K	Avaraart Lake	73.88	24		P	23 25 44.9	+1.0
F20K				IAmb	IAmb	23 25 46.2	
	comp=Z,4.4nm,1.2s						
B22K	Teshekpuk Lake	74.59	21	P	P	23 25 48.7	+0.8
B22K				IAmb	IAmb	23 26 00.7	
	comp=Z,5.3nm,1.4s						
J20K	Nowinta River	74.67	27	P	P	23 25 49.6	+1.1
J20K				IAmb	IAmb	23 25 50.5	
	comp=Z,3.5nm,1.1s						
G21K	Allakaket	74.78	25	P	P	23 25 48.3	-0.8
G21K				IAmb	IAmb	23 25 52.3	
	comp=Z,5.4nm,1.4s						
CAST	Castle Rocks	75.65	28		P	23 25 55.2	+0.9
D23K	Nanushuk River	75.65	22	P	P	23 25 54.7	+0.6
D23K				IAmb	IAmb	23 26 07.1	
	comp=Z,4.6nm,1.2s						
OHAK	Old Harbor	75.72	34	P	P	23 25 53.2	-1.5
BPAW	Bear Paw Mtn.	76.06	27	P	P	23 25 56.0	-0.6
BPAW				IAmb	IAmb	23 26 08.8	
	comp=Z,4.7nm,1.2s						
F24K	Squaw Lake	76.86	23		P	23 26 01.3	+0.2
F24K				IAmb	IAmb	23 26 18.6	
	comp=Z,3.6nm,1.2s						
BRTR	Keskin Array B	76.90	308	P	P	23 26 01.5	-0.5
	comp=Z,0.3nm,0.7s,baz=144,slow=3.4,SNR=3.1						
	comp=Z,0.3nm,0.7s						
D25K	Kavik River	77.13	21	P	P	23 26 03.2	+0.6
D25K				IAmb	IAmb	23 26 04.0	
	comp=Z,3.8nm,0.8s						
SPB2	Spitsbergen Ar	77.50	348	P	P	23 26 04.7	+0.2
SPITS	Spitsbergen Ar	77.50	348	P	P	23 26 04.3	-0.2
	comp=Z,3.6nm,0.6s,baz=106,slow=6.2,SNR=9.9						
	comp=Z,3.6nm,0.6s						
F25K	Christian Rive	77.70	23		P	23 26 06.9	+1.1
FINES	FINESS Array B	77.99	331	P	P	23 26 06.6	-0.8
	comp=Z,0.9nm,0.6s,baz=38,slow=9.6,SNR=5.0						
	comp=Z,0.9nm,0.6s						
C27K	Jago River	77.99	21	P	P	23 26 08.0	+0.7
C

mb4.4/22, Error ellipse: s-maj=26.4km s-min=16.0km az=146.0
*IDC **26** 23:18:42.0±1.8, 16°.18S×179°.98W, h517km±18km, mb3.3/5, mbtmp4.2/7, Error ellipse: s-maj=56.7km s-min=22.4km az=145.0*
ISC 26 23:18:39.9±0.6, **16°.4S**±0°.1×**179°.69W**±0°.10, **h500**km, **n41**, σ1°**53**/38, **mb4.3**/17, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.55**	**238**	P	**P**	**23 19 51.4**	**+3.4**
MSVF	**Nonsavu**	**2.55**	**238**	P	**P**	**23 19 51.1**	**+3.1**
	49nm,0.6s,baz=165,slow=18,SNR=13						
FUTU	**Fugatoga**	**2.55**	**37**		**P**	**23 19 50.5**	**+2.4**
NIUE	**Niue**	**9.69**	**108**	P	**P**	**23 20 55.0**	**+1.1**
DZM	**Mont Dzumac**	**14.26**	**244**	P	**P**	**23 21 43.4**	**+0.9**
DZM	**Mont Dzumac**	**14.26**	**244**	P	**P**	**23 21 43.1**	**+0.6**
	7.6nm,1.0s,baz=61,slow=18,SNR=5.7						
QRZ	**Quartz Range**	**25.28**	**194**	P	**P**	**23 23 22.6**	**-3.1**
TCW	**Tory Channel**	**25.29**	**191**	P	**P**	**23 23 23.5**	**-2.2**
THZ	**Tophouse**	**26.09**	**193**	P	**P**	**23 23 31.7**	**-1.2**
FOZ	**Fox Glacier**	**28.50**	**196**	P	**P**	**23 23 52.7**	**-1.3**
EIDS	**Eidsvold**	**28.68**	**247**	P	**P**	**23 23 55.6**	**-0.3**
EIDS				IAmb	IAmb	23 24 10.4	
	comp=Z,14nm,1.4s						
ARMA	**Armidale**	**29.70**	**237**	P	**P**	**23 24 05.1**	**+0.3**
ARMA				IAmb	IAmb	23 24 08.2	
	comp=Z,24nm,1.2s						
COEN	**Coen**	**35.89**	**269**	P	**P**	**23 24 58.3**	**+0.8**
COEN				IAmb	IAmb	23 24 59.6	
	comp=Z,8.0nm,0.8s						
TOO	**Toolangi**	**37.22**	**229**	P	**P**	**23 25 07.3**	**-0.9**
TOO				IAmb	IAmb	23 25 25.9	
	comp=Z,13nm,1.4s						
STKA	**Stephens Creek**	**38.33**	**239**	P	**P**	**23 25 17.4**	**+0.1**
STKA	**Stephens Creek**	**38.33**	**239**	P	**P**	**23 25 16.8**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=82,slow=8.0,SNR=7.4						
	comp=Z,1.5nm,0.3s						
POHA	**Pohakuloa**	**43.05**	**34**	P	**P**	**23 25 53.0**	**-2.3**
BBOO	**Buckleboo**	**43.10**	**239**	P	**P**	**23 25 55.0**	**-0.4**
BBOO				IAmb	IAmb	23 26 00.2	
	comp=Z,39nm,1.5s						
WR8	**Warramunga Arr**	**43.57**	**258**	P	**P**	**23 25 58.3**	**-1.0**
WB0	**Warramunga Arr**	**43.68**	**258**	P	**P**	**23 25 59.1**	**-1.1**
WRA	**Warramunga Arr**	**43.72**	**258**	P	**P**	**23 25 59.3**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=90,slow=6.8,SNR=16						
	comp=Z,1.0nm,0.4s						
AS31	**Alice Springs**	**44.05**	**253**	P	**P**	**23 26 02.7**	**-0.3**
AS31				IAmb	IAmb	23 26 03.0	
	comp=Z,6.1nm,0.4s						
ASAR	**Alice Springs**	**44.05**	**253**	P	**P**	**23 26 02.1**	**-0.9**
	comp=Z,9.8nm,0.4s,baz=84,slow=8.7,SNR=239						
ASAR				PcP	**pP**	**23 27 37.2**	**+2.6**
	comp=Z,1.0nm,1.0s,baz=92,slow=4.2,SNR=2.6						
	comp=Z,9.8nm,0.4s						
MTN	**Manton Dam**	**47.63**	**267**	P	**P**	**23 26 30.4**	**0.0**
MTN				IAmb	IAmb	23 26 31.5	
	comp=Z,13nm,0.8s						
KNRA	**Kununurra**	**49.44**	**263**	P	**P**	**23 26 43.5**	**-0.4**
KNRA				IAmb	IAmb	23 26 44.5	
	comp=Z,12nm,0.9s						
FORT	**Forrest**	**49.57**	**243**	P	**P**	**23 26 43.9**	**-0.8**
FORT				IAmb	IAmb	23 26 50.6	
	comp=Z,15nm,1.0s						
FITZ	**Fitzroy Crossi**	**52.08**	**260**	P	**P**	**23 27 03.4**	**+0.2**
PSA00	**Pilbara Seismi**	**57.12**	**255**	P	**P**	**23 27 37.9**	**-0.7**
PSA00	**Pilbara Seismi**	**57.12**	**255**	P	**P**	**23 27 38.3**	**-0.3**
PSA00				IAmb	IAmb	23 27 39.1	
	comp=Z,12nm,0.9s						
MBWA	**Marble Bar**	**57.27**	**255**	P	**P**	**23 27 39.5**	**-0.1**
MBWA				IAmb	IAmb	23 27 58.9	
	comp=Z,21nm,1.1s						
NWAO	**Narrogin (SRO)**	**58.86**	**241**	P	**P**	**23 27 49.6**	**-0.6**
NWAO				IAmb	IAmb	23 27 51.7	
	comp=Z,31nm,1.4s						
MORW	**Morawa**	**59.98**	**246**	P	**P**	**23 27 57.1**	**-0.8**
MORW				IAmb	IAmb	23 28 34.0	
	comp=Z,18nm,1.4s						
MJAR	**Matsushiro Arr**	**65.95**	**324**	P	**P**	**23 28 34.4**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=148,slow=5.5,SNR=2.2						
	comp=Z,0.9nm,0.4s						
BMO	**Blue Mountains**	**83.13**	**39**	P	**P**	**23 30 15.6**	**+2.7**
MSU	**Marysvale**	**83.44**	**47**		pwP	23 32 12.8	+6.7
PV10	**Paradox Valley**	**85.60**	**48**		pwP	23 32 22.2	+4.9
PDAR	**Pinedale Array**	**87.10**	**44**	P	**P**	**23 30 32.4**	**0.0**
	comp=Z,0.2nm,0.6s,baz=232,slow=5.5,SNR=3.6						
	comp=Z,0.2nm,0.6s						
BRTR	**Keskin Array B**	**142.84**	**315**	PKP	**PKPdf**	**23 37 15.1**	**-1.4**
	comp=Z,1.1nm,0.9s,baz=74,slow=0.2,SNR=6.7						
ASF	**Jabal al Asfar**	**143.33**	**302**	PKP	PKPab	23 37 16.4	+0.9
	comp=Z,1.2nm,0.7s,baz=90,slow=1.0,SNR=4.8						
MMAI	**Mount Meron Ar**	**144.28**	**304**	PKP	PKPbc	23 37 19.4	+0.6
	comp=Z,0.5nm,0.3s,baz=76,slow=3.5,SNR=10						
GERES	**GERESS Array B**	**145.82**	**344**	PKPbc	**PKPdf**	**23 37 22.5**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=0.0,slow=2.0,SNR=2.5						

*NEIC **26** 23:20:44.0±1.4, 15°.58N±0°.09×119°.3E±0°.1, h10km±1km, mb4.6/106, Error ellipse: s-maj=19.1km s-min=11.7km az=53.0*
*IDC **26** 23:20:51.1±1.8, 15°.52N×119°.21E, h80km±17km, mb3.8/24, mbtmp4.2/26, MS3.5/22, Error ellipse: s-maj=21.0km s-min=11.0km az=61.0*
ISC 26 23:20:45.5±0.4, **15°.41N**±0°.06×**119°.20E**±0°.06, **h29**km, **n198**, σ1°**53**/194, **mb4.5**/83, **MS3.7**/27, **6C-6D, Luzon**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.13**	**128**	P	**Pb**	**23 21 24.1**	**+0.7**
	242nm,0.4s,baz=305,slow=3.5,SNR=5.0						
TGY				S	**Sb**	**23 21 53.3**	**+3.9**
	395nm,0.5s,baz=342,slow=14,SNR=4.8						
TGY				LR	LR	23 22 20.7	
	comp=Z,1μm,19.5s,baz=159,slow=41						
TWG	**Pinlang**	**7.58**	**13**	Pn	**Pn**	**23 22 31.2**	**-2.8**
TPUB	**Ta-pu**	**7.96**	**10**	Pn	**Pn**	**23 22 35.2**	**-4.1**
YULB	**Yu-li**	**8.18**	**14**	Pn	**Pn**	**23 22 39.9**	**-2.5**
SSLB	**Suanglung**	**8.49**	**11**	Pn	**Pn**	**23 22 44.4**	**-2.3**
NACB	**Ninganchiao**	**9.00**	**14**	Pn	**Pn**	**23 22 49.7**	**-3.9**
YHNB	**Yeheng**	**9.44**	**12**	Pn	**Pn**	**23 22 58.2**	**-1.4**
QIZ	**Qiongzhong**	**9.64**	**293**	P	**Pn**	**23 22 58.5**	**-3.8**
QIZ				S	**Sn**	**23 24 52.8**	**+3.1**
QIZ				LR	LR		
	comp=N,490nm,11.1s						
QIZ				LR	LR		
	comp=E,340nm,12.1s						
QIZ				LR	LR		
	comp=Z,590nm,16.1s						
NJ2	**Nanjing**	**16.57**	**359**	*e*P	**Pn**	**23 24 34.3**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KMI	**Kunming**	**18.20**	**305**	P	**P**	**23 24 59.0**	**+2.6**
KMI				SS	S	23 28 42.8	+19
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMI				pmax	pmax		
	comp=Z,310nm,5.8s						
KMI				LR	LR		
	comp=N,140nm,8.2s						
KMI				LR	LR		
	comp=E,330nm,10.4s						
KMI				LR	LR		
	comp=Z,270nm,16.6s						
CMAR	**Chiang Mai Arr**	**19.61**	**282**	P	**Pn**	**23 25 14.6**	**+1.4**
	comp=Z,3.4nm,0.7s,baz=99,slow=7.4,SNR=24						
CMAR				LR	LR	23 32 46.6	
	comp=Z,252nm,19.4s,baz=95,slow=36						
PZH	**PanZhiHua**	**19.66**	**307**	P	**Pn**	**23 25 15.8**	**+1.9**
PZH				S	S	23 28 40.3	-12
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,210nm,6.2s						
PZH				LR	LR		
	comp=N,260nm,11.2s						
PZH				LR	LR		
	comp=E,250nm,11.8s						
PZH				LR	LR		
	comp=Z,280nm,11.4s						
LYN	**LuoYang**	**20.00**	**344**	P	Pn	23 25 20.3	+2.6
LYN				pP	sP	23 25 24.3	-1.1
LYN				S	Sn	23 29 02.3	+0.5
LYN				SS	**SnSn**	**23 29 29.0**	**+12**
LYN				pmax	pmax		
	comp=Z,27nm,1.3s						
LYN				LR	LR		
	comp=N,360nm,9.6s						
LYN				LR	LR		
	comp=E,560nm,11.0s						
LYN				LR	LR		
	comp=Z,500nm,14.4s						
XAN	**Xi'an**	**20.74**	**335**	P	**P**	**23 25 23.8**	**-0.1**
XAN				S	**S**	**23 29 16.5**	**+2.4**
XAN				pmax	pmax		
	comp=Z,14nm,1.4s						
XAN				LR	LR		
	comp=N,640nm,14.2s						
XAN				LR	LR		
	comp=E,1μm,14.1s						
XAN				LR	LR		
	comp=Z,540nm,13.7s						
CD2	**Chengdu**	**20.93**	**320**	P	Pn	23 25 29.3	+0.7
CD2				S	**S**	**23 29 16.8**	**-1.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
CD2				pmax	pmax		
	comp=Z,240nm,5.2s						
CD2				LR	LR		
	comp=N,540nm,13.6s						
CD2				LR	LR		
	comp=Z,370nm,12.5s						
TNCH	**TengChong**	**21.61**	**300**	*e*P	**P**	**23 25 34.8**	**+1.3**
TNCH				PP	**PnPn**	**23 25 55.8**	**+1.2**
TNCH				S	**S**	**23 29 26.3**	**-5.4**
TNCH				sS	Sn	23 29 30.5	-11
TNCH				SS	**SnSn**	**23 29 57.0**	**+0.6**
TNCH				pmax	pmax		
	comp=Z,170nm,5.5s						
TNCH				LR	LR		
	comp=N,210nm,5.2s						
TNCH				LR	LR		
	comp=E,200nm,3.4s						
TNCH				LR	LR		
	comp=Z,180nm,15.7s						
HNS	**HongShan**	**22.26**	**351**	⇑P	**P**	**23 25 40.3**	**+0.2**
HNS				S	**S**	**23 29 47.8**	**+4.3**
HNS				pmax	pmax		
	comp=Z,15nm,1.2s						
HNS				LR	LR		
	comp=N,350nm,13.3s						
HNS				LR	LR		
	comp=E,420nm,11.6s						
HNS				LR	LR		
	comp=Z,310nm,16.3s						
KSRS	**Korea Array**	**23.28**	**18**	P	**P**	**23 25 50.2**	**-0.5**
	comp=Z,4.2nm,0.8s,baz=198,slow=11,SNR=15						
KSRS				LR	LR	23 34 55.9	
	comp=Z,42nm,21.1s,baz=175,slow=36						
	comp=Z,4.2nm,0.8s						
PSI	**Prapat**	**23.58**	**240**	LR	LR	23 34 20.3	
	comp=Z,156nm,19.0s,baz=50,slow=34						
JCJ	**Chichijima**	**24.33**	**58**	LR	LR	23 35 16.3	
	comp=Z,94nm,20.0s,baz=144,slow=36						
BJI	**Beijing**	**24.68**	**354**	P	**P**	**23 26 05.3**	**+1.4**
BJI				S	**S**	**23 30 26.5**	**+2.7**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LZH	**Lanzhou**	**24.74**	**329**	*e*P	**P**	**23 26 05.0**	**+0.3**
LZH				sP	pP	23 26 12.8	+1.1
LZH				S	**S**	**23 30 29.5**	**+4.3**
LZH				pmax	pmax		
	comp=Z,28nm,1.2s						
LZH				pmax	pmax		
	comp=Z,180nm,4.8s						
LZH				LR	LR		
	comp=N,600nm,13.1s						
LZH				LR	LR		
	comp=E,450nm,13.4s						
LZH				LR	LR		
	comp=Z,260nm,14.1s						
GUMO	**Guam**	**24.91**	**91**	LR	LR	23 33 45.8	
	comp=Z,127nm,22.0s,baz=218,slow=31						
JHJ	**Hachijo jima 2**	**25.66**	**43**	LR	LR	23 34 13.5	
	comp=Z,45nm,21.2s,baz=186,slow=31						
HHC	**Hu-ho-hao-te**	**26.20**	**347**	*e*P	**P**	**23 26 19.0**	**+1.2**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
BRDH	**Bariadhala**	**27.00**	**290**	LR	LR	23 38 29.0	
	comp=Z,306nm,19.2s,baz=160,slow=39						
JAY	**Jayapura**	**27.75**	**128**	LR	LR	23 36 15.2	
	comp=Z,112nm,21.8s,baz=290,slow=33						
XLT	**XiLinHaoTe**	**28.52**	**355**	*e*P	**P**	**23 26 41.0**	**+2.4**
XLT				pP	pP	23 26 47.0	+1.3
XLT				sP	pwP	23 26 51.8	+0.4
XLT				PP	**PnPn**	**23 27 31.3**	**+2.6**
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GTA	**Gaotai**	**29.33**	**328**	*e*P	**P**	**23 26 47.5**	**+1.6**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA				LR	LR		
	comp=N,210nm,14.9s						
GTA				LR	LR		
	comp=E,250nm,14.9s						
GTA				LR	LR		
	comp=Z,300nm,14.5s						
SONM	**Songino Array**	**34.02**	**345**	P	**P**	**23 27 26.0**	**-1.0**
	comp=Z,2.7nm,0.7s,baz=165,slow=10,SNR=16						
SONM				PcP	**PcP**	**23 30 04.2**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=158,slow=1.6,SNR=4.1						
	comp=Z,2.7nm,0.7s						
PMG	**Port Moresby**	**37.09**	**130**	LR	LR	23 45 19.2	
	comp=Z,44nm,19.0s,baz=262,slow=40						
WB0	**Warramunga Arr**	**38.02**	**156**		**P**	**23 28 01.2**	**-0.1**
WB0				IAmb	IAmb	23 28 03.0	
	comp=Z,9.0nm,1.0s						
GIRL	**Giralia**	**38.13**	**187**	P	**P**	**23 28 02.4**	**+0.1**
WRA	**Warramunga Arr**	**38.16**	**157**	P	**P**	**23 28 03.1**	**+0.6**
WRA	**Warramunga Arr**	**38.16**	**157**	P	**P**	**23 28 02.3**	**-0.2**
	comp=Z,5.3nm,0.9s,baz=336,slow=9.4,SNR=17						
WRA				PcP	**PcP**	**23 30 16.1**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=356,slow=2.5,SNR=3.1						
	comp=Z,5.3nm,0.9s						
WR8	**Warramunga Arr**	**38.23**	**156**	P	**P**	**23 28 03.6**	**+0.4**
WR8				IAmb	IAmb	23 28 04.5	
	comp=Z,11nm,1.1s						
PALK	**Pallekele**	**38.55**	**262**	LR	LR	23 42 56.4	
	comp=Z,92nm,19.6s,baz=58,slow=34						
WMQ	**Urumqi**	**38.97**	**323**	*e*P	**P**	**23 28 10.5**	**+1.3**
WMQ				pP	pwP	23 28 21.5	-1.1
WMQ				pmax	pmax		
	comp=Z,33nm,0.7s						
WMQ				LR	LR		
	comp=N,530nm,13.7s						
WMQ				LR	LR		
	comp=Z,130nm,20.9s						
AS31	**Alice Springs**	**41.41**	**159**		**P**	**23 28 30.1**	**+0.5**
ASAR	**Alice Springs**	**41.41**	**159**	P	**P**	**23 28 30.1**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=338,slow=6.8,SNR=18						
ASAR				PcP	**PcP**	**23 30 28.2**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=341,slow=3.0,SNR=4.6						
	comp=Z,1.8nm,0.5s						
MKAR	**Makanchi Array**	**43.80**	**323**		**P**	**23 28 48.6**	**-0.2**
MKAR	**Makanchi Array**	**43.80**	**323**	P	**P**	**23 28 48.4**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=131,slow=9.1,SNR=21						
MKAR				PcP	**PcP**	**23 30 34.7**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=122,slow=3.0,SNR=3.6						
	comp=Z,2.3nm,0.8s						
MAKZ	**Makanchi**	**43.99**	**323**		**P**	**23 28 50.3**	**0.0**
KSH	**Kashi**	**44.68**	**311**	P	**P**	**23 28 58.5**	**+2.4**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NIL	**Nilore**	**45.16**	**302**		**P**	**23 28 59.4**	**-0.5**
NIL				IAmb	IAmb	23 29 07.7	
	comp=Z,13nm,1.2s						
NRN	**Naryn**	**45.35**	**314**		**P**	**23 29 02.1**	**+0.5**
NRN				IAmb	IAmb	23 29 03.9	
	comp=Z,5.6nm,1.0s						
FORT	**Forrest**	**46.71**	**170**	P	**P**	**23 29 13.4**	**+1.5**
ZALV	**Zalesovo Beam**	**46.88**	**333**		**P**	**23 29 12.0**	**-1.0**
ZALV	**Zalesovo Beam**	**46.88**	**333**	P	**P**	**23 29 11.6**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=118,slow=9.4,SNR=8.9						
ZALV				PcP	**PcP**	**23 30 44.3**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=122,slow=5.2,SNR=2.6						
	comp=Z,2.1nm,0.6s						
HNR	**Honiara**	**47.32**	**119**	LR	LR	23 46 59.4	
	comp=Z,114nm,22.0s,baz=327,slow=33						
ARSB	**Arslanbob**	**47.44**	**312**	P	**P**	**23 29 18.2**	**+0.4**
ARSB				IAmb	IAmb	23 29 19.2	
	comp=Z,3.8nm,0.7s						
KURBB	**Kurchatov Arra**	**47.97**	**326**	P	**P**	**23 29 21.1**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=119,slow=8.7,SNR=25						
	comp=Z,4.1nm,0.8s						
KURK	**Kurchatov**	**47.97**	**326**		**P**	**23 29 21.3**	**-0.3**
PETK	**Petropavlovsk-**	**48.26**	**30**	P	**P**	**23 29 23.8**	**0.0**
	comp=Z,6.3nm,0.8s,baz=222,slow=4.0,SNR=7.0						
	comp=Z,6.3nm,0.8s						
GAR	**Garm**	**48.72**	**309**		**P**	**23 29 27.5**	**-0.2**
KKAR	**Karatay Array**	**49.75**	**314**		**P**	**23 29 35.4**	**0.0**
STKA	**Stephens Creek**	**51.69**	**156**	P	**P**	**23 29 50.1**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=345,slow=12,SNR=3.2						
	comp=Z,2.8nm,0.9s						
BVAR	**Borovoye Array**	**53.55**	**326**	P	**P**	**23 30 02.3**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=123,slow=10,SNR=4.0						
	comp=Z,0.9nm,0.4s						
TIXI	**Tiksi**	**56.52**	**4**		**P**	**23 30 23.4**	**-1.3**
TIXI				IAmb	IAmb	23 30 26.4	
	comp=Z,5.1nm,0.8s						
SHEM	**Shemya Is, Ala**	**56.84**	**36**	LR	LR	23 53 53.0	
	comp=Z,29nm,21.6s,baz=278,slow=35						
NRIK	**Noril'sk**	**57.43**	**347**		**P**	**23 30 30.7**	**-0.5**
NRIK				IAmb	IAmb	23 30 32.1	
	comp=Z,7.1nm,0.8s						
NRIK	**Noril'sk**	**57.43**	**347**	P	**P**	**23 30 30.2**	**-1.0**
	comp=Z,6.1nm,0.7s,baz=137,slow=7.1,SNR=19						
	comp=Z,6.1nm,0.7s						
AB31	**Akbulak array**	**58.49**	**319**		**P**	**23 30 39.1**	**0.0**
AB31				IAmb	IAmb	23 30 40.1	
	comp=Z,5.6nm,0.9s						
ABKAR	**Akbulak array**	**58.49**	**319**		**P**	**23 30 38.8**	**-0.3**
BILL	**Bilibino**	**60.54**	**18**		**P**	**23 30 52.2**	**-0.6**
BILL				IAmb	IAmb	23 30 53.6	
	comp=Z,7.9nm,1.1s						
ARTI	**Arti**	**61.24**	**326**		**P**	**23 30 56.8**	**-1.0**
GNI	**Garni**	**68.42**	**307**		**P**	**23 31 44.8**	**-0.3**
RAYN	**Ar Rayn**	**69.31**	**290**		**P**	**23 31 51.3**	**+0.6**
KBZ	**Khabaz**	**69.67**	**311**	P	**P**	**23 31 52.2**	**-0.3**
	comp=Z,5.8nm,1.0s,baz=102,slow=3.0,SNR=12						
	comp=Z,5.8nm,1.0s						
KIV	**Kislovodsk**	**69.81**	**312**		**P**	**23 31 53.7**	**+0.1**
K13K	**Kusilvak Mount**	**70.01**	**29**	P	**P**	**23 31 54.5**	**+0.3**
F15K	**North Star Dit**	**70.37**	**25**	P	**P**	**23 31 57.0**	**+0.6**
F15K				IAmb	IAmb	23 31 58.6	
	comp=Z,7.8nm,1.4s						
C16K	**Lisburne Hills**	**70.41**	**22**	P	**P**	**23 31 56.7**	**+0.1**
GURO	**Guroymak-BITLI**	**70.62**	**306**	P	**P**	**23 31 58.8**	**+0.2**
L14K	**Kuka Creek**	**70.91**	**30**	P	**P**	**23 31 58.3**	**-1.4**
L14K				IAmb	IAmb	23 32 04.9	
	comp=Z,7.1nm,1.1s						
MARD	**Mardin**	**71.71**	**305**		**P**	**23 32 06.1**	**+0.8**
E18K	**Tukpahlearik C**	**72.12**	**24**	P	**P**	**23 32 07.1**	**+0.2**
N15K	**Kwethluk River**	**72.15**	**31**	P	**P**	**23 32 07.3**	**+0.1**
N15K				IAmb	IAmb	23 32 18.6	
	comp=Z,7.9nm,0.9s						
O15K	**Ungalikthiuk R**	**72.28**	**32**	P	**P**	**23 32 06.8**	**-1.3**
O15K				IAmb	IAmb	23 32 37.8	
	comp=Z,12nm,1.5s						
H17K	**Granite Mounta**	**72.30**	**26**		**P**	**23 32 08.1**	**-0.1**
H17K				IAmb	IAmb	23 32 20.5	
	comp=Z,12nm,1.5s						
J17K	**VABM Dome**	**72.64**	**28**		**P**	**23 32 10.7**	**+0.6**
J17K				IAmb	IAmb	23 32 15.4	
	comp=Z,9.0nm,1.1s						
G18K	**Tagagawik**	**72.85**	**25**	P	**P**	**23 32 11.2**	**-0.2**
G18K				IAmb	IAmb	23 32 13.4	
	comp=Z,5.4nm,1.1s						
H18K	**Honhosa River**	**72.96**	**26**	P	**P**	**23 32 11.8**	**-0.3**
K17K	**Iditarod**	**73.00**	**29**		**P**	**23 32 13.0**	**+0.7**
E19K	**Redstone River**	**73.42**	**24**	P	**P**	**23 32 15.0**	**+0.3**
M17K	**Holitna River**	**73.43**	**30**	P	**P**	**23 32 15.6**	**+0.7**
B20K	**Meade River**	**73.46**	**21**	P	**P**	**23 32 15.4**	**+0.6**
B20K				IAmb	IAmb	23 32 18.9	
	comp=Z,7.8nm,1.1s						
G19K	**Purcell Mounta**	**73.49**	**25**		**P**	**23 32 15.2**	**+0.1**
G19K				IAmb	IAmb	23 32 19.1	
	comp=Z,7.7nm,1.2s						
N17K	**Nushagak Hills**	**73.58**	**31**	P	**P**	**23 32 15.7**	**0.0**
N17K				IAmb	IAmb	23 32 27.1	
	comp=Z,6.7nm,1.1s						
J18K	**Innoko River**	**73.70**	**28**	P	**P**	**23 32 16.5**	**0.0**
L18K	**Granite Mounta**	**73.76**	**29**	P	**P**	**23 32 17.2**	**+0.5**
L18K				IAmb	IAmb	23 32 37.3	
	comp=Z,6.7nm,1.4s						
H19K	**Roundabout Mou**	**73.76**	**26**		**P**	**23 32 16.7**	**0.0**
H19K				IAmb	IAmb	23 32 21.1	
	comp=Z,9.0nm,1.3s						
F20K	**Avaraart Lake**	**74.01**	**24**		**P**	**23 32 18.1**	**-0.1**
B21K	**Ikpikpuk River**	**74.35**	**21**	P	**P**	**23 32 20.2**	**+0.2**
B21K				IAmb	IAmb	23 32 21.9	
	comp=Z,5.2nm,1.0s						
O18K	**Koktuh Hills**	**74.61**	**31**	P	**P**	**23 32 22.6**	**+0.8**
L19K	**White Mountain**	**74.62**	**29**	P	**P**	**23 32 21.9**	**0.0**
L19K				IAmb	IAmb	23 32 24.6	
	comp=Z,12nm,1.3s						
B22K	**Teshekpuk Lake**	**74.73**	**21**	P	**P**	**23 32 22.8**	**+0.6**
B22K				IAmb	IAmb	23 32 23.8	
	comp=Z,5.1nm,0.8s						
J20K	**Nowinta River**	**74.81**	**27**	P	**P**	**23 32 23.8**	**+0.9**
D22K	**Ayikyak River**	**75.07**	**22**	P	**P**	**23 32 24.3**	**-0.1**
H21K	**Melozitna Rive**	**75.27**	**25**	P	**P**	**23 32 26.3**	**+0.8**
H21K				IAmb	IAmb	23 32 30.6	
	comp=Z,5.8nm,1.1s						
E22K	**Anaktuvuk Pass**	**75.45**	**23**		**P**	**23 32 27.0**	**+0.5**
M20K	**Styx River**	**75.45**	**29**	P	**P**	**23 32 27.0**	**+0.2**
M20K				IAmb	IAmb	23 32 28.9	
	comp=Z,4.5nm,1.1s						
ASF	**Jabal al Asfar**	**75.55**	**300**	LR	LR	00 09 00.7	
	comp=Z,26nm,20.3s,baz=98,slow=38						
C23K	**Itkillik River**	**75.72**	**21**	P	**P**	**23 32 28.6**	**+0.6**
C23K				IAmb	IAmb	23 32 31.9	
	comp=Z,6.0nm,1.1s						
CAST	**Castle Rocks**	**75.78**	**28**		**P**	**23 32 29.0**	**+0.5**
CAST				IAmb	IAmb	23 32 38.6	
	comp=Z,8.0nm,1.1s						
D23K	**Nanushuk River**	**75.78**	**22**		**P**	**23 32 28.7**	**+0.3**
D23K				IAmb	IAmb	23 32 32.8	
	comp=Z,7.3nm,1.1s						
PPLA	**Purkeypile**	**75.79**	**28**	P	**P**	**23 32 28.4**	**-0.4**
PPLA				IAmb	IAmb	23 32 59.3	
	comp=Z,4.6nm,1.1s		

F25K	Christian Rive	77.84	23			P	23 32 41.2	+1.1
ILAR	Eielson Array	77.85	26	P		P	23 32 38.7	-1.5
	comp=Z,0.3nm,0.6s,baz=273,slow=5.2,SNR=4.3							
	comp=Z,0.3nm,0.6s							
CSS	Mathiatis	78.01	303			P	23 32 41.8	+0.2
FIA1	FINESS Array S	78.09	331			P	23 32 40.6	-0.8
FINES	FINESS Array B	78.09	331	P		P	23 32 40.8	-0.7
FINES	FINESS Array B	78.09	331	P		P	23 32 40.5	-0.9
	comp=Z,1.5nm,0.6s,baz=68,slow=5.9,SNR=14							
	comp=Z,1.5nm,0.6s							
C27K	Jago River	78.13	21	P		P	23 32 42.1	+0.6
C27K				IAmb		IAmb	23 32 43.5	
	comp=Z,4.3nm,1.0s							
SCM	Sheep Creek Mo	78.19	29	P		P	23 32 42.0	-0.1
SCM				IAmb		IAmb	23 33 17.4	
	comp=Z,7.5nm,1.0s							
AKASG	Malin Array Be	78.22	319	P		P	23 32 40.9	-1.6
	comp=Z,0.3nm,0.4s,baz=72,slow=4.7,SNR=7.2							
	comp=Z,0.3nm,0.4s							
BMAR	Burnt Mountain	78.27	23			P	23 32 43.3	+0.9
F26K	Sheenjek River	78.38	23	P		P	23 32 43.7	+0.6
K24K	Donnelly Dome	78.51	27	P		P	23 32 43.4	-0.4
M24K	Tolsona, Glenn	78.67	29	P		P	23 32 45.4	+0.6
G26K	Porcupine Rive	78.67	23			P	23 32 45.4	+0.8
G26K				IAmb		IAmb	23 32 49.1	
	comp=Z,4.9nm,1.2s							
KLU	Klutina	78.91	29	P		P	23 32 46.6	+0.4
KLU				IAmb		IAmb	23 33 27.5	
	comp=Z,5.9nm,1.2s							
RIDG	Independent Ri	78.93	27	P		P	23 32 46.3	+0.1
RIDG				IAmb		IAmb	23 33 04.5	
	comp=Z,7.5nm,1.2s							
D27M	Malcolm River	79.16	21			P	23 32 47.9	+0.5
D27M				IAmb		IAmb	23 32 51.4	
	comp=Z,11nm,1.4s							
E27K	Coleen River	79.20	22			P	23 32 47.7	+0.1
E27K				IAmb		IAmb	23 32 52.3	
	comp=Z,10nm,1.4s							
SORM	Soroca	79.25	317	⇓P		P	23 32 47.1	-1.1
SCRK	Sand Creek	79.25	26	P		P	23 32 47.5	-0.5
DOT	Dot Lake	79.29	27	P		P	23 32 49.8	+1.7
G27K	Doyon Strip	79.53	23	P		P	23 32 50.4	+1.0
G27K				IAmb		IAmb	23 32 51.5	
	comp=Z,7.1nm,1.4s							
E28M	Babbage River	79.83	21	P		P	23 32 51.0	+0.1
MANR	Mangalia	79.94	313	⇑P		P	23 32 51.7	-0.3
CFR	Carcaliu	79.98	314	⇑P		P	23 32 51.9	-0.2
M26K	Nabesna, AK	80.06	28	P		P	23 32 52.5	+0.1
M26K				IAmb		IAmb	23 32 54.4	
	comp=Z,9.9nm,1.4s							
VRDI	Verde Repeater	80.13	29	P		P	23 32 53.1	+0.2
VRDI				IAmb		IAmb	23 33 21.9	
	comp=Z,5.9nm,1.1s							
MHA	Mahukona	80.14	72	P		P	23 32 51.4	-2.1
ELL	Elmali	80.39	305			P	23 32 54.7	-0.1
L27K	Beaver Creek,	80.41	27	P		P	23 32 54.5	+0.3
BCAR	Beaver Creek A	80.43	27	P		P	23 32 55.5	+1.1
E29M	Blow River	80.47	21	P		P	23 32 54.5	+0.1
I28M	Miner Creek	80.56	25			P	23 32 55.9	+0.9
M27K	Edge Creek, AK	80.57	28	P		P	23 32 55.4	+0.2
TESR	Tescani	80.71	316	⇑P		P	23 32 55.9	-0.3
VRI	Vrincioaia	80.80	315	⇑P		P	23 32 57.8	+1.2
PLOR	Plostina	80.86	315	⇓P		P	23 32 57.9	+0.9
G29M	Pine Creek	80.88	23	P		P	23 32 56.8	+0.2
G29M				IAmb		IAmb	23 33 08.5	
	comp=Z,14nm,1.5s							
H29M	Whitestone	80.95	24	P		P	23 32 56.8	-0.2
H29M				IAmb		IAmb	23 33 10.4	
	comp=Z,7.9nm,1.2s							
MLR	Muntele Rosu	81.42	315	P		P	23 33 00.6	+0.5
MLR				IAmb		IAmb	23 33 03.0	
	comp=Z,9.8nm,1.4s							
MLR	Muntele Rosu	81.42	315	P		P	23 32 59.3	-0.7
	comp=Z,1.2nm,0.5s,baz=106,slow=2.8,SNR=4.2							
	comp=Z,1.2nm,0.5s							
MLR	Muntele Rosu	81.42	315	⇑P		P	23 33 00.3	+0.3
BURAR	Bucovina Array	81.42	317	P		P	23 33 00.0	0.0
BURAR	Bucovina Array	81.42	317	⇓P		P	23 32 59.6	-0.4
BUR08	Bucovina Ar. S	81.43	317			P	23 32 59.9	-0.1
BUR08				IAmb		IAmb	23 33 01.1	
	comp=Z,7.4nm,1.4s							
F30M	Barrier River	81.48	22			P	23 33 00.0	+0.3
L29M	L29M	82.01	27	P		P	23 33 03.2	+0.5
L29M				IAmb		IAmb	23 33 08.1	
	comp=Z,13nm,1.5s							
G31M	Satah River	82.27	22			P	23 33 03.4	-0.5
G31M				IAmb		IAmb	23 33 04.5	
	comp=Z,5.2nm,1.2s							
H31M	Peel River	82.65	23	P		P	23 33 06.0	0.0
H31M				IAmb		IAmb	23 33 32.5	
	comp=Z,6.1nm,1.5s							
MARR	Marisel-Cluj	83.04	316	⇓P		P	23 33 08.6	+0.1
DRGR		83.28	317	⇓P		P	23 33 09.0	-0.7
SIRR	Siria	84.12	316	⇓P		P	23 33 02.8	-11
HFS	Hagfors	84.28	331	P		P	23 33 12.8	-1.7
	comp=Z,1.1nm,0.8s,baz=68,slow=9.5,SNR=2.6							
	comp=Z,1.1nm,0.8s							
C36M	Paulatuk	84.66	19			P	23 33 15.6	-0.5
LANS	Liptovska Anna	84.71	319	*eP*		P	23 33 17.3	+0.4
NC405	NORSAR Array S	84.83	332	P		P	23 33 16.9	-0.3
NB2	NORSAR Subarra	85.08	332	P		P	23 33 17.1	-1.4
	comp=Z,19nm,2.0s,baz=67,slow=4.8							
NB2	NORSAR Subarra	85.08	332	P		P	23 33 17.1	-1.4
	baz=67,slow=4.8							
NOA	NORSAR Array B	85.08	332	P		P	23 33 16.9	-1.6
	comp=Z,0.6nm,0.7s,baz=66,slow=4.7,SNR=5.4							
	comp=Z,0.6nm,0.7s							
VYHS	Vyhne	85.31	319	*eP*		P	23 33 21.7	+1.8
RAR	Rarotonga	87.40	113	LR		LR	00 07 46.6	
	comp=Z,23nm,20.3s,baz=29,slow=32							
GERES	GERESS Array B	88.39	320	P		P	23 33 34.3	-0.7
	comp=Z,0.3nm,0.5s,baz=92,slow=6.9,SNR=2.4							
	comp=Z,0.3nm,0.5s							
DAVOX	Davos/Dischmat	91.57	320	LR		LR	00 16 26.5	
	comp=Z,32nm,19.8s,baz=74,slow=36							
YKA	Yellowknife Ar	91.75	22	P		P	23 33 50.0	-0.3
	comp=Z,0.5nm,0.8s,baz=317,slow=4.3,SNR=8.1							
	comp=Z,0.5nm,0.8s							
LSZ	Lusaka	94.91	256	LR		LR	00 14 25.0	
	comp=Z,44nm,18.8s,baz=112,slow=34							
PPT	Papeete	95.68	107	LR		LR	00 10 17.4	
	comp=Z,27nm,19.8s,baz=270,slow=31							
YBH	Yreka Blue Hor	99.48	42	LR		LR	00 10 47.8	
	comp=Z,26nm,21.2s,baz=320,slow=30							
TXAR	Lajitas Array	119.25	43	PKP		PKiKP	23 39 33.0	+0.2
	comp=Z,0.2nm,0.5s,baz=322,slow=2.3,SNR=2.5							

IDC 26 23:31:43.5±6.0, 3°.55S×148°.09E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=192.5km s-min=36.9km az=99.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.10	218	P	P	23 36 29.6	-0.3
	0.4nm,0.4s,baz=46,slow=9.7,SNR=4.6						
	0.4nm,0.4s						
ASAR	Alice Springs	24.24	213	P	P	23 37 02.7	+0.4
	0.8nm,0.6s,baz=40,slow=7.8,SNR=12						
	0.8nm,0.6s						
MKAR	Makanchi Array	76.33	320	P	P	23 43 34.3	-0.2
	0.1nm,0.4s,baz=98,slow=5.5,SNR=2.1						
	0.1nm,0.4s						

*IDC **26** 23:32:53.7±1.8, 39°.75N×75°.27E, h0km, mb3.6/4, mbtmp3.5/8, ML2.8/4, Error ellipse: s-maj=28.7km s-min=19.4km az=118.0*
*SOME **26** 23:32:55.3, 39°.83N×75°.42E, h5km*
*KRNET **26** 23:32:57.2±0.1, 39°.69N×75°.52E, h35km, mb4.0*
*NNC **26** 23:32:57.3±3.1, 39°.70N×74°.60E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=22.8km s-min=21.2km az=153.0*
ISC 26 23:32:55.5±1.5, 39°.67N±0°.05×75°.43E±0°.03, h15km±10km, n83, σ1§83/126, mb3.6/4, 39C-21D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.52	284	⇑*iP*		Pb	23 33 24.2	+0.6
SFK				⇑*iS*		Sg	23 33 43.5	-1.1
SALK	Salom-Alik	1.73	315	⇑*iP*		Pn	23 33 26.3	+1.1
SALK				⇑*iS*		Sb	23 33 48.0	-0.6
NRN	Naryn	1.81	14	⇑*iP*		Pn	23 33 26.5	0.0
NRN				⇑*iS*		Sn	23 33 48.0	-1.4
OHH	Osh	2.20	294	⇑*iP*		Pn	23 33 33.3	+1.7
OHH				⇑*iS*		Sn	23 33 59.5	+0.8
ARLS	Aral	2.34	339	⇓*iP*		Pn	23 33 34.7	+1.0
ARLS				⇓*iS*		Sn	23 34 02.0	-0.3
ULHL	Ulahol	2.64	13	P		Pb	23 33 42.1	-0.6
SNR=54								
ULHL	Ulahol	2.64	13	⇑*iP*		Pn	23 33 38.3	+0.5
ULHL				⇑*iS*		Sn	23 34 08.4	-1.4
UCH	Uchtor	2.65	345	P		Pn	23 33 40.6	+2.5
SNR=8.2								
UCH	Uchtor	2.65	345	⇑*iP*		Pn	23 33 39.1	+1.0
UCH				⇑*iS*		Sn	23 34 09.6	-0.6
AML	Almayashu	2.79	332	P		Pn	23 33 42.1	+2.2
SNR=59								
AML	Almayashu	2.79	332	⇓*iP*		Pn	23 33 41.1	+1.1
AML				⇓*iS*		Sn	23 34 13.1	-0.5
KDJ	Kajisay	2.79	28	⇑*iP*		Pn	23 33 40.3	+0.5
KDJ				⇑*iS*		Sn	23 34 11.7	-1.7
DRK	Karamyk	2.81	267	⇓*iP*		Pn	23 33 41.9	+1.6
DRK				⇓*iS*		Sn	23 34 14.6	+0.5
BOOM	Boomskoye usch	2.84	8	⇓*iP*		Pn	23 33 41.2	+0.7
BOOM				⇓*iS*		Sn	23 34 13.3	-1.3
KBK	Karagaybulak	3.00	353	P		Pn	23 33 45.6	+2.8
SNR=111								
KBK	Karagaybulak	3.00	353	⇑*iP*		Pn	23 33 43.7	+0.9
KBK				⇑*iS*		Sn	23 34 17.6	-1.0
AAK	Ala-Archa	3.04	347	Pn		Pn	23 33 44.9	+1.6
	8.4nm,0.3s,baz=148,slow=7.4,SNR=102							
AAK				Lg		Lg	23 34 25.6	
	5.9nm,0.3s,baz=38,slow=18,SNR=8.5							
	14nm,0.3s							
AAK	Ala-Archa	3.04	347	P		Pn	23 33 46.0	+2.7
SNR=94								
AAK	Ala-Archa	3.04	347	⇑Pn		Pn	23 33 46.0	+2.7
	14nm,0.7s							
AAK				⇑Pg		Pb	23 33 49.9	+0.4
	99nm,0.8s							
AAK				⇑Sn		Sn	23 34 22.3	+2.7
	68nm,0.9s							
AAK	Ala-Archa	3.04	347	⇓*iP*		Pn	23 33 44.2	+0.9
AAK				⇓*iS*		Sn	23 34 18.6	-1.0
FRU1	Bishkek	3.19	349	⇑*eP*		Pn	23 33 46.6	+1.3
FRU1				⇑*iS*		Sn	23 34 22.5	-0.6
EKS2	Erkin-Say	3.24	338	P		Pn	23 33 48.7	+2.8
SNR=8.4								
EKS2	Erkin-Say	3.24	338	⇑*iP*		Pn	23 33 47.1	+1.2
EKS2				⇑*iS*		Sn	23 34 23.6	-0.7
TKM2	Tokmak 2	3.25	2	P		Pn	23 33 49.0	+2.8
SNR=12								
TKM2	Tokmak 2	3.25	2	⇑Pn		Pn	23 33 48.8	+2.7
	4.7nm,0.3s							
TKM2				⇓Sn		Sb	23 34 32.1	-0.3
	66nm,0.4s							
TKM2	Tokmak 2	3.25	2	⇓*iP*		Pn	23 33 47.0	+0.8
TKM2				⇓*iS*		Sn	23 34 23.1	-1.6
CHMS	Chumysh	3.36	351	P		Pn	23 33 50.4	+2.8
SNR=34								
CHMS	Chumysh	3.36	351	⇑Pn		Pn	23 33 50.4	+2.8
	21nm,0.4s							
CHMS				⇑Pg		Pb	23 33 56.7	+1.9
	37nm,0.7s							
CHMS				⇑Sn		Sn	23 34 31.4	+4.1
	28nm,0.7s							
CHMS	Chumysh	3.36	351	⇑*iP*		Pn	23 33 48.5	+0.9
CHMS				⇑*iS*		Sn	23 34 26.0	-1.3
KST	Kastek	3.39	7	Pg		Pb	23 33 55.6	+0.2
	32nm,0.5s							
KST				Lg		Lg	23 34 38.5	
	347nm,0.9s							
KST	Kastek	3.39	7	*eP*		Pb	23 33 54.9	-0.5
	32nm,0.3s							
KST				*eS*		Sb	23 34 37.3	+0.8
	347nm,0.9s							
IZV	Izvestkoviy	3.48	14	Pg		Pb	23 33 57.3	+0.5
	43nm,0.6s							
IZV				Lg		Lg	23 34 41.5	
	114nm,0.7s							
IZV	Izvestkoviy	3.48	14	*eP*		Pb	23 33 56.9	0.0
	43nm,0.6s							
IZV				*eS*		Sb	23 34 40.6	+1.6
	114nm,0.7s							
MRKS	Merke	3.49	332	Pg		Pb	23 33 57.9	+0.9
	14nm,0.2s							
MRKS				Lg		Lg	23 34 42.4	
	43nm,0.4s							
MRKS	Merke	3.49	332	*eP*		Pb	23 33 57.9	+0.9
	6.5nm,0.2s							
MRKS				*eS*		Sb	23 34 42.4	+3.0
	43nm,0.4s							
ANVS	Anan'yevo	3.54	28	⇓*eP*		Pn	23 33 50.5	+0.4
ANVS				⇓*eS*		Sn	23 34 29.5	-2.2
MTBS	Maitube	3.54	12	Pg		Pb	23 33 57.9	+0.1
	9.7nm,0.3s							
MTBS				Lg		Lg	23 34 42.3	
	71nm,0.4s							
MTBS	Maitube	3.54	12	*eP*		Pb	23 33 57.9	+0.1
	9.7nm,0.1s							
MTBS				*eS*		Sb	23 34 42.5	+1.9
	71nm,0.4s							
TNSS	Tian-Shan	3.55	18	Pg		Pb	23 33 58.2	0.0
	21nm,0.3s							
TNSS				Lg		Lg	23 34 43.3	
	50nm,1.0s							
TNSS	Tian-Shan	3.55	18	*eP*		Pb	23 33 58.2	0.0
	21nm,0.3s							
TNSS				*eS*		Sb	23 34 43.0	+1.7
	71nm,0.4s							
BTK	Batken	3.57	278	⇑*iP*		Pn	23 33 52.4	+1.9
BTK				⇑*iS*		Sn	23 34 32.5	0.0
MNAS	Manas	3.58	323	⇓*iP*		Pn	23 33 52.2	+1.6
MNAS				⇓*iS*		Sn	23 34 32.1	-0.6
PRZ	Przheval'sk	3.59	38	⇓*eP*		Pn	23 33 51.4	+0.5
PRZ				⇑*eS*		Sn	23 34 30.6	-2.6
USP	Ospenovka	3.66	349	P		Pn	23 33 54.0	+2.4
SNR=11								
USP	Ospenovka	3.66	349	⇑*iP*		Pn	23 33 52.6	+1.0
USP				⇑*iS*		Sn	23 34 33.1	-1.5
MDOK	Medeo	3.69	19	Pn		Pb	23 33 58.0	-2.6
	18nm,0.6s							
MDOK				Pg		Pg	23 34 00.7	-5.5
	12nm,0.4s							
MDOK				Lg		Lg	23 34 47.4	
	46nm,1.0s							
MDOK				Sn		Sb	23 34 47.9	+2.7
	193nm,0.7s							
AAA	Alma-Ata	3.71	17	Pg		Pb	23 34 01.8	+1.0
	21nm,0.1s							
AAA				Lg		Lg	23 34 48.9	
	154nm,0.8s							
AAA	Alma-Ata	3.71	17	*eP*		Pb	23 34 01.8	+1.0
	18nm,0.1s							
AAA				*eS*		Sb	23 34 49.1	+3.7
	154nm,0.8s							
KNDC	Almaty	3.72	18	⇓Pn		Pb	23 33 59.6	-1.5
	7.3nm,0.3s							
KNDC				⇑Sn		Sb	23 34 48.0	+2.0
	588nm,0.9s							
TRKS	Terek-Say	3.76	301	⇑*eP*		Pn	23 33 54.0	+0.9
TRKS				⇑*iS*		Sn	23 34 35.6	-1.6
KOTS	Kotyrbulak	3.78	19	Pg		Pb	23 34 02.6	+0.6
	17nm,0.5s							
KOTS				Lg		Lg	23 34 50.7	
	649nm,0.7s							
KOTS	Kotyrbulak	3.78	19	*eP*		Pb	23 34 02.6	+0.6
	11nm,0.2s							
KOTS				*eS*		Sb	23 34 50.5	+2.9
	649nm,0.7s							
SGDS	Sogindy	3.82	351	Pg		Pb	23 34 03.3	+0.6
	30nm,0.5s							
SGDS				Lg		Lg	23 34 51.8	
	62nm,0.6s							
GAR	Garm	4.02	262	⇓*iP*		Pn	23 33 58.8	+2.1
GAR				⇓*iS*		Sn	23 34 43.4	-0.3
SATY	Saty	4.06	33	Pg		Pb	23 34 07.7	+1.0
	14nm,0.4s							
SATY				Lg		Lg	23 34 59.3	
	34nm,0.5s							
SATY	Saty	4.06	33	*eP*		Pg	23 34 22.6	+9.4
	13nm,0.4s							
SATY				*eS*		Sg	23 35 24.9	+19
	24nm,0.3s							
KTBS	Karatobe	4.14	13	Pg		Pb	23 34 09.0	+0.8
	20nm,0.4s							
KTBS				Lg		Lg	23 35 01.9	
	80nm,0.5s							
ZHN	Zhinishke	4.16	32	Pg		Pb	23 34 10.0	+1.5
	5.6nm,0.1s							
ZHN				Lg		Lg	23 35 03.0	
	48nm,0.3s							
ZHN	Zhinishke	4.16	32	*eP*		Pb	23 34 10.0	+1.5
	5.6nm,0.1s							
ZHN				*eS*		Sb	23 35 03.0	+4.4
	48nm,0.3s							
KUU	Kurty	4.27	9	Pg		Pb	23 34 10.4	+0.1
	5.0nm,0.4s							
KUU				Lg		Lg	23 35 03.7	
	85nm,0.4s							
KUU	Kurty	4.27	9	*eP*		Pb	23 34 12.0	+1.6
	5.0nm,0.4s							
KUU				*eS*		Sb	23 35 06.4	+4.7
	77nm,0.4s							
KURS	Kuram	4.33	27	Pg		Pb	23 34 12.3	+1.0
	12nm,0.9s							
KURS				Lg		Lg	23 35 07.2	
	37nm,0.7s							
KURS	Kuram	4.33	27	*eP*		Pb	23 34 12.5	+1.1
	14nm,0.7s							
KURS				*eS*		Sb	23 35 07.5	+4.1
	156nm,0.8s							
CHKK	Chushkaly	4.34	15	Pg		Pb	23 34 12.5	+1.0
	14nm,0.7s							
CHKK				Lg		Lg	23 35 07.5	
	156nm,0.8s							
CHKK	Chushkaly	4.34	15	*eP*		Pb	23 34 12.5	+1.0
	14nm,0.7s							
CHKK				*eS*		Sb	23 35 07.5	+3.9
	156nm,0.8s							
UZB	Uzynbulak	4.40	37	Pg		Pb	23 34 13.6	+1.1
	7.5nm,0.4s							
UZB				Lg		Lg	23 35 09.5	
	18nm,0.8s							
UZB	Uzynbulak	4.40	37	*eP*		Pb	23 34 13.6	+1.1
	7.5nm,0.4s							
UZB				*eS*		Sb	23 35 09.5	+4.1
	18nm,0.8s							
KPKS	Kokpek	4.51	32	Pg		Pb	23 34 15.7	+1.3
	12nm,0.4s							
KPKS				Lg		Lg	23 35 13.2	
	32nm,0.6s							
KPKS	Kokpek	4.51	32	*eP*		Pb	23 34 15.7	+1.3
	12nm,0.4s							
KPKS				*eS*		Sb	23 35 13.0	+4.4
	38nm,0.4s							
SHLS	Shalkode	4.62	40	Pg		Pg	23 34 22.6	-1.3
	13nm,0.7s							
SHLS				Lg		Lg	23 35 25.1	
	27nm,0.5s							
SHLS	Shalkode	4.62	40	*eP*		Pg	23 34 22.6	-1.3
	9.9nm,0.3s							
SHLS				*eS*		Sg	23 35 24.8	+1.1
	27nm,0.5s							
PDGK	Podgornoye	4.76	39	⇓Pn		Pb	23 34 14.6	-4.0
	5.0nm,0.9s							
PDGK				⇑Sn		Sb	23 35 18.3	+2.5
	28nm,0.7s							
ARXS	Arharly	4.88	21	Pg		Pb	23 34 22.2	+1.5
	13nm,0.4s							
ARXS				Lg		Lg	23 35 24.4	
	32nm,0.6s							
BLB	Baldybastay	4.97	26	Pg		Pb	23 34 24.1	+1.8
	33nm,0.8s							
BLB				Lg		Lg	23 35 27.5	
	35nm,0.9s							
KK31	Karatay Array	5.04	314	Pn		Pn	23 34 07.9	-2.7
	1.5nm,0.5s,baz=132,slow=13,SNR=10.0							
KK31				Lg		Lg	23 35 21.8	
	7.7nm,0.5s,baz=127,slow=25,SNR=4.0							
MKAR	Makanchi Array	8.70	33	Pn		Pn	23 35 02.7	+1.9
	0.1nm,0.3s,baz=211,slow=15,SNR=9.0							
MKAR				Lg		Lg	23 37 29.1	
	0.1nm,0.3s,baz=211,slow=26,SNR=5.4							
	0.7nm,0.7s							
KURBB	Kurchatov Arra	11.16	10	Lg		Lg	23 38 43.0	
	0.1nm,0.3s,baz=196,slow=29,SNR=11							
BVAR	Borovoye Array	13.80	347	Pn		Pn	23 36 08.0	-2.4
	baz=160,slow=13,SNR=1.9							
	0.4nm,0.5s							
ZALV	Zalesovo Beam	15.64	21	Pn		Pn	23 36 33.9	-1.3
	0.2nm,0.3s,baz=200,slow=12,SNR=3.5							
	0.7nm,0.6s							
BRTR	Keskin Array B	31.95	284	P		P	23 39 21.3	+0.5
	0.4nm,0.6s,baz=87,slow=9.0,SNR=3.6							
	0.4nm,0.6s							
ARCES	ARCESS Array B	39.65	335	P		P	23 40 25.3	-1.0
	1.5nm,0.7s,baz=98,slow=8.7,SNR=5.3							
	1.5nm,0.7s							
ESDC	Sonseca Array	59.07	298	P		P	23 42 54.3	-0.9
	0.4nm,0.7s,baz=48,slow=7.0,SNR=5.5							
	0.4nm,0.7s							
YKA	Yellowknife Ar	77.86	5	P		P	23 44 51.0	-1.1
	0.3nm,0.7s,baz=352,slow=5.9,SNR=6.3							
	0.3nm,0.7s							

IDC 26 23:38:11.0±1.7, 22°.89S×171°.34E, h0km, mb4.0/4, mbtmp4.0/4, MS3.3/1, Error ellipse: s-maj=52.9km s-min=36.0km az=45.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	16.10	163	LR	LR	23 46 43.7	
	comp=Z,120nm,20.0s,baz=102,slow=32						
ASAR	Alice Springs	34.33	261	P	P	23 44 58.7	-1.1
	0.9nm,0.8s,baz=96,slow=9.3,SNR=7.8						
	0.9nm,0.8s						
WRA	Warramunga Arr	34.51	268	P	P	23 45 02.1	+0.9
	0.2nm,0.4s,baz=102,slow=8.2,SNR=1.7						
	0.2nm,0.4s						
QSPA	South Pole Qui	67.19	180	P	P	23 49 07.0	+0.2
	2.8nm,0.9s,baz=25,slow=4.3,SNR=9.6						
	2.8nm,0.9s						
CMAR	Chiang Mai Arr	81.78	294	P	P	23 50 32.9	+0.6
	1.5nm,0.3s,baz=114,slow=5.5,SNR=5.0						
	1.5nm,0.3s						
GERES	GERESS Array B	148.62	331	PKPbc	PKPbc	23 57 59.0	-1.1
	1.6nm,0.7s,baz=46,slow=3.9,SNR=11						

*IDC **26** 23:38:29.9±1.2, 15°.81N×120°.00E, h0km, mb3.5/7, mbtmp3.6/7, Error ellipse: s-maj=59.5km s-min=20.4km az=62.0*
**ISC 26 23:38:34.9±1.2, 15°.8N±0°.2×119°.9E±0°.3, h33km,

IRIF	Iriomote-Funau	0.69	83	P	Pn	23 55 59.1	0.0
IRIF				S	Sn	23 56 09.0	+0.2
EOS2	EOS2	0.70	284	P	Pn	23 55 58.9	-0.2
EOS2				eS	Sn	23 56 09.0	+0.3
JKRS	Kuro-shima	0.94	91	eP	Pn	23 56 03.1	+0.6
JKRS				eS	Sn	23 56 15.6	+0.7
JIJ	Ishigaki jima	1.07	84	eP	Pn	23 56 04.1	-0.1
JIJ				S	Sn	23 56 17.5	-0.5
TWC	Suao	1.08	289	eP	Pn	23 56 03.4	-1.0
TWC				eS	Sn	23 56 16.9	-1.4
EGS		1.12	302	eP	Pn	23 56 04.6	-0.2
ENA	Nanau	1.14	279	eP	Pn	23 56 05.1	-0.1
JISG	Ishigakijimahi	1.26	75	eP	Pn	23 56 06.8	-0.1
JISG				eS	Sn	23 56 22.4	-0.2
NACB	Ninganchiao	1.26	267	eP	Pn	23 56 05.4	-1.4
NACB				eS	Sn	23 56 22.7	0.0
TIPB	Shuangxi	1.27	305	P	Pn	23 56 06.2	-0.7
TIPB				eS	Sn	23 56 21.1	-1.7
TWE	Neicheng	1.28	292	eP	Pn	23 56 06.8	-0.3
SXI1	Grass Mountain	1.30	310	eP	Pn	23 56 07.0	-0.6
ENTT	Nioudou	1.34	287	eP	Pn	23 56 08.5	+0.5
LATG	Datong	1.35	282	eP	Pn	23 56 08.8	+0.6
FUSB	Fushanzhiwuyua	1.36	292	P	Pn	23 56 08.0	-0.3
FUSB				S	Sn	23 56 23.9	-1.3
ETLH	Xiulin Townshi	1.36	268	eP	Pn	23 56 08.0	-0.4
ETLH				eS	Sn	23 56 25.2	0.0
SHUL	Shoufeng	1.37	250	eS	Sn	23 56 25.3	-0.1
ETM	Tongmen	1.38	258	eS	Sn	23 56 25.3	-0.4
NWLT	Wulai	1.44	291	eP	Pn	23 56 09.6	+0.3
LXIB	Xiulin Townshi	1.45	261	eP	Pn	23 56 09.3	-0.3
LXIB				eS	Sn	23 56 26.4	-1.0
NNSB	Datong	1.46	277	eP	Pn	23 56 10.4	+0.7
YHNB	Yeheng	1.51	286	eP	Pn	23 56 11.6	+1.2
WARBT	Fenglin Townsh	1.55	250	eP	Pn	23 56 10.3	-0.5
HGSD	Ruisui	1.61	242	eP	Pn	23 56 11.1	-0.5
HGSD				eS	Sn	23 56 29.8	-1.4
JTJ	Tarama	1.62	76	eS	Sn	23 56 31.7	+0.2
OWD	Renai	1.67	260	P	Pn	23 56 12.4	-0.2
OWD				eS	Sn	23 56 32.7	-0.2
ECBN	Changbin	1.68	236	eS	Sn	23 56 31.0	-1.9
EHY	Hungye	1.69	244	eP	Pn	23 56 12.5	-0.2
WUSB	Renai	1.72	262	eP	Pn	23 56 13.9	+0.7
VWDT	VWDT	1.75	254	eP	Pn	23 56 14.4	+0.8
VWDT				eS	Sn	23 56 34.9	+0.2
YULB	Yu-li	1.76	241	P	Pn	23 56 13.6	-0.2
YULB				S	Sn	23 56 33.9	-1.0
EYUL	Yuli	1.77	240	eP	Pn	23 56 13.4	-0.4
TWF1	Yuli	1.78	240	eP	Pn	23 56 14.0	0.0
TWF1				eS	Sn	23 56 35.1	-0.4
CHKH	Chenggong	1.79	234	eS	Sn	23 56 32.7	-3.0
WHP	Taichung City	1.85	271	eP	Pn	23 56 17.1	+2.1
WHP				eS	Sn	23 56 38.4	+1.1
CHKT	Chengkung	1.87	232	eS	Sn	23 56 35.1	-2.5
SSLB	Suanglung	1.91	256	eP	Pn	23 56 16.1	+0.3
SSLB				eS	Sn	23 56 38.4	-0.2
SMLT	Sun Moon Lake	1.93	259	eP	Pn	23 56 15.9	-0.3
SMLT				eS	Sn	23 56 39.8	+0.4
EDH	Donghe	2.00	231	S	Sn	23 56 38.2	-2.5
WHYT	Xinyi Township	2.02	254	eP	Pn	23 56 18.6	+1.3
ELDTW	Lidau	2.08	240	eP	Pn	23 56 17.8	-0.5
CHN5	Tsauling	2.20	253	eP	Pn	23 56 21.1	+1.3
CHN5				eS	Sn	23 56 48.8	+2.9
STYH	Taoyuan	2.29	242	eP	Pn	23 56 20.9	0.0
STYH				eS	Sn	23 56 46.5	-1.4
TPUB	Ta-pu	2.35	247	eP	Pn	23 56 23.5	+1.7
TPUB				eS	Sn	23 56 51.4	+2.0
CHN4	Tsaushan	2.36	248	eP	Pn	23 56 24.4	+2.4
CHN4				eS	Sn	23 56 52.6	+2.9

*IDC **27** 00:30:07.0±6.3, 36°37′N×70°46′E, h179km±58km, mb3.1/2, mbtmp3.6/7, Error ellipse: s-maj=60.7km s-min=43.9km az=144.0*
*NNC **27** 00:30:12.1±2.4, 36°76′N×70°29′E, h137km±35km, mb3.3, mpv4.1, Error ellipse: s-maj=21.4km s-min=16.7km az=37.0*

ISC 27 00:30:11.2±1.7, 36°7′N±0′.1×70°4′E±0′.1, h204km, n25, σ1§17/28, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	5.49	357	Pg	Pn	00 31 32.5	+0.6
	56nm,0.4s						
IUG				Lg	Lg	00 32 33.4	
	176nm,0.5s						
AML	Almayashu	6.03	24	P	Pn	00 31 38.8	-0.4
	SNR=73						
UCH	Uchtor	6.41	29	P	S	00 32 56.2	-1.3
	SNR=7.4						
KK31	Karatay Array	6.43	1	⇑P	Pn	00 31 43.6	-0.5
	1.1nm,0.3s,baz=199,slow=19,SNR=26						
KK31				S	S	00 32 54.9	-2.7
	3.3nm,0.3s,baz=32,slow=75,SNR=6.7						
MRKS	Merke	6.46	19	Pg	Pn	00 31 44.5	+0.1
	14nm,0.4s						
MRKS				Lg	Lg	00 32 54.6	
	30nm,0.3s						
EKS2	Erkin-Say	6.54	22	P	Pn	00 31 45.9	+0.4
	SNR=14						
AAK	Ala-Archa	6.75	27	P	Pn	00 31 48.6	+0.2
	5.2nm,0.3s,baz=184,slow=5.2,SNR=37						
AAK				S	S	00 33 04.6	-0.7
	13nm,0.7s,baz=335,slow=22,SNR=18						
AAK	Ala-Archa	6.75	27	P	Pn	00 31 48.8	+0.5
	SNR=13						
AAK	Ala-Archa	6.75	27	⇓P	Pn	00 31 48.5	+0.2
	3.0nm,0.4s						
AAK				⇑S	S	00 33 04.0	-1.3
	15nm,0.6s						
KBK	Karagaybulak	6.94	29	P	Pn	00 31 51.4	+0.6
	SNR=7.9						
CHMS	Chumysh	7.16	27	P	Pn	00 31 53.7	+0.2
	SNR=5.8						
TKM2	Tokmak 2	7.42	31	P	Pn	00 31 56.9	-0.2
	SNR=22						
TKM2	Tokmak 2	7.42	31	⇓P	Pn	00 31 57.1	0.0
	9.1nm,0.5s						
KST	Kastek	7.68	32	Pg	Pn	00 32 00.5	+0.2
	5.1nm,0.7s						
KST				Lg	Lg	00 33 23.9	
	6.7nm,1.0s						
MTBS	Maitube	7.95	34	P	Pn	00 32 04.2	+0.4
	6.2nm,0.5s						
MK31	Makanchi Array	13.45	38	⇑P	P	00 33 17.1	+0.5
	0.9nm,0.7s,baz=218,slow=13,SNR=9.8						
MKAR	Makanchi Array	13.45	38	P	Pn	00 33 13.0	-1.0
	0.4nm,0.5s,baz=212,slow=8.6,SNR=9.9						
AB31	Akbulak array	14.71	332	P	P	00 33 31.3	+0.9
	0.5nm,0.5s,baz=154,slow=12,SNR=13						
KURBB	Kurchatov Arra	15.13	20	P	Pn	00 33 34.0	-0.6
	0.2nm,0.5s,baz=206,slow=10,SNR=4.3						
BVA0	Borovoye Array	16.36	360	P	Pn	00 33 53.1	+3.6
	0.8nm,0.7s,baz=174,slow=10,SNR=3.6						
BVAR	Borovoye Array	16.36	360	P	Pn	00 33 49.2	-0.3
	0.6nm,0.5s,baz=168,slow=15,SNR=5.2						
AKTO	Aktyubinsk	16.40	331	P	Pn	00 33 50.6	+0.7
	1.5nm,0.5s,baz=150,slow=10,SNR=9.5						
ZALV	Zalesovo Beam	19.98	26	P	P	00 34 28.9	+1.1
	0.9nm,0.3s,baz=222,slow=12,SNR=4.7						
	0.9nm,0.3s						
HFS	Hagfors	42.64	322	P	P	00 37 47.5	+0.3
	0.7nm,0.7s,baz=95,slow=11,SNR=4.3						
	0.7nm,0.7s						
TORD	Torodi Ar. Bea	65.23	268	P	P	00 40 29.3	-1.9
	50nm,0.4s,baz=44,slow=6.8,SNR=1.7						

*IDC **27** 00:33:35.5±1.3, 15°24′N×121°07′E, h0km, mb3.4/6, mbtmp3.4/6, Error ellipse: s-maj=38.8km s-min=11.5km az=83.0*

ISC 27 00:33:41.2±1.4, 14°9′N±0′.2×120°7′E±0′.4, h35km, n7, σ0§60/7, mb3.5/6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.84	165	Pg	Pn	00 33 56.1	-0.5
	268nm,0.3s,baz=276,slow=1.3,SNR=10						
TGY				Lg	Lg	00 34 14.4	
	503nm,0.3s,baz=21,slow=23,SNR=34						
CMAR	Chiang Mai Arr	21.14	283	P	P	00 38 23.4	+0.1
	0.4nm,0.3s,baz=74,slow=8.1,SNR=4.9						
	0.4nm,0.3s						
WRA	Warramunga Arr	37.14	158	P	P	00 40 49.2	+0.3
	0.5nm,0.6s,baz=338,slow=8.6,SNR=2.1						
	0.5nm,0.6s						
ASAR	Alice Springs	40.46	161	P	P	00 41 17.1	+0.5
	0.3nm,0.5s,baz=336,slow=7.8,SNR=5.6						
	0.3nm,0.5s						
MKAR	Makanchi Array	45.07	323	P	P	00 41 53.9	+0.1
	0.1nm,0.5s,baz=131,slow=6.5,SNR=2.3						
	0.1nm,0.5s						
KURBB	Kurchatov Arra	49.20	326	P	P	00 42 25.0	-0.9
	0.5nm,0.7s,baz=123,slow=8.4,SNR=6.2						
	0.5nm,0.7s						
BVAR	Borovoye Array	54.78	325	P	P	00 43 07.2	-0.2
	0.4nm,0.6s,baz=132,slow=8.0,SNR=2.5						
	0.4nm,0.6s						

IDC 27 00:37:17.8±4.5, 3°46′S×149°11′E, h0km, mb3.9/2, mbtmp3.9/2, MS3.3/13, Error ellipse: s-maj=162.3km s-min=52.7km az=108.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	12.29	119	LR	LR	00 44 37.3	
	comp=Z,106nm,18.4s,baz=326,slow=36						
GUMO	Guam	17.45	346	LR	LR	00 46 51.4	
	comp=Z,63nm,21.7s,baz=123,slow=33						
WRA	Warramunga Arr	21.82	220	P	P	00 42 12.2	+0.3
	4.7nm,0.9s,baz=44,slow=10,SNR=14						
	4.7nm,0.9s						
ASAR	Alice Springs	24.89	215	P	P	00 42 42.4	-0.2
	2.0nm,0.7s,baz=51,slow=8.0,SNR=21						
ASAR				LR	LR	00 53 54.8	
	comp=Z,74nm,20.2s,baz=44,slow=40						
	2.0nm,0.7s						
DZM	Mont Dzumac	25.01	139	LR	LR	00 50 52.3	
	comp=Z,115nm,19.2s,baz=18,slow=33						
FITZ	Fitzroy Crossi	27.20	236	LR	LR	00 54 24.7	
	comp=Z,141nm,20.0s,baz=94,slow=38						
STKA	Stephens Creek	29.14	193	LR	LR	00 54 54.0	
	comp=Z,79nm,18.6s,baz=26,slow=36						
JCJ	Chichijima	31.10	348	LR	LR	00 54 51.8	
	comp=Z,36nm,18.1s,baz=179,slow=34						
NWAO	Narrogin (SRO)	41.81	222	LR	LR	01 03 32.2	
	comp=Z,88nm,19.9s,baz=248,slow=38						
ASAJ	Asahikawa	47.72	354	LR	LR	01 03 49.4	
	comp=Z,34nm,21.7s,baz=192,slow=33						
PETK	Petropavlovsk-	56.82	6	LR	LR	01 06 56.6	
	comp=Z,27nm,21.9s,baz=226,slow=31						
ILAR	Eielson Array	82.33	23	LR	LR	01 20 09.2	
	comp=Z,14nm,21.4s,baz=225,slow=31						
YBH	Yreka Blue Hor	90.92	48	LR	LR	01 22 40.1	
	comp=Z,11nm,19.7s,baz=255,slow=30						
NVAR	Mina Array Bea	94.16	52	LR	LR	01 25 53.1	
	comp=Z,19nm,20.3s,baz=301,slow=31						
TORD	Torodi Ar. Bea	146.39	289	PKPbc	PKPdf	00 57 01.1	+0.4
	32nm,0.3s,baz=59,slow=4.3,SNR=1.3						

*IDC **27** 00:51:05.5±1.3, 32°32′S×71°48′W, h0km, mb4.1/4, mbtmp3.9/7, ML3.8/3, Error ellipse: s-maj=52.1km s-min=21.8km az=107.0*
*SJA **27** 00:51:09.8±1.0, 32°55′S×71°77′W, h50km±16km, ML3.9, MW3.7*
*GUC **27** 00:51:09.5±0.8, 32°43′S×71°74′W, h35km±2km, ML3.9*

ISC 27 00:51:06.0±1.2, 32°38′S±0′.02×71°77′W±0′.04, h9km±8km, n86, σ1§10/101, mb4.1/4, 2C-17D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	Catapilco	0.44	115	⇓iP	Pn	00 51 18.4	0.0
VA06				eS	Sb	00 51 24.2	+1.6
VA06				IAML		00 51 25.3	
	comp=N,29μm,0.4s						
VA01	Torpederas	0.65	171	eP	Pn	00 51 20.8	-0.5
VA01				eS	Sb	00 51 29.9	+1.2
VA01				IAML		00 51 32.0	
	comp=N,6μm,0.1s						
VA01	Torpederas	0.65	171	iP	Pn	00 51 20.9	-0.5
VA01				eS	Sb	00 51 29.4	+0.7
VA01				IAML		00 51 30.3	
	comp=Z,1μm,0.4s						
ROCH	El Roble	0.87	133	⇓iP	Pn	00 51 25.0	+0.4
ROCH				⇓iP	Pn	00 51 25.0	+0.4
ROCH				eS	Sb	00 51 36.1	+0.9
ROCH				eS	Sb	00 51 36.2	+0.9
ROCH				IAML		00 51 37.4	
	comp=E,7μm,0.4s						
MT02	Curacav	1.03	149	⇓iP	Pn	00 51 27.1	+0.5
MT02				eS	Sb	00 51 39.5	-0.1
MT02	Curacav	1.03	149	iP	Pn	00 51 27.1	+0.5
MT02				eS	Sb	00 51 39.9	+0.3
MT02				IAML		00 51 40.1	
	comp=Z,3μm,0.3s						
VA03	San Esteban	1.10	111	⇓iP	Pn	00 51 28.5	+0.8
VA03				eS	Sn	00 51 42.8	-0.3
VA03				IAML		00 51 48.1	
	comp=E,6μm,0.2s						
VA03	San Esteban	1.10	111	iP	Pn	00 51 28.4	+0.8
VA03				eS	Sn	00 51 43.8	+0.7
VA03				IAML		00 51 48.6	
	comp=Z,3μm,0.3s						
PEL	Peldehue	1.19	130	eP	Pg	00 51 29.5	+0.6
PEL				eS	Sn	00 51 45.0	-0.2
PEL				IAML		00 51 46.0	
	comp=E,7μm,0.2s						
VA05	Santo Domingo	1.28	174	eP	Pg	00 51 30.8	+0.2
VA05				eS	Sb	00 51 46.7	-0.1
VA05				IAML		00 51 50.5	
	comp=E,4μm,0.5s						
MT05	Renca	1.33	140	⇓iP	Pg	00 51 32.1	+0.5
MT05				eS	Sg	00 51 49.1	+0.2
MT05				IAML		00 51 52.0	
	comp=E,8μm,0.3s						
MT05	Renca	1.33	140	iP	Pg	00 51 31.4	-0.2
MT05				IAML		00 51 51.6	
	comp=Z,1μm,0.5s						
CO02	Combarbal	1.34	29	⇓iP	Pg	00 51 33.4	+1.6
CO02				eS	Sg	00 51 51.0	+1.8
MT10	Hacienda Santa	1.37	131	⇓iP	Pg	00 51 32.8	+0.5
MT10				eS	Sg	00 51 49.8	-0.3
MT10				IAML		00 51 54.4	
	comp=E,6μm,0.4s						
MT14	Cerro Calıın	1.45	135	eP	Pg	00 51 34.0	+0.1
MT14				eS	Sb	00 51 52.1	+0.3
MT14				IAML		00 51 55.7	
	comp=E,4μm,0.5s						
MT16	CCHEN	1.48	135	⇓iP	Pg	00 51 34.3	-0.1
MT16				eS	Sb	00 51 52.9	+0.1
MT03	Universidad Ad	1.54	137	⇓iP	Pg	00 51 35.2	-0.3
MT03				eS	Sb	00 51 54.5	+0.2
MT03				IAML		00 51 57.2	
	comp=E,5μm,0.2s						
MT03	Universidad Ad	1.54	137	iP	Pb	00 51 34.6	-0.1
MT03				IAML		00 51 59.1	
	comp=Z,1μm,0.4s						
MT09	Talagante	1.54	155	⇓iP	Pg	00 51 35.5	-0.1
MT09				eS	Sn	00 51 53.9	-0.1
MT09				IAML		00 51 58.5	
	comp=N,3μm,0.4s						
MT01	Popeta	1.54	164	eP	Pb	00 51 34.9	+0.1
MT01				eS	Sn	00 51 52.7	-1.2
MT01				IAML		00 52 02.9	
	comp=E,1μm,0.7s						
MT01	Popeta	1.54	164	iP	Pn	00 51 34.2	+0.5
MT01				IAML		00 51 57.9	
	comp=Z,902nm,0.9s						
FCH	Farellones	1.56	128	⇓iP	Pg	00 51 35.7	-0.3
FCH				eS	Sg	00 51 55.8	-0.5
FCH				IAML		00 51 59.3	
	comp=E,7μm,0.1s						
MT15	Las Vizcachas	1.62	139	eP	Pb	00 51 36.2	+0.2
MT15				eS	Sb	00 51 56.9	+0.3
MT15				IAML		00 52 00.3	
	comp=N,4μm,0.4s						
MT12	Pirque	1.70	143	⇓iP	Pb	00 51 37.6	+0.2
MT12				eS	Sb	00 51 59.0	+0.1
MT12				IAML		00 52 05.9	
	comp=N,5μm,0.5s						
CO06	Fray Jorge	1.70	4	⇑iP	Pb	00 51 37.6	+0.2
CO06				IAML		00 52 05.5	
	comp=E,2μm,0.4s						
MT04	Ro Olivares	1.71	127	⇓iP	Pb	00 51 37.9	+0.1
MT04				eS	Sb	00 51 59.6	0.0
MT04				IAML		00 52 00.9	
	comp=E,1μm,0.5s						
MT04	Ro Olivares	1.71	127	iP	Pb	00 51 37.3	-0.5
MT04				IAML		00 52 01.8	
	comp=Z,850nm,0.4s						
CO03	El Pedregal	1.79	31	⇑iP	Pg	00 51 40.2	-0.1
CO03				eS	Sg	00 52 03.6	0.0
CO03				IAML		00 52 06.6	
	comp=E,2μm,0.3s						
CO03	El Pedregal	1.79	31	iP	Pg	00 51 39.6	-0.8
CO03				IAML		00 52 06.3	
	comp=Z,1μm,0.5s						
MT08	Bocatoma Ro	1.82	126	⇓iP	Pb	00 51 39.8	+0.2
MT08				eS	Sb	00 52 02.9	+0.3
MT08				IAML		00 52 05.2	
	comp=E,1μm,0.5s						
MT08	Bocatoma Ro	1.82	126	iP	Pb	00 51 39.3	-0.3
MT08				IAML		00 52 12.5	
	comp=Z,484nm,0.5s						
MT13	San Alfonso	1.85	138	eP	Pb	00 51 40.0	0.0
MT13				eS	Sb	00 52 03.1	-0.1
MT13				IAML		00 52 07.8	
	comp=E,2μm,0.3s						
MT13	San Alfonso	1.85	138	iP	Pb	00 51 39.5	-0.5
MT13				IAML		00 52 16.4	
	comp=Z,713nm,0.3s						
BO04	La Punta	1.88	149	eP	Pb	00 51 40.4	-0.1
BO04				eS	Sb	00 52 03.8	-0.3
BO04				IAML		00 52 07.9	
	comp=N,2μm,0.6s						
LMEL	Las Melosas	1.97	139	eP	Pb	00 51 42.0	-0.1
LMEL				eS	Sb	00 52 06.1	-0.7
LMEL				IAML		00 52 12.7	
LMEL	Las Melosas	1.97	139	iP	Pb	00 51 41.3	-0.8
BO01	Tunca	2.09	164	eP	Pn	00 51 42.5	+1.3
BO01	Tunca	2.09	164	iP	Pn	00 51 42.4	+1.2
BO01				eS	Sg	00 52 11.8	-1.3
BO01				IAML		00 52 15.4	
	comp=Z,491nm,0.6s						
BO03	Pichilemu	2.12	184	⇓iP	Pn	00 51 41.7	+0.2
RTLS	Leoncito	2.18	75	iP	Pg	00 51 48.4	+0.6
RTLS				IAML		00 52 24.0	
	comp=Z,2μm,0.9s						
GO04	Tololo Observa	2.35	21	eP	Pb	00 51 47.6	-1.0
ARCO	CERRO ARCO	2.44	102	iP	Pg	00 51 52.4	-0.3
ARCO				IAML		00 52 32.8	
	comp=Z,486nm,0.8s						
CO05	La Serena	2.49	11	eP	Pb	00 51 49.1	-1.9
BO02	Sierra Bellavi	2.55	161	eP	Pn	00 51 49.0	+1.5
AAGR	Agrelo	2.58	107	iP	Pg	00 51 54.3	-1.1
AAGR				IAML		00 52 38.2	
	comp=Z,333nm,0.9s						
GO05	Hualane	2.63	183	eP	Pn	00 51 48.5	-0.1
DOCA	Reserva Natura	2.70	59	iP	Pb	00 51 54.7	0.0
DOCA				IAML		00 52 39.7	
	comp=Z,274nm,0.4s						
ZON	Zonda	2.76	73	iP	Pb	00 51 56.0	+0.5
ZON				IAML		00 52 45.7	
	comp=Z,248nm,0.5s						
CO01	Juntas del Tor	2.79	31	eP	Pb	00 51 54.7	-1.5
CO01	Juntas del Tor	2.79	31	iP	Pb	00 51 54.3	-1.9
CO01				IAML		00 52 42.2	
	comp=Z,379nm,0.5s						
ACCO	Cerro Coronel	2.92	53	iP	Pg	00 52 01.1	-0.9
AROD	Rodeo	2.96	42	iP	Pb	00 51 59.0	0.0
CFA	Coronel Fontan	3.10	77	iP	Pb	00 51 59.8	-1.5
CFA				IAML		00 52 57.1	
	comp=Z,2μm,0.8s						
ACDV	Cuesta del Vie	3.16	47	iP	Pb	00 52 03.4	+1.0
ACDV				IAML		00 52 56.7	
	comp=Z,162nm,1.1s						
AGUA	GUANDACOL	4.03	45	iP	Pb	00 52 13.8	-3.5
AGUA				IAML		00 53 14.6	
	comp=Z,284nm,0.3s						
AVFE	Valle Fertil	4.06	66	iP	Pb	00 52 14.0	-3.8
AVFE				IAML		00 53 12.8	
	comp=Z,303nm,0.4s						
BI02	San Fabin de	4.29	175	iP	Pn	00 52 12.8	+1.2
BI02				IAML		00 53 21.9	
	comp=Z,80nm,0.7s						
ACHE	Chepes	4.52	76	iP	Pn	00 52 19.5	+4.8
VCA	Vinchina	4.76	41	iP	Pn	00 52 22.9	+4.9
VCA				IAML		00 53 40.7	
	comp=Z,275nm,0.4s						
APLL	PUNTA DE LOS L	4.90	68	iP	Pn	00 52 24.6	+4.7
APLL				IAML		00 53 30.2	
	comp=Z,44nm,0.7s						
ACLC	CERRO LA CRUZ	5.08	56	iP	Pn	00 52 26.7	+4.3
ACLC				IAML		00 53 44.3	
	comp=Z,86nm,0.5s						
H03N1	Juan Fernandez	6.10	258	T	T	00 59 16.5	
	baz=86,slow=73,SNR=1890						
H03N3	Juan Fernandez	6.11	258	T	T	00 59 12.8	
	baz=86,slow=73,SNR=1776						
H03N2	Juan Fernandez	6.12	258	T	T	00 59 16.5	
	baz=86,slow=73,SNR=1659						
H03S1	Juan Fernandez	6.16	254	T	T	00 59 02.3	
	baz=81,slow=75,SNR=17						
H03S3	Juan Fernandez	6.16	255	T	T	00 59 03.6	
	baz=81,slow=75,SNR=15						
H03S2	Juan Fernandez	6.18	254	T	T	00 59 07.2	
	baz=81,slow=75,SNR=29						
TCA	Tanti	6.19	82	⇓iP	Pn	00 52 40.3	+2.6
PLCA	Paso Flores	8.40	174	Pn	Pn	00 53 09.2	+1.3
	comp=Z,0.2nm,0.3s,baz=335,slow=12,SNR=9.4						
	comp=Z,0.6nm,0.3s						
CPUP	Villa Florida	13.96	68	Pn	Pn	00 54 22.1	-1.8
	comp=Z,0.2nm,0.3s,baz=230,slow=4.5,SNR=1.9						
CPUP				Lg	Lg	00 58 09.1	
	comp=Z,0.2nm,0.3s,baz=151,slow=19,SNR=4.4						
	comp=Z,0.8nm,0.4s						
LPAZ	La Paz	16.36	13	Pn	Pn	00 54 56.9	+0.4
	comp=Z,0.2nm,0.3s,baz=179,slow=8.1,SNR=6.7						
	comp=Z,1.8nm,0.8s						
BDFB	Brasilia	27.26	58	P	P	00 56 50.0	-0.8
	comp=Z,1.8nm,0.4s,baz=233,slow=10.0,SNR=5.1						
	comp=Z,1.8nm,0.4s						
SNAA	Sanae	53.00	158	P	P	01 00 24.9	+2.2
	comp=Z,1.5nm,0.8s,baz=336,slow=11,SNR=3.8						
	comp=Z,1.5nm,0.8s						
QSPA	South Pole Qui	57.85	180	P	P	01 00 58.3	+0.5
	comp=Z,0.9nm,0.7s,baz=160,slow=1.6,SNR=7.7						
	comp=Z,0.9nm,0.7s						
DBIC	Dimbokro	74.45	72	P	P	01 02 43.1	-1.8
	comp=Z,2.3nm,0.6s,baz=229,slow=5.0,SNR=4.0						
	comp=Z,2.3nm,0.6s						
TORD	Torodi Ar. Bea	83.45	70	P	P	01 03 34.3	0.0
	comp=Z,40nm,0.3s,baz=255,slow=5.5,SNR=1.5						
H11S2	WAKE ISLAND Hyl	26.00	270	T	T	03

YULB Yu-li 12.24 343 Pn **Pn 00 54 44.8 -2.8**
FAKI Fak Fak 16.10 154 Pn **Pn 00 55 38.4 -1.2**
KAPI Kappang 17.42 198 LR LR 01 04 40.2
comp=Z,70nm,18.0s,baz=82,slow=43
NJ2 Nanjing 21.11 345 *eP* **P 00 56 40.8 +3.7**
NJ2 pmax pmax
comp=Z,13nm,0.5s
TIA Tai'an 25.50 345 P **P 00 57 20.5 0.0**
TIA pmax pmax
comp=Z,8.0nm,0.7s
LYN LuoYang 25.56 335 P **P 00 57 22.3 +1.3**
LYN pmax pmax
comp=Z,15nm,0.6s
KSRS Korea Array 25.80 5 P **P 00 57 23.5 +0.3**
comp=Z,1.2nm,0.6s,baz=190,slow=10,SNR=4.8
comp=Z,1.2nm,0.6s
CMAR Chiang Mai Arr 26.19 288 P **P 00 57 28.7 +1.7**
comp=Z,1.1nm,0.3s,baz=90,slow=7.9,SNR=8.3
comp=Z,1.1nm,0.3s
PZH PanZhiHua 26.54 307 P **P 00 57 32.0 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
XAN Xi'an 26.76 329 ⇓P **P 00 57 32.0 0.0**
XAN pP sP 00 57 53.8 +5.9
XAN pmax pmax
comp=Z,19nm,0.8s
PSI Prapat 27.45 253 LR LR 01 12 10.8
comp=Z,45nm,18.4s,baz=79,slow=44
FITZ Fitzroy Crossi 29.57 179 P **P 00 57 55.8 -1.3**
HHC Hu-ho-hao-te 31.45 340 *eP* **P 00 58 16.8 +3.2**
HHC pmax pmax
comp=Z,10.0nm,0.7s
WB0 Warramunga Arr 32.52 164 P **P 00 58 21.9 -1.2**
WRA Warramunga Arr 32.67 164 P **P 00 58 24.2 -0.3**
comp=Z,0.6nm,0.4s,baz=348,slow=8.5,SNR=3.5
comp=Z,0.6nm,0.4s
WR8 Warramunga Arr 32.73 164 P **P 00 58 24.6 -0.4**
BRDH Bariadhala 33.77 293 LR LR 01 12 43.2
comp=Z,74nm,18.2s,baz=216,slow=37
BNX BinXian 34.02 3 ⇑P **P 00 58 36.0 +0.1**
BNX pmax pmax
comp=Z,4.0nm,0.7s
GTA Gaotai 35.63 325 *eP* **P 00 58 52.0 +1.9**
GTA sP sP 00 59 19.3 +13
GTA pmax pmax
comp=Z,5.0nm,0.9s
AS31 Alice Springs 36.13 166 P **P 00 58 54.4 0.0**
ASAR Alice Springs 36.13 166 P **P 00 58 55.0 +0.5**
ASAR Alice Springs 36.13 166 P **P 00 58 55.4 +1.0**
comp=Z,3.1nm,0.5s,baz=349,slow=7.7,SNR=36
ASAR LR LR 01 13 31.0
comp=Z,54nm,19.4s,baz=102,slow=36
comp=Z,3.1nm,0.5s
ULN Ulaanbaatar 39.16 341 **P 00 59 20.0 +0.1**
SONM Songino Array 39.35 340 P **P 00 59 21.7 +0.2**
SONM Songino Array 39.35 340 P **P 00 59 22.2 +0.7**
comp=Z,2.2nm,0.5s,baz=156,slow=8.9,SNR=9.3
comp=Z,2.2nm,0.5s
HNR Honiara 40.43 120 LR LR 01 13 34.9
comp=Z,48nm,20.3s,baz=7.5,slow=32
H11S3 WAKE ISLAND Hy 40.59 75 T T 01 42 49.6
baz=273,slow=74,SNR=17
H11S1 WAKE ISLAND Hy 40.60 75 T T 01 42 53.2
baz=273,slow=74,SNR=8.5
H11S2 WAKE ISLAND Hy 40.61 75 T T 01 42 50.0
baz=273,slow=74,SNR=12
H11N1 WAKE ISLAND Hy 40.87 73 T T 01 42 55.7
baz=265,slow=75,SNR=55
H11N2 WAKE ISLAND Hy 40.88 73 T T 01 43 00.5
baz=265,slow=75,SNR=41
H11N3 WAKE ISLAND Hy 40.89 73 T T 01 42 58.6
baz=265,slow=75,SNR=55
BBOO Buckleboo 45.43 167 P **P 01 00 11.6 +0.8**
WMQ Urumqi 45.47 322 *eP* **P 01 00 10.5 -0.7**
WMQ sP sP 01 00 47.5 +20
WMQ pmax pmax
comp=Z,21nm,0.7s
STKA Stephens Creek 46.06 160 P **P 01 00 16.8 +0.9**
STKA Stephens Creek 46.06 160 P **P 01 00 17.1 +1.3**
comp=Z,6.4nm,0.6s,baz=341,slow=9.1,SNR=13
comp=Z,6.4nm,0.6s
MKAR Makanchi Array 50.27 323 **P 01 00 48.9 +0.5**
MKAR Makanchi Array 50.27 323 P **P 01 00 49.3 +0.9**
comp=Z,6.8nm,0.8s,baz=120,slow=8.4,SNR=64
MKAR PcP **PcP 01 02 06.3 -0.5**
comp=Z,1.0nm,0.7s,baz=106,slow=3.9,SNR=3.9
comp=Z,6.8nm,0.8s
MAKZ Makanchi 50.47 322 **P 01 00 50.4 +0.6**
MAKZ IAmb IAmb 01 00 51.6
comp=Z,9.6nm,1.2s
NIL Nilore 52.06 304 **P 01 01 02.6 +0.6**
BOOM Boomskoye usch 52.53 315 P **P 01 01 05.7 +0.2**
TOO Toolangi 52.55 160 P **P 01 01 06.3 +0.9**
TOO IAmb IAmb 01 01 16.7
comp=Z,17nm,1.4s
DZM Mont Dzumac 52.56 130 P **P 01 01 06.9 +1.0**
DZM Mont Dzumac 52.56 130 P **P 01 01 06.0 +0.1**
comp=Z,7.6nm,0.9s,baz=249,slow=12,SNR=5.8
comp=Z,7.6nm,0.9s
ZAA0 Zalesovo Array 52.90 331 **P 01 01 07.6 -0.1**
ZAA0 IAmb IAmb 01 01 08.6
comp=Z,5.7nm,0.8s
ZALV Zalesovo Beam 52.90 331 **P 01 01 07.5 -0.2**
ZALV Zalesovo Beam 52.90 331 P **P 01 01 07.7 0.0**
comp=Z,8.5nm,0.9s,baz=120,slow=7.3,SNR=32
comp=Z,8.5nm,0.9s
KURK Kurchatov 54.32 325 **P 01 01 18.8 +0.6**
KURBB Kurchatov Arra 54.32 325 P **P 01 01 19.0 +0.8**
comp=Z,12nm,0.7s,baz=128,slow=7.1,SNR=36
comp=Z,12nm,0.7s
GAR Garm 55.58 309 P **P 01 01 28.1 +0.3**
GAR IAmb IAmb 01 01 28.9
comp=Z,9.8nm,0.8s
KBL Kabul 55.66 304 P **P 01 01 28.3 -0.3**
KBL IAmb IAmb 01 01 29.5
comp=Z,5.7nm,1.1s
SIMJ Simiganj 56.49 309 P **P 01 01 34.5 +0.2**
SIMJ IAmb IAmb 01 01 53.1
comp=Z,7.9nm,1.4s
KK31 Karatay Array 56.51 314 P **P 01 01 34.3 +0.1**
KK31 IAmb IAmb 01 01 35.4
comp=Z,4.3nm,0.9s
KK31 PcP **PcP 01 02 29.8 -0.8**
KKAR Karatay Array 56.51 314 **P 01 01 33.8 -0.4**
KKAR PcP **PcP 01 02 30.0 -0.6**
KKAR Karatay Array 56.51 314 P **P 01 01 34.2 0.0**
KKAR IAmb IAmb 01 01 35.4
comp=Z,4.6nm,0.9s
BVAR Borovoye Array 59.91 325 P **P 01 01 58.3 +0.5**
comp=Z,5.1nm,0.9s,baz=110,slow=8.5,SNR=26
BVAR LR LR 01 28 27.4
comp=Z,36nm,21.0s,baz=68,slow=36
comp=Z,5.1nm,0.9s
BRVK Borovoye 59.98 325 **P 01 01 58.5 +0.2**
BRVK IAmb IAmb 01 01 59.5
comp=Z,8.7nm,0.9s
GSTR Great Sitkin T 61.88 37 P **P 01 02 11.2 0.0**
NRIK Noril'sk 62.41 346 **P 01 02 14.4 0.0**
NRIK IAmb IAmb 01 02 15.5
comp=Z,6.0nm,1.2s
NRIK Noril'sk 62.41 346 P **P 01 02 14.4 0.0**
comp=Z,1.7nm,0.7s,baz=111,slow=7.4,SNR=5.7
comp=Z,1.7nm,0.7s
AB31 Akbulak array 65.12 319 **P 01 02 32.1 -0.5**
AB31 IAmb IAmb 01 02 33.4
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 65.12 319 P **P 01 02 32.4 -0.2**
ABKAR IAmb IAmb 01 02 33.4
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 65.12 319 P **P 01 02 32.0 -0.7**
UOSS Minazif 66.20 292 P **P 01 02 40.2 +0.2**
ARTI Arti 67.56 326 P **P 01 02 47.3 -0.8**
ARTI IAmb IAmb 01 02 48.3
comp=Z,6.1nm,1.0s
RTZ Ruatahuna 69.53 139 P **P 01 03 00.9 +0.1**
BKZ Black Stump Fm 69.54 140 P **P 01 03 01.2 +0.4**
CMWZ Cape Campbell 69.68 143 P **P 01 03 02.9 +1.4**
BHW Baring Head 69.86 142 P **P 01 03 02.4 -0.1**
M14K Bethel 71.54 30 P **P 01 03 12.8 +0.3**
M14K IAmb IAmb 01 03 50.3
comp=Z,16nm,1.4s
E18K Tukpahlearik C 73.26 23 P **P 01 03 23.8 +1.1**
C18K Utukok River 73.27 22 P **P 01 03 23.8 +1.0**
D20K Etivluk River 74.93 22 P **P 01 03 33.0 +0.5**
D20K IAmb IAmb 01 03 51.8
comp=Z,6.0nm,1.1s
RAYN Ar Rayn 76.05 292 **P 01 03 39.3 -0.5**
RAYN IAmb IAmb 01 03 40.1
comp=Z,8.1nm,0.7s
KBZ Khabaz 76.48 312 P **P 01 03 41.1 -0.6**
comp=Z,2.2nm,0.9s,baz=97,slow=5.4,SNR=5.5
comp=Z,2.2nm,0.9s
KIV Kislovodsk 76.62 313 P **P 01 03 42.8 +0.1**
KIV IAmb IAmb 01 03 44.0
comp=Z,8.2nm,0.6s
GURO Guroymak-BITLI 77.50 307 **P 01 03 47.9 +0.1**
GURO IAmb IAmb 01 03 49.5
comp=Z,5.1nm,0.7s
BNN Bunyan 82.27 308 P **P 01 04 13.3 -0.3**
BNN IAmb IAmb 01 04 14.4
comp=Z,6.0nm,0.7s
SPB2 Spitsbergen Ar 82.45 349 P **P 01 04 13.5 -0.1**
SPB2 IAmb IAmb 01 04 30.1
comp=Z,19nm,1.3s
SPITS Spitsbergen Ar 82.45 349 P **P 01 04 13.2 -0.4**
comp=Z,3.5nm,0.7s,baz=94,slow=6.9,SNR=5.9
comp=Z,3.5nm,0.7s
ARCES ARCESS Array B 82.52 340 P **P 01 04 14.1 -0.1**
comp=Z,4.6nm,0.7s,baz=77,slow=6.4,SNR=15
comp=Z,4.6nm,0.7s
MMAI Mount Meron Ar 83.55 302 P **P 01 04 21.1 +0.8**
comp=Z,0.9nm,0.6s,baz=68,slow=9.1,SNR=8.4
comp=Z,0.9nm,0.6s
BR131 Keskin Array S 83.82 309 **P 01 04 20.8 -0.8**
BRTR Keskin Array B 83.82 309 P **P 01 04 20.8 -0.8**
comp=Z,1.1nm,0.7s,baz=107,slow=4.2,SNR=11
comp=Z,1.1nm,0.7s
FIA1 FINESS Array S 84.16 332 P **P 01 04 22.4 -0.3**
FINES FINESS Array B 84.16 332 P **P 01 04 22.3 -0.3**
FINES FINESS Array B 84.16 332 P **P 01 04 21.8 -0.9**
comp=Z,1.2nm,0.4s,baz=77,slow=5.1,SNR=27
comp=Z,1.2nm,0.4s
AKASG Malin Array Be 84.81 321 P **P 01 04 25.2 -1.0**
comp=Z,2.1nm,0.6s,baz=69,slow=4.3,SNR=12
comp=Z,2.1nm,0.6s
AKBB Malin Array Si 84.81 321 **P 01 04 24.9 -1.3**
AKBB IAmb IAmb 01 04 26.0
comp=Z,7.5nm,1.1s
KIEV Kiev 84.82 321 **P 01 04 24.8 -1.5**
KIEV IAmb IAmb 01 04 26.0
comp=Z,6.8nm,1.1s
CSS Mathiatis 84.91 304 **P 01 04 26.8 -0.3**
BORA Eskisehir 86.20 310 P **P 01 04 31.9 -1.6**
BORA IAmb IAmb 01 04 33.1
comp=Z,3.3nm,0.8s
PABE Paberze 86.74 326 P **P 01 04 35.7 0.0**
PABE IAmb IAmb 01 04 37.7
comp=Z,5.7nm,0.9s
EUNU Eureka 86.98 5 P **P 01 04 36.2 -0.3**
ELL Elmali 87.28 307 P **P 01 04 37.9 -0.9**
BURAR Bucovina Array 88.09 318 P **P 01 04 42.5 0.0**
BURAR IAmb IAmb 01 04 42.9
comp=Z,1.8nm,0.7s
BUR08 Bucovina Ar. S 88.09 318 **P 01 04 42.3 -0.2**
HFS Hagfors 90.32 332 P **P 01 04 51.0 -1.5**
comp=Z,0.8nm,0.4s,baz=102,slow=5.1,SNR=12
comp=Z,0.8nm,0.4s
NOA NORSAR Array B 91.04 334 P **P 01 04 54.3 -1.6**
comp=Z,0.4nm,0.8s,baz=69,slow=4.7,SNR=3.6
NOA LR LR 01 47 28.2
comp=Z,14nm,20.3s,baz=245,slow=36
comp=Z,0.4nm,0.8s
VNDA Vanda 91.44 173 P **P 01 04 57.8 +0.5**
comp=Z,0.8nm,0.8s,baz=313,slow=7.3,SNR=5.9
comp=Z,0.8nm,0.8s
DAVOX Davos/Dischmat 98.15 321 LR LR 01 51 19.6
comp=Z,27nm,18.2s,baz=265,slow=36
VAE Valguarnera 98.89 311 LR LR 01 55 14.0
comp=Z,15nm,21.8s,baz=306,slow=38

---

*NEIC **27** 00:53:56.4±0.6, 19°.1S±0°.2×177°.38W±0°.09, h595km±19km, mb4.4/19, Error ellipse: s-maj=31.7km s-min=11.5km az=185.0*
*IDC **27** 00:53:57.7±1.7, 19°.43S×177°.67W, h579km±18km, mb3.0/5, mbtmp4.0/7, Error ellipse: s-maj=18.4km s-min=17.9km az=169.0*
ISC 27 00:53:56.7±0.7,**19°.1S**±0°.1×**177°.4W**±0°.1,**h600**km,**n37,** σ1º**08/37,mb4.1/13, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.48**	**287**	P		**P**	**P**	**00 55 25.1**	**-0.6**
MSVF	**Nonsavu**	**4.48**	**287**	P		**P**	**P**	**00 55 25.0**	**-0.7**
23nm,0.5s,baz=119,slow=11,SNR=7.4									
AFI	**Afiamalu**	**7.48**	**47**	P		**P**	**P**	**00 55 49.8**	**-1.5**
DZM	**Mont Dzumac**	**15.38**	**256**	P		**P**	**P**	**00 57 09.0**	**+0.5**
DZM				IAmb		IAmb	IAmb	00 57 40.3	
comp=Z,18nm,1.2s									
RAR	**Rarotonga**	**16.73**	**100**	P		**P**	**P**	**00 57 19.6**	**-1.1**
TOZ	**Tahuroa Road**	**19.58**	**197**	P		**P**	**P**	**00 57 46.5**	**+0.1**
TOZ				IAmb		IAmb	IAmb	00 58 11.5	
comp=Z,7.8nm,1.0s									
URZ	**Urewera**	**19.69**	**193**	P		**P**	**P**	**00 57 44.8**	**-2.7**
comp=Z,3.0nm,0.3s,baz=338,slow=2.4,SNR=13									
TCW	**Tory Channel**	**23.17**	**196**	P		**P**	**P**	**00 58 20.1**	**+1.6**
LHI	**Lord Howe Isla**	**24.53**	**235**	P		**P**	**P**	**00 58 31.6**	**+0.9**
FOZ	**Fox Glacier**	**26.64**	**201**	P		**P**	**P**	**00 58 48.3**	**-0.7**
MLZ	**Mavora Lakes**	**28.83**	**201**	P		**P**	**P**	**00 59 07.2**	**-0.9**
WHZ	**Wether Hill Ro**	**29.34**	**201**	P		**P**	**P**	**00 59 12.4**	**-0.1**
WHZ				IAmb		IAmb	IAmb	00 59 14.3	
comp=Z,48nm,1.3s									
TOO	**Toolangi**	**37.17**	**232**	P		**P**	**P**	**01 00 17.9**	**-0.4**
TOO				IAmb		IAmb	IAmb	01 00 54.3	
comp=Z,16nm,1.5s									
BBOO	**Buckleboo**	**43.66**	**242**	P		**P**	**P**	**01 01 09.9**	**+0.1**
BBOO				IAmb		IAmb	IAmb	01 01 20.4	
comp=Z,37nm,1.4s									
WR8	**Warramunga Arr**	**45.18**	**261**	P		**P**	**P**	**01 01 21.7**	**-0.1**
WR8				IAmb		IAmb	IAmb	01 01 56.6	
comp=Z,8.9nm,1.4s									
WB0	**Warramunga Arr**	**45.31**	**261**	P		**P**	**P**	**01 01 22.5**	**-0.2**
WB0				IAmb		IAmb	IAmb	01 01 23.4	
comp=Z,7.0nm,1.2s									
WRA	**Warramunga Arr**	**45.33**	**261**	P		**P**	**P**	**01 01 22.6**	**-0.2**
WRA	**Warramunga Arr**	**45.33**	**261**	P		**P**	**P**	**01 01 23.1**	**+0.2**
comp=Z,1.0nm,0.4s,baz=98,slow=7.8,SNR=12									
comp=Z,1.0nm,0.4s									
AS31	**Alice Springs**	**45.37**	**255**	P		**P**	**P**	**01 01 23.1**	**-0.1**
ASAR	**Alice Springs**	**45.37**	**255**	P		**P**	**P**	**01 01 22.9**	**-0.2**
ASAR	**Alice Springs**	**45.37**	**255**	P		**P**	**P**	**01 01 23.6**	**+0.4**
comp=Z,2.0nm,0.4s,baz=86,slow=8.1,SNR=26									
ASAR				PcP		**PcP**	**PcP**	**01 02 51.4**	**+1.8**
comp=Z,1.1nm,0.7s,baz=96,slow=4.3,SNR=5.9									
ASAR				S		**S**	**S**	**01 07 21.1**	**-0.5**
comp=Z,0.7nm,0.8s,baz=94,slow=15,SNR=6.3									
comp=Z,2.0nm,0.4s									
MTN	**Manton Dam**	**49.69**	**269**	P		**P**	**P**	**01 01 54.8**	**-0.6**
MTN				IAmb		IAmb	IAmb	01 02 05.7	
comp=Z,27nm,1.4s									
FORT	**Forrest**	**50.35**	**246**	P		**P**	**P**	**01 01 59.3**	**-0.7**
FORT				IAmb		IAmb	IAmb	01 02 00.5	
comp=Z,13nm,0.8s									
KNRA	**Kununurra**	**51.29**	**265**	P		**P**	**P**	**01 02 06.1**	**-0.9**
KNRA				IAmb		IAmb	IAmb	01 02 21.9	
comp=Z,21nm,1.4s									
FITZ	**Fitzroy Crossi**	**53.75**	**261**	P		**P**	**P**	**01 02 24.4**	**0.0**
VNDA	**Vanda**	**59.37**	**185**	P		**P**	**P**	**01 03 02.5**	**+0.6**
VNDA	**Vanda**	**59.37**	**185**	P		**P**	**P**	**01 03 02.9**	**+1.0**
comp=Z,0.3nm,0.5s,baz=344,slow=4.9,SNR=2.6									
comp=Z,0.3nm,0.5s									
MORW	**Morawa**	**60.86**	**247**	P		**P**	**P**	**01 03 11.7**	**-0.9**
QSPA	**South Pole Qui**	**70.98**	**180**	P		**P**	**P**	**01 04 15.9**	**+1.2**
QSPA				IAmb		IAmb	IAmb	01 04 25.6	
comp=Z,4.8nm,1.4s									
QSPA	**South Pole Qui**	**70.98**	**180**	P		**P**	**P**	**01 04 16.1**	**+1.4**
comp=Z,2.3nm,0.8s,baz=263,slow=0.9,SNR=11									
comp=Z,2.3nm,0.8s									
TXAR	**Lajitas Array**	**85.85**	**57**	P		P		01 05 39.0	+4.7
comp=Z,0.2nm,0.7s,baz=244,slow=5.2,SNR=2.7									
comp=Z,0.2nm,0.7s									
BVAR	**Borovoye Array**	**118.33**	**321**	PKP		**PKiKP**	**PKiKP**	**01 11 38.1**	**+1.4**
comp=Z,0.7nm,0.3s,baz=122,slow=2.9,SNR=5.8									
ARCES	**ARCESS Array B 127.62**	**350**		PKP		**PKiKP**	**PKiKP**	**01 11 56.6**	**+2.0**
comp=Z,2.6nm,1.0s,baz=14,slow=2.5,SNR=6.3									
AKASG	**Malin Array Be**	**142.02**	**332**	PKhKP		PKPpre		01 12 19.6	
comp=Z,0.4nm,0.4s,baz=34,slow=4.0,SNR=4.7									
BRTR	**Keskin Array B**	**146.25**	**314**	PKPbc		**PKPab**	**PKPab**	**01 12 34.0**	**0.0**
comp=Z,0.8nm,0.5s,baz=124,slow=4.6,SNR=7.2									
MMAI	**Mount Meron Ar**	**147.54**	**302**	PKPbc		**PKPab**	**PKPab**	**01 12 38.2**	**-1.1**
comp=Z,1.4nm,0.4s,baz=74,slow=6.2,SNR=19									
GERES	**GERESS Array B 148.97**	**346**		PKPbc		**PKiKP**	**PKiKP**	**01 12 41.1**	**+2.2**
comp=Z,0.7nm,0.6s,baz=29,slow=3.0,SNR=6.7									

---

*MOS **27** 00:57:26.5±0.9, 37°.15N×141°.44E, h45km, mb4.4/7, Error ellipse: s-maj=10.7km s-min=6.6km az=118.1*
*NIED **27** 00:57:28.6, 37°.17N×141°.33E, h47km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.24; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$-1.18; $M_{r\theta}$0.65; $M_{\theta\phi}$-0.38; $M_{\phi r}$0.98; Fault plane solution: $M_0$1.73000×10^{15} NP1: ϕ_s186.00000°, δ25.00000°, λ70.00000°. NP2:ϕ_s28.00000°, δ67.00000°, λ99.00000°.*
*IDC **27** 00:57:28.8±0.5, 37°.09N×141°.32E, h47km±5km, mb3.7/22, mbtmp4.0/28, MS3.2/10 Error ellipse: s-maj=14.3km s-min=12.1km az=123.0*
*JMA **27** 00:57:28.6±0.1, 37°.2N±0°.4×141°.3E±0°.9, h47km±1km, MD4.1/40, MV4.3/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NEIC **27** 00:57:31.5±1.1, 37°.23N±0°.05×141°.20E±0°.02, h56km±7km, mb4.3/80, Error ellipse: s-maj=8.0km s-min=1.7km az=189.0*
ISC 27 00:57:29.0±0.5,**37°.19N**±0°.04×**141°.35E**±0°.05,**h45**km±4km, **h45**km:**pP-P,n210,**σ1º**39/206,mb4.3/70,MS3.2/9,6C-21D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.42**	**296**	⇓*iP*			**Pn**	**00 57 38.5**	**-0.5**
JFK				⇓*eS*			**Sn**	**00 57 45.5**	**-0.6**
JFK	**Kawauchi**	**0.42**	**296**	A			A	00 57 38.5	
comp=N,14nm,0.4s,comp=E,18nm,0.7s									
ONAJ	**Iwakimizuishiy**	**0.45**	**259**	⇓*iP*			**Pn**	**00 57 38.8**	**-0.6**
ONAJ				⇓*eS*			**Sn**	**00 57 45.9**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.45**	**259**	A			A	00 57 38.8	
comp=N,77nm,0.3s,comp=E,50nm,0.2s									
JFFD	**Fukushimafurud**	**0.64**	**262**	⇓P			**Pn**	**00 57 41.2**	**-0.6**
JFFD				⇓S			**Sn**	**00 57 50.1**	**-0.8**
JFFD	**Fukushimafurud**	**0.64**	**262**	A			A	00 57 41.2	
comp=N,12nm,0.8s,comp=E,17nm,0.8s									
JMST	**Minamisoumatoc**	**0.65**	**326**	⇓P			**Pn**	**00 57 41.4**	**-0.6**
JMST				⇓S			**Sn**	**00 57 50.7**	**-0.5**
JMST	**Minamisoumatoc**	**0.65**	**326**	A			A	00 57 41.4	
comp=N,14nm,0.4s,comp=E,17nm,1.1s									
JMM	**Marumori**	**0.81**	**327**				**Pn**	**00 57 43.9**	**-0.1**
JMM	**Marumori**	**0.81**	**327**	P			**Pn**	**00 57 43.7**	**-0.4**
JMM	**Marumori**	**0.81**	**327**	⇓P			**Pn**	**00 57 43.7**	**-0.4**
JMM				⇓S			**Sn**	**00 57 54.7**	**-0.3**
JMM	**Marumori**	**0.81**	**327**	A			A	00 57 43.7	
comp=N,11nm,0.4s,comp=E,9.0nm,0.3s									
JHO	**Hitachi**	**0.85**	**228**	⇓P			**Pn**	**00 57 43.3**	**-1.4**
JHO				⇓S			**Sn**	**00 57 54.0**	**-2.0**
JOTO	**OTAMA OYAMA**	**0.89**	**295**	P			**Pn**	**00 57 45.5**	**+0.3**
JOTO				S			**Sn**	**00 57 57.5**	**+0.5**
JOTO	**OTAMA OYAMA**	**0.89**	**295**	A			A	00 57 45.5	
comp=N,16nm,0.4s,comp=E,15nm,0.4s									
JYAR	**Yonezawaarcadi**	**1.20**	**307**	A			A	00 57 49.3	
comp=N,9.0nm,1.3s,comp=E,7.0nm,0.7s									
JIO	**Ouri**	**1.27**	**0**	⇓P			**Pn**	**00 57 49.7**	**-0.5**
JIO				⇓S			**Sn**	**00 58 04.8**	**-1.3**
JOU	**Okura**	**1.30**	**335**	⇓P			**Pn**	**00 57 50.6**	**-0.1**
JOU	**Okura**	**1.30**	**335**	A			A	00 57 50.6	
comp=N,5.0nm,2.0s,comp=E,5.0nm,1.6s									
JFY	**Yanaizu**	**1.33**	**280**	⇓P			**Pn**	**00 57 51.3**	**+0.1**
JYT	**Yasato**	**1.33**	**224**	A			A	00 57 51.0	
comp=N,9.0nm,0.3s,comp=E,9.0nm,0.3s									
JYS	**Shiratake**	**1.45**	**316**	⇓*eP*			**Pn**	**00 57 53.4**	**+0.6**
JSD	**Sado**	**2.59**	**290**				**Pn**	**00 58 08.4**	**-0.1**
JSD	**Sado**	**2.59**	**290**	P			**Pn**	**00 58 08.1**	**-0.4**
MJAR	**Matsushiro Arr**	**2.60**	**257**	P			**Pn**	**00 58 09.3**	**+0.7**
comp=E,35nm,0.4s,baz=81,slow=15,SNR=88									
MJAR				S			**Sn**	**00 58 45.2**	**+6.3**
comp=E,39nm,0.3s,baz=343,slow=10,SNR=5.9									
MAJO	**Matsushiro**	**2.60**	**257**				**Pn**	**00 58 09.7**	**+1.1**
MAJO	**Matsushiro**	**2.60**	**257**	P			**Pn**	**00 58 09.6**	**+1.0**
MAJO	**Matsushiro**	**2.60**	**257**	P			**Pn**	**00 58 09.7**	**+1.1**
MJB9	**Matsu-Tunnel**	**2.60**	**257**				**Pn**	**00 58 10.4**	**+1.8**
JGF	**Kuroka**	**3.59**	**245**				**Pn**	**00 58 23.4**	**+1.3**
JGF	**Kuroka**	**3.59**	**245**	P			**Pn**	**00 58 23.8**	**+1.6**
JSG	**Sagara**	**3.59**	**227**	Pn			**Pn**	**00 58 23.8**	**+1.7**
JTM	**Tenmabayashi**	**3.60**	**357**				**Pn**	**00 58 23.4**	**+1.1**
JTM	**Tenmabayashi**	**3.60**	**357**	P			**Pn**	**00 58 23.4**	**+1.1**
INU	**Inuyama**	**3.95**	**244**				**Pn**	**00 58 28.1**	**+1.0**
INU	**Inuyama**	**3.95**	**244**	P			**Pn**	**00 58 29.0**	**+1.9**
JHJ2	**Mitsune**	**4.25**	**198**	Pn			**Pn**	**00 58 32.2**	**+0.9**
JHJ2	**Mitsune**	**4.25**	**198**	P			**Pn**	**00 58 31.5**	**+0.2**
JHJ	**Hachijo jima 2**	**4.26**	**198**	P			**Pn**	**00 58 30.3**	**-1.0**
comp=E,101nm,0.3s,baz=145,slow=23,SNR=14									
JHJ				S			**Sn**	**00 59 17.3**	**-2.4**
comp=E,140nm,0.3s,baz=76,slow=23,SNR=4.9									
ERM	**Erimo**	**5.02**	**16**				**Pn**	**00 58 41.5**	**-0.3**
ERM	**Erimo**	**5.02**	**16**	P			**Pn**	**00 58 41.1**	**-0.7**
ERM	**Erimo**	**5.02**	**16**	*ceP*			**Pn**	**00 58 41.7**	**-0.1**
JEM	**Erimo**	**5.02**	**16**	P			**Pn**	**00 58 41.2**	**-0.6**
ASAJ	**Asahikawa**	**6.99**	**7**	P			**Pn**	**00 59 08.6**	**-0.2**
comp=E,5.9nm,0.3s,baz=237,slow=12,SNR=8.8									
ASAJ				S			**Sn**	**01 00 28.9**	**+2.1**
comp=E,15nm,0.6s,baz=25,slow=15,SNR=4.7									
JKA	**Kamikawa-asahi**	**6.99**	**7**				**Pn**	**00 59 08.3**	**-0.4**
JMN	**Monobe**	**7.00**	**243**	Pn			**Pn**	**00 59 10.3**	**+1.3**
MSHR	**Mys Shultsa**	**9.50**	**308**	⇑*eP*			**Pn**	**00 59 43.5**	**+0.3**
MSHR				pmax		pmax			
comp=Z,12nm,1.0s									
YSS	**Yuzhno-Sakhali**	**9.82**	**6**	*eP*			**Pn**	**00 59 47.6**	**+0.1**
YSS				pmax		pmax			
comp=Z,10.0nm,0.5s									
USA0B	**Ussuriysk Arra**	**9.97**	**318**	Pn			**Pn**	**00 59 53.1**	**+3.5**
USA0B	**Ussuriysk Arra**	**9.97**	**318**	P			**Pn**	**00 59 53.1**	**+3.5**
USRK	**Ussuriysk Ar.**	**9.97**	**318**	P			**Pn**	**00 59 51.6**	**+1.9**
comp=Z,13nm,0.7s,baz=135,slow=13,SNR=15									
USRK	**Ussuriysk Ar.**	**9.97**	**318**	P			**Pn**	**00 59 51.7**	**+2.0**
KSRS	**Korea Array**	**10.70**	**275**	P			**Pn**	**00 59 59.2**	**-0.3**
comp=Z,0.7nm,0.4s,baz=96,slow=13,SNR=8.1									
KSRS				LR			LR	01 04 01.5	
comp=Z,84nm,18.9s,baz=100,slow=37									
TYV	**Tymovskoe**	**13.71**	**3**	*eP*			**P**	**01 00 49.0**	**+0.8**
TYV				pmax		pmax			
comp=Z,6.0nm,0.7s									
TYV				pmax		pmax			
comp=Z,100nm,3.2s									
CN2	**Changchun**	**13.78**	**304**	P			**Pn**	**01 00 38.3**	**-3.3**
CN2				pmax		pmax			
comp=Z,10.0nm,0.6s									
KLR	**Kul'dur**

PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,4.5s
CMAR Chiang Mai Arr 41.48 255 P **P 01 05 10.9 -0.9**
comp=Z,1.0nm,0.6s,baz=49,slow=5.9,SNR=6.5
CMAR LR LR 01 22 54.8
comp=Z,18nm,18.3s,baz=70,slow=37
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 41.48 255 *ce*P **P 01 05 12.8 +1.0**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
ZAA0 Zalesovo Array 41.77 312 **P 01 05 14.1 +0.3**
ZAA0 IAmb IAmb 01 05 14.4
comp=Z,6.9nm,1.1s
ZALV Zalesovo Beam 41.77 312 **P 01 05 13.9 +0.2**
ZALV Zalesovo Beam 41.77 312 P **P 01 05 13.7 -0.1**
comp=Z,2.4nm,0.5s,baz=90,slow=6.5,SNR=15
comp=Z,2.4nm,0.5s
ZALV Zalesovo Beam 41.77 312 P **P 01 05 13.9 +0.2**
C16K Lisburne Hills 42.59 26 P **P 01 05 20.3 +0.1**
K15K Wolf Creek Mou 42.72 35 P **P 01 05 19.1 -2.3**
K15K IAmb IAmb 01 05 27.5
comp=Z,10.0nm,1.5s
NRIK Noril'sk 43.11 335 P **P 01 05 24.4 0.0**
NRIK Noril'sk 43.11 335 ‖ *eP* **P 01 05 24.8 +0.4**
NRIK pmax pmax
comp=Z,14nm,3.8s
N15K Kwethluk River 43.16 39 P **P 01 05 26.7 +1.7**
N15K IAmb IAmb 01 06 04.1
comp=Z,9.4nm,1.3s
J16K Anvik River 43.29 34 P **P 01 05 27.3 +1.4**
J16K IAmb IAmb 01 05 50.6
comp=Z,7.0nm,1.4s
F17K Baldwin Pennin 43.61 29 P **P 01 05 29.8 +1.3**
J17K VABM Dome 43.99 34 P **P 01 05 33.8 +2.2**
J17K IAmb IAmb 01 05 47.0
comp=Z,5.3nm,1.2s
MK31 Makanchi Array 43.99 302 *de*P **P 01 05 31.6 -0.3**
MKAR Makanchi Array 43.99 302 P **P 01 05 31.8 -0.1**
comp=Z,1.2nm,0.5s,baz=85,slow=10,SNR=19
comp=Z,1.2nm,0.5s
E18K Tukpahlearik C 44.08 28 P **P 01 05 34.0 +1.8**
C18K Utukok River 44.16 26 P **P 01 05 33.8 +0.8**
C18K IAmb IAmb 01 05 34.7
comp=Z,4.5nm,0.8s
MAKZ Makanchi 44.20 302 **P 01 05 34.0 +0.5**
MAKZ Makanchi 44.20 302 P **P 01 05 34.0 +0.5**
MAKZ pmax pmax
comp=Z,2.0nm,0.7s
K17K Iditarod 44.26 35 P **P 01 05 35.4 +1.7**
G18K Tagagawik 44.54 30 P **P 01 05 36.7 +0.7**
H18K Honhosa River 44.54 32 P **P 01 05 37.3 +1.3**
M17K Holitna River 44.55 37 P **P 01 05 37.8 +1.7**
M17K IAmb IAmb 01 05 38.5
comp=Z,5.5nm,1.0s
F19K Shaleruckik Mo 45.05 29 P **P 01 05 41.0 +1.0**
D19K Kuna River 45.23 27 P **P 01 05 42.7 +1.3**
D19K IAmb IAmb 01 05 43.5
comp=Z,6.3nm,1.2s
N18K Kilae Creek 45.27 38 P **P 01 05 43.8 +2.0**
N18K IAmb IAmb 01 06 12.6
comp=Z,6.4nm,1.3s
E19K Redstone River 45.36 28 P **P 01 05 43.5 +1.1**
H19K Roundabout Mou 45.39 31 P **P 01 05 43.7 +1.1**
H19K IAmb IAmb 01 05 59.2
comp=Z,4.8nm,1.1s
J19K Poorman 45.58 33 P **P 01 05 45.3 +1.1**
KURK Kurchatov 45.80 308 P **P 01 05 46.4 +0.3**
D20K Etivluk River 45.81 27 P **P 01 05 47.3 +1.3**
D20K IAmb IAmb 01 06 17.4
comp=Z,5.4nm,1.3s
L19K White Mountain 45.82 36 P **P 01 05 47.6 +1.4**
KURBB Kurchatov Arra 45.87 308 P **P 01 05 46.4 -0.3**
comp=Z,4.6nm,0.6s,baz=84,slow=8.1,SNR=47
comp=Z,4.6nm,0.6s
B20K Meade River 45.88 25 P **P 01 05 47.8 +1.3**
M20K Styx River 46.62 36 P **P 01 05 54.3 +1.7**
M20K IAmb IAmb 01 06 20.8
comp=Z,4.7nm,1.2s
B21K Ikpikpuk River 46.67 26 P **P 01 05 54.5 +1.8**
E21K Killik River 46.73 27 P **P 01 05 54.4 +1.2**
H21K Melozitna Rive 46.91 31 P **P 01 05 55.8 +1.1**
CAST Castle Rocks 47.13 34 P **P 01 05 57.9 +1.5**
B22K Teshekpuk Lake 47.19 25 P **P 01 05 57.9 +1.2**
B22K IAmb IAmb 01 05 58.3
comp=Z,2.9nm,0.6s
D22K Ayikyak River 47.25 27 P **P 01 05 58.9 +1.6**
D22K IAmb IAmb 01 05 59.0
comp=Z,3.2nm,0.6s
E22K Anaktuvuk Pass 47.49 28 P **P 01 06 00.4 +1.2**
E22K IAmb IAmb 01 06 01.1
comp=Z,2.6nm,0.9s
BPAW Bear Paw Mtn. 47.62 33 P **P 01 06 01.2 +0.9**
D23K Nanushuk River 47.98 27 P **P 01 06 04.4 +1.5**
FIS Fire Island 48.03 37 P **P 01 06 07.2 +3.9**
C23K Itkillik River 48.08 26 **P 01 06 04.6 +0.9**
G23K Bananza Creek 48.09 30 P **P 01 06 04.4 +0.5**
G23K IAmb IAmb 01 06 07.1
comp=Z,4.9nm,1.4s
E23K Chandalar 48.31 28 P **P 01 06 06.8 +1.2**
E23K IAmb IAmb 01 06 07.8
comp=Z,3.1nm,0.8s
IL31 49.39 32 P **P 01 06 13.9 +0.2**
IL31 IAmb IAmb 01 06 14.7
comp=Z,2.1nm,0.7s
ILAR Eielson Array 49.39 32 P **P 01 06 13.8 0.0**
ILAR Eielson Array 49.39 32 P **P 01 06 14.1 +0.3**
comp=Z,1.4nm,0.7s,baz=266,slow=5.7,SNR=18
ILAR pP **pP 01 06 26.8 +0.5**
comp=Z,1.2nm,0.7s,baz=268,slow=6.4,SNR=7.2
comp=Z,1.4nm,0.7s
D25K Kavik River 49.54 26 P **P 01 06 16.1 +1.2**
D25K IAmb IAmb 01 06 29.6
comp=Z,2.1nm,0.8s
F25K Christian Rive 49.81 29 P **P 01 06 18.5 +1.4**
F25K IAmb IAmb 01 06 34.1
comp=Z,3.4nm,1.2s
E25K Arctic Village 49.83 28 P **P 01 06 18.5 +1.3**
E25K IAmb IAmb 01 06 40.3
comp=Z,4.6nm,1.5s
PRP Porcupine Dome 49.93 31 P **P 01 06 19.3 +1.2**
PRP IAmb IAmb 01 06 22.1
comp=Z,4.9nm,1.5s
BMAR Burnt Mountain 50.22 29 P **P 01 06 22.2 +2.0**
F26K Sheenjek River 50.38 29 P **P 01 06 22.9 +1.6**
F26K IAmb IAmb 01 06 24.2
comp=Z,2.8nm,1.1s
BVAR Borovoye Array 50.43 312 P **P 01 06 21.7 -0.1**
comp=Z,2.3nm,0.6s,baz=72,slow=7.0,SNR=13
BVAR PcP **PcP 01 07 39.5 -0.1**
comp=Z,1.1nm,0.6s,baz=101,slow=3.2,SNR=4.0
comp=Z,2.3nm,0.6s
C27K Jago River 50.48 26 P **P 01 06 23.6 +1.6**
C27K IAmb IAmb 01 07 00.7
comp=Z,5.0nm,1.4s
BRVK Borovoye 50.49 312 **P 01 06 22.3 0.0**
BRVK Borovoye 50.49 312 P **P 01 06 22.3 0.0**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
DOT Dot Lake 50.71 34 P **P 01 06 24.4 +0.6**
SCRK Sand Creek 50.71 33 P **P 01 06 24.4 +0.5**
SCRK IAmb IAmb 01 06 58.0
comp=Z,2.7nm,1.1s
J26L Joseph Creek 50.84 33 P **P 01 06 25.6 +0.7**
E27K Coleen River 51.31 28 P **P 01 06 29.5 +1.2**
H27K Steamboat Moun 51.52 30 P **P 01 06 31.5 +1.6**
H27K IAmb IAmb 01 06 57.9
comp=Z,3.7nm,1.3s
K27K Chicken 51.54 33 P **P 01 06 30.7 +0.7**
K27K IAmb IAmb 01 06 35.6
comp=Z,3.7nm,1.1s
L27K Beaver Creek, 51.78 34 P **P 01 06 33.0 +1.2**
L27K IAmb IAmb 01 06 35.9
comp=Z,4.1nm,1.4s
BCAR Beaver Creek A 51.80 34 P **P 01 06 33.5 +1.4**
E28M Babbage River 52.03 27 P **P 01 06 35.1 +1.5**
I28M Miner Creek 52.26 31 P **P 01 06 36.6 +1.1**
I28M IAmb IAmb 01 06 37.5
comp=Z,2.4nm,0.6s
E29M Blow River 52.66 27 P **P 01 06 39.6 +1.3**
E29M IAmb IAmb 01 07 00.2
comp=Z,2.7nm,1.1s
H29M Whitestone 52.79 30 P **P 01 06 40.9 +1.6**
H29M IAmb IAmb 01 06 49.0
comp=Z,4.7nm,1.1s
G29M Pine Creek 52.82 29 P **P 01 06 41.2 +1.7**
KKAR Karatay Array 53.00 300 P **P 01 06 40.4 -0.8**
KKAR Karatay Array 53.00 300 P **P 01 06 40.4 -0.8**
M29M Somme Creek 53.41 35 P **P 01 06 45.5 +1.5**
M29M IAmb IAmb 01 07 01.5
comp=Z,3.2nm,1.2s
EPYK Eagle Plains 53.42 30 P **P 01 06 45.4 +1.4**
L29M L29M 53.43 34 P **P 01 06 45.9 +1.9**
L29M IAmb IAmb 01 06 59.8
comp=Z,3.3nm,0.9s
G30M tAoh Zraii Nji 53.51 29 P **P 01 06 46.0 +1.4**
G30M IAmb IAmb 01 06 59.5
comp=Z,5.8nm,1.1s
K29M Barlow Dome 53.55 33 P **P 01 06 46.4 +1.3**
K29M IAmb IAmb 01 07 00.7
comp=Z,2.3nm,0.8s
F30M Barrier River 53.56 28 P **P 01 06 46.7 +1.8**
F30M IAmb IAmb 01 07 01.5
comp=Z,4.6nm,1.1s
I30M Mount Dempster 53.77 31 P **P 01 06 47.7 +1.1**
G31M Satah River 54.27 29 P **P 01 06 50.9 +0.8**
G31M IAmb IAmb 01 07 04.3
comp=Z,4.4nm,1.3s
H31M Peel River 54.48 30 P **P 01 06 53.0 +1.3**
GAR Garm 54.59 295 P **P 01 06 52.4 -0.6**
CHGR Chuyangaron 55.55 295 P **P 01 06 59.8 -0.1**
CHGR Chuyangaron 55.55 295 P **P 01 06 59.8 -0.1**
SIMJ Simiganj 55.66 295 P **P 01 07 00.3 -0.5**
ARTI Arti 56.32 318 P **P 01 07 04.7 -0.2**
ARTI Arti 56.32 318 *c iP* **P 01 07 04.6 -0.4**
ARTI 01 08 01.5
ARTI S **S 01 14 55.3 +3.6**
ARTI SS **SS 01 18 32.8 -5.6**
ARTI pmax pmax
comp=Z,13nm,1.1s
MMPY Sheldon Lake, 56.60 34 P **P 01 07 08.4 +1.4**
MMPY IAmb IAmb 01 07 11.1
comp=Z,3.9nm,1.2s
WB0 Warramunga Arr 57.03 188 P **P 01 07 11.2 +0.9**
WR8 Warramunga Arr 57.20 188 P **P 01 07 11.1 -0.5**
WRA Warramunga Arr 57.20 188 P **P 01 07 10.5 -1.1**
comp=Z,0.4nm,0.4s,baz=4.1,slow=7.5,SNR=5.2
WRA pP **pP 01 07 22.2 -2.1**
comp=Z,1.8nm,0.6s,baz=3.8,slow=7.4,SNR=7.7
comp=Z,0.4nm,0.4s
C36M Paulatuk 57.31 25 P **P 01 07 12.3 +0.5**
C36M IAmb IAmb 01 07 12.9
comp=Z,3.8nm,1.1s
AB31 Abkulak array 57.80 310 P **P 01 07 15.0 -0.6**
ABKAR Abkulak array 57.80 310 P **P 01 07 15.3 -0.3**
ABKAR Abkulak array 57.80 310 P **P 01 07 15.4 -0.2**
DLBC Dease Lake 58.54 38 LR LR 01 35 28.1
comp=Z,9.5nm,19.6s,baz=140,slow=39
KIRV Kirov 60.09 323 *ce*P **P 01 07 31.0 -0.3**
SPITS Spitsbergen Ar 60.36 349 P **P 01 07 32.7 -0.2**
comp=Z,1.8nm,0.8s,baz=87,slow=8.8,SNR=5.2
comp=Z,1.8nm,0.8s
ASAR Alice Springs 60.93 188 P **P 01 07 36.2 -1.2**
comp=Z,0.3nm,0.6s,baz=345,slow=3.0,SNR=2.3
ASAR pP **pP 01 07 49.6 -0.5**
comp=Z,1.0nm,0.7s,baz=10,slow=7.4,SNR=8.6
comp=Z,0.3nm,0.6s
YKA Yellowknife Ar 63.70 30 P **P 01 07 55.3 -0.1**
comp=Z,0.3nm,0.7s,baz=307,slow=7.1,SNR=6.7
YKA pP **pP 01 08 09.2 +0.9**
comp=Z,0.5nm,0.8s,baz=303,slow=6.8,SNR=7.8
comp=Z,0.3nm,0.7s
ARCES ARCESS Array B 63.84 339 P **P 01 07 57.2 +0.9**
comp=Z,2.5nm,0.8s,baz=50,slow=9.6,SNR=4.7
comp=Z,2.5nm,0.8s
OBN Obninsk 67.94 323 *eP* **P 01 08 21.5 -1.4**
OBN *e**PP **pP 01 08 37.2 +1.4**
OBN *e* 01 08 48.2
OBN *e* 01 10 53.0
OBN pmax pmax
comp=Z,5.0nm,0.7s
FIA1 FINESS Array S 68.65 332 P **P 01 08 26.9 -0.3**
FINES FINESS Array B 68.66 332 P **P 01 08 27.2 0.0**
FINES FINESS Array B 68.66 332 P **P 01 08 26.9 -0.3**
comp=Z,2.4nm,0.7s,baz=72,slow=6.8,SNR=10.0
comp=Z,2.4nm,0.7s
FINES FINESS Array B 68.66 332 P **P 01 08 27.2 0.0**
FORT Forrest 68.75 192 P **P 01 08 27.5 -0.6**
AKT Akhty 68.95 307 *eP* **P 01 08 27.9 -1.7**
ILON Igloolik, Nuna 69.12 15 P **P 01 08 30.1 +0.1**
BLKN Baker Lake 69.27 23 P **P 01 08 30.7 -0.3**
BLKN IAmb IAmb 01 08 45.5
comp=Z,3.1nm,0.8s
KBZ Khabaz 70.76 311 P **P 01 08 40.8 +0.3**
comp=Z,1.7nm,0.7s,baz=37,slow=4.0,SNR=6.7
comp=Z,1.7nm,0.7s
KBZ Khabaz 70.76 311 *de*P **P 01 08 40.9 +0.4**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KIV Kislovodsk 70.77 311 *eP* **P 01 08 40.5 -0.2**
KIV pmax pmax
comp=Z,4.0nm,1.0s
HFS Hagfors 73.93 336 P **P 01 08 58.3 -0.8**
comp=Z,1.0nm,0.6s,baz=64,slow=6.8,SNR=6.3
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 74.03 337 P **P 01 08 59.0 -0.7**
comp=Z,0.8nm,0.8s,baz=37,slow=6.2
NOA NORSAR Array B 74.03 337 P **P 01 08 59.3 -0.5**
comp=Z,1.1nm,0.7s,baz=39,slow=5.9,SNR=8.3
comp=Z,1.1nm,0.7s
AKASG Malin Array Be 74.14 322 P **P 01 08 59.9 -0.7**
comp=Z,2.4nm,0.5s,baz=48,slow=5.9,SNR=20
comp=Z,2.4nm,0.5s
AKBB Malin Array Si 74.14 322 *de*P **P 01 08 59.9 -0.6**
NVAR Mina Array Bea 74.94 53 P **P 01 09 06.3 +0.7**
comp=Z,0.3nm,0.6s,baz=297,slow=13,SNR=2.1
comp=Z,0.3nm,0.6s
PDAR Pinedale Array 77.60 45 P **P 01 09 20.7 0.0**
comp=Z,0.3nm,0.6s,baz=273,slow=2.8,SNR=3.5
PDAR pP **pP 01 09 35.0 +1.2**
comp=Z,0.6nm,0.6s,baz=260,slow=2.8,SNR=5.6
comp=Z,0.3nm,0.6s
BRTR Keskin Array B 78.71 311 P **P 01 09 26.9 0.0**
comp=Z,0.5nm,0.6s,baz=44,slow=5.5,SNR=4.1
comp=Z,0.5nm,0.6s
CLL Collm 80.94 330 *i* P **P 01 09 37.5 -0.9**
CLL *e**PP **pP 01 09 52.0 +0.3**
CLL Collm 80.94 330 *i* Px Px 01 09 37.5
CLL *ex* x 01 09 52.0
VRAC Vranov 80.96 327 LR LR 01 47 13.5
comp=Z,18nm,19.5s,baz=302,slow=37
ASF Jabal al Asfar 81.38 304 LR LR 01 47 30.6
comp=Z,13nm,21.1s,baz=133,slow=37
GERES GERESS Array B 82.55 328 P **P 01 09 46.9 -0.3**
comp=Z,0.6nm,0.4s,baz=43,slow=6.0,SNR=5.6
comp=Z,0.6nm,0.4s
IDI Anoyia 86.85 313 LR LR 01 52 50.6
comp=Z,60nm,19.3s,baz=299,slow=38
TXAR Lajitas Array 90.07 52 P **P 01 10 24.3 -0.1**
comp=Z,0.3nm,0.6s,baz=314,slow=3.8,SNR=5.3
TXAR pP **pP 01 10 38.3 +0.5**
comp=Z,0.3nm,0.5s,baz=304,slow=4.5,SNR=5.4
comp=Z,0.3nm,0.6s
KEST Kesra 94.87 323 LR LR 01 56 25.1
comp=Z,26nm,19.0s,baz=342,slow=37
LPAZ La Paz 146.66 59 PKPbc **PKPdf 01 17 07.0 +1.7**
comp=Z,1.4nm,0.6s,baz=304,slow=1.6,SNR=7.1
LPAZ pPKPbc **pPKPdf 01 17 20.4 +1.2**
comp=Z,1.5nm,0.5s,baz=331,slow=4.2,SNR=3.6
H03N2 Juan Fernandez 147.09 96 T T 04 02 03.8
baz=291,slow=76,SNR=13
H03N3 Juan Fernandez 147.10 96 T T 04 02 05.9
baz=291,slow=76,SNR=14
H03N1 Juan Fernandez 147.11 96 T T 04 02 02.8
baz=291,slow=76,SNR=16

IDC 27 01:24:30.6±4.6, 19°.65S×175°.73W, h0km, mb3.8/3, mbtmp3.8/3, MS3.2/5, Error ellipse: s-maj=303.0km s-min=30.4km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.83**	**259**	LR	LR	01 32 52.4	
	comp=Z,55nm,20.4s,baz=26,slow=30						
ASAR	**Alice Springs**	**46.79**	**256**	P	P	01 33 01.2	-1.1
	1.5nm,0.9s,baz=92,slow=8.2,SNR=12						
	1.5nm,0.9s						
WRA	**Warramunga Arr**	**46.83**	**261**	P	P	01 33 04.2	+1.6
	0.3nm,0.3s,baz=97,slow=8.0,SNR=2.6						
	0.3nm,0.3s						

ASAJ Asahikawa 74.03 330 LR LR 02 03 20.4
comp=Z,8.3nm,19.7s,baz=136,slow=32
NVAR Mina Array Bea 78.96 42 P P 01 36 36.6 +0.1
0.6nm,0.5s,baz=236,slow=8.6,SNR=6.1
0.6nm,0.5s
KDAK Kodiak Island 79.52 12 LR LR 02 06 53.6
comp=Z,26nm,18.1s,baz=76,slow=32
MA2 Magadan 83.56 344 LR LR 02 15 05.4
comp=Z,8.1nm,19.0s,baz=308,slow=36
ULM Lac du Bonnet 98.62 40 LR LR 02 15 32.1
comp=Z,30nm,19.3s,baz=126,slow=31
GERES GERESS Array B 149.90 348 PKPbc PKPbc 01 44 22.4 -0.5
0.2nm,0.3s,baz=41,slow=3.1,SNR=5.0

---

*BER **27** 01:28:33.5±2.0, 66°.99N×21°.10E, h0km, ML3.2, Confirmed Induced event*
*IDC **27** 01:28:33.2±0.7, 67°.15N×20°.84E, h0km, mb3.0/2, mbtmp3.4/8, ML3.4/6, Error ellipse: s-maj=12.0km s-min=6.4km az=108.0*
*HEL **27** 01:28:33.6±0.1, 67°.18N×20°.64E, h1km, ML3.0, ML3.4(UPP), ML3.2(BER), Confirmed Induced event*
*DNK **27** 01:28:33.4±1.1, 67°.19N×20°.66E, h0km, ML2.7, ML3.4(UPP), Suspected explosion*
*UPP **27** 01:28:33.0±0.0, 67°.19N×20°.64E, h2km, ML3.4, Confirmed Induced event*

ISC 27 01:28:31.5±0.6, 67°.18N±0°.02×20°.61E±0°.02, h0km, n74, σ1§40/121, 30D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundrum**	**0.06**	**193**	‖P	**Pg**	**01 28 34.6**	**+1.9**
DUNU				S	**Sg**	**01 28 35.7**	**+2.3**
DUNU	**Dundrum**	**0.06**	**193**	‖P	**Pg**	**01 28 34.6**	**+1.9**
DUNU				S	**Sg**	**01 28 35.7**	**+2.3**
DUNU	**Dundrum**	**0.06**	**193**	‖*i*P	**Pg**	**01 28 34.6**	**+1.9**
DUNU				*i* S	**Sg**	**01 28 35.7**	**+2.3**
MASU	**Masugnsbyn**	**0.61**	**62**	‖P	**Pg**	**01 28 44.3**	**+1.2**
MASU				S	**Sg**	**01 28 52.4**	**+1.5**
MASU	**Masugnsbyn**	**0.61**	**62**	‖P	**Pg**	**01 28 44.3**	**+1.2**
MASU				S	**Sg**	**01 28 52.4**	**+1.5**
MASU	**Masugnsbyn**	**0.61**	**62**	‖*i*P	**Pg**	**01 28 44.3**	**+1.2**
MASU				*i* S	**Sg**	**01 28 52.4**	**+1.5**
RATU	**Laukkuluspa**	**0.75**	**329**	‖P	**Pg**	**01 28 47.0**	**+1.1**
RATU				S	**Sg**	**01 28 57.3**	**+1.6**
RATU	**Laukkuluspa**	**0.75**	**329**	‖P	**Pg**	**01 28 47.0**	**+1.1**
RATU				S	**Sg**	**01 28 57.3**	**+1.6**
RATU	**Laukkuluspa**	**0.75**	**329**	‖*i*P	**Pg**	**01 28 47.0**	**+1.1**
RATU				*i* S	**Sg**	**01 28 57.3**	**+1.6**
KUA	**Kurravaara**	**0.78**	**353**	‖P	**Pg**	**01 28 47.2**	**+0.8**
KUA				S	**Sg**	**01 28 58.0**	**+1.4**
KUA	**Kurravaara**	**0.78**	**353**	‖P	**Pg**	**01 28 47.2**	**+0.8**
KUA				S	**Sg**	**01 28 58.0**	**+1.4**
KUA	**Kurravaara**	**0.78**	**353**	‖*i*P	**Pg**	**01 28 47.2**	**+0.8**
KUA				*i* S	**Sg**	**01 28 58.0**	**+1.4**
SALU	**Saltoluokta**	**0.84**	**285**	‖P	**Pb**	**01 28 48.9**	**0.0**
SALU				S	**Sb**	**01 29 00.4**	**-0.3**
SALU	**Saltoluokta**	**0.84**	**285**	‖P	**Pb**	**01 28 48.9**	**0.0**
SALU				S	**Sb**	**01 29 00.4**	**-0.3**
SALU	**Saltoluokta**	**0.84**	**285**	‖*i*P	**Pb**	**01 28 48.9**	**0.0**
SALU				*i* S	**Sb**	**01 29 00.4**	**-0.3**
ERTU	**Ertsjaerv**	**0.89**	**134**	‖P	**Pg**	**01 28 49.0**	**+0.6**
ERTU				S	**Sg**	**01 29 00.9**	**+0.9**
ERTU	**Ertsjaerv**	**0.89**	**134**	‖P	**Pg**	**01 28 49.0**	**+0.6**
ERTU				S	**Sg**	**01 29 00.9**	**+0.9**
ERTU	**Ertsjaerv**	**0.89**	**134**	*eP*	**Pg**	**01 28 49.0**	**+0.6**
ERTU				*e*S	**Sg**	**01 29 00.7**	**+0.8**
PAJU	**Pajala**	**0.99**	**98**	‖P	**Pg**	**01 28 50.9**	**+0.4**
PAJU				S	**Sg**	**01 29 04.5**	**+1.1**
PAJU	**Pajala**	**0.99**	**98**	‖P	**Pg**	**01 28 50.9**	**+0.4**
PAJU				S	**Sg**	**01 29 04.5**	**+1.1**
PAJU	**Pajala**	**0.99**	**98**	*eP*	**Pg**	**01 28 50.9**	**+0.4**
PAJU				*e*S	**Sg**	**01 29 04.2**	**+0.9**
HARU	**Harads**	**1.03**	**172**	‖P	**Pg**	**01 28 51.7**	**+0.5**
HARU				S	**Sb**	**01 29 06.1**	**-0.2**
HARU	**Harads**	**1.03**	**172**	‖P	**Pg**	**01 28 51.7**	**+0.5**
HARU				S	**Sb**	**01 29 06.1**	**-0.2**
HARU	**Harads**	**1.03**	**172**	‖*eP*	**Pg**	**01 28 51.7**	**+0.5**
HARU				*e*S	**Sb**	**01 29 06.1**	**-0.2**
KOVU	**Salmi**	**1.06**	**351**	‖P	**Pg**	**01 28 52.2**	**+0.5**
KOVU				S	**Sg**	**01 29 07.2**	**+1.7**
KOVU	**Salmi**	**1.06**	**351**	‖P	**Pg**	**01 28 52.2**	**+0.5**
KOVU				S	**Sg**	**01 29 07.2**	**+1.7**
KOVU	**Salmi**	**1.06**	**351**	‖*eP*	**Pg**	**01 28 52.2**	**+0.5**
KOVU				*e*S	**Sg**	**01 29 07.2**	**+1.7**
KLF	**Kolari**	**1.31**	**86**	*eP*	**Pg**	**01 28 56.6**	**+0.1**
KLF				*e*S	**Sg**	**01 29 13.7**	**+0.2**
HEF	**Hetta**	**1.69**	**42**	*i P*	**Pn**	**01 29 03.1**	**+0.8**
HEF				*e*S	**Sn**	**01 29 25.1**	**+0.5**
HEF	**Hetta**	**1.69**	**42**	*eP*	**Pn**	**01 29 03.1**	**+0.8**
HEF				*e*S	**Sn**	**01 29 25.3**	**+0.7**
HEF				MSG		01 29 28.9	
	comp=Z,126nm,0.2s						
KALU	**Kalix**	**1.73**	**139**	‖P	**Pn**	**01 29 03.8**	**+1.1**
KALU				S	**Sb**	**01 29 27.0**	**+0.8**
KALU	**Kalix**	**1.73**	**139**	‖P	**Pn**	**01 29 03.8**	**+1.1**
KALU				S	**Sb**	**01 29 27.0**	**+0.8**
KALU	**Kalix**	**1.73**	**139**	*eP*	**Pn**	**01 29 03.8**	**+1.1**
KALU				*e*S	**Sb**	**01 29 26.6**	**+0.4**
KALU				MSG		01 29 30.5	
	comp=Z,92nm,0.2s						
SJUU	**Sjulsmark**	**1.73**	**166**	‖P	**Pb**	**01 29 04.0**	**0.0**
SJUU	**Sjulsmark**	**1.73**	**166**	‖P	**Pb**	**01 29 04.0**	**0.0**
SJUU	**Sjulsmark**	**1.73**	**166**	‖*eP*	**Pb**	**01 29 04.0**	**0.0**
KIF	**Kilpisjarvi**	**1.83**	**2**	*eP*	**Pb**	**01 29 06.2**	**+0.4**
KIF				MSG		01 29 33.5	
	comp=Z,360nm,0.2s						
TOF	**Tornio**	**1.85**	**125**	*eP*	**Pn**	**01 29 06.1**	**+1.7**
TOF				*e*S	**Sb**	**01 29 30.3**	**+0.5**
TOF				MSG		01 29 34.6	
	comp=Z,180nm,0.3s						
FAUS	**Fauske**	**2.07**	**278**	*eP*	**Pb**	**01 29 10.4**	**+0.5**
FAUS				*e*S	**Sg**	**01 29 38.6**	**+0.6**
FAUS				IAML		01 29 40.3	
	comp=Z,295nm,0.5s						
FAUS	**Fauske**	**2.07**	**278**	*eP*	**Pb**	**01 29 10.4**	**+0.5**
FAUS				*e*S	**Sg**	**01 29 38.6**	**+0.6**
FAUS				IAML		01 29 40.3	
	comp=Z,295nm,0.5s						
STEI	**Steigen**	**2.19**	**293**	*eP*	**Pn**	**01 29 10.8**	**+1.7**
STEI				*e*S	**Sg**	**01 29 42.4**	**+0.6**
STEI	**Steigen**	**2.19**	**293**	*eP*	**Pn**	**01 29 10.8**	**+1.7**
STEI				*e*S	**Sg**	**01 29 42.4**	**+0.6**
RNF	**Rovaniemi**	**2.21**	**103**	*eP*	**Pn**	**01 29 11.2**	**+1.8**
RNF				MSG		01 29 42.4	
	comp=Z,95nm,0.2s						
SGF	**Sodankyl**	**2.31**	**81**	*eP*	**Pn**	**01 29 12.2**	**+1.4**
SGF				*e*SB	**Sn**	**01 29 42.7**	**+2.9**
SGF				MSG		01 29 45.0	
	comp=Z,83nm,0.2s						
JETT	**Jettan, Norway**	**2.39**	**358**	*eP*	**Pn**	**01 29 13.9**	**+2.1**
JETT	**Jettan, Norway**	**2.39**	**358**	*eP*	**Pn**	**01 29 13.9**	**+2.1**
TRO	**Tromso**	**2.54**	**347**	*eP*	**Pn**	**01 29 16.1**	**+2.3**
TRO				*e*SB	**Sb**	**01 29 48.9**	**-0.6**
BURU	**Burvik**	**2.63**	**173**	*eP*	**Pn**	**01 29 17.2**	**+2.1**
BURU				*e*S	**Sn**	**01 29 49.2**	**+1.6**
BURU				MSG		01 29 58.5	
	comp=Z,76nm,0.3s						
MOR8	**Moi Rana**	**2.66**	**250**	*eP*	**Pn**	**01 29 16.2**	**+0.7**
MOR8	**Moi Rana**	**2.66**	**250**	*eP*	**Pn**	**01 29 16.2**	**+0.7**
RANF	**Ranua**	**2.73**	**113**	*eP*	**Pn**	**01 29 17.9**	**+1.4**
RANF				*e*SB	**Sb**	**01 29 55.6**	**+0.4**
ARA0	**ARCESS Array S**	**2.98**	**35**	*eP*	**Pn**	**01 29 21.4**	**+1.5**
ARCES	**ARCESS Array B**	**2.98**	**35**	Pn	**Pn**	**01 29 21.3**	**+1.4**
	comp=Z,5.0nm,0.3s,baz=215,slow=13,SNR=124						
ARCES				Sn	**Sn**	**01 29 58.1**	**+1.8**
	comp=Z,10nm,0.3s,baz=213,slow=22,SNR=11						
	comp=Z,18nm,0.4s						
OBF4	**Vikkela, Lumij**	**3.01**	**140**	*eP*	**Pn**	**01 29 22.0**	**+1.7**
OUL	**Oulu**	**3.01**	**132**	*eP*	**Pn**	**01 29 22.1**	**+1.8**
KMNF	**Kaamanen**	**3.10**	**47**	*eP*	**Pn**	**01 29 22.5**	**+0.9**
UMAU	**Umeaa**	**3.31**	**179**	*eP*	**Pn**	**01 29 26.4**	**+2.0**
UMAU				*e*S	**Sn**	**01 30 05.2**	**+0.7**
FINES	**FINESS Array B**	**6.23**	**155**	Pn	**Pn**	**01 30 06.5**	**+1.9**
	comp=Z,2.2nm,0.3s,baz=345,slow=12,SNR=52						
FINES				Sn	**Sn**	**01 31 15.6**	**-0.8**
	comp=Z,3.2nm,0.3s,baz=343,slow=26,SNR=12						
FINES				Lg	Lg	01 31 46.5	
	comp=Z,7.7nm,0.3s,baz=357,slow=30,SNR=18						
	comp=Z,6.3nm,0.4s						
NOA	**NORSAR Array B**	**7.40**	**218**	Pn	**Pn**	**01 30 22.6**	**+2.0**

comp=Z,0.1nm,0.3s,baz=26,slow=11,SNR=11
NOA Sn **Sn** **01 31 41.7 -3.5**
comp=Z,0.2nm,0.3s,baz=308,slow=21,SNR=7.4
NOA Lg Lg 01 32 27.9
comp=Z,0.3nm,0.3s,baz=32,slow=18,SNR=4.3
comp=Z,0.3nm,0.4s
HFS Hagfors 7.71 207 Pn **Pn** **01 30 24.8 0.0**
comp=Z,1.0nm,0.3s,baz=24,slow=13,SNR=28
HFS Sn **Sn** **01 31 49.2 -3.5**
comp=Z,2.4nm,0.3s,baz=19,slow=22,SNR=12
HFS Lg Lg 01 32 30.2
comp=Z,1.7nm,0.3s,baz=27,slow=27,SNR=7.0
comp=Z,2.0nm,0.3s
STRU Stroemstad 9.21 212 *i* P **Pn** **01 30 45.9 +0.5**
BORU Boraas 10.24 204 *i* P **Pn** **01 30 59.4 0.0**
HOMB Homborsund 10.50 217 *i* P **Pn** **01 31 04.0 +1.0**
ONAU Onsala 10.61 206 *i* P **Pn** **01 31 03.7 -0.7**
FABU Falkenberg 10.85 204 *i* P **Pn** **01 31 07.1 -0.8**
SPITS Spitsbergen Ar 11.12 355 Pn **Pn** **01 31 12.2 +0.7**
baz=174,slow=16
comp=Z,1.3nm,0.4s
BLEU Blekinge 11.14 194 *i* P **Pn** **01 31 10.2 -1.6**
DEL Delary 11.20 200 *i* P **Pn** **01 31 11.0 -1.6**
MUD Monsted U'grnd 12.01 212 *i* P **Pn** **01 31 22.3 -1.4**
MUD IAML 01 36 21.7
comp=Z,1.4nm,0.3s
LUNU Lund 12.07 200 *i* P **Pn** **01 31 22.4 -2.1**
BSD Bornholm Skovb 12.41 195 *i* P **Pn** **01 31 26.3 -2.8**
BSD IAML 01 33 43.1
comp=Z,0.9nm,0.3s
AKASG Malin Array Be 17.09 161 Pn **Pn** **01 32 26.2 -5.2**
comp=Z,1.0nm,0.3s,baz=346,slow=13,SNR=5.0
AKASG Lg Lg 01 37 27.2
comp=Z,0.4nm,0.3s,baz=353,slow=29,SNR=4.1
comp=Z,0.3nm,0.3s
KURBB Kurchatov Arra 32.67 91 P **P** **01 35 04.3 -0.5**
comp=Z,0.3nm,0.6s,baz=321,slow=8.5,SNR=4.5
comp=Z,0.3nm,0.6s
YKA Yellowknife Ar 46.60 333 P **P** **01 37 00.9 +0.4**
comp=Z,0.1nm,0.6s,baz=24,slow=8.8,SNR=2.2
comp=Z,0.1nm,0.6s

---

*IDC **27** 01:51:26.8±2.1,52°.49N×173°.22E,h0km,mb3.4/10, mbtmp3.5/11,ML2.8/1,MS2.6/3, Error ellipse: s-maj=59.1km s-min=13.0km az=175.0*
*NEIC **27** 01:51:31.4±1.6,52°.5N±0°.1×173°.1E±0°.1,h35km±2km, mb3.6/7, Error ellipse: s-maj=20.8km s-min=3.2km az=146.0*
ISC 27 01:51:30.6±1.2,52°.4N±0°.2×173°.14E±0°.07,h31km,n34, σ0°.88/28,mb3.5/9,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**0.66**	**62**	Pn	**Pb**	**01 51 42.7**	**-1.0**
SHEM	3μm,0.3s,baz=126,slow=2.5,SNR=2505			Sn	**Sn**	**01 51 53.3**	**+0.2**
	1μm,0.3s,baz=300,slow=22,SNR=15						
SMY	**Shemya**	**0.66**	**62**		**Pb**	**01 51 42.7**	**-0.9**
SMY				Sn	**Sn**	**01 51 53.1**	**0.0**
KIWB	**Kanaga Island**	**6.01**	**92**	Pn	**Pn**	**01 52 58.1**	**+0.8**
ADK	**Adak**	**6.29**	**91**	Pn	**Pn**	**01 53 01.4**	**+0.3**
PEA0B	**Petropavlovsk-**	**9.39**	**280**	Pn	**Pn**	**01 53 42.3**	**-1.3**
PETK	**Petropavlovsk-**	**9.39**	**280**	Pn	**Pn**	**01 53 42.0**	**-1.6**
PETK	**Petropavlovsk-**	**9.39**	**280**	Pn	**Pn**	**01 53 42.2**	**-1.4**
	0.4nm,0.3s,baz=89,slow=20,SNR=8.5						
PETK				LR	LR	01 56 58.1	
	comp=Z,16nm,19.2s,baz=95,slow=35						
	1.7nm,0.7s						
P08K	**Saint George I**	**10.89**	**61**	Pn	**Pn**	**01 54 03.2**	**-0.9**
M11K	**Mekoryuk**	**13.89**	**47**	Pn	**Pn**	**01 54 46.1**	**+1.1**
K13K	**Kusilvak Mount**	**15.27**	**43**	Pn	**Pn**	**01 55 04.6**	**+1.0**
K13K				IAmb	IAmb	01 55 47.1	
	comp=Z,5.6nm,1.4s						
K15K	**Wolf Creek Mou**	**16.74**	**44**	Pn	**Pn**	**01 55 22.3**	**-0.2**
M17K	**Holitna River**	**18.25**	**49**		**P**	**01 55 41.4**	**+0.2**
M17K				IAmb	IAmb	01 55 53.7	
	comp=Z,11nm,1.4s						
J18K	**Innoko River**	**19.23**	**43**		**Pn**	**01 55 52.0**	**-1.0**
J18K				IAmb	IAmb	01 55 59.5	
	comp=Z,2.5nm,1.0s						
G18K	**Tagagawik**	**19.53**	**35**	Pn	**Pn**	**01 55 56.1**	**-0.5**
J19K	**Poorman**	**19.88**	**42**		**P**	**01 55 58.4**	**-0.6**
J19K				IAmb	IAmb	01 56 09.8	
	comp=Z,5.5nm,1.4s						
KDAK	**Kodiak Island**	**20.18**	**61**	P	**P**	**01 56 02.2**	**0.0**
	comp=Z,3.8nm,1.0s,baz=266,slow=16,SNR=7.7						
	comp=Z,3.8nm,1.0s						
J20K	**Nowinta River**	**20.55**	**42**	P	Pn	01 56 06.6	-1.9
J20K				IAmb	IAmb	01 56 17.4	
	comp=Z,2.9nm,0.9s						
ILAR	**Eielson Array**	**23.74**	**43**	P	**P**	**01 56 39.2**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=238,slow=8.1,SNR=5.2						
	comp=Z,0.3nm,0.6s						
KLR	**Kul'dur**	**26.08**	**280**	LR	LR	02 08 47.3	
	comp=Z,9.2nm,18.2s,baz=27,slow=40						
H11N2	**WAKE ISLAND Hy**	**32.99**	**191**	T	T	02 33 13.7	
	baz=6.7,slow=76,SNR=322						
H11N3	**WAKE ISLAND Hy**	**33.00**	**191**	T	T	02 33 15.8	
	baz=6.7,slow=76,SNR=354						
H11N1	**WAKE ISLAND Hy**	**33.01**	**191**	T	T	02 33 26.8	
	baz=6.7,slow=76,SNR=359						
H11S1	**WAKE ISLAND Hy**	**34.22**	**191**	T	T	02 34 47.2	
	baz=6.5,slow=76,SNR=409						
H11S3	**WAKE ISLAND Hy**	**34.24**	**191**	T	T	02 34 48.4	
	baz=6.5,slow=76,SNR=228						
H11S2	**WAKE ISLAND Hy**	**34.24**	**191**	T	T	02 34 54.2	
	baz=6.5,slow=76,SNR=234						
YKA	**Yellowknife Ar**	**38.11**	**46**	P	**P**	**01 58 45.9**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=291,slow=8.2,SNR=4.5						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**50.66**	**68**	P	**P**	**02 00 26.7**	**-0.2**
PDAR	**Pinedale Array**	**50.66**	**68**	P	**P**	**02 00 26.9**	**0.0**
	comp=Z,0.2nm,0.6s,baz=278,slow=4.2,SNR=3.7						
	comp=Z,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**54.68**	**309**	P	**P**	**02 00 57.2**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=50,slow=7.1,SNR=6.1						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**55.38**	**303**	P	**P**	**02 01 02.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=44,slow=5.2,SNR=2.0						
	comp=Z,0.1nm,0.3s						
BVAR	**Borovoye Array**	**56.74**	**315**	P	**P**	**02 01 12.6**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=45,slow=8.6,SNR=2.2						
BVAR				LR	LR	02 28 32.2	
	comp=Z,13nm,18.3s,baz=53,slow=39						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**63.34**	**76**	P	**P**	**02 01 57.3**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=303,slow=4.8,SNR=4.3						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**63.49**	**343**	P	**P**	**02 01 57.9**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=19,slow=12,SNR=4.0						
	comp=Z,0.9nm,0.8s						
HFS	**Hagfors**	**66.58**	**349**	P	**P**	**02 02 17.5**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=47,slow=2.6,SNR=4.0						
	comp=Z,0.5nm,0.6s						

---

*IDC **27** 02:24:51.2±2.8,6°.59S×148°.35E,h0km,mb4.0/3, mbtmp3.8/5,ML3.7/1,MS3.0/2, Error ellipse: s-maj=62.3km s-min=35.3km az=100.0*
ISC 27 02:24:56.7±2.9,6°.5S±0°.2×148°.3E±0°.5,h50km,n7,σ1°.9 73/7, mb3.7/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.10**	**200**	Pn	**Pn**	**02 25 41.5**	**-1.7**
PMG	27nm,0.4s,baz=24,slow=8.9,SNR=9.0			Sn	**Sn**	**02 26 20.6**	**+1.6**
	14nm,0.3s,baz=355,slow=23,SNR=15						
WRA	**Warramunga Arr**	**19.02**	**224**	P	**P**	**02 29 13.1**	**-1.6**
	0.2nm,0.3s,baz=52,slow=11,SNR=4.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**21.96**	**217**	P	**P**	**02 29 45.7**	**-0.8**
	1.9nm,0.6s,baz=56,slow=9.2,SNR=24						
ASAR				LR	LR	02 38 49.2	
	comp=Z,37nm,19.8s,baz=110,slow=38						
	1.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.89**	**240**	P	**P**	**02 30 16.4**	**+1.3**
	5.2nm,0.7s,baz=63,slow=10,SNR=13						
	5.2nm,0.7s						
STKA	**Stephens Creek**	**26.02**	**193**	P	**P**	**02 30 26.5**	**+1.3**
	1.7nm,0.7s,baz=356,slow=15,SNR=3.3						
	1.7nm,0.7s						
KAPI	**Kappang**	**28.40**	**271**	LR	LR	02 43 46.3	
	comp=Z,29nm,19.6s,baz=85,slow=40						
TORD	**Torodi Ar. Bea**	**146.42**	**284**	PKPbc	**PKPab**	**02 44 34.6**	**+0.3**
	53nm,0.4s,baz=60,slow=2.3,SNR=2.0						

IDC 27 02:29:19.4±19.0,3°.28N×122°.74E,h445km±268km, mb3.0/7,mbtmp3.8/7,MS3.2/1,Error ellipse: s-maj=166.4km s-min=33.7km az=72.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.74**	**154**	P	P	02 34 11.8	-1.1
	0.9nm,0.6s,baz=336,slow=9.6,SNR=5.5						
	0.9nm,0.6s						
PMG	**Port Moresby**	**27.41**	**118**	LR	LR	02 49 51.7	
	comp=Z,47nm,19.8s,baz=321,slow=45						
ASAR	**Alice Springs**	**28.91**	**158**	P	P	02 34 41.0	+0.1
	0.4nm,0.6s,baz=339,slow=7.3,SNR=5.6						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**39.29**	**154**	P	P	02 36 09.5	+1.0
	0.8nm,0.5s,baz=326,slow=11,SNR=1.7						
	0.8nm,0.5s						
SONM	**Songino Array**	**46.57**	**345**	P	P	02 37 06.0	+0.3
	0.9nm,0.7s,baz=151,slow=9.4,SNR=4.3						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**55.71**	**327**	P	P	02 38 13.0	+0.6
	0.8nm,0.3s,baz=124,slow=8.4,SNR=13						
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**59.24**	**335**	P	P	02 38 35.6	-0.9
	0.6nm,0.4s,baz=120,slow=8.5,SNR=2.1						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**60.02**	**329**	P	P	02 38 41.0	-0.7
	0.9nm,0.5s,baz=126,slow=6.1,SNR=9.8						
	0.9nm,0.5s						

---

*NEIC **27** 02:38:33.0±2.4,40°.289N±0°.008×124°.89W±0°.05, h10km±2km, Error ellipse: s-maj=6.5km s-min=3.0km az=82.0*
NCEDC 27 02:38:37.1±2.8,40°.33N±0°.03×124°.61W±0°.09,h21km±7km, ML3.1/10,ML2.8/46(NEIC),Error ellipse: s-maj=9.8km s-min=4.1km az=78.0,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETL	**Petrolia**	**0.21**	**101**		Pb	02 38 42.6	-0.4
PETL					Sb	02 38 47.1	+0.1
KCTM	**Capetown**	**0.26**	**55**		Pb	02 38 44.0	+0.7
KCTM					Sn	02 38 49.5	-1.7
FER	**Ferndale**	**0.36**	**47**		Pb	02 38 44.8	+0.1
KMPM	**Mount Pierce**	**0.39**	**77**		Pb	02 38 45.5	+0.3
KMPM					Sb	02 38 52.2	+1.5
BRIC	**Briceland Vine**	**0.59**	**111**		Pb	02 38 48.4	-0.4
BRIC					Sb	02 38 57.2	+0.4
KCRM	**Chalk Rock**	**0.61**	**81**		Pb	02 38 48.9	-0.4
JCC	**Jacoby Creek,**	**0.66**	**42**		Pb	02 38 48.8	-1.2
JCC					Sb	02 38 57.2	-1.5
JCC				IAML		02 38 57.8	
	comp=E,405nm,0.8s						
KMRM	**Mail Ridge**	**0.70**	**99**		Pb	02 38 50.4	-0.3
KMRM				Sg	Sb	02 39 00.6	+0.7
KHMM	**Horse Mountain**	**0.86**	**51**		Pb	02 38 52.4	-1.2
KHMM					Sb	02 39 03.7	-1.0
KRPM	**Rodgers**	**0.94**	**28**		Pb	02 38 53.1	-1.7
KRPM				IAML		02 39 05.7	
	comp=N,248nm,0.6s						
KRPM				IAML		02 39 23.7	
	comp=E,208nm,1.1s						
KPPM	**Pickett Peak**	**0.96**	**89**		Pb	02 38 54.4	-0.7
KIPM	**Iron Peak**	**1.01**	**121**		Pb	02 38 54.5	-1.5
KCPM	**Cahto Peak**	**1.02**	**129**		Pb	02 38 54.5	-1.6
KHBM	**Hayfork Bally**	**1.11**	**72**		Pn	02 38 55.8	-1.8
KHBM	**Hayfork Bally**	**1.11**	**72**	IAML		02 39 11.6	
	comp=N,153nm,0.2s						
KHBM				IAML		02 39 12.6	
	comp=E,145nm,0.2s						
KFPM	**Farley Peak**	**1.15**	**127**		Pn	02 38 56.2	-1.8
KBNM	**Bluenose Ridge**	**1.17**	**111**		Pn	02 38 57.1	-1.4
GTC	**Three Chop Rid**	**1.24**	**138**		Pn	02 38 57.4	-1.8
KOMM	**Orleans Mounta**	**1.29**	**43**		Pn	02 38 58.3	-1.8
DCMP	**DeCamp, Califo**	**1.30**	**131**		Pn	02 38 58.3	-1.9
DCMP	**DeCamp, Califo**	**1.30**	**131**	IAML		02 39 14.3	
	comp=N,222nm,0.4s						
WEAV	**Weaverville**	**1.31**	**71**		Pn	02 38 58.7	-1.6
LBPM	**Beegum Peak**	**1.32**	**90**		Pn	02 38 59.0	-1.5
O02D	**Mt. Diablo Mer**	**1.41**	**96**		Pn	02 39 00.3	-1.2
O02D				IAML		02 39 19.3	
	comp=N,87nm,0.7s						
LGPM	**Granite Peak**	**1.48**	**66**		Pn	02 39 01.1	-1.6
GWRM	**Wonder Ranch**	**1.51**	**138**		Pn	02 39 01.2	-1.8
GROM	**Round Mountain**	**1.55**	**105**		Pn	02 39 02.2	-1.4
GVV	**Valley View**	**1.59**	**110**		Pn	02 39 02.6	-1.6
N02D	**Trinity Center**	**1.59**	**65**		Pn	02 39 02.5	-1.5
N02D	**Trinity Center**	**1.59**	**65**	IAML		02 39 25.8	
	comp=N,141nm,0.3s						
N02D				IAML		02 39 26.2	
	comp=E,122nm,0.4s						
SIGP	**Signal Peak, C**	**1.59**	**15**		Pn	02 39 01.8	-2.4
LBKM	**Bonanza King**	**1.66**	**62**		Pn	02 39 03.7	-1.5
M02C	**Callahan**	**1.71**	**51**		Pn	02 39 04.2	-1.5
GGUM	**Gualala**	**1.71**	**149**		Pn	02 39 03.4	-2.3
GSNM	**Snow Mountain**	**1.77**	**141**		Pn	02 39 04.8	-1.8
GCK	**Clark Valley**	**1.85**	**114**		Pn	02 39 07.0	-0.6
KBO	**Bosley Butte**	**1.90**	**9**		Pn	02 39 05.9	-2.5
KBO	**Bosley Butte**	**1.90**	**9**	IAML		02 39 29.0	
	comp=N,102nm,0.3s						
KBO				IAML		02 39 30.3	
	comp=E,99nm,1.0s						
LTCM	**Tuscan Springs**	**1.91**	**93**		Pn	02 39 07.5	-0.9
L02F	**Cave Junction**	**1.95**	**23**		Pn	02 39 07.4	-1.7
L02F				IAML		02 39 31.6	
	comp=E,111nm,0.3s						
YBH	**Yreka Blue Hor**	**2.01**	**45**		Pn	02 39 08.6	-1.3
LSHM	**Sage Hen Hill**	**2.02**	**76**		Pn	02 39 09.0	-0.9
GFC	**Funks Creek**	**2.05**	**119**		Pn	02 39 09.0	-1.4
LGBM	**Gray Butte**	**2.10**	**60**		Pn	02 39 10.8	-0.5
M03C	**McCloud**	**2.11**	**63**		Pn	02 39 10.8	-0.5
M03C	**McCloud**	**2.11**	**63**	IAML		02 39 37.7	
	comp=E,63nm,0.7s						
M03C				IAML		02 39 40.8	
	comp=N,62nm,0.5s						
O03E	**Paynes Creek**	**2.15**	**90**		Pn	02 39 10.2	-1.7
LDBM	**Digger Butte**	**2.16**	**86**		Pn	02 39 10.5	-1.5
LMPM	**Military Pass**	**2.19**	**57**		Pn	02 39 12.4	0.0
MNRC	**McLaughlin Min**	**2.22**	**130**		Pn	02 39 12.1	-0.6
LHEM	**Herd Peak**	**2.23**	**54**		Pn	02 39 12.8	-0.3
B040	**Montague**	**2.23**	**47**		Pn	02 39 12.3	-0.7
B040	**Montague**	**2.23**	**47**		Pn	02 39 12.2	-0.8
NMTM	**Middletown**	**2.26**	**132**		Pn	02 39 12.2	-1.1
LBFM	**Black Fox Moun**	**2.30**	**63**		Pn	02 39 13.8	-0.2
LMEM	**Manzanita Entr**	**2.33**	**84**		Pn	02 39 14.8	+0.4
OGOM	**Vaun Goodin Ran**	**2.40**	**105**		Pn	02 39 13.1	-2.1
LRDM	**Redding Peak**	**2.41**	**86**		Pn	02 39 14.8	-0.6
HATC	**Hat Creek Radi**	**2.45**	**78**		Pn	02 39 15.2	-0.7
HATC				IAML		02 40 01.1	
	comp=N,54nm,4.0s						
HATC				IAML		02 40 01.4	
	comp=E,53nm,3.8s						
LGMM	**Garner Mountai**	**2.46**	**58**		Pn	02 39 15.8	-0.3
K02D	**Willamette Mer**	**2.47**	**16**		Pn	02 39 15.0	-1.2
LBCM	**Butte Creek Ri**	**2.54**	**77**		Pn	02 39 16.4	-0.8
L04D	**Klamath Falls**	**2.57**	**42**		Pn	02 39 17.9	+0.3
L04D				IAML		02 39 50.2	
	comp=N,49nm,0.5s						
L04D				IAML		02 39 50.2	
	comp=E,54nm,0.9s						
BBOR	**Butler Butte**	**2.94**	**29**		Pn	02 39 22.8	0.0
BBOR				IAML		02 39 57.9	
	comp=N,26nm,0.4s						
BBOR				IAML		02 39 58.7	
	comp=E,18nm,0.4s						
JFP	**Foothills Park**	**3.52**	**147**		Pn	02 39 28.7	-1.8
J05D	**Fort Rock, OR**	**3.88**	**39**		Pn	02 39 36.0	+0.2
J05D				IAML		02 40 06.4	
	comp=E,16nm,4.2s						
J05D				IAML		02 41 52.0	
	comp=N,17nm,4.3s						
PNTR	**Pine Nut**	**4.06**	**106**		Pn	02 39 38.7	+0.5
PNTR				IAML		02 41 06.6	
	comp=E,9.9nm,3.3s						
PNTR				IAML		02 41 07.2	
	comp=N,9.9nm,4.0s						
HMOM	**Monterey**	**4.28**	**150**		Pn	02 39 39.3	-1.7
BPRM	**Ponciano Ridge**	**4.53**	**149**		Pn	02 39 42.6	-1.9

RSNC 27 02:49:56.7±0.0,9°N±2°×7°7W±°,h40km±4km,M2.0,mb3.9, ML2.0,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**0.46**	**169**	P	Pn	02 50 06.0	-1.0
CAPC				S	Sn	02 50 13.8	-0.3
LCBC	**Los crdobas,**	**1.08**	**102**	P	Pn	02 50 16.0	+0.6
LCBC				S	Sn	02 50 28.9	-0.3
APAC	**Apartado, Choc**	**1.46**	**144**	P	Pn	02 50 20.9	+0.3
APAC				S	Sn	02 50 41.1	+2.7
UREC	**San Jos de Ur**	**2.31**	**125**	P	Pn	02 50 31.9	-0.4
UREC				S	Sn	02 50 58.7	-0.8
BCIP	**Isla Barro Col**	**2.37**	**272**	P	Pn	02 50 32.1	-1.0
BCIP				S	Sn	02 51 00.4	-0.5
SJCC	**San Jacinto, C**	**2.37**	**70**	P	Pn	02 50 33.2	0.0
SJCC				S	Sn	02 51 00.1	-1.0
ZARC	**Zaragoza, Cauc**	**3.01**	**122**	P	Pn	02 50 41.0	-0.9
ZARC				S	Sn	02 51 14.4	-2.4
ARGC	**Ariguani, Magd**	**3.24**	**76**	P	Pn	02 50 44.4	-0.7
ARGC				S	Sn	02 51 21.8	-0.7
PTBC	**PUERTO BERRIO,**	**3.89**	**130**	P	Pn	02 50 53.9	-0.2
PTBC				S	Sn	02 51 35.4	-3.2
CRJC	**Cerrejon, Guaj**	**4.88**	**66**	P	Pn	02 51 07.9	+0.2
CRJC				S	Sn	02 51 59.1	-4.0
URIC	**Uribia, Colomb**	**5.95**	**64**	P	Pn	02 51 21.7	-0.7
URIC				S	Sn	02 52 26.9	-2.5

---

*IDC **27** 02:59:10.7±3.8,42°.57N×146°.31E,h0km,mb4.0/9, mbtmp4.0/10,ML3.8/1,MS2.7/3, Error ellipse: s-maj=92.4km s-min=26.4km az=175.0*
*JMA **27** 02:59:14.4±0.2,42°.8N±0°.7×14°.6E±°,h35km±2km, MV4.0/34,OFF NEMURO PENINSULA*
JMA Felt I J1 at OFF NEMURO PENINSULA .
*NIED **27** 02:59:14.4,42°.80N×146°.24E,h35km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.88; $M_{\theta\theta}$0.51; $M_{\phi\phi}$-2.39; $M_{r\theta}$2.47; $M_{\theta\phi}$-1.09; $M_{\phi r}$2.90; Fault plane solution: $M_0$4.51000×10^{14} NP1: ϕ_s171.00000°,δ21.00000°,λ44.00000°. NP2:ϕ_s39.00000°, δ76.00000°,λ105.00000°.*
*SKHL **27** 02:59:14.8±0.4,42°.70N×146°.30E,h34km±4km,mb4.8/3*
*MOS **27** 02:59:16.7±1.0,42°.91N×146°.15E,h40km,mb4.3/1,Error ellipse: s-maj=16.9km s-min=10.1km az=100.2*
*NEIC **27** 02:59:18.8±1.0,42°.94N±0°.10×146°.0E±0°.2,h35km±2km, mb4.3/9,Error ellipse: s-maj=19.0km s-min=16.1km az=103.0*
ISC 27 02:59:15.8±3.8,42°.83N±0°.05×146°.15E±0°.04,h20km±23km, n54,σ0°.82/70,mb4.2/14,2C-1D,Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.61**	**331**	*i* P	**Pb**	**02 59 27.5**	**-0.3**
NEM2				S	**Sb**	**02 59 36.7**	**+0.8**
NMR	**Nemuro--Hokkai**	**0.62**	**330**	⇓*i*PN	**Pb**	**02 59 27.5**	**-0.5**
NMR				*e*S	**Sb**	**02 59 36.6**	**+0.4**
NMR	**Nemuro--Hokkai**	**0.62**	**330**	*i* P	**Pb**	**02 59 27.5**	**-0.5**
NMR				*e*S	**Sb**	**02 59 37.3**	**+1.1**
JKHN	**Kushirohamanak**	**0.77**	**289**	*i* P	**Pb**	**02 59 29.9**	**-0.5**
JKHN				*e*S	**Sn**	**02 59 41.9**	**-0.5**
AKK	**Akkeshi**	**0.98**	**281**	*e*P	**Pb**	**02 59 32.8**	**-1.3**
AKK				*e*S	**Sb**	**02 59 46.6**	**+0.1**
JAK	**Akkeshi**	**1.08**	**279**	P	**Pn**	**02 59 34.3**	**-1.5**
JAK				S	**Sb**	**02 59 49.6**	**+0.1**
SHO	**Shikotan**	**1.15**	**25**	*c i*PN	**Pn**	**02 59 35.8**	**-1.0**
SHO				*e*S	**Sn**	**02 59 52.6**	**+0.7**
SHO				pmax	pmax		
	comp=E,118nm,0.5s						
SHO				pmax	pmax		
	comp=Z,195nm,0.5s						
SHO				pmax	pmax		
	comp=N,139nm,0.2s						
SHO				smax	smax		
	comp=E,1μm,0.2s						
SHO				smax	smax		
	comp=N,2μm,0.3s						
SHO	**Shikotan**	**1.15**	**25**	*i* P	**Pn**	**02 59 35.5**	**-1.3**
SHO				AMB	AMB	02 59 36.1	
	comp=N,200nm,0.3s						
SHO				*e*S	**Sb**	**02 59 50.6**	**-0.9**
SHO				A	A	02 59 53.9	
	comp=N,1μm,0.2s						
SHO				A	A	02 59 53.9	
	comp=N,1μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.22**	**350**	*e*PN	**Pn**	**02 59 36.9**	**-0.8**
YUK				*e*S	**Sb**	**02 59 53.0**	**-0.4**
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=N,247nm,0.1s						
YUK				pmax	pmax		
	comp=E,219nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.22**	**350**	*e*P	**Pn**	**02 59 36.7**	**-1.0**
YUK				AMB	AMB	02 59 38.4	
	comp=E,700nm,0.2s						
YUK				*e*S	**Sb**	**02 59 53.1**	**-0.4**
YUK				A	A	02 59 53.5	
	comp=E,2μm,0.5s						
YUK				A	A	02 59 53.5	
	comp=E,2μm,0.5s						
JNK	**Nakash**	**1.29**	**306**	*i* P	**Pn**	**02 59 37.4**	**-1.3**
JNK				S	**Sn**	**02 59 54.4**	**-0.9**
JRA	**Rausu**	**1.33**	**326**	P	**Pn**	**02 59 38.6**	**-0.7**
JRA				*e*S	**Sn**	**02 59 56.2**	**-0.2**
RUSJ	**Misakicho**	**1.43**	**333**	⇑*i*PN	**Pn**	**02 59 40.5**	**-0.1**
RUSJ				*e*S	**Sb**	**03 00 00.3**	**+0.8**
JOB	**Onbets**	**1.70**	**273**	P	**Pn**	**02 59 43.0**	**-1.4**
JOB				*e*S	**Sn**	**03 00 05.0**	**-0.5**
JAR	**Ashorobuto**	**1.80**	**286**	*i* P	**Pn**	**02 59 44.6**	**-1.2**
JAR				S	**Sn**	**03 00 07.9**	**-0.1**
ERM	**Erimo**	**2.36**	**251**		**Pn**	**02 59 54.9**	**+1.5**
ERM	**Erimo**	**2.36**	**251**	PN	**Pn**

B20K	**Meade River**	**39.19**	**27**	P	**P**	**03 06 41.5**	**-0.5**
B20K				IAmb	IAmb	03 06 52.0	
	comp=Z,9.2nm,1.4s						
ILAR	**Eielson Array**	**42.66**	**36**	P	**P**	**03 07 10.4**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=259,slow=6.0,SNR=6.7						
	comp=Z,0.4nm,0.9s						
BMAR	**Burnt Mountain**	**43.50**	**32**	P	**P**	**03 07 18.3**	**+0.9**
MKAR	**Makanchi Array**	**44.37**	**298**	P	**P**	**03 07 23.7**	**-0.9**
MKAR	**Makanchi Array**	**44.37**	**298**	P	**P**	**03 07 24.3**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=82,slow=10.0,SNR=9.0						
	comp=Z,1.2nm,0.7s						
KURK	**Kurchatov**	**45.44**	**304**	P	**P**	**03 07 33.7**	**+0.6**
KURK	**Kurchatov**	**45.44**	**304**	*e*P	**P**	**03 07 33.7**	**+0.6**
KURBB	**Kurchatov Arra**	**45.52**	**304**	P	**P**	**03 07 33.6**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=72,slow=8.9,SNR=11						
	comp=Z,1.2nm,0.5s						
BVAR	**Borovoye Array**	**49.52**	**310**	P	**P**	**03 08 05.8**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=90,slow=8.8,SNR=2.9						
	comp=Z,0.7nm,0.4s						
AB31	**Akbulak array**	**57.07**	**309**		**P**	**03 09 00.2**	**-0.1**
AB31				IAmb	IAmb	03 09 00.9	
	comp=Z,1.7nm,0.6s						
ABKAR	**Akbulak array**	**57.07**	**309**		**P**	**03 09 00.1**	**-0.2**
ABKAR				IAmb	IAmb	03 09 00.9	
	comp=Z,1.8nm,0.6s						
ARCES	**ARCESS Array B**	**59.85**	**340**	P	**P**	**03 09 18.8**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=51,slow=9.6,SNR=5.4						
	comp=Z,2.5nm,0.8s						
FIA1	**FINESS Array S**	**65.36**	**333**	P	**P**	**03 09 55.0**	**-1.3**
FINES	**FINESS Array B**	**65.36**	**333**	P	**P**	**03 09 55.5**	**-0.7**
FINES	**FINESS Array B**	**65.36**	**333**	P	**P**	**03 09 55.9**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=41,slow=7.9,SNR=28						
	comp=Z,2.6nm,0.6s						
NC204	**NORSAR Array S**	**70.11**	**339**	P	**P**	**03 10 26.0**	**-0.3**
NB2	**NORSAR Subarra**	**70.19**	**339**	P	**P**	**03 10 26.5**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=32,slow=6.9						
NOA	**NORSAR Array B**	**70.19**	**339**	P	**P**	**03 10 26.7**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=34,slow=6.2,SNR=8.7						
	comp=Z,1.1nm,0.7s						
HFS	**Hagfors**	**70.25**	**337**	P	**P**	**03 10 26.8**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=46,slow=8.5,SNR=15						
	comp=Z,1.7nm,0.5s						
PDAR	**Pinedale Array**	**71.06**	**49**	P	**P**	**03 10 33.3**	**+0.7**
BUR08	**Bucovina Ar. S**	**75.92**	**323**	P	**P**	**03 11 01.0**	**0.0**
BUR08				IAmb	IAmb	03 11 08.8	
	comp=Z,3.5nm,1.4s						
BURAR	**Bucovina Array**	**75.94**	**323**	P	**P**	**03 11 01.1**	**0.0**

SOME ***27*** *03:03:55.2, 43.°03N×74.°95E*
KNET ***27*** *03:03:55.5±0.4, 43.°06N×74.°91E, h5km±7km, ml1.2, Error ellipse: s-maj=2.8km s-min=1.7km az=173.0*
NNC ***27*** *03:03:55.8±0.3, 43.°03N×74.°94E, h0km, mpv2.8, Error ellipse: s-maj=3.3km s-min=1.7km az=3.0, Suspected Mining explosion.*

ISC 27 03:03:55.3±0.8, 43.°08N±0.°04×74.°90E±0.°03, h0km, n12, σ0.°55/23, 6C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.14**	**233**	⇑P	**Pg**	**03 03 58.4**	**+0.5**
	20nm,0.1s,SNR=34						
CHMS				⇓S	**Sg**	**03 04 00.3**	**+0.7**
	112nm,0.2s						
USP	**Ospenovka**	**0.35**	**302**	P	**Pg**	**03 04 03.0**	**+1.1**
	SNR=5.3						
SGDS	**Sogindy**	**0.42**	**332**	P	**Pb**	**03 04 05.0**	**-0.6**
	1.1nm,0.1s						
SGDS				S	**Sb**	**03 04 11.9**	**-0.7**
	3.7nm,0.1s						
KBK	**Karagaybulak**	**0.43**	**175**	⇑P	**Pg**	**03 04 03.8**	**+0.4**
	18nm,0.2s,SNR=5.8						
KBK				⇑S	**Sg**	**03 04 09.6**	**+0.7**
	24nm,0.2s						
TKM2	**Tokmak 2**	**0.53**	**107**	⇑P	**Pg**	**03 04 05.6**	**+0.1**
	2.3nm,0.1s,SNR=34						
TKM2				⇓S	**Sg**	**03 04 13.0**	**+0.6**
	15nm,0.1s						
AAK	**Ala-Archa**	**0.54**	**214**	⇑P	**Pg**	**03 04 05.7**	**+0.2**
	3.6nm,0.2s,SNR=14						
AAK				⇓S	**Sg**	**03 04 13.0**	**+0.6**
	9.8nm,0.2s						
KST	**Kastek**	**0.78**	**92**	P	**Pg**	**03 04 10.1**	**-0.1**
	2.3nm,0.2s						
KST				S	**Sg**	**03 04 20.9**	**+0.6**
	10nm,0.7s						
EKS2	**Erkin-Say**	**0.93**	**243**	⇑P	**Pg**	**03 04 13.0**	**0.0**
	2.5nm,0.1s,SNR=8.0						
EKS2				⇓S	**Sb**	**03 04 26.5**	**-0.7**
	2.1nm,0.2s						
MRKS	**Merke**	**1.28**	**255**	P	**Pn**	**03 04 20.1**	**-0.4**
	1.2nm,0.1s						
MRKS				S	**Sn**	**03 04 38.1**	**-0.2**
	2.6nm,0.2s						
KUU	**Kurty**	**1.32**	**52**	P	**Pg**	**03 04 20.6**	**0.0**
	1.6nm,0.1s						
KUU				S	**Sb**	**03 04 38.8**	**+0.3**
	4.9nm,0.2s						
KTBS	**Karatobe**	**1.44**	**63**	P	**Pn**	**03 04 23.0**	**+0.3**
	1.3nm,0.2s						
KTBS				S	**Sn**	**03 04 43.0**	**+0.6**
	5.9nm,0.7s						
TNSS	**Tian-Shan**	**1.50**	**91**	P	**Pn**	**03 04 23.4**	**-0.4**
	4.7nm,0.2s						
TNSS				S	**Sg**	**03 04 43.6**	**+0.2**
	2.8nm,0.3s						

TAP 27 03:49:30.5, 24.°15N×121.°61E, h4km, ML1.7, 1C-1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.01**	**32**	P	Pg	03 49 31.5	+0.2
ETL				*i* S	Sg	03 49 32.6	+0.7
NACB	**Ninganchiao**	**0.03**	**328**	⇓*i* P	Pg	03 49 32.0	+0.6
NACB				*i* S	Sg	03 49 33.0	+0.9
TWD	**Chiawan**	**0.07**	**194**	⇑P	Pg	03 49 32.9	+1.0
TWD				*i* S	Sg	03 49 34.3	+1.3
ETLH	**Xiulin Townshi**	**0.14**	**297**	P	Pg	03 49 34.5	+1.2
ETLH				S	Sg	03 49 37.2	+2.1
ETM	**Tongmen**	**0.21**	**212**	P	Pg	03 49 35.9	+1.3
ETM				*i* S	Sg	03 49 39.6	+2.2
LXIB	**Xiulin Townshi**	**0.22**	**236**	*i* P	Pg	03 49 36.0	+1.2
LXIB				*i* S	Sg	03 49 40.0	+2.2
NNSB	**Datong**	**0.35**	**323**	*i* P	Pb	03 49 38.8	-0.7
NNSB				*e*S	Sg	03 49 43.0	+1.0
OWD	**Renai**	**0.44**	**245**	P	Pb	03 49 40.5	-0.6
OWD				S	Sb	03 49 47.5	-0.5
VWDT	**VWDT**	**0.58**	**228**	*e*P	Pb	03 49 43.8	+0.5
VWDT				*e*S	Sb	03 49 51.9	0.0

BEO ***27*** *03:53:36.6±0.8, 37.°18N×20.°54E, h0km, ML3.1/3*
NAO ***27*** *03:53:38.1, 37.°30N×20.°62E, h10km, mb3.6*
THE ***27*** *03:53:40.0, 37.°33N×20.°67E, h0km±2km, ML3.5/10, Error ellipse: s-maj=2.3km s-min=0.4km az=228.0*
PDG ***27*** *03:53:40.8±0.1, 37.°41N×20.°63E, h17km±1km, ML3.6/12, Error ellipse: s-maj=0.6km s-min=0.2km az=90.0*
ATH ***27*** *03:53:41.7, 37.°40N×20.°79E, h11km±1km, ML3.4/37, Manual Solution by N.Liadopoulou First location: 2019/04/27 03:54:38, This location: 2020/07/02 07:29:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
IDC ***27*** *03:53:44.2±2.3, 37.°45N×20.°79E, h54km±43km, mb3.3/6, mbtmp3.4/9, ML1.4/2, Error ellipse: s-maj=52.9km s-min=15.5km az=28.0*

ISC 27 03:53:40.7±0.9, 37.°38N±0.°04×20.°70E±0.°03, h22km±5km, n154, σ1.°43/189, mb3.4/6, 1C-1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.35**	**18**	P	**Pb**	**03 53 48.0**	**-0.2**
LTHK				S	**Sb**	**03 53 53.5**	**+0.1**
	42μm,0.2s						
LTHK	**Lithakia**	**0.35**	**18**	P	**Pb**	**03 53 48.0**	**-0.2**
LTHK				S	**Sb**	**03 53 52.3**	**-1.1**
KYPS	**Kipseli, Zakin**	**0.45**	**12**	P	**Pb**	**03 53 50.1**	**+0.1**
KYPS				S	**Sb**	**03 53 56.0**	**-0.3**
ORTH	**Orthonies,Zaky**	**0.47**	**360**	P	**Pb**	**03 53 50.5**	**0.0**
ORTH				S	**Sb**	**03 53 57.7**	**+0.8**
CLEM	**Kyllini,Ilia,G**	**0.62**	**34**	P	**Pb**	**03 53 52.6**	**-0.2**
CLEM				S	**Sb**	**03 53 60.0**	**-1.1**
RTZL	**Ratzakli, Kefa**	**0.70**	**5**	P	**Pb**	**03 53 53.9**	**-0.3**
RTZL				S	**Sn**	**03 54 05.3**	**-0.1**
LCHA	**Lechaina**	**0.72**	**38**	P	**Pb**	**03 53 55.0**	**+0.5**
LCHA				S	**Sb**	**03 54 03.8**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.74**	**353**	P	**Pb**	**03 53 55.1**	**+0.2**
PSDA				S	**Sn**	**03 54 06.8**	**+0.4**
	6μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.74**	**353**	P	**Pb**	**03 53 55.5**	**+0.6**
PSDA				S	**Sb**	**03 54 05.6**	**+0.9**
ZARO	**Zacharo**	**0.76**	**81**	P	**Pb**	**03 53 55.5**	**+0.2**
ZARO				S	**Sb**	**03 54 04.0**	**-1.2**
VLS	**Valsamata**	**0.80**	**354**	P	**Pb**	**03 53 55.6**	**-0.4**
VLS				S	**Sn**	**03 54 08.4**	**+0.4**
	4μm,0.2s						
VLS	**Valsamata**	**0.80**	**354**	P	**Pn**	**03 53 57.5**	**+0.7**
AMT	**Artemida-Makis**	**0.82**	**79**	P	**Pb**	**03 53 56.0**	**-0.3**
AMT				S	**Sb**	**03 54 05.6**	**-1.2**
SMHA	**Samh**	**0.87**	**357**	P	**Pn**	**03 53 57.9**	**+0.2**
YRMI	**Loutra Irminis**	**0.89**	**35**	P	**Pb**	**03 53 57.5**	**0.0**
DMLN	**Damoulianata-K**	**0.90**	**343**	P	**Pb**	**03 53 57.6**	**0.0**
DMLN				S	**Sn**	**03 54 12.2**	**+1.8**
	6μm,0.2s						
DMLN	**Damoulianata-K**	**0.90**	**343**	P	**Pn**	**03 53 59.4**	**+1.3**
RLS	**Riolos of Patr**	**0.91**	**42**	P	**Pb**	**03 53 58.0**	**+0.2**
RLS				S	**Sn**	**03 54 12.4**	**+1.8**
RLS	**Riolos of Patr**	**0.91**	**42**	P	**Pb**	**03 53 58.0**	**+0.2**
PYL	**PYLOS**	**0.96**	**120**	P	**Pb**	**03 53 58.4**	**-0.3**
PYL				S	**Sn**	**03 54 12.2**	**+0.4**
	900nm,0.3s						
PYL	**PYLOS**	**0.96**	**120**	P	**Pb**	**03 53 58.6**	**-0.1**
AXS	**Araxos**	**0.98**	**33**	P	**Pn**	**03 53 59.2**	**+0.2**
MTHA	**Methoni**	**0.98**	**124**	P	**Pn**	**03 54 00.0**	**+1.0**
DRO	**Drossia**	**0.98**	**54**	P	**Pb**	**03 53 58.9**	**-0.2**
DRO				S	**Sn**	**03 54 14.3**	**+1.8**
	3μm,0.4s						
DRO	**Drossia**	**0.98**	**54**	P	**Pb**	**03 53 59.0**	**-0.1**
ITM	**Ithomi**	**1.00**	**101**	P	**Pb**	**03 53 58.7**	**-0.6**
ITM				S	**Sn**	**03 54 14.0**	**+1.2**
	852nm,0.3s						
ITM	**Ithomi**	**1.00**	**101**	P	**Pn**	**03 53 59.6**	**+0.2**
VSK1	**VASILIKIADES**	**1.04**	**354**	P	**Pb**	**03 54 00.2**	**+0.2**
VSK1				S	**Sn**	**03 54 16.6**	**+2.9**
	3μm,0.2s						
FSK	**Fiskardo**	**1.09**	**354**	P	**Pb**	**03 54 01.0**	**+0.2**
FSK				S	**Sn**	**03 54 18.0**	**+3.1**
	2μm,0.2s						
FSK	**Fiskardo**	**1.09**	**354**	P	**Pb**	**03 54 01.9**	**+1.1**
PATG	**Patra B**	**1.18**	**43**	P	**Pb**	**03 54 03.4**	**+1.0**
PATC	**Patra C**	**1.22**	**43**	P	**Pb**	**03 54 03.8**	**+0.7**
EVGI	**Lefkada island**	**1.24**	**358**	P	**Pb**	**03 54 04.1**	**+0.6**
EVGI				S	**Sb**	**03 54 23.4**	**+4.3**
	2μm,0.2s						
EVGI	**Lefkada island**	**1.24**	**358**	P	**Pb**	**03 54 03.5**	**0.0**
UPR	**University Cam**	**1.25**	**43**	P	**Pb**	**03 54 04.6**	**+1.0**
UPR	**University Cam**	**1.25**	**43**	P	**Pb**	**03 54 04.1**	**+0.5**
DRAG	**Dragano-Lefkad**	**1.31**	**356**	P	**Pb**	**03 54 05.8**	**+1.2**
KLV	**Kalavryta, Ach**	**1.33**	**59**	P	**Pn**	**03 54 04.2**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.33**	**360**	P	**Pb**	**03 54 05.3**	**+0.3**
VLX	**Vlachokerasia**	**1.34**	**90**	P	**Pb**	**03 54 05.1**	**0.0**
PVO	**Paravola**	**1.40**	**28**	P	**Pb**	**03 54 06.6**	**+0.4**
LKD2	**Lefkada island**	**1.41**	**359**	P	**Pb**	**03 54 06.5**	**+0.1**
EFP	**Efpalio**	**1.42**	**42**	P	**Pb**	**03 54 06.7**	**+0.3**
EFP	**Efpalio**	**1.42**	**42**	P	**Pb**	**03 54 06.3**	**-0.1**
GUR	**Goura**	**1.42**	**66**	P	**Pn**	**03 54 05.7**	**+0.4**
ALIK	**Aliki, Aigiali**	**1.42**	**51**	P	**Pb**	**03 54 07.4**	**+0.9**
TSLK	**Tsoukalades, L**	**1.45**	**359**	P	**Pb**	**03 54 07.2**	**+0.3**
SERG	**Sergoula**	**1.49**	**46**	P	**Pb**	**03 54 07.2**	**-0.5**
KALE	**Kalithea**	**1.52**	**48**	P	**Pb**	**03 54 08.5**	**+0.2**
KALE	**Kalithea**	**1.52**	**48**	P	**Pb**	**03 54 08.4**	**+0.2**
ANX	**Ano Chora**	**1.55**	**38**	P	**Pb**	**03 54 08.7**	**-0.1**
ANX	**Ano Chora**	**1.55**	**38**	P	**Pb**	**03 54 08.4**	**-0.3**
KIAA	**Kiato**	**1.75**	**68**	P	**Pb**	**03 54 10.9**	**-1.1**
EVR	**Evrytania**	**1.77**	**29**	P	**Pb**	**03 54 12.5**	**0.0**
ARTB	**Arta**	**1.79**	**7**	P	**Pb**	**03 54 12.7**	**-0.1**
DLFA	**Delphi**	**1.79**	**52**	P	**Pb**	**03 54 12.1**	**-0.8**
VLI	**Veliai**	**1.91**	**110**	P	**Pb**	**03 54 14.1**	**-0.7**
LTK	**Loutraki**	**1.91**	**70**	P	**Pn**	**03 54 13.3**	**+1.3**
PRGA	**Parga**	**1.92**	**353**	P	**Pb**	**03 54 14.5**	**-0.5**
KRND	**KRANIDI**	**1.95**	**89**	P	**Pb**	**03 54 14.4**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.98**	**34**	P	**Pb**	**03 54 15.3**	**-0.8**
TETR	**Tetrakomo, Epi**	**2.02**	**13**	P	**Pb**	**03 54 15.6**	**-1.1**
AXAR	**Agios Charalam**	**2.08**	**47**	P	**Pn**	**03 54 16.1**	**+1.8**
AGG	**Agios Georgios**	**2.08**	**38**	P	**Pb**	**03 54 16.4**	**-1.4**
MET5	**Makryloggos,Me**	**2.13**	**83**	P	**Pn**	**03 54 16.7**	**+1.8**
MET4	**Agioi Theodoro**	**2.16**	**83**	P	**Pn**	**03 54 16.8**	**+1.5**
IGT	**Igoumenitsa**	**2.17**	**352**	*e*Pg	**Pb**	**03 54 17.9**	**-1.4**
IGT				*e*Sg	**Sb**	**03 54 51.6**	**+5.8**
IGT	**Igoumenitsa**	**2.17**	**352**	P	**Pn**	**03 54 17.4**	**+1.9**
VIL2	**Platees**	**2.20**	**67**	P	**Pn**	**03 54 17.2**	**+1.3**
LKR	**Lokris**	**2.22**	**54**	P	**Pn**	**03 54 17.6**	**+1.5**
JAN	**Janina**	**2.28**	**3**	P	**Pn**	**03 54 19.2**	**+2.2**
THL	**Klokotos Trika**	**2.42**	**25**	P	**Pn**	**03 54 20.8**	**+2.0**
KEK	**Kerkira**	**2.44**	**343**	P	**Pb**	**03 54 22.2**	**-1.6**
ATH	**Athens Observa**	**2.46**	**75**	P	**Pn**	**03 54 20.9**	**+1.3**
VLY	**Voula,Athens**	**2.50**	**78**	P	**Pn**	**03 54 20.2**	**+0.2**
ATHU	**Athens Univers**	**2.52**	**76**	P	**Pn**	**03 54 21.3**	**+1.1**
ANKY	**Antikythira Is**	**2.58**	**125**	P	**Pn**	**03 54 23.5**	**+2.4**
PTL	**Penteli**	**2.60**	**74**	P	**Pn**	**03 54 22.8**	**+1.4**
TYRN	**Tyrnavos**	**2.62**	**27**	P	**Pn**	**03 54 23.2**	**+1.5**
DION	**Dionisos Attik**	**2.66**	**74**	P	**Pn**	**03 54 23.4**	**+1.2**
NEO	**Neokhori**	**2.77**	**45**	P	**Pn**	**03 54 25.1**	**+1.4**
XOR	**Xorichti**	**2.79**	**44**	P	**Pn**	**03 54 25.3**	**+1.3**
PENT	**Pentalofos**	**2.83**	**7**	P	**Pn**	**03 54 27.3**	**+2.6**
KYMI	**Kymi, Euboea I**	**2.96**	**64**	P	**Pn**	**03 54 27.6**	**+1.2**
KARY	**Karystos**	**3.03**	**76**	P	**Pn**	**03 54 28.4**	**+1.0**
MHLO	**Agia Marina, M**	**3.04**	**102**	P	**Pn**	**03 54 29.3**	**+1.8**
NEST	**Nestorio**	**3.04**	**5**	P	**Pn**	**03 54 29.5**	**+1.9**
LIT	**Litokhoron**	**3.06**	**27**	P	**Pn**	**03 54 29.2**	**+1.5**
SKY	**Skiros Island**	**3.38**	**63**	P	**Pn**	**03 54 33.4**	**+1.2**
OHR	**Ohrid**	**3.73**	**1**	*i* Pn	**Pn**	**03 54 40.2**	**+3.2**
OHR	**Ohrid**	**3.73**	**1**	*e*Pn	**Pn**	**03 54 38.8**	**+1.8**
IDI	**Anoyia**	**3.97**	**120**	P	**Pn**	**03 54 43.2**	**+2.9**
	0.8nm,0.3s,baz=309,slow=16,SNR=6.6						
IDI				S	**Sn**	**03 55 27.9**	**+1.6**
	6.1nm,0.3s,baz=328,slow=19,SNR=7.5						
	1.3nm,0.5s						
TIR	**Tirane**	**4.02**	**351**	*e*Pn	**Pn**	**03 54 43.6**	**+2.7**
VAY	**Valandovo**	**4.20**	**20**	*i* Pn	**Pn**	**03 54 45.5**	**+2.2**
VAY	**Valandovo**	**4.20**	**20**	*e*Pn	**Pn**	**03 54 45.5**	**+2.2**
SRS	**Serrai**	**4.36**	**30**	*e*Pn	**Pn**	**03 54 47.0**	**+1.4**
ULC	**Ulcinj**	**4.72**	**347**	*e*Pn	**Pn**	**03 54 50.9**	**+0.4**
ULC				*i* Sn	**Sn**	**03 55 42.5**	**-2.0**
DRME	**Dracevica, Mon**	**4.94**	**347**	*e*Pn	**Pn**	**03 54 53.0**	**-0.6**
DRME	**Dracevica, Mon**	**4.94**	**347**	*e*Pn	**Pn**	**03 54 54.0**	**+0.4**
DRME				*i* Sn	**Sn**	**03 55 47.9**	**-2.2**
VAE	**Valguarnera**	**5.01**	**273**	P	**Pn**	**03 54 58.0**	**+3.4**
	0.9nm,0.3s,baz=158,slow=6.3,SNR=9.3						
VAE				S	**Sn**	**03 55 51.8**	**+0.1**
	11nm,0.6s,baz=289,slow=21,SNR=8.0						
	7.3nm,0.7s						
BUM	**Brajici-Budva**	**5.11**	**345**	*e*Pn	**Pn**	**03 54 55.6**	**-0.4**
BUM				*i* Sn	**Sn**	**03 55 52.2**	**-2.1**
PDG	**Podgorica**	**5.17**	**348**	*e*Pn	**Pn**	**03 54 56.5**	**-0.2**
PDG	**Podgorica**	**5.17**	**348**	*e*Pn	**Pn**	**03 54 57.9**	**+1.2**
PDG	**Podgorica**	**5.17**	**348**	*e*Pn	**Pn**	**03 54 57.4**	**+0.7**
PDG				*i* Sn	**Sn**	**03 55 53.7**	**-1.9**
BOSS	**Bosilegrad**	**5.29**	**14**	*e*Pn	**Pn**	**03 54 59.7**	**+1.3**
HCY	**Herceg Novi**	**5.34**	**342**	*e*Pn	**Pn**	**03 54 59.3**	**+0.2**
HCY				*i* Sn	**Sn**	**03 55 57.3**	**-2.6**
CEME	**Cevo**	**5.34**	**346**	⇑*i* Pn	**Pn**	**03 54 59.4**	**+0.3**
CEME				*i* Sn	**Sn**	**03 55 57.5**	**-2.5**
BARS	**Barje**	**5.50**	**9**	*e*Pn	**Pn**	**03 55 02.1**	**+0.8**
IVA	**Berane**	**5.52**	**354**	⇓*i* Pn	**Pn**	**03 55 02.0**	**+0.3**
IVA				*i* Sn	**Sn**	**03 56 02.0**	**-2.5**
KOME	**Kolasin**	**5.54**	**351**	*e*Pn	**Pn**	**03 55 02.3**	**+0.4**
KOME				*e*Sn	**Sn**	**03 56 02.4**	**-2.6**
NKME	**Niksic**	**5.55**	**347**	*e*Pn	**Pn**	**03 55 02.3**	**+0.3**
NKME				*i* Sn	**Sn**	**03 56 02.4**	**-2.7**
VTS	**Vitosha**	**5.58**	**20**	*e*Pn	**Pn**	**03 55 03.9**	**+1.3**
TREB	**Trebinje**	**5.63**	**342**	*e*Pn	**Pn**	**03 55 02.1**	**-0.9**
BRY	**Bratogost**	**5.76**	**344**	*e*Pn	**Pn**	**03 55 05.1**	**+0.1**
BRY				*i* Sn	**Sn**	**03 56 07.4**	**-3.0**
SELS	**Selova**	**5.84**	**3**	*e*Pn	**Pn**	**03 55 06.7**	**+0.7**
SJES	**Sjenica**	**5.90**	**355**	*e*Pn	**Pn**	**03 55 08.3**	**+1.4**
SJES	**Sjenica**	**5.90**	**355**	*e*Pn	**Pn**	**03 55 07.7**	**+0.8**
STON	**Ston**	**5.95**	**338**	*e*Pn	**Pn**	**03 55 06.7**	**-0.7**
STON	**Ston**	**5.95**	**338**	*e*Pn	**Pn**	**03 55 06.7**	**-0.7**
UPM	**Unac-Piva**	**5.98**	**347**	*e*Pn	**Pn**	**03 55 08.2**	**+0.2**
UPM				*i* Sn	**Sn**	**03 56 12.7**	**-3.2**
PLE	**Pljevlja**	**6.03**	**351**	*e*Pn	**Pn**	**03 55 09.1**	**+0.5**
PLE				*i* Sn	**Sn**	**03 56 14.1**	**-2.9**
ZAPS	**Zavoj**	**6.07**	**13**	*e*Pn	**Pn**	**03 55 10.5**	**+1.4**
GOCS	**Kraljevo Serbi**	**6.18**	**1**	*e*Pn	**Pn**	**03 55 10.9**	**+0.2**
IVAS	**Ivanjica**	**6.21**	**356**	*e*Pn	**Pn**	**03 55 10.8**	**-0.2**
BOVS	**Bovan**	**6.30**	**7**	*e*Pn	**Pn**	**03 55 07.8**	**-4.4**
RUDO	**Rudo**	**6.32**	**351**	*e*Pn	**Pn**	**03 55 11.7**	**-0.8**
GRUS	**Gruza**	**6.50**	**0**	*e*Pn	**Pn**	**03 55 15.5**	**+0.5**
ZAGS	**Zajecar**	**6.53**	**10**	*e*Pn	**Pn**	**03 55 16.8**	**+1.4**
BBLS	**Lazi&#263i**	**6.56**	**352**	*e*Pn	**Pn**	**03 55 14.5**	**-1.3**
BBLS	**Lazi&#263i**	**6.56**	**352**	*e*Pn	**Pn**	**03 55 15.6**	**-0.2**
DIVS	**Divibare**	**6.74**	**356**	*e*Pn	**Pn**	**03 55 18.6**	**+0.3**
HAPS	**Han Pijesak,Bl**	**6.83**	**349**	*e*Pn	**Pn**	**03 55 19.5**	**-0.2**
HAPS	**Han Pijesak,Bl**	**6.83**	**349**	*e*Pn	**Pn**	**03 55 20.1**	**+0.4**
TRUS	**Trudelj**	**6.84**	**358**	*e*Pn	**Pn**	**03 55 19.9**	**+0.2**
KUBS	**Kucevo**	**7.07**	**6**	*e*Pn	**Pn**	**03 55 21.4**	**-1.4**
TEKS	**Tekeris**	**7.22**	**353**	*e*Pn	**Pn**	**03 55 23.1**	**-1.8**
TEKS	**Tekeris**	**7.22**	**353**	*e*Pn	**Pn**	**03 55 23.8**	**-1.1**
AVAS	**Avala Beograd**	**7.31**	**359**	*e*Pn	**Pn**	**03 55 26.1**	**-0.1**
VRSS	**Vrsac**	**7.75**	**3**	*e*Pn	**Pn**	**03 55 31.0**	**-1.2**
A050A	**Klekovaca**	**7.77**	**337**	*e*Pn	**Pn**	**03 55 32.4**	**0.0**
FRGS	**Fruska Gora**	**7.80**	**355**	*e*Pn	**Pn**	**03 55 32.5**	**-0.4**
BLY	**Banja Luka**	**7.83**	**341**	*e*Pn	**Pn**	**03 55 33.0**	**-0.2**
BOJS	**Bojanci**	**9.09**	**335**	*e*Pn	**Pn**	**03 55 51.0**	**+0.5**
CRES	**Cresnjevec Ost**	**9.31**	**337**	*e*Pn	**Pn**	**03 55 53.3**	**-0.2**
CEY	**Cerknica**	**9.58**	**333**	*e*Pn	**Pn**	**03 55 58.8**	**+1.5**
OBKA	**Obir**	**10.21**	**335**	*e*Pn	**Pn**	**03 56 08.8**	**+2.9**
AKASG	**Malin Array Be**	**14.65**	**22**	P	**Pn**	**03 57 08.7**	**+2.2**
	0.3nm,0.5s,baz=211,slow=9.2,SNR=7.0						
HFS	**Hagfors**	**23.21**	**351**	P	**P**	**03 58 45.0**	**-0.9**
	0.6nm,0.3s,baz=167,slow=9.0,SNR=12						
	0.6nm,0.3s						
FINES	**FINESS Array B**	**24.32**	**6**	P	**P**	**03 58 54.6**	**-1.8**
	0.6nm,0.8s,baz=186,slow=11,SNR=8.1						
	0.6nm,0.8s						
NB2	**NORSAR Subarra**	**24.43**	**349**	P	**P**	**03 58 57.6**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=162,slow=9.3						
NOA	**NORSAR Array B**	**24.43**	**349**	P	**P**	**03 58 57.3**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=158,slow=8.9,SNR=4.0						
	comp=Z,0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**40.95**	**359**	P	**P**	**04 01 21.6**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=155,slow=12,SNR=5.6						
	comp=Z,3.9nm,0.9s						
KURBB	**Kurchatov Arra**	**42.59**	**53**	P	**P**	**04 01 33.5**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=282,slow=8.8,SNR=4.4						
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**45.60**	**58**	P	**P**	**04 01 58.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=269,slow=6.7,SNR=4.3						
	comp=Z,0.2nm,0.4s						

DNK

OJC	**Ojcow**	**2.69 120**	*e*Pn	**Pn**	**04 02 56.8 -1.2**
OJC			*e*Pg	**Pg**	**04 03 04.8 -0.2**
OJC			*e*Sg	**Sg**	**04 03 39.7 -0.1**
OJC	**Ojcow**	**2.69 120**	*e*Pn	**Pn**	**04 02 56.9 -1.1**
OJC			*e*Pg	**Pg**	**04 03 04.7 -0.2**
OJC			*e*Sg	**Sg**	**04 03 41.1 +1.2**
WERD	**Werda**	**2.71 246**	*e*Pn	**Pn**	**04 02 58.5 +0.3**
WERD			*e*Pg	**Pg**	**04 03 05.5 +0.1**
WERD			*e*Sg	**Sg**	**04 03 40.5 0.0**
NKC	**Novy Kostel**	**2.74 241**	*e*PN	**Pn**	**04 02 59.6 +0.9**
NKC			*e*PG	**Pg**	**04 03 05.6 -0.3**
NKC			*e*SG	**Sg**	**04 03 42.4 +1.0**
	comp=Z,216nm,0.4s				
JAVC	**Velka Javorina**	**2.94 160**	*e*Pn	**Pn**	**04 03 01.7 +0.4**
	baz=342				
JAVC			*e*Sg	**Sb**	**04 03 45.1 +2.0**
	comp=Z,108nm,0.9s,baz=342				
JAVC	**Velka Javorina**	**2.94 160**	*e*PN	**Pn**	**04 03 01.8 +0.4**
JAVC			*e*SG	**Sb**	**04 03 45.2 +2.1**
KHC	**Kasperske Hory**	**3.01 215**	*e*PN	**Pn**	**04 03 02.4 +0.1**
KHC			*e*PG	**Pb**	**04 03 08.8 +1.0**
KHC			*e*SG	**Sg**	**04 03 47.9 -2.0**
	comp=Z,90nm,0.6s				
MOX	**Moxa**	**3.04 253**	*e*Pn	**Pn**	**04 03 02.7 0.0**
MOX			*e*Pg	**Pg**	**04 03 11.5 -0.1**
MOX			*e*Sg	**Sg**	**04 03 51.7 +0.8**
CKRC	**Cesky Krumlov**	**3.06 204**	*e*PN	**Pn**	**04 03 03.6 +0.6**
CKRC			*e*PG	**Pb**	**04 03 09.3 +0.6**
CKRC			*e*SG	**Sg**	**04 03 49.6 -2.0**
	comp=Z,79nm,0.5s				
MANZ	**Manzenberg**	**3.06 239**	*e*Pn	**Pn**	**04 03 03.7 +0.7**
MANZ			*e*Pg	**Pg**	**04 03 12.2 +0.2**
MANZ			*e*Sg	**Sg**	**04 03 51.0 -0.6**
ROTZ	**Rotzenmuhle**	**3.14 235**	*e*Pn	**Pn**	**04 03 04.2 +0.2**
ROTZ			*e*Pg	**Pb**	**04 03 11.8 +1.8**
ROTZ			*e*Sg	**Sb**	**04 03 51.0 +2.2**
GEC2	**GERESS Array S**	**3.21 211**	*e*Pn	**Pn**	**04 03 05.3 +0.2**
GEC2			*e*Pg	**Pb**	**04 03 12.7 +1.3**
GEC2			*e*Sg	**Sg**	**04 03 53.9 -2.6**
GERES	**GERESS Array B**	**3.21 211**	*i* Pn	**Pn**	**04 03 05.1 -0.1**
	comp=Z,0.8nm,0.3s,baz=30,slow=12,SNR=124				
GERES			Pg	**Pb**	**04 03 12.1 +0.8**
	comp=Z,1.6nm,0.3s,baz=32,slow=14,SNR=56				
GERES			Lg	Lg	04 03 53.4
	comp=Z,1.3nm,0.3s,baz=33,slow=22,SNR=6.4				
	comp=Z,11nm,0.3s				
LANS	**Liptovska Anna**	**3.26 138**	*e*PN	**Pn**	**04 03 06.3 +0.6**
LANS			*e*PG	**Pg**	**04 03 15.7 -0.1**
LANS			*e*SG	**Sg**	**04 03 58.2 +0.2**
WET	**Wettzell**	**3.26 222**	*e*Pn	**Pn**	**04 03 06.3 +0.4**
WET			*e*Pg	**Pb**	**04 03 13.1 +0.9**
WET			*e*Sg	**Sb**	**04 03 55.2 +2.7**
MODS	**Modra-Piesok**	**3.34 167**	*e*PN	**Pn**	**04 03 07.8 +1.0**
MODS			*e*PG	**Pg**	**04 03 17.2 -0.1**
MODS			*e*SG	**Sg**	**04 04 01.0 +0.4**
NIE	**Niedzica**	**3.44 128**	*e*Pg	**Pg**	**04 03 19.4 +0.1**
NIE			*e*Sg	**Sg**	**04 04 03.6 -0.3**
BSD	**Bornholm Skovb**	**3.57 348**	*i* P	**Pn**	**04 03 10.0 +0.1**
BSD			IAML		04 04 29.6
	comp=Z,39nm,1.5s				
VYHS	**Vyhne**	**3.58 150**	*e*PN	**Pn**	**04 03 09.8 -0.3**
VYHS			*e*PG	**Pg**	**04 03 22.5 +0.6**
VYHS			*e*SG	**Sg**	**04 04 07.1 -1.2**
CLZ	**Clausthal**	**3.61 276**	*e*Pn	**Pn**	**04 03 12.1 +1.5**
CLZ			*e*Pg	**Pg**	**04 03 22.3 -0.3**
CLZ			*e*Sg	**Sg**	**04 04 09.8 +0.4**
GRF	**Grafenberg Arr**	**3.70 240**	*e*Pn	**Pn**	**04 03 12.5 +0.7**
GRF			*e*Pg	**Pg**	**04 03 25.7 +1.4**
GRF			*e*Sg	**Sg**	**04 04 11.0 -1.2**
CONA	**Conrad Observa**	**3.71 183**	*i* Pn	**Pn**	**04 03 12.6 +0.5**
	comp=Z,5.2nm,0.3s,SNR=15				
CONA			*e*Sg	**Sg**	**04 04 10.5 -2.1**
	comp=Z,30nm,0.5s				
STHS	**Stebnicka Huta**	**3.92 122**	*e*PN	**Pn**	**04 03 14.7 -0.1**
STHS			*e*PG	**Pg**	**04 03 27.8 -0.7**
STHS			*e*SG	**Sg**	**04 04 23.2 +3.9**
RONA	**Rosalia, Austr**	**3.94 179**	*e*Sg	**Sb**	**04 04 14.5 +2.7**
	comp=Z,17nm,0.3s				
MOA	**Molln**	**3.98 199**	*i* Pn	**Pn**	**04 03 16.2 +0.4**
	comp=Z,22nm,0.4s,SNR=12				
MOA			*i* Sg	**Sg**	**04 04 18.5 -2.8**
	comp=Z,72nm,0.6s				
SRO	**Srobarova**	**4.07 159**	*e*PN	**Pn**	**04 03 19.9 +3.1**
SRO			*e*PG	**Pg**	**04 03 31.8 +0.5**
SRO			*e*SG	**Sg**	**04 04 24.8 +0.8**
KECS	**Kecovo**	**4.20 137**	*e*PG	**Pg**	**04 03 34.9 +1.0**
KECS			*e*SG	**Sg**	**04 04 28.0 -0.3**
BIOA	**Bad Ischl, Aus**	**4.28 204**	*i* Pn	**Pn**	**04 03 20.1 +0.3**
	comp=Z,17nm,0.4s				
BIOA			*i* Sg	**Sb**	**04 04 26.2 +4.6**
	comp=Z,43nm,0.5s				
LUNU	**Lund**	**4.32 339**	*i* P	**Pn**	**04 03 18.1 -2.3**
ARSA	**Arzberg**	**4.41 186**	*i* Pn	**Pn**	**04 03 22.6 +1.1**
	comp=Z,5.0nm,0.3s,SNR=10				
ARSA			*e*Sg	**Sg**	**04 04 31.1 -3.8**
	comp=Z,63nm,0.7s				
PSZ	**Piszkesteto**	**4.43 146**	⇑P	**Pn**	**04 03 23.4 +1.5**
BLEU	**Blekinge**	**4.69 358**	P	**Pn**	**04 03 26.5 +1.2**
BLEU	**Blekinge**	**4.69 358**	*i* P	**Pn**	**04 03 25.7 +0.4**
BLEU			P	Pb	04 03 26.5 -10
KOLS	**Kolonicke sedl**	**4.75 122**	*e*PN	**Pn**	**04 03 26.5 +0.2**
KOLS			*e*PG	**Pg**	**04 03 45.9 +1.5**
LESA	**Schwarzleotal**	**4.79 210**	*i* Pn	**Pn**	**04 03 26.9 +0.1**
	comp=Z,2.3nm,0.2s				
LESA			*e*Sg	**Sb**	**04 04 41.8 +5.4**
	comp=Z,23nm,0.5s				
BJUU	**Bjuv**	**4.83 339**	P	**Pn**	**04 03 27.2 0.0**
BJUU			S	**Sn**	**04 04 21.3 -2.4**
BJUU	**Bjuv**	**4.83 339**	*i* P	**Pn**	**04 03 26.6 -0.5**
BJUU			P	Pb	04 03 27.2 -12
BJUU			S	**Sn**	**04 04 21.3 -2.4**
KBA	**Koelnbreinsper**	**4.92 203**	*i* Pn	**Pn**	**04 03 29.5 +0.8**
	comp=Z,17nm,0.5s,SNR=20				
KBA			*e*Sg	**Sg**	**04 04 48.0 -3.3**
	comp=Z,59nm,0.6s				
SOKA	**Soboth**	**5.01 189**	*i* Pn	**Pn**	**04 03 31.0 +1.1**
	comp=Z,1.5nm,0.3s,SNR=5.2				
SOKA			Sg	**Sg**	**04 04 49.6 -4.8**
	comp=Z,9.6nm,0.6s				
DEL	**Delary**	**5.03 345**	P	**Pn**	**04 03 30.5 +0.4**
DEL			S	**Sn**	**04 04 26.0 -2.9**
DEL	**Delary**	**5.03 345**	*i* P	**Pn**	**04 03 30.0 -0.1**
DEL			P	Pb	04 03 30.5 -12
DEL			S	**Sn**	**04 04 26.0 -2.9**
OBKA	**Obir**	**5.24 192**	*i* Pn	**Pn**	**04 03 33.6 +0.6**
	comp=Z,1.2nm,0.3s				
OBKA			*e*Sg	**Sg**	**04 04 57.5 -4.1**
	comp=Z,51nm,0.9s				
WATA	**Walderalm**	**5.24 217**	*i* Pn	**Pn**	**04 03 34.1 +1.0**
	comp=Z,11nm,0.6s,SNR=5.4				
WATA			*e*Sg	**Sg**	**04 05 00.2 -1.5**
	comp=Z,13nm,0.4s				
MYKA	**Terra Mystica**	**5.28 199**	*e*Sg	**Sg**	**04 04 58.0 -4.8**
	comp=Z,31nm,0.7s				
WTTA	**Wattenberg**	**5.28 216**	*i* Pn	**Pn**	**04 03 34.8 +1.1**
	comp=Z,2.0nm,0.2s,SNR=5.4				
WTTA			*e*Sg	**Sg**	**04 05 01.1 -1.8**
	comp=Z,23nm,0.6s				
VXJU	**Vaexsjoe**	**5.35 353**	P	**Pn**	**04 03 35.4 +1.0**
VXJU	**Vaexsjoe**	**5.35 353**	P	**Pn**	**04 03 35.4 +1.0**
MOTA	**Moosalm**	**5.42 220**	*i* Pn	**Pn**	**04 03 35.1 -0.4**
	comp=Z,3.7nm,0.3s				
MOTA			*e*Sg	**Sb**	**04 04 59.6 +5.1**
	comp=Z,19nm,0.7s				
ABTA	**Abfaltersbach**	**5.45 208**	*i* Pn	**Pn**	**04 03 36.7 +0.8**
	comp=Z,2.2nm,0.3s,SNR=8.0				
ABTA			*e*Sg	**Sg**	**04 05 03.9 -4.4**
	comp=Z,28nm,0.6s				
SQTA	**Sankt Quirin**	**5.48 218**	*i* Pn	**Pn**	**04 03 37.8 +1.5**
	comp=Z,5.9nm,0.3s,SNR=11				
SQTA			*i* Sg	**Sg**	**04 05 06.8 -2.4**
	comp=Z,12nm,0.4s				
OSKU	**Oskarshamn**	**5.57 360**	P	**Pn**	**04 03 38.9 +1.4**
OSKU	**Oskarshamn**	**5.57 360**	P	**Pn**	**04 03 38.9 +1.4**
MORH	**Mrgy, Hungar**	**5.66 162**	⇓P	**Pn**	**04 03 39.3 +0.6**
BYXU	**Byxelkrok**	**5.69 5**	P	**Pn**	**04 03 40.7 +1.6**
BYXU	**Byxelkrok**	**5.69 5**	P	**Pn**	**04 03 40.7 +1.6**
FABU	**Falkenberg**	**5.75 341**	P	**Pn**	**04 03 40.2 +0.3**
FABU	**Falkenberg**	**5.75 341**	*i* P	**Pn**	**04 03 40.2 +0.3**
FABU			P	**Pn**	**04 03 40.2 +0.3**
FETA	**Feichten**	**5.83 220**	*i* Pn	**Pn**	**04 03 41.3 +0.2**
	comp=Z,0.7nm,0.2s				
FETA			*e*Sg	**Sg**	**04 05 16.0 -4.5**
	comp=Z,6.9nm,0.5s				
GNOU	**Gnosjoe**	**5.84 347**	P	**Pn**	**04 03 42.0 +0.8**
GNOU	**Gnosjoe**	**5.84 347**	P	**Pn**	**04 03 42.0 +0.8**
EKSU	**Eksjoe**	**5.97 355**	P	**Pn**	**04 03 44.2 +1.2**
EKSU	**Eksjoe**	**5.97 355**	P	**Pn**	**04 03 44.2 +1.2**
DAVA	**Damuels**	**5.98 226**	*i* Pn	**Pn**	**04 03 42.9 -0.3**
	comp=Z,1.6nm,0.3s				
DAVA			Sg	**Sg**	**04 05 26.7 +1.4**
	comp=Z,22nm,0.8s				
DAVOX	**Davos/Dischmat**	**6.37 223**	Pn	**Pn**	**04 03 48.4 -0.3**
	comp=Z,1.1nm,0.3s,baz=61,slow=6.0,SNR=12				
DAVOX			Lg	Lg	04 05 33.1
	comp=Z,0.5nm,0.3s,baz=200,slow=16,SNR=3.7				
	comp=Z,2.2nm,0.3s				
DRGR		**6.46 136**	⇑P	**Pn**	**04 03 50.7 +0.8**
SIRR	**Siria**	**6.47 144**	⇑P	**Pn**	**04 03 50.4 +0.6**
MARR	**Marisel-Cluj**	**6.73 135**	⇓P	**Pn**	**04 03 54.6 +1.1**
BURAR	**Bucovina Array**	**7.12 121**	⇓P	**Pn**	**04 03 59.3 +0.5**
NACGM	**Naroch**	**7.16 59**	*e*P	**Pn**	**04 04 03.5 +4.3**
	comp=Z,2.0nm,0.9s,baz=247				
GZR	**Gura Zlata**	**7.63 142**	⇑P	**Pn**	**04 04 07.3 +1.6**
MDVR	**Moldovita**	**7.79 150**	⇓P	**Pn**	**04 04 09.3 +1.4**
KIEV	**Kiev**	**8.25 91**	⇑P	**Pn**	**04 04 13.7 -0.5**
AKASG	**Malin Array Be**	**8.26 91**	Pn	**Pn**	**04 04 13.6 -0.8**
	comp=Z,2.0nm,0.5s,baz=280,slow=12,SNR=14				
AKASG			Lg	Lg	04 06 41.7
	comp=Z,0.3nm,0.3s,baz=276,slow=29,SNR=4.2				
SORM	**Soroca**	**8.61 109**	⇑P	**Pn**	**04 04 19.9 +0.8**
HFS	**Hagfors**	**8.63 352**	Pn	**Pn**	**04 04 19.9 +0.5**
	comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=5.9				
	comp=Z,1.4nm,0.8s				
NOA	**NORSAR Array B**	**9.82 346**	Pn	**Pn**	**04 04 34.8 -1.0**
	baz=173,slow=13,SNR=2.5				
NOA			Lg	Lg	04 07 28.4
	baz=222,slow=14,SNR=3.7				
	comp=Z,0.2nm,0.6s				
FINES	**FINESS Array B**	**11.23 25**	Pn	**Pn**	**04 04 53.8 -1.2**
	comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=12				
FINES			Sn	**Sn**	**04 06 55.4 -5.8**
	comp=Z,0.3nm,0.3s,baz=198,slow=18,SNR=4.3				
	comp=Z,2.9nm,0.9s				
EKA	**Eskdalemuir Ar**	**12.09 295**	Pn	**Pn**	**04 05 03.8 -3.0**
	baz=98,slow=14				
ARCES	**ARCESS Array B**	**18.50 10**	Pn	**P**	**04 06 28.4 -2.3**
	comp=Z,0.1nm,0.3s,baz=197,slow=12,SNR=4.7				
	comp=Z,1.1nm,0.7s				
BVAR	**Borovoye Array**	**32.50 66**	P	**P**	**04 08 47.6 +2.1**
	comp=Z,0.4nm,0.5s,baz=302,slow=8.3,SNR=2.9				
	comp=Z,0.4nm,0.5s				
KURBB	**Kurchatov Arra**	**38.09 66**	P	**P**	**04 09 34.4 +0.9**
	comp=Z,0.4nm,0.7s,baz=296,slow=9.2,SNR=4.1				
	comp=Z,0.4nm,0.7s				
SONM	**Songino Array**	**54.81 56**	P	**P**	**04 11 46.7 +1.8**
	comp=Z,0.4nm,0.5s,baz=304,slow=3.3,SNR=1.3				
	comp=Z,0.4nm,0.5s				
YKA	**Yellowknife Ar**	**59.76 336**	P	**P**	**04 12 21.1 +1.6**
	comp=Z,0.3nm,0.7s,baz=33,slow=6.5,SNR=7.4				
	comp=Z,0.3nm,0.7s				

HEL 27 04:19:53.4±0.3, 67°.19N×20°.52E, h0km, ML1.4, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALU	**Saltoluokta**	**0.81**	**285**	*e*P	Pb	04 20 10.0	-0.3
ERTU	**Ertsjaerv**	**0.92**	**133**	PG	Pg	04 20 09.9	-1.0
ERTU				SB	Sg	04 20 22.5	-0.2
PAJU	**Pajala**	**1.03**	**98**	PB	Pg	04 20 12.2	-0.9
KLF	**Kolari**	**1.34**	**86**	PG	Pg	04 20 17.7	-1.4
	baz=274						
KLF				MSG		04 20 33.8	
	comp=Z,2.0nm,0.2s						
KLF				SN	Sn	04 20 38.7	+0.8
HEF	**Hetta**	**1.71**	**43**	*e*P	Pn	04 20 24.2	-0.3
HEF	**Hetta**	**1.71**	**43**	PG	Pn	04 20 24.1	-0.3
HEF				MSG		04 20 44.5	
	comp=Z,2.4nm,0.2s						
HEF				SN	Sb	04 20 47.5	-0.2
KALU	**Kalix**	**1.75**	**138**	PG	Pn	04 20 25.3	+0.3
	baz=318						
KALU				SN	Sg	04 20 49.3	-0.3
KIF	**Kilpisjarvi**	**1.83**	**3**	PG	Pb	04 20 27.3	-0.4
KIF				MSG		04 20 49.1	
	comp=Z,3.3nm,0.2s						
TOF	**Tornio**	**1.88**	**124**	PG	Pn	04 20 27.4	+0.7
TOF				MSG		04 20 49.4	
	comp=Z,1.5nm,0.2s						
TOF				SG	Sb	04 20 51.8	-0.7
RNF	**Rovaniemi**	**2.24**	**102**	PG	Pb	04 20 33.3	-1.4
RNF				SG	Sb	04 21 02.6	-0.4
TRO	**Tromso**	**2.53**	**347**	PG	Pb	04 20 37.9	-1.7
BURU	**Burvik**	**2.64**	**172**	PB	Pn	04 20 38.4	+1.3
RANF	**Ranua**	**2.77**	**112**	PG	Pb	04 20 42.1	-1.5
	baz=298						
ARA0	**ARCESS Array S**	**3.00**	**36**	PB	Pn	04 20 43.1	+1.0
UMAU	**Umeaa**	**3.32**	**179**	PB	Pn	04 20 48.8	+2.4

RSNC 27 04:33:58.4±0.0, 5°N±1°×7°3W±°, h0km±2km, M2.6, mb3.7, mB4.5, ML2.4, Mw(mB)3.7, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.82**	**319**	P	Pg	04 34 11.2	-3.0
RUSC				S	Sg	04 34 22.4	-2.5
PTGC	**Puerto Gaitan,**	**1.14**	**159**	P	Pg	04 34 18.3	-2.0
PTGC				S	Sg	04 34 35.1	+0.1
CHIC	**Chingaza**	**1.35**	**242**	P	Pg	04 34 21.7	-2.6
CHIC				S	Sg	04 34 41.9	+0.1
TAMC	**Tame, Arauca**	**1.38**	**33**	P	Pg	04 34 22.9	-1.9
TAMC				S	Sg	04 34 42.2	-0.5
BARC	**Barichara**	**1.46**	**334**	P	Pn	04 34 22.6	-3.7
BARC				S	Sg	04 34 44.6	-0.8
CVER	**Cruz Verde, Cu**	**1.70**	**244**	P	Pn	04 34 29.2	-0.6
CVER				S	Sg	04 34 55.7	+2.6
ROSC	**El Rosal**	**1.82**	**257**	P	Pn	04 34 30.8	-0.6
ROSC				S	Sg	04 34 59.9	+2.8
PAMC	**Pamplona, Colo**	**2.06**	**356**	P	Pn	04 34 33.0	-1.8
PAMC				S	Sn	04 35 00.7	-0.7
BRJC	**Barrancabermej**	**2.07**	**325**	P	Pn	04 34 32.7	-1.8
BRJC				S	Sn	04 35 00.9	-0.1
PTBC	**PUERTO BERRIO,**	**2.29**	**304**	P	Pn	04 34 35.5	-1.9
PTBC				S	Sn	04 35 07.3	+1.0
NORC	**Norcasia**	**2.34**	**277**	P	Pn	04 34 37.8	-0.4
NORC				S	Sn	04 35 09.2	+1.5
GUVC	**San Jose del G**	**2.71**	**182**	P	Pn	04 34 40.8	-2.5
GUVC				S	Sn	04 35 15.5	-1.3
URMC	**La Uribe, Meta**	**2.72**	**222**	P	Pn	04 34 42.7	-0.8
URMC				S	Sn	04 35 19.4	+2.2
PRAC	**Prado**	**2.80**	**237**	P	Pn	04 34 43.3	-1.3
PRAC				S	Sn	04 35 21.6	+2.4
GUY2C	**Guyana, Caldas**	**2.81**	**269**	P	Pn	04 34 45.0	-0.1
GUY2C				S	Sn	04 35 21.6	+1.6
OCAC	**Ocana**	**3.05**	**345**	P	Pn	04 34 47.1	-1.0
OCAC				S	Sn	04 35 27.4	+2.0
ZARC	**Zaragoza, Cauc**	**3.19**	**314**	P	Pn	04 34 46.3	-3.6
ZARC				S	Sn	04 35 29.3	+0.6
MACC	**Macarena, Meta**	**3.37**	**203**	P	Pn	04 34 50.0	-2.3
MACC				S	Sn	04 35 30.8	-2.3
CBOC	**Ciudad Bolivar**	**3.51**	**280**	P	Pn	04 34 54.6	+0.2
UREC	**San Jos de Ur**	**3.86**	**310**	P	Pn	04 34 56.3	-2.8
UREC				S	Sn	04 35 45.0	-0.3
YOTC	**Yotoco, Valle**	**4.00**	**252**	P	Pn	04 34 58.4	-2.8
GARC	**Garzon, Huila**	**4.25**	**224**	P	Pn	04 35 02.8	-1.9
GARC				S	Sn	04 35 55.1	-0.1
FLOC	**Florencia**	**4.80**	**220**	P	Pn	04 35 10.0	-2.1
POPC	**Popayan, Colom**	**4.94**	**237**	P	Pn	04 35 11.6	-2.5
SJCC	**San Jacinto, C**	**5.29**	**331**	P	Pn	04 35 16.3	-2.5
	8.4nm,1.2s						
CRJC	**Cerrejon, Guaj**	**5.72**	**357**	P	Pn	04 35 20.5	-4.3
	13nm,1.4s						
CRJC				S	Sn	04 36 26.2	-5.1
	13nm,1.4s						
URIC	**Uribia, Colomb**	**6.41**	**5**	P	Pn	04 35 28.4	-5.8
URIC				S	Sn	04 36 40.2	-8.0

*NEIC **27** 04:44:21, 67°.26N×154°.00W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.00; $M_{\theta\theta}$-0.60; $M_{\phi\phi}$0.60; $M_{r\theta}$0.18; $M_{\theta\phi}$-0.72; $M_{r\phi}$0.51; Fault plane solution: $M_0$1.08000×10^{14} NP1:ϕ_s200.00000°, δ90.00000°, λ-30.00000°. NP2:ϕ_s290.00000°, δ60.00000°, λ-180.00000°. Principal axes: T 1.0835, Plg21.0000°, Azm249.0000°; N -0.0002, Plg60.0000°, Azm20.0000°; P -1.0834, Plg21.0000°, Azm151.0000°;*

*AEIC **27** 04:44:21.3±2.1, 67°.26N±0°.04×154°.07W±0°.10, h0km±7km, ML3.5, ML3.5/168(NEIC), Mwr3.3/35(SLM) Error ellipse: s-maj=6.1km s-min=5.1km az=220.0*

*NEIC **27** 04:44:22.0±1.3, 67°.23N±0°.02×153°.82W±0°.07, h10km±2km, Error ellipse: s-maj=5.9km s-min=3.0km az=131.0*

*IDC **27** 04:44:24.2±2.7, 67°.15N×153°.64W, h0km, mb3.4/2, mbtmp3.3/6, ML3.4/4, Error ellipse: s-maj=36.6km s-min=22.5km az=70.0*

ISC 27 04:44:21.8±0.7, 67°.26N±0°.03×153°.86W±0°.03, h10km, n82, σ1§24/58, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F21K	**Alatna River**	**0.15**	**104**		**Pg**	**04 44 23.9**	**-1.2**
F21K				Sg	**Sg**	**04 44 26.1**	**-1.4**
G21K	**Allakaket**	**0.76**	**169**		**Pg**	**04 44 35.5**	**-0.9**
G21K				Sg	**Sg**	**04 44 45.1**	**-1.1**
G21K				IAML		04 44 46.2	
	comp=E,2μm,0.5s						
F20K	**Avaraart Lake**	**0.76**	**255**		**Pg**	**04 44 34.9**	**-1.5**
E22K	**Anaktuvuk Pass**	**1.18**	**41**		**Pb**	**04 44 42.4**	**-1.9**
E22K				IAML		04 45 05.8	
	comp=N,647nm,0.4s						
E21K	**Killik River**	**1.19**	**358**		**Pb**	**04 44 42.9**	**-1.5**
E19K	**Redstone River**	**1.32**	**280**		**Pn**	**04 44 45.2**	**-1.1**
E19K				IAML		04 45 08.1	
	comp=N,1μm,0.3s						
E19K				IAML		04 45 08.5	
	comp=E,1μm,0.4s						
COLD	**Coldfoot**	**1.42**	**90**		**Pn**	**04 44 46.6**	**-1.0**
COLD				IAML		04 45 09.9	
	comp=N,767nm,0.3s						
F19K	**Shaleruckik Mo**	**1.59**	**256**		**Pn**	**04 44 49.3**	**-0.7**
G23K	**Bananza Creek**	**1.60**	**108**		**Pn**	**04 44 49.9**	**-0.3**
G23K				IAML		04 45 14.3	
	comp=E,613nm,0.5s						
H21K	**Melozitna River**	**1.66**	**165**		**Pb**	**04 44 51.1**	**-1.3**
H21K				IAML		04 45 15.8	
	comp=E,453nm,0.4s						
D22K	**Ayikyak River**	**1.69**	**15**		**Pg**	**04 44 52.5**	**-1.6**
G19K	**Purcell Mounta**	**1.70**	**230**		**Pn**	**04 44 50.8**	**-0.7**
G19K				IAML		04 45 19.0	
	comp=E,604nm,0.8s						
D20K	**Etivluk River**	**1.79**	**326**		**Pb**	**04 44 53.8**	**-1.0**
D20K				IAML		04 45 25.0	
	comp=N,320nm,0.5s						
E23K	**Chandalar**	**1.81**	**62**		**Pb**	**04 44 53.5**	**-1.5**
H19K	**Roundabout Mou**	**2.03**	**212**		**Pn**	**04 44 55.6**	**-0.3**
H19K				IAML		04 45 26.5	
	comp=E,449nm,0.9s						
D19K	**Kuna River**	**2.04**	**310**		**Pb**	**04 44 57.1**	**-1.8**
D19K				IAML		04 45 36.2	
	comp=N,288nm,1.0s						
D19K				IAML		04 45 36.3	
	comp=E,302nm,0.9s						
D23K	**Nanushuk River**	**2.09**	**33**		**Pb**	**04 44 58.1**	**-1.6**
TOLK	**Toolik Lake Re**	**2.13**	**47**		**Pb**	**04 44 58.5**	**-1.9**
E24K	**Your Creek**	**2.21**	**66**		**Pb**	**04 44 59.6**	**-2.2**
E24K				IAML		04 45 34.1	
	comp=N,318nm,0.8s						
E24K				IAML		04 45 35.8	
	comp=E,312nm,0.7s						
I21K	**Tanana**	**2.22**	**159**	IAML		04 45 37.8	
	comp=N,193nm,0.8s						
H23K	**Yukon River**	**2.25**	**128**	IAML		04 45 34.5	
	comp=E,270nm,0.3s						
H23K				IAML		04 45 35.6	
	comp=N,264nm,0.7s						
F24K	**Squaw Lake**	**2.32**	**81**	IAML		04 45 36.1	
	comp=N,289nm,0.7s						
F24K				IAML		04 45 42.8	
	comp=E,318nm,0.4s						
B21K	**Ikpikpuk River**	**2.39**	**354**		**Pn**	**04 45 01.4**	**+0.5**
B21K				IAML		04 45 39.5	
	comp=E,270nm,0.8s						
G24K	**Hadweenzic Riv**	**2.57**	**100**		**Pn**	**04 45 03.1**	**-0.4**
G24K				IAML		04 45 48.6	
	comp=E,226nm,0.8s						
E18K	**Tukpahlearik C**	**2.62**	**277**		**Pn**	**04 45 05.3**	**+1.3**
E18K				IAML		04 45 51.6	
	comp=N,202nm,0.6s						
H24K	**Noodor Dome**	**2.78**	**118**	IAML		04 45 54.6	
	comp=N,119nm,0.4s						
H24K				IAML		04 45 56.0	
	comp=E,123nm,0.6s						
H18K	**Honhosa River**	**2.79**	**223**		**Pn**	**04 45 06.3**	**-0.2**
I23K	**Minto, Yukon-K**	**2.79**	**137**	IAML		04 45 59.8	
	comp=E,118nm,0.9s						
C23K	**Itkillik River**	**2.85**	**23**		**Pn**	**04 45 08.3**	**+1.1**
C23K				IAML		04 46 03.4	
	comp=E,197nm,0.8s						
B20K	**Meade River**	**3.02**	**338**		**Pn**	**04 45 09.7**	**+0.1**
B20K				IAML		04 46 09.8	
	comp=N,146nm,1.2s						
B20K				IAML		04 46 10.2	
	comp=E,130nm,0.8s						
F17K	**Baldwin Pennin**	**3.03**	**258**		**Pn**	**04 45 09.5**	**-0.2**
F17K				IAML		04 46 01.1	
	comp=E,158nm,0.8s		

HDA	**Harding Lake**	**4.03 132**	IAML			04 46 12.4	
	comp=E,43nm,0.5s						
HDA			IAML			04 46 30.2	
	comp=N,42nm,0.4s						
MCK	**McKinley**	**4.09 148**		**Pn**		**04 45 24.8**	**+0.5**
J25K	**Salcha River,**	**4.37 123**	IAML			04 46 21.3	
	comp=E,33nm,0.5s						
J25K			IAML			04 46 21.4	
	comp=N,31nm,0.5s						
RND	**Reindeer**	**4.40 149**		**Pn**		**04 45 29.6**	**+1.0**
I17K	**Unalakleet**	**4.42 223**		**Pn**		**04 45 28.9**	**+0.1**
I17K			IAML			04 46 43.3	
	comp=E,53nm,0.8s						
I17K			IAML			04 46 49.8	
	comp=N,44nm,0.8s						
C27K	**Jago River**	**4.43 53**	IAML			04 46 54.8	
	comp=N,37nm,1.1s						
PPLA	**Purkeypile**	**4.44 170**	IAML			04 46 56.3	
	comp=E,38nm,1.3s						
PPLA			IAML			04 46 57.1	
	comp=N,37nm,1.0s						
J17K	**VABM Dome**	**4.45 212**	IAML			04 46 53.1	
	comp=E,37nm,0.7s						
J17K			IAML			04 47 00.3	
	comp=N,34nm,0.9s						
C16K	**Lisburne Hills**	**4.48 288**		**Pn**		**04 45 30.1**	**+0.4**
C16K			IAML			04 46 49.8	
	comp=E,38nm,1.6s						
C16K			IAML			04 46 50.9	
	comp=N,35nm,1.6s						
F15K	**North Star Dit**	**4.59 255**		**Pn**		**04 45 31.6**	**+0.3**
E27K	**Coleen River**	**4.76 73**	IAML			04 47 07.0	
	comp=E,28nm,1.1s						
G27K	**Doyon Strip**	**4.80 90**	IAML			04 46 59.6	
	comp=N,36nm,0.8s						
G27K			IAML			04 47 01.4	
	comp=E,36nm,1.1s						
J16K	**Anvik River**	**4.89 219**		**Pn**		**04 45 35.2**	**0.0**
J16K			IAML			04 47 05.0	
	comp=E,32nm,1.1s						
J16K			IAML			04 47 13.3	
	comp=N,26nm,0.8s						
H27K	**Steamboat Moun**	**5.00 96**	IAML			04 47 14.3	
	comp=N,33nm,1.0s						
J26L	**Joseph Creek**	**5.05 118**	IAML			04 47 04.0	
	comp=N,30nm,0.7s						
J26L			IAML			04 47 05.2	
	comp=E,24nm,0.6s						
L19K	**White Mountain**	**5.12 185**	IAML			04 47 08.8	
	comp=N,22nm,0.8s						
L19K			IAML			04 47 20.4	
	comp=E,25nm,1.0s						
RIDG	**Independent Ri**	**5.15 129**	IAML			04 47 21.4	
	comp=N,19nm,0.9s						
RIDG			IAML			04 47 24.9	
	comp=E,28nm,1.3s						
D27M	**Malcolm River**	**5.19 62**	IAML			04 47 16.3	
	comp=E,19nm,1.1s						
D27M			IAML			04 47 16.6	
	comp=N,26nm,1.0s						
L18K	**Granite Mounta**	**5.20 195**	IAML			04 47 08.2	
	comp=N,28nm,1.6s						
L18K			IAML			04 47 13.1	
	comp=E,26nm,1.4s						
SCRK	**Sand Creek**	**5.25 124**	IAML			04 46 42.4	
	comp=E,18nm,0.5s						
SCRK			IAML			04 47 13.2	
	comp=N,17nm,1.1s						
M19K	**Big River Lodg**	**5.38 183**	IAML			04 46 24.3	
	comp=N,19nm,0.3s						
M19K			IAML			04 47 17.8	
	comp=E,26nm,0.8s						
ANM	**Nome**	**5.43 246**	IAML			04 46 46.2	
	comp=E,16nm,0.6s						
BCAR	**Beaver Creek A**	**6.59 124**		**Pn**		**04 45 58.6**	**0.0**
INK	**Inuvik**	**7.77 73**	Pn	**Pn**		**04 46 16.1**	**+1.5**
	comp=E,0.2nm,0.3s,baz=275,slow=11,SNR=16						
INK			Sn	**Sn**		**04 47 40.0**	**-2.5**
	comp=E,0.2nm,0.3s,baz=53,slow=19,SNR=1.7						
	comp=E,0.7nm,0.4s						
YKA	**Yellowknife Ar**	**17.10 87**	P	**P**		**04 48 21.9**	**-0.3**
	comp=E,0.1nm,0.3s,baz=306,slow=12,SNR=5.7						
	comp=E,0.4nm,0.7s						
RES	**Resolute Bay**	**19.70 42**	P	**Pn**		**04 48 56.6**	**+4.5**
	comp=E,0.1nm,0.3s,baz=270,slow=9.5,SNR=5.7						
	comp=E,0.5nm,0.5s						
PDAR	**Pinedale Array**	**34.08 113**	P	**P**		**04 51 08.1**	**+1.8**
	comp=E,0.3nm,0.6s,baz=342,slow=5.8,SNR=4.1						
	comp=E,0.3nm,0.6s						
TXAR	**Lajitas Array**	**48.21 116**	P	**P**		**04 53 04.6**	**+2.3**
	comp=E,0.4nm,0.7s,baz=336,slow=5.9,SNR=5.3						
	comp=E,0.4nm,0.7s						

*NEIC **27** 04:45:31.5±1.8, 19°.95N±0°.01×155°.34W±0°.01, h10km±1km, Error ellipse: s-maj=3.0km s-min=1.9km az=23.0*

HVO 27 04:45:31.6±1.6, 19°.981N±0°.010×155°.33W±0°.01, h12km±3km, ML2.4/20, ML2.5/41(NEIC), Error ellipse: s-maj=2.4km s-min=0.5km az=52.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.30**	**221**	Pg	Pg	04 45 37.2	-0.6
POHA				Sg	Sg	04 45 41.5	-0.5
HPAH	**Hawaii Prepara**	**0.35**	**278**	Pg	Pg	04 45 38.2	-0.6
HPAH				Sg	Sg	04 45 43.2	-0.4
HPAH				IAML		04 45 43.5	
	comp=N,424nm,0.1s						
HMH	**Humu'ula Sheep**	**0.41**	**202**		Pg	04 45 39.5	-0.3
HMH				Sg	Sg	04 45 45.4	+0.2
MLH	**Mauna Loa**	**0.49**	**187**		Pg	04 45 40.5	-0.8
MLH				Sg	Sg	04 45 47.0	-0.8
MLH				IAML		04 45 49.4	
	comp=N,327nm,0.1s						
MLOA	**Mauna Loa Obse**	**0.50**	**208**		Pg	04 45 41.2	-0.4
MLOA	**Mauna Loa Obse**	**0.50**	**208**		Sg	04 45 48.4	+0.1
MLOA	**Mauna Loa Obse**	**0.50**	**208**	IAML		04 45 48.2	
	comp=N,34nm,0.8s						
RSD	**Rainshed**	**0.52**	**175**		Sg	04 45 48.7	0.0
ALEP	**Alea Permanent**	**0.53**	**215**		Pg	04 45 41.4	-0.7
ALEP					Sg	04 45 48.8	-0.5
SBLHI	**Steaming Bluff**	**0.55**	**174**		Pg	04 45 41.0	-1.4
SBLHI					Sg	04 45 49.3	-0.5
UWB	**Uwekahuna Bluf**	**0.56**	**175**		Pg	04 45 41.2	-1.4
UWB					Sg	04 45 48.7	-1.2
MWH	**Mokuaweoweo**	**0.56**	**207**		Pg	04 45 41.6	-1.0
MWH				IAML		04 45 51.8	
	comp=E,272nm,0.3s						
MWH				IAML		04 45 60.0	
	comp=N,246nm,0.9s						
UWE	**Uwekahuna**	**0.56**	**177**		Pg	04 45 41.2	-1.3
HATHI	**Halema'uma'u T**	**0.56**	**174**		Pg	04 45 41.1	-1.4
HATHI				IAML		04 46 01.9	
	comp=N,295nm,0.8s						
HATHI				IAML		04 46 02.0	
	comp=E,296nm,0.6s						
OBL	**Observatory Le**	**0.56**	**176**		Pg	04 45 41.2	-1.4
OBL					Sg	04 45 49.1	-1.0
HUH	**Hualalai**	**0.56**	**239**		Pg	04 45 42.0	-0.7
HUH				IAML		04 45 53.9	
	comp=N,364nm,0.2s						
HUH	**Hualalai**	**0.56**	**239**		Sg	04 45 50.3	+0.1
BYL	**Byron's Ledge**	**0.57**	**174**		Pg	04 45 41.3	-1.5
BYL				IAML		04 46 00.2	
	comp=N,224nm,2.5s						
BYL				IAML		04 46 03.0	
	comp=E,211nm,0.7s						
WRMHI	**West Rim**	**0.57**	**178**		Pg	04 45 41.3	-1.5
WRMHI					Sg	04 45 48.7	-1.8
KKO	**Keanakako'i**	**0.58**	**175**		Pg	04 45 41.5	-1.5
KKO					Sg	04 45 50.2	-0.5
RIM	**Rim**	**0.58**	**175**		Pg	04 45 41.6	-1.5
SDHHI	**Sand Hill**	**0.59**	**177**		Pg	04 45 41.6	-1.6
PUH	**Pauahi**	**0.61**	**170**		Pg	04 45 41.9	-1.7
PUH					Sg	04 45 49.3	-2.5
PUH	**Pauahi**	**0.61**	**170**	IAML		04 45 50.9	
	comp=E,199nm,0.2s						
PUH				IAML		04 46 01.5	
	comp=N,297nm,0.5s						
KNHH	**Kane Nui o Ham**	**0.62**	**166**		Pg	04 45 42.0	-1.7
NPOC	**North of Pu'u**	**0.62**	**161**		Pg	04 45 42.0	-1.7
NPOC					Sg	04 45 49.8	-2.1
STCH	**Steam Cracks**	**0.62**	**162**		Pg	04 45 42.0	-1.8
STCH					Sg	04 45 49.9	-2.1
JOKA	**Jonika Flow**	**0.62**	**151**		Sg	04 45 50.0	-2.0
JOKA	**Jonika Flow**	**0.62**	**151**		Pg	04 45 42.1	-1.7
JOKA				IAML		04 46 03.3	
	comp=E,186nm,0.8s						
JOKA				IAML		04 46 04.6	
	comp=N,297nm,0.7s						
JCUZ	**Jacuzzi**	**0.63**	**160**		Pg	04 45 42.1	-1.8
JCUZ					Pn	04 45 50.0	+3.6
HLP	**Hilina Pali**	**0.68**	**179**		Pg	04 45 42.8	-2.1
HLP					Sg	04 45 51.7	-2.2
KHU	**Kahuku**	**0.78**	**201**		Pg	04 45 44.4	-2.4
KHU				IAML		04 45 54.1	
	comp=N,191nm,2.5s						
KHU	**Kahuku**	**0.78**	**201**		Pn	04 45 53.6	+4.9
HLK	**Haleakala**	**1.16**	**312**		Pb	04 45 49.6	-4.1
HLK					Sb	04 46 03.3	-5.6
HLK	**Haleakala**	**1.16**	**312**	IAML		04 46 10.9	
	comp=N,135nm,3.5s						

*IDC **27** 04:46:06.9±0.6, 9°.58N×126°.44E, h0km, mb4.1/21, mbtmp4.0/21, MS3.6/31, Error ellipse: s-maj=29.4km s-min=14.9km az=73.0*

*NEIC **27** 04:46:09.6±1.7, 9°.69N±0°.05×126°.2E±0°.1, h10km±1km, mb4.6/44, Error ellipse: s-maj=22.6km s-min=4.4km az=252.0*

ISC 27 04:46:13.5±0.5, 9°.65N±0°.05×126°.4E±0°.1, h43km, n92, σ1.13/56, mb4.5/43, MS3.6/26, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.70**	**198**	Pn	**Pn**	**04 46 53.7**	**-0.8**
DAV	**Davao City (W)**	**2.70**	**198**	Pn	**Pn**	**04 46 55.5**	**+1.0**
DAV				Sn	**Sn**	**04 47 28.1**	**+2.2**
	104nm,0.3s,baz=248,slow=21,SNR=4.4						
DAV				LR	LR	04 48 06.1	
	comp=Z,2μm,20.3s,baz=1.5,slow=45						
DAV	**Davao City (W)**	**2.70**	**198**	P	**Pn**	**04 46 58.0**	**+3.6**
TGY	**Tagaytay City**	**6.96**	**310**	LR	LR	04 50 58.4	
	comp=Z,704nm,18.5s,baz=132,slow=42						
FAKI	**Fak Fak**	**13.76**	**155**		**Pn**	**04 49 25.9**	**-0.3**
KAPI	**Kappang**	**16.01**	**205**	LR	LR	04 56 37.6	
	comp=Z,122nm,19.8s,baz=65,slow=40						
GUMO	**Guam**	**18.48**	**76**	LR	LR	04 57 52.9	
	comp=Z,239nm,19.0s,baz=329,slow=38						
JAY	**Jayapura**	**18.66**	**130**	LR	LR	04 57 04.4	
	comp=Z,311nm,18.5s,baz=335,slow=35						
SOEI	**Soe**	**19.39**	**186**	P	**Pn**	**04 50 37.4**	**-0.2**
MTN	**Manton Dam**	**22.83**	**168**		**P**	**04 51 12.2**	**-0.9**
MTN				IAmb	IAmb	04 51 14.6	
	comp=Z,19nm,1.0s						
JCJ	**Chichijima**	**22.86**	**39**	LR	LR	05 00 42.5	
	comp=Z,118nm,18.8s,baz=166,slow=38						
JNU	**Nakatsue**	**23.72**	**9**	LR	LR	05 02 46.2	
	comp=Z,74nm,18.0s,baz=182,slow=42						
MYKOM	**Kota Tinggi**	**23.77**	**252**		**P**	**04 51 21.4**	**-1.0**
MYKOM				IAmb	IAmb	04 51 25.3	
	comp=Z,18nm,1.0s						
KNRA	**Kununurra**	**25.27**	**175**	P	**P**	**04 51 37.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**27.58**	**182**		**P**	**04 51 56.4**	**-0.4**
KSRS	**Korea Array**	**27.72**	**3**	P	**P**	**04 51 58.0**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=174,slow=11,SNR=4.6						
KSRS				LR	LR	05 04 54.9	
	comp=Z,114nm,18.7s,baz=180,slow=41						
	comp=Z,0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**28.03**	**291**	P	**P**	**04 52 00.3**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=105,slow=7.7,SNR=5.3						
CMAR				LR	LR	05 04 50.5	
	comp=Z,129nm,18.3s,baz=120,slow=40						
	comp=Z,1.6nm,0.3s						
PSI	**Prapat**	**28.16**	**258**	LR	LR	05 04 54.7	
	comp=Z,118nm,18.7s,baz=82,slow=40						
MJAR	**Matsushiro Arr**	**28.83**	**20**	LR	LR	05 04 05.8	
	comp=Z,119nm,18.6s,baz=161,slow=37						
WRA	**Warramunga Arr**	**30.42**	**165**	P	**P**	**04 52 21.7**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=346,slow=8.4,SNR=3.8						
	comp=Z,1.2nm,0.9s						
ASAR	**Alice Springs**	**33.91**	**168**	P	**P**	**04 52 53.1**	**+0.5**
ASAR	**Alice Springs**	**33.91**	**168**	P	**P**	**04 52 50.4**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=355,slow=7.3,SNR=7.5						
ASAR				LR	LR	05 08 41.4	
	comp=Z,86nm,19.2s,baz=62,slow=40						
	comp=Z,0.4nm,0.3s						
USRK	**Ussuriysk Ar.**	**34.76**	**7**	P	**P**	**04 52 59.3**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=194,slow=11,SNR=2.1						
	comp=Z,1.0nm,0.6s						
HNR	**Honiara**	**38.37**	**119**	LR	LR	05 09 42.5	
	comp=Z,31nm,19.2s,baz=316,slow=37						
KLR	**Kul'dur**	**39.71**	**5**	LR	LR	05 11 18.9	
	comp=Z,59nm,19.0s,baz=216,slow=38						
MORW	**Morawa**	**39.77**	**194**	P	**P**	**04 53 41.6**	**-0.8**
MORW				IAmb	IAmb	04 53 55.9	
	comp=Z,14nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**39.95**	**73**	T	T	05 36 48.1	
	baz=274,SNR=15						
H11S1	**WAKE ISLAND Hy**	**39.96**	**73**	T	T	05 36 42.5	
	baz=274,SNR=11						
H11S2	**WAKE ISLAND Hy**	**39.97**	**73**	T	T	05 36 43.0	
	baz=274,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**40.30**	**71**	T	T	05 37 19.9	
	baz=266,slow=74,SNR=21						
H11N2	**WAKE ISLAND Hy**	**40.31**	**71**	T	T	05 37 22.2	
	baz=266,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**40.32**	**71**	T	T	05 37 26.9	
	baz=266,slow=74,SNR=18						
SONM	**Songino Array**	**41.65**	**340**	P	**P**	**04 53 58.5**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=155,slow=9.7,SNR=5.2						
	comp=Z,0.5nm,0.4s						
BBOO	**Buckleboo**	**43.21**	**168**	P	**P**	**04 54 09.6**	**-0.9**
BBOO				IAmb	IAmb	04 54 21.3	
	comp=Z,14nm,1.0s						
STKA	**Stephens Creek**	**43.77**	**161**	P	**P**	**04 54 13.5**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=344,slow=5.6,SNR=5.3						
STKA				LR	LR	05 14 21.0	
	comp=Z,50nm,20.2s,baz=125,slow=39						
	comp=Z,0.9nm,0.3s						
PEA0B	**Petropavlovsk-**	**50.14**	**24**	P	**P**	**04 55 05.1**	**+0.6**
PETK	**Petropavlovsk-**	**50.14**	**24**	P	**P**	**04 55 04.5**	**0.0**
	comp=Z,1.0nm,0.6s,baz=206,slow=3.9,SNR=7.8						
PETK				LR	LR	05 17 09.3	
	comp=Z,69nm,18.8s,baz=211,slow=37						
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**52.62**	**323**	P	**P**	**04 55 23.5**	**+0.2**
MKAR	**Makanchi Array**	**52.62**	**323**	P	**P**	**04 55 22.9**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=108,slow=7.1,SNR=10						
MKAR				LR	LR	05 21 22.3	
	comp=Z,58nm,18.8s,baz=144,slow=40						
	comp=Z,1.2nm,0.6s						
MA2	**Magadan**	**53.09**	**15**	LR	LR	05 18 32.3	
	comp=Z,32nm,19.4s,baz=247,slow=37						
ZALV	**Zalesovo Beam**	**55.24**	**331**	P	**P**	**04 55 41.6**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=131,slow=5.9,SNR=2.2						
	comp=Z,0.6nm,0.3s						
AAK	**Ala-Archa**	**55.88**	**315**	LR	LR	05 21 40.8	
	comp=Z,66nm,18.8s,baz=83,slow=38						
KURK	**Kurchatov**	**56.67**	**326**		**P**	**04 55 50.7**	**-1.8**
KURBB	**Kurchatov Arra**	**56.67**	**326**	P	**P**	**04 55 52.6**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=122,slow=7.5,SNR=14						
	comp=Z,0.7nm,0.4s						
KKAR	**Karatay Array**	**58.80**	**315**	P	**P**	**04 56 07.6**	**-0.1**
BVAR	**Borovoye Array**	**62.27**	**326**	P	**P**	**04 56 31.4**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=120,slow=8.5,SNR=3.7						
BVAR				LR	LR	05 22 55.1	
	comp=Z,51nm,21.6s,baz=116,slow=35						
	comp=Z,0.8nm,0.5s						
NRIK	**Noril'sk**	**64.65**	**346**		**P**	**04 56 47.1**	**+0.6**
NRIK	**Noril'sk**	**64.65**	**346**	P	**P**	**04 56 47.1**	**+0.6**
	comp=Z,3.6nm,0.7s,baz=129,slow=6.0,SNR=9.0						
	comp=Z,3.6nm,0.7s						
URZ	**Urewera**	**67.09**	**139**	LR	LR	05 25 48.5	
	comp=Z,67nm,20.8s,baz=300,slow=36						
AB31	**Akbulak array**	**67.45**	**319**		**P**	**04 57 04.1**	**-0.8**
ABKAR	**Akbulak array**	**67.45**	**319**		**P**	**04 57 03.8**	**-1.0**
AKTO	**Aktyubinsk**	**68.90**	**320**	LR	LR	05 30 54.7	
	comp=Z,94nm,18.4s,baz=10,slow=39						
L14K	**Kuka Creek**	**72.45**	**29**		**P**	**04 57 37.4**	**+2.0**
O16K	**Kokwok River B**	**74.39**	**31**	P	**P**	**04 57 46.8**	**0.0**
O16K				IAmb	IAmb	04 58 01.0	
	comp=Z,9.3nm,1.1s						
E18K	**Tukpahlearik C**	**74.63**	**23**		**P**	**04 57 48.4**	**+0.4**
E18K				IAmb	IAmb	04 58 02.2	
	comp=Z,6.6nm,1.2s						
N17K	**Nushagak Hills**	**74.96**	**30**	P	**P**	**04 57 50.4**	**+0.4**
N17K				IAmb	IAmb	04 58 05.6	
	comp=Z,11nm,1.3s						
D19K	**Kuna River**	**75.75**	**22**	IAmb	IAmb	04 58 08.4	
	comp=Z,7.0nm,1.2s						
O18K	**Koktuh Hills**	**75.87**	**31**	P	**P**	**04 57 57.1**	**+1.8**
D20K	**Etivluk River**	**76.33**	**21**	P	**P**	**04 57 59.0**	**+1.1**
D20K				IAmb	IAmb	04 58 12.4	
	comp=Z,7.5nm,1.1s						
KDAK	**Kodiak Island**	**77.09**	**33**	LR	LR	05 28 40.1	
	comp=Z,30nm,20.9s,baz=77,slow=33						
B21K	**Ikpikpuk River**	**77.17**	**21**	IAmb	IAmb	04 58 04.8	
	comp=Z,6.1nm,1.2s						
GNI	**Garni**	**77.52**	**309**	LR	LR	05 36 15.1	
	comp=Z,26nm,18.5s,baz=110,slow=39						
BPAW	**Bear Paw Mtn.**	**78.14**	**26**	IAmb	IAmb	04 58 21.7	
	comp=Z,5.8nm,1.1s						
C23K	**Itkillik River**	**78.58**	**21**	IAmb	IAmb	04 58 53.3	
	comp=Z,9.2nm,1.4s						
MCK	**McKinley**	**79.04**	**27**	IAmb	IAmb	04 58 26.3	
	comp=Z,5.2nm,1.0s						
D24K	**Happy Valley**	**79.18**	**21**	P	**P**	**04 58 15.1**	**+1.5**
D24K				IAmb	IAmb	04 58 28.2	
	comp=Z,8.9nm,1.3s						
PWL	**Port Wells**	**79.32**	**30**	IAmb	IAmb	04 58 28.0	
	comp=Z,8.6nm,1.0s						
F24K	**Squaw Lake**	**79.50**	**23**	IAmb	IAmb	04 58 32.3	
	comp=Z,8.2nm,1.4s						
ILAR	**Eielson Array**	**79.93**	**26**	P	**P**	**04 58 16.4**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=244,slow=4.5,SNR=9.3						
	comp=Z,0.3nm,0.6s						
K27K	**Chicken**	**82.06**	**26**	P	**P**	**04 58 30.5**	**+1.4**
K27K				IAmb	IAmb	04 58 44.8	
	comp=Z,6.9nm,1.1s						
E28M	**Babbage River**	**82.56**	**22**	IAmb	IAmb	04 58 46.4	
	comp=Z,5.4nm,1.3s						
I30M	**Mount Dempster**	**84.32**	**25**	IAmb	IAmb	04 58 55.8	
	comp=Z,4.0nm,1.0s						
ASF	**Jabal al Asfar**	**84.55**	**302**	LR	LR	05 39 56.6	
	comp=Z,27nm,19.2s,baz=142,slow=38						
HYT	**Haines Junctio**	**84.60**	**29**	P	**P**	**04 58 43.8**	**+1.3**
HYT				IAmb	IAmb	04 58 57.7	
	comp=Z,5.2nm,1.0s						
SPITS	**Spitsbergen Ar**	**84.65**	**349**	P	**P**	**04 58 43.2**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=94,slow=7.9,SNR=16						
	comp=Z,0.9nm,0.4s						
ARCES	**ARCESS Array B**	**84.83**	**340**	P	**P**	**04 58 43.9**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=75,slow=6.8,SNR=17						
	comp=Z,2.9nm,0.7s						
BRTR	**Keskin Array B**	**86.05**	**309**	LR	LR	05 42 18.9	
	comp=Z,45nm,21.4s,baz=129,slow=39						
A36M	**Sachs Harbour**	**86.46**	**17**		**P**	**04 58 51.6**	**+0.3**
A36M				IAmb	IAmb	04 59 04.8	
	comp=Z,5.4nm,0.9s						
FIA1	**FINESS Array S**	**86.51**	**332**	P	**P**	**04 58 51.2**	**-0.6**
FINES	**FINESS Array B**	**86.51**	**332**	P	**P**	**04 58 51.7**	**0.0**
FINES	**FINESS Array B**	**86.51**	**332**	P	**P**	**04 58 51.8**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=61,slow=4.7,SNR=19						
	comp=Z,0.7nm,0.3s						
EIL	**Elat**	**86.57**	**299**	LR	LR	05 44 30.2	
	comp=Z,34nm,18.4s,baz=260,slow=40						
C36M	**Paulatuk**	**87.77**	**20**	P	**P**	**04 58 57.5**	**-0.1**
C36M				IAmb	IAmb	04 59 12.4	
	comp=Z,5.1nm,1.1s						
BBB	**Bella Bella**	**91.75**	**36**	LR	LR	05 44 23.7	
	comp=Z,12nm,18.6s,baz=262,slow=38						
RES	**Resolute Bay**	**92.08**	**10**	P	**P**	**04 59 17.8**	**0.0**
	comp=Z,1.5nm,0.9s,baz=149,slow=22,SNR=9.5						
	comp=Z,1.5nm,0.9s						
HFS	**Hagfors**	**92.67**	**332**	P	**P**	**04 59 19.5**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=86,slow=6.1,SNR=5.7						
	comp=Z,1.9nm,0.9s						
NB2	**NORSAR Subarra**	**93.38**	**334**	P	**P**	**04 59 22.1**	**-2.0**
	comp=Z,2.2nm,1.0s,baz=67,slow=4.6						
NOA	**NORSAR Array B**	**93.38**	**334**	P	**P**	**04 59 22.3**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=63,slow=4.6,SNR=4.0						
NOA				LR	LR	05 46 15.5	
	comp=Z,24nm,18.2s,baz=245,slow=39						
	comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**94.26**	**24**	P	**P**	**04 59 29.1**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=303,slow=4.7,SNR=10.0						
	comp=Z,0.4nm,0.7s						
YBH	**Yreka Blue Hor**	**98.77**	**45**	LR	LR	05 33 56.3	
	comp=Z,15nm,22.0s,baz=260,slow=29						
NEW	**Newport**	**99.76**	**37**	LR	LR	05 37 55.1	
	comp=Z,21nm,20.1s,baz=274,slow=31						
PLCA	**Paso Flores**	**145.57**	**157**	PKPbc	**PKPab**	**05 05 47.8**	**-0.3**
	comp=Z,3.0nm,1.1s,baz=216,slow=7.9,SNR=3.6						

IDC 27 04:55:33.0±10.0, 2°.00N×127°.01E, h0km, mb3.8/3, mbtmp3.8/3, MS2.4/1, Error ellipse: s-maj=179.4km s-min=153.0km az=79.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.96**	**162**	P	P	05 00 39.6	+0.3
	1.4nm,0.3s,baz=341,slow=11,SNR=8.8						
	1.4nm,0.3s						
KRVT	**Keravat (AS076**	**25.77**	**104**	LR	LR	05 09 45.2	
	comp=Z,8.3nm,19.2s,baz=163,slow=33						
ASAR	**Alice Springs**	**26.38**	**166**	P	P	05 01 11.2	0.0
	0.3nm,0.4s,baz=344,slow=8.2,SNR=2.5						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**36.42**	**159**	P	P	05 02 39.2	-0.4
	0.8nm,0.4s,baz=330,slow=9.7,SNR=3.1						
	0.8nm,0.4s						

*GII **27** 05:09:00.8±0.0, 34°.15N±0°.02×36°.208E±0°.008, h0km, Mws2.0, confirmed*

*GRAL **27** 05:09:02.0±0.4, 34°.18N×36°.18E, h6km±6km, MD3.0*

ISC 27 05:09:00.6±1.1, 34°.20N±0°.04×36°.22E±0°.05, h15km±10km, n35, σ0.74/45, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.16

n74,σ1$09/91, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.20**	**69**	*eP*	**Pg**	**05 20 54.5**	**+0.2**
HWQ	**Hawqa**	**0.22**	**299**	*eP*	**Pg**	**05 20 54.8**	**+0.2**
HWQ				*eS*	**Sg**	**05 20 58.0**	**+0.5**
BEIL	**Beino**	**0.37**	**0**	*eP*	**Pg**	**05 20 57.6**	**+0.1**
BEIL				*eS*	**Sg**	**05 21 02.3**	**+0.1**
ZAHL	**Zahle**	**0.40**	**218**	*eP*	**Pg**	**05 20 58.2**	**+0.2**
BHL	**Bhannes**	**0.51**	**239**	*eP*	**Pg**	**05 20 59.9**	**-0.3**
DQRL	**Deir Qamar**	**0.69**	**228**	*eP*	**Pg**	**05 21 03.3**	**-0.2**
RCY	**Rachaya**	**0.73**	**203**	*eP*	**Pg**	**05 21 04.0**	**-0.3**
QRWL	**Qaraoun**	**0.75**	**214**	*eP*	**Pg**	**05 21 04.4**	**-0.3**
SHBL	**Chebaa**	**0.90**	**204**	*eP*	**Pg**	**05 21 07.2**	**-0.4**
NATI	**Neve Ativ**	**0.98**	**202**	P	**Pg**	**05 21 09.0**	**-0.1**
NATI	**Neve Ativ**	**0.98**	**202**	S	**Sn**	**05 21 23.9**	**-1.6**
KSHT	**Keshet**	**1.23**	**195**	P	**Pn**	**05 21 13.9**	**-0.6**
KSHT	**Keshet**	**1.23**	**195**	S	**Sn**	**05 21 31.9**	**+0.1**
MMC1	**Mount Meron ar**	**1.31**	**210**	P	**Pb**	**05 21 15.2**	**-0.5**
MMB1	**Mount Meron ar**	**1.32**	**209**	P	**Pn**	**05 21 15.2**	**-0.7**
MMA0B	**Mount Meron ar**	**1.32**	**210**	P	**Pn**	**05 21 15.1**	**-0.8**
MMA0B	**Mount Meron ar**	**1.32**	**210**	S	**Sg**	**05 21 35.3**	**+2.4**
HNTI	**Hanita**	**1.37**	**218**	P	**Pn**	**05 21 15.9**	**-0.6**
HNTI	**Hanita**	**1.37**	**218**	S	**Sg**	**05 21 36.8**	**+2.4**
HNTI	**Hanita**	**1.37**	**218**	P	**Pb**	**05 21 16.1**	**-0.6**
BLGI	**Bet Lehem HaGe**	**1.66**	**210**	P	**Pb**	**05 21 21.0**	**-0.6**
BLGI	**Bet Lehem HaGe**	**1.66**	**210**	S	**Sg**	**05 21 44.3**	**+0.7**
BLGI	**Bet Lehem HaGe**	**1.66**	**210**	P	**Pb**	**05 21 21.5**	**0.0**
MMLI	**Mount Malkishu**	**1.84**	**200**	P	**Pb**	**05 21 24.2**	**-0.5**
MMLI				S	**Sg**	**05 21 50.2**	**+0.7**
MMLI				AML	AML	05 21 52.9	
	0.3nm,0.3s						
MMLI				AML	AML	05 21 54.4	
	0.4nm,0.5s						
MMLI	**Mount Malkishu**	**1.84**	**200**	P	**Pb**	**05 21 23.8**	**-1.0**
MMLI	**Mount Malkishu**	**1.84**	**200**	S	**Sg**	**05 21 49.0**	**-0.5**
MMLI	**Mount Malkishu**	**1.84**	**200**	P	**Pb**	**05 21 24.1**	**-0.7**
OFRI	**`Ofer**	**1.84**	**213**	P	**Pn**	**05 21 23.3**	**+0.3**
OFRI	**`Ofer**	**1.84**	**213**	S	**Sb**	**05 21 48.4**	**+0.2**
OFRI	**`Ofer**	**1.84**	**213**	P	**Pb**	**05 21 23.6**	**-1.1**
QRNJ	**Al-Qirein**	**1.90**	**196**	P	**Pb**	**05 21 25.1**	**-0.6**
PARAL	**Paralimni**	**1.95**	**296**	P	**Pn**	**05 21 24.2**	**-0.2**
PARAL				S	**Sb**	**05 21 50.0**	**-1.3**
PARAL				AML	AML	05 21 53.3	
	0.2nm,0.6s						
PARAL				AML	AML	05 21 54.3	
	0.1nm,0.4s						
HMDT	**Nahal Hemdat**	**1.99**	**196**	P	**Pb**	**05 21 26.2**	**-1.0**
HMDT	**Nahal Hemdat**	**1.99**	**196**	S	**Sb**	**05 21 53.1**	**+0.6**
HMDT	**Nahal Hemdat**	**1.99**	**196**	P	**Pb**	**05 21 26.3**	**-1.0**
HSUJ	**Al Zarqa**	**2.06**	**180**	P	**Pb**	**05 21 27.5**	**-1.0**
ASF	**Jabal al Asfar**	**2.08**	**163**	P	**Pb**	**05 21 27.4**	**-1.5**
ASUZ	**Hatay-Arsuz**	**2.14**	**351**	P	**Pb**	**05 21 28.3**	**-1.5**
ASUZ				S	**Sb**	**05 21 56.7**	**-0.1**
ASUZ				*i* AML	AML	05 22 03.0	
	comp=N,91nm,0.5s						
ASUZ				*i* AML	AML	05 22 04.0	
	comp=E,71nm,0.4s						
SLTI	**Sal'it**	**2.15**	**207**	P	**Pb**	**05 21 28.1**	**-1.9**
SLTI	**Sal'it**	**2.15**	**207**	P	**Pb**	**05 21 28.2**	**-1.8**
SALP	**Salfit**	**2.26**	**202**	P	**Pb**	**05 21 29.8**	**-2.0**
UJAP	**Al Uja**	**2.29**	**195**	P	**Pn**	**05 21 30.3**	**+1.2**
CSS	**Mathiatis**	**2.48**	**289**	P	**Pn**	**05 21 31.8**	**0.0**
CSS				S	**Sn**	**05 22 02.4**	**-0.3**
CSS				AML	AML	05 22 08.7	
	0.1nm,0.7s						
CSS				AML	AML	05 22 09.7	
	0.1nm,0.6s						
CSS	**Mathiatis**	**2.48**	**289**	P	**Pn**	**05 21 32.2**	**+0.4**
ASGA	**Asgata**	**2.50**	**285**	P	**Pn**	**05 21 32.8**	**+0.8**
ASGA				S	**Sn**	**05 22 03.2**	**+0.1**
ASGA				AML	AML	05 22 06.0	
	0.1nm,0.5s						
ASGA				AML	AML	05 22 08.6	
DSI	**Dead Sea**	**2.68**	**195**	P	**Pn**	**05 21 35.0**	**+0.5**
APOL	**The Sanctuary**	**2.79**	**281**	P	**Pn**	**05 21 36.3**	**+0.3**
APOL				S	**Sn**	**05 22 10.2**	**0.0**
APOL				AML	AML	05 22 12.8	
	0.1nm,0.3s						
APOL				AML	AML	05 22 17.0	
	0.1nm,0.4s						
AMAZ	**Amatzia**	**2.84**	**202**	P	**Pn**	**05 21 38.7**	**+2.0**
AMAZ				S	**Sb**	**05 22 15.8**	**-1.2**
AMAZ				AML	AML	05 22 29.2	
	0.5nm,0.7s						
AMAZ				AML	AML	05 22 34.0	
	0.4nm,0.7s						
AMAZ	**Amatzia**	**2.84**	**202**	P	**Pn**	**05 21 37.9**	**+1.2**
AMAZ	**Amatzia**	**2.84**	**202**	S	**Sb**	**05 22 13.7**	**-3.3**
AMAZ	**Amatzia**	**2.84**	**202**	P	**Pn**	**05 21 38.0**	**+1.3**
KIZK	**Mersin**	**2.84**	**325**	P	**Pn**	**05 21 36.7**	**-0.1**
KIZK				S	**Sn**	**05 22 12.4**	**+0.9**
KIZK				*i* AML	AML	05 22 16.0	
	comp=N,9.7nm,0.3s						
KIZK				*i* AML	AML	05 22 18.0	
	comp=E,12nm,0.4s						
TROD	**Troodos**	**2.84**	**287**	P	**Pn**	**05 21 37.4**	**+0.4**
TROD				S	**Sn**	**05 22 12.6**	**+0.7**
TROD				AML	AML	05 22 18.8	
	0.1nm,0.6s						
TROD				AML	AML	05 22 21.8	
	0.1nm,0.7s						
GHAJ	**Ghor Haditha**	**2.91**	**190**	P	**Pn**	**05 21 37.4**	**-0.1**
GHAJ	**Ghor Haditha**	**2.91**	**190**	P	**Pn**	**05 21 39.2**	**+1.6**
MSBI	**Mazada**	**2.93**	**194**	P	**Pn**	**05 21 38.6**	**+0.7**
MSBI	**Mazada**	**2.93**	**194**	P	**Pn**	**05 21 39.7**	**+1.8**
YTIR	**Yattir**	**2.94**	**198**	P	**Pn**	**05 21 39.7**	**+1.6**
YTIR	**Yattir**	**2.94**	**198**	S	**Sn**	**05 22 16.1**	**+2.0**
YTIR	**Yattir**	**2.94**	**198**	P	**Pn**	**05 21 39.5**	**+1.3**
DED	**Mersin**	**3.00**	**338**	P	**Pn**	**05 21 39.2**	**+0.2**
DED				*i* AML	AML	05 22 16.0	
	comp=E,17nm,0.4s						
DED				*i* AML	AML	05 22 18.0	
	comp=N,11nm,0.5s						
KAMA	**Osmaniye**	**3.03**	**7**	P	**Pn**	**05 21 40.2**	**+0.7**
KAMA				*i* AML	AML	05 22 32.0	
	comp=E,24nm,0.6s						
KAMA				*i* AML	AML	05 22 39.0	
	comp=N,21nm,0.7s						
NATA	**Nata**	**3.04**	**282**	P	**Pn**	**05 21 39.5**	**0.0**
NATA				AML	AML	05 22 23.4	
	0.3nm,0.8s						
NATA				AML	AML	05 22 26.3	
	0.4nm,0.7s						
ALFC	**Alefka**	**3.11**	**289**	P	**Pn**	**05 21 40.8**	**+0.3**
ALFC				S	**Sn**	**05 22 19.2**	**+0.9**
ALFC				AML	AML	05 22 24.1	
	0.1nm,0.6s						
ALFC				AML	AML	05 22 24.6	
	0.1nm,0.7s						
NZIP	**Nizip/Gaziante**	**3.11**	**23**	P	**Pg**	**05 21 49.8**	**-0.2**
NZIP				S	**Sg**	**05 22 30.2**	**-0.1**
AKMS	**Akamas**	**3.28**	**286**	P	**Pn**	**05 21 43.7**	**+0.9**
AKMS				S	**Sn**	**05 22 22.8**	**+0.3**
AKMS				AML	AML	05 22 28.6	
	0.1nm,0.5s						
GULE	**Gulek**	**3.31**	**340**	P	**Pn**	**05 21 44.9**	**+1.6**
GULE				S	**Sn**	**05 22 24.7**	**+1.4**
GULE				*i* AML	AML	05 22 46.0	
	comp=E,34nm,0.8s						
GULE				*i* AML	AML	05 22 47.0	
	comp=N,31nm,0.7s						
GZT	**Gaziantep**	**3.37**	**19**	P	**Pn**	**05 21 44.3**	**+0.2**
GZT				S	**Sn**	**05 22 25.4**	**+0.6**
GZT				*i* AML	AML	05 22 45.0	
	comp=N,77nm,0.6s						
GZT				*i* AML	AML	05 22 55.0	
	comp=E,67nm,0.8s						
KZIT	**Kziot**	**3.59**	**205**	P	**Pn**	**05 21 49.1**	**+2.1**
KZIT				AML	AML	05 22 47.8	
	0.2nm,0.9s						
KZIT				AML	AML	05 22 51.0	
	0.3nm,0.9s						
KZIT	**Kziot**	**3.59**	**205**	P	**Pn**	**05 21 48.3**	**+1.3**
KERG	**Konya-Eregli**	**3.64**	**333**	P	**Pn**	**05 21 48.7**	**+0.9**
KERG				S	**Sn**	**05 22 33.0**	**+1.4**
KERG				*i* AML	AML	05 22 37.0	
	comp=E,16nm,0.4s						
KERG				*i* AML	AML	05 23 51.0	
	comp=N,10nm,3.6s						
ZFRI	**Zfri**	**3.71**	**194**	P	**Pn**	**05 21 50.1**	**+1.5**
PRNI	**Paran**	**3.94**	**195**	P	**Pn**	**05 21 52.9**	**+1.1**
PRNI	**Paran**	**3.94**	**195**	P	**Pn**	**05 21 53.3**	**+1.5**

*IDC **27** 05:28:00.6±1.0, 29°.19N×131°.32E, h0km, mb4.0/18, mbtmp4.0/22, ML3.5/4, MS3.1/7, Error ellipse: s-maj=24.9km s-min=19.7km az=123.0*
*JMA **27** 05:28:03.9±0.1, 29°.1N±0°.5×13°.1E±°, h80km±3km, MV3.8/31, NEAR AMAMI-OSHIMA ISLAND*

ISC 27 05:28:08.1±0.6, 29°.15N±0°.04×131°.32E±0°.06, h71km, n47, σ3$18/52, mb4.0/17, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**1.30**	**327**	P	**Pn**	**05 28 27.3**	**-3.2**
JYAK				*eS*	**Sn**	**05 28 44.5**	**-2.7**
JMTN	**Minamitane**	**1.30**	**344**	P	**Pn**	**05 28 27.0**	**-3.5**
JMTN				*eS*	**Sn**	**05 28 44.3**	**-3.0**
JNN	**Nakanoshima**	**1.44**	**299**	P	**Pn**	**05 28 29.5**	**-2.9**
JNN				*eS*	**Sn**	**05 28 48.4**	**-2.2**
JZK	**Kikaishima**	**1.45**	**235**	P	**Pn**	**05 28 29.4**	**-3.1**
JZK				*eS*	**Sn**	**05 28 49.3**	**-1.4**
JTN	**Tanegashima 3**	**1.53**	**349**	P	**Pn**	**05 28 29.8**	**-3.8**
JAM	**Amami Oshima**	**1.68**	**244**	P	**Pn**	**05 28 31.9**	**-3.6**
JAM				S	**Sn**	**05 28 52.5**	**-3.6**
JTAJ	**Takarajima**	**1.85**	**271**	P	**Pn**	**05 28 35.0**	**-2.9**
JTAJ				*eS*	**Sn**	**05 28 58.2**	**-2.2**
JTSR	**Tashiro 2**	**2.04**	**350**	P	**Pn**	**05 28 37.3**	**-3.1**
JTSR				*eS*	**Sn**	**05 29 01.5**	**-3.5**
JAMN	**Amaminishikomi**	**2.09**	**245**	P	**Pn**	**05 28 38.0**	**-3.0**
JAMN				*eS*	**Sn**	**05 29 03.2**	**-2.9**
JTK	**Tokunoshima**	**2.49**	**238**	P	**Pn**	**05 28 43.5**	**-3.0**
JTK				S	**Sn**	**05 29 13.1**	**-2.7**
JTZ	**Takazaki**	**2.75**	**356**	P	**Pn**	**05 28 47.0**	**-3.0**
JTZ				S	**Sn**	**05 29 18.7**	**-3.5**
JSJ	**Shimokoshiki**	**2.88**	**332**	P	**Pn**	**05 28 48.3**	**-3.5**
JSJ				*eS*	**Sn**	**05 29 21.1**	**-4.1**
JOKE	**Okinoerabujima**	**3.01**	**234**	P	**Pn**	**05 28 50.1**	**-3.4**
JOKE				*eS*	**Sn**	**05 29 24.4**	**-4.1**
JYRO	**Yoronjima**	**3.30**	**231**	P	**Pn**	**05 28 54.0**	**-3.4**
JYRO				S	**Sn**	**05 29 31.1**	**-4.5**
JMZ	**Minamidaito 2**	**3.32**	**182**	*eP*	**Pn**	**05 28 53.2**	**-4.4**
JMZ				S	**Sn**	**05 29 28.7**	**-7.2**
JIU3	**Izumi3**	**3.42**	**353**	P	**Pn**	**05 28 56.1**	**-3.0**
JIU3				*eS*	**Sn**	**05 29 33.6**	**-4.8**
JOW	**Kunigami**	**3.55**	**230**	Pn	**Pn**	**05 28 57.2**	**-3.6**
	16nm,0.3s,baz=98,slow=23,SNR=44						
JOW				Sn	**Sn**	**05 29 37.3**	**-4.3**
	34nm,0.3s,baz=225,slow=29,SNR=14						
	39nm,0.2s						
JNU	**Nakatsue**	**3.98**	**355**	Pn	**Pn**	**05 29 03.7**	**-3.1**
	7.9nm,0.3s,baz=209,slow=1.2,SNR=20						
JNU				Sn	**Sn**	**05 29 47.9**	**-4.3**
	11nm,0.3s,baz=176,slow=8.6,SNR=10						
	20nm,0.4s						
KSRS	**Korea Array**	**8.76**	**342**	Pn	**Pn**	**05 30 07.3**	**-4.6**
	0.1nm,0.3s,baz=157,slow=16,SNR=4.1						
	0.9nm,0.5s						
MJAR	**Matsushiro Arr**	**9.37**	**36**	Pn	**Pn**	**05 30 17.7**	**-2.7**
	0.2nm,0.3s,baz=243,slow=14,SNR=4.7						
MJAR				LR	LR	05 33 38.1	
	comp=Z,48nm,20.0s,baz=138,slow=36						
	1.4nm,0.3s						
ASAJ	**Asahikawa**	**17.44**	**28**	LR	LR	05 39 07.5	
	comp=Z,50nm,18.5s,baz=356,slow=38						
XLT	**XiLinHaoTe**	**19.11**	**325**	*eP*	P	05 32 17.5	-7.8
XLT				sP	Pn	05 32 26.8	0.0
XLT				pmax	pmax		
	comp=Z,13nm,0.8s						
XAN	**Xi'an**	**19.68**	**290**	P	**Pn**	**05 32 32.0**	**-1.7**
XAN				pP	pP	05 32 37.3	-8.4
XAN				pmax	pmax		
	comp=Z,18nm,0.6s						
GUMO	**Guam**	**19.94**	**138**	LR	LR	05 39 38.3	
	comp=Z,53nm,19.2s,baz=84,slow=35						
KLR	**Kul'dur**	**20.06**	**1**	P	Pn	05 32 35.5	-2.4
	comp=Z,1.6nm,0.8s,baz=210,slow=5.9,SNR=5.6						
KLR				LR	LR	05 40 23.5	
	comp=Z,42nm,18.7s,baz=250,slow=37						
	comp=Z,1.6nm,0.8s						
SONM	**Songino Array**	**26.81**	**321**	P	**P**	**05 33 41.3**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=138,slow=10,SNR=12						
	comp=Z,1.4nm,0.3s						
PETK	**Petropavlovsk-**	**30.79**	**32**	P	**P**	**05 34 17.6**	**+0.8**
	comp=Z,3.7nm,0.9s,baz=256,slow=3.7,SNR=4.3						
	comp=Z,3.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.38**	**257**	LR	LR	05 49 08.2	
	comp=Z,14nm,18.8s,baz=275,slow=40						
MKAR	**Makanchi Array**	**41.74**	**309**	P	**P**	**05 35 50.3**	**0.0**
	comp=Z,2.0nm,0.5s,baz=89,slow=9.8,SNR=15						
MKAR				PcP	**PcP**	**05 37 47.0**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=59,slow=4.5,SNR=3.6						
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**44.73**	**314**	P	**P**	**05 36 15.1**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=109,slow=6.7,SNR=14						
KURBB				LR	LR	05 55 06.9	
	comp=Z,46nm,19.8s,baz=176,slow=36						
	comp=Z,1.1nm,0.5s						
BVAR	**Borovoye Array**	**49.99**	**316**	P	**P**	**05 36 56.0**	**+1.0**
	comp=Z,5.5nm,0.6s,baz=80,slow=9.2,SNR=22						
	comp=Z,5.5nm,0.6s						
ASAR	**Alice Springs**	**52.57**	**177**	P	**P**	**05 37 16.6**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=360,slow=7.0,SNR=1.7						
	comp=Z,0.3nm,0.6s						
AKTO	**Aktyubinsk**	**57.78**	**314**	LR	LR	06 04 27.2	
	comp=Z,50nm,18.1s,baz=193,slow=38						
ILAR	**Eielson Array**	**60.57**	**29**	P	**P**	**05 38 10.9**	**0.0**
	comp=Z,0.3nm,0.8s,baz=270,slow=7.3,SNR=2.3						
	comp=Z,0.3nm,0.8s						
SPITS	**Spitsbergen Ar**	**66.54**	**348**	P	P	05 38 52.6	+2.5
	comp=Z,1.4nm,0.6s,baz=78,slow=5.3,SNR=5.2						
	comp=Z,1.4nm,0.6s						
ARCES	**ARCESS Array B**	**68.30**	**339**	P	P	05 39 03.8	+2.6
	comp=Z,2.6nm,0.9s,baz=74,slow=6.4,SNR=6.2						
	comp=Z,2.6nm,0.9s						
KBZ	**Khabaz**	**69.44**	**309**	P	**P**	**05 39 10.4**	**+1.7**
	comp=Z,3.0nm,0.8s,baz=125,slow=2.2,SNR=12						
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**71.67**	**331**	P	**P**	**05 39 23.4**	**+1.5**
	comp=Z,1.7nm,0.4s,baz=61,slow=5.2,SNR=25						
	comp=Z,1.7nm,0.4s						
YKA	**Yellowknife Ar**	**74.72**	**26**	P	**P**	**05 39 40.7**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=297,slow=6.0,SNR=4.8						
	comp=Z,0.3nm,0.8s						
AKASG	**Malin Array Be**	**75.09**	**320**	P	**P**	**05 39 43.3**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=56,slow=5.8,SNR=6.7						
	comp=Z,0.6nm,0.4s						
BRTR	**Keskin Array B**	**77.39**	**308**	P	P	05 39 58.4	+2.6
	comp=Z,1.5nm,0.9s,baz=104,slow=4.0,SNR=8.8						
	comp=Z,1.5nm,0.9s						
HFS	**Hagfors**	**77.50**	**333**	P	P	05 39 58.1	+2.4
	comp=Z,1.8nm,0.5s,baz=51,slow=3.3,SNR=18						
	comp=Z,1.8nm,0.5s						
NB2	**NORSAR Subarra**	**77.89**	**334**	P	**P**	**05 39 59.6**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=51,slow=5.9						
NOA	**NORSAR Array B**	**77.89**	**334**	P	**P**	**05 39 59.4**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=49,slow=5.5,SNR=9.6						
	comp=Z,1.0nm,0.5s						
KOLS	**Kolonicke sedl**	**79.86**	**321**	*eP*	P	05 40 14.2	+5.2
VYHS	**Vyhne**	**82.00**	**322**	*eP*	P	05 40 26.5	+6.1
GERES	**GERESS Array B**	**84.50**	**324**	P	P	05 40 37.0	+3.6
	comp=Z,0.5nm,0.6s,baz=60,slow=7.9,SNR=4.7						
	comp=Z,0.5nm,0.6s						

RSNC 27 05:32:17.9±0.0, 7°N±1°×7°3W±°, h148km±2km, M2.5, mb3.7, ML2.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**183**	P	Pn	05 32 37.9	-0.4
BARC				S	Sn	05 32 53.3	-0.5
BRJC	**Barrancabermej**	**0.59**	**286**	P	Pn	05 32 39.6	+0.1
BRJC				S	Sn	05 32 56.4	+0.5
PAMC	**Pamplona, Colo**	**0.70**	**42**	P	Pn	05 32 40.9	+0.1
PAMC				S	Sn	05 32 57.9	-0.3
RUSC	**La Rusia**	**0.92**	**175**	P	Pn	05 32 41.9	-0.5
RUSC				S	Sn	05 33 00.7	-0.3
PTBC	**PUERTO BERRIO,**	**1.31**	**258**	P	Pn	05 32 44.4	-0.9
PTBC				S	Sn	05 33 04.9	-1.4
TAMC	**Tame, Arauca**	**1.42**	**105**	P	Pn	05 32 46.3	-0.2
TAMC				S	Sn	05 33 07.9	-0.5
OCAC	**Ocana**	**1.43**	**354**	P	Pn	05 32 46.0	-0.7
OCAC				S	Sn	05 33 07.9	-0.9
ZARC	**Zaragoza, Cauc**	**1.81**	**292**	P	Pn	05 32 50.7	0.0
ZARC				S	Sn	05 33 15.8	0.0
NORC	**Norcasia**	**2.10**	**234**	P	Pn	05 32 54.0	-0.1
NORC				S	Sn	05 33 22.0	+0.1
CHIC	**Chingaza**	**2.24**	**194**	P	Pn	05 32 55.9	-0.3
CHIC				S	Sn	05 33 25.6	0.0
ROSC	**El Rosal**	**2.27**	**210**	P	Pn	05 32 57.4	+0.9
ROSC				S	Sn	05 33 26.9	+0.7
UREC	**San Jos de Ur**	**2.52**	**292**	P	Pn	05 32 58.0	-1.2
UREC				S	Sn	05 33 28.0	-3.1
GUY2C	**Guyana, Caldas**	**2.69**	**234**	P	Pn	05 33 02.1	+0.3
GUY2C				S	Sn	05 33 39.0	+3.4
PTGC	**Puerto Gaitan,**	**2.79**	**158**	P	Pn	05 33 00.8	-1.8
PTGC				S	Sn	05 33 34.4	-2.7
CBOC	**Ciudad Bolivar**	**2.98**	**252**	P	Pn	05 33 05.3	+0.2
CBOC				S	Sn	05 33 39.8	-1.7
ANIL	**Santa Ana**	**3.20**	**224**	P	Pn	05 33 07.4	-0.7
ANIL				S	Sn	05 33 46.7	-0.1
PRAC	**Prado**	**3.52**	**209**	P	Pn	05 33 11.5	-0.4
PRAC				S	Sn	05 33 53.2	-0.6
APAC	**Apartado, Choc**	**3.55**	**288**	P	Pn	05 33 11.8	-0.5
APAC				S	Sn	05 33 53.4	-1.0
SJCC	**San Jacinto, C**	**3.66**	**327**	P	Pn	05 33 11.4	-2.3
SJCC				S	Sn	05 33 53.6	-3.4
URMC	**La Uribe, Meta**	**3.74**	**199**	P	Pn	05 33 14.6	-0.2
URMC				S	Sn	05 33 58.8	-0.2
CRJC	**Cerrejon, Guaj**	**4.19**	**4**	P	Pn	05 33 18.1	-2.7
CRJC				S	Sn	05 34 05.5	-4.1
MACC	**Macarena, Meta**	**4.68**	**188**	P	Pn	05 33 24.1	-3.1
MACC				S	Sn	05 34 16.6	-4.5
MALC	**Bahia Malaga**	**4.99**	**236**	P	Pn	05 33 32.7	+1.5
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	05 33 27.3	-4.0
URIC				S	Sn	05 34 28.4	-0.1

*ISK **27** 05:40:14.8, 34°.88N×32°.68E, h26km, ML2.6/10*
*NIC **27** 05:40:15.4, 34°.99N×32°.69E, h30km, Ml2.1/8*
*AFAD **27** 05:40:15.4, 35°.07N×32°.71E, h11km±2km, ML1.9*
*GII **27** 05:40:17.3±0.0, 34°.890N±0°.007×32°.793E±0°.002, h20km, Mws2.6, confirmed*

ISC 27 05:40:15.8±0.9, 34°.98N±0°.03×32°.69E±0°.03, h31km±5km, n34, σ1$05/54, 4C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TROD	**Troodos**	**0.15**	**104**	⇑*iP*	**Pb**	**05 40 21.3**	**-0.6**
TROD				S	**Sb**	**05 40 26.1**	**0.0**
TROD				AML	AML	05 40 26.7	
	1.2nm,0.3s						
TROD				AML	AML	05 40 27.0	
	2.3nm,0.4s						
ALFC	**Alefka**	**0.19**	**336**	⇓*iP*	**Pb**	**05 40 21.7**	**-0.4**
ALFC				S	**Sb**	**05 40 26.2**	**-0.3**
ALFC				AML	AML	05 40 26.6	
	2.6nm,0.2s						
ALFC				AML	AML	05 40 26.9	
	1.9nm,0.2s						
LEF	**Lefka**	**0.21**	**50**	Pg	**Pb**	**05 40 21.7**	**-0.6**
LEF				Sg	**Sb**	**05 40 26.5**	**-0.2**
NATA	**Nata**	**0.23**	**206**	⇑*iP*	**Pb**	**05 40 21.8**	**-0.7**
NATA				S	**Sb**	**05 40 27.5**	**+0.4**
NATA				AML	AML	05 40 30.1	
	2.5nm,0.3s						
NATA				AML	AML	05 40 30.2	
	5.0nm,0.9s						
AKMS	**Akamas**	**0.29**	**277**	⇑*iP*	**Pb**	**05 40 23.0**	**-0.3**
AKMS				S	**Sn**	**05 40 29.5**	**+0.2**
AKMS				AML	AML	05 40 30.5	
	2.0nm,0.3s						
AKMS				AML	AML	05 40 30.6	
	1.3nm,0.4s						
APOL	**The Sanctuary**	**0.34**	**156**	P	**Pb**	**05 40 22.9**	**-1.0**
APOL				S	**Sn**	**05 40 30.0**	**-0.4**
APOL				AML	AML	05 40 34.2	
	0.9nm,0.3s						
APOL				AML	AML	05 40 35.4	
	0.9nm,0.3s						
AKDN	**Akdeniz- Kıbrı**	**0.39**	**36**	Pg	**Pn**	**05 40 25.4**	**+0.2**
AKDN				Sg	**Sn**	**05 40 33.5**	**+2.0**
ASGA	**Asgata**	**0.50**	**113**	P	**Pb**	**05 40 25.9**	**-0.3**
ASGA				S	**Sn**	**05 40 35.1**	**+0.8**
ASGA				AML	AML	05 40 36.0	
	1.0nm,0.4s						
ASGA				AML	AML	05 40 36.2	
	1.4nm,0.2s						
CSS	**Mathiatis**	**0.53**	**92**	Pg	**Pb**	**05 40 26.3**	**-0.4**
CSS				Sg	**Sn**	**05 40 34.7**	**-0.3**
CSS	**Mathiatis**	**0.53**	**92**	⇑P	**Pb**	**05 40 26.3**	**-0.4**
CSS				S	**Sn**	**05 40 35.1**	**+0.1**
CSS				AML	AML	05 40 39.5	
	0.2nm,0.5s						
CSS				AML	AML	05 40 41.5	
	0.3nm,0.4s						
CSS	**Mathiatis**	**0.53**	**92**	P	**Pb**	**05 40 26.4**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.63**	**246**	*i* P	**Pn**	**06 21 55.9**	**+0.5**
JAHD				S	**Sn**	**06 22 06.1**	**+0.5**
JARK	**Aomorirokkasho**	**0.76**	**227**	P	**Pn**	**06 21 57.0**	**+0.1**
JARK				*e*S	**Sn**	**06 22 07.8**	**-0.3**
JOT	**Ohata**	**0.80**	**260**	P	**Pn**	**06 21 57.5**	**0.0**
JOT				S	**Sn**	**06 22 08.7**	**-0.5**
JKB	**Kayabe**	**0.87**	**295**	P	**Pn**	**06 21 57.9**	**-0.5**
JKB				S	**Sn**	**06 22 10.4**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.90**	**33**	P	**Pn**	**06 21 58.3**	**-0.4**
JEM	**Erimo**	**0.93**	**58**	P	**Pn**	**06 21 59.1**	**0.0**
JEM				*e*S	**Sn**	**06 22 11.6**	**-0.4**
JTM	**Tenmabayashi**	**1.07**	**227**	P	**Pn**	**06 22 01.5**	**+0.6**
JTM				S	**Sn**	**06 22 15.7**	**+0.6**
JIAM	**Iburiatsuma**	**1.10**	**353**	P	**Pn**	**06 22 02.0**	**+0.8**
JNB	**Noboribetsu**	**1.23**	**320**	P	**Pn**	**06 22 02.2**	**-0.7**
JANG	**Nango**	**1.23**	**201**	P	**Pn**	**06 22 03.4**	**+0.4**
JANG				S	**Sn**	**06 22 18.7**	**-0.2**
JSR	**Shiriuchi**	**1.26**	**271**	P	**Pn**	**06 22 03.8**	**+0.4**
JBT2	**Biratori 2**	**1.27**	**9**	P	**Pn**	**06 22 04.2**	**+0.7**
JBT2				S	**Sn**	**06 22 21.0**	**+1.3**
JEW	**Eniwo**	**1.40**	**340**	P	**Pn**	**06 22 05.4**	**+0.3**
JEW				*e*S	**Sn**	**06 22 22.8**	**+0.1**
JYM2	**Yakumo 2**	**1.42**	**295**	P	**Pn**	**06 22 05.9**	**+0.5**
JCH	**Churui**	**1.44**	**41**	P	**Pn**	**06 22 06.5**	**+0.8**
JOMM	**Oshimamatsumae**	**1.57**	**271**	P	**Pn**	**06 22 07.5**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**30.26**	**128**	T	T	07 00 21.2	
	baz=322,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**30.27**	**128**	T	T	07 00 22.1	
	baz=322,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**30.28**	**128**	T	T	07 00 22.7	
	baz=322,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**31.11**	**130**	T	T	07 01 25.1	
	baz=323,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**31.11**	**130**	T	T	07 01 21.5	
	baz=323,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**31.12**	**130**	T	T	07 01 25.1	
	baz=323,slow=76,SNR=6.8						
ZALV	**Zalesovo Beam**	**39.41**	**308**	P	**P**	**06 29 03.9**	**-0.9**
	0.6nm,0.5s,baz=81,slow=8.9,SNR=2.3						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**42.32**	**298**	P	**P**	**06 29 29.4**	**+0.5**
	0.3nm,0.8s,baz=79,slow=11,SNR=2.6						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**45.46**	**35**	P	**P**	**06 29 52.5**	**-1.2**
	0.6nm,1.0s,baz=269,slow=7.3,SNR=4.7						
	0.6nm,1.0s						
BVAR	**Borovoye Array**	**48.03**	**310**	P	**P**	**06 30 14.6**	**+0.6**
	0.6nm,0.4s,baz=82,slow=8.3,SNR=3.6						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**65.10**	**332**	P	**P**	**06 32 14.8**	**-0.2**
	0.8nm,0.8s,baz=52,slow=7.7,SNR=5.8						
	0.8nm,0.8s						

IDC ***27*** *06:24:32.8±0.5, 18°.01S×65°.82E, h0km, mb4.1/22, mbtmp4.1/23, ML4.5/1, MS4.1/54, Error ellipse: s-maj=17.6km s-min=15.1km az=77.0*

NEIC ***27*** *06:24:36.1±2.6, 18°.15S±0°.08×65°.64E±0°.05, h10km±1km, mb4.7/36, Error ellipse: s-maj=13.8km s-min=7.6km az=176.0*

GCMT ***27*** *06:24:39.1±0.1, 17°.52S±0°.01×65°.57E±0°.01, h16km, MW5.2/131, Moment Tensor Solution. s72,c100; s131,c226; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.76±.13; Mθθ=5.41±.12; Mφφ=6.18±.13; Mrθ=1.83±.35; Mθφ=3.38±.10; Mφr=1.59±.35; Best double couple: M0=7.11800×1016 NP1:φs=150.00000°, δ70.00000°, λ180.00000°. NP2:φs=240.00000°, δ90.00000°, λ20.00000°. Principal axes: T 7.5860, Plg14.0000°, Azm106.0000°; N -0.9300, Plg70.0000°, Azm240.0000°; P -6.6500, Plg14.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 06:24:35.6±0.4, 18°.12S±0°.07×65°.62E±0°.06, h10km, n158, σ2°.02/114, mb4.6/60, MS4.2/60, 9C-6D, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**2.68**	**232**		**Pn**	**06 25 19.0**	**+0.3**
RER	**Riviere de l'E**	**9.78**	**250**		**Pn**	**06 26 56.3**	**-0.2**
H08S1	**Diego Garcia H**	**12.37**	**34**	T	T	06 39 41.8	
	baz=212,slow=75,SNR=1184						
H08S2	**Diego Garcia H**	**12.38**	**34**	T	T	06 39 43.5	
	baz=212,slow=75,SNR=425						
H08S3	**Diego Garcia H**	**12.39**	**34**	T	T	06 39 16.0	
	baz=212,slow=75,SNR=1554						
DGAR	**Diego Garcia**	**12.55**	**33**	Pn	**Pn**	**06 27 34.8**	**+0.4**
MSEY	**Mahe Island**	**16.64**	**322**	Pn	**Pn**	**06 28 29.2**	**0.0**
ABPO	**Ambohimpanom**	**17.46**	**264**		**Pn**	**06 28 39.8**	**+0.3**
OPO	**Ambohidratompo**	**17.50**	**266**	P	**Pn**	**06 28 39.8**	**-0.3**
	0.1nm,0.3s,baz=90,slow=12,SNR=8.3						
OPO				S	**Sn**	**06 31 49.1**	**-6.1**
	6.3nm,0.7s,baz=359,slow=19,SNR=4.2						
	4.6nm,0.8s						
VOI	**Vohitsoka**	**18.09**	**255**		**Pn**	**06 28 47.4**	**+0.2**
H04N2	**CROZET ISLANDS**	**30.22**	**199**	T	T	07 03 01.4	
	baz=26,slow=75,SNR=581						
H04N1	**CROZET ISLANDS**	**30.22**	**199**	T	T	07 03 02.5	
	baz=26,slow=75,SNR=440						
H04N3	**CROZET ISLANDS**	**30.23**	**199**	T	T	07 03 00.9	
	baz=26,slow=75,SNR=528						
CRZF	**Crozet Islands**	**30.44**	**199**	P	**P**	**06 30 48.4**	**+0.2**
COCO	**West Island**	**30.67**	**83**	P	**P**	**06 30 50.5**	**-0.1**
PAF	**Port-aux-Franc**	**31.37**	**174**	P	**P**	**06 30 57.1**	**+0.7**
KMBO	**Kilima Mbogo**	**32.57**	**298**	LR	LR	06 42 10.1	
	comp=Z,1μm,21.6s,baz=120,slow=32						
MATP	**Matopo**	**35.07**	**260**	LR	LR	06 44 01.3	
	comp=Z,236nm,20.8s,baz=64,slow=33						
LSZ	**Lusaka**	**35.92**	**269**		**P**	**06 31 37.0**	**+0.3**
LSZ				IAmb	IAmb	06 31 43.0	
	comp=Z,17nm,1.2s						
LSZ	**Lusaka**	**35.92**	**269**	LR	LR	06 44 11.0	
	comp=Z,423nm,20.4s,baz=119,slow=33						
ATD	**Arta Tunnel**	**37.06**	**321**	LR	LR	06 44 21.3	
	comp=Z,16nm,21.4s,baz=148,slow=32						
LBTB	**Lobatse**	**37.74**	**252**	P	**P**	**06 31 52.9**	**+0.9**
LBTB				IAmb	IAmb	06 32 03.8	
	comp=Z,12nm,1.1s						
LBTB	**Lobatse**	**37.74**	**252**	LR	LR	06 44 29.6	
	comp=Z,659nm,21.7s,baz=92,slow=32						
BOSA	**Boshof**	**38.34**	**247**	P	**P**	**06 31 57.0**	**0.0**
	comp=Z,1.5nm,0.7s,baz=57,slow=12,SNR=3.3						
BOSA				LR	LR	06 44 44.2	
	comp=Z,391nm,21.1s,baz=88,slow=31						
	comp=Z,1.5nm,0.7s						
KSANE	**Kasane**	**38.43**	**264**	P	**P**	**06 31 58.4**	**+0.5**
KSANE				IAmb	IAmb	06 32 04.3	
	comp=Z,13nm,1.2s						
PSI	**Prapat**	**38.84**	**61**	LR	LR	06 44 48.6	
	comp=Z,209nm,18.7s,baz=232,slow=32						
MNAI	**Manna**	**38.98**	**74**	P	**P**	**06 32 03.5**	**+1.1**
LEM	**Lembang**	**42.41**	**80**	LR	LR	06 46 23.0	
	comp=Z,441nm,20.8s,baz=193,slow=31						
SUR	**Sutherland**	**42.63**	**242**	LR	LR	06 47 50.5	
	comp=Z,365nm,18.2s,baz=84,slow=33						
KOOLE	**Kule**	**42.68**	**256**	P	**P**	**06 32 32.6**	**-0.4**
TSUM	**Tsumeb**	**45.41**	**261**	LR	LR	06 50 19.2	
	comp=Z,311nm,19.9s,baz=110,slow=34						
RAYN	**Ar Rayn**	**45.82**	**334**	P	**P**	**06 32 59.0**	**+1.1**
H01W3	**Cape Leeuwin H**	**46.06**	**121**	T	T	07 22 07.3	
	baz=279,slow=75,SNR=175						
H01W2	**Cape Leeuwin H**	**46.06**	**121**	T	T	07 22 07.4	
	baz=279,slow=75,SNR=218						
H01W1	**Cape Leeuwin H**	**46.08**	**121**	T	T	07 22 08.5	
	baz=279,slow=75,SNR=177						
NWAO	**Narrogin (SRO)**	**48.40**	**118**	LR	LR	06 48 45.2	
	comp=Z,289nm,21.6s,baz=276,slow=30						
CMAR	**Chiang Mai Arr**	**48.93**	**44**		**P**	**06 33 19.7**	**-2.6**
CMAR	**Chiang Mai Arr**	**48.93**	**44**	P	**P**	**06 33 18.6**	**-3.6**
	comp=Z,0.9nm,0.3s,baz=237,slow=7.4,SNR=7.7						
CMAR				LR	LR	06 51 37.9	
	comp=Z,219nm,19.1s,baz=230,slow=33						
	comp=Z,0.9nm,0.3s						
MAW	**Mawson**	**49.49**	**181**	LR	LR	06 49 50.4	
	comp=Z,256nm,19.8s,baz=346,slow=31						
SHL	**Shillong**	**50.39**	**31**	P	**P**	**06 33 33.7**	**+0.3**
SHL				IAmb	IAmb	06 33 34.8	
	comp=Z,20nm,1.2s						
NIL	**Nilore**	**51.99**	**8**	P	**P**	**06 33 45.8**	**+0.7**
KBL	**Kabul**	**52.47**	**4**	P	**P**	**06 33 50.4**	**+1.4**
MMRI	**Maumere**	**55.70**	**88**	P	**P**	**06 34 10.8**	**-1.9**
EIL	**Elat**	**55.97**	**328**	LR	LR	06 54 54.0	
	comp=Z,135nm,21.0s,baz=69,slow=32						
PZH	**PanZhiHua**	**56.55**	**39**	P	**P**	**06 34 22.0**	**+3.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
FITZ	**Fitzroy Crossi**	**56.81**	**100**	LR	LR	06 55 03.4	
	comp=Z,366nm,21.1s,baz=265,slow=32						
QIZ	**Qiongzhong**	**57.01**	**52**	P	**P**	**06 34 22.8**	**+0.9**
QIZ				PcP	**PcP**	**06 35 16.0**	**-1.0**
QIZ				S	**S**	**06 42 17.8**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,37nm,1.3s						
QIZ				LR	LR		
	comp=N,290nm,20.4s						
QIZ				LR	LR		
	comp=E,230nm,21.9s						
QIZ				LR	LR		
	comp=Z,170nm,14.4s						
ASF	**Jabal al Asfar**	**57.08**	**331**	LR	LR	06 57 16.9	
	comp=Z,136nm,19.0s,baz=174,slow=34						
KSH	**Kashi**	**58.15**	**9**	P	**P**	**06 34 26.5**	**-3.2**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MMAI	**Mount Meron Ar**	**58.48**	**330**	P	**P**	**06 34 31.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=169,slow=14,SNR=5.1						
MMAI				LR	LR	06 56 09.3	
	comp=Z,113nm,20.4s,baz=148,slow=32						
	comp=Z,0.2nm,0.3s						
ELIB	**Princess Elisa**	**59.13**	**194**	*d*P	**P**	**06 34 38.6**	**+2.5**
KNRA	**Kununurra**	**60.21**	**98**	P	**P**	**06 34 44.5**	**+0.2**
KNRA				IAmb	IAmb	06 34 46.3	
	comp=Z,15nm,1.1s						
CD2	**Chengdu**	**61.00**	**37**	P	**P**	**06 34 51.0**	**+1.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AAK	**Ala-Archa**	**61.01**	**7**	P	**P**	**06 34 49.1**	**-0.3**
AAK				IAmb	IAmb	06 34 54.0	
	comp=Z,4.5nm,1.1s						
AAK	**Ala-Archa**	**61.01**	**7**	LR	LR	07 00 00.9	
	comp=Z,125nm,18.9s,baz=197,slow=35						
KK31	**Karatay Array**	**61.09**	**4**	P	**P**	**06 34 50.6**	**+0.8**
KK31				IAmb	IAmb	06 34 54.4	
	comp=Z,5.3nm,1.1s						
KKAR	**Karatay Array**	**61.09**	**4**	P	**P**	**06 34 50.6**	**+0.8**
KKAR	**Karatay Array**	**61.09**	**4**	P	**P**	**06 34 50.9**	**+1.1**
KKAR				IAmb	IAmb	06 34 54.4	
	comp=Z,5.5nm,1.1s						
GNI	**Garni**	**61.15**	**342**	P	**P**	**06 34 51.2**	**+0.8**
GNI	**Garni**	**61.15**	**342**	P	**P**	**06 34 50.2**	**-0.2**
	comp=Z,5.4nm,0.4s,baz=165,slow=7.8,SNR=5.3						
GNI				LR	LR	07 02 08.7	
	comp=Z,92nm,18.0s,baz=215,slow=37						
	comp=Z,5.4nm,0.4s						
KOPT	**Kop Dagi**	**62.40**	**338**	P	**P**	**06 35 00.2**	**+1.2**
ASAR	**Alice Springs**	**63.51**	**108**		**P**	**06 35 04.4**	**-2.1**
ASAR	**Alice Springs**	**63.51**	**108**	P	**P**	**06 35 05.1**	**-1.5**
	comp=Z,2.6nm,0.8s,baz=268,slow=6.2,SNR=19						
ASAR				LR	LR	06 58 39.7	
	comp=Z,763nm,21.1s,baz=270,slow=32						
	comp=Z,2.6nm,0.8s						
AS31	**Alice Springs**	**63.51**	**108**	P	**P**	**06 35 04.4**	**-2.1**
DAV	**Davao City (W)**	**64.23**	**73**	LR	LR	06 58 49.7	
	comp=Z,254nm,21.7s,baz=354,slow=32						
WRA	**Warramunga Arr**	**64.56**	**104**		**P**	**06 35 12.5**	**-1.0**
WRA	**Warramunga Arr**	**64.56**	**104**	P	**P**	**06 35 11.8**	**-1.8**
	comp=Z,6.8nm,1.1s,baz=264,slow=6.0,SNR=11						
	comp=Z,6.8nm,1.1s						
WB0	**Warramunga Arr**	**64.65**	**104**	P	**P**	**06 35 12.6**	**-1.4**
WB0				IAmb	IAmb	06 35 17.5	
	comp=Z,10nm,1.1s						
BR131	**Keskin Array S**	**64.83**	**333**	P	**P**	**06 35 15.1**	**+0.2**
BRTR	**Keskin Array B**	**64.83**	**333**	P	**P**	**06 35 16.2**	**+1.3**
BRTR	**Keskin Array B**	**64.83**	**333**	P	**P**	**06 35 14.7**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=164,slow=6.3,SNR=8.4						
BRTR				LR	LR	07 01 56.2	
	comp=Z,171nm,19.8s,baz=145,slow=35						
	comp=Z,0.3nm,0.5s						
WMQ	**Urumqi**	**64.88**	**17**	*e*P	**P**	**06 35 17.8**	**+2.8**
WMQ				LR	LR		
	comp=Z,180nm,21.3s						
KBZ	**Khabaz**	**64.98**	**342**	P	**P**	**06 35 12.6**	**-2.9**
	comp=Z,0.9nm,0.4s,baz=241,slow=8.4,SNR=4.0						
KBZ				LR	LR	07 03 19.2	
	comp=Z,130nm,20.5s,baz=163,slow=36						
	comp=Z,0.9nm,0.4s						
KVAR	**Kislovodsk Arr**	**65.25**	**342**	LR	LR	07 02 34.9	
	comp=Z,154nm,21.6s,baz=95,slow=35						
GTA	**Gaotai**	**65.55**	**29**	*e*P	**P**	**06 35 20.5**	**+0.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				LR	LR		
	comp=N,110nm,15.3s						
GTA				LR	LR		
	comp=E,92nm,14.9s						
GTA				LR	LR		
	comp=Z,130nm,17.1s						
SNAA	**Sanae**	**66.19**	**199**	⇑P	**P**	**06 35 26.6**	**+3.4**
	comp=Z,70nm,1.0s						
SNAA	**Sanae**	**66.19**	**199**	P	**P**	**06 35 21.2**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=41,slow=6.0,SNR=4.7						
SNAA				LR	LR	06 59 43.7	
	comp=Z,143nm,19.6s,baz=80,slow=32						
	comp=Z,1.1nm,0.7s						
XAN	**Xi'an**	**66.27**	**38**	P	**P**	**06 35 26.5**	**+2.3**
XAN				pmax	pmax		
	comp=Z,11nm,1.3s						
XAN				LR	LR		
	comp=N,280nm,15.8s						
XAN				LR	LR		
	comp=E,190nm,17.9s						
XAN				LR	LR		
	comp=Z,240nm,17.9s						
MKAR	**Makanchi Array**	**66.34**	**12**	P	**P**	**06 35 23.5**	**-0.9**
MKAR	**Makanchi Array**	**66.34**	**12**	P	**P**	**06 35 20.6**	**-3.7**
	comp=Z,1.0nm,0.9s,baz=209,slow=9.7,SNR=5.2						
MKAR				LR	LR	07 02 22.8	
	comp=Z,102nm,19.9s,baz=184,slow=34						
	comp=Z,1.0nm,0.9s						
AB31	**Akbulak array**	**67.26**	**356**	P	**P**	**06 35 28.9**	**-1.2**
AB31				IAmb	IAmb	06 35 46.6	
	comp=Z,6.2nm,1.1s						
ABKAR	**Akbulak array**	**67.26**	**356**		**P**	**06 35 29.4**	**-0.8**
VNA2	**Neumayer--Watz**	**67.46**	**200**	⇑P	**P**	**06 35 34.1**	**+2.9**
	comp=Z,7.6nm,0.8s,baz=59,slow=5.0						
VNA3	**Neumayer Olymp**	**68.24**	**200**	⇑P	**P**	**06 35 38.7**	**+2.5**
	comp=Z,5.4nm,0.8s						
AKTO	**Aktyubinsk**	**68.58**	**355**	LR	LR	07 04 47.7	
	comp=Z,77nm,18.7s,baz=78,slow=35						
KURBB	**Kurchatov Arra**	**69.38**	**9**	P	**P**	**06 35 39.5**	**-3.9**
	comp=Z,1.2nm,0.3s,baz=205,slow=6.9,SNR=4.5						
KURBB				LR	LR	07 03 38.8	
	comp=Z,176nm,18.7s,baz=173,slow=34						
	comp=Z,1.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**70.29**	**292**		**P**	**06 35 49.6**	**-0.1**
TORD				IAmb	IAmb	06 36 13.2	
	comp=Z,5.9nm,1.4s						
LIT	**Litokhoron**	**70.49**	**326**	P	**P**	**06 35 51.4**	**+0.9**
LIT				IAmb	IAmb	06 36 00.0	
	comp=Z,6.0nm,1.2s						
BVAR	**Borovoye Array**	**70.97**	**3**	P	**P**	**06 35 49.7**	**-3.4**
	comp=Z,0.4nm,0.3s,baz=181,slow=6.7,SNR=5.6						
BVAR				LR	LR	07 06 47.0	
	comp=Z,78nm,19.4s,baz=188,slow=36						
	comp=Z,0.4nm,0.3s						
NJ2	**Nanjing**	**71.33**	**46**	*e*P	**P**	**06 35 56.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
CFR	**Carcaliu**	**71.63**	**333**	⇓P	**P**	**06 35 59.1**	**+1.9**
BELG	**Belogornoye**	**71.94**	**349**	LR	LR	07 06 37.9	
	comp=Z,53nm,18.9s,baz=167,slow=35						
QSPA	**South Pole Qui**	**71.98**	**180**		**P**	**06 35 59.8**	**+0.4**
QSPA	**South Pole Qui**	**71.98**	**180**	P	**P**	**06 35 59.6**	**+0.3**
	comp=Z,4.5nm,0.9s,baz=267,slow=3.2,SNR=10						
QSPA				LR	LR	07 03 08.0	
	comp=Z,203nm,20.9s,baz=254,slow=32						
	comp=Z,4.5nm,0.9s						
HNS	**HongShan**	**72.00**	**39**	⇑P	**P**	**06 36 01.3**	**+1.7**
HNS				S	**S**	**06 45 19.0**	**-2.3**
HNS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
HNS				LR	LR		
	comp=E,140nm,14.6s						
HNS				LR	LR		
	comp=Z,170nm,18.0s						
HHC	**Hu-ho-hao-te**	**72.53**	**35**	*e*P	**P**	**06 36 06.0**	**+3.1**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
VRI	**Vrincioaia**	**72.78**	**333**	⇑P	**P**	**06 36 05.0**	**+0.9**
PLOR	**Plostina**	**72.80**	**333**	⇑P	**P**	**06 36 08.3**	**+4.0**
VOIR		**73.20**	**331**	⇑P	**P**	**06 36 08.8**	**+2.1**
ARR	**Arges**	**73.33**	**331**	⇓P	**P**	**06 36 10.4**	**+2.9**
BOVS	**Bovan**	**73.45**	**328**	⇓P	P	06 35 52.2	-16
ZAA0	**Zalesovo Array**	**73.65**	**12**	P	**P**	**06 36 07.9**	**-1.2**
ZAA0				IAmb	IAmb	06 36 23.2	
	comp=Z,4.8nm,0.9s						
ZALV	**Zalesovo Beam**	**73.65**	**12**	P	**P**	**06 36 08.0**	**-1.1**
ZALV	**Zalesovo Beam**	**73.65**	**12**	P	**P**	**06 36 08.2**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=198,slow=9.0,SNR=4.5						
ZALV				LR	LR	07 06 46.9	
	comp=Z,80nm,19.4s,baz=206,slow=34						
	comp=Z,0.6nm,0.3s						
DBIC	**Dimbokro**	**73.74**	**283**	P	**P**	**06 36 10.1**	**-0.4**
	comp=Z,4.9nm,1.0s,baz=75,slow=3.2,SNR=3.3						
DBIC				LR	LR	07 07 20.6	
	comp=Z,198nm,19.3s,baz=104,slow=35						
	comp=Z,4.9nm,1.0s						
VNDA	**Vanda**	**73.78**	**167**	P	**P**	**06 36 10.5**	**+0.8**
VNDA	**Vanda**	**73.78**	**167**	P	**P**	**06 36 09.2**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=266,slow=6.8,SNR=4.8						
VNDA				LR	LR	07 03 03.4	
	comp=Z,127nm,19.7s,baz=252,slow=31						
	comp=Z,1.1nm,0.9s						
GZR	**Gura Zlata**	**74.22**	**330**	⇓P	**P**	**06 36 16.9**	**+4.2**
ARTI	**Arti**	**74.47**	**356**	P	**P**	**06 36 13.5**	**-0.4**
ARTI				IAmb	IAmb	06 36 28.9	
	comp=Z,6.2nm,0.8s						
ARTI	**Arti**	**74.47**	**356**	P	**P**	**06 36 13.4**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=225,slow=1.3,SNR=4.3						
ARTI				LR	LR	07 08 36.2	
	comp=Z,98nm,18.6s,baz=207,slow=36						
	comp=Z,3.7nm,0.8s						
MARR	**Marisel-Cluj**	**75.01**	**331**	⇑P	**P**	**06 36 20.5**	**+3.2**
JAY	**Jayapura**	**75.05**	**88**	LR	LR	07 06 53.4	
	comp=Z,93nm,20.7s,baz=249,slow=34						
SONM	**Songino Array**	**75.12**	**27**	P	**P**	**06 36 17.8**	**-0.2**
SONM	**Songino Array**	**75.12**	**27**	P	**P**	**06 36 17.4**	**-0.6**
	comp=Z,2.5nm,1.0s,baz=222,slow=6.0,SNR=8.4						
SONM				LR	LR	07 07 43.7	
	comp=Z,236nm,20.1s,baz=240,slow=35						
	comp=Z,2.5nm,1.0s						
DRGR		**75.29**	**331**	⇑P	**P**	**06 36 22.0**	**+3.1**
JOW	**Kunigami**	**75.43**	**55**	LR	LR	07 06 42.1	
	comp=Z,142nm,20.3s,baz=268,slow=34						
AKBB	**Malin Array Si**	**75.63**	**337**	P	**P**	**06 36 18.4**	**-2.3**
AKBB				IAmb	IAmb	06 36 19.3	
	comp=Z,9.8nm,0.9s						
KIEV	**Kiev**	**75.63**	**337**		**P**	**06 36 18.0**	**-2.6**
KIEV				IAmb	IAmb	06 36 19.3	
	comp=Z,8.7nm,0.9s						
MORH	**Mrgy, Hungar**	**76.81**	**329**	⇓P	**P**	**06 36 29.6**	**+2.2**
KIRV	**Kirov**	**77.59**	**351**	LR	LR	07 10 51.4	
	comp=Z,74nm,18.4s,baz=170,slow=36						
RONA	**Rosalia, Austr**	**79.00**	**329**	*i* P	**P**	**06 36 42.9**	**+3.2**
	comp=Z,9.0nm,1.5s						
ARSA	**Arzberg**	**79.09**	**328**	*i* P	**P**	**06 36 43.7**	**+3.5**
	comp=Z,7.3nm,1.2s						
OBKA	**Obir**	**79.10**	**327**	*i* P	**P**	**06 36 42.1**	**+1.8**
	comp=Z,10nm,1.3s						
CONA	**Conrad Observa**	**79.37**	**329**	*i* P	**P**	**06 36 44.9**	**+3.1**
	comp=Z,6.9nm,1.2s						
KBA	**Koelnbreinsper**	**80.09**	**327**	*i* P	**P**	**06 36 48.6**	**+2.7**
	comp=Z,7.1nm,1.2s						
MOA	**Molln**	**80.12**	**328**	*i* P	**P**	**06 36 47.7**	**+2.0**
	comp=Z,6.6nm,1.2s						
ABTA	**Abfaltersbach**	**80.32**	**326**	*i* P	**P**	**06 36 48.3**	**+1.4**
	comp=Z,5.0nm,0.9s						
JNU	**Nakatsue**	**80.45**	**51**	LR	LR	07 12 20.7	
	comp=Z,76nm,18.8s,baz=216,slow=36						
KSRS	**Korea Array**	**80.53**	**46**	P	**P**	**06 36 44.5**	**-3.6**
	comp=Z,1.7nm,0.8s,baz=236,slow=6.0,SNR=6.0						
KSRS				LR	LR	07 10 02.4	
	comp=Z,95nm,20.4s,baz=210,slow=34						
	comp=Z,1.7nm,0.8s						
LESA	**Schwarzleotal**	**80.67**	**327**	*i* P	**P**	**06 36 51.1**	**+2.3**
	comp=Z,8.1nm,1.9s						
GERES	**GERESS Array B**	**81.06**	**328**	P	**P**	**06 36 51.3**	**+0.4**
	comp=Z,0.2nm,0.2s,baz=111,slow=7.3,SNR=3.6						
	comp=Z,0.2nm,0.2s						
WTTA	**Wattenberg**	**81.11**	**326**	*i* P	**P**	**06 36 53.0**	**+1.7**
	comp=Z,6.8nm,0.9s						
WATA	**Walderalm**	**81.19**	**326**	*e*P	**P**	**06 36 53.1**	**+1.4**
	comp=Z,8.5nm,1.2s						
FETA	**Feichten**	**81.45**	**326**	*i* P	**P**	**06 36 54.7**	**+1.6**
	comp=Z,7.1nm,1.4s						
CLL	**Collm**	**83.01**	**330**	*e*P	**P**	**06 37 03.0**	**+2.1**
	comp=Z,7.0nm,1.1s						
CLL				*e*PP	**PP**	**06 40 16.0**	**+4.0**
MDT	**Midelt**	**84.02**	**307**	LR	LR	07 15 27.6	
	comp=Z,226nm,18.8s,baz=128,slow=36						
**G

ITAN	**ITANAGAR**	**0.94**	**45**	*eP*	**Pn**	**06 27 18.7**	**-0.3**
ITAN				*eS*	**Sn**	**06 27 31.7**	**+0.5**
ITAN				IAML		06 27 32.3	
	comp=E,28μm,0.1s						
ITAN				IAML		06 27 32.9	
	comp=N,23μm,0.2s						
GUWA	**GUWAHATI**	**1.19**	**257**	*eP*	**Pn**	**06 27 24.2**	**+1.8**
GUWA				*eS*	**Sn**	**06 27 40.0**	**+2.6**
GUWA				IAML		06 27 41.6	
	comp=N,3μm,0.1s						
GUWA				IAML		06 27 41.7	
	comp=E,3μm,0.1s						
KOHI	**KOHIMA**	**1.26**	**126**	*eP*	**Pn**	**06 27 23.4**	**-0.1**
KOHI				*eS*	**Sn**	**06 27 38.3**	**-1.0**
KOHI				IAML		06 27 39.5	
	comp=E,17μm,0.5s						
KOHI				IAML		06 27 39.9	
	comp=N,25μm,0.3s						
ZIRO	**ZIRO**	**1.30**	**36**	*eP*	**Pn**	**06 27 23.6**	**-0.5**
ZIRO				*eS*	**Sn**	**06 27 38.9**	**-1.5**
ZIRO				IAML		06 27 41.6	
	comp=E,24μm,0.4s						
ZIRO				IAML		06 27 41.8	
	comp=N,15μm,0.6s						
SHL	**Shillong**	**1.34**	**228**		**Pn**	**06 27 26.3**	**+1.7**
SHL				Sn	**Sn**	**06 27 39.9**	**-1.4**
SHL	**Shillong**	**1.34**	**228**	*eP*	**Pn**	**06 27 24.9**	**+0.3**
SHL				*eS*	**Sn**	**06 27 42.1**	**+0.8**
SHL				IAML		06 27 44.0	
	comp=E,4μm,0.1s						
SHL				IAML		06 27 46.2	
	comp=N,3μm,0.1s						
IMP	**Imphal**	**1.85**	**152**	*eP*	**Pn**	**06 27 31.6**	**0.0**
IMP				*eS*	**Sn**	**06 27 53.1**	**-0.7**
IMP				IAML		06 27 54.9	
	comp=E,2μm,0.3s						
IMP				IAML		06 27 56.1	
	comp=N,934nm,0.7s						
AZL	**Aizawl**	**2.74**	**186**	*eP*	**Pn**	**06 27 44.0**	**+0.3**
AZL				*eS*	**Sn**	**06 28 15.0**	**-0.7**
AZL				IAML		06 28 18.7	
	comp=N,974nm,0.3s						
AZL				IAML		06 28 20.1	
	comp=E,1μm,0.4s						
AGT	**Agartala**	**3.02**	**212**	*eS*	**Sn**	**06 28 23.2**	**+0.7**
AGT				IAML		06 28 26.0	
	comp=N,2μm,0.4s						
AGT				IAML		06 28 26.1	
	comp=E,2μm,0.3s						
LSA	**Lhasa**	**3.60**	**334**		**Pn**	**06 27 55.3**	**-0.6**
LSA	**Lhasa**	**3.60**	**334**	Pn	**Pn**	**06 27 51.5**	**-4.4**
LSA				Sn	**Sn**	**06 28 39.5**	**+2.1**
LSA				LR	LR		
	comp=E,230nm,4.3s						
SAIH	**SAIHA**	**3.97**	**180**	*eP*	**Pn**	**06 28 00.8**	**0.0**
SAIH				*eS*	**Sn**	**06 28 42.9**	**-3.1**
SAIH				IAML		06 28 48.4	
	comp=E,369nm,0.4s						
SAIH				IAML		06 28 51.6	
	comp=N,220nm,0.5s						
BRDH	**Bariadhala**	**3.97**	**198**	Pn	**Pn**	**06 28 00.2**	**-0.5**
	comp=N,86nm,0.3s,baz=34,slow=9.4,SNR=17						
BRDH				Sn	**Sn**	**06 28 45.9**	**-0.1**
	comp=N,178nm,0.3s,baz=174,slow=23,SNR=12						
GTK	**Tadong**	**4.00**	**283**	*eP*	**Pn**	**06 28 01.9**	**+0.7**
GTK				*eS*	**Sn**	**06 28 48.4**	**+1.5**
GTK				IAML		06 28 50.6	
	comp=N,404nm,0.4s						
GTK				IAML		06 28 51.4	
	comp=E,362nm,0.2s						
GUN	**Gumba**	**6.49**	**284**	Pn	**Pn**	**06 28 37.1**	**+1.6**
	baz=293,slow=0.0						
GUN				Sn	**Sn**	**06 29 49.7**	**+1.3**
	comp=E,211nm,0.5s,baz=293,slow=0.0						
PKI	**Pulchoki**	**6.84**	**281**	Pn	**Pn**	**06 28 41.5**	**+1.1**
	baz=289,slow=0.0						
PKI				Sn	**Sn**	**06 29 57.6**	**+0.4**
	comp=E,138nm,0.5s,baz=289,slow=0.0						
PKIN	**Phulchoki**	**6.86**	**281**	Pn	**Pn**	**06 28 41.6**	**+1.1**
	baz=289,slow=0.0						
PKIN				Sn	**Sn**	**06 29 57.8**	**+0.4**
	comp=E,157nm,0.4s,baz=289,slow=0.0						
KKN	**Kakani**	**6.99**	**283**	Pn	**Pn**	**06 28 43.9**	**+1.6**
	baz=290,slow=0.0						
KKN	**Kakani**	**6.99**	**283**	Pn	**Pn**	**06 28 44.2**	**+1.9**
	baz=290,slow=0.0						
KKN	**Kakani**	**6.99**	**283**	Pn	**Pn**	**06 28 44.9**	**+2.6**
	baz=290,slow=0.0						
KKN				Sn	**Sn**	**06 30 01.9**	**+1.3**
	comp=E,140nm,0.2s,baz=290,slow=0.0						
DMN	**Daman**	**7.11**	**281**	Pn	**Pn**	**06 28 45.1**	**+1.0**
	baz=289,slow=0.0						
DMN				Sn	**Sn**	**06 30 03.6**	**-0.2**
	comp=E,101nm,0.4s,baz=289,slow=0.0						
PZH	**PanZhiHua**	**7.85**	**88**	Pn	**Pn**	**06 28 55.0**	**+1.0**
PZH				pmax	pmax		
	comp=E,20nm,0.5s						
PZH				pmax	pmax		
	comp=E,70nm,4.2s						
KOLN	**Koldanda**	**8.46**	**281**	Pn	**Pn**	**06 29 02.6**	**+0.1**
	baz=287,slow=0.0						
KOLN	**Koldanda**	**8.46**	**281**	Pn	**Pn**	**06 29 03.1**	**+0.6**
	baz=287,slow=0.0						
KOLN	**Koldanda**	**8.46**	**281**	Pn	**Pn**	**06 29 03.5**	**+1.0**
	baz=287,slow=0.0						
KOLN				Sn	**Sn**	**06 30 35.7**	**-1.1**
	comp=E,107nm,0.3s,baz=287,slow=0.0						
PYUN	**Piuthan**	**9.04**	**283**	Pn	**Pn**	**06 29 10.8**	**+0.4**
	baz=289,slow=0.0						
PYUN				Sn	**Sn**	**06 30 49.6**	**-1.4**
	comp=E,128nm,0.5s,baz=289,slow=0.0						
CHTO	**Chiang Mai**	**9.40**	**143**		**Pn**	**06 29 14.3**	**-0.9**
CM31	**Chiang Mai Arr**	**9.69**	**144**		**Pn**	**06 29 19.3**	**0.0**
CMAR	**Chiang Mai Arr**	**9.69**	**144**	Pn	**Pn**	**06 29 17.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**9.69**	**144**	Pn	**Pn**	**06 29 18.4**	**-0.8**
	comp=E,1.0nm,0.3s,baz=313,slow=13,SNR=31						
CMAR				LR	LR	06 33 48.2	
	comp=E,81nm,18.1s,baz=325,slow=42						
	comp=E,5.3nm,0.6s						
GOMU	**GeErMu**	**9.82**	**9**	P	**Pn**	**06 29 21.0**	**-0.2**
GOMU				pP		06 29 24.8	
GOMU				sP		06 29 28.5	
GOMU				pmax	pmax		
	comp=E,23nm,0.6s						
GOMU				LR	LR		
	comp=E,260nm,14.5s						
GOMU				LR	LR		
	comp=E,200nm,16.2s						
GOMU				LR	LR		
	comp=E,360nm,15.7s						
LGTI	**Lohaghat**	**11.64**	**288**	*eP*	**Pn**	**06 29 46.4**	**+0.5**
LGTI				*eS*	**Sn**	**06 31 48.1**	**-6.4**
PTH	**Pithoragarh**	**11.69**	**288**	*eP*	**Pn**	**06 29 45.8**	**-0.8**
PTH				*eS*	Sn	06 31 46.1	-10
LZH	**Lanzhou**	**13.34**	**41**	*eP*	**Pn**	**06 30 10.8**	**+1.7**
LZH				pP	P	06 30 17.8	-0.2
LZH				pmax	pmax		
	comp=E,17nm,1.3s						
HNLY	**HANLEY**	**13.70**	**301**	*eP*	**Pn**	**06 30 13.6**	**-0.9**
HNLY				*eS*	Sn	06 32 34.3	-11
KLP	**Kalpa**	**13.84**	**295**	*eP*	**Pn**	**06 30 14.7**	**-1.5**
KLP				*eS*	Sn	06 32 38.4	-10
GTA	**Gaotai**	**14.11**	**22**	*eP*	**Pn**	**06 30 17.5**	**-2.1**
GTA				sP	P	06 30 28.8	+2.2
GTA				pmax	pmax		
	comp=E,4.0nm,0.7s						
NRDN	**NARMADA NAGAR**	**14.86**	**259**	*eP*	**Pn**	**06 30 30.9**	**+1.2**
ENH	**Enshi**	**15.01**	**72**		**Pn**	**06 30 31.9**	**+0.2**
XAN	**Xi'an**	**15.69**	**57**	*eP*	**P**	**06 30 43.0**	**-1.1**
XAN				pP	pP	06 30 52.3	-1.6
XAN				pmax	pmax		
	comp=E,11nm,0.8s						
THN	**Thein Dam**	**16.16**	**296**	*eP*	**Pn**	**06 30 43.5**	**-3.0**
WMQ	**Urumqi**	**17.83**	**347**	*eP*	**P**	**06 31 13.5**	**+5.7**
WMQ				pP	pP	06 31 18.0	+0.4
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
NIL	**Nilore**	**18.50**	**297**	P	**P**	**06 31 13.1**	**-2.0**
NIL				IAmb	IAmb	06 31 19.2	
	comp=Z,39nm,0.7s						
WUS	**Wushi**	**18.58**	**326**		**P**	**06 31 15.8**	**-0.2**
WHN	**Wuhan**	**19.21**	**73**	P	**Pn**	**06 31 29.8**	**+5.8**
WHN				pmax	pmax		
	comp=Z,40nm,0.7s						
KSH	**Kashi**	**19.26**	**317**	P	**Pn**	**06 31 26.8**	**+2.0**
KSH				pmax	pmax		
	comp=Z,14nm,0.6s						
TARG	**Taragay, Kyrgy**	**19.69**	**324**	P	**P**	**06 31 28.5**	**0.0**
PRZ	**Przheval'sk**	**19.94**	**327**	P	**Pn**	**06 31 32.2**	**-0.7**
PRZ				IAmb	IAmb	06 31 50.6	
	comp=Z,17nm,0.5s						
KDJ	**Kajisay**	**20.30**	**324**	P	Pn	06 31 36.4	-0.7
NRN	**Naryn**	**20.46**	**321**	P	**P**	**06 31 37.8**	**+0.9**
HHC	**Hu-ho-hao-te**	**21.03**	**42**	*eP*		06 31 45.0	
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
BOOM	**Boomskoye usch**	**21.21**	**323**	P	**P**	**06 31 46.0**	**+1.2**
BOOM				IAmb	IAmb	06 32 04.1	
	comp=Z,11nm,0.7s						
HNS	**HongShan**	**21.36**	**54**	⇑P	**P**	**06 31 49.0**	**+2.8**
MKAR	**Makanchi Array**	**21.98**	**340**	P	**P**	**06 31 52.5**	**-0.3**
MKAR	**Makanchi Array**	**21.98**	**340**	P	**P**	**06 31 53.0**	**+0.2**
	comp=Z,10nm,0.7s,baz=146,slow=12,SNR=44						
	comp=Z,10nm,0.7s						
MAKZ	**Makanchi**	**22.09**	**340**		**P**	**06 31 54.0**	**0.0**
MAKZ				IAmb	IAmb	06 32 14.3	
	comp=Z,9.2nm,0.8s						
AAK	**Ala-Archa**	**22.10**	**322**		**P**	**06 31 55.6**	**+1.3**
AAK	**Ala-Archa**	**22.10**	**322**	P	**P**	**06 31 55.9**	**+1.6**
	comp=Z,2.6nm,0.5s,baz=154,slow=4.7,SNR=8.9						
	comp=Z,2.6nm,0.5s						
KBL	**Kabul**	**22.10**	**297**		**P**	**06 31 54.8**	**+0.4**
KBL				IAmb	IAmb	06 31 58.2	
	comp=Z,22nm,0.7s						
GAR	**Garm**	**22.72**	**309**	P	**P**	**06 32 01.2**	**+0.3**
BTK	**Batken**	**22.88**	**312**	P	**P**	**06 32 03.5**	**+1.0**
BTK				IAmb	IAmb	06 32 10.3	
	comp=Z,28nm,0.7s						
NJ2	**Nanjing**	**23.22**	**70**	*eP*	**P**	**06 32 06.5**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SIMJ	**Simiganj**	**23.50**	**307**	P	**P**	**06 32 08.3**	**-0.4**
SIMJ				IAmb	IAmb	06 32 12.6	
	comp=Z,14nm,0.8s						
SONM	**Songino Array**	**23.78**	**23**	P	**P**	**06 32 12.0**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=206,slow=13,SNR=4.5						
	comp=Z,0.5nm,0.5s						
KK31	**Karatay Array**	**24.70**	**318**	P	**P**	**06 32 19.7**	**+0.1**
KKAR	**Karatay Array**	**24.70**	**318**	P	**P**	**06 32 19.5**	**-0.2**
KURBB	**Kurchatov Arra**	**26.53**	**339**	P	**P**	**06 32 35.8**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=149,slow=9.0,SNR=20						
KURBB				pP	**pP**	**06 32 47.1**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=147,slow=9.6,SNR=9.5						
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**26.59**	**339**	P	**P**	**06 32 36.8**	**+0.2**
KURK				IAmb	IAmb	06 32 57.0	
	comp=Z,8.3nm,0.9s						
ZAA0	**Zalesovo Array**	**28.10**	**350**	P	**P**	**06 32 50.8**	**+0.7**
ZALV	**Zalesovo Beam**	**28.10**	**350**	P	**P**	**06 32 50.8**	**+0.7**
ZALV	**Zalesovo Beam**	**28.10**	**350**	P	**P**	**06 32 50.9**	**+0.8**
	comp=Z,4.2nm,0.5s,baz=176,slow=8.0,SNR=20						
ZALV				LR	LR	06 46 37.1	
	comp=Z,44nm,21.1s,baz=190,slow=42						
	comp=Z,4.2nm,0.5s						
BNX	**BinXian**	**33.46**	**46**	⇓P	**P**	**06 33 37.8**	**+0.3**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AB31	**Akbulak array**	**34.18**	**321**	P	**P**	**06 33 44.1**	**+0.4**
AB31				IAmb	IAmb	06 33 45.8	
	comp=Z,4.5nm,0.5s						
ABKAR	**Akbulak array**	**34.18**	**321**	P	**P**	**06 33 44.1**	**+0.4**
AKTO	**Aktyubinsk**	**35.84**	**321**	P	**P**	**06 33 57.8**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=126,slow=6.1,SNR=6.3						
	comp=Z,1.5nm,0.4s						
ARTI	**Arti**	**38.85**	**330**	P	**P**	**06 34 23.4**	**0.0**
ARTI	**Arti**	**38.85**	**330**	P	**P**	**06 34 23.9**	**+0.6**
	comp=Z,5.7nm,0.3s,baz=132,slow=5.1,SNR=14						
	comp=Z,5.7nm,0.3s						
KAPI	**Kappang**	**40.65**	**136**	LR	LR	06 53 42.8	
	comp=Z,237nm,20.3s,baz=244,slow=39						
BELG	**Belogornoye**	**42.58**	**320**	P	**P**	**06 34 53.5**	**-0.6**
	comp=Z,19nm,0.6s,baz=314,slow=1.7,SNR=7.3						
	comp=Z,19nm,0.6s						
RAYN	**Ar Rayn**	**42.95**	**277**	P	**P**	**06 34 57.5**	**-0.2**
NRIK	**Noril'sk**	**43.01**	**357**	P	**P**	**06 34 57.3**	**-0.2**
NRIK				IAmb	IAmb	06 35 15.5	
	comp=Z,4.7nm,0.8s						
NRIK	**Noril'sk**	**43.01**	**357**	P	**P**	**06 34 56.8**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=159,slow=9.5,SNR=4.3						
	comp=Z,1.5nm,0.4s						
KARS	**Kars**	**43.37**	**302**	P	**P**	**06 35 01.9**	**+0.9**
KBZ	**Khabaz**	**43.75**	**306**	P	**P**	**06 35 03.4**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=143,slow=10,SNR=3.8						
	comp=Z,0.9nm,0.6s						
KIV	**Kislovodsk**	**43.93**	**307**	P	**P**	**06 35 06.2**	**+0.9**
KIRV	**Kirov**	**44.12**	**329**	P	**P**	**06 35 05.6**	**-0.9**
	comp=Z,14nm,0.6s,baz=339,slow=1.1,SNR=4.8						
	comp=Z,14nm,0.6s						
MARD	**Mardin**	**45.12**	**297**	P	**P**	**06 35 15.8**	**+0.7**
DIKM	**Dikmen**	**49.29**	**303**	⇑P	**P**	**06 35 48.9**	**+1.6**
TIXI	**Tiksi**	**49.41**	**14**	P	**P**	**06 35 48.0**	**+0.2**
TIXI				IAmb	IAmb	06 35 55.3	
	comp=Z,4.5nm,0.5s						
BZK	**Bozkurt**	**50.22**	**304**	P	**P**	**06 35 55.0**	**+0.6**
ILGA	**Ilgaz**	**50.47**	**303**	P	**P**	**06 35 57.0**	**+0.5**
BRTR	**Keskin Array B**	**50.60**	**301**	P	**P**	**06 35 57.1**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=110,slow=3.0,SNR=6.7						
	comp=Z,1.0nm,0.5s						
MDUB	**Mudurnu**	**52.41**	**302**	P	**P**	**06 36 11.4**	**+0.4**
BORA	**Eskisehir**	**53.03**	**301**	P	**P**	**06 36 15.8**	**+0.3**
BORA				IAmb	IAmb	06 36 16.5	
	comp=Z,12nm,0.8s						
AKASG	**Malin Array Be**	**53.54**	**315**	P	**P**	**06 36 18.5**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=82,slow=6.4,SNR=20						
	comp=Z,1.8nm,0.5s						
KIEV	**Kiev**	**53.55**	**315**	⇓P	**P**	**06 36 18.8**	**-0.2**
JOF	**Joensuu**	**53.92**	**330**	*eP*	**P**	**06 36 21.8**	**+0.3**
NACGM	**Naroch**	**55.19**	**320**	*eP*	**P**	**06 36 35.4**	**+4.5**
	comp=Z,7.0nm,0.6s,baz=92						
FIA1	**FINESS Array S**	**56.10**	**328**	P	**P**	**06 36 36.8**	**-0.4**
FIA1				IAmb	IAmb	06 37 01.5	
	comp=Z,20nm,1.4s						
FINES	**FINESS Array B**	**56.10**	**328**	P	**P**	**06 36 37.4**	**+0.1**
FINES	**FINESS Array B**	**56.10**	**328**	P	**P**	**06 36 37.5**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=105,slow=8.6,SNR=15						
FINES				pP	**pP**	**06 36 49.4**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=82,slow=14,SNR=4.0						
	comp=Z,1.5nm,0.5s						
KARP	**Karpathos**	**56.22**	**296**	P	**P**	**06 36 38.8**	**+0.2**
KARP	**Karpathos**	**56.22**	**296**	*eP*	**P**	**06 36 38.9**	**+0.2**
BURAR	**Bucovina Array**	**56.22**	**311**	P	**P**	**06 36 38.7**	**+0.1**
ALN	**Alexandroupoli**	**56.27**	**303**	P	**P**	**06 36 38.9**	**+0.1**
ALN				IAmb	IAmb	06 36 40.0	
	comp=Z,7.8nm,0.8s						
KEF	**Keuruu**	**56.75**	**329**	*eP*	**P**	**06 36 42.0**	**+0.2**
PABE	**Paberze**	**56.82**	**321**	*eP*	**P**	**06 36 42.7**	**+0.2**
MTSE	**Matsula**	**57.00**	**324**	*eP*	**P**	**06 36 44.8**	**+1.1**
ARCES	**ARCESS Array B**	**57.60**	**337**	P	**P**	**06 36 47.0**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=91,slow=6.1,SNR=6.8						
	comp=Z,1.5nm,0.6s						
VAF	**Ylistaro**	**57.84**	**330**	*eP*	**P**	**06 36 49.9**	**+0.4**
IDI	**Anoyia**	**58.09**	**297**	P	**P**	**06 36 51.6**	**-0.3**
IDI				IAmb	IAmb	06 36 52.4	
	comp=Z,7.2nm,0.7s						
RAF	**Rauma**	**58.14**	**327**	*eP*	**P**	**06 36 51.6**	**-0.1**
LIT	**Litokhoron**	**59.06**	**303**	P	**P**	**06 36 57.8**	**-0.8**
LIT				IAmb	IAmb	06 36 59.9	
	comp=Z,5.9nm,1.0s						
AGG	**Agios Georgios**	**59.38**	**301**	P	**P**	**06 36 59.7**	**-1.0**
ITM	**Ithomi**	**60.05**	**299**	P	**P**	**06 37 04.0**	**-1.4**
VYHS	**Vyhne**	**60.40**	**313**	*eP*	**P**	**06 37 09.5**	**+1.9**
WB0	**Warramunga Arr**	**61.05**	**135**	P	**P**	**06 37 10.8**	**-1.5**
WB0				IAmb	IAmb	06 37 23.5	
	comp=Z,8.7nm,0.8s						
WRA	**Warramunga Arr**	**61.14**	**135**	P	**P**	**06 37 11.9**	**-1.1**
WRA	**Warramunga Arr**	**61.14**	**135**	P	**P**	**06 37 11.8**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=321,slow=7.4,SNR=11						
WRA				pP	**pP**	**06 37 23.6**	**-1.1**
	comp=Z,8.4nm,0.8s,baz=324,slow=7.3,SNR=21						
WRA				sP	**sP**	**06 37 28.3**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=321,slow=7.4,SNR=6.0						
	comp=Z,1.2nm,0.6s						
SPITS	**Spitsbergen Ar**	**61.53**	**347**	P	**P**	**06 37 15.2**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=122,slow=11,SNR=7.8						
SPITS				pP	**pP**	**06 37 27.0**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=102,slow=12,SNR=2.0						
SPITS				sP	**sP**	**06 37 31.4**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=121,slow=9.8,SNR=1.4						
	comp=Z,0.8nm,0.5s						
VRAC	**Vranov**	**61.75**	**314**	LR	LR	07 05 18.7	
	comp=Z,75nm,18.1s,baz=142,slow=37						
HFS	**Hagfors**	**62.14**	**326**	P	**P**	**06 37 19.1**	**0.0**
	comp=Z,3.7nm,0.6s,baz=84,slow=6.6,SNR=16						
HFS				pP	**pP**	**06 37 30.7**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=90,slow=6.4,SNR=5.0						
	comp=Z,3.7nm,0.6s						
NC303	**NORSAR Array S**	**63.17**	**328**	P	**P**	**06 37 25.8**	**-0.2**
NC303				IAmb	IAmb	06 37 34.0	
	comp=Z,7.5nm,1.2s						
NB2	**NORSAR Subarra**	**63.27**	**327**	P	**P**	**06 37 26.0**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=84,slow=6.5						
NOA	**NORSAR Array B**	**63.27**	**327**	P	**P**	**06 37 26.0**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=84,slow=6.5,SNR=12						
NOA				pP	**pP**	**06 37 38.0**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=83,slow=6.5,SNR=4.6						
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**63.64**	**138**	P	**P**	**06 37 29.8**	**+0.2**
ASAR	**Alice Springs**	**63.64**	**138**	P	**P**	**06 37 28.9**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=321,slow=6.9,SNR=9.0						
ASAR				pP	**pP**	**06 37 40.2**	**-1.2**
	comp=Z,4.4nm,0.8s,baz=321,slow=6.7,SNR=17						
	comp=Z,0.6nm,0.5s						
GERES	**GERESS Array B**	**63.70**	**314**	P	**P**	**06 37 30.1**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=71,slow=6.7,SNR=8.1						
	comp=Z,0.9nm,0.5s						
NRCA	**Norcia**	**65.40**	**307**	P	**P**	**06 37 40.5**	**-0.5**
NRCA				IAmb	IAmb	06 37 42.6	
	comp=Z,6.8nm,0.9s						
TUE	**Stuetta**	**67.10**	**312**	P	**P**	**06 37 51.4**	**-0.6**
TUE				IAmb	IAmb	06 38 12.6	
	comp=Z,5.9nm,1.1s						
BTNL	**Ternell**	**68.10**	**317**	*dP*	**P**	**06 38 00.7**	**+2.7**
	comp=Z,7.4nm,1.2s						
BNI	**Bardonecchia**	**69.28**	**311**	P	**P**	**06 38 05.9**	**+0.2**
BNI				IAmb	IAmb	06 38 36.9	
	comp=Z,22nm,1.4s						
KEST	**Kesra**	**70.21**	**301**	P	**P**	**06 38 10.7**	**-0.7**
	comp=Z,6.2nm,0.8s,baz=6.0,slow=8.5,SNR=4.0						
	comp=Z,6.2nm,0.8s						
B20K	**Meade River**	**71.84**	**20**	P	**P**	**06 38 19.9**	**-0.6**
B20K				IAmb	IAmb	06 38 33.3	
	comp=Z,6.7nm,1.4s						
EKA	**Eskdalemuir Ar**	**72.00**	**323**	P	**P**	**06 38 21.9**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=68,slow=5.0,SNR=4.5						
	comp=Z,0.9nm,0.5s						
ESK	**Eskdalemuir**	**72.03**	**323**	P	**P**	**06 38 21.7**	**-0.2**
F17K	**Baldwin Pennin**	**72.06**	**24**	P	**P**	**06 38 22.0**	**+0.1**
F17K				IAmb	IAmb	06 38 39.1	
	comp=Z,3.2nm,0.8s						
D19K	**Kuna River**	**72.24**	**21**	P	**P**	**06 38 23.0**	**-0.1**
D20K	**Etivluk River**	**72.62**	**21**	P	**P**	**06 38 25.9**	**+0.6**
EUNU	**Eureka**	**73.69**	**360**	P	**P**	**06 38 32.4**	**+0.9**
C23K	**Itkillik River**	**73.88**	**19**	P	**P**	**06 38 33.1**	**+0.4**
C23K				IAmb	IAmb	06 38 51.6	
	comp=Z,7.0nm,1.4s						
E24K	**Your Creek**	**75.51**	**20**	P	**P**	**06 38 42.0**	**-0.3**
ILAR	**Eielson Array**	**78.01**	**22**	pP	pP	06 39 07.8	-0.5
	comp=Z,0.5nm,0.7s,baz=295,slow=4.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**85.38**	**282**	P	**P**	**06 39 35.8**	**-0.2**
TORD				IAmb	IAmb	06 39 37.3	
	comp=Z,4.2nm,1.0s						
MSVF	**Nonsavu**	**93.48**	**108**	LR	LR	07 22 56.5	
	comp=Z,110nm,19.7s,baz=218,slow=36						
DBIC	**Dimbokro**	**94.03**	**279**	P	**P**	**06 40 16.3**	**-0.6**
	comp=Z,7.1nm,1.0s,baz=179,slow=4.8,SNR=3.8						
	comp=Z,7.1nm,1.0s						

*IDC **27** 06:43:11.3±2.9, 10°.32S×121°.08E, h0km, mb3.6/1, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=266.2km s-min=31.6km az=51.0*
*DJA **27** 06:43:22.4±1.4, 10°S±6°×12°2E±°, h23km±12km, M3.5/6, MLv3.5/6*
ISC 27 06:43:17.5±1.0,**9°.94S**±0°.08×**122°.05E**±0°.07,**h35**km,**n8**, σ2§92/10,**Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.23**	**343**	P	**Pn**	**06 43 37.8**	**-0.5**
MMRI	**Maumere**	**1.31**	**8**	P	**Pn**	**06 43 40.5**	**+1.2**
MMRI				S	**Sn**	**06 43 55.3**	**-0.2**
SOEI	**Soe**	**2.19**	**85**	P	Pn	06 44 02.4	+11
WBSI	**Waikabubak, Su**	**2.64**	**276**	P	**Pn**	**06 43 58.0**	**+0.4**
WBSI				S	**Sn**	**06 44 27.3**	**-1.2**
PLAI	**Plampang**	**4.36**	**284**	P	**Pn**	**06 44 22.7**	**+1.4**
WRA	**Warramunga Arr**	**15.48**	**131**	Pn	**Pn**	**06 46 56.5**	**+3.2**
	0.1nm,0.3s,baz=301,slow=14,SNR=2.0						
WRA				Sn	**Sn**	**06 49 37.6**	**-6.1**
	0.3nm,0.3s,baz=292,slow=24,SNR=6.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**17.73**	**142**	P	**P**	**06 47 24.6**	**+2.2**
	0.1n

ARGC			S	Sn	06 51 19.2	+1.6
ANIL	Santa Ana	3.28 225	P	Pn	06 50 41.8	+1.9
ANIL			S	Sn	06 51 19.7	0.0
PRAC	Prado	3.59 210	P	Pn	06 50 43.9	+0.3
PRAC			S	Sn	06 51 25.2	-1.2
APAC	Apartado, Choc	3.62 287	P	Pn	06 50 44.7	+0.7
APAC			S	Sn	06 51 25.6	-1.5
SJCC	San Jacinto, C	3.68 326	P	Pn	06 50 44.4	-0.4
SJCC			S	Sn	06 51 26.2	-2.2
URMC	La Uribe, Meta	3.80 200	P	Pn	06 50 47.0	+0.6
URMC			S	Sn	06 51 31.1	-0.2
LCBC	Los crdobas,	3.82 302	P	Pn	06 50 46.4	-0.2
LCBC			S	Sn	06 51 28.9	-2.7
CRJC	Cerrejon, Guaj	4.16 3	P	Pn	06 50 50.8	-0.3
CRJC			S	Sn	06 51 37.4	-2.3
GUVC	San Jose del G	4.29 174	P	Pn	06 50 52.0	-0.8
GUVC			S	Sn	06 51 40.7	-2.1
YOTC	Yotoco, Valle	4.31 229	P	Pn	06 50 52.9	-0.2
YOTC			S	Sn	06 51 44.4	+1.0
SOLC	Bahia Solano	4.34 262	P	Pn	06 50 54.1	+0.7
SOLC			S	Sn	06 51 44.3	+0.5
SMRC	Santa Marta, M	4.44 345		Pn	06 50 54.6	-0.1
SMRC	Santa Marta, M	4.44 345	P	Pn	06 50 55.0	+0.3
SMRC			S	Sn	06 51 44.1	-2.1
CAPC	Capurgana	4.59 293	P	Pn	06 50 55.9	-0.7
PIZC	Pizarro, Choco	4.64 247	P	Pn	06 50 58.7	+1.3
PTAC	Punta Ardita,	4.70 274	P	Pn	06 50 58.0	-0.1
MACC	Macarena, Meta	4.73 189	P	Pn	06 50 57.3	-1.2
BETC	Betania	4.75 210	P	Pn	06 50 58.5	-0.4
URIC	Uribia, Colomb	4.95 12	P	Pn	06 51 00.7	-0.7
JAMC	Jamundi, Valle 3µm109nm,0.5s	5.08 225	P	Pn	06 51 02.9	-0.4
MALC	Bahia Malaga	5.08 237	P	Pn	06 51 05.4	+2.3
GARC	Garzon, Huila	5.21 208	P	Pn	06 51 04.9	-0.2
BAUV	El Baul	5.41 67		Pn	06 51 05.9	-1.6
POPC	Popayan, Colom 1µm104nm,0.6s	5.57 220	P	Pn	06 51 09.9	0.0
FLOC	Florencia	5.82 206		Pn	06 51 12.5	-0.5
FLOC	Florencia 2µm101nm,1.1s	5.82 206	P	Pn	06 51 12.8	-0.2
GR1C	Gorgona, Isla	6.34 233	P	Pn	06 51 18.5	-1.4
CRUC	La Cruz	6.50 217	P	Pn	06 51 25.0	+2.6
OTAV	Otavalo	8.47 219		Pn	06 51 47.7	-1.0
SLOR	San Lorenzo -	9.26 216		Pn	06 51 58.4	-0.9
BRU2	Volcan	9.71 282		Pn	06 52 05.4	+0.4
COHC	Cochancay	11.11 214		Pn	06 52 23.4	+0.1
LCR2	La Lucha 2	11.19 286		Pn	06 52 25.1	+0.7
TBTG	Tabatinga, AM	11.40 164		Pn	06 52 25.8	-1.3
PAPH	Port-au-Prince	11.64 4	eP	Pn	06 52 33.5	+3.4
STH	Stony Hill	11.74 342	eP	Pn	06 52 33.7	+2.1
STH			eS	Sn	06 54 33.0	-8.4
STH	Stony Hill	11.74 342	⇑iP	Pn	06 52 34.8	+3.2
BANI	BANI	11.79 13	Pn	Pn	06 52 32.0	-0.2
MTDJ	Mount Denham	12.12 339		Pn	06 52 38.2	+1.7
MTDJ	Mount Denham	12.12 339	eP	P	06 52 41.0	-1.8
MTDJ			eS	Sn	06 54 41.3	-9.3
SDDR	Presa de Saban	12.19 8		Pn	06 52 38.9	+1.5
JTS	Las Juntas de	12.23 287	Pn	Pn	06 52 38.7	+0.9
JTS	Las Juntas de 3.6nm,0.8s,baz=186,slow=2.2,SNR=19	12.23 287	P	P	06 52 41.3	-2.6
DR12	Loma Pena Alta	12.41 17	Pn	Pn	06 52 39.0	-1.2
PRSN	Puerto Rico Se	12.70 27	Pn	Pn	06 52 41.6	-2.3
CELP	Cerrillos	12.84 29	Pn	Pn	06 52 44.3	-1.4
UUPR	Utuado, UPR, P	12.93 28		Pn	06 52 45.3	-1.6
PDPR	Patillas Dam,	13.07 31	Pn	Pn	06 52 47.0	-1.6
SJG	San Juan	13.08 30		Pn	06 52 48.5	-0.3
SJG	San Juan 13nm,0.4s,baz=202,slow=13,SNR=11	13.08 30	P	Pn	06 52 48.8	0.0
GTBY	Guantanamo Bay	13.16 352	eP	P	06 52 53.6	-0.6
HUMP	Col San Antoni	13.26 31	Pn	Pn	06 52 50.3	-0.8
BOAV	Boa Vista	13.27 109		Pn	06 52 49.2	-2.0
MASC	Masc	13.30 355	eP	P	06 52 55.8	0.0
RCC	Rio Carpintero	13.32 349	eP	P	06 52 56.3	+0.3
MARVS	Santiago de Cu	13.36 348	eP	P	06 52 56.5	0.0
QMBU	Quimbuelo	13.38 353	eP	P	06 52 56.6	-0.2
CHIV	Chivirico	13.45 346	eP	P	06 52 58.2	+0.8
PILO	Pilon	13.65 343	eP	P	06 52 59.5	-0.3
LMGC	Las Mercedes	13.69 344	eP	P	06 52 59.5	-0.6
PINC	Pinares de May	13.82 349	eP	P	06 53 02.4	+0.8
MOAC	Moa	13.86 353	eP	P	06 53 05.2	+3.3
FDF	Fort de France	14.10 55	Pn	Pn	06 53 00.6	-1.1
ATAH	Atahualpa 2.6nm,0.5s,baz=25,slow=17,SNR=4.4	14.86 201	P	Pn	06 53 11.4	-0.3
TGUH	Tegucigalpa,Un	15.68 298		P	06 53 22.4	0.0
TGUH			IAmb	IAmb	06 53 25.8	
TEIG	comp=Z,18nm,0.9s Tepich	19.85 314	P	P	06 54 09.0	+1.1
LPAZ	La Paz comp=Z,1.1nm,0.7s,baz=343,slow=14,SNR=5.2	23.50 168	P	P	06 54 44.7	-0.8
250A	comp=Z,1.1nm,0.7s Grady	27.87 336	P	P	06 55 26.0	+2.0
152A	Waverly Hall	27.89 339	P	P	06 55 25.3	+1.1
152A			IAmb	IAmb	06 55 27.6	
GOGA	comp=Z,8.0nm,0.6s Godfrey	28.14 341	P	P	06 55 28.0	+1.6
GOGA			IAmb	IAmb	06 55 58.7	
HODGE	comp=Z,16nm,1.4s Hodges	28.55 344	P	P	06 55 32.0	+2.0
HODGE			IAmb	IAmb	06 55 45.1	
FPAL	comp=Z,10nm,1.2s Fort Paine	29.89 339	P	P	06 55 43.7	+1.7
X48A	Hartselle	30.35 337		P	06 55 47.0	+1.0
X48A			IAmb	IAmb	06 55 49.2	
TZTN	comp=Z,10nm,0.7s Tazewell	31.07 344	P	P	06 55 54.9	+2.5
TZTN			IAmb	IAmb	06 56 22.5	
V48A	comp=Z,13nm,1.3s Smith Brothers	31.40 338	P	P	06 55 56.5	+1.2
CLTN	Cedars of Leba	31.54 339	P	P	06 55 57.9	+1.5
CLTN			IAmb	IAmb	06 55 59.6	
WVT	comp=Z,9.2nm,1.3s Waverly	32.13 337	P	P	06 56 02.7	+1.1
X40A	Basin Creek Fa	33.00 329	P	P	06 56 10.0	+0.8
X40A			IAmb	IAmb	06 56 11.4	
WHAR	comp=Z,6.6nm,0.7s Wooly Hollow	33.37 331	P	P	06 56 13.6	+1.2
WCI	Wyandotte Cave	33.46 341		P	06 56 14.5	+1.4
WCI			IAmb	IAmb	06 56 16.1	
LCAR	comp=Z,9.7nm,0.7s Lake Charles	33.47 333	P	P	06 56 14.0	+0.8
LCAR			IAmb	IAmb	06 56 15.8	
PBMO	comp=Z,6.2nm,0.6s Poplar Bluff	33.74 334	P	P	06 56 16.7	+1.0
SIUC	Southern Illin	34.05 337	P	P	06 56 19.0	+0.7
CCM	Cathedral Cave	35.17 335	P	P	06 56 28.6	+0.8
R40A	Maddies Statio	35.81 334	P	P	06 56 34.2	+0.9
R40A			IAmb	IAmb	06 56 34.8	
TXAR	comp=Z,8.8nm,0.6s Lajitas Array comp=Z,3.4nm,0.6s,baz=128,slow=9.3,SNR=47	36.48 312	P	P	06 56 40.6	+1.4
P40A	comp=Z,3.4nm,0.6s Paris	36.75 335	P	P	06 56 42.0	+0.8
POST	Post	37.10 319	P	P	06 56 45.4	+0.9
VHRN	Van Horn	38.21 313	P	P	06 56 54.5	+0.5
VHRN			IAmb	IAmb	06 56 56.1	
DUN6	comp=Z,8.8nm,1.2s Lazy B Ranch	42.12 312	P	P	06 57 27.2	+1.1
DUN6			IAmb	IAmb	06 57 29.0	
ECSD	comp=Z,15nm,0.9s EROS Data Cent	42.15 334	P	P	06 57 25.8	-0.2
K30B	Basset	42.68 331	P	P	06 57 30.4	+0.1
EYMN	Ely	43.86 342	P	P	06 57 40.2	+0.6
X16A	Lo Mia Camp, P	44.74 313		P	06 57 47.6	+0.5
PV15	Paradox Valley	44.80 320	P	P	06 57 49.7	+2.1
PV15			IAmb	IAmb	06 57 50.9	
PV03	comp=Z,16nm,1.0s Paradox Valley	44.98 319	P	P	06 57 50.4	+1.4
PV16	Nyswonger Mesa	45.06 319	P	P	06 57 50.9	+1.2
PV20	West Nyswonger	45.11 319	P	P	06 57 51.4	+1.4
WUAZ	Wupatki	45.23 315	P	P	06 57 52.4	+1.4
WUAZ			IAmb	IAmb	06 57 54.6	
Y14A	comp=Z,12nm,0.9s Wickenburg	45.66 312	P	P	06 57 54.7	+0.5
Y14A			IAmb	IAmb	06 57 56.9	
ULM	comp=Z,6.4nm,0.7s Lac du Bonnet	47.28 340	P	P	06 58 06.3	-0.1
ULM	Lac du Bonnet comp=Z,10nm,0.5s,baz=146,slow=6.4,SNR=15	47.28 340	P	P	06 58 06.9	+0.4
PLCA	comp=Z,10nm,0.5s Paso Flores comp=Z,126nm,18.2s,baz=142,slow=39	47.40 177	LR	LR	07 20 28.7	
BSUT	Blindstream Ca	47.50 321	P	P	06 58 10.0	+1.2
BSUT			IAmb	IAmb	06 58 11.1	
MPU	comp=Z,6.3nm,0.6s Maple Canyon	47.76 320	P	P	06 58 11.6	+1.0
V12A	Nelson	47.83 313	P	P	06 58 12.3	+1.2
V12A			IAmb	IAmb	06 58 13.7	
PD31	comp=Z,6.6nm,0.7s Pinedale Array	48.08 324		P	06 58 13.4	+0.3
PDAR	Pinedale Array comp=Z,2.1nm,0.6s,baz=127,slow=9.1,SNR=21 comp=Z,2.1nm,0.6s	48.08 324	P	P	06 58 14.1	+1.0
SPR3	Spring Creek 3	49.01 317	P	P	06 58 21.3	+0.9
TPAW	Teton Pass	49.33 324	P	P	06 58 23.3	+0.6
TPAW			IAmb	IAmb	06 58 25.4	
NVAR	comp=Z,5.7nm,0.7s Mina Array Bea comp=Z,1.8nm,0.7s,baz=123,slow=7.2,SNR=14 comp=Z,1.8nm,0.7s	51.49 315	P	P	06 58 40.8	+1.9
WVOR	Wild Horse Val	53.54 319	P	P	06 58 54.8	+1.0
WVOR			IAmb	IAmb	06 58 55.5	
F10A	comp=Z,4.2nm,0.7s Beach Ranch, E	54.43 323	P	P	06 59 00.9	+0.8
F10A			IAmb	IAmb	06 59 01.4	
YKA	comp=Z,5.0nm,0.6s Yellowknife Ar comp=Z,4.9nm,0.7s,baz=135,slow=6.7,SNR=95 comp=Z,4.9nm,0.7s	63.26 340	P	P	07 00 01.4	+0.8
YKAW3	Yellowknife Wh	63.31 340	P	P	07 00 01.5	+0.6
YKAW3			IAmb	IAmb	07 00 02.6	
WTLY	comp=Z,6.8nm,0.7s Watson Lake, Y	67.51 333	P	P	07 00 29.5	+1.4
WTLY			IAmb	IAmb	07 00 30.3	
N30M	comp=Z,5.2nm,0.7s Aishikik Lake	71.77 333	P	P	07 00 56.0	+1.8
N30M			IAmb	IAmb	07 00 57.3	
A36M	comp=Z,8.5nm,1.2s Sachs Harbour	72.42 345	P	P	07 00 58.2	+0.4
M27K	Edge Creek, AK	74.21 333	P	P	07 01 09.5	+0.9
M27K			IAmb	IAmb	07 01 11.6	
DOT	comp=Z,7.2nm,1.2s Dot Lake	75.50 334	P	P	07 01 17.1	+1.2
DOT			IAmb	IAmb	07 01 18.5	
ILAR	comp=Z,5.2nm,0.6s Eielson Array	76.96 335	P	P	07 01 24.6	+0.5
CAST	comp=Z,0.7nm,0.6s,baz=108,slow=4.7,SNR=12 comp=Z,0.7nm,0.6s Castle Rocks	78.99 333	P	P	07 01 35.7	+0.4
F21K	Alatna River	80.01 337	P	P	07 01 42.0	+1.2
ASAR	Alice Springs comp=Z,1.9nm,0.7s,baz=155,slow=1.4,SNR=4.4	149.15 234	PKPbc	PKPbc	07 09 19.3	-0.6
WRA	Warramunga Arr comp=Z,1.9nm,0.5s,baz=108,slow=2.7,SNR=23	150.38 241	PKPbc	PKPbc	07 09 22.6	-0.3

NNC 27 06:49:55.8±9.4, 37°.97N×72°.14E, $h0^{km}$, mb3.7, mpv3.8, 1C-1D, Error ellipse: s-maj=88.9km s-min=62.9km az=34.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay 16nm,0.2s	4.48	339	Pg	Pn	06 51 07.6	+2.6
IUG				Lg	Lg	06 52 02.4	
MRKS	32nm,0.3s Merke 4.5nm,0.4s	4.84	10	Pg	Pn	06 51 11.6	+1.6
MRKS				Lg	Lg	06 52 09.4	
KK31	10nm,0.4s Karatay Array 1.4nm,0.4s,baz=157,slow=10,SNR=8.0	5.28	347	⇑P	Pn	06 51 17.0	+1.1
KK31				⇓S	Sn	06 52 18.6	+1.2
MTBS	1.1nm,0.2s,baz=165,slow=23,SNR=4.8 Maitube 1.6nm,0.2s	6.10	31	P	Pn	06 51 27.9	+0.5
AB31	Akbulak array 0.4nm,0.5s,baz=133,slow=14,SNR=7.8	14.31	326	P	Pn	06 53 14.8	-4.8

*IDC **27** 06:56:23.4±0.9, 9°.66N×126°.48E, $h0^{km}$, mb4.0/13, mbtmp3.9/13, Error ellipse: s-maj=50.0km s-min=19.6km az=68.0*

ISC 27 06:56:29.5±0.9, 9°.6N±0°.2×126°.5E±0°.3, $h43^{km}$, n17, σ0°.89/14, mb3.9/13, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 1.0nm,0.3s,baz=107,slow=6.6,SNR=5.0 1.0nm,0.3s	28.06	291	P	P	07 02 18.0	+0.8
WRA	Warramunga Arr 0.4nm,0.8s,baz=344,slow=8.7,SNR=1.6 0.4nm,0.8s	30.38	165	P	P	07 02 37.7	0.0
ASAR	Alice Springs 0.3nm,0.7s,baz=350,slow=7.3,SNR=5.7 0.3nm,0.7s	33.87	168	P	P	07 03 08.2	-0.1
H11N1	WAKE ISLAND Hy baz=265,slow=74,SNR=6.3	40.30	71	T	T	07 47 38.6	
H11N2	WAKE ISLAND Hy baz=265,slow=74,SNR=3.9	40.30	71	T	T	07 47 38.1	
H11N3	WAKE ISLAND Hy baz=265,slow=74,SNR=5.2	40.31	71	T	T	07 47 40.0	
SONM	Songino Array 2.1nm,0.8s,baz=158,slow=9.1,SNR=9.0 2.1nm,0.8s	41.69	340	P	P	07 04 14.8	+0.6
MKAR	Makanchi Array 1.5nm,0.8s,baz=116,slow=9.3,SNR=12 1.5nm,0.8s	52.65	323	P	P	07 05 38.4	-1.1
ZALV	Zalesovo Beam 0.4nm,0.3s,baz=134,slow=4.2,SNR=2.5 0.4nm,0.3s	55.28	331	P	P	07 05 57.5	-1.0
KURBB	Kurchatov Arra 0.9nm,0.7s,baz=127,slow=6.7,SNR=12 0.9nm,0.7s	56.71	326	P	P	07 06 08.0	-0.7
NRIK	Noril'sk 2.5nm,0.7s,baz=142,slow=4.7,SNR=5.6 2.5nm,0.7s	64.69	346	P	P	07 07 02.5	-0.2
ARCES	ARCESS Array B 2.3nm,0.8s,baz=69,slow=6.6,SNR=6.8 2.3nm,0.8s	84.87	340	P	P	07 09 01.1	+1.7
FINES	FINESS Array B 2.6nm,0.8s,baz=86,slow=11,SNR=6.9 2.6nm,0.8s	86.55	332	P	P	07 09 08.1	+0.1
HFS	Hagfors 0.7nm,0.5s,baz=86,slow=4.5,SNR=2.5 0.7nm,0.5s	92.71	332	P	P	07 09 36.5	-0.4
NB2	NORSAR Subarra comp=Z,1.7nm,0.9s,baz=67,slow=4.4	93.42	334	P	P	07 09 39.3	-0.9
NOA	NORSAR Array B comp=Z,0.2nm,0.5s,baz=66,slow=4.4,SNR=1.9 comp=Z,0.2nm,0.5s	93.42	334	P	P	07 09 39.4	-0.9
YKA	Yellowknife Ar comp=Z,0.3nm,0.8s,baz=303,slow=4.4,SNR=4.3 comp=Z,0.3nm,0.8s	94.28	24	P	P	07 09 44.4	+0.3

TXNET 27 07:03:39.6, 31°.3N±0°.5×103°.6W±0°.5, $h6^{km}\pm1^{km}$, ML1.8/6, 1D, Error ellipse: s-maj=0.8km s-min=0.7km az=19.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB10	Southeast of T	0.12	266	P	Pg	07 03 42.6	+0.4
TPB10				S	Sg	07 03 44.9	+1.0
PCOS	Crockett Middl	0.15	37	P	Pg	07 03 20.2	-22
PCOS	Crockett Middl	0.15	37	P	Pg	07 03 42.8	+0.1
PCOS				S	Sg	07 03 45.6	+0.9
TPB03	Saragosa	0.22	158	⇓P	Pg	07 03 44.7	+0.7
TPB03				S	Sg	07 03 48.6	+1.5
PECS	Pecos	0.23	290	P	Pg	07 03 44.9	+0.7
PECS				S	Sg	07 03 48.5	+1.2
TPB07	Mentone	0.29	351	S	Sg	07 03 50.4	+1.2
TPB12	Southwest of T	0.30	255	S	Sg	07 03 50.8	+1.1
TPB04	Verhalen	0.31	109	P	Pg	07 03 45.9	+0.2
TPB04				S	Sg	07 03 50.8	+0.9
TPB16	Coyonosa	0.35	118	S	Sb	07 03 52.6	-1.5
TPB01	Permian Basin	0.38	203	P	Pg	07 03 47.2	+0.3
TPB01				S	Sg	07 03 53.3	+1.4
TPB05	Hovey Rd	0.45	146	P	Pg	07 03 48.5	+0.2
TPB05				S	Sb	07 03 55.5	-1.4
TPB06	Permian Basin	0.49	44	S	Sb	07 03 57.2	-1.0
TPB08	Permian Basin	0.72	123	S	Sb	07 04 04.0	-1.0
TPB11	China Draw	0.73	331	S	Sg	07 04 03.9	+0.6
ALPN	Alpine	0.92	181	P	Pg	07 03 57.4	+0.2
ALPN				S	Sb	07 04 10.7	+0.2
ODSA	Odessa	1.23	47	S	Sb	07 04 19.9	+0.5
VHRN	Van Horn	1.28	247	S	Sg	07 04 20.7	-0.1
TMB02	Rankin	1.35	94	S	Sb	07 04 22.5	-0.5
TMB01	Midkiff	1.36	74	S	Sb	07 04 23.2	0.0
MNTX	Cornudas Mount	1.56	285	P	Pn	07 04 07.6	-0.4
MNTX				S	Sg	07 04 29.9	0.0
TMB04	Seminole	1.64	35	P	Pn	07 04 09.2	+0.2
SAND	Sanderson	1.85	136	P	Pb	07 04 13.4	-0.5
SAND				S	Sb	07 04 37.8	+0.4
TX31	Lajitas Ar. Si	1.95	181	P	Pb	07 04 14.7	-0.9
TX31				S	Sb	07 04 41.3	+1.0
TMB05	Klondike	2.00	48	P	Pn	07 04 15.1	+1.1
TMB05				S	Sb	07 04 41.6	0.0
OZNA	Ozona	2.16	99	P	Pb	07 04 17.8	-1.5
OZNA				S	Sb	07 04 46.6	+0.2

IDC 27 07:07:16.5±1.4, 9°.86N×126°.20E, $h0^{km}$, mb3.6/5, mbtmp3.6/5, MS3.6/2, Error ellipse: s-maj=88.6km s-min=31.0km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W) comp=Z,278nm,19.1s,baz=330,slow=38	2.84	193	LR	LR	07 09 05.1	
ASAR	Alice Springs 0.2nm,0.4s,baz=347,slow=7.8,SNR=2.3 0.2nm,0.4s	34.16	167	P	P	07 14 03.7	0.0
MKAR	Makanchi Array 0.4nm,0.7s,baz=103,slow=8.8,SNR=3.7 0.4nm,0.7s	52.31	323	P	P	07 16 29.4	-0.7
KURBB	Kurchatov Arra 0.3nm,0.6s,baz=126,slow=6.8,SNR=3.5 0.3nm,0.6s	56.37	326	P	P	07 17 00.7	+1.2
BRTR	Keskin Array B comp=Z,129nm,18.4s,baz=317,slow=39	85.74	309	LR	LR	08 03 20.3	
FINES	FINESS Array B 1.1nm,0.9s,baz=68,slow=5.2,SNR=4.3 1.1nm,0.9s	86.22	332	P	P	07 19 58.9	-0.9
YKA	Yellowknife Ar 0.3nm,0.7s,baz=308,slow=5.0,SNR=5.3 0.3nm,0.7s	94.16	24	P	P	07 20 37.1	0.0

*IDC **27** 07:26:40.1±1.7, 39°.06S×176°.22E, $h0^{km}$, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=56.4km s-min=36.9km az=43.0*

*NOU **27** 07:26:45.4, 39°.33S×176°.45E, $h48^{km}$, MLv4.3/16, North Island, New Zealand*

*NEIC **27** 07:26:45.6±1.8, 39°.30S±0°.05×176°.33E±0°.10, $h42^{km}\pm11^{km}$, mb4.2/8, Error ellipse: s-maj=10.8km s-min=6.8km az=92.0*

*WEL **27** 07:26:46.6±0.4, 39°.5±3°×17°.6E±°, $h37^{km}\pm5^{km}$, M4.1/108, ML4.5/23, MLv4.1/108, Error ellipse: s-maj=4.1km s-min=3.2km az=14.7, confirmed*

*WEL **27** 07:26:46.6, 39°.20S×176°.31E, $h42^{km}$, ML4.1, Mw3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14} Nm; M_{rr}1.13; $M_{\theta\theta}$6.58; $M_{\phi\phi}$-7.71; $M_{r\theta}$4.99; $M_{r\phi}$4.14; $M_{\theta\phi}$-0.22; Fault plane solution: $M_0$9.65000×10^{14} NP1: ϕ_s123.00000°, δ78.00000°, λ27.00000°. NP2:ϕ_s26.00000°, δ63.00000°, λ166.00000°. Principal axes: T 10.2190, Plg28.0000°, Azm348.0000°; N -1.1420, Plg60.0000°, Azm144.0000°; P -9.0760, Plg10.0000°, Azm252.0000°; Stations used: PXZ URZ TOZ OBLIQUE-REVERSE FAULTING*

ISC 27 07:26:46.4±0.7, 39°.27S±0°.03×176°.33E±0°.03, $h57^{km}\pm5^{km}$, n210, σ1°.22/217, mb4.0/7, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KWHZ	Kaweka Forest	0.17	155	P	Pn	07 26 65.1	-0.3
KWHZ				S	Sn	07 27 01.9	0.0
BKZ	Black Stump Fm	0.17	49	P	Pn	07 26 54.3	-1.1
BKZ	Black Stump Fm	0.17	49	P	Pn	07 26 54.6	-0.8
BKZ	Black Stump Fm	0.17	49	P	Pn	07 26 54.4	-1.0
BKZ				S	Sn	07 27 00.3	-1.6
MCHZ	McNeill Hill	0.33	121	P	Pn	07 26 56.9	+0.4
MCHZ				S	Sn	07 27 05.3	+1.6
KRHZ	Kereru	0.37	175	P	Pn	07 26 57.2	+0.3
KRHZ				S	Sn	07 27 05.5	+1.1
NMHZ	Naumai	0.41	65	P	Pn	07 26 57.2	0.0
NMHZ				S	Sn	07 27 06.3	+1.1
HATZ	Hinemaiaia	0.43	334	P	Pn	07 26 56.6	-0.8
HATZ				S	Sn	07 27 03.4	-1.9
MRHZ	Matea Rd	0.45	9	P	Pn	07 26 56.5	-1.1
MRHZ				S	Sn	07 27 03.8	-1.9
MOVZ	Moawhango	0.47	253	P	Pn	07 26 57.9	+0.1
MOVZ				S	Sn	07 27 06.2	0.0
RITZ	Rihia Road	0.47	309	P	Pn	07 26 57.8	0.0
ETVZ	East Tongariro	0.50	286	P	Pn	07 26 58.4	+0.1
TMVZ	Te Maari	0.51	288	P	Pn	07 26 58.5	+0.1
TMVZ				S	Sn	07 27 06.9	-0.2
ARHZ	Aropaoanui	0.52	89	P	Pn	07 26 58.5	+0.2
ARHZ				S	Sn	07 27 08.4	+1.5
TUVZ	Tukino	0.53	271	P	Pn	07 26 58.9	+0.3
OTVZ	Oturere	0.53	282	P	Pn	07 26 58.8	+0.2
NTVZ	North Tongarir	0.54	289	P	Pn	07 26 58.7	+0.1
SNVZ	South Ngauruho	0.54	279	P	Pn	07 26 59.0	+0.3
SNVZ				S	Sn	07 27 07.9	+0.1
KRVZ	Karewarewa	0.57	288	P	Pn	07 26 59.1	+0.1
WNVZ	Wahianoa	0.57	264	P	Pn	07 26 59.4	+0.3
NNVZ	North Ngauruho	0.57	284	P	Pn	07 26 59.3	+0.2
NGZ	Ngauruhoe	0.58	280	P	Pn	07 26 59.4	+0.2
WHVZ	Whangaehu Hut	0.58	269	P	Pn	07 26 59.5	+0.3
KATZ	Kakaramea	0.58	301	P	Pn	07 26 59.1	0.0
MTHZ	Maungataniwha	0.58	43	P	Pn	07 26 58.6	-0.4
RATZ	Rangitukua	0.60	313	P	Pn	07 26 59.0	-0.2
MAVZ	Matarangi	0.60	270	P	Pn	07 26 59.7	+0.2
WTVZ	West Tongariro	0.60	285	P	Pn	07 26 59.6	+0.2
FWVZ	Far West T-bar	0.60	272	P	Pn	07 26 59.7	+0.2
FWVZ				S	Sn	07 27 09.0	-0.1
TRVZ	Turoa	0.61	267	P	Pn	07 26 59.8	+0.3
COVZ	Chateau Observ	0.62	277	P	Pn	07 26 59.8	+0.3
PNHZ	Pukenui	0.65	189	P	Pn	07 27 00.7	+0.8
KAHZ	Kahuranaki	0.67	141	P	Pn	07 27 00.7	+0.6
WHTZ	Whakaora	0.67	334	P	Pn	07 26 59.9	-0.3
MTVZ	Mangateitei	0.68	260	P	Pn	07 27 00.6	+0.4
RAHZ	Arahi	0.69	59	P	Pn	07 27 00.4	+0.1
CKHZ	Cape Kidnapper	0.69	124	P	Pn	07 27 00.7	+0.4
ALRZ	Allen Road	0.71	1	P	Pn	07 26 59.6	-1.0
TWVZ	Taurewa	0.72	286	P	Pn	07 27 00.7	-0.2
WHHZ	Waihua	0.73	75	P	Pn	07 27 00.9	+0.1
WATZ	Wairara	0.73	320	P	Pn	07 27 00.5	-0.4
PKVZ	Pokaka	0.77	269	P	Pn	07 27 01.8	+0.5
WPRZ	Whakapapatarin	0.77	350	P	Pn	07 27 00.4	-0.9
PRRZ	Plateau Road	0.78	4	P	Pn	07 27 00.3	-1.1
WPHZ	Waip

MARZ	Manawahe	1.31	12	P	Pn	07 27 07.5	-1.1
MWZ	Matawai	1.32	45	P	Pn	07 27 08.1	-0.6
HIZ	Hauiti	1.38	303		Pn	07 27 09.2	-0.2
HIZ	Hauiti	1.38	303	P	Pn	07 27 09.5	+0.2
HIZ	Hauiti	1.38	303	S	Sn	07 27 27.0	+0.4
HIZ	Hauiti	1.38	303	P	Pn	07 27 09.5	+0.2
BFZ	Birch Farm	1.41	183		Pn	07 27 09.2	-0.6
BFZ	Birch Farm	1.41	183	P	Pn	07 27 08.8	-0.9
BFZ	Birch Farm	1.41	183	P	Pn	07 27 09.5	-0.2
OPRZ	Ohinepanea	1.44	7	P	Pn	07 27 09.0	-1.1
TKGZ	Te Karaka	1.45	55	P	Pn	07 27 09.6	-0.6
KMRZ	Kaimai	1.46	348	P	Pn	07 27 09.8	-0.7
MRZ	Mangatainoka R	1.50	202		Pn	07 27 11.0	0.0
MRZ	Mangatainoka R	1.50	202	P	Pn	07 27 11.0	0.0
WHRZ	Whale Island	1.50	20	P	Pn	07 27 10.3	-0.8
LREZ	Lake Rotokare	1.51	262	P	Pn	07 27 12.3	+1.3
TIWZ	Tintock	1.54	193	P	Pn	07 27 11.7	+0.1
TGRZ	Tauranga	1.54	358	P	Pn	07 27 10.8	-0.8
MHEZ	Mangahewa	1.57	277	P	Pn	07 27 13.5	+1.6
CPWZ	Castlepoint	1.64	183	P	Pn	07 27 13.0	+0.2
DREZ	Durham Road	1.66	272	P	Pn	07 27 14.8	+1.7
CNGZ	Carnagh Statio	1.66	62	P	Pn	07 27 12.7	-0.5
TOZ	Tahuroa Road	1.67	337		Pn	07 27 12.4	-0.9
TOZ	Tahuroa Road	1.67	337	P	Pn	07 27 12.9	-0.4
RUGZ	Raukumara Rang	1.68	39	P	Pn	07 27 12.7	-0.9
PREZ	Palmer Road	1.69	267	P	Pn	07 27 15.4	+1.9
TWGZ	Tauwhareparae	1.69	50	P	Pn	07 27 13.3	-0.4
NEZ	North Egmont	1.74	269	P	Pn	07 27 15.8	+1.6
HOWZ	Holdsworth Sta	1.74	201	P	Pn	07 27 13.8	-0.5
OGWZ	Otaki Gorge	1.78	210	P	Pn	07 27 14.7	-0.1
KHEZ	Kahui Hut	1.80	269	P	Pn	07 27 16.7	+1.6
KHEZ	Kahui Hut	1.80	269	P	Pn	07 27 17.1	+2.0
TMWZ	Te Maipa	1.86	190	P	Pn	07 27 15.2	-0.7
WIZ	White Island	1.87	21	P	Pn	07 27 15.8	-0.1
HAZ	Te Kaha	1.90	37	P	Pn	07 27 15.0	-1.3
NMEZ	Namu Road	1.91	265	P	Pn	07 27 18.4	+1.9
NBEZ	Newall Road No	1.91	269	P	Pn	07 27 18.1	+1.6
KIW	Kapiti Island	1.92	214	P	Pn	07 27 16.8	0.0
PUZ	Puketiti	1.93	52	P	Pn	07 27 15.7	-1.1
PKGZ	Pakihiroa	1.96	45	P	Pn	07 27 16.4	-0.9
MTW	Mount Morrison	1.99	198	P	Pn	07 27 16.6	-1.0
MYRZ	Mayor Island	1.99	358	P	Pn	07 27 18.1	+0.4
CAW	Cannon Point	2.07	207	P	Pn	07 27 17.9	-0.8
TRWZ	Traveller	2.18	193	P	Pn	07 27 19.0	-1.2
WMGZ	Waiomatatini S	2.19	49	P	Pn	07 27 19.5	-0.8
MSWZ	Moikau Station	2.29	201		Pn	07 27 20.5	-1.3
MSWZ	Moikau Station	2.29	201	P	Pn	07 27 20.3	-1.5
MXZ	Matakaoa Point	2.31	43		Pn	07 27 20.7	-1.2
MXZ	Matakaoa Point	2.31	43	P	Pn	07 27 21.1	-0.9
MXZ	Matakaoa Point	2.31	43	P	Pn	07 27 21.5	-0.5
MKAZ	Moumakai	2.35	337	P	Pn	07 27 22.3	-0.3
SNZO	South Karori	2.38	211	Pn	Pn	07 27 21.5	-1.5
SNZO	South Karori	2.38	211	P	Pn	07 27 21.7	-1.3
DUWZ	D'Urville Isla	2.40	230	P	Pn	07 27 23.1	-0.2
BHW	Baring Head	2.41	207		Pn	07 27 21.5	-1.8
BHW	Baring Head	2.41	207	P	Pn	07 27 21.8	-1.4
PLWZ	Palliser	2.44	199	Pn	Pn	07 27 21.8	-2.0
PLWZ	Palliser	2.44	199	P	Pn	07 27 22.1	-1.7
KBAZ	Karaka Road Bo	2.46	332	P	Pn	07 27 25.3	+1.3
TCW	Tory Channel	2.49	218		Pn	07 27 23.1	-1.4
TCW	Tory Channel	2.49	218	P	Pn	07 27 23.6	-0.9
ETAZ	East Tamaki Re	2.57	334	P	Pn	07 27 25.5	0.0
KUZ	Kuaotunu	2.57	349	P	Pn	07 27 26.0	+0.4
KUZ	Kuaotunu	2.57	349	P	Pn	07 27 25.9	+0.4
AWAZ	Awhitu Peninsu	2.58	328	P	Pn	07 27 25.9	+0.3
WIAZ	Waiheke Island	2.65	339	P	Pn	07 27 27.1	+0.4
EPAZ	Eden Park BICE	2.70	332	P	Pn	07 27 28.6	+1.3
WTAZ	Waiatarua	2.72	329	P	Pn	07 27 28.1	+0.5
HBAZ	Herne Bay Bore	2.73	332	P	Pn	07 27 28.9	+1.2
MBAZ	Motutapu North	2.75	335	P	Pn	07 27 28.2	+0.3
TUWZ	Tuamarina	2.82	220		Pn	07 27 28.4	-0.5
TUWZ	Tuamarina	2.82	220	P	Pn	07 27 28.6	-0.3
RVAZ	Riverhead Bore	2.86	330	P	Pn	07 27 29.9	+0.4
ABAZ	Army Bay	2.92	336	P	Pn	07 27 30.8	+0.4
NNZ	Nelson	2.98	228		Pn	07 27 30.3	-0.8
NNZ	Nelson	2.98	228	P	Pn	07 27 30.4	-0.8
BSWZ	Blackbirch Sta	3.07	217		Pn	07 27 30.6	-1.8
BSWZ	Blackbirch Sta	3.07	217	P	Pn	07 27 30.9	-1.5
GRZ	Great Barrier	3.10	347	P	Pn	07 27 32.5	-0.2
TKNZ	Takaka Hill	3.12	235	P	Pn	07 27 32.5	-0.7
QRZ	Quartz Range	3.30	241		Pn	07 27 34.6	-1.0
QRZ	Quartz Range	3.30	241	P	Pn	07 27 34.6	-1.0
QRZ	Quartz Range	3.30	241	P	Pn	07 27 34.8	-0.8
MRNZ	Matariki Terra	3.46	231		Pn	07 27 36.8	-0.9
MRNZ	Matariki Terra	3.46	231	P	Pn	07 27 37.0	-0.7
THZ	Tophouse	3.60	225		Pn	07 27 38.5	-1.3
THZ	Tophouse	3.60	225	P	Pn	07 27 38.2	-1.6
WCZ	Waipu Caves	3.68	334	P	Pn	07 27 41.7	+0.9
KHZ	Kahutara	3.79	213		Pn	07 27 39.7	-2.4
KHZ	Kahutara	3.79	213	P	Pn	07 27 40.5	-1.6
KHZ	Kahutara	3.79	213	P	Pn	07 27 39.7	-2.4
DSZ	Denniston Nort	4.24	233	P	Pn	07 27 47.0	-1.5
GVZ	Greta Valley S	4.45	213	P	Pn	07 27 48.4	-2.9
OUZ	Omahuta	4.60	331	P	Pn	07 27 53.8	+0.5
OUZ	Omahuta	4.60	331	P	Pn	07 27 54.3	+1.0
LTZ	Lake Taylor	4.66	220	Pn	Pn	07 27 51.4	-2.8
LTZ	Lake Taylor	4.66	220	P	Pn	07 27 51.5	-2.6
INZ	Inchbonnie	5.05	225	P	Pn	07 27 57.8	-1.8
OXZ	Oxford	5.18	217	P	Pn	07 27 56.9	-4.3
MQZ	McQueen's Vall	5.22	211	P	Pn	07 27 57.5	-4.2
WVZ	Waitaha Valley	5.68	226	P	Pn	07 28 06.5	-1.5
RPZ	Rata Peaks	5.95	220	P	Pn	07 28 09.8	-2.0
RPZ	Rata Peaks	5.95	220	P	Pn	07 28 10.4	-1.4
ARCZ	Arundel	6.06	218	P	Pn	07 28 11.0	-2.3
GCSZ	Gaunt Creek Bo	6.06	226	P	Pn	07 28 18.0	+4.7
TMZ	Timaru	6.47	216	P	Pn	07 28 14.5	-4.4
FOZ	Fox Glacier	6.49	227	P	Pn	07 28 23.1	+4.0
LBZ	Lake Benmore	6.87	220	P	Pn	07 28 21.4	-3.0
CTZ	Chatham Island	6.92	132	P	Pn	07 28 21.0	-4.0
CTZ	Chatham Island	6.92	132	P	Pn	07 28 24.2	-0.8
ODZ	Otahua Downs	7.15	214	P	Pn	07 28 23.6	-4.6
JCZ	Jackson Bay	7.41	227	P	Pn	07 28 32.7	+0.8
JCZ	Jackson Bay	7.41	227	P	Pn	07 28 32.1	+0.2
WKZ	Wanaka	7.77	222	P	Pn	07 28 43.1	+6.4
SYZ	Scrubby Hill	8.97	214	P	Pn	07 28 52.9	-0.2
WHZ	Wether Hill Ro	9.05	220	P	Pn	07 29 00.2	+5.9
SBA	Scott Base	38.90	183	P	P	07 34 06.3	+0.5
SBA				IAmb	IAmb	07 34 18.5	
	comp=Z,4.2nm,1.1s						
AS31	Alice Springs	39.02	281	P	P	07 34 08.0	+0.5
ASAR	Alice Springs	39.02	281	P	P	07 34 08.1	+0.6
	comp=Z,0.6nm,0.6s,baz=131,slow=9.3,SNR=14						
	comp=Z,0.6nm,0.6s						
FORT	Forrest	40.03	267	P	P	07 34 16.7	+0.9
WR8	Warramunga Arr	40.72	286	P	P	07 34 21.4	-0.1
WR8				IAmb	IAmb	07 34 46.4	
	comp=Z,10.0nm,1.4s						
WRA	Warramunga Arr	40.84	286	P	P	07 34 22.2	-0.4
WRA	Warramunga Arr	40.84	286	P	P	07 34 21.5	-1.2
	comp=Z,0.4nm,0.4s,baz=121,slow=8.3,SNR=6.2						
	comp=Z,0.4nm,0.4s						
CASY	Casey	45.14	211	P	P	07 34 57.1	+0.3
CASY				IAmb	IAmb	07 34 59.8	
	comp=Z,11nm,1.4s						
FITZ	Fitzroy Crossi	48.52	281	P	P	07 35 23.9	+0.2
FITZ				IAmb	IAmb	07 35 35.8	
	comp=Z,1.8nm,1.2s						
QSPA	South Pole Qui	50.85	180	P	P	07 35 42.9	+1.9
QSPA	South Pole Qui	50.85	180	P	P	07 35 43.7	+2.6
	comp=Z,1.7nm,1.1s,baz=10,slow=2.5,SNR=2.1						
	comp=Z,1.7nm,1.1s						
ARCES	ARCESS Array B	145.95	342	PKPbc	PKPab	07 46 17.4	-1.6
	comp=Z,3.5nm,0.8s,baz=46,slow=4.0,SNR=7.0						
FINES	FINESS Array B	151.25	330	PKPbc	PKPab	07 46 35.7	-4.8
	comp=Z,0.5nm,0.5s,baz=40,slow=4.5,SNR=3.9						

IDC ***27*** *07:36:48.8±1.0, 53°.01N×170°.64E, h0km, mb3.9/15, mbtmp3.9/17, ML3.9/2, MS3.0/5, Error ellipse: s-maj=29.0km s-min=13.6km az=4.0*
KRSC ***27*** *07:36:49.1±1.1, 52°.79N×170°.39E, h38km±70km, Ml4.3*
NEIC ***27*** *07:36:49.4±1.6, 52°.8N±0°.2×170°.61E±0°.04, h10km±2km, mb3.9/63, Error ellipse: s-maj=26.9km s-min=3.1km az=187.0*
MOS ***27*** *07:36:50.5±0.9, 52°.73N×170°.49E, h37km, mb4.3/10, Error ellipse: s-maj=9.8km s-min=5.8km az=36.6*
ISC 27 07:36:51.6±0.6, 52°.77N±0°.09×170°.55E±0°.04, h28km, n162, σ1§25/157, mb4.0/47, MS2.8/3, 7C-1D, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	2.16	90	Pn	Pn	07 37 24.5	-1.2
SHEM	Shemya Is, Ala	2.16	90	Pn	Pn	07 37 25.2	-0.4
	81nm,0.3s,baz=28,slow=1.8,SNR=20						
SHEM				Sn	Sb	07 37 54.8	-1.4
	96nm,0.3s,baz=146,slow=24,SNR=14						
	65nm,0.3s						
SMY	Shemya	2.16	90		Pn	07 37 25.0	-0.7
SMY	Shemya	2.16	90	P	Pn	07 37 25.6	0.0
SMY				S	Sb	07 37 54.7	-1.5
MKZ	Mys Kozlova	5.54	292	P	Pn	07 38 11.4	-0.6
MKZ				S	Sn	07 39 13.4	-1.3
MKZ	Mys Kozlova	5.54	292	eP	Pn	07 38 11.5	-0.6
MKZ				eS	Sn	07 39 13.5	-1.3
KBTR	Krutoberegovo	5.67	310	P	Pn	07 38 12.3	-1.5
KBTR	Krutoberegovo	5.67	310	eP	Pn	07 38 12.4	-1.5
SPN	Mys Shipunski	6.37	277	P	Pn	07 38 23.6	+0.1
SPN	Mys Shipunski	6.37	277	eP	Pn	07 38 23.7	+0.1
TUMD	Tumrok D	6.46	296	P	Pn	07 38 23.7	-1.0
TUMD	Tumrok D	6.46	296	eP	Pn	07 38 23.7	-1.0
SMKR	Semkarok	6.50	310	P	Pn	07 38 26.5	+1.2
SMKR	Semkarok	6.50	310	eP	Pn	07 38 26.6	+1.2
BZMR	Bezymyannaya	6.68	302	P	Pn	07 38 30.4	+2.6
BZMR	Bezymyannaya	6.68	302	eP	Pn	07 38 30.4	+2.6
KMNR	Kamenistaya	6.74	300	P	Pn	07 38 29.4	+0.8
KMNR	Kamenistaya	6.74	300	eP	Pn	07 38 29.4	+0.8
KRSR	Krestovskiy	6.76	305	P	Pn	07 38 29.8	+0.9
KRSR	Krestovskiy	6.76	305	eP	Pn	07 38 29.9	+0.9
NLC	Nalytchevo	6.78	278	P	Pn	07 38 29.2	+0.2
NLC				S	Sn	07 39 43.1	-2.1
NLC	Nalytchevo	6.78	278	eP	Pn	07 38 29.3	+0.2
NLC				eS	Sn	07 39 43.1	-2.1
KPT	Kopyto	6.83	302	P	Pn	07 38 31.5	+1.7
KPT	Kopyto	6.83	302	eP	Pn	07 38 31.6	+1.7
SDLR	Sedlovina	7.05	279	P	Pn	07 38 33.3	+0.3
SDLR	Sedlovina	7.05	279	eP	Pn	07 38 33.4	+0.3
UGLR	Uglovaya	7.09	278	P	Pn	07 38 34.4	+0.9
UGLR	Uglovaya	7.09	278	eP	Pn	07 38 34.4	+0.9
KRER	Koryakskii	7.14	279	P	Pn	07 38 35.0	+0.9
KRER	Koryakskii	7.14	279	eP	Pn	07 38 35.1	+0.9
DALK	Dalny	7.14	277	P	Pn	07 38 34.3	+0.3
DALK	Dalny	7.14	277	eP	Pn	07 38 34.4	+0.3
AVH	Avacha	7.14	279	P	Pn	07 38 34.8	+0.7
AVH	Avacha	7.14	279	eP	Pn	07 38 34.9	+0.7
PET	Petropavlovsk	7.20	277	Pn	Pn	07 38 35.1	+0.3
PET	Petropavlovsk	7.20	277	eP	Pn	07 38 35.7	+0.8
KOK	Koryaka	7.20	279	P	Pn	07 38 35.5	+0.5
KOK	Koryaka	7.20	279	eP	Pn	07 38 35.5	+0.5
RUS	Russkaya	7.34	272	P	Pn	07 38 37.0	+0.3
RUS	Russkaya	7.34	272	eP	Pn	07 38 37.0	+0.3
KRMR	Karymshinskiy	7.53	275	P	Pn	07 38 39.6	+0.3
KRMR	Karymshinskiy	7.53	275	eP	Pn	07 38 39.7	+0.3
MTVR	Mutnovka	7.53	273	P	Pn	07 38 40.5	+0.9
MTVR	Mutnovka	7.53	273	eP	Pn	07 38 40.5	+0.9
GRL	Gorelyy	7.59	273	P	Pn	07 38 41.7	+1.4
GRL	Gorelyy	7.59	273	eP	Pn	07 38 41.8	+1.4
GNL	Ganaly	7.62	282	P	Pn	07 38 42.2	+1.4
GNL	Ganaly	7.62	282	eP	Pn	07 38 42.2	+1.4
KDTR	Khodutka, Kamc	7.71	268	P	Pn	07 38 42.1	+0.3
KDTR	Khodutka, Kamc	7.71	268	eP	Pn	07 38 42.1	+0.3
PEA0B	Petropavlovsk-	7.77	278		Pn	07 38 43.7	+1.0
PEA0B	Petropavlovsk-	7.77	278	P	Pn	07 38 44.1	+1.4
PEA0B				S	Sn	07 40 06.2	-3.5
PETK	Petropavlovsk-	7.77	278		Pn	07 38 43.0	+0.3
PETK	Petropavlovsk-	7.77	278	Pn	Pn	07 38 43.1	+0.4
	3.7nm,0.3s,baz=88,slow=20,SNR=99						
PETK				Sn	Sn	07 40 06.0	-3.8
	0.8nm,0.3s,baz=234,slow=18,SNR=4.0						
	34nm,0.8s						
SKR	Severo-Kuril's	9.20	263	eP	Pn	07 39 02.5	+0.3
SKR				eS	Sn	07 40 38.2	-6.5
SKR				pmax	pmax		
	comp=Z,15nm,0.6s						
SKR				smax	smax		
	comp=N,95nm,0.6s						
SKR				smax	smax		
	comp=E,134nm,0.6s						
SKR				MLR	MLR		
	comp=Z,700nm,19.0s						
MA2	Magadan	12.92	310	LR	LR	07 44 58.0	
	comp=Z,55nm,19.8s,baz=129,slow=38						
MA2	Magadan	12.92	310	eP	Pn	07 39 53.9	+0.8
SEY	Seymchan	13.98	324	LR	LR	07 45 40.8	
	comp=Z,100nm,18.6s,baz=313,slow=38						
SEY	Seymchan	13.98	324	eP	Pn	07 40 07.4	-0.1
M11K	Mekoryuk	14.84	50	Pn	Pn	07 40 18.9	-0.4
BILL	Bilibino	15.46	354	eP	P	07 40 29.3	-2.2
M13K	Dall Lake	16.19	52	Pn	P	07 40 37.2	-2.5
M13K				IAmb	IAmb	07 40 55.9	
	comp=Z,14nm,1.1s						
L14K	Kuka Creek	16.79	49		P	07 40 45.9	-0.4
L14K				IAmb	IAmb	07 40 57.8	
	comp=Z,12nm,1.4s						
J14K	Nanvaranak Lak	16.92	44	Pn	Pn	07 40 43.9	-2.1
M14K	Bethel	16.95	51	P	P	07 40 46.7	-1.4
M14K				IAmb	IAmb	07 41 07.8	
	comp=Z,6.7nm,0.8s						
O15K	Ungalikthiuk R	17.67	57	Pn	Pn	07 40 53.8	-1.5
O15K				IAmb	IAmb	07 41 22.2	
	comp=Z,12nm,1.4s						
N15K	Kwethluk River	17.71	54	P	Pn	07 40 53.4	-2.4
N15K				IAmb	IAmb	07 41 14.7	
	comp=Z,20nm,1.5s						
M16K	Timber Creek	18.44	51	P	P	07 41 03.5	-1.0
M16K				IAmb	IAmb	07 41 14.2	
	comp=Z,11nm,1.4s						
O16K	Kokwok River B	18.60	56	P	Pn	07 41 05.6	-1.1
J17K	VABM Dome	19.05	44	P	Pn	07 41 12.2	0.0
K17K	Iditarod	19.17	47	P	Pn	07 41 12.9	-0.7
N17K	Nushagak Hills	19.19	53	P	P	07 41 12.3	-0.6
M17K	Holitna River	19.24	51	P	Pn	07 41 14.1	-0.3
M17K				IAmb	IAmb	07 41 38.6	
	comp=Z,12nm,1.4s						
H17K	Granite Mounta	19.30	39	P	Pn	07 41 15.0	-0.2
F17K	Baldwin Pennin	19.52	35	P	Pn	07 41 16.1	-1.6
L18K	Granite Mounta	19.77	49	P	P	07 41 18.7	-0.4
N18K	Kilae Creek	19.85	53	P	Pn	07 41 20.5	-1.2
ACHA	Angle Creek He	19.93	61	P	Pn	07 41 20.9	-1.8
ACHA				IAmb	IAmb	07 41 28.8	
	comp=Z,6.0nm,1.1s						
H18K	Honhosa River	19.99	40	P	Pn	07 41 21.9	-1.5
O18K	Koktuh Hills	20.09	56	P	Pn	07 41 22.9	-1.6
E18K	Tukpahlearik C	20.25	33		Pn	07 41 24.8	-1.6
E18K				IAmb	IAmb	07 41 32.0	
	comp=Z,8.2nm,1.3s						
ASAJ	Asahikawa	20.36	256	LR	LR	07 50 51.9	
	comp=Z,28nm,18.4s,baz=174,slow=41						
L19K	White Mountain	20.60	49		Pn	07 41 28.9	-1.6
J19K	Poorman	20.70	44		P	07 41 28.7	-0.5
J19K				IAmb	IAmb	07 41 40.1	
	comp=Z,6.2nm,1.3s						
H19K	Roundabout Mou	20.88	40	P	P	07 41 31.3	+0.2
H19K				IAmb	IAmb	07 41 38.5	
	comp=Z,5.3nm,1.1s						
F19K	Shaleruckik Mo	20.93	36	P	P	07 41 31.6	0.0
K20K	Telida	21.20	46	P	P	07 41 34.8	+0.2
K20K				IAmb	IAmb	07 41 45.3	
	comp=Z,4.0nm,0.7s						
J20K	Nowinta River	21.38	44		P	07 41 36.6	+0.2
J20K				IAmb	IAmb	07 41 44.7	
	comp=Z,5.3nm,1.1s						
KDAK	Kodiak Island	21.40	62	P	P	07 41 35.6	-1.1
	comp=Z,1.1nm,0.3s,baz=174,slow=5.4,SNR=23						
	comp=Z,1.1nm,0.3s						
E19K	Redstone River	21.40	34		P	07 41 37.1	+0.4
E19K				IAmb	IAmb	07 41 49.5	
	comp=Z,5.3nm,1.1s						
D19K	Kuna River	21.62	31		P	07 41 39.4	+0.4
D19K				IAmb	IAmb	07 41 45.9	
	comp=Z,10nm,1.2s						
STLK	Strandline Lak	21.91	52	P	P	07 41 43.3	+1.1
CAST	Castle Rocks	22.09	47		P	07 41 44.3	+0.1
CAST				IAmb	IAmb	07 42 00.3	
	comp=Z,4.4nm,1.0s						
D20K	Etivluk River	22.20	32		P	07 41 45.6	+0.2
D20K				IAmb	IAmb	07 42 19.8	
	comp=Z,6.6nm,1.4s						
H21K	Melozitna River	22.35	41	P	P	07 41 46.1	-0.8
H21K				IAmb	IAmb	07 41 53.0	
	comp=Z,4.6nm,0.8s						
B20K	Meade River	22.71	28	P	P	07 41 50.4	-0.3
B21K	Ikpikpuk River	23.27	30	P	P	07 41 55.8	-0.7
YAK	Yakutsk	23.50	309	LR	LR	07 51 38.1	
	comp=Z,35nm,18.2s,baz=0.5,slow=38						
D22K	Ayikyak River	23.56	33		P	07 41 59.5	+0.3
D22K				IAmb	IAmb	07 42 12.3	
	comp=Z,3.0nm,0.8s						
E22K	Anaktuvuk Pass	23.56	35		P	07 41 59.0	-0.3
E22K				IAmb	IAmb	07 42 04.7	
	comp=Z,7.3nm,1.4s						
NEA2	Nenana	23.62	44	P	P	07 41 59.2	-0.7
NEA2				IAmb	IAmb	07 42 14.9	
	comp=Z,5.9nm,1.5s						
G23K	Bananza Creek	23.74	39	P	P	07 42 00.4	-0.6
G23K				IAmb	IAmb	07 42 09.0	
	comp=Z,1.7nm,0.6s						
COLD	Coldfoot	23.83	38	P	P	07 42 00.4	-1.4
B22K	Teshekpuk Lake	23.98	29	P	P	07 42 02.7	-0.5
WRH	Wood River Hil	24.02	45		P	07 42 03.2	-0.4
WRH				IAmb	IAmb	07 42 11.7	
	comp=Z,3.1nm,0.8s						
COLA	College	24.19	44	P	P	07 42 05.5	+0.4
COLA	College	24.19	44	⇓iP	P	07 42 05.6	+0.4
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
E23K	Chandalar	24.30	36	P	P	07 42 05.6	-0.7
E23K				IAmb	IAmb	07 42 24.1	
	comp=Z,6.6nm,1.3s						
H24K	Noodor Dome	24.36	41	P	P	07 42 06.1	-0.8
H24K				IAmb	IAmb	07 42 15.2	
	comp=Z,3.5nm,1.0s						
KLR	Kul'dur	24.46	277	LR	LR	07 51 53.0	
	comp=Z,33nm,19.7s,baz=327,slow=37						
KLR	Kul'dur	24.46	277	⇑iP	P	07 42 09.9	+2.0
KLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TOLK	Toolik Lake Re	24.51	34	P	P	07 42 07.3	-0.9
ILAR	Eielson Array	24.58	44	P	P	07 42 06.5	-2.3
	comp=Z,0.8nm,0.6s,baz=252,slow=6.2,SNR=12						
	comp=Z,0.8nm,0.6s						
C23K	Itkillik River	24.62	31	P	P	07 42 07.6	-1.5
D24K	Happy Valley	24.95	34	P	P	07 42 11.6	-0.4
J25K	Salcha River,	25.20	45	P	P	07 42 13.3	-1.1
J25K				IAmb	IAmb	07 42 20.8	
	comp=Z,3.2nm,0.8s						
PRP	Porcupine Dome	25.26	43		P	07 42 14.4	-0.7
PRP				IAmb	IAmb	07 42 22.1	
	comp=Z,1.8nm,0.8s						
FYU	Fort Yukon	25.56	40	P	P	07 42 17.1	-0.4
F25K	Christian Rive	25.62	38	P	P	07 42 18.7	+0.4
DOT	Dot Lake	25.68	47		P	07 42 18.1	-0.7
E25K	Arctic Village	25.77	37	P	P	07 42 19.8	+0.2
E25K				IAmb	IAmb	07 42 33.6	
	comp=Z,2.8nm,0.7s						
D25K	Kavik River	25.83	34	P	P	07 42 18.8	-1.3
L26K	Log Cabin Wild	25.98	49	P	P	07 42 20.8	-0.6
G26K	Porcupine Rive	26.20	40	P	P	07 42 23.1	-0.3
G26K				IAmb	IAmb	07 42 33.2	
	comp=Z,2.3nm,0.8s						
F26K	Sheenjek River	26.20	38	P	P	07 42 22.6	-0.9
F26K				IAmb	IAmb	07 42 30.5	
	comp=Z,3.5nm,0.9s						
TIXI	Tiksi	26.22	332	P	P	07 42 23.3	-0.3
TIXI	Tiksi	26.22	332	⇑iP	P	07 42 23.9	+0.4
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
M27K	Edge Creek, AK	26.65	50	P	P	07 42 26.4	-1.3
USA0B	Ussuriysk Arra	26.68	267	eP	P	07 42 27.4	-0.5
K29M	Barlow Dome	28.59	47	P	P	07 42 45.3	+0.3
K29M				IAmb	IAmb	07 42 54.0	
	comp=Z,3.4nm,0.9s						
E29M	Blow River	28.63	37	P	P	07 42 45.4	+0.2
E29M				IAmb	IAmb	07 42 56.7	
	comp=Z,3.0nm,1.2s						
HYT	Haines Junctio	28.85	53	P	P	07 42 47.2	-0.1
HYT				IAmb	IAmb	07 43 00.0	
	comp=Z,3.0nm,0.9s						
P29M	Windy Craggy

63nm,0.3s,baz=62,slow=11,SNR=1.4
DAV LR LR 07 39 26.6
comp=Z,510nm,20.5s,baz=334,slow=45
JOW Kunigami 17.10 5 LR LR 07 47 22.5
comp=Z,62nm,22.0s,baz=194,slow=34
GUMO Guam 18.29 76 LR LR 07 48 45.7
comp=Z,49nm,19.2s,baz=262,slow=37
JCJ Chichijima 22.70 38 LR LR 07 51 08.7
comp=Z,28nm,19.7s,baz=168,slow=36
WRA Warramunga Arr 30.44 166 P **P 07 43 42.4 -0.6**
0.5nm,0.7s,baz=347,slow=9.0,SNR=1.5
0.5nm,0.7s
ASAR Alice Springs 33.94 168 P **P 07 44 12.1 -1.5**
0.4nm,0.6s,baz=353,slow=7.1,SNR=5.9
0.4nm,0.6s
SONM Songino Array 41.65 339 P **P 07 45 19.0 +0.4**
0.5nm,0.6s,baz=162,slow=10,SNR=2.8
0.5nm,0.6s
MKAR Makanchi Array 52.67 323 P **P 07 46 43.5 -0.8**
0.7nm,0.7s,baz=113,slow=9.5,SNR=5.3
0.7nm,0.7s
ZALV Zalesovo Beam 55.27 331 P **P 07 47 01.6 -1.6**
0.4nm,0.4s,baz=104,slow=6.1,SNR=1.6
0.4nm,0.4s
KURBB Kurchatov Arra 56.71 325 P **P 07 47 13.1 -0.5**
0.7nm,0.6s,baz=125,slow=6.9,SNR=6.3
0.7nm,0.6s
SHEM Shemya Is, Ala 57.44 32 LR LR 08 09 49.3
comp=Z,26nm,19.2s,baz=142,slow=34
NRIK Noril'sk 64.63 346 P **P 07 48 07.3 +0.2**
1.0nm,0.3s,baz=113,slow=6.7,SNR=4.7
1.0nm,0.3s
ILAR Eielson Array 79.79 26 P **P 07 49 38.6 +0.9**
0.2nm,0.6s,baz=255,slow=5.4,SNR=4.2
0.2nm,0.6s
ARCES ARCESS Array B 84.83 340 P **P 07 50 04.1 +0.1**
2.8nm,0.8s,baz=66,slow=5.7,SNR=5.3
2.8nm,0.8s
FINES FINESS Array B 86.53 332 P **P 07 50 12.3 -0.3**
1.1nm,0.7s,baz=46,slow=8.2,SNR=3.5
1.1nm,0.7s
YKA Yellowknife Ar 94.12 24 P **P 07 50 48.7 +0.6**
0.3nm,0.7s,baz=299,slow=4.8,SNR=5.7
0.3nm,0.7s

---

*NAO **27** 07:38:56.6±1.0, 73°.20N×6°.24E, ML3.5*
*IDC **27** 07:38:58.6±0.7, 73°.02N×6°.18E, h0km, mb3.6/10, mbtmp3.7/17, ML3.3/7, MS3.5/48, Error ellipse: s-maj=16.7km s-min=11.6km az=55.0*
*BER **27** 07:38:59.8±4.3, 73°.17N×6°.18E, h10km, mb(Pn)4.1, ML3.5(NAO), Confirmed Earthquake*
*NEIC **27** 07:39:01.1±2.4, 73°.16N±0°.08×6°.9E±0°.1, h10km±1km, mb4.2/14, Error ellipse: s-maj=13.7km s-min=5.4km az=183.0*
*DNK **27** 07:39:03.1±2.4, 73°.27N×5°.62E, h30km±27km, ML0.8*
*KOLA **27** 07:39:03.1, 72°.89N×6°.85E, h0km, ML2.5, Error ellipse: s-maj=27.5km s-min=22.8km az=130.0, Norwegian sea*
ISC 27 07:39:00.5±0.5, 73°.11N±0°.04×6°.84E±0°.05, h12km, n167,
σ2§53/139, **mb4.2**/21, **MS3.5**/42, **1C-4D, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.68**	**62**	Pn	**Pn**	**07 39 55.0**	**-2.0**
BJO1				Sn	**Sn**	**07 40 37.5**	**-2.8**
BJO1	**Bjornoya**	**3.68**	**62**	*e*P	**Pn**	**07 39 55.5**	**-1.6**
BJO1				IAML		07 39 57.6	
	comp=Z,130nm,0.5s						
BJO1				*e*S	**Sn**	**07 40 37.6**	**-2.6**
HSPB	**Hornsund (broa**	**4.50**	**26**	Pn	**Pn**	**07 40 06.5**	**-1.9**
HSPB	**Hornsund (broa**	**4.50**	**26**	*e*P	**Pn**	**07 40 06.9**	**-1.5**
HSPB				IAML		07 40 10.0	
	comp=Z,8.2nm,0.3s						
JNE	**Jan Mayen East**	**5.14**	**253**	*e*P	Pn	07 40 13.4	-3.7
JNW	**Jan Mayen West**	**5.16**	**254**	*e*P	Pn	07 40 13.8	-3.5
JMIC	**Jan Mayen**	**5.20**	**253**	Pn	Pn	07 40 14.1	-3.8
JMIC	**Jan Mayen**	**5.20**	**253**	Pn	Pn	07 40 13.6	-4.3
	comp=Z,10nm,0.3s,baz=90,slow=4.2,SNR=13						
JMIC				LR	LR	07 41 48.2	
	comp=Z,411nm,18.4s,baz=57,slow=34						
	comp=Z,47nm,0.6s						
JMIC	**Jan Mayen**	**5.20**	**253**	*e*P	Pn	07 40 14.1	-3.8
JMIC	**Jan Mayen**	**5.20**	**253**	*i* P	Pn	07 40 13.9	-4.0
JMIC				*e*S	Sn	07 41 07.0	-11
TRO	**Tromso**	**5.21**	**126**	Pn	**Pn**	**07 40 18.4**	**+0.4**
TRO				Sn	**Sn**	**07 41 13.2**	**-4.7**
TRO	**Tromso**	**5.21**	**126**	*e*P	**Pn**	**07 40 18.5**	**+0.4**
JMI	**Jan Mayen**	**5.29**	**253**	Pn	Pn	07 40 16.2	-3.0
JMI	**Jan Mayen**	**5.29**	**253**	*e*P	Pn	07 40 16.1	-3.1
BRBA	**Barentsburg A**	**5.30**	**17**	Pn	**Pn**	**07 40 17.3**	**-1.9**
BRBA	**Barentsburg A**	**5.30**	**17**	*e*P	**Pn**	**07 40 17.6**	**-1.7**
BRBB	**Barentsburg B**	**5.33**	**17**	Pn	**Pn**	**07 40 18.0**	**-1.7**
BRBB	**Barentsburg B**	**5.33**	**17**	*e*P	**Pn**	**07 40 20.0**	**+0.3**
LOF	**Lofoten**	**5.48**	**153**	Pn	**Pn**	**07 40 21.2**	**-0.5**
LOF				Sn	**Sn**	**07 41 18.6**	**-5.9**
LOF	**Lofoten**	**5.48**	**153**	*e*P	**Pn**	**07 40 21.3**	**-0.5**
LOF				Sn	**Sn**	**07 41 18.6**	**-5.9**
SPB2	**Spitsbergen Ar**	**5.60**	**20**		**Pn**	**07 40 21.9**	**-1.6**
SPA0	**Spitsbergen Ar**	**5.61**	**20**	Pn	**Pn**	**07 40 22.1**	**-1.4**
	baz=195,slow=14						
SPA0	**Spitsbergen Ar**	**5.61**	**20**	Pn	**Pn**	**07 40 22.1**	**-1.4**
	baz=195,slow=14						
SPITS	**Spitsbergen Ar**	**5.61**	**20**	Pn	**Pn**	**07 40 22.4**	**-1.1**
	baz=200,slow=16						
	comp=Z,2.4nm,0.3s						
JETT	**Jettan, Norway**	**5.62**	**123**	Pn	**Pn**	**07 40 24.8**	**+1.0**
JETT				Sn	**Sn**	**07 41 23.4**	**-4.8**
JETT	**Jettan, Norway**	**5.62**	**123**	Pn	**Pn**	**07 40 24.8**	**+1.0**
JETT				Sn	**Sn**	**07 41 23.4**	**-4.8**
HAMF	**Hammerfest**	**5.80**	**107**	Pn	**Pn**	**07 40 25.7**	**-0.5**
HAMF				Sn	**Sn**	**07 41 29.8**	**-2.7**
HAMF	**Hammerfest**	**5.80**	**107**	*e*P	**Pn**	**07 40 25.9**	**-0.3**
HOPEN	**Hopen**	**5.84**	**46**	Pn	**Pn**	**07 40 25.8**	**-1.0**
HOPEN				Sn	**Sn**	**07 41 31.9**	**-1.7**
HOPEN	**Hopen**	**5.84**	**46**	*e*P	**Pn**	**07 40 26.9**	**+0.1**
HOPEN				IAML		07 40 31.2	
	comp=Z,5.9nm,0.6s						
STEI	**Steigen**	**5.91**	**148**	*e*P	**Pn**	**07 40 27.4**	**-0.3**
KBS	**Kingsbay**	**5.97**	**10**	Pn	**Pn**	**07 40 25.6**	**-2.9**
KBS	**Kingsbay**	**5.97**	**10**	Pn	**Pn**	**07 40 26.0**	**-2.5**
KBS	**Kingsbay**	**5.97**	**10**	*e*P	**Pn**	**07 40 26.1**	**-2.5**
KBS	**Kingsbay**	**5.97**	**10**	*i* P	**Pn**	**07 40 25.1**	**-3.4**
KBS				*e*S	**Sn**	**07 41 30.0**	**-6.7**
KIF	**Kilpisjarvi**	**6.12**	**125**	Pn	**Pn**	**07 40 30.8**	**+0.3**
KIF				Sn	**Sn**	**07 41 35.5**	**-5.0**
KIF	**Kilpisjarvi**	**6.12**	**125**	*e*P	**Pn**	**07 40 30.9**	**+0.3**
KIF				Sn	**Sn**	**07 41 35.5**	**-5.0**
FAUS	**Fauske**	**6.42**	**149**	Pn	**Pn**	**07 40 35.2**	**+0.5**
FAUS				Sn	**Sn**	**07 41 39.9**	**-7.9**
FAUS	**Fauske**	**6.42**	**149**	P	Pn	**07 40 35.2**	**+0.5**
FAUS				S	**Sn**	**07 41 42.1**	**-5.7**
FAUS	**Fauske**	**6.42**	**149**	*e*P	Pn	**07 40 35.9**	**+1.2**
VAGH	**Vaagaholmen**	**6.78**	**158**	*e*P	**Pn**	**07 40 39.7**	**+0.1**
ARA0	**ARCESS Array S**	**6.96**	**112**	Pn	**Pn**	**07 40 42.5**	**+0.4**
	baz=315,slow=11						
ARA0				Sn	**Sn**	**07 41 57.4**	**-3.8**
	baz=310,slow=22						
ARA0	**ARCESS Array S**	**6.96**	**112**	Pn	**Pn**	**07 40 42.5**	**+0.4**
	baz=315,slow=11						
ARA0				Sn	**Sn**	**07 41 57.4**	**-3.8**
	baz=310,slow=22						
ARCES	**ARCESS Array B**	**6.96**	**112**	Pn	**Pn**	**07 40 42.4**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=314,slow=10,SNR=50						
ARCES				Sn	**Sn**	**07 41 56.7**	**-4.5**
	comp=Z,0.7nm,0.3s,baz=323,slow=22,SNR=4.7						
	comp=Z,3.5nm,0.5s						
ARCES	**ARCESS Array B**	**6.96**	**112**	P	**Pn**	**07 40 42.5**	**+0.4**
ARCES				S	**Sn**	**07 41 57.8**	**-3.4**
SALU	**Saltoluokta**	**6.97**	**140**	*e*P	**Pn**	**07 40 42.7**	**+0.4**
KONS	**Konsvik**	**6.99**	**159**	Pn	**Pn**	**07 40 40.9**	**-1.6**
KONS				Sn	Sn	07 41 52.2	-9.4
KONS	**Konsvik**	**6.99**	**159**	*e*P	**Pn**	**07 40 41.1**	**-1.3**
STOK	**Stokkvaagen**	**7.14**	**160**	Pn	**Pn**	**07 40 44.5**	**0.0**
STOK				Sn	**Sn**	**07 41 57.2**	**-8.2**
STOK	**Stokkvaagen**	**7.14**	**160**	*e*P	**Pn**	**07 40 44.7**	**+0.2**
KEV	**Kevo**	**7.24**	**108**	Pn	**Pn**	**07 40 45.7**	**-0.2**
KEV	**Kevo**	**7.24**	**108**	Pn	**Pn**	**07 40 46.3**	**+0.4**
KEV				Sn	**Sn**	**07 42 04.3**	**-3.6**
KEV	**Kevo**	**7.24**	**108**	*e*P	**Pn**	**07 40 45.5**	**-0.4**
HEF	**Hetta**	**7.27**	**122**	Pn	**Pn**	**07 40 46.8**	**+0.5**
HEF				Sn	**Sn**	**07 42 02.7**	**-5.9**
HEF	**Hetta**	**7.27**	**122**	*e*P	**Pn**	**07 40 46.3**	**-0.1**
LEIR	**Leirfjorden**	**7.36**	**160**	*e*P	**Pn**	**07 40 47.9**	**+0.3**
MOR8	**Moi Rana**	**7.45**	**156**	*e*P	**Pn**	**07 40 48.0**	**-0.8**
DBG	**Daneborg**	**7.66**	**292**	Pn	Pn	07 40 43.7	-8.0
DBG				Sn	Sn	07 42 02.0	-16
DBG	**Daneborg**	**7.66**	**292**	Pn	Pn	07 40 43.7	-8.0
DBG				Sn	Sn	07 42 02.0	-16
DBG	**Daneborg**	**7.66**	**292**	*i* P	Pn	07 40 45.2	-6.5
DBG				IAmb	IAmb	07 41 06.4	
	comp=Z,19nm,1.3s						
DBG				*i* S	Sn	07 42 01.1	-17
VADS	**Vadso**	**7.69**	**102**	Pn	**Pn**	**07 40 52.4**	**+0.2**
VADS	**Vadso**	**7.69**	**102**	P	**Pn**	**07 40 52.6**	**+0.5**
VADS				S	**Sn**	**07 42 15.0**	**-4.0**
SCO	**Scoresbysund**	**9.32**	**268**	*i* P	Pn	07 41 09.0	-5.4
SCO				*e*S	Sn	07 42 39.0	-20
SCO				IAML		07 42 50.6	
	comp=Z,0.2nm,0.7s						
SCO	**Scoresbysund**	**9.32**	**268**	*i* P	Pn	07 41 09.0	-5.4
SCO				*e*S	Sn	07 42 39.0	-20
SCO				IAML		07 42 50.6	
	comp=Z,0.2nm,0.7s						
NOR	**Nord**	**9.82**	**340**	Pn	**Pn**	**07 41 16.4**	**-4.8**
NOR				Sn	Sn	07 42 59.2	-12
NOR	**Nord**	**9.82**	**340**	*i* P	**Pn**	**07 41 16.5**	**-4.8**
NOR				IAML		07 43 05.7	
	comp=Z,0.2nm,0.3s						
NOR	**Nord**	**9.82**	**340**	*i* P	**Pn**	**07 41 16.5**	**-4.8**
NOR				IAML		07 43 05.7	
	comp=Z,0.2nm,0.3s						
APA0	**Apatity Array**	**10.30**	**109**	Pn	**Pn**	**07 41 26.5**	**-1.3**
	baz=322,slow=18						
APA0				Sn	**Sn**	**07 43 17.0**	**-6.0**
	baz=314,slow=28						
LVZ	**Lovozero**	**10.57**	**106**	Pn	**Pn**	**07 41 29.8**	**-1.7**
KVDA	**Kovda**	**10.93**	**113**	P	**Pn**	**07 41 35.1**	**-1.2**
KVDA				S	**Sn**	**07 43 34.6**	**-3.7**
AKN	**Aaknes**	**10.99**	**180**	Pn	**Pn**	**07 41 35.5**	**-1.8**
NC204	**NORSAR Array S**	**11.98**	**171**		**Pn**	**07 41 49.7**	**-1.2**
NB2	**NORSAR Subarra**	**12.24**	**170**	Pn	**Pn**	**07 41 53.5**	**-1.0**
	baz=348,slow=14						
NOA	**NORSAR Array B**	**12.24**	**170**	Pn	**Pn**	**07 41 53.6**	**-0.8**
	baz=348,slow=12,SNR=5.8						
NOA				LR	LR	07 46 21.9	
	comp=Z,174nm,20.5s,baz=350,slow=36						
	comp=Z,1.1nm,0.8s						
BORG	**Borgarnes**	**12.99**	**244**	LR	LR	07 45 36.7	
	comp=Z,125nm,19.5s,baz=41,slow=31						
SUMG	**Summit**	**13.13**	**290**	*e*P	Pn	07 41 57.3	-10
SUMG				IAmb	IAmb	07 42 20.9	
	comp=Z,7.9nm,1.3s						
SUMG	**Summit**	**13.13**	**290**	*e*P	Pn	07 41 57.3	-10
SUMG				IAmb	IAmb	07 42 20.9	
	comp=Z,7.9nm,1.3s						
HFS	**Hagfors**	**13.30**	**165**	Pn	**Pn**	**07 42 07.8**	**-1.0**
	baz=346,slow=18						
HFS	**Hagfors**	**13.30**	**165**	Pn	**Pn**	**07 42 07.4**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=348,slow=14,SNR=8.7						
HFS				LR	LR	07 47 04.0	
	comp=Z,347nm,18.0s,baz=346,slow=37						
	comp=Z,3.0nm,0.7s						
FIA1	**FINESS Array S**	**13.76**	**138**		**Pn**	**07 42 13.9**	**-1.1**
FIA0	**FINESS Array S**	**13.76**	**138**	Pn	**Pn**	**07 42 14.3**	**-0.8**
	baz=328,slow=14						
FINES	**FINESS Array B**	**13.76**	**138**		**Pn**	**07 42 13.5**	**-1.5**
FINES	**FINESS Array B**	**13.76**	**138**	Pn	**Pn**	**07 42 14.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=346,slow=14,SNR=14						
FINES				LR	LR	07 47 05.7	
	comp=Z,348nm,21.6s,baz=20,slow=35						
	comp=Z,3.3nm,0.7s						
EKA	**Eskdalemuir Ar**	**18.32**	**198**	P	**P**	**07 43 11.9**	**-2.2**
	baz=13,slow=9.6						
	comp=Z,3.3nm,0.9s						
ILULI	**Ilulissat**	**18.43**	**287**	P	**Pn**	**07 43 17.0**	**+1.6**
PABE	**Paberze**	**19.02**	**149**	P	**Pn**	**07 43 22.4**	**-0.2**
SFJD	**Kangerlussuaq**	**19.75**	**281**	LR	LR	07 50 04.9	
	comp=Z,238nm,19.2s,baz=48,slow=34						
NACGM	**Naroch**	**20.05**	**145**	*e*P	Pn	07 43 34.1	-0.7
	comp=Z,8.0nm,0.7s,baz=343						
EUNU	**Eureka**	**20.14**	**330**	P	**P**	**07 43 32.7**	**-1.3**
EUNU				IAmb	IAmb	07 43 34.9	
	comp=Z,21nm,1.4s						
SUW	**Suwalki**	**20.36**	**151**	P	**P**	**07 43 36.7**	**+0.3**
OBN	**Obninsk**	**21.79**	**130**	P	**P**	**07 43 52.8**	**+1.1**
	comp=Z,10nm,0.3s,baz=357,slow=2.1,SNR=7.8						
OBN				LR	LR	07 52 51.4	
	comp=Z,149nm,19.0s,baz=232,slow=38						
KIRV	**Kirov**	**21.97**	**109**	LR	LR	07 52 24.2	
	comp=Z,183nm,21.5s,baz=331,slow=36						
CLL	**Collm**	**22.05**	**170**	P	**P**	**07 43 55.7**	**+1.1**
CLL	**Collm**	**22.05**	**170**	*i* P	**P**	**07 43 56.1**	**+1.5**
CLL				*i* (sP)	**pwP**	**07 44 01.3**	**+0.9**
	comp=Z,30nm,1.9s						
CLL				*i* x	x	07 44 04.8	
CLL				*e*S	**S**	**07 48 00.0**	**+2.7**
CLL				*e*SSS	SSS	07 48 36.0	
BRG	**Berggiesshubel**	**22.53**	**168**	*e*P	**P**	**07 44 00.8**	**+0.9**
BRG				Amp		07 44 02.7	
	comp=Z,3.8nm,1.0s						
MORC	**Moravsky Berou**	**23.89**	**163**	*e*P	**P**	**07 44 14.4**	**+0.8**
VRAC	**Vranov**	**24.27**	**164**	LR	LR	07 53 34.3	
	comp=Z,174nm,19.1s,baz=356,slow=36						
VRAC	**Vranov**	**24.27**	**164**	*e*P	**P**	**07 44 18.0**	**+0.8**
NRIK	**Noril'sk**	**24.38**	**58**	P	**P**	**07 44 20.8**	**+2.8**
	comp=Z,0.6nm,0.4s,baz=317,slow=7.9,SNR=4.5						
NRIK				LR	LR	07 56 38.2	
	comp=Z,51nm,19.1s,baz=290,slow=43						
	comp=Z,0.6nm,0.4s						
AKASG	**Malin Array Be**	**24.50**	**144**	P	**P**	**07 44 19.3**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=345,slow=8.8,SNR=8.0						
AKASG				LR	LR	07 53 41.8	
	comp=Z,343nm,19.9s,baz=14,slow=36						
	comp=Z,2.2nm,0.7s						
AKBB	**Malin Array Si**	**24.50**	**144**	P	**P**	**07 44 20.4**	**+1.2**
AKBB				IAmb	IAmb	07 44 29.3	
	comp=Z,7.2nm,1.1s						
KIEV	**Kiev**	**24.51**	**144**	P	**P**	**07 44 20.4**	**+1.2**
KIEV				IAmb	IAmb	07 44 29.3	
	comp=Z,6.4nm,1.1s						
KIEV	**Kiev**	**24.51**	**144**	⇓P	**P**	**07 44 21.1**	**+1.9**
GERES	**GERESS Array B**	**24.54**	**169**	P	**P**	**07 44 20.9**	**+1.2**
GERES	**GERESS Array B**	**24.54**	**169**	P	**P**	**07 44 20.5**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=15,slow=7.3,SNR=7.0						
GERES				LR	LR	07 54 18.0	
	comp=Z,130nm,18.1s,baz=326,slow=38						
	comp=Z,0.5nm,0.4s						
STHS	**Stebnicka Huta**	**24.62**	**157**	*e*P	**P**	**07 44 21.7**	**+1.4**
RES	**Resolute Bay**	**25.02**	**322**	LR	LR	07 54 33.0	
	comp=Z,156nm,19.2s,baz=16,slow=37						
KOLS	**Kolonicke sedl**	**25.21**	**156**	*e*P	**P**	**07 44 26.6**	**+0.9**
MODS	**Modra-Piesok**	**25.26**	**164**	*e*P	**P**	**07 44 27.4**	**+1.3**
VYHS	**Vyhne**	**25.28**	**161**	*e*P	**P**	**07 44 29.1**	**+2.8**
ARTI	**Arti**	**26.38**	**101**	LR	LR	07 55 12.3	
	comp=Z,40nm,19.0s,baz=221,slow=37						
DAVOX	**Davos/Dischmat**	**26.45**	**175**	LR	LR	07 55 02.5	
	comp=Z,107nm,18.2s,baz=84,slow=36						
BUR08	**Bucovina Ar. S**	**26.86**	**152**		**P**	**07 44 42.0**	**+1.4**
BUR08				IAmb	IAmb	07 44 48.6	
	comp=Z,7.5nm,1.2s						
BURAR	**Bucovina Array**	**26.89**	**152**	P	**P**	**07 44 42.5**	**+1.5**
BURAR	**Bucovina Array**	**26.89**	**152**	⇑P	**P**	**07 44 41.1**	**+0.1**
BELG	**Belogornoye**	**26.96**	**118**	LR	LR	07 55 06.1	
	comp=Z,112nm,19.3s,baz=301,slow=36						
MARR	**Marisel-Cluj**	**27.54**	**155**	⇓P	**P**	**07 44 49.3**	**+2.6**
SIRR	**Siria**	**27.77**	**158**	⇓P	**P**	**07 44 51.0**	**+2.3**
ARR	**Arges**	**29.02**	**154**	⇓P	**P**	**07 45 02.9**	**+2.9**
TIXI	**Tiksi**	**30.91**	**32**	P	**P**	**07 45 17.9**	**+1.6**
TIXI				IAmb	IAmb	07 45 25.7	
	comp=Z,6.1nm,1.4s						
TIXI	**Tiksi**	**30.91**	**32**	LR	LR	07 59 00.6	
	comp=Z,48nm,18.4s,baz=18,slow=39						
AKTO	**Aktyubinsk**	**31.52**	**108**	LR	LR	07 58 59.7	
	comp=Z,148nm,18.9s,baz=46,slow=38						
BVAR	**Borovoye Array**	**32.77**	**93**	LR	LR	07 59 51.7	
	comp=Z,42nm,21.5s,baz=337,slow=38						
AB31	**Akbulak array**	**33.13**	**107**		**P**	**07 45 36.7**	**+0.7**
AB31				IAmb	IAmb	07 45 43.7	
	comp=Z,3.8nm,1.1s						
ABKAR	**Akbulak array**	**33.13**	**107**	P	**P**	**07 45 36.6**	**+0.7**
KBZ	**Khabaz**	**33.90**	**130**	LR	LR	08 00 00.2	
	comp=Z,148nm,18.4s,baz=359,slow=37						
ESDC	**Sonseca Array**	**33.93**	**195**	P	**P**	**07 45 42.9**	**-0.3**
	comp=Z,0.8nm,1.0s,baz=360,slow=8.0,SNR=6.1						
	comp=Z,0.8nm,1.0s						
BRTR	**Keskin Array B**	**35.91**	**144**	P	**P**	**07 46 01.6**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=324,slow=6.1,SNR=5.0						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**36.16**	**78**	LR	LR	08 03 46.9	
	comp=Z,48nm,20.2s,baz=317,slow=41						
KURBB	**Kurchatov Arra**	**37.28**	**87**	P	**P**	**07 46 14.7**	**+3.1**
	comp=Z,1.3nm,0.7s,baz=333,slow=7.2,SNR=6.0						
KURBB				LR	LR	08 05 32.2	
	comp=Z,36nm,18.4s,baz=182,slow=42						
	comp=Z,1.3nm,0.7s						
GNI	**Garni**	**37.72**	**130**	LR	LR	08 02 11.1	
	comp=Z,99nm,21.9s,baz=344,slow=37						
IDI	**Anoyia**	**38.98**	**156**	LR	LR	08 03 11.5	
	comp=Z,52nm,18.9s,baz=304,slow=37						
YKA	**Yellowknife Ar**	**39.09**	**321**	P	**P**	**07 46 25.5**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=18,slow=8.4,SNR=5.7						
YKA				LR	LR	08 02 44.0	
	comp=Z,132nm,18.2s,baz=30,slow=36						
	comp=Z,0.5nm,0.9s						
E18K	**Tukpahlearik C**	**39.47**	**352**	P	**P**	**07 46 31.3**	**+1.4**
YAK	**Yakutsk**	**39.77**	**38**	LR	LR	08 04 17.7	
	comp=Z,42nm,20.3s,baz=326,slow=38						
MDT	**Midelt**	**40.80**	**195**	LR	LR	08 03 08.0	
	comp=Z,37nm,19.9s,baz=72,slow=36						
ILAR	**Eielson Array**	**41.26**	**343**	P	**P**	**07 46 45.0**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=0.2,slow=6.8,SNR=10.0						
	comp=Z,0.9nm,0.9s						
MKAR	**Makanchi Array**	**41.81**	**86**	LR	LR	08 06 52.9	
	comp=Z,42nm,20.7s,baz=335,slow=40						
MMAI	**Mount Meron Ar**	**42.75**	**144**	LR	LR	08 06 31.6	
	comp=Z,64nm,20.2s,baz=303,slow=39						
AAK	**Ala-Archa**	**43.33**	**96**	LR	LR	08 06 04.2	
	comp=Z,36nm,20.9s,baz=346,slow=37						
DLBC	**Dease Lake**	**45.48**	**330**	LR	LR	08 07 18.7	
	comp=Z,86nm,19.1s,baz=356,slow=37						
EIL	**Elat**	**45.94**	**145**	LR	LR	08 08 10.1	
	comp=Z,32nm,19.2s,baz=247,slow=38						
WMQ	**Urumqi**	**46.09**	**83**	*e*P	**P**	**07 47 26.5**	**+2.5**
WMQ				pP	pwP	07 47 29.5	-0.6
WMQ				sP	sP	07 47 32.5	+4.3
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
ULM	**Lac du Bonnet**	**46.22**	**300**	LR	LR	08 06 22.4	
	comp=Z,149nm,19.1s,baz=4.5,slow=36						
BBB	**Bella Bella**	**51.21**	**326**	LR	LR	08 11 04.9	
	comp=Z,55nm,19.2s,baz=312,slow=38						
KLR	**Kul'dur**	**52.23**	**43**	LR	LR	08 11 58.9	
	comp=Z,49nm,19.1s,baz=338,slow=38						
PETK	**Petropavlovsk-**	**52.48**	**22**	LR	LR	08 10 29.4	
	comp=Z,26nm,20.1s,baz=46,slow=36						
NEW	**Newport**	**52.96**	**316**	LR	LR	08 10 00.4	
	comp=Z,96nm,18.3s,baz=48,slow=35						
YHL	**Hebgen Lake**	**54.94**	**310**	P	**P**	**07 48 33.1**	**+2.1**
H17A	**Grant Village**	**55.23**	**309**	P	**P**	**07 48 34.1**	**+1.0**
H17A				IAmb	IAmb	07 48 40.5	
	comp=Z,3.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**55.48**	**63**	*e*P	**P**	**07 48 35.5**	**+0.8**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
TKL	**Tuckaleechee C**	**56.47**	**282**	LR	LR	08 11 40.8	
	comp=Z,55nm,18.9s,baz=344,slow=35						
PD31	**Pinedale Array**	**56.54**	**308**	P	**P**	**07 48 44.4**	**+1.8**
PDAR	**Pinedale Array**	**56.54**	**308**	P	**P**	**07 48 41.9**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=40,slow=4.8,SNR=4.8						
	comp=Z,0.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**57.09**	**44**	LR	LR	08 15 03.7	
	comp=Z,34nm,18.1s,baz=82,slow=38						
TORD	**Torodi Ar. Bea**	**60.02**	**186**		**P**	**07 49 06.3**	**-0.4**
TORD				IAmb	IAmb	07 49 12.6	
	comp=Z,1.9nm,0.8s						
YBH	**Yreka Blue Hor**	**60.34**	**318**	LR	LR	08 15 13.1	
	comp=Z,96nm,19.0s,baz=38,slow=36						
KSRS	**Korea Array**	**62.67**	**50**	LR	LR	08 19 54.9	
	comp=Z,22nm,19.9s,baz=340,slow=39						
ANMO	**Albuquerque**	**63.23**	**302**	LR	LR	08 17 04.4	
	comp=Z,78nm,18.7s,baz=170,slow=36						
PZH	**PanZhiHua**	**66.29**	**77**	P	**P**	**07 49 50.3**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
DBIC	**Dimbokro**	**66.76**	**193**	LR	LR	08 23 34.3	
	comp=Z,30nm,18.2s,baz=101,slow=40						
BRDH	**Bariadhala**	**66.98**	**88**	LR	LR	08 24 16.2	
	comp=Z,42nm,18.3s,baz=104,slow=40						
JNU	**Nakatsue**	**67.49**	**49**	LR	LR	08 23 26.4	

SONM	Songino Array	32.89	341	P	P	07 50 46.3	+0.9
	0.4nm,0.5s,baz=167,slow=11,SNR=2.3						
	0.4nm,0.5s						
WRA	Warramunga Arr	39.09	160	P	P	07 51 37.9	-0.6
WRA	Warramunga Arr	39.09	160	P	P	07 51 38.0	-0.6
	0.9nm,0.6s,baz=342,slow=8.7,SNR=6.7						
	0.9nm,0.6s						
AS31	Alice Springs	42.46	163	P	P	07 52 06.7	+0.3
ASAR	Alice Springs	42.47	163	P	P	07 52 06.5	+0.2
ASAR	Alice Springs	42.47	163	P	P	07 52 06.7	+0.3
	0.8nm,0.5s,baz=340,slow=7.0,SNR=17						
	0.8nm,0.5s						
MKAR	Makanchi Array	43.63	321	P	P	07 52 16.1	+0.6
MKAR	Makanchi Array	43.63	321	P	P	07 52 16.0	+0.4
	0.7nm,0.7s,baz=114,slow=9.2,SNR=9.2						
MKAR				PcP	PcP	07 54 02.8	+0.1
	0.3nm,0.6s,baz=82,slow=5.1,SNR=3.6						
	0.7nm,0.7s						
MAKZ	Makanchi	43.82	321	P	P	07 52 18.3	+1.1
KURK	Kurchatov	47.65	324	P	P	07 52 47.1	-0.2
KURK				IAmb	IAmb	07 52 48.1	
	comp=Z,2.3nm,0.8s						
KURBB	Kurchatov Arra	47.66	324	P	P	07 52 47.6	+0.3
	comp=Z,2.2nm,0.7s,baz=121,slow=8.2,SNR=23						
	comp=Z,2.2nm,0.7s						
NWAO	Narrogin (SRO)	50.04	185	LR	LR	08 14 19.5	
	comp=Z,23nm,18.9s,baz=36,slow=36						
BBOO	Buckleboo	51.72	164	P	P	07 53 18.3	-0.1
NRIK	Noril'sk	56.14	346	P	P	07 53 49.9	-0.3
NRIK				IAmb	IAmb	07 53 51.1	
	comp=Z,2.1nm,0.7s						
NRIK	Noril'sk	56.14	346	P	P	07 53 50.1	-0.1
	comp=Z,2.2nm,0.7s,baz=145,slow=5.6,SNR=6.9						
	comp=Z,2.2nm,0.7s						
ABKAR	Akbulak array	58.52	318	P	P	07 54 06.7	-0.7
M14K	Bethel	68.62	31	P	P	07 55 13.9	+0.1
RDOG	Red Dog Mine	68.81	23	P	P	07 55 16.0	+1.0
F17K	Baldwin Pennin	69.30	25	P	P	07 55 18.8	+0.9
F17K				IAmb	IAmb	07 55 51.2	
	comp=Z,2.6nm,1.2s						
N15K	Kwethluk River	69.52	32	P	P	07 55 19.0	-0.5
L16K	Owhat River	69.85	30	P	P	07 55 22.3	+0.8
L16K				IAmb	IAmb	07 55 22.8	
	comp=Z,2.7nm,1.0s						
J17K	VABM Dome	70.07	28	P	P	07 55 23.2	+0.4
J17K				IAmb	IAmb	07 55 39.0	
	comp=Z,4.3nm,1.4s						
K17K	Iditarod	70.41	29	P	P	07 55 25.6	+0.7
K17K				IAmb	IAmb	07 55 42.8	
	comp=Z,5.9nm,1.5s						
D19K	Kuna River	70.63	23	P	P	07 55 26.4	+0.3
D19K				IAmb	IAmb	07 55 55.5	
	comp=Z,6.5nm,1.5s						
B20K	Meade River	71.02	21	P	P	07 55 29.1	+0.7
L18K	Granite Mounta	71.17	29	P	P	07 55 30.2	+0.7
L18K				IAmb	IAmb	07 55 50.7	
	comp=Z,4.3nm,1.4s						
D20K	Etivluk River	71.18	22	P	P	07 55 30.0	+0.4
B21K	Ikpikpuk River	71.90	22	P	P	07 55 34.9	+1.1
B21K				IAmb	IAmb	07 56 17.1	
	comp=Z,5.9nm,1.5s						
J20K	Nowinta River	72.25	27	P	P	07 55 37.5	+1.5
B22K	Teshekpuk Lake	72.30	21	P	P	07 55 36.0	-0.1
B22K				IAmb	IAmb	07 55 52.8	
	comp=Z,5.3nm,1.5s						
CAST	Castle Rocks	73.21	28	P	P	07 55 41.5	-0.3
CAST				IAmb	IAmb	07 55 43.5	
	comp=Z,3.3nm,0.8s						
YKA	Yellowknife Ar	89.28	23	P	P	07 57 07.5	+0.6
	comp=Z,0.2nm,0.7s,baz=317,slow=6.1,SNR=4.2						
	comp=Z,0.2nm,0.7s						

FUNV ***27*** *07:48:22.3, 10°.58N×61°.85W, h80km, MW3.7*
TRN ***27*** *07:48:23.3, 10°.63N×62°.07W, h45km, MD3.3, Paria peninsula.*

ISC 27 07:48:22.9±1.5, 10°.61N±0°.06×62°.07W±0°.06, h51km±30km, n19, σ1§11/27, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSKH	Kent House, Po	0.54	83	eP	Pn	07 48 35.0	+0.2
PSGH	Port of Spain	0.55	85	eP	Pn	07 48 35.3	+0.4
TRN	Trinidad (W)	0.66	87	eP	Pn	07 48 36.5	+0.4
TRN				eS	Sn	07 48 45.1	-0.6
TBH	Brigand Hill	0.99	97	eP	Pn	07 48 40.6	0.0
TPR	Prospect	1.39	66	eP	Pn	07 48 46.6	+0.6
TPR				eS	Sn	07 49 03.9	+0.6
GRFF	Grenada Fort F	1.46	13	eP	Pn	07 48 47.2	+0.2
GRFF				eS	Sn	07 49 04.8	-0.3
GRGR	Grenville	1.56	15	eP	Pn	07 48 48.1	-0.2
GRGR				eS	Sn	07 49 07.4	-0.1
GRW	Mount Saint Ca	1.59	14	eP	Pn	07 48 50.0	+1.2
GRW				eS	Sn	07 49 07.1	-1.1
GRSS	Sisters	1.73	15	eP	Pn	07 48 50.4	-0.3
GCMP	Grenada, Carri	1.97	19	eP	Pn	07 48 53.9	+0.1
GCMP				eS	Sn	07 49 17.4	+0.1
PCRV	Puerto La Cruz	2.56	261	eP	Pn	07 49 03.6	+1.5
PCRV	Puerto La Cruz	2.56	261	eP	Pn	07 49 03.9	+1.9
SLBI	Saint Lucia, B	3.56	17	eP	Pn	07 49 16.3	+0.7
SLBI				eS	Sn	07 49 55.2	-1.1
DSLB	Salisbury	4.84	7	eP	Pn	07 49 25.9	-7.3
TACV	Tcata	4.90	265	eP	Pn	07 49 35.0	+0.9
TACV				eS	Sn	07 50 29.1	-0.6
CACV	CAICARA DEL OR	5.35	236	eP	Pn	07 49 34.0	-6.3
CACV				eS	Sn	07 50 28.4	-12
BENV	Beln	5.48	264	eP	Pn	07 49 43.9	+1.8
BENV				eS	Sn	07 50 42.7	-1.2
BAUV	El Baul	6.12	255	eP	Pn	07 49 50.9	+0.1
BAUV				eS	Sn	07 50 56.3	-3.2
BAUV	El Baul	6.12	255	eP	Pn	07 49 51.3	+0.5

IDC ***27*** *07:52:17.0±5.5, 6°.10S×130°.31E, h52km±52km, mb3.7/8, mbtmp4.1/11, ML4.3/3, Error ellipse: s-maj=54.7km s-min=19.9km az=64.0*

ISC 27 07:52:21.3±0.8, 6°.44S±0°.07×130°.2E±0°.2, h100km, n11, σ2§52/14, mb3.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.42	201	P	Pn	07 55 15.4	+0.8
	0.9nm,0.3s,baz=27,slow=8.6,SNR=23						
FITZ				S	Sn	07 57 28.4	-2.7
	16nm,0.4s,baz=194,slow=13,SNR=12						
	2.7nm,0.3s						
WRA	Warramunga Arr	14.00	164	P	Pn	07 55 36.0	+0.6
	1.6nm,0.3s,baz=342,slow=13,SNR=25						
WRA				S	Sn	07 58 05.2	-4.4
	8.6nm,0.6s,baz=334,slow=22,SNR=11						
	3.0nm,0.4s						
ASAR	Alice Springs	17.49	169	P	Pn	07 56 22.0	+3.1
	1.2nm,0.3s,baz=355,slow=9.9,SNR=57						
ASAR				S	Sn	07 59 30.5	-3.2
	3.9nm,0.9s,baz=347,slow=22,SNR=14						
	3.9nm,0.5s						
STKA	Stephens Creek	27.44	159	P	P	07 58 01.1	+3.2
	0.8nm,0.3s,baz=323,slow=11,SNR=9.2						
	0.8nm,0.3s						
CMAR	Chiang Mai Arr	39.55	309	P	P	07 59 42.5	-0.3
	0.6nm,0.3s,baz=120,slow=8.4,SNR=2.0						
	0.6nm,0.3s						
SONM	Songino Array	57.99	341	P	P	08 02 02.6	-1.0
	0.4nm,0.4s,baz=141,slow=5.5,SNR=2.3						
	0.4nm,0.4s						
PETK	Petropavlovsk-	63.73	18	P	P	08 02 40.9	-1.4
	0.9nm,0.6s,baz=224,slow=6.7,SNR=1.9						
	0.9nm,0.6s						
MKAR	Makanchi Array	67.89	327	P	P	08 03 08.9	-0.2
	1.8nm,0.6s,baz=129,slow=7.8,SNR=22						
	1.8nm,0.6s						
ZALV	Zalesovo Beam	71.19	334	P	P	08 03 28.2	-1.0
	1.2nm,0.6s,baz=128,slow=9.6,SNR=3.8						
	1.2nm,0.6s						
KURBB	Kurchatov Arra	72.16	328	P	P	08 03 34.1	-1.0
	0.5nm,0.4s,baz=132,slow=5.0,SNR=8.2						
	0.5nm,0.4s						
VNDA	Vanda	72.97	173	P	P	08 03 42.2	+2.7
	0.5nm,0.8s,baz=302,slow=4.5,SNR=3.8						
	0.5nm,0.8s						

TXNET 27 08:41:01.1, 31°.5N±0°.8×103°.4W±0°.6, h6km±1km, ML1.5/6, Error ellipse: s-maj=1.2km s-min=0.9km az=163.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	Crockett Middl	0.14	211	P	Pg	08 41 04.6	+0.6
PCOS				S	Sg	08 41 07.0	+1.1
PCOS	Crockett Middl	0.14	211	P	Pg	08 41 04.7	+0.7
PCOS	Crockett Middl	0.14	211	P	Pg	08 41 04.9	+0.9
TPB06	Permian Basin	0.21	56	P	Pg	08 41 05.8	+0.5
TPB06				S	Sg	08 41 09.3	+1.1
TPB06	Permian Basin	0.21	56	P	Pg	08 41 06.4	+1.1
TPB07	Mentone	0.21	284	P	Pg	08 41 05.8	+0.5
TPB07				S	Sg	08 41 09.6	+1.4
TPB07	Mentone	0.21	284	P	Pg	08 41 05.9	+0.6
TPB04	Verhalen	0.37	159	S	Sb	08 41 15.8	-0.3
TPB10	Southeast of T	0.37	229	S	Sb	08 41 15.7	-0.6
PECS	Pecos	0.41	247	P	Pg	08 41 09.4	+0.3
PECS				S	Sg	08 41 15.7	+1.3
TPB16	Coyonosa	0.43	160	P	Pg	08 41 09.9	+0.5
TPB16				S	Sb	08 41 16.9	-0.9
TPB03	Saragosa	0.45	190	S	Sb	08 41 17.2	-1.2
TPB12	Southwest of T	0.55	235	S	Sb	08 41 20.7	-0.7
MNHN	Monahans	0.60	108	S	Sb	08 41 22.0	-0.7
TPB05	Hovey Rd	0.61	172	S	Sb	08 41 22.1	-1.1
ALPN	Alpine	1.17	189	P	Pg	08 41 23.1	-0.3
ALPN				S	Sn	08 41 40.6	+0.2
VHRN	Van Horn	1.53	241	P	Pn	08 41 29.2	+0.2
VHRN				S	Sb	08 41 49.9	+0.3
MNTX	Cornudas Mount	1.68	276	P	Pn	08 41 31.5	+0.6
MNTX				S	Sg	08 41 54.7	-0.3
TMB05	Klondike	1.72	50	S	Sg	08 41 56.0	-0.4
SAND	Sanderson	1.93	144	P	Pb	08 41 36.1	-0.5
SAND				S	Sg	08 42 02.8	-0.3
SGCY	Sterling City	2.00	78	P	Pb	08 41 37.3	-0.5
SGCY				S	Sg	08 42 04.4	-0.8
OZNA	Ozona	2.06	107	P	Pb	08 41 39.0	+0.1
TX31	Lajitas Ar. Si	2.20	186	P	Pb	08 41 39.8	-1.5
TX31				S	Sb	08 42 09.3	+0.5

IDC ***27*** *08:56:11.6±1.6, 55°.95S×26°.48W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=79.0km s-min=33.2km az=60.0*
NEIC ***27*** *08:56:20.5±1.1, 56°.2S±0°.1×27°.1W±0°.2, h60km±8km, mb4.3/11, Error ellipse: s-maj=23.1km s-min=5.4km az=50.0*

ISC 27 08:56:20.6±0.7, 56°.2S±0°.1×27°.2W±0°.1, h63km, n27, σ0§75/28, mb4.3/8, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.65	286	Pn	Pn	08 57 42.9	+1.0
HOPE				Sn	Sn	08 58 43.8	-1.6
VNA1	Neumayer--Stat	16.69	158	⇑P	P	09 00 11.9	+0.6
	comp=Z,0.4nm,0.2s						
VNA3	Neumayer Olymp	16.89	160	⇑P	P	09 00 14.0	+0.5
	comp=Z,0.5nm,0.2s						
VNA2	Neumayer--Watz	17.09	158	⇑P	P	09 00 16.0	+0.2
	comp=Z,0.7nm,0.2s,baz=316,slow=12						
SNAA	Sanae	18.64	156	P	P	09 00 31.9	-1.0
SNAA				IAmb	IAmb	09 00 34.2	
	comp=Z,5.0nm,0.6s						
SNAA	Sanae	18.64	156	⇑P	Pn	09 00 33.6	-0.2
	comp=Z,12nm,0.2s						
BELA	Belgrano 2	21.97	184	P	P	09 01 07.9	-0.8
QSPA	South Pole Qui	34.09	180	P	P	09 02 58.9	+0.1
QSPA				IAmb	IAmb	09 03 28.2	
	comp=Z,5.6nm,1.4s						
CPUP	Villa Florida	36.89	311	P	P	09 03 22.8	-0.2
	comp=Z,1.6nm,0.9s,baz=162,slow=8.9,SNR=3.4						
	comp=Z,1.6nm,0.9s						
AC05	El Transito	40.88	294	P	P	09 03 55.5	-0.9
GO02	Mina Guanaco	43.55	297	P	P	09 04 18.6	+0.2
GO02				IAmb	IAmb	09 04 32.3	
	comp=Z,17nm,1.4s						
VNDA	Vanda	46.47	183	P	P	09 04 41.2	+0.7
	comp=Z,0.2nm,0.5s,baz=180,slow=5.1,SNR=1.6						
	comp=Z,0.2nm,0.5s						
PB01	IPOC Station P	46.97	301	P	P	09 04 45.8	+0.6
PB01				IAmb	IAmb	09 05 23.3	
	comp=Z,9.9nm,1.2s						
GO01	Chusmiza	48.01	302	P	P	09 04 54.2	+0.5
GO01				IAmb	IAmb	09 04 55.2	
	comp=Z,3.9nm,0.8s						
LPAZ	La Paz	50.45	305	P	P	09 05 13.0	+0.5
LPAZ				IAmb	IAmb	09 05 13.8	
	comp=Z,1.6nm,0.6s						
LPAZ	La Paz	50.45	305	P	P	09 05 13.4	+0.9
	comp=Z,1.8nm,0.6s,baz=133,slow=6.6,SNR=11						
	comp=Z,1.8nm,0.6s						
OTAV	Otavalo	69.72	304	P	P	09 07 25.5	+1.3
OTAV				IAmb	IAmb	09 07 48.1	
	comp=Z,3.4nm,1.4s						
TORD	Torodi Ar. Bea	73.14	29	P	P	09 07 44.3	0.0
TEIG	Tepich	91.77	305	P	P	09 09 21.4	+0.3
FINES	FINESS Array B	124.47	28	PKP	PKiKP	09 15 10.5	-0.8
	comp=Z,0.5nm,0.5s,baz=174,slow=1.7,SNR=4.4						
A36M	Sachs Harbour	144.31	328		PKPdf	09 15 46.4	-1.1
F31M	Tsiigehtchic	145.71	319		PKPab	09 15 50.5	-0.6
L29M	L29M	146.01	311		PKPab	09 15 52.0	-0.5
I30M	Mount Dempster	146.02	315		PKPbc	09 15 51.1	-0.7
G30M	tAoh Zraii Nji	146.50	318		PKPbc	09 15 52.6	-0.5
I26K	Coal Creek Min	148.77	313		PKPbc	09 15 58.7	-0.5
ILAR	Eielson Array	150.19	312	PKPbc	PKPbc	09 16 02.5	-0.2
	comp=Z,1.5nm,0.8s,baz=120,slow=3.8,SNR=18						

IDC ***27*** *08:57:23.8±2.2, 3°.48S×127°.93E, h0km, mb3.5/2, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=146.8km s-min=29.5km az=67.0*
DJA ***27*** *08:57:26.0±0.3, 3°.5±4°.×12°.9E±°., h10km, M3.5/8, MLv3.5/8*

ISC 27 08:57:27.7±1.1, 2°.88S±0°.09×129°.47E±0°.06, h50km, n10, σ0§98/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.71	229	P	Pn	08 57 40.4	-1.2
AAI	Ambon	1.50	238	P	Pn	08 57 53.7	+1.4
BNDI	Bandanaira	1.69	165	P	Pn	08 58 00.6	+5.8
NLAI	Namlea	2.39	261	P	Pn	08 58 04.9	+0.5
SWI	Sorong	2.69	42	P	Pn	08 58 08.5	-0.1
FAKI	Fak Fak	2.78	91	P	Pn	08 58 09.9	+0.1
SANI	Sanana	3.57	283	P	Pn	08 58 19.8	-0.9
WRA	Warramunga Arr	17.61	165	P	Pn	09 01 28.8	-0.9
	0.1nm,0.3s,baz=338,slow=13,SNR=2.2						
	0.4nm,0.5s						
ASAR	Alice Springs	21.10	169	P	P	09 02 08.7	+0.3
	1.8nm,0.7s,baz=350,slow=9.3,SNR=22						
	1.8nm,0.7s						
MKAR	Makanchi Array	64.52	326	P	P	09 08 00.0	+0.5
	0.3nm,0.6s,baz=123,slow=7.7,SNR=2.1						
	0.3nm,0.6s						

HEL ***27*** *08:59:35.0±0.1, 67°.70N×26°.87E, h0km, ML1.6, Explosion*
IDC ***27*** *08:59:36.2±1.6, 67°.77N×27°.03E, h0km, mbtmp2.6/1, ML1.8/1, Error ellipse: s-maj=31.2km s-min=9.1km az=80.0*
BER ***27*** *08:59:37.0±1.8, 67°.62N×26°.86E, h0km, ML1.2, Suspected explosion*

ISC 27 08:59:34.8±0.8, 67°.73N±0°.02×26°.89E±0°.03, h0km, n30, σ1§45/47, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	Raja-Jooseppi	0.92	35	PG	Pg	08 59 52.1	-0.3
RAJF				SG	Sg	09 00 02.9	-1.3
VRF	Varrio	1.04	88	PG	Pg	08 59 53.9	-0.8
VRF				MSG		09 00 06.9	
	comp=Z,4.3nm,0.2s						
VRF				SN	Sn	09 00 12.6	+0.7
RNF	Rovaniemi	1.18	197	PN	Pg	08 59 56.6	-0.8
RNF				SG	Sg	09 00 07.2	-5.4
KLF	Kolari	1.23	247	PN	Pg	08 59 58.1	-0.3
KLF				MSG		09 00 11.8	
	comp=Z,5.1nm,0.2s						
HEF	Hetta	1.39	301	eP	Pg	09 00 01.4	0.0
HEF				eS	Sn	09 00 20.6	+0.1
HEF	Hetta	1.39	301	PN	Pg	09 00 01.4	0.0
HEF				MSG		09 00 17.0	
	comp=Z,10.0nm,0.2s						
HEF				SN	Sn	09 00 21.2	+0.8
RANF	Ranua	1.73	181	PG	Pn	09 00 05.8	-0.3
	baz=6.0						
RANF				SN	Sn	09 00 27.5	-1.3
OLKF	Oulanka, Finla	1.73	144	PG	Pn	09 00 05.5	-0.6
OLKF				MSG		09 00 26.1	
	comp=Z,4.6nm,0.2s						
OLKF				SN	Sn	09 00 30.1	+1.3
LANU	Lannavaara	1.88	282	PG	Pn	09 00 08.6	+0.5
ARA0	ARCESS Array S	1.88	345	eP	Pb	09 00 09.6	-0.4
ARA0				eS	Sg	09 00 34.4	-0.8
ARA0				IAML		09 00 39.4	
	comp=Z,3.3nm,0.1s						
ARA0	ARCESS Array S	1.88	345	PG	Pb	09 00 09.9	-0.1
ARA0				SG	Sg	09 00 34.8	-0.4
ARCES	ARCESS Array B	1.88	345	Pn	Pb	09 00 09.6	-0.4
	comp=Z,0.2nm,0.3s,baz=162,slow=17,SNR=20						
ARCES				Lg	Lg	09 00 34.6	
	comp=Z,0.6nm,0.3s,baz=161,slow=29,SNR=17						
TOF	Tornio	1.94	212	PG	Pn	09 00 09.8	+0.8
TOF				MSG		09 00 32.0	
	comp=Z,2.7nm,0.2s						
TOF				SG	Sn	09 00 34.8	+0.7
MSF	Maaselka	2.02	154	PG	Pn	09 00 10.8	+0.7
	baz=339						
MSF				SG	Sn	09 00 37.3	+1.3
KEV	Kevo	2.03	1	eP	Pb	09 00 11.5	-1.1
KEV				eS	Sg	09 00 38.2	-1.9
KEV	Kevo	2.03	1	PG	Pb	09 00 11.4	-1.1
KEV				MSG		09 00 36.2	
	comp=Z,3.4nm,0.2s						
KEV				SG	Sb	09 00 38.0	-0.3
KU6	Riekki	2.09	144	PG	Pn	09 00 11.6	+0.6
KU6				MSG		09 00 36.4	
	comp=Z,1.2nm,0.2s						
KU6				SG	Sb	09 00 39.9	0.0
KU2	Taivalkoski	2.10	165	PG	Pn	09 00 12.4	+1.2
KU2				SG	Sn	09 00 40.3	+2.3
ERTU	Ertsjaerv	2.18	239	PG	Pn	09 00 13.9	+1.5
KALU	Kalix	2.34	218	PG	Pn	09 00 16.0	+1.4
	baz=39						
KALU				SG	Sn	09 00 46.4	+2.5
KU1	Kurvinen	2.42	153	PG	Pn	09 00 17.0	+1.3
KIF	Kilpisjarvi	2.59	302	eP	Pb	09 00 21.0	-1.1
KIF	Kilpisjarvi	2.59	302	PG	Pb	09 00 22.2	+0.2
KIF				MSG		09 00 52.2	
	comp=Z,1.6nm,0.2s						
KIF				SG	Sb	09 00 54.7	+0.3
OUL	Oulu	2.69	189	SG	Sn	09 00 55.8	+3.4
LVZ	Lovozero	2.95	83	PG	Pb	09 00 29.2	+1.0
OBF4	Vikkela, Lumij	3.02	195	PB	Pn	09 00 25.7	+1.9
OBF4				MSG		09 01 02.8	
	comp=Z,1.0nm,0.2s						
I37NO	I37NO	3.34	298	I	I	09 21 45.0	
	baz=113,slow=324,SNR=5.9						
OUF	Merijarvi	3.49	196	PB	Pn	09 00 31.4	+1.1
	baz=13						
OUF				SB	Sn	09 01 13.5	+1.2
RMF	Romuvaara	3.74	159	PB	Pn	09 00 35.8	+2.0
FINES	FINESS Array B	6.33	184	Pn	Pn	09 01 10.5	+1.3
	comp=Z,0.1nm,0.3s,baz=8.9,slow=10,SNR=1.6						
FINES				Lg	Lg	09 02 46.2	
	comp=Z,0.1nm,0.3s,baz=13,slow=27,SNR=4.2						
	comp=Z,0.3nm,0.5s						

IDC ***27*** *09:05:24.5±1.0, 9°.63N×126°.22E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=83.8km s-min=21.1km az=70.0*

ISC 27 09:05:33.2±1.0, 9°.6N±0°.2×126°.1E±0°.5, h67km, n11, σ0§82/8, mb3.7/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.42	164	P	P	09 11 40.1	+0.7
	0.3nm,0.7s,baz=347,slow=8.7,SNR=1.9						
	0.3nm,0.7s						
ASAR	Alice Springs	33.89	167	P	P	09 12 08.9	-1.0
	0.2nm,0.7s,baz=347,slow=7.2,SNR=5.5						
	0.2nm,0.7s						
H11N1	WAKE ISLAND Hy 40.67	71		T	T	09 56 20.7	
	baz=262,slow=74,SNR=7.4						
H11N2	WAKE ISLAND Hy 40.68	71		T	T	09 56 18.3	
	baz=262,slow=74,SNR=7.2						
H11N3	WAKE ISLAND Hy 40.69	71		T	T	09 56 17.7	
	baz=262,slow=74,SNR=6.5						
SONM	Songino Array	41.62	340	P	P	09 13 14.0	-0.8
	0.3nm,0.4s,baz=156,slow=11,SNR=2.1						
	0.3nm,0.4s						
MKAR	Makanchi Array	52.48	323	P	P	09 14 40.2	+0.9
	0.5nm,0.6s,baz=121,slow=7.9,SNR=6.9						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	56.55	326	P	P	09 15 08.7	-0.1
	0.3nm,0.4s,baz=125,slow=6.8,SNR=4.2						
	0.3nm,0.4s						
ARCES	ARCESS Array B	84.79	340	P	P	09 17 59.6	-0.4
	3.0nm,0.9s,baz=67,slow=6.7,SNR=4.0						
	3.0nm,0.9s						
FINES	FINESS Array B	86.42	332	P	P	09 18 08.7	+0.5
	0.7nm,0.5s,baz=67,slow=5.0,SNR=8.1						
	0.7nm,0.5s						
YKA	Yellowknife Ar	94.49	24	P	P	09 18 46.3	+0.4
	0.3nm,0.7s,baz=306,slow=4.5,SNR=6.4						
	0.3nm,0.7s						

GCG ***27*** *09:19:28.8±3.1, 16°.89N×95°.07W, h36km±999km, MD4.2*
MEX ***27*** *09:19:31.5±1.1, 16°.50N×94°.81W, h68km±20km, MD4.0*

ISC 27 09:19:26.1±1.0, 16°.44N±0°.04×94°.85W±0°.02, h17km±10km, n24, σ1§68/47, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.65	357	i P	Pn	09 19 40.8	+0.2
CMIG				eS	Sn	09 19 49.9	-0.6
UXUV	UXUV	1.10	38	eP	Pn	09 19 48.5	+1.6
UXUV				eS	Sn	09 20 02.8	+1.1
HUIG	Huatulco	1.38	241	eP	Pg	09 19 53.3	+0.6
HUIG				eS	Sg	09 20 12.4	+1.7
HUIG	Huatulco	1.38	241	i P	Pg	09 19 53.3	+0.6
HUIG				i S	Sg	09 20 12.0	+1.3
NEUV	Arroyo Zacate	1.56	324	eP	Pg	09 19 56.5	+0.4
NEUV				eS	Sg	09 20 18.6	+2.1
TGIG		1.69	78	eP	Pg	09 19 57.9	-0.8
TGIG				eS	Sg	09 20 19.5	-1.2
TGIG		1.69	78	i P	Pg	09 19 58.1	-0.5
TGIG				i S	Sg	09 20 19.5	-1.2
PCIG		1.73	115	eP	Pb	09 19 57.4	-0.1
PCIG				eS

RABC	**Rab**	**0.33 198**	*e*Pg	**Pg**	**09 23 24.8**	**-0.2**
RABC			Sg	**Sg**	**09 23 30.2**	**+0.8**
RIY	**Rijeka**	**0.41 310**	*e*Pg	**Pg**	**09 23 26.1**	**-0.3**
RIY			Sg	**Sg**	**09 23 31.9**	**+0.1**
GBRS	**Gornja Briga**	**0.47 350**	*i* Pg	**Pg**	**09 23 27.5**	**-0.1**
GBRS			*e*Sg	**Sg**	**09 23 34.7**	**+0.7**
GBRS			IAML		09 23 35.5	
	comp=Z,7.4nm,0.1s					
BOJS	**Bojanci**	**0.49 27**	*i* Pg	**Pg**	**09 23 27.8**	**-0.2**
BOJS			*i* Sg	**Sg**	**09 23 35.0**	**+0.3**
BOJS			IAML		09 23 37.2	
	comp=Z,3.4nm,0.1s					
NVLJ	**Novalja**	**0.50 185**	*e*Pg	**Pg**	**09 23 27.6**	**-0.6**
NVLJ			Sg	**Sg**	**09 23 34.9**	**+0.1**
PLIT	**Plitvice**	**0.53 110**	*e*Pg	**Pg**	**09 23 28.4**	**-0.2**
PLIT			Sg	**Sg**	**09 23 35.6**	**-0.1**
KNDS	**Knezji Dol**	**0.60 320**	*i* Pg	**Pg**	**09 23 29.8**	**-0.2**
KNDS			*e*Sg	**Sb**	**09 23 39.0**	**-0.4**
KNDS			IAML		09 23 40.0	
	comp=Z,6.4nm,0.2s					
OZLJ	**Ozalj**	**0.67 34**	*e*Pg	**Pg**	**09 23 31.0**	**-0.3**
OZLJ			Sg	**Sg**	**09 23 40.0**	**-0.1**
VISS	**Visnje**	**0.74 355**	*i* Pg	**Pg**	**09 23 32.3**	**-0.4**
VISS			*i* Sg	**Sg**	**09 23 42.6**	**+0.3**
VISS			IAML		09 23 44.4	
	comp=Z,2.8nm,0.1s					
CEY	**Cerknica**	**0.76 333**	*i* Sg	**Sb**	**09 23 44.2**	**+0.4**
CEY			IAML		09 23 46.1	
	comp=Z,2.8nm,0.1s					
VIRC	**Vir**	**0.78 173**	Sg	**Sb**	**09 23 44.6**	**+0.3**
UDBI	**Udbina**	**0.80 132**	Sg	**Sg**	**09 23 43.6**	**-0.7**
SKDS	**Skadanscina**	**0.80 307**	*i* Pg	**Pg**	**09 23 32.9**	**-0.9**
SKDS			*i* Sg	**Sb**	**09 23 45.3**	**+0.2**
SKDS			IAML		09 23 47.6	
	comp=Z,1.8nm,0.1s					
BRJN	**Brijuni**	**0.85 260**	*e*Pg	**Pb**	**09 23 35.1**	**+0.1**
BRJN			Sg	**Sb**	**09 23 46.8**	**+0.4**
GBAS	**Gorenja Brezov**	**0.93 339**	*i* Sg	**Sb**	**09 23 49.2**	**+0.3**
GBAS			IAML		09 23 54.0	
	comp=Z,2.1nm,0.1s					
JAVS	**Javornik**	**1.03 324**	*i* Sg	**Sn**	**09 23 52.9**	**-0.2**
JAVS			IAML		09 23 55.0	
	comp=Z,2.5nm,0.2s					
DUGI	**Dugi Otok**	**1.08 175**	Sg	**Sb**	**09 23 53.1**	**+0.2**
MORI	**Morici**	**1.32 155**	Sg	**Sg**	**09 24 01.4**	**+0.5**
MOSL	**Moslavina**	**1.40 66**	Sg	**Sb**	**09 24 02.6**	**+0.3**
ZIRJ	**Zirje**	**1.50 160**	Sg	**Sg**	**09 24 07.0**	**+0.4**

PRU 27 09:30:28.6, 50.21N×18.79E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEB	**Steborice**	**0.71**	**248**	*e*PG	Pg	09 30 41.9	-0.3
STEB				*e*SG	Sg	09 30 52.0	+0.6
MORC	**Moravsky Berou**	**0.91**	**242**	*e*PG	Pg	09 30 45.2	-0.9
MORC				*e*SG	Sg	09 30 56.6	-1.3
MAUC	**Maruska**	**1.05**	**217**	*e*PG	Pg	09 30 48.4	-0.3
LANS	**Liptovska Anna**	**1.15**	**157**	*e*PG	Pg	09 30 50.2	-0.4
LANS				*e*SG	Sb	09 31 06.5	-0.3
DPC	**Dobruska-Polom**	**1.59**	**276**	*e*PG	Pn	09 30 56.9	-1.1
DPC				*e*SG	Sn	09 31 18.8	-0.5
VRAC	**Vranov**	**1.69**	**238**	*e*PN	Pn	09 30 57.7	-1.6
VRAC				*e*SG	Sn	09 31 20.0	-1.6
VYHS	**Vyhne**	**1.72**	**179**	*e*PN	Pn	09 30 59.2	-0.6
VYHS				*e*SN	Sn	09 31 20.9	-1.5

*JMA **27** 09:31:21.5±0.7, 44°N±4°×14°8E±°, h6km, MV3.5/18, SE OFF ETOROFU*
*SKHL **27** 09:31:25.5±0.3, 44.00N×148.00E, h46km±5km, mb4.1/3*
ISC 27 09:31:22.8±2.5, 44.1N±0.1×147.8E±0.1, h2km±14km, n15, σ1§33/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.74**	**254**	*e*P	**Pn**	**09 31 40.5**	**+0.2**
SHO				AMB	AMB	09 31 40.6	
	40nm,0.2s						
SHO				*e*S	**Sn**	**09 31 51.5**	**-0.6**
SHO				A	A	09 31 53.3	
	200nm,0.2s						
SHO				A	A	09 31 53.3	
	210nm,0.2s						
KUR	**Kuril'sk**	**1.16**	**2**	*e*P	**Pg**	**09 31 45.8**	**+0.9**
KUR				AMB	AMB	09 31 47.3	
	70nm,0.3s						
KUR				*i* S	**Sn**	**09 32 01.3**	**-1.0**
KUR				A	A	09 32 03.0	
	80nm,0.3s						
KUR				A	A	09 32 03.0	
	200nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.41**	**269**	*e*P	**Pg**	**09 31 50.0**	**+0.2**
YUK				AMB	AMB	09 31 55.3	
	80nm,0.2s						
YUK				*e*S	**Sb**	**09 32 08.9**	**+0.7**
YUK				A	A	09 32 13.4	
	190nm,0.4s						
YUK				A	A	09 32 13.4	
	460nm,0.4s						
NEM2	**Nemuro 2**	**1.66**	**245**	*e*P	**Pb**	**09 31 52.7**	**-1.4**
NEM2				*e*S	**Sb**	**09 32 15.7**	**+0.2**
NMR	**Nemuro--Hokkai**	**1.67**	**246**	*e*P	**Pb**	**09 31 53.2**	**-1.0**
NMR				*e*S	**Sn**	**09 32 13.5**	**-1.5**
JRA	**Rausu**	**1.95**	**267**	*e*P	**Pb**	**09 31 58.9**	**0.0**
JNSB	**Nemuroshibetsu**	**2.05**	**263**	*e*P	**Pb**	**09 31 58.9**	**-1.9**
JNSB				*e*S	**Sb**	**09 32 27.5**	**+0.7**
JNK	**Nakash**	**2.29**	**259**	*e*S	**Sb**	**09 32 33.2**	**-0.5**
AKK	**Akkeshi**	**2.41**	**245**	*e*P	**Pn**	**09 32 03.2**	**0.0**
AKK				*e*S	**Sn**	**09 32 32.0**	**-1.2**
JAK	**Akkeshi**	**2.51**	**246**	*e*P	**Pn**	**09 32 04.2**	**-0.4**
JTKR	**Abashiri--Toko**	**2.82**	**269**	*e*P	**Pb**	**09 32 11.8**	**-2.0**
JOB	**Onbets**	**3.13**	**249**	*e*P	**Pn**	**09 32 14.5**	**+1.4**
JOB				*e*S	**Sn**	**09 32 53.0**	**+2.0**
JMP	**Maruseppu**	**3.21**	**270**	*e*P	**Pb**	**09 32 19.3**	**-1.3**
JCH	**Churui**	**3.56**	**247**	*e*P	**Pn**	**09 32 20.4**	**+1.4**
JCH				*e*S	**Sn**	**09 33 04.4**	**+2.6**
JNBK	**Urakawa-nobuka**	**4.12**	**246**	*e*P	**Pn**	**09 32 27.5**	**+0.8**

*LJU **27** 09:31:32.3, 46.09N×15.78E, h12km, ML2.5*
*VIE **27** 09:31:32.6±0.2, 46.09N×15.76E, h11km±1km, mb2.4/13, ml2.8/15, Error ellipse: s-maj=1.5km s-min=0.9km az=109.0 25 km ENE of Krsko*
*BEO **27** 09:31:33.2±0.5, 46.08N×15.86E, h12km±7km, ML2.8/9*
*PRU **27** 09:31:34.7, 46.15N×15.82E, h10km*
RHSSO 27 09:31:33.3±0.2, 46.07N×15.79E, h13km±2km, ML2.8/12, 10C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLS	**Golise**	**0.13**	**244**	⇑*i*Pg	Pg	09 31 35.4	-1.3
GOLS				*i* Sg	Sg	09 31 38.0	-1.1
GOLS				IAML		09 31 38.9	
	comp=Z,2μm,0.2s						
PTJ	**Puntijarka**	**0.20**	**143**	*e*Pg	Pg	09 31 37.1	-0.8
PTJ				Sg	Sg	09 31 40.5	-0.5
LOBO	**Lobor**	**0.21**	**66**	*e*Pg	Pg	09 31 36.8	-1.1
LOBO				Sg	Sg	09 31 40.1	-1.0
GCIS	**Gornji Cirnik**	**0.23**	**210**	⇓*i*Pg	Pg	09 31 37.2	-1.1
GCIS				*i* Sg	Sg	09 31 41.2	-0.4
GCIS				IAML		09 31 44.7	
	comp=Z,382nm,0.2s						
DOBS	**Dobrina**	**0.24**	**290**	⇑*i*Pg	Pg	09 31 37.2	-1.2
DOBS				*i* Sg	Sg	09 31 40.6	-1.3
DOBS				IAML		09 31 42.7	
	comp=Z,532nm,0.1s						
CESS	**Cesta pri Krsk**	**0.25**	**248**	⇑*i*Pg	Pg	09 31 37.9	-0.7
CESS				*i* Sg	Sg	09 31 41.8	-0.3
CESS				IAML		09 31 43.2	
	comp=Z,1μm,0.2s						
ZAG	**Zagreb**	**0.28**	**151**	*e*Pg	Pg	09 31 38.7	-0.3
ZAG				Sg	Sg	09 31 42.8	-0.2
CRES	**Cresnjevec Ost**	**0.34**	**224**	*i* Pg	Pg	09 31 39.1	-1.0
CRES				*e*Sg	Sg	09 31 44.9	+0.1
CRES				IAML		09 31 46.1	
	comp=Z,307nm,0.2s						
LEGS	**Legarje**	**0.35**	**250**	⇑*i*Pg	Pg	09 31 39.8	-0.6
LEGS				*e*Sg	Sg	09 31 45.1	-0.2
GROS	**Grobnik**	**0.44**	**333**	*i* Pg	Pg	09 31 41.0	-1.1
GROS				*i* Sg	Sg	09 31 47.0	-1.0
GROS				IAML		09 31 47.8	
	comp=Z,375nm,0.2s						
KALN	**Kalnik**	**0.47**	**82**	*e*Pg	Pg	09 31 41.5	-1.0
KALN				Sg	Sg	09 31 48.2	-0.5
KOGS	**Kog**	**0.49**	**40**	*i* Pg	Pg	09 31 42.4	-0.6
KOGS				*i* Sg	Sg	09 31 49.7	0.0
KOGS				IAML		09 31 51.3	
	comp=Z,474nm,0.2s						
OZLJ	**Ozalj**	**0.51**	**207**	*e*Pg	Pg	09 31 42.6	-0.7
OZLJ				Sg	Sg	09 31 49.0	-1.0
PDKS	**Podkum**	**0.55**	**269**	⇑*i*Pg	Pg	09 31 43.5	-0.7
PDKS				*i* Sg	Sg	09 31 51.5	-0.1
PDKS				IAML		09 31 56.1	
	comp=Z,204nm,0.2s						
ZAVS	**Zavodnje**	**0.65**	**305**	*i* Pg	Pg	09 31 44.8	-1.1
ZAVS				*i* Sg	Sg	09 31 53.9	-0.6
ZAVS				IAML		09 31 57.4	
	comp=Z,210nm,0.3s						
BOJS	**Bojanci**	**0.68**	**214**	*i* Pg	Pg	09 31 45.5	-1.0
BOJS				*e*Sg	Sg	09 31 55.3	-0.2
BOJS				IAML		09 31 57.4	
	comp=Z,82nm,0.2s						
VISS	**Visnje**	**0.72**	**249**	*i* Pg	Pg	09 31 46.2	-1.0
VISS				*e*Sg	Sg	09 31 56.1	-0.5
VISS				IAML		09 32 04.5	
	comp=Z,261nm,0.6s						
PERS	**Pernice**	**0.74**	**321**	*i* Pg	Pg	09 31 46.3	-1.3
PERS				*i* Sg	Sg	09 31 56.0	-1.3
PERS				IAML		09 31 56.7	
	comp=Z,241nm,0.3s						
VNDS	**Vrh nad Dolski**	**0.76**	**273**	⇑*i*Pg	Pg	09 31 47.2	-0.9
VNDS				*e*Sg	Sb	09 31 58.5	-0.2
VNDS				IAML		09 32 02.6	
	comp=Z,221nm,0.2s						
BEHE	**Becsehely**	**0.79**	**59**	*e*Pg	Pg	09 31 48.4	-0.2
BEHE				*e*Sg	Sb	09 31 59.9	+0.4
SOKA	**Soboth**	**0.81**	**319**	*e*Pg	Pg	09 31 47.6	-1.3
	comp=Z,10nm,0.2s,SNR=59						
SOKA				*e*Sg	Sg	09 31 58.0	-1.5
	comp=Z,126nm,0.4s						
MOSL	**Moslavina**	**0.81**	**124**	*e*Pg	Pg	09 31 48.6	-0.5
MOSL				Sg	Sg	09 31 59.2	-0.4
GBRS	**Gornja Briga**	**0.87**	**232**	*i* Pg	Pg	09 31 49.2	-1.0
GBRS				*e*Sg	Sn	09 32 02.9	-1.0
GBRS				IAML		09 32 09.1	
	comp=Z,155nm,0.4s						
LJU	**Ljubljana**	**0.88**	**269**	*i* Pg	Pg	09 31 49.3	-1.0
LJU				*e*Sg	Sg	09 32 01.4	-0.5
LJU				IAML		09 32 08.2	
	comp=Z,52nm,0.1s						
GBAS	**Gorenja Brezov**	**0.95**	**262**	⇑*i*Pg	Pb	09 31 50.4	-1.3
GBAS				*e*Sg	Sg	09 32 03.0	-1.1
GBAS				IAML		09 32 12.9	
	comp=Z,168nm,0.5s						
MOZS	**Mozjanca**	**0.96**	**284**	⇑*i*Pg	Pb	09 31 50.7	-1.2
MOZS				*e*Sg	Sb	09 32 04.8	+0.2
MOZS				IAML		09 32 11.9	
	comp=Z,201nm,0.6s						
OBKA	**Obir**	**0.97**	**297**	⇑*i*Pg	Pb	09 31 50.4	-1.6
OBKA				*e*Sg	Sg	09 32 03.4	-1.3
OBKA	**Obir**	**0.97**	**297**	*e*Pg	Pb	09 31 50.7	-1.3
	comp=Z,14nm,0.2s,SNR=35						
OBKA				*i* Sg	Sg	09 32 03.4	-1.3
	comp=Z,57nm,0.2s						
A251A	**Rujevac**	**1.00**	**160**	*e*Pg	Pg	09 31 52.6	+0.1
A251A				Sg	Sb	09 32 04.2	-1.2
CEY	**Cerknica**	**1.01**	**251**	⇓*i*Pg	Pb	09 31 51.6	-1.1
CEY				*e*Sg	Sg	09 32 06.0	+0.1
CEY	**Cerknica**	**1.01**	**251**	*i* Pg	Pb	09 31 51.4	-1.2
CEY				*e*Sg	Sn	09 32 07.1	-0.2
CEY				IAML		09 32 13.6	
	comp=Z,154nm,0.4s						
CEY	**Cerknica**	**1.01**	**251**	*e*Pg	Pb	09 31 51.4	-1.3
CEY				*e*Sg	Sn	09 32 08.0	+0.7
CRNS	**Crni Vrh**	**1.07**	**271**	*i* Pg	Pb	09 31 52.5	-1.1
CRNS				IAML		09 32 11.8	
	comp=Z,91nm,0.2s						
KNDS	**Knezji Dol**	**1.13**	**242**	*i* Pg	Pb	09 31 53.5	-1.2
KNDS				*e*Sg	Sn	09 32 11.3	+1.1
KNDS				IAML		09 32 14.1	
	comp=Z,231nm,0.4s						
RIY	**Rijeka**	**1.18**	**231**	*e*Pg	Pn	09 31 54.7	-0.8
RIY				Sg	Sg	09 32 11.3	-0.1
RIY	**Rijeka**	**1.18**	**231**	*e*Pg	Pn	09 31 54.7	-0.8
RIY				*e*Sg	Sn	09 32 12.0	+0.6
ARSA	**Arzberg**	**1.20**	**351**	⇑*i*Pg	Pn	09 31 55.1	-0.7
ARSA				*e*Sg	Sb	09 32 11.1	-0.2
ARSA	**Arzberg**	**1.20**	**351**	*e*Pg	Pn	09 31 55.6	-0.2
	comp=Z,13nm,0.2s,SNR=24						
ARSA				*e*Sg	Sb	09 32 11.5	+0.2
	comp=Z,35nm,0.3s						
ARSA	**Arzberg**	**1.20**	**351**	*e*Pg	Pn	09 31 55.3	-0.5
ARSA				*e*Sg	Sb	09 32 11.3	0.0
PLIT	**Plitvice**	**1.20**	**186**	*e*Pg	Pn	09 31 55.7	-0.1
PLIT				Sg	Sb	09 32 11.0	-0.2
JAVS	**Javornik**	**1.22**	**262**	*i* Pg	Pn	09 31 54.9	-1.2
JAVS				*e*Sg	Sg	09 32 12.7	+0.1
JAVS				IAML		09 32 16.6	
	comp=Z,157nm,0.4s						
KNYS	**Krupa na Uni**	**1.23**	**162**	⇓*i*Pg	Pn	09 31 55.9	-0.4
KNYS				*e*Sg	Sb	09 32 11.8	-0.5
GORS	**Gorjuse**	**1.27**	**282**	*e*Pg	Pn	09 31 56.2	-0.7
GORS				*e*Sg	Sn	09 32 14.0	+0.1
GORS				IAML		09 32 17.1	
	comp=Z,48nm,0.2s						
A051A	**Mrakovica**	**1.31**	**143**	⇓*i*Pg	Pn	09 31 57.1	-0.3
A051A				*e*Sg	Sb	09 32 14.4	-0.3
VOJS	**Vojsko**	**1.33**	**269**	*i* Pg	Pn	09 31 56.9	-0.8
VOJS				*e*Sg	Sg	09 32 17.0	+0.8
VOJS				IAML		09 32 22.4	
	comp=Z,117nm,0.5s						
SKDS	**Skadanscina**	**1.35**	**248**	⇓*i*Pg	Pn	09 31 57.3	-0.6
SKDS				*e*Sg	Sn	09 32 15.9	+0.2
SKDS	**Skadanscina**	**1.35**	**248**	*i* Pg	Pn	09 31 57.6	-0.3
SKDS				*e*Sg	Sg	09 32 17.1	+0.3
SKDS				IAML		09 32 21.3	
	comp=Z,98nm,0.3s						
SKDS	**Skadanscina**	**1.35**	**248**	*e*Pg	Pn	09 31 57.5	-0.4
SKDS				*e*Sg	Sg	09 32 17.1	+0.3
RABC	**Rab**	**1.50**	**209**	*e*Pn	Pb	09 32 00.8	-0.2
RABC				Sg	Sg	09 32 21.2	-0.3
UDBI	**Udbina**	**1.54**	**181**	*e*Pn	Pn	09 32 01.0	+0.5
UDBI				Sn	Sg	09 32 22.4	-0.5
MYKA	**Terra Mystica**	**1.59**	**291**	*e*Pg	Pn	09 32 01.9	+0.7
	comp=Z,5.7nm,0.2s,SNR=6.2						
MYKA				*i* Sg	Sg	09 32 24.4	-0.2
	comp=Z,31nm,0.5s						
SLATY	**Slatina**	**1.63**	**139**	*e*Pn	Pn	09 32 02.0	+0.3
SLATY				*e*Sn	Sn	09 32 22.9	+0.3
NVLJ	**Novalja**	**1.64**	**204**	*e*Pn	Pb	09 32 03.8	+0.5
NVLJ				Sn	Sb	09 32 24.7	+0.8
BLY	**Banja Luka**	**1.64**	**143**	*e*Pn	Pn	09 32 01.2	-0.7
BLY				*e*Sn	Sn	09 32 22.7	-0.2
BLY	**Banja Luka**	**1.64**	**143**	*e*Pn	Pn	09 32 01.3	-0.6
BLY				*e*Sn	Sn	09 32 21.5	-1.4
RONA	**Rosalia, Austr**	**1.67**	**12**	*e*Pn	Pn	09 32 02.0	-0.3
	comp=Z,6.2nm,0.2s,SNR=17						
RONA				*e*Sg	Sg	09 32 27.0	+0.1
	comp=Z,65nm,0.4s						
A050A	**Klekovaca**	**1.67**	**162**	*e*Pn	Pn	09 32 02.5	+0.2
A050A				*e*Sn	Sn	09 32 24.2	+0.6
BRJN	**Brijuni**	**1.85**	**232**	*e*Pn	Pn	09 32 05.7	+1.1
BRJN				Sn	Sb	09 32 29.8	-0.1
VIRC	**Vir**	**1.85**	**197**	*e*Pn	Pb	09 32 06.2	-0.8
VIRC				Sn	Sb	09 32 30.5	+0.5
CONA	**Conrad Observa**	**1.86**	**1**	*e*Pn	Pn	09 32 04.9	-0.1
	comp=Z,5.9nm,0.3s,SNR=8.9						
CONA				*e*Sg	Sg	09 32 34.9	+1.7
	comp=Z,13nm,0.3s						
KBA	**Koelnbreinsper**	**1.97**	**302**	*e*Pn	Pn	09 32 07.4	+0.9
	comp=Z,11nm,0.3s,SNR=19						
KBA				*e*Sg	Sb	09 32 35.0	+1.4
	comp=Z,17nm,0.6s						
MORH	**Mrgy, Hungar**	**1.99**	**85**	*e*Sn	Sn	09 32 31.0	-0.3
MOA	**Molln**	**2.07**	**330**	*e*Pn	Pn	09 32 08.9	+1.2
	comp=Z,0.7nm,0.1s						
MOA				*e*Sn	Sn	09 32 33.2	-0.2
	comp=Z,12nm,0.4s						
MOA	**Molln**	**2.07**	**330**	*e*Pn	Pn	09 32 08.4	+0.7
KIJV	**Kijevo**	**2.11**	**168**	*e*Pn	Pn	09 32 09.2	+0.9
KIJV				Sn	Sb	09 32 36.4	-1.0
DUGI	**Dugi Otok**	**2.14**	**194**	*e*Pn	Pb	09 32 10.9	-1.1
DUGI				Sn	Sb	09 32 38.0	-0.4
BIOA	**Bad Ischl, Aus**	**2.19**	**318**	*e*Pg	Pb	09 32 14.1	+1.2
	comp=Z,3.0nm,0.2s						
BIOA				*e*Sn	Sn	09 32 36.4	-0.1
	comp=Z,10nm,0.4s						
MORI	**Morici**	**2.20**	**182**	*e*Pn	Pn	09 32 10.8	+1.3
MORI				Sn	Sb	09 32 39.0	-1.1
ABTA	**Abfaltersbach**	**2.37**	**288**	*e*Pn	Pn	09 32 12.8	+0.9
	comp=Z,1.5nm,0.3s						
ABTA				*e*Pg	Pb	09 32 16.5	+0.6
	comp=Z,8.2nm,0.3s,SNR=12						
ABTA				*e*Sg	Sg	09 32 50.9	+1.4
	comp=Z,9.3nm,0.4s						
ZIRJ	**Zirje**	**2.42**	**183**	*e*Pn	Pn	09 32 14.0	+1.5
ZIRJ				Sn	Sb	09 32 44.3	-2.0
MODS	**Modra-Piesok**	**2.52**	**23**	*e*PN	Pn	09 32 14.2	+0.3
MODS				*e*PG	Pg	09 32 20.4	-1.1
MODS				*e*SG	Sg	09 32 53.3	-0.9
LESA	**Schwarzleotal**	**2.54**	**303**	*e*Pn	Pn	09 32 15.8	+1.6
	comp=Z,2.5nm,0.3s,SNR=5.3						
LESA				*e*Pg	Pg	09 32 20.3	-1.6
	comp=Z,8.3nm,0.3s						
LESA				*e*Sn	Sn	09 32 44.6	-0.4
	comp=Z,4.7nm,0.4s						
CKRC	**Cesky Krumlov**	**2.93**	**340**	*e*PN	Pn	09 32 21.3	+1.7
FRGS	**Fruska Gora**	**2.96**	**106**	*e*Pn	Pn	09 32 19.4	-0.6
FRGS				*e*Sn	Sn	09 32 55.1	-0.3
FRGS	**Fruska Gora**	**2.96**	**106**	*e*Pn	Pn	09 32 18.6	-1.4
HAPS	**Han Pijesak,BI**	**2.99**	**130**	*e*Pn	Pn	09 32 20.9	+0.4
HAPS				*e*Sn	Sn	09 32 56.4	+0.2
HAPS	**Han Pijesak,BI**	**2.99**	**130**	*e*Pn	Pn	09 32 20.9	+0.4
KRUC	**Moravsky**	**3.02**	**8**	*e*PN	Pn	09 32 20.7	-0.1
TEKS	**Tekeris**	**3.04**	**119**	*e*Pn	Pn	09 32 20.6	-0.5
TEKS				*e*Sn	Sn	09 32 57.0	-0.4
TEKS	**Tekeris**	**3.04**	**119**	*e*Pn	Pn	09 32 20.8	-0.3
TEKS				*e*Sn	Sn	09 32 54.8	-2.6
JAVC	**Velka Javorina**	**3.07**	**24**	*e*PN	Pn	09 32 22.0	+0.5
WTTA	**Wattenberg**	**3.10**	**294**	*i* Pn	Pn	09 32 22.3	+0.2
	comp=Z,0.9nm,0.1s						
WTTA				*i* Sn	Sn	09 32 59.0	-0.1
	comp=Z,2.9nm,0.2s						
VYHS	**Vyhne**	**3.19**	**39**	*e*PN	Pn	09 32 23.0	-0.2
VYHS				*e*SN	Sn	09 32 59.6	-1.4
VRAC	**Vranov**	**3.29**	**9**	*e*PN	Pn	09 32 24.2	-0.3
BBLS	**Lazi&#263i**	**3.38**	**129**	*e*Pn	Pn	09 32 25.7	-0.1
BBLS				*e*Sn	Sn	09 33 05.3	-0.5
BBLS	**Lazi&#263i**	**3.38**	**129**	*e*Pn	Pn	09 32 26.1	+0.3
KHC	**Kasperske Hory**	**3.41**	**335**	*e*PN	Pn	09 32 27.0	+0.8
KHC				*e*SN	Sn	09 33 06.2	-0.3
KHC				*e*SG	Sg	09 33 22.0	-0.8
STON	**Ston**	**3.48**	**156**	*e*Pn	Pn	09 32 27.5	+0.5
STON				*e*Sn	Sn	09 33 07.9	-0.1
STON	**Ston**	**3.48**	**156**	*e*Pn	Pn	09 32 27.0	0.0
DIVS	**Divibare**	**3.57**	**122**	*e*Pn	Pn	09 32 27.9	-0.5
DIVS				*e*Sn	Sn	09 33 09.7	-0.8
RETA	**Reutte**	**3.74**	**294**	*e*Pg	Pg	09 32 43.3	-1.6
	comp=Z,1.1nm,0.2s						
RETA				Sg	Sg	09 33 33.3	+0.1
	comp=Z,3.7nm,0.4s						
MORC	**Moravsky Berou**	**3.89**	**17**	*e*PN	Pn	09 32 32.7	-0.1
VRSS	**Vrsac**	**4.00**	**102**	*e*PN	Pn	09 32 32.5	-1.7
BZS	**Buzias**	**4.09**	**94**	*e*Pn	Pn	09 32 34.8	-0.8
GRUS	**Gruza**	**4.12**	**120**	*e*Pn	Pn	09 32 35.9	0.0
GRUS				*e*Sn	Sn	09 33 21.7	-2.2
DAVA	**Damuels**	**4.25**	**289**	*i* Pn	Pn	09 32 38.4	+0.6
	comp=Z,1.5nm,0.2s						
SELS	**Selova**	**4.75**	**125**	*e*Pn	Pn	09 32 45.0	+0.4
BRG	**Berggiesshubel**	**4.96**	**346**	Sg	Sg	09 34 10.7	-1.8
BRG				Amp		09 34 22.0	
	comp=Z,4.1nm,0.6s						
ZAGS	**Zajecar**	**5.10**	**114**	*e*Pn	Pn	09 32 49.8	+0.5
BARS	**Barje**	**5.40**	**125**	*e*Pn	Pn	09 32 53.9	+0.4
CLL	**Collm**	**5.56**	**342**	*e*Pn	Pn	09 32 56.0	+0.4
CLL				*e*Sg	Sg	09 34 28.0	-3.6
	comp=Z,25nm,1.5s						
ZAPS	**Zavoj**	**5.62**	**117**	*e*Pn	Pn	09 32 56.0	-0.6

*NEIC **27** 09:36:35.9±1.2, 37°.991N±0°.009×122°.08W±0°.01, h20km±1km, Error ellipse: s-maj=1.4km s-min=1.2km az=61.0*
NCEDC 27 09:36:35.6±1.2, 37°.995N±0°.009×122°.06W±0°.01, h17km±1km, Mwr3.4/3, ML2.9/48(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=82.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAM	**Taylor**	**0.05**	**48**		Pg	09 36 39.5	+0.7
C018	**Christie Drive**	**0.05**	**251**		Pg	09 36 39.1	+0.3
C010	**Sunflower Cour**	**0.07**	**142**		Pg	09 36 38.9	0.0
CPIM	**Pinole Ridge**	**0.12**	**267**		Pb	09 36 40.1	+0.7

JCHM	Cahill Ridge	0.54	208			Pb	09 36 46.7	+0.1
RUSS	Russell Ranch	0.57	15			Pb	09 36 47.9	+0.8
RUSS	Russell Ranch	0.57	15	IAML			09 36 59.8	
	comp=N,1μm,0.4s							
RUSS				IAML			09 37 08.4	
	comp=E,1μm,0.6s							
CSTL	Corral Hollow	0.57	128			Pb	09 36 47.4	+0.2
CSTL	Corral Hollow	0.57	128			Pb	09 36 47.5	+0.4
NOLM	Olema	0.58	275			Pb	09 36 47.5	+0.2
JSFB	Stanford Teles	0.60	189			Pb	09 36 48.0	+0.4
JRSC	Jasper Ridge	0.61	194			Pb	09 36 47.9	+0.1
CMLM	Mount Lewis	0.61	148			Pb	09 36 48.2	+0.4
C016	Longford Drive	0.62	166			Pn	09 36 49.1	-0.4
JFP	Foothills Park	0.64	189			Pb	09 36 48.7	+0.4
JSJM	St Joseph	0.66	182			Pb	09 36 49.3	+0.7
MCCM	Marconi Confer	0.66	283			Pg	09 36 48.5	-0.1
MCCM					Sg	Sb	09 36 57.9	+0.2
JBMM	Black Mountain	0.68	186			Pb	09 36 49.4	+0.4
BGH	Bear Gulch	0.69	199			Pn	09 36 49.8	-0.7
SCCB	Santa Clara Co	0.72	168			Pg	09 36 50.4	+0.6
MHC	Mount Hamilton	0.73	153			Pg	09 36 50.0	+0.1
C072	Blauer Lane Sa	0.75	161			Pn	09 36 52.0	+0.6
NPRM	Point Reyes	0.76	270			Pb	09 36 50.0	-0.2
MTOS	Mt Oso, Westle	0.76	130			Pb	09 36 49.8	-0.5
MTOS	Mt Oso, Westle	0.76	130	IAML			09 37 06.0	
	comp=N,510nm,0.5s							
MTOS				IAML			09 37 06.8	
	comp=E,401nm,0.6s							
ARN	Arnold Ranch	0.77	147			Pb	09 36 50.6	0.0
JJOM	Saint Joseph's	0.79	175			Pg	09 36 51.2	+0.2
NHSM	Mount Saint He	0.79	327			Pb	09 36 50.5	-0.4
CCOB	Coe Ranch Numb	0.80	157			Pg	09 36 51.3	+0.2
FARB	Farallon Islan	0.80	249			Pb	09 36 50.9	-0.2
JPSM		0.83	196			Pb	09 36 51.3	-0.1
NMTM	Middletown	0.86	340			Pb	09 36 52.0	-0.2
CMPM	Mikes Peak	0.87	137			Pb	09 36 52.3	+0.1
JLAB	Laurel Hill	0.88	163			Pn	09 36 53.0	-0.2
CADM	Anderson Res.	0.90	157			Pg	09 36 53.0	-0.1
GAXM	Alexander Vall	0.90	323			Pb	09 36 52.3	-0.5
MNRC	McLaughlin Min	0.93	341			Pb	09 36 53.0	-0.3
MNRC	McLaughlin Min	0.93	341	IAML			09 37 12.5	
	comp=N,437nm,0.5s							
MNRC				IAML			09 37 15.1	
	comp=E,290nm,0.9s							
GBGM	Boggs Mountain	0.95	329			Pb	09 36 53.3	-0.3
GGPM	Geyser Peak	0.98	322			Pb	09 36 53.5	-0.7
GDXM	Geysers	1.00	325			Pb	09 36 54.5	+0.1
GDXM					Sg	Sg	09 37 07.7	-0.3
GDXM				IAML			09 37 09.5	
	comp=E,222nm,0.5s							
GDXM				IAML			09 37 10.4	
	comp=N,332nm,0.3s							
GSGM	Seigler Mounta	1.01	330			Pb	09 36 54.4	-0.2
HLPM	Lions Peak	1.01	160			Pb	09 36 54.5	-0.1
GHS	Gilroy Hot Spr	1.02	151			Pb	09 36 54.5	-0.4
GRTM	Round Top Moun	1.06	333			Pb	09 36 55.4	-0.1
CDC	Canada Road	1.07	155			Pb	09 36 55.3	-0.3
GHCM	House Creek	1.08	305			Pb	09 36 54.9	-0.9
JELB	Ellicott, Sant	1.08	170			Pb	09 36 55.4	-0.5
HCBM	Chamberlain	1.11	163			Pb	09 36 56.0	-0.2
HPCM	Pacheco Lake	1.12	146			Pn	09 36 56.1	-0.4
SLD	San Luis Dam	1.14	144			Pn	09 36 56.4	-0.3
HFEM	San Felipe	1.14	152			Pn	09 36 56.0	-0.7
HCOM	Corn Cob Canyo	1.14	166			Pn	09 36 56.0	-0.7
PACP	Pacheco Peak	1.16	148			Pn	09 36 56.9	-0.2
HTUM	Tustin Road	1.21	164			Pn	09 36 56.7	-1.0
HERM	Elkhorn Road	1.23	167			Pn	09 36 57.4	-0.5
AFDM	Forest Hills D	1.28	42			Pn	09 36 58.1	-0.6
AFDM				IAML			09 37 25.4	
	comp=E,189nm,1.0s							
AFDM				IAML			09 37 25.6	
	comp=N,126nm,1.0s							
OSUM	Sutter Buttes	1.28	7			Pn	09 36 57.1	-1.6
GSNM	Snow Mountain	1.30	317			Pn	09 36 58.5	-0.5
FRP	Fremont Peak	1.32	160			Pn	09 36 58.3	-1.0
CMB	Columbia Colle	1.32	88			Pn	09 36 58.4	-0.9
CMB						Sn	09 37 15.2	-1.3
CMB				IAML			09 37 20.4	
	comp=N,164nm,0.6s							
SAO	San Andreas Ge	1.32	158			Pn	09 36 58.4	-0.9
GFC	Funks Creek	1.34	352			Pn	09 36 57.9	-1.6
SFRE	Sierra Foothil	1.39	24			Pn	09 36 58.7	-1.5
BSRM	Salinas Radio	1.40	162			Pn	09 36 59.2	-1.1
HMOM	Monterey	1.40	175			Pn	09 36 59.8	-0.5
OSTM	Stimpson Lane	1.42	15			Pn	09 36 59.2	-1.4
MYLM	Yosemite Lake	1.44	115			Pn	09 36 59.0	-1.8
BPCNC	Pine Canyon	1.46	166			Pn	09 37 01.0	-0.1
BJOM	Mount Johnson	1.49	156			Pn	09 37 01.1	-0.4
SCZ	Santa Cruz	1.49	159			Pn	09 37 00.7	-0.9
OWYM	Wyandotte	1.52	17			Pn	09 37 00.6	-1.4
BJCM	Johnson Can.	1.54	160			Pn	09 37 01.5	-0.8
BAVM	Antelope Valle	1.58	148			Pg	09 37 05.2	-0.7
BPRM	Ponciano Ridge	1.61	170			Pn	09 37 02.7	-0.5
ORV	Oroville	1.62	16	Pn		Pn	09 37 02.6	-0.7
BBGB	Big Mountain B	1.63	150			Pn	09 37 03.4	-0.2
BPIM	Pinnacles	1.66	154			Pn	09 37 03.4	-0.6
BMSM	Mercy Hot Spri	1.67	143			Pn	09 37 03.6	-0.5
BSMM	Soledad Missio	1.69	162			Pn	09 37 04.0	-0.3
OGOM	Van Goodin Ran	1.69	12			Pn	09 37 02.7	-1.6
BSGM	Shirttail Gulc	1.71	158			Pn	09 37 04.2	-0.3
LRV	Little Rabbit	1.77	152			Pn	09 37 05.6	+0.1
GTC	Three Chop Rid	1.83	321			Pn	09 37 06.8	+0.6
DONR	Donner Summit	1.92	45			Pn	09 37 08.7	+0.9
MMIM	Miami Mountain	1.93	107			Pn	09 37 08.0	+0.3
MHDM	Hidden Dam	1.93	116			Pn	09 37 07.3	-0.3
PCCM	Crazy Canyon	2.03	159			Pn	09 37 08.8	-0.2
PMPB	Monarch Peak	2.04	150			Pn	09 37 09.2	0.0
PMPB				IAML			09 37 52.8	
	comp=E,104nm,0.8s							
PMPB				IAML			09 38 05.3	
	comp=N,96nm,0.9s							
MPK	Martis Peak	2.05	50			Pb	09 37 11.2	-1.4
HULI	Fort Hunter Li	2.08	161			Pn	09 37 09.4	-0.2
HULI	Fort Hunter Li	2.08	161	IAML			09 37 55.0	
	comp=N,139nm,1.0s							
HULI				IAML			09 37 55.1	
	comp=E,78nm,0.8s							
PPTM	Peach Tree Val	2.17	150			Pn	09 37 11.2	+0.3
PSAM	San Ardo	2.18	154			Pn	09 37 11.4	+0.4
O02D	Mt. Diablo Mer	2.25	346	Pn		Pn	09 37 12.3	+0.2
PSMM	Smith Mountain	2.25	148			Pn	09 37 13.0	+0.9
PHSB	Hesperia Broad	2.31	159			Pn	09 37 12.7	-0.2
PHPM	Hope Ranch	2.32	149			Pn	09 37 13.7	+0.7
MDPB	Devils Postpil	2.39	98			Pn	09 37 16.1	+1.9
MDPB				IAML			09 37 50.4	
	comp=E,89nm,0.6s							
MDPB				IAML			09 37 53.0	
	comp=N,91nm,0.6s							
MINS	Minaret Summit	2.40	97			Pn	09 37 16.1	+1.7
PVCM	Vineyard Canyo	2.40	149			Pn	09 37 14.3	+0.2
PSTM	Stockdale Moun	2.41	148			Pn	09 37 14.5	+0.2
LDBM	Digger Butte	2.44	5			Pn	09 37 15.3	+0.5
MMLB	Mammoth Lakes	2.46	97			Pb	09 37 17.5	-2.1
MCBM	Casa Benchmark	2.53	97			Pb	09 37 18.9	-1.8
RAMR	Ramage Ranch	2.54	158			Pn	09 37 16.0	0.0
RAMR	Ramage Ranch	2.54	158	IAML			09 38 18.9	
	comp=E,103nm,0.8s							
PAHR	Pah Rah Range	2.70	50			Pn	09 37 18.0	-0.4
PAHR				IAML			09 38 04.7	
	comp=N,33nm,1.4s							
RYN	Ryan	2.85	76			Pn	09 37 20.8	+0.4
RYN				IAML			09 38 18.6	
	comp=N,30nm,0.8s							
NV11	Mina Array Sit	3.11	81			Pn	09 37 24.6	+0.6
YBH	Yreka Blue Hor	3.77	353	Pn		Pn	09 37 32.3	-0.6
YBH				IAML			09 39 04.9	
	comp=N,13nm,4.1s							
COR	Corvallis	6.65	352	Pn		Pn	09 38 10.6	-1.8

MDD ***27*** *09:41:26.7±1.1,36°.93N×10°.25W, h2km±4km, mb_Lg2.9/12, Error ellipse: s-maj=8.8km s-min=5.9km az=35.0*

IGIL ***27*** *09:41:27.1,36°.83N×10°.37W, h19km, ML2.0*

CNRM ***27*** *09:41:29.7,36°.45N×9°.87W, h51km, ML2.1*

ISC 27 09:41:26.1±3.2, 37°.0N±0°.1×10°.2W±0°.1, h14km±10km, n36, σ1§02/50, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.14	81	Pn	Pg	09 41 48.3	+0.1
PFVI				Sn	Sg	09 42 03.6	+0.5
PFVI	Vila Bisbo	1.14	81	P	Pg	09 41 47.5	-0.7
PFVI	Vila Bisbo	1.14	81	S	Sg	09 42 03.3	+0.2
MORF	Marmelete	1.31	74	eP	Pg	09 41 50.9	-0.5
MORF				eS	Sg	09 42 08.1	-0.5
MORF				IAML		09 42 10.7	
	comp=E,27nm,0.2s						
MESJ	Messejana	1.83	61	eP	Pn	09 41 58.2	+1.0
MESJ				eS	Sn	09 42 20.8	+0.7
MESJ				IAML		09 42 24.4	
	comp=N,6.3nm,0.3s						
PCVE	Castro Verde	1.88	68	Pn	Pn	09 41 58.9	+1.0
PCVE				Sn	Sn	09 42 22.0	+0.7
PVAQ	Vaqueiros	2.06	77	Pn	Pn	09 42 01.2	+0.9
PVAQ	Vaqueiros	2.06	77	P	Pn	09 42 00.1	-0.2
PVAQ	Vaqueiros	2.06	77	S	Sn	09 42 24.9	-0.9
PMAFR	Mafra	2.13	20	Pn	Pn	09 42 01.7	+0.4
PMAFR				Sn	Sn	09 42 28.2	+0.6
EGRO	El Granado	2.27	74	Sn	Sn	09 42 31.5	+0.5
EGRO	El Granado	2.27	74	Sn	Sn	09 42 31.5	+0.5
EGRO				i Vmb_Lg		09 42 33.9	
EVO	Evora	2.36	48	Pn	Pn	09 42 05.4	+1.0
EVO				Sn	Sn	09 42 34.3	+1.1
PBAR	Barrancos	2.82	63	Sn	Sn	09 42 44.9	+0.4
EMIN	Mina Concepcio	2.96	73	Pn	Pn	09 42 13.8	+1.2
EMIN				Sn	Sn	09 42 48.5	+0.6
EMIN	Mina Concepcio	2.96	73	Pn	Pn	09 42 13.8	+1.2
EMIN				Sn	Sn	09 42 48.1	+0.2
EMIN				i Vmb_Lg		09 42 49.6	
EBAD	Badajoz	3.12	54	Pn	Pn	09 42 15.2	+0.3
EBAD				Sn	Sn	09 42 52.2	+0.2
EBAD	Badajoz	3.12	54	Pn	Pn	09 42 15.6	+0.7
EBAD				Sn	Sn	09 42 52.4	+0.4
EBAD				i Vmb_Lg		09 42 55.2	
ESPR	Espera	3.51	90	Pn	Pn	09 42 20.9	+0.6
ESPR				Sn	Sn	09 43 00.7	-0.9
ESPR	Espera	3.51	90	Pn	Pn	09 42 20.9	+0.6
ESPR				Sn	Sn	09 43 00.8	-0.8
ESPR				i Vmb_Lg		09 43 02.6	
ECAB	El Cabril	3.99	72	Pn	Pn	09 42 27.3	+0.4
ECAB				Sn	Sn	09 43 12.0	-1.5
ECAB	El Cabril	3.99	72	Pn	Pn	09 42 27.7	+0.9
ECAB				Sn	Sn	09 43 12.0	-1.5
ECAB				i Vmb_Lg		09 43 14.6	
EPLA	Plasencia	4.50	45	Sn	Sn	09 43 25.7	-0.4
EPLA				i Vmb_Lg		09 43 27.6	
EADA	Adamuz	4.66	73	Pn	Pn	09 42 36.6	+0.6
EADA				Sn	Sn	09 43 28.5	-1.5
EADA	Adamuz	4.66	73	Pn	Pn	09 42 37.5	+1.5
EADA				Sn	Sn	09 43 28.6	-1.3
EADA				i Vmb_Lg		09 43 32.6	
JAND	Jandula	5.14	74	Pn	Pn	09 42 43.9	+1.3
JAND				Sn	Sn	09 43 39.0	-2.7
JAND				i Vmb_Lg		09 43 42.7	
ELOB	Lobios	5.19	18	Sn	Sn	09 43 40.5	-2.4
ELOB				i Vmb_Lg		09 43 44.0	
PAB	San Pablo	5.31	59	Pn	Pn	09 42 46.1	+1.1
PAB				Sn	Sn	09 43 44.5	-1.5
PAB				i Vmb_Lg		09 43 48.0	
PSIM	Granatula de C	5.46	68	Pn	Pn	09 42 47.7	+0.7
PSIM				Sn	Sn	09 43 49.1	-0.4
ECAL	Calabor	5.67	27	Sn	Sn	09 43 53.7	-1.1
ECAL				i Vmb_Lg		09 43 55.9	
EQES	Quesada	5.77	79	Sn	Sn	09 43 56.8	-0.7
EQES				i Vmb_Lg		09 43 58.9	
MD31	MD31	6.07	131	P	Pn	09 42 50.2	-5.4
MD31	MD31	6.07	131	S	Sn	09 43 51.9	-13
MDT	Midelt	6.20	130	P	Pn	09 42 52.3	-5.1
MDT	Midelt	6.20	130	S	Sn	09 43 55.4	-13
OUZM	OUZ	6.69	153	P	Pn	09 42 58.0	-6.0

IDC ***27*** *09:45:33.9±0.7,9°.55N×126°.60E, h0km, mb3.8/14, mbtmp3.8/14, MS3.1/5, Error ellipse: s-maj=33.6km s-min=16.7km az=73.0*

ISC 27 09:45:40.2±0.6, 9°.56N±0°.09×126°.6E±0°.2, h43km, n22, σ0§93/16, mb3.8/14, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.69	203	Pn	Pn	09 46 21.7	+0.7
	37nm,0.3s,baz=249,slow=16,SNR=1.3						
DAV				LR	LR	09 47 32.2	
	comp=Z,628nm,20.4s,baz=8.5,slow=44						
TGY	Tagaytay City	7.18	309	LR	LR	09 50 01.4	
	comp=Z,171nm,21.0s,baz=278,slow=37						
GUMO	Guam	18.29	76	LR	LR	09 56 14.3	
	comp=Z,54nm,18.7s,baz=174,slow=35						
JNU	Nakatsue	23.77	9	LR	LR	10 01 08.2	
	comp=Z,39nm,18.8s,baz=226,slow=39						
CMAR	Chiang Mai Arr	28.26	291	P	P	09 51 30.1	+0.5
	2.5nm,0.3s,baz=106,slow=8.3,SNR=5.0						
CMAR				LR	LR	10 04 08.1	
	comp=Z,27nm,19.2s,baz=150,slow=40						
	2.5nm,0.3s						
WRA	Warramunga Arr	30.28	166	P	P	09 51 46.8	-0.7
	0.7nm,0.9s,baz=327,slow=12,SNR=2.4						
	0.7nm,0.9s						
ASAR	Alice Springs	33.78	168	P	P	09 52 16.2	-2.0
	0.4nm,0.8s,baz=354,slow=8.7,SNR=4.6						
	0.4nm,0.8s						
KLR	Kul'dur	39.77	5	P	P	09 53 09.0	+0.2
	1.0nm,0.6s,baz=192,slow=5.9,SNR=5.6						
	1.0nm,0.6s						
H11N1	WAKE ISLAND Hy	40.13	71	T	T	10 36 36.7	
	baz=265,slow=74,SNR=9.5						
H11N2	WAKE ISLAND Hy	40.14	71	T	T	10 36 38.9	
	baz=265,slow=74,SNR=6.2						
H11N3	WAKE ISLAND Hy	40.15	71	T	T	10 36 36.2	
	baz=265,slow=74,SNR=11						
SONM	Songino Array	41.81	340	P	P	09 53 26.1	+0.3
	0.4nm,0.5s,baz=146,slow=8.7,SNR=2.3						
	0.4nm,0.5s						
STKA	Stephens Creek	43.62	161	P	P	09 53 41.4	+0.8
	0.5nm,0.3s,baz=317,slow=12,SNR=2.9						
	0.5nm,0.3s						
PETK	Petropavlovsk-	50.13	24	P	P	09 54 31.9	+0.8
	0.6nm,0.6s,baz=230,slow=7.9,SNR=1.8						
	0.6nm,0.6s						
MKAR	Makanchi Array	52.81	323	P	P	09 54 50.2	-1.1
	0.5nm,0.7s,baz=119,slow=8.9,SNR=5.6						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	56.86	326	P	P	09 55 18.9	-1.6
	0.4nm,0.4s,baz=124,slow=6.2,SNR=6.2						
	0.4nm,0.4s						
NRIK	Noril'sk	64.79	346	P	P	09 56 13.7	-0.4
	3.0nm,0.8s,baz=135,slow=7.2,SNR=6.2						
	3.0nm,0.8s						
ILAR	Eielson Array	79.91	26	P	P	09 57 44.5	+0.1
	0.3nm,0.9s,baz=241,slow=4.9,SNR=7.6						
	0.3nm,0.9s						
ARCES	ARCESS Array B	84.98	340	P	P	09 58 10.5	-0.2
	1.5nm,0.7s,baz=70,slow=7.9,SNR=4.1						
	1.5nm,0.7s						
FINES	FINESS Array B	86.68	332	P	P	09 58 20.3	+1.0
	0.6nm,0.5s,baz=73,slow=6.4,SNR=5.6						
	0.6nm,0.5s						
YKA	Yellowknife Ar	94.25	24	P	P	09 58 54.7	0.0
	0.3nm,0.6s,baz=304,slow=4.6,SNR=5.7						
	0.3nm,0.6s						
PLCA	Paso Flores	145.42	157	PKPbc	PKPbc	10 05 14.1	+0.1
	1.6nm,0.9s,baz=190,slow=6.1,SNR=3.0						

ASIES ***27*** *09:49:47.0,24°.08N×121°.53E, h21km, ML3.8, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}2.49; $M_{\theta\theta}$-1.29; $M_{\phi\phi}$-1.20; $M_{r\theta}$0.13; $M_{\theta\phi}$-0.97; $M_{\phi r}$-0.69; Fault plane solution: $M_0$2.46402×10^{21} NP1:ϕ_s56.88000°, δ41.46000°, λ107.11000°. NP2:ϕ_s214.55000°, δ50.74000°, λ75.43000°. Principal axes: T Plg77.7880°, Azm67.3090°; N Plg11.2330°, Azm223.8890°; P Plg4.7300°, Azm314.8310°;*

JMA ***27*** *09:49:47.1±0.1,24°.1N±0°.2×121°.6E±0°.6, h20km, MV3.3/13, TAIWAN REGION*

TAP ***27*** *09:49:47.0,24°.08N×121°.53E, h21km, ML3.8, B*

ISC 27 09:49:47.2±0.8, 24°.07N±0°.01×121°.56E±0°.01, h18km±2km, n135, σ0§71/235, 13C-22D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.04	74	↓iP	Pg	09 49 51.0	+0.6
TWD				S	Sg	09 49 53.8	+1.1
HWA	Hwalien	0.10	155	↓iP	Pg	09 49 51.9	+1.0
HWA				eS	Sg	09 49 55.2	+1.8
ETL	Fush Village	0.11	34	↓iP	Pg	09 49 51.4	+0.3
ETL				S	Sg	09 49 54.4	+0.8
NACB	Ninganchiao	0.11	18	P	Pg	09 49 51.2	+0.2
NACB	Ninganchiao	0.11	18	S	Sg	09 49 54.2	+0.6
NACB	Ninganchiao	0.11	18	↑iP	Pg	09 49 51.2	+0.2
NACB				i S	Sg	09 49 54.1	+0.6
ETM	Tongmen	0.12	210	↑iP	Pg	09 49 51.4	+0.3
ETM				S	Sg	09 49 54.2	+0.5
LXIB	Xiulin Townshi	0.14	250	↑iP	Pg	09 49 51.5	0.0
LXIB				i S	Sg	09 49 54.5	+0.1
ETLH	Xiulin Townshi	0.15	333	↑iP	Pg	09 49 51.7	+0.1
ETLH				S	Sg	09 49 54.5	-0.1
TEYL	Yanliau Villag	0.20	170	↓iP	Pg	09 49 52.5	+0.3
TEYL				S	Sg	09 49 56.5	+0.8
WHF	Hehuan Shan	0.28	286	↑iP	Pg	09 49 53.4	-0.3
WHF				S	Sg	09 49 57.8	-0.3
ESL	Shilin	0.28	204	↓iP	Pg	09 49 53.0	-0.4
ESL				S	Sg	09 49 57.6	-0.1
SHUL	Shoufeng	0.28	179	↓iP	Pb	09 49 54.0	+0.2
SHUL				eS	Sg	09 49 59.4	+1.7
EHP	Heping Village	0.29	35	eP	Pg	09 49 53.9	+0.3
EHP				eS	Sb	09 49 58.9	+0.5
EAHA	Aohua	0.31	33	eP	Pg	09 49 53.9	0.0
EAHA				S	Sg	09 49 58.8	+0.3
FUSS	Fushou	0.34	302	↓iP	Pg	09 49 54.5	-0.1
FUSS				S	Sg	09 49 59.5	0.0
TEGC	Jichi Village	0.36	183	eP	Pg	09 49 55.3	+0.5
TEGC				eS	Sb	09 50 01.8	+1.4
OWD	Renai	0.37	252	↑iP	Pg	09 49 54.9	-0.1
OWD				eS	Sg	09 49 59.8	-0.6
WARBT	Fenglin Townsh	0.39	204	↓iP	Pg	09 49 54.4	-0.8
WARBT				S	Sg	09 50 00.1	-0.6
NNSB	Datong	0.39	336	↓iP	Pg	09 49 55.2	-0.2
NNSB				S	Sg	09 50 00.7	-0.3
ENA	Nanau	0.39	25	↑iP	Pg	09 49 55.3	-0.1
ENA				eS	Sg	09 50 01.0	+0.1
TWT	Tachien	0.39	298	↓iP	Pg	09 49 55.6	+0.1
TWT				i S	Sg	09 50 01.1	+0.1
NNS	Nan Shan	0.41	335	↓iP	Pg	09 49 55.4	-0.3
NNS				S	Sg	09 50 01.1	-0.3
TDCB	Techi	0.41	297	↓iP	Pg	09 49 55.6	-0.1
TDCB				S	Sg	09 50 01.0	-0.5
WUSB	Renai	0.41	259	↑iP	Pg	09 49 55.6	-0.1
WUSB				S	Sg	09 50 00.7	-0.8
EGFH	Guangfu	0.42	197	eP	Pg	09 49 55.4	-0.4
EGFH				eS	Sg	09 50 01.6	0.0
EWUT	Wuta	0.42	28	↑↑P	Pg	09 49 55.7	-0.2
EWUT				eS	Sg	09 50 02.0	+0.2
LATG	Datong	0.46	356	↓iP	Pg	09 49 56.4	-0.3
LATG				S	Sg	09 50 02.8	-0.3
VWDT	VWDT	0.49	231	↑iP	Pg	09 49 57.0	-0.2
VWDT				S	Sg	09 50 03.9	0.0
ENTT	Nioudou	0.57	1	↓iP	Pb	09 49 58.3	-0.3
ENTT				eS	Sb	09 50 06.3	0.0
ESAO	Su ao	0.57	27	eP	Pb	09 49 58.5	-0.1
ESAO				eS	Sb	09 50 05.5	-0.8
NDS	Dongshan	0.58	14	eP	Pb	09 49 57.8	-1.0
NDS				eS	Sb	09 50 05.6	-1.0
HGSD	Ruisui	0.59	192	eP	Pb	09 49 58.7	-0.2
HGSD				eS	Sg	09 50 07.7	+0.9
WCS	Beigang Elemen	0.59	269	↓↓P	Pb	09 49 58.5	-0.4
WCS				eS	Sb	09 50 06.2	-0.8
WHP	Taichung City	0.60	290	↓iP	Pb	09 49 58.7	-0.4
WHP				eS	Sb	09 50 06.7	-0.5
TWC	Suao	0.60	26	eP	Pb	09 49 58.8	-0.3
TWC				i S	Sb	09 50 07.2	0.0
EHY	Hungye	0.60	201	eP	Pb	09 49 58.4	-0.8
EHY				eS	Sb	09 50 06.1	-1.2
EHYH	Wanrong	0.61	199	eP	Pb	09 49 58.4	-0.9
EHYH				S	Sb	09 50 06.8	-0.6
YHNB	Yeheng	0.62	344	P	Pb	09 49 59.4	-0.1
YHNB	Yeheng	0.62	344	S	Sb	09 50 07.7	-0.2
YHNB	Yeheng	0.62	344	↓iP	Pb	09 49 59.0	-0.6
YHNB				eS	Sb	09 50 07.4	-0.5
SSLB	Suanglung	0.62	243	P	Pb	09 49 58.9	-0.6
SSLB	Suanglung	0.62	243	↑↑P	Pb	09 49 58.8	-0.6
SSLB				S	Sb	09 50 06.2	-1.6
NSK	Sanguang	0.63	343	↓↓P	Pb	09 49 59.1	-0.6
NSK				eS	Sb	09 50 06.6	-1.6
SMLT	Sun Moon Lake	0.63	253	P	Pb	09 49 58.2	-1.5
SMLT				eS	Sb	09 50 05.9	-2.3
TWE	Neicheng	0.66	9	↑iP	Pb	09 49 59.6	-0.5
TWE				eS	Sb	09 50 08.5	-0.4
TYC	Yuchr	0.66	256	↓iP	Pb	09 49 59.6	-0.6
TYC				eS	Sb	09 50 07.7	-1.4
FUSB	Fushanzhiwuyua	0.69	2	↑↑P	Pb	09 50 00.2	-0.5
FUSB				eS	Sb	09 50 08.6

YM01	**YM01**	**1.07**	**1**	*e*P		**Pb**	**09 50 07.4**	**+0.2**
YM01				*e*S		**Sb**	**09 50 20.9**	**0.0**
WCKO	**Fanlu**	**1.08**	**234**	*e*P		**Pn**	**09 50 07.9**	**+0.4**
WCKO				*e*S		**Sg**	**09 50 22.6**	**+0.4**
ZUZH	**Zhuzihu**	**1.09**	**359**	*e*P		**Pb**	**09 50 06.9**	**-0.6**
ZUZH				*e*S		**Sb**	**09 50 21.4**	**0.0**
TNOU	**National Taiwa**	**1.09**	**10**	*e*P		**Pn**	**09 50 07.6**	**0.0**
TNOU				*e*S		**Sb**	**09 50 21.3**	**-0.2**
NTST	**Danshui**	**1.09**	**355**	*e*P		**Pb**	**09 50 08.1**	**+0.5**
NTST				*i* S		**Sg**	**09 50 23.4**	**+0.6**
ANP	**Anpu**	**1.11**	**358**	P		**Pn**	**09 50 08.2**	**+0.2**
ANP				*e*S		**Sb**	**09 50 21.9**	**-0.3**
YM08	**YM08**	**1.11**	**1**	*e*P		**Pn**	**09 50 08.0**	**0.0**
YM08				*e*S		**Sb**	**09 50 22.0**	**-0.1**
EDH	**Donghe**	**1.12**	**192**	*e*P		**Pn**	**09 50 07.0**	**-1.0**
EDH				*i* S		**Sb**	**09 50 21.6**	**-0.6**
CHN4	**Tsaushan**	**1.14**	**231**	*e*P		**Pb**	**09 50 09.1**	**+0.7**
CHN4				S		**Sg**	**09 50 25.3**	**+1.1**
TPUB	**Ta-pu**	**1.15**	**228**	P		**Pn**	**09 50 08.8**	**+0.4**
TPUB	**Ta-pu**	**1.15**	**228**	*i* P		**Pb**	**09 50 09.0**	**+0.5**
TPUB				S		**Sn**	**09 50 24.0**	**+0.4**
STYH	**Taoyuan**	**1.15**	**219**	*e*P		**Pn**	**09 50 06.6**	**-1.7**
STYH				*e*S		**Sb**	**09 50 23.4**	**+0.3**
CHY	**Chiayi**	**1.19**	**241**	*e*P		**Pb**	**09 50 10.0**	**+0.8**
CHY				*i* S		**Sg**	**09 50 25.6**	**-0.1**
WTCT	**Ta-ch'eng**	**1.19**	**260**	*e*P		**Pn**	**09 50 08.6**	**-0.3**
WTCT				*e*S		**Sn**	**09 50 25.5**	**+1.0**
WTP	**Ta-pu**	**1.19**	**227**	*e*P		**Pb**	**09 50 09.7**	**+0.4**
TWY	**Chenhua**	**1.20**	**2**	*e*P		**Pn**	**09 50 08.9**	**-0.2**
TWY				*e*S		**Sb**	**09 50 24.8**	**+0.2**
TWK	**Hsinying**	**1.27**	**231**	*e*P		**Pb**	**09 50 11.1**	**+0.5**
TWK				*e*S		**Sg**	**09 50 28.1**	**-0.2**
SNST	**Tainan City**	**1.29**	**229**	*e*P		**Pb**	**09 50 11.2**	**+0.2**
SNST				*e*S		**Sg**	**09 50 29.3**	**+0.3**
CHN1	**Nanshi**	**1.29**	**227**	P		**Pb**	**09 50 11.8**	**+0.8**
CHN1				*e*S		**Sg**	**09 50 29.7**	**+0.6**
WSF	**Szhu**	**1.30**	**251**	*e*P		**Pb**	**09 50 11.2**	**+0.2**
WSF				*e*S		**Sb**	**09 50 28.6**	**+1.3**
JYNG	**Yonagunijimaku**	**1.32**	**73**	P		**Pn**	**09 50 10.4**	**-0.3**
TWG	**Pinlang**	**1.32**	**200**	*e*P		**Pn**	**09 50 09.7**	**-1.1**
TWGBT	**Beinan**	**1.32**	**199**	P		**Pn**	**09 50 11.2**	**+0.4**
TWGBT	**Beinan**	**1.32**	**199**	*e*P		**Pn**	**09 50 09.3**	**-1.4**
SGST	**Jiashian**	**1.33**	**222**	*e*P		**Pn**	**09 50 10.1**	**-0.8**
SGST				*i* S		**Sb**	**09 50 29.5**	**+1.1**
WSL	**Shuilin Townsh**	**1.33**	**246**	*i* P		**Pb**	**09 50 12.0**	**+0.3**
WSL				*e*S		**Sg**	**09 50 30.1**	**-0.3**
ICHU	**Yijhu**	**1.37**	**239**	*e*P		**Pb**	**09 50 12.6**	**+0.3**
ICHU				*e*S		**Sg**	**09 50 31.7**	**+0.1**
YOJ	**Yonaguni jima**	**1.38**	**73**	P		**Pn**	**09 50 11.2**	**-0.4**
YOJ	**Yonaguni jima**	**1.38**	**73**	*e*P		**Pn**	**09 50 11.2**	**-0.4**
SHHT	**Tainan City**	**1.52**	**227**	*e*P		**Pb**	**09 50 15.7**	**+0.7**
SSD	**Sandimen**	**1.57**	**213**	*e*P		**Pb**	**09 50 15.7**	**0.0**
SSD				*e*S		**Sb**	**09 50 36.0**	**+0.8**
TWM1	**Shoushan**	**1.62**	**220**	*e*P		**Pn**	**09 50 16.0**	**+1.1**
TSCK	**Chigu Township**	**1.63**	**236**	*e*P		**Pn**	**09 50 15.1**	**0.0**
MASBT	**Mashibuluo**	**1.68**	**211**	*e*P		**Pn**	**09 50 16.6**	**+0.9**
SCZT	**Fangliau**	**1.90**	**207**	*e*P		**Pn**	**09 50 19.9**	**+1.2**
PHUB	**P'eng-hu**	**1.90**	**253**	*e*P		**Pn**	**09 50 18.1**	**-0.6**
PNG	**Penghu**	**1.90**	**255**	*e*P		**Pn**	**09 50 18.2**	**-0.5**
HATJ	**Hateruma jima**	**2.05**	**90**	*e*S		**Sn**	**09 50 46.1**	**+0.1**
VWUC	**VWUC**	**2.13**	**296**	*e*P		**Pn**	**09 50 20.9**	**-1.0**
JKRS	**Kuro-shima**	**2.25**	**85**	*e*P		**Pn**	**09 50 24.0**	**+0.6**
JKRS				*e*S		**Sn**	**09 50 52.0**	**+1.3**
JIJ	**Ishigaki jima**	**2.38**	**82**	P		**Pn**	**09 50 24.9**	**-0.4**
JIJ				*e*S		**Sn**	**09 50 53.1**	**-0.9**
PTMZ	**Houxiangcun**	**2.42**	**294**	*e*P		**Pn**	**09 50 25.2**	**-0.7**
MATB	**Ma-tsu**	**2.54**	**325**	*e*P		**Pn**	**09 50 26.8**	**-0.7**
JISG	**Ishigakijimahi**	**2.56**	**78**	P		**Pn**	**09 50 27.4**	**-0.5**
JISG				*e*S		**Sn**	**09 50 57.6**	**-0.9**
MHZQ	**Yeshan**	**3.06**	**312**	*e*P		**Pn**	**09 50 33.3**	**-1.3**
JOW	**Kunigami**	**6.66**	**64**	P		**Pn**	**09 51 22.9**	**-1.4**

*BJI **27** 10:08:49.8, 9˚.14N±126˚.74E, h36km, mB4.9/10, mb4.7/31, Ms4.3/20, Ms7 4.1/22*
*IDC **27** 10:08:49.3±0.5, 9˚.55N±126˚.34E, h0km, mb4.3/26, mbtmp4.3/26, MS3.7/35, Error ellipse: s-maj=23.3km s-min=12.3km az=76.0*
*NEIC **27** 10:08:51.3±1.0, 9˚.66N±0˚.08×126˚.70E±0˚.09, h10km±1km, mb4.9/84, Error ellipse: s-maj=15.0km s-min=12.5km az=59.0*
*DJA **27** 10:08:58.8±0.7, 10˚N±4˚×12˚7E±˚, h81km±6km, M5.1/31, mb4.8/31, mB5.4/6, MLv5.3/4, Mw(mB)4.8/6*
ISC 27 10:08:55.8±0.4, **9˚.60N**±0˚.04×**126˚.56E**±0˚.07, **h43**km, **n170**, σ1**32**/126, **mb4.7**/79, **MS3.8**/40, **2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.69**	**201**		**Pn**	**10 09 36.1**	**-0.5**
DAV	**Davao City (W)**	**2.69**	**201**	Pn	**Pn**	**10 09 36.6**	**-0.1**
	57nm,0.3s,baz=71,slow=6.2,SNR=10						
DAV				Sn	**Sn**	**10 10 11.1**	**+3.1**
	56nm,0.3s,baz=78,slow=22,SNR=4.7						
DAV				LR	LR	10 10 48.9	
	comp=Z,3μm,20.3s,baz=30,slow=46						
DAV	**Davao City (W)**	**2.69**	**201**	P	Pn	10 09 47.0	+10
SGSI	**Sangihe**	**5.96**	**190**	P	Pn	10 10 29.2	+7.6
TNTI	**Ternate**	**8.80**	**175**	Pn	**Pn**	**10 10 58.7**	**-1.8**
TNTI	**Ternate**	**8.80**	**175**	P	Pn	10 11 04.9	+4.3
	48nm,1.3s						
MYLDM	**Lahad Datu**	**9.12**	**242**	Pn	**Pn**	**10 11 04.1**	**-0.8**
TOLI2	**Tolitoli**	**10.20**	**215**	Pn	**Pn**	**10 11 19.2**	**-0.6**
KKM	**Kota Kinabalu**	**10.84**	**252**	Pn	**Pn**	**10 11 28.9**	**+0.3**
LUWI	**Luwuk**	**11.22**	**200**	Pn	**Pn**	**10 11 32.1**	**-1.6**
LUWI	**Luwuk**	**11.22**	**200**	P	Pn	10 11 41.8	+8.1
	78nm,0.8s						
APSI	**Ampana**	**11.53**	**205**	P	Pn	10 11 44.7	+6.8
	23nm,1.0s						
SANI	**Sanana**	**11.58**	**183**	P	**Pn**	**10 11 40.8**	**+2.1**
	20nm,0.8s						
FAKI	**Fak Fak**	**13.66**	**155**	Pn	**Pn**	**10 12 04.4**	**-2.7**
FAKI	**Fak Fak**	**13.66**	**155**	P	**Pn**	**10 12 08.6**	**+1.5**
	42nm,1.1s						
SPSI	**Sidrap Palu**	**15.08**	**207**	P	**P**	**10 12 32.4**	**+1.8**
BNSI	**Bone**	**15.32**	**205**	P	**P**	**10 12 35.7**	**+2.4**
	51nm,1.2s						
SBUM	**Sibu**	**15.92**	**244**	Pn	**P**	**10 12 36.6**	**-3.5**
KAPI	**Kappang**	**16.02**	**205**	LR	LR	10 19 09.2	
	comp=Z,135nm,21.2s,baz=36,slow=39						
JOW	**Kunigami**	**17.22**	**5**	LR	LR	10 20 48.0	
	comp=Z,283nm,18.5s,baz=208,slow=42						
KSM	**Kuching**	**18.07**	**244**		**P**	**10 13 04.9**	**+1.1**
GUMO	**Guam**	**18.36**	**76**	LR	LR	10 20 35.5	
	comp=Z,338nm,18.4s,baz=246,slow=38						
JAY	**Jayapura**	**18.53**	**130**	LR	LR	10 19 56.2	
	comp=Z,421nm,19.0s,baz=324,slow=36						
MMRI	**Maumere**	**18.62**	**194**	P	**Pn**	**10 13 09.6**	**-0.9**
MMRI				IAmb	IAmb	10 13 27.7	
	comp=Z,50nm,0.8s						
MMRI	**Maumere**	**18.62**	**194**	P	Pn	10 13 16.8	+6.4
	comp=Z,70nm,0.9s						
QIZ	**Qiongzhong**	**18.70**	**302**	P	**Pn**	**10 13 10.8**	**-0.7**
QIZ				S	**S**	**10 16 39.0**	**-2.7**
QIZ				pmax	pmax		
	comp=Z,240nm,7.3s						
QIZ				LR	LR		
	comp=Z,260nm,11.7s						
QIZ				LR	LR		
	comp=Z,270nm,12.4s						
QIZ				LR	LR		
	comp=Z,250nm,17.2s						
EDFI	**Ende, Flores**	**18.86**	**195**	P	Pn	10 13 19.4	+5.9
	comp=Z,23nm,0.6s						
SOEI	**Soe**	**19.36**	**187**	P	**Pn**	**10 13 21.6**	**+2.1**
	comp=Z,76nm,1.0s						
UBPT	**Khong Chiam**	**21.35**	**287**		**P**	**10 13 39.5**	**-0.1**
MTN	**Manton Dam**	**22.75**	**168**		**P**	**10 13 53.9**	**-0.6**
MTN				IAmb	IAmb	10 14 13.3	
	comp=Z,18nm,0.6s						
JCJ	**Chichijima**	**22.82**	**38**	LR	LR	10 23 25.6	
	comp=Z,160nm,18.8s,baz=168,slow=38						
NJ2	**Nanjing**	**23.46**	**343**	*e*P	**P**	**10 14 02.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,13nm,0.7s						
JNU	**Nakatsue**	**23.75**	**9**		**P**	**10 14 02.0**	**-2.3**
JNU				IAmb	IAmb	10 14 20.6	
	comp=Z,33nm,1.1s						
JNU	**Nakatsue**	**23.75**	**9**	P	**P**	**10 14 03.6**	**-0.6**
	comp=Z,16nm,0.8s,baz=95,slow=3.1,SNR=8.0						
JNU				LR	LR	10 24 52.8	
	comp=Z,114nm,19.0s,baz=190,slow=40						
	comp=Z,16nm,0.8s						
MYKOM	**Kota Tinggi**	**23.88**	**252**	P	**P**	**10 14 06.5**	**+0.9**
MYKOM				IAmb	IAmb	10 14 09.5	
	comp=Z,38nm,0.8s						
KNRA	**Kununurra**	**25.20**	**175**		**P**	**10 14 16.8**	**-0.9**
KNRA				IAmb	IAmb	10 14 35.3	
	comp=Z,20nm,0.6s						
KULM	**Kulim**	**26.04**	**262**	P	**P**	**10 14 25.8**	**+0.5**
KULM				IAmb	IAmb	10 14 29.4	
	comp=Z,34nm,1.5s						
JHJ	**Hachijo jima 2**	**26.40**	**26**	LR	LR	10 23 11.3	
	comp=Z,185nm,21.8s,baz=87,slow=32						
SRIT	**Nakonsritamara**	**26.64**	**270**	P	**P**	**10 14 30.5**	**-0.2**
BKNI	**Bangkinang**	**27.02**	**252**	P	**P**	**10 14 37.1**	**+3.0**
FITZ	**Fitzroy Crossi**	**27.53**	**182**		**P**	**10 14 38.4**	**-0.3**
KSRS	**Korea Array**	**27.76**	**2**	P	**P**	**10 14 40.7**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=173,slow=10,SNR=11						
KSRS				LR	LR	10 27 28.9	
	comp=Z,154nm,18.8s,baz=180,slow=40						
	comp=Z,2.3nm,0.7s						
TIA	**Tai'an**	**27.85**	**344**	P	**P**	**10 14 41.5**	**+0.2**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TIA				LR	LR		
	comp=Z,250nm,13.5s						
TIA				LR	LR		
	comp=Z,330nm,15.1s						
PMG	**Port Moresby**	**27.87**	**132**	LR	LR	10 27 38.3	
	comp=Z,121nm,18.2s,baz=281,slow=40						
LYN	**LuoYang**	**27.99**	**335**	P	**P**	**10 14 43.0**	**+0.4**
LYN				pmax	pmax		
	comp=Z,23nm,0.6s						
LYN				LR	LR		
	comp=Z,250nm,11.0s						
LYN				LR	LR		
	comp=Z,240nm,11.0s						
LYN				LR	LR		
	comp=Z,210nm,16.5s						
CMAR	**Chiang Mai Arr**	**28.17**	**291**	P	**P**	**10 14 43.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**28.17**	**291**	P	**P**	**10 14 42.7**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=104,slow=7.0,SNR=10						
CMAR				LR	LR	10 27 06.3	
	comp=Z,187nm,18.0s,baz=100,slow=39						
	comp=Z,0.9nm,0.3s						
CHTO	**Chiang Mai**	**28.26**	**292**	P	**P**	**10 14 45.5**	**+0.2**
MJAR	**Matsushiro Arr**	**28.83**	**20**	LR	LR	10 26 49.2	
	comp=Z,170nm,18.4s,baz=168,slow=37						
PZH	**PanZhiHua**	**28.88**	**309**	P	**P**	**10 14 53.0**	**+2.2**
PZH				S	**S**	**10 19 41.3**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
PZH				LR	LR		
	comp=Z,170nm,11.2s						
PZH				LR	LR		
	comp=Z,170nm,10.0s						
PZH				LR	LR		
	comp=Z,180nm,13.2s						
XAN	**Xi'an**	**29.23**	**329**	P	**P**	**10 14 53.3**	**-0.4**
XAN				S	**S**	**10 19 46.0**	**+2.4**
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
XAN				LR	LR		
	comp=Z,340nm,16.5s						
XAN				LR	LR		
	comp=Z,200nm,16.5s						
XAN				LR	LR		
	comp=Z,570nm,19.9s						
HNS	**HongShan**	**29.68**	**341**	⇑P	**P**	**10 14 58.0**	**+0.4**
HNS				S	**S**	**10 19 52.8**	**+2.4**
HNS				pmax	pmax		
	comp=Z,18nm,0.9s						
HNS				LR	LR		
	comp=Z,270nm,14.7s						
HNS				LR	LR		
	comp=Z,210nm,11.0s						
HNS				LR	LR		
	comp=Z,280nm,17.1s						
GSI	**Gunungsitoli**	**29.98**	**256**	P	**P**	**10 15 00.8**	**+0.2**
CD2	**Chengdu**	**30.00**	**318**	*e*P	**P**	**10 15 00.0**	**-0.6**
CD2				LR	LR		
	comp=Z,400nm,23.6s						
CD2				LR	LR		
	comp=Z,400nm,16.4s						
WB0	**Warramunga Arr**	**30.18**	**165**	P	**P**	**10 15 02.2**	**0.0**
WB0				IAmb	IAmb	10 15 18.1	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**30.34**	**165**	P	**P**	**10 15 03.8**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=348,slow=9.2,SNR=8.6						
	comp=Z,1.4nm,0.6s						
WR8	**Warramunga Arr**	**30.39**	**165**	P	**P**	**10 15 03.3**	**-0.8**
MBWA	**Marble Bar**	**31.29**	**192**	P	**P**	**10 15 11.7**	**-0.2**
MBWA				IAmb	IAmb	10 15 15.6	
	comp=Z,12nm,0.8s						
PSA00	**Pilbara Seismi**	**31.67**	**192**	P	**P**	**10 15 15.0**	**-0.2**
BJI	**Beijing**	**31.70**	**345**	P	**P**	**10 15 15.8**	**+0.5**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LZH	**Lanzhou**	**33.49**	**325**	*e*P	**P**	**10 15 34.0**	**+2.7**
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				LR	LR		
	comp=Z,300nm,14.1s						
LZH				LR	LR		
	comp=Z,280nm,14.4s						
LZH				LR	LR		
	comp=Z,280nm,14.4s						
AS31	**Alice Springs**	**33.83**	**168**		**P**	**10 15 33.2**	**-1.0**
ASAR	**Alice Springs**	**33.83**	**168**	P	**P**	**10 15 32.8**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=355,slow=8.2,SNR=12						
ASAR				PcP	**PcP**	**10 18 12.8**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=339,slow=3.1,SNR=2.8						
ASAR				LR	LR	10 30 33.0	
	comp=Z,82nm,20.5s,baz=90,slow=38						
	comp=Z,0.6nm,0.4s						
HHC	**Hu-ho-hao-te**	**33.84**	**339**	*e*P	**P**	**10 15 36.3**	**+2.0**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,80nm,6.7s						
HHC				LR	LR		
	comp=Z,200nm,14.3s						
HHC				LR	LR		
	comp=Z,170nm,15.1s						
HHC				LR	LR		
	comp=Z,190nm,15.1s						
GIRL	**Giralia**	**34.24**	**201**	P	**P**	**10 15 39.5**	**+1.7**
USRK	**Ussuriysk Ar.**	**34.80**	**7**	P	**P**	**10 15 41.2**	**-1.1**
	comp=Z,3.9nm,0.8s,baz=195,slow=7.6,SNR=8.0						
	comp=Z,3.9nm,0.8s						
XLT	**XiLinHaoTe**	**35.37**	**347**	*e*P	**P**	**10 15 48.5**	**+1.1**
XLT				pmax	pmax		
	comp=Z,23nm,0.9s						
BRDH	**Bariadhala**	**35.87**	**296**	LR	LR	10 31 59.4	
	comp=Z,124nm,18.3s,baz=132,slow=39						
BNX	**BinXian**	**36.02**	**1**	⇑P	**P**	**10 15 55.0**	**+2.2**
BNX				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SHL	**Shillong**	**36.53**	**300**	P	**P**	**10 15 56.3**	**-1.4**
SHL				IAmb	IAmb	10 16 13.7	
	comp=Z,14nm,0.7s						
ASAJ	**Asahikawa**	**37.10**	**19**	P	**P**	**10 16 04.1**	**+2.1**
	comp=Z,5.0nm,0.6s,baz=236,slow=17,SNR=7.3						
ASAJ				LR	LR	10 31 31.0	
	comp=Z,128nm,19.1s,baz=178,slow=37						
	comp=Z,5.0nm,0.6s						
GTA	**Gaotai**	**38.10**	**326**	*e*P	**P**	**10 16 11.0**	**+0.3**
GTA				sP	pP	10 16 21.8	+0.7
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				LR	LR		
	comp=Z,120nm,16.7s						
GTA				LR	LR		
	comp=Z,160nm,16.7s						
GTA				LR	LR		
	comp=Z,210nm,17.8s						
HNR	**Honiara**	**38.23**	**119**	LR	LR	10 32 46.0	
	comp=Z,64nm,18.1s,baz=264,slow=37						
KLR	**Kul'dur**	**39.74**	**5**	LR	LR	10 34 02.3	
	comp=Z,81nm,19.1s,baz=194,slow=38						
MORW	**Morawa**	**39.76**	**194**	P	**P**	**10 16 24.5**	**0.0**
FORT	**Forrest**	**40.17**	**178**	P	**P**	**10 16 27.9**	**0.0**
H11N1	**WAKE ISLAND Hy**	**40.20**	**71**	T	T	11 00 01.3	
	baz=265,slow=74,SNR=34						
H11N2	**WAKE ISLAND Hy**	**40.21**	**71**	T	T	11 00 04.1	
	baz=265,slow=74,SNR=28						
H11N3	**WAKE ISLAND Hy**	**40.22**	**71**	T	T	11 00 04.3	
	baz=265,slow=74,SNR=33						
HEH	**HeiHe**	**40.54**	**1**	*e*P	**P**	**10 16 31.5**	**+0.8**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ULN	**Ulaanbaatar**	**41.55**	**340**	P	**P**	**10 16 38.5**	**-0.8**
SONM	**Songino Array**	**41.75**	**340**	P	**P**	**10 16 40.1**	**-0.8**
SONM	**Songino Array**	**41.75**	**340**	P	**P**	**10 16 40.6**	**-0.3**
	comp=Z,3.6nm,0.5s,baz=159,slow=9.4,SNR=14						
	comp=Z,3.6nm,0.5s						
EIDS	**Eidsvold**	**42.17**	**146**	P	**P**	**10 16 44.1**	**-0.4**
BBOO	**Buckleboo**	**43.13**	**168**	P	**P**	**10 16 51.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**43.21**	**191**	P	**P**	**10 16 53.0**	**+0.2**
NWAO				IAmb	IAmb	10 17 06.3	
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**43.67**	**161**	P	**P**	**10 16 55.8**	**-0.7**
STKA	**Stephens Creek**	**43.67**	**161**	P	**P**	**10 16 55.6**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=332,slow=11,SNR=7.0						
STKA				LR	LR	10 41 21.1	
	comp=Z,122nm,18.0s,baz=37,slow=45						
	comp=Z,1.9nm,0.5s						
PALK	**Pallekele**	**45.40**	**271**	LR	LR	10 37 29.3	
	comp=Z,52nm,18.5s,baz=119,slow=38						
WMQ	**Urumqi**	**47.93**	**322**	*e*P	**P**	**10 17 31.0**	**+0.9**
WMQ				LR	LR		
	comp=Z,460nm,18.3s						
WMQ				LR	LR		
	comp=Z,120nm,21.7s						
PETK	**Petropavlovsk-**	**50.13**	**24**	P	**P**	**10 17 46.4**	**-0.3**
PETK	**Petropavlovsk-**	**50.13**	**24**	P	**P**	**10 17 48.1**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=216,slow=4.0,SNR=18						
PETK				LR	LR	10 39 42.6	
	comp=Z,88nm,18.8s,baz=226,slow=37						
	comp=Z,1.4nm,0.5s						
DZM	**Mont Dzumac**	**50.20**	**129**	*e*LR	LR	10 32 03.3	
	comp=Z,130nm,26.4s						
MKAR	**Makanchi Array**	**52.73**	**323**	P	**P**	**10 18 05.5**	**-0.9**
MKAR	**Makanchi Array**	**52.73**	**323**	P	**P**	**10 18 05.9**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=123,slow=8.0,SNR=24						
MKAR				PcP	**PcP**	**10 19 15.4**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=108,slow=2.6,SNR=4.0						
MKAR				LR	LR	10 44 05.8	
	comp=Z,83nm,18.1s,baz=74,slow=40						
	comp=Z,2.5nm,0.6s						
MA2	**Magadan**	**53.11**	**15**	LR	LR	10 41 06.2	
	comp=Z,36nm,19.4s,baz=203,slow=36						
NIL	**Nilore**	**54.35**	**305**	P	**P**	**10 18 18.1**	**-0.3**
NIL				IAmb	IAmb	10 18 23.7	
	comp=Z,14nm,0.8s						
NRN	**Naryn**	**54.53**	**315**	P	**P**	**10 18 19.4**	**-0.6**
ZAA0	**Zalesovo Array**	**55.35**	**331**	P	**P**	**10 18 24.3**	**-1.0**
ZALV	**Zalesovo Beam**	**55.35**	**331**	P	**P**	**10 18 24.4**	**-0.9**
ZALV	**Zalesovo Beam**	**55.35**	**331**	P	**P**	**10 18 24.1**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=110,slow=8.2,SNR=8.8						
	comp=Z,1.9nm,0.5s						
AAK	**Ala-Archa**	**56.00**	**315**	LR	LR	10 45 21.1	
	comp=Z,157nm,18.1s,baz=84,slow=39						
KURK	**Kurchatov**	**56.78**	**326**	P	**P**	**10 18 34.8**	**-0.7**
KURK				IAmb	IAmb	10 18 38.2	
	comp=Z,6.1nm,0.6s						
KURBB	**Kurchatov Arra**	**56.79**	**326**	P	**P**	**10 18 34.9**	**-0.7**
	comp=Z,3.3nm,0.5s,baz=124,slow=6.8,SNR=25						
	comp=Z,3.3nm,0.5s						
MSVF	**Nonsavu**	**57.65**	**118**	LR	LR	10 43 11.4	
	comp=Z,59nm,19.8s,baz=197,slow=36						
GAR	**Garm**	**57.94**	**310**	P	**P**	**10 18 43.5**	**-0.7**
KBL	**Kabul**	**57.95**	**305**	P	**P**	**10 18 43.6**	**-0.8**
KBL				IAmb	IAmb	10 18 45.6	
	comp=Z,9.0nm,0.7s						
KK31	**Karatay Array**	**58.93**	**315**	P	**P**	**10 18 50.2**	**-0.6**
KK31				IAmb	IAmb	10 18 53.2	
	comp=Z,4.1nm,0.6s						
KKAR	**Karatay Array**	**58.93**	**315**	P	**P**	**10 18 50.2**	**-0.6**
KKAR				IAmb	IAmb	10 18 53.2	
	comp=Z,4.3nm,0.6s						
KKAR	**Karatay Array**	**58.93**	**315**	P	**P**	**10 18 50.0**	**-0.7**
TIXI	**Tiksi**	**62.02**	**1**	P	**P**	**10 19 11.6**	**+0.3**
TIXI				IAmb	IAmb	10 19 26.0	
	comp=Z,8.1nm,0.7s						
BVAR	**Borovoye Array**	**62.38**	**326**	P	**P**	**10 19 13.7**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=121,slow=7.1,SNR=12						
BVAR				LR	LR	10 45 58.9	
	comp=Z,86nm,18.5s,baz=122,slow=36						
	comp=Z,2.2nm,0.5s						
BRVK	**Borovoye**	**62.45**	**326**	P	**P**	**10 19 13.9**	**-0.7**
BRVK				IAmb	IAmb	10 19 19.1	
	comp=Z,3.9nm,0.7s						
HRA	**Herat**	**63.48**	**304**	P	**P**	**10 19 21.0**	**-1.0**
HRA				IAmb	IAmb	10 19 37.1	
	comp=Z,3.7nm,0.5s						
NRIK	**Noril'sk**	**64.73**	**346**	P	**P**	**10 19 29.7**	**+0.4**
NRIK	**Noril'sk**	**64.73**	**346**	P	**P**	**10 19 29.5**	**+0.2**
	comp=Z,9.8nm,0.7s,baz=136,slow=5.3,SNR=17						
NRIK				LR	LR	10 50 54.8	
	comp=Z,88nm,19.5s,baz=156,slow=39						
	comp=Z,9.8nm,0.7s						
ABKAR	**Akbulak array**	**67.57**	**319**	P	**P**	**10 19 47.5**	**-0.4**
AKTO	**Aktyubinsk**	**69.02**	**320**	LR	LR	10 53 08.5	
	comp=Z,110nm,18

comp=Z,5.5nm,0.7s,baz=75,slow=6.1,SNR=19
ARCES LR LR 11 04 01.8
comp=Z,49nm,18.7s,baz=109,slow=39
comp=Z,5.5nm,0.7s
BRTR Keskin Array B 86.18 309 P **P 10 21 31.6 -1.4**
comp=Z,0.8nm,0.8s,baz=83,slow=4.2,SNR=4.7
BRTR LR LR 11 04 16.6
comp=Z,35nm,19.7s,baz=112,slow=39
comp=Z,0.8nm,0.8s
FARO Faro, Yukon 86.25 28 IAmb IAmb 10 21 49.0
comp=Z,9.3nm,0.8s
FINES FINESS Array B 86.62 332 P **P 10 21 34.0 -0.5**
FINES FINESS Array B 86.62 332 P **P 10 21 34.0 -0.5**
comp=Z,1.6nm,0.4s,baz=104,slow=6.5,SNR=15
FINES LR LR 11 05 48.4
comp=Z,30nm,21.8s,baz=41,slow=40
comp=Z,1.6nm,0.4s
EIL Elat 86.71 299 LR LR 11 05 26.1
comp=Z,29nm,18.8s,baz=250,slow=39
PPT2 Papeete2 87.09 108 *e*LR LR 10 49 06.8
comp=Z,74nm,23.2s
PPT2 *e*LR LR 10 49 11.7
comp=Z,137nm,30.5s
AKASG Malin Array Be 87.27 321 P **P 10 21 36.6 -1.3**
comp=Z,0.5nm,0.5s,baz=67,slow=5.6,SNR=4.1
comp=Z,0.5nm,0.5s
KIBK Kibwezi 88.92 267 P **P 10 21 47.0 +0.4**
VNDA Vanda 89.23 173 P **P 10 21 46.7 +0.1**
comp=Z,1.1nm,0.8s,baz=302,slow=8.5,SNR=6.6
comp=Z,1.1nm,0.8s
HFS Hagfors 92.78 333 P **P 10 22 02.1 -1.4**
comp=Z,1.8nm,0.8s,baz=99,slow=9.2,SNR=5.1
comp=Z,1.8nm,0.8s
NB2 NORSAR Array 93.49 334 P **P 10 22 05.3 -1.5**
comp=Z,1.3nm,0.7s,baz=65,slow=4.6
NOA NORSAR Array B 93.49 334 P **P 10 22 05.7 -1.2**
comp=Z,1.1nm,0.7s,baz=64,slow=4.6,SNR=7.3
NOA LR LR 11 07 55.6
comp=Z,37nm,18.1s,baz=5.0,slow=38
comp=Z,1.1nm,0.7s
YKAW3 Yellowknife Wh 94.22 24 IAmb IAmb 10 22 23.9
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 94.25 24 P **P 10 22 11.1 +0.9**
comp=Z,0.9nm,0.7s,baz=303,slow=4.7,SNR=18
comp=Z,0.9nm,0.7s
YKAW1 Yellowknife Wh 94.31 24 IAmb IAmb 10 22 25.4
comp=Z,3.8nm,0.8s
TAOE Nuku Hiva Isla 94.66 98 *e*LR LR 10 52 43.8
comp=Z,85nm,22.9s
TXAR Lajitas Array 118.05 50 PKP **PKiKP 10 27 39.4 +0.5**
comp=Z,0.2nm,0.6s,baz=4.4,slow=1.6,SNR=3.5
PLCA Paso Flores 145.48 157 PKPbc **PKiKP 10 28 30.6 -3.1**
comp=Z,2.9nm,0.9s,baz=264,slow=0.7,SNR=7.2
LPAZ La Paz 164.22 116 PKP **PKPdf 10 28 57.6 +1.3**
comp=Z,1.4nm,0.9s,baz=238,slow=13,SNR=4.2

*IDC **27** 10:13:30.5±0.7,24°.27N×142°.67E, h0km, mb3.9/17, mbtmp3.9/19, ML3.3/2, MS3.7/1, Error ellipse: s-maj=24.0km s-min=14.8km az=83.0*
ISC 27 10:13:35.7±0.7,24°.24N±0°.08×142°.7E±0°.2, h35km, n20, σ0°.74/21, mb4.0/17, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**		**2.88**	**351**	**Pn**	**10 14 18.6**	**-0.4**
JCJ	6.3nm,0.3s,baz=122,slow=23,SNR=1.5			Sn	**Sn**	**10 14 53.1**	**+0.7**
	14nm,0.3s,baz=315,slow=21,SNR=1.9						
	101nm,0.8s						
KSRS	**Korea Array**		**18.25**	**320**	P	**Pn**	**10 17 46.7**	**+0.7**
	0.1nm,0.3s,baz=140,slow=12,SNR=3.3						
	0.8nm,0.7s						
USRK	**Ussuriysk Ar.**		**21.75**	**339**	P	**P**	**10 18 23.2**	**-0.8**
	1.2nm,0.6s,baz=151,slow=9.2,SNR=3.2						
	1.2nm,0.6s						
CMAR	**Chiang Mai Arr**		**41.02**	**271**	P	**P**	**10 21 17.1**	**+1.3**
	1.1nm,0.3s,baz=64,slow=7.4,SNR=9.3						
	1.1nm,0.3s						
WRA	**Warramunga Arr**		**44.67**	**191**	P	**P**	**10 21 45.1**	**-0.1**
	2.9nm,0.7s,baz=11,slow=8.4,SNR=15						
	2.9nm,0.7s						
ASAR	**Alice Springs**		**48.38**	**191**	P	**P**	**10 22 14.1**	**-0.2**
	0.5nm,0.6s,baz=17,slow=12,SNR=9.8						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**		**51.95**	**321**	P	**P**	**10 22 39.4**	**-1.6**
	0.5nm,0.4s,baz=102,slow=12,SNR=2.4						
ZALV				LR	LR	10 45 47.5	
	comp=Z,63nm,18.1s,baz=110,slow=37						
	0.5nm,0.4s						
MKAR	**Makanchi Array**		**52.66**	**311**	P	**P**	**10 22 45.5**	**-1.0**
	0.7nm,0.7s,baz=94,slow=9.1,SNR=3.8						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**		**55.37**	**316**	P	**P**	**10 23 05.5**	**-0.6**
	1.6nm,0.7s,baz=94,slow=7.7,SNR=14						
	1.6nm,0.7s						
STKA	**Stephens Creek**		**55.81**	**181**	P	**P**	**10 23 09.1**	**-0.3**
	1.6nm,0.7s,baz=343,slow=7.6,SNR=4.1						
	1.6nm,0.7s						
ILAR	**Eielson Array**		**60.00**	**28**	P	**P**	**10 23 38.0**	**-0.5**
	0.3nm,0.7s,baz=254,slow=6.0,SNR=4.2						
	0.3nm,0.7s						
BVAR	**Borovoye Array**		**60.46**	**319**	P	**P**	**10 23 41.8**	**0.0**
	3.8nm,0.5s,baz=90,slow=6.9,SNR=16						
	3.8nm,0.5s						
YKA	**Yellowknife Ar**		**74.43**	**28**	P	**P**	**10 25 10.4**	**+0.5**
	0.7nm,0.7s,baz=295,slow=5.6,SNR=8.9						
	0.7nm,0.7s						
ARCES	**ARCESS Array B**		**76.37**	**341**	P	**P**	**10 25 21.7**	**+0.7**
	1.0nm,0.6s,baz=56,slow=7.5,SNR=5.0						
	1.0nm,0.6s						
FINES	**FINESS Array B**		**80.70**	**334**	P	**P**	**10 25 45.0**	**0.0**
	1.0nm,0.4s,baz=69,slow=5.5,SNR=8.6						
	1.0nm,0.4s						
NVAR	**Mina Array Bea**		**81.92**	**52**	P	**P**	**10 25 53.1**	**+0.9**
	0.4nm,0.8s,baz=268,slow=11,SNR=2.3						
	0.4nm,0.8s						
AKASG	**Malin Array Be**		**85.18**	**324**	P	**P**	**10 26 07.7**	**-0.7**
	1.0nm,0.5s,baz=49,slow=4.7,SNR=7.0						
	1.0nm,0.5s						
NOA	**NORSAR Array B**		**86.42**	**339**	P	**P**	**10 26 14.1**	**-0.2**
	0.4nm,0.5s,baz=49,slow=4.8,SNR=3.3						
	0.4nm,0.5s						
BRTR	**Keskin Array B**		**88.27**	**313**	P	**P**	**10 26 23.9**	**0.0**
	0.5nm,0.7s,baz=141,slow=4.7,SNR=4.1						
	0.5nm,0.7s						
LPAZ	**La Paz**		**150.08**	**80**	PKPbc	**PKiKP**	**10 33 25.4**	**+0.3**
	1.4nm,0.7s,baz=185,slow=2.9,SNR=6.3						

*NNC **27** 10:15:48.1±0.4,42°.85N×77°.06E, h0km, mb2.2, mpv3.0, Error ellipse: s-maj=3.3km s-min=1.6km az=6.0*
*SOME **27** 10:15:48.8,42°.87N×77°.03E, h15km*
*KRNET **27** 10:15:49.9±0.1,42°.80N×76°.98E, h19km, mb2.3*
ISC 27 10:15:48.1±0.8,42°.88N±0°.02×77°.03E±0°.02, h16km±6km, n32, σ0°.56/63, 14C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**		**0.16**	**339**	P	**Pg**	**10 15 52.8**	**+0.1**
	53nm,0.1s						
TNSS				S	**Sg**	**10 15 55.7**	**-0.1**
	39nm,0.2s						
TNSS	**Tian-Shan**		**0.16**	**339**	*e*P	**Pg**	**10 15 52.8**	**+0.1**
	53nm,0.1s						
TNSS				*e*S	**Sg**	**10 15 55.7**	**-0.1**
	39nm,0.2s						
MDOK	**Medeo**		**0.28**	**3**	Pg	**Pb**	**10 15 54.7**	**-0.2**
	16nm,0.1s						
MDOK				Lg	Lg	10 15 59.1	
	35nm,0.3s						
IZV	**Izvestkoviy**		**0.34**	**297**	P	**Pb**	**10 15 56.0**	**+0.1**
	8.7nm,0.2s						
IZV				S	**Sb**	**10 16 01.3**	**+0.2**
	30nm,0.2s						
IZV	**Izvestkoviy**		**0.34**	**297**	*e*P	**Pb**	**10 15 56.0**	**+0.1**
	8.7nm,0.2s						
IZV				*e*S	**Sb**	**10 16 01.4**	**+0.2**
	30nm,0.2s						
KOTS	**Kotyrbulak**		**0.36**	**10**	P	**Pb**	**10 15 56.0**	**-0.2**
	9.0nm,0.2s						
KOTS				S	**Sb**	**10 16 01.3**	**-0.3**
	119nm,0.2s						
KOTS	**Kotyrbulak**		**0.36**	**10**	*e*P	**Pb**	**10 15 56.0**	**-0.2**
	9.0nm,0.2s						
KOTS				*e*S	**Sb**	**10 16 01.3**	**-0.3**
	119nm,0.2s						
ANVS	**Anan'yevo**		**0.48**	**102**	⇓*e*P	**Pn**	**10 15 59.9**	**-0.6**
ANVS				⇓*e*S	**Sn**	**10 16 07.5**	**-1.2**
MTBS	**Maitube**		**0.50**	**300**	P	**Pb**	**10 15 58.9**	**+0.3**
	2.2nm,0.1s						
MTBS				S	**Sb**	**10 16 06.0**	**+0.3**
	8.1nm,0.2s						
MTBS	**Maitube**		**0.50**	**300**	*e*P	**Pb**	**10 15 58.9**	**+0.3**
	2.2nm,0.1s						
MTBS				*e*S	**Sb**	**10 16 06.0**	**+0.3**
	8.1nm,0.2s						
KDJ	**Kajisay**		**0.76**	**171**	⇓*i*P	**Pg**	**10 16 03.1**	**+0.1**
KDJ				⇓*i*S	**Sg**	**10 16 12.6**	**-0.4**
KST	**Kastek**		**0.80**	**282**	P	**Pb**	**10 16 04.3**	**+0.7**
	1.7nm,0.2s						
KST				S	**Sb**	**10 16 15.3**	**+1.0**
	8.4nm,0.6s						
KST	**Kastek**		**0.80**	**282**	*e*P	**Pb**	**10 16 04.3**	**+0.7**
	1.7nm,0.2s						
KST				*e*S	**Sb**	**10 16 15.3**	**+1.0**
	8.4nm,0.6s						
ULHL	**Ulahol**		**0.86**	**223**	⇑*i*P	**Pg**	**10 16 04.7**	**-0.2**
ULHL				⇑*i*S	**Sg**	**10 16 15.5**	**-0.7**
KTBS	**Karatobe**		**0.87**	**343**	P	**Pb**	**10 16 05.5**	**+0.7**
	1.8nm,0.1s						
KTBS				S	**Sn**	**10 16 17.5**	**-0.5**
	7.1nm,0.2s						
BOOM	**Boomskoye usch**		**0.89**	**244**	⇑*i*P	**Pg**	**10 16 05.5**	**+0.1**
BOOM				⇑*i*S	**Sg**	**10 16 16.7**	**-0.5**
CHKK	**Chushkaly**		**0.97**	**358**	*e*P	**Pn**	**10 16 07.3**	**+0.3**
	0.9nm,0.1s						
CHKK				*e*S	**Sn**	**10 16 20.6**	**+0.1**
	10.0nm,0.1s						
SATY	**Saty**		**1.03**	**80**	P	**Pb**	**10 16 07.7**	**+0.2**
	1.9nm,0.1s						
SATY				S	**Sg**	**10 16 21.5**	**0.0**
	17nm,0.2s						
KURS	**Kuram**		**1.03**	**54**	P	**Pg**	**10 16 07.9**	**-0.2**
	2.3nm,0.2s						
KURS				S	**Sg**	**10 16 21.6**	**+0.1**
	6.7nm,0.4s						
KURS	**Kuram**		**1.03**	**54**	*e*P	**Pb**	**10 16 07.3**	**-0.2**
	0.9nm,0.1s						
KURS				*e*S	**Sb**	**10 16 20.6**	**-0.3**
	10.0nm,0.1s						
TKM2	**Tokmak 2**		**1.05**	**273**	⇑*i*P	**Pg**	**10 16 08.6**	**+0.1**
TKM2				⇑*i*S	**Sn**	**10 16 23.1**	**+0.3**
ZHN	**Zhinishke**		**1.07**	**74**	P	**Pb**	**10 16 08.3**	**0.0**
	2.0nm,0.1s						
ZHN				S	**Sb**	**10 16 22.4**	**+0.3**
	13nm,0.2s						
ZHN	**Zhinishke**		**1.07**	**74**	*e*P	**Pb**	**10 16 08.3**	**0.0**
	2.0nm,0.1s						
ZHN				*e*S	**Sb**	**10 16 22.4**	**+0.3**
	13nm,0.2s						
PRZ	**Przheval'sk**		**1.09**	**111**	⇑*e*P	**Pn**	**10 16 09.9**	**+1.1**
PRZ				⇑*e*S	**Sn**	**10 16 24.7**	**+1.0**
ARXS	**Arharly**		**1.45**	**23**	P	**Pg**	**10 16 15.9**	**-0.1**
	4.4nm,0.2s						
ARXS				S	**Sg**	**10 16 35.4**	**+0.5**
	16nm,0.2s						
UZB	**Uzynbulak**		**1.49**	**79**	P	**Pb**	**10 16 15.9**	**+0.5**
	3.2nm,0.1s						
UZB				S	**Sg**	**10 16 35.4**	**-0.6**
	5.5nm,0.2s						
UZB	**Uzynbulak**		**1.49**	**79**	*e*P	**Pb**	**10 16 15.9**	**+0.5**
	3.2nm,0.1s						
UZB				*e*S	**Sg**	**10 16 35.4**	**-0.6**
	5.5nm,0.2s						
BLB	**Baldybastay**		**1.61**	**41**	P	**Pg**	**10 16 18.6**	**-0.4**
	5.1nm,0.1s						
BLB				S	**Sg**	**10 16 39.9**	**0.0**
	15nm,0.2s						
NRN	**Naryn**		**1.64**	**208**	⇓*i*P	**Pb**	**10 16 18.5**	**+0.4**
NRN				⇓*i*S	**Sb**	**10 16 39.9**	**+1.3**
CHMS	**Chumysh**		**1.68**	**275**	⇑*i*P	**Pg**	**10 16 19.7**	**-0.6**
CHMS				⇑*i*S	**Sg**	**10 16 41.9**	**-0.1**
EKS2	**Erkin-Say**		**2.40**	**266**	⇑*i*P	**Pb**	**10 16 30.2**	**-0.8**
EKS2				⇑*i*S	**Sb**	**10 17 00.1**	**-0.3**
AML	**Almayashu**		**2.58**	**254**	⇑*i*P	**Pb**	**10 16 32.7**	**-1.4**
AML				⇑*i*S	**Sb**	**10 17 04.5**	**-1.2**

*NEIC **27** 10:19:11.4±1.4,66°.32N±0°.01×157°.24W±0°.09, h6km±7km, Error ellipse: s-maj=5.0km s-min=2.1km az=82.0*
AEIC 27 10:19:11.6±2.1,66°.31N±0°.01×157°.47W±0°.07, h0km±6km, ML2.5, ML2.4/102(NEIC), Error ellipse: s-maj=4.0km s-min=2.1km az=87.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**		**0.23**	**137**		Pg	10 19 15.1	-0.8
G19K				Sg	Sg	10 19 17.8	-1.1
G19K				IAML		10 19 19.2	
	comp=N,971nm,0.4s						
F19K	**Shaleruckik Mo**		**0.54**	**347**		Pg	10 19 22.2	+0.2
G18K	**Tagagawik**		**0.64**	**230**		Pb	10 19 25.3	-0.3
H19K	**Roundabout Mou**		**0.89**	**151**		Pg	10 19 27.3	-1.3
H19K				IAML			10 19 45.0
	comp=E,149nm,0.3s						
H19K				IAML			10 19 45.3
	comp=N,89nm,0.3s						
F20K	**Avaraart Lake**		**1.02**	**42**		Pg	10 19 28.8	-2.3
F20K				IAML			10 19 45.7
	comp=N,94nm,0.3s						
F20K				IAML			10 19 45.7
	comp=E,131nm,0.5s						
E19K	**Redstone River**		**1.16**	**5**		Pg	10 19 32.7	-1.0
E19K				Sg	Sg	10 19 48.2	-0.6
E19K				IAML		10 19 51.9	
	comp=E,76nm,0.3s						
E19K				IAML			10 19 53.1
	comp=N,70nm,0.5s						
H18K	**Honhosa River**		**1.22**	**198**		Pg	10 19 34.9	-0.1
F17K	**Baldwin Pennin**		**1.53**	**277**		Pb	10 19 40.7	-0.1
F17K				IAML			10 20 09.7
	comp=E,32nm,0.6s						
G21K	**Allakaket**		**1.61**	**81**		Pn	10 19 38.6	-2.7
G21K				Sn	Sn	10 19 58.7	-4.0
E18K	**Tukpahlearik C**		**1.67**	**314**		Pb	10 19 42.9	-0.3
H17K	**Granite Mounta**		**1.71**	**217**		Pn	10 19 42.5	-0.1
F21K	**Alatna River**		**1.83**	**58**		Pn	10 19 42.0	-2.3
F21K				IAML			10 20 09.7
	comp=N,28nm,0.5s						
F21K				IAML			10 20 10.3
	comp=E,48nm,0.5s						
I20K	**Naaghedeneel**		**1.96**	**139**	Pn	Pn	10 19 44.5	-1.6
H21K	**Melozitna Rive**		**2.02**	**107**		Pn	10 19 44.4	-2.6
G16K	**Koyuk River**		**2.21**	**248**		Pn	10 19 49.1	-0.3
G16K				IAML			10 20 28.1
	comp=N,25nm,0.5s						
G16K				IAML			10 20 30.6
	comp=E,15nm,0.8s						
D19K	**Kuna River**		**2.21**	**354**		Pn	10 19 50.1	+0.5
D19K				IAML			10 20 25.0
	comp=N,19nm,1.0s						
D20K	**Etivluk River**		**2.44**	**7**		Pn	10 19 52.7	0.0
D20K				IAML			10 20 29.0
	comp=E,18nm,0.5s						
J19K	**Poorman**		**2.45**	**161**		Pn	10 19 51.4	-1.5
J19K				IAML			10 20 28.5
	comp=E,14nm,0.9s						
J19K				IAML			10 20 32.2
	comp=N,14nm,0.8s						
E21K	**Killik River**		**2.53**	**31**		Pn	10 19 52.9	-1.1
E21K				IAML			10 20 36.4
	comp=E,13nm,0.8s						
E21K				IAML			10 20 37.9
	comp=N,11nm,0.8s						
I21K	**Tanana**		**2.53**	**114**		Pn	10 19 51.2	-2.8
I21K				IAML			10 20 32.0
	comp=N,25nm,0.5s						
J20K	**Nowinta River**		**2.56**	**145**		Pn	10 19 53.6	-0.6
J20K				IAML			10 20 38.7
	comp=E,11nm,0.5s						
J20K				IAML			10 20 39.1
	comp=N,14nm,0.6s						
RDOG	**Red Dog Mine**		**2.75**	**312**	Pn	Pn	10 19 55.9	-1.0
C18K	**Utukok River**		**2.75**	**330**	Pn	Pn	10 19 57.0	0.0
I17K	**Unalakleet**		**2.79**	**211**	Pn	Pn	10 19 57.8	+0.3
E22K	**Anaktuvuk Pass**		**2.86**	**48**		Pn	10 19 58.1	-0.4
J18K	**Innoko River**		**2.87**	**173**		Pn	10 19 58.0	-0.6
J17K	**VABM Dome**		**3.00**	**194**		Pn	10 20 00.1	-0.3
J17K				IAML			10 20 52.5
	comp=N,12nm,0.8s						
D22K	**Ayikyak River**		**3.17**	**33**		Pn	10 20 01.8	-0.9
D22K				IAML			10 20 59.6
	comp=E,14nm,0.7s						
D22K				IAML			10 21 00.7
	comp=N,9.8nm,1.2s						
H23K	**Yukon River**		**3.27**	**95**		Pn	10 20 01.9	-2.1
K20K	**Telida**		**3.30**	**152**		Pn	10 20 03.9	-0.6
J16K	**Anvik River**		**3.32**	**205**	Pn	Pn	10 20 04.1	-0.6
J16K				IAML			10 21 02.7
	comp=E,12nm,0.8s						
J16K				IAML			10 21 05.6
	comp=N,11nm,0.8s						
BPAW	**Bear Paw Mtn.**		**3.52**	**126**		Pn	10 20 06.2	-1.3
BPAW				IAML			10 21 05.2
	comp=E,5.4nm,1.1s						
BPAW				IAML			10 21 11.8
	comp=N,6.6nm,1.0s						
I23K	**Minto, Yukon-K**		**3.55**	**105**		Pn	10 20 06.4	-1.4
K17K	**Iditarod**		**3.63**	**186**	Pn	Pn	10 20 08.1	-0.9
K17K				IAML			10 21 17.5
	comp=E,6.3nm,1.1s						
K17K				IAML			10 21 24.6
	comp=N,6.0nm,0.9s						
CAST	**Castle Rocks**		**3.70**	**139**		Pn	10 20 09.2	-0.8
B20K	**Meade River**		**3.72**	**2**	Pn	Pn	10 20 09.8	-0.4
B20K				IAML			10 21 17.6
	comp=E,6.7nm,1.0s						
B20K				IAML			10 21 28.0
	comp=N,4.5nm,1.2s						
KTH	**Kantishna Hill**		**3.93**	**132**	Pn	Pn	10 20 11.5	-1.6
KTH				IAML			10 21 17.0
	comp=E,4.7nm,0.9s						
KTH				IAML			10 21 23.5
	comp=N,6.6nm,1.1s						
H24K	**Noodor Dome**		**3.94**	**93**	Pn	Pn	10 20 11.4	-1.9
PPLA	**Purkeypile**		**4.11**	**144**	Pn	Pn	10 20 15.2	-0.6
PPLA				IAML			10 21 32.3
	comp=E,4.7nm,1.2s						
PPLA				IAML			10 21 35.7
	comp=N,3.0nm,1.0s						
L18K	**Granite Mounta**		**4.12**	**175**	Pn	Pn	10 20 16.0	+0.2
L18K				IAML			10 21 38.9
	comp=N,2.8nm,0.8s						
TRF	**Thorofare Moun**		**4.20**	**130**	Pn	Pn	10 20 15.9	-1.0
TRF				IAML			10 21 24.6
	comp=N,5.7nm,1.1s						
TRF				IAML			10 21 31.7
	comp=E,5.0nm,0.9s						
L19K	**White Mountain**		**4.30**	**163**		Pn	10 20 17.9	-0.4
L19K				IAML			10 21 19.6
	comp=E,2.5nm,1.1s						
L19K				IAML			10 21 28.0
	comp=N,2.9nm,1.1s						
POKR	**Poker Plat Res**		**4.32**	**101**	Pn	Pn	10 20 16.5	-2.0
CCB	**Clear Creek Bu**		**4.36**	**108**		Pn	10 20 16.8	-2.2
CCB				IAML			10 21 26.6
	comp=N,5.5nm,1.0s						
CCB				IAML			10 21 27.0
	comp=E,4.3nm,0.9s						
MCK	**McKinley**		**4.45**	**122**	Pn	Pn	10 20 18.8	-1.4
MCK				IAML			10 21 11.6
	comp=N,3.5nm,0.8s						
M19K	**Big River Lodg**		**4.62**	**162**		Pn	10 20 22.6	-0.1
M19K				IAML			10 21 20.0
	comp=E,3.2nm,1.1s						
IL31			**4.66**	**104**		Pn	10 20 21.2	-1.9
ILAR	**Eielson Array**		**4.66**	**104**	Pn	Pn	10 20 20.8	-2.4
HDA	**Harding Lake**		**4.80**	**109**	Pn	Pn	10 20 23.1	-1.9
M17K	**Holitna River**		**4.93**	**180**	Pn	Pn	10 20 27.3	+0.5
M17K				IAML			10 21 25.6
	comp=E,4.2nm,1.2s						
M17K				IAML			10 22 02.5
	comp=N,3.7nm,1.0s						
E25K	**Arctic Village**		**4.97**	**63**	Pn	Pn	10 20 25.2	-2.2
E25K				IAML			10 21 49.5
	comp=N,3.2nm,0.7s						
SKT	**Skwentna**		**5.06**	**146**		Pn	10 20 28.5	-0.2
SKT				IAML			10 21 15.2
	comp=E,1.6nm,1.0s						
M16K	**Timber Creek**		**5.35**	**188**	Pn	Pn	10 20 29.6	-3.0
M16K				IAML			10 22 16.2
	comp=E,1.4nm,0.9s						
M16K				IAML			10 22 23.0
	comp=N,2.9nm,1.1s						
STLK	**Strandline Lak**		**5.43**	**150**	Pn	Pn	10 20 33.6	-0.2
N19K	**Bonanza Creek**		**5.68**	**165**	Pn	Pn	10 20 36.8	-0.4
N18K	**Kilae Creek**		**5.70**	**172**		Pn	10 20 37.2	-0.2
SUA	**Susitna One**		**5.70**	**145**	Pn	Pn	10 20 36.8	-0.7
SML	**Sawmill**		**6.04**	**134**	Pn	Pn	10 20 41.2	-0.9

*IDC **27** 10:59:13.4±0.6,35°.50S×103°.85W, h0km, mb4.3/14, mbtmp4.3/14, MS4.3/37, Error ellipse: s-maj=21.8km s-min=16.7km az=83.0*
*NEIC **27** 10:59:17.3±1.1,35°.3S±0°.1×103°.6W±0°.2, h10km±1km, mb4.8/117, Error ellipse: s-maj=23.6km s-min=16.5km az=254.0*
*GCMT **27** 10:59:18.3±0.1,35°.70S±0°.01×104°.08W±0°.01, h14km, MW5.2/147, Moment Tensor Solution. s103,c165; s147,c264; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}-1.25±.12; $M_{\theta\theta}$-2.20±.11; $M_{\phi\phi}$3.44±.12; $M_{r\theta}$0.96±.24; $M_{\theta\phi}$-8.08±.12; $M_{\phi r}$-3.25±.34; Best double couple: $M_0$9.11000×10^{16} NP1:ϕ_s98.00000°, δ72.00000°, λ176.00000°. NP2:ϕ_s190.00000°, δ86.00000°, λ18.00000°. Principal axes: T 10.0900, Plg16.0000°, Azm56.0000°; N -1.9690, Plg71.0000°, Azm202.0000°; P -8.1300, Plg10.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 10:59:15.8±0.4,35°.44S±0°.06×103°.66W±0°.06, h10km, n187, σ1°.22/124, mb4.8/64, MS4.3/38, 3C-1D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**		**9.60**	**328**	Pn	**Pn**	**11 01 34.5**	**+0.5**
H03S2	**Juan Fernandez**		**20.41**	**93**	T	T	11 25 16.8
	baz=254,slow=71,SNR=43						
H03S1	**Juan Fernandez**		**20.42**	**93**	T	T	11 25 17.4
	baz=254,slow=71,SNR=46						
H03S3	**Juan Fernandez**		**20.42**	**93**	T	T	11 25 18.6
	baz=254,slow=71,SNR=27						
H03N2	**Juan Fernandez**		**20.48**	**92**	T	T	11 25 20.0
	baz=248,slow=72,SNR=29						
H03N3	**Juan Fernandez**		**20.48**	**92**	T	T	11 25 25.6
	baz=248,slow=72,SNR=35						
H03N1	**Juan Fernandez**		**20.50**	**92**	T	T	11 25 19.3
	baz=248,slow=72,SNR=41						
LR04	**Corral**		**24.28**	**110**	P	**P**	**11 04 34.2**	**+1.0**
GO07	**Milladeo Hill,**		**24.36**	**117**	P	**P**	**11 04 35.5**	**+1.6**
BI05	**Punta Hualpn**		**24.61**	**102**		**P**	**11 04 37.2**	**+1.0**
BI05				IAmb	IAmb	11 04 40.3	
	comp=Z,48nm,1.1s						
LL03	**Petrohue**		**25.10**	**113**	P	**P**	**11 04 42.9**	**+2.2**
LR03	**Panguipulli**		**25.11**	**109**	P	**P**	**11 04 41.5**	**+0.7**
LR03				IAmb	IAmb	11 04 44.8	
	comp=Z,33nm,1.0s						
LL01	**San Ignacio de**		**25.19**	**115**	P	**P**	**11 04 42.5**	**+1.1**
LR05	**Currie**		**25.38**	**110**	P	**P**	**11 04 44.0**

comp=Z,18nm,1.1s
PEL Peldehue 27.27 95 P P 11 05 01.6 +1.1
PEL IAmb IAmb 11 05 04.7
comp=Z,35nm,1.4s
MT16 CCHEN 27.34 95 P P 11 05 01.9 +0.9
MT16 IAmb IAmb 11 05 04.3
comp=Z,19nm,0.7s
MT13 San Alfonso 27.46 96 P 11 05 03.2 +1.0
MT13 IAmb IAmb 11 05 03.8
comp=Z,11nm,0.7s
VA03 San Esteban 27.48 94 P P 11 05 02.9 +0.6
VA03 IAmb IAmb 11 05 04.1
comp=Z,19nm,0.8s
LMEL Las Melosas 27.50 96 P P 11 05 03.4 +0.8
LMEL IAmb IAmb 11 05 05.0
comp=Z,23nm,0.9s
MT08 Bocatoma Ro 27.74 96 P P 11 05 05.8 +1.0
MT08 IAmb IAmb 11 05 07.4
comp=Z,17nm,0.7s
RKT Rikitea 29.81 286 *e*LR LR 11 12 57.6
comp=Z,2μm,25.8s
AC02 Maricunga 30.65 83 P 11 05 32.1 +1.1
AC02 IAmb IAmb 11 05 34.8
comp=Z,9.6nm,0.8s
PB05 IPOC Station P 31.64 76 P P 11 05 40.4 +1.0
PB05 IAmb IAmb 11 05 41.3
comp=Z,17nm,0.8s
PB09 IPOC Station P 32.95 75 P P 11 05 53.2 +2.3
HMBC Humberstone 33.27 72 P P 11 05 54.4 +0.8
NNA Nana 33.68 53 LR LR 11 16 19.4
comp=Z,2μm,20.1s,baz=228,slow=30
PB11 IPOC Station P 33.74 72 P 11 05 57.3 -0.5
PB08 IPOC Station P 33.92 73 P 11 05 58.5 -1.0
PB08 IAmb IAmb 11 06 02.3
comp=Z,15nm,0.9s
ATAH Atahualpa 36.48 45 LR LR 11 17 43.5
comp=Z,839nm,19.8s,baz=226,slow=30
LPAZ La Paz 36.96 68 P 11 06 25.1 -0.9
LPAZ IAmb IAmb 11 06 29.0
comp=Z,34nm,1.7s
LPAZ La Paz 36.96 68 P P 11 06 27.2 +1.2
comp=Z,4.4nm,0.7s,baz=225,slow=4.7,SNR=20
LPAZ LR LR 11 18 43.5
comp=Z,339nm,18.2s,baz=248,slow=32
comp=Z,4.4nm,0.7s
LPAZ La Paz 36.96 68 *e*P P 11 06 23.0 -3.0
PMSA Palmer Station 37.71 153 LR LR 11 17 25.2
comp=Z,1μm,21.5s,baz=308,slow=29
CZSB Cruzeiro do Su 39.55 53 P **P 11 06 46.8 -0.3**
TBOT Tacuaremb 39.65 99 *e*P **P 11 06 48.3 +0.5**
ITQB Itaqui 39.77 95 P 11 06 48.9 +0.1
ITQB Itaqui 39.77 95 *e*P **P 11 06 49.5 +0.6**
COHC Cochancay 39.86 40 P 11 06 49.1 -0.6
CPUP Villa Florida 40.48 90 P P 11 06 54.9 +0.1
CPUP Villa Florida 40.48 90 P P 11 06 54.4 -0.4
comp=Z,4.3nm,0.8s,baz=253,slow=6.1,SNR=7.6
CPUP LR LR 11 21 49.9
comp=Z,272nm,18.6s,baz=250,slow=33
comp=Z,4.3nm,0.8s
TBI Tubuai 41.35 274 *e*SS SS 11 16 25.8 +5.5
comp=Z,12μm,33.5s
TBI *e*LR LR 11 18 24.9
comp=Z,1μm,25.5s
TBI *e*LR LR 11 18 25.0
comp=Z,3μm,23.8s
PLTB Pedras Altas 41.50 100 P P 11 07 03.5 +0.3
PLTB IAmb IAmb 11 07 05.6
comp=Z,18nm,1.0s
SJPY San Joaquin 42.04 89 *e*P **P 11 07 08.2 +0.5**
CPSB Cacapava Do Su 42.09 98 *e*P **P 11 07 08.3 +0.3**
BBSD Serra de San D 42.27 76 *e*P **P 11 07 09.8 +0.1**
MURT Porto Murtinho 42.35 84 *e*P **P 11 07 09.9 -0.4**
TAOE Nuku Hiva Isla 42.52 300 *e*S **S 11 13 37.2 +3.0**
comp=Z,278nm,30.1s
TAOE *e*SS **SS 11 16 46.9 +3.1**
comp=Z,2μm,28.4s
TAOE *e*LR LR 11 18 56.4
comp=Z,1μm,24.2s
OTAV Otavalo 42.57 39 P **P 11 07 11.9 -0.7**
OTAV Otavalo 42.57 39 *e*P **P 11 07 10.6 -2.0**
SIV San Ignacio 42.59 74 LR LR 11 22 40.5
comp=Z,138nm,21.8s,baz=241,slow=33
BDQN Bodoquena, MS 43.65 83 *e*P **P 11 07 20.1 -0.6**
AMBA Amambai (Brazi 43.88 87 *e*P **P 11 07 22.9 +0.3**
PPT2 Papeete2 44.34 281 *e*S **S 11 13 59.7 -1.1**
comp=Z,402nm,25.5s
PPT2 *e*SS **SS 11 17 20.7 +1.4**
comp=Z,2μm,34.5s
PPT2 *e*LR LR 11 19 39.2
comp=Z,258nm,23.0s
PPT2 *e*LR LR 11 19 44.7
comp=Z,450nm,22.5s
PPT Papeete 44.35 281 LR LR 11 20 50.1
comp=Z,497nm,19.0s,baz=120,slow=29
PTLB Pontes e Lacer 44.42 75 P 11 07 26.6 -0.4
PTLB IAmb IAmb 11 07 28.3
comp=Z,16nm,1.4s
PTLB Pontes e Lacer 44.42 75 *e*P **P 11 07 27.2 +0.2**
AQDB Aquidauana 44.49 84 P 11 07 27.3 -0.2
AQDB IAmb IAmb 11 07 28.5
comp=Z,25nm,1.2s
AQDB Aquidauana 44.49 84 *e*P **P 11 07 27.5 +0.1**
RPRD Ribas do Rio P 46.11 85 *e*P **P 11 07 41.4 +1.0**
LDASE Londrina, Braz 46.83 90 *e*P **P 11 07 46.3 +0.2**
SALV Santo Antonio 46.90 78 *e*P **P 11 07 46.9 +0.3**
PDRB Porto dos Gac 48.56 73 *e*P **P 11 07 59.5 -0.1**
ROSC El Rosal 48.63 41 P **P 11 08 00.5 +0.1**
ROSC El Rosal 48.63 41 P **P 11 08 01.3 +0.9**
comp=Z,7.7nm,0.4s,baz=169,slow=2.2,SNR=9.0
ROSC LR LR 11 25 03.3
comp=Z,863nm,21.1s,baz=236,slow=32
comp=Z,7.7nm,0.4s
JTS Las Juntas de 48.80 25 LR LR 11 23 55.2
comp=Z,623nm,18.5s,baz=196,slow=30
PET01 Itanhaem-SP 49.56 93 *e*P **P 11 08 07.2 +0.2**
CLDB Colider 49.74 73 *e*P **P 11 08 08.6 +0.1**
BB19B Bebedouro 50.04 89 *e*P **P 11 08 10.9 +0.1**
ARAG Araguaiana, MT 50.12 81 *e*P **P 11 08 12.2 +0.8**
RUSC La Rusia 50.17 41 P 11 08 12.1 -0.2
VAO Valinhos 50.40 92 P 11 08 14.1 +0.5
VAO IAmb IAmb 11 08 14.6
comp=Z,18nm,0.9s
VAO Valinhos 50.40 92 *e*P **P 11 08 14.2 +0.7**
RAR Rarotonga 50.77 270 LR LR 11 24 45.3
comp=Z,125nm,18.7s,baz=117,slow=30
MACA Manacapuru-AM 51.09 61 *e*P **P 11 08 18.4 -0.3**
BELA Belgrano 2 51.25 165 P 11 08 19.4 +0.3
BELA IAmb IAmb 11 08 37.0
comp=Z,15nm,1.4s
TGUH Tegucigalpa,Un 51.62 20 P **P 11 08 21.2 -1.5**
SLP01 Ubatuba-SP 51.73 93 *e*P **P 11 08 24.3 +0.7**
IPMB Ipameri, GO 51.84 86 *e*P **P 11 08 24.0 -0.4**
NPGB Novo Progresso 52.45 69 *e*P **P 11 08 28.1 -0.9**
SNDB Serra Nova Dou 52.63 77 *e*P **P 11 08 30.3 0.0**
PMNB Patos De Minas 53.00 87 *e*P **P 11 08 33.8 +0.7**
BDFB Brasilia 53.23 83 P **P 11 08 35.0 +0.2**
BDFB Brasilia 53.23 83 P **P 11 08 35.1 +0.2**
comp=Z,5.6nm,0.7s,baz=260,slow=10,SNR=7.7
BDFB LR LR 11 29 59.2
comp=Z,287nm,18.8s,baz=246,slow=35
comp=Z,5.6nm,0.7s
ITTB Itaituba 53.89 66 *e*P **P 11 08 38.9 -0.6**
SDV Santo Domingo 53.99 42 LR LR 11 28 45.1
comp=Z,246nm,21.0s,baz=226,slow=33
QSPA South Pole Qui 54.77 180 P **P 11 08 46.6 +1.1**
QSPA IAmb IAmb 11 08 51.8
comp=Z,7.9nm,0.8s
QSPA South Pole Qui 54.77 180 P **P 11 08 43.9 -1.6**
comp=Z,5.2nm,0.8s,baz=113,slow=2.8,SNR=19
QSPA LR LR 11 27 40.5
comp=Z,156nm,20.9s,baz=119,slow=31
comp=Z,5.2nm,0.8s
DIAM Diamantina, MG 55.38 89 *e*P **P 11 08 52.1 +1.6**
BAUV El Baul 55.48 44 P 11 08 50.3 -0.7
JANB Januaria 56.55 85 *e*P **P 11 08 59.3 +0.5**
VNDA Vanda 56.67 195 P 11 09 04.5 +5.8
VNDA IAmb IAmb 11 10 19.7
comp=Z,19nm,2.0s
VNDA Vanda 56.67 195 P **P 11 08 57.8 -0.9**
comp=Z,1.1nm,1.0s,baz=135,slow=2.9,SNR=5.6
VNDA LR LR 11 28 48.8
comp=Z,285nm,18.2s,baz=110,slow=31
comp=Z,1.1nm,1.0s
SMTB Santa Maria do 57.40 77 *e*P **P 11 09 05.0 +0.2**
SDBA SAO DESIDERIO 57.52 82 *e*P **P 11 09 06.3 +0.6**

VNA3 Neumayer Olymp 58.14 158 ⇑P P 11 09 07.3 -2.0
comp=Z,11nm,0.8s
VNA2 Neumayer--Watz 58.95 158 ⇑P P 11 09 12.8 -2.0
comp=Z,8.6nm,0.9s,baz=251,slow=6.8
SNAA Sanae 60.06 159 ⇑P **P 11 09 22.7 +0.1**
comp=Z,71nm,0.9s
SNAA Sanae 60.06 159 P **P 11 09 21.4 -1.2**
comp=Z,2.2nm,0.9s,baz=8.8,slow=7.8,SNR=4.0
SNAA LR LR 11 30 20.9
comp=Z,307nm,21.3s,baz=198,slow=31
comp=Z,2.2nm,0.9s
URZ Urewera 61.57 242 LR LR 11 29 07.3
comp=Z,772nm,21.3s,baz=204,slow=29
MDP Montagnes des 62.57 61 LR LR 11 34 04.8
comp=Z,566nm,20.8s,baz=240,slow=33
PDPR Patillas Dam, 64.03 40 P **P 11 09 48.2 -1.5**
SJG San Juan 64.04 40 P **P 11 09 48.1 -1.7**
SJG San Juan 64.04 40 LR LR 11 34 43.1
comp=Z,200nm,21.2s,baz=210,slow=33
TXAR Lajitas Array 64.42 360 P 11 09 52.6 +0.3
TXAR Lajitas Array 64.42 360 P **P 11 09 51.3 -0.9**
comp=Z,1.2nm,0.7s,baz=182,slow=8.0,SNR=17
TXAR LR LR 11 32 25.7
comp=Z,111nm,19.7s,baz=170,slow=31
comp=Z,1.2nm,0.7s
TX31 Lajitas Ar. Si 64.42 360 IAmb IAmb 11 10 03.5
comp=Z,5.6nm,0.9s
HNDO Hondo 64.75 4 P **P 11 09 54.3 +0.1**
HNDO IAmb IAmb 11 10 04.9
comp=Z,9.6nm,1.3s
ALPN Alpine 65.46 0 IAmb IAmb 11 10 09.8
comp=Z,7.6nm,0.9s
BRDY Brady 66.51 4 P **P 11 10 05.8 +0.1**
RCBR Riachuelo 68.55 82 LR LR 11 39 37.0
comp=Z,44nm,18.1s,baz=240,slow=35
PFO Pinyon Flats O 69.73 349 LR LR 11 33 39.0
comp=Z,113nm,20.6s,baz=170,slow=30
X18A Snowflake 69.85 354 IAmb IAmb 11 10 38.0
comp=Z,8.2nm,0.9s
ANMO Albuquerque 70.07 358 IAmb IAmb 11 11 51.5
comp=Z,7.0nm,1.6s
SMWD Samnorwood 70.25 3 IAmb IAmb 11 10 39.0
comp=Z,12nm,1.0s
MSVF Nonsavu 70.57 262 LR LR 11 34 04.7
comp=Z,275nm,21.6s,baz=143,slow=30
GSC Goldstone, Bar 71.44 349 IAmb IAmb 11 10 57.6
comp=Z,12nm,1.6s
HHAR Hobbs 71.92 8 IAmb IAmb 11 11 00.8
comp=Z,6.5nm,1.0s
U15A North Rim 71.95 353 IAmb IAmb 11 10 56.2
comp=Z,6.9nm,1.1s
U38A Gravette 72.03 8 P 11 10 42.6 +2.9
U38A IAmb IAmb 11 10 43.2
comp=Z,6.7nm,1.0s
SYO Syowa Base 72.38 167⇓ *e*P **P 11 10 41.6 +0.1**
MVCO Mesa Verde 72.42 356 P 11 10 45.3 +3.0
MVCO IAmb IAmb 11 10 53.2
comp=Z,8.8nm,0.9s
V48A Smith Brothers 72.53 14 IAmb IAmb 11 10 48.1
comp=Z,9.9nm,0.9s
SDCO Great Sand Dun 72.83 358 P **P 11 10 44.9 0.0**
PKCU Pink Cliffs 72.96 353 IAmb IAmb 11 11 03.4
comp=Z,9.8nm,1.1s
TKL Tuckaleechee C 73.12 17 LR LR 11 39 30.8
comp=Z,94nm,20.4s,baz=196,slow=33
PV02 Paradox Valley 73.43 356 IAmb IAmb 11 11 28.8
comp=Z,19nm,1.4s
U49A Red Boiling Sp 73.49 15 IAmb IAmb 11 11 01.8
comp=Z,14nm,1.0s
DSP Deep Springs 73.65 348 IAmb IAmb 11 11 10.2
comp=Z,10.0nm,1.4s
CCM Cathedral Cave 74.02 10 P 11 10 51.6 +0.1
CCM IAmb IAmb 11 11 03.8
comp=Z,11nm,1.1s
TMUT Trail Mountain 74.69 354 IAmb IAmb 11 11 12.3
comp=Z,11nm,1.2s
SPR3 Spring Creek 3 74.72 351 P 11 10 55.1 -0.8
SPR3 IAmb IAmb 11 11 16.6
comp=Z,10nm,1.5s
NVAR Mina Array Bea 74.74 348 P 11 10 55.7 -0.2
NVAR Mina Array Bea 74.74 348 P **P 11 10 56.0 +0.1**
comp=Z,3.6nm,0.9s,baz=177,slow=7.4,SNR=19
NVAR LR LR 11 37 38.0
comp=Z,147nm,18.5s,baz=194,slow=31
comp=Z,3.6nm,0.9s
BSUT Blindstream Ca 75.88 354 IAmb IAmb 11 11 13.1
comp=Z,9.7nm,1.0s
MPK Martis Peak 75.88 347 IAmb IAmb 11 11 04.8
comp=Z,9.5nm,1.1s
BEKR Beckworth 76.50 347 IAmb IAmb 11 11 28.0
comp=Z,8.5nm,1.4s
ELK Elko 76.55 351 LR LR 11 38 07.0
comp=Z,132nm,20.3s,baz=176,slow=30
MAW Mawson 76.77 175 LR LR 11 42 12.1
comp=Z,210nm,21.0s,baz=226,slow=34
DZM Mont Dzumac 77.47 252 *e*S **S 11 21 03.5 +0.4**
comp=Z,177nm,27.8s
DZM *e*SS **SS 11 25 58.0 -3.5**
comp=Z,132nm,27.8s
DZM *e*LR LR 11 35 03.0
comp=Z,1μm,27.9s
PD31 Pinedale Array 78.02 356 IAmb IAmb 11 11 53.6
comp=Z,7.6nm,1.1s
PDAR Pinedale Array 78.02 356 P **P 11 11 13.6 -0.8**
comp=Z,2.1nm,0.9s,baz=153,slow=6.2,SNR=11
comp=Z,2.1nm,0.9s
YBH Yreka Blue Hor 78.76 346 LR LR 11 38 13.2
comp=Z,209nm,21.8s,baz=177,slow=30
SNOW Snow King Moun 78.79 355 IAmb IAmb 11 11 38.8
comp=Z,14nm,1.6s
TPAW Teton Pass 78.83 355 IAmb IAmb 11 11 28.6
comp=Z,6.4nm,0.9s
FXWY Fox Creek 78.99 355 IAmb IAmb 11 12 00.0
comp=Z,17nm,1.7s
ECSD EROS Data Cent 79.06 5 IAmb IAmb 11 11 29.8
comp=Z,6.8nm,0.8s
HLID Hailey 79.23 352 P 11 11 21.1 +0.1
HLID IAmb IAmb 11 12 01.0
comp=Z,14nm,1.3s
PINE Pine Mountain 80.41 347 IAmb IAmb 11 11 43.8
comp=Z,8.0nm,0.9s
SADO Sadowa 82.87 17 LR LR 11 45 06.9
comp=Z,13nm,19.3s,baz=123,slow=33
NEW Newport 84.19 351 IAmb IAmb 11 11 59.9
comp=Z,11nm,1.4s
NEW Newport 84.19 351 LR LR 11 42 36.4
comp=Z,71nm,19.0s,baz=178,slow=31
ULM Lac du Bonnet 85.59 5 P **P 11 11 54.4 +0.5**
comp=Z,1.1nm,0.5s,baz=131,slow=2.4,SNR=4.1
ULM LR LR 11 44 30.7
comp=Z,47nm,18.7s,baz=172,slow=32
comp=Z,1.1nm,0.5s
STKA Stephens Creek 89.28 231 LR LR 11 44 10.3
comp=Z,463nm,20.9s,baz=164,slow=30
HNR Honiara 89.75 259 LR LR 11 45 29.2
comp=Z,90nm,19.8s,baz=192,slow=31
SUR Sutherland 94.79 136 LR LR 11 47 21.6
comp=Z,134nm,20.8s,baz=188,slow=30
BBTS Babate 96.06 76 LR LR 11 52 46.7
comp=Z,141nm,20.6s,baz=111,slow=33
YKA Yellowknife Ar 97.99 355 P **P 11 12 51.9 +0.5**
comp=Z,0.2nm,0.7s,baz=162,slow=4.7,SNR=4.0
YKA LR LR 11 51 41.9
comp=Z,91nm,18.8s,baz=284,slow=32
comp=Z,0.2nm,0.7s
PMG Port Moresby 99.85 251 LR LR 11 52 46.2
comp=Z,145nm,18.8s,baz=121,slow=32
ASAR Alice Springs 99.86 232 P **Pdif 11 13 00.3 -0.7**
comp=Z,0.6nm,1.0s,baz=161,slow=5.3,SNR=4.9
ASAR LR LR 11 52 20.0
comp=Z,476nm,18.7s,baz=149,slow=32
comp=Z,0.6nm,1.0s
H01W1 Cape Leeuwin H 101.63 211 T T 13 07 02.4
baz=147,slow=76,SNR=3.2
H01W2 Cape Leeuwin H 101.63 211 T T 13 07 01.6
baz=147,slow=76,SNR=3.6
H01W3 Cape Leeuwin H 101.65 211 T T 13 07 02.0
baz=147,slow=76,SNR=4.8
HEH HeiHe 140.53 308 PKP P 11 18 46.0 -10
NJ2 Nanjing 144.68 277 *e*P PKPbc 11 18 54.3 +2.6
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NRIK Noril'sk 145.48 353 PKPbc **PKPbc 11 18 51.0 -2.1**
comp=Z,2.3nm,0.4s,baz=40,slow=3.7,SNR=7.6
BRTR Keskin Array B 146.13 70 PKPbc **PKPdf 11 18 53.8 -1.5**
comp=Z,5.8nm,1.1s,baz=238,slow=2.3,SNR=13
MMAI Mount Meron Ar 146.24 82 PKPbc **PKPdf 11 18 56.1 +0.6**
comp=Z,0.5nm,0.3s,baz=40,slow=1.4,SNR=4.5

HHC Hu-ho-hao-te 151.90 292 *e*P **PKPdf 11 19 02.0 -2.5**
KBZ Khabaz 153.07 62 PKPbc **PKPdf 11 19 11.2 +5.3**
comp=Z,2.3nm,0.9s,baz=54,slow=2.8,SNR=5.9
PZH PanZhiHua 156.52 255 PKP **PKPdf 11 19 12.0 +0.6**
LZH Lanzhou 157.69 280 *e*P PKPdf 11 19 06.3 -6.4
LZH pP pPKPdf 11 19 12.5 -2.4
LZH pmax pmax
comp=Z,18nm,1.4s
ZALV Zalesovo Beam 160.56 345 PKP **PKPdf 11 19 13.7 -1.5**
comp=Z,1.2nm,0.6s,baz=333,slow=1.7,SNR=4.0
BVAR Borovoye Array 161.92 12 PKP **PKPdf 11 19 16.9 +0.2**
comp=Z,0.7nm,0.6s,baz=64,slow=3.4,SNR=3.7
BVAR PKPab **PKPab 11 20 02.8 +0.2**
comp=Z,0.9nm,0.7s,baz=257,slow=4.0,SNR=3.5
KURBB Kurchatov Arra 164.74 355 PKPab **PKPab 11 20 13.4 -1.6**
comp=Z,0.6nm,0.8s,baz=10,slow=4.3,SNR=4.9

---

*IDC **27** 11:10:55.9±1.2,35°.64S×104°.25W,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=49.9km s-min=29.5km az=88.0*

ISC 27 11:10:57.6±1.2,35°.6S±0°.2×104°.2W±0°.3,h10km,n9, σ0°73/6,mb3.6/5,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**20.86**	**92**	T	T	11 37 14.2	
baz=258,slow=75,SNR=7.1							
H03S1	**Juan Fernandez**	**20.88**	**92**	T	T	11 37 10.9	
baz=258,slow=75,SNR=3.9							
H03S3	**Juan Fernandez**	**20.88**	**92**	T	T	11 37 09.4	
baz=258,slow=75,SNR=4.8							
LPAZ	**La Paz**	**37.47**	**68**	P	**P**	**11 18 12.2**	**0.0**
0.7nm,0.5s,baz=214,slow=4.1,SNR=3.6							
0.7nm,0.5s							
QSPA	**South Pole Qui**	**54.56**	**180**	P	**P**	**11 20 25.9**	**+0.1**
1.6nm,1.0s,baz=179,slow=1.1,SNR=5.5							
1.6nm,1.0s							
TXAR	**Lajitas Array**	**64.64**	**1**	P	**P**	**11 21 36.4**	**+0.9**
0.3nm,0.7s,baz=187,slow=9.4,SNR=6.1							
0.3nm,0.7s							
NVAR	**Mina Array Bea**	**74.85**	**349**	P	**P**	**11 22 37.9**	**-0.5**
0.2nm,0.5s,baz=178,slow=5.7,SNR=2.3							
0.2nm,0.5s							
PDAR	**Pinedale Array**	**78.19**	**356**	P	**P**	**11 22 56.5**	**-0.7**
0.4nm,0.7s,baz=143,slow=3.7,SNR=3.6							
0.4nm,0.7s							
BRTR	**Keskin Array B**	**146.64**	**70**	PKPbc	**PKPdf**	**11 30 37.8**	**-0.2**
0.5nm,0.7s,baz=242,slow=3.1,SNR=3.9							

---

*IDC **27** 11:11:17.1±0.5,9°.79N×126°.27E,h0km,mb4.4/27, mbtmp4.4/28,ML2.8/1,MS4.0/2,Error ellipse: s-maj=23.0km s-min=12.3km az=71.0*
*MOS **27** 11:11:17.0±0.9,9°.87N×126°.38E,h11km,mb4.7/28,Error ellipse: s-maj=14.1km s-min=6.3km az=116.0*
*NEIC **27** 11:11:19.3±0.9,9°.89N±0°.07×126°.37E±0°.10,h10km±1km, mb4.9/81,Error ellipse: s-maj=16.0km s-min=11.8km az=85.0*
*BJI **27** 11:11:22.1,9°.96N×126°.31E,h32km,mB4.9/16,mb4.6/37, Ms4.5/35,Ms7 4.3/36*

ISC 27 11:11:23.2±0.3,9°.86N±0°.04×126°.34E±0°.07,h42km,n197, σ1°28/182,mb4.7/84,MS4.2/13,9C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.87**	**195**		**Pn**	**11 12 05.9**	**-0.6**
DAV	**Davao City (W)**	**2.87**	**195**	Pn	**Pn**	**11 12 08.8**	**+2.3**
57nm,0.3s,baz=73,slow=6.3,SNR=7.8							
DAV	**Davao City (W)**	**2.87**	**195**	P	Pn	11 12 15.0	+8.5
MYLDM	**Lahad Datu**	**9.06**	**240**		**Pn**	**11 13 30.4**	**-1.1**
TNTI	**Ternate**	**9.08**	**174**	Pn	**Pn**	**11 13 30.7**	**-1.1**
TOLI2	**Tolitoli**	**10.30**	**213**	Pn	**Pn**	**11 13 46.8**	**-1.6**
KKM	**Kota Kinabalu**	**10.72**	**250**	Pn	**Pn**	**11 13 53.0**	**-1.3**
LUWI	**Luwuk**	**11.40**	**198**	Pn	**Pn**	**11 14 02.3**	**-1.2**
FAKI	**Fak Fak**	**13.99**	**155**	Pn	**Pn**	**11 14 37.6**	**-1.3**
TPUB	**Ta-pu**	**14.44**	**338**		**Pn**	**11 14 42.3**	**-2.7**
KSM	**Kuching**	**17.99**	**243**		**Pn**	**11 15 29.4**	**-0.8**
QIZ	**Qiongzhong**	**18.38**	**302**	P	**Pn**	**11 15 35.5**	**+0.5**
QIZ				LR	LR		
comp=N,290nm,13.7s							
QIZ				LR	LR		
comp=E,620nm,14.4s							
QIZ				LR	LR		
comp=Z,830nm,15.8s							
MMRI	**Maumere**	**18.82**	**193**	P	**P**	**11 15 38.8**	**-0.7**
JAY	**Jayapura**	**18.86**	**130**	P	**Pn**	**11 15 41.0**	**+0.1**
baz=103,slow=8.0,SNR=3.6							
29nm,1.0s							
SOEI	**Soe**	**19.59**	**186**	P	**P**	**11 15 47.9**	**-0.2**
SOEI				IAmb	IAmb	11 16 01.4	
comp=Z,129nm,1.6s							
UBPT	**Khong Chiam**	**21.07**	**287**	P	**P**	**11 16 04.2**	**+0.2**
MTN	**Manton Dam**	**23.05**	**168**		**P**	**11 16 25.6**	**+0.5**
MTN				IAmb	IAmb	11 16 47.1	
comp=Z,60nm,1.6s							
NJ2	**Nanjing**	**23.15**	**344**	*e*P	**P**	**11 16 28.3**	**+2.4**
NJ2				pmax	pmax		
comp=Z,11nm,0.5s							
NJ2				LR	LR		
comp=Z,580nm,14.7s							
NJ2				LR	LR		
comp=Z,330nm,12.8s							
NJ2				LR	LR		
comp=Z,710nm,14.7s							
MYKOM	**Kota Tinggi**	**23.75**	**252**		**P**	**11 16 31.5**	**-0.4**
KNRA	**Kununurra**	**25.48**	**175**		**P**	**11 16 47.8**	**+0.2**
KNRA				IAmb	IAmb	11 17 00.2	
comp=Z,23nm,0.7s							
KULM	**Kulim**	**25.86**	**262**	P	**P**	**11 16 50.9**	**-0.3**
TJN	**Taejon**	**26.42**	**2**	*i* P	**P**	**11 16 56.1**	**+0.2**
BKNI	**Bangkinang**	**26.90**	**251**	P	**P**	**11 17 01.6**	**+1.0**
KSAR	**Wonju Array Be**	**27.50**	**3**	P	**P**	**11 17 04.8**	**-0.9**
KSRS	**Korea Array**	**27.51**	**3**	P	**P**	**11 17 06.5**	**+0.8**
comp=Z,1.6nm,0.8s,baz=185,slow=8.7,SNR=6.4							
comp=Z,1.6nm,0.8s							
TIA	**Tai'an**	**27.54**	**344**	P	**P**	**11 17 06.5**	**+0.5**
TIA				S	**S**	**11 21 40.3**	**-4.1**
TIA				SS	**SnSn**	**11 22 55.5**	**-2.3**
TIA				pmax	pmax		
comp=Z,8.0nm,1.1s							
TIA				LR	LR		
comp=Z,450nm,17.2s							
TIA				LR	LR		
comp=Z,240nm,9.8s							
TIA				LR	LR		
comp=Z,550nm,16.7s							
FITZ	**Fitzroy Crossi**	**27.79**	**181**		**P**	**11 17 08.4**	**+0.1**
CM31	**Chiang Mai Arr**	**27.88**	**291**	P	**P**	**11 17 08.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**27.88**	**291**		**P**	**11 17 08.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**27.88**	**291**	P	**P**	**11 17 09.8**	**+0.5**
comp=Z,4.1nm,0.9s,baz=104,slow=7.1,SNR=27							
comp=Z,4.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**27.88**	**291**	*i* P	**P**	**11 17 10.8**	**+1.5**
CMAR				pmax	pmax		
comp=Z,5.0nm,1.0s							
CHTO	**Chiang Mai**	**27.96**	**292**		**P**	**11 17 10.6**	**+0.5**
PMG	**Port Moresby**	**28.20**	**132**	*i* P	**P**	**11 17 11.6**	**-0.6**
PZH	**PanZhiHua**	**28.55**	**309**	P	**P**	**11 17 18.5**	**+3.2**
PZH				S	**S**	**11 21 58.8**	**-2.0**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,110nm,5.5s							
PZH				LR	LR		
comp=Z,270nm,14.7s							
PZH				LR	LR		
comp=Z,420nm,15.9s							
PZH				LR	LR		
comp=Z,460nm,17.6s							
MAJO	**Matsushiro**	**28.66**	**20**	*i* P	**P**	**11 17 15.1**	**-0.9**
MAJO				pmax	pmax		
comp=Z,1.0nm,0.3s							
XAN	**Xi'an**	**28.89**	**329**	P	**P**	**11 17 18.0**	**-0.2**
XAN				pmax	pmax		
comp=Z,48nm,0.8s							
XAN				LR	LR		
comp=Z,630nm,17.2s							
XAN				LR	LR		
comp=Z,470nm,18.5s							
XAN				LR	LR		
comp=Z,730nm,17.2s							
WB0	**Warramunga Arr**	**30.49**	**165**		**P**	**11 17 30.2**	**-2.1**
WRAB	**Tennant Creek**	**30.64**	**165**	*i* P	**P**	**11 17 34.0**	**+0.3**
WRA	**Warramunga Arr**	**30.64**	**165**	P	**P**	**11 17 31.8**	**-2.0**

comp=Z,0.7nm,0.7s,baz=343,slow=9.0,SNR=5.5
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 30.64 165 *i* P **P 11 17 34.4 +0.7**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WR8 Warramunga Arr 30.70 165 P **P 11 17 31.8 -2.4**
WR8 IAmb IAmb 11 18 42.4
comp=Z,16nm,1.3s
MBWA Marble Bar 31.50 192 P **P 11 17 40.7 -0.6**
MBWA IAmb IAmb 11 18 13.6
comp=Z,21nm,0.9s
PSA00 Pilbara Seismi 31.88 192 P **P 11 17 43.9 -0.7**
MSHR Mys Shultsa 32.87 7 *i* P **P 11 17 51.4 -1.6**
MSHR pmax pmax
comp=Z,50nm,1.5s
HHC Hu-ho-hao-te 33.53 339⇓ *i* P **P 11 18 01.0 +2.0**
HHC S **S 11 23 21.8 +3.6**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,69nm,5.9s
HHC LR LR
comp=Z,450nm,16.1s
HHC LR LR
comp=Z,250nm,12.7s
HHC LR LR
comp=Z,450nm,16.5s
AS31 Alice Springs 34.13 168 P **P 11 18 03.9 -0.3**
ASAR Alice Springs 34.13 168 P **P 11 18 03.6 -0.7**
comp=Z,0.7nm,0.3s,baz=350,slow=7.1,SNR=28
comp=Z,0.7nm,0.3s
USA0B Ussuriysk Arra 34.56 7 P **P 11 18 06.5 -1.2**
USA0B Ussuriysk Arra 34.56 7⇑ *i* P **P 11 18 07.8 0.0**
USRK Ussuriysk Ar. 34.56 7 P **P 11 18 06.5 -1.3**
comp=Z,2.4nm,0.8s,baz=188,slow=8.2,SNR=6.2
comp=Z,2.4nm,0.8s
XLT XiLinHaoTe 35.07 347 *e* P **P 11 18 13.5 +1.2**
XLT pP pP 11 18 24.5 +1.7
XLT pmax pmax
comp=Z,11nm,0.7s
XLT LR LR
comp=Z,35nm,16.2s
XLT LR LR
comp=Z,170nm,14.0s
XLT LR LR
comp=Z,450nm,18.2s
SHL Shillong 36.21 300 **P 11 18 22.2 -0.2**
SHL IAmb IAmb 11 19 00.7
comp=Z,21nm,0.9s
GTA Gaotai 37.76 326 *e* P **P 11 18 36.5 +1.1**
GTA pP pP 11 18 42.0 -4.3
GTA pmax pmax
comp=Z,11nm,0.7s
GTA LR LR
comp=Z,330nm,15.6s
GTA LR LR
comp=Z,260nm,16.0s
GTA LR LR
comp=Z,500nm,17.1s
KLR Kul'dur 39.51 6 LR LR 11 37 15.5
comp=Z,165nm,18.6s,baz=189,slow=39
KLR Kul'dur 39.51 6 *i* P **P 11 18 48.5 -1.2**
KLR pmax pmax
comp=Z,7.0nm,1.8s
YSS Yuzhno-Sakhali 39.51 18 *e* P **P 11 18 48.0 -1.8**
YSS *e* S **S 11 24 46.4 -2.8**
YSS *e* SS **SS 11 27 34.8 -10**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=Z,200nm,20.0s
MORW Morawa 39.96 194 P **P 11 18 53.6 0.0**
HEH HeiHe 40.28 1 *e* P **P 11 18 57.0 +0.9**
HEH pmax pmax
comp=Z,5.0nm,0.9s
HEH LR LR
comp=Z,400nm,15.3s
HEH LR LR
comp=Z,130nm,16.3s
HEH LR LR
comp=Z,430nm,16.9s
H11N1 WAKE ISLAND Hy 40.32 71 T T 12 02 22.5
baz=265,slow=74,SNR=62
H11N2 WAKE ISLAND Hy 40.32 71 T T 12 02 17.7
baz=265,slow=74,SNR=42
H11N3 WAKE ISLAND Hy 40.33 71 T T 12 02 23.1
baz=265,slow=74,SNR=56
FORT Forrest 40.44 178 P **P 11 18 57.5 -0.1**
ULN Ulaanbaatar 41.23 340 P **P 11 19 03.7 -0.5**
ULN Ulaanbaatar 41.23 340 *c i* P **P 11 19 05.6 +1.4**
ULN pmax pmax
comp=Z,12nm,0.8s
SONM Songino Array 41.43 340 P **P 11 19 05.7 -0.1**
SONM Songino Array 41.43 340 P **P 11 19 06.5 +0.7**
comp=Z,6.7nm,0.8s,baz=158,slow=9.7,SNR=30
comp=Z,6.7nm,0.8s
TYV Tymovskoe 43.03 15 *e* P **P 11 19 20.5 +1.9**
TYV pmax pmax
comp=Z,6.0nm,1.3s
TYV pmax pmax
comp=Z,100nm,3.5s
NWAO Narrogin (SRO) 43.42 191 P **P 11 19 22.5 +0.5**
BBOO Buckleboo 43.43 168 P **P 11 19 21.9 -0.1**
STKA Stephens Creek 43.99 161 P **P 11 19 25.6 -0.9**
STKA Stephens Creek 43.99 161 P **P 11 19 26.6 +0.1**
comp=Z,2.8nm,0.6s,baz=331,slow=9.7,SNR=7.8
comp=Z,2.8nm,0.6s
STKA Stephens Creek 43.99 161 *i* P **P 11 19 25.5 -1.0**
ZAK Zakamensk 44.67 339 *e* P **P 11 19 32.9 +1.0**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
MOY Mondy 46.55 338 *e* P **P 11 19 48.8 +2.0**
MOY pmax pmax
comp=Z,25nm,2.2s
WMQ Urumqi 47.59 322 *e* P **P 11 19 57.5 +2.5**
WMQ LR LR
comp=Z,490nm,20.3s
WMQ LR LR
comp=Z,610nm,17.7s
WMQ LR LR
comp=Z,210nm,19.1s
PETK Petropavlovsk- 49.98 24 P **P 11 20 13.7 +0.6**
PETK Petropavlovsk- 49.98 24 P **P 11 20 14.8 +1.7**
comp=Z,2.5nm,0.6s,baz=160,slow=2.3,SNR=9.8
comp=Z,2.5nm,0.6s
TOO Toolangi 50.48 160 P **P 11 20 17.1 +0.1**
DZM Mont Dzumac 50.53 129 *e* LR LR 11 34 44.9
comp=Z,1μm,27.9s
WUS Wushi 51.86 315 P **P 11 20 27.2 -0.4**
YAK Yakutsk 52.13 2 P **P 11 20 29.4 +0.4**
MK31 Makanchi Array 52.40 323 *c i* P **P 11 20 31.8 +0.5**
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 52.40 323 P **P 11 20 31.6 +0.2**
MKAR Makanchi Array 52.40 323 P **P 11 20 31.3 0.0**
comp=Z,6.5nm,0.6s,baz=119,slow=8.0,SNR=63
comp=Z,6.5nm,0.6s
MKAR Makanchi Array 52.40 323 *i* P **P 11 20 32.0 +0.7**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
SHLS Shalkode 52.50 318 *e* P **P 11 20 30.2 -2.1**
SHLS Shalkode 52.50 318 *e* P **P 11 20 30.2 -2.1**
MAKZ Makanchi 52.59 323 P **P 11 20 32.5 -0.3**
UZB Uzynbulak 52.78 317 *e* P **P 11 20 34.6 +0.2**
UZB Uzynbulak 52.78 317 *e* P **P 11 20 34.6 +0.2**
MA2 Magadan 52.91 15 P **P 11 20 34.9 +0.1**
MA2 IAmb IAmb 11 20 38.4
comp=Z,25nm,1.5s
MA2 Magadan 52.91 15 *i* P **P 11 20 35.8 +0.9**
MA2 pmax pmax
comp=Z,17nm,1.5s
SATY Saty 53.16 317 *e* P **P 11 20 37.5 +0.3**
SATY pmax pmax
comp=Z,7.0nm,1.4s
SATY Saty 53.16 317 *e* P **P 11 20 37.5 +0.3**
comp=Z,6.9nm,1.4s
KDJ Kajisay 53.63 316 P **P 11 20 40.0 -0.7**
TDK Taldyqorghan 53.97 319 *e* P **P 11 20 43.2 +0.3**
TDK Taldyqorghan 53.97 319 *e* P **P 11 20 43.3 +0.3**
MDOK Medeo 54.12 317 *e* P **P 11 20 44.4 +0.2**
MDOK Medeo 54.12 317 *e* P **P 11 20 44.5 +0.2**
TNSS Tian-Shan 54.13 317 *e* P **P 11 20 44.5 -0.1**
TNSS Tian-Shan 54.13 317 *e* P **P 11 20 44.6 -0.1**
NRN Naryn 54.20 314 P **P 11 20 45.1 +0.1**
AAA Alma-Ata 54.22 317 *e* P **P 11 20 45.2 +0.3**
AAA Alma-Ata 54.22 317 *e* P **P 11 20 45.2 +0.3**

CHKK Chushkaly 54.42 318 *e* P **P 11 20 46.4 +0.2**
CHKK Chushkaly 54.42 318 *e* P **P 11 20 46.5 +0.2**
BOOM Boomskoye usch 54.62 316 P **P 11 20 47.5 -0.4**
ZAA0 Zalesovo Array 55.02 331 P **P 11 20 49.8 -0.5**
ZALV Zalesovo Beam 55.02 331 P **P 11 20 49.9 -0.4**
ZALV Zalesovo Beam 55.02 331 P **P 11 20 50.4 +0.1**
comp=Z,2.5nm,0.7s,baz=109,slow=8.0,SNR=6.0
comp=Z,2.5nm,0.7s
AAK Ala-Archa 55.67 315 P **P 11 20 56.2 +0.8**
AAK Ala-Archa 55.67 315⇑ *i* P **P 11 20 56.0 +0.5**
AAK pmax pmax
comp=Z,1.0nm,0.6s
SEY Seymchan 56.20 14⇑ *i* P **P 11 20 59.1 +0.4**
SEY pmax pmax
comp=Z,1.0nm,0.9s
KURK Kurchatov 56.45 326 P **P 11 20 00.8 +0.2**
KURK Kurchatov 56.45 326 *c i* P **P 11 20 00.9 +0.2**
KURK pmax pmax
comp=Z,11nm,0.9s
KURBB Kurchatov Arra 56.45 326 P **P 11 20 00.9 +0.3**
comp=Z,4.2nm,0.7s,baz=125,slow=6.9,SNR=32
comp=Z,4.2nm,0.7s
GAR Garm 57.61 310 P **P 11 20 09.4 +0.1**
KBL Kabul 57.62 305 P **P 11 20 09.1 -0.4**
MSVF Nonsavu 57.96 118 *i* P **P 11 21 12.8 +0.9**
MSVF pmax pmax
comp=Z,8.0nm,0.9s
SIMJ Simiganj 58.52 309 P **P 11 21 15.5 -0.2**
SIMJ IAmb IAmb 11 21 49.9
comp=Z,15nm,1.4s
KK31 Karatay Array 58.59 315 P **P 11 21 15.9 0.0**
KK31 IAmb IAmb 11 21 48.7
comp=Z,18nm,1.4s
KK31 Karatay Array 58.59 315 P **P 11 21 16.1 +0.2**
KKAR Karatay Array 58.59 315 P **P 11 21 15.8 -0.1**
KKAR IAmb IAmb 11 21 48.7
comp=Z,18nm,1.4s
KKAR Karatay Array 58.59 315 P **P 11 21 15.7 -0.3**
IUG luzhnay 58.66 314 *e* P **P 11 21 16.7 +0.2**
IUG pmax pmax
comp=Z,5.0nm,0.5s
IUG luzhnay 58.66 314 *e* P **P 11 21 16.8 +0.2**
comp=Z,5.0nm,0.5s
TIXI Tiksi 61.76 1 P **P 11 21 37.4 +0.3**
TIXI Tiksi 61.76 1⇓ *i* P **P 11 21 37.8 +0.8**
TIXI pmax pmax
comp=Z,10.0nm,1.5s
BVA0 Borovoye Array 62.04 325 *i* P **P 11 21 39.4 +0.1**
BVAR Borovoye Array 62.04 325 P **P 11 21 39.0 -0.3**
comp=Z,3.4nm,0.8s,baz=126,slow=7.5,SNR=9.4
comp=Z,3.4nm,0.8s
BRVK Borovoye 62.12 325 P **P 11 21 39.8 0.0**
BRVK Borovoye 62.12 325 *c i* P **P 11 21 40.1 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BILL Bilibino 63.78 16⇑ *i* P **P 11 21 51.3 +0.7**
BILL pmax pmax
comp=Z,2.0nm,0.9s
NRIK Noril'sk 64.43 346 P **P 11 21 55.4 +0.6**
NRIK Noril'sk 64.43 346 P **P 11 21 55.9 +1.1**
comp=Z,8.2nm,0.7s,baz=127,slow=6.9,SNR=8.6
NRIK LR LR 11 51 55.6
comp=Z,121nm,21.9s,baz=135,slow=38
comp=Z,8.2nm,0.7s
AB31 Akbulak array 67.23 319 P **P 11 22 13.0 -0.2**
ABKAR Akbulak array 67.23 319 P **P 11 22 13.1 -0.1**
ARTI Arti 69.69 327 *c i* P **P 11 22 28.2 -0.3**
ARTI 11 25 00.2
ARTI S **S 11 31 34.5 +0.4**
ARTI pmax pmax
comp=Z,8.0nm,1.4s
L14K Kuka Creek 72.31 29 IAmb IAmb 11 23 33.2
comp=Z,16nm,1.1s
M14K Bethel 72.53 29 P **P 11 22 46.2 +0.6**
M14K IAmb IAmb 11 23 02.5
comp=Z,21nm,1.3s
L16K Owhat River 73.89 28 P **P 11 22 53.2 -0.3**
L16K IAmb IAmb 11 23 31.5
comp=Z,24nm,1.7s
C18K Utukok River 74.51 21 IAmb IAmb 11 23 39.0
comp=Z,11nm,1.2s
BELG Belogornoye 75.37 322 *d i* P **P 11 23 02.3 0.0**
BELG pmax pmax
comp=Z,4.0nm,0.9s
D19K Kuna River 75.59 22 IAmb IAmb 11 23 50.3
comp=Z,11nm,1.2s
O18K Koktuh Hills 75.73 31 P **P 11 23 04.9 +0.6**
O18K IAmb IAmb 11 23 53.5
comp=Z,10nm,0.8s
E19K Redstone River 75.75 23 IAmb IAmb 11 23 51.5
comp=Z,9.8nm,0.9s
D20K Etivluk River 76.17 21 IAmb IAmb 11 23 53.6
comp=Z,15nm,1.1s
B22K Teshekpuk Lake 77.49 20 IAmb IAmb 11 24 00.2
comp=Z,12nm,0.9s
RAYN Ar Rayn 77.79 292 P **P 11 23 16.8 +0.1**
RAYN Ar Rayn 77.79 292 *e* P **P 11 23 16.8 +0.1**
BPAW Bear Paw Mtn. 77.99 26 IAmb IAmb 11 24 01.9
comp=Z,12nm,1.2s
C23K Itkillik River 78.41 21 IAmb IAmb 11 24 05.4
comp=Z,17nm,1.2s
KBZ Khabaz 78.54 313 P **P 11 23 21.0 +0.7**
comp=Z,4.4nm,1.1s,baz=165,slow=3.2,SNR=5.8
comp=Z,4.4nm,1.1s
KBZ Khabaz 78.54 313 *d i* P **P 11 23 21.0 +0.7**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 78.68 313 *e* P **P 11 23 21.4 +0.1**
KIV pmax pmax
comp=Z,9.0nm,1.0s
E23K Chandalar 78.69 22 IAmb IAmb 11 23 58.3
comp=Z,10nm,1.1s
I23K Minto, Yukon-K 78.72 25 IAmb IAmb 11 24 26.8
comp=Z,34nm,2.0s
MCK McKinley 78.89 27 P **P 11 23 22.6 +0.6**
MCK IAmb IAmb 11 24 12.9
comp=Z,7.8nm,0.9s
ILAR Eielson Array 79.78 26 P **P 11 23 26.6 -0.1**
comp=Z,0.6nm,0.7s,baz=242,slow=5.0,SNR=16
comp=Z,0.6nm,0.7s
KLMR Klimovskoe 79.92 330 *e* P **P 11 23 25.4 -2.1**
KLMR pmax pmax
comp=Z,16nm,1.5s
OBN Obninsk 81.87 325 *e* P **P 11 23 38.7 +0.7**
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,131nm,17.0s
I28M Miner Creek 82.66 25 IAmb IAmb 11 24 29.0
comp=Z,10.0nm,1.1s
OPO Ambohidratompo 82.99 250 P **P 11 23 44.2 -0.6**
comp=Z,2.7nm,0.6s,baz=117,slow=19,SNR=5.1
comp=Z,2.7nm,0.6s
SPB2 Spitsbergen Ar 84.43 349 P **P 11 23 51.5 +0.7**
SPITS Spitsbergen Ar 84.43 349 P **P 11 23 51.6 +0.7**
comp=Z,9.0nm,0.7s,baz=97,slow=7.0,SNR=8.6
comp=Z,9.0nm,0.7s
ARCES ARCESS Array B 84.60 340 P **P 11 23 52.9 +1.0**
comp=Z,6.8nm,0.6s,baz=78,slow=6.3,SNR=35
comp=Z,6.8nm,0.6s
MMAI Mount Meron Ar 85.49 303 P **P 11 23 58.0 +0.8**
comp=Z,1.6nm,0.6s,baz=84,slow=9.4,SNR=5.4
comp=Z,1.6nm,0.6s
ILGA Ilgaz 85.58 311 P **P 11 23 57.1 -0.5**
BR131 Keskin Array S 85.85 309 *e* P **P 11 23 58.9 0.0**
BRTR Keskin Array B 85.85 309 P **P 11 23 58.4 -0.5**
comp=Z,1.1nm,0.7s,baz=116,slow=5.6,SNR=5.9
comp=Z,1.1nm,0.7s
FARO Faro, Yukon 86.12 28 IAmb IAmb 11 25 01.2
comp=Z,12nm,1.2s
FIA1 FINESS Array S 86.28 332 P **P 11 24 00.4 0.0**
FINES FINESS Array B 86.29 332 P **P 11 24 00.4 +0.1**
FINES FINESS Array B 86.29 332 P **P 11 24 00.8 +0.4**
comp=Z,6.5nm,0.7s,baz=68,slow=5.3,SNR=32
comp=Z,6.5nm,0.7s
AKASG Malin Array Be 86.93 321 P **P 11 24 03.2 -0.6**
comp=Z,1.4nm,0.6s,baz=71,slow=3.2,SNR=8.1
comp=Z,1.4nm,0.6s
AKASG Malin Array Be 86.93 321 *i* P **P 11 24 03.2 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
PPT2 Papeete2 87.37 108 *e* LR LR 11 51 45.6
comp=Z,98nm,24.8s
PPT2 *e* LR LR 11 51 51.1
comp=Z,153nm,26.2s
C36M Paulatuk 87.60 20 IAmb IAmb 11 24 54.6

comp=Z,5.0nm,0.9s
TBI Tubuai 88.59 114 *e* LR LR 11 52 17.5
comp=Z,947nm,29.2s
KIBK Kibwezi 88.72 267 P **P 11 24 12.9 -0.2**
KMBO Kilima Mbogo 89.30 269 P **P 11 24 16.2 +0.1**
KMBO Kilima Mbogo 89.30 269 *e* P **P 11 24 16.2 +0.1**
VNDA Vanda 89.51 173 P **P 11 24 14.9 -0.4**
comp=Z,1.0nm,0.8s,baz=317,slow=6.4,SNR=7.4
comp=Z,1.0nm,0.8s
BUR08 Bucovina Ar. S 90.20 318 P **P 11 24 19.3 -0.2**
KOLS Kolonicke sedl 91.73 320 *e* P **P 11 24 26.5 +0.1**
KOLS Kolonicke sedl 91.73 320 *e* P **P 11 24 26.5 +0.1**
HFS Hagfors 92.45 332 P **P 11 24 28.6 -0.9**
comp=Z,3.6nm,0.7s,baz=116,slow=3.4,SNR=11
comp=Z,3.6nm,0.7s
NB2 NORSAR Subarra 93.16 334 P **P 11 24 32.2 -0.6**
comp=Z,4.6nm,0.9s,baz=64,slow=4.6
NOA NORSAR Array B 93.16 334 P **P 11 24 31.6 -1.2**
comp=Z,1.9nm,0.7s,baz=65,slow=4.6,SNR=12
comp=Z,1.9nm,0.7s
YKA Yellowknife Ar 94.10 24 P **P 11 24 38.0 +1.0**
comp=Z,1.0nm,0.8s,baz=304,slow=4.6,SNR=14
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 94.10 24 *i* P **P 11 24 38.0 +1.0**
YKA pmax pmax
comp=Z,2.0nm,1.1s
TAOE Nuku Hiva Isla 94.91 98 *e* LR LR 11 55 12.3
comp=Z,284nm,32.5s
MODS Modra-Piesok 95.04 321 *e* P **P 11 24 41.2 -0.5**
MODS Modra-Piesok 95.04 321 *e* P **P 11 24 41.2 -0.5**
GERES GERESS Array B 97.06 322 P **P 11 24 50.8 -0.2**
comp=Z,0.8nm,0.8s,baz=54,slow=6.8,SNR=5.4
comp=Z,0.8nm,0.8s
PLCA Paso Flores 145.80 157 PKPbc **PKPbc 11 30 58.4 +0.2**
comp=Z,3.1nm,0.9s,baz=343,slow=0.5,SNR=5.9
LPAZ La Paz 164.52 116 PKP **PKPdf 11 31 24.6 +0.4**
comp=Z,1.1nm,0.8s,baz=88,slow=2.4,SNR=4.0

---

*DJA **27** 11:11:48.8±1.3, 11°N±7°×12°7E±°, h48km±11km, M5.1/16, mb5.1/16, mB5.8/2, Mw(mB)5.4/2, MwMwp5.1/1, Mwp5.3/1*
*IDC **27** 11:11:49.4±0.5, 9°88N×126°15E, h0km, mb4.6/27, mbtmp4.6/27, MS4.0/9, Error ellipse: s-maj=24.0km s-min=13.2km az=74.0*
*NEIC **27** 11:11:53.1±1.7, 10°1N±0°1×126°2E±0°1, h10km±1km, mb4.9/66, Error ellipse: s-maj=23.3km s-min=16.9km az=87.0*
ISC 27 11:11:58.0±0.4,**10°01N**±0°06×**126°2E**±0°1,**h54**km,**n130,**
σ1§**13**/116,**mb4.8**/67,**MS3.9**/9,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.98**	**192**	LR	LR		11 13 52.6	
comp=Z,3μm,19.9s,baz=22,slow=43								
I39PW	**PALAU INFRASON**	**8.63**	**106**	I	I		12 07 10.0	
baz=284,slow=317,SNR=0.7								
TNTI	**Ternate**	**9.25**	**173**	P	**Pn**		**11 14 12.2**	**+3.4**
SPSI	**Sidrap Palu**	**15.28**	**205**	P	**P**		**11 15 35.9**	**+1.6**
35nm,0.9s								
BNSI	**Bone**	**15.54**	**203**	P	**P**		**11 15 37.9**	**+0.7**
71nm,1.1s								
KAPI	**Kappang**	**16.24**	**204**	LR	LR		11 22 23.6	
comp=Z,225nm,20.0s,baz=38,slow=39								
JOW	**Kunigami**	**16.85**	**6**	LR	LR		11 23 50.2	
comp=Z,567nm,18.3s,baz=152,slow=42								
TWSI	**Taliwang, Sumb**	**20.80**	**207**	P	Pn		11 16 37.5	-0.4
44nm,1.1s								
WHN	**Wuhan**	**23.21**	**333**	P	**P**		**11 17 01.5**	**+1.1**
WHN				pmax	pmax			
comp=Z,78nm,1.0s								
MYKOM	**Kota Tinggi**	**23.64**	**251**	P	**P**		**11 17 07.0**	**+2.3**
ENH	**Enshi**	**25.47**	**325**	P	**P**		**11 17 20.6**	**-0.6**
ENH				IAmb	IAmb		11 17 21.9	
comp=Z,20nm,0.8s								
KNRA	**Kununurra**	**25.65**	**174**	P	**P**		**11 17 24.3**	**+1.5**
KULM	**Kulim**	**25.72**	**261**	P	**P**		**11 17 24.4**	**+0.7**
KULM				IAmb	IAmb		11 17 27.4	
comp=Z,40nm,1.1s								
BKNI	**Bangkinang**	**26.79**	**250**	P	**P**		**11 17 34.5**	**+1.2**
KSRS	**Korea Array**	**27.37**	**3**	P	**P**		**11 17 37.5**	**-0.7**
comp=Z,3.1nm,0.8s,baz=187,slow=9.8,SNR=6.0								
comp=Z,3.1nm,0.8s								
CM31	**Chiang Mai Arr**	**27.67**	**291**	P	**P**		**11 17 41.2**	**+0.1**
CM31				IAmb	IAmb		11 17 43.4	
comp=Z,21nm,1.1s								
CMAR	**Chiang Mai Arr**	**27.67**	**291**		**P**		**11 17 41.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**27.67**	**291**	P	**P**		**11 17 41.5**	**+0.3**
comp=Z,5.1nm,0.7s,baz=104,slow=7.3,SNR=15								
comp=Z,5.1nm,0.7s								
CHTO	**Chiang Mai**	**27.76**	**291**		**P**		**11 17 41.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**27.93**	**181**	P	**P**		**11 17 43.6**	**+0.3**
MNSI	**Mandailing Nat**	**27.99**	**253**	P	**P**		**11 17 45.6**	**+1.6**
RPSI	**Rantau Prapat**	**28.02**	**257**		**P**		**11 17 44.1**	**-0.2**
RPSI				IAmb	IAmb		11 17 47.5	
comp=Z,12nm,0.8s								
PMG	**Port Moresby**	**28.42**	**132**	LR	LR		11 29 52.2	
comp=Z,152nm,18.6s,baz=324,slow=38								
XAN	**Xi'an**	**28.68**	**329**	P	**P**		**11 17 49.5**	**-0.5**
XAN				pP	pP		11 17 54.5	-8.7
XAN				pmax	pmax			
comp=Z,89nm,0.9s								
XAN				LR	LR			
comp=N,630nm,17.2s								
XAN				LR	LR			
comp=E,470nm,18.5s								
XAN				LR	LR			
comp=Z,730nm,17.2s								
GSI	**Gunungsitoli**	**29.72**	**255**	P	**P**		**11 17 59.7**	**+0.3**
WRA	**Warramunga Arr**	**30.83**	**165**	P	**P**		**11 18 07.9**	**-1.1**
comp=Z,2.6nm,0.9s,baz=344,slow=9.5,SNR=5.6								
WRA				LR	LR		11 32 48.3	
comp=Z,190nm,18.9s,baz=322,slow=41								
comp=Z,2.6nm,0.9s								
MBWA	**Marble Bar**	**31.61**	**192**	P	**P**		**11 18 14.2**	**-1.7**
MBWA				IAmb	IAmb		11 18 18.2	
comp=Z,17nm,0.9s								
PSA00	**Pilbara Seismi**	**31.99**	**191**	P	**P**		**11 18 20.0**	**+0.7**
LZH	**Lanzhou**	**32.94**	**326**	*e* P	**P**		**11 18 28.5**	**+0.8**
LZH				pP	pP		11 18 39.8	-1.6
LZH				pmax	pmax			
comp=Z,23nm,1.4s								
LZH				LR	LR			
comp=N,450nm,16.1s								
LZH				LR	LR			
comp=E,430nm,17.5s								
LZH				LR	LR			
comp=Z,360nm,20.6s								
AS31	**Alice Springs**	**34.31**	**167**	P	**P**		**11 18 38.8**	**-0.7**
ASAR	**Alice Springs**	**34.31**	**167**	P	**P**		**11 18 37.6**	**-1.9**
comp=Z,0.8nm,0.4s,baz=349,slow=8.0,SNR=6.7								
comp=Z,0.8nm,0.4s								
USRK	**Ussuriysk Ar.**	**34.44**	**7**	P	**P**		**11 18 40.7**	**+0.4**
comp=Z,5.1nm,0.8s,baz=200,slow=7.0,SNR=5.0								
comp=Z,5.1nm,0.8s								
GIRL	**Giralia**	**34.49**	**200**	P	**P**		**11 18 41.5**	**+0.4**
XLT	**XiLinHaoTe**	**34.89**	**347**	*e* PKPbc	**P**		**11 18 45.5**	**+1.1**
XLT				pPKP	pP		11 18 56.5	-0.8
JKA	**Kamikawa-asahi**	**36.84**	**20**	P	**P**		**11 19 00.6**	**-0.4**
GTA	**Gaotai**	**37.55**	**326**	PKP	**P**		**11 19 08.3**	**+1.1**
GTA				LR	LR			
comp=N,72nm,15.3s								
GTA				LR	LR			
comp=E,72nm,17.8s								
GTA				LR	LR			
comp=Z,100nm,22.9s								
MORW	**Morawa**	**40.06**	**194**	P	**P**		**11 19 26.3**	**-1.9**
FORT	**Forrest**	**40.59**	**178**	P	**P**		**11 19 30.6**	**-1.9**
ULN	**Ulaanbaatar**	**41.04**	**340**		**P**		**11 19 38.0**	**+1.7**
ULN				IAmb	IAmb		11 19 38.5	
comp=Z,26nm,0.8s								
SONM	**Songino Array**	**41.23**	**340**	P	**P**		**11 19 38.9**	**+1.1**
SONM				IAmb	IAmb		11 19 39.9	
comp=Z,16nm,1.0s								
SONM	**Songino Array**	**41.23**	**340**	P	**P**		**11 19 38.0**	**+0.2**
comp=Z,16nm,1.0s,baz=158,slow=11,SNR=15								
SONM				ScP	**ScP**		**11 25 25.1**	**+3.6**
comp=Z,0.6nm,0.9s,baz=178,slow=4.3,SNR=3.9								
SONM				LR	LR		11 39 43.9	
comp=Z,312nm,18.3s,baz=168,slow=40								
comp=Z,16nm,1.0s								
NWAO	**Narrogin (SRO)**	**43.54**	**191**		**P**		**11 19 56.6**	**+0.1**
BBOO	**Buckleboo**	**43.61**	**168**	P	**P**		**11 19 56.4**	**-0.7**
BBOO				IAmb	IAmb		11 20 06.9	
comp=Z,27nm,1.1s								
STKA	**Stephens Creek**	**44.18**	**161**	P	**P**		**11 19 59.4**	**-2.3**
comp=Z,9.2nm,0.9s,baz=317,slow=6.6,SNR=6.1								

comp=Z,9.2nm,0.9s
PEA0B Petropavlovsk- 49.91 24 P P 11 20 47.1 +1.0
PEA0B IAmb IAmb 11 21 00.5
comp=Z,25nm,1.1s
PETK Petropavlovsk- 49.91 24 P P 11 20 46.8 +0.7
PETK Petropavlovsk- 49.91 24 P P 11 20 46.2 +0.1
comp=Z,3.6nm,0.6s,baz=208,slow=2.9,SNR=9.9
comp=Z,3.6nm,0.6s
TOO Toolangi 50.67 160 P P 11 20 53.4 +1.3
YAK Yakutsk 51.99 2 LR LR 11 45 13.2
comp=Z,112nm,19.1s,baz=178,slow=38
MKAR Makanchi Array 52.18 323 P P 11 21 04.2 +0.9
MKAR Makanchi Array 52.18 323 P P 11 21 03.8 +0.5
comp=Z,12nm,0.7s,baz=119,slow=8.3,SNR=16
MKAR ScP **ScP 11 26 10.7 +3.6**
comp=Z,1.7nm,1.0s,baz=134,slow=5.2,SNR=4.2
comp=Z,12nm,0.7s
SHLS Shalkode 52.28 318 *eP* **P 11 21 02.1 -2.1**
MAKZ Makanchi 52.37 323 P P 11 21 05.7 +0.9
MAKZ IAmb IAmb 11 21 05.8
comp=Z,8.7nm,0.8s
UZB Uzynbulak 52.56 317 *eP* **P 11 21 06.3 -0.1**
SATY Saty 52.94 317 *eP* **P 11 21 09.1 -0.1**
SATY Saty 52.94 317 *eP* **P 11 21 09.4 +0.3**
comp=Z,0.6nm,0.5s
TDK Taldyqorghan 53.75 319 *eP* **P 11 21 15.0 +0.1**
comp=Z,9.2nm,0.7s
MDOK Medeo 53.90 317 *eP* **P 11 21 15.9 -0.2**
TNSS Tian-Shan 53.91 317 *eP* **P 11 21 16.1 -0.5**
NRN Naryn 53.98 314 P 11 21 17.5 +0.5
AAA Alma-Ata 54.00 317 *eP* **P 11 21 16.9 +0.1**
comp=Z,7.1nm,0.7s
CHKK Chushkaly 54.20 318 *eP* **P 11 21 18.3 +0.1**
BOOM Boomskoye usch 54.40 316 P P 11 21 20.5 +0.6
BOOM IAmb IAmb 11 21 24.1
comp=Z,20nm,1.2s
ZAA0 Zalesovo Array 54.81 331 P P 11 21 22.1 -0.3
ZALV Zalesovo Beam 54.81 331 P 11 21 22.4 -0.1
ZALV Zalesovo Beam 54.81 331 P P 11 21 20.8 -1.7
comp=Z,3.0nm,0.6s,baz=110,slow=6.5,SNR=5.2
comp=Z,3.0nm,0.6s
AAK Ala-Archa 55.45 315 P P 11 21 26.2 -1.2
SGDS Sogindy 55.64 316 *eP* **P 11 21 28.5 -0.2**
KURK Kurchatov 56.23 326 P P 11 21 32.7 +0.1
KURK IAmb IAmb 11 21 33.6
comp=Z,19nm,0.8s
KURBB Kurchatov Arra 56.24 326 P P 11 21 32.6 -0.1
comp=Z,8.3nm,0.7s,baz=125,slow=6.8,SNR=17
comp=Z,8.3nm,0.7s
DRK Karamyk 56.41 311 P P 11 21 34.6 +0.1
DRK IAmb IAmb 11 21 35.9
comp=Z,10nm,1.0s
GAR Garm 57.39 310 P P 11 21 41.3 0.0
GAR IAmb IAmb 11 21 42.6
comp=Z,9.6nm,0.6s
KBL Kabul 57.41 305 P P 11 21 41.7 +0.1
KBL IAmb IAmb 11 21 42.3
comp=Z,10nm,0.8s
DZA Taraz 57.73 315 *eP* **P 11 21 43.4 -0.1**
comp=Z,5.2nm,0.4s
KK31 Karatay Array 58.37 315 P P 11 21 47.5 -0.5
KKAR Karatay Array 58.37 315 P 11 21 48.0 +0.1
KKAR Karatay Array 58.37 315 P P 11 21 47.8 -0.2
KKAR IAmb IAmb 11 21 48.2
comp=Z,6.2nm,0.8s
IUG Iuzhnay 58.44 314 *eP* **P 11 21 48.1 -0.4**
comp=Z,6.4nm,1.1s
BRZS Berezniki 59.33 323 *eP* **P 11 21 54.2 -0.3**
TIXI Tiksi 61.61 1 P P 11 22 09.9 +0.3
TIXI IAmb IAmb 11 22 20.5
comp=Z,10nm,0.8s
BVAR Borovoye Array 61.83 325 P P 11 22 11.2 -0.2
comp=Z,6.5nm,0.8s,baz=111,slow=8.1,SNR=10
comp=Z,6.5nm,0.8s
BRVK Borovoye 61.90 325 P P 11 22 12.2 +0.3
BRVK IAmb IAmb 11 22 12.7
comp=Z,10nm,0.8s
HRA Herat 62.94 303 P P 11 22 18.4 -1.0
HRA IAmb IAmb 11 22 19.9
comp=Z,8.0nm,0.8s
NRIK Noril'sk 64.25 346 P P 11 22 27.7 +0.6
NRIK Noril'sk 64.25 346 P P 11 22 27.5 +0.4
comp=Z,18nm,0.8s,baz=130,slow=7.4,SNR=12
comp=Z,18nm,0.8s
AB31 Akbulak array 67.02 319 P P 11 22 44.9 -0.5
AKTO Aktyubinsk 68.47 320 LR LR 11 55 35.0
comp=Z,274nm,18.3s,baz=244,slow=38
ARTI Arti 69.48 327 P 11 22 59.4 -1.2
ARTI IAmb IAmb 11 23 00.2
comp=Z,6.7nm,0.7s
L19K White Mountain 76.06 28 P P 11 23 41.8 +2.2
N19K Bonanza Creek 76.12 30 P P 11 23 41.7 +1.6
N19K IAmb IAmb 11 23 41.9
comp=Z,8.0nm,1.1s
RAYN Ar Rayn 77.58 292 P 11 23 48.9 -0.1
RAYN IAmb IAmb 11 23 49.3
comp=Z,8.2nm,0.8s
D23K Nanushuk River 78.26 21 P P 11 23 52.5 +0.7
KBZ Khabaz 78.32 313 P P 11 23 51.6 -1.0
comp=Z,6.9nm,1.0s,baz=96,slow=2.6,SNR=7.2
comp=Z,6.9nm,1.0s
C23K Itkillik River 78.33 21 P P 11 23 53.1 +1.0
C23K IAmb IAmb 11 24 12.9
comp=Z,8.6nm,0.6s
PWL Port Wells 79.14 30 IAmb IAmb 11 24 09.8
comp=Z,14nm,1.0s
ILAR Eielson Array 79.71 26 P P 11 23 59.3 -0.5
comp=Z,0.9nm,0.7s,baz=234,slow=5.1,SNR=7.4
comp=Z,0.9nm,0.7s
OPO Ambohidratompo 82.89 250 P P 11 24 15.6 -2.2
comp=Z,5.8nm,0.8s,baz=101,slow=4.0,SNR=5.7
comp=Z,5.8nm,0.8s
H29M Whitestone 83.12 24 IAmb IAmb 11 24 30.4
comp=Z,6.0nm,1.0s
I29M Ogilvie Camp, 83.28 25 IAmb IAmb 11 24 34.9
comp=Z,5.8nm,0.9s
K29M Barlow Dome 83.87 26 IAmb IAmb 11 24 26.1
comp=Z,6.1nm,1.1s
BNN Bunyan 84.06 308 P P 11 24 23.2 -0.2
SPB2 Spitsbergen Ar 84.25 349 P P 11 24 23.5 +0.1
SPITS Spitsbergen Ar 84.25 349 P P 11 24 23.2 -0.3
comp=Z,16nm,0.8s,baz=119,slow=17,SNR=8.1
comp=Z,16nm,0.8s
ARCES ARCESS Array B 84.41 340 P P 11 24 24.8 +0.5
ARCES ARCESS Array B 84.41 340 P P 11 24 23.7 -0.6
comp=Z,12nm,0.7s,baz=79,slow=6.3,SNR=14
comp=Z,12nm,0.7s
H31M Peel River 84.81 24 IAmb IAmb 11 24 29.8
comp=Z,8.8nm,1.0s
N31M Braeburn, Yuko 85.10 28 IAmb IAmb 11 24 40.7
comp=Z,13nm,1.1s
MMAI Mount Meron Ar 85.27 303 P P 11 24 29.1 -0.5
comp=Z,4.6nm,0.9s,baz=126,slow=3.4,SNR=6.3
comp=Z,4.6nm,0.9s
ILGA Ilgaz 85.36 311 P 11 24 29.5 -0.5
ILGA IAmb IAmb 11 24 30.2
comp=Z,13nm,0.9s
BR131 Keskin Array S 85.63 309 P P 11 24 30.5 -0.7
BRTR Keskin Array B 85.63 309 P P 11 24 30.1 -1.2
comp=Z,1.8nm,0.7s,baz=116,slow=5.6,SNR=8.0
comp=Z,1.8nm,0.7s
FIA1 FINESS Array S 86.08 332 IAmb IAmb 11 24 33.4
comp=Z,63nm,1.0s
FINES FINESS Array B 86.08 332 P 11 24 32.8 0.0
FINES FINESS Array B 86.08 332 P P 11 24 32.0 -0.7
comp=Z,16nm,0.9s,baz=92,slow=5.7,SNR=14
comp=Z,16nm,0.9s
AKASG Malin Array Be 86.71 321 P P 11 24 35.0 -1.1
comp=Z,1.8nm,0.6s,baz=68,slow=4.5,SNR=9.7
comp=Z,1.8nm,0.6s
KIBK Kibwezi 88.56 267 P 11 24 45.8 -0.1
KIBK IAmb IAmb 11 24 46.8
comp=Z,9.8nm,0.9s
PABE Paberze 88.66 326 P P 11 24 44.4 -0.9
KMBO Kilima Mbogo 89.14 269 P 11 24 48.7 -0.1
KMBO IAmb IAmb 11 24 49.7
comp=Z,8.9nm,1.1s
VNDA Vanda 89.68 173 P P 11 24 47.1 -2.5
comp=Z,2.7nm,0.8s,baz=306,slow=4.9,SNR=8.4
comp=Z,2.7nm,0.8s
BURAR Bucovina Array 89.98 318 P P 11 24 51.9 0.0
HFS Hagfors 92.24 332 P P 11 25 00.4 -1.6
comp=Z,12nm,0.9s,baz=74,slow=5.3,SNR=11
comp=Z,12nm,0.9s
NB2 NORSAR Subarra 92.95 334 P P 11 25 03.8 -1.5
comp=Z,6.4nm,0.8s,baz=65,slow=4.6
NB2 NORSAR Subarra 92.95 334 P **P 11 25 03.8 -1.5**
baz=65,slow=4.6
NOA NORSAR Array B 92.95 334 P **P 11 25 03.3 -2.0**
comp=Z,3.5nm,0.8s,baz=64,slow=4.6,SNR=13
comp=Z,3.5nm,0.8s
NC204 NORSAR Array S 93.04 334 P P 11 25 05.3 -0.4
NC204 IAmb IAmb 11 25 05.5
comp=Z,5.7nm,0.8s
YKA Yellowknife Ar 94.03 24 P P 11 25 09.2 -0.9
comp=Z,2.0nm,0.9s,baz=304,slow=4.7,SNR=8.5
comp=Z,2.0nm,0.9s
GERES GERESS Array B 96.84 322 P P 11 25 23.2 -0.2
comp=Z,1.4nm,0.7s,baz=66,slow=4.5,SNR=7.1
comp=Z,1.4nm,0.7s
NEW Newport 99.63 37 LR LR 12 06 57.9
comp=Z,35nm,19.1s,baz=112,slow=33
TXAR Lajitas Array 118.06 49 PKP **PKiKP 11 30 40.6 +0.9**
comp=Z,0.2nm,0.5s,baz=134,slow=1.0,SNR=3.9
PLCA Paso Flores 146.00 157 PKPbc **PKPdf 11 31 30.2 -1.2**
comp=Z,3.2nm,0.7s,baz=181,slow=5.6,SNR=6.0

AFAD ***27*** *11:17:02.6, 39.°02N×26.°02E, h13km±2km, ML2.3*
ISK ***27*** *11:17:03.9, 39.°03N×26.°15E, h7km, ML2.8/26*
ATH ***27*** *11:17:04.3, 39.°01N×26.°12E, h10km±3km, ML2.2/7,*
Manual Solution by G.Panopoulou First location:
2019/04/27 11:17:48, This location: 2019/04/27 17:13:37
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 5
km; Longitude uncertainty: 5 km
ISC 27 11:17:04.0±0.9, 39.°03N±0.°02×26.°10E±0.°02, h13km±8km,
n53, σ0°78/78, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.26**	**32**	P	**Pg**	**11 17 09.3**	**-0.1**
PRK				S	**Sb**	**11 17 14.0**	**-1.0**
SIGR	**SIGRI**	**0.26**	**315**	Pg	**Pb**	**11 17 10.4**	**-0.2**
SIGR				Sg	**Sg**	**11 17 14.5**	**+1.2**
SIGR	**SIGRI**	**0.26**	**315**	P	**Pb**	**11 17 10.4**	**-0.2**
SIGR				S	**Sg**	**11 17 14.0**	**+0.8**
GPNR	**Gulpinar-Canak**	**0.43**	**4**	Pg	**Pg**	**11 17 12.1**	**-0.5**
GPNR				Sg	**Sb**	**11 17 19.3**	**-0.6**
KARB	**zmir-Karabur**	**0.44**	**146**	P	**Pg**	**11 17 12.1**	**-0.6**
KARB				S	**Sg**	**11 17 18.7**	**+0.2**
KOCA	**Canakkale, Ayv**	**0.48**	**4**	P	**Pg**	**11 17 10.9**	**-2.5**
KOCA				S	**Sg**	**11 17 19.7**	**-0.2**
AYVA	**Ayvalik**	**0.54**	**58**	P	**Pg**	**11 17 14.4**	**-0.2**
AYVA				S	**Sb**	**11 17 22.5**	**-0.5**
AYVA				*i* AML	AML	11 17 23.0	
	comp=Z,168nm,0.3s						
FOCM	**Foa**	**0.58**	**122**	Pg	**Pg**	**11 17 15.3**	**-0.1**
FOCM				Sg	**Sb**	**11 17 23.5**	**-0.8**
DKL	**Dikili**	**0.63**	**86**	Pg	**Pg**	**11 17 15.9**	**-0.4**
DKL				Sg	**Sg**	**11 17 24.6**	**-0.1**
IZMD	**zmir-Dikili-**	**0.65**	**93**	P	**Pb**	**11 17 17.3**	**0.0**
IZMD				S	**Sb**	**11 17 26.5**	**+0.2**
CESE	**eme**	**0.71**	**167**	Pg	**Pg**	**11 17 17.7**	**-0.1**
EZNE	**Ezine-Canakkal**	**0.76**	**16**	Pg	**Pg**	**11 17 18.6**	**-0.1**
EZNE				Sg	**Sb**	**11 17 29.5**	**+0.2**
ZEDA	**zmir-Bergama**	**0.77**	**94**	P	**Pb**	**11 17 19.4**	**+0.1**
ZEDA				S	**Sn**	**11 17 30.8**	**-1.2**
URLA	**Izmir**	**0.77**	**149**	P	**Pg**	**11 17 17.7**	**-1.2**
URLA				S	**Sb**	**11 17 30.2**	**+0.5**
URLA				*i* AML	AML	11 17 32.0	
	comp=Z,104nm,0.7s						
BAYC	**CANAKKALE_Bayr**	**0.80**	**26**	P	**Pb**	**11 17 20.2**	**+0.4**
BAYC				S	**Sn**	**11 17 32.0**	**-0.8**
EZN	**Ezine**	**0.82**	**12**	Pg	**Pg**	**11 17 19.4**	**-0.5**
EZN				Sg	**Sb**	**11 17 31.1**	**0.0**
ZEYE	**Izmir, Urla-Ze**	**0.85**	**158**	P	**Pg**	**11 17 19.4**	**-0.9**
ZEYE				S	**Sb**	**11 17 31.9**	**0.0**
ZEYE				*i* AML	AML	11 17 35.0	
	comp=Z,90nm,0.4s						
BUHA	**Balikesir, Bur**	**0.90**	**58**	P	**Pg**	**11 17 21.1**	**-0.2**
BUHA				S	**Sb**	**11 17 34.0**	**+0.7**
BUHA				*i* AML	AML	11 17 37.0	
	comp=Z,74nm,0.3s						
YAYO	**Edremit-Balk**	**0.96**	**52**	Pg	**Pg**	**11 17 21.8**	**-0.7**
YAYO				Sg	**Sb**	**11 17 35.3**	**+0.3**
BLCB	**Balcova**	**0.98**	**131**	Pg	**Pb**	**11 17 22.6**	**-0.2**
BLCB				Sg	**Sb**	**11 17 36.0**	**+0.4**
EFSA	**Agios Efstrati**	**1.00**	**301**	P	**Pn**	**11 17 24.0**	**+0.2**
EFSA				S	**Sn**	**11 17 38.2**	**+0.5**
COMU	**Canakkale**	**1.11**	**15**	Pn	**Pb**	**11 17 25.2**	**+0.1**
DGB	**zmir**	**1.15**	**147**	P	**Pb**	**11 17 24.9**	**-0.8**
GADA	**Gvkgeada**	**1.17**	**353**	Pn	**Pb**	**11 17 25.4**	**-0.8**
SKY	**Skiros Island**	**1.21**	**264**	P	**Pn**	**11 17 27.1**	**+0.4**
YENI	**Yenice-Canakka**	**1.27**	**44**	Pn	**Pg**	**11 17 28.0**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.31**	**74**	P	**Pg**	**11 17 29.7**	**+0.5**
STEP				S	**Sg**	**11 17 45.6**	**-0.6**
STEP				*i* AML	AML	11 17 55.0	
	comp=Z,61nm,0.6s						
BALY	**Balya**	**1.38**	**58**	P	**Pb**	**11 17 29.6**	**-0.1**
BALY				S	**Sg**	**11 17 48.5**	**0.0**
BALY				*i* AML	AML	11 17 51.0	
	comp=Z,38nm,0.5s						
GELI	**Tayfur-Gelibol**	**1.40**	**12**	Pn	**Pb**	**11 17 29.9**	**-0.1**
LPK	**Lapseki**	**1.44**	**21**	Pn	**Pn**	**11 17 30.3**	**+0.5**
SMTH	**Samothraki Isl**	**1.51**	**343**	P	**Pb**	**11 17 31.9**	**+0.1**
SMTH				S	**Sb**	**11 17 52.0**	**+1.0**
GONE	**Gonen-Balikesi**	**1.60**	**50**	Pn	**Pn**	**11 17 32.4**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.61**	**257**	P	**Pb**	**11 17 33.3**	**-0.3**
KARY	**Karystos**	**1.64**	**233**	P	**Pn**	**11 17 32.3**	**-0.2**
ERIK	**Erikli-Kesan**	**1.68**	**11**	Pn	**Pn**	**11 17 33.7**	**+0.7**
ODEM	**Odemis-Izmir**	**1.72**	**115**	Pn	**Pn**	**11 17 34.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**127**	Pn	**Pb**	**11 17 35.5**	**-0.9**
SUSR	**Susurluk-Balik**	**1.80**	**58**	Pn	**Pn**	**11 17 35.6**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.86**	**26**	Pn	**Pn**	**11 17 36.4**	**+0.8**
ALN	**Alexandroupoli**	**1.87**	**359**	Pn	**Pn**	**11 17 36.8**	**+1.1**
EDC	**Edincik**	**1.90**	**45**	Pn	**Pn**	**11 17 37.2**	**+1.1**
THAS	**Thassos island**	**1.90**	**327**	P	**Pn**	**11 17 37.1**	**+1.0**
DION	**Dionisos Attik**	**1.94**	**242**	P	**Pn**	**11 17 38.1**	**+1.4**
MRMT	**Marmara Adasi**	**1.95**	**36**	Pn	**Pn**	**11 17 36.8**	**-0.1**
AYDN	**Tasoluk**	**1.96**	**134**	P	**Pg**	**11 17 43.5**	**+2.0**
AYDN				S	**Sg**	**11 18 05.5**	**-1.4**
KIRA	**zmir-Kiraz**	**1.99**	**114**	P	**Pg**	**11 17 41.9**	**-0.2**
KIRA				S	**Sg**	**11 18 07.8**	**-0.1**
NAZL	**Nazilli-Aydin**	**2.02**	**121**	Pn	**Pn**	**11 17 38.9**	**+1.1**
KULA	**Kula-Manisa**	**2.07**	**103**	Pn	**Pn**	**11 17 39.4**	**+0.9**
OUR	**Ouranopolis**	**2.09**	**309**	Pn	**Pb**	**11 17 40.7**	**-1.1**
OUR	**Ouranopolis**	**2.09**	**309**	P	**Pn**	**11 17 39.2**	**+0.4**
KCTX	**Karacabey (Bur**	**2.14**	**54**	Pn	**Pn**	**11 17 40.2**	**+0.7**
BODT	**Bodrum**	**2.18**	**154**	Pn	**Pn**	**11 17 41.3**	**+1.3**
KAVA	**Kavala**	**2.31**	**329**	P	**Pn**	**11 17 43.6**	**+1.8**

SOME ***27*** *11:20:06.7, 44.°10N×73.°15E, h5km*
NNC 27 11:20:08.0±1.2, 44.°06N×73.°15E, h0km, mb3.1, mpv2.8,
Error ellipse: s-maj=8.8km s-min=4.3km az=139.0,
Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGDS	**Sogindy**	**1.23**	**119**	P	Pg	11 20 30.6	-1.0
	0.9nm,0.3s						
SGDS				S	Sg	11 20 47.8	+0.3
	5.1nm,0.0s						
MRKS	**Merke**	**1.31**	**178**	P	Pg	11 20 32.4	-0.8
	0.8nm,0.2s						
MRKS				S	Sb	11 20 51.0	-0.1
	1.4nm,0.1s						
MRKS	**Merke**	**1.31**	**178**	*eP*	Pg	11 20 32.4	-0.8
	0.8nm,0.2s						
MRKS				*eS*	Sb	11 20 51.0	-0.1
	1.4nm,0.1s						
KST	**Kastek**	**2.28**	**115**	Pg	Pb	11 20 50.1	-0.1
	12nm,0.5s						
KST				Pg	Pg	11 20 55.4	+3.6
	4.1nm,0.4s						
KST				Lg	Lg	11 21 21.4	
	9.0nm,0.6s						
KST				Lg	Lg	11 21 21.5	
	9.2nm,0.6s						
KST	**Kastek**	**2.28**	**115**	*eP*	Pb	11 20 50.1	-0.1
	12nm,0.5s						
KST				*eS*	Sg	11 21 21.5	+0.1
	9.2nm,0.6s						
KUU	**Kurty**	**2.31**	**93**	Pg	Pb	11 20 49.4	-1.1
	4.6nm,0.6s						
KUU				Lg	Lg	11 21 20.6	
	16nm,0.3s						
KUU	**Kurty**	**2.31**	**93**	*eP*	Pb	11 20 49.4	-1.1
	4.6nm,0.6s						
KUU				*eS*	Sb	11 21 20.6	+1.0
	16nm,0.3s						
CHKK	**Chushkaly**	**2.78**	**93**	Pg	Pb	11 20 59.1	+0.5
	0.2nm,0.1s						
CHKK				Lg	Lg	11 21 36.7	
	2.4nm,0.1s						
CHKK	**Chushkaly**	**2.78**	**93**	*eP*	Pb	11 20 59.1	+0.5
	0.2nm,0.1s						
CHKK				*eS*	Sg	11 21 36.7	-0.6
	2.4nm,0.1s						
TNSS	**Tian-Shan**	**2.94**	**109**	*eP*	Pb	11 21 00.6	-1.0
	1.8nm,0.2s						
TNSS				*eS*	Sb	11 21 39.0	+0.8
	1.6nm,0.7s						
MDOK	**Medeo**	**2.97**	**106**	Pg	Pb	11 21 03.1	+1.2
	1.3nm,0.1s						
MDOK				Lg	Lg	11 21 43.9	
	2.2nm,0.3s						
ARXS	**Arharly**	**3.37**	**86**	Pg	Pb	11 21 09.4	+0.7
	0.6nm,0.5s						
ARXS				Lg	Lg	11 21 54.6	
	5.9nm,0.3s						

YARS 27 11:20:52.9, 69.°79N×123.°97E, h12km, ML1.9/2, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**2.48**	**39**	*e*Pg	Pb	11 21 38.7	+1.5
	25nm,0.0s						

WEL 27 11:27:31.5±0.9, 34.°S±10.°×17.°9E±1.°1, h276km±15km,
M3.6/19, mB4.2/6, MLv3.8/19, Mw(mB)3.3/6, Error ellipse:
s-maj=14.6km s-min=13.4km az=92.3, confirmed, South
of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRZ	**Great Barrier**	**3.21**	**231**	P	Pn	11 28 26.4	-1.3
MXZ	**Matakaoa Point**	**3.31**	**183**	P	Pn	11 28 28.7	0.0
MXZ				S	S	11 29 14.6	+0.3
HAZ	**Te Kaha**	**3.55**	**190**	P	Pn	11 28 31.3	0.0
HAZ				S	S	11 29 18.9	-0.1
WMGZ	**Waiomatatini S**	**3.56**	**181**	P	Pn	11 28 31.5	+0.1
WMGZ				S	S	11 29 19.5	+0.2
PKGZ	**Pakihiroa**	**3.62**	**186**	P	Pn	11 28 33.0	+0.9
PKGZ				S	S	11 29 21.4	+0.8
RUGZ	**Raukumara Rang**	**3.77**	**190**	P	Pn	11 28 34.2	+0.3
RUGZ				S	S	11 29 22.7	-1.0
PUZ	**Puketiti**	**3.82**	**183**	P	Pn	11 28 33.7	-0.6
TWGZ	**Tauwhareparae**	**3.94**	**186**	P	Pn	11 28 35.2	-0.6
TWGZ				S	S	11 29 28.2	+1.1
MKAZ	**Moumakai**	**3.95**	**223**	S	S	11 29 27.9	+0.7
MWZ	**Matawai**	**4.15**	**191**	P	Pn	11 28 39.1	+1.0
MWZ				S	S	11 29 31.9	+0.5
URZ	**Urewera**	**4.16**	**196**	P	Pn	11 28 38.4	+0.3
URZ				S	S	11 29 32.7	+1.2
TKGZ	**Te Karaka**	**4.21**	**187**	P	Pn	11 28 38.7	0.0
TKGZ				S	S	11 29 32.8	+0.2
CNGZ	**Carnagh Statio**	**4.23**	**183**	P	Pn	11 28 39.8	+0.8
MUGZ	**Murupara**	**4.45**	**198**	P	Pn	11 28 42.5	+1.0
MUGZ				S	S	11 29 37.9	+0.3
RIGZ	**Rimuhau**	**4.49**	**188**	P	Pn	11 28 42.0	0.0
RIGZ				S	S	11 29 38.1	-0.3
SNGZ	**Shannon Statio**	**4.62**	**192**	P	Pn	11 28 43.4	-0.1
PRGZ	**Paritu Road**	**4.69**	**186**	P	Pn	11 28 44.6	+0.2
PRGZ				S	S	11 29 43.4	+0.7
MTHZ	**Maungataniwha**	**4.79**	**196**	P	Pn	11 28 46.6	+1.1
MTHZ				S	S	11 29 45.4	+0.5
KNZ	**Kokohu**	**4.81**	**188**	P	Pn	11 28 45.4	-0.3
KNZ				S	S	11 29 44.1	-1.0
MRHZ	**Matea Rd**	**4.88**	**200**	P	Pn	11 28 47.3	+0.7
MRHZ				S	S	11 29 47.6	+0.8
MHGZ	**Mahia Peninsul**	**4.92**	**186**	P	Pn	11 28 47.1	+0.1
WHHZ	**Waihua**	**4.93**	**192**	P	Pn	11 28 47.5	+0.4
WHHZ				S	S	11 29 48.7	+1.0
MCHZ	**McNeill Hill**	**5.39**	**195**	P	Pn	11 28 52.9	+0.3
KWHZ	**Kaweka Forest**	**5.43**	**198**	P	Pn	11 28 52.8	-0.4
KRHZ	**Kereru**	**5.65**	**197**	P	Pn	11 28 55.3	-0.6
KAHZ	**Kahuranaki**	**5.69**	**193**	P	Pn	11 28 56.4	+0.1
PXZ	**Pawanui**	**5.92**	**193**	P	Pn	11 28 57.9	-1.1
PNHZ	**Pukenui**	**5.95**	**198**	P	Pn	11 28 58.5	-1.0
WPHZ	**Waipukurau**	**6.04**	**195**	P	Pn	11 29 00.8	+0.3
PRHZ	**Porangahau**	**6.19**	**194**	P	Pn	11 29 01.2	-1.1

IDC ***27*** *11:31:58.5±0.6, 37.°16N×142.°14E, h0km, mb4.0/19,*
mbtmp4.0/26, ML3.5/6, MS3.7/10, Error ellipse:
s-maj=16.1km s-min=13.8km az=135.0
NIED ***27*** *11:32:01.5, 37.°27N×142.°14E, h34km, MW4.1, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;
M_{rr}0.37; $M_{\theta\theta}$0.38; $M_{\phi\phi}$-0.75; $M_{r\theta}$-0.92; $M_{\theta\phi}$0.28; $M_{\phi r}$0.87;
Fault plane solution: $M_0$1.45000×10^{15} NP1:
ϕ_s205.00000°, δ25.00000°, λ158.00000°. NP2:
ϕ_s315.00000°, δ81.00000°, λ67.00000°.
MOS ***27*** *11:32:01.8±1.4, 37.°31N×142.°22E, h34km, mb4.3/10 Error*
ellipse: s-maj=8.8km s-min=5.5km az=92.7
JMA ***27*** *11:32:01.5±0.3, 37.°3N±0.°6×14.°2E±.°, h34km±4km,*
MD4.4/40, MV4.6/40, E OFF FUKUSHIMA PREF
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NEIC ***27*** *11:32:04.7±1.1, 37.°36N±0.°06×142.°09E±0.°08, h34km±6km,*
mb4.5/50, Error ellipse: s-maj=9.6km s-min=8.7km
az=118.0
ISC 27 11:31:59.5±1.5, 37.°29N±0.°04×142.°18E±0.°04, h4km±8km,
n173, σ1°§64/148, mb4.4/54, MS3.9/8, 7C-10D, Off east
coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.04**	**275**	‖P	**Pb**	**11 32 19.6**	**-0.5**
JFK				‖*e*S	**Sg**	**11 32 32.1**	**-0.9**
JFK	**Kawauchi**	**1.04**	**275**	A	A	11 32 19.6	
	comp=N,4.0nm,1.1s,comp=E,5.0nm,0.5s						
JMST	**Minamisoumatoc**	**1.12**	**293**	‖P	**Pg**	**11 32 20.8**	**-0.1**
JMST				‖*e*S	**Sg**	**11 32 34.4**	**-0.9**
JMST	**Minamisoumatoc**	**1.12**	**293**	A	A	11 32 20.8	
	comp=N,13nm,0.3s,comp=E,6.0nm,0.4s						
ONAJ	**Iwakimizuishiy**	**1.12**	**261**	‖P	**Pg**	**11 32 20.4**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.12**	**261**	A	A	11 32 20.4	
	comp=N,9.0nm,0.3s,comp=E,23nm,0.3s						
JIKH	**Ishinomakikobu**	**1.17**	**331**	*i* P	**Pg**	**11 32 21.7**	**-0.1**
JMM	**Marumori**	**1.24**	**298**		**Pg**	**11 32 23.1**	**-0.2**
JMM				Sn	**Sg**	**11 32 38.2**	**-1.2**
JMM	**Marumori**	**1.24**	**298**	P	**Pg**	**11 32 22.8**	**-0.5**
JMM	**Marumori**	**1.24**	**298**	S	**Sb**	**11 32 39.4**	**-0.5**
JMM	**Marumori**	**1.24**	**298**	‖P	**Pg**	**11 32 22.7**	**-0.5**
JMM				‖*e*S	**Sg**	**11 32 38.0**	**-1.4**
JMM	**Marumori**	**1.24**	**298**	A	A	11 32 22.7	
	comp=N,8.0nm,0.4s,comp=E,8.0nm,0.4s						
JIO	**Ouri**	**1.34**	**331**	P	**Pn**	**11 32 24.3**	**-0.6**
JOTO	**OTAMA OYAMA**	**1.49**	**281**	P	**Pn**	**11 32 27.2**	**+0.1**
JOTO				S	**Sb**	**11 32 45.3**	**-1.8**
JOTO	**OTAMA OYAMA**	**1.49**	**281**	A	A	11 32 27.2	
	comp=N,17nm,1.9s

comp=E,2.7nm,0.3s,baz=85,slow=15,SNR=61
MJAR Sn **Sb** **11 33 35.6 -2.6**
comp=E,3.0nm,0.3s,baz=101,slow=17,SNR=3.4
MJAR LR LR 11 33 49.7
comp=E,300nm,19.2s,baz=74,slow=35
comp=E,26nm,0.5s
MAJO Matsushiro 3.27 258 Pn 11 32 52.6 +1.1
MAJO Matsushiro 3.27 258 P **Pn 11 32 52.8 +1.3**
MAJO Matsushiro 3.27 258 P **Pn 11 32 52.6 +1.1**
MJB9 Matsu-Tunnel 3.27 258 Pn 11 32 54.0 +2.5
JTM Tenmabayashi 3.60 346 Pn 11 32 56.8 +0.8
JTM Tenmabayashi 3.60 346 P **Pn 11 32 58.5 +2.5**
JSG Sagara 4.16 232 Pn **Pn 11 33 05.3 +1.6**
JSG Sagara 4.16 232 P **Pn 11 33 06.5 +2.8**
JGF Kuroka 4.24 248 Pn 11 33 06.3 +1.5
JGF Kuroka 4.24 248 P **Pn 11 33 06.7 +1.9**
JHJ2 Mitsune 4.59 206 Pn **Pn 11 33 10.0 +0.3**
JHJ2 Mitsune 4.59 206 P **Pn 11 33 10.3 +0.6**
INU Inuyama 4.60 247 Pn 11 33 10.8 +1.1
INU Inuyama 4.60 247 P **Pn 11 33 11.8 +2.1**
JHJ Hachijo jima 2 4.60 206 Pn **Pn 11 33 06.0 -3.8**
comp=E,135nm,0.3s,baz=80,slow=20,SNR=7.1
JHJ Sn **Sn 11 33 59.4 -4.2**
comp=E,71nm,0.3s,baz=111,slow=22,SNR=1.8
ERM Erimo 4.78 9 Pn **Pn 11 33 13.1 +0.9**
ERM Erimo 4.78 9 P **Pn 11 33 12.6 +0.4**
ERM Erimo 4.78 9 P **Pn 11 33 13.1 +0.9**
JEM Erimo 4.78 9 P **Pn 11 33 12.6 +0.4**
NMR Nemuro--Hokkai 6.65 23 ⇑ *i* P **Pn 11 33 36.4 -1.5**
NMR *e*S **Sn 11 34 47.8 -6.3**
JKA Kamikawa-asahi 6.83 3 Pn 11 33 41.3 +0.9
ASAJ Asahikawa 6.83 3 Pn **Pn 11 33 40.8 +0.4**
comp=E,3.0nm,0.3s,baz=211,slow=9.4,SNR=26
ASAJ Sn **Sn 11 35 00.9 +2.4**
comp=E,1.5nm,0.3s,baz=253,slow=20,SNR=3.6
comp=E,6.6nm,0.3s
ASAJ Asahikawa 6.83 3 P **Pn 11 33 41.3 +0.9**
RUSJ Misakicho 7.20 18 *e*P **Pn 11 33 44.8 -0.6**
RUSJ *e*S **Sn 11 35 03.7 -3.8**
YUK Yuzh-Kuril'sk 7.30 21 *e*P **Pn 11 33 45.9 -0.9**
YUK *e*S **Sn 11 35 05.9 -4.1**
YUK pmax pmax
comp=Z,113nm,0.5s
YUK pmax pmax
comp=E,76nm,0.4s
YUK pmax pmax
comp=N,38nm,0.2s
SHO Shikotan 7.46 27 *e*P **Pn 11 33 47.7 -1.4**
SHO *e*S **Sn 11 35 07.2 -7.0**
SHO pmax pmax
comp=Z,17nm,0.4s
SHO pmax pmax
comp=E,14nm,0.2s
SHO pmax pmax
comp=N,10.0nm,0.4s
JMN Monobe 7.64 245 Pn 11 33 53.3 +1.6
KUR Kuril'sk 9.02 27 *e*P **Pn 11 34 12.3 +2.0**
KUR *e*S **Sn 11 35 46.9 -5.4**
KUR pmax pmax
comp=Z,44nm,0.7s
KUR smax smax
comp=N,28nm,0.5s
KUR smax smax
comp=E,41nm,0.5s
YSS Yuzhno-Sakhali 9.67 2 Pn 11 34 20.1 +0.8
YSS Yuzhno-Sakhali 9.67 2*d i*P **Pn 11 34 20.6 +1.3**
YSS pmax pmax
comp=Z,12nm,1.3s
MSHR Mys Shultsa 9.97 305 ⇓ *i*P **Pn 11 34 24.9 +1.4**
JNU Nakatsue 10.14 249 Pn **Pn 11 34 28.4 +2.5**
JNU Nakatsue 10.14 249 Pn **Pn 11 34 25.8 0.0**
comp=Z,0.5nm,0.3s,baz=61,slow=9.4,SNR=5.2
JNU LR LR 11 38 20.2
comp=Z,130nm,21.7s,baz=124,slow=38
comp=Z,29nm,1.1s
USRK Ussuriysk Ar. 10.36 315 Pn **Pn 11 34 30.6 +1.8**
comp=Z,0.2nm,0.3s,baz=133,slow=14,SNR=2.8
comp=Z,0.5nm,0.3s
USA0B Ussuriysk Arra 10.36 315 Pn **Pn 11 34 28.9 +0.1**
USA0B Ussuriysk Arra 10.36 315 *e*P **Pn 11 34 29.5 +0.7**
KSRS Korea Array 11.35 275 Pn **Pn 11 34 43.0 +0.7**
comp=Z,0.2nm,0.3s,baz=93,slow=14,SNR=10
comp=Z,1.4nm,0.7s
KSRS Korea Array 11.35 275 P **Pn 11 34 43.0 +0.7**
KLR Kul'dur 14.13 331 *e*P **Pn 11 35 20.3 0.0**
PEA0B Petropavlovsk- 19.16 29 P **P 11 36 23.4 -0.3**
PEA0B Petropavlovsk- 19.16 29 P **P 11 36 23.4 -0.3**
PEA0B pmax pmax
comp=Z,14nm,1.2s
PETK Petropavlovsk- 19.16 29 P **P 11 36 23.9 +0.2**
PETK Petropavlovsk- 19.16 29 P **P 11 36 24.6 +0.8**
comp=Z,0.1nm,0.3s,baz=212,slow=10,SNR=5.3
comp=Z,3.0nm,0.9s
ZEA Zeya 19.43 333 *e*P **Pn 11 36 28.9 +1.2**
NJ2 Nanjing 19.86 262 *e*P **Pn 11 36 34.3 +1.2**
NJ2 pmax pmax
comp=Z,14nm,0.5s
BJT Baijiatuau 20.47 286 P **P 11 36 37.0 -1.2**
BJT Baijiatuau 20.47 286 P **P 11 36 37.0 -1.2**
BJT pmax pmax
comp=Z,5.0nm,0.5s
MA2 Magadan 22.98 11 P **P 11 37 05.2 +0.4**
MA2 IAmb IAmb 11 37 06.7
comp=Z,13nm,1.2s
MA2 Magadan 22.98 11 P **P 11 37 05.2 +0.4**
MA2 pmax pmax
comp=Z,13nm,1.2s
TWG Pinlang 23.20 237 P **P 11 37 07.7 +0.3**
HHC Hu-ho-hao-te 23.97 288 *e*P **P 11 37 14.8 -0.2**
HHC pmax pmax
comp=Z,12nm,0.8s
SEY Seymchan 26.43 10*ce*P **P 11 37 38.1 +1.1**
SEY pmax pmax
comp=Z,5.0nm,1.1s
XAN Xi'an 27.14 273 P **P 11 37 44.3 +0.6**
XAN pP sP 11 37 48.3 +3.3
XAN pmax pmax
comp=Z,11nm,0.7s
ULN Ulaanbaatar 27.72 304 *i* P **P 11 37 49.7 +0.7**
ULN pmax pmax
comp=Z,3.0nm,1.3s
H11N2 WAKE ISLAND Hy 27.76 122 T T 12 07 03.5
baz=315,slow=75,SNR=122
H11N1 WAKE ISLAND Hy 27.77 122 T T 12 07 20.9
baz=315,slow=75,SNR=144
H11N3 WAKE ISLAND Hy 27.78 122 T T 12 07 21.6
baz=315,slow=75,SNR=125
ENH Enshi 27.96 265 P **P 11 37 50.4 -0.8**
SONM Songino Array 28.15 303 P **P 11 37 51.8 -1.0**
SONM Songino Array 28.15 303 P **P 11 37 52.1 -0.8**
comp=Z,1.9nm,0.7s,baz=114,slow=8.1,SNR=8.1
comp=Z,1.9nm,0.7s
H11S1 WAKE ISLAND Hy 28.49 124 T T 12 08 09.0
baz=317,slow=76,SNR=154
H11S3 WAKE ISLAND Hy 28.49 124 T T 12 08 12.9
baz=317,slow=76,SNR=108
H11S2 WAKE ISLAND Hy 28.51 124 T T 12 08 14.0
baz=317,slow=76,SNR=134
BILL Bilibino 33.61 16 ⇑ *i*P **P 11 38 41.2 +0.7**
BILL pmax pmax
comp=Z,2.0nm,1.0s
PZH PanZhiHua 35.74 264 P **P 11 39 01.0 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
WMQ Urumqi 41.27 297 *e*P **P 11 39 47.3 +1.5**
WMQ sP sP 11 39 59.0 +12
WMQ pmax pmax
comp=Z,33nm,0.7s
M14K Bethel 41.81 38 P **P 11 39 50.8 +0.9**
CMAR Chiang Mai Arr 42.15 256 P **P 11 39 51.8 -1.5**
comp=Z,0.6nm,0.7s,baz=51,slow=7.3,SNR=4.8
CMAR LR LR 11 57 37.0
comp=Z,35nm,18.1s,baz=125,slow=37
comp=Z,0.6nm,0.7s
ZALV Zalesovo Beam 42.20 312 P **P 11 39 53.8 +0.6**
ZALV Zalesovo Beam 42.20 312 P **P 11 39 52.8 -0.3**
comp=Z,1.0nm,0.4s,baz=96,slow=9.1,SNR=5.0
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 42.20 312 *i* P **P 11 39 55.4 +2.3**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
C16K Lisburne Hills 42.21 26 P **P 11 39 53.8 +0.8**
C16K IAmb IAmb 11 39 55.0
comp=Z,24nm,1.5s
C18K Utukok River 43.78 26 P **P 11 40 07.4 +1.5**

MK31 Makanchi Array 44.50 302 P **P 11 40 11.2 -0.8**
MK31 Makanchi Array 44.50 302 ⇑ *i*P **P 11 40 11.9 0.0**
MKAR Makanchi Array 44.50 302 P 11 40 10.4 -1.5
MKAR Makanchi Array 44.50 302 P **P 11 40 11.6 -0.4**
comp=Z,1.9nm,0.9s,baz=93,slow=9.8,SNR=9.7
comp=Z,1.9nm,0.9s
MKAR Makanchi Array 44.50 302*ce*P **P 11 40 13.8 +1.9**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
N18K Kilae Creek 44.78 38 P **P 11 40 15.9 +1.9**
B20K Meade River 45.51 25 IAmb IAmb 11 40 22.1
comp=Z,5.6nm,0.9s
KURK Kurchatov 46.26 308 P 11 40 25.8 +0.1
KURK IAmb IAmb 11 40 46.4
comp=Z,5.0nm,0.7s
KURK Kurchatov 46.26 308 P **P 11 40 26.6 +0.9**
B21K Ikpikpuk River 46.29 26 IAmb IAmb 11 40 36.4
comp=Z,7.3nm,1.4s
KURBB Kurchatov Arra 46.33 308 P **P 11 40 26.6 +0.3**
comp=Z,3.3nm,0.5s,baz=81,slow=7.9,SNR=30
comp=Z,3.3nm,0.5s
E22K Anaktuvuk Pass 47.09 28 IAmb IAmb 11 40 34.7
comp=Z,4.2nm,1.2s
E23K Chandalar 47.91 28 IAmb IAmb 11 40 41.2
comp=Z,7.3nm,1.2s
NEA2 Nenana 48.02 33 IAmb IAmb 11 40 41.7
comp=Z,3.2nm,1.0s
MCK McKinley 48.08 34 IAmb IAmb 11 40 42.4
comp=Z,4.3nm,1.0s
GHO Glory Hole Cre 48.15 37 IAmb IAmb 11 40 42.1
comp=Z,5.7nm,0.9s
D24K Happy Valley 48.27 27 IAmb IAmb 11 40 43.8
comp=Z,7.1nm,1.3s
HDA Harding Lake 48.94 33 IAmb IAmb 11 40 47.2
comp=Z,9.3nm,1.4s
IL31 48.95 32 IAmb IAmb 11 40 48.0
comp=Z,3.3nm,0.8s
ILAR Eielson Array 48.95 32 P **P 11 40 47.2 +0.7**
comp=Z,2.5nm,0.8s,baz=268,slow=6.5,SNR=31
comp=Z,2.5nm,0.8s
KLU Klutina 49.60 37 P **P 11 40 53.0 +1.4**
KLU IAmb IAmb 11 41 04.9
comp=Z,8.4nm,1.3s
F26K Sheenjek River 49.97 29 IAmb IAmb 11 40 58.1
comp=Z,2.8nm,0.8s
SCRK Sand Creek 50.26 33 P 11 40 56.6 0.0
BVAR Borovoye Array 50.85 312 P **P 11 41 01.9 +0.8**
comp=Z,0.8nm,0.5s,baz=75,slow=7.3,SNR=4.5
comp=Z,0.8nm,0.5s
K27K Chicken 51.09 33 IAmb IAmb 11 41 07.0
comp=Z,4.2nm,1.1s
G29M Pine Creek 52.41 29 IAmb IAmb 11 41 15.8
comp=Z,8.6nm,1.0s
L29M L29M 52.97 34 IAmb IAmb 11 41 20.1
comp=Z,3.9nm,0.8s
G30M tAoh Zrail Nji 53.10 29 IAmb IAmb 11 41 20.1
comp=Z,1.1nm,1.2s
I30M Mount Dempster 53.34 31 IAmb IAmb 11 41 22.2
comp=Z,5.9nm,0.8s
HYT Haines Junctio 53.73 37 P **P 11 41 24.3 +1.8**
HYT IAmb IAmb 11 41 26.4
comp=Z,3.9nm,0.9s
LEM Lembang 54.48 224 LR LR 12 03 31.4
comp=Z,84nm,21.7s,baz=138,slow=35
A36M Sachs Harbour 55.79 22 IAmb IAmb 11 41 40.1
comp=Z,4.1nm,0.8s
ARTI Arti 56.68 319*d i*P **P 11 41 44.8 +1.1**
ARTI 11 43 45.6
ARTI S **S 11 49 37.9 +1.4**
ARTI SS **SS 11 53 18.9 -4.7**
ARTI pmax pmax
comp=Z,2.0nm,0.6s
C36M Paulatuk 56.94 25 IAmb IAmb 11 41 47.2
comp=Z,6.6nm,0.9s
WRAB Tennant Creek 57.39 189 *i* P **P 11 41 47.9 -1.2**
WRAB pmax pmax
comp=Z,9.0nm,1.4s
WRA Warramunga Arr 57.40 189 P **P 11 41 48.2 -0.9**
WRA Warramunga Arr 57.40 189 P **P 11 41 48.2 -0.9**
comp=Z,3.8nm,0.7s,baz=6.4,slow=7.4,SNR=24
comp=Z,3.8nm,0.7s
ABKAR Akbulak array 58.24 310 P 11 41 54.8 -0.1
SPITS Spitsbergen Ar 60.39 349 LR LR 12 09 13.5
comp=Z,214nm,20.3s,baz=263,slow=37
ASAR Alice Springs 61.13 189 P **P 11 42 13.0 -1.9**
comp=Z,2.5nm,0.8s,baz=10.0,slow=6.7,SNR=26
comp=Z,2.5nm,0.8s
YKA Yellowknife Ar 63.28 30 P **P 11 42 29.7 +0.8**
comp=Z,0.7nm,0.7s,baz=303,slow=6.6,SNR=14
comp=Z,0.7nm,0.7s
ARCES ARCESS Array B 63.97 340 LR LR 12 15 08.8
comp=Z,65nm,18.7s,baz=14,slow=40
OBN Obninsk 68.26 323 *e*P **P 11 43 02.3 +1.2**
OBN *e* 11 43 26.9
OBN *e* 11 45 32.3
OBN *e*PPP PPP 11 47 10.9
OBN pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 68.87 332 P **P 11 43 04.8 0.0**
comp=Z,2.3nm,0.8s,baz=45,slow=9.2,SNR=6.1
FINES LR LR 12 14 57.3
comp=Z,83nm,19.3s,baz=293,slow=37
comp=Z,2.3nm,0.8s
BLKN Baker Lake 68.92 23 P **P 11 43 05.4 +0.4**
BLKN IAmb IAmb 11 43 06.2
comp=Z,3.6nm,0.8s
FORT Forrest 68.99 193 P **P 11 43 06.3 +0.4**
KBZ Khabaz 71.20 311 P **P 11 43 20.2 +0.8**
comp=Z,1.2nm,0.8s,baz=74,slow=5.1,SNR=3.5
comp=Z,1.2nm,0.8s
HFS Hagfors 74.11 336 P **P 11 43 37.1 +0.6**
comp=Z,2.2nm,0.9s,baz=34,slow=11,SNR=2.9
comp=Z,2.2nm,0.9s
NB2 NORSAR Subarra 74.19 338 P **P 11 43 36.8 -0.2**
comp=Z,1.5nm,0.9s,baz=39,slow=6.2
NOA NORSAR Array B 74.19 338 P **P 11 43 37.7 +0.7**
comp=Z,0.6nm,0.9s,baz=35,slow=5.0,SNR=2.4
comp=Z,0.6nm,0.9s
NVAR Mina Array Bea 74.35 54 P **P 11 43 38.6 +0.1**
comp=Z,0.9nm,0.7s,baz=293,slow=6.0,SNR=7.7
comp=Z,0.9nm,0.7s
AKASG Malin Array Be 74.47 323 P **P 11 43 37.4 -1.3**
comp=Z,0.4nm,0.4s,baz=50,slow=5.2,SNR=4.9
AKASG LR LR 12 17 38.7
comp=Z,92nm,18.2s,baz=249,slow=37
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 74.47 323*ce*P **P 11 43 39.9 +1.1**
LAO LASA Array 76.38 41 P 11 43 52.8 +2.8
PDAR Pinedale Array 77.05 46 P **P 11 43 54.7 +0.7**
comp=Z,0.4nm,0.6s,baz=280,slow=1.2,SNR=7.8
comp=Z,0.4nm,0.6s
BR131 Keskin Array S 79.14 312 *e*P **P 11 44 05.3 -0.2**
BRTR Keskin Array B 79.14 312 LR LR 12 20 54.2
comp=Z,44nm,21.8s,baz=272,slow=37
PV10 Paradox Valley 80.15 49 P **P 11 44 13.0 +1.8**
PV05 Paradox Valley 80.30 49 P **P 11 44 14.0 +2.0**
PV05 IAmb IAmb 11 44 14.1
comp=Z,3.9nm,0.8s
VYHS Vyhne 80.86 326 *e*P **P 11 44 16.2 +1.7**
VYHS Vyhne 80.86 326 *e*P **P 11 44 16.1 +1.6**
MMAI Mount Meron Ar 82.31 306 LR LR 12 26 05.8
comp=Z,64nm,18.2s,baz=204,slow=39
KHC Kasperske Hory 82.64 329*ce*P **P 11 44 23.7 -0.3**
GERES GERESS Array B 82.82 329 P **P 11 44 24.0 -0.9**
comp=Z,0.3nm,0.4s,baz=72,slow=4.3,SNR=4.4
comp=Z,0.3nm,0.4s
TXAR Lajitas Array 89.48 53 P **P 11 44 58.8 +0.7**
comp=Z,0.2nm,0.5s,baz=295,slow=3.8,SNR=4.4
comp=Z,0.2nm,0.5s
LPAZ La Paz 146.04 60 PKPbc **PKPdf 11 51 41.8 +0.7**
comp=Z,1.5nm,0.8s,baz=348,slow=8.0,SNR=4.5
H03N2 Juan Fernandez 146.44 96 T T 14 35 37.6
baz=291,slow=76,SNR=6.7
H03N3 Juan Fernandez 146.45 96 T T 14 35 41.9
baz=291,slow=76,SNR=7.8
H03N1 Juan Fernandez 146.46 96 T T 14 35 45.1
baz=291,slow=76,SNR=10

IDC ***27*** *12:06:13.3±56.0,* ***21°30S×68°90E,h0****km,* ***mb3.5****/3,*
mbtmp3.5*/3,* ***Error ellipse: s-maj=1334.0km***
s-min=56.3km az=76.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**14.01**	**15**	T	T	12 23 15.6	
	baz=197,slow=76,SNR=13						
H08S2	**Diego Garcia H**	**14.02**	**15**	T	T	12 23 15.9	
	baz=197,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**14.03**	**15**	T	T	12 23 17.1	
	baz=197,slow=76,SNR=28						
H04N2	**CROZET ISLANDS**	**28.46**	**205**	T	T	12 42 22.3	
	baz=34,slow=75,SNR=41						
H04N1	**CROZET ISLANDS**	**28.47**	**205**	T	T	12 42 22.6	
	baz=34,slow=75,SNR=59						
H04N3	**CROZET ISLANDS**	**28.48**	**205**	T	T	12 42 22.1	
	baz=34,slow=75,SNR=74						
CMAR	**Chiang Mai Arr**	**49.27**	**39**	P	P	12 15 04.0	-0.1
	0.4nm,0.5s,baz=236,slow=9.3,SNR=4.3						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**59.64**	**106**	P	P	12 16 19.1	-0.7
	0.4nm,0.8s,baz=267,slow=6.6,SNR=7.3						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**60.85**	**102**	P	P	12 16 28.9	+0.9
	0.3nm,0.5s,baz=260,slow=6.0,SNR=1.7						
	0.3nm,0.5s						

MOS ***27*** *12:07:31.7±1.0,47°81N×152°89E,h145km,mb3.9/7,Error ellipse: s-maj=13.0km s-min=8.5km az=75.4*
SKHL ***27*** *12:07:31.4±0.7,47°80N×152°90E,h129km±8km,mb4.7/5, msh5.4/3*
IDC ***27*** *12:07:33.1±2.3,47°80N×152°82E,h144km±21km, mb3.6/21,mbtmp4.0/22,Error ellipse: s-maj=18.6km s-min=12.4km az=152.0*
NEIC ***27*** *12:07:35.4±0.8,48°0N±0°2×152°7E±0°2,h146km±11km, mb4.1/24,Error ellipse: s-maj=30.4km s-min=13.4km az=146.0*
ISC 27 12:07:33.4±0.7,47°75N±0°10×152°97E±0°09,h150km, n108,σ1$45/102,mb4.0/38,7C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.59**	**34**	*e*PN	**Pn**	**12 08 25.1**	**-3.1**
SKR				*e*S	**Sn**	**12 09 06.0**	**-4.8**
SKR				pmax	pmax		
	comp=Z,31nm,0.4s						
SKR				smax	smax		
	comp=N,152nm,0.5s						
SKR				smax	smax		
	comp=E,260nm,0.3s						
SKR				MLR	MLR		
	comp=Z,900nm,14.0s						
SKR	**Severo-Kuril's**	**3.59**	**34**	*e*P	**Pn**	**12 08 25.7**	**-2.5**
SKR				AMB	AMB	12 08 28.1	
	comp=Z,40nm,0.5s						
SKR				*e*S	**Sn**	**12 09 07.1**	**-3.7**
SKR				A	A	12 09 07.9	
	comp=Z,110nm,0.2s						
SKR				A	A	12 09 07.9	
	comp=Z,100nm,0.2s						
KUR	**Kuril'sk**	**4.33**	**236**	PN	**Pn**	**12 08 38.8**	**+0.9**
KUR				S	**Sn**	**12 09 28.0**	**-0.1**
KUR				smax	smax		
	comp=N,55nm,0.6s						
KUR				smax	smax		
	comp=E,42nm,0.6s						
KUR	**Kuril'sk**	**4.33**	**236**	*e*P	Pn	12 08 35.0	-2.9
KUR				AMB	AMB	12 08 35.6	
	comp=E,40nm,0.8s						
KUR				*e*S	**Sn**	**12 09 24.1**	**-4.0**
KUR				A	A	12 09 27.7	
	comp=E,40nm,0.7s						
KUR				A	A	12 09 27.7	
	comp=E,40nm,0.7s						
PAU	**Pauzhetka**	**4.48**	**32**	*e*P	**Pn**	**12 08 38.0**	**-1.9**
PAU				*e*S	**Sn**	**12 09 28.0**	**-3.7**
PAU				A	A	12 09 34.3	
	comp=E,130nm,0.2s						
PAU				A	A	12 09 34.3	
	comp=E,100nm,0.2s						
SHO	**Shikotan**	**5.78**	**230**	*e*PN	Pn	12 08 53.7	-3.5
SHO	**Shikotan**	**5.78**	**230**	*e*P	Pn	12 08 53.8	-3.4
SHO				AMB	AMB	12 08 57.7	
	comp=E,70nm,0.8s						
SHO				*e*S	Sn	12 09 55.0	-7.6
SHO				A	A	12 09 58.3	
	comp=E,20nm,0.5s						
SHO				A	A	12 09 58.3	
	comp=E,40nm,0.5s						
PEA0B	**Petropavlovsk-**	**6.16**	**28**	Pn	**Pn**	**12 09 01.1**	**-1.0**
PEA0B	**Petropavlovsk-**	**6.16**	**28**	*i* PN	**Pn**	**12 09 01.7**	**-0.4**
PETK	**Petropavlovsk-**	**6.16**	**28**	Pn	**Pn**	**12 09 00.5**	**-1.6**
PETK	**Petropavlovsk-**	**6.16**	**28**	P	**Pn**	**12 09 00.4**	**-1.7**
	comp=E,0.4nm,0.3s,baz=202,slow=14,SNR=9.9						
PETK	**Petropavlovsk-**	**6.16**	**28**	PN	**Pn**	**12 09 00.5**	**-1.6**
YUK	**Yuzh-Kuril'sk**	**6.20**	**236**	*e*P	**Pn**	**12 09 01.1**	**-1.5**
YUK				AMB	AMB	12 09 04.7	
	comp=E,210nm,0.8s						
YUK				*e*S	**Sn**	**12 10 08.4**	**-4.1**
YUK				A	A	12 10 13.6	
	comp=E,160nm,0.7s						
YUK				A	A	12 10 13.6	
	comp=E,160nm,0.7s						
PET	**Petropavlovsk**	**6.41**	**32**	Pn	**Pn**	**12 09 04.6**	**-0.8**
PET	**Petropavlovsk**	**6.41**	**32**	*e*P	**Pn**	**12 09 04.0**	**-1.4**
PET				*e*S	**Sn**	**12 10 14.2**	**-3.3**
NMR	**Nemuro--Hokkai**	**6.71**	**232**	*e*P	Pn	12 09 05.3	-4.2
AKK	**Akkeshi**	**7.42**	**233**	*e*P	Pn	12 09 15.3	-3.7
JKA	**Kamikawa-asahi**	**8.09**	**247**	Pn	**Pn**	**12 09 28.8**	**+0.9**
JKA	**Kamikawa-asahi**	**8.09**	**247**	*e*P	**Pn**	**12 09 28.8**	**+0.9**
ASAJ	**Asahikawa**	**8.09**	**247**	P	**Pn**	**12 09 28.1**	**+0.2**
	comp=E,4.6nm,0.5s,baz=67,slow=14,SNR=14						
ASAJ	**Asahikawa**	**8.09**	**247**	PN	**Pn**	**12 09 28.8**	**+0.9**
ERM	**Erimo**	**9.02**	**234**	Pn	**Pn**	**12 09 39.2**	**-1.1**
ERM	**Erimo**	**9.02**	**234**	PN	**Pn**	**12 09 39.2**	**-1.1**
SEY	**Seymchan**	**15.22**	**359***ce*P		**P**	**12 11 03.0**	**+1.3**
SEY				pmax	pmax		
	comp=Z,5.0nm,1.7s						
KSRS	**Korea Array**	**21.02**	**250**	P	**P**	**12 12 06.3**	**+1.2**
	comp=Z,2.2nm,0.9s,baz=49,slow=9.7,SNR=7.2						
	comp=Z,2.2nm,0.9s						
L16K	**Owhat River**	**30.03**	**45**	P	**P**	**12 13 28.6**	**+0.9**
L16K				IAmb	IAmb	12 13 54.1	
	comp=Z,5.3nm,1.4s						
F17K	**Baldwin Pennin**	**30.13**	**35**	P	**P**	**12 13 29.8**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**30.16**	**153**	T	T	12 45 22.8	
	baz=341,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**30.17**	**153**	T	T	12 45 27.0	
	baz=341,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**30.17**	**153**	T	T	12 45 26.2	
	baz=341,slow=76,SNR=22						
M16K	**Timber Creek**	**30.22**	**46**	P	**P**	**12 13 31.0**	**+1.6**
M16K				IAmb	IAmb	12 13 31.3	
	comp=Z,2.6nm,0.9s						
C18K	**Utukok River**	**30.81**	**31**	P	**P**	**12 13 35.4**	**+0.8**
C18K				IAmb	IAmb	12 13 35.5	
	comp=Z,4.4nm,1.4s						
SONM	**Songino Array**	**30.92**	**288**	P	**P**	**12 13 35.0**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=72,slow=9.3,SNR=3.5						
	comp=Z,0.5nm,0.5s						
M17K	**Holitna River**	**30.98**	**45**	P	**P**	**12 13 37.6**	**+1.6**
H18K	**Honhosa River**	**31.00**	**38**	P	**P**	**12 13 37.8**	**+1.6**
H18K				IAmb	IAmb	12 13 45.9	
	comp=Z,5.1nm,1.5s						
G18K	**Tagagawik**	**31.03**	**37**	P	**P**	**12 13 37.7**	**+1.2**
H11S1	**WAKE ISLAND Hy**	**31.25**	**154**	T	T	12 47 07.0	
	baz=343,slow=76,SNR=89						
H11S3	**WAKE ISLAND Hy**	**31.26**	**154**	T	T	12 47 01.7	
	baz=343,slow=76,SNR=63						
H11S2	**WAKE ISLAND Hy**	**31.27**	**154**	T	T	12 47 05.0	
	baz=343,slow=76,SNR=56						
L18K	**Granite Mounta**	**31.38**	**44**	P	**P**	**12 13 41.3**	**+1.7**
L18K				IAmb	IAmb	12 13 45.5	
	comp=Z,5.1nm,1.4s						
D20K	**Etivluk River**	**32.43**	**32**	P	**P**	**12 13 50.2**	**+1.4**
D20K				IAmb	IAmb	12 13 50.7	
	comp=Z,3.7nm,1.1s						
B20K	**Meade River**	**32.59**	**29**	P	**P**	**12 13 51.4**	**+1.3**
B21K	**Ikpikpuk River**	**33.35**	**30**	P	**P**	**12 13 58.2**	**+1.6**
B22K	**Teshekpuk Lake**	**33.91**	**29**	P	**P**	**12 14 02.8**	**+1.3**
B22K				IAmb	IAmb	12 14 03.3	
	comp=Z,2.9nm,0.6s						
COLD	**Coldfoot**	**34.57**	**35**	P	**P**	**12 14 08.3**	**+1.1**
ILAR	**Eielson Array**	**35.83**	**39**	P	**P**	**12 14 18.6**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=270,slow=7.3,SNR=7.4						
	comp=Z,0.5nm,0.8s						
D25K	**Kavik River**	**36.17**	**32**	P	**P**	**12 14 22.2**	**+1.3**
D25K				IAmb	IAmb	12 14 22.8	
	comp=Z,2.1nm,0.8s						
ZAA0	**Zalesovo Array**	**41.95**	**305**	P	**P**	**12 15 08.9**	**-0.2**
ZALV	**Zalesovo Beam**	**41.95**	**305**	P	**P**	**12 15 08.7**	**-0.3**
ZALV	**Zalesovo Beam**	**41.95**	**305**	P	**P**	**12 15 07.1**	**-1.9**

comp=Z,1.6nm,0.5s,baz=74,slow=7.4,SNR=9.8
comp=Z,1.6nm,0.5s
ZALV Zalesovo Beam 41.95 305 P **P 12 15 08.7 -0.3**
A36M Sachs Harbour 43.00 27 **P 12 15 19.1 +1.8**
MK31 Makanchi Array 46.40 296⇑ *i*P **P 12 15 43.8 -0.8**
MKAR Makanchi Array 46.40 296 P **P 12 15 44.5 0.0**
MKAR Makanchi Array 46.40 296 P **P 12 15 43.5 -1.1**
comp=Z,0.8nm,0.6s,baz=65,slow=6.8,SNR=7.2
comp=Z,0.8nm,0.6s
MKAR Makanchi Array 46.40 296 *ce*P **P 12 15 45.0 +0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 46.40 296 *e*P **P 12 15 45.0 +0.4**
KURK Kurchatov 46.73 303 P **P 12 15 46.4 -0.7**
KURK IAmb IAmb 12 15 47.5
comp=Z,3.2nm,0.7s
KURK Kurchatov 46.73 303 P **P 12 15 46.9 -0.1**
KURBB Kurchatov Arra 46.83 303 P **P 12 15 46.9 -0.9**
comp=Z,2.7nm,0.7s,baz=67,slow=8.5,SNR=14
comp=Z,2.7nm,0.7s
EUNU Eureka 48.17 12 P **P 12 15 58.7 +0.9**
BVAR Borovoye Array 50.15 309 P **P 12 16 13.2 0.0**
comp=Z,1.4nm,0.4s,baz=58,slow=7.5,SNR=10
comp=Z,1.4nm,0.4s
YKA Yellowknife Ar 50.18 37 P **P 12 16 14.8 +1.6**
YKA Yellowknife Ar 50.18 37 P **P 12 16 14.1 +0.9**
comp=Z,0.7nm,0.7s,baz=298,slow=7.4,SNR=9.2
comp=Z,0.7nm,0.7s
BRVK Borovoye 50.19 309 *d i*P **P 12 16 13.2 -0.2**
BRVK pmax pmax
comp=Z,3.0nm,1.8s
BRVK Borovoye 50.19 309 *e*P **P 12 16 13.2 -0.2**
CMAR Chiang Mai Arr 52.52 255 P **P 12 16 31.1 -0.1**
comp=Z,1.2nm,0.8s,baz=36,slow=7.0,SNR=7.5
comp=Z,1.2nm,0.8s
AAK Ala-Archa 53.30 296⇑ *i*P **P 12 16 36.4 -0.5**
AAK pmax pmax
comp=Z,1.0nm,0.8s
AAK Ala-Archa 53.30 296 *e*P **P 12 16 36.4 -0.5**
ARTI Arti 54.31 317 *d i*P **P 12 16 43.2 -0.6**
ARTI 12 17 43.7
ARTI S S 12 24 19.5 +10
ARTI pmax pmax
comp=Z,5.0nm,1.4s
LVZ Lovozero 55.81 336 *i*P **P 12 16 55.2 +0.8**
LVZ pmax pmax
comp=Z,2.0nm,0.6s
ILON Igloolik, Nuna 56.48 20 P **P 12 16 59.4 +0.4**
ILON IAmb IAmb 12 17 26.7
comp=Z,3.2nm,1.3s
ABKAR Akbulak array 57.71 309 P **P 12 17 08.2 +0.1**
ABKAR IAmb IAmb 12 17 33.5
comp=Z,3.1nm,1.5s
SUMG Summit 59.71 4 P **P 12 17 23.0 +1.1**
SUMG Summit 59.71 4 P **P 12 17 23.0 +1.1**
SUMG pmax pmax
comp=Z,9.0nm,1.2s
FIA1 FINESS Array S 63.09 334 P **P 12 17 44.3 0.0**
FINES FINESS Array B 63.09 334 P **P 12 17 44.3 0.0**
FINES FINESS Array B 63.09 334 P **P 12 17 44.1 -0.2**
comp=Z,2.1nm,0.4s,baz=34,slow=7.4,SNR=37
comp=Z,2.1nm,0.4s
FINES FINESS Array B 63.09 334 P **P 12 17 44.3 0.0**
PDAR Pinedale Array 64.24 54 PcP **PcP 12 18 26.5 +0.5**
comp=Z,0.3nm,0.7s,baz=298,slow=3.2,SNR=3.6
OBN Obninsk 64.43 325 *e*P **P 12 17 54.5 +1.4**
OBN *e**SP **pP 12 18 29.4 +1.6**
OBN *e* 12 20 16.8
OBN *e*PPP PPP 12 21 52.3
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN Obninsk 64.43 325 *e*P **P 12 17 54.5 +1.4**
PFO Pinyon Flats O 66.36 66⇑ *i*P P 12 18 01.1 -5.0
PFO pmax pmax
comp=Z,2.0nm,1.0s
NOA NORSAR Array B 67.25 341 P **P 12 18 11.3 +0.2**
comp=Z,0.3nm,0.5s,baz=26,slow=3.9,SNR=1.6
comp=Z,0.3nm,0.5s
HFS Hagfors 67.48 339 P **P 12 18 12.3 -0.3**
comp=Z,1.0nm,0.3s,baz=47,slow=5.1,SNR=12
comp=Z,1.0nm,0.3s
KBZ Khabaz 70.10 314 P **P 12 18 28.7 -0.3**
comp=Z,1.7nm,0.8s,baz=68,slow=4.8,SNR=4.9
comp=Z,1.7nm,0.8s
AKASG Malin Array Be 70.66 326 P **P 12 18 31.9 -0.3**
comp=Z,1.2nm,0.5s,baz=37,slow=6.2,SNR=7.5
comp=Z,1.2nm,0.5s
AKASG Malin Array Be 70.66 326 P **P 12 18 32.0 -0.3**
PALK Pallekele 72.74 262 *ce*P **P 12 18 42.1 -3.2**
ASAR Alice Springs 73.13 198 P **P 12 18 46.6 -0.6**
comp=Z,0.9nm,0.7s,baz=15,slow=6.4,SNR=8.5
comp=Z,0.9nm,0.7s
BUR08 Bucovina Ar. S 74.68 326 P **P 12 18 56.7 +0.5**
EKA Eskdalemuir Ar 75.34 346 P **P 12 19 00.7 +1.0**
comp=Z,0.4nm,0.4s,baz=22,slow=4.6,SNR=3.8
comp=Z,0.4nm,0.4s
CLL Collm 75.51 335 *i*P **P 12 19 01.3 +0.5**
CLL Collm 75.51 335 *i*P **P 12 19 01.3 +0.5**
MLR Muntele Rosu 76.19 325 P **P 12 19 05.6 +0.6**
comp=Z,3.1nm,0.6s,baz=113,slow=13,SNR=6.3
comp=Z,3.1nm,0.6s
TXAR Lajitas Array 77.09 61 P **P 12 19 11.5 +1.3**
TXAR Lajitas Array 77.09 61 P **P 12 19 11.2 +1.0**
comp=Z,0.4nm,0.5s,baz=292,slow=4.6,SNR=11
TXAR pP **pP 12 19 45.1 -1.3**
comp=Z,0.5nm,0.6s,baz=304,slow=5.4,SNR=7.3
comp=Z,0.4nm,0.5s
TXAR Lajitas Array 77.09 61 P **P 12 19 11.5 +1.3**
GERES GERESS Array B 77.51 334 P **P 12 19 12.5 +0.2**
GERES GERESS Array B 77.51 334 P **P 12 19 11.8 -0.5**
comp=Z,0.7nm,0.5s,baz=22,slow=4.6,SNR=5.6
comp=Z,0.7nm,0.5s
GERES GERESS Array B 77.51 334 P **P 12 19 12.5 +0.2**
BRTR Keskin Array B 77.59 316 P **P 12 19 11.9 -1.0**
comp=Z,1.0nm,0.7s,baz=64,slow=4.3,SNR=6.2
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 77.59 316 *ce*P **P 12 19 14.0 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
MMAI Mount Meron Ar 82.08 311 P **P 12 19 37.9 +0.8**
comp=Z,2.0nm,0.5s,baz=54,slow=6.3,SNR=5.6
comp=Z,2.0nm,0.5s
QSPA South Pole Qui 137.49 180 PKP **PKPdf 12 26 38.6 +0.6**
comp=Z,1.9nm,1.1s,baz=253,slow=1.5,SNR=5.6
H03N2 Juan Fernandez 138.85 89 T T 15 00 48.3
baz=309,slow=77,SNR=3.4
H03N1 Juan Fernandez 138.86 89 T T 15 00 47.6
baz=309,slow=77,SNR=4.3
H03N3 Juan Fernandez 138.86 89 T T 15 00 50.4
baz=309,slow=77,SNR=3.4

---

*JMA **27** 12:08:34.0±0.7,34°.N±2°.×14°.2E±°., h17km±4km, MV3.4/23, FAR SE OFF BOSO PEN*
*IDC **27** 12:08:36.2±3.8, 33.87N×141°.98E, h44km±34km, mb3.2/5, mbtmp3.4/6, ML3.0/1, MS3.1/2, Error ellipse: s-maj=30.4km s-min=13.2km az=96.0*
ISC 27 12:08:34.0±1.1, 33°.99N±0°.07×141°.91E±0°.10, h21km, n16, σ1§61/18, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.01**	**311**	P	**Pb**	**12 08 51.4**	**-1.1**
BSO1				*e*S	**Sb**	**12 09 03.9**	**-1.3**
BSO3	**Boso 3**	**1.41**	**305**	P	**Pn**	**12 08 58.0**	**-0.2**
BSO4	**Boso 4**	**1.63**	**308**	P	**Pn**	**12 09 02.1**	**+0.7**
JKUC	**kamogawauchiur**	**1.83**	**310**	P	**Pn**	**12 09 04.3**	**+0.2**
JKUC				*e*S	**Sn**	**12 09 25.1**	**-1.6**
JHJ	**Hachijo jima 2**	**1.98**	**244**	P	**Pn**	**12 09 08.1**	**+1.8**
	106nm,0.3s,baz=8.1,slow=20,SNR=7.7						
JHJ				S	**Sn**	**12 09 31.0**	**+0.6**
	165nm,0.3s,baz=81,slow=23,SNR=6.9						
JIM2	**Oshima 3**	**2.17**	**290**	*e*P	**Pn**	**12 09 08.6**	**-0.4**
JIZS	**Izushimoda**	**2.61**	**287**	*e*P	**Pn**	**12 09 14.8**	**-0.1**
MJAR	**Matsushiro Arr**	**3.95**	**311**	P	**Pn**	**12 09 36.0**	**+2.6**
	0.9nm,0.3s,baz=180,slow=15,SNR=9.3						
MJAR				S	**Sn**	**12 10 20.8**	**+1.7**
	10nm,0.7s,baz=156,slow=16,SNR=6.2						
	3.4nm,0.4s						
MA2	**Magadan**	**26.25**	**10**	LR	LR	12 25 33.8	
	comp=Z,51nm,21.5s,baz=18,slow=39						
SONM	**Songino Array**	**29.90**	**308**	P	**P**	**12 14 42.7**	**+2.4**
	0.5nm,0.6s,baz=106,slow=7.9,SNR=3.6						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**46.12**	**305**	P	**P**	**12 16 57.0**	**+0.2**
	0.3nm,0.5s,baz=94,slow=9.0,SNR=2.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**48.23**	**310**	P	**P**	**12 17 13.4**	**+0.4**
	1.4nm,0.2s,baz=83,slow=7.1,SNR=4.1						
ILAR	**Eielson Array**	**51.86**	**31**	P	**P**	**12 17 40.9**	**+0.5**
	0.4nm,0.7s,baz=271,slow=7.5,SNR=4.6						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**54.12**	**189**	P	**P**	**12 17 54.0**	**-3.4**
	0.4nm,0.6s,baz=7.2,slow=7.4,SNR=8.1						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**57.84**	**189**	P	**P**	**12 18 22.9**	**-1.3**
	0.2nm,0.7s,baz=7.4,slow=7.2,SNR=6.1						
	0.2nm,0.7s						
BBB	**Bella Bella**	**63.98**	**43**	LR	LR	12 45 43.0	
	comp=Z,13nm,18.9s,baz=212,slow=35						

IDC 27 12:12:12.9±1.3, 20°.75S×68°.40E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=40.2km s-min=30.7km az=65.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.61**	**17**	T	T	12 29 19.4	
	baz=197,slow=76,SNR=26						
H08S2	**Diego Garcia H**	**13.62**	**17**	T	T	12 29 19.7	
	baz=197,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**13.63**	**17**	T	T	12 29 24.7	
	baz=197,slow=76,SNR=51						
H04N2	**CROZET ISLANDS**	**28.76**	**204**	T	T	12 48 22.5	
	baz=34,slow=74,SNR=84						
H04N1	**CROZET ISLANDS**	**28.77**	**204**	T	T	12 48 23.4	
	baz=34,slow=74,SNR=86						
H04N3	**CROZET ISLANDS**	**28.78**	**204**	T	T	12 48 22.1	
	baz=34,slow=74,SNR=98						
CMAR	**Chiang Mai Arr**	**49.14**	**40**	P	P	12 21 02.9	+0.2
	1.1nm,0.9s,baz=241,slow=7.9,SNR=8.1						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**60.24**	**106**	P	P	12 22 23.0	-0.4
	0.6nm,0.8s,baz=263,slow=5.9,SNR=8.8						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**61.42**	**102**	P	P	12 22 31.6	+0.1
	1.2nm,1.0s,baz=259,slow=6.2,SNR=4.9						
	1.2nm,1.0s						
BRTR	**Keskin Array B**	**68.36**	**332**	P	P	12 23 16.2	-0.1
	0.4nm,0.5s,baz=152,slow=8.1,SNR=4.7						
	0.4nm,0.5s						
QSPA	**South Pole Qui**	**69.36**	**180**	P	P	12 23 22.6	+0.3
	3.5nm,1.1s,baz=290,slow=8.1,SNR=4.0						
	3.5nm,1.1s						

---

*SKHL **27** 12:19:37.2±0.7, 48°.10N×146°.80E, h520km±5km, mb4.8/4, msh5.0/4*
*IDC **27** 12:19:39.7±1.2, 48°.26N×145°.85E, h511km±15km, mb3.1/15, mbtmp4.0/22, Error ellipse: s-maj=15.4km s-min=11.9km az=107.0*
ISC 27 12:19:38.2±0.6, 48°.07N±0°.06×146°.08E±0°.09, h500km, n30, σ1§48/34, mb3.5/15, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzhno-Sakhali**	**2.51**	**245**	*e*P	**P**	**12 20 48.4**	**+2.4**
YSS				AMB	AMB	12 20 49.7	
	10.0nm,0.8s						
YSS				*e*S	**S**	**12 21 43.3**	**+2.1**
YSS				A	A	12 21 43.8	
	40nm,0.5s						
YSS				A	A	12 21 43.8	
	40nm,0.5s						
UGL	**Uglegorsk**	**2.85**	**292**	*e*P	**P**	**12 20 49.0**	**+1.0**
KUR	**Kuril'sk**	**3.09**	**156**	*e*P	**P**	**12 20 51.3**	**+1.5**
TYV	**Tymovskoe**	**3.58**	**323**	*e*P	**P**	**12 20 55.0**	**+1.9**
TYV				AMB	AMB	12 20 55.6	
	50nm,0.6s						
TYV				*e*S	**S**	**12 21 56.1**	**+1.8**
TYV				A	A	12 22 00.5	
SHO	**Shikotan**	**4.23**	**173**	*e*P	**P**	**12 20 58.4**	**-0.1**
SHO				AMB	AMB	12 20 58.9	
	70nm,0.2s						
SHO				*e*S	**S**	**12 22 01.9**	**-2.0**
SHO				A	A	12 22 05.1	
	40nm,0.3s						
SHO				A	A	12 22 05.1	
	60nm,0.3s						
ASAJ	**Asahikawa**	**4.63**	**213**	P	**P**	**12 21 04.3**	**+2.4**
	9.3nm,0.6s,baz=274,slow=6.6,SNR=22						
NMR	**Nemuro--Hokkai**	**4.71**	**183**	*e*P	**P**	**12 21 02.4**	**-0.2**
NMR				AMB	AMB	12 21 03.0	
	30nm,0.2s						
NMR				*e*S	**S**	**12 22 09.6**	**-1.7**
NMR				A	A	12 22 12.6	
	30nm,0.2s						
NMR				A	A	12 22 12.6	
	30nm,0.2s						
AKK	**Akkeshi**	**5.12**	**190**	*e*P	**P**	**12 21 06.3**	**0.0**
PETK	**Petropavlovsk-**	**8.95**	**51**	P	**P**	**12 21 46.1**	**+1.9**
	1.4nm,0.7s,baz=193,slow=6.1,SNR=4.2						
KLR	**Kul'dur**	**9.56**	**282**	P	**P**	**12 21 51.6**	**+0.9**
	3.0nm,0.4s,baz=96,slow=8.2,SNR=8.6						
USRK	**Ussuriysk Ar.**	**10.51**	**254**	P	**P**	**12 22 00.7**	**-0.2**
	2.1nm,0.6s,baz=63,slow=12,SNR=2.5						
MJAR	**Matsushiro Arr**	**12.90**	**210**	P	**P**	**12 22 28.9**	**+2.6**
	0.6nm,0.5s,baz=26,slow=10,SNR=1.6						
SEY	**Seymchan**	**15.31**	**11**	P	**P**	**12 22 51.5**	**+0.4**
	3.8nm,0.7s,baz=197,slow=8.0,SNR=17						
YAK	**Yakutsk**	**16.77**	**333**	P	**P**	**12 23 04.5**	**-1.9**
	15nm,0.4s,baz=130,slow=3.7,SNR=6.0						
TIXI	**Tiksi**	**24.98**	**347**	P	**P**	**12 24 19.1**	**-1.8**
	2.3nm,0.3s,baz=127,slow=5.6,SNR=4.3						
	2.3nm,0.3s						
ILAR	**Eielson Array**	**38.53**	**39**	P	**P**	**12 26 17.1**	**+0.5**
	0.7nm,0.6s,baz=259,slow=6.3,SNR=7.5						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**42.06**	**293**	P	**P**	**12 26 44.4**	**-0.7**
	0.8nm,0.6s,baz=73,slow=5.6,SNR=8.1						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**42.70**	**300**	P	**P**	**12 26 48.9**	**-1.2**
	2.6nm,0.2s,baz=73,slow=8.5,SNR=2.1						
	2.6nm,0.2s						
BVAR	**Borovoye Array**	**46.27**	**306**	P	**P**	**12 27 16.4**	**-1.3**
	0.5nm,0.3s,baz=57,slow=10,SNR=3.5						
	0.5nm,0.3s						
SPITS	**Spitsbergen Ar**	**50.40**	**348**	P	**P**	**12 27 46.6**	**-1.5**
	2.7nm,0.8s,baz=52,slow=8.6,SNR=5.6						
	2.7nm,0.8s						
YKA	**Yellowknife Ar**	**52.66**	**35**	P	**P**	**12 28 04.7**	**0.0**
	0.3nm,0.6s,baz=307,slow=7.2,SNR=6.2						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**54.95**	**338**	P	**P**	**12 28 20.0**	**-0.8**
	1.7nm,0.9s,baz=46,slow=6.9,SNR=3.6						
	1.7nm,0.9s						
FINES	**FINESS Array B**	**60.70**	**331**	P	**P**	**12 28 58.9**	**-1.1**
	2.0nm,0.5s,baz=40,slow=7.5,SNR=20						
	2.0nm,0.5s						
NB2	**NORSAR Subarra**	**65.31**	**338**	P	**P**	**12 29 28.8**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=48,slow=5.9						
NOA	**NORSAR Array B**	**65.31**	**338**	P	**P**	**12 29 28.9**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=33,slow=7.2,SNR=3.6						
	comp=Z,0.7nm,0.7s						
HFS	**Hagfors**	**65.43**	**336**	P	**P**	**12 29 29.1**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=38,slow=7.7,SNR=5.8						
	comp=Z,1.6nm,0.7s						
KBZ	**Khabaz**	**66.42**	**310**	P	**P**	**12 29 36.7**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=167,slow=0.1,SNR=2.6						
	comp=Z,1.2nm,0.7s						
PDAR	**Pinedale Array**	**67.71**	**50**	P	**P**	**12 29 45.8**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=294,slow=6.1,SNR=2.9						
	comp=Z,0.2nm,0.6s						
WRA	**Warramunga Arr**	**68.51**	**192**	P	**P**	**12 29 51.0**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=10,slow=6.4,SNR=3.9						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**72.23**	**192**	P	**P**	**12 30 13.8**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=0.2,slow=5.1,SNR=40						
	comp=Z,0.6nm,0.4s						

---

*IDC **27** 12:23:51.2±1.2, 20°.80S×68°.16E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=38.9km s-min=25.1km az=64.0*
*NEIC **27** 12:23:52.9±1.9, 20°.8S±0°.1×67°.93E±0°.04, h10km±1km, mb4.5/16, Error ellipse: s-maj=23.4km s-min=4.2km az=189.0*
ISC 27 12:23:52.1±0.7, 20°.8S±0°.1×68°.0E±0°.1, h10km, n34, σ1§08/28, mb4.3/13, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**4.47**	**283**	Pn	**Pn**	**12 24 58.9**	**-1.0**
H08S1	**Diego Carcia H**	**13.77**	**19**	T	T	12 40 56.1	
	baz=197,slow=75,SNR=46						
H08S2	**Diego Garcia H**	**13.78**	**19**	T	T	12 40 56.6	
	baz=197,slow=75,SNR=57						
H08S3	**Diego Garcia H**	**13.79**	**19**	T	T	12 40 57.6	
	baz=197,slow=75,SNR=55						
H04N2	**CROZET ISLANDS**	**28.57**	**204**	T	T	12 59 59.4	
	baz=34,slow=74,SNR=117						
H04N1	**CROZET ISLANDS**	**28.58**	**204**	T	T	13 00 00.3	
	baz=34,slow=74,SNR=112						
H04N3	**CROZET ISLANDS**	**28.59**	**204**	T	T	12 59 59.0	
	baz=34,slow=74,SNR=95						
KIBK	**Kibwezi**	**34.48**	**298**	P	**P**	**12 30 41.3**	**+0.7**
KSM	**Kuching**	**46.94**	**67**	P	**P**	**12 32 23.3**	**-0.2**
MBWA	**Marble Bar**	**48.12**	**100**	P	**P**	**12 32 30.6**	**-2.0**
PSA00	**Pilbara Seismi**	**48.16**	**101**	P	**P**	**12 32 32.9**	**0.0**
PSA00				IAmb	IAmb	12 32 49.1	
	comp=Z,5.2nm,0.9s						
CM31	**Chiang Mai Arr**	**49.41**	**40**		**P**	**12 32 43.8**	**+1.4**
CM31				IAmb	IAmb	12 32 48.9	
	comp=Z,7.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**49.41**	**40**	P	**P**	**12 32 42.4**	**0.0**
CMAR	**Chiang Mai Arr**	**49.41**	**40**	P	**P**	**12 32 43.1**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=230,slow=7.8,SNR=9.1						
	comp=Z,1.2nm,0.6s						
SHL	**Shillong**	**51.59**	**28**	P	**P**	**12 32 59.4**	**+0.4**
NIL	**Nilore**	**54.37**	**5**	P	**P**	**12 33 19.7**	**+0.5**
NIL				IAmb	IAmb	12 33 20.9	
	comp=Z,4.4nm,0.9s						
ASAR	**Alice Springs**	**60.58**	**106**	P	**P**	**12 34 02.6**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=268,slow=6.4,SNR=11						
	comp=Z,0.6nm,0.8s						
WRA	**Warramunga Arr**	**61.77**	**102**	P	**P**	**12 34 11.5**	**0.0**
	comp=Z,2.2nm,1.1s,baz=258,slow=6.6,SNR=4.7						
	comp=Z,2.2nm,1.1s						
KK31	**Karatay Array**	**63.62**	**2**	P	**P**	**12 34 24.3**	**+1.1**
KK31				IAmb	IAmb	12 34 25.4	
	comp=Z,6.7nm,1.5s						
KKAR	**Karatay Array**	**63.62**	**2**	P	**P**	**12 34 24.3**	**+1.1**
KKAR				IAmb	IAmb	12 34 25.4	
	comp=Z,7.1nm,1.5s						
BR131	**Keskin Array S**	**68.22**	**332**	P	**P**	**12 34 53.8**	**+0.7**
BRTR	**Keskin Array B**	**68.22**	**332**	P	**P**	**12 34 54.1**	**+1.0**
BRTR	**Keskin Array B**	**68.22**	**332**	P	**P**	**12 34 54.9**	**+1.8**
	comp=Z,1.3nm,0.9s,baz=142,slow=6.3,SNR=7.9						
	comp=Z,1.3nm,0.9s						
MKAR	**Makanchi Array**	**68.50**	**11**	P	**P**	**12 34 54.3**	**-0.2**
MKAR	**Makanchi Array**	**68.50**	**11**	P	**P**	**12 34 54.8**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=180,slow=3.6,SNR=4.5						
	comp=Z,0.5nm,0.7s						
ILGA	**Ilgaz**	**69.28**	**333**	P	**P**	**12 35 00.9**	**+1.2**
QSPA	**South Pole Qui**	**69.32**	**180**	P	**P**	**12 35 00.9**	**+1.3**
QSPA				IAmb	IAmb	12 35 11.4	
	comp=Z,3.8nm,1.1s						
QSPA	**South Pole Qui**	**69.32**	**180**	P	**P**	**12 35 00.6**	**+1.0**
	comp=Z,3.9nm,1.1s,baz=288,slow=5.5,SNR=4.0						
	comp=Z,3.9nm,1.1s						
BORA	**Eskisehir**	**69.79**	**330**	P	**P**	**12 35 03.0**	**+0.2**
ABKAR	**Akbulak array**	**70.10**	**354**	P	**P**	**12 35 01.9**	**-2.4**
VNDA	**Vanda**	**70.68**	**167**	P	**P**	**12 35 08.1**	**+0.4**
ZALV	**Zalesovo Beam**	**75.83**	**10**	P	**P**	**12 35 37.5**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=180,slow=3.0,SNR=4.0						
	comp=Z,0.2nm,0.4s						
MLR	**Muntele Rosu**	**76.24**	**331**		**P**	**12 35 40.7**	**-0.2**
MLR				IAmb	IAmb	12 35 48.6	
	comp=Z,2.2nm,1.0s						
YKA	**Yellowknife Ar**	**138.29**	**2**	PKP	**PKPdf**	**12 43 15.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=7.3,slow=2.5,SNR=4.6						

---

*IDC **27** 12:28:37.9±2.1, 3°.04N×64°.07E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=61.6km s-min=34.7km az=67.0*
ISC 27 12:28:38.7±2.4, 3°.1N±0°.3×63°.9E±0°.4, h10km, n6, σ1§20/6, mb3.6/5, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**37.56**	**63**	P	**P**	**12 35 53.8**	**+0.2**
	0.4nm,0.4s,baz=223,slow=6.0,SNR=2.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**46.40**	**17**	P	**P**	**12 37 04.0**	**-1.4**
	0.2nm,0.4s,baz=195,slow=9.7,SNR=1.6						
	0.2nm,0.4s						
SONM	**Songino Array**	**57.64**	**33**	P	**P**	**12 38 30.4**	**+1.2**
	0.2nm,0.6s,baz=232,slow=4.7,SNR=1.6						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**72.75**	**112**	P	**P**	**12 40 07.8**	**0.0**
	1.7nm,0.9s,baz=277,slow=6.5,SNR=7.3						
	1.7nm,0.9s						
ASAR	**Alice Springs**	**73.03**	**116**	P	**P**	**12 40 08.8**	**-0.6**
	0.9nm,1.0s,baz=282,slow=5.9,SNR=6.9						
	0.9nm,1.0s						
TXAR	**Lajitas Array**	**145.65**	**341**	PKPbc	**PKPab**	**12 48 19.5**	**+0.7**
	0.8nm,0.8s,baz=54,slow=3.6,SNR=8.4						

TRN 27 12:32:04.9, 17°.33N×62°.09W, h21km, MD3.6, North-west of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.42**	**132**	*e*P	Pn	12 32 16.2	+0.5
ANBD				*e*S	Sn	12 32 22.6	-0.2
ANWB	**Willy Bob**	**0.44**	**41**	*e*P	Pn	12 32 16.2	+0.2
ANWB				*e*S	Sn	12 32 22.6	-0.8
MBFL	**Flemmings, Mon**	**0.59**	**192**	*e*P	Pn	12 32 19.4	+1.2
MBFL				*e*S	Sn	12 32 28.1	+0.9
MBWH		**0.59**	**190**	*e*P	Pn	12 32 19.3	+1.1
MBWH				*e*S	Sn	12 32 28.2	+0.9
SKOC	**St. Kitts, UWI**	**0.62**	**267**	*e*P	Pn	12 32 19.1	+0.6
SKOC				*e*S	Sn	12 32 28.8	+1.1
SKI	**Saint Kitts**	**0.62**	**270**	*e*P	Pn	12 32 20.1	+1.6
SKI				*e*S	Sn	12 32 30.0	+2.1
TBG	**Guadaloupe-3**	**1.53**	**164**	*e*P	Pb	12 32 33.1	+0.6
DSLB	**Salisbury**	**1.99**	**161**	*e*P	Pb	12 32 39.9	-0.5
DSLB				*e*S	Sb	12 33 04.8	+0.1

---

*NEIC **27** 12:33:51.7±1.2, 38°.804N±0°.009×122°.79W±0°.01, h1km±1km, Error ellipse: s-maj=1.8km s-min=1.1km az=62.0*
NCEDC 27 12:33:51.5±1.0, 38°.834N±0°.010×122°.780W±0°.009, h2km±4km, ML2.9/32, ML2.7/39(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=160.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.03**	**204**	Pg	Pg	12 33 52.4	+0.2
GSGM	**Seigler Mounta**	**0.06**	**59**		Pg	12 33 53.3	+0.6
GGPM	**Geyser Peak**	**0.09**	**216**		Pg	12 33 53.4	+0.3
GAXM	**Alexander Vall**	**0.12**	**171**		Pg	12 33 54.1	+0.2
GRTM	**Round Top Moun**

NOLM	Olema	0.79	181		Pg	12 34 07.0	+0.4
GTC	Three Chop Rid	0.83	313		Pb	12 34 08.0	-0.6
OSUM	Sutter Buttes	0.84	59		Pb	12 34 08.3	-0.5
NPRM	Point Reyes	0.86	193		Pb	12 34 08.5	-0.6
NLHM	Lake Herman	0.87	145		Pb	12 34 08.7	-0.5
PINL	Point Pinole R	0.89	158		Pb	12 34 09.0	-0.5
CPMM	Point Molate	0.93	162		Pg	12 34 09.2	-0.1
JEPS	Jepson Natural	0.94	127		Pb	12 34 10.8	+0.3
GVV	Valley View	0.94	5		Pb	12 34 10.7	+0.1
CPIM	Pinole Ridge	0.95	152		Pb	12 34 10.3	-0.4
CTAM	Taylor	1.00	143		Pg	12 34 11.0	+0.3
BRK	Berkeley--Havi	1.04	157		Pg	12 34 11.5	+0.1
VAK	Adit at Lawren	1.04	156		Pg	12 34 11.5	+0.1
BL67	Building 67, L	1.04	156		Pg	12 34 11.7	+0.2
BKS	Berkeley--Byer	1.05	156		Pg	12 34 10.8	-0.7
KCPM	Cahto Peak	1.05	324		Pb	12 34 12.8	+0.2
KCPM				IAML		12 34 19.9	
comp=N,260nm,1.1s							
JPRM	Presidio of Sa	1.06	167		Pg	12 34 11.7	-0.2
BDM	Black Diamond	1.14	140		Pg	12 34 12.4	-0.8
BGC	Bolinger Road	1.16	151		Pg	12 34 13.9	+0.2
JSBM	San Bruno Moun	1.19	165		Pg	12 34 13.8	-0.5
JMGM	Milagra Ridge	1.22	169		Pg	12 34 14.6	-0.3
ORV	Oroville	1.23	54		Pg	12 34 13.8	-1.2
SAC	San Andreas	1.28	167		Pg	12 34 15.6	-0.4
JCPM	Coyote Point	1.29	164		Pg	12 34 15.7	-0.6
O02D	Mt. Diablo Mer	1.34	360		Pb	12 34 18.3	+0.9
CBSNC	Byron Hot Spri	1.35	138		Pn	12 34 16.2	-1.1
CNIC	Niles Canyon	1.38	152		Pn	12 34 16.9	-0.9
AFDM	Forest Hills D	1.42	85		Pn	12 34 16.3	-2.0
KMRM	Mail Ridge	1.56	333		Pg	12 34 23.4	+2.0
KMRM				IAML		12 34 31.5	
comp=E,129nm,0.9s							
KMRM				IAML		12 34 52.0	
comp=N,122nm,1.0s							
CMB	Columbia Colle	2.04	112		Pn	12 34 26.1	-0.8
CMB				IAML		12 34 58.3	
comp=E,31nm,0.7s							
BEKR	Beckworth	2.14	60		Pn	12 34 28.8	+0.4
BEKR				IAML		12 35 04.0	
comp=E,27nm,0.7s							
MPK	Martis Peak	2.19	77		Pn	12 34 30.1	+0.9
MPK				IAML		12 35 06.6	
comp=E,76nm,0.8s							
MPK				IAML		12 35 20.5	
comp=N,70nm,0.8s							
HATC	Hat Creek Radi	2.23	27		Pn	12 34 30.2	+0.7
HATC				IAML		12 35 01.1	
comp=E,44nm,3.8s							
HATC				IAML		12 35 26.5	
comp=N,48nm,2.2s							
SAO	San Andreas Ge	2.32	153		Pn	12 34 29.5	-1.2
PNTR	Pine Nut	2.49	83		Pn	12 34 33.8	+0.5
BBGB	Big Mountain B	2.64	148		Pn	12 34 33.9	-1.3
BBGB				IAML		12 35 06.7	
comp=N,59nm,0.9s							
BBGB				IAML		12 35 11.7	
comp=E,56nm,0.8s							
PAHR	Pah Rah Range	2.78	71		Pn	12 34 37.2	+0.1
PAHR				IAML		12 35 23.7	
comp=N,16nm,1.4s							
PAHR				IAML		12 35 40.6	
comp=E,16nm,1.9s							
RYN	Ryan	3.34	92		Pn	12 34 44.0	-0.8
RYN				IAML		12 35 45.2	
comp=N,16nm,0.6s							
RYN				IAML		12 35 55.5	
comp=E,15nm,1.2s							
NV11	Mina Array Sit	3.64	95		Pn	12 34 49.2	+0.2
NV11				IAML		12 35 50.0	
comp=E,9.6nm,2.3s							
NV11				IAML		12 36 00.9	
comp=N,14nm,1.3s							

*IDC **27** 12:33:49.7±1.4, 3°.38N×64°.35E, h0km, mb3.9/9, mbtmp3.9/9, MS3.9/21, Error ellipse: s-maj=43.7km s-min=22.4km az=53.0*
*NEIC **27** 12:33:52.4±0.9, 3°.3N±0°.1×64°.34E±0°.07, h10km±1km, mb4.3/28, Error ellipse: s-maj=21.8km s-min=12.2km az=170.0*
*GCMT **27** 12:33:52.5±0.3, 3°.24N±0°.03×64°.44E±0°.03, h17km±1km, MW4.8/90, Moment Tensor Solution. s22,c23; s90,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.08±.13; $M_{\theta\theta}$1.32±.09; $M_{\phi\phi}$0.75±.08; $M_{r\theta}$-0.36±.26; $M_{\theta\phi}$-0.62±.05; $M_{\phi r}$-0.06±.24; Best double couple: $M_0$1.93200×10^{16} NP1:ϕ_s308.00000°, δ41.00000°, λ-82.00000°. NP2: ϕ_s117.00000°, δ49.00000°, λ-97.00000°. Principal axes: T 1.7390, Plg4.0000°, Azm212.0000°; N 0.3840, Plg6.0000°, Azm122.0000°; P -2.1240, Plg83.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 12:33:51.6±0.8, 3°.4N±0°.1×64°.3E±0°.1, h10km, n61, σ0.73/40, mb4.2/22, MS3.9/21, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	16.75	76	LR	LR	12 42 44.5	
comp=Z,460nm,20.1s,baz=260,slow=32							
ATD	Arta Tunnel	22.80	292	LR	LR	12 45 52.9	
comp=Z,6.1nm,21.6s,baz=42,slow=32							
KIBK	Kibwezi	26.89	258	P	P	12 39 32.1	-1.0
KIBK				IAmb	IAmb	12 39 47.3	
comp=Z,7.2nm,1.5s							
RAYN	Ar Rayn	27.09	319	P	P	12 39 35.2	+0.4
RAYN				IAmb	IAmb	12 39 49.6	
comp=Z,5.1nm,1.2s							
OPO	Ambohidratompo	27.57	217	LR	LR	12 48 28.1	
comp=Z,343nm,18.2s,baz=180,slow=32							
HRA	Herat	30.94	357	P	P	12 40 09.7	+0.6
HRA				IAmb	IAmb	12 40 17.2	
comp=Z,3.3nm,0.5s							
NIL	Nilore	31.27	14	P	P	12 40 12.1	+0.3
NIL				IAmb	IAmb	12 40 22.5	
comp=Z,11nm,1.1s							
KBL	Kabul	31.34	7	P	P	12 40 13.8	+1.2
KBL				IAmb	IAmb	12 40 15.6	
comp=Z,4.0nm,0.7s							
BRDH	Bariadhala	32.69	52	LR	LR	12 55 01.1	
comp=Z,600nm,18.1s,baz=250,slow=39							
FOMA	Nahampoana Res	32.82	210	P	P	12 40 26.7	+1.2
PSI	Prapat	34.53	90	LR	LR	12 52 51.9	
comp=Z,202nm,19.7s,baz=242,slow=33							
GAR	Garm	35.90	8	P	P	12 40 52.5	+0.4
DRK	Karamyk	36.59	10	P	P	12 40 58.9	+0.6
BTK	Batken	37.01	8	P	P	12 41 02.4	+0.8
BTK				IAmb	IAmb	12 41 02.8	
comp=Z,3.7nm,0.9s							
CMAR	Chiang Mai Arr	37.03	63	P	P	12 41 02.1	+0.1
comp=Z,1.1nm,0.3s,baz=261,slow=9.9,SNR=4.8							
CMAR				LR	LR	12 55 16.2	
comp=Z,119nm,19.6s,baz=255,slow=35							
comp=Z,1.1nm,0.3s							
CHTO	Chiang Mai	37.16	63	P	P	12 41 03.7	+0.6
WUS	Wushi	39.98	18	P	P	12 41 26.6	-0.1
AAK	Ala-Archa	40.15	12	P	P	12 41 29.0	+0.9
LSZ	Lusaka	40.30	242	LR	LR	12 55 32.4	
comp=Z,179nm,21.2s,baz=146,slow=32							
GNI	Garni	40.70	337	P	P	12 41 33.2	+0.6
GNI				IAmb	IAmb	12 41 44.5	
comp=Z,17nm,1.4s							
PRZ	Przheval'sk	40.94	16	P	P	12 41 35.0	+0.4
KBZ	Khabaz	44.47	338	LR	LR	13 00 24.0	
comp=Z,61nm,20.8s,baz=138,slow=36							
BRTR	Keskin Array B	45.66	327	P	P	12 42 12.7	-0.1
comp=Z,0.4nm,0.7s,baz=156,slow=11,SNR=2.6							
comp=Z,0.4nm,0.7s							
AB31	Akbulak array	45.89	356	P	P	12 42 14.7	+0.5
ABKAR	Akbulak array	45.89	356	P	P	12 42 14.6	+0.3
MAKZ	Makanchi	45.91	17	P	P	12 42 14.0	-0.5
MKAR	Makanchi Array	45.99	17	P	P	12 42 15.3	+0.1
MKAR	Makanchi Array	45.99	17	P	P	12 42 14.2	-0.9
comp=Z,0.4nm,0.7s,baz=205,slow=6.4,SNR=2.3							
comp=Z,0.4nm,0.7s							
ILGA	Ilgaz	46.55	328	P	P	12 42 20.1	+0.3
ILGA				IAmb	IAmb	12 42 23.6	
comp=Z,3.6nm,1.0s							
KURBB	Kurchatov Arra	48.60	12	P	P	12 42 34.8	-0.6
comp=Z,1.3nm,0.2s,baz=207,slow=8.0,SNR=4.4							
comp=Z,1.3nm,0.2s							
BOSA	Boshof	49.19	227	LR	LR	13 01 59.9	
comp=Z,104nm,18.4s,baz=98,slow=34							
TSUM	Tsumeb	51.15	242	LR	LR	13 02 43.0	
comp=Z,230nm,20.5s,baz=150,slow=34							
ZAA0	Zalesovo Array	53.15	15	P	P	12 43 08.5	-1.0
ZAA0				IAmb	IAmb	12 43 14.3	
comp=Z,2.9nm,1.2s							
ZALV	Zalesovo Beam	53.15	15	P	P	12 43 08.4	-1.2
ZALV	Zalesovo Beam	53.15	15	P	P	12 43 08.2	-1.3
comp=Z,0.7nm,0.6s,baz=188,slow=9.0,SNR=4.0							
comp=Z,0.7nm,0.6s							
MLR	Muntele Rosu	53.73	327	P	P	12 43 15.2	+1.1
SUR	Sutherland	54.45	226	LR	LR	13 02 56.4	
comp=Z,144nm,21.9s,baz=147,slow=32							
BURAR	Bucovina Array	55.48	329	P	P	12 43 27.0	+0.2
AKASG	Malin Array Be	55.66	334	LR	LR	13 09 44.2	
comp=Z,43nm,19.1s,baz=93,slow=39							
SONM	Songino Array	57.16	32	P	P	12 43 39.4	+0.6
SONM				IAmb	IAmb	12 43 48.2	
comp=Z,3.6nm,1.4s							
SONM	Songino Array	57.16	32	P	P	12 43 38.3	-0.5
comp=Z,0.5nm,0.5s,baz=220,slow=9.5,SNR=4.5							
comp=Z,0.5nm,0.5s							
ULN	Ulaanbaatar	57.53	33	P	P	12 43 41.7	+0.3
ULN				IAmb	IAmb	12 44 08.4	
comp=Z,1.5nm,0.6s							
TORD	Torodi Ar. Bea	62.62	283	P	P	12 44 16.6	-0.3
TORD				IAmb	IAmb	12 44 54.0	
comp=Z,2.5nm,1.5s							
KSRS	Korea Array	67.13	51	LR	LR	13 14 45.9	
comp=Z,93nm,20.9s,baz=245,slow=37							
HFS	Hagfors	68.46	335	P	P	12 44 52.2	-1.6
comp=Z,1.3nm,0.7s,baz=144,slow=12,SNR=2.3							
comp=Z,1.3nm,0.7s							
JNU	Nakatsue	68.58	56	LR	LR	13 17 39.5	
comp=Z,60nm,18.1s,baz=257,slow=38							
WRA	Warramunga Arr	72.45	112	P	P	12 45 18.9	0.0
WRA	Warramunga Arr	72.45	112	P	P	12 45 18.4	-0.5
comp=Z,3.9nm,0.8s,baz=289,slow=5.5,SNR=17							
comp=Z,3.3nm,0.8s							
WB0	Warramunga Arr	72.47	112	P	P	12 45 18.5	-0.6
WB0				IAmb	IAmb	12 45 20.3	
comp=Z,4.2nm,0.9s							
WR8	Warramunga Arr	72.60	112	P	P	12 45 19.3	-0.6
WR8				IAmb	IAmb	12 45 21.0	
comp=Z,5.6nm,0.9s							
ASAR	Alice Springs	72.75	116	P	P	12 45 19.9	-0.8
ASAR	Alice Springs	72.75	116	P	P	12 45 20.4	-0.3
comp=Z,1.5nm,0.8s,baz=285,slow=6.3,SNR=18							
comp=Z,1.5nm,0.8s							
MJAR	Matsushiro Arr	75.06	53	LR	LR	13 21 15.0	
comp=Z,56nm,19.5s,baz=252,slow=38							
SPITS	Spitsbergen Ar	78.78	351	LR	LR	13 23 48.9	
comp=Z,50nm,19.1s,baz=122,slow=38							
TIXI	Tiksi	78.98	17	LR	LR	13 22 41.1	
comp=Z,75nm,18.0s,baz=210,slow=37							
JMIC	Jan Mayen	81.29	342	LR	LR	13 22 46.6	
comp=Z,44nm,20.4s,baz=105,slow=36							
SEY	Seymchan	86.14	27	LR	LR	13 27 36.5	
comp=Z,126nm,19.1s,baz=258,slow=38							
PETK	Petropavlovsk-	89.36	37	LR	LR	13 28 52.6	
comp=Z,101nm,19.0s,baz=259,slow=37							
SFJD	Kangerlussuaq	96.44	339	LR	LR	13 33 42.2	
comp=Z,53nm,18.4s,baz=66,slow=37							
SHEM	Shemya Is, Ala	99.16	35	LR	LR	13 35 02.7	
comp=Z,65nm,18.5s,baz=303,slow=37							
TXAR	Lajitas Array	145.53	341	PKPbc	PKPab	12 53 31.1	-0.2
comp=Z,0.9nm,0.7s,baz=52,slow=3.5,SNR=12							

*SJA **27** 12:39:53.8±1.0, 30°.80S×68°.30W, h12km, ML4.3, MW4.0*
*NEIC **27** 12:39:54.2±1.8, 30°.91S±0°.04×68°.22W±0°.05, h10km±2km, mb4.5/2, Mwr4.4(GUC), Error ellipse: s-maj=8.5km s-min=5.1km az=142.0*
*IDC **27** 12:39:54.0±0.8, 30°.91S×68°.17W, h0km, mb3.9/6, mbtmp3.8/10, ML3.7/4, MS3.4/3, Error ellipse: s-maj=30.5km s-min=19.9km az=103.0*
*GUC **27** 12:39:55.9±0.7, 30°.73S×68°.42W, h13km±6km, ML4.4*

ISC 27 12:39:54.4±0.5, 30°.84S±0°.02×68°.27W±0°.02, h10km, n115, σ1.88/143, mb4.1/7, 3C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	Cerro Villicun	0.52	200	eP	Pg	12 39 58.5	-6.0
DOCA	Reserva Natura	0.71	261	eP	Pg	12 40 06.8	-1.3
DOCA				eS	Sg	12 40 17.0	-0.4
AVFE	Valle Fertil	0.73	76	eP	Pb	12 40 08.4	-0.8
SJA	San Juan	0.73	200	eP	Pb	12 40 08.4	-0.8
SJA				IAML		12 40 21.7	
comp=Z,5μm,0.3s							
ACCO	Cerro Coronel	0.73	290	eP	Pn	12 40 10.1	-1.0
ZON	Zonda	0.78	206		Pg	12 40 08.8	-0.7
ZON					Sg	12 40 18.5	-1.3
ACDV	Cuesta del Vie	0.99	312	eP	Pg	12 40 12.2	-1.3
ACDV				eS	Sg	12 40 23.6	-2.9
AROD	Rodeo	1.24	303	eP	Pn	12 40 16.6	-1.4
RTLS	Leoncito	1.30	222	eP	Pn	12 40 17.8	-1.1
RTLS				IAML		12 40 36.9	
comp=Z,6μm,0.9s							
AGUA	GUANDACOL	1.36	352	eP	Pg	12 40 19.4	-1.2
AGUA				IAML		12 40 41.7	
comp=Z,2μm,0.4s							
ACHE	Chepes	1.42	103	eP	Pg	12 40 20.6	-1.0
APLL	PUNTA DE LOS L	1.57	74	eP	Pg	12 40 23.0	-1.5
CO01	Juntas del Tor	1.79	298		Pb	12 40 26.1	-1.4
CO01				Sn	Sb	12 40 48.9	-1.3
CO01	Juntas del Tor	1.79	298	eP	Pb	12 40 26.1	-1.4
CO01				eS	Sb	12 40 49.2	-1.0
CO01	Juntas del Tor	1.79	298	eP	Pb	12 40 26.2	-1.4
ACLC	CERRO LA CRUZ	1.82	39	eP	Pg	12 40 27.4	-1.9
ACLC				eS	Sn	12 40 46.7	-2.4
ACLC				IAML		12 40 52.4	
comp=Z,5μm,0.3s							
ARCO	CERRO ARCO	2.07	196	eP	Pb	12 40 32.1	0.0
ARCO				eS	Sn	12 40 54.4	-1.0
ARCO				IAML		12 41 02.7	
comp=Z,2μm,0.4s							
CO03	El Pedregal	2.08	269		Pb	12 40 30.6	-1.7
CO03				Sn	Sb	12 40 57.1	-1.1
CO03	El Pedregal	2.08	269	eP	Pb	12 40 30.6	-1.7
CO03				eS	Sb	12 40 57.7	-0.6
CO03	El Pedregal	2.08	269	eP	Pb	12 40 30.7	-1.7
CO03				eS	Sb	12 40 58.3	+0.1
CO03				IAML		12 41 04.3	
comp=Z,1μm,0.9s							
VCA	Vinchina	2.10	2	iP	Pb	12 40 31.8	-0.9
VCA				eS	Sb	12 40 59.0	+0.1
VCA				IAML		12 41 05.1	
comp=N,4μm,0.4s							
VCA	Vinchina	2.10	2	eP	Pb	12 40 32.0	-0.6
VCA				eS	Sg	12 41 00.4	-1.5
VCA				IAML		12 41 02.5	
comp=Z,3μm,0.5s							
GO04	Tololo Observa	2.28	286		Pb	12 40 34.6	-1.3
GO04	Tololo Observa	2.28	286	eP	Pb	12 40 34.5	-1.3
GO04				eS	Sb	12 41 03.8	-0.4
GO04	Tololo Observa	2.28	286	eP	Pb	12 40 34.5	-1.3
GO04				eS	Sb	12 41 04.5	+0.3
AAGR	Agrelo	2.29	192	eP	Pb	12 40 35.4	-0.4
AAGR				eS	Sg	12 41 06.3	-1.5
AAGR				IAML		12 41 09.0	
comp=Z,1μm,0.9s							
CO02	Combarbal	2.37	261		Pb	12 40 35.9	-1.4
CO02	Combarbal	2.37	261	eP	Pb	12 40 35.6	-1.6
CO02				eS	Sb	12 41 06.3	-0.3
CO02				IAML		12 41 12.4	
comp=N,6μm,0.4s							
CO02	Combarbal	2.37	261	eP	Pb	12 40 35.2	-2.1
CO02				IAML		12 41 11.8	
comp=Z,2μm,0.3s							
AC05	El Transito	2.65	318		Pb	12 40 40.8	-1.3
AC05	El Transito	2.65	318	eP	Pb	12 40 40.9	-1.2
AC05				IAML		12 41 16.8	
comp=N,2μm,0.6s							
AC05	El Transito	2.65	318	eP	Pb	12 40 41.0	-1.0
AC05				eP	Pg	12 40 41.1	-4.1
AC05				eS	Sn	12 41 10.9	+1.3
AC05				IAML		12 41 19.0	
comp=Z,832nm,0.6s							
MRA	San Martin	2.69	126	eP	Pb	12 40 40.4	-2.2
MRA				eS	Sn	12 41 11.1	+0.7
CO05	La Serena	2.72	289		Pb	12 40 41.2	-2.1
CO05	La Serena	2.72	289	eP	Pb	12 40 40.7	-2.5
VA03	San Esteban	2.73	225		Pb	12 40 42.4	-0.9
VA03	San Esteban	2.73	225	eP	Pb	12 40 41.9	-1.4
VA03				IAML		12 41 19.9	
comp=N,3μm,0.5s							
VA03	San Esteban	2.73	225	eP	Pb	12 40 42.5	-0.9
VA03				eS	Sb	12 41 14.3	-2.5
VA03				IAML		12 41 22.1	
comp=Z,2μm,0.6s							
LCO	Las Campanas	2.79	310		Pb	12 40 42.4	-2.1
CO06	Fray Jorge	2.90	272		Pn	12 40 42.2	+1.5
CO06	Fray Jorge	2.90	272	eP	Pn	12 40 42.5	+1.9
CO06				IAML		12 41 23.7	
comp=E,822nm,0.4s							
MT08	Bocatoma Ro	2.99	209		Pb	12 40 46.3	-1.5
MT08	Bocatoma Ro	2.99	209	eP	Pb	12 40 45.9	-1.9
MT08				eS	Sb	12 41 21.6	-2.9
MT08				IAML		12 41 27.9	
comp=Z,2μm,0.5s							
MT04	Ro Olivares	3.00	211	eP	Pb	12 40 46.4	-1.8
MT04				eS	Sb	12 41 21.9	-3.1
MT04				IAML		12 41 29.8	
comp=Z,1μm,0.6s							
FCH	Farellones	3.01	214	eP	Pb	12 40 46.7	-1.6
FCH				IAML		12 41 29.1	
comp=E,917nm,0.3s							
PEL	Peldehue	3.08	221		Pb	12 40 46.2	-3.1
PEL	Peldehue	3.08	221	eP	Pn	12 40 41.1	-2.0
PEL				eS	Sb	12 41 25.6	-1.3
VA06	Catapilco	3.10	236		Pn	12 40 45.1	+1.8
ROC1	El Roble	3.16	227	eP	Pn	12 40 46.7	+2.3
ROC1				eS	Sn	12 41 24.8	+2.5
TCA	Tanti	3.19	100	eP	Pn	12 40 41.3	-3.5
TCA				eS	Sb	12 41 28.2	-2.1
TCA				IAML		12 41 37.4	
comp=Z,972nm,0.4s							
MT16	CCHEN	3.21	216		Pb	12 40 48.5	-3.0
CYA	Choya	3.22	43	eP	Pn	12 40 46.2	+1.1
CYA				eS	Sb	12 41 28.6	-2.3
CYA				IAML		12 41 48.4	
comp=Z,982nm,0.5s							
MT03	Universidad Ad	3.25	215		Pb	12 40 49.4	-2.9
MT03	Universidad Ad	3.25	215	eP	Pb	12 40 49.2	-3.1
MT03				eS	Sn	12 41 27.9	+3.4
MT03				IAML		12 41 39.1	
comp=Z,957nm,0.7s							
MT05	Renca	3.29	219		Pb	12 40 49.2	-3.8
MT05	Renca	3.29	219	eP	Pn	12 40 44.2	-1.9
MT13	San Alfonso	3.36	210		Pb	12 40 50.9	-3.3
MT13	San Alfonso	3.36	210	eP	Pb	12 40 51.7	-2.4
MT13				IAML		12 41 41.9	
comp=Z,614nm,0.5s							
LMEL	Las Melosas	3.41	208		Pn	12 40 49.9	+2.0
MT02	Curacav	3.42	225		Pn	12 40 49.9	+2.0
AC04	Llanos de Chal	3.59	316		Pn	12 40 51.8	+1.7
AC04	Llanos de Chal	3.59	316	eP	Pn	12 40 51.5	+1.4
AC04				IAML		12 41 47.8	
comp=E,686nm,0.4s							
AC04	Llanos de Chal	3.59	316	IAML		12 41 46.5	
comp=Z,626nm,0.8s							
VA01	Torpederas	3.60	232		Pn	12 40 51.4	+1.2
VA01	Torpederas	3.60	232	IAML		12 41 49.5	
comp=Z,306nm,0.8s							
GO03	Copiapo	3.66	332		Pn	12 40 53.6	+2.4
GO03	Copiapo	3.66	332	eP	Pn	12 40 48.4	-2.8
GO03				eS	Sb	12 41 41.9	-1.9
BO04	La Punta	3.71	212		Pb	12 40 55.4	-4.6
MT09	Talagante	3.72	217		Pn	12 40 54.5	+2.5
AC06	Mina Casimiro	3.92	332		Pn	12 40 55.3	+0.6
MT01	Popeta	3.93	219		Pn	12 40 56.5	+1.7
MT01	Popeta	3.93	219	eP	Pn	12 40 56.4	+1.7
MT01				IAML		12 41 59.1	
comp=Z,340nm,0.7s							
VA05	Santo Domingo	3.99	224		Pn	12 40 57.5	+1.9
AC02	Maricunga	4.06	349		Pn	12 41 00.6	+3.5
AC02	Maricunga	4.06	349	eP	Pn	12 41 00.6	+3.5
AC02				eP	Pn	12 41 00.6	+3.5
AC02				eS	Sg	12 42 03.6	-1.4
AC02				eS	Sg	12 42 03.6	-1.4
AC02				eS	Sg	12 42 03.6	-1.4
BO01	Tunca	4.26	213		Pn	12 41 01.4	+2.0
BO01	Tunca	4.26	213	eS	Sn	12 41 49.3	+0.1
BO02	Sierra Bellavi	4.47	208		Pn	12 41 05.7	+3.4
BO02	Sierra Bellavi	4.47	208	eP	Pn	12 41 05.9	+3.6
BO02				eS	Sb	12 42 07.5	+0.5
BO02				IAML		12 42 19.8	
comp=Z,178nm,0.7s							
AC01	Pan de Azucar	5.11	336		Pn	12 41 11.6	+0.6
AC01	Pan de Azucar	5.11	336	IAML		12 42 46.6	
comp=Z,124nm,0.6s							
FSA	Cafayete	5.13	24	eS	Sb	12 42 28.2	+2.1
ML02	Panimavida	5.57	207		Pn	12 41 19.2	+1.9
GO02	Mina Guanaco	5.78	348		Pn	12 41 21.5	+1.0
BI02	San Fabin de	6.32	202		Pn	12 41 29.4	+1.7
PB14	IPOC Station P	6.47	343		Pn	12 41 30.8	+0.7
BI05	Punta Hualpn	7.17	213		Pn	12 41 38.0	-1.3
PB10	IPOC Station P	7.58	344	Pn	Pn	12 41 44.1	-0.8
TRQA	Tornquist	8.87	146		Pn	12 42 01.8	-0.9
PB09	IPOC Station P	9.05	354	Pn	Pn	12 42 05.5	+0.1
PLCA	Paso Flores	10.04	190	Pn	Pn	12 42 20.6	+1.8
PLCA	Paso Flores	10.04	190	Pn	Pn	12 42 20.0	+1.3
comp=Z,0.1nm,0.3s,baz=2.2,slow=14,SNR=7.2							
PLCA				Lg	Lg	12 45 15.2	
comp=Z,0.9nm,0.3s,baz=275,slow=9.1,SNR=3.4							
PLCA				LR	LR	12 46 29.1	
comp=Z,269nm,18.3s,baz=353,slow=40							
comp=Z,2.2nm,0.8s							
ITQB	Itaqui	10.14	86		Pn	12 42 21.2	+1.1
CPUP	Villa Florida	10.61	68		Pn	12 42 24.9	-1.7
CPUP	Villa Florida	10.61	68	Pn	Pn	12 42 24.7	-1.8
comp=Z,0.7nm,0.3s,baz=232,slow=9.8,SNR=8.8							
CPUP				Lg	Lg	12 45 34.5	
comp=Z,1.5nm,0.3s,baz=152,slow=18,SNR=2.8							
CPUP				LR	LR	12 46 58.2	
comp=Z,109nm,20.2s,baz=234,slow=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.59**	**147**	Pn	Pn	12 42 24.1	-1.8
	0.1nm,0.3s,baz=328,slow=12,SNR=20						
FITZ				Sn	Sn	12 44 03.2	-11
	0.6nm,0.3s,baz=195,slow=22,SNR=8.4 1.0nm,0.6s						
WRA	**Warramunga Arr**	**16.81**	**128**	Pn	Pn	12 44 03.9	+0.3
	0.1nm,0.3s,baz=310,slow=16,SNR=1.3 0.1nm,0.4s						
ASAR	**Alice Springs**	**18.82**	**138**	P	Pn	12 44 29.4	+0.9
	baz=312,slow=11,SNR=5.1						
ASAR				S	Sn	12 47 51.8	-8.1
	0.3nm,0.8s,baz=308,slow=23,SNR=4.7 0.2nm,0.5s						
MKAR	**Makanchi Array**	**65.92**	**332**	P	P	12 50 54.4	-0.1
	0.5nm,0.6s,baz=148,slow=7.0,SNR=3.9 0.5nm,0.6s						

IDC 27 12:44:23.1±53.0, 15°.90S×175°.25W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=1010.0km s-min=201.0km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.25**	**240**	P	P	12 52 18.9	+0.5
	1.1nm,0.5s,baz=83,slow=9.7,SNR=3.1 1.1nm,0.5s						
WRA	**Warramunga Arr**	**48.00**	**257**	P	P	12 53 03.5	-0.9
	0.2nm,0.5s,baz=96,slow=7.9,SNR=1.6 0.2nm,0.5s						
ASAR	**Alice Springs**	**48.27**	**252**	P	P	12 53 06.3	-0.1
	2.6nm,0.5s,baz=89,slow=8.1,SNR=59 2.6nm,0.5s						

*NEIC **27** 12:49:20.5±1.0, 18°.05S±0°.09×177°.9W±0°.2, h597km±13km, mb4.4/14, Error ellipse: s-maj=29.9km s-min=9.4km az=108.0*

*IDC **27** 12:49:21.6±1.8, 18°.00S×178°.15W, h605km±20km, mb2.9/8, mbtmp3.9/9, Error ellipse: s-maj=32.2km s-min=17.0km az=145.0*

ISC 27 12:49:20.1±0.7, 18°.0S±0°.1×178°.0W±0°.1, h590km, n29, σ0°.90/30, mb3.9/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.75**	**274**	P	**P**	**12 50 45.3**	**+2.0**
MSVF	**Nonsavu**	**3.75**	**274**	P	**P**	**12 50 45.6**	**+2.4**
	33nm,0.7s,baz=143,slow=15,SNR=11						
MLZ	**Mavora Lakes**	**29.61**	**200**	P	**P**	**12 54 38.0**	**-0.9**
ARMA	**Armidale**	**30.20**	**240**	P	**P**	**12 54 43.4**	**-0.9**
CAN	**Canberra**	**33.92**	**233**	P	**P**	**12 55 15.3**	**-0.4**
CAN				IAmb	IAmb	12 55 16.6	
	comp=Z,22nm,1.4s						
JOHN	**Johnston Islan**	**35.54**	**14**	P	**P**	**12 55 28.4**	**-0.7**
TOO	**Toolangi**	**37.38**	**231**	P	**P**	**12 55 43.5**	**-0.6**
TOO				IAmb	IAmb	12 55 46.6	
	comp=Z,18nm,1.4s						
COEN	**Coen**	**37.48**	**270**	P	**P**	**12 55 45.1**	**-0.1**
COEN				IAmb	IAmb	12 55 52.1	
	comp=Z,22nm,1.4s						
STKA	**Stephens Creek**	**38.90**	**241**	P	**P**	**12 55 55.9**	**-0.5**
STKA				IAmb	IAmb	12 55 58.0	
	comp=Z,18nm,0.9s						
STKA	**Stephens Creek**	**38.90**	**241**	P	**P**	**12 55 56.0**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=48,slow=7.5,SNR=4.2 comp=Z,2.7nm,0.8s						
BBOO	**Buckleboo**	**43.67**	**241**	P	**P**	**12 56 33.9**	**-0.2**
BBOO				IAmb	IAmb	12 56 47.2	
	comp=Z,25nm,1.5s						
WB0	**Warramunga Arr**	**44.94**	**260**		**P**	**12 56 43.5**	**-0.6**
WB0				IAmb	IAmb	12 57 07.9	
	comp=Z,5.4nm,1.2s						
WB2	**Warramunga Arr**	**44.96**	**260**	P	**P**	**12 56 43.9**	**-0.2**
WB2				IAmb	IAmb	12 57 06.0	
	comp=Z,4.8nm,1.4s						
WRAB	**Tennant Creek**	**44.97**	**260**	P	**P**	**12 56 45.6**	**+1.4**
WRAB				IAmb	IAmb	12 56 56.6	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**44.97**	**260**	P	**P**	**12 56 43.8**	**-0.4**
WRA	**Warramunga Arr**	**44.97**	**260**	P	**P**	**12 56 43.0**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=95,slow=7.3,SNR=12 comp=Z,0.7nm,0.5s						
AS31	**Alice Springs**	**45.11**	**254**	P	**P**	**12 56 45.7**	**+0.4**
ASAR	**Alice Springs**	**45.11**	**254**	P	**P**	**12 56 44.6**	**-0.7**
ASAR	**Alice Springs**	**45.11**	**254**	P	**P**	**12 56 45.2**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=87,slow=8.8,SNR=56						
ASAR				PcP	**PcP**	**12 58 12.7**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=99,slow=4.0,SNR=7.9 comp=Z,3.3nm,0.6s						
QSPA	**South Pole Qui**	**72.02**	**180**	P	**P**	**12 59 45.7**	**+0.6**
QSPA	**South Pole Qui**	**72.02**	**180**	P	**P**	**12 59 45.4**	**+0.3**
	comp=Z,1.5nm,1.0s,baz=14,slow=0.3,SNR=5.7 comp=Z,1.5nm,1.0s						
NVAR	**Mina Array Bea**	**79.26**	**44**	P	**P**	**13 00 26.0**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=243,slow=4.7,SNR=4.3 comp=Z,0.4nm,0.7s						
BELA	**Belgrano 2**	**82.00**	**173**	P	**P**	**13 00 39.0**	**+0.2**
TXAR	**Lajitas Array**	**85.75**	**57**	P	**P**	**13 00 59.5**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=224,slow=6.3,SNR=8.4 comp=Z,0.9nm,0.7s						
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**13 00 57.0**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=219,slow=5.6,SNR=7.6 comp=Z,0.2nm,0.4s						
PDAR	**Pinedale Array**	**87.19**	**43**	P	**P**	**13 01 04.7**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=122,slow=1.9,SNR=3.9 comp=Z,0.3nm,0.7s						
BRTR	**Keskin Array B**	**145.13**	**315**	PKPbc	**PKPbc**	**13 07 52.2**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=134,slow=5.3,SNR=4.9						
MMAI	**Mount Meron Ar**	**146.52**	**303**	PKPbc	**PKPbc**	**13 07 56.8**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=51,slow=6.6,SNR=4.4						
GERES	**GERESS Array B**	**147.82**	**345**	PKPbc	**PKPbc**	**13 07 59.0**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=0.9,slow=2.9,SNR=9.3						

*IDC **27** 12:56:10.7±1.4, 3°.45N×64°.52E, h0km, mb4.0/8, mbtmp4.0/8, MS3.4/9, Error ellipse: s-maj=47.8km s-min=22.5km az=49.0*

ISC 27 12:56:11.9±1.6, 3°.4N±0°.3×64°.5E±0°.2, h10km, n19, σ0°.57/10, mb4.0/8, MS3.3/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**16.61**	**76**	LR	LR	13 05 05.0	
	comp=Z,171nm,20.1s,baz=266,slow=32						
CMAR	**Chiang Mai Arr**	**36.89**	**64**	P	**P**	**13 03 21.4**	**+0.3**
	0.3nm,0.3s,baz=253,slow=11,SNR=5.4 0.3nm,0.3s						
EIL	**Elat**	**38.26**	**316**	LR	LR	13 17 48.4	
	comp=Z,43nm,21.5s,baz=252,slow=34						
ASF	**Jabal al Asfar**	**38.57**	**321**	LR	LR	13 17 35.4	
	comp=Z,43nm,20.6s,baz=175,slow=33						
MMAI	**Mount Meron Ar**	**40.07**	**321**	LR	LR	13 19 10.2	
	comp=Z,49nm,18.4s,baz=188,slow=34						
GNI	**Garni**	**40.69**	**337**	LR	LR	13 21 05.3	
	comp=Z,31nm,19.6s,baz=162,slow=37						
KBZ	**Khabaz**	**44.45**	**338**	LR	LR	13 22 51.8	
	comp=Z,25nm,19.1s,baz=113,slow=36						
BRTR	**Keskin Array B**	**45.67**	**326**	P	**P**	**13 04 34.0**	**+0.9**
	0.4nm,0.5s,baz=135,slow=12,SNR=3.8 0.4nm,0.5s						
AKTO	**Aktyubinsk**	**47.16**	**354**	LR	LR	13 25 29.2	
	comp=Z,49nm,20.1s,baz=140,slow=37						
KURBB	**Kurchatov Arra**	**48.51**	**12**	P	**P**	**13 04 55.0**	**+0.1**
	0.4nm,0.7s,baz=210,slow=7.8,SNR=4.2 0.4nm,0.7s						
TSUM	**Tsumeb**	**51.29**	**242**	LR	LR	13 26 15.4	
	comp=Z,109nm,19.3s,baz=144,slow=35						
ZALV	**Zalesovo Beam**	**53.05**	**15**	P	**P**	**13 05 28.8**	**-0.4**
	0.9nm,0.7s,baz=209,slow=8.0,SNR=5.1 0.9nm,0.7s						
KIRV	**Kirov**	**56.26**	**351**	LR	LR	13 31 49.0	
	comp=Z,58nm,18.2s,baz=117,slow=38						
HFS	**Hagfors**	**68.45**	**335**	P	**P**	**13 07 13.5**	**-0.4**
	1.5nm,0.7s,baz=148,slow=14,SNR=2.3 1.5nm,0.7s						
WRA	**Warramunga Arr**	**72.36**	**112**	P	**P**	**13 07 39.3**	**+0.6**
	3.1nm,0.8s,baz=288,slow=5.5,SNR=15 3.1nm,0.8s						
ASAR	**Alice Springs**	**72.67**	**116**	P	**P**	**13 07 40.2**	**-0.3**
	1.5nm,0.8s,baz=285,slow=6.0,SNR=18 1.5nm,0.8s						
TIXI	**Tiksi**	**78.88**	**17**	P	**P**	**13 08 14.5**	**-0.4**
	2.3nm,0.3s,baz=272,slow=3.1,SNR=3.6 2.3nm,0.3s						
NVAR	**Mina Array Bea**	**138.28**	**3**	PKP	**PKiKP**	**13 15 39.9**	**-0.4**
	0.3nm,0.6s,baz=80,slow=1.7,SNR=4.0						
TXAR	**Lajitas Array**	**145.50**	**342**	PKPbc	**PKPab**	**13 15 51.2**	**-0.3**
	1.4nm,0.7s,baz=65,slow=2.8,SNR=18						

*MOS **27** 13:04:23.0±1.1, 4°.25S×102°.23E, h45km, mb4.9/35, Error ellipse: s-maj=12.0km s-min=6.6km az=112.2*

*IDC **27** 13:04:26.2±0.6, 4°.14S×102°.27E, h51km±4km, mb4.2/34, mbtmp4.5/36, MS3.8/35, Error ellipse: s-maj=14.8km s-min=10.5km az=63.0*

*DJA **27** 13:04:26.6±0.2, 4°.S±2°.×10°.2E±°, h51km±2km, M5.0/78, mb5.1/78, mB5.5/38, MLv5.4/20, Mw(mB)5.0/38, MwMwp4.7/1, Mwp5.1/1*

*NEIC **27** 13:04:26.5±1.9, 4°.27S±0°.08×102°.14E±0°.07, h57km±5km, mb5.0/63, Error ellipse: s-maj=13.3km s-min=8.2km az=212.0*

*GCMT **27** 13:04:29.5±0.3, 4°.42S±0°.02×102°.00E±0°.02, h68km±4km, MW4.8/79, Moment Tensor Solution. s23,c24; s79,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.77±.14; $M_{\theta\theta}$0.24±.10; $M_{\phi\phi}$-1.01±.12; $M_{r\theta}$-0.30±.07; $M_{r\phi}$1.34±.08; $M_{\theta\phi}$-1.58±.07; Best double couple: $M_0$2.27900×10^{16} NP1:ϕ_s289.00000°, δ40.00000°, λ20.00000°. NP2: ϕ_s184.00000°, δ77.00000°, λ128.00000°. Principal axes: T 2.2000, Plg44.0000°, Azm131.0000°; N 0.1560, Plg37.0000°, Azm354.0000°; P -2.3590, Plg23.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 13:04:25.8±0.3, 4°.33S±0°.04×102°.10E±0°.04, h52km±2km, h52km:pP-P, n387, σ1°.40/382, mb4.8/96, MS3.8/37, 15C-7D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.83**	**36**	P	**Pn**	**13 04 41.6**	**+0.1**
KSI				S	**Sn**	**13 04 52.6**	**-0.3**
MNAI	**Manna**	**0.86**	**92**	Pn	**Pn**	**13 04 42.3**	**+0.6**
MNAI				Sn	**Sn**	**13 04 53.0**	**-0.4**
MNAI	**Manna**	**0.86**	**92**	P	**Pn**	**13 04 42.4**	**+0.7**
MNAI	**Manna**	**0.86**	**92**	P	**Sn**	**13 04 52.9**	**-0.5**
MNAI	**Manna**	**0.86**	**92**	P	**Pn**	**13 04 42.4**	**+0.7**
LWLI	**Liwa**	**2.07**	**109**	P	**Pn**	**13 04 59.6**	**+1.3**
MDSI	**Maura Dua**	**2.08**	**94**	P	**Pn**	**13 04 59.8**	**+1.5**
PMBI	**Palembang**	**3.01**	**63**		**Pn**	**13 05 11.2**	**+0.2**
PMBI	**Palembang**	**3.01**	**63**	P	**Pn**	**13 05 11.9**	**+0.8**
PMBI	**Palembang**	**3.01**	**63**	P	**Pn**	**13 05 11.6**	**+0.5**
BLSI	**Bandar Lampung**	**3.30**	**108**	P	**Pn**	**13 05 16.0**	**+0.9**
SISI	**Saibi**	**4.23**	**315**	P	**Pn**	**13 05 28.8**	**+1.0**
CGJI	**Cibinong**	**4.24**	**123**	P	**Pn**	**13 05 28.5**	**+0.6**
PPBI	**Pangkal Pinang**	**4.57**	**62**	P	**Pn**	**13 05 34.0**	**+1.5**
BKNI	**Bangkinang**	**4.74**	**347**		**Pn**	**13 05 34.0**	**-0.8**
BKNI	**Bangkinang**	**4.74**	**347**	P	**Pn**	**13 05 37.1**	**+2.3**
SKJI	**Sukabumi**	**5.17**	**121**	P	**Pn**	**13 05 41.7**	**+0.9**
MNSI	**Mandailing Nat**	**5.68**	**334**	P	**Pn**	**13 05 48.3**	**+0.7**
	1.8nm5μm178nm,0.8s						
PBSI	**Pulau Batu**	**5.71**	**318**	P	**Pn**	**13 05 48.6**	**+0.6**
	4.9nm345nm,1.5s						
CNJI	**Cibinong**	**5.82**	**121**	P	**Pn**	**13 05 49.6**	**0.0**
	1.6nm3μm124nm,0.6s						
LEM	**Lembang**	**6.03**	**115**	P	**Pn**	**13 05 55.5**	**+2.8**
	165nm,0.5s,baz=218,slow=9.0,SNR=22						
LEM				LR	LR	13 08 47.5	
	comp=Z,1μm,19.2s,baz=280,slow=44						
LEM	**Lembang**	**6.03**	**115**	P	**Pn**	**13 05 55.2**	**+2.6**
	1.6nm4μm484nm,0.9s						
MYKOM	**Kota Tinggi**	**6.33**	**16**		**Pn**	**13 05 58.9**	**+2.4**
MYKOM	**Kota Tinggi**	**6.33**	**16**	P	**Pn**	**13 05 59.7**	**+3.2**
MYKOM	**Kota Tinggi**	**6.33**	**16**	S	**Sn**	**13 07 09.0**	**+1.5**
BBJI	**Bungbulang**	**6.34**	**120**	P	**Pn**	**13 05 57.4**	**+0.6**
BBJI	**Bungbulang**	**6.34**	**120**	S	**Sn**	**13 07 06.9**	**-1.1**
JCJI	**Jatiwangi**	**6.51**	**110**	P	**Pn**	**13 05 59.8**	**+0.7**
	1.8nm7μm420nm,1.1s						
XMI	**Christmas Isla**	**7.05**	**150**	P	**Pn**	**13 06 01.8**	**-4.7**
XMIS	**Christmas Isla**	**7.06**	**150**		Pn	13 06 01.6	-5.0
XMIS	**Christmas Isla**	**7.06**	**150**	P	Pn	13 06 01.6	-5.0
CMJI	**Cimerak**	**7.19**	**119**	P	**Pn**	**13 06 08.5**	**+0.1**
GSI	**Gunungsitoli**	**7.19**	**321**		**Pn**	**13 06 08.0**	**-0.4**
GSI	**Gunungsitoli**	**7.19**	**321**	P	**Pn**	**13 06 08.3**	**-0.2**
GSI	**Gunungsitoli**	**7.19**	**321**	P	**Pn**	**13 06 08.2**	**-0.2**
PSI	**Prapat**	**7.76**	**336**	P	**Pn**	**13 06 14.9**	**-1.4**
	5.6nm,0.3s,baz=161,slow=11,SNR=7.0						
PSI				LR	LR	13 09 42.4	
	comp=Z,899nm,19.9s,baz=146,slow=42						
SMRI	**Semarang**	**8.73**	**108**		**Pn**	**13 06 32.8**	**+3.2**
SMRI	**Semarang**	**8.73**	**108**	P	**Pn**	**13 06 33.3**	**+3.7**
YOGI	**Yogyakarta**	**8.86**	**113**	P	**Pn**	**13 06 31.9**	**+0.6**
	194nm,1.2s						
UGM	**Wanagama**	**9.10**	**113**		**Pn**	**13 06 35.7**	**+1.0**
UGM	**Wanagama**	**9.10**	**113**	P	**Pn**	**13 06 35.8**	**+1.1**
UGM	**Wanagama**	**9.10**	**113**	P	**Pn**	**13 06 35.4**	**+0.7**
COCO	**West Island**	**9.39**	**213**		**Pn**	**13 06 37.2**	**-1.3**
COCO	**West Island**	**9.39**	**213**	P	**Pn**	**13 06 39.0**	**+0.5**
COCO	**West Island**	**9.39**	**213**	P	**Pn**	**13 06 37.2**	**-1.3**
KULM	**Kulim**	**9.66**	**351**		**Pn**	**13 06 42.3**	**0.0**
KULM	**Kulim**	**9.66**	**351**	P	**Pn**	**13 06 43.4**	**+1.1**
NGJI	**Ngawi**	**9.79**	**108**	P	**Pn**	**13 06 46.5**	**+2.4**
	1.3nm,1.5s						
PCJI	**Pacitan**	**9.81**	**113**	P	**Pn**	**13 06 44.4**	**+0.1**
	3μm218nm,1.0s						
MLSI	**Meulaboh, Aceh**	**10.26**	**326**	P	**Pn**	**13 06 49.5**	**-0.9**
GRJI	**Gresik**	**10.65**	**104**	P	**Pn**	**13 06 59.4**	**+3.6**
LHMI	**Lhok Sumawe**	**10.80**	**332**	P	**Pn**	**13 06 59.1**	**+1.3**
LHMI	**Lhok Sumawe**	**10.80**	**332**	P	**Pn**	**13 06 57.8**	**0.0**
	105nm,1.0s						
BSI	**Banda Aceh**	**11.89**	**325**	P	**Pn**	**13 07 10.4**	**-2.4**
GMJI	**Gumukmas**	**11.94**	**110**	P	**Pn**	**13 07 14.1**	**+0.7**
	112nm,0.7s						
KMMI	**Kalianget**	**12.12**	**103**	P	**Pn**	**13 07 17.0**	**+1.1**
	174nm,1.2s						
JAGI	**Jajag, Banyuwa**	**12.67**	**110**		**Pn**	**13 07 22.0**	**-1.4**
JAGI	**Jajag, Banyuwa**	**12.67**	**110**	P	**Pn**	**13 07 22.4**	**-1.0**
JAGI	**Jajag, Banyuwa**	**12.67**	**110**	P	**Pn**	**13 07 22.4**	**-1.0**
SRBI	**Singaraja**	**13.56**	**107**	P	**Pn**	**13 07 34.7**	**-0.9**
	3μm132nm,0.6s						
PLAI	**Plampang**	**16.20**	**107**	P	**Pn**	**13 08 07.1**	**-3.1**
KKM	**Kota Kinabalu**	**17.46**	**54**	P	**P**	**13 08 27.3**	**+0.7**
KAPI	**Kappang**	**17.61**	**93**		**Pn**	**13 08 27.6**	**-0.1**
KAPI				IAmb	IAmb	13 08 29.2	
	comp=Z,59nm,0.8s						
KAPI	**Kappang**	**17.61**	**93**	P	**Pn**	**13 08 27.4**	**-0.3**
	comp=Z,57nm,0.7s,baz=270,slow=9.7,SNR=14						
KAPI				LR	LR	13 15 59.6	
	comp=Z,546nm,18.5s,baz=253,slow=40						
KAPI	**Kappang**	**17.61**	**93**	*c iP*	**Pn**	**13 08 27.7**	**-0.1**
SPSI	**Sidrap Palu**	**17.63**	**89**	P	**P**	**13 08 29.2**	**+0.8**
	comp=Z,2μmcomp=Z,133nm,1.2s						
BNSI	**Bone**	**17.96**	**91**	P	**Pn**	**13 08 34.3**	**+2.3**
	comp=Z,3μmcomp=Z,219nm,1.3s						
BKSI	**Bulukumba**	**17.99**	**94**	P	**Pn**	**13 08 33.1**	**+0.7**
	comp=Z,2μmcomp=Z,174nm,1.0s						
PCI	**Palu**	**18.04**	**80**	P	**Pn**	**13 08 34.2**	**+1.2**
	comp=Z,102nm,1.0s						
MPSI	**Mapaga**	**18.38**	**76**	P	**Pn**	**13 08 38.3**	**+1.2**
	comp=Z,693nmcomp=Z,72nm,0.9s						
WSI	**Waingapu**	**18.82**	**107**	P	**Pn**	**13 08 42.2**	**-0.3**
	comp=Z,6μmcomp=Z,312nm,1.2s						
MYLDM	**Lahad Datu**	**18.91**	**60**		**P**	**13 08 42.4**	**-0.1**
MYLDM	**Lahad Datu**	**18.91**	**60**	P	**Pn**	**13 08 43.9**	**+0.4**
TOLI2	**Tolitoli**	**19.44**	**74**		**P**	**13 08 48.9**	**+0.7**
TOLI2				IAmb	IAmb	13 08 54.6	
	comp=Z,48nm,0.9s						
TOLI2	**Tolitoli**	**19.44**	**74**	P	**Pn**	**13 08 49.1**	**-0.7**
APSI	**Ampana**	**19.82**	**81**	P	**P**	**13 08 53.4**	**+1.0**
	comp=Z,2μmcomp=Z,277nm,1.0s						
EDFI	**Ende, Flores**	**19.95**	**104**	P	**P**	**13 08 53.6**	**-0.4**
	comp=Z,32nm,0.7s						
MRSI	**Marisa**	**20.39**	**77**	P	**P**	**13 08 59.4**	**+0.8**
	comp=Z,1μmcomp=Z,2μmcomp=Z,181nm,1.0s						
BBSI	**Bau Bau**	**20.43**	**94**	P	**P**	**13 08 59.7**	**+0.6**
	comp=Z,1μmcomp=Z,98nm,1.0s						
MMRI	**Maumere**	**20.46**	**103**	P	**P**	**13 08 59.4**	**0.0**
	comp=Z,4μmcomp=Z,102nm,0.7s						
LUWI	**Luwuk**	**20.91**	**82**		**P**	**13 09 04.3**	**+0.2**
LUWI	**Luwuk**	**20.91**	**82**	P	**P**	**13 09 04.7**	**+0.5**
	comp=Z,5μmcomp=Z,268nm,1.0s						
GIRL	**Giralia**	**21.67**	**148**	P	**P**	**13 09 15.1**	**+2.8**
GIRL	**Giralia**	**21.67**	**148**	P	**P**	**13 09 13.2**	**+1.0**
KMSI	**Cibinong**	**22.40**	**78**	P	**P**	**13 09 22.0**	**+1.8**
	comp=Z,135nm,1.0s						
SOEI	**Soe**	**22.65**	**105**		**P**	**13 09 21.4**	**-1.6**
SOEI				IAmb	IAmb	13 09 43.7	
	comp=Z,86nm,0.7s						
SOEI	**Soe**	**22.65**	**105**	P	**P**	**13 09 21.7**	**-1.3**
SOEI	**Soe**	**22.65**	**105**	P	**P**	**13 09 22.0**	**-1.0**
	comp=Z,1μmcomp=Z,125nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.85**	**352**		**P**	**13 09 23.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**22.85**	**352**	P	**P**	**13 09 23.8**	**-1.2**
	comp=Z,7.3nm,0.9s,baz=184,slow=8.2,SNR=30						
CMAR				ScP	**ScP**	**13 16 47.1**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=202,slow=3.4,SNR=4.3 comp=Z,7.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.85**	**352**	*ceP*	**P**	**13 09 24.3**	**-0.6**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CHTO	**Chiang Mai**	**23.20**	**352**		**P**	**13 09 27.2**	**-1.2**
CHTO	**Chiang Mai**	**23.20**	**352**	P	**P**	**13 09 27.2**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MBWA	**Marble Bar**	**23.95**	**136**	P	**P**	**13 09 34.4**	**-1.0**
MBWA				IAmb	IAmb	13 09 50.5	
	comp=Z,31nm,0.9s						
MBWA	**Marble Bar**	**23.95**	**136**	P	**P**	**13 09 35.4**	**0.0**
	comp=Z,44nm,1.0s						
MBWA	**Marble Bar**	**23.95**	**136**	P	**P**	**13 09 35.9**	**+0.5**
SANI	**Sanana**	**23.96**	**85**	P	**P**	**13 09 35.6**	**0.0**
	comp=Z,745nmcomp=Z,30nm,1.2s						
PALK	**Pallekele**	**24.26**	**298**	P	**P**	**13 09 39.8**	**+1.3**
PALK	**Pallekele**	**24.26**	**298**	P	**P**	**13 09 40.8**	**+2.4**
	comp=Z,12nm,0.7s,baz=101,slow=8.4,SNR=9.0						
PALK				LR	LR	13 17 43.4	
	comp=Z,325nm,21.4s,baz=108,slow=33 comp=Z,12nm,0.7s						
PALK	**Pallekele**	**24.26**	**298**	↓↓ *iP*	**P**	**13 09 40.2**	**+1.8**
PALK				pmax	pmax		
	comp=Z,30nm,0.9s						
PSA00	**Pilbara Seismi**	**24.30**	**136**	P	**P**	**13 09 36.0**	**-2.7**
PSA00	**Pilbara Seismi**	**24.30**	**136**		**P**	**13 09 38.5**	**-0.1**
PSA00				IAmb	IAmb	13 09 54.8	
	comp=Z,36nm,0.9s						
PSA00	**Pilbara Seismi**	**24.30**	**136**	P	**P**	**13 09 39.7**	**+1.1**
	comp=Z,50nm,1.0s						
QIZ	**Qiongzhong**	**24.43**	**18**	P	**P**	**13 09 41.0**	**+1.2**
QIZ				S	**S**	**13 13 59.3**	**+2.9**
QIZ				LR	LR		
	comp=Z,160nm,8.9s						
QIZ				LR	LR		
	comp=Z,240nm,15.8s						
QIZ				LR	LR		
	comp=Z,200nm,13.0s						
DAV	**Davao City (W)**	**26.03**	**64**	LR	LR	13 21 09.6	
	comp=Z,116nm,18.5s,baz=316,slow=39						
FITZ	**Fitzroy Crossi**	**26.79**	**123**		**P**	**13 10 00.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**26.79**	**123**	LR	LR	13 20 54.7	
	comp=Z,179nm,21.6s,baz=294,slow=37						
KNRA	**Kununurra**	**28.54**	**115**		**P**	**13 10 14.8**	**-2.0**
KNRA				IAmb	IAmb	13 10 36.3	
	comp=Z,16nm,0.7s						
BRDH	**Bariadhala**	**28.72**	**340**	LR	LR	13 23 27.9	
	comp=Z,396nm,20.8s,baz=188,slow=40						
TNCH	**TengChong**	**29.39**	**353**	*eP*	**P**	**13 10 28.3**	**+3.8**
TNCH				S	**S**	**13 15 18.3**	**+3.3**
TNCH				LR	LR		
	comp=Z,260nm,10.0s						
TNCH				LR	LR		
	comp=Z,330nm,8.5s						
TNCH				LR	LR		
	comp=Z,460nm,14.5s						
DRS	**Darwin Rock St**	**29.59**	**108**	P	**P**	**13 10 26.5**	**+0.3**
MTN	**Manton Dam**	**29.90**	**108**		**P**	**13 10 26.9**	**-2.2**
MTN	**Manton Dam**	**29.90**	**108**	P	**P**	**13 10 27.0**	**-2.0**
FAKI	**Fak Fak**	**30.12**	**88**	P	**P**	**13 10 29.7**	**-1.3**
FAKI				IAmb	IAmb	13 10 30.8	
	comp=Z,42nm,1.2s						
FAKI	**Fak Fak**	**30.12**	**88**	P	**P**	**13 10 29.5**	**-1.6**
FAKI	**Fak Fak**	**30.12**	**88**	P	**P**	**13 10 29.4**	**-1.6**
	comp=Z,28nm,0.9s						
PZH	**PanZhiHua**	**30.65**	**359**	P	**P**	**13 10 38.8**	**+3.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,4.3s						
KDU	**Kakadu**	**31.14**	**107**	P	**P**	**13 10 37.0**	**-2.9**
NWAO	**Narrogin (SRO)**	**31.78**	**155**	P	**P**	**13 10 44.6**	**-0.7**
NWAO				IAmb	IAmb	13 11 07.9	
	comp=Z,15nm,1.0s						
NWAO	**Narrogin (SRO)**	**31.78**	**155**	LR	LR	13 22 30.5	
	comp=Z,124nm,21.4s,baz=300,slow=34						
NWAO	**Narrogin (SRO)**	**31.78**	**155**	P	**P**	**13 10 46.6**	**+1.2**
NWAO	**Narrogin (SRO)**	**31.78**	**155**	P	**P**	**13 10

comp=Z,39nm,1.3s
BBOO Buckleboo 42.53 136 P **P** **13 12 16.4 -0.1**
LCRK Leigh Creek 42.83 132 P **P** **13 12 19.7 +0.7**
MTSU Mount Surprise 43.49 112 P **P** **13 12 24.4 -0.2**
INKA Innaminka 43.53 127 P **P** **13 12 25.7 +1.0**
GTA Gaotai 43.57 357 *e*P **P** **13 12 26.3 +1.4**
GTA pP pP 13 12 38.0 -0.6
GTA pmax pmax
comp=Z,2.0nm,0.7s
GTA LR LR
comp=Z,80nm,16.4s
GTA LR LR
comp=Z,120nm,14.2s
GTA LR LR
comp=Z,120nm,17.5s
HTT Hallett 44.88 135 P **P** **13 12 36.8 +1.3**
BTO Baotou 45.30 8 *e*P **P** **13 12 40.0 +1.3**
BTO PP **PP** **13 14 24.8 -0.7**
BTO S **S** **13 19 22.0 +6.3**
BTO LR LR
comp=Z,230nm,4.9s
BTO LR LR
comp=Z,290nm,6.8s
BTO LR LR
comp=Z,120nm,4.3s
HHC Hu-ho-hao-te 45.79 10 *e*P **P** **13 12 45.3 +2.8**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,38nm,5.1s
QLP Quilpie 45.93 123 P **P** **13 12 44.8 +1.0**
STKA Stephens Creek 46.05 131 **P** **13 12 45.4 +0.7**
STKA Stephens Creek 46.05 131 P **P** **13 12 45.7 +1.0**
comp=Z,34nm,0.7s,baz=305,slow=8.0,SNR=64
STKA LR LR 13 33 06.9
comp=Z,147nm,20.0s,baz=346,slow=37
comp=Z,34nm,0.7s
STKA Stephens Creek 46.05 131 P **P** **13 12 45.7 +1.0**
NIL Nilore 46.59 326 P **P** **13 12 47.2 -1.6**
NIL IAmb IAmb 13 13 03.7
comp=Z,30nm,0.7s
NIL Nilore 46.59 326 P **P** **13 12 47.2 -1.6**
NIL pmax pmax
comp=Z,30nm,0.7s
KSRS Korea Array 48.02 28 P **P** **13 12 58.6 -1.2**
comp=Z,3.5nm,0.8s,baz=219,slow=7.6,SNR=14
comp=Z,3.5nm,0.8s
JMN Monobe 48.32 36 P **P** **13 13 00.5 -1.8**
JMN IAmb IAmb 13 13 27.2
comp=Z,27nm,1.0s
ARPS Mount Arapiles 48.67 137 P **P** **13 13 05.3 +0.3**
JHS Saijyo 48.79 34 P **P** **13 13 08.0 +2.1**
CMSA Cobar Meteorol 49.03 129 P **P** **13 13 09.1 +1.3**
WMQ Urumqi 49.66 346 *e*P **P** **13 13 10.5 -1.9**
WMQ PP **PP** **13 15 08.8 +1.4**
WMQ pmax pmax
comp=Z,30nm,0.7s
KSH Kashi 49.83 334 P **P** **13 13 12.8 -1.1**
KSH pmax pmax
comp=Z,13nm,0.8s
WUS Wushi 49.90 337 IAmb IAmb 13 13 30.0
comp=Z,23nm,0.8s
NRN Naryn 51.39 335 IAmb IAmb 13 13 41.3
comp=Z,12nm,0.9s
EIDS Eidsvold 51.40 119 P **P** **13 13 23.8 -2.0**
EIDS IAmb IAmb 13 13 27.4
comp=Z,19nm,0.9s
EIDS Eidsvold 51.40 119 P **P** **13 13 26.3 +0.5**
TOO Toolangi 51.59 136 P **P** **13 13 26.2 -1.0**
TOO IAmb IAmb 13 13 36.5
comp=Z,15nm,1.4s
TOO Toolangi 51.59 136 P **P** **13 13 26.2 -1.0**
TOO pmax pmax
comp=Z,15nm,1.4s
SONM Songino Array 52.08 4 **P** **13 13 30.1 -0.5**
SONM IAmb IAmb 13 13 47.0
comp=Z,8.8nm,0.8s
SONM Songino Array 52.08 4 P **P** **13 13 30.9 +0.2**
comp=Z,4.4nm,0.6s,baz=187,slow=9.3,SNR=16
comp=Z,4.4nm,0.6s
SONM Songino Array 52.08 4 P **P** **13 13 30.1 -0.5**
SONM pmax pmax
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 52.16 4 **P** **13 13 30.2 -1.1**
ULN Ulaanbaatar 52.16 4 *i* P **P** **13 13 31.2 0.0**
ULN pmax pmax
comp=Z,5.0nm,1.3s
BOOM Boomskoye usch 52.30 336 P **P** **13 13 32.4 0.0**
BOOM IAmb IAmb 13 13 47.9
comp=Z,27nm,1.0s
BOOM Boomskoye usch 52.30 336 P **P** **13 13 32.4 0.0**
BOOM pmax pmax
comp=Z,27nm,1.0s
CN2 Changchun 52.33 21 P **P** **13 13 31.0 -1.4**
CN2 sP pP 13 13 47.3 +0.9
CN2 pmax pmax
comp=Z,10.0nm,1.1s
MJAR Matsushiro Arr 52.82 37 P **P** **13 13 34.3 -1.9**
comp=Z,4.4nm,0.8s,baz=212,slow=6.5,SNR=11
comp=Z,4.4nm,0.8s
AAK Ala-Archa 53.02 335 **P** **13 13 39.3 +1.5**
AAK Ala-Archa 53.02 335 LR LR 13 39 44.3
comp=Z,70nm,18.9s,baz=152,slow=40
AAK Ala-Archa 53.02 335 P **P** **13 13 39.3 +1.5**
AAK pmax pmax
comp=Z,5.0nm,0.9s
CAN Canberra 53.11 132 **P** **13 13 39.1 +0.6**
CAN PcP **PcP** **13 14 43.5 -2.8**
CAN Canberra 53.11 132 P **P** **13 13 40.1 +1.6**
CAN Canberra 53.11 132 P **P** **13 13 40.1 +1.6**
CAN pP **pP** **13 13 54.7 +2.3**
ARMA Armidale 53.36 125 P **P** **13 13 40.2 -0.2**
ARMA Armidale 53.36 125 P **P** **13 13 42.4 +1.9**
CNB Canberra Magne 53.38 132 P **P** **13 13 41.4 +0.9**
MK31 Makanchi Array 53.83 343 *c i*P **P** **13 13 43.0 -0.5**
MK31 *i* *PP **pP** **13 13 54.3 -3.1**
MKAR Makanchi Array 53.83 343 **P** **13 13 43.0 -0.5**
MKAR Makanchi Array 53.83 343 P **P** **13 13 43.2 -0.3**
comp=Z,7.2nm,0.6s,baz=147,slow=8.2,SNR=86
MKAR S **S** **13 21 12.6 -2.1**
comp=Z,1.2nm,1.0s,baz=160,slow=15,SNR=4.0
MKAR LR LR 13 40 15.5
comp=Z,79nm,18.9s,baz=155,slow=40
comp=Z,7.2nm,0.6s
MKAR Makanchi Array 53.83 343 *ce*P **P** **13 13 43.2 -0.3**
MKAR pmax pmax
comp=Z,5.0nm,0.4s
BNX BinXian 54.70 22 ⇓P **P** **13 13 49.5 -0.3**
BNX pmax pmax
comp=Z,19nm,0.9s
KKAR Karatay Array 55.17 332 P **P** **13 13 53.0 -0.3**
KKAR Karatay Array 55.17 332 P **P** **13 13 53.0 -0.3**
JMM Marumori 55.24 37 P **P** **13 13 52.2 -1.6**
JMM Marumori 55.24 37 P **P** **13 13 52.4 -1.4**
USA0B Ussuriysk Arra 55.27 26 **P** **13 13 51.8 -2.1**
USA0B IAmb IAmb 13 13 54.2
comp=Z,14nm,1.1s
USA0B Ussuriysk Arra 55.27 26 *c i*P **P** **13 13 52.9 -1.0**
USRK Ussuriysk Ar. 55.27 26 **P** **13 13 51.7 -2.2**
USRK Ussuriysk Ar. 55.27 26 P **P** **13 13 53.0 -0.9**
comp=Z,5.7nm,0.7s,baz=220,slow=2.5,SNR=12
comp=Z,5.7nm,0.7s
USRK Ussuriysk Ar. 55.27 26 P **P** **13 13 51.7 -2.2**
TAU Tasmania Unive 55.47 141 P **P** **13 13 53.0 -2.4**
TAU Tasmania Unive 55.47 141 P **P** **13 13 53.0 -2.4**
TAU pmax pmax
comp=Z,87nm,1.4s
TATA Tatamba Isabel 57.45 97 P **P** **13 14 07.9 -2.1**
NGOA Tingoa Renbel 57.77 101 P **P** **13 14 10.9 -1.4**
KURBB Kurchatov Arra 58.37 343 P **P** **13 14 15.7 0.0**
comp=Z,4.3nm,0.8s,baz=159,slow=6.6,SNR=31
KURBB S **S** **13 22 16.6 +2.0**
comp=Z,2.3nm,1.1s,baz=159,slow=13,SNR=7.1
KURBB LR LR 13 42 19.5
comp=Z,70nm,19.5s,baz=180,slow=39
comp=Z,4.3nm,0.8s
KURBB Kurchatov Arra 58.37 343 P **P** **13 14 14.8 -0.9**
KURK Kurchatov 58.43 343 **P** **13 14 15.6 -0.5**
KURK IAmb IAmb 13 14 31.3
comp=Z,20nm,0.9s
KURK Kurchatov 58.43 343 *d i*P **P** **13 14 16.1 0.0**
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURK Kurchatov 58.43 343 P **P** **13 14 15.7 -0.4**
KURK pP **pP** **13 14 30.4 +0.2**
KURK sP **sP** **13 14 37.1 +1.1**
HEH HeiHe 58.59 19 *e*P **P** **13 14 16.5 -0.8**
HEH pmax pmax
comp=Z,12nm,1.2s
KLR Kul'dur 59.24 22 *c i*P **P** **13 14 20.6 -1.2**
KLR pmax pmax
comp=Z,10.0nm,1.3s
ERM Erimo 59.31 35 P **P** **13 14 21.4 -1.0**
ERM Erimo 59.31 35 P **P** **13 14 21.8 -0.7**
ERM Erimo 59.31 35 P **P** **13 14 21.4 -1.0**
ERM pmax pmax
comp=Z,39nm,1.1s
JEM Erimo 59.32 35 P **P** **13 14 21.3 -1.2**
ZAA0 Zalesovo Array 59.84 348 **P** **13 14 25.2 -0.7**
ZAA0 IAmb IAmb 13 14 41.3
comp=Z,23nm,0.9s
ZALV Zalesovo Beam 59.84 348 **P** **13 14 24.8 -1.1**
ZALV Zalesovo Beam 59.84 348 P **P** **13 14 25.1 -0.8**
comp=Z,7.6nm,0.3s,baz=169,slow=5.3,SNR=58
ZALV S **S** **13 22 33.2 -0.4**
comp=Z,1.4nm,0.9s,baz=146,slow=16,SNR=3.9
comp=Z,7.6nm,0.3s
H04N2 CROZET ISLANDS 60.22 218 T T 14 19 24.6
baz=61,SNR=800
H04N1 CROZET ISLANDS 60.23 218 T T 14 19 25.5
baz=61,slow=74,SNR=3475
H04N3 CROZET ISLANDS 60.24 218 T T 14 19 24.1
baz=61,slow=74,SNR=835
ASAJ Asahikawa 60.39 33 P **P** **13 14 28.7 -1.1**
comp=Z,10nm,0.8s,baz=244,slow=10,SNR=9.1
comp=Z,10nm,0.8s
ASAJ Asahikawa 60.39 33 P **P** **13 14 29.0 -0.8**
ASAJ pmax pmax
comp=Z,12nm,0.9s
JKA Kamikawa-asahi 60.39 33 P **P** **13 14 29.0 -0.8**
JKA IAmb IAmb 13 14 30.4
comp=Z,12nm,0.9s
H04S1 CROZET ISLANDS 60.47 217 T T 14 19 48.2
baz=60,slow=75,SNR=34
H04S3 CROZET ISLANDS 60.48 217 T T 14 19 43.6
baz=60,slow=75,SNR=37
H04S2 CROZET ISLANDS 60.49 217 T T 14 19 41.4
baz=60,slow=75,SNR=19
ZEA Zeya 61.58 17 *e*P **P** **13 14 37.5 -0.2**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
YSS Yuzhno-Sakhali 62.38 30 *e*P **P** **13 14 42.3 -0.9**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS Yuzhno-Sakhali 62.38 30 P **P** **13 14 42.4 -0.8**
YSS pP **pP** **13 14 57.6 +0.1**
KOUNC **Koumac, New Ca 62.48 111** P **P** **13 14 45.2 +0.8**
BVA0 Borovoye Array 63.08 339 P **P** **13 14 46.4 -1.4**
BVAR Borovoye Array 63.08 339 P **P** **13 14 46.9 -0.9**
comp=Z,2.7nm,0.4s,baz=138,slow=9.2,SNR=23
BVAR LR LR 13 46 02.3
comp=Z,67nm,20.7s,baz=147,slow=40
comp=Z,2.7nm,0.4s
BRVK Borovoye 63.15 339 **P** **13 14 47.0 -1.2**
BRVK IAmb IAmb 13 15 03.0
comp=Z,6.4nm,0.8s
BRVK Borovoye 63.15 339 ⇑ *i*P **P** **13 14 47.4 -0.8**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 63.15 339 P **P** **13 14 47.3 -0.9**
BRVK pP **pP** **13 15 02.4 0.0**
BRVK sP **sP** **13 15 09.0 +0.8**
DZM Mont Dzumac 64.63 112 *e*LR LR 13 34 22.6
comp=Z,206nm,27.1s
AB31 Akbulak array 64.67 331 IAmb IAmb 13 15 14.0
comp=Z,14nm,0.7s
AB31 Akbulak array 64.67 331 *i* P **P** **13 14 57.6 -0.7**
ABKAR **Akbulak array 64.67 331** **P** **13 14 57.3 -1.0**
AKTO Aktyubinsk 66.39 331 LR LR 13 46 17.5
comp=Z,46nm,20.9s,baz=138,slow=38
AKT Akhty 67.23 319 *e*P **P** **13 15 16.0 +0.9**
AKT *e* 13 15 43.2
AKT pmax pmax
comp=Z,9.0nm,1.2s
DRV Dumont d'Urvil 67.53 165 P **P** **13 15 17.3 +1.0**
DRV pP **pP** **13 15 32.6 +2.3**
GNI Garni 68.64 316 LR LR 13 46 23.6
comp=Z,42nm,21.5s,baz=133,slow=37
YAK Yakutsk 69.48 13 P **P** **13 15 26.8 -1.7**
comp=Z,12nm,0.7s,baz=264,slow=0.5,SNR=5.8
comp=Z,12nm,0.7s
YAK Yakutsk 69.48 13 *e*P **P** **13 15 26.6 -1.8**
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK Yakutsk 69.48 13 P **P** **13 15 26.7 -1.8**
YAK pP **pP** **13 15 41.7 -1.3**
SVE Sverdlovsk 69.62 337 *e*P **P** **13 15 30.1 +0.6**
SVE pmax pmax
comp=Z,14nm,0.9s
ARTI Arti 70.21 336 **P** **13 15 32.4 -0.7**
ARTI IAmb IAmb 13 15 54.6
comp=Z,18nm,0.6s
ARTI Arti 70.21 336 LR LR 13 50 10.3
comp=Z,70nm,18.1s,baz=157,slow=39
ARTI Arti 70.21 336 *c i*P **P** **13 15 33.0 -0.1**
ARTI *PP **pP** **13 15 49.3 +1.7**
ARTI S **S** **13 24 42.2 +1.4**
ARTI SS **SS** **13 29 07.9 -4.0**
ARTI pmax pmax
comp=Z,6.0nm,1.0s
JCZ Jackson Bay 70.34 135 P **P** **13 15 35.9 +1.5**
APZ The Paps 70.48 138 P **P** **13 15 37.4 +2.3**
SYZ Scrubby Hill 71.17 138 P **P** **13 15 40.3 +1.1**
TUZ Tuapeka 71.37 137 P **P** **13 15 41.9 +1.5**
LBZ Lake Benmore 71.39 135 P **P** **13 15 41.0 +0.3**
KBZ Khabaz 71.42 319 P **P** **13 15 41.7 +0.9**
comp=Z,2.0nm,0.8s,baz=166,slow=5.4,SNR=5.6
comp=Z,2.0nm,0.8s
WVZ Waitaha Valley 71.51 134 P **P** **13 15 42.2 +0.8**
ASF Jabal al Asfar 71.64 306 LR LR 13 48 14.8
comp=Z,87nm,18.7s,baz=156,slow=37
KIV Kislovodsk 71.66 319 *e*P P 13 15 33.9 -8.4
KIV pmax pmax
comp=Z,5.0nm,1.1s
CCD Concordia, Ant 71.77 174 P **P** **13 15 45.2 +2.4**
CCD pP **PcP** **13 16 00.7 -0.9**
CCD PcP **sP** **13 16 02.3 -0.3**
RPZ Rata Peaks 71.87 135 P **P** **13 15 44.0 +0.5**
RPZ Rata Peaks 71.87 135 P **P** **13 15 44.5 +0.9**
DSZ Denniston Nort 72.03 132 P **P** **13 15 45.7 +1.1**
QRZ Quartz Range 72.41 131 P **P** **13 15 48.5 +1.7**
EIL Elat 72.53 303 LR LR 13 46 18.0
comp=Z,71nm,20.8s,baz=67,slow=35
LTZ Lake Taylor 72.56 133 P **P** **13 15 49.0 +1.3**
BELG Belogornoye 72.79 329 LR LR 13 50 41.3
comp=Z,56nm,21.3s,baz=103,slow=38
BELG Belogornoye 72.79 329 *e*P **P** **13 15 47.1 -1.6**
BELG pmax pmax
comp=Z,1.0nm,0.9s
THZ Tophouse 72.84 132 P **P** **13 15 50.1 +0.6**
MQZ McQueen's Vall 73.00 134 P **P** **13 15 52.5 +2.3**
MMAI Mount Meron Ar 73.09 306 P **P** **13 15 52.0 +1.0**
comp=Z,1.8nm,0.7s,baz=118,slow=8.3,SNR=4.6
MMAI LR LR 13 48 16.2
comp=Z,114nm,19.9s,baz=127,slow=36
comp=Z,1.8nm,0.7s
WCZ Waipu Caves 73.11 126 P **P** **13 15 53.3 +2.2**
GVZ Greta Valley S 73.15 134 P **P** **13 15 52.8 +1.6**
LSZ Lusaka 73.36 255 LR LR 13 43 17.8
comp=Z,116nm,18.7s,baz=136,slow=32
KHZ Kahutara 73.42 133 P **P** **13 15 53.3 +0.6**
KHZ Kahutara 73.42 133 P **P** **13 15 53.6 +0.9**
DUWZ D'Urville Isla 73.45 131 P **P** **13 15 53.6 +0.6**
PEA0B Petropavlovsk- 73.75 31 ⇓ *e*P **P** **13 15 53.1 -1.3**
PETK Petropavlovsk- 73.75 31 P **P** **13 15 52.6 -1.8**
comp=Z,3.0nm,0.8s,baz=212,slow=6.6,SNR=8.6
comp=Z,3.0nm,0.8s
WAZ Wanganui 74.10 130 P **P** **13 15 58.6 +1.7**
SNZO South Karori 74.11 132 P **P** **13 15 56.4 -0.4**
NRIK Noril'sk 74.19 355 P **P** **13 15 55.1 -1.5**
comp=Z,1.7nm,0.3s,baz=106,slow=2.5,SNR=5.0
comp=Z,1.7nm,0.3s
NRIK Noril'sk 74.19 355 *ce*P **P** **13 15 54.8 -1.8**
NRIK pmax pmax
comp=Z,6.0nm,1.1s
PET Petropavlovsk 74.20 32 P **P** **13 15 55.5 -1.5**
PET IAmb IAmb 13 15 59.8
comp=Z,17nm,1.0s
PET Petropavlovsk 74.20 32 P **P** **13 15 55.8 -1.3**
PET Petropavlovsk 74.20 32 *ce*P **P** **13 15 55.7 -1.3**
PET pmax pmax
comp=Z,9.0nm,0.7s
MA2 Magadan 74.30 23 P **P** **13 15 55.9 -1.6**
comp=Z,3.6nm,0.7s,baz=206,slow=9.1,SNR=3.5
comp=Z,3.6nm,0.7s
WTVZ West Tongariro 74.48 129 P **P** **13 15 60.0 +0.8**
WNVZ Wahianoa 74.52 129 P **P** **13 16 00.6 +1.1**
MSWZ Moikau Station 74.53 132 P **P** **13 16 01.6 +2.3**
MOVZ Moawhango 74.65 130 P **P** **13 16 00.7 +0.6**
MRZ Mangatainoka R 74.67 131 P **P** **13 16 01.5 +1.4**
TSZ Takapari Road 74.89 130 P **P** **13 16 02.2 +0.8**
KWHZ Kaweka Forest 75.16 130 P **P** **13 16 04.2 +1.1**
BFZ Birch Farm 75.18 131 P **P** **13 16 03.8 +0.8**
BFZ Birch Farm 75.18 131 P **P** **13 16 03.8 +0.8**
BKZ Black Stump Fm 75.19 129 **P** **13 16 03.6 +0.3**
BKZ Black Stump Fm 75.19 129 P **P** **13 16 03.4 +0.2**
BKZ Black Stump Fm 75.19 129 P **P** **13 16 03.5 +0.3**
VRH Novokhopyorsk 75.41 326 P P 13 16 13.2 +9.1
VRH pmax pmax
comp=Z,11nm,1.0s
PRHZ Porangahau 75.42 130 P **P** **13 16 05.8 +1.4**
RTZ Ruatahuna 75.51 129 **P** **13 16 05.4 +0.3**
KAHZ Kahuranaki 75.55 130 P **P** **13 16 06.5 +1.2**
PXZ Pawanui 75.57 130 P **P** **13 16 06.1 +0.8**
URZ Urewera 75.57 128 P **P** **13 16 05.8 +0.5**
MWZ Matawai 75.90 128 P **P** **13 16 07.2 -0.1**
HAZ Te Kaha 76.05 128 P **P** **13 16 08.0 -0.1**
SYO Syowa Base 76.36 199 ⇓ *e*P **P** **13 16 11.5 +2.3**
SYO Syowa Base 76.36 199 ⇑ *e*PcP **PcP** **13 16 22.2 +1.4**
SYO Syowa Base 76.36 199 ⇓ *es*P sP 13 16 31.7 +2.6
BOSA Boshof 76.39 242 P **P** **13 16 10.7 +0.3**
BOSA Boshof 76.39 242 P **P** **13 16 11.9 +1.6**
comp=Z,6.7nm,0.9s,baz=90,slow=4.5,SNR=12
BOSA LR LR 13 44 03.7
comp=Z,166nm,18.7s,baz=157,slow=31
comp=Z,6.7nm,0.9s
BOSA Boshof 76.39 242 P **P** **13 16 10.7 +0.3**
BOSA pmax pmax
comp=Z,5.0nm,0.8s
BR131 Keskin Array S 76.43 312 ⇑ *i*P **P** **13 16 10.2 -0.1**
BRTR Keskin Array B 76.43 312 P **P** **13 16 09.7 -0.7**
comp=Z,1.9nm,0.7s,baz=114,slow=6.2,SNR=10
BRTR LR LR 13 51 20.4
comp=Z,45nm,21.1s,baz=130,slow=37
comp=Z,1.9nm,0.7s
PUZ Puketiti 76.45 128 P **P** **13 16 10.4 0.0**
VORD Divnogorie 76.69 325 *e*P **P** **13 16 10.7 -0.7**
VORD pmax pmax
comp=Z,3.0nm,1.0s
VSR Storozhevoye 76.87 325 *e*P **P** **13 16 11.1 -1.3**
VSR pmax pmax
comp=Z,4.0nm,0.8s
SEY Seymchan 77.01 21 P **P** **13 16 11.9 -1.0**
comp=Z,3.5nm,0.9s,baz=238,slow=5.1,SNR=12
comp=Z,3.5nm,0.9s
SEY Seymchan 77.01 21 *ce*P **P** **13 16 12.4 -0.5**
SEY pmax pmax
comp=Z,4.0nm,0.9s
VORR Voronezh 77.03 325 P P 13 16 21.1 +7.8
VORR pmax pmax
comp=Z,15nm,1.3s
LPSR Galich'ya Gora 77.58 326 *e*P **P** **13 16 16.4 +0.1**
LPSR pmax pmax
comp=Z,3.0nm,0.9s
TIXI Tiksi 77.83 8 **P** **13 16 15.5 -1.8**
TIXI Tiksi 77.83 8 P **P** **13 16 15.5 -1.8**
comp=Z,1.7nm,0.4s,baz=172,slow=1.8,SNR=12
comp=Z,1.7nm,0.4s
TIXI Tiksi 77.83 8 P **P** **13 16 15.5 -1.8**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 79.49 169 **P** **13 16 25.5 -0.9**
VNDA Vanda 79.49 169 P **P** **13 16 26.7 +0.3**
comp=Z,5.0nm,1.0s,baz=291,slow=6.1,SNR=22
comp=Z,5.0nm,1.0s
VNDA Vanda 79.49 169 P **P** **13 16 25.5 -0.9**
VNDA pmax pmax
comp=Z,8.0nm,1.1s
MOS Moscow 79.56 329 *e*P **P** **13 16 27.7 +0.6**
MOS *e* 13 19 27.7
OBN Obninsk 79.86 328 LR LR 13 55 27.4
comp=Z,65nm,19.3s,baz=231,slow=38
OBN Obninsk 79.86 328 *e*P **P** **13 16 27.9 -0.9**
OBN *e* 13 16 35.3
OBN *e**PP **pP** **13 16 42.2 -1.2**
OBN *e**SP **sP** **13 16 48.0 -1.1**
OBN pmax pmax
comp=Z,4.0nm,0.9s
KARP Karpathos 80.33 307 **P** **13 16 31.2 -0.7**
SUR Sutherland 80.34 238 LR LR 13 48 11.2
comp=Z,75nm,21.1s,baz=148,slow=33
SBA Scott Base 80.58 169 **P** **13 16 33.0 +0.7**
SBA Scott Base 80.58 169 P **P** **13 16 33.0 +0.7**
SBA pmax pmax
comp=Z,11nm,1.1s
KLMR Klimovskoe 80.82 334 *e*P **P** **13 16 33.1 -0.7**
KLMR pmax pmax
comp=Z,7.0nm,0.9s
ELIB Princess Elisa 82.42 198 *d*P **P** **13 16 45.5 +3.1**
comp=Z,5.2nm,0.8s
AKASG Malin Array Be 82.59 322 P **P** **13 16 44.0 +0.6**
comp=Z,0.2nm,0.3s,baz=96,slow=5.9,SNR=2.9
AKASG LR LR 13 58 26.6
comp=Z,53nm,18.1s,baz=102,slow=39
comp=Z,0.2nm,0.3s
TSUM Tsumeb 83.42 251 LR LR 13 49 34.4
comp=Z,110nm,21.0s,baz=146,slow=32
QSPA South Pole Qui 85.65 180 P **P** **13 16 58.7 -0.2**
QSPA IAmb IAmb 13 17 01.6
comp=Z,9.8nm,1.1s
QSPA South Pole Qui 85.65 180 P **P** **13 17 00.2 +1.4**
comp=Z,4.8nm,0.9s,baz=214,slow=0.2,SNR=14
comp=Z,4.8nm,0.9s
KOLS Kolonicke sedl 86.57 319 *e*P **P** **13 17 04.0 +0.4**
KOLS *e* 13 17 15.4
KOLS Kolonicke sedl 86.57 319 *e*P **P** **13 17 04.0 +0.4**
KOLS *e* 13 17 15.4
FINES FINESS Array B 87.13 332 P **P** **13 17 06.3 +0.3**
FINES FINESS Array B 87.13 332 P **P** **13 17 05.8 -0.2**
comp=Z,0.6nm,0.5s,baz=90,slow=7.6,SNR=8.8
FINES pP **pP** **13 17 20.7 -0.1**
comp=Z,1.9nm,0.5s,baz=99,slow=5.4,SNR=6.6
FINES LR LR 13 59 22.0
comp=Z,30nm,20.5s,baz=215,slow=38
comp=Z,0.6nm,0.5s
FINES FINESS Array B 87.13 332 P **P** **13 17 06.3 +0.3**
ARCES ARCESS Array B 89.36 340 P **P** **13 17 16.5 +0.1**
comp=Z,1.8nm,0.7s,baz=98,slow=5.5,SNR=8.5
ARCES pP **pP** **13 17 30.5 -0.8**
comp=Z,5.5nm,0.8s,baz=64,slow=5.5,SNR=4.9
ARCES LR LR 14 00 47.6
comp=Z,38nm,18.6s,baz=104,slow=38
comp=Z,1.8nm,0.7s
MODS Modra-Piesok 89.76 318 *e*P **P** **13 17 20.5 +1.7**
MODS Modra-Piesok 89.76 318 *e*P **P** **13 17 20.5 +1.7**
VRAC Vranov 90.31 319 LR LR 14 03 18.9
comp=Z,27nm,18.1s,baz=82,slow=39
SNAA Sanae 90.58 198 ⇑P **P** **13 17 25.8 +3.6**
comp=Z,49nm,0.7s
SNAA Sanae 90.58 198 P **P** **13 17 24.9 +2.7**
comp=Z,2.5nm,0.9s,baz=187,slow=6.2,SNR=4.5
comp=Z,2.5nm,0.9s
GERES GERESS Array B 92.17 319 P **P** **13 17 31.1 +1.1**
comp=Z,0.1nm,0.3s,baz=106,slow=8.7,SNR=2.3
GERES LR LR 14 04 00.2
comp=Z,27nm,21.0s,baz=84,slow=39
comp=Z,0.1nm,0.3s
CLL Collm 92.78 321 *e*P **P** **13 17 34.0 +1.3**
CLL Collm 92.78 321 *e*P **P** **13 17 34.0 +1.3**
CLL *e*PP **PP** **13 21 16.0 +0.7**
HFS Hagfors 92.92 330 P **P** **13 17 33.8 +0.7**
comp=Z,1.1nm,0.6s,baz=90,slow=1.4,SNR=2.2
HFS pP **pP** **13 17 48.0 0.0**
comp=Z,4.4nm,0.7s,baz=133,slow=6.3,SNR=6.5
comp=Z,1.1nm,0.6s
SPITS Spitsbergen Ar 93.33 348 P **P** **13 17 33.6 -1.1**
comp=Z,1.4nm,0.7s,baz=122,slow=9.0,SNR=7.5
comp=Z,1.4nm,0.7s
NB2 NORSAR Subarra 94.18 331 P **P** **13 17 41.2 +2.2**
comp=Z,1.6nm,0.8s,baz=91,slow=4.6
NOA NORSAR Array B 94.18 331 P **P** **13 17 39.0 0.0**
comp=Z,0.2nm,0.5s,baz=79,slow=9.1,SNR=2.5

NOA pP **pP** **13 17 53.9 0.0**
comp=Z,0.8nm,0.7s,baz=94,slow=4.9,SNR=4.1
NOA LR LR 14 04 01.7
comp=Z,33nm,19.7s,baz=105,slow=38
comp=Z,0.2nm,0.5s
DAVOX Davos/Dischmat 94.64 316 LR LR 14 07 37.6
comp=Z,19nm,18.9s,baz=79,slow=40
B21K Ikpikpuk River 98.66 20 P **P** **13 17 58.3 -0.7**
B21K IAmb IAmb 13 18 15.6
comp=Z,1.9nm,0.7s
E21K Killik River 99.11 21 IAmb IAmb 13 18 15.9
comp=Z,3.4nm,1.0s
TBI Tubuai 105.09 115 *e*LR LR 13 53 05.1
comp=Z,1μm,39.0s
TBI *e*LR LR 13 53 06.2
comp=Z,1μm,25.5s
PPT2 Papeete2 106.06 110 *e*LR LR 13 53 28.0
PPT2 *e*LR LR 13 53 30.3
comp=Z,105nm,34.2s
TAOE Nuku Hiva Isla 116.58 102 *e*LR LR 13 58 26.3
comp=Z,182nm,24.5s
NVAR Mina Array Bea 130.00 42 PKP **PKiKP** **13 23 31.3 -0.1**
comp=Z,0.5nm,0.6s,baz=272,slow=2.6,SNR=6.4
NVAR pPKP **pPKPdf** **13 23 46.1 +0.1**
comp=Z,0.7nm,0.7s,baz=322,slow=2.1,SNR=4.5
PDAR Pinedale Array 132.52 32 PKP **PKPdf** **13 23 35.0 -0.3**
comp=Z,0.4nm,0.7s,baz=214,slow=0.5,SNR=4.7
ANMO Albuquerque 139.67 37⇑ *i*PKIKP **PKiKP** **13 23 51.2 +0.1**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
CPUP Villa Florida 143.59 212 PKP **PKPdf** **13 23 56.8 +1.1**
comp=Z,2.4nm,0.8s,baz=42,slow=8.9,SNR=2.9
WMOK Wichita Mounta 144.08 30 **PKPab** **13 23 54.0 +0.1**
WMOK Wichita Mounta 144.08 30 PKIKP **PKPab** **13 23 54.0 +0.1**
BDFB Brasilia 144.38 236 PKP **PKPdf** **13 23 58.3 +0.8**
comp=Z,2.3nm,0.4s,baz=109,slow=4.9,SNR=5.7
APMT Aspermont 144.48 33 **PKPab** **13 23 55.5 0.0**
HHAR Hobbs 144.94 23 **PKPab** **13 23 56.2 -0.8**
TXAR Lajitas Array 145.16 42 PKP **PKPdf** **13 23 58.4 -0.1**
comp=Z,5.5nm,0.3s,baz=293,slow=1.2,SNR=150
TXAR pPKP pPKPbc 13 24 13.4 0.0
comp=Z,6.4nm,0.6s,baz=258,slow=1.0,SNR=9.1
TXAR SKPbc **SKPbc** **13 27 33.2 -0.7**
comp=Z,1.7nm,0.8s,baz=18,slow=0.1,SNR=4.8
BRDY Brady 146.64 34 **PKPbc** **13 24 02.5 0.0**

IDC 27 13:08:38.9±21.0, 23°.10S×179°.49E, h653km±297km, mb3.2/4, mbtmp4.3/4, Error ellipse: s-maj=166.0km s-min=82.7km az=6.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.59**	**247**	P	P	P	13 14 36.5	-0.1
	6.7nm,0.7s,baz=72,slow=13,SNR=2.6							
	6.7nm,0.7s							
ASAR	**Alice Springs**	**41.71**	**260**	P	P	P	13 15 34.0	+0.1
	2.2nm,0.6s,baz=97,slow=7.5,SNR=7.8							
	2.2nm,0.6s							
WRA	**Warramunga Arr**	**42.00**	**265**	P	P	P	13 15 36.2	+0.1
	3.8nm,0.6s,baz=102,slow=8.5,SNR=9.1							
	3.8nm,0.6s							
TXAR	**Lajitas Array**	**90.41**	**58**	P	P	P	13 20 33.3	+0.1
	0.4nm,0.7s,baz=229,slow=5.8,SNR=6.4							
	0.4nm,0.7s							
HFS	**Hagfors**	**141.68**	**349**	PKP	PKPdf		13 26 55.7	-1.6
	2.4nm,0.9s,baz=38,slow=2.6,SNR=7.0							

*IDC **27** 13:32:52.0±0.5, 4°.30S×137°.14E, h0km, mb4.5/15, mbtmp4.6/20, ML4.8/4, MS3.8/33, Error ellipse: s-maj=21.4km s-min=12.9km az=79.0*
*BJI **27** 13:32:51.5, 4°.48S×137°.56E, h26km, mB4.9/7, mb4.8/58, Ms4.4/7, Ms7 4.1/10*
*NEIC **27** 13:32:53.5±2.6, 4°.32S±0°.08×137°.23E±0°.06, h10km±1km, mb4.9/78, Error ellipse: s-maj=14.3km s-min=7.4km az=149.0*
*DJA **27** 13:32:55.3±0.9, 4°S±2°×13°7E±°, h16km±7km, M4.8/52, mb4.9/52, mB5.3/19, MLv5.1/13, Mw(mB)4.7/19, MwMwp4.5/2, Mwp4.9/2*
*GCMT **27** 13:32:55.5±0.3, 4°.28S±0°.02×137°.28E±0°.03, h17km±1km, MW4.8/60, Moment Tensor Solution. s19,c21; s60,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.19±.15; $M_{\theta\theta}$0.36±.09; $M_{\phi\phi}$0.83±.10; $M_{r\theta}$-0.65±.23; $M_{\theta\phi}$1.25±.05; $M_{\phi r}$-1.13±.27; Best double couple: $M_0$2.01900×10^{16} NP1:ϕ_s235.00000°, δ26.00000°, λ-67.00000°. NP2: ϕ_s30.00000°, δ66.00000°, λ-101.00000°. Principal axes: T 2.3370, Plg20.0000°, Azm128.0000°; N -0.6400, Plg10.0000°, Azm34.0000°; P -1.7010, Plg67.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 13:32:57.1±0.3, 4°.47S±0°.04×137°.22E±0°.05, h35km, n431, σ1§01/384, mb4.9/82, MS3.8/31, 3C-2D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.76**	**339**	P	**Pn**	**Pn**	**13 33 37.4**	**-1.4**
SMPI	**Sarmi**	**2.87**	**31**	P	**Pn**	**Pn**	**13 33 40.7**	**+0.2**
BAKI	**Biak**	**3.44**	**341**	P	**Pn**	**Pn**	**13 33 48.1**	**-0.1**
GENI	**Genyem**	**3.48**	**58**	P	**Pn**	**Pn**	**13 33 49.3**	**+0.5**
GENI	**Genyem**	**3.48**	**58**	P	**Pn**	**Pn**	**13 33 48.9**	**+0.1**
KMPI	**Kaimana, Papua**	**3.59**	**283**	P	**Pn**	**Pn**	**13 33 50.6**	**+0.2**
JAY	**Jayapura**	**3.98**	**61**	Pn	**Pn**	**Pn**	**13 33 55.1**	**-0.6**
	15nm,0.3s,baz=209,slow=13,SNR=41							
JAY				Sn	**Sn**	**Sn**	**13 34 45.0**	**+3.8**
	16nm,0.3s,baz=304,slow=21,SNR=1.7							
JAY				LR	LR	LR	13 35 40.6	
	comp=Z,3μm,18.5s,baz=266,slow=42							
	59nm,0.5s							
JAY	**Jayapura**	**3.98**	**61**	P	**Pn**	**Pn**	**13 33 55.6**	**-0.2**
RKPI	**Ransiki, Papua**	**4.22**	**314**	P	**Pn**	**Pn**	**13 34 00.1**	**+1.1**
MMPI	**Merauke**	**5.07**	**142**	P	**Pn**	**Pn**	**13 34 13.0**	**+2.3**
FAKI	**Fak Fak**	**5.19**	**287**		**Pn**	**Pn**	**13 34 12.0**	**-0.4**
FAKI	**Fak Fak**	**5.19**	**287**	P	**Pn**	**Pn**	**13 34 11.7**	**-0.6**
FAKI	**Fak Fak**	**5.19**	**287**	P	**Pn**	**Pn**	**13 34 11.3**	**-1.0**
	1.1nm3μm3μm99nm,0.4s							
SAUI	**Saumlaki**	**6.84**	**239**	P	**Pn**	**Pn**	**13 34 34.9**	**-0.1**
SAUI	**Saumlaki**	**6.84**	**239**	P	**Pn**	**Pn**	**13 34 36.3**	**+1.3**
	2.2nm338nm,1.4s							
SWI	**Sorong**	**6.94**	**301**	P	**Pn**	**Pn**	**13 34 35.4**	**-1.0**
	0.5nm2μm1μm116nm,0.8s							
BNDI	**Bandanaira**	**7.29**	**269**	P	**Pn**	**Pn**	**13 34 42.4**	**+1.2**
	271nm,1.2s							
MSAI	**Masohi**	**8.34**	**277**	P	**Pn**	**Pn**	**13 34 56.1**	**+0.4**
	2μm67nm,0.6s							
AAI	**Ambon**	**9.03**	**275**	P	**Pn**	**Pn**	**13 35 05.4**	**+0.3**
	66nm,0.5s							
KDU	**Kakadu**	**9.42**	**210**	P	**Pn**	**Pn**	**13 35 10.5**	**+0.1**
DRS	**Darwin Rock St**	**10.08**	**218**	P	**Pn**	**Pn**	**13 35 21.0**	**+1.5**
NLAI	**Namlea**	**10.17**	**277**	P	**Pn**	**Pn**	**13 35 21.9**	**+1.2**
	27nm,0.6s							
MTN	**Manton Dam**	**10.27**	**215**		**Pn**	**Pn**	**13 35 23.1**	**+1.1**
MTN	**Manton Dam**	**10.27**	**215**	P	**Pn**	**Pn**	**13 35 23.2**	**+1.1**
MANU	**Manus Island**	**10.41**	**77**		**Pn**	**Pn**	**13 35 24.4**	**+0.4**
PMG	**Port Moresby**	**11.02**	**117**		**Pn**	**Pn**	**13 35 32.1**	**-0.2**
PMG	**Port Moresby**	**11.02**	**117**	Pn	**Pn**	**Pn**	**13 35 32.6**	**+0.2**
	62nm,0.5s,baz=35,slow=1.8,SNR=43							
PMG				Sn	**Sn**	**Sn**	**13 37 30.7**	**-3.8**
	3.0nm,0.3s,baz=236,slow=18,SNR=5.9							
PMG	**Port Moresby**	**11.02**	**117**	P	**Pn**	**Pn**	**13 35 32.2**	**-0.2**
COEN	**Coen**	**11.11**	**148**		**Pn**	**Pn**	**13 35 33.7**	**+0.1**
COEN	**Coen**	**11.11**	**148**	P	**Pn**	**Pn**	**13 35 33.6**	**0.0**
SANI	**Sanana**	**11.46**	**282**	P	**Pn**	**Pn**	**13 35 37.0**	**-1.5**
SANI	**Sanana**	**11.46**	**282**	P	**Pn**	**Pn**	**13 35 35.5**	**-3.0**
	747nm67nm,0.8s							
SOEI	**Soe**	**13.88**	**247**		**Pn**	**Pn**	**13 36 09.2**	**-2.4**
SOEI	**Soe**	**13.88**	**247**	P	**Pn**	**Pn**	**13 36 11.2**	**-0.4**
SOEI	**Soe**	**13.88**	**247**	P	**Pn**	**Pn**	**13 36 11.7**	**+0.1**
	132nm,1.3s							
KNRA	**Kununurra**	**13.90**	**216**		**Pn**	**Pn**	**13 36 10.8**	**-0.9**
KMSI	**Cibinong**	**14.14**	**290**	P	**Pn**	**Pn**	**13 36 16.6**	**+1.6**
	191nm,1.3s							
BBSI	**Bau Bau**	**14.63**	**265**	P	**Pn**	**Pn**	**13 36 22.4**	**+0.7**
	3μm179nm,1.4s							
LUWI	**Luwuk**	**14.82**	**283**	P	**Pn**	**Pn**	**13 36 25.1**	**+0.8**
	62nm,1.1s							
MTSU	**Mount Surprise**	**15.26**	**153**	P	**Pn**	**Pn**	**13 36 28.6**	**-1.5**
MMRI	**Maumere**	**15.45**	**254**	P	**Pn**	**Pn**	**13 36 31.6**	**-0.9**
	54nm,0.9s							
WB0	**Warramunga Arr**	**15.46**	**190**		**Pn**	**Pn**	**13 36 30.2**	**-2.5**
WB0				IAmb	IAmb	IAmb	13 36 39.9	
	comp=Z,57nm,0.6s							
WR8	**Warramunga Arr**	**15.62**	**190**		**Pn**	**Pn**	**13 36 34.0**	**-0.8**
WRA	**Warramunga Arr**	**15.64**	**190**		**Pn**	**Pn**	**13 36 30.6**	**-4.4**
WRA	**Warramunga Arr**	**15.64**	**190**	Pn	**Pn**	**Pn**	**13 36 32.6**	**-2.4**
	comp=Z,2.2nm,0.3s,baz=10,slow=13,SNR=48							
WRA				Sn	**Sn**	**Sn**	**13 39 24.5**	**-2.8**
	comp=Z,5.0nm,0.3s,baz=19,slow=23,SNR=5.9							
WRA				LR	LR	LR	13 42 26.0	
	comp=Z,256nm,20.1s,baz=352,slow=36							
APSI	**Ampana**	**15.95**	**282**	P	**Pn**	**Pn**	**13 36 39.3**	**+0.3**
	comp=Z,981nmcomp=Z,96nm,1.2s							
EDFI	**Ende, Flores**	**16.00**	**254**	P	**Pn**	**Pn**	**13 36 39.2**	**-0.6**
	comp=Z,27nm,1.0s							
MRSI	**Marisa**	**16.03**	**287**	P	**Pn**	**Pn**	**13 36 41.2**	**+1.1**
	comp=Z,35nm,0.7s							
QIS	**Mount Isa**	**16.16**	**172**	P	**Pn**	**Pn**	**13 36 40.5**	**-1.3**
DAV	**Davao City (W)**	**16.32**	**315**	LR	LR	LR	13 42 59.7	
	comp=Z,177nm,19.8s,baz=144,slow=38							
BKSI	**Bulukumba**	**17.05**	**266**	P	**Pn**	**Pn**	**13 36 54.0**	**+1.0**
	comp=Z,813nmcomp=Z,58nm,1.5s							
BNSI	**Bone**	**17.06**	**270**	P	**Pn**	**Pn**	**13 36 54.1**	**+1.0**
	comp=Z,1μmcomp=Z,99nm,1.0s							
TOLI2	**Tolitoli**	**17.33**	**288**		**P**	**P**	**13 36 57.8**	**+0.3**
TOLI2	**Tolitoli**	**17.33**	**288**	P	**P**	**P**	**13 36 57.9**	**+0.3**
SPSI	**Sidrap Palu**	**17.41**	**271**	P	**Pn**	**Pn**	**13 36 58.2**	**+0.8**
KAPI	**Kappang**	**17.41**	**267**	P	**P**	**P**	**13 37 02.0**	**+3.5**
KAPI	**Kappang**	**17.41**	**267**	P	**Pn**	**Pn**	**13 36 57.2**	**-0.3**
	comp=Z,2.6nm,0.3s,baz=68,slow=5.3,SNR=4.2							
KAPI				LR	LR	LR	13 45 13.3	
	comp=Z,222nm,20.1s,baz=88,slow=43							
	comp=Z,4.1nm,0.3s							
WSI	**Waingapu**	**17.57**	**252**	P	**Pn**	**Pn**	**13 37 00.1**	**+0.7**
	comp=Z,102nm,0.9s							
FITZ	**Fitzroy Crossi**	**17.66**	**219**		**Pn**	**Pn**	**13 36 59.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**17.66**	**219**	P	**Pn**	**Pn**	**13 36 59.6**	**-0.9**
	comp=Z,3.9nm,0.3s,baz=46,slow=10,SNR=54							
FITZ				S	**Sn**	**Sn**	**13 40 13.2**	**-3.1**
	comp=Z,17nm,0.5s,baz=205,slow=18,SNR=3.6							
FITZ				LR	LR	LR	13 43 42.9	
	comp=Z,358nm,20.1s,baz=39,slow=37							
	comp=Z,14nm,0.4s							
FITZ	**Fitzroy Crossi**	**17.66**	**219**	P	**Pn**	**Pn**	**13 36 59.2**	**-1.3**
MPSI	**Mapaga**	**17.95**	**285**	P	**P**	**P**	**13 37 04.8**	**+0.4**
WBSI	**Waikabubak, Su**	**18.42**	**253**	P	**Pn**	**Pn**	**13 37 10.6**	**+0.7**
	comp=Z,72nm,1.1s							
AS01	**Alice Springs**	**19.35**	**189**	P	**P**	**P**	**13 37 21.0**	**+1.3**
AS31	**Alice Springs**	**19.36**	**189**		**P**	**P**	**13 37 21.4**	**+1.6**
ASAR	**Alice Springs**	**19.36**	**189**	P	**P**	**P**	**13 37 21.1**	**+1.3**
	comp=Z,11nm,0.3s,baz=15,slow=9.9,SNR=873							
ASAR				S	**S**	**S**	**13 40 56.0**	**-1.1**
	comp=Z,4.7nm,0.5s,baz=2.7,slow=28,SNR=4.0							
ASAR				LR	LR	LR	13 45 44.9	
	comp=Z,295nm,19.3s,baz=17,slow=40							
	comp=Z,21nm,0.4s							
GUMO	**Guam**	**19.48**	**23**	LR	LR	LR	13 44 39.2	
	comp=Z,136nm,18.8s,baz=212,slow=36							
PLAI	**Plampang**	**19.79**	**256**	P	**P**	**P**	**13 37 25.1**	**+0.5**
PLAI	**Plampang**	**19.79**	**256**	P	**P**	**P**	**13 37 24.7**	**+0.1**
	comp=Z,50nm,1.0s							
TWSI	**Taliwang, Sumb**	**20.64**	**257**	P	**P**	**P**	**13 37 35.5**	**+1.7**
	comp=Z,26nm,0.9s							
MYLDM	**Lahad Datu**	**21.01**	**297**		**P**	**P**	**13 37 36.0**	**-1.8**
SRBI	**Singaraja**	**22.16**	**260**	P	**P**	**P**	**13 37 51.5**	**+1.2**
	comp=Z,53nm,1.2s							
WRKA	**Warakurna**	**22.18**	**202**	P	**P**	**P**	**13 37 51.2**	**+0.8**
TATA	**Tatamba Isabel**	**22.78**	**101**	P	**P**	**P**	**13 37 56.5**	**-0.3**
QLP	**Quilpie**	**23.00**	**164**	P	**P**	**P**	**13 38 01.0**	**+2.1**
HNR	**Honiara**	**23.09**	**104**	LR	LR	LR	13 48 27.1	
	comp=Z,312nm,18.7s,baz=355,slow=40							
OOD	**Oodnadatta**	**23.25**	**183**	P	**P**	**P**	**13 38 02.6**	**+1.2**
JAGI	**Jajag, Banyuwa**	**23.26**	**259**	P	**P**	**P**	**13 38 02.6**	**+0.9**
KMMI	**Kalianget**	**23.27**	**263**	P	**P**	**P**	**13 38 04.1**	**+2.2**
INKA	**Innaminka**	**23.39**	**172**	P	**P**	**P**	**13 38 05.1**	**+2.3**
ALEG	**Aligegeo Malai**	**23.70**	**102**	P	**P**	**P**	**13 38 08.6**	**+2.6**
MBWA	**Marble Bar**	**23.75**	**224**		**P**	**P**	**13 38 07.9**	**+1.6**
MBWA	**Marble Bar**	**23.75**	**224**	P	**P**	**P**	**13 38 08.0**	**+1.6**
PSA00	**Pilbara Seismi**	**23.94**	**223**	P	**P**	**P**	**13 38 09.7**	**+1.5**
PSA00	**Pilbara Seismi**	**23.94**	**223**		**P**	**P**	**13 38 09.3**	**+1.1**
PSA00				IAmb	IAmb	IAmb	13 38 11.1	
	comp=Z,42nm,0.9s							
PSA00	**Pilbara Seismi**	**23.94**	**223**	P	**P**	**P**	**13 38 09.8**	**+1.5**
LCRK	**Leigh Creek**	**25.86**	**178**	P	**P**	**P**	**13 38 27.4**	**+1.8**
PCJI	**Pacitan**	**26.14**	**261**	P	**P**	**P**	**13 38 28.8**	**+0.5**
	comp=Z,49nm,1.5s							
FORT	**Forrest**	**27.56**	**197**		**P**	**P**	**13 38 42.2**	**+1.3**
STKA	**Stephens Creek**	**27.58**	**172**	P	**P**	**P**	**13 38 43.0**	**+2.0**
	comp=Z,2.0nm,0.5s,baz=351,slow=8.4,SNR=5.2							
STKA				LR	LR	LR	13 51 10.6	
	comp=Z,204nm,19.0s,baz=349,slow=40							
	comp=Z,2.0nm,0.5s							
STKA	**Stephens Creek**	**27.58**	**172**	P	**P**	**P**	**13 38 42.8**	**+1.8**
CMSA	**Cobar Meteorol**	**28.08**	**164**	P	**P**	**P**	**13 38 46.7**	**+1.2**
BBOO	**Buckleboo**	**28.22**	**182**	P	**P**	**P**	**13 38 47.8**	**+1.0**
MEEK	**Meekatharra**	**28.33**	**217**	P	**P**	**P**	**13 38 50.2**	**+2.3**
GIRL	**Giralia**	**28.65**	**229**	P	**P**	**P**	**13 38 52.3**	**+1.6**
LEM	**Leura Bang**	**29.55**	**264**	LR	LR	LR	13 52 37.0	
	comp=Z,188nm,19.6s,baz=125,slow=40							
BBJI	**Bungbulang**	**29.55**	**263**	P	**P**	**P**	**13 38 59.5**	**+0.6**
KMBL	**Kambalda**	**30.40**	**207**	P	**P**	**P**	**13 39 07.3**	**+1.2**
TWGBT	**Beinan**	**31.37**	**330**	P	**P**	**P**	**13 39 16.4**	**+1.7**
MORW	**Morawa**	**31.65**	**217**		**P**	**P**	**13 39 16.7**	**-0.5**
MORW				IAmb	IAmb	IAmb	13 39 20.0	
	comp=Z,20nm,1.1s							
MORW	**Morawa**	**31.65**	**217**	P	**P**	**P**	**13 39 19.5**	**+2.3**
JOW	**Kunigami**	**32.29**	**345**	LR	LR	LR	13 50 15.7	
	comp=Z,181nm,20.6s,baz=304,slow=32							
BLDU	**Ballidu**	**32.41**	**214**	P	**P**	**P**	**13 39 25.6**	**+1.8**
KLBR	**Kellerberrin**	**32.59**	**212**	P	**P**	**P**	**13 39 27.4**	**+2.0**
MDSI	**Maura Dua**	**32.94**	**269**	P	**P**	**P**	**13 39 28.5**	**-0.2**
	comp=Z,33nm,1.3s							
MUN	**Mundaring**	**33.72**	**213**	P	**P**	**P**	**13 39 37.4**	**+2.1**
NWAO	**Narrogin (SRO)**	**33.92**	**211**	P	**P**	**P**	**13 39 38.5**	**+1.5**
NWAO	**Narrogin (SRO)**	**33.92**	**211**	LR	LR	LR	13 53 38.4	
	comp=Z,227nm,18.1s,baz=50,slow=37							
NWAO	**Narrogin (SRO)**	**33.92**	**211**	P	**P**	**P**	**13 39 38.7**	**+1.7**
QIZ	**Qiongzhong**	**35.66**	**312**	P	**P**	**P**	**13 39 52.0**	**-0.2**
QIZ				S	**S**	**S**	**13 45 28.5**	**+2.0**
QIZ				LR	LR	LR		
	comp=Z,170nm,12.4s							
QIZ				LR	LR	LR		
	comp=Z,140nm,15.1s							
QIZ				LR	LR	LR		
	comp=Z,190nm,18.0s							
JHJ	**Hachijo jima 2**	**37.46**	**4**	LR	LR	LR	13 54 37.5	
	comp=Z,91nm,18.0s,baz=110,slow=35							
JNU	**Nakatsue**	**37.86**	**351**	LR	LR	LR	13 53 39.8	
	comp=Z,138nm,20.0s,baz=156,slow=33							
JNU	**Nakatsue**	**37.86**	**351**	P	**P**	**P**	**13 40 12.1**	**+1.4**
NJ2	**Nanjing**	**40.30**	**336**	*e*P	**P**	**P**	**13 40 32.0**	**+0.9**
NJ2				pmax	pmax	pmax		
	comp=Z,11nm,0.5s							
MJAR	**Matsushiro Arr**	**40.80**	**1**	P	**P**	**P**	**13 40 33.2**	**-2.0**
	comp=Z,2.9nm,1.0s,baz=174,slow=9.2,SNR=5.8							
	comp=Z,2.9nm,1.0s							
MSVF	**Nonsavu**	**42.07**	**112**	LR	LR	LR	13 59 37.0	
	comp=Z,153nm,18.3s,baz=343,slow=38							
KSRS	**Korea Array**	**42.59**	**349**	P	**P**	**P**	**13 40 48.2**	**-1.6**
	comp=Z,4.2nm,1.1s,baz=169,slow=9.3,SNR=9.9							
KSRS				LR	LR	LR	13 57 08.6	
	comp=Z,73nm,20.5s,baz=175,slow=34							
	comp=Z,4.2nm,1.1s							
GYA	**Guiyang**	**42.66**	**318**	P	**P**	**P**	**13 40 50.5**	**-0.2**
GYA				pmax	pmax	pmax		
	comp=Z,17nm,1.2s							
CMAR	**Chiang Mai Arr**	**44.06**	**302**		**P**	**P**	**13 41 00.3**	**-1.7**
CMAR	**Chiang Mai Arr**	**44.06**	**302**	P	**P**	**P**	**13 41 01.6**	**-0.4**
	comp=Z,6.5nm,0.9s,baz=126,slow=6.5,SNR=55							
	comp=Z,6.5nm,0.9s							
CHTO	**Chiang Mai**	**44.22**	**303**		**P**	**P**	**13 41 01.3**	**-2.0**
CHTO				IAmb	IAmb	IAmb	13 41 03.7	
	comp=Z,12nm,0.8s							
KMI	**Kunming**	**44.57**	**313**	P	**P**	**P**	**13 41 06.5**	**+0.2**
KMI				pmax	pmax	pmax		
	comp=Z,12nm,0.7s							
KMI				LR	LR	LR		
	comp=Z,240nm,20.4s							
PZH	**PanZhiHua**	**46.11**	**314**	P	**P**	**P**	**13 41 19.5**	**+1.1**
PZH				pmax	pmax	pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax	pmax		
	comp=Z,60nm,3.5s							
HNS	**HongShan**	**46.63**	**335**	⇑P	**P**	**P**	**13 41 20.8**	**-1.2**
HNS				pmax	pmax	pmax		
	comp=Z,9.0nm,1.0s							
HNS				LR	LR	LR		
	comp=Z,170nm,20.2s							
HNS				LR	LR	LR		
	comp=Z,200nm,18.8s							
XAN	**Xi'an**	**46.69**	**327**	P	**P**	**P**	**13 41 21.5**	**-1.2**
XAN				pmax	pmax	pmax		
	comp=Z,15nm,1.4s							
XAN				LR	LR	LR		
	comp=Z,230nm,12.4s							
XAN				LR	LR	LR		
	comp=Z,150nm,13.7s							
XAN				LR	LR	LR		
	comp=Z,230nm,21.3s							
TNCH	**TengChong**	**47.67**	**310**	*e*P	**P**	**P**	**13 41 30.3**	**-0.4**
TNCH				pP	pP	pP	13 41 34.0	-7.3
TNCH				pmax	pmax	pmax		
	comp=Z,36nm,0.9s							
TNCH				pmax	pmax	pmax		
	comp=Z,110nm,2.6s							
BJI	**Beijing**	**48.33**	**338**	P	**P**	**P**	**13 41 33.3**	**-1.9**
BJI				pmax	pmax	pmax		
	comp=Z,3.0nm,1.0s							
ASAJ	**Asahikawa**	**48.60**	**5**	LR	LR	LR	14 01 28.3	
	comp=Z,43nm,20.2s,baz=206,slow=35							
JKA	**Kamikawa-asahi**	**48.60**	**5**	P	**P**	**P**	**13 41 35.0**	**-2.3**
JKA				IAmb	IAmb	IAmb	13 41 58.0	
	comp=Z,12nm,1.1s							
USA0B	**Ussuriysk Arra**	**48.67**	**355**		**P**	**P**	**13 41 36.5**	**-1.3**
USA0B				IAmb	IAmb	IAmb	13 41 37.9	
	comp=Z,7.4nm,0.7s							
USA0B				PcP	**PcP**	**PcP**	**13 43 01.7**	**-1.1**
USRK	**Ussuriysk Ar.**	**48.67**	**355**	P	**P**	**P**	**13 41 37.4**	**-0.4**
	comp=Z,6.6nm,0.8s,baz=186,slow=8.0,SNR=10							
USRK				LR	LR	LR	14 00 39.6	
	comp=Z,101nm,19.6s,baz=169,slow=34							
	comp=Z,6.6nm,0.8s							
CN2	**Changchun**	**49.20**	**349**	P	**P**	**P**	**13 41 41.5**	**-0.4**
CN2				pmax	pmax	pmax		
	comp=Z,10.0nm,0.7s							
MDJ	**Mudanjiang**	**49.34**	**353**	P	**P**	**P**	**13 41 42.3**	**-0.6**
MDJ				pmax	pmax	pmax		
	comp=Z,14nm,1.0s							
URZ	**Urewera**	**49.47**	**138**	LR	LR	LR	14 02 31.6	
	comp=Z,266nm,18.8s,baz=26,slow=36							
BNX	**BinXian**	**50.74**	**351**	⇓P	**P**	**P**	**13 41 52.3**	**-1.2**
BNX				pmax	pmax	pmax		
	comp=Z,33nm,1.1s							
HHC	**Hu-ho-hao-te**	**50.85**	**335**	*e*P	**P**	**P**	**13 41 55.0**	**+0.4**
HHC				pmax	pmax	pmax		
	comp=Z,27nm,0.8s							
LZH	**Lanzhou**	**51.02**	**325**	*e*P	**P**	**P**	**13 41 56.0**	**0.0**
LZH				sP	pP	pP	13 42 05.0	-1.6
LZH				pmax	pmax	pmax		
	comp=Z,26nm,1.3s							
BRDH	**Bariadhala**	**52.05**	**303**	LR	LR	LR	14 05 05.3	
	comp=Z,71nm,20.4s,baz=146,slow=37							
KLR	**Kul'dur**	**53.69**	**356**	LR	LR	LR	14 03 37.6	
	comp=Z,65nm,18.7s,baz=177,slow=34							
HEH	**HeiHe**	**55.15**	**352**	*e*P	**P**	**P**	**13 42 25.0**	**-1.0**
HEH				pmax	pmax	pmax		
	comp=Z,14nm,1.1s							
GTA	**Gaotai**	**55.62**	**325**	P	**P**	**P**	**13 42 29.8**	**0.0**
GTA				pmax	pmax	pmax		
	comp=Z,8.0nm,1.2s							
SONM	**Songino Array**	**58.69**	**336**	P	**P**	**P**	**13 42 48.8**	**-2.5**
SONM	**Songino Array**	**58.69**	**336**	P	**P**	**P**	**13 42 50.0**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=151,slow=7.2,SNR=11							
SONM				LR	LR	LR	14 10 16.6	
	comp=Z,104nm,18.2s,baz=136,slow=38							
	comp=Z,1.6nm,0.8s							
PETK	**Petropavlovsk-**	**59.91**	**14**	P	**P**	**P**	**13 42 59.1**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=150,slow=3.4,SNR=16							
PETK				LR	LR	LR	14 12 12.6	
	comp=Z,21nm,18.0s,baz=215,slow=40							
	comp=Z,2.2nm,0.6s							
RAR	**Rarotonga**	**63.26**	**111**	LR	LR	LR	14 11

L14K	Kuka Creek	80.11	25	P	P	13 45 03.0	-0.1
	baz=241						
M14K	Bethel	80.13	26	P	P	13 45 03.2	-0.2
	baz=242						
TNA	Tin City	80.30	20	P	P	13 45 04.0	-0.2
	baz=236						
O15K	Ungalikthiuk R	80.38	28	P	P	13 45 04.8	+0.1
	baz=244						
J14K	Nanvaranak Lak	80.44	24	P	P	13 45 04.2	-0.7
	baz=240						
M15K	Kasigluk River	80.66	26	P	P	13 45 05.9	-0.3
	baz=243						
ANM	Nome	80.67	22	P	P	13 45 06.4	+0.2
	baz=238						
N15K	Kwethluk River	80.69	27	P	P	13 45 06.4	0.0
	baz=244						
L15K	Ungalak Mounta	80.77	25	P	P	13 45 06.7	-0.1
	baz=242						
NRIK	Noril'sk	80.98	344	IAmb	IAmb	13 45 08.2	
	comp=Z,10nm,1.1s						
NRIK	Noril'sk	80.98	344	P	P	13 45 06.7	-1.0
	comp=Z,4.6nm,0.8s,baz=140,slow=5.7,SNR=9.1						
	comp=Z,4.6nm,0.8s						
K15K	Wolf Creek Mou	81.04	25	P	P	13 45 08.2	0.0
	baz=242						
P16K	Nushagak River	81.18	28	P	P	13 45 09.1	+0.1
	baz=246						
O16K	Kokwok River B	81.36	28	P	P	13 45 10.0	+0.1
	baz=246						
G15K	Niukluk	81.38	22	P	P	13 45 09.9	0.0
	baz=240						
N16K	Nishlik Lake	81.42	27	P	P	13 45 09.9	-0.4
	baz=245						
F15K	North Star Dit	81.53	21	P	P	13 45 10.7	0.0
	baz=239						
M16K	Timber Creek	81.57	26	P	P	13 45 11.2	+0.2
	baz=245						
L16K	Owhat River	81.64	25	P	P	13 45 11.4	0.0
	baz=244						
Q16K	King Salmon	81.67	29	P	P	13 45 11.5	0.0
	baz=247						
H16K	Elim	81.87	22	P	P	13 45 12.7	+0.2
	baz=241						
J16K	Anvik River	81.88	24	P	P	13 45 12.4	-0.2
	baz=243						
Q17K	Contact Creek	81.89	29	P	P	13 45 12.1	-0.8
	baz=248						
O17K	Koliganek Bris	81.89	28	P	P	13 45 12.5	-0.2
	baz=247						
P17K	Kvichak River	81.98	28	P	P	13 45 13.0	-0.2
	baz=247						
I17K	Unalakleet	82.11	23	P	P	13 45 13.7	-0.1
	baz=243						
SII	Sitkinak Islan	82.12	31	P	P	13 45 13.7	-0.4
	baz=250						
N17K	Nushagak Hills	82.15	27	P	P	13 45 14.1	0.0
	baz=246						
G16K	Koyuk River	82.19	22	P	P	13 45 14.4	+0.2
	baz=241						
L17K	Donlin	82.33	25	P	P	13 45 15.2	+0.2
	baz=245						
R18K	Karluk	82.34	30	P	P	13 45 14.7	-0.4
	baz=249						
M17K	Holitna River	82.40	26	P	P	13 45 15.3	0.0
	baz=246						
Q18K	Katmai Hardscr	82.46	29	P	P	13 45 16.0	+0.1
	baz=249						
J17K	VABM Dome	82.54	24	IAmb	IAmb	13 45 26.5	
	comp=Z,13nm,1.4s						
J17K	VABM Dome	82.54	24	P	P	13 45 16.6	+0.5
	baz=244						
K17K	Iditarod	82.57	25	P	P	13 45 14.3	-1.9
K17K				IAmb	IAmb	13 45 18.2	
	comp=Z,9.1nm,1.1s						
K17K	Iditarod	82.57	25	P	P	13 45 16.6	+0.4
	baz=245						
P18K	Big Mountain,	82.62	28	P	P	13 45 16.8	+0.1
	baz=248						
C16K	Lisburne Hills	82.64	18	P	P	13 45 17.4	+0.9
	baz=238						
N18K	Kilae Creek	82.80	27	P	P	13 45 18.4	+0.8
	baz=248						
OHAK	Old Harbor	82.81	31	P	P	13 45 18.1	+0.5
	baz=250						
G17K	Kiwalik Mounta	82.87	22	P	P	13 45 18.1	+0.3
	baz=243						
H17K	Granite Mounta	82.89	22	IAmb	IAmb	13 45 21.9	
	comp=Z,18nm,1.8s						
H17K	Granite Mounta	82.89	22	P	P	13 45 18.2	+0.3
	baz=243						
L18K	Granite Mounta	83.05	26	P	P	13 45 18.6	-0.1
	baz=247						
D17K	Noatak River	83.08	19	P	P	13 45 18.8	0.0
	baz=240						
F17K	Baldwin Pennin	83.10	21	IAmb	IAmb	13 46 32.3	
	comp=Z,11nm,1.4s						
F17K	Baldwin Pennin	83.10	21	P	P	13 45 18.9	0.0
	baz=242						
M18K	Stony River	83.14	26	P	P	13 45 19.1	-0.1
	baz=248						
E17K	Hotham Inlet	83.20	20	P	P	13 45 19.9	+0.4
	baz=241						
Q19K	Cape Douglas,	83.22	29	P	P	13 45 19.6	-0.1
	baz=250						
RDOG	Red Dog Mine	83.31	19	P	P	13 45 20.0	0.0
	baz=240						
KDAK	Kodiak Island	83.36	30	LR	LR	14 18 24.4	
	comp=Z,97nm,19.6s,baz=85,slow=33						
KDAK	Kodiak Island	83.36	30	P	P	13 45 20.2	-0.2
	baz=251						
N19K	Bonanza Creek	83.49	27	P	P	13 45 20.8	-0.4
	baz=249						
J18K	Innoko River	83.54	24	P	P	13 45 19.8	-1.5
J18K	Innoko River	83.54	24	P	P	13 45 20.8	-0.5
	baz=246						
H18K	Honhosa River	83.58	23	P	P	13 45 20.8	-0.7
	baz=245						
P19K	Oil Pt	83.67	29	P	P	13 45 21.8	-0.3
	baz=250						
Q20K	Shuyak Island	83.73	30	P	P	13 45 21.6	-0.7
	baz=251						
F18K	Selawik	83.74	21	P	P	13 45 22.2	0.0
	baz=243						
E18K	Tukpahlearik C	83.78	20	P	P	13 45 23.0	+0.6
	baz=242						
G18K	Tagagawik	83.79	22	P	P	13 45 22.4	-0.1
	baz=244						
L19K	White Mountain	83.83	26	IAmb	IAmb	13 45 24.4	
	comp=Z,6.0nm,0.9s						
L19K	White Mountain	83.83	26	P	P	13 45 23.1	+0.3
	baz=248						
M19K	Big River Lodg	83.93	26	P	P	13 45 23.4	0.0
	baz=249						
GCSA	Galena City Sc	83.99	23	P	P	13 45 23.2	-0.3
	baz=246						
C18K	Utukok River	84.16	19	P	P	13 45 24.8	+0.3
	baz=242						
J19K	Poorman	84.19	24	P	P	13 45 24.7	+0.1
	baz=247						
B18K	Kokolik River	84.31	18	P	P	13 45 25.6	+0.6
	baz=241						
L20K	Farewell, AK	84.36	26	P	P	13 45 25.7	+0.1
	baz=249						
H19K	Roundabout Mou	84.47	23	P	P	13 45 26.2	+0.3
	baz=246						
G19K	Purcell Mounta	84.48	22	P	P	13 45 26.1	+0.1
	baz=246						
M20K	Styx River	84.48	27	IAmb	IAmb	13 45 32.9	
	comp=Z,5.9nm,0.9s						
M20K	Styx River	84.48	27	P	P	13 45 25.7	-0.5
	baz=250						
F19K	Shaleruckik Mo	84.51	21	P	P	13 45 26.2	+0.1
	baz=245						
K20K	Telida	84.60	25	P	P	13 45 26.2	-0.5
	baz=249						
SPCR	Spurr Chakacha	84.67	27	P	P	13 45 26.5	-0.6
	baz=251						
J20K	Nowinta River	84.86	24	IAmb	IAmb	13 45 42.3	
	comp=Z,16nm,1.5s						
J20K	Nowinta River	84.86	24	P	P	13 45 27.8	-0.1
	baz=249						
BRSE	Bradley Lake S	84.89	29	P	P	13 45 27.4	-0.8
	baz=252						
E19K	Redstone River	84.97	21	P	P	13 45 28.1	-0.3
	baz=246,SNR=8.8						
CAPN	Captain Cook N	85.02	28	P	P	13 45 28.2	-0.5
	baz=252						
H20K	Anotleneega Mo	85.06	23	P	P	13 45 28.9	0.0
	baz=248						
AB31	Akbulak array	85.10	320	IAmb	IAmb	13 45 29.6	
	comp=Z,8.4nm,0.9s						
ABKAR	Akbulak array	85.10	320		P	13 45 27.5	-2.0
ABKAR	Akbulak array	85.10	320	IAmb	IAmb	13 45 29.6	
	comp=Z,8.4nm,0.9s						
D19K	Kuna River	85.10	20	P	P	13 45 29.1	0.0
	baz=245,SNR=8.5						
SKT	Skwentna	85.23	27	P	P	13 45 29.9	0.0
	baz=251						
PPLA	Purkeypile	85.24	26	P	P	13 45 29.6	-0.5
	baz=251						
F20K	Avaraart Lake	85.34	21	P	P	13 45 30.1	-0.2
	baz=247						
SUA	Susitna One	85.42	27	P	P	13 45 30.3	-0.7
	baz=252						
CAST	Castle Rocks	85.46	25	IAmb	IAmb	13 46 30.8	
	comp=Z,4.3nm,0.6s						
CAST	Castle Rocks	85.46	25	P	P	13 45 31.0	0.0
	baz=251						
QSPA	South Pole Qui	85.49	180	P	P	13 45 31.0	-0.3
QSPA	South Pole Qui	85.49	180	P	P	13 45 32.0	+0.7
	comp=Z,13nm,1.1s,baz=166,slow=1.3,SNR=21						
	comp=Z,13nm,1.1s						
CHUM	Lake Minchumin	85.52	25	P	P	13 45 30.6	-0.6
	baz=250						
O22K	Cooper Landing	85.60	28	P	P	13 45 31.3	-0.4
	baz=253						
SEW	Seward	85.62	29	P	P	13 45 31.3	-0.5
	baz=253						
E20K	Nigu River	85.65	20	P	P	13 45 31.8	-0.1
	baz=247,SNR=7.0						
D20K	Etivluk River	85.69	20	P	P	13 45 31.9	-0.2
	baz=246,SNR=5.9						
RC01	Rabbit Creek A	85.77	28	P	P	13 45 32.1	-0.5
	baz=253						
H21K	Melozitna Rive	85.92	23	IAmb	IAmb	13 45 36.8	
	comp=Z,19nm,1.9s						
H21K	Melozitna Rive	85.92	23	P	P	13 45 33.0	-0.3
	baz=250						
CUT	Chulitna	85.92	26	P	P	13 45 33.1	-0.1
	baz=252						
G21K	Allakaket	85.95	22	IAmb	IAmb	13 45 35.9	
	comp=Z,19nm,1.9s						
G21K	Allakaket	85.95	22	P	P	13 45 33.8	+0.5
	baz=249						
B20K	Meade River	86.05	18	P	P	13 45 33.9	+0.2
	baz=246						
I21K	Tanana	86.08	24	P	P	13 45 34.1	+0.1
	baz=251						
BPAW	Bear Paw Mtn.	86.14	25	P	P	13 45 34.5	+0.1
	baz=252						
PMR	Palmer	86.20	27	IAmb	IAmb	13 45 43.5	
	comp=Z,16nm,1.6s						
PMR	Palmer	86.20	27	P	P	13 45 34.9	+0.3
	baz=254						
F21K	Alatna River	86.22	21	P	P	13 45 35.0	+0.3
	baz=249						
TRF	Thorofare Moun	86.23	25	P	P	13 45 34.5	-0.5
	baz=252						
PWL	Port Wells	86.36	28	IAmb	IAmb	13 45 36.9	
	comp=Z,8.7nm,1.1s						
PWL	Port Wells	86.36	28	P	P	13 45 35.4	-0.2
	baz=254						
KNK	Knik Glacier	86.46	28	P	P	13 45 35.9	0.0
	baz=254						
C21K	Knifeblade Rid	86.47	19	P	P	13 45 35.7	-0.2
	baz=248						
E21K	Killik River	86.48	20	P	P	13 45 35.3	-0.7
	baz=249						
H22K	Ishtalitna Cre	86.56	23	P	P	13 45 35.6	-0.7
	baz=251						
P23K	Montague Islan	86.58	29	P	P	13 45 35.4	-1.2
	baz=255						
SML	Sawmill	86.62	27	P	P	13 45 36.4	-0.4
	baz=254						
B21K	Ikpikpuk River	86.71	19	IAmb	IAmb	13 45 54.5	
	comp=Z,16nm,1.8s						
B21K	Ikpikpuk River	86.71	19	P	P	13 45 37.1	+0.1
	baz=248						
A21K	Barrow	86.75	17	P	P	13 45 36.6	-0.5
	baz=246						
F22K	John River	86.79	21	P	P	13 45 36.8	-0.7
	baz=250						
RND	Reindeer	86.84	26	IAmb	IAmb	13 45 44.7	
	comp=Z,7.7nm,0.8s						
G22K	Bettles	86.84	22	P	P	13 45 36.8	-0.9
	baz=251						
MCK	McKinley	86.89	25	IAmb	IAmb	13 45 52.4	
	comp=Z,9.4nm,1.2s						
MCK	McKinley	86.89	25	P	P	13 45 37.5	-0.6
	baz=254						
M23K	Glacier View	86.90	27	P	P	13 45 37.4	-0.7
	baz=255						
GLI	Glacier Island	86.95	28	P	P	13 45 37.6	-0.8
	baz=255						
D22K	Ayikyak River	87.08	20	P	P	13 45 38.4	-0.5
	baz=250						
NEA2	Nenana	87.08	24	IAmb	IAmb	13 45 39.7	
	comp=Z,11nm,1.5s						
NEA2	Nenana	87.08	24	P	P	13 45 38.1	-0.9
	baz=253						
SCM	Sheep Creek Mo	87.09	27	P	P	13 45 38.7	-0.5
	baz=255						
A22K	Sinclair Lake	87.12	18	P	P	13 45 38.8	-0.1
	baz=248						
I23K	Minto, Yukon-K	87.13	24	P	P	13 45 39.0	-0.1
	baz=253,SNR=7.4						
E22K	Anaktuvuk Pass	87.13	21	P	P	13 45 39.2	+0.1
	baz=251,SNR=9.0						
H23K	Yukon River	87.25	23	P	P	13 45 39.7	-0.1
	baz=253						
G23K	Bananza Creek	87.33	22	P	P	13 45 39.9	-0.3
	baz=252,SNR=8.3						
B22K	Teshekpuk Lake	87.35	18	P	P	13 45 40.1	0.0
	baz=249						
COLD	Coldfoot	87.42	22	P	P	13 45 40.2	-0.4
	baz=252,SNR=5.6						
EYAK	Cordova Ski Ar	87.52	29	P	P	13 45 41.3	+0.2
	baz=256						
ARTI	Arti	87.53	327	LR	LR	14 29 46.1	
	comp=Z,25nm,18.2s,baz=56,slow=39						
DIV	Divide	87.64	28	IAmb	IAmb	13 45 43.2	
	comp=Z,11nm,1.1s						
KLU	Klutina	87.66	28	P	P	13 45 42.0	+0.1
	baz=256						
COLA	College	87.67	24	P	P	13 45 42.0	+0.3
	baz=254						
M24K	Tolsona, Glenn	87.69	27	P	P	13 45 42.2	+0.2
	baz=256						
D23K	Nanushuk River	87.79	20	P	P	13 45 41.9	-0.3
	baz=252,SNR=10						
E23K	Chandalar	87.89	21	IAmb	IAmb	13 45 45.2	
	comp=Z,9.9nm,1.1s						
E23K	Chandalar	87.89	21	P	P	13 45 42.6	-0.2
	baz=253,SNR=9.9						
POKR	Poker Plat Res	87.90	24	P	P	13 45 42.7	-0.2
	baz=255						
H24K	Noodor Dome	87.91	23	P	P	13 45 42.3	-0.7
	baz=254,SNR=8.5						
HDA	Harding Lake	87.92	25	IAmb	IAmb	13 45 42.9	
	comp=Z,5.5nm,1.2s						
HDA	Harding Lake	87.92	25	P	P	13 45 42.5	-0.5
	baz=255						
KAIM	Kayak Island	88.02	30	P	P	13 45 43.4	-0.2
	baz=258						
IL31		88.04	25	IAmb	IAmb	13 45 43.8	
	comp=Z,15nm,1.4s						
ILAR	Eielson Array	88.04	25		P	13 45 41.1	-2.4
ILAR	Eielson Array	88.04	25	P	P	13 45 42.3	-1.2
	comp=Z,3.0nm,0.9s,baz=258,slow=4.9,SNR=21						
	comp=Z,3.0nm,0.9s						
TOLK	Toolik Lake Re	88.08	21	IAmb	IAmb	13 45 45.9	
	comp=Z,4.8nm,1.1s						
TOLK	Toolik Lake Re	88.08	21	P	P	13 45 43.6	-0.1
	baz=253						
C23K	Itkillik River	88.09	19	P	P	13 45 43.6	-0.1
	baz=252						
BMRM	Bremner River	88.16	29	P	P	13 45 43.8	-0.5
	baz=258						
PAX	Paxson	88.21	26	P	P	13 45 43.6	-0.9
	baz=257						
HARP	HAARP	88.22	27	P	P	13 45 44.2	-0.3
	baz=257						
K24K	Donnelly Dome	88.27	26	P	P	13 45 44.1	-0.6
	baz=256						
E24K	Your Creek	88.30	21	P	P	13 45 44.2	-0.6
	baz=254						
N25K	Chitina, Valde	88.30	28	IAmb	IAmb	13 48 53.9	
	comp=Z,9.5nm,1.2s						
N25K	Chitina, Valde	88.30	28	P	P	13 45 44.4	-0.5
	baz=258						
G24K	Hadweenzic Riv	88.30	23	P	P	13 45 44.5	-0.3
	baz=255,SNR=6.8						
F24K	Squaw Lake	88.36	22	P	P	13 45 45.0	-0.1
	baz=254,SNR=5.8						
D24K	Happy Valley	88.49	20	P	P	13 45 46.3	+0.8
	baz=253						
SYO	Syowa Base	88.60	201⇑	epP	P	13 45 51.1	+5.0
J25K	Salcha River,	88.63	25	IAmb	IAmb	13 45 46.9	
	comp=Z,12nm,1.3s						
J25K	Salcha River,	88.63	25	P	P	13 45 46.2	-0.2
	baz=257,SNR=7.3						
RIDG	Independent Ri	88.66	26	IAmb	IAmb	13 45 47.6	
	comp=Z,10nm,1.2s						
RIDG	Independent Ri	88.66	26	P	P	13 45 46.3	-0.2
	baz=257,SNR=5.8						
C24K	Franklin Bluff	88.69	20	P	P	13 45 46.5	0.0
	baz=254						
PRP	Porcupine Dome	88.78	24	P	P	13 45 46.3	-0.8
	baz=257						
H25L	Birch Creek	88.84	23	P	P	13 45 47.1	-0.1
	baz=256						
G25K	Bearman Lake	88.85	23	P	P	13 45 47.2	0.0
	baz=256						
DOT	Dot Lake	88.98	26	IAmb	IAmb	13 45 54.4	
	comp=Z,6.9nm,1.0s						
SCRK	Sand Creek	89.08	26	P	P	13 45 48.2	-0.4
	baz=258						
L26K	Log Cabin Wild	89.17	27	P	P	13 45 49.1	+0.1
	baz=259						
M26K	Nabesna, AK	89.20	27	P	P	13 45 48.9	-0.2
	baz=259						
F25K	Christian Rive	89.22	22	P	P	13 45 48.9	-0.2
	baz=256						
MESA	MESA	89.29	30	P	P	13 45 48.7	-1.0
	baz=260						
J26L	Joseph Creek	89.37	25	IAmb	IAmb	13 45 52.0	
	comp=Z,15nm,1.4s						
J26L	Joseph Creek	89.37	25	P	P	13 45 49.9	0.0
	baz=258,SNR=6.6						
E25K	Arctic Village	89.37	21	P	P	13 45 49.0	-0.8
	baz=256						
D25K	Kavik River	89.37	20	P	P	13 45 49.2	-0.5
	baz=256						
BMAR	Burnt Mountain	89.58	22		P	13 45 50.7	-0.1
I26K	Coal Creek Min	89.70	24	P	P	13 45 51.2	-0.1
	baz=259						
M27K	Edge Creek, AK	89.71	27	P	P	13 45 51.7	+0.1
	baz=260						
G26K	Porcupine Rive	89.78	23	P	P	13 45 51.6	0.0
	baz=258						
F26K	Sheenjek River	89.80	22	P	P	13 45 51.9	+0.1
	baz=258						
L27K	Beaver Creek,	89.85	27	P	P	13 45 52.2	0.0
	baz=260						
K27K	Chicken	89.92	26	IAmb	IAmb	13 45 54.7	
	comp=Z,14nm,1.3s						
K27K	Chicken	89.92	26	P	P	13 45 52.7	+0.3
	baz=260						
C26K	Camden Bay	90.01	20	P	P	13 45 53.1	+0.5
	baz=257						
PINM	Pinnacle	90.11	30	P	P	13 45 54.0	+0.5
	baz=261						
BVCY	Beaver Creek	90.18	27	P	P	13 45 53.6	-0.1
	baz=261						
O28M	Mount Upton	90.25	29	P	P	13 45 54.3	0.0
	baz=261						
YUK3	Moose Creek	90.27	28	P	P	13 45 53.5	-0.9
	baz=261						
C27K	Jago River	90.36	20	P	P	13 45 54.4	0.0
	baz=258						
I27K	Kandik River	90.39	24	P	P	13 45 54.3	-0.3
	baz=260						
PNL	Peninsula	90.48	30	P	P	13 45 54.9	-0.2
	baz=262						
YUK8	Steele Glacier	90.53	29	P	P	13 45 54.9	-0.7
	baz=262						
H27K	Steamboat Moun	90.53	24	P	P	13 45 54.7	-0.5
	baz=260						
G27K	Doyon Strip	90.58	23	P	P	13 45 55.2	-0.3
	baz=260						
E27K	Coleen River	90.84	22	P	P	13 45 56.6	0.0
	baz=260						
O29M	Mount Kennedy	90.97	30	P	P	13 45 56.6	-0.9
	baz=263						
I28M	Miner Creek	91.05	24	P	P	13 45 56.3	-1.4
	baz=262						
YUK4	Talbot Arm	91.07	29	P	P	13 45 57.7	-0.4
	baz=263						
DAWY	Dawson	91.09	26	P	P	13 45 57.1	-0.8
	baz=262						
YUK6	Outpost Mounta	91.16	29	P	P	13 45 58.3	-0.2
	baz=263						
D27M	Malcolm River	91.24	21	P	P	13 45 58.2	-0.3
	baz=261						
M29M	Somme Creek	91.29	28	P	P	13 45 58.8	-0.1
	baz=263						
P29M	Windy Craggy	91.31	30	P	P	13 45 58.5	-0.4
	baz=264						
L29M	L29M	91.53	27	P	P	13 45 59.5	-0.4
	baz=263						
HYT	Haines Junctio	91.56	29	P	P	13 45 59.7	-0.5
	baz=264						
N30M	Aishikik Lake	91.83	29	P	P	13 46 01.3	-0.1
	baz=264						
K29M	Barlow Dome	91.88	26	P	P	13 46 01.6	0.0
	baz=264						
S31K	Pelican	91.92	32	P	P	13 46 01.8	+0.1
	baz=265						
G29M	Pine Creek	92.01	23	P	P	13 46 02.5	+0.4
	baz=263						
D28M	Stokes Point	92.04	21	P	P	13 46 02.1	0.0
	baz=263						
M30M	Minto, Yukon	92.08	28	P	P	13 46 02.3	-0.2
	baz=264						
SIT	Sitka	92.33	33	P	P	13 46 03.6	-0.1
	baz=266						
J30M	Hart River	92.47	26	P	P	13 46 04.2	-0.2
	baz=265						
EPYK	Eagle Plains	92.47	24	P	P	13 46 03.9	-0.4
	baz=265						
I30M	Mount Dempster	92.51	25	P	P	13 46 04.2	-0.4
	baz=265						
SKAG	Skagway	92.51	31	P	P	13 46 05.2	+0.7
	baz=266						
ELIB	Princess Elisa	93.00	197	dP	P	13 46 08.8	+2.0
	comp=Z,5.7nm,0.9s						
GNI	Garni	94.74	310	LR	LR	14 33 25.1	
	comp=Z,25nm,22.0s,baz=122,slow=38						
BBB	Bella Bella	96.37	38	LR	LR	14 21 48.7	
	comp=Z,60nm,21.8s,baz=227,slow=30						
TROLL	Troll, Antarti	98.30	193	⇑P	Pdif	13 46 32.1	+1.2
	comp=Z,147nm,0.8s						
SNAA	Sanae	99.70	192	LR	LR	14 32 24.1	
	comp=Z,281nm,18.3s,baz=80,slow=36						
ARCES	ARCESS Array B	101.66	341	P	Pdif	13 46 44.5	-1.1
	comp=Z,2.5nm,1.0s,baz=97,slow=4.9,SNR=4.1						
TXAR	Lajitas Array	117.47	59	PKP	PKPdf	13 51 40.1	+0.1
	comp=Z,0.1nm,0.5s,baz=292,slow=3.3,SNR=2.0						
CPUP	Villa Florida	146.30	156	PKPbc	PKPdf	13 52 35.0	+1.2
	comp=Z,1.2nm,0.6s,baz=180,slow=2.8,SNR=3.8						
LPAZ	La Paz	147.54	130	PKPbc	PKiKP	13 52 41.2	-0.3
	comp=Z,3.4nm,0.7s,baz=354,slow=0.1,SNR=12						

SJA 27 13:56:46.5±0.5, 30°89S×68°19W, h11km, ML3.6, MW3.3,
San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFA	Coronel Fontan	0.71	183	eP	Pb	13 57 00.7	-0.3
ZON	Zonda	0.78	213	eP	Pg	13 57 01.4	-0.1
ZON				eS	Sb	13 57 13.0	+0.3
ACCO	Cerro Coronel	0.81	292	eP	Pb	13 57 03.2	+0.4
CO01	Juntas del Tor	1.88	298	eP	Pn	13 57 19.3	+0.4
CO01				eS	Sn	13 57 27.9	-15
CO01				IAML		13 57 43.5	
	comp=Z,304nm,0.5s						
CO03	El Pedregal	2.15	271	eP	Pn	13 57 23.2	+0.8
GO04	Tololo Observa	2.36	287	eP	Pn	13 57 22.4	-3.0
GO04				eP	Pb	13 57 27.7	-1.5
GO04				eS	Sb	13 57 57.4	-1.1
CO02	Combarbal	2.43	262	eP	Pn	13 57 28.3	+2.0
AC05	El Transito	2.73	318	eP	Pb	13 57 33.3	-2.2
AC05				eS	Sb	13 58 09.1	0.0

AC05				IAML		13 58 10.6	
	comp=Z,126nm,0.3s						
VA03	**San Esteban**	**2.74 226**	*eP*		Pb	13 57 35.1	-0.5
VA03				IAML		13 58 13.9	
	comp=Z,384nm,0.8s						
LCO	**Las Campanas**	**2.87 310**	*eP*		Pb	13 57 35.4	-2.6
LCO			*eS*		Sb	13 58 12.0	-1.2
LCO				IAML		13 58 14.4	
	comp=Z,708nm,0.3s						
MT08	**Bocatoma Ro**	**2.98 211**	*eP*		Pb	13 57 39.5	-0.3
MT04	**Ro Olivares**	**3.00 213**	*eP*		Pb	13 57 39.7	-0.4
TCA	**Tanti**	**3.12 99**	*eP*		Pb	13 57 39.8	-2.1
MT03	**Universidad Ad**	**3.26 217**	*eP*		Pb	13 57 42.6	-1.8
MT05	**Renca**	**3.30 220**	*eP*		Pb	13 57 42.3	-2.8
MT05			*eS*		Sb	13 58 22.4	-2.9
MT05				IAML		13 58 31.4	
	comp=Z,142nm,0.5s						
LMEL	**Las Melosas**	**3.41 209**	*eP*		Pb	13 57 45.4	-1.6
LMEL			*eS*		Sb	13 58 25.0	-3.5
MT02	**Curacav**	**3.44 226**	*eP*		Pn	13 57 43.2	+3.1
MT02				IAML		13 58 37.5	
	comp=Z,102nm,0.5s						
AC04	**Llanos de Chal**	**3.67 316**	*eP*		Pn	13 57 44.0	+0.8
GO03	**Copiapo**	**3.74 331**	*eP*		Pn	13 57 47.2	+3.0
GO03			*eS*		Sn	13 58 32.0	+3.7
MT01	**Popeta**	**3.94 220**	*eP*		Pn	13 57 49.3	+2.4
AC02	**Maricunga**	**4.12 348**	*eP*		Pn	13 57 53.2	+3.3
BO01	**Tunca**	**4.26 214**	*eP*		Pn	13 57 55.0	+3.7
BO01			*eS*		Sn	13 58 46.6	+5.5
BO01				IAML		13 59 01.7	
	comp=Z,40nm,1.4s						
BO02	**Sierra Bellavi**	**4.46 209**	*eP*		Pn	13 57 58.7	+4.5
AC01	**Pan de Azucar**	**5.18 335**	*eP*		Pn	13 58 04.9	+0.9
AC01				IAML		13 59 32.0	
	comp=Z,24nm,0.5s						

IDC 27 14:01:41.6±2.1, 2°.83N×129°.88E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=177.9km s-min=19.6km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.05**	**169**	P	P	14 06 48.1	-0.5
	0.4nm,0.5s,baz=348,slow=9.9,SNR=4.7 0.4nm,0.5s						
ASAR	**Alice Springs**	**26.62**	**172**	P	P	14 07 20.5	-1.5
	0.1nm,0.4s,baz=1.6,slow=6.9,SNR=1.8 0.1nm,0.4s						
STKA	**Stephens Creek**	**36.26**	**163**	P	P	14 08 47.3	+0.6
	1.4nm,0.4s,baz=339,slow=8.0,SNR=4.5 1.4nm,0.4s						
MKAR	**Makanchi Array**	**60.11**	**324**	P	P	14 11 51.0	+0.2
	1.1nm,0.3s,baz=115,slow=8.1,SNR=16 1.1nm,0.3s						
KURBB	**Kurchatov Arra**	**64.21**	**326**	P	P	14 12 18.5	+0.2
	0.7nm,0.4s,baz=127,slow=6.2,SNR=8.7 0.7nm,0.4s						

*NOU **27** 14:04:36.8, 34°.90S×177°.46W, h71km, mb4.4/7, South of Kermadec Islands*
*WEL **27** 14:05:15.2±0.7, 36°.5±3°.×17°.9E±°, h12km, M3.5/25, ML3.5/31, MLv3.5/25, Error ellipse: s-maj=7.3km s-min=4.1km az=91.3, confirmed*

ISC 27 14:05:12.1±3.4, 36°.44S±0°.07×179°.5E±0°.1, h11km±14km, n78, σ1°18/105, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.49 221**		P	**Pn**	14 05 40.3	+1.4
MXZ	**Matakaoa Point**	**1.49 221**		P	**Pn**	14 05 40.3	+1.4
MXZ				S	**Sg**	14 05 59.8	-0.3
WMGZ	**Waiomatatini S**	**1.64 213**		P	**Pb**	14 05 43.6	+1.1
WMGZ				S	**Sg**	14 06 05.2	+0.2
PKGZ	**Pakihiroa**	**1.84 219**		P	**Pb**	14 05 46.2	+0.4
PKGZ				S	**Sn**	14 06 06.0	-1.0
HAZ	**Te Kaha**	**1.92 226**		P	**Pn**	14 05 46.5	+1.7
HAZ				S	**Sg**	14 06 12.8	-1.1
PUZ	**Puketiti**	**1.92 212**		P	**Pn**	14 05 46.8	+2.0
PUZ				S	**Sn**	14 06 09.8	+0.7
RUGZ	**Raukumara Rang**	**2.13 224**		P	**Pn**	14 05 49.6	+1.8
RUGZ				S	**Sb**	14 06 16.7	-0.5
TWGZ	**Tauwhareparae**	**2.13 215**		P	**Pn**	14 05 49.9	+2.1
TWGZ				S	**Sb**	14 06 16.3	-1.0
CNGZ	**Carnagh Statio**	**2.30 207**		P	**Pn**	14 05 52.1	+2.1
TKGZ	**Te Karaka**	**2.41 213**		P	**Pn**	14 05 52.9	+1.5
TKGZ				S	**Sn**	14 06 22.4	+1.5
WHRZ	**Whale Island**	**2.49 235**		P	**Pn**	14 05 54.1	+1.5
URZ	**Urewera**	**2.65 226**		P	**Pn**	14 05 55.8	+1.0
URZ	**Urewera**	**2.65 226**		P	**Pn**	14 05 56.0	+1.2
URZ				S	**Sn**	14 06 26.6	-0.4
RAGZ	**Rawiri**	**2.66 219**		P	**Pn**	14 05 56.2	+1.2
RIGZ	**Rimuhau**	**2.67 211**		P	**Pn**	14 05 56.1	+1.0
RIGZ				S	**Sn**	14 06 28.0	+0.6
PRGZ	**Paritu Road**	**2.81 207**		P	**Pn**	14 05 58.1	+1.1
PRGZ				S	**Sn**	14 06 31.9	+1.1
SNGZ	**Shannon Statio**	**2.92 216**		P	**Pn**	14 05 59.2	+0.7
SNGZ				S	**Sn**	14 06 34.2	+0.6
KNZ	**Kokohu**	**2.97 209**		P	**Pn**	14 05 59.6	+0.4
KNZ				S	**Sn**	14 06 34.1	-0.7
MUGZ	**Murupara**	**3.00 226**		P	**Pn**	14 05 60.0	+0.4
MUGZ				S	**Sn**	14 06 34.3	-1.3
MHGZ	**Mahia Peninsul**	**3.00 205**		P	**Pn**	14 06 01.1	+1.5
RRRZ	**Republican Roa**	**3.06 231**		P	**Pn**	14 06 01.4	+0.8
KARZ	**Kaharoa**	**3.07 238**		P	**Pn**	14 06 01.3	+0.8
KUZ	**Kuaotunu**	**3.09 263**		P	**Pn**	14 06 00.6	-0.2
HLRZ	**Highlands Stat**	**3.12 234**		P	**Pn**	14 06 02.7	+1.4
RAHZ	**Arahi**	**3.15 217**		P	**Pn**	14 06 03.3	+1.6
RAHZ				S	**Sn**	14 06 39.7	+0.4
WHHZ	**Waihua**	**3.20 214**		P	**Pn**	14 06 03.7	+1.3
WHHZ				S	**Sn**	14 06 43.0	+2.3
HSRZ	**Hossack Road**	**3.22 234**		P	**Pn**	14 06 04.2	+1.6
MTHZ	**Maungataniwha**	**3.22 221**		P	**Pn**	14 06 04.3	+1.5
MTHZ				S	**Sn**	14 06 43.0	+1.9
PRRZ	**Plateau Road**	**3.24 230**		P	**Pn**	14 06 03.6	+0.7
GRZ	**Great Barrier**	**3.30 272**		P	**Pn**	14 06 03.6	-0.1
GRZ				S	**Sn**	14 06 42.5	-0.5
ALRZ	**Allen Road**	**3.31 229**		P	**Pn**	14 06 04.8	+0.9
NMHZ	**Naumai**	**3.42 218**		P	**Pn**	14 06 06.9	+1.4
NMHZ				S	**Sn**	14 06 46.3	+0.2
MRHZ	**Matea Rd**	**3.44 225**		P	**Pn**	14 06 06.5	+0.8
MRHZ				S	**Sn**	14 06 45.4	-1.2
ARHZ	**Aropaoanui**	**3.46 215**		P	**Pn**	14 06 06.5	+0.5
ARHZ				S	**Sn**	14 06 47.3	+0.3
MKAZ	**Moumakai**	**3.58 258**		P	**Pn**	14 06 08.0	+0.5
KUTZ	**Kaahu Road**	**3.59 234**		P	**Pn**	14 06 08.9	+1.0
BKZ	**Black Stump Fm**	**3.64 221**		P	**Pn**	14 06 08.9	+0.4
BKZ	**Black Stump Fm**	**3.64 221**		P	**Pn**	14 06 08.8	+0.4
BKZ				S	**Sn**	14 06 50.0	-1.3
ETAZ	**East Tamaki Re**	**3.74 261**		P	**Pn**	14 06 10.2	+0.4
MBAZ	**Motutapu North**	**3.75 264**		P	**Pn**	14 06 10.7	+0.8
MCHZ	**McNeill Hill**	**3.75 216**		P	**Pn**	14 06 10.2	+0.3
MCHZ				S	**Sn**	14 06 54.1	+0.1
CKHZ	**Cape Kidnapper**	**3.75 210**		P	**Pn**	14 06 09.8	-0.2
CKHZ				S	**Sn**	14 06 52.7	-1.5
WATZ	**Wairara**	**3.78 232**		P	**Pn**	14 06 11.4	+1.1
ABAZ	**Army Bay**	**3.79 266**		P	**Pn**	14 06 11.0	+0.5
RATZ	**Rangitukua**	**3.85 230**		P	**Pn**	14 06 12.4	+1.0
RITZ	**Rihia Road**	**3.86 228**		P	**Pn**	14 06 12.6	+1.1
KWHZ	**Kaweka Forest**	**3.87 219**		P	**Pn**	14 06 10.8	-0.8
KWHZ				S	**Sn**	14 06 56.5	-0.5
KAHZ	**Kahuranaki**	**3.95 211**		P	**Pn**	14 06 12.2	-0.5
KAHZ				S	**Sn**	14 06 58.0	-1.2
KATZ	**Kakaramea**	**3.96 229**		P	**Pn**	14 06 13.7	+0.7
AWAZ	**Awhitu Peninsu**	**3.98 260**		P	**Pn**	14 06 14.0	+0.9
AWAZ				S	**Sn**	14 06 59.2	-0.6
RVAZ	**Riverhead Bore**	**4.00 264**		P	**Pn**	14 06 13.8	+0.4
WTAZ	**Waiatarua**	**4.02 261**		P	**Pn**	14 06 14.7	+1.0
TMVZ	**Te Maari**	**4.04 227**		P	**Pn**	14 06 14.4	+0.3
NTVZ	**North Tongarir**	**4.05 228**		P	**Pn**	14 06 14.8	+0.7
KRHZ	**Kereru**	**4.06 217**		P	**Pn**	14 06 13.5	-0.7
KRVZ	**Karewarewa**	**4.07 228**		P	**Pn**	14 06 15.0	+0.6
NNVZ	**North Ngauruho**	**4.11 228**		P	**Pn**	14 06 16.1	+1.1
WTVZ	**West Tongariro**	**4.11 228**		P	**Pn**	14 06 15.8	+0.8
PXZ	**Pawanui**	**4.16 210**		P	**Pn**	14 06 14.2	-1.4
MOVZ	**Moawhango**	**4.21 224**		P	**Pn**	14 06 15.8	-0.5
WNVZ	**Wahianoa**	**4.25 226**		P	**Pn**	14 06 16.8	-0.1
HIZ	**Hauiti**	**4.26 240**		P	**Pn**	14 06 18.7	+1.8
HIZ	**Hauiti**	**4.26 240**		P	**Pn**	14 06 18.5	+1.6
PNHZ	**Pukenui**	**4.35 216**		P	**Pn**	14 06 16.5	-1.8
WPHZ	**Waipukurau**	**4.36 213**		P	**Pn**	14 06 17.7	-0.7
PRHZ	**Porangahau**	**4.45 210**		P	**Pn**	14 06 17.9	-1.7
TSZ	**Takapari Road**	**4.58 217**		P	**Pn**	14 06 19.5	-1.9
VRZ	**Vera Road**	**4.64 233**		P	**Pn**	14 06 22.9	+0.8
DVHZ	**Dannevirke**	**4.68 213**		P	**Pn**	14 06 20.8	-1.9
WAZ	**Wanganui**	**4.88 226**		P	**Pn**	14 06 25.5	0.0
BFZ	**Birch Farm**	**4.96 210**		P	**Pn**	14 06 24.9	-1.7
BFZ	**Birch Farm**	**4.96 210**		P	**Pn**	14 06 24.4	-2.2
PRWZ	**Pori Road**	**4.97 213**		P	**Pn**	14 06 25.8	-0.9
OUZ	**Omahuta**	**4.98 282**		P	**Pn**	14 06 26.7	0.0
MRZ	**Mangatainoka R**	**5.23 215**		P	**Pn**	14 06 28.2	-2.1
HOWZ	**Holdsworth Sta**	**5.45 214**		P	**Pn**	14 06 30.9	-2.4
OGWZ	**Otaki Gorge**	**5.55 217**		P	**Pn**	14 06 32.5	-2.2
KHZ	**Kahutara**	**7.56 216**		P	**Pn**	14 07 01.5	-0.7

*TAP **27** 14:37:48.6, 24°.32N×121°.61E, h23km, ML3.0, B*

ISC 27 14:37:48.9±0.9, 24°.32N±0°.01×121°.64E±0°.02, h23km±4km, n96, σ0°.74/166, 14C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.09**	**86**	⇑*eP*	**Pb**	14 37 53.4	+0.1
EAHA				*eS*	**Sb**	14 37 56.7	+0.4
EHP	**Heping Village**	**0.10**	**98**	*eP*	**Pb**	14 37 53.7	+0.3
EHP				*eS*	**Sb**	14 37 57.2	+0.9
ENA	**Nanau**	**0.14**	**42**	⇓*iP*	**Pb**	14 37 53.9	+0.1
ENA				*eS*	**Sb**	14 37 57.4	+0.4
NACB	**Ninganchiao**	**0.15**	**195**	P	**Pb**	14 37 53.5	-0.4
NACB	**Ninganchiao**	**0.15**	**195**	S	**Sb**	14 37 57.6	+0.4
NACB	**Ninganchiao**	**0.15**	**195**	⇑*iP*	**Pb**	14 37 53.5	-0.4
ETL	**Fush Village**	**0.16**	**185**	⇑*iP*	**Pb**	14 37 53.7	-0.3
ETL				S	**Sb**	14 37 57.6	+0.1
EWUT	**Wuta**	**0.18**	**46**	⇓*iP*	**Pb**	14 37 54.2	0.0
EWUT				*eS*	**Sb**	14 37 57.8	+0.2
ETLH	**Xiulin Townshi**	**0.18**	**231**	⇑*iP*	**Pb**	14 37 54.1	-0.2
ETLH				*eS*	**Sb**	14 37 57.7	-0.3
LATG	**Datong**	**0.23**	**334**	⇑*iP*	**Pb**	14 37 54.6	-0.4
LATG				S	**Sb**	14 37 58.3	-0.8
TWD	**Chiawan**	**0.24**	**189**	⇑*iP*	**Pb**	14 37 54.6	-0.4
TWD				*eS*	**Sb**	14 37 59.1	-0.1
NNSB	**Datong**	**0.26**	**294**	⇑*iP*	**Pb**	14 37 54.9	-0.4
NNSB				*eS*	**Sb**	14 37 59.1	-0.5
NNS	**Nan Shan**	**0.27**	**296**	⇑*iP*	**Pb**	14 37 55.0	-0.5
NNS				*eS*	**Sb**	14 37 59.2	-0.7
ESAO	**Su ao**	**0.31**	**37**	*eP*	**Pb**	14 37 56.0	-0.1
ESAO				S	**Sb**	14 38 00.9	0.0
NDS	**Dongshan**	**0.32**	**13**	*eP*	**Pb**	14 37 55.0	-1.1
NDS				*eS*	**Sb**	14 38 00.1	-0.9
ENTT	**Nioudou**	**0.32**	**348**	⇑P	**Pb**	14 37 56.0	-0.2
ENTT				S	**Sb**	14 38 01.3	+0.2
TWC	**Suao**	**0.34**	**34**	*eP*	**Pb**	14 37 56.5	0.0
TWC				*i S*	**Sb**	14 38 02.0	+0.3
HWA	**Hwalien**	**0.35**	**185**	⇓*iP*	**Pb**	14 37 56.8	+0.2
HWA				*i S*	**Sb**	14 38 02.5	+0.8
LXIB	**Xiulin Townshi**	**0.36**	**214**	⇑*iP*	**Pb**	14 37 56.2	-0.7
LXIB				*i S*	**Sb**	14 38 02.6	+0.2
FUSS	**Fushou**	**0.37**	**258**	⇑*iP*	**Pb**	14 37 56.7	-0.4
FUSS				*i S*	**Sb**	14 38 01.9	-0.7
ETM	**Tongmen**	**0.38**	**200**	*eP*	**Pb**	14 37 56.4	-0.8
ETM				*eS*	**Sb**	14 38 02.6	-0.1
WHF	**Hehuan Shan**	**0.38**	**243**	⇑*iP*	**Pb**	14 37 56.9	-0.6
WHF				*eS*	**Sb**	14 38 02.9	-0.4
TWE	**Neicheng**	**0.40**	**4**	P	**Pb**	14 37 57.2	-0.2
TWE				*eS*	**Sb**	14 38 03.1	0.0
YHNB	**Yeheng**	**0.42**	**325**	P	**Pb**	14 37 57.3	-0.5
YHNB	**Yeheng**	**0.42**	**325**	S	**Sb**	14 38 03.3	-0.6
YHNB	**Yeheng**	**0.42**	**325**	⇓*iP*	**Pb**	14 37 57.4	-0.5
YHNB				*eS*	**Sb**	14 38 02.9	-1.0
TWT	**Tachien**	**0.43**	**261**	*eP*	**Pb**	14 37 58.0	0.0
TWT				*eS*	**Sb**	14 38 04.0	-0.1
NSK	**Sanguang**	**0.43**	**324**	⇓*iP*	**Pb**	14 37 57.5	-0.6
NSK				*i S*	**Sb**	14 38 03.4	-0.8
FUSB	**Fushanzhiwuyua**	**0.44**	**354**	P	**Pb**	14 37 57.7	-0.4
FUSB				*eS*	**Sb**	14 38 04.4	+0.1
TDCB	**Techi**	**0.44**	**261**	*eP*	**Pb**	14 37 57.9	-0.4
TDCB				*i S*	**Sb**	14 38 03.8	-0.8
ILA	**Ilan**	**0.45**	**13**	*eP*	**Pb**	14 37 58.4	+0.1
ILA				S	**Sb**	14 38 05.5	+0.5
TEYL	**Yanliau Villag**	**0.46**	**185**	*eP*	**Pb**	14 37 57.5	-0.9
TEYL				*eS*	**Sb**	14 38 04.7	0.0
NWLT	**Wulai**	**0.47**	**345**	*eP*	**Pb**	14 37 58.2	-0.5
NWLT				*eS*	**Sb**	14 38 04.9	-0.3
SHUL	**Shoufeng**	**0.54**	**187**	*eP*	**Pb**	14 37 59.2	-0.5
SHUL				*i S*	**Sb**	14 38 07.9	+0.8
ESL	**Shilin**	**0.54**	**200**	⇑P	**Pb**	14 37 58.4	-1.4
ESL				*eS*	**Sb**	14 38 06.5	-0.7
OWD	**Renai**	**0.56**	**229**	⇓*iP*	**Pb**	14 37 59.6	-0.6
OWD				*i S*	**Sb**	14 38 07.2	-0.7
NFF	**Wufeng Townshi**	**0.56**	**303**	*i P*	**Pb**	14 37 59.8	-0.4
NFF				S	**Sb**	14 38 07.2	-0.7
WUSB	**Renai**	**0.58**	**235**	⇑*iP*	**Pb**	14 37 59.9	-0.6
WUSB				*eS*	**Sb**	14 38 08.0	-0.5
KSHI	**Guanxi Townshi**	**0.62**	**317**	*eP*	**Pb**	14 38 01.0	-0.1
KSHI				*eS*	**Sn**	14 38 10.9	-0.6
WHP	**Taichung City**	**0.63**	**266**	*eP*	**Pb**	14 38 01.2	-0.2
WHP				*i S*	**Sb**	14 38 09.6	-0.3
NHDH	**Xindian Distri**	**0.65**	**351**	*eP*	**Pb**	14 38 01.6	0.0
NHDH				*eS*	**Sb**	14 38 10.2	0.0
WARBT	**Fenglin Townsh**	**0.65**	**201**	*eP*	**Pb**	14 37 59.6	-2.0
WARBT				*i S*	**Sb**	14 38 09.6	-0.6
LIOB	**Emei**	**0.65**	**300**	*eP*	**Pb**	14 38 01.7	0.0
LIOB				*eS*	**Sb**	14 38 10.4	0.0
EOS4	**EOS4**	**0.65**	**108**	*eP*	**Pn**	14 38 02.0	-0.4
NSTT	**Nanjuang**	**0.66**	**298**	*eP*	**Pb**	14 38 01.7	-0.1
NSTT				S	**Sb**	14 38 10.3	-0.2
TATO	**Taipei**	**0.66**	**348**	P	**Pb**	14 38 02.1	+0.2
TATO	**Taipei**	**0.66**	**348**	S	**Sb**	14 38 10.9	+0.2
TIPB	**Shuangxi**	**0.67**	**15**	*eP*	**Pb**	14 38 02.0	0.0
TIPB				*i S*	**Sb**	14 38 10.6	-0.3
EGFH	**Guangfu**	**0.68**	**197**	*eP*	**Pb**	14 38 01.0	-1.1
EGFH				*eS*	**Sb**	14 38 10.9	-0.3
WCS	**Beigang Elemen**	**0.71**	**248**	*eP*	**Pb**	14 38 02.4	-0.3
WCS				*eS*	**Sb**	14 38 11.8	-0.3
VWDT	**VWDT**	**0.73**	**219**	P	**Pb**	14 38 02.4	-0.6
VWDT				*eS*	**Sb**	14 38 12.0	-0.5
TWB1	**Santiao Chiao**	**0.75**	**25**	*eP*	**Pb**	14 38 03.3	-0.1
TWB1				*eS*	**Sb**	14 38 13.6	+0.3
NWF	**Wu-fen Shan**	**0.76**	**10**	*eP*	**Pb**	14 38 03.7	+0.2
NWF				*eS*	**Sb**	14 38 13.9	+0.5
SBCB	**Hsinchu**	**0.76**	**308**	*eP*	**Pn**	14 38 04.3	+0.1
NCUH	**Zhongli**	**0.76**	**327**	*eP*	**Pn**	14 38 04.1	-0.2
NCUH				*eS*	**Sn**	14 38 14.9	-0.1
TWQ1	**Liyutan**	**0.79**	**272**	*eP*	**Pn**	14 38 04.7	0.0
TWQ1				*eS*	**Sb**	14 38 14.7	+0.4
SXI1	**Grass Mountain**	**0.80**	**16**	*eP*	**Pb**	14 38 04.4	+0.2
SXI1				S	**Sn**	14 38 15.6	-0.4
NMLH	**Miaoli**	**0.80**	**286**	*eP*	**Pn**	14 38 05.0	+0.1
NMLH				*eS*	**Sn**	14 38 15.6	-0.5
SMLT	**Sun Moon Lake**	**0.81**	**237**	*eP*	**Pb**	14 38 03.0	-1.4
SMLT				*eS*	**Sb**	14 38 15.0	+0.1
SSLB	**Suanglung**	**0.82**	**230**	P	**Pb**	14 38 03.7	-0.9
SSLB	**Suanglung**	**0.82**	**230**	⇓P	**Pb**	14 38 03.9	-0.7
SSLB				*eS*	**Sb**	14 38 14.4	-0.8
YM01	**YM01**	**0.82**	**356**	*eP*	**Pb**	14 38 04.5	-0.1
YM01				*eS*	**Sb**	14 38 15.5	+0.2
TYC	**Yuchr**	**0.83**	**240**	*eP*	**Pb**	14 38 04.4	-0.3
ZUZH	**Zhuzihu**	**0.84**	**354**	*eP*	**Pb**	14 38 04.7	-0.2
ZUZH				S	**Sb**	14 38 16.1	+0.3
HGSD	**Ruisui**	**0.85**	**193**	*eP*	**Pb**	14 38 04.0	-1.1
HGSD				*eS*	**Sn**	14 38 16.6	-0.6
NTST	**Danshui**	**0.85**	**348**	*eP*	**Pn**	14 38 05.3	-0.2
NTST				*eS*	**Sn**	14 38 17.8	+0.4
YM08	**YM08**	**0.86**	**357**	*eP*	**Pb**	14 38 05.1	-0.2
YM08				*eS*	**Sb**	14 38 16.5	+0.1
EHY	**Hungye**	**0.86**	**200**	*eP*	**Pb**	14 38 03.4	-1.9
EHYH	**Wanrong**	**0.87**	**198**	*eP*	**Pb**	14 38 04.8	-0.6
TCU	**Taichung**	**0.90**	**259**	*eP*	**Pn**	14 38 06.7	+0.6
TCU				*eS*	**Sn**	14 38 19.0	+0.7
WDJ	**Dajia District**	**0.91**	**272**	*eP*	**Pn**	14 38 06.8	+0.5
WHYT	**Xinyi Township**	**0.95**	**229**	*eP*	**Pn**	14 38 06.9	0.0
WHYT				*eS*	**Sb**	14 38 18.8	-0.2
WJS	**Zhushan**	**0.97**	**239**	*eP*	**Pn**	14 38 08.1	+0.9
WJS				*eS*	**Sn**	14 38 21.0	+0.8
YULB	**Yu-li**	**0.98**	**199**	P	**Pb**	14 38 06.5	-0.7
YULB	**Yu-li**	**0.98**	**199**	S	**Sn**	14 38 21.4	+1.0
YULB	**Yu-li**	**0.98**	**199**	*eP*	**Pb**	14 38 04.6	-2.7
EYUL	**Yuli**	**1.01**	**197**	*eP*	**Pn**	14 38 07.5	-0.3
WCHH	**Zhanghua**	**1.01**	**256**	*eP*	**Pb**	14 38 08.2	+0.3
WCHH				*eS*	**Sn**	14 38 22.6	+1.3
TWF1	**Yuli**	**1.02**	**198**	*eP*	**Pn**	14 38 06.7	-1.1
CHN5	**Tsauling**	**1.14**	**231**	*eP*	**Pb**	14 38 10.4	+0.4
CHN5				*eS*	**Sn**	14 38 25.9	+1.5
FULB	**Fuli**	**1.16**	**196**	*eP*	**Pn**	14 38 08.8	-1.0
WDLH	**Douliu**	**1.19**	**238**	*eP*	**Pb**	14 38 11.4	+0.6
WDLH				S	**Sb**	14 38 27.9	+2.2
ELDTW	**Lidau**	**1.27**	**207**	*eP*	**Pn**	14 38 10.0	-1.3
WTK	**Tuku**	**1.31**	**241**	*eP*	**Pb**	14 38 12.6	-0.2
WTK				*eS*	**Sb**	14 38 30.2	+1.1
CHN4	**Tsaushan**	**1.36**	**225**	*eP*	**Pb**	14 38 14.1	+0.3
CHN4				*eS*	**Sb**	14 38 33.3	+2.5
TPUB	**Ta-pu**	**1.38**	**222**	P	**Pb**	14 38 13.9	-0.1
TPUB	**Ta-pu**	**1.38**	**222**	S	**Sb**	14 38 32.9	+1.7
TPUB	**Ta-pu**	**1.38**	**222**	*eP*	**Pb**	14 38 14.0	0.0
TPUB				*eS*	**Sb**	14 38 32.5	+1.4
STYH	**Taoyuan**	**1.39**	**215**	*eP*	**Pn**	14 38 12.3	-0.6
STYH				*eS*	**Sb**	14 38 32.7	+1.1
WTP	**Ta-pu**	**1.43**	**221**	*eP*	**Pb**	14 38 14.4	-0.5
WTP				*eS*	**Sb**	14 38 34.1	+1.5
TWK	**Hsinying**	**1.49**	**225**	*eP*	**Pb**	14 38 15.7	-0.2
TWK				*eS*	**Sb**	14 38 34.9	+0.4
SNST	**Tainan City**	**1.52**	**224**	*eP*	**Pb**	14 38 16.2	-0.2
WSL	**Shuilin Townsh**	**1.52**	**239**	*eP*	**Pb**	14 38 16.7	+0.3
WSL				S	**Sb**	14 38 36.1	+0.9
CHN1	**Nanshi**	**1.52**	**222**	*eP*	**Pb**	14 38 16.3	-0.2
CHN1				*eS*	**Sb**	14 38 37.5	+2.0
TWG	**Pinlang**	**1.58**	**199**	*eP*	**Pn**	14 38 14.1	-1.5
TWGBT	**Beinan**	**1.58**	**199**	P	**Pb**	14 38 19.2	+1.6

IDC 27 14:37:50.8±2.6, 9°.95N×126°.71E, h0km, mb3.4/5, mbtmp3.4/5, MS3.1/2, Error ellipse: s-maj=240.1km s-min=23.4km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.07**	**201**	LR	LR	14 39 59.5	
	comp=Z,131nm,20.9s,baz=349,slow=42						
WRA	**Warramunga Arr**	**30.64**	**166**	P	P	14 44 07.2	+0.1
	0.3nm,0.7s,baz=344,slow=9.4,SNR=2.1 0.3nm,0.7s						
ASAR	**Alice Springs**	**34.14**	**168**	P	P	14 44 37.8	0.0
	0.3nm,1.0s,baz=348,slow=7.5,SNR=4.6 0.3nm,1.0s						
PETK	**Petropavlovsk-**	**49.75**	**24**	LR	LR	15 07 07.8	
	comp=Z,42nm,21.5s,baz=274,slow=35						
MKAR	**Makanchi Array**	**52.54**	**323**	P	P	14 47 06.5	+0.4
	0.2nm,0.7s,baz=116,slow=8.0,SNR=4.3 0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**56.58**	**325**	P	P	14 47 35.2	0.0
	0.3nm,0.6s,baz=124,slow=7.2,SNR=4.5 0.3nm,0.6s						
FINES

MG05	Puerto Natales	9.46	142		Pn	15 07 01.9	-0.5
MG04	Isla Riesco	10.70	144	Pn	Pn	15 07 19.7	+0.3
H03S1	Juan Fernandez	10.95	13	T	T	15 19 05.0	
	baz=185,slow=73,SNR=135						
H03S2	Juan Fernandez	10.95	13	T	T	15 19 03.9	
	baz=185,slow=73,SNR=148						
H03S3	Juan Fernandez	10.97	13	T	T	15 19 04.8	
	baz=185,slow=73,SNR=154						
GO10	Punta Arenas	11.14	144		Pn	15 07 25.5	+0.1
BI02	San Fabin de	11.26	49		Pn	15 07 27.2	+0.1
MG02	Cerro Sombrero	11.69	139		Pn	15 07 32.0	-0.9
MG03	Isla Dawson	11.88	145		Pn	15 07 34.9	-0.6
BO02	Sierra Bellavi	12.94	45		Pn	15 07 49.9	-0.4
BO01	Tunca	13.11	43		Pn	15 07 54.2	+1.7
MT01	Popeta	13.46	41		Pn	15 07 57.4	+0.1
MT09	Talagante	13.66	42		Pn	15 08 01.6	+1.5
BO04	La Punta	13.67	43		Pn	15 07 59.8	-0.4
LMEL	Las Melosas	13.98	44		Pn	15 08 07.5	+2.9
MT02	Curacav	14.02	40		Pn	15 08 06.7	+1.8
MT13	San Alfonso	14.03	44		Pn	15 08 07.5	+2.4
CO02	Combarbal	15.83	36	P	P	15 08 31.9	-1.2
CO02				IAmb	IAmb	15 08 34.1	
	comp=Z,25nm,1.1s						
TRQA	Tornquist	16.26	73	P	P	15 08 37.6	-0.1
CO03	El Pedregal	16.28	36		P	15 08 38.6	+0.5
GO04	Tololo Observa	16.81	35	P	P	15 08 45.0	+0.8
GO04				IAmb	IAmb	15 08 54.8	
	comp=Z,43nm,1.1s						
AC02	Maricunga	20.44	34		P	15 09 21.2	-3.1
AC02				IAmb	IAmb	15 09 35.9	
	comp=Z,16nm,0.9s						
PB09	IPOC Station P	24.98	29	P	P	15 10 09.6	-0.6
CPUP	Villa Florida	26.85	56	P	P	15 10 26.2	-0.7
CPUP				IAmb	IAmb	15 10 34.5	
	comp=Z,13nm,1.1s						
CPUP	Villa Florida	26.85	56	P	P	15 10 32.4	+5.5
	comp=Z,9.9nm,0.8s,baz=227,slow=8.7,SNR=16						
CPUP				LR	LR	15 19 17.5	
	comp=Z,100nm,20.6s,baz=208,slow=33						
	comp=Z,9.9nm,0.8s						
LPAZ	La Paz	30.48	27	P	P	15 10 57.7	-2.3
LPAZ				IAmb	IAmb	15 11 11.5	
	comp=Z,4.3nm,1.2s						
LPAZ	La Paz	30.48	27	P	P	15 11 08.1	+8.1
	comp=Z,1.7nm,0.7s,baz=170,slow=5.8,SNR=6.2						
	comp=Z,1.7nm,0.7s						
HOPE	Hope Point	30.56	125	P	P	15 10 57.7	-1.9
ATAH	Atahualpa	37.41	6	LR	LR	15 23 44.6	
	comp=Z,54nm,18.5s,baz=205,slow=30						
BELA	Belgrano 2	38.17	165	P	P	15 12 02.7	-2.5
BDFB	Brasilia	40.59	56	P	P	15 12 30.5	+4.3
	comp=Z,3.0nm,0.9s,baz=221,slow=18,SNR=3.3						
BDFB				LR	LR	15 27 58.7	
	comp=Z,72nm,20.3s,baz=148,slow=35						
	comp=Z,3.0nm,0.9s						
SNAA	Sanae	45.04	154	P	P	15 13 04.9	+3.3
	comp=Z,1.3nm,0.7s,baz=291,slow=7.6,SNR=3.6						
	comp=Z,1.3nm,0.7s						
QSPA	South Pole Qui	45.67	180	P	P	15 13 07.5	+0.7
QSPA				IAmb	IAmb	15 13 24.4	
	comp=Z,12nm,1.4s						
QSPA	South Pole Qui	45.67	180	P	P	15 13 12.1	+5.3
	comp=Z,3.4nm,0.9s,baz=157,slow=2.8,SNR=10						
	comp=Z,3.4nm,0.9s						
ROSC	El Rosal	49.65	10	LR	LR	15 32 10.7	
	comp=Z,104nm,20.4s,baz=184,slow=33						
BOAV	Boa Vista	50.49	28	P	P	15 13 41.8	-2.6
BOAV				IAmb	IAmb	15 14 04.3	
	comp=Z,12nm,1.5s						
SDV	Santo Domingo	54.16	14	LR	LR	15 35 06.3	
	comp=Z,34nm,18.8s,baz=229,slow=33						
JTS	Las Juntas de	54.67	356	LR	LR	15 31 31.8	
	comp=Z,43nm,21.4s,baz=165,slow=29						
IGPR	InterUniversit	63.87	17	P	P	15 15 17.7	-1.2
MAW	Mawson	65.01	166	LR	LR	15 43 21.1	
	comp=Z,276nm,18.9s,baz=254,slow=36						
TXAR	Lajitas Array	76.20	340	P	P	15 16 49.4	+15
	comp=Z,0.2nm,0.7s,baz=169,slow=7.2,SNR=4.2						
	comp=Z,0.2nm,0.7s						
PZH	PanZhiHua	161.74	190	PKP	PKPdf	15 24 47.8	+0.2

ZUR ***27*** *15:07:20.8, 47°.21N×10°.70E, h10km±2km, MLh0.9/8, Error ellipse: s-maj=4901.3km s-min=1325.1km az=132.0*

VIE 27 15:07:20.4±0.1, 47°.20N×10°.68E, h8km±2km, mb1.3/5, ml1.6/10, 2D, Error ellipse: s-maj=0.7km s-min=0.5km az=157.0 8 km SW of Imst, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETA	Feichten	0.18	168	⇓Pg	Pg	15 07 24.6	+0.5
FETA				Sg	Sg	15 07 27.3	+0.6
FETA	Feichten	0.18	168	*i* Pg	Pg	15 07 24.7	+0.5
	2.1nm,0.0s,SNR=55						
FETA				*i* Sg	Sg	15 07 27.3	+0.6
	20nm,0.1s						
RETA	Reutte	0.29	12	Pg	Pg	15 07 26.7	+0.5
RETA	Reutte	0.29	12	*i* Pg	Pg	15 07 26.6	+0.3
	2.2nm,0.1s,SNR=4.8						
RETA				*i* Sg	Sg	15 07 30.6	+0.5
	7.8nm,0.1s						
MOTA	Moosalm	0.33	63	*i* Pg	Pg	15 07 26.7	-0.2
	2.3nm,0.1s						
MOTA				*i* Sg	Sg	15 07 31.9	+0.7
	16nm,0.1s						
A105A	Obersdorf, Sch	0.33	309	Pg	Pg	15 07 27.3	+0.3
OBER	Oberstdorf	0.33	309	Pg	Pg	15 07 27.3	+0.3
SQTA	Sankt Quirin	0.36	86	*i* Pg	Pg	15 07 27.6	+0.1
	5.2nm,0.1s,SNR=13						
SQTA				*i* Sg	Sg	15 07 33.0	+0.6
	21nm,0.2s,SNR=15						
DAVA	Damuels	0.55	280	Sg	Sb	15 07 40.0	-0.5
DAVA	Damuels	0.55	280	*i* Pg	Pg	15 07 31.1	+0.1
	0.5nm,0.2s						
DAVA				*i* Sg	Sg	15 07 39.2	+1.0
	3.3nm,0.2s						
WATA	Walderalm	0.63	77	*i* Pg	Pg	15 07 32.6	+0.1
	0.5nm,0.1s						
WATA				*i* Sg	Sg	15 07 41.6	+0.8
	2.3nm,0.2s						
FUORN	Ofenpass-Fuorn	0.64	206	Pg	Pg	15 07 33.2	+0.4
WTTA	Wattenberg	0.66	84	⇓Pg	Pg	15 07 33.0	-0.1
WTTA	Wattenberg	0.66	84	*i* Pg	Pg	15 07 33.1	0.0
	1.9nm,0.1s,SNR=4.5						
WTTA				*i* Sg	Sg	15 07 41.9	+0.2
	1.8nm,0.2s						
DAVOX	Davos/Dischmat	0.69	233	Pg	Pg	15 07 33.8	+0.2

IDC ***27*** *15:07:55.9±0.7, 37°.62N×20°.44E, h0km, mb3.9/17, mbtmp3.8/29, ML3.5/9, MS3.4/24, Error ellipse: s-maj=14.6km s-min=11.8km az=169.0*

MOS ***27*** *15:07:55.5±1.3, 37°.52N×20°.31E, h12km, mb4.1/11, Error ellipse: s-maj=8.7km s-min=4.1km az=71.2*

ATH ***27*** *15:07:58.2, 37°.55N×20°.35E, h6km, Mw4.2, Moment Tensor Solution. s10 Moment tensor: Mrr=2.67; Mθθ2.48; Mφφ0.19; Mrθ0.46; Mrφ0.63; Mθφ0.41; Fault plane solution: NP1:φs250.00000°, δ51.00000°, λ-97.00000°. NP2:φs81.00000°, δ39.00000°, λ-81.00000°.*

MED_RC ***27*** *15:07:58.0±0.6, 37°.59N×20°.57E, h21km±1km, MW4.4/25, Moment Tensor Solution. Mantle waves: s25, c28; Duration: 1s0 Moment tensor: Scale 10^15Nm; Mrr=3.23±.54; Mθθ3.98±.34; Mφφ-0.75±.32; Mrθ0.33±.33; Mθφ2.05±.22; Mφr-2.28±.53; Best double couple: Mo4.79000×10^15 NP1:φs279.00000°, δ51.00000°, λ-44.00000°. NP2:φs40.00000°, δ58.00000°, λ-132.00000°. Principal axes: T 4.7800, Plg4.0000°, Azm158.0000°; N 0.0200, Plg34.0000°, Azm66.0000°; P -4.8000, Plg55.0000°, Azm254.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

BEO ***27*** *15:07:58.3±0.6, 37°.66N×20°.12E, h0km, ML4.1/16*

THE ***27*** *15:07:58.7, 37°.57N×20°.37E, h2km±1km, ML4.2/14, Error ellipse: s-maj=1.0km s-min=0.4km az=31.0*

NEIC ***27*** *15:07:58.1±2.5, 37°.54N±0°.06×20°.35E±0°.06, h10km±1km, mb4.4/20, Error ellipse: s-maj=10.1km s-min=6.6km az=207.0*

PDG ***27*** *15:07:59.9±0.7, 37°.63N×20°.37E, h11km±1km, ML4.4/12, Error ellipse: s-maj=0.9km s-min=1.5km az=0.0*

NAO ***27*** *15:08:03.5, 37°.56N×20°.35E, h10km, mb4.1*

ISC 27 15:07:58.9±0.7, 37°.62N±0°.02×20°.38E±0°.02, h17km±4km, n357, σ1§64/419, mb4.2/37, MS3.4/20, 16C-25D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	Orthonies,Zaky	0.34	46	P	Pb	15 08 06.7	+0.2
ORTH				S	Sb	15 08 12.2	+0.5
LTHK	Lithakia	0.37	75	P	Pg	15 08 06.5	-0.1
LTHK				S	Sg	15 08 12.0	+0.2
	87μm,0.2s						
LTHK	Lithakia	0.37	75	P	Pg	15 08 06.5	-0.1
LTHK				S	Sb	15 08 12.1	-0.3
KYPS	Kipseli, Zakin	0.40	60	P	Pb	15 08 07.7	+0.2
KYPS				S	Sb	15 08 13.8	+0.4
PSDA	Pessada-Kefalo	0.52	18	P	Pb	15 08 09.7	+0.2
PSDA				S	Sb	15 08 18.1	+1.3
	29μm,0.5s						
PSDA	Pessada-Kefalo	0.52	18	P	Pb	15 08 09.8	+0.2
PSDA				S	Sb	15 08 17.4	+0.6
RTZL	Ratzakli, Kefa	0.55	34	P	Pg	15 08 09.8	-0.1
RTZL				S	Sb	15 08 18.6	+0.9
ARG2	Argostoli	0.57	8	P	Pb	15 08 10.8	+0.4
ARG2				S	Sb	15 08 19.4	+1.2
VLS	Valsamata	0.58	16	P	Pb	15 08 10.6	-0.1
VLS				S	Sb	15 08 19.8	+1.2
	21μm,0.4s						
VLS	Valsamata	0.58	16	P	Pb	15 08 10.6	-0.1
VLS				S	Sb	15 08 19.8	+1.2
DMLN	Damoulianata-K	0.62	359	P	Pb	15 08 11.6	+0.3
DMLN				S	Sn	15 08 21.2	-1.3
	50μm,0.8s						
DMLN	Damoulianata-K	0.62	359	P	Pb	15 08 11.6	+0.3
DMLN				S	Sb	15 08 21.1	+1.3
CLEM	Kyllini,Ilia,G	0.65	65	P	Pg	15 08 11.8	0.0
CLEM				S	Sb	15 08 21.5	+0.9
SMHA	Samh	0.67	18	P	Pn	15 08 13.0	-0.5
LCHA	Lechaina	0.77	65	P	Pg	15 08 14.0	+0.1
VSK1	VASILIKIADES	0.81	10	P	Pg	15 08 14.7	+0.1
VSK1				S	Sn	15 08 27.1	+0.1
	16μm,0.7s						
FSK	Fiskardo	0.85	9	P	Pb	15 08 15.4	+0.1
FSK				S	Sn	15 08 28.7	+0.5
	17μm,0.7s						
FSK	Fiskardo	0.85	9	P	Pb	15 08 15.3	+0.1
FSK				S	Sn	15 08 28.0	-0.2
YRMI	Loutra Irminis	0.91	57	P	Pb	15 08 16.2	+0.1
YRMI				S	Sn	15 08 29.4	0.0
RLS	Riolos of Patr	0.96	62	P	Pb	15 08 17.2	+0.2
RLS				S	Sn	15 08 31.8	+0.9
	14μm,0.5s						
RLS	Riolos of Patr	0.96	62	P	Pb	15 08 17.3	+0.2
RLS				S	Sn	15 08 31.7	+0.9
AXS	Araxos	0.98	53	P	Pb	15 08 17.3	0.0
AXS				S	Sn	15 08 32.6	+1.4
ZARO	Zacharo	1.01	97	P	Pg	15 08 18.4	-0.1
EVGI	Lefkada island	1.03	12	P	Pn	15 08 18.5	0.0
EVGI				S	Sn	15 08 34.3	+1.8
	8μm,0.5s						
EVGI	Lefkada island	1.03	12	P	Pg	15 08 18.7	-0.1
EVGI				S	Sn	15 08 33.6	+1.1
AMT	Artemida-Makis	1.06	94	P	Pb	15 08 18.5	-0.2
AMT				S	Sn	15 08 32.9	-0.3
DRAG	Dragano-Lefkad	1.08	8	P	Pg	15 08 19.9	+0.2
DRO	Drossia	1.10	72	P	Pg	15 08 19.9	-0.3
DRO				S	Sg	15 08 36.3	+1.6
	14μm,0.5s						
DRO	Drossia	1.10	72	P	Pn	15 08 19.7	+0.2
DRO				S	Sg	15 08 35.5	+0.8
NYDR	Nydri-Lefkada	1.12	13	P	Pg	15 08 20.5	-0.1
NYDR				S	Sg	15 08 37.6	+2.2
	8μm,0.7s						
NYDR	Nydri-Lefkada	1.12	13	P	Pg	15 08 20.3	-0.4
NYDR				S	Sg	15 08 37.2	+1.8
PDO	Prodromos	1.17	32	P	Pg	15 08 21.5	+0.1
PDO				S	Sg	15 08 37.6	+0.9
LKD2	Lefkada island	1.19	10	P	Pg	15 08 21.8	-0.2
LKD2				S	Sg	15 08 40.3	+2.8
	7μm,0.8s						
LKD2	Lefkada island	1.19	10	P	Pg	15 08 21.7	-0.2
LKD2				S	Sg	15 08 38.5	+0.9
TSLK	Tsoukalades, L	1.23	10	P	Pg	15 08 22.4	-0.2
TSLK				S	Sg	15 08 40.8	+2.2
	11μm,0.7s						
TSLK	Tsoukalades, L	1.23	10	P	Pg	15 08 22.5	-0.2
TSLK				S	Sg	15 08 39.4	+0.8
PYL1	Pylos	1.26	123	P	Pn	15 08 21.6	0.0
PATC	Patra C	1.27	59	P	Pg	15 08 23.0	-0.3
PATC				S	Sg	15 08 40.6	+0.6
UPR	University Cam	1.29	59	P	Pg	15 08 23.9	0.0
PYL	PYLOS	1.30	123	P	Pb	15 08 22.6	-0.2
PYL	PYLOS	1.30	123	P	Pn	15 08 22.1	-0.1
PYL				S	Sb	15 08 39.7	+0.5
ITM	Ithomi	1.30	109	P	Pb	15 08 22.9	0.0
ITM				S	Sg	15 08 41.1	+0.1
	5μm,0.8s						
ITM	Ithomi	1.30	109		Pb	15 08 22.9	0.0
ITM	Ithomi	1.30	109	P	Pb	15 08 22.9	0.0
MTHA	Methoni	1.32	127	P	Pb	15 08 23.1	0.0
MTHA				S	Sb	15 08 40.1	+0.4
PVO	Paravola	1.35	42	P	Pg	15 08 24.5	-0.3
PVO				S	Sg	15 08 43.1	+0.7
VVK	Vomvokou	1.39	54	P	Pg	15 08 25.0	-0.6
VVK				S	Sg	15 08 43.6	-0.1
EFP	Efpalio	1.45	56	P	Pb	15 08 25.5	+0.1
EFP				S	Sg	15 08 46.7	+1.0
	7μm,0.4s						
EFP	Efpalio	1.45	56	P	Pb	15 08 25.7	+0.3
KLV	Kalavryta, Ach	1.46	72	P	Pb	15 08 25.9	+0.3
KLV	Kalavryta, Ach	1.46	72	P	Pb	15 08 25.7	+0.1
ALIK	Aliki, Aigiali	1.51	64	P	Pb	15 08 27.1	+0.7
SERG	Sergoula	1.54	58	P	Pb	15 08 27.2	+0.3
SERG				S	Sg	15 08 47.9	-0.8
ANX	Ano Chora	1.56	51	P	Pb	15 08 27.4	+0.1
ANX	Ano Chora	1.56	51	P	Pb	15 08 27.6	+0.3
ANX				S	Sg	15 08 49.2	+0.1
GUR	Goura	1.58	78	P	Pb	15 08 27.2	-0.5
GUR	Goura	1.58	78	P	Pb	15 08 28.0	+0.2
KALE	Kalithea	1.59	60	P	Pb	15 08 27.1	-0.7
KALE	Kalithea	1.59	60	P	Pb	15 08 28.0	+0.2
ART2	Arta	1.60	17	P	Pb	15 08 28.5	+0.5
VLX	Vlachokerasia	1.60	98	P	Pb	15 08 27.7	-0.4
EVR	Evrytania	1.72	40	P	Pb	15 08 29.6	-0.4
EVR	Evrytania	1.72	40	P	Pb	15 08 29.7	-0.3
TETR	Tetrakomo, Epi	1.86	22	P	Pb	15 08 31.9	-0.6
DLFA	Delphi	1.88	62	P	Pb	15 08 32.4	-0.3
IGT	Igoumenitsa	1.92	359	*e*Pn	Pn	15 08 31.5	+0.8
IGT				*e*Sn	Sb	15 08 57.2	+0.3
IGT	Igoumenitsa	1.92	359	P	Pb	15 08 32.2	-1.2
MAKR	Makrakomi, Fth	1.96	44	P	Pb	15 08 32.9	-1.1
JAN	Janina	2.07	10	P	Pb	15 08 35.3	-0.7
AGG	Agios Georgios	2.08	47		Pb	15 08 35.8	-0.3
AGG	Agios Georgios	2.08	47	P	Pb	15 08 35.8	-0.3
AGG	Agios Georgios	2.08	47	P	Pb	15 08 34.9	-1.2
LTK	Loutraki	2.08	78	P	Pn	15 08 34.6	+1.5
AXAR	Agios Charalam	2.13	57	P	Pn	15 08 35.2	+1.5
KEK	Kerkira	2.14	348		Pb	15 08 36.9	-0.3
KEK	Kerkira	2.14	348	P	Pn	15 08 35.4	+1.5
KRND	KRANIDI	2.21	95	P	Pn	15 08 36.2	+1.5
VLI	Veliai	2.23	113	P	Pn	15 08 36.2	+1.3
LKR	Lokris	2.31	63	P	Pb	15 08 38.0	-2.0
THL	Klokotos Trika	2.33	33	P	Pn	15 08 37.8	+1.4
VIL2	Platees	2.36	74	P	Pn	15 08 38.4	+1.6
KPRO	Kipourio	2.46	18	P	Pb	15 08 40.7	-1.9
TYRN	Tyrnavos	2.54	34	P	Pn	15 08 41.6	+2.3
VLY	Voula,Athens	2.71	84	P	Pn	15 08 42.3	+0.6
ATHU	Athens Univers	2.72	82	P	Pn	15 08 42.5	+0.8
PTL	Penteli	2.79	80	P	Pn	15 08 43.4	+0.7
NEO	Neokhori	2.80	52	P	Pn	15 08 44.3	+1.5
XOR	Xorichti	2.81	51	P	Pn	15 08 44.5	+1.5
NEST	Nestorio	2.84	10	P	Pn	15 08 45.8	+2.3
DION	Dionisos Attik	2.85	80	P	Pn	15 08 44.4	+0.9
SCTE	Santa Cesarea	2.87	329		Pn	15 08 44.6	+0.8
SCTE	Santa Cesarea	2.87	329	P	Pn	15 08 44.6	+0.8
ANKY	Antikythira Is	2.92	126	P	Pn	15 08 45.1	+0.6
LIT	Litokhoron	2.98	33		Pn	15 08 47.3	+2.0
LIT	Litokhoron	2.98	33	P	Pn	15 08 47.3	+2.0
KARY	Karystos	3.24	81	P	Pn	15 08 49.4	+0.6
TIP	Timpagrande	3.25	300		Pn	15 08 50.1	+1.0
TIP	Timpagrande	3.25	300	⇑P	Pn	15 08 50.0	+1.0
TIP	Timpagrande	3.25	300	P	Pn	15 08 49.7	+0.6
OHR	Ohrid	3.51	5	*i* Pn	Pn	15 08 56.0	+3.3
OHR	Ohrid	3.51	5	*e*Pn	Pn	15 08 54.0	+1.4
OHR				*e*Sn	Sn	15 09 36.1	+2.4
CEL	Celeste	3.61	282		Pn	15 08 54.4	+0.4
CEL	Celeste	3.61	282	P	Pn	15 08 54.4	+0.4
THE	Thessaloniki	3.62	33	P	Pn	15 08 55.3	+1.3
PLG	Polygyros	3.64	40	P	Pn	15 08 55.5	+1.0
HORT	Hortiatis	3.65	34	P	Pn	15 08 55.8	+1.1
TIR	Tirane	3.75	354	Pn	Pn	15 08 54.4	-1.5
TIR	Tirane	3.75	354	⇑P	Pb	15 09 00.4	-4.2
TIR	Tirane	3.75	354	⇑P	Pb	15 09 00.4	-4.2
TIR	Tirane	3.75	354	*e*Pn	Pn	15 08 55.9	0.0
SOH	Sokhos	3.95	35	P	Pn	15 09 01.1	+2.5
KNT	Kendrikon	4.04	28	P	Pn	15 09 01.8	+1.9
VAY	Valandovo	4.07	24	*i* Pn	Pn	15 09 02.2	+1.9
VAY	Valandovo	4.07	24	*e*Pn	Pn	15 09 01.5	+1.2
APE	Apeiranthos	4.14	96	*i* P	Pn	15 09 00.3	-1.0
MATE	Matera	4.17	318	⇓P	Pb	15 09 12.2	+0.5
KOKK	Kokkinochori,	4.25	40	P	Pn	15 09 04.4	+1.6
CUC	Castrocucco	4.29	305		Pn	15 09 06.2	+2.9
CUC	Castrocucco	4.29	305	P	Pn	15 09 05.1	+1.8
SRS	Serrai	4.29	34	*e*Pn	Pn	15 09 05.1	+1.8
SRS	Serrai	4.29	34	P	Pn	15 09 04.9	+1.6
IDI	Anoyia	4.31	121		Pn	15 09 03.3	-0.3
IDI	Anoyia	4.31	121	Pn	Pn	15 09 02.2	-1.4
	3.3nm,0.7s,baz=297,slow=15,SNR=12						
IDI				Sn	Sn	15 09 53.4	-0.1
	3.5nm,0.3s,baz=69,slow=9.7,SNR=4.4						
SKO	Skopje	4.43	10	*i* Pn	Pg	15 09 23.1	-0.5
ULC	Ulcinj	4.43	349	*e*Pn	Pn	15 09 06.8	+1.5
ULC				*i* Sn	Sn	15 09 56.6	+0.2
PUK	Puka	4.44	355		Pn	15 09 06.7	+1.3
DRME	Dracevica, Mon	4.66	349	*e*Pn	Pn	15 09 08.7	+0.3
DRME	Dracevica, Mon	4.66	349	*e*Pn	Pn	15 09 09.9	+1.5
DRME				*i* Sn	Sn	15 10 02.0	0.0
VAE	Valguarnera	4.75	270	Pn	Pn	15 09 10.4	+0.7
	26nm,0.8s,baz=165,slow=18,SNR=3.6						
VAE				Sn	Sn	15 10 07.3	+3.0
	15nm,0.3s,baz=132,slow=5.5,SNR=8.3						
RAFF	Raffo Rosso	4.81	267		Pn	15 09 10.4	-0.1
BUM	Brajici-Budva	4.82	347	*e*Pn	Pn	15 09 12.2	+1.6
BUM				*i* Sn	Sn	15 10 06.0	0.0
PDG	Podgorica	4.89	350		Pn	15 09 12.3	+0.8
PDG	Podgorica	4.89	350	*e*Pn	Pn	15 09 10.2	-1.3
PDG	Podgorica	4.89	350	⇓P	Pn	15 09 13.3	+1.7
PDG	Podgorica	4.89	350	*e*Pn	Pn	15 09 10.9	-0.6
PDG				*e*Sn	Sn	15 10 06.0	-1.6
PDG	Podgorica	4.89	350	*e*Pn	Pn	15 09 13.2	+1.7
PDG				*i* Sn	Sn	15 10 06.4	-1.2
PVY	Plav	4.98	356	*e*Pn	Pn	15 09 14.6	+1.6
PVY				*i* Sn	Sn	15 10 09.9	-0.3
WDD	Wied Dalam	5.03	251		Pn	15 09 14.1	+0.6
HCY	Herceg Novi	5.04	344	*e*Pn	Pn	15 09 11.9	-1.7
HCY	Herceg Novi	5.04	344	*e*Pn	Pn	15 09 15.3	+1.7
HCY				*i* Sn	Sn	15 10 11.1	-0.3
CEME	Cevo	5.05	348	*e*Pn	Pn	15 09 15.1	+1.2
CEME				*i* Sn	Sn	15 10 11.2	-0.6
NKME	Niksic	5.26	348	*e*Pn	Pn	15 09 18.4	+1.7
NKME				*i* Sn	Sn	15 10 16.5	-0.4
IVA	Berane	5.26	356	*i* Pn	Pn	15 09 18.4	+1.6
IVA				*i* Sn	Sn	15 10 15.9	-1.2
KOME	Kolasin	5.27	353	*e*Pn	Pn	15 09 18.1	+1.6
KOME				*i* Sn	Sn	15 10 16.8	-0.5
BARS	Barje	5.31	11	*e*Pn	Pn	15 09 18.2	+0.9
RDO	Rodhopi	5.33	47		Pn	15 09 18.4	+0.8
TREB	Trebinje	5.33	344	*e*Pn	Pn	15 09 16.3	-1.3
CAVK	Edirne/Enez-Ca	5.44	54	⇓P	Pb	15 09 27.4	-6.1
VTS	Vitosha	5.45	23	*e*Pn	Pn	15 09 21.1	+1.7
SGRT	San Giovanni R	5.47	321		Pn	15 09 20.9	+1.3
ALN	Alexandroupoli	5.48	52		Pn	15 09 21.2	+1.5
ALN	Alexandroupoli	5.48	52	P	Pn	15 09 21.2	+1.5
SELS	Selova	5.63	5	*e*Pn	Pn	15 09 22.7	+1.0
STON	Ston	5.64	339	*e*Pn	Pn	15 09 21.3	-0.5
STON	Ston	5.64	339	*e*Pn	Pn	15 09 21.2	-0.5
STON				*e*Sn	Sn	15 10 23.4	-2.7
SJES	Sjenica	5.65	357	*e*Pn	Pn	15 09 23.1	+1.0
SJES	Sjenica	5.65	357	*e*Pn	Pn	15 09 23.1	+1.0
SJES				*e*Sn	Sn	15 10 23.9	-2.7
UPM	Unac-Piva	5.70	349	*e*Pn	Pn	15 09 22.3	-0.5
UPM	Unac-Piva	5.70	349	*e*Pn	Pn	15 09 24.4	+1.6
UPM				*i* Sn	Sn	15 10 27.0	-0.8
PLE	Pljevlja	5.76	353	*e*Pn	Pn	15 09 25.3	+1.7
PLE				*i* Sn	Sn	15 10 28.6	-0.7
KARP	Karpathos	5.83	109		Pn	15 09 25.8	+1.3
ZAPS	Zavoj	5.91	16	*e*Pn	Pn	15 09 27.1	+1.5
GOCS	Kraljevo Serbi	5.95	3	*e*Pn	Pn	15 09 25.9	-0.3
GOCS				*e*Sn	Sn	15 10 33.5	-0.5
IVAS	Ivanjica	5.96	358	*e*Pn	Pn

6.0nm,0.7s
TESR Tescani 10.03 26 ⇑P Pn 15 10 30.6 +8.5
ARSA Arzberg 10.28 341 *i* Pn **Pn 15 10 26.6 +1.2**
2.7nm,0.4s
MYKA Terra Mystica 10.30 333 *e*Pn **Pn 15 10 28.9 +3.0**
1.4nm,0.4s
MYKA *i* Sn **Sn 15 12 15.9 -5.0**
6.2nm,0.7s
PSZ Piszkesteto 10.30 358 **Pn 15 10 26.0 +0.1**
PSZ Piszkesteto 10.30 358 P **Pn 15 10 26.0 +0.1**
BR131 Keskin Array S 10.58 74 *e*P **Pn 15 10 30.1 +0.4**
BRTR Keskin Array B 10.58 74 Pn **Pn 15 10 32.2 +2.5**
0.2nm,0.3s,baz=258,slow=12,SNR=5.8
BRTR Sn **Sn 15 12 26.2 -1.6**
baz=246,slow=31,SNR=1.2
0.4nm,0.7s
BURAR Bucovina Array 10.61 18 ⇓P **Pn 15 10 32.6 +2.6**
BURAR Bucovina Array 10.61 18 ⇓P **Pn 15 10 32.6 +2.6**
KBA Koelnbreinsper 10.79 333 *i* Pn **Pn 15 10 35.0 +2.4**
2.2nm,0.5s
KBA *e*Sn **Sn 15 12 29.3 -3.7**
6.0nm,0.6s
CONA Conrad Observa 10.83 344 *i* Pn **Pn 15 10 35.0 +1.9**
1.2nm,0.5s
ABTA Abfaltersbach 10.83 330 *i* Pn **Pn 15 10 35.3 +2.3**
2.2nm,0.6s
ABTA *i* Sn **Sn 15 12 30.2 -3.6**
18nm,0.8s
VYHS Vyhne 10.93 355 *e*P **Pn 15 10 37.4 +3.0**
VYHS Vyhne 10.93 355 *e*PN **Pn 15 10 37.4 +3.0**
MOA Molln 11.17 338 *i* Pn **Pn 15 10 38.4 +0.7**
1.6nm,0.4s
MOA *i* Sn **Sn 15 12 42.7 +0.6**
2.4nm,0.4s
MOA Molln 11.17 338 *e*Pn **Pn 15 10 36.8 -0.9**
BIOA Bad Ischl, Aus 11.22 336 *i* Pn **Pn 15 10 40.6 +2.2**
3.5nm,0.4s
BIOA *i* Sn **Sn 15 12 40.0 -3.4**
12nm,0.6s
LESA Schwarzleotal 11.33 332 *i* Pn **Pn 15 10 41.4 +1.5**
4.4nm,0.4s
LESA *i* Sn **Sn 15 12 42.7 -3.3**
4.3nm,0.6s
WTTA Wattenberg 11.60 329 *i* Pn **Pn 15 10 47.4 +3.7**
2.0nm,0.4s
WTTA *e*Sn **Sn 15 12 47.9 -4.9**
7.6nm,0.7s
WATA Walderalm 11.68 329 *i* Pn **Pn 15 10 48.3 +3.5**
3.0nm,0.5s
WATA *i* Sn **Sn 15 12 53.1 -1.6**
12nm,0.9s
FUORN Ofenpass-Fuorn 11.71 323 **Pn 15 10 46.9 +1.5**
SQTA Sankt Quirin 11.74 328 *e*Pn **Pn 15 10 49.1 +3.5**
4.4nm,0.6s
SQTA *i* Sn **Sn 15 12 52.4 -3.9**
2.0nm,0.4s
FETA Feichten 11.80 326 *e*Pn **Pn 15 10 49.7 +3.3**
2.3nm,0.6s
FETA *i* Sn **Sn 15 12 52.3 -5.4**
3.4nm,0.8s
STHS Stebnicka Huta 11.81 3 *e*P **Pn 15 10 48.3 +1.8**
STHS Stebnicka Huta 11.81 3 *e*PN **Pn 15 10 48.3 +1.8**
MOTA Moosalm 11.88 328 *i* Pn **Pn 15 10 50.9 +3.3**
2.3nm,0.6s
MOTA *i* Sn **Sn 15 12 54.1 -5.7**
2.7nm,0.5s
MAUC Maruska 11.89 352 *e*PN **Pn 15 10 47.9 +0.4**
DAVOX Davos/Dischmat 12.01 323 Pn **Pn 15 10 48.4 -1.0**
0.3nm,0.3s,baz=150,slow=18,SNR=6.1
DAVOX Sn **Sn 15 12 59.9 -3.1**
0.5nm,0.3s,baz=138,slow=22,SNR=3.6
DAVOX LR LR 15 16 09.0
comp=Z,83nm,19.7s,baz=92,slow=41
0.7nm,0.4s
CKRC Cesky Krumlov 12.04 340 *e*PN **Pn 15 10 49.9 +0.3**
CKRC AMS AMS 15 16 30.0
comp=Z,600nm,10.5s
CKRC Cesky Krumlov 12.04 340 *e*P **Pn 15 10 49.9 +0.3**
CKRC MLR MLR
comp=Z,600nm,10.5s
TUE Stuetta 12.06 321 **Pn 15 10 50.9 +0.9**
GERES GERESS Array B 12.23 339 Pn **Pn 15 10 52.0 -0.2**
baz=157,slow=14,SNR=9.6
GERES Sn **Sn 15 13 02.0 -6.1**
baz=161,slow=25,SNR=3.0
comp=Z,1.1nm,0.6s
DAVA Damuels 12.38 325 *e*Pn **Pn 15 10 58.0 +3.7**
comp=Z,4.3nm,0.6s
DAVA *e*Sn **Sn 15 13 08.0 -3.9**
comp=Z,3.2nm,0.6s
KHC Kasperske Hory 12.52 339 *e*PN **Pn 15 10 56.1 -0.1**
KHC *e*SN **Sn 15 13 10.4 -4.8**
KHC AMS AMS 15 16 50.0
comp=Z,600nm,11.5s
KHC Kasperske Hory 12.52 339 *e*P **Pn 15 10 56.1 -0.1**
KHC *e* 15 13 10.4
KHC MLR MLR
comp=Z,600nm,11.5s
ZVC Zvikov 12.64 341 *e*PN **Pn 15 10 59.3 +1.6**
MMAI Mount Meron Ar 13.09 106 Pn **Pn 15 11 03.0 -1.1**
comp=Z,0.9nm,0.3s,baz=285,slow=13,SNR=5.1
comp=Z,0.5nm,0.4s
BRG Berggiesshubel 14.03 343 *e*P **P 15 11 27.9 +3.5**
BRG Amp 15 11 29.0
comp=Z,2.9nm,0.9s
EIL Elat 14.48 119 Pn **Pn 15 11 21.4 -1.5**
comp=Z,0.4nm,0.3s,baz=354,slow=22,SNR=4.1
EIL Sn Sn 15 13 51.0 -12
comp=Z,0.4nm,0.3s,baz=298,slow=20,SNR=4.2
comp=Z,3.1nm,0.6s
KIEV Kiev 14.51 23 **Pn 15 11 22.9 -0.4**
KIEV Kiev 14.51 23 ⇓P **Pn 15 11 22.5 -0.8**
KIEV Kiev 14.51 23 P **Pn 15 11 22.9 -0.4**
AKASG Malin Array Be 14.52 23 Pn **Pn 15 11 21.0 -2.4**
comp=Z,0.4nm,0.3s,baz=215,slow=12,SNR=6.6
AKASG LR LR 15 18 28.2
comp=Z,243nm,20.0s,baz=200,slow=44
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 14.52 23 *ce*P **Pn 15 11 24.5 +1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 14.52 23 **Pn 15 11 22.9 -0.6**
AKBB Malin Array Si 14.52 23 *e*P **Pn 15 11 23.5 +0.1**
CLL Collm 14.66 341 *e*P Pn 15 11 20.0 -5.3
CLL Collm 14.66 341 *i* PP **P 15 11 34.2 +2.8**
CLL *i* x x 15 11 41.2
CLL *ex* x 15 11 49.0
SOC Sochi 15.84 62 *e*P **Pn 15 11 39.3 -1.6**
SOC *e* 15 14 36.9
SOC MLR MLR
comp=Z,55nm,17.0s
NACGM Naroch 17.84 12 *e*P **P 15 12 07.8 +1.1**
comp=Z,11nm,0.9s,baz=197
SHA1 Shidzhatmaz 17.94 63 *e*P **P 15 12 08.7 +0.5**
KIV Kislovodsk 18.01 62 *e*P **Pn 15 12 08.4 0.0**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,25nm,14.0s
PABE Paberze 18.06 7 **Pn 15 12 07.1 -1.6**
PABE Paberze 18.06 7 *e*P **P 15 12 09.0 -0.1**
KBZ Khabaz 18.11 63 P **Pn 15 12 08.9 -0.5**
comp=Z,0.1nm,0.3s,baz=273,slow=10.0,SNR=4.3
comp=Z,0.3nm,0.4s
KBZ Khabaz 18.11 63 *i* P **P 15 12 11.0 +1.3**
KBZ pmax pmax
comp=Z,1.0nm,1.2s
ESDC Sonseca Array 19.12 284 P **P 15 12 20.8 -0.1**
baz=82,slow=10,SNR=11
comp=Z,2.6nm,1.0s
GNI Garni 19.12 75 LR LR 15 21 26.2
comp=Z,74nm,19.6s,baz=276,slow=42
VORR Voronezh 19.33 37 P **P 15 12 22.3 -0.8**
VORR pmax pmax
comp=Z,7.0nm,1.4s
LPSR Galich'ya Gora 19.81 35 *e*P **P 15 12 28.6 +0.3**
LPSR pmax pmax
comp=Z,20nm,2.1s
VRH Novokhopyorsk 20.32 41 P Pn 15 12 37.7 +1.8
VRH pmax pmax
comp=Z,17nm,1.5s
OBN Obninsk 20.67 27 *e*P **P 15 12 37.5 -0.1**
OBN *e*PPP PPP 15 13 04.3
OBN pmax pmax
comp=Z,3.0nm,0.7s
MDT Midelt 20.95 264 P **P 15 12 41.5 +0.5**
comp=Z,2.2nm,0.5s,baz=83,slow=13,SNR=4.0
MDT LR LR 15 21 22.9
comp=Z,66nm,19.0s,baz=117,slow=38
comp=Z,2.2nm,0.5s
MTSE Matsula 21.23 5 *e*P **P 15 12 45.0 +1.4**
VSU Vasula 21.27 9 ⇑*i*P **P 15 12 44.1 +0.1**
VSU pmax pmax
comp=Z,44nm,0.8s
VSU Vasula 21.27 9 *e*P **P 15 12 44.5 +0.4**
AKT Akhty 21.40 71 *e*P **P 15 12 44.2 -1.6**
AKT *e*PPP PPP 15 13 11.2
AKT pmax pmax
comp=Z,11nm,1.1s
MOS Moscow 21.54 27 *e*P **P 15 12 49.6 +2.7**
MEF Metsahovi 22.77 5 *e*P **P 15 13 01.8 +1.7**
HFS Hagfors 22.94 351 P **P 15 13 01.8 0.0**
comp=Z,8.4nm,0.7s,baz=156,slow=11,SNR=20
comp=Z,8.4nm,0.7s
RAF Rauma 23.45 2 *e*P **P 15 13 06.8 -0.2**
EKA Eskdalemuir Ar 23.83 326 P **P 15 13 10.3 -0.5**
comp=Z,8.6nm,0.8s,baz=128,slow=10,SNR=11
comp=Z,8.6nm,0.8s
NAO01 NORSAR Array S 24.01 349 P **P 15 13 11.7 -0.8**
NAO01 IAmb IAmb 15 13 30.1
comp=Z,15nm,1.1s
BELG Belogornoye 24.08 43 LR LR 15 23 26.6
comp=Z,54nm,18.5s,baz=192,slow=39
BELG Belogornoye 24.08 43 ⇑*i*P **P 15 13 12.8 -0.4**
BELG pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 24.12 7 **P 15 13 12.7 -0.7**
FINES FINESS Array B 24.12 7 P **P 15 13 13.2 -0.2**
comp=Z,4.8nm,0.6s,baz=169,slow=9.0,SNR=32
FINES LR LR 15 24 25.0
comp=Z,92nm,18.7s,baz=205,slow=41
comp=Z,4.8nm,0.6s
FIA1 FINESS Array S 24.12 7 P **P 15 13 12.5 -0.9**
NC405 NORSAR Array S 24.14 350 **P 15 13 12.8 -0.9**
NC405 IAmb IAmb 15 13 17.3
comp=Z,8.0nm,0.8s
NB2 NORSAR Subarra 24.15 349 P **P 15 13 13.8 0.0**
comp=Z,2.9nm,0.7s,baz=162,slow=9.3
NOA NORSAR Array B 24.15 349 P **P 15 13 13.3 -0.4**
comp=Z,2.0nm,0.9s,baz=149,slow=10,SNR=14
NOA LR LR 15 25 21.1
comp=Z,56nm,18.7s,baz=150,slow=43
comp=Z,2.0nm,0.9s
NBO00 NORSAR Array S 24.21 349 IAmb IAmb 15 13 22.0
comp=Z,10nm,0.9s
NC204 NORSAR Array S 24.44 349 **P 15 13 17.1 +0.6**
NC204 IAmb IAmb 15 13 25.1
comp=Z,12nm,1.0s
KEF Keuruu 24.74 5 *e*P **P 15 13 20.5 +1.5**
VAF Ylistaro 25.50 2 *e*P **P 15 13 27.8 +2.0**
KLMR Klimovskoe 26.20 21 *e*P **P 15 13 27.3 -5.0**
KLMR pmax pmax
comp=Z,17nm,1.6s
KIRV Kirov 28.19 33 LR LR 15 26 15.6
comp=Z,70nm,21.9s,baz=234,slow=39
TORD Torodi Ar. Bea 29.53 219 **P 15 14 01.0 -1.4**
TORD Torodi Ar. Bea 29.53 219 P **P 15 14 02.9 +0.4**
comp=Z,85nm,0.3s,baz=33,slow=9.6,SNR=3.1
AKTO Aktyubinsk 29.61 52 LR LR 15 27 25.1
comp=Z,47nm,18.3s,baz=296,slow=40
ARTI Arti 31.45 41 LR LR 15 27 58.7
comp=Z,51nm,21.5s,baz=242,slow=38
ARTI Arti 31.45 41 *d*/*i*P **P 15 14 17.9 -1.2**
ARTI 15 15 19.9
ARTI 15 17 13.1
ARTI S **S 15 19 27.3 +1.4**
ARTI SS **SnSn 15 21 12.0 +1.6**
ARTI pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 32.10 3 P **P 15 14 23.4 -1.2**
comp=Z,2.0nm,0.7s,baz=187,slow=8.6,SNR=8.2
ARCES LR LR 15 28 33.6
comp=Z,99nm,18.4s,baz=193,slow=39
comp=Z,2.0nm,0.7s
BORG Borgarnes 36.55 331 LR LR 15 33 52.9
comp=Z,32nm,18.1s,baz=143,slow=43
BRVK Borovoye 37.50 49 ⇑*i*P **P 15 15 09.8 -1.7**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 37.56 49 P **P 15 15 11.7 -0.3**
comp=Z,0.5nm,0.6s,baz=264,slow=6.0,SNR=6.3
comp=Z,0.5nm,0.6s
DBIC Dimbokro 38.41 223 P **P 15 15 19.5 +0.1**
comp=Z,3.7nm,0.8s,baz=46,slow=12,SNR=4.2
DBIC LR LR 15 32 22.4
comp=Z,58nm,18.1s,baz=163,slow=38
comp=Z,3.7nm,0.8s
SPITS Spitsbergen Ar 40.71 359 P **P 15 15 38.4 +0.4**
comp=Z,3.4nm,0.8s,baz=142,slow=8.5,SNR=6.5
comp=Z,3.4nm,0.8s
AAK Ala-Archa 41.09 65 LR LR 15 37 10.0
comp=Z,32nm,19.6s,baz=231,slow=43
AAK Ala-Archa 41.09 65 ⇑*i*P **P 15 15 42.3 +0.5**
AAK pmax pmax
comp=Z,1.0nm,1.4s
KURBB Kurchatov Arra 42.65 53 P **P 15 15 53.4 -0.9**
comp=Z,1.1nm,0.6s,baz=279,slow=8.5,SNR=9.3
comp=Z,1.1nm,0.6s
KURK Kurchatov 42.70 53 *i* P **P 15 15 53.6 -1.0**
KURK pmax pmax
comp=Z,2.0nm,1.0s
MK31 Makanchi Array 45.69 58 *e*P **P 15 16 17.4 -1.3**
MK31 *i* *PP **pP 15 16 22.3 -0.8**
MK31 *i* *SP **sP 15 16 24.7 -0.4**
MKAR Makanchi Array 45.69 58 P **P 15 16 18.3 -0.4**
MKAR Makanchi Array 45.69 58 P **P 15 16 17.5 -1.2**
comp=Z,0.5nm,0.4s,baz=279,slow=6.8,SNR=11
MKAR LR LR 15 38 40.3
comp=Z,40nm,18.2s,baz=295,slow=40
comp=Z,0.5nm,0.4s
MKAR Makanchi Array 45.69 58 P **P 15 16 18.3 -0.4**
ZAA0 Zalesovo Array 46.15 48 P **P 15 16 21.5 -0.6**
ZAA0 IAmb IAmb 15 16 43.1
comp=Z,3.5nm,0.8s
ZALV Zalesovo Beam 46.15 48 **P 15 16 22.0 -0.1**
ZALV Zalesovo Beam 46.15 48 P **P 15 16 20.6 -1.5**
comp=Z,2.2nm,0.6s,baz=272,slow=8.3,SNR=10.0
comp=Z,2.2nm,0.6s
ZALV Zalesovo Beam 46.15 48 *i* P **P 15 16 24.0 +1.9**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
NRIK Noril'sk 47.35 26 LR LR 15 38 51.9
comp=Z,41nm,19.0s,baz=306,slow=39
NRIK Noril'sk 47.35 26 ⇑*i*P **P 15 16 32.1 +0.8**
SFJD Kangerlussuaq 48.67 330 LR LR 15 40 07.7
comp=Z,54nm,18.8s,baz=114,slow=40
WMQ Urumqi 50.13 60 *e*P **P 15 16 55.5 +2.4**
WMQ pmax pmax
comp=Z,26nm,0.8s
MATP Matopo 58.23 171 LR LR 15 43 16.3
comp=Z,76nm,20.2s,baz=239,slow=36
TIXI Tiksi 60.22 20 LR LR 15 47 57.7
comp=Z,149nm,18.4s,baz=12,slow=40
SONM Songino Array 60.90 50 P **P 15 18 10.0 -0.6**
comp=Z,0.8nm,0.7s,baz=289,slow=9.2,SNR=4.1
comp=Z,0.8nm,0.7s
YAK Yakutsk 65.65 29 LR LR 15 51 37.1
comp=Z,50nm,18.1s,baz=268,slow=40
HHC Hu-ho-hao-te 67.44 55 *e*P **P 15 18 53.8 +0.1**
HHC pmax pmax
comp=Z,12nm,0.7s
PZH PanZhiHua 67.87 73 P **P 15 18 58.0 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.8s
CMAR Chiang Mai Arr 70.08 82 P **P 15 19 09.8 -0.4**
comp=Z,0.8nm,0.8s,baz=308,slow=8.3,SNR=7.6
comp=Z,0.8nm,0.8s
HEH HeiHe 71.53 40 *e*P **P 15 19 19.0 +0.4**
C27K Jago River 72.43 354 IAmb IAmb 15 19 27.5
comp=Z,5.9nm,1.3s
YKA Yellowknife Ar 73.88 340 P **P 15 19 32.5 +0.1**
comp=Z,0.3nm,0.7s,baz=40,slow=5.6,SNR=8.8
comp=Z,0.3nm,0.7s
YKA Yellowknife Ar 73.88 340 *i* P **P 15 19 33.2 +0.9**
YKA pmax pmax
comp=Z,1.0nm,1.0s
G29M Pine Creek 74.50 351 P **P 15 19 36.8 +0.9**
G29M IAmb IAmb 15 19 46.1
comp=Z,5.3nm,1.1s
MA2 Magadan 74.85 24 LR LR 15 56 48.3
comp=Z,32nm,18.4s,baz=170,slow=39
E19K Redstone River 75.23 359 IAmb IAmb 15 19 50.3
comp=Z,2.9nm,0.8s
F19K Shaleruckik Mo 75.87 359 IAmb IAmb 15 20 14.0
comp=Z,4.5nm,1.3s
I30M Mount Dempster 75.90 350 **P 15 19 44.1 0.0**
H21K Melozitna Rive 76.92 357 IAmb IAmb 15 20 00.5
comp=Z,2.8nm,0.8s
ILAR Eielson Array 77.46 354 P **P 15 19 52.5 -0.2**
comp=Z,0.7nm,1.0s,baz=342,slow=3.2,SNR=5.5
comp=Z,0.7nm,1.0s
USRK Ussuriysk Ar. 77.76 43 LR LR 15 58 38.0
comp=Z,71nm,19.0s,baz=186,slow=39
M29M Somme Creek 78.84 350 **P 15 20 01.1 +0.5**
KSRS Korea Array 79.77 50 P **P 15 20 05.2 -0.7**
comp=Z,1.2nm,0.8s,baz=319,slow=3.6,SNR=5.4
comp=Z,1.2nm,0.8s
ELK Elko 92.07 328 LR LR 16 07 04.0
comp=Z,33nm,19.9s,baz=90,slow=38

KEA ***27*** *15:23:53.2, 41.°35N×121.°28E, h5km, ML3.5/4*
ISC 27 15:23:52.6±0.8, 41.°53N±0.°04×121.°19E±0.°03, h10km, n11, σ2.°54/21, 3D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**1.81**	**80**	⇓Pg	**Pb**	**15 24 25.5**	**-0.4**
SNY				Sg	**Sg**	**15 24 51.3**	**+0.4**
SNY				smax	smax		
	comp=N,860nm,0.7s						
SNY				smax	smax		
	comp=E,310nm,0.7s						
DL2	**Dalian**	**2.64**	**173**	Pn	**Pn**	**15 24 34.0**	**-1.2**
DL2				Pg	**Pg**	**15 24 41.3**	**-1.9**
DL2				Sn	**Sb**	**15 25 08.0**	**-4.5**
DL2				Sg	**Sg**	**15 25 17.0**	**-0.4**
DL2				smax	smax		
	comp=N,190nm,0.6s						
DL2				smax	smax		
	comp=E,280nm,0.6s						
SUJ	**Sinuiju**	**2.88**	**119**	Pg	**Pg**	**15 24 46.5**	**-1.4**
SUJ				Sg	**Sg**	**15 25 26.0**	**+0.8**
SUJ				AML	AML		
	comp=N,265nm,0.3s						
SUJ				AML	AML		
	comp=E,263nm,0.5s						
SUJ				AML	AML		
	comp=Z,143nm,0.5s						
CN2	**Changchun**	**3.88**	**53**	Pn	**Pn**	**15 24 51.0**	**-1.2**
CN2				Pg	**Pb**	**15 25 04.3**	**+3.3**
CN2				smax	smax		
	comp=N,200nm,0.5s						
CN2				smax	smax		
	comp=E,240nm,0.5s						
BJI	**Beijing**	**4.09**	**250**	Pg	**Pb**	**15 25 03.3**	**-1.3**
BJI				Sg	**Sg**	**15 26 00.3**	**-3.6**
BJI				smax	smax		
	comp=N,75nm,0.6s						
BJI				smax	smax		
	comp=E,70nm,0.5s						
PYS	**Pyongsong**	**4.23**	**121**	Pg	**Pg**	**15 25 11.8**	**-1.8**
PYS				Sg	**Sg**	**15 26 10.2**	**+1.9**
PYS				AML	AML		
	comp=N,246nm,0.7s						
PYS				AML	AML		
	comp=E,203nm,0.5s						
PYS				AML	AML		
	comp=Z,107nm,0.3s						
PYAG	**Pyongyang**	**4.28**	**124**	Sg	**Sg**	**15 26 10.3**	**+0.3**
PYAG				AML	AML		
	comp=N,76nm,0.4s						
PYAG				AML	AML		
	comp=E,128nm,0.4s						
PYAG				AML	AML		
	comp=Z,50nm,0.3s						
XLT	**XiLinHaoTe**	**4.45**	**304**	*e*Pg	Pb	15 25 09.0	-1.9
XLT				Sg	**Sb**	**15 26 03.3**	**-1.3**
XLT				smax	smax		
	comp=N,16nm,0.7s						
XLT				smax	smax		
	comp=E,98nm,0.6s						
HJU	**Haeju**	**4.93**	**133**	Sg	**Sg**	**15 26 32.2**	**+1.2**
HJU				AML	AML		
	comp=N,67nm,0.5s						
HJU				AML	AML		
	comp=E,84nm,0.3s						
HJU				AML	AML		
	comp=Z,42nm,0.3s						
BNX	**BinXian**	**6.17**	**45**	⇓Pg	**Pb**	**15 25 44.0**	**+3.9**
BNX				Sg	**Sg**	**15 27 07.3**	**-3.2**
BNX				smax	smax		
	comp=N,51nm,0.9s						
BNX				smax	smax		
	comp=E,60nm,0.7s						
HNS	**HongShan**	**6.49**	**233**	⇓Pg	**Pb**	**15 25 47.3**	**+1.7**
HNS				Sg	**Sb**	**15 27 08.0**	**+4.7**
HNS				smax	smax		
	comp=N,78nm,0.8s						
HNS				smax	smax		
	comp=E,73nm,0.9s						

MOS ***27*** *15:30:21.1±1.0, 26.°68N×127.°22E, h61km, mb4.6/17, Error ellipse: s-maj=11.6km s-min=6.6km az=102.9*
IDC ***27*** *15:30:22.9±1.3, 26.°66N×127.°21E, h65km±14km, mb3.9/22, mbtmp4.2/25, MS3.4/4, Error ellipse: s-maj=18.2km s-min=12.2km az=70.0*
NEIC ***27*** *15:30:23.2±2.3, 26.°58N±0.°09×127.°17E±0.°07, h69km±8km, mb4.4/41, Error ellipse: s-maj=14.3km s-min=8.2km az=154.0*
NIED ***27*** *15:30:24.2, 26.°63N×127.°26E, h68km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.06; $M_{\theta\theta}$0.52; $M_{\phi\phi}$-1.58; $M_{r\theta}$-1.52; $M_{\theta r}$-1.29; $M_{\phi r}$-1.05; Fault plane solution: $M_0$2.60000×10^{15} NP1: ϕ_s348.00000°, δ35.00000°, λ27.00000°. NP2: ϕ_s235.00000°, δ75.00000°, λ122.00000°.*
JMA ***27*** *15:30:24.2±0.2, 26.°6N±0.°7×127.°3E±0.°6, h68km±1km, MD4.1/10, MV4.5/10, NEAR OKINAWAJIMA ISLAND*
JMA Felt II J1 at NEAR OKINAWAJIMA ISLAND .
ISC 27 15:30:23.2±0.6, 26.°58N±0.°05×127.°25E±0.°04, h71km±5km, n150, σ1.°19/144, mb4.4/66, 11C-4D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.01**	**331**	P	**Pn**	**15 30 34.1**	**+0.7**
JAGN				S	**Sn**	**15 30 41.7**	**+0.7**
JAGN	**Aguni-jima**	**0.01**	**331**	A	A	15 30 34.1	
	comp=N,61nm,0.9s,comp=E,34nm,1.1s						
JKE	**Kume jima 2**	**0.48**	**239**	P	**Pn**	**15 30 37.1**	**+1.1**
JKE				S	**Sn**	**15 30 46.8**	**+1.5**
JKE	**Kume jima 2**	**0.48**	**239**	A	A	15 30 37.1	
	comp=N,15nm,1.0s,comp=E,16nm,0.7s						
JJT3	**Tamagusuku3**	**0.65**	**132**	P	**Pn**	**15 30 39.2**	**+1.6**
JJT3				*e*S	**Sn**	**15 30 50.3**	**+2.1**
JJT3	**Tamagusuku3**	**0.65**	**132**	A	A	15 30 39.2	
	comp=N,16nm,2.0s,comp=E,22nm,1.6s						
JNTH	**Nagotoyohara**	**0.70**	**95**	P	**Pn**	**15 30 39.0**	**+0.9**
JNTH				*e*S	**Sn**	**15 30 49.7**	**+0.6**
JNTH	**Nagotoyohara**	**0.70**	**95**	A	A	15 30 39.0	
	comp=N,34nm,0.6s,comp=E,30nm,0.5s						
JIH	**Iheya**	**0.79**	**55**	P	**Pn**	**15 30 39.9**	**+0.7**
JIH				S	**Sn**	**15 30 51.2**	**+0.3**
JIH	**Iheya**	**0.79**	**55**	A	A	15 30 39.9	
	comp=N,31nm,0.3s,comp=E,27nm,1.9s						
JOW	**Kunigami**	**0.95**	**75**	LR	LR	15 30 35.0	
	comp=E,27nm,20.7s,baz=358,slow=12						
JOW				P	**Pn**	**15 30 41.8**	**+0.6**
	comp=E,1μm,0.2s,baz=160,slow=15,SNR=1758						
JOW				S	**Sn**	**15 30 54.4**	**-0.1**
	comp=E,10μm,0.3s,baz=115,slow=26,SNR=58						
JOW	**Kunigami**	**0.95**	**75**	P	**Pn**	**15 30 41.9**	**+0.8**
JOW	**Kunigami**	**0.95**	**75**	P	**Pn**	**15 30 41.8**	**+0.6**
JOW				S	**Sn**	**15 30 54.6**	**+0.1**
JOW	**Kunigami**	**0.95**	**75**	A	A	15 30 41.8	
	comp=N,33nm,0.7s,comp=E,27nm,0.8s						
JYRO	**Yoronjima**	**1.16**	**67**	P	**Pn**	**15 30 44.4**	**+0.6**
JYRO				S	**Sn**	**15 30 58.9**	**-0.3**
JOKE	**Okinoerabujima**	**1.41**	**56**	P	**Pn**	**15 30 47.3**	**+0.2**
JOKE				S	**Sn**	**15 31 04.4**	**-0.7**
JOKE	**Okinoerabujima**	**1.41**	**56**	A	A	15 30 47.3	
	comp=N,7.0nm,1.5s,comp=E,4.0nm,1.5s						
JMJ	**Miyako jima 2**	**2.49**	**225**	P	**Pn**	**15 31 03.7**	**+2.2**
JMZ	**Minamidaito 2**	**3.65**	**101**	P	**Pn**	**15 31 15.4**	**-1.9**

YOJ Yonaguni jima 4.37 242 Pn Pn 15 31 21.3 -5.8
YOJ Yonaguni jima 4.37 242 P Pn 15 31 21.3 -5.8
YHNB Yeheng 5.63 252 **Pn** **15 31 47.7 +3.3**
NACB Ninganchiao 5.65 246 Pn **Pn** **15 31 44.8 +0.3**
NACB Ninganchiao 5.65 246 P **Pn** **15 31 44.9 +0.3**
YULB Yu-li 6.26 241 Pn **Pn** **15 31 51.4 -1.6**
YULB Yu-li 6.26 241 P **Pn** **15 31 51.7 -1.3**
SSLB Suanglung 6.34 245 **Pn** **15 31 54.5 +0.4**
SSLB Suanglung 6.34 245 P **Pn** **15 31 54.3 +0.2**
TWGBT Beinan 6.74 238 P **Pn** **15 31 58.5 -1.1**
TWG Pinlang 6.75 238 Pn **Pn** **15 31 57.5 -2.2**
TPUB Ta-pu 6.84 243 Pn **Pn** **15 32 01.6 +0.8**
JNU Nakatsue 7.24 25 **Pn** **15 32 08.2 +1.9**
JNU Nakatsue 7.24 25 P **Pn** **15 32 06.8 +0.5**
comp=E,11nm,0.7s,baz=222,slow=0.4,SNR=43
JMN Monobe 9.15 37 Pn **Pn** **15 32 30.6 -1.8**
TJN Taejon 9.77 1 *e*P **Pn** **15 32 38.5 -2.3**
KSRS Korea Array 10.86 3 P **Pn** **15 32 56.1 +0.5**
comp=E,1.0nm,0.9s,baz=174,slow=12,SNR=4.5
KSRS LR LR 15 37 22.1
comp=E,56nm,18.3s,baz=185,slow=39
MJAR Matsushiro Arr 13.62 41 P **Pn** **15 33 33.6 +0.4**
comp=E,0.4nm,0.3s,baz=244,slow=14,SNR=4.3
CN2 Changchun 17.24 356 P **Pn** **15 34 17.8 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
XAN Xi'an 17.47 300 *e*P **Pn** **15 34 21.0 -1.1**
XAN pmax pmax
comp=Z,13nm,1.2s
QIZ Qiongzhong 17.71 248 P **Pn** **15 34 22.8 -2.3**
QIZ S **Sn** **15 37 38.3 -3.6**
QIZ LR LR
comp=N,190nm,13.7s
QIZ LR LR
comp=E,170nm,9.6s
QIZ LR LR
comp=Z,260nm,17.0s
USA0B Ussuriysk Arra 17.99 11 *e*P **P** **15 34 25.6 -2.4**
HHC Hu-ho-hao-te 19.26 322 *e*P **P** **15 34 42.0 -0.1**
HHC pmax pmax
comp=Z,17nm,0.6s
ASAJ Asahikawa 21.45 31 P **P** **15 35 04.9 -0.6**
comp=Z,2.1nm,0.4s,baz=239,slow=12,SNR=5.2
comp=Z,2.1nm,0.4s
PZH PanZhiHua 22.81 276 P **P** **15 35 19.3 -1.1**
PZH pmax pmax
comp=Z,20nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
TOLI2 Tolitoli 26.08 195 **P** **15 35 49.7 -0.6**
TOLI2 IAmb IAmb 15 35 54.6
comp=Z,13nm,0.9s
ULN Ulaanbaatar 26.50 329 **P** **15 35 51.5 -2.5**
ULN Ulaanbaatar 26.50 329 *d i*P **P** **15 35 55.9 +1.9**
ULN pmax pmax
comp=Z,6.0nm,0.9s
SONM Songino Array 26.79 328 **P** **15 35 54.9 -1.6**
SONM Songino Array 26.79 328 P **P** **15 35 56.7 +0.1**
comp=Z,4.7nm,0.5s,baz=143,slow=11,SNR=17
comp=Z,4.7nm,0.5s
CMAR Chiang Mai Arr 27.32 259 P **P** **15 36 01.4 -0.2**
comp=Z,1.2nm,0.9s,baz=70,slow=6.5,SNR=11
comp=Z,1.2nm,0.9s
CMAR Chiang Mai Arr 27.32 259 *ce*P **P** **15 36 02.2 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.9s
FAKI Fak Fak 29.72 170 P **P** **15 36 21.4 -1.4**
KAPI Kappang 32.24 194 LR LR 15 51 34.4
comp=Z,69nm,19.1s,baz=65,slow=39
PEA0B Petropavlovsk- 34.87 32 P **P** **15 37 07.3 -0.2**
PEA0B Petropavlovsk- 34.87 32 ⇑ *i*P **P** **15 37 08.0 +0.6**
PETK Petropavlovsk- 34.87 32 P **P** **15 37 06.1 -1.3**
PETK Petropavlovsk- 34.87 32 P **P** **15 37 07.8 +0.3**
comp=Z,1.0nm,0.7s,baz=281,slow=16,SNR=6.4
comp=Z,1.0nm,0.7s
PET Petropavlovsk 35.28 33 *ce*P **P** **15 37 10.9 0.0**
PET pmax pmax
comp=Z,7.0nm,1.1s
WMQ Urumqi 36.21 309 *e*P **P** **15 37 20.8 +1.6**
MTN Manton Dam 39.37 174 P **P** **15 37 45.9 0.0**
MTN IAmb IAmb 15 37 46.5
comp=Z,7.9nm,0.8s
MK31 Makanchi Array 40.64 312 *c i*P **P** **15 37 55.8 -0.5**
MKAR Makanchi Array 40.64 312 P **P** **15 37 56.0 -0.3**
comp=Z,2.9nm,0.6s,baz=94,slow=10,SNR=35
MKAR PcP **PcP** **15 39 57.3 +0.4**
comp=Z,1.0nm,0.7s,baz=88,slow=2.5,SNR=6.3
comp=Z,2.9nm,0.6s
MAKZ Makanchi 40.86 312 P **P** **15 37 56.8 -1.2**
MAKZ Makanchi 40.86 312 P **P** **15 37 56.8 -1.2**
MAKZ pmax pmax
comp=Z,3.0nm,1.1s
ZAA0 Zalesovo Array 41.44 323 **P** **15 38 01.7 -0.9**
ZALV Zalesovo Beam 41.44 323 P **P** **15 38 01.9 -0.7**
comp=Z,2.8nm,0.5s,baz=112,slow=8.4,SNR=14
comp=Z,2.8nm,0.5s
ZALV Zalesovo Beam 41.44 323 P **P** **15 38 02.0 -0.6**
KNRA Kununurra 42.03 178 P **P** **15 38 07.8 0.0**
KNRA IAmb IAmb 15 38 10.2
comp=Z,9.5nm,0.9s
TARG Taragay, Kyrgy 43.03 304 P **P** **15 38 16.3 0.0**
TARG Taragay, Kyrgy 43.03 304 P **P** **15 38 16.3 0.0**
TARG pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 43.96 317 **P** **15 38 22.8 -0.3**
KURK IAmb IAmb 15 38 24.6
comp=Z,4.6nm,1.0s
KURK Kurchatov 43.96 317 P **P** **15 38 23.1 0.0**
KURK 15 40 08.5
KURBB Kurchatov Arra 43.99 316 P **P** **15 38 23.1 -0.3**
comp=Z,3.3nm,0.5s,baz=105,slow=9.2,SNR=39
KURBB PcP **PcP** **15 40 08.4 +0.6**
comp=Z,0.7nm,1.0s,baz=116,slow=3.4,SNR=4.9
comp=Z,3.3nm,0.5s
FITZ Fitzroy Crossi 44.44 182 P **P** **15 38 27.8 +0.6**
TIXI Tiksi 45.12 1 ⇑ *i*P **P** **15 38 34.4 +2.4**
TIXI pmax pmax
comp=Z,1.0nm,1.4s
WB0 Warramunga Arr 46.59 171 P **P** **15 38 44.5 +0.3**
WB0 IAmb IAmb 15 38 45.5
comp=Z,3.6nm,0.7s
WRAB Tennant Creek 46.75 171 ⇑ *i*P **P** **15 38 45.8 +0.4**
WRAB pmax pmax
comp=Z,12nm,1.2s
WRA Warramunga Arr 46.76 171 P **P** **15 38 45.3 -0.2**
WRA Warramunga Arr 46.76 171 P **P** **15 38 46.0 +0.5**
comp=Z,3.8nm,0.7s,baz=352,slow=8.4,SNR=19
comp=Z,3.8nm,0.7s
WRA Warramunga Arr 46.76 171 *ce*P **P** **15 38 46.7 +1.2**
WRA pmax pmax
comp=Z,4.0nm,0.7s
WR8 Warramunga Arr 46.79 171 P **P** **15 38 44.2 -1.6**
WR8 IAmb IAmb 15 38 47.5
comp=Z,4.3nm,0.7s
BILL Bilibino 47.62 19 ⇓ *i*P **P** **15 38 51.8 +0.1**
BILL pmax pmax
comp=Z,4.0nm,1.4s
KKAR Karatay Array 48.49 305 P **P** **15 38 58.8 0.0**
KKAR Karatay Array 48.49 305 P **P** **15 38 58.8 0.0**
NRIK Noril'sk 48.65 342 LR LR 16 01 26.4
comp=Z,50nm,18.2s,baz=128,slow=38
BVAR Borovoye Array 49.43 318 P **P** **15 39 05.5 -0.3**
comp=Z,2.2nm,0.5s,baz=84,slow=8.3,SNR=20
comp=Z,2.2nm,0.5s
BRVK Borovoye 49.49 318 **P** **15 39 05.9 -0.4**
BRVK Borovoye 49.49 318 *c i*P **P** **15 39 06.9 +0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.5s
KBL Kabul 50.16 294 **P** **15 39 12.2 +0.3**
KBL Kabul 50.16 294 P **P** **15 39 12.2 +0.3**
KBL pmax pmax
comp=Z,9.0nm,1.2s
AS31 Alice Springs 50.36 172 P **P** **15 39 13.8 +0.6**
ASAR Alice Springs 50.37 172 P **P** **15 39 14.1 +0.8**
ASAR Alice Springs 50.37 172 P **P** **15 39 14.7 +1.4**
comp=Z,2.5nm,0.6s,baz=360,slow=14,SNR=51
comp=Z,2.5nm,0.6s
AB31 Akbulak array 55.76 313 IAmb IAmb 15 39 53.8
comp=Z,6.3nm,1.3s
ABKAR Akbulak array 55.76 313 **P** **15 39 52.7 +0.1**
ABKAR Akbulak array 55.76 313 IAmb IAmb 15 39 53.8
comp=Z,6.4nm,1.3s
ANM Nome 56.62 29 P **P** **15 39 58.0 -0.5**
ANM Nome 56.62 29 P **P** **15 39 58.0 -0.5**
ANM pmax pmax
comp=Z,8.0nm,1.2s
ARTI Arti 56.67 322 *c i*P **P** **15 39 58.7 -0.3**
ARTI 15 40 52.0
ARTI 15 42 02.4
ARTI S **S** **15 47 51.8 +6.0**
ARTI SS **SS** **15 51 36.8 +2.7**
ARTI pmax pmax
comp=Z,2.0nm,0.8s
F17K Baldwin Pennin 58.55 27 P **P** **15 40 11.7 -0.3**
F17K IAmb IAmb 15 40 14.8
comp=Z,4.9nm,1.0s
C18K Utukok River 58.81 24 P **P** **15 40 13.7 -0.2**
C18K IAmb IAmb 15 40 38.8
comp=Z,6.2nm,1.4s
STKA Stephens Creek 59.72 166 P **P** **15 40 19.1 -1.3**
STKA Stephens Creek 59.72 166 P **P** **15 40 21.5 +1.1**
comp=Z,3.3nm,0.8s,baz=343,slow=8.4,SNR=5.1
comp=Z,3.3nm,0.8s
D19K Kuna River 59.92 24 P **P** **15 40 22.6 +1.1**
D19K IAmb IAmb 15 40 23.4
comp=Z,2.8nm,0.6s
E19K Redstone River 60.20 25 IAmb IAmb 15 40 29.0
comp=Z,2.0nm,0.9s
D20K Etivluk River 60.48 24 P **P** **15 40 25.5 +0.2**
D20K IAmb IAmb 15 40 27.7
comp=Z,3.2nm,0.9s
SKT Skwentna 62.82 32 **P** **15 40 39.4 -1.7**
C24K Franklin Bluff 63.29 23 IAmb IAmb 15 40 47.4
comp=Z,2.4nm,0.8s
H23K Yukon River 63.31 27 IAmb IAmb 15 40 47.7
comp=Z,2.7nm,0.7s
NEA2 Nenana 63.64 29 IAmb IAmb 15 41 07.3
comp=Z,2.9nm,1.0s
COLA College 64.12 28 *i*P **P** **15 40 50.8 +1.2**
COLA pmax pmax
comp=Z,1.0nm,0.6s
M26K Nabesna, AK 66.69 30 IAmb IAmb 15 41 27.0
comp=Z,2.6nm,0.8s
E28M Babbage River 66.70 24 P **P** **15 41 07.1 +0.9**
KBZ Khabaz 68.25 309 P **P** **15 41 16.6 +0.1**
comp=Z,4.5nm,0.8s,baz=98,slow=4.2,SNR=16
comp=Z,4.5nm,0.8s
KBZ Khabaz 68.25 309 *ce*P **P** **15 41 17.6 +1.2**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
SPITS Spitsbergen Ar 68.30 348 P **P** **15 41 16.0 -0.2**
comp=Z,3.0nm,0.8s,baz=116,slow=3.8,SNR=6.0
comp=Z,3.0nm,0.8s
SPITS Spitsbergen Ar 68.30 348 P **P** **15 41 16.0 -0.2**
F30M Barrier River 68.31 24 IAmb IAmb 15 41 21.0
comp=Z,3.2nm,0.9s
KIV Kislovodsk 68.34 309 *e*P **P** **15 41 17.3 +0.2**
KIV pmax pmax
comp=Z,5.0nm,1.0s
OBN Obninsk 69.01 322 *e*P **P** **15 41 22.3 +1.4**
OBN *e* 15 41 46.8
OBN *e* 15 43 54.2
OBN pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 69.36 338 P **P** **15 41 21.6 -1.3**
comp=Z,2.1nm,1.0s,baz=62,slow=7.5,SNR=6.1
comp=Z,2.1nm,1.0s
FARO Faro, Yukon 71.05 29 IAmb IAmb 15 41 54.1
comp=Z,3.4nm,1.0s
FINES FINESS Array B 72.12 330 P **P** **15 41 39.7 -0.1**
comp=Z,3.7nm,0.6s,baz=69,slow=6.3,SNR=28
comp=Z,3.7nm,0.6s
AKASG Malin Array Be 74.69 319 P **P** **15 41 54.9 -0.1**
comp=Z,2.5nm,0.5s,baz=62,slow=6.5,SNR=12
comp=Z,2.5nm,0.5s
AKBB Malin Array Si 74.69 319 *d i*P **P** **15 41 54.7 -0.4**
AKBB pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 74.70 319 **P** **15 41 54.4 -0.7**
KIEV IAmb IAmb 15 41 55.4
comp=Z,4.2nm,0.6s
KIEV Kiev 74.70 319 P **P** **15 41 54.4 -0.7**
KIEV pmax pmax
comp=Z,4.0nm,0.6s
BR131 Keskin Array S 76.12 308 *c i*P **P** **15 42 04.3 +0.6**
BRTR Keskin Array B 76.12 308 **P** **15 42 03.2 -0.5**
BRTR Keskin Array B 76.12 308 P **P** **15 42 04.3 +0.6**
comp=Z,2.4nm,0.8s,baz=90,slow=5.8,SNR=17
comp=Z,2.4nm,0.8s
HFS Hagfors 78.10 332 P **P** **15 42 13.7 -0.5**
comp=Z,1.5nm,0.5s,baz=72,slow=4.8,SNR=16
comp=Z,1.5nm,0.5s
YKA Yellowknife Ar 78.58 25 P **P** **15 42 17.6 +0.9**
comp=Z,0.8nm,0.7s,baz=304,slow=5.2,SNR=14
YKA pP **pP** **15 42 36.6 +1.0**
comp=Z,0.6nm,0.7s,baz=304,slow=5.3,SNR=7.4
comp=Z,0.8nm,0.7s
NB2 NORSAR Subarra 78.61 334 P **P** **15 42 16.6 -0.4**
comp=Z,1.9nm,0.7s,baz=54,slow=6.2
NOA NORSAR Array B 78.61 334 P **P** **15 42 16.7 -0.4**
comp=Z,1.0nm,0.5s,baz=53,slow=5.7,SNR=13
comp=Z,1.0nm,0.5s
NC204 NORSAR Array S 78.65 334 **P** **15 42 17.2 -0.1**
NC204 IAmb IAmb 15 42 17.7
comp=Z,4.4nm,0.6s
VYHS Vyhne 81.71 320 *e*P **P** **15 42 35.3 +1.4**
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 81.71 320 *e*P **P** **15 42 35.3 +1.4**
SMOL Smolenice 82.50 321 *e*P **P** **15 42 37.2 -0.9**
VRAC Vranov 82.54 322 LR LR 16 22 24.8
comp=Z,55nm,20.1s,baz=87,slow=38
CLL Collm 83.36 325 *i*P **P** **15 42 43.1 +0.7**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 83.36 325 *i*P **P** **15 42 43.1 +0.7**
comp=Z,4.0nm,0.7s
CONA Conrad Observa 83.70 321 *e*P **P** **15 42 43.7 -0.6**
comp=Z,4.4nm,1.5s
GERES GERESS Array B 84.39 323 P **P** **15 42 47.8 -0.1**
comp=Z,0.8nm,0.7s,baz=67,slow=4.5,SNR=5.8
comp=Z,0.8nm,0.7s
LESA Schwarzleotal 85.76 322 *e*P **P** **15 42 54.8 +0.1**
comp=Z,4.5nm,1.0s
ABTA Abfaltersbach 86.25 321 *i*P **P** **15 42 57.2 0.0**
comp=Z,3.4nm,0.8s
WATA Walderalm 86.42 322 *i*P **P** **15 42 57.5 -0.6**
comp=Z,2.4nm,0.6s
WTTA Wattenberg 86.43 322 *i*PcP **P** **15 42 58.9 +0.7**
comp=Z,2.1nm,0.6s
MOTA Moosalm 86.68 322 *i*PcP **PcP** **15 43 00.5 -1.1**
comp=Z,6.0nm,1.3s
EKA Eskdalemuir Ar 88.08 334 P **P** **15 43 05.5 -0.1**
comp=Z,0.3nm,0.4s,baz=32,slow=4.9,SNR=4.4
comp=Z,0.3nm,0.4s
ELIB Princess Elisa 119.34 200 *d*PKPdf **PKPdf** **15 49 03.2 -0.4**

---

*IDC **27** 15:39:29.1±0.6, 9°.75N×126°.28E, h0^km, mb4.1/21, mbtmp4.1/21, MS3.5/20, Error ellipse: s-maj=32.2km s-min=13.6km az=72.0*
*NEIC **27** 15:39:31.5±2.0, 9°.94N±0°.09×126°.3E±0°.1, h10^km±1^km, mb4.5/35, Error ellipse: s-maj=21.1km s-min=15.1km az=76.0*
ISC 27 15:39:35.4±0.4, **9°.82N**±0°.06×**126°.4E**±0°.1, **h42**^km, **n83**, σ1**30**/64, **mb4.4**/38, **MS3.4**/18, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.84**	**196**	Pn	**Pn**	**15 40 20.4**	**+2.1**
	56nm,0.3s,baz=25,slow=4.2,SNR=5.6						
TGY	**Tagaytay City**	**6.79**	**309**	LR	LR	15 44 13.4	
	comp=Z,674nm,18.9s,baz=112,slow=42						
FAKI	**Fak Fak**	**13.96**	**155**	Pn	**Pn**	**15 42 48.0**	**-2.7**
YULB	**Yu-li**	**14.33**	**341**		**Pn**	**15 42 58.4**	**+2.6**
TPUB	**Ta-pu**	**14.48**	**339**		**Pn**	**15 42 59.4**	**+1.7**
SBUM	**Sibu**	**15.83**	**243**	Pn	**Pn**	**15 43 12.9**	**-2.6**
GUMO	**Guam**	**18.52**	**77**	LR	LR	15 50 57.8	
	comp=Z,154nm,18.8s,baz=238,slow=37						
MTN	**Manton Dam**	**23.01**	**168**	P	**P**	**15 44 36.9**	**0.0**
MTN				IAmb	IAmb	15 44 50.4	
	comp=Z,18nm,1.2s						
JNU	**Nakatsue**	**23.56**	**10**	LR	LR	15 56 02.5	
	comp=Z,63nm,18.1s,baz=195,slow=42						
MYKOM	**Kota Tinggi**	**23.75**	**252**		**P**	**15 44 45.1**	**+1.0**
MYKOM				IAmb	IAmb	15 44 50.4	
	comp=Z,16nm,0.7s						
KNRA	**Kununurra**	**25.45**	**175**		**P**	**15 44 59.6**	**+0.1**
KNRA				IAmb	IAmb	15 45 12.8	
	comp=Z,9.2nm,0.8s						
JHJ	**Hachijo jima 2**	**26.29**	**26**	LR	LR	15 54 38.5	
	comp=Z,60nm,21.4s,baz=266,slow=34						
KSRS	**Korea Array**	**27.55**	**3**	P	**P**	**15 45 18.1**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=186,slow=11,SNR=2.0						
	comp=Z,0.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**27.75**	**181**		**P**	**15 45 20.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**27.89**	**291**	P	**P**	**15 45 21.6**	**0.0**
	comp=Z,3.1nm,1.2s,baz=95,slow=6.4,SNR=13						
CMAR				LR	LR	15 57 13.2	
	comp=Z,66nm,18.4s,baz=320,slow=38						
	comp=Z,3.1nm,1.2s						
MJAR	**Matsushiro Arr**	**28.69**	**20**	LR	LR	15 57 42.2	
	comp=Z,67nm,18.8s,baz=190,slow=38						
COEN	**Coen**	**28.93**	**144**	P	**P**	**15 45 32.7**	**+1.8**
COEN				IAmb	IAmb	15 45 58.4	
	comp=Z,15nm,1.1s						
GSI	**Gunungsitoli**	**29.83**	**255**	P	**P**	**15 45 40.5**	**+1.5**
WB0	**Warramunga Arr**	**30.45**	**165**	P	**P**	**15 45 44.7**	**+0.4**
WRA	**Warramunga Arr**	**30.61**	**165**	P	**P**	**15 45 43.5**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=344,slow=8.8,SNR=2.3						
	comp=Z,0.5nm,0.7s						
AS31	**Alice Springs**	**34.09**	**168**	P	**P**	**15 46 18.1**	**+1.9**
ASAR	**Alice Springs**	**34.09**	**168**	P	**P**	**15 46 15.9**	**-0.3**
ASAR	**Alice Springs**	**34.09**	**168**	P	**P**	**15 46 15.6**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=348,slow=7.0,SNR=24						
ASAR				PcP	**PcP**	**15 48 53.9**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=331,slow=2.7,SNR=4.7						
ASAR				LR	LR	16 01 51.6	
	comp=Z,65nm,19.2s,baz=241,slow=39						
	comp=Z,0.5nm,0.3s						
BRDH	**Bariadhala**	**35.58**	**295**	LR	LR	16 00 45.9	
	comp=Z,78nm,21.5s,baz=101,slow=36						
ASAJ	**Asahikawa**	**36.96**	**20**	LR	LR	16 02 04.4	
	comp=Z,66nm,19.3s,baz=208,slow=37						
HNR	**Honiara**	**38.52**	**119**	LR	LR	16 02 10.3	
	comp=Z,49nm,18.8s,baz=342,slow=35						
KLR	**Kul'dur**	**39.54**	**6**	LR	LR	16 05 04.6	
	comp=Z,56nm,19.2s,baz=182,slow=39						
MORW	**Morawa**	**39.92**	**194**	P	**P**	**15 47 06.2**	**+0.5**
MORW				IAmb	IAmb	15 47 07.0	
	comp=Z,29nm,1.5s						
H11N1	**WAKE ISLAND Hy**	**40.33**	**71**	T	T	16 30 36.3	
	baz=265,slow=74,SNR=21						
H11N2	**WAKE ISLAND Hy**	**40.33**	**71**	T	T	16 30 27.6	
	baz=265,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**40.34**	**71**	T	T	16 30 28.4	
	baz=265,slow=74,SNR=24						
FORT	**Forrest**	**40.40**	**178**	P	**P**	**15 47 09.5**	**0.0**
ULN	**Ulaanbaatar**	**41.27**	**340**		**P**	**15 47 13.2**	**-3.6**
ULN				IAmb	IAmb	15 47 19.1	
	comp=Z,9.5nm,1.3s						
SONM	**Songino Array**	**41.46**	**340**	P	**P**	**15 47 16.5**	**-1.8**
SONM	**Songino Array**	**41.46**	**340**	P	**P**	**15 47 19.6**	**+1.2**
	comp=Z,1.9nm,0.4s,baz=157,slow=9.7,SNR=8.8						
SONM				LR	LR	16 07 24.2	
	comp=Z,85nm,18.1s,baz=150,slow=40						
	comp=Z,1.9nm,0.4s						
NWAO	**Narrogin (SRO)**	**43.39**	**191**	P	**P**	**15 47 34.4**	**+0.5**
BBOO	**Buckleboo**	**43.39**	**168**	P	**P**	**15 47 34.5**	**+0.6**
STKA	**Stephens Creek**	**43.95**	**161**	P	**P**	**15 47 38.0**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=343,slow=7.6,SNR=7.6						
	comp=Z,0.8nm,0.3s						
PEA0B	**Petropavlovsk-**	**50.01**	**24**	P	**P**	**15 48 25.0**	**-0.6**
PETK	**Petropavlovsk-**	**50.01**	**24**	P	**P**	**15 48 25.8**	**+0.2**
PETK	**Petropavlovsk-**	**50.01**	**24**	P	**P**	**15 48 26.2**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=188,slow=3.0,SNR=11						
	comp=Z,1.3nm,0.8s						
TOO	**Toolangi**	**50.44**	**160**	P	**P**	**15 48 29.1**	**+0.1**
TOO				IAmb	IAmb	15 49 13.1	
	comp=Z,6.7nm,1.1s						
MKAR	**Makanchi Array**	**52.43**	**323**	P	**P**	**15 48 43.9**	**+0.1**
MKAR	**Makanchi Array**	**52.43**	**323**	P	**P**	**15 48 44.2**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=126,slow=7.4,SNR=16						
MKAR				LR	LR	16 12 24.6	
	comp=Z,56nm,18.6s,baz=96,slow=38						
	comp=Z,1.2nm,0.5s						
MAKZ	**Makanchi**	**52.62**	**323**		**P**	**15 48 45.5**	**+0.2**
MAKZ				IAmb	IAmb	15 48 46.4	
	comp=Z,2.1nm,0.5s						
BOOM	**Boomskoye usch**	**54.65**	**316**	P	**P**	**15 48 58.9**	**-1.5**
BOOM				IAmb	IAmb	15 49 11.1	
	comp=Z,6.3nm,1.2s						
ZALV	**Zalesovo Beam**	**55.05**	**331**	P	**P**	**15 49 01.2**	**-1.6**
ZALV	**Zalesovo Beam**	**55.05**	**331**	P	**P**	**15 49 01.7**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=123,slow=5.5,SNR=3.6						
	comp=Z,0.6nm,0.4s						
AAK	**Ala-Archa**	**55.70**	**315**	LR	LR	16 15 52.3	
	comp=Z,65nm,18.2s,baz=88,slow=39						
SEY	**Seymchan**	**56.23**	**14**	LR	LR	16 15 05.1	
	comp=Z,24nm,18.5s,baz=190,slow=38						
KURK	**Kurchatov**	**56.48**	**326**		**P**	**15 49 12.8**	**-0.4**
KURK				IAmb	IAmb	15 49 28.5	
	comp=Z,4.0nm,1.1s						
KURBB	**Kurchatov Arra**	**56.48**	**326**	P	**P**	**15 49 12.7**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=122,slow=7.5,SNR=11						
	comp=Z,1.0nm,0.6s						
GAR	**Garm**	**57.64**	**310**	P	**P**	**15 49 20.9**	**-0.9**
KK31	**Karatay Array**	**58.62**	**315**		**P**	**15 49 28.7**	**+0.3**
KKAR	**Karatay Array**	**58.62**	**315**	P	**P**	**15 49 27.4**	**-0.9**
TIXI	**Tiksi**	**61.80**	**1**		**P**	**15 49 50.7**	**+1.1**
BVAR	**Borovoye Array**	**62.08**	**325**	P	**P**	**15 49 51.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=96,slow=7.4,SNR=4.0						
	comp=Z,0.7nm,0.6s						
NRIK	**Noril'sk**	**64.47**	**346**		**P**	**15 50 05.7**	**-1.6**
NRIK				IAmb	IAmb	15 50 09.1	
	comp=Z,4.0nm,0.8s						
NRIK	**Noril'sk**	**64.47**	**346**	P	**P**	**15 50 07.9**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=120,slow=6.8,SNR=5.7						
NRIK				LR	LR	16 19 02.0	
	comp=Z,58nm,21.1s,baz=144,slow=37						
	comp=Z,2.4nm,0.6s						
ABKAR	**Akbulak array**	**67.26**	**319**	P	**P**	**15 50 24.4**	**-1.3**
BKZ	**Black Stump Fm**	**67.39**	**140**	P	**P**	**15 50 27.0**	**+0.3**
AKTO	**Aktyubinsk**	**68.72**	**320**	LR	LR	16 23 05.3	
	comp=Z,78nm,18.8s,baz=97,slow=38						
C18K	**Utukok River**	**74.55**	**21**	P	**P**	**15 51 10.0**	**+0.4**
D19K	**Kuna River**	**75.62**	**22**	P	**P**	**15 51 17.0**	**+1.2**
D19K				IAmb	IAmb	15 51 50.5	
	comp=Z,5.8nm,1.2s						
O18K	**Koktuh Hills**	**75.76**	**31**	P	**P**	**15 51 13.4**	**-3.3**
O18K				IAmb	IAmb	15 51 22.6	
	comp=Z,5.8nm,1.1s						
B20K	**Meade River**	**76.21**	**20**	P	**P**	**15 51 20.2**	**+1.1**
B20K				IAmb	IAmb	15 51 54.5	
	comp=Z,4.6nm,1.1s						
GNI	**Garni**	**77.34**	**309**	LR	LR	16 30 12.2	
	comp=Z,28nm,19.9s,baz=122,slow=39						
B22K	**Teshekpuk Lake**	**77.52**	**20**	P	**P**	**15 51 26.8**	**+0.4**
B22K				IAmb	IAmb	15 51 47.6	
	comp=Z,2.3nm,0.8s						
RAR	**Rarotonga**	**78.79**	**114**	LR	LR	16 20 02.0	
	comp=Z,109nm,21.1s,baz=326,slow=31						
SPITS	**Spitsbergen Ar**	**84.47**	**349**	P	**P**	**15 52 03.8**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=78,slow=5.4,SNR=7.4						
	comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**84.64**	**340**	P	**P**	**15 52 04.8**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=80,slow=6.8,SNR=34						
	comp=Z,1.5nm,0.4s						
G31M	**Satah River**	**84.70**	**23**	IAmb	IAmb	15 52 45.1	
	comp=Z,7.7nm,1.4s						
A36M	**Sachs Harbour**	**86.32**	**17**	IAmb	IAmb	15 52 29.3	
	comp=Z,2.7nm,0.9s						
FINES	**FINESS Array B**	**86.32**	**332**	P	**P**	**15 52 12.7**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=71,slow=4.4,SNR=27						
	comp=Z,1.6nm,0.4s						
AKASG	**Malin Array Be**	**86.96**	**321**	P	**P**	**15 52 15.1**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=62,slow=4.9,SNR=5.1						
	comp=Z,0.3nm,0.4s						
C36M	**Paulatuk**	**87.64**	**20**	IAmb	IAmb	15 52 21.3	
	comp=Z,3.5nm,1.1s						
VNDA	**Vanda**	**89.48**	**173**	P	**P**	**15 52 26.6**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=318,slow=6.7,SNR=3.7						
	comp=Z,0.8nm,0.8s						
HFS	**Hagfors**	**92.48**	**332**	P	**P**	**15 52 40.2**	**-1.7**
	comp=Z,1.7nm,0.6s,baz=93,slow=5.9,SNR=9.1						
	comp=Z,1.7nm,0.6s						
NB2	**NORSAR Subarra**	**93.19**	**334**	P	**P**	**15 52 46.9**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=64,slow=4.6						
NOA	**NORSAR Array B**	**93.19**	**334**	P	**P**	**15 52 44.8**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=62,slow=4.6,SNR=4.1						
NOA				LR	LR	16 36 55.7	
	comp=Z,16nm,20.2s,baz=245,slow=37						
	comp=Z,0.5nm,0.7s						
YKA	**

QSPA South Pole Qui 99.69 180 P Pdif 15 53 15.1 +0.5
comp=Z,0.7nm,0.4s,baz=335,slow=1.4,SNR=15
comp=Z,0.7nm,0.4s

---

*SJA **27** 15:42:24.1±0.8,23°.02S×70°.35W, h59km±5km, ML3.8, MW3.8*
*GUC **27** 15:42:26.5±0.9,23°.02S×70°.30W, h52km±2km, ML3.7*
ISC 27 15:42:26.8±1.2,23°.02S±0°.03×70°.38W±0°.06, h43km±9km, n29, σ1§33/45, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB05	**IPOC Station P**	**0.23**	**43**	*eP*	**Pn**	**15 42 34.7**	**-0.1**
PB05				*i* S	**Sn**	**15 42 40.4**	**0.0**
PB05				IAML		15 42 40.7	
	comp=N,10μm,0.2s						
PB05	**IPOC Station P**	**0.23**	**43**	*eP*	**Pn**	**15 42 34.5**	**-0.3**
PB05				IAML		15 42 42.9	
	comp=Z,4μm,0.3s						
PB10	**IPOC Station P**	**0.51**	**198**	*eP*	**Pn**	**15 42 37.9**	**0.0**
PB10				*i* S	**Sn**	**15 42 46.5**	**+0.7**
PB10				IAML		15 42 47.0	
	comp=E,5μm,0.2s						
PB10	**IPOC Station P**	**0.51**	**198**	*eP*	**Pn**	**15 42 37.8**	**0.0**
PB10				*eS*	**Sn**	**15 42 46.6**	**+0.9**
PB10				IAML		15 42 47.6	
	comp=Z,2μm,0.2s						
PB06	**IPOC Station P**	**0.81**	**67**	*eP*	**Pn**	**15 42 40.7**	**-1.2**
PB06				*i* S	**Sn**	**15 42 51.1**	**-1.8**
PB06				IAML		15 42 51.8	
	comp=N,8μm,0.3s						
PB06	**IPOC Station P**	**0.81**	**67**	*eP*	**Pn**	**15 42 40.0**	**-2.0**
PB03	**IPOC Station P**	**1.13**	**31**	*eP*	**Pn**	**15 42 46.0**	**-0.4**
PB03				*i* S	**Sn**	**15 42 59.8**	**-0.9**
PB03				IAML		15 43 02.1	
	comp=E,3μm,0.4s						
PB03	**IPOC Station P**	**1.13**	**31**	*eP*	**Pn**	**15 42 45.9**	**-0.4**
PB03				*eS*	**Sn**	**15 43 00.3**	**-0.4**
PB03				IAML		15 43 03.1	
	comp=Z,2μm,0.1s						
PB14	**IPOC Station P**	**1.59**	**181**	*eP*	**Pn**	**15 42 51.4**	**-1.5**
PB09	**IPOC Station P**	**1.61**	**41**	*eP*	**Pn**	**15 42 53.2**	**+0.2**
PB09				*i* S	**Sn**	**15 43 12.6**	**-0.1**
PB09	**IPOC Station P**	**1.61**	**41**	*eP*	**Pn**	**15 42 53.2**	**+0.2**
PB09				*eS*	**Sn**	**15 43 14.3**	**+1.7**
PB09				IAML		15 43 17.9	
	comp=Z,816nm,0.2s						
AF01	**San Pedro de A**	**2.03**	**88**	*eP*	**Pn**	**15 43 00.4**	**+1.6**
AF01				*i* S	**Sn**	**15 43 22.8**	**-0.2**
AF01	**San Pedro de A**	**2.03**	**88**	*eP*	**Pn**	**15 43 00.1**	**+1.3**
AF01				IAML		15 43 44.6	
	comp=Z,3μm,0.5s						
PB01	**IPOC Station P**	**2.14**	**23**	*eP*	**Pn**	**15 43 00.2**	**+0.1**
PB01				*i* S	**Sn**	**15 43 25.7**	**+0.3**
PB01				IAML		15 43 43.1	
	comp=E,625nm,0.4s						
PB01	**IPOC Station P**	**2.14**	**23**	*eP*	**Pn**	**15 42 59.4**	**-0.7**
PB01				*eS*	**Sn**	**15 43 23.1**	**-2.4**
PB01				IAML		15 43 42.9	
	comp=Z,586nm,0.2s						
GO02	**Mina Guanaco**	**2.25**	**161**	*eP*	**Pn**	**15 43 02.1**	**+0.3**
GO02				*i* S	**Sn**	**15 43 29.7**	**+1.3**
GO02	**Mina Guanaco**	**2.25**	**161**	*eP*	**Pn**	**15 43 01.4**	**-0.4**
TA01	**Diego Aracena**	**2.45**	**4**	*eP*	**Pn**	**15 43 03.2**	**-1.1**
TA01				*i* S	**Sn**	**15 43 34.6**	**+1.5**
TA01				IAML		15 43 47.2	
	comp=E,456nm,0.4s						
TA01	**Diego Aracena**	**2.45**	**4**	*eP*	**Pn**	**15 43 03.3**	**-1.1**
TA01				*eS*	**Sn**	**15 43 35.9**	**+2.8**
TA01				IAML		15 43 47.5	
	comp=Z,287nm,0.6s						
TA02	**Huaiquique**	**2.75**	**5**	*eP*	**Pn**	**15 43 08.1**	**-0.4**
TA02				*eS*	Sn	15 43 49.4	+8.9
TA02				IAML		15 43 54.9	
	comp=Z,218nm,0.1s						
HMBC	**Humberstone**	**2.77**	**10**	*eP*	**Pn**	**15 43 08.2**	**-0.7**
HMBC	**Humberstone**	**2.77**	**10**	*eP*	**Pn**	**15 43 07.9**	**-0.9**
HMBC				*eS*	**Sn**	**15 43 45.2**	**+4.1**
HMBC				IAML		15 44 04.4	
	comp=Z,304nm,0.5s						
PB08	**IPOC Station P**	**3.09**	**22**	*eP*	**Pn**	**15 43 12.9**	**-0.5**
PB08				*eS*	Sn	15 43 57.1	+7.8
PB08				IAML		15 44 04.9	
	comp=Z,338nm,1.2s						
AC01	**Pan de Azucar**	**3.12**	**184**	*eP*	**Pn**	**15 43 11.8**	**-1.7**
AC01				*eS*	**Sn**	**15 43 47.8**	**-1.8**
AC01				IAML		15 44 04.3	
	comp=Z,147nm,0.9s						
PB11	**IPOC Station P**	**3.32**	**12**	*eP*	**Pn**	**15 43 15.2**	**-1.1**
PB11				*eS*	Sn	15 44 04.6	+10
PB11				IAML		15 44 19.2	
	comp=Z,199nm,1.2s						
GO01	**Chusmiza**	**3.52**	**18**	*eS*	Sn	15 44 16.4	+16
AC02	**Maricunga**	**3.96**	**164**	*eP*	**Pn**	**15 43 26.1**	**+0.6**
AC02				*eS*	**Sn**	**15 44 12.8**	**+1.8**
AC02				IAML		15 44 28.8	
	comp=Z,166nm,0.4s						
GO03	**Copiapo**	**4.55**	**178**	*eP*	**Pn**	**15 43 31.8**	**-1.4**
GO03				*eS*	Sn	15 44 41.2	+16
PB16	**IPOC Station P**	**4.74**	**10**	*eP*	**Pn**	**15 43 36.0**	**-0.2**
PB16				IAML		15 45 07.6	
	comp=Z,35nm,0.6s						

IDC 27 15:55:29.5±2.9, 4°.46S×153°.27E, h0km, mb4.0/2, mbtmp4.0/3, ML1.6/1, Error ellipse: s-maj=135.1km s-min=40.1km az=130.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.81**	**231**	Pn	Pn	15 57 26.2	+1.7
	0.5nm,0.3s,baz=29,slow=10,SNR=1.7						
PMG				Sn	Sn	15 58 55.4	+1.7
	1.1nm,0.3s,baz=340,slow=23,SNR=1.7						
	9.2nm,0.9s						
WRA	**Warramunga Arr**	**24.02**	**229**	P	P	16 00 46.5	+0.1
	4.3nm,0.5s,baz=53,slow=9.7,SNR=30						
	4.3nm,0.5s						
ASAR	**Alice Springs**	**26.72**	**223**	P	P	16 01 10.2	-0.7
	0.6nm,0.5s,baz=53,slow=8.9,SNR=27						
	0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.64**	**289**	PKPbc	PKPbc	16 15 24.6	-0.2
	24nm,0.3s,baz=65,slow=2.5,SNR=1.1						

NEIC 27 16:22:46.7±0.7, 37°.65N±0°.01×105°.49W±0°.02, h5km±1km, ML1.8/20, Error ellipse: s-maj=3.3km s-min=2.9km az=239.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.10**	**355**	Pg	Pg	16 22 49.4	+0.4
SDCO				Sg	Sg	16 22 51.1	+0.6
T25A	**Trinidad**	**1.00**	**120**	Pg	Pg	16 23 05.9	+0.1
T25A				Sg	Sg	16 23 18.7	-0.1
T25A				IAML		16 23 19.3	
	comp=N,23nm,0.2s						
T25A				IAML		16 23 19.6	
	comp=E,20nm,0.2s						
S22A	**4UR Ranch, Cre**	**1.07**	**276**	Pg	Pg	16 23 06.8	-0.3
S22A				IAML		16 23 22.5	
	comp=E,22nm,0.1s						
Q24A	**Divide**	**1.34**	**11**	Pg	Pn	16 23 11.4	-1.0
Q24A				Sg	Sg	16 23 28.9	-0.9
Q24A				IAML		16 23 30.3	
	comp=E,19nm,0.3s						
ISCO	**Idaho Springs**	**2.15**	**357**	Pn	Pn	16 23 22.2	-1.3
ISCO				IAML		16 24 02.6	
	comp=E,7.3nm,3.3s						
MVCO	**Mesa Verde**	**2.43**	**261**	Pn	Pn	16 23 26.7	-0.7
MVCO				IAML		16 24 20.3	
	comp=E,6.0nm,4.4s						
PV01	**Paradox Valley**	**2.48**	**282**	Pn	Pn	16 23 27.4	-0.6
PV13	**Radium Mtn., P**	**2.68**	**282**	Pn	Pn	16 23 30.0	-0.8
PV22	**Blue Mesa, Par**	**2.75**	**290**	Pn	Pn	16 23 32.8	+1.2
ANMO	**Albuquerque**	**2.81**	**196**	Pn	Pn	16 23 32.1	-0.3
ANMO				IAML		16 24 00.7	
	comp=E,3.3nm,4.6s						

---

*JMA **27** 16:32:30.5±0.2,25°.2°N×123°.5E±0°.7, h199km±3km, MV3.7/20, NW OFF ISHIGAKIJIMA IS*
ISC 27 16:32:30.0±2.4,25°.3N±0°.1×123°.49E±0°.05, h206km±16km, n23, σ0§55/34, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.96**	**207**	*eP*	**Pn**	**16 33 00.5**	**+0.3**
YOJ				*eS*	**Sn**	**16 33 23.6**	**+0.1**
JYNG	**Yonagunijimaku**	**1.00**	**210**	S	**Sn**	**16 33 24.0**	**0.0**
IRIF	**Iriomote-Funau**	**1.01**	**167**	*eP*	**Pn**	**16 33 00.6**	**+0.1**
IRIF				*eS*	**Sn**	**16 33 23.7**	**-0.4**
JISG	**Ishigakijimahi**	**1.05**	**135**	P	**Pn**	**16 33 00.8**	**+0.1**
JISG				*eS*	**Sn**	**16 33 24.0**	**-0.4**
JIJ	**Ishigaki jima**	**1.13**	**148**	P	**Pn**	**16 33 01.5**	**+0.2**
JIJ				*eS*	**Sn**	**16 33 25.0**	**-0.6**
JKRS	**Kuro-shima**	**1.18**	**156**	P	**Pn**	**16 33 02.4**	**+0.7**
JKRS				*eS*	**Sn**	**16 33 26.3**	**+0.1**
JTJ	**Tarama**	**1.29**	**122**	P	**Pn**	**16 33 02.9**	**+0.4**
JTJ				*eS*	**Sn**	**16 33 27.6**	**-0.1**
HATJ	**Hateruma jima**	**1.30**	**167**	*eP*	**Pn**	**16 33 03.5**	**+0.9**
HATJ				*eS*	**Sn**	**16 33 28.1**	**+0.3**
JIRB	**Irabujima**	**1.60**	**108**	*i* P	**Pn**	**16 33 05.1**	**-0.1**
JIRB				*eS*	**Sn**	**16 33 31.2**	**-1.2**
JIKM	**Ikemajima**	**1.64**	**104**	*eP*	**Pn**	**16 33 05.8**	**+0.3**
JIKM				*eS*	**Sn**	**16 33 32.5**	**-0.6**
JMJ2	**Miyako jima3**	**1.77**	**109**	P	**Pn**	**16 33 07.3**	**+0.6**
JMJ2				*eS*	**Sn**	**16 33 34.7**	**-0.4**
JOGS	**Gusukube**	**1.83**	**108**	P	**Pn**	**16 33 07.8**	**+0.6**
JOGS				*eS*	**Sn**	**16 33 36.0**	**-0.2**
TATO	**Taipei**	**1.85**	**259**	P	**Pn**	**16 33 07.8**	**+0.4**
YHNB	**Yeheng**	**2.03**	**252**	P	**Pn**	**16 33 09.7**	**+0.4**
YHNB	**Yeheng**	**2.03**	**252**	S	**Sn**	**16 33 39.3**	**-0.6**
NACB	**Ninganchiao**	**2.07**	**237**	P	**Pn**	**16 33 09.4**	**-0.3**
SSLB	**Suanglung**	**2.77**	**237**	P	**Pn**	**16 33 18.1**	**+0.7**
SSLB	**Suanglung**	**2.77**	**237**	S	**Sn**	**16 33 54.8**	**+0.4**
YULB	**Yu-li**	**2.78**	**227**	P	**Pn**	**16 33 17.1**	**-0.3**
YULB	**Yu-li**	**2.78**	**227**	S	**Sn**	**16 33 53.1**	**-1.4**
TPUB	**Ta-pu**	**3.30**	**233**	P	**Pn**	**16 33 24.1**	**+0.6**
TWGBT	**Beinan**	**3.33**	**222**	P	**Pn**	**16 33 23.7**	**-0.2**
TWGBT	**Beinan**	**3.33**	**222**	S	**Sn**	**16 34 06.0**	**-0.1**

---

*IDC **27** 16:41:59.5±0.9, 38°.14N×91°.39E, h0km, mb3.5/8, mbtmp3.6/13, ML3.1/4, MS3.1/3, Error ellipse: s-maj=36.9km s-min=14.4km az=54.0*
*NNC **27** 16:42:08.1±1.9, 38°.57N×91°.37E, h50km±41km, mb4.1, Error ellipse: s-maj=30.8km s-min=14.4km az=63.0*
ISC 27 16:42:04.4±0.8, 38°.23N±0°.10×91°.22E±0°.09, h35km, n19, σ1§66/22, mb3.8/6, 7C, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**10.79**	**325**	⇑Pn	**Pn**	**16 44 37.3**	**+0.9**
	1.7nm,0.3s,baz=135,slow=14,SNR=159						
MK31				⇑Sn	**Sn**	**16 46 35.1**	**-0.8**
	5.4nm,0.6s,baz=136,slow=25,SNR=6.2						
MKAR	**Makanchi Array**	**10.79**	**325**	Pn	**Pn**	**16 44 36.6**	**+0.2**
	5.2nm,0.3s,baz=135,slow=14,SNR=42						
MKAR				Sn	**Sn**	**16 46 34.0**	**-1.9**
	0.5nm,0.3s,baz=136,slow=24,SNR=7.3						
MKAR				Lg	Lg	16 47 49.9	
	baz=154,slow=26						
MAKZ	**Makanchi**	**10.95**	**324**	⇑Pn	**Pn**	**16 44 39.4**	**+0.9**
	3.2nm,0.7s						
MAKZ				⇑Sn	**Sn**	**16 46 38.8**	**-0.9**
	9.0nm,0.8s						
TKM2	**Tokmak 2**	**12.77**	**296**	⇑Pn	**Pn**	**16 45 06.2**	**+2.6**
	4.4nm,0.5s						
AAK	**Ala-Archa**	**13.48**	**294**	Pn	**Pn**	**16 45 13.9**	**+0.7**
	0.1nm,0.3s,baz=91,slow=12,SNR=2.4						
AAK				Sn	**Sn**	**16 47 36.5**	**-5.2**
	0.1nm,0.3s,baz=153,slow=20,SNR=1.5						
AAK				Lg	Lg	16 49 19.1	
	0.1nm,0.3s,baz=75,slow=20,SNR=1.4						
AAK				LR	LR	16 50 59.8	
	comp=Z,50nm,19.5s,baz=184,slow=40						
	0.4nm,0.3s						
SONM	**Songino Array**	**14.65**	**44**	Pn	**Pn**	**16 45 28.5**	**-0.7**
	0.2nm,0.3s,baz=241,slow=12,SNR=3.5						
SONM				Sn	Sn	16 47 59.0	-11
	0.5nm,0.3s,baz=240,slow=20,SNR=2.4						
SONM				Lg	Lg	16 49 33.0	
	0.2nm,0.3s,baz=241,slow=27,SNR=6.3						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**15.32**	**328**	Pn	**Pn**	**16 45 36.4**	**-1.5**
	0.1nm,0.3s,baz=134,slow=13,SNR=11						
KURBB				Lg	Lg	16 50 16.0	
	baz=158,slow=35						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**15.32**	**328**	⇑Pn	**Pn**	**16 45 38.1**	**+0.2**
	4.0nm,1.1s						
KURK	**Kurchatov**	**15.36**	**328**	⇑Pn	**Pn**	**16 45 38.6**	**+0.3**
	2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**16.33**	**346**	Pn	**Pn**	**16 45 51.4**	**+0.6**
	0.1nm,0.3s,baz=159,slow=13,SNR=3.7						
	1.0nm,0.7s						
BVAR	**Borovoye Array**	**20.65**	**322**	P	**P**	**16 46 41.9**	**+1.0**
	0.2nm,0.4s						
BVAR				LR	LR	16 55 56.9	
	comp=Z,38nm,18.6s,baz=221,slow=40						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**20.82**	**159**	P	**P**	**16 46 40.9**	**-2.0**
	0.2nm,0.4s,baz=348,slow=9.0,SNR=5.8						
	0.2nm,0.4s						
GNI	**Garni**	**35.76**	**288**	LR	LR	17 05 58.2	
	comp=Z,38nm,18.4s,baz=166,slow=40						
BRTR	**Keskin Array B**	**44.12**	**291**	P	**P**	**16 50 10.1**	**+0.6**
	0.2nm,0.5s,baz=59,slow=8.6,SNR=1.9						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**46.31**	**334**	P	**P**	**16 50 27.2**	**+1.0**
	1.8nm,1.0s,baz=79,slow=6.3,SNR=1.3						
	1.8nm,1.0s						
HFS	**Hagfors**	**51.78**	**322**	P	**P**	**16 51 09.1**	**+0.8**
	2.1nm,1.0s,baz=74,slow=11,SNR=1.8						
	2.1nm,1.0s						
ILAR	**Eielson Array**	**67.76**	**23**	P	**P**	**16 52 57.4**	**-0.6**
	0.3nm,0.8s,baz=288,slow=3.7,SNR=2.7						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**70.62**	**137**	P	**P**	**16 53 16.3**	**0.0**
	0.9nm,0.8s,baz=312,slow=7.8,SNR=6.1						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**73.45**	**140**	P	**P**	**16 53 33.4**	**+0.2**
	0.6nm,0.7s,baz=325,slow=6.0,SNR=11						
	0.6nm,0.7s						

---

*WEL **27** 16:43:50.7±1.0, 37°.5S×17°.9E±°, h12km, M3.8/46, ML4.0/19, MLv3.8/46, Error ellipse: s-maj=11.2km s-min=6.5km az=99.9, confirmed*
*NOU **27** 16:43:50.9, 37°.10S×179°.14E, h20km, MLv4.2/13, Off E. Coast of N. Island, N.Z.*
ISC 27 16:43:47.8±2.8, 37°.08S±0°.08×179°.14E±0°.1, h8km±11km, n110, σ1§37/116, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.98**	**240**	P	**Pb**	**16 44 07.0**	**+0.1**
MXZ	**Matakaoa Point**	**0.98**	**240**	S	**Sg**	**16 44 18.2**	**-1.0**
MXZ	**Matakaoa Point**	**0.98**	**240**	P	**Pb**	**16 44 07.2**	**+0.3**
WMGZ	**Waiomatatini S**	**1.06**	**226**	P	**Pn**	**16 44 10.7**	**+1.8**
WMGZ				S	**Sn**	**16 44 24.6**	**+0.7**
PKGZ	**Pakihiroa**	**1.29**	**232**	P	**Pn**	**16 44 13.5**	**+1.3**
PKGZ				S	**Sn**	**16 44 29.9**	**+0.2**
PUZ	**Puketiti**	**1.33**	**221**	P	**Pg**	**16 44 14.2**	**+0.9**
PUZ				S	**Sn**	**16 44 31.3**	**+0.8**
HAZ	**Te Kaha**	**1.43**	**241**	P	**Pn**	**16 44 14.0**	**-0.1**
HAZ				S	**Sg**	**16 44 33.0**	**-1.0**
TWGZ	**Tauwhareparae**	**1.56**	**225**	P	**Pg**	**16 44 17.5**	**-0.2**
TWGZ				S	**Sb**	**16 44 36.4**	**-0.3**
RUGZ	**Raukumara Rang**	**1.61**	**236**	P	**Pb**	**16 44 18.4**	**+0.5**
RUGZ				S	**Sn**	**16 44 37.0**	**-0.7**
CNGZ	**Carnagh Statio**	**1.68**	**213**	P	**Pg**	**16 44 19.7**	**-0.2**
WIZ	**White Island**	**1.80**	**255**	P	**Pn**	**16 44 18.7**	**-0.3**
WSRZ	**White Island S**	**1.80**	**255**	P	**Pn**	**16 44 20.3**	**+1.1**
TKGZ	**Te Karaka**	**1.82**	**221**	P	**Pn**	**16 44 20.7**	**+1.3**
MWZ	**Matawai**	**1.93**	**229**	P	**Pn**	**16 44 22.2**	**+1.3**
WHRZ	**Whale Island**	**2.06**	**247**	P	**Pn**	**16 44 24.4**	**+1.7**
RIGZ	**Rimuhau**	**2.06**	**218**	P	**Pn**	**16 44 24.2**	**+1.4**
RAGZ	**Rawiri**	**2.10**	**227**	P	**Pn**	**16 44 25.0**	**+1.7**
URZ	**Urewera**	**2.15**	**236**	P	**Pn**	**16 44 25.3**	**+1.4**
URZ	**Urewera**	**2.15**	**236**	S	**Sn**	**16 44 50.3**	**-0.3**
URZ	**Urewera**	**2.15**	**236**	P	**Pn**	**16 44 25.1**	**+1.3**
PRGZ	**Paritu Road**	**2.18**	**212**	P	**Pn**	**16 44 25.7**	**+1.3**
SNGZ	**Shannon Statio**	**2.34**	**223**	P	**Pn**	**16 44 27.6**	**+1.1**
KNZ	**Kokohu**	**2.36**	**214**	P	**Pn**	**16 44 27.3**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.37**	**209**	P	**Pn**	**16 44 28.2**	**+1.3**
RTZ	**Ruatahuna**	**2.44**	**230**	P	**Pn**	**16 44 29.4**	**+1.5**
MUGZ	**Murupara**	**2.49**	**235**	P	**Pn**	**16 44 29.6**	**+1.0**
TARZ	**Mount Tarawera**	**2.55**	**242**	P	**Pn**	**16 44 31.3**	**+1.7**
TGRZ	**Tauranga**	**2.56**	**254**	P	**Pn**	**16 44 30.4**	**+0.8**
RAHZ	**Arahi**	**2.57**	**224**	P	**Pn**	**16 44 30.8**	**+1.1**
RRRZ	**Republican Roa**	**2.59**	**240**	P	**Pn**	**16 44 31.5**	**+1.4**
OMRZ	**Omania**	**2.59**	**246**	P	**Pn**	**16 44 31.6**	**+1.6**
WHHZ	**Waihua**	**2.61**	**220**	P	**Pn**	**16 44 31.7**	**+1.4**
KARZ	**Kaharoa**	**2.66**	**248**	P	**Pn**	**16 44 32.1**	**+1.1**
HLRZ	**Highlands Stat**	**2.67**	**243**	P	**Pn**	**16 44 32.7**	**+1.6**
MTHZ	**Maungataniwha**	**2.67**	**228**	P	**Pn**	**16 44 32.5**	**+1.4**
NGRZ	**Ngongotaha**	**2.73**	**247**	P	**Pn**	**16 44 33.9**	**+1.9**
UTU	**Utuhina**	**2.75**	**246**	P	**Pn**	**16 44 34.9**	**+2.7**
PRRZ	**Plateau Road**	**2.75**	**238**	P	**Pn**	**16 44 33.2**	**+1.0**
HSRZ	**Hossack Road**	**2.77**	**243**	P	**Pn**	**16 44 34.3**	**+1.9**
HRRZ	**Handcock Road**	**2.78**	**241**	P	**Pn**	**16 44 34.0**	**+1.4**
ALRZ	**Allen Road**	**2.82**	**237**	P	**Pn**	**16 44 34.4**	**+1.2**
NMHZ	**Naumai**	**2.85**	**224**	P	**Pn**	**16 44 35.4**	**+1.7**
ARHZ	**Aropaoanui**	**2.87**	**220**	P	**Pn**	**16 44 34.9**	**+1.0**
GRRZ	**Galatos Road**	**2.88**	**243**	P	**Pn**	**16 44 35.6**	**+1.6**
MRHZ	**Matea Rd**	**2.92**	**232**	P	**Pn**	**16 44 35.7**	**+1.1**
WPRZ	**Whakapapatarin**	**2.92**	**240**	P	**Pn**	**16 44 36.1**	**+1.5**
KUZ	**Kuaotunu**	**2.94**	**275**	P	**Pn**	**16 44 34.1**	**-0.7**
KUZ	**Kuaotunu**	**2.94**	**275**	S	**Sn**	**16 45 06.0**	**-4.4**
KUZ	**Kuaotunu**	**2.94**	**275**	P	**Pn**	**16 44 34.3**	**-0.5**
BKZ	**Black Stump Fm**	**3.08**	**227**	P	**Pn**	**16 44 37.3**	**+0.5**
BKZ	**Black Stump Fm**	**3.08**	**227**	P	**Pn**	**16 44 37.5**	**+0.8**
CKHZ	**Cape Kidnapper**	**3.14**	**214**	P	**Pn**	**16 44 37.8**	**+0.2**
KUTZ	**Kaahu Road**	**3.14**	**242**	P	**Pn**	**16 44 39.0**	**+1.4**
TOZ	**Tahuroa Road**	**3.15**	**257**	P	**Pn**	**16 44 37.8**	**+0.1**
MCHZ	**McNeill Hill**	**3.16**	**221**	P	**Pn**	**16 44 38.6**	**+0.7**
GRZ	**Great Barrier**	**3.25**	**284**	P	**Pn**	**16 44 39.8**	**+0.8**
KWHZ	**Kaweka Forest**	**3.30**	**224**	P	**Pn**	**16 44 40.2**	**+0.5**
WATZ	**Wairara**	**3.31**	**239**	P	**Pn**	**16 44 41.5**	**+1.6**
KAHZ	**Kahuranaki**	**3.34**	**215**	P	**Pn**	**16 44 40.4**	**0.0**
RATZ	**Rangitukua**	**3.36**	**237**	P	**Pn**	**16 44 42.4**	**+1.8**
RITZ	**Rihia Road**	**3.36**	**235**	P	**Pn**	**16 44 41.6**	**+1.1**
MKAZ	**Moumakai**	**3.37**	**268**	P	**Pn**	**16 44 40.6**	**0.0**
WIAZ	**Waiheke Island**	**3.41**	**274**	P	**Pn**	**16 44 42.1**	**+0.9**
KRHZ	**Kereru**	**3.48**	**222**	P	**Pn**	**16 44 42.3**	**0.0**
TMVZ	**Te Maari**	**3.54**	**234**	P	**Pn**	**16 44 43.6**	**+0.5**
ETVZ	**East Tongariro**	**3.54**	**233**	P	**Pn**	**16 44 43.7**	**+0.5**
PXZ	**Pawanui**	**3.54**	**213**	P	**Pn**	**16 44 42.3**	**-0.7**
NTVZ	**North Tongarir**	**3.54**	**234**	P	**Pn**	**16 44 43.9**	**+0.7**
ETAZ	**East Tamaki Re**	**3.56**	**271**	P	**Pn**	**16 44 44.6**	**+1.3**
KRVZ	**Karewarewa**	**3.56**	**235**	P	**Pn**	**16 44 44.2**	**+0.7**
MBAZ	**Motutapu North**	**3.60**	**274**	P	**Pn**	**16 44 44.8**	**+1.0**
NNVZ	**North Ngauruho**	**3.60**	**234**	P	**Pn**	**16 44 45.1**	**+1.1**
WTVZ	**West Tongariro**	**3.61**	**235**	P	**Pn**	**16 44 45.2**	**+1.1**
SNVZ	**South Ngauruho**	**3.62**	**233**	P	**Pn**	**16 44 45.4**	**+1.1**
NGZ	**Ngauruhoe**	**3.63**	**234**	P	**Pn**	**16 44 45.1**	**+0.6**
ABAZ	**Army Bay**	**3.67**	**276**	P	**Pn**	**16 44 46.6**	**+1.7**
MOVZ	**Moawhango**	**3.68**	**230**	P	**Pn**	**16 44 45.2**	**+0.2**
TWVZ	**Taurewa**	**3.69**	**236**	P	**Pn**	**16 44 46.4**	**+1.2**
COVZ	**Chateau Observ**	**3.69**	**234**	P	**Pn**	**16 44 45.8**	**+0.6**
EPAZ	**Eden Park BICE**	**3.71**	**272**	P	**Pn**	**16 44 47.2**	**+1.8**
MAVZ	**Matarangi**	**3.71**	**233**	P	**Pn**	**16 44 46.7**	**+1.0**
HBAZ	**Herne Bay Bore**	**3.72**	**272**	P	**Pn**	**16 44 47.2**	**+1.7**
WNVZ	**Wahianoa**	**3.72**	**232**	P	**Pn**	**16 44 46.0**	**+0.3**
WPHZ	**Waipukurau**	**3.76**	**217**	P	**Pn**	**16 44 45.6**	**-0.5**
PNHZ	**Pukenui**	**3.77**	**220**	P	**Pn**	**16 44 45.5**	**-0.7**
AWAZ	**Awhitu Peninsu**	**3.78**	**269**	P	**Pn**	**16 44 47.4**	**+1.0**
MTVZ	**Mangateitei**	**3.84**	**232**	P	**Pn**	**16 44 47.9**	**+0.7**
WTAZ	**Waiatarua**	**3.84**	**271**	P	**Pn**	**16 44 49.0**	**+1.8**
HIZ	**Hauiti**	**3.85**	**247**	P	**Pn**	**16 44 49.3**	**+2.0**
RVAZ	**Riverhead Bore**	**3.85**	**273**	P	**Pn**	**16 44 48.2**	**+0.9**
PKVZ	**Pokaka**	**3.86**	**234**	P	**Pn**	**16 44 48.8**	**+1.2**
TSZ	**Takapari Road**	**4.00**	**221**	P	**Pn**	**16 44 48.2**	**-1.2**
ANWZ	**Angora Road**	**4.06**	**213**	P	**Pn**	**16 44 50.1**	**-0.1**
DVHZ	**Dannevirke**	**4.08**	**217**	P	**Pn**	**16 44 49.5**	**-0.9**
VRZ	**Vera Road**

KDJ	Kajisay	23.90	325	P	P	16 53 09.9	-1.4
MKAR	Makanchi Array	25.43	339		P	16 53 21.2	-3.9
MKAR	Makanchi Array	25.43	339	P	P	16 53 23.0	-2.0
	comp=E,1.5nm,0.5s,baz=150,slow=8.5,SNR=22						
	comp=E,1.5nm,0.5s						
AAK	Ala-Archa	25.70	323		P	16 53 26.6	-1.1
AAK				IAmb	IAmb	16 53 28.2	
	comp=Z,3.9nm,0.6s						
AAK	Ala-Archa	25.70	323	P	P	16 53 27.1	-0.6
	comp=Z,3.9nm,0.6s,baz=149,slow=8.9,SNR=11						
	comp=Z,3.9nm,0.6s						
GAR	Garm	26.24	312		P	16 53 30.6	-2.0
GAR				IAmb	IAmb	16 53 32.4	
	comp=Z,10.0nm,0.8s						
KURBB	Kurchatov Arra	30.00	338	P	P	16 54 02.8	-3.0
	comp=Z,0.5nm,0.6s,baz=146,slow=9.5,SNR=6.4						
	comp=Z,0.5nm,0.6s						
BVAR	Borovoye Array	34.97	334	P	P	16 54 46.9	-2.5
	comp=Z,0.4nm,0.4s						
	comp=Z,0.4nm,0.4s						
ABKAR	Akbulak array	37.78	322	P	P	16 55 10.6	-2.8
BRTR	Keskin Array B	53.96	303	P	P	16 57 19.8	-1.7
	comp=Z,0.5nm,0.7s,baz=116,slow=5.6,SNR=3.7						
	comp=Z,0.5nm,0.7s						
WRA	Warramunga Arr	57.58	136	P	P	16 57 46.1	-1.3
	comp=Z,0.6nm,0.6s,baz=320,slow=7.1,SNR=2.9						
	comp=Z,0.6nm,0.6s						
FINES	FINESS Array B	59.68	329	P	P	16 57 57.8	-3.7
	comp=Z,0.8nm,0.7s,baz=113,slow=8.2,SNR=4.2						
	comp=Z,0.8nm,0.7s						
ASAR	Alice Springs	60.05	139	P	P	16 58 03.5	-1.1
	comp=Z,0.4nm,0.5s,baz=320,slow=6.9,SNR=10.0						
	comp=Z,0.4nm,0.5s						
HFS	Hagfors	65.74	327	P	P	16 58 41.0	-0.9
	comp=Z,1.0nm,0.8s,baz=104,slow=6.1,SNR=4.1						
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	67.26	315	P	P	16 58 49.8	-2.2
	comp=Z,0.2nm,0.6s,baz=75,slow=8.1,SNR=2.1						
	comp=Z,0.2nm,0.6s						

*NEIC **27** 17:01:04,32°.66N×109°.00W,h9km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.94; $M_{\theta\theta}$=0.40; $M_{\phi\phi}$=0.54; $M_{r\theta}$=-0.25; $M_{\theta\phi}$=1.06; $M_{r\phi}$=0.92; Fault plane solution: M_0=1.64000×10^{14} NP1:ϕ_s=191.00000°, δ=66.00000°,λ=-129.00000°. NP2:ϕ_s=75.00000°,δ=45.00000°, λ=-35.00000°. Principal axes: T 1.6422, Plg12.0000°, Azm309.0000°; N -0.0009, Plg35.0000°, Azm210.0000°; P -1.6414, Plg52.0000°, Azm55.0000°;*

*NEIC **27** 17:01:04.8±1.3,32°.67N±0°.02×109°.099W±0°.007, h10km±2km,ML3.6/52,Mwr3.4/40(SLM) Error ellipse: s-maj=4.0km s-min=3.0km az=188.0*

ISC 27 17:01:05.0±0.9,**32°.63N**±0°.04×**109°.12W**±0°.07,**h12**km±7km, **n83**,σ1§**22**/86,**Eastern Arizona**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUN6	Lazy B Ranch	0.08	164		Pg	17 01 08.1	+0.3
DUN6				Sg	Sg	17 01 09.7	-0.1
319A	Douglas	1.26	186		Pb	17 01 28.9	+0.2
319A				Sg	Sg	17 01 45.6	0.0
TUC	Tucson	1.45	258		Pn	17 01 30.8	-0.3
TUC					Sn	17 01 49.9	-0.1
TUC				IAML		17 01 52.7	
	768nm,0.6s						
X18A	Snowflake	2.02	340		Pn	17 01 40.7	+1.6
X18A					Sn	17 02 05.2	+0.9
X18A				IAML		17 02 10.5	
	comp=E,524nm,0.6s						
SBM	South Baldy	2.10	50		Pn	17 01 41.6	+1.2
Y22D	IRIS PASSCAL I	2.33	51		Pn	17 01 44.5	+1.2
LENM	Lemitar	2.36	49		Pn	17 01 44.6	+0.9
EPT	El Paso	2.37	110		Pn	17 01 43.6	-0.2
EPT				IAML		17 02 21.6	
	comp=E,260nm,0.8s						
EPT				IAML		17 02 23.6	
	comp=N,326nm,0.3s						
CRNM	Carthage	2.39	56		Pn	17 01 44.8	+0.6
BNM	Barren Site	2.58	53		Pn	17 01 47.6	+0.8
X16A	Lo Mia Camp, P	2.64	313		Pn	17 01 48.9	+1.3
X16A				IAML		17 02 33.6	
	comp=N,168nm,0.5s						
ANMO	Albuquerque	3.20	43		Pn	17 01 56.2	+0.9
ANMO	Albuquerque	3.20	43		Pn	17 01 56.2	+0.9
ANMO	Albuquerque	3.20	43		Pn	17 01 56.3	+0.9
MNTX	Cornudas Mount	3.30	105		Pn	17 01 57.0	+0.4
MNTX				IAML		17 02 50.7	
	comp=N,135nm,0.5s						
MNTX				IAML		17 02 55.0	
	comp=N,118nm,0.7s						
WUAZ	Wupatki	3.44	328		Pn	17 01 59.5	+1.0
Y14A	Wickenburg	3.51	293		Pn	17 02 00.2	+0.8
Y14A				IAML		17 02 59.0	
	comp=E,113nm,0.5s						
Y14A				IAML		17 03 04.5	
	comp=N,100nm,0.5s						
113A	Mohawk Valley,	3.92	273		Pn	17 02 05.5	+0.4
HSIG		3.93	204	Pn	Pn	17 02 06.4	+1.2
HSIG				IAML		17 03 10.8	
	comp=E,61nm,0.4s						
VHRN	Van Horn	3.97	116		Pn	17 02 06.7	+0.8
GDL2	Guadalupe Moun	4.04	95	Pn	Pn	17 02 09.8	+3.0
CPRX	Cap Rock	4.44	83		Pn	17 02 12.6	+0.3
CLNB	Carlsbad	4.44	93		Pn	17 02 12.6	+0.3
CLN7	Carlsbad 7	4.49	91		Pn	17 02 13.3	+0.4
MVCO	Mesa Verde	4.60	6		Pn	17 02 14.7	+0.1
U15A	North Rim	4.61	326		Pn	17 02 13.9	-0.9
U15A				IAML		17 03 34.2	
	comp=N,82nm,0.6s						
U15A				IAML		17 03 43.0	
	comp=E,68nm,0.9s						
HTMS	Hat Mesa	4.63	90		Pn	17 02 14.1	-0.8
PECS	Pecos	4.63	104		Pn	17 02 13.9	-1.0
BLYC	Blythe	4.67	285		Pn	17 02 13.3	-2.0
BLYC				IAML		17 03 39.7	
	comp=E,38nm,0.8s						
BLYC				IAML		17 03 43.8	
	comp=N,48nm,0.8s						
W13A	Hualapai Mount	4.67	303		Pn	17 02 17.6	+2.1
GLA	Glamis	4.83	277		Pn	17 02 18.3	+0.7
GLA				IAML		17 03 56.5	
	comp=E,56nm,1.1s						
GLA				IAML		17 04 01.6	
	comp=N,52nm,0.7s						
ALPN	Alpine	5.19	114		Pn	17 02 23.3	+0.6
KNB	Kanab	5.33	326		Pn	17 02 23.0	-1.6
PV05	Paradox Valley	5.44	0		Pn	17 02 27.5	+1.4
S22A	4UR Ranch, Cre	5.44	19		Pn	17 02 22.4	-3.8
PKCU	Pink Cliffs	5.47	332	Pn	Pn	17 02 26.2	-0.5
MSTX	Muleshoe	5.48	74		Pn	17 02 27.2	+0.6
PV01	Paradox Valley	5.51	4		Pn	17 02 28.9	+1.8
PV13	Radium Mtn., P	5.52	2		Pn	17 02 28.6	+1.3
LCMT	Little Creek M	5.54	323		Pn	17 02 29.1	+1.7
MNHN	Monahans	5.55	102		Pn	17 02 27.7	+0.1
ODSA	Odessa	5.58	93		Pn	17 02 29.8	+1.9
PV18	Skein Mesa, Pa	5.61	2		Pn	17 02 29.6	+1.2
PV03	Paradox Valley	5.62	2		Pn	17 02 29.1	+0.6
PV17	East Wray Mesa	5.64	1		Pn	17 02 30.3	+1.4
PV11	David Mesa, Pa	5.66	2		Pb	17 02 42.3	-1.5
PV19	Morning Glory	5.67	1		Pn	17 02 31.0	+1.7
V12A	Nelson	5.67	305		Pn	17 02 29.6	+0.4
PV16	Nyswonger Mesa	5.67	2	Pn	Pn	17 02 31.0	+1.7
PV20	West Nyswonger	5.70	1	Pn	Pn	17 02 29.7	0.0
TX31	Lajitas Ar. Si	5.72	124		Pn	17 02 30.0	+0.2
PV15	Paradox Valley	5.72	5		Pn	17 02 30.7	+0.6
PV10	Paradox Valley	5.73	1		Pn	17 02 28.4	-1.8
PV04	Paradox Valley	5.75	2	Pn	Pn	17 02 31.2	+0.7
PV07	Paradox Valley	5.81	4		Pb	17 02 41.0	-5.4
PV23	Carpenter Ridg	5.81	1		Pn	17 02 32.6	+1.3
PV22	Blue Mesa, Par	5.90	3		Pn	17 02 33.0	+0.6
SDCO	Great Sand Dun	5.90	29		Pn	17 02 33.4	+0.9
PV21	Cone Mtn., Par	5.92	1		Pn	17 02 32.5	-0.2
MTPU	Mount Pierson	5.95	336		Pn	17 02 32.4	-1.0
SHPR	Sheep Range	6.31	309		Pn	17 02 40.4	+2.4
MSU	Marysvale	6.38	338	Pn	Pn	17 02 40.6	+1.5
MVU	Marysvale	6.38	338		Pn	17 02 40.8	+1.7
POST	Post	6.42	84	Pn	Pn	17 02 39.8	+0.3
RTBA	Rita Blanca	6.49	52	Pn	Pn	17 02 40.3	-0.2
Q16A	Castle Valley	6.49	346		Pn	17 02 39.4	-1.2
SAND	Sanderson	6.55	112		Pn	17 02 41.2	-0.1
SRU	San Rafael Swe	6.57	350		Pn	17 02 42.8	+1.2
PRN	Pahroc Range	6.81	316	Pn	Pn	17 02 44.8	-0.1
TMUT	Trail Mountain	6.87	346		Pn	17 02 46.9	+1.1
GSC	Goldstone, Bar	6.92	295	Pn	Pn	17 02 47.3	+0.9
OZNA	Ozona	7.01	102		Pn	17 02 47.2	-0.4
PSUT	Pine Spring	7.04	328		Pn	17 02 48.9	+0.8
GWY	Greenwater Val	7.18	302		Pn	17 02 51.5	+1.6
S11A	Rachel	7.38	314		Pn	17 02 51.5	-1.3
O20A	White River Ci	7.52	5		Pn	17 02 54.1	-0.6
APMT	Aspermont	7.59	82		Pn	17 02 54.6	-0.9
SPR3	Spring Creek 3	7.64	328		Pn	17 02 53.9	-2.5
R11B	Troy Canyon, C	7.77	319		Pn	17 02 57.2	-0.9
SMWD	Samnorwood	7.78	69	Pn	Pn	17 02 56.5	-1.6
DRIO	Del Rio	7.96	111	Pn	Pn	17 03 01.2	+0.6
BRDY	Brady	8.70	96	Pn	Pn	17 03 09.9	-0.8
OK051	E0350 and S346	10.84	66	Pn	Pn	17 03 38.6	-1.3

*NEIC **27** 17:07:10.8±2.5,4°.74S±0°.05×129°.57E±0°.08,h131km±8km, mb4.2/18,Error ellipse: s-maj=11.1km s-min=7.1km az=98.0*

*DJA **27** 17:07:13.5±0.2,5°.S±3°.×13°.0E±°,h166km±4km,M4.4/14, mb4.2/10,mB5.1/3,MLv4.5/14,Mw(mB)4.4/3*

*IDC **27** 17:07:14.0±3.9,4°.81S×129°.81E,h169km±38km,mb3.6/8, mbtmp4.1/11,Error ellipse: s-maj=32.8km s-min=11.1km az=75.0*

ISC 27 17:07:11.7±0.5,**4°.77S**±0°.05×**129°.87E**±0°.05,**h150**km,**n57**, σ1§**97**/61,**mb4.1**/15,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.24	8	P	Pn	17 07 36.6	+4.4
BNDI				S	Sn	17 07 54.3	+6.6
MSAI	Masohi	1.69	326	P	Pn	17 07 45.9	+2.5
MSAI				S	Sn	17 08 09.0	+1.3
AAI	Ambon	1.98	303	P	Pn	17 07 49.6	+2.9
FAKI	Fak Fak	3.00	52		Pn	17 08 01.0	+1.9
FAKI				Sn	Sn	17 08 34.5	-1.3
FAKI	Fak Fak	3.00	52	P	Pn	17 08 01.1	+1.9
FAKI				S	Sn	17 08 35.4	-0.4
NLAI	Namlea	3.15	299	P	Pn	17 08 03.5	+2.4
SAUI	Saumlaki	3.50	156	Pn	Pn	17 08 05.7	+0.2
SAUI				Sn	Sn	17 08 47.3	0.0
SAUI	Saumlaki	3.50	156	P	Pn	17 08 09.0	+3.5
KMPI	Kaimana, Papua	3.98	74	P	Pn	17 08 13.5	+1.8
SWI	Sorong	4.12	20	P	Pn	17 08 14.6	+1.0
SANI	Sanana	4.72	305	P	Pn	17 08 22.7	+1.2
RKPI	Ransiki, Papua	5.38	53	P	Pn	17 08 32.1	+1.8
TNTI	Ternate	6.04	335	Pn	Pn	17 08 35.9	-3.2
SRPI	Serui, Papua	6.98	66	P	Pn	17 08 52.7	+1.1
	1μm35nm,0.7s						
BAKI	Biak	7.17	61	P	Pn	17 08 56.3	+2.2
	0.3nm40nm,1.0s						
SOEI	Soe	7.45	228	Pn	Pn	17 08 51.0	-6.9
LUWI	Luwuk	8.00	297	Pn	Pn	17 08 58.6	-6.6
MTN	Manton Dam	8.12	171		Pn	17 09 07.4	+0.6
MTN				Sn	Sn	17 10 33.8	-3.6
KAPI	Kappang	10.09	268	Pn	Pn	17 09 28.3	-4.7
TOLI2	Tolitoli	10.79	303	Pn	Pn	17 09 37.4	-5.0
KNRA	Kununurra	10.90	186		Pn	17 09 42.2	-1.4
WBSI	Waikabubak, Su	11.47	244	P	Pn	17 09 52.6	+1.4
	36nm,1.1s						
PLAI	Plampang	12.67	251	P	Pn	17 10 09.4	+2.6
	22nm,1.0s						
FITZ	Fitzroy Crossi	13.88	197	P	Pn	17 10 21.7	-0.5
	2.1nm,0.5s,baz=27,slow=10,SNR=23						
FITZ				S	Sn	17 12 48.6	-7.4
	2.3nm,0.3s,baz=140,slow=0.4,SNR=3.1						
WB0	Warramunga Arr	15.55	164	Pn	Pn	17 10 42.0	-1.0
WRA	Warramunga Arr	15.70	164	P	Pn	17 10 44.4	-0.5
	0.7nm,0.3s,baz=350,slow=13,SNR=18						
WRA				S	Sn	17 13 29.3	-11
	2.8nm,0.4s,baz=352,slow=24,SNR=11						
COEN	Coen	15.98	126	Pn	Pn	17 10 49.9	+1.5
COEN				IAmb	IAmb	17 10 53.9	
	comp=Z,20nm,1.1s						
KKM	Kota Kinabalu	17.36	308	P	P	17 11 01.7	-2.5
SBUM	Sibu	19.04	292	P	P	17 11 17.5	-4.9
SBUM				IAmb	IAmb	17 11 25.0	
	comp=Z,8.1nm,1.1s						
AS31	Alice Springs	19.19	169	P	P	17 11 25.8	+1.7
AS31					S	17 14 52.5	-1.2
ASAR	Alice Springs	19.19	169	P	P	17 11 26.2	+2.1
	comp=Z,2.7nm,0.4s,baz=345,slow=12,SNR=82						
ASAR				S	S	17 14 53.2	-0.5
	comp=Z,1.1nm,0.5s,baz=350,slow=23,SNR=6.5						
MORW	Morawa	27.50	207	P	P	17 12 43.2	-1.0
MORW				IAmb	IAmb	17 13 09.2	
	comp=Z,9.2nm,1.2s						
CMAR	Chiang Mai Arr	38.23	308	P	P	17 14 17.7	+0.2
	comp=Z,1.1nm,0.3s,baz=138,slow=7.2,SNR=14						
	comp=Z,1.1nm,0.3s						
CHTO	Chiang Mai	38.43	308	P	P	17 14 19.0	-0.2
CHTO				IAmb	IAmb	17 14 20.3	
	comp=Z,3.0nm,0.8s						
MJAR	Matsushiro Arr	41.83	10	P	P	17 14 46.4	-0.4
	comp=Z,1.2nm,0.9s,baz=189,slow=9.9,SNR=1.5						
	comp=Z,1.2nm,0.9s						
TARA	Tarawa	43.44	83	P	P	17 15 02.6	+2.4
SONM	Songino Array	56.30	341	P	P	17 16 35.4	-1.5
SONM				IAmb	IAmb	17 16 39.6	
	comp=Z,2.3nm,1.4s						
SONM	Songino Array	56.30	341	P	P	17 16 37.3	+0.4
	comp=Z,0.8nm,0.6s,baz=163,slow=7.5,SNR=4.8						
	comp=Z,0.8nm,0.6s						
PETK	Petropavlovsk-	62.26	19	P	P	17 17 17.6	+0.1
PETK	Petropavlovsk-	62.26	19	P	P	17 17 18.6	+1.1
	comp=Z,1.2nm,0.8s,baz=192,slow=8.0,SNR=5.7						
	comp=Z,1.2nm,0.8s						
KSH	Kashi	66.30	317	P	P	17 17 42.3	-2.1
KSH				pmax	pmax		
	comp=Z,3.0nm,2.5s						
MKAR	Makanchi Array	66.30	326	P	P	17 17 44.1	0.0
MKAR	Makanchi Array	66.30	326	P	P	17 17 44.4	+0.3
	comp=Z,2.7nm,0.4s,baz=114,slow=8.2,SNR=56						
	comp=Z,2.7nm,0.4s						
MAKZ	Makanchi	66.48	326		P	17 17 45.0	-0.2
KDJ	Kajisay	66.78	320	P	P	17 17 47.3	-0.1
KDJ				IAmb	IAmb	17 17 48.2	
	comp=Z,4.6nm,1.1s						
AAK	Ala-Archa	68.77	319	P	P	17 18 00.4	+0.6
ZALV	Zalesovo Beam	69.54	333	P	P	17 18 03.8	-0.3
	comp=Z,1.4nm,0.6s,baz=106,slow=5.4,SNR=6.2						
	comp=Z,1.4nm,0.6s						
GAR	Garm	70.02	314	P	P	17 18 06.6	-1.0
BTK	Batken	70.10	316	P	P	17 18 06.7	-1.2
BTK				IAmb	IAmb	17 18 25.1	
	comp=Z,4.1nm,1.4s						
KURBB	Kurchatov Arra	70.55	328	P	P	17 18 10.5	+0.1
	comp=Z,3.5nm,0.6s,baz=130,slow=5.3,SNR=24						
	comp=Z,3.5nm,0.6s						
KURK	Kurchatov	70.56	328		P	17 18 10.5	+0.1
KURK				IAmb	IAmb	17 18 11.4	
	comp=Z,4.1nm,0.7s						
KKAR	Karatay Array	71.59	318	P	P	17 18 16.1	-0.7
KKAR	Karatay Array	71.59	318	P	P	17 18 15.5	-1.3
KKAR				IAmb	IAmb	17 18 17.1	
	comp=Z,2.2nm,1.0s						
BVAR	Borovoye Array	76.12	328	P	P	17 18 43.2	+0.3
	comp=Z,0.5nm,0.4s						
	comp=Z,0.5nm,0.4s						
ABKAR	Akbulak array	80.69	321	P	P	17 19 06.1	-2.0
VOI	Vohitsoka	81.83	249	P	P	17 19 13.9	-1.0
L19K	White Mountain	87.37	27	P	P	17 19 42.4	+0.7
L19K				IAmb	IAmb	17 20 23.2	
	comp=Z,2.9nm,1.2s						

*AFAD **27** 17:19:29.4,39°.01N×26°.08E,h7km±4km,ML2.4*

*ATH **27** 17:19:30.5,38°.99N×26°.10E,h9km±4km,ML2.3/3,Manual Solution by S.Koutrakis First location: 2019/04/27 17:20:09, This location: 2019/04/27 22:16:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 6 km*

*ISK **27** 17:19:30.2,39°.03N×26°.15E,h8km,ML2.6/19*

ISC 27 17:19:30.1±0.9,**39°.00N**±0°.02×**26°.09E**±0°.03,**h14**km±9km, **n38**,σ0§**69**/56,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.28	319	Pg	Pb	17 19 36.8	-0.1
SIGR				Sg	Sg	17 19 40.8	+0.8
SIGR	SIGRI	0.28	319	P	Pb	17 19 36.8	-0.1
SIGR				S	Sg	17 19 40.0	0.0
PRK	Paraskevi	0.28	29	P	Pg	17 19 35.7	-0.4
PRK				S	Sg	17 19 40.5	+0.3
KARB	zmir-Karabur	0.42	143	P	Pg	17 19 38.4	-0.1
KARB				S	Sg	17 19 44.2	+0.1
EAG2	Marmaro, Chios	0.45	178	P	Pg	17 19 39.2	+0.1
EAG2				S	Sg	17 19 45.2	0.0
GPNR	Gulpinar-Canak	0.46	4	Pg	Pg	17 19 38.9	-0.3
KOCA	Canakkale, Ayv	0.51	4	P	Pg	17 19 39.6	-0.5
KOCA				S	Sg	17 19 45.8	-1.0
KOCA				i AML	AML	17 19 47.0	
	comp=N,264nm,0.4s						
KOCA				i AML	AML	17 19 54.0	
	comp=E,162nm,0.2s						
AYVA	Ayvalik	0.56	56	P	Pg	17 19 40.8	-0.3
AYVA				i AML	AML	17 19 49.0	
	comp=E,142nm,0.3s						
AYVA				i AML	AML	17 19 53.0	
	comp=N,275nm,0.4s						
FOCM	Foa	0.57	119	Pg	Pg	17 19 41.4	0.0
DKL	Dikili	0.64	83	Pg	Pg	17 19 42.3	-0.3
DKL				Sg	Sg	17 19 50.7	-0.3
IZMD	zmir-Dikili-	0.65	91	P	Pb	17 19 43.5	+0.1
IZMD				S	Sg	17 19 51.3	-0.2
CESE	eme	0.69	166	Pg	Pb	17 19 44.2	+0.4
URLA	Izmir	0.75	148	P	Pg	17 19 43.9	-0.7
URLA				S	Sg	17 19 54.7	+0.2
ZEDA	zmir-Bergama	0.77	92	P	Pb	17 19 45.9	+0.6
ZEDA				S	Sb	17 19 56.0	+0.4
ZEDA				i AML	AML	17 19 58.0	
	comp=N,108nm,0.3s						
EZNE	Ezine-Canakkal	0.79	16	Pg	Pg	17 19 44.8	-0.6
BAYC	CANAKKALE_Bayr	0.82	25	P	Pb	17 19 46.3	+0.2
BAYC				S	Sg	17 19 56.6	-0.3
BAYC				i AML	AML	17 20 00.0	
	comp=E,154nm,0.2s						
BAYC				i AML	AML	17 20 01.0	
	comp=N,135nm,0.5s						
ZEYE	Izmir, Urla-Ze	0.82	157	P	Pg	17 19 46.0	0.0
ZEYE				i AML	AML	17 19 59.0	
	comp=E,144nm,0.4s						
ZEYE				i AML	AML	17 20 00.0	
	comp=N,100nm,0.4s						
BOZC	Bozcaada	0.84	358	P	Pg	17 19 45.5	-1.0
BOZC				S	Sg	17 19 56.8	-0.7
BOZC				i AML	AML	17 19 58.0	
	comp=N,215nm,0.6s						
BOZC				i AML	AML	17 19 58.0	
	comp=E,210nm,0.6s						
EZN	Ezine	0.85	12	Pg	Pg	17 19 46.0	-0.5
EZN				Sg	Sg	17 19 57.7	+0.1
BUHA	Balikesir, Bur	0.92	56	P	Pg	17 19 47.6	-0.2
BUHA				S	Sg	17 19 59.3	-0.5
BUHA				i AML	AML	17 20 02.0	
	comp=N,117nm,0.1s						
BUHA				i AML	AML	17 20 02.0	
	comp=E,179nm,0.4s						
BLCB	Balcova	0.96	129	Pg	Pg	17 19 48.7	0.0
YAYO	Edremit-Balk	0.98	51	Pg	Pg	17 19 48.3	-0.7
YAYO				Sg	Sg	17 20 01.6	-0.2
DGB	zmir	1.13	146	P	Pg	17 19 49.7	-2.2
DGB				S	Sg	17 20 03.9	-2.7
SOMA	Soma-Manisa	1.13	82	Pn	Pg	17 19 51.3	-0.7
COMU	Canakkale	1.14	15	Pn	Pg	17 19 51.7	-0.4
GADA	Gvkgeada	1.20	353	Pn	Pb	17 19 51.8	-0.8
CANM	Can-anakkale	1.26	36	Pn	Pn	17 19 53.5	+0.3
YENI	Yenice-Canakka	1.29	43	Pn	Pn	17 19 54.2	+0.5
STEP	BALIKESIR_Sava	1.32	73	P	Pb	17 19 55.0	+0.3
STEP				S	Sb	17 20 11.2	-0.2
STEP				i AML	AML	17 20 15.0	
	comp=E,89nm,0.6s						
STEP				i AML	AML	17 20 16.0	
	comp=N,48nm,0.5s						
GELI	Tayfur-Gelibol	1.43	12	Pn	Pn	17 19 56.1	+0.5
LPK	Lapseki	1.47	20	Pn	Pn	17 19 56.7	+0.6
SMTH	Samothraki Isl	1.53	344	P	Pb	17 19 58.4	+0.1
SMTH				S	Sb	17 20 18.2	+0.6
GONE	Gonen-Balikesi	1.62	49	Pn	Pn	17 19 58.6	+0.4
KRBG	Karabiga-Canak	1.68	33	Pn	Pn	17 19 59.7	+0.7
ERIK	Erikli-Kesan	1.70	11	Pn	Pn	17 19 59.8	+0.5
ENEZ	Enez	1.74	2	Pn	Pn	17 20 00.6	+0.8
RKY	Sarkoy-Tekirda	1.88	26	Pn	Pn	17 20 02.5	+0.6
ALN	Alexandroupoli	1.90	359	Pn	Pn	17 20 03.1	+1.1

*IDC **27** 17:23:17.2±2.0,43°.09N×105°.10W,h0km,mb2.8/2, mbtmp3.0/6,ML3.0/4,MS2.2/1,Error ellipse: s-maj=41.0km s-min=11.0km az=154.0*

*NEIC **27** 17:23:18.2±2.2,43°.64N±0°.05×105°.45W±0°.09,h0km±1km, ML3.4/49,Error ellipse: s-maj=11.2km s-min=8.0km az=109.0*

ISC 27 17:23:19.1±0.9,**43°.59N**±0°.06×**105°.26W**±0°.06,**h0**km,**n50**, σ1§**66**/48,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	Casper	1.32	225		Pg	17 23 43.4	-1.0
BRIGG	Briggsdale	3.09	167		Pn	17 24 11.0	+1.8
BRIGG				IAML		17 25 08.6	
	comp=N,112nm,1.5s						
LAO	LASA Array	3.17	348		Pn	17 24 10.7	+0.4
LAO				IAML		17 25 10.3	
	comp=N,135nm,1.4s						
LAO				IAML		17 25 14.6	
	comp=N,128nm,1.0s						
PD31	Pinedale Array	3.25	257		Pn	17 24 12.1	+0.4
PDAR	Pinedale Array	3.25	257		Pn	17 24 11.9	+0.2
PDAR	Pinedale Array	3.25	257	Pn	Pn	17 24 14.0	+2.4
	comp=N,1.8nm,0.3s,baz=68,slow=16,SNR=33						
PDAR				Lg	Lg	17 24 58.9	
	comp=N,2.3n

comp=E,25nm,1.7s
PV22 Blue Mesa, Par 5.71 209 Pn 17 24 46.5 +1.1
PV21 Cone Mtn., Par 5.76 210 Pn 17 24 49.0 +3.0
PV15 Paradox Valley 5.78 206 Pn 17 24 46.6 +0.2
PV23 Carpenter Ridg 5.87 210 Pn 17 24 48.9 +1.4
PV04 Paradox Valley 5.88 209 Pn 17 24 49.2 +1.5
PV12 Saucer Basin, 5.91 208 Pn 17 24 47.3 -0.9
PV14 Lion Creek, Pa 5.94 210 Pn 17 24 47.2 -1.4
PV10 Paradox Valley 5.94 210 Pn **Pn 17 24 49.9 +1.3**
PV20 West Nyswonger 5.95 209 Pn 17 24 46.3 -2.4
PV16 Nyswonger Mesa 5.96 209 Pn 17 24 47.4 -1.4
SRU San Rafael Swe 5.98 223 Pn 17 24 47.0 -2.0
PV03 Paradox Valley 5.98 208 Pn 17 24 48.2 -0.9
PV02 Paradox Valley 5.99 207 Pn 17 24 49.9 +0.6
PV18 Skein Mesa, Pa 6.01 209 Pn 17 24 50.3 +0.8
PV13 Radium Mtn., P 6.06 208 Pn 17 24 50.7 +0.5
PV05 Paradox Valley 6.23 209 Pn 17 24 50.2 -2.3
ECSD EROS Data Cent 6.27 86 Pn 17 24 52.1 -0.8
T25A Trinidad 6.48 174 Pn 17 24 54.2 -1.7
DUG Dugway, Tooele 6.58 242 Pn 17 24 55.4 -1.8
ELK Elko 7.94 252 Pn **Pn 17 25 16.3 +0.3**
comp=E,0.1nm,0.3s,baz=18,slow=20,SNR=1.4
ELK Lg Lg 17 27 24.2
baz=37,slow=20,SNR=1.4
comp=E,0.3nm,0.3s
I10CA LAC DU BONNET 9.14 40 I I 18 19 10.0
comp=E,0.1nm,1.3s,baz=224,slow=328,SNR=5.2
ULM Lac du Bonnet 9.25 41 Pn **Pn 17 25 32.3 -1.4**
comp=E,0.3nm,0.3s,baz=225,slow=13,SNR=1.6
ULM Lg Lg 17 28 06.6
comp=E,0.2nm,0.3s,baz=270,slow=20,SNR=1.6
comp=E,1.1nm,0.5s
NEW Newport 9.50 304 Lg Lg 17 28 17.8
comp=E,0.1nm,0.3s,baz=67,slow=19,SNR=1.7
NVAR Mina Array Bea 11.12 247 Pn **Pn 17 25 58.6 -1.0**
comp=E,0.2nm,0.3s,baz=43,slow=12,SNR=1.8
comp=E,0.1nm,0.3s
YKA Yellowknife Ar 19.71 347 P **Pn 17 27 53.6 +2.3**
comp=E,0.3nm,0.9s,baz=159,slow=11,SNR=4.7
comp=E,0.3nm,0.9s
ILAR Eielson Array 31.40 327 P **P 17 29 45.1 +3.6**
comp=E,0.2nm,0.7s,baz=124,slow=7.9,SNR=1.8
comp=E,0.2nm,0.7s

---

*BJI **27** 17:24:43.1, 42.°45N×142.°77E, h90km, mB5.5/57, mb5.4/89*
*MOS **27** 17:24:45.2±1.0, 42.°53N×142.°77E, h108km, mb5.7/56, Error ellipse: s-maj=5.5km s-min=3.7km az=116.2*
*NEIC **27** 17:24:45.7±2.1, 42.°46N±0.°04×142.°82E±0.°10, h111km±4km, mb5.4/418, Mww5.4/28, Error ellipse: s-maj=10.6km s-min=6.1km az=99.0*
*NEIC **27** 17:24:46.3, 42.°45N×142.°82E, h110km*
*NEIC **27** 17:24:46.3, 42.°25N×143.°00E, h110km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.15; $M_{\theta\theta}$0.48; $M_{\phi\phi}$-0.62; $M_{r\theta}$0.55; $M_{\theta\phi}$1.12; $M_{\phi r}$0.37; Fault plane solution: $M_0$1.41000×10^{17} NP1: ϕ_s106.20000°, δ71.15000°, λ18.44000°. NP2:ϕ_s10.05000°, δ72.59000°, λ160.21000°. Principal axes: T 1.4962, Plg26.0000°, Azm328.0000°; N -0.1788, Plg64.0000°, Azm150.0000°; P -1.3174, Plg1.0000°, Azm58.0000°;*
*IDC **27** 17:24:46.8±0.8, 42.°55N×142.°66E, h105km±6km, mb4.9/34, mbtmp5.3/41, MS4.2/51 Error ellipse: s-maj=9.7km s-min=6.8km az=116.0*
*SKHL **27** 17:24:46.9±0.2, 42.°60N×142.°90E, h112km±5km, mb6.6/3, Ms4.8/4, msh7.0/5, msh4.8/4*
SKHL Felt (II) at Yushno-Kuril'sk, Goryachy Plyash.
*NIED **27** 17:24:47.1, 42.°56N×142.°88E, h102km, MW5.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.11; $M_{\theta\theta}$1.29; $M_{\phi\phi}$-1.18; $M_{r\theta}$0.55; $M_{\theta\phi}$1.42; $M_{\phi r}$0.08; Fault plane solution: $M_0$1.95000×10^{17} NP1:ϕ_s20.00000°, δ76.00000°, λ174.00000°. NP2:ϕ_s111.00000°, δ84.00000°, λ14.00000°.*
*GCMT **27** 17:24:47.7±0.1, 42.°58N±0.°01×142.°78E±0.°01, h111km, MW5.5/138, Moment Tensor Solution. s126, c239; s138, c288; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.36±.02; $M_{\theta\theta}$1.17±.02; $M_{\phi\phi}$-1.53±.02; $M_{r\theta}$0.99±.01; $M_{\theta\phi}$1.34±.02; $M_{\phi r}$0.36±.02; Best double couple: $M_0$2.19100×10^{17} NP1:ϕ_s19.00000°, δ69.00000°, λ160.00000°. NP2:ϕ_s116.00000°, δ71.00000°, λ22.00000°. Principal axes: T 2.2990, Plg29.0000°, Azm338.0000°; N -0.2200, Plg61.0000°, Azm155.0000°; P -2.0830, Plg1.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*JMA **27** 17:24:47.1±0.1, 42.°6N±0.°4×142.°9E±0.°6, h102km±1km, MD5.6/37, MW5.5/37, HIDAKA MOUNTAINS REGION*
JMA Felt IV J1 at HIDAKA MOUNTAINS REGION .
ISC 27 17:24:45.8±0.2,**42.°56N**±0.°02×**142.°82E**±0.°02,**h106**km±1km, **h106**km:**pP-P,n1538,**σ1s**72**/1522,**mb5.4**/379,**126C-79D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.28**	**190**	P	**Pn**	**17 25 02.1**	**+1.1**
JNBK				*e*S	**Sn**	**17 25 13.8**	**+1.3**
JNBK	**Urakawa-nobuka**	**0.28**	**190**	A	A	17 25 02.1	
comp=N,1μm,2.0s,comp=E,1μm,0.5s							
JSHD	**Hidakashinhida**	**0.30**	**240**	P	**Pn**	**17 25 02.3**	**+1.2**
JSHD				*e*S	**Sn**	**17 25 14.1**	**+1.6**
JSHD	**Hidakashinhida**	**0.30**	**240**	A	A	17 25 02.3	
comp=N,1μm,1.2s,comp=E,1μm,1.8s							
JBT2	**Biratori 2**	**0.40**	**303**	⇓P	**Pn**	**17 25 02.6**	**+1.0**
JBT2				⇓*e*S	**Sn**	**17 25 15.1**	**+1.6**
JBT2	**Biratori 2**	**0.40**	**303**	A	A	17 25 02.6	
comp=N,241nm,1.1s,comp=E,289nm,1.2s							
JCH	**Churui**	**0.40**	**82**	⇓*i*P	**Pn**	**17 25 02.3**	**+0.7**
JCH				⇓S	**Sn**	**17 25 13.5**	**+0.1**
JCH	**Churui**	**0.40**	**82**	A	A	17 25 02.3	
comp=N,684nm,1.2s,comp=E,726nm,1.6s							
JTHR	**Tokachihiroo**	**0.44**	**127**	P	**Pn**	**17 25 02.5**	**+0.7**
JTHR				S	**Sn**	**17 25 14.2**	**+0.3**
JTHR	**Tokachihiroo**	**0.44**	**127**	A	A	17 25 02.5	
comp=N,697nm,2.5s,comp=E,678nm,0.9s							
JEM	**Erimo**	**0.60**	**155**	P	**Pn**	**17 25 03.8**	**+0.9**
JEM	**Erimo**	**0.60**	**155**	*i* P	**Pn**	**17 25 03.8**	**+0.9**
JEM	**Erimo**	**0.60**	**155**	A	A	17 25 03.8	
comp=N,373nm,1.9s,comp=E,458nm,1.2s							
ERM	**Erimo**	**0.60**	**155**		**Pn**	**17 25 03.6**	**+0.7**
ERM				Sn	**Sn**	**17 25 16.4**	**+0.6**
ERM	**Erimo**	**0.60**	**155**	P	**Pn**	**17 25 03.6**	**+0.7**
ERM	**Erimo**	**0.60**	**155**	*ce*PN	**Pn**	**17 25 03.9**	**+1.0**
JFR	**Furan**	**0.63**	**345**	*i* P	**Pn**	**17 25 04.3**	**+1.2**
JFR				*e*S	**Sn**	**17 25 17.3**	**+1.1**
JFR	**Furan**	**0.63**	**345**	A	A	17 25 04.3	
comp=N,191nm,0.7s,comp=E,664nm,1.2s							
JIAM	**Iburiatsuma**	**0.67**	**276**	⇓*i*P	**Pn**	**17 25 05.6**	**+2.2**
JIAM	**Iburiatsuma**	**0.67**	**276**	A	A	17 25 05.6	
comp=N,2μm,0.4s,comp=E,3μm,0.7s							
JOB	**Onbets**	**0.82**	**65**	⇓*i*P	**Pn**	**17 25 06.1**	**+1.3**
JOB				⇓S	**Sn**	**17 25 20.3**	**+1.1**
JOB	**Onbets**	**0.82**	**65**	A	A	17 25 06.1	
comp=N,369nm,1.0s,comp=E,536nm,1.1s							
JAR	**Ashorobuto**	**1.01**	**43**	*i* P	**Pn**	**17 25 07.8**	**+1.0**
JAR				S	**Sn**	**17 25 23.1**	**+0.4**
JAR	**Ashorobuto**	**1.01**	**43**	A	A	17 25 07.8	
comp=N,607nm,0.6s,comp=E,760nm,0.6s							
JAB	**Ashibetsu**	**1.04**	**335**	*i* P	**Pn**	**17 25 08.4**	**+1.3**
JAB				*e*S	**Sn**	**17 25 24.9**	**+1.7**
JAB	**Ashibetsu**	**1.04**	**335**	A	A	17 25 08.4	
comp=N,306nm,4.4s,comp=E,191nm,1.8s							
JEW	**Eniwo**	**1.05**	**286**	⇓*i*P	**Pn**	**17 25 08.5**	**+1.3**
JEW				⇓S	**Sn**	**17 25 24.9**	**+1.6**
JEW	**Eniwo**	**1.05**	**286**	A	A	17 25 08.5	
comp=N,846nm,1.4s,comp=E,480nm,2.0s							
JISS	**Ishikarishitsu**	**1.25**	**305**	*i* P	**Pn**	**17 25 10.8**	**+1.4**
JISS				S	**Sn**	**17 25 28.7**	**+1.3**
JISS	**Ishikarishitsu**	**1.25**	**305**	A	A	17 25 10.8	
comp=N,905nm,2.3s,comp=E,439nm,0.6s							
JKK2	**Kamakawa 2**	**1.31**	**358**	*i* P	**Pn**	**17 25 11.6**	**+1.5**
JKK2				*e*S	**Sn**	**17 25 30.1**	**+1.4**
JKK2	**Kamakawa 2**	**1.31**	**358**	A	A	17 25 11.6	
comp=N,250nm,1.8s,comp=E,164nm,2.1s							
JNB	**Noboribetsu**	**1.32**	**267**	A	A	17 25 12.2	
comp=N,128nm,0.4s,comp=E,101nm,1.7s							
JHR	**Hokuryu**	**1.43**	**326**	*i* P	**Pn**	**17 25 13.1**	**+1.6**
JHR				S	**Sn**	**17 25 33.4**	**+2.4**
JHR	**Hokuryu**	**1.43**	**326**	A	A	17 25 13.1	
comp=N,405nm,0.9s,comp=E,252nm,2.5s							
JAK	**Akkeshi**	**1.45**	**72**	⇓*i*P	**Pn**	**17 25 12.3**	**+0.6**
JAK				⇓S	**Sn**	**17 25 31.4**	**0.0**
JAK	**Akkeshi**	**1.45**	**72**	A	A	17 25 12.3	
comp=N,386nm,0.7s,comp=E,256nm,0.6s							
JKB	**Kayabe**	**1.49**	**244**	A	A	17 25 14.2	
comp=N,144nm,2.0s,comp=E,199nm,1.1s							
JMP	**Maruseppu**	**1.50**	**15**	A	A	17 25 13.7	
comp=N,126nm,1.6s,comp=E,215nm,2.5s							
AKK	**Akkeshi**	**1.56**	**72**	*eP*	**Pn**	**17 25 13.6**	**+0.6**
AKK				*e*S	**Sn**	**17 25 33.4**	**-0.3**
ASAJ	**Asahikawa**	**1.56**	**354**	P	**Pn**	**17 25 14.3**	**+1.2**
comp=E,5μm,0.4s,baz=215,slow=9.7							
ASAJ				S	**Sn**	**17 25 35.3**	**+1.4**
comp=E,14μm,0.5s,baz=112,slow=19,SNR=8.4							
ASAJ				LR	LR	17 25 53.6	
comp=E,21μm,19.4s,baz=222,slow=42							
ASAJ	**Asahikawa**	**1.56**	**354**	A	A	17 25 14.7	
comp=N,176nm,2.8s,comp=E,174nm,3.3s							
JKA	**Kamikawa-asahi**	**1.56**	**354**		**Pn**	**17 25 14.7**	**+1.6**
JKA				Sn	**Sn**	**17 25 34.5**	**+0.6**
JKA	**Kamikawa-asahi**	**1.56**	**354**	*eP*	**Pn**	**17 25 14.4**	**+1.3**
JTKR	**Abashiri--Toko**	**1.62**	**29**	⇓*i*P	**Pn**	**17 25 15.3**	**+1.5**
JTKR				⇓*e*S	**Sn**	**17 25 36.2**	**+1.2**
JTKR	**Abashiri--Toko**	**1.62**	**29**	A	A	17 25 15.3	
comp=N,95nm,2.6s,comp=E,165nm,1.3s							
JAHD	**Aomorihigashid**	**1.70**	**221**	A	A	17 25 16.8	
comp=N,416nm,1.2s,comp=E,608nm,0.9s							
JNK	**Nakash**	**1.73**	**53**	A	A	17 25 16.2	
comp=N,85nm,0.7s,comp=E,133nm,0.8s							
JOT	**Ohata**	**1.77**	**229**	A	A	17 25 17.6	
comp=N,146nm,1.5s,comp=E,142nm,2.8s							
JKHN	**Kushirohamanak**	**1.80**	**72**	A	A	17 25 17.0	
comp=N,169nm,2.7s,comp=E,200nm,2.0s							
JYM2	**Yakumo 2**	**1.87**	**257**	A	A	17 25 19.0	
comp=N,64nm,1.9s,comp=E,44nm,3.0s							
JARK	**Aomorirokkasho**	**1.89**	**216**	A	A	17 25 19.1	
comp=N,132nm,2.6s,comp=E,181nm,3.2s							
JSK	**Shakotan**	**1.90**	**296**	A	A	17 25 19.4	
comp=N,190nm,2.7s,comp=E,113nm,1.9s							
JSS	**Shosan**	**1.97**	**339**	A	A	17 25 20.1	
comp=N,231nm,0.8s,comp=E,93nm,2.8s							
JNSB	**Nemuroshibetsu**	**2.01**	**52**	A	A	17 25 19.9	
comp=N,206nm,2.6s,comp=E,166nm,2.3s							
JSH	**Shimam**	**2.05**	**273**	A	A	17 25 21.6	
comp=N,88nm,3.2s,comp=E,35nm,3.5s							
JSR	**Shiriuchi**	**2.06**	**241**	A	A	17 25 21.6	
comp=N,48nm,4.5s,comp=E,48nm,3.6s							
JYG	**Yagishiri**	**2.12**	**332**	A	A	17 25 22.1	
comp=N,68nm,1.3s,comp=E,61nm,1.8s							
JRA	**Rausu**	**2.17**	**50**	A	A	17 25 22.1	
comp=N,58nm,1.6s,comp=E,106nm,1.0s							
JHST	**Hiyamasetana**	**2.18**	**267**	A	A	17 25 23.2	
comp=N,100nm,3.0s,comp=E,78nm,1.2s							
JTM	**Tenmabayashi**	**2.21**	**217**		**Pn**	**17 25 20.5**	**-0.7**
JTM				Sn	**Sn**	**17 25 45.4**	**-2.9**
JTM	**Tenmabayashi**	**2.21**	**217**	P	**Pn**	**17 25 20.5**	**-0.7**
JTM	**Tenmabayashi**	**2.21**	**217**	A	A	17 25 23.2	
comp=N,107nm,1.4s,comp=E,136nm,2.0s							
NMR	**Nemuro--Hokkai**	**2.28**	**68**	⇓*i*PN	**Pn**	**17 25 22.4**	**+0.2**
NMR				*e*S	**Sn**	**17 25 48.3**	**-1.8**
NMR	**Nemuro--Hokkai**	**2.28**	**68**	*i* P	**Pn**	**17 25 22.4**	**+0.2**
NMR				*e*S	**Sn**	**17 25 48.6**	**-1.5**
NEM2	**Nemuro 2**	**2.29**	**68**	A	A	17 25 23.6	
comp=N,42nm,1.0s,comp=E,49nm,0.9s							
JOMM	**Oshimamatsumae**	**2.34**	**245**	A	A	17 25 25.2	
comp=N,34nm,1.9s,comp=E,31nm,2.1s							
JSI2	**Shiura 2**	**2.34**	**231**	A	A	17 25 25.2	
comp=N,139nm,1.1s,comp=E,191nm,1.1s							
RUSJ	**Misakicho**	**2.35**	**48**	⇓*i*PN	**Pn**	**17 25 25.1**	**+2.1**
RUSJ				*e*S	**Sn**	**17 25 54.5**	**+2.9**
JANG	**Nango**	**2.40**	**205**	A	A	17 25 25.7	
comp=N,89nm,1.3s,comp=E,144nm,2.3s							
JSE	**Soyaes**	**2.40**	**356**	A	A	17 25 25.6	
comp=N,75nm,2.5s,comp=E,59nm,2.0s							
JKEN	**Kujiedanarisaw**	**2.50**	**200**	A	A	17 25 27.1	
comp=N,114nm,1.9s,comp=E,211nm,1.5s							
JOSM	**Okushiri--Mats**	**2.53**	**260**	A	A	17 25 27.9	
comp=N,23nm,2.5s,comp=E,41nm,2.2s							
JHHS	**Hirosakihyakuz**	**2.65**	**225**	A	A	17 25 29.4	
comp=N,253nm,2.5s,comp=E,243nm,4.0s							
YUK	**Yuzh-Kuril'sk**	**2.67**	**55**	*d*PN	**Pn**	**17 25 28.6**	**+1.4**
YUK				*i* S	**Sn**	**17 26 00.2**	**+1.2**
YUK				pmax	pmax		
comp=Z,26μm,0.5s							
YUK				pmax	pmax		
comp=E,21μm,0.7s							
YUK				pmax	pmax		
comp=N,25μm,0.6s							
YUK				smax	smax		
comp=E,77μm,0.6s							
YUK				smax	smax		
comp=N,55μm,0.5s							
YUK				MLR	MLR		
comp=Z,6μm,9.0s							
YUK				MLR	MLR		
comp=N,7μm,6.0s							
YUK	**Yuzh-Kuril'sk**	**2.67**	**55**	*i* P	**Pn**	**17 25 28.8**	**+1.6**
YUK				AMB	AMB	17 25 29.6	
comp=N,30μm,0.8s							
YUK				*i* S	**Sn**	**17 26 00.1**	**+1.1**
YUK				A	A	17 26 02.3	
comp=N,56μm,0.8s							
YUK				A	A	17 26 02.3	
comp=N,74μm,0.8s							
YUK				AMS	AMS	17 26 54.0	
comp=N,7μm,8.0s							
YUK				AMS	AMS	17 26 54.0	
comp=N,5μm,8.0s							
YUK				AMS	AMS	17 26 54.0	
comp=N,6μm,8.0s							
JTH	**Tanohata**	**2.72**	**196**	A	A	17 25 29.9	
comp=N,28nm,1.0s,comp=E,75nm,3.9s							
JRR	**Rishiri**	**2.80**	**338**	A	A	17 25 31.1	
comp=N,151nm,7.0s,comp=E,126nm,4.7s							
JKZ	**Kuzumaki**	**2.81**	**204**	A	A	17 25 31.2	
comp=N,61nm,0.9s,comp=E,74nm,1.9s							
JWK2	**Keihoku**	**2.83**	**347**	A	A	17 25 31.6	
comp=N,50nm,3.2s,comp=E,59nm,7.5s							
JAH	**Hinai**	**2.88**	**215**	A	A	17 25 32.4	
comp=N,110nm,1.6s,comp=E,84nm,1.4s							
JIW	**Iwasaki**	**2.88**	**228**	A	A	17 25 32.5	
comp=N,65nm,2.9s,comp=E,48nm,2.0s							
JNTW	**Noshirotokiwa**	**3.04**	**222**	A	A	17 25 34.5	
comp=N,140nm,1.5s,comp=E,209nm,3.7s							
MIYJ	**Miyakonagasawa**	**3.08**	**195**	A	A	17 25 34.9	
comp=N,38nm,2.4s,comp=E,101nm,2.1s							
JRBN	**Rebuntou**	**3.13**	**337**	A	A	17 25 35.6	
comp=N,14nm,4.6s,comp=E,10.0nm,4.4s							
JSZI	**Iwateshizukuis**	**3.15**	**207**	A	A	17 25 35.9	
comp=N,136nm,1.7s,comp=E,130nm,1.5s							
SHO	**Shikotan**	**3.21**	**65**	*d*PN	**Pn**	**17 25 34.9**	**+0.6**
SHO				*i* S	**Sn**	**17 26 10.0**	**-1.9**
SHO				pmax	pmax		
comp=E,6μm,0.5s							
SHO				pmax	pmax		
comp=Z,10μm,0.5s							
SHO				pmax	pmax		
comp=N,4μm,0.6s							
SHO				smax	smax		
comp=N,12μm,0.5s							
SHO				smax	smax		
comp=E,15μm,0.5s							
SHO	**Shikotan**	**3.21**	**65**	*i* P	**Pn**	**17 25 35.0**	**+0.6**
SHO				AMB	AMB	17 25 35.5	
comp=E,12μm,0.7s							
SHO				*i* S	**Sn**	**17 26 11.2**	**-0.7**
SHO				A	A	17 26 12.1	
comp=E,14μm,0.4s							
SHO				A	A	17 26 12.1	
comp=E,15μm,0.4s							
JOM	**Ohasama**	**3.29**	**201**	A	A	17 25 37.9	
comp=N,52nm,1.2s,comp=E,77nm,3.4s							
JRG	**Rokugo**	**3.57**	**208**	A	A	17 25 41.6	
comp=N,70nm,2.2s,comp=E,67nm,2.0s							
OFUJ	**Ofunato**	**3.58**	**194**	A	A	17 25 41.7	
comp=N,30nm,2.5s,comp=E,41nm,3.4s							
JYW	**Yuwa**	**3.60**	**214**	A	A	17 25 42.2	
comp=N,124nm,3.1s,comp=E,82nm,4.3s							
JMK	**Ichinoseki**	**3.80**	**199**	A	A	17 25 44.9	
comp=N,19nm,4.2s,comp=E,42nm,2.6s							
JOG3	**Oga3**	**3.86**	**228**	A	A	17 25 40.6	
comp=N,65nm,4.2s,comp=E,65nm,3.7s							
JKMT	**Kesennumamotoy**	**3.88**	**196**	A	A	17 25 45.9	
comp=N,21nm,3.2s,comp=E,54nm,3.0s							
JYK	**Kaneyama**	**4.09**	**208**	A	A	17 25 48.9	
comp=N,46nm,2.0s,comp=E,35nm,2.2s							
JYYZ	**Yamagatayuza**	**4.16**	**213**	A	A	17 25 49.9	
comp=N,116nm,4.7s,comp=E,90nm,1.8s							
JTB	**Tobi-shima**	**4.17**	**217**	A	A	17 25 50.0	
comp=N,26nm,3.0s,comp=E,32nm,2.1s							
JOFO	**Osakifurukawao**	**4.21**	**201**	A	A	17 25 50.4	
comp=N,135nm,2.6s,comp=E,128nm,3.1s							
JIO	**Ouri**	**4.25**	**196**	A	A	17 25 50.9	
comp=N,23nm,2.8s,comp=E,39nm,2.5s							
JIKH	**Ishinomakikobu**	**4.37**	**194**	A	A	17 25 52.5	
comp=N,18nm,1.8s,comp=E,23nm,3.6s							
YSS	**Yuzhno-Sakhali**	**4.39**	**359**		**Pn**	**17 25 52.5**	**+2.3**
YSS				Sn	**Sn**	**17 26 43.1**	**+2.8**
YSS	**Yuzhno-Sakhali**	**4.39**	**359**	P	**Pn**	**17 25 52.2**	**+2.0**
YSS	**Yuzhno-Sakhali**	**4.39**	**359**	*ce*PN	**Pn**	**17 25 52.7**	**+2.5**
YSS				*e*S	**Sn**	**17 26 43.9**	**+3.6**
YSS				pmax	pmax		
comp=Z,4μm,0.9s							
YSS				pmax	pmax		
comp=N,4μm,1.2s							
YSS				pmax	pmax		
comp=E,3μm,0.8s							
YSS				smax	smax		
comp=N,8μm,1.3s							
YSS				smax	smax		
comp=E,4μm,1.2s							
YSS				MLR	MLR		
comp=Z,6μm,12.0s							
YSS				MLR	MLR		
comp=N,4μm,11.0s							
YSS	**Yuzhno-Sakhali**	**4.39**	**359**	*e*P	**Pn**	**17 25 52.6**	**+2.3**
YSS				AMB	AMB	17 25 53.6	
comp=N,4μm,0.8s							
YSS				*e*S	**Sn**	**17 26 39.5**	**-0.8**
YSS				A	A	17 26 47.0	
comp=N,4μm,0.5s							
YSS				A	A	17 26 47.0	
comp=N,6μm,0.5s							
YSS				AMS	AMS	17 28 16.4	
comp=N,6μm,12.0s							
YSS				AMS	AMS	17 28 16.4	
comp=N,4μm,12.0s							
JOU	**Okura**	**4.50**	**202**	A	A	17 25 54.5	
comp=N,57nm,2.1s,comp=E,48nm,2.4s							
KUR	**Kuril'sk**	**4.52**	**52**	*d*PN	**Pn**	**17 25 53.3**	**+1.3**
KUR				*e*S	**Sn**	**17 26 45.9**	**+2.5**
KUR				pmax	pmax		
comp=N,1μm,0.7s							
KUR				pmax	pmax		
comp=Z,7μm,0.7s							
KUR				pmax	pmax		
comp=E,1μm,0.6s							
KUR				pmax	pmax		
comp=Z,22μm,3.3s							
KUR				smax	smax		
comp=N,19μm,4.0s							
KUR				smax	smax		
comp=E,16μm,3.1s							
KUR				smax	smax		
comp=N,3μm,0.6s							
KUR				smax	smax		
comp=E,2μm,0.6s							
KUR	**Kuril'sk**	**4.52**	**52**	*i* P	**Pn**	**17 25 53.9**	**+1.9**
KUR				AMB	AMB	17 25 55.0	
comp=E,11μm,0.7s							
KUR				*e*S	**Sn**	**17 26 42.2**	**-1.2**
KUR				A	A	17 26 46.5	
comp=E,11μm,3.0s							
KUR				A	A	17 26 46.5	
comp=E,21μm,3.0s							
KUR				A	A	17 26 48.0	
comp=E,3μm,0.3s							
KUR				A	A	17 26 48.0	
comp=E,4μm,0.3s							
JYA	**Atsumi**	**4.62**	**212**	A	A	17 25 56.1	
comp=N,110nm,1.2s,comp=E,81nm,1.8s							
JYS	**Shiratake**	**4.82**	**207**	A	A	17 25 58.8	
comp=N,76nm,1.5s,comp=E,39nm,2.5s							
JAW	**Awa shima**	**4.92**	**215**	A	A	17 26 00.3	
comp=N,16nm,3.3s,comp=E,20nm,3.7s							
JMM	**Marumori**	**4.94**	**199**		**Pn**	**17 25 56.0**	**-1.6**
JMM				Sn	**Sn**	**17 26 47.4**	**-6.2**
JMM	**Marumori**	**4.94**	**199**	P	**Pn**	**17 25 56.1**	**-1.6**
JMM	**Marumori**	**4.94**	**199**	A	A	17 26 00.5	
comp=N,18nm,4.7s,comp=E,31nm,3.1s							
JMST	**Minamisoumatoc**	**5.05**	**198**	A	A	17 26 02.0	
comp=N,22nm,2.9s,comp=E,26nm,2.5s							
JYAR	**Yonezawaarcadi**	**5.07**	**205**	A	A	17 26 02.3	
comp=N,52nm,1.3s,comp=E,33nm,1.1s							
TEY	**Ternei**	**5.14**	**301**	⇑*e*PN	**Pn**	**17 26 01.1**	**+0.8**
TEY				*e*S	**Sn**	**17 26 53.5**	**-4.8**
TEY				pmax	pmax		
comp=E,2μm,3.8s							
TEY				pmax	pmax		
comp=N,1μm,3.3s							
TEY				pmax	pmax		
comp=Z,2μm,2.4s							
TEY				pmax	pmax		
comp=Z,790nm,0.7s							
TEY				pmax	pmax		
comp=E,860nm,0.8s							
TEY				pmax	pmax		
comp=N,350nm,0.7s							
TEY	**Ternei**	**5.14**	**301**	*e*P	**Pn**	**17 26 01.1**	**+0.8**
JOTO	**OTAMA OYAMA**	**5.35**	**202**	A	A	17 26 06.0	
comp=N,43nm,1.6s,comp=E,37nm,2.7s							
JFK	**Kawauchi**	**5.40**	**197**	A	A	17 26 06.7	
comp=N,17nm,2.6s,comp=E,16nm,3.7s							
ONAJ	**Iwakimizuishiy**	**5.67**	**197**	A	A	17 26 10.4	
comp=N,23nm,2.1s,comp=E,29nm,2.1s							
JFY	**Yanaizu**	**5.67**	**206**	A	A	17 26 10.7	
comp=N,12nm,2.5s,comp=E,12nm,6.4s							
JSD	**Sado**	**5.71**	**219**		**Pn**	**17 26 07.7**	**-0.3**
JSD				Sn	**Sn**	**17 27 08.2**	**-4.0**
JSD	**Sado**	**5.71**	**219**	P	**Pn**	**17 26 07.9**	**-0.2**
JSD	**Sado**	**5.71**	**219**	A	A	17 26 11.2	
comp=N,6.0nm,5.4s,comp=E,8.0nm,9.0s							
JFFD	**Fukushimafurud**	**5.73**	**198**	A	A	17 26 11.3	
comp=N,11nm,1.1s,comp=E,17nm,4.5s							
JIZZ	**Izumozaki**	**

comp=N,170nm,1.6s
TYV smax smax
comp=E,147nm,1.6s
TYV smax smax
comp=N,2μm,3.2s
TYV smax smax
comp=E,2μm,3.2s
TYV Tymovskoe 8.31 359 *e*P **Pn 17 26 44.9 +1.7**
TYV AMB AMB 17 26 46.5
comp=E,3μm,3.0s
TYV AMB AMB 17 26 46.7
comp=E,430nm,0.6s
TYV *e*S **Sn 17 28 13.0 -2.2**
TYV A A 17 28 21.7
comp=E,70nm,0.6s
TYV A A 17 28 21.7
comp=E,100nm,0.6s
TYV A A 17 28 26.5
comp=E,4μm,5.0s
TYV A A 17 28 26.5
comp=E,9μm,5.0s
TYV AMS AMS 17 30 44.0
comp=E,5μm,11.0s
TYV AMS AMS 17 30 44.0
comp=E,4μm,11.0s
TYV AMS AMS 17 30 44.0
comp=E,5μm,11.0s
INU Inuyama 8.50 214 Pn 17 26 45.0 -1.0
INU Inuyama 8.50 214 P **Pn 17 26 46.3 +0.3**
MSHR Mys Shultsa 8.61 274 *ce*PN **Pn 17 26 48.7 +1.3**
MSHR pmax pmax
comp=Z,1μm,1.3s
JSG Sagara 8.67 206 Pn 17 26 46.8 -1.4
JSG Sagara 8.67 206 P **Pn 17 26 48.0 -0.3**
PSTR Posyet 8.87 275 *d i*PN **Pn 17 26 52.5 +1.6**
PSTR Posyet 8.87 275 *e*P **Pn 17 26 52.5 +1.6**
GRNR Gornyy 9.31 334 ⇑*i*PN **Pn 17 26 58.7 +1.8**
GRNR *e*S **Sn 17 28 44.8 +5.1**
GRNR pmax pmax
comp=N,130nm,0.7s
GRNR pmax pmax
comp=E,90nm,0.7s
GRNR pmax pmax
comp=Z,190nm,0.7s
GRNR smax smax
comp=N,40nm,0.7s
GRNR MLR MLR
comp=E,1μm,12.0s
GRNR MLR MLR
comp=N,2μm,10.0s
GRNR MLR MLR
comp=Z,2μm,17.0s
GRNR Gornyy 9.31 334 *e*P **Pn 17 26 58.7 +1.8**
JHJ Hachijo jima 2 9.72 195 P **Pn 17 26 59.4 -3.2**
comp=Z,185nm,0.3s,baz=71,slow=16,SNR=11
JHJ S Sn 17 28 40.5 -9.4
comp=Z,2μm,0.8s,baz=343,slow=19,SNR=11
JHJ LR LR 17 31 18.8
comp=Z,635nm,19.5s,baz=50,slow=40
JHJ2 Mitsune 9.73 195 Pn **Pn 17 26 59.6 -3.0**
MDJ Mudanjiang 9.82 287 Pn 17 27 03.5 -0.3
MDJ Mudanjiang 9.82 287 P **Pn 17 27 05.0 +1.2**
MDJ S **Sn 17 28 55.0 +2.9**
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ pmax pmax
comp=Z,420nm,3.9s
MDJ LR LR
comp=Z,1μm,12.0s
MDJ LR LR
comp=Z,2μm,10.3s
MDJ LR LR
comp=Z,3μm,11.0s
MDJ Mudanjiang 9.82 287 P **Pn 17 27 06.4 +2.6**
KLR Kul'dur 10.19 315 P **Pn 17 27 08.6 -0.2**
comp=Z,188nm,1.0s,baz=127,slow=13,SNR=195
KLR LR LR 17 32 02.6
comp=Z,1μm,18.9s,baz=132,slow=43
KLR Kul'dur 10.19 315 *c i*PN **Pn 17 27 10.0 +1.1**
KLR pmax pmax
comp=Z,569nm,1.7s
KLR Kul'dur 10.19 315 *e*P **Pn 17 27 10.0 +1.1**
JHS Saijyo 10.69 228 P **Pn 17 27 18.0 +2.3**
NKL Nikolayevsk 10.69 353 *e*PN **Pn 17 27 14.7 -0.9**
NKL *e*S **Sn 17 29 14.1 +1.0**
NKL pmax pmax
comp=E,2μm,0.7s
NKL pmax pmax
comp=N,767nm,0.8s
NKL pmax pmax
comp=Z,2μm,1.4s
NKL smax smax
comp=E,556nm,2.2s
NKL smax smax
comp=N,1μm,2.3s
NKL MLR MLR
comp=N,2μm,9.0s
NKL MLR MLR
comp=E,5μm,11.0s
NKL MLR MLR
comp=Z,3μm,11.0s
NKL Nikolayevsk 10.69 353 *e*P **Pn 17 27 16.4 +0.8**
NKL *e*S **Sn 17 29 08.4 -4.7**
OKH Okha 11.00 0 *c i*PN **Pn 17 27 15.2 -4.5**
OKH *i* S **Sn 17 29 21.8 +1.3**
OKH pmax pmax
comp=Z,900nm,13.7s
OKH smax smax
comp=N,500nm,4.9s
OKH smax smax
comp=E,2μm,16.2s
OKH MLR MLR
comp=E,2μm,12.0s
OKH MLR MLR
comp=Z,2μm,11.0s
OKH MLR MLR
comp=N,2μm,12.0s
OKH Okha 11.00 0 *e*P **Pn 17 27 16.4 -3.3**
OKH *e*S **Sn 17 29 21.8 +1.3**
JMN Monobe 11.28 221 Pn 17 27 20.9 -2.7
JMN Monobe 11.28 221 P **Pn 17 27 22.1 -1.5**
BNX BinXian 11.52 291 ⇑P **Pn 17 27 27.0 +0.2**
BNX S **Sn 17 29 35.3 +1.9**
BNX pmax pmax
comp=N,220nm,1.2s
BNX pmax pmax
comp=N,670nm,4.9s
BNX LR LR
comp=N,1μm,9.5s
BNX LR LR
comp=N,2μm,10.8s
BNX LR LR
comp=N,2μm,11.9s
SKR Severo-Kuril's 12.21 44 *e*PN **Pn 17 27 33.3 -2.6**
SKR pmax pmax
comp=Z,1μm,5.1s
SKR MLR MLR
comp=Z,2μm,13.0s
SKR Severo-Kuril's 12.21 44 *e*P **Pn 17 27 34.3 -1.6**
SKR AMB AMB 17 27 55.8
comp=Z,6μm,3.0s
SKR *e*S **Sn 17 29 43.0 -7.1**
SKR A A 17 30 14.4
comp=Z,2μm,6.0s
SKR A A 17 30 14.4
comp=Z,1μm,6.0s
SKR AMS AMS 17 32 27.5
comp=Z,3μm,12.0s
SKR AMS AMS 17 32 27.5
comp=Z,2μm,12.0s
SKR AMS AMS 17 32 27.5
comp=Z,2μm,12.0s
KSRS Korea Array 12.51 251 P **Pn 17 27 40.1 +0.3**
comp=Z,232nm,1.0s,baz=63,slow=12,SNR=422
KSRS S S 17 30 08.0 -9.1
comp=Z,165nm,0.9s,baz=66,slow=24,SNR=16
KSRS LR LR 17 32 14.9
comp=Z,2μm,18.5s,baz=60,slow=36
KS19 Wonju Array Si 12.52 251 Pn 17 27 39.7 -0.4
KSAR Wonju Array Be 12.54 251 Pn 17 27 39.6 -0.7
KSAR Wonju Array Be 12.54 251 PN **Pn 17 27 39.6 -0.7**
CN2 Changchun 12.74 281 P **Pn 17 27 43.0 0.0**
CN2 S **Sn 17 30 03.3 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,10μm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,2μm,14.0s
PAU Pauzhetka 13.04 42 *i*P **Pn 17 27 44.5 -2.2**
PAU AMB AMB 17 27 47.6
comp=Z,740nm,0.6s
PAU *e*S **Sn 17 30 02.5 -7.5**
PAU A A 17 30 04.0
comp=Z,100nm,0.5s
PAU A A 17 30 04.0
comp=Z,200nm,0.5s
HEH HeiHe 13.11 311 *e*P **Pn 17 27 45.5 -2.1**
HEH S **Sn 17 30 08.5 -3.2**
HEH PcP **PcP 17 33 12.5 +1.9**
HEH pmax pmax
comp=Z,120nm,1.4s
HEH LR LR
comp=Z,4μm,14.3s
HEH LR LR
comp=Z,2μm,13.2s
HEH LR LR
comp=Z,4μm,12.9s
JTU Tsushima 13.21 237 P **Pn 17 27 50.1 +1.0**
JNU Nakatsue 13.32 229 P **Pn 17 27 48.8 -1.9**
comp=Z,135nm,1.0s,baz=29,slow=8.4,SNR=27
JNU S **Sn 17 30 19.2 +2.0**
comp=Z,18nm,0.8s,baz=45,slow=19,SNR=1.2
JNU LR LR 17 32 48.4
comp=Z,665nm,19.6s,baz=42,slow=36
JNU Nakatsue 13.32 229 P **Pn 17 27 49.1 -1.5**
INCN Inchon 13.40 253 Pn 17 27 50.4 -1.2
INCN Inchon 13.40 253 P **Pn 17 27 52.0 +0.4**
INCN Inchon 13.40 253 P **Pn 17 27 52.3 +0.7**
INCN Inchon 13.40 253 PN **Pn 17 27 50.4 -1.2**
TJN Taejon 13.44 248 Pn 17 27 51.1 -0.9
TJN Taejon 13.44 248 P **Pn 17 27 53.6 +1.6**
TJN Taejon 13.44 248 *d i*PN **Pn 17 27 51.9 -0.1**
SNY Shenyang 14.29 274 ⇓P **Pn 17 28 02.8 -0.2**
SNY S **Sn 17 30 42.0 +1.6**
SNY pmax pmax
comp=Z,75nm,1.2s
SNY pmax pmax
comp=Z,900nm,3.6s
SNY LR LR
comp=Z,610nm,12.4s
SNY LR LR
comp=Z,640nm,14.5s
SNY LR LR
comp=Z,1μm,13.3s
PEA0B Petropavlovsk- 14.50 38 Pn 17 28 02.6 -3.0
PEA0B Petropavlovsk- 14.50 38 *d i*P **Pn 17 28 03.0 -2.6**
PETK Petropavlovsk- 14.50 38 Pn 17 28 01.8 -3.9
PETK Petropavlovsk- 14.50 38 P **Pn 17 28 03.6 -2.0**
comp=Z,154nm,0.8s,baz=213,slow=7.6,SNR=142
PETK S Sn 17 30 33.6 -12
comp=Z,25nm,0.8s,baz=185,slow=1.9,SNR=4.1
PETK LR LR 17 34 11.8
comp=Z,938nm,18.6s,baz=246,slow=39
PETK Petropavlovsk- 14.50 38 P **Pn 17 28 01.8 -3.9**
PET Petropavlovsk 14.89 40 Pn 17 28 07.1 -3.4
PET Petropavlovsk 14.89 40 P **Pn 17 28 10.8 +0.3**
PET Petropavlovsk 14.89 40 *e*P **Pn 17 28 06.0 -4.5**
PET *e*S Sn 17 30 45.3 -9.4
PET pmax pmax
comp=Z,81nm,0.7s
PET pmax pmax
comp=Z,1μm,7.3s
PET pmax pmax
comp=Z,800nm,17.2s
PET MLR MLR
comp=Z,1μm,11.0s
PET MLR MLR
comp=Z,1μm,12.0s
PET Petropavlovsk 14.89 40 *e*P **Pn 17 28 08.7 -1.8**
PET *e*S Sn 17 30 43.4 -11
ZEA Zeya 15.23 323 *e*P **Pn 17 28 13.6 -1.2**
ZEA *e*S Sn 17 30 51.3 -12
ZEA pmax pmax
comp=N,600nm,1.5s
ZEA pmax pmax
comp=E,400nm,1.5s
ZEA pmax pmax
comp=Z,900nm,1.6s
ZEA pmax pmax
comp=N,220nm,0.9s
ZEA pmax pmax
comp=E,140nm,0.9s
ZEA pmax pmax
comp=Z,390nm,1.0s
ZEA smax smax
comp=N,400nm,7.3s
ZEA MLR MLR
comp=E,1μm,9.0s
ZEA MLR MLR
comp=N,2μm,14.0s
ZEA MLR MLR
comp=Z,2μm,12.0s
ZEA Zeya 15.23 323 *e*P **Pn 17 28 14.4 -0.4**
JCJ Chichijima 15.44 182 Pn 17 28 14.5 -3.1
JCJ Chichijima 15.44 182 P **Pn 17 28 15.9 -1.7**
comp=Z,383nm,0.7s,baz=329,slow=12,SNR=9.9
JCJ S Sn 17 30 53.0 -15
comp=Z,471nm,0.7s,baz=354,slow=23,SNR=7.8
JCJ Chichijima 15.44 182 P **Pn 17 28 17.5 -0.1**
DL2 Dalian 16.47 264 P **Pn 17 28 28.5 -1.8**
DL2 sP **sP 17 28 58.5 -5.6**
DL2 S **Sn 17 31 30.5 -2.5**
DL2 pmax pmax
comp=Z,180nm,0.9s
DL2 pmax pmax
comp=Z,710nm,7.7s
HIA Hailar 17.36 301 P **P 17 28 39.8 -1.2**
HIA Hailar 17.36 301 P **P 17 28 40.4 -0.6**
HIA Hailar 17.36 301 P **P 17 28 39.8 -1.2**
MA2 Magadan 17.73 13 P **P 17 28 43.6 -1.3**
MA2 Magadan 17.73 13 P **P 17 28 44.5 -0.3**
comp=Z,71nm,0.9s,baz=199,slow=10,SNR=59
MA2 S **Sn 17 31 58.9 -4.2**
comp=Z,8.0nm,0.7s,baz=252,slow=19,SNR=1.3
MA2 Magadan 17.73 13 P **P 17 28 44.6 -0.3**
JMZ Minamidaito 2 19.23 213 P **P 17 28 58.0 -3.5**
JMZ Minamidaito 2 19.23 213 P **Pn 17 29 05.2 +1.7**
XLT XiLinHaoTe 19.50 283 *e*P **P 17 29 04.8 +0.3**
XLT sP sP 17 29 33.0 -4.9
XLT S **S 17 32 38.5 -0.6**
XLT pmax pmax
comp=Z,79nm,0.9s
XLT pmax pmax
comp=Z,700nm,4.9s
XLT LR LR
comp=Z,510nm,16.0s
XLT LR LR
comp=Z,1μm,12.6s
XLT LR LR
comp=Z,960nm,16.0s
JOW Kunigami 19.68 222 P **P 17 29 04.0 -2.5**
JOW Kunigami 19.68 222 P **P 17 29 05.1 -1.3**
comp=Z,105nm,0.9s,baz=59,slow=9.0,SNR=18
JOW S **S 17 32 43.2 +0.6**
comp=Z,12nm,0.8s,baz=115,slow=19,SNR=1.8
JOW LR LR 17 37 56.7
comp=Z,779nm,18.2s,baz=77,slow=40
JOW Kunigami 19.68 222 P **P 17 29 07.2 +0.7**
BJI Beijing 20.15 272 P **P 17 29 10.8 -0.6**
BJI S **S 17 32 44.5 -7.2**
BJI pmax pmax
comp=Z,68nm,0.8s
BJI pmax pmax
comp=Z,480nm,6.4s
BJI LR LR
comp=Z,430nm,12.6s
BJI LR LR
comp=Z,460nm,13.1s
BJI LR LR
comp=Z,500nm,12.7s
BJT Baijiatuau 20.16 272 P **P 17 29 10.2 -1.3**
BJT Baijiatuau 20.16 272 P **P 17 29 11.7 +0.2**
BJT Baijiatuau 20.16 272 P **P 17 29 10.2 -1.3**
SSE Sheshan 20.69 244 P **P 17 29 16.0 -1.3**
SSE S **S 17 33 02.0 -0.5**
SSE pmax pmax
comp=Z,80nm,0.9s
SSE pmax pmax
comp=Z,460nm,3.9s
SSE LR LR
comp=Z,610nm,17.9s
SSE LR LR
comp=Z,600nm,17.9s
TIA Tai'an 20.80 261 P **P 17 29 16.8 -1.7**
TIA S **S 17 32 57.0 -7.7**
TIA pmax pmax
comp=Z,51nm,0.9s
TIA pmax pmax
comp=Z,440nm,4.6s
TIA LR LR
comp=Z,510nm,12.6s
TIA LR LR
comp=Z,1μm,12.8s
TIA LR LR
comp=Z,880nm,13.2s
YAK Yakutsk 21.01 343 P **P 17 29 17.7 -2.7**
YAK Yakutsk 21.01 343 P **P 17 29 18.1 -2.3**
comp=Z,809nm,0.9s,baz=134,slow=1.6,SNR=259
YAK S **S 17 33 05.1 -3.1**
comp=Z,76nm,0.9s,baz=215,slow=20,SNR=7.6
YAK Yakutsk 21.01 343 *e*P **P 17 29 17.7 -2.7**
YAK *e*S **S 17 33 02.1 -6.1**
YAK *e* 17 33 25.2
YAK *e* 17 40 33.7
YAK pmax pmax
comp=N,117nm,1.0s
YAK pmax pmax
comp=Z,591nm,1.4s
YAK pmax pmax
comp=E,31nm,0.9s
YAK smax smax
comp=N,1μm,2.1s
YAK smax smax
comp=E,701nm,2.2s
SEY Seymchan 21.17 12 P **P 17 29 20.9 -1.2**
comp=E,158nm,0.8s,baz=203,slow=8.1,SNR=239
SEY Seymchan 21.17 12 *ce*P **P 17 29 20.7 -1.4**
SEY pmax pmax
comp=Z,240nm,0.9s
NJ2 Nanjing 21.69 249 ⇓P **P 17 29 25.8 -2.1**
NJ2 pP **pP 17 29 52.5 +4.4**
NJ2 S **S 17 33 16.0 -5.7**
NJ2 pmax pmax
comp=Z,45nm,0.9s
NJ2 LR LR
comp=Z,2μm,18.5s
NJ2 LR LR
comp=Z,940nm,14.2s
NJ2 LR LR
comp=Z,2μm,15.6s
CIT Chita 21.86 306 *e*P **P 17 29 26.8 -2.9**
CIT *e* 17 30 05.0
CIT *e*S **S 17 33 19.6 -5.0**
CIT *e* 17 34 00.6
CIT pmax pmax
comp=Z,870nm,2.5s
HNS HongShan 22.10 266 ⇓P **P 17 29 29.8 -2.4**
HNS S **S 17 33 20.5 -8.4**
HNS PcP **PcP 17 33 26.0 +0.5**
HNS LR LR
comp=Z,950nm,11.4s
HNS LR LR
comp=Z,630nm,10.4s
HNS LR LR
comp=Z,650nm,11.2s
SMY Shemya 23.23 53 P **P 17 29 42.0 -1.3**
SMY Shemya 23.23 53 P **P 17 29 42.0 -1.3**
HHC Hu-ho-hao-te 23.34 276 *e*P **P 17 29 44.5 -0.1**
HHC PP **sP 17 30 23.5 +4.3**
HHC S **S 17 33 46.3 -2.8**
HHC pmax pmax
comp=Z,34nm,1.0s
HHC pmax pmax
comp=Z,260nm,7.3s
HHC LR LR
comp=Z,650nm,12.7s
HHC LR LR
comp=Z,860nm,14.5s
HHC LR LR
comp=Z,1μm,12.9s
TIY Taiyuan 23.66 268 *e*P **P 17 29 46.5 -1.0**
TIY S **S 17 33 52.5 -1.8**
TIY SS **SnSn 17 34 50.5 +6.6**
TIY pmax pmax
comp=Z,290nm,4.6s
BOD Bodaibo 23.69 320 *e*P **P 17 29 44.7 -2.8**
BOD pmax pmax
comp=Z,251nm,0.9s
YOJ Yonaguni jima 24.36 228 P **P 17 29 51.2 -2.5**
YOJ Yonaguni jima 24.36 228 P **P 17 29 51.3 -2.5**
BTO Baotou 24.53 277 *e*P **P 17 29 56.5 +1.1**
BTO pP **pP 17 30 12.0 -6.4**
BTO PP **PnPn 17 30 33.5 +0.4**
BTO S **S 17 34 11.5 +3.2**
BTO pmax pmax
comp=Z,44nm,0.8s
BTO pmax pmax
comp=Z,550nm,4.0s
BTO LR LR
comp=Z,2μm,9.2s
BTO LR LR
comp=Z,2μm,9.7s
BTO LR LR
comp=Z,2μm,12.5s
TATO Taipei 24.83 232 P **P 17 29 55.6 -2.4**
TATO Taipei 24.83 232 P **P 17 29 59.7 +1.6**
TATO Taipei 24.83 232 P **P 17 30 01.1 +3.1**
LYN LuoYang 24.95 261 P **P 17 29 59.0 -0.1**
LYN PP **PnPn 17 30 41.5 +2.7**
LYN S **S 17 34 12.3 -2.5**
LYN PcS **PcS 17 37 10.5 -1.5**
LYN pmax pmax
comp=Z,53nm,1.0s
LYN pmax pmax
comp=Z,550nm,5.1s
YHNB Yeheng 25.13 232 P **P 17 29 58.4 -2.5**
YHNB IAmb IAmb 17 30 17.0
comp=Z,141nm,1.0s
YHNB Yeheng 25.13 232 P **P 17 30 02.8 +1.9**
NACB Ninganchiao 25.39 230 P **P 17 30 01.2 -1.9**
NACB IAmb IAmb 17 30 25.9
comp=Z,133nm,1.4s
NACB Ninganchiao 25.39 230 P **P 17 30 02.7 -0.4**
ULN Ulaanbaatar 25.59 294 P **P 17 30 05.4 +0.4**
ULN Ulaanbaatar 25.59 294 P **P 17 30 05.5 +0.5**
ULN Ulaanbaatar 25.59 294 P **P 17 30 06.7 +1.7**
ULN Ulaanbaatar 25.59 294 *e*P **P 17 30 06.7 +1.7**
WHN Wuhan 25.70 252 P **P 17 30 06.3 +0.4**
WHN S **S 17 34 27.0 +0.3**
WHN pmax pmax
comp=Z,380nm,1.1s
WHN pmax pmax
comp=Z,2μm,4.0s
WHN LR LR
comp=Z,5μm,16.4s
WHN LR LR
comp=Z,3μm,14.0s
WHN LR LR
comp=Z,3μm,15.2s
SONM Songino Array 26.04 294 P **P 17 30 09.8 +0.9**
SONM Songino Array 26.04 294 P **P 17 30 09.5 +0.5**
comp=Z,97nm,0.8s,baz=89,slow=9.1,SNR=200
SONM S **S 17 34 33.3 +1.2**
comp=Z,2.8nm,0.8s,baz=111,slow=6.5,SNR=1.2
SONM LR LR 17 40 53.4
comp=Z,618nm,18.1s,baz=93,slow=37
comp=Z,97nm,0.8s
SONM Songino Array 26.04 294 P **P 17 30 09.9 +0.9**
SONM pmax pmax
comp=Z,198nm,1.1s
SSLB Suanglung 26.05 231 P **P 17 30 07.6 -1.6**
SSLB Suanglung 26.05 231 P **P 17 30 09.9 +0.7**
YULB Yu-li 26.16 230 P **P 17 30 08.4 -1.8**
YULB IAmb IAmb 17 30 13.3
comp=Z,190nm,1.7s
YULB Yu-li 26.16 230 P **P 17 30 10.2 0.0**
QZH Quanzhou 26.59 236 P **P 17 30 15.5 +1.6**
QZH S **S 17 34 43.3 +2.5**
QZH pmax pmax
comp=Z,340nm,1.0s
QZH pmax pmax
comp=Z,1μm,4.5s
QZH LR LR

comp=Z,1μm,15.1s
QZH LR LR
comp=Z,800nm,15.8s
TPUB Ta-pu 26.62 231 P P 17 30 13.0 -1.3
TPUB IAmb IAmb 17 30 17.7
comp=Z,107nm,0.9s
TPUB Ta-pu 26.62 231 P P 17 30 15.6 +1.3
TWGBT Beinan 26.74 229 P P 17 30 19.6 +4.3
TWG Pinlang 26.74 229 P P 17 30 14.0 -1.3
TWG IAmb IAmb 17 30 27.1
comp=Z,73nm,0.5s
KNMB Chin-men Tao 27.06 236 P P 17 30 17.3 -0.9
IRK Irkutsk 27.53 304 *e*P **P 17 30 21.8 -0.4**
IRK *e*S **S 17 34 56.4 +1.1**
IRK pmax pmax
comp=Z,667nm,1.9s
IRK Irkutsk 27.53 304 *e*P **P 17 30 21.8 -0.4**
XAN Xi'an 27.78 263 P P 17 30 26.0 +1.3
XAN pP pP 17 30 50.5 +2.4
XAN S **S 17 35 00.5 +0.8**
XAN pmax pmax
comp=Z,69nm,1.1s
XAN pmax pmax
comp=Z,370nm,5.9s
XAN LR LR
comp=Z,870nm,16.5s
XAN LR LR
comp=Z,1μm,16.5s
XAN LR LR
comp=Z,790nm,15.1s
ZAK Zakamensk 28.06 300 *e*P **P 17 30 27.5 +0.5**
ZAK pmax pmax
comp=Z,121nm,1.7s
CNSH ChangSha 28.11 249 P P 17 30 26.8 -0.7
CNSH S **S 17 35 02.0 -2.7**
CNSH pmax pmax
comp=Z,77nm,1.2s
CNSH LR LR
comp=Z,1μm,20.2s
CNSH LR LR
comp=Z,830nm,17.9s
CNSH LR LR
comp=Z,1μm,18.0s
KIWB Kanaga Island 28.42 57 P P 17 30 27.8 -2.2
BILL Bilibino 28.43 18 P P 17 30 28.4 -1.6
BILL Bilibino 28.43 18*d i*P **P 17 30 28.9 -1.1**
BILL pmax pmax
comp=Z,33nm,1.6s
GSTR Great Sitkin T 29.10 57 P P 17 30 33.2 -3.0
ENH Enshi 29.30 256 P P 17 30 36.2 -2.0
ENH IAmb IAmb 17 30 40.0
comp=Z,90nm,0.9s
ENH Enshi 29.30 256 P P 17 30 39.1 +0.9
MOY Mondy 29.53 303 *e*P **P 17 30 41.1 +1.1**
MOY pmax pmax
comp=Z,934nm,1.9s
TIXI Tiksi 29.97 351 P P 17 30 40.8 -2.7
TIXI IAmb IAmb 17 31 45.4
comp=Z,63nm,1.2s
TIXI Tiksi 29.97 351 LR LR 17 43 51.1
comp=Z,454nm,19.8s,baz=224,slow=38
TIXI Tiksi 29.97 351 ⇑*i*P **P 17 30 41.4 -2.1**
TIXI pmax pmax
comp=Z,74nm,1.4s
ATKA Atka Island 30.25 56 P P 17 30 42.6 -3.6
ATKA IAmb IAmb 17 31 45.2
comp=Z,62nm,1.2s
H11N2 WAKE ISLAND Hy 30.50 131 T T 18 02 34.4
baz=326
H11N1 WAKE ISLAND Hy 30.52 131 T T 18 02 30.4
baz=326,slow=74
H11N3 WAKE ISLAND Hy 30.52 131 T T 18 02 36.8
baz=326,slow=74
LZH Lanzhou 30.64 271 *e*P **P 17 30 52.3 +2.3**
LZH PP **PP 17 31 58.0 -3.0**
LZH S **S 17 35 39.5 -5.1**
LZH pmax pmax
comp=Z,270nm,1.3s
LZH pmax pmax
comp=Z,320nm,4.8s
LZH LR LR
comp=Z,2μm,14.1s
LZH LR LR
comp=Z,930nm,14.8s
LZH LR LR
comp=Z,870nm,14.8s
GZH Guangzhou 31.24 241 *e*P P 17 30 49.8 -5.4
GZH sP sP 17 31 25.5 -5.3
GZH S **S 17 35 45.8 -8.0**
GZH pmax pmax
comp=Z,34nm,1.1s
GZH pmax pmax
comp=Z,740nm,3.3s
GZH LR LR
comp=Z,1μm,10.0s
GZH LR LR
comp=Z,1μm,11.3s
GZH LR LR
comp=Z,1μm,13.8s
HKPS Hong Kong Po S 31.31 239 P P 17 30 51.7 -4.2
HKPS IAmb IAmb 17 31 51.6
comp=Z,70nm,0.9s
SZP Santa 31.37 224 P P 17 30 58.5 +2.1
H11S1 WAKE ISLAND Hy 31.38 132 T T 18 03 05.1
baz=329,slow=74,SNR=47
H11S3 WAKE ISLAND Hy 31.39 133 T T 18 03 10.3
baz=329,slow=74,SNR=422
H11S2 WAKE ISLAND Hy 31.40 132 T T 18 03 09.7
baz=329,slow=74,SNR=210
GULI GuiLin 31.71 248 P P 17 31 01.8 +2.4
GULI S **S 17 35 58.0 -3.3**
GULI sS **sS 17 36 38.5 -4.3**
GULI pmax pmax
comp=Z,40nm,1.0s
GULI pmax pmax
comp=Z,280nm,4.1s
GULI LR LR
comp=Z,1μm,18.7s
GULI LR LR
comp=Z,860nm,19.1s
GULI LR LR
comp=Z,870nm,14.9s
GTA Gaotai 32.36 279 P P 17 31 07.0 +1.9
GTA S **S 17 36 11.5 +0.1**
GTA SS **SnSn 17 38 16.3 +1.2**
GTA pmax pmax
comp=Z,58nm,1.0s
GTA pmax pmax
comp=Z,150nm,4.7s
GTA LR LR
comp=Z,2μm,17.8s
GTA LR LR
comp=Z,710nm,19.3s
GTA LR LR
comp=Z,470nm,19.3s
SPIA Saint Paul Isl 32.87 47 P P 17 31 07.6 -1.5
SPIA Saint Paul Isl 32.87 47 P P 17 31 07.1 -1.9
baz=264
CD2 Chengdu 33.12 262 P P 17 31 13.0 +1.3
CD2 pP pP 17 31 37.5 +2.1
CD2 PP **PnPn 17 32 26.0 +0.7**
CD2 S **S 17 36 20.0 -3.2**
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,280nm,4.4s
GAMB Gambell 33.50 35 P P 17 31 12.4 -2.0
baz=252
NIKH Nikolski High 33.51 55 P P 17 31 12.6 -2.1
baz=272
GYA Guiyang 33.55 253 ⇑P **P 17 31 16.5 +0.9**
GYA S **S 17 36 28.3 -1.7**
GYA pmax pmax
comp=Z,53nm,1.2s
GYA LR LR
comp=Z,910nm,13.9s
TGY Tagaytay City 34.07 220 P P 17 31 19.2 -0.8
comp=Z,164nm,0.5s,baz=331,slow=3.6,SNR=5.9
comp=Z,164nm,0.5s
UNV Unalaska Valle 34.89 53 P P 17 31 24.9 -1.7
baz=272
M11K Mekoryuk 35.32 42 P P 17 31 27.9 -2.4
baz=263
TNA Tin City 35.57 33 P P 17 31 31.3 -1.0
TNA Tin City 35.57 33 P P 17 31 30.9 -1.4
baz=254

K13K Kusilvak Mount 36.26 39 P P 17 31 37.2 -1.0
K13K Kusilvak Mount 36.26 39 P P 17 31 36.9 -1.3
baz=262,SNR=6.1
ANM Nome 36.38 35 P P 17 31 37.7 -1.6
ANM Nome 36.38 35 P P 17 31 37.7 -1.6
ANM pmax pmax
comp=Z,25nm,1.0s
ANM Nome 36.38 35 P P 17 31 38.6 -0.7
baz=258
QIZ Qiongzhong 36.41 240 P P 17 31 37.8 -2.3
QIZ pP **pP 17 32 04.0 +0.1**
QIZ PP **PnPn 17 33 06.0 +0.1**
QIZ S **S 17 37 11.3 -2.5**
QIZ pmax pmax
comp=Z,380nm,6.1s
QIZ LR LR
comp=Z,530nm,12.4s
QIZ LR LR
comp=Z,410nm,11.7s
QIZ LR LR
comp=Z,710nm,13.1s
M13K Dall Lake 36.73 42 P P 17 31 41.7 -0.6
M13K Dall Lake 36.73 42 P P 17 31 42.3 +0.1
baz=266
J14K Nanvaranak Lak 36.88 38 P P 17 31 42.0 -1.5
J14K Nanvaranak Lak 36.88 38 P P 17 31 44.1 +0.6
baz=262
F15K North Star Dit 36.92 33 P P 17 31 44.1 +0.3
baz=257
G15K Niukluk 37.03 34 P P 17 31 44.8 0.0
baz=259
PZH PanZhiHua 37.04 258 P P 17 31 46.8 +1.3
PZH PP **PP 17 33 12.3 +0.4**
PZH S **S 17 37 20.5 -3.0**
PZH pmax pmax
comp=Z,70nm,1.2s
PZH pmax pmax
comp=Z,390nm,3.5s
L14K Kuka Creek 37.13 41 P P 17 31 43.9 -1.7
L14K Kuka Creek 37.13 41 P P 17 31 45.6 0.0
baz=265
KMI Kunming 37.16 255 ⇓P **P 17 31 47.8 +1.2**
KMI pP pP 17 32 10.3 -0.3
KMI sP sP 17 32 22.0 -0.8
KMI PP **PP 17 33 14.0 +0.8**
KMI S **S 17 37 24.0 -1.5**
KMI pmax pmax
comp=Z,65nm,1.6s
KMI pmax pmax
comp=Z,510nm,3.5s
KMI LR LR
comp=Z,500nm,16.1s
KMI LR LR
comp=Z,540nm,18.5s
KMI LR LR
comp=Z,470nm,12.0s
KMI Kunming 37.16 255 P P 17 31 47.8 +1.2
GOMU GeErMu 37.24 277 P P 17 31 49.0 +1.6
GOMU S **S 17 37 25.3 -1.6**
GOMU SS **SnSn 17 40 08.0 -5.3**
GOMU pmax pmax
comp=Z,150nm,0.9s
GOMU LR LR
comp=Z,640nm,17.5s
GOMU LR LR
comp=Z,910nm,15.1s
GOMU LR LR
comp=Z,1μm,17.4s
C16K Lisburne Hills 37.30 29 P P 17 31 46.4 -0.6
C16K IAmb IAmb 17 32 34.1
comp=Z,38nm,1.0s
C16K Lisburne Hills 37.30 29 P P 17 31 47.1 +0.1
baz=253,SNR=8.6
S12K Black Hills 37.37 50 P P 17 31 46.8 -1.1
baz=273
M14K Bethel 37.44 42 P P 17 31 46.6 -1.7
M14K Bethel 37.44 42 P P 17 31 47.7 -0.5
baz=266
N14K Kuskokwak Cree 37.53 43 P P 17 31 49.6 +0.5
N14K IAmb IAmb 17 32 25.7
comp=Z,58nm,0.9s
N14K Kuskokwak Cree 37.53 43 P P 17 31 48.3 -0.8
baz=268,SNR=6.2
H16K Elim 37.72 35 P P 17 31 49.3 -1.3
baz=261,SNR=16
L15K Ungalak Mounta 37.73 40 P P 17 31 50.1 -0.6
baz=266
O14K Tigyukauivet M 37.73 44 P P 17 31 51.2 +0.5
O14K IAmb IAmb 17 32 33.4
comp=Z,33nm,0.9s
O14K Tigyukauivet M 37.73 44 P P 17 31 49.9 -0.8
baz=269
K15K Wolf Creek Mou 37.76 39 P P 17 31 52.7 +1.7
K15K Wolf Creek Mou 37.76 39 P P 17 31 50.0 -1.0
baz=265,SNR=8.0
G16K Koyuk River 37.80 34 P P 17 31 50.3 -0.9
baz=260
D17K Noatak River 37.98 30 P P 17 31 52.6 -0.1
baz=256,SNR=19
M15K Kasigluk River 38.06 42 P P 17 31 52.5 -1.0
baz=268,SNR=11
RDOG Red Dog Mine 38.13 30 P P 17 31 52.6 -1.4
RDOG IAmb IAmb 17 32 36.0
comp=Z,69nm,1.6s
RDOG Red Dog Mine 38.13 30 P P 17 31 52.8 -1.2
baz=256
J16K Anvik River 38.27 38 P P 17 31 53.8 -1.5
J16K Anvik River 38.27 38 P P 17 31 54.4 -0.8
baz=264
I17K Unalakleet 38.29 37 P P 17 31 54.4 -1.0
baz=264,SNR=12
SDPT Sand Point 38.30 50 P P 17 31 54.1 -1.4
baz=275
E17K Hotham Inlet 38.32 31 P P 17 31 54.1 -1.5
baz=258,SNR=39
N15K Kwethluk River 38.34 43 P P 17 31 53.8 -2.1
N15K IAmb IAmb 17 32 27.8
comp=Z,57nm,0.8s
N15K Kwethluk River 38.34 43 P P 17 31 54.7 -1.2
baz=269,SNR=7.8
F17K Baldwin Pennin 38.42 32 P P 17 31 55.2 -1.2
baz=260,SNR=6.2
O15K Ungalikthiuk R 38.47 44 IAmb IAmb 17 32 29.6
comp=Z,45nm,1.0s
O15K Ungalikthiuk R 38.47 44 P P 17 31 55.4 -1.6
baz=270
DAV Davao City (W) 38.49 208 P P 17 31 57.3 -0.2
comp=Z,106nm,0.3s,baz=66,slow=16,SNR=1.9
DAV LR LR 17 50 12.4
comp=Z,197nm,18.2s,baz=16,slow=40
comp=Z,106nm,0.3s
G17K Kiwalik Mounta 38.52 34 P P 17 31 55.9 -1.4
baz=262,SNR=31
L16K Owhat River 38.69 40 P P 17 31 57.6 -1.1
baz=268,SNR=12
S14K Fog Glacier 38.74 49 P P 17 31 57.2 -2.2
baz=274
H17K Granite Mounta 38.75 35 P P 17 31 57.4 -1.8
baz=263,SNR=20
SLVN Son La 38.77 249 P P 17 31 58.5 -1.4
SLVN IAmb IAmb 17 32 04.0
comp=Z,61nm,1.1s
SLVN Son La 38.77 249 P P 17 32 02.2 +2.2
NRIK Noril'sk 38.79 332 P P 17 31 57.9 -1.6
NRIK Noril'sk 38.79 332 P P 17 31 58.7 -0.8
comp=Z,95nm,1.0s,baz=106,slow=9.2,SNR=146
NRIK S **S 17 37 47.9 -0.9**
comp=Z,8.7nm,0.9s,baz=105,slow=18,SNR=6.1
NRIK LR LR 17 48 47.2
comp=Z,505nm,19.7s,baz=102,slow=37
comp=Z,95nm,1.0s
B18K Kokolik River 38.84 28 P P 17 32 00.5 +0.6
baz=256
E18K Tukpahlearik C 38.85 31 P P 17 32 00.1 0.0
E18K Tukpahlearik C 38.85 31 P P 17 31 59.5 -0.5
baz=259,SNR=22
CHNA Chernabura Isl 38.85 51 P P 17 31 59.3 -0.9
baz=276
C18K Utukok River 38.88 29 P P 17 31 59.4 -1.0
C18K IAmb IAmb 17 32 25.7
comp=Z,32nm,0.8s
C18K Utukok River 38.88 29 P P 17 32 00.5 +0.1
baz=257,SNR=22
M16K Timber Creek 38.91 41 P P 17 32 00.0 -0.6
baz=269,SNR=10
J17K VABM Dome 38.97 37 IAmb IAmb 17 32 28.8
comp=Z,101nm,1.1s

J17K VABM Dome 38.97 37 P P 17 32 00.8 -0.3
baz=266,SNR=27
N16K Nishlik Lake 39.00 42 P P 17 32 00.6 -0.8
baz=270,SNR=19
F18K Selawik 39.08 32 P P 17 32 01.5 -0.4
baz=261
ZAA0 Zalesovo Array 39.20 308 P P 17 32 03.2 +0.1
ZALV Zalesovo Beam 39.20 308 P P 17 32 03.6 +0.6
ZALV Zalesovo Beam 39.20 308 P P 17 32 02.9 -0.2
comp=Z,385nm,0.8s,baz=85,slow=7.9,SNR=609
ZALV PcP **PcP 17 34 11.3 +1.2**
comp=Z,25nm,0.8s,baz=98,slow=2.6,SNR=3.8
ZALV ScP **ScP 17 37 50.7 +2.0**
comp=Z,21nm,1.1s,baz=97,slow=3.2,SNR=4.7
ZALV LR LR 17 49 40.4
comp=Z,675nm,18.0s,baz=84,slow=38
L17K Donlin 39.26 39 P P 17 32 02.9 -0.6
baz=268,SNR=18
K17K Iditarod 39.28 39 P P 17 32 03.8 +0.1
baz=267
A19K Wainwright 39.29 27 P P 17 32 03.6 -0.1
baz=256
O16K Kokwok River B 39.35 43 P P 17 32 04.2 -0.1
O16K Kokwok River B 39.35 43 P P 17 32 03.9 -0.3
baz=271,SNR=10
CHGN Chignik 39.37 49 P P 17 32 04.0 -0.5
baz=275
G18K Tagagawik 39.39 34 IAmb IAmb 17 32 09.0
comp=Z,35nm,0.8s
G18K Tagagawik 39.39 34 P P 17 32 04.1 -0.4
baz=263,SNR=57
P16K Nushagak River 39.42 44 P P 17 32 04.4 -0.5
baz=272
H18K Honhosa River 39.43 35 P P 17 32 04.4 -0.5
baz=264
WMQ Urumqi 39.58 291 *e*P **P 17 32 07.5 +1.0**
WMQ pP pP 17 32 33.3 +2.5
WMQ S **S 17 38 01.5 +0.2**
WMQ pmax pmax
comp=Z,92nm,1.1s
WMQ pmax pmax
comp=Z,440nm,3.7s
WMQ LR LR
comp=Z,4μm,17.5s
WMQ LR LR
comp=Z,1μm,20.1s
WMQ LR LR
comp=Z,840nm,18.1s
M17K Holitna River 39.66 41 P P 17 32 05.5 -1.3
baz=270,SNR=17
R16K Pilot Point 39.73 47 P P 17 32 06.6 -0.8
baz=274
N17K Nushagak Hills 39.78 42 P P 17 32 07.7 -0.1
N17K IAmb IAmb 17 32 36.1
comp=Z,104nm,1.6s
N17K Nushagak Hills 39.78 42 P P 17 32 06.2 -1.7
baz=271
O17K Koliganek Bris 39.85 43 P P 17 32 07.0 -1.4
baz=272,SNR=23
F19K Shaleruckik Mo 39.85 32 P P 17 32 08.2 -0.1
baz=263
D19K Kuna River 39.96 29 P P 17 32 09.2 -0.1
D19K IAmb IAmb 17 32 51.4
comp=Z,84nm,1.1s
D19K Kuna River 39.96 29 P P 17 32 10.0 +0.6
baz=260
L18K Granite Mounta 40.02 39 P P 17 32 11.0 +1.2
baz=269,SNR=15
GCSA Galena City Sc 40.02 35 P P 17 32 10.6 +0.8
baz=266,SNR=16
J18K Innoko River 40.03 37 P P 17 32 09.5 -0.4
J18K IAmb IAmb 17 32 37.2
comp=Z,130nm,1.6s
J18K Innoko River 40.03 37 P P 17 32 10.5 +0.6
baz=268,SNR=17
G19K Purcell Mounta 40.05 33 P P 17 32 10.4 +0.3
baz=264,SNR=44
E19K Redstone River 40.14 31 IAmb IAmb 17 32 15.1
comp=Z,56nm,1.0s
E19K Redstone River 40.14 31 P P 17 32 11.4 +0.6
baz=263
P17K Kvichak River 40.21 44 P P 17 32 12.0 +0.6
baz=273
TNCH TengChong 40.25 259 ⇓P **P 17 32 14.5 +2.1**
TNCH pP pP 17 32 37.8 +1.1
TNCH sP sP 17 32 49.8 +1.0
TNCH PcS **PcS 17 38 06.3 +1.1**
TNCH S **S 17 38 14.0 +2.1**
TNCH SS **SS 17 41 10.5 -3.6**
TNCH ScS **ScS 17 42 08.3 +0.4**
TNCH pmax pmax
comp=Z,160nm,1.0s
TNCH pmax pmax
comp=Z,680nm,2.8s
TNCH LR LR
comp=Z,390nm,11.1s
TNCH LR LR
comp=Z,360nm,13.8s
TNCH LR LR
comp=Z,640nm,18.0s
H19K Roundabout Mou 40.26 34 IAmb IAmb 17 32 17.0
comp=Z,56nm,0.8s
H19K Roundabout Mou 40.26 34 P P 17 32 12.5 +0.8
baz=266,SNR=91
N18K Kilae Creek 40.42 42 P P 17 32 13.1 -0.1
N18K Kilae Creek 40.42 42 P P 17 32 14.7 +1.5
baz=272,SNR=12
M18K Stony River 40.43 40 P P 17 32 14.1 +0.9
baz=271
ZSN Zaisan 40.45 298 *e*P **P 17 32 14.6 +1.0**
ZSN pmax pmax
comp=Z,61nm,0.8s
ZSN Zaisan 40.45 298 *e*P **P 17 32 14.6 +1.0**
comp=Z,61nm,0.8s
J19K Poorman 40.54 37 IAmb IAmb 17 33 10.9
comp=Z,46nm,1.1s
J19K Poorman 40.54 37 P P 17 32 15.2 +1.1
baz=268,SNR=26
D20K Etivluk River 40.54 29 IAmb IAmb 17 32 18.2
comp=Z,66nm,1.0s
D20K Etivluk River 40.54 29 P P 17 32 14.8 +0.7
baz=262
B20K Meade River 40.56 27 P P 17 32 14.1 0.0
B20K Meade River 40.56 27 P P 17 32 14.6 +0.5
baz=260,SNR=46
Q17K Contact Creek 40.57 45 P P 17 32 15.1 +0.6
baz=275,SNR=8.0
E20K Nigu River 40.64 30 P P 17 32 15.7 +0.8
baz=263
F20K Avaraart Lake 40.68 32 P P 17 32 15.4 +0.3
baz=265,SNR=20
O18K Koktuh Hills 40.80 43 P P 17 32 15.4 -0.9
O18K IAmb IAmb 17 33 07.0
comp=Z,56nm,1.2s
O18K Koktuh Hills 40.80 43 P P 17 32 17.1 +0.8
baz=273,SNR=12
P18K Big Mountain, 40.82 44 IAmb IAmb 17 33 07.5
comp=Z,43nm,0.9s
P18K Big Mountain, 40.82 44 P P 17 32 17.1 +0.7
baz=274,SNR=6.3
L19K White Mountain 40.88 39 P P 17 32 16.0 -0.9
L19K IAmb IAmb 17 32 44.8
comp=Z,121nm,1.6s
L19K White Mountain 40.88 39 P P 17 32 17.8 +0.9
baz=271
H20K Anotleneega Mo 40.91 34 P P 17 32 18.2 +1.1
baz=267,SNR=44
A21K Barrow 40.98 25 P P 17 32 17.9 +0.3
baz=259,SNR=26
CHIR Chirikof Islan 40.98 49 P P 17 32 18.6 +0.8
baz=278
Q18K Katmai Hardscr 40.99 45 P P 17 32 17.4 -0.6
baz=275,SNR=14
I20K Naaghedeneel 41.05 35 IAmb IAmb 17 33 14.8
comp=Z,58nm,1.1s
I20K Naaghedeneel 41.05 35 P P 17 32 19.3 +1.1
baz=268,SNR=5.8
M19K Big River Lodg 41.10 40 IAmb IAmb 17 32 47.0
comp=Z,80nm,1.4s
M19K Big River Lodg 41.10 40 P P 17 32 19.6 +0.9
baz=272,SNR=6.4
N19K Bonanza Creek 41.10 41 IAmb IAmb 17 32 47.2
comp=Z,181nm,1.9s
N19K Bonanza Creek 41.10 41 P P 17 32 19.5 +0.6
baz=273,SNR=9.3
J20K Nowinta River 41.19 36 P P 17 32 20.0 +0.7
J20K IAmb IAmb 17 32 47.9

	comp=Z,44nm,0.9s						
J20K	Nowinta River	41.19	36	P	P	17 32 21.1	+1.7
	baz=269,SNR=58						
K20K	Telida	41.22	38	IAmb	IAmb	17 32 47.5	
	comp=Z,191nm,1.9s						
K20K	Telida	41.22	38	P	P	17 32 20.7	+1.1
	baz=270						
O19K	Port Alsworth	41.22	42	P	P	17 32 20.8	+1.1
	baz=274						
C21K	Knifeblade Rid	41.26	29	P	P	17 32 20.4	+0.5
	baz=263,SNR=38						
L20K	Farewell, AK	41.33	39	P	P	17 32 22.0	+1.4
	baz=272,SNR=10						
B21K	Ikpikpuk River	41.37	28	P	P	17 32 20.1	-0.6
B21K				IAmb	IAmb	17 33 08.2	
	comp=Z,57nm,0.8s						
B21K	Ikpikpuk River	41.37	28	P	P	17 32 21.6	+0.8
	baz=263,SNR=40						
R18K	Karluk	41.40	46	P	P	17 32 21.2	+0.1
	baz=277						
A22K	Sinclair Lake	41.45	26	P	P	17 32 21.8	+0.4
	baz=261,SNR=43						
E21K	Killik River	41.47	30	P	P	17 32 22.4	+0.7
	baz=265						
G21K	Allakaket	41.52	33	IAmb	IAmb	17 32 26.9	
	comp=Z,50nm,0.8s						
G21K	Allakaket	41.52	33	P	P	17 32 23.3	+1.2
	baz=267						
NONG	Nongkai	41.52	246	P	P	17 32 24.7	+2.1
F21K	Alatna River	41.57	32	P	P	17 32 23.3	+0.8
	baz=266,SNR=62						
Q19K	Cape Douglas,	41.67	44	P	P	17 32 22.4	-1.1
Q19K				IAmb	IAmb	17 32 41.0	
	comp=Z,44nm,0.6s						
Q19K	Cape Douglas,	41.67	44	P	P	17 32 24.5	+1.1
	baz=276,SNR=19						
SII	Sitkinak Islan	41.68	48	P	P	17 32 24.0	+0.5
	baz=278						
M20K	Styx River	41.70	40	IAmb	IAmb	17 32 52.3	
	comp=Z,154nm,1.6s						
M20K	Styx River	41.70	40	P	P	17 32 25.5	+1.8
	baz=273,SNR=11						
H21K	Melozitna Rive	41.78	34	P	P	17 32 25.5	+1.2
	baz=269,SNR=29						
P19K	Oil Pt	41.81	43	P	P	17 32 25.0	+0.4
	baz=275						
B22K	Teshekpuk Lake	41.87	27	IAmb	IAmb	17 32 26.8	
	comp=Z,72nm,1.2s						
B22K	Teshekpuk Lake	41.87	27	P	P	17 32 25.3	+0.5
	baz=263,SNR=25						
D22K	Ayikyak River	41.98	29	IAmb	IAmb	17 33 41.3	
	comp=Z,39nm,0.9s						
D22K	Ayikyak River	41.98	29	P	P	17 32 26.8	+1.0
	baz=265,SNR=50						
UBPT	Khong Chiam	41.99	241	P	P	17 32 28.4	+2.0
CHUM	Lake Minchumin	42.00	37	P	P	17 32 28.1	+2.1
	baz=271,SNR=26						
OHAK	Old Harbor	42.07	47	P	P	17 32 26.5	-0.1
OHAK	Old Harbor	42.07	47	P	P	17 32 27.7	+1.1
OHAK	Old Harbor	42.07	47	P	P	17 32 27.1	+0.5
	baz=278,SNR=9.0						
F22K	John River	42.09	31	P	P	17 32 28.2	+1.5
	baz=267						
PPLA	Purkeypile	42.09	38	P	P	17 32 29.1	+2.2
	baz=273,SNR=18						
CAST	Castle Rocks	42.11	37	IAmb	IAmb	17 33 15.6	
	comp=Z,41nm,0.8s						
CAST	Castle Rocks	42.11	37	P	P	17 32 29.6	+2.6
	baz=272,SNR=77						
I21K	Tanana	42.12	35	P	P	17 32 26.7	-0.2
I21K	Tanana	42.12	35	P	P	17 32 28.3	+1.4
	baz=270,SNR=14						
SPCR	Spurr Chakacha	42.19	41	P	P	17 32 29.4	+1.8
	baz=274,SNR=7.1						
E22K	Anaktuvuk Pass	42.25	30	IAmb	IAmb	17 32 36.9	
	comp=Z,50nm,0.6s						
E22K	Anaktuvuk Pass	42.25	30	P	P	17 32 28.9	+0.8
	baz=267,SNR=80						
MK31	Makanchi Array	42.32	297	*i* P	P	17 32 29.8	+0.9
MKAR	Makanchi Array	42.32	297	P	P	17 32 29.2	+0.4
MKAR	Makanchi Array	42.32	297	P	P	17 32 29.5	+0.6
	comp=Z,193nm,0.8s,baz=81,slow=11,SNR=352						
MKAR				PcP	PcP	17 34 21.6	+1.2
	comp=Z,6.8nm,0.5s,baz=76,slow=2.2,SNR=1.5						
MKAR				ScP	ScP	17 38 01.6	+0.4
	comp=Z,1.4nm,0.7s,baz=79,slow=3.2,SNR=1.5						
MKAR				S	S	17 38 40.2	-1.6
	comp=Z,11nm,0.9s,baz=70,slow=18,SNR=8.3						
	comp=Z,193nm,0.8s						
MKAR	Makanchi Array	42.32	297	*e*P	P	17 32 29.8	+0.9
G22K	Bettles	42.33	32	P	P	17 32 29.2	+0.6
	baz=269						
STLK	Strandline Lak	42.34	40	IAmb	IAmb	17 32 57.2	
	comp=Z,135nm,1.6s						
Q20K	Shuyak Island	42.36	45	P	P	17 32 29.6	+0.6
	baz=277,SNR=15						
SYI	Shuyak Island	42.36	45	IAmb	IAmb	17 33 23.3	
	comp=Z,38nm,0.8s						
KDAK	Kodiak Island	42.37	46	P	P	17 32 28.2	-0.8
KDAK				IAmb	IAmb	17 32 31.7	
	comp=Z,34nm,0.7s						
KDAK	Kodiak Island	42.37	46	LR	LR	17 50 55.3	
	comp=Z,199nm,21.7s,baz=110,slow=37						
KDAK	Kodiak Island	42.37	46	*d i* P	P	17 32 29.7	+0.7
KDAK				pmax	pmax		
	comp=Z,43nm,0.7s						
KDAK	Kodiak Island	42.37	46	P	P	17 32 29.5	+0.5
	baz=278						
KDAK	Kodiak Island	42.37	46	P	P	17 32 29.8	+0.8
KDAK				pP	pP	17 32 53.7	+0.1
H22K	Ishtalitna Cre	42.37	34	P	P	17 32 30.5	+1.5
	baz=270,SNR=38						
SKT	Skwentna	42.45	40	IAmb	IAmb	17 32 58.3	
	comp=Z,68nm,1.5s						
SKT	Skwentna	42.45	40	P	P	17 32 30.6	+0.9
	baz=274,SNR=6.3						
MAKZ	Makanchi	42.52	297	P	P	17 32 31.2	+0.7
MAKZ	Makanchi	42.52	297	P	P	17 32 31.9	+1.4
BPAW	Bear Paw Mtn.	42.57	36	IAmb	IAmb	17 32 58.5	
	comp=Z,75nm,1.4s						
BPAW	Bear Paw Mtn.	42.57	36	P	P	17 32 31.4	+0.7
	baz=272,SNR=33						
DLV	Lat	42.64	235	P	P	17 32 35.0	+3.1
D23K	Nanushuk River	42.71	29	IAmb	IAmb	17 32 36.3	
	comp=Z,42nm,1.0s						
D23K	Nanushuk River	42.71	29	P	P	17 32 32.8	+1.1
	baz=267,SNR=43						
C23K	Itkillik River	42.78	28	IAmb	IAmb	17 32 36.3	
	comp=Z,54nm,1.1s						
C23K	Itkillik River	42.78	28	P	P	17 32 33.3	+1.1
	baz=266						
COLD	Coldfoot	42.84	32	P	P	17 32 33.4	+0.6
	baz=270,SNR=51						
SUA	Susitna One	42.87	40	P	P	17 32 34.2	+1.0
	baz=275,SNR=14						
G23K	Bananza Creek	42.91	33	P	P	17 32 33.6	+0.2
G23K				IAmb	IAmb	17 32 38.3	
	comp=Z,37nm,0.8s						
G23K	Bananza Creek	42.91	33	P	P	17 32 34.5	+1.1
	baz=270,SNR=96						
TRF	Thorofare Moun	42.92	37	IAmb	IAmb	17 33 29.2	
	comp=Z,56nm,1.1s						
TRF	Thorofare Moun	42.92	37	P	P	17 32 35.1	+1.5
	baz=274,SNR=34						
CUT	Chulitna	43.01	39	P	P	17 32 35.2	+1.0
	baz=275,SNR=5.8						
LSA	Lhasa	43.04	270	IAmb	IAmb	17 33 01.9	
	comp=Z,70nm,1.3s						
LSA	Lhasa	43.04	270	P	P	17 32 36.8	+1.4
LSA				S	S	17 38 50.5	-3.1
LSA				LR	LR		
	comp=Z,710nm,22.3s						
LSA				LR	LR		
	comp=Z,520nm,46.0s						
LSA	Lhasa	43.04	270	*i* P	P	17 32 37.9	+2.5
	SNR=10.0						
BRSE	Bradley Lake S	43.06	43	P	P	17 32 35.8	+1.2
	baz=277,SNR=11						
E23K	Chandalar	43.08	31	IAmb	IAmb	17 32 43.5	
	comp=Z,32nm,0.7s						
E23K	Chandalar	43.08	31	P	P	17 32 35.8	+1.0
	baz=269,SNR=57						
TOLK	Toolik Lake Re	43.10	30	P	P	17 32 35.9	+0.9
	baz=269,SNR=18						
H23K	Yukon River	43.12	34	P	P	17 32 36.9	+1.7
	baz=272						
M22K	Willow	43.13	40	IAmb	IAmb	17 33 29.7	
	comp=Z,58nm,1.1s						
M22K	Willow	43.13	40	P	P	17 32 35.7	+0.5
	baz=276						
I23K	Minto, Yukon-K	43.23	35	P	P	17 32 35.7	-0.2
I23K	Minto, Yukon-K	43.23	35	P	P	17 32 37.8	+1.9
	baz=273,SNR=23						
NEA2	Nenana	43.38	36	IAmb	IAmb	17 32 40.3	
	comp=Z,74nm,0.8s						
NEA2	Nenana	43.38	36	P	P	17 32 38.8	+1.6
	baz=273,SNR=144						
D24K	Happy Valley	43.38	29	P	P	17 32 37.8	+0.7
	baz=269,SNR=7.4						
RC01	Rabbit Creek A	43.39	41	P	P	17 32 37.2	-0.1
RC01				IAmb	IAmb	17 33 30.5	
	comp=Z,41nm,0.8s						
RC01	Rabbit Creek A	43.39	41	P	P	17 32 38.6	+1.4
	baz=277,SNR=15						
C24K	Franklin Bluff	43.44	28	IAmb	IAmb	17 32 46.2	
	comp=Z,112nm,1.1s						
C24K	Franklin Bluff	43.44	28	P	P	17 32 38.6	+1.1
	baz=268						
O22K	Cooper Landing	43.47	42	P	P	17 32 38.7	+0.8
	baz=277,SNR=8.9						
E24K	Your Creek	43.50	31	P	P	17 32 38.0	-0.1
E24K				IAmb	IAmb	17 32 54.2	
	comp=Z,43nm,0.9s						
E24K	Your Creek	43.50	31	P	P	17 32 39.4	+1.3
	baz=270,SNR=67						
MCK	McKinley	43.50	37	IAmb	IAmb	17 33 18.1	
	comp=Z,78nm,1.1s						
MCK	McKinley	43.50	37	P	P	17 32 39.6	+1.4
	baz=274,SNR=38						
KURK	Kurchatov	43.56	304	P	P	17 32 39.3	+0.6
KURK				PcP	PcP	17 34 25.8	+1.3
KURK	Kurchatov	43.56	304	P	P	17 32 39.8	+1.1
KURK	Kurchatov	43.56	304	P	P	17 32 39.9	+1.1
KURK						17 34 24.9	
KURK	Kurchatov	43.56	304	*e*P	P	17 32 39.8	+1.1
RND	Reindeer	43.56	37	IAmb	IAmb	17 33 06.5	
	comp=Z,65nm,1.0s						
PMR	Palmer	43.62	40	P	P	17 32 40.7	+1.6
PMR	Palmer	43.62	40	P	P	17 32 40.1	+1.1
	baz=276,SNR=6.2						
KURBB	Kurchatov Arra	43.64	304	P	P	17 32 39.9	+0.5
	comp=Z,453nm,0.9s,baz=75,slow=8.7,SNR=724						
KURBB				PcP	PcP	17 34 24.9	+0.2
	comp=Z,8.3nm,0.6s,baz=52,slow=4.4,SNR=2.2						
KURBB				S	S	17 38 59.5	-1.4
	comp=Z,8.5nm,0.9s,baz=80,slow=17,SNR=7.0						
KURBB	Kurchatov Arra	43.64	304	P	P	17 32 40.1	+0.7
SEW	Seward	43.65	42	IAmb	IAmb	17 33 36.9	
	comp=Z,43nm,0.8s						
SEW	Seward	43.65	42	P	P	17 32 40.1	+0.8
	baz=278,SNR=6.4						
F24K	Squaw Lake	43.74	31	P	P	17 32 41.1	+1.1
	baz=271,SNR=65						
H24K	Noodor Dome	43.81	34	P	P	17 32 42.8	+2.1
	baz=273,SNR=44						
WRH	Wood River Hil	43.81	36	IAmb	IAmb	17 33 08.1	
	comp=Z,147nm,1.7s						
TNTI	Ternate	43.86	203	P	P	17 32 43.2	+1.7
TNTI	Ternate	43.86	203	P	P	17 32 49.0	+7.5
COLA	College	43.88	35	P	P	17 32 42.0	+0.8
COLA	College	43.88	35	P	P	17 32 43.2	+2.1
COLA	College	43.88	35	*c i* P	P	17 32 42.9	+1.8
COLA				*i* *PP	pP	17 33 05.6	-0.2
COLA				pmax	pmax		
	comp=Z,83nm,0.8s						
COLA	College	43.88	35	P	P	17 32 43.7	+2.5
	baz=274						
COLA	College	43.88	35	P	P	17 32 42.9	+1.8
COLA				pP	pP	17 33 07.0	+1.1
COLA				sP	sP	17 33 19.5	+1.6
CHTO	Chiang Mai	43.91	251	P	P	17 32 41.3	-0.6
CHTO				IAmb	IAmb	17 33 09.8	
	comp=Z,95nm,1.1s						
CHTO	Chiang Mai	43.91	251	P	P	17 32 43.4	+1.5
CHTO	Chiang Mai	43.91	251	P	P	17 32 43.8	+1.9
CHTO	Chiang Mai	43.91	251	P	P	17 32 41.3	-0.6
CHTO				pmax	pmax		
	comp=Z,95nm,1.1s						
CCB	Clear Creek Bu	43.92	36	IAmb	IAmb	17 33 07.8	
	comp=Z,66nm,1.6s						
G24K	Hadwenzic Riv	43.93	33	P	P	17 32 43.2	+1.7
	baz=273,SNR=40						
KNK	Knik Glacier	43.96	40	P	P	17 32 43.1	+1.2
	baz=277,SNR=18						
BAKI	Biak	43.97	190	P	P	17 32 51.0	+8.6
SML	Sawmill	43.97	40	P	P	17 32 43.5	+1.5
	baz=277,SNR=38						
POKR	Poker Plat Res	44.04	35	P	P	17 32 44.4	+1.9
	baz=274,SNR=18						
PWL	Port Wells	44.10	41	P	P	17 32 42.8	-0.1
PWL				IAmb	IAmb	17 33 39.9	
	comp=Z,49nm,1.0s						
PWL	Port Wells	44.10	41	P	P	17 32 44.4	+1.4
	baz=278,SNR=18						
CM31	Chiang Mai Arr	44.15	251	IAmb	IAmb	17 33 11.4	
	comp=Z,47nm,1.0s						
CM31	Chiang Mai Arr	44.15	251	P	P	17 32 45.6	+1.8
CMAR	Chiang Mai Arr	44.15	251	P	P	17 32 44.4	+0.6
CMAR				PcP	PcP	17 34 25.5	-1.5
CMAR	Chiang Mai Arr	44.15	251	P	P	17 32 45.1	+1.2
	comp=Z,6.6nm,0.7s,baz=42,slow=7.6,SNR=67						
CMAR				S	S	17 39 07.1	-1.9
	comp=Z,0.8nm,0.8s,baz=42,slow=8.0,SNR=2.3						
	comp=Z,6.6nm,0.7s						
CMAR	Chiang Mai Arr	44.15	251	P	P	17 32 44.4	+0.6
CMAR						17 34 25.5	
D25K	Kavik River	44.26	29	IAmb	IAmb	17 32 48.5	
	comp=Z,38nm,0.7s						
D25K	Kavik River	44.26	29	P	P	17 32 44.8	+0.6
	baz=271,SNR=92						
M23K	Glacier View	44.26	40	P	P	17 32 45.7	+1.4
	baz=278,SNR=16						
IL31		44.30	35	IAmb	IAmb	17 32 47.7	
	comp=Z,54nm,1.1s						
ILAR	Eielson Array	44.30	35	P	P	17 32 45.0	+0.4
ILAR	Eielson Array	44.30	35	P	P	17 32 45.6	+1.1
	comp=Z,33nm,0.9s,baz=265,slow=5.8,SNR=192						
ILAR				S	S	17 39 10.5	+0.3
	comp=Z,0.2nm,0.4s,baz=279,slow=12,SNR=1.9						
ILAR				LR	LR	17 52 11.4	
	comp=Z,342nm,20.0s,baz=280,slow=37						
	comp=Z,33nm,0.9s						
HDA	Harding Lake	44.31	36	IAmb	IAmb	17 33 11.5	
	comp=Z,148nm,1.7s						
HDA	Harding Lake	44.31	36	P	P	17 32 45.6	+1.0
	baz=276,SNR=33						
SCM	Sheep Creek Mo	44.44	40	IAmb	IAmb	17 33 36.2	
	comp=Z,71nm,1.0s						
SCM	Sheep Creek Mo	44.44	40	P	P	17 32 47.7	+1.9
	baz=278,SNR=25						
SWI	Sorong	44.47	197	P	P	17 32 47.7	+1.4
	comp=Z,948nmcomp=Z,75nm,0.8s						
G25K	Bearman Lake	44.47	32	P	P	17 32 47.9	+2.1
	baz=274,SNR=33						
SMPI	Sarmi	44.50	186	P	P	17 32 54.6	+8.0
RKPI	Ransiki, Papua	44.56	192	P	P	17 32 53.8	+6.7
E25K	Arctic Village	44.59	30	P	P	17 32 48.4	+1.5
	baz=273,SNR=24						
F25K	Christian Rive	44.59	31	P	P	17 32 48.7	+1.8
	baz=273,SNR=46						
H25L	Birch Creek	44.62	33	P	P	17 32 48.6	+1.7
	baz=275						
P23K	Montague Islan	44.69	42	IAmb	IAmb	17 33 27.8	
	comp=Z,55nm,1.0s						
P23K	Montague Islan	44.69	42	P	P	17 32 48.5	+0.8
	baz=280						
GLI	Glacier Island	44.69	41	P	P	17 32 48.6	+1.0
	baz=279,SNR=10						
C26K	Camden Bay	44.75	28	P	P	17 32 49.5	+1.5
	baz=272,SNR=24						
PRP	Porcupine Dome	44.81	34	IAmb	IAmb	17 32 52.0	
	comp=Z,58nm,0.8s						
PRP	Porcupine Dome	44.81	34	P	P	17 32 50.9	+2.2
	baz=276,SNR=103						
FYU	Fort Yukon	44.83	33	IAmb	IAmb	17 32 54.3	
	comp=Z,61nm,0.7s						
K24K	Donnelly Dome	44.89	37	P	P	17 32 49.8	+0.6
K24K				IAmb	IAmb	17 33 17.0	
	comp=Z,106nm,1.1s						
K24K	Donnelly Dome	44.89	37	P	P	17 32 50.5	+1.2
	baz=277,SNR=20						
JAY	Jayapura	44.91	183	P	P	17 32 51.0	+1.1
	comp=Z,14nm,0.9s,baz=331,slow=7.5,SNR=3.1						
	comp=Z,14nm,0.9s						
JAY	Jayapura	44.91	183	P	P	17 32 51.0	+1.1
M24K	Tolsona, Glenn	44.94	39	P	P	17 32 51.0	+1.3
	baz=278,SNR=13						
J25K	Salcha River,	44.97	35	P	P	17 32 50.1	+0.2
	baz=277,SNR=19						
GENI	Genyem	45.01	184	P	P	17 32 53.2	+2.6
GENI	Genyem	45.01	184	P	P	17 32 52.7	+2.1
	comp=Z,50nm,0.7s						
BMAR	Burnt Mountain	45.01	31	P	P	17 32 51.4	+1.2
FID	Port Fidalgo	45.01	41	IAmb	IAmb	17 33 18.0	
	comp=Z,67nm,1.2s						
KMSI	Cibinong	45.10	207	P	P	17 32 55.8	+4.5
PAX	Paxson	45.14	38	P	P	17 32 53.1	+1.8
	baz=278,SNR=8.1						
KLU	Klutina	45.16	40	P	P	17 32 53.2	+1.8
	baz=279,SNR=32						
F26K	Sheenjek River	45.16	31	IAmb	IAmb	17 32 56.7	
	comp=Z,40nm,0.8s						
F26K	Sheenjek River	45.16	31	P	P	17 32 52.9	+1.6
	baz=275,SNR=77						
C27K	Jago River	45.18	28	P	P	17 32 52.2	+0.7
C27K				IAmb	IAmb	17 32 54.3	
	comp=Z,49nm,0.8s						
C27K	Jago River	45.18	28	P	P	17 32 52.7	+1.3
	baz=273,SNR=103						
DIV	Divide	45.29	40	IAmb	IAmb	17 33 43.7	
	comp=Z,65nm,1.0s						
RIDG	Independent Ri	45.31	37	IAmb	IAmb	17 33 39.4	
	comp=Z,38nm,0.8s						
RIDG	Independent Ri	45.31	37	P	P	17 32 53.1	+0.5
	baz=278,SNR=27						
G26K	Porcupine Rive	45.37	32	P	P	17 32 53.7	+0.8
G26K				IAmb	IAmb	17 32 56.8	
	comp=Z,39nm,0.8s						
G26K	Porcupine Rive	45.37	32	P	P	17 32 55.0	+2.1
	baz=276,SNR=73						
HARP	HAARP	45.37	39	P	P	17 32 54.8	+1.8
	baz=279,SNR=29						
EYAK	Cordova Ski Ar	45.40	41	IAmb	IAmb	17 33 31.9	
	comp=Z,43nm,1.0s						
EYAK	Cordova Ski Ar	45.40	41	P	P	17 32 55.4	+2.2
EYAK	Cordova Ski Ar	45.40	41	P	P	17 32 54.9	+1.7
	baz=280,SNR=7.5						
NAYO	Nakonayok	45.41	244	P	P	17 32 56.1	+2.2
SHLS	Shalkode	45.43	293	*c i* P	P	17 32 52.5	-1.4
SHLS				pmax	pmax		
	comp=Z,46nm,0.8s						
SHLS	Shalkode	45.43	293⇑	*i* P	P	17 32 52.5	-1.4
	comp=Z,46nm,0.8s						
TDK	Taldyqorghan	45.47	296	*e*P	P	17 32 55.1	+1.1
TDK				pmax	pmax		
	comp=Z,125nm,1.3s						
TDK	Taldyqorghan	45.47	296	*e*P	P	17 32 55.1	+1.1
	comp=Z,125nm,1.3s						
SCRK	Sand Creek	45.65	36	P	P	17 32 55.6	+0.2
SCRK				IAmb	IAmb	17 32 57.4	
	comp=Z,43nm,0.7s						
SCRK	Sand Creek	45.65	36	P	P	17 32 56.5	+1.1
	baz=278,SNR=88						
UZB	Uzynbulak	45.74	294	*c i* P	P	17 32 57.1	+0.8
UZB	Uzynbulak	45.74	294⇑	*i* P	P	17 32 57.2	+0.8
J26L	Joseph Creek	45.76	35	P	P	17 32 56.5	+0.4
	baz=278,SNR=25						
N25K	Chitina, Valde	45.76	40	IAmb	IAmb	17 33 25.9	
	comp=Z,167nm,1.9s						
N25K	Chitina, Valde	45.76	40	P	P	17 32 57.7	+1.5
	baz=280,SNR=9.9						
I26K	Coal Creek Min	45.82	34	P	P	17 32 56.9	+0.4
	baz=278						
BMRM	Bremner River	45.88	40	IAmb	IAmb	17 33 57.6	
	comp=Z,61nm,0.9s						
BMRM	Bremner River	45.88	40	P	P	17 32 58.5	+1.4
	baz=281,SNR=16						
MENT	Mentasta	45.94	38	IAmb	IAmb	17 33 41.3	
	comp=Z,82nm,1.3s						
MENT	Mentasta	45.94	38	P	P	17 32 59.5	+2.0
RAGM	Ragged Mountai	45.95	41	P	P	17 32 57.9	+0.2
E27K	Coleen River	46.07	30	P	P	17 33 00.2	+1.7
	baz=276,SNR=17						
L26K	Log Cabin Wild	46.09	37	P	P	17 32 58.7	+0.1
L26K				IAmb	IAmb	17 33 27.0	
	comp=Z,41nm,0.9s						
L26K	Log Cabin Wild	46.09	37	P	P	17 33 00.4	+1.8
	baz=280,SNR=23						
ZHN	Zhinishke	46.13	294	*e*P	P	17 33 00.2	+0.8
ZHN	Zhinishke	46.13	294	*e*P	P	17 33 00.2	+0.8
ARXS	Arharly	46.14	295	*e*P	P	17 33 00.3	+0.9
GLB	Gilahina Butte	46.16	40	P	P	17 32 59.6	+0.3
GLB				IAmb	IAmb	17 33 41.0	
	comp=Z,137nm,1.8s						
KAIM	Kayak Island	46.17	42	P	P	17 33 00.6	+1.2
	baz=282						
D27M	Malcolm River	46.18	29	P	P	17 33 00.7	+1.3
	baz=276,SNR=32						
SATY	Saty	46.19	294	*e*P	P	17 33 00.7	+0.9
SATY				*e*S	S	17 39 39.8	+1.7
SATY	Saty	46.19	294	*e*P	P	17 33 00.8	+0.9
SATY				*e*S	S	17 39 39.9	+1.7
G27K	Doyon Strip	46.22	32	P	P	17 33 01.6	+2.0
	baz=278,SNR=48						
FAKI	Fak Fak	46.27	195	P	P	17 33 02.6	+2.0
FAKI	Fak Fak	46.27	195	P	P	17 33 01.7	+1.1
	comp=Z,3μmcomp=Z,250nm,1.2s						
H27K	Steamboat Moun	46.35	33	P	P	17 33 01.8	+1.1
H27K	Steamboat Moun	46.35	33	P	P	17 33 02.9	+2.2
	baz=278,SNR=53						
M26K	Nabesna, AK	46.36	38	P	P	17 33 03.2	+2.4
	baz=281,SNR=34						
WUS	Wushi	46.37	291	P	P	17 33 01.8	+0.5
I27K	Kandik River	46.41	34	P	P	17 33 02.8	+1.6
	baz=279,SNR=28						
PRZ	Przheval'sk	46.41	293	IAmb	IAmb	17 33 09.5	
	comp=Z,57nm,0.8s						
BERG	Berg Lake	46.43	41	IAmb	IAmb	17 33 42.3	
	comp=Z,84nm,1.0s						
K27K	Chicken	46.47	36	IAmb	IAmb	17 33 30.5	
	comp=Z,77nm,1.1s						
K27K	Chicken	46.47	36	P	P	17 33 03.4	+1.7
	baz=280						
L27K	Beaver Creek,	46.76	37	P	P	17 33 06.6	+2.6
	baz=281,SNR=63						
E28M	Babbage River	46.77	29	P	P	17 33 05.4	+1.5
	baz=278,SNR=53						
BCAR	Beaver Creek A	46.78	37	P	P	17 33 04.9	+0.8
MPSI	Mapaga	46.81	212	P	P	17 33 05.9	+1.1
WAX	Waxell Ridge	46.83	41	IAmb	IAmb	17 33 50.4	
	comp=Z,68nm,1.0s						
CHKK	Chushkaly	46.84	295	*e*P	P	17 33 05.6	+0.8
CHKK	Chushkaly	46.84	295	*e*P	P	17 33 05.6	+0.8
M27K	Edge Creek, AK	46.88	38	IAmb	IAmb	17 33 33.0	
	comp=Z,50nm,0.9s						
M27K	Edge

baz=284,SNR=12
BVCY Beaver Creek 47.33 38 P P 17 33 10.5 +2.1
baz=282,SNR=28
YAH Yahtse 47.38 41 P P 17 33 09.7 +0.7
YAH IAmb IAmb 17 33 45.5
comp=Z,52nm,0.9s
KDJ Kajisay 47.38 293 IAmb IAmb 17 33 14.4
comp=Z,62nm,0.9s
E29M Blow River 47.40 30 P P 17 33 10.4 +1.6
baz=280,SNR=51
BRZS Berezniki 47.42 304*c i*P **P 17 33 10.2 +1.0**
BRZS *e*S **S 17 39 57.2 +2.0**
BRZS pmax pmax
comp=Z,69nm,1.0s
BRZS Berezniki 47.42 304⇑*i*P **P 17 33 10.3 +1.0**
comp=Z,69nm,1.0s
BRZS *e*S **S 17 39 57.3 +2.0**
H29M Whitestone 47.61 33 P P 17 33 12.8 +2.3
baz=281,SNR=27
G29M Pine Creek 47.62 32 P P 17 33 12.9 +2.4
baz=281,SNR=18
DAWY Dawson 47.63 36 P P 17 33 12.3 +1.6
baz=282,SNR=9.6
YUK3 Moose Creek 47.66 39 P P 17 33 13.2 +2.0
baz=283,SNR=22
BVA0 Borovoye Array 47.80 309 P P 17 33 12.8 +0.7
BVAR Borovoye Array 47.80 309 P P 17 33 13.1 +1.0
comp=Z,133nm,0.7s
BVAR S **S 17 40 00.7 +0.2**
comp=Z,1.8nm,0.9s,baz=65,slow=15,SNR=4.9
comp=Z,133nm,0.7s
I29M Ogilvie Camp, 47.81 34 IAmb IAmb 17 33 15.1
comp=Z,38nm,0.8s
I29M Ogilvie Camp, 47.81 34 P P 17 33 14.1 +2.0
baz=282,SNR=58
BRVK Borovoye 47.85 309 P P 17 33 13.3 +0.8
BRVK Borovoye 47.85 309 P P 17 33 13.7 +1.3
BRVK Borovoye 47.85 309*c i*P **P 17 33 13.7 +1.3**
BRVK pmax pmax
comp=Z,487nm,1.1s
BRVK Borovoye 47.85 309 *e*P **P 17 33 13.7 +1.3**
BRVK Borovoye 47.85 309 P **P 17 33 13.8 +1.4**
BRVK pP **pP 17 33 39.4 +1.8**
AAI Ambon 47.90 200 P **P 17 33 14.7 +1.5**
comp=Z,2μmcomp=Z,85nm,0.9s
ULHL Ulahol 47.98 293 P **P 17 33 15.5 +1.6**
SNR=10
O28M Mount Upton 48.03 40 P P 17 33 16.0 +1.9
baz=284,SNR=15
J29N Klondike Camp 48.04 35 IAmb IAmb 17 34 56.0
comp=Z,78nm,1.8s
J29N Klondike Camp 48.04 35 P P 17 33 16.5 +2.6
baz=283,SNR=6.9
YUK8 Steele Glacier 48.10 39 P P 17 33 16.5 +1.9
baz=284,SNR=11
TKM2 Tokmak 2 48.14 295 P P 17 33 16.7 +1.6
SNR=186
PINM Pinnacle 48.17 41 P P 17 33 16.8 +1.9
baz=285
EPYK Eagle Plains 48.23 32 IAmb IAmb 17 33 42.5
comp=Z,64nm,0.9s
EPYK Eagle Plains 48.23 32 P P 17 33 17.4 +2.1
baz=282,SNR=44
G30M tAoh Zraii Nji 48.30 31 P P 17 33 15.9 +0.1
G30M IAmb IAmb 17 33 52.8
comp=Z,115nm,1.3s
G30M tAoh Zraii Nji 48.30 31 P P 17 33 17.4 +1.6
baz=282,SNR=46
F30M Barrier River 48.33 30 P P 17 33 17.3 +1.3
F30M Barrier River 48.33 30 P P 17 33 18.0 +2.0
baz=282,SNR=114
L29M L29M 48.39 37 P P 17 33 19.8 +3.2
baz=284,SNR=45
SBUM Sibu 48.40 223 P P 17 33 19.1 +2.0
M29M Somme Creek 48.41 38 IAmb IAmb 17 33 45.1
comp=Z,104nm,1.9s
M29M Somme Creek 48.41 38 P P 17 33 19.6 +2.8
baz=284,SNR=24
NRN Naryn 48.48 293 IAmb IAmb 17 34 00.9
comp=Z,45nm,1.0s
K29M Barlow Dome 48.48 36 IAmb IAmb 17 33 20.7
comp=Z,38nm,0.8s
K29M Barlow Dome 48.48 36 P P 17 33 19.8 +2.5
baz=284,SNR=64
BCPM Bancas Point 48.51 41 IAmb IAmb 17 33 28.0
comp=Z,38nm,0.5s
SGDS Sogindy 48.57 296*c i*P **P 17 33 19.1 +0.9**
SGDS Sogindy 48.57 296⇑*i*P **P 17 33 19.2 +0.9**
YUK4 Talbot Arm 48.61 39 P P 17 33 21.3 +2.8
baz=285,SNR=14
I30M Mount Dempster 48.63 34 P P 17 33 20.7 +2.2
baz=284,SNR=182
CHMS Chumysh 48.67 295 P P 17 33 20.1 +1.1
SNR=14
KBK Karagaybulak 48.68 295 P P 17 33 20.5 +1.3
SNR=42
PNL Peninsula 48.70 41 P P 17 33 21.1 +2.1
baz=286
USP Ospenovka 48.73 295 P P 17 33 20.6 +1.2
SNR=95
J30M Hart River 48.81 34 IAmb IAmb 17 33 47.4
comp=Z,63nm,1.5s
J30M Hart River 48.81 34 P P 17 33 22.1 +2.3
baz=284,SNR=33
FRU1 Bishkek 48.83 295 IAmb IAmb 17 33 24.9
comp=Z,50nm,0.7s
YUK6 Outpost Mounta 48.85 39 P P 17 33 23.1 +2.8
baz=286,SNR=9.0
O29M Mount Kennedy 48.92 40 P P 17 33 22.7 +1.9
baz=286,SNR=13
AAK Ala-Archa 48.99 295 P P 17 33 22.0 +0.4
AAK IAmb IAmb 17 33 26.0
comp=Z,35nm,0.8s
AAK Ala-Archa 48.99 295 P P 17 33 22.1 +0.4
AAK Ala-Archa 48.99 295 P P 17 33 23.4 +1.8
SNR=5.0
AAK Ala-Archa 48.99 295*c i*P **P 17 33 22.5 +0.9**
AAK pmax pmax
comp=Z,45nm,0.9s
AAK Ala-Archa 48.99 295 *i*P **P 17 33 22.7 +1.1**
SNR=64
AAK Ala-Archa 48.99 295 *e*P **P 17 33 22.5 +0.9**
AAK Ala-Archa 48.99 295 P **P 17 33 22.3 +0.7**
AAK sP **sP 17 33 58.7 -0.1**
INK Inuvik 49.01 29 LR LR 17 57 01.6
comp=Z,394nm,18.3s,baz=256,slow=39
INK Inuvik 49.01 29 P **P 17 33 22.5 +1.4**
baz=283,SNR=62
G31M Satah River 49.06 31 IAmb IAmb 17 33 24.8
comp=Z,38nm,0.8s
G31M Satah River 49.06 31 P P 17 33 23.0 +1.5
baz=284,SNR=31
M30M Minto, Yukon 49.12 37 P P 17 33 25.0 +2.9
baz=286
F31M Tsiigehtchic 49.13 30 IAmb IAmb 17 33 48.8
comp=Z,38nm,0.8s
F31M Tsiigehtchic 49.13 30 P P 17 33 23.4 +1.4
baz=284,SNR=19
HYT Haines Junctio 49.28 39 P P 17 33 26.7 +3.2
baz=286,SNR=88
N30M Aishikik Lake 49.30 39 IAmb IAmb 17 34 11.5
comp=Z,83nm,1.9s
N30M Aishikik Lake 49.30 39 P P 17 33 26.2 +2.7
baz=286,SNR=6.7
H31M Peel River 49.31 33 P P 17 33 25.6 +2.1
baz=285,SNR=83
KSH Kashi 49.32 290 P P 17 33 29.0 +4.9
KSH pP pP 17 33 55.0 +5.7
KSH S **S 17 40 28.3 +5.8**
KSH pmax pmax
comp=Z,29nm,1.1s
KSH LR LR
comp=Z,1μm,16.5s
KSH LR LR
comp=Z,2μm,19.6s
KSH LR LR
comp=Z,1μm,20.8s
EKS2 Erkin-Say 49.46 295 P P 17 33 26.3 +1.1
SNR=61
BKB Balikpapan 49.49 215 P P 17 33 27.8 +2.4
P29M Windy Craggy 49.52 41 P P 17 33 28.4 +3.2
baz=287,SNR=61
AML Almayashu 49.74 294 P P 17 33 29.2 +1.6
SNR=78
P30M Million Dollar 49.75 40 P P 17 33 29.7 +2.8
baz=287
N31M Braeburn, Yuko 49.89 38 P P 17 33 30.5 +2.5
baz=287,SNR=30
O30N Mendenhall 49.96 39 P P 17 33 30.8 +2.2
baz=288,SNR=16
KSM Kuching 50.20 224 P P 17 33 33.3 +2.5
M31M Drury Creek, Y 50.30 37 IAmb IAmb 17 33 59.5
comp=Z,24nm,0.8s
M31M Drury Creek, Y 50.30 37 P P 17 33 33.2 +2.1
baz=288,SNR=24
WHY Whitehorse 50.56 39 P P 17 33 35.7 +2.6
baz=288,SNR=16
SKAG Skagway 50.74 41 P P 17 33 37.3 +3.0
SKAG Skagway 50.74 41 P P 17 33 36.4 +2.1
baz=289
A36M Sachs Harbour 50.75 24 IAmb IAmb 17 33 39.8
comp=Z,51nm,0.8s
A36M Sachs Harbour 50.75 24 P P 17 33 35.8 +1.6
baz=288,SNR=70
FARO Faro, Yukon 50.76 37 P P 17 33 37.0 +2.5
baz=288,SNR=18
SRIT Nakonsritamara 50.76 241 P P 17 33 37.9 +2.8
S31K Pelican 50.79 43 P P 17 33 35.8 +1.1
baz=290
SPSI Sidrap Palu 50.81 210 P P 17 33 35.8 +0.5
comp=Z,624nmcomp=Z,25nm,1.0s
STKI Sintang 50.82 222 P P 17 33 36.8 +1.4
comp=Z,5μmcomp=Z,52nm,0.9s
DZA Taraz 50.99 296 *e*P **P 17 33 37.5 +1.0**
DZA pmax pmax
comp=Z,52nm,0.8s
DZA Taraz 50.99 296 *e*P **P 17 33 37.6 +1.0**
comp=Z,52nm,0.8s
BNSI Bone 51.08 210 P P 17 33 40.3 +2.9
comp=Z,946nmcomp=Z,52nm,1.1s
BBSI Bau Bau 51.24 206 P P 17 33 39.4 +0.8
comp=Z,1μmcomp=Z,49nm,0.9s
KK31 Karatay Array 51.45 297 P P 17 33 40.0 +0.1
KK31 Karatay Array 51.45 297 *i*P **P 17 33 40.4 +0.5**
KKAR Karatay Array 51.45 297 P P 17 33 40.3 +0.4
KKAR Karatay Array 51.45 297 P P 17 33 40.3 +0.4
P32M Atlin 51.47 40 P P 17 33 38.4 -1.5
baz=290
R32K Eaglecrest 51.54 42 P P 17 33 40.4 0.0
baz=291
MMPY Sheldon Lake, 51.55 36 P P 17 33 41.8 +1.4
baz=290,SNR=14
SIT Sitka 51.57 44 P P 17 33 39.9 -0.6
baz=291
JIS Juneau Island 51.60 42 P P 17 33 43.5 +2.7
P33M Teslin, Yukon 51.67 39 P P 17 33 41.8 +0.3
baz=290,SNR=21
KAPI Kappang 51.78 210 P P 17 33 42.8 +0.2
comp=Z,5.2nm,0.3s,baz=44,slow=5.7,SNR=4.0
comp=Z,5.2nm,0.3s
KAPI Kappang 51.78 210 P P 17 33 44.8 +2.2
S32K Killisnoo 51.80 43 P P 17 33 41.7 -0.5
baz=291
SVE Sverdlovsk 51.82 316*d i*P **P 17 33 43.7 +1.3**
SVE *i*S **S 17 40 58.5 +2.3**
PMG Port Moresby 51.87 175 *e*P **P 17 33 42.4 -0.8**
PMG pmax pmax
comp=Z,28nm,1.4s
BRLS Borolday 51.92 297*c i*P **P 17 33 45.8 +2.3**
BRLS Borolday 51.92 297⇑*i*P **P 17 33 45.8 +2.3**
C36M Paulatuk 51.99 27 IAmb IAmb 17 33 45.7
comp=Z,32nm,0.5s
C36M Paulatuk 51.99 27 P P 17 33 44.8 +1.3
baz=290,SNR=53
IUG Iuzhnay 52.19 296 *e*P **P 17 33 46.3 +0.8**
IUG pmax pmax
comp=Z,106nm,1.6s
IUG Iuzhnay 52.19 296 *e*P **P 17 33 46.4 +0.8**
comp=Z,106nm,1.6s
DRK Karamyk 52.21 292 IAmb IAmb 17 34 04.3
comp=Z,30nm,0.8s
Q32M Nakina River 52.39 41 P P 17 33 46.3 -0.5
baz=292,SNR=8.9
KULM Kulim 52.63 237 P P 17 33 49.0 +0.1
KULM IAmb IAmb 17 33 52.4
comp=Z,35nm,0.8s
KULM Kulim 52.63 237 P P 17 33 51.2 +2.3
R33M Jennings River 52.84 40 P P 17 33 50.4 +0.2
baz=292,SNR=7.4
U33K Whale Pass 53.05 44 P P 17 33 52.1 +0.6
baz=293
ARTI Arti 53.14 316 P P 17 33 52.8 +0.6
ARTI Arti 53.14 316 LR LR 17 58 17.5
comp=Z,300nm,19.8s,baz=70,slow=38
ARTI Arti 53.14 316*c i*P **P 17 33 53.1 +0.9**
ARTI *PP **pP 17 34 19.9 +2.1**
ARTI 17 34 59.1
ARTI 17 35 51.6
ARTI PPP PPP 17 37 03.7
ARTI S **S 17 41 16.7 +2.5**
ARTI *SS **sS 17 41 59.4 +1.0**
ARTI 17 43 28.1
ARTI SS **SS 17 44 52.0 -2.4**
ARTI SSS SSS 17 46 55.6
ARTI pmax pmax
comp=Z,491nm,0.9s
ARTI MLR MLR
comp=Z,607nm,14.0s
ARTI Arti 53.14 316 P **P 17 33 53.1 +0.9**
TGTN Hyland Airport 53.26 37 P **P 17 33 53.1 0.0**
baz=293
WRAK Wrangell Islan 53.33 44 P P 17 33 53.9 +0.3
baz=293
S34M Telegraph Cree 53.34 42 P P 17 33 54.3 +0.7
baz=293
MYKOM Kota Tinggi 53.48 231 P P 17 33 57.7 +2.5
WTLY Watson Lake, Y 53.58 38 P P 17 33 56.2 +0.8
WTLY IAmb IAmb 17 35 11.6
comp=Z,22nm,0.6s
WTLY Watson Lake, Y 53.58 38 P P 17 33 56.7 +1.3
baz=293
DLBC Dease Lake 53.67 41 P P 17 33 58.7 +2.5
comp=Z,8.3nm,0.8s,baz=288,slow=9.0,SNR=21
DLBC LR LR 17 57 29.1
comp=Z,177nm,19.6s,baz=303,slow=36
comp=Z,8.3nm,0.8s
DLBC Dease Lake 53.67 41 P P 17 33 56.5 +0.4
baz=294,SNR=9.1
NIL Nilore 54.07 285 P P 17 34 00.1 +0.7
NIL Nilore 54.07 285 P P 17 34 00.7 +1.4
NIL Nilore 54.07 285 P P 17 34 00.1 +0.7
NIL pmax pmax
comp=Z,122nm,1.2s
NIL Nilore 54.07 285 P P 17 34 00.7 +1.4
NIL pP **pP 17 34 26.6 +1.7**
V35K Ketchikan 54.15 45 P P 17 33 59.0 -0.5
baz=295
T35M Bob Quinn 54.16 42 IAmb IAmb 17 34 30.1
comp=Z,29nm,0.9s
T35M Bob Quinn 54.16 42 P P 17 33 59.1 -0.5
baz=294,SNR=8.0
MMRI Maumere 54.31 205 P P 17 34 03.1 +2.0
MMRI Maumere 54.31 205 P P 17 34 07.0 +5.9
SIMJ Simiganj 54.51 293 P P 17 34 02.9 +0.2
SIMJ Simiganj 54.51 293 P P 17 34 03.1 +0.4
SIMJ pP **pP 17 34 29.6 +1.3**
EDFI Ende, Flores 54.59 206 P **P 17 34 02.6 -0.7**
comp=Z,23nm,0.9s
WRGLY Wrigley 54.61 34 P P 17 34 04.1 +1.3
baz=295
SOEI Soe 54.76 203 P P 17 34 11.3 +6.8
HOPEN Hopen 54.96 345 *e*P **P 17 34 06.2 +1.1**
LIRD Liard River Hi 55.11 39 P P 17 34 07.6 +1.2
baz=296
AB31 Akbulak array 55.31 308 *i*P **P 17 34 09.3 +1.3**
ABKAR Akbulak array 55.31 308 P P 17 34 08.9 +0.9
ABKAR Akbulak array 55.31 308 IAmb IAmb 17 34 13.8
comp=Z,145nm,0.8s
SPA0 Spitsbergen Ar 55.33 348 *e*P **P 17 34 08.3 +0.5**
SPITS Spitsbergen Ar 55.33 348 P P 17 34 08.3 +0.5
comp=Z,11nm,0.5s,baz=67,slow=8.4,SNR=58
SPITS LR LR 17 59 50.4
comp=Z,144nm,19.3s,baz=4.0,slow=38
comp=Z,11nm,0.5s
KBS Kingsbay 55.41 350 P P 17 34 09.0 +0.7
KBS Kingsbay 55.41 350*c i*P **P 17 34 09.3 +1.0**
KBS pmax pmax
comp=Z,221nm,1.2s
KBS Kingsbay 55.41 350 *e*P **P 17 34 09.5 +1.2**
KBS Kingsbay 55.41 350 *i*P **P 17 34 08.4 +0.1**
KBS Kingsbay 55.41 350 P P 17 34 09.5 +1.2
PPBI Pangkal Pinang 55.47 226 P P 17 34 11.1 +1.6
NOR Nord 55.61 356 *i*P **P 17 34 09.4 -0.3**
NOR IAmb IAmb 17 34 11.1
comp=Z,56nm,0.9s
PSI Prapat 55.63 237 LR LR 18 00 20.6
comp=Z,244nm,18.7s,baz=30,slow=38
PSI Prapat 55.63 237 P P 17 34 12.9 +2.0
RPSI Rantau Prapat 55.72 237 IAmb IAmb 17 34 25.5
comp=Z,34nm,1.0s
KOTAN Kotaneelee Air 55.72 37 P P 17 34 12.3 +1.5
baz=297
TOAD Toad River Com 55.76 39 P P 17 34 12.4 +1.2
baz=297,SNR=16
KDU Kakadu 55.79 192 P P 17 34 13.4 +1.7
DRS Darwin Rock St 55.80 194 P P 17 34 14.3 +2.5
MTN Manton Dam 56.17 194 P P 17 34 16.1 +1.7
COEN Coen 56.24 180 P P 17 34 17.4 +2.5
HSPB Hornsund (broa 56.28 347 *e*P **P 17 34 15.6 +1.0**
HSPB *e*L L 17 55 49.4
comp=Z,317nm,29.5s
BKNI Bangkinang 56.31 233 P P 17 34 18.6 +3.1
BKNI Bangkinang 56.31 233 P P 17 34 18.6 +3.1
comp=Z,169nm,0.9s
SRBI Singaraja 56.35 213 P P 17 34 22.9 +7.2
KIRV Kirov 56.56 321*c i*P **P 17 34 17.5 +0.8**
KBL Kabul 56.58 288 P P 17 34 16.8 -0.8
KBL IAmb IAmb 17 34 18.6
comp=Z,56nm,1.1s
KBL Kabul 56.58 288 P P 17 34 17.5 -0.1
KBL Kabul 56.58 288 P P 17 34 16.8 -0.8
KBL pmax pmax
comp=Z,56nm,1.1s
MNSI Mandailing Nat 56.81 235 P P 17 34 21.1 +2.0
comp=Z,37nm,0.8s
RES Resolute Bay 56.99 16 LR LR 18 01 50.8
comp=Z,188nm,19.2s,baz=352,slow=39
BJO1 Bjornoya 57.42 345 *e*P **P 17 34 23.2 +0.6**
BBB Bella Bella 57.42 47 P P 17 34 25.1 +2.2
comp=Z,14nm,0.8s,baz=292,slow=5.6,SNR=4.9
BBB LR LR 17 59 20.2
comp=Z,74nm,19.3s,baz=306,slow=36
comp=Z,14nm,0.8s
SMRI Semarang 57.51 219 P P 17 34 26.3 +2.3
LVZ Lovozero 57.55 335 P P 17 34 23.4 -0.3
LVZ Lovozero 57.55 335⇑*i*P **P 17 34 24.6 +0.9**
LVZ pmax pmax
comp=Z,119nm,1.3s
GSI Gunungsitoli 57.64 237 P P 17 34 26.1 +1.2
comp=Z,101nm,0.8s
VADS Vadso 57.82 338 *e*P **P 17 34 26.4 +1.0**
APA Apatity 58.13 335⇓*i*P **P 17 34 26.6 -1.0**
APA *i* *PP **pP 17 34 53.8 +0.1**
APA *i* 17 35 18.7
APA *i* PPP PPP 17 37 59.0
APA *i*S **S 17 42 18.0 -2.2**
APA *i* 17 44 02.0
APA pmax pmax
comp=Z,41nm,0.9s
MDSI Maura Dua 58.47 227 P P 17 34 32.2 +1.5
comp=Z,53nm,1.1s
YKAW3 Yellowknife Wh 58.48 32 IAmb IAmb 17 34 38.2
comp=Z,22nm,0.7s
YKA Yellowknife Ar 58.52 32 P P 17 34 31.7 +1.3
comp=Z,12nm,0.8s,baz=308,slow=6.6,SNR=110
YKA S **S 17 42 27.2 +1.8**
comp=Z,1.8nm,1.1s,baz=314,slow=13,SNR=4.3
YKA LR LR 18 03 06.0
comp=Z,233nm,18.1s,baz=304,slow=39
YKA PKP2bc 18 04 20.0
comp=Z,0.7nm,1.0s,baz=116,slow=2.6,SNR=4.7
comp=Z,12nm,0.8s
YKAW1 Yellowknife Wh 58.58 32 IAmb IAmb 17 34 59.6
comp=Z,33nm,1.1s
KEV Kevo 58.68 338 P P 17 34 31.5 +0.1
KEV Kevo 58.68 338 P P 17 34 31.5 +0.1
KEV pmax pmax
comp=Z,136nm,1.0s
KEV Kevo 58.68 338 P P 17 34 31.9 +0.4
KEV pP **pP 17 34 57.9 +0.4**
HAMF Hammerfest 58.98 340 *e*P **P 17 34 34.9 +1.4**
LWLI Liwa 58.98 227 P P 17 34 35.4 +1.1
comp=Z,2μmcomp=Z,114nm,0.8s
ARA0 ARCESS Array S 59.23 339 *e*P **P 17 34 35.7 +0.4**
ARCES ARCESS Array B 59.23 339 P P 17 34 35.9 +0.6
comp=Z,45nm,0.9s,baz=49,slow=8.3,SNR=80
ARCES LR LR 18 04 30.8
comp=Z,174nm,18.3s,baz=39,slow=40
comp=Z,45nm,0.9s
HYB Hyderabad 59.55 266 *e*P **P 17 34 38.7 +0.4**
HYB *e*pP **pP 17 35 05.3 +1.0**
HYB *e* 17 36 45.3
HYB *e*S **S 17 42 38.5 -1.5**
HYB *e*ScS **ScS 17 44 15.7 -2.8**
HYB *e*SS **SS 17 46 38.8 +1.9**
KLMR Klimovskoe 59.71 327 *e*P **P 17 34 36.6 -2.0**
KLMR *e**PP **pP 17 35 03.5 -1.3**
KLMR *e**SP **sP 17 35 17.1 +0.5**
KLMR S **S 17 42 37.4 -3.4**
KLMR pmax pmax
comp=Z,455nm,1.5s
NEEM North Greenlan 59.96 3 *i*P **P 17 34 40.6 +0.1**
NEEM IAmb IAmb 17 34 42.2
comp=Z,137nm,0.9s
MTSU Mount Surprise 60.41 178 P P 17 34 47.4 +3.5
JETT Jettan, Norway 60.54 340 *e*P **P 17 34 44.9 +0.6**
BELG Belogornoye 60.56 316*c i*P **P 17 34 45.6 +1.0**
BELG pmax pmax
comp=Z,110nm,1.4s
TRO Tromso 60.86 341 *e*P **P 17 34 46.9 +0.6**
JOF Joensuu 61.63 331 *e*P **P 17 34 52.1 +0.4**
KULLO Kullorsuaq 62.38 6 *i*P **P 17 34 56.2 -0.3**
KULLO IAmb IAmb 17 34 57.3
comp=Z,83nm,1.0s
FITZ Fitzroy Crossi 62.40 198 P P 17 34 58.9 +1.6
WRAB Tennant Creek 62.67 189 P P 17 34 57.0 -2.1
WRAB IAmb IAmb 17 35 39.1
comp=Z,46nm,0.9s
WRAB Tennant Creek 62.67 189 P P 17 34 57.0 -2.1
WRAB pmax pmax
comp=Z,46nm,1.0s
WR8 Warramunga Arr 62.67 189 IAmb IAmb 17 35 38.5
comp=Z,51nm,0.8s
WRA Warramunga Arr 62.68 189 P P 17 34 57.7 -1.4
WRA Warramunga Arr 62.68 189 P P 17 34 59.5 +0.3
comp=Z,4.6nm,0.7s,baz=6.4,slow=6.9,SNR=29
WRA PKP2bc 18 04 09.6
comp=Z,1.0nm,0.7s,baz=197,slow=2.8,SNR=5.8
comp=Z,4.6nm,0.7s
DBG Daneborg 62.86 355 *i*P **P 17 34 59.5 -0.2**
DBG IAmb IAmb 17 35 02.9
comp=Z,166nm,1.5s
QIS Mount Isa 62.87 183 P P 17 35 02.2 +1.8
STEI Steigen 63.02 340 *e*P **P 17 35 01.1 +0.2**
LOF Lofoten 63.28 341 *e*P **P 17 35 05.2 +2.7**
FAUS Fauske 63.43 340 *e*P **P 17 35 04.1 +0.6**
MOS Moscow 63.50 322 *e*P **P 17 35 02.4 -1.8**
MOS *e**PP **pP 17 35 30.5 -0.1**
MOS *e* 17 35 37.1
MOS *e* 17 37 22.4
MOS *e*PPP PPP 17 38 53.8
MOS *e*S **S 17 43 26.7 -2.0**
MOS *e**SS **sS 17 44 10.8 -2.9**
MOS pmax pmax
comp=Z,600nm,1.9s
MOS pmax pmax
comp=N,200nm,1.3s
MOS pmax pmax
comp=Z,245nm,1.5s
MOS pmax pmax
comp=E,200nm,1.5s
MOS pmax pmax
comp=N,106nm,1.4s
MOS pmax pmax
comp=E,82nm,1.3s
MOS MLR MLR
comp=Z,400nm,18.0s
ILON Igloolik, Nuna 63.65 16 IAmb IAmb 17 35 06.0
comp=Z,52nm,0.9s
BLKN Baker Lake 63.90 25 IAmb IAmb 17 35 08.5
comp=Z,52nm,0.9s
PUL Pulkovo 64.01 329*c i*P **P 17 35 08.2 +0.8**
PUL pmax pmax
comp=Z,125nm,0.7s
PUL Pulkovo 64.01 329 *e*P **P 17 35 08.2 +0.8**
LTY Liberty 64.13 49 IAmb IAmb 17 35 52.1
comp=Z,62nm,1.6s
UPNV Upernavik 64.20 6 *i*P **P 17 35 08.5 0.0**

UPNV IAmb IAmb 17 35 11.6
comp=Z,77nm,0.9s
VRH Novokhopyorsk 64.26 317⇑ *e*P **P 17 35 09.5 +0.3**
VRH *e*S **S 17 43 40.8 +2.6**
VRH pmax pmax
comp=Z,300nm,3.4s
VRH pmax pmax
comp=Z,195nm,1.5s
OBN Obninsk 64.36 322 P **P 17 35 09.4 -0.4**
OBN Obninsk 64.36 322 ⇓P **P 17 35 10.7 +0.9**
OBN Obninsk 64.36 322*c i*P **P 17 35 10.3 +0.5**
OBN *e**PP **pP 17 35 38.3 +2.0**
OBN *e* 17 35 44.0
OBN *e**SP **sP 17 35 50.3 +2.3**
OBN *e* 17 37 32.4
OBN *e*PPP PPP 17 39 07.1
OBN *e*S **S 17 43 38.5 -0.8**
OBN *e*SS **SS 17 47 51.4 +1.3**
OBN pmax pmax
comp=Z,129nm,0.9s
OBN MLR MLR
comp=Z,351nm,15.0s
OBN Obninsk 64.36 322 *e*P **P 17 35 10.3 +0.5**
OBN Obninsk 64.36 322 P **P 17 35 10.2 +0.4**
KEF Keuruu 64.37 333 *e*P **P 17 35 09.8 0.0**
VAGH Vaagaholmen 64.44 340 *e*P **P 17 35 10.3 +0.2**
FINES FINESS Array B 64.45 332 P **P 17 35 10.3 0.0**
FINES FINESS Array B 64.45 332 P **P 17 35 10.8 +0.5**
comp=Z,51nm,0.5s,baz=49,slow=7.1,SNR=479
FINES LR LR 18 06 31.9
comp=Z,403nm,18.6s,baz=48,slow=39
comp=Z,51nm,0.5s
VAF Ylistaro 64.49 334 *e*P **P 17 35 11.4 +0.9**
MOR8 Moi Rana 64.57 339 *e*P **P 17 35 10.3 -0.8**
KONS Konsvik 64.66 340 *e*P **P 17 35 12.7 +1.2**
PALK Pallekele 64.69 256 P **P 17 35 12.4 -0.2**
PALK IAmb IAmb 17 35 42.6
comp=Z,95nm,1.4s
PALK Pallekele 64.69 256 LR LR 18 04 33.6
comp=Z,149nm,20.8s,baz=49,slow=37
PALK Pallekele 64.69 256 P **P 17 35 12.4 -0.2**
PALK pmax pmax
comp=Z,95nm,1.4s
LPSR Galich'ya Gora 64.80 319⇑ *e*P **P 17 35 13.5 +0.8**
LPSR *e*S **S 17 43 45.9 +1.1**
LPSR pmax pmax
comp=Z,300nm,2.8s
LPSR pmax pmax
comp=Z,232nm,1.4s
STOK Stokkvaagen 64.81 340 *e*P **P 17 35 12.3 -0.2**
JMIC Jan Mayen 64.90 350 LR LR 18 05 14.4
comp=Z,73nm,18.1s,baz=57,slow=37
LEIR Leirfjorden 64.96 340 *e*P **P 17 35 13.8 +0.2**
SUMG Summit 65.16 0 *i* P **P 17 35 16.1 +0.8**
SUMG IAmb IAmb 17 35 19.5
comp=Z,196nm,0.8s
D08A Wollman Farm, 65.22 48 P **P 17 35 15.5 0.0**
D08A IAmb IAmb 17 35 34.0
comp=Z,47nm,1.4s
VORR Voronezh 65.23 318 P **P 17 35 16.4 +0.9**
VORR *e*S **S 17 43 51.5 +1.3**
VORR pmax pmax
comp=Z,122nm,1.4s
NEW Newport 65.47 46 P **P 17 35 16.2 -1.0**
NEW Newport 65.47 46 LR LR 18 04 24.7
comp=Z,141nm,19.8s,baz=338,slow=36
NEW Newport 65.47 46 P **P 17 35 16.2 -1.0**
NEW pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 65.53 318 *e*P **P 17 35 15.9 -1.6**
VSR pmax pmax
comp=Z,100nm,0.8s
VORD Divnogorie 65.62 318 *e*P **P 17 35 16.7 -1.4**
VORD pmax pmax
comp=Z,90nm,0.9s
MEF Metsahovi 65.90 331 *e*P **P 17 35 20.2 +0.5**
MAK Makhachkala 65.96 307 *e*P **P 17 35 19.0 -1.4**
MAK *e**PP **pP 17 35 43.9 -3.0**
MAK *e**SP **sP 17 35 55.0 -3.6**
MAK *e* 17 37 43.8
MAK *e*S **S 17 43 59.0 -0.3**
MAK *e**SS **sS 17 44 40.8 -3.8**
MAK *e*SS **SS 17 48 16.5 +0.9**
MAK pmax pmax
comp=Z,124nm,1.2s
MAK MLR MLR
comp=Z,669nm,13.0s
YBH Yreka Blue Hor 66.18 55 P **P 17 35 24.2 +2.2**
comp=Z,5.0nm,0.8s,baz=353,slow=4.7,SNR=5.5
YBH LR LR 18 01 54.7
comp=Z,41nm,20.7s,baz=313,slow=34
comp=Z,5.0nm,0.8s
RAF Rauma 66.23 333 *e*P **P 17 35 22.7 +0.9**
VSU Vasula 66.26 329*c i*P **P 17 35 21.8 -0.2**
VSU pmax pmax
comp=Z,181nm,0.9s
VSU Vasula 66.26 329 *e*P **P 17 35 22.1 +0.1**
AS01 Alice Springs 66.40 189 P **P 17 35 25.3 +2.0**
ASAR Alice Springs 66.41 189 P **P 17 35 24.4 +1.1**
comp=Z,4.6nm,0.9s,baz=6.0,slow=7.0,SNR=43
ASAR PKPPKP **P'P'df 18 03 55.9 +3.2**
comp=Z,3.6nm,1.2s,baz=183,slow=2.9,SNR=4.3
comp=Z,4.6nm,0.9s
NSS Namsos 66.50 339 *e*P **P 17 35 23.7 +0.2**
UMMG Uummannaq 66.56 5 *i* P **P 17 35 23.1 -0.6**
UMMG IAmb IAmb 17 35 25.4
comp=Z,45nm,0.9s
AKT Akhty 66.71 305 *e*P **P 17 35 26.3 +0.9**
AKT *e**PP **pP 17 35 52.7 +0.8**
AKT *e* 17 35 54.1
AKT *e* 17 37 54.1
AKT *e*S **S 17 44 10.3 +1.6**
AKT pmax pmax
comp=Z,103nm,0.8s
AKT MLR MLR
comp=Z,474nm,17.0s
SCO Scoresbysund 66.73 354 *i* P **P 17 35 25.6 +0.8**
SCO IAmb IAmb 17 35 28.8
comp=Z,78nm,1.0s
MBWA Marble Bar 66.89 203 P **P 17 35 25.0 -1.4**
MTSE Matsula 67.18 330 *e*P **P 17 35 28.9 +1.0**
PSA00 Pilbara Seismi 67.24 203 P **P 17 35 26.8 -1.9**
GOF Gofitskoye 67.27 311*c i*P **P 17 35 30.2 +1.5**
GOF *e*S **S 17 44 16.6 +1.5**
NGCH Negor - Chabah 67.44 284 P **P 17 35 32.7 +2.6**
DZM Mont Dzumac 67.91 156 *e*S **S 17 44 23.3 +0.2**
comp=Z,608nm,30.6s
DZM Mont Dzumac 67.91 156 *e*LR LR 17 55 58.9
comp=Z,652nm,35.5s
ILULI Ilulissat 68.07 5 *i* P **P 17 35 33.0 -0.3**
KVAR Kislovodsk Arr 68.14 310 LR LR 18 11 04.1
comp=Z,347nm,18.0s,baz=267,slow=41
KIV Kislovodsk 68.15 310 P **P 17 35 35.0 +0.7**
KIV Kislovodsk 68.15 310 P **P 17 35 35.4 +1.1**
KIV Kislovodsk 68.15 310 ⇓P **P 17 35 36.4 +2.0**
KIV Kislovodsk 68.15 310 *e*P **P 17 35 35.2 +0.9**
KIV *e* 17 38 06.0
KIV *e*S **S 17 44 27.3 +1.5**
KIV *e*SS **SS 17 48 52.9 +3.3**
KIV pmax pmax
comp=Z,83nm,3.5s
KIV pmax pmax
comp=Z,226nm,1.0s
KIV Kislovodsk 68.15 310 *i* P **P 17 35 35.8 +1.4**
SNR=56
KIV Kislovodsk 68.15 310 *e*P **P 17 35 35.2 +0.9**
KIV Kislovodsk 68.15 310 P **P 17 35 36.1 +1.7**
KBZ Khabaz 68.17 310 P **P 17 35 35.5 +1.2**
comp=Z,58nm,0.8s,baz=59,slow=4.6,SNR=125
comp=Z,58nm,0.8s
KBZ Khabaz 68.17 310*c i*P **P 17 35 35.8 +1.5**
KBZ pmax pmax
comp=Z,95nm,1.0s
KBZ Khabaz 68.17 310 *e*P **P 17 35 35.8 +1.5**
ERBR Yeremizino-Bor 68.27 313 *e*P **P 17 35 33.8 -1.2**
ERBR *e**PP **PcP 17 36 00.1 +0.2**
ERBR *e*S **S 17 44 27.0 0.0**
ERBR pmax pmax
comp=Z,196nm,0.8s
SHA1 Shidzhatmaz 68.30 310*c i*P **P 17 35 36.9 +1.4**
FFC Flin Flon 68.50 34 P **P 17 35 36.5 +0.2**
FFC IAmb IAmb 17 35 46.9
comp=Z,35nm,0.9s
FFC Flin Flon 68.50 34 P **P 17 35 36.5 +0.2**
FFC pmax pmax
comp=Z,35nm,1.0s
FFC Flin Flon 68.50 34 P **P 17 35 38.0 +1.7**
FFC sP **sP 17 36 17.5 +3.0**
SLIT Slitere, Latvi 68.52 330 *e*P **P 17 35 36.7 +0.5**
ISAL Salakas 68.52 327 *e*P **P 17 35 38.7 +2.4**
MNK Minsk 68.55 325 *i* P **P 17 35 37.9 +1.4**
MNK *i* *PP **pP 17 36 02.8 -0.5**
MNK *i* *SP **sP 17 36 14.3 -0.6**
MNK *i* 17 38 09.4
MNK *i* PPP PPP 17 39 49.6
MNK *i* S **S 17 44 31.9 +1.9**
MNK *i* *SS **SKSac 17 45 24.3 -1.1**
MNK *i* SS **SS 17 49 05.2 +10**
MNK pmax pmax
comp=Z,111nm,0.7s
MNK pmax pmax
comp=E,100nm,1.0s
MNK pmax pmax
comp=N,44nm,1.0s
MNK MLR MLR
comp=E,479nm,18.0s
MNK MLR MLR
comp=N,131nm,13.0s
MNK MLR MLR
comp=Z,331nm,15.0s
WRKA Warakurna 68.58 194 P **P 17 35 38.9 +1.9**
IIGN Ignalina 68.64 327 *e*P **P 17 35 38.7 +1.6**
ICESG Greenland Ices 68.66 1 *i* P **P 17 35 38.0 +0.6**
ICESG IAmb IAmb 17 35 39.7
comp=Z,124nm,0.8s
QLP Quilpie 68.81 179 P **P 17 35 40.9 +2.6**
LABN Labinsk 68.81 312 *e*P **P 17 35 38.5 +0.1**
LABN *e**PP **PcP 17 36 03.7 +1.5**
LABN *e*S **S 17 44 36.1 +2.6**
LABN pmax pmax
comp=Z,167nm,0.9s
VSVD Vaisvydziai 69.10 328 *e*P **P 17 35 40.7 +0.8**
MOL Molde 69.26 340 *e*P **P 17 35 41.7 +0.9**
DOMB Dombas 69.30 339 *e*P **P 17 35 41.7 +0.6**
GNI Garni 69.32 306 P **P 17 35 42.3 +0.6**
GNI IAmb IAmb 17 36 10.5
comp=Z,95nm,1.1s
GNI Garni 69.32 306 P **P 17 35 43.5 +1.8**
GNI Garni 69.32 306*ce* P **P 17 35 44.0 +2.2**
GNI pmax pmax
comp=Z,115nm,1.6s
GNI Garni 69.32 306 P **P 17 35 43.5 +1.8**
NC303 NORSAR Array S 69.32 337 IAmb IAmb 17 35 43.1
comp=Z,73nm,0.9s
PABE Paberze 69.43 328 *e*P **P 17 35 42.6 +0.7**
EGMT Eagleton 69.45 43 IAmb IAmb 17 35 53.0
comp=Z,37nm,0.9s
HFS Hagfors 69.51 336 P **P 17 35 42.8 +0.5**
comp=Z,69nm,0.6s,baz=48,slow=6.6,SNR=226
HFS PcP **PcP 17 36 02.8 -2.1**
comp=Z,22nm,0.6s,baz=30,slow=7.4,SNR=5.1
HFS LR LR 18 10 13.9
comp=Z,223nm,18.1s,baz=46,slow=39
comp=Z,69nm,0.6s
NB2 NORSAR Subarra 69.52 337 P **P 17 35 42.8 +0.3**
comp=Z,75nm,0.8s,baz=36,slow=6.5
NB2 NORSAR Subarra 69.52 337 P **P 17 35 42.8 +0.3**
baz=36,slow=6.5
NOA NORSAR Array B 69.52 337 P **P 17 35 43.0 +0.5**
comp=Z,55nm,0.7s,baz=36,slow=6.2,SNR=267
NOA LR LR 18 09 18.5
comp=Z,104nm,21.0s,baz=40,slow=38
comp=Z,55nm,0.7s
NOA NORSAR Array B 69.52 337 P **P 17 35 43.0 +0.5**
NC602 NORSAR Array S 69.67 337 *e*P **P 17 35 43.4 0.0**
AKN Aaknes 69.73 340 *e*P **P 17 35 45.1 +1.4**
NAO01 NORSAR Array S 69.77 337 IAmb IAmb 17 35 48.5
comp=Z,53nm,0.8s
PBUR Paburge 69.84 329 *e*P **P 17 35 45.4 +1.0**
CMB Columbia Colle 69.85 57 P **P 17 35 44.1 -0.8**
CMB Columbia Colle 69.85 57 P **P 17 35 44.1 -0.8**
CMB pmax pmax
comp=Z,16nm,1.0s
VSLR Vesyoloye 69.95 311*c i*P **P 17 35 46.7 +1.3**
INKA Innaminka 69.98 182 P **P 17 35 48.1 +2.6**
SOC Sochi 70.05 311 *e*P **P 17 35 45.2 -0.8**
SOC *e* 17 38 18.3
SOC *e*PPP PPP 17 40 04.8
SOC *e*S **S 17 44 47.7 -0.3**
SOC pmax pmax
comp=Z,73nm,1.3s
SFJD Kangerlussuaq 70.29 6 P **P 17 35 46.9 -0.1**
SFJD IAmb IAmb 17 35 49.0
comp=Z,60nm,1.0s
SFJD Kangerlussuaq 70.29 6 LR LR 18 08 48.8
comp=Z,84nm,19.3s,baz=347,slow=38
SFJD Kangerlussuaq 70.29 6 P **P 17 35 46.9 -0.1**
SFJD pmax pmax
comp=Z,60nm,1.0s
SFJD Kangerlussuaq 70.29 6 *i* P **P 17 35 47.0 0.0**
SFJD IAmb IAmb 17 35 48.8
comp=Z,58nm,1.0s
SFJD Kangerlussuaq 70.29 6 P **P 17 35 47.8 +0.8**
OOD Oodnadatta 70.31 187 P **P 17 35 50.2 +2.7**
HMDM Hanimaadhoo 70.47 261 P **P 17 35 47.1 -1.9**
ANN Anapa 70.51 313 *e*P **P 17 35 49.3 +0.6**
ANN *e**PP **pP 17 36 14.2 -1.4**
ANN *e*S **S 17 44 54.8 +1.5**
ANN pmax pmax
comp=Z,64nm,1.0s
BANOM Banah 70.53 288 P **P 17 35 50.7 +1.5**
BANOM Banah 70.53 288 *i* P **P 17 35 49.7 +0.5**
SNR=14
WSAR Wadi Sarin 70.54 284 P **P 17 35 49.0 -0.3**
OSL Oslo 70.56 337 *e*P **P 17 35 49.8 +1.0**
SHME Shamm 70.56 288 P **P 17 35 50.3 +1.0**
SHME Shamm 70.56 288 *i* P **P 17 35 49.6 +0.3**
SNR=7.4
AKASG Malin Array Be 70.61 322 P **P 17 35 49.3 +0.1**
AKASG Malin Array Be 70.61 322 P **P 17 35 49.8 +0.5**
comp=Z,34nm,0.6s,baz=44,slow=6.6,SNR=162
AKASG S **S 17 44 54.0 -0.2**
comp=Z,0.4nm,0.4s,baz=46,slow=12,SNR=6.1
AKASG LR LR 18 09 42.5
comp=Z,273nm,19.1s,baz=49,slow=38
comp=Z,34nm,0.6s
AKBB Malin Array Si 70.61 322*ce* P **P 17 35 49.6 +0.4**
AKBB *i* *PP **pP 17 36 17.3 +1.2**
AKBB pmax pmax
comp=Z,122nm,1.0s
KIEV Kiev 70.62 322 P **P 17 35 48.9 -0.4**
KIEV Kiev 70.62 322 ⇑P **P 17 35 49.9 +0.5**
KIEV Kiev 70.62 322 P **P 17 35 49.8 +0.5**
KIEV Kiev 70.62 322 *i* P **P 17 35 49.8 +0.5**
SNR=65
KIEV Kiev 70.62 322 P **P 17 35 49.7 +0.4**
KIEV pP **pP 17 36 17.6 +1.4**
SKAR Skarslia 70.63 338 *e*P **P 17 35 50.4 +1.1**
JLN Jalan Bani Buh 70.66 283 P **P 17 35 51.4 +1.4**
SNR=10
WBK Wadi Bani Khal 70.69 283 P **P 17 35 52.0 +1.8**
SNR=7.7
FOO Floro 70.71 340 *e*P **P 17 35 50.6 +0.9**
BIDO Bidbid 70.72 284 P **P 17 35 52.5 +2.1**
SNR=7.6
HYA Hoyanger 70.79 339 *e*P **P 17 35 51.0 +0.9**
SUW Suwalki 70.83 327 *e*P **P 17 35 51.2 +0.7**
SUW *e*L L 18 00 30.0
comp=Z,442nm,45.6s
SUW Suwalki 70.83 327 *e*P **P 17 35 51.0 +0.5**
NVAR Mina Array Bea 70.88 55 P **P 17 35 53.6 +2.2**
comp=Z,8.2nm,0.7s,baz=294,slow=5.8,SNR=46
NVAR LR LR 18 04 05.7
comp=Z,43nm,21.3s,baz=224,slow=33
comp=Z,8.2nm,0.7s
MDH Madha 70.92 287 P **P 17 35 53.1 +1.6**
MDH Madha 70.92 287 P **P 17 35 51.9 +0.4**
MASF Masafi 70.97 287 P **P 17 35 53.0 +1.1**
SNR=5.7
MSFE Esma-Masafi 70.97 287 *i* P **P 17 35 52.7 +0.8**
SNR=7.0
SMDO Samad 71.07 284 P **P 17 35 55.0 +2.4**
SNR=9.0
KONO Kongsberg 71.12 337 P **P 17 35 51.7 -0.4**
KONO IAmb IAmb 17 35 56.7
comp=Z,37nm,0.9s
KONO Kongsberg 71.12 337 P **P 17 35 52.8 +0.6**
KONO Kongsberg 71.12 337 *e*P **P 17 35 52.8 +0.6**
FRB Frobisher Bay 71.15 14 LR LR 18 12 02.1
comp=Z,167nm,18.2s,baz=326,slow=40
UOSS Minazif 71.20 287 P **P 17 35 51.6 -1.7**
UOSS IAmb IAmb 17 36 08.8
comp=Z,37nm,0.8s
UOSS Minazif 71.20 287 P **P 17 35 52.1 -1.1**
UOSS Minazif 71.20 287 *i* P **P 17 35 53.7 +0.4**
SNR=14
ELK Elko 71.22 52 LR LR 18 06 47.1
comp=Z,89nm,19.9s,baz=324,slow=35
SUE Sulen 71.25 340 *e*P **P 17 35 53.5 +0.6**
HOQ Hoqain 71.27 285 P **P 17 35 55.0 +1.3**
SNR=14
HATD Hatta, Dubai 71.33 287 P **P 17 35 55.1 +1.1**
SNR=12
HATD Hatta, Dubai 71.33 287 *i* P **P 17 35 55.0 +1.0**
SNR=23
JMDO Jabal Madar 71.46 284 P **P 17 35 55.9 +1.0**
SNR=8.7
ASHO Ashiyiah 71.47 287 P **P 17 35 56.2 +1.2**
SNR=12
ASHO Ashiyiah 71.47 287 *i* P **P 17 35 55.7 +0.8**
SNR=21
SOHO SOHO 71.47 286 P **P 17 35 55.5 +0.6**
SOHO SOHO 71.47 286 *i* P **P 17 35 55.2 +0.3**
SNR=14
NAZ Nazwa, Dubai 71.56 287 P **P 17 35 56.6 +1.2**
SNR=5.2
NAZ Nazwa, Dubai 71.56 287 *i* P **P 17 35 56.1 +0.7**
SNR=7.3
ASK Askoy 71.63 339 *e*P **P 17 35 56.5 +1.3**
BER Bergen 71.68 339 *e*P **P 17 35 56.6 +1.1**
ODD1 Odda 71.73 338 *e*P **P 17 35 57.1 +1.2**
FAQ Al Faqa, Dubai 71.76 287 P **P 17 35 57.2 +0.6**
SNR=5.6
FAQ Al Faqa, Dubai 71.76 287 P **P 17 35 57.0 +0.4**
BSY Bisya 71.87 284 P **P 17 35 58.7 +1.3**
SNR=16
DGMT Dagmar 71.88 40 IAmb IAmb 17 36 15.4
comp=Z,44nm,0.8s
ARQ Araqi 71.98 285 P **P 17 35 59.4 +1.4**
SNR=13
ASUD Al Ashush, Dub 72.02 287 P **P 17 35 59.2 +1.0**
SNR=5.4
ASUD Al Ashush, Dub 72.02 287 *i* P **P 17 35 59.2 +1.0**
SNR=13
ALNE Al Ain 72.08 286 P **P 17 35 59.4 +0.8**
SNR=11
ALNE Al Ain 72.08 286 *i* P **P 17 35 59.5 +1.0**
SNR=17
ANGG Ammassalik, Gr 72.16 0 P **P 17 35 57.6 -0.6**
ANGG IAmb IAmb 17 36 02.5
comp=Z,59nm,0.9s
ANGG Ammassalik, Gr 72.16 0 *i* P **P 17 35 57.9 -0.4**
SIM Simferopol' 72.17 315 *e*P **P 17 35 59.7 +1.0**
SIM *e*S **S 17 45 14.9 +2.5**
SIM pmax pmax
comp=Z,111nm,0.7s
SIM MLR MLR
comp=Z,245nm,16.0s
BLS5 Blasjo 72.19 338 *e*P **P 17 35 59.6 +1.0**
ISOG Isortoq, Green 72.22 1 *i* P **P 17 35 58.1 -0.5**
ISOG IAmb IAmb 17 36 02.8
comp=Z,81nm,0.9s
AJN Ajban 72.30 287 P **P 17 36 00.0 +0.2**
AJN Ajban 72.30 287 P **P 17 36 00.2 +0.4**
BORG Borgarnes 72.31 353 LR LR 18 08 43.4
comp=Z,70nm,19.6s,baz=4.6,slow=36
MHTO MHTO 72.43 283 P **P 17 36 02.2 +1.5**
SNR=28
HOMB Homborsund 72.58 337 *e*P **P 17 36 01.2 +0.3**
KMY Karmoy 72.70 339 *e*P **P 17 36 02.8 +1.2**
LCRK Leigh Creek 72.77 184 P **P 17 36 04.5 +2.3**
SORM Soroca 72.82 320 ⇑P **P 17 36 03.2 +0.6**
SORM Soroca 72.82 320 P **P 17 36 03.1 +0.6**
SNART Snartemo 72.90 337 *e*P **P 17 36 03.7 +0.9**
NUUK Nuuk 72.98 7 *i* P **P 17 36 03.4 +0.2**
NUUK IAmb IAmb 17 36 05.5
comp=Z,85nm,0.9s
R9F13 Warsaw-Wawer 72.99 327 *e*P **P 17 36 04.6 +1.2**
R9F13 *e*S **SKiKP 17 45 24.7 -0.5**
PDAR Pinedale Array 73.07 47 P **P 17 36 06.0 +1.6**
comp=Z,7.1nm,0.7s,baz=277,slow=2.1,SNR=79
PDAR LR LR 18 07 45.0
comp=Z,68nm,21.9s,baz=319,slow=35
comp=Z,7.1nm,0.7s
BSD Bornholm Skovb 73.09 332 *i* P **P 17 36 04.9 +0.9**
BSD IAmb IAmb 17 36 06.0
comp=Z,71nm,0.9s
PURM Purcari 73.22 318 ⇓P **P 17 36 06.3 +1.3**
UMZA Um Al Zommool 73.35 286 P **P 17 36 06.5 +0.4**
KIS Kishinev 73.41 319 ⇑*i* P **P 17 36 06.5 +0.5**
comp=Z,110nm,1.4s
KIS Kishinev 73.41 319*c i*P **P 17 36 06.5 +0.5**
KIS pmax pmax
comp=Z,110nm,1.4s
DQM DQM 73.41 282 P **P 17 36 07.7 +1.2**
BEL Belsk 73.42 327 *e*P **P 17 36 07.7 +1.7**
BEL *e*L L 18 01 21.0
comp=Z,2μm,52.2s
MILM Milestii Mici 73.47 319 ⇑*i* P **P 17 36 06.7 +0.4**
comp=Z,140nm,1.1s
MILM Milestii Mici 73.47 319 *i* PP PP 17 38 49.0 -1.8
MILM *i* S **SKiKP 17 45 25.0 -1.1**
MILM Milestii Mici 73.47 319 LRM MLR 18 11 13.0
comp=Z,300nm,14.0s
MILM Milestii Mici 73.47 319 ⇑P **P 17 36 06.9 +0.5**
MILM Milestii Mici 73.47 319*c i*P **P 17 36 06.7 +0.4**
MILM *i* 17 38 49.0
MILM *i* S **SKiKP 17 45 25.0 -1.1**
MILM *e*PS **PnS 17 46 10.0 -3.5**
MILM pmax pmax
comp=E,140nm,1.1s
MILM MLR MLR
comp=N,300nm,14.0s
MILM Milestii Mici 73.47 319 *e*PS 17 46 10.0
MILM Milestii Mici 73.47 319 *e*L L 18 00 46.0
MILM Milestii Mici 73.47 319 LQM 18 08 56.0
comp=N,400nm,16.5s
COP Copenhagen 73.48 333 *i* P **P 17 36 07.2 +0.9**
COP IAmb IAmb 17 36 08.7
comp=Z,164nm,0.8s
JRN Qarnain Island 73.56 289 P **P 17 36 07.3 0.0**
MZWR Madinat Zayed 73.59 287 P **P 17 36 07.7 +0.3**
GKP Gorka Klasztor 73.70 329 *e*P **P 17 36 08.8 +1.1**
GKP *e*L L 18 01 58.0
comp=Z,583nm,50.2s
GKP Gorka Klasztor 73.70 329 *e*P **P 17 36 08.7 +1.1**
CMSA Cobar Meteorol 73.78 177 P **P 17 36 10.5 +2.3**
DIKM Dikmen 73.79 312 ⇑P **P 17 36 10.3 +1.9**
IASR Iasi 73.87 320 ⇑P **P 17 36 09.7 +1.0**
MUD Monsted U'grnd 73.89 335 *i* P **P 17 36 09.9 +1.3**
MUD IAmb IAmb 17 36 14.4
comp=Z,67nm,0.8s
STKA Stephens Creek 74.08 181 P **P 17 36 11.8 +1.9**
comp=Z,1.9nm,0.7s,baz=338,slow=9.1,SNR=3.5
STKA Stephens Creek 74.08 181 P **P 17 36 12.6 +2.7**
GHWR Ruwais 74.17 288 P **P 17 36 10.6 -0.2**
FORT Forrest 74.23 193 P **P 17 36 13.3 +2.5**
BZK Bozkurt 74.27 313 ⇓P **P 17 36 12.9 +1.8**
SHMA Al-Shehemyia 74.29 291 P **P 17 36 11.8 +0.3**
ULM Lac du Bonnet 74.32 35 P **P 17 36 10.9 -0.4**
ULM Lac du Bonnet 74.32 35 P **P 17 36 12.1 +0.8**
comp=Z,13nm,0.8s,baz=308,slow=6.3,SNR=15
ULM LR LR 18 11 20.8
comp=Z,137nm,18.6s,baz=342,slow=38
comp=Z,13nm,0.8s
MZR Muzera 74.36 287 P **P 17 36 12.5 +0.5**
SNR=10
MZR Muzera 74.36 287 *i* P **P 17 36 12.5 +0.5**
SNR=24
PRAR RASCA 74.37 321 ⇑P **P 17 36 13.0 +1.3**
KBD Kabd 74.39 295 P **P 17 36 13.1 +1.0**
SAKB Bahrain 74.51 291 P **P 17 36 13.0 +0.2**
SSRD Sdr. Stenderup 74.56 334 *i* P **P 17 36 13.5 +0.9**
SSRD IAmb IAmb 17 36 18.8
comp=Z,282nm,1.3s
BUR08 Bucovina Ar. S 74.64 322 IAmb IAmb 17 36 15.8
comp=Z,35nm,0.8s
BURAR Bucovina Array 74.66 322 ⇑P **P 17 36 14.7 +1.2**
BURAR Bucovina Array 74.66 322 P **P 17 36 14.6 +1.2**
TLCR 74.70 318 ⇓P **P 17 36 14.9 +1.4**
TLCR 74.70 318 P **P 17 36 14.9 +1.4**
GHRR 74.76 319 ⇑P **P 17 36 15.5 +1.6**
TESR Tescani 74.79 320 ⇑P **P 17 36 15.2 +1.1**
TRNA Turayna 74.84 290 P **P 17 36 15.0 +0.3**

SLWR Sila 74.93 289 P **P 17 36 15.5 +0.3**
IZVR Izvoarele 74.96 319 ⇑P **P 17 36 16.7 +1.7**
SCHL Schela 74.96 319 ⇑P **P 17 36 17.2 +2.2**
JURR Jurilovca 74.97 318 ⇓P **P 17 36 17.3 +2.2**
TUDR 74.97 319 ⇑P **P 17 36 16.6 +1.5**
SCHLR Schela 74.98 319 ⇑P **P 17 36 16.4 +1.3**
KOLS Kolonicke sedl 74.99 324 *e*P **P 17 36 16.4 +1.2**
KOLS *e* 17 39 03.6
KOLS pmax pmax
comp=Z,37nm,1.0s
KOLS Kolonicke sedl 74.99 324 *e*P **P 17 36 16.3 +1.1**
KOLS *e*PP **PP 17 39 03.6 -0.1**
PANC Panciu 75.02 319 ⇑P **P 17 36 17.3 +1.9**
CFR Carcaliu 75.04 318 ⇑P **P 17 36 16.5 +1.0**
CFR Carcaliu 75.04 318 P **P 17 36 16.5 +1.0**
ONER Baraj Valea Uz 75.04 320 ⇑P **P 17 36 17.2 +1.7**
OJC Ojcow 75.06 326 *e*P **P 17 36 17.1 +1.5**
OJC *e*L L 18 02 43.2
comp=Z,196nm,38.5s
OJC Ojcow 75.06 326 P **P 17 36 16.4 +0.8**
OJC Ojcow 75.06 326 P **P 17 36 16.4 +0.8**
STHS Stebnicka Huta 75.07 325 *e*P **P 17 36 16.6 +0.9**
STHS pmax pmax
comp=Z,45nm,1.3s
STHS Stebnicka Huta 75.07 325 *e*P **P 17 36 16.6 +0.9**
STHS *e*PP **PP 17 39 03.9 -0.4**
SMRA Abu-Samra 75.10 290 P **P 17 36 16.4 +0.2**
SNR=5.5
TPGR Topolog 75.13 318 ⇓P **P 17 36 17.7 +1.7**
PFO Pinyon Flats O 75.13 58 LR LR 18 06 54.8
comp=Z,96nm,19.2s,baz=242,slow=34
ODBI Odobesti 75.14 319 ⇑P **P 17 36 17.8 +1.7**
VRI Vrincioaia 75.22 320 ⇑P **P 17 36 18.1 +1.4**
VRI Vrincioaia 75.22 320 P **P 17 36 18.0 +1.4**
PLOR Plostina 75.27 320 ⇓P **P 17 36 18.6 +1.7**
PLOR Plostina 75.27 320 P **P 17 36 18.6 +1.7**
BMR Baia Mare 75.39 322 ⇑P **P 17 36 19.3 +1.7**
BMR Baia Mare 75.39 322 P **P 17 36 19.2 +1.7**
TIRR Tirgusor 75.42 318 IAmb IAmb 17 36 25.6
comp=Z,43nm,1.0s
TIRR Tirgusor 75.42 318 ⇓P **P 17 36 19.3 +1.5**
TIRR Tirgusor 75.42 318 P **P 17 36 19.2 +1.5**
MORW Morawa 75.42 204 P **P 17 36 19.2 +1.5**
ARCR ARCALIA 75.44 322 ⇑P **P 17 36 20.0 +2.2**
GRER 75.46 319 ⇓P **P 17 36 19.9 +1.9**
NIE Niedzica 75.47 325 *e*P **P 17 36 20.0 +2.0**
NIE *e*L L 18 06 56.8
comp=Z,156nm,24.4s
COVR Voineasa-Covas 75.49 320 ⇓P **P 17 36 20.1 +1.9**
HARR Harsova 75.49 318 ⇓P **P 17 36 19.7 +1.6**
HARR Harsova 75.49 318 P **P 17 36 19.7 +1.6**
OZUR 75.51 320 ⇓P **P 17 36 19.8 +1.6**
RUE Ruedersdorf 75.61 331 *e*P **P 17 36 20.0 +1.4**
MFTR Murfatlar 75.62 317 ⇓P **P 17 36 20.4 +1.6**
EPLO Experimental L 75.66 34 P **P 17 36 18.4 -0.6**
EPLO IAmb IAmb 17 36 20.7
comp=Z,37nm,0.9s
DOPR Dopca 75.79 320 ⇑P **P 17 36 21.9 +2.0**
AMRR Amara 75.84 318 ⇑P **P 17 36 22.0 +1.9**
AMRR Amara 75.84 318 P **P 17 36 22.0 +1.9**
ISR Istrita 75.86 319 ⇑P **P 17 36 21.6 +1.3**
ISR Istrita 75.86 319 P **P 17 36 21.5 +1.3**
MLR Muntele Rosu 75.87 320 P **P 17 36 19.3 -1.1**
MLR IAmb IAmb 17 36 29.3
comp=Z,103nm,1.3s
MLR Muntele Rosu 75.87 320 ⇓P **P 17 36 22.1 +1.6**
MLR Muntele Rosu 75.87 320 P **P 17 36 22.1 +1.6**
ICOR Ion Corvin 75.97 318 ⇓P **P 17 36 23.1 +2.3**
KSP Ksiaz 75.97 328 *e*P **P 17 36 22.3 +1.5**
KSP *e*L L 18 02 54.0
comp=Z,644nm,53.1s
BR131 Keskin Array S 76.01 311 *c i*P **P 17 36 22.4 +1.1**
BRTR Keskin Array B 76.01 311 P **P 17 36 21.3 -0.1**
BRTR Keskin Array B 76.01 311 P **P 17 36 22.4 +1.1**
comp=Z,16nm,0.8s,baz=57,slow=4.6,SNR=98
BRTR PP **PP 17 39 08.1 -4.6**
comp=Z,7.0nm,0.9s,baz=67,slow=2.9,SNR=4.5
BRTR LR LR 18 13 05.9
comp=Z,142nm,18.3s,baz=42,slow=38
comp=Z,16nm,0.8s
LANS Liptovska Anna 76.02 326 *e*P **P 17 36 23.2 +2.1**
LANS pmax pmax
comp=Z,65nm,1.9s
LANS Liptovska Anna 76.02 326 *e*P **P 17 36 23.2 +2.1**
LANS *e*PP **PP 17 39 14.6 +2.2**
MESR Meseseni 76.03 322 ⇑P **P 17 36 23.1 +2.0**
CBBR Cluj-Babes-Bol 76.05 322 ⇑P **P 17 36 23.2 +1.9**
CJR Cluj-Napoca 76.07 322 ⇑P **P 17 36 23.3 +1.8**
CJR Cluj-Napoca 76.07 322 P **P 17 36 23.2 +1.8**
KECS Kecovo 76.10 325 *e*P **P 17 36 23.5 +2.0**
KECS Kecovo 76.10 325 *e*P **P 17 36 23.5 +2.0**
STEB Steborice 76.11 327 *e*P **P 17 36 23.2 +1.7**
STEB *e*x x 17 36 27.8
OSTC Ostas 76.23 328 *e*P **P 17 36 23.9 +1.6**
OSTC Ostas 76.23 328 *e*P **P 17 36 23.9 +1.6**
KIRS Kirsehir-Merke 76.27 311 ⇑P **P 17 36 24.2 +1.4**
CHVC Chvalec 76.27 328 *e*P **P 17 36 24.1 +1.6**
CHVC Chvalec 76.27 328 *e*P **P 17 36 24.1 +1.6**
MARR Marisel-Cluj 76.31 322 ⇑P **P 17 36 24.1 +1.2**
MORC Moravsky Berou 76.32 327 *e*P **P 17 36 24.2 +1.4**
MORC *e* 17 36 53.8
MORC Moravsky Berou 76.32 327 ⇑P **P 17 36 24.4 +1.6**
MORC Moravsky Berou 76.32 327 P **P 17 36 24.4 +1.6**
UPC Upice 76.35 328 *e*P **P 17 36 24.5 +1.6**
UPC Upice 76.35 328 *e*P **P 17 36 24.5 +1.6**
DPC Dobruska-Polom 76.35 328 *e*P **P 17 36 24.7 +1.7**
DPC Dobruska-Polom 76.35 328 *e*P **P 17 36 24.7 +1.7**
PV14 Lion Creek, Pa 76.37 50 IAmb IAmb 17 36 31.6
comp=Z,32nm,0.7s
ANTO Ankara 76.38 312 P **P 17 36 24.3 +1.0**
ANTO IAmb IAmb 17 36 26.1
comp=Z,72nm,0.8s
ANTO Ankara 76.38 312 ⇑P **P 17 36 24.9 +1.5**
ANTO Ankara 76.38 312 P **P 17 36 24.8 +1.5**
KRLC Kraliky 76.39 328 *e*P **P 17 36 24.8 +1.6**
KRLC Kraliky 76.39 328 *e*P **P 17 36 24.8 +1.6**
DRGR 76.41 322 ⇑P **P 17 36 24.6 +1.2**
DRGR 76.41 322 P **P 17 36 24.6 +1.2**
MAUC Maruska 76.53 327 *e*P **P 17 36 25.6 +1.6**
MAUC *e*x x 17 36 30.3
TNR Turnu Rosu 76.55 321 ⇑P **P 17 36 25.9 +1.8**
TNR Turnu Rosu 76.55 321 P **P 17 36 25.9 +1.8**
ARR Arges 76.59 320 ⇓P **P 17 36 26.1 +1.7**
DMTO DMTO 76.70 282 P **P 17 36 25.5 +0.1**
DOK Doka 76.71 283 P **P 17 36 26.1 +0.7**
SNR=11
PSZ Piszkesteto 76.79 325 IAmb IAmb 17 36 28.5
comp=Z,111nm,1.4s
PSZ Piszkesteto 76.79 325 ⇑P **P 17 36 26.9 +1.4**
PSZ Piszkesteto 76.79 325 P **P 17 36 26.9 +1.4**
PSZ Piszkesteto 76.79 325 *e*P **P 17 36 27.6 +2.0**
SGRR Singureni 76.79 319 ⇑P **P 17 36 26.8 +1.4**
VYHS Vyhne 76.79 325 *e*P **P 17 36 27.1 +1.6**
VYHS pmax pmax
comp=Z,50nm,1.3s
VYHS Vyhne 76.79 325 *e*P **P 17 36 27.1 +1.6**
VYHS *e*PP **PP 17 39 18.9 +0.1**
CLL Collm 76.84 330 ⇑*i*P **P 17 36 26.5 +0.9**
CLL *e**PP **pP 17 36 55.0 +2.0**
CLL *e*S **S 17 46 04.0 -0.3**
CLL pmax pmax
comp=Z,139nm,0.9s
CLL Collm 76.84 330 ⇑*i*P **P 17 36 26.5 +0.9**
comp=Z,90nm,1.0s
CLL *i* Pmax 17 36 31.0
comp=Z,139nm,0.9s
CLL *e*x x 17 36 41.0
CLL *e*pP **pP 17 36 55.0 +2.0**
CLL *i* x x 17 37 01.5
CLL *e*sP **sP 17 37 05.0 +0.5**
CLL *e*PP **PP 17 39 19.0 -0.1**
CLL *e*S **S 17 46 04.0 -0.3**
CLL *e*SKSac **SKKSac 17 46 30.0 +1.6**
CLL *e*PS **PnS 17 46 54.0 -2.4**
CLL *e*sS **sS 17 46 55.0 +4.1**
CLL *e*PS 17 47 00.0
CLL *e*sPS 17 47 30.0
CLL *e*SS **SS 17 51 06.0 +4.6**
CLL *e*x x 17 56 00.0
CLL AMS AMS 18 13 00.0
comp=N,500nm,20.0s
CLL AMS AMS 18 13 00.0
comp=E,300nm,20.4s
BRG Berggiesshubel 76.85 330 *i*P **P 17 36 26.8 +1.1**
BRG Amp 17 36 28.1
comp=Z,31nm,1.1s
BRG Berggiesshubel 76.85 330 P P 17 36 31.8 +6.1
BRG Amp 17 36 32.6
comp=Z,32nm,0.9s
BRG pP **PcP 17 36 40.3 +3.9**
BRG Amp 17 36 41.7
comp=Z,14nm,0.9s
BRG PP **PP 17 39 14.4 -4.8**
BRG Amp 17 39 20.3
comp=Z,27nm,1.1s
NEF NEVSHA 76.85 317 *i*P **P 17 36 27.5 +1.6**
PRD Provadia 76.86 317 *i*P **P 17 36 27.5 +1.6**
LOT Lotru 76.93 321 ⇓P **P 17 36 27.9 +1.4**
JAVC Velka Javorina 76.99 326 *e*P **P 17 36 29.1 +2.5**
DEV Deva 77.01 322 ⇓P **P 17 36 28.6 +1.9**
DEV Deva 77.01 322 P **P 17 36 28.6 +1.9**
RAZG Razgrad 77.01 318 ⇓P **P 17 36 28.3 +1.6**
RICC Richard 77.05 329 *e*P **P 17 36 28.7 +1.9**
VRAC Vranov 77.07 327 LR LR 18 15 33.6
comp=Z,247nm,19.1s,baz=45,slow=40
VRAC Vranov 77.07 327 *e*P **P 17 36 28.6 +1.6**
VRAC *e* 17 36 58.6
VRAC Vranov 77.07 327 ⇑P **P 17 36 28.2 +1.2**
VRAC Vranov 77.07 327 P **P 17 36 28.2 +1.2**
COPA Copaceanca 77.22 319 ⇓P **P 17 36 29.0 +1.1**
HSKC Hora Svate Kat 77.25 330 *e*P **P 17 36 29.2 +1.2**
HSKC *e*PCP **PcP 17 36 34.0 -4.3**
SIRR Siria 77.28 323 ⇑P **P 17 36 29.8 +1.5**
GOPC GO Pecny, Ondr 77.30 329 *e*P **P 17 36 29.8 +1.5**
GOPC GO Pecny, Ondr 77.30 329 *e*P **P 17 36 29.8 +1.5**
PRA Prague 77.31 329 *e*P **P 17 36 30.2 +1.9**
PRA Prague 77.31 329 *e*P **P 17 36 30.2 +1.9**
PRU Pruhonice 77.33 329 *e*P **P 17 36 29.8 +1.4**
PRU *e*PCP **PcP 17 36 35.0 -3.6**
PRU AMS AMS 18 14 50.0
comp=Z,500nm,18.5s
PRU Pruhonice 77.33 329 *e*P **P 17 36 29.8 +1.4**
PRU *e* 17 36 35.0
PRU MLR MLR
comp=Z,500nm,18.5s
KRUC Moravsky 77.35 327 *e*P **P 17 36 30.0 +1.5**
KRUC *e* 17 36 59.7
SMOL Smolenice 77.36 326 *e*P **P 17 36 30.7 +2.1**
SMOL pmax pmax
comp=Z,23nm,1.1s
RBK Rabkut 77.38 282 P **P 17 36 29.1 -0.1**
WHFO Wadi Hawf 77.42 283 P **P 17 36 29.3 -0.2**
SNR=9.7
GZR Gura Zlata 77.44 321 ⇑P **P 17 36 30.4 +1.2**
GZR Gura Zlata 77.44 321 P **P 17 36 30.3 +1.2**
SURR Surduc 77.46 322 ⇑P **P 17 36 30.1 +0.8**
SZH Strazhitsa 77.50 318 *i*P **P 17 36 30.6 +1.1**
TREC Trest 77.52 328 *e*P **P 17 36 30.8 +1.3**
TREC *e*PCP **PcP 17 36 36.1 -3.4**
TREC Trest 77.52 328 *e*P **P 17 36 30.8 +1.3**
TREC *e* 17 36 36.1
MODS Modra-Piesok 77.53 326 *e*P **P 17 36 31.5 +1.9**
MODS pmax pmax
comp=Z,103nm,1.2s
MODS Modra-Piesok 77.53 326 *e*P **P 17 36 31.5 +1.9**
MODS *e*PP **PP 17 39 25.9 +0.9**
SRO Srobarova 77.54 325 *e*P **P 17 36 31.3 +1.7**
SRO pmax pmax
comp=Z,73nm,1.1s
SRO Srobarova 77.54 325 *e*P **P 17 36 31.3 +1.7**
SRO *e*PP **PP 17 39 25.3 +0.2**
BORA Eskisehir 77.64 313 IAmb IAmb 17 36 32.9
comp=Z,47nm,1.1s
CAN Canberra 77.71 175 P **P 17 36 28.2 -2.3**
CAN IAmb IAmb 17 37 00.7
comp=Z,65nm,1.4s
CAN Canberra 77.71 175 P **P 17 36 28.2 -2.3**
CAN pmax pmax
comp=Z,65nm,1.4s
VLAD Vladila 77.72 319 ⇓P **P 17 36 32.1 +1.4**
SRE Strehaia 77.79 321 ⇑P **P 17 36 32.7 +1.6**
SRE Strehaia 77.79 321 P **P 17 36 32.6 +1.6**
JMB Yambol 77.79 317 *i*P **P 17 36 32.7 +1.6**
BZS Buzias 77.80 322 ⇑P **P 17 36 31.6 +0.5**
BZS Buzias 77.80 322 P **P 17 36 31.5 +0.5**
ZVC Zvikov 77.91 329 *e*P **P 17 36 33.1 +1.4**
EYMN Ely 77.93 34 P **P 17 36 31.7 -0.1**
EYMN IAmb IAmb 17 36 33.7
comp=Z,34nm,0.8s
HERR Herculane 77.99 321 ⇑P **P 17 36 32.9 +0.8**
ABTO Aybut 78.13 283 P **P 17 36 33.6 +0.1**
SNR=11
BAIL Bailesti 78.21 320 ⇑P **P 17 36 34.9 +1.6**
PUNG Punghina 78.21 320 ⇓P **P 17 36 34.8 +1.5**
EKA Eskdalemuir Ar 78.28 341 P **P 17 36 34.5 +1.0**
comp=Z,15nm,0.7s,baz=26,slow=4.8,SNR=26
EKA PP **PP 17 39 29.3 -1.7**
comp=Z,9.0nm,1.1s,baz=203,slow=27,SNR=4.2
comp=Z,15nm,0.7s
CKRC Cesky Krumlov 78.37 328 *e*P **P 17 36 35.4 +1.2**
CKRC *e*PCP **PcP 17 36 40.8 -2.3**
CKRC Cesky Krumlov 78.37 328 *e*P **P 17 36 35.4 +1.2**
CKRC *e* 17 36 40.8
MDVR Moldovita 78.39 322 ⇑P **P 17 36 35.3 +0.8**
KHC Kasperske Hory 78.40 329 *e*P **P 17 36 35.8 +1.4**
KHC *e*PCP **PcP 17 36 40.5 -2.8**
KHC AMS AMS 18 15 20.0
comp=Z,700nm,18.7s
KHC Kasperske Hory 78.40 329 *e*P **P 17 36 35.8 +1.4**
KHC *e* 17 36 40.5
KHC MLR MLR
comp=Z,700nm,18.7s
CONA Conrad Observa 78.47 327 *i*P **P 17 36 36.6 +1.8**
comp=Z,68nm,1.2s,SNR=27
CONA *e*PP **PP 17 39 28.3 -4.6**
comp=Z,19nm,1.3s
RONA Rosalia, Austr 78.47 326 *i*P **P 17 36 36.7 +1.9**
comp=Z,62nm,1.3s,SNR=22
RONA *e*PP **PP 17 39 31.6 -1.3**
comp=Z,33nm,1.3s
MPEP Malo Peshtene 78.52 319 *i*P **P 17 36 36.9 +1.8**
BAND Balkesir-Ban 78.55 315 ⇑P **P 17 36 36.6 +1.3**
GERES GERESS Array B 78.58 328 P **P 17 36 36.0 +0.5**
GERES GERESS Array B 78.58 328 P **P 17 36 36.4 +0.9**
comp=Z,14nm,0.9s,baz=34,slow=5.0,SNR=81
GERES PP **PP 17 39 32.4 -1.4**
comp=Z,5.6nm,0.9s,baz=55,slow=7.0,SNR=4.7
GERES LR LR 18 15 60.0
comp=Z,357nm,18.0s,baz=58,slow=39
comp=Z,14nm,0.9s
DIM Dimitrovgrad 78.59 318 *i*P **P 17 36 37.9 +2.4**
MORH Mrgy, Hungar 78.65 324 ⇑P **P 17 36 36.5 +0.7**
NWAO Narrogin (SRO) 78.70 202 P **P 17 36 38.2 +2.2**
NWAO Narrogin (SRO) 78.70 202 P **P 17 36 37.9 +1.9**
GRFO Grafenberg 78.82 330 P **P 17 36 37.6 +1.0**
GRFO Grafenberg 78.82 330 P **P 17 36 37.6 +1.0**
GRFO pmax pmax
comp=Z,105nm,0.9s
PLD Plovdiv 78.93 318 *i*P **P 17 36 39.7 +2.3**
PGB Panagyurishte 78.94 319 *i*P **P 17 36 39.3 +1.8**
FRGS Fruska Gora 78.96 323 ⇑*i*P **P 17 36 38.4 +0.9**
E38A The Farm, Brul 78.97 35 IAmb IAmb 17 36 39.3
comp=Z,33nm,0.8s
ARSA Arzberg 79.14 327 *i*P **P 17 36 40.0 +1.5**
comp=Z,29nm,1.0s,SNR=11
ARSA *e*PP **PP 17 39 37.4 -1.1**
comp=Z,13nm,1.6s
MOA Molln 79.17 328 *i*P **P 17 36 39.9 +1.3**
comp=Z,17nm,0.9s,SNR=12
MOA *e*PP **PP 17 39 37.0 -1.7**
comp=Z,31nm,1.3s
ALN Alexandroupoli 79.21 316 IAmb IAmb 17 36 41.5
comp=Z,69nm,1.1s
BEHE Becsehely 79.25 325 IAmb IAmb 17 39 36.1
comp=Z,68nm,1.3s
BOVS Bovan 79.27 321 ⇑P **P 17 36 40.0 +0.8**
RZN Rozhen 79.28 318 *i*P **P 17 36 41.2 +1.7**
RDO Rodhopi 79.28 317 IAmb IAmb 17 36 42.1
comp=Z,62nm,1.0s
CAVK Edirne/Enez-Ca 79.30 316 ⇓P **P 17 36 41.2 +1.8**
VTS Vitosha 79.32 319 *i*P **P 17 36 41.5 +1.8**
PLNA Plana 79.33 319 *i*P **P 17 36 41.8 +2.1**
KOGS Kog 79.49 326 *i*P **P 17 36 41.0 +0.6**
IDGL Inch Island, C 79.51 343 P **P 17 36 41.6 +1.3**
SPMN Marine on St. 79.52 36 P **P 17 36 40.0 -0.6**

CSS Mathiatis 79.52 308 IAmb IAmb 17 36 50.4
comp=Z,38nm,0.7s
BIOA Bad Ischl, Aus 79.54 328 *i*P **P 17 36 42.1 +1.4**
comp=Z,62nm,1.2s,SNR=17
BIOA *e*PP **PP 17 39 40.1 -1.6**
comp=Z,37nm,1.6s
TEKS Tekeris 79.56 323 ⇑*i*P **P 17 36 41.5 +0.7**
RAYN Ar Rayn 79.57 292 P **P 17 36 41.4 +0.2**
RAYN Ar Rayn 79.57 292 P **P 17 36 42.8 +1.6**
RAYN Ar Rayn 79.57 292 *i*P **P 17 36 42.0 +0.8**
SNR=29
MMAI Mount Meron Ar 79.65 305 P **P 17 36 43.1 +1.6**
comp=Z,44nm,0.9s,baz=37,slow=5.7,SNR=65
MMAI PP **PP 17 39 44.0 +0.8**
comp=Z,18nm,1.1s,baz=56,slow=8.4,SNR=5.6
MMAI LR LR 18 16 43.8
comp=Z,134nm,18.1s,baz=51,slow=39
comp=Z,44nm,0.9s
BEBN Eben Emael 79.80 334 *d*P **P 17 36 42.6 +0.7**
comp=Z,62nm,0.9s
SOKA Soboth 79.81 326 *i*P **P 17 36 43.3 +1.1**
comp=Z,59nm,1.0s,SNR=44
SOKA *i*PP **PP 17 39 41.6 -2.5**
comp=Z,12nm,1.2s
BTNL Ternell 79.83 334 *d*P **P 17 36 43.1 +1.0**
comp=Z,28nm,0.9s
MEM Membach 79.85 334 *d*P **P 17 36 42.9 +0.7**
comp=Z,36nm,1.0s
MMB Musomishta 79.88 318 *i*P **P 17 36 44.1 +1.5**
KKB Krupnik 79.96 319 *i*P **P 17 36 44.8 +1.8**
BSTI Sart Tilman 80.02 334 *d*P **P 17 36 44.3 +1.2**
comp=Z,11nm,0.8s
BHOU Houvegnez 80.07 334 *d*P **P 17 36 44.3 +0.9**
comp=Z,25nm,1.0s
LESA Schwarzleotal 80.14 328 *i* PcP **P 17 36 45.5 +1.5**
comp=Z,73nm,1.1s,SNR=26
LESA *e*PP **PP 17 39 45.1 -1.6**
comp=Z,11nm,1.1s
OBKA Obir 80.14 327 ⇑*i*P **P 17 36 44.8 +0.8**
OBKA Obir 80.14 327 *i*P **P 17 36 44.9 +1.0**
comp=Z,24nm,0.9s,SNR=11
OBKA *e*PP **PP 17 39 44.1 -2.7**
comp=Z,17nm,1.4s
BBLS Lazi&#263i 80.15 322 ⇑*i*P **P 17 36 45.3 +1.2**
KBA Koelnbreinsper 80.16 328 *i*P **P 17 36 45.3 +1.1**
comp=Z,71nm,1.3s,SNR=34
KBA *e*PP **PP 17 39 45.0 -2.1**
comp=Z,52nm,1.3s
HAPS Han Pijesak,Bl 80.18 323 ⇑*i*P **P 17 36 45.6 +1.3**
UCC Uccle 80.22 335 *d*P **P 17 36 43.5 -0.7**
comp=Z,15nm,1.0s
BCLA Clavier 80.25 334 *d*P **P 17 36 44.2 -0.2**
comp=Z,30nm,1.0s
BCLA *d*PP **PP 17 39 48.6 +1.2**
STU Stuttgart 80.32 331 P **P 17 36 45.0 +0.2**
STU IAmb IAmb 17 36 47.1
comp=Z,64nm,1.0s
STU Stuttgart 80.32 331 P **P 17 36 45.0 +0.2**
STU pmax pmax
comp=Z,65nm,1.0s
STU Stuttgart 80.32 331 *e*P **P 17 36 46.4 +1.6**
BGES Gesves 80.35 334 *d*P **P 17 36 45.4 +0.5**
comp=Z,22nm,1.1s
BGES *d*PP **PP 17 39 49.0 +0.8**
A051A Mrakovica 80.35 324 ⇑*i*P **P 17 36 45.6 +0.5**
RUDO Rudo 80.36 322 ⇑*i*P **P 17 36 45.7 +0.6**
SJES Sjenica 80.36 321 ⇑*i*P **P 17 36 46.6 +1.3**
MYKA Terra Mystica 80.41 327 *i*P **P 17 36 45.9 +0.5**
comp=Z,26nm,1.0s,SNR=13
MYKA *e*PP **PP 17 39 45.9 -3.1**
comp=Z,32nm,1.6s
BLY Banja Luka 80.44 324 ⇑*i*P **P 17 36 45.7 +0.2**
BMRD Maredsous 80.52 334 *d*P **P 17 36 46.4 +0.6**
comp=Z,42nm,1.0s
BMRD *d*PP **PP 17 39 52.3 +2.7**
LJU Ljubljana 80.52 326 *i*P **P 17 36 46.5 +0.6**
LJU *i* 17 36 52.4
LJU *e*pP **pP 17 37 15.8 +2.3**
LJU *e* 17 37 32.2
LJU *e*PP **PP 17 39 52.7 +2.8**
PLE Pljevlja 80.58 322 ⇑*i*P **P 17 36 48.0 +1.6**
WLF Walferdange 80.62 333 *d*P **P 17 36 47.4 +1.0**
VAY Valandovo 80.62 319 *i*P **P 17 36 47.9 +1.3**
WATA Walderalm 80.64 329 *i* PcP **P 17 36 47.9 +1.2**
comp=Z,80nm,1.5s,SNR=30
WATA *e*PP **PP 17 39 49.1 -1.8**
comp=Z,9.5nm,1.0s
BOJS Bojanci 80.66 326 *i*P **P 17 36 47.4 +0.7**
SKO Skopje 80.67 320 *i*P **P 17 36 49.2 +2.4**
WTTA Wattenberg 80.67 329 *i* PcP **P 17 36 48.2 +1.3**
comp=Z,83nm,1.6s,SNR=18
IVA Berane 80.70 321 ⇑*i*P **P 17 36 48.4 +1.4**
AKAS Kas 80.73 311 P **P 17 36 46.7 -0.7**
DOU Dourbes 80.75 334 *d*P **P 17 36 47.6 +0.6**
comp=Z,14nm,1.2s
ABTA Abfaltesbach 80.76 328 *i*P **P 17 36 47.4 +0.1**
comp=Z,30nm,1.2s,SNR=9.1
ABTA *e*PP **PP 17 39 49.3 -2.6**
comp=Z,19nm,1.3s
MOTA Moosalm 80.81 329 *i* PcP **P 17 36 48.8 +1.2**
comp=Z,113nm,1.1s
MOTA *e*PP **PP 17 39 48.6 -3.8**
comp=Z,28nm,1.4s
CEY Cerknica 80.81 326 ⇑*i*P **P 17 36 47.9 +0.4**
RETA Reutte 80.82 329 *i* PcP **P 17 36 48.8 +1.2**
comp=Z,76nm,1.2s,SNR=24
RETA *e*PP **PP 17 39 47.3 -5.0**
comp=Z,15nm,1.2s
SQTA Sankt Quirin 80.87 329 *i* PcP **P 17 36 49.1 +1.2**
comp=Z,46nm,0.9s,SNR=22
SQTA *e*PP **PP 17 39 49.5 -3.4**
comp=Z,13nm,1.3s
KOME Kolasin 80.89 322 ⇑*i*P **P 17 36 48.7 +0.6**
UPM Unac-Piva 80.89 322 ⇑*i*P **P 17 36 48.2 0.0**
A050A Klekovaca 80.94 324 ⇑*i*P **P 17 36 48.7 +0.4**
SABO M.te Sabotino 80.95 327 IAmb IAmb 17 36 49.5
comp=Z,77nm,1.5s
DSB Dublin 80.95 342 P **P 17 36 49.3 +1.2**
BFO Black Forest 81.00 331 P **P 17 36 48.2 -0.3**
BFO IAmb IAmb 17 36 57.4
comp=Z,39nm,0.9s
BFO Black Forest 81.00 331 P **P 17 36 48.2 -0.3**
BFO pmax pmax
comp=Z,39nm,0.9s
SKDS Skadanscina 81.14 326 ⇑*i*P **P 17 36 49.2 0.0**
NKME Niksic 81.22 322 ⇑*i*P **P 17 36 50.0 +0.3**
FETA Feichten 81.22 329 *i* PcP **P 17 36 51.1 +1.3**
comp=Z,38nm,0.9s,SNR=14
FETA *e*PP **PP 17 39 52.5 -3.3**
comp=Z,14nm,1.5s
BRY Bratogost 81.30 322 ⇑*i*P **P 17 36 50.6 +0.3**
BRY Bratogost 81.30 322 ⇑*i*P **P 17 36 50.2 -0.1**
DAVA Damuels 81.32 330 *i* PcP **P 17 36 51.4 +1.1**
comp=Z,74nm,1.0s,SNR=14
PDG Podgorica 81.34 321 ⇑*i*P **P 17 36 50.9 +0.6**
PDG Podgorica 81.34 321 ⇑P **P 17 36 51.4 +1.1**
PDG Podgorica 81.34 321 ⇑*i*P **P 17 36 51.1 +0.8**
CEME Cevo 81.40 322 ⇑*i*P **P 17 36 51.2 +0.5**
IGLA Glengowla, Co 81.45 344 P **P 17 36 50.5 -0.1**
ECH Echery 81.51 332 P **P 17 36 50.5 -0.7**
ECH IAmb IAmb 17 36 58.5
comp=Z,54nm,1.1s
ECH Echery 81.51 332 P **P 17 36 50.5 -0.7**
ECH pmax pmax
comp=Z,54nm,1.1s
TREB Trebinje 81.53 322 ⇑*i*P **P 17 36 51.2 -0.1**
ARG Arkhangelos 81.56 312 IAmb IAmb 17 36 54.0
comp=Z,105nm,1.1s
DRME Dracevica, Mon 81.56 321 ⇑*i*P **P 17 36 52.4 +0.9**
DRME Dracevica, Mon 81.56 321 ⇑*i*P **P 17 36 52.2 +0.7**
LIT Litokhoron 81.59 318 IAmb IAmb 17 36 53.4
comp=Z,41nm,1.0s
BUM Brajici-Budva 81.61 322 ⇑*i*P **P 17 36 52.3 +0.5**
OHR Ohrid 81.64 320 *i*P **P 17 36 53.4 +1.4**
HCY Herceg Novi 81.67 322 ⇑*i*P **P 17 36 53.1 +1.0**
STON Ston 81.70 323 ⇑*i*P **P 17 36 52.0 -0.2**
FUORN Ofenpass-Fuorn 81.73 329 IAmb IAmb 17 36 55.2
comp=Z,88nm,0.9s
DAVOX Davos/Dischmat 81.74 329 LR LR 18 17 19.8
comp=Z,370nm,18.0s,baz=76,slow=39
IWEX Carrickbyrne, 81.85 342 P **P 17 36 54.1 +1.3**
TIR Tirane 81.90 320 IAmb IAmb 17 37 03.0
comp=Z,72nm,0.8s
TIR Tirane 81.90 320 ⇓P **P 17 36 54.4 +1.1**
TIR Tirane 81.90 320 P **P 17 36 54.3 +1.1**

TUE	Stuetta	82.20	330	P	P	17 36 54.4	-0.6
TEOL	Teolo	82.23	328	IAmb	IAmb	17 36 56.7	
comp=Z,54nm,1.0s							
EIL	Elat	82.27	303	LR	LR	18 15 31.3	
comp=Z,203nm,21.0s,baz=65,slow=37							
KSU1	Kansas State U	82.48	43	IAmb	IAmb	17 36 58.1	
comp=Z,33nm,0.7s							
AGG	Agios Georgios	82.50	317	IAmb	IAmb	17 36 57.5	
comp=Z,56nm,1.4s							
KARP	Karpathos	82.58	312	P	P	17 36 56.3	-0.7
KARP				IAmb	IAmb	17 37 06.8	
comp=Z,55nm,0.7s							
KARP	Karpathos	82.58	312	eP	P	17 36 57.9	+0.9
L40A	Anamosa	82.72	37	IAmb	IAmb	17 36 59.2	
comp=Z,28nm,0.8s							
VLDQ	Val d'Or	82.97	26	IAmb	IAmb	17 36 59.8	
comp=Z,59nm,0.9s							
SENIN	Lac Senin/Sane	83.05	331	P	P	17 36 59.8	+0.3
CLF	Chambon-Foret	83.31	335	IAmb	IAmb	17 37 09.4	
comp=Z,88nm,1.3s							
ZCCA	Zocca	83.35	327	P	P	17 37 00.7	-0.1
GUMA	Gualdo di Mace	83.44	325	IAmb	IAmb	17 37 20.3	
comp=Z,61nm,0.9s							
SGRT	San Giovanni R	83.47	323	P	P	17 37 01.3	-0.2
K43A	Burlington	83.47	35	IAmb	IAmb	17 37 03.0	
comp=Z,39nm,0.9s							
P38A	Dawn	83.58	40	IAmb	IAmb	17 37 04.4	
comp=Z,42nm,0.8s							
NRCA	Norcia	83.72	325	P	P	17 37 03.4	+0.5
CAMP	Campotosto	83.84	325	IAmb	IAmb	17 37 11.8	
comp=Z,57nm,0.9s							
MATE	Matera	83.92	322	⇑P	P	17 37 04.5	+0.9
MATE	Matera	83.92	322	eP	P	17 37 04.6	+0.9
OSSC	Osservatorio P	83.93	327	IAmb	IAmb	17 37 05.3	
comp=Z,41nm,1.1s							
INTR	Introdacqua	84.06	324	P	P	17 37 04.0	-0.6
INTR				IAmb	IAmb	17 37 14.3	
comp=Z,72nm,1.2s							
CESX	Cesi	84.13	325	IAmb	IAmb	17 37 06.5	
comp=Z,52nm,1.2s							
P40A	Paris	84.35	39	P	P	17 37 05.8	-0.1
P40A				IAmb	IAmb	17 37 08.4	
comp=Z,31nm,0.9s							
BNI	Bardonecchia	84.39	330	IAmb	IAmb	17 37 15.9	
comp=Z,37nm,1.1s							
PAOL	Paolisi	84.57	323	IAmb	IAmb	17 37 14.9	
comp=Z,61nm,1.2s							
M44A	Midewin, Midew	84.67	36	IAmb	IAmb	17 37 09.6	
comp=Z,40nm,0.9s							
HDIL	Hopedale	84.79	37	IAmb	IAmb	17 37 10.3	
comp=Z,52nm,0.9s							
SSB	Saint Sauveur	84.96	332	IAmb	IAmb	17 37 11.6	
comp=Z,101nm,1.7s							
LDAQ	Lac Daran	84.97	22	P	P	17 37 08.7	-0.3
TIP	Timpagrande	85.07	321	IAmb	IAmb	17 37 12.0	
comp=Z,97nm,1.3s							
TIP	Timpagrande	85.07	321	⇓P	P	17 37 11.2	+1.6
R40A	Maddies Statio	85.23	40	IAmb	IAmb	17 37 12.4	
comp=Z,26nm,0.7s							
SADO	Sadowa	85.32	29	LR	LR	18 20 20.0	
comp=Z,12nm,18.6s,baz=240,slow=39							
SGCY	Sterling City	85.49	50	P	P	17 37 12.2	+0.3
SGCY				IAmb	IAmb	17 37 23.5	
comp=Z,47nm,0.8s							
TRQ	Mont Tremblant	85.56	25	IAmb	IAmb	17 37 13.8	
comp=Z,58nm,0.9s							
LMQ	La Malbaie	85.60	22	IAmb	IAmb	17 37 14.0	
comp=Z,44nm,1.1s							
CCM	Cathedral Cave	85.91	40	P	P	17 37 14.1	+0.4
CCM				IAmb	IAmb	17 37 16.0	
comp=Z,32nm,0.8s							
CCM	Cathedral Cave	85.91	40	P	P	17 37 14.1	+0.4
CCM				pmax	pmax		
comp=Z,32nm,0.8s							
TXAR	Lajitas Array	85.92	53	P	P	17 37 16.1	+2.0
comp=Z,8.3nm,0.7s,baz=294,slow=3.5,SNR=139							
comp=Z,8.3nm,0.7s							
N47A	Urbana	86.09	35	IAmb	IAmb	17 37 16.4	
comp=Z,37nm,0.9s							
MGMO	Mountain Grove	86.13	41	P	P	17 37 14.4	-0.5
CEL	Celeste	86.21	321	IAmb	IAmb	17 37 32.0	
comp=Z,52nm,0.9s							
PPT2	Papeete2	86.21	118	eS	SKSac	17 47 34.2	+2.3
comp=Z,113nm,27.0s							
PPT2				eSS	SS	17 53 17.9	-5.6
comp=Z,263nm,25.5s							
PPT2				eLQ	LQ	18 00 32.3	
comp=Z,897nm,36.8s							
PPT2				eLR	LR	18 03 58.3	
comp=Z,407nm,27.8s							
PPT2				eLR	LR	18 04 00.0	
comp=Z,285nm,42.0s							
MNTQ	Montreal, Queb	86.50	25	P	P	17 37 16.1	-0.3
MNTQ				IAmb	IAmb	17 37 18.4	
comp=Z,34nm,1.0s							
TAOE	Nuku Hiva Isla	86.51	105	eS	SKSac	17 47 31.2	-2.9
comp=Z,201nm,26.9s							
TAOE	Nuku Hiva Isla	86.51	105	eLR	LR	18 04 44.4	
comp=Z,273nm,24.2s							
E62A	Clayton Lake	86.67	22	IAmb	IAmb	17 37 18.8	
comp=Z,26nm,1.0s							
N49A	Columbus Grove	86.68	34	IAmb	IAmb	17 37 19.8	
comp=Z,31nm,0.9s							
T42A	Van Buren	86.80	40	IAmb	IAmb	17 37 28.2	
comp=Z,54nm,1.4s							
O48B	Farmland	86.83	35	P	P	17 37 17.9	-0.3
BATG	Bathurst New B	86.96	19	IAmb	IAmb	17 37 21.2	
comp=Z,46nm,0.9s							
P48A	Milroy	87.38	35	IAmb	IAmb	17 37 23.0	
comp=Z,31nm,1.1s							
VAE	Valguarnera	87.53	321	LR	LR	18 19 42.4	
comp=Z,219nm,20.2s,baz=131,slow=38							
LCAR	Lake Charles	87.54	41	P	P	17 37 20.6	-1.1
WHAR	Wooly Hollow	87.60	42	P	P	17 37 21.1	-0.9
WHAR				IAmb	IAmb	17 37 32.1	
comp=Z,32nm,0.8s							
P51A	Williamsport	88.36	34	IAmb	IAmb	17 37 27.6	
comp=Z,36nm,0.8s							
O53A	New Philadelph	88.44	32	P	P	17 37 25.8	-0.1
CEST	Esterri de Car	88.44	333	IAmb	IAmb	17 37 35.7	
comp=Z,57nm,1.1s							
P52A	Corning	88.60	33	IAmb	IAmb	17 37 28.8	
comp=Z,37nm,0.9s							
SSPA	Standing Stone	89.37	30	P	P	17 37 30.1	-0.2
RPZ	Rata Peaks	89.55	160	P	P	17 37 33.4	+2.8
S51A	Beattyville	89.69	35	IAmb	IAmb	17 37 34.0	
comp=Z,21nm,0.8s							
TBI	Tubuai	90.47	122	eLQ	LQ	18 01 59.2	
comp=Z,2μm,42.2s							
TBI				eLR	LR	18 06 10.5	
comp=Z,947nm,25.5s							
SWET	Sewanee	90.69	38	IAmb	IAmb	17 37 38.6	
comp=Z,16nm,0.9s							
X48A	Hartselle	90.81	39	P	P	17 37 35.7	-1.4
CPCT	Cooper Cave	91.13	37	IAmb	IAmb	17 37 40.9	
comp=Z,15nm,0.9s							
KEST	Kesra	91.25	324	P	P	17 37 39.5	+0.3
comp=Z,11nm,1.0s,baz=344,slow=3.4,SNR=5.5							
KEST				PP	PP	17 41 16.0	-0.8
comp=Z,14nm,0.9s,baz=44,slow=3.0,SNR=3.7							
KEST				LR	LR	18 24 10.8	
comp=Z,216nm,18.1s,baz=333,slow=39							
comp=Z,11nm,1.0s							
TKL	Tuckaleechee C	91.28	36	P	P	17 37 40.3	+1.0
comp=Z,12nm,0.8s,baz=238,slow=4.4,SNR=12							
TKL				LR	LR	18 22 06.7	
comp=Z,123nm,18.0s,baz=343,slow=38							
comp=Z,12nm,0.8s							
ESBB	Sonseca Array	92.78	335	IAmb	IAmb	17 37 48.2	
comp=Z,24nm,1.2s							
ESDC	Sonseca Array	92.78	335	P	P	17 37 45.5	-0.7
ESDC	Sonseca Array	92.78	335	P	P	17 37 46.7	+0.5
comp=Z,8.5nm,1.0s,baz=18,slow=3.7,SNR=36							
ESDC				PP	PP	17 41 27.2	-1.4
comp=Z,5.4nm,0.9s,baz=22,slow=7.5,SNR=6.6							
ESDC				LR	LR	18 26 09.7	
comp=Z,145nm,18.0s,baz=26,slow=40							
comp=Z,8.5nm,1.0s							
PAB	San Pablo	93.02	335	P	P	17 37 44.8	-2.5
PAB				IAmb	IAmb	17 37 57.3	
comp=Z,15nm,1.1s							
PAB	San Pablo	93.02	335	P	P	17 37 44.8	-2.5
PAB				pmax	pmax		
comp=Z,15nm,1.1s							
MDT	Midelt	99.26	333	LR	LR	18 26 39.3	
comp=Z,89nm,18.2s,baz=32,slow=37							
RKT	Rikitea	99.84	112	eLR	LR	18 10 29.0	
comp=Z,976nm,33.0s							
SDV	Santo Domingo	120.38	39	eP	PKiKP	17 43 26.4	+1.1
VNDA	Vanda	120.39	175	PKP	PKiKP	17 43 24.5	+1.4
comp=Z,1.1nm,0.7s,baz=325,slow=4.2,SNR=7.8							
DBIC	Dimbokro	122.85	321	PKP	PKiKP	17 43 30.2	+0.3
comp=Z,15nm,1.1s,baz=46,slow=1.3,SNR=6.6							
BOSA	Boshof	128.44	264	PKP	PKiKP	17 43 41.4	+0.7
comp=Z,1.0nm,0.8s,baz=325,slow=20,SNR=1.5							
QSPA	South Pole Qui	132.30	180	PKP	PKiKP	17 43 47.0	-0.2
comp=Z,1.6nm,0.8s,baz=325,slow=1.2,SNR=6.1							
CZSB	Cruzeiro do Su	133.31	52	eP	PKiKP	17 43 51.1	+0.3
SYO	Syowa Base	133.59	209	⇓ePdiff	Pdif	17 40 47.0	-0.1
TEFE	Tefe	134.06	40	eP	PKiKP	17 43 52.8	+0.5
ITTB	Itaituba	138.54	29	eP	PKiKP	17 44 00.9	-0.5
ELIB	Princess Elisa	138.91	204	dPKPdf	PKPdf	17 43 58.4	0.0
NPGB	Novo Progresso	141.15	30	eP	PKiKP	17 44 05.8	-1.0
NBCL	Cascavel-CE	141.81	2	eP	PKiKP	17 44 07.6	-0.6
LPAZ	La Paz	142.78	55		PKPdf	17 44 03.6	-4.0
LPAZ	La Paz	142.78	55	PKP	PKPdf	17 44 06.7	-1.0
comp=Z,0.9nm,0.5s,baz=356,slow=6.6,SNR=4.8							
LPAZ	La Paz	142.78	55	eP	PKPdf	17 44 06.5	-1.1
NBPB	Pedra_Branca-C	143.08	4	eP	PKPdf	17 44 08.6	+1.1
CLDB	Colider	144.50	33	eP	PKPdf	17 44 10.1	+0.1
BELA	Belgrano 2	144.56	181		PKPab	17 44 06.7	-0.3
PDRB	Porto dos Gac	144.78	35	eP	PKPdf	17 44 10.7	+0.2
TROLL	Troll, Antarti	144.80	200	⇓P	PKPdf	17 44 10.1	+1.2
comp=Z,1μm,0.8s							
SMTB	Santa Maria do	145.21	18	eP	PKPdf	17 44 12.5	+1.2
H03N2	Juan Fernandez	146.15	88	T	T	20 27 44.1	
baz=301,slow=77,SNR=16							
H03N3	Juan Fernandez	146.16	88	T	T	20 27 45.0	
baz=301,slow=77,SNR=21							
H03N1	Juan Fernandez	146.17	88	T	T	20 27 45.4	
baz=301,slow=77,SNR=18							
SNAA	Sanae	146.33	199	⇓P	PKPab	17 44 15.0	+1.0
comp=Z,232nm,0.6s							
SNAA	Sanae	146.33	199	PKPbc	PKPab	17 44 13.7	-0.2
comp=Z,4.4nm,0.7s,baz=162,slow=3.8,SNR=9.2							
PTLB	Pontes e Lacer	147.05	42	eP	PKPbc	17 44 16.6	+0.2
SNDB	Serra Nova Dou	147.15	26	eP	PKPbc	17 44 16.4	-0.4
NBAN	Anadia - AL	147.23	358	eP	PKPdf	17 44 15.6	+0.9
BBSD	Serra de San D	147.77	45	eP	PKPdf	17 44 17.0	+1.6
VNA2	Neumayer--Watz	147.91	198	⇓P	PKiKP	17 44 18.8	-0.1
comp=Z,29nm,0.7s,baz=138,slow=2.5							
VNA3	Neumayer Olymp	148.17	196	⇓P	PKiKP	17 44 19.9	+0.3
comp=Z,34nm,0.8s							
VNA1	Neumayer--Stat	148.31	198	⇓P	PKPab	17 44 21.4	-0.2
comp=Z,31nm,1.0s							
SALV	Santo Antonio	149.05	36	eP	PKPdf	17 44 18.2	+0.7
SDBA	SAO DESIDERIO	149.22	15	eP	PKPdf	17 44 19.5	+1.6
AC02	Maricunga	149.63	69		PKPdf	17 44 13.9	-4.9
LCO	Las Campanas	149.84	74	PKPdf	PKPdf	17 44 13.6	-5.2
LCO					PKPbc	17 44 24.3	+0.6
LCO	Las Campanas	149.84	74	PKIKP	PKPdf	17 44 13.6	-5.2
ARAG	Araguaiana, MT	150.44	30	eP	PKPdf	17 44 22.1	+2.4
BDFB	Brasilia	151.60	22		PKPdf	17 44 17.3	-4.4
BDFB				PKPbc	PKiKP	17 44 29.4	+1.0
BDFB	Brasilia	151.60	22	PKP	PKPdf	17 44 22.6	+1.0
comp=Z,4.0nm,0.9s,baz=62,slow=2.1,SNR=3.7							
BDFB				PKPbc	PKiKP	17 44 29.8	+1.4
comp=Z,26nm,0.8s,baz=312,slow=1.1,SNR=37							
JANB	Januaria	151.91	15	eP	PKPdf	17 44 23.2	+1.2
BDQN	Bodoquena, MS	152.48	43	eP	PKPdf	17 44 24.4	+1.8
BO02	Sierra Bellavi	152.78	85		PKPdf	17 44 18.3	-4.6
BO02				PKPbc	PKiKP	17 44 30.7	+0.5
CMC01	Camacan, BA	152.82	5	eP	PKPdf	17 44 25.3	+2.0
AQDB	Aquidauana	153.02	41	eP	PKPdf	17 44 24.1	+0.6
MURT	Porto Murtinho	153.04	46	eP	PKPdf	17 44 24.9	+1.4
GUA01	Guaratinga, BA	154.01	6	eP	PKPdf	17 44 27.1	+2.2
PLCA	Paso Flores	155.08	97	PKP	PKPdf	17 44 26.6	+0.7
comp=Z,2.3nm,1.0s,baz=190,slow=12,SNR=1.8							
PLCA				PKPab	pPKPdf	17 44 53.5	-1.8
comp=Z,4.1nm,0.7s,baz=261,slow=6.4,SNR=9.7							
CPUP	Villa Florida	156.89	52	PKP	PKPdf	17 44 29.4	+0.8
comp=Z,2.4nm,1.0s,baz=69,slow=2.3,SNR=2.8							
CPUP				PKPab	PKPab	17 44 59.0	0.0
comp=Z,2.7nm,1.0s,baz=27,slow=1.5,SNR=4.1							

NEIC ***27*** *17:32:57.4±1.4, 9.°65N±0.°07×126.°3E±0.°1, h10km±1km, mb4.7/59, Error ellipse: s-maj=17.7km s-min=11.9km az=88.0*

IDC ***27*** *17:33:06.5±2.3, 9.°67N×126.°26E, h81km±24km, mb3.7/21, mbtmp4.0/22, MS3.8/2, Error ellipse: s-maj=25.6km s-min=14.4km az=79.0*

ISC 27 17:33:02.0±0.4, 9.°60N±0.°05×126.°24E±0.°09, h50km, n99, σ1970/92, mb4.5/50, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.59	195	Pn	Pn	17 33 41.8	+0.3
DAV	Davao City (W)	2.59	195	P	Pn	17 33 49.2	+7.7
105nm,0.3s,baz=40,slow=16,SNR=5.7							
DAV				S	Sn	17 34 18.8	+7.0
284nm,0.5s,baz=279,slow=17,SNR=4.6							
DAV				LR	LR	17 34 54.0	
comp=Z,2μm,20.4s,baz=32,slow=40							
DAV	Davao City (W)	2.59	195	P	Pn	17 33 37.0	-4.5
TNTI	Ternate	8.84	173	Pn	Pn	17 35 02.8	-4.4
FAKI	Fak Fak	13.80	154	Pn	Pn	17 36 11.9	-3.2
YULB	Yu-li	14.51	342	Pn	Pn	17 36 21.1	-3.4
TPUB	Ta-pu	14.65	339	Pn	Pn	17 36 22.9	-3.4
SSLB	Suanglung	14.99	341	Pn	Pn	17 36 27.0	-3.8
YOJ	Yonaguni jima	15.10	349	Pn	Pn	17 36 28.4	-3.8
SBUM	Sibu	15.64	244	Pn	Pn	17 36 38.8	-0.4
MMRI	Maumere	18.55	193	P	P	17 37 11.1	-3.6
SOEI	Soe	19.32	186	P	P	17 37 21.5	-1.8
SOEI				IAmb	IAmb	17 38 00.9	
comp=Z,68nm,1.2s							
JAGI	Jajag, Banyuwa	21.61	214	P	P	17 37 45.8	-2.2
MTN	Manton Dam	22.82	168	P	P	17 37 59.1	-1.8
MTN				IAmb	IAmb	17 38 05.3	
comp=Z,18nm,0.9s							
MYKOM	Kota Tinggi	23.57	252	P	P	17 38 07.7	-0.7
MYKOM				IAmb	IAmb	17 38 26.2	
comp=Z,23nm,1.0s							
MANU	Manus Island	24.01	118	P	P	17 38 09.8	-2.6
MANU				IAmb	IAmb	17 38 14.1	
comp=Z,18nm,1.1s							
KNRA	Kununurra	25.23	174	P	P	17 38 22.7	-0.7
FITZ	Fitzroy Crossi	27.52	181	P	P	17 38 44.4	+0.4
KSRS	Korea Array	27.78	3	P	P	17 38 45.8	-0.3
comp=Z,0.5nm,0.5s,baz=171,slow=8.9,SNR=4.1							
comp=Z,0.5nm,0.5s							
CMAR	Chiang Mai Arr	27.88	291	P	P	17 38 49.7	+2.4
comp=Z,0.5nm,0.8s,baz=67,slow=7.2,SNR=2.3							
comp=Z,0.5nm,0.8s							
MJAR	Matsushiro Arr	28.94	20	P	P	17 38 57.9	+1.3
comp=Z,3.0nm,1.2s,baz=202,slow=8.7,SNR=2.2							
comp=Z,3.0nm,1.2s							
WRAB	Tennant Creek	30.41	165	P	P	17 39 11.6	+1.9
WRA	Warramunga Arr	30.42	165	P	P	17 39 13.3	+3.5
comp=Z,1.2nm,0.9s,baz=346,slow=9.3,SNR=1.4							
comp=Z,1.2nm,0.9s							
WR8	Warramunga Arr	30.47	165	P	P	17 39 10.6	+0.3
WR8				IAmb	IAmb	17 39 40.9	
comp=Z,8.2nm,1.1s							
MBWA	Marble Bar	31.23	192	P	P	17 39 16.9	0.0
PSA00	Pilbara Seismi	31.60	191	P	P	17 39 20.5	+0.2
AS31	Alice Springs	33.90	167	P	P	17 39 40.0	-0.3
ASAR	Alice Springs	33.90	167	P	P	17 39 42.2	+1.9
comp=Z,1.0nm,1.0s,baz=344,slow=8.5,SNR=1.1							
comp=Z,1.0nm,1.0s							
USRK	Ussuriysk Ar.	34.83	7	P	P	17 39 49.6	+1.4
comp=Z,1.5nm,0.6s,baz=178,slow=10,SNR=2.6							
comp=Z,1.5nm,0.6s							
ASAJ	Asahikawa	37.21	20	LR	LR	17 55 35.1	
comp=Z,94nm,19.8s,baz=179,slow=36							
MORW	Morawa	39.68	194	P	P	17 40 28.9	-0.4
H11S3	WAKE ISLAND Hy	40.14	73	T	T	18 23 35.4	
baz=263							
H11S1	WAKE ISLAND Hy	40.16	73	T	T	18 23 32.0	
baz=263							
H11S2	WAKE ISLAND Hy	40.16	73	T	T	18 23 39.4	
baz=263							
FORT	Forrest	40.18	178	P	P	17 40 33.3	-0.2
FORT				IAmb	IAmb	17 40 51.6	
comp=Z,20nm,0.9s							
H11N1	WAKE ISLAND Hy	40.50	71	T	T	18 23 58.7	
baz=263							
H11N2	WAKE ISLAND Hy	40.51	71	T	T	18 24 06.3	
baz=263							
H11N3	WAKE ISLAND Hy	40.52	71	T	T	18 24 16.4	
baz=263							

SONM	Songino Array	41.64	340	P	P	17 40 43.8	-1.7
SONM	Songino Array	41.64	340	P	P	17 40 46.2	+0.7
comp=Z,1.1nm,0.6s,baz=160,slow=8.4,SNR=3.9							
comp=Z,1.1nm,0.6s							
NWAO	Narrogin (SRO)	43.15	191	P	P	17 40 57.6	-0.1
NWAO				IAmb	IAmb	17 41 02.6	
comp=Z,17nm,1.1s							
BBOO	Buckleboo	43.20	168	P	P	17 40 57.3	-0.9
BBOO				IAmb	IAmb	17 41 23.0	
comp=Z,23nm,1.2s							
STKA	Stephens Creek	43.78	161	P	P	17 41 04.4	+1.5
comp=Z,1.7nm,0.7s,baz=319,slow=4.8,SNR=2.8							
comp=Z,1.7nm,0.7s							
PEA0B	Petropavlovsk-	50.26	24	P	P	17 41 53.6	+0.4
PEA0B				IAmb	IAmb	17 42 30.5	
comp=Z,16nm,1.4s							
PETK	Petropavlovsk-	50.26	24	P	P	17 41 53.5	+0.3
PETK	Petropavlovsk-	50.26	24	P	P	17 41 53.7	+0.5
comp=Z,0.8nm,0.6s,baz=197,slow=1.7,SNR=10							
comp=Z,0.8nm,0.6s							
YAK	Yakutsk	52.40	2	P	P	17 42 08.6	-0.4
YAK				IAmb	IAmb	17 42 40.0	
comp=Z,11nm,1.2s							
MKAR	Makanchi Array	52.54	323	P	P	17 42 10.7	+0.2
MKAR	Makanchi Array	52.54	323	P	P	17 42 11.7	+1.3
comp=Z,1.3nm,0.7s,baz=99,slow=7.5,SNR=5.2							
comp=Z,1.3nm,0.7s							
KAAM	Kaadhehdhoo	53.73	264	P	P	17 42 19.3	-0.4
ZALV	Zalesovo Beam	55.20	332	P	P	17 42 30.0	+0.3
comp=Z,1.1nm,0.6s,baz=149,slow=44,SNR=2.6							
comp=Z,1.1nm,0.6s							
KURK	Kurchatov	56.60	326	P	P	17 42 40.1	+0.4
KURK				IAmb	IAmb	17 42 55.3	
comp=Z,5.9nm,0.9s							
KURBB	Kurchatov Arra	56.61	326	P	P	17 42 40.6	+0.8
comp=Z,1.0nm,0.4s,baz=122,slow=7.8,SNR=17							
comp=Z,1.0nm,0.4s							
GAR	Garm	57.70	310	P	P	17 42 47.3	-0.6
KK31	Karatay Array	58.70	315	P	P	17 42 55.0	+0.4
KK31				IAmb	IAmb	17 43 03.0	
comp=Z,9.6nm,1.5s							
KKAR	Karatay Array	58.70	315	P	P	17 42 55.1	+0.5
KKAR	Karatay Array	58.70	315	P	P	17 42 54.6	-0.1
KKAR				IAmb	IAmb	17 43 03.1	
comp=Z,10nm,1.5s							
TIXI	Tiksi	62.02	1	P	P	17 43 17.8	+1.0
TIXI				IAmb	IAmb	17 43 19.8	
comp=Z,4.7nm,1.1s							
BVAR	Borovoye Array	62.20	326	P	P	17 43 19.5	+1.1
comp=Z,1.6nm,0.8s,baz=150,slow=10,SNR=2.5							
comp=Z,1.6nm,0.8s							
NRIK	Noril'sk	64.66	346	P	P	17 43 35.1	+0.9
NRIK				IAmb	IAmb	17 43 48.4	
comp=Z,4.2nm,0.8s							
NRIK	Noril'sk	64.66	346	P	P	17 43 35.5	+1.2
comp=Z,2.7nm,0.6s,baz=139,slow=7.9,SNR=5.8							
comp=Z,2.7nm,0.6s							
NNZ	Nelson	66.59	143	P	P	17 43 48.2	+1.1
THZ	Tophouse	66.64	144	P	P	17 43 49.1	+1.5
LBZ	Lake Benmore	66.82	147	P	P	17 43 50.6	+2.0
LTZ	Lake Taylor	66.92	145	P	P	17 43 52.1	+2.9
AB31	Akbulak array	67.36	319	P	P	17 43 52.1	+0.1
ABKAR	Akbulak array	67.36	319	P	P	17 43 52.6	+0.6
L14K	Kuka Creek	72.59	29		P	17 44 23.8	0.0
L16K	Owhat River	74.17	28	P	P	17 44 33.3	+0.2
L16K				IAmb	IAmb	17 44 35.2	
comp=Z,9.2nm,1.3s							
M16K	Timber Creek	74.30	29	P	P	17 44 34.6	+0.7
C18K	Utukok River	74.79	21	P	P	17 44 37.5	+0.8
C18K				IAmb	IAmb	17 44 57.5	
comp=Z,7.2nm,1.4s							
K17K	Iditarod	74.87	28	P	P	17 44 37.6	+0.5
K17K				IAmb	IAmb	17 44 40.4	
comp=Z,8.5nm,1.2s							
D19K	Kuna River	75.87	22	P	P	17 44 44.1	+1.3
D19K				IAmb	IAmb	17 44 45.1	
comp=Z,7.2nm,1.3s							
D20K	Etivluk River	76.45	21	P	P	17 44 46.0	-0.2
D20K				IAmb	IAmb	17 44 49.0	
comp=Z,5.6nm,1.1s							
B20K	Meade River	76.46	20	P	P	17 44 46.8	+0.6
B20K				IAmb	IAmb	17 45 16.2	
comp=Z,11nm,1.4s							
B22K	Teshekpuk Lake	77.77	20	P	P	17 44 54.2	+0.8
B22K				IAmb	IAmb	17 45 02.0	
comp=Z,12nm,1.4s							
RAYN	Ar Rayn	77.79	292	P	P	17 44 54.3	-0.3
C23K	Itkillik River	78.69	21		P	17 44 57.9	-0.7
E23K	Chandalar	78.97	22		P	17 45 00.8	+0.5
E23K				IAmb	IAmb	17 45 27.9	
comp=Z,7.8nm,1.3s							
MCK	McKinley	79.17	27	P	P	17 45 01.8	+0.4
MCK				IAmb	IAmb	17 45 06.3	
comp=Z,6.8nm,1.1s							
ILAR	Eielson Array	80.06	26	P	P	17 45 06.6	+0.

TPB05	**Hovey Rd**	**0.37**	**169**	P	Pb	17 40 54.0	-0.6
TPB05				S	Sb	17 41 00.7	-0.1
TPB06	**Permian Basin**	**0.40**	**24**	P	Pg	17 40 53.8	+0.7
TPB06				S	Sb	17 41 00.5	-1.0
PECS	**Pecos**	**0.40**	**282**		Pg	17 40 53.8	+0.6
PECS				Sg	Sg	17 40 60.0	+1.5
PECS				IAML		17 41 05.4	
	716nm,0.7s						
PECS	**Pecos**	**0.40**	**282**	P	Pg	17 40 53.9	+0.7
PECS				S	Sg	17 40 60.0	+1.5
TPB01	**Permian Basin**	**0.47**	**223**	P	Pg	17 40 55.2	+0.7
TPB01				S	Sb	17 41 05.5	+2.0
TPB12	**Southwest of T**	**0.47**	**261**	P	Pg	17 40 55.3	+0.7
TPB12				S	Sb	17 41 02.6	-1.1
MNHN	**Monahans**	**0.56**	**84**		Pg	17 40 56.5	+0.3
MNHN				Sg	Sg	17 41 04.4	+1.0
MNHN	**Monahans**	**0.56**	**84**	P	Pg	17 40 56.3	+0.1
MNHN				S	Sb	17 41 05.6	-0.5
TPB08	**Permian Basin**	**0.58**	**132**	P	Pb	17 40 58.6	+0.4
TPB08				S	Sb	17 41 06.9	0.0
TPB11	**China Draw**	**0.84**	**321**	P	Pb	17 41 02.1	-0.5
TPB11				S	Sb	17 41 13.7	-0.6
ALPN	**Alpine**	**0.93**	**192**		Pg	17 41 03.2	-0.1
ALPN				Sg	Sg	17 41 15.9	+0.6
ALPN	**Alpine**	**0.93**	**192**	P	Pg	17 41 03.3	+0.1
ALPN				S	Sb	17 41 16.6	-0.3
CLNB	**Carlsbad**	**1.05**	**338**		Pg	17 41 05.9	+0.2
CLNB	**Carlsbad**	**1.05**	**338**	S	Sb	17 41 20.7	+0.2
NM01	**Eunice**	**1.07**	**1**	P	Pg	17 41 06.2	+0.3
NM01				S	Sb	17 41 20.8	0.0
ODSA	**Odessa**	**1.11**	**41**		Pg	17 41 06.2	-0.5
ODSA				Sg	Sb	17 41 21.6	-0.4
ODSA	**Odessa**	**1.11**	**41**	P	Pg	17 41 06.1	-0.6
ODSA				S	Sb	17 41 21.7	-0.3
CLN7	**Carlsbad 7**	**1.17**	**343**		Pb	17 41 08.2	-0.2
CLN7	**Carlsbad 7**	**1.17**	**343**	P	Pb	17 41 08.3	0.0
TMB02	**Rankin**	**1.18**	**94**	P	Pg	17 41 07.9	-0.1
TMB02				S	Sn	17 41 25.8	+0.6
TMB01	**Midkiff**	**1.20**	**71**	P	Pg	17 41 08.0	-0.4
TMB01				S	Sb	17 41 24.6	+0.1
HTMS	**Hat Mesa**	**1.20**	**351**		Pb	17 41 08.9	+0.1
HTMS	**Hat Mesa**	**1.20**	**351**	P	Pg	17 41 08.5	+0.1
HTMS				S	Sb	17 41 24.8	+0.1
GDL2	**Guadalupe Moun**	**1.22**	**319**		Pg	17 41 08.5	-0.4
CBET	**Carlsbad E Tow**	**1.23**	**337**	P	Pb	17 41 09.3	-0.1
VHRN	**Van Horn**	**1.44**	**250**		Pn	17 41 12.3	-0.1
VHRN				IAML		17 41 38.5	
	82nm,0.8s						
VHRN				IAML		17 41 43.2	
	74nm,0.9s						
VHRN	**Van Horn**	**1.44**	**250**	P	Pn	17 41 12.6	+0.2
VHRN				S	Sn	17 41 33.1	+1.3
TMB06	**Greenwood**	**1.54**	**63**	P	Pn	17 41 13.9	+0.3
TMB06				S	Sg	17 41 35.7	+0.9
TMB04	**Seminole**	**1.55**	**30**	P	Pn	17 41 13.6	-0.3
TMB04				S	Sg	17 41 36.2	+1.0
SAND	**Sanderson**	**1.73**	**140**		Pn	17 41 16.6	+0.3
SAND				IAML		17 41 53.4	
	69nm,0.7s						
SAND				IAML		17 42 15.9	
	52nm,1.6s						
SAND	**Sanderson**	**1.73**	**140**	P	Pg	17 41 18.3	-0.3
SAND				S	Sg	17 41 41.9	+0.9
MNTX	**Cornudas Mount**	**1.73**	**284**		Pb	17 41 17.6	-0.2
MNTX				IAML		17 41 45.7	
	59nm,1.1s						
MNTX				IAML		17 41 49.1	
	51nm,0.6s						
MNTX	**Cornudas Mount**	**1.73**	**284**	P	Pb	17 41 17.6	-0.2
MNTX				S	Sg	17 41 41.6	+0.4
CPRX	**Cap Rock**	**1.78**	**348**		Pn	17 41 17.8	+0.7
CPRX	**Cap Rock**	**1.78**	**348**	P	Pb	17 41 18.3	-0.4
TMB05	**Klondike**	**1.88**	**44**	S	Sg	17 41 45.3	-0.5
TX31	**Lajitas Ar. Si**	**1.96**	**187**		Pn	17 41 20.3	+0.8
TX31	**Lajitas Ar. Si**	**1.96**	**187**	P	Pb	17 41 21.2	-0.5
TX31				S	Sg	17 41 48.5	+0.1
TXAR	**Lajitas Array**	**1.96**	**187**		Pn	17 41 20.1	+0.7
OZNA	**Ozona**	**1.99**	**100**		Pn	17 41 20.9	+1.0
OZNA	**Ozona**	**1.99**	**100**	P	Pb	17 41 21.8	-0.5
OZNA				S	Sg	17 41 48.9	-0.5
SGCY	**Sterling City**	**2.05**	**72**		Pn	17 41 21.4	+0.7
SGCY				IAmb_Lg		17 41 52.6	
	comp=Z,50nm,0.7s						
SGCY	**Sterling City**	**2.05**	**72**	P	Pn	17 41 21.9	+1.2
SGCY				S	Sg	17 41 50.3	-0.9
POST	**Post**	**2.40**	**42**		Pn	17 41 26.1	+0.5
POST				IAmb_Lg		17 42 06.6	
	comp=Z,42nm,1.1s						
EPT	**El Paso**	**2.69**	**281**	Pn	Pn	17 41 29.4	-0.2
EPT				IAML		17 42 16.4	
	comp=E,27nm,0.7s						
MSTX	**Muleshoe**	**2.73**	**11**		Pn	17 41 31.0	+0.9
MSTX				IAmb_Lg		17 42 16.3	
	comp=Z,16nm,0.8s						
SN07	**Snyder 07**	**2.79**	**49**		Pn	17 41 32.0	+1.1
DRIO	**Del Rio**	**3.04**	**127**	Pn	Pn	17 41 35.0	+0.7
DRIO				IAmb_Lg		17 42 24.9	
	comp=Z,26nm,0.7s						
DKNS	**Dickens**	**3.17**	**41**		Pn	17 41 38.0	+1.9
DKNS				IAmb_Lg		17 42 33.1	
	comp=Z,31nm,0.9s						
JCT	**Junction City**	**3.20**	**104**		Pn	17 41 37.3	+0.8
JCT				IAmb_Lg		17 42 33.4	
	comp=Z,26nm,0.9s						
APMT	**Aspermont**	**3.45**	**53**		Pn	17 41 40.5	+0.6
APMT				IAmb_Lg		17 42 41.2	
	comp=Z,19nm,0.9s						
ABTX	**Abilene, Hawle**	**3.47**	**66**		Pn	17 41 41.3	+1.1
BRDY	**Brady**	**3.78**	**89**		Pn	17 41 45.9	+1.5
BRDY				IAmb_Lg		17 42 54.8	
	comp=Z,18nm,0.9s						
CRNM	**Carthage**	**3.87**	**314**		Pn	17 41 46.3	+0.5
AMTX	**Amarillo**	**3.87**	**22**		Pn	17 41 46.5	+0.7
AMTX				IAmb_Lg		17 42 58.6	
	comp=Z,16nm,0.7s						
BNM	**Barren Site**	**3.94**	**317**		Pn	17 41 48.8	+1.9
HNDO	**Hondo**	**3.97**	**115**		Pn	17 41 49.1	+1.9
Y22D	**IRIS PASSCAL I**	**4.06**	**314**	Pn	Pn	17 41 50.2	+1.8
LENM	**Lemitar**	**4.16**	**315**		Pn	17 41 50.5	+0.8
SBM	**South Baldy**	**4.16**	**311**	Pn	Pn	17 41 51.1	+1.1
ANMO	**Albuquerque**	**4.46**	**326**		Pn	17 41 53.2	-0.7
ANMO				IAmb_Lg		17 43 13.4	
	comp=Z,10nm,0.8s						
ANMO	**Albuquerque**	**4.46**	**326**		Pn	17 41 53.2	-0.7
ANMO	**Albuquerque**	**4.46**	**326**		Pn	17 41 53.6	-0.4
ANMO				IAML		17 43 05.4	
	comp=Z,12nm,0.5s						
ANMO				IAML		17 43 10.8	
	comp=Z,15nm,0.6s						
ANMO				IAmb_Lg		17 43 13.0	
	comp=Z,10nm,0.7s						
ANMO	**Albuquerque**	**4.46**	**326**	IAmb_Lg		17 43 13.0	
	comp=Z,9.7nm,0.8s						
PLPT	**Palo Pinto**	**4.58**	**69**	IAmb_Lg		17 43 22.7	
	comp=Z,15nm,0.8s						
SMWD	**Samnorwood**	**4.64**	**34**		Pn	17 41 56.6	+0.3
SMWD				IAmb_Lg		17 43 21.8	
	comp=Z,16nm,0.7s						
WTFS	**Witchita Falls**	**4.85**	**58**	Pn	Pn	17 42 00.2	+1.0
FW03	**Perrin-Whitt E**	**4.86**	**67**	IAmb_Lg		17 43 26.7	
	comp=Z,19nm,0.9s						
WHTX	**Lake Whitney,**	**5.13**	**81**	Pn	Pn	17 42 03.2	+0.3
RTBA	**Rita Blanca**	**5.17**	**6**		Pn	17 42 03.7	0.0
RTBA				IAmb_Lg		17 43 28.8	
	comp=Z,15nm,1.0s						
WMOK	**Wichita Mounta**	**5.19**	**47**		Pn	17 42 04.6	+0.7
FW06	**Azle**	**5.24**	**70**	Pn	Pn	17 42 05.0	+0.5
Z35A	**Perchaven, San**	**5.60**	**67**	IAmb_Lg		17 43 55.4	
	comp=Z,13nm,0.9s						
T25A	**Trinidad**	**5.90**	**352**	Pn	Pn	17 42 12.1	-1.7
HHAR	**Hobbs**	**9.32**	**55**	IAmb_Lg		17 46 06.1	
	comp=Z,9.5nm,0.9s						

*IDC **27** 17:41:30.4±7.5, 35°.24N×22°.18E, h0km, mb3.7/4, mbtmp3.5/6, ML3.3/2, Error ellipse: s-maj=135.7km s-min=45.1km az=34.0*
*THE **27** 17:41:40.0, 35°.89N×22°.76E, h0km±1km, ML2.8/9, Error ellipse: s-maj=1.7km s-min=0.5km az=225.0*
*ATH **27** 17:41:40.5, 35°.92N×22°.76E, h11km±7km, ML3.2/7, Manual Solution by S.Koutrakis First location: 2019/04/27*

17:42:41, This location: 2019/04/27 22:41:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 7 km

ISC 27 17:41:38.9±1.4, 35°.86N±0°.04×22°.69E±0°.05, h7km±9km, n29, σ1°.33/46, mb3.6/4, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.50**	**89**	P	**Pg**	**17 41 48.9**	**+0.4**
ANKY				S	**Sg**	**17 41 55.7**	**+0.7**
	2μm,0.3s						
ANKY	**Antikythira Is**	**0.50**	**89**	P	**Pg**	**17 41 48.9**	**+0.4**
ANKY				S	**Sg**	**17 41 54.4**	**-0.6**
MNVA	**Monemvasia**	**0.88**	**19**	P	**Pg**	**17 41 55.8**	**+0.1**
MNVA				S	**Sg**	**17 42 06.2**	**-0.8**
VLI	**Veliai**	**0.88**	**13**	P	**Pg**	**17 41 55.6**	**-0.2**
VLI				S	**Sb**	**17 42 08.8**	**+0.3**
	472nm,0.5s						
VLI	**Veliai**	**0.88**	**13**	P	**Pg**	**17 41 55.9**	**0.0**
VLI				S	**Sg**	**17 42 06.8**	**-0.6**
KNDR	**Palaiochora Ch**	**1.02**	**127**	P	**Pg**	**17 41 57.6**	**-0.9**
KNDR				S	**Sg**	**17 42 12.5**	**+0.8**
	775nm,0.2s						
KNDR	**Palaiochora Ch**	**1.02**	**127**	P	**Pg**	**17 41 58.8**	**+0.4**
KNDR				S	**Sg**	**17 42 11.2**	**-0.5**
IMMV	**Iera Moni Meta**	**1.12**	**110**	P	**Pg**	**17 41 59.8**	**-0.6**
IMMV				S	**Sb**	**17 42 16.3**	**+0.9**
	2μm,0.6s						
IMMV	**Iera Moni Meta**	**1.12**	**110**	P	**Pg**	**17 41 59.9**	**-0.5**
IMMV				S	**Sg**	**17 42 15.1**	**+0.1**
CHAN	**Chania**	**1.15**	**107**	P	**Pg**	**17 42 00.5**	**-0.4**
CHAN				S	**Sb**	**17 42 16.4**	**+0.2**
	525nm,0.6s						
CHAN	**Chania**	**1.15**	**107**	P	**Pg**	**17 42 00.5**	**-0.4**
CHAN				S	**Sg**	**17 42 15.5**	**-0.4**
CHNB	**Souda**	**1.18**	**108**	P	**Pg**	**17 42 01.8**	**+0.3**
CHNB				S	**Sg**	**17 42 16.2**	**-0.6**
MTHA	**Methoni**	**1.25**	**321**	P	**Pb**	**17 42 04.7**	**+2.0**
PYL	**PYLOS**	**1.29**	**324**	P	**Pg**	**17 42 03.2**	**-0.4**
PYL				S	**Sn**	**17 42 23.2**	**+2.4**
	295nm,0.4s						
ITM	**Ithomi**	**1.46**	**335**	P	**Pn**	**17 42 06.6**	**+1.0**
ITM				S	**Sn**	**17 42 27.6**	**+2.7**
	250nm,0.5s						
ITM	**Ithomi**	**1.46**	**335**	P	**Pn**	**17 42 06.7**	**+1.1**
ITM				S	**Sg**	**17 42 25.2**	**-0.5**
GVD	**Gavdhos**	**1.53**	**131**	P	**Pn**	**17 42 07.6**	**+1.1**
GVD				S	**Sn**	**17 42 29.2**	**+2.6**
	470nm,0.4s						
VLX	**Vlachokerasia**	**1.53**	**351**	P	**Pn**	**17 42 07.8**	**+1.1**
PRNS	**Prines Rethymn**	**1.56**	**108**	P	**Pn**	**17 42 07.2**	**+0.3**
KRND	**KRANIDI**	**1.57**	**14**	P	**Pn**	**17 42 07.3**	**+0.2**
KRND				S	**Sg**	**17 42 28.7**	**-0.6**
	312nm,0.4s						
KRND	**KRANIDI**	**1.57**	**14**	P	**Pn**	**17 42 07.3**	**+0.2**
IDI	**Anoyia**	**1.88**	**107**	P	**Pn**	**17 42 12.6**	**+1.1**
GUR	**Goura**	**2.10**	**352**	P	**Pn**	**17 42 15.7**	**+1.3**
BRTR	**Keskin Array B**	**9.49**	**63**	Pn	**Pn**	**17 43 59.5**	**+3.5**
	0.1nm,0.3s,baz=240,slow=15,SNR=2.8 0.6nm,0.8s						
MMAI	**Mount Meron Ar**	**10.87**	**101**	Pn	**Pn**	**17 44 11.7**	**-3.2**
	0.8nm,0.3s,baz=274,slow=22,SNR=2.1 0.2nm,0.2s						
FINES	**FINESS Array B**	**25.70**	**4**	P	**P**	**17 47 07.8**	**-1.5**
	0.6nm,0.4s,baz=180,slow=7.9,SNR=1.8 0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**42.26**	**52**	P	**P**	**17 49 30.6**	**-2.0**
	0.6nm,0.6s,baz=275,slow=8.7,SNR=6.0 0.6nm,0.6s						
MKAR	**Makanchi Array**	**45.08**	**57**	P	**P**	**17 49 53.9**	**-1.5**
	0.4nm,0.5s,baz=271,slow=7.7,SNR=6.9 0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**45.98**	**47**	P	**P**	**17 50 00.3**	**-2.1**
	0.5nm,0.4s,baz=256,slow=7.8,SNR=2.6 0.5nm,0.4s						

TRN 27 17:42:19.6, 17°.87N×60°.75W, h4km, MD3.6, North-east of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.01**	**259**	*e*P	Pn	17 42 43.0	+2.5
ANBD	**Bethesda, Anti**	**1.27**	**230**	*e*P	Pn	17 42 45.3	+1.2
ANBD				*e*S	Sn	17 43 04.7	+3.2
MBWH		**1.77**	**231**	*e*P	Pg	17 42 53.2	-0.4
MBWH				*e*S	Sg	17 43 18.5	+1.8
MBFL	**Flemmings, Mon**	**1.79**	**232**	*e*P	Pg	17 42 53.6	-0.3
MBFL				*e*S	Sg	17 43 18.9	+1.8
TBG	**Guadaloupe-3**	**2.18**	**203**	*e*P	Pb	17 42 59.1	-0.5
DSLB	**Salisbury**	**2.50**	**195**	*e*P	Pb	17 43 04.1	-0.9
DSLB				*e*S	Sb	17 43 35.7	-0.5

AFAD 27 17:44:09.7, 38°.96N×26°.51E, h7km±3km, ML1.3, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.30**	**194**	P	Pg	17 44 16.1	+0.4
KARB				S	Sg	17 44 19.8	+0.1
IZMD	**zmir-Dikili-**	**0.33**	**85**	P	Pg	17 44 16.9	+0.8
IZMD				S	Sg	17 44 21.2	+0.6
AYVA	**Ayvalik**	**0.38**	**22**	P	Pg	17 44 17.5	+0.4
ZEDA	**zmir-Bergama**	**0.45**	**89**	P	Pg	17 44 18.1	-0.2
ZEDA				*i* AML	AML	17 44 24.0	
	comp=N,28nm,1.2s						
URLA	**Izmir**	**0.60**	**173**	P	Pg	17 44 21.7	+0.4
URLA				S	Sg	17 44 29.4	+0.3
URLA				*i* AML	AML	17 44 34.0	
	comp=N,12nm,0.3s						
KOCA	**Canakkale, Ayv**	**0.61**	**332**	P	Pb	17 44 22.4	-0.4
KOCA				S	Sg	17 44 30.3	+0.8
KOCA				*i* AML	AML	17 44 34.0	
	comp=N,16nm,0.2s						
KOCA				*i* AML	AML	17 44 35.0	
	comp=E,15nm,0.4s						
ZEYE	**Izmir, Urla-Ze**	**0.72**	**180**	P	Pg	17 44 23.7	+0.2
ZEYE				S	Sb	17 44 34.6	0.0
ZEYE				*i* AML	AML	17 44 37.0	
	comp=N,26nm,0.2s						
ZEYE				*i* AML	AML	17 44 37.0	
	comp=E,17nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.78**	**2**	P	Pg	17 44 25.0	+0.2
BAYC				S	Sg	17 44 35.6	+0.7
BAYC				*i* AML	AML	17 44 38.0	
	comp=N,9.6nm,0.3s						
BAYC				*i* AML	AML	17 44 38.0	
	comp=E,12nm,0.4s						
BOZC	**Bozcaada**	**0.95**	**338**	P	Pb	17 44 28.8	+0.3
BOZC				S	Sg	17 44 39.9	-0.4
BOZC				*i* AML	AML	17 44 43.0	
	comp=N,15nm,0.3s						
BOZC				*i* AML	AML	17 44 43.0	
	comp=E,15nm,0.4s						
DGB	**zmir**	**0.95**	**162**	P	Pg	17 44 27.9	-0.1
DGB				S	Sg	17 44 38.9	-1.4

TXNET 27 17:47:09.6, 31°.3N±0°.6×103°.4W±0°.7, h6km±1km, ML2.1/9, 1D, Error ellipse: s-maj=1.2km s-min=0.8km az=56.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.14**	**322**	P	Pg	17 47 13.2	+0.7
PCOS				S	Sg	17 47 15.3	+0.9
TPB04	**Verhalen**	**0.17**	**133**	P	Pg	17 47 13.3	+0.3
TPB04				S	Sg	17 47 16.1	+0.8
TPB16	**Coyonosa**	**0.22**	**142**	P	Pg	17 47 14.8	+0.7
TPB16				S	Sg	17 47 18.7	+1.7
TPB03	**Saragosa**	**0.23**	**202**	↓P	Pg	17 47 15.0	+0.7
TPB03				S	Sg	17 47 18.8	+1.4
TPB10	**Southeast of T**	**0.29**	**267**	P	Pg	17 47 16.0	+0.5
TPB10				S	Sb	17 47 21.3	-1.2
TPB07	**Mentone**	**0.35**	**322**	S	Sb	17 47 22.8	-1.4
TPB06	**Permian Basin**	**0.38**	**25**	P	Pg	17 47 17.4	+0.4
TPB06				S	Sg	17 47 23.3	+1.1
TPB05	**Hovey Rd**	**0.39**	**169**	P	Pg	17 47 17.6	+0.5
TPB05				S	Sg	17 47 23.3	+1.0
PECS	**Pecos**	**0.40**	**280**	P	Pg	17 47 17.5	+0.2
PECS				S	Sg	17 47 23.7	+1.2
TPB12	**Southwest of T**	**0.48**	**259**	P	Pg	17 47 19.0	+0.2
TPB12				S	Sg	17 47 26.2	+1.1
TPB01	**Permian Basin**	**0.48**	**222**	P	Pg	17 47 18.9	0.0
MNHN	**Monahans**	**0.56**	**86**	P	Pg	17 47 20.0	-0.4
MNHN				S	Sg	17 47 28.2	+0.5
TPB08	**Permian Basin**	**0.59**	**133**	S	Sb	17 47 30.2	-1.0
ALPN	**Alpine**	**0.94**	**192**	P	Pg	17 47 27.0	-0.8
ALPN				S	Sg	17 47 39.8	-0.2
ODSA	**Odessa**	**1.10**	**42**	P	Pg	17 47 29.6	-1.1
TMB02	**Rankin**	**1.18**	**95**	P	Pg	17 47 31.3	-1.0
TMB02				S	Sg	17 47 47.7	+0.1
HTMS	**Hat Mesa**	**1.18**	**351**	S	Sb	17 47 48.4	+0.3
TMB01	**Midkiff**	**1.19**	**72**	S	Sg	17 47 47.9	-0.1
VHRN	**Van Horn**	**1.45**	**250**	P	Pn	17 47 36.1	-0.3
VHRN				S	Sb	17 47 55.4	-0.3
MNTX	**Cornudas Mount**	**1.73**	**284**	P	Pb	17 47 41.2	-0.5
MNTX				S	Sg	17 48 04.9	-0.3
SAND	**Sanderson**	**1.74**	**140**	P	Pb	17 47 41.9	-0.1
SAND				S	Sg	17 48 04.9	-0.7
CPRX	**Cap Rock**	**1.77**	**347**	P	Pb	17 47 41.8	-0.7
TMB05	**Klondike**	**1.87**	**45**	P	Pn	17 47 42.8	+0.7
TMB05				S	Sb	17 48 08.2	+0.4
TX31	**Lajitas Ar. Si**	**1.97**	**187**	P	Pn	17 47 44.6	+0.9
TX31				S	Sg	17 48 12.0	-1.0
OZNA	**Ozona**	**2.00**	**100**	P	Pb	17 47 45.3	-1.1
OZNA				S	Sb	17 48 12.2	+0.7
SGCY	**Sterling City**	**2.04**	**72**	P	Pb	17 47 46.1	-1.1
SGCY				S	Sb	17 48 12.6	-0.3
POST	**Post**	**2.39**	**42**	P	Pn	17 47 50.2	+0.8

*BER **27** 17:54:10.3±3.2, 75°.80N×16°.18W, h10km, mb(Pn)3.5, ML1.7(DNK), Confirmed Earthquake*
*DNK **27** 17:54:11.8±5.2, 75°.71N×15°.98W, h36km±46km, ML1.7*

ISC 27 17:54:06.7±1.0, 75°.83N±0°.07×16°.38W±0°.07, h10km, n9, σ3°.53/17, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**1.83**	**215**	*e*P	**Pn**	**17 54 37.2**	**-0.8**
DBG				IAML		17 55 06.8	
	comp=Z,26nm,0.5s						
DBG	**Daneborg**	**1.83**	**215**	*i* P	**Pb**	**17 54 40.9**	**+0.8**
DBG				*i* S	**Sn**	**17 54 55.5**	**-5.7**
DBG				IAML		17 55 06.8	
	comp=Z,26nm,0.5s						
NOR	**Nord**	**5.80**	**360**	*i* P	**Pn**	**17 55 33.5**	**+0.9**
NOR				*e*		17 56 21.0	
NOR				*i* S	**Sn**	**17 56 36.0**	**-3.0**
NOR				IAML		17 56 37.1	
	comp=Z,1.9nm,0.5s						
NOR	**Nord**	**5.80**	**360**	*i* P	**Pn**	**17 55 33.5**	**+0.9**
NOR				*i* S	**Sn**	**17 56 36.0**	**-3.0**
NOR				IAML		17 56 37.1	
	comp=Z,1.9nm,0.5s						
SUMG	**Summit**	**6.82**	**252**	*i* P	**Pn**	**17 55 49.9**	**+3.0**
SUMG				*i* S	**Sn**	**17 57 01.8**	**-2.8**
SUMG				IAML		17 57 15.3	
	comp=Z,1.0nm,0.4s						
SUMG	**Summit**	**6.82**	**252**	*i* P	**Pn**	**17 55 49.9**	**+3.0**
SUMG				*i* S	**Sn**	**17 57 01.8**	**-2.8**
SUMG				IAML		17 57 15.3	
	comp=Z,1.0nm,0.4s						
KBS	**Kingsbay**	**6.87**	**50**	*e*P	**Pn**	**17 55 48.9**	**+1.7**
KBS				*e*S	**Sn**	**17 57 00.0**	**-5.2**
KBS	**Kingsbay**	**6.87**	**50**	*i* P	**Pn**	**17 55 48.7**	**+1.5**
KBS				*i* S	**Sn**	**17 56 59.4**	**-5.8**
KBS				*i* S	**Sn**	**17 57 02.4**	**-2.8**
SPA0	**Spitsbergen Ar**	**7.66**	**57**	*e*P	**Pn**	**17 56 01.8**	**+3.7**

*BJI **27** 18:10:45.0, 37°.30S×179°.10E, h20km, mb5.1/12, Ms5.1/3, Ms7 5.1/2*
*WEL **27** 18:10:46.0, 37°.03S×179°.09E, h11km, ML5.3, Mw5.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^{16} Nm; M_{rr}-1.91; $M_{\theta\theta}$0.68; $M_{\phi\phi}$1.23; $M_{r\theta}$1.03; $M_{\theta\phi}$-0.06; $M_{\phi r}$4.25; Fault plane solution: $M_0$4.64000×10^{16} NP1: ϕ_s193.00000°, δ80.00000°, λ-88.00000°. NP2: ϕ_s359.00000°, δ10.00000°, λ-103.00000°. Principal axes: T -5.0026, Plg35.0000°, Azm281.0000°; N 0.7315, Plg2.0000°, Azm12.0000°; P 4.2712, Plg55.0000°, Azm106.0000°; Stations used: WIZ WSRZ OPRZ KUZ TOZ GRZ MKAZ OBLIQUE FAULTING*
*WEL **27** 18:10:47.4±0.5, 37°.S±2°.×17°.9E±°, h12km, M5.2/73, ML5.4/72, MLv5.2/73 Error ellipse: s-maj=4.9km s-min=3.1km az=84.5, confirmed*
*GCMT **27** 18:10:48.5±0.3, 37°.09S±0°.02×179°.09E±0°.02, h47km±1km, MW5.0/88, Moment Tensor Solution. s46,c59; s88,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.79±.20; $M_{\theta\theta}$0.25±.14; $M_{\phi\phi}$2.54±.13; $M_{r\theta}$1.51±.12; $M_{\theta\phi}$1.13±.09; $M_{\phi r}$2.84±.14; Best double couple: $M_0$4.32900×10^{16} NP1:ϕ_s17.00000°, δ21.00000°, λ-99.00000°. NP2: ϕ_s207.00000°, δ69.00000°, λ-87.00000°. Principal axes: T 4.4270, Plg24.0000°, Azm294.0000°; N -0.1990, Plg3.0000°, Azm25.0000°; P -4.2310, Plg66.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **27** 18:10:48.4, 37°.09S×178°.98E, h35km*
*NEIC **27** 18:10:48.5±1.8, 37°.09S±0°.02×178°.99E±0°.09, h35km±1km, mb5.2/52, Mww5.0/13, Error ellipse: s-maj=11.6km s-min=2.9km az=86.0*
*MOS **27** 18:10:48.2±0.8, 37°.04S×178°.82E, h43km, mb5.2/10, Error ellipse: s-maj=15.8km s-min=10.7km az=114.8*
*NEIC **27** 18:10:48.4, 37°.29S×179°.00E, h36km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.22; $M_{\theta\theta}$0.53; $M_{\phi\phi}$1.68; $M_{r\theta}$2.03; $M_{\theta\phi}$1.10; $M_{\phi r}$2.93; Fault plane solution: $M_0$4.24000×10^{16} NP1:ϕ_s27.89000°, δ16.39000°, λ-96.02000°. NP2:ϕ_s214.17000°, δ73.70000°, λ-88.23000°. Principal axes: T 4.3019, Plg29.0000°, Azm303.0000°; N -0.1305, Plg2.0000°, Azm34.0000°; P -4.1714, Plg61.0000°, Azm127.0000°;*
*NOU **27** 18:10:49

RAGZ Rawiri 1.89 224 P **Pn 18 11 19.1 +0.1**
RAGZ S **Sn 18 11 42.6 +0.9**
URZ Urewera 1.92 234 P **Pn 18 11 20.0 +0.7**
1µm,0.3s,baz=348,slow=4.6,SNR=3402
URZ S **Sn 18 11 43.9 +1.6**
12µm,0.6s,baz=66,slow=20,SNR=28
URZ LR LR 18 12 23.9
comp=Z,8µm,20.3s,baz=102,slow=49
URZ Urewera 1.92 234 P **Pn 18 11 19.8 +0.5**
URZ Urewera 1.92 234 S **Sn 18 11 43.3 +1.0**
URZ Urewera 1.92 234 P **Pn 18 11 19.7 +0.3**
URZ S **Sn 18 11 44.2 +2.0**
PRGZ Paritu Road 2.02 207 P **Pn 18 11 19.9 -0.9**
PRGZ S **Sn 18 11 45.3 +0.6**
SNGZ Shannon Statio 2.14 219 P **Pn 18 11 21.8 -0.6**
SNGZ S **Sn 18 11 49.4 +1.6**
KNZ Kokohu 2.18 210 P **Pn 18 11 21.6 -1.4**
MHGZ Mahia Peninsul 2.21 204 P **Pn 18 11 22.6 -0.8**
MHGZ S **Sn 18 11 51.0 +1.5**
RTZ Ruatahuna 2.22 228 **Pn 18 11 23.6 0.0**
RTZ Sn **Sn 18 11 49.8 0.0**
RTZ Ruatahuna 2.22 228 P **Pn 18 11 23.8 +0.3**
RTZ S **Sn 18 11 51.3 +1.5**
MUGZ Murupara 2.26 233 P **Pn 18 11 24.2 +0.1**
TARZ Mount Tarawera 2.31 241 P **Pn 18 11 25.8 +0.9**
TGRZ Tauranga 2.32 254 P **Pn 18 11 24.7 -0.1**
OMRZ Omania 2.35 245 P **Pn 18 11 26.0 +0.6**
RRRZ Republican Roa 2.36 239 P **Pn 18 11 25.8 +0.4**
RAHZ Arahi 2.37 221 P **Pn 18 11 25.2 -0.4**
RAHZ S **Sn 18 11 54.5 +1.1**
KARZ Kaharoa 2.42 248 P **Pn 18 11 26.8 +0.6**
WHHZ Waihua 2.42 216 P **Pn 18 11 25.6 -0.6**
WHHZ S **Sn 18 11 55.9 +1.2**
HLRZ Highlands Stat 2.43 242 P **Pn 18 11 27.4 +1.0**
MTHZ Maungataniwha 2.46 225 P **Pn 18 11 27.0 +0.2**
MTHZ S **Sn 18 11 55.9 +0.2**
NGRZ Ngongotaha 2.49 246 P **Pn 18 11 28.1 +0.9**
UTU Utuhina 2.51 245 P **Pn 18 11 29.0 +1.5**
PRRZ Plateau Road 2.52 237 P **Pn 18 11 27.7 +0.1**
HSRZ Hossack Road 2.53 242 P **Pn 18 11 28.9 +1.1**
HRRZ Handcock Road 2.54 240 P **Pn 18 11 28.4 +0.4**
ALRZ Allen Road 2.59 236 P **Pn 18 11 28.6 +0.1**
ALRZ S **Sn 18 11 59.4 +0.6**
GRRZ Galatos Road 2.64 242 P **Pn 18 11 30.2 +0.9**
NMHZ Naumai 2.65 222 P **Pn 18 11 29.4 -0.1**
NMHZ S **Sn 18 12 01.8 +1.4**
ARHZ Aropaoanui 2.68 217 P **Pn 18 11 29.1 -0.7**
ARHZ S **Sn 18 12 00.8 -0.3**
WPRZ Whakapapatarin 2.69 238 P **Pn 18 11 30.4 +0.5**
MRHZ Matea Rd 2.70 230 P **Pn 18 11 29.9 -0.2**
MRHZ S **Sn 18 11 59.8 -1.7**
KUZ Kuaotunu 2.71 277 P **Pn 18 11 29.4 -0.9**
KUZ Kuaotunu 2.71 277 P **Pn 18 11 29.9 -0.4**
KUZ S **Sn 18 11 59.2 -2.7**
BKZ Black Stump Fm 2.87 224 **Pn 18 11 31.8 -0.6**
BKZ Sn **Sn 18 12 03.8 -2.0**
BKZ Black Stump Fm 2.87 224 P **Pn 18 11 31.6 -0.9**
BKZ Black Stump Fm 2.87 224 S **Sn 18 12 06.0 +0.2**
BKZ Black Stump Fm 2.87 224 P **Pn 18 11 31.9 -0.6**
WHTZ Whakaora 2.90 237 P **Pn 18 11 34.7 +1.9**
TOZ Tahuroa Road 2.91 257 **Pn 18 11 32.8 -0.1**
TOZ Sn **Sn 18 12 04.2 -2.3**
TOZ Tahuroa Road 2.91 257 P **Pn 18 11 33.0 +0.1**
KUTZ Kaahu Road 2.91 241 P **Pn 18 11 33.5 +0.6**
HATZ Hinemaiaia 2.94 232 P **Pn 18 11 32.7 -0.6**
CKHZ Cape Kidnapper 2.97 211 P **Pn 18 11 32.1 -1.6**
CKHZ S **Sn 18 12 06.5 -1.5**
MCHZ McNeill Hill 2.97 218 P **Pn 18 11 32.8 -1.0**
MCHZ S **Sn 18 12 08.6 +0.5**
GRZ Great Barrier 3.04 286 P **Pn 18 11 34.7 0.0**
GRZ S **Sn 18 12 09.8 -0.1**
TLZ Tolley Road 3.05 246 P **Pn 18 11 35.5 +0.6**
WATZ Wairara 3.07 238 P **Pn 18 11 36.0 +0.8**
KWHZ Kaweka Forest 3.09 222 P **Pn 18 11 34.4 -1.1**
MKAZ Moumakai 3.13 269 P **Pn 18 11 36.3 +0.3**
MKAZ S **Sn 18 12 09.6 -2.4**
RATZ Rangitukua 3.13 236 P **Pn 18 11 36.4 +0.4**
RITZ Rihia Road 3.13 233 P **Pn 18 11 36.1 0.0**
KAHZ Kahuranaki 3.16 212 P **Pn 18 11 34.7 -1.8**
WIAZ Waiheke Island 3.17 275 P **Pn 18 11 36.8 +0.3**
WIAZ S **Sn 18 12 16.8 -2.4**
KATZ Kakaramea 3.24 234 P **Pn 18 11 37.8 +0.2**
KRHZ Kereru 3.28 220 P **Pn 18 11 36.6 -1.5**
KRHZ S **Sn 18 12 14.8 -1.1**
TMVZ Te Maari 3.31 232 P **Pn 18 11 38.1 -0.5**
ETVZ East Tongariro 3.32 232 P **Pn 18 11 38.2 -0.5**
NTVZ North Tongarir 3.32 233 P **Pn 18 11 38.3 -0.4**
ETAZ East Tamaki Re 3.32 272 P **Pn 18 11 39.1 +0.5**
KRVZ Karewarewa 3.34 233 P **Pn 18 11 38.6 -0.3**
KBAZ Karaka Road Bo 3.35 269 P **Pn 18 11 39.9 +1.0**
KBAZ S **Sn 18 12 18.2 +0.8**
OTVZ Oturere 3.36 232 P **Pn 18 11 38.9 -0.4**
MBAZ Motutapu North 3.37 275 P **Pn 18 11 39.7 +0.5**
PXZ Pawanui 3.37 210 P **Pn 18 11 36.6 -2.7**
NNVZ North Ngauruho 3.38 233 P **Pn 18 11 39.4 -0.1**
WTVZ West Tongariro 3.38 233 P **Pn 18 11 39.5 -0.1**
SNVZ South Ngauruho 3.39 232 P **Pn 18 11 39.3 -0.5**
NGZ Ngauruhoe 3.41 232 P **Pn 18 11 39.5 -0.5**
TUVZ Tukino 3.43 231 P **Pn 18 11 40.5 +0.2**
ABAZ Army Bay 3.44 278 P **Pn 18 11 41.1 +0.8**
TWVZ Taurewa 3.46 235 P **Pn 18 11 40.7 +0.2**
MOVZ Moawhango 3.46 228 P **Pn 18 11 39.4 -1.1**
COVZ Chateau Observ 3.46 232 P **Pn 18 11 40.2 -0.4**
EPAZ Eden Park BICE 3.48 273 P **Pn 18 11 41.9 +1.2**
WHVZ Whangaehu Hut 3.48 231 P **Pn 18 11 40.7 -0.3**
FWVZ Far West T-bar 3.49 232 P **Pn 18 11 40.8 -0.3**
HBAZ Herne Bay Bore 3.49 273 P **Pn 18 11 42.2 +1.3**
MAVZ Matarangi 3.49 231 P **Pn 18 11 40.6 -0.6**
WNVZ Wahianoa 3.50 230 P **Pn 18 11 40.4 -0.8**
TRVZ Turoa 3.52 231 P **Pn 18 11 40.9 -0.6**
AWAZ Awhitu Peninsu 3.54 270 P **Pn 18 11 42.5 +0.8**
PNHZ Pukenui 3.57 218 P **Pn 18 11 39.9 -2.2**
WPHZ Waipukurau 3.58 214 P **Pn 18 11 40.0 -2.1**
WTAZ Waiatarua 3.61 272 P **Pn 18 11 43.6 +1.0**
HIZ Hauiti 3.61 246 **Pn 18 11 43.3 +0.7**
HIZ Sn **Sn 18 12 22.2 -1.8**
HIZ Hauiti 3.61 246 P **Pn 18 11 43.3 +0.7**
HIZ Hauiti 3.61 246 S **Sn 18 12 25.4 +1.4**
HIZ Hauiti 3.61 246 P **Pn 18 11 43.8 +1.2**
MTVZ Mangateitei 3.62 231 P **Pn 18 11 42.5 -0.3**
RVAZ Riverhead Bore 3.62 274 P **Pn 18 11 43.7 +1.0**
PKVZ Pokaka 3.64 233 P **Pn 18 11 43.3 +0.3**
PRHZ Porangahau 3.66 211 P **Pn 18 11 40.5 -2.8**
TSZ Takapari Road 3.80 219 P **Pn 18 11 42.5 -2.8**
ANWZ Angora Road 3.89 211 P **Pn 18 11 43.7 -2.7**
DVHZ Dannevirke 3.89 215 P **Pn 18 11 43.7 -2.7**
VRZ Vera Road 3.94 238 P **Pn 18 11 47.7 +0.7**
WCZ Waipu Caves 3.99 286 P **Pn 18 11 48.7 +0.9**
WAZ Wanganui 4.14 230 P **Pn 18 11 49.3 -0.6**
POWZ Post Office Ro 4.15 217 P **Pn 18 11 47.6 -2.4**
BFZ Birch Farm 4.17 211 **Pn 18 11 47.0 -3.3**
BFZ Sn **Sn 18 12 32.8 -5.0**
BFZ Birch Farm 4.17 211 P **Pn 18 11 46.8 -3.5**
BFZ Birch Farm 4.17 211 S **Sn 18 12 34.1 -3.6**
BFZ Birch Farm 4.17 211 P **Pn 18 11 46.8 -3.5**
PRWZ Pori Road 4.18 214 P **Pn 18 11 48.0 -2.5**
MHEZ Mangahewa 4.22 241 P **Pn 18 11 55.1 +4.2**
OHWZ Ohakea 4.25 223 P **Pn 18 11 50.9 -0.4**
LREZ Lake Rotokare 4.34 236 P **Pn 18 11 53.2 +0.6**
DREZ Durham Road 4.35 240 P **Pn 18 11 55.3 +2.6**
CPWZ Castlepoint 4.38 210 P **Pn 18 11 49.7 -3.4**
TIWZ Tintock 4.40 213 P **Pn 18 11 50.7 -2.8**
MRZ Mangatainoka R 4.45 217 **Pn 18 11 50.9 -3.2**
MRZ Sn **Sn 18 12 39.0 -5.6**
MRZ Mangatainoka R 4.45 217 P **Pn 18 11 50.7 -3.4**
PREZ Palmer Road 4.45 239 P **Pn 18 11 56.0 +1.9**
NEZ North Egmont 4.46 240 P **Pn 18 11 56.0 +1.6**
KHEZ Kahui Hut 4.53 240 P **Pn 18 11 54.6 -0.7**
KHEZ Kahui Hut 4.53 240 P **Pn 18 11 57.1 +1.8**
NBEZ Newall Road No 4.62 241 P **Pn 18 11 58.7 +2.3**
HOWZ Holdsworth Sta 4.67 215 P **Pn 18 11 53.5 -3.6**
TMWZ Te Maipa 4.67 211 P **Pn 18 11 53.2 -4.0**
NMEZ Namu Road 4.68 239 P **Pn 18 11 59.9 +2.7**
OGWZ Otaki Gorge 4.77 218 P **Pn 18 11 54.7 -3.7**
OUZ Omahuta 4.83 292 P **Pn 18 12 00.1 +0.8**
MTW Mount Morrison 4.88 214 P **Pn 18 11 55.8 -4.2**
KIW Kapiti Island 4.93 220 P **Pn 18 11 57.1 -3.6**
TRWZ Traveller 5.00 211 P Pn 18 11 56.6 -5.0
CAW Cannon Point 5.04 217 P **Pn 18 11 58.0 -4.2**

PAWZ Paruwai Farm 5.10 213 P **Pn 18 11 58.7 -4.2**
MSWZ Moikau Station 5.20 214 Pn 18 11 59.2 -5.2
MSWZ Moikau Station 5.20 214 P Pn 18 11 59.5 -4.9
WEL Wellington 5.32 218 P **Pn 18 12 02.1 -3.9**
PLWZ Palliser 5.32 213 Pn 18 12 00.8 -5.3
PLWZ Sn **Sn 18 12 59.0 -7.1**
PLWZ Palliser 5.32 213 P Pn 18 12 01.3 -4.8
BHW Baring Head 5.37 216 **Pn 18 12 02.3 -4.4**
BHW Baring Head 5.37 216 P **Pn 18 12 02.3 -4.4**
SNZO South Karori 5.37 218 **Pn 18 12 02.3 -4.4**
DUWZ D'Urville Isla 5.43 226 P **Pn 18 12 04.9 -2.6**
TCW Tory Channel 5.52 221 **Pn 18 12 04.9 -3.8**
TCW Tory Channel 5.52 221 P **Pn 18 12 04.6 -4.1**
TUWZ Tuamarina 5.85 221 **Pn 18 12 09.2 -4.0**
TUWZ Tuamarina 5.85 221 P **Pn 18 12 09.5 -3.8**
CMWZ Cape Campbell 5.95 218 Pn 18 12 10.0 -4.6
CMWZ Cape Campbell 5.95 218 P **Pn 18 12 11.3 -3.3**
NNZ Nelson 6.01 226 Pn Pn 18 12 11.0 -4.5
NNZ Nelson 6.01 226 P **Pn 18 12 12.1 -3.4**
BSWZ Blackbirch Sta 6.09 220 **Pn 18 12 12.2 -4.4**
BSWZ Blackbirch Sta 6.09 220 P **Pn 18 12 12.7 -3.9**
TKNZ Takaka Hill 6.14 229 **Pn 18 12 13.5 -3.9**
TKNZ Takaka Hill 6.14 229 P **Pn 18 12 14.4 -3.0**
QRZ Quartz Range 6.29 232 **Pn 18 12 15.7 -3.6**
QRZ Quartz Range 6.29 232 P **Pn 18 12 16.0 -3.3**
MRNZ Matariki Terra 6.49 227 Pn 18 12 17.4 -4.7
MRNZ Matariki Terra 6.49 227 P **Pn 18 12 18.3 -3.7**
THZ Tophouse 6.64 224 Pn 18 12 19.2 -5.0
THZ Tophouse 6.64 224 P **Pn 18 12 20.0 -4.2**
KHZ Kahutara 6.78 217 Pn 18 12 20.2 -5.8
KHZ Kahutara 6.78 217 P Pn 18 12 20.7 -5.2
DSZ Denniston Nort 7.27 228 Pn 18 12 27.9 -4.9
DSZ Denniston Nort 7.27 228 P **Pn 18 12 28.7 -4.0**
CTZ Chatham Island 7.36 155 **Pn 18 12 32.1 -1.9**
CTZ Chatham Island 7.36 155 P **Pn 18 12 32.9 -1.1**
CTZ Chatham Island 7.36 155 P **Pn 18 12 32.5 -1.5**
GVZ Greta Valley S 7.44 217 Pn 18 12 29.0 -6.1
GVZ Greta Valley S 7.44 217 P **Pn 18 12 30.9 -4.2**
LTZ Lake Taylor 7.68 221 Pn 18 12 32.2 -6.3
AMCZ Amberley 7.78 217 Pn Pn 18 12 33.5 -6.2
INZ Inchbonnie 8.09 224 Pn 18 12 37.2 -6.8
MQZ McQueen's Vall 8.19 215 Pn 18 12 38.8 -6.5
OXZ Oxford 8.19 219 Pn 18 12 38.6 -6.8
GLKZ Green Lake 8.25 19 P Pn 18 12 40.1 -6.1
GLKZ S **Sn 18 14 12.3 -5.7**
RIZ Raoul Island 8.26 19 S **Sn 18 14 13.6 -4.8**
RPZ Rata Peaks 8.97 220 Pn 18 12 49.9 -6.2
RPZ Rata Peaks 8.97 220 P **Pn 18 12 52.3 -3.7**
20nm,0.3s,baz=22,slow=1.1,SNR=22
RPZ S Sn 18 14 24.3 -11
342nm,0.8s,baz=305,slow=22,SNR=22
FOZ Fox Glacier 9.52 225 Pn Pn 18 12 58.3 -5.3
LBZ Lake Benmore 9.89 220 Pn 18 13 03.5 -5.2
ODZ Otahua Downs 10.14 216 Pn 18 13 05.8 -6.2
WKZ Wanaka 10.80 222 Pn Pn 18 13 15.0 -6.1
MSZ Milford Sound 11.30 225 P **Pn 18 13 28.9 +1.1**
MLZ Mavora Lakes 11.63 222 Pn Pn 18 13 26.0 -6.5
MLZ Mavora Lakes 11.63 222 P **Pn 18 13 31.6 -0.9**
WHZ Wether Hill Ro 12.07 220 Pn Pn 18 13 32.1 -6.3
WHZ Wether Hill Ro 12.07 220 P **Pn 18 13 37.1 -1.4**
DCZ Deep Cove 12.22 223 Pn **Pn 18 13 37.7 -2.8**
APZ The Paps 12.71 217 P **Pn 18 13 47.8 +0.7**
PINNC Pines Island, 17.62 322 **P 18 14 51.9 +0.2**
OUENC Ouen Island, N 18.08 321 P **Pn 18 15 00.2 +3.3**
ONTNC Ouen Toro 18.37 320 P **P 18 14 59.4 -0.7**
DZM Mont Dzumac 18.57 320 P **Pn 18 15 03.1 +0.2**
DZM Mont Dzumac 18.57 320 *eP* **Pn 18 15 03.9 +0.9**
100nm,1.4s
DZM *e*LR LR 18 19 23.5
4µm,24.9s
DZM Mont Dzumac 18.57 320 P **Pn 18 15 02.8 -0.2**
7.0nm,0.5s,baz=196,slow=16,SNR=16
DZM LR LR 18 20 58.2
comp=Z,2µm,21.2s,baz=144,slow=33
DZM Mont Dzumac 18.57 320 P **Pn 18 15 06.4 +3.4**
MSVF Nonsavu 19.35 357 **P 18 15 11.1 +0.3**
MSVF Nonsavu 19.35 357 P **P 18 15 11.2 +0.4**
15nm,0.7s,baz=210,slow=14,SNR=10
MSVF LR LR 18 21 03.4
comp=Z,1µm,22.0s,baz=187,slow=32
MSVF Nonsavu 19.35 357 P **Pn 18 15 15.2 +2.9**
INH Isangel 19.51 331 P **Pn 18 15 14.1 0.0**
TAVE Taveuni 20.37 3 P Pn 18 15 25.8 +1.5
DGTI Dogotuki 20.76 2 P Pn 18 15 29.2 +0.2
KOUNC Koumac, New Ca 20.95 318 P Pn 18 15 30.5 -0.7
VLAKA Lakatoro 23.36 331 P **P 18 15 54.3 +0.9**
ARMA Armidale 23.73 278 **P 18 15 56.5 -0.5**
ARMA IAmb IAmb 18 16 20.6
comp=Z,157nm,1.9s
ARMA Armidale 23.73 278 P **P 18 15 53.5 -3.6**
ARMA Armidale 23.73 278 P **P 18 15 58.9 +1.8**
MILA Mila 23.82 261 P **P 18 15 59.4 +1.6**
AUWSH Wavell State H 24.00 286 P **P 18 16 01.2 +1.8**
CNB Canberra Magne 24.00 265 P **P 18 16 01.3 +1.8**
CNB Canberra Magne 24.00 265 P **P 18 16 01.3 +1.8**
RAR Rarotonga 24.27 55 LR LR 18 24 04.6
comp=Z,414nm,19.8s,baz=261,slow=33
CAN Canberra 24.28 265 P **P 18 16 00.5 -1.6**
CAN Canberra 24.28 265 P **P 18 16 00.4 -1.7**
comp=Z,30nm,1.8s
CAN Canberra 24.28 265 P **P 18 16 01.2 -0.9**
CAN Canberra 24.28 265 P **P 18 16 00.5 -1.6**
CAN pmax pmax
comp=Z,25nm,1.0s
AFI Afiamalu 24.53 22 **P 18 16 04.5 +0.1**
AFI IAmb IAmb 18 16 30.1
comp=Z,68nm,1.1s
AFI Afiamalu 24.53 22 P **P 18 16 04.5 +0.1**
AFI pmax pmax
comp=Z,68nm,1.1s
EIDS Eidsvold 26.55 288 P **P 18 16 21.8 -0.9**
EIDS Eidsvold 26.55 288 P **P 18 16 23.8 +1.1**
comp=Z,44nm,1.3s
EIDS Eidsvold 26.55 288 P **P 18 16 24.1 +1.5**
CMSA Cobar Meteorol 28.03 272 P **P 18 16 35.0 -0.8**
comp=Z,36nm,1.3s
CMSA Cobar Meteorol 28.03 272 P **P 18 16 37.2 +1.3**
TBI Tubuai 30.30 72 *eS* **S 18 21 52.4 -0.4**
comp=Z,1µm,24.8s
TBI *e*LR LR 18 24 45.0
comp=Z,5µm,27.0s
TBI *e*LR LR 18 24 46.5
comp=Z,1µm,25.2s
STKA Stephens Creek 31.19 268 **P 18 17 02.8 -1.0**
STKA Stephens Creek 31.19 268 P **P 18 17 04.5 +0.7**
comp=Z,150nm,1.1s
STKA Stephens Creek 31.19 268 P **P 18 17 04.3 +0.5**
comp=Z,31nm,1.0s,baz=100,slow=11,SNR=29
STKA LR LR 18 29 04.7
comp=Z,783nm,18.9s,baz=99,slow=35
comp=Z,31nm,1.0s
STKA Stephens Creek 31.19 268 P **P 18 17 04.5 +0.7**
QLP Quilpie 31.25 280 P **P 18 17 06.0 +1.6**
comp=Z,89nm,1.2s
QLP Quilpie 31.25 280 P **P 18 17 05.0 +0.6**
HNR Honiara 32.56 323 P **P 18 17 15.3 -0.6**
HNR Honiara 32.56 323 P **P 18 17 15.9 -0.1**
comp=Z,61nm,0.7s,baz=162,slow=9.6,SNR=6.7
HNR LR LR 18 28 19.5
comp=Z,372nm,20.8s,baz=180,slow=32
comp=Z,61nm,0.7s
HNR Honiara 32.56 323 P **P 18 17 18.8 +2.8**
HNR Honiara 32.56 323 P **P 18 17 15.5 -0.5**
HNR sP **pwP 18 17 30.6 +0.2**
HTT Hallett 32.81 264 P **P 18 17 17.7 -0.5**
comp=Z,6.4nm,0.9s
HTT Hallett 32.81 264 P **P 18 17 19.1 +0.9**
INKA Innaminka 33.49 275 P **P 18 17 24.9 +0.9**
PPT2 Papeete2 33.74 63 *eP* **P 18 17 28.0 +1.6**
comp=Z,108nm,22.5s
PPT2 *e*LR LR 18 26 23.7
comp=Z,1µm,24.5s
PPT2 *e*LR LR 18 26 24.8
comp=Z,826nm,25.8s
PPT Papeete 33.76 63 LR LR 18 27 40.5
comp=Z,351nm,22.0s,baz=243,slow=30
WHYH Whyalla 34.01 264 P **P 18 17 29.2 +0.7**
LCRK Leigh Creek 34.41 269 P **P 18 17 32.3 +0.4**
BBOO Buckleboo 35.29 264 **P 18 17 38.3 -1.2**
BBOO IAmb IAmb 18 17 40.0
comp=Z,34nm,1.3s
BBOO Buckleboo 35.29 264 P **P 18 17 39.5 -0.1**
comp=Z,26nm,1.0s

MTSU Mount Surprise 35.87 292 P **P 18 17 44.3 -0.4**
comp=Z,18nm,1.0s
MTSU Mount Surprise 35.87 292 P **P 18 17 45.8 +1.1**
OOD Oodnadatta 37.50 272 P **P 18 17 58.4 0.0**
QIS Mount Isa 38.01 285 P **P 18 18 02.4 -0.4**
comp=Z,70nm,1.0s
QIS Mount Isa 38.01 285 P **P 18 18 03.0 +0.2**
COEN Coen 39.42 296 **P 18 18 14.0 -0.6**
COEN Coen 39.42 296 P **P 18 18 15.2 +0.5**
comp=Z,161nm,1.0s
COEN Coen 39.42 296 P **P 18 18 15.0 +0.4**
PMG Port Moresby 39.92 306 **P 18 18 18.2 -0.6**
PMG IAmb IAmb 18 18 20.4
comp=Z,66nm,1.0s
PMG Port Moresby 39.92 306 P **P 18 18 19.4 +0.7**
comp=Z,58nm,0.9s,baz=91,slow=4.2,SNR=14
PMG LR LR 18 33 34.0
comp=Z,500nm,18.6s,baz=140,slow=34
comp=Z,58nm,0.9s
PMG Port Moresby 39.92 306 P **P 18 18 19.7 +0.9**
PMG Port Moresby 39.92 306 P **P 18 18 19.5 +0.7**
AS01 Alice Springs 40.81 276 P **P 18 18 25.5 -0.7**
AS31 Alice Springs 40.84 276 **P 18 18 25.3 -1.2**
AS31 IAmb IAmb 18 18 26.9
comp=Z,20nm,0.6s
AS31 **S 18 24 29.7 -4.8**
AS31 Alice Springs 40.84 276 P **P 18 18 25.0 -1.4**
comp=Z,32nm,0.6s
ASAR Alice Springs 40.84 276 P **P 18 18 26.2 -0.2**
comp=Z,43nm,0.6s,baz=118,slow=7.9,SNR=1009
ASAR PcP **PcP 18 20 27.4 +0.7**
comp=Z,2.8nm,0.7s,baz=124,slow=3.8,SNR=2.0
ASAR ScP **ScP 18 24 09.9 -2.4**
comp=Z,3.0nm,0.9s,baz=128,slow=3.7,SNR=6.9
ASAR S **S 18 24 32.1 -2.4**
comp=Z,4.8nm,0.9s,baz=123,slow=14,SNR=16
ASAR LR LR 18 34 49.2
comp=Z,468nm,21.9s,baz=114,slow=35
comp=Z,43nm,0.6s
RABL Rabaul 41.03 317 **P 18 18 27.8 -0.2**
SBA Scott Base 41.16 184 **P 18 18 30.8 +2.5**
SBA Scott Base 41.16 184 P **P 18 18 30.8 +2.5**
SBA pmax pmax
comp=Z,21nm,1.4s
SBA Scott Base 41.16 184 P **P 18 18 31.9 +3.6**
SBA pP **pP 18 18 43.0 +2.2**
VNDA Vanda 41.17 186 **P 18 18 29.9 +1.5**
VNDA Vanda 41.17 186 P **P 18 18 30.1 +1.7**
comp=Z,1.1nm,0.8s,baz=14,slow=8.7,SNR=5.8
VNDA LR LR 18 32 08.3
comp=Z,274nm,21.4s,baz=30,slow=31
VNDA Vanda 41.17 186 P **P 18 18 30.9 +2.5**
VNDA pP **pP 18 18 42.0 +1.2**
RKT Rikitea 41.74 84 *e*LR LR 18 30 07.1
comp=Z,5µm,26.0s
WR8 Warramunga Arr 42.32 281 **P 18 18 37.6 -0.9**
WR8 IAmb IAmb 18 18 38.9
comp=Z,64nm,1.0s
WR8 PcP **PcP 18 20 32.5 +1.0**
FORT Forrest 42.37 263 **P 18 18 37.5 -1.4**
FORT PcP **PcP 18 20 30.7 -0.8**
FORT Forrest 42.37 263 P **P 18 18 36.9 -1.9**
comp=Z,166nm,0.7s
FORT Forrest 42.37 263 P **P 18 18 38.4 -0.4**
WRAB Tennant Creek 42.45 281 P **P 18 18 38.1 -1.5**
WRAB IAmb IAmb 18 18 39.9
comp=Z,53nm,0.8s
WRAB PcP **PcP 18 20 31.8 -0.1**
WRAB Tennant Creek 42.45 281 *c iP* **P 18 18 38.9 -0.7**
WRAB pmax pmax
comp=Z,60nm,0.9s
WRA Warramunga Arr 42.45 281 **P 18 18 37.5 -2.1**
WRA PcP **PcP 18 20 32.8 +0.8**
WRA Warramunga Arr 42.45 281 P **P 18 18 38.9 -0.7**
comp=Z,43nm,0.7s,baz=122,slow=7.6,SNR=116
WRA PcP **PcP 18 20 32.5 +0.5**
comp=Z,8.2nm,0.7s,baz=122,slow=3.3,SNR=6.5
WRA ScP **ScP 18 24 15.8 -2.9**
comp=Z,2.5nm,0.9s,baz=129,slow=4.1,SNR=5.4
WRA S **S 18 24 56.6 -1.6**
comp=Z,12nm,1.1s,baz=120,slow=15,SNR=15
WRA LR LR 18 36 41.7
comp=Z,562nm,19.1s,baz=80,slow=37
comp=Z,43nm,0.7s
WB0 Warramunga Arr 42.50 281 **P 18 18 38.7 -1.4**
WB0 IAmb IAmb 18 18 40.3
comp=Z,62nm,0.9s
WRKA Warakurna 44.65 271 P **P 18 18 55.4 -1.9**
comp=Z,34nm,1.0s
WRKA Warakurna 44.65 271 P **P 18 18 55.8 -1.5**
CCD Concordia, Ant 45.82 197 P **P 18 19 08.5 +2.2**
TAOE Nuku Hiva Isla 46.37 63 *e*LR LR 18 32 14.6
comp=Z,714nm,25.8s
KMBL Kambalda 47.02 259 P **P 18 19 14.2 -1.7**
comp=Z,41nm,1.0s
KMBL Kambalda 47.02 259 P **P 18 19 15.4 -0.5**
CASY Casey 48.08 210 **P 18 19 23.3 -0.3**
KDU Kakadu 48.16 288 P **P 18 19 22.6 -2.2**
MTN Manton Dam 49.09 287 **P 18 19 30.9 -1.1**
MTN IAmb IAmb 18 19 42.6
comp=Z,37nm,1.1s
MTN PcP **PcP 18 20 56.8 +1.7**
MTN Manton Dam 49.09 287 P **P 18 19 30.8 -1.1**
comp=Z,22nm,0.7s
MTN Manton Dam 49.09 287 P **P 18 19 31.6 -0.4**
KNRA Kununurra 49.23 282 **P 18 19 32.2 -0.9**
KNRA IAmb IAmb 18 19 43.7
comp=Z,28nm,1.1s
KNRA Kununurra 49.23 282 P **P 18 19 33.1 +0.1**
comp=Z,30nm,1.0s
JAY Jayapura 49.30 305 P **P 18 19 31.6 -2.0**
comp=Z,39nm,1.0s,baz=88,slow=1.9,SNR=9.2
JAY LR LR 18 41 39.9
comp=Z,182nm,18.8s,baz=156,slow=38
comp=Z,39nm,1.0s
JAY Jayapura 49.30 305 P **P 18 19 32.7 -0.9**
comp=Z,38nm,1.1s
GENI Genyem 49.59 305 P **P 18 19 35.5 -0.3**
GENI Genyem 49.59 305 P **P 18 19 36.1 +0.3**
NWAO Narrogin (SRO) 50.03 255 LR LR 18 39 12.0
comp=Z,295nm,20.6s,baz=84,slow=34
NWAO Narrogin (SRO) 50.03 255 P **P 18 19 37.8 -1.2**
KLBR Kellerberrin 50.16 257 P **P 18 19 39.2 -0.8**
comp=Z,109nm,0.6s
KLBR Kellerberrin 50.16 257 P **P 18 19 39.1 -0.9**
FITZ Fitzroy Crossi 50.33 277 LR LR 18 41 42.9
comp=Z,387nm,18.7s,baz=120,slow=37
MUN Mundaring 51.20 256 P **P 18 19 47.7 -0.2**
BLDU Ballidu 51.38 258 P **P 18 19 48.6 -0.6**
MEEK Meekatharra 51.63 263 P **P 18 19 49.4 -1.8**
comp=Z,41nm,0.8s
MEEK Meekatharra 51.63 263 P **P 18 19 50.0 -1.2**
MORW Morawa 52.57 259 **P 18 19 56.1 -2.0**
MORW IAmb IAmb 18 19 58.2
comp=Z,18nm,0.8s
MORW Morawa 52.57 259 P **P 18 19 57.2 -0.9**
QSPA South Pole Qui 52.99 180 P **P 18 20 03.7 +2.9**
comp=Z,36nm,1.0s,baz=333,slow=0.4,SNR=105
QSPA LR LR 18 38 28.9
comp=Z,505nm,21.3s,baz=20,slow=31
comp=Z,36nm,1.0s
QSPA South Pole Qui 52.99 180 P **P 18 20 03.6 +2.8**
QSPA pP **pP 18 20 15.5 +1.7**
PSA00 Pilbara Seismi 53.11 270 **P 18 20 00.7 -1.4**
PSA00 IAmb IAmb 18 20 01.6
comp=Z,18nm,0.9s
PSA00 Pilbara Seismi 53.11 270 P **P 18 20 01.2 -0.9**
BAKI Biak 53.34 302 P **P 18 20 05.0 +1.1**
comp=Z,35nm,1.4s
MBWA Marble Bar 53.41 270 **P 18 20 02.1 -2.3**
MBWA Marble Bar 53.41 270 P **P 18 20 03.2 -1.2**
MBWA Marble Bar 53.41 270 P **P 18 20 02.4 -2.0**
MBWA pP **pP 18 20 13.9 -3.1**
RKPI Ransiki, Papua 54.44 300 P P 18 20 16.3 +4.4
FAKI Fak Fak 54.80 297 P **P 18 20 12.6 -1.9**
comp=Z,22nm,1.1s
SOEI Soe 56.28 284 **P 18 20 24.3 -1.0**
SOEI Soe 56.28 284 P **P 18 20 26.9 +1.6**
SOEI Soe 56.28 284 P **P 18 20 25.8 +0.5**
SWI Sorong 56.94 298 P **P 18 20 28.7 -1.1**
comp=Z,654nmcomp=Z,50nm,0.7s
MMRI Maumere 58.54 284 **P 18 20 39.9 -1.2**
MMRI Maumere 58.54 284 P **P 18 20 41.2 +0.1**
MMRI Maumere 58.54 284 P **P 18 20 40.7 -0.4**
EDFI Ende, Flores 58.89 283 P **P 18 20 42.4 -1.3**

comp=Z,42nm,1.4s
WSI Waingapu 59.42 282 P **P 18 20 47.3 +0.1**
GUMO Guam 59.85 321 LR LR 18 43 29.8
comp=Z,94nm,21.9s,baz=144,slow=33
SANI Sanana 59.93 293 P **P 18 20 49.9 -0.8**
SANI Sanana 59.93 293 P **P 18 20 49.8 -0.9**
comp=Z,44nm,0.9s
PLAI Plampang 61.90 281 P **P 18 21 02.1 -2.0**
comp=Z,28nm,0.9s
KAPI Kappang 62.72 285 LR LR 18 49 36.5
comp=Z,248nm,19.2s,baz=135,slow=37
LUWI Luwuk 62.99 291 P **P 18 21 11.4 +0.1**
comp=Z,40nm,1.0s
KMSI Cibinong 63.17 293 P **P 18 21 12.0 -0.6**
comp=Z,66nm,1.0s
SPSI Sidrap Palu 63.37 286 P **P 18 21 13.1 -0.8**
BELA Belgrano 2 63.45 172 **P 18 21 14.1 +0.6**
MAW Mawson 65.16 202 P **P 18 21 25.7 +0.9**
comp=Z,7.1nm,0.9s,baz=138,slow=15,SNR=2.2
MAW LR LR 18 49 37.2
comp=Z,354nm,18.6s,baz=62,slow=36
comp=Z,7.1nm,0.9s
GMJI Gumukmas 65.65 278 P **P 18 21 27.8 -1.0**
comp=Z,53nm,1.0s
MPSI Mapaga 66.05 290 P **P 18 21 30.3 -1.0**
comp=Z,15nm,0.9s
PMSA Palmer Station 67.15 155 LR LR 18 43 49.6
comp=Z,433nm,21.6s,baz=269,slow=29
PCJI Pacitan 67.49 277 P **P 18 21 40.3 -0.2**
TROLL Troll, Antarti 71.12 181 ⇓P **P 18 22 04.0 +1.7**
comp=Z,430nm,0.5s
LEM Lembang 71.14 276 LR LR 18 55 36.8
comp=Z,180nm,19.4s,baz=155,slow=38
SNAA Sanae 71.48 179 **P 18 22 04.2 -0.2**
SNAA IAmb IAmb 18 22 27.4
comp=Z,17nm,1.0s
SNAA Sanae 71.48 179 ⇓P **P 18 22 06.5 +2.1**
comp=Z,84nm,0.4s
SNAA ⇑pP **pP 18 22 15.6 -2.1**
comp=Z,18nm,0.3s
SNAA Sanae 71.48 179 P **P 18 22 05.9 +1.5**
comp=Z,13nm,1.1s,baz=186,slow=5.0,SNR=9.3
SNAA LR LR 18 51 49.6
comp=Z,222nm,19.3s,baz=134,slow=34
comp=Z,13nm,1.1s
USHA Ushuaia 71.73 146 LR LR 18 44 58.4
comp=Z,343nm,21.6s,baz=188,slow=28
VNA3 Neumayer Olymp 71.74 177 ⇓P **P 18 22 07.1 +1.3**
comp=Z,24nm,0.6s
VNA3 ⇑pP **pP 18 22 17.5 -1.5**
comp=Z,0.9nm,0.2s
NVL N'lazarevskaya 72.01 184 *e*P **P 18 22 09.2 +1.8**
NVL pmax pmax
comp=Z,29nm,1.6s
VNA2 Neumayer--Watz 72.14 178 ⇓P **P 18 22 10.0 +1.7**
comp=Z,17nm,0.5s,baz=191,slow=6.8
VNA2 ⇑pP **pP 18 22 19.6 -1.9**
comp=Z,1.8nm,0.3s,baz=163,slow=4.5
VNA1 Neumayer--Stat 72.39 177 ⇓P **P 18 22 11.2 +1.5**
comp=Z,11nm,0.5s
VNA1 ⇑pP **pP 18 22 21.3 -1.6**
comp=Z,1.7nm,0.4s
JCJ Chichijima 72.70 326 LR LR 18 51 51.6
comp=Z,61nm,19.5s,baz=18,slow=34
CGJI Cibinong 72.79 275 P **P 18 22 12.2 -0.8**
comp=Z,26μmcomp=Z,45nm,0.9s
TGY Tagaytay City 74.71 301 LR LR 18 57 52.7
comp=Z,49nm,19.3s,baz=142,slow=38
MDSI Maura Dua 75.27 276 P **P 18 22 26.2 -1.3**
comp=Z,19nm,1.0s
H03S2 Juan Fernandez 78.76 124 T T 19 49 24.9
baz=231,slow=74,SNR=36
H03S1 Juan Fernandez 78.77 124 T T 19 49 25.4
baz=231,slow=74,SNR=39
H03S3 Juan Fernandez 78.78 124 T T 19 49 21.4
baz=231,slow=74,SNR=30
JHJ Hachijo jima 2 78.92 327 LR LR 18 52 58.0
comp=Z,49nm,21.6s,baz=114,slow=32
H03N3 Juan Fernandez 78.99 124 T T 19 49 44.1
baz=234,slow=72,SNR=96
H03N2 Juan Fernandez 79.00 124 T T 19 49 35.8
baz=234,slow=72,SNR=102
H03N1 Juan Fernandez 79.01 124 T T 19 49 30.1
baz=234,slow=72,SNR=97
JOW Kunigami 79.55 315 LR LR 18 55 36.0
comp=Z,82nm,18.9s,baz=142,slow=34
PLCA Paso Flores 79.67 134 P **P 18 22 54.5 +2.7**
comp=Z,8.2nm,0.9s,baz=227,slow=6.5,SNR=14
PLCA LR LR 18 51 33.9
comp=Z,95nm,20.5s,baz=216,slow=31
comp=Z,8.2nm,0.9s
MJAR Matsushiro Arr 82.51 328 P **P 18 23 05.6 -1.0**
comp=Z,1.8nm,1.0s,baz=153,slow=3.7,SNR=3.1
MJAR LR LR 18 55 10.6
comp=Z,48nm,21.0s,baz=150,slow=32
comp=Z,1.8nm,1.0s
JNU Nakatsue 83.10 321 LR LR 18 56 10.3
comp=Z,56nm,21.6s,baz=146,slow=33
BO02 Sierra Bellavi 83.40 129 **P 18 23 12.2 +0.6**
BO02 IAmb IAmb 18 23 14.9
comp=Z,51nm,1.4s
MT01 Popeta 83.71 128 P **P 18 23 14.1 +1.0**
MT01 IAmb IAmb 18 23 15.9
comp=Z,22nm,0.8s
PSI Prapat 83.84 278 LR LR 19 01 25.1
comp=Z,308nm,21.3s,baz=132,slow=36
MT09 Talagante 83.93 128 P **P 18 23 15.2 +0.8**
MT09 IAmb IAmb 18 23 17.6
comp=Z,50nm,1.6s
MT02 Curacav 84.18 128 P **P 18 23 16.8 +1.3**
MT02 IAmb IAmb 18 23 20.3
comp=Z,29nm,1.3s
PEL Peldehue 84.54 128 **P 18 23 18.3 +0.9**
PEL IAmb IAmb 18 23 20.3
comp=Z,19nm,0.9s
PEL Peldehue 84.54 128 P **P 18 23 18.3 +0.9**
PEL pmax pmax
comp=Z,19nm,0.9s
QIZ Qiongzhong 85.80 298 P **P 18 23 26.8 +3.1**
QIZ S **S 18 33 58.5 +5.3**
QIZ LR LR
comp=Z,140nm,8.9s
QIZ LR LR
comp=Z,140nm,9.6s
CO03 El Pedregal 86.05 126 **P 18 23 25.9 +0.8**
CO03 IAmb IAmb 18 23 28.4
comp=Z,22nm,0.9s
TRQA Tornquist 86.35 136 P **P 18 23 26.9 +0.6**
TRQA Tornquist 86.35 136 P **P 18 23 26.9 +0.6**
TRQA pmax pmax
comp=Z,8.0nm,1.1s
ZON Zonda 86.87 128 IAmb IAmb 18 23 32.6
comp=Z,16nm,1.3s
CO01 Juntas del Tor 87.00 126 IAmb IAmb 18 23 33.8
comp=Z,28nm,1.5s
ASAJ Asahikawa 87.38 335 LR LR 18 55 25.4
comp=Z,114nm,21.5s,baz=170,slow=31
AC05 El Transito 87.64 125 **P 18 23 32.3 -0.6**
AC05 IAmb IAmb 18 23 36.6
comp=Z,17nm,0.9s
KSRS Korea Array 88.00 322 P **P 18 23 34.4 +0.4**
comp=Z,2.8nm,0.7s,baz=140,slow=5.2,SNR=13
KSRS LR LR 19 00 48.8
comp=Z,23nm,19.1s,baz=150,slow=34
comp=Z,2.8nm,0.7s
KSAR Wonju Array Be 88.01 322 P **P 18 23 34.0 +0.1**
KSAR Wonju Array Be 88.01 322 P **P 18 23 34.1 +0.1**
NJ2 Nanjing 88.88 313 *e*P **P 18 23 39.5 +1.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
LPIG La Paz 90.10 60 LR LR 18 54 35.5
comp=Z,109nm,22.0s,baz=209,slow=29
USRK Ussuriysk Ar. 91.51 328 P **P 18 23 50.5 +0.4**
comp=Z,1.6nm,0.8s,baz=176,slow=5.8,SNR=4.4
comp=Z,1.6nm,0.8s
PET Petropavlovsk 91.53 348 *c i*P **P 18 23 46.0 -4.0**
PET pmax pmax
comp=Z,19nm,1.1s
PETK Petropavlovsk- 91.78 347 P **P 18 23 51.6 +0.4**
comp=Z,2.8nm,0.6s,baz=119,slow=5.5,SNR=27
PETK PKiKP **PKiKP 18 28 41.8 -0.1**
comp=Z,0.5nm,0.5s,baz=101,slow=6.9,SNR=4.9
PETK LR LR 19 00 20.0
comp=Z,83nm,19.9s,baz=179,slow=32
comp=Z,2.8nm,0.6s
ELS Elsinore Mount 91.95 48 P **P 18 23 54.5 +1.8**
ELS IAmb IAmb 18 23 57.4
comp=Z,8.8nm,1.1s

YUH Yuha Desert 92.17 50 P **P 18 23 55.1 +1.5**
PFO Pinyon Flats O 92.51 49 LR LR 18 56 49.5
comp=Z,95nm,21.8s,baz=225,slow=30
TA01 Diego Aracena 93.17 119 P **P 18 23 58.4 -0.2**
CM31 Chiang Mai Arr 93.39 290 P **P 18 23 58.6 -0.9**
CM31 IAmb IAmb 18 24 12.6
comp=Z,7.8nm,0.8s
CMAR Chiang Mai Arr 93.39 290 **P 18 23 58.6 -0.9**
CMAR Chiang Mai Arr 93.39 290 P **P 18 23 59.6 +0.1**
comp=Z,4.2nm,0.6s,baz=146,slow=3.5,SNR=34
CMAR PP **PP 18 27 42.6 -1.8**
comp=Z,1.1nm,0.9s,baz=135,slow=6.9,SNR=5.8
CMAR LR LR 19 08 05.5
comp=Z,54nm,21.9s,baz=150,slow=37
comp=Z,4.2nm,0.6s
CHTO Chiang Mai 93.61 291 **P 18 23 59.3 -1.3**
CHTO Chiang Mai 93.61 291 P **P 18 23 59.3 -1.3**
CHTO pmax pmax
comp=Z,6.0nm,1.1s
NNA Nana 93.80 108 LR LR 18 58 15.5
comp=Z,183nm,19.3s,baz=213,slow=30
NVAR Mina Array Bea 94.79 44 P **P 18 24 07.8 +2.0**
comp=Z,0.2nm,0.3s,baz=217,slow=7.9,SNR=3.7
NVAR LR LR 19 00 02.3
comp=Z,95nm,19.9s,baz=194,slow=31
comp=Z,0.2nm,0.3s
YBH Yreka Blue Hor 94.80 40 LR LR 18 57 53.2
comp=Z,80nm,21.6s,baz=220,slow=30
PB16 IPOC Station P 95.12 117 P **P 18 24 08.7 +0.4**
PB16 IAmb IAmb 18 24 12.5
comp=Z,9.0nm,1.1s
ATAH Atahualpa 95.62 103 LR LR 18 57 18.0
comp=Z,279nm,21.8s,baz=231,slow=29
KLR Kul'dur 95.67 331 LR LR 19 01 19.4
comp=Z,62nm,21.6s,baz=118,slow=32
PZH PanZhiHua 96.30 298 P **P 18 24 16.0 +3.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
LPAZ La Paz 97.46 117 P Pdif 18 24 21.4 +2.3
comp=Z,0.6nm,0.4s,baz=232,slow=7.7,SNR=4.5
LPAZ LR LR 19 00 08.6
comp=Z,81nm,20.9s,baz=194,slow=30
comp=Z,0.6nm,0.4s
KDAK Kodiak Island 97.52 15 LR LR 19 02 14.0
comp=Z,89nm,20.6s,baz=59,slow=32
CPUP Villa Florida 97.56 131 LR LR 19 01 30.5
comp=Z,333nm,19.6s,baz=230,slow=31
TXAR Lajitas Array 98.00 59 LR LR 19 01 34.2
comp=Z,59nm,19.1s,baz=234,slow=31
ELK Elko 98.10 44 LR LR 19 02 25.1
comp=Z,109nm,19.7s,baz=254,slow=32
MA2 Magadan 99.17 346 LR LR 19 02 50.7
comp=Z,169nm,21.7s,baz=171,slow=32
HHC Hu-ho-hao-te 99.19 315 *e*P **Pdif 18 24 28.5 +3.0**
HHC pmax pmax
comp=Z,18nm,0.8s
ANMO Albuquerque 99.61 53 LR LR 19 01 58.1
comp=Z,70nm,20.9s,baz=54,slow=31
PDAR Pinedale Array 102.63 46 Pdiff **Pdif 18 24 42.1 +1.2**
comp=Z,0.1nm,0.4s,baz=229,slow=10.0,SNR=1.6
ILAR Eielson Array 105.03 14 Pdiff **Pdif 18 24 51.8 +1.1**
comp=Z,0.2nm,0.5s,baz=213,slow=6.5,SNR=2.4
ILAR PKiKP **PKiKP 18 29 06.1 +1.0**
comp=Z,0.1nm,0.5s,baz=301,slow=2.6,SNR=2.6
SONM Songino Array 106.50 318 PKKP 18 40 41.5
comp=Z,0.3nm,0.6s,baz=299,slow=3.1,SNR=4.3
BOSA Boshof 110.13 204 PKKP 18 40 31.2
comp=Z,3.2nm,1.1s,baz=295,slow=1.3,SNR=3.8
YKA Yellowknife Ar 112.55 27 PKiKP **PKiKP 18 29 19.6 +0.4**
comp=Z,0.3nm,0.7s,baz=262,slow=1.8,SNR=6.3
YKA SKP 18 32 52.1
comp=Z,1.3nm,1.1s,baz=234,slow=1.6,SNR=7.6
YKA PKKPbc **PKKPbc 18 40 08.9 -0.8**
comp=Z,0.2nm,0.8s,baz=50,slow=4.7,SNR=4.1
YKA PKKP **PKKPdf 18 40 31.0 +0.7**
comp=Z,0.4nm,0.9s,baz=48,slow=4.5,SNR=5.7
TIXI Tiksi 114.09 345 PKiKP PKPdf 18 29 21.7 -0.1
comp=Z,0.8nm,0.3s,baz=65,slow=3.1,SNR=12
WMQ Urumqi 115.39 307 *e*PKP **PKiKP 18 29 26.3 +1.0**
A36M Sachs Harbour 115.54 17 **PKPdf 18 29 23.7 -1.0**
MK31 Makanchi Array 120.11 308 *i* PKIKP **PKPdf 18 29 34.0 -0.3**
MKAR Makanchi Array 120.11 308 **PKPdf 18 29 31.9 -2.4**
MKAR Makanchi Array 120.11 308 PKP **PKPdf 18 29 33.4 -0.9**
comp=Z,1.8nm,0.8s,baz=194,slow=1.5,SNR=13
MKAR PKKPbc **PKKPbc 18 39 44.5 +1.9**
comp=Z,0.6nm,0.6s,baz=292,slow=4.2,SNR=6.5
MAKZ Makanchi 120.31 308 **PKPdf 18 29 30.8 -3.9**
MAKZ Makanchi 120.31 308 PKIKP **PKPdf 18 29 30.8 -3.9**
BLKN Baker Lake 120.68 30 **PKPdf 18 29 33.4 -1.4**
ZALV Zalesovo Beam 121.33 316 PKP **PKPdf 18 29 35.2 -1.1**
comp=Z,0.5nm,0.4s,baz=197,slow=1.5,SNR=4.9
AAK Ala-Archa 123.65 301 PKP **PKPdf 18 29 41.3 -0.1**
comp=Z,0.4nm,0.3s,baz=90,slow=1.0,SNR=2.0
KURK Kurchatov 123.80 311 **PKPdf 18 29 39.4 -1.7**
KURK Kurchatov 123.80 311 PKIKP **PKPdf 18 29 40.0 -1.2**
KURBB Kurchatov Arra 123.82 311 PKP **PKPdf 18 29 40.0 -1.3**
comp=Z,2.7nm,0.6s,baz=111,slow=1.9,SNR=26
KBL Kabul 124.42 290 **PKPdf 18 29 40.8 -2.4**
KBL Kabul 124.42 290 PKIKP **PKPdf 18 29 40.8 -2.4**
NRIK Noril'sk 124.72 334 **PKPdf 18 29 41.6 -0.8**
NRIK Noril'sk 124.72 334 PKP **PKPdf 18 29 42.0 -0.4**
comp=Z,4.7nm,0.5s,baz=96,slow=2.1,SNR=6.9
NRIK Noril'sk 124.72 334 *d* PKIKP **PKiKP 18 29 42.6 -0.1**
NRIK pmax pmax
comp=Z,5.0nm,0.6s
GAR Garm 125.24 295 **PKPdf 18 29 43.4 -1.2**
KKAR Karatay Array 126.56 300 **PKPdf 18 29 45.5 -1.3**
KKAR Karatay Array 126.56 300 PKIKP **PKPdf 18 29 45.5 -1.3**
KIBK Kibwezi 126.61 232 **PKPdf 18 29 45.2 -2.7**
KMBO Kilima Mbogo 128.05 232 **PKPdf 18 29 48.1 -2.7**
KMBO Kilima Mbogo 128.05 232 PKIKP **PKPdf 18 29 48.1 -2.7**
BVAR Borovoye Array 129.33 312 PKP **PKPdf 18 29 51.8 +0.1**
comp=Z,1.7nm,0.6s,baz=93,slow=3.0,SNR=11
BRVK Borovoye 129.40 312 **PKPdf 18 29 50.8 -1.0**
BRVK Borovoye 129.40 312 *d* PKIKP **PKPdf 18 29 51.6 -0.2**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
AKTO Aktyubinsk 136.54 307 PKP **PKPdf 18 30 05.0 -0.3**
comp=Z,1.7nm,0.6s,baz=107,slow=2.8,SNR=4.9
AKTO SKPbc **SKPbc 18 33 33.2 -0.6**
comp=Z,1.4nm,0.5s,baz=328,slow=1.0,SNR=4.4
ARTI Arti 136.59 316 PKPdf **PKPdf 18 30 05.6 +0.3**
ARTI Arti 136.59 316 PKP **PKPdf 18 30 05.1 -0.1**
comp=Z,2.3nm,0.4s,baz=18,slow=2.6,SNR=2.4
ARTI SKPbc **SKPbc 18 33 34.2 +0.5**
comp=Z,4.5nm,0.8s,baz=114,slow=1.4,SNR=6.9
ARTI Arti 136.59 316 *i* PKIKP **PKPdf 18 30 05.3 +0.1**
ARTI 18 32 46.6
ARTI SS SS 18 50 47.5 +0.1
SPITS Spitsbergen Ar 138.21 355 PKhKP PKPpre 18 29 56.7
comp=Z,5.9nm,0.9s,baz=109,slow=2.0,SNR=5.4
SPITS PKP **PKiKP 18 30 09.5 -0.3**
comp=Z,4.4nm,0.6s,baz=38,slow=2.6,SNR=16
SPITS SKPbc **SKPbc 18 33 38.9 +1.0**
comp=Z,3.4nm,0.6s,baz=90,slow=4.3,SNR=8.4
SUMG Summit 139.83 17 *i* P **PKiKP 18 30 15.0 +1.3**
KIRV Kirov 141.19 320 SKPbc **SKiKP 18 33 47.0 -1.4**
comp=Z,3.8nm,0.6s,baz=121,slow=5.9,SNR=4.5
KIRV Kirov 141.19 320 *c i* PKIKP **PKiKP 18 30 16.7 +0.4**
DBG Daneborg 141.60 8 *i* P **PKiKP 18 30 18.1 +1.3**
ICESG Greenland Ices 141.71 21 *i* P **PKPdf 18 30 11.1 -3.6**
BELG Belogornoye 143.06 310 PKP **PKPdf 18 30 16.2 -0.8**
comp=Z,14nm,0.9s,baz=160,slow=6.6,SNR=4.7
BELG SKPbc **SKPbc 18 33 51.1 -0.1**
comp=Z,11nm,0.7s,baz=99,slow=3.7,SNR=5.7
BELG Belogornoye 143.06 310 *i* PKIKP **PKPdf 18 30 16.3 -0.8**
BELG pmax pmax
comp=Z,2.0nm,0.8s
GNI Garni 144.50 289 PKP **PKPdf 18 30 19.7 -0.5**
comp=Z,3.0nm,0.5s,baz=141,slow=6.5,SNR=4.0
ARA0 ARCESS Array S 144.53 344 *e*P PKPbc 18 30 18.2 +0.2
ARCES ARCESS Array B 144.53 344 PKP PKPbc 18 30 18.1 +0.2
comp=Z,4.9nm,0.6s,baz=22,slow=1.6,SNR=46
ARCES SKPbc **SKPbc 18 33 53.6 -0.7**
comp=Z,4.4nm,0.9s,baz=29,slow=2.8,SNR=4.3
SCO Scoresbysund 144.77 12 *i* P **PKPdf 18 30 20.1 +0.5**
KLMR Klimovskoe 145.28 326 *i* PKIKP **PKiKP 18 30 23.1 -1.5**
GEVA Gevas 145.43 286 **PKPbc 18 30 21.1 -0.9**
JETT Jettan, Norway 145.52 347 *e*P **PKiKP 18 30 23.2 -1.8**
TRO Tromso 145.72 348 *e*P **PKPbc 18 30 21.6 -0.1**
KARS Kars 145.83 290 **PKPdf 18 30 21.0 -1.5**
KARS Kars 145.83 290 PKIKP **PKPdf 18 30 21.0 -1.5**
GURO Guroymak-BITLI 146.27 286 **PKPdf 18 30 22.1 -1.2**
GOF Gofitskoye 146.28 298 *c e* PKP2 **PKPab 18 30 25.4 +0.4**
KBZ Khabaz 146.31 295 PKPbc **PKPdf 18 30 22.9 -0.1**
comp=Z,1.9nm,0.6s,baz=25,slow=4.3,SNR=6.6

KBZ Khabaz 146.31 295 *c i* PKIKP **PKPdf 18 30 22.5 -0.5**
KBZ *i* 18 30 25.6
KBZ pmax pmax
comp=Z,11nm,2.0s
KVAR Kislovodsk Arr 146.47 296 PKPbc **PKPbc 18 30 24.0 -0.9**
comp=Z,1.5nm,0.5s,baz=211,slow=5.9,SNR=2.3
KIV Kislovodsk 146.48 296 *i* PKIKP **PKPdf 18 30 22.1 -1.3**
KIV pmax pmax
comp=Z,7.0nm,1.1s
VRH Novokhopyorsk 146.83 309 PKP2 **PKPbc 18 30 24.5 -1.0**
VRH pmax pmax
comp=Z,30nm,1.0s
MARD Mardin 146.99 283 **PKPdf 18 30 24.3 -0.3**
STEI Steigen 147.85 349 *e*P **PKPbc 18 30 28.0 +0.2**
MOS Moscow 148.13 318 *i* PKIKP **PKPdf 18 30 24.9 -0.7**
LPSR Galich'ya Gora 148.27 312 PKP2 **PKPbc 18 30 29.3 -0.1**
LPSR pmax pmax
comp=Z,24nm,1.1s
VORR Voronezh 148.30 310 PKP2 **PKiKP 18 30 30.9 -0.2**
VORR pmax pmax
comp=Z,19nm,0.5s
FAUS Fauske 148.34 348 *e*P **PKPbc 18 30 29.3 +0.2**
VORD Divnogorie 148.38 309 *e* PKIKP **PKPdf 18 30 26.4 +0.2**
VORD pmax pmax
comp=Z,10.0nm,1.9s
VSR Storozhevoye 148.42 309 *e* PKIKP **PKPdf 18 30 25.9 -0.4**
VSR pmax pmax
comp=Z,10.0nm,1.4s
ASF Jabal al Asfar 148.64 272 PKPbc **PKPbc 18 30 31.0 -0.2**
comp=Z,8.0nm,0.9s,baz=146,slow=2.6,SNR=9.7
ASF Jabal al Asfar 148.64 272 PKP2 **PKPbc 18 30 31.0 -0.2**
OBN Obninsk 148.91 317 PKPbc **PKPbc 18 30 30.3 -0.6**
comp=Z,9.0nm,0.3s,baz=135,slow=1.4,SNR=2.3
OBN Obninsk 148.91 317 *e* PKIKP **PKPdf 18 30 26.4 -0.5**
OBN *i* 18 30 31.1
OBN *e* 18 30 37.6
OBN *e* 18 30 46.0
OBN *e* 18 34 00.6
OBN *e* PPP PPP 18 37 19.8
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN pmax pmax
comp=Z,10.0nm,0.7s
VAGH Vaagaholmen 149.26 349 *e*P **PKPbc 18 30 31.8 +0.3**
EIL Elat 149.27 267 PKPbc **PKPbc 18 30 32.0 -0.7**
comp=Z,16nm,1.0s,baz=107,slow=3.9,SNR=7.6
DBIC Dimbokro 149.46 172 **PKPbc 18 30 32.3 -1.3**
DBIC Dimbokro 149.46 172 PKPbc **PKPbc 18 30 34.2 +0.6**
comp=Z,10.0nm,0.8s,baz=157,slow=3.9,SNR=10
KONS Konsvik 149.50 349 *e*P **PKiKP 18 30 32.7 -0.4**
MOR8 Moi Rana 149.58 348 *e*P **PKPbc 18 30 31.1 -1.3**
STOK Stokkvaagen 149.66 349 *e*P **PKiKP 18 30 33.0 -0.5**
LEIR Leirfjorden 149.85 349 *e*P **PKPbc 18 30 33.3 +0.3**
MMAI Mount Meron Ar 150.10 273 PKPbc **PKiKP 18 30 35.1 -0.5**
comp=Z,4.3nm,0.4s,baz=92,slow=5.8,SNR=28
ANN Anapa 150.26 297 *i* PKIKP **PKiKP 18 30 35.3 -0.1**
ANN pmax pmax
comp=Z,23nm,0.9s
FIA1 FINESS Array S 150.38 334 **PKPbc 18 30 33.8 -0.6**
FINES FINESS Array B 150.38 334 **PKPbc 18 30 33.8 -0.6**
FINES FINESS Array B 150.38 334 PKPbc **PKPbc 18 30 34.1 -0.3**
comp=Z,11nm,0.5s,baz=40,slow=3.8,SNR=48
NSS Namsos 151.51 348 *e*P **PKiKP 18 30 37.5 +0.2**
VSU Vasula 152.06 329 *c i* PKIKP **PKPbc 18 30 37.8 -0.6**
VSU pmax pmax
comp=Z,29nm,1.0s
CSS Mathiatis 152.30 276 **PKPbc 18 30 38.3 -1.5**
BRTR Keskin Array B 152.90 286 **PKPbc 18 30 40.0 -1.1**
BRTR Keskin Array B 152.90 286 PKPbc **PKPbc 18 30 40.3 -0.8**
comp=Z,4.7nm,0.8s,baz=137,slow=4.3,SNR=23
BRTR Keskin Array B 152.90 286 PKIKP **PKPbc 18 30 40.0 -1.1**
DOMB Dombas 154.31 349 *e*P **PKiKP 18 30 43.8 +0.5**
AKN Aaknes 154.45 351 *e*P **PKiKP 18 30 44.6 +1.0**
AKASG Malin Array Be 154.61 312 PKPbc **PKPbc 18 30 43.5 -0.7**
comp=Z,7.8nm,0.5s,baz=66,slow=2.5,SNR=21
AKBB Malin Array Si 154.61 312 *c i* PKIKP **PKiKP 18 30 44.6 +0.4**
KIEV Kiev 154.62 312 **PKPbc 18 30 41.9 -2.3**
KIEV Kiev 154.62 312 PKIKP **PKPbc 18 30 41.9 -2.3**
NC303 NORSAR Array S 154.68 346 **PKPbc 18 30 43.6 -0.4**
NB2 NORSAR Subarra 154.68 346 PKP **PKiKP 18 30 44.8 +0.3**
comp=Z,0.7nm,0.4s,baz=17,slow=2.6
NB2 NORSAR Subarra 154.68 346 PKP **PKiKP 18 30 44.8 +0.3**
baz=17,slow=2.6
NOA NORSAR Array B 154.88 346 PKPbc **PKPbc 18 30 44.2 -0.3**
comp=Z,1.2nm,0.6s,baz=39,slow=2.1,SNR=11
NC602 NORSAR Array S 155.09 345 *e*P PKPdf 18 30 45.2 +9.1
HFS Hagfors 155.16 343 PKPbc PKPdf 18 30 44.9 +8.7
comp=Z,2.1nm,0.6s,baz=90,slow=5.9,SNR=7.5
TORD Torodi Ar. Bea 156.00 186 PKP **PKPdf 18 30 39.4 +0.7**
comp=Z,74nm,0.3s,baz=142,slow=1.1,SNR=1.8
TORD PKPab **PKPab 18 31 05.9 +0.1**
comp=Z,52nm,0.3s,baz=154,slow=4.1,SNR=1.8
MLR Muntele Rosu 158.24 301 PKPab **PKPab 18 31 13.8 -1.3**
comp=Z,1.7nm,0.8s,baz=84,slow=9.2,SNR=2.9
VYHS Vyhne 161.65 314 *e* PKP2 **PKPab 18 31 30.9 +1.2**
VYHS Vyhne 161.65 314 *e* PKP **PKPab 18 31 30.9 +1.2**
BRG Berggiesshubel 162.64 327 *e* PKP **PKPab 18 31 36.3 +2.4**
BRG Amp 18 31 38.0
comp=Z,2.4nm,1.0s
RONA Rosalia, Austr 163.51 315 *i* PKP **PKPdf 18 30 52.0 +5.7**
comp=Z,2.9nm,1.0s
CONA Conrad Observa 163.62 316 *i* PKP **PKPdf 18 30 49.6 +3.2**
comp=Z,1.8nm,0.9s
CONA *i* PKP **PKPab 18 31 38.1 -0.3**
comp=Z,3.5nm,1.1s
GERES GERESS Array B 164.18 322 PKPab **PKPab 18 31 40.6 -0.2**
comp=Z,0.6nm,0.6s,baz=41,slow=7.1,SNR=3.9
ARSA Arzberg 164.20 315 *i* PKP **PKPab 18 31 38.2 -2.7**
comp=Z,1.7nm,0.6s
MOA Molln 164.53 319 *i* PKP **PKPdf 18 30 51.5 +4.4**
comp=Z,2.5nm,1.0s
MOA *i* PKP **PKPab 18 31 42.2 -0.2**
comp=Z,6.1nm,2.0s
SOKA Soboth 164.79 314 *i* PKP **PKPab 18 31 44.2 +0.6**
comp=Z,3.5nm,1.1s
ABTA Abfaltersbach 166.15 318 *i* PKP **PKPdf 18 30 48.0 -0.6**
comp=Z,3.2nm,1.5s
MOTA Moosalm 166.47 323 *e* PKP **PKPdf 18 30 48.8 -0.1**
comp=Z,8.8nm,2.0s
SQTA Sankt Quirin 166.51 322 *i* PKP **PKPdf 18 30 48.8 -0.2**
comp=Z,2.5nm,1.1s
FETA Feichten 166.88 322 *i* PKP **PKPdf 18 30 49.7 +0.4**
comp=Z,4.3nm,1.1s
ESDC Sonseca Array 176.52 42 PKP **PKPdf 18 30 55.5 +1.6**
comp=Z,1.2nm,1.0s,baz=294,slow=1.5,SNR=5.3

---

*IDC **27** 18:29:56.3±1.1, 26°.36N×129°.42E, h0km, mb3.5/8, mbtmp3.5/9, ML3.4/1, Error ellipse: s-maj=35.6km s-min=18.3km az=55.0*
*JMA **27** 18:29:58.2±0.1, 26°.3N±0°.7×129°.6E±0°.5, h46km, MV3.3/19, NEAR OKINAWAJIMA ISLAND*
ISC 27 18:29:56.2±2.4, 26°.33N±0°.05×129°.57E±0°.03, h8km±15km, n25, σ1§41/37, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.22**	**305**	P	**Pb**	**18 30 19.6**	**0.0**
JYRO				*e*S	**Sg**	**18 30 35.1**	**-0.5**
JOW	**Kunigami**	**1.27**	**294**	Pn	**Pn**	**18 30 20.5**	**+0.2**
JOW	baz=118,slow=17			Sn	**Sb**	**18 30 35.8**	**-1.1**
JOW	87nm,0.3s,baz=108,slow=18,SNR=14			LR	LR	18 30 51.3	
JOW	**Kunigami**	**1.27**	**294**	P	**Pn**	**18 30 20.4**	**+0.2**
JOW				*e*S	**Sb**	**18 30 35.8**	**-1.1**
JOKE	**Okinoerabujima**	**1.37**	**319**	*e*P	**Pn**	**18 30 21.9**	**+0.3**
JNTH	**Nagotoyohara**	**1.41**	**278**	P	**Pn**	**18 30 22.1**	**0.0**
JNTH				*e*S	**Sb**	**18 30 38.0**	**-2.8**
JTK	**Tokunoshima**	**1.56**	**339**	P	**Pn**	**18 30 24.4**	**+0.1**
JMZ	**Minamidaito 2**	**1.57**	**108**	P	**Pn**	**18 30 23.8**	**-0.5**
JMZ				*e*S	**Sn**	**18 30 41.9**	**-3.0**
JKDJ	**Kitadaitoujima**	**1.59**	**103**	P	**Pn**	**18 30 24.4**	**-0.3**
JKDJ				S	**Sn**	**18 30 43.5**	**-2.1**
JIH	**Iheya**	**1.60**	**297**	P	**Pn**	**18 30 25.3**	**+0.5**
JIH				S	**Sn**	**18 30 44.7**	**-1.0**
JJT3	**Tamagusuku3**	**1.62**	**264**	P	**Pn**	**18 30 25.8**	**+0.7**
JJT3				*e*S	**Sn**	**18 30 45.4**	**-0.8**
JAMN	**Amaminishikomi**	**1.94**	**350**	*e*P	**Pn**	**18 30 29.5**	**0.0**
JZK	**Kikaishima**	**2.01**	**10**	P	**Pn**	**18 30 31.3**	**+0.8**
JZK				*e*S	**Sn**	**18 30 55.3**	**-0.6**
JAM	**Amami Oshima**	**2.08**	**1**	P	**Pn**	**18 30 31.1**	**-0.3**
JAM				*e*S	**Sn**	**18 30 55.0**	**-2.4**

JAGN	Aguni-jima	2.11 278	P		Pn	18 30 32.5	+0.7
JAGN			eS		Sn	18 30 56.6	-1.6
JKE	Kume jima 2	2.50 271	P		Pn	18 30 37.1	-0.1
JKE			eS		Sn	18 31 05.0	-3.0
JTAJ	Takarajima	2.84 353	eS		Sn	18 31 13.2	-3.0
JNU	Nakatsue	6.87 9	Pn		Pn	18 31 38.8	+1.5
	0.7nm,0.3s,baz=225,slow=2.9,SNR=2.6						
	3.1nm,0.3s						
SONM	Songino Array	28.14 326	P		P	18 35 49.5	+0.6
	0.3nm,0.6s,baz=141,slow=9.3,SNR=1.7						
	0.3nm,0.6s						
MKAR	Makanchi Array	42.37 311	P		P	18 37 51.1	+0.1
	0.2nm,0.4s,baz=93,slow=8.5,SNR=4.2						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	42.91 322	P		P	18 37 54.1	-1.1
	0.7nm,0.6s,baz=93,slow=10,SNR=2.7						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	45.62 316	P		P	18 38 17.1	+0.1
	0.3nm,0.4s,baz=102,slow=8.8,SNR=6.0						
	0.3nm,0.4s						
WRA	Warramunga Arr	46.22 174	P		P	18 38 23.4	+1.4
	0.6nm,0.8s,baz=354,slow=8.1,SNR=2.6						
	0.6nm,0.8s						
ASAR	Alice Springs	49.87 175	P		P	18 38 52.0	+1.7
	0.2nm,0.8s,baz=4.7,slow=13,SNR=4.8						
	0.2nm,0.8s						
FINES	FINESS Array B	73.37 331	P		P	18 41 29.7	+1.3
	0.9nm,0.6s,baz=55,slow=7.2,SNR=6.4						
	0.9nm,0.6s						
BRTR	Keskin Array B	77.92 308	P		P	18 41 55.9	+0.7
	0.4nm,0.8s,baz=75,slow=6.1,SNR=3.7						
	0.4nm,0.8s						

*IDC **27** 18:40:22.2±0.9, 4°.01N×126°.22E, h0km, mb3.6/9, mbtmp3.6/9, MS3.5/2, Error ellipse: s-maj=54.0km s-min=17.2km az=76.0*
*DJA **27** 18:40:25.0±1.5, 4°.N±12°×12°.7E±°, h11km±4km, M3.9/9, mb3.9/4, MLv3.9/9*
ISC 27 18:40:28.7±0.8, 4°.02N±0°.08×126°.44E±0°.08, h45km, n14, σ1§36/14, mb3.7/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	0.97	250	P	Pn	18 40 45.7	-0.1
SGSI				S	Sn	18 40 59.8	+1.3
TNTI	Ternate	3.35	164	P	Pn	18 41 20.3	+1.7
SANI	Sanana	6.04	184	P	Pn	18 41 53.7	-1.8
SWI	Sorong	6.83	135	P	Pn	18 42 06.2	-0.2
FITZ	Fitzroy Crossi	21.99	182	P	P	18 45 19.8	+0.7
	2.2nm,0.8s,baz=9.2,slow=11,SNR=2.4						
	2.2nm,0.8s						
WRA	Warramunga Arr	25.04	162	P	P	18 45 48.4	-0.4
	0.7nm,0.6s,baz=343,slow=9.3,SNR=5.1						
	0.7nm,0.6s						
ASAR	Alice Springs	28.46	166	P	P	18 46 18.9	-0.7
	0.2nm,0.7s,baz=343,slow=9.4,SNR=4.5						
	0.2nm,0.7s						
KSRS	Korea Array	33.31	2	P	P	18 47 02.1	0.0
	0.6nm,0.6s,baz=180,slow=9.7,SNR=5.4						
	0.6nm,0.6s						
SONM	Songino Array	46.94	342	P	P	18 48 55.8	+0.7
	0.3nm,0.5s,baz=157,slow=9.4,SNR=2.9						
SONM				LR	LR	19 09 59.1	
	comp=Z,75nm,20.0s,baz=134,slow=38						
	0.3nm,0.5s						
PETK	Petropavlovsk-	55.28	22	P	P	18 49 57.6	+0.1
	0.6nm,0.8s,baz=224,slow=6.9,SNR=1.7						
	0.6nm,0.8s						
MKAR	Makanchi Array	57.16	325	P	P	18 50 09.7	-1.3
	0.2nm,0.4s,baz=118,slow=7.3,SNR=9.9						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	61.34	327	P	P	18 50 36.9	-2.9
	0.5nm,0.7s,baz=129,slow=5.8,SNR=8.8						
	0.5nm,0.7s						
BVAR	Borovoye Array	66.92	327	P	P	18 51 17.2	+0.8
	0.4nm,0.5s,baz=126,slow=7.3,SNR=2.6						
	0.4nm,0.5s						
GNI	Garni	81.08	310	LR	LR	19 34 13.8	
	comp=Z,18nm,20.0s,baz=141,slow=40						

*IDC **27** 18:42:33.2±1.5, 31°.25S×177°.73W, h0km, mb4.4/3, mbtmp4.2/4, ML3.3/1, Error ellipse: s-maj=53.1km s-min=27.5km az=137.0*
*NEIC **27** 18:42:40.4±1.4, 31°.1S±0°.1×178°.0W±0°.2, h35km±1km, mb4.6/10, Error ellipse: s-maj=27.8km s-min=17.4km az=107.0*
ISC 27 18:42:41.8±0.9, 31°.18S±0°.10×178°.2W±0°.2, h46km, n33, σ1§43/29, mb4.5/10, 2C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.99	203	Pn	Pn	18 44 23.6	+2.1
MXZ				Sn	Sn	18 45 39.5	-0.2
URZ	Urewera	8.04	207	Pn	Pn	18 44 33.7	-2.3
	0.3nm,0.3s,baz=353,slow=4.4,SNR=11						
URZ				Sn	Sn	18 46 05.1	-0.5
	1.9nm,0.3s,baz=326,slow=18,SNR=10						
	3.8nm,0.8s						
RTZ	Ruatahuna	8.40	207	Pn	Pn	18 44 37.1	-3.9
OXZ	Oxford	14.38	210	Pn	Pn	18 46 01.2	-1.4
STKA	Stephens Creek	34.13	258	P	P	18 49 24.2	+1.8
STKA	Stephens Creek	34.13	258	P	P	18 49 24.1	+1.7
	1.1nm,0.3s,baz=111,slow=11,SNR=6.9						
	1.1nm,0.3s						
BBOO	Buckleboo	38.59	255	P	P	18 50 00.4	0.0
BBOO				IAmb	IAmb	18 50 18.4	
	comp=Z,21nm,1.4s						
COEN	Coen	39.31	287	P	P	18 50 07.7	+1.1
AS31	Alice Springs	42.89	268	P	P	18 50 36.3	+0.3
ASAR	Alice Springs	42.89	268	P	P	18 50 36.0	0.0
ASAR	Alice Springs	42.89	268	P	P	18 50 36.6	+0.6
	comp=Z,3.4nm,0.5s,baz=106,slow=7.3,SNR=100						
	comp=Z,3.4nm,0.5s						
WR8	Warramunga Arr	43.80	273		P	18 50 43.7	+0.3
WR8				IAmb	IAmb	18 50 44.8	
	comp=Z,5.0nm,0.8s						
WRA	Warramunga Arr	43.95	273	P	P	18 50 44.7	+0.1
WRA	Warramunga Arr	43.95	273	P	P	18 50 45.0	+0.5
	comp=Z,2.5nm,0.4s,baz=111,slow=8.0,SNR=17						
	comp=Z,2.5nm,0.4s						
FORT	Forrest	45.67	256	P	P	18 50 58.0	-0.2
CASY	Casey	54.37	208	P	P	18 52 04.2	+0.7
CASY				IAmb	IAmb	18 52 21.2	
	comp=Z,15nm,1.5s						
QSPA	South Pole Qui	58.94	180	P	P	18 52 37.8	+1.6
QSPA				IAmb	IAmb	18 52 44.6	
	comp=Z,3.3nm,0.8s						
SNAA	Sanae	77.39	179	P	P	18 54 32.9	+1.4
SNAA				IAmb	IAmb	18 55 02.0	
	comp=Z,6.6nm,1.4s						
SNAA	Sanae	77.39	179	⇑P	P	18 54 37.8	+6.2
	comp=Z,19nm,0.3s						
VNA3	Neumayer Olymp	77.55	176	P	P	18 54 39.2	+6.8
	comp=Z,1.2nm,0.3s						
VNA2	Neumayer--Watz	77.98	177	⇑P	P	18 54 41.3	+6.5
	comp=Z,3.0nm,0.4s,baz=196,slow=6.3						
H03S2	Juan Fernandez	80.19	124	T	T	20 23 48.8	
	baz=237,slow=74,SNR=20						
H03S1	Juan Fernandez	80.20	124	T	T	20 23 50.0	
	baz=237,slow=74,SNR=17						
H03S3	Juan Fernandez	80.21	124	T	T	20 23 42.9	
	baz=237,slow=74,SNR=17						
KURBB	Kurchatov Arra	121.48	313	PKP	PKPdf	19 01 28.7	-1.0
	comp=Z,0.2nm,0.4s,baz=108,slow=1.9,SNR=3.0						
KARS	Kars	145.51	297	PKPdf	PKPdf	19 02 13.1	-1.9
FIA1	FINESS Array S	145.81	339	PKPdf	PKPdf	19 02 13.2	-1.4
FINES	FINESS Array B	145.81	339		PKPdf	19 02 13.2	-1.4
FINES	FINESS Array B	145.81	339	PKPbc	PKPbc	19 02 13.9	-1.3
	comp=Z,1.7nm,0.4s,baz=55,slow=4.8,SNR=17						
NOA	NORSAR Array B	149.49	351	PKPbc	PKPdf	19 02 21.7	+0.9
	comp=Z,0.1nm,0.5s,baz=13,slow=2.6,SNR=1.6						
HFS	Hagfors	149.96	348	PKPbc	PKPbc	19 02 25.3	-1.1
	comp=Z,0.9nm,0.8s,baz=98,slow=4.4,SNR=2.0						
MMAI	Mount Meron Ar	151.53	283	PKPbc	PKiKP	19 02 30.5	-1.0
	comp=Z,0.2nm,0.3s,baz=49,slow=4.4,SNR=1.5						
BRTR	Keskin Array B	152.79	297	PKPbc	PKiKP	19 02 33.8	-0.3
	comp=Z,0.3nm,0.5s,baz=96,slow=4.2,SNR=3.0						

NEIC 27 18:46:09.4±1.7, 32°.64N±0°.02×109°.03W±0°.04, h9km±5km, ML2.8/38, Error ellipse: s-maj=4.9km s-min=2.8km az=90.0, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUN6	Lazy B Ranch	0.10	209		Pg	18 46 13.8	+1.9
DUN6				Sg	Sg	18 46 15.1	+1.4
319A	Douglas	1.28	190		Pg	18 46 34.6	+0.6
319A				Sg	Sn	18 46 51.0	0.0
319A				IAML		18 46 57.4	
	comp=E,270nm,0.8s						
319A				IAML		18 46 57.9	
	comp=N,217nm,0.5s						
TUC	Tucson	1.52	258		Pn	18 46 36.4	-0.4
TUC					Sn	18 46 56.5	-0.3
TUC				IAML		18 46 58.7	
	comp=N,155nm,0.2s						
TUC				IAML		18 46 59.6	
	comp=N,113nm,0.2s						
X18A	Snowflake	2.03	338		Pb	18 46 46.5	-0.2
X18A					Sb	18 47 12.1	0.0
X18A				IAML		18 47 16.1	
	comp=E,84nm,0.5s						
SBM	South Baldy	2.04	49		Pn	18 46 45.4	+1.0
Y22D	IRIS PASSCAL I	2.27	50	Pn	Pb	18 46 49.2	-1.5
Y22D					Sg	18 47 26.5	+4.0
LENM	Lemitar	2.30	48		Pn	18 46 49.0	+1.4
EPT	El Paso	2.31	111	Pn	Pn	18 46 48.5	+0.7
EPT				IAML		18 47 27.3	
	comp=N,29nm,0.4s						
CRNM	Carthage	2.33	55		Pn	18 46 48.1	+0.1
BNM	Barren Site	2.51	53		Pn	18 46 51.1	+0.4
X16A	Lo Mia Camp, P	2.68	312		Pn	18 46 53.1	+0.2
X16A				IAML		18 47 38.0	
	comp=E,14nm,0.4s						
X16A				IAML		18 47 38.6	
	comp=N,18nm,0.5s						
ANMO	Albuquerque	3.14	42		Pn	18 47 00.8	+1.5
ANMO	Albuquerque	3.14	42	Pn	Pn	18 47 00.4	+1.1
ANMO				IAML		18 48 00.7	
	comp=N,5.0nm,1.5s						
ANMO				IAML		18 48 09.3	
	comp=N,5.7nm,3.7s						
ANMO	Albuquerque	3.14	42		Pn	18 47 00.6	+1.3
ANMO				IAML		18 47 56.4	
	comp=N,5.3nm,1.3s						
ANMO				IAML		18 48 00.7	
	comp=N,5.3nm,1.6s						
MNTX	Cornudas Mount	3.24	106		Pn	18 47 01.2	+0.8
WUAZ	Wupatki	3.46	327		Pn	18 47 02.5	-1.2
Y14A	Wickenburg	3.57	292	Pn	Pn	18 47 05.9	+0.9
Y14A				IAML		18 48 09.3	
	comp=E,12nm,0.4s						
Y14A				IAML		18 48 43.5	
	comp=N,9.9nm,0.2s						
VHRN	Van Horn	3.91	117		Pn	18 47 11.1	+1.3
CLNB	Carlsbad	4.37	94		Pn	18 47 16.7	+0.6
HTMS	Hat Mesa	4.56	91		Pn	18 47 19.2	+0.5
MVCO	Mesa Verde	4.58	5		Pn	18 47 19.2	+0.1
MVCO				IAML		18 48 38.9	
	comp=N,9.4nm,1.1s						
MVCO				IAML		18 48 40.3	
	comp=N,12nm,0.8s						
U15A	North Rim	4.64	325	Pn	Pn	18 47 19.8	-0.1
U15A				IAML		18 48 41.1	
	comp=N,7.7nm,0.6s						
U15A				IAML		18 48 42.5	
	comp=E,7.8nm,0.8s						

*CATAC **27** 18:47:35.5±2.3, 13°.N±10°×9°.0W±1°.7, h10km, M3.6/14, MLv3.6/14, confirmed*
*SNET **27** 18:47:40.4±1.2, 13°.19N×89°.89W, h32km±3km, ML3.2*
*GCG **27** 18:47:41.0±1.1, 13°.28N×89°.95W, h35km±14km, MD4.1*
ISC 27 18:47:41.4±1.5, 13°.19N±0°.06×89°.88W±0°.03, h26km±12km, n56, σ1§60/66, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.62	61	eP	Pb	18 47 53.1	-0.5
LALI	Alcalda de L	0.62	61	eP	Pb	18 47 53.2	-0.5
LALI				i S	Sb	18 48 02.2	+0.1
LALI	Alcalda de L	0.62	61	S	Sn	18 48 05.5	+1.8
JAYA	Jayaque - finc	0.62	42	eP	Pb	18 47 53.3	-0.5
JAYA				eS	Sb	18 48 02.5	+0.2
JAYA	Jayaque - finc	0.62	42	i P	Pb	18 47 53.2	-0.7
JAYA				i S	Sb	18 48 03.3	+1.0
JAYA	Jayaque - finc	0.62	42	P	Pb	18 47 53.2	-0.7
JAYA	Jayaque - finc	0.62	42	S	Sn	18 48 05.6	+1.5
CEVE	Cerro Verde	0.68	21	eP	Pb	18 47 53.8	-1.1
CEVE				eS	Sn	18 48 05.2	-0.4
CEVE				IAML		18 48 07.6	
	comp=Z,1μm,0.3s						
CEVE	Cerro Verde	0.68	21	S	Sn	18 48 06.8	+1.2
NUBE	Las Nubes	0.71	8	i P	Pb	18 47 54.0	-1.4
NUBE				eS	Sb	18 48 04.6	-0.3
NUBE	Las Nubes	0.71	8	P	Pb	18 47 54.2	-1.2
NUBE	Las Nubes	0.71	8	S	Sn	18 48 06.9	+0.6
PMON	Piamonte	0.76	47	P	Pb	18 47 55.2	-0.9
PMON	Piamonte	0.76	47	S	Sn	18 48 09.2	+1.9
CEDA	San Andres	0.77	38	eS	Sb	18 48 06.9	+0.6
BOQS	Boqueron	0.80	47	eP	Pn	18 47 56.0	-1.2
PANCS	Alcalda de	0.80	58	P	Pn	18 47 55.4	-1.8
LOAL	Lomas de Alarc	0.81	7	eS	Sn	18 48 08.2	-0.3
LOAL	Lomas de Alarc	0.81	7	P	Pn	18 47 55.8	-1.4
LOAL	Lomas de Alarc	0.81	7	S	Sn	18 48 09.7	+1.2
UEES	Universidad Ev	0.81	50	P	Pn	18 47 55.9	-1.4
UEES	Universidad Ev	0.81	50	S	Sn	18 48 11.3	+2.7
LOMA	Loma Larga	0.82	57	P	Pn	18 47 55.9	-1.7
LOMA	Loma Larga	0.82	57	S	Sn	18 48 11.4	+2.4
SLOZ	Alcaldia de Sa	0.84	6	P	Pn	18 47 55.6	-2.0
SLOZ	Alcaldia de Sa	0.84	6	S	Sn	18 48 10.2	+1.0
LFRS	El Faro	0.91	62	eP	Pn	18 47 56.9	-1.7
LFRS				eS	Sb	18 48 10.2	-0.1
PAVA	Las Pavas	1.05	60	P	Pn	18 47 60.0	-0.7
PAVA	Las Pavas	1.05	60	S	Sb	18 48 17.6	+3.0
COEG	Centro de Oper	1.06	66	eP	Pn	18 47 59.8	-0.9
COEG				eS	Sn	18 48 13.7	-1.1
COEG				IAML		18 48 17.7	
	comp=Z,495nm,0.2s						
COEG	Centro de Oper	1.06	66	P	Pn	18 47 59.9	-0.9
COEG	Centro de Oper	1.06	66	S	Sb	18 48 17.6	+2.9
UESV	Universidad de	1.15	67	P	Pn	18 48 01.0	-1.0
UESV	Universidad de	1.15	67	S	Sb	18 48 19.6	+2.3
FG16	Alotenango, Sa	1.24	330	eP	Pb	18 48 05.5	+1.2
FG16				eS	Sb	18 48 24.8	+4.9
MTO3	Montecristo	1.30	23	i P	Pn	18 48 02.5	-1.7
MTO3	Montecristo	1.30	23	P	Pn	18 48 02.5	-1.7
MTO3	Montecristo	1.30	23	S	Sb	18 48 23.4	+1.6
LLGN	La Laguna	1.33	43	eS	Sn	18 48 21.4	0.0
LLGN	La Laguna	1.33	43	P	Pn	18 48 02.9	-1.6
PQSS	Presa 15 de Se	1.35	71	P	Pn	18 48 03.7	-1.0
PQSS	Presa 15 de Se	1.35	71	S	Sb	18 48 25.2	+2.1
ESSG	Sabana Grande	1.50	322	eS	Sn	18 48 22.2	-3.5
PACA	Pacayal	1.54	79	P	Pn	18 48 06.6	-0.8
PACA	Pacayal	1.54	79	S	Sb	18 48 29.5	+0.9
LCY	Lacayo	1.56	81	eP	Pn	18 48 06.9	-0.8
RANC	El Ranchito	1.57	81	P	Pn	18 48 06.5	-1.3
RANC	El Ranchito	1.57	81	S	Sb	18 48 30.4	+1.0
BLLM	Bellamira	1.62	81	eP	Pn	18 48 07.3	-1.1
STG5	El Palmar, Qui	1.87	310	eP	Pb	18 48 15.0	0.0
STG5				eS	Sb	18 48 39.4	+1.5
STG0	El Palmar, Qui	1.88	311	eP	Pb	18 48 14.7	-0.5
STG0				eS	Sb	18 48 40.7	+2.4
STG8	El Palmar, Qui	1.90	311	eP	Pb	18 48 15.4	-0.2
CNCH	Conchagua	2.00	87	eP	Pn	18 48 12.0	-1.6
CNCH	Conchagua	2.00	87	P	Pn	18 48 12.3	-1.4
CSGN	Cosiguina Volc	2.27	95	P	Pn	18 48 16.6	-0.9
PLRN	Geotermica Pol	3.09	101	P	Pn	18 48 26.5	-2.2

*DJA **27** 18:47:59.7±0.4, 4°.S±3°×13°.4E±°, h10km, M4.1/9, mb4.4/4, MLv4.0/9*
*IDC **27** 18:48:00.2±2.1, 4°.66S×132°.94E, h0km, mb3.4/3, mbtmp3.6/6, ML3.7/3, Error ellipse: s-maj=73.6km s-min=22.8km az=80.0*
ISC 27 18:47:58.4±0.9, 4°.42S±0°.05×133°.82E±0°.09, h21km, n14, σ2§69/17, mb3.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	0.76	351	P	Pb	18 48 12.0	-0.9
KMPI				S	Sb	18 48 21.1	-1.7
FAKI	Fak Fak	2.16	313	P	Pn	18 48 33.6	+0.4
RKPI	Ransiki, Papua	2.91	7	P	Pn	18 48 45.1	+1.6
BNDI	Bandanaira	3.90	268	P	Pn	18 49 01.1	+3.9
BAKI	Biak	3.94	36	P	Pn	18 48 59.0	+1.3
SWI	Sorong	4.36	324	P	Pn	18 49 04.2	+0.7
AAI	Ambon	5.66	277	P	Pn	18 49 23.9	+2.6
	0.2nm43nm,0.8s						
SANI	Sanana	8.16	286	P	Pn	18 49 57.6	+1.8
	17nm,0.8s						
WRA	Warramunga Arr	15.44	178	Pn	Pn	18 51 35.6	+0.4
	0.2nm,0.3s,baz=353,slow=13,SNR=5.1						
WRA				Sn	Sn	18 54 26.4	+0.6
	0.1nm,0.3s,baz=352,slow=25,SNR=2.8						
	0.6nm,0.4s						
FITZ	Fitzroy Crossi	15.78	210	Pn	Pn	18 51 37.0	-2.5
	0.3nm,0.3s,baz=37,slow=13,SNR=12						
FITZ				Sn	Sn	18 54 26.6	-7.3
	0.3nm,0.3s,baz=312,slow=18,SNR=6.2						
	2.7nm,0.8s						
ASAR	Alice Springs	19.14	180	P	Pn	18 52 22.8	+1.4
	0.4nm,0.3s,baz=1.5,slow=11,SNR=28						
ASAR				S	S	18 55 55.4	-1.2
	0.6nm,0.9s,baz=0.0,slow=25,SNR=3.5						
	3.9nm,0.9s						
CMAR	Chiang Mai Arr	41.20	305	P	P	18 55 41.9	-0.1
	0.2nm,0.4s,baz=126,slow=5.9,SNR=4.8						
	0.2nm,0.4s						
MKAR	Makanchi Array	68.25	325	P	P	18 58 59.8	+2.1
	0.4nm,0.6s,baz=110,slow=6.6,SNR=5.1						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	72.38	327	P	P	18 59 27.9	+5.1
	0.5nm,1.0s,baz=120,slow=5.2,SNR=4.1						
	0.5nm,1.0s						

*BUT **27** 18:57:56.9±0.9, 46°.638N±0°.009×113°.16W±0°.02, h12km±6km, Error ellipse: s-maj=2.1km s-min=1.1km az=112.0*
NEIC 27 18:57:56.5±1.0, 46°.64N±0°.01×113°.18W±0°.02, h13km±7km, ML2.4/22, ML2.6/15(BUT), Error ellipse: s-maj=2.0km s-min=1.4km az=139.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPMT	Black Pine Rid	0.27	222		Pg	18 58 02.7	+0.5
BPMT	Black Pine Rid	0.27	222		Sg	18 58 06.4	+0.2
CHMT	Chamberlain Mo	0.28	350		Pg	18 58 02.7	+0.4
CHMT					Sg	18 58 07.1	+0.7
OVMT	Ovando	0.44	17		Pg	18 58 05.4	+0.1
OVMT					Sg	18 58 11.2	0.0
MSO	Missoula	0.56	290		Pg	18 58 07.4	0.0
MSO					Sg	18 58 14.4	-0.4
BEMT	Mount Belmont	0.60	79		Pg	18 58 08.1	-0.1
SLMT	Seeley Lake	0.64	341		Pb	18 58 09.3	-0.3
VCMT	Victor	0.72	254		Pg	18 58 10.7	+0.2
BUT	Butte	0.76	145		Pb	18 58 12.0	+0.3
PCMT	Pistol Creek	0.82	315		Pb	18 58 12.5	-0.2
HRY	Holter Researc	0.93	85		Pg	18 58 13.8	-0.7
HBMT	Mount Humbug	0.94	155		Pg	18 58 14.6	0.0
ALMT	Alberton, Mont	0.95	295		Pg	18 58 14.8	-0.1
LRM	Limekiln Ridge	0.96	148		Pg	18 58 14.8	-0.3
SWMT	Swartz Lake	1.03	328		Pb	18 58 15.9	-0.4
FBMT	Ferry Basin	1.14	313		Pb	18 58 18.0	-0.2
NDMT	Ninemile Divid	1.27	300		Pb	18 58 20.4	0.0
JTMT	Jette	1.34	326		Pn	18 58 21.2	+0.2
DLMT	Dillon	1.34	162		Pn	18 58 21.1	0.0
DLMT					Sg	18 58 39.5	-0.2
DLMT				IAML		18 58 41.2	
	67nm,0.2s						
DLMT				IAML		18 58 41.3	
	37nm,0.2s						
YBMT	Yellow Bay	1.35	336		Pb	18 58 21.4	-0.2
MKMT	Mink Peak	1.40	290		Pb	18 58 22.8	+0.1
SXM	Sixmile	1.45	109		Pb	18 58 23.8	+0.3
BHMT	Big Hole Peak	1.58	307		Pb	18 58 25.4	-0.3
BGMT	Barton Gulch	1.62	150		Pb	18 58 25.7	-0.6
BSMT	Bassoo Peak	1.63	319		Pb	18 58 26.9	+0.3
MCMT	McKenzie Canyo	1.83	173		Pn	18 58 28.0	+0.2
MSMT	Mission Creek	2.21	116		Pn	18 58 33.6	+0.6
YHL	Hebgen Lake	2.27	141		Pn	18 58 34.7	+0.7
YHL				IAML		18 59 10.8	
	comp=N,23nm,0.5s						
YHL				IAML		18 59 12.2	
	comp=E,22nm,0.5s						
YHH	Holmes Hill	2.47	138	Pn	Pn	18 58 36.9	+0.2
PLID	Pearl Lake	2.51	233		Pn	18 58 36.6	-0.6
PLID				IAML		18 59 19.6	
	comp=E,11nm,0.8s						
PLID				IAML		18 59 21.1	
	comp=E,12nm,0.5s						
EGMT	Eagleton	2.71	58	Pn	Pn	18 58 39.2	-0.7
NEW	Newport	3.13	303		Pn	18 58 44.6	-0.9
NEW				IAML		18 59 44.5	
	comp=E,7.6nm,3.3s						
RLMT	Red Lodge	3.13	118		Pn	18 58 44.9	-0.8
RLMT				IAML		18 59 37.7	
	comp=E,7.1nm,0.3s						
RLMT				IAML		18 59 39.6	
	comp=E,11nm,2.7s						
HLID	Hailey	3.20	196	Pn	Pn	18 58 46.9	+0.3
HLID				IAML		18 59 39.6	
	comp=E,12nm,0.4s						
HLID				IAML		18 59 39.9	
	comp=E,12nm,0.5s						
MOOW	Moose Ponds	3.37	148	Pn	Pn	18 58 48.7	-0.3
MFID	Camas Ranch	3.73	211		Pn	18 58 54.1	+0.2
HAWA	Hanford	4.39	269	Pn	Pn	18 59 03.5	+0.6
HAWA				IAML		18 59 41.2	
	comp=E,5.8nm,3.5s						

*NEIC **27** 19:10:05.8±1.7, 46°.51N±0°.09×153°.2E±0°.1, h10km±1km, mb4.5/56, Error ellipse: s-maj=17.6km s-min=11.1km az=145.0*
*MOS **27** 19:10:07.6±1.1, 46°.52N×153°.17E, h38km, mb4.7/23, MS3.2/4, Error ellipse: s-maj=7.6km s-min=6.2km az=86.0*
*SKHL **27** 19:10:07.0±0.2, 46°.20N×153°.60E, h50km±8km, mb4.8/3*
*IDC **27** 19:10:09.0±2.9, 46°.53N×153°.22E, h39km±24km, mb3.8/23, mbtmp4.0/29, ML3.2/6, MS3.5/14, Error ellipse: s-maj=19.8km s-min=12.9km az=152.0*
**ISC 27 19:10:09.3±0.6, 46°.37N±0°.06×153°.36E±0°.06, h50km, n222, σ1§64/220, mb4.4/83, MS3.6

NMR Nemuro--Hokkai 6.20 244 *eP* **Pn 19 11 35.4 -2.7**
AKK Akkeshi 6.93 244 *eP* **Pn 19 11 47.6 -0.5**
AKK *eS* **Sn 19 13 00.6 -5.0**
PEA0B Petropavlovsk- 7.31 21 **Pn 19 11 52.0 -1.3**
PEA0B Petropavlovsk- 7.31 21 *c*ePN **Pn 19 11 52.3 -1.0**
PETK Petropavlovsk- 7.31 21 **Pn 19 11 51.7 -1.6**
PETK Petropavlovsk- 7.31 21 Pn **Pn 19 11 49.9 -3.5**
comp=Z,0.4nm,0.3s,baz=180,slow=12,SNR=17
PETK Sn **Sn 19 13 10.4 -4.4**
baz=232,slow=49
comp=Z,5.1nm,0.8s
PETK Petropavlovsk- 7.31 21 PN **Pn 19 11 51.7 -1.6**
YSS Yuzhno-Sakhali 7.32 278 Pn **Pn 19 11 52.4 -1.1**
YSS Yuzhno-Sakhali 7.32 278 *e*PN **Pn 19 11 51.9 -1.6**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=Z,300nm,17.0s
YSS Yuzhno-Sakhali 7.32 278 *eP* **Pn 19 11 55.8 +2.3**
PET Petropavlovsk 7.50 25 *e*PN Pn 19 12 03.9 +8.1
PET MLR MLR
comp=Z,100nm,10.0s
JKA Kamikawa-asahi 7.92 257 **Pn 19 12 01.9 +0.2**
JKA Kamikawa-asahi 7.92 257 *eP* **Pn 19 12 01.0 -0.7**
ASAJ Asahikawa 7.92 257 Pn **Pn 19 12 01.0 -0.7**
comp=Z,0.8nm,0.3s,baz=93,slow=15,SNR=13
ASAJ Sn **Sn 19 13 28.7 -1.2**
baz=139,slow=14
ASAJ LR LR 19 14 57.0
comp=Z,209nm,18.6s,baz=23,slow=37
comp=Z,17nm,0.8s
TYV Tymovskoe 8.40 306 *e*PN **Pn 19 12 11.4 +3.2**
TYV *e*S **Sn 19 13 44.1 +2.6**
TYV pmax pmax
comp=Z,11nm,0.7s
TYV pmax pmax
comp=Z,100nm,2.5s
TYV smax smax
comp=N,8.0nm,1.6s
TYV smax smax
comp=E,5.0nm,1.6s
TYV smax smax
comp=N,100nm,2.7s
TYV smax smax
comp=E,100nm,2.7s
TYV Tymovskoe 8.40 306 *eP* **Pn 19 12 11.1 +2.9**
ERM Erimo 8.52 243 **Pn 19 12 08.7 -1.2**
ERM Erimo 8.52 243 *c i*PN **Pn 19 12 11.0 +1.1**
JTM Tenmabayashi 10.51 242 Pn **Pn 19 12 33.3 -3.9**
NKL Nikolayevsk 10.64 314 *eP* **Pn 19 12 42.2 +3.4**
GRNR Gornyy 12.05 298 ⇑ *i*PN P 19 13 04.7 -4.9
GRNR pmax pmax
comp=Z,2.0nm,0.7s
GRNR MLR MLR
comp=E,220nm,16.0s
GRNR MLR MLR
comp=N,120nm,17.0s
GRNR MLR MLR
comp=Z,240nm,17.0s
MA2 Magadan 13.32 354 Pn **Pn 19 13 11.8 -3.6**
MA2 Magadan 13.32 354 LR LR 19 18 21.0
comp=Z,74nm,19.4s,baz=174,slow=37
MA2 Magadan 13.32 354 PN **Pn 19 13 11.9 -3.6**
MA2 Magadan 13.32 354 *eP* **Pn 19 13 11.9 -3.6**
KLR Kul'dur 14.80 289 Pn **Pn 19 13 34.1 -1.2**
comp=Z,0.1nm,0.3s,baz=95,slow=8.1,SNR=3.6
KLR LR LR 19 19 27.4
comp=Z,163nm,18.4s,baz=86,slow=38
comp=Z,2.8nm,1.2s
KLR Kul'dur 14.80 289 *eP* **Pn 19 13 37.2 +2.0**
MAJO Matsushiro 14.99 234 Pn **P 19 13 38.5 -3.9**
MAJO Matsushiro 14.99 234 P **P 19 13 38.5 -3.9**
MAJO pmax pmax
comp=Z,11nm,1.0s
MJAR Matsushiro Arr 14.99 234 Pn **Pn 19 13 36.7 -1.2**
baz=22,slow=8.6,SNR=8.3
MJAR LR LR 19 20 43.8
comp=Z,76nm,18.8s,baz=91,slow=42
comp=Z,2.0nm,0.9s
MJB9 Matsu-Tunnel 14.99 234 Pn **P 19 13 38.9 -3.4**
MJB9 IAmb IAmb 19 14 02.6
comp=Z,12nm,1.1s
USA0B Ussuriysk Arra 15.20 270 *i* P **Pn 19 13 40.3 -0.1**
USRK Ussuriysk Ar. 15.20 270 Pn **Pn 19 13 40.0 -0.5**
comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=3.6
USRK LR LR 19 19 31.6
comp=Z,104nm,18.4s,baz=74,slow=37
comp=Z,2.5nm,0.6s
USRK Ussuriysk Ar. 15.20 270 P **Pn 19 13 40.0 -0.5**
JGF Kuroka 16.14 234 **P 19 13 55.1 -0.1**
SEY Seymchan 16.61 358 Pn **Pn 19 13 58.0 -0.3**
comp=Z,0.2nm,0.3s,baz=120,slow=8.9,SNR=7.2
comp=Z,0.5nm,0.3s
SEY Seymchan 16.61 358 *c eP* **Pn 19 13 58.2 -0.2**
SEY pmax pmax
comp=Z,5.0nm,2.5s
MDJ Mudanjiang 16.75 273 **Pn 19 13 59.1 -1.1**
MDJ Mudanjiang 16.75 273 P **P 19 14 01.8 0.0**
MDJ pmax pmax
comp=Z,12nm,0.9s
HEH HeiHe 17.66 292 *eP* **P 19 14 12.0 +0.2**
HEH pmax pmax
comp=Z,7.0nm,1.1s
HEH LR LR
comp=N,140nm,13.3s
HEH LR LR
comp=E,220nm,13.5s
HEH LR LR
comp=Z,310nm,15.7s
ZEA Zeya 18.24 303 *eP* **Pn 19 14 24.3 +5.8**
YAK Yakutsk 20.74 328 P **P 19 14 42.7 -2.6**
YAK Yakutsk 20.74 328 P **P 19 14 44.2 -1.1**
comp=Z,5.7nm,0.8s,baz=111,slow=4.8,SNR=3.2
YAK LR LR 19 22 46.5
comp=Z,96nm,18.3s,baz=152,slow=37
comp=Z,5.7nm,0.8s
YAK Yakutsk 20.74 328 *c eP* **P 19 14 45.0 -0.3**
YAK pmax pmax
comp=Z,6.0nm,1.0s
YAK Yakutsk 20.74 328 *eP* **P 19 14 45.0 -0.3**
KSRS Korea Array 20.85 254 P Pn 19 14 47.9 -1.7
comp=Z,3.2nm,0.8s,baz=57,slow=11,SNR=15
KSRS LR LR 19 21 46.7
comp=Z,57nm,21.1s,baz=55,slow=34
comp=Z,3.2nm,0.8s
KSAR Wonju Array Be 20.88 254 P **P 19 14 47.4 +0.3**
KSAR Wonju Array Be 20.88 254 P **P 19 14 47.4 +0.3**
JNU Nakatsue 21.67 240 LR LR 19 23 41.1
comp=Z,53nm,18.6s,baz=44,slow=38
BILL Bilibino 22.73 13 **P 19 15 04.8 -1.8**
BILL Bilibino 22.73 13 *i* P **P 19 15 06.5 -0.1**
BILL pmax pmax
comp=Z,2.0nm,0.6s
BILL Bilibino 22.73 13 *eP* **P 19 15 06.5 -0.1**
BJT Baijiatuau 27.66 270 P **P 19 15 53.5 +1.4**
BJT IAmb IAmb 19 15 57.5
comp=Z,4.5nm,0.7s
BJT Baijiatuau 27.66 270 P **P 19 15 53.6 +1.4**
BJT pmax pmax
comp=Z,5.0nm,0.7s
TIXI Tiksi 27.89 344 P **P 19 15 52.8 -1.1**
TIXI Tiksi 27.89 344 LR LR 19 28 12.5
comp=Z,69nm,18.5s,baz=202,slow=39
TIXI Tiksi 27.89 344 P **P 19 15 52.8 -1.1**
TIXI pmax pmax
comp=Z,4.0nm,1.4s
H11N2 WAKE ISLAND Hy 28.80 153 T T 19 47 45.8
baz=340,slow=76
H11N1 WAKE ISLAND Hy 28.81 153 T T 19 47 48.4
baz=340,slow=76
H11N3 WAKE ISLAND Hy 28.82 153 T T 19 47 49.4
baz=340,slow=76
H11S1 WAKE ISLAND Hy 29.89 154 T T 19 49 07.3
baz=341,slow=76
H11S3 WAKE ISLAND Hy 29.89 154 T T 19 49 23.1
baz=341,slow=76
H11S2 WAKE ISLAND Hy 29.91 154 T T 19 49 22.7
baz=341,slow=76
NJ2 Nanjing 30.05 254 *eP* **P 19 16 15.0 +1.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.8s
HHC Hu-ho-hao-te 30.49 275 *eP* **P 19 16 19.3 +1.8**
HHC pmax pmax
comp=Z,23nm,0.7s
ULN Ulaanbaatar 31.19 290 P **P 19 16 22.6 -1.0**
ULN IAmb IAmb 19 16 50.1
comp=Z,7.0nm,1.5s
ULN Ulaanbaatar 31.19 290 ⇑ *i*P **P 19 16 23.4 -0.2**
ULN pmax pmax
comp=Z,1.0nm,1.1s
ULN Ulaanbaatar 31.19 290 *eP* **P 19 16 23.4 -0.2**
SONM Songino Array 31.62 290 P **P 19 16 26.5 -0.9**
comp=Z,0.4nm,0.7s,baz=75,slow=6.2,SNR=3.9
SONM LR LR 19 30 13.4
comp=Z,126nm,18.6s,baz=134,slow=38
comp=Z,0.4nm,0.7s
C18K Utukok River 31.87 30 P **P 19 16 30.2 +1.0**
C18K IAmb IAmb 19 16 43.5
comp=Z,5.2nm,1.1s
G18K Tagagawik 31.99 35 P **P 19 16 30.7 +0.4**
G18K IAmb IAmb 19 16 38.0
comp=Z,6.3nm,1.5s
H19K Roundabout Mou 32.80 36 P **P 19 16 38.0 +0.7**
H19K IAmb IAmb 19 17 00.7
comp=Z,6.1nm,1.1s
B21K Ikpikpuk River 34.41 29 **P 19 16 53.2 +1.9**
B21K IAmb IAmb 19 16 56.6
comp=Z,6.6nm,0.8s
KTH Kantishna Hill 34.94 40 **P 19 16 57.2 +1.2**
KTH IAmb IAmb 19 17 30.5
comp=Z,6.6nm,1.2s
E22K Anaktuvuk Pass 35.08 32 **P 19 16 58.1 +1.0**
XAN Xi'an 35.65 266 P **P 19 17 04.0 +1.6**
XAN pmax pmax
comp=Z,7.0nm,1.2s
SML Sawmill 36.13 43 P **P 19 17 07.0 +0.7**
SML IAmb IAmb 19 17 10.7
comp=Z,5.2nm,0.8s
E24K Your Creek 36.31 33 P **P 19 17 09.4 +1.7**
H24K Noodor Dome 36.36 36 P **P 19 17 09.3 +1.2**
ILAR Eielson Array 36.74 38 P **P 19 17 11.3 0.0**
comp=Z,0.3nm,0.6s,baz=256,slow=6.5,SNR=5.5
comp=Z,0.3nm,0.6s
BMAR Burnt Mountain 37.74 34 P **P 19 17 21.4 +1.6**
LZH Lanzhou 38.07 272 *eP* **P 19 17 19.5 -3.6**
LZH pP pP 19 17 25.0 -10
LZH pmax pmax
comp=Z,19nm,1.2s
LZH LR LR
comp=N,110nm,13.4s
LZH LR LR
comp=E,120nm,12.4s
LZH LR LR
comp=Z,90nm,13.7s
L27K Beaver Creek, 39.06 41 P **P 19 17 32.0 +1.1**
BCAR Beaver Creek A 39.08 41 P **P 19 17 32.5 +1.4**
GTA Gaotai 39.20 280 P **P 19 17 34.3 +1.8**
GTA pP pP 19 17 39.5 -5.2
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA LR LR
comp=N,66nm,13.4s
GTA LR LR
comp=E,83nm,12.7s
GTA LR LR
comp=E,81nm,15.6s
I30M Mount Dempster 41.17 37 P **P 19 17 49.2 +0.8**
GYA Guiyang 41.80 258 P **P 19 17 55.8 +1.7**
GYA pmax pmax
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 42.98 306 P **P 19 18 01.1 -2.1**
comp=Z,0.8nm,0.7s,baz=60,slow=15,SNR=4.2
ZALV PcP **PcP 19 19 52.9 +0.2**
comp=Z,1.3nm,0.8s,baz=108,slow=4.7,SNR=5.1
ZALV LR LR 19 37 12.0
comp=Z,188nm,18.0s,baz=131,slow=38
comp=Z,0.8nm,0.7s
A36M Sachs Harbour 44.12 26 **P 19 18 13.1 +1.0**
A36M IAmb IAmb 19 18 17.5
comp=Z,4.7nm,0.8s
PZH PanZhiHua 45.13 262 P **P 19 18 22.3 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.9s
MK31 Makanchi Array 47.27 298 ⇑ *i*P **P 19 18 36.8 -0.5**
MKAR Makanchi Array 47.27 298 **P 19 18 36.9 -0.4**
MKAR Makanchi Array 47.27 298 P **P 19 18 36.2 -1.1**
comp=Z,3.4nm,0.8s,baz=64,slow=7.6,SNR=26
MKAR PcP **PcP 19 20 07.9 +0.1**
comp=Z,0.5nm,0.8s,baz=47,slow=3.8,SNR=2.4
MKAR LR LR 19 39 55.4
comp=Z,132nm,18.1s,baz=104,slow=38
comp=Z,3.4nm,0.8s
MKAR Makanchi Array 47.27 298 *eP* **P 19 18 37.1 -0.2**
MAKZ Makanchi 47.45 298 **P 19 18 38.6 -0.2**
MAKZ IAmb IAmb 19 18 39.9
comp=Z,2.7nm,0.9s
MAKZ Makanchi 47.45 298 P **P 19 18 38.6 -0.2**
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 47.72 304 **P 19 18 40.0 -0.7**
KURK IAmb IAmb 19 18 41.3
comp=Z,4.6nm,0.9s
KURK Kurchatov 47.72 304 P **P 19 18 40.5 -0.2**
KURK 19 20 09.7
KURK Kurchatov 47.72 304 *eP* **P 19 18 40.5 -0.2**
KURBB Kurchatov Arra 47.81 304 P **P 19 18 40.5 -1.0**
comp=Z,3.7nm,0.8s,baz=67,slow=8.3,SNR=24
KURBB PcP **PcP 19 20 09.7 +0.2**
comp=Z,0.6nm,0.9s,baz=78,slow=2.6,SNR=3.3
comp=Z,3.7nm,0.8s
EUNU Eureka 49.47 11 P **P 19 18 54.6 +0.7**
EUNU IAmb IAmb 19 18 57.2
comp=Z,4.5nm,1.0s
YKAW3 Yellowknife Wh 51.10 37 P **P 19 19 07.7 +1.4**
YKAW3 IAmb IAmb 19 19 11.5
comp=Z,2.7nm,0.9s
YKA Yellowknife Ar 51.13 37 P **P 19 19 07.5 +1.0**
comp=Z,1.1nm,0.7s,baz=299,slow=7.2,SNR=6.2
comp=Z,1.1nm,0.7s
BVAR Borovoye Array 51.23 310 P **P 19 19 06.4 -1.1**
comp=Z,1.4nm,0.6s,baz=58,slow=8.3,SNR=11
comp=Z,1.4nm,0.6s
BRVK Borovoye 51.27 310 P **P 19 19 07.9 +0.1**
BRVK Borovoye 51.27 310 P **P 19 19 07.9 +0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 51.27 310 *eP* **P 19 19 07.2 -0.6**
WUS Wushi 51.96 293 P **P 19 19 14.3 +1.0**
WUS IAmb IAmb 19 19 15.2
comp=Z,6.5nm,0.8s
NOR Nord 52.17 358 *i* P **P 19 19 09.4 -4.6**
NOR IAmb IAmb 19 19 14.9
comp=Z,1.6nm,0.8s
CHTO Chiang Mai 52.20 257 **P 19 19 16.3 +1.2**
CHTO IAmb IAmb 19 19 18.8
comp=Z,4.9nm,0.9s
CHTO Chiang Mai 52.20 257 P **P 19 19 16.3 +1.2**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 52.45 257 P **P 19 19 18.5 +1.5**
CMAR Chiang Mai Arr 52.45 257 P **P 19 19 18.6 +1.7**
comp=Z,1.5nm,0.8s,baz=35,slow=7.3,SNR=16
comp=Z,1.5nm,0.8s
SHL Shillong 52.53 269 P **P 19 19 18.6 +0.9**
SHL IAmb IAmb 19 19 33.1
comp=Z,11nm,1.2s
SHL Shillong 52.53 269 P **P 19 19 18.6 +0.9**
SHL pmax pmax
comp=Z,11nm,1.2s
BOOM Boomskoye usch 53.34 296 P **P 19 19 24.4 +1.0**
BOOM IAmb IAmb 19 19 37.0
comp=Z,9.4nm,1.4s
BOOM Boomskoye usch 53.34 296 P **P 19 19 24.4 +1.0**
BOOM pmax pmax
comp=Z,9.0nm,1.4s
AAK Ala-Archa 54.16 297 **P 19 19 29.2 -0.2**
AAK IAmb IAmb 19 19 31.7
comp=Z,2.9nm,0.8s
AAK Ala-Archa 54.16 297 LR LR 19 43 06.3
comp=Z,53nm,19.0s,baz=86,slow=37
AAK Ala-Archa 54.16 297 *eP* **P 19 19 30.1 +0.7**
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 54.16 297 *eP* **P 19 19 30.1 +0.7**
ARTI Arti 55.52 318 *c i*P **P 19 19 38.1 -0.7**
ARTI 19 20 36.2
ARTI 19 21 39.1
ARTI S **S 19 27 20.1 0.0**
ARTI SS **SS 19 30 59.0 -5.8**
ARTI pmax pmax
comp=Z,4.0nm,1.0s
NEEM North Greenlan 55.53 6 *i* P **P 19 19 38.5 -0.5**
NEEM IAmb IAmb 19 19 41.2
comp=Z,6.1nm,0.8s
KK31 Karatay Array 56.33 299 **P 19 19 44.8 -0.1**
KK31 Karatay Array 56.33 299 P **P 19 19 44.8 -0.1**
KK31 pmax pmax
comp=Z,3.0nm,1.1s
KKAR Karatay Array 56.33 299 P **P 19 19 44.7 -0.2**
KKAR Karatay Array 56.33 299 P **P 19 19 44.7 -0.2**
KULLO Kullorsuaq 57.61 9 *i* P **P 19 19 55.9 +2.4**
KULLO IAmb IAmb 19 20 00.3
comp=Z,5.8nm,0.9s
DRK Karamyk 57.62 295 P **P 19 19 54.7 +0.3**
DRK IAmb IAmb 19 20 06.8
comp=Z,4.1nm,0.9s
DRK Karamyk 57.62 295 P **P 19 19 54.7 +0.3**
DRK pmax pmax
comp=Z,4.0nm,0.9s
BTK Batken 57.90 296 **P 19 19 56.8 +0.7**
BTK IAmb IAmb 19 19 58.5
comp=Z,4.1nm,0.7s
BTK Batken 57.90 296 P **P 19 19 56.8 +0.7**
BTK pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 58.27 341 P **P 19 19 59.0 +0.9**
comp=Z,1.4nm,0.8s,baz=23,slow=6.8,SNR=1.8
comp=Z,1.4nm,0.8s
AB31 Akbulak array 58.80 310 **P 19 20 01.9 -0.2**
AB31 IAmb IAmb 19 20 03.9
comp=Z,6.3nm,1.5s
ABKAR Akbulak array 58.80 310 **P 19 20 01.6 -0.5**
ABKAR Akbulak array 58.80 310 **P 19 20 01.8 -0.3**
ABKAR IAmb IAmb 19 20 03.9
comp=Z,6.3nm,1.5s
GAR Garm 58.83 295 **P 19 20 02.3 -0.3**
SIMJ Simiganj 59.86 296 **P 19 20 09.3 -0.5**
NIL Nilore 60.19 289 **P 19 20 13.2 +1.3**
NIL Nilore 60.19 289 P **P 19 20 13.2 +1.3**
NIL pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 61.07 4 **P 19 20 19.2 +1.4**
SUMG Summit 61.07 4 P **P 19 20 19.2 +1.4**
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 61.07 4 *i* P **P 19 20 18.4 +0.6**
SUMG IAmb IAmb 19 20 21.5
comp=Z,7.9nm,0.8s
KBL Kabul 62.37 292 **P 19 20 27.0 +0.1**
KBL Kabul 62.37 292 P **P 19 20 27.0 +0.1**
KBL pmax pmax
comp=Z,6.0nm,0.9s
NVAR Mina Array Bea 62.46 62 P P 19 20 29.6 +2.1
comp=Z,0.5nm,0.7s,baz=328,slow=10,SNR=2.4
comp=Z,0.5nm,0.7s
FIA1 FINESS Array S 64.46 335 P **P 19 20 40.4 +0.4**
FINES FINESS Array B 64.46 335 P **P 19 20 40.4 +0.4**
FINES FINESS Array B 64.46 335 P **P 19 20 40.1 +0.1**
comp=Z,4.2nm,0.8s,baz=38,slow=8.1,SNR=14
comp=Z,4.2nm,0.8s
FINES FINESS Array B 64.46 335 P **P 19 20 40.4 +0.4**
ICESG Greenland Ices 64.46 5 *i* P **P 19 20 41.3 +0.9**
ICESG IAmb IAmb 19 20 43.9
comp=Z,5.9nm,0.9s
PDAR Pinedale Array 64.84 54 P **P 19 20 44.5 +1.4**
PDAR Pinedale Array 64.84 54 P **P 19 20 44.2 +1.1**
comp=Z,0.6nm,0.8s,baz=309,slow=0.9,SNR=5.0
comp=Z,0.6nm,0.8s
OBN Obninsk 65.72 326 *eP* **P 19 20 48.0 -0.2**
OBN *e* 19 21 19.4
OBN *e* 19 23 13.0
OBN pmax pmax
comp=Z,3.0nm,0.7s
OBN MLR MLR
comp=Z,36nm,17.0s
OBN Obninsk 65.72 326 *eP* **P 19 20 48.0 -0.2**
NC204 NORSAR Array S 68.53 342 **P 19 21 07.2 +1.1**
NB2 NORSAR Subarra 68.65 341 P **P 19 21 07.3 +0.5**
comp=Z,1.0nm,0.6s,baz=28,slow=6.5
NOA NORSAR Array B 68.65 341 P **P 19 21 07.1 +0.3**
comp=Z,2.5nm,0.8s,baz=28,slow=6.4,SNR=14
comp=Z,2.5nm,0.8s
HFS Hagfors 68.88 340 P **P 19 21 08.0 -0.2**
comp=Z,3.0nm,0.5s,baz=56,slow=3.7,SNR=25
comp=Z,3.0nm,0.5s
HFS Hagfors 68.88 340 P **P 19 21 08.0 -0.2**
KVAR Kislovodsk Arr 71.19 314 LR LR 19 56 28.6
comp=Z,50nm,18.2s,baz=220,slow=39
KIV Kislovodsk 71.19 314 *eP* **P 19 21 20.8 -1.9**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,70nm,18.0s
KBZ Khabaz 71.25 314 P **P 19 21 23.4 +0.5**
comp=Z,1.3nm,0.8s,baz=130,slow=3.5,SNR=5.3
comp=Z,1.3nm,0.8s
ASAR Alice Springs 71.90 199 P **P 19 21 28.8 +1.8**
ASAR Alice Springs 71.90 199 P **P 19 21 28.2 +1.2**
comp=Z,0.5nm,0.8s,baz=16,slow=5.0,SNR=7.4
comp=Z,0.5nm,0.8s
ASAR Alice Springs 71.90 199 P **P 19 21 28.8 +1.8**
AKASG Malin Array Be 71.96 326 P **P 19 21 27.3 +0.2**
comp=Z,3.8nm,0.6s,baz=35,slow=6.2,SNR=24
comp=Z,3.8nm,0.6s
AKASG Malin Array Be 71.96 326 *i* P **P 19 21 27.7 +0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 71.96 326 **P 19 21 27.5 +0.4**
AKBB Malin Array Si 71.96 326 P **P 19 21 27.5 +0.4**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 71.97 326 **P 19 21 27.6 +0.4**
KIEV Kiev 71.97 326 P **P 19 21 27.6 +0.4**
KIEV pmax pmax
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 75.98 329 *eP* **P 19 21 52.2 +1.5**
KOLS Kolonicke sedl 75.98 329 *eP* **P 19 21 52.2 +1.5**
BUR08 Bucovina Ar. S 75.98 327 **P 19 21 52.0 +1.1**
BUR08 IAmb IAmb 19 21 53.1
comp=Z,8.7nm,1.4s
LANS Liptovska Anna 76.77 331 *eP* **P 19 21 57.7 +2.5**
LANS pmax pmax
comp=Z,2.0nm,0.8s
LANS Liptovska Anna 76.77 331 *eP* **P 19 21 57.7 +2.5**
MORC Moravsky Berou 76.86 332 **P 19 21 56.5 +0.8**
MORC IAmb IAmb 19 21 58.6
comp=Z,4.4nm,0.9s
MORC Moravsky Berou 76.86 332 *eP* **P 19 21 57.1 +1.4**
MORC Moravsky Berou 76.86 332 P **P 19 21 56.5 +0.8**
MORC pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 76.89 336 P **P 19 21 56.5 +0.7**
CLL Collm 76.89 336 *i* P **P 19 21 56.9 +1.2**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 76.89 336 *i* P **P 19 21 56.9 +1.2**
comp=Z,7.0nm,1.0s
MLR Muntele Rosu 77.48 325 **P 19 22 00.8 +1.5**
MLR IAmb IAmb 19 22 02.9
comp=Z,3.6nm,0.7s
MLR Muntele Rosu 77.48 325 P **P 19 22 00.8 +1.5**
MLR pmax pmax
comp=Z,4.0nm,0.7s
TX31 Lajitas Ar. Si 77.53 61 **P 19 22 00.7 +0.8**
TX31 IAmb IAmb 19 22 08.7
comp=Z,3.5nm,1.1s
TXAR Lajitas Array 77.53 61 P **P 19 22 00.5 +0.6**
TXAR Lajitas Array 77.53 61 P **P 19 21 59.7 -0.1**
comp=Z,1.8nm,0.8s,baz=310,slow=3.9,SNR=11
comp=Z,1.8nm,0.8s
TXAR Lajitas Array 77.53 61 P **P 19 22 00.5 +0.6**
VYHS Vyhne 77.55 331 *eP* **P 19 22 01.7 +2.2**
VYHS pmax pmax
comp=Z,4.0nm,1.1s
VYHS Vyhne 77.55 331 *eP* **P 19 22 01.7 +2.2**
VRAC Vranov 77.57 333 *eP* **P 19 22 01.0 +1.4**
ILGA Ilgaz 77.70 318 **P 19 22 02.2 +1.4**
KRUC Moravsky 77.85 333 *eP* **P 19 22 02.0 +0.8**
SMOL Smolenice 78.00 332 *eP* **P 19 22 04.4 +2.4**
MODS Modra-Piesok 78.17 332 *eP* **P 19 22 05.5 +2.5**
MODS Modra-Piesok 78.17 332 *eP* **P 19 22 05.5 +2.5**
BNN Bunyan 78.41 315 P **P 19 22 06.0 +1.4**
BRTR Keskin Array B 78.79 317 P **P 19 22 07.6 +0.9**
BRTR Keskin Array B 78.79 317 P **P 19 22 04.7 -2.0**
comp=Z,1.0nm,0.9s,baz=36,slow=5.2,SNR=7.1

	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**78.79**	**317**	*i* P	**P**	**19 22 08.6**	**+1.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GERES	**GERESS Array B**	**78.88**	**334**	P	**P**	**19 22 07.0**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=35,slow=4.9,SNR=9.8						
	comp=Z,1.0nm,0.7s						
CONA	**Conrad Observa**	**79.02**	**332**	*ep*P	**P**	**19 22 10.0**	**+2.3**
	comp=Z,2.5nm,0.7s						
RONA	**Rosalia, Austr**	**79.08**	**332**	*i* pP	**P**	**19 22 10.5**	**+2.5**
	comp=Z,4.1nm,0.8s						
ARSA	**Arzberg**	**79.72**	**332**	*i* pP	**P**	**19 22 13.2**	**+1.6**
	comp=Z,2.0nm,1.1s						
SOKA	**Soboth**	**80.38**	**332**	*ep*P	**P**	**19 22 17.0**	**+1.9**
	comp=Z,3.2nm,0.8s						
LESA	**Schwarzleotal**	**80.45**	**334**	*i* pP	**P**	**19 22 16.7**	**+1.1**
	comp=Z,2.7nm,0.7s						
KBA	**Koelnbreinsper**	**80.56**	**334**	*e*P	**P**	**19 22 16.6**	**+0.4**
	comp=Z,6.2nm,1.2s						
WATA	**Walderalm**	**80.86**	**335**	*i* pP	**P**	**19 22 18.9**	**+1.1**
	comp=Z,6.8nm,0.9s						
WTTA	**Wattenberg**	**80.91**	**335**	*i* pP	**P**	**19 22 19.5**	**+1.4**
	comp=Z,5.7nm,0.8s						
RETA	**Reutte**	**80.96**	**335**	*i* pP	**P**	**19 22 19.4**	**+1.2**
	comp=Z,2.8nm,0.8s						
MOTA	**Moosalm**	**80.99**	**335**	*i* pP	**P**	**19 22 19.7**	**+1.2**
	comp=Z,5.8nm,1.0s						
SQTA	**Sankt Quirin**	**81.08**	**335**	*i* pP	**P**	**19 22 21.0**	**+2.1**
	comp=Z,3.7nm,0.8s						
MMAI	**Mount Meron Ar**	**83.20**	**312**	P	**P**	**19 22 29.8**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=42,slow=8.3,SNR=5.2						
	comp=Z,2.3nm,0.8s						

KRSC 27 19:39:50.5±1.5, 54°.07N×168°.71E, h68km±35km, MI3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.96**	**307**	*e*P	Pn	19 40 23.8	+2.4
BKI				*e*S	Sn	19 40 47.4	+2.4
KBTR	**Krutoberegovo**	**4.00**	**305**	*e*P	Pn	19 40 52.6	+3.3
MKZ	**Mys Kozlova**	**4.12**	**280**	*e*P	Pn	19 40 53.5	+2.7
MKZ				*e*S	Sn	19 41 39.3	+1.7
SDLR	**Sedlovina**	**5.89**	**266**	*e*P	Pn	19 41 18.5	+3.2
UGLR	**Uglovaya**	**5.94**	**266**	*e*P	Pn	19 41 19.4	+3.5
AVH	**Avacha**	**5.98**	**266**	*e*P	Pn	19 41 20.1	+3.7
KRX	**Arik**	**6.02**	**267**	*e*P	Pn	19 41 20.2	+3.3
KRX				*e*S	Sn	19 42 28.9	+4.4
KOK	**Koryaka**	**6.04**	**267**	*e*P	Pn	19 41 20.4	+3.2
KRMR	**Karymshinskiy**	**6.44**	**263**	*e*P	Pn	19 41 26.3	+3.7
MTVR	**Mutnovka**	**6.51**	**260**	*e*P	Pn	19 41 27.5	+3.8

*IDC **27** 20:02:58.5±1.1, 26°.33N×129°.44E, h0km, mb3.6/9, mbtmp3.6/10, ML3.5/1, MS2.6/1, Error ellipse: s-maj=34.9km s-min=17.9km az=56.0*
*JMA **27** 20:03:00.6±0.1, 26°.3N±0°.6×129°.6E±0°.4, h46km, MV3.4/18, NEAR MINAMI-DAITOJIMA IS*

ISC 27 20:02:58.7±2.4, 26°.34N±0°.04×129°.58E±0°.04, h9km±15km, n33, σ1s40/43, mb3.6/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.22**	**304**	*i* P	**Pb**	**20 03 22.0**	**0.0**
JYRO				S	**Sg**	**20 03 37.8**	**-0.3**
JOW	**Kunigami**	**1.27**	**293**	Pn	**Pn**	**20 03 22.9**	**+0.2**
	317nm,0.3s,baz=123,slow=25,SNR=1144						
JOW				Sn	**Sb**	**20 03 38.3**	**-1.0**
	68nm,0.3s,baz=125,slow=29,SNR=15						
JOW				LR	LR	20 04 04.0	
	comp=Z,174nm,19.7s,baz=150,slow=56						
JOW	**Kunigami**	**1.27**	**293**	P	**Pn**	**20 03 22.9**	**+0.2**
JOW	**Kunigami**	**1.27**	**293**	P	**Pn**	**20 03 22.9**	**+0.2**
JOW				*e*S	**Sb**	**20 03 38.2**	**-1.0**
JOKE	**Okinoerabujima**	**1.36**	**319**	P	**Pn**	**20 03 24.2**	**+0.2**
JNTH	**Nagotoyohara**	**1.41**	**278**	P	**Pn**	**20 03 24.5**	**0.0**
JNTH				*e*S	**Sb**	**20 03 41.7**	**-1.6**
JTK	**Tokunoshima**	**1.55**	**339**	P	**Pn**	**20 03 26.9**	**+0.4**
JMZ	**Minamidaito 2**	**1.56**	**109**	P	**Pn**	**20 03 26.6**	**0.0**
JMZ	**Minamidaito 2**	**1.56**	**109**	P	**Pn**	**20 03 26.2**	**-0.4**
JMZ				S	**Sn**	**20 03 44.1**	**-2.9**
JKDJ	**Kitadaitoujima**	**1.59**	**104**	P	**Pn**	**20 03 26.9**	**-0.1**
JKDJ				S	**Sn**	**20 03 45.4**	**-2.3**
JIH	**Iheya**	**1.60**	**296**	P	**Pn**	**20 03 27.8**	**+0.6**
JJT3	**Tamagusuku3**	**1.63**	**264**	P	**Pn**	**20 03 28.1**	**+0.6**
JJT3				*e*S	**Sn**	**20 03 47.7**	**-0.9**
JAMN	**Amaminishikomi**	**1.94**	**349**	*e*P	**Pn**	**20 03 32.1**	**+0.4**
JAMN				S	**Sn**	**20 03 54.0**	**-2.2**
JZK	**Kikaishima**	**2.00**	**10**	S	**Sn**	**20 03 57.8**	**-0.1**
JAM	**Amami Oshima**	**2.07**	**1**	P	**Pn**	**20 03 33.6**	**0.0**
JAM				S	**Sn**	**20 03 58.0**	**-1.5**
JAGN	**Aguni-jima**	**2.11**	**277**	P	**Pn**	**20 03 35.0**	**+0.8**
JAGN				S	**Sn**	**20 03 59.4**	**-1.2**
JKE	**Kume jima 2**	**2.51**	**270**	P	**Pn**	**20 03 39.5**	**-0.1**
JTAJ	**Takarajima**	**2.83**	**353**	*e*S	**Sn**	**20 04 16.3**	**-1.9**
JMJ	**Miyako jima 2**	**4.16**	**250**	P	**Pn**	**20 04 02.7**	**+0.4**
JNU	**Nakatsue**	**6.86**	**9**	Pn	**Pn**	**20 04 41.0**	**+1.5**
	0.8nm,0.3s,baz=202,slow=12,SNR=13						
JNU				Sn	**Sn**	**20 05 54.1**	**-3.6**
	baz=247,slow=15						
	2.6nm,0.3s						
YULB	**Yu-li**	**8.07**	**250**	P	**Pn**	**20 04 52.8**	**-3.4**
SSLB	**Suanglung**	**8.22**	**254**	P	**Pn**	**20 04 55.7**	**-2.6**
TPUB	**Ta-pu**	**8.68**	**252**	P	**Pn**	**20 05 03.0**	**-1.5**
KSRS	**Korea Array**	**11.18**	**353**	LR	LR	20 10 39.8	
	comp=Z,25nm,18.1s,baz=250,slow=41						
SONM	**Songino Array**	**28.14**	**326**	P	**P**	**20 08 52.6**	**+1.4**
	0.5nm,0.5s,baz=146,slow=8.6,SNR=3.7						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**42.37**	**311**	P	**P**	**20 10 52.9**	**-0.4**
	0.3nm,0.6s,baz=99,slow=8.9,SNR=4.5						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**42.90**	**322**	P	**P**	**20 10 57.3**	**-0.1**
	0.4nm,0.4s,baz=105,slow=11,SNR=2.5						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**45.62**	**316**	P	**P**	**20 11 19.4**	**+0.1**
	0.5nm,0.5s,baz=102,slow=8.8,SNR=6.4						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**46.23**	**174**	P	**P**	**20 11 25.3**	**+0.9**
	0.9nm,0.9s,baz=355,slow=8.0,SNR=2.5						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**49.88**	**175**	P	**P**	**20 11 54.0**	**+1.4**
	0.4nm,0.8s,baz=6.2,slow=11,SNR=5.1						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**51.01**	**318**	P	**P**	**20 12 02.1**	**+1.3**
	0.4nm,0.5s,baz=69,slow=8.3,SNR=4.5						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**73.37**	**331**	P	**P**	**20 14 31.6**	**+0.9**
	1.5nm,0.8s,baz=66,slow=4.8,SNR=7.0						
	1.5nm,0.8s						
BRTR	**Keskin Array B**	**77.92**	**308**	P	**P**	**20 14 57.7**	**+0.3**
	0.6nm,0.8s,baz=64,slow=6.6,SNR=4.3						
	0.6nm,0.8s						

RSNC 27 20:03:46.9±0.0, 7°.N±1°.×7°.3W±°., h150km±3km, M2.4, mb3.7, ML2.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**192**	P	Pn	20 04 07.2	-0.3
BARC				S	Sn	20 04 21.3	-1.9
BRJC	**Barrancabermej**	**0.62**	**286**	P	Pn	20 04 08.6	-0.3
BRJC				S	Sn	20 04 25.9	+0.2
PAMC	**Pamplona, Colo**	**0.69**	**39**	P	Pn	20 04 10.1	+0.2
PAMC				S	Sn	20 04 27.6	+0.1
RUSC	**La Rusia**	**0.90**	**176**	P	Pn	20 04 11.2	-0.3
RUSC				S	Sn	20 04 29.8	-0.4
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	P	Pn	20 04 13.8	-1.0
PTBC				S	Sn	20 04 35.0	-1.1
TAMC	**Tame, Arauca**	**1.39**	**105**	P	Pn	20 04 15.4	0.0
OCAC	**Ocana**	**1.44**	**353**	P	Pn	20 04 15.5	-0.5
OCAC				S	Sn	20 04 37.5	-0.9
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	P	Pn	20 04 19.5	-0.7
ZARC				S	Sn	20 04 45.1	-0.6
NORC	**Norcasia**	**2.11**	**235**	P	Pn	20 04 22.1	-1.3
NORC				S	Sn	20 04 51.7	+0.2
CHIC	**Chingaza**	**2.23**	**195**	P	Pn	20 04 25.3	0.0
CHIC				S	Sn	20 04 56.2	+1.5
ROSC	**El Rosal**	**2.27**	**211**	P	Pn	20 04 27.3	+1.6
CVER	**Cruz Verde, Cu**	**2.45**	**202**	P	Pn	20 04 29.3	+1.4
UREC	**San Jos de Ur**	**2.56**	**292**	P	Pn	20 04 26.9	-1.8
UREC				S	Sn	20 04 58.4	-2.6
GUY2C	**Guyana, Caldas**	**2.71**	**235**	P	Pn	20 04 32.1	+1.0
GUY2C				S	Sn	20 05 05.7	+0.5
PTGC	**Puerto Gaitan,**	**2.77**	**159**	P	Pn	20 04 30.3	-1.1
PTGC				S	Sn	20 05 04.0	-1.8
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	20 04 35.0	+0.5
CBOC				S	Sn	20 05 11.9	+0.7
ANIL	**Santa Ana**	**3.21**	**225**	P	Pn	20 04 39.4	+2.1
ANIL				S	Sn	20 05 19.5	+3.2
PRAC	**Prado**	**3.52**	**210**	P	Pn	20 04 40.9	-0.2
PRAC				S	Sn	20 05 23.8	+0.7
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	20 04 42.5	+1.0
ORTC				S	Sn	20 05 25.2	+1.4
APAC	**Apartado, Choc**	**3.58**	**288**	P	Pn	20 04 40.9	-0.9
SJCC	**San Jacinto, C**	**3.68**	**327**	P	Pn	20 04 37.8	-5.3
SJCC				S	Sn	20 05 22.6	-4.1
URMC	**La Uribe, Meta**	**3.74**	**199**	P	Pn	20 04 44.4	+0.5
URMC				S	Sn	20 05 29.2	+1.1
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	P	Pn	20 04 47.1	-2.8
CRJC				S	Sn	20 05 36.2	-2.7
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	20 04 57.9	-2.5
URIC				S	Sn	20 05 55.3	-2.4

*NNC **27** 20:06:01.8±0.2, 42°.91N×75°.18E, h0km, mb2.6, mpv2.7, Error ellipse: s-maj=3.0km s-min=1.3km az=159.0*
*KNET **27** 20:06:01.3±0.3, 42°.90N×75°.16E, h18km±3km, ml1.4, Error ellipse: s-maj=3.7km s-min=2.1km az=9.0*
*KRNET **27** 20:06:01.3±0.1, 42°.92N×75°.18E, h21km, mb2.2*
*SOME **27** 20:06:01.9, 42°.87N×75°.13E, h15km*

ISC 27 20:06:01.3±0.9, 42°.90N±0°.02×75°.18E±0°.01, h16km±7km, n52, σ0s62/99, 38C-20D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.29**	**216**	⇓P	**Pb**	**20 06 08.4**	**+0.1**
	13nm,0.1s,SNR=45						
KBK				⇑S	**Sb**	**20 06 13.3**	**+0.3**
	86nm,0.2s						
KBK	**Karagaybulak**	**0.29**	**216**	⇑*i*P	**Pb**	**20 06 08.1**	**-0.2**
KBK				⇑*i*S	**Sb**	**20 06 12.8**	**-0.2**
TKM2	**Tokmak 2**	**0.31**	**85**	⇑P	**Pb**	**20 06 08.4**	**-0.1**
	26nm,0.1s,SNR=144						
TKM2				⇓S	**Sb**	**20 06 12.9**	**-0.5**
	150nm,0.1s						
TKM2	**Tokmak 2**	**0.31**	**85**	⇑*i*P	**Pg**	**20 06 08.0**	**+0.1**
TKM2				⇑*i*S	**Sg**	**20 06 12.5**	**0.0**
CHMS	**Chumysh**	**0.33**	**288**	⇑P	**Pb**	**20 06 08.5**	**-0.3**
	8.6nm,0.1s,SNR=18						
CHMS				⇑S	**Sg**	**20 06 13.0**	**0.0**
	22nm,0.1s						
CHMS	**Chumysh**	**0.33**	**288**	⇑P	**Pb**	**20 06 08.5**	**-0.3**
	0.8nm,0.1s						
CHMS				⇑S	**Sg**	**20 06 13.1**	**0.0**
	14nm,0.5s						
CHMS	**Chumysh**	**0.33**	**288**	⇑*i*P	**Pg**	**20 06 08.1**	**-0.2**
CHMS				⇑*i*S	**Sg**	**20 06 12.8**	**-0.3**
FRU1	**Bishkek**	**0.41**	**258**	⇑*i*P	**Pg**	**20 06 09.8**	**0.0**
FRU1				⇑*i*S	**Sb**	**20 06 16.0**	**-0.4**
AAK	**Ala-Archa**	**0.57**	**243**	⇑P	**Pb**	**20 06 12.8**	**-0.2**
	4.1nm,0.2s,SNR=13						
AAK				⇓S	**Sb**	**20 06 20.8**	**0.0**
	6.8nm,0.2s						
AAK	**Ala-Archa**	**0.57**	**243**	⇓P	**Pb**	**20 06 13.1**	**+0.1**
	1.6nm,0.3s						
AAK				⇓S	**Sb**	**20 06 20.8**	**0.0**
	7.0nm,0.4s						
AAK	**Ala-Archa**	**0.57**	**243**	⇑*i*P	**Pg**	**20 06 12.6**	**0.0**
AAK				⇑*i*S	**Sg**	**20 06 20.6**	**+0.4**
KST	**Kastek**	**0.59**	**75**	P	**Pb**	**20 06 13.6**	**+0.2**
	2.3nm,0.1s						
KST				S	**Sb**	**20 06 22.0**	**+0.5**
	31nm,0.3s						
KST	**Kastek**	**0.59**	**75**	*e*P	**Pb**	**20 06 13.6**	**+0.2**
	2.3nm,0.1s						
KST				*e*S	**Sb**	**20 06 21.8**	**+0.3**
	31nm,0.3s						
USP	**Ospenovka**	**0.62**	**307**	⇓P	**Pb**	**20 06 13.7**	**-0.1**
	1.7nm,0.1s,SNR=21						
USP				⇑S	**Sg**	**20 06 21.7**	**-0.2**
	14nm,0.1s						
USP	**Ospenovka**	**0.62**	**307**	⇑*i*P	**Pg**	**20 06 13.2**	**-0.4**
USP				⇑*i*S	**Sg**	**20 06 21.5**	**-0.4**
SGDS	**Sogindy**	**0.69**	**324**	P	**Pb**	**20 06 14.8**	**-0.1**
	2.5nm,0.0s						
SGDS				S	**Sg**	**20 06 23.8**	**-0.2**
	12nm,0.1s						
BOOM	**Boomskoye usch**	**0.69**	**126**	⇑*i*P	**Pb**	**20 06 14.9**	**-0.1**
BOOM				⇑*i*S	**Sb**	**20 06 24.6**	**+0.2**
UCH	**Uchtor**	**0.83**	**217**	⇑P	**Pb**	**20 06 17.9**	**+0.3**
	1.3nm,0.1s						
UCH				⇓S	**Sb**	**20 06 29.5**	**+0.8**
	3.4nm,0.1s						
UCH	**Uchtor**	**0.83**	**217**	⇓*i*P	**Pg**	**20 06 17.4**	**-0.2**
UCH				⇓*i*S	**Sb**	**20 06 28.9**	**+0.2**
MTBS	**Maitube**	**0.94**	**75**	P	**Pn**	**20 06 20.0**	**+0.1**
	2.3nm,0.1s						
MTBS				S	**Sn**	**20 06 32.9**	**-0.3**
	6.4nm,0.2s						
MTBS	**Maitube**	**0.94**	**75**	*e*P	**Pn**	**20 06 20.0**	**+0.1**
	2.3nm,0.1s						
MTBS				*e*S	**Sn**	**20 06 32.9**	**-0.3**
	6.4nm,0.2s						
ULHL	**Ulahol**	**1.02**	**129**	⇓P	**Pn**	**20 06 21.6**	**+0.5**
	0.8nm,0.1s						
ULHL				⇑S	**Sn**	**20 06 35.2**	**0.0**
	3.5nm,0.1s						
ULHL	**Ulahol**	**1.02**	**129**	⇑*i*P	**Pb**	**20 06 20.5**	**-0.1**
ULHL				⇑*i*S	**Sg**	**20 06 34.4**	**0.0**
EKS2	**Erkin-Say**	**1.06**	**258**	⇑P	**Pn**	**20 06 21.6**	**0.0**
	1.0nm,0.2s,SNR=7.5						
EKS2				⇑S	**Sn**	**20 06 37.0**	**+1.0**
	1.9nm,0.1s						
EKS2	**Erkin-Say**	**1.06**	**258**	⇑*i*P	**Pb**	**20 06 21.0**	**-0.3**
EKS2				⇑*i*S	**Sb**	**20 06 35.3**	**+0.3**
ARLS	**Aral**	**1.21**	**212**	⇓*e*P	**Pb**	**20 06 24.1**	**+0.1**
ARLS				⇓*i*S	**Sg**	**20 06 40.6**	**0.0**
TNSS	**Tian-Shan**	**1.30**	**83**	*e*P	**Pg**	**20 06 26.4**	**-0.1**
	1.2nm,0.2s						
TNSS				*e*S	**Sg**	**20 06 43.5**	**0.0**
	3.3nm,0.2s						
KUU	**Kurty**	**1.31**	**40**	P	**Pb**	**20 06 25.4**	**0.0**
	0.6nm,0.1s						
KUU				S	**Sn**	**20 06 42.0**	**0.0**
	20nm,0.3s						
KUU	**Kurty**	**1.31**	**40**	*e*P	**Pb**	**20 06 25.4**	**0.0**
	0.6nm,0.1s						
KUU				*e*S	**Sn**	**20 06 42.0**	**0.0**
	20nm,0.3s						
AML	**Almayashu**	**1.34**	**236**	⇓P	**Pg**	**20 06 26.9**	**-0.3**
	0.7nm,0.1s						
AML				⇓S	**Sn**	**20 06 43.9**	**+0.5**
	5.0nm,0.3s						
AML	**Almayashu**	**1.34**	**236**	⇓*i*P	**Pb**	**20 06 26.4**	**+0.2**
AML				⇓*i*S	**Sg**	**20 06 44.3**	**-0.4**
KTBS	**Karatobe**	**1.37**	**53**	P	**Pg**	**20 06 27.2**	**-0.4**
	1.4nm,0.1s						
KTBS				S	**Sg**	**20 06 45.0**	**-0.4**
	10nm,0.3s						
MDOK	**Medeo**	**1.39**	**78**	Pg	**Pg**	**20 06 28.1**	**-0.1**
	1.3nm,0.2s						
MDOK				Lg	Lg	20 06 46.6	
	5.4nm,0.3s						
MRKS	**Merke**	**1.45**	**265**	P	**Pg**	**20 06 28.8**	**-0.4**
	0.5nm,0.1s						
MRKS				S	**Sg**	**20 06 48.0**	**0.0**
	8.1nm,0.2s						
MRKS	**Merke**	**1.45**	**265**	*e*P	**Pg**	**20 06 28.8**	**-0.4**
	0.5nm,0.1s						
MRKS				*e*S	**Sg**	**20 06 48.0**	**0.0**
	8.1nm,0.2s						
KOTS	**Kotyrbulak**	**1.45**	**76**	P	**Pg**	**20 06 29.4**	**+0.1**
	1.9nm,0.2s						
KOTS				S	**Sg**	**20 06 48.7**	**+0.4**
	13nm,0.4s						
KOTS	**Kotyrbulak**	**1.45**	**76**	*e*P	**Pg**	**20 06 29.4**	**+0.1**
	1.9nm,0.2s						
KOTS				*e*S	**Sg**	**20 06 48.7**	**+0.4**
	13nm,0.4s						
NRN	**Naryn**	**1.58**	**157**	⇓*i*P	**Pb**	**20 06 30.6**	**+0.3**
NRN				⇓*i*S	**Sg**	**20 06 51.7**	**-0.7**
CHKK	**Chushkaly**	**1.63**	**53**	P	**Pg**	**20 06 31.9**	**-0.7**
	1.1nm,0.1s						
CHKK				S	**Sg**	**20 06 53.2**	**-0.6**
	19nm,0.2s						
CHKK	**Chushkaly**	**1.63**	**53**	*e*P	**Pg**	**20 06 31.9**	**-0.7**
	1.1nm,0.1s						
CHKK				*e*S	**Sg**	**20 06 53.2**	**-0.6**
	19nm,0.2s						
KDJ	**Kajisay**	**1.66**	**117**	⇑*i*P	**Pb**	**20 06 31.8**	**+0.2**
KDJ				⇑*i*S	**Sg**	**20 06 53.9**	**-1.0**
ANVS	**Anan'yevo**	**1.83**	**93**	⇓*e*P	**Pb**	**20 06 34.2**	**-0.3**
ANVS				⇓*e*S	**Sb**	**20 06 58.1**	**+0.9**
MNAS	**Manas**	**2.02**	**259**	⇑*i*P	**Pb**	**20 06 36.5**	**-1.1**
MNAS				⇑*i*S	**Sb**	**20 07 02.2**	**-0.3**
TARG	**Taragay, Kyrgy**	**2.27**	**120**	⇑*i*P	**Pb**	**20 06 40.4**	**-1.7**
TARG				⇑*i*S	**Sb**	**20 07 08.7**	**-1.3**
ARXS	**Arharly**	**2.33**	**55**	Pg	**Pb**	**20 06 44.2**	**+1.2**
	0.6nm,0.2s						
ARXS				Lg	Lg	20 07 14.3	
	8.8nm,0.3s						
SATY	**Saty**	**2.37**	**85**	Pg	**Pg**	**20 06 46.5**	**-0.3**
	1.8nm,0.2s						
SATY				Lg	Lg	20 07 18.1	
	5.1nm,0.1s						
SATY	**Saty**	**2.37**	**85**	*e*P	**Pb**	**20 06 44.2**	**+0.5**
	0.6nm,0.2s						
SATY				*e*S	**Sb**	**20 07 14.3**	**+1.6**
	8.8nm,0.3s						
ZHN	**Zhinishke**	**2.40**	**82**	Pg	**Pg**	**20 06 47.5**	**+0.1**
	2.0nm,0.1s						
ZHN				Lg	Lg	20 07 19.7	
	12nm,0.2s						
ZHN	**Zhinishke**	**2.40**	**82**	*e*P	**Pg**	**20 06 47.1**	**-0.2**
	1.5nm,0.1s						
ZHN				*e*S	**Sg**	**20 07 18.8**	**+0.3**
	12nm,0.2s						
PRZ	**Przheval'sk**	**2.41**	**99**	⇑*e*P	**Pn**	**20 06 41.8**	**+1.6**
PRZ				⇑*e*S	**Sb**	**20 07 12.1**	**-1.7**
BLB	**Baldybastay**	**2.68**	**62**	Pg	**Pb**	**20 06 50.5**	**+1.5**
	4.8nm,0.4s						
BLB				Lg	Lg	20 07 25.0	
	5.3nm,0.5s						
UZB	**Uzynbulak**	**2.83**	**84**	*e*P	**Pg**	**20 06 53.6**	**-1.9**
	1.7nm,0.2s						
UZB				*e*S	**Sg**	**20 07 30.1**	**-2.0**
	7.7nm,0.7s						

WEL 27 20:25:34.5±0.9, 35°.S±13°.×17°.9E±2°.1, h260km±12km, M3.5/13, mB3.9/1, ML3.7/12, MLv3.5/13, Mw(mB)2.8/1, Error ellipse: s-maj=31.0km s-min=9.1km az=118.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.92**	**198**	P	Pn	20 26 25.8	-0.9
MXZ				S	S	20 27 07.1	-1.0
WMGZ	**Waiomatatini S**	**3.14**	**195**	P	Pn	20 26 28.9	-0.2
WMGZ				S	S	20 27 13.3	+0.9
HAZ	**Te Kaha**	**3.25**	**204**	P	Pn	20 26 30.2	-0.1
HAZ				S	S	20 27 15.6	+1.0
PKGZ	**Pakihiroa**	**3.27**	**199**	P	Pn	20 26 30.2	-0.2
PKGZ				S	S	20 27 16.2	+1.2
PUZ	**Puketiti**	**3.42**	**196**	P	Pn	20 26 31.2	-0.9
PUZ				S	S	20 27 17.8	-0.1
RUGZ	**Raukumara Rang**	**3.48**	**204**	P	Pn	20 26 32.5	-0.4
RUGZ				S	S	20 27 18.3	-1.0
TWGZ	**Tauwhareparae**	**3.58**	**199**	P	Pn	20 26 33.6	-0.4
TWGZ				S	S	20 27 21.4	0.0
CNGZ	**Carnagh Statio**	**3.82**	**195**	P	Pn	20 26 37.0	+0.4
CNGZ				S	S	20 27 26.4	+0.3
MWZ	**Matawai**	**3.86**	**203**	P	Pn	20 26 37.0	-0.1
MWZ				S	S	20 27 27.3	+0.2
TKGZ	**Te Karaka**	**3.87**	**199**	P	Pn	20 26 38.2	+1.1
TKGZ				S	S	20 27 27.8	+0.8
URZ	**Urewera**	**3.94**	**208**	P	Pn	20 26 38.6	+0.6
URZ				S	S	20 27 28.1	-0.5
MUGZ	**Murupara**	**4.26**	**209**	P	Pn	20 26 42.1	+0.3
MUGZ				S	S	20 27 36.5	+1.0
PRGZ	**Paritu Road**	**4.32**	**196**	P	Pn	20 26 42.0	-0.4
PRGZ				S	S	20 27 38.4	+1.9
SNGZ	**Shannon Statio**	**4.33**	**202**	P	Pn	20 26 44.1	+1.6
SNGZ				S	S	20 27 38.3	+1.4
KNZ	**Kokohu**	**4.46**	**198**	P	Pn	20 26 44.5	+0.4
KNZ				S	S	20 27 38.8	-0.7
MTHZ	**Maungataniwha**	**4.56**	**206**	P	Pn	20 26 46.0	+0.7
MTHZ				S	S	20 27 43.6	+1.7
ARHZ	**Aropaoanui**	**4.88**	**203**	P	Pn	20 26 48.9	-0.2
ARHZ				S	S	20 27 49.8	+1.1
KWHZ	**Kaweka Forest**	**5.22**	**207**	P	Pn	20 26 52.8	-0.4
KWHZ				S	S	20 27 56.4	+0.1
KAHZ	**Kahuranaki**	**5.40**	**201**	P	Pn	20 26 56.0	+0.5
KAHZ				S	S	20 28 01.7	+1.5
KRHZ	**Kereru**	**5.43**	**206**	P	Pn	20 26 55.6	-0.2
KRHZ				S	S	20 28 00.0	-0.9
PRHZ	**Porangahau**	**5.91**	**201**	P	Pn	20 27 01.1	-0.5
PRHZ				S	S	20 28 11.5	+0.1
BFZ	**Birch Farm**	**6.41**	**202**	P	Pn	20 27 07

Plg21.0000°, Azm125.0000°; P -3.6411, Plg2.0000°, Azm34.0000°;
NEIC ***27*** *20:27:38.9±1.1, 39°.14N±0°.07×97°.40E±0°.06, h20km±3km, mb5.2/225, Mww5.0/19, ML4.3(BJI) Error ellipse: s-maj=9.8km s-min=6.1km az=167.0*
BGR ***27*** *20:27:48.8, 39°.74N×96°.18E, h33km, mb5.2, Ms4.3, Hypocentre not reviewed by the ISC*
ISC 27 20:27:38.3±0.4, 39°.11N±0°.03×97°.38E±0°.02, h16km±2km, h16km:pP-P, n1120, σ1.39/1171, mb5.2/246, MS4.2/82, 84C-47D, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**1.92**	**80**	Pg	**Pn**	**20 28 09.8**	**-0.6**
GTA				Sg	**Sn**	**20 28 34.5**	**+0.3**
GOMU	**GeErMu**	**3.55**	**216**	Pn	**Pn**	**20 28 34.5**	**+1.5**
GOMU				Pg	**Pb**	**20 28 42.5**	**+1.6**
GOMU				Sn	**Sb**	**20 29 22.5**	**-1.3**
GOMU				Sg	**Sg**	**20 29 31.0**	**-1.3**
GOMU				smax	smax		
	comp=N,2μm,1.0s						
GOMU				smax	smax		
	comp=E,2μm,0.8s						
LZH	**Lanzhou**	**5.96**	**118**	Pn	**Pn**	**20 29 06.8**	**+0.9**
LZH				Pg	**Pb**	**20 29 24.0**	**+2.2**
LZH				Sn	**Sn**	**20 30 15.0**	**+1.1**
LZH				Sg	**Sg**	**20 30 48.5**	**-1.0**
LZH				smax	smax		
	comp=N,1μm,1.3s						
LZH				smax	smax		
	comp=E,1μm,1.4s						
LZH				LR	LR		
	comp=N,9μm,7.2s						
LZH				LR	LR		
	comp=Z,15μm,7.6s						
WMQ	**Urumqi**	**8.66**	**306**	P	**Pn**	**20 29 43.0**	**+0.1**
WMQ				S	**Sn**	**20 31 21.3**	**+1.2**
WMQ				LR	LR		
	comp=N,6μm,6.9s						
WMQ				LR	LR		
	comp=Z,1μm,10.3s						
CD2	**Chengdu**	**9.71**	**145**	P	**Pn**	**20 30 01.5**	**+4.2**
CD2				S	**Sn**	**20 31 52.8**	**+6.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.3s						
CD2				pmax	pmax		
	comp=Z,150nm,5.8s						
CD2				LR	LR		
	comp=N,8μm,7.8s						
CD2				LR	LR		
	comp=Z,9μm,8.5s						
BTO	**Baotou**	**9.84**	**77**	*e*P	**Pn**	**20 29 57.5**	**-1.6**
BTO				pP		20 30 00.0	
BTO				S	**Sn**	**20 31 48.5**	**-0.7**
BTO				pmax	pmax		
	comp=Z,26nm,0.7s						
BTO				LR	LR		
	comp=E,5μm,5.5s						
BTO				LR	LR		
	comp=Z,3μm,6.5s						
XAN	**Xi'an**	**10.57**	**115**	P	**Pn**	**20 30 09.0**	**-0.1**
XAN				S	**Sn**	**20 32 07.5**	**+0.3**
XAN				LR	LR		
	comp=N,3μm,8.3s						
XAN				LR	LR		
	comp=Z,7μm,11.4s						
LSA	**Lhasa**	**10.70**	**211**		**Pn**	**20 30 12.5**	**+1.2**
LSA	**Lhasa**	**10.70**	**211**	P	**Pn**	**20 30 12.5**	**+1.2**
LSA	**Lhasa**	**10.70**	**211**	P	**Pn**	**20 30 13.1**	**+1.8**
SONM	**Songino Array**	**10.90**	**34**		**Pn**	**20 30 13.3**	**-0.3**
SONM	**Songino Array**	**10.90**	**34**	Pn	**Pn**	**20 30 13.5**	**-0.1**
	8.4nm,0.3s,baz=221,slow=14,SNR=292						
SONM				Sn	Sn	20 32 05.9	-9.3
	baz=209,slow=26						
SONM				Lg	Lg	20 33 18.5	
	10nm,0.3s,baz=214,slow=31,SNR=6.1						
	48nm,0.5s						
HHC	**Hu-ho-hao-te**	**11.03**	**76**	*e*P	**Pn**	**20 30 16.3**	**+0.9**
HHC				pP		20 30 22.0	
HHC				S	**Sn**	**20 32 18.5**	**+0.1**
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,97nm,5.9s						
HHC				LR	LR		
	comp=E,3μm,12.6s						
HHC				LR	LR		
	comp=Z,2μm,11.8s						
ULN	**Ulaanbaatar**	**11.21**	**36**		**Pn**	**20 30 17.7**	**-0.3**
ULN	**Ulaanbaatar**	**11.21**	**36**	*c i*P	**Pn**	**20 30 18.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,40nm,0.8s						
TIY	**Taiyuan**	**11.90**	**92**	*e*P	**Pn**	**20 30 25.5**	**-1.8**
TIY				S	**Sn**	**20 32 47.0**	**+7.3**
TIY				pmax	pmax		
	comp=Z,160nm,4.5s						
TIY				LR	LR		
	comp=Z,2μm,7.6s						
TIY				LR	LR		
	comp=Z,3μm,10.3s						
ZAK	**Zakamensk**	**12.02**	**18**	*e*P	**Pn**	**20 30 29.0**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,28nm,1.0s						
ZSN	**Zaisan**	**12.34**	**317**	*e*P	**Pn**	**20 30 32.9**	**-0.3**
ZSN	**Zaisan**	**12.34**	**317**	*e*P	**Pn**	**20 30 33.0**	**-0.3**
LYN	**LuoYang**	**12.92**	**106**	P	**Pn**	**20 30 40.3**	**-0.8**
LYN				pP	P	20 30 43.0	-8.8
LYN				sP		20 30 46.8	
LYN				pmax	pmax		
	comp=Z,36nm,0.6s						
LYN				LR	LR		
	comp=Z,5μm,11.7s						
LYN				LR	LR		
	comp=Z,4μm,13.1s						
PZH	**PanZhiHua**	**13.10**	**162**	P	**Pn**	**20 30 45.8**	**+2.1**
PZH				S	**Sn**	**20 33 16.0**	**+6.9**
PZH				SS	**S**	**20 33 31.3**	**-2.9**
PZH				pmax	pmax		
	comp=Z,20nm,1.5s						
PZH				pmax	pmax		
	comp=Z,340nm,3.5s						
PZH				LR	LR		
	comp=Z,1μm,10.8s						
PZH				LR	LR		
	comp=Z,1μm,9.8s						
ENH	**Enshi**	**13.29**	**128**		**Pn**	**20 30 45.1**	**-1.3**
MK31	**Makanchi Array**	**13.44**	**310**	*c i*P	**Pn**	**20 30 45.2**	**-3.1**
MKAR	**Makanchi Array**	**13.44**	**310**	Pn	**Pn**	**20 30 45.3**	**-2.9**
	comp=Z,1.6nm,0.3s,baz=118,slow=14,SNR=82						
MKAR				Sn	Sn	20 33 05.0	-12
	baz=116,slow=26						
MKAR				Lg	Lg	20 34 40.0	
	comp=Z,0.6nm,0.3s,baz=119,slow=26,SNR=1.2						
MKAR				LR	LR	20 35 48.3	
	comp=Z,309nm,18.1s,baz=121,slow=36						
	comp=Z,9.8nm,0.6s						
MAKZ	**Makanchi**	**13.63**	**309**		**Pn**	**20 30 47.7**	**-3.2**
MAKZ	**Makanchi**	**13.63**	**309**	P	**Pn**	**20 30 47.7**	**-3.2**
HNS	**HongShan**	**13.73**	**92**	⇓P	**Pn**	**20 30 50.0**	**-2.2**
HNS				S	**Sn**	**20 33 23.3**	**-1.0**
HNS				sS	S	20 33 35.5	-11
HNS				SS	**SnSn**	**20 33 44.8**	**+8.4**
HNS				pmax	pmax		
	comp=Z,34nm,1.0s						
HNS				LR	LR		
	comp=Z,930nm,8.8s						
HNS				LR	LR		
	comp=Z,2μm,8.2s						
HNS				LR	LR		
	comp=Z,2μm,8.0s						
GTK	**Tadong**	**13.85**	**215**	*e*P	**Pn**	**20 30 52.2**	**-1.9**
GTK				IAmb	IAmb	20 31 16.6	
	comp=Z,57nm,1.3s						
IRK	**Irkutsk**	**13.98**	**18**	*e*P	**Pn**	**20 30 58.2**	**+2.6**
IRK				pmax	pmax		
	comp=Z,155nm,1.6s						
WUS	**Wushi**	**14.05**	**284**		**Pn**	**20 30 53.6**	**-3.0**
TNCH	**TengChong**	**14.07**	**176**	P	**Pn**	**20 30 56.5**	**-0.7**
TNCH				PP	**PnPn**	**20 31 07.8**	**+2.7**
TNCH				S	**Sn**	**20 33 34.3**	**+1.2**
TNCH				pmax	pmax		
	comp=Z,19nm,1.4s						
TNCH				pmax	pmax		
	comp=Z,190nm,3.6s						
TNCH				LR	LR		
	comp=Z,1μm,9.6s						
TNCH				LR	LR		
	comp=Z,4μm,10.0s						
SHL	**Shillong**	**14.28**	**201**		Pn	20 30 56.0	-3.9
SHL	**Shillong**	**14.28**	**201**	P	Pn	20 30 56.0	-3.9
BJT	**Baijiatuau**	**14.53**	**80**		**Pn**	**20 31 02.4**	**-0.7**
BJT	**Baijiatuau**	**14.53**	**80**	P	**Pn**	**20 31 02.4**	**-0.7**
IMP	**Imphal**	**14.53**	**193**	*e*P	**Pn**	**20 31 01.8**	**-1.5**
IMP				IAmb	IAmb	20 31 17.4	
	comp=Z,41nm,0.8s						
BJI	**Beijing**	**14.53**	**80**	P	**Pn**	**20 31 04.3**	**+1.1**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BJI				LR	LR		
	comp=Z,950nm,11.9s						
BJI				LR	LR		
	comp=Z,2μm,9.7s						
BJI				LR	LR		
	comp=Z,2μm,9.5s						
KMI	**Kunming**	**14.66**	**160**	P	**P**	**20 31 11.0**	**-0.5**
KMI				pP	Pn	20 31 15.0	+10
KMI				sP		20 31 20.0	
KMI				S	**Sn**	**20 33 48.0**	**+0.5**
KMI				pmax	pmax		
	comp=Z,26nm,1.0s						
KMI				LR	LR		
	comp=Z,1μm,14.0s						
KMI				LR	LR		
	comp=Z,3μm,15.4s						
KMI				LR	LR		
	comp=Z,880nm,11.8s						
PRZ	**Przheval'sk**	**14.76**	**289**	Pn	**Pn**	**20 31 04.9**	**-1.6**
PRZ	**Przheval'sk**	**14.76**	**289**	P	**Pn**	**20 31 04.9**	**-1.6**
XLT	**XiLinHaoTe**	**14.80**	**65**	*e*P	**Pn**	**20 31 04.5**	**-2.4**
XLT				S	**Sn**	**20 33 48.3**	**-2.3**
XLT				SS	**S**	**20 34 11.0**	**+2.1**
XLT				pmax	pmax		
	comp=Z,75nm,1.2s						
XLT				LR	LR		
	comp=Z,5μm,9.2s						
XLT				LR	LR		
	comp=Z,7μm,9.2s						
GYA	**Guiyang**	**14.83**	**146**	⇑P	**Pn**	**20 31 08.0**	**+0.6**
GYA				pmax	pmax		
	comp=Z,20nm,1.4s						
GYA				LR	LR		
	comp=Z,3μm,9.9s						
ZHN	**Zhinishke**	**14.83**	**292**	*e*P	**Pn**	**20 31 07.4**	**0.0**
ZHN	**Zhinishke**	**14.83**	**292**	*e*P	**Pn**	**20 31 07.4**	**0.0**
TARG	**Taragay, Kyrgy**	**15.13**	**286**		**Pn**	**20 31 10.5**	**-1.2**
TARG	**Taragay, Kyrgy**	**15.13**	**286**	P	**Pn**	**20 31 10.5**	**-1.2**
TARG				pmax	pmax		
	comp=Z,12nm,0.9s						
AZL	**Aizawl**	**15.83**	**196**	*e*P	**Pn**	**20 31 19.8**	**-0.8**
AZL				IAmb	IAmb	20 31 30.3	
	comp=Z,109nm,1.1s						
MDOK	**Medeo**	**15.84**	**291**	*e*P	**Pn**	**20 31 20.2**	**-0.4**
MDOK				*e*S	**Sn**	**20 34 16.6**	**+0.8**
MDOK	**Medeo**	**15.84**	**291**	*e*P	**Pn**	**20 31 20.3**	**-0.4**
MDOK				*e*S	**Sn**	**20 34 16.6**	**+0.8**
TNSS	**Tian-Shan**	**15.89**	**291**	*e*P	**Pn**	**20 31 21.4**	**-0.2**
TNSS	**Tian-Shan**	**15.89**	**291**	*e*P	**Pn**	**20 31 21.4**	**-0.2**
TIA	**Tai'an**	**15.90**	**94**	P	**Pn**	**20 31 21.0**	**-0.4**
TIA				SS	**S**	**20 34 37.5**	**+6.1**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TIA				pmax	pmax		
	comp=Z,310nm,4.2s						
TIA				LR	LR		
	comp=Z,3μm,12.1s						
TIA				LR	LR		
	comp=Z,5μm,11.0s						
TIA				LR	LR		
	comp=Z,8μm,10.9s						
AAA	**Alma-Ata**	**15.94**	**291**	*e*P	**Pn**	**20 31 21.7**	**-0.1**
AAA	**Alma-Ata**	**15.94**	**291**	*e*P	**Pn**	**20 31 21.8**	**-0.1**
WHN	**Wuhan**	**16.33**	**116**	P	**P**	**20 31 31.8**	**+2.1**
WHN				pP	**pP**	**20 31 33.8**	**-1.6**
WHN				sP	**sP**	**20 31 40.5**	**+2.5**
WHN				pmax	pmax		
	comp=Z,360nm,1.1s						
WHN				pmax	pmax		
	comp=Z,870nm,4.5s						
WHN				LR	LR		
	comp=Z,4μm,8.7s						
WHN				LR	LR		
	comp=Z,5μm,8.0s						
WHN				LR	LR		
	comp=Z,7μm,7.6s						
KSH	**Kashi**	**16.57**	**278**	P	**P**	**20 31 33.0**	**+0.5**
KSH				pP	P	20 31 37.8	-0.3
KSH				S	**Sn**	**20 34 38.0**	**+4.4**
KSH				SS	**SnSn**	**20 35 00.3**	**+14**
KSH				pmax	pmax		
	comp=Z,59nm,0.9s						
KSH				pmax	pmax		
	comp=Z,310nm,6.5s						
KSH				LR	LR		
	comp=Z,2μm,13.0s						
KSH				LR	LR		
	comp=Z,2μm,12.0s						
KSH				LR	LR		
	comp=Z,2μm,12.3s						
BOOM	**Boomskoye usch**	**16.57**	**289**	Pn	**Pn**	**20 31 26.3**	**-3.8**
BOOM	**Boomskoye usch**	**16.57**	**289**	P	**Pn**	**20 31 26.3**	**-3.8**
BOOM				pmax	pmax		
	comp=Z,138nm,1.5s						
TKM2	**Tokmak 2**	**16.86**	**290**	P	**Pn**	**20 31 31.5**	**-2.2**
	SNR=26						
CNSH	**ChangSha**	**16.90**	**125**	P	**Pn**	**20 31 32.5**	**-1.6**
CNSH				S	**Sn**	**20 34 39.3**	**-2.3**
CNSH				LR	LR		
	comp=Z,3μm,10.2s						
CNSH				LR	LR		
	comp=Z,3μm,9.0s						
CNSH				LR	LR		
	comp=Z,4μm,10.2s						
JOSI	**Joshimath**	**16.91**	**245**	*e*P	**Pn**	**20 31 33.0**	**-1.5**
JOSI				IAmb	IAmb	20 31 42.4	
	comp=Z,101nm,0.8s						
PTH	**Pithoragarh**	**17.06**	**241**	*e*P	**Pn**	**20 31 35.0**	**-1.3**
PTH				*e*S	**Sn**	**20 34 44.9**	**-0.8**
PTH				IAML		20 34 52.7	
	comp=N,16nm,1.6s						
PTH				IAML		20 34 53.4	
	comp=E,13nm,1.3s						
BRDH	**Bariadhala**	**17.10**	**198**	Pn	**Pn**	**20 31 34.8**	**-1.8**
	comp=E,108nm,0.4s,baz=51,slow=14,SNR=4.6						
BRDH				LR	LR	20 39 03.9	
	comp=E,1μm,19.7s,baz=27,slow=40						
CIT	**Chita**	**17.12**	**36**	*e*P	**Pn**	**20 31 37.0**	**+0.2**
CIT				*e*		20 34 40.8	
CIT				pmax	pmax		
	comp=Z,151nm,1.3s						
ZAA0	**Zalesovo Array**	**17.13**	**334**		**Pn**	**20 31 35.5**	**-1.3**
ZAA0				IAmb	IAmb	20 31 41.1	
	comp=Z,407nm,1.8s						
ZALV	**Zalesovo Beam**	**17.13**	**334**		**Pn**	**20 31 35.2**	**-1.6**
ZALV	**Zalesovo Beam**	**17.13**	**334**	P	**Pn**	**20 31 35.9**	**-0.9**
	comp=Z,3.9nm,0.3s,baz=150,slow=10,SNR=59						
ZALV				Lg	Lg	20 36 35.2	
	comp=Z,0.4nm,0.3s,baz=135,slow=25,SNR=7.6						
ZALV				LR	LR	20 38 14.4	
	comp=Z,798nm,18.8s,baz=146,slow=37						
	comp=Z,49nm,0.6s						
ZALV	**Zalesovo Beam**	**17.13**	**334**	*i* P	**P**	**20 31 38.2**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,49nm,0.6s						
KBK	**Karagaybulak**	**17.32**	**289**	P	**Pn**	**20 31 38.1**	**-1.3**
	SNR=38						
KLP	**Kalpa**	**17.32**	**250**	*e*P	**Pn**	**20 31 37.5**	**-2.2**
KLP				IAmb	IAmb	20 31 46.3	
	comp=Z,569nm,1.4s						
CHMS	**Chumysh**	**17.49**	**290**	P	**Pn**	**20 31 40.2**	**-1.2**
	SNR=14						
FRU1	**Bishkek**	**17.56**	**289**		**Pn**	**20 31 40.6**	**-1.7**
FRU1	**Bishkek**	**17.56**	**289**	P	**Pn**	**20 31 40.6**	**-1.7**
FRU1				pmax	pmax		
	comp=Z,51nm,1.1s						
KURBB	**Kurchatov Arra**	**17.57**	**317**	P	**Pn**	**20 31 40.4**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=122,slow=12,SNR=41						
KURBB				Lg	Lg	20 36 49.5	
	comp=Z,0.1nm,0.3s,baz=109,slow=23,SNR=4.9						
KURBB				LR	LR	20 37 37.5	
	comp=Z,204nm,19.1s,baz=139,slow=34						
	comp=Z,98nm,1.0s						
KURK	**Kurchatov**	**17.58**	**317**		**Pn**	**20 31 40.2**	**-2.2**
KURK				IAmb	IAmb	20 31 45.7	
	comp=Z,205nm,1.1s						
KURK	**Kurchatov**	**17.58**	**317**	P	**Pn**	**20 31 40.4**	**-2.0**
GULI	**GuiLin**	**17.60**	**138**	P	**Pn**	**20 31 42.0**	**-0.8**
GULI				pmax	pmax		
	comp=Z,50nm,1.1s						
GULI				pmax	pmax		
	comp=Z,190nm,3.5s						
GULI				LR	LR		
	comp=Z,2μm,10.8s						
GULI				LR	LR		
	comp=Z,1μm,8.2s						
GULI				LR	LR		
	comp=Z,2μm,9.0s						
UCH	**Uchtor**	**17.61**	**287**	P	**P**	**20 31 45.5**	**+1.2**
	SNR=8.4						
SGDS	**Sogindy**	**17.62**	**292**	*e*P	**Pn**	**20 31 43.2**	**+0.1**
SGDS	**Sogindy**	**17.62**	**292**	*e*P	**Pn**	**20 31 43.2**	**+0.1**
AAK	**Ala-Archa**	**17.65**	**289**		**Pn**	**20 31 41.6**	**-1.9**
AAK	**Ala-Archa**	**17.65**	**289**	P	**Pn**	**20 31 42.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=132,slow=10,SNR=14						
AAK				Lg	Lg	20 36 55.4	
	comp=Z,0.1nm,0.3s,baz=129,slow=13,SNR=2.3						
AAK				LR	LR	20 38 49.7	
	comp=Z,646nm,21.6s,baz=100,slow=38						
	comp=Z,9.2nm,0.8s						
AAK	**Ala-Archa**	**17.65**	**289**	P	**Pn**	**20 31 41.8**	**-1.8**
	SNR=14						
AAK	**Ala-Archa**	**17.65**	**289**	*i* P	**Pn**	**20 31 41.4**	**-2.2**
	SNR=14						
USP	**Ospenovka**	**17.70**	**291**	P	**Pn**	**20 31 41.8**	**-2.2**
	SNR=14						
DDI	**Dehra Dun**	**18.12**	**247**	*e*P	**Pn**	**20 31 47.1**	**-2.2**
DDI				IAmb	IAmb	20 31 56.2	
	comp=Z,222nm,1.4s						
BOK	**Bokaro**	**18.12**	**216**	*e*P	**Pn**	**20 31 47.8**	**-1.4**
BOK				IAmb	IAmb	20 31 54.4	
	comp=Z,166nm,1.4s						
EKS2	**Erkin-Say**	**18.18**	**289**	P	**Pn**	**20 31 49.7**	**-0.3**
	SNR=10						
AML	**Almayashu**	**18.22**	**287**	P	**P**	**20 31 52.0**	**+1.1**
	SNR=16						
TKRD	**Thakurdwara**	**18.24**	**243**	*e*P	**Pn**	**20 31 49.5**	**-1.3**
SMLA	**Simla**	**18.33**	**250**	*e*P	**Pn**	**20 31 50.5**	**-1.3**
SMLA				IAmb	IAmb	20 31 57.0	
	comp=Z,385nm,1.1s						
DHRM	**DHARAMSHALA**	**18.42**	**255**	*e*P	**P**	**20 31 51.6**	**-1.5**
DHRM				IAmb	IAmb	20 32 00.6	
	comp=Z,374nm,1.5s						
SLVN	**Son La**	**18.59**	**161**	P	**Pn**	**20 31 55.2**	**+0.2**
BHK	**Bhakra**	**18.73**	**252**	*e*P	**P**	**20 31 51.0**	**-5.3**
BHK				*e*S	**Sn**	**20 35 16.1**	**-10**
BHK				IAML		20 35 34.4	
	comp=E,34nm,1.4s						
BHK				IAML		20 35 39.7	
	comp=N,33nm,1.4s						
SRNI	**Srinagar**	**18.75**	**262**	*e*P	**P**	**20 31 55.8**	**-0.5**
SRNI				IAmb	IAmb	20 32 00.7	
	comp=Z,199nm,0.9s						
THN	**Thein Dam**	**18.77**	**256**	*e*P	**P**	**20 31 54.5**	**-2.2**
THN				IAmb	IAmb	20 32 01.5	
	comp=Z,140nm,1.2s						
NJ2	**Nanjing**	**18.81**	**105**	*e*P	**Pn**	**20 31 58.5**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,330nm,4.5s						
NJ2				LR	LR		
	comp=Z,1μm,7.6s						
NJ2				LR	LR		
	comp=Z,2μm,11.8s						
DL2	**Dalian**	**18.84**	**83**	P	**Pn**	**20 31 58.3**	**+0.4**
DL2				S	**S**	**20 35 30.0**	**-1.0**
DL2				pmax	pmax		
	comp=Z,43nm,1.0s						
DL2				pmax	pmax		
	comp=Z,770nm,5.4s						
DL2				LR	LR		
	comp=Z,2μm,12.8s						
DL2				LR	LR		
	comp=Z,2μm,12.3s						
DL2				LR	LR		
	comp=Z,2μm,9.8s						
FRKB	**FARRUKHABAD**	**18.89**	**237**	*e*P	**P**	**20 31 56.5**	**-1.4**
HIA	**Hailar**	**18.91**	**50**	P	**P**	**20 31 58.3**	**+0.1**
HIA	**Hailar**	**18.91**	**50**	P	**P**	**20 31 58.3**	**+0.1**
HIA				pmax	pmax		
	comp=Z,22nm,0.9s						
ALBI	**Allahabad**	**19.01**	**228**	*e*P	**P**	**20 31 58.3**	**-1.1**
ALBI				*e*S	**Sn**	**20 35 32.7**	**0.0**
ALBI				IAML		20 35 40.8	
	comp=N,35nm,4.0s						
ALBI				IAML		20 35 50.1	
	comp=E,22nm,0.0s						
KNTI	**KHUNTI**	**19.03**	**216**	*e*P	P	20 31 53.1	-6.6
KNTI				IAmb	IAmb	20 32 04.8	
	comp=Z,48nm,1.2s						
UGON	**Onchagaon**	**19.41**	**242**	*e*P	**P**	**20 32 02.7**	**-1.0**
NPLP	**NPLP New Delhi**	**19.72**	**244**	*e*P	**P**	**20 32 05.7**	**-1.5**
NPLP				IAmb	IAmb	20 32 11.5	
	comp=Z,32nm,0.6s						
DRK	**Karamyk**	**19.78**	**279**	P	**P**	**20 32 08.3**	**+0.3**
DRK	**Karamyk**	**19.78**	**279**	P	**P**	**20 32 08.3**	**+0.3**
DRK				pmax	pmax		
	comp=Z,74nm,1.1s						
DZA	**Taraz**	**19.99**	**289**	*e*P	**P**	**20 32 10.0**	**+0.1**
DZA	**Taraz**	**19.99**	**289**	*e*P	**P**	**20 32 10.1**	**+0.1**
SNY	**Shenyang**	**20.09**	**74**	⇓P	**P**	**20 32 11.5**	**+0.4**
SNY				pmax	pmax		
	comp=Z,26nm,0.9s						
SNY				pmax	pmax		
	comp=Z,240nm,3.0s						
SNY				LR	LR		
	comp=Z,660nm,10.9s						
SNY				LR	LR		
	comp=Z,1μm,10.6s						
SNY				LR	LR		
	comp=Z,2μm,11.5s						
NIL	**Nilore**	**20.15**	**262**	P	**P**	**20 32 11.4**	**-0.4**
NIL				IAmb	IAmb	20 32 18.0	
	comp=Z,102nm,0.9s						
NIL	**Nilore**	**20.15**	**262**	P	**P**	**20 32 11.4**	**-0.4**
NIL				pmax	pmax		
	comp=Z,102nm,1.0s						
CHTO	**Chiang Mai**	**20.27**	**176**	P	**P**	**20 32 13.2**	**0.0**
CHTO	**Chiang Mai**	**20.27**	**176**	P	**P**	**20 32 13.2**	**0.0**
CHTO				pmax	pmax		
	comp=Z,85nm,1.3s						
BTK	**Batken**	**20.47**	**281**	P	**P**	**20 32 15.2**	**-0.1**
BTK	**Batken**	**20.47**	**281**	P	**P**	**20 32 15.2**	**-0.1**
BTK				pmax	pmax		
	comp=Z,81nm,1.4s						
KUDL	**Kundal**	**20.50**	**244**	*e*P	**P**	**20 32 14.1**	**-1.5**
KUDL				*e*S	**S**	**20 36 04.1**	**-0.2**
KUDL				IAML		20 36 05.8	
	comp=E,8.2nm,0.5s						
KUDL				IAML		20 36 11.3	
	comp=N,8.6nm,0.8s						
BRZS	**Berezniki**	**20.59**	**310**	*e*P	**P**	**20 32 16.6**	**+0.2**
BRZS	**Berezniki**	**20.59**	**310**	*e*P	**P**	**20 32 16.6**	**+0.2**
KK31	**Karatay Array**	**20.60**	**290**	P	**P**	**20 32 15.4**	**-1.2**
KK31				IAmb	IAmb	20 32 23.8	
	comp=Z,156nm,1.4s						
KK31	**Karatay Array**	**20.60**	**290**	P	**P**	**20 32 15.4**	**-1.2**
KK31				pmax	pmax		
	comp=Z,156nm,1.4s						
KKAR	**Karatay Array**	**20.60**	**290**	P	**P**	**20 32 15.0**	**-1.5**
KKAR	**Karatay Array**	**20.60**	**290**	P	**P**	**20 32 15.0**	**-1.5**
CM31	**Chiang Mai Arr**	**20.63**	**176**	P	**P**	**20 32 16.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**20.63**	**176**	P	**P**	**20 32 16.8**	**-0.2**
CMAR					**PcP**	**20 36 27.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**20.63**	**176**	P	**P**	**20 32 16.5**	**-0.5**
	comp=Z,31nm,0.8s,baz=354,slow=9.5,SNR=65						
CMAR				PcP	**PcP**	**20 36 25.9**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=348,slow=2.1,SNR=5.0						
CMAR				LR	LR	20 41 06.1	
	comp=Z,396nm,19.2s,baz=345,slow=39						
	comp=Z,31nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.63**	**176**	P	**P**	**20 32 16.8**	**-0.2**
CMAR						20 36 27.1	
JHNI	**Jhansi**	**20.89**	**235**	*e*P	**P**	**20 32 18.0**	**-1.8**
JHNI				*e*S	**S**	**20 36 10.5**	**-1.7**
JHNI				IAML		20 36 24.5	
	comp=N,36nm,2.7s						

JHNI IAML 20 36 24.8
comp=E,34nm,2.4s
IUG Iuzhnay 20.94 287 *e*P **P 20 32 20.5 +0.1**
IUG pmax pmax
comp=Z,112nm,1.3s
IUG Iuzhnay 20.94 287 *e*P **P 20 32 20.6 +0.1**
comp=Z,112nm,1.3s
GZH Guangzhou 20.98 135 P **P 20 32 18.0 -2.7**
GZH S **S 20 36 10.5 -3.3**
GZH pmax pmax
comp=Z,86nm,1.1s
GZH LR LR
comp=Z,2μm,8.3s
GZH LR LR
comp=Z,1μm,8.4s
GZH LR LR
comp=Z,2μm,10.3s
GAR Garm 20.99 278 P **P 20 32 19.9 -1.1**
GAR IAmb IAmb 20 32 25.3
comp=Z,233nm,1.3s
SSE Sheshan 21.02 105 P **P 20 32 20.8 -0.3**
SSE pmax pmax
comp=Z,22nm,0.8s
SSE pmax pmax
comp=Z,150nm,3.5s
SSE LR LR
comp=Z,500nm,11.2s
SSE LR LR
comp=Z,760nm,11.2s
BRLS Borolday 21.09 290 *e*P **P 20 32 23.0 +1.2**
BRLS *e*S Sn 20 36 19.4 -3.2
BRLS pmax pmax
comp=Z,95nm,1.8s
BRLS Borolday 21.09 290 *e*P **P 20 32 23.1 +1.2**
comp=Z,95nm,1.8s
BRLS *e*S Sn 20 36 19.4 -3.1
BLSP Bilaspur 21.36 222 *e*P **P 20 32 23.0 -1.9**
BLSP IAmb IAmb 20 32 29.3
comp=Z,137nm,1.4s
SRGN SRI GANGA NAGA 21.37 252 *e*P **P 20 32 23.2 -1.8**
CN2 Changchun 21.50 68 P **P 20 32 26.0 -0.3**
CN2 pP pP 20 32 30.5 -1.6
CN2 sP sP 20 32 34.0 -0.7
CN2 S **S 20 36 17.5 -6.6**
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=Z,3μm,9.0s
CN2 LR LR
comp=Z,2μm,9.0s
CN2 LR LR
comp=Z,3μm,10.0s
BOD Bodaibo 21.62 25 *e*P **P 20 32 28.0 +0.7**
BOD pmax pmax
comp=Z,91nm,1.1s
SIMJ Simiganj 22.05 278 P **P 20 32 31.1 -1.3**
SIMJ IAmb IAmb 20 32 35.7
comp=Z,108nm,1.1s
GUNA GUNA 22.24 235 *e*P **P 20 32 32.0 -2.3**
QIZ Qiongzhong 22.74 148 P **P 20 32 38.6 -1.1**
QIZ Qiongzhong 22.74 148 P **P 20 32 40.3 +0.6**
QIZ S **S 20 36 49.3 +1.5**
QIZ pmax pmax
comp=Z,43nm,0.9s
QIZ pmax pmax
comp=Z,210nm,4.1s
QIZ LR LR
comp=Z,800nm,13.2s
QIZ LR LR
comp=Z,2μm,13.2s
QIZ LR LR
comp=Z,1μm,7.4s
QZH Quanzhou 22.80 122 *e*P **P 20 32 41.5 +1.3**
QZH LR LR
comp=Z,2μm,7.9s
QZH LR LR
comp=Z,2μm,7.5s
QZH LR LR
comp=Z,2μm,10.0s
INCN Inchon 22.98 85 P **P 20 32 41.4 -0.7**
INCN Inchon 22.98 85 P **P 20 32 41.4 -0.7**
INCN pmax pmax
comp=Z,28nm,0.9s
BNX BinXian 23.05 64 ⇑P **P 20 32 42.3 -0.4**
BNX pP **pP 20 32 47.8 -0.7**
BNX sP **sP 20 32 50.5 -0.7**
BNX S **S 20 36 49.3 -3.5**
BNX sS **pS 20 36 59.5 +0.4**
BNX pmax pmax
comp=Z,44nm,0.9s
BNX pmax pmax
comp=Z,350nm,5.4s
BNX LR LR
comp=Z,970nm,10.0s
BNX LR LR
comp=Z,2μm,9.8s
BNX LR LR
comp=Z,3μm,11.4s
KBL Kabul 23.09 267 P **P 20 32 42.9 -0.6**
KBL IAmb IAmb 20 32 51.3
comp=Z,126nm,1.3s
KBL Kabul 23.09 267 P **P 20 32 42.9 -0.6**
KBL pmax pmax
comp=Z,126nm,1.3s
BVAR Borovoye Array 23.15 316 P **P 20 32 44.4 +0.7**
comp=Z,14nm,0.6s,baz=101,slow=10.0,SNR=38
BVAR PcP **PcP 20 36 31.8 0.0**
comp=Z,7.8nm,1.0s,baz=93,slow=7.2,SNR=2.4
BVAR Lg Lg 20 39 37.3
baz=114,slow=29
BVAR LR LR 20 42 06.2
comp=Z,513nm,21.8s,baz=109,slow=38
comp=Z,14nm,0.6s
BHPL Bhopal 23.20 233 *e*P **P 20 32 43.5 -0.9**
BHPL IAmb IAmb 20 32 49.4
comp=Z,551nm,0.1s
BRVK Borovoye 23.22 316 P **P 20 32 44.1 -0.4**
BRVK Borovoye 23.22 316*c i*P **P 20 32 45.2 +0.8**
BRVK pmax pmax
comp=Z,59nm,0.9s
NRDN NARMADA NAGAR 23.74 232 *e*P **P 20 32 49.5 -0.3**
TJN Taejon 23.82 87 P **P 20 32 49.8 -0.6**
TJN Taejon 23.82 87 P **P 20 32 49.8 -0.6**
TJN pmax pmax
comp=Z,283nm,1.3s
NGP Nagpur 23.83 227 *e*P **P 20 32 48.6 -2.0**
HEH HeiHe 23.92 52 *e*P **P 20 32 51.5 +0.2**
HEH PcP **PcP 20 36 35.8 +2.4**
HEH S **S 20 37 08.3 +1.4**
HEH pmax pmax
comp=Z,41nm,1.8s
HEH pmax pmax
comp=Z,470nm,5.2s
HEH LR LR
comp=Z,1μm,8.6s
HEH LR LR
comp=Z,4μm,10.2s
HEH LR LR
comp=Z,5μm,9.7s
KS19 Wonju Array Si 23.93 84 P **P 20 32 51.0 -0.5**
KSAR Wonju Array Be 23.96 84 P **P 20 32 51.4 -0.3**
KSAR Wonju Array Be 23.96 84 P **P 20 32 51.4 -0.3**
KSRS Korea Array 23.98 84 P **P 20 32 50.9 -1.1**
comp=Z,11nm,0.7s,baz=281,slow=11,SNR=49
comp=Z,11nm,0.7s
MDJ Mudanjiang 24.52 67 P **P 20 32 56.3 -0.5**
MDJ Mudanjiang 24.52 67 P **P 20 32 55.0 -1.8**
MDJ pP pP 20 33 01.5 -1.5
MDJ S **S 20 37 16.5 0.0**
MDJ sS sS 20 37 28.3 +1.6
MDJ pmax pmax
comp=Z,15nm,1.5s
MDJ pmax pmax
comp=Z,320nm,4.8s
MDJ LR LR
comp=Z,2μm,6.9s
MDJ LR LR
comp=Z,3μm,10.0s
MDJ LR LR
comp=Z,3μm,10.3s
VIS Vishakhapatnam 24.57 214 *e*P **P 20 32 55.7 -1.8**
VIS IAmb IAmb 20 33 01.6
comp=Z,91nm,1.2s
UBPT Khong Chiam 24.78 161 P **P 20 32 58.8 -0.6**

YHNB Yeheng 24.85 118 P **P 20 33 00.8 +0.7**
ZEA Zeya 25.02 44 *e*P **P 20 33 02.0 +0.7**
ZEA *e*S **S 20 37 20.5 -4.0**
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA pmax pmax
comp=Z,200nm,6.4s
ZEA smax smax
comp=E,600nm,7.3s
ZEA smax smax
comp=N,600nm,12.8s
ZEA MLR MLR
comp=E,2μm,8.0s
ZEA MLR MLR
comp=N,1μm,7.0s
ZEA MLR MLR
comp=Z,2μm,9.0s
SSLB Suanglung 25.16 120 P **P 20 33 02.9 +0.1**
SSLB IAmb IAmb 20 33 08.1
comp=Z,78nm,1.1s
TPUB Ta-pu 25.27 122 P **P 20 33 03.9 0.0**
TPUB IAmb IAmb 20 33 09.2
comp=Z,48nm,1.0s
TWG Pinlang 25.90 122 P **P 20 33 09.5 0.0**
USA0B Ussuriysk Arra 26.23 68 P **P 20 33 11.6 -0.7**
USA0B Ussuriysk Arra 26.23 68*c i*P **P 20 33 12.0 -0.3**
USRK Ussuriysk Ar. 26.23 68 P **P 20 33 11.1 -1.2**
USRK Ussuriysk Ar. 26.23 68 P **P 20 33 12.0 -0.3**
comp=Z,4.6nm,0.8s,baz=258,slow=12,SNR=7.6
USRK LR LR 20 43 18.2
comp=Z,314nm,20.2s,baz=40,slow=36
comp=Z,4.6nm,0.8s
KLR Kul'dur 26.44 56 LR LR 20 43 21.1
comp=Z,361nm,18.6s,baz=205,slow=36
KLR Kul'dur 26.44 56*c i*P **P 20 33 14.2 0.0**
KLR pmax pmax
comp=Z,13nm,1.0s
HYB Hyderabad 27.13 222 *e*P **P 20 33 20.1 -0.6**
HYB *e*S **S 20 37 59.5 +1.0**
JNU Nakatsue 27.61 92 P **P 20 33 25.7 +0.7**
JNU IAmb IAmb 20 33 49.8
comp=Z,87nm,1.8s
JNU Nakatsue 27.61 92 LR LR 20 44 05.5
comp=Z,565nm,19.0s,baz=300,slow=36
AB31 Akbulak array 28.43 303 P **P 20 33 32.1 +0.1**
ABKAR Akbulak array 28.43 303 P **P 20 33 31.9 -0.1**
ABKAR Akbulak array 28.43 303 P **P 20 33 31.8 -0.2**
JOW Kunigami 28.53 106 P **P 20 33 33.5 +0.4**
JOW IAmb IAmb 20 33 37.2
comp=Z,56nm,1.2s
JOW Kunigami 28.53 106 LR LR 20 45 47.5
comp=Z,270nm,19.1s,baz=154,slow=38
GRNR Gornyy 29.65 54⇓*i*P **P 20 33 43.1 +0.2**
GRNR pmax pmax
comp=Z,3.0nm,0.9s
GRNR MLR MLR
comp=E,560nm,12.0s
GRNR MLR MLR
comp=N,720nm,13.0s
GRNR MLR MLR
comp=Z,600nm,10.0s
AKTO Aktyubinsk 29.81 305 LR LR 20 46 37.7
comp=Z,454nm,20.8s,baz=114,slow=38
SVE Sverdlovsk 29.82 319*de*P **P 20 33 45.2 +0.9**
SVE pmax pmax
comp=Z,53nm,1.5s
SVE MLR MLR
comp=Z,452nm,13.0s
YAK Yakutsk 30.22 30 P **P 20 33 47.2 -0.5**
YAK Yakutsk 30.22 30 LR LR 20 46 16.4
comp=Z,676nm,20.6s,baz=226,slow=37
YAK Yakutsk 30.22 30 *e*P **P 20 33 47.6 -0.1**
YAK *e**PP **sP 20 34 00.8 +4.3**
YAK *e* 20 34 45.3
YAK *e* 20 36 47.9
YAK *e*S **S 20 38 46.3 0.0**
YAK *e*SS **ScP 20 40 23.0 -6.7**
YAK *e*SSS SSS 20 40 46.2
YAK *e* 20 44 26.5
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.5s
YAK pmax pmax
comp=E,7.0nm,2.2s
YAK pmax pmax
comp=Z,22nm,1.3s
YAK pmax pmax
comp=N,12nm,1.9s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK smax smax
comp=N,18nm,2.3s
YAK smax smax
comp=E,64nm,4.2s
YAK MLR MLR
comp=Z,164nm,9.0s
YAK MLR MLR
comp=N,52nm,9.0s
YAK MLR MLR
comp=E,122nm,8.0s
NRIK Noril'sk 30.75 353 P **P 20 33 52.6 +0.3**
NRIK IAmb IAmb 20 33 54.2
comp=Z,54nm,0.9s
NRIK Noril'sk 30.75 353 P **P 20 33 52.6 +0.3**
comp=Z,32nm,0.8s,baz=149,slow=7.0,SNR=60
NRIK LR LR 20 46 09.6
comp=Z,323nm,20.8s,baz=176,slow=36
comp=Z,32nm,0.8s
NRIK Noril'sk 30.75 353*c i*P **P 20 33 53.0 +0.7**
NRIK pmax pmax
comp=Z,68nm,1.0s
ARTI Arti 30.86 317 P **P 20 33 53.8 +0.3**
ARTI IAmb IAmb 20 33 57.7
comp=Z,40nm,0.9s
ARTI Arti 30.86 317 LR LR 20 47 24.8
comp=Z,410nm,18.4s,baz=112,slow=38
ARTI Arti 30.86 317*c i*P **P 20 33 54.0 +0.6**
ARTI 20 34 54.9
ARTI S **S 20 39 00.4 +4.0**
ARTI SS **SnSn 20 40 41.0 +5.3**
ARTI pmax pmax
comp=Z,59nm,1.1s
ARTI MLR MLR
comp=Z,374nm,16.0s
MAJO Matsushiro 32.16 82 P **P 20 34 06.0 +0.8**
MAJO IAmb IAmb 20 34 08.2
comp=Z,45nm,1.9s
MAJO Matsushiro 32.16 82 P **P 20 34 06.0 +0.8**
MAJO pmax pmax
comp=Z,45nm,1.9s
MJAR Matsushiro Arr 32.17 82 P **P 20 34 03.8 -1.4**
comp=Z,4.8nm,1.2s,baz=291,slow=9.9,SNR=5.3
MJAR PcP **PcP 20 36 53.7 -0.2**
comp=Z,2.9nm,0.9s,baz=298,slow=3.2,SNR=4.9
MJAR LR LR 20 46 19.6
comp=Z,162nm,19.3s,baz=296,slow=35
comp=Z,4.8nm,1.2s
KULM Kulim 33.80 174 P **P 20 34 18.7 -0.8**
KULM IAmb IAmb 20 34 45.5
comp=Z,42nm,1.5s
ASAJ Asahikawa 33.85 67 LR LR 20 48 32.3
comp=Z,264nm,19.4s,baz=234,slow=37
ASAJ Asahikawa 33.85 67 P **P 20 34 19.3 -0.5**
ASAJ pmax pmax
comp=Z,19nm,0.8s
JKA Kamikawa-asahi 33.85 67 P **P 20 34 19.3 -0.5**
JKA IAmb IAmb 20 34 28.4
comp=Z,19nm,0.8s
JHJ Hachijo jima 2 34.54 87 LR LR 20 50 04.9
comp=Z,311nm,18.5s,baz=257,slow=39
ERM Erimo 34.59 70 P **P 20 34 25.7 -0.5**
ERM IAmb IAmb 20 34 37.3
comp=Z,64nm,1.6s
ERM Erimo 34.59 70 P **P 20 34 25.7 -0.5**
ERM pmax pmax
comp=Z,64nm,1.7s
PALK Pallekele 35.08 210 P **P 20 34 29.9 -0.8**
PALK IAmb IAmb 20 34 36.2
comp=Z,28nm,1.1s
PALK Pallekele 35.08 210 LR LR 20 51 36.6
comp=Z,141nm,18.1s,baz=40,slow=41

PALK Pallekele 35.08 210⇑*e*P **P 20 34 30.8 +0.1**
PALK pmax pmax
comp=Z,14nm,1.0s
KIRV Kirov 36.09 319 LR LR 20 50 25.1
comp=Z,377nm,18.1s,baz=110,slow=38
KIRV Kirov 36.09 319*c i*P **P 20 34 39.3 +0.4**
PSI Prapat 36.17 177 LR LR 20 49 57.6
comp=Z,303nm,20.5s,baz=330,slow=37
TIXI Tiksi 36.29 16 P **P 20 34 39.7 -0.8**
TIXI Tiksi 36.29 16 LR LR 20 49 46.9
comp=Z,337nm,19.5s,baz=262,slow=37
TIXI Tiksi 36.29 16⇑*i*P **P 20 34 39.9 -0.6**
TIXI pmax pmax
comp=Z,19nm,1.1s
BELG Belogornoye 36.44 308 LR LR 20 50 24.1
comp=Z,414nm,18.8s,baz=124,slow=38
BELG Belogornoye 36.44 308*c i*P **P 20 34 42.2 +0.3**
BELG pmax pmax
comp=Z,17nm,0.9s
SHME Shamm 36.80 262 P **P 20 34 47.1 +1.7**
KKM Kota Kinabalu 37.06 148 P **P 20 34 47.0 -0.7**
KKM IAmb IAmb 20 34 52.1
comp=Z,79nm,1.1s
MSFE Esma-Masafi 37.15 261 *i* P **P 20 34 50.2 +1.8**
SNR=5.1
UOSS Minazif 37.33 260 P **P 20 34 48.5 -1.4**
MAK Makhachkala 37.37 292 *e*P P 20 34 45.2 -4.8
MAK *e*S **S 20 40 30.9 -6.3**
MAK *e*SS **SnSn 20 43 16.1 +2.2**
MAK pmax pmax
comp=Z,101nm,1.2s
MAK MLR MLR
comp=Z,479nm,13.0s
AKT Akhty 37.52 290 *e*P **P 20 34 52.5 +1.0**
AKT *e* 20 36 19.6
AKT *e*PPP PPP 20 36 34.6
AKT *e*S **S 20 40 41.9 +2.0**
AKT pmax pmax
comp=Z,48nm,1.1s
AKT MLR MLR
comp=Z,232nm,13.0s
MYKOM Kota Tinggi 37.61 169 P **P 20 34 51.8 -0.5**
GSI Gunungsitoli 37.63 180 P **P 20 34 51.7 -0.7**
GSI IAmb IAmb 20 34 55.8
comp=Z,42nm,1.0s
FAQ Al Faqa, Dubai 37.91 260 P **P 20 34 56.4 +1.6**
ASUD Al Ashush, Dub 38.17 260 P **P 20 34 59.1 +2.1**
BKNI Bangkinang 38.74 174 P **P 20 35 03.1 +1.2**
SBUM Sibu 38.92 156 P **P 20 35 03.1 -0.3**
MA2 Magadan 39.02 40 P **P 20 35 03.1 -0.6**
MA2 Magadan 39.02 40 LR LR 20 51 23.5
comp=Z,449nm,18.4s,baz=267,slow=37
MA2 Magadan 39.02 40*c i*P **P 20 35 03.6 -0.1**
MA2 pmax pmax
comp=Z,15nm,1.1s
GNI Garni 40.05 289 P **P 20 35 12.7 -0.1**
GNI IAmb IAmb 20 35 27.0
comp=Z,86nm,1.2s
GNI Garni 40.05 289 LR LR 20 54 39.2
comp=Z,148nm,18.9s,baz=81,slow=40
GNI Garni 40.05 289*c i*P **P 20 35 15.0 +2.1**
GNI pmax pmax
comp=Z,83nm,1.5s
GNI Garni 40.05 289 P **P 20 35 14.9 +2.1**
GOF Gofitskoye 40.12 297*ce*P **P 20 35 14.6 +1.5**
VRH Novokhopyorsk 40.14 306⇑*i*P **P 20 35 13.6 +0.5**
VRH pmax pmax
comp=Z,60nm,1.2s
SEY Seymchan 40.29 35 LR LR 20 52 35.6
comp=Z,472nm,21.4s,baz=252,slow=37
SEY Seymchan 40.29 35⇑*i*P **P 20 35 14.7 +0.4**
SEY pmax pmax
comp=Z,20nm,1.6s
MZR Muzera 40.48 260 P **P 20 35 16.9 +0.6**
KBZ Khabaz 40.50 295 P **P 20 35 16.4 +0.2**
comp=Z,9.8nm,1.0s,baz=91,slow=5.8,SNR=24
KBZ LR LR 20 53 36.1
comp=Z,146nm,19.7s,baz=65,slow=38
comp=Z,9.8nm,1.0s
KBZ Khabaz 40.50 295*c i*P **P 20 35 17.1 +0.9**
KBZ pmax pmax
comp=Z,27nm,1.4s
KVAR Kislovodsk Arr 40.59 295 LR LR 20 54 27.6
comp=Z,246nm,18.8s,baz=232,slow=40
KIV Kislovodsk 40.59 295 P **P 20 35 16.8 -0.4**
KIV IAmb IAmb 20 35 27.1
comp=Z,77nm,1.3s
KIV Kislovodsk 40.59 295 *e*P **P 20 35 18.3 +1.1**
KIV *e*S **S 20 41 28.3 +2.3**
KIV pmax pmax
comp=Z,43nm,1.1s
KIV MLR MLR
comp=Z,139nm,16.0s
KIV Kislovodsk 40.59 295 *i* P **P 20 35 18.8 +1.6**
SNR=14
SHA1 Shidzhatmaz 40.66 295*c i*P **P 20 35 19.4 +1.5**
DAV Davao City (W) 40.77 134 LR LR 20 54 01.3
comp=Z,359nm,19.6s,baz=322,slow=39
KARS Kars 41.14 290 P **P 20 35 22.9 +1.1**
KARS Kars 41.14 290 P **P 20 35 22.9 +1.1**
KARS pmax pmax
comp=Z,462nm,1.6s
KLMR Klimovskoe 41.37 321 *e*P **P 20 35 21.0 -2.2**
KLMR *e**SP **pP 20 35 25.8 -3.6**
KLMR *e* 20 36 56.6
KLMR *e* 20 37 19.6
KLMR pmax pmax
comp=Z,110nm,1.5s
KLMR MLR MLR
comp=Z,400nm,13.0s
VORR Voronezh 41.66 307⇑*e*P **P 20 35 26.0 +0.3**
VORR pmax pmax
comp=Z,83nm,1.2s
VORD Divnogorie 41.69 306 *e*P **P 20 35 23.4 -2.5**
VORD pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 41.73 307 *e*P **P 20 35 24.0 -2.3**
VSR pmax pmax
comp=Z,40nm,0.9s
LPSR Galich'ya Gora 41.74 309⇑*i*P **P 20 35 26.3 0.0**
LPSR pmax pmax
comp=Z,105nm,1.2s
ERBR Yeremizino-Bor 41.75 298 *e*P **P 20 35 27.0 +0.5**
ERBR pmax pmax
comp=Z,150nm,1.3s
ERBR MLR MLR
comp=Z,357nm,15.0s
LABN Labinsk 41.82 297 *e*P **P 20 35 23.4 -3.7**
LABN *e*S **S 20 41 44.4 +0.4**
LABN pmax pmax
comp=Z,38nm,1.0s
LABN MLR MLR
comp=Z,304nm,14.0s
GEVA Gevas 41.85 287 P **P 20 35 28.7 +1.0**
MOS Moscow 42.29 313 *e*P **P 20 35 30.1 -0.6**
MOS *e* 20 37 08.6
MOS pmax pmax
comp=Z,75nm,0.7s
MOS pmax pmax
comp=Z,100nm,0.6s
MOS MLR MLR
comp=Z,300nm,19.0s
VSLR Vesyoloye 42.58 295*d i*P **P 20 35 35.0 +1.7**
VSLR pmax pmax
comp=Z,71nm,1.2s
SOC Sochi 42.77 295 *e*P **P 20 35 33.3 -1.6**
SOC *e* 20 37 10.0
SOC *e*PPP PPP 20 37 44.1
SOC *e*S **S 20 41 58.7 +0.6**
SOC *e*SS **SS 20 45 07.9 -0.9**
SOC *e*SSS SSS 20 45 42.5
SOC pmax pmax
comp=Z,32nm,1.0s
PEA0B Petropavlovsk- 42.82 50 P **P 20 35 34.8 -0.4**
PEA0B Petropavlovsk- 42.82 50 P **P 20 35 34.8 -0.4**
PEA0B pmax pmax
comp=Z,17nm,1.1s
PETK Petropavlovsk- 42.82 50 P **P 20 35 34.1 -1.1**
PETK Petropavlovsk- 42.82 50 P **P 20 35 34.1 -1.1**
OBN Obninsk 42.92 313 P **P 20 35 35.5 -0.4**
OBN IAmb IAmb 20 35 42.4
comp=Z,62nm,1.0s
OBN Obninsk 42.92 313*c i*P **P 20 35 36.0 +0.1**
OBN *e* 20 37 16.4
OBN *e* 20 37 26.1

OBN *e*PPP PPP 20 37 46.6
OBN *e*S **S** **20 42 02.2 +2.3**
OBN pmax pmax
comp=Z,85nm,1.5s
OBN MLR MLR
comp=Z,240nm,14.0s
KOPT Kop Dagi 43.21 290 P **P** **20 35 38.7 -0.1**
PET Petropavlovsk 43.40 50 *e*P **P** **20 35 43.6 +3.8**
PET *e*S **S** **20 42 04.6 -2.4**
PET MLR MLR
comp=Z,500nm,17.0s
PET MLR MLR
comp=Z,300nm,16.0s
TOLI2 Tolitoli 43.45 145 P **P** **20 35 40.0 -0.6**
TOLI2 IAmb IAmb 20 35 45.5
comp=Z,49nm,1.3s
MARD Mardin 43.89 286 P **P** **20 35 44.5 +0.4**
ANN Anapa 44.06 298 *e*P **P** **20 35 45.4 +0.2**
ANN *e*S **S** **20 42 21.8 +5.0**
ANN pmax pmax
comp=Z,68nm,1.0s
LVZ Lovozero 44.24 331 P **P** **20 35 45.8 -0.6**
LVZ IAmb IAmb 20 35 52.9
comp=Z,42nm,1.1s
LVZ Lovozero 44.24 331 *e*P **P** **20 35 46.5 +0.1**
LVZ pmax pmax
comp=Z,62nm,1.4s
LWLI Liwa 44.34 170 P **P** **20 35 49.4 +1.6**
comp=Z,66nm,1.0s
APSI Ampana 45.64 145 P **P** **20 36 00.0 +2.0**
TOKA Tokat 46.03 292 P **P** **20 36 01.6 +0.6**
SIM Simferopol' 46.30 299 *e*P **P** **20 36 04.1 +1.1**
SIM pmax pmax
comp=Z,65nm,1.0s
SIM MLR MLR
comp=Z,189nm,22.0s
RAYN Ar Rayn 46.35 266 P **P** **20 36 03.9 +0.1**
RAYN Ar Rayn 46.35 266 P **P** **20 36 04.3 +0.5**
RAYN Ar Rayn 46.35 266 *i* P **P** **20 36 04.3 +0.5**
SNR=14
DIKM Dikmen 46.48 294 ⇓P **P** **20 36 06.2 +1.7**
BILL Bilibino 46.57 29 P **P** **20 36 05.3 +0.4**
BILL IAmb IAmb 20 36 06.9
comp=Z,29nm,1.0s
BILL Bilibino 46.57 29*c* *i*P **P** **20 36 05.4 +0.6**
BILL pmax pmax
comp=Z,36nm,1.1s
GAZ Gaziantep 46.59 287 P **P** **20 36 06.2 +0.6**
GAZ IAmb IAmb 20 36 08.6
comp=Z,59nm,1.7s
LEM Lembang 46.68 166 LR LR 20 57 05.1
comp=Z,178nm,19.3s,baz=252,slow=38
TNTI Ternate 46.99 137 P **P** **20 36 08.4 -0.3**
TNTI Ternate 46.99 137 P **P** **20 36 11.1 +2.4**
comp=Z,49nm,1.1s
BNN Bunyan 46.99 290 P **P** **20 36 09.3 +0.6**
BZK Bozkurt 47.27 295 P **P** **20 36 10.4 -0.2**
BZK Bozkurt 47.27 295 ⇓P **P** **20 36 12.3 +1.6**
SMRI Semarang 47.50 162 P **P** **20 36 12.4 -0.2**
SPSI Sidrap Palu 47.59 149 P **P** **20 36 13.9 +0.6**
ARA0 ARCESS Array S 47.68 333 *e*P **P** **20 36 14.2 +0.7**
ARCES ARCESS Array B 47.68 333 P **P** **20 36 13.6 +0.1**
comp=Z,6.7nm,0.8s,baz=72,slow=7.9,SNR=11
ARCES PcP **PcP** **20 37 41.8 -0.9**
comp=Z,14nm,1.0s,baz=83,slow=3.9,SNR=8.9
ARCES LR LR 20 56 39.8
comp=Z,156nm,18.1s,baz=92,slow=37
comp=Z,6.7nm,0.8s
ILGA Ilgaz 47.77 294 P **P** **20 36 14.8 -0.1**
FIA1 FINESS Array S 47.87 322 P **P** **20 36 14.6 -0.3**
FINES FINESS Array B 47.87 322 P **P** **20 36 14.7 -0.3**
FINES FINESS Array B 47.87 322 P **P** **20 36 15.4 +0.4**
comp=Z,20nm,0.8s,baz=90,slow=9.5,SNR=33
FINES LR LR 20 57 32.7
comp=Z,242nm,18.9s,baz=37,slow=38
comp=Z,20nm,0.8s
VSU Vasula 47.93 318*c* *i*P **P** **20 36 14.9 -0.6**
VSU pmax pmax
comp=Z,35nm,1.0s
VSU Vasula 47.93 318 *e*P **P** **20 36 15.5 0.0**
MNK Minsk 47.99 313 *i* P **P** **20 36 17.2 +1.1**
comp=E,7.0nm,0.9s
MNK *i* P **P** **20 36 17.2 +1.1**
comp=N,183nm,14.5s
MNK *i* P **P** **20 36 17.2 +1.1**
comp=Z,19nm,0.9s,baz=79
MNK *i* PP **PP** **20 38 10.4 +2.6**
MNK *i* PPP PPP 20 38 55.1
MNK *i* S **S** **20 43 15.5 +2.5**
MNK *i* SS **SS** **20 46 45.9 +4.5**
MNK *i* SSS SSS 20 47 54.4
MNK *i* LQ LQ 20 52 12.6
MNK *i* LR LR 20 55 12.0
MNK *i* LRM MLR 20 56 38.0
comp=E,165nm,15.8s
MNK *i* LRM MLR 20 57 37.5
comp=N,196nm,15.3s
MNK *i* LRM MLR 20 57 43.2
comp=Z,192nm,15.1s
MNK Minsk 47.99 313 *i* P **P** **20 36 17.1 +1.1**
MNK *i* 20 38 10.4
MNK *i* PPP PPP 20 38 55.1
MNK *i* S **S** **20 43 15.5 +2.5**
MNK *i* SSS SSS 20 47 54.3
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,19nm,0.9s
MNK pmax pmax
comp=N,183nm,14.5s
MNK MLR MLR
comp=E,165nm,16.0s
MNK MLR MLR
comp=N,196nm,15.0s
MNK MLR MLR
comp=Z,192nm,15.0s
AKASG Malin Array Be 48.01 307 P **P** **20 36 15.8 -0.4**
AKASG IAmb IAmb 20 36 23.5
comp=Z,37nm,1.6s
AKASG PcP **PcP** **20 37 43.5 -0.6**
AKASG Malin Array Be 48.01 307 P **P** **20 36 16.4 +0.1**
comp=Z,13nm,0.8s,baz=67,slow=7.4,SNR=41
comp=Z,13nm,0.8s
AKBB Malin Array Si 48.01 307 P **P** **20 36 16.2 -0.1**
AKBB Malin Array Si 48.01 307 P **P** **20 36 16.2 -0.1**
AKBB pmax pmax
comp=Z,54nm,1.2s
KIEV Kiev 48.02 307 P **P** **20 36 15.7 -0.7**
KIEV IAmb IAmb 20 36 22.9
comp=Z,49nm,1.2s
KIEV PcP **PcP** **20 37 43.5 -0.6**
KIEV Kiev 48.02 307 ⇑P **P** **20 36 16.5 +0.2**
KIEV Kiev 48.02 307 P **P** **20 36 16.5 +0.2**
KIEV Kiev 48.02 307 *i* P **P** **20 36 16.6 +0.2**
SNR=26
HOPEN Hopen 48.24 343 *e*P **P** **20 36 19.4 +1.7**
BR131 Keskin Array S 48.28 292 P **P** **20 36 19.2 +0.4**
BR131 IAmb IAmb 20 36 21.1
comp=Z,24nm,1.0s
BR131 Keskin Array S 48.28 292*c* *i*P **P** **20 36 19.6 +0.8**
BRTR Keskin Array B 48.28 292 P **P** **20 36 18.7 -0.1**
BRTR PcP **PcP** **20 37 44.4 -1.1**
BRTR Keskin Array B 48.28 292 P **P** **20 36 19.8 +1.0**
comp=Z,11nm,0.9s,baz=99,slow=7.6,SNR=86
BRTR LR LR 20 59 36.7
comp=Z,126nm,20.1s,baz=83,slow=40
comp=Z,11nm,0.9s
BRTR Keskin Array B 48.28 292 P **P** **20 36 18.7 -0.1**
BRTR 20 37 44.4
KIRS Kirsehir-Merke 48.30 291 ⇑P **P** **20 36 19.8 +1.1**
KEF Keuruu 48.35 323 *e*P **P** **20 36 19.3 +0.5**
NACGM Naroch 48.53 313 ⇑*i*P **P** **20 36 21.8 +1.5**
KAPI Kappang 48.54 150 P **P** **20 36 20.2 -0.5**
KAPI Kappang 48.54 150 P **P** **20 36 20.8 +0.1**
comp=Z,46nm,1.0s,baz=327,slow=6.6,SNR=8.4
KAPI LR LR 20 58 28.8
comp=Z,128nm,18.2s,baz=319,slow=38
comp=Z,46nm,1.0s
SANI Sanana 48.68 140 P **P** **20 36 21.1 -0.7**
comp=Z,507nmcomp=Z,53nm,1.1s
PURM Purcari 48.70 302 ⇓P **P** **20 36 22.7 +1.0**
IIGN Ignalina 48.76 314 *e*P **P** **20 36 22.9 +0.9**
ISAL Salakas 48.77 314 *e*P **P** **20 36 22.9 +0.9**
ANTO Ankara 48.84 293 P **P** **20 36 23.5 +0.5**
ANTO Ankara 48.84 293 ⇓P **P** **20 36 24.7 +1.7**
ANTO Ankara 48.84 293 P **P** **20 36 24.6 +1.7**
MEF Metsahovi 48.85 321 *e*P **P** **20 36 23.3 +0.7**
GUMO Guam 48.87 108 LR LR 20 57 35.4
comp=Z,107nm,19.1s,baz=356,slow=37
SORM Soroca 49.23 304 ⇓P **P** **20 36 25.9 +0.2**
SORM Soroca 49.23 304 P **P** **20 36 25.9 +0.2**
VAF Ylistaro 49.25 325 *e*P **P** **20 36 26.3 +0.7**
KIS Kishinev 49.25 303 ⇑*i*P **P** **20 36 26.0 +0.1**
comp=Z,12nm,1.0s
KIS Kishinev 49.25 303*c* *i*P **P** **20 36 26.0 +0.1**
KIS pmax pmax
comp=Z,12nm,1.0s
MILM Milestii Mici 49.28 303 ⇑*i*P **P** **20 36 26.0 -0.1**
comp=Z,140nm,1.8s
MILM Milestii Mici 49.28 303 *e*PP PP 20 38 26.0 +6.2
MILM *e*L L 20 56 27.0
MILM LRM MLR 20 59 16.0
comp=Z,300nm,11.5s
MILM Milestii Mici 49.28 303 ⇓P **P** **20 36 26.5 +0.4**
MILM Milestii Mici 49.28 303*c* *i*P **P** **20 36 26.0 -0.1**
MILM *e* 20 38 26.0
MILM pmax pmax
comp=Z,140nm,1.8s
MTSE Matsula 49.40 319 *e*P **P** **20 36 27.6 +0.9**
MMAI Mount Meron Ar 49.62 283 P **P** **20 36 30.1 +1.1**
comp=Z,30nm,1.1s,baz=65,slow=8.4,SNR=31
MMAI PcP **PcP** **20 37 50.8 +0.4**
comp=Z,15nm,1.1s,baz=52,slow=2.4,SNR=5.5
comp=Z,30nm,1.1s
BJO1 Bjornoya 49.66 340 *e*P **P** **20 36 28.4 -0.2**
MDUB Mudurnu 49.77 294 P **P** **20 36 30.0 0.0**
JAGI Jajag, Banyuwa 49.84 158 P **P** **20 36 30.2 -0.5**
JAGI IAmb IAmb 20 36 33.3
comp=Z,32nm,0.9s
VSVD Vaisvydziai 49.89 315 *e*P **P** **20 36 31.1 +0.5**
PABE Paberze 49.98 315 P **P** **20 36 31.2 -0.1**
PABE Paberze 49.98 315 *e*P **P** **20 36 32.4 +1.1**
RAF Rauma 49.99 322 *e*P **P** **20 36 31.6 +0.4**
TPGR Topolog 50.18 300 ⇓P **P** **20 36 34.3 +1.3**
SPB2 Spitsbergen Ar 50.22 345 P **P** **20 36 33.4 +0.5**
SPB2 IAmb IAmb 20 36 35.0
comp=Z,48nm,1.1s
SPA0 Spitsbergen Ar 50.22 345 *e*P **P** **20 36 32.1 -0.7**
SPITS Spitsbergen Ar 50.22 345 P **P** **20 36 33.1 +0.2**
comp=Z,35nm,1.0s,baz=114,slow=10,SNR=12
SPITS LR LR 21 01 40.1
comp=Z,366nm,18.5s,baz=57,slow=41
comp=Z,35nm,1.0s
SPITS Spitsbergen Ar 50.22 345 P **P** **20 36 33.4 +0.5**
GHAJ Ghor Haditha 50.25 281 P **P** **20 36 33.3 -0.4**
GHAJ IAmb IAmb 20 36 48.8
comp=Z,44nm,1.4s
CFR Carcaliu 50.27 301 ⇑P **P** **20 36 34.0 +0.4**
CFR Carcaliu 50.27 301 P **P** **20 36 34.0 +0.4**
TIRR Tirgusor 50.32 300 P **P** **20 36 33.9 -0.1**
TIRR Tirgusor 50.32 300 P **P** **20 36 33.9 -0.1**
TIRR pmax pmax
comp=Z,16nm,1.1s
CSS Mathiatis 50.35 286 P **P** **20 36 33.3 -1.1**
HSPB Hornsund (broa 50.44 343 *e*P **P** **20 36 35.5 +1.0**
BORA Eskisehir 50.51 293 P **P** **20 36 35.0 -0.6**
BORA IAmb IAmb 20 36 41.8
comp=Z,47nm,1.6s
PANC Panciu 50.70 302 ⇓P **P** **20 36 38.9 +2.0**
SUW Suwalki 50.78 313 *e*P **P** **20 36 37.6 +0.2**
SUW Suwalki 50.78 313 P **P** **20 36 36.8 -0.6**
SUW Suwalki 50.78 313 P **P** **20 36 36.8 -0.6**
SUW Suwalki 50.78 313 *e*P **P** **20 36 37.9 +0.5**
TESR Tescani 50.82 303 ⇓P **P** **20 36 38.8 +1.0**
ICOR Ion Corvin 50.85 299 ⇓P **P** **20 36 40.1 +2.1**
PBUR Paburge 50.97 316 *e*P **P** **20 36 39.2 +0.5**
VRI Vrincioaia 50.98 302 ⇓P **P** **20 36 40.8 +1.7**
VRI Vrincioaia 50.98 302 P **P** **20 36 40.7 +1.7**
PLOR Plostina 51.04 302 ⇓P **P** **20 36 41.3 +1.8**
PLOR Plostina 51.04 302 P **P** **20 36 41.3 +1.8**
ONER Baraj Valea Uz 51.05 303 ⇑P **P** **20 36 41.0 +1.5**
KBS Kingsbay 51.07 346 P **P** **20 36 39.5 +0.3**
KBS IAmb IAmb 20 38 09.7
comp=Z,44nm,1.3s
KBS Kingsbay 51.07 346 P **P** **20 36 39.5 +0.3**
KBS pmax pmax
comp=Z,44nm,1.3s
BISRR Bisoca 51.10 302 ⇓P **P** **20 36 42.1 +2.1**
ISP Isparta 51.26 291 P **P** **20 36 40.5 -0.9**
ISP Isparta 51.26 291 *e*P **P** **20 36 41.6 +0.2**
ISP pmax pmax
comp=Z,84nm,0.9s
ISP Isparta 51.26 291 *e*P **P** **20 36 42.5 +1.1**
COVR Voineasa-Covas 51.33 302 ⇑P **P** **20 36 43.6 +1.8**
ISR Istrita 51.35 301 ⇑P **P** **20 36 43.8 +1.8**
ISR Istrita 51.35 301 P **P** **20 36 43.7 +1.8**
BURAR Bucovina Array 51.40 305 ⇑P **P** **20 36 43.0 +0.7**
BURAR Bucovina Array 51.40 305 P **P** **20 36 43.0 +0.7**
BUR08 Bucovina Ar. S 51.40 305 P **P** **20 36 42.0 -0.3**
NEHR Nehoiu 51.41 302 ⇓P **P** **20 36 44.6 +2.3**
PRD Provadia 51.45 298 *i* P **P** **20 36 44.3 +1.8**
EIL Elat 51.47 280 LR LR 21 04 18.7
comp=Z,155nm,18.5s,baz=67,slow=43
MLR Muntele Rosu 51.62 302 P **P** **20 36 43.4 -0.6**
MLR IAmb IAmb 20 36 49.1
comp=Z,26nm,1.1s
MLR Muntele Rosu 51.62 302 ⇑P **P** **20 36 44.8 +0.7**
MLR Muntele Rosu 51.62 302 P **P** **20 36 44.7 +0.7**
FAUS Fauske 51.62 331 *e*P **P** **20 36 44.2 +0.7**
DGAR Diego Garcia 51.74 212 ⇑*i*P **P** **20 36 45.6 +0.6**
DGAR pmax pmax
comp=Z,208nm,1.7s
DOPR Dopca 51.83 302 ⇑P **P** **20 36 47.0 +1.6**
RAZG Razgrad 51.92 299 ⇓P **P** **20 36 47.7 +1.6**
BAND Balkesir-Ban 52.00 295 ⇓P **P** **20 36 48.0 +1.2**
ARCR ARCALIA 52.12 304 ⇓P **P** **20 36 49.8 +2.2**
LOF Lofoten 52.13 332 *e*P **P** **20 36 47.2 0.0**
ELL Elmali 52.14 290 P **P** **20 36 47.9 -0.1**
ELL Elmali 52.14 290 P **P** **20 36 47.9 -0.1**
ELL pmax pmax
comp=Z,127nm,1.0s
MOR8 Moi Rana 52.20 329 *e*P **P** **20 36 47.3 -0.5**
VOIR 52.23 302 ⇓P **P** **20 36 49.6 +1.0**
VOIR 52.23 302 P **P** **20 36 49.5 +1.0**
JMB Yambol 52.29 298 *i* P **P** **20 36 50.8 +1.9**
SZH Strazhitsa 52.39 299 *i* P **P** **20 36 51.1 +1.5**
MANT Manisa 52.41 293 P **P** **20 36 49.3 -0.8**
R9F13 Warsaw-Wawer 52.47 311 *e*P **P** **20 36 50.8 +0.8**
BMR Baia Mare 52.48 305 ⇓P **P** **20 36 52.0 +1.8**
BMR Baia Mare 52.48 305 P **P** **20 36 52.0 +1.8**
ARR Arges 52.53 302 ⇓P **P** **20 36 52.2 +1.5**
AKAS Kas 52.58 290 P **P** **20 36 50.4 -0.8**
COPA Copaceanca 52.58 300 ⇑P **P** **20 36 52.4 +1.4**
HUMR Humele 52.60 301 ⇓P **P** **20 36 52.3 +1.2**
TNR Turnu Rosu 52.67 302 ⇓P **P** **20 36 53.7 +2.0**
TNR Turnu Rosu 52.67 302 P **P** **20 36 53.6 +2.0**
LEIR Leirfjorden 52.73 329 *e*P **P** **20 36 52.1 +0.3**
CJR Cluj-Napoca 52.74 304 ⇓P **P** **20 36 54.1 +1.9**
CJR Cluj-Napoca 52.74 304 P **P** **20 36 54.1 +1.9**
CBBR Cluj-Babes-Bol 52.75 304 ⇑P **P** **20 36 54.2 +2.0**
BEL Belsk 52.79 311 *e*P **P** **20 36 54.0 +1.6**
KOLS Kolonicke sedl 52.83 307 *e*P **P** **20 36 53.6 +0.8**
KOLS pmax pmax
comp=Z,13nm,1.2s
KOLS Kolonicke sedl 52.83 307 *e*P **P** **20 36 53.6 +0.8**
MESR Meseseni 53.01 305 ⇓P **P** **20 36 54.7 +0.6**
MARR Marisel-Cluj 53.06 304 ⇑P **P** **20 36 56.0 +1.4**
CAVK Edirne/Enez-Ca 53.23 296 ⇑P **P** **20 36 56.7 +0.9**
ALN Alexandroupoli 53.23 296 P **P** **20 36 55.4 -0.4**
ALN Alexandroupoli 53.23 296 P **P** **20 36 55.4 -0.4**
DRGR 53.28 304 ⇑P **P** **20 36 57.6 +1.3**
DRGR 53.28 304 P **P** **20 36 57.5 +1.3**
STHS Stebnicka Huta 53.30 308 *e*P **P** **20 36 56.7 +0.4**
STHS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 53.30 308 *e*P **P** **20 36 56.7 +0.4**
KDZ Kurdzhali 53.44 297 *i* P **P** **20 36 58.9 +1.5**
RDO Rodhopi 53.49 297 P **P** **20 36 58.2 +0.5**
NSS Namsos 53.60 328 *e*P **P** **20 36 58.3 +0.1**
GZR Gura Zlata 53.74 303 ⇓P **P** **20 37 01.1 +1.5**
GZR Gura Zlata 53.74 303 P **P** **20 37 01.1 +1.5**
RZN Rozhen 53.83 298 *i* P **P** **20 37 02.4 +1.9**
MPEP Malo Peshtene 53.87 300 *i* P **P** **20 37 02.2 +1.7**
NIE Niedzica 53.88 308 *e*P **P** **20 37 02.1 +1.5**
OJC Ojcow 53.91 309 *e*P **P** **20 37 01.5 +0.8**
OJC Ojcow 53.91 309 P **P** **20 37 00.3 -0.4**
OJC Ojcow 53.91 309 P **P** **20 37 00.3 -0.4**
SURR Surduc 54.04 303 ⇑P **P** **20 37 03.1 +1.5**
HFS Hagfors 54.07 322 P **P** **20 37 01.5 -0.2**
comp=Z,31nm,0.9s,baz=75,slow=6.4,SNR=34
HFS LR LR 21 01 41.3
comp=Z,281nm,19.6s,baz=68,slow=38
comp=Z,31nm,0.9s
KECS Kecovo 54.09 307 *e*P **P** **20 37 03.4 +1.3**
KECS Kecovo 54.09 307 *e*P **P** **20 37 03.4 +1.3**
SIRR Siria 54.15 304 ⇓P **P** **20 37 04.3 +1.8**
HERR Herculane 54.17 302 ⇓P **P** **20 37 04.0 +1.3**
GKP Gorka Klasztor 54.38 313 *e*P **P** **20 37 05.2 +1.2**
GKP Gorka Klasztor 54.38 313 *e*P **P** **20 37 05.3 +1.2**
BZS Buzias 54.42 303 ⇑P **P** **20 37 05.5 +1.0**
BZS Buzias 54.42 303 P **P** **20 37 05.4 +1.0**
PLNA Plana 54.42 299 *i* P **P** **20 37 06.8 +2.1**
LANS Liptovska Anna 54.49 308 *e*P **P** **20 37 06.1 +1.1**
LANS Liptovska Anna 54.49 308 *e*P **P** **20 37 06.1 +1.1**
VTS Vitosha 54.49 299 *i* P **P** **20 37 07.2 +2.0**
MMB Musomishta 54.57 298 *i* P **P** **20 37 07.0 +1.3**
KARP Karpathos 54.66 290 P **P** **20 37 05.3 -1.2**
KARP Karpathos 54.66 290 *e*P **P** **20 37 07.0 +0.6**
PSZ Piszkesteto 54.67 306 P **P** **20 37 06.7 +0.3**
PSZ IAmb IAmb 20 37 14.3
comp=Z,38nm,1.2s
PSZ Piszkesteto 54.67 306 ⇓P **P** **20 37 07.9 +1.6**
PSZ Piszkesteto 54.67 306 P **P** **20 37 07.9 +1.6**
PSZ Piszkesteto 54.67 306 *e*P **P** **20 37 07.8 +1.4**
MDVR Moldovita 54.67 302 ⇑P **P** **20 37 07.5 +1.1**
SOEI Soe 54.68 147 P **P** **20 37 05.3 -1.4**
SOEI Soe 54.68 147 P **P** **20 37 07.4 +0.7**
comp=Z,61nm,1.2s
NC405 NORSAR Array S 54.70 324 P **P** **20 37 06.4 +0.1**
NC405 IAmb IAmb 20 37 07.1
comp=Z,20nm,0.9s
KKB Krupnik 54.88 298 *i* P **P** **20 37 09.6 +1.7**
NC602 NORSAR Array S 54.90 323 *e*P **P** **20 37 08.0 +0.3**
NOR Nord 54.91 351 *i* P **P** **20 37 06.8 -0.7**
NOR IAmb IAmb 20 37 08.4
comp=Z,33nm,1.2s
NB2 NORSAR Subarra 54.96 324 P **P** **20 37 07.9 -0.3**
comp=Z,40nm,1.4s,baz=71,slow=7.9
NB2 NORSAR Subarra 54.96 324 P **P** **20 37 07.9 -0.3**
baz=71,slow=7.9
NOA NORSAR Array B 54.96 324 P **P** **20 37 07.5 -0.7**
comp=Z,6.9nm,0.7s,baz=75,slow=6.9,SNR=26
NOA LR LR 21 00 26.9
comp=Z,202nm,19.6s,baz=60,slow=36
comp=Z,6.9nm,0.7s
BSD Bornholm Skovb 55.05 316 *i* P **P** **20 37 07.2 -1.7**
VYHS Vyhne 55.11 307 *e*P **P** **20 37 10.7 +1.2**
VYHS pmax pmax
comp=Z,44nm,1.4s
VYHS Vyhne 55.11 307 *e*P **P** **20 37 10.7 +1.2**
BOVS Bovan 55.12 301 ⇑P **P** **20 37 10.5 +0.9**
STEB Steborice 55.23 309 *e*P **P** **20 37 11.5 +1.2**
MAUC Maruska 55.41 309 *e*P **P** **20 37 12.9 +1.3**
MORC Moravsky Berou 55.43 309 P **P** **20 37 11.9 +0.2**
MORC IAmb IAmb 20 37 14.1
comp=Z,24nm,1.1s
MORC Moravsky Berou 55.43 309 *e*P **P** **20 37 12.5 +0.7**
MORC Moravsky Berou 55.43 309 ⇑P **P** **20 37 12.7 +0.9**
MORC Moravsky Berou 55.43 309 P **P** **20 37 12.7 +0.9**
VAY Valandovo 55.47 298 *i* P **P** **20 37 13.2 +1.1**
OSL Oslo 55.55 322 *e*P **P** **20 37 13.1 +0.7**
DOMB Dombas 55.60 325 *e*P **P** **20 37 13.1 +0.3**
SRO Srobarova 55.69 307 *e*P **P** **20 37 15.3 +1.7**
SRO pmax pmax
comp=Z,26nm,1.4s
SRO Srobarova 55.69 307 *e*P **P** **20 37 15.3 +1.7**
JAVC Velka Javorina 55.70 308 *e*P **P** **20 37 15.7 +2.0**
FRGS Fruska Gora 55.77 303 ⇑*i*P **P** **20 37 14.7 +0.4**
KRLC Kraliky 55.78 310 *e*P **P** **20 37 15.5 +1.2**
KRLC AMS AMS 21 01 50.0
comp=Z,400nm,18.8s
KRLC Kraliky 55.78 310 *e*P **P** **20 37 15.5 +1.2**
KRLC MLR MLR
comp=Z,400nm,18.8s
KSP Ksiaz 55.78 311 *e*P **P** **20 37 15.3 +1.0**
SMPI Sarmi 55.80 127 P **P** **20 37 19.2 +4.5**
DPC Dobruska-Polom 55.95 310 *e*P **P** **20 37 16.8 +1.3**
DPC Dobruska-Polom 55.95 310 *e*P **P** **20 37 16.8 +1.3**
SMOL Smolenice 55.97 308 *e*P **P** **20 37 17.3 +1.6**
SMOL pmax pmax
comp=Z,12nm,1.2s
CHVC Chvalec 56.02 311 *e*P **P** **20 37 17.3 +1.3**
CHVC Chvalec 56.02 311 *e*P **P** **20 37 17.3 +1.3**
UPC Upice 56.07 310 *e*P **P** **20 37 17.7 +1.4**
UPC Upice 56.07 310 *e*P **P** **20 37 17.7 +1.4**
MOL Molde 56.09 326 *e*P **P** **20 37 17.4 +1.2**
MORH Mrgy, Hungar 56.10 305 ⇑P **P** **20 37 17.3 +0.8**
MODS Modra-Piesok 56.12 308 *e*P **P** **20 37 18.1 +1.4**
MODS pmax pmax
comp=Z,56nm,1.4s
MODS Modra-Piesok 56.12 308 *e*P **P** **20 37 18.1 +1.4**
GAMB Gambell 56.13 32 P **P** **20 37 15.9 -0.5**
baz=291
COP Copenhagen 56.17 317 *i* P **P** **20 37 17.2 +0.2**
VRAC Vranov 56.18 309 LR LR 21 01 54.2
comp=Z,272nm,18.6s,baz=57,slow=37
VRAC Vranov 56.18 309 *e*P **P** **20 37 18.1 +1.0**
VRAC Vranov 56.18 309 ⇑P **P** **20 37 18.1 +1.0**
VRAC Vranov 56.18 309 P **P** **20 37 18.1 +1.0**
KONO Kongsberg 56.18 322 P **P** **20 37 16.8 -0.1**
KONO IAmb IAmb 20 37 18.3
comp=Z,23nm,1.1s
KONO Kongsberg 56.18 322 P **P** **20 37 17.4 +0.5**
KONO Kongsberg 56.18 322 *e*P **P** **20 37 17.4 +0.5**
TEKS Tekeris 56.20 303 ⇑*i*P **P** **20 37 17.3 0.0**
KRUC Moravsky 56.40 309 *e*P **P** **20 37 19.6 +1.0**
SKAR Skarslia 56.42 324 *e*P **P** **20 37 19.8 +1.1**
SJES Sjenica 56.43 301 ⇑*i*P **P** **20 37 20.0 +0.9**
IDI Anoyia 56.44 291 P **P** **20 37 18.7 -0.6**
IDI IAmb IAmb 20 37 23.5
comp=Z,48nm,1.1s
IDI Anoyia 56.44 291 LR LR 21 05 04.5
comp=Z,106nm,20.3s,baz=116,slow=40
AKN Aaknes 56.47 326 *e*P **P** **20 37 19.8 +0.9**
BBLS Lazi&#263i 56.55 302 ⇑*i*P **P** **20 37 20.0 0.0**
IVA Berane 56.64 301 ⇑*i*P **P** **20 37 21.1 +0.5**
RUDO Rudo 56.68 302 ⇑*i*P **P** **20 37 20.4 -0.4**
HAPS Han Pijesak,Bl 56.76 302 ⇑*i*P **P** **20 37 21.9 +0.4**
PLE Pljevlja 56.79 301 ⇑*i*P **P** **20 37 22.5 +0.8**
C16K Lisburne Hills 56.88 26 P **P** **20 37 22.2 +0.4**
C16K IAmb IAmb 20 37 27.2
comp=Z,37nm,1.4s
C16K Lisburne Hills 56.88 26 P **P** **20 37 21.2 -0.5**
baz=293
KOME Kolasin 56.90 301 ⇑*i*P **P** **20 37 23.7 +1.2**
PVCC Panska Ves 56.92 311 *e*P **P** **20 37 23.8 +1.5**
PVCC Panska Ves 56.92 311 *e*P **P** **20 37 23.8 +1.5**
TNA Tin City 56.99 30 P **P** **20 37 22.4 -0.2**
baz=292
RONA Rosalia, Austr 56.99 307 *i* P **P** **20 37 24.1 +1.2**
comp=Z,9.9nm,0.8s,SNR=5.9
PRU Pruhonice 57.15 310 *e*P **P** **20 37 24.9 +0.9**
PRU Pruhonice 57.15 310 *e*P **P** **20 37 24.9 +0.9**
BRG Berggiesshubel 57.15 311 *i* P **P** **20 37 24.7 +0.8**
BRG Amp 20 37 26.1
comp=Z,16nm,1.0s
BRG Berggiesshubel 57.15 311 P **P** **20 37 27.8 +3.8**
BRG Amp 20 37 29.3
comp=Z,17nm,1.0s
BRG Berggiesshubel 57.15 311 *e*P 20 37 24.8
comp=Z,23nm,1.2s,baz=65,slow=7.0
UPM Unac-Piva 57.16 301 ⇑*i*P **P** **20 37 25.5 +1.1**
UPM Unac-Piva 57.16 301 ⇑*i*P **P** **20 37 24.8 +0.4**
CONA Conrad Observa 57.17 308 *i* P **P** **20 37 25.7 +1.4**
comp=Z,26nm,1.4s,SNR=11
GENI Genyem 57.17 126 P P 20 37 29.6 +5.1
BEHE Becsehely 57.19 306 P **P** **20 37 24.4 +0.1**
BEHE IAmb IAmb 20 37 31.9
comp=Z,42nm,1.0s
HOMB Homborsund 57.22 321 *e*P **P** **20 37 24.6 +0.4**
PDG Podgorica 57.25 301 ⇑*i*P **P** **20 37 25.5 +0.7**
DRME Dracevica, Mon 57.41 300 *e*P **P** **20 37 26.4 +0.5**
DRME Dracevica, Mon 57.41 300 ⇑*i*P **P** **20 37 26.6 +0.7**
CEME Cevo 57.43 301 ⇑*i*P **P** **20 37 26.4 +0.2**
JAY Jayapura 57.45 126 P **P** **20 37 26.4 -0.2**
comp=Z,6.8nm,0.8s,baz=63,slow=9.0,SNR=3.8
comp=Z,6.8nm,0.8s
ULC Ulcinj 57.46 300 ⇑*i*P **P** **20 37 26.4 +0.1**
A19K Wainwright 57.48 23 P **P** **20 37 25.0 -1.0**
baz=295

CLL Collm 57.52 312 P P 20 37 26.3 -0.2
CLL IAmb IAmb 20 37 28.3
comp=Z,24nm,1.1s
CLL Collm 57.52 312 *i* P **P 20 37 27.1 +0.5**
CLL *i* 20 38 21.6
CLL pmax pmax
comp=Z,30nm,1.3s
CLL pmax pmax
comp=Z,41nm,2.2s
CLL MLR MLR
comp=Z,300nm,18.3s
CLL Collm 57.52 312 *i* P **P 20 37 27.1 +0.5**
comp=Z,30nm,1.3s
CLL *i* x x 20 37 29.7
comp=Z,27nm,1.2s
CLL *i* PcP **PcP 20 38 21.6 +1.7**
comp=Z,41nm,2.2s
CLL *e*x x 20 38 34.0
CLL *e*PP **PP 20 39 33.0 -0.9**
CLL *e*PPP PPP 20 40 57.0
CLL *e*SS SS 20 49 18.0 +5.4
CLL AMS AMS 21 03 00.0
comp=Z,300nm,18.3s
CLL Collm 57.52 312 *e*P 20 37 27.4
comp=Z,25nm,1.1s,baz=65,slow=7.0
BRY Bratogost 57.53 301⇑*i*P **P 20 37 27.6 +0.6**
BRY Bratogost 57.53 301⇑*i*P **P 20 37 26.9 -0.1**
BUM Brajici-Budva 57.55 301⇑*i*P **P 20 37 27.5 +0.5**
MUD Monsted U'grnd 57.58 319 *i* P **P 20 37 27.8 +0.9**
MUD IAmb IAmb 20 37 29.4
comp=Z,30nm,1.1s
B18K Kokolik River 57.61 24 P **P 20 37 26.9 0.0**
baz=295,SNR=8.8
F14K Arctic Creek 57.63 29 P **P 20 37 26.2 -0.9**
baz=294
BLY Banja Luka 57.64 304⇑*i*P **P 20 37 28.2 +0.7**
ARSA Arzberg 57.65 307 P **P 20 37 27.6 0.0**
ARSA Arzberg 57.65 307 *i* P **P 20 37 28.3 +0.7**
comp=Z,15nm,1.4s,SNR=6.2
A051A Mrakovica 57.71 304⇑*i*P **P 20 37 28.2 +0.1**
BLS5 Blasjo 57.75 323 *e*P **P 20 37 29.0 +0.9**
CKRC Cesky Krumlov 57.75 309 *e*P **P 20 37 29.7 +1.4**
CKRC Cesky Krumlov 57.75 309 *e*P **P 20 37 29.7 +1.4**
HCY Herceg Novi 57.76 301⇑*i*P **P 20 37 28.3 -0.1**
RDOG Red Dog Mine 57.80 26 P **P 20 37 28.0 -0.3**
RDOG Red Dog Mine 57.80 26 P **P 20 37 28.4 +0.1**
baz=295
GORT1 Trebel 57.81 315 *e*P 20 37 30.0
comp=Z,44nm,1.2s,baz=65,slow=7.0
SNART Snartemo 57.82 321 *e*P **P 20 37 29.7 +1.2**
BER Bergen 57.89 324 *e*P **P 20 37 29.5 +0.5**
D17K Noatak River 57.89 26 P **P 20 37 29.5 +0.6**
baz=295,SNR=14
ASK Askoy 57.91 324 *e*P **P 20 37 29.9 +0.7**
BSEG Bad Segeberg 57.98 316 *e*P 20 37 31.2
comp=Z,30nm,1.0s,baz=65,slow=7.0
KHC Kasperske Hory 58.06 310 *e*P **P 20 37 31.6 +1.1**
KHC *e*pP **pP 20 37 36.1 -0.8**
KHC Kasperske Hory 58.06 310 *e*P **P 20 37 31.6 +1.1**
KHC *e**PP **pP 20 37 36.1 -0.8**
STON Ston 58.10 302⇑*i*P **P 20 37 30.6 -0.2**
GEC2 GERESS Array S 58.11 309 P **P 20 37 31.1 +0.2**
GEC2 IAmb IAmb 20 37 33.1
comp=Z,25nm,1.3s
GERES GERESS Array B 58.11 309 P **P 20 37 30.9 0.0**
GERES PcP **PcP 20 38 23.2 +0.7**
GERES GERESS Array B 58.11 309 P **P 20 37 31.4 +0.6**
comp=Z,4.6nm,0.8s,baz=70,slow=5.8,SNR=34
GERES PcP **PcP 20 38 26.1 +3.6**
comp=Z,2.9nm,0.9s,baz=28,slow=6.9,SNR=3.5
GERES LR LR 21 03 03.0
comp=Z,269nm,18.1s,baz=78,slow=37
comp=Z,4.6nm,0.8s
GERES GERESS Array B 58.11 309 P **P 20 37 30.9 0.0**
GERES 20 38 23.2
GEC2 GERESS Array S 58.11 309 *e*P 20 37 31.8
comp=Z,26nm,1.4s,baz=65,slow=7.0
FLTG Flechtingen 58.12 314 *e*P 20 37 31.0
comp=Z,28nm,1.2s,baz=65,slow=7.0
C18K Utukok River 58.12 25 P **P 20 37 30.7 +0.1**
C18K IAmb IAmb 20 37 36.7
comp=Z,18nm,0.9s
C18K Utukok River 58.12 25 P **P 20 37 30.5 -0.1**
baz=296,SNR=17
PERS Pernice 58.16 307 *i* P **P 20 37 31.8 +0.6**
A050A Klekovaca 58.17 304⇑*i*P **P 20 37 32.2 +0.8**
F15K North Star Dit 58.17 29 P **P 20 37 31.4 +0.4**
baz=295
MOA Molln 58.18 308 *i* P **P 20 37 32.4 +1.1**
comp=Z,13nm,1.1s,SNR=10
SOKA Soboth 58.20 307 *i* P **P 20 37 32.1 +0.6**
comp=Z,36nm,1.3s,SNR=21
TANN Tannenbergstha 58.20 311 *e*P 20 37 32.1
comp=Z,10nm,0.9s,baz=65,slow=7.0
NEUB Neuenburg 58.27 312 *e*P 20 37 32.6
comp=Z,46nm,1.3s,baz=65,slow=7.0
A21K Barrow 58.29 21 P **P 20 37 31.5 -0.1**
baz=298,SNR=7.2
PLN Plauen 58.35 312 *e*P 20 37 33.2
comp=Z,9.5nm,1.4s,baz=65,slow=7.0
ANM Nome 58.38 30 P **P 20 37 32.6 +0.2**
baz=295
WET Wettzell 58.48 310 *e*P 20 37 34.7
comp=Z,22nm,1.3s,baz=65,slow=7.0
OBKA Obir 58.57 307⇑*i*P **P 20 37 34.4 +0.3**
OBKA Obir 58.57 307 *i* P **P 20 37 34.6 +0.4**
comp=Z,24nm,1.3s,SNR=12
MANZ Manzenberg 58.58 311 *e*P 20 37 35.3
comp=Z,6.1nm,1.4s,baz=65,slow=7.0
MOX Moxa 58.59 312 *e*P 20 37 35.3
comp=Z,29nm,1.4s,baz=65,slow=7.0
MOX *e*L 21 04 10.4
comp=Z,202nm,20.0s
E17K Hotham Inlet 58.60 27 P **P 20 37 34.7 +0.8**
baz=296,SNR=14
ROTZ Rotzenmuhle 58.62 311 *e*P 20 37 35.5
comp=Z,7.5nm,1.2s,baz=65,slow=7.0
BIOA Bad Ischl, Aus 58.63 308 *i* P **P 20 37 35.5 +1.1**
comp=Z,36nm,1.3s,SNR=12
NRDL Niedersach Rie 58.68 314 *e*P 20 37 36.2
comp=Z,40nm,1.0s,baz=65,slow=7.0
G15K Niukluk 58.71 29 P **P 20 37 34.9 +0.2**
baz=296
B20K Meade River 58.76 23 P **P 20 37 35.2 +0.3**
B20K IAmb IAmb 20 37 41.5
comp=Z,28nm,0.8s
B20K Meade River 58.76 23 P **P 20 37 34.8 -0.1**
baz=299
LJU Ljubljana 58.78 306 *i* P **P 20 37 36.2 +0.7**
LJU *i* PcP **PcP 20 38 25.7 +0.7**
CLZ Clausthal 58.80 314 *e*P 20 37 36.9
comp=Z,31nm,0.8s,baz=65,slow=7.0
E18K Tukpahlearik C 58.87 26 P **P 20 37 36.1 +0.3**
baz=297
A22K Sinclair Lake 58.91 21 P **P 20 37 36.4 +0.5**
baz=300,SNR=49
CEY Cerknica 58.98 306⇑*i*P **P 20 37 37.1 +0.2**
CEY Cerknica 58.98 306 *i* P **P 20 37 37.4 +0.4**
RETH Rethem/Aller, 58.99 315 *e*P 20 37 38.3
comp=Z,133nm,1.4s,baz=65,slow=7.0
KBA Koelnbreinsper 59.07 308 *i* P **P 20 37 38.5 +0.8**
comp=Z,23nm,1.1s,SNR=12
MYKA Terra Mystica 59.08 307 *i* P **P 20 37 37.7 0.0**
comp=Z,4.4nm,0.9s
F17K Baldwin Pennin 59.09 27 P **P 20 37 38.0 +0.7**
baz=297,SNR=18
RJOB Jochberg 59.13 308 *e*P 20 37 39.4
comp=Z,24nm,1.2s,baz=65,slow=7.0
GTTG Gottingen 59.16 313 *e*P 20 37 39.5
comp=Z,40nm,1.0s,baz=65,slow=7.0
G16K Koyuk River 59.17 29 P **P 20 37 38.2 +0.3**
baz=297,SNR=7.7
D19K Kuna River 59.19 25 P **P 20 37 37.8 -0.2**
D19K IAmb IAmb 20 37 43.7
comp=Z,37nm,1.1s
D19K Kuna River 59.19 25 P **P 20 37 38.6 +0.6**
baz=299
PRED Cave del Predi 59.21 307 P **P 20 37 38.5 -0.1**
PRED IAmb IAmb 20 37 44.6
comp=Z,29nm,1.9s
GRA1 Grafenberg Arr 59.23 311 P **P 20 37 38.7 +0.2**
GRF Grafenberg Arr 59.23 311 P **P 20 37 38.7 +0.2**
GRF pmax pmax
comp=Z,35nm,0.9s
GRF Grafenberg Arr 59.23 311 *e*P 20 37 40.1
comp=Z,8.8nm,1.2s,baz=65,slow=7.0
GRF *e*L 21 04 30.7
comp=Z,256nm,18.5s
GRFO Grafenberg 59.23 311 P **P 20 37 39.2 +0.7**
GRFO Grafenberg 59.23 311 P **P 20 37 39.2 +0.7**
GRFO pmax pmax
comp=Z,34nm,0.9s
SKDS Skadanscina 59.32 306⇑*i*P **P 20 37 39.2 -0.1**
LESA Schwarzleotal 59.33 308 *i* P **P 20 37 40.4 +1.0**
comp=Z,40nm,1.0s,SNR=20
SPIA Saint Paul Isl 59.38 39 P **P 20 37 39.3 -0.1**
baz=296
SABO M.te Sabotino 59.39 306 P **P 20 37 39.2 -0.6**
SABO IAmb IAmb 20 37 40.9
comp=Z,39nm,1.1s
UBBA Unterbreizbach 59.45 313 *e*P 20 37 40.9
comp=Z,31nm,1.5s,baz=65,slow=7.0
H16K Elim 59.56 29 P **P 20 37 40.7 +0.1**
baz=298,SNR=7.7
D20K Etivluk River 59.57 24 P **P 20 37 41.2 +0.6**
baz=300
DBG Daneborg 59.57 344 *i* P **P 20 37 39.8 -0.7**
DBG IAmb IAmb 20 37 41.1
comp=Z,53nm,2.1s
F18K Selawik 59.59 27 P **P 20 37 39.8 -0.9**
baz=298
B22K Teshekpuk Lake 59.70 22 P **P 20 37 42.0 +0.6**
baz=302,SNR=34
B21K Ikpikpuk River 59.72 23 P **P 20 37 42.4 +0.8**
baz=301,SNR=24
ABTA Abfaltersbach 59.73 308 *i* P **P 20 37 42.2 0.0**
comp=Z,12nm,0.9s,SNR=9.0
G17K Kiwalik Mounta 59.75 28 P **P 20 37 41.8 -0.1**
baz=298,SNR=7.1
MATE Matera 59.76 300⇓P **P 20 37 42.6 +0.3**
K13K Kusilvak Mount 59.83 33 P **P 20 37 42.0 -0.4**
K13K Kusilvak Mount 59.83 33 P **P 20 37 42.1 -0.4**
baz=297
FUR Furstenfeldbru 59.86 309 *e*P 20 37 44.5
comp=Z,60nm,1.1s,baz=65,slow=7.0
M11K Mekoryuk 59.86 35 P **P 20 37 43.1 +0.5**
baz=297
C21K Knifeblade Rid 59.91 23 P **P 20 37 42.8 -0.2**
baz=301
J14K Nanvaranak Lak 59.91 32 P **P 20 37 43.1 +0.1**
baz=298
E20K Nigu River 59.93 24 P **P 20 37 43.7 +0.5**
baz=300
CIMO Cimolais 59.97 307 P **P 20 37 42.8 -1.0**
CIMO IAmb IAmb 20 37 44.7
comp=Z,43nm,1.5s
E19K Redstone River 59.99 25 P **P 20 37 44.2 +0.6**
baz=300
WTTA Wattenberg 60.04 308 *i* P **P 20 37 45.1 +0.7**
comp=Z,32nm,0.9s,SNR=15
WATA Walderalm 60.04 308 *i* P **P 20 37 45.0 +0.6**
comp=Z,27nm,1.2s,SNR=11
IBBN Ibbenburen 60.06 315 *e*P 20 37 45.5
comp=Z,46nm,1.3s,baz=65,slow=7.0
F19K Shaluckik Mo 60.12 26 P **P 20 37 44.7 +0.3**
baz=300
G18K Tagagawik 60.28 27 P **P 20 37 44.9 -0.6**
G18K Tagagawik 60.28 27 P **P 20 37 45.5 0.0**
baz=300,SNR=9.1
H17K Granite Mounta 60.30 29 P **P 20 37 46.1 +0.5**
baz=299,SNR=12
SQTA Sankt Quirin 60.32 308 *i* P **P 20 37 46.5 +0.2**
comp=Z,49nm,1.4s,SNR=13
MOTA Moosalm 60.33 309 *i* P **P 20 37 46.8 +0.5**
comp=Z,43nm,1.2s
TIP Timpagrande 60.40 298 P **P 20 37 46.5 -0.4**
RETA Reutte 60.47 309 *i* P **P 20 37 48.0 +0.7**
comp=Z,19nm,1.1s,SNR=7.9
I17K Unalakleet 60.51 30 P **P 20 37 47.5 +0.4**
baz=299
MTN Manton Dam 60.52 141 P **P 20 37 46.7 -1.1**
MTN IAmb IAmb 20 37 50.4
comp=Z,16nm,0.8s
MTN Manton Dam 60.52 141 P **P 20 37 49.1 +1.4**
comp=Z,24nm,1.1s
E21K Killik River 60.54 24 P **P 20 37 48.0 +0.7**
baz=302,SNR=7.0
D22K Ayikyak River 60.70 23 P **P 20 37 49.0 +0.6**
baz=303,SNR=19
FETA Feichten 60.70 308 *i* P **P 20 37 49.5 +0.6**
comp=Z,26nm,1.2s,SNR=11
F20K Avaraart Lake 60.71 25 P **P 20 37 47.6 -0.8**
F20K Avaraart Lake 60.71 25 P **P 20 37 48.7 +0.3**
baz=302,SNR=15
G19K Purcell Mounta 60.71 27 P **P 20 37 48.8 +0.3**
baz=301,SNR=14
BUG Bochum--Univer 60.72 314 *e*P 20 37 50.2
comp=Z,38nm,1.3s,baz=65,slow=7.0
H18K Honhosa River 60.76 28 P **P 20 37 49.0 +0.1**
baz=300
C23K Itkillik River 60.78 22 P **P 20 37 49.6 +0.8**
baz=304,SNR=28
UBR Ueberruh 60.78 309 *e*P 20 37 50.3
comp=Z,26nm,0.9s,baz=65,slow=7.0
STU Stuttgart 60.83 311 P **P 20 37 48.7 -0.8**
STU IAmb IAmb 20 37 51.5
comp=Z,19nm,1.0s
STU Stuttgart 60.83 311 P **P 20 37 48.7 -0.8**
STU pmax pmax
comp=Z,19nm,1.0s
STU Stuttgart 60.83 311 *e*P **P 20 37 50.2 +0.7**
STU Stuttgart 60.83 311 *e*P 20 37 50.6
comp=Z,43nm,1.0s,baz=65,slow=7.0
J16K Anvik River 60.84 30 P **P 20 37 48.8 -0.6**
J16K IAmb IAmb 20 37 55.0
comp=Z,27nm,1.2s
J16K Anvik River 60.84 30 P **P 20 37 49.7 +0.3**
baz=300,SNR=12
TEOL Teolo 60.88 306 P **P 20 37 49.3 -0.7**
L14K Kuka Creek 60.94 33 P **P 20 37 50.4 +0.3**
baz=299,SNR=8.1
K15K Wolf Creek Mou 60.96 32 P **P 20 37 50.2 0.0**
K15K IAmb IAmb 20 38 00.9
comp=Z,36nm,1.4s
K15K Wolf Creek Mou 60.96 32 P **P 20 37 50.5 +0.3**
baz=299
INTR Introdacqua 61.00 302 P **P 20 37 50.8 -0.1**
KDU Kakadu 61.05 140 P **P 20 37 50.7 -0.6**
comp=Z,24nm,1.2s
EUNU Eureka 61.07 1 P **P 20 37 51.1 +0.4**
EUNU IAmb IAmb 20 37 53.6
comp=Z,67nm,2.0s
CAMP Campotosto 61.08 303 P **P 20 37 51.0 -0.5**
CAMP IAmb IAmb 20 37 56.0
comp=Z,21nm,0.9s
DAVA Damuels 61.10 309 *i* P **P 20 37 52.7 +1.1**
comp=Z,13nm,0.9s
M13K Dall Lake 61.10 34 P **P 20 37 51.5 +0.3**
baz=299
FUORN Ofenpass-Fuorn 61.17 308 P **P 20 37 51.9 -0.3**
FUORN IAmb IAmb 20 38 02.0
comp=Z,27nm,0.8s
D23K Nanushuk River 61.25 22 P **P 20 37 52.8 +0.7**
baz=305,SNR=17
H19K Roundabout Mou 61.26 27 P **P 20 37 52.3 +0.3**
H19K Roundabout Mou 61.26 27 P **P 20 37 52.4 +0.3**
baz=302,SNR=18
L15K Ungalak Mounta 61.28 32 P **P 20 37 52.3 0.0**
baz=300
DAVOX Davos/Dischmat 61.33 309 LR LR 21 06 17.0
comp=Z,272nm,19.5s,baz=81,slow=38
F21K Alatna River 61.36 25 P **P 20 37 53.5 +0.7**
baz=303,SNR=46
E22K Anaktuvuk Pass 61.38 24 P **P 20 37 53.6 +0.6**
baz=304,SNR=24
J17K VABM Dome 61.38 30 P **P 20 37 52.9 -0.1**
J17K IAmb IAmb 20 37 54.6
comp=Z,49nm,1.9s
J17K VABM Dome 61.38 30 P **P 20 37 53.3 +0.3**
baz=301
C24K Franklin Bluff 61.39 21 P **P 20 37 53.6 +0.7**
baz=306,SNR=17
CEL Celeste 61.44 298 P **P 20 37 53.8 -0.1**
GCSA Galena City Sc 61.51 28 P **P 20 37 54.4 +0.5**
baz=302,SNR=8.8
M14K Bethel 61.54 33 P **P 20 37 54.5 +0.4**
baz=300
BFO Black Forest 61.54 311 P **P 20 37 53.8 -0.6**
BFO IAmb IAmb 20 38 01.3
comp=Z,18nm,1.0s
BFO Black Forest 61.54 311 P **P 20 37 53.8 -0.6**
BFO pmax pmax
comp=Z,19nm,1.0s
BFO Black Forest 61.54 311 *e*P 20 37 55.3
comp=Z,22nm,1.1s,baz=65,slow=7.0
F22K John River 61.62 24 P **P 20 37 55.2 +0.6**
baz=304,SNR=21
D24K Happy Valley 61.69 22 P **P 20 37 55.6 +0.6**
baz=306
G21K Allakaket 61.74 25 P **P 20 37 55.7 +0.3**
baz=304
BTNL Ternell 61.75 314 *d*P **P 20 37 56.2 +0.5**
comp=Z,12nm,1.2s
TOLK Toolik Lake Re 61.77 22 P **P 20 37 55.5 -0.1**
TOLK IAmb IAmb 20 38 01.9
comp=Z,29nm,0.9s
TOLK Toolik Lake Re 61.77 22 P **P 20 37 56.2 +0.5**
baz=306,SNR=28
TUE Stuetta 61.80 308 P **P 20 37 55.8 -0.6**
TUE IAmb IAmb 20 38 11.1
comp=Z,19nm,1.0s
MEM Membach 61.81 314 *d*P **P 20 37 56.9 +0.8**
comp=Z,11nm,1.2s
H20K Anotleneega Mo 61.83 27 P **P 20 37 56.2 +0.1**
baz=303,SNR=19
KNRA Kununurra 61.90 145 P **P 20 37 56.4 -0.5**
KNRA Kununurra 61.90 145 P **P 20 37 56.5 -0.5**
comp=Z,59nm,1.2s
NIKH Nikolski High 62.00 43 P **P 20 37 57.8 +0.4**
baz=299
K17K Iditarod 62.04 30 P **P 20 37 57.9 +0.4**
baz=302
L16K Owhat River 62.09 32 P **P 20 37 57.7 -0.2**
baz=301
NEEM North Greenlan 62.09 353 *i* P **P 20 37 57.8 -0.2**
NEEM IAmb IAmb 20 37 59.3
comp=Z,80nm,1.3s
E23K Chandalar 62.10 23 P **P 20 37 58.1 +0.1**
baz=306,SNR=18
M15K Kasigluk River 62.11 33 P **P 20 37 57.9 0.0**
baz=301
G22K Bettles 62.17 25 P **P 20 37 58.3 +0.1**
baz=305
WLF Walferdange 62.17 313 P **P 20 37 59.4 +0.8**
WLF Walferdange 62.17 313 *d*P **P 20 38 00.3 +1.7**
comp=Z,22nm,1.1s
WLF *d*PP **PP 20 40 14.5 -0.6**
WLF Walferdange 62.17 313 P **P 20 37 59.4 +0.8**
WLF pmax pmax
comp=Z,42nm,1.1s
WLF Walferdange 62.18 313 *e*P 20 38 00.3
comp=Z,48nm,1.2s,baz=65,slow=7.0
J18K Innoko River 62.25 29 P **P 20 37 58.6 -0.4**
J18K Innoko River 62.25 29 P **P 20 37 59.0 +0.1**
baz=302,SNR=11
ECH Echery 62.28 311 P **P 20 37 59.2 -0.2**
ECH IAmb IAmb 20 38 05.6
comp=Z,50nm,1.8s
ECH Echery 62.28 311 P **P 20 37 59.2 -0.2**
ECH pmax pmax
comp=Z,50nm,1.8s
D25K Kavik River 62.28 21 P **P 20 37 59.1 0.0**
D25K IAmb IAmb 20 38 05.2
comp=Z,15nm,0.9s
D25K Kavik River 62.28 21 P **P 20 37 59.7 +0.6**
baz=308,SNR=20
BCLA Clavier 62.30 314 *d*P **P 20 38 00.3 +1.0**
BCLA *d*PcP **PcP 20 38 38.8 -0.2**
BCLA *d*PP **PP 20 40 15.8 -0.3**
C26K Camden Bay 62.31 20 P **P 20 37 59.8 +0.6**
baz=309,SNR=9.6
L17K Donlin 62.34 31 P **P 20 38 00.3 +0.7**
baz=302,SNR=7.0
I20K Naaghedeneel 62.35 27 P **P 20 38 00.4 +0.9**
baz=304,SNR=12
SCO Scoresbysund 62.38 341 P **P 20 37 59.1 -0.5**
SCO IAmb IAmb 20 38 01.2
comp=Z,30nm,1.1s
SCO Scoresbysund 62.38 341 P **P 20 37 59.1 -0.5**
SCO pmax pmax
comp=Z,30nm,1.1s
SCO Scoresbysund 62.38 341 *i* P **P 20 38 00.0 +0.4**
SCO IAmb IAmb 20 38 01.0
comp=Z,29nm,1.1s
J19K Poorman 62.38 28 P **P 20 38 00.1 +0.4**
baz=303,SNR=11
COLD Coldfoot 62.41 24 P **P 20 38 00.5 +0.6**
baz=306,SNR=46
E24K Your Creek 62.43 23 P **P 20 38 00.6 +0.5**
baz=307,SNR=35
BGES Gesves 62.43 314 *d*P **P 20 38 00.7 +0.3**
comp=Z,6.1nm,0.9s
H21K Melozitna Rive 62.46 26 P **P 20 38 00.7 +0.5**
baz=304,SNR=43
O14K Tigyukauivet M 62.59 35 P **P 20 38 01.0 -0.3**
baz=301
N15K Kwethluk River 62.63 33 P **P 20 38 01.0 -0.5**
baz=301
UCC Uccle 62.64 314 *d*P **P 20 38 02.4 +0.7**
BMRD Maredsous 62.65 314 *d*P **P 20 38 03.3 +1.5**
comp=Z,8.4nm,1.0s
M16K Timber Creek 62.66 32 P **P 20 38 02.2 +0.5**
baz=302
FITZ Fitzroy Crossi 62.76 150 P **P 20 38 02.5 -0.2**
FITZ Fitzroy Crossi 62.76 150 P **P 20 38 02.4 -0.3**
comp=Z,4.3nm,1.1s
G23K Bananza Creek 62.77 24 P **P 20 38 02.5 +0.2**
baz=306,SNR=14
H22K Ishtalitna Cre 62.80 25 P **P 20 38 02.9 +0.3**
baz=306
J20K Nowinta River 62.82 28 P **P 20 38 03.0 +0.4**
baz=304,SNR=15
C27K Jago River 62.82 20 P **P 20 38 03.4 +0.8**
baz=310,SNR=30
VAE Valguarnera 62.84 297 LR LR 21 12 45.4
comp=Z,104nm,18.7s,baz=70,slow=43
DOU Dourbes 62.85 314 *d*P **P 20 38 03.5 +0.4**
comp=Z,11nm,1.2s
L18K Granite Mounta 62.94 30 P **P 20 38 03.6 +0.2**
baz=303,SNR=6.5
F24K Squaw Lake 62.95 23 P **P 20 38 04.4 +0.8**
baz=306,SNR=11
I21K Tanana 63.01 26 P **P 20 38 04.5 +0.6**
baz=305,SNR=15
N16K Nishlik Lake 63.03 33 P **P 20 38 04.7 +0.6**
baz=302
M17K Holitna River 63.08 31 P **P 20 38 05.1 +0.6**
baz=303
SENIN Lac Senin/Sane 63.09 309 P **P 20 38 04.1 -1.0**
SENIN IAmb IAmb 20 38 11.9
comp=Z,25nm,1.1s
E25K Arctic Village 63.27 22 P **P 20 38 05.8 +0.2**
baz=309,SNR=18
O15K Ungalikthiuk R 63.27 34 P **P 20 38 05.5 -0.2**
baz=302
K20K Telida 63.31 29 P **P 20 38 06.6 +0.7**
baz=304
H23K Yukon River 63.45 25 P **P 20 38 07.7 +0.8**
baz=307
MBWA Marble Bar 63.50 157 P **P 20 38 07.2 -0.4**
MBWA Marble Bar 63.50 157 P **P 20 38 07.2 -0.4**
comp=Z,54nm,1.0s
F25K Christian Rive 63.58 22 P **P 20 38 08.8 +1.1**
baz=309,SNR=27
G24K Hadweenzic Riv 63.58 24 P **P 20 38 08.7 +1.0**
baz=308,SNR=17
CHUM Lake Minchumin 63.65 28 P **P 20 38 09.1 +1.0**
baz=306,SNR=12
N17K Nushagak Hills 63.66 32 P **P 20 38 08.7 +0.4**
baz=303
L19K White Mountain 63.67 30 P **P 20 38 08.5 +0.1**
L19K IAmb IAmb 20 38 10.2
comp=Z,16nm,1.1s
L19K White Mountain 63.67 30 P **P 20 38 09.2 +0.8**
baz=304,SNR=9.0
M18K Stony River 63.68 31 P **P 20 38 09.1 +0.7**
baz=304,SNR=7.5
O16K Kokwok River B 63.79 33 P **P 20 38 09.2 +0.1**
baz=303
D27M Malcolm River 63.80 20 P **P 20 38 09.7 +0.5**
baz=312,SNR=31
L20K Farewell, AK 63.88 29 P **P 20 38 10.0 +0.2**
baz=305,SNR=8.5
I23K Minto, Yukon-K 63.92 26 P **P 20 38 10.3 +0.4**
baz=307,SNR=17
PSA00 Pilbara Seismi 63.93 157 P **P 20 38 10.0 -0.4**
PSA00 Pilbara Seismi 63.93 157 P **P 20 38 10.0 -0.4**
comp=Z,65nm,1.0s
F26K Sheenjek River 63.95 22 P **P 20 38 10.9 +0.7**
baz=310,SNR=9.8

G25K	Bearman Lake	63.97	23	P	P	20 38 11.5	+1.3
	baz=309,SNR=20						
H24K	Noodor Dome	63.99	25	P	P	20 38 11.0	+0.5
	baz=308,SNR=7.6						
BPAW	Bear Paw Mtn.	63.99	27	P	P	20 38 10.3	-0.2
BPAW				IAmb	IAmb	20 38 16.4	
	comp=Z,18nm,1.0s						
BPAW	Bear Paw Mtn.	63.99	27	P	P	20 38 10.9	+0.4
	baz=306,SNR=19						
BMAR	Burnt Mountain	64.00	22	P	P	20 38 11.1	+0.6
CAST	Castle Rocks	64.00	28	P	P	20 38 10.5	-0.1
CAST				IAmb	IAmb	20 38 12.7	
	comp=Z,58nm,2.0s						
CAST	Castle Rocks	64.00	28	P	P	20 38 11.2	+0.6
	baz=306,SNR=10						
M19K	Big River Lodg	64.01	30	P	P	20 38 11.5	+0.9
	baz=305,SNR=5.8						
N18K	Kilae Creek	64.11	32	P	P	20 38 12.0	+0.7
	baz=304,SNR=6.6						
O17K	Koliganek Bris	64.12	33	P	P	20 38 11.6	+0.3
	baz=304						
BNI	Bardonecchia	64.12	308	P	P	20 38 11.7	-0.1
BNI				IAmb	IAmb	20 38 18.8	
	comp=Z,28nm,1.1s						
BNI	Bardonecchia	64.12	308	P	P	20 38 11.7	-0.1
BNI				pmax	pmax		
	comp=Z,28nm,1.1s						
EKA	Eskdalemuir Ar	64.26	321	P	P	20 38 10.2	-2.1
	comp=Z,7.4nm,1.0s,baz=50,slow=7.9,SNR=6.7						
	comp=Z,7.4nm,1.0s						
PPLA	Purkeypile	64.27	28	P	P	20 38 12.7	+0.2
PPLA	Purkeypile	64.27	28	P	P	20 38 13.1	+0.6
	baz=306,SNR=13						
D28M	Stokes Point	64.32	19	P	P	20 38 13.4	+0.9
	baz=314,SNR=13						
KTH	Kantishna Hill	64.34	27	P	P	20 38 13.1	+0.3
E27K	Coleen River	64.35	21	P	P	20 38 13.3	+0.6
	baz=312,SNR=28						
FYU	Fort Yukon	64.36	23	P	P	20 38 13.3	+0.5
FYU				IAmb	IAmb	20 38 15.3	
	comp=Z,53nm,1.5s						
NEA2	Nenana	64.36	26	P	P	20 38 12.3	-0.6
NEA2				IAmb	IAmb	20 38 14.3	
	comp=Z,23nm,1.3s						
NEA2	Nenana	64.36	26	P	P	20 38 13.0	+0.2
	baz=308,SNR=17						
H25L	Birch Creek	64.37	24	P	P	20 38 13.6	+0.7
	baz=310						
SUMG	Summit	64.47	347	P	P	20 38 12.9	-1.0
SUMG				IAmb	IAmb	20 38 14.8	
	comp=Z,43nm,1.4s						
SUMG	Summit	64.47	347	P	P	20 38 12.9	-1.0
SUMG				pmax	pmax		
	comp=Z,43nm,1.4s						
SUMG	Summit	64.47	347	*i* P	P	20 38 13.0	-0.9
SUMG				IAmb	IAmb	20 38 14.6	
	comp=Z,42nm,1.4s						
M20K	Styx River	64.51	30	P	P	20 38 14.7	+0.7
	baz=306,SNR=9.0						
G26K	Porcupine Rive	64.55	22	P	P	20 38 14.8	+0.8
	baz=311,SNR=17						
POKR	Poker Plat Res	64.58	25	P	P	20 38 14.4	+0.1
	baz=309						
COLA	College	64.60	25	P	P	20 38 15.0	+0.7
COLA	College	64.60	25	P	P	20 38 14.5	+0.1
	baz=309						
N19K	Bonanza Creek	64.60	31	P	P	20 38 15.2	+0.6
	baz=305						
E28M	Babbage River	64.62	20	P	P	20 38 15.1	+0.6
	baz=314,SNR=17						
TRF	Thorofare Moun	64.63	27	P	P	20 38 14.7	-0.2
	baz=307,SNR=6.4						
P17K	Kvichak River	64.72	33	P	P	20 38 14.9	-0.3
	baz=304						
O18K	Koktuh Hills	64.86	32	P	P	20 38 16.1	-0.1
	baz=305						
Q16K	King Salmon	64.92	34	P	P	20 38 16.4	-0.1
	baz=304						
MCK	McKinley	64.94	27	P	P	20 38 16.3	-0.4
	baz=308						
PRP	Porcupine Dome	64.95	24	P	P	20 38 16.9	+0.1
PRP				IAmb	IAmb	20 38 18.8	
	comp=Z,20nm,1.4s						
PRP	Porcupine Dome	64.95	24	P	P	20 38 16.8	-0.1
	baz=310,SNR=5.5						
S14K	Fog Glacier	64.95	37	P	P	20 38 16.9	-0.1
	baz=303						
ILAR	Eielson Array	64.98	25	P	P	20 38 16.0	-0.9
ILAR	Eielson Array	64.98	25	P	P	20 38 15.7	-1.2
	comp=Z,3.7nm,0.9s,baz=294,slow=5.4,SNR=34						
ILAR				LR	LR	21 09 49.3	
	comp=Z,158nm,18.4s,baz=268,slow=39						
	comp=Z,3.7nm,0.9s						
ILAR	Eielson Array	64.98	25	P	P	20 38 16.0	-0.9
O19K	Port Alsworth	65.03	32	P	P	20 38 17.4	+0.2
	baz=306						
SKT	Skwentna	65.06	29	P	P	20 38 17.3	-0.2
SKT	Skwentna	65.06	29	P	P	20 38 17.4	-0.1
	baz=307,SNR=7.2						
P18K	Big Mountain,	65.12	33	P	P	20 38 17.8	-0.1
	baz=305						
RND	Reindeer	65.17	27	P	P	20 38 17.8	-0.5
RND	Reindeer	65.17	27	P	P	20 38 17.8	-0.5
RND				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HDA	Harding Lake	65.19	26	P	P	20 38 17.3	-1.0
	baz=310,SNR=6.9						
E29M	Blow River	65.20	20	P	P	20 38 19.0	+0.7
	baz=315,SNR=32						
CLF	Chambon-Foret	65.22	313	P	P	20 38 19.2	+0.5
A36M	Sachs Harbour	65.23	13	P	P	20 38 18.5	+0.2
	baz=325,SNR=24						
G27K	Doyon Strip	65.27	22	P	P	20 38 18.7	-0.1
	baz=313,SNR=16						
SPCR	Spurr Chakacha	65.27	30	P	P	20 38 19.1	+0.1
	baz=307						
CUT	Chulitna	65.28	28	P	P	20 38 18.5	-0.4
CUT	Chulitna	65.28	28	P	P	20 38 18.9	0.0
	baz=308,SNR=14						
KULLO	Kullorsuaq	65.33	353	*i* P	P	20 38 16.8	-2.2
KULLO				IAmb	IAmb	20 38 19.9	
	comp=Z,71nm,1.5s						
CHGN	Chignik	65.47	36	P	P	20 38 20.0	-0.1
	baz=304						
Q17K	Contact Creek	65.49	34	P	P	20 38 19.5	-0.9
	baz=305						
J25K	Salcha River,	65.59	25	P	P	20 38 19.7	-1.2
	baz=311						
ILSW	Iliamna Southw	65.63	31	P	P	20 38 20.7	-0.6
ILSW				IAmb	IAmb	20 38 28.8	
	comp=Z,13nm,0.9s						
Q18K	Katmai Hardscr	65.64	33	P	P	20 38 20.7	-0.7
	baz=306,SNR=6.5						
SUA	Susitna One	65.68	29	P	P	20 38 21.1	-0.5
SUA				IAmb	IAmb	20 38 24.8	
	comp=Z,22nm,0.8s						
SUA	Susitna One	65.68	29	P	P	20 38 21.4	-0.1
	baz=308,SNR=16						
H27K	Steamboat Moun	65.70	22	P	P	20 38 22.6	+1.0
	baz=313,SNR=23						
M22K	Willow	65.73	29	P	P	20 38 21.5	-0.3
	baz=308						
CHNA	Chernabura Isl	65.74	38	P	P	20 38 21.9	0.0
	baz=304						
ACHA	Angle Creek He	65.76	34	P	P	20 38 21.4	-0.7
P19K	Oil Pt	65.79	32	P	P	20 38 21.9	-0.4
	baz=306,SNR=5.9						
I26K	Coal Creek Min	65.83	24	P	P	20 38 22.4	0.0
	baz=312						
CAPN	Captain Cook N	65.94	30	P	P	20 38 23.1	-0.1
	baz=308						
K24K	Donnelly Dome	65.98	26	P	P	20 38 22.4	-1.0
	baz=311,SNR=6.1						
Q19K	Cape Douglas,	66.05	32	P	P	20 38 22.9	-1.0
	baz=306,SNR=8.2						
I27K	Kandik River	66.11	23	P	P	20 38 24.4	+0.1
	baz=313,SNR=26						
GHO	Glory Hole Cre	66.17	28	P	P	20 38 23.8	-0.9
GHO				IAmb	IAmb	20 38 35.8	
	comp=Z,31nm,1.6s						
RES	Resolute Bay	66.19	4	P	P	20 38 23.9	-0.6
	comp=Z,2.9nm,0.9s,baz=5.7,slow=8.8,SNR=9.5						
	comp=Z,2.9nm,0.9s						
PMR	Palmer	66.20	29	P	P	20 38 24.0	-0.8
PMR				IAmb	IAmb	20 38 29.4	
	comp=Z,16nm,1.0s						
PMR	Palmer	66.20	29	P	P	20 38 24.0	-0.8
PMR				pmax	pmax		
	comp=Z,16nm,1.0s						
PMR	Palmer	66.20	29	P	P	20 38 24.2	-0.6
	baz=309,SNR=8.4						
G29M	Pine Creek	66.23	21	P	P	20 38 24.8	-0.2
	baz=316,SNR=20						
J26L	Joseph Creek	66.25	24	P	P	20 38 24.5	-0.7
	baz=312,SNR=10						
RC01	Rabbit Creek A	66.29	29	P	P	20 38 24.9	-0.5
	baz=309						
RABL	Rabaul	66.31	117	P	P	20 38 26.2	+0.1
LODK	Lodwar	66.32	254	P	P	20 38 25.7	-0.7
LODK				IAmb	IAmb	20 38 32.0	
	comp=Z,28nm,1.6s						
F30M	Barrier River	66.32	20	P	P	20 38 25.8	+0.3
	baz=317,SNR=16						
RIDG	Independent Ri	66.33	25	P	P	20 38 24.7	-1.0
	baz=311,SNR=16						
SML	Sawmill	66.36	28	P	P	20 38 26.5	+0.6
	baz=309,SNR=20						
INK	Inuvik	66.37	18	P	P	20 38 25.2	-0.5
	comp=Z,12nm,0.8s,baz=337,slow=8.2,SNR=47						
INK				LR	LR	21 12 04.0	
	comp=Z,52nm,19.1s,baz=280,slow=40						
	comp=Z,12nm,0.8s						
INK	Inuvik	66.37	18	P	P	20 38 25.9	+0.1
	baz=319,SNR=22						
HOM	Homer	66.43	31	P	P	20 38 25.2	-1.1
	baz=308						
SCRK	Sand Creek	66.46	25	P	P	20 38 26.0	-0.6
	baz=312,SNR=13						
R18K	Karluk	66.52	34	P	P	20 38 25.9	-1.0
	baz=306						
KNK	Knik Glacier	66.57	29	P	P	20 38 26.8	-0.4
KNK				IAmb	IAmb	20 38 32.3	
	comp=Z,33nm,1.2s						
KNK	Knik Glacier	66.57	29	P	P	20 38 27.6	+0.4
	baz=309,SNR=15						
M23K	Glacier View	66.60	28	P	P	20 38 27.1	-0.3
	baz=310,SNR=55						
H29M	Whitestone	66.63	21	P	P	20 38 26.9	-0.6
	baz=316,SNR=8.6						
PAX	Paxson	66.63	26	P	P	20 38 26.9	-0.8
	baz=311						
G30M	tAoh Zraii Nji	66.67	20	P	P	20 38 27.8	0.0
	baz=317,SNR=17						
BRLK	Bradley Lake	66.67	31	P	P	20 38 27.0	-0.9
BRLK				IAmb	IAmb	20 38 33.4	
	comp=Z,24nm,0.9s						
CNPM	China Poot	66.68	31	P	P	20 38 26.4	-1.5
CNPM				IAmb	IAmb	20 38 33.4	
	comp=Z,22nm,0.9s						
O22K	Cooper Landing	66.68	30	P	P	20 38 27.4	-0.4
	baz=309						
SCM	Sheep Creek Mo	66.72	28	P	P	20 38 27.9	-0.2
SCM	Sheep Creek Mo	66.72	28	P	P	20 38 28.0	-0.2
SCM				pmax	pmax		
	comp=Z,32nm,0.8s						
SCM	Sheep Creek Mo	66.72	28	P	P	20 38 28.2	0.0
	baz=310,SNR=23						
I28M	Miner Creek	66.72	23	P	P	20 38 28.3	+0.1
	baz=315,SNR=22						
BRSE	Bradley Lake S	66.74	31	P	P	20 38 27.2	-1.2
	baz=308						
Q20K	Shuyak Island	66.76	32	P	P	20 38 27.7	-0.8
	baz=308						
M24K	Tolsona, Glenn	66.95	27	P	P	20 38 29.8	+0.1
	baz=311,SNR=14						
PWL	Port Wells	66.97	29	P	P	20 38 29.0	-0.8
PWL				IAmb	IAmb	20 38 30.7	
	comp=Z,26nm,1.2s						
PWL	Port Wells	66.97	29	P	P	20 38 29.6	-0.1
	baz=310,SNR=8.4						
F31M	Tsiigehtchic	66.97	19	P	P	20 38 29.4	-0.2
	baz=319						
EPYK	Eagle Plains	66.98	21	P	P	20 38 29.1	-0.6
	baz=317,SNR=9.4						
SEW	Seward	67.02	30	P	P	20 38 29.1	-0.9
SEW				IAmb	IAmb	20 38 32.6	
	comp=Z,16nm,0.8s						
SEW	Seward	67.02	30	P	P	20 38 29.3	-0.8
	baz=309,SNR=7.1						
CHIR	Chirikof Islan	67.03	36	P	P	20 38 30.6	+0.4
	baz=306						
K27K	Chicken	67.05	24	P	P	20 38 30.8	+0.7
	baz=313						
HARP	HAARP	67.12	27	P	P	20 38 30.8	+0.1
	baz=312						
KDAK	Kodiak Island	67.19	33	P	P	20 38 29.3	-1.8
KDAK				IAmb	IAmb	20 38 31.5	
	comp=Z,27nm,1.0s						
KDAK	Kodiak Island	67.19	33	P	P	20 38 29.2	-2.0
	comp=Z,13nm,0.7s,baz=169,slow=4.7,SNR=12						
	comp=Z,13nm,0.7s						
KDAK	Kodiak Island	67.19	33	P	P	20 38 29.3	-1.8
KDAK				pmax	pmax		
	comp=Z,27nm,1.0s						
KDAK	Kodiak Island	67.19	33	P	P	20 38 30.6	-0.5
	baz=308						
G31M	Satah River	67.23	20	P	P	20 38 30.7	-0.5
	baz=319,SNR=16						
OHAK	Old Harbor	67.23	34	P	P	20 38 30.9	-0.5
	baz=307						
KEST	Kesra	67.23	298	P	P	20 38 30.1	-1.8
KEST				IAmb	IAmb	20 38 37.2	
	comp=Z,22nm,1.1s						
KEST	Kesra	67.23	298	P	P	20 38 30.3	-1.6
	comp=Z,8.6nm,1.0s,baz=345,slow=1.5,SNR=4.9						
	comp=Z,8.6nm,1.0s						
SII	Sitkinak Islan	67.23	35	P	P	20 38 30.8	-0.7
	baz=307						
MENT	Mentasta	67.25	26	P	P	20 38 31.0	-0.6
I29M	Ogilvie Camp,	67.26	22	P	P	20 38 31.1	-0.4
	baz=316,SNR=11						
L26K	Log Cabin Wild	67.32	26	P	P	20 38 31.1	-0.9
	baz=313						
GLI	Glacier Island	67.42	29	P	P	20 38 32.2	-0.4
	baz=311						
KLU	Klutina	67.45	28	P	P	20 38 33.0	+0.1
	baz=311,SNR=19						
ICESG	Greenland Ices	67.54	345	*i* P	P	20 38 32.7	-0.9
ICESG				IAmb	IAmb	20 38 33.6	
	comp=Z,40nm,1.1s						
C36M	Paulatuk	67.64	15	P	P	20 38 33.1	-0.7
C36M				IAmb	IAmb	20 38 34.6	
	comp=Z,39nm,1.3s						
C36M	Paulatuk	67.64	15	P	P	20 38 33.2	-0.5
	baz=326,SNR=22						
DIV	Divide	67.74	28	P	P	20 38 34.6	-0.1
DIV				IAmb	IAmb	20 38 40.5	
	comp=Z,21nm,0.8s						
L27K	Beaver Creek,	67.80	25	P	P	20 38 35.5	+0.5
	baz=314,SNR=12						
BCAR	Beaver Creek A	67.81	25	P	P	20 38 35.2	+0.1
N25K	Chitina, Valde	67.84	27	P	P	20 38 35.9	+0.5
	baz=312,SNR=15						
M26K	Nabesna, AK	67.86	26	P	P	20 38 35.6	+0.1
	baz=313,SNR=8.9						
DAWY	Dawson	67.86	23	P	P	20 38 35.0	-0.5
DAWY	Dawson	67.86	23	P	P	20 38 35.5	0.0
	baz=315,SNR=15						
P23K	Montague Islan	67.88	29	P	P	20 38 35.5	0.0
	baz=311						
COEN	Coen	67.91	131	P	P	20 38 35.3	-0.9
COEN	Coen	67.91	131	P	P	20 38 35.9	-0.4
	comp=Z,23nm,1.4s						
I30M	Mount Dempster	67.92	22	P	P	20 38 35.6	-0.3
	baz=318,SNR=30						
J29N	Klondike Camp	67.94	23	P	P	20 38 36.8	+0.9
	baz=316,SNR=15						
KMBO	Kilima Mbogo	67.96	249	P	P	20 38 36.6	-0.4
KMBO				IAmb	IAmb	20 38 42.6	
	comp=Z,29nm,1.4s						
KMBO	Kilima Mbogo	67.96	249	*i* P	P	20 38 39.4	+2.4
KMBO				pmax	pmax		
	comp=Z,72nm,0.4s						
KMBO	Kilima Mbogo	67.96	249	*i* P	P	20 38 37.9	+0.9
	SNR=14						
WB0	Warramunga Arr	68.05	142	P	P	20 38 35.8	-1.2
H31M	Peel River	68.05	20	P	P	20 38 36.1	-0.4
	baz=319,SNR=15						
EYAK	Cordova Ski Ar	68.14	28	P	P	20 38 38.0	+0.9
	baz=312,SNR=12						
WRAB	Tennant Creek	68.17	142	*d i* P	P	20 38 40.0	+2.2
WRAB				pmax	pmax		
	comp=Z,47nm,1.0s						
WRA	Warramunga Arr	68.17	142	P	P	20 38 36.7	-1.1
	comp=Z,22nm,0.9s,baz=340,slow=6.4,SNR=29						
WRA				PKPPKP	P'P'df	21 06 54.8	+3.8
	comp=Z,2.3nm,1.0s,baz=182,slow=1.9,SNR=5.4						
	comp=Z,22nm,0.9s						
WRA	Warramunga Arr	68.17	142	*i* P	P	20 38 37.2	-0.6
WRA				pmax	pmax		
	comp=Z,24nm,0.9s						
KIBK	Kibwezi	68.22	248	P	P	20 38 37.8	-0.6
KIBK				IAmb	IAmb	20 38 44.0	
	comp=Z,20nm,1.4s						
M27K	Edge Creek, AK	68.27	26	P	P	20 38 39.1	+1.0
	baz=314,SNR=14						
BMRM	Bremner River	68.27	28	P	P	20 38 37.9	-0.1
	baz=312,SNR=15						
MEEK	Meekatharra	68.35	160	P	P	20 38 38.0	-0.9
	comp=Z,26nm,1.0s						
J30M	Hart River	68.41	22	P	P	20 38 38.6	-0.3
	baz=318,SNR=12						
BVCY	Beaver Creek	68.57	25	P	P	20 38 39.8	-0.1
	baz=315,SNR=6.7						
K29M	Barlow Dome	68.60	23	P	P	20 38 40.6	+0.5
	baz=317,SNR=27						
CEST	Esterri de Car	68.75	308	P	P	20 38 40.9	-0.5
CEST				IAmb	IAmb	20 38 46.3	
	comp=Z,27nm,1.1s						
L29M	L29M	68.95	24	P	P	20 38 42.3	+0.1
	baz=317,SNR=13						
KAIM	Kayak Island	69.05	28	P	P	20 38 42.3	-0.5
	baz=313						
YUK3	Moose Creek	69.16	26	P	P	20 38 43.6	-0.1
	baz=315						
M29M	Somme Creek	69.33	24	P	P	20 38 44.8	+0.2
	baz=317,SNR=15						
BGLC	Bering Glacier	69.33	28	P	P	20 38 44.0	-0.5
	baz=314						
ILULI	Ilulissat	69.51	349	*i* P	P	20 38 43.1	-2.4
YUK8	Steele Glacier	69.74	26	P	P	20 38 47.7	+0.3
	baz=316						
M30M	Minto, Yukon	69.76	24	P	P	20 38 47.4	+0.2
	baz=318						
MESA	MESA	69.77	27	P	P	20 38 47.9	+0.4
	baz=315						
ANGG	Ammassalik, Gr	69.93	342	*i* P	P	20 38 45.4	-2.7
O28M	Mount Upton	69.96	26	P	P	20 38 49.1	+0.3
	baz=316						
MORW	Morawa	70.03	163	P	P	20 38 48.6	-0.5
MORW	Morawa	70.03	163	P	P	20 38 48.9	-0.2
	comp=Z,49nm,1.1s						
WRKA	Warakurna	70.06	150	P	P	20 38 49.5	0.0
	comp=Z,40nm,1.1s						
YUK4	Talbot Arm	70.07	25	P	P	20 38 49.3	-0.1
	baz=317						
ISOG	Isortoq, Green	70.31	342	*i* P	P	20 38 49.5	-0.9
ISOG				IAmb	IAmb	20 38 53.2	
	comp=Z,19nm,0.9s						
PINM	Pinnacle	70.43	27	P	P	20 38 51.7	+0.3
	baz=316						
YUK6	Outpost Mounta	70.46	25	P	P	20 38 51.8	0.0
	baz=317						
N30M	Aishikik Lake	70.49	24	P	P	20 38 52.2	+0.4
	baz=318,SNR=5.9						
M31M	Drury Creek, Y	70.78	23	P	P	20 38 53.1	-0.3
	baz=320,SNR=11						
HYT	Haines Junctio	70.83	25	P	P	20 38 54.4	+0.5
	baz=318,SNR=9.1						
O29M	Mount Kennedy	70.86	26	P	P	20 38 54.0	-0.1
	baz=317						
N31M	Braeburn, Yuko	70.89	24	P	P	20 38 54.0	-0.2
	baz=319,SNR=6.0						
PNL	Peninsula	71.04	27	P	P	20 38 54.6	-0.4
	baz=317						
FARO	Faro, Yukon	71.07	23	P	P	20 38 54.7	-0.6
	baz=320						
AS31	Alice Springs	71.19	145	P	P	20 38 55.4	-1.0
ASAR	Alice Springs	71.19	145	P	P	20 38 55.5	-0.9
	comp=Z,19nm,0.8s,baz=331,slow=6.1,SNR=62						
ASAR				PKPPKP	P'P'df	21 06 51.5	+5.8
	comp=Z,1.3nm,1.0s,baz=93,slow=1.8,SNR=5.6						
ASAR				LR	LR	21 12 18.9	
	comp=Z,63nm,18.6s,baz=140,slow=38						
	comp=Z,19nm,0.8s						
QIS	Mount Isa	71.31	138	P	P	20 38 56.7	-0.5
	comp=Z,28nm,1.0s						
O30N	Mendenhall	71.33	25	P	P	20 38 56.5	-0.4
	baz=319,SNR=7.4						
MMPY	Sheldon Lake,	71.37	21	P	P	20 38 56.8	-0.3
	baz=322,SNR=12						
SFJD	Kangerlussuaq	71.43	347	P	P	20 38 56.7	-0.5
SFJD				IAmb	IAmb	20 39 02.2	
	comp=Z,24nm,0.9s						
SFJD	Kangerlussuaq	71.43	347	LR	LR	21 12 48.4	
	comp=Z,199nm,18.9s,baz=31,slow=38						
SFJD	Kangerlussuaq	71.43	347	P	P	20 38 56.7	-0.5
SFJD				pmax	pmax		
	comp=Z,25nm,0.9s						
SFJD	Kangerlussuaq	71.43	347	*i* P	P	20 38 56.0	-1.2
SFJD				IAmb	IAmb	20 38 57.4	
	comp=Z,63nm,1.4s						
P30M	Million Dollar	71.53	25	P	P	20 38 58.3	+0.2
	baz=318						
P29M	Windy Craggy	71.64	26	P	P	20 38 58.5	-0.2
	baz=318						
BLDU	Ballidu	71.67	163	P	P	20 38 57.7	-1.4
	comp=Z,47nm,1.0s						
WHY	Whitehorse	71.81	24	P	P	20 38 59.7	-0.1
	baz=320						
ILON	Igloolik, Nuna	71.83	360	P	P	20 38 59.3	-0.3
MTSU	Mount Surprise	71.89	133	P	P	20 39 00.8	+0.1
	comp=Z,14nm,1.1s						
N32M	Quiet Lake	71.99	23	P	P	20 39 00.3	-0.5
	baz=321,SNR=6.7						
SKAG	Skagway	72.58	25	P	P	20 39 04.6	+0.3
	baz=320,SNR=7.8						
P33M	Teslin, Yukon	72.80	24	P	P	20 39 05.5	-0.2
	baz=321,SNR=6.3						
KLBR	Kellerberrin	72.85	162	P	P	20 39 05.2	-0.9
	comp=Z,77nm,0.9s						
MUN	Mundaring	72.86	163	P	P	20 39 05.4	-0.7
	comp=Z,64nm,0.9s						
WRGLY	Wrigley	72.93	18	P	P	20 39 06.2	0.0
	baz=328						
P32M	Atlin	73.00	24	P	P	20 39 06.7	-0.1
	baz=321						
TGTN	Hyland Airport	73.09	21	P	P	20 39 07.9	+0.5
	baz=324,SNR=7.5						
S31K	Pelican	73.41	27	P	P	20 39 10.1	+0.9
	baz=319						
ESBB	Sonseca Array	73.65	308	P	P	20 39 11.7	+0.6
ESDC	Sonseca Array	73.65	308	P	P	20 39 10.8	-0.3
ESDC	Sonseca Array	73.65	308	P	P	20 39 10.9	-0.2
	comp=Z,12nm,1.0s,baz=48,slow=5.7,SNR=60						
ESDC				LR	LR	21 14 50.4	
	comp=Z,119nm,18.6s,baz=56,slow=38						
	comp=Z,12nm,1.0s						
R32K	Eaglecrest	73.76	26	P	P	20 39 11.9	+0.6
	baz=320						
Q32M	Nakina River	73.96	24	P	P	20 39 13.3	+0.6
	baz=322						
PAB	San Pablo	73.97	308	P	P	20 39 13.5	+0.6
PAB	San Pablo	73.97	308	P	P	20 39 13.5	+0.6
PAB				pmax	pmax		
	comp=Z,19nm,1.2s						
NWAO	Narrogin (SRO)	74.01	163	P	P	20 39 12.6	-0.3
NWAO	Narrogin (SRO)	74.01	163	LR	LR	21 13 22.1	
	comp=Z,99nm,20.1s,baz=284,slow=37						
NWAO	Narrogin (SRO)	74.01	163	P	P	20 39 12.6	-0.3
NWAO				pmax	pmax		
	comp=Z,40nm,0.9s						
R33M	Jennings River	74.03	23	P	P	20 39 13.3	+0.3
	baz=323,SNR=9.9						
WTLY	Watson Lake, Y	74.10	22	P	P	20 39 13.2	-0.1

comp=Z,38nm,1.0s
FORT Forrest 75.17 153 P **P 20 39 19.3 -0.3**
comp=Z,45nm,1.0s
KOTAN Kotaneelee Air 75.41 20 P **P 20 39 21.6 +0.8**
baz=328
T33K Petersburg 75.43 26 P **P 20 39 21.8 +0.9**
baz=322
HNR Honiara 75.44 115 LR LR 21 13 02.7
comp=Z,34nm,18.1s,baz=301,slow=36
LIRD Liard River Hi 75.45 21 P **P 20 39 21.7 +0.6**
baz=326
YKA Yellowknife Ar 75.52 15 P **P 20 39 21.1 -0.3**
comp=Z,11nm,0.9s,baz=336,slow=5.6,SNR=55
YKA LR LR 21 14 35.5
comp=Z,103nm,20.5s,baz=335,slow=37
comp=Z,11nm,0.9s
YKAW1 Yellowknife Wh 75.55 15 P **P 20 39 21.2 -0.4**
YKAW1 IAmb IAmb 20 39 22.7
comp=Z,27nm,1.0s
RKGY Rocky Gully 75.56 163 P **P 20 39 24.7 +2.8**
NRS Narsarsuaq 75.58 342 P **P 20 39 20.9 -0.8**
NRS IAmb IAmb 20 39 29.9
comp=Z,35nm,1.1s
NRS Narsarsuaq 75.58 342 P **P 20 39 20.9 -0.8**
NRS pmax pmax
comp=Z,35nm,1.1s
NRS Narsarsuaq 75.58 342 *i* P **P 20 39 20.1 -1.6**
NRS IAmb IAmb 20 39 21.7
comp=Z,22nm,0.9s
U33K Whale Pass 75.92 26 P **P 20 39 25.7 +1.9**
baz=322
WRAK Wrangell Islan 75.94 26 P **P 20 39 24.9 +1.0**
baz=322
TOAD Toad River Com 76.17 21 P **P 20 39 25.9 +0.6**
baz=327,SNR=15
T35M Bob Quinn 76.19 25 P **P 20 39 26.1 +0.7**
baz=324
PESTR Estremoz 76.36 309 P **P 20 39 26.0 -0.7**
PESTR IAmb IAmb 20 39 33.5
comp=Z,28nm,1.2s
BLKN Baker Lake 76.37 6 P **P 20 39 25.5 -0.7**
FRB Frobisher Bay 76.87 354 LR LR 21 14 37.7
comp=Z,126nm,20.3s,baz=10.0,slow=37
VOI Vohitsoka 76.96 227 P **P 20 39 30.0 -0.2**
VOI IAmb IAmb 20 39 36.0
comp=Z,27nm,1.1s
V35K Ketchikan 77.06 26 P **P 20 39 30.7 +0.4**
baz=323
TAM Tamanrasset 77.36 289 P **P 20 39 32.0 -0.7**
TAM Tamanrasset 77.36 289 P **P 20 39 32.0 -0.7**
TAM pmax pmax
comp=Z,35nm,0.3s
MDT Midelt 78.30 303 LR LR 21 19 56.7
comp=Z,62nm,18.6s,baz=62,slow=40
STKA Stephens Creek 81.71 143 P **P 20 39 55.0 -0.8**
STKA Stephens Creek 81.71 143 P **P 20 39 54.5 -1.3**
comp=Z,15nm,1.1s,baz=330,slow=5.8,SNR=11
STKA LR LR 21 17 56.8
comp=Z,58nm,21.8s,baz=211,slow=37
comp=Z,15nm,1.1s
STKA Stephens Creek 81.71 143 P **P 20 39 55.0 -0.8**
STKA pmax pmax
comp=Z,208nm,1.5s
LSZ Lusaka 84.13 245 P **P 20 40 08.6 -0.2**
LSZ Lusaka 84.13 245 LR LR 21 21 03.1
comp=Z,86nm,18.2s,baz=144,slow=38
LSZ Lusaka 84.13 245 P **P 20 40 08.6 -0.2**
LSZ pmax pmax
comp=Z,10.0nm,0.9s
LLLB Lilloet 84.24 24 P **P 20 40 08.7 -0.2**
FFC Flin Flon 85.07 11 P **P 20 40 11.8 -1.1**
FFC IAmb IAmb 20 40 17.9
comp=Z,16nm,0.9s
FFC Flin Flon 85.07 11 P **P 20 40 11.8 -1.1**
FFC pmax pmax
comp=Z,16nm,1.0s
TORD Torodi Ar. Bea 86.16 284 P **P 20 40 18.6 -0.4**
B08A Colville Reser 87.01 24 P **P 20 40 22.4 -0.3**
B08A IAmb IAmb 20 40 28.4
comp=Z,14nm,1.1s
KSANE Kasane 87.97 245 P **P 20 40 28.5 +0.7**
DZM Mont Dzumac 88.68 120 *e*LR LR 21 08 40.3
comp=Z,104nm,25.4s
I03D Drain, OR 89.72 28 P **P 20 40 36.0 +0.4**
EGMT Eagleton 89.95 18 P **P 20 40 36.5 -0.2**
EGMT IAmb IAmb 20 40 37.8
comp=Z,25nm,1.1s
MSO Missoula 89.98 21 P **P 20 40 36.7 -0.2**
MSO IAmb IAmb 20 40 43.4
comp=Z,15nm,0.9s
ULM Lac du Bonnet 90.25 8 P **P 20 40 36.3 -1.7**
comp=Z,3.4nm,0.8s,baz=355,slow=4.7,SNR=3.8
ULM LR LR 21 22 39.9
comp=Z,61nm,20.0s,baz=336,slow=37
comp=Z,3.4nm,0.8s
KHWEE KHWEE 90.54 242 P **P 20 40 39.6 -0.1**
KHWEE IAmb IAmb 20 40 43.6
comp=Z,14nm,1.1s
DGMT Dagmar 90.72 14 P **P 20 40 40.4 +0.1**
BMO Blue Mountains 90.77 24 P **P 20 40 39.9 -0.8**
BMO Blue Mountains 90.77 24 P **P 20 40 39.9 -0.8**
BMO pmax pmax
comp=Z,6.0nm,1.0s
PLID Pearl Lake 90.96 23 P **P 20 40 41.3 -0.4**
EPLO Experimental L 91.05 7 P **P 20 40 40.1 -1.6**
EPLO IAmb IAmb 20 40 46.2
comp=Z,15nm,1.1s
XAUDM Khaudum 91.17 247 P **P 20 40 42.8 0.0**
XAUDM IAmb IAmb 20 40 48.6
comp=Z,19nm,1.4s
YBH Yreka Blue Hor 91.65 29 LR LR 21 23 10.5
comp=Z,83nm,18.1s,baz=328,slow=36
QNGWA Qangwa 91.94 246 P **P 20 40 46.5 +0.2**
QNGWA IAmb IAmb 20 40 51.7
comp=Z,17nm,1.1s
LAO LASA Array 92.01 16 P **P 20 40 45.7 -0.6**
KDWAN Kaudwane 92.03 241 P **P 20 40 46.1 -0.6**
KDWAN IAmb IAmb 20 40 51.1
comp=Z,9.1nm,0.9s
LBTB Lobatse 92.49 240 P **P 20 40 49.2 +0.5**
LBTB IAmb IAmb 20 40 55.5
comp=Z,14nm,1.2s
LBTB Lobatse 92.49 240 P **P 20 40 49.2 +0.5**
LBTB pmax pmax
comp=Z,14nm,1.3s
WVOR Wild Horse Val 92.49 26 P **P 20 40 48.7 0.0**
WVOR Wild Horse Val 92.49 26 P **P 20 40 48.7 0.0**
WVOR pmax pmax
comp=Z,10.0nm,1.5s
HLID Hailey 92.82 23 P **P 20 40 49.6 -0.7**
HLID IAmb IAmb 20 40 56.3
comp=Z,16nm,1.6s
KGCAE Kacgae 93.38 243 P **P 20 40 52.3 -0.6**
KGCAE IAmb IAmb 20 40 57.5
comp=Z,19nm,1.1s
BEKR Beckworth 94.15 28 P **P 20 40 56.0 -0.5**
KOOLE Kule 94.87 244 P **P 20 40 59.7 -0.1**
LKGWB Lokgwabe 94.89 243 P **P 20 40 57.5 -2.3**
PDAR Pinedale Array 94.92 20 P **P 20 40 59.7 -0.2**
PDAR Pinedale Array 94.92 20 P **P 20 40 58.9 -1.1**
comp=Z,1.0nm,0.8s,baz=20,slow=4.7,SNR=9.0
PDAR PKKP **PKKPdf 20 57 52.0 -1.0**
comp=Z,0.2nm,0.6s,baz=134,slow=8.4,SNR=3.9
PDAR LR LR 21 28 56.9
comp=Z,64nm,19.7s,baz=348,slow=39
comp=Z,1.0nm,0.8s
BOSA Boshof 95.12 237 P **P 20 40 59.8 -1.0**
comp=Z,3.1nm,0.9s,baz=8.1,slow=7.1,SNR=3.2
BOSA LR LR 21 21 58.4
comp=Z,81nm,21.2s,baz=112,slow=34
comp=Z,3.1nm,0.9s
DBIC Dimbokro 95.23 283 P **P 20 41 00.9 -0.7**
comp=Z,5.2nm,0.8s,baz=33,slow=5.6,SNR=5.7
comp=Z,5.2nm,0.8s
NVAR Mina Array Bea 96.17 27 P **P 20 41 04.6 -1.2**
comp=Z,1.5nm,0.8s,baz=312,slow=3.8,SNR=9.6
NVAR LR LR 21 25 52.9
comp=Z,92nm,19.8s,baz=140,slow=36
comp=Z,1.5nm,0.8s
SADO Sadowa 96.44 358 LR LR 21 24 52.0
comp=Z,16nm,21.4s,baz=106,slow=36
TXAR Lajitas Array 109.14 19 PKiKP **PKiKP 20 46 06.8 -0.8**
comp=Z,0.5nm,0.8s,baz=344,slow=5.0,SNR=3.6
TXAR PKKPbc **PKKPbc 20 57 13.9 +0.5**
comp=Z,0.2nm,0.7s,baz=149,slow=9.9,SNR=3.6
TXAR PKKP **PKKPdf 20 57 25.5 -1.7**
comp=Z,0.9nm,1.0s,baz=168,slow=6.4,SNR=5.2
SYO Syowa Base 115.89 200 ⇑*es*Pdiff **Pdif 20 42 42.7 +10**
SYO Syowa Base 115.89 200 ⇑*e*PKPdf **PKiKP 20 46 19.2 +0.3**
PPT2 Papeete2 118.64 90 *e*LR LR 21 22 32.7
comp=Z,100nm,24.8s
ELIB Princess Elisa 122.02 201 *d*PKPdf **PKiKP 20 46 33.4 +2.3**
VNDA Vanda 122.70 167 PKP **PKPdf 20 46 30.1 -1.8**
comp=Z,1.5nm,1.0s,baz=309,slow=4.9,SNR=5.2
TROLL Troll, Antarti 128.14 203 ⇑P **PKiKP 20 46 43.2 0.0**
comp=Z,67nm,0.2s
QSPA South Pole Qui 128.87 180 **PKPdf 20 46 43.1 -0.9**
QSPA South Pole Qui 128.87 180 PKP **PKPdf 20 46 42.0 -2.0**
comp=Z,6.4nm,1.0s,baz=128,slow=0.3,SNR=8.7
SDV Santo Domingo 130.96 344 *e*P **PKPdf 20 46 49.3 -0.5**
VNA2 Neumayer--Watz 131.19 205 ⇑P **PKPdf 20 46 48.4 +0.2**
comp=Z,5.3nm,0.8s,baz=54,slow=3.0
VNA3 Neumayer Olymp 131.93 205 ⇑P **PKPdf 20 46 48.1 -1.5**
comp=Z,6.1nm,0.8s
RUSC La Rusia 134.36 347 **PKPdf 20 46 55.8 -0.9**
ROSC El Rosal 135.60 348 PKPdf **PKPdf 20 46 58.5 -0.3**
ROSC El Rosal 135.60 348 PKIKP **PKPdf 20 46 58.5 -0.3**
BELA Belgrano 2 136.40 193 **PKPdf 20 46 58.4 +0.5**
SMTB Santa Maria do 136.52 304 *e*P **PKPdf 20 47 00.6 +0.7**
SDBA SAO DESIDERIO 137.34 298 *e*P **PKiKP 20 47 02.8 -0.6**
FLOC Florencia 139.00 349 PKPdf **PKPdf 20 47 03.2 -1.4**
MACA Manacapuru-AM 139.02 325 PKPdf **PKPdf 20 47 03.2 -1.4**
MACA Manacapuru-AM 139.02 325 *e*P **PKPdf 20 47 05.7 +1.1**
NPGB Novo Progresso 139.72 315 *e*P **PKPdf 20 47 06.5 +0.6**
OTAV Otavalo 140.65 353 PKPdf **PKPdf 20 47 07.2 -1.0**
OTAV Otavalo 140.65 353 PKIKP **PKPdf 20 47 07.2 -1.0**
OTAV Otavalo 140.65 353 *e*P **PKPdf 20 47 08.4 +0.2**
TEFE Tefe 140.97 331 *e*P **PKPdf 20 47 09.2 +1.1**
BDFB Brasilia 141.74 298 PKhKP PKPpre 20 47 05.5
comp=Z,2.7nm,0.7s,baz=167,slow=7.7,SNR=4.1
PMNB Patos De Minas 142.59 293 *e*P **PKPdf 20 47 12.1 +1.1**
CLDB Colider 143.18 312 *e*P **PKPdf 20 47 12.7 +0.8**
MAN01 Angra dos Reis 143.42 285 *e*P **PKPdf 20 47 13.1 +0.9**
IPMB Ipameri, GO 143.48 295 *e*P **PKPdf 20 47 14.0 +1.5**
PDRB Porto dos Gac 144.23 313 *e*P PKPbc 20 47 13.0 +1.0
ARAG Araguaiana, MT 144.35 302 *e*P PKPbc 20 47 12.7 +0.4
SLP01 Ubatuba-SP 144.58 285 *e*P **PKPab 20 47 12.5 -0.4**
BB19B Bebedouro 145.71 292 *e*P **PKPab 20 47 17.5 +0.5**
VAO Valinhos 145.75 287 PKPdf **PKPdf 20 47 15.9 -0.4**
VAO Valinhos 145.75 287 *e*P **PKPab 20 47 17.1 -0.1**
ITRB Iturama 146.14 295 *e*P **PKPbc 20 47 17.9 -0.1**
PET01 Itanhaem-SP 146.72 286 *e*P **PKPbc 20 47 18.9 -0.6**
SALV Santo Antonio 146.98 307 *e*P **PKPdf 20 47 19.4 +0.9**
C2SB Chapadao do Su 147.21 300 *e*P **PKPbc 20 47 20.2 -0.9**
CZSB Cruzeiro do Su 147.50 341 *e*P **PKPdf 20 47 20.2 +0.7**
PTLB Pontes e Lacer 148.69 312 PKPdf **PKPdf 20 47 20.4 -0.9**
PTLB Pontes e Lacer 148.69 312 *e*P **PKPdf 20 47 22.7 +1.4**
LDASE Londrina, Braz 149.03 291 *e*P **PKPdf 20 47 22.7 +0.9**
AQDB Aquidauana 150.32 301 PKPbc **PKPbc 20 47 28.2 -0.8**
AQDB Aquidauana 150.32 301 *e*P **PKPdf 20 47 24.5 +0.7**
TER01 Tubaro-SC 150.39 281 *e*P **PKPdf 20 47 24.5 +0.8**
BBSD Serra de San D 150.92 312 *e*P **PKPdf 20 47 25.7 +0.8**
BDQN Bodoquena, MS 151.00 302 *e*P **PKPdf 20 47 24.7 -0.2**
SJPY San Joaquin 153.60 294 *e*P **PKPdf 20 47 29.3 +0.7**
LPAZ La Paz 153.96 327 PKPdf **PKPdf 20 47 27.1 -3.0**
LPAZ La Paz 153.96 327 PKP **PKPdf 20 47 28.1 -2.0**
comp=Z,1.4nm,0.6s,baz=10,slow=3.2,SNR=5.4
LPAZ PKPab **PKPab 20 47 50.5 -0.8**
comp=Z,4.6nm,0.8s,baz=15,slow=7.0,SNR=6.9
LPAZ La Paz 153.96 327 *e*P **PKPdf 20 47 29.9 -0.2**
CPUP Villa Florida 155.29 293 PKP **PKPdf 20 47 29.0 -1.9**
comp=Z,2.9nm,0.9s,baz=81,slow=4.2,SNR=4.1
CPUP PKPab **PKPab 20 47 55.8 -0.3**
comp=Z,7.6nm,1.1s,baz=55,slow=5.4,SNR=6.5

---

*IDC **27** 20:40:06.5±2.0, 37.°28N×141.°27E, h0km, mb3.5/3, mbtmp3.4/5, ML2.7/2, Error ellipse: s-maj=37.8km s-min=29.3km az=110.0*
*JMA **27** 20:40:07.5±0.1, 37.°1N±0.°3×141.°4E±0.°7, h33km±1km, MV3.2/32, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 27 20:40:07.8±2.0, 37.°10N±0.°06×141.°39E±0.°08, h16km±10km, n21, σ0.°97/17, mb3.5/3, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.48**	**271**	P	**Pg**	**20 40 17.6**	**+0.3**
ONAJ				*e*S	**Sb**	**20 40 24.7**	**+0.1**
JFK	**Kawauchi**	**0.49**	**303**	*e*P	**Pg**	**20 40 17.9**	**+0.2**
JFK				*e*S	**Sb**	**20 40 25.5**	**+0.4**
JFFD	**Fukushimafurud**	**0.67**	**270**	P	**Pg**	**20 40 20.4**	**-0.4**
JFFD				*e*S	**Sg**	**20 40 29.8**	**+0.1**
JMST	**Minamisoumatoc**	**0.75**	**327**	*e*S	**Sg**	**20 40 32.7**	**+0.5**
JHO	**Hitachi**	**0.82**	**234**	P	**Pb**	**20 40 22.2**	**-1.5**
JMM	**Marumori**	**0.91**	**328**	⇓P	**Pb**	**20 40 24.6**	**-0.5**
JOTO	**OTAMA OYAMA**	**0.96**	**299**	*e*P	**Pb**	**20 40 26.1**	**-0.1**
JOTO				S	**Sg**	**20 40 39.4**	**+0.3**
MJAR	**Matsushiro Arr**	**2.61**	**259**	Pn	**Pn**	**20 40 49.9**	**+0.5**
	0.5nm,0.3s,baz=78,slow=17,SNR=48						
MJAR				Sn	**Sn**	**20 41 19.8**	**-1.0**
	0.4nm,0.3s,baz=83,slow=20,SNR=5.0						
	3.2nm,0.3s						
ASAJ	**Asahikawa**	**7.07**	**7**	Pn	**Pn**	**20 41 49.5**	**-1.1**
	0.2nm,0.3s,baz=114,slow=20,SNR=2.4						
	3.7nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	21 15 21.6	
	baz=313,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	21 15 25.4	
	baz=313,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	21 15 26.2	
	baz=313,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	21 16 17.2	
	baz=315,slow=76						
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	21 16 14.2	
	baz=315,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	21 16 15.0	
	baz=315,slow=76						
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**20 48 14.6**	**-0.3**
	0.5nm,0.8s,baz=90,slow=9.6,SNR=4.6						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**45.95**	**308**	P	**P**	**20 48 28.8**	**-1.0**
	0.5nm,0.5s,baz=83,slow=8.4,SNR=6.4						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**57.12**	**188**	P	**P**	**20 49 55.9**	**+2.3**
	0.5nm,0.9s,baz=21,slow=6.6,SNR=1.6						
	0.5nm,0.9s						
H03N2	**Juan Fernandez**	**147.05**	**96**	T	T	23 44 08.8	
	baz=291,slow=76						
H03N3	**Juan Fernandez**	**147.06**	**96**	T	T	23 44 08.5	
	baz=291,slow=76						
H03N1	**Juan Fernandez**	**147.06**	**96**	T	T	23 44 04.7	
	baz=291,slow=76						

---

*NEIC **27** 21:21:17.0±1.9, 0.°06N±0.°04×98.°57E±0.°04, h57km±10km, mb4.3/14, Error ellipse: s-maj=7.9km s-min=3.3km az=135.0*
*IDC **27** 21:21:16.4±0.7, 0.°13N×98.°75E, h54km±4km, mb3.6/10, mbtmp3.8/13, MS2.9/2, Error ellipse: s-maj=25.6km s-min=12.0km az=55.0*
*DJA **27** 21:21:17.9±0.2, 0.°N±2.°×9.°9E±.°, h54km±6km, M4.6/19, mB4.6/1, mb4.6/10, MLv4.5/19, Mw(mB)3.8/1*
ISC 27 21:21:17.0±0.5, 0.°16N±0.°05×98.°68E±0.°04, h58km±5km, n69, σ1.°38/80, mb4.2/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.46**	**242**	P	**Pn**	**21 21 30.1**	**+1.8**
PBSI				S	**Sn**	**21 21 39.2**	**+2.6**
MNSI	**Mandailing Nat**	**1.10**	**55**	P	**Pn**	**21 21 37.4**	**+1.2**
MNSI				S	**Sn**	**21 21 51.6**	**+1.1**
SBSI	**Sibolga**	**1.40**	**9**	P	**Pn**	**21 21 41.3**	**+1.0**
SBSI				S	**Sn**	**21 21 59.9**	**+2.2**
SISI	**Saibi**	**1.53**	**165**	P	**Pn**	**21 21 43.8**	**+1.7**
GSI	**Gunungsitoli**	**1.58**	**316**	Pn	**Pn**	**21 21 43.7**	**+0.8**
GSI				Sn	**Sn**	**21 22 01.4**	**-0.8**
GSI	**Gunungsitoli**	**1.58**	**316**	P	**Pn**	**21 21 43.6**	**+0.8**
GSI	**Gunungsitoli**	**1.58**	**316**	P	**Pn**	**21 21 43.6**	**+0.8**
GSI				S	**Sn**	**21 22 02.1**	**-0.2**
BKNI	**Bangkinang**	**2.36**	**86**		**Pn**	**21 21 55.0**	**+1.6**
BKNI	**Bangkinang**	**2.36**	**86**	P	**Pn**	**21 21 55.2**	**+1.8**
RPSI	**Rantau Prapat**	**2.53**	**5**		**Pn**	**21 21 56.8**	**+1.1**
RPSI	**Rantau Prapat**	**2.53**	**5**	Pn	**Pn**	**21 21 56.7**	**+1.0**
PSI	**Prapat**	**2.63**	**5**	P	**Pn**	**21 21 56.8**	**-0.4**
	20nm,0.3s,baz=178,slow=5.8,SNR=33						
PSI				S	Sn	21 22 18.1	-10
	40nm,0.3s,baz=155,slow=13,SNR=8.0						
PSI				LR	LR	21 22 47.0	
	comp=Z,115nm,21.3s,baz=212,slow=35						
PSI	**Prapat**	**2.63**	**5**	P	**Pn**	**21 21 57.1**	**-0.1**
TSI	**Tuntungan**	**3.32**	**358**	P	**Pn**	**21 22 07.4**	**+0.9**
MLSI	**Meulaboh, Aceh**	**4.67**	**331**	P	**Pn**	**21 22 25.9**	**+0.9**
LHMI	**Lhok Sumawe**	**5.32**	**341**	Pn	**Pn**	**21 22 34.5**	**+0.5**
LHMI	**Lhok Sumawe**	**5.32**	**341**	P	**Pn**	**21 22 34.8**	**+0.8**
LHMI	**Lhok Sumawe**	**5.32**	**341**	P	**Pn**	**21 22 34.8**	**+0.8**
	0.5nm108nm,1.1s						
LHMI				S	**Sn**	**21 23 33.9**	**-0.1**
	0.5nm108nm,1.1s						
MYKOM	**Kota Tinggi**	**5.41**	**73**		**Pn**	**21 22 36.9**	**+1.7**
MYKOM	**Kota Tinggi**	**5.41**	**73**	P	**Pn**	**21 22 37.0**	**+1.8**
KSI	**Kapahiang**	**5.44**	**134**	P	**Pn**	**21 22 37.1**	**+1.4**
	1.5nm86nm,0.7s						
KULM	**Kulim**	**5.46**	**21**	Pn	**Pn**	**21 22 36.4**	**+0.6**
KULM	**Kulim**	**5.46**	**21**	P	**Pn**	**21 22 37.1**	**+1.3**
MNAI	**Manna**	**6.20**	**137**	Pn	**Pn**	**21 22 46.4**	**+0.5**
MNAI	**Manna**	**6.20**	**137**	P	**Pn**	**21 22 49.9**	**+3.9**
MNAI	**Manna**	**6.20**	**137**	P	**Pn**	**21 22 47.3**	**+1.3**
	254nm,2.2s						
BSI	**Banda Aceh**	**6.29**	**328**	P	**Pn**	**21 22 46.3**	**-0.9**
	0.5nm21nm,0.7s						
PMBI	**Palembang**	**6.82**	**117**	P	**Pn**	**21 22 54.6**	**+0.2**
MDSI	**Maura Dua**	**7.17**	**130**	P	**Pn**	**21 23 00.8**	**+1.5**
	0.1nm36nm,0.8s						
LWLI	**Liwa**	**7.44**	**134**	P	**Pn**	**21 23 04.1**	**+1.1**
	64nm,0.9s						
CMBY	**CAMPBELL BAY**	**8.29**	**325**	*e*P	**Pn**	**21 23 16.7**	**+2.0**
CMBY				IAML		21 24 12.1	
	comp=E,153nm,1.7s						
CMBY				IAML		21 24 27.2	
	comp=N,146nm,0.6s						
CMBY				*e*S	**Sn**	**21 24 51.0**	**+4.0**
CGJI	**Cibinong**	**9.71**	**134**	P	**Pn**	**21 23 35.0**	**+1.0**
PBA	**Port Blair**	**12.85**	**333**	IAmb	IAmb	21 23 18.8	
	comp=Z,32nm,0.9s						
PBA				*e*P	**Pn**	**21 24 17.9**	**+0.9**
PBA				*e*S	Sn	21 26 28.2	-10
DGPR	**DIGLIPUR**	**14.13**	**336**	IAmb	IAmb	21 23 38.3	
	comp=Z,6.6nm,1.0s						
DGPR				*e*P	**Pn**	**21 24 35.4**	**+1.1**
DGPR				*e*S	**Sn**	**21 27 12.9**	**+3.2**
CMAR	**Chiang Mai Arr**	**18.18**	**1**	P	**P**	**21 25 24.9**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=192,slow=11,SNR=8.4						
KKM	**Kota Kinabalu**	**18.45**	**71**		**Pn**	**21 25 30.0**	**+1.1**
PALK	**Pallekele**	**19.27**	**292**		**P**	**21 25 33.7**	**-3.5**
PALK	**Pallekele**	**19.27**	**292**	P	**Pn**	**21 25 38.3**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=110,slow=12,SNR=6.4						
PALK				S	S	21 29 00.1	-12
	comp=Z,2.4nm,0.5s,baz=196,slow=23,SNR=6.3						
PALK				LR	LR	21 31 58.1	
	comp=Z,67nm,19.6s,baz=170,slow=33						
MYLDM	**Lahad Datu**	**20.41**	**76**	P	Pn	21 25 51.9	-0.2
MYLDM				IAmb	IAmb	21 26 08.0	
	comp=Z,17nm,1.2s						
TOLI2	**Tolitoli**	**22.12**	**87**	P	**P**	**21 26 07.7**	**-0.1**
TOLI2				IAmb	IAmb	21 26 09.6	
	comp=Z,8.4nm,1.1s						
H08S2	**Diego Garcia H**	**27.24**	**253**	T	T	21 54 36.2	
	baz=73,slow=75						
H08S3	**Diego Garcia H**	**27.24**	**253**	T	T	21 54 27.0	
	baz=73,slow=75						
H08S1	**Diego Garcia H**	**27.26**	**253**	T	T	21 54 37.6	
	baz=73,slow=75						
WRA	**Warramunga Arr**	**40.23**	**122**	P	**P**	**21 28 46.0**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=298,slow=8.0,SNR=7.3						
WRA				pP	**pP**	**21 29 02.0**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=303,slow=9.1,SNR=4.2						
WRA				PcP	**PcP**	**21 30 51.6**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=308,slow=3.0,SNR=5.1						
	comp=Z,0.5nm,0.3s						
WR8	**Warramunga Arr**	**40.37**	**122**	P	**P**	**21 28 47.7**	**-1.9**
NIL	**Nilore**	**40.99**	**327**	P	**P**	**21 28 54.6**	**+0.1**
NIL				IAmb	IAmb	21 28 55.3	
	comp=Z,6.3nm,0.7s						
ASAR	**Alice Springs**	**41.59**	**127**	P	**P**	**21 28 58.1**	**-1.4**
ASAR	**Alice Springs**	**41.59**	**127**	P	**P**	**21 28 58.3**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=297,slow=7.7,SNR=20						
ASAR				pP	**pP**	**21 29 13.6**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=304,slow=7.4,SNR=6.7						
ASAR				PcP	**PcP**	**21 30 56.1**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=300,slow=3.5,SNR=7.9						
	comp=Z,1.0nm,0.6s						
AS31	**Alice Springs**	**41.59**	**127**	P	**P**	**21 28 58.4**	**-1.1**
KSH	**Kashi**	**44.33**	**335**	P	P	21 29 28.5	+6.9
KSH				pmax	pmax		
	comp=Z,3.0nm,1.5s						
NRN	**Naryn**	**45.92**	**336**	P	**P**	**21 29 35.6**	**+1.2**
NRN				IAmb	IAmb	21 29 50.6	
	comp=Z,6.0nm,1.1s						
SONM	**Songino Array**	**47.95**	**7**	P	**P**	**21 29 50.5**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=189,slow=9.9,SNR=7.5						
SONM				pP	**pP**	**21 30 05.2**	**+0.1**
	comp=Z,4.1nm,0.9s,baz=191,slow=8.8,SNR=13						
	comp=Z,0.8nm,0.4s						
MKAR	**Makanchi Array**	**48.61**	**345**		**P**	**21 29 55.3**	**+0.4**
MKAR	**Makanchi Array**	**48.61**	**345**	P	**P**	**21 29 55.5**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=152,slow=9.4,SNR=29						
MKAR				pP	**pP**	**21 30 09.9**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=157,slow=8.1,SNR=14						
	comp=Z,1.2nm,0.5s						
MAKZ	**Makanchi**	**48.71**	**345**	P	**P**	**21 29 56.0**	**+0.4**
MAKZ				IAmb	IAmb	21 30 11.3	
	comp=Z,1.8nm,0.7s						
KK31	**Karatay Array**	**49.64**	**333**	P	**P**	**21 30 02.4**	**-0.4**
KURBB	**Kurchatov Arra**	**53.12**	**344**	P	**P**	**21 30 28.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=165,slow=6.7,SNR=3.2						
KURBB				pP	**pP**	**21 30 42.7**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=164,slow=7.4,SNR=7.2						
	comp=Z,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**54.82**	**350**		**P**	**21 30 40.8**	**-0.2**
ZALV	**Zalesovo Beam**	**54.82**	**350**	P	**P**	**21 30 41.0**	**0.0**
	comp=Z,1.3nm,0.5s,baz=160,slow=4.7,SNR=5.7						
ZALV				pP	**pP**	**21 30 55.5**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=169,slow=7.1,SNR=5.8						
	comp=Z,1.3nm,0.5s						
BVAR	**Borovoye Array**	**57.72**	**340**	P	**P**	**21 31 01.1**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=147,slow=8.6,SNR=5.9						
BVAR				pP	**pP**	**21 31 16.0**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=139,slow=9.4,SNR=6.5						
	comp=Z,0.9nm,0.6s						
BRVK	**Borovoye**	**57.78**	**340**	P	**P**	**21 31 01.3**	**-0.8**
BRVK				IAmb	IAmb	21 31 22.2	
	comp=Z,1.2nm,0.7s						
AB31	**Akbulak array**	**59.12**	**331**		**P**	**21 31 11.4**	**-0.2**
AB31				IAmb	IAmb	21 31 27.4	
	comp=Z,1.8nm,0.8s						
ABKAR	**Akbulak array**	**59.12**	**331**	P	**P**	**21 31 11.0**	**-0.6**
H04N2	**CROZET ISLANDS**	**61.77**	**215**	T	T	22 38 01.7	
	baz=56,slow=75						
H04N1	**CROZET ISLANDS**	**61.78**	**215**	T	T	22 38 08.7	
	baz=56,slow=75						
H04N3	**CROZET ISLANDS**	**61.79**	**215**	T	T	22 38 03.0	
	baz=56,slow=75						
BRTR	**Keskin Array B**	**

CLNB	**Carlsbad**	**0.72**	**31**	P	Pg	21 24 19.7	+0.1
CLNB				S	Sg	21 24 29.5	+0.5
TPB01	**Permian Basin**	**0.84**	**147**	P	Pg	21 24 21.3	-0.5
TPB01				S	Sg	21 24 32.2	-0.6
TPB03	**Saragosa**	**0.89**	**129**	S	Sg	21 24 34.9	+0.6
MNTX	**Cornudas Mount**	**0.91**	**274**	P	Pb	21 24 24.0	-0.1
MNTX				S	Sg	21 24 35.7	+0.5
TPB04	**Verhalen**	**1.00**	**117**	S	Sb	21 24 39.2	0.0
VHRN	**Van Horn**	**1.03**	**214**	P	Pg	21 24 25.6	0.0
VHRN				S	Sg	21 24 39.5	+0.5
TPB16	**Coyonosa**	**1.05**	**120**	P	Pg	21 24 25.7	-0.2
TPB16				S	Sb	21 24 40.2	-0.2
NM01	**Eunice**	**1.05**	**48**	P	Pg	21 24 26.1	+0.1
NM01				S	Sb	21 24 40.3	-0.2
TPB05	**Hovey Rd**	**1.11**	**130**	P	Pg	21 24 26.7	-0.5
TPB05				S	Sg	21 24 41.4	-0.3
MNHN	**Monahans**	**1.36**	**103**	P	Pn	21 24 31.0	-0.5
MNHN				S	Sg	21 24 49.7	+0.1
ALPN	**Alpine**	**1.40**	**155**	P	Pn	21 24 31.0	-1.0
ALPN				S	Sb	21 24 49.1	-1.5
TPB08	**Permian Basin**	**1.42**	**122**	S	Sg	21 24 51.9	+0.4
CPRX	**Cap Rock**	**1.43**	**15**	P	Pn	21 24 32.6	+0.1
ODSA	**Odessa**	**1.57**	**72**	P	Pn	21 24 34.5	+0.1
ODSA				S	Sn	21 24 54.5	-0.7
TMB04	**Seminole**	**1.83**	**57**	S	Sb	21 25 03.3	+0.3
TMB01	**Midkiff**	**1.90**	**89**	S	Sb	21 25 05.5	+0.4
TMB02	**Rankin**	**2.00**	**102**	P	Pb	21 24 41.8	-0.8
TMB02				S	Sb	21 25 07.6	-0.2
TMB05	**Klondike**	**2.30**	**64**	P	Pb	21 24 46.9	-0.9
TMB05				S	Sb	21 25 16.6	+0.1
TX31	**Lajitas Ar. Si**	**2.37**	**166**	Pg	Pb	21 24 48.4	-0.6

*IDC **27** 22:02:01.9±0.9, 9°.66N×126°.22E, h0km, mb3.9/11, mbtmp3.9/12, ML4.0/1, MS2.8/2, Error ellipse: s-maj=62.5km s-min=18.1km az=77.0*

ISC 27 22:02:10.5±0.8, 9°.5N±0°.1×125°.9E±0°.4, h67km, n21, σ0°78/13, mb3.8/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.39**	**187**	Pn	**Pn**	**22 02 47.0**	**-0.5**
	28nm,0.3s,baz=45,slow=17,SNR=1.7						
DAV				Sn	Sn	22 03 23.8	+8.0
	48nm,0.3s,baz=60,slow=20,SNR=2.0						
	70nm,0.3s						
KSRS	**Korea Array**	**27.93**	**3**	LR	LR	22 20 44.3	
	comp=Z,16nm,18.5s,baz=250,slow=40						
WRA	**Warramunga Arr**	**30.38**	**164**	P	**P**	**22 08 17.1**	**+0.7**
	0.4nm,0.8s,baz=344,slow=8.8,SNR=1.4						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**33.84**	**167**	P	**P**	**22 08 46.5**	**-0.3**
	0.2nm,0.6s,baz=346,slow=8.0,SNR=5.8						
	0.2nm,0.6s						
ASAJ	**Asahikawa**	**37.45**	**20**	LR	LR	22 26 32.8	
	comp=Z,14nm,18.1s,baz=109,slow=40						
H11S3	**WAKE ISLAND Hy**	**40.52**	**73**	T	T	22 52 57.6	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**40.54**	**73**	T	T	22 52 38.5	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**40.54**	**73**	T	T	22 52 42.0	
	baz=262						
H11N1	**WAKE ISLAND Hy**	**40.88**	**71**	T	T	22 53 37.5	
	baz=265,slow=74,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**40.88**	**71**	T	T	22 53 13.3	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**40.90**	**71**	T	T	22 53 15.6	
	baz=265,slow=74,SNR=3.9						
SONM	**Songino Array**	**41.64**	**340**	P	**P**	**22 09 51.0**	**-1.4**
	0.4nm,0.5s,baz=165,slow=12,SNR=2.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**52.44**	**323**	P	**P**	**22 11 17.0**	**+0.6**
	0.6nm,0.7s,baz=118,slow=8.0,SNR=8.4						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**56.52**	**326**	P	**P**	**22 11 45.6**	**-0.3**
	0.3nm,0.5s,baz=126,slow=7.0,SNR=4.7						
	0.3nm,0.5s						
NRIK	**Noril'sk**	**64.70**	**346**	P	**P**	**22 12 41.7**	**+0.5**
	1.3nm,0.5s,baz=144,slow=8.7,SNR=2.0						
	1.3nm,0.5s						
SPITS	**Spitsbergen Ar**	**84.73**	**349**	P	**P**	**22 14 37.6**	**+0.7**
	4.2nm,0.9s,baz=92,slow=10,SNR=1.8						
	4.2nm,0.9s						
ARCES	**ARCESS Array B**	**84.82**	**340**	P	**P**	**22 14 38.0**	**+0.6**
	4.2nm,1.0s,baz=76,slow=5.8,SNR=6.0						
	4.2nm,1.0s						
FINES	**FINESS Array B**	**86.42**	**332**	P	**P**	**22 14 45.3**	**-0.2**
	1.6nm,0.8s,baz=58,slow=5.6,SNR=7.8						
	1.6nm,0.8s						
HFS	**Hagfors**	**92.59**	**332**	P	**P**	**22 15 14.7**	**+0.1**
	0.7nm,0.7s,baz=51,slow=8.0,SNR=1.8						
	0.7nm,0.7s						
YKA	**Yellowknife Ar**	**94.65**	**24**	P	**P**	**22 15 23.3**	**-0.7**
	0.2nm,0.7s,baz=300,slow=4.6,SNR=3.8						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**120.20**	**291**	PKP	**PKiKP**	**22 20 56.1**	**+1.1**
	74nm,0.3s,baz=57,slow=4.7,SNR=1.4						

*IDC **27** 22:09:15.2±1.1, 39°.20N×97°.53E, h0km, mb3.3/6, mbtmp3.5/10, ML3.1/4, MS2.7/1, Error ellipse: s-maj=26.4km s-min=18.7km az=50.0*

ISC 27 22:09:19.7±0.9, 39°.3N±0°.1×97°.2E±0°.1, h35km, n10, σ2°17/11, mb3.3/5, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**10.84**	**35**	Pn	**Pn**	**22 11 52.1**	**-0.4**
	0.8nm,0.3s,baz=220,slow=14,SNR=9.3						
SONM				Lg	Lg	22 14 54.9	
	0.7nm,0.3s,baz=215,slow=29,SNR=4.1						
	1.7nm,0.4s						
MKAR	**Makanchi Array**	**13.23**	**309**	Pn	**Pn**	**22 12 24.6**	**-0.4**
	0.1nm,0.3s,baz=108,slow=14,SNR=1.9						
MKAR				Sn	**Sn**	**22 14 47.0**	**-3.8**
	baz=126,slow=20,SNR=1.3						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**16.92**	**334**	Pn	**P**	**22 13 16.6**	**+1.3**
	0.2nm,0.3s,baz=144,slow=12,SNR=5.8						
ZALV				LR	LR	22 20 26.8	
	comp=Z,26nm,19.7s,baz=36,slow=39						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**17.36**	**317**	P	**P**	**22 13 21.2**	**+1.1**
	baz=124,slow=12,SNR=9.2						
KURBB				Lg	Lg	22 18 32.9	
	baz=113,slow=30						
	1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.80**	**175**	P	**P**	**22 13 56.3**	**-1.7**
	0.6nm,0.4s,baz=341,slow=9.8,SNR=1.8						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**22.94**	**316**	P	**P**	**22 14 22.2**	**+1.6**
	0.7nm,0.6s,baz=123,slow=10,SNR=3.3						
	0.7nm,0.6s						
KSRS	**Korea Array**	**24.11**	**85**	P	**P**	**22 14 30.4**	**-1.6**
	0.5nm,0.5s,baz=276,slow=8.1,SNR=2.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**71.40**	**145**	P	**P**	**22 20 36.2**	**-0.1**
	0.3nm,0.7s,baz=326,slow=6.5,SNR=3.0						
	0.3nm,0.7s						
ESDC	**Sonseca Array**	**73.44**	**308**	P	**P**	**22 20 52.0**	**+3.5**
	0.3nm,0.9s,baz=55,slow=5.2,SNR=2.2						
	0.3nm,0.9s						
YKA	**Yellowknife Ar**	**75.40**	**15**	P	**P**	**22 20 59.2**	**-0.1**
	0.2nm,0.9s,baz=335,slow=6.0,SNR=3.6						
	0.2nm,0.9s						

*TRN **27** 22:15:52.8, 10°.42N×62°.31W, h2km, MD3.9, Gulf of Paria.*
*FUNV **27** 22:15:53.7, 10°.27N×62°.11W, h13km, MW3.8*

ISC 27 22:15:53.3±1.0, 10°.43N±0°.07×62°.32W±0°.06, h10km, n28, σ1°36/35, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.93**	**76**	*eP*	**Pg**	**22 16 09.7**	**-1.5**
TBH	**Brigand Hill**	**1.23**	**87**	*eP*	**Pg**	**22 16 17.6**	**+0.6**
TPR	**Prospect**	**1.69**	**63**	*eP*	**Pb**	**22 16 24.5**	**-0.1**
GRFF	**Grenada Fort F**	**1.71**	**19**	*eP*	**Pn**	**22 16 23.5**	**+0.3**
GRGR	**Grenville**	**1.81**	**21**	*eP*	**Pn**	**22 16 25.2**	**+0.5**
GRGR				*eS*	**Sb**	**22 16 49.8**	**+0.4**
GRW	**Mount Saint Ca**	**1.84**	**20**	*eP*	**Pb**	**22 16 26.9**	**-0.2**
GRSS	**Sisters**	**1.98**	**20**	*eP*	**Pb**	**22 16 28.3**	**-1.2**
GCMP	**Grenada, Carri**	**2.22**	**23**	*eP*	**Pn**	**22 16 30.9**	**+0.6**
GCMP				*eS*	**Sb**	**22 16 59.5**	**-1.7**
PCRV	**Puerto La Cruz**	**2.29**	**264**	*eP*	**Pn**	**22 16 32.2**	**+0.9**
PCRV				*eS*	**Sn**	**22 17 01.1**	**+1.5**
PCRV	**Puerto La Cruz**	**2.29**	**264**	*eP*	**Pn**	**22 16 32.6**	**+1.3**
SVOC	**Richmond Hill,**	**2.91**	**22**	*eP*	**Pn**	**22 16 40.7**	**+0.9**
SVT	**Saint Vincent**	**2.92**	**21**	*eP*	**Pn**	**22 16 40.6**	**+0.8**
SLAC	**Saint Lucia, A**	**3.72**	**22**	*eP*	**Pn**	**22 16 52.3**	**+1.5**
SLAC				*eS*	**Sn**	**22 17 34.5**	**-0.2**
SLBI	**Saint Lucia, B**	**3.81**	**20**	*eP*	**Pn**	**22 16 53.0**	**+0.9**
SLBI				*eS*	**Sn**	**22 17 38.3**	**+1.4**
BIM	**Bigot**	**4.24**	**17**	*eP*	**Pn**	**22 16 58.6**	**+0.5**
BIM				*eS*	**Sn**	**22 17 47.0**	**-0.7**
SVN	**Savane Anatole**	**4.53**	**14**	*eP*	**Pn**	**22 17 03.2**	**+1.2**
ILAM	**Ilet Lapin Mar**	**4.54**	**18**	*eP*	**Pn**	**22 17 03.7**	**+1.5**
TACV	**Tcata**	**4.64**	**267**	*eP*	**Pn**	**22 17 04.7**	**+1.0**
CACV	**CAICARA DEL OR**	**5.05**	**236**	*i P*	Pn	22 17 03.3	-5.9
CACV				*eS*	Sn	22 17 54.8	-13
DSLB	**Salisbury**	**5.05**	**10**	*eP*	**Pn**	**22 17 10.9**	**+1.7**
BENV	**Beln**	**5.22**	**265**	*eP*	**Pn**	**22 17 12.8**	**+1.3**
BENV				*eS*	**Sn**	**22 18 11.2**	**-0.7**
BAUV	**El Baul**	**5.83**	**256**	*eP*	**Pn**	**22 17 20.0**	**0.0**
BAUV				*eS*	**Sn**	**22 18 23.8**	**-3.2**
BAUV	**El Baul**	**5.83**	**256**	*eP*	**Pn**	**22 17 20.5**	**+0.5**
MBWH		**6.28**	**1**	*eP*	**Pn**	**22 17 28.1**	**+2.0**
MBFL	**Flemmings, Mon**	**6.28**	**1**	*eP*	**Pn**	**22 17 27.8**	**+1.7**
ANBD	**Bethesda, Anti**	**6.60**	**5**	*eP*	**Pn**	**22 17 32.9**	**+2.4**
TEPV	**Terepaima**	**6.78**	**267**	*eP*	**Pn**	**22 17 33.6**	**+0.5**
ANWB	**Willy Bob**	**7.21**	**4**	*eP*	**Pn**	**22 17 41.5**	**+2.6**

*IDC **27** 22:26:36.4±1.1, 9°.37N×126°.32E, h0km, mb3.7/7, mbtmp3.7/7, MS3.2/2, Error ellipse: s-maj=96.6km s-min=23.2km az=72.0*

ISC 27 22:26:43.3±1.0, 9°.3N±0°.2×126°.2E±0°.5, h50km, n9, σ0°54/7, mb3.4/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.31**	**196**	LR	LR	22 28 35.7	
	comp=Z,376nm,19.0s,baz=16,slow=50						
TGY	**Tagaytay City**	**7.03**	**313**	LR	LR	22 31 51.1	
	comp=Z,266nm,19.0s,baz=192,slow=45						
WRA	**Warramunga Arr**	**30.14**	**165**	P	**P**	**22 32 49.3**	**+0.6**
	0.4nm,0.7s,baz=344,slow=8.4,SNR=1.6						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**33.62**	**167**	P	**P**	**22 33 18.9**	**-0.4**
	0.2nm,0.6s,baz=341,slow=8.1,SNR=1.6						
	0.2nm,0.6s						
SONM	**Songino Array**	**41.90**	**340**	P	**P**	**22 34 29.5**	**+0.6**
	0.4nm,0.5s,baz=151,slow=9.3,SNR=2.5						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**52.76**	**323**	P	**P**	**22 35 53.3**	**0.0**
	0.2nm,0.6s,baz=110,slow=6.7,SNR=2.6						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**85.08**	**340**	P	**P**	**22 39 13.5**	**0.0**
	2.2nm,0.9s,baz=77,slow=4.1,SNR=4.4						
	2.2nm,0.9s						
FINES	**FINESS Array B**	**86.71**	**332**	P	**P**	**22 39 21.1**	**-0.6**
	3.4nm,1.1s,baz=69,slow=5.2,SNR=3.6						
	3.4nm,1.1s						
YKA	**Yellowknife Ar**	**94.65**	**24**	P	**P**	**22 39 58.5**	**-0.2**
	0.2nm,0.7s,baz=304,slow=3.6,SNR=4.7						
	0.2nm,0.7s						

*CATAC **27** 22:35:15.9±0.6, 10°.N±4°.×8°.4W±°., h24km±7km, M3.5/6, MLv3.5/6, Error ellipse: s-maj=21.0km s-min=5.4km az=72.8, confirmed*
*UCR **27** 22:35:16.2±1.2, 9°.54N×83°.90W, h31km±1km, MW3.5*

ISC 27 22:35:16.1±0.9, 9°.53N±0°.02×83°.90W±0°.03, h32km±5km, n90, σ0°70/99, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIEC	**Cerro El Cedra**	**0.11**	**329**	*eP*	**Pb**	**22 35 21.9**	**-0.3**
PIEC				*eS*	**Sb**	**22 35 26.6**	**+0.4**
RAZU	**San Marcos de**	**0.18**	**317**	*eP*	**Pb**	**22 35 22.1**	**-0.4**
RAZU				*eS*	**Sb**	**22 35 26.9**	**0.0**
LLNJ	**Naranjito**	**0.20**	**255**	*eP*	**Pb**	**22 35 22.4**	**-0.2**
LLNJ				*eS*	**Sb**	**22 35 27.4**	**+0.4**
ABE2	**San Pablo**	**0.23**	**319**	*eP*	**Pb**	**22 35 22.6**	**-0.6**
LCR2	**La Lucha 2**	**0.24**	**334**	*eP*	**Pb**	**22 35 22.5**	**-0.7**
LCR2				*eS*	**Sb**	**22 35 27.6**	**-0.4**
LCR2	**La Lucha 2**	**0.24**	**334**	S	**Sb**	**22 35 29.3**	**+1.3**
LCR2	**La Lucha 2**	**0.24**	**334**	P	**Pb**	**22 35 22.7**	**-0.5**
PISJ	**San Jernim**	**0.24**	**295**	*eP*	**Pb**	**22 35 22.6**	**-0.6**
PISJ				*eS*	**Sb**	**22 35 28.1**	**+0.1**
QUEP	**Quepos**	**0.28**	**250**	*eP*	**Pb**	**22 35 22.8**	**-0.7**
QUEP				*eS*	**Sb**	**22 35 28.3**	**-0.2**
SVQ2	**Quepos**	**0.28**	**250**	*eP*	**Pb**	**22 35 22.8**	**-0.7**
SVQ2				*eS*	**Sb**	**22 35 28.5**	**0.0**
REPA	**Paraso**	**0.30**	**6**	*eP*	**Pb**	**22 35 23.6**	**-0.3**
REPA				*eS*	**Sn**	**22 35 29.7**	**-0.3**
PICV	**PH. Pirrs**	**0.31**	**289**	*eP*	**Pb**	**22 35 23.3**	**-0.6**
PICV				*eS*	**Sb**	**22 35 28.8**	**-0.3**
TAGO	**Cartago**	**0.34**	**356**	*eP*	**Pb**	**22 35 24.1**	**-0.3**
TAGO				*eS*	**Sn**	**22 35 30.5**	**-0.4**
ACOS	**Acosta**	**0.37**	**316**	*eP*	**Pb**	**22 35 24.1**	**-0.7**
TRIO	**Tres Rios**	**0.39**	**346**	*eP*	**Pb**	**22 35 22.5**	**-2.6**
VINA	**Juan Vinas**	**0.40**	**23**	*eP*	**Pn**	**22 35 26.1**	**+0.3**
PCAYA	**Pacayas**	**0.40**	**13**	*eP*	**Pb**	**22 35 25.1**	**-0.2**
AMPA	**Desamparados**	**0.40**	**337**	*eP*	Pn	22 35 30.8	+4.9
SAJE	**San Jernim**	**0.43**	**115**	*eP*	**Pb**	**22 35 25.3**	**-0.3**
LUJA	**Lujan**	**0.43**	**337**	*eP*	Pb	22 35 19.5	-6.2
TURIB	**Turrialba**	**0.43**	**29**	*eP*	**Pb**	**22 35 25.2**	**-0.5**
SJS3	**Mercedes San J**	**0.43**	**340**	*eP*	**Pb**	**22 35 25.4**	**-0.4**
SJS	**Escuela Geolog**	**0.44**	**340**	*eP*	**Pb**	**22 35 25.3**	**-0.5**
CENT	**San Jose**	**0.44**	**336**	*eP*	**Pb**	**22 35 25.0**	**-0.9**
RAFA	**San Farael, Vo**	**0.44**	**12**	*eP*	**Pb**	**22 35 25.7**	**-0.2**
RAFA	**San Farael, Vo**	**0.44**	**12**	S	**Sn**	**22 35 33.3**	**-0.3**
LUPE	**Guadalupe**	**0.44**	**340**	*eP*	**Pb**	**22 35 25.6**	**-0.3**
CORON	**Coronado**	**0.45**	**347**	*eP*	**Pb**	**22 35 26.0**	**-0.1**
VICA	**Volcano Irazu**	**0.46**	**7**	*eP*	**Pb**	**22 35 26.0**	**-0.3**
VERB	**Verbena**	**0.46**	**26**	*eP*	**Pb**	**22 35 26.0**	**-0.2**
VTCV	**VTCV, Calle Va**	**0.48**	**21**	*eP*	**Pb**	**22 35 26.4**	**-0.2**
VTLA	**Turrialba Volc**	**0.49**	**15**	*eP*	**Pb**	**22 35 26.5**	**-0.2**
DOMI	**Santo Domingo**	**0.49**	**337**	*eP*	**Pb**	**22 35 26.3**	**-0.3**
SANTA	**Santa Ana**	**0.49**	**325**	*eP*	**Pb**	**22 35 25.8**	**-0.8**
CVTQ	**Turrialba Volc**	**0.49**	**16**	*eP*	**Pb**	**22 35 26.7**	**-0.1**
CVIMO	**Finca Echandi**	**0.49**	**355**	*eP*	**Pb**	**22 35 26.5**	**-0.3**
CVTV	**Tajo**	**0.50**	**17**	*eP*	**Pn**	**22 35 26.8**	**-0.6**
OCHAL	**Ojochal**	**0.50**	**149**	P	**Pb**	**22 35 26.6**	**0.0**
OCHAL	**Ojochal**	**0.50**	**149**	S	**Sn**	**22 35 34.9**	**+0.3**
VTR0	**Volcan Turrial**	**0.51**	**16**	*eP*	**Pb**	**22 35 26.9**	**-0.2**
CVTR	**Volcan Turrial**	**0.51**	**16**	*eP*	**Pb**	**22 35 26.8**	**-0.3**
RVSTA	**Santa Teresita**	**0.51**	**29**	*eP*	**Pb**	**22 35 26.6**	**-0.3**
PURI	**Puriscal**	**0.51**	**308**	*eP*	**Pb**	**22 35 26.3**	**-0.7**
BELE	**Belen**	**0.53**	**328**	*eP*	**Pb**	**22 35 26.5**	**-0.7**
VBV1	**V. Barva**	**0.61**	**341**	*eP*	**Pb**	**22 35 28.3**	**-0.5**
CVTG	**V. Turrialba,**	**0.63**	**11**	*eP*	**Pn**	**22 35 28.8**	**-0.1**
TCS1	**Tacares**	**0.65**	**322**	*eP*	**Pb**	**22 35 28.5**	**-0.6**
TCS1	**Tacares**	**0.65**	**322**	P	**Pb**	**22 35 28.9**	**-0.2**
RVLA	**Villa Bonita**	**0.65**	**28**	*eP*	**Pn**	**22 35 28.9**	**-0.3**
BURE	**Buenos Aires**	**0.66**	**122**	*eP*	**Pn**	**22 35 29.3**	**0.0**
IRES	**Siquirres**	**0.69**	**35**	*eP*	**Pn**	**22 35 29.7**	**0.0**
PILE	**Guapiles**	**0.69**	**9**	*eP*	**Pn**	**22 35 30.8**	**+1.0**
VPS8	**V Poas**	**0.73**	**333**	*eP*	**Pb**	**22 35 30.1**	**-0.5**
FIMO	**Fila Mora**	**0.76**	**135**	*eP*	**Pn**	**22 35 31.2**	**+0.4**
SRA1	**San Ramn**	**0.80**	**314**	*eP*	**Pb**	**22 35 30.5**	**-1.1**
CARI	**Cariari**	**0.85**	**11**	*eP*	**Pn**	**22 35 33.0**	**+1.1**
ARTO	**Ro Cuarto**	**0.87**	**339**	*eP*	**Pn**	**22 35 32.2**	**0.0**
GDPP	**Potrero Grande**	**0.88**	**125**	*eP*	**Pb**	**22 35 32.6**	**0.0**
VPL2	**V. Platanar**	**0.91**	**328**	*eP*	**Pn**	**22 35 31.9**	**-0.9**
SOCE	**Pocosol**	**1.10**	**320**	*eP*	**Pn**	**22 35 35.6**	**+0.1**
SOCE	**Pocosol**	**1.10**	**320**	P	**Pn**	**22 35 35.8**	**+0.4**
SOCE	**Pocosol**	**1.10**	**320**	S	**Sb**	**22 35 50.8**	**0.0**
EDAD	**Golfito**	**1.13**	**140**	*eP*	**Pn**	**22 35 35.7**	**-0.1**
CBL1	**Cabuya**	**1.18**	**273**	*eP*	**Pn**	**22 35 36.8**	**+0.4**
ALCO	**Alturas Coton,**	**1.20**	**119**	*eP*	**Pn**	**22 35 37.1**	**+0.2**
FORC	**Fortuna**	**1.20**	**321**	*eP*	**Pn**	**22 35 36.9**	**+0.2**
ARE1	**Arenal 1**	**1.23**	**319**	*eP*	**Pn**	**22 35 37.8**	**+0.7**
VARE2	**V. Arenal**	**1.23**	**319**	*eP*	**Pn**	**22 35 37.8**	**+0.6**
CEDE	**Laguna Cedeo**	**1.24**	**320**	*eP*	**Pn**	**22 35 37.5**	**+0.1**
PIRO	**Carate, Puerto**	**1.25**	**153**	S	**Sb**	**22 35 54.5**	**-0.4**
PIRO	**Carate, Puerto**	**1.25**	**153**	P	**Pn**	**22 35 37.2**	**-0.2**
COVE	**Coope Vega, Sa**	**1.28**	**337**	P	**Pb**	**22 35 38.9**	**-0.8**
COVE	**Coope Vega, Sa**	**1.28**	**337**	S	**Sb**	**22 35 56.1**	**+0.3**
JTS	**Las Juntas de**	**1.28**	**306**	*eP*	**Pn**	**22 35 37.2**	**-0.7**
BRU2	**Volcan**	**1.40**	**121**	*eP*	**Pn**	**22 35 39.8**	**+0.2**
BRU2	**Volcan**	**1.40**	**121**	P	**Pn**	**22 35 40.1**	**+0.4**
QUEB	**Quebradon, Cot**	**1.46**	**318**	*eP*	**Pn**	**22 35 41.1**	**+0.7**
INVE	**Universidad In**	**1.48**	**310**	*eP*	**Pn**	**22 35 41.6**	**+0.9**
TENO	**El Achiote**	**1.58**	**318**	*eP*	**Pn**	**22 35 43.1**	**+1.1**
CMARA	**Lajas Hojancha**	**1.58**	**288**	*eP*	**Pn**	**22 35 43.0**	**+1.0**
CMARA	**Lajas Hojancha**	**1.58**	**288**	P	**Pn**	**22 35 43.0**	**+1.0**
INDI	**Punta indio, G**	**1.61**	**282**	P	**Pn**	**22 35 43.0**	**+0.6**
VMAR	**Armenia, Volca**	**1.75**	**317**	*eP*	**Pn**	**22 35 45.8**	**+1.4**
MESS	**Mesas**	**1.75**	**314**	*eP*	**Pn**	**22 35 46.0**	**+1.5**
LAPC	**Finca la Perla**	**1.95**	**309**	*i P*	**Pn**	**22 35 48.8**	**+1.8**
LAPC				*eP*	**Pn**	**22 35 48.8**	**+1.8**
AERN	**Aeropuerto Man**	**3.42**	**320**	P	**Pn**	**22 36 07.6**	**+0.3**
MAFN	**Magfor**	**3.43**	**318**	P	**Pn**	**22 36 08.6**	**+1.1**
USIM	**UNÁN**	**3.47**	**318**	P	**Pn**	**22 36 09.2**	**+1.2**
ALLN	**Telcor Managua**	**3.50**	**318**	P	**Pn**	**22 36 09.6**	**+1.2**
AESN	**El Sauce Leon**	**4.23**	**322**	P	**Pn**	**22 36 18.4**	**0.0**

*IDC **27** 22:49:52.7±1.3, 29°.97S×72°.12W, h0km, mb4.0/1, mbtmp3.7/3, ML3.7/2, MS2.9/1, Error ellipse: s-maj=67.5km s-min=27.9km az=98.0*
*SJA **27** 22:49:57.9±0.7, 30°.22S×71°.69W, h31km±4km, ML3.7, MW3.8*
*NEIC **27** 22:50:01.9±1.8, 30°.27S±0°.04×71°.47W±0°.08, h60km±3km, mb4.0/2, Error ellipse: s-maj=10.3km s-min=6.3km az=94.0*
*GUC **27** 22:50:02.1±0.6, 30°.27S×71°.34W, h66km±2km, ML4.0*

ISC 27 22:50:01.9±0.8, 30°.26S±0°.03×71°.48W±0°.04, h56km±6km, n100, σ1°71/121, mb4.2/3, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.40**	**32**		**Pn**	**22 50 13.0**	**+0.5**
CO05					**Sn**	**22 50 20.8**	**+0.8**
CO05	**La Serena**	**0.40**	**32**	*⇓i P*	**Pn**	**22 50 12.9**	**+0.5**
CO05				*eS*	**Sn**	**22 50 20.8**	**+0.8**
CO05				IAML		22 50 21.5	
	comp=N,12μm,0.3s						
CO06	**Fray Jorge**	**0.43**	**198**		**Pn**	**22 50 14.2**	**+1.3**
CO06					**Sn**	**22 50 22.9**	**+2.2**
CO06	**Fray Jorge**	**0.43**	**198**	*⇓i P*	**Pn**	**22 50 14.1**	**+1.3**
CO06				*eS*	**Sn**	**22 50 23.0**	**+2.2**
CO06				IAML		22 50 23.6	
	comp=N,12μm,0.2s						
GO04	**Tololo Observa**	**0.59**	**82**		**Pn**	**22 50 14.4**	**-0.5**
GO04					**Sn**	**22 50 23.3**	**-1.0**
GO04	**Tololo Observa**	**0.59**	**82**	*eP*	**Pn**	**22 50 14.2**	**-0.7**
GO04				*eS*	**Sn**	**22 50 23.3**	**-1.0**
GO04	**Tololo Observa**	**0.59**	**82**	*eP*	**Pn**	**22 50 13.5**	**-1.4**
CO03	**El Pedregal**	**0.90**	**130**		**Pn**	**22 50 17.8**	**-0.7**
CO03					**Sn**	**22 50 29.6**	**-1.0**
CO03	**El Pedregal**	**0.90**	**130**	*⇑i P*	**Pn**	**22 50 17.9**	**-0.6**
CO03				*eS*	**Sn**	**22 50 29.7**	**-1.0**
CO03				IAML		22 50 30.4	
	comp=E,24μm,0.3s						
CO03	**El Pedregal**	**0.90**	**130**	*eP*	**Pn**	**22 50 17.1**	**-1.4**
CO02	**Combarbal**	**1.03**	**156**		**Pn**	**22 50 20.3**	**0.0**
CO02	**Combarbal**	**1.03**	**156**	*⇑i P*	**Pn**	**22 50 20.3**	**0.0**
CO02				*eS*	**Sn**	**22 50 33.8**	**-0.1**
CO02				IAML		22 50 34.8	
	comp=E,11μm,0.1s						
CO02	**Combarbal**	**1.03**	**156**	*eP*	**Pn**

MT01	Popeta	3.60 177			Pn	22 50 55.0 -0.2
MT01	Popeta	3.60 177		eP	Pn	22 50 55.2 0.0
MT01				eS	Sn	22 51 36.8 +0.3
MT01				IAML		22 51 51.4
	comp=Z,260nm,0.4s					
AAGR	Agrelo	3.61 142		eP	Pn	22 50 53.4 -2.1
MT13	San Alfonso	3.62 164			Pn	22 50 56.8 +1.3
LMEL	Las Melosas	3.74 163			Pn	22 50 58.6 +1.3
LMEL	Las Melosas	3.74 163		eP	Pn	22 50 58.9 +1.7
LMEL				eS	Sn	22 51 42.2 +2.1
BO04	La Punta	3.79 169			Pn	22 50 58.1 +0.3
AC02	Maricunga	3.99 32			Pn	22 51 01.1 +0.1
AC02	Maricunga	3.99 32		eP	Pn	22 51 00.6 -0.4
AC02				eS	Sn	22 51 58.5 +12
AC02				IAML		22 52 06.7
	comp=Z,105nm,0.6s					
ACLC	CERRO LA CRUZ	4.02 79		eP	Pn	22 51 02.0 +0.9
BO01	Tunca	4.13 175			Pn	22 51 02.0 -0.5
BO01	Tunca	4.13 175		eP	Pn	22 51 01.8 -0.7
BO01				eS	Sn	22 51 50.0 +0.5
BO01				IAML		22 52 09.1
	comp=Z,105nm,0.9s					
AC01	Pan de Azucar	4.17 11	Pn		Pn	22 51 01.2 -1.9
AC01	Pan de Azucar	4.17 11	eP		Pn	22 51 01.4 -1.6
AC01				eS	Sn	22 52 07.0 +17
AC01				IAML		22 52 32.1
	comp=Z,65nm,0.6s					
ACHE	Chepes	4.24 103		eP	Pn	22 51 04.5 +0.4
APLL	PUNTA DE LOS L	4.28 93		eP	Pn	22 51 05.0 +0.4
BO02	Sierra Bellavi	4.56 173			Pn	22 51 08.6 +0.2
BO02	Sierra Bellavi	4.56 173		eP	Pn	22 51 08.9 +0.5
BO02				eS	Sn	22 52 01.1 +0.9
BI02	San Fabin de	6.39 179			Pn	22 51 32.9 -0.6
PB10	IPOC Station P	6.77 7	Pn		Pn	22 51 37.1 -1.6
H03N1	Juan Fernandez	7.07 241	T		T	22 59 20.6
	baz=66,slow=72,SNR=501					
H03N2	Juan Fernandez	7.09 242	T		T	22 59 21.1
	baz=66,slow=72,SNR=429					
H03N3	Juan Fernandez	7.09 241	T		T	22 59 19.8
	baz=66,slow=72,SNR=408					
VA04	Juan Fernndez	7.10 240	Pn		Pn	22 51 42.6 -0.5
PB05	IPOC Station P	7.46 9	Pn		Pn	22 51 46.3 -2.0
PLCA	Paso Flores	10.48 176	Pn		Pn	22 52 30.2 +0.8
	comp=Z,0.1nm,0.3s,baz=0.0,slow=6.1,SNR=1.2					
PLCA			Sn		Sn	22 54 30.9 +5.6
	comp=Z,0.1nm,0.3s,baz=283,slow=10,SNR=2.3					
PLCA			LR		LR	22 56 32.2
	comp=Z,60nm,20.3s,baz=188,slow=37 comp=Z,1.4nm,0.9s					
TRQA	Tornquist	11.06 137	Pn		Pn	22 52 35.9 -1.4
CPUP	Villa Florida	13.07 76	Pn		Pn	22 53 05.8 +1.1
	comp=Z,0.2nm,0.3s,baz=247,slow=12,SNR=1.6 comp=Z,1.3nm,0.9s					
GO09	Cerro Castillo	21.00 182	P		P	22 54 41.2 +0.7
GO09			IAmb		IAmb	22 55 07.3
	comp=Z,16nm,1.3s					
BELA	Belgrano 2	50.48 171	P		P	22 58 53.6 -0.1
BELA			IAmb		IAmb	22 59 09.0
	comp=Z,1.2nm,1.0s					
QSPA	South Pole Qui	59.97 180	P		P	23 00 01.9 -0.4
QSPA	South Pole Qui	59.97 180	P		P	23 00 02.4 +0.1
	comp=Z,1.0nm,0.6s,baz=139,slow=1.8,SNR=10.0 comp=Z,1.0nm,0.6s					
TORD	Torodi Ar. Bea	82.49 70	P		P	23 02 16.9 -2.0
BVAR	Borovoye Array	144.16 40	PKP		PKPdf	23 09 29.9 -1.1
	comp=Z,0.4nm,0.5s,baz=288,slow=1.4,SNR=3.8					
KURBB	Kurchatov Arra	149.75 39	PKPbc		PKPbc	23 09 44.9 -0.2
	comp=Z,0.7nm,0.5s,baz=305,slow=3.0,SNR=12					
ZALV	Zalesovo Beam	150.78 29	PKPbc		PKPbc	23 09 45.8 -1.6
	comp=Z,2.5nm,0.6s,baz=315,slow=3.3,SNR=12					
MKAR	Makanchi Array	153.84 44	PKPbc		PKPbc	23 09 53.7 -0.9
	comp=Z,0.2nm,0.6s,baz=303,slow=0.4,SNR=2.9					

*IDC **27** 22:52:11.1±0.8, 11°.62N×125°.25E, h0km, mb4.0/16, mbtmp4.0/16, MS3.2/3, Error ellipse: s-maj=39.6km s-min=17.3km az=68.0*

ISC 27 22:52:16.8±0.8, 11°.6N±0°.1×125°.2E±0°.2, h40km, n25, σ0°78/19, mb4.1/16, MS3.6/3, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	26.26	288	P	P	22 57 49.4	+0.9
	2.1nm,0.3s,baz=87,slow=10,SNR=4.7						
CMAR				LR	LR	23 07 30.9	
	comp=Z,14nm,20.0s,baz=215,slow=35 2.1nm,0.3s						
WRA	Warramunga Arr	32.59	164	P	P	22 58 44.0	-0.7
	0.5nm,0.9s,baz=350,slow=8.3,SNR=1.5 0.5nm,0.9s						
ASAR	Alice Springs	36.05	166	P	P	22 59 16.0	+1.3
	0.5nm,0.5s,baz=345,slow=9.2,SNR=15						
ASAR				PcP	PcP	23 01 40.3	-0.1
	0.2nm,0.4s,baz=342,slow=3.5,SNR=2.0 0.5nm,0.5s						
SONM	Songino Array	39.44	340	P	P	22 59 43.4	+0.2
	0.3nm,0.4s,baz=150,slow=9.3,SNR=3.4 0.3nm,0.4s						
H11S3	WAKE ISLAND Hy 40.57	75		T	T	23 43 05.7	
	baz=270,slow=77						
H11S1	WAKE ISLAND Hy 40.58	75		T	T	23 43 20.2	
	baz=270,slow=77						
H11S2	WAKE ISLAND Hy 40.59	75		T	T	23 43 07.7	
	baz=270,slow=77						
H11N1	WAKE ISLAND Hy 40.85	73		T	T	23 43 26.7	
	baz=266,slow=75,SNR=42						
H11N2	WAKE ISLAND Hy 40.86	73		T	T	23 43 18.7	
	baz=266,slow=75,SNR=44						
H11N3	WAKE ISLAND Hy 40.87	73		T	T	23 43 16.2	
	baz=266,slow=75,SNR=46						
PETK	Petropavlovsk-	48.89	25	P	P	23 00 59.1	+0.5
	1.3nm,1.0s,baz=212,slow=7.5,SNR=2.0 1.3nm,1.0s						
MKAR	Makanchi Array	50.36	323	P	P	23 01 10.9	+1.0
	1.6nm,0.7s,baz=119,slow=8.3,SNR=19						
MKAR				PcP	PcP	23 02 27.8	-0.3
	0.3nm,0.5s,baz=110,slow=3.9,SNR=2.8 1.6nm,0.7s						
ZALV	Zalesovo Beam	52.98	331	P	P	23 01 29.5	+0.2
	1.0nm,0.3s,baz=126,slow=6.7,SNR=7.3 1.0nm,0.3s						
KURBB	Kurchatov Arra	54.41	325	P	P	23 01 40.5	+0.7
	3.4nm,0.6s,baz=124,slow=7.0,SNR=36 3.4nm,0.6s						
BVAR	Borovoye Array	60.00	325	P	P	23 02 19.7	+0.4
	0.4nm,0.3s,baz=125,slow=7.2,SNR=4.9 0.4nm,0.3s						
GNI	Garni	75.38	309	LR	LR	23 42 16.9	
	comp=Z,26nm,18.4s,baz=242,slow=40						
KBZ	Khabaz	76.56	312	LR	LR	23 40 18.9	
	comp=Z,33nm,20.8s,baz=194,slow=38						
SPITS	Spitsbergen Ar	82.53	349	P	P	23 04 35.3	+0.3
	3.6nm,0.8s,baz=93,slow=12,SNR=5.7 3.6nm,0.8s						
ARCES	ARCESS Array B	82.61	340	P	P	23 04 35.7	+0.1
	3.0nm,0.7s,baz=78,slow=4.6,SNR=16 3.0nm,0.7s						
MMAI	Mount Meron Ar	83.63	302	P	P	23 04 41.6	0.0
	0.2nm,0.4s,baz=90,slow=4.3,SNR=1.6 0.2nm,0.4s						
BRTR	Keskin Array B	83.90	309	P	P	23 04 42.1	-0.9
	0.3nm,0.6s,baz=113,slow=4.0,SNR=4.1 0.3nm,0.6s						
FINES	FINESS Array B	84.25	332	P	P	23 04 44.0	-0.1
	0.8nm,0.3s,baz=81,slow=4.7,SNR=14 0.8nm,0.3s						
AKASG	Malin Array Be	84.90	321	P	P	23 04 46.0	-1.6
	0.4nm,0.4s,baz=69,slow=4.6,SNR=2.7 0.4nm,0.4s						
HFS	Hagfors	90.41	332	P	P	23 05 12.8	-1.1
	0.4nm,0.3s,baz=70,slow=4.7,SNR=6.6 0.4nm,0.3s						
TORD	Torodi Ar. Bea	118.82	292	PKP	PKPdf	23 11 01.7	-0.2
	117nm,0.3s,baz=129,slow=2.0,SNR=2.2						

*IDC **27** 23:04:45.3±14.0, 27°.58N×139°.94E, h551km±177km, mb2.8/7, mbtmp3.7/7, Error ellipse: s-maj=67.2km s-min=24.0km az=65.0*

ISC 27 23:04:39.3±1.2, 27°.6N±0°.2×140°.1E±0°.3, h479km, n7, σ0°41/7, mb3.4/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	48.68	309	P	P	23 12 39.2	+0.4
	0.1nm,0.4s,baz=99,slow=11,SNR=1.8 0.1nm,0.4s						
KURBB	Kurchatov Arra	51.32	314	P	P	23 12 58.2	+0.1
	0.6nm,0.6s,baz=90,slow=7.2,SNR=9.1 0.6nm,0.6s						
ASAR	Alice Springs	51.35	187	P	P	23 12 58.7	0.0
	0.1nm,0.4s,baz=3.4,slow=6.7,SNR=1.4 0.1nm,0.4s						
BVAR	Borovoye Array	56.37	317	P	P	23 13 33.9	+0.1
	0.8nm,0.4s,baz=77,slow=7.6,SNR=8.3 0.8nm,0.4s						
FINES	FINESS Array B	76.62	333	P	P	23 15 39.4	-0.1
	3.4nm,1.0s,baz=64,slow=6.0,SNR=3.5 3.4nm,1.0s						
AKASG	Malin Array Be	81.06	323	P	P	23 16 02.8	-0.6
	0.4nm,0.3s,baz=52,slow=6.4,SNR=1.9 0.4nm,0.3s						
NVAR	Mina Array Bea	81.65	51	P	P	23 16 07.3	+0.2
	0.6nm,0.6s,baz=304,slow=5.1,SNR=2.4 0.6nm,0.6s						

*IDC **27** 23:04:43.1±1.0, 9°.50N×126°.31E, h0km, mb3.7/8, mbtmp3.7/8, MS2.9/2, Error ellipse: s-maj=91.6km s-min=20.9km az=70.0*

ISC 27 23:04:50.0±1.0, 9°.4N±0°.2×126°.2E±0°.5, h50km, n16, σ0°66/9, mb3.5/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.44	195	LR	LR	23 06 43.0	
	comp=Z,149nm,19.1s,baz=323,slow=48						
PMG	Port Moresby	28.01	131	LR	LR	23 25 19.1	
	comp=Z,36nm,18.3s,baz=110,slow=44						
WRA	Warramunga Arr	30.27	165	P	P	23 10 55.7	-0.8
	0.3nm,0.3s,baz=348,slow=9.0,SNR=4.5 0.3nm,0.3s						
ASAR	Alice Springs	33.75	167	P	P	23 11 27.9	+0.9
	0.5nm,1.0s,baz=346,slow=8.3,SNR=4.4 0.5nm,1.0s						
H11S3	WAKE ISLAND Hy 40.20	73		T	T	23 55 26.2	
	baz=264						
H11S1	WAKE ISLAND Hy 40.21	73		T	T	23 55 29.7	
	baz=264						
H11S2	WAKE ISLAND Hy 40.22	73		T	T	23 55 29.3	
	baz=264						
H11N1	WAKE ISLAND Hy 40.56	71		T	T	23 56 00.5	
	baz=265						
H11N2	WAKE ISLAND Hy 40.57	71		T	T	23 55 54.1	
	baz=265						
H11N3	WAKE ISLAND Hy 40.58	71		T	T	23 55 54.9	
	baz=265						
SONM	Songino Array	41.78	340	P	P	23 12 35.0	+0.3
	0.3nm,0.4s,baz=141,slow=9.3,SNR=1.8 0.3nm,0.4s						
MKAR	Makanchi Array	52.66	323	P	P	23 13 58.8	-0.4
	0.4nm,0.6s,baz=119,slow=7.6,SNR=5.1						
MKAR				PcP	PcP	23 15 09.0	+0.3
	0.1nm,0.4s,baz=125,slow=2.3,SNR=2.1 0.4nm,0.6s						
KURBB	Kurchatov Arra	56.73	326	P	P	23 14 28.9	+0.3
	0.2nm,0.4s,baz=122,slow=7.6,SNR=5.3 0.2nm,0.4s						
ARCES	ARCESS Array B	84.95	340	P	P	23 17 19.7	+0.2
	0.8nm,0.6s,baz=84,slow=8.3,SNR=1.3 0.8nm,0.6s						
FINES	FINESS Array B	86.60	332	P	P	23 17 27.0	-0.8
	2.4nm,0.8s,baz=59,slow=5.4,SNR=2.6 2.4nm,0.8s						
YKA	Yellowknife Ar	94.53	24	P	P	23 18 04.8	-0.1
	0.1nm,0.6s,baz=295,slow=5.0,SNR=2.8 0.1nm,0.6s						

*IDC **27** 23:06:36.2±1.1, 24°.93S×179°.73E, h491km±10km, mb3.6/16, mbtmp4.5/18, Error ellipse: s-maj=13.0km s-min=10.1km az=89.0*
*NEIC **27** 23:06:36.2±1.9, 24°.9S±0°.1×179°.9E±0°.1, h497km±5km, mb4.4/33, Error ellipse: s-maj=18.2km s-min=11.9km az=47.0*
*NOU **27** 23:07:43.4, 31°.44S×178°.22E, h541km, mb4.0/8, Kermadec Islands Region*

ISC 27 23:06:37.2±0.4, 25°.04S±0°.05×179°.74E±0°.06, h507km, n132, σ1°44/151, mb4.3/29, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	4.67	154	P	P	23 08 01.7	+0.2
GLKZ	Green Lake	4.69	154	P	P	23 08 01.5	-0.2
GLKZ				S	S	23 09 10.5	-0.3
MSVF	Nonsavu	7.44	347	P	P	23 08 26.0	-2.3
MSVF	Nonsavu	7.44	347	P	P	23 08 26.7	-1.6
	6.1nm,0.3s,baz=189,slow=19,SNR=4.2						
MSVF				S	S	23 09 56.9	-2.3
	3.2nm,0.3s,baz=162,slow=20,SNR=1.1						
NIUE	Niue	11.27	60	P	P	23 09 10.8	+2.7
NIUE				S	S	23 11 12.1	-0.3
KUZ	Kuaotunu	12.16	195	P	P	23 09 18.7	+1.4
KUZ	Kuaotunu	12.16	195	P	P	23 09 18.7	+1.4
MXZ	Matakaoa Point	12.54	185	P	P	23 09 21.1	-0.1
MXZ	Matakaoa Point	12.54	185	P	P	23 09 22.9	+1.7
MXZ	Matakaoa Point	12.54	185	P	P	23 09 21.4	+0.1
DZM	Mont Dzumac	12.54	281	P	P	23 09 23.8	+2.1
	3.7nm,0.5s,baz=65,slow=17,SNR=2.1						
MKAZ	Moumakai	12.64	197	P	P	23 09 23.8	+1.5
HAZ	Te Kaha	12.78	187	P	P	23 09 25.0	+1.2
HAZ				S	S	23 11 37.7	-3.4
WMGZ	Waiomatatini S	12.79	185	P	P	23 09 25.3	+1.5
PKGZ	Pakihiroa	12.86	186	P	P	23 09 25.1	+0.4
PKGZ				S	S	23 11 39.2	-3.5
RUGZ	Raukumara Rang	13.00	187	P	P	23 09 26.5	+0.3
RUGZ				S	S	23 11 41.9	-3.7
PUZ	Puketiti	13.05	185	P	P	23 09 26.9	+0.3
PUZ				S	S	23 11 41.5	-4.8
TOZ	Tahuroa Road	13.15	195	P	P	23 09 29.4	+1.7
TWGZ	Tauwhareparae	13.18	186	P	P	23 09 29.0	+1.0
TWGZ				S	S	23 11 45.1	-3.8
URZ	Urewera	13.36	189	P	P	23 09 28.6	-1.2
	20nm,0.6s,baz=6.5,slow=2.1,SNR=17						
URZ				S	S	23 11 50.8	-1.6
	12nm,0.5s,baz=86,slow=19,SNR=11						
URZ	Urewera	13.36	189	P	P	23 09 28.7	-1.2
URZ	Urewera	13.36	189	P	P	23 09 28.5	-1.4
URZ				S	S	23 11 50.0	-2.3
MWZ	Matawai	13.38	188	P	P	23 09 28.7	-1.5
MWZ				S	S	23 11 48.9	-3.9
CNGZ	Carnagh Statio	13.46	185	P	P	23 09 32.0	+1.1
RIGZ	Rimuhau	13.72	187	P	P	23 09 33.3	-0.4
RIGZ				S	S	23 11 56.3	-3.1
PRGZ	Paritu Road	13.93	186	P	P	23 09 34.9	-1.0
RAHZ	Arahi	14.01	189	P	P	23 09 35.0	-1.8
KNZ	Kokohu	14.05	187	P	P	23 09 36.5	-0.6
MHGZ	Mahia Peninsul	14.15	186	P	P	23 09 39.7	+1.5
RATZ	Rangitukua	14.19	193	P	P	23 09 38.6	0.0
BKZ	Black Stump Fm	14.35	190	P	P	23 09 39.4	-0.9
BKZ	Black Stump Fm	14.35	190	P	P	23 09 41.5	+1.2
BKZ				S	S	23 12 08.4	-2.9
ARHZ	Aropaoanui	14.37	189	P	P	23 09 40.9	+0.4
TMVZ	Te Maari	14.44	193	P	P	23 09 40.7	-0.6
ETVZ	East Tongariro	14.46	193	P	P	23 09 41.1	-0.5
OTVZ	Oturere	14.49	193	P	P	23 09 41.5	-0.4
SNVZ	South Ngauruho	14.52	193	P	P	23 09 41.7	-0.6
KWHZ	Kaweka Forest	14.61	190	P	P	23 09 42.0	-1.1
PXZ	Pawanui	15.14	188	P	P	23 09 49.0	+0.5
WAZ	Wanganui	15.20	194	P	P	23 09 50.5	+1.3
TSZ	Takapari Road	15.30	191	P	P	23 09 48.4	-1.9
BFZ	Birch Farm	15.87	190	P	P	23 09 54.2	-1.9
BFZ	Birch Farm	15.87	190	P	P	23 09 53.9	-2.2
MRZ	Mangatainoka R	15.96	192	P	P	23 09 54.6	-2.5
TCW	Tory Channel	16.75	194	P	P	23 10 03.5	-1.7
SNZO	South Karori	16.76	193	P	P	23 10 04.6	-0.6
QRZ	Quartz Range	16.85	199	P	P	23 10 05.5	-0.8
QRZ	Quartz Range	16.85	199	P	P	23 10 05.4	-0.8
NNZ	Nelson	16.98	197	P	P	23 10 05.9	-1.5
THZ	Tophouse	17.61	197	P	P	23 10 12.1	-1.5
KHZ	Kahutara	18.07	195	P	P	23 10 16.7	-0.9
KHZ	Kahutara	18.07	195	P	P	23 10 16.4	-1.2
GVZ	Greta Valley S	18.71	195	P	P	23 10 22.3	-1.2
LTZ	Lake Taylor	18.73	197	P	P	23 10 22.7	-1.0
INZ	Inchbonnie	18.91	199	P	P	23 10 23.6	-1.8
OXZ	Oxford	19.30	197	P	P	23 10 28.5	-0.3
WVZ	Waitaha Valley	19.45	200	P	P	23 10 29.1	-1.0
MQZ	McQueen's Vall	19.50	196	P	P	23 10 29.6	-1.0
RPZ	Rata Peaks	19.93	199	P	P	23 10 35.3	+0.7
	7.8nm,0.6s,baz=40,slow=7.9,SNR=2.0 7.8nm,0.6s						
HNR	Honiara	24.40	306	P	P	23 11 14.0	-1.2
ARMA	Armidale	25.41	251	P	P	23 11 26.3	+2.2
ARMA				IAmb	IAmb	23 11 34.3	
	comp=Z,16nm,1.1s						
EIDS	Eidsvold	25.91	263	P	P	23 11 29.7	+1.3
EIDS				IAmb	IAmb	23 11 36.9	
	comp=Z,11nm,1.1s						
CAN	Canberra	28.38	242	P	P	23 11 51.2	+1.1
CAN				IAmb	IAmb	23 12 11.3	
	comp=Z,36nm,1.5s						
STKA	Stephens Creek	34.09	250	P	P	23 12 40.2	+1.2
STKA	Stephens Creek	34.09	250	P	P	23 12 40.3	+1.3
	comp=Z,1.2nm,0.3s,baz=82,slow=11,SNR=6.5 comp=Z,1.2nm,0.3s						
PMG	Port Moresby	34.66	291	P	P	23 12 44.5	+0.5
PMG				IAmb	IAmb	23 12 57.4	
	comp=Z,20nm,0.9s						
COEN	Coen	36.08	281	P	P	23 12 56.8	+1.0
COEN				IAmb	IAmb	23 12 58.1	
	comp=Z,21nm,0.9s						
AS31	Alice Springs	41.62	262		P	23 13 41.0	+0.2
ASAR	Alice Springs	41.62	262	P	P	23 13 40.7	-0.1
ASAR	Alice Springs	41.62	262	P	P	23 13 41.2	+0.4
	comp=Z,4.5nm,0.6s,baz=98,slow=8.1,SNR=81						
ASAR				ScP	ScP	23 18 30.2	+2.4
	comp=Z,0.5nm,0.7s,baz=102,slow=4.8,SNR=3.4						
ASAR				S	S	23 19 21.4	+1.1
	comp=Z,0.5nm,0.8s,baz=103,slow=16,SNR=4.3 comp=Z,4.5nm,0.6s						
WB0	Warramunga Arr	42.10	268		P	23 13 44.4	-0.2
WRA	Warramunga Arr	42.10	267	P	P	23 13 44.5	-0.1
	comp=Z,9.7nm,0.5s,baz=104,slow=7.7,SNR=51						
WRA				ScP	ScP	23 18 33.5	+3.8
	comp=Z,1.4nm,0.7s,baz=107,slow=3.4,SNR=4.7						
WRA				S	S	23 19 26.3	-1.0
	comp=Z,2.0nm,1.1s,baz=101,slow=13,SNR=3.3 comp=Z,9.7nm,0.5s						
JAY	Jayapura	43.76	295	P	P	23 13 56.3	-1.3
	comp=Z,4.7nm,0.3s,baz=148,slow=13,SNR=6.9 comp=Z,4.7nm,0.3s						
FORT	Forrest	45.70	251	P	P	23 14 11.8	-0.5
FORT				IAmb	IAmb	23 14 13.7	
	comp=Z,13nm,0.8s						
KNRA	Kununurra	48.45	271		P	23 14 33.8	+0.5
FITZ	Fitzroy Crossi	50.51	267		P	23 14 49.0	+0.5
VNDA	Vanda	53.23	185	P	P	23 15 08.4	+1.3
VNDA	Vanda	53.23	185	P	P	23 15 08.7	+1.6
	comp=Z,0.9nm,0.5s,baz=17,slow=18,SNR=15						
VNDA				ScP	ScP	23 19 18.2	+2.5
	comp=Z,0.7nm,0.7s,baz=1.6,slow=3.7,SNR=4.3 comp=Z,0.9nm,0.5s						
SBA	Scott Base	53.23	183	P	P	23 15 09.4	+2.3
SBA				PcP	PcP	23 16 08.7	+1.8
PSA00	Pilbara Seismi	54.73	260	P	P	23 15 17.9	-0.8
MORW	Morawa	56.27	251	P	P	23 15 29.3	0.0
CASY	Casey	58.98	206	P	P	23 15 47.0	-0.1
TOLI2	Tolitoli	62.64	285		P	23 16 11.2	-1.0
TOLI2				IAmb	IAmb	23 16 12.7	
	comp=Z,9.7nm,0.9s						
JAGI	Jajag, Banyuwa	64.37	273	P	P	23 16 22.5	-0.8
QSPA	South Pole Qui	65.05	180		P	23 16 28.0	+1.2
QSPA				IAmb	IAmb	23 16 29.1	
	comp=Z,7.8nm,0.8s						
QSPA				PcP	PcP	23 16 53.5	-1.2
QSPA	South Pole Qui	65.05	180	P	P	23 16 28.1	+1.3
	comp=Z,6.3nm,0.7s,baz=34,slow=0.8,SNR=41 comp=Z,6.3nm,0.7s						
JOW	Kunigami	71.58	313	P	P	23 17 06.7	-0.3
JOW				IAmb	IAmb	23 17 08.2	
	comp=Z,15nm,0.8s						
JOW	Kunigami	71.58	313	P	P	23 17 07.3	+0.3
	comp=Z,13nm,0.7s,baz=130,slow=16,SNR=3.8 comp=Z,13nm,0.7s						
MJAR	Matsushiro Arr	72.70	326	P	P	23 17 12.7	-0.6
	comp=Z,5.8nm,0.8s,baz=153,slow=6.6,SNR=14 comp=Z,5.8nm,0.8s						
JNU	Nakatsue	74.22	319	P	P	23 17 21.8	-0.3
JNU				IAmb	IAmb	23 17 45.7	
	comp=Z,28nm,1.4s						
TPUB	Ta-pu	74.77	305	P	P	23 17 24.1	-1.3
BELA	Belgrano 2	75.33	173		P	23 17 27.8	+0.2
BELA				IAmb	IAmb	23 17 28.2	
	comp=Z,5.8nm,0.6s						
NIKH	Nikolski High	78.32	7	P	P	23 17 42.9	-1.2
KSRS	Korea Array	78.97	320	P	P	23 17 49.1	+1.1
	comp=Z,2.1nm,0.7s,baz=133,slow=6.3,SNR=11 comp=Z,2.1nm,0.7s						
PEA0B	Petropavlovsk-	80.15	347	P	P	23 17 53.6	-0.3
PEA0B				IAmb	IAmb	23 17 54.3	
	comp=Z,23nm,1.4s						
PETK	Petropavlovsk-	80.15	347	P	P	23 17 53.0	-0.8
PETK	Petropavlovsk-	80.15	347	P	P	23 17 52.9	-1.0
	comp=Z,3.6nm,0.7s,baz=162,slow=6.1,SNR=18 comp=Z,3.6nm,0.7s						
MG03	Isla Dawson	80.96	146	P	P	23 17 58.5	+0.2
USRK	Ussuriysk Ar.	81.59	327	P	P	23 18 02.4	+0.9
	comp=Z,1.5nm,0.4s,baz=103,slow=3.5,SNR=5.7 comp=Z,1.5nm,0.4s						
SNAA	Sanae	83.53	179	P	P	23 18 10.9	-0.2
SNAA				IAmb	IAmb	23 18 11.7	
	comp=Z,8.9nm,1.3s						
SNAA	Sanae	83.53	179	P	P	23 18 11.0	-0.1
	comp=Z,1.9nm,0.6s,baz=195,slow=15,SNR=6.1 comp=Z,1.9nm,0.6s						
Q19K	Cape Douglas,	86.52	13	P	P	23 18 24.9	-0.6
Q19K				IAmb	IAmb	23 18 44.1	
	comp=Z,11nm,1.1s						
O18K	Koktuh Hills	87.06	12	P	P	23 18 27.6	-0.5
O18K				IAmb	IAmb	23 18 27.9	
	comp=Z,4.6nm,0.8s						
CNPM	China Poot	87.59	14	P	P	23 18 30.2	-0.3
CNPM				IAmb	IAmb	23 18 31.2	
	comp=Z,10nm,1.2s						
CMAR	Chiang Mai Arr	89.70	290	P	P	23 18 43.3	+1.9
	comp=Z,0.9nm,0.3s,baz=118,slow=5.2,SNR=7.9 comp=Z,0.9nm,0.3s						
GHO	Glory Hole Cre	90.11	14	P	P	23 18 41.8	-0.5
GHO				IAmb	IAmb	23 19 10.0	
	comp=Z,5.5nm,1.2s						
J18K	Innoko River	90.15	10	P	P	23 18 42.1	-0.2
TXAR	Lajitas Array	91.24	58	P	P	23 18 48.7	+0.4
	comp=Z,0.5nm,0.8s,baz=244,slow=5.2,SNR=7.6 comp=Z,0.5nm,0.8s						
ILAR

comp=Z,0.7nm,0.6s,baz=143,slow=3.5,SNR=7.0
CSS Mathiatis 149.40 297 PKPbc **PKPbc 23 25 29.0 0.0**
EKA Eskdalemuir Ar 149.67 3 PKPbc **PKPbc 23 25 28.7 -0.2**
comp=Z,0.8nm,0.7s,baz=0.6,slow=3.1,SNR=1.1
BUR08 Bucovina Ar. S 149.76 325 PKPbc **PKPbc 23 25 30.0 +0.5**
BURAR Bucovina Array 149.77 325 PKPbc **PKPbc 23 25 30.0 +0.4**
BORA Eskisehir 150.33 307 PKPbc **PKPbc 23 25 30.9 -0.2**
DAVOX Davos/Dischmat 156.84 342 PKPab **PKPab 23 26 07.0 -0.3**
comp=Z,1.8nm,0.6s,baz=11,slow=8.4,SNR=5.7
ESDC Sonseca Array 165.08 11 PKPab **PKPab 23 26 42.6 -0.8**
comp=Z,0.6nm,0.9s,baz=348,slow=4.8,SNR=3.2
TORD Torodi Ar. Bea 168.02 189 PKPab **PKPab 23 26 57.2 +0.4**
comp=Z,112nm,0.3s,baz=184,slow=4.0,SNR=2.3

ROM 27 23:25:33.3±0.0, 43°.358N±0°.003×12°.541E±0°.003, h9km, ML1.2/20, 4C-1D, Error ellipse: s-maj=0.3km s-min=0.2km az=353.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.02**	**69**	P	Pg	23 25 35.0	0.0
ATFO				S	Sg	23 25 36.1	-0.2
ATFO				AML	AML		
	comp=N,1340μm,0.3s						
ATFO				AML	AML		
	comp=E,1860μm,0.9s						
MURB	**Monte Urbino**	**0.10**	**187**	P	Pg	23 25 36.3	+0.6
MURB				S	Sg	23 25 38.3	+0.8
MURB				AML	AML		
	comp=E,530μm,0.4s						
MURB				AML	AML		
	comp=E,610μm,0.2s						
MURB				AML	AML		
	comp=N,635μm,0.3s						
MURB				AML	AML		
	comp=N,518μm,0.2s						
ATVO	**AVT- Monte Val**	**0.10**	**284**	⇑P	Pg	23 25 36.3	+0.5
ATVO				S	Sg	23 25 38.2	+0.6
ATVO				AML	AML		
	comp=N,408μm,0.2s						
ATVO				AML	AML		
	comp=E,373μm,0.2s						
ATPI	**Pietralunga -**	**0.14**	**313**	⇑P	Pg	23 25 37.0	+0.6
ATPI				S	Sg	23 25 39.5	+1.0
ATPI				AML	AML		
	comp=E,64μm,0.4s						
ATPI				AML	AML		
	comp=N,56μm,0.3s						
FOSV	**Fossato di Vic**	**0.17**	**111**	⇑P	Pg	23 25 37.6	+0.6
FOSV				S	Sg	23 25 40.7	+1.3
FOSV				AML	AML		
	comp=E,44μm,0.3s						
FOSV				AML	AML		
	comp=N,37μm,1.2s						
FOSV				AML	AML		
	comp=N,37μm,0.8s						
SSFR	**Montelago di S**	**0.19**	**66**	P	Pg	23 25 37.9	+0.6
SSFR				S	Sg	23 25 41.5	+1.4
SSFR				AML	AML		
	comp=N,100μm,0.8s						
SSFR				AML	AML		
	comp=E,138μm,0.2s						
ATMI	**Monte Miggiano**	**0.20**	**263**	P	Pg	23 25 38.1	+0.7
ATMI				S	Sg	23 25 41.5	+1.2
ATMI				AML	AML		
	comp=E,62μm,0.5s						
ATMI				AML	AML		
	comp=N,59μm,1.3s						
ATMI				AML	AML		
	comp=N,59μm,0.7s						
ATMI				AML	AML		
	comp=E,62μm,1.5s						
FRON	**Frontone**	**0.21**	**40**	⇑P	Pg	23 25 38.2	+0.6
FRON				S	Sg	23 25 41.8	+1.3
FRON				AML	AML		
	comp=E,43μm,0.5s						
FRON				AML	AML		
	comp=N,88μm,0.7s						
FRON				AML	AML		
	comp=E,43μm,1.5s						
FRON				AML	AML		
	comp=N,88μm,1.3s						
BADI	**Badiali**	**0.26**	**305**	⇓P	Pg	23 25 39.3	+0.7
BADI				S	Sb	23 25 44.0	-0.9
BADI				AML	AML		
	comp=E,132μm,0.1s						
BADI				AML	AML		
	comp=N,116μm,1.5s						
ARVD	**Arcevia**	**0.32**	**64**	P	Pg	23 25 40.4	+0.7
ARVD				S	Sb	23 25 46.0	-0.6
ASSB	**Assisi San Ben**	**0.33**	**165**	P	Pg	23 25 40.3	+0.6
ASSB				S	Sb	23 25 45.7	-1.0
ASSB				AML	AML		
	comp=E,33μm,1.4s						
ASSB				AML	AML		
	comp=N,40μm,1.3s						
ASSB				AML	AML		
	comp=E,33μm,0.6s						
CAFI	**Castiglion Fio**	**0.42**	**266**	P	Pb	23 25 42.2	-0.7
CAFI				S	Sb	23 25 48.6	-0.8
FDMO	**Fiordimonte**	**0.51**	**129**	P	Pg	23 25 43.5	+0.3
FDMO				S	Sb	23 25 51.9	-0.1

*IDC **27** 23:25:56.0±0.8, 37°.68N×20°.68E, h0km, mb3.8/13, mbtmp3.6/24, ML3.2/7, MS3.1/7, Error ellipse: s-maj=16.2km s-min=12.6km az=4.0*
*ATH **27** 23:25:57.5, 37°.60N×20°.61E, h11km±3km, ML3.9/19, Manual Solution by S.Koutrakis First location: 2019/04/27 23:26:51, This location: 2019/04/27 23:32:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
*NEIC **27** 23:25:57.9±2.1, 37°.59N±0°.07×20°.64E±0°.07, h10km±1km, mb4.3/10, Error ellipse: s-maj=12.1km s-min=8.8km az=183.0*
*THE **27** 23:25:58.3, 37°.62N×20°.69E, h13km, ML3.8/12, Error ellipse: s-maj=1.1km s-min=0.5km az=39.0*
*PDG **27** 23:25:58.7±0.3, 37°.63N×20°.65E, h25km±1km, ML3.8/12, Error ellipse: s-maj=0.4km s-min=0.9km az=0.0*
*BEO **27** 23:26:00.1±0.6, 37°.78N×20°.51E, h0km, ML3.7/6*
*NAO **27** 23:26:11.6, 37°.56N×20°.35E, h10km, mb3.6*

ISC 27 23:25:57.9±0.8, 37°.63N±0°.03×20°.63E±0°.02, h16km±5km, n223, σ1§75/294, mb3.9/17, MS3.0/6, 11C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.18**	**65**	P	**Pg**	**23 26 01.7**	**-0.6**
LTHK				S	**Sg**	**23 26 04.6**	**-0.7**
	129μm,0.2s						
LTHK	**Lithakia**	**0.18**	**65**	P	**Pg**	**23 26 01.6**	**-0.6**
LTHK				S	**Sg**	**23 26 04.2**	**-1.1**
ORTH	**Orthonies,Zaky**	**0.22**	**13**	P	**Pb**	**23 26 03.4**	**-0.3**
ORTH				S	**Sg**	**23 26 06.8**	**+0.2**
KYPS	**Kipseli, Zakin**	**0.24**	**39**	P	**Pg**	**23 26 03.5**	**+0.2**
KYPS				S	**Sg**	**23 26 07.2**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.46**	**14**	P	**Pg**	**23 26 07.2**	**+0.1**
RTZL				S	**Sb**	**23 26 14.7**	**+0.6**
	18μm,0.3s						
CLEM	**Kyllini,Ilia,G**	**0.47**	**57**	P	**Pg**	**23 26 07.2**	**-0.2**
CLEM				S	**Sb**	**23 26 14.2**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.48**	**356**	P	**Pg**	**23 26 07.7**	**+0.2**
PSDA				S	**Sb**	**23 26 15.4**	**+0.6**
	14μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.48**	**356**	P	**Pg**	**23 26 07.8**	**+0.2**
PSDA				S	**Sb**	**23 26 15.3**	**+0.5**
VLS	**Valsamata**	**0.55**	**357**	P	**Pg**	**23 26 08.7**	**0.0**
VLS				S	**Sb**	**23 26 17.6**	**+0.9**
	10μm,0.2s						
VLS	**Valsamata**	**0.55**	**357**	P	**Pg**	**23 26 08.7**	**0.0**
VLS				S	**Sb**	**23 26 17.0**	**+0.3**
LCHA	**Lechaina**	**0.59**	**59**	P	**Pb**	**23 26 09.8**	**+0.1**
LCHA				S	**Sb**	**23 26 18.2**	**+0.4**
LXR1	**Lixouri, Cepha**	**0.59**	**345**	P	**Pb**	**23 26 09.8**	**0.0**
LXR1				S	**Sn**	**23 26 19.4**	**-1.4**
	33μm,0.4s						
SMHA	**Samh**	**0.62**	**1**	P	**Pg**	**23 26 09.1**	**-1.0**
SMHA				S	**Sg**	**23 26 17.8**	**-0.5**
DMLN	**Damoulianata-K**	**0.64**	**341**	P	**Pb**	**23 26 10.7**	**0.0**
DMLN				S	**Sn**	**23 26 20.9**	**-1.2**
	11μm,0.5s						
DMLN	**Damoulianata-K**	**0.64**	**341**	P	**Pb**	**23 26 10.7**	**0.0**
DMLN				S	**Sb**	**23 26 20.0**	**+0.6**
YRMI	**Loutra Irminis**	**0.74**	**50**	P	**Pg**	**23 26 11.8**	**-0.5**
YRMI				S	**Sg**	**23 26 21.7**	**-0.4**
VSK1	**VASILIKIADES**	**0.78**	**356**	P	**Pb**	**23 26 13.0**	**0.0**
VSK1				S	**Sn**	**23 26 25.1**	**-0.4**
	7μm,0.6s						
RLS	**Riolos of Patr**	**0.79**	**57**	P	**Pb**	**23 26 12.6**	**-0.6**
RLS				S	**Sb**	**23 26 23.2**	**-0.4**
	10μm,0.6s						
RLS	**Riolos of Patr**	**0.79**	**57**	P	**Pb**	**23 26 12.8**	**-0.3**
RLS				S	**Sb**	**23 26 23.4**	**-0.2**
AXS	**Araxos**	**0.81**	**46**	P	**Pb**	**23 26 13.0**	**-0.6**
AXS				S	**Sg**	**23 26 24.8**	**+0.3**
ZARO	**Zacharo**	**0.82**	**100**	P	**Pb**	**23 26 13.7**	**-0.1**
ZARO				S	**Sg**	**23 26 25.5**	**+0.8**
FSK	**Fiskardo**	**0.83**	**356**	P	**Pb**	**23 26 13.8**	**-0.1**
FSK				S	**Sn**	**23 26 26.2**	**-0.5**
	4μm,0.4s						
FSK	**Fiskardo**	**0.83**	**356**	P	**Pb**	**23 26 13.5**	**-0.4**
FSK				S	**Sn**	**23 26 26.1**	**-0.7**
AMT	**Artemida-Makis**	**0.86**	**96**	P	**Pb**	**23 26 14.2**	**-0.3**
AMT				S	**Sg**	**23 26 26.7**	**+0.7**
DRO	**Drossia**	**0.91**	**69**	P	**Pb**	**23 26 14.5**	**-0.8**
DRO				S	**Sb**	**23 26 27.1**	**-0.2**
	12μm,0.5s						
DRO	**Drossia**	**0.91**	**69**	P	**Pb**	**23 26 15.3**	**-0.1**
DRO				S	**Sn**	**23 26 28.7**	**-0.2**
AST1	**Astakos**	**0.98**	**22**	P	**Pb**	**23 26 16.1**	**-0.3**
AST1				S	**Sn**	**23 26 30.2**	**-0.2**
	4μm,0.4s						
EVGI	**Lefkada island**	**0.99**	**1**	P	**Pb**	**23 26 16.4**	**-0.2**
EVGI				S	**Sn**	**23 26 30.9**	**+0.2**
	3μm,0.3s						
EVGI	**Lefkada island**	**0.99**	**1**	P	**Pb**	**23 26 16.3**	**-0.3**
EVGI				S	**Sn**	**23 26 31.0**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.05**	**358**	P	**Pb**	**23 26 17.7**	**0.0**
DRAG				S	**Sn**	**23 26 33.5**	**+1.2**
NYDR	**Nydri-Lefkada**	**1.08**	**3**	P	**Pb**	**23 26 18.1**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.08**	**3**	P	**Pn**	**23 26 18.3**	**0.0**
NYDR				S	**Sn**	**23 26 33.7**	**+0.8**
PATC	**Patra C**	**1.10**	**54**	P	**Pg**	**23 26 18.9**	**-0.2**
PATC				S	**Sg**	**23 26 34.8**	**+1.4**
UPR	**University Cam**	**1.12**	**54**	P	**Pn**	**23 26 19.1**	**+0.2**
UPR	**University Cam**	**1.12**	**54**	P	**Pg**	**23 26 20.0**	**+0.4**
ITM	**Ithomi**	**1.13**	**113**	P	**Pb**	**23 26 18.3**	**-0.7**
ITM	**Ithomi**	**1.13**	**113**		**Pb**	**23 26 18.6**	**-0.4**
ITM	**Ithomi**	**1.13**	**113**	P	**Pb**	**23 26 18.5**	**-0.4**
ITM				S	**Sb**	**23 26 33.2**	**-0.2**
PYL	**PYLOS**	**1.15**	**129**	P	**Pn**	**23 26 18.7**	**-0.6**
PYL	**PYLOS**	**1.15**	**129**	P	**Pn**	**23 26 18.7**	**-0.6**
PYL				S	**Sb**	**23 26 33.9**	**-0.2**
LKD2	**Lefkada island**	**1.16**	**1**	P	**Pn**	**23 26 19.4**	**0.0**
LKD2	**Lefkada island**	**1.16**	**1**	P	**Pn**	**23 26 19.3**	**-0.1**
LKD2				S	**Sg**	**23 26 35.4**	**+0.1**
MTHA	**Methoni**	**1.18**	**133**	P	**Pg**	**23 26 20.5**	**-0.2**
TSLK	**Tsoukalades, L**	**1.19**	**1**	P	**Pn**	**23 26 19.6**	**-0.3**
TSLK	**Tsoukalades, L**	**1.19**	**1**	P	**Pb**	**23 26 20.2**	**+0.1**
TSLK				S	**Sg**	**23 26 36.5**	**+0.1**
PVO	**Paravola**	**1.21**	**35**	P	**Pb**	**23 26 20.5**	**+0.1**
PVO				S	**Sg**	**23 26 37.4**	**+0.3**
KLV	**Kalavryta, Ach**	**1.27**	**71**	P	**Pn**	**23 26 20.5**	**-0.5**
KLV	**Kalavryta, Ach**	**1.27**	**71**	P	**Pn**	**23 26 21.2**	**+0.2**
EFP	**Efpalio**	**1.28**	**51**	P	**Pn**	**23 26 20.6**	**-0.5**
EFP	**Efpalio**	**1.28**	**51**	P	**Pb**	**23 26 21.5**	**-0.1**
ALIK	**Aliki, Aigiali**	**1.33**	**61**	P	**Pn**	**23 26 21.9**	**+0.2**
SERG	**Sergoula**	**1.37**	**55**	P	**Pn**	**23 26 22.6**	**+0.2**
GUR	**Goura**	**1.39**	**77**	P	**Pn**	**23 26 22.1**	**-0.6**
GUR	**Goura**	**1.39**	**77**	P	**Pb**	**23 26 23.5**	**0.0**
ANX	**Ano Chora**	**1.40**	**46**	P	**Pn**	**23 26 22.8**	**0.0**
ANX	**Ano Chora**	**1.40**	**46**	P	**Pb**	**23 26 23.3**	**-0.4**
KALE	**Kalithea**	**1.41**	**57**	P	**Pn**	**23 26 23.0**	**0.0**
KALE	**Kalithea**	**1.41**	**57**	P	**Pn**	**23 26 23.3**	**+0.3**
VLX	**Vlachokerasia**	**1.42**	**100**	P	**Pn**	**23 26 23.4**	**+0.4**
EVR	**Evrytania**	**1.58**	**35**	P	**Pn**	**23 26 27.3**	**+0.5**
IGT	**Igoumenitsa**	**1.91**	**353**	*e*Pn	**Pb**	**23 26 31.5**	**-0.9**
AGG	**Agios Georgios**	**1.93**	**43**		**Pb**	**23 26 31.9**	**-0.7**
KEK	**Kerkira**	**2.18**	**343**		**Pb**	**23 26 35.5**	**-1.4**
LIT	**Litokhoron**	**2.86**	**30**		**Pn**	**23 26 45.1**	**+2.2**
SCTE	**Santa Cesarea**	**2.96**	**326**		**Pn**	**23 26 45.4**	**+1.1**
TIP	**Timpagrande**	**3.41**	**298**	⇑P	**Pb**	**23 26 56.9**	**-1.1**
OHR	**Ohrid**	**3.48**	**2**	*i* Pn	**Pg**	**23 27 03.6**	**-0.9**
OHR				*i* Sn	Sg	23 28 01.7	+12
OHR	**Ohrid**	**3.48**	**2**	*e*Pn	**Pn**	**23 26 54.6**	**+3.2**
TIR	**Tirane**	**3.76**	**351**		**Pn**	**23 26 56.7**	**+1.5**
TIR	**Tirane**	**3.76**	**351**	⇓P	**Pn**	**23 26 58.1**	**+2.9**
TIR	**Tirane**	**3.76**	**351**	*e*Pn	**Pn**	**23 26 57.9**	**+2.7**
CEL	**Celeste**	**3.80**	**281**	Pn	**Pn**	**23 26 56.9**	**+1.1**
VAY	**Valandovo**	**3.98**	**22**	*i* Pn	**Pn**	**23 27 01.0**	**+2.8**
VAY	**Valandovo**	**3.98**	**22**	*e*Pn	**Pn**	**23 27 01.0**	**+2.8**
IDI	**Anoyia**	**4.15**	**123**	Pn	**Pn**	**23 27 01.3**	**+0.6**
	3.0nm,0.6s,baz=306,slow=14,SNR=14						
IDI				Sn	**Sn**	**23 27 52.5**	**+3.5**
	8.8nm,0.3s,baz=308,slow=19,SNR=14						
SRS	**Serrai**	**4.17**	**32**	*e*Pn	**Pn**	**23 27 03.1**	**+2.3**
CUC	**Castrocucco**	**4.44**	**304**		**Pn**	**23 27 05.0**	**+0.4**
PUK	**Puka**	**4.44**	**353**		**Pn**	**23 27 06.3**	**+1.6**
ULC	**Ulcinj**	**4.46**	**347**	*e*Pn	**Pn**	**23 27 04.6**	**-0.2**
ULC				*i* Sn	**Sn**	**23 27 54.1**	**-2.2**
DRME	**Dracevica, Mon**	**4.68**	**347**	*e*Pn	**Pn**	**23 27 08.4**	**+0.5**
DRME	**Dracevica, Mon**	**4.68**	**347**	*e*Pn	**Pn**	**23 27 07.8**	**-0.1**
DRME				*i* Sn	**Sn**	**23 27 59.3**	**-2.6**
BUM	**Brajici-Budva**	**4.85**	**345**	⇓*i*Pn	**Pn**	**23 27 10.1**	**-0.1**
BUM				*i* Sn	**Sn**	**23 28 03.4**	**-2.7**
PDG	**Podgorica**	**4.91**	**348**		**Pn**	**23 27 11.6**	**+0.7**
PDG	**Podgorica**	**4.91**	**348**	*e*Pn	**Pn**	**23 27 11.1**	**+0.2**
PDG	**Podgorica**	**4.91**	**348**	*e*Sn	**Sn**	**23 28 07.2**	**-0.1**
PDG	**Podgorica**	**4.91**	**348**	*e*Pn	**Pn**	**23 27 10.5**	**-0.4**
PDG				*i* Sn	**Sn**	**23 28 04.9**	**-2.4**
VAE	**Valguarnera**	**4.94**	**270**	Pn	**Pn**	**23 27 14.0**	**+2.5**
	11nm,0.6s,baz=105,slow=20,SNR=6.9						
VAE				Sn	**Sn**	**23 28 12.5**	**+4.1**
	2.5nm,0.3s,baz=53,slow=5.1,SNR=1.7						
PVY	**Plav**	**4.98**	**354**	*e*Pn	**Pn**	**23 27 11.7**	**-0.4**
PVY				*i* Sn	**Sn**	**23 28 06.2**	**-3.2**
RAFF	**Raffo Rosso**	**5.01**	**267**	Pn	**Pn**	**23 27 12.4**	**+0.1**
CEME	**Cevo**	**5.08**	**346**	⇑*i*Pn	**Pn**	**23 27 13.3**	**-0.1**
CEME				*i* Sn	**Sn**	**23 28 09.0**	**-2.8**
HCY	**Herceg Novi**	**5.08**	**342**	*e*Pn	**Pn**	**23 27 13.1**	**-0.2**
HCY	**Herceg Novi**	**5.08**	**342**	*e*Pn	**Pn**	**23 27 13.5**	**+0.2**
HCY				*i* Sn	**Sn**	**23 28 09.4**	**-2.3**
RDO	**Rodhopi**	**5.17**	**46**		**Pn**	**23 27 14.4**	**-0.2**
WDD	**Wied Dalam**	**5.22**	**252**	Pn	**Pn**	**23 27 16.4**	**+1.2**
BARS	**Barje**	**5.26**	**10**	*e*Pn	**Pn**	**23 27 17.2**	**+1.4**
IVA	**Berane**	**5.26**	**354**	*e*Pn	**Pn**	**23 27 15.5**	**-0.4**
IVA				*i* Sn	**Sn**	**23 28 13.3**	**-3.0**
KOME	**Kolasin**	**5.28**	**351**	*e*Pn	**Pn**	**23 27 15.8**	**-0.4**
KOME				*i* Sn	**Sn**	**23 28 13.5**	**-3.2**
NKME	**Niksic**	**5.29**	**346**	*e*Pn	**Pn**	**23 27 15.9**	**-0.3**
NKME				*i* Sn	**Sn**	**23 28 14.2**	**-2.6**
ALN	**Alexandroupoli**	**5.32**	**51**	Pn	**Pn**	**23 27 17.5**	**+0.9**
VTS	**Vitosha**	**5.37**	**21**	*e*Pn	**Pn**	**23 27 19.6**	**+2.2**
VTS				*e*Sn	**Sn**	**23 28 20.2**	**+1.3**
TREB	**Trebinje**	**5.37**	**342**	*e*Pn	**Pn**	**23 27 17.3**	**0.0**
BRY	**Bratogost**	**5.50**	**344**	*e*Pn	**Pn**	**23 27 18.6**	**-0.6**
BRY	**Bratogost**	**5.50**	**344**	*e*Pn	**Pn**	**23 27 19.1**	**-0.1**
BRY				*i* Sn	**Sn**	**23 28 19.4**	**-2.8**
SGRT	**San Giovanni R**	**5.58**	**319**		**Pn**	**23 27 21.4**	**+1.1**
SELS	**Selova**	**5.59**	**4**	*e*Pn	**Pn**	**23 27 21.6**	**+1.2**
SELS				*e*Sn	**Sn**	**23 28 22.2**	**-2.1**
SJES	**Sjenica**	**5.64**	**355**	*e*Pn	**Pn**	**23 27 22.2**	**+1.0**
SJES	**Sjenica**	**5.64**	**355**	*e*Pn	**Pn**	**23 27 22.4**	**+1.2**
SJES				*e*Sn	**Sn**	**23 28 25.0**	**-0.7**
KARP	**Karpathos**	**5.65**	**110**	Pn	**Pn**	**23 27 22.0**	**+0.8**
STON	**Ston**	**5.69**	**338**	*e*Pn	**Pn**	**23 27 21.4**	**-0.3**
STON	**Ston**	**5.69**	**338**	*e*Pn	**Pn**	**23 27 21.8**	**+0.1**
STON				*e*Sn	**Sn**	**23 28 24.1**	**-2.6**
UPM	**Unac-Piva**	**5.72**	**347**	*e*Pn	**Pn**	**23 27 22.3**	**0.0**
UPM	**Unac-Piva**	**5.72**	**347**	*e*Pn	**Pn**	**23 27 22.1**	**-0.2**
UPM				*i* Sn	**Sn**	**23 28 24.5**	**-3.1**
PAOL	**Paolisi**	**5.80**	**308**	Pn	**Pn**	**23 27 25.4**	**+2.2**
ZAPS	**Zavoj**	**5.84**	**15**	*e*Pn	**Pn**	**23 27 26.0**	**+2.2**
IVAS	**Ivanjica**	**5.95**	**357**	*e*Pn	**Pn**	**23 27 26.6**	**+1.3**
BOVS	**Bovan**	**6.05**	**7**	⇑P	**Pn**	**23 27 27.4**	**+0.8**
RUDO	**Rudo**	**6.06**	**351**	*e*Pn	**Pn**	**23 27 28.1**	**+1.4**
ARG	**Arkhangelos**	**6.17**	**101**		**Pn**	**23 27 27.8**	**-0.5**
GRUS	**Gruza**	**6.25**	**1**	*e*Pn	**Pn**	**23 27 30.0**	**+0.6**
GRUS				*e*Sn	**Sn**	**23 28 40.3**	**-0.2**
ZAGS	**Zajecar**	**6.29**	**11**	*e*Pn	**Pn**	**23 27 32.2**	**+2.2**
BBLS	**Lazi&#263i**	**6.30**	**352**	*e*Pn	**Pn**	**23 27 31.7**	**+1.6**
BBLS	**Lazi&#263i**	**6.30**	**352**	*e*Pn	**Pn**	**23 27 31.5**	**+1.4**
BBLS				*e*Sn	**Sn**	**23 28 40.9**	**-0.8**
DIVS	**Divibare**	**6.48**	**356**	*e*Pn	**Pn**	**23 27 33.0**	**+0.4**
DIVS				*e*Sn	**Sn**	**23 28 43.3**	**-2.9**
HAPS	**Han Pijesak,Bl**	**6.57**	**349**	*e*Pn	**Pn**	**23 27 34.6**	**+0.7**
HAPS	**Han Pijesak,Bl**	**6.57**	**349**	*e*Pn	**Pn**	**23 27 35.0**	**+1.1**
HAPS				*e*Sn	**Sn**	**23 28 47.4**	**-1.1**
TRUS	**Trudelj**	**6.59**	**359**	*e*Pn	**Pn**	**23 27 35.1**	**+1.1**
INTR	**Introdacqua**	**6.78**	**312**		**Pn**	**23 27 39.2**	**+2.5**
TEKS	**Tekeris**	**6.96**	**353**	*e*Pn	**Pn**	**23 27 38.4**	**-0.8**
TEKS	**Tekeris**	**6.96**	**353**	*e*Pn	**Pn**	**23 27 38.6**	**-0.6**
TEKS				*e*Sn	**Sn**	**23 28 53.6**	**-4.4**
AKAS	**Kas**	**7.32**	**98**	Pn	**Pn**	**23 27 45.9**	**+1.6**
A050A	**Klekovaca**	**7.51**	**337**	*e*Pn	**Pn**	**23 27 47.9**	**+1.1**
FRGS	**Fruska Gora**	**7.54**	**356**	*e*Pn	**Pn**	**23 27 46.3**	**-0.9**
FRGS	**Fruska Gora**	**7.54**	**356**	*e*Pn	**Pn**	**23 27 46.4**	**-0.8**
FRGS				*e*Sn	**Sn**	**23 29 07.8**	**-4.5**
BLY	**Banja Luka**	**7.57**	**341**	*e*Pn	**Pn**	**23 27 48.1**	**+0.6**
HUMR	**Humele**	**7.63**	**24**	⇑P	**Pn**	**23 27 51.1**	**+2.7**
NRCA	**Norcia**	**7.75**	**314**		**Pn**	**23 27 52.0**	**+2.0**
GUMA	**Gualdo di Mace**	**7.77**	**317**		**Pn**	**23 27 52.0**	**+1.6**
A051A	**Mrakovica**	**7.89**	**340**	*e*Pn	**Pn**	**23 27 51.8**	**-0.1**
FDMO	**Fiordimonte**	**7.89**	**315**		**Pn**	**23 27 54.4**	**+2.4**
BORA	**Eskisehir**	**8.00**	**71**	Pn	**Pn**	**23 27 53.8**	**+0.3**
BZS	**Buzias**	**8.01**	**5**	⇑P	**Pn**	**23 27 53.6**	**0.0**
SULR		**8.22**	**29**	⇑P	Pn	23 28 02.6	+6.3
VOIR		**8.47**	**22**	⇑P	**Pn**	**23 28 02.6**	**+2.7**
MLR	**Muntele Rosu**	**8.80**	**25**		**Pn**	**23 28 07.0**	**+2.5**
MLR	**Muntele Rosu**	**8.80**	**25**	Pn	**Pn**	**23 28 06.3**	**+1.8**
	4.5nm,0.8s,baz=174,slow=9.2						
MLR	**Muntele Rosu**	**8.80**	**25**	⇑P	**Pn**	**23 28 08.1**	**+3.6**
RIY	**Rijeka**	**8.96**	**331**	*e*Sn	**Sn**	**23 29 44.4**	**-2.7**
DOPR	**Dopca**	**9.05**	**22**	⇓P	**Pn**	**23 28 11.2**	**+3.4**
COVR	**Voineasa-Covas**	**9.20**	**25**	⇑P	**Pn**	**23 28 14.4**	**+4.5**
KEST	**Kesra**	**9.26**	**262**	Pn	**Pn**	**23 28 11.7**	**+0.9**
	0.3nm,0.3s,baz=68,slow=19,SNR=5.6						
KEST				Sn	**Sn**	**23 29 53.3**	**-1.4**
	baz=37,slow=20,SNR=2.2						
	4.0nm,0.7s						
OZUR		**9.29**	**23**	⇓P	**Pn**	**23 28 14.6**	**+3.6**
SKDS	**Skadanscina**	**9.33**	**330**	*e*Pn	**Pn**	**23 28 11.6**	**0.0**
SKDS	**Skadanscina**	**9.33**	**330**	*e*Pn	**Pn**	**23 28 11.8**	**+0.2**
SKDS				*e*Sn	**Sn**	**23 29 50.9**	**-5.3**
CEY	**Cerknica**	**9.33**	**332**	*e*Pn	**Pn**	**23 28 12.6**	**+0.9**
CEY	**Cerknica**	**9.33**	**332**	*e*Pn	**Pn**	**23 28 12.5**	**+0.9**
CEY				*e*Sn	**Sn**	**23 29 53.4**	**-2.9**
PLOR	**Plostina**	**9.36**	**27**	⇑P	**Pn**	**23 28 15.4**	**+3.3**
VRI	**Vrincioaia**	**9.40**	**27**	⇑P	**Pn**	**23 28 16.7**	**+4.1**
SABO	**M.te Sabotino**	**9.85**	**330**	Pn	**Pn**	**23 28 19.7**	**+0.9**
SOKA	**Soboth**	**9.95**	**337**	*i* Pn	**Pn**	**23 28 20.1**	**0.0**
	2.2nm,0.6s						
SOKA				*i* Sn	**Sn**	**23 30 06.3**	**-5.1**
	2.5nm,0.7s						
OBKA	**Obir**	**9.95**	**335**	*e*Pn	**Pn**	**23 28 19.3**	**-0.9**
OBKA	**Obir**	**9.95**	**335**	*i* Pn	**Pn**	**23 28 19.8**	**-0.4**
	2.1nm,0.5s						
OBKA				*e*Sn	**Sn**	**23 30 10.0**	**-1.6**
	4.3nm,0.4s						
TEOL	**Teolo**	**10.23**	**322**	Pn	**Pn**	**23 28 25.8**	**+1.8**
PRED	**Cave del Predi**	**10.25**	**331**	Pn	**Pn**	**23 28 24.5**	**+0.2**
MYKA	**Terra Mystica**	**10.38**	**332**	*i* Sn	**Sn**	**23 30 20.3**	**-1.7**
	1.0nm,0.3s						
BRTR	**Keskin Array B**	**10.38**	**74**	Pn	**Pn**	**23 28 30.2**	**+4.0**
	0.1nm,0.3s,baz=257,slow=14,SNR=5.3						
	0.3nm,0.6s						
BURAR	**Bucovina Array**	**10.53**	**17**	Pn	**Pn**	**23 28 29.0**	**+0.9**
CSS	**Mathiatis**	**10.59**	**101**	Pn	**Pn**	**23 28 28.8**	**-0.2**
CIMO	**Cimolais**	**10.59**	**328**	Pn	**Pn**	**23 28 29.0**	**+0.1**
KBA	**Koelnbreinsper**	**

AB31	**Akbulak array**	**30.48**	**55**	P	**P**	**23 32 09.7**	**-0.1**
ABKAR	**Akbulak array**	**30.48**	**55**	P	**P**	**23 32 09.7**	**-0.1**
ABKAR	**Akbulak array**	**30.48**	**55**	P	**P**	**23 32 09.7**	**-0.1**
ABKAR				IAmb	IAmb	23 32 16.2	
	comp=Z,1.3nm,0.6s						
ARTI	**Arti**	**31.30**	**41**	P	**P**	**23 32 16.0**	**-1.0**
ARCES	**ARCESS Array B**	**32.07**	**3**	P	**P**	**23 32 23.8**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=184,slow=13,SNR=1.9						
ARCES				LR	LR	23 45 18.1	
	comp=Z,29nm,21.1s,baz=205,slow=36						
	comp=Z,1.5nm,0.9s						
KEV	**Kevo**	**32.37**	**4**	P	**P**	**23 32 26.5**	**+0.4**
BVAR	**Borovoye Array**	**37.40**	**49**	P	**P**	**23 33 10.0**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=266,slow=4.3,SNR=6.2						
	comp=Z,0.7nm,0.6s						
KK31	**Karatay Array**	**37.94**	**66**	P	**P**	**23 33 14.6**	**+0.1**
KK31				IAmb	IAmb	23 33 34.5	
	comp=Z,5.5nm,1.4s						
KKAR	**Karatay Array**	**37.94**	**66**	P	**P**	**23 33 15.1**	**+0.5**
KURBB	**Kurchatov Arra**	**42.48**	**53**	P	**P**	**23 33 51.8**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=278,slow=8.6,SNR=11						
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**45.52**	**58**	P	**P**	**23 34 15.6**	**-0.9**
MKAR	**Makanchi Array**	**45.52**	**58**	P	**P**	**23 34 16.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=281,slow=7.4,SNR=9.6						
MKAR				PcP	**PcP**	**23 35 56.3**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=280,slow=0.5,SNR=1.8						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**45.99**	**48**	P	**P**	**23 34 19.7**	**-0.4**
ZALV	**Zalesovo Beam**	**45.99**	**48**	P	**P**	**23 34 19.9**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=276,slow=7.7,SNR=9.4						
	comp=Z,1.7nm,0.5s						
BLKN	**Baker Lake**	**66.91**	**335**	P	**P**	**23 36 50.2**	**+1.4**
BLKN				IAmb	IAmb	23 37 04.8	
	comp=Z,5.8nm,1.4s						
CMAR	**Chiang Mai Arr**	**69.88**	**82**	P	**P**	**23 37 07.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=309,slow=6.4,SNR=4.8						
	comp=Z,0.7nm,0.3s						
SEY	**Seymchan**	**72.61**	**21**	LR	LR	00 11 25.3	
	comp=Z,46nm,19.6s,baz=196,slow=38						
B20K	**Meade River**	**72.66**	**359**	P	**P**	**23 37 25.7**	**+1.5**
B20K				IAmb	IAmb	23 37 30.0	
	comp=Z,8.3nm,1.5s						
E29M	**Blow River**	**73.08**	**352**	P	**P**	**23 37 28.6**	**+1.8**
E29M				IAmb	IAmb	23 37 29.4	
	comp=Z,3.6nm,1.3s						
YKA	**Yellowknife Ar**	**73.93**	**340**	P	**P**	**23 37 33.0**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=34,slow=5.7,SNR=4.8						
	comp=Z,0.2nm,0.6s						
KSRS	**Korea Array**	**79.61**	**51**	P	**P**	**23 38 04.9**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=288,slow=5.8,SNR=1.7						
KSRS				LR	LR	00 17 12.5	
	comp=Z,16nm,18.7s,baz=210,slow=39						
	comp=Z,0.7nm,0.7s						

*UPP **27** 23:27:13.6±0.0, 67°.82N×20°.21E, h0km, ML2.1, Unknown*
*HEL **27** 23:27:13.3±0.2, 67°.79N×20°.29E, h0km, ML1.9, Suspected explosion*
*IDC **27** 23:27:15.0±1.0, 67°.80N×20°.49E, h0km, mbtmp2.9/5, ML1.9/4, Error ellipse: s-maj=16.8km s-min=8.2km az=110.0*
ISC 27 23:27:13.4±0.8, 67°.81N±0°.02×20°.23E±0°.02, h0km, n35, σ1s40/57, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**15**	P	**Pg**	**23 27 16.7**	**+0.4**
KUA				S	**Sg**	**23 27 18.7**	**+0.5**
RATU	**Laukkuluspa**	**0.24**	**273**	P	**Pg**	**23 27 18.3**	**+0.2**
RATU				S	**Sg**	**23 27 21.5**	**+0.3**
KOVU	**Salmi**	**0.41**	**356**	P	**Pg**	**23 27 21.4**	**0.0**
KOVU				S	**Sg**	**23 27 26.8**	**+0.1**
DUNU	**Dundret**	**0.70**	**169**	P	**Pg**	**23 27 27.0**	**+0.1**
DUNU				S	**Sg**	**23 27 36.5**	**+0.5**
MASU	**Masugnsbyn**	**0.76**	**117**	P	**Pg**	**23 27 28.3**	**+0.3**
MASU				S	**Sg**	**23 27 39.0**	**+1.1**
SALU	**Saltoluokta**	**0.79**	**238**	P	**Pg**	**23 27 28.4**	**-0.1**
SALU				S	**Sg**	**23 27 38.8**	**+0.1**
SALU	**Saltoluokta**	**0.79**	**238**	*e*P	**Pg**	**23 27 28.4**	**-0.1**
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*P	**Pg**	**23 27 37.0**	**+0.3**
KIF	**Kilpisjarvi**	**1.22**	**10**	PG	**Pg**	**23 27 36.4**	**-0.3**
	baz=185						
KIF				MSG		23 27 51.9	
	comp=Z,15nm,0.2s						
KIF				SG	**Sg**	**23 27 52.8**	**+0.3**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**23 27 38.8**	**-0.7**
PAJU				S	**Sg**	**23 27 57.3**	**+0.1**
PAJU	**Pajala**	**1.36**	**124**	PN	**Pg**	**23 27 38.6**	**-0.9**
PAJU				SN	**Sg**	**23 27 57.3**	**+0.1**
HEF	**Hetta**	**1.42**	**63**	PN	**Pn**	**23 27 39.8**	**-0.6**
HEF				MSG		23 27 55.8	
	comp=Z,8.3nm,0.2s						
HEF				SN	**Sg**	**23 27 58.3**	**-0.6**
ERTU	**Ertsjaerv**	**1.48**	**148**	P	**Pn**	**23 27 40.8**	**-0.4**
ERTU				S	**Sg**	**23 28 01.1**	**+0.4**
ERTU	**Ertsjaerv**	**1.48**	**148**	PN	**Pn**	**23 27 40.6**	**-0.5**
ERTU				SN	**Sg**	**23 28 01.1**	**+0.4**
KLF	**Kolari**	**1.55**	**110**	PN	**Pn**	**23 27 41.8**	**-0.4**
	baz=298						
KLF				MSG		23 27 58.9	
	comp=Z,6.8nm,0.2s						
KLF				SN	**Sn**	**23 28 03.3**	**+0.4**
HARU	**Harads**	**1.68**	**170**	P	**Pn**	**23 27 44.1**	**+0.1**
TRO	**Tromso**	**1.89**	**346**	PG	**Pn**	**23 27 47.6**	**+0.7**
TRO				SG	**Sb**	**23 28 13.0**	**+0.2**
KALU	**Kalix**	**2.32**	**146**	PG	**Pn**	**23 27 54.0**	**+1.3**
	baz=327						
TOF	**Tornio**	**2.37**	**135**	PG	**Pn**	**23 27 55.2**	**+1.8**
	baz=321						
TOF				MSG		23 28 22.5	
	comp=Z,4.6nm,0.2s						
RNF	**Rovaniemi**	**2.55**	**116**	PG	**Pn**	**23 27 57.9**	**+1.9**
	baz=305						
RNF				SG	**Sb**	**23 28 32.0**	**+0.1**
ARA0	**ARCESS Array S**	**2.59**	**46**	PB	**Pn**	**23 27 58.0**	**+1.4**
	baz=225						
ARA0				SG	**Sn**	**23 28 31.0**	**+2.3**
ARCES	**ARCESS Array B**	**2.59**	**46**	Pn	**Pn**	**23 27 57.2**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=232,slow=14,SNR=57						
ARCES				Sn	**Sn**	**23 28 30.4**	**+1.7**
	comp=Z,2.1nm,0.3s,baz=228,slow=23,SNR=18						
	comp=Z,0.9nm,0.3s						
RAJF	**Raja-Jooseppi**	**3.10**	**74**	PB	**Pn**	**23 28 03.8**	**+0.4**
RAJF				SG	**Sb**	**23 28 45.9**	**-1.6**
KEV	**Kevo**	**3.14**	**48**	PB	**Pn**	**23 28 05.5**	**+1.4**
KEV				SB	**Sn**	**23 28 43.8**	**+1.6**
KEV				MSG		23 28 45.5	
	comp=Z,3.7nm,0.2s						
RANF	**Ranua**	**3.15**	**122**	PB	**Pn**	**23 28 06.1**	**+2.0**
RANF				SG	**Sb**	**23 28 51.2**	**+2.1**
BURU	**Burvik**	**3.27**	**171**	PB	**Pn**	**23 28 08.3**	**+2.4**
OUL	**Oulu**	**3.56**	**138**	PB	**Pn**	**23 28 13.1**	**+3.3**
VRF	**Varrio**	**3.56**	**87**	PB	**Pb**	**23 28 14.0**	**-3.2**
KU2	**Taivalkoski**	**3.81**	**120**	PB	**Pn**	**23 28 15.0**	**+1.8**
UMAU	**Umeaa**	**3.95**	**177**	PB	**Pn**	**23 28 17.4**	**+2.3**
KU6	**Riekki**	**4.20**	**111**	PB	**Pn**	**23 28 22.1**	**+3.4**
FINES	**FINESS Array B**	**6.87**	**156**	Pn	**Pn**	**23 28 56.6**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=341,slow=12,SNR=1.3						
FINES				Sn	**Sn**	**23 30 13.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=342,slow=22,SNR=1.0						
FINES				Lg	Lg	23 30 48.7	
	comp=Z,0.4nm,0.3s,baz=343,slow=28,SNR=6.9						
	comp=Z,0.8nm,0.6s						
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	**Pn**	**23 29 09.9**	**+1.5**
	baz=25,slow=13,SNR=1.3						
	comp=Z,0.1nm,0.3s						
HFS	**Hagfors**	**8.22**	**203**	Pn	**Pn**	**23 29 13.5**	**-0.2**
	baz=18,slow=11,SNR=0.8						
HFS				Sn	**Sn**	**23 30 43.5**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=27,slow=23,SNR=2.0						
	comp=Z,0.4nm,0.5s						
SPITS	**Spitsbergen Ar**	**10.48**	**356**	Pn	**Pn**	**23 29 44.8**	**+0.2**
	comp=Z,3.5nm,0.9s,baz=163,slow=10,SNR=1.6						

*IDC **27** 23:29:40.0±2.3, 51°.19N×159°.68E, h0km, mb3.9/10, mbtmp3.9/11, ML2.8/1, MS2.6/3, Error ellipse: s-maj=45.7km s-min=45.4km az=60.0*
*NEIC **27** 23:29:41.0±0.9, 51°.3N±0°.1×159°.9E±0°.2, h10km±2km, mb4.2/7, Error ellipse: s-maj=26.2km s-min=18.6km az=231.0*
*KRSC **27** 23:29:43.9±1.3, 51°.52N×160°.08E, h51km±23km, Ml3.9*

*MOS **27** 23:29:46.0±0.8, 51°.56N×159°.96E, h51km, mb4.1/3, Error ellipse: s-maj=14.7km s-min=5.0km az=106.5*
ISC 27 23:29:45.6±2.5, 51°.53N±0°.06×159°.98E±0°.06, h32km±16km, n80, σ1s22/83, mb4.1/16, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.22**	**284**	PN	**Pn**	**23 30 06.8**	**+0.4**
KDTR				S	**Sn**	**23 30 22.1**	**+0.3**
KDTR	**Khodutka, Kamc**	**1.22**	**284**	*e*P	**Pn**	**23 30 06.9**	**+0.4**
KDTR				*e*S	**Sn**	**23 30 22.2**	**+0.3**
RUS	**Russkaya**	**1.28**	**315**	PN	**Pn**	**23 30 06.9**	**-0.4**
RUS	**Russkaya**	**1.28**	**315**	*e*P	**Pn**	**23 30 06.9**	**-0.4**
MTVR	**Mutnovka**	**1.47**	**311**	PN	**Pn**	**23 30 10.2**	**+0.2**
MTVR	**Mutnovka**	**1.47**	**311**	*e*P	**Pn**	**23 30 10.3**	**+0.2**
GRL	**Gorelyy**	**1.56**	**312**	PN	**Pn**	**23 30 12.2**	**+0.9**
GRL	**Gorelyy**	**1.56**	**312**	*e*P	**Pn**	**23 30 12.2**	**+0.9**
DALK	**Dalny**	**1.68**	**334**	PN	**Pn**	**23 30 12.6**	**-0.2**
DALK				S	**Sn**	**23 30 33.1**	**-0.1**
DALK	**Dalny**	**1.68**	**334**	*e*P	**Pn**	**23 30 12.6**	**-0.2**
DALK				*e*S	**Sn**	**23 30 33.2**	**-0.1**
NLC	**Nalytchevo**	**1.69**	**347**	PN	**Pn**	**23 30 13.4**	**+0.5**
NLC	**Nalytchevo**	**1.69**	**347**	*e*P	**Pn**	**23 30 13.4**	**+0.5**
PET	**Petropavlovsk**	**1.71**	**332**		**Pn**	**23 30 13.5**	**+0.3**
PET	**Petropavlovsk**	**1.71**	**332**	*e*PN	**Pn**	**23 30 13.1**	**0.0**
PET				*e*S	**Sn**	**23 30 34.2**	**+0.4**
PET				pmax	pmax		
	comp=Z,314nm,0.5s						
PET				smax	smax		
	comp=N,641nm,0.8s						
PET				smax	smax		
	comp=E,381nm,0.6s						
PET	**Petropavlovsk**	**1.71**	**332**	*e*P	**Pn**	**23 30 14.2**	**+1.1**
PET				*e*S	**Sb**	**23 30 36.5**	**-0.8**
KRMR	**Karymshinskiy**	**1.73**	**319**	PN	**Pn**	**23 30 13.7**	**+0.2**
KRMR				S	**Sn**	**23 30 35.4**	**+0.9**
KRMR	**Karymshinskiy**	**1.73**	**319**	*e*P	**Pn**	**23 30 13.8**	**+0.2**
KRMR				*e*S	**Sn**	**23 30 35.4**	**+0.9**
INSR	**Institute**	**1.76**	**332**	PN	**Pn**	**23 30 15.1**	**+1.3**
INSR	**Institute**	**1.76**	**332**	*e*P	**Pn**	**23 30 15.2**	**+1.3**
UGLR	**Uglovaya**	**1.83**	**338**	PN	**Pn**	**23 30 15.3**	**+0.4**
UGLR	**Uglovaya**	**1.83**	**338**	*e*P	**Pn**	**23 30 15.3**	**+0.4**
SDLR	**Sedlovina**	**1.88**	**339**	PN	**Pn**	**23 30 15.7**	**+0.1**
SDLR	**Sedlovina**	**1.88**	**339**	*e*P	**Pn**	**23 30 15.7**	**+0.1**
AVH	**Avacha**	**1.90**	**337**	PN	**Pn**	**23 30 16.7**	**+0.8**
AVH	**Avacha**	**1.90**	**337**	*e*P	**Pn**	**23 30 16.7**	**+0.8**
KOK	**Koryaka**	**1.95**	**335**	PN	**Pn**	**23 30 18.2**	**+1.7**
KOK	**Koryaka**	**1.95**	**335**	*e*P	**Pn**	**23 30 18.3**	**+1.7**
PAU	**Pauzhetka**	**1.98**	**269**	PN	**Pn**	**23 30 18.5**	**+1.6**
PAU	**Pauzhetka**	**1.98**	**269**	*e*P	**Pn**	**23 30 18.6**	**+1.6**
KRX	**Arik**	**2.01**	**336**	PN	**Pn**	**23 30 18.2**	**+0.8**
KRX	**Arik**	**2.01**	**336**	*e*P	**Pn**	**23 30 18.3**	**+0.8**
PEA0B	**Petropavlovsk-**	**2.11**	**319**		**Pn**	**23 30 19.2**	**+0.4**
PEA0B	**Petropavlovsk-**	**2.11**	**319**	PN	**Pn**	**23 30 19.7**	**+0.9**
PEA0B				S	**Sn**	**23 30 45.4**	**+1.5**
PETK	**Petropavlovsk-**	**2.11**	**319**		**Pn**	**23 30 19.1**	**+0.3**
PETK	**Petropavlovsk-**	**2.11**	**319**	Pn	**Pn**	**23 30 18.9**	**+0.1**
	comp=E,14nm,0.3s,baz=115,slow=18,SNR=88						
PETK				Sn	**Sb**	**23 30 49.6**	**+0.6**
	comp=E,18nm,0.3s,baz=124,slow=18,SNR=3.5						
PETK				LR	LR	23 30 51.5	
	comp=E,49nm,18.5s,baz=80,slow=32						
	comp=E,24nm,0.4s						
APC	**Apacha**	**2.23**	**310**	PN	**Pn**	**23 30 22.0**	**+1.7**
APC	**Apacha**	**2.23**	**310**	*e*P	**Pn**	**23 30 22.1**	**+1.7**
GNL	**Ganaly**	**2.50**	**331**	PN	**Pn**	**23 30 25.5**	**+1.3**
GNL	**Ganaly**	**2.50**	**331**	*e*P	**Pn**	**23 30 25.5**	**+1.3**
SKR	**Severo-Kuril's**	**2.58**	**252**	*e*PN	**Pn**	**23 30 26.8**	**+1.6**
SKR				*e*S	**Sb**	**23 31 02.3**	**-0.1**
SKR				pmax	pmax		
	comp=Z,25nm,0.4s						
SKR				smax	smax		
	comp=N,255nm,0.5s						
SKR				smax	smax		
	comp=E,340nm,0.5s						
SKR	**Severo-Kuril's**	**2.58**	**252**	*e*P	**Pn**	**23 30 26.7**	**+1.5**
MKZ	**Mys Kozlova**	**3.21**	**18**	PN	**Pn**	**23 30 33.5**	**-0.3**
MKZ	**Mys Kozlova**	**3.21**	**18**	*e*P	**Pn**	**23 30 33.5**	**-0.3**
TUMD	**Tumrok D**	**3.69**	**4**	PN	**Pn**	**23 30 43.1**	**+2.7**
TUMD	**Tumrok D**	**3.69**	**4**	*e*P	**Pn**	**23 30 43.2**	**+2.7**
KMNR	**Kamenistaya**	**4.24**	**2**	PN	**Pn**	**23 30 50.7**	**+2.7**
KMNR	**Kamenistaya**	**4.24**	**2**	*e*P	**Pn**	**23 30 50.7**	**+2.7**
KBTR	**Krutoberegovo**	**4.98**	**19**	PN	**Pn**	**23 30 58.8**	**+0.7**
KBTR	**Krutoberegovo**	**4.98**	**19**	*e*P	**Pn**	**23 30 58.8**	**+0.7**
MA2	**Magadan**	**9.60**	**331**	LR	LR	23 36 25.9	
	comp=E,36nm,18.1s,baz=86,slow=41						
KLR	**Kul'dur**	**18.11**	**274**	LR	LR	23 41 26.3	
	comp=E,33nm,18.1s,baz=214,slow=39						
TIXI	**Tiksi**	**24.48**	**337**	P	**P**	**23 35 00.8**	**-0.6**
TIXI	**Tiksi**	**24.48**	**337**	P	**P**	**23 35 00.8**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
HIA	**Hailar**	**25.53**	**281**	P	**P**	**23 35 07.5**	**-3.7**
HIA				IAmb	IAmb	23 35 11.7	
	comp=Z,6.3nm,1.1s						
HIA	**Hailar**	**25.53**	**281**	P	**P**	**23 35 07.5**	**-3.7**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
N18K	**Kilae Creek**	**25.78**	**52**	P	**P**	**23 35 12.5**	**-0.8**
N18K				IAmb	IAmb	23 35 33.7	
	comp=Z,6.7nm,1.4s						
B21K	**Ikpikpuk River**	**27.74**	**32**	P	**P**	**23 35 31.5**	**+0.7**
B21K				IAmb	IAmb	23 35 34.1	
	comp=Z,4.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**32.20**	**168**	T	T	00 11 18.8	
	baz=351,slow=76,SNR=9.0						
H11N3	**WAKE ISLAND Hy**	**32.21**	**168**	T	T	00 11 20.4	
	baz=351,slow=76,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**32.21**	**168**	T	T	00 11 22.1	
	baz=351,slow=76,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**33.38**	**168**	T	T	00 12 58.0	
	baz=351						
H11S3	**WAKE ISLAND Hy**	**33.39**	**168**	T	T	00 12 59.5	
	baz=351						
H11S2	**WAKE ISLAND Hy**	**33.39**	**168**	T	T	00 12 35.6	
	baz=351						
KURK	**Kurchatov**	**48.52**	**303**		**P**	**23 38 23.5**	**-1.6**
KURK				IAmb	IAmb	23 38 25.6	
	comp=Z,3.2nm,0.8s						
KURK	**Kurchatov**	**48.52**	**303**	P	**P**	**23 38 25.1**	**-0.1**
KURBB	**Kurchatov Arra**	**48.62**	**303**	P	**P**	**23 38 25.1**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=62,slow=7.7,SNR=12						
	comp=Z,1.7nm,0.8s						
SPITS	**Spitsbergen Ar**	**48.67**	**351**	P	**P**	**23 38 26.7**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=58,slow=14,SNR=9.2						
	comp=Z,1.5nm,0.5s						
SPB2	**Spitsbergen Ar**	**48.67**	**351**	P	**P**	**23 38 26.4**	**+0.4**
MKAR	**Makanchi Array**	**48.79**	**297**	P	**P**	**23 38 26.2**	**-1.2**
MKAR	**Makanchi Array**	**48.79**	**297**	P	**P**	**23 38 26.3**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=59,slow=7.3,SNR=7.7						
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**51.32**	**309**	P	**P**	**23 38 45.3**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=56,slow=8.7,SNR=14						
	comp=Z,0.9nm,0.4s						
BRVK	**Borovoye**	**51.35**	**309**	P	**P**	**23 38 45.7**	**-0.9**
BRVK				IAmb	IAmb	23 39 11.4	
	comp=Z,2.5nm,0.8s						
BRVK	**Borovoye**	**51.35**	**309**	P	**P**	**23 38 45.7**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**54.76**	**342**	P	**P**	**23 39 12.2**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=35,slow=7.6,SNR=5.4						
	comp=Z,2.5nm,0.8s						
ABKAR	**Akbulak array**	**58.76**	**311**	P	**P**	**23 39 40.2**	**0.0**
FINES	**FINESS Array B**	**61.53**	**337**	P	**P**	**23 39 59.4**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=42,slow=5.6,SNR=6.0						
	comp=Z,1.3nm,0.7s						
NOA	**NORSAR Array B**	**65.03**	**344**	P	**P**	**23 40 22.9**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=15,slow=3.7,SNR=1.2						
	comp=Z,0.2nm,0.4s						
HFS	**Hagfors**	**65.42**	**342**	P	**P**	**23 40 26.7**	**+2.0**
	comp=Z,1.1nm,0.4s,baz=45,slow=6.5,SNR=11						
	comp=Z,1.1nm,0.4s						
AKASG	**Malin Array Be**	**69.92**	**329**	P	**P**	**23 40 53.7**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=31,slow=6.5,SNR=4.6						
	comp=Z,0.7nm,0.4s						
BRTR	**Keskin Array B**	**77.78**	**321**	P	**P**	**23 41 40.6**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=76,slow=6.1,SNR=5.0						
	comp=Z,0.5nm,0.8s						

*HEL **27** 23:30:52.7±0.3, 67°.81N×20°.21E, h0km, ML1.3, Explosion*
UPP 27 23:30:52.4±0.0, 67°.85N×20°.21E, h0km, ML1.7, Unknown,

Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**25**	P	Pg	23 30 54.9	+0.3
KUA				S	Sg	23 30 56.6	+0.5
RATU	**Laukkuluspa**	**0.23**	**264**	P	Pg	23 30 57.1	+0.2
RATU				S	Sg	23 31 00.5	+0.6
KOVU	**Salmi**	**0.38**	**357**	P	Pg	23 30 59.6	0.0
KOVU				S	Sg	23 31 04.7	+0.3
DUNU	**Dundret**	**0.74**	**169**	P	Pg	23 31 06.3	-0.3
DUNU				S	Sg	23 31 16.8	+0.5
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	23 31 07.3	-0.2
SALU	**Saltoluokta**	**0.81**	**235**	P	Pg	23 31 07.5	-0.3
SALU	**Saltoluokta**	**0.81**	**235**	*e*P	Pg	23 31 07.7	-0.1
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	Pg	23 31 15.1	+0.1
KIF	**Kilpisjarvi**	**1.18**	**10**	PG	Pg	23 31 15.3	+0.3
KIF				MSG		23 31 30.8	
	comp=Z,4.5nm,0.2s						
KIF				SB	Sb	23 31 32.1	+0.7
PAJU	**Pajala**	**1.40**	**125**	P	Pg	23 31 17.9	-1.2
PAJU				S	Sg	23 31 37.0	-0.2
PAJU	**Pajala**	**1.40**	**125**	PN	Pg	23 31 18.1	-1.0
PAJU				SN	Sg	23 31 36.9	-0.2
HEF	**Hetta**	**1.41**	**65**	PG	Pn	23 31 18.4	-0.9
	baz=245						
HEF				MSG		23 31 35.7	
	comp=Z,2.3nm,0.2s						
HEF				SG	Sg	23 31 37.2	-0.4
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	23 31 20.3	-0.4
ERTU				S	Sg	23 31 40.9	0.0
ERTU	**Ertsjaerv**	**1.51**	**148**	PN	Pn	23 31 20.7	0.0
	baz=329						
KLF	**Kolari**	**1.57**	**111**	PN	Pn	23 31 21.4	-0.1
KLF				MSG		23 31 39.4	
	comp=Z,1.1nm,0.2s						
KLF				SN	Sb	23 31 42.6	0.0
HARU	**Harads**	**1.72**	**170**	P	Pn	23 31 23.4	-0.1
TRO	**Tromso**	**1.85**	**346**	SG	Sb	23 31 51.0	+0.3
KALU	**Kalix**	**2.35**	**147**	PG	Pn	23 31 33.5	+1.3
	baz=324						
ARA0	**ARCESS Array S**	**2.57**	**46**	SB	Sb	23 32 10.6	-0.8
RNF	**Rovaniemi**	**2.58**	**116**	PG	Pb	23 31 38.0	-1.4
RNF				SG	Sb	23 32 11.7	+0.1
RAJF	**Raja-Jooseppi**	**3.09**	**75**	SG	Sb	23 32 26.0	-0.4

*IDC **27** 23:31:03.8±0.8, 9°.55N×126°.11E, h0km, mb3.8/14, mbtmp3.8/14, MS3.3/9, Error ellipse: s-maj=53.6km s-min=19.1km az=70.0*
ISC 27 23:31:12.8±0.8, 9°.6N±0°.1×126°.2E±0°.3, h67km, n30, σ0s97/16, mb3.8/14, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.54**	**193**	Pn	**Pn**	**23 31 52.4**	**+0.6**
	25nm,0.3s,baz=265,slow=11,SNR=1.5						
DAV				Sn	Sn	23 32 34.9	+13
	42nm,0.3s,baz=53,slow=10,SNR=4.8						
DAV				LR	LR	23 33 01.7	
	comp=Z,613nm,18.9s,baz=16,slow=47						
KAPI	**Kappang**	**15.82**	**204**	LR	LR	23 41 11.5	
	comp=Z,60nm,20.5s,baz=98,slow=38						
GUMO	**Guam**	**18.77**	**76**	LR	LR	23 42 40.2	
	comp=Z,53nm,19.8s,baz=98,slow=37						
JAY	**Jayapura**	**18.83**	**129**	LR	LR	23 43 54.1	
	comp=Z,167nm,18.1s,baz=295,slow=41						
CMAR	**Chiang Mai Arr**	**27.80**	**292**	LR	LR	23 49 37.3	
	comp=Z,38nm,18.4s,baz=250,slow=40						
KSRS	**Korea Array**	**27.81**	**3**	LR	LR	23 49 53.2	
	comp=Z,29nm,18.5s,baz=190,slow=41						
WRA	**Warramunga Arr**	**30.41**	**165**	P	**P**	**23 37 18.6**	**-0.4**
	0.4nm,0.6s,baz=347,slow=8.7,SNR=1.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**33.89**	**167**	P	**P**	**23 37 47.6**	**-1.8**
	0.2nm,0.4s,baz=344,slow=8.3,SNR=8.2						
	0.2nm,0.4s						
ASAJ	**Asahikawa**	**37.27**	**20**	LR	LR	23 53 54.6	
	comp=Z,30nm,19.8s,baz=128,slow=37						
H11S3	**WAKE ISLAND Hy**	**40.24**	**73**	T	T	00 21 40.6	
	baz=261,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**40.26**	**73**	T	T	00 21 46.7	
	baz=261,slow=74,SNR=7.6						
H11S2	**WAKE ISLAND

*KRSC **28** 00:02:18.7±1.6, 51.°52N×160.°03E, h62km±25km, Mc3.7, Ml4.4*
*MOS **28** 00:02:22.3±1.1, 51.°65N×159.°77E, h58km, mb4.3/8, Error ellipse: s-maj=9.9km s-min=3.8km az=99.8*
*IDC **28** 00:02:23.4±3.6, 51.°27N×159.°54E, h61km±25km, mb3.7/16, mbtmp3.9/21, ML3.2/4, MS3.2/8, Error ellipse: s-maj=25.7km s-min=16.8km az=152.0*

ISC 28 00:02:17.6±2.1, 51.°51N±0.°04×159.°97E±0.°04, h8km±13km, n151, σ1§45/167, mb4.2/34, MS3.3/7, 4C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.22**	**285**	PN	**Pn**	**00 02 41.3**	**+0.5**
KDTR				S	**Sb**	**00 02 57.2**	**+0.6**
KDTR	**Khodutka, Kamc**	**1.22**	**285**	*eP*	**Pn**	**00 02 41.3**	**+0.5**
KDTR				*eS*	**Sb**	**00 02 57.3**	**+0.6**
RUS	**Russkaya**	**1.29**	**316**	PN	**Pn**	**00 02 41.3**	**-0.5**
RUS				S	**Sn**	**00 02 57.8**	**-1.4**
RUS	**Russkaya**	**1.29**	**316**	*eP*	**Pn**	**00 02 41.4**	**-0.5**
RUS				*eS*	**Sn**	**00 02 57.8**	**-1.4**
MTVR	**Mutnovka**	**1.47**	**312**	PN	**Pn**	**00 02 44.8**	**+0.3**
MTVR				S	**Sn**	**00 03 03.4**	**-0.5**
MTVR	**Mutnovka**	**1.47**	**312**	*eP*	**Pn**	**00 02 44.8**	**+0.3**
MTVR				*eS*	**Sn**	**00 03 03.5**	**-0.5**
GRL	**Gorelyy**	**1.57**	**312**	PN	**Pn**	**00 02 46.8**	**+1.1**
GRL				S	**Sb**	**00 03 07.8**	**+0.9**
GRL	**Gorelyy**	**1.57**	**312**	*eP*	**Pn**	**00 02 46.9**	**+1.1**
GRL				*eS*	**Sb**	**00 03 07.8**	**+0.9**
SPN	**Mys Shipunski**	**1.59**	**1**	PN	**Pn**	**00 02 46.6**	**+0.7**
SPN				S	**Sn**	**00 03 07.2**	**+0.7**
SPN	**Mys Shipunski**	**1.59**	**1**	*eP*	**Pn**	**00 02 46.7**	**+0.7**
SPN				*eS*	**Sn**	**00 03 07.3**	**+0.7**
DALK	**Dalny**	**1.70**	**334**	PN	**Pn**	**00 02 47.1**	**-0.2**
DALK	**Dalny**	**1.70**	**334**	*eP*	**Pn**	**00 02 47.2**	**-0.2**
NLC	**Nalytchevo**	**1.71**	**347**	PN	**Pn**	**00 02 47.8**	**+0.3**
NLC	**Nalytchevo**	**1.71**	**347**	*eP*	**Pn**	**00 02 47.9**	**+0.3**
PET	**Petropavlovsk**	**1.72**	**332**		**Pn**	**00 02 47.6**	**-0.1**
PET				Sn	**Sn**	**00 03 09.2**	**-0.5**
PET	**Petropavlovsk**	**1.72**	**332**	*e*PN	**Pn**	**00 02 47.6**	**-0.1**
PET				*eS*	**Sn**	**00 03 09.3**	**-0.5**
PET				pmax	pmax		
	comp=Z,780nm,0.5s						
PET				smax	smax		
	comp=N,3μm,0.6s						
PET				smax	smax		
	comp=E,1μm,0.5s						
PET	**Petropavlovsk**	**1.72**	**332**	*eP*	**Pn**	**00 02 47.6**	**-0.1**
PET				*eS*	**Sn**	**00 03 08.4**	**-1.3**
KRMR	**Karymshinskiy**	**1.74**	**320**	PN	**Pn**	**00 02 48.2**	**+0.2**
KRMR				S	**Sn**	**00 03 10.1**	**-0.2**
KRMR	**Karymshinskiy**	**1.74**	**320**	*eP*	**Pn**	**00 02 48.2**	**+0.2**
KRMR				*eS*	**Sn**	**00 03 10.2**	**-0.2**
INSR	**Institute**	**1.77**	**332**	PN	**Pn**	**00 02 49.2**	**+0.9**
INSR				S	**Sn**	**00 03 12.2**	**+1.2**
INSR	**Institute**	**1.77**	**332**	*eP*	**Pn**	**00 02 49.3**	**+0.9**
INSR				*eS*	**Sn**	**00 03 12.2**	**+1.2**
UGLR	**Uglovaya**	**1.84**	**338**	PN	**Pn**	**00 02 50.0**	**+0.6**
UGLR	**Uglovaya**	**1.84**	**338**	*eP*	**Pn**	**00 02 50.1**	**+0.6**
SDLR	**Sedlovina**	**1.89**	**340**	PN	**Pn**	**00 02 50.3**	**+0.2**
SDLR	**Sedlovina**	**1.89**	**340**	*eP*	**Pn**	**00 02 50.4**	**+0.2**
AVH	**Avacha**	**1.91**	**337**	PN	**Pn**	**00 02 51.8**	**+1.4**
AVH	**Avacha**	**1.91**	**337**	*eP*	**Pn**	**00 02 51.9**	**+1.4**
KRER	**Koryakskii**	**1.94**	**338**	PN	**Pb**	**00 02 53.0**	**-0.3**
KRER	**Koryakskii**	**1.94**	**338**	*eP*	**Pb**	**00 02 53.0**	**-0.3**
KOK	**Koryaka**	**1.96**	**336**	PN	**Pn**	**00 02 52.2**	**+1.1**
KOK	**Koryaka**	**1.96**	**336**	*eP*	**Pn**	**00 02 52.3**	**+1.1**
PAU	**Pauzhetka**	**1.98**	**270**	PN	**Pn**	**00 02 52.9**	**+1.7**
PAU				S	**Sn**	**00 03 17.2**	**+1.1**
PAU	**Pauzhetka**	**1.98**	**270**	*eP*	**Pn**	**00 02 53.0**	**+1.7**
PAU				*eS*	**Sn**	**00 03 17.3**	**+1.1**
KRX	**Arik**	**2.02**	**337**	PN	**Pn**	**00 02 52.8**	**+0.9**
KRX	**Arik**	**2.02**	**337**	*eP*	**Pn**	**00 02 52.9**	**+0.9**
PEA0B	**Petropavlovsk-**	**2.12**	**320**		**Pn**	**00 02 53.7**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.12**	**320**	PN	**Pn**	**00 02 54.3**	**+1.0**
PEA0B				S	**Sn**	**00 03 20.8**	**+1.0**
PETK	**Petropavlovsk-**	**2.12**	**320**		**Pn**	**00 02 52.9**	**-0.4**
PETK	**Petropavlovsk-**	**2.12**	**320**	P	**Pb**	**00 02 55.9**	**-0.3**
	comp=E,29nm,0.3s,baz=257,slow=32,SNR=248						
PETK				S	**Sb**	**00 03 23.9**	**+1.2**
	comp=E,174nm,0.6s,baz=208,slow=18,SNR=11						
	comp=E,114nm,0.6s						
APC	**Apacha**	**2.24**	**310**	PN	**Pn**	**00 02 56.2**	**+1.4**
APC				S	**Sn**	**00 03 23.6**	**+1.1**
APC	**Apacha**	**2.24**	**310**	*eP*	**Pn**	**00 02 56.3**	**+1.4**
APC				*eS*	**Sn**	**00 03 23.6**	**+1.1**
GNL	**Ganaly**	**2.51**	**331**	PN	**Pn**	**00 03 00.1**	**+1.4**
GNL	**Ganaly**	**2.51**	**331**	*eP*	**Pn**	**00 03 00.2**	**+1.4**
KII	**Karymskiy**	**2.55**	**353**	PN	**Pn**	**00 03 00.2**	**+1.1**
KII	**Karymskiy**	**2.55**	**353**	*eP*	**Pn**	**00 03 00.2**	**+1.1**
SKR	**Severo-Kuril's**	**2.57**	**253**	*e*PN	**Pb**	**00 03 04.7**	**+0.9**
SKR				*eS*	**Sn**	**00 03 29.2**	**-1.5**
SKR				pmax	pmax		
	comp=Z,157nm,1.0s						
SKR				smax	smax		
	comp=E,892nm,0.5s						
SKR				smax	smax		
	comp=N,1μm,0.6s						
SKR				MLR	MLR		
	comp=Z,600nm,11.0s						
SKR	**Severo-Kuril's**	**2.57**	**253**	*eP*	**Pn**	**00 03 00.4**	**+1.1**
SKR				*eS*	**Sn**	**00 03 30.4**	**-0.4**
MKZ	**Mys Kozlova**	**3.23**	**18**	PN	**Pn**	**00 03 07.9**	**-0.5**
MKZ				S	**Sn**	**00 03 44.3**	**-2.6**
MKZ	**Mys Kozlova**	**3.23**	**18**	*eP*	**Pn**	**00 03 07.9**	**-0.5**
MKZ				*eS*	**Sn**	**00 03 44.3**	**-2.6**
TUMD	**Tumrok D**	**3.71**	**4**	PN	**Pn**	**00 03 14.6**	**-0.4**
TUMD	**Tumrok D**	**3.71**	**4**	*eP*	**Pn**	**00 03 14.6**	**-0.4**
KMNR	**Kamenistaya**	**4.25**	**2**	PN	**Pn**	**00 03 25.8**	**+3.2**
KMNR	**Kamenistaya**	**4.25**	**2**	*eP*	**Pn**	**00 03 25.8**	**+3.2**
KIRR	**Kirishev**	**4.45**	**3**	PN	**Pn**	**00 03 26.5**	**+1.1**
KIRR	**Kirishev**	**4.45**	**3**	*eP*	**Pn**	**00 03 26.6**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**4.46**	**5**	PN	**Pn**	**00 03 28.3**	**+2.9**
BZGR	**Bezymyannyi-Gr**	**4.46**	**5**	*eP*	**Pn**	**00 03 28.4**	**+2.9**
KPT	**Kopyto**	**4.46**	**2**	PN	**Pn**	**00 03 27.1**	**+1.6**
KPT	**Kopyto**	**4.46**	**2**	*eP*	**Pn**	**00 03 27.2**	**+1.6**
ESO	**Esso**	**4.49**	**351**	PN	**Pn**	**00 03 27.1**	**+1.4**
ESO	**Esso**	**4.49**	**351**	*eP*	**Pn**	**00 03 27.2**	**+1.4**
KRSR	**Krestovskiy**	**4.73**	**4**	PN	**Pn**	**00 03 32.0**	**+2.9**
KRSR	**Krestovskiy**	**4.73**	**4**	*eP*	**Pn**	**00 03 32.1**	**+2.9**
KBTR	**Krutoberegovo**	**5.00**	**19**	PN	**Pn**	**00 03 33.2**	**+0.5**
KBTR	**Krutoberegovo**	**5.00**	**19**	*eP*	**Pn**	**00 03 33.3**	**+0.5**
SMKR	**Semkarok**	**5.16**	**9**	PN	**Pn**	**00 03 36.9**	**+1.9**
SMKR	**Semkarok**	**5.16**	**9**	*eP*	**Pn**	**00 03 36.9**	**+1.9**
MA2	**Magadan**	**9.61**	**331**	LR	LR	00 08 52.1	
	comp=Z,70nm,20.2s,baz=118,slow=40						
SEY	**Seymchan**	**12.15**	**343**	P	**Pn**	**00 05 13.9**	**+3.3**
	baz=62,slow=18,SNR=1.7						
	comp=Z,0.8nm,0.7s						
SEY	**Seymchan**	**12.15**	**343**	PN	**Pn**	**00 05 14.0**	**+3.3**
ASAJ	**Asahikawa**	**13.80**	**244**	P	**Pn**	**00 05 35.3**	**+2.0**
	comp=Z,2.9nm,0.6s,baz=67,slow=13,SNR=2.2						
ERM	**Erimo**	**14.90**	**237**	Pn	**Pn**	**00 05 46.6**	**-1.7**
ERM	**Erimo**	**14.90**	**237**	P	**Pn**	**00 05 46.6**	**-1.7**
BILL	**Bilibino**	**16.86**	**8**	*eP*	**Pn**	**00 06 14.8**	**+1.2**
KLR	**Kul'dur**	**18.10**	**274**	P	**Pn**	**00 06 27.0**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=54,slow=12,SNR=9.3						
KLR				LR	LR	00 13 41.4	
	comp=Z,63nm,19.2s,baz=68,slow=38						
	comp=Z,0.4nm,0.4s						
KLR	**Kul'dur**	**18.10**	**274**	*eP*	**P**	**00 06 30.8**	**+1.3**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.3s						
YAK	**Yakutsk**	**19.46**	**314**	P	**P**	**00 06 42.3**	**-1.9**
YAK	**Yakutsk**	**19.46**	**314**	P	**P**	**00 06 43.0**	**-1.3**
	comp=Z,8.3nm,0.4s,baz=101,slow=0.8,SNR=2.9						
YAK	**Yakutsk**	**19.46**	**314**	*eP*	**P**	**00 06 42.4**	**-1.8**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
USA0B	**Ussuriysk Arra**	**20.07**	**260**	*i* P	**P**	**00 06 48.2**	**-2.8**
USRK	**Ussuriysk Ar.**	**20.07**	**260**	P	**P**	**00 06 48.4**	**-2.7**
	comp=E,0.2nm,0.3s,baz=72,slow=14,SNR=2.0						
USRK				LR	LR	00 15 10.7	
	comp=E,54nm,18.1s,baz=141,slow=39						
	comp=E,1.6nm,0.7s						
HEH	**HeiHe**	**20.50**	**279**	*eP*	**P**	**00 06 55.5**	**-0.1**
MJB9	**Matsu-Tunnel**	**21.53**	**234**	P	**P**	**00 07 06.5**	**-0.5**
MJB9				IAmb	IAmb	00 07 13.6	
	comp=Z,9.6nm,0.9s						
MAJO	**Matsushiro**	**21.54**	**234**	P	**P**	**00 07 05.9**	**-1.1**
MAJO				IAmb	IAmb	00 07 12.6	
	comp=Z,9.4nm,0.9s						
MAJO	**Matsushiro**	**21.54**	**234**	P	**P**	**00 07 05.9**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MJAR	**Matsushiro Arr**	**21.54**	**234**	P	**P**	**00 07 10.1**	**+3.1**
	comp=Z,2.5nm,0.8s,baz=24,slow=11,SNR=7.5						
MJAR				LR	LR	00 16 26.0	
	comp=Z,52nm,18.9s,baz=40,slow=40						
TIXI	**Tiksi**	**24.50**	**337**		**P**	**00 07 35.5**	**-1.2**
TIXI	**Tiksi**	**24.50**	**337**	LR	LR	00 18 18.9	
	comp=Z,84nm,18.3s,baz=124,slow=39						
TIXI	**Tiksi**	**24.50**	**337**	*ce*P	**P**	**00 07 37.1**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
E18K	**Tukpahlearik C**	**24.97**	**36**	P	**P**	**00 07 42.2**	**+1.2**
C18K	**Utukok River**	**25.21**	**33**	P	**P**	**00 07 44.8**	**+1.5**
C18K				IAmb	IAmb	00 08 24.0	
	comp=Z,10nm,1.4s						
HIA	**Hailar**	**25.53**	**281**		**P**	**00 07 45.0**	**-1.3**
HIA	**Hailar**	**25.53**	**281**	P	**P**	**00 07 45.0**	**-1.3**
HIA				pmax	pmax		
	comp=Z,12nm,0.7s						
KSRS	**Korea Array**	**26.59**	**251**	P	**P**	**00 07 54.3**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=48,slow=9.6,SNR=4.1						
	comp=Z,0.3nm,0.3s						
KDAK	**Kodiak Island**	**27.67**	**58**	*i* P	**P**	**00 08 06.4**	**+0.9**
KDAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
B21K	**Ikpikpuk River**	**27.76**	**32**	P	**P**	**00 08 08.0**	**+1.9**
B21K				IAmb	IAmb	00 08 26.1	
	comp=Z,8.3nm,1.4s						
C23K	**Itkillik River**	**29.16**	**33**	P	**P**	**00 08 19.8**	**+1.2**
G24K	**Hadweenzic Riv**	**29.84**	**39**	P	**P**	**00 08 27.1**	**+2.4**
ILAR	**Eielson Array**	**30.00**	**43**	P	**P**	**00 08 29.3**	**+3.1**
	comp=Z,0.4nm,0.9s,baz=217,slow=8.6,SNR=3.0						
	comp=Z,0.4nm,0.9s						
D25K	**Kavik River**	**30.53**	**34**	P	**P**	**00 08 31.9**	**+1.1**
BMAR	**Burnt Mountain**	**31.02**	**38**	P	**P**	**00 08 36.7**	**+1.5**
H11N2	**WAKE ISLAND Hy**	**32.18**	**168**	T	T	00 43 05.1	
	baz=352,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy**	**32.20**	**168**	T	T	00 42 49.4	
	baz=352,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**32.20**	**168**	T	T	00 42 54.7	
	baz=352,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy**	**33.36**	**168**	T	T	00 44 35.5	
	baz=351,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**33.37**	**168**	T	T	00 44 36.7	
	baz=351,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**33.38**	**168**	T	T	00 44 44.1	
	baz=351,slow=76,SNR=7.6						
ULN	**Ulaanbaatar**	**33.81**	**285**	*eP*	**P**	**00 08 58.8**	**-1.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**34.22**	**285**	P	**P**	**00 09 00.6**	**-2.9**
	comp=Z,0.4nm,0.4s,baz=120,slow=5.7,SNR=3.6						
SONM				LR	LR	00 24 07.5	
	comp=Z,64nm,18.6s,baz=100,slow=38						
	comp=Z,0.4nm,0.4s						
F30M	**Barrier River**	**34.39**	**38**	P	**P**	**00 09 07.2**	**+2.6**
F30M				IAmb	IAmb	00 09 11.8	
	comp=Z,3.8nm,1.3s						
HHC	**Hu-ho-hao-te**	**34.58**	**271**	*eP*	**P**	**00 09 06.8**	**+0.2**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,45nm,5.0s						
NRIK	**Noril'sk**	**37.17**	**326**	LR	LR	00 25 34.5	
	comp=Z,42nm,19.4s,baz=50,slow=37						
EUNU	**Eureka**	**43.51**	**13**		**P**	**00 10 21.8**	**+1.0**
EUNU				IAmb	IAmb	00 10 26.6	
	comp=Z,4.1nm,1.0s						
ZALV	**Zalesovo Beam**	**43.59**	**304**	P	**P**	**00 10 18.4**	**-3.2**
	comp=Z,0.5nm,0.4s,baz=43,slow=8.9,SNR=2.8						
	comp=Z,0.5nm,0.4s						
YKA	**Yellowknife Ar**	**44.39**	**41**	P	**P**	**00 10 28.9**	**+1.0**
	comp=Z,0.2nm,0.8s,baz=301,slow=8.1,SNR=3.5						
	comp=Z,0.2nm,0.8s						
YKA	**Yellowknife Ar**	**44.39**	**41**	P	**P**	**00 10 29.0**	**+1.0**
KURK	**Kurchatov**	**48.52**	**303**		**P**	**00 10 58.7**	**-1.9**
KURK	**Kurchatov**	**48.52**	**303**	P	**P**	**00 10 59.8**	**-0.7**
KURBB	**Kurchatov Arra**	**48.62**	**303**	P	**P**	**00 10 59.8**	**-1.6**
	comp=Z,5.4nm,0.8s,baz=61,slow=7.8,SNR=42						
	comp=Z,5.4nm,0.8s						
SPITS	**Spitsbergen Ar**	**48.68**	**351**	P	**P**	**00 11 01.8**	**+0.3**
	comp=Z,4.1nm,0.6s,baz=56,slow=9.1,SNR=29						
	comp=Z,4.1nm,0.6s						
MK31	**Makanchi Array**	**48.79**	**297**	*c i* P	**P**	**00 11 01.2**	**-1.5**
MKAR	**Makanchi Array**	**48.79**	**297**	P	**P**	**00 11 01.2**	**-1.5**
MKAR	**Makanchi Array**	**48.79**	**297**	P	**P**	**00 11 01.1**	**-1.7**
	comp=Z,1.2nm,0.5s,baz=56,slow=6.9,SNR=24						
	comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**48.79**	**297**	*i* P	**P**	**00 11 01.3**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MAKZ	**Makanchi**	**48.95**	**297**	P	**P**	**00 11 01.9**	**-2.1**
MAKZ				IAmb	IAmb	00 11 03.0	
	comp=Z,1.4nm,0.7s						
MAKZ	**Makanchi**	**48.95**	**297**	P	**P**	**00 11 01.9**	**-2.1**
MAKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PZH	**PanZhiHua**	**50.11**	**263**	P	**P**	**00 11 13.5**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
BVAR	**Borovoye Array**	**51.32**	**309**	P	**P**	**00 11 20.1**	**-1.7**
	comp=Z,2.2nm,0.4s,baz=53,slow=7.0,SNR=17						
	comp=Z,2.2nm,0.4s						
BRVK	**Borovoye**	**51.36**	**309**	*i* P	**P**	**00 11 19.5**	**-2.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	**ARCESS Array B**	**54.77**	**342**	P	**P**	**00 11 46.4**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=34,slow=8.9,SNR=7.0						
	comp=Z,2.1nm,0.7s						
KKAR	**Karatay Array**	**57.60**	**300**	P	**P**	**00 12 06.6**	**-1.0**
KKAR	**Karatay Array**	**57.60**	**300**	P	**P**	**00 12 06.6**	**-1.0**
AB31	**Akbulak array**	**58.77**	**311**		**P**	**00 12 14.3**	**-1.4**
AB31				IAmb	IAmb	00 12 16.5	
	comp=Z,1.6nm,0.8s						
ABKAR	**Akbulak array**	**58.77**	**311**		**P**	**00 12 14.2**	**-1.5**
ABKAR				IAmb	IAmb	00 12 16.5	
	comp=Z,1.6nm,0.8s						
FINES	**FINESS Array B**	**61.54**	**337**	P	**P**	**00 12 34.3**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=43,slow=8.6,SNR=10						
	comp=Z,2.8nm,0.8s						
NB2	**NORSAR Subarra**	**65.04**	**344**	P	**P**	**00 12 57.9**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=21,slow=6.5						
NOA	**NORSAR Array B**	**65.04**	**344**	P	**P**	**00 12 58.1**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=15,slow=5.2,SNR=6.0						
	comp=Z,0.8nm,0.7s						
HFS	**Hagfors**	**65.43**	**342**	P	**P**	**00 13 00.7**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=42,slow=4.6,SNR=20						
	comp=Z,1.9nm,0.4s						
MNK	**Minsk**	**67.06**	**332**	*i* P	**P**	**00 13 10.1**	**-0.6**
MNK				*i*		00 15 38.2	
MNK				*i* PPP	PPP	00 17 15.2	
MNK				*i* S	**S**	**00 22 04.2**	**0.0**
MNK				*i* SS	**SS**	**00 26 23.7**	**+1.8**
MNK				pmax	pmax		
	comp=N,8.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,12nm,0.8s						
MNK				pmax	pmax		
	comp=E,8.0nm,0.9s						
MNK				MLR	MLR		
	comp=Z,42nm,14.0s						
MNK				MLR	MLR		
	comp=N,31nm,15.0s						
MNK				MLR	MLR		
	comp=E,33nm,17.0s						
AKASG	**Malin Array Be**	**69.93**	**329**	P	**P**	**00 13 28.3**	**-0.4**
	comp=E,3.5nm,0.6s,baz=31,slow=6.3,SNR=13						
	comp=E,3.5nm,0.6s						
AKBB	**Malin Array Si**	**69.93**	**329**	⇑ *i* P	**P**	**00 13 28.0**	**-0.7**
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KBZ	**Khabaz**	**70.64**	**317**	LR	LR	00 50 03.1	
	comp=Z,27nm,18.9s,baz=160,slow=40						
TXAR	**Lajitas Array**	**71.33**	**66**	P	**P**	**00 13 39.4**	**+1.6**
TXAR	**Lajitas Array**	**71.33**	**66**	P	**P**	**00 13 39.9**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=316,slow=3.5,SNR=4.0						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**71.33**	**66**	P	**P**	**00 13 39.4**	**+1.6**
KOPT	**Kop Dagi**	**74.70**	**316**	P	**P**	**00 13 58.1**	**+0.3**
GERES	**GERESS Array B**	**75.95**	**338**	P	**P**	**00 14 05.1**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=45,slow=14,SNR=4.2						
	comp=Z,0.5nm,0.5s						
BRTR	**Keskin Array B**	**77.80**	**321**	*ce*P	**P**	**00 14 15.8**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
H03N2	**Juan Fernandez**	**134.27**	**90**	T	T	02 52 20.7	
	baz=314,slow=77,SNR=9.9						
H03N1	**Juan Fernandez**	**134.28**	**90**	T	T	02 52 22.1	
	baz=314,slow=77,SNR=8.9						
H03N3	**Juan Fernandez**	**134.29**	**90**	T	T	02 52 20.4	
	baz=314,slow=77,SNR=9.3						

*NEIC **28** 00:15:27.5±1.7, 21.°4S±0.°1×174.°4W±0.°2, h10km±1km, mb4.6/21, Error ellipse: s-maj=26.3km s-min=21.7km az=137.0*
*IDC **28** 00:15:35.5±4.3, 21.°43S×174.°49W, h75km±36km, mb3.8/13, mbtmp4.2/16, ML5.1/2, Error ellipse: s-maj=22.6km s-min=18.5km az=101.0*

ISC 28 00:15:32.7±0.5, 21.°53S±0.°1×174.°52W±0.°09, h50km, n64, σ1§53/60, mb4.3/24, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.95**	**297**		**Pn**	**00 17 28.2**	**+2.3**
MSVF	**Nonsavu**	**7.95**	**297**	P	**Pn**	**00 17 30.0**	**+4.1**
	2.7nm,0.3s,baz=121,slow=13,SNR=12						
	46nm,0.9s						
RAR	**Rarotonga**	**13.75**	**91**	Pn	Pn	00 18 31.3	-14
RAR	**Rarotonga**	**13.75**	**91**	P	Pn	00 18 31.5	-13
	23nm,0.4s,baz=246,slow=5.3,SNR=11						
DZM	**Mont Dzumac**	**17.68**	**265**	P	**P**	**00 19 36.3**	**+0.4**
DZM	**Mont Dzumac**	**17.68**	**265**	*eP*	**Pn**	**00 19 28.8**	**-6.8**
	108nm,23.5s						
DZM				*e*LR	LR	00 23 38.1	
	455nm,21.5s						
DZM	**Mont Dzumac**	**17.68**	**265**	P	**P**	**00 19 36.8**	**+0.8**
	10nm,0.9s,baz=76,slow=15,SNR=6.3						
URZ	**Urewera**	**18.16**	**202**	P	**Pn**	**00 19 43.1**	**+1.9**
	0.9nm,0.3s,baz=28,slow=3.2,SNR=6.4						
	8.2nm,0.6s						
BKZ	**Black Stump Fm**	**19.19**	**202**	P	**P**	**00 19 51.3**	**-1.0**
BFZ	**Birch Farm**	**20.64**	**200**	P	**P**	**00 20 08.5**	**+0.6**
BFZ				IAmb	IAmb	00 20 09.7	
	comp=Z,39nm,1.2s						
TBI	**Tubuai**	**23.23**	**99**	*e*LR	LR	00 25 56.7	
	comp=Z,796nm,23.2s						
PPT2	**Papeete2**	**23.82**	**85**	*e*LR	LR	00 26 03.7	
	comp=Z,230nm,29.2s						
PPT2				*e*LR	LR	00 26 13.3	
	comp=Z,222nm,21.8s						
TAOE	**Nuku Hiva Isla**	**35.39**	**74**	*e*LR	LR	00 31 29.2	
	comp=Z,182nm,25.1s						
RKT	**Rikitea**	**36.54**	**100**	*e*LR	LR	00 32 27.7	
	comp=Z,2μm,33.0s						
STKA	**Stephens Creek**	**40.30**	**246**	P	**P**	**00 23 05.7**	**+0.5**
STKA	**Stephens Creek**	**40.30**	**246**	P	**P**	**00 23 05.6**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=78,slow=12,SNR=4.3						
	comp=Z,2.9nm,0.8s						
COEN	**Coen**	**40.89**	**273**	P	**P**	**00 23 09.3**	**-1.0**
COEN				IAmb	IAmb	00 23 19.8	
	comp=Z,24nm,1.2s						
BBOO	**Buckleboo**	**45.02**	**245**	P	**P**	**00 23 43.3**	**-0.3**
BBOO				IAmb	IAmb	00 23 59.2	
	comp=Z,14nm,1.2s						
AS31	**Alice Springs**	**47.45**	**257**	P	**P**	**00 24 02.2**	**-0.6**
JAY	**Jayapura**	**47.45**	**287**	P	**P**	**00 24 02.4**	**-0.5**
	comp=Z,4.1nm,0.6s,baz=172,slow=9.0,SNR=2.0						
	comp=Z,4.1nm,0.6s						
ASAR	**Alice Springs**	**47.45**	**257**	P	**P**	**00 24 01.9**	**-0.9**
ASAR	**Alice Springs**	**47.45**	**257**	P	**P**	**00 24 02.8**	**0.0**
	comp=Z,4.9nm,0.8s,baz=91,slow=8.3,SNR=39						
ASAR				PcP	**PcP**	**00 25 32.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=99,slow=2.9,SNR=0.9						
	comp=Z,4.9nm,0.8s						
WB0	**Warramunga Arr**	**47.66**	**262**	P	**P**	**00 24 04.0**	**-0.5**

ATH 28 00:17:04.9, 37.59N×20.54E, h28km±7km, ML2.0/4, Manual Solution by A.Moschou First location: 2019/04/28 00:18:40, This location: 2019/04/28 07:57:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 7 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.27**	**63**	P	Pb	00 17 09.2	-2.5
LTHK				S	Sb	00 17 11.5	-4.8
ORTH	**Orthonies,Zaky**	**0.29**	**26**	P	Pb	00 17 10.7	-1.4
ORTH				S	Sb	00 17 13.7	-3.3
KYPS	**Kipseli, Zakin**	**0.32**	**44**	P	Pb	00 17 10.9	-1.6
KYPS				S	Sb	00 17 14.5	-3.2
PSDA	**Pessada-Kefalo**	**0.53**	**4**	P	Pb	00 17 15.3	-0.3
PSDA				S	Sb	00 17 22.2	-0.8
CLEM	**Kyllini,Ilia,G**	**0.56**	**57**	P	Pb	00 17 14.2	-2.0
CLEM				S	Sb	00 17 21.3	-2.6
VLS	**Valsamata**	**0.59**	**4**	P	Pb	00 17 16.3	-0.5
VLS				S	Sb	00 17 24.8	0.0
DMLN	**Damoulianata-K**	**0.66**	**349**	P	Pn	00 17 18.4	-0.1
DMLN				S	Sb	00 17 27.3	+0.5
SMHA	**Samh**	**0.67**	**7**	P	Pb	00 17 16.8	-1.2
SMHA				S	Sb	00 17 26.5	-0.5
YRMI	**Loutra Irminis**	**0.82**	**51**	P	Pb	00 17 18.9	-1.7
YRMI				S	Sb	00 17 28.4	-2.9
FSK	**Fiskardo**	**0.87**	**1**	P	Pb	00 17 21.5	+0.1
FSK				S	Sn	00 17 33.0	0.0
RLS	**Riolos of Patr**	**0.87**	**57**	P	Pn	00 17 20.3	-1.0
RLS				S	Sb	00 17 31.3	-1.5
RLS	**Riolos of Patr**	**0.87**	**57**	P	Pn	00 17 20.4	-0.9
RLS				S	Sb	00 17 32.5	-0.3
AXS	**Araxos**	**0.90**	**47**	P	Pb	00 17 22.4	+0.5
AXS				S	Sb	00 17 32.6	-0.9
AMT	**Artemida-Makis**	**0.93**	**93**	P	Pn	00 17 22.0	-0.2
AMT				S	Sn	00 17 35.4	+0.7
DRO	**Drossia**	**1.00**	**68**	P	Pn	00 17 23.1	0.0
DRO				S	Sn	00 17 35.2	-1.0
DRO	**Drossia**	**1.00**	**68**	P	Pn	00 17 23.1	0.0
DRO				S	Sb	00 17 36.5	+0.2
EVGI	**Lefkada island**	**1.04**	**5**	P	Pn	00 17 23.9	+0.3
EVGI				S	Sb	00 17 37.6	+0.1
NYDR	**Nydri-Lefkada**	**1.13**	**6**	P	Pn	00 17 24.3	-0.6
NYDR				S	Sn	00 17 39.4	-0.1

*IDC **28** 00:17:09.0±1.4, 9.76N×126.35E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=116.7km s-min=18.6km az=74.0*

ISC 28 00:17:14.6±1.2, 10.0N±0.1×127.2E±0.3, h50km, n8, σ1°16/8, mb3.6/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.31**	**209**	Pg	**Pn**	**00 18 04.5**	**+0.6**
	29nm,0.3s,baz=238,slow=15,SNR=1.4						
DAV				Lg	Lg	00 18 38.3	
	52nm,0.3s,baz=53,slow=20,SNR=1.9						
FITZ	**Fitzroy Crossi**	**27.95**	**183**	P	**P**	**00 22 59.9**	**-0.6**
	5.4nm,0.9s,baz=11,slow=5.7,SNR=4.6						
	5.4nm,0.9s						
WRA	**Warramunga Arr**	**30.57**	**167**	P	**P**	**00 23 23.8**	**0.0**
	0.6nm,0.7s,baz=333,slow=8.6,SNR=2.3						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**34.09**	**169**	P	**P**	**00 23 54.4**	**-0.2**
	0.4nm,0.9s,baz=348,slow=9.1,SNR=4.1						
	0.4nm,0.9s						
SONM	**Songino Array**	**41.60**	**339**	P	**P**	**00 24 57.0**	**-0.8**
	0.4nm,0.7s,baz=156,slow=8.1,SNR=3.7						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**52.80**	**322**	P	**P**	**00 26 24.6**	**-0.2**
	0.4nm,0.6s,baz=118,slow=7.4,SNR=5.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**56.81**	**325**	P	**P**	**00 26 52.6**	**-1.2**
	0.3nm,0.5s,baz=118,slow=7.8,SNR=2.5						
	0.3nm,0.5s						
NRIK	**Noril'sk**	**64.51**	**345**	P	**P**	**00 27 47.8**	**+1.9**
	0.7nm,0.4s,baz=135,slow=7.1,SNR=5.0						
	0.7nm,0.4s						

*IDC **28** 00:20:37.9±0.5, 21.29S×174.44W, h0km, mb4.4/22, mbtmp4.4/24, ML4.2/2, MS4.1/20, Error ellipse: s-maj=17.7km s-min=15.2km az=125.0*

*BJI **28** 00:20:39.3, 21.17S×174.51W, h4km, mB5.4/10, mb5.0/26, Ms5.1/14, MS7 4.8/14*

*NEIC **28** 00:20:40.7±1.7, 21.3S±0.1×174.5W±0.1, h10km±1km, mb5.1/87, Error ellipse: s-maj=20.8km s-min=14.8km az=127.0*

*GCMT **28** 00:20:45.7±0.4, 21.47S±0.03×173.82W±0.03, h28km±1km, MW4.9/77, Moment Tensor Solution. s37,c43; s77,c92; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}2.84±.17; $M_{\theta\theta}$-1.25±.11; $M_{\phi\phi}$-1.59±.11; $M_{r\theta}$1.49±.17; $M_{\theta\phi}$-1.06±.07; $M_{\phi r}$1.10±.17; Best double couple: $M_0$3.24400×10^16^ NP1:ϕ_s215.00000°, δ28.00000°, λ79.00000°. NP2: ϕ_s47.00000°, δ62.00000°, λ96.00000°. Principal axes: T 3.4350, Plg72.0000°, Azm331.0000°; N -0.3840, Plg5.0000°, Azm225.0000°; P -3.0520, Plg17.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 00:20:43.5±0.3, 21.35S±0.08×174.56W±0.07, h30km, n481, σ0°79/470, mb5.0/75, MS4.3/27, 21C-14D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.84**	**296**	Pn	Pn	00 22 42.9	+7.3
	2.6nm,0.3s,baz=128,slow=14,SNR=23						
MSVF				LR	LR	00 25 30.4	
	comp=Z,4μm,18.4s,baz=110,slow=37						
AFI	**Afiamalu**	**7.86**	**20**	Pn	Pn	00 22 28.0	-7.9
RAR	**Rarotonga**	**13.79**	**92**	Pn	Pn	00 23 44.3	-13
	6.1nm,0.3s,baz=263,slow=10,SNR=13						
RAR				Sn	Sn	00 26 01.3	-28
	0.8nm,0.3s,baz=337,slow=22,SNR=1.0						
PINNC	**Pines Island,**	**16.74**	**262**	Pn	**Pn**	**00 24 34.8**	**-1.0**
DZM	**Mont Dzumac**	**17.67**	**264**	P	**Pn**	**00 24 47.6**	**+0.1**
DZM	**Mont Dzumac**	**17.67**	**264**	*e*P	**P**	**00 24 50.0**	**+1.8**
	60nm,1.1s						
DZM				*e*LR	LR	00 28 53.8	
	664nm,26.4s						
DZM	**Mont Dzumac**	**17.67**	**264**	P	**P**	**00 24 49.1**	**+0.8**
	0.4nm,0.3s,baz=79,slow=18,SNR=5.2						
	10nm,0.8s						
URZ	**Urewera**	**18.32**	**201**	P	**Pn**	**00 24 55.5**	**+0.2**
	1.5nm,0.3s,baz=98,slow=3.5,SNR=13						
URZ				S	Sn	00 28 06.3	-13
	4.5nm,0.5s,baz=72,slow=20,SNR=1.8						
	14nm,0.6s						
RTZ	**Ruatahuna**	**18.68**	**201**	P	**P**	**00 24 59.5**	**+0.1**
TBI	**Tubuai**	**23.30**	**100**	*e*S	**S**	**00 29 59.3**	**-0.2**
	6μm,26.2s						
TBI				*e*LR	LR	00 31 12.9	
	2μm,27.8s						
TBI				*e*LR	LR	00 31 31.0	
	927nm,26.0s						
PPT2	**Papeete2**	**23.84**	**85**	*e*S	**S**	**00 30 07.1**	**-1.5**
	1μm,26.8s						
PPT2				*e*LR	LR	00 31 24.2	
	421nm,27.2s						
PPT2				*e*LR	LR	00 31 25.2	
	278nm,27.0s						
PPT	**Papeete**	**23.85**	**85**	LR	LR	00 33 40.8	
	comp=Z,247nm,18.1s,baz=204,slow=33						
HNR	**Honiara**	**27.23**	**292**	LR	LR	00 35 40.7	
	comp=Z,225nm,21.7s,baz=126,slow=33						
TAOE	**Nuku Hiva Isla**	**35.38**	**75**	*e*LR	LR	00 36 53.3	
	290nm,26.5s						
RKT	**Rikitea**	**36.61**	**100**	*e*S	**S**	**00 33 30.5**	**+2.0**
	2μm,42.5s						
RKT				*e*LR	LR	00 37 34.6	
	1μm,28.0s						
TOO	**Toolangi**	**38.04**	**236**	P	**P**	**00 27 60.0**	**+0.7**
TAU	**Tasmania Unive**	**38.34**	**227**	P	**P**	**00 28 02.1**	**+0.5**
PMG	**Port Moresby**	**38.66**	**282**	P	**P**	**00 28 04.4**	**-0.3**
	18nm,1.0s,baz=117,slow=16,SNR=3.1						
PMG				LR	LR	00 42 57.5	
	comp=Z,397nm,18.6s,baz=130,slow=35						
	18nm,1.0s						

STKA	**Stephens Creek**	**40.34**	**246**	P	**P**	**00 28 18.1**	**-0.4**
STKA				IAmb	IAmb	00 28 30.5	
	comp=Z,32nm,0.9s						
STKA	**Stephens Creek**	**40.34**	**246**	P	**P**	**00 28 18.1**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=103,slow=12,SNR=5.2						
	comp=Z,2.3nm,0.6s						
BBOO	**Buckleboo**	**45.07**	**245**	P	**P**	**00 28 55.1**	**-1.8**
JAY	**Jayapura**	**47.36**	**287**	P	**P**	**00 29 15.2**	**0.0**
	comp=Z,12nm,0.7s,baz=180,slow=4.9						
JAY				LR	LR	00 47 07.7	
	comp=Z,192nm,19.6s,baz=340,slow=34						
	comp=Z,12nm,0.7s						
AS31	**Alice Springs**	**47.45**	**257**		**P**	**00 29 14.2**	**-1.6**
ASAR	**Alice Springs**	**47.46**	**257**	P	**P**	**00 29 14.4**	**-1.5**
ASAR	**Alice Springs**	**47.46**	**257**	P	**P**	**00 29 14.6**	**-1.3**
	comp=Z,5.6nm,0.7s,baz=94,slow=8.1,SNR=51						
ASAR				PcP	**PcP**	**00 30 47.3**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=99,slow=5.0,SNR=1.7						
ASAR				S	**S**	**00 36 05.5**	**-3.3**
	comp=Z,1.2nm,1.0s,baz=93,slow=15,SNR=6.6						
	comp=Z,5.6nm,0.7s						
WB0	**Warramunga Arr**	**47.65**	**262**	P	**P**	**00 29 16.9**	**-0.5**
WRA	**Warramunga Arr**	**47.67**	**262**		**P**	**00 29 17.0**	**-0.5**
WRA	**Warramunga Arr**	**47.67**	**262**	P	**P**	**00 29 16.8**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=101,slow=7.1,SNR=12						
	comp=Z,2.9nm,0.7s						
FORT	**Forrest**	**51.92**	**247**	P	**P**	**00 29 48.9**	**-0.7**
FORT				IAmb	IAmb	00 30 00.9	
	comp=Z,22nm,0.7s						
GUMO	**Guam**	**52.84**	**307**	LR	LR	00 49 32.6	
	comp=Z,132nm,21.1s,baz=108,slow=33						
KNRA	**Kununurra**	**53.81**	**266**	P	**P**	**00 30 03.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**56.10**	**262**	P	**P**	**00 30 19.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**56.10**	**262**	P	**P**	**00 30 19.5**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=71,slow=8.3,SNR=1.7						
	comp=Z,1.4nm,0.6s						
SBA	**Scott Base**	**57.26**	**185**		**P**	**00 30 29.4**	**+1.7**
SBA				IAmb	IAmb	00 30 43.9	
	comp=Z,25nm,1.4s						
VNDA	**Vanda**	**57.38**	**186**	P	**P**	**00 30 29.8**	**+1.3**
VNDA	**Vanda**	**57.38**	**186**	P	**P**	**00 30 29.0**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=3.3,slow=6.8,SNR=23						
VNDA				LR	LR	00 55 15.3	
	comp=Z,58nm,18.2s,baz=222,slow=36						
	comp=Z,3.5nm,0.7s						
MBWA	**Marble Bar**	**60.80**	**257**	P	**P**	**00 30 52.3**	**-0.8**
MBWA				IAmb	IAmb	00 30 54.4	
	comp=Z,22nm,1.1s						
JCJ	**Chichijima**	**63.81**	**317**	LR	LR	00 56 40.3	
	comp=Z,89nm,18.9s,baz=355,slow=34						
CASY	**Casey**	**64.58**	**206**	P	**P**	**00 31 17.5**	**-0.1**
QSPA	**South Pole Qui**	**68.72**	**180**		**P**	**00 31 44.4**	**+0.2**
QSPA				IAmb	IAmb	00 32 19.5	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**68.72**	**180**	P	**P**	**00 31 44.2**	**0.0**
	comp=Z,4.2nm,0.7s,baz=61,slow=1.1,SNR=25						
	comp=Z,4.2nm,0.7s						
MJAR	**Matsushiro Arr**	**72.83**	**322**	P	**P**	**00 32 08.7**	**-0.7**
	comp=Z,9.3nm,0.9s,baz=155,slow=5.7,SNR=19						
	comp=Z,9.3nm,0.9s						
JOW	**Kunigami**	**73.19**	**308**	LR	LR	00 59 32.5	
	comp=Z,132nm,21.4s,baz=102,slow=32						
JMN	**Monobe**	**73.56**	**317**	P	**P**	**00 32 14.0**	**+0.2**
JMN				IAmb	IAmb	00 32 16.9	
	comp=Z,26nm,1.1s						
NIKH	**Nikolski High**	**74.17**	**4**	P	**P**	**00 32 16.4**	**-0.5**
	baz=186						
SHEM	**Shemya Is, Ala**	**74.42**	**353**	LR	LR	01 00 34.4	
	comp=Z,252nm,19.7s,baz=167,slow=32						
UNV	**Unalaska Valle**	**75.20**	**5**	P	**P**	**00 32 22.9**	**+0.1**
	baz=188						
FALS	**False Pass**	**76.49**	**7**	P	**P**	**00 32 29.5**	**-0.6**
	baz=191						
CHNA	**Chernabura Isl**	**76.95**	**9**	P	**P**	**00 32 31.9**	**-0.9**
	baz=194						
SDPT	**Sand Point**	**77.33**	**8**	P	**P**	**00 32 34.6**	**-0.3**
	baz=193						
S12K	**Black Hills**	**77.48**	**7**	P	**P**	**00 32 34.9**	**-0.8**
	baz=192						
ISA	**Isabella, Lake**	**77.68**	**44**	P	**P**	**00 32 36.7**	**-0.7**
P08K	**Saint George I**	**77.76**	**3**	P	**P**	**00 32 37.2**	**0.0**
	baz=185						
PFO	**Pinyon Flats O**	**77.78**	**46**	LR	LR	01 05 18.7	
	comp=Z,87nm,18.1s,baz=211,slow=34						
CMB	**Columbia Colle**	**77.95**	**41**	P	**P**	**00 32 38.1**	**-0.7**
CMB				IAmb	IAmb	00 32 51.6	
	comp=Z,32nm,1.9s						
AFDM	**Forest Hills D**	**78.18**	**40**	P	**P**	**00 32 39.2**	**-0.9**
BELA	**Belgrano 2**	**78.29**	**172**		**P**	**00 32 38.7**	**-1.4**
BELA				IAmb	IAmb	00 32 40.7	
	comp=Z,21nm,1.8s						
SPIA	**Saint Paul Isl**	**78.31**	**2**	P	**P**	**00 32 39.8**	**-0.4**
	baz=184						
S14K	**Fog Glacier**	**78.37**	**8**	P	**P**	**00 32 40.5**	**-0.2**
	baz=194						
CHIR	**Chirikof Islan**	**78.53**	**11**	P	**P**	**00 32 41.2**	**-0.3**
	baz=198						
PNTR	**Pine Nut**	**79.09**	**40**		**P**	**00 32 45.0**	**-0.3**
PNTR				IAmb	IAmb	00 32 57.8	
	comp=Z,18nm,1.0s						
113A	**Mohawk Valley,**	**79.15**	**48**	P	**P**	**00 32 45.2**	**-0.3**
RYN	**Ryan**	**79.46**	**41**	P	**P**	**00 32 46.9**	**-0.5**
NVAR	**Mina Array Bea**	**79.48**	**42**	P	**P**	**00 32 46.3**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=223,slow=9.0,SNR=12						
	comp=Z,2.3nm,0.7s						
SII	**Sitkinak Islan**	**79.49**	**11**	P	**P**	**00 32 46.6**	**-0.2**
	baz=199						
NV11	**Mina Array Sit**	**79.57**	**42**	P	**P**	**00 32 47.4**	**-0.5**
KSRS	**Korea Array**	**79.67**	**317**	P	**P**	**00 32 48.0**	**-0.3**
	comp=Z,7.2nm,1.1s,baz=137,slow=6.7,SNR=20						
KSRS				LR	LR	01 04 54.4	
	comp=Z,30nm,19.5s,baz=65,slow=33						
	comp=Z,7.2nm,1.1s						
KSAR	**Wonju Array Be**	**79.69**	**317**		**P**	**00 32 49.1**	**+0.8**
TPNV	**Topopah Spring**	**79.88**	**44**	P	**P**	**00 32 49.4**	**-0.2**
R16K	**Pilot Point**	**79.89**	**9**	P	**P**	**00 32 48.7**	**-0.2**
	baz=196						
TPH	**Tonopah**	**79.94**	**42**	P	**P**	**00 32 49.5**	**-0.5**
OHAK	**Old Harbor**	**80.28**	**12**	P	**P**	**00 32 50.7**	**-0.4**
	baz=200						
R18K	**Karluk**	**80.40**	**11**	P	**P**	**00 32 51.3**	**-0.3**
	baz=199						
Q17K	**Contact Creek**	**80.82**	**10**	P	**P**	**00 32 53.4**	**-0.6**
	baz=198						
KDAK	**Kodiak Island**	**80.94**	**12**	P	**P**	**00 32 55.1**	**+0.5**
	baz=201						
TUC	**Tucson**	**81.01**	**50**	P	**P**	**00 32 56.3**	**+0.6**
O14K	**Tigyukauivet M**	**81.05**	**7**	P	**P**	**00 32 55.8**	**+0.7**
	baz=193						
O15K	**Ungalikthiuk R**	**81.14**	**8**	P	**P**	**00 32 55.6**	**0.0**
	baz=194						
P16K	**Nushagak River**	**81.24**	**9**	P	**P**	**00 32 55.3**	**-0.8**
	baz=196						
PINE	**Pine Mountain**	**81.33**	**36**	P	**P**	**00 32 56.8**	**-0.4**
PINE				IAmb	IAmb	00 33 12.1	
	comp=Z,26nm,1.2s						
Q18K	**Katmai Hardscr**	**81.33**	**10**	P	**P**	**00 32 55.8**	**-1.0**
	baz=198						
USA0B	**Ussuriysk Arra**	**81.50**	**324**	P	**P**	**00 32 58.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**81.50**	**324**		**P**	**00 32 58.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**81.50**	**324**	P	**P**	**00 32 56.3**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=147,slow=11,SNR=6.0						
	comp=Z,0.9nm,0.5s						
P17K	**Kvichak River**	**81.63**	**9**	P	**P**	**00 32 57.2**	**-0.9**
	baz=197						
N14K	**Kuskokwak Cree**	**81.66**	**7**	P	**P**	**00 32 58.2**	**-0.1**
	baz=192						
M11K	**Mekoryuk**	**81.72**	**4**	P	**P**	**00 32 58.2**	**-0.4**
	baz=188						
Q20K	**Shuyak Island**	**81.75**	**12**	P	**P**	**00 32 58.4**	**-0.4**
	baz=201						
O16K	**Kokwok River B**	**81.77**	**8**	P	**P**	**00 32 58.1**	**-0.8**
	baz=196						
Q19K	**Cape Douglas,**	**81.83**	**11**	P	**P**	**00 32 59.2**	**-0.1**
	baz=200						
M13K	**Dall Lake**	**81.98**	**6**	P	**P**	**00 33 00.1**	**+0.1**
	baz=191						
P18K	**Big Mountain,**	**82.00**	**10**		**P**	**00 32 59.4**	**-0.8**
P18K	**Big Mountain,**	**82.00**	**10**	P	**P**	**00 32 59.3**	**-0.9**
	baz=198						
N15K	**Kwethluk River**	**82.08**	**7**	P	**P**	**00 33 00.1**	**-0.4**
	baz=194						
O17K	**Koliganek Bris**	**82.08**	**9**	P	**P**	**00 33 00.5**	**0.0**
	baz=196						
PSUT	**Pine Spring**	**82.35**	**44**	P	**P**	**00 33 02.2**	**-0.6**
M14K	**Bethel**	**82.44**	**6**	P	**P**	**00 33 02.6**	**+0.2**
	baz=192						

O18K	**Koktuh Hills**	**82.45**	**10**	P	**P**	**00 33 02.5**	**0.0**
	baz=198						
M15K	**Kasigluk River**	**82.52**	**7**	P	**P**	**00 33 03.0**	**+0.2**
	baz=193,SNR=5.6						
N16K	**Nishlik Lake**	**82.54**	**8**	P	**P**	**00 33 03.8**	**+0.8**
	baz=195						
P19K	**Oil Pt**	**82.58**	**11**	P	**P**	**00 33 03.3**	**+0.1**
	baz=200						
ELK	**Elko**	**82.76**	**41**	P	**P**	**00 33 04.3**	**-0.6**
N17K	**Nushagak Hills**	**82.80**	**9**	P	**P**	**00 33 04.0**	**-0.3**
	baz=196						
CNPM	**China Poot**	**82.83**	**12**		**P**	**00 33 04.4**	**-0.1**
CNPM				IAmb	IAmb	00 33 16.6	
	comp=Z,11nm,0.9s						
HOM	**Homer**	**82.87**	**11**	P	**P**	**00 33 05.3**	**+0.6**
	baz=201						
ILSW	**Iliamna Southw**	**82.91**	**11**	P	**P**	**00 33 04.2**	**-0.8**
O19K	**Port Alsworth**	**82.91**	**10**	P	**P**	**00 33 04.4**	**-0.5**
O19K	**Port Alsworth**	**82.91**	**10**	P	**P**	**00 33 05.1**	**+0.3**
	baz=199						
L14K	**Kuka Creek**	**82.95**	**6**	P	**P**	**00 33 05.8**	**+0.8**
	baz=191,SNR=6.2						
M16K	**Timber Creek**	**83.05**	**8**	P	**P**	**00 33 05.6**	**0.0**
	baz=195,SNR=8.2						
MDJ	**Mudanjiang**	**83.08**	**323**	P	**P**	**00 33 06.7**	**+0.6**
MDJ				IAmb	IAmb	00 33 09.3	
	comp=Z,21nm,1.2s						
MDJ	**Mudanjiang**	**83.08**	**323**	P	**P**	**00 33 08.5**	**+2.4**
MDJ				pmax	pmax		
	comp=Z,19nm,1.3s						
BRLK	**Bradley Lake**	**83.11**	**12**	P	**P**	**00 33 05.8**	**-0.2**
BRLK				IAmb	IAmb	00 33 21.8	
	comp=Z,18nm,1.1s						
BRSE	**Bradley Lake S**	**83.12**	**12**	P	**P**	**00 33 06.4**	**+0.4**
	baz=202,SNR=6.3						
N18K	**Kilae Creek**	**83.13**	**9**	P	**P**	**00 33 05.8**	**-0.2**
	baz=198						
MTPU	**Mount Pierson**	**83.16**	**45**	P	**P**	**00 33 07.3**	**+0.2**
MTPU				IAmb	IAmb	00 33 21.2	
	comp=Z,15nm,1.1s						
K13K	**Kusilvak Mount**	**83.37**	**5**	P	**P**	**00 33 07.8**	**+0.6**
	baz=189						
G08A	**Pilot Rock**	**83.38**	**36**	P	**P**	**00 33 07.8**	**0.0**
G08A				IAmb	IAmb	00 33 20.2	
	comp=Z,12nm,0.9s						
MVU	**Marysvale**	**83.40**	**44**	P	**P**	**00 33 08.2**	**0.0**
MVU				IAmb	IAmb	00 33 21.9	
	comp=Z,9.8nm,1.1s						
L15K	**Ungalak Mounta**	**83.40**	**6**	P	**P**	**00 33 08.2**	**+0.9**
	baz=192						
N19K	**Bonanza Creek**	**83.47**	**10**		**P**	**00 33 06.8**	**-1.1**
N19K				IAmb	IAmb	00 33 08.2	
	comp=Z,28nm,1.6s						
N19K	**Bonanza Creek**	**83.47**	**10**	P	**P**	**00 33 07.4**	**-0.5**
	baz=199,SNR=6.0						
M17K	**Holitna River**	**83.61**	**8**	P	**P**	**00 33 08.2**	**-0.2**
	baz=196						
L16K	**Owhat River**	**83.65**	**7**	P	**P**	**00 33 09.7**	**+1.1**
	baz=194,SNR=6.2						
SEW	**Seward**	**83.71**	**12**	P	**P**	**00 33 08.5**	**-0.4**
	baz=203						
HAWA	**Hanford**	**83.77**	**35**	P	**P**	**00 33 09.7**	**+0.1**
HAWA				IAmb	IAmb	00 33 22.2	
	comp=Z,14nm,1.1s						
M18K	**Stony River**	**83.92**	**9**	P	**P**	**00 33 10.7**	**+0.7**
	baz=198						
SLKM	**Skilak Lake**	**83.93**	**12**		**P**	**00 33 09.7**	**-0.5**
MFID	**Camas Ranch**	**83.99**	**39**		**P**	**00 33 10.7**	**-0.3**
MFID				IAmb	IAmb	00 33 23.7	
	comp=Z,14nm,1.2s						
CAPN	**Captain Cook N**	**84.00**	**11**	P	**P**	**00 33 10.3**	**-0.1**
	baz=202						
K15K	**Wolf Creek Mou**	**84.00**	**6**		**P**	**00 33 11.2**	**+0.8**
K15K	**Wolf Creek Mou**	**84.00**	**6**	P	**P**	**00 33 11.3**	**+0.8**
	baz=192,SNR=21						
P23K	**Montague Islan**	**84.04**	**13**	P	**P**	**00 33 11.4**	**+0.8**
	baz=205						
L17K	**Donlin**	**84.20**	**8**	P	**P**	**00 33 12.1**	**+0.6**
	baz=195,SNR=5.1						
SPCR	**Spurr Chakacha**	**84.21**	**11**	P	**P**	**00 33 10.6**	**-1.0**
	baz=201						
J14K	**Nanvaranak Lak**	**84.27**	**5**	P	**P**	**00 33 11.9**	**+0.2**
	baz=190						
L18K	**Granite Mounta**	**84.50**	**8**	P	**P**	**00 33 13.0**	**0.0**
	baz=197,SNR=5.9						
M19K	**Big River Lodg**	**84.52**	**9**		**P**	**00 33 12.1**	**-1.0**
M19K	**Big River Lodg**	**84.52**	**9**	P	**P**	**00 33 12.4**	**-0.7**
	baz=199						
RC01	**Rabbit Creek A**	**84.56**	**12**	P	**P**	**00 33 12.5**	**-0.8**
	baz=203						
PWL	**Port Wells**	**84.62**	**13**	P	**P**	**00 33 12.7**	**-1.0**
PWL				IAmb	IAmb	00 33 25.5	
	comp=Z,14nm,0.9s						
PWL	**Port Wells**	**84.62**	**13**	P	**P**	**00 33 13.3**	**-0.4**
	baz=204						
V35K	**Ketchikan**	**84.67**	**23**	P	**P**	**00 33 13.9**	**-0.1**
	baz=220						
Y22D	**IRIS PASSCAL I**	**84.69**	**50**	P	**P**	**00 33 13.1**	**-1.7**
	baz=240						
M20K	**Styx River**	**84.70**	**10**	P	**P**	**00 33 13.6**	**-0.5**
	baz=200						
L19K	**White Mountain**	**84.72**	**9**	P	**P**	**00 33 13.8**	**-0.3**
	baz=198						
SUA	**Susitna One**	**84.72**	**11**		**P**	**00 33 13.6**	**-0.6**
SUA	**Susitna One**	**84.72**	**11**	P	**P**	**00 33 13.5**	**-0.8**
	baz=202,SNR=13						
SIT	**Sitka**	**84.76**	**20**	P	**P**	**00 33 13.0**	**-1.4**
	baz=216						
K17K	**Iditarod**	**84.77**	**7**	P	**P**	**00 33 13.8**	**-0.6**
	baz=195						
TXAR	**Lajitas Array**	**84.84**	**56**	P	**P**	**00 33 15.0**	**-0.6**
TXAR	**Lajitas Array**	**84.84**	**56**	P	**P**	**00 33 15.5**	**-0.1**

DIV	Divide	85.41	14		P		00 33 17.4 -0.3
ANMO	Albuquerque	85.46	50	P	P		00 33 18.1 -0.6
ANMO				IAmb	IAmb		00 33 35.0
	comp=Z,11nm,1.2s						
MA2	Magadan	85.49	343	P	P		00 33 17.3 -0.7
	comp=Z,1.3nm,0.3s,baz=173,slow=19,SNR=1.9						
MA2				LR	LR		01 06 31.2
	comp=Z,115nm,19.8s,baz=159,slow=32						
	comp=Z,1.3nm,0.3s						
SML	Sawmill	85.49	12	P	P		00 33 17.2 -0.8
	baz=204						
BMRM	Bremner River	85.53	14	P	P		00 33 17.9 -0.3
BMRM	Bremner River	85.53	14	P	P		00 33 17.9 -0.3
	baz=208,SNR=7.2						
M23K	Glacier View	85.60	12	P	P		00 33 18.1 -0.4
	baz=205						
I17K	Unalakleet	85.64	6	P	P		00 33 18.9 +0.3
	baz=193						
CUT	Chulitna	85.68	11	P	P		00 33 18.0 -0.8
	baz=203,SNR=6.3						
J18K	Innoko River	85.69	8	P	P		00 33 19.0 +0.1
	baz=197,SNR=11						
KLU	Klutina	85.70	13	P	P		00 33 18.9 -0.2
	baz=207						
PNL	Peninsula	85.70	17	P	P		00 33 17.7 -1.4
	baz=213						
SCM	Sheep Creek Mo	85.72	13	P	P		00 33 18.8 -0.4
	baz=205						
PPLA	Purkeypile	85.81	10	P	P		00 33 19.5 -0.2
	baz=201						
PINM	Pinnacle	85.84	16	P	P		00 33 19.3 -0.6
	baz=212						
ANM	Nome	85.93	4	P	P		00 33 20.4 +0.3
	baz=189						
K20K	Telida	85.95	9	P	P		00 33 19.9 -0.3
K20K				IAmb	IAmb		00 33 21.3
	comp=Z,9.5nm,1.1s						
K20K	Telida	85.95	9	P	P		00 33 20.4 +0.2
	baz=199						
R32K	Eaglecrest	86.00	20	P	P		00 33 20.3 -0.3
	baz=217						
VRDI	Verde Repeater	86.02	15		P		00 33 20.4 -0.5
VRDI				IAmb	IAmb		00 33 21.9
	comp=Z,32nm,1.6s						
N25K	Chitina, Valde	86.09	14	P	P		00 33 19.7 -1.4
	baz=208,SNR=7.1						
P29M	Windy Craggy	86.14	18	P	P		00 33 20.1 -1.1
	baz=214						
ELIB	Princess Elisa	86.14	186	*d*P	P		00 33 21.7 +0.3
	comp=Z,4.7nm,0.9s						
M24K	Tolsona, Glenn	86.20	13	P	P		00 33 20.5 -1.1
	baz=206						
H16K	Elim	86.24	5	P	P		00 33 21.2 -0.3
	baz=192						
CAST	Castle Rocks	86.32	10		P		00 33 20.4 -1.7
CAST				IAmb	IAmb		00 33 21.6
	comp=Z,24nm,1.6s						
CAST	Castle Rocks	86.32	10	P	P		00 33 20.1 -1.9
	baz=201,SNR=7.8						
J19K	Poorman	86.34	8	P	P		00 33 21.6 -0.5
	baz=198,SNR=6.5						
PLCA	Paso Flores	86.34	132	P	P		00 33 20.4 -2.6
	comp=Z,1.5nm,0.9s,baz=317,slow=14,SNR=3.3						
PLCA				LR	LR		01 05 28.8
	comp=Z,84nm,18.4s,baz=197,slow=31						
	comp=Z,1.5nm,0.9s						
T35M	Bob Quinn	86.43	23	P	P		00 33 22.6 -0.2
	baz=221						
O28M	Mount Upton	86.43	16	P	P		00 33 22.7 -0.3
	baz=212						
G15K	Niukluk	86.45	4	P	P		00 33 22.7 +0.1
	baz=190						
O29M	Mount Kennedy	86.46	17	P	P		00 33 22.2 -0.7
O29M				IAmb	IAmb		00 33 39.6
	comp=Z,18nm,1.4s						
O29M	Mount Kennedy	86.46	17	P	P		00 33 22.5 -0.4
	baz=213						
SYO	Syowa Base	86.58	192	⇓*ep*P	P		00 33 26.7 +3.3
TRF	Thorofare Moun	86.64	11	P	P		00 33 23.5 -0.4
	baz=203,SNR=8.8						
HARP	HAARP	86.68	13	P	P		00 33 24.1 +0.2
	baz=207						
SKAG	Skagway	86.70	19	P	P		00 33 24.6 +0.6
SKAG				IAmb	IAmb		00 33 45.9
	comp=Z,19nm,1.1s						
SKAG	Skagway	86.70	19	P	P		00 33 24.5 +0.5
	baz=216						
CHUM	Lake Minchumin	86.71	10	P	P		00 33 23.1 -0.8
	baz=201						
J20K	Nowinta River	86.72	9	P	P		00 33 23.2 -0.7
	baz=199,SNR=12						
H17K	Granite Mounta	86.75	6	P	P		00 33 24.0 -0.2
	baz=194						
P30M	Million Dollar	86.76	18	P	P		00 33 25.0 +0.7
	baz=215						
F14K	Arctic Creek	86.78	3	P	P		00 33 24.5 +0.3
	baz=188						
TNA	Tin City	86.78	3	P	P		00 33 24.0 -0.2
	baz=186						
S34M	Telegraph Cree	86.83	22	P	P		00 33 24.9 +0.2
	baz=220						
RND	Reindeer	86.86	11		P		00 33 24.5 -0.2
GCSA	Galena City Sc	86.90	7	P	P		00 33 24.8 0.0
	baz=196						
G16K	Koyuk River	86.97	5	P	P		00 33 25.5 +0.3
	baz=191						
YUK8	Steele Glacier	86.98	16	P	P		00 33 25.3 -0.4
	baz=212,SNR=6.6						
SNAA	Sanae	87.05	177	⇓P	P		00 33 23.4 -2.4
	comp=Z,61nm,1.1s						
SNAA	Sanae	87.05	177	P	P		00 33 23.3 -2.5
	comp=Z,5.4nm,1.2s,baz=229,slow=11,SNR=3.0						
	comp=Z,5.4nm,1.2s						
YUK6	Outpost Mounta	87.06	17	P	P		00 33 25.5 -0.5
	baz=213						
F15K	North Star Dit	87.11	4	P	P		00 33 24.5 -1.4
	baz=189						
PAX	Paxson	87.12	13		P		00 33 25.3 -0.8
PAX				IAmb	IAmb		00 33 26.6
	comp=Z,16nm,1.6s						
PAX	Paxson	87.12	13	P	P		00 33 25.4 -0.7
	baz=207,SNR=5.6						
H18K	Honhosa River	87.12	7	P	P		00 33 25.4 -0.5
	baz=195						
BPAW	Bear Paw Mtn.	87.13	10	P	P		00 33 25.1 -0.9
	baz=202						
MCK	McKinley	87.14	11		P		00 33 25.3 -0.8
MCK	McKinley	87.14	11	P	P		00 33 25.6 -0.4
	baz=204,SNR=14						
M26K	Nabesna, AK	87.16	14	P	P		00 33 25.8 -0.4
	baz=209,SNR=7.9						
HYT	Haines Junctio	87.19	17	P	P		00 33 26.6 0.0
HYT	Haines Junctio	87.19	17	P	P		00 33 26.5 0.0
	baz=214						
YUK3	Moose Creek	87.22	15	P	P		00 33 26.7 -0.1
	baz=212,SNR=10						
G17K	Kiwalik Mounta	87.23	6	P	P		00 33 26.4 -0.1
	baz=193						
I20K	Naaghedeneel	87.26	8	P	P		00 33 27.0 +0.4
	baz=199						
Q32M	Nakina River	87.26	20	P	P		00 33 27.0 0.0
	baz=219						
P32M	Atlin	87.30	19	P	P		00 33 26.9 -0.1
	baz=218						
YUK4	Talbot Arm	87.32	16	P	P		00 33 27.2 -0.1
	baz=213						
M27K	Edge Creek, AK	87.38	15	P	P		00 33 27.8 +0.3
	baz=210,SNR=14						
PDAR	Pinedale Array	87.41	42	P	P		00 33 26.6 -1.6
PDAR	Pinedale Array	87.41	42	P	P		00 33 25.6 -2.6
	comp=Z,0.4nm,0.7s,baz=267,slow=5.9,SNR=5.0						
	comp=Z,0.4nm,0.7s						
VNA2	Neumayer--Watz	87.54	176	⇓P	P		00 33 29.6 +1.5
	comp=Z,2.4nm,0.8s,baz=225,slow=4.2						
O30N	Mendenhall	87.54	18	P	P		00 33 28.2 +0.1
	baz=216						
DLBC	Dease Lake	87.61	22	P	P		00 33 28.4 -0.2
	baz=221						
L26K	Log Cabin Wild	87.62	14	P	P		00 33 28.5 0.0
	baz=209,SNR=7.9						
BVCY	Beaver Creek	87.67	15	P	P		00 33 28.7 0.0
	baz=211						
H19K	Roundabout Mou	87.71	7	P	P		00 33 28.5 -0.2
	baz=197						
HEH	HeiHe	87.74	327	*e*P	P		00 33 30.0 +0.8
HEH				LR	LR		
	comp=Z,240nm,15.1s						
HEH				LR	LR		
	comp=Z,280nm,13.7s						
HEH				LR	LR		
	comp=Z,340nm,14.8s						
PSI	Prapat	87.76	274	LR	LR		01 14 49.5
	comp=Z,135nm,19.0s,baz=95,slow=37						
WHY	Whitehorse	87.80	18	P	P		00 33 28.8 -0.6
	baz=217						
K24K	Donnelly Dome	87.81	12	P	P		00 33 29.0 -0.3
K24K				IAmb	IAmb		00 33 41.9
	comp=Z,14nm,0.9s						
K24K	Donnelly Dome	87.81	12	P	P		00 33 29.0 -0.3
	baz=207						
G18K	Tagagawik	87.81	6	P	P		00 33 28.8 -0.5
	baz=195,SNR=7.0						
N30M	Aishikik Lake	87.83	17	P	P		00 33 29.8 +0.3
	baz=215						
H20K	Anotleneega Mo	87.87	8	P	P		00 33 29.8 +0.2
	baz=198						
NEA2	Nenana	87.91	11	P	P		00 33 29.8 0.0
NEA2				IAmb	IAmb		00 33 31.6
	comp=Z,8.1nm,1.2s						
NEA2	Nenana	87.91	11	P	P		00 33 29.3 -0.5
	baz=204						
RIDG	Independent Ri	87.94	13		P		00 33 29.6 -0.3
RIDG				IAmb	IAmb		00 33 31.1
	comp=Z,22nm,1.6s						
RIDG	Independent Ri	87.94	13	P	P		00 33 29.8 -0.1
	baz=208						
SEY	Seymchan	87.96	346	P	P		00 33 29.4 -0.6
	comp=Z,10nm,1.1s,baz=140,slow=4.7,SNR=19						
SEY				LR	LR		01 08 15.2
	comp=Z,118nm,19.4s,baz=139,slow=32						
	comp=Z,10nm,1.1s						
WRH	Wood River Hil	87.97	11		P		00 33 29.4 -0.6
I21K	Tanana	87.98	9	P	P		00 33 29.8 -0.2
	baz=201						
L27K	Beaver Creek,	88.00	14	P	P		00 33 30.1 -0.1
	baz=210,SNR=6.9						
BCAR	Beaver Creek A	88.01	14	P	P		00 33 30.2 -0.1
R33M	Jennings River	88.03	21	P	P		00 33 30.2 -0.3
	baz=220						
P33M	Teslin, Yukon	88.07	19	P	P		00 33 30.3 -0.4
	baz=218						
F17K	Baldwin Pennin	88.10	5	P	P		00 33 30.5 0.0
	baz=192						
HDA	Harding Lake	88.12	12	P	P		00 33 30.0 -0.7
	baz=206						
CCB	Clear Creek Bu	88.18	11		P		00 33 30.1 -0.9
CCB				IAmb	IAmb		00 33 47.3
	comp=Z,11nm,1.0s						
N31M	Braeburn, Yuko	88.22	18	P	P		00 33 31.6 +0.3
	baz=216						
G19K	Purcell Mounta	88.22	7	P	P		00 33 31.3 +0.1
	baz=196,SNR=7.1						
M29M	Somme Creek	88.29	16	P	P		00 33 31.9 +0.2
	baz=213						
H21K	Melozitna Rive	88.31	9	P	P		00 33 31.6 0.0
	baz=200						
SCRK	Sand Creek	88.33	13		P		00 33 31.4 -0.5
SCRK				IAmb	IAmb		00 33 33.1
	comp=Z,19nm,1.8s						
SCRK	Sand Creek	88.33	13	P	P		00 33 31.9 0.0
	baz=208,SNR=5.4						
I23K	Minto, Yukon-K	88.37	10	P	P		00 33 32.0 +0.1
	baz=203						
COLA	College	88.38	11	P	P		00 33 31.2 -0.7
F18K	Selawik	88.40	6	P	P		00 33 32.1 +0.2
	baz=194						
IL31		88.47	11		P		00 33 31.5 -0.8
IL31				IAmb	IAmb		00 33 48.0
	comp=Z,13nm,1.2s						
ILAR	Eielson Array	88.47	11		P		00 33 31.4 -1.0
ILAR	Eielson Array	88.47	11	P	P		00 33 30.7 -1.7
	comp=Z,1.7nm,0.8s,baz=218,slow=4.9,SNR=16						
	comp=Z,1.7nm,0.8s						
GSI	Gunungsitoli	88.48	272	P	P		00 33 34.0 +0.4
HNS	HongShan	88.50	311	⇑P	P		00 33 34.8 +1.6
HNS				pmax	pmax		
	comp=Z,9.0nm,1.3s						
HNS				LR	LR		
	comp=Z,200nm,14.5s						
HNS				LR	LR		
	comp=Z,170nm,12.6s						
HNS				LR	LR		
	comp=Z,210nm,19.0s						
J25K	Salcha River,	88.61	12	P	P		00 33 32.9 -0.3
	baz=207,SNR=7.7						
E17K	Hotham Inlet	88.68	5	P	P		00 33 33.1 -0.2
	baz=192						
POKR	Poker Plat Res	88.68	11	P	P		00 33 32.9 -0.5
	baz=205						
N32M	Quiet Lake	88.73	19	P	P		00 33 33.3 -0.4
	baz=218						
H22K	Ishtalitna Cre	88.74	9	P	P		00 33 33.5 -0.2
	baz=202						
BJI	Beijing	88.77	314	P	P		00 33 36.0 +1.7
BJI				SKS	SKSac		00 44 02.0 +0.4
BJI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BJI				LR	LR		
	comp=Z,100nm,18.9s						
BJI				LR	LR		
	comp=Z,90nm,18.3s						
BJI				LR	LR		
	comp=Z,140nm,15.7s						
K27K	Chicken	88.78	14	P	P		00 33 34.1 +0.3
	baz=210						
LYN	LuoYang	88.80	308	⇓P	P		00 33 37.0 +2.4
LYN				pmax	pmax		
	comp=Z,28nm,0.9s						
LYN				LR	LR		
	comp=Z,300nm,14.8s						
LYN				LR	LR		
	comp=Z,260nm,16.5s						
LYN				LR	LR		
	comp=Z,430nm,15.8s						
F19K	Shaleruckik Mo	88.81	7	P	P		00 33 33.9 0.0
	baz=196,SNR=6.6						
M30M	Minto, Yukon	88.83	16	P	P		00 33 34.0 -0.2
	baz=215						
J26L	Joseph Creek	88.88	13	P	P		00 33 34.9 +0.5
	baz=209,SNR=15						
L29M	L29M	88.93	16	P	P		00 33 34.7 +0.1
	baz=214,SNR=9.3						
H23K	Yukon River	88.97	10	P	P		00 33 34.5 -0.2
	baz=203						
G21K	Allakaket	89.02	8		P		00 33 34.6 -0.3
G21K	Allakaket	89.02	8	P	P		00 33 35.3 +0.3
	baz=200						
E18K	Tukpahlearik C	89.11	5	P	P		00 33 35.3 0.0
	baz=193						
ENH	Enshi	89.19	303	P	P		00 33 37.3 +0.7
M31M	Drury Creek, Y	89.19	18	P	P		00 33 36.2 +0.4
	baz=217						
D17K	Noatak River	89.19	4	P	P		00 33 35.4 -0.3
	baz=191						
F20K	Avaraart Lake	89.25	7	P	P		00 33 35.7 -0.3
	baz=198,SNR=5.8						
H24K	Noodor Dome	89.26	11	P	P		00 33 36.4 +0.2
	baz=205						
PRP	Porcupine Dome	89.39	12	P	P		00 33 36.3 -0.6
	baz=207,SNR=6.9						
DAWY	Dawson	89.43	15	P	P		00 33 36.5 -0.5
DAWY				IAmb	IAmb		00 33 49.8
	comp=Z,7.4nm,0.8s						
DAWY	Dawson	89.43	15	P	P		00 33 37.0 +0.1
	baz=212,SNR=9.8						
E19K	Redstone River	89.47	7	P	P		00 33 36.8 -0.2
	baz=196,SNR=9.1						
FARO	Faro, Yukon	89.50	18	P	P		00 33 37.4 0.0
	baz=218						
RDOG	Red Dog Mine	89.55	4	P	P		00 33 37.4 0.0
	baz=191						
C16K	Lisburne Hills	89.62	3	P	P		00 33 37.6 -0.1
	baz=189						
TOAD	Toad River Com	89.62	23	P	P		00 33 38.1 +0.2
	baz=225						
I26K	Coal Creek Min	89.67	13	P	P		00 33 38.3 +0.3
	baz=209						
G22K	Bettles	89.68	9	P	P		00 33 38.2 +0.2
	baz=201						
K29M	Barlow Dome	89.69	15	P	P		00 33 38.5 +0.2
	baz=214,SNR=10						
F21K	Alatna River	89.70	8	P	P		00 33 37.8 -0.3
	baz=200						
G23K	Bananza Creek	89.71	10	P	P		00 33 38.1 -0.1
	baz=203						
H25L	Birch Creek	90.01	11	P	P		00 33 40.0 +0.4
	baz=207						
J29N	Klondike Camp	90.03	15	P	P		00 33 40.1 +0.3
	baz=214,SNR=5.3						
G24K	Hadweenzic Riv	90.11	10	P	P		00 33 40.2 +0.2
	baz=205						
F22K	John River	90.14	8	P	P		00 33 40.0 -0.2
	baz=201						
COLD	Coldfoot	90.16	9	P	P		00 33 40.3 +0.1
	baz=203						
I27K	Kandik River	90.25	13	P	P		00 33 40.8 +0.1
	baz=210						
C18K	Utukok River	90.27	5	P	P		00 33 40.5 -0.3
	baz=192						
E20K	Nigu River	90.36	7	P	P		00 33 40.8 -0.5
	baz=197,SNR=7.9						
D19K	Kuna River	90.39	6	P	P		00 33 41.2 -0.2
	baz=195						
G25K	Bearman Lake	90.41	11	P	P		00 33 41.5 +0.1
	baz=206						
MMPY	Sheldon Lake,	90.42	18	P	P		00 33 41.7 +0.1
	baz=220						
I28M	Miner Creek	90.48	14		P		00 33 41.7 -0.2
I28M				IAmb	IAmb		00 33 54.4
	comp=Z,5.3nm,0.8s						
I28M	Miner Creek	90.48	14	P	P		00 33 41.7 -0.2
	baz=212						
TGTN	Hyland Airport	90.51	20	P	P		00 33 42.5 +0.4
	baz=222						
J30M	Hart River	90.59	15	P	P		00 33 42.4 -0.1
	baz=215						
XLT	XiLinHaoTe	90.72	317	*e*P	P		00 33 47.0 +3.5
XLT				sS	sS		00 44 49.8 -3.2
XLT				pmax	pmax		
	comp=Z,5.0nm,1.4s						
XLT				LR	LR		
	comp=Z,230nm,16.5s						
XLT				LR	LR		
	comp=Z,190nm,19.4s						
D20K	Etivluk River	90.75	6		P		00 33 42.8 -0.2
D20K				IAmb	IAmb		00 33 55.6
	comp=Z,7.1nm,0.9s						
D20K	Etivluk River	90.75	6	P	P		00 33 42.8 -0.2
	baz=197,SNR=9.2						
I29M	Ogilvie Camp,	90.77	14	P	P		00 33 43.0 -0.1
	baz=214						
E22K	Anaktuvuk Pass	90.78	8	P	P		00 33 43.4 +0.2
	baz=201,SNR=6.8						
F24K	Squaw Lake	90.79	10	P	P		00 33 43.2 0.0
	baz=205						
E21K	Killik River	90.79	7	P	P		00 33 43.5 +0.3
	baz=199						
H27K	Steamboat Moun	90.81	13	P	P		00 33 43.3 0.0
	baz=211						
B18K	Kokolik River	90.92	4	P	P		00 33 43.9 +0.1
	baz=192						
KOTAN	Kotaneelee Air	90.95	23	P	P		00 33 44.5 +0.4
	baz=226						
G26K	Porcupine Rive	90.99	12		P		00 33 43.6 -0.5
G26K				IAmb	IAmb		00 34 01.6
	comp=Z,13nm,1.1s						
G26K	Porcupine Rive	90.99	12	P	P		00 33 44.7 +0.6
	baz=208						
E23K	Chandalar	91.02	9	P	P		00 33 44.3 -0.1
	baz=203						
I30M	Mount Dempster	91.11	15	P	P		00 33 45.3 +0.4
	baz=215,SNR=7.2						
E24K	Your Creek	91.20	10	P	P		00 33 45.6 +0.4
	baz=204						
XAN	Xi'an	91.21	306	P	P		00 33 48.0 +2.0
XAN				pmax	pmax		
	comp=Z,29nm,1.2s						
XAN				LR	LR		
	comp=Z,240nm,17.2s						
XAN				LR	LR		
	comp=Z,220nm,19.2s						
XAN				LR	LR		
	comp=Z,350nm,19.9s						
F25K	Christian Rive	91.23	11	P	P		00 33 45.5 +0.2
	baz=207						
BMAR	Burnt Mountain	91.27	11		P		00 33 45.8 +0.3
G27K	Doyon Strip	91.28	12	P	P		00 33 45.7 +0.2
	baz=210						
D22K	Ayikyak River	91.36	8	P	P		00 33 46.2 +0.4
	baz=200,SNR=8.0						
C21K	Knifeblade Rid	91.38	7	P	P		00 33 46.3 +0.4
	baz=198						
H29M	Whitestone	91.48	14	P	P		00 33 46.3 -0.1
	baz=213,SNR=6.3						
TOLK	Toolik Lake Re	91.56	9	P	P		00 33 46.8 0.0
	baz=203						
F26K	Sheenjek River	91.58	11	P	P		00 33 47.1 +0.2
	baz=208						
D23K	Nanushuk River	91.71	8		P		00 33 47.3 -0.1
D23K				IAmb	IAmb		00 34 21.2
	comp=Z,12nm,1.6s						
D23K	Nanushuk River	91.71	8	P	P		00 33 47.9 +0.5
	baz=202,SNR=6.3						
E25K	Arctic Village	91.72	10	P	P		00 33 47.3 -0.2
	baz=207						
B21K	Ikpikpuk River	91.84	7	P	P		00 33 47.9 0.0
	baz=199						
B20K	Meade River	91.94	6	P	P		00 33 48.5 +0.1
	baz=196						
EPYK	Eagle Plains	91.98	14	P	P		00 33 48.6 -0.2
	baz=215						
H31M	Peel River	92.09	15	P	P		00 33 48.7 -0.5
	baz=217						
G29M	Pine Creek	92.13	14	P	P		00 33 49.4 -0.1
	baz=214						
D24K	Happy Valley	92.14	9	P	P		00 33 49.5 0.0
	baz=204						
HHC	Hu-ho-hao-te	92.26	313	*e*P	P		00 33 52.5 +1.7
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,90nm,6.0s						
HHC				LR	LR		
	comp=Z,99nm,16.8s						
HHC				LR	LR		
	comp=Z,170nm,17.6s						
HHC				LR	LR		
	comp=Z,170nm,16.0s						
E27K	Coleen River	92.49	12	P	P		00 33 51.4 +0.3
	baz=210,SNR=6.1						
C23K	Itkillik River	92.53	8	P	P		00 33 51.3 +0.2
	baz=202						
G30M	tAoh Zraii Nji	92.59	14		P		00 33 51.4 -0.3
G30M	tAoh Zraii Nji	92.59	14	P	P		00 33 51.5 -0.1
	baz=215,SNR=6.8						
B22K	Teshekpuk Lake	92.66	7	P	P		00 33 51.9 +0.2
	baz=200						
D25K	Kavik River	92.67	10	P	P		00 33 52.0 +0.1
	baz=206						
C24K	Franklin Bluff	92.68	9	P	P		00 33 52.0 +0.2
	baz=204						
G31M	Satah River	93.00	15	P	P		00 33 53.4 0.0
	baz=217						
A22K	Sinclair Lake	93.12	6	P	P		00 33 54.0 +0.2
	baz=198						
F30M	Barrier River	93.21	14	P	P		00 33 54.9 +0.5
	baz=216						
E28M	Babbage River	93.24	12		P		00 33 54.2 -0.3
E28M				IAmb	IAmb		00 34 07.9
	comp=Z,5.8nm,0.8s						
E28M	Babbage River	93.24	12	P	P		00 33 54.6 +0.1
	baz=212,SNR=9.4						
A21K	Barrow	93.26	6	P	P		00 33 54.6 +0.1
	baz=197						
C27K	Jago River	93.37	10	P	P		00 33 55.1 0.0
	baz=209						
E29M	Blow River	93.39	13	P	P		00 33 54.9 -0.3
	baz=214						
CMAR	Chiang Mai Arr	93.43	288		P		00 33 57.6 +1.1
CMAR	Chiang Mai Arr	93.43	288	P	P		00 33 56.0 -0.5
	comp=Z,2.3nm,0.7s,baz=113,slow=3.1,SNR=20						
CMAR				LR	LR		01 14 04.1
	comp=Z,44nm,19.4s,baz=135,slow=34						
	comp=Z,2.3nm,0.7s						
C26K	Camden Bay	93.43	10	P	P		00 33 55.5 +0.1
	baz=208						
D27M	Malcolm River	93.52	11	P	P		00 33 55.9 0.0
	baz=211,SNR=7.9						
F31M	Tsiigehtchic	93.54	15		P		00 33 55.4 -0.5
F31M	Tsiigehtchic	93.54	15	P	P		00 33 55.7 -0.1
	baz=218						
CHTO	Chiang Mai	93.56	289		P		00 33 56.8 -0.3
CHTO				IAmb	IAmb		00 34 00.1
	comp=Z,5.8nm,0.8s						

PZH PanZhiHua 93.95 297 P P 00 34 01.0 +2.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,70nm,3.8s
CD2 Chengdu 93.96 302 P **P 00 33 58.3 -0.5**
D28M Stokes Point 94.01 12 P **P 00 33 58.1 +0.1**
baz=213
YAK Yakutsk 94.12 337 LR LR 01 12 41.1
comp=Z,58nm,19.8s,baz=120,slow=33
INK Inuvik 94.28 14 P **P 00 33 59.1 -0.2**
baz=218
YKA Yellowknife Ar 95.96 24 P **P 00 34 06.1 -0.9**
comp=Z,0.7nm,1.0s,baz=236,slow=5.3,SNR=5.9
YKA LR LR 01 10 24.8
comp=Z,69nm,21.6s,baz=306,slow=31
comp=Z,0.7nm,1.0s
C36M Paulatuk 97.35 16 P Pdif 00 34 13.6 +0.3
baz=226
LPAZ La Paz 98.76 111 LR LR 01 11 53.9
comp=Z,103nm,18.4s,baz=241,slow=31
A36M Sachs Harbour 98.91 14 P Pdif 00 34 20.5 +0.3
baz=226
MKAR Makanchi Array 114.12 313 PKP PKPdf 00 39 16.8 -3.0
comp=Z,0.4nm,0.6s,baz=55,slow=3.2,SNR=4.7
BVAR Borovoye Array 121.79 320 PKP **PKPdf 00 39 33.5 -0.8**
comp=Z,0.4nm,0.5s,baz=77,slow=3.3,SNR=3.9
ARCES ARCESS Array B 130.30 351 PKP **PKPdf 00 39 47.2 -3.0**
comp=Z,2.7nm,0.9s,baz=30,slow=2.6,SNR=4.2
GURO Guroymak-BITLI 144.24 307 PKPab 00 40 15.3 +0.5
SUW Suwalki 144.71 342 *e*PKP **PKPab 00 40 15.3 -0.5**
SUW Suwalki 144.71 342 PKPab 00 40 15.7 0.0
KOPT Kop Dagi 144.87 310 PKPdf **PKPdf 00 40 18.9 +0.7**
AKASG Malin Array Be 145.26 333 PKPbc 00 40 17.1 -0.7
AKASG Malin Array Be 145.26 333 PKPbc **PKPbc 00 40 17.4 -0.4**
comp=Z,3.2nm,0.6s,baz=38,slow=3.4,SNR=24
AKBB Malin Array Si 145.26 333 PKPbc 00 40 16.8 -1.0
KIEV Kiev 145.28 333 PKPbc 00 40 16.7 -1.1
KIEV Kiev 145.28 333 ⇑P **PKPbc 00 40 17.4 -0.4**
EKA Eskdalemuir Ar 145.46 9 PKPbc **PKPdf 00 40 17.2 -1.0**
comp=Z,1.3nm,0.7s,baz=328,slow=3.1,SNR=4.1
MARD Mardin 145.56 305 PKPbc 00 40 19.7 +0.3
LODK Lodwar 145.89 243 PKPbc **PKPdf 00 40 20.9 +0.5**
SORM Soroca 147.56 331 ⇓P **PKPbc 00 40 24.8 +0.1**
GAZ Gaziantep 148.30 307 PKPbc **PKPbc 00 40 26.5 -0.6**
BNN Bunyan 148.64 311 PKPbc 00 40 28.1 +0.1
ILGA Ilgaz 149.06 316 PKPbc 00 40 28.7 -0.5
STHS Stebnicka Huta 149.30 340 *e*PKP **PKPbc 00 40 29.5 +0.3**
BUR08 Bucovina Ar. S 149.30 333 PKPbc 00 40 30.1 +0.7
BURAR Bucovina Array 149.32 333 ⇓P **PKiKP 00 40 31.2 +0.6**
KSP Ksiaz 149.35 346 *e*PKP **PKPbc 00 40 29.5 +0.2**
KOLS Kolonicke sedl 149.37 338 *e*PKP **PKiKP 00 40 30.8 +0.3**
CLL Collm 149.52 351 *i* PKPbc **PKPbc 00 40 29.3 -0.3**
comp=Z,16nm,1.4s
CLL *i* PKPab **pPKPdf 00 40 34.4 0.0**
comp=Z,6.0nm,1.1s
CLL *i* x x 00 40 38.8
CLL *i* x x 00 40 45.4
CLL *e*PP **PP 00 44 03.0 +1.4**
NIE Niedzica 149.60 341 *e*PKP **PKiKP 00 40 31.1 +0.1**
OSTC Ostas 149.64 346⇑*e*PKP **PKPbc 00 40 30.3 +0.3**
OSTC *ex* x 00 40 33.6
BR131 Keskin Array S 149.77 314 PKPbc 00 40 30.1 -0.8
BRTR Keskin Array B 149.77 314 PKPbc 00 40 29.9 -1.0
BRTR Keskin Array B 149.77 314 PKPbc **PKPbc 00 40 30.7 -0.2**
comp=Z,1.3nm,0.7s,baz=136,slow=3.5,SNR=14
BRTR PKPab **PKPab 00 40 36.6 +0.4**
comp=Z,4.5nm,0.9s,baz=140,slow=2.7,SNR=14
ONER Baraj Valea Uz 149.79 330 ⇓P **PKiKP 00 40 31.7 +0.2**
BRG Berggiesshubel 149.79 349 *e*PKP **PKPbc 00 40 30.8 +0.5**
BRG Amp 00 40 32.2
comp=Z,14nm,1.4s
BRG Berggiesshubel 149.79 349 P **PKPab 00 40 36.2 +0.5**
BRG Amp 00 40 37.1
comp=Z,9.8nm,1.2s
BRG Berggiesshubel 149.79 349 P PKPab 00 40 45.4 +10
BRG Amp 00 40 46.3
comp=Z,4.9nm,1.0s
DPC Dobruska-Polom 149.81 346⇑*e*PKP **PKPbc 00 40 31.1 +0.6**
STEB Steborice 149.85 344⇑*e*PKP **PKiKP 00 40 32.4 +0.9**
KIRS Kirsehir-Merke 149.86 312 ⇑P **PKPbc 00 40 31.2 +0.2**
TPGR Topolog 149.86 326 ⇑P **PKiKP 00 40 32.1 +0.4**
BMR Baia Mare 149.97 335 ⇑P **PKiKP 00 40 32.1 +0.3**
VRI Vrincioaia 149.98 330 ⇓P **PKPab 00 40 38.5 +1.8**
PLOR Plostina 150.03 330 ⇓P **PKPab 00 40 39.0 +2.1**
MORC Moravsky Berou 150.05 344 *e*PKP **PKPbc 00 40 31.7 +0.6**
MORC Moravsky Berou 150.05 344 ⇑P **PKiKP 00 40 31.9 0.0**
LANS Liptovska Anna 150.09 341 *e*PKP **PKiKP 00 40 33.0 +0.9**
MAUC Maruska 150.36 344⇑*e*PKP **PKiKP 00 40 33.1 +0.5**
DOPR Dopca 150.52 331 ⇑P **PKPbc 00 40 31.5 -0.8**
PRU Pruhonice 150.53 348⇑*e*PKP **PKPbc 00 40 31.8 -0.3**
MLR Muntele Rosu 150.62 330 PKPbc 00 40 31.8 -0.9
MLR Muntele Rosu 150.62 330 ⇑P **PKPbc 00 40 32.8 +0.1**
VRAC Vranov 150.72 345 *e*PKP **PKPbc 00 40 33.2 +0.6**
VRAC Vranov 150.72 345 ⇓P **PKPab 00 40 40.5 +0.9**
JAVC Velka Javorina 150.86 343 *e*PKP **PKiKP 00 40 34.8 +1.1**
VYHS Vyhne 150.86 342 *e*PKP **PKPbc 00 40 33.2 +0.2**
KRUC Moravsky 151.00 345 *e*PKP **PKPbc 00 40 33.7 +0.4**
MMAI Mount Meron Ar 151.02 300 PKPbc **PKPbc 00 40 33.1 -0.8**
comp=Z,3.8nm,0.9s,baz=90,slow=4.3,SNR=8.5
MMAI PKPab **sPKPdf 00 40 40.8 +0.3**
comp=Z,5.0nm,0.8s,baz=338,slow=0.9,SNR=8.7
PSZ Piszkesteto 151.05 340 PKPbc 00 40 32.6 -0.9
PSZ Piszkesteto 151.05 340 ⇑P **PKPab 00 40 41.8 +0.7**
VOIR 151.08 331 ⇑P **PKPbc 00 40 34.0 +0.3**
ZVC Zvikov 151.12 348⇑*e*PKP **PKiKP 00 40 37.6 +3.5**
ARR Arges 151.32 331 ⇑P **PKiKP 00 35.3 +0.6**
MODS Modra-Piesok 151.41 343 *e*PKP **PKPbc 00 40 34.4 +0.1**
MODS *e* 00 40 44.3
KHC Kasperske Hory 151.53 349⇑*e*PKP **PKPbc 00 40 33.6 -1.0**
CKRC Cesky Krumlov 151.69 348⇑*e*PKP **PKPbc 00 40 35.0 +0.1**
GERES GERESS Array B 151.78 348 PKPbc PKPbc 00 40 34.8 -0.4
GERES GERESS Array B 151.78 348 PKPbc PKPbc 00 40 34.0 -1.3
comp=Z,1.2nm,0.8s,baz=330,slow=1.9,SNR=6.3
BORA Eskisehir 151.79 317 PKPbc **PKPbc 00 40 35.6 +0.1**
CSS Mathiatis 152.03 305 PKPbc 00 40 35.5 -0.6
SURR Surduc 152.08 335 ⇓P **PKPbc 00 40 35.7 -0.2**
GZR Gura Zlata 152.11 333 ⇓P **PKiKP 00 40 39.5 +3.2**
CONA Conrad Observa 152.18 345 *e*pPKP **PKPdf 00 40 31.2 +1.7**
comp=Z,4.9nm,1.4s
RONA Rosalia, Austr 152.29 344 PKP **PKPdf 00 40 30.2 +0.6**
comp=Z,5.2nm,1.4s
BZS Buzias 152.40 335 ⇑P **PKPbc 00 40 36.8 +0.2**
MOA Molln 152.62 347 *e*PKP **PKPdf 00 40 30.0 -0.1**
comp=Z,5.1nm,1.8s
BIOA Bad Ischl, Aus 152.90 348 *e*PKP **PKPab 00 40 48.7 -0.1**
comp=Z,5.6nm,0.9s
MORH Mrgy, Hungar 152.95 340 ⇑P **PKiKP 00 40 38.2 +0.3**
LESA Schwarzleotal 153.34 349 *e*PKP **PKPab 00 40 50.8 +0.1**
comp=Z,7.1nm,1.2s
SOKA Soboth 153.55 345 *e*PKP **PKPab 00 40 52.1 +0.5**
comp=Z,7.9nm,1.4s
WATA Walderalm 153.60 351 *e*PKP **PKPab 00 40 52.8 +0.9**
comp=Z,7.2nm,1.1s
SQTA Sankt Quirin 153.77 351 *e*PKP **PKPab 00 40 52.3 -0.2**
comp=Z,4.8nm,1.0s
OBKA Obir 153.83 346 *e*PKP **PKPab 00 40 52.8 0.0**
comp=Z,3.4nm,0.9s
FDMO Fiordimonte 157.45 345 PKPab 00 41 07.4 -0.9
NRCA Norcia 157.63 345 PKPab 00 41 08.8 -0.3

---

*IDC **28** 00:27:34.2±1.1, 28°.14N×103°.40E, h0km, mb3.6/7, mbtmp3.5/8, ML3.5/1, MS3.3/2, Error ellipse: s-maj=42.3km s-min=20.3km az=58.0*
ISC 28 00:27:39.5±1.2, 28°.2N±0°.2×103°.5E±0°.2, h35km, n10, σ0°40/8, mb3.8/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.54**	**204**	LR	LR	00 34 23.9	
	comp=Z,39nm,18.2s,baz=175,slow=39						
SONM	**Songino Array**	**19.75**	**6**	P	**P**	**00 32 06.8**	**+0.4**
	0.1nm,0.3s,baz=193,slow=12,SNR=2.8						
	0.2nm,0.4s						
KSRS	**Korea Array**	**22.47**	**59**	P	**P**	**00 32 35.4**	**-0.3**
	0.8nm,0.6s,baz=241,slow=10.0,SNR=2.1						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**24.92**	**324**	P	**P**	**00 32 59.1**	**-0.1**
	0.6nm,0.5s,baz=127,slow=9.9,SNR=9.1						
	0.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**27.82**	**47**	LR	LR	00 44 54.0	
	comp=Z,236nm,19.0s,baz=56,slow=37						
WRA	**Warramunga Arr**	**56.39**	**145**	P	**P**	**00 37 18.2**	**+0.6**
	0.7nm,0.8s,baz=325,slow=6.3,SNR=2.5						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**59.31**	**147**	P	**P**	**00 37 37.6**	**-0.4**
	0.4nm,0.4s,baz=325,slow=6.8,SNR=8.0						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**59.70**	**327**	P	**P**	**00 37 40.3**	**+0.1**
	1.4nm,0.8s,baz=58,slow=13,SNR=1.0						
	1.4nm,0.8s						
ARCES	**ARCESS Array B**	**59.70**	**337**	P	**P**	**00 37 40.1**	**-0.1**
	1.0nm,0.8s,baz=105,slow=6.2,SNR=1.2						
	1.0nm,0.8s						
NOA	**NORSAR Array B**	**66.83**	**328**	P	**P**	**00 38 27.4**	**-0.1**
	0.1nm,0.5s,baz=74,slow=6.4,SNR=2.0						
	0.1nm,0.5s						

---

*IDC **28** 00:31:14.1±0.6, 51°.49N×159°.86E, h0km, mb4.2/30, mbtmp4.3/35, ML3.7/4, MS4.0/6, Error ellipse: s-maj=13.6km s-min=11.4km az=159.0*
*NEIC **28** 00:31:15.9±1.9, 51°.57N±0°.09×160°.0E±0°.2, h10km±1km, mb4.6/63, Error ellipse: s-maj=16.3km s-min=14.8km az=115.0*
*KRSC **28** 00:31:15.7±1.3, 51°.47N×160°.19E, h47km±23km, Ml4.9*
*MOS **28** 00:31:17.5±0.8, 51°.46N×160°.01E, h45km, mb4.7/30, MS3.4/4, Error ellipse: s-maj=8.3km s-min=3.9km az=102.6*
ISC 28 00:31:16.3±1.4, 51°.57N±0°.04×159°.99E±0°.04, h13km±7km, n309, σ1$26/316, mb4.5/96, MS4.1/13, 27C-25D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.21**	**282**	PN	**Pb**	**00 31 39.6**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.21**	**282**	*e*P	**Pb**	**00 31 39.7**	**+0.5**
RUS	**Russkaya**	**1.26**	**314**	PN	**Pb**	**00 31 40.0**	**+0.2**
RUS				S	**Sn**	**00 31 56.6**	**+0.3**
RUS	**Russkaya**	**1.26**	**314**	*e*P	**Pb**	**00 31 40.1**	**+0.2**
RUS				*e*S	**Sn**	**00 31 56.7**	**+0.3**
MTVR	**Mutnovka**	**1.44**	**310**	PN	**Pb**	**00 31 43.3**	**+0.2**
MTVR	**Mutnovka**	**1.44**	**310**	*e*P	**Pb**	**00 31 43.3**	**+0.2**
SPN	**Mys Shipunski**	**1.53**	**1**	PN	**Pn**	**00 31 43.9**	**+0.6**
SPN	**Mys Shipunski**	**1.53**	**1**	*e*P	**Pn**	**00 31 44.0**	**+0.6**
GRL	**Gorelyy**	**1.54**	**311**	PN	**Pb**	**00 31 45.1**	**+0.4**
GRL	**Gorelyy**	**1.54**	**311**	*e*P	**Pb**	**00 31 45.2**	**+0.4**
DALK	**Dalny**	**1.65**	**333**	PN	**Pn**	**00 31 45.8**	**+0.8**
DALK	**Dalny**	**1.65**	**333**	*e*P	**Pn**	**00 31 45.8**	**+0.8**
NLC	**Nalytchevo**	**1.65**	**346**	PN	**Pb**	**00 31 46.2**	**-0.4**
NLC	**Nalytchevo**	**1.65**	**346**	*e*P	**Pb**	**00 31 46.3**	**-0.4**
PET	**Petropavlovsk**	**1.67**	**331**		**Pn**	**00 31 45.7**	**+0.4**
PET	**Petropavlovsk**	**1.67**	**331**	PN	**Pn**	**00 31 46.0**	**+0.8**
PET				S	**Sb**	**00 32 08.8**	**+0.9**
PET	**Petropavlovsk**	**1.67**	**331**	*e*P	**Pn**	**00 31 46.1**	**+0.8**
PET				*e*S	**Sb**	**00 32 08.9**	**+0.9**
KRMR	**Karymshinskiy**	**1.71**	**319**	PN	**Pn**	**00 31 46.7**	**+1.0**
KRMR	**Karymshinskiy**	**1.71**	**319**	*e*P	**Pn**	**00 31 46.7**	**+1.0**
INSR	**Institute**	**1.72**	**331**	PN	**Pb**	**00 31 47.6**	**-0.2**
INSR				S	**Sg**	**00 32 11.7**	**0.0**
INSR	**Institute**	**1.72**	**331**	*e*P	**Pb**	**00 31 47.7**	**-0.2**
INSR				*e*S	**Sg**	**00 32 11.8**	**0.0**
UGLR	**Uglovaya**	**1.79**	**337**	PN	**Pn**	**00 31 48.2**	**+1.2**
UGLR	**Uglovaya**	**1.79**	**337**	*e*P	**Pn**	**00 31 48.3**	**+1.2**
SDLR	**Sedlovina**	**1.84**	**339**	PN	**Pn**	**00 31 48.6**	**+0.9**
SDLR	**Sedlovina**	**1.84**	**339**	*e*P	**Pn**	**00 31 48.7**	**+0.9**
AVH	**Avacha**	**1.86**	**336**	PN	**Pb**	**00 31 49.6**	**-0.6**
AVH	**Avacha**	**1.86**	**336**	*e*P	**Pb**	**00 31 49.6**	**-0.6**
KOK	**Koryaka**	**1.92**	**335**	PN	**Pn**	**00 31 50.0**	**+1.3**
KOK	**Koryaka**	**1.92**	**335**	*e*P	**Pn**	**00 31 50.1**	**+1.3**
KRX	**Arik**	**1.97**	**336**	PN	**Pn**	**00 31 50.9**	**+1.4**
KRX	**Arik**	**1.97**	**336**	*e*P	**Pn**	**00 31 51.0**	**+1.4**
PAU	**Pauzhetka**	**1.99**	**268**	PN	**Pb**	**00 31 51.2**	**-1.1**
PAU	**Pauzhetka**	**1.99**	**268**	*e*P	**Pb**	**00 31 51.2**	**-1.1**
PEA0B	**Petropavlovsk-**	**2.09**	**319**		**Pn**	**00 31 52.0**	**+1.0**
PEA0B	**Petropavlovsk-**	**2.09**	**319**	PN	**Pn**	**00 31 52.7**	**+1.7**
PEA0B				S	**Sb**	**00 32 19.4**	**-0.4**
PETK	**Petropavlovsk-**	**2.09**	**319**		**Pn**	**00 31 51.8**	**+0.8**
PETK	**Petropavlovsk-**	**2.09**	**319**	Pn	**Pn**	**00 31 51.7**	**+0.7**
	71nm,0.3s,baz=109,slow=17,SNR=320						
PETK				Lg	Lg	00 32 23.7	
	193nm,0.3s,baz=214,slow=23,SNR=14						
	397nm,0.5s						
APC	**Apacha**	**2.21**	**309**	PN	**Pn**	**00 31 54.5**	**+1.9**
APC	**Apacha**	**2.21**	**309**	*e*P	**Pn**	**00 31 54.6**	**+1.9**
GNL	**Ganaly**	**2.47**	**330**	PN	**Pn**	**00 31 58.5**	**+2.2**
GNL	**Ganaly**	**2.47**	**330**	*e*P	**Pn**	**00 31 58.5**	**+2.2**
KII	**Karymskiy**	**2.49**	**353**	PN	**Pn**	**00 31 58.3**	**+1.7**
KII	**Karymskiy**	**2.49**	**353**	*e*P	**Pn**	**00 31 58.4**	**+1.7**
SKR	**Severo-Kuril's**	**2.59**	**252**	⇑*i*PN	**Pn**	**00 32 00.2**	**+2.3**
SKR				*e*S	**Sb**	**00 32 34.4**	**0.0**
SKR				pmax	pmax		
	comp=Z,379nm,0.7s						
SKR				smax	smax		
	comp=N,2μm,0.6s						
SKR				smax	smax		
	comp=E,3μm,0.5s						
SKR				MLR	MLR		
	comp=Z,2μm,10.0s						
SKR	**Severo-Kuril's**	**2.59**	**252**	*e*P	**Pn**	**00 31 59.4**	**+1.5**
MKZ	**Mys Kozlova**	**3.17**	**19**	PN	**Pn**	**00 32 06.4**	**+0.5**
MKZ	**Mys Kozlova**	**3.17**	**19**	*e*P	**Pn**	**00 32 06.4**	**+0.5**
TUMD	**Tumrok D**	**3.65**	**4**	PN	**Pn**	**00 32 12.7**	**+0.2**
TUMD	**Tumrok D**	**3.65**	**4**	*e*P	**Pn**	**00 32 12.7**	**+0.2**
KMNR	**Kamenistaya**	**4.20**	**2**	PN	**Pn**	**00 32 23.4**	**+3.3**
KMNR	**Kamenistaya**	**4.20**	**2**	*e*P	**Pn**	**00 32 23.4**	**+3.3**
KIRR	**Kirishev**	**4.40**	**3**	PN	**Pn**	**00 32 25.7**	**+2.8**
KIRR	**Kirishev**	**4.40**	**3**	*e*P	**Pn**	**00 32 25.7**	**+2.8**
ESO	**Esso**	**4.43**	**351**	PN	**Pn**	**00 32 25.4**	**+2.2**
ESO	**Esso**	**4.43**	**351**	*e*P	**Pn**	**00 32 25.5**	**+2.2**
KOZ	**Kozyrevsk**	**4.50**	**359**	PN	**Pn**	**00 32 27.9**	**+3.8**
KOZ	**Kozyrevsk**	**4.50**	**359**	*e*P	**Pn**	**00 32 28.0**	**+3.8**
KBTR	**Krutoberegovo**	**4.94**	**19**	PN	**Pn**	**00 32 31.9**	**+1.7**
KBTR	**Krutoberegovo**	**4.94**	**19**	*e*P	**Pn**	**00 32 31.9**	**+1.7**
SEY	**Seymchan**	**12.10**	**343**	*i* PN	**Pn**	**00 34 06.8**	**-1.4**
YSS	**Yuzhno-Sakhali**	**12.16**	**254**	*e*PN	P	00 34 15.9	-5.8
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
YSS				MLR	MLR		
	comp=E,500nm,17.0s						
JKA	**Kamikawa-asahi**	**13.83**	**244**	Pn	**Pn**	**00 34 33.3**	**+1.4**
ASAJ	**Asahikawa**	**13.83**	**244**	Pn	**Pn**	**00 34 31.1**	**-0.8**
	comp=E,0.8nm,0.3s,baz=63,slow=11,SNR=6.8						
	comp=E,9.4nm,0.8s						
ASAJ	**Asahikawa**	**13.83**	**244**	P	**Pn**	**00 34 33.3**	**+1.4**
ERM	**Erimo**	**14.94**	**237**	Pn	**Pn**	**00 34 45.2**	**-1.8**
ERM	**Erimo**	**14.94**	**237**	P	**Pn**	**00 34 45.2**	**-1.8**
BILL	**Bilibino**	**16.81**	**8**		**Pn**	**00 35 11.4**	**+0.4**
BILL	**Bilibino**	**16.81**	**8**	*e*P	**Pn**	**00 35 10.8**	**-0.2**
KLR	**Kul'dur**	**18.11**	**274**	Pn	**Pn**	**00 35 26.1**	**-1.2**
	comp=E,0.2nm,0.3s,baz=78,slow=11,SNR=19						
	comp=E,9.3nm,1.0s						
KLR	**Kul'dur**	**18.11**	**274**	*e*P	**P**	**00 35 28.8**	**+1.1**
JMM	**Marumori**	**19.25**	**232**	P	**P**	**00 35 39.7**	**-0.6**
JMM				IAmb	IAmb	00 36 09.7	
	comp=Z,39nm,1.3s						
YAK	**Yakutsk**	**19.43**	**314**	P	**P**	**00 35 40.3**	**-1.7**
	comp=Z,18nm,0.7s,baz=56,slow=2.2,SNR=6.2						
YAK	**Yakutsk**	**19.43**	**314**	*e*P	**P**	**00 35 39.9**	**-2.1**
YAK				*e*S	**Sn**	**00 39 20.0**	**-0.7**
YAK				pmax	pmax		
	comp=Z,21nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.6s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,90nm,3.4s						
YAK				pmax	pmax		
	comp=N,83nm,5.6s						
YAK				pmax	pmax		
	comp=E,47nm,4.6s						
YAK				smax	smax		
	comp=N,107nm,6.6s						
YAK				smax	smax		
	comp=E,82nm,4.3s						
YAK				MLR	MLR		
	comp=Z,219nm,17.0s						
YAK				MLR	MLR		
	comp=N,145nm,18.0s						
YAK				MLR	MLR		
	comp=E,98nm,11.0s						
ZEA	**Zeya**	**19.88**	**289**	*e*P	**Pn**	**00 35 49.0**	**+0.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=E,200nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,14.0s						
USA0B	**Ussuriysk Arra**	**20.08**	**260**	P	**P**	**00 35 48.4**	**-0.9**
USA0B	**Ussuriysk Arra**	**20.08**	**260**	P	**P**	**00 35 48.4**	**-0.9**
USA0B				pmax	pmax		
	comp=Z,13nm,1.2s						
USRK	**Ussuriysk Ar.**	**20.08**	**260**	P	**P**	**00 35 47.2**	**-2.1**
USRK	**Ussuriysk Ar.**	**20.08**	**260**	P	**P**	**00 35 48.3**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=59,slow=12,SNR=6.9						
	comp=Z,5.2nm,0.8s						
JSD	**Sado**	**20.41**	**237**	P	**P**	**00 35 53.9**	**+1.0**
HEH	**HeiHe**	**20.50**	**279**	*e*P	**P**	**00 35 53.8**	**+0.1**
HEH				LR	LR		
	comp=N,210nm,13.7s						
HEH				LR	LR		
	comp=E,380nm,15.5s						
HEH				LR	LR		
	comp=Z,460nm,13.2s						
MDJ	**Mudanjiang**	**21.35**	**263**	P	**P**	**00 36 01.8**	**-1.2**
MDJ				pmax	pmax		
	comp=Z,16nm,1.2s						
MJA0	**Matsu Arr-Jizo**	**21.55**	**234**	*e*P	**P**	**00 36 07.9**	**+2.6**
MJA0				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MJB9	**Matsu-Tunnel**	**21.57**	**234**	P	**P**	**00 36 06.6**	**+1.1**
MJB9				IAmb	IAmb	00 36 11.9	
	comp=Z,23nm,0.9s						
MAJO	**Matsushiro**	**21.57**	**234**		**P**	**00 36 05.3**	**-0.2**
MAJO				IAmb	IAmb	00 36 10.9	
	comp=Z,24nm,0.9s						
MAJO	**Matsushiro**	**21.57**	**234**	P	**P**	**00 36 05.3**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,24nm,1.0s						
MJAR	**Matsushiro Arr**	**21.57**	**234**	P	**P**	**00 36 03.1**	**-2.4**
	comp=Z,2.8nm,0.9s,baz=27,slow=9.4,SNR=18						
	comp=Z,2.8nm,0.9s						
PSTR	**Posyet**	**21.65**	**257**	⇑*i*P	**P**	**00 36 05.0**	**-1.2**
BNX	**BinXian**	**22.18**	**268**	⇓P	**P**	**00 36 12.8**	**+0.9**
BNX				pmax	pmax		
	comp=Z,12nm,0.8s						
JGF	**Kuroka**	**22.74**	**234**	P	**P**	**00 36 18.0**	**0.0**
JGF				IAmb	IAmb	00 36 22.0	
	comp=Z,17nm,1.0s						
INU	**Inuyama**	**23.11**	**234**		**P**	**00 36 22.1**	**+0.3**
INU				IAmb	IAmb	00 36 26.0	
	comp=Z,23nm,0.9s						
F17K	**Baldwin Pennin**	**24.35**	**38**	P	**P**	**00 36 34.4**	**+0.9**
F17K				IAmb	IAmb	00 36 44.0	
	comp=Z,15nm,1.5s						
TIXI	**Tiksi**	**24.45**	**337**		**P**	**00 36 33.4**	**-0.9**
TIXI				IAmb	IAmb	00 36 35.9	
	comp=Z,7.0nm,0.8s						
TIXI	**Tiksi**	**24.45**	**337**	⇓*i*P	**P**	**00 36 34.1**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
C18K	**Utukok River**	**25.16**	**33**	P	**P**	**00 36 42.3**	**+1.4**
C18K				IAmb	IAmb	00 37 07.0	
	comp=Z,10.0nm,1.1s						
L18K	**Granite Mounta**	**25.45**	**48**	P	**P**	**00 36 42.6**	**-0.9**
HIA	**Hailar**	**25.52**	**281**		**P**	**00 36 43.3**	**-1.1**
HIA	**Hailar**	**25.52**	**281**	*i* P	**P**	**00 36 42.7**	**-1.7**
HIA				pmax	pmax		
	comp=Z,22nm,0.6s						
J18K	**Innoko River**	**25.57**	**46**		**P**	**00 36 45.6**	**+1.0**
F19K	**Shaleruckik Mo**	**25.79**	**38**		**P**	**00 36 46.5**	**-0.1**
KSRS	**Korea Array**	**26.61**	**251**	P	**P**	**00 36 53.7**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=45,slow=10,SNR=9.5						
	comp=Z,2.1nm,0.7s						
D20K	**Etivluk River**	**26.75**	**34**	P	**P**	**00 36 54.3**	**-1.0**
D20K				IAmb	IAmb	00 37 23.8	
	comp=Z,8.2nm,1.0s						
B20K	**Meade River**	**27.00**	**31**		**P**	**00 36 58.0**	**+0.5**
B20K				IAmb	IAmb	00 37 32.6	
	comp=Z,11nm,1.2s						
KDAK	**Kodiak Island**	**27.63**	**58**	P	**P**	**00 37 02.7**	**-0.5**
	comp=Z,4.4nm,0.5s,baz=186,slow=9.2,SNR=3.0						
	comp=Z,4.4nm,0.5s						
KDAK	**Kodiak Island**	**27.63**	**58**	*i* P	**P**	**00 37 04.0**	**+0.8**
KDAK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
B21K	**Ikpikpuk River**	**27.71**	**32**		**P**	**00 37 03.5**	**-0.3**
JNU	**Nakatsue**	**28.05**	**240**	P	**P**	**00 37 09.4**	**+2.2**
	comp=Z,20nm,0.8s,baz=74,slow=4.3,SNR=8.8						
B22K	**Teshekpuk Lake**	**28.31**	**31**	P	**P**	**00 37 08.9**	**-0.3**
ILAR	**Eielson Array**	**29.95**	**43**	P	**P**	**00 37 26.1**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=258,slow=7.9,SNR=6.6						
	comp=Z,0.6nm,0.7s						
XLT	**XiLinHaoTe**	**30.13**	**273**	*e*P	**P**	**00 37 25.3**	**-0.4**
XLT				pP	pP	00 37 29.3	+0.9
XLT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XLT				LR	LR		
	comp=N,34nm,15.2s						
XLT				LR	LR		
	comp=E,200nm,14.5s						
XLT				LR	LR		
	comp=Z,260nm,18.2s						
K27K	**Chicken**	**32.07**	**45**	P	**P**	**00 37 42.4**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**32.23**	**168**	T	T	01 11 48.1	
	baz=352						
H11N3	**WAKE ISLAND Hy**	**32.25**	**168**	T	T	01 11 45.0	
	baz=352						
H11N1	**WAKE ISLAND Hy**	**32.25**	**168**	T	T	01 11 47.8	
	baz=352						
H11S1	**WAKE ISLAND Hy**	**33.41**	**168**	T	T	01 13 41.1	
	baz=351,

comp=N,290nm,16.1s
XAN LR LR
comp=E,400nm,19.9s
XAN LR LR
comp=Z,410nm,19.2s
GTA Gaotai 42.73 278 *eP* **P 00 39 13.3 +0.1**
GTA pP sP 00 39 18.5 +1.6
GTA pmax pmax
comp=Z,4.0nm,0.7s
GTA LR LR
comp=N,160nm,13.5s
GTA LR LR
comp=E,210nm,13.5s
GTA LR LR
comp=Z,310nm,15.5s
EUNU Eureka 43.45 13 **P 00 39 18.5 +0.1**
EUNU IAmb IAmb 00 39 38.5
comp=Z,10nm,1.1s
ZAA0 Zalesovo Array 43.56 304 P **P 00 39 17.6 -1.9**
ZALV Zalesovo Beam 43.56 304 P **P 00 39 17.1 -2.4**
ZALV Zalesovo Beam 43.56 304 P **P 00 39 17.6 -1.9**
comp=Z,2.0nm,0.6s,baz=52,slow=7.0,SNR=12
ZALV LR LR 01 00 40.5
comp=Z,190nm,18.9s,baz=60,slow=41
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 43.56 304 *eP* **P 00 39 18.0 -1.5**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 44.34 41 P **P 00 39 25.2 -0.4**
comp=Z,0.6nm,0.8s,baz=302,slow=7.9,SNR=11
comp=Z,0.6nm,0.8s
RES Resolute Bay 44.77 21 P **P 00 39 29.1 +0.2**
comp=Z,1.2nm,0.7s,baz=309,slow=7.6,SNR=6.8
comp=Z,1.2nm,0.7s
KURK Kurchatov 48.50 303 **P 00 39 57.0 -1.4**
KURK Kurchatov 48.50 303 P **P 00 39 57.9 -0.5**
KURBB Kurchatov Arra 48.60 303 P **P 00 39 57.9 -1.3**
comp=Z,14nm,0.7s,baz=60,slow=7.8,SNR=12
comp=Z,14nm,0.7s
KURBB Kurchatov Arra 48.60 303 P **P 00 39 57.8 -1.4**
SPITS Spitsbergen Ar 48.63 351 P **P 00 39 59.5 +0.4**
comp=Z,9.5nm,0.6s,baz=57,slow=9.2,SNR=49
comp=Z,9.5nm,0.6s
SPB2 Spitsbergen Ar 48.63 351 **P 00 39 59.9 +0.8**
MK31 Makanchi Array 48.77 297 *i* P **P 00 39 59.4 -1.2**
MKAR Makanchi Array 48.77 297 **P 00 39 59.1 -1.6**
MKAR Makanchi Array 48.77 297 P **P 00 39 59.6 -1.0**
comp=Z,3.0nm,0.5s,baz=56,slow=7.1,SNR=35
comp=Z,3.0nm,0.5s
MAKZ Makanchi 48.94 297 **P 00 40 00.5 -1.4**
MAKZ IAmb IAmb 00 40 01.5
comp=Z,4.2nm,0.7s
MAKZ Makanchi 48.94 297 P **P 00 40 00.5 -1.4**
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
PZH PanZhiHua 50.12 263 P **P 00 40 12.0 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.9s
BLKN Baker Lake 50.40 33 **P 00 40 12.7 -0.1**
BLKN IAmb IAmb 00 40 26.6
comp=Z,7.3nm,0.8s
ILON Igloolik, Nuna 51.24 24 P **P 00 40 18.5 -0.5**
BVA0 Borovoye Array 51.30 309 *i* P **P 00 40 18.3 -1.4**
BVAR Borovoye Array 51.30 309 P **P 00 40 18.0 -1.7**
comp=Z,5.8nm,0.4s,baz=55,slow=7.2,SNR=44
comp=Z,5.8nm,0.4s
BRVK Borovoye 51.33 309 **P 00 40 18.8 -1.1**
BRVK IAmb IAmb 00 40 19.3
comp=Z,12nm,1.3s
BRVK Borovoye 51.33 309 P **P 00 40 18.8 -1.1**
BRVK pmax pmax
comp=Z,13nm,1.3s
ARTI Arti 54.58 318 P **P 00 40 44.0 +0.1**
ARTI IAmb IAmb 00 40 45.7
comp=Z,4.7nm,0.7s
ARTI Arti 54.58 318 *c i* P **P 00 40 42.6 -1.3**
ARTI S **S 00 48 24.1 +1.4**
ARTI SS **SS 00 52 01.4 -3.2**
ARTI pmax pmax
comp=Z,6.0nm,1.2s
ARCES ARCESS Array B 54.72 342 P **P 00 40 44.8 +0.1**
comp=Z,6.1nm,0.7s,baz=34,slow=8.4,SNR=12
ARCES LR LR 01 11 13.1
comp=Z,56nm,18.2s,baz=340,slow=44
comp=Z,6.1nm,0.7s
AAK Ala-Archa 55.70 297 ⇑ *i* P **P 00 40 51.4 -1.0**
AAK pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 57.54 259 **P 00 41 05.3 -0.1**
CHTO IAmb IAmb 00 41 08.6
comp=Z,4.7nm,0.8s
CHTO Chiang Mai 57.54 259 P **P 00 41 05.4 -0.1**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 57.58 300 P **P 00 41 04.1 -1.4**
KK31 IAmb IAmb 00 41 06.0
comp=Z,5.7nm,1.0s
KK31 Karatay Array 57.58 300 P **P 00 41 04.1 -1.4**
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 57.58 300 P **P 00 41 04.2 -1.3**
KKAR Karatay Array 57.58 300 P **P 00 41 04.2 -1.3**
CMAR Chiang Mai Arr 57.81 259 P **P 00 41 07.2 -0.2**
comp=Z,1.8nm,0.5s,baz=26,slow=7.3,SNR=13
comp=Z,1.8nm,0.5s
CMAR Chiang Mai Arr 57.81 259 *eP* **P 00 41 10.2 +2.8**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 58.34 60 P **P 00 41 10.8 -0.3**
PDAR Pinedale Array 58.34 60 P **P 00 41 11.5 +0.4**
comp=Z,0.1nm,0.3s,baz=192,slow=33,SNR=2.2
AB31 Akbulak array 58.74 311 **P 00 41 12.4 -1.1**
AB31 IAmb IAmb 00 41 14.5
comp=Z,4.5nm,0.8s
AB31 Akbulak array 58.74 311 *i* P **P 00 41 12.2 -1.3**
ABKAR Akbulak array 58.74 311 **P 00 41 12.4 -1.1**
ABKAR IAmb IAmb 00 41 14.5
comp=Z,4.5nm,0.8s
ABKAR Akbulak array 58.74 311 P **P 00 41 12.2 -1.3**
FRB Frobisher Bay 58.94 23 P **P 00 41 14.7 +0.1**
comp=Z,2.5nm,0.9s,baz=346,slow=8.1,SNR=4.9
comp=Z,2.5nm,0.9s
BTK Batken 59.48 297 P **P 00 41 18.5 -0.4**
BTK IAmb IAmb 00 41 20.0
comp=Z,5.9nm,0.8s
BTK Batken 59.48 297 P **P 00 41 18.5 -0.4**
BTK pmax pmax
comp=Z,6.0nm,0.9s
GAR Garm 60.50 296 P **P 00 41 25.1 -0.9**
SIMJ Simiganj 61.46 297 **P 00 41 32.0 -0.6**
SIMJ IAmb IAmb 00 41 33.3
comp=Z,5.4nm,1.1s
FIA1 FINESS Array S 61.50 337 P **P 00 41 32.4 +0.2**
FINES FINESS Array B 61.50 337 P **P 00 41 32.4 +0.2**
comp=Z,6.9nm,0.8s,baz=35,slow=7.7,SNR=16
comp=Z,6.9nm,0.8s
FINES FINESS Array B 61.50 337 *eP* **P 00 41 32.9 +0.7**
FINES pmax pmax
comp=Z,7.0nm,0.8s
NIL Nilore 62.58 290 P **P 00 41 39.3 -0.7**
NIL Nilore 62.58 290 P **P 00 41 39.3 -0.7**
NIL pmax pmax
comp=Z,14nm,0.9s
OBN Obninsk 63.77 328 ⇑ *eP* **P 00 41 47.9 +0.5**
OBN *e* 00 44 09.9
OBN pmax pmax
comp=Z,7.0nm,0.9s
NC204 NORSAR Array S 64.85 344 **P 00 41 54.6 +0.1**
NC204 IAmb IAmb 00 42 06.0
comp=Z,5.3nm,0.9s
NB201 NORSAR Array S 64.97 344 P **P 00 41 55.7 +0.5**
NB2 NORSAR Subarra 64.99 344 P **P 00 41 56.0 +0.6**
comp=Z,1.1nm,0.5s,baz=22,slow=6.9
NOA NORSAR Array B 64.99 344 P **P 00 41 55.7 +0.3**
comp=Z,2.3nm,0.8s,baz=21,slow=6.7,SNR=17
comp=Z,2.3nm,0.8s
NOA NORSAR Array B 64.99 344 *eP* **P 00 41 56.1 +0.6**
NOA pmax pmax
comp=Z,2.0nm,0.8s
HFS Hagfors 65.38 342 P **P 00 41 58.5 +0.6**
comp=Z,4.2nm,0.4s,baz=56,slow=5.6,SNR=40
comp=Z,4.2nm,0.4s
MNK Minsk 67.01 332 *i* P **P 00 42 07.7 -0.7**
MNK *i* 00 44 33.5
MNK *i* PPP PPP 00 46 11.1
MNK *i* S **S 00 51 01.6 +0.3**
MNK *i* SS **SS 00 55 20.6 +1.8**
MNK pmax pmax
comp=Z,29nm,0.9s
MNK pmax pmax
comp=E,19nm,1.0s
MNK pmax pmax
comp=N,5.0nm,0.9s
MNK MLR MLR
comp=N,99nm,15.0s
MNK MLR MLR
comp=E,72nm,17.0s
MNK MLR MLR
comp=Z,111nm,18.0s
PABE Paberze 67.23 335 P **P 00 42 09.7 -0.1**
AKASG Malin Array Be 69.89 329 P **P 00 42 26.6 +0.1**
comp=Z,10nm,0.6s,baz=31,slow=6.1,SNR=19
comp=Z,10nm,0.6s
AKBB Malin Array Si 69.89 329 **P 00 42 26.4 -0.1**
AKBB Malin Array Si 69.89 329 *i* P **P 00 42 26.5 0.0**
AKBB pmax pmax
comp=Z,19nm,0.9s
KIEV Kiev 69.90 329 **P 00 42 26.4 -0.1**
KIEV Kiev 69.90 329 ⇑P **P 00 42 26.7 +0.1**
KIEV Kiev 69.90 329 ⇑P **P 00 42 26.7 +0.1**
AKT Akhty 70.25 312 *eP* **P 00 42 28.9 -0.1**
AKT *e* 00 42 49.8
AKT pmax pmax
comp=Z,3.0nm,0.6s
AKT MLR MLR
comp=Z,274nm,18.0s
KIV Kislovodsk 70.51 317 *eP* **P 00 42 28.6 -2.0**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 70.60 317 P **P 00 42 31.2 +0.3**
comp=Z,1.5nm,0.7s,baz=113,slow=5.4,SNR=4.1
comp=Z,1.5nm,0.7s
TXAR Lajitas Array 71.30 66 P **P 00 42 35.6 0.0**
TXAR Lajitas Array 71.30 66 P **P 00 42 37.1 +1.5**
comp=Z,0.4nm,0.7s,baz=296,slow=4.8,SNR=6.3
comp=Z,0.4nm,0.7s
TXAR Lajitas Array 71.30 66 P **P 00 42 35.6 0.0**
ANN Anapa 71.97 321 *eP* **P 00 42 35.9 -3.3**
ANN *eS* **S 00 51 55.8 -4.1**
ANN *eSS* **SS 00 56 34.9 -0.6**
ANN pmax pmax
comp=Z,16nm,0.8s
SORM Soroca 72.40 328 ⇑P **P 00 42 42.0 +0.2**
SORM Soroca 72.40 328 ⇑P **P 00 42 42.0 +0.2**
EKA Eskdalemuir Ar 72.55 350 P **P 00 42 43.5 +1.0**
comp=Z,3.0nm,0.9s,baz=12,slow=4.9,SNR=4.6
comp=Z,3.0nm,0.9s
MILM Milestii Mici 73.31 327 ⇑P **P 00 42 47.5 +0.3**
MILM Milestii Mici 73.31 327 ⇑P **P 00 42 47.5 +0.3**
STHS Stebnicka Huta 73.43 333 *eP* **P 00 42 49.1 +1.2**
STHS Stebnicka Huta 73.43 333 *eP* **P 00 42 49.1 +1.2**
KOLS Kolonicke sedl 73.57 332 *eP* **P 00 42 50.0 +1.3**
KOLS pmax pmax
comp=Z,8.0nm,0.7s
KOLS Kolonicke sedl 73.57 332 *eP* **P 00 42 50.0 +1.3**
CLL Collm 73.76 339 *eP* **P 00 42 51.0 +1.3**
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 73.76 339 *eP* **P 00 42 51.0 +1.3**
comp=Z,4.0nm,0.9s
CLL *i* x x 00 43 00.5
BUR08 Bucovina Ar. S 73.84 330 **P 00 42 50.8 +0.4**
BUR08 IAmb IAmb 00 42 52.3
comp=Z,7.1nm,0.8s
BURAR Bucovina Array 73.86 330 ⇓P **P 00 42 51.6 +1.0**
BURAR Bucovina Array 73.86 330 ⇓P **P 00 42 51.6 +1.0**
DPC Dobruska-Polom 73.87 337 *eP* **P 00 42 51.4 +0.9**
DPC Dobruska-Polom 73.87 337 *eP* **P 00 42 51.4 +0.9**
STEB Steborice 73.89 336 *eP* **P 00 42 51.8 +1.3**
MORC Moravsky Berou 74.09 336 **P 00 42 52.8 +1.0**
MORC IAmb IAmb 00 42 54.2
comp=Z,4.3nm,0.8s
MORC Moravsky Berou 74.09 336 *eP* **P 00 42 53.4 +1.6**
MORC Moravsky Berou 74.09 336 P **P 00 42 52.8 +1.0**
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 74.09 336 ⇑P **P 00 42 52.5 +0.7**
LANS Liptovska Anna 74.16 334 *eP* **P 00 42 54.7 +2.5**
LANS Liptovska Anna 74.16 334 *eP* **P 00 42 54.7 +2.5**
BMR Baia Mare 74.34 331 ⇑P **P 00 42 54.1 +0.9**
BMR Baia Mare 74.34 331 ⇑P **P 00 42 54.1 +0.9**
TESR Tescani 74.38 329 ⇓P **P 00 42 52.8 -0.7**
ARCR ARCALIA 74.60 330 ⇓P **P 00 42 56.7 +1.9**
ONER Baraj Valea Uz 74.62 329 ⇑P **P 00 42 56.0 +1.1**
KOPT Kop Dagi 74.67 316 P **P 00 42 56.2 +0.6**
WRA Warramunga Arr 74.67 205 P **P 00 42 55.2 -0.1**
comp=Z,1.0nm,0.9s,baz=22,slow=6.2,SNR=4.6
comp=Z,1.0nm,0.9s
VRAC Vranov 74.77 336 *eP* **P 00 42 57.5 +1.8**
VRAC Vranov 74.77 336 ⇓P **P 00 42 57.8 +2.1**
VRAC Vranov 74.77 336 ⇓P **P 00 42 57.8 +2.1**
ODBI Odobesti 74.91 328 ⇓P **P 00 42 58.9 +2.4**
VRI Vrincioaia 74.93 328 ⇓P **P 00 42 57.2 +0.5**
VRI Vrincioaia 74.93 328 ⇓P **P 00 42 57.2 +0.5**
VYHS Vyhne 74.93 334 *eP* **P 00 42 58.1 +1.5**
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 74.93 334 *eP* **P 00 42 58.1 +1.5**
OZUR 75.03 329 ⇓P **P 00 42 59.1 +1.8**
KRUC Moravsky 75.04 336 *eP* **P 00 42 59.0 +1.7**
CFR Carcaliu 75.06 327 ⇓P **P 00 42 58.4 +1.0**
CFR Carcaliu 75.06 327 ⇓P **P 00 42 58.4 +1.0**
COVR Voineasa-Covas 75.12 329 ⇓P **P 00 42 59.0 +1.2**
CBBR Cluj-Babes-Bol 75.13 331 ⇑P **P 00 42 59.1 +1.3**
CJR Cluj-Napoca 75.17 331 ⇓P **P 00 42 59.7 +1.6**
CJR Cluj-Napoca 75.17 331 ⇓P **P 00 42 59.7 +1.6**
GURO Guroymak-BITLI 75.20 314 **P 00 42 59.5 +1.0**
GURO IAmb IAmb 00 43 01.1
comp=Z,6.9nm,1.3s
TPGR Topolog 75.25 327 ⇑P **P 00 42 59.5 +1.0**
SMOL Smolenice 75.28 335 *eP* **P 00 43 00.5 +1.8**
SMOL pmax pmax
comp=Z,3.0nm,0.9s
DIKM Dikmen 75.48 320 ⇑P **P 00 43 01.4 +1.5**
MLR Muntele Rosu 75.52 329 **P 00 43 00.9 +0.7**
MLR IAmb IAmb 00 43 02.6
comp=Z,5.6nm,0.7s
MLR Muntele Rosu 75.52 329 P **P 00 43 00.9 +0.7**
MLR pmax pmax
comp=Z,6.0nm,0.7s
MLR Muntele Rosu 75.52 329 ⇑P **P 00 43 00.5 +0.3**
TIRR Tirgusor 75.60 326 P **P 00 43 00.9 +0.4**
TIRR Tirgusor 75.60 326 P **P 00 43 00.9 +0.4**
TIRR pmax pmax
comp=Z,17nm,1.3s
KHC Kasperske Hory 75.66 338 *eP* **P 00 43 01.4 +0.5**
KHC Kasperske Hory 75.66 338 *eP* **P 00 43 01.4 +0.5**
MEM Membach 75.83 343 *dP* **P 00 43 01.4 -0.4**
comp=Z,8.2nm,1.0s
MEM *dx* x 00 43 03.6
VOIR 75.85 329 ⇑P **P 00 43 03.1 +1.0**
VOIR 75.85 329 ⇑P **P 00 43 03.1 +1.0**
GERES GERESS Array B 75.90 338 P **P 00 43 02.7 +0.4**
GERES GERESS Array B 75.90 338 P **P 00 43 02.9 +0.6**
comp=Z,0.9nm,0.6s,baz=27,slow=4.5,SNR=6.2
GERES LR LR 01 21 19.4
comp=Z,92nm,19.1s,baz=354,slow=40
comp=Z,0.9nm,0.6s
GERES GERESS Array B 75.90 338 *eP* **P 00 43 03.8 +1.5**
GERES pmax pmax
comp=Z,1.0nm,0.6s
ARR Arges 76.05 329 ⇑P **P 00 43 04.7 +1.5**
TOKA Tokat 76.10 319 **P 00 43 04.6 +1.0**
ICOR Ion Corvin 76.11 327 ⇓P **P 00 43 05.1 +1.7**
CONA Conrad Observa 76.23 336 *epP* **P 00 43 05.9 +1.7**
comp=Z,2.4nm,0.8s
ILGA Ilgaz 76.59 321 P **P 00 43 07.2 +0.7**
GZR Gura Zlata 76.61 331 ⇓P **P 00 43 07.6 +1.2**
GZR Gura Zlata 76.61 331 ⇓P **P 00 43 07.6 +1.2**
BZS Buzias 76.76 331 ⇑P **P 00 43 07.6 +0.5**
BZS Buzias 76.76 331 ⇑P **P 00 43 07.6 +0.5**
MARD Mardin 76.78 314 **P 00 43 08.7 +1.2**
MORH Mrgy, Hungar 77.07 334 ⇑P **P 00 43 09.6 +0.8**
HERR Herculane 77.18 331 ⇓P **P 00 43 10.1 +0.6**
SOKA Soboth 77.60 336 *epP* **P 00 43 13.4 +1.5**
comp=Z,2.9nm,1.0s
BNN Bunyan 77.61 319 **P 00 43 12.7 +0.5**
KBA Koelnbreinsper 77.64 337 *epP* pP 00 43 14.5 -1.0
comp=Z,15nm,0.8s
PALK Pallekele 77.68 266 LR LR 01 22 03.6
comp=Z,122nm,20.0s,baz=131,slow=39
BR131 Keskin Array S 77.76 321 **P 00 43 13.2 +0.2**
BR131 IAmb IAmb 00 43 14.9
comp=Z,4.7nm,0.9s
BR131 Keskin Array S 77.76 321 P **P 00 43 13.2 +0.2**
BR131 pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 77.76 321 P **P 00 43 12.9 -0.2**
BRTR Keskin Array B 77.76 321 P **P 00 43 13.2 +0.2**
comp=Z,2.8nm,0.9s,baz=46,slow=3.6,SNR=8.9
comp=Z,2.8nm,0.9s
BRTR Keskin Array B 77.76 321 *eP* **P 00 43 13.8 +0.8**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
WTTA Wattenberg 77.87 339 *epP* **P 00 43 15.5 +2.0**
comp=Z,7.5nm,1.2s
MOTA Moosalm 77.91 339 *epP* **P 00 43 15.5 +1.7**
comp=Z,6.3nm,1.1s
SQTA Sankt Quirin 78.00 339 *epP* **P 00 43 16.1 +1.9**
comp=Z,1.2nm,0.4s
ABTA Abfaltersbach 78.15 338 *epP* **P 00 43 16.7 +1.7**
comp=Z,6.7nm,0.9s
KIRS Kirsehir-Merke 78.15 320 ⇑P **P 00 43 16.9 +1.7**
PRED Cave del Predi 78.18 337 P **P 00 43 15.9 +0.7**
PRED IAmb IAmb 00 43 18.4
comp=Z,5.0nm,0.8s
DAVA Damuels 78.23 340 *epP* **P 00 43 17.3 +1.8**
comp=Z,7.8nm,1.1s
FETA Feichten 78.30 339 *epP* pP 00 43 18.1 -1.0
comp=Z,5.1nm,1.1s
ASAR Alice Springs 78.34 204 P **P 00 43 16.4 +0.3**
comp=Z,0.5nm,0.7s,baz=10,slow=5.6,SNR=5.8
comp=Z,0.5nm,0.7s
BOVS Bovan 78.52 330 ⇓P **P 00 43 17.7 +0.7**
UOSS Minazif 78.89 296 P **P 00 43 19.2 -0.1**
TUE Stuetta 79.12 340 **P 00 43 20.5 0.0**
TUE IAmb IAmb 00 43 25.8
comp=Z,6.2nm,0.8s
CSS Mathiatis 81.97 318 P **P 00 43 35.5 -0.3**
CSS IAmb IAmb 00 43 38.0
comp=Z,6.3nm,0.7s
MMAI Mount Meron Ar 82.76 316 P **P 00 43 40.9 +0.9**
comp=Z,4.2nm,0.6s,baz=28,slow=6.0,SNR=14
MMAI LR LR 01 26 59.4
comp=Z,74nm,18.2s,baz=53,slow=40
comp=Z,4.2nm,0.6s
RAYN Ar Rayn 85.83 303 **P 00 43 55.6 -0.1**
RAYN IAmb IAmb 00 43 57.3
comp=Z,3.4nm,0.8s
RAYN Ar Rayn 85.83 303 P **P 00 43 55.6 -0.1**
RAYN pmax pmax
comp=Z,3.0nm,0.8s
ESDC Sonseca Array 88.06 348 P **P 00 44 06.0 -0.3**
comp=Z,0.6nm,0.8s,baz=0.0,slow=4.9,SNR=4.8
comp=Z,0.6nm,0.8s

---

*IDC **28** 00:33:11.8±0.6, 51°.52N×159°.85E, h0km, mb4.2/30, mbtmp4.2/34, ML4.8/2, MS3.7/7, Error ellipse: s-maj=14.2km s-min=12.2km az=172.0*
*NEIC **28** 00:33:15.0±1.4, 51°.73N±0°.09×159°.7E±0°.1, h10km±1km, mb4.6/60, Error ellipse: s-maj=14.7km s-min=11.7km az=191.0*
*KRSC **28** 00:33:14.3±1.7, 51°.54N×160°.08E, h60km±29km, Mc4.0, Ml4.7*
*MOS **28** 00:33:16.2±0.8, 51°.54N×159°.99E, h52km, mb4.8/30, Error ellipse: s-maj=9.1km s-min=4.4km az=104.4*
ISC 28 00:33:13.7±1.8, 51°.57N±0°.04×159°.98E±0°.04, h10km±10km, n293, σ1°.24/317, mb4.5/92, MS4.2/8, 17C-20D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.21**	**282**	PN	**Pn**	**00 33 37.0**	**+0.4**
KDTR				S	**Sb**	**00 33 52.6**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.21**	**282**	*eP*	**Pn**	**00 33 37.1**	**+0.4**
KDTR				*eS*	**Sb**	**00 33 52.7**	**+0.4**
RUS	**Russkaya**	**1.25**	**314**	PN	**Pn**	**00 33 37.6**	**+0.4**
RUS				S	**Sb**	**00 33 54.0**	**+0.4**
RUS	**Russkaya**	**1.25**	**314**	*eP*	**Pn**	**00 33 37.6**	**+0.4**
RUS				*eS*	**Sb**	**00 33 54.0**	**+0.4**
MTVR	**Mutnovka**	**1.44**	**310**	PN	**Pn**	**00 33 40.2**	**+0.3**
MTVR				S	**Sn**	**00 33 59.4**	**+0.4**
MTVR	**Mutnovka**	**1.44**	**310**	*eP*	**Pn**	**00 33 40.3**	**+0.3**
MTVR				*eS*	**Sn**	**00 33 59.4**	**+0.4**
SPN	**Mys Shipunski**	**1.53**	**1**	PN	**Pn**	**00 33 41.6**	**+0.5**
SPN				S	**Sn**	**00 34 00.6**	**-0.5**
SPN	**Mys Shipunski**	**1.53**	**1**	*eP*	**Pn**	**00 33 41.7**	**+0.5**
SPN				*eS*	**Sn**	**00 34 00.7**	**-0.5**
GRL	**Gorelyy**	**1.54**	**311**	PN	**Pb**	**00 33 43.1**	**+0.8**
GRL				S	**Sb**	**00 34 03.6**	**+1.8**
GRL	**Gorelyy**	**1.54**	**311**	*eP*	**Pb**	**00 33 43.1**	**+0.8**
GRL				*eS*	**Sb**	**00 34 03.7**	**+1.8**
DALK	**Dalny**	**1.65**	**333**	PN	**Pn**	**00 33 43.8**	**+1.2**
DALK				S	**Sb**	**00 34 05.2**	**+0.3**
DALK	**Dalny**	**1.65**	**333**	*eP*	**Pn**	**00 33 43.9**	**+1.2**
DALK				*eS*	**Sb**	**00 34 05.3**	**+0.3**
NLC	**Nalytchevo**	**1.65**	**347**	PN	**Pn**	**00 33 43.6**	**+0.9**
NLC	**Nalytchevo**	**1.65**	**347**	*eP*	**Pn**	**00 33 43.6**	**+0.9**
PET	**Petropavlovsk**	**1.67**	**331**	Pn	**Pn**	**00 33 42.1**	**-0.9**
PET	**Petropavlovsk**	**1.67**	**331**	PN	**Pb**	**00 33 44.3**	**-0.2**
PET				S	**Sb**	**00 34 06.6**	**+1.0**
PET	**Petropavlovsk**	**1.67**	**331**	*eP*	**Pb**	**00 33 44.4**	**-0.2**
PET				*eS*	**Sb**	**00 34 06.7**	**+1.0**
KRMR	**Karymshinskiy**	**1.70**	**319**	PN	**Pn**	**00 33 44.4**	**+1.0**
KRMR				S	**Sn**	**00 34 05.0**	**-0.2**
KRMR	**Karymshinskiy**	**1.70**	**319**	*eP*	**Pn**	**00 33 44.4**	**+1.0**
KRMR				*eS*	**Sn**	**00 34 05.0**	**-0.2**
INSR	**Institute**	**1.72**	**331**	PN	**Pn**	**00 33 44.9**	**+1.2**
INSR				S	**Sb**	**00 34 06.9**	**-0.2**
INSR	**Institute**	**1.72**	**331**	*eP*	**Pn**	**00 33 44.9**	**+1.2**
INSR				*eS*	**Sb**	**00 34 06.9**	**-0.2**
UGLR	**Uglovaya**	**1.79**	**337**	PN	**Pb**	**00 33 47.5**	**+0.9**
UGLR	**Uglovaya**	**1.79**	**337**	*eP*	**Pb**	**00 33 47.6**	**+0.9**
SDLR	**Sedlovina**	**1.84**	**339**	PN	**Pb**	**00 33 47.3**	**-0.1**
SDLR	**Sedlovina**	**1.84**	**339**	*eP*	**Pb**	**00 33 47.4**	**-0.1**
AVH	**Avacha**	**1.86**	**336**	PN	**Pb**	**00 33 48.3**	**+0.5**
AVH	**Avacha**	**1.86**	**336**	*eP*	**Pb**	**00 33 48.4**	**+0.5**
KOK	**Koryaka**	**1.91**	**335**	PN	**Pb**	**00 33 49.3**	**+0.6**
KOK	**Koryaka**	**1.91**	**335**	*eP*	**Pb**	**00 33 49.3**	**+0.6**
KRX	**Arik**	**1.97**	**336**	PN	**Pn**	**00 33 47.9**	**+0.7**
KRX	**Arik**	**1.97**	**336**	*eP*	**Pn**	**00 33 48.0**	**+0.7**
PAU	**Pauzhetka**	**1.98**	**268**	PN	**Pb**	**00 33 49.2**	**-0.6**
PAU				S	**Sn**	**00 34 13.7**	**+1.6**
PAU	**Pauzhetka**	**1.98**	**268**	*eP*	**Pb**	**00 33 49.3**	**-0.6**
PAU				*eS*	**Sn**	**00 34 13.8**	**+1.6**
PEA0B	**Petropavlovsk-**	**2.08**	**319**	Pn	**Pn**	**00 33 48.5**	**-0.2**
PEA0B	**Petropavlovsk-**	**2.08**	**319**	PN	**Pn**	**00 33 50.1**	**+1.4**
PEA0B				S	**Sn**	**00 34 15.3**	**+0.6**
PETK	**Petropavlovsk-**	**2.08**	**319**	Pn	**Pn**	**00 33 48.5**	**-0.1**
PETK	**Petropavlovsk-**	**2.08**	**319**	Pn	**Pn**	**00 33 49.8**	**+1.1**
	129nm,0.4s,baz=97,slow=31,SNR=6.3						
PETK				Lg	Lg	00 34 19.7	
	81nm,0.3s,baz=102,slow=20,SNR=5.4						
APC	**Apacha**	**2.21**	**309**	PN	**Pb**	**00 33 53.0**	**-0.6**
APC				S	**Sb**	**00 34 21.2**	**+0.3**
APC	**Apacha**	**2.21**	**309**	*eP*	**Pb**	**00 33 53.0**	**-0.6**
APC				*eS*	**Sb**	**00 34 21.3**	**+0.3**
GNL	**Ganaly**	**2.47**	**331**	PN	**Pn**	**00 33 55.5**	**+1.5**
GNL	**Ganaly**	**2.47**	**331**	*eP*	**Pn**	**00 33 55.6**	**+1.5**
KII	**Karymskiy**	**2.50**	**353**	PN	**Pn**	**00 33 56.9**	**+2.6**
KII	**Karymskiy**	**2.50**	**353**	*eP*	**Pn**	**00 33 57.0**	**+2.6**
SKR	**Severo-Kuril's**	**2.59**	**252**	PN	**Pn**	**00 33 56.8**	**+1.2**
SKR				S	**Sn**	**00 34 26.4**	**-0.6**
SKR	**Severo-Kuril's**	**2.59**	**252**	*eP*	**Pn**	**00 33 56.8**	**+1.2**
SKR				*eS*	**Sn**	**00 34 26.5**	**-0.6**
MKZ	**Mys Kozlova**	**3.17**	**19**	PN	**Pn**	**00 34 03.7**	**+0.1**
MKZ				S	**Sn**	**00 34 38.7**	**-2.8**
MKZ	**Mys Kozlova**	**3.17**	**19**	*eP*	**Pn**	**00 34 03.8**	**+0.1**
MKZ				*eS*	**Sn**	**00 34 38.8**	**-2.8**
TUMD	**Tumrok D**	**3.65**	**4**	PN	**Pn**	**00 34 11.2**	**+1.0**
TUMD	**Tumrok D**	**3.65**	**4**	*eP*	**Pn**	**00 34 11.3**	**+1.0**
KBTR	**Krutoberegovo**	**4.94**	**19**	PN	**Pn**	**00 34 29.5**	**+1.6**
KBTR	**Krutoberegovo**	**4.94**	**19**	*eP*	**Pn**	**00 34 29.5**	**+1.6**
SHEM	**Shemya Is, Ala**	**8.76**	**77**	Pn	**Pn**	**00 35 20.4**	**+0.1**
	7.7nm,0.3s,baz=265,slow=19,SNR=1.8						
	69nm,0.6s						
SMY	**Shemya**	**8.76**	**77**	Pn	**Pn**	**00 35 22.0**	**+1.7**
MA2	**Magadan**	**9.56**	**331**	LR	LR	00 39 36.8	
	comp=Z,287nm,20.2s,baz=176,slow=40						

SEY Seymchan 12.10 343 LR LR 00 41 21.2
comp=Z,438nm,18.5s,baz=148,slow=40
JKA Kamikawa-asahi 13.83 244 Pn **Pn 00 36 29.9 +0.3**
ASAJ Asahikawa 13.83 244 Pn **Pn 00 36 31.1 +1.4**
0.8nm,0.3s,baz=44,slow=16,SNR=4.1
ASAJ LR LR 00 42 58.1
comp=Z,354nm,18.2s,baz=129,slow=43
ASAJ Asahikawa 13.83 244 P **Pn 00 36 29.9 +0.3**
ERM Erimo 14.94 237 Pn **Pn 00 36 43.7 -1.0**
ERM Erimo 14.94 237 P **Pn 00 36 43.7 -1.0**
BILL Bilibino 16.81 8 **P 00 37 10.3 -0.6**
BILL Bilibino 16.81 8 *eP* **Pn 00 37 08.7 -0.1**
TEY Ternei 16.83 256 *eP* **P 00 37 12.3 +1.0**
KLR Kul'dur 18.10 274 **P 00 37 26.0 +0.6**
7.7nm,0.8s,baz=72,slow=9.2,SNR=9.2
KLR LR LR 00 45 17.2
comp=Z,299nm,18.1s,baz=81,slow=40
KLR Kul'dur 18.10 274*d i*P **P 00 37 27.5 +2.1**
YAK Yakutsk 19.42 314 P **P 00 37 37.2 -2.6**
YAK IAmb IAmb 00 37 39.5
comp=Z,26nm,0.8s
YAK Yakutsk 19.42 314 P **P 00 37 38.1 -1.7**
comp=Z,2.0nm,0.3s,baz=87,slow=0.9,SNR=6.2
YAK LR LR 00 45 54.8
comp=Z,122nm,21.2s,baz=148,slow=39
comp=Z,24nm,0.7s
YAK Yakutsk 19.42 314 *eP* **P 00 37 37.6 -2.2**
YAK *eS* **S 00 41 20.9 +1.8**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,15nm,1.4s
YAK pmax pmax
comp=Z,100nm,3.3s
YAK pmax pmax
comp=N,101nm,6.3s
YAK pmax pmax
comp=E,129nm,6.4s
YAK smax smax
comp=E,108nm,4.8s
YAK smax smax
comp=N,44nm,4.3s
YAK MLR MLR
comp=Z,408nm,24.0s
YAK MLR MLR
comp=N,184nm,18.0s
YAK MLR MLR
comp=E,104nm,12.0s
USRK Ussuriysk Ar. 20.08 259 P **P 00 37 44.8 -2.3**
USRK Ussuriysk Ar. 20.08 259 P **P 00 37 44.4 -2.7**
comp=E,5.2nm,0.8s,baz=54,slow=12,SNR=5.2
USRK Ussuriysk Ar. 20.08 259 P **P 00 37 44.8 -2.3**
JSD Sado 20.40 237 P **P 00 37 50.6 0.0**
HEH HeiHe 20.49 279 *eP* **P 00 37 52.8 +1.3**
HEH LR LR
comp=N,260nm,14.3s
HEH LR LR
comp=E,560nm,13.5s
HEH LR LR
comp=Z,610nm,13.7s
MDJ Mudanjiang 21.35 263 P **P 00 37 58.8 -2.0**
MDJ Mudanjiang 21.35 263 P **P 00 37 58.8 -2.0**
MDJ pmax pmax
comp=Z,14nm,1.5s
MJB9 Matsu-Tunnel 21.57 234 **P 00 38 03.4 +0.2**
MJB9 IAmb IAmb 00 38 10.9
comp=Z,16nm,0.8s
MAJO Matsushiro 21.57 234 **P 00 38 02.9 -0.3**
MAJO IAmb IAmb 00 38 09.9
comp=Z,17nm,0.8s
MAJO Matsushiro 21.57 234 *eP* **P 00 38 03.9 +0.7**
MAJO pmax pmax
comp=Z,54nm,2.5s
MJAR Matsushiro Arr 21.57 234 **P 00 38 05.8 +2.5**
comp=Z,7.6nm,0.8s,baz=27,slow=9.2,SNR=7.7
BNX BinXian 22.17 268 ⇓P **P 00 38 10.3 +0.7**
BNX pmax pmax
comp=Z,14nm,0.8s
JGF Kuroka 22.73 234 P **P 00 38 16.3 +0.5**
INU Inuyama 23.10 234 **P 00 38 19.4 -0.1**
INU IAmb IAmb 00 38 23.8
comp=Z,25nm,0.9s
C16K Lisburne Hills 23.62 32 P **P 00 38 25.4 +1.0**
C16K IAmb IAmb 00 38 35.3
comp=Z,16nm,1.3s
TIXI Tiksi 24.45 337 **P 00 38 31.2 -0.9**
TIXI IAmb IAmb 00 38 36.1
comp=Z,8.9nm,0.8s
TIXI Tiksi 24.45 337 P **P 00 38 31.3 -0.9**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
M17K Holitna River 25.04 50 P **P 00 38 38.9 +1.3**
M17K IAmb IAmb 00 38 49.9
comp=Z,14nm,1.1s
HIA Hailar 25.52 281 **P 00 38 40.6 -1.6**
HIA Hailar 25.52 281*d i*P **P 00 38 41.1 -1.0**
HIA pmax pmax
comp=Z,29nm,0.9s
KSRS Korea Array 26.61 251 P **P 00 38 50.2 -1.8**
comp=Z,1.9nm,0.7s,baz=50,slow=9.7,SNR=7.3
comp=Z,1.9nm,0.7s
KSAR Wonju Array Be 26.64 251 P **P 00 38 51.9 -0.4**
KSAR Wonju Array Be 26.64 251 P **P 00 38 51.9 -0.4**
B20K Meade River 27.00 31 P **P 00 38 56.3 +1.0**
JNU Nakatsue 28.05 240 P **P 00 39 05.3 +0.3**
JNU Nakatsue 28.05 240 P **P 00 39 02.8 -2.2**
comp=Z,2.9nm,0.8s,baz=92,slow=17,SNR=1.2
comp=Z,2.9nm,0.8s
KNK Knik Glacier 29.35 50 P **P 00 39 17.2 +0.9**
ILAR Eielson Array 29.96 43 P **P 00 39 22.1 +0.4**
comp=Z,0.6nm,0.8s,baz=280,slow=5.8,SNR=3.4
comp=Z,0.6nm,0.8s
D25K Kavik River 30.48 34 P **P 00 39 27.6 +1.3**
H11N2 WAKE ISLAND Hy 32.23 168 T T 01 13 44.8
baz=352,slow=76,SNR=214
H11N3 WAKE ISLAND Hy 32.25 168 T T 01 13 42.8
baz=352,slow=76,SNR=144
H11N1 WAKE ISLAND Hy 32.25 168 T T 01 13 45.6
baz=352,slow=76,SNR=165
BCAR Beaver Creek A 32.30 46 P **P 00 39 43.9 +1.5**
H11S1 WAKE ISLAND Hy 33.41 168 T T 01 15 21.8
baz=353
H11S3 WAKE ISLAND Hy 33.42 168 T T 01 15 22.0
baz=353
H11S2 WAKE ISLAND Hy 33.43 168 T T 01 15 26.7
baz=353
ULN Ulaanbaatar 33.80 285 P **P 00 39 55.2 -0.6**
ULN Ulaanbaatar 33.80 285 P **P 00 39 55.2 -0.6**
ULN pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 34.21 285 P **P 00 39 57.8 -1.5**
comp=Z,1.3nm,0.6s,baz=70,slow=6.9,SNR=7.8
comp=Z,1.3nm,0.6s
SONM Songino Array 34.21 285 *eP* **P 00 39 58.4 -0.9**
SONM pmax pmax
comp=Z,1.0nm,0.6s
HHC Hu-ho-hao-te 34.58 271 *eP* **P 00 40 01.8 -0.8**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,72nm,5.6s
HHC LR LR
comp=N,140nm,11.5s
HHC LR LR
comp=E,230nm,12.2s
HHC LR LR
comp=Z,290nm,13.7s
HNS HongShan 34.68 264 ⇑P **P 00 40 04.3 +1.0**
HNS pmax pmax
comp=Z,7.0nm,0.8s
INK Inuvik 35.13 36 P **P 00 40 07.3 +0.5**
comp=Z,1.5nm,0.7s,baz=304,slow=8.6,SNR=4.2
comp=Z,1.5nm,0.7s
NJ2 Nanjing 35.72 253 *eP* **P 00 40 11.5 -0.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NRIK Noril'sk 37.12 326 P **P 00 40 22.8 -1.1**
comp=Z,1.5nm,0.3s,baz=123,slow=6.9,SNR=4.0
comp=Z,1.5nm,0.3s
NRIK Noril'sk 37.12 326 *i* P **P 00 40 22.7 -1.1**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
A36M Sachs Harbour 37.48 30 **P 00 40 28.6 +1.8**
C36M Paulatuk 38.35 34 P **P 00 40 35.4 +1.2**

GTA Gaotai 42.73 278 *eP* **P 00 41 11.0 +0.1**
GTA pP sP 00 41 16.5 +3.0
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA LR LR
comp=N,190nm,14.3s
GTA LR LR
comp=E,210nm,14.3s
GTA LR LR
comp=Z,310nm,15.9s
EUNU Eureka 43.45 13 **P 00 41 17.5 +1.3**
EUNU IAmb IAmb 00 41 18.9
comp=Z,8.0nm,0.9s
ZAA0 Zalesovo Array 43.56 304 P **P 00 41 15.4 -1.9**
ZALV Zalesovo Beam 43.56 304 **P 00 41 15.0 -2.3**
ZALV Zalesovo Beam 43.56 304 P P 00 41 12.7 -4.5
comp=Z,1.4nm,0.5s,baz=68,slow=5.3,SNR=6.8
ZALV PcP **PcP 00 43 04.5 -0.2**
comp=Z,0.3nm,0.4s,baz=105,slow=1.6,SNR=1.6
ZALV Zalesovo Beam 43.56 304 *eP* **P 00 41 15.5 -1.8**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 44.34 41 P **P 00 41 22.8 -0.7**
comp=Z,0.7nm,0.8s,baz=302,slow=8.0,SNR=4.9
comp=Z,0.7nm,0.8s
RES Resolute Bay 44.77 21 P **P 00 41 27.6 +0.9**
comp=Z,1.1nm,0.6s,baz=296,slow=6.9,SNR=4.6
comp=Z,1.1nm,0.6s
WMQ Urumqi 47.42 291 *eP* **P 00 41 49.5 +1.3**
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ LR LR
comp=Z,100nm,24.1s
KURK Kurchatov 48.49 303 **P 00 41 54.8 -1.4**
KURK Kurchatov 48.49 303 P **P 00 41 55.6 -0.6**
KURBB Kurchatov Arra 48.59 303 P **P 00 41 55.6 -1.4**
comp=Z,13nm,0.8s,baz=61,slow=7.8,SNR=29
comp=Z,13nm,0.8s
SPITS Spitsbergen Ar 48.63 351 P **P 00 41 56.0 -1.0**
comp=Z,16nm,0.8s,baz=57,slow=9.1,SNR=29
SPITS PcP **PcP 00 43 22.3 +0.1**
comp=Z,1.7nm,0.4s,baz=359,slow=6.7,SNR=1.4
comp=Z,16nm,0.8s
SPB2 Spitsbergen Ar 48.63 351 **P 00 41 57.4 +0.4**
MK31 Makanchi Array 48.77 297*c i*P **P 00 41 57.1 -1.3**
MKAR Makanchi Array 48.77 297 P **P 00 41 57.1 -1.4**
MKAR Makanchi Array 48.77 297 P **P 00 41 57.3 -1.1**
comp=Z,2.5nm,0.5s,baz=55,slow=7.1,SNR=15
comp=Z,2.5nm,0.5s
MAKZ Makanchi 48.93 297 **P 00 41 57.9 -1.8**
MAKZ IAmb IAmb 00 41 59.1
comp=Z,4.2nm,0.8s
MAKZ Makanchi 48.93 297 P **P 00 41 57.9 -1.8**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
PZH PanZhiHua 50.12 263 P **P 00 42 09.0 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
BLKN Baker Lake 50.41 33 **P 00 42 11.7 +1.1**
BLKN IAmb IAmb 00 42 13.2
comp=Z,6.6nm,0.9s
BVAR Borovoye Array 51.29 309 P **P 00 42 16.1 -1.4**
comp=Z,3.9nm,0.5s,baz=54,slow=7.1,SNR=15
comp=Z,3.9nm,0.5s
BRVK Borovoye 51.32 309 **P 00 42 16.2 -1.5**
BRVK IAmb IAmb 00 42 16.9
comp=Z,9.2nm,1.2s
BRVK Borovoye 51.32 309 P **P 00 42 16.2 -1.5**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
ARTI Arti 54.58 318 P **P 00 42 40.2 -1.4**
ARTI IAmb IAmb 00 42 41.1
comp=Z,8.3nm,1.1s
ARTI Arti 54.58 318*c i*P **P 00 42 40.1 -1.6**
ARTI 00 43 41.2
ARTI 00 44 38.6
ARTI S **S 00 50 20.8 0.0**
ARTI SS **SS 00 53 58.3 -4.3**
ARTI pmax pmax
comp=Z,7.0nm,1.1s
ARCES ARCESS Array B 54.72 342 P **P 00 42 41.8 -0.8**
comp=Z,7.0nm,0.7s,baz=29,slow=8.3,SNR=12
comp=Z,7.0nm,0.7s
ARCES ARCESS Array B 54.72 342 *eP* **P 00 42 42.7 +0.2**
ARCES pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 55.70 297 P **P 00 42 49.4 -0.8**
AAK IAmb IAmb 00 42 51.0
comp=Z,7.5nm,1.3s
AAK Ala-Archa 55.70 297 *eP* **P 00 42 49.9 -0.3**
AAK pmax pmax
comp=Z,6.0nm,1.2s
NVAR Mina Array Bea 56.34 69 P **P 00 42 54.3 -0.6**
comp=Z,0.4nm,0.5s,baz=307,slow=8.1,SNR=1.5
comp=Z,0.4nm,0.5s
SHL Shillong 56.93 270 P **P 00 42 59.0 -0.2**
SHL IAmb IAmb 00 43 01.4
comp=Z,11nm,1.2s
SHL Shillong 56.93 270 P **P 00 42 59.0 -0.2**
SHL pmax pmax
comp=Z,11nm,1.2s
CHTO Chiang Mai 57.54 259 P **P 00 43 03.6 +0.3**
CHTO IAmb IAmb 00 43 06.4
comp=Z,5.4nm,0.9s
CHTO Chiang Mai 57.54 259 P **P 00 43 03.6 +0.3**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 57.58 300 **P 00 43 01.9 -1.4**
KK31 IAmb IAmb 00 43 03.6
comp=Z,5.2nm,1.0s
KK31 Karatay Array 57.58 300 P **P 00 43 01.9 -1.4**
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 57.58 300 **P 00 43 02.0 -1.3**
KKAR Karatay Array 57.58 300 P **P 00 43 02.0 -1.3**
CMAR Chiang Mai Arr 57.81 259 P **P 00 43 06.2 +1.0**
comp=Z,0.9nm,0.3s,baz=25,slow=7.4,SNR=7.2
comp=Z,0.9nm,0.3s
PDAR Pinedale Array 58.34 60 P **P 00 43 09.9 +0.9**
comp=Z,0.5nm,0.8s,baz=268,slow=18,SNR=2.5
comp=Z,0.5nm,0.8s
ABKAR Akbulak array 58.74 311 **P 00 43 09.6 -1.7**
ABKAR Akbulak array 58.74 311 **P 00 43 09.6 -1.7**
ABKAR IAmb IAmb 00 43 12.1
comp=Z,3.8nm,0.8s
FRB Frobisher Bay 58.94 23 P **P 00 43 12.4 -0.1**
comp=Z,2.1nm,0.9s,baz=340,slow=7.0,SNR=3.6
comp=Z,2.1nm,0.9s
BRDH Bariadhala 59.18 268 LR LR 01 09 43.6
comp=Z,75nm,18.4s,baz=104,slow=37
BTK Batken 59.48 297 **P 00 43 15.7 -1.0**
BTK IAmb IAmb 00 43 17.1
comp=Z,7.9nm,1.1s
BTK Batken 59.48 297 P **P 00 43 15.7 -1.0**
BTK pmax pmax
comp=Z,8.0nm,1.1s
GAR Garm 60.49 296 **P 00 43 22.4 -1.3**
VAF Ylistaro 60.90 339 *eP* **P 00 43 26.3 +0.4**
SIMJ Simiganj 61.46 297 P **P 00 43 29.4 -0.9**
SIMJ IAmb IAmb 00 43 31.5
comp=Z,3.6nm,0.8s
FINES FINESS Array B 61.50 337 P **P 00 43 29.9 -0.2**
FINES FINESS Array B 61.50 337 P **P 00 43 30.0 0.0**
comp=Z,7.0nm,0.8s,baz=58,slow=7.2,SNR=10
comp=Z,7.0nm,0.8s
FINES FINESS Array B 61.50 337 *eP* **P 00 43 30.5 +0.5**
FINES pmax pmax
comp=Z,7.0nm,0.8s
NIL Nilore 62.57 290 **P 00 43 37.2 -0.6**
NIL Nilore 62.57 290 P **P 00 43 37.2 -0.6**
NIL pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 63.77 328⇑*eP* **P 00 43 43.6 -1.6**
OBN *e* 00 46 09.1
OBN *e*S S 00 52 44.8 +25
OBN pmax pmax
comp=Z,3.0nm,1.0s
OBN MLR MLR
comp=Z,126nm,16.0s
VSU Vasula 63.90 335 *eP* **P 00 43 45.7 -0.4**
MTSE Matsula 64.44 336 *eP* **P 00 43 49.6 0.0**
NC204 NORSAR Array S 64.85 344 P **P 00 43 52.3 0.0**
NC204 IAmb IAmb 00 43 58.8
comp=Z,8.5nm,1.1s

NB2 NORSAR Subarra 64.99 344 P **P 00 43 53.6 +0.3**
comp=Z,2.8nm,0.8s,baz=23,slow=6.5
NOA NORSAR Array B 64.99 344 P **P 00 43 52.8 -0.5**
comp=Z,2.2nm,0.8s,baz=21,slow=6.7,SNR=9.4
comp=Z,2.2nm,0.8s
NOA NORSAR Array B 64.99 344 *eP* **P 00 43 53.8 +0.5**
NOA pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 65.38 342 P **P 00 43 55.7 -0.1**
comp=Z,3.8nm,0.4s,baz=49,slow=4.7,SNR=17
comp=Z,3.8nm,0.4s
IIGN Ignalina 66.75 333 *eP* **P 00 44 05.1 +0.5**
MNK Minsk 67.01 332 *i* P **P 00 44 05.9 -0.4**
MNK *i* 00 46 33.8
MNK *i* PPP PPP 00 48 09.2
MNK *i* S **S 00 53 00.2 +0.8**
MNK *i* SS **SS 00 57 20.7 +3.8**
MNK pmax pmax
comp=N,4.0nm,0.9s
MNK pmax pmax
comp=Z,29nm,0.8s
MNK pmax pmax
comp=E,12nm,0.9s
MNK MLR MLR
comp=E,84nm,15.0s
MNK MLR MLR
comp=Z,110nm,17.0s
MNK MLR MLR
comp=N,67nm,14.0s
PABE Paberze 67.23 335 **P 00 44 07.5 -0.1**
PABE Paberze 67.23 335 *eP* **P 00 44 08.3 +0.7**
SUW Suwalki 68.77 334 **P 00 44 17.0 -0.3**
SUW Suwalki 68.77 334 P **P 00 44 17.0 -0.3**
SUW Suwalki 68.77 334 *eP* **P 00 44 17.2 -0.1**
AKASG Malin Array Be 69.89 329 P **P 00 44 24.1 -0.2**
comp=N,12nm,0.7s,baz=31,slow=6.1,SNR=22
comp=N,12nm,0.7s
AKBB Malin Array Si 69.89 329 **P 00 44 24.0 -0.3**
AKBB Malin Array Si 69.89 329 P **P 00 44 24.0 -0.3**
AKBB pmax pmax
comp=Z,19nm,0.9s
KIEV Kiev 69.90 329 **P 00 44 23.8 -0.6**
KIEV Kiev 69.90 329 ⇑P **P 00 44 24.3 -0.1**
KIEV Kiev 69.90 329 P **P 00 44 23.8 -0.6**
KIEV pmax pmax
comp=Z,18nm,0.9s
KBZ Khabaz 70.60 317 P **P 00 44 28.5 -0.3**
comp=Z,2.1nm,0.9s,baz=22,slow=4.6,SNR=3.6
comp=Z,2.1nm,0.9s
KBZ Khabaz 70.60 317 ⇓*i*P **P 00 44 28.7 -0.1**
KBZ pmax pmax
comp=Z,4.0nm,1.1s
TXAR Lajitas Array 71.31 66 P **P 00 44 35.1 +1.6**
TXAR Lajitas Array 71.31 66 P **P 00 44 35.3 +1.8**
comp=Z,0.7nm,0.7s,baz=292,slow=4.3,SNR=4.0
comp=Z,0.7nm,0.7s
TXAR Lajitas Array 71.31 66 P **P 00 44 35.1 +1.6**
SORM Soroca 72.40 328 ⇑P **P 00 44 39.5 0.0**
EKA Eskdalemuir Ar 72.55 350 P **P 00 44 40.2 -0.1**
comp=Z,0.6nm,0.5s,baz=7.0,slow=5.5,SNR=2.2
comp=Z,0.6nm,0.5s
MILM Milestii Mici 73.31 327 ⇓P **P 00 44 45.0 0.0**
KOLS Kolonicke sedl 73.57 332 *eP* **P 00 44 47.3 +0.8**
KOLS pmax pmax
comp=Z,7.0nm,0.7s
KOLS Kolonicke sedl 73.57 332 *eP* **P 00 44 47.3 +0.8**
CLL Collm 73.76 339 **P 00 44 48.1 +0.6**
CLL IAmb IAmb 00 44 50.7
comp=Z,5.2nm,0.8s
CLL Collm 73.76 339 *i* P **P 00 44 48.2 +0.6**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 73.76 339 *i* P **P 00 44 48.2 +0.6**
comp=Z,7.0nm,1.0s
CLL *e*PP **PP 00 47 32.0 +0.7**
BUR08 Bucovina Ar. S 73.84 330 **P 00 44 48.3 0.0**
BUR08 IAmb IAmb 00 44 49.9
comp=Z,7.9nm,0.8s
BURAR Bucovina Array 73.86 330 ⇓P **P 00 44 48.9 +0.5**
DPC Dobruska-Polom 73.87 337 *eP* **P 00 44 49.6 +1.3**
DPC Dobruska-Polom 73.87 337 *eP* **P 00 44 49.6 +1.3**
STEB Steborice 73.89 336 *eP* **P 00 44 49.7 +1.3**
MORC Moravsky Berou 74.09 336 **P 00 44 49.9 +0.3**
MORC IAmb IAmb 00 44 51.8
comp=Z,6.8nm,0.9s
MORC Moravsky Berou 74.09 336 *eP* **P 00 44 51.0 +1.4**
MORC Moravsky Berou 74.09 336 ⇓P **P 00 44 51.0 +1.4**
MORC Moravsky Berou 74.09 336 P **P 00 44 49.9 +0.3**
MORC pmax pmax
comp=Z,7.0nm,0.9s
LANS Liptovska Anna 74.16 334 *eP* **P 00 44 52.3 +2.3**
LANS pmax pmax
comp=Z,6.0nm,0.8s
LANS Liptovska Anna 74.16 334 *eP* **P 00 44 52.3 +2.3**
TESR Tescani 74.38 329 ⇑P **P 00 44 51.7 +0.3**
ARCR ARCALIA 74.60 330 ⇓P **P 00 44 53.1 +0.4**
ONER Baraj Valea Uz 74.62 329 ⇓P **P 00 44 53.7 +1.0**
WRA Warramunga Arr 74.67 205 P **P 00 44 53.1 0.0**
comp=Z,0.4nm,0.7s,baz=15,slow=5.7,SNR=3.6
comp=Z,0.4nm,0.7s
VRAC Vranov 74.76 336 *eP* **P 00 44 55.1 +1.6**
VRAC Vranov 74.76 336 ⇓P **P 00 44 55.3 +1.8**
VRI Vrincioaia 74.93 328 ⇑P **P 00 44 57.2 +2.7**
VYHS Vyhne 74.93 334 *eP* **P 00 44 55.7 +1.2**
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 74.93 334 *eP* **P 00 44 55.7 +1.2**
OZUR 75.03 329 ⇑P **P 00 44 55.7 +0.6**
KRUC Moravsky 75.04 336 *eP* **P 00 44 56.6 +1.5**
CFR Carcaliu 75.06 327 ⇓P **P 00 44 56.0 +0.7**
COVR Voineasa-Covas 75.11 329 ⇓P **P 00 44 56.8 +1.2**
PSZ Piszkesteto 75.16 333 **P 00 44 56.8 +0.9**
PSZ IAmb IAmb 00 44 59.5
comp=Z,3.7nm,0.8s
PSZ Piszkesteto 75.16 333 P **P 00 44 56.8 +0.9**
PSZ pmax pmax
comp=Z,4.0nm,0.8s
GURO Guroymak-BITLI 75.19 314 **P 00 44 57.2 +0.8**
ZVC Zvikov 75.23 338 *eP* **P 00 44 58.0 +1.8**
TPGR Topolog 75.24 327 ⇑P **P 00 44 53.8 -2.6**
BORR Bors 75.37 332 ⇓P **P 00 44 58.0 +1.0**
MODS Modra-Piesok 75.45 335 *eP* **P 00 44 59.1 +1.6**
MODS pmax pmax
comp=Z,11nm,1.0s
MODS Modra-Piesok 75.45 335 *eP* **P 00 44 59.1 +1.6**
DIKM Dikmen 75.47 320 ⇑P **P 00 44 59.1 +1.4**
MLR Muntele Rosu 75.51 329 **P 00 44 58.9 +0.8**
MLR IAmb IAmb 00 45 00.6
comp=Z,6.2nm,0.9s
MLR Muntele Rosu 75.51 329 ⇓P **P 00 44 58.1 +0.1**
MLR Muntele Rosu 75.51 329 P **P 00 44 58.9 +0.8**
MLR pmax pmax
comp=Z,6.0nm,0.9s
KHC Kasperske Hory 75.66 338 *eP* **P 00 45 00.3 +1.6**
KHC Kasperske Hory 75.66 338 *eP* **P 00 45 00.3 +1.6**
CKRC Cesky Krumlov 75.78 337 *eP* **P 00 45 00.3 +0.9**
CKRC Cesky Krumlov 75.78 337 *eP* **P 00 45 00.3 +0.9**
MEM Membach 75.83 343 *dP* **P 00 45 01.1 +1.5**
comp=Z,7.7nm,0.9s
VOIR 75.85 329 ⇑P **P 00 45 01.1 +1.2**
GERES GERESS Array B 75.90 338 P **P 00 45 00.5 +0.4**
GERES GERESS Array B 75.90 338 P **P 00 45 00.7 +0.5**
comp=Z,1.1nm,0.7s,baz=45,slow=4.0,SNR=5.9
comp=Z,1.1nm,0.7s
GERES GERESS Array B 75.90 338 *eP* **P 00 45 01.3 +1.1**
GERES pmax pmax
comp=Z,1.0nm,0.7s
ARR Arges 76.05 329 ⇓P **P 00 45 00.2 -0.9**
TOKA Tokat 76.10 319 **P 00 45 02.3 +0.9**
ICOR Ion Corvin 76.11 327 ⇑P **P 00 45 02.6 +1.4**
BCLA Clavier 76.14 344 *dP* **P 00 45 02.0 +0.6**
comp=Z,4.3nm,0.9s
CONA Conrad Observa 76.23 336 *ep*P **P 00 45 03.5 +1.4**
comp=Z,3.8nm,1.2s
ILGA Ilgaz 76.59 321 **P 00 45 05.2 +0.8**
GZR Gura Zlata 76.60 331 ⇑P **P 00 45 05.0 +0.8**
BZS Buzias 76.75 331 ⇑P **P 00 45 05.5 +0.6**
MARD Mardin 76.77 314 P **P 00 45 09.5 +0.5**
ARSA Arzberg 76.94 336 *ep*P **P 00 45 08.4 +2.4**
comp=Z,3.7nm,1.0s
MORH Mrgy, Hungar 77.07 334 ⇓P **P 00 45 07.3 +0.6**
HERR Herculane 77.18 331 ⇑P **P 00 45 08.1 +0.8**
LESA Schwarzleotal 77.47 338 *ep*P **P 00 45 10.9 +1.9**
comp=Z,3.0nm,1.0s

SOKA	**Soboth**	**77.60**	**336**	*eP*	**P**	**00 45 11.2**	**+1.4**
	comp=Z,4.8nm,1.3s						
BNN	**Bunyan**	**77.61**	**319**		**P**	**00 45 10.3**	**+0.3**
KBA	**Koelnbreinsper**	**77.64**	**337**	*eP*	**P**	**00 45 11.9**	**+1.8**
	comp=Z,17nm,0.8s						
BR131	**Keskin Array S**	**77.75**	**321**		**P**	**00 45 10.9**	**0.0**
BR131				IAmb	IAmb	00 45 12.5	
	comp=Z,6.2nm,1.1s						
BR131	**Keskin Array S**	**77.75**	**321**	*c iP*	**P**	**00 45 11.2**	**+0.3**
BRTR	**Keskin Array B**	**77.75**	**321**		**P**	**00 45 10.8**	**0.0**
BRTR	**Keskin Array B**	**77.75**	**321**	P	**P**	**00 45 10.9**	**0.0**
	comp=Z,3.3nm,0.9s,baz=46,slow=3.6,SNR=12						
	comp=Z,3.3nm,0.9s						
RETA	**Reutte**	**77.85**	**339**	*eP*	**P**	**00 45 14.6**	**+3.4**
	comp=Z,4.0nm,0.9s						
WTTA	**Wattenberg**	**77.86**	**339**	*eP*	**P**	**00 45 15.0**	**+3.6**
	comp=Z,6.2nm,1.0s						
OBKA	**Obir**	**77.88**	**336**	*eP*	**P**	**00 45 14.1**	**+2.7**
	comp=Z,4.2nm,1.1s						
MOTA	**Moosalm**	**77.91**	**339**	*eP*	**P**	**00 45 15.2**	**+3.6**
	comp=Z,2.4nm,0.7s						
SQTA	**Sankt Quirin**	**78.00**	**339**	*eP*	**P**	**00 45 15.8**	**+3.7**
	comp=Z,3.9nm,0.8s						
MDUB	**Mudurnu**	**78.06**	**323**	P	**P**	**00 45 12.1**	**-0.4**
ABTA	**Abfaltersbach**	**78.15**	**338**	*eP*	**P**	**00 45 16.3**	**+3.4**
	comp=Z,8.5nm,1.0s						
KIRS	**Kirsehir-Merke**	**78.15**	**320**	⇓P	**P**	**00 45 14.1**	**+1.1**
PRED	**Cave del Predi**	**78.18**	**337**		**P**	**00 45 13.4**	**+0.4**
PRED				IAmb	IAmb	00 45 16.0	
	comp=Z,5.0nm,0.8s						
FETA	**Feichten**	**78.30**	**339**	*eP*	**P**	**00 45 15.4**	**+1.6**
	comp=Z,2.5nm,0.7s						
ASAR	**Alice Springs**	**78.34**	**204**	P	**P**	**00 45 16.4**	**+2.5**
ASAR	**Alice Springs**	**78.34**	**204**	P	**P**	**00 45 13.9**	**0.0**
	comp=Z,0.2nm,0.6s,baz=14,slow=5.6,SNR=5.3						
	comp=Z,0.2nm,0.6s						
BOVS	**Bovan**	**78.52**	**330**	⇓P	**P**	**00 45 15.1**	**+0.3**
UOSS	**Minazif**	**78.89**	**296**		**P**	**00 45 16.3**	**-0.8**
TUE	**Stuetta**	**79.12**	**340**		**P**	**00 45 18.7**	**+0.4**
TUE				IAmb	IAmb	00 45 22.9	
	comp=Z,5.0nm,0.8s						
NRCA	**Norcia**	**81.67**	**336**		**P**	**00 45 32.4**	**+0.4**
PPT	**Papeete**	**81.67**	**132**	LR	LR	01 16 26.4	
	comp=Z,24nm,18.7s,baz=262,slow=32						
CSS	**Mathiatis**	**81.97**	**318**		**P**	**00 45 33.7**	**+0.1**
CSS				IAmb	IAmb	00 45 35.5	
	comp=Z,6.0nm,0.7s						
MMAI	**Mount Meron Ar**	**82.76**	**316**	P	**P**	**00 45 38.8**	**+1.0**
	comp=Z,3.8nm,0.7s,baz=40,slow=9.2,SNR=6.9						
	comp=Z,3.8nm,0.7s						
RAYN	**Ar Rayn**	**85.83**	**303**		**P**	**00 45 53.4**	**-0.2**
RAYN				IAmb	IAmb	00 46 07.9	
	comp=Z,2.7nm,0.7s						
RAYN	**Ar Rayn**	**85.83**	**303**	P	**P**	**00 45 53.4**	**-0.2**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ESDC	**Sonseca Array**	**88.06**	**348**	P	**P**	**00 46 03.9**	**-0.2**
ESDC	**Sonseca Array**	**88.06**	**348**	P	**P**	**00 46 03.4**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=2.2,slow=3.8,SNR=2.6						
	comp=Z,0.6nm,0.8s						

*NOU **28** 00:39:46.4, 40°.56N×174°.14E, h106km, MLv3.9/19, Cook Strait, New Zealand*
*WEL **28** 00:39:49.4±0.6, 41°.3S×174°.4E±°, h79km±6km, M3.7/27, ML4.0/27, MLv3.7/27, Error ellipse: s-maj=4.4km s-min=3.7km az=98.1, confirmed*
ISC 28 00:39:45.5±1.4, 40°.57S±0°.03×174°.12E±0°.03, h121km±8km, n126, σ1°13/140, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.28**	**213**	P	**Pn**	**00 40 02.7**	**+0.2**
DUWZ				S	**Sn**	**00 40 13.2**	**-2.2**
TCW	**Tory Channel**	**0.65**	**170**	P	**Pn**	**00 40 05.8**	**+1.2**
TCW				S	**Sn**	**00 40 17.9**	**-1.1**
KIW	**Kapiti Island**	**0.67**	**116**	P	**Pn**	**00 40 05.5**	**+0.8**
KIW				S	**Sn**	**00 40 16.9**	**-2.3**
HAVS	**Havelock**	**0.75**	**200**	P	**Pn**	**00 40 06.0**	**+0.7**
HAVS				S	**Sn**	**00 40 18.2**	**-2.1**
PAPS	**Paraparaumu Pr**	**0.75**	**118**	P	**Pn**	**00 40 06.6**	**+1.3**
PAPS				S	**Sn**	**00 40 19.3**	**-1.0**
PWES	**Porirua West**	**0.77**	**137**	P	**Pn**	**00 40 06.8**	**+1.3**
PWES				S	**Sn**	**00 40 19.8**	**-0.9**
OGWZ	**Otaki Gorge**	**0.83**	**108**	P	**Pn**	**00 40 07.1**	**+1.1**
OGWZ				S	**Sn**	**00 40 20.0**	**-1.6**
NNZ	**Nelson**	**0.86**	**221**	P	**Pn**	**00 40 07.2**	**+0.9**
NNZ				S	**Sn**	**00 40 20.5**	**-1.5**
SNZO	**South Karori**	**0.86**	**150**	P	**Pn**	**00 40 06.7**	**+0.4**
SNZO	**South Karori**	**0.86**	**150**	P	**Sn**	**00 40 22.4**	**+0.4**
WEL	**Wellington**	**0.87**	**146**	P	**Pn**	**00 40 07.6**	**+1.3**
TUWZ	**Tuamarina**	**0.87**	**189**	P	**Pn**	**00 40 07.6**	**+1.2**
CAW	**Cannon Point**	**0.90**	**127**	P	**Pn**	**00 40 07.9**	**+1.3**
CAW				S	**Sn**	**00 40 21.6**	**-1.0**
WCDS	**Wanganui Civil**	**0.95**	**49**	P	**Pn**	**00 40 08.6**	**+1.6**
WCDS				S	**Sn**	**00 40 24.2**	**+0.8**
OHWZ	**Ohakea**	**0.98**	**69**	P	**Pn**	**00 40 08.7**	**+1.3**
OHWZ				S	**Sn**	**00 40 24.3**	**+0.4**
TKNZ	**Takaka Hill**	**1.00**	**242**	P	**Pn**	**00 40 08.3**	**+0.7**
TKNZ				S	**Sn**	**00 40 23.4**	**-1.0**
BHW	**Baring Head**	**1.01**	**146**	P	**Pn**	**00 40 08.9**	**+1.2**
WAZ	**Wanganui**	**1.05**	**39**	P	**Pn**	**00 40 09.5**	**+1.5**
HOWZ	**Holdsworth Sta**	**1.11**	**108**	P	**Pn**	**00 40 09.8**	**+1.1**
MRZ	**Mangatainoka R**	**1.11**	**95**	P	**Pn**	**00 40 09.7**	**+1.1**
BSWZ	**Blackbirch Sta**	**1.16**	**189**	P	**Pn**	**00 40 11.1**	**+1.8**
BSWZ				S	**Sn**	**00 40 27.0**	**-0.3**
NMEZ	**Namu Road**	**1.17**	**351**	P	**Pn**	**00 40 10.4**	**+1.1**
NMEZ				S	**Sn**	**00 40 26.9**	**-0.4**
CMWZ	**Cape Campbell**	**1.18**	**177**	P	**Pn**	**00 40 11.8**	**+2.3**
MTW	**Mount Morrison**	**1.20**	**120**	P	**Pn**	**00 40 11.0**	**+1.3**
MSWZ	**Moikau Station**	**1.20**	**135**	P	**Pn**	**00 40 11.1**	**+1.5**
PREZ	**Palmer Road**	**1.22**	**1**	P	**Pn**	**00 40 11.2**	**+1.3**
QRZ	**Quartz Range**	**1.24**	**257**	P	**Pn**	**00 40 10.1**	**+0.1**
QRZ	**Quartz Range**	**1.24**	**257**	P	**Sn**	**00 40 27.1**	**-1.6**
QRZ	**Quartz Range**	**1.24**	**257**	P	**Pn**	**00 40 10.5**	**+0.5**
POWZ	**Post Office Ro**	**1.27**	**83**	P	**Pn**	**00 40 09.7**	**-0.7**
KHEZ	**Kahui Hut**	**1.27**	**356**	P	**Pn**	**00 40 11.3**	**+0.8**
KHEZ	**Kahui Hut**	**1.27**	**356**	P	**Sn**	**00 40 29.6**	**+0.1**
KHEZ	**Kahui Hut**	**1.27**	**356**	P	**Pn**	**00 40 11.7**	**+1.2**
PAWZ	**Paruwai Farm**	**1.28**	**130**	P	**Pn**	**00 40 12.0**	**+1.5**
NEZ	**North Egmont**	**1.29**	**359**	P	**Pn**	**00 40 11.8**	**+1.0**
NBEZ	**Newall Road No**	**1.31**	**351**	P	**Pn**	**00 40 12.2**	**+1.4**
PLWZ	**Palliser**	**1.32**	**140**	P	**Pn**	**00 40 12.4**	**+1.5**
MRNZ	**Matariki Terra**	**1.33**	**231**	P	**Pn**	**00 40 12.4**	**+1.4**
TIWZ	**Tintock**	**1.36**	**99**	P	**Pn**	**00 40 12.7**	**+1.3**
DREZ	**Durham Road**	**1.38**	**2**	P	**Pn**	**00 40 13.0**	**+1.4**
PRWZ	**Pori Road**	**1.41**	**90**	P	**Pn**	**00 40 13.3**	**+1.5**
TMWZ	**Te Maipa**	**1.45**	**113**	P	**Pn**	**00 40 13.7**	**+1.4**
TRWZ	**Traveller**	**1.45**	**126**	P	**Pn**	**00 40 13.8**	**+1.5**
TSZ	**Takapari Road**	**1.49**	**71**	P	**Pn**	**00 40 13.7**	**+0.8**
MHEZ	**Mangahewa**	**1.50**	**6**	P	**Pn**	**00 40 14.6**	**+1.7**
THZ	**Tophouse**	**1.51**	**217**	P	**Pn**	**00 40 14.6**	**+1.5**
VRZ	**Vera Road**	**1.52**	**19**	P	**Pn**	**00 40 14.6**	**+1.4**
MTVZ	**Mangateitei**	**1.57**	**42**	P	**Pn**	**00 40 14.9**	**+1.1**
DVHZ	**Dannevirke**	**1.58**	**81**	P	**Pn**	**00 40 14.7**	**+0.8**
PKVZ	**Pokaka**	**1.58**	**37**	P	**Pn**	**00 40 15.0**	**+0.9**
CPWZ	**Castlepoint**	**1.62**	**103**	P	**Pn**	**00 40 16.2**	**+2.0**
BFZ	**Birch Farm**	**1.62**	**95**	P	**Pn**	**00 40 15.4**	**+1.1**
BFZ	**Birch Farm**	**1.62**	**95**	P	**Sn**	**00 40 35.0**	**-1.3**
BFZ	**Birch Farm**	**1.62**	**95**	P	**Pn**	**00 40 15.6**	**+1.2**
TRVZ	**Turoa**	**1.67**	**41**	P	**Pn**	**00 40 16.3**	**+1.0**
WNVZ	**Wahianoa**	**1.68**	**43**	P	**Pn**	**00 40 16.3**	**+1.1**
MAVZ	**Matarangi**	**1.70**	**41**	P	**Pn**	**00 40 16.9**	**+1.2**
MOVZ	**Moawhango**	**1.71**	**48**	P	**Pn**	**00 40 16.3**	**+0.8**
WHVZ	**Whangaehu Hut**	**1.71**	**42**	P	**Pn**	**00 40 16.9**	**+1.2**
FWVZ	**Far West T-bar**	**1.71**	**40**	P	**Pn**	**00 40 16.8**	**+1.1**
PNHZ	**Pukenui**	**1.72**	**68**	P	**Pn**	**00 40 16.2**	**+0.7**
COVZ	**Chateau Observ**	**1.75**	**39**	P	**Pn**	**00 40 17.0**	**+1.0**
TUVZ	**Tukino**	**1.75**	**43**	P	**Pn**	**00 40 17.4**	**+1.3**
NGZ	**Ngauruhoe**	**1.79**	**40**	P	**Pn**	**00 40 17.6**	**+1.0**
ANWZ	**Angora Road**	**1.80**	**87**	P	**Pn**	**00 40 17.6**	**+1.2**
TWVZ	**Taurewa**	**1.80**	**35**	P	**Pn**	**00 40 17.6**	**+0.9**
SNVZ	**South Ngauruho**	**1.81**	**41**	P	**Pn**	**00 40 17.9**	**+1.1**
NNVZ	**North Ngauruho**	**1.84**	**39**	P	**Pn**	**00 40 18.1**	**+0.9**
OTVZ	**Oturere**	**1.84**	**41**	P	**Pn**	**00 40 18.3**	**+1.1**
WTVZ	**West Tongariro**	**1.84**	**38**	P	**Pn**	**00 40 18.0**	**+0.9**
WPHZ	**Waipukurau**	**1.84**	**75**	P	**Pn**	**00 40 18.0**	**+1.0**
KRVZ	**Karewarewa**	**1.88**	**39**	P	**Pn**	**00 40 18.4**	**+0.8**
ETVZ	**East Tongariro**	**1.88**	**41**	P	**Pn**	**00 40 18.6**	**+1.0**
NTVZ	**North Tongarir**	**1.89**	**40**	P	**Pn**	**00 40 18.7**	**+1.0**
TMVZ	**Te Maari**	**1.89**	**41**	P	**Pn**	**00 40 18.8**	**+1.0**
KHZ	**Kahutara**	**1.90**	**193**	P	**Pn**	**00 40 19.4**	**+1.7**
KHZ	**Kahutara**	**1.90**	**193**	P	**Sn**	**00 40 41.7**	**-0.6**
KHZ	**Kahutara**	**1.90**	**193**	P	**Pn**	**00 40 19.7**	**+2.1**
PRHZ	**Porangahau**	**1.94**	**82**	P	**Pn**	**00 40 19.4**	**+1.2**
KRHZ	**Kereru**	**1.95**	**63**	P	**Pn**	**00 40 18.9**	**+0.5**
KATZ	**Kakaramea**	**2.00**	**38**	P	**Pn**	**00 40 19.9**	**+0.9**
RITZ	**Rihia Road**	**2.08**	**41**	P	**Pn**	**00 40 20.9**	**+1.0**
KWHZ	**Kaweka Forest**	**2.10**	**58**	P	**Pn**	**00 40 20.8**	**+0.5**
DSZ	**Denniston Nort**	**2.11**	**235**	P	**Pn**	**00 40 21.6**	**+1.2**
RATZ	**Rangitukua**	**2.12**	**37**	P	**Pn**	**00 40 21.8**	**+1.2**
HIZ	**Hauiti**	**2.13**	**16**	P	**Pn**	**00 40 21.4**	**+0.8**
HIZ	**Hauiti**	**2.13**	**16**	S	**Sn**	**00 40 46.7**	**-0.7**
HIZ	**Hauiti**	**2.13**	**16**	P	**Pn**	**00 40 21.8**	**+1.2**
PXZ	**Pawanui**	**2.16**	**77**	P	**Pn**	**00 40 21.6**	**+0.6**
WATZ	**Wairara**	**2.23**	**34**	P	**Pn**	**00 40 23.1**	**+1.1**
KAHZ	**Kahuranaki**	**2.25**	**71**	P	**Pn**	**00 40 22.8**	**+0.7**
MCHZ	**McNeill Hill**	**2.27**	**61**	P	**Pn**	**00 40 23.2**	**+0.8**
BKZ	**Black Stump Fm**	**2.30**	**53**	P	**Pn**	**00 40 23.2**	**+0.4**
BKZ	**Black Stump Fm**	**2.30**	**53**	P	**Pn**	**00 40 23.4**	**+0.7**
CKHZ	**Cape Kidnapper**	**2.44**	**69**	P	**Pn**	**00 40 25.2**	**+0.7**
KUTZ	**Kaahu Road**	**2.46**	**33**	P	**Pn**	**00 40 25.9**	**+1.1**
MRHZ	**Matea Rd**	**2.48**	**46**	P	**Pn**	**00 40 25.0**	**0.0**
TLZ	**Tolley Road**	**2.49**	**27**	P	**Pn**	**00 40 26.1**	**+0.9**
GVZ	**Greta Valley S**	**2.53**	**198**	P	**Pn**	**00 40 27.1**	**+1.4**
NMHZ	**Naumai**	**2.53**	**55**	P	**Pn**	**00 40 26.5**	**+0.7**
ARHZ	**Aropaoanui**	**2.56**	**60**	P	**Pn**	**00 40 26.3**	**+0.2**
WPRZ	**Whakapapatarin**	**2.58**	**38**	P	**Pn**	**00 40 26.9**	**+0.5**
LTZ	**Lake Taylor**	**2.61**	**211**	P	**Pn**	**00 40 27.8**	**+1.1**
GRRZ	**Galatos Road**	**2.69**	**35**	P	**Pn**	**00 40 28.9**	**+1.0**
MTHZ	**Maungataniwha**	**2.71**	**52**	P	**Pn**	**00 40 27.9**	**-0.1**
WHHZ	**Waihua**	**2.82**	**59**	P	**Pn**	**00 40 29.6**	**+0.2**
AMCZ	**Amberley**	**2.83**	**202**	P	**Pn**	**00 40 30.6**	**+1.1**
UTU	**Utuhina**	**2.88**	**35**	P	**Pn**	**00 40 31.2**	**+1.0**
TOZ	**Tahuroa Road**	**3.03**	**21**	P	**Pn**	**00 40 33.1**	**+1.0**
SNGZ	**Shannon Statio**	**3.06**	**55**	P	**Pn**	**00 40 32.2**	**-0.4**
KNZ	**Kokohu**	**3.14**	**62**	P	**Pn**	**00 40 32.9**	**-0.6**
OXZ	**Oxford**	**3.17**	**209**	P	**Pn**	**00 40 33.9**	**0.0**
MHGZ	**Mahia Peninsul**	**3.24**	**65**	P	**Pn**	**00 40 34.8**	**0.0**
OKCZ	**Okains Bay**	**3.25**	**194**	P	**Pn**	**00 40 35.9**	**+0.8**
URZ	**Urewera**	**3.27**	**46**	P	**Pn**	**00 40 34.3**	**-0.9**
URZ	**Urewera**	**3.27**	**46**	P	**Pn**	**00 40 34.3**	**-0.9**
TGRZ	**Tauranga**	**3.28**	**31**	P	**Pn**	**00 40 36.8**	**+1.3**
MQZ	**McQueen's Vall**	**3.32**	**199**	P	**Pn**	**00 40 35.9**	**0.0**
PRGZ	**Paritu Road**	**3.33**	**62**	P	**Pn**	**00 40 35.6**	**-0.5**
RIGZ	**Rimuhau**	**3.37**	**58**	P	**Pn**	**00 40 36.3**	**-0.3**
MWZ	**Matawai**	**3.45**	**51**	P	**Pn**	**00 40 36.9**	**-0.9**
RPZ	**Rata Peaks**	**3.89**	**215**	P	**Pn**	**00 40 45.1**	**+1.6**
KUZ	**Kuaotunu**	**4.01**	**19**	P	**Pn**	**00 40 46.0**	**+0.8**
MXZ	**Matakaoa Point**	**4.43**	**49**	P	**Pn**	**00 40 49.6**	**-1.1**
ODZ	**Otahua Downs**	**5.16**	**209**	P	**Pn**	**00 41 01.3**	**+0.9**
JCZ	**Jackson Bay**	**5.29**	**227**	P	**Pn**	**00 41 02.6**	**+0.3**

*IDC **28** 00:41:57.6±1.1, 10°.16N×126°.51E, h0km, mb4.1/13, mbtmp4.1/13, MS3.2/2, Error ellipse: s-maj=50.3km s-min=24.8km az=68.0*
ISC 28 00:42:03.6±0.9, 10°.05N±0°.08×126°.4E±0°.3, h42km, n15, σ1°27/15, mb3.9/13, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.07**	**195**	Pn	**Pn**	**00 42 51.7**	**+2.1**
	43nm,0.3s,baz=266,slow=4.5,SNR=4.0						
DAV				Sn	**Sn**	**00 43 22.2**	**-2.9**
	22nm,0.3s,baz=296,slow=23,SNR=6.5						
DAV				LR	LR	00 43 57.5	
	comp=Z,375nm,21.0s,baz=352,slow=37						
CMAR	**Chiang Mai Arr**	**27.84**	**291**	P	**P**	**00 47 50.5**	**+1.2**
	1.3nm,0.3s,baz=96,slow=9.2,SNR=2.1						
	1.3nm,0.3s						
ASAR	**Alice Springs**	**34.31**	**168**	P	**P**	**00 48 46.8**	**+0.5**
	1.1nm,1.1s,baz=322,slow=8.4,SNR=5.9						
	1.1nm,1.1s						
SONM	**Songino Array**	**41.26**	**340**	P	**P**	**00 49 44.9**	**+0.1**
	1.1nm,0.9s,baz=162,slow=8.6,SNR=5.4						
	1.1nm,0.9s						
STKA	**Stephens Creek**	**44.16**	**161**	LR	LR	01 12 35.5	
	comp=Z,31nm,18.6s,baz=19,slow=42						
MKAR	**Makanchi Array**	**52.26**	**323**	P	**P**	**00 51 10.7**	**-0.1**
	0.9nm,0.6s,baz=121,slow=7.5,SNR=11						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**54.86**	**331**	P	**P**	**00 51 28.7**	**-1.0**
	0.5nm,0.4s,baz=134,slow=4.2,SNR=1.6						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**56.31**	**325**	P	**P**	**00 51 38.7**	**-1.4**
	5.8nm,0.2s,baz=130,slow=6.5,SNR=4.1						
	5.8nm,0.2s						
BVAR	**Borovoye Array**	**61.90**	**325**	P	**P**	**00 52 18.3**	**-0.5**
	0.7nm,0.7s,baz=126,slow=15,SNR=2.8						
	0.7nm,0.7s						
NRIK	**Noril'sk**	**64.25**	**346**	P	**P**	**00 52 34.8**	**+0.8**
	2.1nm,0.7s,baz=115,slow=5.0,SNR=8.0						
	2.1nm,0.7s						
SPITS	**Spitsbergen Ar**	**84.25**	**349**	P	**P**	**00 54 30.6**	**+0.2**
	13nm,1.1s,baz=123,slow=12,SNR=2.1						
	13nm,1.1s						
ARCES	**ARCESS Array B**	**84.43**	**340**	P	**P**	**00 54 31.1**	**-0.4**
	1.4nm,0.6s,baz=61,slow=5.7,SNR=6.8						
	1.4nm,0.6s						
FINES	**FINESS Array B**	**86.13**	**332**	P	**P**	**00 54 40.0**	**0.0**
	4.5nm,1.0s,baz=76,slow=4.9,SNR=6.3						
	4.5nm,1.0s						
NOA	**NORSAR Array B**	**93.00**	**334**	P	**P**	**00 55 12.4**	**-0.1**
	0.4nm,0.8s,baz=66,slow=4.5,SNR=2.2						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**93.91**	**24**	P	**P**	**00 55 15.8**	**-0.9**
	0.2nm,0.7s,baz=306,slow=4.2,SNR=4.6						
	0.2nm,0.7s						

IDC 28 00:48:59.6±1.3, 2°.78S×140°.57E, h0km, mb3.2/2, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=61.6km s-min=12.7km az=117.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.29**	**28**	Pn	Pn	00 49 11.4	+0.2
	baz=252,slow=11						
JAY				Sn	Sb	00 49 18.6	+5.5
	baz=142,slow=19						
WRA	**Warramunga Arr**	**18.11**	**199**	P	P	00 53 14.1	+0.9
	0.2nm,0.3s,baz=14,slow=13,SNR=6.0						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**21.75**	**197**	P	P	00 53 51.9	-1.0
	0.4nm,0.7s,baz=26,slow=9.7,SNR=17						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**70.98**	**322**	P	P	01 00 19.3	+0.1
	0.4nm,0.7s,baz=133,slow=6.3,SNR=2.2						
	0.4nm,0.7s						

*KRSC **28** 00:49:32.8±1.7, 51°.43N×160°.30E, h41km±25km, Ml4.9*
*IDC **28** 00:49:33.9±0.7, 51°.68N×159°.57E, h0km, mb4.1/29, mbtmp4.1/34, ML3.5/4, MS3.8/6, Error ellipse: s-maj=17.2km s-min=12.4km az=148.0*
*NEIC **28** 00:49:34.8±1.8, 51°.56N±0°.09×159°.9E±0°.1, h10km±1km, mb4.5/58, Error ellipse: s-maj=14.4km s-min=11.7km az=182.0*
*MOS **28** 00:49:36.7±1.1, 51°.53N×159°.92E, h41km, mb4.6/23, MS3.7/5, Error ellipse: s-maj=7.6km s-min=3.3km az=100.4*
ISC 28 00:49:35.8±1.2, 51°.54N±0°.05×159°.95E±0°.04, h19km±5km, n299, σ1°16/298, mb4.5/88, MS3.9/9, 27C-22D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.20**	**284**	PN	**Pb**	**00 49 57.9**	**+0.1**
KDTR				S	**Sb**	**00 50 13.4**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.20**	**284**	*eP*	**Pb**	**00 49 58.0**	**+0.1**
KDTR				*eS*	**Sb**	**00 50 13.4**	**+0.5**
RUS	**Russkaya**	**1.26**	**316**	PN	**Pn**	**00 49 58.1**	**-0.3**
RUS	**Russkaya**	**1.26**	**316**	*eP*	**Pn**	**00 49 58.1**	**-0.3**
MTVR	**Mutnovka**	**1.44**	**312**	PN	**Pn**	**00 50 01.4**	**+0.4**
MTVR	**Mutnovka**	**1.44**	**312**	*eP*	**Pn**	**00 50 01.5**	**+0.4**
GRL	**Gorelyy**	**1.54**	**312**	PN	**Pn**	**00 50 03.5**	**+1.2**
GRL	**Gorelyy**	**1.54**	**312**	*eP*	**Pn**	**00 50 03.5**	**+1.2**
GRL				*eS*	**Sg**	**00 50 28.3**	**+2.8**
SPN	**Mys Shipunski**	**1.56**	**2**	PN	**Pn**	**00 50 02.3**	**-0.2**
SPN	**Mys Shipunski**	**1.56**	**2**	*eP*	**Pn**	**00 50 02.4**	**-0.2**
DALK	**Dalny**	**1.67**	**334**	PN	**Pn**	**00 50 03.8**	**-0.1**
DALK	**Dalny**	**1.67**	**334**	*eP*	**Pn**	**00 50 03.8**	**-0.1**
NLC	**Nalytchevo**	**1.68**	**348**	PN	**Pn**	**00 50 04.1**	**0.0**
NLC	**Nalytchevo**	**1.68**	**348**	*eP*	**Pn**	**00 50 04.1**	**0.0**
PET	**Petropavlovsk**	**1.69**	**332**	Pn	**Pn**	**00 50 04.2**	**-0.1**
PET	**Petropavlovsk**	**1.69**	**332**	*e*PN	**Pn**	**00 50 04.1**	**-0.1**
PET				*e*S	**Sn**	**00 50 25.1**	**-0.2**
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				smax	smax		
	comp=N,5μm,0.6s						
PET				smax	smax		
	comp=E,2μm,0.6s						
PET	**Petropavlovsk**	**1.69**	**332**	*e*P	**Pn**	**00 50 05.4**	**+1.1**
PET				*e*S	**Sn**	**00 50 27.3**	**+2.0**
KRMR	**Karymshinskiy**	**1.71**	**320**	PN	**Pn**	**00 50 04.9**	**+0.3**
KRMR	**Karymshinskiy**	**1.71**	**320**	*e*P	**Pn**	**00 50 04.9**	**+0.3**
INSR	**Institute**	**1.74**	**332**	PN	**Pn**	**00 50 05.4**	**+0.4**
INSR	**Institute**	**1.74**	**332**	*e*P	**Pn**	**00 50 05.4**	**+0.4**
UGLR	**Uglovaya**	**1.81**	**338**	PN	**Pn**	**00 50 06.6**	**+0.6**
UGLR	**Uglovaya**	**1.81**	**338**	*e*P	**Pn**	**00 50 06.7**	**+0.6**
SDLR	**Sedlovina**	**1.86**	**340**	PN	**Pn**	**00 50 06.9**	**+0.2**
SDLR	**Sedlovina**	**1.86**	**340**	*e*P	**Pn**	**00 50 07.0**	**+0.2**
AVH	**Avacha**	**1.88**	**337**	PN	**Pn**	**00 50 07.8**	**+0.8**
AVH	**Avacha**	**1.88**	**337**	*e*P	**Pn**	**00 50 07.9**	**+0.8**
KRER	**Koryakskii**	**1.92**	**338**	PN	**Pn**	**00 50 08.2**	**+0.6**
KRER	**Koryakskii**	**1.92**	**338**	*e*P	**Pn**	**00 50 08.2**	**+0.6**
KOK	**Koryaka**	**1.93**	**336**	PN	**Pn**	**00 50 08.7**	**+1.0**
KOK	**Koryaka**	**1.93**	**336**	*e*P	**Pn**	**00 50 08.8**	**+1.0**
PAU	**Pauzhetka**	**1.96**	**269**	PN	**Pn**	**00 50 09.5**	**+1.5**
PAU	**Pauzhetka**	**1.96**	**269**	*e*P	**Pn**	**00 50 09.6**	**+1.5**
KRX	**Arik**	**1.99**	**337**	PN	**Pn**	**00 50 09.0**	**+0.5**
KRX	**Arik**	**1.99**	**337**	*e*P	**Pn**	**00 50 09.1**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.09**	**320**	Pn	**Pn**	**00 50 10.5**	**+0.6**
PEA0B	**Petropavlovsk-**	**2.09**	**320**	PN	**Pn**	**00 50 10.8**	**+0.9**
PEA0B				S	**Sb**	**00 50 39.6**	**+0.9**
PETK	**Petropavlovsk-**	**2.09**	**320**	Pn	**Pn**	**00 50 10.2**	**+0.3**
	comp=E,48nm,0.3s,baz=112,slow=18,SNR=354						
PETK				Lg	Lg	00 50 40.5	
	comp=E,118nm,0.3s,baz=79,slow=36,SNR=10						
PETK				LR	LR	00 50 43.6	
	comp=E,276nm,20.5s,baz=81,slow=38						
APC	**Apacha**	**2.21**	**310**	PN	**Pn**	**00 50 12.7**	**+1.3**
APC	**Apacha**	**2.21**	**310**	*e*P	**Pn**	**00 50 12.7**	**+1.3**
GNL	**Ganaly**	**2.48**	**331**	PN	**Pn**	**00 50 16.7**	**+1.4**
GNL	**Ganaly**	**2.48**	**331**	*e*P	**Pn**	**00 50 16.7**	**+1.4**
SKR	**Severo-Kuril's**	**2.56**	**252**	⇑*i*PN	**Pn**

MAJO IAmb IAmb 00 54 29.3
comp=Z,15nm,0.8s
MAJO Matsushiro 21.54 234 *eP* **P 00 54 23.8 0.0**
MAJO pmax pmax
comp=Z,18nm,0.9s
MJAR Matsushiro Arr 21.54 234 P **P 00 54 23.4 -0.4**
comp=Z,3.7nm,0.9s,baz=25,slow=9.7,SNR=16
MJAR LR LR 01 03 01.0
comp=Z,232nm,20.8s,baz=54,slow=38
comp=Z,3.7nm,0.9s
JGF Kuroka 22.70 234 P **P 00 54 35.4 -0.9**
JGF IAmb IAmb 00 54 52.0
comp=Z,10nm,0.8s
INU Inuyama 23.07 234 P 00 54 39.9 -0.1
INU IAmb IAmb 00 54 55.6
comp=Z,19nm,0.9s
CN2 Changchun 24.31 265 *eP* **P 00 54 50.0 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,80nm,4.0s
F17K Baldwin Pennin 24.39 38 P **P 00 54 52.5 0.0**
TIXI Tiksi 24.47 337 P 00 54 51.9 -1.2
TIXI Tiksi 24.47 337⇑*iP* **P 00 54 52.1 -1.0**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
J17K VABM Dome 24.54 45 P **P 00 54 54.3 +0.4**
E18K Tukpahlearik C 24.96 36 P **P 00 54 57.4 -0.2**
C18K Utukok River 25.20 33 P **P 00 54 59.7 -0.2**
HIA Hailar 25.50 281 P 00 55 01.5 -1.3
HIA Hailar 25.50 281 P **P 00 55 01.5 -1.3**
HIA pmax pmax
comp=Z,21nm,0.7s
F19K Shaleruckik Mo 25.83 38 P 00 55 06.3 +0.8
KSRS Korea Array 26.58 251 P **P 00 55 10.8 -1.7**
comp=Z,1.7nm,0.7s,baz=44,slow=11,SNR=2.4
comp=Z,1.7nm,0.7s
B21K Ikpikpuk River 27.75 32 P 00 55 23.1 +0.3
B21K IAmb IAmb 00 55 46.4
comp=Z,5.1nm,0.9s
JNU Nakatsue 28.01 240 P **P 00 55 27.9 +2.4**
TOLK Toolik Lake Re 29.27 35 P **P 00 55 36.9 +0.4**
ILAR Eielson Array 29.99 43 P **P 00 55 44.7 +1.9**
comp=Z,0.6nm,0.7s,baz=268,slow=6.7,SNR=6.8
comp=Z,0.6nm,0.7s
D25K Kavik River 30.52 34 P **P 00 55 47.9 +0.5**
K27K Chicken 32.11 45 P **P 00 56 01.7 +0.2**
H11N2 WAKE ISLAND Hy 32.21 168 T T 01 30 51.4
baz=350,slow=76,SNR=69
H11N3 WAKE ISLAND Hy 32.22 168 T T 01 31 01.2
baz=350,slow=76,SNR=66
H11N1 WAKE ISLAND Hy 32.23 168 T T 01 31 03.3
baz=350,slow=76,SNR=88
L27K Beaver Creek, 32.32 46 P **P 00 56 04.6 +1.2**
BCAR Beaver Creek A 32.34 46 P **P 00 56 05.2 +1.7**
H11S1 WAKE ISLAND Hy 33.39 168 T T 01 32 46.0
baz=353,slow=74,SNR=11
H11S3 WAKE ISLAND Hy 33.40 168 T T 01 32 49.1
baz=93,slow=74,SNR=4.6
ULN Ulaanbaatar 33.79 285 P **P 00 56 15.7 -0.7**
ULN Ulaanbaatar 33.79 285⇑*iP* **P 00 56 16.5 +0.1**
ULN pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 34.20 285 P **P 00 56 19.9 -0.1**
SONM Songino Array 34.20 285 P **P 00 56 19.5 -0.5**
comp=Z,1.2nm,0.7s,baz=50,slow=6.9,SNR=7.3
SONM LR LR 01 11 34.3
comp=Z,124nm,18.4s,baz=80,slow=39
comp=Z,1.2nm,0.7s
SONM Songino Array 34.20 285 P **P 00 56 19.9 -0.1**
SONM pmax pmax
comp=Z,1.0nm,0.9s
HHC Hu-ho-hao-te 34.56 271 *eP* **P 00 56 22.0 -1.2**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,210nm,4.7s
HNS HongShan 34.66 264 ⇑P **P 00 56 24.8 +0.9**
HNS pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 35.17 36 P **P 00 56 29.2 +1.3**
comp=Z,1.5nm,0.8s,baz=281,slow=5.4,SNR=6.3
comp=Z,1.5nm,0.8s
NJ2 Nanjing 35.69 253 *eP* **P 00 56 32.3 -0.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MOY Mondy 35.74 294 *eP* **P 00 56 33.1 -0.1**
MOY pmax pmax
comp=Z,6.0nm,1.3s
NRIK Noril'sk 37.14 326 P **P 00 56 43.0 -1.8**
comp=Z,1.1nm,0.3s,baz=89,slow=11,SNR=7.9
comp=Z,1.1nm,0.3s
NRIK Noril'sk 37.14 326⇑*iP* **P 00 56 43.4 -1.4**
NRIK pmax pmax
comp=Z,7.0nm,2.2s
A36M Sachs Harbour 37.52 30 P 00 56 49.1 +1.1
A36M IAmb IAmb 00 56 50.5
comp=Z,5.3nm,0.9s
C36M Paulatuk 38.39 34 P **P 00 56 55.8 +0.5**
GTA Gaotai 42.71 278 *eP* **P 00 57 31.8 +0.2**
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA LR LR
comp=N,120nm,14.7s
GTA LR LR
comp=E,140nm,13.5s
GTA LR LR
comp=Z,150nm,15.1s
EUNU Eureka 43.48 13 P **P 00 57 38.2 +1.0**
EUNU IAmb IAmb 00 57 56.9
comp=Z,4.8nm,0.8s
ZALV Zalesovo Beam 43.56 304 P **P 00 57 36.0 -2.0**
comp=Z,1.5nm,0.7s,baz=64,slow=6.8,SNR=7.4
ZALV PcP **PcP 00 59 27.1 +1.7**
comp=Z,0.6nm,0.6s,baz=52,slow=2.4,SNR=3.6
comp=Z,1.5nm,0.7s
YKA Yellowknife Ar 44.38 41 P **P 00 57 45.6 +1.1**
comp=Z,0.5nm,0.9s,baz=301,slow=8.2,SNR=6.9
comp=Z,0.5nm,0.9s
KBS Kingsbay 48.41 352 P **P 00 58 16.5 +0.6**
KBS Kingsbay 48.41 352 P **P 00 58 16.5 +0.6**
KBS pmax pmax
comp=Z,30nm,1.3s
KURK Kurchatov 48.49 303 P 00 58 15.3 -1.6
KURK Kurchatov 48.49 303*ceP* **P 00 58 15.4 -1.5**
KURK pmax pmax
comp=Z,21nm,0.9s
KURBB Kurchatov Arra 48.59 303 P **P 00 58 16.1 -1.6**
comp=Z,9.1nm,0.7s,baz=61,slow=7.8,SNR=28
comp=Z,9.1nm,0.7s
SPITS Spitsbergen Ar 48.66 351 P **P 00 58 17.7 -0.2**
comp=Z,7.5nm,0.6s,baz=59,slow=8.0,SNR=40
comp=Z,7.5nm,0.6s
SPITS Spitsbergen Ar 48.66 351 P **P 00 58 18.4 +0.5**
SPB2 Spitsbergen Ar 48.66 351 P **P 00 58 18.5 +0.6**
MK31 Makanchi Array 48.76 297*c iP* **P 00 58 17.5 -1.7**
MKAR Makanchi Array 48.76 297 P 00 58 17.7 -1.5
MKAR Makanchi Array 48.76 297 P **P 00 58 17.4 -1.7**
comp=Z,2.3nm,0.5s,baz=56,slow=7.2,SNR=43
MKAR LR LR 01 19 27.2
comp=Z,71nm,19.2s,baz=43,slow=37
comp=Z,2.3nm,0.5s
MKAR Makanchi Array 48.76 297 *iP* **P 00 58 18.0 -1.2**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MAKZ Makanchi 48.93 297 P 00 58 18.9 -1.5
MAKZ IAmb IAmb 00 58 19.8
comp=Z,2.8nm,0.7s
MAKZ Makanchi 48.93 297 P **P 00 58 18.9 -1.5**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
NEEM North Greenlan 49.84 8 *iP* **P 00 58 27.5 +0.2**
NEEM IAmb IAmb 01 00 18.1
comp=Z,96nm,2.6s
PZH PanZhiHua 50.09 263 P **P 00 58 30.5 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
BLKN Baker Lake 50.44 33 P 00 58 31.9 +0.3
BLKN IAmb IAmb 00 58 33.4
comp=Z,5.8nm,0.7s
BVAR Borovoye Array 51.29 309 P **P 00 58 36.3 -1.9**
comp=Z,3.8nm,0.5s,baz=52,slow=7.2,SNR=29
comp=Z,3.8nm,0.5s
BRVK Borovoye 51.33 309 P 00 58 36.4 -2.1
BRVK IAmb IAmb 00 58 37.6
comp=Z,10nm,1.4s
BRVK Borovoye 51.33 309*d iP* **P 00 58 37.0 -1.5**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
ARTI Arti 54.59 318 P 00 59 01.5 -1.0
ARTI IAmb IAmb 00 59 04.0
comp=Z,4.3nm,0.7s
ARTI Arti 54.59 318*c iP* **P 00 59 01.3 -1.2**
ARTI S **S 01 06 41.5 +0.8**
ARTI SS **SS 01 10 20.0 -2.7**
ARTI pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 54.74 342 P **P 00 59 03.0 -0.4**
comp=Z,4.4nm,0.7s,baz=41,slow=9.6,SNR=12
comp=Z,4.4nm,0.7s
SUMG Summit 55.52 7 *i P* P 00 59 06.5 -3.0
AAK Ala-Archa 55.69 297 P **P 00 59 10.0 -0.9**
AAK IAmb IAmb 00 59 11.6
comp=Z,4.3nm,1.1s
AAK Ala-Archa 55.69 297⇓*iP* **P 00 59 10.5 -0.4**
AAK pmax pmax
comp=Z,5.0nm,1.2s
NVAR Mina Array Bea 56.37 69 P **P 00 59 17.4 +1.6**
comp=Z,0.2nm,0.6s,baz=279,slow=13,SNR=1.7
comp=Z,0.2nm,0.6s
SHL Shillong 56.91 270 P **P 00 59 19.3 -0.5**
SHL IAmb IAmb 00 59 22.1
comp=Z,8.1nm,1.1s
SHL Shillong 56.91 270 P **P 00 59 19.3 -0.5**
SHL pmax pmax
comp=Z,8.0nm,1.1s
FXWY Fox Creek 56.99 60 P **P 00 59 20.7 +0.5**
FXWY IAmb IAmb 00 59 22.5
comp=Z,9.3nm,0.8s
KK31 Karatay Array 57.57 300 P 00 59 22.9 -1.1
KK31 IAmb IAmb 00 59 23.8
comp=Z,3.2nm,0.8s
KK31 Karatay Array 57.57 300 P **P 00 59 22.9 -1.1**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 57.57 300 P 00 59 22.8 -1.2
KKAR Karatay Array 57.57 300 P **P 00 59 22.8 -1.2**
CMAR Chiang Mai Arr 57.78 259 P **P 00 59 27.1 +1.3**
comp=Z,1.5nm,0.6s,baz=27,slow=6.9,SNR=9.0
comp=Z,1.5nm,0.6s
PDAR Pinedale Array 58.37 60 P **P 00 59 33.3 +3.4**
comp=Z,0.2nm,0.6s,baz=336,slow=3.3,SNR=3.7
comp=Z,0.2nm,0.6s
ABKAR Akbulak array 58.74 311 P 00 59 30.9 -1.2
ABKAR IAmb IAmb 00 59 32.7
comp=Z,3.3nm,0.8s
ABKAR Akbulak array 58.74 311 P 00 59 30.9 -1.2
BTK Batken 59.47 297 P 00 59 36.3 -1.1
BTK IAmb IAmb 00 59 38.2
comp=Z,4.0nm,0.8s
BTK Batken 59.47 297 P **P 00 59 36.3 -1.1**
BTK pmax pmax
comp=Z,4.0nm,0.8s
SFJD Kangerlussuaq 59.55 13 LR LR 01 29 46.4
comp=Z,76nm,18.2s,baz=312,slow=41
GAR Garm 60.49 296 P 00 59 43.4 -1.0
GAR IAmb IAmb 00 59 45.7
comp=Z,8.2nm,1.0s
FIA1 FINESS Array S 61.51 337 P **P 00 59 50.5 -0.4**
FINES FINESS Array B 61.51 337 P **P 00 59 50.8 -0.1**
FINES FINESS Array B 61.51 337 P **P 00 59 50.9 +0.1**
comp=Z,8.1nm,0.9s,baz=35,slow=7.0,SNR=13
comp=Z,8.1nm,0.9s
FINES FINESS Array B 61.51 337*ceP* **P 00 59 51.0 +0.1**
FINES pmax pmax
comp=Z,6.0nm,0.8s
OBN Obninsk 63.78 328*deP* **P 01 00 05.8 -0.2**
OBN *e* 01 00 41.8
OBN *e* 01 02 24.5
OBN *e*S S 01 08 59.2 +20
OBN *e*SS **SS 01 12 51.0 +4.4**
OBN pmax pmax
OBN comp=Z,4.0nm,0.9s MLR MLR
comp=Z,95nm,16.0s
VSU Vasula 63.92 335⇓*iP* **P 01 00 06.5 -0.4**
VSU pmax pmax
comp=Z,19nm,1.0s
NB2 NORSAR Subarra 65.01 344 P **P 01 00 14.2 +0.1**
comp=Z,0.7nm,0.6s,baz=22,slow=6.9
NOA NORSAR Array B 65.01 344 P **P 01 00 14.2 +0.1**
comp=Z,1.6nm,0.7s,baz=21,slow=6.7,SNR=12
comp=Z,1.6nm,0.7s
HFS Hagfors 65.40 342 P **P 01 00 16.7 0.0**
comp=Z,3.7nm,0.5s,baz=49,slow=4.7,SNR=43
comp=Z,3.7nm,0.5s
MNK Minsk 67.02 332 *i P* **P 01 00 24.7 -2.4**
MNK *i P* **P 01 00 24.7 -2.4**
MNK *i P* **P 01 00 24.7 -2.4**
baz=30
MNK *i* S **S 01 09 18.6 -0.8**
MNK *i* LR LR 01 31 00.3
MNK *i* LRM MLR 01 33 22.0
MNK comp=N,45nm,15.9s *i* LRM MLR 01 33 30.6
MNK comp=Z,85nm,17.6s *i* LRM MLR 01 33 45.5
MNK comp=E,83nm,16.5s
MNK Minsk 67.02 332 *i P* P 01 00 24.6 -2.5
MNK *i* S **S 01 09 18.6 -0.8**
MNK MLR MLR
MNK comp=N,45nm,16.0s MLR MLR
MNK comp=Z,85nm,18.0s MLR MLR
MNK comp=E,83nm,16.0s
MNK Minsk 67.02 332 *i P* **S 01 09 18.6 -0.8**
PABE Paberze 67.25 335 P **P 01 00 28.4 0.0**
SUW Suwalki 68.78 334 P **P 01 00 37.3 -0.8**
SUW Suwalki 68.78 334 P **P 01 00 37.3 -0.8**
AKASG Malin Array Be 69.90 329 P **P 01 00 44.8 -0.4**
comp=E,8.5nm,0.7s,baz=31,slow=6.0,SNR=27
comp=E,8.5nm,0.7s
AKASG Malin Array Be 69.90 329*ceP* **P 01 00 44.7 -0.4**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 69.90 329 **P 01 00 44.5 -0.6**
AKBB Malin Array Si 69.90 329*c iP* **P 01 00 44.7 -0.4**
AKBB pmax pmax
comp=Z,14nm,0.9s
KIEV Kiev 69.91 329 **P 01 00 44.5 -0.7**
KIEV Kiev 69.91 329 ⇑P **P 01 00 44.9 -0.3**
KIEV Kiev 69.91 329 P **P 01 00 44.5 -0.7**
KIEV pmax pmax
comp=Z,11nm,0.8s
KIV Kislovodsk 70.51 317 *eP* P 01 00 46.2 -2.9
KIV pmax pmax
comp=Z,3.0nm,1.1s
KBZ Khabaz 70.61 317 P **P 01 00 49.8 +0.3**
comp=Z,1.4nm,0.7s,baz=4.0,slow=8.5,SNR=3.8
comp=Z,1.4nm,0.7s
SHA1 Shidzhatmaz 70.70 317 *eP* **P 01 00 49.0 -1.5**
TXAR Lajitas Array 71.34 66 P **P 01 00 55.3 +0.9**
comp=Z,0.3nm,0.8s,baz=285,slow=4.8,SNR=3.6
comp=Z,0.3nm,0.8s
EKA Eskdalemuir Ar 72.57 350 P **P 01 01 01.2 0.0**
comp=Z,2.5nm,0.9s,baz=19,slow=4.8,SNR=3.4
comp=Z,2.5nm,0.9s
OJC Ojcow 73.11 335 P **P 01 01 04.8 +0.3**
OJC Ojcow 73.11 335 P **P 01 01 04.8 +0.3**
KOLS Kolonicke sedl 73.58 332 *eP* **P 01 01 08.2 +0.9**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 73.58 332 *eP* **P 01 01 08.2 +0.9**
CLL Collm 73.78 339 *i P* **P 01 01 08.7 +0.3**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 73.78 339 *i P* **P 01 01 08.7 +0.3**
comp=Z,7.0nm,1.1s
CLL *i* x x 01 01 13.1
BUR08 Bucovina Ar. S 73.86 330 **P 01 01 08.9 -0.2**
BUR08 IAmb IAmb 01 01 10.6
comp=Z,5.5nm,0.9s
BURAR Bucovina Array 73.88 330 **P 01 01 09.1 -0.1**
BURAR Bucovina Array 73.88 330 ⇓P **P 01 01 09.8 +0.6**
BURAR Bucovina Array 73.88 330 ⇓P **P 01 01 09.8 +0.6**
STEB Steborice 73.90 336 *eP* **P 01 01 10.1 +0.9**
MORC Moravsky Berou 74.11 336 ⇓P **P 01 01 11.7 +1.3**
MORC Moravsky Berou 74.11 336 ⇓P **P 01 01 11.7 +1.3**
ARCR ARCALIA 74.62 330 ⇓P **P 01 01 15.1 +1.7**
WRA Warramunga Arr 74.63 205 P **P 01 01 14.0 +0.3**
comp=Z,0.7nm,0.8s,baz=33,slow=6.9,SNR=3.0
comp=Z,0.7nm,0.8s
WRA Warramunga Arr 74.63 205 P **P 01 01 14.0 +0.3**
KOPT Kop Dagi 74.67 316 **P 01 01 15.0 +0.9**
VRAC Vranov 74.78 336 ⇓P **P 01 01 16.0 +1.7**
VRAC Vranov 74.78 336 ⇓P **P 01 01 16.0 +1.7**
PANC Panciu 74.79 328 ⇓P **P 01 01 15.9 +1.5**
VRI Vrincioaia 74.94 328 ⇑P **P 01 01 15.0 -0.3**
VRI Vrincioaia 74.94 328 ⇑P **P 01 01 15.0 -0.3**
VYHS Vyhne 74.94 334 *eP* **P 01 01 16.4 +1.1**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 74.94 334 *eP* **P 01 01 16.4 +1.1**
PLOR Plostina 74.98 328 ⇑P **P 01 01 16.6 +1.1**
PLOR Plostina 74.98 328 ⇑P **P 01 01 16.6 +1.1**
CFR Carcaliu 75.07 327 ⇓P **P 01 01 16.4 +0.4**
CFR Carcaliu 75.07 327 ⇓P **P 01 01 16.4 +0.4**
COVR Voineasa-Covas 75.13 328 ⇑P **P 01 01 18.2 +1.8**
PSZ Piszkesteto 75.18 333 P **P 01 01 17.9 +1.2**
PSZ IAmb IAmb 01 01 28.1
comp=Z,3.2nm,0.9s
PSZ Piszkesteto 75.18 333 P **P 01 01 17.9 +1.2**
PSZ pmax pmax
comp=Z,3.0nm,0.9s
CJR Cluj-Napoca 75.18 331 ⇑P **P 01 01 18.3 +1.6**
CJR Cluj-Napoca 75.18 331 ⇑P **P 01 01 18.3 +1.6**
GURO Guroymak-BITLI 75.20 314 **P 01 01 18.1 +1.0**
GURO IAmb IAmb 01 01 19.9
comp=Z,4.2nm,1.1s
BISRR Bisoca 75.22 328 ⇑P **P 01 01 20.0 +3.0**
ZVC Zvikov 75.25 338 *eP* **P 01 01 19.0 +2.0**
TPGR Topolog 75.26 327 ⇑P **P 01 01 14.9 -2.2**
MLR Muntele Rosu 75.53 328 ⇑P **P 01 01 19.4 +0.6**
MLR Muntele Rosu 75.53 328 ⇑P **P 01 01 19.4 +0.6**
KHC Kasperske Hory 75.68 338 *eP* **P 01 01 20.8 +1.3**
KHC Kasperske Hory 75.68 338 *eP* **P 01 01 20.8 +1.3**
CKRC Cesky Krumlov 75.80 337 *eP* P 01 01 14.6 -5.6
CKRC Cesky Krumlov 75.80 337 *eP* P 01 01 14.6 -5.6
VOIR 75.86 329 ⇑P **P 01 01 21.7 +1.0**
VOIR 75.86 329 ⇑P **P 01 01 21.7 +1.0**
GERES GERESS Array B 75.92 338 P **P 01 01 21.1 +0.1**
comp=Z,0.7nm,0.6s,baz=44,slow=4.1,SNR=4.0
comp=Z,0.7nm,0.6s
TOKA Tokat 76.11 319 **P 01 01 22.7 +0.5**
CONA Conrad Observa 76.24 336 *ep*P **P 01 01 24.3 +1.5**
comp=Z,3.1nm,1.1s
RONA Rosalia, Austr 76.34 336 *ep*P **P 01 01 24.2 +0.9**
comp=Z,2.1nm,0.7s
ILGA Ilgaz 76.60 321 **P 01 01 25.9 +0.7**
GZR Gura Zlata 76.62 331 ⇓P **P 01 01 25.8 +0.8**
GZR Gura Zlata 76.62 331 ⇓P **P 01 01 25.8 +0.8**
BZS Buzias 76.77 331 ⇓P **P 01 01 26.3 +0.6**
BZS Buzias 76.77 331 ⇓P **P 01 01 26.3 +0.6**
MARD Mardin 76.78 314 **P 01 01 27.0 +0.9**
MORH Mrgy, Hungar 77.08 334 ⇓P **P 01 01 28.0 +0.6**
HERR Herculane 77.19 331 ⇓P **P 01 01 28.6 +0.5**
LESA Schwarzleotal 77.49 338 *ep*P **P 01 01 30.8 +1.0**
comp=Z,2.7nm,1.3s
BNN Bunyan 77.61 319 **P 01 01 31.0 +0.2**
SOKA Soboth 77.61 336 *ep*P **P 01 01 32.0 +1.5**
comp=Z,5.6nm,1.6s
KBA Koelnbreinsper 77.66 337 *ep*P **P 01 01 32.9 +2.0**
comp=Z,1.1nm,0.8s
BR131 Keskin Array S 77.76 321 **P 01 01 31.6 +0.1**
BR131 IAmb IAmb 01 01 33.1
comp=Z,5.4nm,1.1s
BR131 Keskin Array S 77.76 321*c iP* **P 01 01 31.8 +0.2**
BRTR Keskin Array B 77.76 321 **P 01 01 32.0 +0.4**
BRTR Keskin Array B 77.76 321 P **P 01 01 31.5 -0.1**
comp=Z,2.2nm,0.9s,baz=41,slow=3.9,SNR=16
comp=Z,2.2nm,0.9s
BRTR Keskin Array B 77.76 321 P **P 01 01 32.0 +0.4**
WTTA Wattenberg 77.88 339 *ep*P **P 01 01 33.9 +1.7**
comp=Z,3.7nm,0.9s
MOTA Moosalm 77.93 339 *ep*P **P 01 01 33.6 +1.2**
comp=Z,4.5nm,1.1s
SQTA Sankt Quirin 78.02 339 *ep*P **P 01 01 33.6 +0.7**
comp=Z,3.3nm,0.8s
MDUB Mudurnu 78.07 323 P **P 01 01 33.5 +0.3**
KIRS Kirsehir-Merke 78.16 320 ⇓P **P 01 01 34.8 +1.0**
ABTA Abfaltersbach 78.17 338 *ep*P **P 01 01 34.5 +0.9**
comp=Z,6.1nm,1.3s
DAVA Damuels 78.25 340 *ep*P **P 01 01 36.2 +2.0**
comp=Z,7.2nm,1.2s
ASAR Alice Springs 78.30 204 P **P 01 01 35.5 +1.1**
comp=Z,0.3nm,0.5s,baz=15,slow=6.2,SNR=4.1
comp=Z,0.3nm,0.5s
FETA Feichten 78.32 339 *ep*P **P 01 01 36.4 +1.8**
comp=Z,3.8nm,1.2s
GAZ Gaziantep 78.46 317 **P 01 01 36.1 +0.8**
UOSS Minazif 78.88 296 P **P 01 01 37.2 -0.6**
UOSS IAmb IAmb 01 01 38.4
comp=Z,9.5nm,0.8s
TUE Stuetta 79.14 340 **P 01 01 41.3 +2.1**
TUE IAmb IAmb 01 01 56.6
comp=Z,12nm,1.4s
FDMO Fiordimonte 81.51 336 P **P 01 01 52.7 +1.0**
FDMO IAmb IAmb 01 02 06.6
comp=Z,13nm,1.3s
NRCA Norcia 81.69 336 **P 01 01 53.6 +0.8**
NRCA IAmb IAmb 01 01 57.3
comp=Z,8.1nm,0.8s
CSS Mathiatis 81.98 318 **P 01 01 54.2 -0.1**
CSS IAmb IAmb 01 01 56.1
comp=Z,4.7nm,0.7s
MMAI Mount Meron Ar 82.76 316 P **P 01 01 59.4 +0.9**
comp=Z,2.6nm,0.6s,baz=29,slow=5.7,SNR=13
comp=Z,2.6nm,0.6s
RAYN Ar Rayn 85.83 303 P **P 01 02 14.0 -0.2**
RAYN IAmb IAmb 01 02 15.6
comp=Z,2.4nm,0.8s
RAYN Ar Rayn 85.83 303 ⇓P **P 01 02 14.5 +0.3**
ESDC Sonseca Array 88.08 348 P **P 01 02 23.8 -1.1**
comp=Z,0.4nm,0.9s,baz=360,slow=8.1,SNR=2.2
comp=Z,0.4nm,0.9s
RPZ Rata Peaks 95.36 172 LR LR 01 36 03.4
comp=Z,125nm,21.8s,baz=102,slow=29
H03N2 Juan Fernandez 134.29 90 T T 03 39 29.5
baz=314,slow=78,SNR=12
H03N1 Juan Fernandez 134.30 90 T T 03 39 33.0
baz=314,slow=78,SNR=7.9
H03N3 Juan Fernandez 134.30 90 T T 03 39 35.3
baz=314,slow=78,SNR=9.8

IDC ***28*** *00:58:42.6±0.5, 61°.56N×150°.19W, h0km, mb4.2/27, mbtmp4.1/29, ML3.6/3, MS3.3/5, Error ellipse: s-maj=12.1km s-min=10.4km az=130.0*
MOS ***28*** *00:58:47.4±0.8, 61°.44N×150°.30W, h48km, mb4.8/26, Error ellipse: s-maj=20.5km s-min=6.4km az=93.2*
NEIC ***28*** *00:58:49.7±1.4, 61°.42N±0°.03×149°.97W±0°.05, h46km±4km, Error ellipse: s-maj=4.2km s-min=3.6km az=155.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-1.49; Mθθ0.57; Mφφ0.92; Mrθ-0.80; Mφθ0.62; Mφr-0.84; Fault plane solution: M₀1.85000×10¹⁵ NP1:φs41.19000°, δ64.48000°, λ-86.76000°. NP2:φs213.71000°, δ25.71000°, λ-96.74000°. Principal axes: T 1.7906, Plg19.0000°, Azm129.0000°; N 0.1111, Plg3.0000°, Azm220.0000°; P -1.9017, Plg70.0000°, Azm318.0000°;*
NEIC ***28*** *00:58:49.8, 61°.41N×149°.91W, h44km*
AEIC ***28*** *00:58:50.4±1.3, 61°.40N±0°.03×149°.94W±0°.02, h40km±4km, ML4.0, mb4.2/15(NEIC), ML4.2/198(NEIC), Mwr4.1/105(NEIC), Error ellipse: s-maj=4.1km s-min=1.7km az=176.0*
ANF ***28*** *00:58:50.1±0.2, 61°.37N×149°.95W, h35km±1km, ML4.4/106, Error ellipse: s-maj=1.0km s-min=0.8km az=179.0*
ISC 28 00:58:48.5±0.6, 61°.38N±0°.03×149°.98W±0°.02, h44km±5km, n494, σ1§57/521, mb4.4/69, MS3.8/6, 15C-6D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.26**	**206**			**Pn**	**00 58 58.9**	**+2.3**
FIS					IAML		00 59 07.3	
	comp=E,23μm,0.9s							
FIS					IAML		00 59 07.5	
	comp=N,21μm,0.6s							
RC01	**Rabbit Creek A**	**0.31**	**157**			**Pn**	**00 58 58.5**	**+1.3**
RC01						**Sn**	**00 59 05.5**	**+2.2**
RC01					IAML		00 59 06.4	
	comp=N,15μm,0.4s							

RC01 IAML 00 59 08.5
comp=E,17µm,0.6s
RC01 Rabbit Creek A 0.31 157 P Pn 00 58 58.5 +1.3
baz=340,SNR=1000
RC01 S Sn 00 59 05.0 +1.8
baz=340
SUA Susitna One 0.38 284 Pn 00 58 59.3 +1.3
SUA Sn 00 59 06.8 +2.0
SUA Susitna One 0.38 284 P Pn 00 58 59.4 +1.3
baz=104,SNR=1000
SUA S Sn 00 59 06.5 +1.7
baz=104
M22K Willow 0.39 350 Pn 00 58 58.5 +0.5
M22K Sn 00 59 05.8 +1.2
M22K Willow 0.39 350 P Pn 00 58 58.5 +0.5
baz=168,SNR=726
M22K S Sn 00 59 05.8 +1.2
baz=168
PMR Palmer 0.46 62 Pn 00 58 59.3 +0.5
PMR Sn 00 59 06.8 +0.5
PMR Palmer 0.46 62 P Pn 00 58 59.4 +0.5
PMR Palmer 0.46 62 S Sn 00 59 06.8 +0.5
PMR Palmer 0.46 62 P Pn 00 58 59.4 +0.5
baz=240,SNR=1000
PMR S Sn 00 59 07.3 +1.0
baz=240
GHO Glory Hole Cre 0.64 51 Pn 00 59 01.9 +0.6
GHO Sn 00 59 11.4 +0.8
GHO IAML 00 59 13.2
comp=N,8µm,0.9s
KNK Knik Glacier 0.73 86 Pn 00 59 03.5 +1.0
KNK Sn 00 59 14.7 +2.1
KNK IAML 00 59 17.5
comp=E,14µm,0.4s
KNK Knik Glacier 0.73 86 P Pn 00 59 03.6 +1.1
baz=267,SNR=1000
KNK S Sn 00 59 14.5 +1.9
baz=267
CAPN Captain Cook N 0.83 224 Pn 00 59 06.7 +3.0
CAPN Captain Cook N 0.83 224 P Pn 00 59 06.8 +3.0
baz=44,SNR=45
SLKM Skilak Lake 0.88 188 Pn 00 59 05.7 +1.3
SLKM IAML 00 59 20.7
comp=N,9µm,0.3s
STLK Strandline Lak 0.90 279 Pn 00 59 06.3 +1.5
STLK IAML 00 59 19.1
comp=N,8µm,0.5s
STLK IAML 00 59 19.9
comp=E,7µm,0.3s
SML Sawmill 0.90 61 Pn 00 59 05.3 +0.6
SML IAML 00 59 19.2
comp=E,11µm,0.7s
SML IAML 00 59 20.7
comp=N,9µm,0.6s
SML Sawmill 0.90 61 P Pn 00 59 05.5 +0.7
baz=241,SNR=821
SML S Sn 00 59 17.9 +1.2
baz=241
O22K Cooper Landing 0.91 172 Pn 00 59 06.3 +1.5
O22K Sn 00 59 19.1 +2.4
O22K Cooper Landing 0.91 172 P Pn 00 59 06.2 +1.5
baz=353,SNR=710
O22K S Sn 00 59 18.9 +2.2
baz=353
PWL Port Wells 0.95 122 Pn 00 59 07.0 +1.5
PWL Sn 00 59 20.3 +2.4
PWL IAML 00 59 23.1
comp=N,9µm,0.4s
PWL Port Wells 0.95 122 P Pn 00 59 06.7 +1.3
baz=304,SNR=1000
PWL S Sn 00 59 20.1 +2.2
baz=304
SKT Skwentna 0.96 310 Pn 00 59 06.2 +0.7
SKT IAML 00 59 19.8
comp=N,8µm,0.4s
SKT IAML 00 59 22.2
comp=E,7µm,0.5s
SKT Skwentna 0.96 310 P Pn 00 59 06.4 +0.9
baz=129,SNR=1000
SKT S Sn 00 59 19.4 +1.5
baz=129
CUT Chulitna 1.04 353 Pn 00 59 07.3 +0.7
CUT Chulitna 1.04 353 P Pn 00 59 07.5 +0.8
baz=172,SNR=657
CUT S Sn 00 59 21.2 +1.2
baz=172
SPCR Spurr Chakacha 1.09 262 Pn 00 59 08.9 +1.6
SPCR Sn 00 59 23.9 +2.6
SPCR Spurr Chakacha 1.09 262 P Pn 00 59 09.0 +1.6
baz=80,SNR=511
SPCR S Sn 00 59 23.8 +2.5
baz=80
M23K Glacier View 1.16 68 P Pn 00 59 09.5 +1.2
baz=249,SNR=1000
M23K S Sn 00 59 25.2 +2.3
baz=249
SPBG Spurr Blockage 1.16 265 Pn 00 59 10.0 +1.7
SEW Seward 1.30 168 Pn 00 59 11.1 +0.9
SEW Sn 00 59 29.0 +2.7
SEW IAML 00 59 33.8
comp=N,3µm,0.5s
SEW IAML 00 59 35.7
comp=E,5µm,0.6s
SEW Seward 1.30 168 P Pn 00 59 11.0 +0.9
baz=349,SNR=100
SEW S Sn 00 59 29.0 +2.7
baz=349
SCM Sheep Creek Mo 1.35 69 Pn 00 59 12.2 +1.3
SCM IAML 00 59 34.6
comp=N,6µm,0.7s
SCM Sheep Creek Mo 1.35 69 P Pn 00 59 12.3 +1.3
baz=251,SNR=1000
SCM S Sn 00 59 29.7 +2.0
baz=251
GLI Glacier Island 1.49 108 Pn 00 59 13.7 +1.0
GLI IAML 00 59 39.4
comp=N,3µm,0.8s
GLI IAML 00 59 40.8
comp=E,5µm,0.6s
GLI Glacier Island 1.49 108 P Pn 00 59 13.7 +1.0
baz=291,SNR=732
GLI S Sn 00 59 32.7 +1.8
baz=291
RDJH Redoubt Jeurge 1.58 241 Pn 00 59 16.2 +2.0
M20K Styx River 1.59 290 Pn 00 59 15.9 +1.7
M20K Styx River 1.59 290 P Pn 00 59 15.9 +1.7
baz=108,SNR=927
M20K S Sn 00 59 36.2 +2.6
baz=108
BRLK Bradley Lake 1.68 196 Pn 00 59 16.7 +1.3
BRLK IAML 00 59 41.3
comp=E,3µm,0.5s
BRSE Bradley Lake S 1.68 193 P Pn 00 59 16.8 +1.4
baz=13,SNR=264
BRSE S Sn 00 59 38.3 +2.5
baz=13
FID Port Fidalgo 1.82 109 Pn 00 59 17.5 +0.3
FID IAML 00 59 46.9
comp=N,3µm,0.5s
FID IAML 00 59 46.9
comp=E,2µm,0.3s
PPLA Purkeypile 1.84 327 Pn 00 59 19.1 +1.3
PPLA IAML 00 59 43.5
comp=N,2µm,0.8s
PPLA IAML 00 59 43.6
comp=E,3µm,1.0s
PPLA Purkeypile 1.84 327 P Pn 00 59 19.1 +1.3
baz=145,SNR=247
PPLA S Sn 00 59 42.2 +2.3
baz=145
P23K Montague Islan 1.88 136 Pn 00 59 18.5 +0.5
P23K IAML 00 59 52.5
comp=E,3µm,0.4s
P23K Montague Islan 1.88 136 P Pn 00 59 18.5 +0.5
baz=319,SNR=194
HOM Homer 1.91 206 Pn 00 59 20.5 +2.0
HOM Homer 1.91 206 P Pn 00 59 20.5 +2.0
baz=25,SNR=18
KLU Klutina 1.96 85 Pn 00 59 20.2 +1.0
KLU IAML 00 59 51.2
comp=E,1µm,0.4s
KLU IAML 00 59 53.1
comp=N,2µm,0.4s
KLU Klutina 1.96 85 P Pn 00 59 20.2 +1.0
baz=268,SNR=505
M24K Tolsona, Glenn 1.96 66 Pn 00 59 21.2 +2.0

M24K IAML 00 59 54.4
comp=N,3µm,0.6s
M24K Tolsona, Glenn 1.96 66 P Pn 00 59 21.3 +2.2
baz=249,SNR=823
CNPM China Poot 1.96 199 Pn 00 59 20.7 +1.6
CNPM IAML 00 59 49.4
comp=E,2µm,0.5s
CNPM IAML 00 59 53.9
comp=N,2µm,0.4s
HIN Hinchinbrook I 1.96 118 Pn 00 59 19.9 +0.6
HIN IAML 00 59 52.2
comp=N,3µm,0.9s
HIN IAML 00 59 55.0
comp=E,3µm,0.8s
DIV Divide 2.05 95 Pn 00 59 21.4 +0.8
DIV IAML 00 59 52.9
comp=N,2µm,0.5s
DIV IAML 00 59 55.5
comp=E,1µm,0.5s
TRF Thorofare Moun 2.09 356 Pn 00 59 22.3 +1.2
TRF IAML 00 59 51.7
comp=E,2µm,0.6s
TRF Thorofare Moun 2.09 356 P Pn 00 59 22.4 +1.3
baz=176,SNR=505
ILSW Iliamna Southw 2.09 229 Pn 00 59 23.2 +2.1
RND Reindeer 2.10 14 Pn 00 59 22.3 +1.1
L20K Farewell, AK 2.15 303 P Pn 00 59 23.5 +1.6
baz=119,SNR=629
L20K S Sn 00 59 49.7 +2.5
baz=119
M19K Big River Lodg 2.17 286 Pn 00 59 23.8 +1.8
M19K IAML 00 59 55.5
comp=E,1µm,0.8s
M19K Big River Lodg 2.17 286 P Pn 00 59 23.9 +1.8
baz=102,SNR=179
M19K S Sn 00 59 50.7 +2.9
baz=102
EYAK Cordova Ski Ar 2.23 110 Pn 00 59 23.4 +0.5
EYAK IAML 01 00 02.4
comp=N,2µm,0.5s
EYAK Cordova Ski Ar 2.23 110 P Pn 00 59 23.3 +0.5
EYAK Cordova Ski Ar 2.23 110 P Pn 00 59 23.5 +0.6
baz=294,SNR=144
KTH Kantishna Hill 2.23 349 Pn 00 59 24.3 +1.3
N19K Bonanza Creek 2.26 258 Pn 00 59 25.4 +2.0
N19K Bonanza Creek 2.26 258 P Pn 00 59 25.5 +2.0
baz=74,SNR=110
CAST Castle Rocks 2.27 335 Pn 00 59 24.3 +0.8
CAST IAML 00 59 53.9
comp=E,2µm,0.6s
CAST IAML 00 59 57.4
comp=N,1µm,0.5s
CAST Castle Rocks 2.27 335 P Pn 00 59 24.6 +1.1
baz=153,SNR=482
P19K Oil Pt 2.36 224 Pn 00 59 27.1 +2.4
P19K IAML 01 00 18.0
comp=N,2µm,0.9s
P19K Oil Pt 2.36 224 P Pn 00 59 27.1 +2.4
baz=42,SNR=56
MCK McKinley 2.42 11 Pn 00 59 26.9 +1.4
MCK IAML 01 00 03.3
comp=E,888nm,0.6s
MCK IAML 01 00 07.7
comp=N,937nm,1.0s
MCK McKinley 2.42 11 P Pn 00 59 27.0 +1.5
baz=192,SNR=345
O19K Port Alsworth 2.44 243 Pn 00 59 27.5 +1.9
O19K Port Alsworth 2.44 243 P Pn 00 59 27.4 +1.7
baz=59,SNR=55
L19K White Mountain 2.45 291 Pn 00 59 27.9 +2.0
L19K IAML 00 59 58.7
comp=N,819nm,0.6s
L19K IAML 00 59 59.4
comp=E,929nm,0.5s
L19K White Mountain 2.45 291 P Pn 00 59 28.0 +2.0
baz=107,SNR=661
HARP HAARP 2.50 64 Pn 00 59 28.7 +2.0
HARP HAARP 2.50 64 P Pn 00 59 28.7 +2.0
baz=248,SNR=183
N25K Chitina, Valde 2.59 83 Pn 00 59 28.5 +0.5
N25K IAML 01 00 08.6
comp=N,993nm,0.5s
N25K IAML 01 00 14.3
comp=E,776nm,0.6s
N25K Chitina, Valde 2.59 83 P Pn 00 59 28.7 +0.7
baz=267,SNR=256
BMRM Bremner River 2.64 97 Pn 00 59 28.9 +0.3
BMRM IAML 01 00 13.4
comp=E,1µm,0.6s
BMRM IAML 01 00 15.3
comp=N,1µm,0.5s
BMRM Bremner River 2.64 97 P Pn 00 59 28.9 +0.3
baz=281,SNR=260
PAX Paxson 2.65 51 Pn 00 59 31.0 +2.3
PAX IAML 01 00 09.1
comp=N,885nm,0.6s
PAX Paxson 2.65 51 P Pn 00 59 31.1 +2.3
baz=234,SNR=219
CHUM Lake Minchumin 2.74 338 P Pn 00 59 30.9 +1.1
baz=156,SNR=231
K20K Telida 2.75 318 Pn 00 59 31.4 +1.3
K20K IAML 01 00 12.2
comp=E,641nm,0.7s
K20K Telida 2.75 318 P Pn 00 59 31.4 +1.3
baz=134
WACK Wrangell Chich 2.76 75 Pn 00 59 31.5 +1.0
BPAW Bear Paw Mtn. 2.77 351 Pn 00 59 31.1 +0.7
BPAW IAML 01 00 11.4
comp=E,813nm,0.5s
BPAW Bear Paw Mtn. 2.77 351 P Pn 00 59 31.1 +0.7
baz=170,SNR=177
RAGM Ragged Mountai 2.78 109 Pn 00 59 31.2 +0.8
M18K Stony River 2.81 275 Pn 00 59 32.6 +1.9
M18K Stony River 2.81 275 P Pn 00 59 32.8 +1.9
baz=90,SNR=232
BWN Browne 2.82 5 Pn 00 59 32.1 +1.1
N18K Kilae Creek 2.96 259 Pn 00 59 34.6 +1.7
N18K Kilae Creek 2.96 259 P Pn 00 59 34.6 +1.7
baz=74,SNR=122
GLB Gilahina Butte 2.97 86 Pn 00 59 33.8 +0.7
GLB IAML 01 00 20.2
comp=N,1µm,0.7s
GLB IAML 01 00 21.1
comp=E,729nm,0.5s
HMT Hamilton 2.99 108 Pn 00 59 33.3 -0.1
O18K Koktuh Hills 2.99 242 Pn 00 59 34.8 +1.4
O18K IAML 01 00 39.0
comp=N,690nm,1.1s
O18K Koktuh Hills 2.99 242 P Pn 00 59 34.8 +1.4
baz=57,SNR=22
SYI Shuyak Island 3.03 205 Pn 00 59 35.6 +1.8
Q20K Shuyak Island 3.03 205 P Pn 00 59 35.4 +1.6
baz=23,SNR=13
Q19K Cape Douglas, 3.06 218 Pn 00 59 36.5 +2.1
Q19K Cape Douglas, 3.06 218 P Pn 00 59 36.3 +1.9
baz=35,SNR=54
KAIM Kayak Island 3.10 115 Pn 00 59 34.4 -0.5
KAIM IAML 01 00 38.0
comp=E,481nm,1.0s
KAIM IAML 01 00 38.4
comp=N,484nm,0.7s
KAIM Kayak Island 3.10 115 P Pn 00 59 34.5 -0.4
baz=300
K24K Donnelly Dome 3.12 37 P Pn 00 59 39.1 +4.0
baz=220,SNR=184
VRDI Verde Repeater 3.15 90 Pn 00 59 36.1 +0.4
VRDI IAML 01 00 25.4
comp=N,512nm,0.6s
WRH Wood River Hil 3.23 15 Pn **Pn 00 59 37.4 +0.9**
NEA2 Nenana 3.26 7 Pn 00 59 37.3 +0.3
NEA2 Nenana 3.26 7 P Pn 00 59 37.6 +0.6
baz=188,SNR=60
P18K Big Mountain, 3.28 235 P Pn 00 59 38.2 +0.9
baz=51
L18K Granite Mounta 3.29 288 P Pn 00 59 39.1 +1.6
baz=102,SNR=105
MENT Mentasta 3.33 59 Pn 00 59 39.1 +1.0
MENT IAML 01 00 36.3
comp=N,940nm,1.0s
HDA Harding Lake 3.35 23 Pn 00 59 40.0 +1.8
HDA IAML 01 00 34.7
comp=N,644nm,0.7s
HDA IAML 01 00 35.1
comp=E,553nm,1.3s
HDA Harding Lake 3.35 23 P Pn 00 59 40.0 +1.8
baz=206,SNR=80

RIDG Independent Ri 3.36 43 Pn 00 59 40.7 +2.2
RIDG Independent Ri 3.36 43 P Pn 00 59 40.6 +2.1
baz=227,SNR=169
J20K Nowinta River 3.40 328 P Pn 00 59 40.0 +1.1
baz=144,SNR=988
CCB Clear Creek Bu 3.43 16 Pn 00 59 39.4 +0.1
M26K Nabesna, AK 3.46 70 P Pn 00 59 40.9 +1.0
baz=256,SNR=38
BGLC Bering Glacier 3.52 108 P Pn 00 59 41.0 +0.5
baz=294
L26K Log Cabin Wild 3.52 59 P Pn 00 59 42.6 +2.0
baz=245,SNR=29
DOT Dot Lake 3.57 48 Pn 00 59 43.0 +1.7
DOT IAML 01 00 43.0
comp=E,720nm,0.7s
DOT IAML 01 00 46.1
comp=N,690nm,0.8s
M17K Holitna River 3.59 274 P Pn 00 59 43.4 +1.9
baz=87,SNR=168
WAX Waxell Ridge 3.60 102 Pn 00 59 42.2 +0.3
WAX IAML 01 00 45.0
comp=E,662nm,0.4s
N17K Nushagak Hills 3.62 260 P Pn 00 59 43.8 +1.9
baz=73,SNR=73
COLA College 3.64 14 Pn 00 59 42.9 +0.7
COLA College 3.64 14 P Pn 00 59 43.3 +1.1
COLA College 3.64 14 S Sn 01 00 26.3 +2.4
COLA College 3.64 14 *c i* **P Pn 00 59 43.3 +1.1**
COLA College 3.64 14 P Pn 00 59 43.4 +1.1
baz=196
IL31 3.69 21 Pn 00 59 43.7 +0.8
ILAR Eielson Array 3.69 21 Pn 00 59 43.5 +0.6
ILAR Eielson Array 3.69 21 Pg Pn 00 59 43.4 +0.5
comp=E,4.7nm,0.3s,baz=207,slow=15,SNR=93
ILAR Sn Sn 01 00 24.7 -0.4
comp=E,14nm,0.3s,baz=190,slow=14,SNR=3.1
ILAR Lg Lg 01 00 30.1
comp=E,29nm,0.3s,baz=212,slow=22,SNR=5.0
ILAR Eielson Array 3.69 21 *e* **P Pn 00 59 43.8 +0.9**
ILAR pmax pmax
comp=Z,5.0nm,0.3s
J19K Poorman 3.70 318 P Pn 00 59 44.0 +1.0
baz=133,SNR=179
Q18K Katmai Hardscr 3.72 225 P Pn 00 59 45.2 +1.8
baz=41
J18K Innoko River 3.77 307 P Pn 00 59 45.2 +1.2
baz=121,SNR=211
I23K Minto, Yukon-K 3.80 4 IAML 01 00 56.2
comp=N,305nm,1.4s
I23K Minto, Yukon-K 3.80 4 P Pn 00 59 45.2 +0.8
baz=184,SNR=195
SCRK Sand Creek 3.80 44 P Pn 00 59 45.9 +1.3
baz=229,SNR=40
KDAK Kodiak Island 3.84 201 Pn **Pn 00 59 41.8 -3.1**
comp=N,2.5nm,0.3s,baz=113,slow=13,SNR=45
KDAK Sn Sn 01 00 22.3 -6.5
comp=N,10nm,0.3s,baz=255,slow=12,SNR=6.5
KDAK Lg Lg 01 00 28.8
comp=N,20nm,0.3s,baz=180,slow=20,SNR=4.6
KDAK Kodiak Island 3.84 201 *e* **P Pn 00 59 45.3 +0.3**
KDAK Kodiak Island 3.84 201 P Pn 00 59 45.9 +1.0
baz=19
O17K Koliganek Bris 3.86 249 P Pn 00 59 47.1 +1.9
baz=62
J25K Salcha River, 3.87 31 IAML 01 00 40.9
comp=E,485nm,0.6s
J25K IAML 01 00 41.7
comp=N,263nm,0.6s
J25K Salcha River, 3.87 31 P Pn 00 59 48.0 +2.5
baz=215,SNR=107
P17K Kvichak River 3.89 239 P Pn 00 59 47.6 +2.0
baz=53,SNR=16
I21K Tanana 3.92 348 IAML 01 00 48.4
comp=E,294nm,0.7s
I21K IAML 01 00 50.0
comp=N,345nm,0.7s
I21K Tanana 3.92 348 P Pn 00 59 47.3 +1.2
baz=166,SNR=247
POKR Poker Plat Res 3.93 16 IAML 01 00 57.4
comp=N,248nm,0.8s
POKR Poker Plat Res 3.93 16 P Pn 00 59 47.9 +1.7
baz=198,SNR=56
M27K Edge Creek, AK 3.96 72 P Pn 00 59 48.3 +1.5
baz=259,SNR=22
I20K Naaghedeneel 4.00 331 P Pn 00 59 48.2 +1.1
baz=147,SNR=84
L17K Donlin 4.03 285 P Pn 00 59 49.2 +1.7
baz=97,SNR=72
MESA MESA 4.12 103 IAML 01 01 02.6
comp=E,377nm,0.8s
MESA MESA 4.12 103 P Pn 00 59 49.4 +0.4
baz=290,SNR=12
K17K Iditarod 4.14 293 IAML 01 01 05.9
comp=N,330nm,1.1s
K17K IAML 01 01 14.8
comp=E,306nm,0.9s
K17K Iditarod 4.14 293 P Pn 00 59 50.6 +1.5
baz=105,SNR=116
YAH Yahtse 4.15 101 IAML 01 01 03.1
comp=N,293nm,0.9s
YAH IAML 01 01 04.6
comp=E,315nm,1.0s
L27K Beaver Creek, 4.17 63 P Pn 00 59 50.6 +1.0
baz=250,SNR=27
J26L Joseph Creek 4.29 40 IAML 01 00 50.3
comp=N,295nm,0.7s
J26L IAML 01 00 50.9
comp=E,289nm,0.6s
J26L Joseph Creek 4.29 40 P Pn 00 59 52.8 +1.5
baz=226,SNR=99
Q16K King Salmon 4.30 234 P Pn 00 59 53.0 +1.7
baz=48
Q17K Contact Creek 4.32 226 P Pn 00 59 53.5 +1.9
baz=41,SNR=12
M16K Timber Creek 4.36 269 P Pn 00 59 54.1 +2.0
baz=82,SNR=66
N16K Nishlik Lake 4.38 262 P Pn 00 59 54.5 +2.0
baz=74,SNR=54
O16K Kokwok River B 4.39 250 IAML 01 01 15.5
comp=E,185nm,0.8s
O16K IAML 01 01 24.4
comp=N,236nm,1.6s
O16K Kokwok River B 4.39 250 P Pn 00 59 54.3 +1.8
baz=63,SNR=23
BVCY Beaver Creek 4.44 72 P Pn 00 59 54.5 +1.3
baz=260,SNR=20
R18K Karluk 4.45 213 P Pn 00 59 54.7 +1.4
baz=29
H23K Yukon River 4.47 2 P Pn 00 59 56.0 +2.4
baz=182
H21K Melozitna Rive 4.48 345 IAML 01 01 08.8
comp=N,178nm,1.1s
H21K IAML 01 01 09.0
comp=E,169nm,1.1s
H21K Melozitna Rive 4.48 345 P Pn 00 59 55.0 +1.2
baz=162,SNR=133
OHAK Old Harbor 4.50 204 P Pn 00 59 54.1 +0.1
OHAK Old Harbor 4.50 204 P Pn 00 59 54.5 +0.5
baz=21
K27K Chicken 4.51 50 P Pn 00 59 55.9 +1.7
baz=237,SNR=18
L16K Owhat River 4.55 278 IAML 01 01 19.1
comp=E,166nm,1.8s
L16K IAML 01 01 28.1
comp=N,165nm,1.2s
L16K Owhat River 4.55 278 P Pn 00 59 56.4 +1.6
baz=90,SNR=33
YUK3 Moose Creek 4.57 81 P Pn 00 59 55.9 +0.7
baz=269,SNR=27
H24K Noodor Dome 4.58 11 IAML 01 01 24.4
comp=E,154nm,1.3s
H24K Noodor Dome 4.58 11 P Pn 00 59 57.6 +2.4
baz=193,SNR=58
H22K Ishtalitna Cre 4.58 353 P Pn 00 59 57.1 +2.0
baz=171,SNR=198
GCSA Galena City Sc 4.61 320 P Pn 00 59 57.1 +1.6
baz=134,SNR=61
PRP Porcupine Dome 4.61 24 Pn 00 59 57.0 +1.3
PRP IAML 01 01 15.7
comp=N,184nm,0.6s
PRP IAML 01 01 20.0
comp=E,223nm,1.0s
PRP Porcupine Dome 4.61 24 P Pn 00 59 58.4 +2.7
baz=208,SNR=88
P16K Nushagak River 4.63 243 Pn 00 59 57.7 +1.9
P16K Nushagak River 4.63 243 P Pn 00 59 57.7 +1.9
baz=56
H20K Anotleneega Mo 4.68 334 P Pn 00 59 57.9 +1.4

baz=150,SNR=58
J17K VABM Dome 4.69 300 IAML 01 01 20.1
comp=N,177nm,1.0s
J17K IAML 01 01 23.6
comp=E,139nm,1.0s
J17K VABM Dome 4.69 300 P Pn 00 59 57.8 +1.2
baz=112,SNR=44
O28M Mount Upton 4.79 93 P Pn 00 59 59.9 +1.6
baz=281,SNR=102
YUK8 Steele Glacier 4.92 87 P Pn 01 00 02.1 +2.0
baz=275,SNR=21
PINM Pinnacle 4.95 101 P Pn 01 00 01.0 +0.7
baz=289,SNR=20
I26K Coal Creek Min 5.00 35 Pn 01 00 02.4 +1.5
I26K IAML 01 01 28.7
comp=E,255nm,1.1s
I26K IAML 01 01 29.8
comp=N,206nm,0.8s
I26K Coal Creek Min 5.00 35 P Pn 01 00 02.9 +2.0
baz=221,SNR=124
H19K Roundabout Mou 5.08 328 P Pn 01 00 02.8 +0.9
baz=142,SNR=37
N15K Kwethluk River 5.10 261 P Pn 01 00 04.5 +2.2
baz=72,SNR=21
H25L Birch Creek 5.25 19 P Pn 01 00 07.2 +3.0
baz=202
M15K Kasigluk River 5.25 267 P Pn 01 00 05.9 +1.6
baz=78,SNR=18
BCPM Bancas Point 5.29 101 Pn 01 00 05.9 +1.1
BCPM IAML 01 01 31.1
comp=E,136nm,0.5s
BCPM IAML 01 01 33.3
comp=N,186nm,0.8s
SII Sitkinak Islan 5.30 206 P Pn 01 00 05.0 0.0
J16K Anvik River 5.31 296 Pn 01 00 06.1 +1.0
J16K IAML 01 01 37.5
comp=N,108nm,1.1s
J16K IAML 01 01 41.7
comp=E,94nm,0.7s
J16K Anvik River 5.31 296 P Pn 01 00 06.4 +1.3
baz=106,SNR=30
H18K Honhosa River 5.35 319 Pn 01 00 06.9 +1.1
H18K IAML 01 01 38.5
comp=E,120nm,1.5s
H18K IAML 01 01 41.0
comp=N,108nm,0.9s
H18K Honhosa River 5.35 319 P Pn 01 00 07.2 +1.4
baz=131,SNR=53
G23K Bananza Creek 5.36 360 P Pn 01 00 07.2 +1.4
baz=180,SNR=76
O15K Ungalikthiuk R 5.37 250 P Pn 01 00 08.3 +2.3
baz=62,SNR=18
G21K Allakaket 5.39 345 Pn 01 00 07.4 +1.2
G21K IAML 01 01 38.2
comp=N,114nm,0.7s
G21K IAML 01 01 46.9
comp=E,120nm,0.9s
G21K Allakaket 5.39 345 P Pn 01 00 07.5 +1.3
baz=162,SNR=43
YUK4 Talbot Arm 5.46 85 P Pn 01 00 08.8 +1.4
baz=274
G24K Hadweenzic Riv 5.46 11 P Pn 01 00 09.6 +2.4
baz=193,SNR=49
PNL Peninsula 5.50 103 P Pn 01 00 09.0 +1.2
PNL Peninsula 5.50 103 P Pn 01 00 08.9 +1.2
baz=293
L15K Ungalak Mounta 5.51 278 P Pn 01 00 09.4 +1.5
baz=88
I17K Unalakleet 5.55 302 P Pn 01 00 09.9 +1.6
baz=112,SNR=31
K15K Wolf Creek Mou 5.55 285 P Pn 01 00 10.1 +1.7
baz=94,SNR=40
M29M Somme Creek 5.55 74 P Pn 01 00 09.9 +1.4
baz=264,SNR=41
DAWY Dawson 5.57 56 P Pn 01 00 10.1 +1.3
baz=246,SNR=12
G22K Bettles 5.61 354 P Pn 01 00 11.7 +2.5
baz=172
FYU Fort Yukon 5.61 20 Pn 01 00 10.7 +1.4
YUK6 Outpost Mounta 5.64 89 P Pn 01 00 11.4 +1.5
baz=279,SNR=8.1
I27K Kandik River 5.66 38 P Pn 01 00 11.9 +2.0
baz=225,SNR=40
G25K Bearman Lake 5.67 16 P Pn 01 00 12.7 +2.6
baz=199,SNR=38
O29M Mount Kennedy 5.68 96 P Pn 01 00 11.6 +1.2
baz=286,SNR=22
G19K Purcell Mounta 5.73 330 P Pn 01 00 11.7 +0.8
baz=143,SNR=20
H17K Granite Mounta 5.74 313 P Pn 01 00 12.9 +1.8
baz=124,SNR=34
L29M L29M 5.81 67 Pn 01 00 13.8 +1.8
L29M L29M 5.81 67 P Pn 01 00 13.4 +1.4
baz=258,SNR=14
M14K Bethel 5.85 269 Pn 01 00 14.5 +2.0
M14K Bethel 5.85 269 P Pn 01 00 14.5 +2.0
baz=79,SNR=28
COLD Coldfoot 5.88 359 Pn 01 00 13.9 +1.0
COLD Coldfoot 5.88 359 P Pn 01 00 14.3 +1.5
baz=179,SNR=147
N14K Kuskokwak Cree 5.94 261 Pn 01 00 15.7 +2.0
N14K Kuskokwak Cree 5.94 261 P Pn 01 00 15.9 +2.2
baz=71,SNR=8.8
G18K Tagagawik 5.96 323 P Pn 01 00 15.4 +1.4
baz=136,SNR=37
O14K Tigyukauivet M 6.00 254 Pn 01 00 16.6 +2.2
O14K Tigyukauivet M 6.00 254 P Pn 01 00 16.7 +2.2
baz=64
F21K Alatna River 6.06 347 P Pn 01 00 17.2 +1.8
baz=164,SNR=60
HYT Haines Junctio 6.08 90 Pn 01 00 16.9 +1.2
HYT Haines Junctio 6.08 90 P Pn 01 00 16.8 +1.0
baz=281,SNR=10
I28M Miner Creek 6.08 43 Pn 01 00 17.4 +1.7
I28M Miner Creek 6.08 43 P Pn 01 00 17.5 +1.7
baz=232,SNR=33
L14K Kuka Creek 6.11 275 Pn Pn 01 00 18.7 +2.7
L14K Kuka Creek 6.11 275 P Pn 01 00 18.6 +2.6
baz=84,SNR=97
H27K Steamboat Moun 6.14 34 P Pn 01 00 18.3 +1.7
baz=221,SNR=31
N30M Aishikik Lake 6.19 84 P Pn 01 00 17.5 +0.2
baz=275,SNR=7.6
J29N Klondike Camp 6.20 55 P Pn 01 00 18.2 +0.9
baz=245
G26K Porcupine Rive 6.21 23 P Pn 01 00 19.5 +2.0
baz=208,SNR=24
F20K Avaraart Lake 6.22 339 P Pn 01 00 18.9 +1.3
baz=154,SNR=99
F22K John River 6.23 352 P Pn 01 00 20.4 +2.7
baz=170,SNR=14
F24K Squaw Lake 6.24 7 P Pn 01 00 20.4 +2.6
baz=189,SNR=31
K29M Barlow Dome 6.26 61 P Pn 01 00 19.7 +1.4
baz=252,SNR=9.7
P29M Windy Craggy 6.30 101 P Pn 01 00 20.4 +1.7
baz=291,SNR=41
G17K Kiwalik Mounta 6.32 315 P Pn 01 00 20.0 +1.0
baz=126,SNR=21
M30M Minto, Yukon 6.33 73 Pn 01 00 19.8 +0.6
M30M Minto, Yukon 6.33 73 P Pn 01 00 20.1 +0.9
baz=265,SNR=7.9
F19K Shaleruckik Mo 6.45 331 P Pn 01 00 21.7 +1.0
baz=144,SNR=40
H16K Elim 6.47 306 P Pn 01 00 22.5 +1.6
baz=115,SNR=8.1
P30M Million Dollar 6.51 95 P Pn 01 00 22.4 +0.8
baz=287
F25K Christian Rive 6.52 15 Pn 01 00 23.6 +1.9
F25K Christian Rive 6.52 15 P Pn 01 00 23.7 +1.9
baz=199,SNR=32
J14K Nanvaranak Lak 6.53 288 Pn 01 00 23.4 +1.7
J14K Nanvaranak Lak 6.53 288 P Pn 01 00 23.6 +1.8
baz=96
G27K Doyon Strip 6.56 30 P Pn 01 00 23.5 +1.2
baz=218,SNR=20
I29M Ogilvie Camp, 6.59 48 P Pn 01 00 24.8 +2.1
baz=238
M13K Dall Lake 6.59 267 Pn 01 00 24.9 +2.2
M13K Dall Lake 6.59 267 P Pn 01 00 25.3 +2.5
baz=76,SNR=6.9
E23K Chandalar 6.71 1 P Pn 01 00 27.4 +2.9
baz=181,SNR=32
F18K Selawik 6.75 325 P Pn 01 00 26.7 +2.0
baz=136,SNR=12
E24K Your Creek 6.76 5 P Pn 01 00 27.4 +2.4
baz=186,SNR=42

O30N Mendenhall 6.77 89 P Pn 01 00 25.9 +0.8
baz=281
N31M Braeburn, Yuko 6.81 83 P Pn 01 00 27.1 +1.3
baz=275
F26K Sheenjek River 6.82 19 P Pn 01 00 27.8 +1.9
baz=204,SNR=61
E22K Anaktuvuk Pass 6.83 354 P Pn 01 00 29.1 +3.1
baz=172,SNR=16
E19K Redstone River 6.86 336 P Pn 01 00 28.0 +1.6
baz=149,SNR=58
G16K Koyuk River 6.86 311 P Pn 01 00 28.2 +1.9
baz=120,SNR=8.0
J30M Hart River 7.00 57 Pn 01 00 30.1 +1.7
J30M Hart River 7.00 57 P Pn 01 00 30.4 +2.0
baz=249,SNR=14
K13K Kusilvak Mount 7.01 281 P Pn 01 00 29.7 +1.3
baz=88
E25K Arctic Village 7.03 14 P Pn 01 00 30.3 +1.6
baz=198,SNR=30
H29M Whitestone 7.07 42 P Pn 01 00 31.1 +1.9
baz=232
F17K Baldwin Pennin 7.10 321 P Pn 01 00 31.3 +1.7
baz=130,SNR=30
I30M Mount Dempster 7.24 52 P Pn 01 00 34.6 +3.0
baz=244,SNR=10.0
E21K Killik River 7.29 348 P Pn 01 00 35.0 +2.7
baz=165
TOLK Toolik Lake Re 7.30 1 Pn 01 00 34.0 +1.6
TOLK Toolik Lake Re 7.30 1 P Pn 01 00 35.6 +3.2
baz=181,SNR=42
G15K Niukluk 7.32 306 P Pn 01 00 34.8 +2.2
baz=113,SNR=7.3
WHY Whitehorse 7.37 89 Pn 01 00 33.8 +0.3
WHY Whitehorse 7.37 89 P Pn 01 00 34.2 +0.7
baz=282
E20K Nigu River 7.39 342 P Pn 01 00 35.8 +2.0
baz=156,SNR=30
M31M Drury Creek, Y 7.44 77 P Pn 01 00 35.0 +0.7
baz=270
SKAG Skagway 7.50 98 Pn 01 00 35.8 +0.7
SKAG Skagway 7.50 98 P Pn 01 00 36.6 +1.5
baz=291,SNR=5.5
E18K Tukpahlearik C 7.60 327 P Pn 01 00 38.1 +1.6
baz=138,SNR=31
G29M Pine Creek 7.62 38 P Pn 01 00 38.9 +2.1
baz=229
D22K Ayikyak River 7.62 353 P Pn 01 00 39.7 +3.0
baz=170,SNR=7.7
D23K Nanushuk River 7.63 358 P Pn 01 00 40.3 +3.4
baz=177,SNR=17
E17K Hotham Inlet 7.70 323 P Pn 01 00 39.5 +1.7
baz=132,SNR=72
ANM Nome 7.70 301 P Pn 01 00 40.3 +2.5
baz=108
E27K Coleen River 7.71 24 P Pn 01 00 39.9 +1.9
baz=211,SNR=15
R31K City Hall, Gus 7.75 106 P Pn 01 00 40.7 +2.1
baz=298
S31K Pelican 7.75 110 P Pn 01 00 38.9 +0.3
baz=302
D24K Happy Valley 7.83 3 P Pn 01 00 41.3 +1.7
baz=184
F15K North Star Dit 7.85 310 P Pn 01 00 42.7 +2.8
baz=117,SNR=10
D20K Etivluk River 7.88 342 P Pn 01 00 42.1 +1.8
baz=156,SNR=19
FARO Faro, Yukon 7.92 77 P Pn 01 00 42.7 +1.7
baz=271
D19K Kuna River 7.93 338 P Pn 01 00 43.3 +2.3
baz=150,SNR=11
C21K Knifeblade Rid 8.07 348 P Pn 01 00 45.4 +2.5
baz=163
BESE Bessie Mountai 8.09 104 Pn 01 00 44.1 +0.8
D25K Kavik River 8.12 9 P Pn 01 00 46.0 +2.3
baz=192,SNR=20
N32M Quiet Lake 8.15 84 P Pn 01 00 45.0 +1.0
baz=279
G30M tAoh Zraii Nji 8.21 41 P Pn 01 00 46.9 +2.0
baz=233
P32M Atlin 8.23 95 P Pn 01 00 46.2 +1.0
baz=290,SNR=5.7
H31M Peel River 8.25 51 P Pn 01 00 47.4 +1.9
baz=245
R32K Eaglecrest 8.38 105 P Pn 01 00 48.1 +0.8
baz=298
F14K Arctic Creek 8.39 306 P Pn 01 00 49.4 +2.1
baz=112
C24K Franklin Bluff 8.40 3 P Pn 01 00 49.2 +1.9
baz=184
JIS Juneau Island 8.45 105 P Pn 01 00 49.1 +1.0
P33M Teslin, Yukon 8.47 90 Pn 01 00 48.6 0.0
P33M Teslin, Yukon 8.47 90 P Pn 01 00 48.8 +0.3
baz=285
D17K Noatak River 8.47 324 P Pn 01 00 50.4 +1.9
baz=132,SNR=5.7
E28M Babbage River 8.48 27 P Pn 01 00 50.2 +1.6
baz=216
B21K Ikpikpuk River 8.50 349 P Pn 01 00 50.4 +1.7
baz=165,SNR=17
C23K Itkillik River 8.50 359 P Pn 01 00 51.4 +2.6
baz=178,SNR=42
SIT Sitka 8.67 113 Pn Pn 01 00 50.8 -0.3
SIT Sitka 8.67 113 P Pn 01 00 51.8 +0.7
SIT Sitka 8.67 113 P Pn 01 00 52.0 +0.9
baz=306
RDOG Red Dog Mine 8.67 326 P Pn 01 00 54.5 +3.4
baz=134
C27K Jago River 8.68 15 P Pn 01 00 53.9 +2.6
baz=200,SNR=26
C18K Utukok River 8.69 332 P Pn 01 00 52.8 +1.3
baz=142
E29M Blow River 8.70 31 P Pn 01 00 52.8 +1.3
baz=222,SNR=13
F30M Barrier River 8.73 38 P Pn 01 00 53.7 +1.7
baz=231
D27M Malcolm River 8.74 22 P Pn 01 00 53.5 +1.3
baz=210,SNR=19
S32K Killisnoo 8.77 110 P Pn 01 00 53.0 +0.5
baz=303,SNR=6.8
G31M Satah River 8.82 44 P Pn 01 00 55.6 +2.5
baz=238
C26K Camden Bay 8.83 11 P Pn 01 00 55.0 +1.7
baz=196
MMPY Sheldon Lake, 8.89 74 P Pn 01 00 55.2 +1.0
baz=270
TNA Tin City 9.04 305 P Pn 01 00 58.5 +2.2
baz=109
B22K Teshekpuk Lake 9.11 353 P Pn 01 00 58.9 +1.8
baz=169,SNR=6.4
Q32M Nakina River 9.15 97 P Pn 01 00 58.7 +0.7
baz=293,SNR=9.6
B20K Meade River 9.15 344 P Pn 01 00 58.9 +1.3
baz=158
D28M Stokes Point 9.24 26 P Pn 01 01 02.6 +3.6
baz=216,SNR=7.9
B18K Kokolik River 9.39 334 P Pn 01 01 02.8 +1.8
baz=143
C16K Lisburne Hills 9.50 323 P Pn 01 01 05.1 +2.6
baz=129
R33M Jennings River 9.62 94 Pn 01 01 05.3 +1.1
R33M Jennings River 9.62 94 P Pn 01 01 05.2 +1.0
baz=290
INK Inuvik 9.84 38 Pn Pn 01 01 06.8 -0.3
comp=E,0.4nm,0.3s,baz=235,slow=15,SNR=12
INK Sn Sn 01 02 58.3 +2.4
comp=E,0.9nm,0.3s,baz=282,slow=12,SNR=4.8
INK Lg Lg 01 03 55.2
comp=E,0.1nm,0.3s,baz=164,slow=7.4,SNR=3.5
comp=E,0.8nm,0.4s
INK Inuvik 9.84 38 P Pn 01 01 07.9 +0.8
baz=233
A22K Sinclair Lake 9.87 350 P Pn 01 01 08.3 +0.8
baz=166
S34M Telegraph Cree 10.14 102 P Pn 01 01 11.7 +0.4
baz=298
U33K Whale Pass 10.21 114 P Pn 01 01 13.0 +0.8
baz=308
GAMB Gambell 10.29 293 P Pn 01 01 13.9 +0.7
baz=94
A21K Barrow 10.33 348 P Pn 01 01 14.2 +0.4
baz=162
WRAK Wrangell Islan 10.37 111 P Pn 01 01 14.6 +0.2
baz=306
DLBC Dease Lake 10.43 98 Pn Pn 01 01 13.5 -1.8
comp=E,0.3nm,0.3s,baz=293,slow=13,SNR=4.7
DLBC Lg Lg 01 04 13.1
baz=252,slow=20,SNR=2.3
DLBC LR LR 01 05 34.4

comp=E,197nm,20.4s,baz=276,slow=39
DLBC Dease Lake 10.43 98 P Pn 01 01 16.0 +0.6
baz=295
T35M Bob Quinn 11.02 105 P Pn 01 01 24.3 +0.9
baz=302
TOAD Toad River Com 12.57 91 P Pn 01 01 47.0 +2.5
baz=292,SNR=9.7
KOTAN Kotaneelee Air 12.71 84 P Pn 01 01 47.4 +1.0
baz=287
C36M Paulatuk 13.33 42 Pn 01 01 52.8 -1.8
C36M Paulatuk 13.33 42 P Pn 01 01 53.4 -1.3
baz=246
A36M Sachs Harbour 14.30 32 Pn 01 02 06.8 -1.1
A36M Sachs Harbour 14.30 32 P Pn 01 02 07.3 -0.6
baz=235,SNR=5.1
BBB Bella Bella 15.04 118 LR LR 01 08 08.0
comp=E,109nm,19.2s,baz=18,slow=37
YKA Yellowknife Ar 16.56 71 Pn Pn 01 02 36.4 -0.7
YKA Yellowknife Ar 16.56 71 Pn Pn 01 02 35.4 -1.8
comp=E,0.2nm,0.3s,baz=246,slow=11,SNR=14
YKA PcP **PcP 01 07 24.9 -0.5**
comp=E,0.2nm,0.7s,baz=284,slow=2.8,SNR=3.8
comp=E,1.2nm,0.9s
YKA Yellowknife Ar 16.56 71 *e*P Pn 01 02 38.0 +0.8
BILL Bilibino 19.45 309⇑*e*P P 01 03 09.4 -1.6
BLKN Baker Lake 24.18 59 P P 01 04 01.6 +1.3
BLKN IAmb IAmb 01 04 27.4
comp=Z,7.8nm,1.2s
PLID Pearl Lake 25.65 114 P P 01 04 14.8 +0.8
EUNU Eureka 25.80 21 P P 01 04 15.8 +0.9
EUNU IAmb IAmb 01 04 33.2
comp=Z,4.0nm,0.8s
SEY Seymchan 26.20 299 P P 01 04 17.5 -1.0
comp=Z,1.2nm,0.7s,baz=35,slow=14,SNR=5.6
comp=Z,1.2nm,0.7s
SEY Seymchan 26.20 299⇑*i*P P 01 04 18.3 -0.2
SEY pmax pmax
comp=Z,1.0nm,0.7s
EGMT Eagleton 26.31 102 P P 01 04 20.5 +0.7
EGMT IAmb IAmb 01 04 45.6
comp=Z,9.2nm,1.1s
ILON Igloolik, Nuna 27.99 44 P P 01 04 35.1 +0.6
BEKR Beckworth 28.15 126 P P 01 04 37.8 +1.4
BEKR IAmb IAmb 01 05 05.4
comp=Z,4.4nm,1.2s
PEA0B Petropavlovsk- 28.75 277 P P 01 04 41.6 +0.1
PEA0B IAmb IAmb 01 05 07.8
comp=Z,16nm,1.3s
PEA0B Petropavlovsk- 28.75 277⇑*i*P P 01 04 41.1 -0.4
PETK Petropavlovsk- 28.75 277 P P 01 04 41.1 -0.4
PETK Petropavlovsk- 28.75 277 P P 01 04 40.5 -1.0
comp=Z,1.0nm,0.5s,baz=66,slow=12,SNR=5.7
comp=Z,1.0nm,0.5s
ELK Elko 29.49 118 P 01 04 49.3 +0.9
NVAR Mina Array Bea 30.19 125 P P 01 04 56.4 +1.7
comp=Z,0.9nm,0.6s,baz=322,slow=10.0,SNR=7.6
comp=Z,0.9nm,0.6s
PDAR Pinedale Array 30.36 109 P P 01 04 57.7 +1.6
comp=Z,0.6nm,0.6s,baz=316,slow=5.3,SNR=7.5
comp=Z,0.6nm,0.6s
TIXI Tiksi 31.27 323*c i*P P 01 05 02.6 -0.9
TIXI pmax pmax
comp=Z,2.0nm,1.0s
R11B Troy Canyon, C 31.36 121 P P 01 05 06.3 +1.4
ULM Lac du Bonnet 31.44 86 P P 01 05 06.7 +1.4
comp=Z,2.5nm,0.6s,baz=268,slow=13,SNR=3.5
comp=Z,2.5nm,0.6s
EPLO Experimental L 32.85 85 P P 01 05 18.1 +0.4
EPLO IAmb IAmb 01 05 29.1
comp=Z,5.7nm,1.4s
YAK Yakutsk 35.80 307 *e*P P 01 05 42.3 -0.7
YAK pmax pmax
comp=Z,7.0nm,0.7s
YAK pmax pmax
comp=N,3.0nm,1.5s
YAK pmax pmax
comp=E,2.0nm,0.9s
SPITS Spitsbergen Ar 40.44 4 P P 01 06 20.6 -1.3
comp=E,2.2nm,0.6s,baz=18,slow=6.1,SNR=45
comp=E,2.2nm,0.6s
NRIK Noril'sk 43.31 334 P P 01 06 44.8 -0.6
comp=E,4.5nm,0.6s,baz=53,slow=6.6,SNR=18
comp=E,4.5nm,0.6s
NRIK Noril'sk 43.31 334*c i*P P 01 06 43.8 -1.5
NRIK pmax pmax
comp=Z,3.0nm,0.6s
KLR Kul'dur 43.45 291 LR LR 01 24 55.2
comp=Z,75nm,18.3s,baz=68,slow=36
KLR Kul'dur 43.45 291 *e*P P 01 06 45.4 -1.3
KLR pmax pmax
comp=Z,3.0nm,1.3s
TXAR Lajitas Array 44.15 115 P P 01 06 54.5 +1.9
comp=Z,0.7nm,0.7s,baz=332,slow=6.2,SNR=9.0
comp=Z,0.7nm,0.7s
BNX BinXian 48.01 291 ⇓P P 01 07 21.3 -1.4
BNX pmax pmax
comp=Z,9.0nm,1.0s
MSHR Mys Shultsa 48.73 285⇑*i*P P 01 07 27.0 -1.3
MSHR pmax pmax
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 49.34 2 P P 01 07 32.1 -0.5
comp=Z,4.0nm,0.9s,baz=11,slow=6.9,SNR=11
ARCES PcP **PcP 01 08 52.7 -1.8**
comp=Z,1.3nm,0.7s,baz=353,slow=3.1,SNR=3.6
comp=Z,4.0nm,0.9s
MJA0 Matsu Arr-Jizo 50.14 275 *e*P P 01 07 40.1 +0.9
MJA0 pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 50.16 275 P P 01 07 38.5 -0.8
comp=Z,1.2nm,0.8s,baz=34,slow=9.1,SNR=4.8
comp=Z,1.2nm,0.8s
CN2 Changchun 50.40 291 *e*P P 01 07 40.5 -0.4
CN2 PcP **PcP 01 08 59.5 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,50nm,5.0s
KSRS Korea Array 54.31 284 P P 01 08 10.3 +0.3
comp=Z,5.0nm,0.7s,baz=32,slow=7.1,SNR=22
KSRS LR LR 01 32 30.2
comp=Z,17nm,18.9s,baz=80,slow=37
comp=Z,5.0nm,0.7s
ULN Ulaanbaatar 54.89 307⇑*i*P P 01 08 13.7 -0.6
ULN pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 55.16 307 P P 01 08 16.3 +0.1
comp=Z,3.9nm,0.9s,baz=41,slow=7.8,SNR=18
comp=Z,3.9nm,0.9s
NB2 NORSAR Subarra 57.06 11 P P 01 08 28.4 -1.0
comp=Z,0.9nm,0.8s,baz=349,slow=7.4
NOA NORSAR Array B 57.06 11 P P 01 08 28.5 -1.0
comp=Z,0.7nm,0.8s,baz=350,slow=7.1,SNR=5.6
NOA LR LR 01 34 38.6
comp=Z,22nm,20.3s,baz=10.0,slow=38
comp=Z,0.7nm,0.8s
NOA NORSAR Array B 57.06 11 *e*P P 01 08 29.5 0.0
ZALV Zalesovo Beam 57.12 325 P P 01 08 28.7 -1.2
comp=Z,2.1nm,0.6s,baz=30,slow=6.8,SNR=12
comp=Z,2.1nm,0.6s
FINES FINESS Array B 57.47 2 P P 01 08 31.7 -0.5
comp=Z,1.8nm,0.5s,baz=0.4,slow=9.0,SNR=22
comp=Z,1.8nm,0.5s
FINES FINESS Array B 57.47 2 *e*P P 01 08 32.0 -0.3
FINES pmax pmax
comp=Z,2.0nm,0.5s
HFS Hagfors 58.17 10 P P 01 08 36.5 -0.7
comp=Z,0.6nm,0.5s,baz=35,slow=8.1,SNR=5.3
comp=Z,0.6nm,0.5s
HHC Hu-ho-hao-te 58.85 299 *e*P P 01 08 44.5 +2.1
HHC pmax pmax
comp=Z,28nm,0.6s
HHC pmax pmax
comp=Z,53nm,5.3s
ARTI Arti 60.48 342*d i*P P 01 08 52.3 -0.9
ARTI 01 09 34.8
ARTI 01 11 03.4
ARTI S **S 01 17 06.1 +1.2**
ARTI SS **SS 01 21 01.3 -1.0**
ARTI pmax pmax
comp=Z,6.0nm,0.6s
EKA Eskdalemuir Ar 60.73 21 P P 01 08 54.9 0.0
comp=Z,0.7nm,0.4s,baz=330,slow=5.6,SNR=9.7
comp=Z,0.7nm,0.4s
BRVK Borovoye 61.51 334*c i*P P 01 08 58.6 -1.7
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BVA0 Borovoye Array 61.52 334 *i* P P 01 08 58.8 -1.5

BVAR Borovoye Array 61.52 334 P P 01 08 59.1 -1.2
comp=Z,4.8nm,0.6s,baz=36,slow=7.7,SNR=18
comp=Z,4.8nm,0.6s
KURK Kurchatov 61.70 327 *ce*P **P 01 09 00.8 -0.7**
KURK pmax pmax
comp=Z,4.0nm,1.3s
KURBB Kurchatov Arra 61.81 327 P P 01 09 00.8 -1.4
comp=Z,3.1nm,0.4s,baz=28,slow=6.7,SNR=11
comp=Z,3.1nm,0.4s
OBN Obninsk 63.74 356 *d iP* **P 01 09 14.6 -0.4**
OBN *e* 01 09 49.3
OBN *e* 01 11 34.3
OBN *e*PPP PPP 01 13 04.0
OBN *e*S S 01 18 11.0 +25
OBN *e*SS **SS 01 21 53.4 +0.3**
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN MLR MLR
comp=Z,102nm,21.0s
MK31 Makanchi Array 64.26 323 *d iP* **P 01 09 16.8 -1.8**
MKAR Makanchi Array 64.26 323 P P 01 09 17.0 -1.6
comp=Z,2.8nm,0.5s,baz=39,slow=6.6,SNR=54
comp=Z,2.8nm,0.5s
MAKZ Makanchi 64.33 323 P P 01 09 17.6 -1.5
MNK Minsk 64.45 1 *i* 01 11 40.6
MNK *i* PPP PPP 01 13 10.9
MNK *i* S **S 01 17 55.5 +0.7**
MNK *i* SS **SS 01 22 07.6 +3.3**
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=E,8.0nm,1.1s
MNK pmax pmax
comp=N,8.0nm,1.0s
MNK MLR MLR
comp=E,92nm,20.0s
MNK MLR MLR
comp=N,49nm,17.0s
MNK MLR MLR
comp=Z,75nm,19.0s
GTA Gaotai 64.83 307 *eP* **P 01 09 22.0 -0.6**
GTA pmax pmax
comp=Z,5.0nm,0.8s
BELG Belogornoye 65.71 348 *d iP* **P 01 09 27.0 -0.9**
BELG pmax pmax
comp=Z,2.0nm,0.6s
AB31 Akbulak array 67.13 339 *i* P **P 01 09 36.1 -0.9**
OSTC Ostas 67.87 9 *eP* **P 01 09 42.4 +0.6**
OSTC Ostas 67.87 9 *eP* **P 01 09 42.4 +0.6**
UPC Upice 67.90 10 *eP* **P 01 09 42.4 +0.5**
UPC Upice 67.90 10 *eP* **P 01 09 42.4 +0.5**
DPC Dobruska-Polom 68.08 9 *eP* **P 01 09 43.9 +0.8**
DPC Dobruska-Polom 68.08 9 *eP* **P 01 09 43.9 +0.8**
AKASG Malin Array Be 68.27 1 P P 01 09 43.5 -0.8
comp=Z,2.3nm,0.3s,baz=3.1,slow=6.3,SNR=18
comp=Z,2.3nm,0.3s
AKBB Malin Array Si 68.27 1 *c iP* **P 01 09 43.0 -1.2**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
PRU Pruhonice 68.30 11 *eP* **P 01 09 44.9 +0.5**
PRU Pruhonice 68.30 11 *eP* **P 01 09 44.9 +0.5**
KRLC Kraliky 68.39 9 *eP* **P 01 09 45.5 +0.4**
KRLC Kraliky 68.39 9 *eP* **P 01 09 45.5 +0.4**
STEB Steborice 68.61 8 *eP* **P 01 09 46.6 +0.3**
MORC Moravsky Berou 68.75 9 *eP* **P 01 09 47.1 -0.2**
ZVC Zvikov 68.81 11 *eP* **P 01 09 48.5 +0.9**
KHC Kasperske Hory 69.06 11 *eP* **P 01 09 50.3 +1.1**
KHC Kasperske Hory 69.06 11 *eP* **P 01 09 50.3 +1.1**
VRAC Vranov 69.14 9 *eP* **P 01 09 49.8 +0.1**
STHS Stebnicka Huta 69.33 6 *eP* **P 01 09 50.9 0.0**
STHS pmax pmax
comp=Z,11nm,0.6s
STHS Stebnicka Huta 69.33 6 *eP* **P 01 09 50.9 0.0**
GERES GERESS Array B 69.35 11 P P 01 09 50.8 -0.3
comp=Z,0.7nm,0.7s,baz=337,slow=5.8,SNR=5.0
comp=Z,0.7nm,0.7s
GERES GERESS Array B 69.35 11 *eP* **P 01 09 51.3 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.8s
KRUC Moravsky 69.37 10 *eP* **P 01 09 51.1 0.0**
LANS Liptovska Anna 69.50 7 *eP* **P 01 09 52.9 +1.0**
LANS pmax pmax
comp=Z,4.0nm,0.6s
LANS Liptovska Anna 69.50 7 *eP* **P 01 09 52.9 +1.0**
JAVC Velka Javorina 69.67 9 *eP* **P 01 09 54.0 +1.0**
KOLS Kolonicke sedl 69.87 5 *eP* **P 01 09 54.8 +0.6**
KOLS pmax pmax
comp=Z,7.0nm,0.6s
KOLS Kolonicke sedl 69.87 5 *eP* **P 01 09 54.8 +0.6**
VYHS Vyhne 70.11 8 *eP* **P 01 09 56.1 +0.4**
VYHS pmax pmax
comp=Z,4.0nm,1.1s
VYHS Vyhne 70.11 8 *eP* **P 01 09 56.1 +0.4**
MODS Modra-Piesok 70.12 9 *eP* **P 01 09 56.5 +0.7**
MODS Modra-Piesok 70.12 9 *eP* **P 01 09 56.5 +0.7**
AAK Ala-Archa 70.25 327 *d iP* **P 01 09 56.2 -0.6**
AAK pmax pmax
comp=Z,3.0nm,0.6s
CONA Conrad Observa 70.45 10 *eP* **P 01 09 58.5 +0.6**
comp=Z,1.9nm,0.6s
WATA Walderalm 70.62 13 *eP* **P 01 09 59.3 +0.3**
comp=Z,1.1nm,0.4s
SQTA Sankt Quirin 70.70 13 *eP* **P 01 09 59.9 +0.5**
comp=Z,0.7nm,0.3s
WTTA Wattenberg 70.70 13 *i* P **P 01 10 00.1 +0.6**
comp=Z,2.4nm,0.7s
KK31 Karatay Array 70.82 330 *i* P **P 01 09 58.4 -1.7**
FETA Feichten 70.84 14 *eP* **P 01 10 00.6 +0.3**
comp=Z,0.6nm,0.4s
KBA Koelnbreinsper 71.06 12 *i* P **P 01 10 02.3 +0.6**
comp=Z,6.2nm,0.7s
ARSA Arzberg 71.10 10 *eP* **P 01 10 02.0 +0.3**
comp=Z,0.7nm,0.4s
SOKA Soboth 71.62 11 *eP* **P 01 10 05.7 +0.7**
comp=Z,1.3nm,0.6s
OBKA Obir 71.74 11 *eP* **P 01 10 06.0 +0.2**
comp=Z,7.9nm,0.7s
KSH Kashi 72.75 324 P P 01 10 14.5 +2.6
KSH pmax pmax
comp=Z,7.0nm,0.5s
BTK Batken 73.62 328 P P 01 10 16.2 -0.7
BTK IAmb IAmb 01 10 17.1
comp=Z,4.9nm,0.9s
ANN Anapa 74.01 355 *eP* **P 01 10 18.0 -1.0**
ANN *e*PP **pP 01 10 27.3 -4.5**
ANN *e* 01 12 59.8
ANN *e*S **S 01 19 48.2 +0.5**
ANN pmax pmax
comp=Z,11nm,0.8s
KIV Kislovodsk 74.52 351 P P 01 10 21.4 -0.7
KIV Kislovodsk 74.52 351 *eP* **P 01 10 20.8 -1.3**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,62nm,18.0s
KBZ Khabaz 74.73 350 P P 01 10 23.4 +0.2
comp=Z,2.3nm,0.8s,baz=312,slow=9.6,SNR=6.3
comp=Z,2.3nm,0.8s
KBZ Khabaz 74.73 350 *c iP* **P 01 10 23.3 +0.1**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
GAR Garm 74.74 329 P P 01 10 22.9 -0.6
NCK Nalchik 74.90 350 *ceP* **P 01 10 24.5 +0.2**
NCK pmax pmax
comp=Z,10.0nm,0.6s
PZH PanZhiHua 75.30 298 P P 01 10 30.3 +3.3
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.8s
ESDC Sonseca Array 75.58 26 P P 01 10 28.9 +0.6
comp=Z,1.1nm,0.8s,baz=338,slow=5.8,SNR=11
comp=Z,1.1nm,0.8s
GNI Garni 78.12 349 *ceP* **P 01 10 44.0 +1.3**
GNI pmax pmax
comp=Z,12nm,2.5s
BR131 Keskin Array S 79.21 357 *c iP* **P 01 10 48.5 -0.2**
BRTR Keskin Array B 79.21 357 P P 01 10 48.1 -0.6
comp=Z,0.7nm,0.7s,baz=318,slow=1.5,SNR=7.1
comp=Z,0.7nm,0.7s
KEST Kesra 81.78 17 P P 01 11 01.9 -0.6
comp=Z,4.9nm,1.0s,baz=280,slow=4.8,SNR=4.4
comp=Z,4.9nm,1.0s
CMAR Chiang Mai Arr 83.60 297 P P 01 11 10.6 -1.4
comp=Z,1.6nm,0.3s,baz=2.2,slow=6.0,SNR=16
comp=Z,1.6nm,0.3s
CMAR Chiang Mai Arr 83.60 297 *eP* **P 01 11 10.6 -1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
BOSA Boshof 147.09 8 PKPbc PKPbc 01 18 25.5 -0.6
comp=Z,2.1nm,0.8s,baz=318,slow=4.4,SNR=4.6
QSPA South Pole Qui 151.18 180 PKPbc PKPbc 01 18 34.9 -0.2
comp=Z,3.4nm,0.6s,baz=54,slow=2.6,SNR=30

SJA ***28*** *01:17:36.6±1.4, 34.°65S×71.°90W, h14km±4km, ML3.7, MW3.7*
GUC ***28*** *01:17:39.6±0.7, 34.°67S×71.°93W, h15km±4km, ML3.7*
ISC 28 01:17:38.0±1.0, 34.°66S±0.°02×71.°88W±0.°04, h13km±9km, n26, σ0§87/43, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.18**	**337**	⇑ *i P*	**Pb**	**01 17 42.7**	**-0.5**
BO03				*e*S	**Sg**	**01 17 45.2**	**+0.3**
BO03				IAML		01 17 45.8	
comp=N,38μm,0.2s							
GO05	**Hualane**	**0.35**	**187**	*e*P	**Pg**	**01 17 45.1**	**0.0**
GO05				*e*S	**Sg**	**01 17 50.0**	**+0.1**
BO01	**Tunca**	**0.71**	**68**	⇑ *i P*	**Pg**	**01 17 51.8**	**+0.1**
BO01				*e*S	**Sg**	**01 18 01.2**	**+0.2**
BO01				IAML		01 18 04.3	
comp=N,2μm,0.6s							
BO01	**Tunca**	**0.71**	**68**	*i P*	**Pg**	**01 17 51.2**	**-0.5**
BO01				*e*S	**Sg**	**01 18 01.2**	**+0.2**
BO01				IAML		01 18 01.8	
comp=Z,2μm,0.5s							
BO02	**Sierra Bellavi**	**0.91**	**99**	⇑ *i P*	**Pb**	**01 17 55.5**	**-0.1**
BO02				*e*S	**Sb**	**01 18 07.8**	**0.0**
BO02				IAML		01 18 10.0	
comp=N,6μm,0.3s							
BO02	**Sierra Bellavi**	**0.91**	**99**	*i P*	**Pb**	**01 17 54.8**	**-0.8**
BO02				*e*S	**Sb**	**01 18 07.9**	**+0.2**
BO02				IAML		01 18 08.2	
comp=Z,6μm,0.5s							
MT01	**Popeta**	**0.95**	**33**	⇓ *i P*	**Pb**	**01 17 55.5**	**-0.7**
MT01				*e*S	**Sb**	**01 18 07.4**	**-1.4**
MT01	**Popeta**	**0.95**	**33**	*i P*	**Pb**	**01 17 55.6**	**-0.7**
MT01				*e*S	**Sb**	**01 18 08.1**	**-0.6**
MT01				IAML		01 18 15.2	
comp=Z,817nm,0.3s							
VA05	**Santo Domingo**	**1.02**	**12**	*e*P	**Pb**	**01 17 56.7**	**-0.8**
VA05				*e*S	**Sb**	**01 18 09.7**	**-1.3**
VA05				IAML		01 18 16.8	
comp=E,3μm,0.6s							
MT09	**Talagante**	**1.15**	**40**	⇓ *i P*	**Pn**	**01 17 59.1**	**-0.8**
MT09				*e*S	**Sb**	**01 18 13.6**	**-1.0**
MT09				IAML		01 18 17.0	
comp=N,3μm,0.5s							
ML02	**Panimavida**	**1.16**	**161**	*e*P	**Pn**	**01 17 59.4**	**-0.6**
ML02				*e*S	**Sb**	**01 18 14.4**	**-0.5**
ML02				IAML		01 18 19.3	
comp=N,5μm,0.6s							
ML02	**Panimavida**	**1.16**	**161**	*i P*	**Pn**	**01 17 59.3**	**-0.6**
ML02				*e*S	**Sb**	**01 18 15.2**	**+0.4**
ML02				IAML		01 18 20.9	
comp=Z,2μm,0.6s							
BO04	**La Punta**	**1.24**	**58**	*e*P	**Pn**	**01 18 01.0**	**-0.1**
BO04				*e*S	**Sb**	**01 18 16.6**	**-0.7**
BO04				IAML		01 18 22.5	
comp=E,1μm,0.5s							
MT12	**Pirque**	**1.44**	**50**	⇓ *i P*	**Pn**	**01 18 04.1**	**+0.3**
MT12				IAML		01 18 30.3	
comp=N,3μm,0.2s							
MT02	**Curacav**	**1.53**	**24**	⇓ *i P*	**Pn**	**01 18 04.2**	**-0.8**
MT02				IAML		01 18 29.0	
comp=E,1μm,0.6s							
MT02	**Curacav**	**1.53**	**24**	*i P*	**Pn**	**01 18 03.5**	**-1.4**
MT02				*e*S	**Sb**	**01 18 26.5**	**+1.1**
MT02				IAML		01 18 28.0	
comp=Z,1μm,0.6s							
MT05	**Renca**	**1.58**	**37**	*i P*	**Pn**	**01 18 06.3**	**+0.6**
MT05				*e*S	**Sg**	**01 18 29.2**	**+0.3**
MT05				IAML		01 18 32.3	
comp=Z,845nm,0.8s							
MT13	**San Alfonso**	**1.60**	**56**	*i P*	**Pn**	**01 18 06.7**	**+0.6**
MT13				*e*S	**Sb**	**01 18 28.8**	**+1.1**
MT13				IAML		01 18 31.7	
comp=Z,1μm,0.8s							
LMEL	**Las Melosas**	**1.60**	**60**	*i P*	**Pn**	**01 18 06.5**	**+0.4**
LMEL				*e*S	**Sb**	**01 18 28.4**	**+0.6**
FCH	**Farellones**	**1.87**	**45**	*e*P	**Pn**	**01 18 11.0**	**+1.0**
MT04	**Ro Olivares**	**1.91**	**50**	*i P*	**Pn**	**01 18 11.7**	**+1.2**
MT04				IAML		01 18 40.0	
comp=Z,471nm,0.5s							
BI02	**San Fabin de**	**2.06**	**166**	*e*P	**Pn**	**01 18 13.3**	**+1.0**
BI02				IAML		01 18 41.6	
comp=N,542nm,0.4s							
BI02	**San Fabin de**	**2.06**	**166**	*i P*	**Pn**	**01 18 12.8**	**+0.5**
BI02				IAML		01 18 41.1	
comp=Z,480nm,0.5s							
CO02	**Combarbal**	**3.53**	**12**	*i P*	**Pn**	**01 18 33.9**	**+1.4**
CO02				IAML		01 19 34.9	
comp=Z,224nm,0.5s							
CO03	**El Pedregal**	**3.94**	**15**	*i P*	**Pn**	**01 18 40.3**	**+2.1**
CO03				IAML		01 19 43.6	
comp=Z,108nm,0.6s							
GO04	**Tololo Observa**	**4.57**	**12**	*i P*	**Pn**	**01 18 48.8**	**+1.8**

DJA ***28*** *01:23:01.6±0.8, 0.°N±5.°×12.°1E±.°, h179km±10km, M4.2/11, mB4.8/1, mb4.4/3, MLv4.1/11, Mw(mB)4.1/1*
NEIC ***28*** *01:23:01.4±1.6, 0.°2N±0.°1×121.°4E±0.°2, h181km±7km, mb4.1/14, Error ellipse: s-maj=35.9km s-min=5.8km az=57.0*
IDC ***28*** *01:23:02.8±5.2, 0.°17N×121.°52E, h200km±52km, mb3.5/12, mbtmp4.0/13, Error ellipse: s-maj=51.1km s-min=12.2km az=63.0*
ISC 28 01:23:02.5±0.6, 0.°22N±0.°08×121.°41E±0.°07, h200km, n40, σ1§69/41, mb3.9/18, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**1.08**	**325**		**Pn**	**01 23 29.9**	**-3.0**
TOLI2				Sn	**Sn**	**01 23 50.2**	**-6.2**
APSI	**Ampana**	**1.15**	**168**	P	**Pn**	**01 23 31.7**	**-1.6**
MPSI	**Mapaga**	**1.51**	**275**	P	**Pn**	**01 23 33.6**	**-2.7**
LUWI	**Luwuk**	**1.85**	**132**		**Pn**	**01 23 37.0**	**-2.5**
LUWI	**Luwuk**	**1.85**	**132**	P	**Pn**	**01 23 38.5**	**-1.0**
PCI	**Palu**	**1.93**	**235**	P	**Pn**	**01 23 37.8**	**-2.4**
KMSI	**Cibinong**	**2.60**	**82**	P	**Pn**	**01 23 45.9**	**-1.6**
SANI	**Sanana**	**5.11**	**116**	P	**Pn**	**01 24 14.5**	**-3.7**
MTN	**Manton Dam**	**16.17**	**144**	P	**Pn**	**01 26 39.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**18.67**	**167**	P	**P**	**01 27 05.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.67**	**167**	P	**P**	**01 27 05.7**	**0.0**
2.0nm,0.5s,baz=18,slow=6.0,SNR=9.7							
WB0	**Warramunga Arr**	**23.59**	**148**	P	**P**	**01 27 54.7**	**-0.7**
WB0				IAmb	IAmb	01 28 09.8	
comp=Z,15nm,1.5s							
WRA	**Warramunga Arr**	**23.71**	**148**	P	**P**	**01 27 54.9**	**-1.5**
comp=Z,1.4nm,0.7s,baz=328,slow=9.6,SNR=6.3							
comp=Z,1.4nm,0.7s							
WR8	**Warramunga Arr**	**23.80**	**148**	P	**P**	**01 27 56.8**	**-0.5**
WR8				IAmb	IAmb	01 27 59.0	
comp=Z,4.5nm,0.8s							
ASAR	**Alice Springs**	**26.66**	**154**	P	**P**	**01 28 23.1**	**0.0**
comp=Z,0.2nm,0.6s,baz=342,slow=14,SNR=4.3							
comp=Z,0.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**28.55**	**311**	P	**P**	**01 28 42.0**	**+2.1**
comp=Z,1.4nm,0.7s,baz=130,slow=6.9,SNR=11							
comp=Z,1.4nm,0.7s							
SONM	**Songino Array**	**49.19**	**347**	P	**P**	**01 31 31.0**	**+0.5**
SONM	**Songino Array**	**49.19**	**347**	P	**P**	**01 31 31.7**	**+1.3**
comp=Z,1.7nm,0.6s,baz=168,slow=8.0,SNR=9.4							
comp=Z,1.7nm,0.6s							
MKAR	**Makanchi Array**	**57.60**	**329**	P	**P**	**01 32 33.2**	**+1.6**
MKAR	**Makanchi Array**	**57.60**	**329**	P	**P**	**01 32 32.8**	**+1.3**
comp=Z,1.5nm,0.4s,baz=126,slow=8.8,SNR=27							
comp=Z,1.5nm,0.4s							
MAKZ	**Makanchi**	**57.77**	**329**	P	**P**	**01 32 33.2**	**+0.5**
MAKZ				IAmb	IAmb	01 32 35.3	
comp=Z,1.8nm,0.5s							
KBL	**Kabul**	**59.59**	**311**	P	**P**	**01 32 46.5**	**+0.8**
KBL				IAmb	IAmb	01 32 48.3	
comp=Z,7.9nm,1.4s							
ZALV	**Zalesovo Beam**	**61.47**	**336**	P	**P**	**01 32 58.2**	**+0.5**
ZALV	**Zalesovo Beam**	**61.47**	**336**	P	**P**	**01 32 58.0**	**+0.3**
comp=Z,2.6nm,0.7s,baz=126,slow=6.4,SNR=11							
comp=Z,2.6nm,0.7s							
KURBB Kurchatov Arra 61.98 331 P P 01 33 02.5 +1.2							
comp=Z,1.6nm,0.5s,baz=116,slow=5.7,SNR=24							
comp=Z,1.6nm,0.5s							
KURK Kurchatov 62.00 331 P P 01 33 02.5 +1.1							
KKAR Karatay Array 62.32 320 P P 01 33 05.0 +1.3							
BVAR Borovoye Array 67.48 329 P P 01 33 37.2 +0.4							
comp=Z,1.9nm,0.6s,baz=127,slow=11,SNR=9.2							
comp=Z,1.9nm,0.6s							
AB31 Akbulak array 71.59 323 P P 01 34 02.1 +0.2							
ABKAR Akbulak array 71.59 323 P P 01 34 02.0 +0.1							
ABKAR				IAmb	IAmb	01 34 03.3	
comp=Z,1.7nm,0.8s							
AKTO Aktyubinsk 73.18 323 P P 01 34 11.4 0.0							
comp=Z,1.2nm,0.5s,baz=96,slow=4.5,SNR=6.0							
comp=Z,1.2nm,0.5s							
VNDA Vanda 80.69 172 P P 01 34 52.4 -0.3							
VNDA				IAmb	IAmb	01 35 15.5	
comp=Z,3.6nm,1.4s							
VNDA Vanda 80.69 172 P P 01 34 52.9 +0.2							
comp=Z,0.4nm,0.6s,baz=335,slow=6.4,SNR=1.6							
comp=Z,0.4nm,0.6s							
J18K Innoko River 86.17 26 P P 01 35 21.1 +0.2							
J18K				IAmb	IAmb	01 35 41.1	
comp=Z,5.0nm,1.5s							
BRTR Keskin Array B 88.14 310 P P 01 35 30.9 -0.1							
comp=Z,0.4nm,0.9s,baz=66,slow=7.1,SNR=2.9							
comp=Z,0.4nm,0.9s							
QSPA South Pole Qui 90.15 180 P P 01 35 39.7 -0.1							
QSPA				IAmb	IAmb	01 36 17.7	
comp=Z,2.1nm,1.1s							
QSPA South Pole Qui 90.15 180 P P 01 35 40.2 +0.4							
comp=Z,0.8nm,1.0s,baz=315,slow=4.3,SNR=1.4							
comp=Z,0.8nm,1.0s							
BMAR Burnt Mountain 91.35 23 P P 01 35 45.6 +0.4							
I28M Miner Creek 93.41 24 P P 01 35 55.3 +0.4							
TXAR Lajitas Array 127.94 52 PKP PKiKP 01 41 46.9 +1.0							
comp=Z,0.1nm,0.4s,baz=291,slow=4.3,SNR=1.7							

IDC ***28*** *01:26:33.7±0.8, 45.°67N×153.°85E, h0km, mb3.9/16, mbtmp3.9/20, ML3.3/4, MS2.8/3, Error ellipse: s-maj=21.0km s-min=17.9km az=141.0*
SKHL ***28*** *01:26:36.1±0.5, 45.°50N×153.°90E, h42km±7km, mb4.7/4*
MOS ***28*** *01:26:38.0±1.6, 45.°75N×153.°74E, h42km, mb4.4/8, Error ellipse: s-maj=11.1km s-min=9.2km az=91.7*
ISC 28 01:26:38.8±0.8, 45.°62N±0.°10×153.°73E±0.°08, h35km, n60, σ1§46/60, mb4.0/22, 5C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.15**	**267**	*e*PN	**Pn**	**01 27 40.4**	**+0.9**
KUR				S	**Sn**	**01 28 28.0**	**+1.2**
KUR				smax	smax		
comp=N,133nm,0.2s							
KUR				smax	smax		
comp=E,133nm,0.3s							
KUR	**Kuril'sk**	**4.15**	**267**	*e*P	**Pn**	**01 27 39.8**	**+0.3**
KUR				AMB	AMB	01 27 41.1	
comp=E,150nm,0.4s							
KUR				*e*S	**Sn**	**01 28 25.0**	**-1.8**
KUR				A	A	01 28 30.2	
comp=E,150nm,0.4s							
KUR				A	A	01 28 30.2	
comp=E,200nm,0.4s							
SHO	**Shikotan**	**5.22**	**253**	*e*PN	**Pn**	**01 27 53.2**	**-1.0**
SHO	**Shikotan**	**5.22**	**253**	*e*P	**Pn**	**01 27 53.1**	**-1.1**
SHO				AMB	AMB	01 27 53.8	
comp=E,40nm,0.6s							
SHO				*e*S	**Sn**	**01 28 51.9**	**-1.2**
SHO				A	A	01 28 55.2	
comp=E,50nm,0.3s							
SHO				A	A	01 28 55.2	
comp=E,40nm,0.3s							
SKR	**Severo-Kuril's**	**5.31**	**17**	*e*PN	**Pn**	**01 27 52.0**	**-3.5**
SKR				pmax	pmax		
comp=Z,55nm,0.7s							
SKR				MLR	MLR		
comp=Z,700nm,17.0s							
SKR	**Severo-Kuril's**	**5.31**	**17**	*e*P	**Pn**	**01 27 55.6**	**+0.1**
SKR				*e*S	**Sn**	**01 28 52.8**	**-2.6**
SKR				A	A	01 28 53.8	
comp=Z,20nm,0.2s							
SKR				A	A	01 28 53.8	
comp=Z,20nm,0.2s							
NMR	**Nemuro--Hokkai**	**6.15**	**251**	*e*P	**Pn**	**01 28 05.7**	**-1.3**
NMR				*e*S	**Sn**	**01 29 12.1**	**-4.0**
PAU	**Pauzhetka**	**6.20**	**18**	*e*P	**Pn**	**01 28 08.0**	**+0.3**
PAU				AMB	AMB	01 28 09.5	
comp=Z,20nm,0.3s							
PAU				*e*S	**Sn**	**01 29 16.0**	**-1.2**
PAU				A	A	01 29 16.3	
comp=Z,40nm,0.2s							
PAU				A	A	01 29 16.3	
comp=Z,40nm,0.2s							
AKK	**Akkeshi**	**6.89**	**251**	*e*P	**Pn**	**01 28 16.4**	**-0.7**
AKK				*e*S	**Sn**	**01 29 32.0**	**-2.2**
YSS	**Yuzhno-Sakhali**	**7.72**	**284**	*ce*PN	**Pn**	**01 28 30.0**	**+1.4**
YSS				pmax	pmax		
comp=Z,16nm,1.2s							
YSS	**Yuzhno-Sakhali**	**7.72**	**284**	*e*P	**Pn**	**01 28 29.8**	**+1.2**
PEA0B	**Petropavlovsk-**	**7.93**	**18**	⇑ *i* PN	**Pn**	**01 28 29.8**	**-1.6**
PETK	**Petropavlovsk-**	**7.93**	**18**	Pn	**Pn**	**01 28 29.1**	**-2.3**
comp=Z,0.7nm,0.3s,baz=196,slow=14,SNR=35							
PETK				Sn	**Sn**	**01 29 60.0**	**+0.1**
comp=Z,0.1nm,0.3s,baz=193,slow=14,SNR=1.9							
PETK				LR	LR	01 31 30.3	
comp=Z,66nm,19.7s,baz=188,slow=38							
comp=Z,1.4nm,0.4s							
ASAJ	**Asahikawa**	**8.05**	**263**	Pn	**Pn**	**01 28 32.1**	**-1.0**
comp=Z,0.4nm,0.3s,baz=118,slow=15,SNR=3.5							
comp=Z,1.4nm,0.4s							
PET	**Petropavlovsk**	**8.08**	**22**	*e*P	**Pn**	**01 28 33.3**	**-0.1**
MA2	**Magadan**	**14.10**	**354**	LR	LR	01 34 55.1	
comp=Z,42nm,19.2s,baz=144,slow=36							
KLR	**Kul'dur**	**15.30**	**292**	Pn	**Pn**	**01 30 11.2**	**-0.7**
comp=Z,0.2nm,0.3s,baz=101,slow=12,SNR=3.9							
comp=Z,0.9nm,0.6s							
KLR	**Kul'dur**	**15.30**	**292**	*e*P	**P**	**01 30 17.0**	**+0.7**
KLR				pmax	pmax		
comp=Z,6.0nm,1.2s							
USA0B	**Ussuriysk Arra**	**15.47**	**273**	*e*P	**P**	**01 30 16.9**	**-1.3**
USRK	**Ussuriysk Ar.**	**15.47**	**273**	Pn	**Pn**	**01 30 12.4**	**-1.7**
comp=Z,0.3nm,0.3s,baz=71,slow=13,SNR=4.6							
comp=Z,1.1nm,0.5s							
BILL	**Bilibino**	**23.41**	**12**	*e*P	**P**	**01 31 44.5**	**+0.4**
BILL				pmax	pmax		
comp=Z,1.0nm,0.9s							
BILL	**Bilibino**	**23.41**	**12**	*e*P	**P**	**01 31 44.5**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**28.02**	**153**	T	T	02 01 37.4	
baz=341,slow=76,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**28.03**	**153**	T	T	02 01 38.5	
baz=341,slow=76,SNR=6.8							
H11N3	**WAKE ISLAND Hy**	**28.03**	**153**	T	T	02 01 39.1	
baz=341,slow=76,SNR=5.7							
TIXI	**Tiksi**	**28.68**	**344**	LR	LR	01 43 50.4	
comp=Z,22nm,19.1s,baz=56,slow=36							
H11S1	**WAKE ISLAND Hy**	**29.10**	**154**	T	T	02 02 56.7	
baz=341,slow=76,SNR=7.4							
H11S3	**WAKE ISLAND Hy**	**29.11**	**154**	T	T	02 02 58.7	
baz=341,slow=76,SNR=6.8							
H11S2	**WAKE ISLAND Hy**	**29.12**	**154**	T	T	02 03 01.3	
baz=341,slow=76,SNR=6.3							
ULN	**Ulaanbaatar**	**31.69**	**291**	⇑ *i P*	**P**	**01 32 59.3**	**+0.3**
ULN				pmax	pmax		
comp=Z,5.0nm,2.1s							
ULN	**Ulaanbaatar**	**31.69**	**291**	*e*P	**P**	**01 32 59.3**	**+0.3**
SONM	**Songino Array**	**32.13**	**291**	P	**P**	**01 33 04.2**	**+1.4**
comp=Z,0.3nm,0.4s,baz=90,slow=8.8,SNR=4.7							
comp=Z,0.3nm,0.4s							
MK31	**Makanchi Array**	**47.85**	**299**	⇑ *i P*	**P**	**01 35 13.3**	**+0.4**
MKAR	**Makanchi Array**	**47.85**	**299**	P	**P**	**01 35 13.4**	**+0.5**
comp=Z,1.2nm,0.9s,baz=71,slow=7.2,SNR=7.3							
comp=Z,1.2nm,0.9s							
MKAR	**Makanchi Array**	**47.85**	**299**	*e*P	**

comp=Z,0.7nm,0.9s
BVAR Borovoye Array 51.91 310 P P 01 35 44.7 +1.1
comp=Z,0.3nm,0.3s,baz=69,slow=8.2,SNR=3.4
comp=Z,0.3nm,0.3s
SPITS Spitsbergen Ar 53.80 350 P P 01 35 56.8 -0.4
comp=Z,6.4nm,0.9s,baz=56,slow=6.2,SNR=6.4
comp=Z,6.4nm,0.9s
AAK Ala-Archa 54.73 297 *i* P **P 01 36 05.6 +0.9**
AAK pmax pmax
comp=Z,4.0nm,1.5s
AAK Ala-Archa 54.73 297 *e*P **P 01 36 05.6 +0.9**
ARCES ARCESS Array B 59.06 341 P P 01 36 36.3 +1.5
comp=Z,2.2nm,1.0s,baz=20,slow=6.6,SNR=8.4
comp=Z,2.2nm,1.0s
ARCES ARCESS Array B 59.06 341 *e*P **P 01 36 36.7 +1.9**
ARCES pmax pmax
comp=Z,2.0nm,1.0s
PDAR Pinedale Array 65.07 54 P P 01 37 15.9 +0.1
comp=Z,0.6nm,0.9s,baz=315,slow=7.4,SNR=2.7
comp=Z,0.6nm,0.9s
FINES FINESS Array B 65.25 335 P P 01 37 16.5 +0.3
comp=Z,5.3nm,1.1s,baz=45,slow=5.3,SNR=9.6
comp=Z,5.3nm,1.1s
FINES FINESS Array B 65.25 335 *e*P **P 01 37 17.6 +1.3**
FINES pmax pmax
comp=Z,5.0nm,1.0s
WRA Warramunga Arr 67.59 200 P P 01 37 32.1 +0.5
comp=Z,1.0nm,0.9s,baz=22,slow=7.0,SNR=3.2
comp=Z,1.0nm,0.9s
NOA NORSAR Array B 69.44 342 P P 01 37 42.8 -0.1
comp=Z,0.9nm,0.9s,baz=26,slow=6.5,SNR=4.7
comp=Z,0.9nm,0.9s
HFS Hagfors 69.67 340 P P 01 37 42.8 -1.4
comp=Z,0.9nm,0.4s,baz=44,slow=4.4,SNR=9.2
comp=Z,0.9nm,0.4s
ASAR Alice Springs 71.28 199 P P 01 37 55.6 +1.2
comp=Z,0.9nm,0.9s,baz=16,slow=5.8,SNR=6.0
comp=Z,0.9nm,0.9s
KIV Kislovodsk 71.90 315 *e*P **P 01 38 00.9 +2.7**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 71.90 315 *e*P **P 01 38 00.9 +2.7**
KBZ Khabaz 71.96 315 P P 01 38 00.1 +1.6
comp=Z,2.4nm,1.0s,baz=9.6,slow=6.4,SNR=4.5
comp=Z,2.4nm,1.0s
KBZ Khabaz 71.96 315 *c*e**P P 01 38 01.0 +2.6**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 72.73 327 P P 01 38 03.0 +0.1
comp=Z,0.9nm,0.4s,baz=32,slow=6.4,SNR=8.9
comp=Z,0.9nm,0.4s
AKBB Malin Array Si 72.73 327⇓*i*P **P 01 38 03.5 +0.6**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
TXAR Lajitas Array 77.67 61 P P 01 38 31.8 -0.1
comp=Z,0.6nm,0.9s,baz=312,slow=5.4,SNR=6.8
comp=Z,0.6nm,0.9s

---

*NEIC **28** 01:27:12.2±1.2, 18°.3S±0°.2×178°.0W±0°.2, h545km±11km, mb4.2/15, Error ellipse: s-maj=44.6km s-min=5.3km az=138.0*
*IDC **28** 01:27:15.0±2.4, 17°.86S×178°.46W, h551km±19km, mb3.3/8, mbtmp4.1/9, Error ellipse: s-maj=54.4km s-min=18.1km az=139.0*
ISC 28 01:27:15.9±1.2, 17°.7S±0°.3×178°.6W±0°.2, h550km, n33, σ1§56/32, mb4.1/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.18**	**269**	P	**P**	**01 28 32.5**	**+0.4**
	61nm,0.7s,baz=130,slow=14,SNR=29						
FUTU	**Fugatoga**	**3.39**	**8**	P	**P**	**01 28 32.9**	**-0.7**
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	**01 33 51.2**	**-0.8**
	1.2nm,0.4s,baz=71,slow=10,SNR=3.0						
	1.2nm,0.4s						
BBOO	**Buckleboo**	**43.35**	**241**	P	**P**	**01 34 28.9**	**-1.1**
WB0	**Warramunga Arr**	**44.45**	**260**	P	**P**	**01 34 38.2**	**-0.4**
WB0				IAmb	IAmb	01 35 12.7	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**44.47**	**259**	P	**P**	**01 34 38.5**	**-0.3**
WB2				IAmb	IAmb	01 35 12.6	
	comp=Z,7.1nm,1.1s						
WRA	**Warramunga Arr**	**44.48**	**259**	P	**P**	**01 34 38.5**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=97,slow=6.8,SNR=11						
	comp=Z,0.6nm,0.3s						
AS31	**Alice Springs**	**44.67**	**254**	P	**P**	**01 34 39.8**	**-0.5**
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**01 34 39.5**	**-0.9**
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**01 34 39.9**	**-0.4**
	comp=Z,7.6nm,0.6s,baz=88,slow=8.3,SNR=132						
ASAR				PcP	**PcP**	**01 36 10.0**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=95,slow=3.5,SNR=2.6						
	comp=Z,7.6nm,0.6s						
MTN	**Manton Dam**	**48.61**	**268**	P	**P**	**01 35 09.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**73.42**	**345**	P	**P**	**01 37 53.3**	**+1.3**
PEA0B				IAmb	IAmb	01 37 55.8	
	comp=Z,17nm,1.3s						
PETK	**Petropavlovsk-**	**73.42**	**345**	P	**P**	**01 37 52.8**	**+0.7**
PETK	**Petropavlovsk-**	**73.42**	**345**	P	**P**	**01 37 52.6**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=162,slow=5.4,SNR=7.9						
	comp=Z,2.1nm,0.7s						
M17K	**Holitna River**	**80.62**	**10**	P	**P**	**01 38 31.3**	**+0.2**
M17K				IAmb	IAmb	01 38 42.8	
	comp=Z,11nm,1.2s						
SUA	**Susitna One**	**81.96**	**13**	P	**P**	**01 38 37.1**	**-1.0**
SUA				IAmb	IAmb	01 38 38.0	
	comp=Z,3.2nm,0.7s						
J17K	**VABM Dome**	**82.25**	**9**	P	**P**	**01 38 39.3**	**-0.1**
J17K				IAmb	IAmb	01 39 06.5	
	comp=Z,10nm,1.4s						
J18K	**Innoko River**	**82.67**	**10**	P	**P**	**01 38 41.7**	**+0.1**
CAST	**Castle Rocks**	**83.45**	**12**		**P**	01 38 43.7	-1.7
SEY	**Seymchan**	**83.52**	**347**	P	**P**	**01 38 45.8**	**+0.1**
	comp=Z,3.0nm,0.5s,baz=132,slow=9.1,SNR=17						
	comp=Z,3.0nm,0.5s						
TRF	**Thorofare Moun**	**83.84**	**12**		**P**	**01 38 46.4**	**-1.1**
TRF				IAmb	IAmb	01 38 47.5	
	comp=Z,4.3nm,0.7s						
RND	**Reindeer**	**84.10**	**13**	P	**P**	**01 38 48.3**	**-0.4**
RND				IAmb	IAmb	01 38 48.9	
	comp=Z,3.5nm,0.7s						
ILAR	**Eielson Array**	**85.72**	**13**	P	**P**	**01 38 55.3**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=222,slow=5.1,SNR=21						
	comp=Z,0.5nm,0.4s						
PV01	**Paradox Valley**	**85.93**	**48**	P	P	01 38 51.4	-7.1
PV01				IAmb	IAmb	01 38 52.1	
	comp=Z,6.8nm,1.1s						
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**01 38 58.5**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=240,slow=3.8,SNR=2.2						
	comp=Z,0.3nm,0.8s						
F31M	**Tsiigehtchic**	**91.03**	**16**	P	**P**	**01 39 20.0**	**-1.1**
YKA	**Yellowknife Ar**	**94.21**	**25**	P	**P**	**01 39 34.2**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=241,slow=4.6,SNR=5.1						
	comp=Z,0.2nm,0.6s						
BURAR	**Bucovina Array**	**144.33**	**332**	PKPab	**PKPdf**	**01 45 50.4**	**+0.7**
BRTR	**Keskin Array B**	**144.49**	**315**	PKP	**PKPdf**	**01 45 49.7**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=142,slow=4.9,SNR=4.9						
MMAI	**Mount Meron Ar**	**145.86**	**303**	PKPbc	**PKPdf**	**01 45 54.2**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=64,slow=6.6,SNR=4.4						
GERES	**GERESS Array B**	**147.35**	**345**	PKPbc	**PKPdf**	**01 45 57.1**	**+2.4**
	comp=Z,1.0nm,0.7s,baz=19,slow=3.5,SNR=6.5						
DAVOX	**Davos/Dischmat**	**150.15**	**348**	PKPbc	**PKPdf**	**01 46 04.3**	**+4.9**
	comp=Z,2.6nm,0.7s,baz=349,slow=10,SNR=6.8						
FUORN	**Ofenpass-Fuorn**	**150.23**	**348**	PKPbc	**PKPdf**	**01 46 04.3**	**+4.6**

---

*JMA **28** 01:36:57.7±0.1, 41°.8N±0°.3×140°.8E±0°.6, h123km, MV3.1/39, TSUGARU STRAIT REGION*
*IDC **28** 01:36:57.7±1.7, 41°.75N×140°.73E, h132km±16km, mb3.3/10, mbtmp3.7/12, Error ellipse: s-maj=17.0km s-min=15.4km az=142.0*
ISC 28 01:36:57.2±0.7, 41°.78N±0°.04×140°.76E±0°.05, h128km±5km, n34, σ1§09/40, mb3.6/10, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.23**	**61**	P	**Pn**	**01 37 14.9**	**+0.1**
JKB				*e*S	**Sn**	**01 37 27.7**	**-0.4**
JSR	**Shiriuchi**	**0.36**	**227**	P	**Pn**	**01 37 15.2**	**-0.1**
JSR				*e*S	**Sn**	**01 37 28.2**	**-0.7**
JOT	**Ohata**	**0.45**	**151**	P	**Pn**	**01 37 15.7**	**-0.1**
JOT				*e*S	**Sn**	**01 37 29.2**	**-0.5**
JYM2	**Yakumo 2**	**0.45**	**319**	P	**Pn**	**01 37 15.9**	**+0.2**
JOMM	**Oshimamatsumae**	**0.62**	**246**	P	**Pn**	**01 37 16.8**	**0.0**
JNB	**Noboribetsu**	**0.72**	**16**	P	**Pn**	**01 37 17.6**	**+0.1**
JNB				*e*S	**Sn**	**01 37 32.5**	**-0.5**
JHST	**Hiyamasetana**	**0.93**	**315**	P	**Pn**	**01 37 19.3**	**+0.1**
JHST				*e*S	**Sn**	**01 37 35.8**	**-0.1**
JOSM	**Okushiri--Mats**	**1.01**	**288**	*i* P	**Pn**	**01 37 19.8**	**-0.2**
JOSM				*e*S	**Sn**	**01 37 36.3**	**-1.0**
JTM	**Tenmabayashi**	**1.01**	**167**	P	**Pn**	**01 37 20.1**	**+0.1**
JTM				*e*S	**Sn**	**01 37 36.7**	**-0.6**
JSH	**Shimam**	**1.02**	**329**	*i* P	**Pn**	**01 37 20.5**	**+0.5**
JEW	**Eniwo**	**1.18**	**25**	*e*P	**Pn**	**01 37 22.2**	**+0.5**
JEW				*e*S	**Sn**	**01 37 40.9**	**+0.6**
JIAM	**Iburiatsuma**	**1.21**	**45**	P	**Pn**	**01 37 22.9**	**+1.0**
JIAM				*e*S	**Sn**	**01 37 41.6**	**+0.9**
JIW	**Iwasaki**	**1.31**	**206**	P	**Pn**	**01 37 23.4**	**+0.3**
JIW				*e*S	**Sn**	**01 37 42.8**	**0.0**
JANG	**Nango**	**1.51**	**158**	*i* P	**Pn**	**01 37 24.7**	**-0.6**
JANG				*e*S	**Sn**	**01 37 45.3**	**-1.3**
JNBK	**Urakawa-nobuka**	**1.56**	**71**	P	**Pn**	**01 37 26.1**	**+0.2**
ASAJ	**Asahikawa**	**2.70**	**29**	P	**Pn**	**01 37 39.9**	**+0.1**
	4.7nm,0.3s,baz=225,slow=16,SNR=15						
ASAJ				S	**Sn**	**01 38 07.2**	**-5.4**
	15nm,0.6s,baz=100,slow=18,SNR=6.7						
MJAR	**Matsushiro Arr**	**5.59**	**202**	P	**Pn**	**01 38 20.0**	**+1.8**
	0.6nm,0.3s,baz=29,slow=18,SNR=5.0						
USRK	**Ussuriysk Ar.**	**6.88**	**294**	P	**Pn**	**01 38 35.6**	**+0.3**
	6.1nm,0.5s,baz=99,slow=15,SNR=11						
H11N2	**WAKE ISLAND Hy**	**31.20**	**127**	T	T	02 15 18.3	
	baz=322,slow=74						
H11N1	**WAKE ISLAND Hy**	**31.21**	**127**	T	T	02 15 20.1	
	baz=322,slow=74						
H11N3	**WAKE ISLAND Hy**	**31.22**	**127**	T	T	02 15 17.8	
	baz=322						
H11S1	**WAKE ISLAND Hy**	**32.04**	**129**	T	T	02 16 29.5	
	baz=328,slow=76,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**32.04**	**129**	T	T	02 16 30.8	
	baz=328,slow=76,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**32.05**	**129**	T	T	02 16 31.2	
	baz=328,slow=76,SNR=3.2						
ZALV	**Zalesovo Beam**	**38.47**	**308**	P	**P**	**01 44 06.6**	**+0.3**
	2.1nm,0.5s,baz=84,slow=8.0,SNR=10						
	2.1nm,0.5s						
MKAR	**Makanchi Array**	**41.33**	**298**	P	**P**	**01 44 29.7**	**-0.4**
	1.1nm,0.5s,baz=84,slow=9.7,SNR=17						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**42.81**	**304**	P	**P**	**01 44 42.0**	**0.0**
	1.7nm,0.6s,baz=78,slow=9.0,SNR=14						
	1.7nm,0.6s						
ILAR	**Eielson Array**	**45.82**	**35**	P	**P**	**01 45 06.8**	**+1.0**
	0.9nm,0.8s,baz=265,slow=6.0,SNR=10						
	0.9nm,0.8s						
BVAR	**Borovoye Array**	**47.10**	**309**	P	**P**	**01 45 16.0**	**0.0**
	0.6nm,0.3s,baz=71,slow=8.0,SNR=8.8						
	0.6nm,0.3s						
YKA	**Yellowknife Ar**	**59.99**	**31**	P	**P**	**01 46 49.8**	**0.0**
	0.2nm,0.8s,baz=205,slow=11,SNR=6.1						
	0.2nm,0.8s						
WRA	**Warramunga Arr**	**61.69**	**187**	P	**P**	**01 47 00.7**	**-1.0**
	0.5nm,0.5s,baz=8.2,slow=7.0,SNR=2.4						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**65.42**	**187**	P	**P**	**01 47 26.1**	**-0.1**
	0.3nm,0.5s,baz=6.5,slow=5.1,SNR=5.8						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**74.72**	**46**	P	**P**	**01 48 23.6**	**+0.6**
	0.4nm,0.6s,baz=308,slow=4.0,SNR=5.5						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**87.61**	**52**	P	**P**	**01 49 31.3**	**0.0**
	0.1nm,0.4s,baz=304,slow=3.7,SNR=1.6						
	0.1nm,0.4s						

---

*IDC **28** 01:37:32.5±1.4, 34°.68N×23°.39E, h0km, mb3.6/5, mbtmp3.4/10, ML3.4/5, Error ellipse: s-maj=22.4km s-min=16.8km az=1.0*
*ISK **28** 01:37:33.1, 34°.72N×23°.42E, h14km, ML3.2/5*
*THE **28** 01:37:36.0, 34°.78N×23°.53E, h13km±1km, ML3.1/6, Error ellipse: s-maj=2.0km s-min=1.1km az=45.0*
*ATH **28** 01:37:37.1, 34°.82N×23°.60E, h15km±7km, ML3.3/7, Manual Solution by A.Moschou First location: 2019/04/28 01:38:39, This location: 2019/04/28 11:53:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 6 km*
*AFAD **28** 01:37:49.0, 35°.26N×24°.31E, h15km, ML2.4*
ISC 28 01:37:36.1±1.6, 34°.80N±0°.06×23°.56E±0°.05, h18km±8km, n46, σ1§94/69, mb3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.43**	**84**	P	**Pb**	**01 37 45.1**	**-0.1**
GVD				S	**Sb**	**01 37 52.5**	**+1.1**
	12μm,0.2s						
GVD	**Gavdhos**	**0.43**	**84**	Pg	**Pg**	**01 37 44.7**	**-0.2**
GVD				Sg	**Sb**	**01 37 53.1**	**+1.7**
GVD	**Gavdhos**	**0.43**	**84**	P	**Pb**	**01 37 45.3**	**+0.1**
GVD				S	**Sb**	**01 37 51.5**	**+0.1**
KNDR	**Palaiochora Ch**	**0.45**	**13**	P	**Pb**	**01 37 44.8**	**-0.6**
KNDR				S	**Sb**	**01 37 52.2**	**+0.4**
	3μm,0.2s						
KNDR	**Palaiochora Ch**	**0.45**	**13**	Pg	**Pb**	**01 37 44.6**	**-0.8**
KNDR				Sg	**Sb**	**01 37 52.4**	**+0.6**
KNDR	**Palaiochora Ch**	**0.45**	**13**	P	**Pb**	**01 37 45.0**	**-0.4**
KNDR				S	**Sb**	**01 37 51.9**	**+0.2**
IMMV	**Iera Moni Meta**	**0.74**	**27**	P	**Pb**	**01 37 50.1**	**-0.5**
IMMV				S	**Sn**	**01 38 02.6**	**0.0**
	3μm,0.3s						
IMMV	**Iera Moni Meta**	**0.74**	**27**	Pg	**Pb**	**01 37 50.0**	**-0.5**
IMMV				Sg	**Sn**	**01 38 03.0**	**+0.4**
IMMV	**Iera Moni Meta**	**0.74**	**27**	P	**Pb**	**01 37 50.7**	**+0.2**
IMMV				S	**Sn**	**01 38 01.6**	**-1.0**
CHNB	**Souda**	**0.80**	**31**	P	**Pn**	**01 37 52.5**	**0.0**
CHNB				S	**Sn**	**01 38 03.3**	**-0.6**
CHAN	**Chania**	**0.82**	**29**	P	**Pb**	**01 37 52.0**	**+0.2**
CHAN				S	**Sn**	**01 38 04.9**	**+0.5**
	538nm,0.5s						
CHAN	**Chania**	**0.82**	**29**	P	**Pn**	**01 37 52.6**	**-0.1**
CHAN				S	**Sb**	**01 38 02.7**	**+0.2**
PRNS	**Prines Rethymn**	**0.95**	**53**	P	**Pg**	**01 37 53.1**	**-1.5**
TMBK	**Timbaki Herakl**	**1.02**	**74**	P	**Pn**	**01 37 56.0**	**+0.4**
TMBK				S	**Sn**	**01 38 10.5**	**+1.0**
ANKY	**Antikythira Is**	**1.09**	**349**	P	**Pn**	**01 37 56.4**	**0.0**
ANKY				S	**Sn**	**01 38 11.4**	**+0.3**
	530nm,0.6s						
ANKY	**Antikythira Is**	**1.09**	**349**	P	**Pn**	**01 37 56.9**	**+0.5**
ANKY				S	**Sn**	**01 38 11.5**	**+0.5**
IDI	**Anoyia**	**1.19**	**65**	P	**Pb**	**01 37 58.0**	**-0.2**
IDI				S	**Sn**	**01 38 14.1**	**+0.3**
	280nm,0.5s						
IDI	**Anoyia**	**1.19**	**65**	Pn	**Pb**	**01 37 57.8**	**-0.4**
IDI				Sn	**Sn**	**01 38 16.2**	**+2.4**
IDI	**Anoyia**	**1.19**	**65**	Pg	**Pb**	**01 37 58.0**	**-0.2**
	3.4nm,0.3s,baz=242,slow=17,SNR=69						
IDI				Lg	Lg	01 38 16.1	
	30nm,0.3s,baz=324,slow=19,SNR=8.5						
IDI	**Anoyia**	**1.19**	**65**	P	**Pg**	**01 37 58.2**	**-1.0**
VLI	**Veliai**	**1.98**	**345**	P	**Pn**	**01 38 09.0**	**+0.3**
VLI	**Veliai**	**1.98**	**345**	P	**Pb**	**01 38 11.3**	**-0.4**
ZKR	**Zakros**	**2.20**	**81**	Pn	**Pn**	**01 38 12.4**	**+0.6**
KRND	**KRANIDI**	**2.60**	**353**	P	**Pn**	**01 38 19.3**	**+2.1**
MET4	**Agioi Theodoro**	**2.82**	**357**	P	**Pn**	**01 38 21.0**	**+0.7**
KARP	**Karpathos**	**3.04**	**75**	Pn	**Pn**	**01 38 24.6**	**+1.3**
YAZI	**Mula-Dat§a-**	**3.68**	**58**	P	**Pn**	**01 38 35.5**	**+3.4**
YAZI				S	**Sn**	**01 39 08.6**	**-6.5**
DAT	**Datca**	**3.79**	**58**	P	**Pn**	**01 38 36.0**	**+2.3**
DAT				S	**Sn**	**01 39 13.3**	**-4.6**
TURN	**Turunc**	**4.29**	**61**	P	**Pn**	**01 38 43.3**	**+2.9**
TURN				S	**Sn**	**01 39 26.6**	**-3.3**
TURN				*i* AML	AML	01 39 37.0	
	comp=E,7.8nm,0.5s						
TURN				*i* AML	AML	01 39 41.0	
	comp=N,10nm,0.5s						
AYDN	**Tasoluk**	**4.51**	**49**	P	**Pn**	**01 38 46.1**	**+2.5**
SABU	**Mula-Dalaman**	**4.83**	**64**	P	**Pn**	**01 38 51.8**	**+3.8**
SABU				S	**Sn**	**01 39 41.5**	**-2.1**
SABU				*i* AML	AML	01 39 53.0	
	comp=N,7.8nm,0.6s						
SABU				*i* AML	AML	01 39 57.0	
	comp=E,6.8nm,0.4s						
ESEN	**Aydn-Nazilli**	**4.89**	**51**	P	**Pn**	**01 38 53.0**	**+4.3**
IZZE	**Mula-Seydike**	**4.89**	**69**	P	**Pn**	**01 38 51.6**	**+2.8**
IZZE				S	**Sn**	**01 39 42.0**	**-3.0**
DNZT	**Denizli-Tavas-**	**5.07**	**59**	P	**Pn**	**01 38 55.7**	**+4.4**
DNZT				S	**Sn**	**01 39 44.7**	**-4.8**
TAVA	**DENIZLI_Tavas**	**5.08**	**57**	P	Pn	01 38 56.3	+4.9
BRTR	**Keskin Array B**	**9.41**	**56**	Pn	**Pn**	**01 39 52.7**	**+1.8**
	0.1nm,0.3s,baz=239,slow=15,SNR=3.7						
	0.1nm,0.4s						
MMAI	**Mount Meron Ar**	**10.00**	**97**	Pn	**Pn**	**01 39 58.8**	**-0.2**
	0.6nm,0.3s,baz=298,slow=10,SNR=5.5						
MMAI				Sn	**Sn**	**01 41 51.8**	**+1.1**
	0.4nm,0.3s,baz=270,slow=24,SNR=1.6						
	0.3nm,0.3s						
VRAC	**Vranov**	**15.38**	**343**	Pn	**Pn**	**01 41 12.1**	**-0.1**
	0.3nm,0.3s,baz=152,slow=9.9,SNR=5.6						
	0.5nm,0.3s						
GERES	**GERESS Array B**	**15.82**	**335**	Pn	**Pn**	**01 41 18.2**	**+0.2**
	baz=141,slow=13,SNR=9.4						
	0.3nm,0.6s						
AKASG	**Malin Array Be**	**16.42**	**13**	Pn	**Pn**	**01 41 26.8**	**+1.4**
	0.5nm,0.3s,baz=208,slow=9.3,SNR=4.6						
	0.1nm,0.2s						
HFS	**Hagfors**	**26.15**	**349**	P	**P**	**01 43 08.1**	**-1.0**
	0.8nm,0.5s,baz=151,slow=9.9,SNR=8.3						
	0.8nm,0.5s						
NOA	**NORSAR Array B**	**27.43**	**347**	P	**P**	**01 43 20.9**	**+0.2**
	0.2nm,0.5s,baz=160,slow=9.1,SNR=1.8						
	0.2nm,0.5s						
KMBO	**Kilima Mbogo**	**37.97**	**157**	P	**P**	**01 44 51.4**	**-1.8**
	3.1nm,0.3s,baz=215,slow=14,SNR=3.1						
KURBB	**Kurchatov Arra**	**42.37**	**51**	P	**P**	**01 45 30.4**	**+1.3**
	0.5nm,0.4s,baz=275,slow=8.5,SNR=6.6						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**45.06**	**56**	P	**P**	**01 45 52.2**	**+1.3**
	0.3nm,0.5s,baz=272,slow=9.4,SNR=9.3						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.20**	**46**	P	**P**	**01 46 00.6**	**+0.9**
	0.4nm,0.3s,baz=283,slow=8.7,SNR=2.1						
	0.4nm,0.3s						

---

*IDC **28** 01:49:22.4±1.1, 53°.06N×158°.32E, h128km±4km, mb3.2/8, mbtmp3.6/8, Error ellipse: s-maj=32.6km s-min=18.9km az=156.0*
*KRSC **28** 01:49:22.5±0.6, 52°.88N×158°.77E, h112km±3km, Ml3.8*
ISC 28 01:49:21.8±0.7, 52°.94N±0°.05×158°.67E±0°.06, h124km±5km, n39, σ1§09/51, mb3.3/8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**0.09**	**355**	*e*P	**Pn**	**01 49 38.9**	**+0.3**
PET				*e*S	**Sn**	**01 49 51.0**	**-0.4**
DALK	**Dalny**	**0.11**	**29**	*e*P	**Pn**	**01 49 39.0**	**+0.3**
DALK				*e*S	**Sn**	**01 49 51.2**	**-0.2**
INSR	**Institute**	**0.14**	**344**	*e*P	**Pn**	**01 49 38.7**	**0.0**
INSR				*e*S	**Sn**	**01 49 50.5**	**-1.0**
UGLR	**Uglovaya**	**0.29**	**19**	*e*P	**Pn**	**01 49 39.9**	**+0.6**
UGLR				*e*S	**Sn**	**01 49 53.2**	**+0.7**
AVH	**Avacha**	**0.33**	**7**	*e*P	**Pn**	**01 49 40.4**	**+0.9**
AVH				*e*S	**Sn**	**01 49 53.9**	**+1.2**
KRMR	**Karymshinskiy**	**0.34**	**252**	*e*P	**Pn**	**01 49 39.6**	**+0.3**
KRMR				*e*S	**Sn**	**01 49 52.6**	**0.0**
KOK	**Koryaka**	**0.36**	**357**	*e*P	**Pn**	**01 49 40.4**	**+0.8**
KOK				*e*S	**Sn**	**01 49 53.7**	**+0.7**
SDLR	**Sedlovina**	**0.37**	**21**	*e*P	**Pn**	**01 49 40.1**	**+0.5**
SDLR				*e*S	**Sn**	**01 49 53.3**	**+0.2**
KRER	**Koryakskii**	**0.37**	**8**	*e*P	**Pn**	**01 49 40.7**	**+0.9**
KRER				*e*S	**Sn**	**01 49 54.2**	**+0.9**
KRX	**Arik**	**0.42**	**359**	*e*P	**Pn**	**01 49 40.7**	**+0.7**
KRX				*e*S	**Sn**	**01 49 53.9**	**+0.3**
NLC	**Nalytchevo**	**0.47**	**60**	*e*P	**Pn**	**01 49 39.9**	**0.0**
RUS	**Russkaya**	**0.51**	**191**	*e*P	**Pn**	**01 49 40.3**	**+0.1**
RUS				*e*S	**Sn**	**01 49 53.7**	**-0.4**
GRL	**Gorelyy**	**0.53**	**223**	*e*P	**Pn**	**01 49 41.4**	**+1.0**
GRL				*e*S	**Sn**	**01 49 55.8**	**+1.3**
MTVR	**Mutnovka**	**0.54**	**213**	*e*P	**Pn**	**01 49 41.3**	**+0.7**
MTVR				*e*S	**Sn**	**01 49 55.7**	**+1.0**
PETK	**Petropavlovsk-**	**0.61**	**287**	P	**Pn**	**01 49 40.0**	**-0.8**
	237nm,0.3s,baz=91,slow=12,SNR=1791						
PETK				S	**Sn**	**01 49 56.5**	**+1.2**
	60nm,0.6s,baz=66,slow=32,SNR=7.9						
SPN	**Mys Shipunski**	**0.84**	**78**	*e*P	**Pn**	**01 49 42.8**	**+0.2**
SPN				*e*S	**Sn**	**01 49 58.6**	**+0.2**
GNL	**Ganaly**	**0.88**	**331**	*e*P	**Pn**	**01 49 43.6**	**+0.4**
GNL				*e*S	**Sn**	**01 49 59.7**	**+0.5**
APC	**Apacha**	**0.91**	**270**	*e*P	**Pn**	**01 49 44.3**	**+1.1**
KDTR	**Khodutka, Kamc**	**1.18**	**198**	*e*P	**Pn**	**01 49 46.3**	**+0.4**
KDTR				*e*S	**Sn**	**01 50 04.3**	**0.0**
KII	**Karymskiy**	**1.20**	**23**	*e*P	**Pn**	**01 49 47.2**	**+1.0**
PAU	**Pauzhetka**	**1.86**	**219**	*e*P	**Pn**	**01 49 55.5**	**+1.8**
MKZ	**Mys Kozlova**	**2.44**	**47**	*e*P	**Pn**	**01 50 01.4**	**+0.6**
MKZ				*e*S	**Sn**	**01 50 30.2**	**-0.7**
SKR	**Severo-Kuril's**	**2.75**	**216**	*e*P	**Pn**	**01 50 06.8**	**+1.9**
KMNR	**Kamenistaya**	**2.97**	**17**	*e*P	**Pn**	**01 50 10.5**	**+2.6**
KBTR	**Krutoberegovo**	**4.07**	**35**	*e*P	**Pn**	**01 50 23.5**	**+1.3**
MJAR	**Matsushiro Arr**	**21.78**	**229**	P	**P**	**01 54 04.7**	**+1.1**
	0.8nm,0.5s,baz=16,slow=11,SNR=4.4						
	0.8nm,0.5s

s-maj=33.7km s-min=16.7km az=54.0
*NDI **28** 01:56:53.8±0.9, 33°.88N×90°.58E, h10km, ML3.9, MW4.1, mb4.1(NEIC)*
*NEIC **28** 01:56:54.5±2.3, 33°.9N±0°.1×90°.6E±0°.2, h10km±2km, mb4.1/13, Error ellipse: s-maj=23.9km s-min=14.9km az=62.0*
ISC 28 01:56:51.6±0.5, 33°.72N±0°.04×90°.62E±0°.06, h10km, n43, σ2°01/47, mb3.7/10, MS2.7/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.03**	**173**		**Pb**	**01 58 00.3**	**-2.6**
GOMU	**GeErMu**	**4.24**	**53**	P	**Pb**	**01 58 06.3**	**-0.2**
GOMU				pP	Pg	01 58 10.3	-2.5
GOMU				sP	Pn	01 58 23.3	+27
GOMU				S	**Sb**	**01 58 54.5**	**-3.4**
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GOMU				LR	LR		
	comp=N,780nm,5.5s						
GOMU				LR	LR		
	comp=E,950nm,6.6s						
GOMU				LR	LR		
	comp=Z,1μm,8.3s						
GTK	**Tadong**	**6.61**	**196**	*e*P	**Pn**	**01 58 32.8**	**+3.8**
GTK				IAML		01 58 59.2	
	comp=E,84nm,0.6s						
GTK				IAML		01 58 59.3	
	comp=N,37nm,0.5s						
GTK				*e*S	**Sn**	**01 59 44.8**	**+0.3**
ZIRO	**ZIRO**	**6.76**	**155**	*e*P	**Pn**	**01 58 34.9**	**+3.8**
ZIRO				*e*S	**Sn**	**01 59 49.1**	**+0.8**
KOHI	**KOHIMA**	**8.52**	**158**	*e*P	**Pn**	**01 58 58.7**	**+3.5**
KOHI				*e*S	**Sn**	**02 00 30.8**	**-0.7**
KOHI				IAML		02 02 57.6	
	comp=N,68nm,0.6s						
IMP	**Imphal**	**9.31**	**161**	*e*P	**Pn**	**01 59 09.4**	**+3.4**
IMP				*e*S	**Sn**	**02 00 48.0**	**-2.9**
IMP				IAML		02 00 50.1	
	comp=N,23nm,0.1s						
IMP				IAML		02 00 50.2	
	comp=E,22nm,0.1s						
AZL	**Aizawl**	**10.10**	**169**	*e*P	**Pn**	**01 59 21.0**	**+4.1**
AZL				*e*S	**Sn**	**02 01 07.5**	**-2.8**
AZL				IAML		02 01 10.6	
	comp=N,115nm,0.3s						
AZL				IAML		02 01 17.0	
	comp=E,188nm,0.3s						
WMQ	**Urumqi**	**10.35**	**348**	*e*P	**Pn**	**01 59 23.5**	**+3.4**
WUS	**Wushi**	**11.74**	**313**		**Pn**	**01 59 40.5**	**+1.3**
TARG	**Taragay, Kyrgy**	**12.91**	**312**		**Pn**	**01 59 55.5**	**0.0**
MKAR	**Makanchi Array**	**14.52**	**337**	Pn	**Pn**	**02 00 19.3**	**+2.3**
MKAR	**Makanchi Array**	**14.52**	**337**	Pn	**Pn**	**02 00 13.7**	**-3.4**
	comp=E,0.1nm,0.3s,baz=149,slow=13,SNR=4.8						
MKAR				LR	LR	02 06 25.1	
	comp=E,39nm,18.7s,baz=189,slow=40						
XAN	**Xi'an**	**15.21**	**84**	*e*P	**Pn**	**02 00 27.5**	**+1.1**
XAN				LR	LR		
	comp=N,440nm,13.7s						
XAN				LR	LR		
	comp=E,160nm,13.5s						
XAN				LR	LR		
	comp=Z,200nm,12.6s						
AAK	**Ala-Archa**	**15.48**	**310**		**P**	**02 00 36.4**	**+1.8**
AAK				IAmb	IAmb	02 00 39.0	
	comp=Z,9.6nm,0.9s						
AAK	**Ala-Archa**	**15.48**	**310**	Pn	**P**	**02 00 34.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=120,slow=19,SNR=13						
AAK				LR	LR	02 07 31.6	
	comp=Z,82nm,20.3s,baz=132,slow=42						
DRK	**Karamyk**	**16.17**	**296**	P	**P**	**02 00 44.3**	**+1.9**
CMAR	**Chiang Mai Arr**	**16.92**	**152**	Pn	**P**	**02 00 50.5**	**0.0**
	comp=Z,2.5nm,0.3s,baz=316,slow=12,SNR=5.9						
CMAR				LR	LR	02 07 34.2	
	comp=Z,16nm,18.4s,baz=205,slow=38						
BTK	**Batken**	**17.05**	**297**	Pn	**Pn**	**02 00 51.0**	**+0.9**
BTK				IAmb	IAmb	02 00 57.4	
	comp=Z,25nm,1.4s						
GAR	**Garm**	**17.18**	**294**		**P**	**02 00 53.1**	**-0.3**
GAR				IAmb	IAmb	02 00 55.2	
	comp=Z,16nm,1.1s						
HHC	**Hu-ho-hao-te**	**18.10**	**61**	*e*P	**P**	**02 01 05.3**	**+1.8**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,80nm,5.2s						
SIMJ	**Simiganj**	**18.12**	**292**		**Pn**	**02 01 02.6**	**-0.9**
SIMJ				IAmb	IAmb	02 01 05.0	
	comp=Z,9.0nm,0.8s						
KKAR	**Karatay Array**	**18.30**	**307**		**P**	**02 01 06.6**	**+0.9**
KKAR	**Karatay Array**	**18.30**	**307**		**P**	**02 01 06.1**	**+0.5**
KKAR				IAmb	IAmb	02 01 08.9	
	comp=Z,4.1nm,1.0s						
SONM	**Songino Array**	**18.43**	**35**	P	**Pn**	**02 01 06.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=224,slow=11,SNR=3.2						
	comp=Z,0.6nm,0.7s						
ULN	**Ulaanbaatar**	**18.77**	**36**	P	**Pn**	**02 01 13.6**	**+2.3**
KURBB	**Kurchatov Arra**	**19.08**	**336**	P	**P**	**02 01 12.9**	**-1.2**
	baz=144,slow=12,SNR=9.1						
	comp=Z,0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**20.64**	**350**	P	**P**	**02 01 32.0**	**+0.9**
ZALV	**Zalesovo Beam**	**20.64**	**350**	P	**P**	**02 01 30.4**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=171,slow=10,SNR=5.8						
ZALV				LR	LR	02 10 14.9	
	comp=Z,29nm,18.8s,baz=16,slow=39						
	comp=Z,1.6nm,0.7s						
BVAR	**Borovoye Array**	**24.12**	**329**	P	**P**	**02 02 05.0**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=139,slow=9.6,SNR=6.6						
BVAR				LR	LR	02 12 58.9	
	comp=Z,21nm,21.4s,baz=164,slow=40						
	comp=Z,0.5nm,0.5s						
BRVK	**Borovoye**	**24.19**	**329**	P	**P**	**02 02 09.0**	**+1.0**
BRVK				IAmb	IAmb	02 02 14.1	
	comp=Z,2.4nm,0.8s						
AB31	**Abkulak array**	**27.49**	**314**	P	**P**	**02 02 38.1**	**+0.2**
ABKAR	**Abkulak array**	**27.49**	**314**	P	**P**	**02 02 38.1**	**+0.2**
AKTO	**Aktyubinsk**	**29.10**	**315**	LR	LR	02 15 44.1	
	comp=Z,49nm,19.1s,baz=209,slow=39						
KSRS	**Korea Array**	**30.43**	**72**	LR	LR	02 16 25.3	
	comp=Z,21nm,19.6s,baz=260,slow=39						
ILGA	**Ilgaz**	**45.12**	**297**	P	**P**	**02 05 09.1**	**+0.7**
BRTR	**Keskin Array B**	**45.42**	**295**	P	**P**	**02 05 09.2**	**-1.4**
	comp=Z,0.2nm,0.8s,baz=81,slow=9.2,SNR=4.5						
	comp=Z,0.2nm,0.8s						
AKASG	**Malin Array Be**	**47.15**	**310**	P	**P**	**02 05 22.8**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=76,slow=7.2,SNR=4.3						
	comp=Z,0.8nm,0.6s						
NOA	**NORSAR Array B**	**56.14**	**325**	P	**P**	**02 06 30.3**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=81,slow=7.4,SNR=3.0						
	comp=Z,0.7nm,0.8s						
GERES	**GERESS Array B**	**57.36**	**310**	P	**P**	**02 06 39.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=66,slow=9.8,SNR=2.5						
	comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**67.70**	**135**	P	**P**	**02 07 49.2**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=316,slow=6.9,SNR=3.1						
	comp=Z,1.2nm,0.9s						
ASAR	**Alice Springs**	**70.38**	**138**	P	**P**	**02 08 05.5**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=324,slow=6.5,SNR=13						
	comp=Z,1.2nm,0.7s						
ILAR	**Eielson Array**	**72.11**	**22**	P	**P**	**02 08 14.8**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=323,slow=5.6,SNR=5.4						
	comp=Z,0.6nm,0.9s						
YKA	**Yellowknife Ar**	**82.00**	**12**	P	**P**	**02 09 08.7**	**-2.7**
	comp=Z,0.1nm,0.5s,baz=340,slow=5.2,SNR=7.6						
	comp=Z,0.1nm,0.5s						

*MOS **28** 02:04:37.2±0.8, 42°.29N×143°.95E, h91km, mb4.7/1, Error ellipse: s-maj=17.3km s-min=9.9km az=69.4*
*IDC **28** 02:04:37.7±2.6, 42°.42N×144°.05E, h75km±19km, mb3.5/10, mbtmp3.8/12, MS2.8/1, Error ellipse: s-maj=21.0km s-min=19.3km az=161.0*
*JMA **28** 02:04:39.0±0.2, 42°.4N±0°.5×143°.9E±0°.7, h80km±1km, MV3.6/33, SE OFF TOKACHI*
*SKHL **28** 02:04:38.9±0.8, 42°.40N×143°.90E, h95km±4km, mb5.0/3*
ISC 28 02:04:38.0±0.8, 42°.35N±0°.06×143°.94E±0°.04, h83km±6km, n46, σ1°04/61, mb3.8/10, 8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.48**	**263**	*i* P	**Pn**	**02 04 52.2**	**+0.4**
JTHR				S	**Sn**	**02 05 01.6**	**-0.4**
JCH	**Churui**	**0.50**	**302**	↓P	**Pn**	**02 04 52.3**	**+0.3**
JCH				↓*e*S	**Sn**	**02 05 01.7**	**-0.7**
JOB	**Onbets**	**0.56**	**352**	↓*e*P	**Pn**	**02 04 53.1**	**+0.7**
JOB				↓*e*S	**Sn**	**02 05 03.7**	**+0.6**
JEM	**Erimo**	**0.67**	**240**	*e*P	**Pn**	**02 04 54.5**	**+0.9**
JEM				*e*S	**Sn**	**02 05 05.8**	**+0.7**
JAK	**Akkeshi**	**0.85**	**41**	↓P	**Pn**	**02 04 56.1**	**+0.6**
JAK				↓S	**Sn**	**02 05 09.0**	**+0.6**
JNBK	**Urakawa-nobuka**	**0.88**	**266**	P	**Pn**	**02 04 56.4**	**+0.6**
JNBK				S	**Sn**	**02 05 08.6**	**-0.5**
AKK	**Akkeshi**	**0.94**	**45**	*e*P	**Pn**	**02 04 57.0**	**+0.6**
AKK				*e*S	**Sn**	**02 05 10.1**	**-0.1**
JAR	**Ashorobuto**	**0.95**	**352**	S	**Sn**	**02 05 10.2**	**-0.3**
JKHN	**Kushirohamanak**	**1.16**	**51**	↓P	**Pn**	**02 05 00.1**	**+1.0**
JKHN				↓*e*S	**Sn**	**02 05 15.4**	**+0.5**
JBT2	**Biratori 2**	**1.24**	**291**	P	**Pn**	**02 05 00.1**	**+0.1**
JBT2				*e*S	**Sn**	**02 05 16.1**	**-0.5**
JFR	**Furan**	**1.28**	**310**	P	**Pn**	**02 05 00.8**	**+0.2**
JFR				S	**Sn**	**02 05 17.1**	**-0.5**
JNK	**Nakash**	**1.36**	**25**	P	**Pn**	**02 05 01.8**	**+0.2**
JNK				S	**Sn**	**02 05 18.6**	**-0.8**
JTKR	**Abashiri--Toko**	**1.62**	**359**	P	**Pn**	**02 05 05.8**	**+0.9**
JTKR				S	**Sn**	**02 05 25.7**	**+0.5**
NMR	**Nemuro--Hokkai**	**1.66**	**52**	*e*PN	**Pn**	**02 05 05.4**	**0.0**
NMR				*e*S	**Sn**	**02 05 24.5**	**-1.8**
NMR	**Nemuro--Hokkai**	**1.66**	**52**	*e*P	**Pn**	**02 05 05.8**	**+0.4**
JMP	**Maruseppu**	**1.71**	**346**	P	**Pn**	**02 05 06.5**	**+0.4**
JMP				S	**Sn**	**02 05 27.1**	**-0.4**
RUSJ	**Misakicho**	**1.99**	**28**	*e*PN	**Pn**	**02 05 10.9**	**+1.1**
RUSJ				*e*S	**Sn**	**02 05 35.5**	**+1.4**
JKA	**Kamikawa-asahi**	**2.02**	**331**	*e*P	**Pn**	**02 05 10.7**	**+0.6**
ASAJ	**Asahikawa**	**2.02**	**331**	P	**Pn**	**02 05 10.7**	**+0.5**
	17nm,0.6s,baz=120,slow=14,SNR=12						
ASAJ				S	**Sn**	**02 05 34.1**	**-0.6**
	52nm,0.5s,baz=162,slow=20,SNR=9.4						
YUK	**Yuzh-Kuril'sk**	**2.19**	**39**	PN	**Pn**	**02 05 13.3**	**+0.9**
YUK				*e*S	**Sn**	**02 05 38.2**	**-0.6**
YUK				pmax	pmax		
	comp=Z,26nm,0.2s						
YUK				pmax	pmax		
	comp=N,226nm,0.4s						
YUK				pmax	pmax		
	comp=E,102nm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.19**	**39**	*e*P	**Pn**	**02 05 13.4**	**+1.0**
YUK				AMB	AMB	02 05 13.8	
	comp=N,250nm,0.3s						
YUK				*e*S	**Sn**	**02 05 38.5**	**-0.2**
YUK				A	A	02 05 39.5	
	comp=N,3μm,0.4s						
YUK				A	A	02 05 39.5	
	comp=N,2μm,0.4s						
SHO	**Shikotan**	**2.60**	**53**	*e*PN	**Pn**	**02 05 18.6**	**+0.7**
SHO				*e*S	**Sn**	**02 05 46.4**	**-2.2**
SHO				pmax	pmax		
	comp=Z,72nm,0.3s						
SHO				pmax	pmax		
	comp=N,24nm,0.2s						
SHO				pmax	pmax		
	comp=E,33nm,0.2s						
SHO				smax	smax		
	comp=N,1μm,0.4s						
SHO				smax	smax		
	comp=E,1μm,0.4s						
SHO	**Shikotan**	**2.60**	**53**	*e*P	**Pn**	**02 05 18.8**	**+0.9**
SHO				AMB	AMB	02 05 19.1	
	comp=E,70nm,0.2s						
SHO				*e*S	**Sn**	**02 05 47.2**	**-1.4**
SHO				A	A	02 05 49.0	
	comp=E,1μm,0.4s						
SHO				A	A	02 05 49.0	
	comp=E,250nm,0.4s						
KUR	**Kuril'sk**	**4.04**	**43**	*e*PN	**Pn**	**02 05 40.3**	**+2.8**
KUR				*i* S	**Sn**	**02 06 25.4**	**+1.8**
KUR				smax	smax		
	comp=N,94nm,0.5s						
KUR				smax	smax		
	comp=E,93nm,0.5s						
KUR	**Kuril'sk**	**4.04**	**43**	*e*P	**Pn**	**02 05 39.2**	**+1.7**
KUR				AMB	AMB	02 05 40.6	
	comp=E,60nm,0.2s						
KUR				*e*S	**Sn**	**02 06 24.5**	**+0.9**
KUR				A	A	02 06 30.7	
	comp=E,120nm,0.5s						
KUR				A	A	02 06 30.7	
	comp=E,350nm,0.5s						
MJAR	**Matsushiro Arr**	**7.30**	**219**	P	**Pn**	**02 06 22.2**	**+0.3**
	comp=E,1.7nm,0.4s,baz=33,slow=13,SNR=8.1						
PETK	**Petropavlovsk-**	**14.17**	**36**	P	**Pn**	**02 07 52.0**	**-2.5**
	comp=E,1.0nm,0.7s,baz=207,slow=9.6,SNR=4.1						
MA2	**Magadan**	**17.75**	**11**	LR	LR	02 16 49.3	
	comp=E,26nm,18.3s,baz=322,slow=41						
SONM	**Songino Array**	**26.88**	**295**	P	**P**	**02 10 11.1**	**+0.1**
	comp=E,0.9nm,0.7s,baz=70,slow=7.5,SNR=5.1						
	comp=E,0.9nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.75**	**132**	T	T	02 42 06.9	
	baz=327,slow=76,SNR=51						
H11N1	**WAKE ISLAND Hy**	**29.76**	**132**	T	T	02 42 07.7	
	baz=327,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy**	**29.77**	**132**	T	T	02 42 10.7	
	baz=327,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**30.64**	**134**	T	T	02 43 15.8	
	baz=328,slow=76,SNR=51						
H11S3	**WAKE ISLAND Hy**	**30.64**	**134**	T	T	02 43 15.2	
	baz=328,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**30.66**	**134**	T	T	02 43 17.0	
	baz=328,slow=76,SNR=23						
ZALV	**Zalesovo Beam**	**39.98**	**308**	P	**P**	**02 12 04.7**	**+0.5**
	comp=E,1.2nm,0.6s,baz=89,slow=6.7,SNR=5.4						
	comp=E,1.2nm,0.6s						
MKAR	**Makanchi Array**	**43.15**	**298**	P	**P**	**02 12 32.0**	**+1.8**
	comp=E,0.6nm,0.6s,baz=80,slow=9.1,SNR=6.1						
	comp=E,0.6nm,0.6s						
ILAR	**Eielson Array**	**43.99**	**35**	P	**P**	**02 12 37.3**	**+0.6**
	comp=E,0.7nm,0.9s,baz=259,slow=5.5,SNR=6.7						
	comp=E,0.7nm,0.9s						
KURK	**Kurchatov**	**44.37**	**304**	P	**P**	**02 12 41.5**	**+1.7**
KURK	**Kurchatov**	**44.37**	**304**	*e*P	**P**	**02 12 41.5**	**+1.7**
KURBB	**Kurchatov Arra**	**44.45**	**304**	P	**P**	**02 12 41.5**	**+1.0**
	comp=E,2.1nm,0.5s,baz=71,slow=8.8,SNR=17						
	comp=E,2.1nm,0.5s						
BVAR	**Borovoye Array**	**48.57**	**309**	P	**P**	**02 13 13.8**	**+1.1**
	comp=E,2.2nm,0.4s,baz=76,slow=9.2,SNR=24						
	comp=E,2.2nm,0.4s						
YKA	**Yellowknife Ar**	**58.25**	**32**	P	**P**	**02 14 22.8**	**-0.6**
	comp=E,0.3nm,0.8s,baz=305,slow=7.2,SNR=7.4						
	comp=E,0.3nm,0.8s						
FINES	**FINESS Array B**	**65.03**	**332**	P	**P**	**02 15 08.7**	**-0.2**
	comp=E,2.6nm,0.8s,baz=58,slow=5.2,SNR=7.6						
	comp=E,2.6nm,0.8s						
HFS	**Hagfors**	**70.04**	**336**	P	**P**	**02 15 39.3**	**-1.2**
	comp=E,1.4nm,0.7s,baz=29,slow=6.6,SNR=6.0						
	comp=E,1.4nm,0.7s						
TXAR	**Lajitas Array**	**85.38**	**54**	P	**P**	**02 17 06.6**	**+0.2**
	comp=E,0.2nm,0.6s,baz=291,slow=4.3,SNR=2.7						
	comp=E,0.2nm,0.6s						

*IDC **28** 02:35:00.4±2.8, 29°.11S×176°.30W, h0km, mb4.0/6, mbtmp4.0/6, MS3.2/3, Error ellipse: s-maj=169.2km s-min=25.9km az=161.0*
ISC 28 02:35:05.5±0.9, 29°.1S±0°.2×176°.3W±0°.2, h36km, n16, σ0°88/13, mb4.0/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.63**	**209**	Sn	**Sn**	**02 39 32.9**	**0.0**
	1.9nm,0.3s,baz=106,slow=20,SNR=8.4						
MSVF	**Nonsavu**	**12.44**	**334**	LR	LR	02 42 11.5	
	comp=Z,66nm,21.8s,baz=312,slow=35						
DZM	**Mont Dzumac**	**17.04**	**290**	LR	LR	02 44 24.0	
	comp=Z,149nm,18.8s,baz=166,slow=33						
PPT	**Papeete**	**27.05**	**71**	LR	LR	02 50 00.8	
	comp=Z,37nm,19.2s,baz=170,slow=33						
ASAR	**Alice Springs**	**44.65**	**265**	P	**P**	**02 43 15.5**	**+0.6**
	1.1nm,0.5s,baz=108,slow=7.9,SNR=23						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**45.52**	**270**	P	**P**	**02 43 21.9**	**+0.1**
	0.7nm,0.3s,baz=109,slow=8.0,SNR=5.5						
	0.7nm,0.3s						
NVAR	**Mina Array Bea**	**86.31**	**42**	P	**P**	**02 47 46.0**	**+2.1**
	0.8nm,0.5s,baz=231,slow=5.1,SNR=5.2						
	0.8nm,0.5s						
TXAR	**Lajitas Array**	**90.47**	**56**	P	**P**	**02 48 03.5**	**-0.2**
	0.4nm,0.9s,baz=230,slow=4.7,SNR=4.6						
	0.4nm,0.9s						
PDAR	**Pinedale Array**	**94.20**	**43**	P	**P**	**02 48 20.7**	**-0.2**
	0.5nm,0.8s,baz=231,slow=3.9,SNR=2.0						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**96.36**	**12**	P	**P**	**02 48 29.3**	**-0.5**
	0.5nm,1.0s,baz=226,slow=5.6,SNR=5.1						
	0.5nm,1.0s						
MKAR	**Makanchi Array**	**118.05**	**310**	PKP	**PKiKP**	**02 53 48.5**	**+0.2**
	0.2nm,0.4s,baz=119,slow=1.8,SNR=2.6						
FINES	**FINESS Array B**	**144.41**	**342**	PKP	**PKPdf**	**02 54 36.5**	**-0.7**
	1.3nm,0.4s,baz=48,slow=4.1,SNR=13						
NB2	**NORSAR Subarra**	**147.67**	**353**	PKP	**PKiKP**	**02 54 46.8**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=12,slow=4.4						
NOA	**NORSAR Array B**	**147.67**	**353**	PKPbc	**PKPbc**	**02 54 44.8**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=13,slow=4.4,SNR=4.1						
HFS	**Hagfors**	**148.24**	**350**	PKPbc	**PKiKP**	**02 54 48.1**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=352,slow=5.8,SNR=9.2						
AKASG	**Malin Array Be**	**151.11**	**325**	PKPbc	**PKiKP**	**02 54 55.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=50,slow=1.6,SNR=4.3						

*ISK **28** 02:55:13.4, 34°.93N×27°.91E, h5km, ML2.7/18*
*AFAD **28** 02:55:20.8, 35°.39N×27°.95E, h21km±1km, ML2.2*
*ATH **28** 02:55:20.1±0.8, 35°.32N×27°.81E, h10km, ML2.2/5, Manual Solution by N.Liadopoulou First location: 2019/04/28 02:56:49, This location: 2019/04/28 13:05:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 5 km*
ISC 28 02:55:16.9±1.6, 35°.14N±0°.05×27°.90E±0°.04, h10km±11km, n41, σ1°59/53, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.73**	**304**	Pg	**Pg**	**02 55 30.5**	**-0.5**
KARP	**Karpathos**	**0.73**	**304**	P	**Pg**	**02 55 30.6**	**-0.5**
ARG	**Arkhangelos**	**1.09**	**10**	Pn	**Pn**	**02 55 39.4**	**+1.2**
ARG	**Arkhangelos**	**1.09**	**10**	P	**Pn**	**02 55 38.9**	**+0.7**
ZKR	**Zakros**	**1.38**	**269**	Pn	**Pn**	**02 55 41.4**	**-0.8**
ZKR				Sn	**Sn**	**02 56 01.3**	**+0.8**
ZKR	**Zakros**	**1.38**	**269**	P	**Pn**	**02 55 44.3**	**+2.1**
YAZI	**Mula-Dat§a-**	**1.58**	**347**	P	**Pn**	**02 55 45.9**	**+0.9**
YAZI				S	**Sn**	**02 56 04.2**	**-1.2**
DAT	**Datca**	**1.61**	**351**	Pn	**Pb**	**02 55 47.1**	**+0.4**
DAT	**Datca**	**1.61**	**351**	P	**Pb**	**02 55 46.8**	**+0.1**
DAT				S	**Sg**	**02 56 06.3**	**-2.4**
DAT				*i* AML	AML	02 56 12.0	
	comp=N,36nm,0.6s						
DAT				*i* AML	AML	02 56 19.0	
	comp=E,37nm,0.6s						
TURN	**Turunc**	**1.66**	**10**	P	**Pg**	**02 55 49.0**	**+0.3**
TURN				S	**Sg**	**02 56 09.3**	**-0.8**
IZZE	**Mula-Seydike**	**1.68**	**39**	P	**Pn**	**02 55 47.6**	**+1.3**
IZZE				S	**Sn**	**02 56 07.2**	**-0.7**
IZZE				*i* AML	AML	02 56 17.0	
	comp=N,31nm,0.4s						
KSL	**Kastellorizon**	**1.70**	**53**	P	**Pn**	**02 55 48.5**	**+2.0**
FETY	**Fethiye**	**1.77**	**32**	Pn	**Pn**	**02 55 49.0**	**+1.4**
DALY	**Dalyan (Mula)**	**1.78**	**20**	Pn	**Pb**	**02 55 49.5**	**-0.1**
SABU	**Mula-Dalaman**	**1.89**	**27**	P	**Pb**	**02 55 51.2**	**-0.3**
SABU				S	**Sg**	**02 56 20.2**	**+2.5**
SABU				*i* AML	AML	02 56 37.0	
	comp=N,20nm,0.5s						
BDRM	**Kayabasi**	**1.96**	**349**	P	**Pn**	**02 55 51.4**	**+1.3**
BDRM				S	**Sb**	**02 56 15.3**	**-1.8**
BODT	**Bodrum**	**1.98**	**346**	Pn	**Pn**	**02 55 52.3**	**+1.9**
YER	**Yerkesik**	**2.02**	**9**	Pn	**Pn**	**02 55 52.7**	**+1.7**
CAME	**Cameli-Denizli**	**2.13**	**32**	Pn	**Pn**	**02 55 54.1**	**+1.5**
MULA	**Mugla, Merkez-**	**2.14**	**9**	P	**Pg**	**02 55 59.4**	**+1.4**
MULA				S	**Sg**	**02 56 25.7**	**0.0**
MLSB	**Milas**	**2.15**	**357**	Pn	**Pb**	**02 55 55.2**	**-0.8**
ELL	**Elmali**	**2.29**	**45**	Pn	**Pn**	**02 55 55.6**	**+0.8**
CAEL	**Denizli, Camel**	**2.29**	**30**	P	**Pn**	**02 55 57.0**	**+2.1**
CAEL				*i* AML	AML	02 56 52.0	
	comp=E,28nm,1.0s						
CAEL				*i* AML	AML	02 57 07.0	
	comp=N,22nm,1.5s						
DNZT	**Denizli-Tavas-**	**2.32**	**23**	P	**Pn**	**02 55 57.0**	**+1.7**
DDIM	**Aydin, Didim**	**2.37**	**347**	P	**Pb**	**02 55 58.8**	**-0.9**
DDIM				*i* AML	AML	02 56 52.0	
	comp=E,18nm,0.9s						
DDIM				*i* AML	AML	02 56 56.0	
	comp=N,22nm,0.9s						
TAVA	**DENIZLI_Tavas**	**2.46**	**19**	P	**Pn**	**02 55 58.6**	**+1.4**
TAVA				S	**Sb**	**02 56 30.3**	**-1.4**
IDI	**Anoyia**	**2.47**	**274**	P	**Pn**	**02 55 59.6**	**+2.3**
GOLH	**Golhisar**	**2.49**	**32**	P	**Pb**	**02 56 00.7**	**-1.0**
GOLH				S	**Sn**	**02 56 28.8**	**+0.9**
GOLH				*i* AML	AML	02 57 05.0	
	comp=N,15nm,0.6s						
AYDN	**Tasoluk**	**2.52**	**360**	P	**Pn**	**02 55 59.1**	**+1.2**
AYDN				S	**Sn**	**02 56 24.8**	**-3.9**
AYDN				*i* AML	AML	02 56 42.0	
	comp=N,12nm,0.5s						
AYDN				*i* AML	AML	02 56 48.0	
	comp=E,19nm,0.5s						
DNIZ	**Denizli-Tavas-**	**2.65**	**20**	P	**Pn**	**02 56 02.0**	**+2.3**
DNIZ				*i* AML	AML	02 56 50.0	
	comp=N,21nm,0.5s						
DNIZ				*i* AML	AML	02 56 56.0	
	comp=E,29nm,0.4s						
ESEN	**Aydn-Nazilli**	**2.68**	**8**	P	**Pn**	**02 56 02.9**	**+2.9**
AYDB	**Zeytinkoy-A

GO02				eS	Sn	03 20 04.1	-0.3
GO02				IAML		03 20 06.0	
	comp=N,3μm,0.1s						
GO02	**Mina Guanaco**	**1.51**	**61**	eP	**Pb**	**03 19 46.5**	**-0.8**
GO02				eS	**Sb**	**03 20 05.7**	**-0.4**
AC06	**Mina Casimiro**	**1.58**	**157**		**Pn**	**03 19 46.4**	**+0.3**
AC06	**Mina Casimiro**	**1.58**	**157**	eP	**Pn**	**03 19 46.2**	**+0.1**
AC06				IAML		03 20 07.9	
	comp=E,1μm,0.2s						
GO03	**Copiapo**	**1.84**	**157**		**Pn**	**03 19 50.6**	**+0.9**
GO03	**Copiapo**	**1.84**	**157**	eP	**Pn**	**03 19 50.4**	**+0.7**
GO03				IAML		03 20 12.7	
	comp=N,1μm,0.3s						
GO03	**Copiapo**	**1.84**	**157**	eP	**Pn**	**03 19 50.1**	**+0.4**
GO03				eS	**Sn**	**03 20 12.6**	**+0.5**
AC02	**Maricunga**	**1.96**	**119**		**Pn**	**03 19 52.9**	**+1.1**
AC02	**Maricunga**	**1.96**	**119**	eP	**Pn**	**03 19 53.0**	**+1.3**
AC02	**Maricunga**	**1.96**	**119**	eP	**Pn**	**03 19 52.9**	**+1.1**
AC02				eS	**Sn**	**03 20 15.8**	**+0.1**
AC02				IAML		03 20 16.5	
	comp=Z,2μm,0.4s						
AC04	**Llanos de Chal**	**2.29**	**181**		**Pn**	**03 19 55.2**	**-0.8**
AC04	**Llanos de Chal**	**2.29**	**181⇑**	eP	**Pn**	**03 19 55.2**	**-0.8**
AC04	**Llanos de Chal**	**2.29**	**181**	eP	**Pn**	**03 19 55.3**	**-0.6**
AC04				eS	**Sn**	**03 20 25.0**	**+1.6**
PB10	**IPOC Station P**	**2.42**	**11**		**Pn**	**03 19 58.6**	**+0.9**
PB10	**IPOC Station P**	**2.42**	**11**	eP	**Pn**	**03 19 58.3**	**+0.6**
PB10	**IPOC Station P**	**2.42**	**11**	eP	**Pn**	**03 19 58.0**	**+0.4**
PB10				eS	**Sn**	**03 20 26.9**	**+0.4**
AC05	**El Transito**	**3.00**	**167**		**Pn**	**03 20 06.9**	**+1.1**
AC05	**El Transito**	**3.00**	**167⇑**	eP	**Pn**	**03 20 06.8**	**+1.0**
AC05				IAML		03 20 47.5	
	comp=E,215nm,0.5s						
AC05	**El Transito**	**3.00**	**167**	eP	**Pn**	**03 20 06.2**	**+0.4**
AC05				eS	**Sn**	**03 20 37.0**	**-4.1**
AC05				eS	**Sb**	**03 20 43.9**	**-5.1**
AC05				IAML		03 20 58.5	
	comp=Z,158nm,0.5s						
LCO	**Las Campanas**	**3.11**	**174**		**Pn**	**03 20 07.5**	**+0.1**
LCO	**Las Campanas**	**3.11**	**174**	eP	**Pn**	**03 20 07.5**	**+0.1**
LCO				eS	**Sb**	**03 20 59.5**	**+7.3**
LCO				IAML		03 21 09.5	
	comp=Z,293nm,0.6s						
PB05	**IPOC Station P**	**3.13**	**14**		**Pn**	**03 20 08.3**	**+0.7**
PB05	**IPOC Station P**	**3.13**	**14**	eP	**Pn**	**03 20 08.4**	**+0.8**
PB05				IAML		03 20 44.6	
	comp=E,236nm,0.1s						
PB05	**IPOC Station P**	**3.13**	**14**	eP	**Pn**	**03 20 08.4**	**+0.8**
PB05				eS	**Sn**	**03 20 45.3**	**+1.1**
PB06	**IPOC Station P**	**3.46**	**23**	eP	**Pn**	**03 20 13.3**	**+1.2**
PB06				IAML		03 20 53.5	
	comp=N,161nm,0.2s						
PB06	**IPOC Station P**	**3.46**	**23**	eP	**Pn**	**03 20 13.2**	**+1.2**
PB06				eS	**Sn**	**03 20 52.6**	**+0.4**
PB06				IAML		03 21 15.6	
	comp=Z,206nm,0.7s						
AF01	**San Pedro de A**	**3.93**	**42**	eP	**Pn**	**03 20 20.7**	**+1.9**
AF01	**San Pedro de A**	**3.93**	**42**	eP	Pb	03 20 33.3	+4.7
AF01				eP	Pn	03 20 33.5	+15
AF01				eS	**Sb**	**03 21 16.5**	**+0.7**
AF01				IAML		03 21 45.8	
	comp=Z,734nm,0.8s						
CO05	**La Serena**	**4.00**	**182**		**Pn**	**03 20 19.4**	**0.0**
CO05	**La Serena**	**4.00**	**182**	eP	**Pn**	**03 20 19.1**	**-0.3**
CO01	**Juntas del Tor**	**4.15**	**168**		**Pn**	**03 20 22.8**	**+1.1**
CO01	**Juntas del Tor**	**4.15**	**168**	eP	**Pn**	**03 20 22.8**	**+1.1**
CO01				eS	**Sn**	**03 21 10.8**	**+1.4**
AGUA	**GUANDACOL**	**4.23**	**148**	eP	**Pn**	**03 20 26.2**	**+3.5**
AGUA				eP	Pb	03 20 26.4	-7.1
AGUA				eS	**Sb**	**03 21 22.0**	**-2.2**
AGUA				IAML		03 21 40.8	
	comp=Z,97nm,1.5s						
GO04	**Tololo Observa**	**4.26**	**177**		**Pn**	**03 20 23.6**	**+0.3**
GO04	**Tololo Observa**	**4.26**	**177**	eP	**Pn**	**03 20 23.7**	**+0.5**
GO04				eS	**Sn**	**03 21 11.9**	**-0.3**
PB09	**IPOC Station P**	**4.41**	**22**		**Pn**	**03 20 27.1**	**+1.9**
PB09	**IPOC Station P**	**4.41**	**22**	eP	**Pn**	**03 20 26.4**	**+1.2**
PB09				eS	**Sn**	**03 21 17.1**	**+1.3**
PB09				IAML		03 21 46.3	
	comp=Z,166nm,0.7s						
AROD	**Rodeo**	**4.47**	**162**	eP	**Pn**	**03 20 29.1**	**+2.9**
AROD				eS	**Sb**	**03 21 31.0**	**-0.4**
FSA	**Cafayete**	**4.57**	**94**	eP	**Pn**	**03 20 30.9**	**+3.5**
FSA				eS	**Sn**	**03 21 19.2**	**-0.5**
ACDV	**Cuesta del Vie**	**4.58**	**159**	eP	**Pn**	**03 20 31.1**	**+3.5**
ACDV				eS	**Sb**	**03 21 37.0**	**+2.6**
ACDV				IAML		03 21 44.6	
	comp=Z,57nm,0.9s						
CO03	**El Pedregal**	**4.93**	**176**		**Pn**	**03 20 32.3**	**+0.1**
CO03	**El Pedregal**	**4.93**	**176**	eP	**Pn**	**03 20 32.7**	**+0.5**
CO03				eS	**Sn**	**03 21 27.9**	**-0.7**
CO03				IAML		03 22 01.6	
	comp=Z,54nm,0.9s						
PB01	**IPOC Station P**	**5.04**	**17**		**Pn**	**03 20 34.4**	**+0.6**
PB01	**IPOC Station P**	**5.04**	**17**	eP	**Pn**	**03 20 34.5**	**+0.6**
PB01				eS	**Sn**	**03 21 31.5**	**+0.1**
PB01				IAML		03 21 32.8	
	comp=Z,61nm,0.4s						
ACLC	**CERRO LA CRUZ**	**5.05**	**135**	eP	**Pn**	**03 20 33.5**	**-0.5**
PATCX	**Punta Patache**	**5.12**	**9**	eP	**Pn**	**03 20 34.8**	**-0.2**
PATCX				eS	**Sn**	**03 21 30.5**	**-2.8**
PATCX				IAML		03 22 20.2	
	comp=Z,55nm,1.1s						
CO02	**Combarbal**	**5.28**	**180**	eP	**Pn**	**03 20 36.7**	**-0.4**
CO02				eS	**Sn**	**03 21 36.2**	**-1.1**
CO02				IAML		03 22 09.1	
	comp=Z,79nm,0.9s						
ZON	**Zonda**	**6.00**	**160**		**Pn**	**03 20 48.9**	**+2.0**
LPAZ	**La Paz**	**9.95**	**16**	P	**Pn**	**03 21 43.2**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=186,slow=1.8,SNR=15						
LPAZ				LR	LR	03 25 47.7	
	comp=Z,77nm,19.2s,baz=206,slow=39						
	comp=Z,0.8nm,0.3s						
H03N1	**Juan Fernandez**	**10.16**	**220**	T	T	03 32 12.4	
	baz=47,slow=71,SNR=79						
H03N2	**Juan Fernandez**	**10.17**	**221**	T	T	03 32 12.5	
	baz=47,slow=71,SNR=68						
H03N3	**Juan Fernandez**	**10.17**	**220**	T	T	03 32 11.3	
	baz=47,slow=71,SNR=72						
SIV	**San Ignacio**	**13.56**	**45**	P	**Pn**	**03 22 27.1**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=227,slow=9.7,SNR=50						
SIV				S	Sn	03 24 48.3	-12
	comp=Z,0.4nm,0.5s,baz=119,slow=22,SNR=1.3						
	comp=Z,1.5nm,0.3s						
TRQA	**Tornquist**	**14.34**	**150**	Pn	**Pn**	**03 22 39.8**	**-1.4**
PLCA	**Paso Flores**	**14.80**	**179**	P	**Pn**	**03 22 50.2**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=11,slow=12,SNR=6.1						
PLCA				LR	LR	03 28 20.8	
	comp=Z,96nm,21.0s,baz=325,slow=36						
	comp=Z,1.6nm,0.7s						
ITAB	**Concordia**	**16.98**	**99**	Pn	**Pn**	**03 23 15.6**	**+0.1**
ITAB				IAmb	IAmb	03 23 28.8	
	comp=Z,35nm,1.4s						
VAO	**Valinhos**	**22.11**	**88**	P	**P**	**03 24 11.6**	**-1.7**
VAO				IAmb	IAmb	03 24 23.4	
	comp=Z,12nm,1.3s						
BDFB	**Brasilia**	**23.80**	**69**	P	**P**	**03 24 29.0**	**-1.8**
BDFB	**Brasilia**	**23.80**	**69**	P	**P**	**03 24 28.7**	**-2.0**
	comp=Z,2.9nm,0.6s,baz=237,slow=10,SNR=9.4						
	comp=Z,2.9nm,0.6s						
MDP	**Montagnes des**	**35.62**	**33**	LR	LR	03 41 38.4	
	comp=Z,41nm,19.3s,baz=133,slow=38						
BELA	**Belgrano 2**	**54.70**	**171**	P	**P**	**03 28 47.4**	**+1.2**
SNAA	**Sanae**	**58.81**	**160**	P	**P**	**03 29 15.7**	**+0.1**
SNAA				IAmb	IAmb	03 29 29.7	
	comp=Z,2.8nm,1.2s						
QSPA	**South Pole Qui**	**64.31**	**180**	P	**P**	**03 29 54.5**	**+1.7**
QSPA	**South Pole Qui**	**64.31**	**180**	P	**P**	**03 29 54.3**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=298,slow=0.4,SNR=17						
	comp=Z,1.3nm,0.5s						
DBIC	**Dimbokro**	**71.88**	**73**	P	**P**	**03 30 39.5**	**-1.5**
	comp=Z,3.4nm,1.1s,baz=214,slow=7.3,SNR=1.4						
	comp=Z,3.4nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**26.37**	**275**	T	T	05 57 54.0	
	baz=108,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**26.38**	**275**	T	T	05 58 05.6	
	baz=108,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**26.39**	**275**	T	T	05 57 47.3	
	baz=108,slow=75,SNR=17						
ZALV	**Zalesovo Beam**	**146.75**	**26**	PKPbc	**PKPdf**	**03 38 57.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=338,slow=1.6,SNR=1.7						
MKAR	**Makanchi Array**	**150.31**	**38**	PKPbc	**PKiKP**	**03 39 09.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=349,slow=1.5,SNR=2.6						
PZH	**PanZhiHua**	**173.50**	**83**	PKP	**PKPdf**	**03 39 27.5**	**0.0**

*IDC **28** 03:26:19.7±1.5, 19°.39N×155°.18W, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=46.7km s-min=24.4km az=162.0*
*HVO **28** 03:26:20.5±1.1, 19°.33N±0°.02×155°.11W±0°.03, h7km±3km, ML4.2/54, mb4.4/22(NEIC), ML4.3/42(NEIC), Error ellipse: s-maj=5.1km s-min=1.7km az=126.0*
*NEIC **28** 03:26:21.0±1.0, 19°.35N±0°.02×155°.10W±0°.03, h5km±1km, Error ellipse: s-maj=5.2km s-min=2.6km az=306.0*

ISC 28 03:26:21.2±0.8, 19°.41N±0°.04×155°.15W±0°.03, h14km±4km, n78, σ1§34/74, mb4.3/20, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.04**	**207**		**Pg**	**03 26 22.9**	**-0.9**
STCH	**Steam Cracks**	**0.04**	**135**		**Pg**	**03 26 22.6**	**-1.2**
NPOC	**North of Pu'u**	**0.04**	**115**		**Pg**	**03 26 24.2**	**+0.4**
JCUZ	**Jacuzzi**	**0.06**	**120**		**Pg**	**03 26 24.0**	**+0.1**
PUH	**Pauahi**	**0.07**	**238**		**Pg**	**03 26 23.4**	**-0.7**
PUH				IAML		03 26 26.3	
	comp=N,149μm,0.7s						
BYL	**Byron's Ledge**	**0.10**	**270**		**Pg**	**03 26 24.2**	**-0.2**
BYL				IAML		03 26 27.7	
	comp=N,64μm,0.8s						
BYL				IAML		03 26 27.7	
	comp=E,87μm,0.6s						
HATHI	**Halema'uma'u T**	**0.10**	**276**		**Pg**	**03 26 24.4**	**-0.1**
HATHI				IAML		03 26 29.7	
	comp=N,79μm,0.8s						
HATHI				IAML		03 26 29.9	
	comp=E,54μm,0.8s						
KKO	**Keanakako'i**	**0.11**	**263**		**Pg**	**03 26 24.3**	**-0.2**
KKO					**Sg**	**03 26 27.2**	**+0.4**
SBLHI	**Steaming Bluff**	**0.11**	**278**		**Pg**	**03 26 24.4**	**-0.1**
SBLHI					**Sb**	**03 26 27.5**	**-0.4**
RIM	**Rim**	**0.12**	**262**		**Pg**	**03 26 24.4**	**-0.2**
RIM					**Sb**	**03 26 27.6**	**-0.4**
UWB	**Uwekahuna Bluf**	**0.12**	**276**		**Pg**	**03 26 24.5**	**-0.1**
UWB					**Sb**	**03 26 27.7**	**-0.4**
OBL	**Observatory Le**	**0.12**	**273**		**Pg**	**03 26 24.7**	**0.0**
OBL					**Sb**	**03 26 28.3**	**0.0**
RSD	**Rainshed**	**0.13**	**293**		**Pb**	**03 26 29.5**	**+3.9**
UWE	**Uwekahuna**	**0.13**	**274**		**Pg**	**03 26 24.8**	**0.0**
UWE				IAML		03 26 31.5	
	comp=E,61μm,0.5s						
UWE				IAML		03 26 31.5	
	comp=N,44μm,0.4s						
SDHHI	**Sand Hill**	**0.14**	**261**		**Pg**	**03 26 24.6**	**-0.2**
SDHHI					**Sg**	**03 26 27.8**	**+0.4**
WRMHI	**West Rim**	**0.14**	**268**		**Pg**	**03 26 24.7**	**-0.2**
WRMHI					**Sb**	**03 26 28.3**	**-0.4**
JOKA	**Jonika Flow**	**0.14**	**81**		**Pg**	**03 26 23.8**	**-1.1**
HLP	**Hilina Pali**	**0.19**	**232**		**Pg**	**03 26 25.0**	**-0.5**
HLP				IAML		03 26 28.7	
	comp=N,65μm,0.6s						
MLH	**Mauna Loa**	**0.23**	**290**		**Pg**	**03 26 26.8**	**+0.4**
MLH	**Mauna Loa**	**0.23**	**290**	IAML		03 26 32.8	
	comp=N,31μm,0.8s						
MLH				IAML		03 26 33.1	
	comp=E,15μm,0.5s						
HTC	**Hot Caves**	**0.29**	**233**		**Pg**	**03 26 26.8**	**-0.4**
HMH	**Humu'ula Sheep**	**0.36**	**301**		**Pg**	**03 26 29.1**	**+0.4**
HMH	**Humu'ula Sheep**	**0.36**	**301**		**Sb**	**03 26 36.3**	**+0.9**
MLOA	**Mauna Loa Obse**	**0.42**	**287**		**Pg**	**03 26 29.8**	**+0.1**
MLOA					**Sb**	**03 26 37.3**	**+0.3**
MLOA	**Mauna Loa Obse**	**0.42**	**287**	IAML		03 26 37.8	
	comp=E,138nm,0.9s						
MLOA				IAML		03 26 37.9	
	comp=N,183nm,1.6s						
MWH	**Mokuaweoweo**	**0.43**	**280**		**Pg**	**03 26 29.8**	**-0.1**
KHU	**Kahuku**	**0.47**	**249**		**Pg**	**03 26 29.7**	**-0.8**
KHU				IAML		03 26 43.0	
	comp=N,16μm,0.6s						
KHU				IAML		03 26 46.4	
	comp=E,28μm,0.6s						
KHU	**Kahuku**	**0.47**	**249**		**Sg**	**03 26 36.9**	**+0.1**
ALEP	**Alea Permanent**	**0.48**	**286**		**Pg**	**03 26 30.7**	**-0.2**
ALEP					**Sb**	**03 26 39.2**	**+0.4**
HPO	**Honuapo**	**0.50**	**230**		**Pg**	**03 26 29.6**	**-1.4**
HPO					**Sg**	**03 26 36.7**	**-1.0**
POHA	**Pohakuloa**	**0.50**	**314**		**Pg**	**03 26 31.1**	**0.0**
POHA				IAML		03 26 43.1	
	comp=E,14μm,0.8s						
POHA				IAML		03 26 45.1	
	comp=E,23μm,0.7s						
HUH	**Hualalai**	**0.70**	**293**		**Pg**	**03 26 34.4**	**-0.5**
I59US	**HAWAII INFRASO**	**0.72**	**284**	Pg	**Pg**	**03 26 34.9**	**-0.4**
	baz=121,slow=14						
I59US				Lg	Lg	03 26 45.0	
	baz=121,slow=18						
CPH	**Captain Cook**	**0.73**	**276**		**Pg**	**03 26 33.5**	**-1.8**
HPAH	**Hawaii Prepara**	**0.80**	**320**		**Pg**	**03 26 35.3**	**-1.5**
HPAH	**Hawaii Prepara**	**0.80**	**320**	IAML		03 26 54.6	
	comp=N,7μm,0.6s						
HPAH				IAML		03 26 54.6	
	comp=E,7μm,0.6s						
MHA	**Mahukona**	**1.05**	**318**		**Pb**	**03 26 38.9**	**-2.2**
MHA					**Sb**	**03 26 51.9**	**-2.8**
KHLH	**Kahului Airpor**	**1.90**	**321**		**Pn**	**03 26 51.2**	**-2.0**
WMR	**Waimanalo Ridg**	**3.04**	**309**		**Pn**	**03 27 05.8**	**-3.1**
DHH	**Diamond Head**	**3.09**	**307**		**Pn**	**03 27 06.3**	**-3.3**
HON	**Honolulu**	**3.28**	**306**		**Pn**	**03 27 08.9**	**-3.3**
KIP	**Kipapa**	**3.35**	**307**		**Pn**	**03 27 09.9**	**-3.2**
KIP				IAML		03 27 52.0	
	comp=E,438nm,0.7s						
H11N3	**WAKE ISLAND Hy**	**35.70**	**277**	T	T	04 10 25.8	
	baz=84,slow=74,SNR=206						
H11N2	**WAKE ISLAND Hy**	**35.71**	**277**	T	T	04 10 25.8	
	baz=84,slow=74,SNR=226						
H11N1	**WAKE ISLAND Hy**	**35.72**	**277**	T	T	04 10 26.7	
	baz=84,slow=74,SNR=184						
H11S2	**WAKE ISLAND Hy**	**36.04**	**275**	T	T	04 10 56.6	
	baz=83,slow=75,SNR=67						
H11S1	**WAKE ISLAND Hy**	**36.04**	**275**	T	T	04 11 01.2	
	baz=83,slow=75,SNR=36						
H11S3	**WAKE ISLAND Hy**	**36.05**	**275**	T	T	04 10 52.7	
	baz=83,slow=75,SNR=18						
NVAR	**Mina Array Bea**	**37.09**	**51**	P	**P**	**03 33 31.9**	**+0.4**
	comp=E,0.2nm,0.4s,baz=246,slow=14,SNR=2.8						
	comp=E,0.2nm,0.4s						
N19K	**Bonanza Creek**	**41.36**	**0**	P	**P**	**03 34 06.2**	**-0.5**
N19K				IAmb	IAmb	03 34 09.7	
	comp=Z,10nm,0.9s						
SUA	**Susitna One**	**42.12**	**3**	P	**P**	**03 34 12.8**	**-0.2**
O29M	**Mount Kennedy**	**42.53**	**12**	IAmb	IAmb	03 34 23.8	
	comp=Z,6.9nm,0.6s						
RND	**Reindeer**	**44.17**	**4**	P	**P**	**03 34 30.7**	**+1.2**
RND				IAmb	IAmb	03 34 32.0	
	comp=Z,4.9nm,1.0s						
MCK	**McKinley**	**44.49**	**4**	P	**P**	**03 34 33.1**	**+1.2**
MCK				IAmb	IAmb	03 34 34.4	
	comp=Z,4.1nm,1.1s						
M29M	**Somme Creek**	**44.53**	**11**	P	P	03 34 27.4	-4.9
PDAR	**Pinedale Array**	**44.78**	**48**	P	**P**	**03 34 33.7**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=234,slow=5.0,SNR=4.4						
	comp=Z,0.4nm,0.6s						
WRH	**Wood River Hil**	**45.28**	**4**	P	**P**	**03 34 39.6**	**+1.5**
WRH				IAmb	IAmb	03 34 40.5	
	comp=Z,7.8nm,1.2s						
J25K	**Salcha River,**	**45.65**	**6**	IAmb	IAmb	03 34 43.5	
	comp=Z,5.0nm,1.1s						
ILAR	**Eielson Array**	**45.67**	**5**	P	**P**	**03 34 42.1**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=197,slow=7.0,SNR=10						
	comp=Z,1.3nm,0.9s						
F19K	**Shaleruckik Mo**	**47.43**	**359**		**P**	**03 34 56.5**	**+1.5**
F19K				IAmb	IAmb	03 34 58.1	
	comp=Z,3.3nm,1.1s						
I30M	**Mount Dempster**	**47.45**	**11**	P	**P**	**03 34 55.2**	**-0.2**
I30M				IAmb	IAmb	03 34 58.0	
	comp=Z,2.8nm,0.8s						
TXAR	**Lajitas Array**	**47.60**	**68**	P	**P**	**03 34 59.1**	**+2.0**
	comp=Z,0.8nm,0.6s,baz=255,slow=8.7,SNR=16						
	comp=Z,0.8nm,0.6s						
H27K	**Steamboat Moun**	**47.64**	**7**	P	**P**	**03 34 57.9**	**+1.2**
F21K	**Alatna River**	**47.80**	**1**		**P**	**03 34 56.5**	**-1.5**
H29M	**Whitestone**	**48.05**	**9**	P	**P**	**03 35 01.5**	**+1.6**
E22K	**Anaktuvuk Pass**	**48.76**	**2**		**P**	**03 35 03.1**	**-2.2**
E22K				IAmb	IAmb	03 35 08.1	
	comp=Z,3.6nm,0.9s						
F26K	**Sheenjek River**	**48.77**	**6**	P	**P**	**03 35 06.2**	**+0.7**
F26K				IAmb	IAmb	03 35 08.2	
	comp=Z,3.0nm,1.1s						
D22K	**Ayikyak River**	**49.48**	**1**		**P**	**03 35 12.5**	**+1.7**
D22K				IAmb	IAmb	03 35 13.9	
	comp=Z,5.0nm,0.9s						
E28M	**Babbage River**	**50.14**	**7**		**P**	**03 35 14.5**	**-1.4**
C23K	**Itkillik River**	**50.50**	**2**		**P**	**03 35 19.6**	**+1.1**
C23K				IAmb	IAmb	03 35 20.9	
	comp=Z,4.6nm,0.9s						
YKA	**Yellowknife Ar**	**51.27**	**23**	P	**P**	**03 35 25.5**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=234,slow=7.5,SNR=13						
	comp=Z,0.7nm,0.8s						
MJAR	**Matsushiro Arr**	**60.18**	**302**	P	**P**	**03 36 29.5**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=92,slow=6.1,SNR=2.0						
	comp=Z,0.8nm,0.8s						
HHC	**Hu-ho-hao-te**	**79.97**	**310**	eP	**P**	**03 38 30.0**	**-0.3**
ASAR	**Alice Springs**	**81.33**	**241**	P	**P**	**03 38 38.0**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=63,slow=6.3,SNR=3.4						
	comp=Z,0.5nm,0.8s						
SONM	**Songino Array**	**81.33**	**318**	P	**P**	**03 38 38.7**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=91,slow=5.9,SNR=5.1						
	comp=Z,1.0nm,0.7s						
H03N2	**Juan Fernandez**	**89.61**	**126**	T	T	05 18 16.9	
	baz=298,slow=76,SNR=268						
H03N3	**Juan Fernandez**	**89.62**	**126**	T	T	05 18 18.1	
	baz=298,slow=76,SNR=290						
H03N1	**Juan Fernandez**	**89.63**	**126**	T	T	05 18 17.7	
	baz=298,slow=76,SNR=392						

*IDC **28** 03:38:03.9±3.2, 7°.50S×127°.75E, h114km±29km, mb3.8/13, mbtmp4.3/16, Error ellipse: s-maj=31.8km s-min=11.4km az=74.0*
*DJA **28** 03:38:07.7±0.4, 8°.S±4°×12°.8E±°, h221km±14km, M4.6/7, mB5.0/2, mb4.3/6, MLv4.7/7, Mw(mB)4.3/2*
*NEIC **28** 03:38:09.2±2.2, 7°.48S±0°.09×127°.85E±0°.09, h168km±8km, mb4.3/18, Error ellipse: s-maj=13.8km s-min=11.5km az=149.0*

ISC 28 03:38:06.8±0.4, 7°.56S±0°.06×127°.84E±0°.07, h142km, n70, σ1§90/73, mb4.1/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.46**	**97**		**Pn**	**03 39 03.3**	**+3.5**
SAUI	**Saumlaki**	**3.46**	**97**	P	**Pn**	**03 39 03.3**	**+3.5**
SAUI	**Saumlaki**	**3.46**	**97**	P	**Pn**	**03 39 03.0**	**+3.2**
SOEI	**Soe**	**4.15**	**238**		**Pn**	**03 39 12.5**	**+3.5**
SOEI	**Soe**	**4.15**	**238**	P	**Pn**	**03 39 12.6**	**+3.6**
SOEI	**Soe**	**4.15**	**238**	P	**Pn**	**03 39 12.2**	**+3.2**
DRS	**Darwin Rock St**	**5.70**	**148**	P	**Pn**	**03 39 30.9**	**+1.4**
MTN	**Manton Dam**	**6.17**	**149**		**Pn**	**03 39 37.5**	**+1.7**
MTN	**Manton Dam**	**6.17**	**149**	P	**Pn**	**03 39 36.9**	**+1.1**
EDFI	**Ende, Flores**	**6.20**	**259**	P	**Pn**	**03 39 40.4**	**+4.2**
FAKI	**Fak Fak**	**6.37**	**44**		**Pn**	**03 39 39.9**	**+1.5**
FAKI	**Fak Fak**	**6.37**	**44**	P	**Pn**	**03 39 40.0**	**+1.5**
	0.3nm15nm,0.7s						
KDU	**Kakadu**	**6.84**	**139**	P	**Pn**	**03 39 45.6**	**+0.9**
KNRA	**Kununurra**	**8.12**	**174**		**Pn**	**03 40 02.0**	**+0.1**
WBSI	**Waikabubak, Su**	**8.60**	**255**	P	**Pn**	**03 40 08.3**	**-0.1**
	34nm,1.0s						
PLAI	**Plampang**	**10.04**	**262**	P	**Pn**	**03 40 27.5**	**0.0**
	23nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.69**	**191**		**Pn**	**03 40 34.2**	**-2.0**
FITZ	**Fitzroy Crossi**	**10.69**	**191**	P	**Pn**	**03 40 34.1**	**-2.1**
	19nm,0.6s,baz=27,slow=11,SNR=55						
FITZ				S	Sn	03 42 25.8	-8.5
	18nm,0.4s,baz=101,slow=23,SNR=7.2						
WB0	**Warramunga Arr**	**13.70**	**153**		**Pn**	**03 41 13.1**	**-2.2**
WRAB	**Tennant Creek**	**13.83**	**153**		**Pn**	**03 41 15.7**	**-1.2**
WRA	**Warramunga Arr**	**13.83**	**154**	P	**Pn**	**03 41 15.7**	**-1.4**
	37nm,0.8s,baz=322,slow=14,SNR=160						
WRA				S	Sn	03 43 41.2	-9.0
	40nm,0.8s,baz=333,slow=22,SNR=8.8						
WR8	**Warramunga Arr**	**13.91**	**153**		**Pn**	**03 41 15.6**	**-2.5**
MBWA	**Marble Bar**	**15.62**	**209**	P	**P**	**03 41 40.7**	**+0.1**
PSA00	**Pilbara Seismi**	**15.93**	**208**	P	**Pn**	**03 41 43.8**	**+0.7**
PSA00				IAmb	IAmb	03 41 44.7	
	comp=Z,19nm,0.8s						
PSA00	**Pilbara Seismi**	**15.93**	**208**	P	**Pn**	**03 41 43.8**	**+0.7**
COEN	**Coen**	**16.35**	**114**	P	**Pn**	**03 41 48.5**	**+0.1**
AS31	**Alice Springs**	**17.04**	**161**		**P**	**03 41 56.9**	**+0.6**
ASAR	**Alice Springs**	**17.04**	**161**	P	**P**	**03 41 56.5**	**+0.2**
	comp=Z,35nm,0.6s,baz=333,slow=10,SNR=181						
ASAR				S	**S**	**03 44 59.0**	**-7.7**
	comp=Z,4.8nm,0.5s,baz=351,slow=

ABKAR	**Akbulak array**	**81.62 322**			**P**	**03 50 06.7**	**-2.2**
QSPA	**South Pole Qui**	**82.42 180**			**P**	**03 50 13.1**	**+0.1**
QSPA				IAmb	IAmb	03 50 14.0	
	comp=Z,3.8nm,0.7s						
QSPA	**South Pole Qui**	**82.42 180**		P	**P**	**03 50 13.2**	**+0.1**
	comp=Z,4.6nm,0.7s,baz=316,slow=1.3,SNR=40						
	comp=Z,4.6nm,0.7s						
TXAR	**Lajitas Array**	**127.05 59**		PKP	**PKiKP**	**03 56 55.2**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=198,slow=3.1,SNR=4.0						
CPUP	**Villa Florida**	**145.94 172**		PKPbc	**PKPbc**	**03 57 30.8**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=174,slow=1.2,SNR=12						
LPAZ	**La Paz**	**151.52 146**		PKPbc	**PKiKP**	**03 57 46.5**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=84,slow=1.0,SNR=14						
LPAZ				PKPab	**PKPab**	**03 57 56.3**	**+1.6**
	comp=Z,4.5nm,0.6s,baz=200,slow=2.9,SNR=16						

*NEIC **28** 03:49:54.6±1.3, 60°.31N±0°.03×150°.68W±0°.07, h70km±6km, Error ellipse: s-maj=5.3km s-min=4.2km az=140.0*

AEIC 28 03:49:54.8±1.8, 60°.29N±0°.04×150°.75W±0°.06, h59km±6km, ML2.4, ML2.6/115(NEIC), **Error ellipse: s-maj=5.3km s-min=4.1km az=193.0, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**0.34**	**49**		Pn	03 50 05.7	+0.5
SLKM				Sn	Sn	03 50 13.6	+0.9
CAPN	**Captain Cook N**	**0.52**	**338**		Pn	03 50 08.0	+1.2
CAPN				Sn	Sn	03 50 18.5	+2.9
CAPN				IAML		03 50 19.4	
	comp=E,272nm,0.7s						
CAPN				IAML		03 50 27.4	
	comp=N,326nm,0.4s						
BRLK	**Bradley Lake**	**0.53**	**188**	Pn	Pn	03 50 08.5	+1.5
O22K	**Cooper Landing**	**0.54**	**69**		Pn	03 50 07.6	+0.5
O22K				Sn	Sn	03 50 16.7	+0.6
SEW	**Seward**	**0.67**	**105**		Pn	03 50 09.2	+0.6
HOM	**Homer**	**0.78**	**216**		Pn	03 50 11.2	+1.4
HOM				IAML		03 50 25.9	
	comp=N,233nm,0.4s						
HOM				IAML		03 50 26.5	
	comp=E,285nm,0.3s						
CNPM	**China Poot**	**0.80**	**198**		Pn	03 50 11.5	+1.2
CNPM				IAML		03 50 24.3	
	comp=E,237nm,0.3s						
CNPM				IAML		03 50 24.4	
	comp=N,282nm,0.4s						
FIS	**Fire Island**	**0.90**	**17**		Pn	03 50 11.8	+0.4
RC01	**Rabbit Creek A**	**0.95**	**31**		Pn	03 50 11.9	-0.1
SUA	**Susitna One**	**1.18**	**360**		Pn	03 50 14.5	-0.8
SUA				IAML		03 50 30.7	
	comp=N,97nm,0.8s						
SUA				IAML		03 50 31.1	
	comp=E,94nm,0.9s						
ILSW	**Iliamna Southw**	**1.24**	**257**		Pn	03 50 16.0	0.0
ILSW				IAML		03 50 33.0	
	comp=E,138nm,0.3s						
ILSW				IAML		03 50 33.1	
	comp=N,136nm,0.3s						
PWL	**Port Wells**	**1.32**	**63**		Pn	03 50 16.6	-0.4
STLK	**Strandline Lak**	**1.33**	**337**		Pn	03 50 17.0	-0.2
STLK				IAML		03 50 34.5	
	comp=E,134nm,0.3s						
STLK				IAML		03 50 34.5	
	comp=N,146nm,0.3s						
P19K	**Oil Pt**	**1.40**	**244**		Pn	03 50 18.6	+0.5
P19K				IAML		03 50 37.5	
	comp=E,141nm,0.6s						
M22K	**Willow**	**1.50**	**11**		Pn	03 50 18.8	-0.6
M22K				IAML		03 50 42.5	
	comp=E,111nm,0.5s						
M22K				IAML		03 50 43.5	
	comp=N,102nm,0.5s						
PMR	**Palmer**	**1.53**	**30**		Pn	03 50 19.0	-0.7
PMR				IAML		03 50 37.9	
	comp=N,102nm,0.4s						
PMR				IAML		03 50 38.1	
	comp=E,73nm,0.4s						
KNK	**Knik Glacier**	**1.59**	**44**		Pn	03 50 20.1	-0.5
GHO	**Glory Hole Cre**	**1.73**	**30**		Pn	03 50 21.9	-0.7
SKT	**Skwentna**	**1.74**	**348**		Pn	03 50 22.1	-0.6
SKT				IAML		03 50 44.1	
	comp=N,93nm,0.5s						
SKT				IAML		03 50 44.8	
	comp=E,55nm,0.4s						
SYI	**Shuyak Island**	**1.88**	**207**		Pn	03 50 25.7	+1.2
SYI				IAML		03 50 51.4	
	comp=E,28nm,0.5s						
N19K	**Bonanza Creek**	**1.92**	**288**		Pn	03 50 24.4	-0.8
N19K				IAML		03 50 47.1	
	comp=N,35nm,0.6s						
N19K				IAML		03 50 47.7	
	comp=E,31nm,0.3s						
SML	**Sawmill**	**1.93**	**37**		Pn	03 50 24.6	-0.6
SML				IAML		03 50 47.5	
	comp=N,46nm,0.5s						
SML				IAML		03 50 48.6	
	comp=E,52nm,0.6s						
M20K	**Styx River**	**1.98**	**325**		Pn	03 50 25.8	-0.1
Q19K	**Cape Douglas,**	**2.01**	**228**		Pn	03 50 27.4	+1.1
Q19K				IAML		03 50 59.4	
	comp=N,75nm,1.0s						
Q19K				IAML		03 51 00.3	
	comp=E,87nm,0.8s						
SCM	**Sheep Creek Mo**	**2.27**	**45**		Pn	03 50 29.5	-0.4
SCM				IAML		03 50 58.1	
	comp=E,54nm,0.5s						
SCM				IAML		03 51 07.5	
	comp=N,42nm,0.7s						
M19K	**Big River Lodg**	**2.40**	**314**		Pn	03 50 31.2	-0.4
N18K	**Kilae Creek**	**2.58**	**281**		Pn	03 50 33.1	-0.9
N18K				IAML		03 51 03.1	
	comp=E,16nm,0.2s						
L19K	**White Mountain**	**2.75**	**316**		Pn	03 50 36.1	-0.3
M24K	**Tolsona, Glenn**	**2.87**	**49**	IAML		03 51 20.3	
	comp=N,29nm,0.6s						
TRF	**Thorofare Moun**	**3.18**	**4**	IAML		03 51 27.6	
	comp=N,9.2nm,0.4s						
CAST	**Castle Rocks**	**3.21**	**349**		Pn	03 50 43.6	+1.0
RND	**Reindeer**	**3.26**	**15**		Pn	03 50 43.7	+0.3
N25K	**Chitina, Valde**	**3.28**	**64**	IAML		03 51 21.0	
	comp=N,13nm,0.7s						
N25K				IAML		03 51 31.5	
	comp=E,13nm,0.5s						
KTH	**Kantishna Hill**	**3.28**	**359**		Pn	03 50 44.6	+0.9
KTH				IAML		03 51 39.9	
	comp=E,12nm,1.0s						
KTH				IAML		03 51 40.3	
	comp=N,12nm,0.8s						
MCK	**McKinley**	**3.56**	**13**		Pn	03 50 48.1	+0.6
GLB	**Gilahina Butte**	**3.58**	**68**	IAML		03 51 28.7	
	comp=N,16nm,0.4s						
GLB				IAML		03 51 28.8	
	comp=E,9.8nm,0.3s						
PAX	**Paxson**	**3.69**	**41**		Pn	03 50 49.3	+0.1
PAX				IAML		03 51 31.8	
	comp=E,6.2nm,0.5s						
PAX				IAML		03 51 42.3	
	comp=N,6.8nm,1.1s						
BPAW	**Bear Paw Mtn.**	**3.83**	**358**		Pn	03 50 51.3	+0.2
J20K	**Nowinta River**	**4.21**	**339**		Pn	03 50 55.3	-1.1
J20K				IAML		03 52 36.7	
	comp=N,4.0nm,1.5s						
M26K	**Nabesna, AK**	**4.29**	**57**	IAML		03 51 47.0	
	comp=N,4.0nm,0.5s						
WRH	**Wood River Hil**	**4.38**	**15**	IAML		03 51 47.7	
	comp=N,3.3nm,0.3s						
RIDG	**Independent Ri**	**4.44**	**36**	IAML		03 51 53.6	
	comp=E,6.3nm,0.7s						
RIDG				IAML		03 52 09.7	
	comp=N,5.7nm,1.1s						
HDA	**Harding Lake**	**4.50**	**22**		Pn	03 51 00.4	+0.1
HDA				IAML		03 51 51.3	
	comp=N,8.6nm,0.5s						
HDA				IAML		03 51 51.6	
	comp=E,8.1nm,0.3s						
CCB	**Clear Creek Bu**	**4.58**	**16**	IAML		03 51 53.0	
	comp=E,4.0nm,0.2s						
CCB				IAML		03 51 53.7	
	comp=N,3.1nm,0.4s						
DOT	**Dot Lake**	**4.62**	**40**		Pn	03 51 01.6	-0.3
DOT				IAML		03 52 16.2	
	comp=N,4.0nm,0.7s						
DOT				IAML		03 52 26.0	
	comp=E,5.2nm,1.0s						
COLA	**College**	**4.79**	**15**		Pn	03 51 04.3	+0.1
ILAR	**Eielson Array**	**4.84**	**20**		Pn	03 51 04.5	-0.4
SCRK	**Sand Creek**	**4.87**	**38**	IAML		03 52 13.2	
	comp=E,3.1nm,0.7s						
SCRK				IAML		03 52 13.8	
	comp=N,2.4nm,1.4s						
I23K	**Minto, Yukon-K**	**4.92**	**7**	IAML		03 52 31.0	
	comp=E,3.7nm,1.4s						
I23K				IAML		03 52 53.1	
	comp=N,4.5nm,0.1s						
I21K	**Tanana**	**4.94**	**354**		Pn	03 51 06.6	+0.3
J25K	**Salcha River,**	**5.01**	**28**	IAML		03 52 02.0	
	comp=E,4.3nm,0.5s						
J25K				IAML		03 52 05.8	
	comp=N,3.0nm,0.6s						
J26L	**Joseph Creek**	**5.39**	**35**	IAML		03 52 35.8	
	comp=N,2.1nm,1.4s						
J26L				IAML		03 52 37.5	
	comp=E,1.9nm,1.4s						
H21K	**Melozitna Rive**	**5.47**	**351**		Pn	03 51 13.9	+0.3
H27K	**Steamboat Moun**	**7.26**	**31**		Pn	03 51 37.2	-0.9

GCMT 28 03:50:40.0±0.2, 49°.69S±0°.01×115°.74W±0°.01, h17km±1km, MW5.1/118, **Moment Tensor Solution. s60,c93; s118,c186; Duration: 0 Moment tensor: Scale** 10^{16} **Nm;** M_{rr}-0.29±.12; $M_{\theta\theta}$1.92±.12; $M_{\phi\phi}$-1.63±.11; $M_{r\theta}$0.16±.28; $M_{\theta\phi}$4.79±.09; $M_{r\phi}$0.90±.28; **Best double couple:** $M_0$5.19000×10^{16} **NP1:**ϕ_s100.00000°, δ80.00000°, λ-1.00000°. **NP2:**ϕ_s190.00000°, δ89.00000°, λ-170.00000°. **Principal axes:** T 5.3280, Plg7.0000°, Azm325.0000°; N -0.2780, Plg80.0000°, Azm195.0000°; P -5.0510, Plg8.0000°, Azm56.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**37.24**	**303**	*e*SS	SS	04 06 20.4	+0.3
	2μm,24.5s						
TBI				*e*LR	LR	04 07 41.8	
	3μm,26.5s						
PPT2	**Papeete2**	**42.02**	**307**	*e*S	S	04 04 47.1	-1.7
	106nm,24.5s						
PPT2				*e*SS	SS	04 08 01.6	+5.6
	1μm,29.5s						
TAOE	**Nuku Hiva Isla**	**45.51**	**325**	*e*S	S	04 05 41.3	+1.4
	150nm,24.1s						
TAOE				*e*LR	LR	04 11 49.5	
	758nm,25.1s						

NNC 28 03:56:47.2±3.9, 37°.02N×71°.02E, h174km±88km, mb2.6, mpv3.6, 3C-2D Error ellipse: s-maj=42.1km s-min=26.6km az=6.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.09**	**356**	P	Pn	03 58 15.2	-0.1
	1.6nm,0.3s,baz=185,slow=14,SNR=43						
KK31				⇓S	Sn	03 59 25.5	+0.8
	0.6nm,0.2s,baz=192,slow=28,SNR=7.2						
AAK	**Ala-Archa**	**6.21**	**24**	⇑P	Pn	03 58 17.7	+0.6
	2.7nm,0.5s						
AAK				⇑S	Sn	03 59 27.6	-0.1
	2.1nm,0.5s						
TKM2	**Tokmak 2**	**6.86**	**29**	⇓P	Pn	03 58 25.1	-0.5
	2.8nm,0.5s						
TKM2				⇑S	Sn	03 59 44.2	+1.0
	1.0nm,0.6s						
AB31	**Akbulak array**	**14.64**	**330**	P	Pn	04 00 05.9	0.0
	0.2nm,0.4s,baz=135,slow=11,SNR=9.8						

*MOS **28** 03:59:50.7±0.8, 9°.49N×126°.19E, h10km, mb5.2/56, MS4.4/10, Error ellipse: s-maj=10.5km s-min=5.0km az=115.8*

*NEIC **28** 03:59:53.5±2.5, 9°.64N±0°.08×126°.46E±0°.07, h10km±1km, mb5.0/246, Error ellipse: s-maj=13.4km s-min=11.5km az=33.0*

*BJI **28** 03:59:56.4, 9°.25N×126°.60E, h82km, mB4.9/22, mb4.8/62, Ms4.6/63, Ms7 4.5/62*

*IDC **28** 03:59:58.4±1.4, 9°.55N×126°.41E, h53km±13km, mb4.4/33, mbtmp4.7/37, ML4.1/5, MS4.2/59, Error ellipse: s-maj=15.3km s-min=8.0km az=87.0*

*DJA **28** 03:59:58.4±1.4, 10°N±11°×12°7E±°, h67km±12km, M5.1/25, mB5.4/15, mb5.0/25, MLv5.8/4, Mw(mB)4.8/15, MwMwp5.1/5, Mwp5.4/5*

*GCMT **28** 03:59:58.5±0.2, 9°.53N±0°.02×126°.73E±0°.02, h33km, MW5.1/103, Moment Tensor Solution. s59,c76; s103,c160; Duration: 0 Moment tensor: Scale* 10^{16}*Nm;* M_{rr}*3.93±.17;* $M_{\theta\theta}$*0.27±.11;* $M_{\phi\phi}$*-4.20±.11;* $M_{r\theta}$*-0.07±.13;* $M_{\theta\phi}$*-0.30±.08;* $M_{r\phi}$*3.69±.15; Best double couple:* M_0*5.49800×*10^{16} *NP1:*ϕ_s*188.00000°,* δ*24.00000°,* λ*97.00000°. NP2:*ϕ_s*0.00000°,* δ*66.00000°,* λ*87.00000°. Principal axes: T 5.3610, Plg69.0000°, Azm265.0000°; N 0.2760, Plg3.0000°, Azm2.0000°; P -5.6360, Plg21.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 03:59:57.7±0.3, 9°.53N±0°.03×126°.47E±0°.05, h50km, n782, σ1°**34**/659, **mb4.9**/217, **MS4.3**/86, **21C-22D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.59**	**200**		**Pn**	**04 00 39.1**	**+1.8**
DAV	**Davao City (W)**	**2.59**	**200**	P	**Pn**	**04 00 39.2**	**+2.0**
	53nm,0.3s,baz=32,slow=2.5,SNR=8.4						
DAV				S	**Sn**	**04 01 09.3**	**+1.8**
	3μm,0.7s,baz=252,slow=22,SNR=9.7						
DAV				LR	LR	04 01 30.1	
	comp=Z,3μm,20.6s,baz=348,slow=35						
	326nm,0.5s						
DAV	**Davao City (W)**	**2.59**	**200**	P	**Pn**	**04 00 40.0**	**+2.8**
DAV				S	**Sn**	**04 01 14.0**	**+6.4**
DAV	**Davao City (W)**	**2.59**	**200**	P	Pn	04 00 44.9	+7.7
DAV	**Davao City (W)**	**2.59**	**200**	P	**Pn**	**04 00 40.0**	**+2.8**
SGSI	**Sangihe**	**5.88**	**189**	P	Pn	04 01 27.9	+5.6
TGY	**Tagaytay City**	**7.07**	**311**	P	**Pn**	**04 01 39.6**	**+1.0**
	27nm,0.3s,baz=336,slow=0.5,SNR=9.1						
TGY				LR	LR	04 04 40.2	
	comp=Z,5μm,19.5s,baz=126,slow=40						
TNTI	**Ternate**	**8.74**	**174**		Pn	04 02 06.2	+4.6
TNTI	**Ternate**	**8.74**	**174**	P	Pn	04 02 08.4	+6.8
TNTI	**Ternate**	**8.74**	**174**	P	Pn	04 02 07.0	+5.4
	2μm87nm,1.5s						
MYLDM	**Lahad Datu**	**9.00**	**242**		Pn	04 02 10.3	+5.2
MYLDM	**Lahad Datu**	**9.00**	**242**	P	Pn	04 02 09.7	+4.6
KMSI	**Cibinong**	**9.23**	**196**	P	Pn	04 02 15.1	+6.8
	301nm,1.5s						
MRSI	**Marisa**	**10.06**	**207**	P	**Pn**	**04 02 22.8**	**+3.3**
	997nm86nm,0.9s						
TOLI2	**Tolitoli**	**10.09**	**214**		**Pn**	**04 02 21.5**	**+1.5**
TOLI2	**Tolitoli**	**10.09**	**214**	P	Pn	04 02 27.1	+7.0
KKM	**Kota Kinabalu**	**10.73**	**252**	Pn	Pn	04 02 33.0	+4.2
LUWI	**Luwuk**	**11.13**	**200**	P	Pn	04 02 41.1	+6.9
	2μm152nm,1.1s						
SWI	**Sorong**	**11.37**	**155**	P	Pn	04 02 41.3	+3.7
	1μm43nm,0.7s						
APSI	**Ampana**	**11.43**	**205**	P	Pn	04 02 45.1	+6.8
	113nm,1.0s						
SANI	**Sanana**	**11.51**	**182**	P	Pn	04 02 43.5	+4.0
SANI	**Sanana**	**11.51**	**182**	P	**Pn**	**04 02 42.0**	**+2.5**
	698nm55nm,0.8s						
PCI	**Palu**	**12.29**	**213**	P	**P**	**04 02 56.7**	**-4.3**
	8μm79nm,1.0s						
NLAI	**Namlea**	**12.70**	**177**	P	P	04 03 00.1	-5.4
	2μm753nm66nm,1.0s						
MSAI	**Masohi**	**13.02**	**169**	P	**P**	**04 03 06.0**	**-3.1**
	53nm,0.7s						
FAKI	**Fak Fak**	**13.64**	**155**		**Pn**	**04 03 08.1**	**-0.5**
FAKI	**Fak Fak**	**13.64**	**155**	P	**Pn**	**04 03 10.3**	**+1.7**
FAKI	**Fak Fak**	**13.64**	**155**	P	**Pn**	**04 03 10.0**	**+1.4**
	984nm74nm,1.5s						
TWGBT	**Beinan**	**14.19**	**339**	P	**P**	**04 03 21.1**	**-1.0**
TWG	**Pinlang**	**14.19**	**339**	P	**P**	**04 03 19.6**	**-2.6**
BAKI	**Biak**	**14.34**	**137**	P	**Pn**	**04 03 18.7**	**+0.7**
	2μm93nm,1.1s						
BKB	**Balikpapan**	**14.34**	**222**	P	**P**	**04 03 23.2**	**-0.6**
	2μm127nm,1.1s						
YULB	**Yu-li**	**14.65**	**341**		**P**	**04 03 25.7**	**-1.5**
YULB	**Yu-li**	**14.65**	**341**	P	**P**	**04 03 26.2**	**-1.0**
TPUB	**Ta-pu**	**14.79**	**339**		**P**	**04 03 26.4**	**-2.4**
TPUB	**Ta-pu**	**14.79**	**339**	P	**P**	**04 03 26.2**	**-2.6**
SPSI	**Sidrap Palu**	**14.97**	**207**	P	**P**	**04 03 33.3**	**+2.5**
	37nm,1.1s						
SSLB	**Suanglung**	**15.13**	**340**		**P**	**04 03 31.9**	**-0.6**
SSLB				IAmb	IAmb	04 03 33.4	
	comp=Z,39nm,1.0s						
SSLB	**Suanglung**	**15.13**	**340**	P	**P**	**04 03 31.8**	**-0.7**
BNSI	**Bone**	**15.22**	**205**	P	**P**	**04 03 33.4**	**-0.2**
	comp=Z,2μmcomp=Z,115nm,1.3s						
SBUM	**Sibu**	**15.81**	**244**	P	**P**	**04 03 38.5**	**-1.6**
SBUM	**Sibu**	**15.81**	**244**	P	**P**	**04 03 40.9**	**+0.8**
YHNB	**Yeheng**	**15.82**	**343**	P	**P**	**04 03 43.0**	**+2.7**
KAPI	**Kappang**	**15.92**	**205**		**P**	**04 03 42.1**	**+0.7**
KAPI	**Kappang**	**15.92**	**205**	P	**P**	**04 03 40.7**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=0.2,slow=11,SNR=9.6						
KAPI				LR	LR	04 10 18.0	
	comp=Z,608nm,21.1s,baz=48,slow=39						
	comp=Z,19nm,1.0s						
KAPI	**Kappang**	**15.92**	**205**	P	**P**	**04 03 42.3**	**+1.0**
KAPI	**Kappang**	**15.92**	**205**	P	**P**	**04 03 41.7**	**+0.3**
KAPI	**Kappang**	**15.92**	**205**	P	**P**	**04 03 42.1**	**+0.7**
KAPI				pmax	pmax		
	comp=Z,37nm,1.0s						
BKSI	**Bulukumba**	**16.05**	**203**	P	**P**	**04 03 44.3**	**+1.5**
SMPI	**Sarmi**	**16.72**	**133**	P	**P**	**04 03 49.9**	**-0.4**
QZH	**Quanzhou**	**17.07**	**335**	P	**P**	**04 03 55.8**	**+1.8**
QZH				*e*S	**S**	**04 07 07.3**	**-2.0**
QZH				pmax	pmax		
	comp=Z,280nm,6.9s						
QZH				LR	LR		
	comp=Z,1μm,18.9s						
QZH				LR	LR		
	comp=Z,640nm,19.2s						
QZH				LR	LR		
	comp=Z,2μm,18.5s						
JOW	**Kunigami**	**17.30**	**5**	P	**P**	**04 03 55.0**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=160,slow=16,SNR=3.5						
JOW				LR	LR	04 09 24.7	
	comp=Z,846nm,20.8s,baz=179,slow=33						
	comp=Z,15nm,1.1s						
DLV	**Lat**	**17.83**	**279**		**P**	**04 04 03.8**	**+1.1**
KSM	**Kuching**	**17.95**	**244**		**Pn**	**04 04 07.0**	**+3.2**
GENI	**Genyem**	**18.20**	**131**	P	**Pn**	**04 04 09.1**	**+2.2**
GUMO	**Guam**	**18.47**	**76**	LR	LR	04 11 32.3	
	comp=Z,529nm,18.6s,baz=244,slow=38						
JAY	**Jayapura**	**18.56**	**129**	P	**Pn**	**04 04 10.1**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=278,slow=8.7,SNR=6.4						
JAY				LR	LR	04 11 01.0	
	comp=Z,1μm,18.9s,baz=351,slow=36						
	comp=Z,14nm,0.8s						
QIZ	**Qiongzhong**	**18.66**	**302**	P	**Pn**	**04 04 14.5**	**+2.1**
QIZ				S	**S**	**04 07 41.5**	**-0.2**
QIZ				pmax	pmax		
	comp=Z,22nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,340nm,10.6s						
QIZ				LR	LR		
	comp=Z,710nm,18.7s						
QIZ				LR	LR		
	comp=Z,820nm,18.7s						
QIZ				LR	LR		
	comp=Z,1μm,16.9s						
SOEI	**Soe**	**19.28**	**187**		**Pn**	**04 04 19.9**	**-0.1**
GULI	**GuiLin**	**21.91**	**318**	P	**P**	**04 04 46.0**	**-0.8**
GULI				S	**S**	**04 08 45.8**	**-0.4**
GULI				pmax	pmax		
	comp=Z,20nm,1.2s						
GULI				pmax	pmax		
	comp=Z,210nm,6.5s						
GULI				LR	LR		
	comp=Z,390nm,20.6s						
GULI				LR	LR		
	comp=Z,1μm,21.3s						
GULI				LR	LR		
	comp=Z,1μm,20.4s						
SSE	**Sheshan**	**22.02**	**348**	P	**P**	**04 04 48.5**	**+0.7**
SSE				S	**S**	**04 08 49.5**	**+1.5**
SSE				pmax	pmax		
	comp=Z,24nm,1.7s						
SSE				pmax	pmax		
	comp=Z,120nm,3.9s						
SSE				LR	LR		
	comp=Z,300nm,17.2s						
SSE				LR	LR		
	comp=Z,180nm,17.7s						
DRS	**Darwin Rock St**	**22.26**	**168**	P	**P**	**04 04 52.7**	**+2.1**
MTN	**Manton Dam**	**22.70**	**168**	P	**P**	**04 04 56.1**	**+0.8**
MTN				IAmb	IAmb	04 05 12.9	
	comp=Z,91nm,1.2s						
MTN	**Manton Dam**	**22.70**	**168**	P	**P**	**04 04 56.1**	**+0.8**
KDU	**Kakadu**	**22.86**	**165**	P	**P**	**04 04 56.2**	**-0.8**
JCJ	**Chichijima**	**22.93**	**38**	LR	LR	04 14 30.9	
	comp=Z,255nm,18.9s,baz=293,slow=38						
SMRI	**Semarang**	**22.94**	**225**	P	**P**	**04 04 59.4**	**+1.5**
SMRI				IAmb	IAmb	04 05 21.7	
	comp=Z,83nm,1.1s						
NJ2	**Nanjing**	**23.50**	**344**	⇓P	**P**	**04 05 04.5**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,53nm,0.9s						
NJ2				LR	LR		
	comp=Z,330nm,19.9s						
NJ2				LR	LR		
	comp=Z,440nm,15.2s						
NJ2				LR	LR		
	comp=Z,960nm,21.8s						
MYKOM	**Kota Tinggi**	**23.77**	**253**	P	**P**	**04 05 07.3**	**+1.5**
WHN	**Wuhan**	**23.77**	**333**	P	**P**	**04 05 06.8**	**+1.2**
WHN				pmax	pmax		
	comp=Z,100nm,0.8s						
WHN				LR	LR		
	comp=Z,1μm,10.9s						
WHN				LR	LR		
	comp=Z,770nm,11.3s						
WHN				LR	LR		
	comp=Z,3μm,16.6s						
JNU	**Nakatsue**	**23.83**	**9**	P	**P**	**04 05 06.3**	**+0.1**
JNU	**Nakatsue**	**23.83**	**9**	P	**P**	**04 05 06.5**	**+0.3**
	comp=Z,12nm,0.9s,baz=182,slow=5.6,SNR=6.0						
JNU				LR	LR	04 14 04.8	
	comp=Z,249nm,21.0s,baz=182,slow=36						
	comp=Z,12nm,0.9s						
SLVN	**Son La**	**24.67**	**301**	P	**P**	**04 05 13.4**	**-0.7**
SLVN				IAmb	IAmb	04 05 17.3	
	comp=Z,19nm,0.8s						
JMN	**Monobe**	**25.03**	**15**	P	**P**	**04 05 17.8**	**+0.6**
JMN				IAmb	IAmb	04 05 26.6	
	comp=Z,72nm,1.4s						
KNRA	**Kununurra**	**25.15**	**175**	IAmb	IAmb	04 05 42.4	
	comp=Z,27nm,0.7s						
JHJ	**Hachijo jima 2**	**26.50**	**26**	LR	LR	04 14 04.4	
	comp=Z,315nm,21.7s,baz=256,slow=32						
SRIT	**Nakonsritamara**	**26.54**	**270**	P	**P**	**04 05 32.0**	**+1.0**
SRIT				IAmb	IAmb	04 05 46.8	
	comp=Z,47nm,1.0s						
KMI	**Kunming**	**27.38**	**308**	P	**P**	**04 05 37.3**	**-1.4**
KMI				LR	LR		
	comp=Z,540nm,16.1s						
KMI				LR	LR		
	comp=Z,690nm,21.3s						
KMI				LR	LR		
	comp=Z,850nm,22.0s						
FITZ	**Fitzroy Crossi**	**27.46**	**182**	IAmb	IAmb	04 05 44.8	
	comp=Z,27nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.46**	**182**	LR	LR	04 18 11.6	
	comp=Z,189nm,21.0s,baz=17,slow=40						
KSAR	**Wonju Array Be

TIA LR LR
comp=Z,920nm,18.8s
PMG Port Moresby 27.90 132 LR LR 04 17 33.5
comp=Z,181nm,19.0s,baz=320,slow=38
LYN LuoYang 28.02 335 P **P** **04 05 43.8 -0.2**
LYN pmax pmax
comp=Z,33nm,0.8s
LYN pmax pmax
comp=Z,170nm,8.2s
LYN LR LR
comp=Z,440nm,17.5s
LYN LR LR
comp=Z,440nm,17.5s
LYN LR LR
comp=Z,570nm,16.1s
CMAR Chiang Mai Arr 28.11 291 P **P** **04 05 44.2 -0.9**
CMAR Chiang Mai Arr 28.11 291 P **P** **04 05 45.5 +0.5**
comp=Z,3.8nm,0.8s,baz=103,slow=7.0,SNR=20
CMAR PcP **PcP** **04 09 00.0 +1.4**
comp=Z,1.1nm,0.3s,baz=101,slow=2.7,SNR=4.2
CMAR ScP **ScP** **04 12 37.1 +1.5**
comp=Z,0.5nm,0.3s,baz=88,slow=3.4,SNR=2.0
CMAR LR LR 04 17 46.3
comp=Z,344nm,18.2s,baz=115,slow=38
comp=Z,3.8nm,0.8s
CMAR Chiang Mai Arr 28.11 291 P **P** **04 05 44.2 -0.9**
PSI Prapat 28.17 258 LR LR 04 18 59.4
comp=Z,554nm,20.6s,baz=94,slow=40
CHTO Chiang Mai 28.20 292 P **P** **04 05 45.2 -0.7**
CHTO Chiang Mai 28.20 292 P **P** **04 05 47.4 +1.5**
CHTO Chiang Mai 28.20 292 P **P** **04 05 45.2 -0.7**
CHTO pmax pmax
comp=Z,12nm,1.1s
PZH PanZhiHua 28.85 309 P **P** **04 05 54.5 +2.8**
PZH S **S** **04 10 36.0 -2.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,60nm,4.7s
PZH LR LR
comp=Z,470nm,17.1s
PZH LR LR
comp=Z,560nm,18.6s
PZH LR LR
comp=Z,630nm,18.6s
MJAR Matsushiro Arr 28.93 20 P **P** **04 05 51.2 -0.9**
comp=Z,1.6nm,0.7s,baz=194,slow=9.1,SNR=6.1
MJAR LR LR 04 18 22.0
comp=Z,293nm,18.4s,baz=204,slow=38
comp=Z,1.6nm,0.7s
XAN Xi'an 29.24 329 P **P** **04 05 53.3 -1.7**
XAN S **S** **04 10 40.0 -4.4**
XAN pmax pmax
comp=Z,21nm,1.2s
XAN LR LR
comp=Z,650nm,17.2s
XAN LR LR
comp=Z,670nm,15.8s
XAN LR LR
comp=Z,1μm,17.2s
DL2 Dalian 29.57 352 P **P** **04 05 58.8 +1.0**
DL2 pmax pmax
comp=Z,39nm,1.2s
DL2 LR LR
comp=Z,560nm,14.8s
DL2 LR LR
comp=Z,250nm,11.3s
DL2 LR LR
comp=Z,940nm,13.0s
HNS HongShan 29.71 341 ⇑P **P** **04 05 59.0 -0.1**
HNS sP sP 04 06 30.5 +14
HNS PcP **PcP** **04 09 03.8 +1.6**
HNS S **S** **04 10 53.5 +1.9**
HNS sS sS 04 11 21.0 +9.5
HNS pmax pmax
comp=Z,42nm,1.0s
HNS LR LR
comp=Z,700nm,15.9s
HNS LR LR
comp=Z,250nm,13.5s
HNS LR LR
comp=Z,860nm,17.9s
GSI Gunungsitoli 29.87 256 P **P** **04 06 01.1 +0.3**
CD2 Chengdu 29.99 318 P **P** **04 06 01.5 -0.2**
CD2 S **S** **04 10 56.5 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 LR LR
comp=Z,770nm,18.6s
CD2 LR LR
comp=Z,1μm,16.7s
WB0 Warramunga Arr 30.14 165 IAmb IAmb 04 07 11.3
comp=Z,25nm,1.2s
WRAB Tennant Creek 30.29 165*d iP* **P** **04 06 04.2 -0.1**
WRAB pmax pmax
comp=Z,9.0nm,0.6s
WRA Warramunga Arr 30.29 165 P **P** **04 06 03.4 -1.0**
comp=Z,4.0nm,1.0s,baz=346,slow=9.3,SNR=7.4
WRA S **S** **04 10 54.7 -6.4**
comp=Z,3.4nm,1.1s,baz=347,slow=16,SNR=5.1
WRA LR LR 04 21 18.7
comp=Z,232nm,18.1s,baz=21,slow=42
comp=Z,4.0nm,1.0s
WRA Warramunga Arr 30.29 165 *i* P **P** **04 06 05.4 +1.0**
WRA pmax pmax
comp=Z,4.0nm,1.0s
WR8 Warramunga Arr 30.35 165 P **P** **04 06 03.6 -1.3**
WR8 IAmb IAmb 04 06 42.2
comp=Z,16nm,1.1s
MBWA Marble Bar 31.20 192 P **P** **04 06 12.3 -0.1**
MBWA Marble Bar 31.20 192 P **P** **04 06 12.8 +0.4**
MBWA Marble Bar 31.20 192 P **P** **04 06 12.3 -0.1**
PSA00 Pilbara Seismi 31.58 192 P **P** **04 06 15.3 -0.4**
PSA00 Pilbara Seismi 31.58 192 P **P** **04 06 16.3 +0.6**
BJT Baijiatuau 31.72 345 P **P** **04 06 16.1 -0.6**
BJT Baijiatuau 31.72 345 P **P** **04 06 16.1 -0.6**
BJT pmax pmax
comp=Z,47nm,1.3s
BJI Beijing 31.74 345 P **P** **04 06 17.0 +0.1**
BJI S **S** **04 11 18.5 -4.8**
BJI pmax pmax
comp=Z,15nm,1.3s
BJI pmax pmax
comp=Z,74nm,4.1s
BJI LR LR
comp=Z,170nm,17.8s
BJI LR LR
comp=Z,80nm,20.6s
BJI LR LR
comp=Z,230nm,20.8s
QIS Mount Isa 32.57 157 P **P** **04 06 24.3 -0.1**
LZH Lanzhou 33.49 326 *eP* **P** **04 06 31.8 -0.8**
LZH pmax pmax
comp=Z,18nm,1.2s
LZH LR LR
comp=Z,570nm,15.8s
LZH LR LR
comp=Z,720nm,15.5s
LZH LR LR
comp=Z,930nm,14.8s
ASAR Alice Springs 33.78 168 P **P** **04 06 34.1 -0.9**
ASAR Alice Springs 33.78 168 P **P** **04 06 34.8 -0.3**
comp=Z,1.7nm,0.5s,baz=354,slow=7.2,SNR=31
ASAR PcP **PcP** **04 09 12.6 -1.0**
comp=Z,1.8nm,0.9s,baz=343,slow=4.0,SNR=2.3
ASAR S **S** **04 11 52.1 -3.4**
comp=Z,1.5nm,1.0s,baz=354,slow=18,SNR=5.0
ASAR LR LR 04 22 16.2
comp=Z,264nm,18.0s,baz=334,slow=40
comp=Z,1.7nm,0.5s
ASAR Alice Springs 33.78 168 P **P** **04 06 34.1 -0.9**
HHC Hu-ho-hao-te 33.88 340 *eP* **P** **04 06 36.0 +0.3**
HHC sP sP 04 07 03.8 +10
HHC S **S** **04 11 55.0 -1.8**
HHC sS sS 04 12 26.0 +9.2
HHC SS **SnSn** **04 14 04.0 -2.1**
HHC pmax pmax
comp=Z,33nm,0.7s
HHC pmax pmax
comp=Z,150nm,4.8s
HHC LR LR
comp=Z,490nm,16.0s
HHC LR LR
comp=Z,170nm,16.0s
HHC LR LR
comp=Z,520nm,16.0s

CN2 Changchun 34.16 359 *eP* P 04 06 41.0 +3.0
CN2 *eP*P pwP 04 06 59.0 +3.7
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,110nm,5.0s
CN2 LR LR
comp=Z,940nm,18.0s
CN2 LR LR
comp=Z,860nm,18.0s
CN2 LR LR
comp=Z,480nm,16.0s
WRKA Warakurna 34.40 177 P **P** **04 06 41.7 +1.3**
USRK Ussuriysk Ar. 34.87 7 P **P** **04 06 45.4 +1.3**
comp=Z,4.9nm,0.7s,baz=189,slow=7.5,SNR=11
USRK LR LR 04 20 07.5
comp=Z,184nm,21.0s,baz=185,slow=35
comp=Z,4.9nm,0.7s
USA0B Ussuriysk Arra 34.87 7 IAmb IAmb 04 07 01.1
comp=Z,17nm,1.1s
USA0B Ussuriysk Arra 34.87 7⇑*iP* **P** **04 06 45.2 +1.0**
MDJ Mudanjiang 35.06 4 IAmb IAmb 04 06 48.3
comp=Z,18nm,1.0s
MDJ Mudanjiang 35.06 4 P **P** **04 06 47.0 +1.2**
MDJ pmax pmax
comp=Z,23nm,1.5s
XLT XiLinHaoTe 35.41 347 *eP* **P** **04 06 49.3 +0.3**
XLT pP pwP 04 07 12.0 +7.5
XLT PP **PP** **04 08 15.5 +5.4**
XLT S **S** **04 12 23.0 +2.7**
XLT pmax pmax
comp=Z,38nm,1.0s
XLT pmax pmax
comp=Z,130nm,4.4s
XLT LR LR
comp=Z,42nm,14.4s
XLT LR LR
comp=Z,230nm,12.8s
XLT LR LR
comp=Z,400nm,15.9s
BRDH Bariadhala 35.81 296 LR LR 04 24 03.0
comp=Z,485nm,18.6s,baz=150,slow=40
BNX BinXian 36.09 1⇑P **P** **04 06 54.5 -0.1**
BNX pmax pmax
comp=Z,12nm,1.0s
SHL Shillong 36.48 300 P **P** **04 06 58.1 -0.4**
SNR=13
MEEK Meekatharra 36.75 192 P **P** **04 07 00.8 +0.3**
ASAJ Asahikawa 37.20 19 P **P** **04 07 05.5 +1.5**
comp=Z,6.3nm,0.7s,baz=245,slow=14,SNR=4.1
ASAJ LR LR 04 22 46.2
comp=Z,270nm,19.2s,baz=184,slow=37
comp=Z,6.3nm,0.7s
GTA Gaotai 38.10 326 *eP* **P** **04 07 11.5 -0.4**
GTA PP **PnPn** **04 08 47.0 +5.4**
GTA pmax pmax
comp=Z,10.0nm,0.6s
GTA LR LR
comp=Z,470nm,19.1s
GTA LR LR
comp=Z,340nm,18.3s
GTA LR LR
comp=Z,800nm,18.3s
OOD Oodnadatta 38.16 167 P **P** **04 07 12.0 -0.3**
HNR Honiara 38.28 119 LR LR 04 21 16.9
comp=Z,217nm,21.2s,baz=293,slow=33
LSA Lhasa 38.62 306 P **P** **04 07 17.6 +0.8**
GOMU GeErMu 39.12 318 P **P** **04 07 19.0 -1.8**
GOMU S **S** **04 13 21.0 +3.6**
GOMU LR LR
comp=Z,730nm,14.2s
GOMU LR LR
comp=Z,1μm,15.3s
GOMU LR LR
comp=Z,2μm,16.9s
MORW Morawa 39.67 194 IAmb IAmb 04 07 29.0
comp=Z,43nm,0.9s
MORW Morawa 39.67 194 P **P** **04 07 25.6 +0.6**
YSS Yuzhno-Sakhali 39.79 17 *eP* **P** **04 07 27.8 +2.0**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=Z,300nm,16.0s
KLR Kul'dur 39.82 5 P **P** **04 07 26.6 +0.6**
comp=Z,2.5nm,0.4s,baz=171,slow=8.5,SNR=10
KLR LR LR 04 25 54.3
comp=Z,194nm,19.0s,baz=196,slow=39
comp=Z,2.5nm,0.4s
KLR Kul'dur 39.82 5*c iP* **P** **04 07 26.7 +0.7**
KLR pmax pmax
comp=Z,11nm,1.4s
H11S3 WAKE ISLAND Hy 39.95 73 T T 04 50 27.4
baz=262,slow=75,SNR=68
H11S1 WAKE ISLAND Hy 39.97 73 T T 04 50 27.9
baz=262,slow=75,SNR=47
H11S2 WAKE ISLAND Hy 39.97 73 T T 04 50 29.9
baz=262,slow=75,SNR=42
FORT Forrest 40.10 178 P **P** **04 07 29.1 +0.6**
FORT Forrest 40.10 178 P **P** **04 07 29.3 +0.8**
H11N1 WAKE ISLAND Hy 40.31 71 T T 04 51 03.1
baz=266,slow=74,SNR=102
H11N2 WAKE ISLAND Hy 40.32 71 T T 04 51 06.9
baz=266,slow=74,SNR=79
H11N3 WAKE ISLAND Hy 40.33 71 T T 04 51 04.5
baz=266,slow=74,SNR=83
HEH HeiHe 40.61 1 *eP* **P** **04 07 33.0 +0.5**
HEH PcP **PcP** **04 09 34.5 +0.7**
HEH S **S** **04 13 39.5 +1.0**
HEH pmax pmax
comp=Z,14nm,1.1s
HEH LR LR
comp=Z,440nm,16.9s
HEH LR LR
comp=Z,330nm,17.5s
HEH LR LR
comp=Z,650nm,16.5s
KMBL Kambalda 40.90 186 P **P** **04 07 35.8 +0.7**
BLDU Ballidu 41.00 193 P **P** **04 07 36.4 +0.5**
LCRK Leigh Creek 41.32 165 P **P** **04 07 39.7 +1.1**
ULN Ulaanbaatar 41.58 340 P **P** **04 07 41.0 +0.2**
ULN Ulaanbaatar 41.58 340 P **P** **04 07 41.3 +0.6**
ULN Ulaanbaatar 41.58 340 P **P** **04 07 41.0 +0.2**
ULN pmax pmax
comp=Z,14nm,1.0s
KLBR Kellerberrin 41.73 191 P **P** **04 07 42.6 +0.7**
SONM Songino Array 41.78 340 P **P** **04 07 42.2 -0.1**
SONM Songino Array 41.78 340 P **P** **04 07 42.6 +0.3**
comp=Z,3.2nm,0.6s,baz=160,slow=8.4,SNR=13
SONM ScP **ScP** **04 13 24.5 +0.4**
comp=Z,1.0nm,1.0s,baz=151,slow=3.4,SNR=3.9
SONM LR LR 04 26 41.1
comp=Z,379nm,19.6s,baz=114,slow=38
comp=Z,3.2nm,0.6s
SONM Songino Array 41.78 340 P **P** **04 07 42.2 -0.1**
SONM pmax pmax
comp=Z,8.0nm,1.2s
GRNR Gornyy 41.93 9⇓*iP* **P** **04 07 45.3 +1.9**
GRNR pmax pmax
comp=Z,7.0nm,0.8s
GRNR MLR MLR
comp=E,350nm,16.0s
GRNR MLR MLR
comp=N,290nm,19.0s
GRNR MLR MLR
comp=Z,270nm,15.0s
MUN Mundaring 42.42 193 P **P** **04 07 48.3 +0.7**
BBOO Buckleboo 43.08 168 P **P** **04 07 53.3 +0.4**
BBOO Buckleboo 43.08 168 P **P** **04 07 53.2 +0.3**
NWAO Narrogin (SRO) 43.12 191 P **P** **04 07 54.0 +0.8**
NWAO Narrogin (SRO) 43.12 191 P **P** **04 07 54.2 +0.9**
NWAO Narrogin (SRO) 43.12 191 P **P** **04 07 54.2 +0.9**
NWAO Narrogin (SRO) 43.12 191 P **P** **04 07 54.0 +0.8**
NWAO pmax pmax
comp=Z,63nm,0.9s
WHYH Whyalla 43.63 166 P **P** **04 07 58.1 +0.8**
STKA Stephens Creek 43.64 161 P **P** **04 07 57.7 +0.2**
comp=Z,3.3nm,0.4s,baz=333,slow=8.7,SNR=17
STKA LR LR 04 27 24.1
comp=Z,140nm,21.5s,baz=2.2,slow=38
comp=Z,3.3nm,0.4s
STKA Stephens Creek 43.64 161 P **P** **04 07 57.9 +0.5**
CIT Chita 43.66 348 *eP* **P** **04 07 57.8 +0.4**
CIT pmax pmax
comp=Z,94nm,1.6s
ZEA Zeya 44.09 1 *eP* **P** **04 08 01.4 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,300nm,17.0s
PALK Pallekele 45.30 271 LR LR 04 26 05.0
comp=Z,133nm,21.6s,baz=88,slow=35
PALK Pallekele 45.30 271⇑*iP* **P** **04 08 08.9 -2.2**
MOY Mondy 46.90 338 *eP* **P** **04 08 23.6 +0.4**
MOY pmax pmax
comp=Z,14nm,1.7s
HYB Hyderabad 47.15 285 *eP* **P** **04 08 26.6 +1.0**
HYB *eP*P **PP** **04 10 17.5 +0.6**
WMQ Urumqi 47.92 322 *eP* **P** **04 08 33.0 +1.8**
WMQ LR LR
comp=Z,680nm,18.7s
WMQ LR LR
comp=Z,790nm,14.3s
WMQ LR LR
comp=Z,500nm,18.7s
BOD Bodaibo 49.13 351 *eP* **P** **04 08 40.2 +0.1**
BOD pmax pmax
comp=Z,34nm,1.2s
PEA0B Petropavlovsk- 50.23 24 *eP* **P** **04 08 48.1 -0.5**
PETK Petropavlovsk- 50.23 24 P **P** **04 08 49.6 +1.0**
comp=Z,2.3nm,0.6s,baz=218,slow=7.4,SNR=7.4
PETK LR LR 04 31 51.5
comp=Z,147nm,18.4s,baz=210,slow=38
comp=Z,2.3nm,0.6s
DZM Mont Dzumac 50.23 129 *e*LR LR 04 23 12.4
comp=Z,454nm,26.3s
DZM Mont Dzumac 50.23 129 P **P** **04 08 50.7 +1.5**
comp=Z,4.9nm,0.6s,baz=346,slow=12,SNR=2.1
DZM LR LR 04 29 11.5
comp=Z,121nm,20.4s,baz=287,slow=35
comp=Z,4.9nm,0.6s
PET Petropavlovsk 50.56 25 *eP* **P** **04 08 53.4 +2.4**
PET *eS* **S** **04 16 06.2 +4.5**
PET MLR MLR
comp=Z,200nm,13.0s
PET MLR MLR
comp=Z,300nm,14.0s
YAK Yakutsk 52.46 2 P **P** **04 09 05.6 +0.6**
comp=Z,14nm,0.4s,baz=162,slow=1.8,SNR=8.9
YAK LR LR 04 34 14.8
comp=Z,152nm,19.0s,baz=160,slow=39
comp=Z,14nm,0.4s
YAK Yakutsk 52.46 2 *eP* **P** **04 09 05.7 +0.6**
YAK *e* 04 10 15.2
YAK *e* 04 11 03.5
YAK *e*PPP PPP 04 12 09.7
YAK *eS* **S** **04 16 26.0 -1.6**
YAK *e* 04 18 48.5
YAK *eSS* **SS** **04 20 04.2 -1.9**
YAK *eSSS* SSS 04 21 56.7
YAK pmax pmax
comp=Z,37nm,1.4s
YAK pmax pmax
comp=N,33nm,1.9s
YAK pmax pmax
comp=E,13nm,1.8s
YAK pmax pmax
comp=Z,176nm,5.7s
YAK pmax pmax
comp=N,110nm,7.9s
YAK pmax pmax
comp=E,79nm,4.1s
YAK smax smax
comp=E,169nm,5.4s
YAK smax smax
comp=N,83nm,6.1s
MK31 Makanchi Array 52.73 323*c iP* **P** **04 09 06.7 -0.8**
MKAR Makanchi Array 52.73 323 P **P** **04 09 06.7 -0.8**
MKAR Makanchi Array 52.73 323 P **P** **04 09 07.2 -0.3**
comp=N,6.5nm,0.5s,baz=121,slow=7.9,SNR=90
MKAR PcP **PcP** **04 10 17.1 +0.5**
comp=N,5.2nm,0.8s,baz=107,slow=3.6,SNR=4.1
MKAR LR LR 04 33 26.2
comp=N,389nm,20.2s,baz=86,slow=38
comp=N,6.5nm,0.5s
MKAR Makanchi Array 52.73 323 P **P** **04 09 06.7 -0.8**
SHLS Shalkode 52.82 318 *eP* **P** **04 09 05.2 -3.1**
SHLS pmax pmax
comp=Z,15nm,1.3s
SHLS Shalkode 52.82 318 *eP* **P** **04 09 05.2 -3.1**
comp=Z,15nm,1.3s
MAKZ Makanchi 52.92 323 P **P** **04 09 08.0 -0.9**
MAKZ IAmb IAmb 04 09 09.7
comp=Z,31nm,1.4s
MAKZ Makanchi 52.92 323 P **P** **04 09 08.0 -0.9**
MAKZ pmax pmax
comp=Z,31nm,1.5s
UZB Uzynbulak 53.11 318 *eP* **P** **04 09 09.3 -1.2**
UZB Uzynbulak 53.11 318 *eP* **P** **04 09 09.4 -1.1**
MA2 Magadan 53.20 15⇑*iP* **P** **04 09 12.6 +2.0**
MA2 pmax pmax
comp=Z,7.0nm,1.0s
SATY Saty 53.48 317 *eP* **P** **04 09 12.1 -1.1**
SATY Saty 53.48 317 *eP* **P** **04 09 12.1 -1.1**
KSH Kashi 53.87 312 P **P** **04 09 17.5 +1.4**
KSH pmax pmax
comp=Z,13nm,1.0s
KSH LR LR
comp=Z,500nm,17.1s
KSH LR LR
comp=Z,400nm,19.6s
KSH LR LR
comp=Z,520nm,16.5s
TDK Taldyqorghan 54.30 319 *eP* **P** **04 09 18.2 -0.8**
TDK pmax pmax
comp=Z,7.0nm,0.5s
TDK Taldyqorghan 54.30 319 *eP* **P** **04 09 18.2 -0.8**
comp=Z,6.9nm,0.5s
NIL Nilore 54.31 305 P **P** **04 09 18.7 -0.6**
NIL Nilore 54.31 305 P **P** **04 09 19.1 -0.2**
NIL Nilore 54.31 305 P **P** **04 09 18.7 -0.6**
NIL pmax pmax
comp=Z,76nm,1.0s
MDOK Medeo 54.44 317 P **P** **04 09 19.6 -0.6**
MDOK Medeo 54.44 317 *eP* **P** **04 09 19.2 -1.0**
CHKK Chushkaly 54.75 318 *eP* **P** **04 09 21.1 -1.1**
CHKK Chushkaly 54.75 318 *eP* **P** **04 09 21.2 -1.1**
KUU Kurty 55.19 317 *eP* **P** **04 09 24.4 -1.1**
KUU pmax pmax
comp=Z,15nm,1.0s
KUU Kurty 55.19 317 *eP* **P** **04 09 24.5 -1.1**
comp=Z,16nm,1.0s
TKM2 Tokmak 2 55.33 316 P **P** **04 09 26.8 0.0**
SNR=8.8
ZALV Zalesovo Beam 55.37 331 P **P** **04 09 25.1 -1.4**
ZALV Zalesovo Beam 55.37 331 P **P** **04 09 25.6 -0.9**
comp=Z,6.3nm,0.7s,baz=117,slow=7.1,SNR=27
ZALV PcP **PcP** **04 10 25.9 -0.6**
comp=Z,2.0nm,0.6s,baz=121,slow=5.7,SNR=2.0
ZALV LR LR 04 34 30.8
comp=Z,164nm,18.7s,baz=130,slow=38
comp=Z,6.3nm,0.7s
KBK Karagaybulak 55.68 316 P **P** **04 09 29.8 +0.5**
SNR=7.3
UCH Uchtor 55.83 315 P **P** **04 09 31.4 +0.8**
SNR=5.5
AAK Ala-Archa 55.99 315 P **P** **04 09 31.2 -0.2**
AAK Ala-Archa 55.99 315 LR LR 04 35 13.3
comp=Z,544nm,21.8s,baz=94,slow=38
AAK Ala-Archa 55.99 315⇓*iP* **P** **04 09 31.6 +0.2**
AAK pmax pmax
comp=Z,5.0nm,1.0s
SGDS Sogindy 56.18 316 *eP* **P** **04 09 31.5 -1.1**
SGDS Sogindy 56.18 316 *eP* **P** **04 09 31.6 -1.1**
USP Ospenovka 56.20 316 P **P** **04 09 32.6 -0.1**
SNR=13
AML Almayashu 56.37 315 P **P** **04 09 34.9 +0.4**
SNR=22
DGAR Diego Garcia 56.38 255 *eP* **P** **04 09 32.1 -2.3**
DGAR pmax pmax
comp=Z,178nm,2.6s
SEY Seymchan 56.49 14 LR LR 04 36 39.4
comp=Z,111nm,18.0s,baz=202,slow=39
SEY Seymchan 56.49 14⇑*iP* **P** **04 09 36.1 +1.7**
SEY pmax pmax
comp=Z,16nm,1.5s
EKS2 Erkin-Say 56.49 315 P **P** **04 09 35.3 +0.4**
SNR=12
KURK Kurchatov 56.78 326 P **P** **04 09 35.8 -0.9**
KURK IAmb IAmb 04 09 37.2
comp=Z,24nm,1.0s
KURK Kurchatov 56.78 326 P **P** **04 09 36.4 -0.3**
KURK Kurchatov 56.78 326*c iP* **P** **04 09 36.0 -0.7**

KURK pmax pmax
comp=Z,25nm,1.1s
KURBB Kurchatov Arra 56.79 326 P **P 04 09 36.4 -0.3**
comp=Z,6.2nm,0.7s,baz=125,slow=6.6,SNR=43
KURBB LR LR 04 35 48.3
comp=Z,241nm,18.5s,baz=180,slow=38
comp=Z,6.2nm,0.7s
DRK Karamyk 56.93 311 IAmb IAmb 04 09 39.2
comp=Z,17nm,0.8s
MSVF Nonsavu 57.70 118 LR LR 04 34 24.9
comp=Z,132nm,19.0s,baz=323,slow=36
BTK Batken 57.82 312 IAmb IAmb 04 09 44.9
comp=Z,17nm,1.1s
KBL Kabul 57.91 305 P **P 04 09 44.6 -0.6**
KBL Kabul 57.91 305 P **P 04 09 44.7 -0.5**
SNR=9.5
KBL Kabul 57.91 305 P **P 04 09 44.6 -0.6**
KBL pmax pmax
comp=Z,26nm,0.6s
SIMJ Simiganj 58.82 310 P **P 04 09 50.6 -0.8**
KK31 Karatay Array 58.91 315 *i* P **P 04 09 50.7 -1.1**
KKAR Karatay Array 58.91 315 P **P 04 09 51.1 -0.6**
KKAR Karatay Array 58.91 315 IAmb IAmb 04 09 52.1
comp=Z,17nm,0.7s
KKAR Karatay Array 58.91 315 P **P 04 09 51.2 -0.6**
IUG Iuzhnay 58.97 314 *e*P **P 04 09 51.1 -1.2**
IUG pmax pmax
comp=Z,14nm,0.7s
IUG Iuzhnay 58.97 314 *e*P **P 04 09 51.1 -1.2**
comp=Z,14nm,0.7s
BRLS Borolday 59.36 315 *e*P **P 04 09 54.1 -0.8**
BRLS pmax pmax
comp=Z,12nm,1.1s
BRLS Borolday 59.36 315 *e*P **P 04 09 54.2 -0.8**
comp=Z,12nm,1.1s
TIXI Tiksi 62.09 1 P **P 04 10 13.7 +0.8**
TIXI Tiksi 62.09 1 LR LR 04 37 00.8
comp=Z,241nm,21.6s,baz=194,slow=36
TIXI Tiksi 62.09 1 P **P 04 10 13.7 +0.8**
TIXI pmax pmax
comp=Z,26nm,1.0s
BVA0 Borovoye Array 62.38 326 *i* P **P 04 10 14.6 -0.6**
BVAR Borovoye Array 62.38 326 P **P 04 10 14.8 -0.4**
comp=Z,17nm,0.9s,baz=111,slow=8.3,SNR=34
BVAR LR LR 04 36 49.3
comp=Z,202nm,20.3s,baz=118,slow=36
comp=Z,17nm,0.9s
BRVK Borovoye 62.45 326 P **P 04 10 15.2 -0.4**
BRVK Borovoye 62.45 326 P **P 04 10 15.6 -0.1**
BRVK Borovoye 62.45 326 P **P 04 10 15.3 -0.4**
BRVK pmax pmax
comp=Z,23nm,1.0s
BILL Bilibino 64.06 16 P **P 04 10 27.0 +0.9**
BILL IAmb IAmb 04 10 42.9
comp=Z,16nm,1.2s
BILL Bilibino 64.06 16*c i*P **P 04 10 26.9 +0.9**
BILL pmax pmax
comp=Z,15nm,1.3s
NRIK Noril'sk 64.78 346 P **P 04 10 31.8 +1.1**
NRIK Noril'sk 64.78 346 P **P 04 10 30.9 +0.3**
comp=Z,17nm,0.8s,baz=134,slow=5.7,SNR=30
NRIK LR LR 04 41 44.6
comp=Z,385nm,19.5s,baz=147,slow=39
comp=Z,17nm,0.8s
NRIK Noril'sk 64.78 346 P **P 04 10 31.8 +1.1**
NRIK pmax pmax
comp=Z,23nm,0.9s
JLN Jalan Bani Buh 65.28 290 P **P 04 10 35.2 +0.3**
WBK Wadi Bani Khal 65.69 290 P **P 04 10 36.9 -0.6**
BIDO Bidbid 66.46 291 P **P 04 10 42.5 +0.1**
JMDO Jabal Madar 66.49 290 P **P 04 10 42.3 -0.4**
SMDO Samad 66.53 291 P **P 04 10 43.3 +0.3**
MHTO MHTO 66.65 289 P **P 04 10 43.0 -0.7**
URZ Urewera 66.98 139 LR LR 04 40 13.4
comp=Z,82nm,19.9s,baz=26,slow=36
DQM DQM 67.08 288 P **P 04 10 46.6 +0.1**
BKZ Black Stump Fm 67.10 140 P **P 04 10 46.5 +0.4**
HOQ Hoqain 67.20 292 P **P 04 10 47.0 -0.2**
NIKH Nikolski High 67.29 36 P **P 04 10 46.7 -0.4**
baz=255
BSY Bisya 67.32 291 P **P 04 10 47.8 -0.1**
AB31 Akbulak array 67.56 319 IAmb IAmb 04 10 49.2
comp=Z,14nm,0.8s
AB31 Akbulak array 67.56 319 *i* P **P 04 10 48.0 -0.9**
ABKAR Akbulak array 67.56 319 P **P 04 10 48.2 -0.7**
ABKAR Akbulak array 67.56 319 IAmb IAmb 04 10 49.2
comp=Z,14nm,0.8s
SPIA Saint Paul Isl 67.70 32 P **P 04 10 49.4 -0.2**
baz=252
SOHO SOHO 67.91 292 P **P 04 10 51.7 +0.1**
ARQ Araqi 67.93 291 P **P 04 10 52.4 +0.6**
BANOM Banah 68.11 294 P **P 04 10 53.7 +0.9**
BANOM Banah 68.11 294 P **P 04 10 53.1 +0.2**
MDH Madha 68.11 293 P **P 04 10 54.8 +2.0**
SNR=6.2
UOSS Minazif 68.20 293 P **P 04 10 53.9 +0.5**
MASF Masafi 68.24 293 P **P 04 10 52.1 -1.6**
SNR=9.7
HATD Hatta, Dubai 68.27 293 P **P 04 10 54.7 +0.8**
ASHO Ashiyiah 68.33 293 P **P 04 10 55.3 +0.9**
ALNE Al Ain 68.62 292 P **P 04 10 56.7 +0.6**
UNV Unalaska Valle 68.86 36 P **P 04 10 56.0 -1.0**
baz=257
SVE Sverdlovsk 68.94 327⇑ *e*P **P 04 10 57.0 -0.4**
SVE pmax pmax
comp=Z,38nm,1.1s
SVE MLR MLR
comp=Z,250nm,19.0s
ASUD Al Ashush, Dub 69.00 293 P **P 04 10 59.3 +0.9**
AKTO Aktyubinsk 69.01 320 LR LR 04 43 32.2
comp=Z,587nm,19.4s,baz=64,slow=38
AKTO Aktyubinsk 69.01 320 P **P 04 10 57.0 -1.0**
GAMB Gambell 69.25 25 P **P 04 10 59.0 -0.2**
baz=248
DMTO DMTO 69.65 285 P **P 04 11 02.8 +0.3**
SNR=5.9
ARTI Arti 70.03 327 P **P 04 11 03.0 -1.2**
ARTI Arti 70.03 327 LR LR 04 43 30.9
comp=Z,108nm,21.0s,baz=111,slow=37
ARTI Arti 70.03 327 P **P 04 11 03.0 -1.2**
ARTI pmax pmax
comp=Z,15nm,0.7s
DOK Doka 70.37 286 P **P 04 11 06.7 -0.2**
SNR=16
RBK Rabkut 70.37 285 P **P 04 11 07.4 +0.4**
SNR=6.6
M11K Mekoryuk 70.64 29 P **P 04 11 07.2 -0.5**
baz=255
MZR Muzera 70.74 291 P **P 04 11 09.5 +0.4**
MZR Muzera 70.74 291 P **P 04 11 09.3 +0.1**
WHFO Wadi Hawf 70.75 286 P **P 04 11 09.0 -0.4**
FALS False Pass 70.84 35 P **P 04 11 08.6 -0.5**
baz=259
JRN Qarnain Island 71.24 293 P **P 04 11 12.4 +0.2**
ABTO Aybut 71.25 285 P **P 04 11 12.6 +0.2**
SNR=7.9
GHWR Ruwais 71.26 292 P **P 04 11 12.5 +0.3**
TNA Tin City 71.40 24 P **P 04 11 12.9 +0.7**
baz=251
K13K Kusilvak Mount 71.76 28 IAmb IAmb 04 11 17.8
comp=Z,18nm,1.1s
K13K Kusilvak Mount 71.76 28 P **P 04 11 14.1 -0.5**
baz=256
S12K Black Hills 71.76 34 P **P 04 11 14.3 -0.4**
baz=260
F14K Arctic Creek 72.00 24 P **P 04 11 16.4 +0.5**
baz=253
M13K Dall Lake 72.02 29 P **P 04 11 16.2 +0.1**
baz=257
ANM Nome 72.13 25 P **P 04 11 17.6 +0.8**
baz=254
SLWR Sila 72.33 292 P **P 04 11 19.1 +0.4**
J14K Nanvaranak Lak 72.46 27 P **P 04 11 19.6 +0.9**
baz=256
L14K Kuka Creek 72.54 29 IAmb IAmb 04 11 36.5
comp=Z,21nm,1.0s
L14K Kuka Creek 72.54 29 P **P 04 11 20.2 +1.0**
baz=258
SDPT Sand Point 72.59 35 P **P 04 11 19.2 -0.4**
baz=261
N14K Kuskokwak Cree 72.73 30 P **P 04 11 20.5 +0.2**
baz=259
TRNA Turayna 72.74 293 P **P 04 11 21.2 +0.1**
F15K North Star Dit 72.74 24 P **P 04 11 20.9 +0.6**
baz=254
M14K Bethel 72.76 29 IAmb IAmb 04 11 45.0
comp=Z,19nm,1.0s
M14K Bethel 72.76 29 P **P 04 11 21.5 +1.0**
baz=258
G15K Niukluk 72.80 25 P **P 04 11 20.7 0.0**
baz=255
O14K Tigyukauivet M 72.82 31 P **P 04 11 21.2 +0.4**
baz=260
CHNA Chernabura Isl 73.02 36 P **P 04 11 21.7 -0.4**
baz=262
SMRA Abu-Samra 73.09 293 P **P 04 11 23.3 +0.1**
L15K Ungalak Mounta 73.17 28 P **P 04 11 23.2 +0.3**
baz=259
C16K Lisburne Hills 73.20 21 IAmb IAmb 04 11 26.4
comp=Z,26nm,1.4s
C16K Lisburne Hills 73.20 21 P **P 04 11 22.9 0.0**
baz=253
S14K Fog Glacier 73.24 34 P **P 04 11 23.0 -0.6**
baz=262
K15K Wolf Creek Mou 73.27 28 P **P 04 11 23.7 +0.1**
baz=258
M15K Kasigluk River 73.36 29 P **P 04 11 24.3 +0.2**
baz=260
H16K Elim 73.46 25 P **P 04 11 24.8 +0.2**
baz=257
O15K Ungalikthiuk R 73.53 31 P **P 04 11 24.8 -0.4**
baz=261
Kwethluk River 73.56 30 P **P 04 11 24.8 -0.5**
N15K
baz=260
G16K Koyuk River 73.59 24 P **P 04 11 25.1 -0.2**
baz=257
D17K Noatak River 73.86 22 P **P 04 11 27.4 +0.5**
baz=255,SNR=9.3
J16K Anvik River 73.89 27 P **P 04 11 27.5 +0.4**
baz=259
I17K Unalakleet 73.96 26 P **P 04 11 27.5 0.0**
baz=257
RDOG Red Dog Mine 74.02 22 P **P 04 11 28.4 +0.6**
baz=255
L16K Owhat River 74.12 28 P **P 04 11 29.7 +1.2**
L16K IAmb IAmb 04 11 33.3
comp=Z,11nm,1.1s
L16K Owhat River 74.12 28 P **P 04 11 28.4 -0.1**
baz=260,SNR=6.6
E17K Hotham Inlet 74.18 23 P **P 04 11 28.4 -0.3**
baz=257,SNR=6.9
M16K Timber Creek 74.25 29 IAmb IAmb 04 11 46.3
comp=Z,20nm,1.2s
M16K Timber Creek 74.25 29 P **P 04 11 29.5 +0.2**
baz=261
N16K Nishlik Lake 74.26 30 P **P 04 11 29.6 +0.1**
baz=261
F17K Baldwin Pennin 74.26 23 IAmb IAmb 04 11 46.2
comp=Z,13nm,1.1s
F17K Baldwin Pennin 74.26 23 P **P 04 11 29.1 -0.1**
baz=258
G17K Kiwalik Mounta 74.30 24 P **P 04 11 28.7 -0.8**
baz=258,SNR=6.3
O16K Kokwok River B 74.47 31 IAmb IAmb 04 11 47.5
comp=Z,13nm,0.9s
O16K Kokwok River B 74.47 31 P **P 04 11 30.1 -0.5**
baz=262
R16K Pilot Point 74.49 33 P **P 04 11 29.8 -0.9**
baz=263
H17K Granite Mounta 74.50 25 P **P 04 11 30.1 -0.5**
baz=259,SNR=6.7
J17K VABM Dome 74.58 27 IAmb IAmb 04 11 46.5
comp=Z,12nm,1.1s
J17K VABM Dome 74.58 27 P **P 04 11 30.7 -0.4**
baz=260
E18K Tukpahlearik C 74.72 22 IAmb IAmb 04 11 35.1
comp=Z,9.4nm,0.9s
E18K Tukpahlearik C 74.72 22 P **P 04 11 31.3 -0.6**
baz=258,SNR=9.8
B18K Kokilik River 74.73 20 P **P 04 11 31.5 -0.4**
baz=256
L17K Donlin 74.74 28 P **P 04 11 30.9 -1.2**
baz=261,SNR=6.4
C18K Utukok River 74.78 21 P **P 04 11 31.7 -0.5**
baz=257
K17K Iditarod 74.82 27 IAmb IAmb 04 11 36.8
comp=Z,30nm,1.4s
K17K Iditarod 74.82 27 P **P 04 11 31.1 -1.5**
baz=261,SNR=6.7
F18K Selawik 74.92 23 P **P 04 11 32.5 -0.6**
baz=259,SNR=9.6
O17K Koliganek Bris 75.00 31 P **P 04 11 32.8 -0.8**
baz=263
M17K Holitna River 75.04 29 IAmb IAmb 04 11 37.4
comp=Z,15nm,1.1s
M17K Holitna River 75.04 29 P **P 04 11 33.0 -0.8**
baz=262
N17K Nushagak Hills 75.04 30 IAmb IAmb 04 11 51.4
comp=Z,12nm,1.0s
N17K Nushagak Hills 75.04 30 P **P 04 11 33.0 -0.9**
baz=263
A19K Wainwright 75.17 20 P **P 04 11 33.4 -1.1**
baz=257
KIRV Kirov 75.17 328 LR LR 04 48 04.0
comp=Z,290nm,18.9s,baz=107,slow=38
KIRV Kirov 75.17 328*ce*P **P 04 11 33.9 -0.7**
H18K Honhosa River 75.18 25 IAmb IAmb 04 12 04.0
comp=Z,38nm,1.9s
H18K Honhosa River 75.18 25 P **P 04 11 34.5 -0.1**
baz=260
G18K Tagagawik 75.19 24 P **P 04 11 34.8 +0.1**
baz=260,SNR=6.2
P17K Kvichak River 75.26 31 P **P 04 11 34.6 -0.5**
baz=264
AKT Akhty 75.33 310 *e*P **P 04 11 35.6 -0.5**
AKT *e* 04 11 48.4
AKT pmax pmax
comp=Z,18nm,1.0s
CHIR Chirikof Islan 75.38 35 P **P 04 11 35.5 -0.4**
baz=265
Q17K Contact Creek 75.45 32 P **P 04 11 36.2 -0.3**
baz=264
L18K Granite Mounta 75.50 28 IAmb IAmb 04 11 39.2
comp=Z,13nm,1.2s
L18K Granite Mounta 75.50 28 P **P 04 11 36.6 +0.2**
baz=263,SNR=6.3
J18K Innoko River 75.64 27 IAmb IAmb 04 11 40.0
comp=Z,16nm,1.6s
J18K Innoko River 75.64 27 P **P 04 11 36.8 -0.5**
baz=262
N18K Kilae Creek 75.70 30 IAmb IAmb 04 12 22.1
comp=Z,19nm,1.6s
N18K Kilae Creek 75.70 30 P **P 04 11 37.2 -0.5**
baz=264
F19K Shaleruckik Mo 75.70 23 P **P 04 11 37.0 -0.5**
baz=261
BELG Belogornoye 75.70 322 LR LR 04 47 50.9
comp=Z,90nm,20.3s,baz=94,slow=38
BELG Belogornoye 75.70 322*c i*P **P 04 11 36.7 -1.1**
BELG pmax pmax
comp=Z,9.0nm,0.9s
GCSA Galena City Sc 75.75 26 P **P 04 11 37.7 -0.1**
baz=262
M18K Stony River 75.82 29 P **P 04 11 38.2 -0.1**
baz=264,SNR=6.3
D19K Kuna River 75.85 22 IAmb IAmb 04 11 52.3
comp=Z,15nm,1.0s
D19K Kuna River 75.85 22 P **P 04 11 39.0 +0.6**
baz=260,SNR=12
G19K Purcell Mounta 75.86 24 P **P 04 11 37.3 -1.2**
baz=261,SNR=6.0
P18K Big Mountain, 75.90 31 P **P 04 11 38.5 -0.4**
baz=265
Q18K Katmai Hardscr 75.95 32 P **P 04 11 38.3 -1.0**
baz=265
O18K Koktuh Hills 75.95 31 P **P 04 11 38.4 -0.7**
baz=265,SNR=6.8
E19K Redstone River 76.01 23 IAmb IAmb 04 11 56.2
comp=Z,17nm,1.1s
E19K Redstone River 76.01 23 P **P 04 11 38.0 -1.3**
baz=261,SNR=11
H19K Roundabout Mou 76.03 25 IAmb IAmb 04 11 44.5
comp=Z,14nm,1.1s
H19K Roundabout Mou 76.03 25 P **P 04 11 38.0 -1.4**
baz=262,SNR=13
R18K Karluk 76.16 33 P **P 04 11 39.5 -0.8**
baz=266
J19K Poorman 76.19 26 IAmb IAmb 04 12 31.0
comp=Z,21nm,1.9s
J19K Poorman 76.19 26 P **P 04 11 40.0 -0.4**
baz=263
SII Sitkinak Islan 76.24 34 P **P 04 11 40.5 -0.3**
baz=266
L19K White Mountain 76.35 28 IAmb IAmb 04 11 46.3
comp=Z,9.7nm,1.1s
L19K White Mountain 76.35 28 P **P 04 11 41.1 -0.2**
baz=264,SNR=7.1
N19K Bonanza Creek 76.40 30 IAmb IAmb 04 11 56.9
comp=Z,20nm,1.4s
N19K Bonanza Creek 76.40 30 P **P 04 11 40.7 -1.0**
baz=265
O19K Port Alsworth 76.43 30 P **P 04 11 41.9 +0.1**
baz=265
D20K Etivluk River 76.43 21 IAmb IAmb 04 11 44.7
comp=Z,18nm,0.9s
D20K Etivluk River 76.43 21 P **P 04 11 41.5 -0.2**
baz=261,SNR=15
B20K Meade River 76.45 20 IAmb IAmb 04 11 44.8
comp=Z,16nm,1.1s
B20K Meade River 76.45 20 P **P 04 11 42.2 +0.5**
baz=260,SNR=6.1
CASY Casey 76.51 187 P **P 04 11 42.9 +0.9**
E20K Nigu River 76.52 22 P **P 04 11 41.9 -0.4**
baz=262,SNR=15
F20K Avaraart Lake 76.53 23 P **P 04 11 42.0 -0.2**
baz=262,SNR=9.6
M19K Big River Lodg 76.54 29 P **P 04 11 41.2 -1.3**
baz=265
H20K Anotleneega Mo 76.68 25 P **P 04 11 42.7 -0.5**
baz=264,SNR=13
Q19K Cape Douglas, 76.68 32 P **P 04 11 42.6 -0.7**
baz=266
OHAK Old Harbor 76.77 33 P **P 04 11 42.1 -1.7**
baz=267
I20K Naaghedeneel 76.77 26 IAmb IAmb 04 11 59.5
comp=Z,16nm,1.0s
I20K Naaghedeneel 76.77 26 P **P 04 11 42.7 -0.9**
baz=264,SNR=5.9
K20K Telida 76.81 27 P **P 04 11 42.8 -1.1**
baz=265
L20K Farewell, AK 76.83 28 P **P 04 11 42.8 -1.3**
baz=265
A21K Barrow 76.84 19 P **P 04 11 42.9 -1.0**
baz=261
J20K Nowinta River 76.86 26 IAmb IAmb 04 11 47.5
comp=Z,19nm,1.5s
J20K Nowinta River 76.86 26 P **P 04 11 43.1 -1.1**
baz=265,SNR=7.9
P19K Oil Pt 76.94 31 P **P 04 11 43.5 -1.2**
baz=266
M20K Styx River 77.13 29 IAmb IAmb 04 11 48.5
comp=Z,10.0nm,1.1s
M20K Styx River 77.13 29 P **P 04 11 45.4 -0.5**
baz=266,SNR=7.8
C21K Knifeblade Rid 77.15 21 P **P 04 11 44.9 -0.8**
baz=263
KDAK Kodiak Island 77.17 33*d i*P **P 04 11 47.3 +1.3**
KDAK pmax pmax
comp=Z,15nm,1.1s
KDAK Kodiak Island 77.17 33 P **P 04 11 45.5 -0.5**
baz=268
B21K Ikpikpuk River 77.27 21 IAmb IAmb 04 12 01.3
comp=Z,18nm,1.0s
B21K Ikpikpuk River 77.27 21 P **P 04 11 47.1 +0.8**
baz=263,SNR=14
Q20K Shuyak Island 77.31 32 P **P 04 11 46.0 -0.8**
baz=267
A22K Sinclair Lake 77.32 19 P **P 04 11 46.4 -0.2**
baz=262,SNR=12
G21K Allakaket 77.34 24 IAmb IAmb 04 11 52.2
comp=Z,10nm,1.0s
G21K Allakaket 77.34 24 P **P 04 11 46.4 -0.5**
baz=265,SNR=9.7
E21K Killik River 77.36 22 IAmb IAmb 04 12 01.7
comp=Z,16nm,1.1s
E21K Killik River 77.36 22 P **P 04 11 46.0 -1.0**
baz=264
F21K Alatna River 77.42 23 P **P 04 11 46.4 -0.9**
baz=264
SPCR Spurr Chakacha 77.53 29 P **P 04 11 46.6 -1.5**
baz=267
H21K Melozitna Rive 77.55 25 P **P 04 11 47.9 -0.2**
baz=266,SNR=8.4
GNI Garni 77.62 309 LR LR 04 51 04.8
comp=Z,129nm,20.9s,baz=94,slow=40
GNI Garni 77.62 309 *e*P **P 04 11 48.8 -0.3**
GNI pmax pmax
comp=Z,17nm,1.4s
PPLA Purkeypile 77.63 28 P **P 04 11 48.0 -0.8**
baz=267
CHUM Lake Minchumin 77.64 27 P **P 04 11 48.0 -0.5**
baz=266
CAST Castle Rocks 77.71 27 IAmb IAmb 04 11 53.5
comp=Z,8.2nm,1.0s
CAST Castle Rocks 77.71 27 P **P 04 11 49.1 +0.1**
baz=267,SNR=11
B22K Teshekpuk Lake 77.76 20 IAmb IAmb 04 11 51.9
comp=Z,11nm,0.9s
B22K Teshekpuk Lake 77.76 20 P **P 04 11 48.9 -0.2**
baz=264,SNR=13
I21K Tanana 77.86 25 IAmb IAmb 04 12 06.8
comp=Z,18nm,1.2s
I21K Tanana 77.86 25 P **P 04 11 48.8 -1.0**
baz=266,SNR=10
D22K Ayikyak River 77.87 21 P **P 04 11 49.6 -0.1**
baz=265,SNR=6.9
SKT Skwentna 77.89 29 P **P 04 11 49.8 -0.2**
baz=267
F22K John River 77.95 23 P **P 04 11 50.5 +0.3**
baz=266,SNR=13
RAYN Ar Rayn 78.03 292 P **P 04 11 50.5 -1.1**
RAYN Ar Rayn 78.03 292 P **P 04 11 51.3 -0.3**
RAYN Ar Rayn 78.03 292 P **P 04 11 50.5 -1.1**
RAYN pmax pmax
comp=Z,20nm,0.7s
RAYN Ar Rayn 78.03 292 *i* P **P 04 11 51.1 -0.5**
SNR=31
BRLK Bradley Lake 78.13 31 IAmb IAmb 04 12 06.4
comp=Z,12nm,0.9s
E22K Anaktuvuk Pass 78.13 22 IAmb IAmb 04 12 06.4
comp=Z,10.0nm,1.1s
E22K Anaktuvuk Pass 78.13 22 P **P 04 11 51.4 +0.1**
baz=266,SNR=8.9
H22K Ishtalitna Cre 78.16 25 P **P 04 11 51.3 -0.1**
baz=267,SNR=9.3
G22K Bettles 78.17 24 P **P 04 11 50.8 -0.6**
baz=266
BRSE Bradley Lake S 78.20 31 P **P 04 11 51.1 -0.7**
baz=269
BPAW Bear Paw Mtn. 78.23 26 IAmb IAmb 04 11 56.4
comp=Z,13nm,1.0s
BPAW Bear Paw Mtn. 78.23 26 P **P 04 11 51.4 -0.5**
baz=268,SNR=12
SUA Susitna One 78.25 29 IAmb IAmb 04 11 56.0
comp=Z,10nm,0.9s
SUA Susitna One 78.25 29 P **P 04 11 52.3 +0.1**
baz=268,SNR=9.3
SLKM Skilak Lake 78.48 30 IAmb IAmb 04 12 08.9
comp=Z,14nm,1.0s
CUT Chulitna 78.50 28 P **P 04 11 51.8 -1.5**
baz=268
TRF Thorofare Moun 78.52 27 P **P 04 11 52.3 -1.4**
baz=268
M22K Willow 78.55 29 IAmb IAmb 04 12 14.8
comp=Z,26nm,1.1s
M22K Willow 78.55 29 P **P 04 11 52.9 -0.7**
baz=269
RAR Rarotonga 78.57 114 LR LR 04 40 36.3
comp=Z,175nm,20.9s,baz=288,slow=31
D23K Nanushuk River 78.60 21 IAmb IAmb 04 11 57.3
comp=Z,16nm,1.2s
D23K Nanushuk River 78.60 21 P **P 04 11 53.1 -0.7**
baz=267,SNR=12
C23K Itkillik River 78.67 21 IAmb IAmb 04 12 11.0
comp=Z,32nm,1.4s
C23K Itkillik River 78.67 21 P **P 04 11 54.0 -0.1**
baz=267,SNR=15
COLD Coldfoot 78.69 23 IAmb IAmb 04 12 09.5
comp=Z,8.7nm,1.0s
COLD Coldfoot 78.69 23 P **P 04 11 54.0 -0.3**
baz=268,SNR=10
O22K Cooper Landing 78.72 30 P **P 04 11 53.3 -1.3**
baz=269
RC01 Rabbit Creek A 78.72 30 P **P 04 11 53.4 -1.2**
baz=269
G23K Bananza Creek 78.74 24 IAmb IAmb 04 12 12.0
comp=Z,11nm,1.2s
G23K Bananza Creek 78.74 24 P **P 04 11 53.7 -0.9**
baz=268,SNR=8.1
KBZ Khabaz 78.85 313 P **P 04 11 55.5 -0.1**
comp=Z,8.0nm,1.0s,baz=133,slow=1.6,SNR=13
KBZ LR LR 04 51 00.6

comp=Z,208nm,18.5s,baz=79,slow=39
comp=Z,8.0nm,1.0s
KBZ Khabaz 78.85 313 *c iP* **P 04 11 55.0 -0.6**
KBZ pmax pmax
comp=Z,15nm,1.1s
SEW Seward 78.86 31 P **P 04 11 54.8 -0.5**
baz=270
H23K Yukon River 78.91 25 IAmb IAmb 04 11 58.9
comp=Z,39nm,2.0s
H23K Yukon River 78.91 25 P **P 04 11 54.7 -0.8**
baz=268
E23K Chandalar 78.95 22 IAmb IAmb 04 12 13.1
comp=Z,19nm,1.1s
E23K Chandalar 78.95 22 P **P 04 11 55.3 -0.5**
baz=268,SNR=25
I23K Minto, Yukon-K 78.97 25 P **P 04 11 55.2 -0.7**
baz=269,SNR=7.7
TOLK Toolik Lake Re 78.99 22 IAmb IAmb 04 12 13.0
comp=Z,18nm,1.4s
TOLK Toolik Lake Re 78.99 22 P **P 04 11 56.2 +0.2**
baz=268,SNR=7.0
KIV Kislovodsk 78.99 313 P **P 04 11 56.3 -0.3**
KIV Kislovodsk 78.99 313 P **P 04 11 56.8 +0.2**
KIV Kislovodsk 78.99 313 *eP* **P 04 11 56.0 -0.6**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,173nm,19.0s
KIV Kislovodsk 78.99 313 P **P 04 11 56.8 +0.2**
PMR Palmer 79.02 29 P **P 04 11 54.7 -1.5**
baz=270
NEA2 Nenana 79.08 26 P **P 04 11 56.0 -0.6**
baz=269
MCK McKinley 79.13 27 IAmb IAmb 04 12 16.1
comp=Z,18nm,1.0s
MCK McKinley 79.13 27 P **P 04 11 56.7 -0.1**
baz=269,SNR=11
RND Reindeer 79.16 27 IAmb IAmb 04 12 01.2
comp=Z,13nm,1.2s
D24K Happy Valley 79.28 21 P **P 04 11 57.4 -0.1**
baz=268
C24K Franklin Bluff 79.33 21 IAmb IAmb 04 12 14.6
comp=Z,13nm,1.1s
C24K Franklin Bluff 79.33 21 P **P 04 11 57.9 +0.1**
baz=268
KNK Knik Glacier 79.34 29 IAmb IAmb 04 12 02.1
comp=Z,15nm,1.1s
KNK Knik Glacier 79.34 29 P **P 04 11 57.9 -0.1**
baz=270,SNR=7.1
VRH Novokhopyorsk 79.36 320 *eP* **P 04 11 56.8 -1.4**
VRH pmax pmax
comp=Z,37nm,0.8s
E24K Your Creek 79.37 22 IAmb IAmb 04 12 13.2
comp=Z,11nm,1.1s
E24K Your Creek 79.37 22 P **P 04 11 57.7 -0.4**
baz=269,SNR=8.9
SML Sawmill 79.40 29 IAmb IAmb 04 12 14.5
comp=Z,14nm,1.0s
SML Sawmill 79.40 29 P **P 04 11 57.9 -0.5**
baz=270,SNR=5.9
PWL Port Wells 79.41 30 IAmb IAmb 04 12 02.3
comp=Z,14nm,1.0s
PWL Port Wells 79.41 30 P **P 04 11 58.9 +0.6**
baz=270
H24K Noodor Dome 79.59 25 P **P 04 11 58.8 -0.5**
baz=270
F24K Squaw Lake 79.60 23 P **P 04 11 58.9 -0.4**
baz=270,SNR=9.9
COLA College 79.61 26 P **P 04 11 59.6 +0.3**
baz=270
M23K Glacier View 79.69 29 P **P 04 11 59.1 -0.8**
baz=271
G24K Hadweenzic Riv 79.76 24 P **P 04 11 59.4 -0.7**
baz=270,SNR=11
POKR Poker Plat Res 79.78 25 P **P 04 11 59.4 -1.0**
baz=270
GURO Guroymak-BITLI 79.80 308 IAmb IAmb 04 12 02.9
comp=Z,22nm,0.8s
SCM Sheep Creek Mo 79.88 29 IAmb IAmb 04 12 17.4
comp=Z,16nm,1.0s
SCM Sheep Creek Mo 79.88 29 P **P 04 11 60.0 -1.0**
baz=271,SNR=7.3
P23K Montague Islan 79.89 31 P **P 04 12 00.5 -0.5**
baz=272
HDA Harding Lake 80.00 26 P **P 04 12 00.7 -0.8**
baz=271
GLI Glacier Island 80.01 30 P **P 04 11 59.8 -1.8**
baz=272
ILAR Eielson Array 80.02 26 P **P 04 12 02.4 +0.8**
comp=Z,1.9nm,0.9s,baz=271,slow=4.1,SNR=17
comp=Z,1.9nm,0.9s
D25K Kavik River 80.15 21 P **P 04 12 02.1 -0.2**
baz=271,SNR=12
KLMR Klimovskoe 80.26 330 *eP* P 04 11 57.5 -5.4
KLMR pmax pmax
comp=Z,55nm,1.0s
G25K Bearman Lake 80.30 24 P **P 04 12 03.0 0.0**
baz=271
LABN Labinsk 80.36 314 *eP* **P 04 11 59.7 -4.1**
LABN *eS* **S 04 21 59.0 -7.1**
LABN pmax pmax
comp=Z,12nm,0.5s
M24K Tolsona, Glenn 80.42 28 P **P 04 12 02.7 -1.1**
baz=272
F25K Christian Rive 80.46 23 P **P 04 12 02.2 -1.8**
baz=272,SNR=7.2
ERBR Yeremizino-Bor 80.46 315 *eP* **P 04 12 00.3 -4.0**
ERBR *eS* **S 04 22 00.5 -6.6**
ERBR pmax pmax
comp=Z,20nm,0.8s
E25K Arctic Village 80.47 22 IAmb IAmb 04 12 21.3
comp=Z,14nm,1.3s
E25K Arctic Village 80.47 22 P **P 04 12 03.0 -1.0**
baz=272,SNR=9.1
K24K Donnelly Dome 80.53 27 IAmb IAmb 04 12 19.5
comp=Z,13nm,0.9s
K24K Donnelly Dome 80.53 27 P **P 04 12 04.4 0.0**
baz=272,SNR=5.6
KLU Klutina 80.56 29 P **P 04 12 03.5 -1.2**
baz=272
PRP Porcupine Dome 80.57 25 P **P 04 12 03.9 -0.8**
baz=272
C26K Camden Bay 80.65 20 P **P 04 12 04.4 -0.4**
baz=272,SNR=17
FYU Fort Yukon 80.65 24 P **P 04 12 05.6 +0.7**
FYU IAmb IAmb 04 12 31.2
comp=Z,24nm,1.4s
J25K Salcha River, 80.68 26 P **P 04 12 04.0 -1.2**
baz=272
EYAK Cordova Ski Ar 80.69 30 P **P 04 12 04.4 -0.8**
baz=273
PAX Paxson 80.71 28 P **P 04 12 04.3 -1.2**
baz=273
BMAR Burnt Mountain 80.87 23 P **P 04 12 08.3 +2.1**
HARP HAARP 80.88 28 P **P 04 12 05.9 -0.4**
baz=273
VORD Divnogorie 80.90 320 *eP* **P 04 12 03.6 -3.0**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 80.91 321 *eP* **P 04 12 05.4 -1.2**
VORR pmax pmax
comp=Z,42nm,0.6s
RIDG Independent Ri 80.95 27 IAmb IAmb 04 12 25.1
comp=Z,11nm,0.9s
RIDG Independent Ri 80.95 27 P **P 04 12 05.8 -0.9**
baz=273,SNR=12
VSR Storozhevoye 80.96 320 *eP* **P 04 12 03.0 -3.9**
VSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 81.02 322 *eP* **P 04 12 06.3 -0.8**
LPSR pmax pmax
comp=Z,40nm,0.8s
F26K Sheenjek River 81.02 23 P **P 04 12 06.7 -0.3**
baz=273,SNR=6.0
C27K Jago River 81.08 21 P **P 04 12 06.5 -0.7**
baz=273,SNR=9.0
N25K Chitina, Valde 81.19 29 IAmb IAmb 04 12 35.5
comp=Z,20nm,1.7s
N25K Chitina, Valde 81.19 29 P **P 04 12 06.8 -1.2**
baz=274
G26K Porcupine Rive 81.21 23 P **P 04 12 06.5 -1.4**
baz=274,SNR=8.5
BMRM Bremner River 81.22 30 P **P 04 12 06.8 -1.4**
baz=274
SCRK Sand Creek 81.31 27 P **P 04 12 07.7 -1.0**
baz=274,SNR=8.1
KAIM Kayak Island 81.39 31 P **P 04 12 07.8 -1.2**
baz=274

J26L Joseph Creek 81.46 26 P **P 04 12 08.2 -1.3**
baz=274,SNR=6.3
MOS Moscow 81.55 325 *eP* **P 04 12 07.6 -2.3**
GLB Gilahina Butte 81.58 29 IAmb IAmb 04 12 14.1
comp=Z,12nm,1.1s
I26K Coal Creek Min 81.58 25 P **P 04 12 09.3 -0.6**
baz=274
L26K Log Cabin Wild 81.67 27 P **P 04 12 10.7 +0.3**
baz=274,SNR=6.6
BERG Berg Lake 81.71 30 IAmb IAmb 04 12 14.9
comp=Z,13nm,1.0s
M26K Nabesna, AK 81.88 28 P **P 04 12 11.0 -0.6**
baz=275,SNR=8.4
E27K Coleen River 81.95 22 P **P 04 12 10.9 -0.9**
baz=275,SNR=8.3
G27K Doyon Strip 82.06 24 P **P 04 12 11.7 -0.7**
baz=276,SNR=6.3
D27M Malcolm River 82.08 21 IAmb IAmb 04 12 27.8
comp=Z,13nm,1.0s
D27M Malcolm River 82.08 21 P **P 04 12 12.0 -0.5**
baz=276,SNR=10.0
K27K Chicken 82.15 26 IAmb IAmb 04 12 18.4
comp=Z,17nm,1.1s
K27K Chicken 82.15 26 P **P 04 12 12.4 -0.5**
baz=276
H27K Steamboat Moun 82.17 24 P **P 04 12 12.7 -0.3**
baz=276,SNR=9.3
I27K Kandik River 82.19 25 P **P 04 12 12.8 -0.4**
baz=276,SNR=27
OBN Obninsk 82.20 325 *deP* **P 04 12 13.0 -0.3**
OBN *e* 04 12 20.7
OBN *e* 04 15 22.3
OBN pmax pmax
comp=Z,25nm,1.3s
OBN MLR MLR
comp=Z,183nm,18.0s
L27K Beaver Creek, 82.36 27 P **P 04 12 12.9 -1.2**
baz=276,SNR=10.0
BCAR Beaver Creek A 82.37 27 P **P 04 12 16.4 +2.2**
M27K Edge Creek, AK 82.41 28 P **P 04 12 13.5 -1.0**
baz=276,SNR=6.4
APA Apatity 82.44 337 *⇓iP* **P 04 12 13.0 -1.3**
APA pmax pmax
comp=Z,31nm,0.9s
APA MLR MLR
comp=Z,400nm,19.0s
E28M Babbage River 82.66 22 IAmb IAmb 04 12 30.5
comp=Z,6.3nm,0.8s
E28M Babbage River 82.66 22 P **P 04 12 15.1 -0.5**
baz=277,SNR=8.1
YAH Yahtse 82.68 30 IAmb IAmb 04 12 34.9
comp=Z,15nm,1.0s
ANN Anapa 82.68 314 *eP* **P 04 12 12.6 -3.5**
ANN *eS* **S 04 22 24.6 -5.4**
ANN pmax pmax
comp=Z,38nm,1.0s
D28M Stokes Point 82.85 21 P **P 04 12 15.4 -1.1**
baz=278
BVCY Beaver Creek 82.87 28 P **P 04 12 15.6 -1.2**
baz=277
I28M Miner Creek 82.90 25 P **P 04 12 16.2 -0.8**
baz=277,SNR=13
ABPO Ambohimpanom 83.05 249 P **P 04 12 17.4 -1.3**
ABPO IAmb IAmb 04 12 19.3
comp=Z,11nm,0.9s
ABPO Ambohimpanom 83.05 249 P **P 04 12 17.4 -1.3**
ABPO pmax pmax
comp=Z,11nm,0.9s
YUK3 Moose Creek 83.14 29 P **P 04 12 17.2 -1.2**
baz=277
E29M Blow River 83.29 22 IAmb IAmb 04 12 54.4
comp=Z,17nm,1.9s
E29M Blow River 83.29 22 P **P 04 12 18.1 -0.7**
baz=279
DAWY Dawson 83.32 26 IAmb IAmb 04 12 22.9
comp=Z,14nm,1.3s
DAWY Dawson 83.32 26 P **P 04 12 18.6 -0.5**
baz=278,SNR=13
O28M Mount Upton 83.39 30 IAmb IAmb 04 12 38.4
comp=Z,8.0nm,0.9s
O28M Mount Upton 83.39 30 P **P 04 12 19.4 -0.4**
baz=278
H29M Whitestone 83.44 24 IAmb IAmb 04 12 34.6
comp=Z,18nm,1.2s
H29M Whitestone 83.44 24 P **P 04 12 19.6 0.0**
baz=279,SNR=6.6
PCA Pinnacle 83.45 30 IAmb IAmb 04 12 55.7
comp=Z,15nm,1.0s
G29M Pine Creek 83.47 23 IAmb IAmb 04 12 33.7
comp=Z,16nm,1.1s
G29M Pine Creek 83.47 23 P **P 04 12 20.5 +0.7**
baz=279,SNR=10
YUK8 Steele Glacier 83.53 29 P **P 04 12 21.2 +0.8**
baz=278,SNR=5.7
I29M Ogilvie Camp, 83.59 25 P **P 04 12 20.6 +0.2**
baz=279,SNR=12
J29N Klondike Camp 83.77 26 IAmb IAmb 04 12 25.1
comp=Z,16nm,1.1s
J29N Klondike Camp 83.77 26 P **P 04 12 21.3 -0.1**
baz=279,SNR=9.9
PNL Peninsula 83.94 31 P **P 04 12 21.8 -0.5**
baz=278
M29M Somme Creek 83.97 28 IAmb IAmb 04 12 38.4
comp=Z,7.7nm,0.9s
M29M Somme Creek 83.97 28 P **P 04 12 22.2 -0.3**
baz=279,SNR=12
L29M L29M 84.02 27 P **P 04 12 22.5 -0.2**
baz=279,SNR=23
YUK4 Talbot Arm 84.06 29 P **P 04 12 23.2 +0.1**
baz=279,SNR=6.0
EPYK Eagle Plains 84.07 24 P **P 04 12 22.7 -0.1**
baz=280,SNR=12
G30M tAoh Zraii Nji 84.16 23 IAmb IAmb 04 12 36.9
comp=Z,17nm,1.2s
G30M tAoh Zraii Nji 84.16 23 P **P 04 12 22.7 -0.6**
baz=280,SNR=8.1
K29M Barlow Dome 84.17 26 IAmb IAmb 04 12 41.0
comp=Z,21nm,1.4s
K29M Barlow Dome 84.17 26 P **P 04 12 24.0 +0.5**
baz=280,SNR=15
F30M Barrier River 84.20 22 IAmb IAmb 04 12 38.3
comp=Z,15nm,1.1s
F30M Barrier River 84.20 22 P **P 04 12 24.5 +1.1**
baz=281,SNR=8.5
O29M Mount Kennedy 84.25 30 IAmb IAmb 04 12 41.8
comp=Z,11nm,1.2s
O29M Mount Kennedy 84.25 30 P **P 04 12 24.1 +0.1**
baz=279
YUK6 Outpost Mounta 84.25 29 P **P 04 12 23.9 -0.3**
baz=279
I30M Mount Dempster 84.41 25 P **P 04 12 25.6 +0.9**
baz=280,SNR=18
J30M Hart River 84.55 25 IAmb IAmb 04 12 28.8
comp=Z,18nm,1.4s
J30M Hart River 84.55 25 P **P 04 12 25.8 +0.4**
baz=281,SNR=17
ASF Jabal al Asfar 84.64 302 LR LR 04 55 06.8
comp=Z,124nm,21.0s,baz=123,slow=39
HYT Haines Junctio 84.69 29 IAmb IAmb 04 12 41.6
comp=Z,11nm,0.9s
HYT Haines Junctio 84.69 29 P **P 04 12 26.6 +0.4**
baz=280,SNR=13
M30M Minto, Yukon 84.71 28 IAmb IAmb 04 12 41.8
comp=Z,8.8nm,0.9s
M30M Minto, Yukon 84.71 28 P **P 04 12 26.5 +0.3**
baz=280,SNR=13
N30M Aishikik Lake 84.78 29 IAmb IAmb 04 12 42.2
comp=Z,10nm,1.0s
N30M Aishikik Lake 84.78 29 P **P 04 12 26.8 +0.3**
baz=280,SNR=9.1
P29M Windy Craggy 84.78 31 P **P 04 12 26.6 +0.1**
baz=280,SNR=8.1
SPA0 Spitsbergen Ar 84.78 349 *eP* **P 04 12 27.1 +0.9**
SPITS Spitsbergen Ar 84.78 349 P **P 04 12 26.7 +0.5**
comp=Z,12nm,0.8s,baz=101,slow=8.6,SNR=21
comp=Z,12nm,0.8s
SPITS Spitsbergen Ar 84.78 349 P **P 04 12 26.3 +0.1**
SPITS pmax pmax
comp=Z,30nm,1.1s
INK Inuvik 84.90 22 P **P 04 12 27.6 +0.7**
baz=283,SNR=14
G31M Satah River 84.92 23 IAmb IAmb 04 12 28.7
comp=Z,18nm,1.2s
G31M Satah River 84.92 23 P **P 04 12 27.4 +0.4**
baz=282,SNR=13
ARA0 ARCESS Array S 84.95 340 *eP* **P 04 12 28.1 +0.8**
ARCES ARCESS Array B 84.95 340 P **P 04 12 28.0 +0.8**
comp=Z,22nm,0.7s,baz=69,slow=6.6,SNR=44

comp=Z,22nm,0.7s
SIM Simferopol' 85.00 315 *eP* **P 04 12 26.8 -1.2**
SIM *e* 04 12 30.0
SIM *e* 04 15 45.0
SIM pmax pmax
comp=Z,44nm,0.8s
SIM MLR MLR
comp=Z,200nm,24.7s
F31M Tsiigehtchic 85.01 22 P **P 04 12 27.3 -0.2**
baz=283,SNR=9.7
P30M Million Dollar 85.08 30 P **P 04 12 26.4 -1.7**
baz=280
H31M Peel River 85.13 24 IAmb IAmb 04 12 42.6
comp=Z,14nm,0.9s
H31M Peel River 85.13 24 P **P 04 12 27.9 -0.3**
baz=282,SNR=13
O30N Mendenhall 85.38 29 P **P 04 12 29.2 -0.4**
baz=281
N31M Braeburn, Yuko 85.39 28 P **P 04 12 28.3 -1.3**
baz=281,SNR=13
BZK Bozkurt 85.53 312 *⇓iP* **P 04 12 30.7 0.0**
MMAI Mount Meron Ar 85.77 303 P **P 04 12 32.4 +0.3**
comp=Z,4.2nm,0.6s,baz=78,slow=9.5,SNR=12
MMAI LR LR 04 54 23.5
comp=Z,89nm,20.5s,baz=70,slow=38
comp=Z,4.2nm,0.6s
S31K Pelican 85.85 32 P **P 04 12 30.2 -1.6**
baz=281
M31M Drury Creek, Y 85.88 28 IAmb IAmb 04 12 48.9
comp=Z,7.5nm,1.1s
M31M Drury Creek, Y 85.88 28 P **P 04 12 32.1 +0.1**
baz=282,SNR=6.5
WHY Whitehorse 85.98 29 P **P 04 12 32.9 +0.3**
baz=282,SNR=11
SKAG Skagway 86.02 30 P **P 04 12 32.1 -0.6**
baz=282
KIRS Kirshir-Merke 86.03 309 *⇑iP* **P 04 12 32.2 -1.1**
BR131 Keskin Array S 86.15 309 P **P 04 12 33.4 -0.6**
SNR=5.5
BR131 Keskin Array S 86.15 309 *d iP* **P 04 12 33.1 -0.8**
BRTR Keskin Array B 86.15 309 P **P 04 12 32.5 -1.4**
BRTR Keskin Array B 86.15 309 P **P 04 12 33.1 -0.8**
comp=Z,3.4nm,0.8s,baz=99,slow=4.2,SNR=24
BRTR LR LR 04 56 33.4
comp=Z,144nm,20.2s,baz=112,slow=39
comp=Z,3.4nm,0.8s
FARO Faro, Yukon 86.35 28 IAmb IAmb 04 12 51.5
comp=Z,21nm,1.2s
FARO Faro, Yukon 86.35 28 P **P 04 12 34.2 -0.2**
baz=283,SNR=21
SIT Sitka 86.52 33 P **P 04 12 34.0 -1.2**
baz=282
A36M Sachs Harbour 86.56 17 IAmb IAmb 04 12 52.3
comp=Z,14nm,0.8s
A36M Sachs Harbour 86.56 17 P **P 04 12 34.5 -0.6**
baz=290
FINES FINESS Array B 86.63 332 P **P 04 12 35.2 -0.4**
FINES FINESS Array B 86.63 332 P **P 04 12 35.4 -0.3**
comp=Z,12nm,0.5s,baz=77,slow=4.8,SNR=92
FINES LR LR 04 55 12.2
comp=Z,223nm,18.6s,baz=40,slow=38
comp=Z,12nm,0.5s
EIL Elat 86.66 299 LR LR 04 57 11.2
comp=Z,92nm,19.2s,baz=72,slow=40
JETT Jettan, Norway 86.67 340 *eP* **P 04 12 35.5 -0.2**
R32K Eaglecrest 86.68 32 P **P 04 12 34.3 -1.7**
baz=283
N32M Quiet Lake 86.73 29 IAmb IAmb 04 12 53.2
comp=Z,9.7nm,0.8s
N32M Quiet Lake 86.73 29 P **P 04 12 35.3 -0.9**
baz=284
P32M Atlin 86.79 30 P **P 04 12 35.5 -1.1**
baz=283
S32K Killisnoo 86.83 32 P **P 04 12 36.1 -0.5**
baz=283
VSU Vasula 87.00 329 *⇓iP* **P 04 12 36.3 -1.2**
VSU pmax pmax
comp=Z,23nm,1.0s
P33M Teslin, Yukon 87.08 29 P **P 04 12 36.9 -1.1**
baz=284
PPT Papeete 87.15 108 LR LR 04 46 33.7
comp=Z,95nm,18.7s,baz=298,slow=32
PPT2 Papeete2 87.16 108 *e* LR LR 04 40 18.5
comp=Z,220nm,27.5s
PPT2 *e* LR LR 04 40 19.6
comp=Z,252nm,23.2s
MMPY Sheldon Lake, 87.20 27 IAmb IAmb 04 12 41.8
comp=Z,17nm,1.6s
MMPY Sheldon Lake, 87.20 27 P **P 04 12 37.5 -1.0**
baz=285
AKASG Malin Array Be 87.26 321 P **P 04 12 38.2 -0.7**
comp=Z,3.1nm,0.7s,baz=63,slow=4.6,SNR=14
AKASG LR LR 04 55 01.8
comp=Z,165nm,18.6s,baz=74,slow=38
comp=Z,3.1nm,0.7s
AKASG Malin Array Be 87.26 321 *i* P **P 04 12 38.2 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 87.26 321 *c iP* **P 04 12 38.0 -0.9**
AKBB pmax pmax
comp=Z,11nm,0.9s
MNK Minsk 87.26 325 *i* P **P 04 12 38.1 -0.8**
MNK *i* 04 16 00.3
MNK *i* PPP PPP 04 17 54.8
MNK *i* S **SKSac 04 22 58.6 -3.6**
MNK *i* SS **SS 04 28 59.8 +0.3**
MNK *i* SSS SSS 04 32 33.4
MNK pmax pmax
comp=Z,16nm,0.9s
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=E,11nm,0.9s
MNK MLR MLR
comp=E,312nm,20.0s
MNK MLR MLR
comp=N,266nm,21.0s
MNK MLR MLR
comp=Z,207nm,19.0s
KIEV Kiev 87.27 321 P **P 04 12 37.8 -1.1**
KIEV IAmb IAmb 04 12 39.1
comp=Z,24nm,1.6s
KIEV Kiev 87.27 321 *⇓P* **P 04 12 38.4 -0.6**
KIEV Kiev 87.27 321 *⇓P* **P 04 12 38.4 -0.6**
KIEV Kiev 87.27 321 *i P* **P 04 12 38.1 -0.8**
SNR=9.1
C36M Paulatuk 87.87 20 IAmb IAmb 04 12 56.1
comp=Z,13nm,1.1s
C36M Paulatuk 87.87 20 P **P 04 12 40.2 -1.3**
baz=292
U33K Whale Pass 87.92 33 P **P 04 12 41.1 -0.8**
baz=284
R33M Jennings River 88.20 30 P **P 04 12 42.8 -0.7**
baz=286
SORM Soroca 88.35 318 *⇓P* **P 04 12 43.3 -0.9**
SORM Soroca 88.35 318 *⇓P* **P 04 12 43.3 -0.9**
TBI Tubuai 88.35 114 *e* LR LR 04 40 54.9
comp=Z,1μm,24.8s
S34M Telegraph Cree 88.51 31 P **P 04 12 43.5 -1.3**
baz=286
KIBK Kibwezi 88.83 267 P **P 04 12 47.5 +0.3**
KIBK IAmb IAmb 04 12 48.8
comp=Z,9.9nm,1.0s
KIBK Kibwezi 88.83 267 P **P 04 12 48.0 +0.8**
TGTN Hyland Airport 88.86 28 P **P 04 12 45.2 -1.2**
baz=288
DLBC Dease Lake 88.93 31 P **P 04 12 44.7 -2.1**
baz=286
V35K Ketchikan 88.94 34 P **P 04 12 45.2 -1.5**
baz=285
STEI Steigen 89.01 339 *eP* **P 04 12 46.5 -0.3**
CFR Carcaliu 89.13 316 *⇑P* **P 04 12 47.7 -0.2**
CFR Carcaliu 89.13 316 *⇑P* **P 04 12 47.7 -0.2**
VNDA Vanda 89.17 173 P **P 04 12 47.3 -0.1**
VNDA Vanda 89.17 173 P **P 04 12 47.4 -0.1**
comp=Z,4.1nm,1.1s,baz=304,slow=5.7,SNR=12
VNDA LR LR 04 54 14.3
comp=Z,110nm,18.5s,baz=304,slow=36
comp=Z,4.1nm,1.1s
VNDA Vanda 89.17 173 P **P 04 12 47.3 -0.1**
VNDA pmax pmax
comp=Z,27nm,1.8s
FAUS Fauske 89.21 339 *eP* **P 04 12 47.4 -0.4**
T35M Bob Quinn 89.22 32 P **P 04 12 46.8 -1.4**
baz=286
KMBO Kilima Mbogo 89.41 269 P **P 04 12 49.2 -1.0**
KMBO IAmb IAmb 04 12 51.8

comp=Z,13nm,1.1s
KMBO Kilima Mbogo 89.41 269 P **P 04 12 50.7 +0.5**
KMBO Kilima Mbogo 89.41 269 P **P 04 12 49.2 -1.0**
KMBO pmax pmax
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 89.41 269 *i* P **P 04 12 50.6 +0.4**
SNR=14
TESR Tescani 89.84 317 ⇑P **P 04 12 50.6 -0.7**
VRI Vrincioaia 89.94 316 ⇓P **P 04 12 51.6 -0.2**
VRI Vrincioaia 89.94 316 ⇓P **P 04 12 51.6 -0.2**
MOR8 Moi Rana 90.00 338 *e*P **P 04 12 50.2 -1.4**
BISRR Bisoca 90.03 316 ⇓P **P 04 12 53.6 +1.4**
ONER Baraj Valea Uz 90.05 317 ⇑P **P 04 12 52.6 +0.3**
SUW Suwalki 90.06 325 *e*P **P 04 12 51.6 -0.5**
SBA Scott Base 90.08 172 P **P 04 12 47.8 -3.8**
SBA IAmb IAmb 04 13 06.9
comp=Z,15nm,1.3s
SBA Scott Base 90.08 172 P **P 04 12 47.8 -3.8**
SBA pmax pmax
comp=Z,15nm,1.3s
BURAR Bucovina Array 90.52 318 ⇓P **P 04 12 55.5 +1.0**
BURAR Bucovina Array 90.52 318 ⇓P **P 04 12 55.5 +1.0**
BUR08 Bucovina Ar. S 90.52 318 IAmb IAmb 04 13 10.0
comp=Z,8.3nm,1.2s
LODK Lodwar 90.53 274 P **P 04 12 55.5 +0.3**
MLR Muntele Rosu 90.56 316 IAmb IAmb 04 13 23.6
comp=Z,7.9nm,1.3s
MLR Muntele Rosu 90.56 316 ⇓P **P 04 12 55.2 +0.4**
MLR Muntele Rosu 90.56 316 ⇓P **P 04 12 55.2 +0.4**
TOAD Toad River Com 91.18 30 P **P 04 12 56.8 -0.4**
baz=290
KOTAN Kotaneelee Air 91.28 28 P **P 04 12 56.6 -1.0**
baz=292
ARR Arges 91.49 316 ⇑P **P 04 12 58.4 -0.7**
NSS Namsos 91.64 337 *e*P **P 04 12 58.4 -0.8**
KOLS Kolonicke sedl 92.06 320 *e*P **P 04 13 01.1 -0.4**
KOLS Kolonicke sedl 92.06 320 *e*P **P 04 13 01.1 -0.4**
MARR Marisel-Cluj 92.15 318 ⇓P **P 04 13 02.1 0.0**
STHS Stebnicka Huta 92.56 321 *e*P **P 04 13 03.6 -0.2**
STHS pmax pmax
comp=Z,8.0nm,1.0s
STHS Stebnicka Huta 92.56 321 *e*P **P 04 13 03.6 -0.2**
HFS Hagfors 92.79 332 P **P 04 13 03.8 -0.8**
comp=Z,9.4nm,0.7s,baz=92,slow=4.5,SNR=45
HFS LR LR 04 59 00.9
comp=Z,209nm,18.9s,baz=60,slow=38
comp=Z,9.4nm,0.7s
NIE Niedzica 93.14 321 *e*P **P 04 13 04.8 -1.8**
OJC Ojcow 93.19 322 *e*P **P 04 13 06.7 -0.1**
NB2 NORSAR Subarra 93.50 334 P **P 04 13 06.8 -1.2**
comp=Z,5.2nm,0.8s,baz=65,slow=4.6
NB2 NORSAR Subarra 93.50 334 P **P 04 13 06.8 -1.2**
baz=65,slow=4.6
NOA NORSAR Array B 93.50 334 P **P 04 13 07.0 -0.9**
comp=Z,2.9nm,0.7s,baz=64,slow=4.5,SNR=19
NOA LR LR 04 59 26.4
comp=Z,190nm,19.1s,baz=70,slow=38
comp=Z,2.9nm,0.7s
LANS Liptovska Anna 93.74 321 *e*P **P 04 13 10.3 +1.0**
LANS pmax pmax
comp=Z,5.0nm,1.8s
LANS Liptovska Anna 93.74 321 *e*P **P 04 13 10.3 +1.0**
LANS *e* 04 30 26.3
JMIC Jan Mayen 94.19 347 LR LR 05 00 16.5
comp=Z,80nm,20.9s,baz=273,slow=38
OSL Oslo 94.22 333 *e*P **P 04 13 11.2 0.0**
YKAW3 Yellowknife Wh 94.32 24 IAmb IAmb 04 13 28.0
comp=Z,8.2nm,1.1s
YKA Yellowknife Ar 94.35 24 P **P 04 13 12.7 +1.0**
comp=Z,2.3nm,0.9s,baz=300,slow=4.7,SNR=29
comp=Z,2.3nm,0.9s
YKA Yellowknife Ar 94.35 24 *i* P **P 04 13 12.6 +0.9**
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKAW1 Yellowknife Wh 94.41 24 IAmb IAmb 04 13 28.5
comp=Z,6.9nm,1.1s
MORC Moravsky Berou 94.71 322 *e*P **P 04 13 13.4 -0.4**
AKN Aaknes 94.73 336 *e*P **P 04 13 13.8 +0.3**
TAOE Nuku Hiva Isla 94.75 98 *e*LR LR 04 43 50.5
comp=Z,328nm,25.0s
SKAR Skarslia 94.93 334 *e*P **P 04 13 15.1 +0.6**
JAVC Velka Javorina 94.96 321 *e*P **P 04 13 16.1 +1.2**
KSP Ksiaz 95.08 323 *e*P **P 04 13 15.7 +0.4**
VRAC Vranov 95.46 322 LR LR 04 59 38.7
comp=Z,111nm,19.1s,baz=87,slow=38
VRAC Vranov 95.46 322 *e*P **P 04 13 17.5 +0.4**
KRUC Moravsky 95.67 322 *e*P **P 04 13 17.9 -0.2**
CONA Conrad Observa 96.42 321 *e*PcP **PcP 04 13 21.6 -0.2**
comp=Z,3.3nm,1.3s
CLL Collm 96.81 325 *e*P **P 04 13 25.0 +1.8**
CLL AMS AMS 05 03 00.0
comp=Z,200nm,18.8s
GEC2 GERESS Array S 97.39 322 IAmb IAmb 04 13 26.8
comp=Z,5.5nm,1.1s
GERES GERESS Array B 97.39 322 P Pdif 04 13 26.1 -0.1
comp=Z,1.7nm,0.9s,baz=68,slow=5.0,SNR=6.9
comp=Z,1.7nm,0.9s
MOA Molln 97.44 321 *e*PcP Pdif 04 13 26.1 -0.2
comp=Z,5.0nm,0.9s
KBA Koelnbreinsper 98.32 321 *e*Pdiff Pdif 04 13 30.2 -0.2
comp=Z,3.7nm,1.2s
YBH Yreka Blue Hor 98.82 45 LR LR 04 49 44.1
comp=Z,61nm,21.8s,baz=280,slow=30
WTTA Wattenberg 99.31 321 *e*Pdiff **Pdif 04 13 34.0 -0.8**
comp=Z,4.2nm,1.0s
WATA Walderalm 99.31 321 *e*Pdiff **Pdif 04 13 34.2 -0.6**
comp=Z,5.9nm,1.3s
QSPA South Pole Qui 99.40 180 P **Pdif 04 13 34.6 +0.1**
comp=Z,1.6nm,1.0s,baz=225,slow=1.4,SNR=2.7
QSPA LR LR 04 59 22.8
comp=Z,167nm,18.4s,baz=274,slow=36
comp=Z,1.6nm,1.0s
SQTA Sankt Quirin 99.59 321 *e*Pdiff **Pdif 04 13 34.5 -1.4**
comp=Z,6.2nm,1.2s
RKT Rikitea 101.50 112 *e*LR LR 04 46 50.9
comp=Z,2μm,38.8s
TXAR Lajitas Array 118.16 49 PKP **PKiKP 04 18 41.5 +1.4**
comp=Z,0.7nm,0.8s,baz=342,slow=2.9,SNR=7.1
PLCA Paso Flores 145.45 157 PKPbc **PKiKP 04 19 32.3 -2.3**
comp=Z,8.0nm,0.9s,baz=231,slow=3.7,SNR=13
SDDR Presa de Saban 146.70 32 **PKiKP 04 19 35.4 -2.3**
BI02 San Fabin de 148.56 152 **PKPab 04 19 41.0 -2.1**
LPAZ La Paz 164.27 117 PKP **PKPdf 04 19 58.0 +0.6**
comp=Z,0.7nm,0.8s,baz=270,slow=3.0,SNR=2.0

ATH 28 04:10:35.4,37°.68N×20°.68E,h8km±2km,ML1.5/6,Manual Solution by N.Liadopoulou First location: 2019/04/28 14:34:58, This location: 2019/04/28 14:39:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 3 km,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.13**	**74**	P	Pg	04 10 37.7	-0.5
LTHK				S	Sg	04 10 39.9	-0.3
ORTH	**Orthonies,Zaky**	**0.17**	**3**	P	Pg	04 10 39.4	+0.3
ORTH				S	Sg	04 10 41.8	+0.2
KYPS	**Kipseli, Zakin**	**0.18**	**38**	P	Pg	04 10 39.5	+0.4
KYPS				S	Sg	04 10 42.3	+0.6
CLEM	**Kyllini,Ilia,G**	**0.42**	**59**	P	Pg	04 10 43.7	+0.2
PSDA	**Pessada-Kefalo**	**0.44**	**350**	P	Pg	04 10 43.9	-0.1
VLS	**Valsamata**	**0.51**	**352**	P	Pg	04 10 44.9	-0.3
SMHA	**Samh**	**0.57**	**357**	P	Pg	04 10 46.0	-0.5
DMLN	**Damoulianata-K**	**0.61**	**337**	P	Pg	04 10 46.8	-0.5
YRMI	**Loutra Irminis**	**0.68**	**51**	P	Pg	04 10 47.7	-0.7
RLS	**Riolos of Patr**	**0.73**	**58**	P	Pg	04 10 49.4	0.0
AXS	**Araxos**	**0.76**	**46**	P	Pg	04 10 49.2	-0.8
FSK	**Fiskardo**	**0.79**	**353**	P	Pg	04 10 49.8	-0.8
DRO	**Drossia**	**0.86**	**71**	P	Pg	04 10 51.9	0.0
EVGI	**Lefkada island**	**0.94**	**359**	P	Pg	04 10 52.7	-0.8

IDC 28 04:10:38.2±5.1,23°.98S×179°.14W,h0km,mb4.1/3, mbtmp4.1/3,MS3.9/9,Error ellipse: s-maj=168.6km s-min=40.7km az=140.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.80**	**260**	P	P	04 18 37.1	-0.9
1.3nm,0.6s,baz=90,slow=7.1,SNR=16							
ASAR				LR	LR	04 34 18.7	
comp=Z,157nm,19.7s,baz=180,slow=33							
1.3nm,0.6s							
WRA	**Warramunga Arr**	**43.19**	**266**	P	P	04 18 41.8	+0.5
1.8nm,0.4s,baz=104,slow=7.7,SNR=16							
1.8nm,0.4s							
FITZ	**Fitzroy Crossi**	**51.61**	**265**	LR	LR	04 39 48.9	
comp=Z,118nm,21.5s,baz=136,slow=34							
KAPI	**Kappang**	**61.62**	**270**	LR	LR	04 49 30.5	
comp=Z,42nm,18.4s,baz=156,slow=38							
SHEM	**Shemya Is, Ala**	**76.61**	**356**	LR	LR	04 49 50.5	
comp=Z,84nm,21.3s,baz=166,slow=31							
PETK	**Petropavlovsk-**	**79.36**	**346**	P	P	04 22 45.7	0.0
0.9nm,0.6s,baz=107,slow=7.6,SNR=4.8							
PETK				LR	LR	04 52 11.4	
comp=Z,127nm,21.4s,baz=124,slow=31							
0.9nm,0.6s							
PFO	**Pinyon Flats O**	**82.66**	**48**	LR	LR	04 53 33.6	
comp=Z,62nm,18.8s,baz=214,slow=31							
NVAR	**Mina Array Bea**	**84.26**	**44**	LR	LR	04 54 48.4	
comp=Z,117nm,18.9s,baz=322,slow=31							
MA2	**Magadan**	**86.85**	**345**	LR	LR	04 56 31.6	
comp=Z,54nm,21.7s,baz=128,slow=32							
SEY	**Seymchan**	**89.51**	**347**	LR	LR	04 58 40.9	
comp=Z,112nm,19.8s,baz=154,slow=32							
HFS	**Hagfors**	**142.77**	**349**	PKhKP	PKPpre	04 30 02.0	
1.5nm,0.5s,baz=82,slow=3.1,SNR=8.2							
BRTR	**Keskin Array B**	**148.25**	**307**	PKPbc	PKPbc	04 30 26.2	-0.5
0.3nm,0.4s,baz=81,slow=3.6,SNR=4.2							

*SJA **28** 04:15:10.7±0.7,24°.20S×66°.88W,h219km±5km,ML3.5, MW3.6*
*IDC **28** 04:15:12.0±2.6,24°.06S×66°.73W,h184km±28km,mb3.4/1, mbtmp3.6/5,Error ellipse: s-maj=30.8km s-min=21.1km az=79.0*
*NEIC **28** 04:15:12.8±1.6,24°.15S±0°.08×67°.08W±0°.03,h219km±8km, mb4.2/5,Error ellipse: s-maj=11.1km s-min=3.5km az=178.0*
*GUC **28** 04:15:12.8±0.6,24°.08S×66°.91W,h199km±7km,ML3.9*
ISC 28 04:15:11.6±0.7,24°.13S±0°.04×66°.96W±0°.04,h207km±7km, n56,σ1§27/80,7C-2D,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.57**	**99**	⇓*i*P	**Pn**	**04 15 40.5**	**+0.1**
SALTA		**0.57**	**99**	*e*P	**Pn**	**04 15 40.5**	**+0.1**
SALTA				*e*S	S	04 15 44.5	-18
SALTA				IAML		04 15 44.6	
comp=Z,151nm,0.7s							
SLA	**San Lorenzo**	**1.45**	**114**	⇓*i*P	**Pn**	**04 15 45.7**	**+0.1**
SLA				*i* S	**S**	**04 16 10.4**	**-1.4**
SLA	**San Lorenzo**	**1.45**	**114**	*e*P	**Pn**	**04 15 45.7**	**+0.1**
SLA				*e*S	**S**	**04 16 11.3**	**-0.4**
AF01	**San Pedro de A**	**1.62**	**316**	Pn	**Pn**	**04 15 49.3**	**+2.0**
AF01	**San Pedro de A**	**1.62**	**316**	*e*P	Pn	04 15 58.5	+11
AF01				*e*S	**S**	**04 16 13.4**	**-1.4**
AF01				IAML		04 16 24.8	
comp=Z,105nm,0.6s							
FSA	**Cafayete**	**2.16**	**156**	*e*P	**Pn**	**04 15 52.2**	**-0.2**
YJA	**Yavi**	**2.36**	**35**	*e*P	**Pn**	**04 15 56.0**	**+1.2**
YJA				*e*S	**S**	**04 16 29.7**	**+1.7**
GO02	**Mina Guanaco**	**2.61**	**246**		**Pn**	**04 15 58.5**	**+1.0**
GO02					**S**	**04 16 33.3**	**+0.7**
GO02	**Mina Guanaco**	**2.61**	**246**	⇑*i*P	**Pn**	**04 15 58.4**	**+1.0**
GO02				*i* S	**S**	**04 16 33.5**	**+1.0**
GO02				IAML		04 16 35.0	
comp=E,402nm,0.2s							
GO02	**Mina Guanaco**	**2.61**	**246**	*e*P	**Pn**	**04 15 58.4**	**+1.0**
GO02				*e*S	**S**	**04 16 33.6**	**+1.0**
PB06	**IPOC Station P**	**2.79**	**300**	⇑*i*P	**Pn**	**04 16 00.7**	**+1.4**
PB06				*i* S	**S**	**04 16 36.2**	**+0.2**
PB06				IAML		04 16 41.0	
comp=N,190nm,0.3s							
PB09	**IPOC Station P**	**3.14**	**317**		**Pn**	**04 16 05.4**	**+2.0**
PB09	**IPOC Station P**	**3.14**	**317**	⇑*i*P	**Pn**	**04 16 05.0**	**+1.7**
PB09				*e*S	**S**	**04 16 43.1**	**-0.3**
PB09				IAML		04 16 47.1	
comp=E,98nm,0.6s							
PB14	**IPOC Station P**	**3.18**	**260**		**Pn**	**04 16 04.7**	**+0.6**
PB14	**IPOC Station P**	**3.18**	**260**	*e*P	**Pn**	**04 16 04.9**	**+0.9**
PB14				*e*S	**S**	**04 16 45.0**	**+0.5**
PB14				IAML		04 16 46.4	
comp=Z,89nm,0.3s							
PB05	**IPOC Station P**	**3.24**	**292**		**Pn**	**04 16 05.6**	**+1.0**
PB05	**IPOC Station P**	**3.24**	**292**	⇑*i*P	**Pn**	**04 16 05.5**	**+1.0**
PB05				*i* S	**S**	**04 16 44.4**	**-1.0**
PB05	**IPOC Station P**	**3.24**	**292**	*e*P	**Pn**	**04 16 05.6**	**+1.0**
PB03	**IPOC Station P**	**3.31**	**308**	⇑*i*P	**Pn**	**04 16 06.4**	**+1.0**
PB03				*i* S	**S**	**04 16 46.2**	**-0.8**
AC02	**Maricunga**	**3.33**	**216**		**Pn**	**04 16 06.7**	**+0.7**
AC02	**Maricunga**	**3.33**	**216**	*e*P	**Pn**	**04 16 07.0**	**+1.0**
AC02				*e*S	**S**	**04 16 46.2**	**-1.9**
PB10	**IPOC Station P**	**3.35**	**280**		**Pn**	**04 16 06.8**	**+1.1**
PB10	**IPOC Station P**	**3.35**	**280**	⇑*i*P	**Pn**	**04 16 06.8**	**+1.1**
PB10				*i* S	**S**	**04 16 46.0**	**-1.6**
PB10	**IPOC Station P**	**3.35**	**280**	*e*P	**Pn**	**04 16 06.5**	**+0.7**
PB10				*e*S	**S**	**04 16 49.1**	**+1.5**
PB10				IAML		04 16 51.9	
comp=Z,61nm,0.8s							
AC01	**Pan de Azucar**	**3.86**	**238**		**Pn**	**04 16 11.8**	**-0.2**
AC01	**Pan de Azucar**	**3.86**	**238**	⇑*i*P	**Pn**	**04 16 11.6**	**-0.4**
AC01				*e*S	**S**	**04 16 56.5**	**-2.4**
AC01	**Pan de Azucar**	**3.86**	**238**	*e*P	**Pn**	**04 16 11.7**	**-0.2**
AC01				IAML		04 16 58.0	
comp=Z,42nm,0.4s							
AC01				*e*S	**S**	**04 16 58.3**	**-0.6**
PB01	**IPOC Station P**	**3.86**	**322**		**Pn**	**04 16 12.8**	**+0.8**
PB01	**IPOC Station P**	**3.86**	**322**	*i* P	**Pn**	**04 16 12.7**	**+0.6**
PATCX	**Punta Patache**	**4.43**	**317**	Pn	**Pn**	**04 16 20.0**	**+0.9**
PATCX	**Punta Patache**	**4.43**	**317**	*e*P	**Pn**	**04 16 20.2**	**+1.1**
PATCX				*e*S	**S**	**04 17 09.4**	**-2.3**
PATCX				IAML		04 17 29.2	
comp=Z,34nm,0.9s							
AC06	**Mina Casimiro**	**4.44**	**223**		**Pn**	**04 16 18.6**	**-0.4**
PB08	**IPOC Station P**	**4.46**	**332**		**Pn**	**04 16 21.2**	**+1.4**
PB08	**IPOC Station P**	**4.46**	**332**	*i* P	**Pn**	**04 16 21.1**	**+1.2**
PB08				*i* S	**S**	**04 17 11.8**	**-1.2**
TA01	**Diego Aracena**	**4.64**	**319**		**Pn**	**04 16 21.9**	**+0.2**
TA01	**Diego Aracena**	**4.64**	**319**	*e*P	**Pn**	**04 16 22.4**	**+0.7**
TA01				*e*S	**S**	**04 17 14.8**	**-1.5**
TA01				IAML		04 17 27.0	
comp=Z,27nm,2.3s							
HMBC	**Humberstone**	**4.70**	**324**		**Pn**	**04 16 22.2**	**-0.4**
HMBC	**Humberstone**	**4.70**	**324**	*e*P	**Pn**	**04 16 21.7**	**-0.8**
HMBC				*e*S	**S**	**04 17 16.0**	**-2.0**
HMBC				IAML		04 17 18.1	
comp=Z,62nm,0.6s							
GO01	**Chusmiza**	**4.90**	**335**		**Pn**	**04 16 27.1**	**+1.6**
GO01	**Chusmiza**	**4.90**	**335**	*e*P	**Pn**	**04 16 27.1**	**+1.6**
GO01				*e*S	**S**	**04 17 24.2**	**+0.9**
PB11	**IPOC Station P**	**5.02**	**330**		**Pn**	**04 16 26.4**	**-0.2**
ACLC	**CERRO LA CRUZ**	**5.27**	**180**	*e*P	**Pn**	**04 16 29.6**	**-0.1**
ACLC				*e*S	**S**	**04 17 31.1**	**-0.1**
AC04	**Llanos de Chal**	**5.49**	**221**	*e*P	**Pn**	**04 16 31.7**	**-0.6**
AC04				*e*S	**S**	**04 17 32.9**	**-3.1**
AC04				IAML		04 17 38.8	
comp=Z,23nm,1.9s							
LPAZ	**La Paz**	**7.88**	**352**	P	**Pn**	**04 17 04.6**	**+0.6**
comp=Z,0.8nm,0.5s,baz=360,slow=7.9,SNR=2.4							
LPAZ				S	**S**	**04 18 31.6**	**-1.8**
comp=Z,0.4nm,0.4s,baz=82,slow=23,SNR=1.8							
CPUP	**Villa Florida**	**8.99**	**106**	P	**Pn**	**04 17 16.0**	**-1.7**
comp=Z,2.6nm,1.0s,baz=260,slow=12,SNR=3.1							
PLCA	**Paso Flores**	**16.83**	**189**	P	**Pn**	**04 18 58.7**	**+3.2**
comp=Z,0.5nm,0.4s,baz=355,slow=10,SNR=7.4							
VAO	**Valinhos**	**18.36**	**91**	P	**P**	**04 19 10.1**	**-1.0**
VAO				IAmb	IAmb	04 19 11.0	
comp=Z,4.9nm,0.6s							
BDFB	**Brasilia**	**19.70**	**68**	P	**P**	**04 19 25.3**	**-0.3**
BDFB				IAmb	IAmb	04 19 26.5	
comp=Z,11nm,1.5s							
BDFB	**Brasilia**	**19.70**	**68**	P	**P**	**04 19 24.8**	**-0.8**
comp=Z,1.2nm,0.3s,baz=234,slow=10,SNR=4.8							
CRIN	**San Cristobal**	**41.54**	**330**	P	**P**	**04 22 36.5**	**-2.7**
GOGA	**Godfrey**	**59.34**	**344**	P	**P**	**04 24 51.8**	**-0.2**
QSPA	**South Pole Qui**	**66.07**	**180**	P	**P**	**04 25 35.6**	**-0.6**
QSPA				IAmb	IAmb	04 26 17.9	
comp=Z,12nm,1.5s							
QSPA	**South Pole Qui**	**66.07**	**180**	P	**P**	**04 25 38.8**	**+2.6**
comp=Z,0.6nm,0.4s,baz=140,slow=7.9,SNR=6.9							
comp=Z,0.6nm,0.4s							
TORD	**Torodi Ar. Bea**	**76.58**	**69**	P	**P**	**04 26 40.5**	**+0.8**
MKAR	**Makanchi Array**	**146.60**	**40**	PKPbc	**PKiKP**	**04 34 31.1**	**-0.2**
comp=Z,0.6nm,0.5s,baz=290,slow=3.4,SNR=6.6							

IDC 28 04:16:37.9±3.6,48°.63S×124°.87E,h0km,mb3.6/2, mbtmp3.7/2,Error ellipse: s-maj=139.5km s-min=68.3km az=115.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.86**	**326**	T	T	04 37 08.2	
baz=152,slow=74,SNR=23							
H01W2	**Cape Leeuwin H**	**15.86**	**326**	T	T	04 37 09.7	
baz=152,slow=74,SNR=32							
H01W3	**Cape Leeuwin H**	**15.88**	**326**	T	T	04 37 07.7	
baz=152,slow=74,SNR=27							
STKA	**Stephens Creek**	**20.97**	**43**	P	P	04 21 21.8	-0.8
2.4nm,0.9s,baz=198,slow=13,SNR=4.4							
2.4nm,0.9s							
ASAR	**Alice Springs**	**25.92**	**19**	P	P	04 22 12.0	+0.2
1.0nm,0.8s,baz=199,slow=9.3,SNR=6.8							
1.0nm,0.8s							
YKA	**Yellowknife Ar**	**145.00**	**44**	PKPbc	PKPbc	04 36 14.5	-0.7
0.7nm,0.7s,baz=271,slow=3.5,SNR=18							

*IDC **28** 04:30:01.9±1.3,58°.10N×32°.44W,h0km,mb3.5/9, mbtmp3.5/10,ML3.6/1,MS3.4/2,Error ellipse: s-maj=41.9km s-min=18.5km az=11.0*
ISC 28 04:30:04.6±1.3,58°.1N±0°.3×32°.5W±0°.1,h18km,n12, σ0§84/10,mb3.6/9,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.19**	**325**	LR	LR	04 37 00.8	
comp=Z,168nm,18.3s,baz=129,slow=34							
EKA	**Eskdalemuir Ar**	**16.26**	**87**	Pn	**Pn**	**04 33 51.8**	**0.0**
baz=300,slow=13							
0.8nm,0.8s							
FRB	**Frobisher Bay**	**18.23**	**303**	LR	LR	04 40 14.9	
comp=Z,106nm,18.9s,baz=47,slow=34							
ESDC	**Sonseca Array**	**25.97**	**123**	P	**P**	**04 35 35.4**	**-0.5**
0.8nm,1.0s,baz=322,slow=8.5,SNR=4.6							
0.8nm,1.0s							
AKASG	**Malin Array Be**	**35.50**	**75**	P	**P**	**04 37 00.0**	**+0.3**
2.1nm,0.8s,baz=299,slow=8.5,SNR=5.9							
2.1nm,0.8s							
YKA	**Yellowknife Ar**	**38.36**	**312**	P	**P**	**04 37 22.9**	**-1.1**
0.2nm,0.8s,baz=59,slow=8.8,SNR=5.2							
0.2nm,0.8s							
ILAR	**Eielson Array**	**47.83**	**328**	P	**P**	**04 38 40.5**	**+0.1**
0.3nm,0.8s,baz=26,slow=7.6,SNR=4.7							
0.3nm,0.8s							
PDAR	**Pinedale Array**	**48.66**	**287**	P	**P**	**04 38 48.7**	**+1.3**
0.4nm,0.6s,baz=60,slow=7.4,SNR=6.0							
0.4nm,0.6s							
BVAR	**Borovoye Array**	**52.85**	**48**	P	**P**	**04 39 19.1**	**+0.5**
0.6nm,0.7s,baz=330,slow=8.3,SNR=3.7							
0.6nm,0.7s							
NVAR	**Mina Array Bea**	**56.31**	**290**	P	**P**	**04 39 44.2**	**0.0**
0.2nm,0.5s,baz=38,slow=8.7,SNR=2.7							
0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**57.86**	**45**	P	**P**	**04 39 55.3**	**+0.6**
0.7nm,0.9s,baz=336,slow=6.1,SNR=4.2							
0.7nm,0.9s							
MKAR	**Makanchi Array**	**62.43**	**45**	P	**P**	**04 40 25.0**	**-1.1**
0.3nm,0.7s,baz=336,slow=4.5,SNR=3.5							
0.3nm,0.7s							

*SJA **28** 04:51:33.7±0.9,24°.03S×70°.28W,h70km,ML3.6,MW3.7*
*GUC **28** 04:51:35.4±0.8,24°.03S×70°.14W,h55km±2km,ML3.8*
ISC 28 04:51:36.2±1.3,24°.02S±0°.02×70°.29W±0°.06,h57km±13km, n33,σ1§61/53,4C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	**IPOC Station P**	**0.56**	**334**	⇑*i*P	**Pn**	**04 51 48.9**	**+0.2**
PB10				*i* S	**Sn**	**04 51 57.8**	**+0.2**
PB10	**IPOC Station P**	**0.56**	**334**	*e*P	**Pn**	**04 51 48.2**	**-0.4**
PB10				*e*S	**Sn**	**04 51 59.2**	**+1.6**
PB10				IAML		04 52 01.6	
comp=Z,1μm,0.3s							
PB14	**IPOC Station P**	**0.61**	**190**	⇑*i*P	**Pn**	**04 51 49.2**	**-0.5**
PB14				*i* S	**Sn**	**04 51 59.1**	**-0.2**
PB14	**IPOC Station P**	**0.61**	**190**	*e*P	**Pn**	**04 51 49.1**	**-0.5**
PB14				*e*S	**Sn**	**04 51 59.5**	**+0.2**
PB14				IAML		04 52 00.1	
comp=Z,2μm,0.4s							
PB05	**IPOC Station P**	**1.17**	**4**	*e*P	**Pn**	**04 51 56.3**	**-0.2**
PB05				*e*S	**Sn**	**04 52 10.9**	**-0.6**
PB05	**IPOC Station P**	**1.17**	**4**	*e*P	**Pn**	**04 51 55.6**	**-0.8**
PB05				*e*S	**Sn**	**04 52 12.9**	**+1.4**
PB05				IAML		04 52 15.1	
comp=Z,482nm,0.4s							
GO02	**Mina Guanaco**	**1.30**	**151**	*i* P	**Pn**	**04 51 57.6**	**-0.9**
GO02				*i* S	**Sn**	**04 52 13.8**	**-1.4**
GO02				IAML		04 52 15.6	
comp=E,3μm,0.1s							
GO02	**Mina Guanaco**	**1.30**	**151**	*e*P	**Pn**	**04 51 57.7**	**-0.8**
GO02				*e*S	**Sn**	**04 52 14.0**	**-1.1**
PB06	**IPOC Station P**	**1.47**	**27**	⇓*i*P	**Pn**	**04 51 59.9**	**-0.7**
PB06				*i* S	**Sn**	**04 52 17.6**	**-1.1**
PB06	**IPOC Station P**	**1.47**	**27**	*e*S	**Sn**	**04 52 19.5**	**+0.7**
PB06				IAML		04 52 22.7	
comp=Z,755nm,0.2s							
PB03	**IPOC Station P**	**2.02**	**14**	⇑*i*P	**Pn**	**04 52 07.3**	**-0.8**
PB03				*i* S	**Sn**	**04 52 32.7**	**+0.3**
PB03				IAML		04 52 35.6	
comp=E,727nm,0.2s							
PB03	**IPOC Station P**	**2.02**	**14**	*e*P	**Pn**	**04 52 07.3**	**-0.8**
PB03				*e*S	Sn	04 52 16.9	-15
PB03				IAML		04 52 38.0	
comp=Z,522nm,0.5s							
AC01	**Pan de Azucar**	**2.14**	**187**	*e*P	**Pn**	**04 52 08.8**	**-0.8**
AC01				*e*S	**Sn**	**04 52 35.4**	**+0.5**
AC01				IAML		04 52 43.2	
comp=E,476nm,0.4s							
AC01	**Pan de Azucar**	**2.14**	**187**	*e*P	**Pn**	**04 52 08.9**	**-0.6**
AC01				*e*S	**Sn**	**04 52 40.9**	**+6.0**
AC01				IAML		04 52 41.6	
comp=Z,278nm,0.2s							
AF01	**San Pedro de A**	**2.21**	**62**	*e*P	**Pn**	**04 52 11.1**	**+0.3**
AF01				*e*S	**Sn**	**04 52 35.2**	**-2.0**
AF01				IAML		04 53 00.2	
comp

HMBC Humberstone 3.74 6 eP Pn 04 52 30.0 -1.6
HMBC Humberstone 3.74 6 eP Pn 04 52 30.1 -1.5
HMBC eS Sn 04 53 23.4 +8.9
HMBC IAML 04 53 38.0
comp=Z,120nnm,0.6s
PB08 IPOC Station P 4.00 16 eP Pn 04 52 34.5 -0.8
PB08 eS Sn 04 53 31.7 +10
PB08 IAML 04 53 43.1
comp=Z,56nnm,0.6s
PB11 IPOC Station P 4.28 8 eP Pn 04 52 36.9 -2.1
PB11 eS Sn 04 53 41.2 +13
PB11 IAML 04 53 57.5
comp=Z,89nnm,0.8s
GO01 Chusmiza 4.45 13 eP Pn 04 52 40.5 -1.1
AC05 El Transito 4.80 180 eP Pn 04 52 45.3 -0.7
AC05 eS Sn 04 53 54.3 +14
AC05 IAML 04 54 09.6
comp=Z,55nnm,0.7s
LCO Las Campanas 4.98 184 eS Sn 04 53 56.9 +12
LCO IAML 04 54 09.4
comp=Z,100nnm,0.5s

---

*NEIC **28** 05:01:44.3±0.9, 50.°8N±0.°1×159.°9E±0.°1, h10km±2km, mb4.2/9, Error ellipse: s-maj=22.3km s-min=6.9km az=144.0*
*IDC **28** 05:01:46.9±3.8, 51.°11N×159.°67E, h0km, mb3.8/7, mbtmp3.8/8, ML3.1/1, MS3.6/1, Error ellipse: s-maj=75.4km s-min=52.1km az=145.0*
*MOS **28** 05:01:47.2±0.8, 51.°27N×160.°19E, h10km, mb3.9/1, Error ellipse: s-maj=18.3km s-min=4.7km az=107.0*
*KRSC **28** 05:01:52.7±1.4, 51.°54N×159.°96E, h52km±27km, Ml4.0*
ISC 28 05:01:52.7±1.7, 51.°46N±0.°06×159.°86E±0.°06, h33km±11km, n77, σ2§02/79, mb4.0/11, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.17**	**288**	PN	**Pb**	**05 02 14.4**	**+0.2**
KDTR				S	**Sb**	**05 02 29.2**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.17**	**288**	eP	**Pb**	**05 02 14.5**	**+0.2**
KDTR				eS	**Sb**	**05 02 29.3**	**+0.2**
RUS	**Russkaya**	**1.28**	**320**	PN	**Pn**	**05 02 14.7**	**+0.5**
RUS	**Russkaya**	**1.28**	**320**	eP	**Pn**	**05 02 14.8**	**+0.5**
MTVR	**Mutnovka**	**1.46**	**315**	PN	**Pn**	**05 02 17.9**	**+1.1**
MTVR				S	**Sn**	**05 02 36.7**	**+1.8**
MTVR	**Mutnovka**	**1.46**	**315**	eP	**Pn**	**05 02 18.0**	**+1.1**
MTVR				eS	**Sn**	**05 02 36.7**	**+1.8**
GRL	**Gorelyy**	**1.55**	**315**	PN	**Pb**	**05 02 20.1**	**-0.8**
GRL	**Gorelyy**	**1.55**	**315**	eP	**Pb**	**05 02 20.2**	**-0.8**
SPN	**Mys Shipunski**	**1.64**	**3**	PN	**Pb**	**05 02 21.7**	**-0.6**
SPN	**Mys Shipunski**	**1.64**	**3**	eP	**Pb**	**05 02 21.7**	**-0.6**
DALK	**Dalny**	**1.71**	**337**	PN	**Pn**	**05 02 21.0**	**+0.8**
DALK	**Dalny**	**1.71**	**337**	eP	**Pn**	**05 02 21.1**	**+0.8**
DALK				eS	**Sn**	**05 02 42.0**	**+1.1**
PET	**Petropavlovsk**	**1.73**	**335**		**Pn**	**05 02 21.6**	**+1.1**
PET	**Petropavlovsk**	**1.73**	**335**	ePN	**Pn**	**05 02 21.6**	**+1.1**
PET				pmax	pmax		
comp=Z,256nm,0.5s
PET Petropavlovsk 1.73 335 eP **Pn 05 02 21.6 +1.1**
PET eS **Sn 05 02 42.5 +1.1**
KRMR Karymshinskiy 1.74 323 PN **Pn 05 02 21.4 +0.9**
KRMR Karymshinskiy 1.74 323 eP **Pn 05 02 21.5 +0.9**
NLC Nalytchevo 1.74 350 PN **Pn 05 02 20.8 +0.3**
NLC Nalytchevo 1.74 350 eP **Pn 05 02 20.9 +0.3**
INSR Institute 1.78 335 PN **Pn 05 02 22.6 +1.5**
INSR Institute 1.78 335 eP **Pn 05 02 22.6 +1.5**
UGLR Uglovaya 1.86 340 PN **Pn 05 02 23.1 +0.8**
UGLR Uglovaya 1.86 340 eP **Pn 05 02 23.2 +0.8**
PAU Pauzhetka 1.91 271 PN **Pb 05 02 27.1 +0.3**
PAU Pauzhetka 1.91 271 eP **Pb 05 02 27.2 +0.3**
SDLR Sedlovina 1.92 342 PN **Pn 05 02 23.4 +0.3**
SDLR Sedlovina 1.92 342 eP **Pn 05 02 23.5 +0.3**
AVH Avacha 1.93 340 PN **Pn 05 02 24.6 +1.3**
AVH Avacha 1.93 340 eP **Pn 05 02 24.6 +1.3**
KOK Koryaka 1.98 338 PN **Pn 05 02 25.8 +1.9**
KOK Koryaka 1.98 338 eP **Pn 05 02 25.9 +1.9**
KRX Arik 2.04 339 PN **Pb 05 02 27.5 -1.6**
KRX Arik 2.04 339 eP **Pb 05 02 27.6 -1.6**
PEA0B Petropavlovsk- 2.12 322 **Pn 05 02 27.0 +1.2**
PEA0B Petropavlovsk- 2.12 322 PN **Pn 05 02 27.3 +1.5**
PETK Petropavlovsk- 2.12 322 **Pn 05 02 27.1 +1.3**
PETK Petropavlovsk- 2.12 322 Pn **Pn 05 02 26.6 +0.8**
comp=Z,26nm,0.3s,baz=111,slow=20,SNR=242
PETK Sn **Sn 05 02 49.5 -1.5**
comp=Z,13nm,0.3s,baz=118,slow=22,SNR=7.1
comp=Z,35nm,0.3s
PETK Petropavlovsk- 2.12 322 PN **Pn 05 02 27.1 +1.3**
APC Apacha 2.22 312 PN **Pb 05 02 30.0 -2.1**
APC Apacha 2.22 312 eP **Pb 05 02 30.0 -2.1**
SKR Severo-Kuril's 2.49 253 ePN **Pb 05 02 38.0 +1.3**
SKR eS **Sb 05 03 10.6 +3.7**
SKR pmax pmax
comp=Z,48nm,0.5s
SKR smax smax
comp=N,348nm,0.6s
SKR smax smax
comp=E,319nm,0.4s
SKR Severo-Kuril's 2.49 253 eP **Pb 05 02 34.4 -2.3**
GNL Ganaly 2.52 333 PN **Pn 05 02 33.1 +1.6**
GNL Ganaly 2.52 333 eP **Pn 05 02 33.1 +1.6**
KII Karymskiy 2.59 355 PN **Pn 05 02 33.9 +1.6**
KII Karymskiy 2.59 355 eP **Pn 05 02 34.0 +1.6**
TUMD Tumrok D 3.76 5 PN **Pn 05 02 51.6 +3.2**
TUMD Tumrok D 3.76 5 eP **Pn 05 02 51.6 +3.2**
KMNR Kamenistaya 4.31 3 PN **Pn 05 02 58.5 +2.6**
KMNR Kamenistaya 4.31 3 eP **Pn 05 02 58.5 +2.6**
KBTR Krutoberegovo 5.07 19 PN **Pn 05 03 07.2 +1.0**
KBTR Krutoberegovo 5.07 19 eP **Pn 05 03 07.3 +1.0**
GAMB Gambell 19.38 40 P **P 05 06 14.7 -0.6**
GAMB IAmb IAmb 05 06 38.3
comp=Z,20nm,1.1s
USA0B Ussuriysk Arra 19.99 260 P **P 05 06 16.3 -5.9**
USA0B Ussuriysk Arra 19.99 260 P **P 05 06 16.3 -5.9**
USA0B pmax pmax
comp=Z,3.0nm,0.7s
USRK Ussuriysk Ar. 19.99 260 P **P 05 06 15.5 -6.7**
USRK Ussuriysk Ar. 19.99 260 P **P 05 06 15.5 -6.7**
JSG Sagara 22.93 231 P P 05 06 43.5 -10
E18K Tukpahlearik C 25.05 35 P **P 05 07 13.4 -0.1**
E18K IAmb IAmb 05 07 41.6
comp=Z,2.5nm,1.1s
B20K Meade River 27.13 31 P **P 05 07 35.0 +2.8**
B20K IAmb IAmb 05 08 04.1
comp=Z,4.3nm,1.1s
JCJ Chichijima 27.77 216 P P 05 07 27.9 -10
B22K Teshekpuk Lake 28.45 31 P **P 05 07 43.2 -0.7**
B22K IAmb IAmb 05 07 58.6
comp=Z,4.6nm,1.4s
H23K Yukon River 29.02 41 P **P 05 07 49.4 +0.2**
I23K Minto, Yukon-K 29.04 42 P **P 05 07 48.0 -1.3**
I23K IAmb IAmb 05 07 50.5
comp=Z,3.5nm,0.2s
H11N2 WAKE ISLAND Hy 32.15 167 T T 05 42 21.0
baz=352,slow=75,SNR=12
H11N3 WAKE ISLAND Hy 32.16 167 T T 05 42 24.1
baz=352,slow=75,SNR=8.9
H11N1 WAKE ISLAND Hy 32.16 167 T T 05 42 20.0
baz=352,slow=75,SNR=10
JOW Kunigami 34.27 236 LR LR 05 23 58.9
comp=Z,98nm,18.6s,baz=161,slow=39
KURK Kurchatov 48.49 303 P **P 05 10 32.9 +1.0**
KURBB Kurchatov Arra 48.59 303 P **P 05 10 32.9 +0.2**
comp=Z,0.6nm,0.6s,baz=62,slow=8.1,SNR=4.1
comp=Z,0.6nm,0.6s
SPITS Spitsbergen Ar 48.72 351 P **P 05 10 34.8 +1.4**
comp=Z,0.8nm,0.5s,baz=59,slow=5.6,SNR=12
comp=Z,0.8nm,0.5s
MKAR Makanchi Array 48.75 297 P **P 05 10 33.1 -0.9**
comp=Z,0.3nm,0.5s,baz=44,slow=6.3,SNR=4.8
comp=Z,0.3nm,0.5s
BVAR Borovoye Array 51.30 309 P **P 05 10 53.0 -0.2**
comp=Z,0.8nm,0.5s,baz=58,slow=5.6,SNR=4.6
comp=Z,0.8nm,0.5s
ARCES ARCESS Array B 54.80 342 P **P 05 11 20.0 +1.3**
comp=Z,1.9nm,0.9s,baz=51,slow=6.4,SNR=3.5
comp=Z,1.9nm,0.9s
ARCES ARCESS Array B 54.80 342 P **P 05 11 20.0 +1.3**
HFS Hagfors 65.46 342 P **P 05 12 33.0 +1.2**
comp=Z,0.7nm,0.4s,baz=46,slow=8.3,SNR=6.6
comp=Z,0.7nm,0.4s
AKASG Malin Array Be 69.94 329 P **P 05 13 01.1 +0.9**

comp=Z,0.5nm,0.5s,baz=33,slow=6.7,SNR=3.1
comp=Z,0.5nm,0.5s

NNC 28 05:02:15.0±2.1, 36.°74N×70.°57E, h151km±61km, mb2.9, mpv3.8, 3C-3D, Error ellipse: s-maj=21.1km s-min=15.1km az=3.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.36**	**360**	⇓P	Pn	05 03 46.9	+0.5
2.2nm,0.2s,baz=171,slow=10,SNR=58
KK31 ⇑S Sn 05 04 58.1 +0.1
2.7nm,0.5s,baz=189,slow=24,SNR=10
AAK Ala-Archa 6.62 26 ⇑P Pn 05 03 49.9 -0.2
1.7nm,0.4s
AAK S Sn 05 05 05.3 +0.8
4.6nm,0.5s
TKM2 Tokmak 2 7.28 30 ⇓P Pn 05 03 58.6 -0.4
3.3nm,0.4s
TKM2 ⇓S Sn 05 05 21.1 +0.6
2.2nm,0.8s
AB31 Akbulak array 14.71 332 ⇑P Pn 05 05 35.7 +0.1
0.2nm,0.3s,baz=148,slow=13,SNR=3.6

---

*NEIC **28** 05:19:38.5±1.3, 39.°83N±0.°03×117.°54W±0.°05, h11km±8km, Error ellipse: s-maj=5.8km s-min=4.4km az=114.0*
REN 28 05:19:41.4±0.9, 39.°73N±0.°03×117.°56W±0.°05, h14km±4km, ML2.9/12, ML2.7/42(NEIC), Error ellipse: s-maj=6.0km s-min=4.3km az=79.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q09A	**Carvers**	**0.95**	**162**		Pb	05 19 57.9	-1.9
Q09A Sg Sn 05 20 13.9 0.0
RYN Ryan 1.33 214 Pn 05 20 04.8 -1.0
NV11 Mina Array Sit 1.38 200 Pn 05 20 06.1 -0.3
PAHR Pah Rah Range 1.40 269 Pn 05 20 06.0 -0.8
PAHR IAML 05 20 28.4
comp=N,75nm,0.6s
PAHR IAML 05 20 29.1
comp=E,86nm,0.5s
NVAR Mina Array Bea 1.42 204 Pn 05 20 06.6 -0.5
NV09 Mina Array Sit 1.43 205 Pn 05 20 06.6 -0.6
NV08 Mina Array Sit 1.45 204 Pn 05 20 07.1 -0.4
LHV Little Huntoon 1.65 207 Pn 05 20 09.8 -0.3
TPH Tonopah 1.68 171 Pn 05 20 11.1 +0.5
PNTR Pine Nut 1.70 248 Pn 05 20 10.3 -0.6
PNTR Pg Pn 05 20 10.3 -0.6
PNTR IAML 05 20 38.8
comp=N,62nm,0.7s
PNTR IAML 05 20 39.4
comp=E,101nm,0.8s
PEAR Peavine Mounta 1.85 267 Pn 05 20 12.7 -0.4
WAKR Walker 1.91 230 Pn 05 20 13.3 -0.5
WAKR IAML 05 20 44.6
comp=E,48nm,0.5s
WAKR IAML 05 20 45.1
comp=N,71nm,0.2s
MPK Martis Peak 1.96 258 Pn 05 20 14.4 -0.1
MPK IAML 05 20 48.2
comp=E,36nm,0.7s
MPK IAML 05 20 51.1
comp=N,55nm,0.9s
ELK Elko 2.05 60 Pn 05 20 13.6 -2.1
R11B Troy Canyon, C 2.07 131 Pn 05 20 14.2 -1.8
GMN Gold Mountain 2.44 174 Pn 05 20 21.0 -0.1
GMN IAML 05 20 58.8
comp=E,41nm,0.9s
GMN IAML 05 21 02.8
comp=N,46nm,0.6s
LCH Last Change Ra 2.50 181 Pn 05 20 22.0 +0.1
SPR3 Spring Creek 3 2.61 105 Pn Pn 05 20 23.2 -0.3
SPR3 IAML 05 21 04.4
comp=E,36nm,0.5s
SPR3 IAML 05 21 04.5
comp=N,49nm,0.8s
AFDM Forest Hills D 2.76 255 Pn 05 20 25.3 +0.1
AFDM IAML 05 21 03.2
comp=N,22nm,1.2s
CMB Columbia Colle 2.78 233 Pn 05 20 25.1 -0.5
CMB Columbia Colle 2.78 233 Pn 05 20 25.4 -0.2
SGV South Grapevin 2.78 171 Pn 05 20 25.5 -0.2
TPNV Topopah Spring 2.97 159 Pn 05 20 28.9 +0.6
TPNV IAML 05 21 17.5
comp=N,31nm,0.5s
TPNV IAML 05 21 18.5
comp=N,27nm,0.5s
WCT Wildcat Mounta 3.03 166 Pn 05 20 28.9 -0.1
WCT IAML 05 21 20.9
comp=E,25nm,0.5s
WCT IAML 05 21 26.1
comp=N,21nm,0.5s
CPY CP-1 3.04 157 Pn 05 20 31.0 +1.7
PRN Pahroc Range 3.05 139 Pn 05 20 28.1 -1.2
NSP Numbskull Pass 3.18 160 Pn 05 20 31.7 +0.4
SDH Striped Hills 3.23 162 Pn 05 20 32.6 +0.7
AMDNV Amargosa 3.43 162 Pn 05 20 34.6 +0.2
SHPR Sheep Range 3.74 149 Pn Pn 05 20 39.0 +0.1
MVU Marysvale 4.34 105 Pn 05 20 46.0 -1.2
MVU IAML 05 22 02.1
comp=N,10.0nm,0.5s
MVU IAML 05 22 10.6
comp=E,8.2nm,4.0s
MSU Marysvale 4.36 105 Pn 05 20 46.8 -0.8

---

*RSNC **28** 05:32:28.4±0.0, 10.°N±4.°×7.°2W±.°, h132km±6km, M2.2, ML2.2*
*FUNV **28** 05:32:31.3, 10.°18N×72.°04W, h27km, MW3.0*
ISC 28 05:32:30.6±1.3, 10.°11N±0.°04×72.°06W±0.°05, h50km±20km, n11, σ1§15/18, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.47**	**262**	⇑iP	**Pn**	**05 32 41.3**	**-0.3**
MCQV eS **Sn 05 32 49.4 0.0**
CRJC Cerrejon, Guaj 1.21 318 P **Pn 05 32 51.9 +0.6**
CRJC S **Sn 05 33 08.2 +1.5**
URIC Uribia, Colomb 1.58 2 P **Pn 05 32 56.4 +0.1**
URIC S **Sn 05 33 15.2 -0.4**
ARGC Ariguani, Magd 2.17 263 P **Pn 05 33 04.4 0.0**
ARGC S **Sn 05 33 29.4 -0.7**
SOCV Socops 2.17 147 eP **Pn 05 33 05.1 +0.7**
SOCV eS **Sn 05 33 31.9 +1.8**
OCAC Ocana 2.24 214 P **Pn 05 33 05.1 -0.4**
OCAC S **Sn 05 33 29.9 -2.1**
CAPV Capacho 2.25 186 eP **Pn 05 33 06.6 +1.0**
CAPV eS **Sn 05 33 33.3 +1.0**
BAUV El Baul 4.13 106 eP **Pn 05 33 31.0 -0.2**
BAUV eS **Sn 05 34 16.1 -2.2**
BENV Beln 4.39 92 eP **Pn 05 33 34.5 -0.4**
TACV Tcata 4.95 89 eP **Pn 05 33 43.0 +0.4**
CACV CAICARA DEL OR 6.01 114 eP Pn 05 34 03.6 +6.5

---

*IDC **28** 05:33:59.8±1.0, 57.°74N×32.°64W, h0km, mb3.6/11, mbtmp3.7/14, ML3.6/3, MS3.6/22, Error ellipse: s-maj=32.7km s-min=14.2km az=6.0*
ISC 28 05:34:01.5±0.8, 57.°8N±0.°1×32.°63W±0.°08, h10km, n28, σ1§00/15, mb3.6/11, MS3.5/20, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.81**	**33**	Pn	**Pn**	**05 36 10.5**	**+1.9**
0.8nm,0.3s,baz=258,slow=4.8,SNR=7.1
BORG Sn **Sn 05 37 46.1 -1.8**
0.2nm,0.3s,baz=233,slow=6.9,SNR=2.0
BORG LR LR 05 38 23.9
comp=Z,68nm,18.9s,baz=231,slow=30
8.6nm,0.8s
SFJD Kangerlussuaq 12.36 325 LR LR 05 40 57.1
comp=Z,376nm,18.9s,baz=120,slow=34
EKA Eskdalemuir Ar 16.36 86 Pn **Pn 05 37 51.3 +0.4**
baz=296,slow=10
2.0nm,0.8s
FRB Frobisher Bay 18.31 304 P **Pn 05 38 14.7 -0.5**
baz=99,slow=12,SNR=2.6
FRB LR LR 05 44 11.6
comp=Z,208nm,19.9s,baz=123,slow=33
3.0nm,0.9s
NOA NORSAR Array B 22.21 63 P **P 05 38 56.9 -0.8**
1.2nm,1.0s,baz=281,slow=10,SNR=4.5
1.2nm,1.0s

ESDC Sonseca Array 25.90 122 P **P 05 39 33.2 -0.2**
1.7nm,1.1s,baz=324,slow=8.4,SNR=5.7
ESDC LR LR 05 48 02.8
comp=Z,77nm,18.3s,baz=318,slow=33
1.7nm,1.1s
DAVOX Davos/Dischmat 27.77 95 LR LR 05 49 34.6
comp=Z,102nm,20.4s,baz=271,slow=34
RES Resolute Bay 28.29 330 LR LR 05 50 13.9
comp=Z,38nm,19.1s,baz=292,slow=34
VRAC Vranov 29.84 85 LR LR 05 51 41.7
comp=Z,59nm,18.9s,baz=306,slow=36
SADO Sadowa 31.21 266 LR LR 05 51 32.2
comp=Z,5.7nm,18.7s,baz=73,slow=34
MDT Midelt 31.41 131 LR LR 05 51 52.5
comp=Z,93nm,18.6s,baz=304,slow=34
AKASG Malin Array Be 35.66 74 P **P 05 40 58.1 -1.1**
1.0nm,0.7s,baz=307,slow=8.5,SNR=6.7
AKASG LR LR 05 54 39.3
comp=Z,24nm,19.8s,baz=253,slow=35
1.0nm,0.7s
ULM Lac du Bonnet 36.65 286 P **P 05 41 07.5 -0.2**
2.3nm,0.7s,baz=46,slow=6.3,SNR=4.1
ULM LR LR 05 55 04.6
comp=Z,60nm,18.2s,baz=60,slow=34
2.3nm,0.7s
VAE Valguarnera 36.68 103 LR LR 05 55 32.2
comp=Z,73nm,18.9s,baz=350,slow=35
YKA Yellowknife Ar 38.48 312 P **P 05 41 24.1 +1.0**
0.8nm,0.9s,baz=60,slow=8.9,SNR=9.5
YKA LR LR 05 56 35.7
comp=Z,278nm,18.2s,baz=276,slow=35
0.8nm,0.9s
TKL Tuckaleechee C 40.21 259 LR LR 05 57 12.8
comp=Z,83nm,18.9s,baz=59,slow=35
INK Inuvik 41.70 327 LR LR 05 58 35.9
comp=Z,80nm,20.2s,baz=318,slow=35
BRTR Keskin Array B 45.26 84 P **P 05 42 19.4 +0.5**
0.7nm,0.9s,baz=324,slow=7.1,SNR=5.8
BRTR LR LR 06 01 38.0
comp=Z,38nm,19.8s,baz=310,slow=37
0.7nm,0.9s
DLBC Dease Lake 46.98 314 LR LR 06 01 53.5
comp=Z,148nm,19.1s,baz=48,slow=36
ILAR Eielson Array 48.01 328 P **P 05 42 39.7 -0.3**
0.4nm,0.9s,baz=31,slow=6.9,SNR=12
ILAR LR LR 06 03 13.4
comp=Z,83nm,19.0s,baz=299,slow=36
0.4nm,0.9s
NEW Newport 48.49 297 LR LR 06 02 02.5
comp=Z,103nm,19.5s,baz=38,slow=35
PDAR Pinedale Array 48.65 287 P **P 05 42 44.6 -1.0**
0.9nm,0.8s,baz=64,slow=6.8,SNR=4.0
PDAR LR LR 06 02 13.7
comp=Z,50nm,19.1s,baz=38,slow=35
0.9nm,0.8s
ANMO Albuquerque 52.83 278 LR LR 06 04 50.8
comp=Z,82nm,19.1s,baz=225,slow=35
DBIC Dimbokro 55.40 146 LR LR 06 04 25.1
comp=Z,70nm,19.8s,baz=304,slow=33
TXAR Lajitas Array 55.70 271 P **P 05 43 37.9 0.0**
0.5nm,1.0s,baz=42,slow=7.4,SNR=3.9
0.5nm,1.0s
NVAR Mina Array Bea 56.32 290 P **P 05 43 42.6 +0.2**
0.2nm,0.4s,baz=46,slow=6.4,SNR=4.7
0.2nm,0.4s
KURBB Kurchatov Arra 58.12 44 P **P 05 43 55.3 +0.7**
0.5nm,0.4s,baz=315,slow=9.1,SNR=7.3
0.5nm,0.4s
PFO Pinyon Flats O 59.11 285 LR LR 06 08 14.0
comp=Z,52nm,18.6s,baz=266,slow=35

---

*BJI **28** 05:34:29.8, 9.°40N×126.°66E, h37km, mB4.9/14, mb4.7/37, Ms4.3/21, Ms7 4.0/24*
*NEIC **28** 05:34:30.4±1.4, 9.°81N±0.°05×126.°63E±0.°08, h10km±1km, mb4.7/171, Error ellipse: s-maj=15.2km s-min=5.0km az=62.0*
*IDC **28** 05:34:37.5±1.8, 9.°71N×126.°45E, h68km±17km, mb4.2/30, mbtmp4.5/35, MS3.9/4, Error ellipse: s-maj=18.1km s-min=9.2km az=79.0*
*DJA **28** 05:34:40.2±1.2, 10.°N±7.°×12.°7E±.°, h99km±8km, M4.9/24, mb4.7/24, mB5.2/8, MLv5.3/1, Mw(mB)4.5/8*
ISC 28 05:34:35.4±0.3, 9.°73N±0.°04×126.°54E±0.°06, h50km, n463, σ1§04/397, mb4.7/126, MS4.0/10, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.81**	**200**		**Pn**	**05 35 16.9**	**-0.9**
DAV	**Davao City (W)**	**2.81**	**200**	P	**Pn**	**05 35 21.2**	**+3.4**
137nm,0.3s,baz=36,slow=4.1,SNR=9.8
DAV S **Sn 05 35 52.2 +1.7**
890nm,0.9s,baz=271,slow=23,SNR=6.5
DAV Davao City (W) 2.81 200 P Pn 05 35 22.0 +4.1
TGY Tagaytay City 7.00 309 P **Pn 05 36 17.9 +2.5**
83nm,0.3s,baz=298,slow=23,SNR=3.2
TGY LR LR 05 39 17.2
comp=Z,1μm,18.4s,baz=234,slow=40
TNTI Ternate 8.94 175 Pn **Pn 05 36 40.5 -1.4**
MYLDM Lahad Datu 9.17 241 **Pn 05 36 44.9 -0.2**
MRSI Marisa 10.27 207 P Pn 05 37 06.9 +6.7
896nm24nm,0.6s
LUWI Luwuk 11.34 200 Pn **Pn 05 37 14.3 -0.6**
APSI Ampana 11.64 205 P Pn 05 37 27.3 +8.4
842nm53nm,1.0s
FAKI Fak Fak 13.79 155 Pn **Pn 05 37 46.0 -2.3**
SPSI Sidrap Palu 15.19 207 P **P 05 38 13.0 +2.1**
21nm,1.1s
BNSI Bone 15.43 205 P **P 05 38 15.0 +1.3**
36nm,1.2s
YHNB Yeheng 15.65 342 Pn **Pn 05 38 09.3 -3.4**
YHNB IAmb IAmb 05 38 23.1
comp=Z,66nm,1.4s
SBUM Sibu 15.97 244 **Pn 05 38 16.1 -0.7**
KAPI Kappang 16.14 205 P **P 05 38 21.4 -0.1**
comp=Z,3.6nm,0.4s,baz=36,slow=16,SNR=3.9
JOW Kunigami 17.09 5 P **P 05 38 34.0 +2.1**
comp=Z,21nm,0.8s,baz=163,slow=9.7,SNR=4.3
JOW LR LR 05 46 55.8
comp=Z,304nm,18.1s,baz=69,slow=43
KSM Kuching 18.11 244 P **P 05 38 42.2 -1.1**
GENI Genyem 18.28 131 P **Pn 05 38 48.2 +2.7**
comp=Z,65nm,1.1s
QIZ Qiongzhong 18.62 302 P **Pn 05 38 49.3 -0.3**
QIZ S **Sn 05 42 12.8 -4.2**
QIZ LR LR
comp=Z,140nm,7.7s
QIZ LR LR
comp=Z,470nm,13.0s
QIZ LR LR
comp=Z,570nm,16.0s
JAY Jayapura 18.63 130 P **Pn 05 38 49.8 0.0**
comp=Z,18nm,0.8s,baz=88,slow=16,SNR=4.9
SOEI Soe 19.49 187 P **Pn 05 38 58.6 -1.5**
SOEI IAmb IAmb 05 39 15.6
comp=Z,44nm,0.8s
SOEI Soe 19.49 187 P **Pn 05 39 04.7 +4.6**
comp=Z,62nm,0.8s
TWSI Taliwang, Sumb 20.72 208 P Pn 05 39 18.6 +4.1
comp=Z,811nmcomp=Z,28nm,1.3s
UBPT Khong Chiam 21.29 287 P **P 05 39 17.6 -0.4**
SSE Sheshan 21.83 348 P **P 05 39 24.8 +1.2**
SSE S **S 05 43 24.3 +2.0**
SSE pmax pmax
comp=Z,16nm,0.5s
SSE pmax pmax
comp=Z,84nm,3.6s
SSE LR LR
comp=Z,140nm,12.4s
SSE LR LR
comp=Z,100nm,11.5s
MTN Manton Dam 22.89 168 **P 05 39 34.2 -0.7**
MTN IAmb IAmb 05 40 03.1
comp=Z,39nm,1.1s
NJ2 Nanjing 23.32 343 eP **P 05 39 39.5 +0.3**
NJ2 pmax pmax
comp=Z,22nm,0.9s
PPBI Pangkal Pinang 23.51 241 P **P 05 39 43.5 +2.4**
WHN Wuhan 23.62 333 P **P 05 39 43.3 +1.3**
WHN S **S 05 44 01.5 +8.5**
WHN pmax pmax
comp=Z,42nm,0.9s
WHN LR LR
comp=Z,2μm,19.7s
MYKOM Kota Tinggi 23.90 252 **P 05 39 43.6 -1.2**
KNRA Kunundurra 25.34 175 P **P 05 39 57.7 0.0**
KNRA IAmb IAmb 05 40 09.0

comp=Z,16nm,0.8s
ENH Enshi 25.90 324 P P 05 40 01.9 -1.0
ENH IAmb IAmb 05 40 04.0
comp=Z,19nm,1.2s
KULM Kulim 26.04 262 P **P 05 40 02.9 -1.3**
KULM IAmb IAmb 05 40 09.9
comp=Z,27nm,1.2s
MDSI Maura Dua 26.38 239 P **P 05 40 08.5 +1.2**
comp=Z,21nm,1.0s
LWLI Liwa 26.77 238 P **P 05 40 12.7 +1.8**
KSRS Korea Array 27.63 2 P **P 05 40 19.1 +0.8**
comp=Z,3.5nm,0.9s,baz=178,slow=9.7,SNR=14
comp=Z,3.5nm,0.9s
FITZ Fitzroy Crossi 27.67 182 P **P 05 40 18.9 +0.2**
FITZ Fitzroy Crossi 27.67 182 P **P 05 40 18.3 -0.4**
comp=Z,33nm,1.0s,baz=5.1,slow=7.1,SNR=23
comp=Z,33nm,1.0s
CM31 Chiang Mai Arr 28.11 291 P **P 05 40 23.0 +0.2**
CMAR Chiang Mai Arr 28.11 291 P **P 05 40 21.9 -0.9**
CMAR Chiang Mai Arr 28.11 291 P **P 05 40 22.7 -0.1**
comp=Z,3.2nm,0.9s,baz=98,slow=6.8,SNR=11
comp=Z,3.2nm,0.9s
CHTO Chiang Mai 28.19 292 P **P 05 40 23.9 +0.3**
MNSI Mandailing Nat 28.25 253 P **P 05 40 25.3 +1.2**
comp=Z,27nm,0.9s
RPSI Rantau Prapat 28.32 258 P **P 05 40 24.0 -0.7**
RPSI IAmb IAmb 05 40 30.0
comp=Z,22nm,1.1s
MJAR Matsushiro Arr 28.71 20 P **P 05 40 27.0 -0.9**
comp=Z,2.0nm,0.9s,baz=199,slow=8.9,SNR=4.7
comp=Z,2.0nm,0.9s
COEN Coen 28.74 145 P **P 05 40 26.9 -1.5**
COEN IAmb IAmb 05 40 32.1
comp=Z,19nm,1.1s
PZH PanZhiHua 28.78 309 P **P 05 40 30.3 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
HNS HongShan 29.55 341 ⇑P **P 05 40 36.0 +0.7**
HNS S **S 05 45 32.3 +5.6**
HNS pmax pmax
comp=Z,24nm,0.9s
HNS LR LR
comp=Z,150nm,14.0s
HNS LR LR
comp=Z,190nm,12.2s
HNS LR LR
comp=Z,250nm,15.9s
GSI Gunungsitoli 30.00 256 P **P 05 40 39.8 +0.2**
WB0 Warramunga Arr 30.32 165 P **P 05 40 40.7 -1.5**
WB0 IAmb IAmb 05 40 54.2
comp=Z,11nm,1.1s
WRA Warramunga Arr 30.47 165 P **P 05 40 43.3 -0.3**
WRA Warramunga Arr 30.47 165 P **P 05 40 42.3 -1.3**
comp=Z,1.0nm,0.7s,baz=346,slow=9.1,SNR=5.3
comp=Z,1.0nm,0.7s
WR8 Warramunga Arr 30.52 165 P **P 05 40 42.9 -1.2**
WR8 IAmb IAmb 05 40 52.7
comp=Z,16nm,1.4s
MBWA Marble Bar 31.42 192 P **P 05 40 52.0 +0.1**
MBWA IAmb IAmb 05 40 55.9
comp=Z,16nm,1.1s
BJT Baijiatuau 31.54 345 P **P 05 40 52.5 -0.4**
BJT IAmb IAmb 05 40 56.6
comp=Z,7.0nm,0.8s
BJI Beijing 31.56 345 P **P 05 40 53.8 +0.8**
BJI pP **pP 05 41 01.5 -2.8**
BJI sP **sP 05 41 04.8 -4.8**
BJI S **S 05 46 00.0 +1.8**
BJI pmax pmax
comp=Z,4.0nm,1.2s
BJI pmax pmax
comp=Z,42nm,7.5s
BJI LR LR
comp=Z,53nm,16.1s
BJI LR LR
comp=Z,110nm,18.6s
BJI LR LR
comp=Z,84nm,17.6s
PSA00 Pilbara Seismi 31.80 192 P **P 05 40 55.5 +0.2**
HHC Hu-ho-hao-te 33.71 339 *e*P **P 05 41 13.3 +1.3**
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,83nm,5.0s
HHC LR LR
comp=Z,210nm,13.8s
HHC LR LR
comp=Z,200nm,15.3s
HHC LR LR
comp=Z,210nm,16.0s
CN2 Changchun 33.95 359 *e*P **P 05 41 17.0 +3.1**
ASAR Alice Springs 33.97 168 P **P 05 41 13.0 -1.3**
ASAR Alice Springs 33.97 168 P **P 05 41 13.6 -0.7**
comp=Z,0.7nm,0.4s,baz=354,slow=7.1,SNR=13
comp=Z,0.7nm,0.4s
GIRL Giralia 34.36 200 P **P 05 41 17.3 -0.4**
USRK Ussuriysk Ar. 34.66 7 P **P 05 41 18.4 -1.6**
USRK Ussuriysk Ar. 34.66 7 P **P 05 41 19.6 -0.4**
comp=Z,3.4nm,0.8s,baz=184,slow=6.6,SNR=6.2
comp=Z,3.4nm,0.8s
MDJ Mudanjiang 34.86 4 P **P 05 41 23.0 +1.3**
MDJ pmax pmax
comp=Z,11nm,0.9s
BNX BinXian 35.89 1 ⇓P **P 05 41 31.5 +0.9**
BNX pmax pmax
comp=Z,7.0nm,0.9s
SHL Shillong 36.44 300 **P 05 41 34.6 -1.2**
SHL IAmb IAmb 05 41 41.0
comp=Z,9.4nm,0.5s
GTA Gaotai 37.97 326 P **P 05 41 48.8 +0.2**
GTA pmax pmax
comp=Z,8.0nm,0.6s
GTA LR LR
comp=Z,130nm,13.9s
GTA LR LR
comp=Z,170nm,17.5s
GTA LR LR
comp=Z,210nm,16.3s
H11S3 WAKE ISLAND Hy 39.82 73 T T 06 25 07.8
baz=259,slow=72,SNR=57
H11S1 WAKE ISLAND Hy 39.83 73 T T 06 25 08.4
baz=259,slow=72,SNR=32
H11S2 WAKE ISLAND Hy 39.84 73 T T 06 25 09.5
baz=259,slow=72,SNR=27
MORW Morawa 39.88 194 P **P 05 42 04.4 -0.1**
MORW IAmb IAmb 05 42 05.5
comp=Z,14nm,0.9s
H11N1 WAKE ISLAND Hy 40.17 71 T T 06 25 26.9
baz=262
H11N2 WAKE ISLAND Hy 40.18 71 T T 06 25 29.0
baz=262,slow=74
H11N3 WAKE ISLAND Hy 40.19 71 T T 06 25 27.8
baz=262,slow=74
FORT Forrest 40.30 178 P **P 05 42 08.4 +0.5**
HEH HeiHe 40.40 1 *e*P **P 05 42 09.3 +0.8**
HEH pmax pmax
comp=Z,8.0nm,0.9s
HEH LR LR
comp=Z,270nm,15.4s
HEH LR LR
comp=Z,140nm,15.3s
HEH LR LR
comp=Z,300nm,13.5s
ULN Ulaanbaatar 41.42 340 P **P 05 42 16.2 -0.9**
ULN IAmb IAmb 05 42 21.5
comp=Z,9.1nm,0.8s
SONM Songino Array 41.61 340 P **P 05 42 18.8 +0.2**
SONM Songino Array 41.61 340 P **P 05 42 19.7 +1.1**
comp=Z,4.8nm,0.8s,baz=158,slow=9.6,SNR=17
comp=Z,4.8nm,0.8s
EIDS Eidsvold 42.29 146 P **P 05 42 22.9 -1.4**
EIDS IAmb IAmb 05 42 48.2
comp=Z,16nm,1.2s
BBOO Buckleboo 43.27 168 P **P 05 42 32.3 +0.2**
BBOO IAmb IAmb 05 42 43.6
comp=Z,17nm,0.9s
NWAO Narrogin (SRO) 43.34 191 P **P 05 42 33.8 +1.1**
STKA Stephens Creek 43.81 161 P **P 05 42 36.6 +0.1**
STKA Stephens Creek 43.81 161 P **P 05 42 36.6 +0.1**
comp=Z,1.8nm,0.4s,baz=352,slow=8.6,SNR=9.3
comp=Z,1.8nm,0.4s
ARMA Armidale 46.64 150 P **P 05 42 59.5 +0.5**
ARMA IAmb IAmb 05 43 25.4
comp=Z,14nm,1.3s
WMQ Urumqi 47.81 322 *e*P **P 05 43 10.5 +2.5**
WMQ LR LR
comp=Z,140nm,24.2s
PEA0B Petropavlovsk- 50.02 24 P **P 05 43 24.8 +0.1**
PEA0B IAmb IAmb 05 43 26.6
comp=Z,13nm,1.1s
PETK Petropavlovsk- 50.02 24 P **P 05 43 25.8 +1.1**
PETK Petropavlovsk- 50.02 24 P **P 05 43 25.4 +0.7**
comp=Z,7.6nm,0.9s,baz=185,slow=2.0,SNR=19
comp=Z,7.6nm,0.9s
TOO Toulangi 50.29 160 P **P 05 43 27.0 0.0**
YAK Yakutsk 52.25 2 P **P 05 43 39.6 -1.6**
MK31 Makanchi Array 52.62 323 P **P 05 43 43.9 -0.4**
MKAR Makanchi Array 52.62 323 P **P 05 43 44.2 -0.1**
MKAR Makanchi Array 52.62 323 P **P 05 43 43.9 -0.4**
comp=Z,4.5nm,0.7s,baz=120,slow=7.9,SNR=53
comp=Z,4.5nm,0.7s
MAKZ Makanchi 52.81 323 P **P 05 43 45.0 -0.8**
MA2 Magadan 52.98 15 LR LR 06 06 57.3
comp=Z,50nm,19.5s,baz=234,slow=37
ZAA0 Zalesovo Array 55.23 331 P **P 05 44 02.9 -0.3**
ZALV Zalesovo Beam 55.23 331 P **P 05 44 02.2 -1.0**
ZALV Zalesovo Beam 55.23 331 P **P 05 44 01.6 -1.6**
comp=Z,1.0nm,0.3s,baz=104,slow=6.3,SNR=9.2
comp=Z,1.0nm,0.3s
AAK Ala-Archa 55.90 315 P **P 05 44 08.2 -0.2**
KURK Kurchatov 56.66 326 P **P 05 44 13.0 -0.5**
KURK IAmb IAmb 05 44 14.0
comp=Z,7.0nm,0.8s
KURBB Kurchatov Arra 56.67 325 P **P 05 44 13.1 -0.4**
comp=Z,3.0nm,0.6s,baz=123,slow=6.8,SNR=24
comp=Z,3.0nm,0.6s
GAR Garm 57.84 310 P **P 05 44 21.2 -1.1**
GAR IAmb IAmb 05 44 22.8
comp=Z,6.5nm,0.7s
KBL Kabul 57.86 305 P **P 05 44 21.6 -0.9**
KBL IAmb IAmb 05 44 22.5
comp=Z,6.6nm,0.9s
KK31 Karatay Array 58.82 315 P **P 05 44 28.2 -0.7**
KKAR Karatay Array 58.82 315 P **P 05 44 28.5 -0.4**
TIXI Tiksi 61.88 1 P **P 05 44 49.1 -0.1**
BVAR Borovoye Array 62.26 325 P **P 05 44 51.9 -0.2**
comp=Z,2.8nm,0.8s,baz=126,slow=7.7,SNR=9.2
comp=Z,2.8nm,0.8s
BRVK Borovoye 62.33 325 P **P 05 44 52.1 -0.4**
BRVK IAmb IAmb 05 44 53.1
comp=Z,3.4nm,0.8s
BILL Biiibino 63.85 16 P **P 05 45 03.1 +0.7**
BILL IAmb IAmb 05 45 29.9
comp=Z,5.2nm,0.9s
NRIK Noril'sk 64.60 346 P **P 05 45 07.5 +0.3**
NRIK Noril'sk 64.60 346 P **P 05 45 07.9 +0.7**
comp=Z,9.7nm,0.7s,baz=132,slow=6.1,SNR=17
NRIK LR LR 06 17 27.6
comp=Z,153nm,18.8s,baz=154,slow=40
comp=Z,9.7nm,0.7s
NIKH Nikolski High 67.08 36 P **P 05 45 24.3 +0.8**
baz=255
RTZ Ruatahuna 67.20 139 P **P 05 45 25.6 +1.1**
BKZ Black Stump Fm 67.20 140 P **P 05 45 25.5 +1.0**
ABKAR Akbulak array 67.46 319 P **P 05 45 25.3 -0.6**
SPIA Saint Paul Isl 67.49 32 P **P 05 45 26.9 +0.9**
baz=252
P08K Saint George I 67.69 32 P **P 05 45 27.0 -0.2**
baz=253
UNV Unalaska Valle 68.66 36 P **P 05 45 32.6 -0.7**
baz=257
GAMB Gambell 69.04 25 P **P 05 45 35.0 -0.6**
baz=248
M11K Mekoryuk 70.42 29 P **P 05 45 43.2 -0.9**
baz=255
FALS False Pass 70.63 35 P **P 05 45 44.4 -1.1**
baz=259
TNA Tin City 71.18 24 P **P 05 45 47.0 -1.6**
baz=251
K13K Kusilvak Mount 71.55 28 P **P 05 45 51.4 +0.4**
baz=256
S12K Black Hills 71.55 34 P **P 05 45 50.8 -0.3**
baz=260
F14K Arctic Creek 71.79 24 P **P 05 45 52.0 -0.3**
baz=253
M13K Dall Lake 71.81 29 P **P 05 45 52.4 0.0**
baz=257
ANM Nome 71.92 25 P **P 05 45 52.6 -0.6**
baz=254
J14K Nanvaranak Lak 72.24 27 P **P 05 45 55.2 +0.1**
baz=256
L14K Kuka Creek 72.33 29 P **P 05 45 56.4 +0.8**
baz=258
SDPT Sand Point 72.38 35 P **P 05 45 56.2 +0.2**
baz=262
N14K Kuskokwak Cree 72.52 30 P **P 05 45 56.6 -0.2**
baz=259
F15K North Star Dit 72.52 24 P **P 05 45 57.5 +0.7**
baz=254
M14K Bethel 72.55 29 P **P 05 45 57.8 +0.9**
baz=258
G15K Niukluk 72.58 25 P **P 05 45 57.7 +0.6**
baz=255
O14K Tigyukauivet M 72.61 31 P **P 05 45 57.6 +0.3**
baz=260
CHNA Chernabura Isl 72.81 36 P **P 05 45 58.6 -0.1**
baz=262
L15K Ungalak Mounta 72.95 28 P **P 05 45 59.3 -0.1**
baz=259
C16K Lisburne Hills 72.98 21 P **P 05 45 59.8 +0.5**
baz=253
S14K Fog Glacier 73.03 34 P **P 05 45 59.9 -0.2**
baz=262
K15K Wolf Creek Mou 73.06 28 P **P 05 46 00.1 +0.2**
baz=258
M15K Kasigluk River 73.15 29 P **P 05 46 00.7 +0.2**
baz=260
H16K Elim 73.25 25 P **P 05 46 01.4 +0.4**
baz=257
O15K Ungalikthiuk R 73.32 31 P **P 05 46 02.5 +0.9**
baz=261
N15K Kwethluk River 73.35 30 P **P 05 46 02.9 +1.1**
baz=260
G16K Koyuk River 73.37 24 P **P 05 46 02.8 +1.1**
baz=257
D17K Noatak River 73.64 22 P **P 05 46 04.6 +1.3**
baz=255,SNR=6.7
CHGN Chignik 73.67 34 P **P 05 46 05.2 +1.6**
baz=263
J16K Anvik River 73.67 27 P **P 05 46 05.1 +1.6**
baz=259
I17K Unalakleet 73.75 26 P **P 05 46 05.8 +1.8**
baz=259
RDOG Red Dog Mine 73.80 22 P **P 05 46 05.5 +1.3**
baz=255
L16K Owhat River 73.90 28 IAmb IAmb 05 46 07.9
comp=Z,12nm,1.1s
L16K Owhat River 73.90 28 P **P 05 46 06.1 +1.2**
baz=260
E17K Hotham Inlet 73.97 23 P **P 05 46 05.7 +0.5**
baz=257,SNR=5.6
M16K Timber Creek 74.04 29 IAmb IAmb 05 46 08.7
comp=Z,13nm,1.1s
M16K Timber Creek 74.04 29 P **P 05 46 05.5 -0.2**
baz=261
F17K Baldwin Pennin 74.05 23 P **P 05 46 05.3 -0.4**
baz=257
N16K Nishlik Lake 74.05 30 P **P 05 46 05.6 -0.3**
baz=261
G17K Kiwalik Mounta 74.09 24 P **P 05 46 05.2 -0.8**
baz=258
P16K Nushagak River 74.24 31 P **P 05 46 06.6 -0.3**
baz=262
O16K Kokwok River B 74.26 31 IAmb IAmb 05 46 09.8
comp=Z,13nm,1.1s
O16K Kokwok River B 74.26 31 P **P 05 46 06.7 -0.3**
baz=262
R16K Pilot Point 74.27 33 P **P 05 46 06.2 -0.9**
baz=263
H17K Granite Mounta 74.28 25 P **P 05 46 07.0 -0.1**
baz=259
J17K VABM Dome 74.37 27 IAmb IAmb 05 46 15.2
comp=Z,15nm,1.3s
J17K VABM Dome 74.37 27 P **P 05 46 06.9 -0.7**
baz=260
E18K Tukpahlearik C 74.51 23 IAmb IAmb 05 46 21.9
comp=Z,12nm,1.4s
E18K Tukpahlearik C 74.51 23 P **P 05 46 07.6 -0.7**
baz=258
B18K Kokolik River 74.51 20 P **P 05 46 08.3 0.0**
baz=256
L17K Donlin 74.52 28 P **P 05 46 07.9 -0.6**
baz=261
C18K Utukok River 74.56 21 P **P 05 46 08.3 -0.5**
baz=257
K17K Iditarod 74.61 28 IAmb IAmb 05 46 13.1
comp=Z,11nm,1.1s
K17K Iditarod 74.61 28 P **P 05 46 08.2 -0.9**
baz=261
F18K Selawik 74.71 23 P **P 05 46 09.3 -0.2**
baz=259
O17K Koliganek Bris 74.78 31 P **P 05 46 09.3 -0.8**
baz=263
M17K Holitna River 74.82 29 IAmb IAmb 05 46 13.3
comp=Z,12nm,1.1s
M17K Holitna River 74.82 29 P **P 05 46 09.5 -0.8**
baz=262
N17K Nushagak Hills 74.83 30 P **P 05 46 09.8 -0.6**
baz=263
Q16K King Salmon 74.88 32 P **P 05 46 10.1 -0.6**
baz=264
H18K Honhosa River 74.97 25 P **P 05 46 10.4 -0.7**
baz=260
G18K Tagagawik 74.97 24 P **P 05 46 10.6 -0.5**
baz=260
P17K Kvichak River 75.05 31 P **P 05 46 10.9 -0.7**
baz=264
CHIR Chirikof Islan 75.17 35 P **P 05 46 11.4 -1.0**
baz=265
Q17K Contact Creek 75.24 32 P **P 05 46 12.6 -0.3**
baz=265
L18K Granite Mounta 75.28 28 IAmb IAmb 05 46 16.9
comp=Z,10nm,1.1s
L18K Granite Mounta 75.28 28 P **P 05 46 12.5 -0.4**
baz=263
J18K Innoko River 75.43 27 P **P 05 46 13.2 -0.5**
baz=262
F19K Shaleruckik Mo 75.48 23 P **P 05 46 14.1 +0.2**
baz=261
N18K Kilae Creek 75.48 30 P **P 05 46 13.8 -0.4**
baz=264
GCSA Galena City Sc 75.53 26 P **P 05 46 14.0 -0.2**
baz=262
BELG Belogornoye 75.59 322 P **P 05 46 14.3 -0.6**
comp=Z,19nm,0.9s,baz=309,slow=1.7,SNR=7.4
comp=Z,19nm,0.9s
M18K Stony River 75.60 29 P **P 05 46 14.7 -0.1**
baz=264
D19K Kuna River 75.64 22 IAmb IAmb 05 46 28.5
comp=Z,12nm,1.2s
D19K Kuna River 75.64 22 P **P 05 46 14.7 -0.2**
baz=260,SNR=9.1
G19K Purcell Mounta 75.65 24 P **P 05 46 14.6 -0.3**
baz=261
P18K Big Mountain, 75.69 31 P **P 05 46 15.0 -0.3**
baz=265
Q18K Katmai Hardscr 75.74 32 P **P 05 46 15.4 -0.3**
baz=265
O18K Koktuh Hills 75.74 31 P **P 05 46 15.7 +0.1**
baz=265
E19K Redstone River 75.79 23 IAmb IAmb 05 46 18.8
comp=Z,12nm,1.2s
E19K Redstone River 75.79 23 P **P 05 46 16.5 +0.7**
baz=261,SNR=8.2
H19K Roundabout Mou 75.82 25 IAmb IAmb 05 46 22.3
comp=Z,11nm,1.2s
H19K Roundabout Mou 75.82 25 P **P 05 46 15.8 -0.1**
baz=262,SNR=6.3
R18K Karluk 75.95 33 P **P 05 46 17.3 +0.5**
baz=266
J19K Poorman 75.98 26 P **P 05 46 16.8 -0.1**
baz=263
SII Sitkinak Islan 76.03 34 P **P 05 46 17.1 -0.2**
baz=266
L19K White Mountain 76.13 28 IAmb IAmb 05 46 21.6
comp=Z,9.4nm,1.1s
L19K White Mountain 76.13 28 P **P 05 46 17.8 0.0**
baz=264
N19K Bonanza Creek 76.19 30 P **P 05 46 18.8 +0.5**
baz=265
O19K Port Alsworth 76.21 30 P **P 05 46 19.6 +1.4**
baz=265
D20K Etivluk River 76.22 21 P **P 05 46 19.1 +0.9**
baz=261,SNR=9.9
B20K Meade River 76.23 20 P **P 05 46 18.9 +0.7**
baz=260
E20K Nigu River 76.30 22 P **P 05 46 19.4 +0.6**
baz=262,SNR=7.3
F20K Avaraart Lake 76.31 23 P **P 05 46 19.5 +0.8**
baz=262,SNR=6.5
M19K Big River Lodg 76.32 29 P **P 05 46 19.9 +1.0**
baz=265
H20K Anotleneega Mo 76.46 25 P **P 05 46 19.7 +0.1**
baz=264,SNR=6.8
Q19K Cape Douglas, 76.47 32 P **P 05 46 20.0 +0.2**
baz=266
I20K Naaghedeneel 76.56 26 P **P 05 46 20.2 +0.1**
baz=264
OHAK Old Harbor 76.56 33 P **P 05 46 20.3 +0.1**
baz=267
K20K Telida 76.60 27 P **P 05 46 20.7 +0.2**
baz=265
L20K Farewell, AK 76.61 28 P **P 05 46 20.5 0.0**
baz=265
A21K Barrow 76.63 19 P **P 05 46 20.9 +0.5**
baz=261
J20K Nowinta River 76.64 26 IAmb IAmb 05 46 23.8
comp=Z,12nm,1.4s
J20K Nowinta River 76.64 26 P **P 05 46 20.9 +0.3**
baz=265,SNR=6.2
P19K Oil Pt 76.72 31 P **P 05 46 21.4 +0.1**
baz=266
M20K Styx River 76.92 29 P **P 05 46 22.6 +0.2**
baz=266
C21K Knifeblade Rid 76.93 21 P **P 05 46 22.5 +0.3**
baz=263
KDAK Kodiak Island 76.96 33 P **P 05 46 22.6 +0.1**
baz=268
B21K Ikpikpuk River 77.05 21 IAmb IAmb 05 46 32.7
comp=Z,6.5nm,0.9s
B21K Ikpikpuk River 77.05 21 P **P 05 46 23.3 +0.5**
baz=263,SNR=9.7
Q20K Shuyak Island 77.10 32 P **P 05 46 23.9 +0.6**
baz=268
A22K Sinclair Lake 77.11 19 P **P 05 46 23.9 +0.8**
baz=262
G21K Allakaket 77.13 24 IAmb IAmb 05 46 28.5
comp=Z,6.7nm,1.1s
G21K Allakaket 77.13 24 P **P 05 46 23.1 -0.3**
baz=265,SNR=6.6
E21K Killik River 77.14 22 IAmb IAmb 05 46 28.3
comp=Z,6.4nm,1.1s
E21K Killik River 77.14 22 P **P 05 46 23.4 0.0**
baz=264
F21K Alatna River 77.20 23 P **P 05 46 24.6 +0.9**
baz=264
SPCR Spurr Chakacha 77.32 29 P **P 05 46 24.7 +0.1**
baz=267
H21K Melozitna Rive 77.34 25 P **P 05 46 24.5 -0.1**
baz=266
PPLA Purkeypile 77.42 28 P **P 05 46 25.0 -0.2**
baz=267
CHUM Lake Minchumin 77.42 27 P **P 05 46 25.3 +0.3**
baz=266
CAST Castle Rocks 77.50 27 P **P 05 46 25.9 +0.4**
baz=267,SNR=9.0
HOM Homer 77.53 31 P **P 05 46 26.0 +0.3**
baz=268
B22K Teshekpuk Lake 77.54 20 IAmb IAmb 05 46 27.7
comp=Z,5.8nm,0.8s
B22K Teshekpuk Lake 77.54 20 P **P 05 46 26.1 +0.6**
baz=264
I21K Tanana 77.65 25 IAmb IAmb 05 46 31.5
comp=Z,7.9nm,1.1s
I21K Tanana 77.65 25 P **P 05 46 26.6 +0.3**
baz=266
D22K Ayikyak River 77.66 21 IAmb IAmb 05 46 38.7
comp=Z,9.3nm,1.4s
D22K Ayikyak River 77.66 21 P **P 05 46 26.0 -0.2**
baz=265
SKT Skwentna 77.68 29 IAmb IAmb 05 46 28.1
comp=Z,11nm,1.4s
SKT Skwentna 77.68 29 P **P 05 46 26.5 0.0**
baz=268
F22K John River 77.73 23 P **P 05 46 27.4 +0.6**
baz=266
CAPN Captain Cook N 77.81 30 P **P 05 46 28.0 +0.8**
baz=268
E22K Anaktuvuk Pass 77.92 22 IAmb IAmb 05 46 40.7
comp=Z,7.3nm,1.2s
E22K Anaktuvuk Pass 77.92 22 P **P 05 46 27.6 -0.2**
baz=266

H22K	Ishtalitna Cre	77.94	25	P	P	05 46 27.5	-0.4
	baz=267,SNR=7.5						
G22K	Bettles	77.95	24	P	P	05 46 28.1	+0.2
	baz=266						
BRSE	Bradley Lake S	77.99	31	P	P	05 46 28.5	+0.3
	baz=269						
BPAW	Bear Paw Mtn.	78.02	26	IAmb	IAmb	05 46 31.7	
	comp=Z,11nm,1.2s						
BPAW	Bear Paw Mtn.	78.02	26	P	P	05 46 28.1	-0.2
	baz=268,SNR=8.6						
RAYN	Ar Rayn	78.02	292	P	P	05 46 28.6	-0.6
RAYN				IAmb	IAmb	05 46 29.4	
	comp=Z,4.0nm,0.7s						
SUA	Susitna One	78.03	29	IAmb	IAmb	05 46 32.3	
	comp=Z,6.0nm,0.9s						
SUA	Susitna One	78.03	29	P	P	05 46 28.9	+0.3
	baz=268						
SLKM	Skilak Lake	78.27	30	IAmb	IAmb	05 46 35.3	
	comp=Z,12nm,1.3s						
CUT	Chulitna	78.28	28	P	P	05 46 30.0	+0.2
	baz=268						
TRF	Thorofare Moun	78.30	27	IAmb	IAmb	05 46 34.6	
	comp=Z,8.2nm,1.2s						
TRF	Thorofare Moun	78.30	27	P	P	05 46 30.3	+0.1
	baz=268						
M22K	Willow	78.34	29	P	P	05 46 30.8	+0.7
M22K	Willow	78.34	29	P	P	05 46 29.7	-0.4
	baz=269						
D23K	Nanushuk River	78.38	21	P	P	05 46 29.6	-0.7
	baz=267,SNR=7.8						
C23K	Itkillik River	78.46	21	P	P	05 46 30.8	+0.2
C23K	Itkillik River	78.46	21	P	P	05 46 30.0	-0.6
	baz=267,SNR=9.4						
COLD	Coldfoot	78.48	23	P	P	05 46 29.5	-1.3
	baz=268						
O22K	Cooper Landing	78.51	30	P	P	05 46 30.3	-0.8
	baz=269						
RC01	Rabbit Creek A	78.51	30	P	P	05 46 29.9	-1.2
	baz=269						
G23K	Bananza Creek	78.53	24	P	P	05 46 31.0	-0.2
	baz=268						
SEW	Seward	78.64	31	P	P	05 46 31.7	-0.1
	baz=270						
H23K	Yukon River	78.69	25	P	P	05 46 32.1	0.0
	baz=268						
E23K	Chandalar	78.73	22	P	P	05 46 32.5	+0.2
	baz=268,SNR=8.8						
I23K	Minto, Yukon-K	78.75	25	IAmb	IAmb	05 46 45.0	
	comp=Z,13nm,1.4s						
I23K	Minto, Yukon-K	78.75	25	P	P	05 46 32.5	+0.2
	baz=269,SNR=8.0						
KBZ	Khabaz	78.77	313	P	P	05 46 33.0	+0.1
	comp=Z,2.3nm,0.9s,baz=44,slow=3.7,SNR=5.1						
	comp=Z,2.3nm,0.9s						
TOLK	Toolik Lake Re	78.77	22	P	P	05 46 32.3	-0.2
	baz=268,SNR=5.1						
PMR	Palmer	78.81	29	P	P	05 46 32.8	+0.1
	baz=270						
NEA2	Nenana	78.87	26	P	P	05 46 33.4	+0.4
	baz=269						
MCK	McKinley	78.92	27	IAmb	IAmb	05 46 36.8	
	comp=Z,9.9nm,1.1s						
MCK	McKinley	78.92	27	P	P	05 46 33.0	-0.4
	baz=269,SNR=11						
RND	Reindeer	78.95	27	IAmb	IAmb	05 46 35.9	
	comp=Z,9.8nm,1.2s						
D24K	Happy Valley	79.06	21	IAmb	IAmb	05 46 39.1	
	comp=Z,12nm,1.2s						
D24K	Happy Valley	79.06	21	P	P	05 46 34.2	+0.2
	baz=268						
C24K	Franklin Bluff	79.12	21	IAmb	IAmb	05 46 46.3	
	comp=Z,14nm,1.4s						
C24K	Franklin Bluff	79.12	21	P	P	05 46 34.6	+0.4
	baz=268						
KNK	Knik Glacier	79.13	29	IAmb	IAmb	05 46 38.0	
	comp=Z,6.9nm,0.8s						
KNK	Knik Glacier	79.13	29	P	P	05 46 34.7	+0.1
	baz=270						
E24K	Your Creek	79.16	22	IAmb	IAmb	05 46 48.2	
	comp=Z,7.7nm,1.2s						
E24K	Your Creek	79.16	22	P	P	05 46 34.1	-0.6
	baz=269,SNR=5.2						
SML	Sawmill	79.19	29	IAmb	IAmb	05 46 38.2	
	comp=Z,8.0nm,0.9s						
SML	Sawmill	79.19	29	P	P	05 46 34.8	-0.1
	baz=270,SNR=6.3						
PWL	Port Wells	79.19	30	IAmb	IAmb	05 46 36.9	
	comp=Z,11nm,1.0s						
PWL	Port Wells	79.19	30	P	P	05 46 34.8	-0.1
	baz=270						
H24K	Noodor Dome	79.38	25	P	P	05 46 35.9	+0.1
	baz=270						
F24K	Squaw Lake	79.38	23	P	P	05 46 35.7	-0.1
	baz=270						
COLA	College	79.39	26	P	P	05 46 35.8	-0.1
	baz=270						
M23K	Glacier View	79.48	29	P	P	05 46 36.2	-0.2
	baz=271						
G24K	Hadweenzic Riv	79.54	24	P	P	05 46 36.7	0.0
	baz=270						
POKR	Poker Plat Res	79.57	25	P	P	05 46 36.3	-0.6
	baz=270						
SCM	Sheep Creek Mo	79.67	29	P	P	05 46 37.0	-0.5
	baz=271						
P23K	Montague Islan	79.67	31	P	P	05 46 36.4	-1.1
	baz=272						
GURO	Guroymak-BITLI	79.74	308	IAmb	IAmb	05 46 40.2	
	comp=Z,6.9nm,0.7s						
HDA	Harding Lake	79.78	26	P	P	05 46 37.6	-0.5
	baz=271						
GLI	Glacier Island	79.80	30	P	P	05 46 37.9	-0.3
	baz=272						
ILAR	Eielson Array	79.81	26	P	P	05 46 38.8	+0.7
	comp=Z,0.8nm,0.7s,baz=237,slow=5.3,SNR=16						
	comp=Z,0.8nm,0.7s						
D25K	Kavik River	79.93	21	IAmb	IAmb	05 46 43.7	
	comp=Z,10nm,1.4s						
D25K	Kavik River	79.93	21	P	P	05 46 38.4	-0.4
	baz=271,SNR=7.2						
G25K	Bearman Lake	80.08	24	P	P	05 46 39.1	-0.5
	baz=271						
M24K	Tolsona, Glenn	80.20	28	P	P	05 46 39.7	-0.7
	baz=272						
F25K	Christian Rive	80.24	23	P	P	05 46 40.5	0.0
	baz=272						
E25K	Arctic Village	80.25	22	P	P	05 46 40.4	-0.1
	baz=272,SNR=7.1						
K24K	Donnelly Dome	80.32	27	P	P	05 46 41.1	+0.2
	baz=272						
KLU	Klutina	80.35	29	P	P	05 46 41.0	-0.2
	baz=272						
PRP	Porcupine Dome	80.36	25	P	P	05 46 41.1	-0.2
	baz=272						
C26K	Camden Bay	80.43	20	P	P	05 46 41.7	+0.4
	baz=272,SNR=7.2						
J25K	Salcha River,	80.46	26	P	P	05 46 42.3	+0.6
	baz=272						
EYAK	Cordova Ski Ar	80.47	30	P	P	05 46 41.4	-0.4
	baz=273						
PAX	Paxson	80.49	28	P	P	05 46 41.4	-0.6
	baz=273						
BMAR	Burnt Mountain	80.66	23		P	05 46 43.1	+0.3
HARP	HAARP	80.66	28	P	P	05 46 42.9	0.0
	baz=273						
RIDG	Independent Ri	80.73	27	IAmb	IAmb	05 46 55.1	
	comp=Z,7.3nm,0.9s						
RIDG	Independent Ri	80.73	27	P	P	05 46 43.5	+0.2
	baz=273,SNR=6.1						
F26K	Sheenjek River	80.81	23	P	P	05 46 42.7	-0.8
	baz=273,SNR=5.4						
C27K	Jago River	80.86	21	IAmb	IAmb	05 46 46.9	
	comp=Z,11nm,1.4s						
C27K	Jago River	80.86	21	P	P	05 46 44.1	+0.4
	baz=273						
N25K	Chitina, Valde	80.97	29	P	P	05 46 44.3	-0.3
	baz=274						
G26K	Porcupine Rive	80.99	23	P	P	05 46 44.8	+0.4
	baz=274						
BMRM	Bremner River	81.01	30	P	P	05 46 44.4	-0.4
	baz=274						
SCRK	Sand Creek	81.10	27	P	P	05 46 44.5	-0.8
	baz=274						
KAIM	Kayak Island	81.17	31	P	P	05 46 44.8	-0.8
	baz=274						
J26L	Joseph Creek	81.25	26	P	P	05 46 46.1	+0.1
	baz=274						
I26K	Coal Creek Min	81.36	25	P	P	05 46 46.7	+0.2
	baz=274						
GLB	Gilahina Butte	81.36	29	IAmb	IAmb	05 46 50.5	
	comp=Z,7.1nm,1.1s						
L26K	Log Cabin Wild	81.45	27	P	P	05 46 47.1	0.0
	baz=274						
M26K	Nabesna, AK	81.67	28	IAmb	IAmb	05 47 02.2	
	comp=Z,11nm,1.4s						
M26K	Nabesna, AK	81.67	28	P	P	05 46 48.4	+0.2
	baz=275,SNR=7.8						
E27K	Coleen River	81.73	22	P	P	05 46 48.4	0.0
	baz=275,SNR=7.1						
G27K	Doyon Strip	81.84	24	P	P	05 46 48.3	-0.7
	baz=276						
D27M	Malcolm River	81.86	21	IAmb	IAmb	05 46 52.2	
	comp=Z,12nm,1.4s						
D27M	Malcolm River	81.86	21	P	P	05 46 49.6	+0.5
	baz=276,SNR=7.3						
K27K	Chicken	81.93	26	IAmb	IAmb	05 46 53.8	
	comp=Z,9.6nm,1.1s						
K27K	Chicken	81.93	26	P	P	05 46 49.8	+0.3
	baz=276						
H27K	Steamboat Moun	81.95	24	P	P	05 46 50.1	+0.5
	baz=276						
I27K	Kandik River	81.97	25	P	P	05 46 49.8	0.0
	baz=276,SNR=19						
L27K	Beaver Creek,	82.14	27	IAmb	IAmb	05 46 55.5	
	comp=Z,7.6nm,1.2s						
L27K	Beaver Creek,	82.14	27	P	P	05 46 50.3	-0.3
	baz=276,SNR=8.4						
BCAR	Beaver Creek A	82.16	27	P	P	05 46 50.6	-0.2
M27K	Edge Creek, AK	82.19	28	P	P	05 46 51.0	0.0
	baz=276						
MESA	MESA	82.39	30	P	P	05 46 51.8	-0.4
	baz=276						
E28M	Babbage River	82.44	22	IAmb	IAmb	05 47 09.4	
	comp=Z,6.1nm,1.1s						
E28M	Babbage River	82.44	22	P	P	05 46 52.2	+0.1
	baz=277,SNR=6.7						
D28M	Stokes Point	82.64	21	P	P	05 46 52.0	-1.0
	baz=278						
BVCY	Beaver Creek	82.66	28	P	P	05 46 52.8	-0.6
	baz=277						
I28M	Miner Creek	82.69	25	IAmb	IAmb	05 46 56.8	
	comp=Z,5.1nm,0.8s						
I28M	Miner Creek	82.69	25	P	P	05 46 52.6	-1.0
	baz=277,SNR=9.1						
YUK3	Moose Creek	82.92	29	P	P	05 46 54.1	-0.8
	baz=277						
E29M	Blow River	83.07	22	P	P	05 46 54.7	-0.7
	baz=279						
DAWY	Dawson	83.10	26	IAmb	IAmb	05 47 08.6	
	comp=Z,6.8nm,1.1s						
DAWY	Dawson	83.10	26	P	P	05 46 55.2	-0.5
	baz=278,SNR=5.8						
O28M	Mount Upton	83.18	30	IAmb	IAmb	05 47 02.4	
	comp=Z,3.6nm,0.8s						
O28M	Mount Upton	83.18	30	P	P	05 46 55.7	-0.7
	baz=278						
H29M	Whitestone	83.22	24	P	P	05 46 55.6	-0.6
	baz=279						
PINM	Pinnacle	83.24	30	P	P	05 46 56.0	-0.5
	baz=278						
G29M	Pine Creek	83.25	23	IAmb	IAmb	05 46 58.6	
	comp=Z,5.8nm,0.9s						
G29M	Pine Creek	83.25	23	P	P	05 46 56.6	+0.3
	baz=279						
YUK8	Steele Glacier	83.32	29	P	P	05 46 56.3	-0.8
	baz=278						
I29M	Ogilvie Camp,	83.38	25	P	P	05 46 56.7	-0.3
	baz=279,SNR=11						
J29N	Klondike Camp	83.55	26	IAmb	IAmb	05 47 02.1	
	comp=Z,7.9nm,1.1s						
J29N	Klondike Camp	83.55	26	P	P	05 46 57.4	-0.6
	baz=279						
PNL	Peninsula	83.73	31	P	P	05 46 58.9	0.0
	baz=278						
M29M	Somme Creek	83.76	28	IAmb	IAmb	05 47 03.5	
	comp=Z,5.1nm,0.9s						
M29M	Somme Creek	83.76	28	P	P	05 46 58.9	-0.3
	baz=279,SNR=8.6						
L29M	L29M	83.80	27	P	P	05 46 59.7	+0.4
	baz=279,SNR=10						
YUK4	Talbot Arm	83.84	29	P	P	05 46 59.7	0.0
	baz=279						
EPYK	Eagle Plains	83.85	24	P	P	05 46 59.8	+0.4
	baz=280,SNR=6.7						
G30M	tAoh Zraii Nji	83.94	23	IAmb	IAmb	05 47 04.7	
	comp=Z,7.0nm,1.1s						
G30M	tAoh Zraii Nji	83.94	23	P	P	05 46 59.9	0.0
	baz=280						
K29M	Barlow Dome	83.95	26	IAmb	IAmb	05 47 03.5	
	comp=Z,10nm,1.3s						
K29M	Barlow Dome	83.95	26	P	P	05 47 00.7	+0.6
	baz=280,SNR=9.3						
F30M	Barrier River	83.99	22	P	P	05 46 59.9	-0.1
	baz=281						
O29M	Mount Kennedy	84.04	30	P	P	05 47 00.4	-0.2
	baz=279,SNR=6.9						
YUK6	Outpost Mounta	84.04	29	P	P	05 47 00.3	-0.4
	baz=279						
I30M	Mount Dempster	84.20	25	P	P	05 47 02.3	+0.9
	baz=280,SNR=14						
J30M	Hart River	84.34	25	IAmb	IAmb	05 47 05.3	
	comp=Z,9.7nm,1.4s						
J30M	Hart River	84.34	25	P	P	05 47 03.0	+0.9
	baz=281,SNR=6.6						
HYT	Haines Junctio	84.47	29	IAmb	IAmb	05 47 06.2	
	comp=Z,6.3nm,0.9s						
HYT	Haines Junctio	84.47	29	P	P	05 47 04.0	+1.2
	baz=280,SNR=6.7						
M30M	Minto, Yukon	84.50	28	P	P	05 47 03.9	+1.1
	baz=280,SNR=7.6						
N30M	Aishikik Lake	84.56	29	P	P	05 47 03.7	+0.6
	baz=280,SNR=7.9						
P29M	Windy Craggy	84.56	31	P	P	05 47 03.4	+0.2
	baz=280						
SPITS	Spitsbergen Ar	84.59	349	P	P	05 47 03.8	+0.8
	comp=Z,12nm,0.8s,baz=96,slow=7.7,SNR=21						
	comp=Z,12nm,0.8s						
INK	Inuvik	84.68	22	P	P	05 47 03.0	-0.5
	baz=283						
G31M	Satah River	84.70	23	P	P	05 47 04.0	+0.4
	baz=282						
ARCES	ARCESS Array B	84.79	340	P	P	05 47 04.5	+0.4
	comp=Z,7.0nm,0.6s,baz=78,slow=6.3,SNR=39						
	comp=Z,7.0nm,0.6s						
F31M	Tsiigehtchic	84.79	22	P	P	05 47 03.5	-0.6
F31M	Tsiigehtchic	84.79	22	P	P	05 47 04.3	+0.3
	baz=283						
P30M	Million Dollar	84.86	30	P	P	05 47 04.6	-0.1
	baz=280						
H31M	Peel River	84.91	24	P	P	05 47 05.2	+0.4
	baz=282,SNR=9.0						
O30N	Mendenhall	85.17	29	P	P	05 47 06.2	0.0
	baz=281						
N31M	Braeburn, Yuko	85.17	29	P	P	05 47 06.6	+0.4
	baz=281,SNR=10.0						
S31K	Pelican	85.64	32	P	P	05 47 08.2	-0.3
	baz=281						
M31M	Drury Creek, Y	85.67	28	IAmb	IAmb	05 47 11.4	
	comp=Z,5.0nm,1.2s						
M31M	Drury Creek, Y	85.67	28	P	P	05 47 08.7	+0.1
	baz=282						
WHY	Whitehorse	85.77	29	P	P	05 47 09.5	+0.2
	baz=282,SNR=7.7						
BRTR	Keskin Array B	86.08	309	P	P	05 47 10.6	-0.7
	comp=Z,1.4nm,1.0s,baz=112,slow=4.7,SNR=5.6						
	comp=Z,1.4nm,1.0s						
FARO	Faro, Yukon	86.14	28	P	P	05 47 11.8	+0.8
	baz=283,SNR=11						
SIT	Sitka	86.30	33	P	P	05 47 12.0	+0.2
	baz=282						
A36M	Sachs Harbour	86.34	17	P	P	05 47 11.3	-0.4
A36M	Sachs Harbour	86.34	17	P	P	05 47 12.1	+0.4
	baz=290						
R32K	Eaglecrest	86.47	32	P	P	05 47 12.9	+0.2
	baz=283						
FINES	FINESS Array B	86.49	332	P	P	05 47 12.2	-0.4
FINES	FINESS Array B	86.49	332	P	P	05 47 12.5	-0.1
	comp=Z,10nm,0.9s,baz=46,slow=8.2,SNR=18						
	comp=Z,10nm,0.9s						
N32M	Quiet Lake	86.52	29	P	P	05 47 13.1	+0.2
	baz=284						
P32M	Atlin	86.58	30	P	P	05 47 13.6	+0.4
	baz=283						
S32K	Killisnoo	86.61	32	P	P	05 47 13.4	+0.1
	baz=283						
P33M	Teslin, Yukon	86.87	29	P	P	05 47 14.5	-0.2
	baz=284						
MMPY	Sheldon Lake,	86.98	27	P	P	05 47 15.3	+0.1
	baz=285						
CSS	Mathiatis	87.11	305	P	P	05 47 16.3	0.0
CSS				IAmb	IAmb	05 47 23.9	
	comp=Z,4.4nm,0.7s						
PPT2	Papeete2	87.15	108	eLR	LR	06 14 53.7	
	comp=Z,81nm,22.0s						
AKASG	Malin Array Be	87.15	321	P	P	05 47 15.1	-1.0
	comp=Z,0.5nm,0.4s,baz=70,slow=3.8,SNR=4.4						
	comp=Z,0.5nm,0.4s						
AKBB	Malin Array Si	87.15	321	P	P	05 47 15.8	-0.3
AKBB				IAmb	IAmb	05 47 18.4	
	comp=Z,5.9nm,1.1s						
KIEV	Kiev	87.16	321	P	P	05 47 15.5	-0.6
KIEV				IAmb	IAmb	05 47 18.4	
	comp=Z,5.3nm,1.1s						
Q32M	Nakina River	87.45	31	P	P	05 47 17.2	-0.5
	baz=284						
C36M	Paulatuk	87.66	20	P	P	05 47 17.9	-0.2
	baz=291						
U33K	Whale Pass	87.70	33	P	P	05 47 18.3	-0.3
	baz=284						
WRAK	Wrangell Islan	88.05	33	P	P	05 47 20.5	+0.2
	baz=285						
S34M	Telegraph Cree	88.30	31	P	P	05 47 21.3	-0.1
	baz=286						
TBI	Tubuai	88.36	114	eLR	LR	06 15 26.6	
	comp=Z,628nm,24.5s						
TGTN	Hyland Airport	88.64	28	P	P	05 47 22.5	-0.6
	baz=288						
DLBC	Dease Lake	88.72	31	P	P	05 47 23.3	-0.2
	baz=286						
V35K	Ketchikan	88.73	34	P	P	05 47 22.1	-1.4
	baz=285						
T35M	Bob Quinn	89.01	32	P	P	05 47 24.2	-0.7
	baz=286						
VNDA	Vanda	89.36	173	P	P	05 47 26.6	+0.7
VNDA	Vanda	89.36	173	P	P	05 47 26.2	+0.3
	comp=Z,1.6nm,0.9s,baz=313,slow=5.0,SNR=9.3						
	comp=Z,1.6nm,0.9s						
KMBO	Kilima Mbogo	89.49	269	P	P	05 47 27.6	-0.7
AKAS	Kas	89.85	307	P	P	05 47 28.8	-0.6
WRGLY	Wrigley	90.17	25	P	P	05 47 29.5	-0.6
	baz=292						
BURAR	Bucovina Array	90.42	318	P	P	05 47 31.4	-0.4
BUR08	Bucovina Ar. S	90.42	318	IAmb	IAmb	05 47 43.9	
	comp=Z,3.5nm,1.1s						
MLR	Muntele Rosu	90.47	316	P	P	05 47 32.0	0.0
	comp=Z,1.1nm,0.7s,baz=76,slow=4.2,SNR=4.2						
	comp=Z,1.1nm,0.7s						
KOLS	Kolonicke sedl	91.95	320	eP	P	05 47 38.6	-0.1
HFS	Hagfors	92.65	333	P	P	05 47 41.3	-0.4
	comp=Z,4.1nm,0.7s,baz=91,slow=7.4,SNR=20						
	comp=Z,4.1nm,0.7s						
NB2	NORSAR Subarra	93.36	334	P	P	05 47 44.1	-0.9
	comp=Z,1.7nm,0.6s,baz=63,slow=4.6						
NB2	NORSAR Subarra	93.36	334	P	P	05 47 44.1	-0.9
	baz=63,slow=4.6						
NOA	NORSAR Array B	93.36	334	P	P	05 47 44.2	-0.8
	comp=Z,1.9nm,0.7s,baz=64,slow=4.6,SNR=12						
	comp=Z,1.9nm,0.7s						
IDI	Anoyia	93.80	307	P	P	05 47 46.6	-1.0
	comp=Z,4.8nm,0.9s,baz=182,slow=6.4,SNR=3.4						
	comp=Z,4.8nm,0.9s						
YKAW3	Yellowknife Wh	94.10	24	IAmb	IAmb	05 47 50.3	
	comp=Z,3.1nm,0.9s						
YKA	Yellowknife Ar	94.14	24	P	P	05 47 49.7	+1.3
	comp=Z,2.3nm,0.9s,baz=301,slow=4.4,SNR=28						
	comp=Z,2.3nm,0.9s						
YKAW1	Yellowknife Wh	94.19	24	IAmb	IAmb	05 47 50.9	
	comp=Z,5.4nm,1.1s						
TAOE	Nuku Hiva Isla	94.70	98	eLR	LR	06 18 15.9	
	comp=Z,124nm,23.5s						
MODS	Modra-Piesok	95.26	321	eP	P	05 47 54.3	+0.3
GERES	GERESS Array B	97.28	322	P	Pdif	05 48 03.2	-0.1
	comp=Z,0.6nm,0.8s,baz=28,slow=6.0,SNR=3.5						
	comp=Z,0.6nm,0.8s						
RKT	Rikitea	101.50	112	eLR	LR	06 21 35.6	
	comp=Z,912nm,38.8s						
TXAR	Lajitas Array	117.97	49	PKP	PKiKP	05 53 18.9	+1.5
	comp=Z,0.4nm,0.8s,baz=359,slow=0.8,SNR=5.4						
PLCA	Paso Flores	145.61	157	PKPbc	PKiKP	05 54 10.4	-2.3
	comp=Z,5.7nm,0.8s,baz=265,slow=4.0,SNR=16						
LPAZ	La Paz	164.29	116	PKP	PKPdf	05 54 35.9	+0.7
	comp=Z,2.4nm,1.0s,baz=347,slow=1.7,SNR=5.0						

NEIC ***28*** *05:35:11.5±1.4, 9.8N±0.1×126.2E±0.2, h10km±1km, mb4.7/29, Error ellipse: s-maj=30.8km s-min=17.0km az=265.0*

IDC ***28*** *05:35:21.8±3.0, 9.83N×126.41E, h107km±27km, mb4.2/25, mbtmp4.6/28, MS3.9/2, Error ellipse: s-maj=22.6km s-min=11.5km az=78.0*

ISC 28 05:35:15.8±0.4, 9.77N±0.06×126.2E±0.1, h50km, n69, σ0:95/65, mb4.7/39, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.76	194	LR	LR	05 37 09.5	
	comp=Z,2μm,21.4s,baz=22,slow=38						
TGY	Tagaytay City	6.75	310	P	Pn	05 37 01.1	+8.7
	129nm,0.3s,baz=100,slow=23,SNR=3.1						
KAPI	Kappang	16.04	204	P	P	05 39 02.1	+1.2
	14nm,0.8s,baz=29,slow=15,SNR=3.7						
JOW	Kunigami	17.08	6	P	P	05 39 12.6	+0.3
	16nm,0.7s,baz=139,slow=2.2,SNR=3.6						
JNU	Nakatsue	23.63	10	P	P	05 40 22.7	+0.1
JMN	Monobe	24.86	15	P	P	05 40 36.2	+2.4
JMN				IAmb	IAmb	05 40 37.2	
	comp=Z,30nm,1.1s						
KNRA	Kununurra	25.40	174	P	P	05 40 40.4	+1.7
KNRA				IAmb	IAmb	05 40 54.3	
	comp=Z,23nm,0.8s						
KSRS	Korea Array	27.61	3	P	P	05 40 58.0	-0.5
	comp=Z,5.3nm,0.9s,baz=178,slow=10,SNR=8.2						
	comp=Z,5.3nm,0.9s						
JGF	Kuroka	27.64	20	P	P	05 41 00.4	+1.6
FITZ	Fitzroy Crossi	27.69	181	P	P	05 41 00.1	+0.7
FITZ	Fitzroy Crossi	27.69	181	P	P	05 41 01.8	+2.4
	comp=Z,38nm,0.9s,baz=15,slow=8.3,SNR=8.1						
	comp=Z,38nm,0.9s						
CMAR	Chiang Mai Arr	27.82	291	P	P	05 41 01.8	+1.1
	comp=Z,1.7nm,0.5s,baz=109,slow=9.4,SNR=4.2						
	comp=Z,1.7nm,0.5s						
WRA	Warramunga Arr	30.58	165	P	P	05 41 26.0	+0.9
	comp=Z,1.5nm,0.6s,baz=346,slow=9.1,SNR=4.9						
	comp=Z,1.5nm,0.6s						
WR8	Warramunga Arr	30.63	165	P	P	05 41 26.9	+1.3
WR8				IAmb	IAmb	05 41 34.7	
	comp=Z,9.7nm,0.9s						
MBWA	Marble Bar	31.39	192	P	P	05 41 31.4	-0.8
MBWA				IAmb	IAmb	05 41 42.7	
	comp=Z,9.5nm,0.9s						
PSA00	Pilbara Seismi	31.77	191	P	P	05 41 35.1	-0.4
PSA00				IAmb	IAmb	05 41 37.5	
	comp=Z,12nm,0.7s						
PSA00	Pilbara Seismi	31.77	191	P	P	05 41 34.6	-0.9
ASAR	Alice Springs	34.06	167	P	P	05 41 54.3	-1.3
	comp=Z,2.2nm,0.8s,baz=346,slow=9.1,SNR=5.1						
	comp=Z,2.2nm,0.8s						
USRK	Ussuriysk Ar.	34.67	7	P	P	05 41 59.9	-0.6
	comp=Z,3.3nm,0.7s,baz=190,slow=7.2,SNR=5.6						
	comp=Z,3.3nm,0.7s

comp=Z,8.7nm,0.8s
PETK Petropavlovsk- 50.10 24 P **P 05 44 06.4 +0.6**
PETK Petropavlovsk- 50.10 24 P **P 05 44 05.2 -0.6**
comp=Z,4.7nm,0.6s,baz=202,slow=2.8,SNR=9.5
comp=Z,4.7nm,0.6s
TOO Toolangi 50.42 160 P **P 05 44 08.9 +0.4**
YAK Yakutsk 52.23 2 LR LR 06 08 00.9
comp=Z,124nm,18.8s,baz=179,slow=38
MKAR Makanchi Array 52.41 323 P **P 05 44 23.9 +0.6**
MKAR Makanchi Array 52.41 323 P **P 05 44 23.4 +0.1**
comp=Z,4.9nm,0.7s,baz=122,slow=8.2,SNR=8.8
comp=Z,4.9nm,0.7s
BOOM Boomskoye usch 54.61 316 P **P 05 44 39.7 0.0**
ZAA0 Zalesovo Array 55.05 332 P **P 05 44 42.3 -0.1**
ZALV Zalesovo Beam 55.05 332 P **P 05 44 42.4 +0.1**
ZALV Zalesovo Beam 55.05 332 P **P 05 44 42.6 +0.2**
comp=Z,2.7nm,0.6s,baz=102,slow=6.8,SNR=6.7
comp=Z,2.7nm,0.6s
KURK Kurchatov 56.47 326 P **P 05 44 53.0 +0.4**
KURK IAmb IAmb 05 44 55.8
comp=Z,7.5nm,0.8s
KURBB Kurchatov Arra 56.47 326 P **P 05 44 53.4 +0.8**
comp=Z,4.4nm,0.7s,baz=125,slow=6.9,SNR=7.6
comp=Z,4.4nm,0.7s
BVAR Borovoye Array 62.06 326 P **P 05 45 31.5 +0.3**
comp=Z,2.9nm,0.6s,baz=116,slow=6.8,SNR=5.7
comp=Z,2.9nm,0.6s
NRIK Noril'sk 64.49 346 P **P 05 45 47.5 +0.5**
NRIK Noril'sk 64.49 346 P **P 05 45 45.1 -1.9**
comp=Z,9.5nm,0.7s,baz=136,slow=6.5,SNR=6.6
comp=Z,9.5nm,0.7s
NIKH Nikolski High 67.23 36 P **P 05 46 04.7 -0.1**
AB31 Akbulak array 67.24 319 P **P 05 46 05.1 +0.1**
AB31 IAmb IAmb 05 46 07.7
comp=Z,3.2nm,0.8s
ABKAR Akbulak array 67.24 319 P **P 05 46 05.0 0.0**
L16K Owhat River 74.02 28 P **P 05 46 46.2 +0.2**
J17K VABM Dome 74.47 27 P **P 05 46 49.3 +0.6**
J17K IAmb IAmb 05 46 53.6
comp=Z,7.8nm,0.9s
BELG Belogornoye 75.38 322 P **P 05 46 53.9 -0.2**
comp=Z,24nm,0.9s,baz=30,slow=3.9,SNR=5.9
comp=Z,24nm,0.9s
L19K White Mountain 76.24 28 **P 05 46 59.4 +0.5**
L19K IAmb IAmb 05 47 04.1
comp=Z,9.3nm,1.1s
B20K Meade River 76.30 20 P **P 05 47 00.0 +1.0**
B20K IAmb IAmb 05 47 00.7
comp=Z,7.5nm,0.8s
ILAR Eielson Array 79.90 26 P **P 05 47 17.8 -1.4**
comp=Z,1.2nm,0.7s,baz=240,slow=4.7,SNR=11
comp=Z,1.2nm,0.7s
SPITS Spitsbergen Ar 84.50 349 P **P 05 47 42.4 -0.6**
comp=Z,9.7nm,0.8s,baz=99,slow=11,SNR=5.0
comp=Z,9.7nm,0.8s
ARCES ARCESS Array B 84.65 340 P **P 05 47 43.6 -0.2**
comp=Z,10nm,0.7s,baz=78,slow=6.3,SNR=10.0
comp=Z,10nm,0.7s
BRTR Keskin Array B 85.83 309 P **P 05 47 50.5 -0.1**
comp=Z,1.3nm,0.8s,baz=101,slow=5.7,SNR=5.8
comp=Z,1.3nm,0.8s
FINES FINESS Array B 86.32 332 P **P 05 47 51.8 -0.5**
comp=Z,10nm,0.8s,baz=123,slow=7.0,SNR=8.1
comp=Z,10nm,0.8s
AKASG Malin Array Be 86.94 321 P **P 05 47 54.7 -0.8**
comp=Z,1.3nm,0.6s,baz=66,slow=4.8,SNR=2.5
comp=Z,1.3nm,0.6s
VNDA Vanda 89.44 173 P **P 05 48 05.8 -1.0**
comp=Z,1.4nm,0.8s,baz=302,slow=4.4,SNR=4.2
comp=Z,1.4nm,0.8s
HFS Hagfors 92.48 332 P **P 05 48 20.4 -0.9**
comp=Z,3.0nm,0.5s,baz=81,slow=3.8,SNR=7.3
comp=Z,3.0nm,0.5s
NB2 NORSAR Subarra 93.19 334 P **P 05 48 23.2 -1.5**
comp=Z,2.8nm,0.8s,baz=66,slow=4.6
NOA NORSAR Array B 93.19 334 P **P 05 48 22.8 -1.9**
comp=Z,2.2nm,0.8s,baz=64,slow=4.6,SNR=6.2
comp=Z,2.2nm,0.8s
YKA Yellowknife Ar 94.22 24 P **P 05 48 28.1 -1.2**
comp=Z,2.1nm,0.7s,baz=302,slow=4.6,SNR=13
comp=Z,2.1nm,0.7s
GERES GERESS Array B 97.07 322 P Pdif 05 48 42.1 -0.7
comp=Z,0.8nm,0.7s,baz=52,slow=5.2,SNR=4.1
comp=Z,0.8nm,0.7s
TXAR Lajitas Array 118.17 49 PKP **PKiKP 05 53 58.1 -0.1**
comp=Z,0.2nm,0.5s,baz=29,slow=2.9,SNR=3.7
PLCA Paso Flores 145.76 157 PKPbc **PKPab 05 54 49.2 -1.0**
comp=Z,5.5nm,0.8s,baz=210,slow=4.4,SNR=6.1

*IPEC **28** 05:40:54.9±0.2, 51°.60N×16°.11E, h1km, ML2.9/5, Error ellipse: s-maj=3.1km s-min=1.4km az=72.0*
*DNK **28** 05:40:55.5±2.4, 51°.72N×15°.96E, h0km±126km, ML2.0*
*IDC **28** 05:40:56.2±0.9, 51°.54N×15°.91E, h0km, mbtmp3.4/8, ML2.9/8, Error ellipse: s-maj=14.0km s-min=9.0km az=105.0*
*VIE **28** 05:40:56.3±0.6, 51°.49N×15°.94E, h0km, mb2.8/15, ml2.8/15, Error ellipse: s-maj=5.2km s-min=2.5km az=44.0 87 km WNW of Wroclaw Suspected Mining induced.*
*BGR **28** 05:40:56.2±0.4, 51°.54N×16°.09E, h1km, ML3.0/16, Error ellipse: s-maj=5.6km s-min=3.3km az=20.0*
*PRU **28** 05:40:57.9, 51°.49N×16°.07E, h0km*
*UPP **28** 05:40:57.3±3.1, 51°.70N×15°.64E, h0km, ML1.6*
ISC 28 05:40:53.2±0.7,**51°.67N**±0°.03×**16°.15E**±0°.02,**h0**km,**n86,**
σ**1**§**33**/146,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.83**	**174**	*e*Pg	**Pb**	**05 41 09.8**	**-0.7**
KSP				*e*Sg	**Sg**	**05 41 19.8**	**0.0**
KSP	**Ksiaz**	**0.83**	**174**	*e*Pg	**Pb**	**05 41 09.8**	**-0.7**
KSP				*e*Sg	**Sg**	**05 41 19.7**	**-0.1**
CHVC	**Chvalec**	**1.08**	**183**	*e*PG	**Pb**	**05 41 14.3**	**-0.5**
CHVC				*e*SG	**Sg**	**05 41 27.9**	**0.0**
OSTC	**Ostas**	**1.11**	**178**	*e*PG	**Pb**	**05 41 15.3**	**0.0**
OSTC				*e*SG	**Sg**	**05 41 28.4**	**-0.5**
UPC	**Upice**	**1.16**	**184**	*e*PG	**Pb**	**05 41 16.0**	**-0.2**
UPC				*e*SG	**Sg**	**05 41 29.7**	**-0.8**
DPC	**Dobruska-Polom**	**1.32**	**175**	*e*PG	**Pb**	**05 41 18.5**	**-0.4**
DPC				*e*SG	**Sg**	**05 41 34.2**	**-1.4**
comp=Z,99nm,0.8s							
DPC	**Dobruska-Polom**	**1.32**	**175**	*e*Pg	**Pb**	**05 41 18.6**	**-0.4**
DPC				*e*Sg	**Sg**	**05 41 34.5**	**-1.1**
PIVO	**Bartosovice**	**1.50**	**170**	*e*Pg	**Pg**	**05 41 21.7**	**-0.3**
baz=349							
PIVO				*e*Sg	**Sg**	**05 41 40.0**	**-1.4**
121nm,0.4s,baz=349							
PVCC	**Panska Ves**	**1.51**	**222**	*e*PG	**Pg**	**05 41 22.3**	**+0.1**
PVCC				*e*SG	**Sn**	**05 41 41.8**	**-0.2**
BRG	**Berggiesshubel**	**1.60**	**241**	Pn	**Pn**	**05 41 22.8**	**+0.1**
BRG				Pg	**Pg**	**05 41 24.5**	**+0.7**
BRG				Sg	**Sg**	**05 41 44.5**	**0.0**
BRG				Amp		05 41 44.8	
comp=Z,164nm,0.5s							
BRG	**Berggiesshubel**	**1.60**	**241**	*e*Pn	**Pg**	**05 41 23.9**	**+0.1**
BRG				*e*Pg	**Pg**	**05 41 24.4**	**+0.7**
BRG				*e*Sg	**Sg**	**05 41 44.5**	**0.0**
KRLC	**Kraliky**	**1.64**	**166**	*e*PG	**Pb**	**05 41 23.7**	**-0.7**
KRLC				*e*SG	**Sn**	**05 41 44.3**	**-0.9**
comp=Z,95nm,0.6s							
FBE	**Freiberg**	**1.91**	**248**	*e*Pn	**Pb**	**05 41 28.3**	**-0.5**
FBE				*e*Sg	**Sb**	**05 41 53.4**	**+0.2**
PRA	**Prague**	**1.93**	**215**	*e*PN	**Pn**	**05 41 27.5**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.96**	**207**	*e*PN	**Pn**	**05 41 27.9**	**+0.2**
GOPC				*e*PG	**Pb**	**05 41 29.8**	**+0.1**
PRU	**Pruhonice**	**1.96**	**212**	*e*PG	**Pb**	**05 41 29.9**	**+0.1**
PRU				*e*SG	**Sb**	**05 41 53.9**	**-1.0**
comp=Z,48nm,0.6s							
CLL	**Collm**	**2.00**	**261**	*e*Pn	**Pn**	**05 41 28.6**	**+0.4**
CLL	**Collm**	**2.00**	**261**	*i* Pn	**Pn**	**05 41 28.4**	**+0.2**
comp=Z,23nm,0.5s							
CLL				*i* Pg	**Pg**	**05 41 31.6**	**+0.1**
CLL				*i* x	x	05 41 35.2	
comp=Z,72nm,0.5s							
CLL				*e*Sg	**Sg**	**05 41 57.0**	**-0.4**
comp=Z,38nm,0.5s							
CLL				AMS	AMS	06 40 00.0	
comp=Z,100nm,18.2s							
HSKC	**Hora Svate Kat**	**2.01**	**239**	*e*PG	**Pb**	**05 41 31.0**	**+0.3**
HSKC				*e*SG	**Sb**	**05 41 56.6**	**+0.3**
comp=Z,133nm,0.9s							
STEB	**Steborice**	**2.02**	**149**	*e*PN	**Pn**	**05 41 29.1**	**+0.6**
STEB				*e*PG	**Pg**	**05 41 32.1**	**+0.3**
STEB				*e*SG	**Sb**	**05 41 56.6**	**+0.3**
comp=Z,96nm,0.4s							
MORC	**Moravsky Berou**	**2.09**	**154**	*e*Pn	**Pn**	**05 41 30.1**	**+0.6**
baz=334							
MORC				*e*Sg	**Sb**	**05 41 58.8**	**+0.3**
comp=Z,68nm,0.7s,baz=334							
MORC	**Moravsky Berou**	**2.09**	**154**	*e*Pn	**Pn**	**05 41 30.1**	**+0.6**
OKC	**Ostrava-Krasne**	**2.23**	**145**	*e*SG	**Sg**	**05 42 03.4**	**-1.3**
OKC	**Ostrava-Krasne**	**2.23**	**145**	*e*Pn	**Pn**	**05 41 29.3**	**-2.0**
OKC				*e*Sg	**Sg**	**05 42 04.8**	**+0.1**
VRAC	**Vranov**	**2.38**	**173**	Pn	**Pn**	**05 41 34.8**	**+1.4**
comp=Z,4.0nm,0.3s,baz=343,slow=14,SNR=12							
VRAC				Sn	**Sn**	**05 42 02.5**	**-0.8**
comp=Z,2.3nm,0.3s,baz=232,slow=17,SNR=3.9							
comp=Z,10.0nm,0.4s							
VRAC	**Vranov**	**2.38**	**173**	*e*Pn	**Pn**	**05 41 34.0**	**+0.6**
baz=352							
VRAC				*e*Sg	**Sb**	**05 42 07.3**	**+0.6**
comp=Z,55nm,0.7s,baz=352							
VRAC	**Vranov**	**2.38**	**173**	*e*PN	**Pn**	**05 41 34.1**	**+0.6**
VRAC				*e*SG	**Sb**	**05 42 07.4**	**+0.7**
TREC	**Trest**	**2.41**	**190**	*e*SG	**Sb**	**05 42 08.6**	**+0.9**
ZVC	**Zvikov**	**2.56**	**210**	*e*SG	**Sg**	**05 42 13.6**	**-1.7**
KRUC	**Moravsky**	**2.61**	**176**	*e*Pn	**Pn**	**05 41 37.3**	**+0.7**
baz=356							
KRUC				*e*Sg	**Sb**	**05 42 14.4**	**+0.9**
comp=Z,50nm,0.9s,baz=356							
TANN	**Tannenbergstha**	**2.64**	**243**	*e*Pn	**Pn**	**05 41 37.8**	**+0.7**
TANN				*e*Sg	**Sg**	**05 42 16.6**	**-1.4**
WERD	**Werda**	**2.71**	**245**	*e*Pn	**Pn**	**05 41 38.6**	**+0.5**
WERD				*e*Sg	**Sg**	**05 42 19.6**	**-0.8**
NKC	**Novy Kostel**	**2.75**	**240**	*e*PN	**Pn**	**05 41 39.8**	**+1.3**
NKC				*e*PG	**Pg**	**05 41 46.1**	**+0.3**
NKC				*e*SG	**Sb**	**05 42 19.1**	**+1.7**
comp=Z,88nm,0.7s							
JAVC	**Velka Javorina**	**2.98**	**160**	*e*Pn	**Pn**	**05 41 42.4**	**+0.8**
baz=340							
JAVC	**Velka Javorina**	**2.98**	**160**	*e*PN	**Pn**	**05 41 42.5**	**+0.8**
KHC	**Kasperske Hory**	**3.02**	**214**	*e*PN	**Pn**	**05 41 42.8**	**+0.4**
KHC				*e*PG	**Pb**	**05 41 48.9**	**+1.0**
KHC				*e*SG	**Sg**	**05 42 28.3**	**-2.0**
comp=Z,19nm,0.4s							
MOX	**Moxa**	**3.03**	**252**	*e*Pn	**Pn**	**05 41 43.1**	**+0.6**
MOX				*e*Sg	**Sg**	**05 42 30.9**	**+0.3**
MANZ	**Manzenberg**	**3.06**	**238**	*e*Pn	**Pn**	**05 41 43.5**	**+0.6**
MANZ				*e*Sg	**Sg**	**05 42 31.3**	**-0.3**
CKRC	**Cesky Krumlov**	**3.08**	**203**	*e*PN	**Pn**	**05 41 44.2**	**+1.0**
CKRC				*e*SG	**Sg**	**05 42 29.7**	**-2.5**
comp=Z,26nm,0.6s							
ROTZ	**Rotzenmuhle**	**3.15**	**234**	*e*Pn	**Pn**	**05 41 44.6**	**+0.6**
ROTZ				*e*Sg	**Sg**	**05 42 33.1**	**-1.1**
GEC2	**GERESS Array S**	**3.23**	**210**	*e*Pn	**Pn**	**05 41 46.2**	**+0.9**
GEC2				*e*Sg	**Sb**	**05 42 33.2**	**+1.8**
GERES	**GERESS Array B**	**3.23**	**210**	Pn	**Pn**	**05 41 46.2**	**+0.9**
comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=38							
GERES				Lg	Lg	05 42 32.3	
comp=Z,0.7nm,0.3s,baz=29,slow=28,SNR=8.4							
comp=Z,4.9nm,0.5s							
WET	**Wettzell**	**3.28**	**221**	*e*Pn	**Pn**	**05 41 46.4**	**+0.5**
WET				*e*Sg	**Sg**	**05 42 36.2**	**-2.3**
LANS	**Liptovska Anna**	**3.29**	**139**	*e*SG	**Sg**	**05 42 39.2**	**+0.3**
MODS	**Modra-Piesok**	**3.38**	**167**	*e*PN	**Pn**	**05 41 49.4**	**+2.2**
BSD	**Bornholm Skovb**	**3.53**	**348**	*i* P	**Pn**	**05 41 49.0**	**-0.3**
BSD				*i* S	**Sn**	**05 42 31.1**	**-0.6**
BSD				IAML		05 42 54.5	
comp=Z,1.3nm,0.3s							
CLZ	**Clausthal**	**3.59**	**275**	*e*Pn	**Pn**	**05 41 51.9**	**+1.7**
CLZ				*e*Sg	**Sg**	**05 42 48.8**	**+0.2**
VYHS	**Vyhne**	**3.62**	**150**	*e*PN	Pn	05 41 43.9	-6.6
VYHS				*e*SN	**Pg**	**05 42 05.8**	**+3.3**
VYHS				*e*SG	**Sg**	**05 42 47.6**	**-1.7**
GRF	**Grafenberg Arr**	**3.71**	**240**	*e*Pn	**Pn**	**05 41 52.6**	**+0.9**
CONA	**Conrad Observa**	**3.75**	**183**	*e*Pn	**Pn**	**05 41 52.9**	**+0.5**
comp=Z,3.3nm,0.5s,SNR=9.6							
CONA				*e*Pg	**Pg**	**05 42 04.2**	**-0.7**
comp=Z,9.3nm,0.4s							
CONA				Sg	**Sg**	**05 42 52.8**	**-0.7**
comp=Z,27nm,0.4s							
RONA	**Rosalia, Austr**	**3.97**	**179**	*e*Pn	**Pn**	**05 41 56.3**	**+1.0**
comp=Z,0.5nm,0.2s							
MOA	**Molln**	**4.01**	**198**	*i* Pn	**Pn**	**05 41 56.6**	**+0.7**
comp=Z,7.5nm,0.3s,SNR=8.4							
MOA				Sg	**Sg**	**05 42 59.8**	**-2.2**
comp=Z,19nm,0.7s							
LUNU	**Lund**	**4.29**	**339**	*i* P	**Pn**	**05 42 00.0**	**+0.4**
LUNU				*i* S	**Sn**	**05 42 49.0**	**-1.3**
BIOA	**Bad Ischl, Aus**	**4.30**	**203**	*i* Pn	**Pn**	**05 41 59.8**	**-0.1**
comp=Z,4.1nm,0.3s,SNR=4.3							
ARSA	**Arzberg**	**4.44**	**186**	*e*Pn	**Pn**	**05 42 02.2**	**+0.4**
comp=Z,1.0nm,0.3s							
ARSA				Pg	**Pg**	**05 42 17.0**	**-1.2**
comp=Z,3.2nm,0.4s							
BLEU	**Blekinge**	**4.65**	**358**	P	**Pn**	**05 42 07.0**	**+2.4**
BLEU	**Blekinge**	**4.65**	**358**	P	**Pn**	**05 42 07.0**	**+2.4**
BLEU				*i* P	**Pn**	**05 42 07.7**	**+3.1**
BLEU				*i* S	**Sn**	**05 42 56.8**	**-2.5**
BJUU	**Bjuv**	**4.79**	**339**	P	**Pn**	**05 42 07.9**	**+1.4**
BJUU				S	**Sn**	**05 43 01.3**	**-1.3**
BJUU	**Bjuv**	**4.79**	**339**	P	**Pn**	**05 42 07.9**	**+1.4**
BJUU				*i* P	**Pn**	**05 42 08.3**	**+1.8**
BJUU				*i* S	**Sn**	**05 42 58.0**	**-4.7**
BJUU				S	**Sn**	**05 43 01.3**	**-1.3**
LESA	**Schwarzleotal**	**4.81**	**209**	*e*Pn	**Pn**	**05 42 06.2**	**-0.7**
comp=Z,0.6nm,0.2s							
LESA				Sg	**Sg**	**05 43 26.4**	**-1.3**
comp=Z,3.4nm,0.4s							
KBA	**Koelnbreinsper**	**4.94**	**203**	*e*Pn	**Pn**	**05 42 09.4**	**+0.6**
comp=Z,3.7nm,0.4s,SNR=16							
DEL	**Delary**	**5.00**	**345**	P	**Pn**	**05 42 11.0**	**+1.6**
DEL				S	**Sn**	**05 43 07.7**	**-0.1**
DEL	**Delary**	**5.00**	**345**	*i* P	**Pn**	**05 42 10.0**	**+0.6**
DEL				P	**Pn**	**05 42 11.0**	**+1.6**
DEL				*i* S	**Sn**	**05 43 05.8**	**-2.0**
DEL				S	**Sn**	**05 43 07.7**	**-0.1**
SOKA	**Soboth**	**5.05**	**189**	*e*Pn	**Pn**	**05 42 10.5**	**+0.4**
comp=Z,1.4nm,0.4s,SNR=4.6							
WATA	**Walderalm**	**5.26**	**216**	*i* Pn	**Pn**	**05 42 13.3**	**+0.2**
comp=Z,1.6nm,0.4s,SNR=4.7							
OBKA	**Obir**	**5.27**	**192**	*e*Pn	**Pn**	**05 42 12.1**	**-1.2**
comp=Z,0.5nm,0.2s							
WTTA	**Wattenberg**	**5.30**	**215**	*e*Pn	**Pn**	**05 42 14.1**	**+0.4**
comp=Z,2.0nm,0.5s							
VXJU	**Vaexsjoe**	**5.31**	**353**	P	**Pn**	**05 42 15.9**	**+2.2**
VXJU	**Vaexsjoe**	**5.31**	**353**	P	**Pn**	**05 42 15.9**	**+2.2**
MOTA	**Moosalm**	**5.43**	**219**	*e*Pn	**Pn**	**05 42 14.6**	**-1.0**
comp=Z,0.5nm,0.2s							
RETA	**Reutte**	**5.46**	**222**	*e*Pn	**Pn**	**05 42 15.3**	**-0.5**
comp=Z,1.3nm,0.4s							
ABTA	**Abfaltersbach**	**5.47**	**207**	*e*Pn	**Pn**	**05 42 16.8**	**+0.8**
comp=Z,1.0nm,0.4s							
SQTA	**Sankt Quirin**	**5.49**	**218**	*e*Pn	**Pn**	**05 42 15.6**	**-0.8**
comp=Z,1.1nm,0.3s							
OSKU	**Oskarshamn**	**5.54**	**360**	P	**Pn**	**05 42 19.6**	**+2.8**
OSKU	**Oskarshamn**	**5.54**	**360**	P	**Pn**	**05 42 19.6**	**+2.8**
BYXU	**Byxelkrok**	**5.66 5**		P	**Pn**	**05 42 21.0**	**+2.6**
BYXU	**Byxelkrok**	**5.66 5**		P	**Pn**	**05 42 21.0**	**+2.6**
EKSU	**Eksjoe**	**5.94**	**356**	P	**Pn**	**05 42 24.8**	**+2.5**
EKSU	**Eksjoe**	**5.94**	**356**	P	**Pn**	**05 42 24.8**	**+2.5**
DAVA	**Damuels**	**5.99**	**225**	*e*Pn	**Pn**	**05 42 23.1**	**-0.1**
comp=Z,0.6nm,0.2s							
DAVOX	**Davos/Dischmat**	**6.38**	**222**	Pn	**Pn**	**05 42 29.2**	**+0.5**
comp=Z,0.2nm,0.3s,baz=38,slow=17,SNR=2.4							
DAVOX				Lg	Lg	05 44 11.5	
comp=Z,0.6nm,0.3s,baz=186,slow=22,SNR=4.4							
comp=Z,1.6nm,0.6s							
AKASG	**Malin Array Be**	**8.27 92**		Pn	**Pn**	**05 42 55.8**	**+1.4**
comp=Z,0.9nm,0.3s,baz=282,slow=12,SNR=5.5							
comp=Z,1.2nm,0.6s							
HFS	**Hagfors**	**8.60**	**352**	Pn	**Pn**	**05 42 59.7**	**+0.9**
comp=Z,0.1nm,0.3s,baz=174,slow=15,SNR=1.8							
comp=Z,2.8nm,1.0s							
FINES	**FINESS Array B**	**11.21**	**25**	Pn	**Pn**	**05 43 35.6**	**+1.1**
comp=Z,0.1nm,0.3s,baz=215,slow=11,SNR=3.5							
FINES				Sn	**Sn**	**05 45 35.4**	**-5.0**
comp=Z,0.2nm,0.3s,baz=209,slow=22,SNR=1.8							
comp=Z,1.8nm,0.8s							
EKA	**Eskdalemuir Ar**	**12.06**	**295**	Pn	**Pn**	**05 43 45.9**	**-0.3**
baz=102,slow=14							
comp=Z,0.9nm,0.6s							
ARCES	**ARCESS Array B**	**18.46 10**		Pn	**Pn**	**05 45 10.7**	**+0.6**
baz=194,slow=13,SNR=4.0							
comp=Z,0.9nm,0.7s							

*BJI **28** 05:59:14.5, 9°.36N×126°.70E, h30km, mB4.9/15, mb4.6/37, Ms4.3/29, Ms7 4.1/28*

*NEIC **28** 05:59:16.5±1.3, 9°.75N±0°.06×126°.50E±0°.09, h8km±3km, mb4.8/195, Error ellipse: s-maj=12.5km s-min=8.1km az=104.0*
*IDC **28** 05:59:22.7±1.7, 9°.79N×126°.57E, h59km±17km, mb4.1/31, mbtmp4.4/36, MS4.0/7, Error ellipse: s-maj=16.9km s-min=9.1km az=87.0*
*DJA **28** 05:59:29.4±0.6, 10°N±5°×12°7E±°, h119km±4km, M5.0/34, mb4.9/34, mB5.4/11, MLv5.4/3, Mw(mB)4.8/11*
ISC 28 05:59:21.6±0.3,**9.73N**±0°.04×**126°.52E**±0°.06,**h50**km,**n486,**
σ0§**97**/406,**mb4.7**/143,**MS4.1**/16,**2C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.80**	**199**		**Pn**	**06 00 02.2**	**-1.8**
DAV	**Davao City (W)**	**2.80**	**199**	P	**Pn**	**06 00 05.2**	**+1.3**
224nm,0.5s,baz=25,slow=7.6,SNR=12							
DAV				S	**Sn**	**06 00 41.3**	**+4.8**
1μm,0.8s,baz=292,slow=17,SNR=7.3							
DAV	**Davao City (W)**	**2.80**	**199**	P	**Pn**	**06 00 07.0**	**+3.1**
TGY	**Tagaytay City**	**6.98**	**309**	P	**Pn**	**06 01 00.6**	**-0.8**
87nm,0.4s,baz=188,slow=18,SNR=1.2							
TGY				LR	LR	06 04 03.2	
comp=Z,1μm,19.7s,baz=88,slow=40							
TNTI	**Ternate**	**8.94**	**175**	Pn	**Pn**	**06 01 25.5**	**-2.7**
MYLDM	**Lahad Datu**	**9.14**	**241**	Pn	**Pn**	**06 01 28.0**	**-3.0**
MRSI	**Marisa**	**10.26**	**207**	P	Pn	06 01 55.7	+9.5
26nm,0.8s							
LUWI	**Luwuk**	**11.33**	**199**	Pn	**Pn**	**06 01 59.0**	**-1.9**
SWI	**Sorong**	**11.53**	**156**	P	Pn	06 02 10.1	+6.5
28nm,0.9s							
APSI	**Ampana**	**11.63**	**205**	P	Pn	06 02 14.9	+10
73nm,1.0s							
SANI	**Sanana**	**11.71**	**183**	P	Pn	06 02 12.8	+6.7
28nm,0.8s							
SRPI	**Serui, Papua**	**15.05**	**139**	P	**P**	**06 02 56.9**	**+1.3**
100nm,0.6s							
SPSI	**Sidrap Palu**	**15.17**	**207**	P	**P**	**06 02 59.1**	**+2.1**
BNSI	**Bone**	**15.42**	**205**	P	**P**	**06 03 00.4**	**+0.7**
56nm,1.0s							
SBUM	**Sibu**	**15.94**	**244**		**Pn**	**06 03 01.2**	**-1.5**
KAPI	**Kappang**	**16.12**	**205**	P	**P**	**06 03 07.3**	**-0.2**
15nm,0.9s,baz=69,slow=2.0,SNR=6.1							
SMPI	**Sarmi**	**16.82**	**133**	P	**P**	**06 03 14.6**	**-0.7**
60nm,1.1s							
JOW	**Kunigami**	**17.09 5**		P	**Pn**	**06 03 15.6**	**-1.5**
JOW	**Kunigami**	**17.09 5**		P	**Pn**	**06 03 15.6**	**-1.5**
5.3nm,0.5s,baz=190,slow=11,SNR=7.0							
KSM	**Kuching**	**18.09**	**244**	P	**P**	**06 03 28.4**	**-0.9**
GENI	**Genyem**	**18.29**	**131**	P	**Pn**	**06 03 35.0**	**+3.1**
2μm69nm,1.1s							
GUMO	**Guam**	**18.37 76**		LR	LR	06 11 08.4	
comp=Z,303nm,18.1s,baz=262,slow=38							
QIZ	**Qiongzhong**	**18.60**	**302**	P	**Pn**	**06 03 34.5**	**-1.1**
QIZ				S	**S**	**06 07 03.5**	**-0.9**
QIZ				pmax	pmax		
comp=Z,210nm,7.4s							
QIZ				LR	LR		
comp=N,330nm,14.4s							
QIZ				LR	LR		
comp=E,440nm,15.8s							
QIZ				LR	LR		
comp=Z,670nm,13.7s							
JAY	**Jayapura**	**18.64**	**130**	P	**Pn**	**06 03 36.4**	**+0.2**
24nm,0.8s,baz=313,slow=5.7,SNR=4.4							
JAY				LR	LR	06 10 22.8	
comp=Z,548nm,18.6s,baz=306,slow=35							
JAY	**Jayapura**	**18.64**	**130**	P	**Pn**	**06 03 36.9**	**+0.7**
SOEI	**Soe**	**19.48**	**187**		**P**	**06 03 42.6**	**-2.1**
PLAI	**Plampang**	**20.39**	**206**	P	Pn	06 04 01.9	+5.1
35nm,0.8s							
SSE	**Sheshan**	**21.83**	**348**	P	**P**	**06 04 10.3**	**+0.5**
SSE				S	**S**	**06 08 08.5**	**0.0**
SSE				pmax	pmax		
comp=Z,14nm,0.8s							
SSE				pmax	pmax		
comp=Z,42nm,3.6s							
SSE				LR	LR		
comp=N,120nm,16.5s							
SSE				LR	LR		
comp=E,150nm,15.5s							
JCJ	**Chichijima**	**22.74 39**		LR	LR	06 13 37.2	
comp=Z,282nm,18.9s,baz=101,slow=38							
MTN	**Manton Dam**	**22.89**	**168**		**P**	**06 04 19.7**	**-1.5**
MTN				IAmb	IAmb	06 04 33.5	
comp=Z,30nm,0.8s							
PWJI	**Pagerwojo**	**22.93**	**220**	P	**P**	**06 04 21.2**	**-0.4**
comp=Z,2μmcomp=Z,149nm,1.0s							
NJ2	**Nanjing**	**23.32**	**343**	⇓P	**P**	**06 04 27.0**	**+1.6**
NJ2				S	**S**	**06 08 41.3**	**+7.0**
NJ2				pmax	pmax		
comp=Z,23nm,0.9s							
NJ2				LR	LR		
comp=Z,310nm,20.8s							
NJ2				LR	LR		
comp=Z,310nm,15.2s							
NJ2				LR	LR		
comp=Z,610nm,19.9s							
JNU	**Nakatsue**	**23.63 9**		P	**P**	**06 04 27.1**	**-1.2**
JNU				IAmb	IAmb	06 04 29.4	
comp=Z,20nm,1.0s							

comp=Z,14nm,0.8s
XAN LR LR
comp=Z,510nm,15.5s
XAN LR LR
comp=Z,320nm,15.1s
XAN LR LR
comp=Z,680nm,16.5s
HNS HongShan 29.54 341 ⇑P P 06 05 22.0 +0.5
HNS S S 06 10 13.5 +0.6
HNS pmax pmax
comp=Z,26nm,0.9s
HNS LR LR
comp=Z,360nm,16.5s
HNS LR LR
comp=Z,190nm,12.6s
HNS LR LR
comp=Z,340nm,16.7s
GSI Gunungsitoli 29.98 256 P P 06 05 24.4 -1.3
WB0 Warramunga Arr 30.32 165 P P 06 05 26.3 -2.3
WB0 IAmb IAmb 06 05 53.8
comp=Z,8.2nm,0.7s
WRA Warramunga Arr 30.47 165 P P 06 05 29.2 -0.7
comp=Z,0.8nm,0.6s,baz=346,slow=9.6,SNR=5.0
comp=Z,0.8nm,0.6s
WR8 Warramunga Arr 30.52 165 P P 06 05 28.6 -1.7
MBWA Marble Bar 31.41 192 P P 06 05 38.1 0.0
PSA00 Pilbara Seismi 31.79 192 P P 06 05 41.6 +0.2
PSA00 Pilbara Seismi 31.79 192 P P 06 05 41.0 -0.5
LZH Lanzhou 33.36 325 eP P 06 05 54.8 -0.5
LZH pmax pmax
comp=Z,19nm,1.2s
LZH LR LR
comp=Z,430nm,14.4s
LZH LR LR
comp=Z,360nm,14.4s
LZH LR LR
comp=Z,380nm,14.8s
HHC Hu-ho-hao-te 33.71 339 eP P 06 05 58.5 +0.3
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,110nm,4.7s
HHC LR LR
comp=Z,300nm,15.3s
HHC LR LR
comp=Z,170nm,16.0s
HHC LR LR
comp=Z,340nm,16.8s
CN2 Changchun 33.96 359 eP P 06 06 00.8 +0.6
CN2 pmax pmax
comp=Z,10.0nm,1.0s
AS31 Alice Springs 33.97 168 P P 06 05 58.9 -1.6
ASAR Alice Springs 33.97 168 P P 06 05 58.3 -2.2
ASAR Alice Springs 33.97 168 P P 06 05 59.1 -1.4
comp=Z,0.7nm,0.3s,baz=353,slow=7.1,SNR=15
comp=Z,0.7nm,0.3s
GIRL Giralia 34.35 200 P P 06 06 04.2 +0.4
USRK Ussuriysk Ar. 34.67 7 P P 06 06 05.8 -0.6
comp=Z,5.7nm,0.8s,baz=190,slow=7.3,SNR=7.8
comp=Z,5.7nm,0.8s
MDJ Mudanjiang 34.86 4 P P 06 06 09.0 +1.0
MDJ pmax pmax
comp=Z,17nm,1.0s
XLT XiLinHaoTe 35.23 347 eP P 06 06 11.8 +0.5
XLT PP PP 06 07 35.5 +3.5
XLT pmax pmax
comp=Z,8.0nm,0.8s
XLT pmax pmax
comp=Z,50nm,3.6s
XLT LR LR
comp=Z,28nm,21.0s
XLT LR LR
comp=Z,220nm,13.9s
XLT LR LR
comp=Z,250nm,16.0s
BNX BinXian 35.89 1 ⇑P P 06 06 16.8 0.0
BNX pmax pmax
comp=Z,10.0nm,0.9s
SHL Shillong 36.42 300 P 06 06 21.6 -0.3
SHL IAmb IAmb 06 06 26.5
comp=Z,12nm,0.8s
ASAJ Asahikawa 36.99 19 P P 06 06 26.0 -0.2
comp=Z,9.9nm,0.8s,baz=236,slow=17,SNR=6.2
comp=Z,9.9nm,0.8s
JKA Kamikawa-asahi 36.99 19 P P 06 06 27.6 +1.3
JKA IAmb IAmb 06 06 28.5
comp=Z,18nm,1.1s
GTA Gaotai 37.97 326 eP P 06 06 35.5 +0.8
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA LR LR
comp=Z,130nm,21.1s
GTA LR LR
comp=Z,100nm,19.1s
GTA LR LR
comp=Z,120nm,20.7s
KLR Kul'dur 39.62 5 P P 06 06 48.0 -0.3
comp=Z,3.7nm,0.8s,baz=196,slow=3.5,SNR=13
comp=Z,3.7nm,0.8s
H11S3 WAKE ISLAND Hy 39.84 73 T T 06 49 50.5
baz=262,slow=70,SNR=46
H11S1 WAKE ISLAND Hy 39.85 73 T T 06 49 59.0
baz=262,slow=70,SNR=31
H11S2 WAKE ISLAND Hy 39.86 73 T T 06 49 52.3
baz=262,slow=70,SNR=16
MORW Morawa 39.87 194 P 06 06 51.0 +0.4
MORW IAmb IAmb 06 06 55.6
comp=Z,19nm,0.8s
H11N1 WAKE ISLAND Hy 40.19 71 T T 06 50 24.0
baz=265,slow=74,SNR=36
H11N2 WAKE ISLAND Hy 40.20 71 T T 06 50 25.5
baz=265,slow=74,SNR=30
H11N3 WAKE ISLAND Hy 40.21 71 T T 06 50 27.5
baz=265,slow=74,SNR=39
FORT Forrest 40.30 178 P P 06 06 53.3 -0.8
HEH HeiHe 40.41 1 eP P 06 06 54.5 -0.3
HEH PcP PcP 06 08 57.0 0.0
HEH pmax pmax
comp=Z,9.0nm,0.9s
HEH LR LR
comp=Z,240nm,18.0s
HEH LR LR
comp=Z,150nm,19.2s
HEH LR LR
comp=Z,300nm,17.5s
ULN Ulaanbaatar 41.41 340 P P 06 07 03.5 +0.2
ULN IAmb IAmb 06 07 06.6
comp=Z,13nm,0.9s
SONM Songino Array 41.61 340 P P 06 07 04.5 -0.4
SONM Songino Array 41.61 340 P P 06 07 05.4 +0.6
comp=Z,5.4nm,0.8s,baz=159,slow=9.2,SNR=17
comp=Z,5.4nm,0.8s
EIDS Eidsvold 42.30 146 P P 06 07 10.2 -0.5
EIDS IAmb IAmb 06 07 22.7
comp=Z,13nm,0.9s
BBOO Buckleboo 43.27 168 P P 06 07 17.8 -0.6
BBOO IAmb IAmb 06 07 29.1
comp=Z,20nm,0.8s
NWAO Narrogin (SRO) 43.33 191 P P 06 07 19.5 +0.7
NWAO IAmb IAmb 06 07 22.4
comp=Z,23nm,1.1s
STKA Stephens Creek 43.81 161 P P 06 07 22.3 -0.5
STKA Stephens Creek 43.81 161 P P 06 07 22.1 -0.7
comp=Z,2.5nm,0.5s,baz=342,slow=6.4,SNR=6.5
comp=Z,2.5nm,0.5s
WMQ Urumqi 47.80 322 eP P 06 07 56.0 +1.8
WMQ LR LR
comp=Z,660nm,15.3s
WMQ LR LR
comp=Z,390nm,20.3s
WMQ LR LR
comp=Z,160nm,17.5s
PEA0B Petropavlovsk- 50.03 24 P P 06 08 10.5 -0.6
PEA0B IAmb IAmb 06 08 13.0
comp=Z,9.7nm,0.8s
PETK Petropavlovsk- 50.03 24 P P 06 08 11.3 +0.3
comp=Z,5.5nm,0.7s,baz=183,slow=4.2,SNR=21
comp=Z,5.5nm,0.7s
TOO Toolangi 50.30 160 P P 06 08 13.1 -0.2
DZM Mont Dzumac 50.31 129 eLR LR 06 22 36.3
comp=Z,105nm,23.9s
PET Petropavlovsk 50.35 25 P P 06 08 13.4 0.0
YAK Yakutsk 52.26 2 P P 06 08 27.5 0.0
comp=Z,20nm,0.4s,baz=214,slow=2.0,SNR=5.7
comp=Z,20nm,0.4s
MK31 Makanchi Array 52.60 323 P P 06 08 30.3 -0.2
MKAR Makanchi Array 52.60 323 P P 06 08 30.1 -0.3
MKAR Makanchi Array 52.60 323 P P 06 08 30.4 -0.1
comp=Z,3.1nm,0.7s,baz=125,slow=8.3,SNR=32
MKAR LR LR 06 30 14.4
comp=Z,123nm,19.6s,baz=124,slow=35
comp=Z,3.1nm,0.7s
MAKZ Makanchi 52.80 323 P P 06 08 31.9 0.0
MA2 Magadan 52.99 15 P P 06 08 33.9 +0.9
comp=Z,4.8nm,0.6s,baz=210,slow=11,SNR=4.3
comp=Z,4.8nm,0.6s
NIL Nilore 54.24 305 P P 06 08 42.4 -0.3
ZAA0 Zalesovo Array 55.22 331 P P 06 08 48.6 -0.8
ZALV Zalesovo Beam 55.22 331 P P 06 08 48.3 -1.0
ZALV Zalesovo Beam 55.22 331 P P 06 08 48.4 -0.9
comp=Z,1.1nm,0.4s,baz=111,slow=8.1,SNR=7.9
comp=Z,1.1nm,0.4s
AAK Ala-Archa 55.88 315 P P 06 08 55.7 +1.2
AAK Ala-Archa 55.88 315 LR LR 06 35 51.6
comp=Z,188nm,18.4s,baz=90,slow=39
SEY Seymchan 56.28 14 P P 06 08 56.4 -0.5
comp=Z,3.2nm,0.8s,baz=224,slow=6.3,SNR=13
comp=Z,3.2nm,0.8s
KURK Kurchatov 56.65 326 P P 06 08 59.2 -0.5
KURK IAmb IAmb 06 09 03.1
comp=Z,7.0nm,0.9s
KURBB Kurchatov Arra 56.66 325 P P 06 08 59.5 -0.2
comp=Z,3.7nm,0.8s,baz=127,slow=6.7,SNR=24
comp=Z,3.7nm,0.8s
GAR Garm 57.83 310 P P 06 09 08.0 -0.4
GAR IAmb IAmb 06 09 09.4
comp=Z,8.6nm,1.0s
KBL Kabul 57.84 305 P P 06 09 08.0 -0.7
KBL IAmb IAmb 06 09 09.5
comp=Z,4.8nm,0.7s
SIMJ Simiganj 58.73 309 P P 06 09 14.0 -0.7
SIMJ IAmb IAmb 06 09 20.0
comp=Z,7.4nm,1.3s
KK31 Karatay Array 58.80 315 P P 06 09 14.5 -0.5
KKAR Karatay Array 58.80 315 P P 06 09 14.5 -0.5
TIXI Tiksi 61.89 1 P P 06 09 35.1 -0.4
BVAR Borovoye Array 62.25 325 P P 06 09 38.1 -0.1
comp=Z,2.5nm,0.9s,baz=115,slow=10.0,SNR=9.0
comp=Z,2.5nm,0.9s
BRVK Borovoye 62.32 325 P P 06 09 38.6 -0.1
BRVK IAmb IAmb 06 09 51.3
comp=Z,4.1nm,0.8s
HRA Herat 63.37 304 P P 06 09 45.5 -0.8
HRA IAmb IAmb 06 09 48.1
comp=Z,5.9nm,0.7s
BILL Bilibino 63.86 16 P P 06 09 48.5 -0.1
BILL IAmb IAmb 06 09 49.7
comp=Z,12nm,1.3s
NRIK Noril'sk 64.60 346 P P 06 09 53.1 -0.4
NRIK Noril'sk 64.60 346 P P 06 09 53.8 +0.3
comp=Z,11nm,0.9s,baz=135,slow=5.0,SNR=19
comp=Z,11nm,0.9s
NIKH Nikolski High 67.10 36 P P 06 10 09.7 -0.1
baz=255
BKZ Black Stump Fm 67.21 140 P P 06 10 11.8 +1.0
RTZ Ruatahuna 67.21 139 P 06 10 12.0 +1.1
ABKAR Akbulak array 67.44 319 P P 06 10 11.6 -0.6
SPIA Saint Paul Isl 67.51 32 P P 06 10 12.0 -0.3
baz=252
P08K Saint George I 67.70 32 P P 06 10 13.3 -0.3
baz=253
UNV Unalaska Valle 68.67 36 P P 06 10 19.6 -0.1
baz=257
GAMB Gambell 69.05 25 P P 06 10 22.0 +0.2
baz=248
M11K Mekoryuk 70.44 29 P P 06 10 30.0 -0.4
baz=255
FALS False Pass 70.65 35 P P 06 10 32.0 +0.2
baz=259
TNA Tin City 71.19 24 P P 06 10 35.1 +0.1
baz=252
K13K Kusilvak Mount 71.56 28 P P 06 10 37.4 +0.2
baz=256
S12K Black Hills 71.57 34 P P 06 10 37.2 -0.2
baz=260
F14K Arctic Creek 71.80 24 P P 06 10 38.3 -0.4
baz=253
M13K Dall Lake 71.82 29 P P 06 10 38.5 -0.3
baz=257
ANM Nome 71.93 25 P P 06 10 39.3 -0.2
baz=254
J14K Nanvaranak Lak 72.25 27 P P 06 10 41.2 -0.1
baz=256
L14K Kuka Creek 72.34 29 P P 06 10 41.9 0.0
baz=258
SDPT Sand Point 72.40 35 P P 06 10 42.6 +0.2
baz=262
N14K Kuskokwak Cree 72.53 30 P P 06 10 43.1 0.0
baz=259
F15K North Star Dit 72.54 24 P P 06 10 42.9 -0.1
baz=254
M14K Bethel 72.56 29 P P 06 10 43.2 0.0
baz=258,SNR=5.8
G15K Niukluk 72.60 25 P P 06 10 43.1 -0.3
baz=255
O14K Tigyukauivet M 72.62 31 P P 06 10 43.3 -0.4
baz=260
CHNA Chernabura Isl 72.83 36 P P 06 10 44.6 -0.3
baz=262
L15K Ungalak Mounta 72.97 28 P P 06 10 45.2 -0.4
baz=259
C16K Lisburne Hills 72.99 21 P P 06 10 45.4 -0.3
baz=253
S14K Fog Glacier 73.05 34 P P 06 10 46.0 -0.4
baz=262
K15K Wolf Creek Mou 73.07 28 IAmb IAmb 06 10 49.5
comp=Z,8.8nm,1.0s
K15K Wolf Creek Mou 73.07 28 P P 06 10 46.2 -0.1
baz=258
M15K Kasigluk River 73.16 29 P P 06 10 46.8 0.0
baz=260
H16K Elim 73.26 25 P P 06 10 46.9 -0.4
baz=257
O15K Ungalikthiuk R 73.34 31 P P 06 10 48.0 +0.1
baz=261
N15K Kwethluk River 73.36 30 P P 06 10 48.0 -0.1
baz=260
G16K Koyuk River 73.38 24 P P 06 10 48.4 +0.4
baz=257
D17K Noatak River 73.66 22 P P 06 10 50.1 +0.5
baz=255,SNR=6.3
CHGN Chignik 73.68 34 P P 06 10 49.4 -0.5
baz=263
J16K Anvik River 73.69 27 P P 06 10 49.5 -0.3
baz=259
I17K Unalakleet 73.76 26 IAmb IAmb 06 10 53.1
comp=Z,16nm,1.2s
I17K Unalakleet 73.76 26 P P 06 10 50.7 +0.5
baz=259
RDOG Red Dog Mine 73.81 22 P P 06 10 50.6 +0.1
baz=256
L16K Owhat River 73.92 28 IAmb IAmb 06 10 53.6
comp=Z,16nm,1.1s
L16K Owhat River 73.92 28 P P 06 10 51.7 +0.5
baz=260,SNR=5.8
E17K Hotham Inlet 73.98 23 P P 06 10 52.9 +1.4
baz=257,SNR=6.9
M16K Timber Creek 74.05 29 P P 06 10 52.3 +0.2
baz=261
F17K Baldwin Pennin 74.06 23 P P 06 10 52.6 +0.6
baz=258
N16K Nishlik Lake 74.06 30 P P 06 10 52.4 +0.2
baz=262
G17K Kiwalik Mounta 74.10 24 P P 06 10 52.9 +0.6
baz=258
P16K Nushagak River 74.25 31 P P 06 10 53.7 +0.5
baz=263
O16K Kokwok River B 74.27 31 IAmb IAmb 06 10 55.5
comp=Z,13nm,1.0s
O16K Kokwok River B 74.27 31 P P 06 10 53.7 +0.4
baz=262
R16K Pilot Point 74.29 33 P P 06 10 53.7 +0.3
baz=263
H17K Granite Mounta 74.30 25 IAmb IAmb 06 10 56.0
comp=Z,7.5nm,1.1s
H17K Granite Mounta 74.30 25 P P 06 10 54.3 +0.8
baz=259,SNR=5.1
J17K VABM Dome 74.38 27 IAmb IAmb 06 10 56.6
comp=Z,11nm,1.1s
J17K VABM Dome 74.38 27 P P 06 10 54.4 +0.5
baz=260
E18K Tukpahlearik C 74.52 23 IAmb IAmb 06 10 57.2
comp=Z,9.1nm,1.2s
E18K Tukpahlearik C 74.52 23 P P 06 10 55.6 +0.9
baz=258,SNR=5.4
B18K Kokolik River 74.53 20 P P 06 10 55.8 +1.1
baz=256
L17K Donlin 74.54 28 P P 06 10 56.3 +1.5
baz=261,SNR=5.8
C18K Utukok River 74.57 21 P P 06 10 56.1 +1.1
baz=257,SNR=5.1
K17K Iditarod 74.62 28 IAmb IAmb 06 10 58.9
comp=Z,12nm,0.9s
K17K Iditarod 74.62 28 P P 06 10 56.3 +1.0
baz=261,SNR=6.0
F18K Selawik 74.72 23 P P 06 10 57.1 +1.3
baz=259,SNR=5.9
O17K Koliganek Bris 74.80 31 P P 06 10 57.2 +0.8
baz=263
M17K Holitna River 74.84 29 P P 06 10 58.0 +1.4
baz=262,SNR=6.9
N17K Nushagak Hills 74.85 30 IAmb IAmb 06 10 59.6
comp=Z,15nm,1.1s
N17K Nushagak Hills 74.85 30 P P 06 10 57.2 +0.5
baz=263,SNR=6.1
Q16K King Salmon 74.90 32 P P 06 10 57.4 +0.4
baz=264
A19K Wainwright 74.97 20 P P 06 10 57.8 +0.6
baz=257
H18K Honhosa River 74.98 25 P P 06 10 57.5 +0.1
baz=261
G18K Tagagawik 74.99 24 IAmb IAmb 06 10 59.5
comp=Z,9.8nm,1.3s
G18K Tagagawik 74.99 24 P P 06 10 57.5 +0.1
baz=260
P17K Kvichak River 75.07 31 P P 06 10 58.1 +0.2
baz=264
CHIR Chirikof Islan 75.19 35 P P 06 10 58.6 -0.1
baz=266
Q17K Contact Creek 75.26 32 P P 06 10 58.9 -0.3
baz=265
L18K Granite Mounta 75.30 28 IAmb IAmb 06 11 02.6
comp=Z,7.8nm,0.9s
L18K Granite Mounta 75.30 28 P P 06 10 59.1 -0.1
baz=263
J18K Innoko River 75.44 27 IAmb IAmb 06 11 02.7
comp=Z,9.2nm,1.4s
J18K Innoko River 75.44 27 P P 06 11 00.2 +0.1
baz=262,SNR=6.3
F19K Shaleruckik Mo 75.50 23 IAmb IAmb 06 11 02.1
comp=Z,7.4nm,1.3s
F19K Shaleruckik Mo 75.50 23 P P 06 11 00.5 +0.2
baz=261
N18K Kilae Creek 75.50 30 P P 06 11 00.6 +0.1
baz=264
GCSA Galena City Sc 75.54 26 P P 06 11 00.6 +0.1
baz=262
M18K Stony River 75.62 29 P P 06 11 01.5 +0.4
baz=264,SNR=6.8
D19K Kuna River 75.65 22 P P 06 11 01.6 +0.4
baz=260,SNR=8.4
G19K Purcell Mounta 75.66 24 IAmb IAmb 06 11 03.4
comp=Z,13nm,1.4s
G19K Purcell Mounta 75.66 24 P P 06 11 01.4 +0.1
baz=262
P18K Big Mountain, 75.70 31 P P 06 11 01.5 -0.2
baz=265
Q18K Katmai Hardscr 75.75 32 P P 06 11 02.0 -0.1
baz=265
O18K Koktuh Hills 75.76 31 P P 06 11 02.0 +0.1
baz=265,SNR=6.6
E19K Redstone River 75.80 23 P P 06 11 02.8 +0.7
baz=261,SNR=9.9
H19K Roundabout Mou 75.83 25 P P 06 11 03.1 +0.9
baz=262,SNR=8.5
R18K Karluk 75.97 33 P P 06 11 03.1 0.0
baz=266
J19K Poorman 75.99 26 IAmb IAmb 06 11 29.6
comp=Z,9.3nm,1.4s
J19K Poorman 75.99 26 P P 06 11 03.2 0.0
baz=263
SII Sitkinak Islan 76.05 34 P P 06 11 03.5 -0.2
baz=266
L19K White Mountain 76.15 28 IAmb IAmb 06 11 06.6
comp=Z,14nm,1.4s
L19K White Mountain 76.15 28 P P 06 11 04.5 +0.4
baz=264
N19K Bonanza Creek 76.20 30 IAmb IAmb 06 11 09.0
comp=Z,8.0nm,0.9s
N19K Bonanza Creek 76.20 30 P P 06 11 05.1 +0.6
baz=265,SNR=5.3
O19K Port Alsworth 76.23 30 IAmb IAmb 06 11 06.7
comp=Z,10nm,1.0s
O19K Port Alsworth 76.23 30 P P 06 11 05.2 +0.6
baz=266
B20K Meade River 76.24 20 P P 06 11 05.4 +0.9
baz=260
E20K Nigu River 76.31 22 P P 06 11 06.2 +1.2
baz=262,SNR=6.5
F20K Avaraart Lake 76.33 23 P P 06 11 06.2 +1.2
baz=262,SNR=6.5
M19K Big River Lodg 76.34 29 P P 06 11 05.8 +0.6
baz=265
H20K Anotleneega Mo 76.48 25 P P 06 11 06.7 +0.8
baz=264,SNR=6.2
Q19K Cape Douglas, 76.48 32 P P 06 11 06.4 +0.3
baz=266
I20K Naaghedeneel 76.57 26 P P 06 11 06.9 +0.5
baz=264
OHAK Old Harbor 76.57 33 P P 06 11 06.9 +0.4
baz=267
K20K Telida 76.61 27 IAmb IAmb 06 11 33.4
comp=Z,11nm,1.5s
K20K Telida 76.61 27 P P 06 11 07.2 +0.4
baz=265
L20K Farewell, AK 76.62 28 P P 06 11 07.4 +0.6
baz=265
A21K Barrow 76.64 19 P P 06 11 07.3 +0.7
baz=261
J20K Nowinta River 76.65 26 IAmb IAmb 06 11 10.2
comp=Z,6.5nm,1.2s
J20K Nowinta River 76.65 26 P P 06 11 07.6 +0.7
baz=265,SNR=5.8
CASY Casey 76.71 187 P P 06 11 07.9 +0.9
CASY IAmb IAmb 06 11 15.7
comp=Z,6.7nm,0.9s
P19K Oil Pt 76.74 31 P P 06 11 07.5 0.0
baz=267
M20K Styx River 76.93 29 IAmb IAmb 06 11 12.7
comp=Z,11nm,1.2s
M20K Styx River 76.93 29 P P 06 11 08.8 +0.2
baz=266
C21K Knifeblade Rid 76.94 21 P P 06 11 09.0 +0.5
baz=263
KDAK Kodiak Island 76.98 33 P P 06 11 09.3 +0.5
baz=268
B21K Ikpikpuk River 77.06 21 IAmb IAmb 06 11 22.1
comp=Z,8.7nm,0.9s
B21K Ikpikpuk River 77.06 21 P P 06 11 10.2 +1.1
baz=263,SNR=7.9
Q20K Shuyak Island 77.11 32 P P 06 11 09.9 +0.3
baz=268
A22K Sinclair Lake 77.12 19 P P 06 11 10.7 +1.3
baz=262,SNR=6.0
G21K Allakaket 77.14 24 IAmb IAmb 06 11 12.1
comp=Z,12nm,1.3s
G21K Allakaket 77.14 24 P P 06 11 10.4 +0.7
baz=265,SNR=7.0
E21K Killik River 77.15 22 P P 06 11 10.6 +0.9
baz=264
F21K Alatna River 77.22 23 P P 06 11 11.0 +0.9
baz=265
SPCR Spurr Chakacha 77.33 29 P P 06 11 11.7 +0.8
baz=267
H21K Melozitna Rive 77.35 25 IAmb IAmb 06 11 13.3
comp=Z,16nm,1.5s
H21K Melozitna Rive 77.35 25 P P 06 11 12.2 +1.3
baz=266,SNR=5.5
PPLA Purkeypile 77.43 28 P P 06 11 11.8 +0.3
baz=267
CHUM Lake Minchumin 77.44 27 P P 06 11 11.8 +0.5
baz=266
CAST Castle Rocks 77.51 27 IAmb IAmb 06 11 15.1
comp=Z,4.7nm,0.9s
CAST Castle Rocks 77.51 27 P P 06 11 13.1 +1.3
baz=267,SNR=7.1
HOM Homer 77.54 31 P P 06 11 12.5 +0.5
baz=268
B22K Teshekpuk Lake 77.55 20 IAmb IAmb 06 11 14.1
comp=Z,4.9nm,0.8s
B22K Teshekpuk Lake 77.55 20 P P 06 11 12.7 +0.9
baz=264,SNR=6.1
I21K Tanana 77.66 25 IAmb IAmb 06 11 34.2

comp=Z,6.9nm,0.9s
I21K Tanana 77.66 25 P P 06 11 13.8 +1.2
baz=266,SNR=7.2
D22K Ayikyak River 77.67 21 IAmb IAmb 06 11 36.9
comp=Z,7.9nm,1.2s
D22K Ayikyak River 77.67 21 P P 06 11 13.4 +0.8
baz=265,SNR=5.6
SKT Skwentna 77.69 29 IAmb IAmb 06 11 16.3
comp=Z,6.0nm,1.2s
SKT Skwentna 77.69 29 P P 06 11 13.5 +0.7
baz=268
F22K John River 77.74 23 P P 06 11 14.2 +1.2
baz=266
CAPN Captain Cook N 77.83 30 P P 06 11 14.2 +0.6
baz=268
E22K Anaktuvuk Pass 77.93 22 P P 06 11 14.5 +0.5
baz=266
BRLK Bradley Lake 77.93 31 IAmb IAmb 06 11 17.5
comp=Z,11nm,1.0s
H22K Ishtalitna Cre 77.95 25 P P 06 11 15.0 +0.8
baz=267,SNR=6.6
G22K Bettles 77.96 24 P P 06 11 14.5 +0.3
baz=266
RAYN Ar Rayn 78.00 292 P P 06 11 15.0 -0.4
RAYN IAmb IAmb 06 11 21.3
comp=Z,4.1nm,0.8s
BRSE Bradley Lake S 78.00 31 P P 06 11 14.6 0.0
baz=269
BPAW Bear Paw Mtn. 78.03 26 IAmb IAmb 06 11 16.7
comp=Z,9.5nm,1.0s
BPAW Bear Paw Mtn. 78.03 26 P P 06 11 15.1 +0.4
baz=268,SNR=12
SUA Susitna One 78.05 29 IAmb IAmb 06 11 22.9
comp=Z,6.7nm,0.9s
SUA Susitna One 78.05 29 P P 06 11 15.0 +0.1
baz=268,SNR=5.3
CUT Chulitna 78.30 28 P P 06 11 16.2 +0.1
baz=269
TRF Thorofare Moun 78.32 27 IAmb IAmb 06 11 36.4
comp=Z,7.1nm,1.0s
TRF Thorofare Moun 78.32 27 P P 06 11 16.0 -0.5
baz=268
D23K Nanushuk River 78.39 21 IAmb IAmb 06 11 19.4
comp=Z,17nm,1.4s
D23K Nanushuk River 78.39 21 P P 06 11 18.0 +1.5
baz=267,SNR=6.4
C23K Itkillik River 78.47 21 IAmb IAmb 06 11 19.1
comp=Z,7.4nm,0.7s
C23K Itkillik River 78.47 21 P P 06 11 17.8 +0.8
baz=267,SNR=9.8
COLD Coldfoot 78.49 23 P P 06 11 18.7 +1.6
baz=268,SNR=8.4
O22K Cooper Landing 78.53 30 P P 06 11 18.0 +0.6
baz=269
RC01 Rabbit Creek A 78.53 30 P P 06 11 17.7 +0.2
baz=269
G23K Bananza Creek 78.54 24 IAmb IAmb 06 11 20.3
comp=Z,12nm,1.4s
G23K Bananza Creek 78.54 24 P P 06 11 18.6 +1.1
baz=268,SNR=6.1
SEW Seward 78.66 31 P P 06 11 18.9 +0.7
baz=270
H23K Yukon River 78.70 25 P P 06 11 19.0 +0.6
baz=268
E23K Chandalar 78.75 22 IAmb IAmb 06 11 40.1
comp=Z,10nm,1.1s
E23K Chandalar 78.75 22 P P 06 11 19.5 +0.9
baz=268,SNR=9.4
I23K Minto, Yukon-K 78.77 25 IAmb IAmb 06 11 21.1
comp=Z,4.0nm,0.7s
I23K Minto, Yukon-K 78.77 25 P P 06 11 19.3 +0.7
baz=269
TOLK Toolik Lake Re 78.78 22 P P 06 11 19.5 +0.7
baz=268,SNR=6.0
PMR Palmer 78.82 29 IAmb IAmb 06 11 26.9
comp=Z,6.3nm,0.6s
PMR Palmer 78.82 29 P P 06 11 18.7 -0.3
baz=270
NEA2 Nenana 78.88 26 P P 06 11 19.4 0.0
baz=269
MCK McKinley 78.93 27 IAmb IAmb 06 11 20.9
comp=Z,8.5nm,0.9s
MCK McKinley 78.93 27 P P 06 11 19.9 +0.3
baz=270,SNR=7.5
RND Reindeer 78.96 27 IAmb IAmb 06 11 21.7
comp=Z,8.4nm,1.2s
D24K Happy Valley 79.07 21 P P 06 11 20.4 +0.1
baz=268
C24K Franklin Bluff 79.13 21 P P 06 11 20.7 +0.2
baz=268
KNK Knik Glacier 79.14 29 P P 06 11 20.7 -0.1
baz=270
E24K Your Creek 79.17 22 P P 06 11 21.3 +0.4
baz=269,SNR=5.8
SML Sawmill 79.20 29 P P 06 11 21.4 +0.2
baz=270
PWL Port Wells 79.21 30 P P 06 11 21.6 +0.4
baz=271,SNR=5.4
H24K Noodor Dome 79.39 25 P P 06 11 22.2 0.0
baz=270
F24K Squaw Lake 79.39 23 P P 06 11 22.9 +0.8
baz=270,SNR=8.4
COLA College 79.40 26 P P 06 11 22.3 +0.2
baz=270
M23K Glacier View 79.49 29 P P 06 11 22.9 +0.2
baz=271
G24K Hadweenzic Riv 79.55 24 P P 06 11 23.2 +0.2
baz=270,SNR=5.6
POKR Poker Plat Res 79.58 25 P P 06 11 23.7 +0.5
baz=271
SCM Sheep Creek Mo 79.68 29 P P 06 11 24.2 +0.3
baz=271
P23K Montague Islan 79.69 31 P P 06 11 24.2 +0.4
baz=272
GURO Guroymak-BITLI 79.72 308 IAmb IAmb 06 11 27.2
comp=Z,5.7nm,0.9s
HDA Harding Lake 79.80 26 P P 06 11 24.7 +0.3
baz=271,SNR=5.6
GLI Glacier Island 79.81 30 P P 06 11 24.7 +0.2
baz=272
ILAR Eielson Array 79.82 26 P P 06 11 23.4 -1.1
comp=Z,0.9nm,0.7s,baz=236,slow=5.2,SNR=21
ILAR LR LR 06 49 17.6
comp=Z,39nm,19.0s,baz=250,slow=38
comp=Z,0.9nm,0.7s
D25K Kavik River 79.94 21 P P 06 11 25.6 +0.5
baz=271,SNR=6.1
G25K Bearman Lake 80.10 24 P P 06 11 26.3 +0.4
baz=272
M24K Tolsona, Glenn 80.22 28 P P 06 11 27.0 +0.2
baz=272,SNR=5.6
F25K Christian Rive 80.25 23 P P 06 11 27.5 +0.7
baz=272,SNR=5.4
E25K Arctic Village 80.27 22 P P 06 11 27.5 +0.7
baz=272,SNR=5.9
K24K Donnelly Dome 80.33 27 P P 06 11 27.6 +0.3
baz=272
KLU Klutina 80.36 29 P P 06 11 27.8 +0.3
baz=273
PRP Porcupine Dome 80.37 25 P P 06 11 27.9 +0.3
baz=272
C26K Camden Bay 80.44 20 P P 06 11 28.8 +1.2
baz=272,SNR=8.6
DIV Divide 80.45 29 IAmb IAmb 06 11 30.1
comp=Z,7.7nm,0.9s
J25K Salcha River, 80.47 26 P P 06 11 28.3 +0.3
baz=272
EYAK Cordova Ski Ar 80.49 30 P P 06 11 28.5 +0.4
baz=273
PAX Paxson 80.50 28 IAmb IAmb 06 11 54.6
comp=Z,9.9nm,1.4s
PAX Paxson 80.50 28 P P 06 11 28.8 +0.5
baz=273
BMAR Burnt Mountain 80.67 23 P P 06 11 31.1 +2.0
HARP HAARP 80.68 28 P P 06 11 29.5 +0.4
baz=273
RIDG Independent Ri 80.75 27 P P 06 11 30.1 +0.5
RIDG IAmb IAmb 06 11 49.1
comp=Z,7.3nm,1.0s
RIDG Independent Ri 80.75 27 P P 06 11 30.0 +0.5
baz=273,SNR=5.4
F26K Sheenjek River 80.82 23 P P 06 11 30.3 +0.5
baz=273
C27K Jago River 80.87 21 P P 06 11 31.8 +1.8
C27K Jago River 80.87 21 P P 06 11 30.5 +0.5
baz=273
N25K Chitina, Valde 80.99 29 IAmb IAmb 06 11 58.7
comp=Z,13nm,1.5s
N25K Chitina, Valde 80.99 29 P P 06 11 31.2 +0.3
baz=274
G26K Porcupine Rive 81.00 23 P P 06 11 31.3 +0.5
baz=274
BMRM Bremner River 81.03 30 IAmb IAmb 06 11 37.1
comp=Z,9.3nm,1.1s
BMRM Bremner River 81.03 30 P P 06 11 31.5 +0.5
baz=274
DOT Dot Lake 81.10 27 IAmb IAmb 06 11 33.7
comp=Z,9.4nm,1.4s
SCRK Sand Creek 81.11 27 P P 06 11 32.2 +0.6
baz=274
KAIM Kayak Island 81.19 31 P P 06 11 32.6 +0.8
baz=274
J26L Joseph Creek 81.26 26 P P 06 11 32.9 +0.6
baz=274
I26K Coal Creek Min 81.37 25 P P 06 11 33.4 +0.7
baz=274
GLB Gilahina Butte 81.38 29 IAmb IAmb 06 11 35.8
comp=Z,12nm,1.3s
L26K Log Cabin Wild 81.47 27 P P 06 11 34.3 +1.0
baz=275
BERG Berg Lake 81.51 30 IAmb IAmb 06 11 60.0
comp=Z,12nm,1.1s
VRDI Verde Repeater 81.56 29 IAmb IAmb 06 11 36.1
comp=Z,14nm,1.5s
M26K Nabesna, AK 81.68 28 P P 06 11 35.1 +0.6
baz=275,SNR=6.7
E27K Coleen River 81.75 22 P P 06 11 36.1 +1.4
baz=275,SNR=5.4
G27K Doyon Strip 81.85 24 P P 06 11 36.0 +0.7
baz=276
D27M Malcolm River 81.87 21 P P 06 11 35.8 +0.4
baz=276,SNR=6.3
K27K Chicken 81.95 26 P P 06 11 36.2 +0.4
baz=276
H27K Steamboat Moun 81.96 24 P P 06 11 36.4 +0.5
baz=276
I27K Kandik River 81.99 25 P P 06 11 37.1 +1.0
baz=276,SNR=15
L27K Beaver Creek, 82.16 27 P P 06 11 37.8 +0.8
baz=276,SNR=6.5
BCAR Beaver Creek A 82.17 27 P P 06 11 37.8 +0.7
M27K Edge Creek, AK 82.20 28 IAmb IAmb 06 11 50.8
comp=Z,6.3nm,1.2s
M27K Edge Creek, AK 82.20 28 P P 06 11 37.5 +0.1
baz=276
MESA MESA 82.40 30 P P 06 11 38.6 +0.1
baz=276
E28M Babbage River 82.46 22 IAmb IAmb 06 11 42.5
comp=Z,6.1nm,1.1s
E28M Babbage River 82.46 22 P P 06 11 39.2 +0.8
baz=277,SNR=11
D28M Stokes Point 82.65 21 P P 06 11 39.6 +0.3
baz=278
BVCY Beaver Creek 82.67 28 P P 06 11 40.1 +0.4
baz=277
I28M Miner Creek 82.70 25 IAmb IAmb 06 11 42.0
comp=Z,7.5nm,0.9s
I28M Miner Creek 82.70 25 P P 06 11 40.7 +0.8
baz=277,SNR=14
YUK3 Moose Creek 82.94 29 P P 06 11 41.8 +0.5
baz=277
E29M Blow River 83.08 22 IAmb IAmb 06 11 44.8
comp=Z,6.6nm,1.4s
E29M Blow River 83.08 22 P P 06 11 41.9 +0.3
baz=279
DAWY Dawson 83.12 26 IAmb IAmb 06 11 45.2
comp=Z,8.8nm,1.4s
DAWY Dawson 83.12 26 P P 06 11 43.0 +1.0
baz=278,SNR=5.7
O28M Mount Upton 83.19 30 IAmb IAmb 06 11 46.5
comp=Z,4.6nm,0.8s
O28M Mount Upton 83.19 30 P P 06 11 42.6 -0.1
baz=278
H29M Whitestone 83.23 24 P P 06 11 42.8 +0.3
baz=279
PINM Pinnacle 83.25 30 P P 06 11 43.0 +0.3
baz=278
G29M Pine Creek 83.27 23 IAmb IAmb 06 11 44.4
comp=Z,5.7nm,0.8s
G29M Pine Creek 83.27 23 P P 06 11 43.7 +1.1
baz=279,SNR=6.6
YUK8 Steele Glacier 83.33 29 P P 06 11 43.4 0.0
baz=278
I29M Ogilvie Camp, 83.39 25 IAmb IAmb 06 11 45.8
comp=Z,9.0nm,1.1s
I29M Ogilvie Camp, 83.39 25 P P 06 11 43.9 +0.6
baz=279,SNR=7.3
J29N Klondike Camp 83.57 26 P P 06 11 45.5 +1.2
baz=279,SNR=5.5
PNL Peninsula 83.74 31 P P 06 11 46.0 +0.8
baz=278
M29M Somme Creek 83.77 28 IAmb IAmb 06 11 59.7
comp=Z,10nm,1.4s
M29M Somme Creek 83.77 28 P P 06 11 45.3 -0.1
baz=279,SNR=7.5
L29M L29M 83.82 27 P P 06 11 46.1 +0.5
baz=279,SNR=9.3
YUK4 Talbot Arm 83.86 29 P P 06 11 47.4 +1.4
baz=279,SNR=5.2
EPYK Eagle Plains 83.87 24 P P 06 11 46.7 +0.9
baz=280,SNR=5.5
G30M tAoh Zraii Nji 83.95 23 IAmb IAmb 06 11 47.9
comp=Z,8.5nm,1.2s
G30M tAoh Zraii Nji 83.95 23 P P 06 11 46.6 +0.4
baz=280
K29M Barlow Dome 83.97 26 P P 06 11 46.8 +0.4
baz=280,SNR=9.1
F30M Barrier River 84.00 22 P P 06 11 47.8 +1.4
baz=281,SNR=5.9
O29M Mount Kennedy 84.05 30 IAmb IAmb 06 12 06.2
comp=Z,6.2nm,1.1s
O29M Mount Kennedy 84.05 30 P P 06 11 48.0 +1.1
baz=279
YUK6 Outpost Mounta 84.06 29 P P 06 11 47.9 +0.9
baz=279
I30M Mount Dempster 84.21 25 IAmb IAmb 06 11 49.8
comp=Z,7.8nm,1.1s
I30M Mount Dempster 84.21 25 P P 06 11 48.6 +1.0
baz=280,SNR=9.0
J30M Hart River 84.35 25 P P 06 11 49.3 +0.9
baz=281,SNR=6.1
HYT Haines Junctio 84.49 29 IAmb IAmb 06 11 51.8
comp=Z,7.6nm,0.9s
HYT Haines Junctio 84.49 29 P P 06 11 49.3 +0.2
baz=280,SNR=10.0
M30M Miro, Yukon 84.51 28 P P 06 11 50.3 +1.2
baz=280,SNR=12
N30M Aishikik Lake 84.58 29 IAmb IAmb 06 11 52.4
comp=Z,7.3nm,1.0s
N30M Aishikik Lake 84.58 29 P P 06 11 51.1 +1.6
baz=280,SNR=7.7
P29M Windy Craggy 84.58 31 P P 06 11 51.1 +1.6
baz=280,SNR=5.8
SPB2 Spitsbergen Ar 84.59 349 P P 06 11 48.9 -0.3
SPITS Spitsbergen Ar 84.59 349 P P 06 11 49.6 +0.4
comp=Z,11nm,0.8s,baz=111,slow=12,SNR=9.0
comp=Z,11nm,0.8s
INK Inuvik 84.69 22 P P 06 11 50.8 +1.0
baz=283,SNR=8.6
G31M Satah River 84.72 23 P P 06 11 50.4 +0.4
baz=282,SNR=6.2
ARCES ARCESS Array B 84.78 340 P P 06 11 49.9 -0.4
comp=Z,4.6nm,0.7s,baz=76,slow=7.0,SNR=20
comp=Z,4.6nm,0.7s
F31M Tsiigehtchic 84.81 22 IAmb IAmb 06 11 51.9
comp=Z,7.7nm,1.0s
F31M Tsiigehtchic 84.81 22 P P 06 11 51.2 +0.9
baz=283,SNR=5.8
P30M Million Dollar 84.88 30 P P 06 11 51.8 +0.8
baz=280
H31M Peel River 84.93 24 P P 06 11 51.9 +0.8
baz=282,SNR=12
O30N Mendenhall 85.18 29 IAmb IAmb 06 11 55.1
comp=Z,6.6nm,1.1s
O30N Mendenhall 85.18 29 P P 06 11 53.6 +1.1
baz=281,SNR=6.0
N31M Braeburn, Yuko 85.19 29 P P 06 11 53.9 +1.4
baz=281,SNR=9.3
S31K Pelican 85.66 32 P P 06 11 55.8 +1.0
baz=281
M31M Drury Creek, Y 85.68 28 IAmb IAmb 06 12 08.9
comp=Z,12nm,1.5s
M31M Drury Creek, Y 85.68 28 P P 06 11 55.7 +0.7
baz=283,SNR=5.3
MMAI Mount Meron Ar 85.70 303 P P 06 11 55.3 -0.4
comp=Z,0.5nm,0.2s,baz=86,slow=6.4,SNR=1.4
comp=Z,0.5nm,0.2s
WHY Whitehorse 85.78 29 P P 06 11 56.8 +1.2
baz=282,SNR=10
SKAG Skagway 85.82 30 IAmb IAmb 06 11 59.7
comp=Z,5.3nm,1.0s
SKAG Skagway 85.82 30 P P 06 11 56.7 +1.1
baz=282
BRTR Keskin Array B 86.06 309 P P 06 11 57.0 -0.5
comp=Z,0.6nm,0.8s,baz=105,slow=4.6,SNR=5.1
comp=Z,0.6nm,0.8s
FARO Faro, Yukon 86.15 28 P P 06 11 58.3 +1.0
baz=284,SNR=21
SIT Sitka 86.32 33 P P 06 11 58.6 +0.5
baz=282
A36M Sachs Harbour 86.36 17 P P 06 11 58.8 +0.8
A36M Sachs Harbour 86.36 17 P P 06 11 58.9 +0.8
baz=290,SNR=29
R32K Eaglecrest 86.48 32 P P 06 11 58.6 -0.3
baz=283
FINES FINESS Array B 86.48 332 P P 06 11 58.2 -0.6
FINES FINESS Array B 86.48 332 P P 06 11 59.0 +0.2
comp=Z,4.5nm,0.8s,baz=96,slow=5.7,SNR=13
comp=Z,4.5nm,0.8s
N32M Quiet Lake 86.53 29 P P 06 11 59.6 +0.4
baz=284,SNR=12
P32M Atlin 86.59 30 P P 06 11 59.5 0.0
baz=283
S32K Killisnoo 86.63 32 P P 06 11 59.1 -0.5
baz=283
P33M Teslin, Yukon 86.88 29 P P 06 12 00.3 -0.6
baz=284
MMPY Sheldon Lake, 87.00 27 P P 06 12 01.0 -0.4
baz=285
CSS Mathiatis 87.09 305 P P 06 12 02.0 -0.4
CSS IAmb IAmb 06 12 29.8
comp=Z,4.3nm,0.8s
AKASG Malin Array Be 87.14 321 P P 06 12 01.0 -1.2
comp=Z,0.5nm,0.5s,baz=72,slow=2.7,SNR=4.3
comp=Z,0.5nm,0.5s
PPT2 Papeete2 87.17 108 eLR LR 06 39 38.4
PPT2 eLR LR 06 39 39.3
comp=Z,98nm,22.5s
comp=Z,98nm,24.8s
Q32M Nakina River 87.46 31 P P 06 12 03.2 -0.8
baz=285
C36M Paulatuk 87.67 20 P P 06 12 04.1 -0.3
baz=292,SNR=10
U33K Whale Pass 87.72 33 P P 06 12 04.7 -0.2
baz=284
R33M Jennings River 88.00 30 P P 06 12 06.1 -0.3
baz=286
WRAK Wrangell Islan 88.06 33 P P 06 12 06.2 -0.3
baz=285
S34M Telegraph Cree 88.31 31 P P 06 12 07.1 -0.7
baz=286
TBI Tubuai 88.38 114 eLR LR 06 40 12.6
comp=Z,690nm,27.8s
TBI eLR LR 06 40 15.7
comp=Z,1μm,28.0s
TGTN Hyland Airport 88.66 28 P P 06 12 08.7 -0.7
baz=288
DLBC Dease Lake 88.73 31 P P 06 12 08.9 -0.9
baz=286
V35K Ketchikan 88.74 34 P P 06 12 09.6 -0.2
baz=285
T35M Bob Quinn 89.03 32 P P 06 12 11.5 +0.3
baz=286
VNDA Vanda 89.36 173 P P 06 12 12.6 +0.4
VNDA IAmb IAmb 06 12 22.1
comp=Z,4.3nm,1.0s
VNDA Vanda 89.36 173 P P 06 12 12.6 +0.4
comp=Z,2.2nm,0.9s,baz=302,slow=5.7,SNR=12
comp=Z,2.2nm,0.9s
KMBO Kilima Mbogo 89.47 269 P P 06 12 13.9 -0.5
WRGLY Wrigley 90.18 25 P P 06 12 16.8 +0.5
baz=292
TOAD Toad River Com 90.98 30 P P 06 12 20.7 +0.5
baz=291
KOTAN Kotaneelee Air 91.08 28 P P 06 12 21.0 +0.4
baz=292
HFS Hagfors 92.64 332 P P 06 12 26.9 -1.0
comp=Z,2.7nm,0.8s,baz=108,slow=4.8,SNR=11
comp=Z,2.7nm,0.8s
NB2 NORSAR Subarra 93.35 334 P P 06 12 30.2 -1.0
comp=Z,1.8nm,0.7s,baz=64,slow=4.6
NOA NORSAR Array B 93.35 334 P P 06 12 30.6 -0.6
comp=Z,1.5nm,0.8s,baz=64,slow=4.6,SNR=9.3
comp=Z,1.5nm,0.8s
YKAW3 Yellowknife Wh 94.11 24 IAmb IAmb 06 12 36.1
comp=Z,3.9nm,0.9s
YKA Yellowknife Ar 94.15 24 P P 06 12 35.2 +0.5
comp=Z,2.8nm,0.9s,baz=304,slow=4.7,SNR=32
comp=Z,2.8nm,0.9s
YKAW1 Yellowknife Wh 94.20 24 IAmb IAmb 06 12 36.6
comp=Z,3.4nm,0.8s
TAOE Nuku Hiva Isla 94.72 98 eLR LR 06 43 11.3
comp=Z,219nm,27.2s
NVAR Mina Array Bea 103.03 47 P Pdif 06 13 16.7 +1.2
comp=Z,0.4nm,0.7s,baz=271,slow=5.9,SNR=4.8
TXAR Lajitas Array 117.99 49 PKP PKiKP 06 18 02.7 -1.0
comp=Z,0.2nm,0.7s,baz=38,slow=1.7,SNR=3.5
PLCA Paso Flores 145.61 157 PKPbc PKiKP 06 18 56.9 -2.0
comp=Z,4.9nm,0.8s,baz=211,slow=6.0,SNR=18
LPAZ La Paz 164.31 116 PKP PKPdf 06 19 22.6 +1.2
comp=Z,1.6nm,1.0s,baz=182,slow=4.0,SNR=5.1

---

*IDC **28** 05:59:48.5±3.2, 9°.38N×126°.37E, h0km, mb4.4/12, mbtmp4.4/12, MS3.7/2, Error ellipse: s-maj=78.1km s-min=43.1km az=177.0*

ISC 28 05:59:55.4±3.1, 9°.5N±0°.5×126°.4E±0°.3, h43km, n13, σ0°.88/12, mb4.4/12, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	Kul'dur	39.86	6	P	P	06 07 24.6	-0.2
	2.8nm,0.7s,baz=205,slow=3.5,SNR=4.8						
	2.8nm,0.7s						
SONM	Songino Array	41.77	340	P	P	06 07 41.7	+1.0
	2.8nm,0.5s,baz=158,slow=10.0,SNR=4.8						
	2.8nm,0.5s						
DZM	Mont Dzumac	50.30	129	LR	LR	06 29 22.2	
	comp=Z,59nm,20.1s,baz=334,slow=35						
PETK	Petropavlovsk-	50.30	24	P	P	06 08 47.7	0.0
	2.8nm,0.6s,baz=213,slow=4.3,SNR=8.4						
	2.8nm,0.6s						
MKAR	Makanchi Array	52.69	323	P	P	06 09 05.6	0.0
	1.7nm,0.7s,baz=118,slow=6.3,SNR=1.9						
	1.7nm,0.7s						
KURBB	Kurchatov Arra	56.75	326	P	P	06 09 33.6	-1.3
	2.4nm,0.6s,baz=125,slow=5.9,SNR=4.0						
	2.4nm,0.6s						
NRIK	Noril'sk	64.78	346	P	P	06 10 28.4	-0.9
	6.0nm,0.6s,baz=121,slow=6.5,SNR=5.8						
	6.0nm,0.6s						
ILAR	Eielson Array	80.09	26	P	P	06 11 59.8	-0.8
	0.8nm,0.7s,baz=237,slow=5.1,SNR=5.6						
	0.8nm,0.7s						
SPITS	Spitsbergen Ar	84.78	349	P	P	06 12 25.3	+0.5
	6.0nm,0.8s,baz=84,slow=8.5,SNR=6.5						
	6.0nm,0.8s						
ARCES	ARCESS Array B	84.94	340	P	P	06 12 26.9	+1.2
	5.1nm,0.8s,baz=72,slow=6.4,SNR=6.8						
	5.1nm,0.8s						
FINES	FINESS Array B	86.61	332	P	P	06 12 34.5	+0.4
	4.8nm,0.8s,baz=51,slow=4.3,SNR=5.9						
	4.8nm,0.8s						
NOA	NORSAR Array B	93.48	334	P	P	06 13 05.8	-0.7
	0.9nm,0.7s,baz=64,slow=4.7,SNR=3.4						
NOA				LR	LR	06 57 47.7	
	comp=Z,38nm,18.6s,baz=60,slow=37						
	0.9nm,0.7s						
YKA	Yellowknife Ar	94.42	24	P	P	06 13 11.3	+0.7
	1.4nm,0.9s,baz=303,slow=4.5,SNR=4.1						
	1.4nm,0.9s						

---

*NEIC **28** 06:04:07.7±1.1, 9°.81N±0°.09×126°.53E±0°.06, h10km±1km, mb4.6/35, Error ellipse: s-maj=17.0km s-min=7.6km az=29.0*

*IDC **28** 06:04:22.1±2.2, 9°.60N×126°.37E, h144km±22km, mb3.7/17, mbtmp4.1/18, Error ellipse: s-maj=33.2km s-min=16.3km az=69.0*

ISC 28 06:04:11.2±0.4, 9°.74N±0°.07×126°.5E±0°.1, h43km, n59, σ0°.79/58, mb4.5/35, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.81	200	P	Pn	06 05 03.1	+9.4

111nm,0.4s,baz=248,slow=22,SNR=1.6
DAV S Sn 06 05 39.0 +13
152nm,0.4s,baz=289,slow=23,SNR=1.7
KAPI Kappang 16.13 205 Pn **Pn 06 07 55.1 0.0**
JOW Kunigami 17.09 5 **Pn 06 08 06.7 -0.3**
JOW IAmb IAmb 06 08 14.8
comp=Z,60nm,1.5s
MYKOM Kota Tinggi 23.88 252 **P 06 09 21.4 +0.3**
MYKOM IAmb IAmb 06 09 24.4
comp=Z,11nm,0.7s
KS19 Wonju Array Si 27.67 2 P **P 06 09 55.1 0.0**
KS19 IAmb IAmb 06 09 58.3
comp=Z,27nm,1.5s
FITZ Fitzroy Crossi 27.67 182 **P 06 09 56.3 +1.0**
CM31 Chiang Mai Arr 28.09 291 P **P 06 09 59.1 -0.1**
CM31 IAmb IAmb 06 10 14.6
comp=Z,5.1nm,0.5s
JSD Sado 30.09 19 P **P 06 10 15.0 -1.6**
JSD IAmb IAmb 06 10 30.9
comp=Z,12nm,1.1s
WB0 Warramunga Arr 30.32 165 P **P 06 10 19.6 +0.7**
WB0 IAmb IAmb 06 10 23.4
comp=Z,18nm,1.5s
ASAR Alice Springs 33.97 168 P **P 06 10 49.8 -1.1**
comp=Z,0.2nm,0.3s,baz=353,slow=7.1,SNR=4.2
comp=Z,0.2nm,0.3s
MORW Morawa 39.88 194 P **P 06 11 41.7 +0.7**
MORW IAmb IAmb 06 11 45.0
comp=Z,7.6nm,0.8s
FORT Forrest 40.31 178 P **P 06 11 45.1 +0.6**
FORT IAmb IAmb 06 12 08.9
comp=Z,16nm,1.0s
SONM Songino Array 41.60 340 P **P 06 11 56.2 +1.0**
comp=Z,1.2nm,0.5s,baz=159,slow=12,SNR=5.0
comp=Z,1.2nm,0.5s
BBOO Buckleboo 43.27 168 P **P 06 12 09.3 +0.5**
BBOO IAmb IAmb 06 12 13.9
comp=Z,14nm,1.1s
STKA Stephens Creek 43.82 161 P **P 06 12 13.5 +0.3**
STKA Stephens Creek 43.82 161 P **P 06 12 12.4 -0.7**
comp=Z,1.3nm,0.6s,baz=350,slow=6.1,SNR=1.9
comp=Z,1.3nm,0.6s
PEA0B Petropavlovsk- 50.02 24 P **P 06 13 00.3 -1.0**
PEA0B IAmb IAmb 06 13 27.7
comp=Z,10.0nm,1.2s
PETK Petropavlovsk- 50.02 24 P **P 06 13 01.4 +0.1**
PETK Petropavlovsk- 50.02 24 P **P 06 13 02.6 +1.3**
comp=Z,1.3nm,0.7s,baz=209,slow=3.4,SNR=6.0
comp=Z,1.3nm,0.7s
MKAR Makanchi Array 52.60 323 P **P 06 13 20.7 -0.2**
MKAR Makanchi Array 52.60 323 P **P 06 13 20.8 0.0**
comp=Z,1.4nm,0.7s,baz=118,slow=7.8,SNR=7.5
comp=Z,1.4nm,0.7s
ZALV Zalesovo Beam 55.21 331 P **P 06 13 38.9 -0.8**
comp=Z,0.4nm,0.4s,baz=111,slow=7.9,SNR=2.2
comp=Z,0.4nm,0.4s
KURBB Kurchatov Arra 56.65 325 P **P 06 13 49.8 -0.3**
comp=Z,1.2nm,0.9s,baz=128,slow=6.7,SNR=6.7
comp=Z,1.2nm,0.9s
BVAR Borovoye Array 62.24 325 P **P 06 14 28.3 -0.4**
comp=Z,0.8nm,0.7s,baz=104,slow=4.6,SNR=2.3
comp=Z,0.8nm,0.7s
NRIK Noril'sk 64.59 346 **P 06 14 45.0 +1.2**
NRIK Noril'sk 64.59 346 P **P 06 14 44.6 +0.8**
comp=Z,3.8nm,0.6s,baz=114,slow=7.4,SNR=6.9
comp=Z,3.8nm,0.6s
AFI Afiamalu 65.56 110 P **P 06 14 51.2 0.0**
ABKAR Akbulak array 67.44 319 P **P 06 15 02.3 -0.2**
C18K Utukok River 74.56 21 P **P 06 15 46.6 +1.2**
C18K IAmb IAmb 06 16 14.8
comp=Z,6.4nm,1.4s
D19K Kuna River 75.64 22 P **P 06 15 52.5 +0.9**
D19K IAmb IAmb 06 16 13.9
comp=Z,6.8nm,1.4s
XMAS Kiritimati 75.89 90 P **P 06 15 53.5 -0.5**
L19K White Mountain 76.14 28 P **P 06 15 54.7 +0.2**
B20K Meade River 76.23 20 P **P 06 15 56.2 +1.3**
C23K Itkillik River 78.46 21 P **P 06 16 08.3 +1.0**
ILAR Eielson Array 79.81 26 P **P 06 16 15.4 +0.6**
comp=Z,0.2nm,0.6s,baz=238,slow=5.7,SNR=6.4
comp=Z,0.2nm,0.6s
D25K Kavik River 79.94 21 P **P 06 16 15.4 -0.1**
BMAR Burnt Mountain 80.66 23 P **P 06 16 19.3 -0.1**
K27K Chicken 81.94 26 P **P 06 16 27.2 +1.0**
I28M Miner Creek 82.69 25 **P 06 16 30.1 -0.2**
I28M IAmb IAmb 06 16 59.0
comp=Z,6.0nm,1.4s
M30M Minto, Yukon 84.50 28 P **P 06 16 39.2 -0.3**
SPB2 Spitsbergen Ar 84.58 349 P **P 06 16 40.2 +0.7**
SPITS Spitsbergen Ar 84.58 349 P **P 06 16 40.3 +0.7**
comp=Z,3.9nm,0.8s,baz=81,slow=6.8,SNR=7.6
comp=Z,3.9nm,0.8s
ARCES ARCESS Array B 84.78 340 P **P 06 16 41.1 +0.4**
comp=Z,2.7nm,0.7s,baz=72,slow=7.8,SNR=11
comp=Z,2.7nm,0.7s
WHY Whitehorse 85.78 29 P **P 06 16 46.0 0.0**
WHY IAmb IAmb 06 16 48.7
comp=Z,4.8nm,0.9s
BRTR Keskin Array B 86.06 309 P **P 06 16 47.1 -0.8**
comp=Z,0.4nm,0.8s,baz=90,slow=2.9,SNR=2.2
comp=Z,0.4nm,0.8s
FARO Faro, Yukon 86.14 28 **P 06 16 48.7 +1.0**
FARO IAmb IAmb 06 16 50.5
comp=Z,2.8nm,0.9s
A36M Sachs Harbour 86.34 17 **P 06 16 49.4 +1.0**
A36M IAmb IAmb 06 16 51.7
comp=Z,4.3nm,0.9s
FURI Furi 86.42 278 P **P 06 16 50.2 -0.2**
FINES FINESS Array B 86.48 332 P **P 06 16 49.6 +0.3**
FINES FINESS Array B 86.48 332 P **P 06 16 48.4 -0.8**
comp=Z,2.4nm,0.8s,baz=112,slow=5.1,SNR=5.9
comp=Z,2.4nm,0.8s
N32M Quiet Lake 86.52 29 P **P 06 16 50.4 +0.8**
N32M IAmb IAmb 06 16 52.4
comp=Z,3.9nm,0.9s
C36M Paulatuk 87.66 20 P **P 06 16 56.2 +1.3**
C36M IAmb IAmb 06 16 57.2
comp=Z,2.4nm,1.0s
VNDA Vanda 89.37 173 P **P 06 17 02.6 -0.1**
VNDA IAmb IAmb 06 17 07.5
comp=Z,3.9nm,1.4s
KMBO Kilima Mbogo 89.47 269 P **P 06 17 03.4 -1.5**
HFS Hagfors 92.64 332 P **P 06 17 18.2 -0.1**
comp=Z,3.8nm,0.9s,baz=134,slow=4.3,SNR=5.4
comp=Z,3.8nm,0.9s
NB2 NORSAR Subarra 93.34 334 P **P 06 17 20.6 -1.0**
comp=Z,0.4nm,0.5s,baz=64,slow=4.4
NOA NORSAR Array B 93.34 334 P **P 06 17 20.9 -0.7**
comp=Z,0.7nm,0.7s,baz=65,slow=4.5,SNR=4.5
comp=Z,0.7nm,0.7s
YKA Yellowknife Ar 94.14 24 P **P 06 17 26.0 +0.9**
comp=Z,0.6nm,0.9s,baz=306,slow=4.7,SNR=7.4
comp=Z,0.6nm,0.9s
PLCA Paso Flores 145.62 157 PKPbc **PKPdf 06 23 44.1 -1.2**
comp=Z,1.0nm,0.6s,baz=127,slow=5.1,SNR=3.4

*IDC **28** 06:14:19.2±1.1, 22°.55S×169°.79E, h0km, mb3.8/5, mbtmp3.7/6, ML3.1/1, MS3.1/2, Error ellipse: s-maj=34.7km s-min=30.8km az=152.0*
ISC 28 06:14:22.2±1.0, 22°.5S±0°.2×169°.8E±0°.1, h21km, n10, σ0§61/10, mb3.6/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.09**	**277**	Pn	**Pn**	**06 15 10.4**	**+0.5**
	2.1nm,0.3s,baz=94,slow=17,SNR=3.4						
DZM				Sn	**Sn**	**06 15 45.8**	**-0.6**
	4.1nm,0.3s,baz=118,slow=22,SNR=2.5						
DZM				LR	LR	06 15 59.7	
	comp=Z,204nm,19.9s,slow=32						
	6.6nm,0.3s						
MSVF	**Nonsavu**	**9.12**	**60**	LR	LR	06 19 16.8	
	comp=Z,179nm,18.1s,baz=266,slow=33						
ASAR	**Alice Springs**	**32.95**	**261**	P	**P**	**06 20 55.2**	**-0.5**
	0.6nm,0.9s,baz=78,slow=8.9,SNR=5.8						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**33.07**	**268**	P	**P**	**06 20 57.4**	**+0.7**
	0.6nm,0.8s,baz=98,slow=8.2,SNR=1.7						
	0.6nm,0.8s						
QSPA	**South Pole Qui**	**67.58**	**180**	P	**P**	**06 25 17.0**	**-0.1**
	2.8nm,1.0s,baz=18,slow=2.0,SNR=6.4						
	2.8nm,1.0s						
PETK	**Petropavlovsk-**	**76.01**	**353**	P	**P**	**06 26 07.1**	**-0.4**
	1.1nm,0.9s,baz=182,slow=6.4,SNR=2.3						
	1.1nm,0.9s						
ILAR	**Eielson Array**	**93.18**	**17**	P	**P**	**06 27 34.6**	**+0.2**
	0.2nm,0.8s,baz=208,slow=4.0,SNR=1.9						
	0.2nm,0.8s						
AKASG	**Malin Array Be**	**138.38**	**323**	PKP	**PKiKP**	**06 33 47.4**	**-0.6**
	0.9nm,0.5s,baz=63,slow=0.4,SNR=2.6						
EKA	**Eskdalemuir Ar**	**146.78**	**353**	PKPbc	**PKPab**	**06 34 03.4**	**-0.2**
	1.0nm,0.8s,baz=9.1,slow=2.4,SNR=2.0						
GERES	**GERESS Array B**	**147.56**	**330**	PKPbc	**PKPbc**	**06 34 05.7**	**+0.8**
	0.5nm,0.5s,baz=22,slow=1.4,SNR=5.7						

*CATAC **28** 06:25:47.7±0.7, 14°N±5°×9°0W±°, h52km±8km, M2.9/4, MLv2.9/4, Error ellipse: s-maj=11.8km s-min=5.3km az=27.9, confirmed*
*GCG **28** 06:25:50.7±0.8, 13°.83N×90°.07W, h63km±22km, MD3.7*
ISC 28 06:25:49.9±3.7, 13°.6N±0°.1×90°.2W±0°.2, h58km, n32, σ0§81/29, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.48**	**51**	*e*P	**Pn**	**06 26 01.6**	**-0.1**
NUBE	**Las Nubes**	**0.48**	**51**	P	**Pn**	**06 26 01.5**	**-0.1**
NUBE	**Las Nubes**	**0.48**	**51**	S	**Sn**	**06 26 11.9**	**+1.7**
LOAL	**Lomas de Alarc**	**0.55**	**43**	P	**Pn**	**06 26 01.8**	**-0.5**
SLOZ	**Alcaldia de Sa**	**0.57**	**41**	P	**Pn**	**06 26 02.2**	**-0.3**
CEVE	**Cerro Verde**	**0.57**	**66**	P	**Pn**	**06 26 02.6**	**-0.2**
JAYA	**Jayaque - finc**	**0.70**	**85**	*i* P	**Pn**	**06 26 04.2**	**+0.1**
JAYA	**Jayaque - finc**	**0.70**	**85**	P	**Pn**	**06 26 03.7**	**-0.4**
JAYA	**Jayaque - finc**	**0.70**	**85**	S	**Sn**	**06 26 15.6**	**+1.0**
UNIC	**Universidad Ca**	**0.71**	**57**	P	**Pn**	**06 26 03.4**	**-0.8**
UNIC	**Universidad Ca**	**0.71**	**57**	S	**Sn**	**06 26 16.0**	**+1.3**
CEDA	**San Andres**	**0.78**	**75**	P	**Pn**	**06 26 04.4**	**-0.6**
PMON	**Piamonte**	**0.84**	**82**	P	**Pn**	**06 26 05.0**	**-0.8**
PMON	**Piamonte**	**0.84**	**82**	S	**Sn**	**06 26 18.2**	**+0.7**
UEES	**Universidad Ev**	**0.91**	**82**	S	**Sn**	**06 26 18.8**	**-0.4**
UTEC	**Universidad Te**	**0.94**	**84**	S	**Sn**	**06 26 21.2**	**+1.3**
PANCS	**Alcalda de**	**0.96**	**89**	S	**Sn**	**06 26 19.9**	**-0.3**
LOMA	**Loma Larga**	**0.97**	**87**	S	**Sn**	**06 26 21.4**	**+0.8**
IGN	**Direccin Gen**	**0.97**	**83**	S	**Sn**	**06 26 20.9**	**+0.3**
UDBS	**Universidad Do**	**0.99**	**83**	S	**Sn**	**06 26 21.4**	**+0.4**
MTO3	**Montecristo**	**1.12**	**44**	*i* P	**Pn**	**06 26 08.5**	**-1.1**
MTO3	**Montecristo**	**1.12**	**44**	P	**Pn**	**06 26 08.5**	**-1.1**
MTO3	**Montecristo**	**1.12**	**44**	S	**Sn**	**06 26 24.5**	**+0.3**
PAVA	**Las Pavas**	**1.20**	**84**	S	**Sn**	**06 26 26.2**	**+0.2**
COEG	**Centro de Oper**	**1.25**	**89**	S	**Sn**	**06 26 28.2**	**+1.0**
COEG	**Centro de Oper**	**1.25**	**89**	P	**Pn**	**06 26 10.3**	**-0.9**
STG5	**El Palmar, Qui**	**1.40**	**305**	*e*P	Pn	06 26 19.0	+5.7
STG0	**El Palmar, Qui**	**1.41**	**306**	*e*P	Pn	06 26 18.6	+5.1
STG8	**El Palmar, Qui**	**1.43**	**307**	*i* P	Pn	06 26 19.2	+5.3
STG8				*i* S	Sn	06 26 42.1	+10
ALJI	**Alcalda de J**	**1.57**	**100**	S	**Sn**	**06 26 35.9**	**+1.0**
CSGN	**Cosiguina Volc**	**2.61**	**103**	S	**Sn**	**06 27 00.2**	**-0.1**
CRIN	**San Cristobal**	**3.16**	**106**	S	**Sn**	**06 27 14.7**	**+0.8**

*JMA **28** 06:46:56.0±0.2, 43°.2N±0°.6×145°.8E±0°.7, h46km±1km, MV2.5/30, OFF NEMURO PENINSULA*
*SKHL **28** 06:46:56.8±0.2, 43°.20N×145°.80E, h42km±3km, mb4.0/3*
ISC 28 06:46:55.5±1.8, 43°.16N±0°.08×145°.83E±0°.06, h46km±10km, n12, σ0§63/24, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.22**	**344**	P	**Pn**	**06 47 03.7**	**+0.1**
NEM2				S	**Sn**	**06 47 09.2**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.22**	**342**	*e*P	**Pn**	**06 47 04.0**	**+0.4**
NMR				AMB	AMB	06 47 04.2	
	60nm,0.2s						
NMR				*i* S	**Sn**	**06 47 09.3**	**-0.1**
NMR				A	A	06 47 09.4	
	810nm,0.2s						
NMR				A	A	06 47 09.4	
	700nm,0.2s						
JKHN	**Kushirohamanak**	**0.49**	**262**	P	**Pn**	**06 47 06.5**	**+0.1**
JKHN				S	**Sn**	**06 47 14.4**	**+0.2**
AKK	**Akkeshi**	**0.73**	**259**	*e*P	**Pn**	**06 47 09.9**	**+0.4**
AKK				*e*S	**Sn**	**06 47 18.9**	**-0.8**
JAK	**Akkeshi**	**0.84**	**259**	P	**Pn**	**06 47 10.7**	**-0.3**
JAK				S	**Sn**	**06 47 21.5**	**-0.7**
JNSB	**Nemuroshibetsu**	**0.86**	**316**	P	**Pn**	**06 47 11.1**	**-0.2**
JNSB				S	**Sn**	**06 47 22.6**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**0.88**	**2**	*e*P	**Pn**	**06 47 11.5**	**0.0**
YUK				AMB	AMB	06 47 12.2	
	170nm,0.2s						
YUK				*e*S	**Sn**	**06 47 22.7**	**-0.5**
YUK				A	A	06 47 24.2	
	230nm,0.2s						
YUK				A	A	06 47 24.2	
	250nm,0.2s						
JNK	**Nakash**	**0.91**	**298**	P	**Pn**	**06 47 11.7**	**-0.2**
JNK				S	**Sn**	**06 47 22.7**	**-1.4**
JRA	**Rausu**	**0.93**	**327**	P	**Pn**	**06 47 12.5**	**+0.2**
JRA				S	**Sn**	**06 47 24.2**	**-0.2**
SHO	**Shikotan**	**1.02**	**45**	*e*P	**Pn**	**06 47 14.2**	**+0.8**
SHO				AMB	AMB	06 47 17.0	
	10.0nm,0.2s						
SHO				*i* S	**Sn**	**06 47 25.4**	**-1.2**
SHO				A	A	06 47 28.3	
	230nm,0.2s						
SHO				A	A	06 47 28.3	
	180nm,0.2s						
JAR	**Ashorobuto**	**1.51**	**276**	P	**Pn**	**06 47 20.6**	**+0.5**
JAR				*e*S	**Sn**	**06 47 38.8**	**+0.3**
JTKR	**Abashiri--Toko**	**1.61**	**301**	P	**Pn**	**06 47 22.3**	**+0.8**
JTKR				S	**Sn**	**06 47 42.0**	**+0.9**

*ISK **28** 06:50:08.8, 36°.62N×28°.47E, h51km±1km, ML3.0/12*
*AFAD **28** 06:50:09.0, 36°.60N×28°.45E, h45km±9km, ML2.9*
*THE **28** 06:50:09.9, 36°.59N×28°.47E, h46km±2km, ML2.5/5, Error ellipse: s-maj=2.6km s-min=0.5km az=184.0*
*ATH **28** 06:50:09.8, 36°.61N×28°.55E, h36km±3km, ML2.9/7, Manual Solution by N.Liadopoulou First location: 2019/04/28 06:51:39, This location: 2019/04/28 19:24:50 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 8 km*
*GII **28** 06:50:12.8±0.0, 36°.038N±0°.002×28°.628E±0°.001, h50km, Mws3.3, confirmed*
ISC 28 06:50:08.8±1.2, 36°.53N±0°.03×28°.54E±0°.03, h48km±9km, n62, σ1§63/83, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RODB	**Rodos**	**0.27**	**252**	P	**Pn**	**06 50 18.6**	**+1.2**
RODB				S	**Sn**	**06 50 23.9**	**+0.5**
DALY	**Dalyan (Mula)**	**0.30**	**18**	Pg	**Pn**	**06 50 17.9**	**+0.2**
DALY				Sg	**Sn**	**06 50 24.7**	**+0.7**
TURN	**Turunc**	**0.34**	**316**	P	**Pn**	**06 50 17.9**	**-0.2**
TURN				S	**Sn**	**06 50 24.6**	**-0.1**
TURN				*i* AML	AML	06 50 25.0	
	comp=E,3μm,0.3s						
TURN				*i* AML	AML	06 50 25.0	
	comp=N,836nm,0.3s						
FETY	**Fethiye**	**0.45**	**76**	Pg	**Pn**	**06 50 20.5**	**+1.1**
FETY				Sg	**Sn**	**06 50 29.1**	**+2.2**
FETY	**Fethiye**	**0.45**	**76**	P	**Pn**	**06 50 20.9**	**+1.5**
FETY				S	**Sn**	**06 50 29.9**	**+3.0**
SABU	**Mula-Dalaman**	**0.45**	**50**	P	**Pn**	**06 50 20.0**	**+0.6**
SABU				S	**Sn**	**06 50 27.7**	**+0.7**
SABU				*i* AML	AML	06 50 28.0	
	comp=N,399nm,0.6s						
ARG	**Arkhangelos**	**0.46**	**227**	P	**Pn**	**06 50 20.4**	**+1.0**
ARG				S	**Sn**	**06 50 27.8**	**+0.9**
	685nm,0.2s						
ARG	**Arkhangelos**	**0.46**	**227**	Pg	**Pn**	**06 50 20.4**	**+1.0**
ARG				Sg	**Sn**	**06 50 28.7**	**+1.8**
ARG	**Arkhangelos**	**0.46**	**227**	P	**Pn**	**06 50 20.4**	**+1.0**
ARG				S	**Sn**	**06 50 28.0**	**+1.1**
IZZE	**Mula-Seydike**	**0.56**	**99**	P	**Pn**	**06 50 22.1**	**+1.4**
YER	**Yerkesik**	**0.64**	**341**	Pg	**Pn**	**06 50 21.4**	**-0.3**
YER				Sg	**Sn**	**06 50 30.0**	**-1.0**
CAME	**Cameli-Denizli**	**0.74**	**56**	Pg	**Pn**	**06 50 24.2**	**+1.1**
DAT	**Datca**	**0.80**	**285**	Pg	**Pn**	**06 50 23.5**	**-0.3**
DNZT	**Denizli-Tavas-**	**0.84**	**27**	P	**Pn**	**06 50 24.9**	**+0.4**
DNZT				P		06 50 25.1	
DNZT				S	**Sn**	**06 50 36.8**	**+0.9**
DNZT				S		06 50 36.8	
DNZT				*i* AML	AML	06 50 37.0	
	comp=N,298nm,0.7s						
DNZT				*i* AML	AML	06 50 38.0	
	comp=N,281nm,0.7s						
CAEL	**Denizli, Camel**	**0.86**	**46**	P	**Pn**	**06 50 26.1**	**+1.3**
YAZI	**Mula-Dat§a-**	**0.89**	**280**	P	**Pn**	**06 50 24.4**	**-0.5**
YAZI				S	**Sn**	**06 50 36.3**	**-0.4**
KNIK	**Mula-Seydike**	**0.89**	**69**	P	**Pn**	**06 50 26.7**	**+1.6**
KNIK				S	**Sn**	**06 50 40.2**	**+3.1**
AKAS	**Kas**	**0.91**	**109**	P	**Pn**	**06 50 26.9**	**+1.6**
KSL	**Kastellorizon**	**0.93**	**114**	P	**Pn**	**06 50 26.8**	**+1.4**
KSL				S	**Sn**	**06 50 40.4**	**+2.8**
	130nm,0.4s						
KSL	**Kastellorizon**	**0.93**	**114**	P	**Pn**	**06 50 26.5**	**+1.1**
KSL				S	**Sn**	**06 50 38.5**	**+0.9**
MLSB	**Milas**	**0.98**	**322**	Pg	**Pn**	**06 50 26.3**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.98**	**18**	P	**Pn**	**06 50 26.4**	**0.0**
TAVA				S	**Sn**	**06 50 38.8**	**-0.4**
TAVA				*i* AML	AML	06 50 40.0	
	comp=N,392nm,0.1s						
TAVA				*i* AML	AML	06 50 41.0	
	comp=E,340nm,0.6s						
GOLH	**Golhisar**	**1.08**	**49**	P	**Pn**	**06 50 28.5**	**+0.9**
BODT	**Bodrum**	**1.12**	**299**	Pg	**Pn**	**06 50 27.6**	**-0.5**
APMY	**Acipayam-Deniz**	**1.12**	**33**	Pn	**Pn**	**06 50 28.5**	**+0.3**
NISR	**Nisiros**	**1.14**	**275**	P	**Pn**	**06 50 28.0**	**-0.3**
NISR				S	**Sn**	**06 50 42.1**	**-0.7**
	188nm,0.2s						
DNIZ	**Denizli-Tavas-**	**1.17**	**20**	P	**Pn**	**06 50 29.2**	**+0.4**
YKAV	**Yalikavak-Bodr**	**1.17**	**301**	Pg	**Pn**	**06 50 27.9**	**-0.9**
AYDN	**Tasoluk**	**1.25**	**335**	P	**Pn**	**06 50 29.7**	**-0.1**
AYDN				S	**Sn**	**06 50 44.5**	**-1.1**
AYDN				*i* AML	AML	06 50 45.0	
	comp=E,722nm,0.2s						
ESEN	**Aydn-Nazilli**	**1.27**	**353**	P	**Pn**	**06 50 29.6**	**-0.6**
KLNA	**Kalymnos**	**1.33**	**289**	P	**Pn**	**06 50 32.0**	**+1.1**
DDIM	**Aydin, Didim**	**1.39**	**312**	P	**Pn**	**06 50 31.4**	**-0.4**
DDIM				S	**Sn**	**06 50 47.7**	**-1.2**
DDIM				*i* AML	AML	06 50 48.0	
	comp=N,183nm,0.4s						
DDIM				*i* AML	AML	06 50 50.0	
	comp=E,279nm,1.0s						
NAZL	**Nazilli-Aydin**	**1.45**	**352**	Pn	**Pn**	**06 50 32.1**	**-0.5**
KARP	**Karpathos**	**1.48**	**229**	P	**Pn**	**06 50 33.6**	**+0.5**
KARP				S	**Sn**	**06 50 52.0**	**+0.7**
	322nm,0.2s						
KARP	**Karpathos**	**1.48**	**229**	Pn	**Pn**	**06 50 34.2**	**+1.1**
KARP	**Karpathos**	**1.48**	**229**	P	**Pn**	**06 50 34.0**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**340**	Pn	**Pn**	**06 50 32.5**	**-1.0**
GCAM	**G?zelcaml?**	**1.57**	**319**	P	**Pn**	**06 50 34.1**	**-0.1**
GCAM				*i* AML	AML	06 50 52.0	
	comp=N,204nm,0.3s						
GCAM				S	**Sn**	**06 50 52.1**	**-1.2**
GCAM				*i* AML	AML	06 50 54.0	
	comp=E,335nm,0.5s						
ODEM	**Odemis-Izmir**	**1.78**	**348**	Pn	**Pn**	**06 50 36.1**	**-1.1**
KULA	**Kula-Manisa**	**1.98**	**3**	Pn	**Pn**	**06 50 39.2**	**-0.8**
ISP	**Isparta**	**2.04**	**50**	P	Pn	06 50 48.5	+7.7
ZKR	**Zakros**	**2.36**	**234**	P	**Pn**	**06 50 45.6**	**+0.6**
ZKR				S	**Sn**	**06 51 13.0**	**+0.3**
	48nm,0.3s						
ZKR	**Zakros**	**2.36**	**234**	P	**Pn**	**06 50 46.4**	**+1.4**
IDI	**Anoyia**	**3.21**	**248**	P	**Pn**	**06 50 57.0**	**+0.3**
PRK	**Paraskevi**	**3.25**	**327**	P	**Pn**	**06 50 56.9**	**-0.3**
SIGR	**SIGRI**	**3.42**	**322**	P	**Pn**	**06 50 59.3**	**-0.2**
IMMV	**Iera Moni Meta**	**3.84**	**255**	P	**Pn**	**06 51 06.0**	**+0.6**
CSS	**Mathiatis**	**4.20**	**110**	P	**Pn**	**06 51 11.6**	**+1.2**
CSS	**Mathiatis**	**4.20**	**110**	S	**Sn**	**06 51 57.6**	**-0.5**
ANKY	**Antikythira Is**	**4.29**	**263**	P	**Pn**	**06 51 12.8**	**+1.4**
VLI	**Veliai**	**4.51**	**274**	P	**Pn**	**06 51 15.5**	**+1.0**
KAVA	**Kavala**	**5.46**	**326**	P	**Pn**	**06 51 27.5**	**0.0**
KOKK	**Kokkinochori,**	**5.56**	**322**	P	**Pn**	**06 51 29.1**	**+0.2**
DSI	**Dead Sea**	**7.53**	**129**	P	**Pn**	**06 51 55.3**	**-0.6**
PRNI	**Paran**	**8.19**	**137**	P	**Pn**	**06 52 04.1**	**-1.0**
PRNI	**Paran**	**8.19**	**137**	S	**Sn**	**06 53 31.2**	**-5.2**
KRMI	**Paran Flat**	**8.23**	**139**	P	**Pn**	**06 52 04.3**	**-1.2**
KRMI	**Paran Flat**	**8.23**	**139**	S	**Sn**	**06 53 31.7**	**-5.5**
MBRI	**Mt Berech**	**8.58**	**140**	P	**Pn**	**06 52 09.6**	**-0.9**
MBRI	**Mt Berech**	**8.58**	**140**	S	**Sn**	**06 53 40.4**	**-5.5**
EIL	**Elat**	**8.70**	**140**	P	**Pn**	**06 52 10.6**	**-1.4**
EIL	**Elat**	**8.70**	**140**	S	**Sn**	**06 53 43.2**	**-5.6**

KRSC 28 06:51:05.6±1.4, 50°.17N×157°.35E, h52km±24km, MI3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.94**	**304**	*e*P	Pn	06 51 23.5	+0.9
SKR				*e*S	Sn	06 51 35.4	+0.3
PAU	**Pauzhetka**	**1.35**	**345**	*e*S	Sn	06 51 47.8	+3.1
KDTR	**Khodutka, Kamc**	**1.71**	**15**	*e*P	Pn	06 51 35.4	+2.5
KDTR				*e*S	Sn	06 51 56.2	+2.7
MTVR	**Mutnovka**	**2.38**	**12**	*e*P	Pn	06 51 45.3	+3.0
MTVR				*e*S	Sn	06 52 13.1	+2.9
RUS	**Russkaya**	**2.38**	**17**	*e*P	Pn	06 51 44.4	+2.3
RUS				*e*S	Sn	06 52 12.3	+2.2
GRL	**Gorelyy**	**2.43**	**10**	*e*P	Pn	06 51 46.4	+3.5
GRL				*e*S	Sn	06 52 15.0	+3.5
UGLR	**Uglovaya**	**3.18**	**16**	*e*P	Pn	06 51 56.6	+3.4
AVH	**Avacha**	**3.22**	**15**	*e*P	Pn	06 51 58.0	+4.3
KOK	**Koryaka**	**3.23**	**14**	*e*P	Pn	06 51 57.9	+4.1
SDLR	**Sedlovina**	**3.26**	**16**	*e*P	Pn	06 51 57.1	+2.9
KRX	**Arik**	**3.30**	**14**	*e*P	Pn	06 51 58.5	+3.7
MKZ	**Mys Kozlova**	**5.15**	**30**	*e*P	Pn	06 52 22.1	+2.1

*BJI **28** 06:51:17.4, 9°.57N×126°.42E, h15km, mB4.9/9, mb4.8/19, Ms4.2/18, Ms7 4.0/19*
*NEIC **28** 06:51:19.2±1.2, 9°.80N±0°.06×126°.42E±0°.05, h10km±1km, mb4.6/106, Error ellipse: s-maj=12.1km s-min=3.7km az=144.0*
*DJA **28** 06:51:24.5±0.8, 10°N±5°×12°7E±°, h65km±7km, M5.0/24, mb4.8/24, mB5.4/6, MLv5.3/2, Mw(mB)4.8/6*
*IDC **28** 06:51:25.7±1.9, 9°.69N×126°.42E, h65km±18km, mb4.0/26, mbtmp4.3/30, MS3.8/40, Error ellipse: s-maj=19.3km s-min=9.3km az=79.0*
ISC 28 06:51:23.9±0.3, 9°.72N±0°.04×126°.46E±0°.07, h50km, n184, σ1§43/132, mb4.5/87, MS3.9/43, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.77**	**198**	P	**Pn**	**06 52 04.7**	**-1.2**
DAV	**Davao City (W)**	**2.77**	**198**	P	**Pn**	**06 52 07

70nm,0.7s
UBPT Khong Chiam 21.22 287 P P 06 56 04.2 -1.5
JAGI Jajag, Banyuwa 21.83 215 P P 06 56 11.6 -0.7
JCJ Chichijima 22.79 39 LR LR 07 05 49.8
comp=Z,250nm,18.9s,baz=300,slow=38
MTN Manton Dam 22.89 168 P 06 56 23.4 -0.1
MTN IAmb IAmb 06 56 47.4
comp=Z,19nm,0.7s
NJ2 Nanjing 23.32 344 *eP* **P 06 56 27.3 -0.3**
NJ2 LR LR
comp=Z,350nm,20.8s
NJ2 LR LR
comp=Z,170nm,22.5s
NJ2 LR LR
comp=Z,450nm,19.9s
JNU Nakatsue 23.65 9 P P 06 56 29.0 -1.8
JNU IAmb IAmb 06 56 53.9
comp=Z,17nm,1.1s
JNU Nakatsue 23.65 9 LR LR 07 06 55.8
comp=Z,164nm,19.2s,baz=184,slow=39
MYKOM Kota Tinggi 23.82 252 P 06 56 32.4 -0.1
KNRA Kununurra 25.33 175 P 06 56 46.4 +0.1
KNRA IAmb IAmb 06 57 01.0
comp=Z,15nm,0.8s
MDSI Maura Dua 26.30 239 P P 06 56 57.3 +2.2
comp=Z,14nm,0.7s
JHJ Hachijo jima 2 26.33 26 LR LR 07 07 25.0
comp=Z,179nm,18.7s,baz=267,slow=36
BKNI Bangkinang 26.96 251 P P 06 56 59.2 -1.8
KSAR Wonju Array Be 27.63 2 P P 06 57 05.3 -1.5
KSRS Korea Array 27.65 3 P P 06 57 08.0 +1.0
comp=Z,1.3nm,0.7s,baz=180,slow=11,SNR=7.0
KSRS LR LR 07 10 17.3
comp=Z,222nm,18.4s,baz=185,slow=41
comp=Z,1.3nm,0.7s
FITZ Fitzroy Crossi 27.65 182 P P 06 57 07.5 +0.5
FITZ Fitzroy Crossi 27.65 182 P P 06 57 07.6 +0.5
comp=Z,15nm,0.8s,baz=5.3,slow=9.8,SNR=17
comp=Z,15nm,0.8s
PPI Padang Panjang 27.84 250 P P 06 57 09.8 +0.8
comp=Z,25nm,1.5s
LYN LuoYang 27.84 335 P P 06 57 09.8 +1.1
LYN S **S 07 01 52.3 +3.8**
LYN pmax pmax
comp=Z,18nm,0.9s
LYN LR LR
comp=Z,230nm,19.9s
LYN LR LR
comp=Z,230nm,22.3s
LYN LR LR
comp=Z,330nm,16.5s
CMAR Chiang Mai Arr 28.03 291 P P 06 57 09.7 -0.9
comp=Z,1.1nm,0.3s,baz=99,slow=9.9,SNR=6.4
CMAR LR LR 07 09 51.0
comp=Z,202nm,18.2s,baz=135,slow=40
comp=Z,1.1nm,0.3s
PSI Prapat 28.20 258 LR LR 07 12 27.9
comp=Z,138nm,18.0s,baz=84,slow=45
RPSI Rantau Prapat 28.23 257 P 06 57 11.6 -0.9
RPSI IAmb IAmb 06 57 18.3
comp=Z,18nm,1.2s
PZH PanZhiHua 28.73 309 P P 06 57 18.5 +1.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
MJAR Matsushiro Arr 28.75 20 P P 06 57 15.7 -1.1
comp=Z,1.1nm,0.7s,baz=199,slow=8.1,SNR=4.4
MJAR LR LR 07 09 30.8
comp=Z,224nm,18.0s,baz=204,slow=38
comp=Z,1.1nm,0.7s
COEN Coen 28.78 145 P P 06 57 17.6 +0.3
COEN IAmb IAmb 06 57 18.8
comp=Z,19nm,1.2s
XAN Xi'an 29.07 329 P P 06 57 19.3 -0.5
XAN pP pP 06 57 22.3 -10
XAN pmax pmax
comp=Z,21nm,0.9s
XAN LR LR
comp=Z,290nm,17.9s
XAN LR LR
comp=Z,320nm,19.2s
XAN LR LR
comp=Z,490nm,18.6s
HNS HongShan 29.53 341 ⇑P **P 06 57 25.0 +1.3**
HNS S **S 07 02 20.5 +5.5**
HNS pmax pmax
comp=Z,21nm,0.8s
HNS LR LR
comp=Z,170nm,11.0s
HNS LR LR
comp=Z,170nm,11.8s
HNS LR LR
comp=Z,280nm,17.4s
WB0 Warramunga Arr 30.32 165 P P 06 57 29.5 -1.4
WB0 IAmb IAmb 06 57 43.5
comp=Z,7.4nm,1.1s
WRA Warramunga Arr 30.48 165 P P 06 57 30.6 -1.6
comp=Z,0.5nm,0.5s,baz=346,slow=8.9,SNR=5.1
comp=Z,0.5nm,0.5s
WB2 Warramunga Arr 30.48 165 P P 06 57 32.7 +0.4
WB2 IAmb IAmb 06 57 39.3
comp=Z,8.3nm,1.1s
WR8 Warramunga Arr 30.53 165 P P 06 57 31.2 -1.5
WR8 IAmb IAmb 06 57 36.7
comp=Z,16nm,1.5s
MBWA Marble Bar 31.39 192 P P 06 57 40.4 +0.2
PSA00 Pilbara Seismi 31.77 192 P P 06 57 42.4 -1.2
HHC Hu-ho-hao-te 33.70 339 *eP* **P 06 58 02.8 +2.4**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.1s
HHC LR LR
comp=Z,240nm,14.5s
HHC LR LR
comp=Z,160nm,16.0s
HHC LR LR
comp=Z,270nm,15.3s
AS31 Alice Springs 33.97 168 P 06 58 01.9 -1.0
CN2 Changchun 33.97 359 *eP* **P 06 58 03.5 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
ASAR Alice Springs 33.97 168 P P 06 58 01.3 -1.6
ASAR Alice Springs 33.97 168 P P 06 58 01.5 -1.4
comp=Z,0.7nm,0.3s,baz=353,slow=6.7,SNR=20
ASAR PcP **PcP 07 00 40.2 -0.1**
comp=Z,0.7nm,0.6s,baz=351,slow=2.9,SNR=4.9
comp=Z,0.7nm,0.3s
GIRL Giralia 34.32 200 P P 06 58 06.2 +0.4
USRK Ussuriysk Ar. 34.69 7 P P 06 58 08.8 0.0
comp=Z,2.0nm,0.7s,baz=121,slow=7.4,SNR=4.1
USRK LR LR 07 13 17.0
comp=Z,98nm,19.2s,baz=173,slow=38
comp=Z,2.0nm,0.7s
BRDH Bariadhala 35.73 295 LR LR 07 15 18.2
comp=Z,148nm,18.3s,baz=137,slow=40
SHL Shillong 36.38 300 P 06 58 22.9 -0.9
ASAJ Asahikawa 37.02 19 LR LR 07 14 03.4
comp=Z,172nm,18.7s,baz=136,slow=37
GTA Gaotai 37.94 326 *eP* **P 06 58 37.8 +1.0**
GTA pmax pmax
comp=Z,5.0nm,0.6s
HNR Honiara 38.38 119 LR LR 07 15 15.0
comp=Z,47nm,18.4s,baz=331,slow=37
KLR Kul'dur 39.63 5 LR LR 07 16 33.9
comp=Z,121nm,18.9s,baz=186,slow=38
MORW Morawa 39.85 194 P 06 58 53.0 +0.3
MORW IAmb IAmb 06 59 04.1
comp=Z,24nm,1.3s
H11S3 WAKE ISLAND Hy 39.90 73 T T 07 41 56.6
baz=262,slow=70,SNR=28
H11S1 WAKE ISLAND Hy 39.92 73 T T 07 42 04.4
baz=262,slow=70,SNR=16
H11S2 WAKE ISLAND Hy 39.92 73 T T 07 41 52.4
baz=262,slow=70,SNR=16
H11N1 WAKE ISLAND Hy 40.26 71 T T 07 42 32.1
baz=264,slow=74,SNR=27
H11N2 WAKE ISLAND Hy 40.26 71 T T 07 42 23.2
baz=264,slow=74,SNR=22
H11N3 WAKE ISLAND Hy 40.27 71 T T 07 42 26.9
baz=264,slow=74,SNR=20
FORT Forrest 40.29 178 P P 06 58 56.3 -0.1
HEH HeiHe 40.42 1 *eP* **P 06 58 58.0 +0.8**
HEH LR LR
comp=Z,260nm,16.2s
HEH LR LR
comp=Z,100nm,16.9s
HEH LR LR
comp=Z,220nm,18.8s
ULN Ulaanbaatar 41.40 340 P 06 59 04.1 -1.5
SONM Songino Array 41.60 340 P P 06 59 06.6 -0.5
SONM Songino Array 41.60 340 P P 06 59 08.5 +1.4
comp=Z,2.6nm,0.5s,baz=157,slow=8.2,SNR=8.9
SONM LR LR 07 19 14.1
comp=Z,199nm,18.3s,baz=271,slow=40
comp=Z,2.6nm,0.5s
EIDS Eidsvold 42.33 146 P P 06 59 12.5 -0.7
EIDS IAmb IAmb 06 59 20.6
comp=Z,16nm,1.2s
BBOO Buckleboo 43.27 168 P 06 59 20.9 +0.2
NWAO Narrogin (SRO) 43.31 191 P P 06 59 21.4 +0.5
NWAO IAmb IAmb 06 59 34.1
comp=Z,15nm,0.8s
STKA Stephens Creek 43.82 161 P P 06 59 24.9 -0.2
STKA Stephens Creek 43.82 161 P P 06 59 24.6 -0.5
comp=Z,1.2nm,0.4s,baz=347,slow=9.6,SNR=6.2
comp=Z,1.2nm,0.4s
PALK Pallekele 45.29 271 LR LR 07 19 54.8
comp=Z,61nm,18.6s,baz=98,slow=38
WMQ Urumqi 47.77 322 *eP* **P 06 59 57.8 +1.5**
WMQ LR LR
comp=Z,130nm,17.9s
PEA0B Petropavlovsk- 50.06 24 P P 07 00 13.9 +0.3
PEA0B IAmb IAmb 07 00 30.0
comp=Z,12nm,1.2s
PETK Petropavlovsk- 50.06 24 P P 07 00 12.4 -1.2
PETK Petropavlovsk- 50.06 24 P P 07 00 15.2 +1.6
comp=Z,2.7nm,0.6s,baz=208,slow=2.5,SNR=19
PETK PcP **PcP 07 01 32.6 -0.2**
comp=Z,1.2nm,0.7s,baz=228,slow=7.5,SNR=2.3
PETK LR LR 07 22 14.8
comp=Z,111nm,18.6s,baz=221,slow=37
comp=Z,2.7nm,0.6s
TOO Toolangi 50.31 160 P P 07 00 16.7 +1.0
TOO IAmb IAmb 07 00 22.9
comp=Z,17nm,1.5s
YAK Yakutsk 52.27 2 P P 07 00 27.8 -2.1
YAK Yakutsk 52.27 2 LR LR 07 24 42.1
comp=Z,76nm,18.9s,baz=201,slow=38
MKAR Makanchi Array 52.58 323 P 07 00 32.0 -0.6
MKAR Makanchi Array 52.58 323 P P 07 00 32.5 -0.1
comp=Z,2.9nm,0.6s,baz=121,slow=8.3,SNR=25
MKAR PcP **PcP 07 01 42.2 -0.1**
comp=Z,1.5nm,0.8s,baz=102,slow=4.3,SNR=2.1
MKAR LR LR 07 22 17.7
comp=Z,103nm,19.5s,baz=126,slow=35
comp=Z,2.9nm,0.6s
MAKZ Makanchi 52.77 323 P 07 00 33.5 -0.5
NIL Nilore 54.20 305 P P 07 00 44.3 -0.4
ZAA0 Zalesovo Array 55.20 331 P P 07 00 51.0 -0.6
ZALV Zalesovo Beam 55.20 331 P P 07 00 50.8 -0.7
ZALV Zalesovo Beam 55.20 331 P P 07 00 51.1 -0.4
comp=Z,1.3nm,0.5s,baz=120,slow=5.3,SNR=7.5
comp=Z,1.3nm,0.5s
AAK Ala-Archa 55.85 315 LR LR 07 27 53.4
comp=Z,143nm,18.3s,baz=84,slow=39
SEY Seymchan 56.31 14 LR LR 07 27 11.1
comp=Z,40nm,18.4s,baz=173,slow=38
KURK Kurchatov 56.62 326 P 07 01 01.4 -0.4
KURK IAmb IAmb 07 01 03.2
comp=Z,5.5nm,0.9s
KURBB Kurchatov Arra 56.63 326 P P 07 01 01.6 -0.2
comp=Z,2.5nm,0.6s,baz=128,slow=6.9,SNR=19
comp=Z,2.5nm,0.6s
SHEM Shemya Is, Ala 57.52 32 LR LR 07 27 33.5
comp=Z,23nm,18.4s,baz=292,slow=38
GAR Garm 57.79 310 P P 07 01 10.2 -0.2
GAR IAmb IAmb 07 01 23.1
comp=Z,12nm,1.1s
KBL Kabul 57.80 305 P P 07 01 10.1 -0.6
KBL IAmb IAmb 07 01 11.7
comp=Z,8.7nm,1.1s
CHGR Chuyangaron 58.58 309 P P 07 01 16.4 +0.5
KK31 Karatay Array 58.77 315 P P 07 01 16.4 -0.7
KKAR Karatay Array 58.77 315 P 07 01 16.4 -0.7
TIXI Tiksi 61.90 1 P 07 01 38.1 +0.2
TIXI Tiksi 61.90 1 LR LR 07 29 10.6
comp=Z,118nm,21.1s,baz=198,slow=37
BVAR Borovoye Array 62.22 325 P P 07 01 40.4 0.0
comp=Z,1.1nm,0.5s,baz=130,slow=6.3,SNR=5.5
BVAR LR LR 07 28 13.5
comp=Z,92nm,20.0s,baz=116,slow=36
comp=Z,1.1nm,0.5s
HRA Herat 63.33 304 P P 07 01 48.1 -0.2
HRA IAmb IAmb 07 01 49.4
comp=Z,4.5nm,0.9s
BILL Bilibino 63.88 16 P P 07 01 50.7 -0.4
BILL IAmb IAmb 07 02 17.1
comp=Z,3.3nm,1.0s
NRIK Noril'sk 64.59 346 P 07 01 55.3 -0.4
NRIK Noril'sk 64.59 346 P P 07 01 56.2 +0.5
comp=Z,6.0nm,0.6s,baz=126,slow=5.9,SNR=12
NRIK LR LR 07 34 45.7
comp=Z,106nm,18.4s,baz=144,slow=40
comp=Z,6.0nm,0.6s
URZ Urewera 67.13 139 LR LR 07 33 21.4
comp=Z,132nm,18.8s,baz=22,slow=38
BKZ Black Stump Fm 67.25 140 P 07 02 14.5 +1.1
ABKAR Akbulak array 67.41 319 P 07 02 14.0 -0.2
ARTI Arti 69.87 327 P P 07 02 29.3 -0.1
ARTI Arti 69.87 327 LR LR 07 36 28.0
comp=Z,36nm,18.4s,baz=60,slow=39
K13K Kusilvak Mount 71.60 28 P P 07 02 39.8 0.0
L14K Kuka Creek 72.38 29 P 07 02 44.5 0.0
F17K Baldwin Pennin 74.09 23 P P 07 02 55.3 +0.8
F17K IAmb IAmb 07 03 15.0
comp=Z,9.5nm,1.3s
H17K Granite Mounta 74.33 25 P P 07 02 56.0 +0.1
J17K VABM Dome 74.42 27 P P 07 02 57.0 +0.5
J17K IAmb IAmb 07 03 24.9
comp=Z,5.6nm,1.1s
K17K Iditarod 74.66 28 P 07 02 58.0 +0.1
M17K Holitna River 74.88 29 P 07 02 58.5 -0.6
M17K IAmb IAmb 07 03 03.7
comp=Z,11nm,1.1s
L18K Granite Mounta 75.33 28 P P 07 03 02.9 +1.1
L18K IAmb IAmb 07 03 17.5
comp=Z,8.4nm,1.3s
G19K Purcell Mounta 75.69 24 P P 07 03 05.4 +1.6
G19K IAmb IAmb 07 03 23.1
comp=Z,5.7nm,1.4s
O18K Koktuh Hills 75.80 31 P 07 03 05.0 +0.5
H19K Roundabout Mou 75.87 25 IAmb IAmb 07 03 31.2
comp=Z,9.7nm,1.4s
KDAK Kodiak Island 77.02 33 LR LR 07 35 57.4
comp=Z,51nm,18.9s,baz=88,slow=35
B21K Ikpikpuk River 77.09 21 IAmb IAmb 07 03 24.7
comp=Z,5.2nm,1.0s
H21K Melozitna Rive 77.39 25 IAmb IAmb 07 03 26.5
comp=Z,8.8nm,1.4s
GNI Garni 77.49 309 LR LR 07 42 46.0
comp=Z,36nm,18.8s,baz=111,slow=40
CAST Castle Rocks 77.55 27 IAmb IAmb 07 03 39.9
comp=Z,4.1nm,1.1s
B22K Teshekpuk Lake 77.58 20 IAmb IAmb 07 03 18.9
comp=Z,8.1nm,1.1s
RAYN Ar Rayn 77.95 292 P 07 03 16.8 -0.6
RAYN IAmb IAmb 07 03 18.9
comp=Z,3.9nm,0.8s
BPAW Bear Paw Mtn. 78.07 26 IAmb IAmb 07 03 19.2
comp=Z,4.4nm,0.9s
SUA Susitna One 78.08 29 IAmb IAmb 07 03 29.6
comp=Z,8.3nm,1.1s
C23K Itkillik River 78.50 21 IAmb IAmb 07 03 22.0
comp=Z,5.0nm,0.6s
COLD Coldfoot 78.52 23 IAmb IAmb 07 03 44.2
comp=Z,3.8nm,1.0s
RAR Rarotonga 78.65 114 LR LR 07 36 31.5
comp=Z,143nm,18.2s,baz=48,slow=34
KBZ Khabaz 78.72 313 P 07 03 21.6 +0.4
KBZ LR LR 07 43 58.2
comp=Z,70nm,18.1s,baz=84,slow=40
comp=Z,3.1nm,1.1s
E23K Chandalar 78.78 22 IAmb IAmb 07 03 26.4
comp=Z,3.8nm,0.8s
I23K Minto, Yukon-K 78.80 25 IAmb IAmb 07 03 24.1
comp=Z,3.2nm,0.6s
PMR Palmer 78.86 29 P 07 03 21.8 +0.3
MCK McKinley 78.97 27 IAmb IAmb 07 03 48.2
comp=Z,10nm,1.4s
KNK Knik Glacier 79.18 29 IAmb IAmb 07 03 24.6
comp=Z,8.6nm,1.2s
SML Sawmill 79.24 29 IAmb IAmb 07 03 49.5
comp=Z,6.8nm,1.0s
PWL Port Wells 79.25 30 IAmb IAmb 07 03 25.2
comp=Z,6.8nm,0.8s
ILAR Eielson Array 79.85 26 P P 07 03 26.7 -0.2
comp=Z,0.7nm,0.6s,baz=239,slow=5.0,SNR=28
ILAR LR LR 07 41 02.8
comp=Z,41nm,19.1s,baz=250,slow=37
comp=Z,0.7nm,0.6s
E25K Arctic Village 80.30 22 IAmb IAmb 07 03 39.8
comp=Z,8.3nm,1.5s
RIDG Independent Ri 80.78 27 IAmb IAmb 07 03 35.9
comp=Z,7.9nm,1.2s
D27M Malcolm River 81.90 21 IAmb IAmb 07 03 43.2
comp=Z,3.1nm,0.8s
L27K Beaver Creek, 82.19 27 IAmb IAmb 07 03 42.7
comp=Z,5.9nm,1.4s
H29M Whitestone 83.27 24 IAmb IAmb 07 03 49.9
comp=Z,3.8nm,1.2s
G29M Pine Creek 83.30 23 IAmb IAmb 07 04 03.6
comp=Z,4.4nm,1.0s
M29M Somme Creek 83.81 28 IAmb IAmb 07 03 51.9
comp=Z,2.7nm,0.9s
L29M L29M 83.85 27 IAmb IAmb 07 03 56.2
comp=Z,7.5nm,1.1s
K29M Barlow Dome 84.00 26 IAmb IAmb 07 04 15.1
comp=Z,6.7nm,1.3s
I30M Mount Dempster 84.25 25 IAmb IAmb 07 04 08.3
comp=Z,4.2nm,0.9s
J30M Hart River 84.39 25 IAmb IAmb 07 03 55.8
comp=Z,2.3nm,0.9s
ASF Jabal al Asfar 84.53 302 LR LR 07 46 37.7
comp=Z,46nm,18.9s,baz=155,slow=39
M30M Minto, Yukon 84.55 28 IAmb IAmb 07 03 56.9
comp=Z,4.7nm,1.1s
SPITS Spitsbergen Ar 84.59 349 P P 07 03 51.9 +0.3
comp=Z,2.3nm,0.5s,baz=86,slow=11,SNR=20
comp=Z,2.3nm,0.5s
ARCES ARCESS Array B 84.77 340 P P 07 03 53.3 +0.7
comp=Z,3.3nm,0.5s,baz=79,slow=6.9,SNR=42
comp=Z,3.3nm,0.5s
H31M Peel River 84.96 24 IAmb IAmb 07 03 56.0
comp=Z,4.4nm,0.8s
BRTR Keskin Array B 86.02 309 P P 07 03 58.5 -1.1
BRTR Keskin Array B 86.02 309 P P 07 03 59.4 -0.2
comp=Z,0.6nm,0.6s,baz=130,slow=3.9,SNR=4.3
comp=Z,0.6nm,0.6s
A36M Sachs Harbour 86.38 17 P 07 04 01.4 +0.9
FIA1 FINESS Array S 86.46 332 P P 07 04 00.5 -0.5
FINES FINESS Array B 86.46 332 P P 07 04 00.8 -0.3
FINES FINESS Array B 86.46 332 P P 07 04 01.4 +0.3
comp=Z,3.8nm,0.5s,baz=75,slow=4.7,SNR=35
FINES LR LR 07 45 07.2
comp=Z,42nm,19.8s,baz=199,slow=37
comp=Z,3.8nm,0.5s
EIL Elat 86.56 299 LR LR 07 50 05.2
comp=Z,43nm,18.1s,baz=64,slow=41
AKASG Malin Array Be 87.11 321 P P 07 04 03.7 -0.7
comp=Z,0.5nm,0.4s,baz=62,slow=5.3,SNR=5.9
AKASG LR LR 07 47 46.6
comp=Z,46nm,18.2s,baz=54,slow=39
comp=Z,0.5nm,0.4s
PPT Papeete 87.22 108 LR LR 07 36 12.0
comp=Z,40nm,18.9s,baz=92,slow=31
VNDA Vanda 89.36 173 P P 07 04 14.6 +0.1
comp=Z,1.0nm,0.9s,baz=316,slow=5.4,SNR=7.1
comp=Z,1.0nm,0.9s
HFS Hagfors 92.62 332 P P 07 04 29.3 -0.8
comp=Z,2.2nm,0.6s,baz=108,slow=4.8,SNR=13
comp=Z,2.2nm,0.6s
NB2 NORSAR Subarra 93.33 334 P P 07 04 32.4 -1.0
comp=Z,1.1nm,0.6s,baz=66,slow=4.6
NOA NORSAR Array B 93.33 334 P P 07 04 32.6 -0.8
comp=Z,1.0nm,0.7s,baz=63,slow=4.7,SNR=7.4
NOA LR LR 07 49 42.9
comp=Z,36nm,18.5s,baz=50,slow=38
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 94.18 24 P P 07 04 38.3 +1.1
comp=Z,1.3nm,0.7s,baz=302,slow=4.6,SNR=22
comp=Z,1.3nm,0.7s
TXAR Lajitas Array 118.04 49 PKP **PKiKP 07 10 07.7 +1.6**
comp=Z,0.2nm,0.5s,baz=90,slow=0.8,SNR=4.4
PLCA Paso Flores 145.63 157 PKPbc **PKiKP 07 10 58.7 -2.6**
comp=Z,2.4nm,0.6s,baz=219,slow=5.7,SNR=13

GII 28 06:53:01.7±0.0,31°.975N±0°.004×36°.106E±0°.001,h0km, confirmed,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.56**	**300**	P	Pg	06 53 12.6	0.0
HMDT	**Nahal Hemdat**	**0.56**	**300**	S	Sb	06 53 23.4	+0.3
DSI	**Dead Sea**	**0.74**	**237**	P	Pg	06 53 16.0	+0.1
DSI	**Dead Sea**	**0.74**	**237**	S	Sb	06 53 28.1	0.0
DSI	**Dead Sea**	**0.74**	**237**	S	Pg	06 53 15.9	+0.1
MMLI	**Mount Malkishu**	**0.74**	**309**	P	Pb	06 53 17.4	-0.1
MMLI	**Mount Malkishu**	**0.74**	**309**	S	Sb	06 53 29.1	+0.9
GHAJ	**Ghor Haditha**	**0.81**	**215**	P	Pb	06 53 18.3	-0.4
GHAJ	**Ghor Haditha**	**0.81**	**215**	S	Sb	06 53 31.2	+1.0
YTIR	**Yattir**	**1.04**	**234**	P	Pb	06 53 22.2	-0.4
YTIR	**Yattir**	**1.04**	**234**	S	Sn	06 53 38.0	-0.9
MMA0B	**Mount Meron ar**	**1.20**	**330**	P	Pb	06 53 25.1	-0.1
MMA0B	**Mount Meron ar**	**1.20**	**330**	S	Sn	06 53 42.9	+0.1
MMC7	**Mount Meron ar**	**1.21**	**330**	P	Pb	06 53 25.6	+0.1
NATI	**Neve Ativ**	**1.32**	**346**	P	Pn	06 53 27.9	+0.5
NATI	**Neve Ativ**	**1.32**	**346**	S	Sn	06 53 46.5	+0.8

---

*IDC **28** 06:57:47.0±0.5,9°.72N×126°.36E,h0km,mb4.4/29, mbtmp4.4/30,ML4.5/1,Error ellipse: s-maj=21.0km s-min=10.6km az=83.0*
*BJI **28** 06:57:47.5,9°.67N×126°.38E,h15km,mB5.0/8,mb4.6/19, Ms4.2/11,Ms7 4.0/12*
*NEIC **28** 06:57:49.2±1.1,9°.82N±0°.07×126°.40E±0°.07,h10km±1km, mb4.6/165,Error ellipse: s-maj=12.0km s-min=11.2km az=192.0*
*DJA **28** 06:57:56.6±0.8,10°N±5°×12°7E±°,h84km±6km,M4.9/21, mb4.8/21,mB5.5/6,MLv5.0/2,Mw(mB)4.9/6*
ISC 28 06:57:53.9±0.3,9.72N±0°.04×126°.44E±0°.07,h50km,n454, σ1§12/402,mb4.6/131,MS4.1/7,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.77**	**198**		**Pn**	**06 58 34.6**	**-1.2**
DAV	**Davao City (W)**	**2.77**	**198**	Pn	**Pn**	**06 58 33.9**	**-1.9**
70nm,0.3s,baz=312,slow=7.9,SNR=1.9							
DAV				Sn	**Sn**	**06 59 05.6**	**-2.4**
55nm,0.3s,baz=334,slow=13,SNR=4.3							
156nm,0.4s							
DAV	**Davao City (W)**	**2.77**	**198**	P	Pn	06 58 47.1	+11
LUWI	**Luwuk**	**11.29**	**199**	Pn	**Pn**	**07 00 31.6**	**-1.1**
APSI	**Ampana**	**11.59**	**205**	P	Pn	07 00 46.9	+10
41nm,0.9s							
SANI	**Sanana**	**11.70**	**182**	P	Pn	07 00 45.8	+7.5
SANI	**Sanana**	**11.70**	**182**	P	**Pn**	**07 00 39.1**	**+0.8**
27nm,0.7s							
TPUB	**Ta-pu**	**14.60**	**338**	P	**P**	**07 01 24.6**	**+1.6**
NACB	**Ninganchiao**	**15.10**	**343**	Pn	**Pn**	**07 01 20.3**	**-3.8**
SPSI	**Sidrap Palu**	**15.13**	**206**	P	**P**	**07 01 32.2**	**+3.4**
30nm,1.1s							
BNSI	**Bone**	**15.38**	**204**	P	**P**	**07 01 33.3**	**+1.7**
33nm,1.8s							
SBUM	**Sibu**	**15.87**	**244**	Pn	**Pn**	**07 01 32.5**	**-1.5**
SBUM	**Sibu**	**15.87**	**244**	P	**P**	**07 01 42.1**	**+5.1**
SMPI	**Sarmi**	**16.88**	**133**	P	**P**	**07 01 47.8**	**-0.4**
2um47nm,1.2s							
SOEI	**Soe**	**19.47**	**186**	P	**P**	**07 02 15.9**	**-0.9**
UBPT	**Khong Chiam**	**21.19**	**287**	P	**P**	**07 02 40.5**	**+5.0**
DRS	**Darwin Rock St**	**22.45**	**169**	P	**P**	**07 02 51.0**	**+2.1**
MTN	**Manton Dam**	**22.90**	**168**		**P**	**07 02 53.6**	**0.0**
MTN				IAmb	IAmb	07 03 22.0	
comp=Z,21nm,1.1s							
KDU	**Kakadu**	**23.05**	**165**	P	**P**	**07 02 52.5**	**-2.7**
KDU	**Kakadu**	**23.05**	**165**	P	**P**	**07 02 55.3**	**+0.1**
NJ2	**Nanjing**	**23.31**	**344**	*eP*	**P**	**07 02 56.8**	**-0.7**
NJ2				pmax	pmax		
comp=Z,17nm,0.5s							
PPBI	**Pangkal Pinang**	**23.41**	**241**	P	**P**	**07 03 02.0**	**+3.3**
JNU	**Nakatsue**	**23.65**	**9**	P	**P**	**07 02 59.4**	**-1.4**
MYKOM	**Kota Tinggi**	**23.80**	**252**		**P**	**07 03 01.8**	**-0.5**
MYKOM	**Kota Tinggi**	**23.80**	**252**	P	**P**	**07 03 06.8**	**+4.5**
NONG	**Nongkai**	**24.06**	**293**	P	**P**	**07 03 10.1**	**+5.4**
JMN	**Monobe**	**24.86**	**15**	P	**P**	**07 03 10.6**	**-1.3**
JMN				IAmb	IAmb	07 03 14.8	

comp=Z,23nm,1.1s
LEM Lembang 24.93 229 P P 07 03 11.8 -1.1
comp=Z,10nm,0.4s,baz=121,slow=22,SNR=4.4
comp=Z,10nm,0.4s
KNRA Kununurra 25.34 175 P 07 03 16.2 -0.1
KNRA Kununurra 25.34 175 P P 07 03 15.9 -0.4
comp=Z,25nm,0.9s
KULM Kulim 25.93 262 P P 07 03 20.7 -1.1
KULM IAmb IAmb 07 03 37.9
comp=Z,11nm,0.9s
CGJI Cibinong 26.27 233 P P 07 03 27.3 +2.5
MDSI Maura Dua 26.29 239 P P 07 03 26.6 +1.6
comp=Z,24nm,1.0s
LWLI Liwa 26.67 238 P P 07 03 30.0 +1.4
INU Inuyama 27.28 19 P P 07 03 32.5 -1.1
INU IAmb IAmb 07 03 36.2
comp=Z,25nm,1.5s
KSAR Wonju Array Be 27.63 2 P P 07 03 35.2 -1.6
KSRS Korea Array 27.65 3 P P 07 03 37.1 +0.2
comp=Z,3.5nm,0.9s,baz=179,slow=9.6,SNR=12
comp=Z,3.5nm,0.9s
FITZ Fitzroy Crossi 27.65 182 P P 07 03 36.8 -0.4
FITZ Fitzroy Crossi 27.65 182 P P 07 03 36.3 -0.8
comp=Z,6.0nm,0.9s
FITZ Fitzroy Crossi 27.65 182 P P 07 03 37.3 +0.2
comp=Z,22nm,0.8s,baz=347,slow=4.8,SNR=14
comp=Z,22nm,0.8s
FITZ Fitzroy Crossi 27.65 182 P P 07 03 37.7 +0.6
KS19 Wonju Array Si 27.69 2 P P 07 03 35.2 -2.2
KS19 IAmb IAmb 07 03 43.3
comp=Z,13nm,1.4s
LYN LuoYang 27.83 335 P P 07 03 39.3 +0.7
LYN pmax pmax
comp=Z,26nm,0.5s
LYN LR LR
comp=Z,290nm,13.7s
LYN LR LR
comp=Z,210nm,15.5s
LYN LR LR
comp=Z,310nm,10.3s
CM31 Chiang Mai Arr 28.01 291 P P 07 03 38.8 -1.6
CMAR Chiang Mai Arr 28.01 291 P P 07 03 38.7 -1.7
CMAR Chiang Mai Arr 28.01 291 P P 07 03 40.0 -0.4
comp=Z,1.2nm,0.6s,baz=100,slow=7.6,SNR=14
comp=Z,1.2nm,0.6s
PMG Port Moresby 28.05 132 P P 07 03 40.4 -0.3
CHTO Chiang Mai 28.10 292 P P 07 03 39.6 -1.6
PSI Prapat 28.18 258 P P 07 03 46.6 +4.5
MJAR Matsushiro Arr 28.76 20 P P 07 03 45.9 -1.0
comp=Z,1.0nm,0.7s,baz=203,slow=8.4,SNR=2.3
comp=Z,1.0nm,0.7s
XAN Xi'an 29.06 329 P P 07 03 48.5 -1.1
XAN pP pP 07 03 52.8 -8.9
XAN pmax pmax
comp=Z,24nm,0.8s
XAN LR LR
comp=Z,390nm,14.5s
XAN LR LR
comp=Z,140nm,15.8s
XAN LR LR
comp=Z,340nm,17.2s
HNS HongShan 29.52 341 ⇑P P 07 03 54.5 +0.9
HNS pmax pmax
comp=Z,22nm,0.9s
LHMI Lhok Sumawe 29.57 263 P P 07 03 54.5 +0.2
WB0 Warramunga Arr 30.33 165 P P 07 03 59.8 -1.2
WRAB Tennant Creek 30.48 165 P P 07 04 01.5 -0.8
WRA Warramunga Arr 30.48 165 P P 07 04 00.6 -1.7
comp=Z,1.1nm,0.9s,baz=347,slow=8.6,SNR=3.0
WRA PcP **PcP 07 06 59.1 -1.7**
comp=Z,0.7nm,0.8s,baz=333,slow=2.5,SNR=2.4
comp=Z,1.1nm,0.9s
WB2 Warramunga Arr 30.49 165 P P 07 04 01.3 -1.1
WB2 IAmb IAmb 07 04 25.1
comp=Z,13nm,1.4s
MBWA Marble Bar 31.38 192 P 07 04 10.8 +0.6
BJT Baijiatuau 31.53 345 P P 07 04 10.8 -0.6
BJT IAmb IAmb 07 04 14.9
comp=Z,5.9nm,0.6s
BJI Beijing 31.55 345 P P 07 04 12.0 +0.5
BJI S **S 07 09 18.5 +2.0**
BJI pmax pmax
comp=Z,3.0nm,1.1s
BJI LR LR
comp=Z,99nm,16.9s
BJI LR LR
comp=Z,61nm,16.6s
BJI LR LR
comp=Z,110nm,15.8s
PSA00 Pilbara Seismi 31.76 192 P P 07 04 14.3 +0.7
QIS Mount Isa 32.76 157 P P 07 04 21.2 -1.1
comp=Z,18nm,0.8s
QIS Mount Isa 32.76 157 P P 07 04 21.9 -0.4
HHC Hu-ho-hao-te 33.69 339 *e*P **P 07 04 30.5 +0.2**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,76nm,3.5s
AS31 Alice Springs 33.97 168 P P 07 04 33.3 +0.4
ASAR Alice Springs 33.98 168 P P 07 04 32.6 -0.3
ASAR Alice Springs 33.98 168 P P 07 04 32.5 -0.4
comp=Z,1.2nm,0.8s,baz=337,slow=5.4,SNR=8.4
ASAR PcP **PcP 07 07 10.9 +0.6**
comp=Z,1.1nm,0.7s,baz=343,slow=2.6,SNR=5.0
comp=Z,1.2nm,0.8s
USRK Ussuriysk Ar. 34.69 7 P P 07 04 36.6 -2.2
USRK Ussuriysk Ar. 34.69 7 P P 07 04 37.6 -1.2
comp=Z,1.9nm,0.6s,baz=184,slow=9.2,SNR=4.2
comp=Z,1.9nm,0.6s
MDJ Mudanjiang 34.88 4 P P 07 04 39.4 -1.1
MDJ IAmb IAmb 07 04 44.6
comp=Z,8.8nm,0.8s
SHL Shillong 36.36 300 P P 07 04 52.8 -0.8
SHL IAmb IAmb 07 05 14.0
comp=Z,7.4nm,0.7s
MEEK Meekatharra 36.93 192 P P 07 04 57.7 -0.6
MEEK Meekatharra 36.93 192 P P 07 04 59.0 +0.8
JKA Kamikawa-asahi 37.03 19 P P 07 04 59.2 +0.3
JKA IAmb IAmb 07 05 08.7
comp=Z,12nm,1.0s
GTA Gaotai 37.92 326 *e*P **P 07 05 07.5 +0.8**
GTA pmax pmax
comp=Z,7.0nm,0.6s
GTA LR LR
comp=Z,140nm,14.3s
GTA LR LR
comp=Z,120nm,16.3s
GTA LR LR
comp=Z,150nm,17.5s
MORW Morawa 39.84 194 P 07 05 23.6 +0.9
MORW Morawa 39.84 194 P P 07 05 22.6 -0.1
comp=Z,33nm,0.9s
MORW Morawa 39.84 194 P P 07 05 24.0 +1.3
FORT Forrest 40.30 178 P 07 05 26.8 +0.4
FORT Forrest 40.30 178 P P 07 05 26.7 +0.4
comp=Z,26nm,0.8s
HEH HeiHe 40.42 1 *e*P **P 07 05 27.5 +0.3**
HEH pmax pmax
comp=Z,6.0nm,1.1s
HEH LR LR
comp=Z,160nm,13.7s
HEH LR LR
comp=Z,100nm,13.7s
HEH LR LR
comp=Z,220nm,14.0s
KMBL Kambalda 41.08 186 P P 07 05 33.0 +0.1
comp=Z,20nm,0.8s
KMBL Kambalda 41.08 186 P P 07 05 34.1 +1.2
BLDU Ballidu 41.18 193 P P 07 05 33.8 +0.2
comp=Z,26nm,0.9s
BLDU Ballidu 41.18 193 P P 07 05 35.3 +1.6
ULN Ulaanbaatar 41.39 340 P 07 05 34.5 -0.9
ULN IAmb IAmb 07 05 37.3
comp=Z,6.8nm,0.7s
SONM Songino Array 41.59 340 P P 07 05 35.8 -1.3
SONM Songino Array 41.59 340 P P 07 05 37.6 +0.6
comp=Z,3.8nm,0.7s,baz=156,slow=8.4,SNR=6.8
comp=Z,3.8nm,0.7s
KLBR Kellerberrin 41.91 191 P P 07 05 39.4 -0.2
comp=Z,40nm,0.9s
KLBR Kellerberrin 41.91 191 P P 07 05 41.3 +1.7
EIDS Eidsvold 42.34 146 P P 07 05 43.5 +0.2
EIDS IAmb IAmb 07 06 09.5
comp=Z,18nm,1.4s
MUN Mundaring 42.60 193 P P 07 05 45.4 +0.1
comp=Z,33nm,0.9s
MUN Mundaring 42.60 193 P P 07 05 46.9 +1.6
BBOO Buckleboo 43.28 168 P 07 05 50.8 +0.1
BBOO Buckleboo 43.28 168 P P 07 05 50.4 -0.3
comp=Z,25nm,1.2s
BBOO Buckleboo 43.28 168 P P 07 05 51.3 +0.6
NWAO Narrogin (SRO) 43.31 191 P 07 05 51.3 +0.3
NWAO Narrogin (SRO) 43.31 191 P P 07 05 52.1 +1.2
comp=Z,46nm,0.9s
NWAO Narrogin (SRO) 43.31 191 P P 07 05 52.7 +1.7
STKA Stephens Creek 43.83 161 P P 07 05 55.1 -0.1
STKA Stephens Creek 43.83 161 P P 07 05 55.0 -0.2
comp=Z,4.8nm,0.8s,baz=342,slow=8.8,SNR=6.9
comp=Z,4.8nm,0.8s
WMQ Urumqi 47.76 322 *e*P **P 07 06 27.8 +1.6**
WMQ LR LR
comp=Z,120nm,17.9s
PEA0B Petropavlovsk- 50.07 24 P P 07 06 44.2 +0.5
PEA0B IAmb IAmb 07 06 56.1
comp=Z,6.9nm,0.7s
PETK Petropavlovsk- 50.07 24 P 07 06 43.6 0.0
PETK Petropavlovsk- 50.07 24 P P 07 06 44.8 +1.1
comp=Z,3.6nm,0.6s,baz=205,slow=3.1,SNR=18
comp=Z,3.6nm,0.6s
TOO Toolangi 50.32 160 P P 07 06 46.5 +0.7
TOO IAmb IAmb 07 06 58.5
comp=Z,15nm,1.5s
YAK Yakutsk 52.27 2 P P 07 06 58.0 -2.0
MK31 Makanchi Array 52.56 323 P P 07 07 01.4 -1.1
MKAR Makanchi Array 52.56 323 P 07 07 01.9 -0.6
MKAR Makanchi Array 52.56 323 P P 07 07 02.5 +0.1
comp=Z,3.7nm,0.7s,baz=119,slow=7.9,SNR=37
MKAR PcP **PcP 07 08 12.7 +0.5**
comp=Z,2.2nm,0.7s,baz=126,slow=5.3,SNR=4.7
comp=Z,3.7nm,0.7s
MAKZ Makanchi 52.76 323 P 07 07 03.2 -0.7
NIL Nilore 54.18 305 P P 07 07 14.5 -0.1
NIL IAmb IAmb 07 07 15.3
comp=Z,8.6nm,1.1s
ZAA0 Zalesovo Array 55.19 331 P P 07 07 20.7 -0.7
ZALV Zalesovo Beam 55.19 331 P 07 07 21.0 -0.4
ZALV Zalesovo Beam 55.19 331 P P 07 07 20.7 -0.7
comp=Z,1.4nm,0.6s,baz=102,slow=6.2,SNR=5.9
comp=Z,1.4nm,0.6s
KURK Kurchatov 56.61 326 P 07 07 30.6 -1.1
KURK IAmb IAmb 07 07 32.8
comp=Z,6.1nm,0.9s
KURBB Kurchatov Arra 56.62 326 P P 07 07 31.4 -0.3
comp=Z,2.4nm,0.7s,baz=125,slow=6.7,SNR=30
comp=Z,2.4nm,0.7s
GAR Garm 57.77 310 P 07 07 39.0 -1.3
GAR IAmb IAmb 07 07 42.5
comp=Z,6.0nm,0.7s
KBL Kabul 57.78 305 P P 07 07 39.6 -1.0
SIMJ Simiganj 58.68 309 P P 07 07 45.8 -0.9
KK31 Karatay Array 58.75 315 P 07 07 46.1 -0.8
KKAR Karatay Array 58.75 315 P 07 07 46.3 -0.7
TIXI Tiksi 61.90 1 P 07 08 08.0 +0.2
BVAR Borovoye Array 62.21 326 P P 07 08 10.2 -0.1
comp=Z,1.8nm,0.7s,baz=115,slow=6.7,SNR=9.2
comp=Z,1.8nm,0.7s
BRVK Borovoye 62.28 326 P P 07 08 10.3 -0.5
BRVK IAmb IAmb 07 08 13.7
comp=Z,2.5nm,0.8s
HRA Herat 63.30 304 P P 07 08 18.0 -0.2
BILL Bilibino 63.89 16 P P 07 08 21.4 +0.2
BILL IAmb IAmb 07 08 45.3
comp=Z,7.4nm,1.2s
NRIK Noril'sk 64.58 346 P 07 08 26.4 +0.7
NRIK Noril'sk 64.58 346 P P 07 08 26.4 +0.7
comp=Z,9.0nm,0.6s,baz=128,slow=5.8,SNR=20
comp=Z,9.0nm,0.6s
NIKH Nikolski High 67.15 36 P P 07 08 42.8 +0.3
baz=255
BKZ Black Stump Fm 67.26 140 P 07 08 44.8 +1.3
RTZ Ruatahuna 67.26 139 P P 07 08 44.5 +1.0
ABKAR Akbulak array 67.40 319 P 07 08 44.0 -0.1
SPIA Saint Paul Isl 67.56 32 P P 07 08 45.2 +0.3
baz=252
P08K Saint George I 67.75 32 P P 07 08 46.3 +0.1
baz=253
UNV Unalaska Valle 68.73 36 P P 07 08 53.0 +0.6
baz=257
GAMB Gambell 69.09 25 P P 07 08 55.4 +1.0
baz=248
ARTI Arti 69.86 327 P P 07 08 58.2 -1.1
comp=Z,2.4nm,0.6s,baz=114,slow=3.6,SNR=5.3
comp=Z,2.4nm,0.6s
FALS False Pass 70.71 35 P P 07 09 05.2 +0.6
baz=259
TNA Tin City 71.23 24 P P 07 09 08.5 +0.9
baz=252
K13K Kusilvak Mount 71.61 28 P P 07 09 10.1 +0.3
baz=256
S12K Black Hills 71.62 34 P P 07 09 10.1 0.0
baz=260
F14K Arctic Creek 71.84 24 P P 07 09 11.7 +0.5
baz=253
M13K Dall Lake 71.87 29 P P 07 09 11.7 +0.3
baz=258
ANM Nome 71.97 25 P P 07 09 12.3 +0.3
baz=254
J14K Nanvaranak Lak 72.30 27 P P 07 09 15.2 +1.2
baz=257
L14K Kuka Creek 72.39 29 P P 07 09 15.6 +1.1
baz=258
SDPT Sand Point 72.45 35 P P 07 09 14.8 -0.3
baz=262
F15K North Star Dit 72.58 24 P P 07 09 16.1 +0.4
baz=255
N14K Kuskokwak Cree 72.58 30 P P 07 09 16.7 +1.0
baz=259
M14K Bethel 72.61 29 P P 07 09 15.6 -0.3
baz=259
G15K Niukluk 72.64 25 P P 07 09 16.3 +0.3
baz=255
O14K Tigyukauivet M 72.67 31 P P 07 09 16.9 +0.7
baz=260
L15K Ungalak Mounta 73.02 28 P P 07 09 19.1 +0.8
baz=259
C16K Lisburne Hills 73.03 21 P P 07 09 19.4 +1.2
baz=253
S14K Fog Glacier 73.10 34 P P 07 09 19.2 +0.2
baz=262
K15K Wolf Creek Mou 73.12 28 P P 07 09 19.5 +0.6
baz=259
M15K Kasigluk River 73.21 29 P P 07 09 20.5 +1.1
baz=260
H16K Elim 73.30 25 P P 07 09 19.3 -0.6
baz=257
O15K Ungalikthiuk R 73.39 31 P P 07 09 20.6 +0.1
baz=261
N15K Kwethluk River 73.41 30 P P 07 09 20.8 +0.1
baz=260
G16K Koyuk River 73.42 24 P P 07 09 21.3 +0.7
baz=257
D17K Noatak River 73.70 22 P P 07 09 23.1 +0.9
baz=256
J16K Anvik River 73.73 27 P P 07 09 23.4 +1.0
baz=259
CHGN Chignik 73.73 34 P P 07 09 23.0 +0.4
baz=263
I17K Unalakleet 73.81 26 P P 07 09 23.5 +0.7
baz=259
RDOG Red Dog Mine 73.85 22 P P 07 09 24.1 +1.0
baz=256
L16K Owhat River 73.97 28 P 07 09 24.7 +0.8
L16K Owhat River 73.97 28 P P 07 09 24.6 +0.7
baz=261
E17K Hotham Inlet 74.02 23 P P 07 09 24.9 +0.8
baz=257
F17K Baldwin Pennin 74.10 23 P P 07 09 25.0 +0.5
baz=258
M16K Timber Creek 74.10 29 P P 07 09 25.4 +0.7
baz=261
N16K Nishlik Lake 74.11 30 P P 07 09 25.3 +0.5
baz=262
G17K Kiwalik Mounta 74.14 24 P P 07 09 25.4 +0.5
baz=258
P16K Nushagak River 74.30 31 P P 07 09 26.4 +0.6
baz=263
O16K Kokwok River B 74.32 31 P P 07 09 26.2 +0.2
baz=262
H17K Granite Mounta 74.34 25 P P 07 09 26.7 +0.7
baz=259
R16K Pilot Point 74.34 33 P P 07 09 26.4 +0.3
baz=263
J17K VABM Dome 74.43 27 P P 07 09 27.2 +0.7
baz=260
E18K Tukpahlearik C 74.56 23 IAmb IAmb 07 09 29.8
comp=Z,4.4nm,0.9s
E18K Tukpahlearik C 74.56 23 P P 07 09 27.7 +0.5
baz=258
B18K Kokolik River 74.56 20 P P 07 09 27.9 +0.7
baz=256
L17K Donlin 74.58 28 P P 07 09 28.2 +0.7
baz=262
C18K Utukok River 74.61 21 P P 07 09 28.5 +1.0
C18K IAmb IAmb 07 09 47.2
comp=Z,4.6nm,0.9s
C18K Utukok River 74.61 21 P P 07 09 28.2 +0.6
baz=257
K17K Iditarod 74.67 28 IAmb IAmb 07 09 31.3
comp=Z,11nm,1.2s
K17K Iditarod 74.67 28 P P 07 09 29.2 +1.3
baz=261
F18K Selawik 74.76 23 P P 07 09 28.7 +0.4
baz=259
O17K Koliganek Bris 74.85 31 P P 07 09 29.8 +0.8
baz=263
M17K Holitna River 74.89 29 IAmb IAmb 07 09 33.6
comp=Z,9.0nm,0.9s
M17K Holitna River 74.89 29 P P 07 09 30.2 +1.0
baz=262
N17K Nushagak Hills 74.89 30 P P 07 09 30.1 +0.8
baz=263
H18K Honhosa River 75.02 25 P P 07 09 31.0 +1.1
baz=261
G18K Tagagawik 75.03 24 P P 07 09 31.6 +1.6
baz=260
L18K Granite Mounta 75.34 28 P P 07 09 32.9 +1.0
baz=263
J18K Innoko River 75.49 27 P P 07 09 34.2 +1.5
baz=263
F19K Shaleruckik Mo 75.54 23 P P 07 09 33.7 +0.9
baz=261
N18K Kilae Creek 75.55 30 P P 07 09 33.9 +0.9
baz=264
GCSA Galena City Sc 75.59 26 P P 07 09 33.9 +0.8
baz=262
M18K Stony River 75.67 29 P P 07 09 34.4 +0.7
baz=264
D19K Kuna River 75.69 22 IAmb IAmb 07 09 36.2
comp=Z,14nm,1.5s
D19K Kuna River 75.69 22 P P 07 09 34.8 +1.1
baz=260
G19K Purcell Mounta 75.70 24 IAmb IAmb 07 09 47.1
comp=Z,7.2nm,1.3s
G19K Purcell Mounta 75.70 24 P P 07 09 34.8 +1.0
baz=262
P18K Big Mountain, 75.75 31 P P 07 09 35.1 +0.8
baz=265
O18K Koktuh Hills 75.81 31 P P 07 09 35.9 +1.3
baz=265
E19K Redstone River 75.84 23 IAmb IAmb 07 09 44.9
comp=Z,5.0nm,0.9s
E19K Redstone River 75.84 23 P P 07 09 35.7 +1.1
baz=261
H19K Roundabout Mou 75.87 25 IAmb IAmb 07 09 47.9
comp=Z,10.0nm,1.3s
H19K Roundabout Mou 75.87 25 P P 07 09 35.3 +0.6
baz=262
R18K Karluk 76.02 33 P P 07 09 37.1 +1.4
baz=266
J19K Poorman 76.03 26 P P 07 09 36.6 +0.8
baz=264
SII Sitkinak Islan 76.10 34 P P 07 09 37.5 +1.3
baz=267
L19K White Mountain 76.19 28 P P 07 09 38.5 +1.7
L19K IAmb IAmb 07 09 40.9
comp=Z,12nm,1.4s
L19K White Mountain 76.19 28 P P 07 09 38.4 +1.7
baz=265
N19K Bonanza Creek 76.25 30 P P 07 09 37.5 +0.3
baz=265
D20K Etivluk River 76.27 21 P P 07 09 38.1 +1.1
baz=261
O19K Port Alsworth 76.28 30 P P 07 09 37.6 +0.5
baz=266
B20K Meade River 76.28 20 P P 07 09 38.2 +1.2
baz=261
E20K Nigu River 76.35 22 P P 07 09 38.5 +0.9
baz=262
F20K Avaraart Lake 76.37 23 IAmb IAmb 07 09 42.2
comp=Z,6.4nm,1.3s
F20K Avaraart Lake 76.37 23 P P 07 09 38.3 +0.8
baz=263
M19K Big River Lodg 76.39 29 P P 07 09 39.0 +1.2
baz=265
H20K Anotleneega Mo 76.52 25 P P 07 09 39.1 +0.6
baz=264
Q19K Cape Douglas, 76.53 32 P P 07 09 39.2 +0.5
baz=266
I20K Naaghedeneel 76.61 26 P P 07 09 40.3 +1.3
baz=264
OHAK Old Harbor 76.63 33 P P 07 09 40.2 +1.0
baz=267
K20K Telida 76.66 27 P P 07 09 40.5 +1.1
baz=265
L20K Farewell, AK 76.67 28 P P 07 09 40.2 +0.8
baz=265
A21K Barrow 76.67 19 P P 07 09 40.3 +1.1
baz=261
J20K Nowinta River 76.70 26 P P 07 09 40.7 +1.2
baz=265
P19K Oil Pt 76.79 31 P P 07 09 41.1 +0.9
baz=267
M20K Styx River 76.98 29 IAmb IAmb 07 09 44.8
comp=Z,3.5nm,0.8s
M20K Styx River 76.98 29 P P 07 09 42.3 +1.0
baz=266
C21K Knifeblade Rid 76.98 21 P P 07 09 42.2 +1.1
baz=263
KDAK Kodiak Island 77.03 33 P P 07 09 42.1 +0.6
baz=268
B21K Ikpikpuk River 77.10 21 IAmb IAmb 07 09 45.3
comp=Z,4.9nm,0.8s
B21K Ikpikpuk River 77.10 21 P P 07 09 42.7 +1.1
baz=263,SNR=6.0
A22K Sinclair Lake 77.15 19 P P 07 09 42.9 +1.0
baz=262,SNR=5.6
Q20K Shuyak Island 77.17 32 P P 07 09 42.4 +0.2
baz=268
G21K Allakaket 77.18 24 P P 07 09 43.5 +1.3
baz=265
E21K Killik River 77.19 22 P P 07 09 43.2 +1.0
baz=264
F21K Alatna River 77.26 23 P P 07 09 43.5 +0.8
baz=265
SPCR Spurr Chakacha 77.38 29 P P 07 09 44.3 +0.8
baz=267
H21K Melozitna Rive 77.39 25 IAmb IAmb 07 09 56.8
comp=Z,9.3nm,1.5s
H21K Melozitna Rive 77.39 25 P P 07 09 43.9 +0.5
baz=266
PPLA Purkeypile 77.48 28 P P 07 09 44.6 +0.5
baz=267
CHUM Lake Minchumin 77.48 27 P P 07 09 44.8 +1.0
baz=266
CAST Castle Rocks 77.56 27 P 07 09 45.4 +1.0
CAST IAmb IAmb 07 09 47.6
comp=Z,4.5nm,0.9s
CAST Castle Rocks 77.56 27 P P 07 09 45.3 +0.9
baz=267
B22K Teshekpuk Lake 77.59 20 IAmb IAmb 07 09 46.1
comp=Z,5.0nm,0.8s
B22K Teshekpuk Lake 77.59 20 P P 07 09 45.0 +0.6
baz=264,SNR=8.2
HOM Homer 77.59 31 P P 07 09 45.4 +0.8
baz=268
I21K Tanana 77.70 25 IAmb IAmb 07 09 56.8
comp=Z,4.0nm,0.9s
I21K Tanana 77.70 25 P P 07 09 45.3 +0.2
baz=266
D22K Ayikyak River 77.71 21 P P 07 09 45.6 +0.5
baz=265
SKT Skwentna 77.74 29 P P 07 09 46.1 +0.6
baz=268
F22K John River 77.78 23 P P 07 09 46.1 +0.5
baz=266
RAYN Ar Rayn 77.93 292 P 07 09 46.3 -0.9
RAYN IAmb IAmb 07 09 47.8
comp=Z,3.4nm,0.7s
E22K Anaktuvuk Pass 77.97 22 IAmb IAmb 07 09 59.7
comp=Z,9.9nm,1.4s
E22K Anaktuvuk Pass 77.97 22 P P 07 09 47.3 +0.7

	baz=266						
H22K	Ishtalitna Cre	78.00	25	P	P	07 09 47.2	+0.5
	baz=267						
G22K	Bettles	78.00	24	P	P	07 09 47.1	+0.3
	baz=267						
BRSE	Bradley Lake S	78.05	31	P	P	07 09 47.1	-0.1
	baz=269						
BPAW	Bear Paw Mtn.	78.08	26	IAmb	IAmb	07 09 50.5	
	comp=Z,5.0nm,0.8s						
BPAW	Bear Paw Mtn.	78.08	26	P	P	07 09 47.2	0.0
	baz=268						
SUA	Susitna One	78.09	29	IAmb	IAmb	07 09 48.4	
	comp=Z,5.7nm,0.9s						
SUA	Susitna One	78.09	29	P	P	07 09 47.5	-0.1
	baz=268						
TRF	Thorofare Moun	78.36	27	P	P	07 09 48.8	-0.2
	baz=268						
M22K	Willow	78.40	29	P	P	07 09 49.3	+0.3
	baz=269						
D23K	Nanushuk River	78.43	21	IAmb	IAmb	07 10 03.3	
	comp=Z,10nm,1.4s						
D23K	Nanushuk River	78.43	21	P	P	07 09 49.3	+0.2
	baz=267,SNR=7.3						
C23K	Itkillik River	78.51	21	IAmb	IAmb	07 09 53.0	
	comp=Z,6.2nm,0.7s						
C23K	Itkillik River	78.51	21	P	P	07 09 50.5	+1.0
	baz=267,SNR=10						
COLD	Coldfoot	78.53	23	P	P	07 09 50.9	+1.2
	baz=268						
O22K	Cooper Landing	78.58	30	P	P	07 09 50.8	+0.8
	baz=270						
RC01	Rabbit Creek A	78.58	30	P	P	07 09 51.0	+1.0
	baz=269						
G23K	Bananza Creek	78.58	24	IAmb	IAmb	07 10 03.9	
	comp=Z,5.3nm,1.1s						
G23K	Bananza Creek	78.58	24	P	P	07 09 51.0	+1.0
	baz=268						
KBZ	Khabaz	78.70	313	P	P	07 09 50.7	-0.4
	comp=Z,1.9nm,0.8s,baz=118,slow=4.2,SNR=5.3						
	comp=Z,1.9nm,0.8s						
SEW	Seward	78.71	31	P	P	07 09 51.3	+0.6
	baz=270						
H23K	Yukon River	78.75	25	P	P	07 09 52.0	+1.0
	baz=269						
E23K	Chandalar	78.78	22	IAmb	IAmb	07 10 03.3	
	comp=Z,4.9nm,0.8s						
E23K	Chandalar	78.78	22	P	P	07 09 52.4	+1.2
	baz=268,SNR=7.6						
I23K	Minto, Yukon-K	78.81	25	IAmb	IAmb	07 09 53.7	
	comp=Z,3.9nm,0.7s						
I23K	Minto, Yukon-K	78.81	25	P	P	07 09 51.8	+0.6
	baz=269						
TOLK	Toolik Lake Re	78.82	22	P	P	07 09 51.8	+0.5
	baz=268,SNR=5.7						
PMR	Palmer	78.87	29		P	07 09 51.8	+0.2
PMR				IAmb	IAmb	07 10 11.7	
	comp=Z,9.5nm,1.4s						
PMR	Palmer	78.87	29	P	P	07 09 52.3	+0.7
	baz=270						
NEA2	Nenana	78.92	26	P	P	07 09 52.9	+1.0
	baz=269						
MCK	McKinley	78.97	27	IAmb	IAmb	07 09 54.7	
	comp=Z,5.9nm,0.8s						
MCK	McKinley	78.97	27	P	P	07 09 53.1	+0.9
	baz=270						
D24K	Happy Valley	79.11	21	IAmb	IAmb	07 10 00.6	
	comp=Z,5.3nm,0.9s						
D24K	Happy Valley	79.11	21	P	P	07 09 54.0	+1.2
	baz=269						
C24K	Franklin Bluff	79.17	21	P	P	07 09 54.3	+1.3
	baz=269						
KNK	Knik Glacier	79.19	29	IAmb	IAmb	07 09 56.2	
	comp=Z,5.7nm,0.8s						
KNK	Knik Glacier	79.19	29	P	P	07 09 53.5	0.0
	baz=270						
E24K	Your Creek	79.21	22	P	P	07 09 53.8	+0.3
	baz=269,SNR=5.1						
SML	Sawmill	79.25	29	IAmb	IAmb	07 09 56.5	
	comp=Z,6.6nm,0.9s						
SML	Sawmill	79.25	29	P	P	07 09 54.4	+0.6
	baz=270						
PWL	Port Wells	79.26	30	IAmb	IAmb	07 09 55.2	
	comp=Z,7.9nm,0.8s						
PWL	Port Wells	79.26	30	P	P	07 09 54.5	+0.7
	baz=271						
F24K	Squaw Lake	79.43	23	P	P	07 09 55.1	+0.4
	baz=270,SNR=7.1						
H24K	Noodor Dome	79.43	25	P	P	07 09 55.5	+0.7
	baz=270						
M23K	Glacier View	79.54	29	P	P	07 09 55.8	+0.5
	baz=271						
G24K	Hadweenzic Riv	79.59	24	P	P	07 09 56.1	+0.6
	baz=270						
POKR	Poker Plat Res	79.62	25	P	P	07 09 56.2	+0.4
	baz=271						
SCM	Sheep Creek Mo	79.73	29	IAmb	IAmb	07 10 06.1	
	comp=Z,9.9nm,1.1s						
SCM	Sheep Creek Mo	79.73	29	P	P	07 09 56.7	+0.3
	baz=271						
P23K	Montague Islan	79.74	31	P	P	07 09 56.9	+0.5
	baz=272						
HDA	Harding Lake	79.84	26	P	P	07 09 57.1	+0.2
	baz=271						
ILAR	Eielson Array	79.86	26	P	P	07 09 56.6	-0.4
	comp=Z,0.9nm,0.6s,baz=243,slow=4.9,SNR=31						
	comp=Z,0.9nm,0.6s						
GLI	Glacier Island	79.86	30	P	P	07 09 57.5	+0.4
	baz=272						
D25K	Kavik River	79.98	21	P	P	07 09 58.6	+1.0
	baz=271,SNR=7.3						
G25K	Bearman Lake	80.14	24	P	P	07 09 59.0	+0.6
	baz=272						
M24K	Tolsona, Glenn	80.26	28	IAmb	IAmb	07 10 03.2	
	comp=Z,8.8nm,0.9s						
M24K	Tolsona, Glenn	80.26	28	P	P	07 09 59.6	+0.3
	baz=272						
F25K	Christian Rive	80.29	23	P	P	07 10 00.3	+1.0
	baz=272						
E25K	Arctic Village	80.31	22	P	P	07 09 59.8	+0.4
	baz=272,SNR=6.6						
K24K	Donnelly Dome	80.38	27	IAmb	IAmb	07 10 05.0	
	comp=Z,9.6nm,1.0s						
K24K	Donnelly Dome	80.38	27	P	P	07 10 00.3	+0.5
	baz=272						
KLU	Klutina	80.41	29	P	P	07 10 00.4	+0.3
	baz=273						
PRP	Porcupine Dome	80.42	25	P	P	07 10 00.3	+0.2
	baz=272						
C26K	Camden Bay	80.48	20	P	P	07 10 00.6	+0.4
	baz=272,SNR=5.8						
J25K	Salcha River,	80.52	26	P	P	07 10 01.2	+0.6
	baz=273						
EYAK	Cordova Ski Ar	80.54	30	P	P	07 10 01.9	+1.2
	baz=273						
PAX	Paxson	80.55	28	P	P	07 10 01.7	+0.9
	baz=273						
BMAR	Burnt Mountain	80.71	23		P	07 10 02.2	+0.6
HARP	HAARP	80.72	28	P	P	07 10 02.3	+0.6
	baz=273						
RIDG	Independent Ri	80.79	27	IAmb	IAmb	07 10 15.4	
	comp=Z,7.8nm,1.1s						
RIDG	Independent Ri	80.79	27	P	P	07 10 02.7	+0.6
	baz=273						
F26K	Sheenjek River	80.86	23	P	P	07 10 03.1	+0.8
	baz=273						
C27K	Jago River	80.91	21	P	P	07 10 03.5	+0.9
	baz=273						
N25K	Chitina, Valde	81.04	29	P	P	07 10 03.9	+0.4
	baz=274						
G26K	Porcupine Rive	81.05	23	P	P	07 10 03.8	+0.5
	baz=274						
BMRM	Bremner River	81.08	30	P	P	07 10 04.9	+1.2
	baz=274						
SCRK	Sand Creek	81.16	27	P	P	07 10 05.3	+1.2
	baz=274						
KAIM	Kayak Island	81.24	31	P	P	07 10 05.2	+0.7
	baz=274						
J26L	Joseph Creek	81.30	26	P	P	07 10 06.1	+1.2
	baz=274						
MENT	Mentasta	81.35	28	IAmb	IAmb	07 10 17.1	
	comp=Z,7.5nm,1.2s						
I26K	Coal Creek Min	81.42	25	P	P	07 10 06.7	+1.4
	baz=274						
GLB	Gilahina Butte	81.42	29	IAmb	IAmb	07 10 09.4	
	comp=Z,6.6nm,1.1s						
L26K	Log Cabin Wild	81.51	27	IAmb	IAmb	07 10 09.4	
	comp=Z,4.8nm,1.0s						
L26K	Log Cabin Wild	81.51	27	P	P	07 10 07.3	+1.4
	baz=275						
M26K	Nabesna, AK	81.73	28	IAmb	IAmb	07 10 10.0	
	comp=Z,6.4nm,1.3s						
M26K	Nabesna, AK	81.73	28	P	P	07 10 08.2	+1.1
	baz=275						
E27K	Coleen River	81.78	22	P	P	07 10 08.5	+1.2
	baz=276						
BGLC	Bering Glacier	81.79	30	P	P	07 10 08.4	+1.1
	baz=275						
G27K	Doyon Strip	81.89	24	P	P	07 10 09.2	+1.3
	baz=276						
D27M	Malcolm River	81.91	21	P	P	07 10 09.3	+1.4
	baz=276,SNR=7.6						
K27K	Chicken	81.99	26	P	P	07 10 09.7	+1.3
	baz=276						
H27K	Steamboat Moun	82.00	24	P	P	07 10 09.6	+1.2
	baz=276						
I27K	Kandik River	82.03	25	P	P	07 10 09.6	+1.0
	baz=276,SNR=15						
L27K	Beaver Creek,	82.20	27	IAmb	IAmb	07 10 13.3	
	comp=Z,4.8nm,1.1s						
L27K	Beaver Creek,	82.20	27	P	P	07 10 09.7	+0.2
	baz=276,SNR=5.4						
BCAR	Beaver Creek A	82.22	27		P	07 10 09.9	+0.3
M27K	Edge Creek, AK	82.25	28	IAmb	IAmb	07 10 15.0	
	comp=Z,5.2nm,1.2s						
M27K	Edge Creek, AK	82.25	28	P	P	07 10 10.7	+0.8
	baz=276						
MESA	MESA	82.45	30	P	P	07 10 11.2	+0.1
	baz=276						
E28M	Babbage River	82.50	22	IAmb	IAmb	07 10 24.0	
	comp=Z,5.1nm,1.2s						
E28M	Babbage River	82.50	22	P	P	07 10 11.6	+0.7
	baz=277						
D28M	Stokes Point	82.69	21	P	P	07 10 13.3	+1.4
	baz=278						
BVCY	Beaver Creek	82.72	28	P	P	07 10 13.3	+1.1
	baz=277						
I28M	Miner Creek	82.74	25	IAmb	IAmb	07 10 16.0	
	comp=Z,5.6nm,0.8s						
I28M	Miner Creek	82.74	25	P	P	07 10 12.9	+0.5
	baz=277,SNR=11						
YUK3	Moose Creek	82.98	29	P	P	07 10 14.0	+0.2
	baz=277						
E29M	Blow River	83.12	22	P	P	07 10 15.2	+1.0
	baz=279						
DAWY	Dawson	83.16	26	P	P	07 10 15.8	+1.3
	baz=278,SNR=6.7						
O28M	Mount Upton	83.24	30	IAmb	IAmb	07 10 37.8	
	comp=Z,5.9nm,1.1s						
O28M	Mount Upton	83.24	30	P	P	07 10 16.1	+0.8
	baz=278						
H29M	Whitestone	83.28	24	IAmb	IAmb	07 10 18.1	
	comp=Z,3.0nm,0.8s						
H29M	Whitestone	83.28	24	P	P	07 10 15.9	+0.9
	baz=279,SNR=5.4						
PINM	Pinnacle	83.30	30	P	P	07 10 16.2	+0.8
	baz=278						
G29M	Pine Creek	83.31	23	IAmb	IAmb	07 10 28.1	
	comp=Z,5.5nm,0.8s						
G29M	Pine Creek	83.31	23	P	P	07 10 16.4	+1.2
	baz=279						
YUK8	Steele Glacier	83.38	29	P	P	07 10 17.1	+1.1
	baz=278						
I29M	Ogilvie Camp,	83.43	25	IAmb	IAmb	07 10 19.0	
	comp=Z,4.6nm,0.8s						
I29M	Ogilvie Camp,	83.43	25	P	P	07 10 17.2	+1.4
	baz=279						
J29N	Klondike Camp	83.61	26	IAmb	IAmb	07 10 22.1	
	comp=Z,7.3nm,1.2s						
J29N	Klondike Camp	83.61	26	P	P	07 10 18.4	+1.5
	baz=279						
PNL	Peninsula	83.79	31	P	P	07 10 18.3	+0.5
	baz=279						
M29M	Somme Creek	83.82	28	IAmb	IAmb	07 10 21.8	
	comp=Z,4.2nm,0.9s						
M29M	Somme Creek	83.82	28	P	P	07 10 18.9	+0.9
	baz=279,SNR=8.1						
L29M	L29M	83.86	27	P	P	07 10 19.6	+1.4
	baz=279,SNR=7.9						
YUK4	Talbot Arm	83.90	29	P	P	07 10 18.8	+0.2
	baz=279						
EPYK	Eagle Plains	83.91	24	IAmb	IAmb	07 10 26.4	
	comp=Z,5.4nm,1.0s						
EPYK	Eagle Plains	83.91	24	P	P	07 10 19.1	+0.8
	baz=280						
G30M	tAoh Zraii Nji	83.99	23	IAmb	IAmb	07 10 23.8	
	comp=Z,7.2nm,1.3s						
G30M	tAoh Zraii Nji	83.99	23	P	P	07 10 19.2	+0.5
	baz=281						
K29M	Barlow Dome	84.01	26	IAmb	IAmb	07 10 22.4	
	comp=Z,3.3nm,0.9s						
K29M	Barlow Dome	84.01	26	P	P	07 10 19.7	+0.8
	baz=280,SNR=5.6						
F30M	Barrier River	84.04	22	IAmb	IAmb	07 10 22.3	
	comp=Z,4.2nm,0.9s						
F30M	Barrier River	84.04	22	P	P	07 10 20.3	+1.4
	baz=281						
O29M	Mount Kennedy	84.10	30	P	P	07 10 20.5	+0.9
	baz=279						
YUK6	Outpost Mounta	84.10	29	P	P	07 10 20.0	+0.4
	baz=279						
I30M	Mount Dempster	84.25	25	IAmb	IAmb	07 10 24.0	
	comp=Z,5.2nm,1.1s						
I30M	Mount Dempster	84.25	25	P	P	07 10 21.1	+0.9
	baz=281,SNR=9.5						
J30M	Hart River	84.39	25	IAmb	IAmb	07 10 24.3	
	comp=Z,6.8nm,1.2s						
J30M	Hart River	84.39	25	P	P	07 10 21.7	+0.8
	baz=281,SNR=7.6						
HYT	Haines Junctio	84.54	29	IAmb	IAmb	07 10 24.5	
	comp=Z,4.1nm,0.9s						
HYT	Haines Junctio	84.54	29	P	P	07 10 21.1	-0.6
	baz=280						
M30M	Minto, Yukon	84.56	28	P	P	07 10 22.2	+0.5
	baz=280,SNR=9.0						
SPITS	Spitsbergen Ar	84.58	349	P	P	07 10 22.0	+0.5
	comp=Z,9.7nm,0.8s,baz=83,slow=8.5,SNR=17						
	comp=Z,9.7nm,0.8s						
N30M	Aishikik Lake	84.62	29	IAmb	IAmb	07 10 25.0	
	comp=Z,5.5nm,1.1s						
N30M	Aishikik Lake	84.62	29	P	P	07 10 23.3	+1.3
	baz=280,SNR=6.8						
P29M	Windy Craggy	84.63	31	P	P	07 10 22.8	+0.7
	baz=280						
INK	Inuvik	84.73	22	P	P	07 10 22.3	0.0
	baz=283						
G31M	Satah River	84.76	23	IAmb	IAmb	07 10 24.1	
	comp=Z,7.3nm,1.1s						
G31M	Satah River	84.76	23	P	P	07 10 23.0	+0.6
	baz=282						
ARCES	ARCESS Array B	84.76	340	P	P	07 10 23.1	+0.5
	comp=Z,6.0nm,0.6s,baz=81,slow=5.9,SNR=36						
	comp=Z,6.0nm,0.6s						
F31M	Tsiigehtchic	84.85	22	P	P	07 10 23.4	+0.5
	baz=283						
P30M	Million Dollar	84.93	30	P	P	07 10 23.4	-0.2
	baz=281						
H31M	Peel River	84.97	24	P	P	07 10 24.2	+0.6
	baz=282						
O30N	Mendenhall	85.23	29	P	P	07 10 25.5	+0.5
	baz=281						
N31M	Braeburn, Yuko	85.23	28	P	P	07 10 25.7	+0.6
	baz=282						
S31K	Pelican	85.71	32	P	P	07 10 27.3	-0.1
	baz=281						
M31M	Drury Creek, Y	85.73	28	P	P	07 10 28.0	+0.5
	baz=283						
WHY	Whitehorse	85.83	29	P	P	07 10 28.7	+0.5
	baz=282,SNR=6.3						
BRTR	Keskin Array B	86.00	309	P	P	07 10 29.0	-0.5
	comp=Z,1.0nm,0.8s,baz=87,slow=5.1,SNR=4.5						
	comp=Z,1.0nm,0.8s						
FARO	Faro, Yukon	86.20	28	P	P	07 10 30.7	+0.8
	baz=284,SNR=10						
A36M	Sachs Harbour	86.39	17	P	P	07 10 31.9	+1.4
	baz=290						
FINES	FINESS Array B	86.45	332	P	P	07 10 31.2	+0.2
	comp=Z,7.7nm,0.8s,baz=64,slow=5.3,SNR=16						
	comp=Z,7.7nm,0.8s						
R32K	Eaglecrest	86.53	32	P	P	07 10 31.5	0.0
	baz=283						
N32M	Quiet Lake	86.58	29	P	P	07 10 32.4	+0.7
	baz=284						
P32M	Atlin	86.64	30	P	P	07 10 33.2	+1.1
	baz=283						
P33M	Teslin, Yukon	86.93	29	P	P	07 10 35.0	+1.4
	baz=284						
CSS	Mathiatis	87.03	305	IAmb	IAmb	07 10 35.6	
	comp=Z,3.7nm,0.6s						
MMPY	Sheldon Lake,	87.04	27	P	P	07 10 35.5	+1.5
	baz=285						
AKASG	Malin Array Be	87.09	321	P	P	07 10 33.2	-1.2
	comp=Z,0.9nm,0.6s,baz=63,slow=4.6,SNR=5.2						
	comp=Z,0.9nm,0.6s						
MNK	Minsk	87.09	325	*i* P	P	07 10 31.1	-3.2
MNK				*i* P	P	07 10 31.1	-3.2
MNK				*i* P	P	07 10 31.1	-3.2
	comp=Z,4.0nm,0.8s,baz=78						
MNK				*i* S	SKSac	07 20 57.5	+0.1
MNK				*i* LQ	LQ	07 43 35.8	
MNK				*i* LR	LR	07 49 39.1	
MNK				*i* LRM	MLR	07 50 44.0	
	comp=E,726nm,20.2s						
MNK				*i* LRM	MLR	07 51 12.1	
	comp=Z,55nm,16.5s						
MNK				*i* LRM	MLR	07 51 17.9	
	comp=N,521nm,30.7s						
KIEV	Kiev	87.10	321		P	07 10 34.8	+0.4
C36M	Paulatuk	87.70	20	P	P	07 10 37.5	+0.6
	baz=292						
U33K	Whale Pass	87.77	33	P	P	07 10 37.2	-0.3
	baz=284						
WRAK	Wrangell Islan	88.12	33	P	P	07 10 39.1	-0.1
	baz=285						
TGTN	Hyland Airport	88.70	28	P	P	07 10 41.4	-0.5
	baz=288						
DLBC	Dease Lake	88.78	31	P	P	07 10 41.6	-0.8
	baz=287						
V35K	Ketchikan	88.80	34	P	P	07 10 42.2	-0.2
	baz=285						
VNDA	Vanda	89.37	173		P	07 10 45.2	+0.7
VNDA	Vanda	89.37	173	P	P	07 10 45.2	+0.7
	comp=N,1.5nm,0.8s,baz=313,slow=5.7,SNR=9.0						
	comp=N,1.5nm,0.8s						
KMBO	Kilima Mbogo	89.38	269		P	07 10 46.5	+0.1
KMBO				IAmb	IAmb	07 10 49.4	
	comp=Z,4.3nm,1.1s						
BUR08	Bucovina Ar. S	90.36	318		P	07 10 49.5	-0.6
BUR08				IAmb	IAmb	07 11 06.9	
	comp=Z,4.7nm,1.4s						
HFS	Hagfors	92.61	332	P	P	07 10 59.7	-0.4
	comp=Z,6.3nm,0.9s,baz=90,slow=5.9,SNR=9.6						
	comp=Z,6.3nm,0.9s						
NB2	NORSAR Subarra	93.32	334	P	P	07 11 02.4	-1.0
	comp=Z,2.6nm,0.7s,baz=65,slow=4.6						
NB2	NORSAR Subarra	93.32	334	P	P	07 11 02.4	-1.0
	baz=65,slow=4.6						
NOA	NORSAR Array B	93.32	334	P	P	07 11 02.8	-0.6
	comp=Z,2.1nm,0.7s,baz=63,slow=4.6,SNR=11						
	comp=Z,2.1nm,0.7s						
LANS	Liptovska Anna	93.58	321	*eP*	P	07 11 06.5	+1.7
YKAW3	Yellowknife Wh	94.16	24	IAmb	IAmb	07 11 19.4	
	comp=Z,1.8nm,0.8s						
VYHS	Vyhne	94.19	321	*eP*	P	07 11 09.6	+2.0
YKA	Yellowknife Ar	94.19	24	P	P	07 11 08.2	+0.9
	comp=Z,1.9nm,0.8s,baz=301,slow=4.6,SNR=28						
	comp=Z,1.9nm,0.8s						
YKAW1	Yellowknife Wh	94.25	24	IAmb	IAmb	07 11 09.3	
	comp=Z,3.2nm,0.9s						
GERES	GERESS Array B	97.22	322	P	P	07 11 20.2	-1.3
	comp=Z,0.4nm,0.6s,baz=59,slow=6.5,SNR=4.2						
	comp=Z,0.4nm,0.6s						
TXAR	Lajitas Array	118.06	49	PKP	PKiKP	07 16 36.5	+0.4
	comp=Z,0.2nm,0.6s,baz=217,slow=1.4,SNR=3.6						
PLCA	Paso Flores	145.64	157	PKPbc	PKiKP	07 17 29.0	-2.2
	comp=Z,5.7nm,0.8s,baz=211,slow=4.0,SNR=24						
LPAZ	La Paz	164.38	116	PKP	PKPdf	07 17 55.1	+1.4
	comp=Z,1.0nm,0.8s,baz=89,slow=4.2,SNR=4.2						

IDC 28 07:06:09.4±5.5, 6.77S×129.65E, h182km±52km, mb3.1/1, mbtmp3.6/4, Error ellipse: s-maj=66.4km s-min=23.5km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.92	199	P		Pn	07 08 54.7	+0.8
	2.1nm,1.0s,baz=27,slow=12,SNR=1.2							
FITZ				S		Sn	07 11 06.1	-0.3
	1.3nm,0.4s,baz=17,slow=20,SNR=2.2							
WRA	Warramunga Arr	13.87	161	P		Pn	07 09 16.6	-1.8
	1.0nm,0.5s,baz=342,slow=14,SNR=1.9							
WRA				S		Sn	07 11 43.3	-10
	0.5nm,0.3s,baz=342,slow=24,SNR=7.4							
ASAR	Alice Springs	17.29	167	P		Pn	07 10 00.5	+0.3
	0.4nm,0.4s,baz=346,slow=10,SNR=10							
ASAR				S		S	07 13 09.4	-0.2
	0.2nm,0.4s,baz=347,slow=20,SNR=4.9							
MKAR	Makanchi Array	67.84	327	P		P	07 16 47.9	-0.1
	0.3nm,0.5s,baz=114,slow=7.7,SNR=4.4							
	0.3nm,0.5s							

SDD 28 07:36:13.0±1.3, 20.36N×71.05W, h23km±16km, MD2.7, ML2.0, MW2.6, 5C-10D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LUDR	Luperon	0.47	169	*e*Pg		Pb	07 36 22.3	-0.3
LUDR				*e*Sg		Sb	07 36 29.1	-0.1
LUDR				IAML			07 36 35.3	
	comp=N,167nm,0.4s							
LUDR	Luperon	0.47	169	⇓*e*Pg		Pb	07 36 22.3	-0.3
LUDR				⇑*e*Sg		Sb	07 36 28.3	-0.8
LUDR				IAML			07 36 35.3	
	comp=N,167nm,0.4s							
MCDR	Montecristi	0.74	231	⇑*e*Pg		Pb	07 36 26.4	-0.7
MCDR				⇑*e*Sg		Sb	07 36 36.8	0.0
MCDR				IAML			07 36 44.3	
	comp=N,36nm,0.8s							
MADR	Mao Valverde	0.79	184	*e*Pg		Pb	07 36 27.1	-0.9
MADR				IAML			07 36 37.1	
	comp=N,37nm,2.1s							
MADR				*e*Sg		Sb	07 36 37.6	-0.7
MADR	Mao Valverde	0.79	184	⇓*e*Pg		Pb	07 36 27.5	-0.5
MADR				⇓*i*Pg		Pb	07 36 27.5	-0.5
MADR				IAML			07 36 37.1	
	comp=N,36nm,2.1s							
MADR				⇓*e*Sg		Sb	07 36 37.6	-0.7
REDR	Restauracion	1.23	195	⇓*e*Pg		Pn	07 36 34.5	-0.3
REDR				⇓*e*Sg		Sn	07 36 50.3	-0.4
REDR				IAML			07 36 52.3	
	comp=N,32nm,0.3s							
SFDR	San Fco. de Ma	1.31	144	*e*Pg		Pn	07 36 35.5	-0.4
SFDR				*e*Sg		Sb	07 36 53.1	-0.2
SFDR				IAML			07 36 58.9	
	comp=N,45nm,0.3s							
SDDR	Presa de Saban	1.39	189	*e*Pg		Pn	07 36 36.9	-0.2
SDDR				*e*Sg		Sn	07 36 52.4	-2.3
SDDR				IAML			07 36 55.8	
	comp=N,13nm,1.8s							
SDDR	Presa de Saban	1.39	189	⇑*e*Pg		Pn	07 36 36.7	-0.4
SDDR				⇓*e*Sg		Sn	07 36 54.7	0.0
SDDR				IAML			07 36 58.6	
	comp=N,14nm,0.7s							
ABDR	Alto Bandera	1.59	165	*e*Pg		Pn	07 36 40.1	0.0
ABDR				*e*Sg		Sn	07 36 59.4	-0.7
ABDR	Alto Bandera	1.59	165	*e*Pg		Pn	07 36 40.2	+0.2
ABDR				⇓*e*Sg		Sn	07 37 00.1	0.0
JIDR	Jimani	2.00	202	⇓*e*Pg		Pb	07 36 47.4	-1.4
BANI	BANI	2.06	161	⇑*e*Pg		Pb	07 36 48.2	-1.5
BANI				IAML			07 37 14.7	
	comp=N,49nm,2.8s							
BANI				⇓*e*Sg		Sb	07 37 15.5	+0.5

*SNET **28** 07:43:36.0±0.9, 17.48

NEIC ***28*** *07:43:46.1±1.5, 16°.77N±0°.04×86°.11W±0°.05, h10km±1km, mb5.0/491, Mww5.1/18, Error ellipse: s-maj=9.8km s-min=6.1km az=125.0*
GCG ***28*** *07:43:50.7±2.1, 16°.72N×86°.32W, h31km±224km, MD5.3*
GCMT ***28*** *07:43:51.1±0.1, 16°.87N±0°.01×86°.14W±0°.01, h24km, MW5.1/117, Moment Tensor Solution. s69,c104; s117,c195; Duration: 0 Moment tensor: Scale 10^16^Nm; M_rr_0.04±.12; M_θθ_-3.45±.11; M_φφ_3.41±.12; M_rθ_-1.07±.24; M_θφ_4.59±.09; M_rφ_1.45±.24; Best double couple: M_0_6.00000×10^16^ NP1:φ_s_71.00000°, δ74.00000°, λ-5.00000°. NP2:φ_s_162.00000°, δ86.00000°, λ-164.00000°. Principal axes: T 5.8300, Plg8.0000°, Azm295.0000°; N 0.3410, Plg73.0000°, Azm177.0000°; P -6.1690, Plg15.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
SSNC ***28*** *07:44:26.6±3.6, 17°.23N×82°.97W, h0km±999km*
JSN ***28*** *07:45:38.3±11.0, 17°.92N×77°.69W, h0km±47km*
ISC 28 07:43:48.6±0.3, 16°.80N±0°.03×86°.10W±0°.04, h29km, n814,
σ1§22/589, **mb4.9**/195, **MS4.0**/39, **1D, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZABA	**Izabal, Puerto**	**2.61**	**246**	P	**Pn**	**07 44 26.5**	**-2.3**
COMHN	**El Horno**	**2.73**	**211**	P	**Pn**	**07 44 28.8**	**-1.9**
YUSH	**Yuscaran**	**2.91**	**194**	P	**Pn**	**07 44 32.0**	**-1.1**
TGUH	**Tegucigalpa,Un**	**2.95**	**203**		**Pn**	**07 44 32.5**	**-1.1**
TGUH	**Tegucigalpa,Un**	**2.95**	**203**	P	**Pn**	**07 44 32.6**	**-1.1**
RCVN	**Varillal2**	**3.19**	**182**	P	**Pn**	**07 44 35.8**	**-1.3**
MARCA	**Marcala la Paz**	**3.21**	**216**	*eP*	**Pn**	**07 44 36.6**	**-0.7**
RCPN	**Sur Rio San Ju**	**3.25**	**180**	P	**Pn**	**07 44 36.5**	**-1.3**
CHOHN	**Orocuina**	**3.45**	**197**	P	**Pn**	**07 44 39.1**	**-1.4**
PETF	**Flores**	**3.61**	**272**		**Pn**	**07 44 41.5**	**-1.0**
PETF	**Flores**	**3.61**	**272**	*eP*	**Pn**	**07 44 41.5**	**-1.0**
CAHU	**Cacacuatique**	**3.63**	**214**	*eP*	**Pn**	**07 44 42.1**	**-0.9**
CAHU				*eS*	**Sb**	**07 45 34.9**	**-1.0**
LIMN	**Finca el Limon**	**3.72**	**184**	P	**Pn**	**07 44 43.0**	**-1.2**
LLGN	**La Laguna**	**3.79**	**227**	*eP*	**Pn**	**07 44 44.4**	**-0.8**
LLGN				*eS*	**Sb**	**07 45 36.3**	**-4.1**
LLGN	**La Laguna**	**3.79**	**227**	P	**Pn**	**07 44 44.5**	**-0.7**
ESQI	**Esquipulas**	**3.83**	**235**		**Pn**	**07 44 44.2**	**-1.5**
ESQI	**Esquipulas**	**3.83**	**235**	P	**Pn**	**07 44 44.9**	**-0.9**
MATN	**Matagalpa**	**3.85**	**177**	P	**Pn**	**07 44 43.7**	**-2.3**
CNRM	**Centro Naciona**	**3.86**	**211**	*eP*	**Pn**	**07 44 44.9**	**-1.2**
CNRM	**Centro Naciona**	**3.86**	**211**	P	**Pn**	**07 44 45.1**	**-0.9**
CNRM	**Centro Naciona**	**3.86**	**211**	S	**Sn**	**07 45 31.9**	**+1.4**
LCND	**La Caada**	**3.87**	**207**	*eP*	**Pn**	**07 44 44.9**	**-1.3**
LCND	**La Caada**	**3.87**	**207**	P	**Pn**	**07 44 44.9**	**-1.3**
LCND	**La Caada**	**3.87**	**207**	S	**Sn**	**07 45 31.4**	**+0.6**
CNCH	**Conchagua**	**3.88**	**206**	*eP*	**Pn**	**07 44 45.2**	**-1.2**
CNCH	comp=Z,10μm,0.8s			IAML		07 45 46.0	
CNCH	**Conchagua**	**3.88**	**206**	P	**Pn**	**07 44 45.0**	**-1.4**
CNCH	**Conchagua**	**3.88**	**206**	S	**Sn**	**07 45 30.9**	**-0.2**
AESN	**El Sauce Leon**	**3.91**	**186**	P	**Pn**	**07 44 45.3**	**-1.4**
AESN	**El Sauce Leon**	**3.91**	**186**	S	**Sn**	**07 45 31.7**	**0.0**
BLLM	**Bellamira**	**3.92**	**212**	*eP*	**Pn**	**07 44 45.8**	**-1.1**
MTO3	**Montecristo**	**3.94**	**233**		**Pn**	**07 44 46.0**	**-1.4**
MTO3	**Montecristo**	**3.94**	**233**	*eP*	**Pn**	**07 44 46.2**	**-1.1**
MTO3	**Montecristo**	**3.94**	**233**	*i P*	**Pn**	**07 44 46.5**	**-0.9**
MTO3	**Montecristo**	**3.94**	**233**	P	**Pn**	**07 44 46.5**	**-0.9**
MTO3	**Montecristo**	**3.94**	**233**	S	**Sn**	**07 45 33.7**	**+0.9**
PQSS	**Presa 15 de Se**	**3.94**	**217**	*eP*	**Pn**	**07 44 46.2**	**-1.0**
PQSS	**Presa 15 de Se**	**3.94**	**217**	P	**Pn**	**07 44 46.3**	**-1.0**
PQSS	**Presa 15 de Se**	**3.94**	**217**	S	**Sn**	**07 45 33.4**	**+0.8**
LCY	**Lacayo**	**3.96**	**213**	*eP*	**Pn**	**07 44 46.6**	**-1.0**
SCLA	**Alcaldia de Sa**	**3.98**	**220**	P	**Pn**	**07 44 47.3**	**-0.6**
SCLA	**Alcaldia de Sa**	**3.98**	**220**	S	**Sn**	**07 45 34.3**	**+0.7**
TEIG	**Tepich**	**3.99**	**329**	Pn	**Pn**	**07 44 48.0**	**+0.2**
TEIG	baz=156,slow=24,SNR=4300			Sn	**Sn**	**07 45 31.6**	**-2.0**
TEIG	**Tepich**	**3.99**	**329**	P	**Pn**	**07 44 47.8**	**0.0**
POTN	**Potosi Cosigui**	**4.01**	**200**	P	**Pn**	**07 44 46.9**	**-1.2**
POTN				S	**Sn**	**07 45 34.9**	**+0.8**
TECA	**Tecapa**	**4.02**	**216**	*eP*	**Pn**	**07 44 47.3**	**-1.1**
TECA				*eS*	**Sb**	**07 45 44.2**	**-2.9**
CSGN	**Cosiguina Volc**	**4.05**	**201**	P	**Pn**	**07 44 47.2**	**-1.6**
CSGN				S	**Sn**	**07 45 35.3**	**+0.1**
UESV	**Universidad de**	**4.07**	**220**	*eP*	**Pn**	**07 44 48.2**	**-0.8**
UESV	**Universidad de**	**4.07**	**220**	P	**Pn**	**07 44 48.2**	**-0.8**
UESV	**Universidad de**	**4.07**	**220**	S	**Sn**	**07 45 37.0**	**+1.2**
PAVA	**Las Pavas**	**4.11**	**222**	*eP*	**Pn**	**07 44 48.7**	**-0.9**
PAVA	comp=Z,876nm,0.5s			IAML		07 45 50.1	
PAVA	**Las Pavas**	**4.11**	**222**	P	**Pn**	**07 44 48.8**	**-0.7**
PAVA	**Las Pavas**	**4.11**	**222**	S	**Sn**	**07 45 37.4**	**+0.7**
COEG	**Centro de Oper**	**4.14**	**221**	*eP*	**Pn**	**07 44 49.1**	**-1.0**
COEG	**Centro de Oper**	**4.14**	**221**	P	**Pn**	**07 44 49.0**	**-1.0**
COEG	**Centro de Oper**	**4.14**	**221**	S	**Sn**	**07 45 38.9**	**+1.4**
CRIN	**San Cristobal**	**4.17**	**193**		**Pn**	**07 44 49.5**	**-0.9**
CRIN	**San Cristobal**	**4.17**	**193**	P	**Pn**	**07 44 49.5**	**-0.9**
CRIN	**San Cristobal**	**4.17**	**193**	S	**Sn**	**07 45 37.9**	**-0.4**
POLN	**Al Sur del Vol**	**4.18**	**190**	P	**Pn**	**07 44 48.5**	**-2.0**
POLN				S	**Sn**	**07 45 39.1**	**+0.7**
ALJI	**Alcalda de J**	**4.19**	**215**	*eP*	**Pn**	**07 44 49.9**	**-0.7**
ALJI	**Alcalda de J**	**4.19**	**215**	P	**Pn**	**07 44 49.6**	**-1.0**
ALJI	**Alcalda de J**	**4.19**	**215**	S	**Sn**	**07 45 39.9**	**+1.2**
HERN	**Volcan Telica**	**4.22**	**190**		**Pn**	**07 44 50.1**	**-1.0**
HERN	**Volcan Telica**	**4.22**	**190**	P	**Pn**	**07 44 49.6**	**-1.5**
HOYN	**Al Sur del Vol**	**4.23**	**190**	P	**Pn**	**07 44 49.8**	**-1.5**
PLRN	**Geotermica Pol**	**4.24**	**189**	P	**Pn**	**07 44 49.8**	**-1.4**
PLRN				S	**Sn**	**07 45 39.5**	**-0.3**
QUEN	**Al S del Volca**	**4.24**	**190**	P	**Pn**	**07 44 50.8**	**-0.6**
QUEN				S	**Sn**	**07 45 40.4**	**+0.5**
ROCN	**Rota Cerro Neg**	**4.29**	**188**	P	**Pn**	**07 44 51.2**	**-0.9**
ROCN				S	**Sn**	**07 45 41.6**	**+0.4**
PIC2	**El Picacho**	**4.30**	**226**	*eP*	**Pn**	**07 44 51.6**	**-0.7**
UEES	**Universidad Ev**	**4.30**	**225**	P	**Pn**	**07 44 51.8**	**-0.4**
UEES	**Universidad Ev**	**4.30**	**225**	S	**Sn**	**07 45 42.1**	**+0.6**
CNGN	**Cerro Negro**	**4.31**	**188**		**Pn**	**07 44 51.1**	**-1.2**
CNGN	**Cerro Negro**	**4.31**	**188**	P	**Pn**	**07 44 51.3**	**-1.0**
CNGN	**Cerro Negro**	**4.31**	**188**	S	**Sn**	**07 45 42.0**	**+0.4**
LOMA	**Loma Larga**	**4.31**	**224**	*eP*	**Pn**	**07 44 51.5**	**-0.8**
LOMA	**Loma Larga**	**4.31**	**224**	P	**Pn**	**07 44 52.0**	**-0.4**
LOMA	**Loma Larga**	**4.31**	**224**	S	**Sn**	**07 45 42.3**	**+0.5**
CNGA	**Al SSO del Vol**	**4.31**	**188**	P	**Pn**	**07 44 51.8**	**-0.6**
CNGA				S	**Sn**	**07 45 42.1**	**+0.3**
AVCB	**Coban**	**4.34**	**253**	*eP*	**Pn**	**07 44 52.0**	**-0.8**
UNIC	**Universidad Ca**	**4.34**	**230**	P	**Pn**	**07 44 52.1**	**-0.7**
UNIC	**Universidad Ca**	**4.34**	**230**	S	**Sn**	**07 45 44.3**	**+1.8**
PMON	**Piamonte**	**4.36**	**226**	P	**Pn**	**07 44 52.0**	**-1.0**
PMON	**Piamonte**	**4.36**	**226**	S	**Sn**	**07 45 44.6**	**+1.6**
MOMN	**Momotombo**	**4.38**	**186**	P	**Pn**	**07 44 52.1**	**-1.2**
MOMN				S	**Sn**	**07 45 43.8**	**+0.4**
LEVN	**Ruinas Leon Vi**	**4.40**	**187**	P	**Pn**	**07 44 52.2**	**-1.2**
LEVN				S	**Sn**	**07 45 44.1**	**+0.4**
JAYA	**Jayaque - finc**	**4.49**	**226**	*eP*	**Pn**	**07 44 54.1**	**-0.9**
JAYA	**Jayaque - finc**	**4.49**	**226**	*eP*	**Pn**	**07 44 54.2**	**-0.7**
JAYA	**Jayaque - finc**	**4.49**	**226**	P	**Pn**	**07 44 54.4**	**-0.5**
JAYA	**Jayaque - finc**	**4.49**	**226**	S	**Sn**	**07 45 47.7**	**+1.4**
CEVE	**Cerro Verde**	**4.50**	**230**	*eP*	**Pn**	**07 44 54.7**	**-0.4**
LALI	**Alcalda de L**	**4.52**	**224**	*eP*	**Pn**	**07 44 54.8**	**-0.4**
LALI	**Alcalda de L**	**4.52**	**224**	*i P*	**Pn**	**07 44 55.2**	**0.0**
LALI	**Alcalda de L**	**4.52**	**224**	P	**Pn**	**07 44 54.0**	**-1.1**
LALI	**Alcalda de L**	**4.52**	**224**	S	**Sn**	**07 45 47.8**	**+1.0**
NUBE	**Las Nubes**	**4.57**	**231**	*eP*	**Pn**	**07 44 55.0**	**-0.9**
NUBE	**Las Nubes**	**4.57**	**231**	P	**Pn**	**07 44 55.6**	**-0.3**
NUBE	**Las Nubes**	**4.57**	**231**	S	**Sn**	**07 45 49.2**	**+1.0**
COPN	**Copaltepe**	**4.61**	**186**	P	**Pn**	**07 44 55.2**	**-1.3**
MGAN	**Managua**	**4.62**	**182**		**Pn**	**07 44 55.7**	**-0.9**
MGAN	**Managua**	**4.62**	**182**	P	**Pn**	**07 44 53.1**	**-3.5**
TISN	**Laguna Tiscapa**	**4.63**	**182**	P	**Pn**	**07 44 55.8**	**-0.9**
UNAN	**Cigeo UNAN**	**4.66**	**182**	P	**Pn**	**07 44 56.7**	**-0.4**
MAS3	**Al N del Volca**	**4.74**	**181**	P	**Pn**	**07 44 56.2**	**-2.0**
CRUN	**El Crucero**	**4.79**	**182**	P	**Pn**	**07 44 55.2**	**-3.7**
NANN	**Nandasmo**	**4.83**	**180**	P	**Pn**	**07 44 57.1**	**-2.3**
ACON	**Acoyapa**	**4.88**	**169**		**Pn**	**07 44 58.5**	**-1.7**
ACON	**Acoyapa**	**4.88**	**169**	P	**Pn**	**07 44 58.9**	**-1.3**
ACON	**Acoyapa**	**4.88**	**169**	P	**Pn**	**07 44 58.8**	**-1.3**
ESPN	**Las Esperanzas**	**4.89**	**159**	P	**Pn**	**07 44 59.3**	**-1.0**
CONN	**Concepcion**	**5.22**	**175**	P	**Pn**	**07 45 03.4**	**-1.4**
BLUN	**Bluefields**	**5.27**	**154**	P	**Pn**	**07 45 03.9**	**-1.5**
	comp=Z,2μmcomp=Z,121nm,1.0s						
BLUN	**Bluefields**	**5.27**	**154**	P	**Pn**	**07 45 04.4**	**-1.0**
SCIG	**Sabancuy**	**5.30**	**295**	*eP*	**Pn**	**07 45 03.7**	**-2.1**
HUEH	**Huehuetenango**	**5.39**	**255**		**Pn**	**07 45 06.4**	**-0.9**
HUEH	**Huehuetenango**	**5.39**	**255**	*eP*	**Pn**	**07 45 06.7**	**-0.7**
HUEH	**Huehuetenango**	**5.39**	**255**	P	**Pn**	**07 45 06.6**	**-0.7**
STG8	**El Palmar, Qui**	**5.57**	**246**	*eP*	**Pn**	**07 45 10.4**	**+0.6**
STG0	**El Palmar, Qui**	**5.57**	**246**	*eP*	**Pn**	**07 45 10.9**	**+1.2**
STG5	**El Palmar, Qui**	**5.58**	**246**	*eP*	**Pn**	**07 45 10.6**	**+0.7**
PRVC	**Isla de Provid**	**5.70**	**126**		**Pn**	**07 45 09.4**	**-1.9**
PRVC	**Isla de Provid**	**5.70**	**126**	P	**Pn**	**07 45 07.7**	**-3.7**
	comp=Z,7μmcomp=Z,5μmcomp=Z,235nm,1.4s						
PRVC	**Isla de Provid**	**5.70**	**126**	P	**Pn**	**07 45 09.7**	**-1.7**
CCIG	**Comitan**	**5.81**	**266**		**Pn**	**07 45 12.4**	**-0.7**
CCIG	**Comitan**	**5.81**	**266**	*eP*	**Pn**	**07 45 12.3**	**-0.7**
CCIG				*eS*	**Sn**	**07 46 16.1**	**-2.7**
CCIG	**Comitan**	**5.81**	**266**	P	**Pn**	**07 45 12.6**	**-0.4**
RTAL	**Retalhuleu**	**5.84**	**248**		**Pn**	**07 45 13.0**	**-0.3**
RTAL	**Retalhuleu**	**5.84**	**248**	P	**Pn**	**07 45 12.7**	**-0.6**
SAIC	**Isla e San And**	**6.00**	**134**	P	**Pn**	**07 45 11.8**	**-3.7**
	comp=Z,4μmcomp=Z,355nm,0.8s						
THIG		**6.22**	**253**	*i P*	**Pn**	**07 45 19.4**	**+0.8**
COVE	**Coope Vega, Sa**	**6.26**	**164**	P	**Pn**	**07 45 17.2**	**-1.9**
SOCE	**Pocosol**	**6.54**	**167**		**Pn**	**07 45 21.7**	**-1.2**
SOCE	**Pocosol**	**6.54**	**167**	P	**Pn**	**07 45 21.4**	**-1.5**
JTS	**Las Juntas de**	**6.56**	**170**		**Pn**	**07 45 22.2**	**-1.0**
JTS	**Las Juntas de**	**6.56**	**170**	Pn	**Pn**	**07 45 22.6**	**-0.6**
	comp=Z,4.1nm,0.3s,baz=356,slow=9.0,SNR=24						
JTS				Sn	**Sb**	**07 46 52.6**	**-7.5**
	comp=Z,9.4nm,0.3s,baz=241,slow=22,SNR=4.0						
JTS	**Las Juntas de**	**6.56**	**170**	P	**Pn**	**07 45 22.0**	**-1.2**
	comp=Z,2μmcomp=Z,78nm,0.7s						
SOR	**Soroa**	**6.64**	**26**		**Pn**	**07 45 23.2**	**-1.0**
SOR	**Soroa**	**6.64**	**26**	*eP*	**Pn**	**07 45 24.8**	**+0.5**
LCR2	**La Lucha 2**	**7.30**	**164**		**Pn**	**07 45 32.3**	**-1.3**
MTDJ	**Mount Denham**	**8.30**	**79**		**Pn**	**07 45 47.6**	**+0.4**
MTDJ	**Mount Denham**	**8.30**	**79**	*eP*	**Pn**	**07 45 47.2**	**0.0**
STH	**Stony Hill**	**8.96**	**80**	*eP*	**Pn**	**07 45 55.8**	**-0.5**
STH	**Stony Hill**	**8.96**	**80**	*i P*	**Pn**	**07 45 55.9**	**-0.3**
LMGC	**Las Mercedes**	**9.23**	**68**	*eP*	**Pn**	**07 45 59.4**	**-0.4**
HUIG	**Huatulco**	**9.66**	**265**	*eP*	**Pn**	**07 46 02.5**	**-3.3**
CHIV	**Chivirico**	**9.73**	**70**		**Pn**	**07 46 06.8**	**+0.2**
CHIV	**Chivirico**	**9.73**	**70**	*eP*	**Pn**	**07 46 08.2**	**+1.5**
BCIP	**Isla Barro Col**	**9.73**	**140**		**Pn**	**07 46 04.2**	**-2.5**
BCIP	**Isla Barro Col**	**9.73**	**140**	P	Pn	07 46 01.0	-5.8
	comp=Z,123nm,1.0s						
YAR	**Yar**	**9.90**	**67**	*eP*	Pn	07 45 49.4	-20
GMAL	**Guarumal, Vera**	**10.16**	**152**	P	**Pn**	**07 46 09.4**	**-3.2**
	comp=Z,2μmcomp=Z,23nm,1.0s						
HLGC	**Holguin**	**10.34**	**65**	*eP*	**Pn**	**07 46 16.9**	**+1.8**
RCC	**Rio Carpintero**	**10.38**	**71**	*eP*	**Pn**	**07 46 16.2**	**+0.6**
PINC	**Pinares de May**	**10.44**	**68**	*eP*	Pn	07 45 55.9	-21
GTBY	**Guantanamo Bay**	**10.89**	**72**	*eP*	**Pn**	**07 46 22.9**	**+0.3**
NMDO	**Nuevo Mundo**	**11.18**	**69**		**Pn**	**07 46 26.5**	**-0.1**
QMBU	**Quimbuelo**	**11.23**	**71**	*eP*	**Pn**	**07 46 26.7**	**-0.6**
060A	**Indiantown**	**11.50**	**27**		**Pn**	**07 46 30.9**	**0.0**
MASC	**Masc**	**11.75**	**72**	*eP*	**Pn**	**07 46 36.9**	**+2.5**
TLIG	**Tlapa**	**11.94**	**275**		**Pn**	**07 46 34.8**	**-2.3**
DWPF	**Disney Wildern**	**12.06**	**20**		**Pn**	**07 46 37.2**	**-1.4**
SJCC	**San Jacinto, C**	**12.64**	**121**	P	**Pn**	**07 46 44.7**	**-2.0**
UNM	**Universidad Na**	**12.69**	**283**		**Pn**	**07 46 46.8**	**-0.6**
APAC	**Apartado, Choc**	**12.83**	**132**	P	**Pn**	**07 46 44.6**	**-4.5**
	comp=Z,38nm,1.1s						
656A	**Willston**	**12.94**	**14**		**Pn**	**07 46 49.0**	**-1.6**
553A	**Crawfordville**	**13.42**	**6**		**Pn**	**07 46 56.1**	**-1.0**
451A	**Vernon**	**13.76**	**1**		**Pn**	**07 46 59.9**	**-1.9**
JRQG	**Juriquilla Cam**	**14.13**	**288**		**Pn**	**07 47 08.5**	**+1.4**
SDDR	**Presa de Saban**	**14.27**	**79**		**Pn**	**07 47 09.1**	**+0.2**
BRAL	**Brewton**	**14.34**	**357**		**Pn**	**07 47 09.7**	**+0.1**
352A	**Blakely**	**14.66**	**4**		**Pn**	**07 47 12.6**	**-1.5**
CBOC	**Ciudad Bolivar**	**14.68**	**137**	P	**Pn**	**07 47 14.1**	**-0.6**
	comp=Z,2μmcomp=Z,115nm,1.2s						
346A	**Big Creek Wild**	**14.85**	**349**		**Pn**	**07 47 15.9**	**-0.6**
OCAC	**Ocana**	**15.09**	**123**	P	**Pn**	**07 47 16.9**	**-3.2**
	comp=Z,2μmcomp=Z,1μmcomp=Z,105nm,1.2s						
250A	**Grady**	**15.12**	**359**		**Pn**	**07 47 18.9**	**-1.2**
250A				IAmb	IAmb	07 47 27.5	
	comp=Z,68nm,0.7s						
KVTX	**Kingsville**	**15.28**	**316**		**Pn**	**07 47 21.0**	**-1.2**
PTBC	**PUERTO BERRIO,**	**15.29**	**130**	P	**Pn**	**07 47 19.3**	**-3.2**
	comp=Z,269nmcomp=Z,25nm,1.2s						
HBVL	**Hebbronville**	**15.49**	**313**		**Pn**	**07 47 23.2**	**-2.0**
HBVL				IAmb	IAmb	07 47 28.9	
	comp=Z,75nm,0.9s						
GUY2C	**Guyana, Caldas**	**15.59**	**136**	P	**Pn**	**07 47 27.7**	**+0.8**
	comp=Z,442nmcomp=Z,29nm,1.0s						
NORC	**Norcasia**	**15.67**	**134**	P	**Pn**	**07 47 27.5**	**-0.1**
	comp=Z,573nmcomp=Z,69nm,1.1s						
HKT	**Hockley**	**15.84**	**327**		**Pn**	**07 47 29.0**	**-0.5**
YOTC	**Yotoco, Valle**	**15.93**	**142**	P	**Pn**	**07 47 29.8**	**-1.2**
	comp=Z,356nmcomp=Z,25nm,1.0s						
154A	**Montrose**	**15.98**	**9**	IAmb	IAmb	07 47 31.6	
	comp=Z,153nm,1.2s						
146A	**Union**	**16.00**	**351**	IAmb	IAmb	07 47 34.8	
	comp=Z,119nm,0.7s						
EF75	**Tulsita**	**16.02**	**320**	P	**Pn**	**07 47 31.4**	**-0.6**
EF67	**Cuero**	**16.06**	**322**	P	**Pn**	**07 47 31.8**	**-0.6**
EF67	**Cuero**	**16.06**	**322**	P	**Pn**	**07 47 32.2**	**-0.2**
EF71	**Pawnee**	**16.11**	**319**	P	**Pn**	**07 47 32.0**	**-1.1**
EF76	**Three Rivers**	**16.13**	**318**	P	**P**	**07 47 36.2**	**-0.1**
LRAL	**Lakeview Retre**	**16.19**	**357**	IAmb	IAmb	07 47 36.8	
	comp=Z,177nm,1.4s						
BARC	**Barichara**	**16.20**	**127**	P	**P**	**07 47 39.5**	**+2.0**
EF69	**Whitsett**	**16.26**	**319**	P	**P**	**07 47 37.5**	**-0.3**
EF69	**Whitsett**	**16.26**	**319**	P	**P**	**07 47 36.7**	**-1.2**
HNVL	**Huntsville, TX**	**16.32**	**330**	IAmb	IAmb	07 47 40.0	
	comp=Z,151nm,1.1s						
JAMC	**Jamundi, Valle**	**16.37**	**145**	P	**Pn**	**07 47 35.7**	**-1.0**
	comp=Z,439nmcomp=Z,19nm,1.3s						
MLDN	**Muldoon**	**16.37**	**324**		**Pn**	**07 47 36.1**	**-0.3**
Z47A	**Carrollton**	**16.43**	**354**	IAmb	IAmb	07 47 42.3	
	comp=Z,85nm,0.7s						
EF51	**Christine**	**16.51**	**318**	P	**Pn**	**07 47 39.3**	**+1.1**
EF59	**Coughran**	**16.57**	**319**	P	**Pn**	**07 47 39.9**	**+1.0**
ROSC	**El Rosal**	**16.57**	**134**		**Pn**	**07 47 38.1**	**-1.3**
ROSC				IAmb	IAmb	07 47 46.0	
	comp=Z,125nm,1.1s						
ROSC	**El Rosal**	**16.57**	**134**	Pn	**P**	**07 47 40.7**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=17,slow=23,SNR=20						
ROSC				LR	LR	07 55 25.4	
	comp=Z,480nm,18.9s,baz=12,slow=42						
	comp=Z,35nm,0.9s						
ROSC	**El Rosal**	**16.57**	**134**	P	**Pn**	**07 47 39.8**	**+0.4**
	comp=Z,2μmcomp=Z,126nm,1.3s						
EF01	**Eagle Ford 01**	**16.67**	**320**	P	**P**	**07 47 45.3**	**+3.0**
EF58	**Charlotte**	**16.68**	**318**	P	**Pn**	**07 47 38.1**	**-2.3**
GOGA	**Godfrey**	**16.72**	**8**		**Pn**	**07 47 39.1**	**-1.6**
RUSC	**La Rusia**	**16.73**	**129**		**Pn**	**07 47 39.5**	**-2.0**
NATX	**Nacogdoches**	**16.80**	**334**		**Pn**	**07 47 40.1**	**-1.8**
NATX				IAmb	IAmb	07 47 46.2	
	comp=Z,91nm,1.0s						
POPC	**Popayan, Colom**	**16.93**	**146**	P	**Pn**	**07 47 42.1**	**-1.7**
	comp=Z,1μmcomp=Z,553nmcomp=Z,32nm,1.3s						
CVER	**Cruz Verde, Cu**	**16.97**	**135**	P	**Pn**	**07 47 44.9**	**+0.4**
	comp=Z,734nmcomp=Z,60nm,1.4s						
Y49A	**Blount Mountai**	**16.99**	**359**	IAmb	IAmb	07 47 49.4	
	comp=Z,249nm,2.0s						
SDV	**Santo Domingo**	**17.00**	**116**	P	**Pn**	**07 47 42.4**	**-2.2**
SDV				IAmb	IAmb	07 47 49.0	
	comp=Z,96nm,1.1s						
SDV	**Santo Domingo**	**17.00**	**116**	Pn	**Pn**	**07 47 43.2**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=314,slow=9.7,SNR=19						
SDV				LR	LR	07 55 25.9	
	comp=Z,430nm,21.0s,baz=266,slow=41						
	comp=Z,30nm,0.7s						
CSU	**Charleston Sou**	**17.02**	**18**	IAmb	IAmb	07 47 47.5	
	comp=Z,184nm,1.1s						
PRAC	**Prado**	**17.04**	**139**	P	**Pn**	**07 47 44.7**	**-0.3**
	comp=Z,1μmcomp=Z,46nm,1.2s						
BBAC	**Balboa, Cauca**	**17.07**	**148**	P	**Pn**	**07 47 43.8**	**-1.7**
	comp=Z,453nmcomp=Z,46nm,1.3s						
Y52A	**Lilburn**	**17.10**	**6**	IAmb	IAmb	07 47 50.4	
	comp=Z,288nm,1.9s						
CHIC	**Chingaza**	**17.13**	**134**	P	**Pn**	**07 47 44.9**	**-1.5**
	comp=Z,1μmcomp=Z,1μmcomp=Z,68nm,1.2s						
TAMC	**Tame, Arauca**	**17.38**	**125**	P	**Pn**	**07 47 47.9**	**-1.3**
	comp=Z,1μmcomp=Z,78nm,1.3s						
Z41A	**Richland Creek**	**17.47**	**341**	P	**Pn**	**07 47 49.5**	**-0.7**
BETC	**Betania**	**17.51**	**142**	P	**Pn**	**07 47 51.0**	**+0.2**
HNDO	**Hondo**	**17.51**	**319**	P	**Pn**	**07 47 48.6**	**-2.2**
HNDO	**Hondo**	**17.51**	**319**	P	**Pn**	**07 47 48.6**	**-2.2**
237A	**Washetta, Mont**	**17.52**	**332**	IAmb	IAmb	07 47 55.8	
	comp=Z,107nm,0.9s						
URMC	**La Uribe, Meta**	**17.72**	**138**	P	**Pn**	**07 47 52.5**	**-0.9**
	comp=Z,814nmcomp=Z,46nm,1.6s						
X51A	**Calhoun**	**17.73**	**3**	IAmb	IAmb	07 47 57.5	
	comp=Z,151nm,1.1s						
CCAR	**Cane Creek**	**17.80**	**344**	IAmb	IAmb	07 48 00.6	
	comp=Z,102nm,0.8s						
GARC	**Garzon, Huila**	**17.88**	**143**	P	**P**	**07 47 56.1**	**0.0**
	comp=Z,2μmcomp=Z,36nm,1.4s						
OXF	**Oxford**	**17.89**	**351**	IAmb	IAmb	07 48 03.8	
	comp=Z,116nm,1.2s						
Y57A	**Sumter**	**17.90**	**16**	IAmb	IAmb	07 48 00.3	
	comp=Z,185nm,1.3s						
JSC	**Jenkinsville**	**17.95**	**13**	IAmb	IAmb	07 47 57.9	
	comp=Z,112nm,1.1s						
OTAV	**Otavalo**	**18.10**	**155**	P	**Pn**	**07 47 57.3**	**-1.2**
OTAV	**Otavalo**	**18.10**	**155**	*eP*	**Pn**	**07 47 57.5**	**-1.0**
OTAV	**Otavalo**	**18.10**	**155**	P	**Pn**	**07 47 56.1**	**-2.4**
	comp=Z,426nmcomp=Z,13nm,1.6s						
PLAL	**Pickwick Lake**	**18.20**	**355**	P	**Pn**	**07 47 59.1**	**0.0**
PLAL				IAmb	IAmb	07 48 04.1	
	comp=Z,71nm,0.8s						
Z38A	**Mt. Pleasant**	**18.25**	**336**	IAmb	IAmb	07 48 07.9	
	comp=Z,72nm,0.9s						
FLOC	**Florencia**	**18.28**	**145**	IAmb	IAmb	07 48 03.4	
	comp=Z,198nm,1.5s						
FLOC	**Florencia**	**18.28**	**145**	P	**P**	**07 47 59.6**	**-0.7**
	comp=Z,1μmcomp=Z,82nm,1.5s						
DRIO	**Del Rio**	**18.31**	**316**	P	**P**	**07 47 58.3**	**-2.2**
W52A	**Murphy**	**18.33**	**6**	IAmb	IAmb	07 48 05.2	
	comp=Z,118nm,0.9

comp=Z,36nm,1.0s
O48B **Farmland** 23.39 2 IAmb IAmb 07 49 11.6
comp=Z,45nm,1.0s
ACSO **Alum Creek Sta** 23.51 6 IAmb IAmb 07 49 18.0
comp=Z,38nm,0.8s
SFIN **Lafayette** 23.52 358 IAmb IAmb 07 49 17.0
comp=Z,37nm,0.8s
P38A **Dawn** 23.65 346 IAmb IAmb 07 49 21.1
comp=Z,35nm,0.9s
P57A **Homestead Farm** 23.68 16 IAmb IAmb 07 49 13.9
comp=Z,59nm,1.1s
EPT **El Paso** 23.77 313 IAmb IAmb 07 49 01.2
comp=Z,104nm,1.9s
LPIG **La Paz** 23.79 292 LR LR 07 59 12.8
comp=Z,474nm,20.1s,baz=106,slow=39
O54A **Avella** 23.83 11 IAmb IAmb 07 49 14.0
comp=Z,38nm,0.8s
HDIL **Hopedale** 23.84 354 IAmb IAmb 07 49 21.1
comp=Z,54nm,0.9s
SDMD **Soldier's Deli** 23.94 18 IAmb IAmb 07 49 19.8
comp=Z,49nm,0.8s
N47A **Urbana** 24.00 1 IAmb IAmb 07 49 21.9
comp=Z,32nm,0.8s
KSU1 **Kansas State U** 24.05 340 IAmb IAmb 07 49 18.2
comp=Z,42nm,0.8s
N49A **Columbus Grove** 24.10 4 IAmb IAmb 07 49 19.6
comp=Z,65nm,1.3s
R32A **Long Quarter,** 24.22 335 IAmb IAmb 07 49 32.1
comp=Z,31nm,0.8s
N53A **Lisbon** 24.36 10 IAmb IAmb 07 49 18.2
comp=Z,49nm,0.9s
RTBA **Rita Blanca** 24.50 326 IAmb IAmb 07 49 08.3
comp=Z,59nm,1.2s
N38A **Joes South For** 24.70 347 IAmb IAmb 07 49 39.3
comp=Z,37nm,0.9s
SSPA **Standing Stone** 24.80 15 P P **07 49 10.5 +2.4**
SSPA IAmb IAmb 07 49 29.1
comp=Z,27nm,0.9s
ATAH **Atahualpa** 24.97 162 LR LR 07 57 58.7
comp=Z,779nm,19.2s,baz=330,slow=34
SGC2 **Sao Gabriel da** 25.28 130 P P **07 49 11.4 -1.3**
comp=Z,383nmcomp=Z,20nm,1.1s
N58A **Sunbury** 25.30 17 IAmb IAmb 07 49 29.0
comp=Z,35nm,1.0s
Y22D **IRIS PASSCAL I** 25.40 317 IAmb IAmb 07 49 19.3
comp=Z,47nm,0.9s
Y22D **IRIS PASSCAL I** 25.40 317 P P **07 49 14.6 +0.8**
baz=128
LUPA **Lehigh Univers** 25.48 19 IAmb IAmb 07 49 30.8
comp=Z,42nm,1.1s
AAM **Ann Arbor** 25.51 4 IAmb IAmb 07 49 31.0
comp=Z,51nm,1.1s
L40A **Anamosa** 25.56 351 IAmb IAmb 07 49 48.3
comp=Z,60nm,1.2s
ANMO **Albuquerque** 25.64 319 P P **07 49 17.1 +1.1**
ANMO IAmb IAmb 07 49 19.0
comp=Z,33nm,0.9s
M57A **Sunshine Farm,** 25.65 16 P P **07 49 15.8 0.0**
T25A **Trinidad** 25.93 325 IAmb IAmb 07 49 41.8
comp=Z,34nm,1.1s
ODNJ **Ogdensburg** 26.16 20 IAmb IAmb 07 49 45.7
comp=Z,37nm,1.1s
KSPA **Keystone Colle** 26.23 18 IAmb IAmb 07 49 38.6
comp=Z,45nm,1.0s
TBTG **Tabatinga, AM** 26.28 141 P P **07 49 21.5 -0.3**
TBTG **Tabatinga, AM** 26.28 141 eP P **07 49 22.4 +0.6**
TBTG **Tabatinga, AM** 26.28 141 P P **07 49 22.4 +0.6**
comp=Z,785nmcomp=Z,42nm,1.4s
L56A **Greenwood** 26.30 14 P P **07 49 21.6 -0.1**
SDCO **Great Sand Dun** 26.97 325 P P **07 49 28.0 -0.1**
I42A **Draeger Farm,** 27.11 356 IAmb IAmb 07 50 03.6
comp=Z,35nm,1.0s
S22A **4UR Ranch, Cre** 27.72 323 IAmb IAmb 07 50 14.3
comp=Z,38nm,1.4s
CZSB **Cruzeiro do Su** 27.74 150 eP P **07 49 35.4 +0.5**
MVCO **Mesa Verde** 28.36 320 IAmb IAmb 07 50 37.8
comp=Z,22nm,0.8s
SADO **Sadowa** 28.50 10 LR LR 08 01 29.6
comp=Z,44nm,18.8s,baz=205,slow=38
G40A **Rib Lake** 28.59 354 IAmb IAmb 07 50 30.4
comp=Z,43nm,1.5s
SPMN **Marine on St.** 28.90 350 IAmb IAmb 07 50 38.5
comp=Z,19nm,0.8s
BOAV **Boa Vista** 28.93 117 P P **07 49 45.0 -0.6**
BOAV **Boa Vista** 28.93 117 eP P **07 49 44.7 -0.9**
PV15 **Paradox Valley** 29.08 322 IAmb IAmb 07 50 44.7
comp=Z,28nm,1.1s
PV02 **Paradox Valley** 29.15 322 IAmb IAmb 07 50 47.0
comp=Z,36nm,1.0s
PV13 **Radium Mtn., P** 29.17 321 IAmb IAmb 07 50 15.2
comp=Z,23nm,1.2s
WUAZ **Wupatki** 29.22 314 IAmb IAmb 07 50 49.6
comp=Z,27nm,1.1s
PV03 **Paradox Valley** 29.24 321 IAmb IAmb 07 50 52.2
comp=Z,54nm,1.9s
PV07 **Paradox Valley** 29.25 322 IAmb IAmb 07 50 52.2
comp=Z,22nm,1.2s
PV12 **Saucer Basin,** 29.26 322 IAmb IAmb 07 50 45.5
comp=Z,42nm,1.2s
TEFE **Tefe** 29.27 132 eP P **07 49 48.6 0.0**
PV18 **Skein Mesa, Pa** 29.27 321 IAmb IAmb 07 50 45.1
comp=Z,32nm,1.1s
PV11 **David Mesa, Pa** 29.29 322 IAmb IAmb 07 50 46.8
comp=Z,24nm,1.3s
PV16 **Nyswonger Mesa** 29.32 321 IAmb IAmb 07 50 52.6
comp=Z,28nm,1.3s
PV17 **East Wray Mesa** 29.33 321 IAmb IAmb 07 50 45.7
comp=Z,31nm,1.3s
COWI **Conover** 29.33 356 IAmb IAmb 07 50 44.0
comp=Z,18nm,0.8s
PV19 **Morning Glory** 29.36 321 IAmb IAmb 07 50 52.9
comp=Z,37nm,1.5s
PV04 **Paradox Valley** 29.37 322 IAmb IAmb 07 50 55.3
comp=Z,19nm,1.0s
PV20 **West Nyswonger** 29.37 321 IAmb IAmb 07 50 52.4
comp=Z,30nm,1.1s
PV22 **Blue Mesa, Par** 29.39 322 IAmb IAmb 07 50 52.2
comp=Z,48nm,1.6s
PV14 **Lion Creek, Pa** 29.43 321 IAmb IAmb 07 50 52.2
comp=Z,45nm,1.6s
PV10 **Paradox Valley** 29.44 321 IAmb IAmb 07 50 56.0
comp=Z,28nm,1.0s
PV23 **Carpenter Ridg** 29.47 322 IAmb IAmb 07 50 45.1
comp=Z,24nm,0.9s
E38A **The Farm, Brul** 30.07 352 IAmb IAmb 07 50 44.0
comp=Z,21nm,0.9s
O20A **White River Ci** 30.16 325 IAmb IAmb 07 51 00.3
comp=Z,41nm,1.4s
ESJX **Sierra Juarez** 30.98 305 IAmb IAmb 07 50 07.3
comp=Z,17nm,1.0s
KNB **Kanab** 31.02 316 IAmb IAmb 07 50 09.0
comp=Z,17nm,1.1s
Q16A **Castle Valley** 31.07 320 IAmb IAmb 07 51 13.2
comp=Z,32nm,1.4s
MVU **Marysvale** 31.47 319 IAmb IAmb 07 50 11.6
comp=Z,16nm,1.1s
CBX **Cerro Bola** 31.66 305 IAmb IAmb 07 50 13.3
comp=Z,27nm,1.2s
V12A **Nelson** 31.76 312 IAmb IAmb 07 50 33.3
comp=Z,19nm,1.2s
BSUT **Blindstream Ca** 31.86 323 IAmb IAmb 07 51 18.4
comp=Z,21nm,1.1s
TBO **Thunder Bay** 31.88 356 IAmb IAmb 07 50 12.5
comp=Z,15nm,0.7s
MACA **Manacapuru-AM** 31.99 126 P P **07 50 12.2 -0.3**
MACA IAmb IAmb 07 50 14.5
comp=Z,26nm,1.1s
MACA **Manacapuru-AM** 31.99 126 eP P **07 50 13.8 +1.2**
PFO **Pinyon Flats O** 32.01 307 LR LR 08 05 49.7
comp=Z,378nm,18.3s,baz=212,slow=41
PSUT **Pine Spring** 32.54 317 IAmb IAmb 07 50 20.8
comp=Z,22nm,0.9s
PD31 **Pinedale Array** 32.71 327 P P **07 50 17.2 -1.7**
PDAR **Pinedale Array** 32.71 327 P P **07 50 17.2 -1.7**
PDAR **Pinedale Array** 32.71 327 P P **07 50 19.6 +0.7**
comp=Z,2.7nm,0.9s,baz=130,slow=11,SNR=20
comp=Z,2.7nm,0.9s
PRN **Pahroc Range** 32.74 315 IAmb IAmb 07 50 23.0
comp=Z,17nm,1.2s
HWUT **Hardware Ranch** 33.01 324 IAmb IAmb 07 50 49.0
comp=Z,13nm,0.8s
SPR3 **Spring Creek 3** 33.11 318 IAmb IAmb 07 50 25.6
comp=Z,17nm,1.1s
GWY **Greenwater Val** 33.28 311 IAmb IAmb 07 50 50.3
comp=Z,24nm,1.5s
S11A **Rachel** 33.33 314 IAmb IAmb 07 50 27.7
comp=Z,32nm,1.1s
TPNV **Topopah Spring** 33.34 313 IAmb IAmb 07 50 28.6
comp=Z,25nm,1.1s
EPLO **Experimental L** 33.37 351 IAmb IAmb 07 50 24.8
comp=Z,11nm,0.8s
WCT **Wildcat Mounta** 33.53 312 IAmb IAmb 07 50 30.1
comp=Z,36nm,1.8s
CCAC **Calif City Air** 33.81 309 IAmb IAmb 07 50 50.1
comp=Z,19nm,0.9s
SNOW **Snow King Moun** 33.83 327 IAmb IAmb 07 50 55.8
comp=Z,14nm,0.8s
TPAW **Teton Pass** 33.95 327 IAmb IAmb 07 50 47.0
comp=Z,18nm,0.7s
GRAC **Grapevine Rang** 34.15 312 IAmb IAmb 07 50 54.2
comp=Z,31nm,1.1s
ULM **Lac du Bonnet** 34.29 349 P P **07 50 31.3 -0.9**
comp=Z,12nm,1.0s,baz=169,slow=7.6,SNR=8.8
comp=Z,12nm,1.0s
DSP **Deep Springs** 34.75 312 IAmb IAmb 07 50 40.4
comp=Z,29nm,1.5s
MDP **Montagnes des** 34.78 106 LR LR 08 04 00.6
comp=Z,269nm,21.5s,baz=297,slow=35
NV11 **Mina Array Sit** 35.38 314 IAmb IAmb 07 50 45.8
comp=Z,24nm,1.0s
NVAR **Mina Array Bea** 35.48 314 P P **07 50 45.2 +2.2**
NVAR **Mina Array Bea** 35.48 314 P P **07 50 45.4 +2.5**
comp=Z,20nm,0.9s,baz=122,slow=8.2,SNR=103
NVAR PcP **PcP** **07 53 14.2 +2.1**
comp=Z,0.7nm,0.7s,baz=120,slow=3.6,SNR=1.8
NVAR LR LR 08 09 09.1
comp=Z,263nm,18.1s,baz=166,slow=43
RYN **Ryan** 35.72 314 IAmb IAmb 07 50 48.6
comp=Z,24nm,1.1s
WAKR **Walker** 36.30 313 IAmb IAmb 07 50 54.0
comp=Z,33nm,1.1s
PMPB **Monarch Peak** 36.31 309 IAmb IAmb 07 51 11.2
comp=Z,14nm,0.8s
ITTB **Itaituba** 36.64 122 eP P **07 50 53.6 +0.7**
PNTR **Pine Nut** 36.68 314 IAmb IAmb 07 50 56.9
comp=Z,24nm,1.0s
EGMT **Eagleton** 36.69 333 IAmb IAmb 07 51 22.4
comp=Z,22nm,1.0s
LPAZ **La Paz** 37.35 151 P P **07 51 02.0 +2.6**
comp=Z,0.8nm,0.8s,baz=339,slow=11,SNR=2.5
LPAZ LR LR 08 06 13.5
comp=Z,397nm,21.7s,baz=308,slow=36
comp=Z,0.8nm,0.8s
WVOR **Wild Horse Val** 37.73 319 IAmb IAmb 07 51 04.9
comp=Z,26nm,1.2s
ORV **Oroville** 38.20 314 IAmb IAmb 07 51 09.6
comp=Z,27nm,1.1s
NPGB **Novo Progresso** 38.54 125 eP P **07 51 08.6 -0.4**
FFC **Flin Flon** 39.79 346 P P **07 51 18.9 0.0**
KMRM **Mail Ridge** 40.03 313 IAmb IAmb 07 51 25.0
comp=Z,45nm,0.9s
NEW **Newport** 40.34 328 LR LR 08 10 44.3
comp=Z,130nm,21.2s,baz=127,slow=40
PDRB **Porto dos Gac** 40.50 132 eP P **07 51 23.9 -1.4**
CLDB **Colider** 40.67 130 eP P **07 51 25.5 -1.2**
H04A **Detroit Lake** 41.11 320 P P **07 51 30.1 0.0**
H04A IAmb IAmb 07 51 46.3
comp=Z,19nm,0.8s
HOOD **Mount Hood Mea** 41.12 321 P P **07 51 29.7 -0.6**
PTLB **Pontes e Lacer** 41.65 139 P P **07 51 33.3 -1.3**
PTLB **Pontes e Lacer** 41.65 139 eP P **07 51 33.7 -0.9**
BBSD **Serra de San D** 42.09 142 eP P **07 51 37.2 -1.1**
PRPB **Parauapebas** 42.52 119 eP P **07 51 42.8 +0.9**
GNW **Green Mountain** 43.01 324 P P **07 51 45.0 -0.4**
SALV **Santo Antonio** 44.22 136 eP P **07 51 54.4 -1.1**
LLLB **Lillooet** 44.24 328 IAmb IAmb 07 52 15.5
comp=Z,43nm,1.8s
SNDB **Serra Nova Dou** 44.73 127 eP P **07 52 00.6 +0.9**
SMTB **Santa Maria do** 45.84 121 eP P **07 52 09.3 +0.8**
ARAG **Araguaiana, MT** 46.77 132 eP P **07 52 14.7 -1.0**
MURT **Porto Murtinho** 47.33 143 eP P **07 52 18.4 -1.6**
AQDB **Aquidauana** 47.57 140 eP P **07 52 21.8 -0.1**
BLKN **Baker Lake** 47.96 354 P P **07 52 23.9 -0.4**
BBB **Bella Bella** 48.36 327 LR LR 08 16 51.2
comp=Z,158nm,18.7s,baz=138,slow=41
FRB **Frobisher Bay** 48.44 10 LR LR 08 13 12.5
comp=Z,450nm,18.2s,baz=196,slow=37
BDFB **Brasilia** 49.50 129 P P **07 52 37.3 +0.3**
comp=Z,2.2nm,0.9s,baz=281,slow=16,SNR=3.4
BDFB LR LR 08 16 59.9
comp=Z,246nm,18.3s,baz=317,slow=40
comp=Z,2.2nm,0.9s
YKAW1 **Yellowknife Wh** 49.78 343 IAmb IAmb 07 53 03.6
comp=Z,15nm,1.1s
YKA **Yellowknife Ar** 49.82 343 P P **07 52 39.4 +0.7**
comp=Z,3.9nm,0.9s,baz=139,slow=7.9,SNR=51
comp=Z,3.9nm,0.9s
YKAW3 **Yellowknife Wh** 49.88 343 IAmb IAmb 07 53 04.5
comp=Z,15nm,1.1s
SDBA **SAO DESIDERIO** 50.00 123 eP P **07 52 40.7 -0.1**
TOAD **Toad River Com** 50.83 335 P P **07 52 48.0 +1.5**
baz=129
CPUP **Villa Florida** 51.19 146 LR LR 08 17 22.6
comp=Z,257nm,19.2s,baz=314,slow=39
KOTAN **Kotaneelee Air** 51.19 337 P P **07 52 50.7 +1.6**
baz=131
U35K **Hyder** 51.26 330 P P **07 52 51.3 +1.7**
baz=122
LIRD **Liard River Hi** 51.53 335 P P **07 52 53.6 +1.9**
baz=128
V35K **Ketchikan** 51.74 329 P P **07 52 55.3 +2.1**
baz=120
T35M **Bob Quinn** 51.93 331 P P **07 52 56.5 +1.8**
baz=122
DLBC **Dease Lake** 52.62 333 P P **07 53 01.7 +1.9**
baz=123,SNR=13
ILON **Igloolik, Nuna** 52.62 2 P P **07 52 59.5 -0.1**
WRAK **Wrangell Islan** 52.64 330 P P **07 53 01.1 +1.2**
baz=120
S34M **Telegraph Cree** 52.83 332 P P **07 53 03.5 +2.2**
baz=122
U33K **Whale Pass** 52.87 329 P P **07 53 03.1 +1.6**
baz=119
WTLY **Watson Lake, Y** 53.05 335 P P **07 53 05.0 +2.1**
baz=126
WRGLY **Wrigley** 53.07 340 P P **07 53 05.1 +2.1**
baz=133
T33K **Petersburg** 53.12 330 P P **07 53 04.8 +1.4**
baz=119
R33M **Jennings River** 53.55 333 P P **07 53 08.1 +1.3**
baz=123,SNR=6.7
TGTN **Hyland Airport** 53.68 336 P P **07 53 09.5 +1.9**
baz=127
Q32M **Nakina River** 53.89 332 P P **07 53 11.0 +1.7**
baz=121,SNR=6.0
S32K **Killisnoo** 54.21 330 P P **07 53 13.0 +1.6**
baz=118
SIT **Sitka** 54.38 329 P P **07 53 13.8 +1.1**
baz=117
RCBR **Riachuelo** 54.48 110 LR LR 08 17 21.5
comp=Z,77nm,21.1s,baz=292,slow=37
R32K **Eaglecrest** 54.57 331 P P **07 53 15.2 +1.2**
baz=118
P33M **Teslin, Yukon** 54.78 334 P P **07 53 16.6 +0.9**
baz=122,SNR=5.2
P32M **Atlin** 54.85 333 P P **07 53 17.0 +0.9**
baz=120
SFJD **Kangerlussuaq** 55.21 16 LR LR 08 17 14.1
comp=Z,167nm,18.0s,baz=227,slow=37
S31K **Pelican** 55.23 330 P P **07 53 19.9 +1.1**
baz=117
N32M **Quiet Lake** 55.38 334 P P **07 53 21.0 +1.1**
baz=122
MMPY **Sheldon Lake,** 55.47 337 IAmb IAmb 07 53 36.4
comp=Z,14nm,0.8s
MMPY **Sheldon Lake,** 55.47 337 P P **07 53 21.8 +1.2**
baz=124,SNR=7.5
SKAG **Skagway** 55.50 332 P P **07 53 21.3 +0.6**
baz=118
NBAN **Anadia - AL** 55.85 114 eP P **07 53 24.6 +0.7**
WHY **Whitehorse** 55.89 333 P P **07 53 24.4 +0.7**
baz=120
FARO **Faro, Yukon** 56.06 336 P P **07 53 25.7 +0.9**
baz=122
GUA01 **Guaratinga, BA** 56.41 124 eP P **07 53 27.8 -0.1**
O30N **Mendenhall** 56.46 333 IAmb IAmb 07 53 44.4
comp=Z,9.4nm,0.8s
O30N **Mendenhall** 56.46 333 P P **07 53 28.8 +1.1**
baz=118,SNR=9.9
M31M **Drury Creek, Y** 56.46 335 P P **07 53 29.4 +1.8**
baz=121
P30M **Million Dollar** 56.54 332 P P **07 53 29.9 +1.7**
baz=117
P29M **Windy Craggy** 56.67 332 IAmb IAmb 07 53 45.7
comp=Z,15nm,1.1s
P29M **Windy Craggy** 56.67 332 P P **07 53 31.0 +1.8**
baz=116,SNR=5.3
N31M **Braeburn, Yuko** 56.68 334 P P **07 53 30.6 +1.4**
baz=119
HYT **Haines Junctio** 57.10 333 P P **07 53 33.6 +1.3**
baz=117
N30M **Aishikik Lake** 57.22 334 IAmb IAmb 07 53 50.4
comp=Z,8.1nm,0.8s
N30M **Aishikik Lake** 57.22 334 P P **07 53 34.3 +1.2**
baz=118,SNR=5.6
O29M **Mount Kennedy** 57.34 332 P P **07 53 34.9 +0.9**
baz=116
PNL **Peninsula** 57.45 331 P P **07 53 35.2 +0.6**
baz=114
RIB01 **Linhares ES** 57.50 127 eP P **07 53 34.2 -1.4**
YUK6 **Outpost Mounta** 57.53 333 P P **07 53 36.4 +0.9**
baz=116
C36M **Paulatuk** 57.56 345 IAmb IAmb 07 54 03.2
comp=Z,14nm,1.2s
C36M **Paulatuk** 57.56 345 P P **07 53 36.5 +1.3**
baz=136
M30M **Minto, Yukon** 57.62 335 P P **07 53 36.2 +0.4**
baz=119,SNR=6.6
YUK4 **Talbot Arm** 57.83 333 P P **07 53 37.7 +0.1**
baz=116
PINM **Pinnacle** 58.02 331 P P **07 53 39.3 +0.6**
baz=114
RES **Resolute Bay** 58.10 357 LR LR 08 20 13.2
comp=Z,144nm,18.5s,baz=96,slow=38
M29M **Somme Creek** 58.25 334 IAmb IAmb 07 53 58.9
comp=Z,8.6nm,0.8s
M29M **Somme Creek** 58.25 334 P P **07 53 41.0 +0.7**
baz=117,SNR=8.0
O28M **Mount Upton** 58.27 332 P P **07 53 41.3 +0.6**
baz=114
YUK8 **Steele Glacier** 58.29 333 P P **07 53 41.3 +0.5**
baz=115
H31M **Peel River** 58.36 339 P P **07 53 41.1 +0.1**
baz=123
L29M **L29M** 58.41 335 IAmb IAmb 07 53 56.0
comp=Z,10nm,0.8s
L29M **L29M** 58.41 335 P P **07 53 41.8 +0.4**
baz=118,SNR=7.3
J30M **Hart River** 58.43 337 P P **07 53 41.3 -0.3**
baz=120
K29M **Barlow Dome** 58.52 336 P P **07 53 41.8 -0.4**
baz=119
I30M **Mount Dempster** 58.77 338 P P **07 53 44.3 +0.3**
baz=121
YUK3 **Moose Creek** 58.80 333 P P **07 53 44.5 +0.2**
baz=115
MESA **MESA** 58.84 331 P P **07 53 44.9 +0.3**
baz=112
G31M **Satah River** 58.95 340 P P **07 53 45.2 +0.2**
baz=124
PLCA **Paso Flores** 59.03 166 P P **07 53 49.1 +3.2**
comp=Z,1.8nm,0.9s,baz=343,slow=9.0,SNR=5.4
PLCA LR LR 08 16 28.4
comp=Z,81nm,18.5s,baz=342,slow=33
comp=Z,1.8nm,0.9s
F31M **Tsiigehtchic** 59.07 341 IAmb IAmb 07 54 04.1
comp=Z,11nm,1.1s
F31M **Tsiigehtchic** 59.07 341 P P **07 53 46.0 +0.2**
baz=124
J29N **Klondike Camp** 59.08 336 P P **07 53 46.2 +0.1**
baz=118
TAOE **Nuku Hiva Isla** 59.21 249 eLR LR 08 11 12.6
comp=Z,390nm,31.5s
BVCY **Beaver Creek** 59.24 334 P P **07 53 47.5 +0.3**
baz=114
EPYK **Eagle Plains** 59.48 339 IAmb IAmb 07 54 02.9
comp=Z,10nm,1.1s
EPYK **Eagle Plains** 59.48 339 P P **07 53 49.5 +0.8**
baz=121
INK **Inuvik** 59.50 341 P P **07 53 49.7 +0.9**
baz=125
I29M **Ogilvie Camp,** 59.55 337 P P **07 53 50.3 +1.1**
baz=119
G30M **tAoh Zraii Nji** 59.63 340 P P **07 53 50.8 +1.0**
baz=122
M27K **Edge Creek, AK** 59.65 333 IAmb IAmb 07 54 07.7
comp=Z,7.4nm,0.8s
M27K **Edge Creek, AK** 59.65 333 P P **07 53 50.7 +0.6**
baz=114,SNR=5.3
A36M **Sachs Harbour** 59.73 347 P P **07 53 50.9 +0.6**
baz=136,SNR=20
F30M **Barrier River** 59.82 340 IAmb IAmb 07 54 19.0
comp=Z,17nm,1.1s
F30M **Barrier River** 59.82 340 P P **07 53 51.0 -0.1**
baz=122
BCAR **Beaver Creek A** 59.90 334 P P **07 53 52.7 +1.0**
KAIM **Kayak Island** 59.90 330 P P **07 53 52.3 +0.6**
baz=110
L27K **Beaver Creek,** 59.91 334 P P **07 53 52.5 +0.8**
baz=114
H29M **Whitestone** 59.99 338 P P **07 53 53.3 +1.1**
baz=119
M26K **Nabesna, AK** 60.15 333 P P **07 53 54.1 +0.7**
baz=112
I28M **Miner Creek** 60.19 337 P P **07 53 53.5 -0.3**
baz=117
G29M **Pine Creek** 60.21 339 IAmb IAmb 07 54 08.9
comp=Z,11nm,0.8s
G29M **Pine Creek** 60.21 339 P P **07 53 53.8 +0.1**
baz=120
BMRM **Bremner River** 60.34 331 P P **07 53 55.1 +0.3**
baz=110
K27K **Chicken** 60.41 335 P P **07 53 55.8 +0.7**
baz=114
L26K **Log Cabin Wild** 60.53 334 IAmb IAmb 07 54 12.7
comp=Z,8.1nm,0.9s
L26K **Log Cabin Wild** 60.53 334 P P **07 53 56.0 0.0**
baz=112
N25K **Chitina, Valde** 60.56 332 P P **07 53 57.3 +1.0**
baz=110
EYAK **Cordova Ski Ar** 60.73 331 P P **07 53 58.8 +1.5**
baz=109
I27K **Kandik River** 60.89 337 P P **07 53 59.7 +1.3**
baz=115
E29M **Blow River** 60.91 341 IAmb IAmb 07 54 16.8
comp=Z,9.6nm,0.9s
E29M **Blow River** 60.91 341 P P **07 54 00.5 +2.1**
baz=121
HARP **HAARP** 61.08 333 P P **07 54 01.2 +1.4**
baz=110
KLU **Klutina** 61.12 332 IAmb IAmb 07 54 17.1
comp=Z,9.9nm,0.8s
KLU **Klutina** 61.12 332 P P **07 54 01.6 +1.5**
baz=109,SNR=6.8
H27K **Steamboat Moun** 61.13 338 IAmb IAmb 07 54 15.2
comp=Z,12nm,0.9s
H27K **Steamboat Moun** 61.13 338 P P **07 54 01.1 +1.1**
baz=116
SCRK **Sand Creek** 61.16 335 P P **07 54 00.9 +0.6**
baz=112
J26L **Joseph Creek** 61.19 335 P P **07 54 01.4 +0.8**
baz=113
I26K **Coal Creek Min** 61.35 336 P P **07 54 02.7 +1.2**
baz=114
P23K **Montague Islan** 61.35 330 P P **07 54 02.1 +0.5**
baz=107
PAX **Paxson** 61.42 333 IAmb IAmb 07 54 16.6
comp=Z,13nm,0.9s
PAX **Paxson** 61.42 333 P P **07 54 03.4 +1.3**
baz=110,SNR=11
G27K **Doyon Strip** 61.43 338 P P **07 54 03.9 +1.9**
baz=116
RIDG **Independent Ri** 61.43 334 P P **07 54 03.4 +1.3**
baz=111,SNR=9.8
M24K **Tolsona, Glenn** 61.43 332 P P **07 54 03.7 +1.5**
baz=109,SNR=5.8
GLI **Glacier Island** 61.47 331 P P **07 54 03.6 +1.3**
baz=108
E28M **Babbage River** 61.54 340 IAmb IAmb 07 54 21.0
comp=Z,9.2nm,0.9s
E28M **Babbage River** 61.54 340 P P **07 54 04.6 +1.8**
baz=119,SNR=6.9
D28M **Stokes Point** 61.65 341 P P **07 54 04.7 +1.4**
baz=120,SNR=5.0
K24K **Donnelly Dome** 61.84 334 P P **07 54 06.0 +1.2**
baz=110,SNR=7.3
SCM **Sheep Creek Mo** 61.86 332 IAmb IAmb 07 54 33.0
comp=Z,8.6nm,0.8s
SCM **Sheep Creek Mo** 61.86 332 P P **07 54 06.1 +1.0**
baz=108
J25K **Salcha River,** 61.96 335 IAmb IAmb 07 54 22.6
comp=Z,11nm,0.7s
J25K **Salcha River,** 61.96 335 P P **07 54 06.4 +0.7**

baz=111,SNR=8.2
E27K Coleen River 62.02 340 IAmb IAmb 07 54 24.2
comp=Z,9.3nm,0.9s
E27K Coleen River 62.02 340 P P 07 54 07.1 +1.1
baz=117
M23K Glacier View 62.03 332 P P 07 54 07.2 +1.1
baz=108
PWL Port Wells 62.04 331 P P 07 54 07.3 +1.0
baz=106
SUMG Summit 62.08 15 P P 07 54 06.5 -0.3
G26K Porcupine Rive 62.25 338 IAmb IAmb 07 54 26.1
comp=Z,12nm,1.1s
G26K Porcupine Rive 62.25 338 P P 07 54 08.4 +0.9
baz=114
KNK Knik Glacier 62.26 331 IAmb IAmb 07 54 44.3
comp=Z,10nm,1.1s
KNK Knik Glacier 62.26 331 P P 07 54 08.4 +0.7
baz=107
D27M Malcolm River 62.30 341 P P 07 54 09.2 +1.3
baz=118
SML Sawmill 62.31 332 P P 07 54 09.4 +1.4
baz=107
PRP Porcupine Dome 62.35 336 IAmb IAmb 07 54 26.7
comp=Z,10.0nm,0.9s
PRP Porcupine Dome 62.35 336 P P 07 54 09.0 +0.7
baz=112
SEW Seward 62.37 330 P P 07 54 09.6 +1.2
baz=105
HDA Harding Lake 62.53 335 IAmb IAmb 07 54 23.4
comp=Z,14nm,1.0s
HDA Harding Lake 62.53 335 P P 07 54 10.2 +0.8
baz=110,SNR=10.0
GHO Glory Hole Cre 62.57 332 IAmb IAmb 07 54 26.4
comp=Z,11nm,0.8s
O22K Cooper Landing 62.60 330 P P 07 54 10.3 +0.4
baz=105
PMR Palmer 62.62 331 P P 07 54 11.0 +1.0
baz=106
ILAR Eielson Array 62.62 335 P P 07 54 09.9 -0.1
ILAR Eielson Array 62.62 335 P P 07 54 11.2 +1.1
comp=Z,5.4nm,0.8s,baz=113,slow=5.1,SNR=48
comp=Z,5.4nm,0.8s
F26K Sheenjek River 62.68 339 P P 07 54 11.8 +1.4
baz=114
BMAR Burnt Mountain 62.73 338 P P 07 54 11.1 +0.3
RC01 Rabbit Creek A 62.76 331 P P 07 54 11.5 +0.5
baz=105
BRSE Bradley Lake S 62.91 329 P P 07 54 13.5 +1.4
baz=104
CCB Clear Creek Bu 62.95 335 IAmb IAmb 07 54 28.9
comp=Z,8.0nm,0.6s
POKR Poker Plat Res 62.96 335 P P 07 54 13.1 +0.8
baz=109
WRH Wood River Hil 63.02 335 IAmb IAmb 07 54 32.1
comp=Z,9.5nm,0.9s
G25K Bearman Lake 63.02 337 P P 07 54 13.5 +0.9
baz=112
COLA College 63.05 335 P P 07 54 13.8 +1.0
baz=109
M22K Willow 63.11 331 P P 07 54 14.4 +1.1
baz=105
NEEM North Greenlan 63.14 8 *i* P P 07 54 12.2 -1.4
MCK McKinley 63.14 334 IAmb IAmb 07 54 27.6
comp=Z,16nm,1.1s
MCK McKinley 63.14 334 P P 07 54 14.9 +1.4
baz=107,SNR=6.4
F25K Christian Rive 63.17 338 IAmb IAmb 07 54 28.8
comp=Z,13nm,1.1s
F25K Christian Rive 63.17 338 P P 07 54 14.9 +1.2
baz=112,SNR=5.3
HOM Homer 63.34 329 P P 07 54 15.2 +0.4
baz=103
C27K Jago River 63.34 341 IAmb IAmb 07 54 41.1
comp=Z,12nm,1.2s
C27K Jago River 63.34 341 P P 07 54 16.1 +1.4
baz=115
E25K Arctic Village 63.34 339 IAmb IAmb 07 54 34.0
comp=Z,14nm,1.4s
E25K Arctic Village 63.34 339 P P 07 54 15.6 +0.8
baz=113
CAPN Captain Cook N 63.35 330 P P 07 54 16.5 +1.7
baz=104
CUT Chulitna 63.35 332 P P 07 54 16.7 +1.8
baz=105
H24K Noodor Dome 63.37 336 IAmb IAmb 07 54 33.1
comp=Z,10nm,0.9s
H24K Noodor Dome 63.37 336 P P 07 54 16.3 +1.2
baz=109
KDAK Kodiak Island 63.43 327 LR LR 08 23 31.2
comp=Z,92nm,19.2s,baz=317,slow=38
NEA2 Nenana 63.46 335 IAmb IAmb 07 54 31.4
comp=Z,7.6nm,0.8s
NEA2 Nenana 63.46 335 P P 07 54 17.3 +1.7
baz=108
Q20K Shuyak Island 63.49 328 P P 07 54 17.5 +1.6
baz=102
G24K Hadweenzic Riv 63.51 337 IAmb IAmb 07 54 31.3
comp=Z,10nm,0.8s
G24K Hadweenzic Riv 63.51 337 P P 07 54 17.4 +1.5
baz=110
TRF Thorofare Moun 63.64 333 P P 07 54 17.8 +0.8
baz=106,SNR=10
OHAK Old Harbor 63.70 326 P P 07 54 18.4 +1.1
baz=100
I23K Minto, Yukon-K 63.74 335 P P 07 54 19.1 +1.7
baz=108,SNR=16
SKT Skwentna 63.82 331 IAmb IAmb 07 54 44.5
comp=Z,14nm,1.4s
SKT Skwentna 63.82 331 P P 07 54 18.8 +0.8
baz=104
C26K Camden Bay 63.84 341 P P 07 54 19.4 +1.4
baz=114,SNR=6.5
F24K Squaw Lake 63.94 338 P P 07 54 20.2 +1.4
baz=110
SPCR Spurr Chakacha 63.95 330 P P 07 54 19.7 +0.7
baz=103
H23K Yukon River 64.02 336 P P 07 54 20.4 +1.1
baz=108
D25K Kavik River 64.08 340 P P 07 54 20.8 +1.2
baz=112,SNR=9.3
SII Sitkinak Islan 64.08 325 P P 07 54 21.2 +1.3
baz=99
BPAW Bear Paw Mtn. 64.12 334 P P 07 54 21.1 +1.1
baz=106,SNR=18
P19K Oil Pt 64.12 329 P P 07 54 20.6 +0.5
baz=101
Q19K Cape Douglas, 64.19 328 P P 07 54 21.4 +0.8
baz=100
BORG Borgarnes 64.25 26 LR LR 08 21 55.1
comp=Z,66nm,19.2s,baz=260,slow=36
PPLA Purkeypile 64.33 332 P P 07 54 22.8 +1.2
baz=104
E24K Your Creek 64.35 338 P P 07 54 23.0 +1.6
baz=110
R18K Karluk 64.38 326 P P 07 54 22.9 +1.2
baz=99
CAST Castle Rocks 64.41 333 IAmb IAmb 07 54 37.4
comp=Z,13nm,1.1s
CAST Castle Rocks 64.41 333 P P 07 54 22.7 +0.8
baz=104
G23K Bananza Creek 64.47 337 IAmb IAmb 07 54 37.7
comp=Z,7.3nm,0.8s
G23K Bananza Creek 64.47 337 P P 07 54 23.3 +1.0
baz=108
M20K Styx River 64.53 331 P P 07 54 23.8 +1.0
baz=102
CHUM Lake Minchumin 64.63 333 P P 07 54 24.6 +1.3
baz=104
COLD Coldfoot 64.70 337 P P 07 54 24.4 +0.7
baz=108
E23K Chandalar 64.74 338 IAmb IAmb 07 54 44.3
comp=Z,8.8nm,0.9s
E23K Chandalar 64.74 338 P P 07 54 25.1 +1.1
baz=109
H22K Ishtalitna Cre 64.76 336 P P 07 54 24.7 +0.5
baz=106
O19K Port Alsworth 64.76 329 P P 07 54 25.2 +1.0
baz=100
CHIR Chirikof Islan 64.77 324 P P 07 54 25.2 +0.9
baz=97
I21K Tanana 64.81 335 IAmb IAmb 07 54 41.1
comp=Z,13nm,0.9s
I21K Tanana 64.81 335 P P 07 54 25.4 +0.9
baz=105,SNR=8.5
Q18K Katmai Hardscr 64.85 327 P P 07 54 25.5 +0.6
baz=99
TOLK Toolik Lake Re 64.92 339 IAmb IAmb 07 55 18.3
comp=Z,14nm,1.4s
TOLK Toolik Lake Re 64.92 339 P P 07 54 25.5 +0.3
baz=109
N19K Bonanza Creek 64.96 330 IAmb IAmb 07 54 41.3
comp=Z,11nm,1.0s
N19K Bonanza Creek 64.96 330 P P 07 54 25.8 +0.2
baz=101
C24K Franklin Bluff 64.98 340 P P 07 54 26.4 +0.9
baz=110
L20K Farewell, AK 65.00 332 P P 07 54 25.9 +0.1
baz=102,SNR=6.3
P18K Big Mountain, 65.08 328 P P 07 54 26.0 -0.3
baz=99
G22K Bettles 65.10 337 P P 07 54 27.3 +1.1
baz=106
M19K Big River Lodg 65.12 331 IAmb IAmb 07 54 40.3
comp=Z,5.3nm,0.7s
M19K Big River Lodg 65.12 331 P P 07 54 26.3 -0.2
baz=101
O18K Koktuh Hills 65.14 329 P P 07 54 26.2 -0.5
baz=100
Q17K Contact Creek 65.25 327 P P 07 54 26.9 -0.6
baz=98
H21K Melozitna Rive 65.27 335 P P 07 54 27.3 -0.2
baz=104
K20K Telida 65.27 333 P P 07 54 27.4 -0.1
baz=102,SNR=9.9
L19K White Mountain 65.39 331 P P 07 54 28.5 +0.2
baz=101
D23K Nanushuk River 65.40 339 P P 07 54 28.3 0.0
baz=108
J20K Nowinta River 65.48 333 IAmb IAmb 07 54 43.6
comp=Z,7.6nm,0.8s
J20K Nowinta River 65.48 333 P P 07 54 28.7 -0.1
baz=102
F22K John River 65.51 337 P P 07 54 29.1 +0.1
baz=106
E22K Anaktuvuk Pass 65.55 338 P P 07 54 29.6 +0.3
baz=106
N18K Kilae Creek 65.61 330 IAmb IAmb 07 54 56.4
comp=Z,12nm,1.1s
N18K Kilae Creek 65.61 330 P P 07 54 29.9 +0.2
baz=99
C23K Itkillik River 65.65 340 IAmb IAmb 07 54 47.9
comp=Z,7.7nm,0.8s
C23K Itkillik River 65.65 340 P P 07 54 30.1 +0.3
baz=108
P17K Kvichak River 65.66 328 P P 07 54 29.9 -0.1
baz=98
Q16K King Salmon 65.70 327 P P 07 54 30.6 +0.3
baz=98
M18K Stony River 65.72 330 P P 07 54 30.7 +0.3
baz=100
I20K Naaghedeneel 65.75 334 P P 07 54 30.7 +0.2
baz=102
G21K Allakaket 65.76 336 P P 07 54 31.3 +0.8
baz=104,SNR=14
F21K Alatna River 65.92 337 IAmb IAmb 07 54 47.3
comp=Z,8.4nm,0.9s
F21K Alatna River 65.92 337 P P 07 54 32.0 +0.3
baz=104
R16K Pilot Point 66.05 326 P P 07 54 32.7 +0.1
baz=96
D22K Ayikyak River 66.07 339 P P 07 54 32.7 +0.1
baz=106
H20K Anotleneega Mo 66.07 335 P P 07 54 33.3 +0.7
baz=102
O17K Koliganek Bris 66.07 328 P P 07 54 32.7 +0.1
baz=98
J19K Poorman 66.08 333 IAmb IAmb 07 54 48.2
comp=Z,10.0nm,1.0s
J19K Poorman 66.08 333 P P 07 54 33.0 +0.4
baz=101
N17K Nushagak Hills 66.22 329 P P 07 54 33.6 -0.1
baz=98
L18K Granite Mounta 66.24 331 P P 07 54 33.8 +0.1
baz=99
CHGN Chignik 66.38 325 P P 07 54 35.7 +1.0
baz=95
E21K Killik River 66.41 338 P P 07 54 36.2 +1.4
baz=104
P16K Nushagak River 66.44 328 P P 07 54 34.8 -0.2
baz=97
J18K Innoko River 66.46 332 IAmb IAmb 07 54 57.2
comp=Z,24nm,1.8s
J18K Innoko River 66.46 332 P P 07 54 34.4 -0.7
baz=100
M17K Holitna River 66.47 330 P P 07 54 34.9 -0.3
baz=98
O16K Kokwok River B 66.55 328 P P 07 54 36.0 +0.3
baz=97
BBTS Babate 66.68 81 LR LR 08 17 28.7
comp=Z,154nm,21.5s,baz=154,slow=30
H19K Roundabout Mou 66.72 335 IAmb IAmb 07 54 52.9
comp=Z,15nm,1.0s
H19K Roundabout Mou 66.72 335 P P 07 54 37.2 +0.5
baz=101,SNR=13
B22K Teshekpuk Lake 66.72 340 P P 07 54 37.2 +0.5
baz=106
F20K Avaraart Lake 66.74 336 P P 07 54 37.1 +0.3
baz=102
GCSA Galena City Sc 66.75 334 P P 07 54 36.9 0.0
baz=100
C21K Knifeblade Rid 66.87 339 P P 07 54 37.9 +0.2
baz=104
B21K Ikpikpuk River 66.93 339 P P 07 54 38.6 +0.6
baz=104
CHNA Chernabura Isl 66.94 323 P P 07 54 38.3 +0.1
baz=94
L17K Donlin 66.98 331 P P 07 54 38.5 +0.1
baz=98
N16K Nishlik Lake 66.99 329 P P 07 54 38.5 -0.1
baz=97
S14K Fog Glacier 67.01 325 P P 07 54 38.5 -0.4
baz=94
K17K Iditarod 67.06 332 P P 07 54 38.8 -0.1
baz=98
G19K Purcell Mounta 67.09 335 IAmb IAmb 07 54 53.5
comp=Z,21nm,1.4s
G19K Purcell Mounta 67.09 335 P P 07 54 39.4 +0.3
baz=101
M16K Timber Creek 67.15 330 P P 07 54 39.5 -0.1
baz=97
E20K Nigu River 67.17 338 P P 07 54 40.1 +0.5
baz=102,SNR=5.1
E19K Redstone River 67.39 337 IAmb IAmb 07 54 57.3
comp=Z,7.6nm,0.8s
E19K Redstone River 67.39 337 P P 07 54 41.5 +0.5
baz=101
O15K Ungalikthiuk R 67.39 328 P P 07 54 41.6 +0.5
baz=95
A22K Sinclair Lake 67.39 341 P P 07 54 40.6 -0.2
baz=105
D20K Etivluk River 67.42 338 P P 07 54 40.9 -0.3
baz=102
H18K Honhosa River 67.44 334 IAmb IAmb 07 55 08.5
comp=Z,17nm,1.4s
H18K Honhosa River 67.44 334 P P 07 54 41.5 +0.1
baz=99
SDPT Sand Point 67.47 323 P P 07 54 42.0 +0.3
baz=93
L16K Owhat River 67.48 330 P P 07 54 41.8 +0.2
baz=96
F19K Shaleruckik Mo 67.48 336 IAmb IAmb 07 54 55.8
comp=Z,17nm,1.6s
F19K Shaleruckik Mo 67.48 336 P P 07 54 41.4 -0.1
baz=100
J17K VABM Dome 67.50 332 P P 07 54 40.3 -1.4
baz=98
N15K Kwethluk River 67.62 329 P P 07 54 41.5 -1.0
baz=95
G18K Tagagawik 67.68 335 IAmb IAmb 07 54 58.0
comp=Z,7.4nm,0.8s
G18K Tagagawik 67.68 335 P P 07 54 43.2 +0.4
baz=99,SNR=5.3
B20K Meade River 67.88 339 P P 07 54 43.4 -0.5
baz=102
D19K Kuna River 67.91 338 IAmb IAmb 07 55 14.5
comp=Z,10nm,0.9s
D19K Kuna River 67.91 338 P P 07 54 44.0 -0.3
baz=101
M15K Kasigluk River 67.96 329 P P 07 54 44.6 -0.1
baz=95
A21K Barrow 67.99 341 P P 07 54 44.0 -0.6
baz=103
H17K Granite Mounta 68.06 334 P P 07 54 43.9 -1.4
baz=97
O14K Tigyukauivet M 68.14 328 P P 07 54 44.3 -1.5
baz=94
J16K Anvik River 68.17 332 IAmb IAmb 07 55 14.6
comp=Z,14nm,0.9s
J16K Anvik River 68.17 332 P P 07 54 45.9 0.0
baz=96,SNR=6.7
F18K Selawik 68.19 336 P P 07 54 44.9 -1.0
baz=98
I17K Unalakleet 68.28 333 P P 07 54 45.6 -1.0
baz=96
S12K Black Hills 68.39 324 P P 07 54 46.1 -1.4
baz=92
N14K Kuskokwak Cree 68.39 328 P P 07 54 46.2 -1.2
baz=94
L15K Ungalak Mounta 68.43 330 P P 07 54 47.4 -0.2
baz=95
G17K Kiwalik Mounta 68.44 334 P P 07 54 47.4 -0.2
baz=97
K15K Wolf Creek Mou 68.50 331 P P 07 54 47.7 -0.3
baz=95
M14K Bethel 68.59 329 P P 07 54 48.0 -0.5
baz=94,SNR=5.4
E18K Tukpahlearik C 68.67 336 P P 07 54 48.7 -0.3
baz=98
F17K Baldwin Pennin 68.80 335 P P 07 54 49.5 -0.3
baz=97
L14K Kuka Creek 68.98 330 P P 07 54 50.3 -0.6
baz=94
H16K Elim 69.02 333 P P 07 54 50.8 -0.5
baz=95
C18K Utukok River 69.06 338 P P 07 54 50.1 -1.4
baz=98
E17K Hotham Inlet 69.10 336 P P 07 54 51.7 +0.1
baz=96
G16K Koyuk River 69.14 334 P P 07 54 51.8 -0.1
baz=95
FALS False Pass 69.15 323 P P 07 54 51.8 -0.3
baz=90
A19K Wainwright 69.23 339 P P 07 54 52.4 0.0
baz=98
M13K Dall Lake 69.25 329 P P 07 54 52.6 -0.1
baz=93
J14K Nanvaranak Lak 69.47 331 P P 07 54 53.6 -0.4
baz=93
RDOG Red Dog Mine 69.62 337 P P 07 54 55.2 +0.4
baz=96
D17K Noatak River 69.65 337 P P 07 54 55.4 +0.4
baz=96
G15K Niukluk 69.82 334 P P 07 54 56.0 -0.1
baz=94
K13K Kusilvak Mount 69.94 330 P P 07 54 57.0 0.0
baz=92
F15K North Star Dit 70.11 334 P P 07 54 57.6 -0.4
baz=93
JMIC Jan Mayen 70.20 20 LR LR 08 25 27.7
comp=Z,78nm,18.4s,baz=246,slow=36
ANM Nome 70.36 333 P P 07 54 59.0 -0.5
baz=92
C16K Lisburne Hills 70.54 337 P P 07 55 00.2 -0.3
baz=94
M11K Mekoryuk 70.67 329 P P 07 55 00.9 -0.4
baz=90
F14K Arctic Creek 70.80 334 P P 07 55 01.8 -0.4
baz=92
UNV Unalaska Valle 70.98 322 P P 07 55 03.5 +0.1
baz=88
PPT Papeete 71.22 244 LR LR 08 18 59.4
comp=Z,124nm,19.6s,baz=75,slow=30
PPT2 Papeete2 71.23 244 *e*LR LR 08 16 47.4
comp=Z,62nm,21.0s
TNA Tin City 71.47 334 P P 07 55 05.9 -0.2
baz=90
EKA Eskdalemuir Ar 72.37 37 P P 07 55 11.9 +0.2
comp=Z,0.5nm,0.6s,baz=272,slow=6.1,SNR=1.7
comp=Z,0.5nm,0.6s
NIKH Nikolski High 72.44 321 P P 07 55 11.9 -0.3
baz=85
P08K Saint George I 72.56 325 P P 07 55 12.4 -0.4
baz=86
SPIA Saint Paul Isl 72.90 325 P P 07 55 14.3 -0.6
baz=86
GAMB Gambell 73.15 332 P P 07 55 16.4 +0.2
baz=86
ESDC Sonseca Array 73.52 53 P P 07 55 19.5 +0.5
comp=Z,0.9nm,0.7s,baz=292,slow=5.9,SNR=6.1
ESDC LR LR 08 21 25.1
comp=Z,147nm,21.1s,baz=278,slow=31
comp=Z,0.9nm,0.7s
MDT Midelt 74.09 60 LR LR 08 21 02.5
comp=Z,83nm,21.3s,baz=295,slow=30
SPITS Spitsbergen Ar 76.21 12 P P 07 55 34.1 +0.3
comp=Z,2.5nm,1.0s,baz=270,slow=2.5,SNR=1.6
comp=Z,2.5nm,1.0s
NB2 NORSAR Subarra 78.96 29 P P 07 55 49.9 +0.4
comp=Z,6.8nm,1.1s,baz=283,slow=5.6
NOA NORSAR Array B 78.96 29 P P 07 55 49.6 +0.1
comp=Z,1.3nm,0.9s,baz=284,slow=5.4,SNR=3.6
NOA LR LR 08 29 43.4
comp=Z,44nm,19.7s,baz=270,slow=35
comp=Z,1.3nm,0.9s
DBIC Dimbokro 79.75 86 P P 07 55 56.4 +1.8
comp=Z,3.8nm,1.1s,baz=286,slow=2.9,SNR=7.9
comp=Z,3.8nm,1.1s
HFS Hagfors 80.39 30 P P 07 55 57.7 +0.5
comp=Z,2.3nm,0.9s,baz=291,slow=5.0,SNR=2.7
HFS LR LR 08 30 19.3
comp=Z,38nm,19.7s,baz=298,slow=35
comp=Z,2.3nm,0.9s
ARCES ARCESS Array B 81.68 19 P P 07 56 04.2 +0.3
comp=Z,2.0nm,0.7s,baz=305,slow=4.3,SNR=11
ARCES LR LR 08 31 17.4
comp=Z,52nm,18.0s,baz=296,slow=35
comp=Z,2.0nm,0.7s
DAVOX Davos/Dischmat 81.95 44 LR LR 08 28 41.2
comp=Z,52nm,18.2s,baz=262,slow=33
SHEM Shemya Is, Ala 82.60 323 LR LR 08 35 37.0
comp=Z,9.5nm,19.5s,baz=326,slow=38
GERES GERESS Array B 83.81 41 P P 07 56 15.8 +0.2
comp=Z,0.3nm,0.5s,baz=290,slow=6.1,SNR=2.3
comp=Z,0.3nm,0.5s
TORD Torodi Ar. Bea 84.22 78 P P 07 56 18.8 +0.7
comp=Z,36nm,0.4s,baz=270,slow=4.8,SNR=1.5
KEST Kesra 84.67 54 P P 07 56 20.5 +0.4
comp=Z,2.7nm,0.8s,baz=66,slow=18,SNR=1.7
comp=Z,2.7nm,0.8s
DPC Dobruska-Polom 84.92 39 P P 07 56 20.7 -0.4
VRAC Vranov 85.45 40 LR LR 08 33 30.7
comp=Z,56nm,18.3s,baz=285,slow=35
FINES FINESS Array B 85.52 27 P P 07 56 24.2 +0.5
comp=Z,3.1nm,0.6s,baz=288,slow=2.5,SNR=16
FINES LR LR 08 35 19.8
comp=Z,76nm,18.2s,baz=216,slow=36
comp=Z,3.1nm,0.6s
VAE Valguarnera 88.00 52 LR LR 08 30 21.0
comp=Z,225nm,20.1s,baz=324,slow=32
SEY Seymchan 88.49 337 LR LR 08 43 23.2
comp=Z,81nm,18.2s,baz=56,slow=40
MA2 Magadan 91.10 335 LR LR 08 40 19.8
comp=Z,36nm,21.1s,baz=62,slow=37
PETK Petropavlovsk- 91.48 327 P P 07 56 53.9 +1.6
comp=Z,1.2nm,0.7s,baz=85,slow=7.9,SNR=4.7
PETK LR LR 08 42 20.0
comp=Z,30nm,19.3s,baz=70,slow=38
comp=Z,1.2nm,0.7s
AKASG Malin Array Be 92.23 35 LR LR 08 35 28.7
comp=Z,66nm,20.4s,baz=318,slow=34
NRIK Noril'sk 93.98 2 P P 07 57 04.7 +1.2
comp=Z,1.3nm,0.3s,baz=20,slow=5.4,SNR=2.2
NRIK LR LR 08 39 44.4
comp=Z,90nm,20.8s,baz=13,slow=36
comp=Z,1.3nm,0.3s
YAK Yakutsk 96.49 344 LR LR 08 48 56.7
comp=Z,53nm,18.0s,baz=32,slow=41
KIRV Kirov 96.51 22 LR LR 08 40 43.6
comp=Z,59nm,20.1s,baz=312,slow=36
DZM Mont Dzumac 111.95 253 *e*LR LR 08 35 35.1
comp=Z,132nm,24.7s
WMQ Urumqi 119.42 5 *e*PKP PKiKP 08 02 36.0 +0.3
WMQ LR LR
comp=Z,92nm,24.2s
HHC Hu-ho-hao-te 120.35 345 *e*P PKPdf 08 02 33.5 -4.1
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,95nm,4.4s
NJ2 Nanjing 125.86 334 *e*P PKPdf 08 02 48.0 -0.3
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
CD2 Chengdu 131.63 349 PKP PKPdf 08 02 58.0 -1.4
STKA Stephens Creek 134.38 242 PKP PKiKP 08 03 07.3 +1.5
comp=Z,1.9nm,0.8s,baz=267,slow=4.3,SNR=3.2

PZH	PanZhiHua	136.29	350	PKP	PKPdf	08 03 07.8	-0.5
WRA	Warramunga Arr	141.55	259	PKP	PKiKP	08 03 20.9	+0.2
	comp=Z,3.9nm,1.1s,baz=89,slow=3.5,SNR=8.6						
ASAR	Alice Springs	141.94	253	PKhKP	PKPpre	08 03 12.7	
	comp=Z,0.4nm,0.6s,baz=107,slow=3.0,SNR=8.1						
ASAR				PKP	PKiKP	08 03 21.3	-0.2
	comp=Z,2.2nm,0.7s,baz=105,slow=3.4,SNR=15						
CMAR	Chiang Mai Arr	144.62	352	PKP	PKPdf	08 03 22.9	-0.5
	comp=Z,2.8nm,0.9s,baz=337,slow=3.3,SNR=5.2						

*NEIC **28** 08:04:24.5±1.7, 39°.85N±0°.03×117°.46W±0°.03, h5km±2km, Error ellipse: s-maj=5.6km s-min=3.3km az=21.0*

REN 28 08:04:25.4±1.9, 39°.80N±0°.04×117°.46W±0°.03, h2km±3km, ML2.5/5, ML2.3/50(NEIC), Error ellipse: s-maj=5.8km s-min=2.5km az=193.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q09A	Carvers	0.99	167		Pg	08 04 44.4	+0.1
Q09A					Sg	08 04 57.5	+0.4
RYN	Ryan	1.43	216		Pn	08 04 51.3	-1.2
RYN					Sb	08 05 11.8	+0.1
NV11	Mina Array Sit	1.47	202		Pn	08 04 52.6	-0.5
PAHR	Pah Rah Range	1.48	267		Pn	08 04 52.3	-1.0
NVAR	Mina Array Bea	1.52	206		Pn	08 04 53.5	-0.3
NV09	Mina Array Sit	1.52	207		Pn	08 04 53.0	-0.9
NV08	Mina Array Sit	1.54	206		Pn	08 04 53.2	-0.9
TPH	Tonopah	1.73	174		Pn	08 04 56.4	-0.4
LHV	Little Huntoon	1.74	208		Pn	08 04 56.5	-0.2
LHV				IAML		08 05 28.4	
	comp=N,52nm,0.7s						
PNTR	Pine Nut	1.80	248		Pn	08 04 57.1	-0.6
PNTR				IAML		08 05 25.0	
	comp=E,31nm,1.1s						
PNTR				IAML		08 05 31.9	
	comp=N,23nm,0.7s						
PEAR	Peavine Mounta	1.94	265		Pb	08 05 02.0	+0.4
ELK	Elko	1.95	60		Pn	08 04 59.5	-0.2
WAKR	Walker	2.01	231		Pn	08 04 59.4	-1.2
WAKR				IAML		08 05 31.1	
	comp=N,20nm,0.5s						
MPK	Martis Peak	2.05	257	Pn	Pn	08 05 00.9	-0.2
MPK				IAML		08 05 37.2	
	comp=N,17nm,1.1s						
MPK				IAML		08 05 42.4	
	comp=E,15nm,2.2s						
MZP	Montezuma Peak	2.09	178		Pn	08 05 01.0	-0.8
MZP				IAML		08 05 32.3	
	comp=E,23nm,0.7s						
DSP	Deep Springs	2.46	189		Pn	08 05 06.3	-0.2
GMN	Gold Mountain	2.50	176		Pn	08 05 07.2	-0.1
GMN				IAML		08 05 44.9	
	comp=E,14nm,0.8s						
GMN				IAML		08 05 48.9	
	comp=N,15nm,0.6s						
S11A	Rachel	2.53	147		Pn	08 05 06.8	-1.0
LCH	Last Change Ra	2.56	183		Pn	08 05 10.1	+1.9
WVOR	Wild Horse Val	2.78	342	Pn	Pn	08 05 10.4	-0.7
WVOR				IAML		08 06 19.5	
	comp=N,7.9nm,4.3s						
SGV	South Grapevin	2.83	173		Pn	08 05 13.0	+1.1
TPNV	Topopah Spring	3.00	161		Pn	08 05 13.2	-1.0
TPNV				IAML		08 06 03.6	
	comp=N,9.8nm,0.5s						
TPNV				IAML		08 06 04.6	
	comp=N,11nm,0.5s						
MOD	Modoc Plateau	3.01	315	Pn	Pn	08 05 13.0	-1.3
MOD				IAML		08 06 42.3	
	comp=N,10nm,1.2s						
PRN	Pahroc Range	3.04	141		Pn	08 05 13.9	-0.9
PRN				IAML		08 06 09.8	
	comp=N,14nm,0.5s						
PRN				IAML		08 06 10.1	
	comp=E,14nm,0.5s						
CPY	CP-1	3.07	158		Pg	08 05 23.4	-0.8
WCT	Wildcat Mounta	3.07	167		Pn	08 05 14.2	-0.9
WCT				IAML		08 06 07.0	
	comp=E,6.4nm,0.5s						
WCT				IAML		08 06 12.2	
	comp=N,7.0nm,0.5s						
NSP	Numbskull Pass	3.22	162		Pg	08 05 25.5	-1.6
MCY	Mercury	3.35	159		Pg	08 05 28.0	-1.5
AMDNV	Amargosa	3.47	164		Pn	08 05 21.5	+1.1
J08A	Circle Bar Ran	3.64	348	Pn	Pn	08 05 22.7	-0.2
J08A				IAML		08 06 06.3	
	comp=E,8.6nm,4.4s						
J08A				IAML		08 06 30.1	
	comp=N,9.3nm,0.8s						
KNB	Kanab	4.58	126	Pn	Pn	08 05 33.7	-2.2
KNB				IAML		08 07 15.4	
	comp=N,4.0nm,4.9s						

*IDC **28** 08:17:43.1±0.8, 9°.79N×126°.56E, h0km, mb3.8/12, mbtmp3.8/12, Error ellipse: s-maj=57.7km s-min=17.6km az=76.0*

ISC 28 08:17:50.0±0.8, 9°.7N±0°.2×126°.5E±0°.4, h50km, n13, σ0°.35/12, mb3.7/12, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.77	199	Sn	Sn	08 19 12.8	+8.6
	32nm,0.3s,baz=346,slow=20,SNR=1.7						
FITZ	Fitzroy Crossi	27.65	182	P	P	08 23 33.6	+0.5
	5.2nm,0.9s,baz=357,slow=7.7,SNR=6.1						
	5.2nm,0.9s						
WRA	Warramunga Arr	30.47	165	P	P	08 23 58.7	+0.4
	0.7nm,0.9s,baz=346,slow=8.5,SNR=2.4						
	0.7nm,0.9s						
ASAR	Alice Springs	33.97	168	P	P	08 24 28.4	-0.5
	0.1nm,0.5s,baz=343,slow=7.0,SNR=5.5						
	0.1nm,0.5s						
SONM	Songino Array	41.60	340	P	P	08 25 33.2	0.0
	0.5nm,0.4s,baz=140,slow=9.4,SNR=2.2						
	0.5nm,0.4s						
MKAR	Makanchi Array	52.59	323	P	P	08 26 58.7	0.0
	0.7nm,0.7s,baz=120,slow=8.5,SNR=7.6						
	0.7nm,0.7s						
KURBB	Kurchatov Arra	56.64	326	P	P	08 27 27.5	-0.4
	0.3nm,0.7s,baz=122,slow=6.1,SNR=2.9						
	0.3nm,0.7s						
ILAR	Eielson Array	79.85	26	P	P	08 29 52.8	-0.2
	0.1nm,0.5s,baz=277,slow=6.4,SNR=1.7						
	0.1nm,0.5s						
SPITS	Spitsbergen Ar	84.59	349	P	P	08 30 17.9	+0.4
	2.4nm,0.9s,baz=75,slow=5.6,SNR=5.8						
	2.4nm,0.9s						
ARCES	ARCESS Array B	84.78	340	P	P	08 30 18.6	0.0
	1.3nm,0.6s,baz=84,slow=6.1,SNR=11						
	1.3nm,0.6s						
FINES	FINESS Array B	86.47	332	P	P	08 30 27.2	+0.1
	1.3nm,0.7s,baz=98,slow=6.2,SNR=7.1						
	1.3nm,0.7s						
NOA	NORSAR Array B	93.34	334	P	P	08 30 59.8	+0.3
	0.3nm,0.6s,baz=64,slow=4.4,SNR=2.2						
	0.3nm,0.6s						
YKA	Yellowknife Ar	94.18	24	P	P	08 31 03.2	0.0
	0.1nm,0.6s,baz=293,slow=4.5,SNR=2.4						
	0.1nm,0.6s						

*UPA **28** 08:23:35.4±3.6, 9°.49N×84°.36W, h14km±999km*
*UCR **28** 08:23:38.7±0.9, 9°.34N×84°.23W, h24km±1km, MW3.7*

ISC 28 08:23:38.2±1.0, 9°.32N±0°.04×84°.28W±0°.03, h26km±6km, n99, σ0°.67/107, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVQ2	Quepos	0.16	44	eP	Pb	08 23 43.1	-0.3
SVQ2				eS	Sb	08 23 47.2	+0.2
QUEP	Quepos	0.16	44	eP	Pb	08 23 43.1	-0.4
QUEP				eS	Sb	08 23 47.1	+0.1
RITA	Parrita	0.21	345	eP	Pn	08 23 45.0	-0.7
LLNJ	Naranjito	0.23	48	eP	Pb	08 23 44.1	-0.3
PICV	PH. Pirrs	0.32	14	eP	Pb	08 23 45.5	-0.1
PISJ	San Jernim	0.35	26	eP	Pb	08 23 46.0	-0.1
RAZU	San Marcos de	0.42	36	eP	Pb	08 23 47.0	-0.3
PIEC	Cerro El Cedra	0.43	46	eP	Pb	08 23 47.1	-0.4
ABE2	San Pablo	0.44	30	eP	Pb	08 23 47.3	-0.4
ACOS	Acosta	0.49	13	eP	Pb	08 23 48.0	-0.3
LCR2	La Lucha 2	0.50	32	eP	Pb	08 23 47.9	-0.6
PURI	Puriscal	0.53	356	eP	Pb	08 23 48.9	-0.1
AMPA	Desamparados	0.61	20	eP	Pb	08 23 49.7	-0.7
SANTA	Santa Ana	0.62	8	eP	Pb	08 23 50.0	-0.5
LUJA	Lujan	0.64	18	eP	Pn	08 23 51.3	-0.4
CENT	San Jose	0.64	18	eP	Pb	08 23 50.4	-0.4
TAGO	Cartago	0.65	32	eP	Pb	08 23 50.4	-0.6
REPA	Paraso	0.65	38	eP	Pb	08 23 50.3	-0.7
TRIO	Tres Rios	0.65	25	eP	Pb	08 23 50.1	-0.9
SJS3	Mercedes San J	0.65	20	eP	Pb	08 23 50.8	-0.3
SJS	Escuela Geolog	0.66	19	eP	Pb	08 23 50.6	-0.5
BELE	Belen	0.66	7	eP	Pb	08 23 50.6	-0.6
LUPE	Guadalupe	0.66	19	eP	Pb	08 23 51.0	-0.3
DOMI	Santo Domingo	0.68	15	eP	Pb	08 23 51.4	-0.2
HEME	Heredia, Merce	0.69	11	eP	Pb	08 23 51.4	-0.2
UELA	Alajuela	0.70	5	eP	Pn	08 23 52.6	+0.1
CORON	Coronado	0.70	22	eP	Pb	08 23 51.8	-0.2
TCS1	Tacares	0.72	358	eP	Pn	08 23 52.4	-0.4
PCAYA	Pacayas	0.75	38	eP	Pb	08 23 52.1	-0.6
POAS	San Pedro de P	0.75	2	eP	Pn	08 23 52.8	-0.5
SAJE	San Jernim	0.76	88	eP	Pb	08 23 51.5	-1.3
ARZA	Esparza	0.77	330	eP	Pb	08 23 52.6	-0.4
CVIMO	Finca Echandi	0.77	25	eP	Pb	08 23 52.8	-0.4
VINA	Juan Vinas	0.78	42	eP	Pn	08 23 53.4	-0.2
NARAN	Naranjo de Ala	0.78	353	eP	Pn	08 23 53.5	-0.2
RAMO	San Ramon	0.79	346	eP	Pn	08 23 54.1	+0.4
VICA	Volcano Irazu	0.79	33	eP	Pb	08 23 52.9	-0.6
SRA1	San Ramn	0.79	345	eP	Pb	08 23 53.0	-0.4
VBV1	V. Barva	0.81	12	eP	Pb	08 23 53.6	-0.2
PAQE	Paquera	0.82	308	eP	Pn	08 23 53.8	-0.3
TURIB	Turrialba	0.82	45	eP	Pb	08 23 52.9	-1.0
VERB	Verbena	0.84	43	eP	Pb	08 23 53.6	-0.7
CVTQ	Turrialba Volc	0.85	36	eP	Pb	08 23 53.9	-0.6
VTCV	VTCV, Calle Va	0.85	39	eP	Pb	08 23 53.9	-0.7
CVTV	Tajo	0.86	37	eP	Pb	08 23 54.1	-0.5
VPS8	V Poas	0.86	2	eP	Pn	08 23 54.5	-0.4
VTR0	Volcan Turrial	0.86	36	eP	Pb	08 23 54.2	-0.5
CVTR	Volcan Turrial	0.86	36	eP	Pb	08 23 54.1	-0.7
ZARE	Zarcero	0.87	352	eP	Pn	08 23 54.9	-0.1
RVSTA	Santa Teresita	0.90	43	eP	Pb	08 23 53.9	-1.3
BURE	Buenos Aires	0.94	99	eP	Pb	08 23 55.1	-0.7
VPL1	V. Platanar	0.94	355	eP	Pb	08 23 55.4	-0.6
CVTG	V. Turrialba,	0.96	31	eP	Pb	08 23 56.0	-0.2
FIMO	Fila Mora	0.97	110	eP	Pb	08 23 55.6	-0.7
VPL2	V. Platanar	0.99	354	eP	Pn	08 23 56.4	-0.1
PILE	Guapiles	1.01	28	eP	Pb	08 23 57.9	+0.8
DRK0	Durika	1.02	93	eP	Pn	08 23 55.9	-1.1
ARTO	Ro Cuarto	1.02	3	eP	Pb	08 23 56.7	-0.5
RVLA	Villa Bonita	1.04	41	eP	Pn	08 23 57.0	-0.1
SOCE	Pocosol	1.11	342	eP	Pb	08 23 59.0	+0.2
EDP2	Potrero Grande	1.12	105	eP	Pn	08 23 58.3	0.0
ITAL	Pital	1.13	0	eP	Pb	08 23 58.8	-0.3
CARI	Cariari	1.17	27	eP	Pb	08 24 00.3	+0.6
JUNT	Juntas	1.17	325	eP	Pb	08 23 59.1	-0.6
JTS	Las Juntas de	1.18	325	eP	Pb	08 23 59.1	-0.8
NYURE	Nandayure	1.18	305	eP	Pb	08 23 59.9	0.0
CASO	Castillo	1.20	338	eP	Pb	08 23 59.8	-0.4
FORC	Fortuna	1.21	341	eP	Pb	08 24 00.6	+0.2
VACR	Volcan Arenal	1.21	341	eP	Pb	08 24 00.6	0.0
ARE1	Arenal 1	1.22	339	eP	Pb	08 24 00.9	+0.4
VARE2	V. Arenal	1.22	339	eP	Pb	08 24 01.0	+0.4
CEDE	Laguna Cedeo	1.24	340	eP	Pb	08 24 01.1	+0.2
EDAD	Golfito	1.28	121	eP	Pn	08 23 59.8	-0.7
CMARA	Lajas Hojancha	1.33	302	eP	Pb	08 24 02.5	-0.1
TILA	Tilaran	1.33	329	eP	Pb	08 24 02.0	-0.5
CEUA	Cerro Uatsi, L	1.35	77	eP	Pb	08 24 03.1	+0.3
VITO	San Vito	1.38	111	eP	Pn	08 24 01.9	0.0
INVE	Universidad In	1.39	326	eP	Pb	08 24 03.0	-0.5
QUEB	Quebradon, Cot	1.43	335	eP	Pb	08 24 03.6	-0.6
BRIBI	Bribri	1.47	78	eP	Pb	08 24 04.2	-0.1
ALCO	Alturas Coton,	1.47	104	eP	Pn	08 24 02.8	-0.4
TENO	El Achiote	1.54	333	eP	Pb	08 24 05.5	-0.7
CUI	Cuipilapa	1.59	327	eP	Pb	08 24 06.3	-0.7
COLC	Colonia	1.62	326	eP	Pb	08 24 06.7	-0.8
VERA	Finca Concepci	1.63	339	eP	Pb	08 24 07.1	-0.5
BRU2	Volcan	1.65	108	eP	Pn	08 24 05.5	0.0
BRU2	Volcan	1.65	108	eP	Pn	08 24 05.6	0.0
BRU2				eS	Sb	08 24 28.8	+0.4
MESS	Mesas	1.68	327	eP	Pb	08 24 07.7	-0.7
VMAR	Armenia, Volca	1.70	331	eP	Pb	08 24 08.1	-0.7
BC3P	Paso Ancho	1.72	107	eP	Pn	08 24 06.6	0.0
BC3P				eS	Sn	08 24 29.4	+1.6
LESP3	La Esperanza,	1.73	122	eP	Pb	08 24 08.6	-0.6
LESP3				eS	Sb	08 24 33.3	+2.9
PTPM	Petroterminale	1.77	129	eP	Pn	08 24 07.2	0.0
PTPM				eS	Sn	08 24 29.7	+0.9
GPS2	Hotel Rincn d	1.78	323	eP	Pb	08 24 09.3	-0.9
ALIBA	Liberia Airpor	1.78	315	eP	Pb	08 24 09.7	-0.5
VRLE	La Escondida,	1.81	324	eP	Pb	08 24 09.7	-1.0
ELI1	Hacienda Flor	1.82	316	eP	Pb	08 24 10.2	-0.7
LAPC	Finca la Perla	1.84	322	eP	Pb	08 24 10.0	-1.1
PTAR3	Potrerillos Ar	1.86	109	eP	Pn	08 24 06.4	-2.1
PTAR3				eS	Sn	08 24 30.7	-0.6
DVD	David	2.00	116	eP	Pn	08 24 10.8	+0.5
DVD				eS	Sb	08 24 37.7	-0.8

TRN 28 08:37:08.5, 15°.02N×61°.16W, h198km, MD3.5, North of Martinique., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	Ilet Lapin Mar	0.37	131	eP	Pn	08 37 36.0	+1.0
ILAM				eS	Sn	08 37 55.0	-0.4
DSLB	Salisbury	0.48	329	eP	Pn	08 37 36.3	+0.9
BIM	Bigot	0.51	170	eP	Pn	08 37 36.1	+0.5
BIM				eS	Sn	08 37 57.8	+1.3
DWS	Wesley	0.56	345	eP	Pn	08 37 36.6	+0.9
DWS				eS	Sn	08 37 57.4	+0.6
TBG	Guadaloupe-3	0.95	331	eP	Pn	08 37 38.3	+0.6
SLBI	Saint Lucia, B	1.01	169	eP	Pn	08 37 38.9	+0.7
SLAC	Saint Lucia, A	1.15	167	eP	Pn	08 37 40.2	+1.0
MBWH		1.98	330	eP	Pn	08 37 48.1	+1.4
MBFL	Flemmings, Mon	1.99	330	eP	Pn	08 37 47.7	+0.9
ANBD	Bethesda, Anti	2.10	344	eP	Pn	08 37 49.0	+1.2
ANBD				eS	Sn	08 38 17.9	-0.7
GCMP	Grenada, Carri	2.53	186	eS	Sn	08 38 26.3	-0.9
ANWB	Willy Bob	2.70	347	eP	Pn	08 37 55.4	+0.8
ANWB				eS	Sn	08 38 29.3	-1.3
GRGR	Grenville	2.91	189	eP	Pn	08 37 58.6	+1.5
GRGR				eS	Sn	08 38 34.4	-0.7
TRN	Trinidad (W)	4.35	183	eP	Pn	08 38 13.7	-1.0
TRN	Trinidad (W)	4.35	183	eP	Pn	08 38 15.6	+0.9
TRN				eS	Sn	08 39 03.6	-3.2

*NEIC **28** 08:46:01.7±1.4, 20°.05S±0°.1×177°.9W±0°.2, h588km±9km, mb4.1/20, Error ellipse: s-maj=23.4km s-min=13.8km az=110.0*
*IDC **28** 08:46:01.7±2.0, 20°.33S×177°.97W, h570km±22km, mb3.1/12, mbtmp4.0/14, Error ellipse: s-maj=20.7km s-min=15.9km az=117.0*

ISC 28 08:46:03.0±0.6, 20°.25S±0°.10×178°.0W±0°.1, h600km, n60, σ2°.06/59, mb3.9/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.48	303	P	P	08 47 29.8	-2.4
MSVF	Nonsavu	4.48	303	P	P	08 47 29.2	-2.9
	6.0nm,0.3s,baz=168,slow=8.1,SNR=6.7						
FUTU	Fugatoga	5.91	359	P	P	08 47 39.4	-4.1
DZM	Mont Dzumac	14.61	260	P	P	08 49 06.6	-1.2
DZM	Mont Dzumac	14.61	260	P	P	08 49 09.0	+1.3
	6.5nm,0.9s,baz=105,slow=11,SNR=2.3						
KUZ	Kuaotunu	17.32	197	P	P	08 49 33.1	+0.8
MXZ	Matakaoa Point	17.55	190	P	P	08 49 32.3	-2.0
HAZ	Te Kaha	17.82	191	P	P	08 49 33.9	-2.9
PKGZ	Pakihiroa	17.88	190	P	P	08 49 36.9	-0.5
RUGZ	Raukumara Rang	18.05	191	P	P	08 49 34.2	-4.9
TGRZ	Tauranga	18.11	195	P	P	08 49 38.4	-1.1
TWGZ	Tauwhareparae	18.20	190	P	P	08 49 38.3	-2.0
MWZ	Matawai	18.43	191	P	P	08 49 38.7	-3.7
URZ	Urewera	18.44	192	P	P	08 49 37.4	-5.0
	5.6nm,0.3s,baz=8.1,slow=2.9,SNR=14						
URZ	Urewera	18.44	192	P	P	08 49 38.1	-4.3
CNGZ	Carnagh Statio	18.46	189	P	P	08 49 40.7	-1.9
TKGZ	Te Karaka	18.48	190	P	P	08 49 40.6	-2.2
MUGZ	Murupara	18.72	193	P	P	08 49 40.9	-4.1
RIGZ	Rimuhau	18.75	190	P	P	08 49 42.6	-2.7
SNGZ	Shannon Statio	18.90	191	P	P	08 49 43.3	-3.4
EIDS	Eidsvold	28.90	254	P	P	08 51 14.7	-0.7
PMG	Port Moresby	35.27	283	P	P	08 52 08.3	-1.0
COEN	Coen	37.55	273	P	P	08 52 26.8	-1.2
STKA	Stephens Creek	37.88	244	P	P	08 52 30.5	0.0
	1.8nm,0.8s,baz=111,slow=11,SNR=3.1						
	1.8nm,0.8s						
BBOO	Buckleboo	42.64	243	P	P	08 53 08.1	-0.3
BBOO				IAmb	IAmb	08 53 33.7	
	comp=Z,17nm,1.4s						
WR8	Warramunga Arr	44.47	262	P	P	08 53 22.6	0.0
WR8				IAmb	IAmb	08 53 43.0	
	comp=Z,7.6nm,1.4s						
AS31	Alice Springs	44.56	256	P	P	08 53 23.9	+0.6
ASAR	Alice Springs	44.56	256	P	P	08 53 23.5	+0.2
ASAR	Alice Springs	44.56	256	P	P	08 53 23.9	+0.7
	comp=Z,1.8nm,0.5s,baz=90,slow=8.0,SNR=65						
	comp=Z,1.8nm,0.5s						
WB0	Warramunga Arr	44.59	262	P	P	08 53 24.1	+0.5
WB0				IAmb	IAmb	08 53 30.1	
	comp=Z,6.1nm,1.1s						
WRA	Warramunga Arr	44.62	262	P	P	08 53 24.4	+0.6
WRA	Warramunga Arr	44.62	262	P	P	08 53 24.3	+0.6
	comp=Z,1.1nm,0.3s,baz=97,slow=7.7,SNR=37						
	comp=Z,1.1nm,0.3s						
MTN	Manton Dam	49.14	270	P	P	08 53 58.5	+0.7
MTN				IAmb	IAmb	08 54 04.5	
	comp=Z,20nm,1.3s						
FORT	Forrest	49.38	246	P	P	08 53 58.9	-0.3
KNRA	Kununurra	50.66	266	P	P	08 54 09.7	+1.0
KNRA				IAmb	IAmb	08 54 38.7	
	comp=Z,16nm,1.3s						
FITZ	Fitzroy Crossi	53.04	262	P	P	08 54 27.3	+1.5
SBA	Scott Base	58.12	184	P	P	08 55 01.7	+1.9
VNDA	Vanda	58.16	185	P	P	08 55 01.2	+1.1
VNDA	Vanda	58.16	185	P	P	08 55 00.4	+0.3
	comp=Z,0.6nm,0.7s,baz=161,slow=17,SNR=2.5						
	comp=Z,0.6nm,0.7s						
QSPA	South Pole Qui	69.82	180	P	P	08 56 15.0	+0.7
QSPA				IAmb	IAmb	08 56 15.0	
	comp=Z,3.0nm,0.7s						
QSPA	South Pole Qui	69.82	180	P	P	08 56 14.9	+0.7
	comp=Z,2.5nm,0.7s,baz=17,slow=0.7,SNR=19						
	comp=Z,2.5nm,0.7s						
MJAR	Matsushiro Arr	70.00	324	P	P	08 56 17.2	+1.6
	comp=Z,1.1nm,0.7s,baz=135,slow=6.4,SNR=5.0						
	comp=Z,1.1nm,0.7s						
PETK	Petropavlovsk-	76.03	345	P	P	08 56 51.2	+1.6
	comp=Z,1.0nm,0.7s,baz=114,slow=7.2,SNR=4.1						
	comp=Z,1.0nm,0.7s						
AFDM	Forest Hills D	79.46	42	P	P	08 57 06.1	-2.3
AFDM				IAmb	IAmb	08 57 09.6	
	comp=Z,5.4nm,1.3s						
NVAR	Mina Array Bea	80.86	43	P	P	08 57 17.8	+1.9
	comp=Z,0.4nm,0.6s,baz=234,slow=5.5,SNR=2.4						
	comp=Z,0.4nm,0.6s						
GLB	Gilahina Butte	85.91	16	P	P	08 57 39.3	-0.8
GLB				IAmb	IAmb	08 57 46.6	
	comp=Z,6.1nm,1.4s						
RND	Reindeer	86.46	13	P	P	08 57 41.4	-1.3
RND				IAmb	IAmb	08 57 44.8	
	comp=Z,3.6nm,1.0s						
TXAR	Lajitas Array	86.94	57	P	P	08 57 47.8	+2.0
	comp=Z,0.4nm,0.7s,baz=215,slow=6.4,SNR=5.3						
	comp=Z,0.4nm,0.7s						
I21K	Tanana	87.47	11	P	P	08 57 46.6	-0.7
I21K				IAmb	IAmb	08 58 11.8	
	comp=Z,6.6nm,1.5s						
ILAR	Eielson Array	88.08	13	P	P	08 57 50.5	+0.3
	comp=Z,0.4nm,0.4s,baz=212,slow=5.6,SNR=9.3						
	comp=Z,0.4nm,0.4s						
PDAR	Pinedale Array	88.79	43	P	P	08 57 53.1	-1.2
PDAR	Pinedale Array	88.79	43	P	P	08 57 55.6	+1.3
	comp=Z,0.6nm,0.7s,baz=231,slow=3.1,SNR=5.8						
	comp=Z,0.6nm,0.7s						
CMAR	Chiang Mai Arr	90.01	290	P	P	08 58 03.5	+3.2
	comp=Z,0.5nm,0.3s,baz=112,slow=4.8,SNR=1.4						
	comp=Z,0.5nm,0.3s						
BVAR	Borovoye Array	118.88	320	PKP	PKiKP	09 03 45.1	+1.1
	comp=Z,0.8nm,0.4s,baz=84,slow=2.4,SNR=3.6						
ARCES	ARCESS Array B	128.67	350	PKP	PKiKP	09 04 03.3	+0.2
	comp=Z,1.9nm,0.9s,baz=9.2,slow=2.4,SNR=3.9						
AKASG	Malin Array Be	142.79	331	PKhKP	PKPpre	09 04 27.5	
	comp=Z,1.6nm,0.5s,baz=50,slow=2.4,SNR=14						
EKA	Eskdalemuir Ar	144.76	5	PKP	PKiKP	09 04 33.6	-2.6
	comp=Z,0.2nm,0.4s,baz=322,slow=3.4,SNR=3.9						
BRTR	Keskin Array B	146.66	313	PKPbc	PKPab	09 04 40.4	-1.5
	comp=Z,0.6nm,0.5s,baz=67,slow=3.1,SNR=4.0						
GERES	GERESS Array B	149.96	344	PKPbc	PKiKP	09 04 48.2	+0.9
	comp=Z,0.4nm,0.7s,baz=41,slow=2.2,SNR=3.8						

TXNET 28 08:49:00.6, 31°.2N±0°.6×103°.3W±0°.5, h3km±1km, ML2.5/12, 2C, Error ellipse: s-maj=1.0km s-min=0.8km az=6.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB04	Verhalen	0.04	100	⇑P	Pg	08 49 01.9	+0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.61**	**315**	P	**P**	09 15 09.9	+0.7
	8.9nm,0.5s,baz=209,slow=13,SNR=3.6						
URZ	**Urewera**	**17.54**	**191**	P	**P**	09 17 12.0	-0.6
	21nm,1.2s,baz=125,slow=8.4,SNR=2.1						
STKA	**Stephens Creek**	**37.08**	**245**	P	**P**	09 20 03.0	+0.3
	0.7nm,0.5s,baz=113,slow=17,SNR=3.4						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**43.89**	**257**	P	**P**	09 20 56.6	-0.3
	1.7nm,0.5s,baz=98,slow=7.7,SNR=42						
ASAR				PcP	**PcP**	09 22 30.0	-0.1
	0.4nm,0.6s,baz=104,slow=3.9,SNR=7.4						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**44.01**	**263**	P	**P**	09 20 57.1	-0.8
	0.5nm,0.3s,baz=96,slow=7.0,SNR=28						
WRA				PcP	**PcP**	09 22 30.4	-0.2
	0.4nm,0.9s,baz=96,slow=3.9,SNR=1.6						
	0.5nm,0.3s						
QSPA	**South Pole Qui**	**69.00**	**180**	P	**P**	09 23 49.0	+0.5
	1.0nm,1.0s,baz=105,slow=12,SNR=1.5						
	1.0nm,1.0s						
PETK	**Petropavlovsk-**	**76.69**	**346**	P	**P**	09 24 31.6	-0.8
	0.8nm,0.6s,baz=138,slow=10.0,SNR=3.7						
	0.8nm,0.6s						
NVAR	**Mina Array Bea**	**81.79**	**44**	P	**P**	09 25 01.0	+1.1
	0.4nm,0.7s,baz=252,slow=6.7,SNR=4.1						
	0.4nm,0.7s						
TXAR	**Lajitas Array**	**87.80**	**58**	P	**P**	09 25 29.9	+0.7
	0.3nm,0.8s,baz=235,slow=4.6,SNR=3.9						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**88.98**	**13**	P	**P**	09 25 33.0	-0.7
	0.4nm,0.6s,baz=224,slow=5.6,SNR=7.4						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**89.73**	**43**	P	**P**	09 25 38.4	+0.4
	0.4nm,0.7s,baz=236,slow=3.8,SNR=5.7						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.82**	**290**	P	**P**	09 25 40.9	+2.3
	0.5nm,0.3s,baz=121,slow=4.7,SNR=4.2						
BVAR	**Borovoye Array**	**119.18**	**320**	PKP	**PKPdf**	09 31 23.3	-0.7
	0.5nm,0.3s,baz=90,slow=2.3,SNR=3.0						
ARCES	**ARCESS Array B**	**129.38**	**349**	PKP	**PKPdf**	09 31 42.6	-0.6
	0.6nm,0.6s,baz=39,slow=2.2,SNR=5.2						
AKASG	**Malin Array Be**	**143.25**	**330**	PKP	PKPab	09 32 06.4	-1.0
	1.9nm,0.4s,baz=51,slow=2.0,SNR=17						
EKA	**Eskdalemuir Ar**	**145.61**	**5**	PKPbc	**PKPbc**	09 32 13.8	-0.9
	0.7nm,0.7s,baz=339,slow=1.8,SNR=2.5						
BRTR	**Keskin Array B**	**146.83**	**311**	PKPbc	**PKPbc**	09 32 17.7	-1.1
	0.7nm,0.6s,baz=70,slow=3.3,SNR=5.4						
GERES	**GERESS Array B**	**150.60**	**343**	PKPbc	**PKPbc**	09 32 26.7	-0.9
	0.6nm,0.7s,baz=41,slow=2.2,SNR=4.6						

*CATAC **28** 09:30:52.9±0.6, 11°N±2°×8°6W±°, h11km±4km, M3.1/6, MLv3.1/6, Error ellipse: s-maj=6.7km s-min=4.1km az=52.5, confirmed*
*UCR **28** 09:30:53.2±0.6, 10°62N×86°39W, h11km±7km, MW3.8*
ISC 28 09:30:53.0±1.7, **10°61N**±0°04×**86°37W**±0°06, **h9**km±10km, **n52**, σ0°**56**/59, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELI1	**Hacienda Flor**	**0.81**	**87**	eP	**Pb**	09 31 09.8	+0.6
ALIBA	**Liberia Airpor**	**0.81**	**91**	eP	**Pb**	09 31 09.9	+0.7
ALIBA				eS	**Sn**	09 31 22.4	-0.3
LCRUZ	**La Cruz**	**0.86**	**57**	eP	**Pg**	09 31 09.3	-0.4
ERIA	**Liberia**	**0.92**	**88**	eP	**Pb**	09 31 11.3	+0.3
LAPC	**Finca la Perla**	**0.94**	**80**	eP	**Pg**	09 31 10.8	-0.2
LAPC				eS	**Sg**	09 31 23.7	+0.5
GPS3	**Bodega del ICE**	**1.00**	**82**	eP	**Pg**	09 31 12.6	+0.4
VRLE	**La Escondida,**	**1.00**	**80**	eP	**Pg**	09 31 12.0	-0.3
GPS2	**Hotel Rincn d**	**1.01**	**82**	eP	**Pg**	09 31 12.3	-0.2
CARN	**Rivas**	**1.01**	**55**	P	**Pb**	09 31 12.0	-0.7
CARN				S	**Sn**	09 31 27.3	-0.4
VORI	**VORI**	**1.03**	**78**	eP	**Pg**	09 31 12.7	-0.1
PEJA	**Penjamo Buenos**	**1.08**	**75**	eP	**Pb**	09 31 13.7	-0.2
CMARA	**Lajas Hojancha**	**1.10**	**122**	eP	**Pb**	09 31 13.2	-1.1
INDI	**Punta indio, G**	**1.13**	**131**	P	**Pb**	09 31 13.8	-0.9
INDI	**Punta indio, G**	**1.13**	**131**	S	**Sb**	09 31 29.9	+0.4
JAPN	**AI SSO del Vol**	**1.14**	**37**	P	**Pb**	09 31 14.7	-0.2
JAPN				S	**Sn**	09 31 30.9	0.0
COLC	**Colonia**	**1.15**	**87**	eP	**Pb**	09 31 14.5	-0.6
MESS	**Mesas**	**1.16**	**83**	eP	**Pb**	09 31 14.6	-0.7
NADN	**Granada**	**1.18**	**16**	eP	**Pn**	09 31 14.9	-0.8
CUI	**Cuipilapa**	**1.19**	**88**	eP	**Pn**	09 31 15.1	-0.7
CONN	**Concepcion**	**1.20**	**38**	P	**Pn**	09 31 15.0	-1.0
CONN				S	**Sg**	09 31 32.2	+0.5
VMAR	**Armenia, Volca**	**1.25**	**81**	eP	**Pn**	09 31 16.4	-0.3
NYURE	**Nandayure**	**1.26**	**119**	eP	**Pb**	09 31 17.2	+0.3
INVE	**Universidad In**	**1.29**	**96**	eP	**Pn**	09 31 17.2	-0.1
NANN	**Nandasmo**	**1.34**	**10**	S	**Sb**	09 31 35.8	0.0
NANN	**Nandasmo**	**1.34**	**10**	P	**Pg**	09 31 19.2	+0.3
TENO	**El Achiote**	**1.37**	**86**	eP	**Pn**	09 31 17.8	-0.6
JUNT	**Juntas**	**1.43**	**103**	eP	**Pn**	09 31 19.3	+0.3
JTS	**Las Juntas de**	**1.43**	**103**	eP	**Pn**	09 31 18.4	-0.7
QUEB	**Quebradon, Cot**	**1.45**	**89**	eP	**Pn**	09 31 20.0	+0.5
UNAN	**Cigeo UNAN**	**1.50**	**4**	P	**Pn**	09 31 20.2	+0.2
VERA	**Finca Concepci**	**1.50**	**81**	eP	**Pn**	09 31 20.0	-0.1
TISN	**Laguna Tiscapa**	**1.53**	**4**	P	**Pn**	09 31 20.0	-0.5
MGAN	**Managua**	**1.53**	**5**	P	**Pn**	09 31 20.1	-0.4
MGAN	**Managua**	**1.53**	**5**	S	**Sn**	09 31 40.7	+0.1
R4DEC	**Barrio San Lui**	**1.54**	**4**	P	**Pn**	09 31 20.1	-0.4
R4DEC	**Barrio San Lui**	**1.54**	**4**	S	**Sn**	09 31 40.7	+0.1
COPN	**Copaltepe**	**1.58**	**352**	eP	**Pn**	09 31 20.9	-0.2
COPN	**Copaltepe**	**1.58**	**352**	P	**Pn**	09 31 20.4	-0.8
CASO	**Castillo**	**1.62**	**96**	eP	**Pn**	09 31 21.7	-0.1
ARE1	**Arenal 1**	**1.63**	**95**	eP	**Pn**	09 31 22.4	+0.5
VARE2	**V. Arenal**	**1.63**	**95**	eP	**Pn**	09 31 22.4	+0.5
VACR	**Volcan Arenal**	**1.67**	**94**	eP	**Pb**	09 31 24.4	+0.5
SOCE	**Pocosol**	**1.74**	**97**	P	**Pn**	09 31 23.4	-0.1
SOCE	**Pocosol**	**1.74**	**97**	S	**Sb**	09 31 46.8	-0.3
ACON	**Acoyapa**	**1.79**	**41**	eP	**Pn**	09 31 23.2	-0.9
ACON	**Acoyapa**	**1.79**	**41**	P	**Pn**	09 31 23.4	-0.7
ACON	**Acoyapa**	**1.79**	**41**	S	**Sn**	09 31 47.9	+1.0
PLRN	**Geotermica Pol**	**2.00**	**349**	P	**Pn**	09 31 26.6	-0.4
PLRN				S	**Sn**	09 31 52.8	+0.6
MATN	**Matagalpa**	**2.35**	**11**	P	**Pn**	09 31 30.8	-1.1
MATN	**Matagalpa**	**2.35**	**11**	S	**Sn**	09 32 01.5	+0.7
CSGN	**Cosiguina Volc**	**2.62**	**334**	P	**Pn**	09 31 36.1	+0.5
BLUN	**Bluefields**	**2.90**	**61**	P	**Pn**	09 31 39.0	-0.4
BLUN				S	**Sn**	09 32 15.4	+1.1

*JMA **28** 09:43:11.2±0.1, 23°4N±0°7×122°9E±0°4, h58km, MV2.8/18, NEAR ISHIGAKIJIMA ISLAND*
*TAP **28** 09:43:12.2, 23°43N×122°94E, h56km±1km, ML3.3, D*
ISC 28 09:43:11.7±1.2, **23°37N**±0°04×**122°94E**±0°03, **h50**km, **n94**, σ1°**12**/152, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.94**	**323**	P	**Pn**	09 43 28.4	+0.1
EOS4				eS	**Sn**	09 43 40.2	-0.4
HATJ	**Hateruma jima**	**1.05**	**49**	P	**Pn**	09 43 30.0	-0.1
HATJ				S	**Sn**	09 43 43.1	-0.5
EOS3	**EOS3**	**1.08**	**328**	P	**Pn**	09 43 31.0	+0.6
EOS3				S	**Sn**	09 43 44.2	0.0
JYNG	**Yonagunijimaku**	**1.08**	**0**	eP	**Pn**	09 43 29.9	-0.7
JYNG				S	**Sn**	09 43 43.5	-0.9
YOJ	**Yonaguni jima**	**1.09**	**3**	eP	**Pn**	09 43 30.6	-0.1
YOJ				S	**Sn**	09 43 44.9	+0.2
YOJ	**Yonaguni jima**	**1.09**	**3**	P	**Pn**	09 43 30.5	-0.2
YOJ				S	**Sn**	09 43 44.4	-0.3
IRIF	**Iriomote-Funau**	**1.20**	**37**	P	**Pn**	09 43 31.9	-0.3
EOS2	**EOS2**	**1.23**	**328**	eP	**Pn**	09 43 33.5	+1.0
EOS2				S	**Sn**	09 43 48.9	+1.0
JKRS	**Kuro-shima**	**1.30**	**48**	eP	**Pn**	09 43 33.7	+0.1
JKRS				S	**Sn**	09 43 49.7	-0.2
TEYL	**Yanliau Villag**	**1.33**	**292**	eP	**Pn**	09 43 33.4	-0.5
TEYL				eS	**Sn**	09 43 49.8	-0.7
TEGC	**Jichi Village**	**1.33**	**285**	eP	**Pn**	09 43 33.5	-0.4
TEGC				eS	**Sn**	09 43 49.5	-1.0
SHUL	**Shoufeng**	**1.33**	**288**	eP	**Pn**	09 43 33.5	-0.4
SHUL				eS	**Sn**	09 43 49.5	-1.1
ECBN	**Changbin**	**1.37**	**268**	eP	**Pn**	09 43 34.9	+0.4
ECBN				eS	**Sn**	09 43 50.3	-1.2
HGSD	**Ruisui**	**1.40**	**275**	P	**Pn**	09 43 34.3	-0.6
HGSD				S	**Sn**	09 43 50.1	-2.1
EGFH	**Guangfu**	**1.42**	**282**	eP	**Pn**	09 43 35.2	0.0
EGFH				eS	**Sn**	09 43 51.8	-0.9
TWD	**Chiawan**	**1.42**	**300**	eP	**Pn**	09 43 34.3	-0.8
TWD				eS	**Sn**	09 43 50.5	-2.2
CHKH	**Chenggong**	**1.43**	**263**	eS	**Sn**	09 43 51.1	-1.9
ESL	**Shilin**	**1.45**	**288**	eP	**Pn**	09 43 34.9	-0.8
ETM	**Tongmen**	**1.46**	**294**	eP	**Pn**	09 43 35.2	-0.5
ETM				eS	**Sn**	09 43 51.1	-2.5
WARBT	**Fenglin Townsh**	**1.47**	**284**	iP	**Pn**	09 43 35.3	-0.6
WARBT				S	**Sn**	09 43 52.4	-1.6
NACB	**Ninganchiao**	**1.47**	**303**	P	**Pn**	09 43 35.3	-0.5
NACB				S	**Sn**	09 43 52.3	-1.7
EHYH	**Wanrong**	**1.47**	**275**	eS	**Sn**	09 43 53.7	-0.3
CHKT	**Chengkung**	**1.48**	**260**	eS	**Sn**	09 43 51.5	-2.6
JIJ	**Ishigaki jima**	**1.48**	**48**	eP	**Pn**	09 43 35.7	-0.3
JIJ				S	**Sn**	09 43 53.3	-0.8
EYUL	**Yuli**	**1.49**	**269**	eP	**Pn**	09 43 35.9	-0.2
EYUL				eS	**Sn**	09 43 53.4	-1.1
EHY	**Hungye**	**1.49**	**276**	eP	**Pn**	09 43 36.1	-0.1
EHY				eS	**Sn**	09 43 53.4	-1.2
EWUT	**Wuta**	**1.51**	**315**	eP	**Pn**	09 43 36.4	+0.1
EWUT				eS	**Sn**	09 43 54.4	-0.5
YULB	**Yu-li**	**1.51**	**271**	P	**Pn**	09 43 36.4	-0.1
YULB				S	**Sn**	09 43 54.2	-0.8
TWF1	**Yuli**	**1.51**	**270**	P	**Pn**	09 43 36.5	0.0
TWF1				S	**Sn**	09 43 54.3	-0.7
ENA	**Nanau**	**1.52**	**314**	eS	**Sn**	09 43 55.2	-0.1
FULB	**Fuli**	**1.52**	**264**	eP	**Pn**	09 43 36.2	-0.5
FULB				eS	**Sn**	09 43 53.4	-1.9
LXIB	**Xiulin Townshi**	**1.54**	**295**	P	**Pn**	09 43 36.7	-0.3
LXIB				S	**Sn**	09 43 54.9	-1.1
EDH	**Donghe**	**1.56**	**256**	eP	**Pn**	09 43 36.5	-0.5
EDH				eS	**Sn**	09 43 54.4	-1.7
ESAO	**Su ao**	**1.56**	**320**	eS	**Sn**	09 43 55.3	-1.0
ETLH	**Xiulin Townshi**	**1.58**	**302**	P	**Pn**	09 43 36.9	-0.5
ETLH				eS	**Sn**	09 43 55.5	-1.1
TWC	**Suao**	**1.59**	**321**	eP	**Pn**	09 43 37.6	+0.2
TWC				eS	**Sn**	09 43 55.6	-1.2
EHD	**Haiduan**	**1.61**	**263**	eP	**Pn**	09 43 38.1	+0.3
EHD				eS	**Sn**	09 43 56.6	-0.8
VWDT	**VWDT**	**1.70**	**283**	P	**Pn**	09 43 39.4	+0.5
VWDT				eS	**Sn**	09 43 59.5	0.0
WHF	**Hehuan Shan**	**1.72**	**297**	eP	**Pn**	09 43 39.7	0.0
WHF				eS	**Sn**	09 43 59.0	-1.7
OWD	**Renai**	**1.72**	**290**	eP	**Pn**	09 43 39.7	+0.3
OWD				eS	**Sn**	09 43 58.9	-1.4
LONT	**Longtian**	**1.73**	**255**	eP	**Pn**	09 43 39.6	+0.2
LONT				eS	**Sn**	09 43 59.5	-0.8
LATG	**Datong**	**1.74**	**312**	eP	**Pn**	09 43 40.1	+0.5
LATG				eS	**Sn**	09 44 00.3	-0.4
JISG	**Ishigakijimahi**	**1.74**	**46**	P	**Pn**	09 43 39.2	-0.3
JISG				S	**Sn**	09 43 59.9	-0.7
NNSB	**Datong**	**1.77**	**307**	eP	**Pn**	09 43 40.2	+0.1
NNSB				eS	**Sn**	09 44 00.7	-0.8
ELDTW	**Lidau**	**1.78**	**265**	eP	**Pn**	09 43 40.0	-0.2
ELDTW				eS	**Sn**	09 43 59.4	-2.3
TWE	**Neicheng**	**1.78**	**319**	eP	**Pn**	09 43 41.0	+0.9
TWE				eS	**Sn**	09 44 01.0	-0.5
WUSB	**Renai**	**1.78**	**291**	P	**Pn**	09 43 40.5	+0.3
WUSB				eS	**Sn**	09 44 01.2	-0.6
ENTT	**Nioudou**	**1.78**	**315**	eP	**Pn**	09 43 40.9	+0.7
FUSS	**Fushou**	**1.78**	**300**	P	**Pn**	09 43 40.4	0.0
FUSS				eS	**Sn**	09 44 00.9	-1.1
NNS	**Nan Shan**	**1.79**	**307**	eP	**Pn**	09 43 40.6	+0.3
NNS				eS	**Sn**	09 44 01.4	-0.5
TWGBT	**Beinan**	**1.80**	**253**	eP	**Pn**	09 43 41.0	+0.6
TWGBT				eS	**Sn**	09 44 01.1	-1.0
TWG	**Pinlang**	**1.81**	**253**	eP	**Pn**	09 43 40.9	+0.4
TWG				eS	**Sn**	09 44 01.6	-0.6
LAY	**Lan-yu**	**1.84**	**224**	eP	**Pn**	09 43 40.7	-0.3
LYUB	**Lan-yu**	**1.85**	**223**	eP	**Pn**	09 43 41.0	-0.1
FUSB	**Fushanzhiwuyua**	**1.86**	**318**	P	**Pn**	09 43 42.2	+1.0
FUSB				eS	**Sn**	09 43 43.0	+0.1
SSLB	**Suanglung**	**1.87**	**283**	P	**Pn**	09 43 41.6	+0.3
TIPB	**Shuangxi**	**1.89**	**328**	eP	**Pn**	09 43 42.5	+0.8
TIPB				eS	**Sn**	09 44 03.2	-1.2
NWLT	**Wulai**	**1.92**	**317**	eP	**Pn**	09 43 43.1	+1.0
NWLT				eS	**Sn**	09 44 04.8	-0.3
YHNB	**Yeheng**	**1.93**	**312**	eP	**Pn**	09 43 43.0	+0.8
YHNB				eS	**Sn**	09 44 05.0	-0.4
SMLT	**Sun Moon Lake**	**1.94**	**286**	eP	**Pn**	09 43 42.3	-0.1
SMLT				eS	**Sn**	09 44 06.0	+0.3
WHYT	**Xinyi Township**	**1.94**	**280**	eP	**Pn**	09 43 43.4	+1.0
WHYT				eS	**Sn**	09 44 06.3	+0.6
NSK	**Sanguang**	**1.95**	**312**	eP	**Pn**	09 43 43.1	+0.7
NSK				eS	**Sn**	09 44 05.3	-0.4
SXI1	**Grass Mountain**	**1.97**	**331**	eP	**Pn**	09 43 43.5	+0.6
SXI1				eS	**Sn**	09 44 05.4	-1.0
WCS	**Beigang Elemen**	**1.98**	**291**	P	**Pn**	09 43 43.8	+0.9
TYC	**Yuchr**	**1.98**	**286**	eP	**Pn**	09 43 43.9	+1.0
ECL	**Taimali**	**1.99**	**248**	eP	**Pn**	09 43 42.6	-0.3
ECL				eS	**Sn**	09 44 05.5	-1.1
STYH	**Taoyuan**	**2.00**	**265**	eP	**Pn**	09 43 43.5	+0.4
STYH				eS	**Sn**	09 44 05.7	-1.3
WHP	**Taichung City**	**2.04**	**297**	eP	Pn	09 43 45.5	+1.8
WHP				eS	**Sn**	09 44 08.2	+0.2
JTJ	**Tarama**	**2.05**	**51**	eP	**Pn**	09 43 44.1	+0.4
JTJ				eS	**Sn**	09 44 08.0	-0.1
WJS	**Zhushan**	**2.08**	**283**	eP	Pn	09 43 46.4	+2.2
WJS				eS	**Sn**	09 44 11.1	+2.2
NFF	**Wufeng Townshi**	**2.09**	**307**	eP	Pn	09 43 46.1	+1.8
NFF				eS	**Sn**	09 44 10.0	+0.8
TPUB	**Ta-pu**	**2.13**	**269**	eP	Pn	09 43 47.2	+2.3
TPUB				eS	**Sn**	09 44 11.5	+1.4
KSHI	**Guanxi Townshi**	**2.14**	**311**	eP	**Pn**	09 43 45.5	+0.5
KSHI				eS	**Sn**	09 44 12.0	+1.7
WTP	**Ta-pu**	**2.14**	**267**	eP	Pn	09 43 47.2	+2.0
WTP				eS	**Sn**	09 44 12.7	+2.1
TAWH	**Dawu Township**	**2.15**	**242**	eP	**Pn**	09 43 45.9	+0.7
CHN4	**Tsaushan**	**2.16**	**270**	eP	Pn	09 43 48.2	+2.9
CHN4				eS	**Sn**	09 44 13.3	+2.5
LIOB	**Emei**	**2.17**	**306**	eP	Pn	09 43 47.4	+1.9
LIOB				eS	**Sn**	09 44 12.5	+1.3
NSTT	**Nanjuang**	**2.17**	**306**	eP	Pn	09 43 47.2	+1.7
NSTT				eS	**Sn**	09 44 12.6	+1.3
TWQ1	**Liyutan**	**2.21**	**297**	eP	Pn	09 43 48.4	+2.4
CHN1	**Nanshi**	**2.23**	**266**	eP	Pn	09 43 49.5	+3.2
CHN1				eS	**Sn**	09 44 15.9	+3.4
WDLH	**Douliu**	**2.23**	**279**	eP	Pn	09 43 49.3	+3.1
WDLH				eS	**Sn**	09 44 14.8	+2.2
SNST	**Tainan City**	**2.25**	**267**	eS	**Sn**	09 44 15.5	+2.3
MASBT	**Mashibuluo**	**2.26**	**251**	eP	**Pn**	09 43 47.5	+0.9
TWK	**Hsinying**	**2.26**	**268**	eS	**Sn**	09 44 16.5	+3.1
ICHU	**Yijhu**	**2.45**	**270**	eS	**Sn**	09 44 20.4	+2.4
WTCT	**Ta-ch'eng**	**2.49**	**282**	eS	**Sn**	09 44 23.1	+4.2
WSL	**Shuilin Townsh**	**2.50**	**274**	eS	**Sn**	09 44 20.1	+0.2
JIRB	**Irabujima**	**2.50**	**54**	eP	**Pn**	09 43 50.3	+0.4
JMJ2	**Miyako jima3**	**2.57**	**57**	eP	**Pn**	09 43 51.7	+0.8
JMJ2				eS	**Sn**	09 44 21.3	+0.3
JIKM	**Ikemajima**	**2.61**	**53**	eP	**Pn**	09 43 51.8	+0.3
JIKM				eS	**Sn**	09 44 22.2	+0.2
PHUB	**P'eng-hu**	**3.10**	**273**	eP	Pn	09 43 59.9	+1.8
PHUB				eS	**Sn**	09 44 34.3	+0.4
VWUC	**VWUC**	**3.58**	**298**	eS	**Sn**	09 44 44.3	-1.4
PTMZ	**Houxiangcun**	**3.87**	**296**	eP	**Pn**	09 44 09.2	+0.6
PTMZ				eS	**Sn**	09 44 50.9	-1.9
MATB	**Ma-tsu**	**3.88**	**316**	eS	**Sn**	09 44 50.9	-2.4

*CATAC **28** 09:45:35.4±3.7, 14°N±20°×9°2W±2°0, h23km±20km, M3.5/14, MLv3.5/14, confirmed*
*GCG **28** 09:45:38.7±0.4, 14°23N×91°71W, h76km±9km, MD3.5*
ISC 28 09:45:36.6±2.1, **13°90N**±0°08×**91°97W**±0°07, **h26**km±14km, **n39**, σ1°**29**/48, **3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.67**	**23**	P	**Pn**	09 45 50.5	0.0
RTAL				S	**Sn**	09 46 01.0	+0.8
STG5	**El Palmar, Qui**	**0.78**	**50**	⦚eP	**Pb**	09 45 52.0	+0.3
STG5				eS	**Sb**	09 46 02.3	+0.4
STG0	**El Palmar, Qui**	**0.80**	**49**	⦚eP	**Pb**	09 45 52.5	+0.5
STG0				eS	**Sb**	09 46 03.0	+0.4
STG8	**El Palmar, Qui**	**0.81**	**47**	⦚eP	**Pb**	09 45 52.9	+0.4
STG8				eS	**Sb**	09 46 04.1	+1.2
SMCA	**Catarina**	**0.96**	**354**	eP	**Pb**	09 45 54.5	-0.1
SMCA				eS	**Sb**	09 46 06.8	-0.1
THIG		**1.04**	**344**	eP	**Pb**	09 45 55.9	-0.2
THIG				eS	**Sb**	09 46 09.4	+0.1
SOKI	**Kika Raxquin**	**1.06**	**31**	eP	**Pn**	09 45 55.3	-0.9
SOKI				eS	**Sb**	09 46 08.0	-2.3
ESSG	**Sabana Grande**	**1.20**	**66**	eP	**Pn**	09 45 56.2	-1.6
ESSG				eS	**Sn**	09 46 10.0	-3.3
FG16	**Alotenango, Sa**	**1.46**	**75**	eP	Pn	09 45 56.7	-4.8
FG16				eS	Sn	09 46 10.5	-9.4
HUEH	**Huehuetenango**	**1.48**	**18**	P	**Pn**	09 46 01.7	-0.1
SLOZ	**Alcaldia de Sa**	**2.12**	**86**	P	**Pn**	09 46 10.1	-0.4
SLOZ	**Alcaldia de Sa**	**2.12**	**86**	S	**Sn**	09 46 37.2	+1.2
NUBE	**Las Nubes**	**2.12**	**90**	eP	**Pn**	09 46 09.7	-0.9
NUBE				eS	**Sn**	09 46 32.9	-3.3
NUBE	**Las Nubes**	**2.12**	**90**	P	**Pn**	09 46 09.7	-0.9
NUBE	**Las Nubes**	**2.12**	**90**	S	**Sn**	09 46 37.2	+1.0
LOAL	**Lomas de Alarc**	**2.12**	**87**	P	**Pn**	09 46 10.0	-0.5
LOAL	**Lomas de Alarc**	**2.12**	**87**	S	**Sn**	09 46 37.2	+1.1
CEVE	**Cerro Verde**	**2.27**	**92**	P	**Pn**	09 46 12.0	-0.8
CEVE	**Cerro Verde**	**2.27**	**92**	S	**Sn**	09 46 40.9	+0.8
UNIC	**Universidad Ca**	**2.35**	**88**	S	**Sn**	09 46 43.2	+1.6
CCIG	**Comitan**	**2.38**	**356**	S	**Sn**	09 46 43.9	+1.4
JAYA	**Jayaque - finc**	**2.46**	**95**	eP	**Pn**	09 46 14.5	-0.7
JAYA				eS	**Sn**	09 46 41.2	-3.3
JAYA	**Jayaque - finc**	**2.46**	**95**	P	**Pn**	09 46 14.5	-0.7
JAYA	**Jayaque - finc**	**2.46**	**95**	S	**Sn**	09 46 45.6	+1.1
MTO3	**Montecristo**	**2.58**	**79**	P	**Pn**	09 46 15.7	-1.1
MTO3	**Montecristo**	**2.58**	**79**	S	**Sn**	09 46 49.0	+1.5
PMON	**Piamonte**	**2.58**	**94**	P	**Pn**	09 46 16.5	-0.4
PMON	**Piamonte**	**2.58**	**94**	S	**Sn**	09 46 48.8	+1.3
ITCA	**Escuela Especi**	**2.62**	**95**	S	**Sn**	09 46 49.7	+1.3
ESQI	**Esquipulas**	**2.63**	**75**	P	**Pn**	09 46 17.4	-0.1
UEES	**Universidad Ev**	**2.65**	**94**	S	**Sn**	09 46 50.2	+0.9
SEMO	**Seminario San**	**2.67**	**94**	S	**Sn**	09 46 50.9	+1.3
UTEC	**Universidad Te**	**2.69**	**94**	S	**Sn**	09 46 51.2	+1.0
PANCS	**Alcalda de**	**2.72**	**96**	S	**Sn**	09 46 51.7	+0.8
IGN	**Direccin Gen**	**2.72**	**94**	S	**Sn**	09 46 52.2	+1.4
LOMA	**Loma Larga**	**2.73**	**95**	S	**Sn**	09 46 52.3	+1.2
LLGN	**La Laguna**	**2.94**	**85**	P	**Pn**	09 46 21.8	-0.1
COEG	**Centro de Oper**	**3.01**	**95**	P	**Pn**	09 46 22.5	-0.2
UESV	**Universidad de**	**3.10**	**94**	P	**Pn**	09 46 23.7	-0.2

*NOU **28** 10:01:25.4, 39°90S×174°63E, h106km, MLv3.7/20, North Island, New Zealand*
*WEL **28** 10:01:26.7±0.5, 40°S±2°×17°5E±°, h99km±4km, M3.5/90, ML3.8/90, MLv3.5/90, Error ellipse: s-maj=3.7km s-min=2.8km az=110.9, confirmed*
ISC 28 10:01:23.5±1.4, **39°90S**±0°03×**174°63E**±0°03, **h132**km±7km, **n156**, σ1°**16**/178, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.31**	**63**	P	**Pn**	10 01 43.1	+1.1

GRRZ	Galatos Road	1.93	37	P		Pn	10 01 58.8 +2.1
ARHZ	Aropaoanui	1.94	72	P		Pn	10 01 58.1 +1.4
PRRZ	Plateau Road	1.96	45	P		Pn	10 01 58.0 +0.9
HRRZ	Handcock Road	1.98	41	P		Pn	10 01 58.9 +1.6
MTHZ	Maungataniwha	2.01	59	P		Pn	10 01 58.5 +0.9
HSRZ	Hossack Road	2.02	39	P		Pn	10 01 59.5 +1.7
MRNZ	Matariki Terra	2.07	223	P		Pn	10 01 59.7 +1.3
MRNZ				S		Sn	10 02 25.1 -0.1
RRRZ	Republican Roa	2.14	44	P		Pn	10 02 00.5 +1.2
RAHZ	Arahi	2.14	64	P		Pn	10 02 00.5 +1.2
NGRZ	Ngongotaha	2.16	35	P		Pn	10 02 01.6 +2.0
WHHZ	Waihua	2.18	69	P		Pn	10 02 01.0 +1.3
MUGZ	Murupara	2.19	50	P		Pn	10 02 00.7 +0.8
RTZ	Ruatahuna	2.23	56	P		Pn	10 02 01.2 +0.7
OMRZ	Omania	2.25	38	P		Pn	10 02 02.3 +1.7
KARZ	Kaharoa	2.26	34	P		Pn	10 02 02.8 +2.0
TOZ	Tahuroa Road	2.27	18	P		Pn	10 02 01.9 +1.1
THZ	Tophouse	2.28	214	P		Pn	10 02 02.3 +1.3
SNGZ	Shannon Statio	2.38	63	P		Pn	10 02 03.4 +1.1
TGRZ	Tauranga	2.51	31	P		Pn	10 02 05.9 +2.0
KNZ	Kokohu	2.51	71	P		Pn	10 02 04.5 +0.6
URZ	Urewera	2.53	51	P		Pn	10 02 04.4 +0.3
URZ	Urewera	2.53	51	S		Sn	10 02 34.9 -0.5
URZ	Urewera	2.53	51	P		Pn	10 02 04.5 +0.4
MHGZ	Mahia Peninsul	2.64	75	P		Pn	10 02 06.5 +1.0
KHZ	Kahutara	2.65	198	P		Pn	10 02 06.9 +1.3
KHZ	Kahutara	2.65	198	S		Sn	10 02 38.5 +0.4
KHZ	Kahutara	2.65	198	P		Pn	10 02 07.1 +1.6
PRGZ	Paritu Road	2.70	70	P		Pn	10 02 07.1 +0.7
RIGZ	Rimuhau	2.71	65	P		Pn	10 02 07.0 +0.6
MWZ	Matawai	2.74	56	P		Pn	10 02 07.3 +0.4
MKAZ	Moumakai	2.82	9	P		Pn	10 02 09.1 +1.3
AWAZ	Awhitu Peninsu	2.83	5	P		Pn	10 02 09.8 +1.8
DSZ	Denniston Nort	2.83	228	P		Pn	10 02 09.0 +1.1
TKGZ	Te Karaka	2.90	61	P		Pn	10 02 09.4 +0.7
ETAZ	East Tamaki Re	2.95	5	P		Pn	10 02 11.3 +1.8
RUGZ	Raukumara Rang	3.06	52	P		Pn	10 02 11.0 -0.1
CNGZ	Carnagh Statio	3.12	64	P		Pn	10 02 12.5 +0.8
TWGZ	Tauwhareparae	3.12	58	P		Pn	10 02 12.7 +0.9
WIAZ	Waiheke Island	3.12	7	P		Pn	10 02 13.5 +1.7
HAZ	Te Kaha	3.26	50	P		Pn	10 02 13.1 -0.5
KUZ	Kuaotunu	3.26	16	P		Pn	10 02 14.4 +0.9
KUZ	Kuaotunu	3.26	16	P		Pn	10 02 14.5 +0.9
GVZ	Greta Valley S	3.29	201	P		Pn	10 02 14.8 +0.8
PUZ	Puketiti	3.36	58	P		Pn	10 02 15.1 +0.2
PKGZ	Pakihiroa	3.37	54	P		Pn	10 02 15.1 +0.1
LTZ	Lake Taylor	3.39	211	P		Pn	10 02 15.6 +0.4
AMCZ	Amberley	3.60	204	P		Pn	10 02 18.3 +0.4
WMGZ	Waiomatatini S	3.61	56	P		Pn	10 02 17.8 -0.3
OXZ	Oxford	3.94	209	P		Pn	10 02 21.9 -0.5
OKCZ	Okains Bay	4.00	197	P		Pn	10 02 23.5 +0.2
MQZ	McQueen's Vall	4.08	201	P		Pn	10 02 23.6 -0.7
AKCZ	Akaroa Harbour	4.17	197	P		Pn	10 02 25.5 0.0
RACZ	Rakaia	4.26	205	P		Pn	10 02 25.9 -0.7
MHCZ	Mount Hutt	4.29	211	P		Pn	10 02 27.9 +0.7
WACZ	Wakanui South	4.55	206	P		Pn	10 02 30.0 -0.4
RPZ	Rata Peaks	4.66	214	P		Pn	10 02 33.3 +1.3
RPZ	Rata Peaks	4.66	214	P		Pn	10 02 32.7 +0.8
ARCZ	Arundel	4.80	211	P		Pn	10 02 34.7 +0.8
TMZ	Timaru	5.23	210	P		Pn	10 02 38.9 -0.7
LBZ	Lake Benmore	5.57	215	P		Pn	10 02 44.5 +0.3
ODZ	Otahua Downs	5.93	208	P		Pn	10 02 49.5 +0.6
ODZ	Otahua Downs	5.93	208	P		Pn	10 02 49.2 +0.3
TUZ	Tuapeka	7.08	210	P		Pn	10 03 05.2 +0.8
CTZ	Chatham Island	7.58	123	P		Pn	10 03 13.9 +2.8
CTZ	Chatham Island	7.58	123	P		Pn	10 03 12.9 +1.7

*KRSC **28** 10:18:48.6±1.9, 51.°49N×160.°00E, h49km±31km, Ml4.4*
*MOS **28** 10:18:53.3±0.9, 51.°72N×159.°69E, h55km, mb4.3/8, MS3.4/6, Error ellipse: s-maj=9.8km s-min=4.4km az=100.7*
*IDC **28** 10:18:56.6±2.6, 51.°94N×159.°45E, h56km±22km, mb3.6/21, mbtmp3.8/24, ML3.3/3, MS3.3/10, Error ellipse: s-maj=20.2km s-min=12.9km az=129.0*

ISC 28 10:18:55.1±1.3, 51.°69N±0.°05×159.°66E±0.°06, h55km±11km, n105, σ1ŝ66/113, mb4.0/26, MS3.5/7, 4C-6D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	0.99	278	PN	Pn	10 19 11.0	-1.8
KDTR				S	Sn	10 19 26.1	+0.1
KDTR	Khodutka, Kamc	0.99	278	eP	Pn	10 19 11.1	-1.8
KDTR				eS	Sn	10 19 26.1	+0.1
RUS	Russkaya	1.03	317	PN	Pn	10 19 11.3	-2.1
RUS				S	Sn	10 19 27.2	+0.4
RUS	Russkaya	1.03	317	eP	Pn	10 19 11.3	-2.1
RUS				eS	Sn	10 19 27.3	+0.4
MTVR	Mutnovka	1.21	312	PN	Pn	10 19 14.5	-1.4
MTVR				S	Sn	10 19 32.4	+1.0
MTVR	Mutnovka	1.21	312	eP	Pn	10 19 14.6	-1.4
MTVR				eS	Sn	10 19 32.5	+1.0
GRL	Gorelyy	1.31	312	PN	Pn	10 19 16.5	-0.7
GRL				S	Sn	10 19 36.3	+2.6
GRL	Gorelyy	1.31	312	eP	Pn	10 19 16.6	-0.7
GRL				eS	Sn	10 19 36.4	+2.6
SPN	Mys Shipunski	1.43	9	PN	Pn	10 19 18.4	-0.3
SPN				S	Sn	10 19 39.4	+2.9
SPN	Mys Shipunski	1.43	9	eP	Pn	10 19 18.5	-0.3
SPN				eS	Sn	10 19 39.5	+2.9
DALK	Dalny	1.46	338	PN	Pn	10 19 17.7	-1.4
DALK				S	Sn	10 19 38.7	+1.6
DALK	Dalny	1.46	338	eP	Pn	10 19 17.7	-1.4
DALK				eS	Sn	10 19 38.7	+1.6
PET	Petropavlovsk	1.48	336	ePN	Pn	10 19 17.6	-1.8
PET				eS	Sn	10 19 39.2	+1.6
PET				pmax	pmax		
	comp=Z,556nm,0.6s						
PET				smax	smax		
	comp=N,2μm,0.4s						
PET				smax	smax		
	comp=E,1μm,0.5s						
PET	Petropavlovsk	1.48	336	eP	Pn	10 19 18.2	-1.1
PET				eS	Sn	10 19 39.2	+1.6
KRMR	Karymshinskiy	1.48	321	PN	Pn	10 19 18.0	-1.4
KRMR	Karymshinskiy	1.48	321	eP	Pn	10 19 18.1	-1.4
NLC	Nalytchevo	1.50	353	PN	Pn	10 19 17.7	-2.0
NLC	Nalytchevo	1.50	353	eP	Pn	10 19 17.7	-2.0
INSR	Institute	1.53	335	PN	Pn	10 19 19.3	-0.8
INSR				S	Sn	10 19 40.5	+1.7
INSR	Institute	1.53	335	eP	Pn	10 19 19.3	-0.8
INSR				eS	Sn	10 19 40.6	+1.7
UGLR	Uglovaya	1.61	342	PN	Pn	10 19 20.0	-1.3
UGLR	Uglovaya	1.61	342	eP	Pn	10 19 20.0	-1.3
SDLR	Sedlovina	1.67	344	PN	Pn	10 19 20.1	-1.9
SDLR	Sedlovina	1.67	344	eP	Pn	10 19 20.2	-1.9
AVH	Avacha	1.68	341	PN	Pn	10 19 21.3	-0.9
AVH	Avacha	1.68	341	eP	Pn	10 19 21.4	-0.9
KRER	Koryakskii	1.71	341	PN	Pn	10 19 21.4	-1.4
KRER	Koryakskii	1.71	341	eP	Pn	10 19 21.4	-1.4
KOK	Koryaka	1.73	339	PN	Pn	10 19 22.6	-0.2
KOK	Koryaka	1.73	339	eP	Pn	10 19 22.7	-0.2
KRX	Arik	1.79	340	PN	Pn	10 19 22.4	-1.3
KRX	Arik	1.79	340	eP	Pn	10 19 22.5	-1.3
PAU	Pauzhetka	1.79	264	PN	Pn	10 19 22.5	-1.1
PAU	Pauzhetka	1.79	264	eP	Pn	10 19 22.6	-1.1
PEA0B	Petropavlovsk-	1.86	321	PN	Pn	10 19 24.0	-0.7
PETK	Petropavlovsk-	1.86	321	P	Pn	10 19 23.2	-1.5
PETK	comp=E,76nm,0.6s,baz=118,slow=19,SNR=131						
PETK				S	Sn	10 19 52.6	+5.5
	comp=E,141nm,0.6s,baz=199,slow=27,SNR=14						
PETK				LR	LR	10 19 56.3	
	comp=E,172nm,19.4s,baz=76,slow=38						
APC	Apacha	1.98	310	PN	Pn	10 19 26.5	+0.4
APC	Apacha	1.98	310	eP	Pn	10 19 26.6	+0.4
GNL	Ganaly	2.27	333	PN	Pn	10 19 29.8	-0.4
GNL	Ganaly	2.27	333	eP	Pn	10 19 29.9	-0.4
KII	Karymskiy	2.36	357	PN	Pn	10 19 29.9	-1.5
KII	Karymskiy	2.36	357	eP	Pn	10 19 29.9	-1.5
SKR	Severo-Kuril's	2.45	247	ePN	Pn	10 19 34.0	+1.4
SKR				eS	Sn	10 20 01.2	-0.1
SKR				pmax	pmax		
	comp=Z,116nm,0.9s						
SKR				smax	smax		
	comp=E,777nm,0.6s						
SKR				smax	smax		
	comp=N,729nm,0.7s						
SKR				MLR	MLR		
	comp=Z,800nm,11.0s						
SKR	Severo-Kuril's	2.45	247	eP	Pn	10 19 30.9	-1.6
SKR				eS	Sn	10 20 00.7	-0.6
MKZ	Mys Kozlova	3.13	23	PN	Pn	10 19 38.1	-3.8
MKZ	Mys Kozlova	3.13	23	eP	Pn	10 19 38.1	-3.8
KMNR	Kamenistaya	4.09	5	PN	Pn	10 19 56.8	+1.6
KMNR	Kamenistaya	4.09	5	eP	Pn	10 19 56.9	+1.6
ESO	Esso	4.29	353	PN	Pn	10 19 58.3	+0.6
ESO	Esso	4.29	353	eP	Pn	10 19 58.4	+0.6
KIRR	Kirishev	4.29	5	PN	Pn	10 19 57.2	-0.8
KIRR	Kirishev	4.29	5	eP	Pn	10 19 57.3	-0.8
SHEM	Shemya Is, Ala	8.93	78	LR	LR	10 24 06.9	
	comp=Z,79nm,21.2s,baz=302,slow=34						
MA2	Magadan	9.36	331	LR	LR	10 25 30.6	
	comp=Z,154nm,18.2s,baz=206,slow=43						
SEY	Seymchan	11.93	344	P	Pn	10 21 39.2	-3.0
	comp=Z,0.1nm,0.3s,baz=43,slow=23,SNR=1.4						
	comp=Z,0.3nm,0.2s						
ERM	Erimo	14.84	236	↑eP	Pn	10 22 22.2	+0.7
BILL	Bilibino	16.72	9	↓eP	P	10 22 45.2	-1.6
BILL				pmax	pmax		
	comp=Z,11nm,2.2s						
BILL				MLR	MLR		
	comp=Z,90nm,14.0s						
KLR	Kul'dur	17.90	273	P	Pn	10 22 59.8	-0.1
	comp=Z,0.1nm,0.3s,baz=57,slow=11,SNR=9.4						
KLR				LR	LR	10 30 50.7	
	comp=Z,93nm,18.3s,baz=73,slow=40						
	comp=Z,3.0nm,0.9s						
KLR	Kul'dur	17.90	273	↓eP	Pn	10 23 01.2	+1.3
KLR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KLR				MLR	MLR		
	comp=Z,139nm,14.0s						
ZEA	Zeya	19.65	289	eP	P	10 23 13.2	-5.9
ZEA				MLR	MLR		
	comp=Z,100nm,15.0s						
USRK	Ussuriysk Ar.	19.91	259	P	Pn	10 23 22.2	-1.8
	comp=Z,0.2nm,0.3s,baz=76,slow=10,SNR=6.3						
USRK				LR	LR	10 31 41.4	
	comp=Z,83nm,20.0s,baz=71,slow=39						
	comp=Z,2.7nm,0.9s						
USA0B	Ussuriysk Arra	19.91	259	↓eP	Pn	10 23 21.6	-2.4
HEH	HeiHe	20.28	279	eP	Pn	10 23 26.5	-1.8
MAJO	Matsushiro	21.48	234	d iP	P	10 23 41.9	+2.9
MAJO				pmax	pmax		
	comp=Z,24nm,2.3s						
MJAR	Matsushiro Arr	21.48	234	P	P	10 23 39.8	+0.8
	comp=Z,2.4nm,0.8s,baz=28,slow=10.0,SNR=9.3						
MJAR				LR	LR	10 32 36.2	
	comp=Z,76nm,20.4s,baz=22,slow=38						
	comp=Z,2.4nm,0.8s						
TIXI	Tiksi	24.26	337	P	P	10 24 04.3	-2.2
	comp=Z,1.0nm,0.3s,baz=139,slow=8.9,SNR=9.3						
TIXI				LR	LR	10 34 48.1	
	comp=Z,127nm,18.1s,baz=47,slow=40						
	comp=Z,1.0nm,0.3s						
TIXI	Tiksi	24.26	337	↑eP	P	10 24 06.3	-0.2
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI				MLR	MLR		
	comp=Z,123nm,17.0s						
KSRS	Korea Array	26.46	250	P	P	10 24 28.5	+1.6
	comp=Z,1.2nm,0.8s,baz=44,slow=10,SNR=5.3						
	comp=Z,1.2nm,0.8s						
JCJ	Chichijima	27.88	215	P	P	10 24 42.0	+2.4
	comp=Z,43nm,0.5s,baz=284,slow=20,SNR=1.6						
JNU	Nakatsue	27.93	240	P	P	10 24 41.5	+1.4
	comp=Z,3.3nm,0.8s,baz=98,slow=20,SNR=1.6						
JNU				LR	LR	10 36 56.5	
	comp=Z,33nm,22.0s,baz=25,slow=39						
	comp=Z,3.3nm,0.8s						
ILAR	Eielson Array	30.01	44	P	P	10 24 57.3	-0.9
	comp=Z,0.2nm,0.7s,baz=262,slow=8.8,SNR=2.7						
	comp=Z,0.2nm,0.7s						
H11N2	WAKE ISLAND Hy	32.39	167	T	T	10 59 17.8	
	baz=352,slow=76,SNR=21						
H11N3	WAKE ISLAND Hy	32.41	167	T	T	10 59 18.0	
	baz=352,slow=76,SNR=17						
H11N1	WAKE ISLAND Hy	32.41	167	T	T	10 59 25.4	
	baz=352,slow=76,SNR=19						
H11S1	WAKE ISLAND Hy	33.57	168	T	T	11 00 53.5	
	baz=351,slow=74,SNR=4.4						
H11S3	WAKE ISLAND Hy	33.58	168	T	T	11 00 53.5	
	baz=351,slow=74,SNR=6.2						
H11S2	WAKE ISLAND Hy	33.59	168	T	T	11 00 53.5	
	baz=351						
NRIK	Noril'sk	36.91	326	LR	LR	10 42 31.3	
	comp=Z,47nm,18.1s,baz=194,slow=39						
NRIK	Noril'sk	36.91	326	↑iP	P	10 25 57.8	-0.3
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
NRIK				MLR	MLR		
	comp=Z,78nm,15.0s						
YKA	Yellowknife Ar	44.39	41	P	P	10 26 59.8	+0.2
	comp=Z,0.3nm,0.8s,baz=305,slow=8.2,SNR=4.8						
	comp=Z,0.3nm,0.8s						
KURK	Kurchatov	48.26	303	P	P	10 27 29.6	-0.6
KURK						10 28 56.5	
KURBB	Kurchatov Arra	48.36	303	P	P	10 27 29.6	-1.4
	comp=Z,4.6nm,0.8s,baz=61,slow=7.7,SNR=26						
KURBB				PcP	PcP	10 28 56.5	-0.2
	comp=Z,0.2nm,0.5s,baz=49,slow=4.2,SNR=2.1						
	comp=Z,4.6nm,0.8s						
SPITS	Spitsbergen Ar	48.48	351	P	P	10 27 31.8	+0.2
	comp=Z,1.8nm,0.5s,baz=57,slow=9.2,SNR=24						
	comp=Z,1.8nm,0.5s						
MK31	Makanchi Array	48.54	297	deP	P	10 27 31.2	-1.2
MKAR	Makanchi Array	48.54	297	P	P	10 27 31.1	-1.4
	comp=Z,0.8nm,0.6s,baz=56,slow=7.3,SNR=11						
	comp=Z,0.8nm,0.6s						
BVAR	Borovoye Array	51.06	309	P	P	10 27 49.8	-1.7
	comp=Z,1.0nm,0.4s,baz=65,slow=8.1,SNR=6.2						
	comp=Z,1.0nm,0.4s						
BRVK	Borovoye	51.10	309	c iP	P	10 27 50.5	-1.2
ARCES	ARCESS Array B	54.55	342	P	P	10 28 16.1	-0.8
	comp=Z,2.1nm,0.8s,baz=39,slow=7.8,SNR=7.4						
	comp=Z,2.1nm,0.8s						
ARCES	ARCESS Array B	54.55	342	eP	P	10 28 17.2	+0.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	Ala-Archa	55.47	297	↓eP	P	10 28 23.7	-0.5
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AAK				MLR	MLR		
	comp=Z,48nm,19.0s						
CMAR	Chiang Mai Arr	57.64	259	P	P	10 28 40.7	+1.1
	comp=Z,0.5nm,0.3s,baz=44,slow=7.9,SNR=4.5						
	comp=Z,0.5nm,0.3s						
CMAR	Chiang Mai Arr	57.64	259	eP	P	10 28 42.0	+2.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PDAR	Pinedale Array	58.45	60	P	P	10 28 47.0	+1.6
	comp=Z,0.2nm,0.6s,baz=282,slow=2.9,SNR=3.8						
	comp=Z,0.2nm,0.6s						
FINES	FINESS Array B	61.31	337	P	P	10 29 03.7	-0.6
	comp=Z,3.6nm,0.9s,baz=40,slow=6.8,SNR=5.4						
	comp=Z,3.6nm,0.9s						
FINES	FINESS Array B	61.31	337	i P	P	10 29 03.9	-0.4
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NB2	NORSAR Subarra	64.82	344	P	P	10 29 27.6	-0.1
	comp=Z,1.1nm,0.8s,baz=22,slow=6.9						
NOA	NORSAR Array B	64.82	344	P	P	10 29 26.9	-0.8
	comp=Z,1.0nm,0.8s,baz=21,slow=6.6,SNR=4.1						
	comp=Z,1.0nm,0.8s						
HFS	Hagfors	65.21	342	P	P	10 29 30.0	-0.1
	comp=Z,1.3nm,0.5s,baz=46,slow=6.4,SNR=9.4						
	comp=Z,1.3nm,0.5s						
AKASG	Malin Array Be	69.68	329	P	P	10 29 58.0	-0.5
	comp=Z,3.3nm,0.7s,baz=30,slow=6.5,SNR=14						
AKASG				LR	LR	11 02 37.3	
	comp=Z,28nm,18.0s,baz=32,slow=38						
	comp=Z,3.3nm,0.7s						
AKBB	Malin Array Si	69.68	329	i P	P	10 29 57.2	-1.3
AKBB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TXAR	Lajitas Array	71.44	66	P	P	10 30 10.8	+1.1
	comp=Z,0.2nm,0.6s,baz=304,slow=4.1,SNR=3.9						
	comp=Z,0.2nm,0.6s						
GERES	GERESS Array B	75.72	338	P	P	10 30 34.9	+0.4
	comp=Z,0.1nm,0.3s,baz=28,slow=5.4,SNR=1.9						
	comp=Z,0.1nm,0.3s						
TKL	Tuckaleechee C	76.85	48	LR	LR	11 07 34.0	
	comp=Z,23nm,18.2s,baz=307,slow=38						
BRTR	Keskin Array B	77.54	320	P	P	10 30 45.6	+0.6
	comp=Z,1.3nm,0.9s,baz=46,slow=3.6,SNR=8.0						
	comp=Z,1.3nm,0.9s						
ASAR	Alice Springs	78.36	204	P	P	10 30 52.7	+3.3
	comp=Z,0.2nm,0.8s,baz=16,slow=5.1,SNR=1.7						
	comp=Z,0.2nm,0.8s						

*SJA **28** 10:25:18.6±2.0, 24.°08S×71.°02W, h15km, ML4.8, MW4.6*
*NEIC **28** 10:25:23.8, 24.°12S×70.°99W, h39km*
*NEIC **28** 10:25:24.0±1.6, 24.°12S±0.°03×70.°94W±0.°07, h14km±5km, mb4.9/41, Mwr4.7/25, Error ellipse: s-maj=9.9km s-min=4.4km az=84.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.76; $M_{\theta\theta}$0.19; $M_{\phi\phi}$-0.95; $M_{r\theta}$0.66; $M_{\theta\phi}$-0.33; $M_{\phi r}$-0.76; Fault plane solution: $M_0$1.38000×10^{16} NP1:ϕ_s160.96000°, δ70.56000°, λ58.89000°. NP2:ϕ_s42.07000°, δ36.16000°, λ145.66000°. Principal axes: T 1.4770, Plg54.0000°, Azm33.0000°; N -0.2325, Plg29.0000°, Azm172.0000°; P -1.2445, Plg20.0000°, Azm274.0000°;*
*GUC **28** 10:25:25.2±0.7, 24.°12S×70.°82W, h43km±4km, ML4.8*
*VAO **28** 10:25:26.4±0.4, 24.°00S×70.°51W, h40km, mb5.0*
*IDC **28** 10:25:26.6±2.2, 24.°06S×70.°54W, h54km±18km, mb3.8/10, mbtmp4.1/13, ML4.5/5, MS3.7/21, Error ellipse: s-maj=20.5km s-min=13.1km az=84.0*
*GCMT **28** 10:25:28.0±0.4, 24.°03S±0.°02×70.°89W±0.°03, h43km±2km, MW4.9/82, Moment Tensor Solution. s12,c14; s82,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.52±.27; $M_{\theta\theta}$-0.45±.15; $M_{\phi\phi}$-1.07±.16; $M_{r\theta}$1.17±.11; $M_{\theta\phi}$-0.68±.07; $M_{\phi r}$-1.93±.13; Best double couple: $M_0$2.58500×10^{16} NP1:ϕ_s42.00000°, δ25.00000°, λ143.00000°. NP2: ϕ_s166.00000°, δ75.00000°, λ70.00000°. Principal axes: T 3.0690, Plg55.0000°, Azm51.0000°; N -0.9640, Plg20.0000°, Azm172.0000°; P -2.1010, Plg27.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 10:25:21.5±0.8, 24.°12S±0.°02×70.°92W±0.°05, h24km±5km, n243, σ1ŝ49/245, mb4.9/31, MS3.8/18, 14C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	IPOC Station P	0.69	29	P	Pn	10 25 37.6	+1.9
PB10				Sn	Sn	10 25 47.1	+1.6
PB10	IPOC Station P	0.69	29	↓eP	Pn	10 25 38.0	+2.3
PB10				eS	Sn	10 25 46.9	+1.3
PB10				IAML		10 25 48.2	
	comp=E,32μm,0.3s						
PB10	IPOC Station P	0.69	29	eP	Pn	10 25 37.8	+2.1
PB10				eS	Sn	10 25 47.4	+1.8
PB10				IAML		10 25 48.7	
	comp=Z,29μm,0.4s						
PB14	IPOC Station P	0.69	138		Pn	10 25 38.0	+2.0
PB14				Sn	Sn	10 25 46.9	+0.8
PB14	IPOC Station P	0.69	138	eP	Pn	10 25 38.2	+2.1
PB14				eS	Sn	10 25 47.8	+1.6
PB14				IAML		10 25 48.6	
	comp=E,29μm,0.4s						
PB14	IPOC Station P	0.69	138	eP	Pn	10 25 38.4	+2.4
PB14				eS	Sn	10 25 47.9	+1.8
PB14				IAML		10 25 49.3	
	comp=Z,38μm,0.3s						
PB05	IPOC Station P	1.42	28		Pn	10 25 47.5	+1.6
PB05				Sn	Sn	10 26 03.5	-0.4
PB05	IPOC Station P	1.42	28	↑eP	Pn	10 25 47.6	+1.6
PB05				eS	Sn	10 26 03.9	0.0
PB05				IAML		10 26 05.7	
	comp=N,14μm,0.3s						
PB05	IPOC Station P	1.42	28	eP	Pn	10 25 47.7	+1.8
PB05				eS	Sn	10 26 04.3	+0.5
PB05				IAML		10 26 06.0	
	comp=Z,8μm,0.9s						
GO02	Mina Guanaco	1.59	131		Pb	10 25 50.9	+0.4
GO02				Sn	Sb	10 26 09.8	-0.5
GO02	Mina Guanaco	1.59	131	↓eP	Pb	10 25 51.0	+0.6
GO02				IAML		10 26 11.5	
	comp=N,33μm,0.2s						
PB06	IPOC Station P	1.87	42	↑eP	Pn	10 25 54.0	+1.9
PB06				eS	Sn	10 26 15.6	+0.5
PB06				IAML		10 26 17.2	
	comp=E,18μm,0.4s						
PB06	IPOC Station P	1.87	42	eP	Pn	10 25 54.3	+2.1
PB06				eS	Sn	10 26 16.5	+1.4
PB06				IAML		10 26 16.9	
	comp=Z,6μm,0.3s						
AC01	Pan de Azucar	2.04	172		Pb	10 25 55.9	-2.1
AC01	Pan de Azucar	2.04	172	↑eP	Pb	10 25 56.1	-1.8
AC01				IAML		10 26 20.8	
	comp=N,5μm,0.1s						
AC01	Pan de Azucar	2.04	172	eP	Pb	10 25 56.1	-1.8
AC01				eS	Sb	10 26 20.4	-2.6
AC01				IAML		10 26 21.2	
	comp=Z,3μm,0.2s						
PB03	IPOC Station P	2.32	28	↑eP	Pn	10 26 00.2	+1.9
PB03				IAML		10 26 29.2	
	comp=E,5μm,0.2s						
PB03	IPOC Station P	2.32	28	eP	Pn	10 26 00.2	+1.9
PB03				eS	Sn	10 26 28.2	+2.0
PB03				IAML		10 26 40.0	
	comp=Z,3μm,0.3s						
AF01	San Pedro de A	2.77	66		Pb	10 26 08.4	-2.1

AC05	**El Transito**	**4.74**	**173**		**Pn**	**10 26 33.3**	**+1.7**
AC05	**El Transito**	**4.74**	**173**	*eP*	**Pn**	**10 26 28.3**	**-3.3**
AC05				*eP*		10 26 33.6	
AC05				*eS*	**Sn**	**10 27 28.3**	**+2.5**
AC05				IAML		10 28 03.5	
	comp=Z,1μm,1.1s						
LCO	**Las Campanas**	**4.88**	**178**		**Pn**	**10 26 34.1**	**+0.4**
LCO	**Las Campanas**	**4.88**	**178**	*eP*	**Pn**	**10 26 33.6**	**0.0**
LCO				*eS*	**Sn**	**10 27 29.4**	**0.0**
LCO				IAML		10 28 10.2	
	comp=Z,2μm,0.9s						
FSA	**Cafayete**	**4.89**	**115**	*eP*	Pn	10 26 38.5	+4.7
SLA	**San Lorenzo**	**4.97**	**98**	*eP*	Pn	10 26 39.9	+5.1
VCA	**Vinchina**	**5.20**	**153**	*eP*	Pn	10 26 42.8	+4.8
VCA				IAML		10 28 24.4	
	comp=Z,500nm,0.7s						
AP01	**Chacalluta**	**5.74**	**5**		**Pn**	**10 26 46.3**	**+1.0**
CO05	**La Serena**	**5.79**	**183**		**Pn**	**10 26 45.7**	**-0.1**
CO01	**Juntas del Tor**	**5.88**	**173**		**Pn**	**10 26 48.9**	**+1.5**
PB16	**IPOC Station P**	**5.90**	**13**		**Pn**	**10 26 49.0**	**+1.0**
GO04	**Tololo Observa**	**6.03**	**179**		**Pn**	**10 26 50.1**	**+0.7**
CO06	**Fray Jorge**	**6.56**	**185**		**Pn**	**10 26 55.9**	**-0.7**
PB18	**Visviri**	**6.63**	**12**		**Pn**	**10 27 01.4**	**+3.4**
CO03	**El Pedregal**	**6.70**	**178**		**Pn**	**10 26 59.3**	**+0.8**
CO02	**Combarbal**	**7.06**	**181**		**Pn**	**10 27 03.3**	**-0.1**
ZON	**Zonda**	**7.66**	**166**		**Pn**	**10 27 15.0**	**+3.3**
CFA	**Coronel Fontan**	**7.83**	**163**	P	**Pn**	**10 27 16.3**	**+2.4**
CFA				S	**Sn**	**10 28 38.2**	**-3.6**
CFA				LR	LR	10 30 38.0	
	comp=Z,421nm,19.3s,slow=40						
LPAZ	**La Paz**	**8.21**	**19**		**Pn**	**10 27 22.8**	**+3.0**
LPAZ	**La Paz**	**8.21**	**19**	P	**Pn**	**10 27 23.2**	**+3.4**
	comp=Z,14nm,0.3s,baz=221,slow=3.5,SNR=420						
LPAZ				S	**Sn**	**10 28 51.7**	**-0.5**
	comp=Z,15nm,0.7s,baz=193,slow=14,SNR=1.2						
VA03	**San Esteban**	**8.62**	**178**		**Pn**	**10 27 24.4**	**-0.4**
MT02	**Curacav**	**9.11**	**181**		**Pn**	**10 27 31.5**	**0.0**
MT08	**Bocatoma Ro**	**9.33**	**175**		**Pn**	**10 27 36.3**	**+1.6**
MT13	**San Alfonso**	**9.61**	**177**		**Pn**	**10 27 37.9**	**-0.5**
MT01	**Popeta**	**9.72**	**182**		**Pn**	**10 27 38.7**	**-1.1**
BO01	**Tunca**	**10.24**	**181**		**Pn**	**10 27 45.2**	**-1.7**
H03N1	**Juan Fernandez**	**11.63**	**215**	T	T	10 40 03.4	
	baz=43,slow=72,SNR=1894						
H03N2	**Juan Fernandez**	**11.64**	**215**	T	T	10 40 05.2	
	baz=43,slow=72,SNR=1640						
H03N3	**Juan Fernandez**	**11.65**	**215**	T	T	10 39 54.9	
	baz=43,slow=72,SNR=1817						
BBSD	**Serra de San D**	**11.85**	**56**	*eP*	**Pn**	**10 28 08.2**	**-0.9**
SIV	**San Ignacio**	**12.28**	**51**	P	**Pn**	**10 28 13.3**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=244,slow=11,SNR=318						
SIV				S	Sn	10 30 20.1	-11
	comp=Z,12nm,0.8s,baz=152,slow=20,SNR=3.6						
CPUP	**Villa Florida**	**12.49**	**103**	P	**Pn**	**10 28 17.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=279,slow=12,SNR=14						
CPUP				LR	LR	10 33 50.8	
	comp=Z,156nm,21.8s,baz=284,slow=41						
	comp=Z,3.2nm,0.6s						
MURT	**Porto Murtinho**	**12.51**	**81**	*eP*	**Pn**	**10 28 16.8**	**-1.2**
NNA	**Nana**	**13.31**	**334**	P	**P**	**10 28 35.6**	**-3.0**
	comp=Z,1.6nm,0.3s,baz=181,slow=8.7,SNR=2.0						
NNA				S	**Sn**	**10 30 55.3**	**-1.1**
	comp=Z,7.3nm,0.4s,baz=224,slow=15,SNR=5.1						
	comp=Z,5.2nm,0.3s						
SJPY	**San Joaquin**	**13.51**	**97**	*eP*	**Pn**	**10 28 31.2**	**-0.5**
BDQN	**Bodoquena, MS**	**13.61**	**77**	*eP*	**Pn**	**10 28 32.3**	**-0.8**
ITQB	**Itaqui**	**13.90**	**117**	*eP*	**Pn**	**10 28 36.8**	**-0.2**
PTLB	**Pontes e Lacer**	**14.04**	**54**		**Pn**	**10 28 37.0**	**-2.0**
PTLB	**Pontes e Lacer**	**14.04**	**54**	*eP*	**Pn**	**10 28 36.8**	**-2.2**
AQDB	**Aquidauana**	**14.54**	**79**	Pn	**Pn**	**10 28 44.8**	**-1.0**
AQDB	**Aquidauana**	**14.54**	**79**	*eP*	**Pn**	**10 28 45.7**	**-0.1**
TBOT	**Tacuaremb**	**15.23**	**123**	*eP*	**Pn**	**10 28 55.3**	**+0.3**
RPRD	**Ribas do Rio P**	**16.34**	**81**	*eP*	**Pn**	**10 29 08.3**	**-1.1**
CZSB	**Cruzeiro do Su**	**16.38**	**354**	P	**Pn**	**10 29 11.1**	**+1.1**
CZSB				IAmb	IAmb	10 29 19.9	
	comp=Z,80nm,1.0s						
CZSB	**Cruzeiro do Su**	**16.38**	**354**	*eP*	**P**	**10 29 12.3**	**-0.4**
SALV	**Santo Antonio**	**16.46**	**63**	*eP*	**Pn**	**10 29 09.1**	**-1.9**
PLCA	**Paso Flores**	**16.57**	**179**	P	**P**	**10 29 16.4**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=6.6,slow=12,SNR=12						
PLCA				LR	LR	10 35 41.6	
	comp=Z,419nm,20.8s,baz=352,slow=37						
	comp=Z,11nm,1.1s						
PLCA	**Paso Flores**	**16.57**	**179**	*eP*	**P**	**10 29 17.6**	**+3.0**
CPSB	**Cacapava Do Su**	**16.75**	**116**	*eP*	**Pn**	**10 29 13.0**	**-1.6**
PLTB	**Pedras Altas**	**17.08**	**120**	P	**Pn**	**10 29 17.0**	**-1.7**
PLTB	**Pedras Altas**	**17.08**	**120**	*eP*	**Pn**	**10 29 17.2**	**-1.4**
PTGB	**Pitanga**	**17.18**	**96**	*eP*	**Pn**	**10 29 19.7**	**-0.4**
ITAB	**Concordia**	**17.21**	**104**	P	**Pn**	**10 29 19.8**	**-0.6**
ITAB	**Concordia**	**17.21**	**104**	*eP*	**P**	**10 29 20.9**	**-1.0**
C2SB	**Chapadao do Su**	**17.64**	**76**	*eP*	**Pn**	**10 29 25.4**	**-0.5**
LDASE	**Londrina, Braz**	**18.14**	**92**	*eP*	**P**	**10 29 32.5**	**+0.4**
PDRB	**Porto dos Gac**	**18.34**	**50**	*eP*	**P**	**10 29 32.5**	**-1.8**
CNLB	**Canela**	**18.65**	**110**	*eP*	**Pn**	**10 29 37.7**	**-0.4**
CLDB	**Colider**	**19.50**	**50**	*eP*	**P**	**10 29 46.9**	**-0.2**
ITRB	**Iturama**	**19.57**	**81**	*eP*	**P**	**10 29 47.8**	**0.0**
ARAG	**Araguaiana, MT**	**19.80**	**69**	*eP*	**P**	**10 29 49.3**	**-1.0**
TBTG	**Tabatinga, AM**	**19.84**	**3**	P	**P**	**10 29 49.9**	**-0.8**
TBTG				IAmb	IAmb	10 29 59.0	
	comp=Z,43nm,0.8s						
TBTG	**Tabatinga, AM**	**19.84**	**3**	*eP*	**Pn**	**10 29 53.9**	**+1.5**
MAJ01	**Sao Joao Batis**	**19.99**	**104**	*eP*	**Pn**	**10 29 53.3**	**-0.9**
TER01	**Tubaro-SC**	**20.01**	**107**	*eP*	**Pn**	**10 29 53.3**	**-1.1**
BB19B	**Bebedouro**	**20.89**	**86**	*eP*	**P**	**10 30 01.4**	**-0.7**
TEFE	**Tefe**	**21.36**	**17**	*eP*	**P**	**10 30 08.2**	**+0.9**
PET01	**Itanhaem-SP**	**21.56**	**95**	*eP*	**P**	**10 30 07.8**	**-1.6**
VAO	**Valinhos**	**21.98**	**92**	*eP*	**P**	**10 30 12.5**	**-1.5**
IPMB	**Ipameri, GO**	**22.04**	**78**	*eP*	**P**	**10 30 12.9**	**-1.7**
SNDB	**Serra Nova Dou**	**22.19**	**60**	*eP*	**P**	**10 30 14.5**	**-1.6**
NPGB	**Novo Progresso**	**22.60**	**44**	*eP*	**P**	**10 30 19.0**	**-1.6**
MACA	**Manacapuru-AM**	**23.06**	**27**	*eP*	**P**	**10 30 24.7**	**-0.6**
BDFB	**Brasilia**	**23.10**	**73**	P	**P**	**10 30 24.0**	**-1.8**
BDFB				IAmb	IAmb	10 30 25.2	
	comp=Z,60nm,0.9s						
BDFB	**Brasilia**	**23.10**	**73**	P	**P**	**10 30 24.1**	**-1.8**
	comp=Z,45nm,0.8s,baz=242,slow=11,SNR=69						
BDFB				LR	LR	10 41 14.3	
	comp=Z,146nm,18.6s,baz=272,slow=42						
	comp=Z,45nm,0.8s						
PARB	**Paraibuna**	**23.16**	**93**	*eP*	**P**	**10 30 24.9**	**-1.5**
PMNB	**Patos De Minas**	**23.45**	**81**	*eP*	**P**	**10 30 27.4**	**-2.0**
SLP01	**Ubatuba-SP**	**23.59**	**93**	*eP*	**P**	**10 30 29.4**	**-1.3**
ITTB	**Itaituba**	**24.49**	**39**	*eP*	**P**	**10 30 38.6**	**-0.4**
MAN01	**Angra dos Reis**	**24.74**	**93**	*eP*	**P**	**10 30 40.6**	**-0.7**
VAS01	**Vassouras-RJ**	**25.30**	**91**	*eP*	**P**	**10 30 46.6**	**+0.2**
FLOC	**Florencia**	**25.96**	**349**	P	**P**	**10 30 53.4**	**+1.1**
DIAM	**Diamantina, MG**	**26.03**	**82**	*eP*	**P**	**10 30 52.6**	**-0.5**
DUB01	**Friburgo-RJ**	**26.31**	**91**	*eP*	**P**	**10 30 55.3**	**-0.3**
JANB	**Januaria**	**26.59**	**75**	*eP*	**P**	**10 30 57.3**	**-0.8**
SMTB	**Santa Maria do**	**26.96**	**60**	*eP*	**P**	**10 31 01.2**	**-0.2**
PRPB	**Parauapebas**	**27.00**	**52**	*eP*	**P**	**10 31 00.8**	**-1.0**
CAM01	**Campos-RJ**	**27.01**	**91**	*eP*	**P**	**10 31 00.4**	**-1.4**
SDBA	**SAO DESIDERIO**	**27.25**	**69**	*eP*	**P**	**10 31 03.5**	**-0.6**
MAL2	**Monte Alegre,**	**27.29**	**39**	P	**P**	**10 31 03.7**	**-0.6**
SJMB	**Sao Joao De Ma**	**28.17**	**85**	*eP*	**P**	**10 31 11.4**	**-0.8**
BOAV	**Boa Vista**	**28.22**	**22**	P	**P**	**10 31 12.6**	**-0.1**
BOAV				IAmb	IAmb	10 31 23.4	
	comp=Z,28nm,0.9s						
BOAV	**Boa Vista**	**28.22**	**22**	*eP*	**P**	**10 31 12.8**	**+0.2**
RIB01	**Linhares ES**	**28.72**	**86**	*eP*	**P**	**10 31 16.3**	**-0.8**
RUSC	**La Rusia**	**29.90**	**356**	P	**P**	**10 31 28.5**	**+0.4**
RUSC				IAmb	IAmb	10 31 30.8	
	comp=Z,23nm,1.0s						
GUA01	**Guaratinga, BA**	**30.07**	**81**	*eP*	**P**	**10 31 28.5**	**-0.5**
ABR01	**Abrolhos, BA**	**30.64**	**85**	*eP*	**P**	**10 31 31.8**	**-2.3**
USHA	**Ushuaia**	**30.73**	**177**	LR	LR	10 44 59.8	
	comp=Z,261nm,19.9s,baz=58,slow=38						
TMAB	**Tom-Au,PA,Br**	**30.89**	**49**	*eP*	**P**	**10 31 36.9**	**+0.6**
SDV	**Santo Domingo**	**32.80**	**1**	LR	LR	10 46 27.7	
	comp=Z,136nm,18.5s,baz=250,slow=38						
BAUV	**El Baul**	**32.98**	**5**	P	**P**	**10 31 54.0**	**-0.6**
MDP	**Montagnes des**	**34.07**	**34**	LR	LR	10 46 51.0	
	comp=Z,376nm,19.3s,baz=170,slow=38						
NBAN	**Anadia - AL**	**36.00**	**72**	*eP*	**P**	**10 32 21.0**	**+0.1**
JTS	**Las Juntas de**	**36.84**	**337**	P	**P**	**10 32 27.5**	**-0.5**
NBCL	**Cascavel-CE**	**37.13**	**63**	*eP*	**P**	**10 32 31.1**	**+0.6**
RCBR	**Riachuelo**	**38.23**	**67**	P	**P**	**10 32 39.4**	**-0.5**
RCBR	**Riachuelo**	**38.23**	**67**	*eP*	**P**	**10 32 40.3**	**+0.4**
PMSA	**Palmer Station**	**40.90**	**176**	LR	LR	10 48 04.4	
	comp=Z,138nm,21.1s,baz=63,slow=33						
IGPR	**InterUniversit**	**42.09**	**7**	P	**P**	**10 33 10.0**	**-1.7**
IGPR				IAmb	IAmb	10 33 11.6	
	comp=Z,37nm,0.8s						
OBIP	**Obispado Ponce**	**42.11**	**6**	P	**P**	**10 33 09.8**	**-2.1**
OBIP				IAmb	IAmb	10 33 12.2	
	comp=Z,38nm,0.8s						
CELP	**Cerrillos**	**42.15**	**6**	P	**P**	**10 33 10.6**	**-1.6**
PDPR	**Patillas Dam,**	**42.15**	**7**	P	**P**	**10 33 10.2**	**-1.9**
SJG	**San Juan**	**42.23**	**7**	P	**P**	**10 33 10.8**	**-2.0**
SJG	**San Juan**	**42.23**	**7**	LR	LR	10 52 38.9	
	comp=Z,40nm,18.4s,baz=194,slow=39						
UUPR	**Utuado, UPR, P**	**42.31**	**6**	P	**P**	**10 33 12.0**	**-1.4**
UUPR				IAmb	IAmb	10 33 14.6	
	comp=Z,32nm,1.4s						
AOPR	**Arecibo Observ**	**42.40**	**6**	P	**P**	**10 33 12.6**	**-1.6**
AOPR				IAmb	IAmb	10 33 14.9	
	comp=Z,25nm,0.8s						
GCPR	**Guaynabo City**	**42.43**	**7**	P	**P**	**10 33 13.0**	**-1.4**
BELA	**Belgrano 2**	**56.44**	**171**	P	**P**	**10 35 01.0**	**+0.2**
BELA				IAmb	IAmb	10 35 16.3	
	comp=Z,15nm,1.2s						
VNA3	**Neumayer Olymp**	**58.22**	**161**	⇑P	**P**	**10 35 14.9**	**+1.5**
	comp=Z,5.4nm,0.7s						
VNA3				⇑pP	**pwP**	**10 35 27.3**	**+3.8**
RKT	**Rikitea**	**58.22**	**257**	*e*LR	LR	10 52 21.5	
	comp=Z,2μm,28.2s						
VNA2	**Neumayer--Watz**	**58.83**	**160**	⇑P	**P**	**10 35 17.4**	**-0.2**
	comp=Z,4.9nm,0.6s,baz=285,slow=9.4						
VNA2				⇓pP	**pwP**	**10 35 28.6**	**+0.8**
	baz=334,slow=4.5						
SNAA	**Sanae**	**60.44**	**160**		**P**	**10 35 29.4**	**+0.7**
SNAA	**Sanae**	**60.44**	**160**	⇑P	**P**	**10 35 29.6**	**+0.8**
	comp=Z,88nm,0.7s						
SNAA				⇑pP	**pwP**	**10 35 42.8**	**+3.8**
SNAA	**Sanae**	**60.44**	**160**	P	**P**	**10 35 29.7**	**+1.0**
	comp=Z,3.8nm,0.7s,baz=273,slow=8.6,SNR=13						
	comp=Z,3.8nm,0.7s						
CPCT	**Cooper Cave**	**60.63**	**347**		**P**	**10 35 30.3**	**0.0**
CPCT				IAmb	IAmb	10 35 31.7	
	comp=Z,10nm,1.1s						
SWET	**Sewanee**	**60.70**	**346**	P	**P**	**10 35 30.8**	**-0.1**
SWET				IAmb	IAmb	10 35 31.5	
	comp=Z,8.5nm,0.8s						
JCT	**Junction City**	**60.95**	**332**		**P**	**10 35 33.5**	**+0.8**
JCT				IAmb	IAmb	10 35 54.0	
	comp=Z,6.0nm,0.8s						
LPIG	**La Paz**	**61.29**	**319**	LR	LR	10 56 15.8	
	comp=Z,37nm,21.8s,baz=196,slow=30						
CLTN	**Cedars of Leba**	**61.63**	**346**	P	**P**	**10 35 37.1**	**0.0**
TXAR	**Lajitas Array**	**61.77**	**328**	P	**P**	**10 35 40.4**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=149,slow=10.0,SNR=5.8						
	comp=Z,0.4nm,0.8s						
TROLL	**Troll, Antarti**	**62.15**	**160**	⇑P	**P**	**10 35 41.5**	**+1.1**
	comp=Z,152nm,0.6s						
TROLL				⇑pP	**pwP**	**10 35 51.6**	**+0.9**
VHRN	**Van Horn**	**63.61**	**327**		**P**	**10 35 50.8**	**+0.1**
VHRN				IAmb	IAmb	10 36 11.2	
	comp=Z,11nm,1.3s						
FVM	**French Village**	**64.43**	**343**		**P**	**10 35 56.0**	**+0.2**
FVM				IAmb	IAmb	10 35 57.2	
	comp=Z,8.2nm,0.8s						
R40A	**Maddies Statio**	**65.23**	**342**	P	**P**	**10 36 01.4**	**+0.5**
R40A				IAmb	IAmb	10 36 02.4	
	comp=Z,9.2nm,0.8s						
BBTS	**Babate**	**65.62**	**60**	LR	LR	11 03 59.4	
	comp=Z,108nm,19.6s,baz=125,slow=35						
QSPA	**South Pole Qui**	**66.09**	**180**	P	**P**	**10 36 08.4**	**+2.0**
	comp=Z,3.3nm,0.5s,baz=152,slow=1.8,SNR=74						
	comp=Z,3.3nm,0.5s						
P40A	**Paris**	**66.32**	**342**		**P**	**10 36 08.2**	**+0.3**
P40A				IAmb	IAmb	10 36 09.4	
	comp=Z,14nm,1.2s						
WVNY	**West Valley, N**	**66.57**	**354**	P	**P**	**10 36 10.2**	**+0.8**
TAOE	**Nuku Hiva Isla**	**67.52**	**270**	*e*LR	LR	10 56 39.0	
	comp=Z,163nm,25.2s						
L40A	**Anamosa**	**68.47**	**344**	P	**P**	**10 36 21.4**	**-0.1**
L40A				IAmb	IAmb	10 36 22.7	
	comp=Z,15nm,1.0s						
G62A	**West of Eustis**	**69.00**	**0**		**P**	**10 36 25.6**	**+0.9**
SDCO	**Great Sand Dun**	**69.59**	**331**	P	**P**	**10 36 29.5**	**+0.6**
TBI	**Tubuai**	**70.92**	**252**	*e*LR	LR	10 58 06.8	
	comp=Z,656nm,28.2s						
DBIC	**Dimbokro**	**71.25**	**73**	P	**P**	**10 36 38.5**	**-0.7**
DBIC	**Dimbokro**	**71.25**	**73**	P	**P**	**10 36 39.0**	**-0.2**
	comp=Z,20nm,0.8s,baz=224,slow=5.7,SNR=20						
DBIC				LR	LR	11 05 42.4	
	comp=Z,90nm,21.9s,baz=182,slow=34						
PPT2	**Papeete2**	**72.94**	**258**	*e*LR	LR	10 59 06.6	
	comp=Z,231nm,32.0s						
PPT2				*e*LR	LR	10 59 08.0	
	comp=Z,446nm,29.2s						
PPT	**Papeete**	**72.95**	**258**	LR	LR	10 58 10.4	
	comp=Z,16nm,21.9s,baz=126,slow=27						
VNDA	**Vanda**	**73.96**	**190**	P	**P**	**10 36 57.0**	**+2.6**
	comp=Z,0.3nm,0.8s,baz=56,slow=4.1,SNR=3.6						
	comp=Z,0.3nm,0.8s						
AGMN	**Agassiz Nation**	**75.48**	**343**	P	**P**	**10 37 03.8**	**+0.4**
PDAR	**Pinedale Array**	**75.48**	**332**	P	**P**	**10 37 05.8**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=132,slow=8.2,SNR=2.5						
	comp=Z,0.2nm,0.6s						
NVAR	**Mina Array Bea**	**76.45**	**324**	P	**P**	**10 37 11.9**	**+2.5**
	comp=Z,0.1nm,0.4s,baz=147,slow=7.4,SNR=1.7						
	comp=Z,0.1nm,0.4s						
SUR	**Sutherland**	**78.86**	**120**	LR	LR	11 08 49.0	
	comp=Z,90nm,18.8s,baz=166,slow=33						
TORD	**Torodi Ar. Bea**	**79.97**	**71**	P	**P**	**10 37 28.5**	**-0.7**
TORD				IAmb	IAmb	10 37 29.7	
	comp=Z,16nm,0.8s						
TORD	**Torodi Ar. Bea**	**79.97**	**71**	P	**P**	**10 37 28.9**	**-0.2**
	comp=Z,34nm,0.3s,baz=256,slow=6.0,SNR=1.5						
PLID	**Pearl Lake**	**80.20**	**329**	P	**P**	**10 37 30.5**	**+0.5**
TSUM	**Tsumeb**	**81.06**	**107**	P	**P**	**10 37 35.1**	**-0.1**
TSUM				IAmb	IAmb	10 37 36.9	
	comp=Z,13nm,0.9s						
FFC	**Flin Flon**	**82.93**	**342**	P	**P**	**10 37 43.9**	**0.0**
GRTLG	**Ghanzi**	**83.37**	**110**	P	**P**	**10 37 46.5**	**-0.8**
GRTLG				IAmb	IAmb	10 37 48.6	
	comp=Z,18nm,1.3s						
BOSA	**Boshof**	**83.84**	**118**	P	**P**	**10 37 49.3**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=242,slow=2.7,SNR=7.5						
BOSA				LR	LR	11 10 14.1	
	comp=Z,53nm,19.6s,baz=191,slow=32						
	comp=Z,4.7nm,0.8s						
ESDC	**Sonseca Array**	**88.98**	**45**	P	**P**	**10 38 14.1**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=232,slow=4.5,SNR=4.2						
ESDC				LR	LR	11 13 58.9	
	comp=Z,42nm,21.1s,baz=204,slow=33						
	comp=Z,0.7nm,0.9s						
URZ	**Urewera**	**91.07**	**227**	LR	LR	11 08 53.4	
	comp=Z,82nm,20.7s,baz=318,slow=28						
LSZ	**Lusaka**	**91.90**	**108**	LR	LR	11 16 39.2	
	comp=Z,92nm,19.6s,baz=164,slow=34						
YKA	**Yellowknife Ar**	**93.04**	**341**	P	**P**	**10 38 33.2**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=138,slow=4.4,SNR=23						
	comp=Z,1.3nm,0.8s						
KEST	**Kesra**	**96.34**	**54**	LR	LR	11 21 57.5	
	comp=Z,36nm,21.2s,baz=296,slow=35						
BORG	**Borgarnes**	**96.48**	**19**	LR	LR	11 19 10.5	
	comp=Z,26nm,21.4s,baz=267,slow=34						
RES	**Resolute Bay**	**99.78**	**354**	LR	LR	11 26 02.2	
	comp=Z,16nm,20.9s,baz=5.5,slow=36						
GERES	**GERESS Array B**	**104.38**	**43**	Pdiff	**Pdif**	**10 39 23.7**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=243,slow=3.8,SNR=2.0						
DZM	**Mont Dzumac**	**107.78**	**235**	*e*LR	LR	11 15 20.1	
	comp=Z,131nm,24.9s						
LANS	**Liptovska Anna**	**108.09**	**44**	*e*PDIFF	**Pdif**	**10 39 40.3**	**-0.1**
BRTR	**Keskin Array B**	**115.83**	**56**	PKP	**PKiKP**	**10 44 02.2**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=233,slow=1.4,SNR=4.7						
KBZ	**Khabaz**	**123.18**	**52**	PKP	**PKPdf**	**10 44 15.8**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=41,slow=0.7,SNR=6.0						
H11S2	**WAKE ISLAND Hyt**	**26.33**	**276**	T	T	13 03 56.2	
	baz=107,slow=74,SNR=553						
H11S1	**WAKE ISLAND Hyt**	**26.34**	**276**	T	T	13 04 02.8	
	baz=107,slow=74,SNR=503						
H11S3	**WAKE ISLAND Hyt**	**26.35**	**276**	T	T	13 04 02.6	
	baz=107,slow=74,SNR=540						
H11N3	**WAKE ISLAND Hyt**	**26.49**	**277**	T	T	13 04 14.7	
	baz=107,slow=75,SNR=151						
H11N1	**WAKE ISLAND Hyt**	**26.50**	**277**	T	T	13 04 12.5	
	baz=107,slow=75,SNR=112						
H11N2	**WAKE ISLAND Hyt**	**26.50**	**277**	T	T	13 04 11.7	
	baz=107,slow=75,SNR=91						
BVAR	**Borovoye Array**	**138.99**	**35**	PKhKP	PKPpre	10 44 40.6	
	comp=Z,1.0nm,0.7s,baz=266,slow=2.2,SNR=5.0						
KURBB	**Kurchatov Arra**	**144.53**	**34**	PKP	**PKPdf**	**10 44 55.0**	**-0.6**
	comp=Z,10.0nm,0.9s,baz=302,slow=3.4,SNR=62						
ZALV	**Zalesovo Beam**	**145.10**	**25**	PKP	**PKPdf**	**10 44 56.7**	**+0.2**
	comp=Z,26nm,0.7s,baz=315,slow=0.8,SNR=112						
EKS2	**Erkin-Say**	**145.52**	**49**	P	**PKPab**	**10 44 59.4**	**+1.2**
	SNR=9.9						
AML	**Almayashu**	**145.65**	**50**	P	**PKPab**	**10 44 59.9**	**+0.8**
	SNR=29						
USP	**Ospenovka**	**145.79**	**48**	P	**PKPab**	**10 45 00.0**	**+1.0**
	SNR=12						
AAK	**Ala-Archa**	**146.03**	**49**	P	**PKPab**	**10 45 00.8**	**+0.7**
	SNR=17						
KBK	**Karagaybulak**	**146.33**	**48**	P	**PKiKP**	**10 45 02.4**	**-1.2**
	SNR=8.7						
TKM2	**Tokmak 2**	**146.67**	**48**	P	**PKPab**	**10 45 03.0**	**+0.3**
	SNR=11						
ULHL	**Ulahol**	**147.37**	**48**	P	**PKPab**	**10 45 05.2**	**-0.2**
	SNR=5.1						
KSH	**Kashi**	**148.16**	**53**	PKPbc	**PKPbc**	**10 45 04.3**	**-1.3**
MKAR	**Makanchi Array**	**148.83**	**37**	PKPbc	**PKiKP**	**10 45 07.6**	**-0.7**
	comp=Z,9.3nm,0.7s,baz=310,slow=2.2,SNR=86						
MJAR	**Matsushiro Arr**	**152.09**	**303**	PKPbc	**PKiKP**	**10 45 16.0**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=88,slow=2.4,SNR=5.9						
USRK	**Ussuriysk Ar.**	**152.58**	**323**	PKPbc	**PKiKP**	**10 45 16.9**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=45,slow=2.0,SNR=3.3						
SONM	**Songino Array**	**156.23**	**4**	PKPab	**PKPab**	**10 45 42.9**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=356,slow=3.7,SNR=6.1						
KSRS	**Korea Array**	**159.11**	**314**	**PKPdf**	**10 45 18.6**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=78,slow=1.5,SNR=5.7						
HHC	**Hu-ho-hao-te**	**163.19**	**353**	*eP*	**PKPdf**	**10 45 21.0**	**-1.2**
NJ2	**Nanjing**	**168.31**	**315**	*eP*	**PKPdf**	**10 45 25.5**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**169.00**	**119**	PKP	**PKPdf**	**10 45 28.0**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=200,slow=1.3,SNR=4.5						
PZH	**PanZhiHua**	**172.94**	**69**	PKP	**PKPdf**	**10 45 27.5**	**-1.8**

*IDC **28** 10:25:32.5±14.0, 23°.73N×143°.00E, h537km±101km, mb3.1/9, mbtmp3.9/11, Error ellipse: s-maj=159.4km s-min=27.4km az=172.0*

ISC 28 10:25:34.8±2.9, 24°.0N±0°.4×143°.0E±0°.2, h550km, n11, σ0§58/11, mb3.5/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**13.18**	**343**	P		**P**	**10 28 25.1**	**-0.4**
	0.5nm,0.4s,baz=173,slow=11,SNR=4.9							
KSRS	**Korea Array**	**18.62**	**320**	P		**P**	**10 29 18.1**	**-0.1**
	1.3nm,0.6s,baz=124,slow=9.0,SNR=12							
KLR	**Kul'dur**	**26.71**	**344**	P		**P**	**10 30 31.3**

KNRA Kununurra 16.23 234 Pn 10 38 12.8 -1.3
SOEI Soe 18.20 258 Pn 10 38 34.3 -4.8
SOEI IAmb IAmb 10 38 44.2
comp=Z,137nm,1.3s
SOEI Soe 18.20 258 P **P 10 38 41.5 +2.2**
SOEI Soe 18.20 258 P **Pn 10 38 33.8 -5.3**
AS01 Alice Springs 19.04 204 P **Pn 10 38 51.7 +2.7**
comp=Z,17nm,0.8s
AS31 Alice Springs 19.05 204 Pn 10 38 49.7 +0.4
ASAR Alice Springs 19.06 204 P **Pn 10 38 51.0 +1.7**
comp=Z,8.9nm,0.8s,baz=31,slow=11,SNR=50
ASAR S Sn 10 42 11.9 -11
comp=Z,0.9nm,0.7s,baz=24,slow=26,SNR=2.2
ASAR Lg Lg 10 44 35.1
comp=Z,0.1nm,0.3s,baz=29,slow=30,SNR=1.5
ASAR LR LR 10 46 54.0
comp=Z,2µm,18.9s,baz=34,slow=39
GUMO Guam 19.94 7 LR LR 10 45 36.1
comp=Z,120nm,21.3s,baz=188,slow=34
FITZ Fitzroy Crossi 20.05 233 P 10 38 58.8 -0.6
FITZ Fitzroy Crossi 20.05 233 P Pn 10 39 01.6 +0.5
comp=Z,19nm,1.1s,baz=44,slow=12,SNR=16
FITZ S **S 10 42 41.4 -3.6**
comp=Z,6.2nm,0.7s,baz=128,slow=3.8,SNR=4.4
FITZ Lg Lg 10 45 08.6
comp=Z,0.5nm,0.3s,baz=322,slow=15,SNR=3.8
FITZ LR LR 10 47 37.6
comp=Z,382nm,21.3s,baz=62,slow=39
comp=Z,19nm,1.1s
FITZ Fitzroy Crossi 20.05 233 P Pn 10 39 02.3 +1.1
comp=Z,99nm,1.7s
LUWI Luwuk 20.20 284 P **P 10 38 57.8 -3.3**
LUWI IAmb IAmb 10 39 04.5
comp=Z,271nm,1.7s
QLP Quilpie 20.23 175 P Pn 10 39 05.5 +2.3
EDFI Ende, Flores 20.60 262 P P 10 38 56.1 -9.5
EIDS Eidsvold 20.71 157 P Pn 10 39 08.4 -0.5
INKA Innaminka 21.36 184 P **P 10 39 18.3 +4.9**
DAV Davao City (W) 21.36 308 LR LR 10 47 44.5
comp=Z,52nm,20.8s,baz=128,slow=37
OOD Oodnadatta 22.27 196 P **P 10 39 27.1 +3.8**
KAPI Kappang 22.50 272 P 10 39 26.2 +0.2
KAPI IAmb IAmb 10 39 30.2
comp=Z,160nm,1.8s
KAPI Kappang 22.50 272 LR LR 10 49 04.3
comp=Z,198nm,21.8s,baz=85,slow=39
KAPI Kappang 22.50 272 P **P 10 39 27.9 +2.0**
WRKA Warakurna 22.96 214 P **P 10 39 33.0 +2.3**
LCRK Leigh Creek 24.31 189 P **P 10 39 47.4 +3.6**
STKA Stephens Creek 25.44 181 P **P 10 39 54.9 +1.0**
comp=Z,2.2nm,0.6s,baz=358,slow=6.2,SNR=5.5
STKA LR LR 10 51 14.2
comp=Z,503nm,18.3s,baz=356,slow=40
comp=Z,2.2nm,0.6s
BBOO Buckleboo 27.00 192 P **P 10 40 08.8 +0.8**
BBOO IAmb IAmb 10 40 28.8
comp=Z,46nm,1.7s
DZM Mont Dzumac 28.07 126 *e*LR LR 10 47 27.2
comp=Z,222nm,25.8s
JCJ Chichijima 33.22 360 LR LR 10 51 37.6
comp=Z,86nm,20.3s,baz=98,slow=31
LEM Lembang 34.48 267 LR LR 10 59 13.9
comp=Z,76nm,19.1s,baz=146,slow=43
NWAO Narrogin (SRO) 35.29 218 LR LR 10 56 34.1
comp=Z,580nm,19.6s,baz=42,slow=37
JHJ Hachijo jima 2 39.30 357 LR LR 10 55 59.2
comp=Z,109nm,18.4s,baz=230,slow=33
JMN Monobe 40.63 349 P **P 10 42 04.2 -2.0**
JMN IAmb IAmb 10 42 08.9
comp=Z,53nm,1.7s
JNU Nakatsue 40.70 345 P **P 10 42 04.8 -2.1**
JNU IAmb IAmb 10 42 07.3
comp=Z,68nm,1.8s
JNU Nakatsue 40.70 345 LR LR 10 58 02.1
comp=Z,62nm,18.5s,baz=148,slow=35
MJAR Matsushiro Arr 42.81 355 P **P 10 42 22.0 -2.1**
comp=Z,3.8nm,1.1s,baz=176,slow=7.9,SNR=8.4
MJAR LR LR 10 58 14.5
comp=Z,95nm,18.9s,baz=148,slow=34
comp=Z,3.8nm,1.1s
NJ2 Nanjing 44.24 331 *e*P **P 10 42 36.3 +0.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KSAR Wonju Array Be 45.58 344 P **P 10 42 44.6 -1.6**
KSRS Korea Array 45.58 344 P **P 10 42 45.1 -1.0**
comp=Z,4.6nm,0.9s,baz=159,slow=7.9,SNR=22
KSRS LR LR 11 00 17.6
comp=Z,43nm,20.9s,baz=150,slow=34
comp=Z,4.6nm,0.9s
INCN Inchon 45.97 343 P **P 10 42 48.8 -0.6**
CMAR Chiang Mai Arr 49.36 301 P **P 10 43 16.8 +0.8**
comp=Z,0.7nm,0.5s,baz=126,slow=6.3,SNR=5.2
CMAR LR LR 11 07 00.1
comp=Z,15nm,18.6s,baz=130,slow=40
comp=Z,0.7nm,0.5s
LYN LuoYang 49.48 327 P **P 10 43 16.5 -0.1**
LYN pmax pmax
comp=Z,31nm,1.6s
JKA Kamikawa-asahi 50.20 0 P **P 10 43 22.1 +0.2**
ASAJ Asahikawa 50.20 0 LR LR 11 10 25.0
comp=Z,11nm,18.2s,baz=172,slow=43
HNS HongShan 50.56 331 ⇑P **P 10 43 25.0 +0.3**
HNS pmax pmax
comp=Z,19nm,1.7s
XAN Xi'an 51.09 324 P **P 10 43 28.8 -0.1**
XAN pP sP 10 43 37.5 +4.2
XAN pmax pmax
comp=Z,24nm,1.7s
PZH PanZhiHua 51.10 311 P **P 10 43 31.5 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,60nm,4.4s
USA0B Ussuriysk Arra 51.15 350 P **P 10 43 28.3 -0.7**
USA0B IAmb IAmb 10 43 30.1
comp=Z,62nm,1.9s
USRK Ussuriysk Ar. 51.15 350 P 10 43 27.8 -1.3
USRK Ussuriysk Ar. 51.15 350 P **P 10 43 28.0 -1.0**
comp=Z,5.6nm,0.8s,baz=180,slow=9.5,SNR=13
USRK LR LR 11 01 57.9
comp=Z,104nm,21.3s,baz=175,slow=32
comp=Z,5.6nm,0.8s
BJI Beijing 52.05 335 P **P 10 43 35.5 -0.4**
BJI pmax pmax
comp=Z,6.0nm,1.9s
BJI pmax pmax
comp=Z,49nm,3.9s
CN2 Changchun 52.17 345 *e*P **P 10 43 37.5 +0.8**
BNX BinXian 53.52 347 ⇑P **P 10 43 46.0 -0.6**
BNX pmax pmax
comp=Z,19nm,1.0s
HHC Hu-ho-hao-te 54.78 332 *e*P **P 10 43 56.3 +0.2**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,38nm,3.6s
BTO Baotou 55.34 330 *e*P **P 10 44 01.0 +0.9**
BTO pP **sP 10 44 05.0 +0.4**
BTO sP **pP 10 44 06.8 +3.4**
BTO PP **PP 10 46 10.0 +6.0**
BTO S **S 10 51 47.3 +2.8**
BTO pmax pmax
comp=Z,20nm,0.5s
BTO pmax pmax
comp=Z,260nm,5.2s
BTO LR LR
comp=Z,160nm,5.6s
BTO LR LR
comp=Z,76nm,5.8s
BTO LR LR
comp=Z,120nm,8.8s
LZH Lanzhou 55.52 322 *e*P **P 10 44 02.8 +1.2**
LZH pP sP 10 44 12.3 +6.2
LZH pmax pmax
comp=Z,22nm,1.2s
KLR Kul'dur 56.09 352 LR LR 11 04 36.7
comp=Z,57nm,21.8s,baz=176,slow=32
HEH HeiHe 57.81 349 *e*P **P 10 44 15.5 -1.9**
HEH PcP **PcP 10 45 11.0 +1.1**
HEH pmax pmax
comp=Z,10.0nm,1.8s
SHL Shillong 58.35 305 P **P 10 44 20.3 -1.6**
SHL IAmb IAmb 10 44 23.6
comp=Z,28nm,1.5s
GTA Gaotai 60.10 323 *e*P **P 10 44 35.8 +2.1**
GTA sP sP 10 44 45.0 +6.8
GTA pmax pmax
comp=Z,9.0nm,1.6s
PETK Petropavlovsk- 60.62 11 P **P 10 44 35.1 -1.7**
PETK Petropavlovsk- 60.62 11 P **P 10 44 35.5 -1.3**
comp=Z,6.5nm,0.8s,baz=187,slow=7.3,SNR=17
PETK LR LR 11 07 07.0
comp=Z,36nm,21.6s,baz=202,slow=32
comp=Z,6.5nm,0.8s
ULN Ulaanbaatar 62.25 334 P 10 44 47.5 -0.7
ULN IAmb IAmb 10 45 44.2
comp=Z,8.8nm,1.1s
SONM Songino Array 62.52 334 P 10 44 49.9 0.0
SONM IAmb IAmb 10 44 51.9
comp=Z,16nm,1.6s
SONM Songino Array 62.52 334 P **P 10 44 50.3 +0.4**
comp=Z,0.7nm,0.5s,baz=161,slow=6.3,SNR=11
SONM LR LR 11 11 38.9
comp=Z,72nm,19.8s,baz=116,slow=36
comp=Z,0.7nm,0.5s
PALK Pallekele 62.94 281 LR LR 11 14 59.0
comp=Z,35nm,19.4s,baz=114,slow=38
SHEM Shemya Is, Ala 64.72 21 LR LR 11 07 32.5
comp=Z,93nm,19.8s,baz=220,slow=31
MA2 Magadan 66.03 5 LR LR 11 11 12.8
comp=Z,32nm,21.2s,baz=170,slow=34
PPT2 Papeete2 67.26 106 *e*LR LR 11 05 35.8
comp=Z,81nm,23.2s
YAK Yakutsk 68.85 354 P **P 10 45 29.7 -0.6**
YAK Yakutsk 68.85 354 LR LR 11 13 44.1
comp=Z,36nm,20.3s,baz=158,slow=34
SEY Seymchan 69.48 5 LR LR 11 13 22.0
comp=Z,34nm,21.4s,baz=174,slow=34
WMQ Urumqi 70.06 321 *e*P **P 10 45 39.3 +1.0**
VNDA Vanda 71.91 176 P **P 10 45 51.2 +2.4**
VNDA Vanda 71.91 176 LR LR 11 16 29.9
comp=Z,65nm,18.2s,baz=310,slow=35
NIKH Nikolski High 72.02 29 P **P 10 45 50.9 +1.0**
baz=232
UNV Unalaska Valle 73.67 29 P **P 10 46 00.5 +0.9**
baz=234
P08K Saint George I 73.99 25 P **P 10 46 02.2 +0.7**
baz=230
SPIA Saint Paul Isl 74.06 25 P **P 10 46 02.7 +0.9**
baz=230
MKAR Makanchi Array 74.83 322 P **P 10 46 06.5 -0.2**
comp=Z,1.8nm,0.8s,baz=116,slow=6.6,SNR=4.1
comp=Z,1.8nm,0.8s
FALS False Pass 75.73 29 P **P 10 46 11.5 0.0**
baz=236
KSH Kashi 76.17 313 P **P 10 46 16.8 +2.2**
KSH sP PcP 10 46 24.0 -2.7
KSH pmax pmax
comp=Z,12nm,1.6s
S12K Black Hills 76.84 29 P **P 10 46 18.7 +0.8**
baz=238
SDPT Sand Point 77.42 29 P **P 10 46 21.6 +0.5**
baz=239
CHNA Chernabura Isl 77.59 30 P **P 10 46 21.7 -0.4**
baz=240
M11K Mekoryuk 77.72 23 P **P 10 46 23.2 +0.5**
baz=233
GAMB Gambell 77.94 19 P **P 10 46 24.6 +0.7**
baz=227
TIXI Tiksi 78.32 356 LR LR 11 20 14.1
comp=Z,18nm,19.0s,baz=25,slow=35
S14K Fog Glacier 78.35 29 P **P 10 46 27.1 +0.7**
baz=240
KURK Kurchatov 78.73 324 P **P 10 46 27.6 -0.9**
KURK IAmb IAmb 10 46 30.1
comp=Z,35nm,1.7s
KURBB Kurchatov Arra 78.74 324 P **P 10 46 28.6 0.0**
comp=Z,3.8nm,1.2s,baz=123,slow=4.7,SNR=21
comp=Z,3.8nm,1.2s
M13K Dall Lake 78.89 24 P **P 10 46 29.6 +0.4**
baz=236
O14K Tigyukauivet M 79.12 26 P **P 10 46 31.0 +0.5**
baz=238
K13K Kusilvak Mount 79.25 23 P **P 10 46 31.7 +0.5**
K13K IAmb IAmb 10 46 33.2
comp=Z,66nm,1.9s
K13K Kusilvak Mount 79.25 23 P **P 10 46 31.3 +0.2**
baz=234
N14K Kuskokwak Cree 79.30 25 P **P 10 46 31.6 +0.2**
baz=237
M14K Bethel 79.64 24 P **P 10 46 34.2 +0.9**
baz=237
L14K Kuka Creek 79.68 24 P 10 46 32.8 -0.7
L14K IAmb IAmb 10 46 35.3
comp=Z,65nm,1.9s
L14K Kuka Creek 79.68 24 P **P 10 46 34.6 +1.1**
baz=236
O15K Ungalikthiuk R 79.71 26 P **P 10 46 33.5 -0.2**
baz=239
R16K Pilot Point 79.93 28 P **P 10 46 35.7 +0.8**
baz=241
CHIR Chirikof Islan 80.06 30 P **P 10 46 36.2 +0.5**
baz=243
N15K Kwethluk River 80.11 25 P **P 10 46 35.6 -0.2**
baz=238
M15K Kasigluk River 80.14 25 P **P 10 46 36.0 0.0**
baz=238
J14K Nanvaranak Lak 80.15 22 P **P 10 46 36.2 +0.2**
baz=235
MAW Mawson 80.17 202 LR LR 11 21 04.8
comp=Z,136nm,18.2s,baz=36,slow=35
TNA Tin City 80.34 19 P **P 10 46 38.3 +1.3**
baz=230
L15K Ungalak Mounta 80.35 24 P **P 10 46 37.6 +0.5**
baz=237
P16K Nushagak River 80.45 27 P **P 10 46 38.2 +0.5**
baz=241
ANM Nome 80.57 20 P **P 10 46 37.8 -0.4**
baz=233
K15K Wolf Creek Mou 80.67 23 P 10 46 38.6 -0.2
K15K Wolf Creek Mou 80.67 23 P **P 10 46 38.5 -0.3**
baz=237
O16K Kokwok River B 80.68 26 P 10 46 38.8 -0.1
O16K IAmb IAmb 10 46 40.5
comp=Z,56nm,1.7s
O16K Kokwok River B 80.68 26 P **P 10 46 38.8 -0.1**
baz=240
F14K Arctic Creek 80.80 19 P **P 10 46 39.2 -0.3**
baz=232
N16K Nishlik Lake 80.83 25 P **P 10 46 39.5 -0.3**
baz=240
Q16K King Salmon 80.89 28 P **P 10 46 40.2 +0.2**
baz=242
M16K Timber Creek 81.03 25 P **P 10 46 41.6 +0.8**
M16K IAmb IAmb 10 46 42.6
comp=Z,60nm,1.9s
M16K Timber Creek 81.03 25 P **P 10 46 40.4 -0.4**
baz=239
Q17K Contact Creek 81.05 28 P **P 10 46 41.1 0.0**
baz=243
SIMJ Simiganj 81.06 311 P 10 46 42.2 +0.5
SII Sitkinak Islan 81.11 30 P **P 10 46 41.5 +0.2**
baz=244
L16K Owhat River 81.17 24 P **P 10 46 41.5 0.0**
baz=239
O17K Koliganek Bris 81.21 26 P **P 10 46 41.7 0.0**
baz=241
KKAR Karatay Array 81.22 315 P 10 46 40.5 -1.7
P17K Kvichak River 81.23 27 P **P 10 46 41.2 -0.7**
baz=242
G15K Niukluk 81.28 20 P **P 10 46 41.6 -0.4**
baz=234
R18K Karluk 81.42 29 P **P 10 46 41.9 -1.0**
baz=244
F15K North Star Dit 81.50 20 P **P 10 46 42.3 -0.9**
baz=234
N17K Nushagak Hills 81.54 26 P **P 10 46 41.8 -1.7**
N17K IAmb IAmb 10 46 45.0
comp=Z,39nm,1.8s
N17K Nushagak Hills 81.54 26 P **P 10 46 42.3 -1.2**
baz=241
J16K Anvik River 81.56 23 P 10 46 43.1 -0.4
J16K IAmb IAmb 10 46 45.9
comp=Z,57nm,1.8s
J16K Anvik River 81.56 23 P **P 10 46 42.9 -0.7**
baz=238
Q18K Katmai Hardscr 81.64 28 P **P 10 46 43.3 -0.9**
baz=243
H16K Elim 81.71 21 P **P 10 46 43.5 -0.8**
baz=236
OHAK Old Harbor 81.84 30 P **P 10 46 44.2 -0.9**
baz=245
I17K Unalakleet 81.86 22 P **P 10 46 43.5 -1.6**
baz=237
M17K Holitna River 81.86 25 P **P 10 46 43.9 -1.3**
baz=241
L17K Donlin 81.87 24 P **P 10 46 43.3 -2.0**
baz=240
P18K Big Mountain, 81.87 27 P **P 10 46 43.7 -1.6**
baz=243
O18K Koktuh Hills 82.09 27 P **P 10 46 45.3 -1.1**
baz=243
G16K Koyuk River 82.09 20 P **P 10 46 45.3 -1.0**
baz=236
K17K Iditarod 82.16 24 P **P 10 46 45.6 -1.2**
baz=240
N18K Kilae Creek 82.18 26 P **P 10 46 47.2 +0.3**
N18K IAmb IAmb 10 46 49.2
comp=Z,12nm,1.1s
N18K Kilae Creek 82.18 26 P **P 10 46 45.2 -1.7**
baz=242
J17K VABM Dome 82.21 23 P **P 10 46 44.9 -2.1**
baz=239
Q19K Cape Douglas, 82.40 28 P **P 10 46 46.9 -1.2**
baz=244
KDAK Kodiak Island 82.42 29 LR LR 11 16 32.5
comp=Z,86nm,20.1s,baz=81,slow=31
KDAK Kodiak Island 82.42 29 P **P 10 46 46.3 -1.8**
baz=246
L18K Granite Mounta 82.57 24 P **P 10 46 46.8 -2.1**
baz=241
M18K Stony River 82.58 25 P **P 10 46 47.2 -1.8**
baz=242
O19K Port Alsworth 82.65 27 P **P 10 46 48.2 -1.1**
baz=244
H17K Granite Mounta 82.71 21 P 10 46 48.6 -1.0
H17K Granite Mounta 82.71 21 P **P 10 46 47.8 -1.7**
baz=238
G17K Kiwalik Mounta 82.75 21 P **P 10 46 48.4 -1.4**
baz=237
C16K Lisburne Hills 82.84 17 P **P 10 46 49.2 -0.9**
baz=233
N19K Bonanza Creek 82.85 26 P **P 10 46 49.4 -1.1**
baz=244
Q20K Shuyak Island 82.85 29 P **P 10 46 49.4 -1.0**
baz=246
P19K Oil Pt 82.90 27 P **P 10 46 49.2 -1.5**
baz=245
F17K Baldwin Pennin 83.06 20 P **P 10 46 50.3 -1.1**
F17K IAmb IAmb 10 49 21.0
comp=Z,20nm,1.6s
F17K Baldwin Pennin 83.06 20 P **P 10 46 50.2 -1.1**
baz=237
J18K Innoko River 83.16 23 P **P 10 46 51.1 -0.9**
baz=241
D17K Noatak River 83.18 18 P **P 10 46 50.7 -1.2**
baz=235
E17K Hotham Inlet 83.23 19 P **P 10 46 51.9 -0.2**
baz=236,SNR=7.0
L19K White Mountain 83.31 25 P 10 46 51.8 -1.0
L19K IAmb IAmb 10 46 54.6
comp=Z,20nm,1.6s
L19K White Mountain 83.31 25 P **P 10 46 51.6 -1.2**
baz=243
H18K Honhosa River 83.38 21 P **P 10 46 51.8 -1.2**
baz=240
M19K Big River Lodg 83.38 25 P **P 10 46 52.0 -1.2**
baz=244
RDOG Red Dog Mine 83.44 18 P **P 10 46 52.5 -0.8**
baz=235
HOM Homer 83.64 28 P **P 10 46 54.0 -0.5**
baz=246
QSPA South Pole Qui 83.65 180 P **P 10 46 54.8 +0.2**
comp=Z,1.8nm,1.0s,baz=215,slow=1.1,SNR=7.5
QSPA LR LR 11 24 06.8
comp=Z,148nm,19.3s,baz=340,slow=36
comp=Z,1.8nm,1.0s
G18K Tagagawik 83.66 21 P 10 46 53.5 -1.0
G18K Tagagawik 83.66 21 P **P 10 46 53.8 -0.7**
baz=239
F18K Selawik 83.68 20 P **P 10 46 53.5 -1.0**
baz=238
GCSA Galena City Sc 83.72 22 P **P 10 46 53.9 -0.8**
baz=241
E18K Tukpahlearik C 83.81 19 P 10 46 54.4 -0.8
E18K IAmb IAmb 10 46 57.5
comp=Z,9.1nm,0.9s
E18K Tukpahlearik C 83.81 19 P **P 10 46 53.7 -1.5**
baz=237,SNR=7.6
J19K Poorman 83.84 23 P **P 10 46 53.0 -2.5**
baz=242
L20K Farewell, AK 83.85 25 P **P 10 46 53.0 -2.6**
baz=244
M20K Styx River 83.91 25 P **P 10 46 54.2 -1.7**
baz=245
SPCR Spurr Chakacha 84.02 26 P **P 10 46 55.2 -1.3**
baz=246
BRSE Bradley Lake S 84.09 28 P **P 10 46 55.0 -1.8**
baz=247
K20K Telida 84.17 24 P **P 10 46 55.8 -1.3**
baz=244
NRIK Noril'sk 84.19 343 P **P 10 46 56.3 -0.7**
comp=Z,2.9nm,0.8s,baz=129,slow=5.8,SNR=13
NRIK LR LR 11 25 25.4
comp=Z,31nm,18.4s,baz=124,slow=36
comp=Z,2.9nm,0.8s
H19K Roundabout Mou 84.27 22 P **P 10 46 56.3 -1.2**
baz=241
C18K Utukok River 84.30 18 P **P 10 46 56.6 -1.2**
baz=236
CAPN Captain Cook N 84.31 27 P **P 10 46 56.2 -1.6**
baz=246
BVAR Borovoye Array 84.32 325 P **P 10 46 57.7 -0.4**
comp=Z,3.6nm,0.6s,baz=106,slow=5.0,SNR=18
comp=Z,3.6nm,0.6s
G19K Purcell Mounta 84.34 21 P **P 10 46 56.5 -1.5**
baz=241
F19K Shaleruckik Mo 84.44 20 P **P 10 46 56.9 -1.5**
baz=240
J20K Nowinta River 84.50 23 P **P 10 46 57.0 -1.8**
baz=244
B18K Kokolik River 84.52 17 P **P 10 46 56.7 -2.1**
baz=236
SKT Skwentna 84.64 26 P **P 10 46 57.1 -2.5**
baz=246
I20K Naaghedeneel 84.66 23 P **P 10 46 57.0 -2.5**
baz=243
PPLA Purkeypile 84.74 25 P **P 10 46 57.5 -2.7**
baz=245
SUA Susitna One 84.77 26 P **P 10 46 58.3 -2.0**
baz=247
H20K Anotleneega Mo 84.83 22 P **P 10 46 58.4 -2.0**
baz=243
SEW Seward 84.83 28 P **P 10 46 58.7 -1.7**
baz=248
O22K Cooper Landing 84.85 27 P **P 10 46 59.0 -1.5**
baz=248
E19K Redstone River 84.94 20 P 10 47 00.3 -0.7
E19K IAmb IAmb 10 47 05.7
comp=Z,8.5nm,1.1s
E19K Redstone River 84.94 20 P **P 10 46 59.2 -1.7**
baz=240,SNR=6.7
CAST Castle Rocks 85.00 24 P 10 46 59.8 -1.5
CAST Castle Rocks 85.00 24 P **P 10 46 59.7 -1.7**
baz=245
RC01 Rabbit Creek A 85.07 27 P **P 10 46 59.8 -1.9**
baz=248
CHUM Lake Minchumin 85.10 24 P **P 10 47 00.1 -1.7**
baz=245
M22K Willow 85.16 26 P **P 10 47 00.3 -1.8**
baz=247
D19K Kuna River 85.18 19 P **P 10 47 00.5 -1.6**
baz=239,SNR=6.2
A19K Wainwright 85.20 17 P **P 10 47 00.4 -1.7**
baz=236
F20K Avaraart Lake 85.25 20 P **P 10 47 01.3 -1.2**
baz=242
CUT Chulitna 85.35 26 P **P 10 47 02.2 -0.8**
baz=247
KTH Kantishna Hill 85.53 24 P **P 10 47 03.0 -1.0**
PMR Palmer 85.53 27 P **P 10 47 03.1 -0.8**
baz=248
PWL Port Wells 85.62 27 P **P 10 47 03.2 -1.3**
baz=249
H21K Melozitna Rive 85.67 22 P **P 10 47 03.4 -1.2**
baz=245
E20K Nigu River 85.68 19 P **P 10 47 04.3 -0.4**
baz=241,SNR=10
BPAW Bear Paw Mtn. 85.72 24 P **P 10 47 03.7 -1.2**
baz=246
P23K Montague Islan 85.75 28 P **P 10 47 03.6 -1.5**
baz=250

TRF	Thorofare Moun	85.75	25	P		P	10 47 03.4	-1.9
	baz=247							
D20K	Etivluk River	85.77	19	P		P	10 47 03.5	-1.5
	baz=241							
KNK	Knik Glacier	85.77	27	P		P	10 47 03.2	-2.1
	baz=249							
I21K	Tanana	85.78	23	P		P	10 47 05.3	+0.2
I21K	Tanana	85.78	23	P		P	10 47 02.7	-2.5
	baz=245							
G21K	Allakaket	85.79	21	P		P	10 47 03.4	-1.8
	baz=244							
SML	Sawmill	85.97	26	P		P	10 47 04.1	-2.1
	baz=249							
F21K	Alatna River	86.11	21	P		P	10 47 04.5	-2.3
	baz=244							
GLI	Glacier Island	86.20	28	P		P	10 47 05.2	-2.2
	baz=250							
M23K	Glacier View	86.23	27	P		P	10 47 05.3	-2.2
	baz=250							
B20K	Meade River	86.24	17	P		P	10 47 05.1	-2.2
	baz=240							
H22K	Ishtalitna Cre	86.31	22	P		P	10 47 05.9	-1.9
	baz=246							
MCK	McKinley	86.42	25	P		P	10 47 06.4	-2.0
	baz=248							
SCM	Sheep Creek Mo	86.42	27	P		P	10 47 07.7	-0.8
SCM	Sheep Creek Mo	86.42	27	P		P	10 47 06.4	-2.2
	baz=250							
E21K	Killik River	86.49	19	P		P	10 47 07.3	-1.3
	baz=243							
C21K	Knifeblade Rid	86.56	19	P		P	10 47 07.2	-1.7
	baz=242							
G22K	Bettles	86.68	21	P		P	10 47 08.3	-1.3
	baz=246							
NEA2	Nenana	86.69	24	P		P	10 47 08.1	-1.6
	baz=248							
F22K	John River	86.69	21	P		P	10 47 08.4	-1.2
	baz=245							
EYAK	Cordova Ski Ar	86.71	28	P		P	10 47 08.6	-1.2
	baz=251							
I23K	Minto, Yukon-K	86.78	23	P		P	10 47 08.8	-1.3
	baz=248							
B21K	Ikpikpuk River	86.83	18	P		P	10 47 09.1	-1.1
	baz=243							
KLU	Klutina	86.94	27	P		P	10 47 09.9	-1.2
	baz=251							
H23K	Yukon River	86.97	23	P		P	10 47 09.9	-1.1
	baz=248							
M24K	Tolsona, Glenn	87.03	27	P		P	10 47 10.3	-1.1
	baz=251							
A21K	Barrow	87.05	16	P		P	10 47 10.2	-1.0
	baz=241							
E22K	Anaktuvuk Pass	87.08	20			P	10 47 11.7	+0.1
E22K				IAmb		IAmb	10 47 13.5	
	comp=Z,35nm,1.9s							
E22K	Anaktuvuk Pass	87.08	20	P		P	10 47 11.2	-0.4
	baz=245,SNR=6.5							
D22K	Ayikyak River	87.11	19	P		P	10 47 11.3	-0.4
	baz=244,SNR=6.2							
G23K	Bananza Creek	87.14	22	P		P	10 47 10.7	-1.2
	baz=247							
KAIM	Kayak Island	87.15	29	P		P	10 47 10.9	-1.1
	baz=252							
COLD	Coldfoot	87.28	21	P		P	10 47 11.8	-0.7
	baz=247,SNR=6.0							
COLA	College	87.28	24	P		P	10 47 11.3	-1.2
COLA				IAmb		IAmb	10 47 13.2	
	comp=Z,6.9nm,0.9s							
COLA	College	87.28	24	P		P	10 47 11.5	-1.0
	baz=249							
A22K	Sinclair Lake	87.36	17	P		P	10 47 11.7	-1.1
	baz=242							
BMRM	Bremner River	87.38	28	P		P	10 47 12.2	-0.9
	baz=252							
HDA	Harding Lake	87.48	24	P		P	10 47 12.4	-1.1
	baz=250							
B22K	Teshekpuk Lake	87.52	18			P	10 47 13.4	-0.2
B22K	Teshekpuk Lake	87.52	18	P		P	10 47 13.0	-0.5
	baz=244							
POKR	Poker Plat Res	87.53	23	P		P	10 47 13.2	-0.6
	baz=250							
HARP	HAARP	87.57	26	P		P	10 47 13.7	-0.3
	baz=252							
N25K	Chitina, Valde	87.58	27	P		P	10 47 13.9	-0.3
	baz=252							
PAX	Paxson	87.62	26	P		P	10 47 13.9	-0.4
	baz=251							
ILAR	Eielson Array	87.63	24	P		P	10 47 11.6	-2.7
	comp=Z,1.9nm,0.7s,baz=259,slow=5.1,SNR=19							
ILAR				LR		LR	11 22 22.1	
	comp=Z,48nm,20.4s,baz=272,slow=33							
	comp=Z,1.9nm,0.7s							
BERG	Berg Lake	87.63	29	P		P	10 47 14.4	+0.1
K24K	Donnelly Dome	87.76	25	P		P	10 47 14.8	-0.1
	baz=251							
D23K	Nanushuk River	87.81	19	P		P	10 47 16.0	+1.0
	baz=246,SNR=22							
E23K	Chandalar	87.81	20	P		P	10 47 15.9	+0.8
	baz=247,SNR=10							
TOLK	Toolik Lake Re	88.05	20			P	10 47 15.8	-0.4
TOLK	Toolik Lake Re	88.05	20	P		P	10 47 15.8	-0.4
	baz=247,SNR=10.0							
G24K	Hadweenzic Riv	88.07	22	P		P	10 47 15.9	-0.4
	baz=250,SNR=9.1							
RIDG	Independent Ri	88.13	25	P		P	10 47 15.8	-0.9
	baz=252							
C23K	Itkillik River	88.18	19	P		P	10 47 16.3	-0.4
	baz=246							
J25K	Salcha River,	88.19	24			P	10 47 15.8	-1.1
J25K	Salcha River,	88.19	24	P		P	10 47 16.6	-0.4
	baz=251,SNR=9.5							
E24K	Your Creek	88.21	21	P		P	10 47 17.1	+0.1
	baz=248							
F24K	Squaw Lake	88.22	21			P	10 47 17.4	+0.4
F24K	Squaw Lake	88.22	21	P		P	10 47 16.7	-0.3
	baz=249,SNR=12							
MESA	MESA	88.41	29	P		P	10 47 18.0	-0.3
	baz=255							
PRP	Porcupine Dome	88.42	23	P		P	10 47 17.8	-0.4
	baz=251							
DOT	Dot Lake	88.44	25	P		P	10 47 17.1	-1.0
DOT				IAmb		IAmb	10 47 18.4	
	comp=Z,9.4nm,1.1s							
D24K	Happy Valley	88.49	20	P		P	10 47 17.4	-0.8
	baz=248							
M26K	Nabesna, AK	88.53	27	P		P	10 47 17.9	-0.7
	baz=254							
L26K	Log Cabin Wild	88.56	26	P		P	10 47 18.1	-0.6
	baz=253							
SCRK	Sand Creek	88.56	25	P		P	10 47 18.2	-0.7
	baz=253							
G25K	Bearman Lake	88.61	22	P		P	10 47 19.1	+0.3
	baz=251							
C24K	Franklin Bluff	88.75	19	P		P	10 47 19.8	+0.4
	baz=248							
FYU	Fort Yukon	88.87	22	P		P	10 47 20.3	+0.2
J26L	Joseph Creek	88.90	25			P	10 47 20.1	-0.2
J26L				IAmb		IAmb	10 47 21.8	
	comp=Z,22nm,1.6s							
J26L	Joseph Creek	88.90	25	P		P	10 47 20.2	-0.2
	baz=253,SNR=6.7							
M27K	Edge Creek, AK	89.02	27	P		P	10 47 21.0	0.0
	baz=255							
F25K	Christian Rive	89.05	21	P		P	10 47 21.4	+0.4
	baz=251							
PINM	Pinnacle	89.21	29	P		P	10 47 21.9	0.0
	baz=256							
L27K	Beaver Creek,	89.23	26	P		P	10 47 21.9	0.0
	baz=255							
E25K	Arctic Village	89.25	21	P		P	10 47 22.0	+0.1
	baz=251,SNR=7.5							
BCAR	Beaver Creek A	89.25	26			P	10 47 21.3	-0.7
I26K	Coal Creek Min	89.30	24	P		P	10 47 22.1	0.0
	baz=253							
D25K	Kavik River	89.37	20	P		P	10 47 22.4	0.0
	baz=250							
BMAR	Burnt Mountain	89.39	22			P	10 47 22.8	+0.3
K27K	Chicken	89.39	25	P		P	10 47 23.0	+0.5
	baz=254							
O28M	Mount Upton	89.40	29	P		P	10 47 22.8	-0.3
	baz=256							
BVCY	Beaver Creek	89.50	27	P		P	10 47 23.0	-0.2
	baz=256							
YUK3	Moose Creek	89.52	28	P		P	10 47 23.3	-0.2
	baz=256							
PNL	Peninsula	89.52	30	P		P	10 47 23.7	+0.4
	baz=257							
G26K	Porcupine Rive	89.53	22	P		P	10 47 23.6	+0.4
	baz=253,SNR=9.8							
F26K	Sheenjek River	89.63	21			P	10 47 24.1	+0.4
F26K	Sheenjek River	89.63	21	P		P	10 47 24.1	+0.4
	baz=252,SNR=12							
YUK8	Steele Glacier	89.72	28	P		P	10 47 24.7	+0.2
	baz=256							
I27K	Kandik River	90.00	24	P		P	10 47 25.7	+0.2
	baz=255,SNR=9.3							
C26K	Camden Bay	90.05	19	P		P	10 47 26.1	+0.6
	baz=252							
O29M	Mount Kennedy	90.07	29	P		P	10 47 25.9	-0.1
	baz=258							
H27K	Steamboat Moun	90.20	23	P		P	10 47 26.4	+0.1
	baz=255,SNR=9.4							
YUK4	Talbot Arm	90.26	28	P		P	10 47 27.0	0.0
	baz=258							
G27K	Doyon Strip	90.30	23	P		P	10 47 26.8	-0.1
	baz=255							
YUK6	Outpost Mounta	90.31	29	P		P	10 47 26.9	-0.3
	baz=258							
P29M	Windy Craggy	90.34	30	P		P	10 47 27.1	0.0
	baz=258							
C27K	Jago River	90.36	20	P		P	10 47 26.8	-0.2
	baz=253							
DAWY	Dawson	90.54	26	P		P	10 47 27.7	-0.3
DAWY				IAmb		IAmb	10 47 29.7	
	comp=Z,31nm,1.8s							
DAWY	Dawson	90.54	26	P		P	10 47 27.9	-0.1
	baz=257,SNR=9.1							
M29M	Somme Creek	90.59	27	P		P	10 47 27.6	-0.8
	baz=258							
E27K	Coleen River	90.69	21	P		P	10 47 28.8	+0.2
	baz=255,SNR=5.2							
HYT	Haines Junctio	90.70	29	P		P	10 47 28.4	-0.5
	baz=258							
S31K	Pelican	90.78	32	P		P	10 47 29.3	+0.2
	baz=260							
P30M	Million Dollar	90.82	30	P		P	10 47 28.9	-0.5
	baz=259							
L29M	L29M	90.88	27	P		P	10 47 29.0	-0.6
	baz=258							
N30M	Aishikik Lake	91.02	28	P		P	10 47 29.6	-0.7
	baz=259							
SIT	Sitka	91.10	33	P		P	10 47 29.8	-0.9
	baz=260							
J29N	Klondike Camp	91.13	25	P		P	10 47 29.7	-1.0
	baz=258							
D27M	Malcolm River	91.19	20	P		P	10 47 30.5	-0.5
	baz=256							
I29M	Ogilvie Camp,	91.28	24	P		P	10 47 31.9	+0.5
	baz=258,SNR=6.2							
K29M	Barlow Dome	91.30	26	P		P	10 47 31.3	-0.4
	baz=258,SNR=5.6							
O30N	Mendenhall	91.37	29	P		P	10 47 31.5	-0.4
	baz=260							
M30M	Minto, Yukon	91.37	27	P		P	10 47 31.7	-0.2
	baz=259							
H29M	Whitestone	91.44	23	P		P	10 47 31.9	-0.1
	baz=258							
SKAG	Skagway	91.51	30	P		P	10 47 32.3	-0.2
	baz=260							
E28M	Babbage River	91.53	21	P		P	10 47 32.2	-0.2
	baz=257							
S32K	Killisnoo	91.57	32	P		P	10 47 32.5	-0.3
	baz=261							
N31M	Braeburn, Yuko	91.64	28	P		P	10 47 32.9	-0.3
	baz=260							
G29M	Pine Creek	91.72	23	P		P	10 47 33.2	-0.2
	baz=258							
R32K	Eaglecrest	91.73	32	P		P	10 47 33.2	-0.4
	baz=261							
WHY	Whitehorse	91.93	29	P		P	10 47 34.3	-0.4
	baz=261							
J30M	Hart River	91.95	25	P		P	10 47 34.0	-0.6
	baz=260,SNR=5.2							
D28M	Stokes Point	91.98	20	P		P	10 47 33.9	-0.5
	baz=258							
I30M	Mount Dempster	92.05	25	P		P	10 47 34.4	-0.7
	baz=260							
E29M	Blow River	92.08	21	P		P	10 47 34.8	-0.1
	baz=258							
EPYK	Eagle Plains	92.12	23	P		P	10 47 35.0	-0.3
	baz=259							
U33K	Whale Pass	92.16	34	P		P	10 47 35.3	-0.3
	baz=262							
P32M	Atlin	92.34	30	P		P	10 47 36.3	-0.2
	baz=262							
M31M	Drury Creek, Y	92.41	28	P		P	10 47 36.1	-0.6
	baz=261							
G30M	tAoh Zraii Nji	92.43	23	P		P	10 47 36.0	-0.7
	baz=260							
WRAK	Wrangell Islan	92.63	34	P		P	10 47 37.0	-0.7
	baz=263							
F30M	Barrier River	92.71	22	P		P	10 47 37.9	-0.1
	baz=260							
N32M	Quiet Lake	92.88	29	P		P	10 47 38.8	-0.1
	baz=262							
P33M	Teslin, Yukon	92.88	30	P		P	10 47 39.1	+0.1
	baz=262							
FARO	Faro, Yukon	92.90	28	P		P	10 47 39.0	+0.1
	baz=262							
V35K	Ketchikan	92.90	35	P		P	10 47 38.8	-0.3
	baz=263							
H31M	Peel River	92.98	24	P		P	10 47 38.8	-0.5
	baz=262							
Q32M	Nakina River	92.99	31	P		P	10 47 39.2	-0.4
	baz=263							
G31M	Satah River	93.18	23	P		P	10 47 39.6	-0.4
	baz=262							
F31M	Tsiigehtchic	93.46	23	P		P	10 47 41.1	-0.3
	baz=262							
S34M	Telegraph Cree	93.47	32	P		P	10 47 41.4	-0.2
	baz=264							
INK	Inuvik	93.66	22	LR		LR	11 26 38.9	
	comp=Z,33nm,20.1s,baz=237,slow=34							
INK	Inuvik	93.66	22	P		P	10 47 42.2	0.0
	baz=262							
R33M	Jennings River	93.71	31	P		P	10 47 42.5	-0.4
	baz=264							
U35K	Hyder	93.86	34	P		P	10 47 43.4	-0.1
	baz=265							
MMPY	Sheldon Lake,	93.91	28	P		P	10 47 43.6	0.0
	baz=264							
DLBC	Dease Lake	94.10	32	P		P	10 47 44.1	-0.5
	baz=265							
BBB	Bella Bella	94.67	38	LR		LR	11 24 13.3	
	comp=Z,64nm,18.8s,baz=232,slow=32							
A36M	Sachs Harbour	96.72	18	P		P	10 47 55.9	-0.3
	baz=270							
C36M	Paulatuk	97.14	21	P		P	10 47 57.6	-0.5
	baz=271							
KOTAN	Kotaneelee Air	97.24	30	P		P	10 47 58.1	-0.7
	baz=270							
WRGLY	Wrigley	97.50	27	P		P	10 47 59.1	-0.8
	baz=271							
YBH	Yreka Blue Hor	97.87	49	LR		LR	11 26 38.9	
	comp=Z,36nm,19.6s,baz=264,slow=32							
SNAA	Sanae	98.88	191	LR		LR	11 33 59.0	
	comp=Z,113nm,18.3s,baz=95,slow=36							
GNI	Garni	99.84	310	LR		LR	11 38 17.5	
	comp=Z,18nm,21.4s,baz=251,slow=38							
CLL	Collm	118.72	326	*e*PKiKP		**PKPdf**	**10 53 13.0**	**-1.4**
CLL				*e*PP		**PP**	**10 54 30.0**	**-2.0**
GERES	GERESS Array B	119.47	324	PKP		**PKPdf**	**10 53 15.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=84,slow=2.2,SNR=3.6							

TXNET 28 10:35:40.9,31°.4N±0°.6×103°.6W±0°.6, h6km±1km, ML1.7/12, 1C-1D, Error ellipse: s-maj=1.0km s-min=0.8km az=30.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	Crockett Middl	0.06	109	P	Pg	10 35 42.7	+0.1
PCOS				S	Sg	10 35 44.4	+0.7
TPB07	Mentone	0.17	333	⇑P	Pg	10 35 45.1	+0.7
TPB07				S	Sg	10 35 47.8	+1.0
TPB10	Southeast of T	0.21	227	P	Pg	10 35 46.4	+1.3
TPB10				S	Sg	10 35 50.6	+2.7
PECS	Pecos	0.26	257	⇓P	Pg	10 35 46.8	+0.8
PECS				S	Sg	10 35 51.0	+1.7
TPB03	Saragosa	0.35	171	P	Pg	10 35 48.2	+0.5
TPB03				S	Sg	10 35 53.6	+1.3
TPB04	Verhalen	0.36	132	P	Pb	10 35 49.1	-0.6
TPB04				S	Sg	10 35 54.0	+1.4
TPB06	Permian Basin	0.38	54	P	Pb	10 35 49.8	-0.3
TPB06				S	Sg	10 35 54.7	+1.4
TPB12	Southwest of T	0.39	237	P	Pg	10 35 49.3	+0.8
TPB12				S	Sg	10 35 55.0	+1.3
TPB16	Coyonosa	0.41	137	P	Pg	10 35 49.4	+0.5
TPB16				S	Sg	10 35 55.4	+1.1
TPB01	Permian Basin	0.51	200	P	Pg	10 35 51.4	+0.6
TPB01				S	Sb	10 35 59.4	-0.8
TPB05	Hovey Rd	0.55	157	P	Pb	10 35 52.6	-0.5
TPB05				S	Sb	10 36 00.9	-0.3
MNHN	Monahans	0.70	97	P	Pb	10 35 55.5	-0.1
MNHN				S	Sb	10 36 05.6	0.0
TPB08	Permian Basin	0.78	133	P	Pb	10 35 56.7	-0.4
TPB08				S	Sb	10 36 08.0	0.0
NM01	Eunice	0.94	9	S	Sb	10 36 12.0	-0.4
HTMS	Hat Mesa	1.04	357	P	Pg	10 36 00.9	0.0
HTMS				S	Sb	10 36 15.6	+0.2
ALPN	Alpine	1.05	183	P	Pg	10 36 01.2	+0.1
ALPN				S	Sn	10 36 16.6	-0.8
TMB02	Rankin	1.34	99	Pg	Pg	10 36 08.1	+1.5
TMB02				S	Sn	10 36 24.7	+0.3
VHRN	Van Horn	1.37	242	P	Pn	10 36 06.7	0.0
VHRN				S	Sn	10 36 26.2	+1.0
TMB04	Seminole	1.51	37	P	Pn	10 36 08.9	+0.3
TMB04				S	Sg	10 36 29.3	-0.2
MNTX	Cornudas Mount	1.56	280	P	Pb	10 36 10.2	-0.1
MNTX				S	Sg	10 36 31.3	0.0
SAND	Sanderson	1.93	139	P	Pb	10 36 16.7	+0.1
SAND				S	Sg	10 36 42.0	-0.9
TX31	Lajitas Ar. Si	2.09	182	P	Pb	10 36 18.7	-0.6
TX31				S	Sg	10 36 47.1	-1.0
TX31				Sg	Sb	10 36 49.4	+3.8

DJA 28 10:49:30.9±0.3, 7°S±4°.×10°.6E±°, h50km±10km, M4.0/15, mb4.2/1, MLv3.8/15, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.39	47	P	Pn	10 49 42.5	+1.6
CNJI	Cibinong	0.85	93	P	Pn	10 49 47.3	+0.6
CGJI	Cibinong	0.87	319	P	Pn	10 49 47.7	+0.8
CGJI				S	Sn	10 49 59.7	+1.1
TNG	Tangerang	1.15	19	P	Pn	10 49 49.9	-0.8
TNG				P	Pn	10 49 49.9	-0.8
LEM	Lembang	1.41	72	P	Pn	10 49 55.4	+1.1
CMJI	Cimerak	2.22	103	P	Pn	10 50 05.3	0.0
LWLI	Liwa	3.14	315	P	Pn	10 50 19.5	+1.5
MDSI	Maura Dua	3.46	323	P	Pn	10 50 22.0	-0.3
UGM	Wanagama	4.26	99	P	Pn	10 50 33.5	+0.1
MNAI	Manna	4.38	311	P	Pn	10 50 34.5	-0.5
PCJI	Pacitan	4.95	101	P	Pn	10 50 42.5	-0.2
NGJI	Ngawi	5.15	91	P	Pn	10 50 44.9	-0.6

KRSC 28 11:24:42.7±1.9, 51°.47N×160°.00E, h20km±40km, MI3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	1.24	287	*e*P	Pb	11 25 05.7	+0.4
KDTR				*e*S	Sn	11 25 20.9	0.0
RUS	Russkaya	1.33	317	*e*P	Pn	11 25 06.2	+0.2
MTVR	Mutnovka	1.51	313	*e*P	Pb	11 25 09.4	-0.7
GRL	Gorelyy	1.61	313	*e*P	Pb	11 25 11.2	-0.5
SPN	Mys Shipunski	1.63	1	*e*P	Pb	11 25 13.5	+1.5
SPN				*e*S	Sb	11 25 34.6	+2.5
DALK	Dalny	1.74	334	*e*P	Pb	11 25 12.8	-1.0
NLC	Nalytchevo	1.75	347	*e*P	Pn	11 25 12.3	+0.6
PET	Petropavlovsk	1.76	333	*e*P	Pb	11 25 13.1	-1.1
KRMR	Karymshinskiy	1.78	321	*e*P	Pn	11 25 12.9	+0.7
INSR	Institute	1.81	332	*e*P	Pb	11 25 14.3	-0.8
UGLR	Uglovaya	1.88	338	*e*P	Pb	11 25 16.1	-0.3
SDLR	Sedlovina	1.93	340	*e*P	Pn	11 25 15.4	+1.0
AVH	Avacha	1.96	337	*e*P	Pb	11 25 17.6	+0.1
PAU	Pauzhetka	1.99	271	*e*P	Pb	11 25 17.8	-0.3
KOK	Koryaka	2.00	336	*e*P	Pb	11 25 17.7	-0.8
KRX	Arik	2.06	337	*e*P	Pn	11 25 17.5	+1.3
APC	Apacha	2.27	311	*e*P	Pb	11 25 21.2	-1.8
GNL	Ganaly	2.56	331	*e*P	Pn	11 25 24.0	+1.0
MKZ	Mys Kozlova	3.26	18	*e*P	Pn	11 25 35.7	+3.2
KBTR	Krutoberegovo	5.03	18	*e*P	Pn	11 26 00.9	+4.0

*VIE **28** 11:44:08.7±0.2, 46°.47N×12°.22E, h7km±2km, mb1.8/13, ml2.3/19, Error ellipse: s-maj=1.2km s-min=0.8km az=165.0 11 km SE of Cortina d'Ampezzo*
*PRU **28** 11:44:11.9, 46°.57N×12°.27E, h10km*
ROM 28 11:44:08.6±0.2, 46°.450N±0°.009×12°.230E±0°.006, h8km±1km, ML2.1/84, 10C-3D, Error ellipse: s-maj=0.8km s-min=0.7km az=5.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFL	Alpe Faloria	0.09	337	⇑*e*Pg	Pg	11 44 10.9	-0.1
AFL				*e*Sg	Sg	11 44 12.4	-0.3
CSO	Casso	0.19	160	⇓*e*Pg	Pg	11 44 13.1	+0.7
CSO				*e*Sg	Sg	11 44 16.5	+1.4
CIMO	Cimolais	0.20	134	⇓*e*Pg	Pg	11 44 13.3	+0.6
CIMO				*e*Sg	Sg	11 44 16.6	+1.1
CIMO	Cimolais	0.20	134	⇓P	Pg	11 44 13.3	+0.6
CIMO				S	Sg	11 44 16.6	+1.2
CIMO				AML	AML		
	comp=E,798μm,0.2s						
CIMO				AML	AML		
	comp=E,803μm,0.2s						
CIMO				AML	AML		
	comp=N,504μm,0.2s						
CIMO				AML	AML		
	comp=N,508μm,0.2s						
CIMO				AML	AML		
	comp=E,798μm,0.2s						
CIMO				AML	AML		
	comp=E,803μm,0.2s						
AGOR	Agordo	0.21	217	P	Pg	11 44 13.7	+0.9
FAU	Forcella Aurin	0.28	218	*e*Pg	Pg	11 44 14.9	+0.7
FAU				*e*Sg	Sg	11 44 19.0	+1.1
CSMI	Casera Mimoias	0.30	78	⇑*e*Pg	Pg	11 44 15.0	+0.5
CSMI				*e*Sg	Sg	11 44 19.7	+1.2
APGO	Alpago	0.31	163	*e*Pg	Pg	11 44 15.5	+0.8
APGO				*e*Sg	Sg	11 44 20.2	+1.4
ABTA	Abfaltersbach	0.36	33	*i* Pg	Pg	11 44 15.9	+0.3
	comp=E,9.7nm,0.1s,SNR=65						
ABTA				*e*Sg	Sg	11 44 20.6	+0.3
	comp=E,38nm,0.1s						
MLNI	Malnisio	0.40	139	*e*Pg	Pg	11 44 16.8	+0.4
MLNI				*e*Sg	Sg	11 44 22.9	+1.2
FVI	Forni Avoltri	0.41	69	⇑P	Pg	11 44 16.9	+0.3
FVI				S	Sg	11 44 23.1	+1.2
FVI				AML	AML		
	comp=N,182μm,0.2s						
FVI				AML	AML		
	comp=N,182μm,0.2s						
FVI				AML	AML		
	comp=E,249μm,0.7s						
FVI				AML	AML		
	comp=E,249μm,1.3s						
BRES	Bressanone	0.42	306	P	Pg	11 44 17.0	+0.1
BRES				S	Sg	11 44 22.2	-0.3
BRES				AML	AML		
	comp=E,324μm,1.6s						
BRES				AML	AML		
	comp=N,380μm,0.5s						
BRES				AML	AML		
	comp=E,325μm,1.6s						
BRES				AML	AML		
	comp=E,325μm,0.4s						
BRES				AML	AML		
	comp=N,380μm,0.7s						
CLUD	Cludinico	0.45	89	⇑*e*Pg	Pg	11 44 17.6	+0.2
CLUD				*e*Sg	Sb	11 44 24.6	-1.2
CLUD	Cludinico	0.45	89	P	Pg	11 44 17.7

CLUD				AML	AML		
	comp=N,72μm,0.6s						
CLUD				AML	AML		
	comp=N,80μm,0.6s						
POLC	**Polcenigo**	**0.46**	**156**	P	Pb	11 44 18.4	-0.7
VARN	**Col Varnada, M**	**0.47**	**191**	*e*Pg	Pg	11 44 18.2	+0.6
VARN				*e*Sg	Sb	11 44 25.5	-0.7
VARN	**Col Varnada, M**	**0.47**	**191**	P	Pg	11 44 18.0	+0.4
VARN				S	Sb	11 44 25.1	-1.1
CAE	**Caneva**	**0.47**	**162**	*e*Pg	Pg	11 44 18.1	+0.5
CAE				*e*Sg	Sb	11 44 25.6	-0.7
CAE	**Caneva**	**0.47**	**162**	P	Pg	11 44 17.9	+0.3
ZIAN	**Ziano**	**0.49**	**250**	⇑P	Pg	11 44 18.6	+0.4
ZIAN				S	Sg	11 44 25.7	+1.1
ZIAN				AML	AML		
	comp=E,164μm,1.5s						
ZIAN				AML	AML		
	comp=N,204μm,0.4s						
ZIAN				AML	AML		
	comp=E,164μm,1.5s						
ZIAN				AML	AML		
	comp=E,190μm,0.4s						
ZIAN				AML	AML		
	comp=N,163μm,1.3s						
ZIAN				AML	AML		
	comp=N,130μm,0.1s						
ZIAN				AML	AML		
	comp=E,133μm,0.1s						
ZIAN				AML	AML		
	comp=E,131μm,0.1s						
ZIAN				AML	AML		
	comp=N,141μm,0.2s						
DST2	**Trieste**	**0.52**	**113**	P	Pg	11 44 19.3	+0.6
DST2				S	Sb	11 44 28.0	+0.2
ZOU	**Zoufplan**	**0.53**	**78**	*e*Pg	Pg	11 44 19.2	+0.4
ZOU	**Zoufplan**	**0.53**	**78**	⇑P	Pg	11 44 19.2	+0.4
ZOU				S	Sb	11 44 28.1	0.0
ZOU				AML	AML		
	comp=E,141μm,0.7s						
ZOU				AML	AML		
	comp=N,107μm,0.9s						
ZOU				AML	AML		
	comp=N,93μm,0.2s						
ZOU				AML	AML		
	comp=N,102μm,0.3s						
ZOU				AML	AML		
	comp=E,91μm,0.6s						
ZOU				AML	AML		
	comp=E,97μm,0.3s						
FUSE	**Fusea**	**0.54**	**94**	*e*Pg	Pg	11 44 19.6	+0.7
FUSE	**Fusea**	**0.54**	**94**	P	Pb	11 44 19.6	-0.7
FUSE				S	Sb	11 44 27.5	-0.7
KOSI	**Kohlern**	**0.59**	**272**	⇑P	Pg	11 44 20.2	+0.2
KOSI				S	Sg	11 44 28.4	+0.6
KOSI				AML	AML		
	comp=E,139μm,0.2s						
KOSI				AML	AML		
	comp=N,106μm,1.2s						
KOSI				AML	AML		
	comp=N,106μm,0.8s						
KOSI				AML	AML		
	comp=E,139μm,0.2s						
KOSI				AML	AML		
	comp=N,72μm,0.6s						
BOO	**Bordano**	**0.62**	**102**	*e*Pg	Pb	11 44 21.1	-0.5
BOO	**Bordano**	**0.62**	**102**	P	Pg	11 44 21.0	+0.5
PLRO	**Paularo**	**0.64**	**81**	*e*Pg	Pg	11 44 21.5	+0.4
CGRP	**Cima Grappa**	**0.64**	**208**	*e*Pg	Pb	11 44 22.3	0.0
CGRP	**Cima Grappa**	**0.64**	**208**	P	Pg	11 44 21.4	+0.4
MTLO	**Montello**	**0.64**	**188**	*e*Pg	Pb	11 44 22.4	+0.2
GEPF	**Gemona**	**0.65**	**105**	P	Pb	11 44 21.9	-0.4
GEPF				S	Sb	11 44 32.0	+0.5
GEPF				AML	AML		
	comp=E,254μm,0.3s						
GEPF				AML	AML		
	comp=N,316μm,0.5s						
GEPF				AML	AML		
	comp=N,316μm,0.5s						
GEPF				AML	AML		
	comp=E,254μm,0.3s						
APPI	**Appiano**	**0.69**	**273**	⇑P	Pg	11 44 22.2	+0.2
APPI				S	Sg	11 44 31.4	+0.4
APPI				AML	AML		
	comp=E,140μm,0.4s						
APPI				AML	AML		
	comp=N,172μm,0.4s						
APPI				AML	AML		
	comp=E,124μm,0.2s						
APPI				AML	AML		
	comp=N,169μm,0.1s						
BAD	**Bernadia**	**0.73**	**107**	*e*Pg	Pg	11 44 23.0	+0.3
PANI	**Panarotta**	**0.74**	**238**	*e*Pg	Pg	11 44 23.0	+0.2
PANI	**Panarotta**	**0.74**	**238**	P	Pg	11 44 23.0	+0.2
PANI				AML	AML		
	comp=E,81μm,1.1s						
PANI				AML	AML		
	comp=N,132μm,1.0s						
PANI				AML	AML		
	comp=E,81μm,1.1s						
PANI				AML	AML		
	comp=N,132μm,1.0s						
PANI				AML	AML		
	comp=N,130μm,0.3s						
PANI				AML	AML		
	comp=E,72μm,0.3s						
ROSI	**Rosskopf**	**0.74**	**311**	P	Pb	11 44 23.5	-0.4
ROSI				AML	AML		
	comp=E,70μm,0.9s						
ROSI				AML	AML		
	comp=N,89μm,1.6s						
ROSI				AML	AML		
	comp=E,70μm,1.1s						
ROSI				AML	AML		
	comp=E,55μm,0.3s						
ROSI				AML	AML		
	comp=N,79μm,0.3s						
VINO	**Villanova**	**0.75**	**104**	*e*Pg	Pb	11 44 24.0	0.0
CEKR	**Cima Ekar Asia**	**0.76**	**218**	*e*Pg	Pb	11 44 24.3	+0.1
OZOL	**Ozolo**	**0.82**	**267**	*e*Pg	Pg	11 44 24.5	+0.2
OZOL	**Ozolo**	**0.82**	**267**	⇑P	Pg	11 44 24.4	+0.1
OZOL				S	Sg	11 44 35.4	+0.5
OZOL				AML	AML		
	comp=N,208μm,0.4s						
OZOL				AML	AML		
	comp=E,284μm,1.4s						
OZOL				AML	AML		
	comp=N,229μm,0.4s						
OZOL				AML	AML		
	comp=E,392μm,0.8s						
OZOL				AML	AML		
	comp=E,225μm,0.2s						
OZOL				AML	AML		
	comp=N,209μm,0.4s						
ACOM	**Acomizza, Ital**	**0.89**	**83**	*e*Pg	Pg	11 44 26.1	+0.4
ACOM	**Acomizza, Ital**	**0.89**	**83**	P	Pg	11 44 26.0	+0.3
ACOM				AML	AML		
	comp=E,102μm,1.3s						
ACOM				AML	AML		
	comp=N,128μm,0.7s						
ACOM				AML	AML		
	comp=N,117μm,0.5s						
ACOM				AML	AML		
	comp=N,129μm,0.7s						
ACOM				AML	AML		
	comp=E,108μm,0.4s						
ACOM				AML	AML		
	comp=E,102μm,0.4s						
WTTA	**Wattenberg**	**0.91**	**334**	*e*Pg	Pg	11 44 26.4	+0.2
	comp=E,0.5nm,0.0s,SNR=8.2						
WTTA				*e*Sg	Sg	11 44 38.0	0.0
	comp=E,5.5nm,0.2s,SNR=7.8						
WTTA	**Wattenberg**	**0.91**	**334**	P	Pg	11 44 26.4	+0.3
WTTA				AML	AML		
	comp=N,38μm,1.5s						
WTTA				AML	AML		
	comp=E,47μm,0.9s						
WTTA				AML	AML		
	comp=N,38μm,0.5s						
DOSS	**Dosso del Somm**	**0.92**	**232**	P	Pb	11 44 26.7	-0.3
DOSS				AML	AML		
	comp=E,193μm,0.5s						
DOSS				AML	AML		
	comp=N,245μm,1.6s						
DOSS				AML	AML		
	comp=E,216μm,1.6s						
DOSS				AML	AML		
	comp=N,190μm,0.4s						
DOSS				AML	AML		
	comp=E,193μm,1.5s						
DOSS				AML	AML		
	comp=E,216μm,0.4s						
DOSS				AML	AML		
	comp=N,245μm,0.4s						
DOSS				AML	AML		
	comp=E,192μm,0.4s						
DOSS				AML	AML		
	comp=N,190μm,0.4s						
DOSS				AML	AML		
	comp=N,209μm,0.3s						
DOSS				AML	AML		
	comp=E,211μm,0.3s						
GAGG	**Gaggia**	**0.95**	**248**	⇑P	Pg	11 44 27.0	+0.1
GAGG				AML	AML		
	comp=E,95μm,0.6s						
GAGG				AML	AML		
	comp=N,66μm,0.9s						
GAGG				AML	AML		
	comp=E,53μm,0.5s						
GAGG				AML	AML		
	comp=E,79μm,0.1s						
GAGG				AML	AML		
	comp=N,54μm,0.2s						
GAGG				AML	AML		
	comp=N,74μm,0.1s						
KBA	**Koelnbreinsper**	**0.99**	**50**	*e*Pg	Pg	11 44 27.5	-0.1
	comp=N,0.4nm,0.1s,SNR=11						
KBA				Sg	Sg	11 44 40.7	+0.2
	comp=N,3.1nm,0.2s						
MYKA	**Terra Mystica**	**0.99**	**79**	*e*Pg	Pg	11 44 27.5	-0.1
	comp=N,0.9nm,0.1s						
MYKA				Sg	Sb	11 44 42.0	+0.7
	comp=N,2.1nm,0.1s						
WATA	**Walderalm**	**0.99**	**333**	*e*Pg	Pg	11 44 27.7	0.0
	comp=N,0.5nm,0.1s						
WATA				*e*Sg	Sg	11 44 40.4	-0.2
	comp=N,8.6nm,0.1s,SNR=7.1						
LESA	**Schwarzleotal**	**1.02**	**17**	*e*Pg	Pg	11 44 28.3	+0.1
	comp=N,2.1nm,0.1s,SNR=13						
LESA				*e*Sg	Sg	11 44 41.3	-0.3
	comp=N,9.4nm,0.1s,SNR=8.5						
SQTA	**Sankt Quirin**	**1.04**	**318**	*e*Pg	Pg	11 44 28.0	-0.6
	comp=N,0.9nm,0.1s						
SQTA				Sg	Sg	11 44 41.2	-0.9
	comp=N,2.1nm,0.1s,SNR=6.2						
CARE	**Lago del Cares**	**1.06**	**269**	P	Pg	11 44 28.9	-0.1
CARE				AML	AML		
	comp=E,59μm,1.2s						
CARE				AML	AML		
	comp=N,70μm,1.2s						
CARE				AML	AML		
	comp=E,52μm,0.1s						
CARE				AML	AML		
	comp=N,62μm,0.2s						
CARE				AML	AML		
	comp=E,161μm,1.2s						
CARE				AML	AML		
	comp=N,574μm,1.0s						
VARA	**Varagna**	**1.12**	**237**	P	Pg	11 44 30.2	+0.1
VARA				AML	AML		
	comp=E,395μm,0.6s						
VARA				AML	AML		
	comp=N,302μm,0.3s						
VARA				AML	AML		
	comp=E,309μm,0.3s						
VARA				AML	AML		
	comp=E,341μm,0.2s						
VARA				AML	AML		
	comp=N,303μm,0.3s						
VARA				AML	AML		
	comp=N,324μm,0.2s						
MOSI	**Grossmontoni**	**1.17**	**279**	P	Pg	11 44 30.4	-0.7
MOSI				AML	AML		
	comp=E,160μm,0.4s						
MOSI				AML	AML		
	comp=N,187μm,0.5s						
MOSI				AML	AML		
	comp=E,160μm,1.6s						
MOSI				AML	AML		
	comp=E,160μm,0.4s						
MOSI				AML	AML		
	comp=N,187μm,0.5s						
FETA	**Feichten**	**1.18**	**300**	*i* Pg	Pg	11 44 31.0	-0.3
	comp=N,0.8nm,0.1s,SNR=11						
FETA				*e*Sg	Sg	11 44 45.6	-1.0
	comp=N,2.6nm,0.1s,SNR=6.1						
MOTA	**Moosalm**	**1.18**	**320**	*e*Pg	Pn	11 44 31.6	0.0
	comp=N,0.2nm,0.1s						
MOTA				Sg	Sg	11 44 46.6	-0.1
	comp=N,1.1nm,0.1s						
RONC	**Roncone**	**1.21**	**248**	P	Pn	11 44 32.0	0.0
RONC				AML	AML		
	comp=E,233μm,1.4s						
RONC				AML	AML		
	comp=N,368μm,0.6s						
RONC				AML	AML		
	comp=E,394μm,1.0s						
RONC				AML	AML		
	comp=N,334μm,0.6s						
MABI	**Malga Bissina**	**1.25**	**252**	P	Pb	11 44 32.6	-0.1
MABI				S	Sb	11 44 49.3	+0.2
MABI				AML	AML		
	comp=E,48μm,0.4s						
MABI				AML	AML		
	comp=N,54μm,0.2s						
MABI				AML	AML		
	comp=N,54μm,1.8s						
MABI				AML	AML		
	comp=E,48μm,1.6s						
MABI				AML	AML		
	comp=E,36μm,0.1s						
MABI				AML	AML		
	comp=N,43μm,0.1s						
BRMO	**Bormio**	**1.28**	**272**	P	Pn	11 44 32.9	-0.2
BRMO				S	Sg	11 44 50.1	+0.2
BRMO				AML	AML		
	comp=E,49μm,1.0s						
BRMO				AML	AML		
	comp=N,58μm,0.5s						
BRMO				AML	AML		
	comp=E,42μm,0.2s						
BRMO				AML	AML		
	comp=N,49μm,0.3s						
TRI	**Trieste**	**1.30**	**124**	P	Pg	11 44 33.6	+0.1
TRI				AML	AML		
	comp=E,64μm,0.3s						
TRI				AML	AML		
	comp=N,66μm,1.6s						
MAGA	**Magasa**	**1.30**	**239**	P	Pg	11 44 33.7	+0.1
MAGA				AML	AML		
	comp=N,248μm,0.6s						
MAGA				AML	AML		
	comp=E,338μm,0.7s						
MAGA				AML	AML		
	comp=N,248μm,1.4s						
MAGA				AML	AML		
	comp=E,338μm,1.3s						
MAGA				AML	AML		
	comp=E,268μm,0.4s						
MAGA				AML	AML		
	comp=N,223μm,0.5s						
BERNI	**Berninapass**	**1.53**	**269**	P	Pb	11 44 37.0	-0.3
BERNI				S	Sg	11 44 57.7	0.0
BERNI				AML	AML		
	comp=E,22μm,0.2s						
BERNI				AML	AML		
	comp=N,21μm,0.3s						
BIOA	**Bad Ischl, Aus**	**1.57**	**37**	*e*Pg	Pg	11 44 39.2	+0.5
	comp=N,0.8nm,0.2s						
OBKA	**Obir**	**1.60**	**87**	*e*Pg	Pg	11 44 39.0	-0.4
	comp=N,3.3nm,0.3s,SNR=4.9						
OBKA				Sg	Sg	11 45 02.9	+2.8
	comp=N,12nm,0.5s						
DAVOX	**Davos/Dischmat**	**1.65**	**282**	P	Pb	11 44 39.5	+0.1
DAVOX				AML	AML		
	comp=N,27μm,0.3s						
DAVOX				AML	AML		
	comp=E,21μm,0.3s						
DAVA	**Damuels**	**1.82**	**298**	*e*Pg	Pg	11 44 43.5	+0.1
	comp=E,6.0nm,0.3s,SNR=5.8						
DAVA				Sg	Sg	11 45 08.3	+1.3
	comp=E,19nm,0.6s,SNR=5.5						
SOKA	**Soboth**	**1.95**	**82**	*e*Pg	Pb	11 44 44.3	-0.1
	comp=E,0.6nm,0.2s,SNR=4.9						
SOKA				*e*Sg	Sg	11 45 10.6	-0.5
	comp=E,1.2nm,0.3s						
MOA	**Molln**	**1.97**	**44**	*e*Pg	Pg	11 44 45.7	-0.7
	comp=E,1.8nm,0.2s,SNR=10						
MOA				Sg	Sg	11 45 11.9	-0.1
	comp=E,4.8nm,0.3s						
ARSA	**Arzberg**	**2.40**	**69**	Pn	Pb	11 44 50.9	-1.2
	comp=E,1.5nm,0.2s						
CKRC	**Cesky Krumlov**	**2.76**	**30**	*e*SG	Sg	11 45 35.1	-2.0
KHC	**Kasperske Hory**	**2.83**	**18**	*e*PN	Pn	11 44 56.0	+1.8
KHC				*e*PG	Pb	11 45 00.5	+1.0
KHC				*e*SG	Sg	11 45 38.2	-1.4
	comp=E,3.1nm,0.3s						
DPC	**Dobruska-Polom**	**4.76**	**33**	*e*SG	Sg	11 46 38.2	-3.2
CLL	**Collm**	**4.89**	**6**	*e*Sg	Sg	11 46 46.0	+0.5

NEIC ***28*** *11:53:06.3±1.5, 18°.6N±0°.2×68°.71W±0°.05, h147km±12km, ML3.4/36, Md3.1/19(RSPR), Error ellipse: s-maj=26.5km s-min=6.1km az=185.0*
RSPR ***28*** *11:53:06.4, 18°.82N×68°.57W, h155km±2km, MD3.1/19*
OSPL ***28*** *11:53:07.6±3.5, 18°.36N×68°.70W, h153km±21km, ML3.2*
SDD ***28*** *11:53:08.4±2.0, 18°.51N×68°.70W, h141km±8km, MD3.3, ML3.5, MW3.5*

ISC 28 11:53:05.7±1.4,**18°.55N**±0°.06×**68°.71W**±0°.03,**h151**km±7km, **n101**,σ1°32/138,**21C-2D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.31**	**96**			**Pn**	**11 53 26.4**	**+0.1**
PCDR						**Sn**	**11 53 41.7**	**-0.2**
PCDR	**Punta Cana, DR**	**0.31**	**96**	IAML			11 53 43.2	
	comp=E,452nm,0.6s							
PCDR				IAML			11 53 44.6	
	comp=N,1000nm,0.6s							
PCDR	**Punta Cana, DR**	**0.31**	**96**	*e*Pg		**Pn**	**11 53 26.5**	**+0.2**
PCDR				*e*Sg		**Sn**	**11 53 40.9**	**-1.1**
PCDR				IAML			11 53 44.4	
	comp=N,916nm,0.8s							
PCDR	**Punta Cana, DR**	**0.31**	**96**	⇑*e*P		**Pn**	**11 53 26.4**	**+0.1**
PCDR	**Punta Cana, DR**	**0.31**	**96**	*i* P		**Pn**	**11 53 26.4**	**+0.1**
PCDR				*e*S		**Sn**	**11 53 41.8**	**-0.1**
PCDR				IAML			11 53 44.0	
	comp=Z,504nm,0.3s							
MIDR	**Miches**	**0.54**	**323**	*e*Pg		**Pn**	**11 53 27.9**	**+0.7**
MIDR				*e*Pg			11 53 28.0	
MIDR				*e*Sg		**Sn**	**11 53 42.3**	**-1.5**
MIDR				IAML			11 53 44.7	
	comp=N,2μm,0.6s							
MIDR				IAML			11 53 44.7	
	comp=N,768nm,0.6s							
SMDR	**Samana, DR**	**0.87**	**328**	*e*Pg		**Pn**	**11 53 29.7**	**+0.3**
SMDR				*e*Sg		**Sn**	**11 53 45.8**	**-1.8**
SMDR				IAML			11 53 54.9	
	comp=N,425nm,0.2s							
SMDR	**Samana, DR**	**0.87**	**328**	⇑*e*P		**Pn**	**11 53 29.3**	**-0.1**
SMDR	**Samana, DR**	**0.87**	**328**	*e*S		**Sn**	**11 53 47.8**	**+0.2**
SDD	**Santo Domingo**	**1.15**	**266**			**Pn**	**11 53 31.9**	**+0.2**
SDD						**Sn**	**11 53 50.9**	**-0.8**
SDD	**Santo Domingo**	**1.15**	**266**	*e*Pg		**Pn**	**11 53 31.7**	**0.0**
SDD				*e*Sg		**Sn**	**11 53 50.4**	**-1.3**
SDD				IAML			11 53 52.0	
	comp=N,53nm,0.3s							
SDD	**Santo Domingo**	**1.15**	**266**	*i* P		**Pn**	**11 53 31.9**	**+0.2**
SDD				*e*S		**Sn**	**11 53 49.5**	**-2.2**
IDE	**Isla Desecheo**	**1.18**	**98**			**Pn**	**11 53 32.8**	**+0.7**
IDE						**Sn**	**11 53 53.3**	**+1.1**
IDE	**Isla Desecheo**	**1.18**	**98**	⇑*e*P		**Pn**	**11 53 32.8**	**+0.7**
IDE	**Isla Desecheo**	**1.18**	**98**	*e*S		**Sn**	**11 53 53.3**	**+1.1**
DR08	**Loma La Naviza**	**1.31**	**289**	*e*Pg		**Pn**	**11 53 33.8**	**+0.4**
DR08				*e*Sg		**Sn**	**11 53 53.2**	**-1.4**
DR08				IAML			11 53 55.0	
	comp=N,10μm,0.2s							
NADR	**Nagua**	**1.35**	**307**	*e*Pg		**Pn**	**11 53 34.7**	**+1.0**
NADR				*e*Sg		**Sn**	**11 53 54.8**	**-0.4**
NADR				IAML			11 54 03.6	
	comp=N,3μm,0.3s							
NAG1	**Nagua**	**1.36**	**306**	*e*Pg		**Pn**	**11 53 34.5**	**+0.8**
NAG1				⇓*e*Sg		**Sn**	**11 53 54.7**	**-0.6**
AGPR	**Aguadilla, PR**	**1.52**	**93**			**Pn**	**11 53 36.5**	**+1.1**
AGPR	**Aguadilla, PR**	**1.52**	**93**			**Sn**	**11 53 58.0**	**-0.2**
AGPR				IAML			11 54 03.7	
	comp=N,348nm,0.7s							
AGPR				IAML			11 54 04.0	
	comp=E,387nm,0.6s							
AGPR	**Aguadilla, PR**	**1.52**	**93**	*e*Pg		**Pn**	**11 53 36.7**	**+1.3**
AGPR				*e*Sg		**Sn**	**11 53 58.1**	**-0.1**
AGPR				IAML			11 54 03.6	
	comp=N,323nm,0.7s							
AGPR	**Aguadilla, PR**	**1.52**	**93**	⇑*e*P		**Pn**	**11 53 36.5**	**+1.1**
AGPR	**Aguadilla, PR**	**1.52**	**93**	*e*S		**Sn**	**11 53 59.6**	**+1.4**
AGPR	**Aguadilla, PR**	**1.52**	**93**	*i* P		**Pn**	**11 53 36.5**	**+1.1**
AGPR				*e*S		**Sn**	**11 53 58.9**	**+0.7**
AGPR				IAML			11 54 03.7	
	comp=Z,126nm,0.3s							
PRSN	**Puerto Rico Se**	**1.52**	**102**			**Pn**	**11 53 36.3**	**+0.8**
PRSN						**Sn**	**11 53 59.1**	**+0.8**
PRSN	**Puerto Rico Se**	**1.52**	**102**	*e*Pg		**Pn**	**11 53 36.3**	**+0.8**
PRSN				*e*Sg		**Sn**	**11 53 56.7**	**-1.5**
PRSN				IAML			11 54 01.9	
	comp=N,497nm,0.3s							
PRSN	**Puerto Rico Se**	**1.52**	**102**	⇑*e*P		**Pn**	**11 53 36.3**	**+0.8**
PRSN	**Puerto Rico Se**	**1.52**	**102**	*e*S		**Sn**	**11 53 59.1**	**+0.8**
BANI	**BANI**	**1.57**	**265**			**Pn**	**11 53 36.3**	**+0.1**
BANI	**BANI**	**1.57**	**265**	*e*Pg		**Pn**	**11 53 36.9**	**+0.8**
BANI				*e*Sg		**Sn**	**11 53 58.8**	**-0.7**
BANI				IAML			11 54 08.4	
	comp=N,347nm,0.4s							
LSP	**Las Mesas**	**1.58**	**103**			**Pn**	**11 53 36.8**	**+0.6**
LSP						**Sn**	**11 54 00.4**	**+0.8**
LSP	**Las Mesas**	**1.58**	**103**	⇑*e*P		**Pn**	**11 53 36.8**	**+0.6**
LSP	**Las Mesas**	**1.58**	**103**	*e*S		**Sn**	**11 54 00.4**	**+0.8**
CADR	**Cabrera**	**1.61**	**314**	*e*Pg		**Pn**	**11 53 36.9**	**+0.5**
CADR				*e*Sg		**Sn**	**11 53 58.8**	**-1.2**
CADR				IAML			11 54 10.0	
	comp=N,637nm,0.6s							
CRPR	**Cabo Rojo, PR**	**1.61**	**109**			**Pn**	**11 53 36.7**	**+0.3**
CRPR						**Sn**	**11 54 01.1**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.61**	**109**	*e*Pg		**Pn**	**11 53 36.8**	**+0.3**
CRPR				*e*Sg		**Sn**	**11 53 57.5**	**-2.5**
CRPR				IAML			11 54 09.8	
	comp=N,64nm,0.5s							
CRPR	**Cabo Rojo, PR**	**1.61**	**109**	⇑*e*P		**Pn**	**11 53 36.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.61**	**109**	*e*S		**Sn**	**11 54 01.1**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.61**	**109**	*i* P		**Pn**	**11 53 36.8**	**+0.3**
CRPR				IAML			11 54 10.2	
	comp=Z,105nm,0.8s							
MLPR	**Magueyes Islan**	**1.68**	**110**	*e*Pg		**Pn**	**11 53 37.4**	**+0.2**
MLPR				*e*Sg		**Sn**	**11 53 58.7**	**-2.6**
MLPR				IAML			11 54 04.8	
	comp=N,22nm,0.5s							
MLPR	**Magueyes Islan**	**1.68**	**110**	⇑*e*P		**Pn**	**11 53 37.2**	**0.0**
MLPR	**Magueyes Islan**	**1.68**	**110**	*e*S		**Sn**	**11 54 03.8**	**+2.4**
GBPR	**Guanica, Bosqu**	**1.83**	**108**			**Pn**	**11 53 39.9**	**+1.0**
GBPR						**Sn**	**11 54 05.9**	**+1.6**
GBPR	**Guanica, Bosqu**	**1.83**	**108**	⇑*e*P		**Pn**	**11 53 39.9**	**+1.0**
GBPR	**Guanica, Bosqu**	**1.83**	**108**	*e*S		**Sn**	**11 54 05.9**	**+1.6**
ABDR	**Alto Bandera**	**1.84**	**279**	*e*Pg		**Pn**	**11 53 40.5**	**+1.1**
ABDR				⇑*e*Sg		**Sn**	**11 54 05.5**	**+0.4**
ABDR				IAML			11 54 11.1	
	comp=N,265nm,0.2s							
AOPR	**Arecibo Observ**	**1.87**	**96**			**Pn**	**11 53 39.7**	**+0.4**
AOPR						**Sn**	**11 54 04.7**	**-0.4**
AOPR	**Arecibo Observ**	**1.87**	**96**	*e*Pg		**Pn**	**11 53 40.0**	**+0.7**
AOPR				*e*Sg		**Sn**	**11 54 03.0**	**-2.1**
AOPR				IAML			11 54 09.5	
	comp=N,536nm,0.4s							
AOPR	**Arecibo Observ**	**1.87**	**96**	⇑*e*P		**Pn**	**11 53 39.7**	**+0.4**
AOPR	**Arecibo Observ**	**1.87**	**96**	*e*S		**Sn**	**11 54 04.7**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.91**	**99**			**Pn**	**11 53 40.4**	**+0.6**
UUPR						**Sn**	**11 54 06.4**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.91**	**99**	⇑*e*P		**Pn**	**11 53 40.4**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.91**	**99**	*e*S		**Sn**	**11 54 06.4**	**+0.4**
OBIP	**Obispado Ponce**	**2.06**	**104**			**Pn**	**11 53 41.1**	**-0.4**
OBIP						**Sn**	**11 54 09.1**	**+0.1**
OBIP	**Obispado Ponce**	**2.06**	**104**	⇑*e*P		**Pn**	**11 53 41.1**	**-0.4**
OBIP	**Obispado Ponce**	**2.06**	**104**	*e*S		**Sn**	**11 54 09.1**	**+0.1**
EMPR	**Esperanza - Ma**	**2.07**	**92**			**Pn**	**11 53 41.4**	**-0.2**
EMPR						**Sn**	**11 54 08.4**	**-0.8**
EMPR	**Esperanza - Ma**	**2.07**	**92**	IAML			11 54 21.3	
	comp=E,262nm,0.5s							
EMPR				IAML			11 54 22.1	
	comp=N,160nm,0.4s							

EMPR	Esperanza - Ma	2.07	92⇑	eP		Pn	11 53 41.4	-0.2
EMPR	Esperanza - Ma	2.07	92	eS		Sn	11 54 08.4	-0.8
CELP	Cerrillos	2.08	103			Pn	11 53 42.5	+0.7
CELP						Sn	11 54 10.6	+1.2
CELP	Cerrillos	2.08	103		IAML		11 54 15.7	
comp=N,100nm,0.5s								
CELP	Cerrillos	2.08	103	eP	g	Pn	11 53 42.6	+0.9
CELP				eS	g	Sn	11 54 08.9	-0.5
CELP					IAML		11 54 14.6	
comp=N,102nm,0.2s								
CELP	Cerrillos	2.08	103⇑	eP		Pn	11 53 42.5	+0.7
CELP	Cerrillos	2.08	103	eS		Sn	11 54 10.6	+1.2
SC01	Santiago de lo	2.10	295		Pn	Pn	11 53 42.6	+0.6
SC01					IAML		11 54 18.6	
comp=E,314nm,0.5s								
SC01	Santiago de lo	2.10	295	i	P	Pn	11 53 43.7	+1.7
SC01				eS		Sn	11 54 12.1	+2.1
SC01					IAML		11 54 23.4	
comp=Z,148nm,0.3s								
ECPR	Experimental S	2.24	95⇓	eP		Pn	11 53 43.7	0.0
ECPR	Experimental S	2.24	95	eS		Sn	11 54 12.3	-0.6
SJG	San Juan	2.47	100			Pn	11 53 46.2	-0.2
SJG					IAML		11 54 21.6	
comp=Z,66nm,0.6s								
SJG					IAML		11 54 22.9	
comp=Z,104nm,0.4s								
SJG	San Juan	2.47	100	eP	g	Pn	11 53 48.4	+2.0
SJG				eS	g	Sn	11 54 14.3	-3.5
SJG	San Juan	2.47	100⇑	eP		Pn	11 53 47.0	+0.6
SJG	San Juan	2.47	100	eS		Sn	11 54 16.7	-1.1
PODR	Polo	2.47	262	eP	g	Pn	11 53 47.2	+0.5
PODR					IAML		11 54 21.1	
comp=N,120nm,0.2s								
SDDR	Presa de Saban	2.48	280			Pn	11 53 48.5	+1.9
SDDR	Presa de Saban	2.48	280		IAML		11 54 27.3	
comp=N,92nm,0.6s								
SDDR					IAML		11 54 28.6	
comp=N,101nm,0.5s								
SDDR	Presa de Saban	2.48	280	eP	g	Pn	11 53 48.6	+1.9
SDDR				eS	g	Sn	11 54 15.6	-2.6
SDDR					IAML		11 54 27.4	
comp=N,85nm,0.5s								
SDDR	Presa de Saban	2.48	280⇑	eP		Pn	11 53 48.5	+1.9
SDDR	Presa de Saban	2.48	280	eS		Sn	11 54 19.6	+1.4
SDDR	Presa de Saban	2.48	280	i	P	Pn	11 53 48.4	+1.7
SDDR				eS		Sn	11 54 21.0	+2.8
SDDR					IAML		11 54 27.0	
comp=Z,63nm,0.3s								
GCPR	Guaynabo City	2.50	95			Pn	11 53 44.6	-2.2
GCPR						Sn	11 54 16.6	-2.0
GCPR	Guaynabo City	2.50	95⇑	eP		Pn	11 53 44.6	-2.2
GCPR	Guaynabo City	2.50	95	eS		Sn	11 54 16.6	-2.0
IGPR	InterUniversit	2.54	103			Sn	11 54 20.4	+1.0
IGPR	InterUniversit	2.54	103			Pn	11 53 47.5	+0.2
IGPR					IAML		11 54 24.6	
comp=N,134nm,0.2s								
IGPR					IAML		11 54 24.9	
comp=E,155nm,0.3s								
IGPR	InterUniversit	2.54	103⇑	eP		Pn	11 53 49.0	+1.8
IGPR	InterUniversit	2.54	103	eS		Sn	11 54 20.4	+1.0
PDPR	Patillas Dam,	2.61	101			Pn	11 53 47.2	-0.9
PDPR					IAML		11 54 22.9	
comp=N,79nm,0.1s								
PDPR					IAML		11 54 24.2	
comp=E,77nm,0.2s								
PDPR	Patillas Dam,	2.61	101⇑	eP		Pn	11 53 49.2	+1.1
PDPR	Patillas Dam,	2.61	101	eS		Sn	11 54 20.0	-0.9
REDR	Restauracion	2.62	284	eP	g	Pn	11 53 52.3	+4.0
REDR				eS	g	Sn	11 54 25.2	+4.2
REDR					IAML		11 54 30.0	
comp=N,84nm,0.3s								
LODU1	El Espartillar	2.63	266	i	P	Pn	11 53 49.3	+0.9
LOVI	El Cajuil, Ovi	2.64	254	i	P	Pn	11 53 47.9	-0.6
LOVI				eS		Sn	11 54 17.8	-3.7
LOVI					IAML		11 54 20.8	
comp=Z,152nm,0.3s								
HUMP	Col San Antoni	2.75	98			Pn	11 53 50.1	+0.2
HUMP						Sn	11 54 22.1	-1.8
HUMP	Col San Antoni	2.75	98		IAML		11 54 28.4	
comp=E,132nm,0.2s								
HUMP					IAML		11 54 31.2	
comp=N,80nm,0.2s								
HUMP	Col San Antoni	2.75	98⇑	eP		Pn	11 53 50.1	+0.2
HUMP	Col San Antoni	2.75	98	eS		Sn	11 54 22.1	-1.8
LOBH	Bahia de las A	2.87	257	i	P	Pn	11 53 51.3	-0.1
LOBH				eS		Sn	11 54 23.7	-2.9
LOBH					IAML		11 54 29.5	
comp=Z,77nm,0.8s								
GRTK	Grand Turk	3.73	323		P	Pn	11 54 01.7	-0.6
GRTK	Grand Turk	3.73	323	eP	g	Pn	11 54 02.5	+0.1
GRTK				eS	g	Sn	11 54 44.6	-1.8
GRTK					IAML		11 54 45.9	
comp=N,138nm,0.3s								
GRTK	Grand Turk	3.73	323	i	P	Pn	11 54 02.5	+0.1
GRTK				eS		Sn	11 54 45.1	-1.3
GRTK					IAML		11 54 51.9	
comp=Z,16nm,0.3s								

*IDC **28** 12:02:57.1±0.6, 32°.15S×71°.98W, h0km, mb4.8/6, mbtmp4.7/10, ML4.4/4, MS4.0/35, Error ellipse: s-maj=18.3km s-min=13.9km az=136.0*

*VAO **28** 12:02:57.5±0.8, 32°.38S×72°.05W, h10km, mb4.5*

*SJA **28** 12:02:59.0±0.8, 32°.21S×72°.21W, h43km±3km, ML4.5, MW4.7*

*NEIC **28** 12:03:00.6±1.5, 32°.20S±0°.04×72°.08W±0°.08, h22km±3km, mb4.8/20, Mwr4.6/85, Error ellipse: s-maj=9.5km s-min=5.2km az=99.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}0.62; $M_{\theta\theta}$0.31; $M_{\phi\phi}$-0.93; $M_{r\theta}$-0.39; $M_{\theta\phi}$-0.22; $M_{\phi r}$-0.41; Fault plane solution: $M_0$1.02000×10^16^ NP1:ϕ_s214.31000°, δ65.80000°, λ119.38000°. NP2:ϕ_s340.37000°, δ37.36000°, λ42.49000°. Principal axes: T 0.9155, Plg58.0000°, Azm166.0000°; N 0.1825, Plg27.0000°, Azm21.1000°; P -1.0980, Plg16.0000°, Azm283.0000°;*

*NEIC **28** 12:03:00.7, 32°.21S×72°.08W, h23km*

*GUC **28** 12:03:02.4±0.8, 32°.20S×71°.87W, h35km±2km, ML4.8*

ISC 28 12:02:59.4±1.0, 32°21S±0°.02×72°.01W±0°.04, h16km±6km, n221, σ1≥16/214, mb4.8/18, MS4.1/31, 18C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	Catapilco	0.69	120			Pn	12 03 15.2	+0.6
VA06	Catapilco	0.69	120	⇓	iP	Pn	12 03 15.2	+0.6
VA06				i	S	Sn	12 03 23.8	-1.2
VA06					IAML		12 03 25.5	
comp=E,84μm,0.4s								
VA01	Torpederas	0.86	159			Pn	12 03 17.4	+0.5
VA01	Torpederas	0.86	159	i	P	Pn	12 03 17.4	+0.5
VA01				i	S	Sn	12 03 29.4	+0.2
VA01	Torpederas	0.86	159	eP		Pg	12 03 16.9	+0.8
VA01				eS		Sn	12 03 29.8	+0.6
ROC1	El Roble	1.13	132	eP		Pg	12 03 21.7	+0.4
ROC1				eS		Sn	12 03 36.0	-0.2
ROCH	El Roble	1.13	132	i	P	Pg	12 03 21.9	+0.6
ROCH				i	P	Pg	12 03 21.9	+0.6
ROCH				i	S	Sn	12 03 35.9	-0.2
ROCH				i	S	Sn	12 03 36.0	-0.2
ROCH					IAML		12 03 38.1	
comp=N,52μm,0.3s								
ROCH					IAML		12 03 38.1	
comp=N,25μm,0.4s								
MT02	Curacav	1.28	145			Pb	12 03 23.2	+0.2
MT02	Curacav	1.28	145	⇑	iP	Pb	12 03 23.8	+0.7
MT02				i	S	Sn	12 03 38.0	-1.4
MT02	Curacav	1.28	145	eP		Pb	12 03 23.8	+0.7
MT02				eS		Sg	12 03 40.7	+0.1
MT02					IAML		12 03 42.3	
comp=Z,4μm,0.3s								
CO02	Combarbal	1.32	41			Pb	12 03 23.9	0.0
CO02	Combarbal	1.32	41	⇑	iP	Pg	12 03 24.4	-0.5
CO02				i	S	Sg	12 03 40.8	-1.3
CO02					IAML		12 03 43.8	
comp=E,38μm,0.3s								
CO02	Combarbal	1.32	41	eP		Pg	12 03 24.4	-0.5
CO02				eS		Sg	12 03 41.9	-0.3
CO02					IAML		12 03 44.3	
comp=Z,12μm,0.2s								
VA03	San Esteban	1.35	114			Pg	12 03 24.9	-0.5
VA03	San Esteban	1.35	114	⇓	iP	Pg	12 03 25.0	-0.5
VA03				i	S	Sb	12 03 41.4	-0.1
VA03					IAML		12 03 43.2	
comp=E,44μm,0.2s								
VA03	San Esteban	1.35	114	eP		Pb	12 03 24.2	-0.1
VA03					IAML		12 03 44.7	
comp=Z,11μm,0.6s								
PEL	Peldehue	1.45	130			Pb	12 03 25.9	-0.2
PEL	Peldehue	1.45	130	i	P	Pb	12 03 25.8	-0.2
PEL				i	S	Sb	12 03 43.6	-0.8
PEL					IAML		12 03 46.7	
comp=E,24μm,0.2s								
PEL	Peldehue	1.45	130	eP		Pn	12 03 21.4	-3.7
VA05	Santo Domingo	1.48	167			Pn	12 03 25.5	+0.1
VA05	Santo Domingo	1.48	167	⇑	iP	Pn	12 03 26.2	+0.8
VA05				i	S	Sn	12 03 43.2	-1.2
VA05					IAML		12 03 45.6	
comp=E,12μm,0.2s								
CO06	Fray Jorge	1.57	12			Pn	12 03 26.5	-0.1
MT05	Renca	1.59	138			Pb	12 03 28.1	-0.3
MT05	Renca	1.59	138	⇑	iP	Pb	12 03 28.5	0.0
MT05				i	S	Sb	12 03 47.7	-0.6
MT05	Renca	1.59	138	eP		Pb	12 03 28.0	-0.5
MT05					IAML		12 03 51.5	
comp=Z,5μm,0.8s								
MT10	Hacienda Santa	1.63	131	eP		Pb	12 03 28.5	-0.7
MT10				i	S	Sn	12 03 48.5	+0.1
MT10					IAML		12 03 51.4	
comp=N,31μm,0.4s								
MT14	Cerro Calμn	1.71	134	⇑	iP	Pb	12 03 30.4	-0.1
MT14				eS		Sn	12 03 48.6	-1.7
MT14					IAML		12 03 56.4	
comp=E,15μm,0.2s								
MT16	CCHEN	1.74	134			Pb	12 03 30.7	-0.4
MT16	CCHEN	1.74	134	⇑	iP	Pb	12 03 30.9	-0.2
MT01	Popeta	1.77	159			Pn	12 03 29.6	+0.3
MT01	Popeta	1.77	159	⇑	iP	Pn	12 03 30.4	+1.1
MT01	Popeta	1.77	159	eP		Pn	12 03 29.7	+0.3
MT01					IAML		12 04 00.7	
comp=Z,2μm,0.1s								
CO03	El Pedregal	1.77	40			Pb	12 03 31.1	-0.5
CO03	El Pedregal	1.77	40	eP		Pb	12 03 31.1	-0.5
CO03				eS		Sb	12 03 53.4	-0.2
CO03					IAML		12 03 53.8	
comp=Z,5μm,0.3s								
MT09	Talagante	1.78	151			Pb	12 03 31.1	-0.6
MT09	Talagante	1.78	151	⇑	iP	Pb	12 03 31.3	-0.5
MT09				i	S	Sn	12 03 51.9	-0.1
MT09					IAML		12 03 56.5	
comp=N,8μm,0.2s								
MT03	Universidad Ad	1.79	136			Pb	12 03 31.2	-0.7
MT03	Universidad Ad	1.79	136	⇑	iP	Pb	12 03 31.7	-0.3
MT03				i	S	Sn	12 03 52.8	+0.4
MT03					IAML		12 03 56.3	
comp=E,26μm,0.1s								
MT03	Universidad Ad	1.79	136	eP		Pb	12 03 31.6	-0.4
MT03				eS		Sb	12 03 54.3	0.0
MT03					IAML		12 03 57.0	
comp=Z,11μm,0.2s								
MT15	Las Vizcachas	1.87	138	i	P	Pb	12 03 32.6	-0.7
MT15				i	S	Sn	12 03 54.6	+0.4
MT15					IAML		12 04 00.1	
comp=N,19μm,0.2s								
MT12	Pirque	1.95	141	⇑	iP	Pb	12 03 34.0	-0.6
MT12				eS		Sn	12 03 55.3	-0.8
MT12					IAML		12 04 00.3	
comp=E,21μm,0.2s								
MT04	Ro Olivares	1.98	128	⇑	iP	Pb	12 03 34.3	-0.8
MT04				i	S	Sb	12 03 58.0	-1.6
MT04	Ro Olivares	1.98	128	eP		Pb	12 03 34.4	-0.7
MT04				eS		Sb	12 03 58.8	-0.8
MT04					IAML		12 04 08.8	
comp=Z,3μm,0.8s								
MT08	Bocatoma Ro	2.08	127			Pb	12 03 36.0	-0.9
MT08	Bocatoma Ro	2.08	127	⇑	iP	Pb	12 03 36.3	-0.6
MT08	Bocatoma Ro	2.08	127	eP		Pb	12 03 36.5	-0.4
MT08				eS		Sb	12 04 02.5	-0.1
MT08					IAML		12 04 12.5	
comp=Z,2μm,0.5s								
MT13	San Alfonso	2.10	137			Pn	12 03 35.6	+1.5
MT13	San Alfonso	2.10	137	⇑	iP	Pb	12 03 36.2	-1.0
MT13				i	S	Sb	12 04 01.4	-1.8
MT13					IAML		12 04 04.5	
comp=N,9μm,0.3s								
MT13	San Alfonso	2.10	137	eP		Pn	12 03 30.6	-3.5
MT13					IAML		12 04 10.7	
comp=Z,3μm,0.4s								
BO04	La Punta	2.13	147			Pn	12 03 35.7	+1.4
LMEL	Las Melosas	2.23	138			Pn	12 03 37.5	+1.7
LMEL	Las Melosas	2.23	138	⇑	iP	Pb	12 03 38.0	-1.3
LMEL				i	S	Sn	12 04 04.6	+1.5
LMEL					IAML		12 04 07.2	
comp=N,9μm,0.2s								
LMEL	Las Melosas	2.23	138	eP		Pb	12 03 38.3	-1.1
LMEL				eS		Sb	12 04 05.6	-1.2
GO04	Tololo Observa	2.28	27			Pn	12 03 37.4	+0.8
GO04	Tololo Observa	2.28	27	eP		Pn	12 03 37.1	+0.4
BO01	Tunca	2.31	161			Pn	12 03 37.6	+0.8
BO01	Tunca	2.31	161	eP		Pn	12 03 37.3	+0.5
BO01					IAML		12 04 17.4	
comp=Z,1μm,0.3s								
RTLS	Leoncito	2.34	81	eP		Pb	12 03 41.7	+0.3
RTLS					IAML		12 04 29.9	
comp=Z,4μm,0.6s								
CO05	La Serena	2.38	16			Pn	12 03 38.2	+0.4
ARCO	CERRO ARCO	2.67	104	eP		Pb	12 03 47.4	+0.5
ARCO					IAML		12 04 32.4	
comp=Z,2μm,0.9s								
CO01	Juntas del Tor	2.77	37			Pn	12 03 45.0	+1.7
CO01	Juntas del Tor	2.77	37	eP		Pn	12 03 29.9	-13
CO01				eS		Sn	12 04 18.4	+1.8
CO01					IAML		12 04 19.4	
comp=Z,1μm,0.1s								
BO02	Sierra Bellavi	2.77	159			Pn	12 03 44.0	+0.8
BO02	Sierra Bellavi	2.77	159	eP		Pn	12 03 44.2	+1.0
BO02					IAML		12 04 31.0	
comp=Z,2μm,0.4s								
DOCA	Reserva Natura	2.80	64	eP		Pb	12 03 48.0	-1.3
DOCA				eS		Sn	12 04 17.9	+0.4
DOCA					IAML		12 04 38.9	
comp=Z,2μm,1.4s								
AAGR	Agrelo	2.82	109	eP		Pb	12 03 49.3	-0.2
ZON	Zonda	2.91	78		Pn	Pn	12 03 45.5	+0.4
AROD	Rodeo	2.98	47	eP		Pb	12 03 50.6	-1.7
ACCO	Cerro Coronel	2.99	58	eP		Pb	12 03 53.5	+1.0
ACDV	Cuesta del Vie	3.21	51	eP		Pb	12 03 53.8	-2.2
ACDV					IAML		12 04 50.2	
comp=Z,950nm,1.3s								
CFA	Coronel Fontan	3.26	80		Pg	Pb	12 03 54.2	-2.8
comp=Z,16nm,0.3s,baz=257,slow=19,SNR=73								
CFA					Sn	Sn	12 04 31.2	+2.7
comp=Z,67nm,0.3s,baz=328,slow=17,SNR=6.2								
CFA					Lg	Lg	12 04 41.0	
comp=Z,60nm,0.3s,baz=351,slow=12,SNR=9.5								
LCO	Las Campanas	3.38	20		Pn	Pn	12 03 51.5	-0.3
LCO	Las Campanas	3.38	20	eP		Pn	12 03 52.1	+0.2
LCO					IAML		12 04 56.0	
comp=Z,1μm,1.2s								
ML02	Panimavida	3.58	172			Pn	12 03 54.5	+0.3
ML02	Panimavida	3.58	172	eP		Pn	12 03 55.1	+0.9
ML02					IAML		12 05 07.2	
comp=Z,821nm,0.8s								
AC05	El Transito	3.68	24			Pn	12 03 56.9	+1.0
AC05	El Transito	3.68	24	eP		Pn	12 03 57.6	+1.8
AC05				eS		Sn	12 04 40.5	+1.5
AC05					IAML		12 05 02.0	
comp=Z,513nm,1.1s								
AC04	Llanos de Chal	4.08	12			Pn	12 04 00.5	-0.6
AC04	Llanos de Chal	4.08	12	eP		Pn	12 04 01.1	0.0
AC04				eS		Sb	12 05 02.9	+3.1
AC04					IAML		12 05 15.8	
comp=Z,426nm,0.8s								
AVFE	Valle Fertil	4.19	69	eP		Pn	12 04 06.3	+3.5
AVFE					IAML		12 05 23.6	
comp=Z,521nm,1.2s								
BI02	San Fabin de	4.48	172		Pn	Pn	12 04 07.4	+0.7
BI05	Punta Hualpn	4.63	192			Pn	12 04 08.0	-0.6
VCA	Vinchina	4.77	44	eP		Pn	12 04 14.5	+3.7
VCA					IAML		12 05 39.9	
comp=Z,816nm,0.9s								
GO03	Copiapo	4.85	19		Pn	Pn	12 04 11.7	-0.2
GO03	Copiapo	4.85	19	eS		Sn	12 05 09.3	+1.5
AC06	Mina Casimiro	5.05	17			Pn	12 04 14.2	-0.3
VA04	Juan Fernndez	5.91	254		Pn	Pn	12 04 26.5	+0.2
AC02	Maricunga	5.92	26		Pn	Pn	12 04 27.6	+0.7
H03N1	Juan Fernandez	5.94	256		T	T	12 11 08.7	
baz=84,slow=73,SNR=168								
H03N3	Juan Fernandez	5.95	256		T	T	12 11 09.0	
baz=84,slow=73,SNR=115								
H03N2	Juan Fernandez	5.96	256		T	T	12 11 14.8	
baz=84,slow=73,SNR=435								
H03S3	Juan Fernandez	6.01	253		T	T	12 11 02.6	
baz=83,slow=75,SNR=84								
H03S1	Juan Fernandez	6.02	252		T	T	12 10 58.6	
baz=83,slow=75,SNR=64								
H03S2	Juan Fernandez	6.03	253		T	T	12 10 59.3	
baz=83,slow=75,SNR=95								
AC01	Pan de Azucar	6.17	12		Pn	Pn	12 04 28.6	-1.3
GO02	Mina Guanaco	7.34	17		Pn	Pn	12 04 44.7	-1.5
LR03	Panguipulli	7.41	182		Pn	Pn	12 04 46.6	-0.2
PB14	IPOC Station P	7.69	11		Pn	Pn	12 04 47.8	-3.2
LR04	Corral	7.74	188		Pn	Pn	12 04 50.0	-1.3
LR05	Currie	8.00	180		Pn	Pn	12 04 55.8	+0.8
PLCA	Paso Flores	8.58	173		Pn	Pn	12 05 04.7	+1.7
comp=Z,3.5nm,0.3s,baz=336,slow=11,SNR=102								
PLCA					Sn	Sn	12 06 33.3	-6.3
comp=Z,0.2nm,0.3s,baz=348,slow=18,SNR=1.4								
PLCA					LR	LR	12 08 31.5	
comp=Z,1μm,18.5s,baz=354,slow=39								
comp=Z,8.7nm,0.3s								
LL05	Los Muermos	9.25	187		Pn	Pn	12 05 10.8	-1.3
LL06	Loncomilla	10.07	187		Pn	Pn	12 05 22.8	-0.5
TRQA	Tornquist	10.07	128			Pn	12 05 23.9	+0.5
PB16	IPOC Station P	14.00	10			Pn	12 06 14.4	-3.3
CPUP	Villa Florida	14.08	69		Pn	Pn	12 06 17.4	-0.9
comp=Z,0.1nm,0.3s,baz=145,slow=5.6,SNR=3.6								
CPUP					Lg	Lg	12 10 24.5	
comp=Z,0.2nm,0.3s,baz=166,slow=19,SNR=1.5								
CPUP					LR	LR	12 11 34.7	
comp=Z,152nm,18.2s,baz=247,slow=37								
comp=Z,1.7nm,0.8s								
PLTB	Pedras Altas	15.63	93	eP		Pn	12 06 37.4	-1.6
CPSB	Cacapava Do Su	15.98	88	eP		Pn	12 06 42.5	-1.0
LPAZ	La Paz	16.24	13	P		Pn	12 06 48.8	+1.2
LPAZ	La Paz	16.24	13		Pn	Pn	12 06 47.8	+0.2
comp=Z,0.7nm,0.3s,baz=180,slow=7.4,SNR=60								
LPAZ					LR	LR	12 14 26.0	
comp=Z,496nm,18.1s,baz=160,slow=43								
comp=Z,21nm,0.8s								
LPAZ	La Paz	16.24	13	eP		Pn	12 06 48.9	+1.3
MURT	Porto Murtinho	16.57	54	eP		Pn	12 06 51.3	+0.1
AMBA	Amambai (Brazi	17.68	63	eP		P	12 07 05.4	-0.5
BDQN	Bodoquena, MS	17.98	53	eP		P	12 07 09.8	+0.5
AQDB	Aquidauana	18.69	55	P		Pn	12 07 17.0	-0.4
AQDB	Aquidauana	18.69	55	eP		Pn	12 07 18.6	+1.2
SIV	San Ignacio	18.96	34	P		P	12 07 20.0	-0.1
comp=Z,0.1nm,0.3s,baz=203,slow=9.7,SNR=61								
SIV					LR	LR	12 16 02.6	
comp=Z,262nm,18.7s,baz=240,slow=42								
comp=Z,14nm,0.7s								
PTGB	Pitanga	19.04	72	eP		Pn	12 07 21.5	-0.2
MG05	Puerto Natales	19.45	181	P		P	12 07 26.1	+0.9
TER01	Tubaro-SC	20.07	85	eP		P	12 07 32.7	+0.5
RPRD	Ribas do Rio P	20.11	59	eP		Pn	12 07 33.5	-1.0
PTLB	Pontes e Lacer	20.39	38	P		P	12 07 35.5	-0.1
PTLB	Pontes e Lacer	20.39	38	eP		P	12 07 36.0	+0.3
LDASE	Londrina, Braz	20.44	70	eP		P	12 07 36.0	-0.2
NNA	Nana	20.62	346	LR		LR	12 13 53.9	
comp=Z,407nm,20.2s,baz=184,slow=32								
MG03	Isla Dawson	21.65	178	P		P	12 07 50.4	+1.4
SALV	Santo Antonio	21.99	46	eP		P	12 07 52.4	-0.5
USHA	Ushuaia	22.75	175	LR		LR	12 17 53.6	
comp=Z,730nm,18.8s,baz=2.0,slow=39								
ITRB	Iturama	23.06	63	eP		P	12 08 04.7	+0.4
BB19B	Bebedouro	23.69	68	eP		P	12 08 10.5	-0.1
VAO	Valinhos	23.97	74	eP		P	12 08 12.9	-0.4
CZSB	Cruzeiro do Su	24.37	358	P		P	12 08 16.9	+0.1
CZSB					IAmb	IAmb	12 08 20.0	
comp=Z,13nm,0.7s								
CZSB	Cruzeiro do Su	24.37	358	eP		P	12 08 18.2	+1.3
ARAG	Araguaiana, MT	24.64	53	eP		P	12 08 19.1	-0.3
PDRB	Porto dos Gac	24.87	38	eP		P	12 08 21.4	-0.1
ATAH	Atahualpa	25.65	345	LR		LR	12 16 29.5	
comp=Z,292nm,21.1s,baz=203,slow=32								
IPMB	Ipameri, GO	25.71	62	eP		P	12 08 29.3	+0.1
CLDB	Colider	25.98	39	eP		P	12 08 32.6	+1.1
PMNB	Patos De Minas	26.73	66	eP		P	12 08 38.0	-0.4
BDFB	Brasilia	27.35	59	P		P	12 08 43.1	-0.9
BDFB					IAmb	IAmb	12 08 55.3	
comp=Z,23nm,1.2s								
BDFB	Brasilia	27.35	59	P		P	12 08 43.4	-0.5
comp=Z,7.5nm,0.6s,baz=227,slow=6.1,SNR=12								
BDFB					LR	LR	12 21 08.1	
comp=Z,650nm,18.2s,baz=230,slow=40								
comp=Z,7.5nm,0.6s								
SNDB	Serra Nova Dou	27.72	48	eP		P	12 08 47.1	-0.1
DIAM	Diamantina, MG	29.03	68	eP		P	12 08 59.2	+0.2
NPGB	Novo Progresso	29.46	35	eP		P	12 09 02.0	-0.7
MACA	Manacapuru-AM	30.80	23	P		P	12 09 14.3	-0.1
MACA					IAmb	IAmb	12 09 15.6	
comp=Z,14nm,0.8s								
MACA	Manacapuru-AM	30.80	23	eP		P	12 09 15.0	+0.5
ITTB	Itaituba	31.62	32	eP		P	12 09 21.4	-0.

PPT2 *e*LR LR 12 35 35.7
comp=Z,68nm,22.0s
BBTS Babate 70.64 58 LR LR 12 45 46.6
comp=Z,129nm,18.0s,baz=121,slow=36
ANMO Albuquerque 74.23 331 LR LR 12 42 55.1
comp=Z,145nm,20.0s,baz=320,slow=32
DBIC Dimbokro 74.59 72 P **P 12 14 38.0 -0.1**
DBIC IAmb IAmb 12 14 39.3
comp=Z,17nm,1.1s
DBIC Dimbokro 74.59 72 P **P 12 14 38.3 +0.2**
DBIC LR LR 12 43 54.0
comp=Z,108nm,21.3s,baz=190,slow=33
comp=Z,11nm,0.9s
MAW Mawson 74.88 164 P **P 12 14 39.7 +0.9**
comp=Z,14nm,0.9s,baz=270,slow=2.0,SNR=2.6
MAW LR LR 12 46 34.3
comp=Z,226nm,21.1s,baz=266,slow=35
comp=Z,14nm,0.9s
SUR Sutherland 75.67 119 LR LR 12 46 30.7
comp=Z,82nm,19.2s,baz=166,slow=34
PFO Pinyon Flats O 77.72 323 LR LR 12 42 05.8
comp=Z,108nm,21.1s,baz=170,slow=30
TSUM Tsumeb 79.68 106 P **P 12 15 07.3 +0.4**
TSUM Tsumeb 79.68 106 LR LR 12 46 19.3
comp=Z,162nm,19.9s,baz=150,slow=33
BOSA Boshof 80.88 118 P **P 12 15 13.3 +0.2**
comp=Z,10nm,0.9s,baz=213,slow=3.7,SNR=11
BOSA LR LR 12 48 29.7
comp=Z,139nm,18.3s,baz=199,slow=34
comp=Z,10nm,0.9s
GRTLG Ghanzi 81.51 110 P **P 12 15 16.7 +0.1**
GRTLG IAmb IAmb 12 15 18.0
comp=Z,11nm,0.9s
PDAR Pinedale Array 82.18 333 LR LR 12 48 25.3
comp=Z,63nm,19.4s,baz=164,slow=33
QNGWA Qangwa 82.42 108 P **P 12 15 21.5 0.0**
QNGWA IAmb IAmb 12 15 22.5
comp=Z,9.8nm,1.2s
ELK Elko 82.86 328 LR LR 12 48 28.8
comp=Z,64nm,20.9s,baz=134,slow=33
LBTB Lobatse 83.03 115 P **P 12 15 24.5 0.0**
LBTB Lobatse 83.03 115 LR LR 12 50 15.0
comp=Z,118nm,18.6s,baz=169,slow=34
YBH Yreka Blue Hor 87.13 325 LR LR 12 49 59.7
comp=Z,53nm,18.5s,baz=142,slow=32
NEW Newport 89.71 332 LR LR 12 53 21.4
comp=Z,87nm,18.1s,baz=140,slow=34
LSZ Lusaka 90.34 108 LR LR 12 54 03.8
comp=Z,170nm,19.0s,baz=153,slow=34
ESDC Sonseca Array 95.32 46 LR LR 12 58 51.2
comp=Z,61nm,19.1s,baz=181,slow=35
FRB Frobisher Bay 95.67 2 LR LR 13 02 51.3
comp=Z,27nm,19.8s,baz=114,slow=38
BBB Bella Bella 97.30 329 LR LR 12 55 33.4
comp=Z,34nm,20.1s,baz=181,slow=32
DZM Mont Dzumac 102.31 234 *e*LR LR 12 50 21.1
comp=Z,110nm,21.7s
ASAR Alice Springs 119.17 207 PKP **PKPdf 12 21 47.5 -0.7**
comp=Z,0.4nm,0.7s,baz=126,slow=1.7,SNR=6.8
BRTR Keskin Array B 120.93 60 PKP **PKPdf 12 21 50.9 -0.2**
comp=Z,0.4nm,0.6s,baz=128,slow=2.4,SNR=2.7
WRA Warramunga Arr 122.33 210 PKP **PKPdf 12 21 53.7 -0.6**
comp=Z,0.8nm,0.6s,baz=164,slow=1.6,SNR=8.6
H11S2 WAKE ISLAND Hyl 25.80 270 T T 14 41 06.5
baz=118,slow=75,SNR=192
H11S1 WAKE ISLAND Hyl 25.81 270 T T 14 41 11.6
baz=118,slow=75,SNR=177
H11S3 WAKE ISLAND Hyl 25.82 270 T T 14 41 08.8
baz=118,slow=75,SNR=160
H11N3 WAKE ISLAND Hyl 26.17 272 T T 14 41 37.9
baz=127,slow=72,SNR=30
H11N1 WAKE ISLAND Hyl 26.19 272 T T 14 41 38.3
baz=127,slow=72,SNR=16
H11N2 WAKE ISLAND Hyl 26.19 272 T T 14 41 37.2
baz=127,slow=72,SNR=72
PETK Petropavlovsk- 138.91 316 PKP **PKPdf 12 22 25.4 +0.9**
comp=Z,2.1nm,0.9s,baz=91,slow=7.4,SNR=4.3
BVAR Borovoye Array 145.94 41 PKPbc **PKPab 12 22 38.4 +0.1**
comp=Z,3.5nm,0.3s,baz=322,slow=2.2,SNR=30
KURBB Kurchatov Arra 151.53 41 PKPbc **PKPbc 12 22 52.5 +0.2**
comp=Z,3.7nm,0.6s,baz=300,slow=2.9,SNR=36
KURBB PKPab **pPKPbc 12 22 59.1 +1.9**
comp=Z,1.5nm,0.5s,baz=302,slow=2.8,SNR=6.8
ZALV Zalesovo Beam 152.69 30 PKPbc **PKiKP 12 22 55.2 +0.1**
comp=Z,7.0nm,0.8s,baz=297,slow=3.5,SNR=27
ZALV PKPab **PKPab 12 23 04.7 -0.9**
comp=Z,6.3nm,0.7s,baz=306,slow=3.3,SNR=7.5
MKAR Makanchi Array 155.54 46 PKPbc PKPdf 12 23 01.1 +9.1
comp=Z,0.7nm,0.8s,baz=301,slow=3.0,SNR=6.2
MKAR PKPab **PKPab 12 23 18.0 0.0**
comp=Z,1.9nm,0.8s,baz=282,slow=3.9,SNR=4.1
CMAR Chiang Mai Arr 164.06 147 PKPab **PKPab 12 23 55.0 -0.6**
comp=Z,0.4nm,0.3s,baz=232,slow=2.0,SNR=5.6
SONM Songino Array 164.35 4 PKPab **PKPab 12 23 56.2 0.0**
comp=Z,0.5nm,0.8s,baz=337,slow=3.3,SNR=3.8
NJ2 Nanjing 170.79 272 *e*P **PKPdf 12 23 07.3 +0.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s
HHC Hu-ho-hao-te 170.91 343 *e*P **PKPdf 12 23 03.5 -3.4**
PZH PanZhiHua 172.12 135 PKP **PKPdf 12 23 06.8 -1.2**

---

*DNK **28** 12:04:16.6±2.1, 76°.48N×68°.81W, h16km±4km, ML2.8*
*OTT **28** 12:04:17.8±0.2, 76°.42N×69°.15W, h18km, ML3.0/5, 314km east from Craig Harbour, Nu Eastern Arctic Background Seismic Zone.*

ISC 28 12:04:14.1±0.9, 76°.42N±0°.05×69°.06W±0°.05, h10km, n16, σ2°.22/27, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TULEG	**Thule**	**0.13**	**24**	*i* P		**Pg**	**12 04 19.3**	**+2.1**
TULEG				*i* S		**Sg**	**12 04 20.6**	**+1.3**
TULEG				IAML			12 04 21.0	
comp=Z,4μm,0.1s								
KULLO	**Kullorsuaq**	**3.50**	**116**	PN		**Pn**	**12 05 10.8**	**+2.3**
KULLO				SN		**Sn**	**12 05 50.2**	**+0.4**
KULLO				Trac			12 05 59.2	
comp=Z,5.8nm,0.1s								
KULLO	**Kullorsuaq**	**3.50**	**116**	*i* P		**Pn**	**12 05 09.1**	**+0.6**
KULLO				*i* S		**Sn**	**12 05 48.5**	**-1.3**
KULLO				IAML			12 06 11.4	
comp=Z,60nm,1.4s								
NEEM	**North Greenlan**	**4.20**	**67**	*i* P		**Pn**	**12 05 19.8**	**+1.4**
NEEM				*i* S		**Sn**	**12 06 04.1**	**-3.5**
NEEM				IAML			12 06 24.3	
comp=Z,63nm,0.6s								
POIN	**Pond Inlet**	**4.42**	**217**	PN		**Pn**	**12 05 23.6**	**+2.5**
POIN				SN		**Sn**	**12 06 12.1**	**-0.5**
POIN				Trac			12 06 15.5	
comp=Z,4.7nm,0.1s								
UPNV	**Upernavik**	**5.01**	**130**	*i* P		**Pn**	**12 05 29.7**	**+0.6**
UPNV				*i* S		**Sn**	**12 06 25.5**	**-1.4**
UPNV				IAML			12 06 57.3	
comp=Z,21nm,0.5s								
EUNU	**Eureka**	**5.07**	**324**	PN		**Pn**	**12 05 32.2**	**+2.1**
EUNU				SN		**Sn**	**12 06 27.0**	**-1.5**
EUNU				Trac			12 06 36.8	
comp=Z,4.6nm,0.3s								
EUNU	**Eureka**	**5.07**	**324**	*i* P		**Pn**	**12 05 31.4**	**+1.4**
EUNU				*e*S		**Sn**	**12 06 26.4**	**-2.1**
CLRN	**Clyde River**	**5.98**	**178**	PN		**Pn**	**12 05 44.9**	**+2.4**
CLRN				SN		**Sn**	**12 06 49.2**	**-1.6**
CLRN				Trac			12 06 55.3	
comp=Z,5.8nm,0.2s								
NUUG	**Nuugaatsiaq**	**6.55**	**130**	*i* P		**Pn**	**12 05 51.7**	**+1.4**
NUUG				*i* S		**Sn**	**12 07 00.5**	**-4.5**
NUUG				IAML			12 07 44.8	
comp=Z,10.0nm,1.1s								
RES	**Resolute Bay**	**6.66**	**268**	PN		**Pn**	**12 05 53.5**	**+1.7**
RES				SN		**Sn**	**12 07 04.5**	**-3.0**
RES				Trac			12 07 16.6	
comp=Z,2.4nm,0.2s								
RES	**Resolute Bay**	**6.66**	**268**	*i* P		**Pn**	**12 05 53.3**	**+1.5**
RES				*i* S		**Sn**	**12 07 03.6**	**-3.9**
UMMG	**Uummannaq**	**7.47**	**132**	*e*P		**Pn**	**12 06 05.0**	**+2.1**
SUMG	**Summit**	**8.96**	**100**	*i* P		**Pn**	**12 06 22.9**	**-0.7**
SUMG				*e*S		Sn	12 07 54.0	-11
ICESG	**Greenland Ices**	**11.24**	**115**	*i* P		**Pn**	**12 06 53.1**	**-1.8**
ICESG				*i* S		Sn	12 08 47.3	-13
DBG	**Daneborg**	**12.22**	**75**	*i* P		Pn	12 07 03.9	-4.0
DBG				*i* S		Sn	12 09 07.8	-16

IDC 28 12:05:14.7±2.6, 5°.31S×133°.40E, h0km, mb3.6/1, mbtmp3.7/4, ML3.6/3, MS3.1/1, Error ellipse: s-maj=83.4km s-min=17.7km az=82.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**14.24**	**107**	LR		LR	12 14 51.3	
comp=Z,85nm,20.4s,baz=108,slow=40								
WRA	**Warramunga Arr**	**14.57**	**176**	Pn		Pn	12 08 41.5	-0.9
0.1nm,0.3s,baz=356,slow=13,SNR=6.4								
WRA				Sn		Sn	12 11 25.2	+0.4
0.1nm,0.3s,baz=354,slow=24,SNR=2.4								
0.4nm,0.5s								
FITZ	**Fitzroy Crossi**	**14.80**	**210**	Pn		Pn	12 08 46.3	+0.9
0.4nm,0.3s,baz=30,slow=11,SNR=8.4								
FITZ				Sn		Sn	12 11 31.5	+1.3
0.4nm,0.3s,baz=18,slow=20,SNR=5.8								
1.5nm,0.4s								
ASAR	**Alice Springs**	**18.26**	**179**	P		P	12 09 29.9	0.0
0.2nm,0.3s,baz=3.2,slow=11,SNR=25								
ASAR				S		Sn	12 12 55.4	+1.1
0.3nm,0.8s,baz=358,slow=26,SNR=2.4								
1.7nm,0.7s								
MKAR	**Makanchi Array**	**68.73**	**325**	P		P	12 16 20.3	0.0
0.5nm,0.9s,baz=113,slow=6.7,SNR=2.6								
0.5nm,0.9s								

IDC 28 12:20:04.3±3.0, 5°.78S×147°.51E, h187km±49km, mb2.8/2, mbtmp3.2/4, Error ellipse: s-maj=112.2km s-min=28.9km az=108.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.62**	**185**	P		Pn	12 21 01.2	+0.3
4.5nm,0.5s,baz=295,slow=17,SNR=1.2								
PMG				S		Sn	12 21 45.8	+0.5
8.1nm,0.4s,baz=182,slow=21,SNR=6.4								
WRA	**Warramunga Arr**	**19.03**	**221**	P		P	12 24 12.2	-0.2
0.2nm,0.5s,baz=48,slow=12,SNR=6.8								
ASAR	**Alice Springs**	**22.09**	**215**	P		P	12 24 44.8	+0.2
0.4nm,0.6s,baz=49,slow=8.4,SNR=14								
0.4nm,0.6s								
SONM	**Songino Array**	**64.46**	**331**	P		P	12 30 20.7	-0.2
0.2nm,0.4s,baz=152,slow=6.5,SNR=6.3								
0.2nm,0.4s								

---

*NEIC **28** 12:23:36.0±1.2, 22°.3S±0°.1×179°.3W±0°.2, h580km±9km, mb4.2/33, Error ellipse: s-maj=23.3km s-min=19.5km az=107.0*
*IDC **28** 12:23:37.9±2.1, 22°.11S×179°.62W, h596km±22km, mb3.2/7, mbtmp4.2/9, Error ellipse: s-maj=27.7km s-min=16.6km az=136.0*

ISC 28 12:23:37.2±0.6, 22°.2S±0°.1×179°.5W±0°.1, h592km, n55, σ0°.82/53, mb4.1/23, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.01**	**333**	P		**P**	**12 25 09.1**	**-0.8**
MSVF	**Nonsavu**	**5.01**	**333**	P		**P**	**12 25 08.5**	**-1.4**
9.7nm,0.4s,baz=180,slow=3.0,SNR=6.9								
DZM	**Mont Dzumac**	**13.00**	**268**	P		**P**	**12 26 26.1**	**-0.2**
DZM	**Mont Dzumac**	**13.00**	**268**	P		**P**	**12 26 27.7**	**+1.4**
7.2nm,0.8s,baz=117,slow=20,SNR=11								
BKZ	**Black Stump Fm**	**17.23**	**191**	P		**P**	**12 27 03.3**	**-2.8**
BKZ				IAmb		IAmb	12 27 25.1	
comp=Z,16nm,1.2s								
TCW	**Tory Channel**	**19.64**	**194**	P		**P**	**12 27 26.8**	**-1.1**
THZ	**Tophouse**	**20.50**	**196**	P		**P**	**12 27 34.5**	**-1.2**
KHZ	**Kahutara**	**20.96**	**194**	P		**P**	**12 27 38.2**	**-1.5**
EIDS	**Eidsvold**	**27.05**	**257**	P		**P**	**12 28 34.6**	**+0.7**
ARMA	**Armidale**	**27.06**	**246**	P		**P**	**12 28 35.4**	**+1.3**
ARMA				IAmb		IAmb	12 29 13.7	
comp=Z,18nm,1.4s								
CAN	**Canberra**	**30.38**	**238**	P		**P**	**12 29 03.5**	**+0.8**
TOO	**Toolangi**	**33.74**	**235**	P		**P**	**12 29 31.8**	**+0.6**
TOO				IAmb		IAmb	12 29 59.0	
comp=Z,16nm,1.4s								
STKA	**Stephens Creek**	**35.78**	**246**	P		**P**	**12 29 49.0**	**+1.0**
STKA	**Stephens Creek**	**35.78**	**246**	P		**P**	**12 29 48.6**	**+0.6**
comp=Z,4.2nm,0.5s,baz=97,slow=11,SNR=18								
comp=Z,4.2nm,0.5s								
BBOO	**Buckleboo**	**40.52**	**245**	P		**P**	**12 30 26.5**	**+0.1**
AS31	**Alice Springs**	**42.76**	**259**	P		**P**	**12 30 44.2**	**0.0**
ASAR	**Alice Springs**	**42.77**	**259**	P		**P**	**12 30 43.7**	**-0.5**
ASAR	**Alice Springs**	**42.77**	**259**	P		**P**	**12 30 44.1**	**-0.1**
comp=Z,6.7nm,0.8s,baz=91,slow=8.1,SNR=109								
comp=Z,6.7nm,0.8s								
WB0	**Warramunga Arr**	**42.97**	**264**	P		**P**	**12 30 45.2**	**-0.6**
WB0				IAmb		IAmb	12 30 45.7	
comp=Z,5.3nm,0.5s								
WB2	**Warramunga Arr**	**42.97**	**264**	P		**P**	**12 30 45.1**	**-0.7**
WB2				IAmb		IAmb	12 30 45.9	
comp=Z,5.7nm,1.1s								
WRA	**Warramunga Arr**	**42.98**	**264**	P		**P**	**12 30 45.8**	**-0.1**
WRA	**Warramunga Arr**	**42.98**	**264**	P		**P**	**12 30 45.1**	**-0.7**
comp=Z,1.3nm,0.3s,baz=96,slow=7.9,SNR=67								
comp=Z,1.3nm,0.3s								
FORT	**Forrest**	**47.32**	**248**	P		**P**	**12 31 18.7**	**0.0**
KNRA	**Kununurra**	**49.15**	**268**	P		**P**	**12 31 32.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**51.41**	**264**	P		**P**	**12 31 49.5**	**+0.5**
MBWA	**Marble Bar**	**56.11**	**259**	P		**P**	**12 32 21.8**	**-0.2**
MBWA				IAmb		IAmb	12 32 38.5	
comp=Z,28nm,1.5s								
MORW	**Morawa**	**57.87**	**249**	P		**P**	**12 32 33.1**	**-0.8**
QSPA	**South Pole Qui**	**67.85**	**180**	P		**P**	**12 33 38.3**	**+1.0**
comp=Z,1.9nm,1.1s,baz=42,slow=1.7,SNR=6.1								
comp=Z,1.9nm,1.1s								
PETK	**Petropavlovsk-**	**77.58**	**346**	P		**P**	**12 34 33.3**	**+0.4**
PETK	**Petropavlovsk-**	**77.58**	**346**	P		**P**	**12 34 33.5**	**+0.6**
comp=Z,0.9nm,0.6s,baz=109,slow=5.6,SNR=9.0								
comp=Z,0.9nm,0.6s								
BELA	**Belgrano 2**	**78.04**	**173**	P		**P**	**12 34 35.7**	**+0.6**
NVAR	**Mina Array Bea**	**83.25**	**44**	P		**P**	**12 35 02.6**	**-0.2**
comp=Z,0.6nm,0.8s,baz=235,slow=5.2,SNR=4.4								
comp=Z,0.6nm,0.8s								
N15K	**Kwethluk River**	**83.61**	**10**	P		**P**	**12 35 03.9**	**0.0**
N15K				IAmb		IAmb	12 35 46.2	
comp=Z,6.7nm,1.0s								
L18K	**Granite Mounta**	**86.10**	**11**	P		**P**	**12 35 16.3**	**+0.5**
M19K	**Big River Lodg**	**86.22**	**12**	P		**P**	**12 35 16.2**	**-0.3**
M19K				IAmb		IAmb	12 35 25.7	
comp=Z,5.8nm,1.4s								
STLK	**Strandline Lak**	**86.35**	**13**	P		**P**	**12 35 16.1**	**-1.0**
L19K	**White Mountain**	**86.39**	**11**	P		**P**	**12 35 16.9**	**-0.4**
L19K				IAmb		IAmb	12 35 36.0	
comp=Z,7.4nm,1.5s								
SUA	**Susitna One**	**86.55**	**13**	P		**P**	**12 35 18.4**	**+0.2**
SUA				IAmb		IAmb	12 35 21.1	
comp=Z,7.3nm,1.4s								
PWL	**Port Wells**	**86.56**	**15**	P		**P**	**12 35 18.5**	**+0.4**
PWL				IAmb		IAmb	12 35 36.2	
comp=Z,3.9nm,1.1s								
PMR	**Palmer**	**87.02**	**14**	P		**P**	**12 35 20.6**	**+0.4**
GHO	**Glory Hole Cre**	**87.22**	**14**	P		**P**	**12 35 21.9**	**+0.6**
GHO				IAmb		IAmb	12 35 22.4	
comp=Z,3.7nm,0.7s								
SCM	**Sheep Creek Mo**	**87.64**	**15**	P		**P**	**12 35 23.9**	**+0.6**
SCM				IAmb		IAmb	12 35 52.0	
comp=Z,7.5nm,1.3s								
CAST	**Castle Rocks**	**88.04**	**12**	P		**P**	**12 35 25.0**	**0.0**
CAST				IAmb		IAmb	12 35 25.2	
comp=Z,2.0nm,0.7s								
GLB	**Gilahina Butte**	**88.18**	**16**	P		**P**	**12 35 25.9**	**+0.2**
TRF	**Thorofare Moun**	**88.43**	**13**	P		**P**	**12 35 26.2**	**-0.7**
TRF				IAmb		IAmb	12 35 27.7	
comp=Z,2.2nm,0.7s								
RND	**Reindeer**	**88.69**	**13**	P		**P**	**12 35 28.4**	**+0.4**
RND				IAmb		IAmb	12 35 29.4	
comp=Z,2.2nm,0.8s								
TXAR	**Lajitas Array**	**89.17**	**58**	P		**P**	**12 35 32.5**	**+1.3**
comp=Z,0.5nm,0.8s,baz=239,slow=6.7,SNR=6.9								
comp=Z,0.5nm,0.8s								
E19K	**Redstone River**	**90.94**	**8**	P		**P**	**12 35 38.7**	**+0.4**
E19K				IAmb		IAmb	12 35 40.0	
comp=Z,2.4nm,1.1s								
BVAR	**Borovoye Array**	**119.46**	**319**	PKP		**PKPdf**	**12 41 19.5**	**-0.6**
comp=Z,0.5nm,0.3s,baz=100,slow=3.4,SNR=4.3								
SPITS	**Spitsbergen Ar**	**123.48**	**356**	PKP		**PKiKP**	**12 41 26.7**	**-0.7**
comp=Z,4.0nm,1.1s,baz=38,slow=7.3,SNR=2.0								
ARCES	**ARCESS Array B**	**130.34**	**349**	PKP		**PKiKP**	**12 41 40.5**	**-0.8**
comp=Z,0.9nm,0.8s,baz=25,slow=1.8,SNR=5.4								
HFS	**Hagfors**	**140.99**	**350**	PKhKP		PKPpre	12 41 55.1	
comp=Z,1.2nm,0.7s,baz=70,slow=4.7,SNR=8.0								
AKASG	**Malin Array Be**	**143.78**	**329**	PKP		PKPbc	12 42 04.0	-0.8
comp=Z,0.6nm,0.4s,baz=54,slow=1.6,SNR=6.6								
EKA	**Eskdalemuir Ar**	**146.82**	**4**	PKPbc		**PKPbc**	**12 42 12.9**	**-0.6**
comp=Z,0.2nm,0.4s,baz=9.4,slow=2.4,SNR=5.5								
BRTR	**Keskin Array B**	**146.88**	**309**	PKPbc		**PKPdf**	**12 42 12.0**	**+0.6**
comp=Z,0.3nm,0.5s,baz=340,slow=3.8,SNR=2.2								

---

*IDC **28** 12:24:46.4±1.6, 35°.81N×29°.96E, h0km, mb3.5/2, mbtmp3.4/4, ML3.4/2, MS2.6/2, Error ellipse: s-maj=34.9km s-min=22.9km az=134.0*
*ISK **28** 12:24:49.7, 35°.93N×29°.72E, h18km, ML3.2/17*
*AFAD **28** 12:24:50.6, 35°.98N×29°.75E, h29km, ML3.1*
*NIC **28** 12:24:50.7, 35°.98N×29°.83E, h23km±1km, Ml2.7/8*
*THE **28** 12:24:51.8, 35°.92N×29°.73E, h13km±4km, ML3.1/3, Error ellipse: s-maj=6.6km s-min=0.7km az=58.0*
*ATH **28** 12:24:53.9, 36°.08N×29°.49E, h14km±6km, ML3.0/5, Manual Solution by F.Xalaris First location: 2019/04/28 12:26:15, This location: 2019/04/28 22:42:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 15 km; Longitude uncertainty: 10 km*

ISC 28 12:24:49.4±1.1, 35°.91N±0°.03×29°.80E±0°.02, h17km±8km, n59, σ1°.05/90, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.29**	**324**	P		**Pb**	**12 24 57.2**	**+1.0**
KSL				S		**Sb**	**12 25 01.8**	**+1.0**
12μm,0.4s								
KSL	**Kastellorizon**	**0.29**	**324**	P		**Pb**	**12 24 57.2**	**+1.0**
KSL				AML		AML	12 25 02.0	
13nm,0.3s								
KSL				AML		AML	12 25 02.2	
37nm,0.4s								
KSL				S		**Sb**	**12 25 02.3**	**+1.4**
KSL	**Kastellorizon**	**0.29**	**324**	P		**Pb**	**12 24 57.1**	**+0.9**
KSL				S		**Sg**	**12 24 59.2**	**-0.9**
DEMR	**Demre-Antalya**	**0.34**	**15**	Pg		**Pb**	**12 24 57.3**	**+0.3**
DEMR				Sg		**Sb**	**12 25 02.9**	**+0.9**
AKAS	**Kas**	**0.36**	**334**	P		**Pb**	**12 24 57.6**	**+0.2**
AKUM	**Antalya-Kumluc**	**0.60**	**47**	P		**Pn**	**12 25 02.7**	**-0.5**
IZZE	**Mula-Seydike**	**0.70**	**319**	P		**Pg**	**12 25 03.5**	**+0.4**
IZZE				S		**Sg**	**12 25 12.8**	**+0.4**
IZZE				*i* AML		AML	12 25 17.0	
comp=N,1μm,0.5s								
ELL	**Elmali**	**0.84**	**6**	Pg		**Pb**	**12 25 05.7**	**+0.1**
ELL				Sg		**Sn**	**12 25 18.5**	**-0.1**
ELL	**Elmali**	**0.84**	**6**	P		**Pb**	**12 25 05.7**	**+0.1**
ELL				S		**Sg**	**12 25 17.4**	**+0.4**
ELL				AML		AML	12 25 23.2	
3.9nm,0.9s								
ELL				AML		AML	12 25 24.4	
3.2nm,0.5s								
FETY	**Fethiye**	**0.92**	**322**	Pg		**Pb**	**12 25 06.9**	**-0.1**
FETY				Sg		**Sg**	**12 25 19.5**	**-0.1**
FETY	**Fethiye**	**0.92**	**322**	P		**Pn**	**12 25 09.1**	**+1.5**
FETY				S		**Sg**	**12 25 19.6**	**-0.1**
KNIK	**Mula-Seydike**	**0.95**	**349**	P		**Pb**	**12 25 07.5**	**0.0**
KNIK				S		**Sn**	**12 25 21.2**	**-0.1**
KNIK				*i* AML		AML	12 25 22.0	
comp=E,559nm,0.9s								
CAME	**Cameli-Denizli**	**1.10**	**339**	Pg		**Pn**	**12 25 10.4**	**+0.2**
CAME				Sg		**Sg**	**12 25 25.5**	**+0.2**
SABU	**Mula-Dalaman**	**1.13**	**324**	P		**Pn**	**12 25 10.4**	**-0.1**
SABU				S		**Sn**	**12 25 25.1**	**-0.5**
ANTB	**Antalya**	**1.20**	**35**	Pn		**Pg**	**12 25 12.9**	**+0.2**
DALY	**Dalyan (Mula)**	**1.29**	**315**	Pn		**Pn**	**12 25 12.8**	**+0.2**
GOLH	**Golhisar**	**1.34**	**352**	P		**Pb**	**12 25 14.1**	**0.0**
ARG	**Arkhangelos**	**1.39**	**283**	P		**Pn**	**12 25 14.2**	**+0.3**
ARG				S		**Sb**	**12 25 31.7**	**-0.6**
340nm,0.6s								
ARG	**Arkhangelos**	**1.39**	**283**	Pn		**Pn**	**12 25 14.0**	**0.0**
ARG	**Arkhangelos**	**1.39**	**283**	P		**Pn**	**12 25 14.3**	**+0.3**
ARG				S		**Sg**	**12 25 33.9**	**-0.4**
ARG				AML		AML	12 25 43.5	
0.4nm,0.3s								
ARG				AML		AML	12 25 49.7	
0.8nm,0.5s								
ARG	**Arkhangelos**	**1.39**	**283**	P		**Pb**	**12 25 14.6**	**-0.3**
ARG				S		**Sn**	**12 25 29.7**	**-2.2**
DNZT	**Denizli-Tavas-**	**1.50**	**336**	P		**Pg**	**12 25 18.3**	**0.0**
DNZT				P		**Pb**	**12 25 19.3**	**+2.5**
DNZT				S		**Sg**	**12 25 37.0**	**-0.9**
TURN	**Turunc**	**1.52**	**305**	P		**Pb**	**12 25 17.3**	**+0.1**
BUCA	**Burdur, Bucak-**	**1.54**	**23**	P		**Pn**	**12 25 17.0**	**+0.8**
APMY	**Acipayam-Deniz**	**1.61**	**346**	Pn		**Pn**	**12 25 17.7**	**+0.6**
BCK	**Bucak**	**1.67**	**22**	Pn		**Pb**	**12 25 19.2**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.71**	**336**	P		**Pb**	**12 25 20.9**	**+0.5**
YER	**Yerkesik**	**1.73**	**315**	Pn		**Pn**	**12 25 19.0**	**+0.3**
KEPZ	**Antalya-Kepez**	**1.76**	**55**	P		**Pn**	**12 25 19.8**	**+0.6**
INCE	**Denizli-Bozkur**	**1.80**	**354**	P		**Pg**	**12 25 23.7**	**-0.4**
INCE				S		**Sb**	**12 25 44.1**	**-0.3**
INCE				*i* AML		AML	12 25 48.0	
comp=N,125nm,0.5s								
DNIZ	**Denizli-Tavas-**	**1.82**	**341**	P		**Pb**	**12 25 22.9**	**+0.6**
DNIZ				S		**Sb**	**12 25 44.3**	**-0.4**
DNIZ				*i* AML		AML	12 25 48.0	
comp=N,389nm,0.3s								
DNIZ				*i* AML		AML	12 25 48.0	
comp=E,584nm,0.3s								
DAT	**Datca**	**1.97**	**295**	Pn		**Pn**	**12 25 22.5**	**+0.4**
ISP	**Isparta**	**1.99**	**17**	Pn		**Pn**	**12 25 23.9**	**+1.5**
BASM	**Basmaki-Afyon**	**2.01**	**6**	Pn		**Pn**	**12 25 23.2**	**+0.5**
YAZI	**Mula-Dat§a-**	**2.04**	**293**	P		**Pn**	**12 25 22.3**	**-0.7**
MLSB	**Milas**	**2.13**	**311**	Pn		**Pn**	**12 25 24.9**	**+0.6**
KARP	**Karpathos**	**2.17**	**261**	P		**Pn**	**12 25 25.5**	**+0.7**
KARP				S		**Sn**	**12 25 51.0**	**-0.4**
235nm,0.5s								
KARP	**Karpathos**	**2.17**	**261**

IDI	**Anoyia**	**4.05 263**	P		**Pn**	**12 25 51.8**	**+1.2**
IMMV	**Iera Moni Meta**	**4.75 266**	P		**Pn**	**12 26 02.6**	**+2.3**
BRTR	**Keskin Array B**	**4.87 37**	Pn		**Pn**	**12 26 03.5**	**+1.5**
	1.2nm,0.3s,baz=215,slow=16,SNR=24						
BRTR			Sn		**Sn**	**12 26 59.7**	**+1.6**
	1.0nm,0.3s,baz=215,slow=26,SNR=12						
BRTR			LR		LR	12 27 37.5	
	comp=Z,24nm,21.1s,baz=295,slow=35						
	2.8nm,0.4s						
MMAI	**Mount Meron Ar**	**5.46 120**	Pn		**Pn**	**12 26 07.9**	**-2.1**
	1.9nm,0.3s,baz=308,slow=12,SNR=3.7						
MMAI			Sn		**Sn**	**12 27 08.9**	**-3.6**
	2.5nm,0.3s,baz=305,slow=26,SNR=3.6						
	0.8nm,0.3s						
TORD	**Torodi Ar. Bea**	**33.95 235**	P		**P**	**12 31 31.9**	**-0.1**
	90nm,0.4s,baz=29,slow=9.6,SNR=2.4						
KURBB	**Kurchatov Arra**	**37.70 52**	P		**P**	**12 32 02.8**	**-0.9**
	0.5nm,0.5s,baz=276,slow=8.7,SNR=5.3						
KURBB			LR		LR	12 50 20.0	
	comp=Z,22nm,19.6s,baz=165,slow=41						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**40.19 58**	P		**P**	**12 32 23.6**	**-1.1**
	0.3nm,0.4s,baz=282,slow=8.2,SNR=4.8						
	0.3nm,0.4s						

*IDC **28** 12:46:08.7±0.9, 15°.47S×74°.77W, h0km, mb4.0/7, mbtmp4.0/9, ML3.5/2, MS3.2/5, Error ellipse: s-maj=35.9km s-min=17.2km az=51.0*
*NEIC **28** 12:46:15.8±1.8, 15°.62S±0°.09×75°.1W±0°.1, h40km±10km, mb4.4/16, Error ellipse: s-maj=17.2km s-min=10.0km az=57.0*
ISC 28 12:46:12.9±0.6, 15°.68S±0°.07×75°.12W±0°.10, h26km, n65, σ1§73/51, mb4.3/13, MS3.0/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.03**	**335**		**Pn**	**12 47 13.9**	**+0.9**
NNA	**Nana**	**4.03**	**335**	Pn	**Pn**	**12 47 13.3**	**+0.2**
	19nm,0.3s,baz=142,slow=12,SNR=20						
NNA				Sn	**Sn**	**12 47 59.0**	**-0.5**
	19nm,0.3s,baz=307,slow=10,SNR=3.7						
NNA				Lg	Lg	12 48 13.1	
	98nm,0.3s,baz=249,slow=14,SNR=8.3						
	40nm,0.3s						
PB18	**Visviri**	**5.73**	**110**	Pn	**Pn**	**12 47 37.6**	**+0.8**
PB16	**IPOC Station P**	**5.98**	**117**		**Pn**	**12 47 44.6**	**+4.3**
TA02	**Huaiquique**	**6.59**	**135**	Pn	**Pn**	**12 47 50.0**	**+1.8**
PB11	**IPOC Station P**	**6.60**	**129**		**Pn**	**12 47 50.2**	**+1.7**
LPAZ	**La Paz**	**6.75**	**96**		**Pn**	**12 47 53.4**	**+2.5**
LPAZ	**La Paz**	**6.75**	**96**	Pn	**Pn**	**12 47 54.0**	**+3.1**
	0.7nm,0.3s,baz=317,slow=10,SNR=9.9						
LPAZ				LR	LR	12 50 42.8	
	comp=Z,96nm,21.8s,baz=246,slow=42						
TA01	**Diego Aracena**	**6.76**	**137**		**Pn**	**12 47 52.1**	**+1.6**
HMBC	**Humberstone**	**6.76**	**133**		**Pn**	**12 47 52.2**	**+1.6**
GO01	**Chusmiza**	**6.90**	**126**		**Pn**	**12 47 56.1**	**+3.2**
PATCX	**Punta Patache**	**6.96**	**138**	Pn	**Pn**	**12 47 55.2**	**+1.9**
PB08	**IPOC Station P**	**7.21**	**129**	Pn	**Pn**	**12 47 59.1**	**+2.1**
PB01	**IPOC Station P**	**7.55**	**136**		**Pn**	**12 48 03.6**	**+2.1**
CZSB	**Cruzeiro do Su**	**8.24**	**17**		**Pn**	**12 48 11.0**	**+0.1**
PB09	**IPOC Station P**	**8.25**	**138**		**Pn**	**12 48 14.0**	**+2.9**
PB05	**IPOC Station P**	**8.51**	**148**		**Pn**	**12 48 15.7**	**+1.0**
PB10	**IPOC Station P**	**8.90**	**152**	Pn	**Pn**	**12 48 21.5**	**+1.5**
ATAH	**Atahualpa**	**9.07**	**339**	Pn	**Pn**	**12 48 24.7**	**+2.0**
	0.7nm,0.3s,baz=178,slow=3.4,SNR=5.9						
ATAH				Sn	**Sn**	**12 50 03.8**	**-0.5**
	0.7nm,0.3s,baz=96,slow=20,SNR=1.0						
PB14	**IPOC Station P**	**9.94**	**154**	Pn	**Pn**	**12 48 35.0**	**+0.5**
GO02	**Mina Guanaco**	**10.77**	**152**	Pn	**Pn**	**12 48 47.9**	**+2.2**
SIV	**San Ignacio**	**13.52**	**93**	Pn	Pn	12 49 19.1	-4.1
	baz=270,slow=14,SNR=1.5						
	0.6nm,0.8s						
COHC	**Cochancay**	**13.74**	**342**		**Pn**	**12 49 27.9**	**+1.7**
H03N1	**Juan Fernandez**	**18.02**	**190**	T	T	13 09 06.8	
	baz=12,slow=74,SNR=306						
H03N2	**Juan Fernandez**	**18.02**	**190**	T	T	13 09 05.6	
	baz=12,slow=74,SNR=292						
H03N3	**Juan Fernandez**	**18.03**	**190**	T	T	13 09 12.9	
	baz=12,slow=74,SNR=267						
RUSC	**La Rusia**	**21.52**	**6**	P	**P**	**12 51 00.7**	**0.0**
RUSC				IAmb	IAmb	12 51 13.0	
	comp=Z,9.7nm,0.7s						
SDV	**Santo Domingo**	**24.80**	**11**	LR	LR	13 02 26.7	
	comp=Z,51nm,18.1s,baz=239,slow=40						
BAUV	**El Baul**	**25.45**	**16**		**P**	**12 51 38.1**	**-0.7**
JTS	**Las Juntas de**	**27.58**	**339**	LR	LR	13 01 47.3	
	comp=Z,42nm,20.1s,baz=178,slow=34						
SJG	**San Juan**	**34.72**	**15**	LR	LR	13 07 18.5	
	comp=Z,29nm,21.1s,baz=182,slow=37						
JSC	**Jenkinsville**	**50.02**	**353**	P	**P**	**12 55 06.0**	**+0.8**
SAND	**Sanderson**	**52.31**	**330**	P	**P**	**12 55 23.3**	**+0.7**
SAND				IAmb	IAmb	12 55 24.3	
	comp=Z,5.9nm,1.2s						
TX31	**Lajitas Ar. Si**	**52.56**	**328**	P	**P**	**12 55 24.3**	**-0.2**
TXAR	**Lajitas Array**	**52.56**	**328**	P	**P**	**12 55 24.8**	**+0.3**
	comp=Z,6.0nm,0.5s,baz=152,slow=8.7,SNR=14						
	comp=Z,0.6nm,0.5s						
VHRN	**Van Horn**	**54.40**	**328**	P	**P**	**12 55 37.8**	**-0.2**
SDCO	**Great Sand Dun**	**60.33**	**333**	P	**P**	**12 56 20.6**	**+0.7**
SDCO				IAmb	IAmb	12 56 22.6	
	comp=Z,3.5nm,1.1s						
X16A	**Lo Mia Camp, P**	**60.62**	**326**	P	**P**	**12 56 23.0**	**+1.1**
X16A				IAmb	IAmb	12 56 24.5	
	comp=Z,4.0nm,1.1s						
ECSD	**EROS Data Cent**	**62.31**	**343**		**P**	**12 56 31.9**	**-0.9**
PFO	**Pinyon Flats O**	**62.90**	**322**	LR	LR	13 22 45.1	
	comp=Z,43nm,18.0s,baz=215,slow=35						
WCT	**Wildcat Mounta**	**65.23**	**324**	P	**P**	**12 56 54.0**	**+1.6**
TPH	**Tonopah**	**66.48**	**325**	P	**P**	**12 57 01.6**	**+1.1**
NVAR	**Mina Array Bea**	**67.33**	**324**	P	**P**	**12 57 06.7**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=155,slow=8.5,SNR=8.0						
	comp=Z,0.7nm,0.7s						
RLMT	**Red Lodge**	**67.99**	**335**	P	**P**	**12 57 11.5**	**+1.5**
RLMT				IAmb	IAmb	12 57 11.7	
	comp=Z,3.1nm,1.1s						
ULM	**Lac du Bonnet**	**68.14**	**346**	P	**P**	**12 57 08.3**	**-2.2**
	comp=Z,1.5nm,0.4s,baz=132,slow=4.7,SNR=4.0						
	comp=Z,1.5nm,0.4s						
PAHR	**Pah Rah Range**	**68.82**	**325**	P	**P**	**12 57 16.8**	**+1.6**
PAHR				IAmb	IAmb	12 57 17.7	
	comp=Z,3.5nm,0.8s						
DBIC	**Dimbokro**	**73.01**	**78**	P	**P**	**12 57 36.9**	**-4.1**
	comp=Z,4.6nm,1.0s,baz=215,slow=2.7,SNR=3.2						
	comp=Z,4.6nm,1.0s						
QSPA	**South Pole Qui**	**74.48**	**180**	P	**P**	**12 57 49.6**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=53,slow=10,SNR=3.3						
	comp=Z,1.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**81.18**	**74**		**P**	**12 58 26.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**81.18**	**74**	P	**P**	**12 58 25.1**	**-1.8**
	comp=Z,41nm,0.3s,baz=252,slow=3.7,SNR=1.3						
YKA	**Yellowknife Ar**	**83.84**	**343**	P	**P**	**12 58 39.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=141,slow=5.3,SNR=23						
	comp=Z,0.9nm,0.7s						
ESDC	**Sonseca Array**	**86.02**	**47**	P	**P**	**12 58 50.9**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=258,slow=4.9,SNR=6.0						
	comp=Z,0.5nm,0.7s						
H11N3	**WAKE ISLAND Hyl**	**21.04**	**284**	T	T	15 17 45.5	
	baz=97,slow=74,SNR=4.9						
H11N2	**WAKE ISLAND Hyl**	**21.06**	**284**	T	T	15 17 44.9	
	baz=97,slow=74,SNR=4.9						
H11N1	**WAKE ISLAND Hyl**	**21.06**	**284**	T	T	15 17 46.3	
	baz=97,slow=74,SNR=4.0						
H11S2	**WAKE ISLAND Hyl**	**21.08**	**282**	T	T	15 17 52.2	
	baz=99,slow=74,SNR=3.5						
H11S1	**WAKE ISLAND Hyl**	**21.09**	**282**	T	T	15 17 53.8	
	baz=99,slow=74,SNR=3.2						
H11S3	**WAKE ISLAND Hyl**	**21.10**	**282**	T	T	15 17 51.6	
	baz=99,slow=74,SNR=4.3						
ASAR	**Alice Springs**	**131.69**	**217**	PKP	**PKPdf**	**13 05 25.0**	**+0.6**
	comp=Z,0.9nm,1.0s,baz=117,slow=2.0,SNR=6.2						
WRA	**Warramunga Arr**	**134.27**	**220**	PKP	**PKPdf**	**13 05 30.3**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=135,slow=2.0,SNR=7.7						
ZALV	**Zalesovo Beam**	**138.72**	**18**	PKP	**PKPdf**	**13 05 34.8**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=298,slow=3.1,SNR=4.7						
KURBB	**Kurchatov Arra**	**139.19**	**26**	PKP	**PKPdf**	**13 05 35.1**	**-2.4**
	comp=Z,0.1nm,0.4s,baz=314,slow=2.7,SNR=2.3						
MKAR	**Makanchi Array**	**143.72**	**26**	PKP	PKPbc	13 05 43.7	+0.4
	comp=Z,0.3nm,0.7s,baz=317,slow=1.9,SNR=2.6						
MJAR	**Matsushiro Arr**	**143.84**	**311**	PKP	PKPbc	13 05 43.9	-0.1
	comp=Z,0.5nm,0.6s,baz=106,slow=2.9,SNR=2.4						
SONM	**Songino Array**	**147.91**	**358**	PKPbc	**PKPbc**	**13 05 56.0**	**0.0**
	comp=Z,1.4nm,0.5s,baz=0.5,slow=1.3,SNR=6.9						

*IDC **28** 13:03:01.1±0.9, 31°.68S×178°.09W, h0km, mb4.0/5, mbtmp4.0/6, ML3.6/1, MS3.5/1, Error ellipse: s-maj=33.2km s-min=23.0km az=93.0*
*NEIC **28** 13:03:04.5±1.0, 31°.92S±0°.07×178°.2W±0°.1, h10km±1km, mb4.7/12, Error ellipse: s-maj=17.0km s-min=7.6km az=57.0*
ISC 28 13:03:02.8±0.6, 31°.70S±0°.07×178°.1W±0°.1, h10km, n49, σ1§61/63, mb4.4/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.44**	**4**	P	Pn	13 03 37.6	-5.0
GLKZ				S	Sn	13 04 00.6	-12
RIZ	**Raoul Island**	**2.46**	**4**	P	**Pn**	**13 03 39.2**	**-3.7**
RIZ				S	Sn	13 04 01.4	-12
MXZ	**Matakaoa Point**	**6.55**	**206**	Pn	**Pn**	**13 04 37.3**	**-1.8**
WMGZ	**Waiomatatini S**	**6.74**	**204**	P	**Pn**	**13 04 40.3**	**-1.5**
WMGZ				S	**Sn**	**13 05 59.8**	**+1.3**
PKGZ	**Pakihiroa**	**6.90**	**206**	P	**Pn**	**13 04 43.0**	**-1.0**
PKGZ				S	**Sn**	**13 06 05.5**	**+2.9**
HAZ	**Te Kaha**	**6.92**	**208**	P	**Pn**	**13 04 43.5**	**-0.8**
HAZ				S	**Sn**	**13 06 05.6**	**+2.5**
PUZ	**Puketiti**	**7.02**	**204**	P	**Pn**	**13 04 43.8**	**-1.9**
PUZ				S	**Sn**	**13 06 07.0**	**+1.5**
RUGZ	**Raukumara Rang**	**7.14**	**208**	P	**Pn**	**13 04 46.8**	**-0.6**
RUGZ				S	**Sn**	**13 06 07.1**	**-1.6**
TWGZ	**Tauwhareparae**	**7.21**	**205**	P	**Pn**	**13 04 47.0**	**-1.3**
TWGZ				S	**Sn**	**13 06 11.4**	**+1.1**
CNGZ	**Carnagh Statio**	**7.41**	**203**	P	**Pn**	**13 04 48.7**	**-2.2**
CNGZ				S	**Sn**	**13 06 14.2**	**-0.9**
TKGZ	**Te Karaka**	**7.49**	**205**	P	**Pn**	**13 04 49.2**	**-2.9**
TKGZ				S	**Sn**	**13 06 16.5**	**-0.7**
MWZ	**Matawai**	**7.52**	**207**	P	**Pn**	**13 04 50.1**	**-2.5**
MWZ				S	**Sn**	**13 06 17.1**	**-0.8**
WCZ	**Waipu Caves**	**7.57**	**234**	P	Pn	13 04 58.3	+5.1
URZ	**Urewera**	**7.63**	**210**	**Pn**	**Pn**	**13 04 52.1**	**-1.8**
	0.9nm,0.3s,baz=354,slow=5.6,SNR=10						
URZ				Sn	**Sn**	**13 06 20.7**	**+0.3**
	2.1nm,0.3s,baz=344,slow=7.4,SNR=8.3						
	6.2nm,0.5s						
URZ	**Urewera**	**7.63**	**210**	P	**Pn**	**13 04 51.3**	**-2.6**
URZ				S	**Sn**	**13 06 20.5**	**+0.1**
RIGZ	**Rimuhau**	**7.76**	**205**	P	**Pn**	**13 04 52.8**	**-3.0**
RIGZ				S	**Sn**	**13 06 23.8**	**0.0**
OUZ	**Omahuta**	**7.77**	**241**	P	Pn	13 05 02.1	+6.2
EPAZ	**Eden Park BICE**	**7.85**	**227**	P	**Pn**	**13 04 56.1**	**-0.9**
PRGZ	**Paritu Road**	**7.91**	**203**	P	**Pn**	**13 04 54.4**	**-3.5**
PRGZ				S	**Sn**	**13 06 26.7**	**-0.8**
MUGZ	**Murupara**	**7.96**	**210**	P	**Pn**	**13 04 56.1**	**-2.4**
MUGZ				S	**Sn**	**13 06 28.5**	**0.0**
RTZ	**Ruatahuna**	**7.98**	**209**	Pn	**Pn**	**13 04 56.7**	**-2.2**
SNGZ	**Shannon Statio**	**7.98**	**207**	P	**Pn**	**13 04 55.8**	**-3.0**
SNGZ				S	**Sn**	**13 06 30.4**	**+1.2**
TOZ	**Tahuroa Road**	**7.99**	**219**	Pn	**Pn**	**13 04 58.6**	**-0.3**
MHGZ	**Mahia Peninsul**	**8.11**	**203**	S	**Sn**	**13 06 33.4**	**+1.0**
BKZ	**Black Stump Fm**	**8.65**	**209**	Pn	**Pn**	**13 05 05.3**	**-2.7**
FUTU	**Fugatoga**	**17.32**	**360**	Pn	**P**	**13 07 08.2**	**+2.1**
FUTU				IAmb	IAmb	13 07 09.4	
	comp=Z,72nm,1.3s						
PPTF	**Pamatai, Papee**	**29.39**	**68**	P	**P**	**13 09 08.4**	**+2.0**
BBOO	**Buckleboo**	**38.55**	**256**	P	**P**	**13 10 25.8**	**+0.1**
AS31	**Alice Springs**	**42.97**	**268**	P	**P**	**13 11 02.6**	**+0.3**
ASAR	**Alice Springs**	**42.97**	**268**	P	**P**	**13 11 02.5**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=107,slow=7.2,SNR=36						
ASAR				PcP	**PcP**	**13 12 51.9**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=96,slow=3.0,SNR=1.8						
	comp=Z,0.8nm,0.3s						
WR8	**Warramunga Arr**	**43.93**	**274**	P	**P**	**13 11 10.5**	**+0.4**
WR8				IAmb	IAmb	13 11 23.3	
	comp=Z,10nm,1.0s						
WRA	**Warramunga Arr**	**44.07**	**274**	P	**P**	**13 11 11.6**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=111,slow=8.1,SNR=32						
	comp=Z,2.1nm,0.5s						
WB0	**Warramunga Arr**	**44.10**	**274**	P	**P**	**13 11 11.7**	**+0.2**
WB0				IAmb	IAmb	13 11 24.6	
	comp=Z,16nm,1.1s						
FORT	**Forrest**	**45.64**	**256**	P	**P**	**13 11 23.2**	**-0.4**
VNDA	**Vanda**	**46.79**	**186**	P	**P**	**13 11 31.9**	**-0.1**
	comp=Z,0.7nm,1.0s,baz=81,slow=13,SNR=2.4						
	comp=Z,0.7nm,1.0s						
JAY	**Jayapura**	**48.43**	**298**	LR	LR	13 29 59.3	
	comp=Z,52nm,20.2s,baz=271,slow=33						
KNRA	**Kununurra**	**50.73**	**275**	P	**P**	**13 12 04.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**52.28**	**271**	P	**P**	**13 12 15.7**	**+1.0**
CASY	**Casey**	**53.95**	**208**	P	**P**	**13 12 26.9**	**+0.7**
CASY				IAmb	IAmb	13 12 30.8	
	comp=Z,5.0nm,1.1s						
QSPA	**South Pole Qui**	**58.41**	**180**	P	**P**	**13 12 60.0**	**+1.6**
QSPA				IAmb	IAmb	13 13 22.3	
	comp=Z,9.4nm,1.1s						
QSPA	**South Pole Qui**	**58.41**	**180**	P	**P**	**13 12 59.1**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=31,slow=5.9,SNR=15						
	comp=Z,1.5nm,0.7s						
KULM	**Kulim**	**85.34**	**279**	P	**P**	**13 15 42.1**	**+1.5**
PETK	**Petropavlovsk-**	**87.05**	**346**	P	**P**	**13 15 47.0**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=158,slow=5.3,SNR=1.9						
	comp=Z,1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**121.92**	**313**	PKP	**PKPdf**	**13 21 55.4**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=108,slow=1.4,SNR=5.1						
BVAR	**Borovoye Array**	**127.27**	**315**	PKP	**PKPdf**	**13 22 06.8**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=132,slow=2.1,SNR=2.6						
FINES	**FINESS Array B**	**146.33**	**339**	PKPbc	**PKPdf**	**13 22 41.8**	**0.0**
	comp=Z,2.8nm,0.5s,baz=49,slow=4.3,SNR=24						
HFS	**Hagfors**	**150.50**	**348**	PKPbc	**PKiKP**	**13 22 55.0**	**+0.3**
	comp=Z,3.5nm,1.0s,baz=90,slow=4.3,SNR=5.3						
MMAI	**Mount Meron Ar**	**151.73**	**282**	PKPbc	**PKiKP**	**13 22 58.7**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=91,slow=5.8,SNR=6.0						
MMAI				PKPab	**sPKPab**	**13 23 09.5**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=134,slow=4.2,SNR=4.1						
BRTR	**Keskin Array B**	**153.12**	**296**	PKPbc	**PKPbc**	**13 22 59.6**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=134,slow=5.2,SNR=4.7						
BRTR				PKPab	**PKPab**	**13 23 12.2**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=145,slow=4.6,SNR=3.2						

*SOME **28** 13:19:10.2, 43°.50N×82°.00E, h10km*
NNC 28 13:19:12.2±2.6, 43°.55N×81°.89E, h0km, mb3.7, mpv3.4, 1C-1D, Error ellipse: s-maj=20.9km s-min=16.1km az=157.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.76**	**264**	⇑Pg	Pg	13 19 46.4	+0.4
	8.0nm,0.3s						
PDGK				⇓Lg	Lg	13 20 09.5	
	21nm,0.6s						
SHLS	**Shalkode**	**1.81**	**258**	P	Pn	13 19 40.3	-4.5
	15nm,0.2s						
SHLS				S	Sn	13 20 01.6	-7.0
	23nm,0.4s						
SHLS	**Shalkode**	**1.81**	**258**	*e*P	Pn	13 19 40.1	-4.7
	15nm,0.2s						
SHLS				*e*S	Sn	13 20 01.5	-7.1
	23nm,0.4s						
KNOS	**Konyrlen**	**2.12**	**293**	Pg	Pb	13 19 51.8	+0.2
	3.5nm,0.2s						
KNOS				Lg	Lg	13 20 21.3	
	5.6nm,0.2s						
UZB	**Uzynbulak**	**2.13**	**260**	Pg	Pb	13 19 50.5	-1.2
	8.5nm,0.2s						
UZB				Lg	Lg	13 20 19.4	
	14nm,0.3s						
UZB	**Uzynbulak**	**2.13**	**260**	*e*P	Pb	13 19 50.8	-0.9
	8.5nm,0.2s						
UZB				*e*S	Sg	13 20 19.9	-0.7
	14nm,0.3s						
BLB	**Baldybastay**	**2.53**	**284**	Pg	Pb	13 19 56.8	-1.7
	21nm,0.4s						
BLB				Lg	Lg	13 20 30.0	
	7.8nm,0.3s						
ZHN	**Zhinishke**	**2.55**	**263**	Pg	Pb	13 19 57.9	-0.9
	4.9nm,0.3s						
ZHN				Lg	Lg	13 20 32.2	
	33nm,0.3s						
ZHN	**Zhinishke**	**2.55**	**263**	*e*P	Pb	13 19 57.9	-0.9
	5.8nm,0.4s						
ZHN				*e*S	Sg	13 20 32.6	-1.4
	33nm,0.3s						
SATY	**Saty**	**2.59**	**260**	Pg	Pb	13 19 58.6	-1.0
	6.1nm,0.2s						
SATY				Lg	Lg	13 20 33.5	
	32nm,0.3s						
TNSS	**Tian-Shan**	**3.64**	**264**	Pg	Pb	13 20 17.8	+0.1
	1.2nm,0.2s						
TNSS				Lg	Lg	13 21 06.0	
	2.4nm,0.5s						
TNSS	**Tian-Shan**	**3.64**	**264**	*e*P	Pb	13 20 17.9	+0.2
	0.9nm,0.5s						
TNSS				*e*S	Sg	13 21 06.2	-3.1
	2.4nm,0.5s						

GUC 28 13:41:15.0±0.7, 21°.04S×68°.85W, h104km±3km, ML2.6, 7C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.60**	**269**	⇑*e*P	Pn	13 41 31.2	-0.9
PB01				*e*S	Sn	13 41 44.5	-0.4
PB01				IAML		13 41 47.8	
	comp=E,168nm,0.4s						
PB09	**IPOC Station P**	**0.84**	**206**	*e*P	Pn	13 41 34.4	0.0
PB09				*e*S	Sn	13 41 49.4	+0.5
HMBC	**Humberstone**	**1.23**	**307**	⇑*e*P	Pn	13 41 37.7	-0.8
HMBC				*e*S	Sn	13 41 55.3	-0.9
HMBC				IAML		13 41 59.4	
	comp=E,158nm,0.1s						
PATCX	**Punta Patache**	**1.24**	**280**	⇑*e*P	Pn	13 41 38.2	-0.3
PATCX				*e*S	Sn	13 41 55.5	-0.8
PB03	**IPOC Station P**	**1.32**	**220**	⇑*e*P	Pn	13 41 38.8	-0.7
PB03				*e*S	Sn	13 41 57.9	-0.1
PB03				IAML		13 41 59.3	
	comp=N,65nm,0.3s						
TA01	**Diego Aracena**	**1.33**	**290**	⇑*e*P	Pn	13 41 39.0	-0.5
TA01				*i* S	Sn	13 41 57.0	-1.0
TA01				IAML		13 41 59.6	
	comp=N,150nm,0.2s						
GO01	**Chusmiza**	**1.40**	**346**	⇑*e*P	Pn	13 41 40.6	-0.2
GO01				*e*S	Sn	13 41 59.9	-0.3
GO01				IAML		13 42 03.3	
	comp=E,257nm,0.1s						
PB11	**IPOC Station P**	**1.48**	**329**	⇑*e*P	Pn	13 41 40.9	-0.5
PB11				*e*S	Sn	13 41 42.1	-0.1
PB11				IAML		13 42 05.5	
	comp=E,177nm,0.2s						
PB06	**IPOC Station P**	**1.79**	**202**	*e*P	Pn	13 41 44.8	-0.6
PB06				*e*S	Sn	13 42 08.4	0.0
PB06				IAML		13 42 13.0	
	comp=N,94nm,0.3s						

SCB 28 13:42:06.4±0.8, 21°.70S×67°.30W, h168km±11km, ML2.8/2, MW2.5, Error ellipse: s-maj=8.7km s-min=2.6km az=0.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.61**	**74**	Pg	Pn	13 42 39.5	+0.5
MOCB				Sg	Sn	13 43 04.4	+0.3
MOCB				IAML		13 43 07.6	
	42nm,0.5s						
YJA	**Yavi**	**1.73**	**106**	Pg	Pn	13 42 41.0	+0.8
PB01	**IPOC Station P**	**2.14**	**287**	Pg	Pn	13 42 44.6	+0.2
PB01				Sg	Sn	13 43 14.1	+0.4
PB01				IAML		13 43 15.4	
	72nm,0.4s						
GO01	**Chusmiza**	**2.69**	**318**	Pg	Pn	13 42 52.4	+1.1
PB11	**IPOC Station P**	**2.93**	**311**	Pg	Pn	13 42 54.1	+0.2
SOEO	**Opoqueri**	**3.17**	**350**	Pg	Pn	13 42 57.7	+0.5

*IDC **28** 13:43:18.4±1.7, 8°.81S×115°.80E, h0km, mb3.4/4, mbtmp3.6/6, ML3.2/2, MS2.4/1, Error ellipse: s-maj=42.9km s-min=22.2km az=58.0*
*DJA **28** 13:43:23.4±0.3, 8°.5S±5°.×11°.6E±°, h10km, M3.9/9, MLv3.9/9*
ISC 28 13:43:22.6±0.6, 8°.32S±0°.06×116°.47E±0°.03, h10km, n25, σ1§46/29, mb3.6/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**1.27**	**281**	P	**Pn**	**13 43 45.9**	**-0.5**
SRBI				S	**Sn**	**13 44 04.0**	**+0.5**
DNP	**Denpasar**	**1.30**	**254**	P	**Pg**	**13 43 48.3**	**+0.7**
DNP				S	**Sg**	**13 44 06.1**	**+1.7**
PLAI	**Plampang**	**1.39**	**111**	S	**Sg**	**13 44 09.2**	**+1.9**
PLAI	**Plampang**	**1.39**	**111**	P	**Pg**	**13 43 49.4**	**+0.1**
PLAI	**Plampang**	**1.39**	**111**	P	**Pb**	**13 43 48.9**	**+0.2**
PLAI				S	**Sg**	**13 44 08.4**	**+1.1**
JAGI	**Jajag, Banyuwa**	**2.30**	**266**	P	**Pn**	**13 44 00.5**	**-0.1**
JAGI	**Jajag, Banyuwa**	**2.30**	**266**	S	**Sn**	**13 44 27.9**

1.0nm,0.4s,baz=83,slow=9.0,SNR=40
1.0nm,0.4s
ILAR Eielson Array 90.57 17 P P 14 06 20.7 -5.3
0.2nm,0.6s,baz=207,slow=3.8,SNR=2.2
0.2nm,0.6s

---

*IDC **28** 14:15:53.7±0.6, 19°.14S×167°.79E, h0km, mb4.5/20, mbtmp4.5/21, ML4.4/1, MS3.5/21, Error ellipse: s-maj=21.2km s-min=14.0km az=107.0*
*BJI **28** 14:15:54.1, 19°.05S×167°.87E, h10km, mB5.1/8, mb4.9/29, Ms4.7/1, Ms7 4.3/1*
*NOU **28** 14:15:54.4, 18°.96S×167°.74E, h0km, MLv4.8/37, Vanuatu Islands*
*NEIC **28** 14:15:56.3±1.9, 19°.1S±0°.1×167°.8E±0°.1, h10km±1km, mb5.0/102, Error ellipse: s-maj=23.7km s-min=16.6km az=109.0*
ISC 28 14:15:55.8±0.3, 19°.03S±0°.04×167°.77E±0°.05, h10km, n408, σ1§**05**/362, **mb4.9**/81, **MS3.5**/18, **5C-10D, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.35**	**17**	P	**Pn**	**14 16 18.1**	**-2.7**
DVP	**Devils Point**	**1.35**	**17**	S	**Sn**	**14 16 34.9**	**-4.0**
INH	**Isangel**	**1.51**	**110**	P	**Pb**	**14 16 23.9**	**-0.1**
INH	**Isangel**	**1.51**	**110**	S	**Sg**	**14 16 43.6**	**-0.8**
VLAKA	**Lakatoro**	**2.93**	**353**	P	**Pn**	**14 16 40.8**	**-1.7**
YATNC	**Mamie plateau,**	**3.13**	**195**	P	**Pn**	**14 16 43.8**	**-1.4**
DZM	**Mont Dzumac**	**3.27**	**202**		**Pn**	**14 16 45.1**	**-2.2**
DZM	**Mont Dzumac**	**3.27**	**202**	*e*Pn	**Pn**	**14 16 45.1**	**-2.2**
	281nm,1.1s						
DZM				*e*Sn	**Sn**	**14 17 25.5**	**-0.9**
	703nm,0.9s						
DZM	**Mont Dzumac**	**3.27**	**202**	Pn	**Pn**	**14 16 45.8**	**-1.5**
	41nm,0.3s,baz=54,slow=8.3,SNR=680						
DZM				Sn	**Sn**	**14 17 22.9**	**-3.5**
	59nm,0.3s,baz=320,slow=22,SNR=15						
DZM				LR	LR	14 17 35.6	
	comp=Z,323nm,21.7s,baz=28,slow=32						
	104nm,0.3s						
DZM	**Mont Dzumac**	**3.27**	**202**	P	**Pn**	**14 16 46.0**	**-1.3**
OUENC	**Ouen Island, N**	**3.48**	**194**	P	**Pn**	**14 16 49.8**	**-0.3**
ONTNC	**Ouen Toro**	**3.49**	**200**		**Pn**	**14 16 48.8**	**-1.4**
ONTNC	**Ouen Toro**	**3.49**	**200**	P	**Pn**	**14 16 49.7**	**-0.5**
PINNC	**Pines Island,**	**3.58**	**185**		**Pn**	**14 16 51.6**	**+0.2**
PINNC	**Pines Island,**	**3.58**	**185**	P	**Pn**	**14 16 52.1**	**+0.7**
KOUNC	**Koumac, New Ca**	**3.61**	**245**	P	**Pn**	**14 16 50.9**	**-1.0**
MSVF	**Nonsavu**	**9.84**	**84**	Pn	Pn	14 18 23.6	+6.0
	1.0nm,0.3s,baz=252,slow=11,SNR=4.9						
MSVF				LR	LR	14 21 48.3	
	comp=Z,610nm,20.4s,baz=246,slow=36						
DGTI	**Dogotuki**	**11.72**	**78**	P	**Pn**	**14 18 44.2**	**+0.9**
HNR	**Honiara**	**12.18**	**320**	LR	LR	14 23 19.9	
	comp=Z,88nm,18.2s,baz=164,slow=36						
AUWSH	**Wavell State H**	**15.89**	**236**	P	**Pn**	**14 19 39.7**	**0.0**
RK1H	**Rockhampton Ha**	**16.68**	**252**	P	**Pn**	**14 19 50.2**	**+0.4**
EIDS	**Eidsvold**	**16.69**	**245**		**P**	**14 19 52.0**	**-0.2**
EIDS	**Eidsvold**	**16.69**	**245**	P	**Pn**	**14 19 49.8**	**-0.1**
ARMA	**Armidale**	**18.51**	**229**	P	**P**	**14 20 11.6**	**-0.9**
ARMA	**Armidale**	**18.51**	**229**	P	**Pn**	**14 20 12.8**	**+0.2**
URZ	**Urewera**	**20.82**	**159**	LR	LR	14 27 43.6	
	comp=Z,216nm,19.1s,baz=10.0,slow=34						
RABL	**Rabaul**	**21.21**	**312**	P	**P**	**14 20 43.8**	**+1.9**
RABL				IAmb	IAmb	14 20 57.3	
	comp=Z,35nm,0.8s						
PMG	**Port Moresby**	**22.13**	**293**	P	**P**	**14 20 53.5**	**+1.7**
	comp=Z,8.9nm,0.8s,baz=198,slow=9.5,SNR=3.5						
PMG				LR	LR	14 27 15.1	
	comp=Z,123nm,19.2s,baz=96,slow=31						
	comp=Z,8.9nm,0.8s						
QLP	**Quilpie**	**22.94**	**247**	P	**P**	**14 21 00.5**	**+0.1**
CNB	**Canberra Magne**	**22.99**	**221**	P	**P**	**14 21 01.9**	**+1.0**
CMSA	**Cobar Meteorol**	**23.48**	**234**	P	**P**	**14 21 06.3**	**+0.5**
COEN	**Coen**	**24.11**	**278**	P	**P**	**14 21 12.6**	**+0.6**
INKA	**Innaminka**	**26.23**	**246**	P	**P**	**14 21 31.5**	**+0.3**
QIS	**Mount Isa**	**26.53**	**262**	P	**P**	**14 21 34.1**	**+0.1**
STKA	**Stephens Creek**	**26.80**	**236**		**P**	**14 21 36.9**	**+0.6**
STKA	**Stephens Creek**	**26.80**	**236**	P	**P**	**14 21 36.6**	**+0.3**
	comp=Z,16nm,0.8s,baz=72,slow=8.1,SNR=25						
STKA				LR	LR	14 31 01.4	
	comp=Z,152nm,20.4s,baz=46,slow=34						
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**26.80**	**236**	P	**P**	**14 21 36.5**	**+0.3**
LCRK	**Leigh Creek**	**29.06**	**241**	P	**P**	**14 21 56.6**	**+0.1**
RAR	**Rarotonga**	**30.52**	**100**	LR	LR	14 31 53.7	
	comp=Z,37nm,18.5s,baz=340,slow=32						
OOD	**Oodnadatta**	**30.64**	**247**	P	**P**	**14 22 10.9**	**+0.4**
JAY	**Jayapura**	**31.16**	**299**	LR	LR	14 34 15.4	
	comp=Z,78nm,18.9s,baz=68,slow=35						
WR8	**Warramunga Arr**	**31.35**	**263**	P	**P**	**14 22 15.2**	**-1.7**
WB0	**Warramunga Arr**	**31.46**	**263**	P	**P**	**14 22 16.2**	**-1.7**
WRA	**Warramunga Arr**	**31.50**	**263**	P	**P**	**14 22 16.5**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=82,slow=6.0,SNR=12						
WRA				PcP	**PcP**	**14 25 08.8**	**-2.5**
	comp=Z,0.4nm,0.5s,baz=91,slow=23,SNR=7.9						
	comp=Z,0.9nm,0.6s						
BBOO	**Buckleboo**	**31.52**	**238**	P	**P**	**14 22 18.3**	**+0.1**
BBOO				IAmb	IAmb	14 22 29.9	
	comp=Z,15nm,0.8s						
AS01	**Alice Springs**	**31.79**	**256**	P	**P**	**14 22 20.1**	**-0.7**
AS31	**Alice Springs**	**31.83**	**256**	P	**P**	**14 22 19.4**	**-1.8**
ASAR	**Alice Springs**	**31.83**	**256**	P	**P**	**14 22 19.3**	**-1.9**
ASAR	**Alice Springs**	**31.83**	**256**	P	**P**	**14 22 20.3**	**-0.9**
	comp=Z,9.7nm,0.7s,baz=84,slow=8.3,SNR=130						
ASAR				PcP	**PcP**	**14 25 08.6**	**-3.6**
	comp=Z,0.8nm,0.9s,baz=95,slow=4.5,SNR=3.2						
ASAR				S	S	14 27 22.6	-9.2
	comp=Z,0.6nm,1.0s,baz=90,slow=14,SNR=5.8						
ASAR				LR	LR	14 34 39.3	
	comp=Z,147nm,19.5s,baz=92,slow=35						
	comp=Z,9.7nm,0.7s						
MTN	**Manton Dam**	**35.71**	**274**	P	**P**	**14 22 54.7**	**-0.2**
DRS	**Darwin Rock St**	**36.04**	**275**	P	**P**	**14 22 57.5**	**-0.2**
WRKA	**Warakurna**	**36.98**	**253**	P	**P**	**14 23 05.1**	**-0.7**
KNRA	**Kununurra**	**37.33**	**269**		**P**	**14 23 07.7**	**-1.0**
KNRA				IAmb	IAmb	14 23 20.3	
	comp=Z,13nm,0.6s						
FORT	**Forrest**	**37.69**	**244**	P	**P**	**14 23 11.2**	**-0.4**
FORT				IAmb	IAmb	14 23 44.7	
	comp=Z,19nm,0.9s						
GUMO	**Guam**	**39.49**	**323**	LR	LR	14 37 30.5	
	comp=Z,42nm,19.5s,baz=122,slow=33						
FITZ	**Fitzroy Crossi**	**39.88**	**264**	P	**P**	**14 23 29.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**39.88**	**264**	LR	LR	14 39 18.7	
	comp=Z,127nm,18.3s,baz=86,slow=35						
PPT2	**Papeete2**	**40.45**	**95**	*e*LR	LR	14 34 34.4	
	comp=Z,155nm,38.2s						
PPT2				*e*LR	LR	14 34 40.9	
	comp=Z,207nm,27.8s						
PPT	**Papeete**	**40.45**	**95**	LR	LR	14 36 38.7	
	comp=Z,106nm,19.8s,baz=152,slow=31						
PSA00	**Pilbara Seismi**	**44.88**	**258**	P	**P**	**14 24 10.8**	**-0.1**
MBWA	**Marble Bar**	**45.03**	**259**	P	**P**	**14 24 11.5**	**-0.6**
MBWA				IAmb	IAmb	14 24 23.6	
	comp=Z,17nm,0.8s						
MBWA	**Marble Bar**	**45.03**	**259**	P	**P**	**14 24 12.0**	**-0.1**
MEEK	**Meekatharra**	**45.71**	**251**	P	**P**	**14 24 17.4**	**-0.1**
KLBR	**Kellerberrin**	**46.55**	**244**	P	**P**	**14 24 22.3**	**-1.7**
MORW	**Morawa**	**47.97**	**248**	P	**P**	**14 24 34.3**	**-0.7**
MORW				IAmb	IAmb	14 24 46.3	
	comp=Z,7.4nm,0.8s						
GIRL	**Giralia**	**49.95**	**256**	P	**P**	**14 24 50.0**	**-0.4**
VNDA	**Vanda**	**58.60**	**182**	P	**P**	**14 25 50.2**	**-2.3**
	comp=Z,0.4nm,0.7s,baz=11,slow=5.2,SNR=2.7						
MJAR	**Matsushiro Arr**	**61.93**	**333**	P	**P**	**14 26 14.7**	**-1.1**
	comp=Z,2.7nm,1.0s,baz=169,slow=6.4,SNR=7.7						
	comp=Z,2.7nm,1.0s						
ASAJ	**Asahikawa**	**66.93**	**341**	P	**P**	**14 26 49.5**	**+1.1**
	comp=Z,18nm,0.9s,baz=231,slow=13,SNR=7.0						
	comp=Z,18nm,0.9s						
KSRS	**Korea Array**	**67.56**	**327**	P	**P**	**14 26 52.7**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=140,slow=6.9,SNR=7.3						
	comp=Z,1.6nm,0.9s						
NJ2	**Nanjing**	**69.10**	**317**	*e*P	**P**	**14 27 04.0**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**70.92**	**334**	P	**P**	**14 27 14.0**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=120,slow=2.0,SNR=3.2						
	comp=Z,1.7nm,0.6s						
QSPA	**South Pole Qui**	**71.02**	**180**	P	**P**	**14 27 13.6**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=348,slow=6.3,SNR=6.7						
QSPA				LR	LR	14 56 06.2	
	comp=Z,58nm,18.1s,baz=308,slow=34						
	comp=Z,1.2nm,0.8s						
WHN	**Wuhan**	**71.19**	**313**	P	**P**	**14 27 15.8**	**+0.7**
WHN				pmax	pmax		
	comp=Z,28nm,0.6s						
PETK	**Petropavlovsk-**	**72.36**	**354**		**P**	**14 27 21.8**	**+0.1**
PETK	**Petropavlovsk-**	**72.36**	**354**	P	**P**	**14 27 21.9**	**+0.2**
	comp=Z,6.9nm,0.8s,baz=156,slow=7.8,SNR=21						
	comp=Z,6.9nm,0.8s						
CN2	**Changchun**	**73.57**	**329**	*e*P	**P**	**14 27 30.5**	**+1.4**
LYN	**LuoYang**	**74.84**	**315**	P	**P**	**14 27 37.5**	**+0.8**
LYN				pmax	pmax		
	comp=Z,38nm,0.9s						
KLR	**Kul'dur**	**75.12**	**336**	P	**P**	**14 27 38.6**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=139,slow=2.4,SNR=8.3						
	comp=Z,2.4nm,0.8s						
HNS	**HongShan**	**75.12**	**319**	⇓P	**P**	**14 27 39.3**	**+1.0**
HNS				pmax	pmax		
	comp=Z,17nm,0.9s						
BJI	**Beijing**	**75.91**	**322**	P	**P**	**14 27 43.8**	**+1.1**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN	**Xi'an**	**76.95**	**313**	P	**P**	**14 27 49.5**	**+0.6**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**77.16**	**295**		**P**	**14 27 50.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**77.16**	**295**	P	**P**	**14 27 50.9**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=128,slow=4.1,SNR=20						
CMAR				LR	LR	15 02 52.8	
	comp=Z,6.4nm,18.1s,baz=230,slow=36						
	comp=Z,3.1nm,0.9s						
CHTO	**Chiang Mai**	**77.31**	**295**		**P**	**14 27 51.3**	**+0.2**
HEH	**HeiHe**	**77.63**	**335**	*e*P	**P**	**14 27 52.0**	**-0.2**
HEH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
P08K	**Saint George I**	**77.72**	**13**	P	**P**	**14 27 55.2**	**+2.6**
	baz=202						
SPIA	**Saint Paul Isl**	**78.11**	**12**	P	**P**	**14 27 57.6**	**+2.9**
	baz=201						
PZH	**PanZhiHua**	**78.43**	**303**	P	**P**	**14 27 57.8**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,90nm,4.1s						
HHC	**Hu-ho-hao-te**	**79.16**	**320**	*e*P	**P**	**14 28 02.8**	**+1.7**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,71nm,4.5s						
MA2	**Magadan**	**79.55**	**351**	P	**P**	**14 28 02.3**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=153,slow=6.8,SNR=5.2						
	comp=Z,3.2nm,0.8s						
LZH	**Lanzhou**	**81.56**	**313**	*e*P	**P**	**14 28 15.5**	**+1.3**
LZH				sP	pwP	14 28 25.0	+2.3
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
BELA	**Belgrano 2**	**82.42**	**175**	P	**P**	**14 28 17.4**	**-0.5**
N14K	**Kuskokwak Cree**	**82.51**	**15**	P	**P**	**14 28 20.4**	**+2.2**
	baz=209						
R18K	**Karluk**	**82.53**	**19**	P	**P**	**14 28 20.2**	**+1.7**
	baz=216						
M13K	**Dall Lake**	**82.55**	**14**	P	**P**	**14 28 20.2**	**+1.7**
	baz=207						
SEY	**Seymchan**	**82.58**	**353**	P	**P**	**14 28 18.6**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=151,slow=7.0,SNR=12						
	comp=Z,2.2nm,0.9s						
OHAK	**Old Harbor**	**82.63**	**20**	P	**P**	**14 28 20.7**	**+1.7**
	baz=217						
Q17K	**Contact Creek**	**82.67**	**18**	P	**P**	**14 28 20.8**	**+1.4**
	baz=214						
P16K	**Nushagak River**	**82.70**	**17**	P	**P**	**14 28 20.7**	**+1.3**
	baz=212						
Q16K	**King Salmon**	**82.78**	**18**	P	**P**	**14 28 20.9**	**+1.2**
	baz=214						
N15K	**Kwethluk River**	**83.12**	**16**	P	**P**	**14 28 22.8**	**+1.3**
	baz=210						
M14K	**Bethel**	**83.17**	**14**	P	**P**	**14 28 23.1**	**+1.4**
	baz=209						
Q18K	**Katmai Hardscr**	**83.25**	**19**	P	**P**	**14 28 23.6**	**+1.2**
	baz=215,SNR=7.9						
KDAK	**Kodiak Island**	**83.31**	**20**	P	**P**	**14 28 23.7**	**+1.2**
	baz=217						
M15K	**Kasigluk River**	**83.42**	**15**	P	**P**	**14 28 24.7**	**+1.6**
	baz=210						
L14K	**Kuka Creek**	**83.52**	**14**	P	**P**	**14 28 25.3**	**+1.8**
	baz=208						
O17K	**Koliganek Bris**	**83.58**	**17**	P	**P**	**14 28 25.7**	**+1.8**
	baz=213						
K13K	**Kusilvak Mount**	**83.62**	**13**	P	**P**	**14 28 25.7**	**+1.7**
	baz=206						
N16K	**Nishlik Lake**	**83.72**	**16**	P	**P**	**14 28 26.4**	**+1.7**
	baz=212						
P18K	**Big Mountain,**	**83.79**	**18**	P	**P**	**14 28 26.1**	**+1.0**
	baz=215						
Q19K	**Cape Douglas,**	**83.89**	**19**	P	**P**	**14 28 26.7**	**+1.2**
	baz=216						
Q20K	**Shuyak Island**	**84.03**	**20**	P	**P**	**14 28 27.5**	**+1.3**
	baz=217						
GAMB	**Gambell**	**84.07**	**9**	P	**P**	**14 28 27.8**	**+1.5**
	baz=199						
L15K	**Ungalak Mounta**	**84.09**	**14**	P	**P**	**14 28 28.2**	**+1.8**
	baz=209						
M16K	**Timber Creek**	**84.14**	**16**	P	**P**	**14 28 28.1**	**+1.3**
	baz=211						
O18K	**Koktuh Hills**	**84.18**	**18**	P	**P**	**14 28 28.0**	**+1.0**
	baz=215						
N17K	**Nushagak Hills**	**84.18**	**17**	P	**P**	**14 28 28.1**	**+1.1**
	baz=213						
P19K	**Oil Pt**	**84.60**	**19**	P	**P**	**14 28 29.9**	**+0.7**
P19K	**Oil Pt**	**84.60**	**19**	P	**P**	**14 28 30.0**	**+0.9**
	baz=217						
L16K	**Owhat River**	**84.60**	**15**	IAmb	IAmb	14 28 32.1	
	comp=Z,211nm,1.4s						
L16K	**Owhat River**	**84.60**	**15**	P	**P**	**14 28 30.2**	**+1.1**
	baz=211						
K15K	**Wolf Creek Mou**	**84.62**	**14**	P	**P**	**14 28 30.6**	**+1.4**
K15K	**Wolf Creek Mou**	**84.62**	**14**	P	**P**	**14 28 30.2**	**+1.0**
	baz=209						
N18K	**Kilae Creek**	**84.67**	**17**	P	**P**	**14 28 30.8**	**+1.4**
	baz=214						
O19K	**Port Alsworth**	**84.71**	**18**	P	**P**	**14 28 30.2**	**+0.5**
	baz=216,SNR=7.3						
M17K	**Holitna River**	**84.85**	**16**	P	**P**	**14 28 31.7**	**+1.3**
	baz=213						
ILSW	**Iliamna Southw**	**84.89**	**19**	P	**P**	**14 28 31.1**	**+0.4**
N19K	**Bonanza Creek**	**85.17**	**18**	P	**P**	**14 28 32.6**	**+0.5**
	baz=216						
L17K	**Donlin**	**85.25**	**15**	P	**P**	**14 28 33.7**	**+1.4**
	baz=212,SNR=7.6						
M18K	**Stony River**	**85.36**	**17**	P	**P**	**14 28 34.4**	**+1.5**
	baz=214,SNR=14						
BRLK	**Bradley Lake**	**85.42**	**20**	P	**P**	**14 28 34.2**	**+1.0**
BRSE	**Bradley Lake S**	**85.44**	**20**	P	**P**	**14 28 34.3**	**+0.9**
	baz=219						
J16K	**Anvik River**	**85.70**	**14**	P	**P**	**14 28 36.2**	**+1.7**
	baz=210						
L18K	**Granite Mounta**	**85.73**	**16**	P	**P**	**14 28 36.3**	**+1.5**
	baz=213,SNR=6.5						
K17K	**Iditarod**	**85.75**	**15**	P	**P**	**14 28 36.6**	**+1.8**
	baz=212,SNR=6.2						
ANM	**Nome**	**85.86**	**11**	P	**P**	**14 28 37.0**	**+1.7**
	baz=205						
ULN	**Ulaanbaatar**	**85.87**	**324**	P	**P**	**14 28 36.2**	**+0.2**
GTA	**Gaotai**	**85.98**	**314**	*e*P	**P**	**14 28 37.5**	**+0.8**
GTA				sP	pwP	14 28 45.8	+0.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
M19K	**Big River Lodg**	**86.09**	**17**	P	**P**	**14 28 37.9**	**+1.3**
	baz=216						
SPCR	**Spurr Chakacha**	**86.14**	**18**	P	**P**	**14 28 38.1**	**+1.3**
	baz=218						
J17K	**VABM Dome**	**86.15**	**14**	P	**P**	**14 28 38.3**	**+1.5**
	baz=211,SNR=5.6						
L19K	**White Mountain**	**86.19**	**17**	P	**P**	**14 28 38.1**	**+1.0**
	baz=215						
I17K	**Unalakleet**	**86.20**	**13**	P	**P**	**14 28 38.5**	**+1.5**
	baz=210						
SLKM	**Skilak Lake**	**86.20**	**19**	P	**P**	**14 28 37.6**	**+0.5**
SLKM				IAmb	IAmb	14 28 39.1	
	comp=Z,15nm,1.2s						
SONM	**Songino Array**	**86.22**	**324**	P	**P**	**14 28 38.2**	**+0.5**
SONM	**Songino Array**	**86.22**	**324**	P	**P**	**14 28 38.1**	**+0.4**
	comp=Z,12nm,0.8s,baz=144,slow=5.3,SNR=64						
	comp=Z,12nm,0.8s						
YAK	**Yakutsk**	**86.26**	**343**	P	**P**	**14 28 37.5**	**+0.2**
	comp=Z,9.7nm,0.6s,baz=74,slow=3.7,SNR=6.9						
	comp=Z,9.7nm,0.6s						
TNA	**Tin City**	**86.33**	**10**	P	**P**	**14 28 39.3**	**+1.7**
	baz=203						
O22K	**Cooper Landing**	**86.34**	**20**	P	**P**	**14 28 39.1**	**+1.4**
O22K	**Cooper Landing**	**86.34**	**20**	P	**P**	**14 28 39.2**	**+1.4**
	baz=220						
M20K	**Styx River**	**86.42**	**17**	P	**P**	**14 28 39.8**	**+1.6**
	baz=217						
G15K	**Niukluk**	**86.50**	**12**	P	**P**	**14 28 40.2**	**+1.7**
	baz=207						
H16K	**Elim**	**86.54**	**12**	P	**P**	**14 28 40.1**	**+1.4**
	baz=208						
L20K	**Farewell, AK**	**86.70**	**17**	P	**P**	**14 28 40.4**	**+0.9**
	baz=216,SNR=8.4						
P23K	**Montague Islan**	**86.73**	**21**	P	**P**	**14 28 40.8**	**+1.1**
	baz=222						
J18K	**Innoko River**	**86.77**	**15**	P	**P**	**14 28 40.7**	**+0.9**
J18K				IAmb	IAmb	14 28 42.0	
	comp=Z,5.9nm,0.8s						
J18K	**Innoko River**	**86.77**	**15**	P	**P**	**14 28 40.8**	**+0.9**
	baz=213						
SUA	**Susitna One**	**86.79**	**19**	P	**P**	**14 28 40.5**	**+0.4**
	baz=219						
RC01	**Rabbit Creek A**	**86.81**	**19**	P	**P**	**14 28 41.0**	**+0.9**
	baz=220						
BILL	**Bilibino**	**86.82**	**359**	P	**P**	**14 28 40.2**	**+0.2**
BILL				IAmb	IAmb	14 28 41.4	
	comp=Z,7.6nm,0.9s						
SKT	**Skwentna**	**86.96**	**18**	P	**P**	**14 28 42.1**	**+1.3**
	baz=218						
PWL	**Port Wells**	**87.07**	**20**	P	**P**	**14 28 42.3**	**+0.9**
	baz=221						
G16K	**Koyuk River**	**87.18**	**12**	P	**P**	**14 28 43.5**	**+1.7**
G16K				IAmb	IAmb	14 28 44.3	
	comp=Z,7.0nm,0.9s						
G16K	**Koyuk River**	**87.18**	**12**	P	**P**	**14 28 42.9**	**+1.2**
	baz=208						
M22K	**Willow**	**87.20**	**19**	P	**P**	**14 28 42.5**	**+0.6**
	baz=219						
H17K	**Granite Mounta**	**87.29**	**13**	P	**P**	**14 28 43.2**	**+0.9**
	baz=210						
K20K	**Telida**	**87.36**	**16**	IAmb	IAmb	14 30 24.3	
	comp=Z,28nm,2.0s						
K20K	**Telida**	**87.36**	**16**	P	**P**	**14 28 43.3**	**+0.6**
	baz=216						
PMR	**Palmer**	**87.38**	**19**	P	**P**	**14 28 43.5**	**+0.7**
	baz=220						
KNK	**Knik Glacier**	**87.45**	**19**	P	**P**	**14 28 43.7**	**+0.5**
	baz=221						
J19K	**Poorman**	**87.48**	**15**	P	**P**	**14 28 44.0**	**+0.8**
	baz=214						
PPLA	**Purkeypile**	**87.50**	**17**	P	**P**	**14 28 44.1**	**+0.6**
	baz=218						
CAST	**Castle Rocks**	**87.94**	**17**	P	**P**	**14 28 45.1**	**-0.4**
	baz=218						
M23K	**Glacier View**	**87.97**	**19**	P	**P**	**14 28 46.2**	**+0.5**
	baz=222						
J20K	**Nowinta River**	**88.01**	**16**		**P**	**14 28 46.9**	**+1.2**
J20K	**Nowinta River**	**88.01**	**16**	P	**P**	**14 28 46.2**	**+0.5**
	baz=216						
YBH	**Yreka Blue Hor**	**88.12**	**45**	P	**P**	**14 28 48.0**	**+1.1**
YBH				IAmb	IAmb	14 28 49.3	
	comp=Z,7.2nm,0.8s						
YBH	**Yreka Blue Hor**	**88.12**	**45**	LR	LR	14 59 53.8	
	comp=Z,22nm,21.6s,baz=221,slow=30						
SCM	**Sheep Creek Mo**	**88.13**	**20**	P	**P**	**14 28 46.0**	**-0.5**
SCM				IAmb	IAmb	14 29 21.9	
	comp=Z,14nm,1.3s						
SCM	**Sheep Creek Mo**	**88.13**	**20**	P	**P**	**14 28 46.4**	**-0.1**
	baz=222						
BGLC	**Bering Glacier**	**88.25**	**22**	P	**P**	**14 28 47.2**	**+0.3**
	baz=225						
F17K	**Baldwin Pennin**	**88.32**	**12**	P	**P**	**14 28 49.2**	**+2.0**
F17K				IAmb	IAmb	14 28 50.4	
	comp=Z,6.8nm,0.7s						
F17K	**Baldwin Pennin**	**88.32**	**12**	P	**P**	**14 28 48.4**	**+1.3**
	baz=209						
KLU	**Klutina**	**88.33**	**20**	P	**P**	**14 28 47.3**	**-0.2**
	baz=223						
G18K	**Tagagawik**	**88.38**	**13**	P	**P**	**14 28 48.4**	**+0.9**
	baz=212						
BMRM	**Bremner River**	**88.39**	**21**	P	**P**	**14 28 47.3**	**-0.5**
	baz=224						
TRF	**Thorofare Moun**	**88.47**	**17**	P	**P**	**14 28 47.9**	**-0.3**
TRF				IAmb	IAmb	14 28 48.9	
	comp=Z,5.0nm,0.9s						
TRF	**Thorofare Moun**	**88.47**	**17**	P	**P**	**14 28 48.6**	**+0.4**
	baz=219						
L04D	**Klamath Falls**	**88.61**	**44**	P	**P**	**14 28 50.4**	**+1.0**
TROLL	**Troll, Antarti**	**88.64**	**185**	⇑P	**P**	**14 28 49.1**	**+0.1**
	comp=Z,304nm,0.8s						
M24K	**Tolsona, Glenn**	**88.70**	**20**	P	**P**	**14 28 50.0**	**+0.8**
	baz=223						
E17K	**Hotham Inlet**	**88.78**	**11**	P	**P**	**14 28 50.6**	**+1.3**
	baz=209						
BPAW	**Bear Paw Mtn.**	**88.78**	**17**	P	**P**	**14 28 49.8**	**+0.3**
	baz=218						
N25K	**Chitina, Valde**	**88.85**	**21**	IAmb	IAmb	14 28 52.4	
	comp=Z,14nm,1.6s						
N25K	**Chitina, Valde**	**88.85**	**21**	P	**P**	**14 28 50.3**	**+0.3**
	baz=224						
RND	**Reindeer**	**88.85**	**18**	P	**P**	**14 28 50.2**	**+0.3**
H20K	**Anotleneega Mo**	**88.90**	**15**	P	**P**	**14 28 50.5**	**+0.5**
	baz=215						
PNTR	**Pine Nut**	**89.07**	**48**	IAmb	IAmb	14 28 53.8	
	comp=Z,7.2

comp=Z,8.5nm,1.1s
P29M Windy Craggy 90.00 24 P P 14 28 55.6 +0.3
baz=230
E19K Redstone River 90.01 13 P P 14 28 56.0 +0.8
baz=213
V35K Ketchikan 90.04 30 P P 14 28 55.9 +0.4
baz=235
K24K Donnelly Dome 90.06 19 P P 14 28 55.9 +0.4
baz=223
G21K Allakaket 90.06 15 P P 14 28 56.2 +0.8
baz=216
H22K Ishtalitna Cre 90.09 16 P P 14 28 56.1 +0.5
baz=218
HDA Harding Lake 90.16 18 IAmb IAmb 14 28 58.0
comp=Z,5.2nm,0.8s
HDA Harding Lake 90.16 18 P P 14 28 55.5 -0.4
baz=222
VNA2 Neumayer--Watz 90.22 182 ⇑P P 14 28 56.3 0.0
comp=Z,4.7nm,0.8s,baz=177,slow=5.3
COLA College 90.25 17 P P 14 28 56.0 -0.3
baz=221
WCT Wildcat Mounta 90.25 51 IAmb IAmb 14 28 59.1
comp=Z,8.7nm,1.1s
C18K Utukok River 90.27 11 IAmb IAmb 14 28 59.9
comp=Z,27nm,1.8s
C18K Utukok River 90.27 11 P P 14 28 57.0 +0.6
baz=209
L26K Log Cabin Wild 90.27 20 IAmb IAmb 14 28 58.3
comp=Z,8.4nm,1.4s
M27K Edge Creek, AK 90.30 21 P P 14 28 57.2 +0.4
baz=227
RIDG Independent Ri 90.30 19 P P 14 28 57.2 +0.5
baz=224
YUK8 Steele Glacier 90.31 23 P P 14 28 56.7 -0.3
baz=228
WRAK Wrangell Islan 90.32 29 P P 14 28 57.1 +0.3
baz=235
YUK3 Moose Creek 90.39 22 P P 14 28 57.7 +0.4
baz=228
ILAR Eielson Array 90.45 18 P P 14 28 56.0 -1.3
comp=Z,2.4nm,0.7s,baz=236,slow=4.8,SNR=32
comp=Z,2.4nm,0.7s
R32K Eaglecrest 90.47 27 P P 14 28 58.3 +0.9
baz=233
H23K Yukon River 90.51 16 P P 14 28 57.9 +0.4
baz=220
VNA1 Neumayer--Stat 90.52 181 ⇑P P 14 28 59.2 +1.6
comp=Z,10nm,0.9s
POKR Poker Plat Res 90.55 17 P P 14 28 58.1 +0.3
baz=222
LPIG La Paz 90.58 65 LR LR 15 03 48.8
comp=Z,24nm,18.6s,baz=228,slow=32
TPNV Topopah Spring 90.59 51 IAmb IAmb 14 29 00.7
comp=Z,7.3nm,1.1s
YUK6 Outpost Mounta 90.60 23 P P 14 28 58.0 -0.3
baz=230
P30M Million Dollar 90.61 24 P P 14 28 58.3 +0.1
baz=231
F21K Alatna River 90.64 14 P P 14 28 59.1 +0.9
baz=216
BVCY Beaver Creek 90.68 21 P P 14 28 59.4 +1.0
baz=228
D19K Kuna River 90.71 12 P P 14 28 60.0 +1.5
baz=212
SCRK Sand Creek 90.74 19 P P 14 28 58.5 -0.3
baz=225
YUK4 Talbot Arm 90.76 23 P P 14 28 59.2 +0.2
baz=230
J25K Salcha River, 90.78 18 IAmb IAmb 14 29 10.5
comp=Z,15nm,1.9s
B18K Kokolik River 90.79 10 P P 14 28 59.6 +0.8
baz=209
L27K Beaver Creek, 90.80 21 P P 14 28 59.1 +0.1
baz=227
HYT Haines Junctio 90.85 24 P P 14 28 59.1 -0.2
baz=230
SKAG Skagway 90.85 25 P P 14 28 59.4 +0.2
baz=232
G22K Bettles 90.87 15 P P 14 29 00.1 +1.0
baz=218
E20K Nigu River 90.90 13 P P 14 29 00.1 +0.7
baz=214
H24K Noodor Dome 90.97 17 P P 14 29 00.0 +0.3
baz=221
G23K Bananza Creek 91.07 15 P P 14 29 00.8 +0.7
baz=219
U35K Hyder 91.11 30 P P 14 29 00.9 +0.4
baz=237
WVOR Wild Horse Val 91.15 45 IAmb IAmb 14 29 03.3
comp=Z,14nm,1.1s
V12A Nelson 91.16 53 IAmb IAmb 14 29 04.6
comp=Z,6.6nm,1.2s
F22K John River 91.17 14 P P 14 29 01.5 +0.9
baz=217
D20K Etivluk River 91.20 12 P P 14 29 01.1 +0.4
baz=213
J26L Joseph Creek 91.24 19 P P 14 29 01.9 +0.9
baz=225
O30N Mendenhall 91.36 24 P P 14 29 02.4 +0.8
baz=232
K27K Chicken 91.38 20 P P 14 29 02.3 +0.7
baz=226
PRP Porcupine Dome 91.39 18 P P 14 29 02.2 +0.4
baz=224
N30M Aishikik Lake 91.41 23 P P 14 29 02.9 +1.0
baz=231
COLD Coldfoot 91.43 15 IAmb IAmb 14 30 24.2
comp=Z,3.9nm,0.6s
COLD Coldfoot 91.43 15 P P 14 29 02.4 +0.6
baz=219
M29M Somme Creek 91.54 22 P P 14 29 02.9 +0.4
baz=230
P32M Atlin 91.58 26 P P 14 29 03.2 +0.5
baz=234
T35M Bob Quinn 91.60 29 P P 14 29 02.8 0.0
baz=237
J08A Circle Bar Ran 91.64 44 IAmb IAmb 14 29 05.3
comp=Z,9.7nm,1.0s
W13A Hualapai Mount 91.65 53 IAmb IAmb 14 29 05.8
comp=Z,5.8nm,1.0s
PRN Pahroc Range 91.65 51 IAmb IAmb 14 29 05.9
comp=Z,11nm,0.9s
A19K Wainwright 91.66 10 P P 14 29 03.4 +0.7
baz=209
S34M Telegraph Cree 91.72 28 P P 14 29 04.0 +0.7
baz=236
G24K Hadweenzic Riv 91.72 16 P P 14 29 03.6 +0.4
baz=222
E22K Anaktuvuk Pass 91.76 14 P P 14 29 04.2 +0.9
baz=218
WHY Whitehorse 91.76 25 P P 14 29 03.8 +0.2
baz=233
Q32M Nakina River 91.82 27 P P 14 29 04.5 +0.5
baz=235
I26K Coal Creek Min 91.94 19 P P 14 29 04.5 +0.4
baz=226
C21K Knifeblade Rid 91.94 13 P P 14 29 04.8 +0.7
baz=215
L29M L29M 92.09 22 P P 14 29 05.4 +0.5
baz=230
G08A Pilot Rock 92.14 43 IAmb IAmb 14 29 08.0
comp=Z,8.6nm,0.9s
G25K Bearman Lake 92.14 17 P P 14 29 06.0 +0.9
baz=223
D22K Ayikyak River 92.16 13 P P 14 29 06.1 +0.9
baz=217
B20K Meade River 92.18 11 P P 14 29 05.6 +0.5
baz=213
E23K Chandalar 92.22 15 P P 14 29 06.0 +0.5
baz=220
M30M Minto, Yukon 92.22 22 P P 14 29 05.7 +0.1
baz=231
F24K Squaw Lake 92.23 16 P P 14 29 06.3 +0.7
baz=221
DAWY Dawson 92.28 21 P P 14 29 06.2 +0.4
baz=229
P33M Teslin, Yukon 92.32 25 P P 14 29 06.3 +0.2
baz=234
B21K Ikpikpuk River 92.35 12 P P 14 29 06.8 +0.9
baz=215
DLBC Dease Lake 92.50 28 P P 14 29 07.5 +0.5
baz=237
E24K Your Creek 92.50 15 P P 14 29 07.3 +0.5
baz=221
I27K Kandik River 92.61 19 P P 14 29 08.3 +1.0
baz=227
R33M Jennings River 92.62 27 IAmb IAmb 14 29 09.1
comp=Z,6.1nm,1.2s
R33M Jennings River 92.62 27 P P 14 29 08.2 +0.6
baz=236
D23K Nanushuk River 92.67 14 P P 14 29 09.1 +1.6
baz=219
TOLK Toolik Lake Re 92.68 14 P P 14 29 09.0 +1.4
baz=220
K29M Barlow Dome 92.77 21 P P 14 29 08.7 +0.5
baz=231
F25K Christian Rive 92.87 16 P P 14 29 09.5 +1.0
baz=223
M31M Drury Creek, Y 92.88 23 P P 14 29 09.3 +0.7
baz=233
G26K Porcupine Rive 92.91 17 P P 14 29 09.7 +1.1
baz=225
J29N Klondike Camp 92.92 21 P P 14 29 09.5 +0.7
baz=230
I28M Miner Creek 93.02 19 P P 14 29 10.2 +0.9
baz=228
H27K Steamboat Moun 93.06 18 P P 14 29 10.4 +1.0
baz=227
B22K Teshekpuk Lake 93.18 12 P P 14 29 11.2 +1.4
baz=216
D24K Happy Valley 93.24 14 P P 14 29 11.5 +1.4
baz=221
E25K Arctic Village 93.27 16 P P 14 29 11.0 +0.7
baz=224
X16A Lo Mia Camp, P 93.28 55 IAmb IAmb 14 29 13.6
comp=Z,5.0nm,1.1s
FARO Faro, Yukon 93.29 24 P P 14 29 11.4 +0.9
baz=234
F26K Sheenjek River 93.34 17 P P 14 29 12.2 +1.6
baz=225
U15A North Rim 93.34 53 IAmb IAmb 14 29 13.8
comp=Z,4.2nm,0.8s
C23K Itkillik River 93.37 13 P P 14 29 12.4 +1.7
baz=219
A21K Barrow 93.38 11 P P 14 29 12.5 +1.8
baz=213
A22K Sinclair Lake 93.42 11 P P 14 29 11.9 +1.1
baz=215
G27K Doyon Strip 93.42 18 P P 14 29 12.0 +1.0
baz=227
J30M Hart River 93.63 21 P P 14 29 12.4 +0.2
baz=232
C24K Franklin Bluff 93.70 14 P P 14 29 13.0 +0.8
baz=221
WTLY Watson Lake, Y 93.94 27 P P 14 29 14.0 +0.4
baz=238
D25K Kavik River 93.95 15 P P 14 29 14.1 +0.7
baz=223
H29M Whitestone 94.01 19 P P 14 29 13.9 +0.2
baz=230
I30M Mount Dempster 94.02 20 P P 14 29 13.7 -0.2
baz=232
MMPY Sheldon Lake, 94.31 24 P P 14 29 15.2 0.0
baz=236
E27K Coleen River 94.38 17 P P 14 29 16.0 +0.7
baz=227
G29M Pine Creek 94.57 19 P P 14 29 16.0 -0.2
baz=230
EPYK Eagle Plains 94.63 19 P P 14 29 17.0 +0.5
baz=231
C26K Camden Bay 94.74 15 P P 14 29 17.5 +0.5
baz=224
LIRD Liard River Hi 94.74 28 P P 14 29 17.5 +0.3
baz=240
C27K Jago River 94.83 15 P P 14 29 18.2 +0.8
baz=225
TOAD Toad River Com 94.86 29 P P 14 29 18.3 +0.6
baz=241
TGTN Hyland Airport 94.90 26 P P 14 29 18.6 +0.6
baz=238
H31M Peel River 95.05 21 P P 14 29 19.4 +0.9
baz=234
G30M tAoh Zraii Nji 95.16 19 IAmb IAmb 14 29 20.6
comp=Z,8.0nm,1.1s
G30M tAoh Zraii Nji 95.16 19 P P 14 29 19.9 +0.9
baz=232
E28M Babbage River 95.23 17 IAmb IAmb 14 29 21.6
comp=Z,11nm,1.6s
E28M Babbage River 95.23 17 P P 14 29 20.4 +1.2
baz=229
D27M Malcolm River 95.27 16 P P 14 29 20.3 +0.9
baz=228
E29M Blow River 95.55 18 P P 14 29 22.1 +1.4
baz=230
F30M Barrier River 95.68 19 P P 14 29 22.1 +0.8
baz=232
G31M Satah River 95.74 20 IAmb IAmb 14 29 23.1
comp=Z,6.4nm,1.0s
G31M Satah River 95.74 20 P P 14 29 21.9 +0.4
baz=234
D28M Stokes Point 95.92 17 P P 14 29 23.4 +1.1
baz=230
KOTAN Kotaneelee Air 96.00 28 P P 14 29 23.0 +0.1
baz=242
WMQ Urumqi 96.06 314 *e*P P 14 29 22.0 -1.7
F31M Tsiigehtchic 96.21 19 IAmb IAmb 14 29 24.7
comp=Z,7.7nm,1.2s
F31M Tsiigehtchic 96.21 19 P P 14 29 23.8 +0.1
baz=234
INK Inuvik 96.78 19 P P 14 29 25.5 -0.8
baz=234
PDAR Pinedale Array 97.49 47 P 14 29 30.0 -0.4
PDAR Pinedale Array 97.49 47 LR LR 15 05 46.4
comp=Z,14nm,19.9s,baz=199,slow=31
WRGLY Wrigley 97.69 25 P P 14 29 30.8 +0.3
baz=243
TXAR Lajitas Array 97.89 62 P P 14 29 32.9 +0.5
comp=Z,0.4nm,0.8s,baz=216,slow=5.8,SNR=5.0
TXAR LR LR 15 07 41.2
comp=Z,9.6nm,18.4s,baz=222,slow=32
comp=Z,0.4nm,0.8s
C36M Paulatuk 100.26 20 P Pdif 14 29 41.3 -0.5
baz=243
MKAR Makanchi Array 100.62 316 P Pdif 14 29 43.8 -0.3
comp=Z,0.3nm,0.7s,baz=97,slow=6.0,SNR=2.7
ZALV Zalesovo Beam 101.12 323 P Pdif 14 29 46.4 +0.3
comp=Z,1.1nm,0.7s,baz=111,slow=8.1,SNR=4.3
YKA Yellowknite Ar 101.12 28 P Pdif 14 29 46.6 +0.8
comp=Z,0.9nm,0.7s,baz=254,slow=4.7,SNR=20
A36M Sachs Harbour 101.12 17 P Pdif 14 29 45.6 0.0
baz=242
ARCES ARCESS Array B 124.51 345 PKP PKPdf 14 34 54.4 -0.4
comp=Z,1.6nm,0.7s,baz=46,slow=3.1,SNR=3.0
EKA Eskdalemuir Ar 143.11 351 PKhKP PKPpre 14 35 26.1
comp=Z,0.9nm,0.8s,baz=1.3,slow=3.2,SNR=3.7
CONA Conrad Observa 143.24 328 *i* PKP PKPbc 14 35 28.1 +0.7
comp=Z,1.4nm,0.5s
GERES GERESS Array B 143.64 331 PKP PKPab 14 35 28.2 +0.5
comp=Z,0.4nm,0.3s,baz=10,slow=5.1,SNR=6.9
MOA Molln 144.08 329 *i* PKP PKPbc 14 35 30.6 +0.7
comp=Z,2.8nm,0.5s
PERS Pernice 144.48 327 *i* PKPbc **PKPab** 14 35 31.4 +0.5
BIOA Bad Ischl, Aus 144.49 330 *e*PKP **PKPab** 14 35 31.5 +0.6
comp=Z,1.6nm,0.3s
SOKA Soboth 144.49 327 *i* PKP **PKPab** 14 35 31.3 +0.4
comp=Z,4.3nm,0.6s
OBKA Obir 144.85 327 *i* PKP **PKPab** 14 35 32.6 +0.2
comp=Z,2.0nm,0.5s
KBA Koelnbreinsper 145.06 329 *e*PKP **PKPbc** 14 35 33.2 0.0
comp=Z,6.8nm,0.9s,SNR=5.7
LESA Schwarzleotal 145.14 330 *e*PKP **PKPbc** 14 35 33.5 +0.2
comp=Z,7.7nm,0.5s
LJU Ljubljana 145.18 327 *i* PKPbc **PKPbc** 14 35 33.7 +0.4
MYKA Terra Mystica 145.23 328 *e*PKP **PKPbc** 14 35 33.2 -0.4
comp=Z,4.3nm,0.5s
BTNL Ternell 145.29 339 *d*PKP **PKPbc** 14 35 33.6 0.0
MEM Membach 145.31 339 *d*PKP **PKPbc** 14 35 34.2 +0.6
BSTI Sart Tilman 145.48 340 *d*PKP **PKPdf** 14 35 34.2 0.0
BHOU Houvegnez 145.53 339 *d*PKP **PKPbc** 14 35 35.1 +0.7
ABTA Abfaltersbach 145.70 329 *i* PKP **PKPdf** 14 35 34.7 -0.1
comp=Z,14nm,0.8s
BCLA Clavier 145.71 340 *d*PKP **PKPdf** 14 35 35.1 +0.6
WATA Walderalm 145.72 331 *i* PKP **PKPdf** 14 35 35.3 +0.5
comp=Z,3.1nm,0.5s,SNR=5.0
WTTA Wattenberg 145.74 331 *i* PKP **PKPdf** 14 35 35.5 +0.6
comp=Z,6.1nm,0.7s,SNR=6.7
BGES Gesves 145.81 340 *d*PKP **PKPdf** 14 35 35.4 +0.7
MOTA Moosalm 145.93 331 *i* PKP **PKPdf** 14 35 36.0 +0.8
comp=Z,9.2nm,0.8s
SQTA Sankt Quirin 145.97 331 *i* PKP **PKPbc** 14 35 36.5 +0.5
comp=Z,9.2nm,0.8s,SNR=13
RETA Reutte 145.98 332 *i* PKP **PKPdf** 14 35 35.6 +0.4
comp=Z,1.0nm,0.3s
BMRD Maredsous 145.98 340 *d*PKP **PKPdf** 14 35 35.4 +0.5
WLF Walferdange 146.07 338 *d*PKP **PKPbc** 14 35 37.1 +1.1
DOU Dourbes 146.21 340 *d*PKP **PKPbc** 14 35 37.2 +0.8
FETA Feichten 146.34 331 *i* PKP **PKPbc** 14 35 37.4 +0.3
comp=Z,5.9nm,0.8s,SNR=11
BFO Black Forest 146.35 335 **PKPdf** 14 35 36.9 +1.1
DAVA Damuels 146.52 332 *i* PKP **PKPbc** 14 35 37.7 +0.1
comp=Z,1.8nm,0.3s
TUE Stuetta 147.38 332 PKPbc **PKPbc** 14 35 40.2 0.0
BNI Bardonecchia 149.66 333 **PKPbc** 14 35 45.7 -0.3
ESDC Sonseca Array 158.22 343 PKPab **PKPab** 14 36 27.3 -0.1
comp=Z,0.5nm,0.8s,baz=16,slow=5.6,SNR=5.1

SJA ***28*** *14:22:46.1±0.7, 30°.07S×71°.75W, h22km±2km, ML3.9, MW3.9*
NEIC ***28*** *14:22:48.8±1.5, 30°.06S±0°.03×71°.67W±0°.09, h19km±12km, ML4.0/60, Error ellipse: s-maj=11.3km s-min=3.4km az=107.0*
GUC ***28*** *14:22:50.2±0.7, 30°.12S×71°.57W, h21km±5km, ML3.8*
ISC 28 14:22:46.1±1.5, 30°.08S±0°.03×71°.83W±0°.05, h14km±9km, n70, σ2s09/84, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.54**	**72**	Pg	**Pg**	**14 22 57.5**	**+0.8**
CO05	**La Serena**	**0.54**	**72**	‖ *i*P	**Pg**	**14 22 57.5**	**+0.8**
CO05				*e*S	**Sg**	**14 23 03.4**	**-0.5**
CO05				IAML		14 23 03.9	
comp=N,5μm,0.3s							
CO06	**Fray Jorge**	**0.61**	**164**		**Pn**	**14 23 00.9**	**+0.6**
CO06				IAML		14 23 11.1	
comp=N,9μm,0.2s							
CO06				IAML		14 23 11.5	
comp=E,8μm,0.2s							
CO06	**Fray Jorge**	**0.61**	**164**	*e*P	**Pn**	**14 23 00.7**	**+0.3**
CO06				IAML		14 23 11.1	
comp=N,10μm,0.2s							
GO04	**Tololo Observa**	**0.90**	**96**		**Pb**	**14 23 03.0**	**-0.5**
GO04	**Tololo Observa**	**0.90**	**96**	*e*P	**Pb**	**14 23 03.0**	**-0.5**
GO04				*e*S	**Sb**	**14 23 13.2**	**-2.2**
GO04	**Tololo Observa**	**0.90**	**96**	*e*P	**Pb**	**14 23 03.1**	**-0.5**
CO03	**El Pedregal**	**1.24**	**128**		**Pn**	**14 23 08.8**	**-0.2**
CO03				IAML		14 23 26.6	
comp=E,4μm,0.3s							
CO03				IAML		14 23 27.8	
comp=N,3μm,0.3s							
CO03	**El Pedregal**	**1.24**	**128**	*e*P	**Pn**	**14 23 08.9**	**-0.2**
CO03				*e*S	**Sb**	**14 23 22.9**	**-2.2**
CO03				IAML		14 23 26.9	
comp=E,4μm,0.3s							
CO03	**El Pedregal**	**1.24**	**128**	*e*P	**Pn**	**14 23 08.4**	**-0.7**
CO03				IAML		14 23 26.9	
comp=Z,1μm,0.4s							
CO02	**Combarbal**	**1.32**	**148**		**Pb**	**14 23 11.3**	**+0.5**
CO02	**Combarbal**	**1.32**	**148**	*e*P	**Pb**	**14 23 11.1**	**+0.3**
CO02				*e*S	**Sn**	**14 23 27.4**	**-0.4**
CO02				IAML		14 23 30.1	
comp=E,12μm,0.3s							
CO02	**Combarbal**	**1.32**	**148**	*e*P	**Pn**	**14 23 10.6**	**+0.4**
CO02				*e*S	**Sb**	**14 23 29.0**	**+1.3**
CO02				IAML		14 23 29.5	
comp=Z,4μm,0.7s							
LCO	**Las Campanas**	**1.45**	**43**		**Pn**	**14 23 12.0**	**-0.1**
LCO	**Las Campanas**	**1.45**	**43**	‖ *e*P	**Pn**	**14 23 11.9**	**-0.2**
LCO				IAML		14 23 32.1	
comp=Z,4μm,0.3s							
LCO	**Las Campanas**	**1.45**	**43**	*e*P	**Pn**	**14 23 12.3**	**+0.2**
LCO				IAML		14 23 34.4	
comp=Z,974nm,0.2s							
CO01	**Juntas del Tor**	**1.51**	**86**		**Pn**	**14 23 12.1**	**-0.8**
CO01	**Juntas del Tor**	**1.51**	**86**	*e*P	**Pn**	**14 23 12.5**	**-0.3**
CO01				IAML		14 23 30.6	
comp=N,513nm,0.4s							
CO01	**Juntas del Tor**	**1.51**	**86**	*e*P	**Pn**	**14 23 12.9**	**0.0**
AC05	**El Transito**	**1.84**	**48**		**Pn**	**14 23 17.8**	**+0.4**
AC05				IAML		14 23 41.5	
comp=N,960nm,0.3s							
AC05	**El Transito**	**1.84**	**48**	*e*P	**Pn**	**14 23 18.1**	**+0.7**
AC04	**Llanos de Chal**	**1.98**	**20**		**Pn**	**14 23 20.1**	**+0.9**
AC04	**Llanos de Chal**	**1.98**	**20**	*e*P	**Pn**	**14 23 20.1**	**+0.9**
AC04				*e*S	**Sn**	**14 23 42.8**	**-1.1**
AC04				IAML		14 23 51.4	
comp=Z,394nm,1.1s							
AROD	**Rodeo**	**2.04**	**93**	*e*P	**Pn**	**14 23 21.5**	**+1.2**
ACDV	**Cuesta del Vie**	**2.35**	**93**	*e*P	**Pb**	**14 23 27.6**	**-0.7**
ACDV				*e*S	**Sb**	**14 24 00.6**	**+3.4**
ACCO	**Cerro Coronel**	**2.44**	**103**	*e*P	Pn	14 23 16.7	-9.1
ACCO				*e*S	**Sg**	**14 24 05.3**	**+0.7**
VA06	**Catapilco**	**2.51**	**170**		**Pn**	**14 23 28.6**	**+2.1**
VA06				IAML		14 24 12.1	
comp=N,1μm,0.6s							
VA06				IAML		14 24 14.9	
comp=E,1μm,0.4s							
VA06	**Catapilco**	**2.51**	**170**	*e*P	**Pn**	**14 23 28.4**	**+2.0**
VA06				IAML		14 24 12.5	
comp=N,1μm,0.4s							
DOCA	**Reserva Natura**	**2.52**	**111**	*e*P	**Pb**	**14 23 30.0**	**-1.3**
DOCA				*e*S	**Sn**	**14 23 54.4**	**-3.3**
DOCA				IAML		14 24 07.3	
comp=Z,221nm,1.1s							
RTLS	**Leoncito**	**2.77**	**129**	*e*P	**Pb**	**14 23 34.8**	**-0.7**
RTLS				IAML		14 24 15.8	
comp=Z,758nm,0.6s							
GO03	**Copiapo**	**2.85**	**30**		**Pn**	**14 23 32.4**	**+1.3**
GO03				IAML		14 24 16.4	
comp=N,317nm,0.5s							
GO03	**Copiapo**	**2.85**	**30**	*e*P	**Pn**	**14 23 32.9**	**+1.8**
GO03				*e*S	**Sn**	**14 24 05.2**	**0.0**
VA03	**San Esteban**	**2.89**	**158**		**Pn**	**14 23 34.8**	**+3.1**
VA03				IAML		14 24 18.9	
comp=N,976nm,0.6s							
VA03	**San Esteban**	**2.89**	**158**	*e*P	**Pb**	**14 23 34.9**	**-2.5**
VA03				*e*S	**Sn**	**14 24 09.6**	**+3.3**
VA03				IAML		14 24 20.3	
comp=E,1μm,0.4s							
VA03	**San Esteban**	**2.89**	**158**	*e*P	**Pb**	**14 23 35.0**	**-2.5**
VA03				*e*S	**Sn**	**14 24 08.2**	**+1.9**
VA03				IAML		14 24 18.3	
comp=Z,435nm,0.7s							
VA01	**Torpederas**	**2.94**	**177**		**Pn**	**14 23 34.2**	**+2.0**
VA01				IAML		14 24 22.1	
comp=E,280nm,0.7s							
VA01	**Torpederas**	**2.94**	**177**	*e*S	**Sb**	**14 24 15.1**	**+1.2**
AGUA	**GUANDACOL**	**2.96**	**79**	*e*P	**Pb**	**14 23 36.7**	**-2.0**
AGUA				*e*S	**Sb**	**14 24 18.4**	**+3.7**
AGUA				IAML		14 24 25.4	
comp=Z,280nm,1.0s							
ROC1	**El Roble**	**2.97**	**167**	*e*P	**Pn**	**14 23 30.0**	**-2.9**
ROC1				*e*S	**Sn**	**14 24 05.5**	**-2.9**
AC06	**Mina Casimiro**	**3.01**	**26**		**Pn**	**14 23 34.2**	**+0.9**
ZON	**Zonda**	**3.08**	**119**		**Pn**	**14 23 35.6**	**+1.4**
ZON	**Zonda**	**3.08**	**119**	*e*P	**Pn**	**14 23 37.7**	**+3.4**
ZON				*e*S	**Sn**	**14 24 11.8**	**+0.9**
ZON				IAML		14 24 34.8	
comp=Z,151nm,0.4s							
RTLL	**Cerro Villicun**	**3.14**	**114**	*e*P	Pn	14 23 22.4	-13
RTLL				*e*S	**Sn**	**14 24 13.8**	**+1.2**
SJA	**San Juan**	**3.16**	**118**	*e*P	**Pn**	**14 23 37.0**	**+1.6**
SJA				*e*S	**Sn**	**14 24 15.0**	**+2.1**
PEL	**Peldehue**	**3.20**	**163**		**Pn**	**14 23 38.5**	**+2.5**
PEL				IAML		14 24 32.3	
comp=E,398nm,0.7s							
PEL				IAML		14 24 38.8	
comp=N,394nm,0.7s							
PEL	**Peldehue**	**3.20**	**163**	*e*P	**Pb**	**14 23 44.3**	**+1.5**
PEL				*e*S	**Sn**	**14 24 16.9**	**+2.9**
MT02	**Curacav**	**3.22**	**170**		**Pn**	**14 23 39.0**	**+2.8**
MT02				IAML		14 24 30.3	
comp=N,247nm,0.7s							
MT02				IAML		14 24 34.6	
comp=E,354nm,0.5s							
MT02	**Curacav**	**3.22**	**170**	IAML		14 24 35.2	
comp=E,331nm,0.4s							
MT02	**Curacav**	**3.22**	**170**	*e*P	**Pn**	**14 23 34.6**	**-1.7**
MT02				*e*S	**Sn**	**14 24 17.1**	**+2.7**
MT02				IAML		14 24 32.1	
comp=Z,223nm,0.9s							
MT05	**Renca**	**3.43**	**165**		**Pn**	**14 23 41.5**	**+2.4**
MT05	**Renca**	**3.43**	**165**	*e*P	**Pn**	**14 23 42.4**	**+3.2**
MT05				*e*S	**Sb**	**14 24 25.8**	**-2.4**
MT05				IAML		14 24 37.0	
comp=Z,342nm,0.5s							
VCA	**Vinchina**	**3.43**	**68**	IAML		14 24 36.2	
comp=N,656nm,0.5s							
VCA	**Vinchina**	**3.43**	**68**	*e*P	**Pn**	**14 23 40.5**	**+1.2**
VCA				IAML		14 24 36.1	

comp=Z,393nm,0.8s
MT16 CCHEN 3.52 162 Pn 14 23 43.1 +2.8
MT16 IAML 14 24 40.0
comp=E,287nm,0.8s
MT16 IAML 14 24 43.6
comp=N,193nm,0.8s
MT03 Universidad Ad 3.58 162 *e*P **Pn 14 23 44.7 +3.5**
MT03 *e*S **Sn 14 24 24.6 +1.2**
MT03 IAML 14 24 44.5
comp=Z,390nm,1.1s
MT04 Ro Olivares 3.61 157 *e*P **Pb 14 23 46.2 -3.6**
MT04 *e*S **Sn 14 24 24.6 +0.3**
MT04 *e*S **Sb 14 24 25.6 -8.0**
MT04 IAML 14 24 39.6
comp=Z,283nm,0.9s
MT08 Bocatoma Ro 3.69 156 *e*P **Pb 14 23 48.0 -3.2**
MT08 *e*S **Sn 14 24 29.3 +3.0**
MT08 IAML 14 24 40.7
comp=Z,249nm,0.8s
MT09 Talagante 3.75 169 IAML 14 24 47.1
comp=E,422nm,0.9s
MT01 Popeta 3.80 173 IAML 14 24 48.9
comp=E,279nm,0.6s
MT01 IAML 14 24 49.2
comp=N,244nm,0.5s
MT13 San Alfonso 3.88 161 IAML 14 24 55.6
comp=N,338nm,0.7s
AAGR Agrelo 3.94 140 *e*P **Pn 14 23 47.6 +1.5**
LMEL Las Melosas 4.00 160 IAML 14 24 48.4
comp=N,298nm,0.6s
LMEL IAML 14 24 48.5
comp=E,307nm,0.9s
AC02 Maricunga 4.01 37 Pn 14 23 48.8 +1.2
AC02 IAML 14 24 52.5
comp=N,197nm,0.9s
AC02 IAML 14 24 54.2
comp=E,227nm,0.9s
BO04 La Punta 4.03 165 IAML 14 24 54.5
comp=N,251nm,0.7s
BO04 IAML 14 24 55.1
comp=E,313nm,0.5s
BO01 Tunca 4.34 172 Pn 14 23 53.2 +1.6
BO01 IAML 14 24 56.0
comp=E,109nm,0.7s
BO01 IAML 14 25 10.4
comp=N,94nm,0.9s
BO01 Tunca 4.34 172 *e*P **Pn 14 23 50.5 -1.2**
BO01 IAML 14 25 08.8
comp=Z,122nm,0.5s
BO02 Sierra Bellavi 4.78 170 Pn 14 24 00.0 +2.3
BO02 Sierra Bellavi 4.78 170 *e*P Pn 14 23 50.3 -7.4
BO02 IAML 14 25 20.0
comp=Z,106nm,0.3s
TRQA Tornquist 11.39 137 Pn **Pn 14 25 28.8 +0.4**
ITQB Itaqui 13.20 92 Pn **Pn 14 25 52.0 -1.1**

IDC 28 14:23:16.2±2.2,5°.21S×144°.39E, h0km, mb3.3/2, mbtmp3.6/5, ML3.5/2, MS3.4/3, Error ellipse: s-maj=49.1km s-min=22.5km az=60.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.55**	**306**	Pn	Pn	14 24 27.3	+0.8
	1.3nm,0.3s,baz=120,slow=20,SNR=5.5						
JAY				Sn	Sn	14 25 22.0	+1.9
	1.6nm,0.3s,baz=91,slow=16,SNR=1.4						
	7.9nm,0.6s						
PMG	**Port Moresby**	**4.99**	**147**	Pn	Pn	14 24 32.8	+0.4
	12nm,0.8s,baz=356,slow=14,SNR=1.4						
PMG				Sn	Sn	14 25 32.8	+2.0
	1.6nm,0.3s,baz=348,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**17.61**	**213**	P	Pn	14 27 23.7	+0.5
	0.2nm,0.3s,baz=36,slow=12,SNR=7.6						
WRA				LR	LR	14 35 28.2	
	comp=Z,134nm,19.2s,baz=40,slow=42						
	2.0nm,0.8s						
ASAR	**Alice Springs**	**20.95**	**208**	P	P	14 28 00.3	-0.6
	0.9nm,0.5s,baz=35,slow=7.6,SNR=23						
	0.9nm,0.5s						
TGY	**Tagaytay City**	**30.16**	**310**	LR	LR	14 41 59.6	
	comp=Z,40nm,21.6s,baz=232,slow=37						
MSVF	**Nonsavu**	**35.17**	**114**	LR	LR	14 43 09.7	
	comp=Z,105nm,19.2s,baz=332,slow=34						
MKAR	**Makanchi Array**	**75.25**	**321**	P	P	14 35 00.9	-0.2
	0.1nm,0.3s,baz=102,slow=6.1,SNR=1.6						
	0.1nm,0.3s						

---

*CRAAG **28** 14:32:59.8, 36°.59N×5°.47E, Ml3.2, Algerie 09km SW Ziamma-Mansouriah*
*MDD **28** 14:33:01.5±1.1, 36°.47N×5°.63E, h29km±55km, Mb3.8/15, M_mb3.0/12, Error ellipse: s-maj=47.7km s-min=12.3km az=136.0*
ISC 28 14:32:59.5±0.9, 36°.57N±0°.04×5°.49E±0°.03, h19km, n28, σ2º07/32, 5C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.31**	**95**	P	**Pn**	**14 33 07.8**	**-1.3**
SET	**Setif**	**0.38**	**191**	P	**Pn**	**14 33 09.0**	**-1.0**
CKHR	**Kef el Ahmar**	**0.56**	**178**	P	**Pn**	14 33 12.1	**-0.4**
CBHR	**Beni Haroun da**	**0.63**	**90**	P	**Pn**	14 33 13.2	**-0.2**
CTCHA	**Tamokra**	**0.69**	**258**	P	**Pn**	**14 33 14.1**	**-0.1**
CBOS	**Bilal Ibnou Ra**	**0.70**	**71**	P	**Pn**	**14 33 14.3**	**0.0**
COAT	**Oued Athmania**	**0.72**	**118**	P	**Pn**	**14 33 14.7**	**0.0**
CJSR	**Ain Djasser**	**0.80**	**152**	P	**Pn**	**14 33 16.4**	**+0.6**
CASM	**Ain Smara**	**0.86**	**111**	P	**Pn**	**14 33 17.6**	**+1.0**
CTEI	**Djebel Teioual**	**0.90**	**124**	P	**Pn**	**14 33 18.2**	**+1.0**
CKFL	**Kef-Lekhel**	**1.00**	**99**	P	**Pg**	**14 33 20.1**	**+1.1**
ATKB	**Taksebt**	**1.11**	**276**	P	**Pg**	**14 33 21.7**	**+0.8**
CAEH	**'Ain El Ouahch**	**1.11**	**79**	P	**Pg**	**14 33 23.5**	**+2.5**
CTGD	**Timgad**	**1.34**	**141**	P	**Pg**	**14 33 28.2**	**+2.9**
CMAH	**Djebel Manchou**	**1.55**	**87**	P	**Pg**	**14 33 28.5**	**-0.9**
ABSA	**Djebel Ababsia**	**1.63**	**100**	P	**Pb**	**14 33 29.2**	**+0.2**
ADCK	**Dar Chioukh**	**2.35**	**226**	P	**Pb**	**14 33 40.4**	**-0.8**
MAHO	**Mahon**	**3.46**	**344**	Pn	**Pn**	**14 33 52.8**	**+0.6**
ETOS	**Mallorca**	**3.83**	**327**	Pn	**Pn**	**14 33 59.2**	**+1.9**
ETOS				Sn	**Sn**	**14 34 35.6**	**-6.2**
ETOS	**Mallorca**	**3.83**	**327**	Pn	**Pn**	**14 33 58.9**	**+1.6**
ETOS				⇑*i*Vmb_V		14 34 00.1	
	208nm,SNR=30						
ETOS				Sn	**Sn**	**14 34 41.0**	**-0.8**
EIBI	**Ibiza**	**4.10**	**308**	Pn	**Pn**	**14 34 03.1**	**+2.0**
EIBI				Sn	**Sn**	**14 34 43.5**	**-5.0**
EIBI	**Ibiza**	**4.10**	**308**	Pn	**Pn**	**14 34 02.9**	**+1.9**
EIBI				⇑*i*Vmb_V		14 34 04.9	
	267nm,SNR=2.3						
EIBI				Sn	**Sn**	**14 34 47.8**	**-0.7**
CART	**Cartagena**	**5.29**	**283**	Pn	**Pn**	**14 34 18.4**	**+1.0**
EMUR	**La Murta**	**5.52**	**285**	Pn	**Pn**	**14 34 22.9**	**+2.2**
EVIV	**Cofrentes, Val**	**5.88**	**299**	Pn	**Pn**	**14 34 27.9**	**+2.4**
EVIV				⇑*i*Vmb_V		14 34 29.4	
	32nm,SNR=4.5						
EPOB	**Poblet**	**5.88**	**326**	Pn	**Pn**	**14 34 26.8**	**+1.1**
EPOB				⇑*i*Vmb_V		14 34 28.3	
	39nm,SNR=6.1						
ECHE	**Chera**	**5.92**	**303**	Pn	**Pn**	**14 34 28.7**	**+2.5**
EMOS	**Mosqueruela**	**6.02**	**311**	Pn	**Pn**	**14 34 29.5**	**+1.9**
EMOS				⇑*i*Vmb_V		14 34 31.9	
	18nm,SNR=1.8						

IDC 28 14:48:33.4±2.7, 30°.26N×141°.02E, h0km, mb3.4/2, mbtmp3.4/5, ML2.8/3, Error ellipse: s-maj=51.9km s-min=36.3km az=149.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.69**	**340**	Pn	Pn	14 50 10.5	-2.5
	baz=156,slow=12,SNR=6.8						
	2.6nm,0.9s						
KSRS	**Korea Array**	**13.03**	**307**	Pn	Pn	14 51 39.4	-0.4
	0.1nm,0.3s,baz=115,slow=14,SNR=4.6						
	0.9nm,0.9s						
USRK	**Ussuriysk Ar.**	**15.64**	**335**	Pn	Pn	14 52 15.8	+0.6
	0.2nm,0.3s,baz=108,slow=14,SNR=4.6						
	1.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.89**	**263**	P	P	14 56 09.7	+0.5
	0.2nm,0.4s,baz=78,slow=8.2,SNR=1.5						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**55.45**	**30**	P	P	14 58 09.6	+0.1
	0.5nm,0.9s,baz=279,slow=6.8,SNR=4.9						
	0.5nm,0.9s						

---

*SJA **28** 15:25:32.6±0.6, 27°.84S×71°.49W, h32km±3km, ML3.3, MW3.5*
*GUC **28** 15:25:35.5±0.8, 27°.95S×71°.30W, h41km±2km, ML3.2*
ISC 28 15:25:33.5±1.7, 27°.79S±0°.04×71°.40W±0°.07, h16km±10km, n30, σ1º66/40, 2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.50**	**145**	⇓*i*P	**Pb**	**15 25 44.2**	**+0.2**
AC04				*e*S	**Sg**	**15 25 50.0**	**-0.4**
AC04				IAML		15 25 50.4	
	comp=E,7μm,0.2s						
AC04	**Llanos de Chal**	**0.50**	**145**	*e*P	**Pg**	**15 25 43.9**	**+0.3**
AC04				IAML		15 25 52.0	
	comp=Z,878nm,0.3s						
AC06	**Mina Casimiro**	**1.02**	**65**	*e*P	**Pn**	**15 25 53.5**	**+0.2**
AC06				IAML		15 26 08.6	
	comp=E,412nm,0.4s						
GO03	**Copiapo**	**1.05**	**80**	*e*P	**Pn**	**15 25 53.9**	**+0.2**
GO03				IAML		15 26 10.4	
	comp=E,791nm,0.3s						
GO03	**Copiapo**	**1.05**	**80**	*e*P	**Pn**	**15 25 54.0**	**+0.2**
GO03				*e*S	**Sn**	**15 26 08.2**	**+0.1**
LCO	**Las Campanas**	**1.36**	**153**	*e*P	**Pn**	**15 25 57.3**	**-0.9**
LCO	**Las Campanas**	**1.36**	**153**	*e*P	**Pn**	**15 25 57.7**	**-0.5**
LCO				*e*S	**Sn**	**15 26 14.2**	**-1.9**
AC05	**El Transito**	**1.44**	**137**	*e*P	**Pn**	**15 25 59.1**	**0.0**
AC05				*e*S	**Sn**	**15 26 15.0**	**-2.8**
AC05				IAML		15 26 16.5	
	comp=N,423nm,0.2s						
AC05	**El Transito**	**1.44**	**137**	*e*P	**Pn**	**15 25 59.2**	**0.0**
AC05				*e*S	**Sn**	**15 26 15.9**	**-1.9**
AC05				IAML		15 26 16.5	
	comp=Z,299nm,0.3s						
AC01	**Pan de Azucar**	**1.79**	**24**	*e*P	**Pn**	**15 26 04.5**	**+0.7**
CO05	**La Serena**	**2.12**	**176**	*e*P	**Pn**	**15 26 07.8**	**-0.6**
CO05				IAML		15 26 38.6	
	comp=N,363nm,0.2s						
AC02	**Maricunga**	**2.23**	**65**	⇓*e*P	**Pb**	**15 26 12.8**	**-1.0**
AC02				*e*S	**Sb**	**15 26 40.7**	**-0.8**
AC02				IAML		15 26 44.2	
	comp=E,216nm,0.3s						
AC02	**Maricunga**	**2.23**	**65**	*e*P	**Pb**	**15 26 12.8**	**-1.0**
GO04	**Tololo Observa**	**2.43**	**168**	*e*P	**Pn**	**15 26 12.5**	**-0.3**
GO04				IAML		15 26 50.1	
	comp=E,634nm,0.3s						
GO04	**Tololo Observa**	**2.43**	**168**	*e*P	**Pn**	**15 26 12.6**	**-0.3**
GO04				*e*S	**Sn**	**15 26 42.0**	**-0.5**
CO01	**Juntas del Tor**	**2.46**	**153**	IAML		15 26 44.3	
	comp=N,167nm,0.1s						
CO01	**Juntas del Tor**	**2.46**	**153**	*e*P	**Pn**	**15 26 14.3**	**+1.0**
CO01				*e*S	**Sn**	**15 26 43.5**	**+0.3**
CO01				IAML		15 26 46.8	
	comp=Z,114nm,0.3s						
AROD	**Rodeo**	**2.91**	**145**	*e*P	**Pn**	**15 26 22.1**	**+2.6**
AROD				*e*S	**Sn**	**15 26 57.0**	**+2.7**
VCA	**Vinchina**	**2.97**	**109**	*e*P	**Pn**	**15 26 21.9**	**+1.7**
VCA				*e*S	**Sg**	**15 27 07.6**	**-1.4**
VCA				IAML		15 27 10.1	
	comp=Z,118nm,0.5s						
AGUA	**GUANDACOL**	**3.06**	**124**	*e*P	Pn	15 26 10.4	-11
AGUA				IAML		15 27 03.3	
	comp=Z,79nm,0.4s						
GO02	**Mina Guanaco**	**3.08**	**32**	*e*P	**Pn**	**15 26 23.5**	**+1.7**
CO03	**El Pedregal**	**3.10**	**169**	*e*P	Pn	15 26 11.0	-11
CO03				*e*S	**Sn**	**15 26 57.9**	**-0.9**
CO03				IAML		15 27 17.7	
	comp=Z,68nm,0.3s						
PB14	**IPOC Station P**	**3.28**	**16**	*e*P	**Pn**	**15 26 25.8**	**+1.3**
CO02	**Combarbal**	**3.42**	**174**	*e*P	**Pn**	**15 26 25.3**	**-1.0**
CO02	**Combarbal**	**3.42**	**174**	*e*P	**Pn**	**15 26 25.3**	**-1.0**
CO02				*e*S	**Sb**	**15 27 17.7**	**+2.5**
CO02				IAML		15 27 21.9	
	comp=Z,118nm,0.4s						
DOCA	**Reserva Natura**	**3.74**	**148**	*e*P	**Pn**	**15 26 33.9**	**+2.8**
ACLC	**CERRO LA CRUZ**	**4.24**	**114**	*e*P	**Pn**	**15 26 40.0**	**+2.4**
ACLC				IAML		15 27 51.4	
	comp=Z,17nm,1.5s						
RTLS	**Leoncito**	**4.39**	**156**	*e*P	**Pn**	**15 26 42.9**	**+3.0**
RTLS				IAML		15 27 52.3	
	comp=Z,92nm,0.8s						
AVFE	**Valle Fertil**	**4.48**	**131**	*e*P	**Pn**	**15 26 42.9**	**+2.0**
AVFE				*e*S	**Sn**	**15 27 29.1**	**-3.6**
AVFE				IAML		15 27 55.3	
	comp=Z,30nm,0.8s						
APLL	**PUNTA DE LOS L**	**4.99**	**122**	*e*P	**Pn**	**15 26 50.4**	**+2.5**

---

*NEIC **28** 15:28:33.7±1.6, 3°.5S±0°.1×138°.43E±0°.09, h76km±11km, mb4.1/9, Error ellipse: s-maj=18.7km s-min=11.8km az=155.0*
*IDC **28** 15:28:34.0±2.6, 3°.50S×138°.57E, h92km±27km, mb3.4/5, mbtmp3.8/8, Error ellipse: s-maj=32.0km s-min=14.4km az=109.0*
*DJA **28** 15:28:35.0±2.0, 3°.S±4°.×13°.8E±°, h26km±20km, M4.5/6, mb5.2/1, MLv4.1/6*
ISC 28 15:28:32.8±0.6, 3°.49S±0°.06×138°.37E±0°.05, h71km, n34, σ1º51/38, mb3.6/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.53**	**13**	P	**Pn**	**15 28 59.3**	**+1.1**
SMPI				S	**Sn**	**15 29 17.7**	**+0.4**
GENI	**Genyem**	**2.00**	**64**	P	**Pn**	**15 29 06.4**	**+1.9**
GENI				S	**Sn**	**15 29 30.0**	**+1.3**
JAY	**Jayapura**	**2.52**	**67**	P	**Pn**	**15 29 11.9**	**+0.3**
	20nm,0.4s,baz=247,slow=14,SNR=28						
JAY				S	**Sn**	**15 29 39.3**	**-2.0**
	28nm,0.3s,baz=142,slow=19,SNR=5.8						
JAY	**Jayapura**	**2.52**	**67**	P	**Pn**	**15 29 12.4**	**+0.8**
JAY				S	**Sn**	**15 29 42.4**	**+1.1**
SRPI	**Serui, Papua**	**2.67**	**307**	P	**Pn**	**15 29 15.3**	**+1.8**
BAKI	**Biak**	**3.22**	**315**	P	**Pn**	**15 29 22.1**	**+1.1**
MMPI	**Merauke**	**5.33**	**158**	P	Pn	15 29 55.1	+5.2
FAKI	**Fak Fak**	**6.14**	**275**	Pn	**Pn**	**15 30 02.7**	**+1.8**
COEN	**Coen**	**11.43**	**156**	Pn	**Pn**	**15 31 14.0**	**+0.8**
COEN	**Coen**	**11.43**	**156**	P	**Pn**	**15 31 14.5**	**+1.3**
DRS	**Darwin Rock St**	**11.56**	**219**	P	**Pn**	**15 31 16.9**	**+2.0**
MTN	**Manton Dam**	**11.73**	**217**		**Pn**	**15 31 17.8**	**+0.5**
MTN	**Manton Dam**	**11.73**	**217**	P	**Pn**	**15 31 18.3**	**+1.0**
KNRA	**Kununurra**	**15.36**	**217**	Pn	**Pn**	**15 32 05.8**	**+0.2**
KNRA				IAmb	IAmb	15 32 32.4	
	comp=Z,19nm,1.4s						
MTSU	**Mount Surprise**	**15.67**	**159**	P	**P**	**15 32 13.0**	**+0.8**
WB0	**Warramunga Arr**	**16.64**	**193**	Pn	**Pn**	**15 32 21.3**	**-0.3**
WB0				IAmb	IAmb	15 32 26.4	
	comp=Z,6.4nm,0.5s						
WR8	**Warramunga Arr**	**16.80**	**193**	Pn	**Pn**	**15 32 23.2**	**-0.3**
WR8				IAmb	IAmb	15 32 24.9	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**16.82**	**193**	P	**Pn**	**15 32 23.2**	**-0.6**
	comp=Z,3.0nm,0.4s,baz=18,slow=12,SNR=24						
WRA				S	Sn	15 35 15.6	-15
	comp=Z,3.5nm,0.6s,baz=2.6,slow=23,SNR=7.7						
FITZ	**Fitzroy Crossi**	**19.14**	**220**	P	**P**	**15 32 51.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.14**	**220**	P	**P**	**15 32 51.0**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=58,slow=9.3,SNR=16						
FITZ				S	S	15 36 13.5	-10
	comp=Z,2.4nm,0.6s,baz=131,slow=19,SNR=5.4						
AS01	**Alice Springs**	**20.50**	**192**	P	**P**	**15 33 06.2**	**+0.9**
AS31	**Alice Springs**	**20.52**	**192**	P	**P**	**15 33 06.0**	**+0.7**
ASAR	**Alice Springs**	**20.52**	**192**	P	**P**	**15 33 06.2**	**+0.8**
	comp=Z,3.7nm,0.6s,baz=14,slow=10.0,SNR=93						
ASAR				S	**S**	**15 36 50.3**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=0.6,slow=23,SNR=5.9						
	comp=Z,3.7nm,0.6s						
PLAI	**Plampang**	**21.14**	**255**	P	**P**	**15 33 05.8**	**-6.4**
WRKA	**Warakurna**	**23.52**	**203**	P	**P**	**15 33 36.1**	**-0.6**
STKA	**Stephens Creek**	**28.40**	**174**	P	**P**	**15 34 19.8**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=356,slow=13,SNR=2.0						
	comp=Z,1.2nm,0.8s						
BBOO	**Buckleboo**	**29.25**	**184**	P	**P**	**15 34 27.8**	**-0.3**
HIZ	**Hauiti**	**48.16**	**141**	P	**P**	**15 37 05.7**	**-0.2**
MKAR	**Makanchi Array**	**70.20**	**323**	P	**P**	**15 39 38.0**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=106,slow=5.1,SNR=1.5						
	comp=Z,0.1nm,0.4s						
VNDA	**Vanda**	**75.04**	**175**	P	**P**	**15 40 06.5**	**+0.2**
VNDA				IAmb	IAmb	15 40 32.2	
	comp=Z,3.8nm,1.5s						
QSPA	**South Pole Qui**	**86.46**	**180**	P	**P**	**15 41 07.4**	**-0.2**
QSPA				IAmb	IAmb	15 41 10.4	
	comp=Z,2.2nm,1.1s						
QSPA	**South Pole Qui**	**86.46**	**180**	P	**P**	**15 41 07.0**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=333,slow=4.5,SNR=6.7						
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**86.68**	**24**	P	**P**	**15 41 06.6**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=272,slow=4.4,SNR=4.6						
	comp=Z,0.2nm,0.6s						
BMAR	**Burnt Mountain**	**88.25**	**22**	P	**P**	**15 41 17.1**	**+1.1**

---

*NEIC **28** 15:34:45.0±0.7, 22°.00S×179°.5W±0°.2×179°.5W±0°.2, h591km±13km, mb4.3/21, Error ellipse: s-maj=26.9km s-min=22.8km az=86.0*
*IDC **28** 15:34:45.5±1.4, 22°.00S×179°.64W, h593km±15km, mb3.0/8, mbtmp4.0/9, Error ellipse: s-maj=20.6km s-min=18.8km az=108.0*
ISC 28 15:34:45.2±0.7, 22°.15S±0°.09×179°.6W±0°.1, h592km, n38, σ1º63/39, mb4.0/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.90**	**333**	P	**P**	**15 36 15.9**	**-1.1**
	11nm,0.4s,baz=231,slow=23,SNR=8.0						
MSVF				S	**S**	**15 37 30.6**	**-1.1**
	2.4nm,0.3s,baz=81,slow=22,SNR=1.3						
MXZ	**Matakaoa Point**	**15.47**	**186**	P	**P**	**15 38 00.2**	**+2.5**
URZ	**Urewera**	**16.30**	**189**	P	**P**	**15 38 03.0**	**-2.5**
	7.5nm,0.8s,baz=0.0,slow=4.0,SNR=7.5						
URZ				S	**S**	**15 40 41.0**	**-7.5**
	3.6nm,0.4s,baz=24,slow=16,SNR=1.8						
THZ	**Tophouse**	**20.54**	**196**	P	**P**	**15 38 43.4**	**-0.6**
LTZ	**Lake Taylor**	**21.66**	**196**	P	**P**	**15 38 53.7**	**-0.3**
WKZ	**Wanaka**	**24.47**	**200**	P	**P**	**15 39 18.4**	**-0.6**
ARMA	**Armidale**	**26.99**	**246**	P	**P**	**15 39 41.8**	**+0.4**
ARMA				IAmb	IAmb	15 40 21.3	
	comp=Z,15nm,1.3s						
CAN	**Canberra**	**30.33**	**237**	P	**P**	**15 40 11.6**	**+1.4**
CAN				IAmb	IAmb	15 40 39.8	
	comp=Z,32nm,1.5s						
TOO	**Toolangi**	**33.70**	**235**	P	**P**	**15 40 40.1**	**+1.4**
TOO				IAmb	IAmb	15 40 50.4	
	comp=Z,8.0nm,1.3s						
STKA	**Stephens Creek**	**35.71**	**246**	P	**P**	**15 40 56.8**	**+1.4**
STKA	**Stephens Creek**	**35.71**	**246**	P	**P**	**15 40 56.4**	**+1.0**
	comp=Z,2.2nm,0.5s,baz=50,slow=6.6,SNR=8.9						
	comp=Z,2.2nm,0.5s						
BBOO	**Buckleboo**	**40.46**	**245**	P	**P**	**15 41 34.2**	**+0.4**
BBOO				IAmb	IAmb	15 42 01.4	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**42.67**	**259**	P	**P**	**15 41 51.8**	**+0.4**
ASAR	**Alice Springs**	**42.67**	**259**	P	**P**	**15 41 51.4**	**0.0**
ASAR	**Alice Springs**	**42.67**	**259**	P	**P**	**15 41 51.8**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=92,slow=8.4,SNR=23						
ASAR				PcP	**PcP**	**15 43 29.6**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=103,slow=3.7,SNR=6.1						
	comp=Z,1.9nm,0.6s						
WR8	**Warramunga Arr**	**42.73**	**264**	P	**P**	**15 41 51.8**	**-0.1**
WR8				IAmb	IAmb	15 42 15.3	
	comp=Z,8.9nm,1.4s						
WB0	**Warramunga Arr**	**42.87**	**264**	P	**P**	**15 41 52.7**	**-0.3**
WB0				IAmb	IAmb	15 42 25.7	
	comp=Z,6.4nm,1.2s						
WRA	**Warramunga Arr**	**42.88**	**264**	P	**P**	**15 41 52.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=95,slow=7.9,SNR=25						
	comp=Z,0.5nm,0.3s						
FORT	**Forrest**	**47.25**	**248**	P	**P**	**15 42 26.5**	**+0.3**
FORT				IAmb	IAmb	15 42 26.7	
	comp=Z,12nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.31**	**264**	P	**P**	**15 42 56.8**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=87,slow=7.6,SNR=6.0						
	comp=Z,1.2nm,0.6s						
MBWA	**Marble Bar**	**56.02**	**259**	P	**P**	**15 43 29.4**	**+0.2**
MBWA				IAmb	IAmb	15 44 05.5	
	comp=Z,14nm,1.3s						
SBA	**Scott Base**	**56.14**	**183**	P	**P**	**15 43 31.2**	**+2.0**
SBA				IAmb	IAmb	15 43 35.5	
	comp=Z,12nm,1.2s						
VNDA	**Vanda**	**56.15**	**185**	P	**P**	**15 43 30.8**	**+1.6**
VNDA	**Vanda**	**56.15**	**185**	P	**P**	**15 43 30.6**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=356,slow=6.1,SNR=7.8						
	comp=Z,0.8nm,0.7s						
MORW	**Morawa**	**57.80**	**249**	P	**P**	**15 43 41.6**	**+0.2**
QSPA	**South Pole Qui**	**67.93**	**180**	P	**P**	**15 44 46.7**	**+0.9**
QSPA	**South Pole Qui**	**67.93**	**180**	P	**P**	**15 44 46.5**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=15,slow=0.7,SNR=11						
	comp=Z,3.0nm,0.8s						
BELA	**Belgrano 2**	**78.13**	**173**	P	**P**	**15 45 43.2**	**-0.3**
NVAR	**Mina Array Bea**	**83.27**	**44**	P	**P**	**15 46 11.9**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=282,slow=3.6,SNR=2.0						
	comp=Z,0.4nm,0.6s						
J17K	**VABM Dome**	**86.78**	**9**	P	**P**	**15 46 26.4**	**-0.6**
J17K				IAmb	IAmb	15 46 27.2	
	comp=Z,7.9nm,1.2s						
SKT	**Skwentna**	**86.80**	**13**	P	**P**	**15 46 27.0**	**-0.2**
SKT				IAmb	IAmb	15 47 04.1	
	comp=Z,4.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**89.23**	**290**	P	**P**	**15 46 39.9**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=119,slow=5.2,SNR=5.1						
	comp=Z,0.5nm,0.7s						
BVAR	**Borovoye Array**	**119.34**	**319**	PKP	**PKPdf**	**15 52 26.8**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=102,slow=2.8,SNR=5.2						
ARCES	**ARCESS Array B**	**130.24**	**349**	PKP	**PKPdf**	**15 52 47.2**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=19,slow=1.9,SNR=5.9						
HFS	**Hagfors**	**140.90**	**349**	PKhKP	PKPpre	15 53 01.6	
	comp=Z,0.7nm,0.7s,baz=13,slow=3.1,SNR=4.3						
AKASG	**Malin Array Be**	**143.66**	**329**	PKP	PKPab	15 53 11.9	-0.5
	comp=Z,0.4nm,0.5s,baz=87,slow=0.8,SNR=5.6						
MMAI	**Mount Meron Ar**	**147.24**	**297**	PKPbc	**PKPbc**	**15 53 23.5**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=76,slow=6.1,SNR=2.1						
GERES	**GERESS Array B**	**151.32**	**341**	PKPbc	**PKPbc**	**15 53 31.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=13,slow=2.4,SNR=2.5						

---

*IDC **28** 15:50:11.6±0.9, 55°.36N×134°.89W, h0km, mb3.

baz=162
R32K Eaglecrest 2.98 4 Pn 15 50 57.5 -1.7
R32K IAML 15 51 47.7
comp=E,155nm,0.5s
R32K Eaglecrest 2.98 4 P Pn 15 50 58.1 -1.0
baz=184
R32K Sb **Sb 15 51 41.6 -0.1**
baz=184
JIS Juneau Island 2.99 5 Pn 15 50 57.8 -1.5
T35M Bob Quinn 3.11 55 Pn 15 51 00.0 -0.9
T35M Bob Quinn 3.11 55 P **Pn 15 50 59.8 -1.1**
baz=242,SNR=25
R31K City Hall, Gus 3.15 352 S **Sn 15 51 39.8 +1.6**
baz=170
BESE Bessie Mountai 3.28 1 Pn 15 51 01.4 -1.9
BESE IAML 15 52 03.1
comp=N,190nm,0.8s
S34M Telegraph Cree 3.35 37 Pn 15 51 02.7 -1.4
S34M Telegraph Cree 3.35 37 P **Pn 15 51 03.0 -1.2**
baz=222,SNR=16
S34M S **Sn 15 51 42.0 -1.1**
baz=222
Q32M Nakina River 3.94 20 Pn 15 51 11.1 -1.3
Q32M IAML 15 52 24.8
comp=N,166nm,1.1s
Q32M IAML 15 52 28.1
comp=E,112nm,1.1s
Q32M Nakina River 3.94 20 P **Pn 15 51 11.4 -1.1**
baz=203,SNR=7.6
Q32M Sb **Sb 15 52 09.8 +0.5**
baz=203
DLBC Dease Lake 4.13 39 Pn 15 51 14.0 -1.0
DLBC Dease Lake 4.13 39 Pn **Pn 15 51 14.2 -0.7**
comp=E,0.6nm,0.3s,baz=222,slow=6.1,SNR=16
DLBC Pg **Pb 15 51 24.2 -1.0**
comp=E,2.5nm,0.3s,baz=212,slow=16,SNR=11
DLBC Sn **Sn 15 52 03.9 +1.3**
comp=E,4.9nm,0.3s,baz=192,slow=12,SNR=6.2
DLBC Lg Lg 15 52 18.5
comp=E,13nm,0.3s,baz=136,slow=25,SNR=7.6
comp=E,2.7nm,0.3s
DLBC Dease Lake 4.13 39 P **Pn 15 51 13.4 -1.6**
baz=224
SKAG Skagway 4.17 357 Pn 15 51 14.9 -0.5
SKAG IAML 15 52 31.1
comp=E,61nm,0.7s
SKAG Skagway 4.17 357 Sb **Sb 15 52 18.1 +2.4**
baz=176
P32M Atlin 4.34 8 Pn 15 51 16.5 -1.4
P32M IAML 15 52 35.7
comp=E,63nm,0.9s
P32M Atlin 4.34 8 P **Pn 15 51 16.9 -0.9**
baz=189,SNR=9.2
P32M Sb **Sb 15 52 22.3 +1.5**
baz=189
P29M Windy Craggy 4.59 342 IAML 15 52 42.1
comp=N,54nm,0.8s
P29M IAML 15 52 46.2
comp=E,46nm,1.0s
P29M Windy Craggy 4.59 342 P **Pn 15 51 21.0 -0.3**
baz=158
R33M Jennings River 4.62 26 IAML 15 52 41.9
comp=N,85nm,0.6s
R33M Jennings River 4.62 26 P **Pn 15 51 21.1 -0.7**
baz=210,SNR=8.4
P30M Million Dollar 4.95 348 P **Pn 15 51 25.7 -0.5**
baz=166
PNL Peninsula 5.00 333 P **Pn 15 51 26.6 -0.2**
baz=148
P33M Teslin, Yukon 5.05 12 IAML 15 53 01.9
comp=E,30nm,0.8s
P33M Teslin, Yukon 5.05 12 P **Pn 15 51 26.9 -0.7**
baz=194,SNR=10
BBB Bella Bella 5.11 125 Pn **Pn 15 51 25.8 -2.5**
comp=E,2.8nm,0.3s,baz=319,slow=8.2,SNR=35
BBB Sn **Sn 15 52 22.9 -3.6**
comp=E,3.0nm,0.3s,baz=264,slow=22,SNR=3.1
BBB Lg Lg 15 52 49.5
comp=E,5.2nm,0.3s,baz=247,slow=18,SNR=7.1
BCPM Bancas Point 5.30 333 IAML 15 53 11.0
comp=E,26nm,1.0s
WHY Whitehorse 5.37 0 P **Pn 15 51 31.2 -0.8**
baz=180,SNR=9.1
O29M Mount Kennedy 5.38 340 Pn 15 51 32.3 +0.2
O29M Mount Kennedy 5.38 340 IAML 15 53 12.8
comp=N,25nm,0.9s
O29M IAML 15 53 32.9
comp=E,25nm,1.1s
O29M Mount Kennedy 5.38 340 P **Pn 15 51 31.4 -0.7**
baz=156,SNR=8.5
O29M S **Sn 15 52 32.4 -1.0**
baz=156
O30N Mendenhall 5.52 354 IAML 15 53 12.2
comp=N,22nm,0.9s
O30N IAML 15 53 21.3
comp=E,33nm,1.1s
O30N Mendenhall 5.52 354 P **Pn 15 51 33.5 -0.4**
baz=172,SNR=12
PINM Pinnacle 5.59 331 P **Pn 15 51 35.1 +0.1**
baz=146,SNR=13
YUK6 Outpost Mounta 5.94 344 P **Pn 15 51 39.8 -0.2**
baz=160
N32M Quiet Lake 5.94 9 P **Pn 15 51 39.5 -0.3**
baz=190
O28M Mount Upton 6.15 335 Pn 15 51 42.6 -0.3
O28M Mount Upton 6.15 335 P **Pn 15 51 43.2 +0.3**
baz=150,SNR=11
N31M Braeburn, Yuko 6.22 356 P **Pn 15 51 43.3 -0.2**
baz=175
N30M Aishikik Lake 6.28 350 Pn 15 51 43.7 -0.6
N30M Aishikik Lake 6.28 350 P **Pn 15 51 44.0 -0.4**
baz=168
YUK4 Talbot Arm 6.37 344 P **Pn 15 51 46.4 +0.7**
baz=160
M29M Somme Creek 7.39 347 P **Pn 15 51 59.8 +0.1**
baz=164
MMPY Sheldon Lake, 7.57 13 P **Pn 15 52 02.3 +0.2**
baz=196
BMRM Bremner River 7.64 322 P **Pn 15 52 05.0 +1.9**
baz=132
L29M L29M 8.00 349 P **Pn 15 52 07.7 -0.2**
baz=166,SNR=11
N25K Chitina, Valde 8.10 325 P **Pn 15 52 10.2 +0.9**
baz=136
M26K Nabesna, AK 8.25 333 P **Pn 15 52 12.3 +0.9**
baz=145
KLU Klutina 8.47 322 P **Pn 15 52 14.9 +0.4**
baz=131
K29M Barlow Dome 8.66 352 P **Pn 15 52 16.5 -0.7**
baz=170
PWL Port Wells 9.02 314 P **Pn 15 52 21.7 -0.2**
baz=121
SCM Sheep Creek Mo 9.20 320 P **Pn 15 52 25.0 +0.5**
baz=129
J30M Hart River 9.33 356 P **Pn 15 52 26.0 -0.3**
baz=175
KNK Knik Glacier 9.37 316 P **Pn 15 52 28.1 +1.3**
baz=124
PAX Paxson 9.39 329 P **Pn 15 52 28.5 +1.4**
baz=139
KDAK Kodiak Island 10.06 292 Pn **Pn 15 52 34.1 -2.1**
comp=E,0.4nm,0.3s,baz=143,slow=15,SNR=9.5
KDAK Sn **Sn 15 54 24.7 -3.4**
comp=E,0.2nm,0.3s,baz=109,slow=16,SNR=1.9
comp=E,8.9nm,0.8s
ILAR Eielson Array 11.20 333 Pn **Pn 15 52 53.2 +1.5**
comp=E,0.1nm,0.3s,baz=157,slow=13,SNR=12
ILAR LR LR 15 57 14.3
comp=E,60nm,20.0s,baz=100,slow=38
comp=E,0.4nm,0.5s
YKA Yellowknife Ar 12.69 47 Pn **Pn 15 53 12.0 0.0**
comp=E,0.1nm,0.3s,baz=243,slow=12,SNR=7.4
YKA LR LR 15 58 18.6
comp=E,54nm,20.2s,baz=259,slow=38
comp=E,0.9nm,1.0s
NEW Newport 13.06 115 Pn **Pn 15 53 18.9 +1.7**
comp=E,0.1nm,0.3s,baz=298,slow=9.2,SNR=3.8
NEW LR LR 15 58 44.0
comp=E,26nm,20.7s,baz=281,slow=39
comp=E,2.9nm,1.0s
YBH Yreka Blue Hor 15.77 144 LR LR 15 58 53.6
comp=E,42nm,20.9s,baz=192,slow=33
NVAR Mina Array Bea 20.26 140 P Pn 15 54 49.3 +0.1
comp=E,0.8nm,0.6s,baz=308,slow=8.5,SNR=7.0
comp=E,0.8nm,0.6s
PDAR Pinedale Array 20.69 117 P Pn 15 54 53.9 -0.3
comp=E,1.6nm,0.8s,baz=313,slow=6.4,SNR=12
comp=E,1.6nm,0.8s

ULM Lac du Bonnet 23.92 86 P **P 15 55 25.2 0.0**
comp=E,1.1nm,0.4s,baz=288,slow=3.2,SNR=2.0
comp=E,1.1nm,0.4s
TXAR Lajitas Array 34.24 126 P **P 15 56 58.6 +1.3**
comp=E,0.5nm,0.7s,baz=324,slow=7.3,SNR=8.3
comp=E,0.5nm,0.7s
H11N2 WAKE ISLAND Hy 55.99 255 T T 17 00 36.1
baz=36,slow=76,SNR=429
H11N3 WAKE ISLAND Hy 55.99 255 T T 17 00 35.9
baz=36,slow=76,SNR=380
H11N1 WAKE ISLAND Hy 56.01 255 T T 17 00 37.4
baz=36,slow=76,SNR=324
H11S1 WAKE ISLAND Hy 57.09 254 T T 17 02 05.0
baz=35
H11S2 WAKE ISLAND Hy 57.10 254 T T 17 02 04.1
baz=35,slow=74
H11S3 WAKE ISLAND Hy 57.11 254 T T 17 02 01.5
baz=35,slow=74
KURBB Kurchatov Arra 70.82 338 P **P 16 01 28.5 +1.0**
comp=E,0.4nm,0.7s,baz=26,slow=5.9,SNR=4.2
comp=E,0.4nm,0.7s
MKAR Makanchi Array 73.55 334 P **P 16 01 45.0 +1.1**
comp=E,0.5nm,0.8s,baz=28,slow=4.9,SNR=5.7
comp=E,0.5nm,0.8s
QSPA South Pole Qui 145.11 180 PKPbc **PKPdf 16 09 48.5 +1.3**
comp=E,2.6nm,0.7s,baz=105,slow=0.7,SNR=17

---

*IDC **28** 16:00:56.0±1.4, 5°.34S×146°.44E, h148km±13km, mb3.4/9, mbtmp3.9/12, Error ellipse: s-maj=21.6km s-min=11.1km az=92.0*
*NEIC **28** 16:00:58.3±1.6, 5°.4S±0°.1×146°.5E±0°.1, h164km±8km, mb4.1/23, Error ellipse: s-maj=21.6km s-min=11.6km az=120.0*
ISC 28 16:00:56.6±0.6, 5°.33S±0°.07×146°.41E±0°.09, h150km, n40, σ0.93/42, mb4.0/18, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.12**	**170**	Pn	**Pn**	**16 01 59.1**	**+0.6**
PMG	**Port Moresby**	**4.12**	**170**	P	**Pn**	**16 01 58.7**	**+0.2**
	6.4nm,0.3s,baz=338,slow=16,SNR=13						
PMG				S	**Sn**	**16 02 44.7**	**-1.9**
	43nm,0.4s,baz=194,slow=22,SNR=12						
RABL	**Rabaul**	**5.84**	**79**		**Pn**	**16 02 21.5**	**+0.2**
JAY	**Jayapura**	**6.34**	**296**	P	**Pn**	**16 02 28.3**	**+0.3**
	12nm,0.3s,baz=148,slow=5.6,SNR=20						
COEN	**Coen**	**9.15**	**200**	Pn	**Pn**	**16 03 08.3**	**+2.9**
MTN	**Manton Dam**	**16.83**	**243**		**P**	**16 04 43.7**	**+0.5**
WB0	**Warramunga Arr**	**18.52**	**218**		**P**	**16 05 02.7**	**+1.0**
WR8	**Warramunga Arr**	**18.60**	**218**	P	**P**	**16 05 03.7**	**+1.1**
WR8				IAmb	IAmb	16 05 04.5	
	comp=Z,6.0nm,0.7s						
WRAB	**Tennant Creek**	**18.67**	**218**	Pn	**P**	**16 05 04.7**	**+1.4**
WRAB				IAmb	IAmb	16 05 08.5	
	comp=Z,6.5nm,0.8s						
WRA	**Warramunga Arr**	**18.68**	**218**	P	**P**	**16 05 04.5**	**+0.9**
	comp=Z,3.7nm,0.4s,baz=38,slow=12,SNR=68						
KNRA	**Kununurra**	**20.15**	**238**	P	**P**	**16 05 19.3**	**0.0**
KNRA				IAmb	IAmb	16 05 42.1	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**21.86**	**212**	P	**P**	**16 05 38.4**	**+0.9**
ASAR	**Alice Springs**	**21.86**	**212**	P	**P**	**16 05 38.3**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=47,slow=8.0,SNR=68						
ASAR				S	**S**	**16 09 29.1**	**0.0**
	comp=Z,0.5nm,0.7s,baz=27,slow=19,SNR=4.9						
	comp=Z,1.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.94**	**236**	P	**P**	**16 05 57.3**	**+0.2**
TPUB	**Ta-pu**	**37.99**	**319**	P	**P**	**16 08 00.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**52.42**	**298**	P	**P**	**16 09 52.2**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=109,slow=6.7,SNR=3.1						
	comp=Z,0.2nm,0.4s						
PEA0B	**Petropavlovsk-**	**58.99**	**8**	P	**P**	**16 10 40.9**	**+0.6**
PETK	**Petropavlovsk-**	**58.99**	**8**	P	**P**	**16 10 41.0**	**+0.7**
PETK	**Petropavlovsk-**	**58.99**	**8**	P	**P**	**16 10 40.6**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=172,slow=5.5,SNR=7.9						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**63.53**	**331**	P	**P**	**16 11 11.1**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=129,slow=2.0,SNR=2.2						
	comp=Z,0.4nm,0.5s						
VNDA	**Vanda**	**72.61**	**177**	P	**P**	**16 12 07.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=327,slow=7.2,SNR=3.8						
	comp=Z,0.8nm,0.7s						
SBA	**Scott Base**	**73.27**	**176**	P	**P**	**16 12 09.7**	**-1.3**
MKAR	**Makanchi Array**	**76.61**	**321**	P	**P**	**16 12 29.9**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=120,slow=6.6,SNR=4.7						
	comp=Z,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**78.13**	**328**	P	**P**	**16 12 38.0**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=100,slow=6.3,SNR=2.2						
	comp=Z,0.5nm,0.5s						
G18K	**Tagagawik**	**81.32**	**20**	P	**P**	**16 12 56.7**	**+0.7**
H19K	**Roundabout Mou**	**81.88**	**21**	P	**P**	**16 13 00.2**	**+1.4**
H19K				IAmb	IAmb	16 13 01.0	
	comp=Z,3.8nm,0.9s						
E19K	**Redstone River**	**82.67**	**19**	P	**P**	**16 13 03.8**	**+0.9**
E19K				IAmb	IAmb	16 13 05.1	
	comp=Z,3.0nm,0.6s						
D19K	**Kuna River**	**82.97**	**18**	P	**P**	**16 13 05.2**	**+0.6**
D19K				IAmb	IAmb	16 13 31.0	
	comp=Z,5.5nm,1.4s						
I21K	**Tanana**	**83.32**	**22**	P	**P**	**16 13 06.3**	**0.0**
HIN	**Hinchinbrook I**	**83.54**	**27**	P	**P**	**16 13 08.2**	**+0.5**
I23K	**Minto, Yukon-K**	**84.30**	**22**	P	**P**	**16 13 11.7**	**+0.4**
I23K				IAmb	IAmb	16 13 48.7	
	comp=Z,4.2nm,1.5s						
WRH	**Wood River Hil**	**84.50**	**23**	P	**P**	**16 13 12.3**	**-0.1**
WRH				IAmb	IAmb	16 13 28.9	
	comp=Z,5.3nm,1.4s						
QSPA	**South Pole Qui**	**84.64**	**180**	P	**P**	**16 13 13.1**	**-0.2**
QSPA				IAmb	IAmb	16 13 14.5	
	comp=Z,2.6nm,0.9s						
QSPA	**South Pole Qui**	**84.64**	**180**	P	**P**	**16 13 12.9**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=49,slow=3.8,SNR=14						
	comp=Z,1.3nm,0.6s						
CCB	**Clear Creek Bu**	**84.68**	**23**	P	**P**	**16 13 12.7**	**-0.5**
CCB				IAmb	IAmb	16 13 13.4	
	comp=Z,1.9nm,0.7s						
IL31		**85.10**	**23**	P	**P**	**16 13 14.6**	**-0.6**
IL31				IAmb	IAmb	16 13 15.2	
	comp=Z,2.8nm,0.7s						
ILAR	**Eielson Array**	**85.10**	**23**	P	**P**	**16 13 14.5**	**-0.8**
ILAR	**Eielson Array**	**85.10**	**23**	P	**P**	**16 13 14.7**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=252,slow=5.1,SNR=38						
	comp=Z,1.8nm,0.6s						
J25K	**Salcha River,**	**85.64**	**24**	P	**P**	**16 13 18.0**	**-0.1**
J25K				IAmb	IAmb	16 13 18.9	
	comp=Z,3.1nm,0.6s						
F24K	**Squaw Lake**	**85.84**	**21**	P	**P**	**16 13 19.1**	**+0.1**
F24K				IAmb	IAmb	16 13 54.6	
	comp=Z,3.3nm,1.5s						

---

*NEIC **28** 16:15:58.9±1.5, 18°.2S±0°.2×178°.3W±0°.2, h524km±10km, mb4.0/4, Error ellipse: s-maj=32.1km s-min=20.4km az=132.0*
*IDC **28** 16:15:59.8±3.2, 18°.22S×178°.41W, h545km±22km, mb3.0/3, mbtmp4.0/5, Error ellipse: s-maj=132.4km s-min=27.3km az=154.0*
ISC 28 16:15:59.6±0.9, 17°.7S±0°.2×178°.5W±0°.2, h550km, n15, σ1.910/14, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.34**	**269**	P	**P**	**16 17 17.0**	**+0.1**
MSVF	**Nonsavu**	**3.34**	**269**	P	**P**	**16 17 17.0**	**+0.1**
	25nm,0.7s,baz=119,slow=19,SNR=10						
FUTU	**Fugatoga**	**3.40**	**5**	P	**P**	**16 17 16.2**	**-1.1**
AFI	**Afiamalu**	**7.45**	**60**	P	**P**	**16 17 51.0**	**-1.1**
DZM	**Mont Dzumac**	**14.85**	**251**	P	**P**	**16 19 07.9**	**+0.2**
	8.4nm,1.0s,baz=82,slow=7.1,SNR=3.2						
BBOO	**Buckleboo**	**43.47**	**241**	P	**P**	**16 23 15.1**	**+0.6**
WRA	**Warramunga Arr**	**44.63**	**259**	P	**P**	**16 23 23.1**	**-0.6**
	0.5nm,0.6s,baz=96,slow=7.2,SNR=5.4						
	0.5nm,0.6s						
AS31	**Alice Springs**	**44.81**	**254**	P	**P**	**16 23 25.1**	**0.0**
ASAR	**Alice Springs**	**44.81**	**254**	P	**P**	**16 23 24.8**	**-0.3**
ASAR	**Alice Springs**	**44.81**	**254**	P	**P**	**16 23 25.0**	**-0.1**
	4.9nm,0.5s,baz=88,slow=8.1,SNR=92						
	4.9nm,0.5s						
QSPA	**South Pole Qui**	**72.34**	**180**	P	**P**	**16 26 28.7**	**-1.0**
QSPA				IAmb	IAmb	16 26 57.6	
	comp=Z,5.7nm,1.5s						
O16K	**Kokwok River B**	**78.80**	**10**	P	P	16 27 09.8	+4.6
O16K				IAmb	IAmb	16 27 53.1	
	comp=Z,12nm,1.3s						

TXAR Lajitas Array 85.92 58 P **P 16 27 44.8 +2.7**
comp=Z,0.2nm,0.6s,baz=207,slow=5.3,SNR=4.1
comp=Z,0.2nm,0.6s
BRTR Keskin Array B 144.62 315 PKPbc **PKPab 16 34 34.6 -0.5**
comp=Z,0.4nm,0.6s,baz=62,slow=3.4,SNR=3.7
MMAI Mount Meron Ar 146.00 303 PKPbc **PKPab 16 34 39.3 -1.3**
comp=Z,0.7nm,0.4s,baz=75,slow=2.8,SNR=2.2

---

*KRSC **28** 16:18:07.5±1.3, 54°.43N×162°.33E, h49km±13km, Ml3.7*
*IDC **28** 16:18:09.0±5.7, 55°.21N×161°.14E, h0km, mb3.9/5, mbtmp3.9/5, ML1.9/1, MS2.6/2, Error ellipse: s-maj=149.6km s-min=25.7km az=119.0*
ISC 28 16:18:08.7±1.2, 54°.44N±0°.03×162°.42E±0°.06, h41km±12km, n50, σ1.936/78, mb4.2/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.42**	**287**	*e*P	**Pn**	**16 18 17.7**	**-0.7**
MKZ				*e*S	**Sn**	**16 18 23.8**	**-1.4**
TUMD	**Tumrok D**	**1.40**	**304**	*e*P	**Pn**	**16 18 31.0**	**-0.7**
TUMD				*e*S	**Sn**	**16 18 47.0**	**-2.0**
KII	**Karymskiy**	**1.79**	**258**	*e*P	**Pn**	**16 18 38.0**	**+0.9**
KII				*e*S	**Sn**	**16 18 58.9**	**+0.3**
KBTR	**Krutoberegovo**	**1.79**	**7**	*e*P	**Pn**	**16 18 38.0**	**+0.9**
KBTR				*e*S	**Sn**	**16 19 00.3**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**1.80**	**327**	*e*P	**Pn**	**16 18 37.9**	**+0.6**
BZGR				*e*S	**Sn**	**16 19 00.1**	**+1.1**
KMNR	**Kamenistaya**	**1.82**	**317**	*e*P	**Pn**	**16 18 38.1**	**+0.5**
KMNR				*e*S	**Sn**	**16 19 00.5**	**+1.0**
ZLN	**Zelenaya**	**1.84**	**330**	*e*P	**Pn**	**16 18 38.7**	**+1.0**
ZLN				*e*S	**Sn**	**16 19 01.3**	**+1.5**
BZMR	**Bezymyannaya**	**1.87**	**324**	*e*P	**Pn**	**16 18 39.1**	**+0.8**
BZMR				*e*S	**Sn**	**16 19 01.1**	**+0.4**
BZWR	**Bezymyannyi-We**	**1.89**	**325**	*e*S	**Sn**	**16 19 02.3**	**+1.1**
LGNR	**Loginova**	**1.93**	**330**	*e*P	**Pn**	**16 18 40.8**	**+1.6**
LGNR				*e*S	**Sn**	**16 19 03.9**	**+1.6**
KIRR	**Kirishev**	**1.93**	**323**	*e*P	**Pn**	**16 18 39.8**	**+0.7**
KIRR				*e*S	**Sn**	**16 19 03.6**	**+1.3**
CIRR	**Tsirk**	**1.94**	**331**	*e*P	**Pn**	**16 18 40.4**	**+1.2**
CIRR				*e*S	**Sn**	**16 19 03.4**	**+1.0**
SPN	**Mys Shipunski**	**1.95**	**228**	*e*P	**Pn**	**16 18 39.7**	**+0.4**
SPN				*e*S	**Sn**	**16 19 01.6**	**-1.0**
KPT	**Kopyto**	**1.99**	**322**	*e*P	**Pn**	**16 18 40.8**	**+1.0**
KPT				*e*S	**Sn**	**16 19 05.0**	**+1.6**
KRSR	**Krestovskiy**	**2.08**	**330**	*e*P	**Pn**	**16 18 41.5**	**+0.4**
KRSR				*e*S	**Sn**	**16 19 06.3**	**+0.6**
KLY	**Klyuchi**	**2.14**	**333**	*e*P	**Pn**	**16 18 41.7**	**-0.1**
KLY				*e*S	**Sn**	**16 19 06.3**	**-0.7**
KOZ	**Kozyrevsk**	**2.19**	**319**	*e*P	**Pn**	**16 18 43.8**	**+1.3**
KOZ				*e*S	**Sn**	**16 19 10.0**	**+1.7**
BKI	**Bering**	**2.19**	**68**	*e*S	**Sn**	**16 19 09.1**	**+0.6**
SMKR	**Semkarok**	**2.22**	**346**	*e*P	**Pn**	**16 18 44.5**	**+1.5**
SMKR				*e*S	**Sn**	**16 19 09.4**	**+0.2**
NLC	**Nalytchevo**	**2.22**	**236**	*e*P	**Pn**	**16 18 43.7**	**+0.8**
NLC				*e*S	**Sn**	**16 19 10.3**	**+1.2**
BDR	**Baidarnaya**	**2.25**	**343**	*e*S	**Sn**	**16 19 12.2**	**+2.4**
SDLR	**Sedlovina**	**2.39**	**242**	*e*P	**Pn**	**16 18 47.2**	**+1.7**
SDLR				*e*S	**Sn**	**16 19 13.5**	**-0.1**
KRER	**Koryakskii**	**2.45**	**244**	*e*S	**Sn**	**16 19 17.2**	**+2.1**
UGLR	**Uglovaya**	**2.46**	**242**	*e*P	**Pn**	**16 18 48.1**	**+1.8**
UGLR				*e*S	**Sn**	**16 19 16.0**	**+0.8**
AVH	**Avacha**	**2.48**	**243**	*e*P	**Pn**	**16 18 48.8**	**+2.2**
AVH				*e*S	**Sn**	**16 19 16.7**	**+1.2**
KRX	**Arik**	**2.48**	**246**	*e*P	**Pn**	**16 18 48.4**	**+1.7**
KRX				*e*S	**Sn**	**16 19 16.4**	**+0.7**
KOK	**Koryaka**	**2.52**	**244**	*e*P	**Pn**	**16 18 49.0**	**+1.9**
KOK				*e*S	**Sn**	**16 19 17.0**	**+0.5**
DALK	**Dalny**	**2.59**	**239**	*e*P	**Pn**	**16 18 49.4**	**+1.3**
DALK				*e*S	**Sn**	**16 19 19.4**	**+1.2**
ESO	**Esso**	**2.60**	**307**	*e*P	**Pn**	**16 18 48.5**	**+0.3**
ESO				*e*S	**Sn**	**16 19 18.5**	**-0.1**
PET	**Petropavlovsk**	**2.65**	**239**	*e*P	**Pn**	**16 18 50.4**	**+1.6**
PET				*e*S	**Sn**	**16 19 20.3**	**+0.7**
INSR	**Institute**	**2.65**	**240**	*e*S	**Sn**	**16 19 20.8**	**+1.1**
GNL	**Ganaly**	**2.74**	**256**	*e*P	**Pn**	**16 18 52.0**	**+1.8**
KRMR	**Karymshinskiy**	**3.02**	**240**	*e*P	**Pn**	**16 18 56.0**	**+2.2**
KRMR				*e*S	**Sn**	**16 19 30.2**	**+1.4**
RUS	**Russkaya**	**3.08**	**231**	*e*P	**Pn**	**16 18 55.9**	**+1.2**
RUS				*e*S	**Sn**	**16 19 30.6**	**+0.3**
PETK	**Petropavlovsk-**	**3.10**	**247**	Pn	**Pn**	**16 18 56.5**	**+1.5**
	0.8nm,0.3s,baz=71,slow=17,SNR=59						
PETK				Sn	**Sn**	**16 19 34.5**	**+3.6**
	1.1nm,0.3s,baz=77,slow=21,SNR=5.5						
MTVR	**Mutnovka**	**3.20**	**234**	*e*P	**Pn**	**16 18 58.4**	**+1.9**
MTVR				*e*S	**Sn**	**16 19 34.2**	**+0.7**
GRL	**Gorelyy**	**3.21**	**236**	*e*P	**Pn**	**16 18 59.0**	**+2.4**
GRL				*e*S	**Sn**	**16 19 33.9**	**+0.3**
APC	**Apacha**	**3.48**	**246**	*e*P	**Pn**	**16 19 02.1**	**+1.9**
APC				*e*S	**Sn**	**16 19 40.8**	**+0.8**
KDTR	**Khodutka, Kamc**	**3.71**	**227**	*e*P	**Pn**	**16 19 03.1**	**-0.3**
KDTR				*e*S	**Sn**	**16 19 44.6**	**-1.2**
MA2	**Magadan**	**8.18**	**314**	Pn	**Pn**	**16 20 06.9**	**+2.3**
	0.2nm,0.3s,baz=140,slow=12,SNR=4.7						
MA2				LR	LR	16 22 55.2	
	comp=Z,31nm,19.1s,baz=112,slow=40						
KLR	**Kul'dur**	**19.56**	**267**	LR	LR	16 31 11.8	
	comp=Z,21nm,19.3s,baz=272,slow=41						
H11N2	**WAKE ISLAND Hy**	**34.81**	**173**	T	T	17 02 18.1	
	baz=355						
H11N3	**WAKE ISLAND Hy**	**34.83**	**173**	T	T	17 02 16.1	
	baz=355						
H11N1	**WAKE ISLAND Hy**	**34.83**	**173**	T	T	17 02 19.1	
	baz=355						
SPITS	**Spitsbergen Ar**	**46.03**	**351**	P	**P**	**16 26 27.1**	**-0.4**
	4.0nm,1.1s,baz=38,slow=7.3,SNR=5.9						
	4.0nm,1.1s						
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**16 27 00.9**	**-2.3**
	0.4nm,0.6s,baz=50,slow=8.5,SNR=2.2						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**59.42**	**337**	P	**P**	**16 28 06.3**	**-0.2**
	1.3nm,0.6s,baz=32,slow=8.6,SNR=9.1						
	1.3nm,0.6s						
NOA	**NORSAR Array B**	**62.62**	**345**	P	**P**	**16 28 27.6**	**-0.6**
	0.3nm,0.6s,baz=20,slow=6.9,SNR=2.7						
	0.3nm,0.6s						
HFS	**Hagfors**	**63.08**	**343**	P	**P**	**16 28 30.6**	**-0.6**
	2.1nm,0.9s,baz=21,slow=7.3,SNR=2.0						
	2.1nm,0.9s						
MSVF	**Nonsavu**	**73.11**	**164**	LR	LR	16 56 42.1	
	comp=Z,125nm,21.7s,baz=333,slow=31						

---

*IDC **28** 16:30:38.5±0.6, 14°.62S×167°.33E, h136km±4km, mb4.6/26, mbtmp5.0/29, MS3.6/17, Error ellipse: s-maj=12.7km s-min=9.1km az=86.0*
*NOU **28** 16:30:39.6, 14°.63S×167°.35E, h137km, mb5.1/108, Vanuatu Islands*
*NEIC **28** 16:30:40.6±1.6, 14°.62S±0°.09×167°.30E±0°.09, h150km±7km, mb4.8/150, Error ellipse: s-maj=12.7km s-min=12.1km az=163.0*
*GCMT **28** 16:30:40.6±0.2, 14°.58S±0°.01×167°.14E±0°.01, h148km±2km, MW5.1/109, Moment Tension Solution. s51,c68; s109,c168; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.76±.10; $M_{\theta\theta}$1.96±.12; $M_{\phi\phi}$-2.71±.11; $M_{r\theta}$-2.66±.08; $M_{\theta\phi}$3.06±.11; $M_{\phi r}$-1.44±.08; Best double couple: $M_0$4.82900×10^{16} NP1:ϕ_s294.00000°, δ66.00000°, λ23.00000°. NP2:ϕ_s194.00000°, δ69.00000°, λ154.00000°. Principal axes: T 5.4300, Plg33.0000°, Azm153.0000°; N -1.1960, Plg57.0000°, Azm337.0000°; P -4.2270, Plg2.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 16:30:39.8±0.4, 14°.63S±0°.04×167°.34E±0°.05, h146km±3km, h147km:pP-P, n622, σ0.994/595, mb4.9/152, 14C-10D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**1.47**	**177**	P	**Pn**	**16 31 08.5**	**

KOUNC **Koumac, New Ca** 6.57 206 P **Pn** **16 32 14.3 +0.3**
MARNC **Mare, Loyalty** 6.85 175 P **Pn** **16 32 16.7 -1.0**
YATNC **Mamie plateau,** 7.40 183 S **Sn** **16 33 47.4 -0.5**
YATNC **Mamie plateau,** 7.40 183 P **Pn** **16 32 24.7 -0.5**
DZM Mont Dzumac 7.45 186 P **Pn** **16 32 25.9 0.0**
75nm,0.3s,baz=52,slow=18,SNR=86
DZM S **Sn** **16 33 48.5 -0.8**
146nm,0.5s,baz=324,slow=19,SNR=6.2
DZM LR LR 16 34 57.1
comp=Z,376nm,20.4s,baz=10,slow=35
DZM Mont Dzumac 7.45 186 P **Pn** **16 32 26.8 +0.9**
DZM Mont Dzumac 7.45 186 S **Sn** **16 33 48.4 -0.8**
ONTNC **Ouen Toro** 7.68 186 **Pn** **16 32 29.0 +0.1**
ONTNC **Ouen Toro** 7.68 186 P **Pn** **16 32 29.6 +0.7**
ONTNC **Ouen Toro** 7.68 186 S **Sn** **16 33 55.2 +0.6**
ONTNC **Ouen Toro** 7.68 186 P **Pn** **16 32 30.3 +1.4**
OUENC **Ouen Island, N** 7.76 183 S **Sn** **16 33 56.6 +0.1**
OUENC **Ouen Island, N** 7.76 183 P **Pn** **16 32 30.8 +0.8**
PINNC **Pines Island,** 7.94 179 **Pn** **16 32 33.3 +0.9**
PINNC **Pines Island,** 7.94 179 P **Pn** **16 32 33.4 +1.0**
PINNC **Pines Island,** 7.94 179 S **Sn** **16 34 01.3 +0.4**
PINNC **Pines Island,** 7.94 179 P **Pn** **16 32 34.0 +1.6**
HNR Honiara 8.88 305 **Pn** **16 32 43.1 -1.9**
HNR Honiara 8.88 305 P **Pn** **16 32 44.8 -0.2**
196nm,0.5s,baz=162,slow=10.0,SNR=17
HNR S **Sn** **16 34 22.7 -1.0**
824nm,0.8s,baz=65,slow=21,SNR=10
HNR Honiara 8.88 305 P **Pn** **16 32 45.8 +0.8**
HNR Honiara 8.88 305 S **Sn** **16 34 23.1 -0.6**
MSVF Nonsavu 10.74 108 Pn Pn 16 33 15.0 +5.2
MSVF Nonsavu 10.74 108 P **Pn** **16 33 08.8 -1.1**
3.0nm,0.4s,baz=284,slow=4.2,SNR=1.4
MSVF Nonsavu 10.74 108 P **Pn** **16 33 10.0 +0.2**
DGTI Dogotuki 12.07 100 P **Pn** **16 33 27.7 +0.6**
GD1S Gladstone Soft 17.79 237 P **Pn** **16 34 38.3 0.0**
RK1H Rockhampton Ha 18.14 239 P **Pn** **16 34 42.4 -0.1**
RABL Rabaul 18.19 303 P **P** **16 34 40.5 -1.1**
AUWSH **Wavell State H** 18.40 224 P **Pn** **16 34 45.3 -0.3**
GC1S Gold Coast 1 S 18.60 221 P **P** **16 34 46.9 +1.0**
EIDS Eidsvold 18.62 232 Pn **Pn** **16 34 47.5 -0.6**
EIDS Eidsvold 18.62 232 P **Pn** **16 34 47.9 -0.2**
EIDS Eidsvold 18.62 232 P **Pn** **16 34 47.2 -0.9**
TV1H Townsville Har 20.18 254 P **P** **16 35 04.2 +1.2**
AFI Afiamalu 20.26 91 P **P** **16 35 00.9 -3.1**
PMG Port Moresby 20.40 282 **P** **16 35 04.8 -0.6**
PMG Port Moresby 20.40 282 P **P** **16 35 05.6 +0.2**
85nm,0.9s,baz=89,slow=6.4,SNR=13
85nm,0.9s
PMG Port Moresby 20.40 282 P **P** **16 35 06.4 +1.0**
PMG Port Moresby 20.40 282 P **P** **16 35 06.5 +1.0**
ARMA Armidale 21.35 220 **P** **16 35 15.2 -0.4**
ARMA Armidale 21.35 220 P **P** **16 35 16.5 +0.9**
comp=Z,33nm,0.9s
ARMA Armidale 21.35 220 P **P** **16 35 16.4 +0.9**
NIUE Niue 22.20 105 P **P** **16 35 25.4 +1.1**
MTSU Mount Surprise 22.35 258 P **P** **16 35 26.0 0.0**
comp=Z,75nm,0.8s
MTSU Mount Surprise 22.35 258 P **P** **16 35 26.3 +0.3**
PATS Pohnpei 23.13 337 **P** **16 35 33.1 0.0**
PATS Pohnpei 23.13 337 P **P** **16 35 34.4 +1.2**
comp=Z,264nm,1.4s
PATS Pohnpei 23.13 337 P **P** **16 35 34.2 +1.0**
MANU Manus Island 23.35 301 **P** **16 35 33.8 -1.5**
MANU IAmb IAmb 16 35 37.2
comp=Z,42nm,0.9s
COEN Coen 23.42 269 **P** **16 35 36.3 +0.4**
COEN IAmb IAmb 16 35 38.8
comp=Z,50nm,0.9s
COEN Coen 23.42 269 P **P** **16 35 36.0 +0.1**
comp=Z,65nm,1.2s
COEN Coen 23.42 269 P **P** **16 35 36.7 +0.8**
QLP Quilpie 24.63 237 **P** **16 35 47.4 +0.7**
comp=Z,214nm,1.1s
QLP Quilpie 24.63 237 P **P** **16 35 47.9 +1.1**
URZ Urewera 25.08 162 P **P** **16 35 52.2 +1.6**
BKZ Black Stump Fm 25.74 163 P **P** **16 35 58.0 +1.3**
CMSA Cobar Meteorol 25.99 226 P **P** **16 35 59.8 +0.8**
comp=Z,25nm,0.8s
CMSA Cobar Meteorol 25.99 226 P **P** **16 36 00.3 +1.3**
QIS Mount Isa 27.06 253 P **P** **16 36 08.1 -0.7**
comp=Z,21nm,1.1s
QIS Mount Isa 27.06 253 P **P** **16 36 08.6 -0.2**
INKA Innaminka 27.94 238 P **P** **16 36 17.7 +1.2**
STKA Stephens Creek 29.11 229 P **P** **16 36 28.0 +1.2**
STKA Stephens Creek 29.11 229 P **P** **16 36 28.0 +1.2**
comp=Z,139nm,1.5s
STKA Stephens Creek 29.11 229 P **P** **16 36 27.6 +0.8**
comp=Z,18nm,0.8s,baz=43,slow=7.8,SNR=34
STKA PcP **PcP** **16 39 31.9 +0.8**
comp=Z,8.5nm,0.8s,baz=24,slow=1.5,SNR=4.1
STKA ScP **ScP** **16 42 59.6 +0.4**
comp=Z,4.8nm,0.9s,baz=31,slow=2.9,SNR=5.9
STKA LR LR 16 46 40.9
comp=Z,115nm,18.1s,baz=62,slow=33
comp=Z,18nm,0.8s
STKA Stephens Creek 29.11 229 P **P** **16 36 28.0 +1.2**
DCZ Deep Cove 30.74 180 P **P** **16 36 41.3 +0.4**
SMPI Sarmi 30.93 291 P **P** **16 36 43.5 +0.5**
comp=Z,2µmcomp=Z,158nm,1.2s
LCRK Leigh Creek 31.04 235 P **P** **16 36 45.0 +1.1**
ARPS Mount Arapiles 31.66 221 P **P** **16 36 50.4 +1.1**
comp=Z,22nm,1.0s
WR8 Warramunga Arr 31.76 256 P **P** **16 36 48.8 -1.6**
WR8 IAmb IAmb 16 36 50.0
comp=Z,18nm,1.1s
HTT Hallett 31.83 229 P **P** **16 36 51.4 +0.5**
comp=Z,7.0nm,1.0s
HTT Hallett 31.83 229 P **P** **16 36 51.8 +0.9**
WB0 Warramunga Arr 31.85 256 P **P** **16 36 49.2 -1.9**
WB0 IAmb IAmb 16 36 50.7
comp=Z,30nm,0.9s
WRA Warramunga Arr 31.91 256 P **P** **16 36 49.1 -2.6**
WRA Warramunga Arr 31.91 256 P **P** **16 36 49.9 -1.8**
comp=Z,14nm,0.8s,baz=85,slow=8.6,SNR=57
WRA S **S** **16 41 46.7 -5.4**
comp=Z,1.8nm,0.9s,baz=76,slow=14,SNR=4.7
WRA ScP **ScP** **16 43 09.1 +0.4**
comp=Z,2.9nm,1.1s,baz=87,slow=2.8,SNR=4.7
comp=Z,14nm,0.8s
OOD Oodnadatta 32.17 241 P **P** **16 36 54.9 +1.1**
WHYH Whyalla 32.64 231 P **P** **16 36 59.2 +1.4**
AS01 Alice Springs 32.73 249 P **P** **16 36 58.0 -0.8**
AS31 Alice Springs 32.77 249 P **P** **16 36 57.9 -1.2**
AS31 Alice Springs 32.77 249 P **P** **16 36 57.8 -1.4**
comp=Z,9.9nm,1.1s
ASAR Alice Springs 32.77 249 P **P** **16 36 57.7 -1.4**
comp=Z,24nm,0.9s,baz=70,slow=9.4,SNR=128
ASAR S **S** **16 42 01.8 -3.7**
comp=Z,3.3nm,1.1s,baz=84,slow=16,SNR=4.6
ASAR ScP **ScP** **16 43 13.6 +1.9**
comp=Z,2.4nm,0.9s,baz=84,slow=3.3,SNR=6.4
ASAR LR LR 16 50 15.1
comp=Z,114nm,18.2s,baz=102,slow=36
comp=Z,24nm,0.9s
BBOO Buckleboo 33.69 232 P **P** **16 37 07.8 +0.8**
BBOO Buckleboo 33.69 232 P **P** **16 37 07.5 +0.5**
comp=Z,49nm,0.7s
BBOO Buckleboo 33.69 232 P **P** **16 37 08.1 +1.1**
KDU Kakadu 33.91 269 P **P** **16 37 08.3 -0.7**
comp=Z,36nm,1.0s
KDU Kakadu 33.91 269 P **P** **16 37 10.5 +1.4**
MTN Manton Dam 35.19 268 P **P** **16 37 19.8 -0.3**
MTN IAmb IAmb 16 38 38.6
comp=Z,22nm,1.1s
GUMO Guam 35.79 321 LR LR 16 53 04.3
comp=Z,32nm,18.4s,baz=147,slow=38
FAKI Fak Fak 36.51 285 P **P** **16 37 30.6 -0.7**
FAKI IAmb IAmb 16 37 32.1
comp=Z,26nm,0.9s
KNRA Kununurra 37.21 263 P **P** **16 37 36.4 -0.9**
KNRA Kununurra 37.21 263 P **P** **16 37 36.2 -1.0**
comp=Z,68nm,0.9s
WRKA Warakurna 38.03 248 P **P** **16 37 43.3 -0.9**
comp=Z,78nm,0.8s
WRKA Warakurna 38.03 248 P **P** **16 37 43.7 -0.5**
FORT Forrest 39.40 239 P **P** **16 37 55.2 -0.2**
FORT Forrest 39.40 239 P **P** **16 37 55.4 -0.1**
comp=Z,130nm,0.7s
FORT Forrest 39.40 239 P **P** **16 37 56.2 +0.8**
FITZ Fitzroy Crossi 40.10 259 P **P** **16 38 00.8 -0.5**
FITZ Fitzroy Crossi 40.10 259 P **P** **16 38 00.9 -0.4**
comp=Z,12nm,1.1s
FITZ Fitzroy Crossi 40.10 259 P **P** **16 38 01.2 -0.1**
NLAI Namlea 41.25 282 P **P** **16 38 12.7 +1.9**

PPT Papeete 41.44 100 P **P** **16 38 13.9 +1.5**
comp=Z,36nm,0.8s,baz=231,slow=14,SNR=2.6
comp=Z,36nm,0.8s
PPTF Pamatai, Papee 41.45 100 P **P** **16 38 14.9 +2.4**
SOEI Soe 42.33 272 P **P** **16 38 20.4 +0.6**
SOEI IAmb IAmb 16 38 49.6
comp=Z,39nm,0.9s
TNTI Ternate 42.40 288 P **P** **16 38 20.7 +0.5**
SANI Sanana 42.68 283 P **P** **16 38 23.0 +0.6**
SANI Sanana 42.68 283 P **P** **16 38 22.6 +0.2**
comp=Z,757nmcomp=Z,77nm,0.9s
MMRI Maumere 44.51 273 P **P** **16 38 35.7 -1.4**
KMBL Kambalda 44.70 240 P **P** **16 38 37.8 -0.6**
comp=Z,38nm,0.8s
KMBL Kambalda 44.70 240 P **P** **16 38 38.3 -0.1**
BBSI Bau Bau 44.93 277 P **P** **16 38 41.7 +1.3**
comp=Z,801nmcomp=Z,59nm,1.1s
KMSI Cibinong 45.47 286 P **P** **16 38 45.0 +0.3**
comp=Z,2µmcomp=Z,171nm,1.0s
PSA00 Pilbara Seismi 45.53 254 P **P** **16 38 44.5 -0.5**
PSA00 IAmb IAmb 16 38 46.0
comp=Z,34nm,0.9s
PSA00 Pilbara Seismi 45.53 254 P **P** **16 38 44.5 -0.5**
comp=Z,50nm,1.2s
PSA00 Pilbara Seismi 45.53 254 P **P** **16 38 45.4 +0.3**
MBWA Marble Bar 45.63 255 P **P** **16 38 45.8 -0.1**
MBWA IAmb IAmb 16 38 46.8
comp=Z,48nm,0.8s
MBWA Marble Bar 45.63 255 P **P** **16 38 45.6 -0.2**
comp=Z,70nm,1.1s
MBWA Marble Bar 45.63 255 P **P** **16 38 46.1 +0.2**
MBWA Marble Bar 45.63 255 P **P** **16 38 45.9 0.0**
LUWI Luwuk 46.05 283 P **P** **16 38 48.9 -0.3**
LUWI Luwuk 46.05 283 P **P** **16 38 50.0 +0.8**
LUWI Luwuk 46.05 283 P **P** **16 38 49.9 +0.8**
comp=Z,1µmcomp=Z,97nm,1.0s
MEEK Meekatharra 46.88 247 P **P** **16 38 54.9 -0.7**
comp=Z,63nm,0.8s
MEEK Meekatharra 46.88 247 P **P** **16 38 56.9 +1.3**
APSI Ampana 47.15 283 P **P** **16 38 58.5 +0.7**
comp=Z,64nm,1.1s
BNSI Bone 47.58 277 P **P** **16 39 01.8 +0.7**
KAPI Kappang 47.76 277 P **P** **16 39 02.2 -0.3**
KAPI IAmb IAmb 16 39 04.2
comp=Z,40nm,0.9s
KAPI Kappang 47.76 277 P **P** **16 39 03.5 +1.0**
KAPI Kappang 47.76 277 P **P** **16 39 02.9 +0.4**
KLBR Kellerberrin 48.21 241 P **P** **16 39 04.7 -1.0**
comp=Z,44nm,0.7s
KLBR Kellerberrin 48.21 241 P **P** **16 39 06.8 +1.0**
TOLI2 Tolitoli 48.65 285 P **P** **16 39 07.4 -1.9**
TOLI2 IAmb IAmb 16 39 09.8
comp=Z,21nm,0.9s
PLAI Plampang 48.79 271 P **P** **16 39 11.4 +1.0**
PLAI Plampang 48.79 271 P **P** **16 39 10.2 -0.2**
comp=Z,68nm,0.9s
NWAO Narrogin (SRO) 48.85 239 P **P** **16 39 10.2 -0.5**
NWAO IAmb IAmb 16 39 11.1
comp=Z,22nm,0.8s
NWAO Narrogin (SRO) 48.85 239 LR LR 16 58 51.3
comp=Z,102nm,19.5s,baz=334,slow=35
NWAO Narrogin (SRO) 48.85 239 P **P** **16 39 11.6 +0.9**
PCI Palu 48.87 282 P **P** **16 39 12.4 +1.4**
comp=Z,2µmcomp=Z,135nm,1.1s
MPSI Mapaga 49.21 283 P **P** **16 39 13.7 +0.1**
comp=Z,666nmcomp=Z,76nm,1.1s
MORW Morawa 49.37 244 IAmb IAmb 16 39 15.2
comp=Z,25nm,0.8s
MORW Morawa 49.37 244 P **P** **16 39 14.1 -0.6**
comp=Z,35nm,0.7s
MORW Morawa 49.37 244 P **P** **16 39 15.6 +1.0**
MUN Mundaring 49.57 240 P **P** **16 39 15.4 -0.7**
comp=Z,35nm,1.1s
MUN Mundaring 49.57 240 P **P** **16 39 17.1 +1.0**
BKB Balikpapan 51.55 280 P **P** **16 39 32.7 +1.5**
MYLDM **Lahad Datu** 52.26 289 P **P** **16 39 36.3 -0.1**
MYLDM **Lahad Datu** 52.26 289 P **P** **16 39 37.6 +1.2**
KKM Kota Kinabalu 54.69 288 P **P** **16 39 55.0 +0.7**
DRV Dumont d'Urvil 55.05 193 P **P** **16 39 55.8 -0.1**
PCJI Pacitan 55.31 270 P **P** **16 39 59.3 +0.7**
comp=Z,2µmcomp=Z,126nm,0.9s
UGM Wanagama 56.00 270 P **P** **16 40 04.4 +0.8**
UGM Wanagama 56.00 270 P **P** **16 40 05.8 +2.2**
comp=Z,105nm,1.0s
SMRI Semarang 56.27 271 P **P** **16 40 06.8 +1.3**
STKI Sintang 57.11 280 P **P** **16 40 12.9 +1.4**
comp=Z,43nm,0.9s
SBUM Sibu 57.15 283 IAmb IAmb 16 40 13.7
comp=Z,11nm,1.0s
SBUM Sibu 57.15 283 P **P** **16 40 12.7 +1.0**
INU Inuyama 57.42 331 P **P** **16 40 12.9 -0.3**
INU Inuyama 57.42 331 P **P** **16 40 13.7 +0.6**
JGF Kuroka 57.46 331 IAmb IAmb 16 40 14.6
comp=Z,13nm,0.8s
JGF Kuroka 57.46 331 P **P** **16 40 13.9 +0.4**
JMN Monobe 57.70 327 P **P** **16 40 15.6 +0.4**
JMN Monobe 57.70 327 P **P** **16 40 16.1 +0.9**
MJAR Matsushiro Arr 57.85 332 P **P** **16 40 15.1 -1.1**
comp=Z,12nm,1.0s,baz=169,slow=7.7,SNR=38
MJAR pP **pP** **16 40 47.6 -2.3**
comp=Z,7.4nm,1.0s,baz=164,slow=6.8,SNR=5.4
comp=Z,12nm,1.0s
MAJO Matsushiro 57.85 332 P **P** **16 40 15.1 -1.0**
MAJO Matsushiro 57.85 332 P **P** **16 40 15.7 -0.5**
MAJO Matsushiro 57.85 332 P **P** **16 40 15.5 -0.7**
MAJO pP **pP** **16 40 50.9 +1.0**
MAJO PcP **PcP** **16 41 06.6 -0.4**
JMM Marumori 57.86 335 P **P** **16 40 17.0 +0.8**
KSM Kuching 58.65 281 P **P** **16 40 22.9 +0.7**
BBJI Bungbulang 58.88 270 P **P** **16 40 24.1 +0.3**
JNU Nakatsue 58.88 324 LR LR 17 04 59.7
comp=Z,27nm,18.3s,baz=128,slow=35
JNU Nakatsue 58.88 324 P **P** **16 40 24.1 +0.7**
NACB Ninganchiao 59.02 310 IAmb IAmb 16 40 25.1
comp=Z,23nm,0.8s
NACB Ninganchiao 59.02 310 P **P** **16 40 25.7 +1.2**
LEM Lembang 59.05 271 LR LR 17 04 58.8
comp=Z,64nm,21.6s,baz=170,slow=35
JSD Sado 59.07 333 IAmb IAmb 16 41 01.0
comp=Z,18nm,1.1s
JSD Sado 59.07 333 P **P** **16 40 25.1 +0.6**
TPUB Ta-pu 59.23 309 P **P** **16 40 25.6 -0.4**
SSLB Suanglung 59.27 319 P **P** **16 40 26.0 -0.3**
YHNB Yeheng 59.47 311 P **P** **16 40 28.3 +0.6**
JTM Tenmabayashi 60.28 337 P **P** **16 40 32.8 0.0**
JTM Tenmabayashi 60.28 337 P **P** **16 40 34.0 +1.2**
CGJI Cibinong 60.96 271 P **P** **16 40 37.2 -0.8**
ASAJ Asahikawa 62.67 340 P **P** **16 40 49.5 +0.7**
comp=Z,35nm,1.0s,baz=222,slow=12,SNR=11
ASAJ LR LR 17 02 33.6
comp=Z,29nm,21.5s,baz=168,slow=31
comp=Z,35nm,1.0s
LWLI Liwa 62.91 272 P **P** **16 40 51.7 +0.6**
comp=Z,100nm,0.9s
MDSI Mara Dua 62.92 272 P **P** **16 40 49.7 -1.4**
comp=Z,35nm,0.8s
VNDA Vanda 62.96 181 P **P** **16 40 50.6 +0.3**
VNDA Vanda 62.96 181 P **P** **16 40 50.3 +0.1**
comp=Z,7.7nm,0.7s,baz=354,slow=7.4,SNR=56
comp=Z,7.7nm,0.7s
VNDA Vanda 62.96 181 P **P** **16 40 50.5 +0.3**
VNDA PcP **PcP** **16 41 27.2 +0.2**
TJN Taejon 63.23 324 P **P** **16 40 53.6 +1.0**
SBA Scott Base 63.23 180 P **P** **16 40 53.6 +1.5**
CASY Casey 63.64 202 P **P** **16 40 55.1 +0.2**
CASY Casey 63.64 202 P **P** **16 40 55.1 +0.2**
KSRS Korea Array 63.69 326 P **P** **16 40 55.4 -0.2**
comp=Z,4.2nm,0.9s,baz=142,slow=7.2,SNR=23
KSRS pP **pP** **16 41 29.1 -0.9**
comp=Z,2.1nm,0.7s,baz=140,slow=6.5,SNR=4.4
comp=Z,4.2nm,0.9s
KSAR Wonju Array Be 63.71 326 P **P** **16 40 55.8 +0.1**
DLV Lat 64.00 291 P **P** **16 40 59.1 +0.8**
MYKOM **Kota Tinggi** 64.91 279 P **P** **16 41 04.4 +0.3**
MYKOM IAmb IAmb 16 41 05.8
comp=Z,22nm,1.0s
MYKOM **Kota Tinggi** 64.91 279 P **P** **16 41 04.9 +0.8**
CCD Concordia, Ant 65.01 191 P **P** **16 41 04.5 +0.3**
YSS Yuzhno-Sakhali 65.16 342 P **P** **16 41 05.8 +0.8**
NJ2 Nanjing 65.65 316 *eP* **P** **16 41 10.3 +1.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
USA0B Ussuriysk Arra 66.83 333 IAmb IAmb 16 41 17.8
comp=Z,36nm,1.2s
USRK Ussuriysk Ar. 66.83 333 P **P** **16 41 15.9 +0.2**

USRK Ussuriysk Ar. 66.83 333 P **P** **16 41 16.2 +0.5**
comp=Z,21nm,1.1s,baz=134,slow=5.5,SNR=27
USRK pP **pP** **16 41 49.3 -1.1**
comp=Z,6.3nm,1.0s,baz=132,slow=5.7,SNR=3.6
comp=Z,21nm,1.1s
SHEM Shemya Is, Ala 67.33 4 LR LR 17 04 17.6
comp=Z,45nm,20.2s,baz=318,slow=30
PET Petropavlovsk 67.79 354 P **P** **16 41 21.4 -0.1**
PET IAmb IAmb 16 41 23.3
comp=Z,18nm,1.0s
PET Petropavlovsk 67.79 354 P **P** **16 41 21.8 +0.3**
WHN Wuhan 67.92 312 P **P** **16 41 22.8 -0.1**
WHN pmax pmax
comp=Z,42nm,0.7s
PETK Petropavlovsk- 67.97 354 P **P** **16 41 22.4 -0.3**
PETK Petropavlovsk- 67.97 354 P **P** **16 41 22.6 -0.1**
comp=Z,25nm,0.8s,baz=153,slow=6.8,SNR=63
comp=Z,25nm,0.8s
MDJ Mudanjiang 68.22 332 P P 16 41 18.0 -6.5
MDJ pmax pmax
comp=Z,11nm,2.3s
MDJ Mudanjiang 68.22 332 P **P** **16 41 25.4 +0.9**
MDJ Mudanjiang 68.22 332 P **P** **16 41 25.2 +0.7**
MDJ pP **pP** **16 42 00.4 +1.1**
MDJ sP **sP** **16 42 16.7 +1.8**
MNSI Mandailing Nat 68.72 277 P **P** **16 41 27.9 -0.3**
comp=Z,64nm,0.9s
KULM Kulim 68.99 282 IAmb IAmb 16 41 31.3
comp=Z,19nm,1.0s
KULM Kulim 68.99 282 P **P** **16 41 31.4 +1.5**
CN2 Changchun 69.59 329 *eP* **P** **16 41 33.0 0.0**
CN2 *epP* pwP 16 42 09.5 -1.0
CN2 pmax pmax
comp=Z,20nm,1.5s
CN2 pmax pmax
comp=Z,30nm,2.5s
RPSI Rantau Prapat 69.88 278 P **P** **16 41 34.2 -1.1**
RPSI IAmb IAmb 16 41 36.0
comp=Z,23nm,0.9s
PSI Prapat 69.91 279 P **P** **16 41 35.4 -0.3**
BNX BinXian 70.08 331 ⇓P **P** **16 41 35.8 -0.1**
BNX pmax pmax
comp=Z,19nm,0.7s
GSI Gunungsitoli 70.78 277 P **P** **16 41 40.0 -0.9**
GSI Gunungsitoli 70.78 277 P **P** **16 41 41.5 +0.6**
GSI Gunungsitoli 70.78 277 P **P** **16 41 41.5 +0.6**
comp=Z,78nm,0.9s
KLR Kul'dur 70.94 336 P **P** **16 41 41.4 +0.3**
comp=Z,9.4nm,1.0s,baz=142,slow=12,SNR=20
KLR LR LR 17 11 24.3
comp=Z,18nm,19.7s,baz=167,slow=34
comp=Z,9.4nm,1.0s
SRIT Nakonsritamara 71.01 285 IAmb IAmb 16 41 44.6
comp=Z,53nm,1.6s
SRIT Nakonsritamara 71.01 285 P **P** **16 41 43.7 +1.5**
NONG Nongkai 71.12 295 P **P** **16 41 43.6 +0.8**
NAYO Nakonayok 71.35 291 P **P** **16 41 45.5 +1.3**
ENH Enshi 71.35 309 P **P** **16 41 44.8 +0.8**
ENH Enshi 71.35 309 P **P** **16 41 43.6 -0.4**
LYN LuoYang 71.45 315 ⇑P **P** **16 41 45.3 +0.9**
LYN pmax pmax
comp=Z,48nm,0.7s
HNS HongShan 71.57 318 ⇓P **P** **16 41 45.5 +0.4**
HNS pmax pmax
comp=Z,16nm,1.1s
GYA Guiyang 71.71 305 P **P** **16 41 47.0 +0.7**
GYA pmax pmax
comp=Z,18nm,1.0s
SLVN Son La 71.77 299 P **P** **16 41 47.8 +1.1**
BJI Beijing 72.23 321 P **P** **16 41 49.5 +0.6**
BJI pP **pwP** **16 42 29.0 +2.5**
BJI pmax pmax
comp=Z,5.0nm,1.0s
HEH HeiHe 73.50 335 *eP* **P** **16 41 56.0 -0.2**
HEH pmax pmax
comp=Z,9.0nm,1.4s
XAN Xi'an 73.67 313 P **P** **16 41 58.0 +0.3**
XAN pP pP 16 42 34.0 +0.9
XAN pmax pmax
comp=Z,24nm,0.9s
KMI Kunming 74.31 302 P **P** **16 42 03.0 +1.2**
KMI pP pwP 16 42 39.3 -0.3
KMI pmax pmax
comp=Z,24nm,0.7s
XLT XiLinHaoTe 74.66 324 *eP* **P** **16 42 03.8 +0.6**
XLT PcP **PcP** **16 42 14.5 -2.3**
XLT pP pP 16 42 38.5 -0.2
XLT pmax pmax
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 74.97 294 P **P** **16 42 05.7 +0.3**
comp=Z,8.6nm,0.8s,baz=122,slow=4.4,SNR=72
comp=Z,8.6nm,0.8s
CM31 Chiang Mai Arr 74.97 294 IAmb IAmb 16 42 07.8
comp=Z,15nm,0.8s
CHTO Chiang Mai 75.10 294 P **P** **16 42 07.4 +1.2**
MA2 Magadan 75.16 351 P **P** **16 42 05.1 -0.5**
MA2 IAmb IAmb 16 42 06.3
comp=Z,19nm,0.9s
MA2 Magadan 75.16 351 P **P** **16 42 05.0 -0.5**
comp=Z,13nm,0.8s,baz=157,slow=5.6,SNR=20
comp=Z,13nm,0.8s
MA2 Magadan 75.16 351 P **P** **16 42 05.9 +0.3**
QSPA South Pole Qui 75.40 180 P **P** **16 42 07.0 -0.2**
comp=Z,14nm,0.9s,baz=8.9,slow=1.2,SNR=60
comp=Z,14nm,0.9s
HHC Hu-ho-hao-te 75.55 320 *eP* **P** **16 42 08.0 -0.4**
HHC pmax pmax
comp=Z,33nm,0.7s
HHC pmax pmax
comp=Z,150nm,5.3s
PZH PanZhiHua 75.70 303 P **P** **16 42 10.8 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,70nm,4.3s
CHIR Chirikof Islan 76.77 20 P **P** **16 42 15.5 +0.7**
baz=217
M11K Mekoryuk 77.73 13 P **P** **16 42 21.3 +1.3**
baz=206
SEY Seymchan 78.19 353 P **P** **16 42 22.7 +0.2**
comp=Z,19nm,1.0s,baz=152,slow=6.3,SNR=65
comp=Z,19nm,1.0s
O15K Ungalikthiuk R 78.25 17 P **P** **16 42 24.3 +1.4**
baz=212
LZH Lanzhou 78.30 312 *eP* **P** **16 42 25.5 +1.5**
LZH pP pP 16 43 04.8 +5.0
LZH sP sP 16 43 21.3 +6.1
LZH pmax pmax
comp=Z,31nm,1.3s
N14K Kuskokwak Cree 78.39 15 P **P** **16 42 24.3 +0.7**
baz=211
M13K Dall Lake 78.41 14 P **P** **16 42 24.6 +0.9**
baz=209
P16K Nushagak River 78.65 17 P **P** **16 42 25.8 +0.7**
baz=214
Q17K Contact Creek 78.65 19 P **P** **16 42 26.3 +1.0**
baz=216
OHAK Old Harbor 78.67 21 P **P** **16 42 26.2 +0.9**
baz=219
N15K Kwethluk River 79.02 16 P **P** **16 42 28.4 +1.2**
baz=212
M14K Bethel 79.04 15 IAmb IAmb 16 42 29.8
comp=Z,16nm,0.9s
M14K Bethel 79.04 15 P **P** **16 42 28.0 +0.8**
baz=210
O16K Kokwok River B 79.09 17 P **P** **16 42 28.5 +1.0**
baz=214
Q18K Katmai Hardscr 79.24 19 P **P** **16 42 28.8 +0.3**
baz=217
P17K Kvichak River 79.24 18 P **P** **16 42 29.3 +0.9**
baz=216
M15K Kasigluk River 79.31 15 P **P** **16 42 29.2 +0.5**
baz=211
KDAK Kodiak Island 79.35 21 LR LR 17 12 07.5
comp=Z,54nm,19.2s,baz=59,slow=31
KDAK Kodiak Island 79.35 21 P **P** **16 42 29.8 +0.9**
baz=219
L14K Kuka Creek 79.38 14 IAmb IAmb 16 43 36.4
comp=Z,20nm,1.4s
L14K Kuka Creek 79.38 14 P **P** **16 42 29.4 +0.4**
baz=210
K13K Kusilvak Mount 79.45 13 P **P** **16 42 29.8 +0.4**
baz=208
O17K Koliganek Bris 79.52 17 P **P** **16 42 30.4 +0.6**
baz=215
N16K Nishlik Lake 79.63 16 P **P** **16 42 31.1 +0.6**

	baz=213						
P18K	Big Mountain,	79.77	18	P	P	16 42 31.6	+0.3
	baz=217						
GAMB	Gambell	79.82	9	P	P	16 42 32.6	+1.3
	baz=201						
Q19K	Cape Douglas,	79.89	19	P	P	16 42 32.4	+0.4
	baz=218						
L15K	Ungalak Mounta	79.96	15	P	P	16 42 32.8	+0.6
	baz=211						
M16K	Timber Creek	80.04	16	IAmb	IAmb	16 42 35.8	
	comp=Z,14nm,0.9s						
M16K	Timber Creek	80.04	16	P	P	16 42 33.4	+0.8
	baz=213						
Q20K	Shuyak Island	80.05	20	P	P	16 42 32.9	+0.2
	baz=219						
N17K	Nushagak Hills	80.11	17	P	P	16 42 34.3	+1.2
	baz=215						
O18K	Koktuh Hills	80.14	18	P	P	16 42 34.2	+0.9
	baz=217						
J14K	Nanvaranak Lak	80.42	13	P	P	16 42 35.7	+1.1
	baz=208						
K15K	Wolf Creek Mou	80.48	14	IAmb	IAmb	16 43 17.4	
	comp=Z,68nm,1.9s						
K15K	Wolf Creek Mou	80.48	14	P	P	16 42 35.9	+0.9
	baz=210						
L16K	Owhat River	80.49	15	P	P	16 42 36.3	+1.2
	baz=212						
P19K	Oil Pt	80.59	19	P	P	16 42 36.6	+0.9
	baz=218						
N18K	Kilae Creek	80.61	17	P	P	16 42 36.7	+0.9
	baz=216						
O19K	Port Alsworth	80.69	18	P	P	16 42 37.3	+1.2
	baz=218						
M17K	Holitna River	80.77	16	P	P	16 42 37.8	+1.3
	baz=214						
HOM	Homer	81.11	20	P	P	16 42 39.0	+0.7
	baz=220						
N19K	Bonanza Creek	81.13	18	P	P	16 42 39.1	+0.5
	baz=217						
L17K	Donlin	81.15	16	P	P	16 42 39.1	+0.5
	baz=214						
M18K	Stony River	81.29	17	P	P	16 42 39.7	+0.4
	baz=216						
BRSE	Bradley Lake S	81.47	20	P	P	16 42 40.5	+0.2
	baz=221						
J16K	Anvik River	81.55	14	P	P	16 42 40.8	+0.2
	baz=211						
K17K	Iditarod	81.64	15	IAmb	IAmb	16 42 44.2	
	comp=Z,16nm,1.2s						
K17K	Iditarod	81.64	15	P	P	16 42 41.4	+0.3
	baz=214						
L18K	Granite Mounta	81.64	16	P	P	16 42 41.3	+0.2
	baz=215						
YAK	Yakutsk	81.95	343	P	P	16 42 42.6	-0.1
YAK	Yakutsk	81.95	343	P	P	16 42 42.4	-0.3
	comp=Z,48nm,0.8s,baz=153,slow=4.5,SNR=13						
	comp=Z,48nm,0.8s						
J17K	VABM Dome	82.01	15	P	P	16 42 44.2	+1.2
	baz=213						
M19K	Big River Lodg	82.03	17	P	P	16 42 44.5	+1.3
	baz=217						
I17K	Unalakleet	82.05	14	P	P	16 42 44.2	+1.0
	baz=211						
ULN	Ulaanbaatar	82.09	324	P	P	16 42 43.9	-0.1
ULN				IAmb	IAmb	16 42 45.7	
	comp=Z,11nm,0.9s						
CAPN	Captain Cook N	82.12	19	P	P	16 42 44.2	+0.6
	baz=220						
L19K	White Mountain	82.12	17	P	P	16 42 44.4	+0.8
	baz=217						
SEW	Seward	82.17	20	P	P	16 42 44.6	+0.7
	baz=222						
SLKM	Skilak Lake	82.22	20	IAmb	IAmb	16 42 53.5	
	comp=Z,14nm,1.1s						
G15K	Niukluk	82.30	12	P	P	16 42 45.5	+1.0
	baz=208						
H16K	Elim	82.36	13	P	P	16 42 45.3	+0.5
	baz=210						
O22K	Cooper Landing	82.36	20	IAmb	IAmb	16 42 58.4	
	comp=Z,25nm,0.8s						
O22K	Cooper Landing	82.36	20	P	P	16 42 45.2	+0.3
	baz=222						
M20K	Styx River	82.38	18	P	P	16 42 45.1	0.0
	baz=218						
BILL	Bilibino	82.44	360	P	P	16 42 45.3	+0.1
BILL				IAmb	IAmb	16 42 46.5	
	comp=Z,20nm,1.1s						
SONM	Songino Array	82.46	324	P	P	16 42 45.9	0.0
SONM				IAmb	IAmb	16 42 47.5	
	comp=Z,27nm,1.6s						
SONM	Songino Array	82.46	324	P	P	16 42 45.4	-0.5
	comp=Z,4.6nm,0.9s,baz=143,slow=6.0,SNR=24						
SONM				LR	LR	17 20 43.5	
	comp=Z,22nm,18.0s,baz=114,slow=36						
	comp=Z,4.6nm,0.9s						
L20K	Farewell, AK	82.63	17	P	P	16 42 46.2	-0.2
	baz=218,SNR=9.2						
GTA	Gaotai	82.65	314	P	P	16 42 48.3	+1.2
GTA				sP	pP	16 43 23.8	+0.5
GTA				pmax	pmax		
	comp=Z,13nm,1.1s						
J18K	Innoko River	82.66	15	P	P	16 42 46.5	+0.1
	baz=215						
SUA	Susitna One	82.78	19	IAmb	IAmb	16 42 49.8	
	comp=Z,10nm,0.8s						
SUA	Susitna One	82.78	19	P	P	16 42 47.8	+0.6
	baz=221,SNR=5.5						
P23K	Montague Islan	82.80	21	P	P	16 42 47.8	+0.6
	baz=224						
RC01	Rabbit Creek A	82.82	19	IAmb	IAmb	16 42 49.6	
	comp=Z,21nm,1.1s						
RC01	Rabbit Creek A	82.82	19	P	P	16 42 47.3	0.0
	baz=222						
F15K	North Star Dit	82.82	11	P	P	16 42 47.8	+0.6
	baz=207						
SKT	Skwentna	82.93	18	P	P	16 42 48.1	+0.3
	baz=220						
G16K	Koyuk River	82.99	12	P	P	16 42 47.5	-0.6
	baz=210						
PWL	Port Wells	83.11	20	IAmb	IAmb	16 42 49.8	
	comp=Z,13nm,0.9s						
PWL	Port Wells	83.11	20	P	P	16 42 48.2	-0.6
	baz=223						
H17K	Granite Mounta	83.13	13	P	P	16 42 48.2	-0.6
	baz=212						
M22K	Willow	83.19	19	IAmb	IAmb	16 42 51.2	
	comp=Z,41nm,1.1s						
M22K	Willow	83.19	19	P	P	16 42 48.4	-0.7
	baz=221						
K20K	Telida	83.28	16	P	P	16 42 49.3	-0.3
	baz=217						
J19K	Poorman	83.38	16	P	P	16 42 50.0	-0.1
	baz=216						
PMR	Palmer	83.39	19	IAmb	IAmb	16 42 52.5	
	comp=Z,13nm,1.0s						
PMR	Palmer	83.39	19	P	P	16 42 50.8	+0.7
PMR	Palmer	83.39	19	P	P	16 42 49.7	-0.5
	baz=222,SNR=6.2						
PPLA	Purkeypile	83.44	17	P	P	16 42 50.1	-0.6
	baz=219						
G17K	Kiwalik Mounta	83.45	13	P	P	16 42 50.1	-0.3
	baz=211						
KNK	Knik Glacier	83.47	20	IAmb	IAmb	16 42 53.2	
	comp=Z,9.1nm,0.8s						
KNK	Knik Glacier	83.47	20	P	P	16 42 50.3	-0.4
	baz=223						
GLI	Glacier Island	83.54	21	P	P	16 42 50.8	-0.2
	baz=224						
GHO	Glory Hole Cre	83.59	19	IAmb	IAmb	16 42 55.4	
	comp=Z,9.1nm,0.7s						
CUT	Chulitna	83.64	18	IAmb	IAmb	16 42 53.2	
	comp=Z,20nm,1.0s						
CUT	Chulitna	83.64	18	P	P	16 42 51.1	-0.4
	baz=221						
H18K	Honhosa River	83.66	14	P	P	16 42 51.3	-0.3
	baz=213						
GCSA	Galena City Sc	83.68	15	P	P	16 42 51.5	-0.1
	baz=215						
EYAK	Cordova Ski Ar	83.77	21	P	P	16 42 51.5	-0.7
	baz=225						
SML	Sawmill	83.80	20	IAmb	IAmb	16 42 56.2	
	comp=Z,23nm,1.3s						
SML	Sawmill	83.80	20	P	P	16 42 51.9	-0.5
	baz=223						
KAIM	Kayak Island	83.81	22	P	P	16 42 51.8	-0.6
	baz=227						
CAST	Castle Rocks	83.88	17	IAmb	IAmb	16 42 54.2	
	comp=Z,15nm,0.9s						
CAST	Castle Rocks	83.88	17	P	P	16 42 51.8	-0.9
	baz=219,SNR=19						
J20K	Nowinta River	83.91	16	P	P	16 42 53.6	+0.8
	baz=217						
F17K	Baldwin Pennin	84.13	12	P	P	16 42 54.3	+0.5
	baz=210						
SCM	Sheep Creek Mo	84.15	20	IAmb	IAmb	16 43 41.7	
	comp=Z,9.7nm,0.9s						
SCM	Sheep Creek Mo	84.15	20	P	P	16 42 53.8	-0.3
	baz=224						
CHUM	Lake Minchumin	84.18	17	P	P	16 42 53.3	-0.8
	baz=219,SNR=7.2						
G18K	Tagagawik	84.22	13	P	P	16 42 54.8	+0.4
	baz=213						
KTH	Kantishna Hill	84.32	17	IAmb	IAmb	16 42 56.8	
	comp=Z,11nm,0.9s						
I20K	Naaghedeneel	84.32	15	IAmb	IAmb	16 42 58.2	
	comp=Z,29nm,1.1s						
I20K	Naaghedeneel	84.32	15	P	P	16 42 55.7	+0.9
	baz=217,SNR=6.2						
KLU	Klutina	84.37	21	P	P	16 42 55.5	+0.2
	baz=225						
BERG	Berg Lake	84.39	22	IAmb	IAmb	16 42 57.9	
	comp=Z,11nm,0.7s						
H19K	Roundabout Mou	84.42	14	P	P	16 42 55.7	+0.3
	baz=215						
TRF	Thorofare Moun	84.43	18	IAmb	IAmb	16 44 20.7	
	comp=Z,14nm,1.2s						
TRF	Thorofare Moun	84.43	18	P	P	16 42 55.3	-0.3
	baz=221						
BMRM	Bremner River	84.46	21	P	P	16 42 56.0	+0.2
	baz=226						
E17K	Hotham Inlet	84.57	12	P	P	16 42 57.0	+0.9
	baz=210						
F18K	Selawik	84.60	13	P	P	16 42 56.4	+0.3
	baz=212						
BPAW	Bear Paw Mtn.	84.72	17	P	P	16 42 56.3	-0.6
	baz=220						
M24K	Tolsona, Glenn	84.73	20	P	P	16 42 58.0	+0.9
	baz=225						
WAX	Waxell Ridge	84.74	22	IAmb	IAmb	16 42 59.4	
	comp=Z,11nm,0.8s						
H20K	Anotleneega Mo	84.78	15	P	P	16 42 57.2	0.0
	baz=217,SNR=8.4						
G19K	Purcell Mounta	84.78	14	IAmb	IAmb	16 43 00.2	
	comp=Z,17nm,1.1s						
G19K	Purcell Mounta	84.78	14	P	P	16 42 56.9	-0.3
	baz=214,SNR=14						
RND	Reindeer	84.82	18	IAmb	IAmb	16 43 44.6	
	comp=Z,11nm,1.1s						
D17K	Noatak River	84.88	11	P	P	16 42 58.0	+0.5
	baz=209						
N25K	Chitina, Valde	84.91	21	P	P	16 42 57.9	-0.1
	baz=226						
C16K	Lisburne Hills	85.00	10	P	P	16 42 57.9	-0.2
	baz=206						
MCK	McKinley	85.04	18	IAmb	IAmb	16 43 01.6	
	comp=Z,17nm,1.0s						
MCK	McKinley	85.04	18	P	P	16 42 58.5	0.0
	baz=222,SNR=11						
E18K	Tukpahlearik C	85.11	12	P	P	16 42 58.3	-0.5
	baz=211						
F19K	Shaleruckik Mo	85.20	13	IAmb	IAmb	16 43 00.9	
	comp=Z,13nm,1.1s						
F19K	Shaleruckik Mo	85.20	13	P	P	16 42 59.7	+0.5
	baz=214,SNR=11						
BWN	Browne	85.21	18	IAmb	IAmb	16 43 01.9	
	comp=Z,25nm,1.0s						
RDOG	Red Dog Mine	85.22	11	P	P	16 42 59.4	+0.1
	baz=209						
HARP	HAARP	85.27	20	P	P	16 43 00.4	+0.7
	baz=226						
I21K	Tanana	85.28	16	IAmb	IAmb	16 43 02.5	
	comp=Z,14nm,0.9s						
I21K	Tanana	85.28	16	P	P	16 42 59.4	-0.2
	baz=219,SNR=17						
H21K	Melozitna Rive	85.44	15	P	P	16 43 00.6	+0.1
	baz=218,SNR=11						
PINM	Pinnacle	85.49	23	P	P	16 43 00.3	-0.6
	baz=230						
PNL	Peninsula	85.55	24	P	P	16 43 01.1	-0.1
	baz=231						
PAX	Paxson	85.57	20	P	P	16 43 01.8	+0.5
	baz=225						
NEA2	Nenana	85.64	17	IAmb	IAmb	16 43 48.0	
	comp=Z,18nm,1.8s						
NEA2	Nenana	85.64	17	P	P	16 43 02.4	+0.9
	baz=222						
F20K	Avaraart Lake	85.84	14	P	P	16 43 02.7	+0.3
	baz=216,SNR=9.7						
E19K	Redstone River	85.84	13	P	P	16 43 02.8	+0.4
	baz=214						
G21K	Allakaket	85.94	15	P	P	16 43 03.2	+0.3
	baz=218						
O28M	Mount Upton	85.95	23	P	P	16 43 03.1	-0.3
	baz=230						
I23K	Minto, Yukon-K	85.97	17	P	P	16 43 03.2	+0.1
	baz=222						
H22K	Ishtalitna Cre	85.99	16	P	P	16 43 04.0	+0.8
	baz=220,SNR=14						
M26K	Nabesna, AK	86.00	21	P	P	16 43 03.8	+0.4
	baz=228						
C18K	Utukok River	86.06	11	P	P	16 43 03.6	+0.1
C18K	Utukok River	86.06	11	P	P	16 43 03.6	+0.1
	baz=210						
K24K	Donnelly Dome	86.06	19	P	P	16 43 03.7	+0.1
	baz=225						
HDA	Harding Lake	86.13	18	IAmb	IAmb	16 44 18.5	
	comp=Z,14nm,1.0s						
HDA	Harding Lake	86.13	18	P	P	16 43 03.5	-0.4
	baz=224						
U33K	Whale Pass	86.16	29	P	P	16 43 03.8	-0.3
	baz=237						
P29M	Windy Craggy	86.19	25	P	P	16 43 03.9	-0.5
	baz=233						
COLA	College	86.20	18	P	P	16 43 05.6	+1.4
COLA	College	86.20	18	P	P	16 43 03.9	-0.2
	baz=223						
L26K	Log Cabin Wild	86.31	20	P	P	16 43 04.6	-0.2
	baz=227						
RIDG	Independent Ri	86.31	19	P	P	16 43 04.6	-0.3
	baz=226						
M27K	Edge Creek, AK	86.36	21	P	P	16 43 05.3	0.0
	baz=229						
ILAR	Eielson Array	86.41	18	P	P	16 43 03.5	-1.7
ILAR	Eielson Array	86.41	18	P	P	16 43 04.1	-1.2
	comp=Z,3.4nm,0.8s,baz=233,slow=5.8,SNR=38						
ILAR				LR	LR	17 14 36.3	
	comp=Z,51nm,20.6s,baz=292,slow=30						
	comp=Z,3.4nm,0.8s						
H23K	Yukon River	86.43	16	IAmb	IAmb	16 44 20.4	
	comp=Z,32nm,1.9s						
H23K	Yukon River	86.43	16	P	P	16 43 05.5	+0.2
	baz=222						
YUK8	Steele Glacier	86.43	23	P	P	16 43 06.1	+0.3
	baz=231						
V35K	Ketchikan	86.46	30	P	P	16 43 05.4	-0.3
	baz=238						
YUK3	Moose Creek	86.49	22	P	P	16 43 05.3	-0.6
	baz=230						
DOT	Dot Lake	86.50	20	IAmb	IAmb	16 44 05.0	
	comp=Z,16nm,1.7s						
POKR	Poker Plat Res	86.50	18	P	P	16 43 05.6	-0.1
	baz=224						
F21K	Alatna River	86.50	14	P	P	16 43 06.0	+0.3
	baz=218,SNR=8.5						
D19K	Kuna River	86.52	12	P	P	16 43 06.3	+0.5
	baz=213						
B18K	Kokolik River	86.57	10	P	P	16 43 06.1	+0.2
	baz=210						
WRAK	Wrangell Islan	86.69	29	P	P	16 43 06.2	-0.6
	baz=237						
E20K	Nigu River	86.73	13	P	P	16 43 07.2	+0.4
	baz=215						
R32K	Eaglecrest	86.74	27	P	P	16 43 07.7	+0.7
	baz=235						
SCRK	Sand Creek	86.75	19	P	P	16 43 06.8	-0.3
	baz=227						
G22K	Bettles	86.75	15	P	P	16 43 06.8	0.0
	baz=220						
J25K	Salcha River,	86.76	18	P	P	16 43 07.7	+0.6
	baz=225						
BVCY	Beaver Creek	86.76	21	P	P	16 43 07.2	+0.2
	baz=230						
P30M	Million Dollar	86.80	24	P	P	16 43 07.9	+0.6
	baz=233						
BELA	Belgrano 2	86.82	175	P	P	16 43 05.5	-1.8
BELA				IAmb	IAmb	16 43 42.8	
	comp=Z,15nm,1.2s						
L27K	Beaver Creek,	86.85	21	P	P	16 43 08.2	+0.7
	baz=229						
PFO	Pinyon Flats O	86.89	54	LR	LR	17 12 41.8	
	comp=Z,41nm,21.9s,baz=228,slow=29						
YUK4	Talbot Arm	86.89	23	P	P	16 43 08.4	+0.5
	baz=232						
H24K	Noodor Dome	86.90	17	P	P	16 43 07.7	0.0
	baz=223						
G23K	Bananza Creek	86.97	16	P	P	16 43 09.2	+1.3
	baz=221						
HYT	Haines Junctio	87.01	24	P	P	16 43 08.9	+0.5
	baz=233						
D20K	Etivluk River	87.01	12	P	P	16 43 08.4	+0.3
	baz=215						
F22K	John River	87.04	14	P	P	16 43 08.9	+0.6
	baz=219						
NVAR	Mina Array Bea	87.16	49	P	P	16 43 09.8	+0.1
	comp=Z,1.8nm,1.0s,baz=228,slow=8.0,SNR=5.2						
	comp=Z,1.8nm,1.0s						
J26L	Joseph Creek	87.24	19	P	P	16 43 09.0	-0.4
	baz=227						
COLD	Coldfoot	87.32	15	P	P	16 43 11.0	+1.4
	baz=221						
PRP	Porcupine Dome	87.35	18	P	P	16 43 10.6	+0.6
	baz=225						
E21K	Killik River	87.36	13	P	P	16 43 10.6	+0.8
	baz=217						
K27K	Chicken	87.41	20	P	P	16 43 10.2	+0.1
	baz=228						
A19K	Wainwright	87.42	10	P	P	16 43 10.1	+0.2
	baz=210						
O30N	Mendenhall	87.53	24	P	P	16 43 11.3	+0.5
	baz=234						
E22K	Anaktuvuk Pass	87.62	14	P	P	16 43 11.2	+0.1
	baz=219,SNR=5.6						
M29M	Somme Creek	87.64	22	P	P	16 43 10.9	-0.5
	baz=232						
G24K	Hadweenzic Riv	87.64	16	P	P	16 43 11.3	+0.1
	baz=223						
C21K	Knifeblade Rid	87.76	13	P	P	16 43 12.4	+0.7
	baz=216,SNR=7.5						
P32M	Atlin	87.83	26	P	P	16 43 13.0	+0.8
	baz=236						
I26K	Coal Creek Min	87.92	19	P	P	16 43 12.8	+0.3
	baz=227						
WHY	Whitehorse	87.95	25	P	P	16 43 13.6	+0.7
	baz=235						
B20K	Meade River	87.97	12	P	P	16 43 13.5	+0.9
	baz=214						
D22K	Ayikyak River	88.00	13	P	P	16 43 14.0	+1.2
D22K				IAmb	IAmb	16 43 16.3	
	comp=Z,5.8nm,0.9s						
D22K	Ayikyak River	88.00	13	P	P	16 43 14.3	+1.5
	baz=218,SNR=8.3						
S34M	Telegraph Cree	88.05	28	P	P	16 43 12.9	-0.3
	baz=238						
G25K	Bearman Lake	88.07	17	P	P	16 43 12.9	-0.2
	baz=225						
N31M	Braeburn, Yuko	88.08	24	P	P	16 43 13.0	-0.3
	baz=234						
E23K	Chandalar	88.09	15	IAmb	IAmb	16 44 34.5	
	comp=Z,8.0nm,1.3s						
E23K	Chandalar	88.09	15	P	P	16 43 13.0	-0.3
	baz=221						
Q32M	Nakina River	88.10	27	P	P	16 43 13.3	-0.5
	baz=237						
F24K	Squaw Lake	88.13	16	P	P	16 43 13.5	0.0
	baz=223						
B21K	Ikpikpuk River	88.17	12	IAmb	IAmb	16 43 16.7	
	comp=Z,6.3nm,0.8s						
B21K	Ikpikpuk River	88.17	12	P	P	16 43 14.1	+0.6
	baz=217,SNR=6.9						
L29M	L29M	88.17	22	P	P	16 43 13.9	+0.1
	baz=232						
M30M	Minto, Yukon	88.34	23	P	P	16 43 14.1	-0.5
	baz=233						
E24K	Your Creek	88.39	15	P	P	16 43 14.4	-0.3
	baz=222						
D23K	Nanushuk River	88.53	14	IAmb	IAmb	16 43 18.1	
	comp=Z,9.7nm,1.1s						
D23K	Nanushuk River	88.53	14	P	P	16 43 15.5	+0.3
	baz=220						
TOLK	Toolik Lake Re	88.54	14	P	P	16 43 15.5	+0.1
	baz=221						
P33M	Teslin, Yukon	88.55	26	P	P	16 43 16.3	+0.6
	baz=237						
I27K	Kandik River	88.60	19	P	P	16 43 15.5	-0.2
	baz=229						
F25K	Christian Rive	88.79	16	P	P	16 43 16.8	+0.3
	baz=225						
SYO	Syowa Base	88.82	197	‖ *e*P	P	16 43 17.0	+0.2
SYO	Syowa Base	88.82	197	‖ *e*PcP	PcP	16 43 18.3	+0.1
DLBC	Dease Lake	88.82	28	P	P	16 43 17.2	+0.2
	baz=239						
K29M	Barlow Dome	88.84	21	P	P	16 43 17.3	+0.3
	baz=233						
SHPR	Sheep Range	88.85	52	P	P	16 43 17.5	-0.3
G26K	Porcupine Rive	88.86	17	P	P	16 43 17.4	+0.6
	baz=227						
R33M	Jennings River	88.90	27	P	P	16 43 18.1	+0.8
	baz=238						
J29N	Klondike Camp	88.97	21	P	P	16 43 18.4	+0.8
	baz=232						
B22K	Teshekpuk Lake	89.00	12	P	P	16 43 18.3	+0.9
	baz=218						
I28M	Miner Creek	89.03	19	P	P	16 43 17.4	-0.4
	baz=230						
H27K	Steamboat Moun	89.04	18	P	P	16 43 18.4	+0.6
	baz=229						
D24K	Happy Valley	89.11	14	P	P	16 43 17.7	-0.3
	baz=222						
A21K	Barrow	89.17	11	P	P	16 43 19.0	+0.8
	baz=215						
E25K	Arctic Village	89.18	16	P	P	16 43 18.7	+0.3
	baz=225						
G08A	Pilot Rock	89.20	43	IAmb	IAmb	16 43 22.7	
	comp=Z,5.0nm,0.9s						
C23K	Itkillik River	89.21	13	IAmb	IAmb	16 43 22.2	
	comp=Z,11nm,1.1s						
C23K	Itkillik River	89.21	13	P	P	16 43 18.8	+0.4
	baz=220,SNR=11						
A22K	Sinclair Lake	89.22	12	P	P	16 43 18.5	+0.1
	baz=216						
PRN	Pahroc Range	89.22	51	IAmb	IAmb	16 43 23.7	
	comp=Z,5.9nm,1.0s						
F26K	Sheenjek River	89.27	17	P	P	16 43 20.0	+1.2
	baz=226						
G27K	Doyon Strip	89.38	18	P	P	16 43 19.7	+0.4
	baz=229						
FARO	Faro, Yukon	89.45	24	P	P	16 43 19.8	0.0
	baz=236						
C24K	Franklin Bluff	89.56	14	P	P	16 43 20.4	+0.4
	baz=222						
J30M	Hart River	89.70	21	P	P	16 43 20.7	-0.3
	baz=234						
D25K	Kavik River	89.83	15	P	P	16 43 21.5	0.0
	baz=224						
TIXI	Tiksi	89.89	349	P	P	16 43 20.9	-0.6
TIXI				IAmb	IAmb	16 43 22.5	
	comp=Z,14nm,1.1s						
TIXI	Tiksi	89.89	349	P	P	16 43 20.6	-0.9
	comp=Z,11nm,1.0s,baz=157,slow=4.2,SNR=36						
	comp=Z,11nm,1.0s						
I30M	Mount Dempster	90.07	21	P	P	16 43 22.2	-0.5
	baz=234						
ELK	Elko	90.17	48	P	P	16 43 24.0	+0.1
SPR3	Spring Creek 3	90.27	50	P	P	16 43 24.1	-0.4
E27K	Coleen River	90.31	17	P	P	16 43 24.0	+0.4
	baz=229						
ELIB	Princess Elisa	90.32	191	*d*P	P	16 43 23.2	-0.8
	comp=Z,5.8nm,1.1s						
MMPY	Sheldon Lake,	90.48	24	P	P	16 43 24.7	+0.1
	baz=238						
G29M	Pine Creek	90.56	19	P	P	16 43 24.6	-0.2
	baz=232						
F10A	Beach Ranch, E	90.58	42	IAmb	IAmb	16 43 26.8	
	comp=Z,5.0nm,0.8s						
C26K	Camden Bay	90.61	15	P	P	16 43 24.7	-0.2
	baz=226						
EPYK	Eagle Plains	90.64	20	P	P	16 43 25.2	-0.1
	baz=233						
C27K	Jago River	90.72	15	P	P	16 43 24.5	-1.0
	baz=227						
H31M	Peel River	91.10	21	P	P	16 43 27.5	+0.2
	baz=236						
G30M	tAoh Zraii Nji	91.17	19	P	P	16 43 27.4	-0.3
	baz=234						

E28M	**Babbage River**	91.17	17	P		**P**	16 43 27.2 -0.4
	baz=231						
D27M	**Malcolm River**	91.18	16	P		**P**	16 43 27.0 -0.7
	baz=230						
TOAD	**Toad River Com**	91.22	29	P		**P**	16 43 27.6 -0.5
	baz=243						
F30M	**Barrier River**	91.67	19	P		**P**	16 43 29.9 0.0
	baz=234						
G31M	**Satah River**	91.76	20	P		**P**	16 43 29.6 -0.7
	baz=236						
WMQ	**Urumqi**	92.70	315	*e*P		**P**	16 43 37.0 +1.6
INK	**Inuvik**	92.77	19	LR		LR	17 18 59.0
	comp=Z,44nm,20.2s,baz=248,slow=31						
INK	**Inuvik**	92.77	19	P		**P**	16 43 35.2 +0.2
	baz=236						
TROLL	**Troll, Antarti**	92.97	185	⇑P		**P**	16 43 35.8 -0.4
	comp=Z,589nm,0.6s						
SNAA	**Sanae**	93.65	183	⇑P		**P**	16 43 38.2 -1.1
	comp=Z,93nm,0.6s						
SNAA	**Sanae**	93.65	183	P		**P**	16 43 38.1 -1.2
	comp=Z,3.2nm,0.6s,baz=197,slow=8.2,SNR=21						
	comp=Z,3.2nm,0.6s						
VNA3	**Neumayer Olymp**	94.31	181	⇑P		**P**	16 43 41.5 -0.8
	comp=Z,12nm,0.6s						
VNA2	**Neumayer--Watz**	94.58	182	⇑P		**P**	16 43 42.5 -0.9
	comp=Z,11nm,0.6s,baz=170,slow=5.4						
PDAR	**Pinedale Array**	94.83	47	P		**P**	16 43 44.1 -1.3
	comp=Z,0.2nm,0.5s,baz=241,slow=5.8,SNR=2.1						
PDAR				LR		LR	17 21 57.8
	comp=Z,18nm,18.3s,baz=256,slow=32						
TXAR	**Lajitas Array**	96.17	61	P		**P**	16 43 50.9 -0.8
	comp=Z,0.1nm,0.6s,baz=296,slow=1.3,SNR=1.7						
C36M	**Paulatuk**	96.28	19	P		**P**	16 43 50.1 -0.9
	baz=245						
A36M	**Sachs Harbour**	97.06	17	IAmb		IAmb	16 44 51.2
	comp=Z,2.9nm,0.9s						
A36M	**Sachs Harbour**	97.06	17	P		**P**	16 43 54.5 0.0
	baz=244						
MKAR	**Makanchi Array**	97.18	316	P		**P**	16 43 55.4 -0.3
MKAR	**Makanchi Array**	97.18	316	P		Pdif	16 43 55.9 +0.2
	comp=Z,5.6nm,0.8s,baz=100,slow=6.3,SNR=40						
MKAR				pP		pP	16 44 29.2 -3.2
	comp=Z,2.8nm,0.8s,baz=103,slow=5.4,SNR=4.2						
MKAR				LR		LR	17 28 40.6
	comp=Z,20nm,19.5s,baz=3.5,slow=36						
	comp=Z,5.6nm,0.8s						
ZAA0	**Zalesovo Array**	97.35	324	IAmb		IAmb	16 43 56.2
	comp=Z,7.6nm,1.0s						
ZALV	**Zalesovo Beam**	97.35	324	P		**P**	16 43 54.6 -1.6
ZALV	**Zalesovo Beam**	97.35	324	P		**P**	16 43 54.9 -1.3
	comp=Z,8.2nm,1.0s,baz=108,slow=4.8,SNR=18						
ZALV				pP		**pP**	16 44 31.1 -1.9
	comp=Z,1.9nm,0.7s,baz=108,slow=4.8,SNR=3.7						
	comp=Z,8.2nm,1.0s						
MAKZ	**Makanchi**	97.39	316	P		**P**	16 43 56.6 0.0
MAKZ				IAmb		IAmb	16 43 58.3
	comp=Z,6.1nm,1.1s						
YKA	**Yellowknife Ar**	97.43	27	P		**P**	16 43 55.2 -1.1
	comp=Z,1.0nm,0.8s,baz=257,slow=4.6,SNR=13						
	comp=Z,1.0nm,0.8s						
NRIK	**Noril'sk**	100.00	339	IAmb		IAmb	16 44 08.3
	comp=Z,7.3nm,1.1s						
NRIK	**Noril'sk**	100.00	339	P		**Pdif**	16 44 05.9 -1.8
	comp=Z,5.4nm,1.1s,baz=113,slow=4.6,SNR=11						
	comp=Z,5.4nm,1.1s						
KURBB	**Kurchatov Arra**	100.41	320	P		**Pdif**	16 44 08.6 -1.4
	comp=Z,0.4nm,0.9s,baz=108,slow=3.0,SNR=4.3						
KURBB				PKiKP		**PKiKP**	16 48 35.7 -0.4
	comp=Z,0.7nm,1.0s,baz=103,slow=4.3,SNR=4.8						
BVAR	**Borovoye Array**	105.71	321	Pdiff		**Pdif**	16 44 31.8 -1.7
	comp=Z,0.4nm,0.6s,baz=112,slow=6.5,SNR=2.7						
BVAR				PKiKP		**PKiKP**	16 48 45.5 -0.1
	comp=Z,0.8nm,0.8s,baz=130,slow=4.6,SNR=4.1						
SPITS	**Spitsbergen Ar**	114.84	354	PKP		**PKiKP**	16 49 02.0 -0.3
	comp=Z,3.7nm,0.8s,baz=112,slow=11,SNR=5.4						
ARA0	**ARCESS Array S**	120.17	345	*e*P		**PKPdf**	16 49 12.7 0.0
ARCES	**ARCESS Array B**	120.17	345	PKP		**PKPdf**	16 49 12.5 -0.2
	comp=Z,2.4nm,0.3s,baz=67,slow=2.0,SNR=106						
JETT	**Jettan, Norway**	121.33	347	*e*P		**PKPdf**	16 49 15.0 0.0
TRO	**Tromso**	121.59	348	*e*P		**PKPdf**	16 49 15.4 0.0
BOSA	**Boshof**	123.49	220	PKP		**PKPdf**	16 49 18.9 -1.6
	comp=Z,1.7nm,0.7s,baz=156,slow=3.9,SNR=4.8						
STEI	**Steigen**	123.76	348	*e*P		**PKPdf**	16 49 19.7 +0.1
KBZ	**Khabaz**	124.73	313	PKP		**PKPdf**	16 49 21.7 -0.5
	comp=Z,1.6nm,0.8s,baz=96,slow=6.8,SNR=5.3						
VAGH	**Vaagaholmen**	125.18	348	*e*P		**PKPdf**	16 49 22.5 +0.1
KONS	**Konsvik**	125.41	348	*e*P		**PKiKP**	16 49 23.0 -0.2
STOK	**Stokkvaagen**	125.58	348	*e*P		**PKiKP**	16 49 23.4 -0.1
FINES	**FINESS Array B**	125.66	338	PKP		**PKPdf**	16 49 22.8 -0.6
	comp=Z,4.8nm,0.8s,baz=64,slow=4.9,SNR=13						
LEIR	**Leirfjorden**	125.75	347	*e*P		**PKiKP**	16 49 24.1 +0.3
NSS	**Namsos**	127.36	347	*e*P		**PKiKP**	16 49 27.3 +0.2
AKN	**Aaknes**	130.49	348	*e*P		**PKiKP**	16 49 33.9 +0.4
NB2	**NORSAR Subarra**	130.54	345	PKPdf		**PKPdf**	16 49 33.1 +0.3
	comp=Z,3.8nm,1.1s,baz=31,slow=1.9						
NB2				pPKP		**SKPbc**	16 52 45.0 +2.0
	comp=Z,36nm,1.0s,baz=33,slow=2.9						
NB2	**NORSAR Subarra**	130.54	345	PKPdf		**PKPdf**	16 49 33.1 +0.3
	baz=31,slow=1.9						
NOA	**NORSAR Array B**	130.54	345	PKP		**PKPdf**	16 49 33.2 +0.3
	comp=Z,2.6nm,0.8s,baz=31,slow=1.9,SNR=11						
NOA				SKPbc		**SKPab**	16 52 43.5 +0.5
	comp=Z,24nm,1.0s,baz=32,slow=2.9,SNR=43						
HFS	**Hagfors**	130.65	343	PKP		**PKiKP**	16 49 33.6 -0.3
	comp=Z,2.7nm,0.8s,baz=304,slow=2.7,SNR=4.8						
HFS				SKPbc		**SKPab**	16 52 44.7 +1.2
	comp=Z,18nm,0.9s,baz=70,slow=4.9,SNR=22						
AKASG	**Malin Array Be**	130.69	326	PKP		**PKPdf**	16 49 33.2 -0.1
	comp=Z,1.1nm,0.7s,baz=62,slow=1.8,SNR=7.9						
AKASG				SKPbc		**SKPab**	16 52 44.2 +0.3
	comp=Z,11nm,1.0s,baz=50,slow=4.2,SNR=24						
BRTR	**Keskin Array B**	132.49	311	PKP		**PKPdf**	16 49 37.0 -0.4
	comp=Z,0.9nm,0.9s,baz=64,slow=3.4,SNR=6.1						
BRTR				SKPbc		**SKPbc**	16 52 51.2 +0.4
	comp=Z,11nm,1.3s,baz=169,slow=0.6,SNR=14						
SORM	**Soroca**	132.50	323	⇑P		**PKPdf**	16 49 37.0 +0.1
MMAI	**Mount Meron Ar**	132.81	302	PKP		**PKPdf**	16 49 36.9 -1.1
	comp=Z,0.7nm,0.5s,baz=96,slow=8.9,SNR=1.5						
MMAI				SKPbc		**SKPbc**	16 52 52.7 +0.6
	comp=Z,0.2nm,0.3s,baz=131,slow=8.0,SNR=3.9						
BURAR	**Bucovina Array**	134.57	324	⇑P		**PKiKP**	16 49 43.9 +1.5
KOLS	**Kolonicke sedl**	135.40	327	*e*PKP		**PKiKP**	16 49 44.5 +0.6
KOLS				*e*			16 53 02.0
ARR	**Arges**	136.12	322	⇑P		**PKiKP**	16 49 45.1 -0.5
LANS	**Liptovska Anna**	136.68	329	*e*PKP		**PKiKP**	16 49 48.4 +1.9
STEB	**Steborice**	136.96	331	*e*PKP		**PKPdf**	16 49 46.0 +0.8
OSTC	**Ostas**	137.22	333	*e*PKP		**PKiKP**	16 49 46.9 -0.6
KRLC	**Kraliky**	137.31	332	*e*PKP		**PKiKP**	16 49 47.3 -0.5
SIRR	**Siria**	137.34	325	⇑P		**PKPdf**	16 49 46.2 +0.2
SURR	**Surduc**	137.38	324	⇑P		**PKPdf**	16 49 45.2 -0.9
VYHS	**Vyhne**	137.43	329	*e*PKP		**PKiKP**	16 49 49.0 +1.0
VYHS				*e*			16 53 08.0
BZS	**Buzias**	137.75	324	⇑P		**PKPdf**	16 49 44.9 -1.9
BRG	**Berggiesshubel**	137.95	335	*e*PKP		**PKiKP**	16 49 49.8 +0.8
BRG				Amp			16 49 50.6
	comp=Z,3.9nm,0.9s						
BRG				SKP			16 53 10.2
BRG				Amp			16 53 11.1
	comp=Z,4.3nm,1.1s						
CLL	**Collm**	137.99	336	*i* PKPdf		**PKPdf**	16 49 47.3 +0.3
	comp=Z,4.0nm,1.1s						
CLL				*i* PKiKP		**PKiKP**	16 49 49.5 +0.5
	comp=Z,7.0nm,1.0s						
CLL				*e*PP		**PP**	16 52 35.0 -1.0
CLL				*e*SKPdf		**SKPbc**	16 53 07.0 -0.5
CLL				*i* SKPab		**SKiKP**	16 53 13.1 +1.5
	comp=Z,8.0nm,1.4s						
CLL				*i* x		x	16 53 17.3
	comp=Z,9.0nm,1.3s						
MODS	**Modra-Piesok**	138.27	330	*e*PKP		**PKiKP**	16 49 49.8 0.0
PRU	**Pruhonice**	138.37	334	*e*PKP		**PKiKP**	16 49 50.2 +0.3
EKA	**Eskdalemuir Ar**	138.72	352	PKhKP		PKPpre	16 49 41.5
	comp=Z,0.3nm,0.5s,baz=25,slow=3.2,SNR=4.3						
EKA				PKP		**PKPdf**	16 49 48.5 +0.3
	comp=Z,1.2nm,0.8s,baz=10,slow=2.4,SNR=3.6						
MORH	**Mrgy, Hungar**	139.02	327	⇑P		**PKPdf**	16 49 49.5 +0.4
RONA	**Rosalia, Austr**	139.22	330	*e*PKiKP		**PKiKP**	16 49 52.5 +0.7
	comp=Z,2.2nm,0.5s						
CONA	**Conrad Observa**	139.26	331	*i* PKiKP		**PKiKP**	16 49 52.5 +0.6
	comp=Z,2.0nm,0.5s						
CKRC	**Cesky Krumlov**	139.34	333	*e*PKP		**PKiKP**	16 49 51.8 -0.1
KHC	**Kasperske Hory**	139.42	333	*e*PKP		**PKiKP**	16 49 53.2 +1.1
GERES	**GERESS Array B**	139.59	333	PKhKP		PKPpre	16 49 43.8
	comp=Z,0.7nm,0.7s,baz=22,slow=4.3,SNR=7.5						
GERES				PKP		**PKiKP**	16 49 51.6 -0.9
	comp=Z,1.9nm,0.8s,baz=59,slow=1.9,SNR=12						
GERES				SKPbc		**SKPbc**	16 53 12.0 -0.2
	comp=Z,1.0nm,0.7s,baz=80,slow=1.5,SNR=6.6						
MOA	**Molln**	140.07	332	*i* PKiKP		**PKiKP**	16 49 53.8 +0.3
	comp=Z,0.5nm,0.3s						
BIOA	**Bad Ischl, Aus**	140.47	332	*i* PKiKP		**PKiKP**	16 49 54.1 -0.2
	comp=Z,1.5nm,0.3s						
SOKA	**Soboth**	140.55	330	*e*PKiKP		**PKiKP**	16 49 54.3 -0.3
	comp=Z,0.4nm,0.3s						
BTNL	**Ternell**	141.04	341	*d*PKPdf		**PKPdf**	16 49 52.2 -0.4
BTNL				*d*PKP		**PKiKP**	16 49 55.5 +0.2
BTNL				*dp*PKPdf		**pPKPdf**	16 50 32.3 +1.3
KBA	**Koelnbreinsper**	141.06	332	*i* PKP		**PKPdf**	16 49 50.1 -2.9
	comp=Z,2.3nm,0.6s						
LESA	**Schwarzleotal**	141.10	332	*e*PKP		**PKPdf**	16 49 50.7 -2.2
	comp=Z,1.1nm,0.3s						
WATA	**Walderalm**	141.66	333	*i* PKP		**PKPdf**	16 49 50.9 -3.1
	comp=Z,0.5nm,0.2s						
ABTA	**Abfaltersbach**	141.69	332	*e*PKP		**PKPdf**	16 49 51.8 -2.2
	comp=Z,2.8nm,0.9s						
WTTA	**Wattenberg**	141.69	333	*i* PKP		**PKPdf**	16 49 51.1 -3.1
	comp=Z,1.0nm,0.3s						
BMRD	**Maredsous**	141.71	342	*d*PKPdf		**PKPdf**	16 49 53.1 -0.7
WLF	**Walferdange**	141.83	340	*d*PKP		**PKiKP**	16 49 58.5 +1.6
MOTA	**Moosalm**	141.86	334	*i* PKP		**PKPdf**	16 49 51.7 -2.7
	comp=Z,0.6nm,0.3s						
SQTA	**Sankt Quirin**	141.91	333	*e*PKP		**PKPdf**	16 49 51.4 -3.0
	comp=Z,0.7nm,0.2s						
DOU	**Dourbes**	141.94	342	*d*PKP		**PKiKP**	16 49 57.4 +0.2
FETA	**Feichten**	142.27	334	*e*PKP		**PKPdf**	16 49 52.1 -3.0
	comp=Z,1.8nm,0.4s						
TIP	**Timpagrande**	144.41	319	⇑P		**PKPdf**	16 49 59.0 0.0
KEST	**Kesra**	151.18	321	PKPbc		**PKiKP**	16 50 16.7 -0.1
	comp=Z,24nm,0.8s,baz=28,slow=0.6,SNR=22						
ESDC	**Sonseca Array**	153.91	345	PKPbc		**PKiKP**	16 50 22.9 +0.7
	comp=Z,2.1nm,0.8s,baz=10,slow=2.2,SNR=16						
ESDC				PKPab		**PKPab**	16 50 35.6 -0.2
	comp=Z,4.9nm,1.0s,baz=20,slow=3.6,SNR=13						
ESDC				PP		**PP**	16 54 06.0 -3.9
	comp=Z,1.9nm,1.1s,baz=8.2,slow=7.7,SNR=4.5						
MESJ	**Messejana**	156.55	351	*e*PKP		**PKPab**	16 50 48.3 +1.2
MORF	**Marmelete**	157.14	352	*e*PKP		**PKPab**	16 50 50.7 +1.1

*DJA **28** 16:53:29.9±0.4, 6°S±4°×10°6E±°, h118km±5km, M3.6/9, MLv3.6/9*
*IDC **28** 16:53:33.0±2.0, 5°21S×106°89E, h174km±17km, mb3.2/4, mbtmp3.7/4, MS2.9/1, Error ellipse: s-maj=55.9km s-min=23.5km az=49.0*
ISC 28 16:53:28.1±0.9, **6°2S**±0°1×**106°0E**±0°1, **h137**km, **n13**, σ1§**75**/15, **mb3.6**/4, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	0.52	222	P	**Pn**	16 53 48.5	+0.5
CGJI				S	**Sn**	16 54 01.5	-1.6
BLSI	**Bandar Lampung**	1.17	317	P	**Pn**	16 53 53.7	+0.5
BLSI				S	**Sn**	16 54 12.6	+0.2
CNJI	**Cibinong**	1.52	135	P	**Pn**	16 53 57.0	+0.1
CNJI				S	**Sn**	16 54 18.5	-0.4
LEM	**Lembang**	1.67	111	P	Pn	16 54 08.3	+10
	9.4nm,0.5s,baz=337,slow=22,SNR=2.2						
LEM				S	Sn	16 54 33.7	+11
	10nm,0.4s,baz=338,slow=17,SNR=3.5						
LWLI	**Liwa**	2.31	301	P	**Pn**	16 54 07.3	+0.9
MDSI	**Maura Dua**	2.54	313	P	**Pn**	16 54 10.4	+1.3
CMJI	**Cimerak**	2.84	123	P	**Pn**	16 54 15.4	+2.4
MNAI	**Manna**	3.59	301	P	**Pn**	16 54 25.2	+2.5
MNAI				S	**Sn**	16 55 06.0	+1.1
CMAR	**Chiang Mai Arr**	25.51	344	LR	LR	17 10 54.5	
	comp=Z,26nm,18.4s,baz=140,slow=42						
WRA	**Warramunga Arr**	30.68	119	P	**P**	16 59 30.3	+0.3
	0.4nm,0.4s,baz=303,slow=8.0,SNR=8.1						
	0.4nm,0.4s						
ASAR	**Alice Springs**	31.91	126	P	**P**	16 59 41.5	+0.7
	0.8nm,0.6s,baz=297,slow=7.8,SNR=39						
	0.8nm,0.6s						
STKA	**Stephens Creek**	41.86	132	P	**P**	17 01 06.2	+1.3
	1.5nm,0.5s,baz=309,slow=9.6,SNR=8.5						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	56.85	341	P	**P**	17 02 54.5	-3.9
	0.1nm,0.5s,baz=141,slow=6.9,SNR=2.0						
	0.1nm,0.5s						

*NEIC **28** 17:03:14.7±1.4, 39°86N±0°03×117°46W±0°01, h5km±2km, Error ellipse: s-maj=5.6km s-min=2.9km az=7.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=6.51; $M_{\theta\theta}$=5.72; $M_{\phi\phi}$=0.79; $M_{r\theta}$=2.34; $M_{\theta\phi}$=3.61; $M_{\phi r}$=3.08; Fault plane solution: M_0=8.11000×10^{14} NP1:ϕ_s=49.19000°, δ=59.61000°, λ=-104.72000°. NP2:ϕ_s=256.63000°, δ=33.45000°, λ=-66.57000°. Principal axes: T 8.4601, Plg13.0000°, Azm150.0000°; N -0.7477, Plg13.0000°, Azm57.0000°; P -7.7124, Plg71.0000°, Azm285.0000°;*
*NEIC **28** 17:03:16.9, 39°80N×117°49W, h4km*
*IDC **28** 17:03:16.6±0.5, 39°79N×117°46W, h0km, mb3.7/8, mbtmp3.5/13, ML3.6/3, MS2.7/5, Error ellipse: s-maj=8.2km s-min=4.5km az=129.0*
*REN **28** 17:03:16.9±1.8, 39°80N±0°04×117°49W±0°04, h4km±6km, ML4.0/17, mb4.3/6(NEIC), ML3.9/110(NEIC), Mwr3.9/75(NEIC), Error ellipse: s-maj=5.3km s-min=4.6km az=223.0*
ISC 28 17:03:17.5±0.7, **39°80N**±0°03×**117°53W**±0°03, **h10**km, **n91**, σ1§**20**/73, **mb3.9**/10, **Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q09A	**Carvers**	1.00	164		**Pg**	17 03 35.0	-1.8
RYN	**Ryan**	1.40	214		**Sg**	17 04 02.0	-0.7
RYN	**Ryan**	1.40	214		**Pn**	17 03 42.4	-0.9
PAHR	**Pah Rah Range**	1.43	267		**Sn**	17 04 02.0	-0.7
PAHR	**Pah Rah Range**	1.43	267		**Pn**	17 03 42.7	-1.0
NV11	**Mina Array Sit**	1.45	200		**Sb**	17 04 02.9	-0.4
NV11	**Mina Array Sit**	1.45	200		**Pn**	17 03 43.3	-0.7
NV11				IAML		17 04 10.1	
	comp=N,1μm,0.8s						
NV11				IAML		17 04 12.2	
	comp=E,1μm,1.4s						
NVAR	**Mina Array Bea**	1.50	204		**Pn**	17 03 42.3	-2.4
NVAR	**Mina Array Bea**	1.50	204	Pg	**Pn**	17 03 43.8	-0.9
	comp=E,141nm,0.3s,baz=29,slow=17,SNR=871						
NVAR				Lg	Lg	17 04 05.1	
	comp=E,454nm,0.3s,baz=21,slow=30,SNR=20						
NVAR				LR	LR	17 04 19.5	
	comp=E,260nm,19.9s,baz=266,slow=43						
NV09	**Mina Array Sit**	1.50	205		**Pn**	17 03 44.1	-0.6
NV08	**Mina Array Sit**	1.52	204		**Pn**	17 03 44.3	-0.7
TVH1	**TV Hill, Hawth**	1.65	216		**Pn**	17 03 46.4	-0.5
LHV	**Little Huntoon**	1.73	206		**Pn**	17 03 47.3	-0.2
TPH	**Tonopah**	1.74	172		**Pn**	17 03 47.2	-0.8
PNTR	**Pine Nut**	1.75	247		**Pn**	17 03 47.3	-0.9
PNTR				IAML		17 04 16.8	
	comp=E,1μm,1.5s						
PNTR				IAML		17 04 22.9	
	comp=N,891nm,0.9s						
PEAR	**Peavine Mounta**	1.89	265		**Pn**	17 03 49.7	-0.3
WAKR	**Walker**	1.97	229		**Pn**	17 03 49.5	-1.6
ELK	**Elko**	1.99	61		**Pn**	17 03 49.5	-2.0
ELK	**Elko**	1.99	61	Pn	**Pn**	17 03 50.8	-0.7
	comp=N,19nm,0.3s,baz=255,slow=13,SNR=84						
ELK				Lg	Lg	17 04 18.6	
	comp=N,127nm,0.3s,baz=168,slow=20,SNR=27						
MPK	**Martis Peak**	2.00	256		**Pn**	17 03 51.1	-0.5
MPK				IAML		17 04 28.5	
	comp=N,760nm,1.1s						
R11B	**Troy Canyon, C**	2.10	133		**Pn**	17 03 50.8	-2.1
MZP	**Montezuma Peak**	2.10	177		**Pn**	17 03 51.2	-1.8
MZP				IAML		17 04 23.3	
	comp=E,1μm,0.8s						
MZP				IAML		17 04 23.6	
	comp=N,622nm,0.8s						
DONR	**Donner Summit**	2.20	259		**Pn**	17 03 54.3	-0.1
Q12A	**Willow Creek R**	2.22	109		**Pn**	17 03 54.2	-0.5
BENR	**Benton**	2.24	202		**Pn**	17 03 55.0	+0.1
DSP	**Deep Springs**	2.45	188		**Pn**	17 03 57.1	-0.5
DSP				IAML		17 04 38.3	
	comp=E,417nm,1.2s						
MDPB	**Devils Postpil**	2.48	210		**Pn**	17 03 58.5	+0.2
MDPB	**Devils Postpil**	2.48	210	IAML		17 04 36.4	
	comp=E,414nm,0.8s						
GMN	**Gold Mountain**	2.51	175		**Pn**	17 03 58.4	-0.2
GMN	**Gold Mountain**	2.51	175	IAML		17 04 36.3	
	comp=E,612nm,0.8s						
GMN				IAML		17 04 40.6	
	comp=N,654nm,0.7s						
S11A	**Rachel**	2.56	147		**Pn**	17 03 56.8	-2.5
SPR3	**Spring Creek 3**	2.60	107		**Pn**	17 03 59.4	-0.6
SPR3				IAML		17 04 41.9	
	comp=E,545nm,0.7s						
SPR3				IAML		17 04 42.0	
	comp=N,770nm,0.8s						
BHPR	**Bishop**	2.61	197		**Pn**	17 04 00.6	+0.6
AFDM	**Forest Hills D**	2.80	253		**Pn**	17 04 02.1	-0.4
CMB	**Columbia Colle**	2.84	233		**Pn**	17 04 02.6	-0.4
SGV	**South Grapevin**	2.84	172		**Pn**	17 04 03.0	-0.2
TPNV	**Topopah Spring**	3.02	160		**Pn**	17 04 05.2	-0.4
TPNV	**Topopah Spring**	3.02	160	IAML		17 05 06.2	
	comp=N,486nm,1.1s						
TPNV				IAML		17 05 16.2	
	comp=N,447nm,1.0s						
ORV	**Oroville**	3.08	267		**Pn**	17 04 06.6	+0.5
WCT	**Wildcat Mounta**	3.09	166		**Pn**	17 04 06.6	+0.2
WCT	**Wildcat Mounta**	3.09	166	IAML		17 05 00.4	
	comp=N,264nm,0.8s						
WCT				IAML		17 05 04.1	
	comp=E,272nm,0.6s						
CPY	**CP-1**	3.09	158		**Pn**	17 04 05.9	-0.6
PSUT	**Pine Spring**	3.12	113		**Pn**	17 04 06.2	-0.9
NSP	**Numbskull Pass**	3.24	161		**Pn**	17 04 08.7	+0.1
SDH	**Striped Hills**	3.29	163		**Pn**	17 04 10.1	+0.9
MCY	**Mercury**	3.37	158		**Pn**	17 04 09.9	-0.5
AMDNV	**Amargosa**	3.48	163		**Pn**	17 04 12.0	+0.2
BGU	**Big Grassy Mou**	3.62	70		**Pn**	17 04 13.5	-0.2
BGU				IAML		17 05 16.2	
	comp=E,153nm,0.7s						
BGU				IAML		17 05 16.3	
	comp=N,141nm,1.0s						
J08A	**Circle Bar Ran**	3.62	349		**Pn**	17 04 14.2	+0.4
DUG	**Dugway, Tooele**	3.64	82		**Pn**	17 04 12.9	-1.2
DUG				IAML		17 05 16.1	
	comp=N,304nm,0.7s						
DUG				IAML		17 05 18.0	
	comp=N,249nm,0.8s						
GWY	**Greenwater Val**	3.67	169		**Pn**	17 04 13.7	-0.8
GWY				IAML		17 05 20.5	
	comp=N,258nm,0.9s						
GWY				IAML		17 05 26.7	
	comp=E,270nm,0.9s						
SHPR	**Sheep Range**	3.78	150		**Pn**	17 04 16.4	+0.3
MFID	**Camas Ranch**	3.83	19		**Pn**	17 04 16.9	+0.3
TCRU	**Three Creeks R**	4.12	105	IAML		17 05 45.1	
	comp=E,134nm,1.6s						
TCRU				IAML		17 05 47.6	
	comp=N,168nm,0.9s						
BBGB	**Big Mountain B**	4.24	222		**Pn**	17 04 18.9	-3.4
SAO	**San Andreas Ge**	4.32	227		**Pn**	17 04 22.2	-1.1
MVU	**Marysvale**	4.33	106	IAML		17 05 39.3	
	comp=E,136nm,1.3s						
MVU				IAML		17 05 41.9	
	comp=N,153nm,1.0s						
L04D	**Klamath Falls**	4.34	305		**Pn**	17 04 25.0	+1.2
L04D				IAML		17 05 47.8	
	comp=N,174nm,1.6s						
L04D				IAML		17 05 48.3	
	comp=E,156nm,0.9s						
YBH	**Yreka Blue Hor**	4.38	298	Pn	**Pn**	17 04 26.7	+2.5
	comp=E,2.5nm,0.7s,baz=117,slow=9.8,SNR=4.9						
YBH				Lg	Lg	17 05 35.6	
	comp=E,1.4nm,0.3s,baz=163,slow=19,SNR=6.5						
HLID	**Hailey**	4.42	31		**Pn**	17 04 23.6	-1.3
HLID				IAML		17 05 39.8	
	comp=E,114nm,1.1s						
HLID				IAML		17 05 45.5	
	comp=E,106nm,1.0s						
J05D	**Fort Rock, OR**	4.45	323	IAML		17 05 48.9	
	comp=E,111nm

comp=Z,0.8nm,0.7s
BVAR Borovoye Array 87.29 355 P **P 17 16 05.0 +0.8**
comp=Z,0.5nm,0.6s,baz=8.4,slow=5.0,SNR=3.5
comp=Z,0.5nm,0.6s

---

*IDC **28** 17:06:17.2±0.7,9.°97N×126.°39E,h0km,mb3.9/17, mbtmp3.9/17,MS3.1/7,Error ellipse: s-maj=35.1km s-min=15.3km az=71.0*
*NEIC **28** 17:06:18.4±1.7,9.°95N±0.°07×126.°2E±0.°1,h10km±1km, mb4.4/11,Error ellipse: s-maj=23.5km s-min=11.8km az=79.0*
ISC 28 17:06:23.6±0.6,**9.°85N**±0.°07×**126.°1E**±0.°1,**h50**km,**n46**, σ1§**38**/37,**mb4.1**/24,**MS2.8**/5,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.81**	**190**	Pn	**Pn**	**17 07 04.8**	**-1.2**
DAV	**Davao City (W)**	**2.81**	**190**	Pn	**Pn**	**17 07 09.4**	**+3.4**
	43nm,0.3s,baz=41,slow=11,SNR=1.8						
DAV				Sn	Sn	17 07 52.5	+14
	39nm,0.3s,baz=10.0,slow=17,SNR=5.2						
DAV				LR	LR	17 08 21.0	
	comp=Z,311nm,20.6s,baz=344,slow=41						
MYLDM	**Lahad Datu**	**8.81**	**239**	Pn	**Pn**	**17 08 27.9**	**-0.5**
GUMO	**Guam**	**18.80**	**77**	LR	LR	17 17 27.2	
	comp=Z,42nm,18.4s,baz=23,slow=36						
MTN	**Manton Dam**	**23.11**	**167**	P	**P**	**17 11 25.2**	**-0.2**
MTN				IAmb	IAmb	17 11 33.8	
	comp=Z,35nm,1.5s						
KNRA	**Kununurra**	**25.51**	**174**	P	**P**	**17 11 46.7**	**-0.8**
KNRA				IAmb	IAmb	17 12 03.7	
	comp=Z,9.9nm,1.1s						
JHJ	**Hachijo jima 2**	**26.39**	**27**	LR	LR	17 22 06.5	
	comp=Z,17nm,20.1s,baz=63,slow=36						
KSRS	**Korea Array**	**27.53**	**3**	P	**P**	**17 12 04.4**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=195,slow=13,SNR=1.7						
	comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.61**	**291**	P	**P**	**17 12 09.4**	**+2.8**
	comp=Z,0.6nm,0.8s,baz=108,slow=8.7,SNR=6.9						
CMAR				LR	LR	17 24 47.6	
	comp=Z,25nm,18.1s,baz=115,slow=40						
	comp=Z,0.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.78**	**181**	P	**P**	**17 12 08.1**	**+0.2**
MJAR	**Matsushiro Arr**	**28.77**	**21**	LR	LR	17 24 48.2	
	comp=Z,20nm,18.1s,baz=162,slow=39						
GSI	**Gunungsitoli**	**29.56**	**255**	P	**P**	**17 12 22.3**	**-1.6**
WRA	**Warramunga Arr**	**30.71**	**165**	P	**P**	**17 12 36.1**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=342,slow=8.6,SNR=6.9						
	comp=Z,0.4nm,0.6s						
PSA00	**Pilbara Seismi**	**31.82**	**191**	P	**P**	**17 12 42.5**	**-1.2**
AS31	**Alice Springs**	**34.19**	**167**	P	**P**	**17 13 02.2**	**-2.2**
ASAR	**Alice Springs**	**34.19**	**167**	P	**P**	**17 13 04.0**	**-0.4**
ASAR	**Alice Springs**	**34.19**	**167**	P	**P**	**17 13 03.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=346,slow=8.6,SNR=22						
	comp=Z,0.3nm,0.3s						
HNR	**Honiara**	**38.80**	**119**	LR	LR	17 29 34.6	
	comp=Z,63nm,19.4s,baz=126,slow=36						
MORW	**Morawa**	**39.88**	**194**	P	**P**	**17 13 53.5**	**+0.9**
MORW				IAmb	IAmb	17 13 54.4	
	comp=Z,5.4nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.25**	**73**	T	T	17 56 58.6	
	baz=260,slow=74,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**40.26**	**73**	T	T	17 56 57.6	
	baz=260,slow=74,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**40.27**	**73**	T	T	17 56 54.8	
	baz=260						
FORT	**Forrest**	**40.45**	**177**	P	**P**	**17 13 57.4**	**+0.1**
FORT				IAmb	IAmb	17 14 18.5	
	comp=Z,20nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**40.59**	**71**	T	T	17 57 20.3	
	baz=265,slow=74,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**40.60**	**71**	T	T	17 57 17.8	
	baz=265,slow=74,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**40.61**	**71**	T	T	17 57 19.2	
	baz=265,slow=74,SNR=6.5						
ULN	**Ulaanbaatar**	**41.14**	**341**	P	**P**	**17 14 01.1**	**-1.9**
ULN				IAmb	IAmb	17 14 05.8	
	comp=Z,3.0nm,0.7s						
SONM	**Songino Array**	**41.33**	**340**	P	**P**	**17 14 03.7**	**-0.9**
SONM	**Songino Array**	**41.33**	**340**	P	**P**	**17 14 06.1**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=152,slow=6.5,SNR=7.3						
	comp=Z,1.4nm,0.6s						
NWAO	**Narrogin (SRO)**	**43.36**	**191**	P	**P**	**17 14 19.9**	**-1.2**
BBOO	**Buckleboo**	**43.49**	**168**		**P**	**17 14 21.6**	**-0.5**
BBOO				IAmb	IAmb	17 14 24.1	
	comp=Z,9.1nm,1.0s						
STKA	**Stephens Creek**	**44.08**	**161**	P	**P**	**17 14 28.1**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=338,slow=14,SNR=2.9						
	comp=Z,1.1nm,0.7s						
PETK	**Petropavlovsk-**	**50.10**	**24**	P	**P**	**17 15 12.6**	**-0.9**
	comp=Z,1.8nm,1.0s,baz=236,slow=15,SNR=4.3						
	comp=Z,1.8nm,1.0s						
MKAR	**Makanchi Array**	**52.23**	**323**	P	**P**	**17 15 30.9**	**+1.3**
MKAR	**Makanchi Array**	**52.23**	**323**	P	**P**	**17 15 31.2**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=120,slow=8.3,SNR=20						
MKAR				PcP	**PcP**	**17 16 43.0**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=123,slow=5.3,SNR=1.9						
	comp=Z,1.5nm,0.6s						
ZALV	**Zalesovo Beam**	**54.88**	**332**	P	**P**	**17 15 49.7**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=132,slow=8.0,SNR=1.5						
ZALV				PcP	**PcP**	**17 16 50.8**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=120,slow=4.6,SNR=2.2						
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**56.29**	**326**	P	**P**	**17 15 59.2**	**+0.2**
KURK				IAmb	IAmb	17 16 01.1	
	comp=Z,2.6nm,0.9s						
KURBB	**Kurchatov Arra**	**56.29**	**326**	P	**P**	**17 16 00.2**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=123,slow=7.1,SNR=9.4						
	comp=Z,0.9nm,0.8s						
BVAR	**Borovoye Array**	**61.88**	**326**	P	**P**	**17 16 39.2**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=125,slow=7.6,SNR=3.5						
	comp=Z,0.9nm,0.8s						
NRIK	**Noril'sk**	**64.36**	**346**	P	**P**	**17 16 54.4**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=146,slow=11,SNR=5.5						
	comp=Z,1.8nm,0.6s						
SPITS	**Spitsbergen Ar**	**84.38**	**349**	P	**P**	**17 18 49.6**	**-0.6**
	comp=Z,4.1nm,0.9s,baz=63,slow=3.9,SNR=5.1						
	comp=Z,4.1nm,0.9s						
ARCES	**ARCESS Array B**	**84.51**	**340**	P	**P**	**17 18 51.2**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=75,slow=4.9,SNR=17						
	comp=Z,1.2nm,0.5s						
INK	**Inuvik**	**84.75**	**22**	LR	LR	17 58 51.4	
	comp=Z,65nm,20.5s,baz=240,slow=37						
FINES	**FINESS Array B**	**86.15**	**332**	P	**P**	**17 18 60.0**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=62,slow=4.8,SNR=10						
	comp=Z,0.9nm,0.6s						
NOA	**NORSAR Array B**	**93.03**	**334**	P	**P**	**17 19 31.2**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=64,slow=4.6,SNR=3.5						
	comp=Z,0.6nm,0.8s						
YKA	**Yellowknife Ar**	**94.22**	**24**	P	**P**	**17 19 36.8**	**-0.2**
	comp=Z,0.4nm,1.0s,baz=294,slow=4.6,SNR=4.0						
	comp=Z,0.4nm,1.0s						

---

*IDC **28** 17:10:37.2±2.3,39.°95N×117.°73W,h0km,mbtmp2.7/2, ML3.4/2,Error ellipse: s-maj=35.1km s-min=7.6km az=125.0*
*NEIC **28** 17:10:39.3±1.5,39.°85N±0.°03×117.°46W±0.°04,h14km±8km, Error ellipse: s-maj=4.6km s-min=3.8km az=213.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr-1.35; Mθθ1.18; Mφφ0.17; Mrθ-0.70; Mφθ1.22; Mφr-0.57; Fault plane solution: M0 1.98000×10^14^ NP1: φs242.66000°, δ31.14000°, λ-80.57000°. NP2: φs51.68000°, δ59.32000°, λ-95.65000°. Principal axes: T 2.2204, Plg14.0000°, Azm146.0000°; N -0.6317, Plg5.0000°, Azm55.0000°; P -1.5887, Plg75.0000°, Azm306.0000°;*
*NEIC **28** 17:10:40.3,39.°80N×117.°46W,h5km*
*REN **28** 17:10:40.3±1.6,39.°80N±0.°03×117.°46W±0.°04,h5km±6km, ML3.5/5,ML3.2/88(NEIC),Mwr3.5/17(NEIC),Error ellipse: s-maj=4.4km s-min=4.0km az=166.0*
ISC 28 17:10:39.8±0.9,**39.°85N**±0.°03×**117.°49W**±0.°04,**h10**km,**n56**, σ0§**97**/47,**Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q09A	**Carvers**	**1.04**	**167**		**Pg**	**17 10 59.1**	**-0.8**
Q09A					**Sg**	**17 11 12.6**	**-0.8**
RYN	**Ryan**	**1.47**	**214**		**Pn**	**17 11 06.0**	**-0.4**
RYN					**Sb**	**17 11 26.3**	**+0.3**
PAHR	**Pah Rah Range**	**1.47**	**265**		**Pn**	**17 11 06.7**	**+0.3**
NV11	**Mina Array Sit**	**1.51**	**200**		**Pn**	**17 11 06.8**	**-0.3**
NV11					**Sn**	**17 11 27.2**	**+0.4**
NVAR	**Mina Array Bea**	**1.56**	**204**		**Pn**	**17 11 07.6**	**-0.1**
NVAR	**Mina Array Bea**	**1.56**	**204**	Pg	**Pn**	**17 11 07.3**	**-0.4**
	32nm,0.3s,baz=22,slow=19,SNR=130						
NVAR				Lg	Lg	17 11 26.8	
	92nm,0.3s,baz=21,slow=28,SNR=17						
NV09	**Mina Array Sit**	**1.56**	**205**		**Pn**	**17 11 07.6**	**-0.2**
NV08	**Mina Array Sit**	**1.59**	**204**		**Pn**	**17 11 07.9**	**-0.2**
LHV	**Little Huntoon**	**1.79**	**207**		**Pn**	**17 11 10.8**	**+0.2**
TPH	**Tonopah**	**1.79**	**173**		**Pn**	**17 11 10.3**	**-0.5**
PNTR	**Pine Nut**	**1.81**	**246**		**Pn**	**17 11 11.2**	**0.0**
PNTR	**Pine Nut**	**1.81**	**246**	IAML		17 11 39.9	
	comp=N,188nm,0.8s						
PNTR				IAML		17 11 40.5	
	comp=E,303nm,0.8s						
PEAR	**Peavine Mounta**	**1.93**	**263**		**Pn**	**17 11 13.7**	**+0.9**
ELK	**Elko**	**1.94**	**62**		**Pb**	**17 11 14.0**	**-1.2**
WAKR	**Walker**	**2.03**	**229**		**Pn**	**17 11 14.2**	**0.0**
WAKR	**Walker**	**2.03**	**229**	IAML		17 11 47.0	
	comp=N,141nm,0.3s						
MPK	**Martis Peak**	**2.04**	**255**		**Pn**	**17 11 15.2**	**+0.8**
MPK	**Martis Peak**	**2.04**	**255**	IAML		17 11 51.1	
	comp=N,119nm,0.9s						
R11B	**Troy Canyon, C**	**2.11**	**135**		**Pn**	**17 11 14.7**	**-0.6**
R11B				IAML		17 11 50.2	
	comp=N,122nm,0.7s						
R11B				IAML		17 11 51.9	
	comp=E,117nm,0.6s						
MZP	**Montezuma Peak**	**2.15**	**178**		**Pn**	**17 11 16.0**	**+0.1**
MZP				IAML		17 11 46.9	
	comp=E,257nm,0.8s						
MZP				IAML		17 11 47.6	
	comp=N,132nm,0.6s						
DONR	**Donner Summit**	**2.25**	**258**		**Pn**	**17 11 18.0**	**+0.8**
DSP	**Deep Springs**	**2.51**	**189**		**Pn**	**17 11 21.2**	**+0.7**
DSP	**Deep Springs**	**2.51**	**189**	IAML		17 12 02.4	
	comp=E,80nm,1.0s						
GMN	**Gold Mountain**	**2.56**	**176**		**Pn**	**17 11 21.8**	**+0.3**
GMN				IAML		17 12 00.2	
	comp=E,136nm,0.8s						
GMN				IAML		17 12 04.2	
	comp=N,162nm,0.7s						
SPR3	**Spring Creek 3**	**2.59**	**108**		**Pb**	**17 11 25.6**	**-0.8**
SPR3	**Spring Creek 3**	**2.59**	**108**	IAML		17 12 04.8	
	comp=E,120nm,0.5s						
S11A	**Rachel**	**2.59**	**148**		**Pn**	**17 11 20.9**	**-0.9**
BHPR	**Bishop**	**2.67**	**197**		**Pn**	**17 11 24.6**	**+1.6**
WVOR	**Wild Horse Val**	**2.72**	**342**		**Pg**	**17 11 30.6**	**-1.3**
WVOR	**Wild Horse Val**	**2.72**	**342**	IAML		17 12 13.7	
	comp=E,69nm,0.8s						
WVOR				IAML		17 12 19.3	
	comp=E,76nm,0.8s						
AFDM	**Forest Hills D**	**2.85**	**253**		**Pn**	**17 11 26.1**	**+0.8**
SGV	**South Grapevin**	**2.89**	**173**		**Pn**	**17 11 27.3**	**+1.3**
CMB	**Columbia Colle**	**2.90**	**232**		**Pn**	**17 11 26.4**	**+0.4**
TPNV	**Topopah Spring**	**3.06**	**161**		**Pn**	**17 11 28.8**	**+0.5**
TPNV				IAML		17 12 33.0	
	comp=E,90nm,0.9s						
TPNV				IAML		17 12 39.8	
	comp=E,92nm,1.0s						
PSUT	**Pine Spring**	**3.11**	**114**		**Pn**	**17 11 29.6**	**+0.5**
WCT	**Wildcat Mounta**	**3.13**	**167**		**Pn**	**17 11 30.4**	**+1.2**
WCT	**Wildcat Mounta**	**3.13**	**167**	IAML		17 12 21.9	
	comp=E,55nm,0.7s						
WCT				IAML		17 12 24.4	
	comp=N,58nm,0.7s						
NSP	**Numbskull Pass**	**3.28**	**162**		**Pn**	**17 11 32.7**	**+1.4**
MCY	**Mercury**	**3.40**	**159**		**Pn**	**17 11 34.8**	**+1.7**
AMDNV	**Amargosa**	**3.52**	**164**		**Pn**	**17 11 35.6**	**+1.0**
BGU	**Big Grassy Mou**	**3.57**	**71**		**Pn**	**17 11 35.8**	**+0.5**
BGU				IAML		17 12 39.2	
	comp=N,37nm,0.9s						
BGU				IAML		17 12 40.1	
	comp=E,38nm,0.7s						
J08A	**Circle Bar Ran**	**3.58**	**348**		**Pb**	**17 11 42.8**	**-0.4**
DUG	**Dugway, Tooele**	**3.60**	**83**		**Pn**	**17 11 37.7**	**+2.0**
DUG				IAML		17 12 40.7	
	comp=E,72nm,0.5s						
GWY	**Greenwater Val**	**3.72**	**170**		**Pn**	**17 11 39.5**	**+2.1**
GWY	**Greenwater Val**	**3.72**	**170**	IAML		17 12 44.5	
	comp=N,60nm,0.7s						
GWY				IAML		17 12 44.9	
	comp=E,54nm,0.7s						
SHPR	**Sheep Range**	**3.81**	**151**		**Pn**	**17 11 39.6**	**+0.9**
WENL	**Wente Vineyard**	**4.01**	**238**		**Pn**	**17 11 41.4**	**+0.1**
HVU	**Hansel Valley**	**4.06**	**60**	IAML		17 12 53.5	
	comp=N,49nm,0.5s						
TCRU	**Three Creeks R**	**4.11**	**106**	IAML		17 13 07.0	
	comp=E,30nm,1.4s						
TCRU				IAML		17 13 11.1	
	comp=N,37nm,0.9s						
MVU	**Marysvale**	**4.31**	**107**		**Pn**	**17 11 45.4**	**-0.3**
MVU				IAML		17 13 02.2	
	comp=E,27nm,1.0s						
MVU				IAML		17 13 04.5	
	comp=N,36nm,0.6s						
V12A	**Nelson**	**4.62**	**152**		**Pn**	**17 11 50.5**	**+0.8**
V12A				IAML		17 13 07.3	
	comp=E,25nm,0.7s						
V12A				IAML		17 13 07.8	
	comp=N,23nm,0.8s						
HWUT	**Hardware Ranch**	**4.83**	**67**	Pn	**Pn**	**17 11 53.1**	**+0.5**
HWUT				IAML		17 13 34.4	
	comp=N,11nm,0.8s						
Q16A	**Castle Valley**	**4.98**	**99**	IAML		17 13 15.7	
Q16A	comp=E,17nm,0.9s						
				IAML		17 13 19.2	
	comp=N,13nm,0.9s						
BMO	**Blue Mountains**	**5.00**	**1**	IAML		17 13 26.4	
	comp=N,13nm,1.3s						
BMO				IAML		17 13 26.9	
	comp=N,10nm,1.4s						
PDAR	**Pinedale Array**	**6.64**	**61**	Pn	**Pn**	**17 12 19.5**	**+1.9**
	comp=N,0.1nm,0.3s,baz=241,slow=14,SNR=5.9						
PDAR				Lg	Lg	17 14 09.3	
	comp=N,0.2nm,0.3s,baz=238,slow=27,SNR=2.7						
	comp=N,0.6nm,0.6s						
TXAR	**Lajitas Array**	**15.46**	**129**	Pn	**P**	**17 14 24.6**	**+2.0**
	baz=323,slow=5.3,SNR=2.6						
	comp=N,0.1nm,0.3s						

---

*MOS **28** 17:33:20.9±1.5,51.°41N×160.°02E,h10km,mb4.5/16, MS3.6/10,Error ellipse: s-maj=9.0km s-min=3.4km az=100.4*
*KRSC **28** 17:33:23.3±1.8,51.°54N×160.°08E,h22km±32km,Ml4.9*
*IDC **28** 17:33:23.1±0.7,51.°82N×159.°80E,h0km,mb3.9/26, mbtmp4.0/30,ML3.9/4,MS3.7/27,Error ellipse: s-maj=15.1km s-min=12.1km az=3.0*
*NEIC **28** 17:33:27.0±2.6,52.°15N±0.°09×159.°3E±0.°1,h10km±1km, mb4.5/31,Error ellipse: s-maj=15.7km s-min=14.7km az=238.0*
ISC 28 17:33:23.2±1.4,**51.°50N**±0.°05×**159.°95E**±0.°04,**h14**km±8km, **n219**,σ1§**73**/189,**mb4.3**/67,**MS3.8**/28,**8C-5D**,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.21**	**286**	PN	**Pg**	**17 33 46.4**	**-0.1**
KDTR				S	**Sg**	**17 34 02.5**	**+0.3**
KDTR	**Khodutka, Kamc**	**1.21**	**286**	*e*P	**Pg**	**17 33 46.4**	**-0.1**
KDTR				*e*S	**Sg**	**17 34 02.5**	**+0.3**
RUS	**Russkaya**	**1.29**	**317**	PN	**Pn**	**17 33 46.5**	**-0.3**
RUS	**Russkaya**	**1.29**	**317**	*e*P	**Pn**	**17 33 46.6**	**-0.3**
MTVR	**Mutnovka**	**1.47**	**313**	PN	**Pb**	**17 33 49.8**	**-0.6**
MTVR	**Mutnovka**	**1.47**	**313**	*e*P	**Pb**	**17 33 49.8**	**-0.6**
GRL	**Gorelyy**	**1.57**	**313**	PN	**Pb**	**17 33 52.1**	**0.0**
GRL	**Gorelyy**	**1.57**	**313**	*e*P	**Pb**	**17 33 52.1**	**0.0**
SPN	**Mys Shipunski**	**1.60**	**2**	PN	**Pb**	**17 33 52.2**	**-0.4**
SPN	**Mys Shipunski**	**1.60**	**2**	*e*P	**Pb**	**17 33 52.2**	**-0.4**
DALK	**Dalny**	**1.70**	**335**	PN	**Pn**	**17 33 52.3**	**-0.1**
DALK				S	**Sn**	**17 34 15.5**	**+1.5**
DALK	**Dalny**	**1.70**	**335**	*e*P	**Pn**	**17 33 52.4**	**-0.1**
DALK				*e*S	**Sn**	**17 34 15.6**	**+1.5**
NLC	**Nalytchevo**	**1.71**	**348**	PN	**Pn**	**17 33 53.0**	**+0.4**
NLC	**Nalytchevo**	**1.71**	**348**	*e*P	**Pn**	**17 33 53.1**	**+0.4**
PET	**Petropavlovsk**	**1.72**	**333**		**Pn**	**17 33 52.5**	**-0.3**
PET	**Petropavlovsk**	**1.72**	**333**	*e*PN	**Pn**	**17 33 52.8**	**0.0**
PET				*e*S	**Sn**	**17 34 14.4**	**-0.1**
PET				pmax	pmax		
	comp=Z,780nm,0.6s						
PET				smax	smax		
	comp=N,8μm,0.5s						
PET				smax	smax		
	comp=E,4μm,0.5s						
PET	**Petropavlovsk**	**1.72**	**333**	*e*P	**Pn**	**17 33 53.3**	**+0.6**
PET				*e*S	**Sn**	**17 34 14.9**	**+0.3**
KRMR	**Karymshinskiy**	**1.74**	**321**	PN	**Pn**	**17 33 53.4**	**+0.4**
KRMR	**Karymshinskiy**	**1.74**	**321**	*e*P	**Pn**	**17 33 53.4**	**+0.4**
INSR	**Institute**	**1.77**	**333**	PN	**Pb**	**17 33 54.4**	**-1.1**
INSR	**Institute**	**1.77**	**333**	*e*P	**Pb**	**17 33 54.5**	**-1.1**
UGLR	**Uglovaya**	**1.85**	**338**	PN	**Pb**	**17 33 55.7**	**-1.1**
UGLR	**Uglovaya**	**1.85**	**338**	*e*P	**Pb**	**17 33 55.7**	**-1.1**
SDLR	**Sedlovina**	**1.90**	**340**	PN	**Pn**	**17 33 55.5**	**+0.2**
SDLR	**Sedlovina**	**1.90**	**340**	*e*P	**Pn**	**17 33 55.6**	**+0.2**
AVH	**Avacha**	**1.92**	**338**	PN	**Pb**	**17 33 56.6**	**-1.4**
AVH	**Avacha**	**1.92**	**338**	*e*P	**Pb**	**17 33 56.7**	**-1.4**
KRER	**Koryakskii**	**1.95**	**338**	PN	**Pn**	**17 33 56.8**	**+0.7**
KRER	**Koryakskii**	**1.95**	**338**	*e*P	**Pn**	**17 33 56.9**	**+0.7**
PAU	**Pauzhetka**	**1.96**	**270**	PN	**Pb**	**17 33 58.2**	**-0.5**
PAU	**Pauzhetka**	**1.96**	**270**	*e*P	**Pb**	**17 33 58.2**	**-0.5**
KOK	**Koryaka**	**1.97**	**336**	PN	**Pn**	**17 33 57.0**	**+0.8**
KOK	**Koryaka**	**1.97**	**336**	*e*P	**Pn**	**17 33 57.1**	**+0.8**
KRX	**Arik**	**2.02**	**337**	PN	**Pn**	**17 33 57.6**	**+0.5**
KRX	**Arik**	**2.02**	**337**	*e*P	**Pn**	**17 33 57.7**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.12**	**320**		**Pn**	**17 33 58.7**	**+0.4**
PEA0B	**Petropavlovsk-**	**2.12**	**320**	PN	**Pn**	**17 33 59.2**	**+0.9**
PEA0B				S	**Sn**	**17 34 25.7**	**+1.2**
PETK	**Petropavlovsk-**	**2.12**	**320**		**Pn**	**17 33 58.5**	**+0.1**
PETK	**Petropavlovsk-**	**2.12**	**320**	Pg	**Pn**	**17 33 58.1**	**-0.2**
	comp=E,69nm,0.3s,baz=126,slow=17,SNR=622						
PETK				Lg	Lg	17 34 28.0	
	comp=E,133nm,0.3s,baz=131,slow=22,SNR=11						
PETK				LR	LR	17 34 33.1	
	comp=E,427nm,19.9s,baz=64,slow=38						
APC	**Apacha**	**2.23**	**311**	PN	**Pb**	**17 34 01.3**	**-2.0**
APC				S	**Sn**	**17 34 29.4**	**+2.3**
APC	**Apacha**	**2.23**	**311**	*e*P	**Pb**	**17 34 01.4**	**-2.0**
APC				*e*S	**Sn**	**17 34 29.5**	**+2.3**
GNL	**Ganaly**	**2.52**	**332**	PN	**Pn**	**17 34 05.3**	**+1.5**
GNL	**Ganaly**	**2.52**	**332**	*e*P	**Pn**	**17 34 05.3**	**+1.5**
SKR	**Severo-Kuril's**	**2.55**	**253**	⇑*i*PN	**Pg**	**17 34 10.4**	**-1.7**
SKR				*e*S	**Sg**	**17 34 42.2**	**-3.0**
SKR				pmax	pmax		
	comp=Z,454nm,0.7s						
SKR				smax	smax		
	comp=N,3μm,0.6s						
SKR				smax	smax		
	comp=E,3μm,0.7s						
SKR				MLR	MLR		
	comp=Z,2μm,13.0s						
SKR	**Severo-Kuril's**	**2.55**	**253**	*e*P	**Pb**	**17 34 06.4**	**-2.4**
KII	**Karymskiy**	**2.56**	**353**	PN	**Pn**	**17 34 05.1**	**+0.8**
KII	**Karymskiy**	**2.56**	**353**	*e*P	**Pn**	**17 34 05.2**	**+0.8**
MKZ	**Mys Kozlova**	**3.24**	**19**	PN	**Pn**	**17 34 13.2**	**-0.4**
MKZ	**Mys Kozlova**	**3.24**	**19**	*e*P	**Pn**	**17 34 13.3**	**-0.4**
TUMD	**Tumrok D**	**3.72**	**4**	PN	**Pn**	**17 34 20.7**	**+0.5**
TUMD	**Tumrok D**	**3.72**	**4**	*e*P	**Pn**	**17 34 20.7**	**+0.5**
KMNR	**Kamenistaya**	**4.27**	**2**	PN	**Pn**	**17 34 30.2**	**+2.4**
KMNR	**Kamenistaya**	**4.27**	**2**	*e*P	**Pn**	**17 34 30.3**	**+2.4**
BZMR	**Bezymyannaya**	**4.46**	**4**	PN	**Pn**	**17 34 33.8**	**+3.4**
BZMR	**Bezymyannaya**	**4.46**	**4**	*e*P	**Pn**	**17 34 33.9**	**+3.4**
KIRR	**Kirishev**	**4.47**	**3**	PN	**Pn**	**17 34 32.9**	**+2.3**
KIRR	**Kirishev**	**4.47**	**3**	*e*P	**Pn**	**17 34 33.0**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**4.47**	**5**	PN	**Pn**	**17 34 33.5**	**+2.9**
BZGR	**Bezymyannyi-Gr**	**4.47**	**5**	*e*P	**Pn**	**17 34 33.5**	**+2.9**
ESO	**Esso**	**4.50**	**351**	PN	**Pn**	**17 34 32.3**	**+1.4**
ESO	**Esso**	**4.50**	**351**	*e*P	**Pn**	**17 34 32.4**	**+1.4**
ZLN	**Zelenaya**	**4.55**	**6**	PN	Pb	17 34 37.5	-5.4
ZLN	**Zelenaya**	**4.55**	**6**	*e*P	Pb	17 34 37.6	-5.4
KOZ	**Kozyrevsk**	**4.57**	**359**	PN	**Pn**	**17 34 35.0**	**+3.1**
KOZ	**Kozyrevsk**	**4.57**	**359**	*e*P	**Pn**	**17 34 35.0**	**+3.1**
CIRR	**Tsirk**	**4.65**	**6**	PN	Pb	17 34 38.9	-5.7
CIRR	**Tsirk**	**4.65**	**6**	*e*P	Pb	17 34 39.0	-5.6
KRSR	**Krestovskiy**	**4.74**	**4**	PN	**Pn**	**17 34 38.1**	**+3.8**
KRSR	**Krestovskiy**	**4.74**	**4**	*e*P	**Pn**	**17 34 38.1**	**+3.8**
KLY	**Klyuchi**	**4.84**	**5**	PN	**Pn**	**17 34 38.1**	**+2.6**
KLY	**Klyuchi**	**4.84**	**5**	*e*P	**Pn**	**17 34 38.2**	**+2.6**
KBTR	**Krutoberegovo**	**5.01**	**19**	PN	**Pn**	**17 34 38.8**	**+0.9**
KBTR	**Krutoberegovo**	**5.01**	**19**	*e*P	**Pn**	**17 34 38.8**	**+0.9**
SMKR	**Semkarok**	**5.17**	**9**	PN	**Pn**	**17 34 42.3**	**+2.1**
SMKR	**Semkarok**	**5.17**	**9**	*e*P	**Pn**	**17 34 42.3**	**+2.1**
SHEM	**Shemya Is, Ala**	**8.80**	**76**	Pn	**Pn**	**17 35 32.1**	**+2.3**
	comp=Z,1.5nm,0.3s,baz=270,sl

HEH HeiHe 20.48 279 *e*P Pn 17 38 01.3 -1.3
HEH pmax pmax
comp=Z,6.0nm,1.1s
HEH LR LR
comp=N,310nm,15.2s
HEH LR LR
comp=E,380nm,14.9s
HEH LR LR
comp=Z,480nm,16.1s
MJAR Matsushiro Arr 21.52 234 P **P 17 38 14.8 +3.2**
comp=Z,2.1nm,0.9s,baz=45,slow=9.4,SNR=10
MJAR LR LR 17 47 12.7
comp=Z,196nm,21.0s,baz=39,slow=38
comp=Z,2.1nm,0.9s
MJB9 Matsu-Tunnel 21.52 234 P 17 38 17.6 +5.9
MJB9 IAmb IAmb 17 38 29.8
comp=Z,16nm,0.9s
MAJO Matsushiro 21.52 234 P 17 38 17.1 +5.5
MAJO IAmb IAmb 17 38 28.8
comp=Z,16nm,0.9s
MAJO Matsushiro 21.52 234 P P 17 38 17.2 +5.5
MAJO pmax pmax
comp=Z,16nm,0.9s
BNX BinXian 22.15 268 ||P **P 17 38 21.3 +2.9**
BNX pmax pmax
comp=Z,7.0nm,1.1s
INU Inuyama 23.05 234 P 17 38 34.7 +6.7
INU IAmb IAmb 17 38 50.9
comp=Z,11nm,0.7s
JHJ Hachijo jima 2 23.52 226 LR LR 17 51 30.2
comp=Z,53nm,18.5s,baz=82,slow=46
TIXI Tiksi 24.50 337 LR LR 17 49 15.8
comp=Z,250nm,20.2s,baz=157,slow=39
TIXI Tiksi 24.50 337||*e*P **P 17 38 41.0 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI MLR MLR
comp=Z,294nm,17.0s
J18K Innoko River 25.63 45 P **P 17 38 53.7 +1.7**
KSRS Korea Array 26.57 251 P **P 17 39 04.1 +3.4**
comp=Z,1.5nm,0.9s,baz=51,slow=10,SNR=6.3
comp=Z,1.5nm,0.9s
B21K Ikpikpuk River 27.78 32 P **P 17 39 13.4 +2.2**
B21K IAmb IAmb 17 39 33.0
comp=Z,5.0nm,0.8s
JNU Nakatsue 28.00 240 LR LR 17 52 12.8
comp=Z,92nm,18.4s,baz=44,slow=40
ILAR Eielson Array 30.02 43 P **P 17 39 32.6 +1.4**
comp=Z,0.4nm,0.8s,baz=264,slow=6,SNR=5.4
ILAR LR LR 17 52 37.2
comp=Z,56nm,20.4s,baz=272,slow=39
comp=Z,0.4nm,0.8s
D25K Kavik River 30.55 34 P **P 17 39 36.8 +0.9**
C27K Jago River 31.52 34 P **P 17 39 45.3 +0.9**
C27K IAmb IAmb 17 39 54.3
comp=Z,5.5nm,1.2s
H11N2 WAKE ISLAND Hy 32.17 168 T T 18 15 10.2
baz=351,slow=76,SNR=106
H11N3 WAKE ISLAND Hy 32.19 168 T T 18 15 11.2
baz=351,slow=76,SNR=81
H11N1 WAKE ISLAND Hy 32.19 168 T T 18 15 11.4
baz=351,slow=76,SNR=89
L27K Beaver Creek, 32.35 46 **P 17 39 53.0 +1.2**
L27K IAmb IAmb 17 40 13.5
comp=Z,5.5nm,1.0s
H11S1 WAKE ISLAND Hy 33.35 168 T T 18 15 52.5
baz=351,slow=76,SNR=15
H11S3 WAKE ISLAND Hy 33.36 168 T T 18 16 16.7
baz=351,slow=76,SNR=16
H11S2 WAKE ISLAND Hy 33.37 168 T T 18 15 58.3
baz=351,slow=76,SNR=12
ULN Ulaanbaatar 33.80 285||*e*P **P 17 40 04.6 -0.1**
ULN pmax pmax
comp=Z,8.0nm,2.4s
SONM Songino Array 34.21 285 P **P 17 40 07.9 -0.4**
comp=Z,0.4nm,0.7s,baz=64,slow=3.4,SNR=3.6
comp=Z,0.4nm,0.7s
I30M Mount Dempster 34.44 42 P **P 17 40 11.1 +1.0**
HHC Hu-ho-hao-te 34.56 271 *e*P **P 17 40 12.0 +0.6**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,70nm,4.4s
HHC LR LR
comp=N,180nm,13.0s
HHC LR LR
comp=E,190nm,13.7s
HHC LR LR
comp=Z,290nm,13.0s
NJ2 Nanjing 35.69 253 *e*P **P 17 40 23.8 +2.9**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
MOY Mondy 35.76 294 *e*P **P 17 40 21.7 +0.1**
MOY pmax pmax
comp=Z,6.0nm,1.4s
NRIK Noril'sk 37.17 326 P **P 17 40 30.8 -2.4**
comp=Z,0.9nm,0.4s,baz=90,slow=6.5,SNR=4.6
NRIK LR LR 17 57 27.0
comp=Z,119nm,19.5s,baz=92,slow=39
comp=Z,0.9nm,0.4s
NRIK Noril'sk 37.17 326||*e*P **P 17 40 32.5 -0.7**
NRIK pmax pmax
comp=Z,5.0nm,1.4s
NRIK MLR MLR
comp=Z,178nm,15.0s
A36M Sachs Harbour 37.55 30 **P 17 40 37.2 +0.8**
C36M Paulatuk 38.42 34 P **P 17 40 45.4 +1.7**
C36M IAmb IAmb 17 41 00.4
comp=Z,7.0nm,1.1s
XAN Xi'an 40.42 265 *e*P P 17 41 06.3 +5.4
XAN LR LR
comp=N,270nm,21.3s
XAN LR LR
comp=E,260nm,19.2s
XAN LR LR
comp=Z,290nm,18.6s
GTA Gaotai 42.72 278 *e*P **P 17 41 20.5 +0.7**
GTA pP pwP 17 41 34.0 +6.5
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA LR LR
comp=N,110nm,13.5s
GTA LR LR
comp=E,140nm,15.9s
GTA LR LR
comp=Z,180nm,14.3s
BBB Bella Bella 42.74 60 LR LR 17 56 58.2
comp=Z,40nm,20.9s,baz=242,slow=33
ZALV Zalesovo Beam 43.58 304 P **P 17 41 22.0 -4.5**
comp=Z,1.0nm,0.7s,baz=52,slow=7.5,SNR=4.1
ZALV LR LR 18 00 50.1
comp=Z,202nm,19.6s,baz=59,slow=38
ZALV Zalesovo Beam 43.58 304 *i* P **P 17 41 24.8 -1.6**
ZALV pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 44.41 41 P **P 17 41 31.8 -1.2**
comp=Z,0.6nm,0.9s,baz=299,slow=8.0,SNR=6.9
comp=Z,0.6nm,0.9s
RES Resolute Bay 44.84 21 LR LR 18 02 17.0
comp=Z,56nm,19.2s,baz=358,slow=39
MLOA Mauna Loa Obse 47.15 116 P P 17 42 04.3 +8.8
MWH Mokuaweoweo 47.17 116 P P 17 42 05.3 +9.3
KURK Kurchatov 48.51 303 **P 17 42 02.8 -2.5**
KURK Kurchatov 48.51 303 P **P 17 42 04.7 -0.6**
KURBB Kurchatov Arra 48.61 303 P **P 17 42 04.7 -1.4**
comp=Z,6.0nm,0.9s,baz=60,slow=7.6,SNR=36
comp=Z,6.0nm,0.9s
SPITS Spitsbergen Ar 48.69 351 P **P 17 42 05.3 -1.2**
comp=Z,10nm,0.9s,baz=51,slow=11,SNR=10.0
comp=Z,10nm,0.9s
SPB2 Spitsbergen Ar 48.70 351 P **P 17 42 07.0 +0.6**
SPB2 IAmb IAmb 17 42 13.5
comp=Z,11nm,0.9s
MK31 Makanchi Array 48.78 297*ce*P **P 17 42 06.8 -0.7**
MKAR Makanchi Array 48.78 297 P **P 17 42 06.5 -0.9**
MKAR Makanchi Array 48.78 297 P **P 17 42 06.3 -1.2**
comp=Z,1.1nm,0.9s,baz=55,slow=6.8,SNR=11
comp=Z,1.1nm,0.6s
MKAR Makanchi Array 48.78 297 P **P 17 42 06.6 -0.9**
MAKZ Makanchi 48.95 297 **P 17 42 07.0 -1.8**
MAKZ IAmb IAmb 17 42 08.5
comp=Z,4.4nm,1.1s
MAKZ Makanchi 48.95 297 P **P 17 42 07.0 -1.8**
MAKZ pmax pmax
comp=Z,4.0nm,1.2s
PZH PanZhiHua 50.09 263 P **P 17 42 19.3 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.7s
BLKN Baker Lake 50.47 33 **P 17 42 21.7 +1.6**
BLKN IAmb IAmb 17 42 40.4
comp=Z,4.4nm,0.8s
NEW Newport 50.79 59 LR LR 18 05 12.9
comp=Z,33nm,18.8s,baz=306,slow=38
BVAR Borovoye Array 51.32 309 P **P 17 42 25.0 -1.6**
comp=Z,1.2nm,0.4s,baz=53,slow=7.6,SNR=16
comp=Z,1.2nm,0.4s
BRVK Borovoye 51.35 309 **P 17 42 24.1 -2.8**
BRVK IAmb IAmb 17 42 26.3
comp=Z,5.9nm,1.2s
BRVK Borovoye 51.35 309*ce*P **P 17 42 25.0 -1.9**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BRVK MLR MLR
comp=Z,317nm,16.0s
ARTI Arti 54.62 318*c i*P **P 17 42 49.7 -1.2**
ARTI 17 43 50.6
ARTI S **S 17 50 26.9 -2.9**
ARTI SS **SS 17 54 10.4 -1.4**
ARTI pmax pmax
comp=Z,5.0nm,1.1s
ARCES ARCESS Array B 54.78 342 P **P 17 42 51.6 -0.3**
comp=Z,4.9nm,0.9s,baz=26,slow=8.0,SNR=10
ARCES LR LR 18 11 51.0
comp=Z,64nm,18.9s,baz=12,slow=42
comp=Z,4.9nm,0.9s
PNTR Pine Nut 55.19 69 P 17 43 00.3 +4.8
AAK Ala-Archa 55.71 297*de*P **P 17 42 59.0 -0.2**
AAK pmax pmax
comp=Z,5.0nm,1.8s
KIRV Kirov 56.63 324 LR LR 18 12 23.1
comp=Z,74nm,19.1s,baz=51,slow=42
CHTO Chiang Mai 57.51 259 P **P 17 43 13.1 +1.0**
CHTO IAmb IAmb 17 43 28.1
comp=Z,4.6nm,1.1s
CHTO Chiang Mai 57.51 259 P **P 17 43 13.1 +1.0**
CHTO pmax pmax
comp=Z,5.0nm,1.2s
KKAR Karatay Array 57.59 300 **P 17 43 11.2 -1.2**
KKAR Karatay Array 57.59 300 P **P 17 43 11.2 -1.2**
CMAR Chiang Mai Arr 57.78 259 P **P 17 43 16.9 +3.0**
comp=Z,0.6nm,0.8s,baz=41,slow=7.4,SNR=8.5
CMAR LR LR 18 10 34.7
comp=Z,52nm,19.8s,baz=100,slow=39
comp=Z,0.6nm,0.8s
CMAR Chiang Mai Arr 57.78 259 P **P 17 43 17.0 +3.0**
SPR3 Spring Creek 3 58.29 66 P P 17 43 23.7 +6.0
PDAR Pinedale Array 58.39 60 P P 17 43 21.4 +3.2
comp=Z,0.5nm,0.8s,baz=300,slow=4.8,SNR=4.8
comp=Z,0.5nm,0.8s
ABKAR Akbulak array 58.77 311 **P 17 43 19.3 -1.1**
AKTO Aktyubinsk 58.84 313 LR LR 18 11 21.7
comp=Z,281nm,18.2s,baz=38,slow=39
GAR Garm 60.51 296 **P 17 43 31.1 -1.7**
GAR IAmb IAmb 17 43 34.9
comp=Z,9.5nm,1.0s
SANI Sanana 60.63 220 P **P 17 43 34.9 +1.2**
HNR Honiara 60.68 180 LR LR 18 09 33.0
comp=Z,46nm,18.7s,baz=213,slow=36
FINES FINESS Array B 61.55 337 P **P 17 43 37.4 -1.9**
comp=Z,5.7nm,0.9s,baz=46,slow=6.0,SNR=12
comp=Z,5.7nm,0.9s
FINES FINESS Array B 61.55 337 *i* P **P 17 43 39.7 +0.4**
FINES pmax pmax
comp=Z,6.0nm,0.9s
PV17 East Wray Mesa 61.82 63 P P 17 43 45.1 +3.3
BORG Borgarnes 64.08 1 *i* P **P 17 43 53.0 -3.1**
NB2 NORSAR Subarra 65.05 344 P **P 17 44 03.5 +0.9**
comp=Z,2.4nm,1.0s,baz=23,slow=6.9
NOA NORSAR Array B 65.05 344 P **P 17 44 03.3 +0.7**
comp=Z,1.3nm,0.9s,baz=21,slow=6.6,SNR=4.9
NOA LR LR 18 15 49.0
comp=Z,32nm,19.2s,baz=10.0,slow=39
comp=Z,1.3nm,0.9s
HFS Hagfors 65.44 342 P **P 17 44 06.5 +1.4**
comp=Z,0.9nm,0.3s,baz=40,slow=3.1,SNR=15
comp=Z,0.9nm,0.3s
AKASG Malin Array Be 69.94 329 P **P 17 44 33.0 -0.6**
comp=Z,6.8nm,0.9s,baz=31,slow=6.8,SNR=23
comp=Z,6.8nm,0.9s
AKASG Malin Array Be 69.94 329 P **P 17 44 33.0 -0.6**
KIEV Kiev 69.95 329 **P 17 44 33.0 -0.6**
KIEV Kiev 69.95 329 P **P 17 44 33.0 -0.6**
KIEV pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 70.54 317 *e*P **P 17 44 34.8 -2.7**
KIV pmax pmax
comp=Z,2.0nm,1.0s
KIV MLR MLR
comp=Z,87nm,17.0s
KBZ Khabaz 70.64 317 P **P 17 44 38.8 +0.9**
comp=Z,0.7nm,0.7s,baz=56,slow=6.1,SNR=2.6
KBZ LR LR 18 20 35.7
comp=Z,55nm,18.9s,baz=136,slow=40
comp=Z,0.7nm,0.7s
TXAR Lajitas Array 71.35 66 P **P 17 44 45.0 +2.3**
comp=Z,0.9nm,0.9s,baz=314,slow=5.6,SNR=8.1
comp=Z,0.9nm,0.9s
EKA Eskdalemuir Ar 72.61 350 P **P 17 44 49.3 -0.3**
comp=Z,1.0nm,0.8s,baz=16,slow=6.2,SNR=8.7
comp=Z,1.0nm,0.8s
GNI Garni 72.71 313 LR LR 18 21 18.5
comp=Z,124nm,18.3s,baz=59,slow=40
CLL Collm 73.81 339 *i* P **P 17 44 56.1 -0.7**
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 73.81 339 *i* P **P 17 44 56.1 -0.7**
comp=Z,10.0nm,1.2s
CLL *i* x x 17 45 10.7
BUR08 Bucovina Ar. S 73.89 330 **P 17 44 56.7 -0.8**
BUR08 IAmb IAmb 17 44 59.2
comp=Z,5.7nm,1.0s
LANS Liptovska Anna 74.21 334 *e*P **P 17 45 01.0 +1.7**
LANS Liptovska Anna 74.21 334 *e*P **P 17 45 01.0 +1.7**
WB0 Warramunga Arr 74.42 205 P 17 45 07.9 +7.2
WB0 IAmb IAmb 17 45 15.8
comp=Z,7.8nm,0.8s
WR8 Warramunga Arr 74.57 205 P 17 45 09.2 +7.7
WR8 IAmb IAmb 17 45 17.5
comp=Z,8.4nm,0.6s
WRA Warramunga Arr 74.60 205 P 17 45 08.7 +7.1
WRA Warramunga Arr 74.60 205 P P 17 45 08.7 +7.0
WRA pmax pmax
comp=Z,1.0nm,1.5s
VYHS Vyhne 74.98 334 *e*P **P 17 45 04.9 +1.2**
VYHS Vyhne 74.98 334 *e*P **P 17 45 04.9 +1.2**
MLR Muntele Rosu 75.56 329 P **P 17 45 06.7 -0.6**
MLR IAmb IAmb 17 45 30.0
comp=Z,8.2nm,1.4s
MLR Muntele Rosu 75.56 329 LR LR 18 22 57.5
comp=Z,60nm,19.1s,baz=16,slow=40
MLR Muntele Rosu 75.56 329 P **P 17 45 06.7 -0.6**
MLR pmax pmax
comp=Z,8.0nm,1.4s
GERES GERESS Array B 75.96 338 P **P 17 45 10.0 +0.6**
comp=Z,1.2nm,1.0s,baz=26,slow=6.0,SNR=5.4
comp=Z,1.2nm,1.0s
CONA Conrad Observa 76.28 336 *e*P **P 17 45 13.7 +2.4**
comp=Z,1.0nm,0.6s
RONA Rosalia, Austr 76.38 336 *e*P **P 17 45 13.8 +2.0**
comp=Z,1.3nm,0.5s
SOKA Soboth 77.65 336 *e*P **P 17 45 19.8 +0.8**
comp=Z,1.4nm,0.6s
KBA Koelnbreinsper 77.69 337 *e*P **P 17 45 20.7 +1.3**
comp=Z,8.2nm,0.9s
BRTR Keskin Array B 77.80 321 P **P 17 45 20.6 +0.6**
comp=Z,2.7nm,1.0s,baz=48,slow=1.9,SNR=15
comp=Z,2.7nm,1.0s
BRTR Keskin Array B 77.80 321 *i* P **P 17 45 21.2 +1.2**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
WATA Walderalm 77.87 339 *e*P **P 17 45 22.7 +2.4**
comp=Z,0.9nm,0.4s
WTTA Wattenberg 77.92 339 *e*P **P 17 45 22.9 +2.2**
comp=Z,1.4nm,0.6s
OBKA Obir 77.93 336 *e*P **P 17 45 21.8 +1.2**
comp=Z,2.6nm,0.8s
MOTA Moosalm 77.97 339 *e*P **P 17 45 22.8 +2.0**
comp=Z,0.5nm,0.3s
SQTA Sankt Quirin 78.06 339 *e*P **P 17 45 23.9 +2.6**
comp=Z,0.3nm,0.2s
ABTA Abfaltersbach 78.20 338 *e*P **P 17 45 23.6 +1.5**
comp=Z,3.0nm,0.8s
ASAR Alice Springs 78.27 204 P P 17 45 26.0 +3.6
comp=Z,0.4nm,0.8s,baz=17,slow=5.5,SNR=5.4
comp=Z,0.4nm,0.8s
FETA Feichten 78.36 339 *e*P **P 17 45 25.1 +2.1**
comp=Z,0.6nm,0.4s
DAVOX Davos/Dischmat 78.77 340 LR LR 18 26 01.7
comp=Z,54nm,18.4s,baz=263,slow=40
MMAI Mount Meron Ar 82.79 316 P **P 17 45 48.3 +1.4**
comp=Z,0.7nm,0.5s,baz=23,slow=12,SNR=2.2
MMAI LR LR 18 28 14.5
comp=Z,74nm,18.6s,baz=31,slow=40
comp=Z,0.7nm,0.5s
ESDC Sonseca Array 88.12 348 P **P 17 46 13.5 +0.2**
comp=Z,0.4nm,1.0s,baz=2.9,slow=4.3,SNR=1.6
ESDC LR LR 18 31 05.2
comp=Z,44nm,18.4s,baz=119,slow=39
comp=Z,0.4nm,1.0s
H03N2 Juan Fernandez 134.28 90 T T 20 23 23.6
baz=314,slow=78,SNR=19
H03N1 Juan Fernandez 134.30 90 T T 20 23 28.8
baz=314,slow=78,SNR=16
H03N3 Juan Fernandez 134.30 90 T T 20 23 26.0
baz=314,slow=78,SNR=21

---

*IDC **28** 17:41:44.6±1.2, 6.20S×130.32E, h0km, mb4.1/7, mbtmp4.2/10, ML4.3/3, Error ellipse: s-maj=66.8km s-min=18.3km az=71.0*
*DJA **28** 17:42:02.9±0.3, 7.3S±2.3×13.0E±.4, h195km±9km, M4.5/13, mB5.2/5, mb4.2/9, MLv4.6/13, Mw(mB)4.5/5*
ISC 28 17:42:02.4±0.6, 6.78S±0.04×129.68E±0.05, h150km, n47, σ2.39/52, mb3.9/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.01**	**127**	P	**Pn**	**17 42 41.3**	**+3.7**
SAUI	**Saumlaki**	**2.01**	**127**	P	**Sn**	**17 43 06.3**	**+1.6**
SAUI	**Saumlaki**	**2.01**	**127**	P	**Pn**	**17 42 40.7**	**+3.1**
SAUI				S	**Sn**	**17 43 11.3**	**+6.6**
BNDI	**Bandanaira**	**2.25**	**6**	P	Pn	17 42 46.6	+6.1
BNDI	**Bandanaira**	**2.25**	**6**	P	**Pn**	**17 42 44.5**	**+4.0**
AAI	**Ambon**	**3.41**	**334**	P	**Pn**	**17 42 59.0**	**+4.0**
MSAI	**Masohi**	**3.49**	**348**	P	Pn	17 43 01.1	+5.1
FAKI	**Fak Fak**	**4.61**	**34**	P	**Pn**	**17 43 11.5**	**+0.8**
FAKI				S	**Sn**	**17 44 03.2**	**-0.8**
KMPI	**Kaimana, Papua**	**5.07**	**53**	P	**Pn**	**17 43 18.6**	**+1.9**
2.8nm7μm76nm,0.7s							
KMPI				S	**Sn**	**17 44 16.5**	**+1.8**
2.8nm7μm76nm,0.7s							
DRS	**Darwin Rock St**	**5.75**	**168**	P	**Pn**	**17 43 26.8**	**+1.0**
DRS	**Darwin Rock St**	**5.75**	**168**	S	**Sn**	**17 44 29.2**	**-1.8**
SANI	**Sanana**	**5.96**	**322**	P	**Pn**	**17 43 31.4**	**+2.7**
0.1nm19nm,0.6s							
SWI	**Sorong**	**6.08**	**15**	P	**Pn**	**17 43 30.6**	**+0.3**
0.3nm38nm,0.8s							
SWI				S	**Sn**	**17 44 37.7**	**-1.3**
0.3nm38nm,0.8s							
SOEI	**Soe**	**6.12**	**241**	P	**Pn**	**17 43 33.3**	**+2.5**
SOEI	**Soe**	**6.12**	**241**	S	**Sn**	**17 44 40.8**	**+0.9**
SOEI	**Soe**	**6.12**	**241**	P	**Pn**	**17 43 32.7**	**+1.9**
0.4nm31nm,1.2s							
SOEI				S	**Sn**	**17 44 43.8**	**+3.9**
0.4nm31nm,1.2s							
MTN	**Manton Dam**	**6.20**	**167**	P	**Pn**	**17 43 32.2**	**+0.4**
KDU	**Kakadu**	**6.49**	**155**	P	**Pn**	**17 43 35.8**	**+0.2**
RKPI	**Ransiki, Papua**	**6.89**	**41**	P	**Pn**	**17 43 41.9**	**+0.8**
EDFI	**Ende, Flores**	**8.15**	**256**	P	**Pn**	**17 43 58.7**	**+0.7**
BAKI	**Biak**	**8.48**	**49**	P	**Pn**	**17 44 02.9**	**+0.6**
BAKI				S	**Sn**	**17 45 37.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.92**	**199**	Pn	**Pn**	**17 44 45.1**	**-2.6**
1.3nm,0.3s,baz=31,slow=12,SNR=63							
FITZ				Sn	Sn	17 46 49.5	-10
3.1nm,0.3s,baz=338,slow=19,SNR=3.3							
2.8nm,0.3s							
WRA	**Warramunga Arr**	**13.85**	**161**	Pn	**Pn**	**17 45 09.5**	**-3.0**
1.0nm,0.3s,baz=338,slow=14,SNR=23							
WRA				Sn	Sn	17 47 34.9	-11
2.8nm,0.3s,baz=336,slow=22,SNR=9.5							
2.8nm,0.5s							
COEN	**Coen**	**15.07**	**119**	P	**P**	**17 45 29.9**	**+0.4**
JAGI	**Jajag, Banyuwa**	**15.48**	**263**	P	**P**	**17 45 35.4**	**+1.4**
QIS	**Mount Isa**	**16.74**	**146**	P	**Pn**	**17 45 48.7**	**+0.4**
ASAR	**Alice Springs**	**17.28**	**167**	P	**Pn**	**17 45 54.8**	**+0.1**
1.9nm,0.3s,baz=346,slow=8.8,SNR=187							
ASAR				S	**S**	**17 48 57.2**	**-9.2**
0.5nm,0.4s,baz=350,slow=40,SNR=2.6							
8.9nm,0.6s							
AS01	**Alice Springs**	**17.29**	**167**	P	**Pn**	**17 45 54.9**	**+0.1**
MTSU	**Mount Surprise**	**18.20**	**130**	P	**Pn**	**17 46 05.7**	**0.0**
WRKA	**Warakurna**	**18.21**	**184**	P	**P**	**17 46 04.8**	**+0.8**
OOD	**Oodnadatta**	**21.67**	**165**	P	**P**	**17 46 40.7**	**-0.5**
INKA	**Innaminka**	**23.35**	**155**	P	**P**	**17 46 58.8**	**+1.4**
FORT	**Forrest**	**23.93**	**183**	P	**P**	**17 47 04.6**	**+2.0**
QLP	**Quilpie**	**24.09**	**147**	P	**P**	**17 47 06.1**	**+2.0**
LCRK	**Leigh Creek**	**24.88**	**162**	P	**P**	**17 47 12.8**	**+1.6**
BBOO	**Buckleboo**	**26.57**	**168**	P	**P**	**17 47 27.9**	**+1.3**
STKA	**Stephens Creek**	**27.34**	**158**	P	**P**	**17 47 33.4**	**-0.1**
1.2nm,0.3s,baz=332,slow=15,SNR=5.5							
1.2nm,0.3s							
STKA	**Stephens Creek**	**27.34**	**158**	P	**P**	**17 47 34.7**	**+1.3**
HTT	**Hallett**	**27.88**	**163**	P	**P**	**17 47 39.7**	**+1.5**
CMSA	**Cobar Meteorol**	**28.83**	**151**	P	**P**	**17 47 47.2**	**+0.6**
ARPS	**Mount Arapiles**	**31.85**	**161**	P	**P**	**17 48 14.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**39.34**	**310**	P	**P**	**17 49 17.5**	**+0.2**
0.7nm,0.6s,baz=126,slow=8.1,SNR=11							
0.7nm,0.6s							
SONM	**Songino Array**	**58.13**	**342**	P	**P**	**17 51 38.9**	**-1.5**
0.5nm,0.6s,baz=150,slow=7.1,SNR=2.9							
0.5nm,0.6s							
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**	**17 52 44.5**	**-0.1**
1.6nm,0.3s,baz=125,slow=7.6,SNR=34							
1.6nm,0.3s							
ZALV	**Zalesovo Beam**	**71.24**	**334**	P	**P**	**17 53 04.1**	**-1.0**
1.2nm,0.6s,baz=131,slow=5.4,SNR=4.7							
1.2nm,0.6s							
KURBB	**Kurchatov Arra**	**72.15**	**329**	P	**P**	**17 53 10.0**	**-0.6**
1.2nm,0.3s,baz=125,slow=4.8,SNR=12							
1.2nm,0.3s							
BVAR	**Borovoye Array**	**77.70**	**328**	P	**P**	**17 53 41.2**	**-1.3**
1.5nm,0.8s,baz=123,slow=7.1,SNR=6.8							
1.5nm,0.8s							

---

*IDC **28** 17:43:41.2±1.0, 51.43N×159.62E, h0km, mb3.7/15, mbtmp3.7/16, ML3.1/1, MS2.6/2, Error ellipse: s-maj=21.3km s-min=17.4km az=73.0*
*KRSC **28** 17:43:43.4±1.4, 51.52N×160.09E, h51km±25km, Ml4.1*
*MOS **28** 17:43:46.8±1.0, 51.63N×159.84E, h53km, mb4.1/4, Error ellipse: s-maj=11.8km s-min=4.7km az=105.4*
ISC 28 17:43:47.0±1.8, 51.55N±0.07×159.92E±0.07, h41km±15km, n84, σ1.27/90, mb3.9/17, 2C-4D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.18**	**283**	PN	**Pn**	**17 44 06.3**	**-0.5**
KDTR				S	**Sn**	**17 44 21.4**	**-0.2**
KDTR	**Khodutka, Kamc**	**1.18**	**283**	*e*P	**Pn**	**17 44 06.3**	**-0.5**
KDTR				*e*S	**Sn**	**17 44 21.4**	**-0.2**
RUS	**Russkaya**	**1.24**	**316**	PN	**Pn**	**17 44 06.4**	**-1.3**
RUS				S	**Sn**	**17 44 22.7**	**-0.5**
RUS	**Russkaya**	**1.24**	**316**	*e*P	**Pn**	**17 44 06.5**	**-1.3**
RUS				*e*S	**Sn**	**17 44 22.8**	**-0.5**
MTVR	**Mutnovka**	**1.42**	**312**	PN	**Pn**	**17 44 09.8**	**-0.6**
MTVR				S	**Sn**	**17 44 28.4**	**+0.5**
MTVR	**Mutnovka**	**1.42**	**312**	*e*P	**Pn**	**17 44 09.8**	**-0.6**
MTVR				*e*S	**Sn**	**17 44 28.4**	**+0.5**
GRL	**Gorelyy**	**1.52**	**312**	PN	**Pn**	**17 44 11.7**	**0.0**
GRL	**Gorelyy**	**1.52**	**312**	*e*P	**Pn**	**17 44 11.7**	**0.0**
SPN	**Mys Shipunski**	**1.55**	**2**	PN	**Pn**	**17 44 12.9**	**+0.9**
SPN	**Mys Shipunski**	**1.55**	**2**	*e*P	**Pn**	**17 44 12.9**	**+0.9**
DALK	**Dalny**	**1.64**	**335**	PN	**Pn**	**17 44 13.0**	**-0.3**
DALK				S	**Sn**	**17 44 33.8**	**+0.6**
DALK	**Dalny**	**1.64**	**335**	*e*P	**Pn**	**17 44 13.0**	**-0.3**
DALK				*e*S	**Sn**	**17 44 33.8**	**+0.6**
NLC	**Nalytchevo**	**1.66**	**348**	PN	**Pn**	**17 44 13.0**	**-0.4**
NLC	**Nalytchevo**	**1.66**	**348**	*e*P	**Pn**	**17 44 13.1**	**-0.4**
PET	**Petropavlovsk**	**1.67**	**333**	*e*PN	**Pn**	**17 44 13.2**	**-0.4**
PET				*e*S	**Sn**	**17 44 35.3**	**+1.6**
PET				pmax	pmax		
comp=Z,445nm,0.4s							
PET				smax	smax		
comp=E,507nm,0.5s							
PET				smax	smax		

δ42.14000°, λ-63.07000°. NP2:φ₀169.26000°, δ53.26000°, λ-112.29000°. Principal axes: T 2.2552, Plg6.0000°, Azm275.0000°; N 0.2478, Plg18.0000°, Azm183.0000°; P -2.5030, Plg71.0000°, Azm22.0000°;
FUNV **28** 17:48:23.1, 9'.34N×62'.96W, h13km, MW4.8
NEIC **28** 17:48:23.9, 9'.31N×63'.08W, h36km
ISC 28 17:48:22.6±0.6, 9'34N±0'.04×63'08W±0'.03, h32km±4km, n707, σ1§21/622, mb4.9/206, MS3.5/22, 28C-19D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**1.75**	**299**	*eP*	**Pb**	**17 48 53.4**	**-0.6**
PCRV				*eS*	**Sb**	**17 49 15.4**	**-0.2**
PCRV	**Puerto La Cruz**	**1.75**	**299**	*eP*	**Pb**	**17 48 54.0**	**0.0**
PCRV				*eS*	**Sb**	**17 49 19.9**	**+4.4**
PSQC	**Port of Spain**	**2.03**	**49**	*eP*	**Pn**	**17 48 55.3**	**+0.7**
PSQC				*eS*	**Sn**	**17 49 19.3**	**+0.4**
PSGH	**Port of Spain**	**2.04**	**50**	*eP*	**Pn**	**17 48 55.7**	**+1.0**
PSGH				*eS*	**Sn**	**17 49 20.0**	**+1.0**
PSKH	**Kent House, Po**	**2.04**	**49**	*eP*	**Pn**	**17 48 55.3**	**+0.6**
PSKH				*eS*	**Sn**	**17 49 19.8**	**+0.8**
TRN	**Trinidad (W)**	**2.11**	**52**	*eP*	**Pn**	**17 48 56.1**	**+0.5**
TRN				*eS*	**Sn**	**17 49 21.4**	**+0.6**
TBH	**Brigand Hill**	**2.29**	**60**	*eP*	**Pn**	**17 48 58.8**	**+0.6**
TPR	**Prospect**	**2.92**	**51**	*eP*	**Pn**	**17 49 07.2**	**+0.3**
TPR				*eS*	**Sn**	**17 49 39.2**	**-1.7**
GRFF	**Grenada Fort F**	**3.00**	**26**	*eP*	**Pn**	**17 49 08.6**	**+0.6**
GRFF				*eS*	**Sn**	**17 49 45.8**	**+2.9**
GRGR	**Grenville**	**3.12**	**27**		**Pn**	**17 49 09.9**	**+0.3**
GRGR	**Grenville**	**3.12**	**27**	*eP*	**Pn**	**17 49 10.1**	**+0.6**
GRGR				*eS*	**Sn**	**17 49 48.0**	**+2.3**
GRW	**Mount Saint Ca**	**3.14**	**26**	*eP*	**Pn**	**17 49 10.9**	**+1.0**
GRW				*eS*	**Sn**	**17 49 49.0**	**+2.7**
GRSS	**Sisters**	**3.28**	**26**	*eP*	**Pn**	**17 49 12.5**	**+0.7**
GRSS				*eS*	**Sn**	**17 49 51.5**	**+1.8**
GCMP	**Grenada, Carri**	**3.53**	**27**	*eP*	**Pn**	**17 49 15.7**	**+0.5**
GCMP				*eS*	**Sn**	**17 49 57.0**	**+1.1**
FUNV	**FUNVISIS**	**3.84**	**287**	*eP*	**Pn**	**17 49 22.3**	**+2.7**
FUNV				*eS*	**Sn**	**17 50 06.3**	**+2.6**
CACV	**CAICARA DEL OR**	**3.85**	**243**	*eP*	**Pn**	**17 49 16.4**	**-3.2**
CACV				*eS*	**Sn**	**17 49 56.1**	**-7.6**
TACV	**Tcata**	**3.97**	**282**	*eP*	**Pn**	**17 49 23.8**	**+2.5**
TACV				*eS*	**Sn**	**17 50 09.0**	**+2.2**
SVOC	**Richmond Hill,**	**4.21**	**26**	*eP*	**Pn**	**17 49 25.3**	**+0.7**
SVOC				*eS*	**Sn**	**17 50 13.6**	**+0.9**
SVT	**Saint Vincent**	**4.22**	**25**	*eP*	**Pn**	**17 49 25.0**	**+0.3**
SVV	**Soufriere Volc**	**4.36**	**25**	*eP*	**Pn**	**17 49 28.4**	**+1.7**
SVV				*eS*	**Sn**	**17 50 17.0**	**+0.5**
SSV	**Crater Summit**	**4.38**	**25**	*eP*	**Pn**	**17 49 29.1**	**+2.1**
BENV	**Beln**	**4.50**	**278**	*eP*	**Pn**	**17 49 31.8**	**+3.2**
BENV				*eS*	**Sn**	**17 50 22.1**	**+2.3**
BAUV	**El Baul**	**4.91**	**266**		**Pn**	**17 49 35.9**	**+1.6**
BAUV				Sn	**Sn**	**17 50 30.8**	**+0.7**
BAUV	**El Baul**	**4.91**	**266**	*eP*	**Pn**	**17 49 36.0**	**+1.8**
BAUV				*eS*	**Sn**	**17 50 30.5**	**+0.4**
BAUV	**El Baul**	**4.91**	**266**	*eP*	**Pn**	**17 49 35.9**	**+1.6**
SLAC	**Saint Lucia, A**	**5.01**	**25**	*eP*	**Pn**	**17 49 36.6**	**+0.9**
SLAC				*eS*	**Sn**	**17 50 31.6**	**-1.0**
SLBI	**Saint Lucia, B**	**5.10**	**24**	*eP*	**Pn**	**17 49 37.5**	**+0.8**
SLBI				*eS*	**Sn**	**17 50 33.8**	**-0.8**
MAPV	**Macapo**	**5.32**	**276**	*eP*	**Pn**	**17 49 41.8**	**+1.8**
MAPV				*eS*	**Sn**	**17 50 40.7**	**+0.5**
BIM	**Bigot**	**5.51**	**21**		**Pn**	**17 49 43.2**	**+0.7**
BIM	**Bigot**	**5.51**	**21**	*eP*	**Pn**	**17 49 43.1**	**+0.5**
BIM				*eS*	**Sn**	**17 50 45.1**	**+0.2**
H05S1	**Guadeloupe/Mar**	**5.52**	**23**	Pn	**Pn**	**17 49 41.7**	**-0.9**
H05S1				Sn	**Sn**	**17 50 44.5**	**-0.4**
MPOM	**Morne Pois Mar**	**5.53**	**23**		**Pn**	**17 49 43.7**	**+1.0**
FDF	**Fort de France**	**5.69**	**19**		**Pn**	**17 49 45.6**	**+0.6**
FDF	**Fort de France**	**5.69**	**19**	P	**Pn**	**17 49 45.6**	**+0.6**
SVN	**Savane Anatole**	**5.79**	**19**		**Pn**	**17 49 46.8**	**+0.5**
SVN	**Savane Anatole**	**5.79**	**19**	*eP*	**Pn**	**17 49 46.9**	**+0.6**
SVN				*eS*	**Sn**	**17 50 51.7**	**+0.1**
ILAM	**Ilet Lapin Mar**	**5.82**	**22**		**Pn**	**17 49 47.6**	**+0.9**
ILAM	**Ilet Lapin Mar**	**5.82**	**22**	*eP*	**Pn**	**17 49 47.9**	**+1.2**
ILAM				*eS*	**Sn**	**17 50 52.4**	**0.0**
JACV	**Jacura**	**5.92**	**288**	*eP*	**Pn**	**17 49 49.8**	**+1.7**
JACV				*eS*	**Sn**	**17 50 55.1**	**+0.1**
TEPV	**Terepaima**	**6.06**	**276**	*eP*	**Pn**	**17 49 52.2**	**+2.2**
TEPV				*eS*	**Sn**	**17 50 57.8**	**-0.6**
MDN	**Morne-Daniel**	**6.17**	**15**	*eP*	**Pn**	**17 49 52.8**	**+1.2**
MDN				*eS*	**Sn**	**17 51 01.1**	**0.0**
DSLB	**Salisbury**	**6.28**	**15**	*eP*	**Pn**	**17 49 54.1**	**+1.0**
DSLB				*eS*	**Sn**	**17 51 03.5**	**-0.3**
DWS	**Wesley**	**6.43**	**15**	*eP*	**Pn**	**17 49 56.8**	**+1.6**
DWS				*eS*	**Sn**	**17 51 07.7**	**+0.1**
TDBA	**Terre de Bas,**	**6.63**	**12**		**Pn**	**17 49 58.6**	**+0.8**
TBG	**Guadaloupe-3**	**6.63**	**12**	*eP*	**Pn**	**17 49 59.2**	**+1.4**
TBG				*eS*	**Sn**	**17 51 12.6**	**+0.2**
MAGL	**Barre de l'ile**	**6.80**	**15**		**Pn**	**17 50 01.6**	**+1.4**
CBE	**Ff, Capester**	**6.85**	**12**		**Pn**	**17 50 02.1**	**+1.2**
GDHS	**Morne Mazeau,**	**7.01**	**10**		**Pn**	**17 50 03.8**	**+0.6**
GDSD	**La Dsirade Is**	**7.21**	**16**		**Pn**	**17 50 06.3**	**+0.5**
H05N1	**Guadeloupe/Mar**	**7.21**	**16**	Pn	**Pn**	**17 50 06.2**	**+0.3**
H05N1				Sn	**Sn**	**17 51 23.6**	**-3.2**
ABD	**La Joyeuse, An**	**7.26**	**12**	Pn	**Pn**	**17 50 08.3**	**+1.7**
BOAV	**Boa Vista**	**7.35**	**160**		**Pn**	**17 50 06.7**	**-1.1**
BOAV	**Boa Vista**	**7.35**	**160**	*eP*	**Pn**	**17 50 06.8**	**-0.9**
MBWH		**7.41**	**7**	*eP*	**Pn**	**17 50 09.8**	**+1.1**
MBWH				*eS*	**Sn**	**17 51 31.5**	**-0.2**
MBFL	**Flemmings, Mon**	**7.42**	**6**	*eP*	**Pn**	**17 50 09.9**	**+1.2**
MBFL				*eS*	**Sn**	**17 51 31.9**	**+0.1**
SDV	**Santo Domingo**	**7.47**	**267**		**Pn**	**17 50 10.8**	**+3.2**
SDV	**Santo Domingo**	**7.47**	**267**	*eP*	**Pn**	**17 50 10.7**	**+1.1**
SOCV	**Socops**	**7.75**	**263**	*eP*	**Pn**	**17 50 14.7**	**+1.3**
SOCV				*eS*	**Sn**	**17 51 36.8**	**-3.4**
ANBD	**Bethesda, Anti**	**7.77**	**9**	*eP*	**Pn**	**17 50 14.9**	**+1.4**
ANBD				*eS*	**Sn**	**17 51 38.6**	**-2.0**
SKOC	**St. Kitts, UWI**	**7.92**	**2**	*eP*	**Pn**	**17 50 18.0**	**+2.4**
SKOC				*eS*	**Sn**	**17 51 42.9**	**-1.2**
SKI	**Saint Kitts**	**7.96**	**2**	*eP*	**Pn**	**17 50 17.9**	**+1.8**
SKI				*eS*	**Sn**	**17 51 44.7**	**-0.4**
ANWB	**Willy Bob**	**8.38**	**9**	Pn	**Pn**	**17 50 23.6**	**+1.7**
ANWB	**Willy Bob**	**8.38**	**9**	*eP*	**Pn**	**17 50 23.6**	**+1.7**
ANWB				*eS*	**Sn**	**17 51 52.6**	**-2.9**
SJG	**San Juan**	**9.22**	**341**	Pn	**Pn**	**17 50 32.5**	**-0.9**
	0.9nm,0.3s,baz=158,slow=19,SNR=2.1						
SJG				Sn	**Sn**	**17 52 15.4**	**-0.7**
	3.1nm,0.3s,baz=3.2,slow=18,SNR=4.1 5.1nm,0.5s						
SJG	**San Juan**	**9.22**	**341**	*eP*	**Pn**	**17 50 36.0**	**+2.5**
SJG				*eS*	**Sn**	**17 52 14.9**	**-1.2**
CAPV	**Capacho**	**9.24**	**262**	*eP*	**Pn**	**17 50 35.1**	**+1.1**
CAPV				*eS*	**Sn**	**17 52 12.6**	**-4.5**
AOPR	**Arecibo Observ**	**9.64**	**339**	*eP*	**Pn**	**17 50 41.3**	**+2.1**
AOPR				*eS*	**Sn**	**17 52 24.1**	**-2.4**
RUSC	**La Rusia**	**10.48**	**252**		**Pn**	**17 50 51.9**	**+0.7**
MDP	**Montagnes des**	**11.18**	**111**	Pn	**Pn**	**17 50 57.8**	**-2.5**
	5.1nm,0.3s,baz=293,slow=15,SNR=32						
MDP				Sn	Sn	17 52 54.6	-10
	29nm,0.3s,baz=209,slow=19,SNR=9.8						
MDP				Lg	Lg	17 54 08.4	
	11nm,0.3s,baz=207,slow=16,SNR=3.7						
MDP				LR	LR	17 55 36.6	
	comp=Z,209nm,21.2s,baz=298,slow=39 13nm,0.4s						
ROSC	**El Rosal**	**12.01**	**249**	Pn	**Pn**	**17 51 14.4**	**+2.3**
	4.1nm,0.3s,baz=63,slow=16,SNR=11						
ROSC				Lg	Lg	17 54 43.6	
	6.0nm,0.3s,baz=127,slow=20,SNR=4.1						
ROSC				LR	LR	17 55 48.0	
	comp=Z,737nm,20.3s,baz=52,slow=37 16nm,0.5s						
SDDR	**Presa de Saban**	**12.46**	**321**		**Pn**	**17 51 21.5**	**+3.7**
MACA	**Manacapuru-AM**	**12.64**	**169**	*eP*	**Pn**	**17 51 21.6**	**+1.3**
TEFE	**Tefe**	**12.85**	**187**	*eP*	**Pn**	**17 51 24.0**	**+0.8**
TBTG	**Tabatinga, AM**	**15.06**	**207**	*eP*	**P**	**17 51 55.8**	**-2.3**
ITTB	**Itaituba**	**15.46**	**151**	*eP*	**Pn**	**17 51 58.8**	**+0.4**
NMDO	**Nuevo Mundo**	**16.01**	**316**		**Pn**	**17 52 04.2**	**-1.3**
NMDO				IAmb	IAmb	17 52 12.5	
	comp=Z,40nm,1.3s						
OTAV	**Otavalo**	**17.77**	**240**		**Pn**	**17 52 26.0**	**-2.1**
OTAV	**Otavalo**	**17.77**	**240**	P	**Pn**	**17 52 26.0**	**-2.1**
OTAV				pmax	pmax		
	comp=Z,18nm,1.7s						
OTAV	**Otavalo**	**17.77**	**240**	*eP*	**P**	**17 52 29.8**	**+1.1**
NPGB	**Novo Progresso**	**18.00**	**154**	*eP*	**Pn**	**17 52 27.3**	**-3.2**
CZSB	**Cruzeiro do Su**	**19.48**	**210**	*eP*	**Pn**	**17 52 48.6**	**+0.2**
COHC	**Cochancay**	**19.93**	**235**	P	**P**	**17 52 49.7**	**-2.3**
PRPB	**Parauapebas**	**20.30**	**139**	*eP*	**P**	**17 52 56.8**	**+0.8**
LCR2	**La Lucha 2**	**20.64**	**273**	P	**P**	**17 53 00.3**	**+0.3**
LCR2				IAmb	IAmb	17 53 08.1	
	comp=Z,126nm,1.7s						
CLDB	**Colider**	**21.34**	**160**	*eP*	**P**	**17 53 08.7**	**+1.5**
JTS	**Las Juntas de**	**21.57**	**274**	P	**P**	**17 53 09.2**	**-0.5**
JTS	**Las Juntas de**	**21.57**	**274**	P	**P**	**17 53 10.4**	**+0.7**
	comp=Z,16nm,0.9s,baz=104,slow=6.0,SNR=8.9						
JTS				LR	LR	18 03 20.6	
	comp=Z,194nm,18.5s,baz=89,slow=42 comp=Z,16nm,0.9s						
PDRB	**Porto dos Gac**	**21.75**	**163**	*eP*	**P**	**17 53 12.2**	**+0.6**
ACON	**Acoyapa**	**21.87**	**279**	P	**P**	**17 53 13.2**	**+0.3**
ACON				IAmb	IAmb	17 53 19.2	
	comp=Z,73nm,0.9s						
ATAH	**Atahualpa**	**22.37**	**224**	LR	LR	18 02 46.1	
	comp=Z,150nm,18.3s,baz=45,slow=38						
SOR	**Soroa**	**23.32**	**307**	P	**P**	**17 53 28.8**	**+0.7**
SOR				IAmb	IAmb	17 53 30.8	
	comp=Z,25nm,0.8s						
SOR	**Soroa**	**23.32**	**307**	P	**P**	**17 53 28.8**	**+0.7**
SOR				pmax	pmax		
	comp=Z,25nm,0.8s						
SMTB	**Santa Maria do**	**23.77**	**139**	*eP*	**P**	**17 53 33.9**	**+1.5**
SNDB	**Serra Nova Dou**	**24.20**	**151**	*eP*	**P**	**17 53 38.2**	**+1.8**
PTLB	**Pontes e Lacer**	**24.93**	**171**	*eP*	**P**	**17 53 45.1**	**+2.0**
SIV	**San Ignacio**	**25.24**	**175**	LR	LR	18 03 57.2	
	comp=Z,330nm,18.7s,baz=215,slow=37						
DWPF	**Disney Wildern**	**25.44**	**320**	P	**P**	**17 53 47.0**	**-0.7**
DWPF				IAmb	IAmb	17 53 51.2	
	comp=Z,34nm,0.8s						
LPAZ	**La Paz**	**25.94**	**191**	P	**P**	**17 53 50.2**	**-2.8**
LPAZ	**La Paz**	**25.94**	**191**	P	**P**	**17 53 55.8**	**+2.8**
	comp=Z,6.4nm,0.6s,baz=13,slow=10,SNR=31						
LPAZ				Lg	Lg	18 01 52.4	
	comp=Z,0.2nm,0.3s,baz=239,slow=5.9,SNR=4.4						
LPAZ				LR	LR	18 05 44.2	
	comp=Z,68nm,20.3s,baz=345,slow=40 comp=Z,6.4nm,0.6s						
LPAZ	**La Paz**	**25.94**	**191**	*eP*	**P**	**17 53 53.5**	**+0.5**
SALV	**Santo Antonio**	**26.12**	**164**	*eP*	**P**	**17 53 55.8**	**+1.9**
MTO3	**Montecristo**	**26.19**	**284**	IAmb	IAmb	17 53 58.4	
	comp=Z,24nm,1.0s						
BBSD	**Serra de San D**	**26.46**	**175**	*eP*	**P**	**17 53 58.5**	**+1.5**
PETF	**Flores**	**27.13**	**289**	IAmb	IAmb	17 54 06.2	
	comp=Z,20nm,0.8s						
ARAG	**Araguaiana, MT**	**27.27**	**156**	*eP*	**P**	**17 54 05.0**	**+0.8**
SDBA	**SAO DESIDERIO**	**28.16**	**140**	*eP*	**P**	**17 54 13.4**	**+1.1**
PB16	**IPOC Station P**	**28.22**	**193**	P	**P**	**17 54 13.2**	**-0.1**
BDFB	**Brasilia**	**28.96**	**149**	P	**P**	**17 54 20.1**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=315,slow=11,SNR=4.0						
BDFB				Lg	Lg	18 03 16.9	
	comp=Z,0.2nm,0.3s,baz=288,slow=19,SNR=3.5						
BDFB				LR	LR	18 06 05.1	
	comp=Z,400nm,18.3s,baz=312,slow=37 comp=Z,1.6nm,0.4s						
CCIG	**Comitan**	**29.14**	**287**	IAmb	IAmb	17 54 32.5	
	comp=Z,25nm,0.7s						
BIRD	**Birdtown, Kers**	**29.80**	**330**	IAmb	IAmb	17 54 28.2	
	comp=Z,13nm,0.7s						
PB08	**IPOC Station P**	**29.89**	**192**	IAmb	IAmb	17 54 30.6	
	comp=Z,12nm,0.8s						
W57A	**Gilead**	**29.99**	**332**	IAmb	IAmb	17 54 29.8	
	comp=Z,15nm,0.7s						
V58A	**Windy Hill, Pi**	**30.12**	**333**	IAmb	IAmb	17 54 31.0	
	comp=Z,16nm,0.7s						
HMBC	**Humberstone**	**30.18**	**193**	IAmb	IAmb	17 54 31.8	
	comp=Z,54nm,1.7s						
GOGA	**Godfrey**	**30.44**	**325**	P	**P**	**17 54 32.4**	**0.0**
GOGA	**Godfrey**	**30.44**	**325**	P	**P**	**17 54 32.4**	**0.0**
GOGA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
JANB	**Januaria**	**30.55**	**142**	*eP*	**P**	**17 54 34.7**	**+1.2**
KMSC	**Kings Mountain**	**30.63**	**330**	IAmb	IAmb	17 54 35.4	
	comp=Z,14nm,0.7s						
PB01	**IPOC Station P**	**30.84**	**192**	IAmb	IAmb	17 54 38.5	
	comp=Z,12nm,0.8s						
IPMB	**Ipameri, GO**	**30.86**	**152**	*eP*	**P**	**17 54 37.9**	**+1.6**
RCBR	**Riachuelo**	**31.00**	**118**	LR	LR	18 08 13.6	
	comp=Z,74nm,18.5s,baz=260,slow=38						
RCBR	**Riachuelo**	**31.00**	**118**	*eP*	**P**	**17 54 37.5**	**0.0**
250A	**Grady**	**31.14**	**320**	IAmb	IAmb	17 54 40.6	
	comp=Z,26nm,0.8s						
V55A	**Taylorsville**	**31.14**	**331**	IAmb	IAmb	17 54 40.5	
	comp=Z,13nm,0.8s						
T57A	**Hurt**	**31.19**	**334**	IAmb	IAmb	17 54 41.2	
	comp=Z,23nm,0.8s						
MURT	**Porto Murtinho**	**31.27**	**170**	*eP*	**P**	**17 54 41.8**	**+2.2**
BG3	**Lake Jocassee**	**31.33**	**328**	P	**P**	**17 54 39.6**	**-0.6**
BG3				IAmb	IAmb	17 54 42.4	
	comp=Z,30nm,1.4s						
V53A	**Saluda**	**31.79**	**329**	IAmb	IAmb	17 54 46.3	
	comp=Z,9.8nm,0.7s						
Y49A	**Blount Mountai**	**32.49**	**322**	IAmb	IAmb	17 54 52.1	
	comp=Z,13nm,0.9s						
M65A	**Busby, Falmout**	**32.79**	**349**	P	**P**	**17 54 54.6**	**+1.7**
	baz=166						
W50A	**Signal Mountai**	**32.79**	**325**	IAmb	IAmb	17 54 55.0	
	comp=Z,16nm,0.8s						
TZTN	**Tazewell**	**32.84**	**329**	IAmb	IAmb	17 54 55.2	
	comp=Z,12nm,0.7s						
Q56A	**Snyder Ridge,**	**32.91**	**337**	IAmb	IAmb	17 54 56.5	
	comp=Z,14nm,0.8s						
Z47A	**Carrollton**	**33.09**	**320**	IAmb	IAmb	17 54 58.0	
	comp=Z,16nm,0.9s						
SWET	**Sewanee**	**33.16**	**324**	IAmb	IAmb	17 54 58.1	
	comp=Z,16nm,0.7s						
X48A	**Hartselle**	**33.28**	**322**	IAmb	IAmb	17 54 59.0	
	comp=Z,12nm,0.8s						
S51A	**Beattyville**	**33.72**	**330**	IAmb	IAmb	17 55 02.8	
	comp=Z,20nm,0.7s						
SSPA	**Standing Stone**	**33.83**	**340**	P	**P**	**17 55 01.4**	**-0.5**
SSPA				IAmb	IAmb	17 55 04.3	
	comp=Z,12nm,0.9s						
CMC01	**Camacan, BA**	**33.87**	**136**	*eP*	**P**	**17 55 03.9**	**+1.3**
T50A	**Nancy**	**33.88**	**328**	IAmb	IAmb	17 55 04.4	
	comp=Z,18nm,0.7s						
U49A	**Red Boiling Sp**	**34.01**	**326**	IAmb	IAmb	17 55 05.3	
	comp=Z,17nm,0.7s						
CLTN	**Cedars of Leba**	**34.01**	**325**	IAmb	IAmb	17 55 05.5	
	comp=Z,11nm,0.9s						
Q52A	**Bidwell**	**34.15**	**333**	IAmb	IAmb	17 55 06.7	
	comp=Z,35nm,1.1s						
P53A	**Whipple**	**34.19**	**334**	IAmb	IAmb	17 55 07.2	
	comp=Z,15nm,0.7s						
M57A	**Sunshine Farm,**	**34.21**	**341**	IAmb	IAmb	17 55 14.0	
	comp=Z,20nm,1.2s						
PLAL	**Pickwick Lake**	**34.26**	**322**	IAmb	IAmb	17 55 07.3	
	comp=Z,15nm,0.8s						
O54A	**Avella**	**34.36**	**336**	IAmb	IAmb	17 55 09.4	
	comp=Z,41nm,1.3s						
GUA01	**Guaratinga, BA**	**34.55**	**138**	*eP*	**P**	**17 55 09.8**	**+1.4**
R50A	**Paris**	**34.58**	**330**	IAmb	IAmb	17 55 11.0	
	comp=Z,22nm,0.9s						
BINY	**Binghamton**	**34.65**	**343**	IAmb	IAmb	17 55 17.6	
	comp=Z,18nm,0.9s						
GO02	**Mina Guanaco**	**34.87**	**190**	IAmb	IAmb	17 55 13.4	
	comp=Z,28nm,1.2s						
WVT	**Waverly**	**34.90**	**324**	P	**P**	**17 55 10.5**	**-0.8**
WVT				IAmb	IAmb	17 55 12.3	
	comp=Z,18nm,0.6s						
WVT	**Waverly**	**34.90**	**324**	P	**P**	**17 55 10.5**	**-0.8**
WVT				pmax	pmax		
	comp=Z,18nm,0.6s						
L56A	**Greenwood**	**35.07**	**341**	IAmb	IAmb	17 55 14.6	
	comp=Z,22nm,0.8s						
WCI	**Wyandotte Cave**	**35.55**	**328**	P	**P**	**17 55 16.7**	**-0.1**
WCI				IAmb	IAmb	17 55 18.6	
	comp=Z,22nm,0.8s						
WCI	**Wyandotte Cave**	**35.55**	**328**	P	**P**	**17 55 16.7**	**-0.1**
WCI	**Wyandotte Cave**	**35.55**	**328**	pmax	pmax		
	comp=Z,23nm,0.8s						
VAO	**Valinhos**	**35.80**	**154**	*eP*	**P**	**17 55 21.0**	**+1.8**
CPUP	**Villa Florida**	**35.89**	**171**	P	**P**	**17 55 20.5**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=352,slow=10.0,SNR=9.9						
CPUP				Lg	Lg	18 07 20.4	
	comp=Z,0.1nm,0.3s,baz=356,slow=19,SNR=2.7 comp=Z,3.2nm,0.6s						
P48A	**Milroy**	**36.03**	**330**	IAmb	IAmb	17 55 21.6	
	comp=Z,10nm,0.6s						
USIN	**University of**	**36.09**	**326**	IAmb	IAmb	17 55 24.6	
	comp=Z,18nm,0.7s						
RIB01	**Linhares ES**	**36.20**	**142**	*eP*	**P**	**17 55 24.2**	**+1.5**
O48B	**Farmland**	**36.52**	**331**	IAmb	IAmb	17 55 26.4	
	comp=Z,19nm,0.6s						
O48B				PcP	**PcP**	**17 57 46.7**	**-1.7**
N49A	**Columbus Grove**	**36.59**	**333**	IAmb	IAmb	17 55 27.2	
	comp=Z,29nm,1.2s						

IDC **28** 17:48:18.3±0.4, 9'.51N×63'.02W, h0km, mb4.6/29, mbtmp4.6/32, ML3.9/3, MS3.6/21, Error ellipse: s-maj=11.8km s-min=10.8km az=55.0
VAO **28** 17:48:20.9±0.3, 9'.35N×62'.98W, h10km, mb4.7
TRN **28** 17:48:20.5, 8'.99N×62'.84W, h96km, MD5.3, Venezuela. Felt in Trinidad MMI IV and Venezuela.
MOS **28** 17:48:21.2±1.2, 9'.48N×63'.19W, h26km, mb5.1/23, Error ellipse: s-maj=8.4km s-min=6.4km az=74.8
NEIC **28** 17:48:22.1±2.4, 9'.31N±0'.06×63'.07W±0'.04, h23km±4km, mb5.0/331, Mww4.9/12, Error ellipse: s-maj=10.5km s-min=2.0km az=146.0
NEIC **28** 17:48:23.9, 8'.41N×63'.00W, h36km, Moment Tensor Solution. Duration: 1§2 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.20; $M_{\theta\theta}$0.02; $M_{\phi\phi}$2.18; $M_{r\theta}$-0.75; $M_{\theta\phi}$0.27; $M_{\phi r}$0.52; Fault plane solution: $M_0$2.38000×10^{16} NP1:ϕ_s23.68000°,

WLAR White Oak Lake 36.74 316 IAmb IAmb 17 55 29.1
comp=Z,31nm,0.9s
HKT Hockley 36.83 308 P **P** **17 55 27.4 -0.5**
HKT IAmb IAmb 17 55 29.9
comp=Z,9.4nm,0.7s
HKT Hockley 36.83 308 P **P** **17 55 27.4 -0.5**
HKT Hockley 36.83 308 pmax pmax
comp=Z,9.0nm,0.7s
UALR University of 36.84 318 IAmb IAmb 17 55 30.4
comp=Z,9.2nm,0.6s
PBMO Poplar Bluff 36.88 322 IAmb IAmb 17 55 29.3
comp=Z,23nm,0.7s
PBMO PcP **PcP** **17 57 49.9 +0.3**
DELO Deloro Mine 37.25 343 IAmb IAmb 17 55 32.8
comp=Z,14nm,0.8s
DELO PcP **PcP** **17 57 50.6 +0.1**
T42A Van Buren 37.45 322 IAmb IAmb 17 55 33.7
comp=Z,19nm,1.3s
SFIN Lafayette 37.56 329 IAmb IAmb 17 55 35.4
comp=Z,25nm,0.7s
TRQ Mont Tremblant 38.05 347 IAmb IAmb 17 55 45.5
comp=Z,12nm,0.8s
CCM Cathedral Cave 38.21 323 P **P** **17 55 38.4 -1.1**
CCM IAmb IAmb 17 55 39.9
comp=Z,13nm,0.6s
CCM Cathedral Cave 38.21 323 P **P** **17 55 38.4 -1.1**
CCM pmax pmax
comp=Z,13nm,0.6s
435B Jarrell 38.55 309 IAmb IAmb 17 55 44.3
comp=Z,20nm,0.7s
BUKO Buck Lake 38.62 342 IAmb IAmb 17 55 44.5
comp=Z,20nm,0.9s
J47A Sunmer 38.74 334 IAmb IAmb 17 55 45.6
comp=Z,34nm,0.9s
HHAR Hobbs 38.78 319 IAmb IAmb 17 55 45.2
comp=Z,16nm,0.8s
HDIL Hopedale 38.83 328 IAmb IAmb 17 55 45.4
comp=Z,31nm,0.7s
833A Chaparral WMA, 39.00 304 IAmb IAmb 17 55 48.3
comp=Z,20nm,0.9s
WHTX Lake Whitney, 39.00 310 IAmb IAmb 17 55 47.7
comp=Z,30nm,0.6s
RLO Rose Lookout 39.43 318 IAmb IAmb 17 55 50.3
comp=Z,19nm,0.9s
FW07 Weatherford 39.58 311 IAmb IAmb 17 55 52.5
comp=Z,27nm,0.7s
CO01 Juntas del Tor 39.66 190 P **P** **17 55 51.5 -0.6**
N41A Harden Midland 39.78 326 IAmb IAmb 17 55 52.7
comp=Z,36nm,0.7s
TUL3 Leonard 39.80 317 IAmb IAmb 17 55 53.5
comp=Z,27nm,0.7s
PLPT Palo Pinto 40.03 311 IAmb IAmb 17 55 56.1
comp=Z,27nm,0.6s
L42A Oliver, Polo 40.07 329 IAmb IAmb 17 55 55.6
comp=Z,26nm,0.7s
W35A Tecumseh 40.14 315 P **P** **17 55 55.2 -0.6**
W35A IAmb IAmb 17 55 56.0
comp=Z,28nm,0.8s
DEOK Depew 40.25 316 IAmb IAmb 17 55 57.0
comp=Z,16nm,0.7s
X34A Smith Ranch, M 40.53 314 P **P** **17 55 56.7 -2.3**
OK052 Battle Ridge R 40.54 316 IAmb IAmb 17 55 59.4
comp=Z,22nm,0.6s
FNO Franklin 40.56 315 IAmb IAmb 17 55 59.8
comp=Z,29nm,1.1s
QUOK Quay 40.57 316 IAmb IAmb 17 55 59.7
comp=Z,17nm,0.8s
P38A Dawn 40.58 323 IAmb IAmb 17 56 00.1
comp=Z,24nm,0.9s
T35A Sooner Cattle 40.84 318 IAmb IAmb 17 56 02.3
comp=Z,48nm,1.0s
JFWS Jewell Farm 41.03 329 P **P** **17 56 00.8 -2.1**
JFWS IAmb IAmb 17 56 03.5
comp=Z,27nm,0.8s
JFWS Jewell Farm 41.03 329 P **P** **17 56 00.8 -2.1**
JFWS pmax pmax
comp=Z,27nm,0.8s
I42A Draeger Farm, 41.10 331 P **P** **17 56 01.6 -1.9**
E46A Sault Ste Mari 41.12 338 IAmb IAmb 17 56 05.3
comp=Z,22nm,0.8s
APMT Aspermont 41.61 311 IAmb IAmb 17 56 09.1
comp=Z,33nm,1.2s
CROK Carrier 41.62 316 IAmb IAmb 17 56 08.5
comp=Z,20nm,0.8s
KAN14 Manchester OK 41.84 317 IAmb IAmb 17 56 10.4
comp=Z,36nm,0.7s
I40A Norwalk 41.92 330 IAmb IAmb 17 56 10.7
comp=Z,30nm,0.6s
OK032 Salt Plains WL 41.93 316 IAmb IAmb 17 56 11.1
comp=Z,27nm,1.2s
SN05 Snyder 5 41.99 310 IAmb IAmb 17 57 10.0
comp=Z,26nm,1.1s
ELIS Ellis County 42.39 315 IAmb IAmb 17 56 15.6
comp=Z,50nm,1.1s
POST Post 42.54 309 IAmb IAmb 17 56 17.5
comp=Z,28nm,0.8s
G40A Rib Lake 42.74 332 IAmb IAmb 17 56 17.9
comp=Z,35nm,1.3s
MNHN Monahans 42.83 307 IAmb IAmb 17 56 21.8
comp=Z,11nm,0.5s
TXAR Lajitas Array 42.86 303 **P** **17 56 18.8 +0.5**
TXAR Lajitas Array 42.86 303 P **P** **17 56 19.4 +1.1**
comp=Z,1.6nm,0.4s,baz=104,slow=7.8,SNR=22
TXAR PcP **PcP** **17 58 10.4 +1.4**
comp=Z,3.0nm,0.5s,baz=110,slow=4.3,SNR=10
TXAR S **S** **18 02 46.4 +5.4**
comp=Z,0.3nm,0.8s,baz=99,slow=8.0,SNR=1.7
comp=Z,1.6nm,0.4s
R32A Long Quarter, 43.13 318 IAmb IAmb 17 56 20.5
comp=Z,18nm,0.6s
MT03 Universidad Ad 43.17 189 IAmb IAmb 17 56 22.6
comp=Z,22nm,0.8s
MT13 San Alfonso 43.38 189 IAmb IAmb 17 56 24.5
comp=Z,20nm,0.8s
MT09 Talagante 43.53 190 IAmb IAmb 17 56 24.7
comp=Z,13nm,0.8s
BO04 La Punta 43.67 189 IAmb IAmb 17 56 26.2
comp=Z,14nm,0.8s
MSTX Muleshoe 43.88 310 IAmb IAmb 17 56 30.0
comp=Z,13nm,0.8s
SPMN Marine on St. 43.97 330 IAmb IAmb 17 56 27.0
comp=Z,25nm,1.6s
BO01 Tunca 44.14 190 P **P** **17 56 26.2 -2.0**
E38A The Farm, Brul 44.37 332 IAmb IAmb 17 56 30.0
comp=Z,16nm,0.6s
BO02 Sierra Bellavi 44.49 189 P **P** **17 56 29.1 -2.1**
TBO Thunder Bay 44.99 335 P **P** **17 56 34.6 -0.3**
EYMN Ely 45.34 333 IAmb IAmb 17 56 44.7
comp=Z,24nm,0.9s
BI02 San Fabin de 46.40 189 P **P** **17 56 44.8 -1.4**
T25A Trinidad 46.44 313 IAmb IAmb 17 56 48.5
comp=Z,13nm,0.6s
ANMO Albuquerque 47.06 310 IAmb IAmb 17 56 54.1
comp=Z,5.5nm,0.7s
ANMO Albuquerque 47.06 310 IAmb IAmb 17 56 54.1
comp=Z,5.5nm,0.7s
ANMO Albuquerque 47.06 310 *ce*P **P** **17 56 53.0 +1.3**
ANMO pmax pmax
comp=Z,3.0nm,0.7s
Y22D IRIS PASSCAL I 47.10 308 P **P** **17 56 52.2 +0.2**
baz=111
SDCO Great Sand Dun 47.48 313 IAmb IAmb 17 56 57.0
comp=Z,11nm,0.7s
S22A 4UR Ranch, Cre 48.44 313 IAmb IAmb 17 57 04.8
comp=Z,8.2nm,0.9s
ULM Lac du Bonnet 48.99 333 P **P** **17 57 04.8 -1.3**
comp=Z,37nm,0.7s,baz=135,slow=8.5,SNR=44
ULM S **S** **18 04 04.7 -3.7**
comp=Z,0.9nm,0.6s,baz=197,slow=20,SNR=1.5
comp=Z,37nm,0.7s
MVCO Mesa Verde 49.45 312 IAmb IAmb 17 57 13.3
comp=Z,36nm,1.9s
PV15 Paradox Valley 49.87 313 IAmb IAmb 17 57 22.3
comp=Z,16nm,0.8s
PLCA Paso Flores 50.29 187 IAmb IAmb 17 57 18.2
comp=Z,14nm,0.7s
PLCA Paso Flores 50.29 187 P **P** **17 57 17.4 +1.2**
comp=Z,13nm,0.6s,baz=3.2,slow=8.3,SNR=63
comp=Z,13nm,0.6s
PLCA Paso Flores 50.29 187 *e*P **P** **17 57 17.9 +1.7**
WUAZ Wupatki 51.03 308 IAmb IAmb 17 57 24.8
comp=Z,7.5nm,0.7s
BSUT Blindstream Ca 52.36 315 IAmb IAmb 17 57 33.7
comp=Z,27nm,1.7s
PDAR Pinedale Array 52.45 318 **P** **17 57 31.1 -1.5**
PDAR Pinedale Array 52.45 318 P **P** **17 57 32.0 -0.6**
comp=Z,6.0nm,0.7s,baz=116,slow=7.3,SNR=59
PDAR PcP **PcP** **17 58 42.8 -0.3**
comp=Z,1.9nm,0.7s,baz=107,slow=4.2,SNR=3.5
comp=Z,6.0nm,0.7s
RLMT Red Lodge 53.30 320 IAmb IAmb 17 57 40.0
comp=Z,7.4nm,0.7s
DUG Dugway, Tooele 53.68 314 IAmb IAmb 17 57 43.7
comp=Z,9.9nm,0.7s
SPR3 Spring Creek 3 54.38 312 IAmb IAmb 17 57 49.9
comp=Z,17nm,1.5s
FFC Flin Flon 54.77 334 **P** **17 57 47.9 -1.2**
FFC Flin Flon 54.77 334 P **P** **17 57 47.9 -1.2**
FFC pmax pmax
comp=Z,5.0nm,0.9s
NVAR Mina Array Bea 57.19 310 P **P** **17 58 07.0 0.0**
comp=Z,2.8nm,0.6s,baz=85,slow=6.3,SNR=18
NVAR LR LR 18 25 38.6
comp=Z,35nm,19.3s,baz=179,slow=39
comp=Z,2.8nm,0.6s
DBIC Dimbokro 57.67 88 P **P** **17 58 10.8 +0.3**
comp=Z,4.0nm,0.5s,baz=271,slow=7.9,SNR=10
comp=Z,4.0nm,0.5s
PNTR Pine Nut 58.34 310 IAmb IAmb 17 58 17.9
comp=Z,11nm,0.7s
NEW Newport 59.53 321 IAmb IAmb 17 58 23.1
comp=Z,21nm,1.7s
ESDC Sonseca Array 60.44 50 P **P** **17 58 27.8 -1.6**
comp=Z,0.6nm,0.6s,baz=255,slow=6.7,SNR=12
ESDC PcP **PcP** **17 59 15.3 +1.2**
comp=Z,3.6nm,0.8s,baz=263,slow=4.3,SNR=11
comp=Z,0.6nm,0.6s
YBH Yreka Blue Hor 61.29 313 LR LR 18 28 39.9
comp=Z,27nm,19.0s,baz=148,slow=40
BORG Borgarnes 62.52 19 LR LR 18 23 29.8
comp=Z,14nm,19.9s,baz=225,slow=34
TORD Torodi Ar. Bea 63.51 80 **P** **17 58 50.4 0.0**
TORD Torodi Ar. Bea 63.51 80 P **P** **17 58 51.3 +0.9**
comp=Z,72nm,0.3s,baz=278,slow=6.3,SNR=1.2
YKAW1 Yellowknife Wh 64.62 336 **P** **17 58 55.3 -1.4**
YKAW1 IAmb IAmb 17 58 56.5
comp=Z,11nm,0.8s
YKA Yellowknife Ar 64.67 336 P **P** **17 58 55.7 -1.3**
comp=Z,10nm,0.8s,baz=121,slow=6.7,SNR=123
YKA LR LR 18 27 42.5
comp=Z,56nm,20.3s,baz=331,slow=37
comp=Z,10nm,0.8s
YKA Yellowknife Ar 64.67 336 *e*P **P** **17 58 55.8 -1.3**
YKA pmax pmax
comp=Z,12nm,0.8s
YKAW3 Yellowknife Wh 64.71 336 **P** **17 58 56.2 -1.1**
YKAW3 IAmb IAmb 17 58 57.1
comp=Z,12nm,0.8s
EKA Eskdalemuir Ar 65.49 33 P **P** **17 59 01.6 -1.0**
comp=Z,1.0nm,0.6s,baz=248,slow=6.9,SNR=9.9
comp=Z,1.0nm,0.6s
KOTAN Kotaneelee Air 67.71 332 P **P** **17 59 16.9 +0.2**
baz=111
RES Resolute Bay 67.78 351 P **P** **17 59 15.6 -1.2**
comp=Z,2.9nm,0.8s,baz=149,slow=7.5,SNR=12
RES LR LR 18 29 19.9
comp=Z,34nm,19.9s,baz=32,slow=36
comp=Z,2.9nm,0.8s
TOAD Toad River Com 67.83 330 P **P** **17 59 17.1 -0.4**
baz=110,SNR=5.8
DOU Dourbes 68.61 40 *d*P **P** **17 59 23.0 +0.5**
WRGLY Wrigley 68.62 335 P **P** **17 59 22.3 0.0**
baz=113,SNR=10
BMRD Maredsous 68.76 40 *d*P **P** **17 59 23.9 +0.4**
BTNL Ternell 69.67 39 *d*P **P** **17 59 29.0 -0.1**
T35M Bob Quinn 69.85 327 P **P** **17 59 30.9 +0.8**
baz=104
ECH Echery 69.94 42 IAmb IAmb 17 59 41.7
comp=Z,30nm,1.9s
WTLY Watson Lake, Y 69.95 331 P **P** **17 59 31.1 +0.4**
baz=107
DLBC Dease Lake 70.10 329 P **P** **17 59 32.3 +0.6**
baz=105,SNR=6.8
TGTN Hyland Airport 70.13 332 P **P** **17 59 32.4 +0.6**
baz=108,SNR=8.4
JMIC Jan Mayen 70.14 16 LR LR 18 25 48.4
comp=Z,23nm,21.2s,baz=245,slow=32
V35K Ketchikan 70.21 326 P **P** **17 59 32.8 +0.6**
baz=102
KEST Kesra 70.36 55 P **P** **17 59 33.8 0.0**
comp=Z,2.6nm,0.6s,baz=233,slow=5.1,SNR=5.2
comp=Z,2.6nm,0.6s
S34M Telegraph Cree 70.54 328 IAmb IAmb 17 59 36.2
comp=Z,8.8nm,1.1s
S34M Telegraph Cree 70.54 328 P **P** **17 59 34.6 +0.4**
baz=104
R33M Jennings River 70.82 330 IAmb IAmb 17 59 38.0
comp=Z,6.1nm,0.8s
R33M Jennings River 70.82 330 P **P** **17 59 36.7 +0.6**
baz=104,SNR=6.8
WRAK Wrangell Islan 70.84 327 P **P** **17 59 36.2 +0.1**
baz=102
U33K Whale Pass 71.20 326 P **P** **17 59 38.1 -0.2**
baz=102
ASK Askoy 71.28 29 *e*P **P** **17 59 39.1 +0.4**
C36M Paulatuk 71.31 341 P **P** **17 59 38.6 -0.1**
baz=114,SNR=6.4
Q32M Nakina River 71.36 329 IAmb IAmb 17 59 41.5
comp=Z,6.8nm,0.7s
Q32M Nakina River 71.36 329 P **P** **17 59 38.6 -0.9**
baz=103,SNR=8.0
DAVA Damuels 71.65 43 *e*P **P** **17 59 42.0 +0.6**
comp=Z,4.2nm,0.6s
BLS5 Blasjo 71.65 30 *e*P **P** **17 59 41.5 +0.5**
MMPY Sheldon Lake, 71.79 333 P **P** **17 59 41.5 -0.3**
baz=105
P33M Teslin, Yukon 71.92 330 P **P** **17 59 42.9 +0.2**
baz=103,SNR=5.4
FETA Feichten 72.19 44 *i* P **P** **17 59 45.6 +0.9**
comp=Z,3.3nm,0.6s
P32M Atlin 72.23 330 IAmb IAmb 17 59 46.1
comp=Z,13nm,1.4s
P32M Atlin 72.23 330 P **P** **17 59 44.2 -0.3**
baz=102
S32K Killisnoo 72.25 327 IAmb IAmb 17 59 46.8
comp=Z,9.6nm,0.8s
S32K Killisnoo 72.25 327 P **P** **17 59 44.8 +0.2**
baz=101
HOMB Homborsund 72.45 32 *e*P **P** **17 59 46.9 +1.2**
MOTA Moosalm 72.48 43 *i* P **P** **17 59 46.8 +0.4**
comp=Z,3.6nm,0.6s
SQTA Sankt Quirin 72.54 43 *i* P **P** **17 59 47.4 +0.7**
comp=Z,1.7nm,0.3s
FARO Faro, Yukon 72.64 332 P **P** **17 59 46.8 -0.1**
baz=103,SNR=7.3
A36M Sachs Harbour 72.75 343 IAmb IAmb 17 59 51.0
comp=Z,8.6nm,0.7s
A36M Sachs Harbour 72.75 343 P **P** **17 59 46.5 -0.8**
baz=114,SNR=14
WATA Walderalm 72.80 43 *e*P **P** **17 59 48.5 +0.2**
comp=Z,1.2nm,0.3s
WTTA Wattenberg 72.83 43 *i* P **P** **17 59 49.0 +0.5**
comp=Z,2.6nm,0.6s
SKAG Skagway 73.01 329 P **P** **17 59 49.2 +0.1**
baz=101
WHY Whitehorse 73.02 331 P **P** **17 59 49.3 +0.1**
baz=101
M31M Drury Creek, Y 73.11 332 P **P** **17 59 49.9 +0.3**
baz=102,SNR=16
S31K Pelican 73.21 328 P **P** **17 59 50.4 +0.1**
baz=99
ABTA Abfaltersbach 73.39 44 *i* P **P** **17 59 51.9 +0.2**
comp=Z,1.6nm,0.6s
LESA Schwarzleotal 73.55 43 *e*P **P** **17 59 53.2 +0.6**
comp=Z,6.2nm,0.5s
N31M Breburn, Yuko 73.61 331 P **P** **17 59 52.7 +0.1**
baz=101
O30N Mendenhall 73.62 331 P **P** **17 59 52.9 +0.1**
baz=100
H31M Peel River 73.89 336 P **P** **17 59 54.4 +0.2**
baz=103,SNR=36
P30M Million Dollar 73.94 330 P **P** **17 59 54.3 -0.3**
baz=99
F31M Tsiigehtchic 74.05 338 P **P** **17 59 55.0 -0.1**
baz=104
CLL Collm 74.07 39 *i* P **P** **17 59 56.0 +0.5**
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 74.07 39 *i* P **P** **17 59 56.0 +0.5**
comp=Z,6.0nm,1.1s
G31M Satah River 74.12 337 P **P** **17 59 54.9 -0.6**
baz=104,SNR=40
INK Inuvik 74.19 339 P **P** **17 59 55.2 -0.6**
comp=Z,14nm,0.7s,baz=98,slow=4.5,SNR=56
comp=Z,14nm,0.7s
INK Inuvik 74.19 339 P **P** **17 59 54.9 -0.9**
baz=105,SNR=23
BIOA Bad Ischl, Aus 74.22 43 *e*P **P** **17 59 56.9 +0.4**
comp=Z,1.8nm,0.4s
N30M Aishikik Lake 74.22 331 P **P** **17 59 56.0 -0.2**
baz=100
P29M Windy Craggy 74.25 329 P **P** **17 59 56.4 0.0**
baz=98
KHC Kasperske Hory 74.27 42 *e*P **P** **18 00 00.0 +3.2**
KHC Kasperske Hory 74.27 42 *e*P **P** **18 00 00.0 +3.2**
M30M Minto, Yukon 74.28 333 P **P** **17 59 56.5 -0.1**
baz=100
NB2 NORSAR Subarra 74.29 29 P **P** **17 59 57.1 +0.5**
comp=Z,5.4nm,1.0s,baz=263,slow=6.2
NB2 NORSAR Subarra 74.29 29 P **P** **17 59 57.1 +0.5**
baz=263,slow=6.2
NOA NORSAR Array B 74.29 29 P **P** **17 59 57.4 +0.8**
comp=Z,1.6nm,0.7s,baz=262,slow=5.8,SNR=9.2
NOA LR LR 18 27 37.6
comp=Z,12nm,21.8s,baz=270,slow=32
comp=Z,1.6nm,0.7s
HYT Haines Junctio 74.31 331 P **P** **17 59 56.9 0.0**
baz=99
GERES GERESS Array B 74.33 42 P **P** **17 59 57.7 +0.5**
comp=Z,2.3nm,0.5s,baz=268,slow=5.6,SNR=26
comp=Z,2.3nm,0.5s
J30M Hart River 74.45 335 P **P** **17 59 58.2 +0.6**
baz=101,SNR=11
I30M Mount Dempster 74.59 335 P **P** **17 59 58.5 +0.1**
baz=101,SNR=52
BRG Berggiesshubel 74.63 40 *e*P **P** **18 00 00.1 +1.3**
BRG Amp 18 00 01.2
comp=Z,2.1nm,0.7s
MOA Molln 74.65 43 *e*P **P** **17 59 58.9 -0.1**
comp=Z,0.7nm,0.3s
ZVC Zvikov 74.69 41 *e*P **P** **18 00 00.2 +1.0**
CKRC Cesky Krumlov 74.73 42 *e*P **P** **17 59 59.7 +0.3**
CKRC Cesky Krumlov 74.73 42 *e*P **P** **17 59 59.7 +0.3**
YUK6 Outpost Mounta 74.75 331 P **P** **17 59 59.5 0.0**
baz=98
O29M Mount Kennedy 74.76 330 P **P** **17 59 59.7 +0.2**
baz=98,SNR=5.2
OBKA Obir 74.78 44 *e*P **P** **17 59 58.9 -0.9**
comp=Z,2.9nm,0.7s
K29M Barlow Dome 74.82 334 IAmb IAmb 18 00 01.3
comp=Z,17nm,1.6s
K29M Barlow Dome 74.82 334 P **P** **17 59 59.6 -0.2**
baz=100,SNR=8.0
F30M Barrier River 74.86 338 P **P** **17 59 59.3 -0.5**
baz=102,SNR=24
G30M tAoh Zraii Nji 74.89 337 IAmb IAmb 18 00 06.9
comp=Z,10nm,0.8s
G30M tAoh Zraii Nji 74.89 337 P **P** **17 59 59.4 -0.6**
baz=102,SNR=22
YUK4 Talbot Arm 74.94 331 P **P** **18 00 00.1 -0.6**
baz=98
PRU Pruhonice 74.95 41 *e*P **P** **18 00 02.6 +2.0**
PRU Pruhonice 74.95 41 *e*P **P** **18 00 02.6 +2.0**
EPYK Eagle Plains 74.96 336 P **P** **18 00 00.4 0.0**
baz=101,SNR=8.6
L29M L29M 74.97 333 P **P** **18 00 00.3 -0.2**
baz=99,SNR=6.0
M29M Somme Creek 75.02 332 P **P** **18 00 00.5 -0.5**
baz=99,SNR=6.8
PNL Peninsula 75.09 329 P **P** **18 00 01.4 +0.1**
baz=97
SOKA Soboth 75.12 44 *i* P **P** **18 00 01.2 -0.6**
comp=Z,0.5nm,0.4s
J29N Klondike Camp 75.23 334 P **P** **18 00 02.4 +0.3**
baz=99,SNR=14
HFS Hagfors 75.38 30 P **P** **18 00 03.1 +0.2**
comp=Z,4.0nm,0.6s,baz=245,slow=2.4,SNR=24
comp=Z,4.0nm,0.6s
I29M Ogilvie Camp, 75.42 335 P **P** **18 00 03.1 +0.1**
baz=100
YUK8 Steele Glacier 75.47 331 P **P** **18 00 03.9 +0.1**
baz=97
ARSA Arzberg 75.48 44 *i* P **P** **18 00 03.6 -0.1**
comp=Z,1.1nm,0.4s
PINM Pinnacle 75.57 330 P **P** **18 00 04.0 -0.1**
baz=96
G29M Pine Creek 75.57 337 P **P** **18 00 03.7 -0.2**
baz=100,SNR=36
H29M Whitestone 75.58 336 IAmb IAmb 18 00 04.9
comp=Z,1.9nm,0.8s
H29M Whitestone 75.58 336 P **P** **18 00 04.0 0.0**
baz=100,SNR=26
O28M Mount Upton 75.61 330 P **P** **18 00 03.5 -1.1**
baz=97
CONA Conrad Observa 75.73 43 *e*P **P** **18 00 05.3 +0.1**
comp=Z,1.6nm,0.6s
E29M Blow River 75.79 338 P **P** **18 00 04.5 -0.7**
baz=101,SNR=36
YUK3 Moose Creek 75.86 331 P **P** **18 00 05.4 -0.5**
baz=97
UPC Upice 75.92 40 *e*P **P** **18 00 07.4 +1.2**
UPC Upice 75.92 40 *e*P **P** **18 00 07.4 +1.2**
LEIR Leirfjorden 75.93 24 *e*P **P** **18 00 06.5 +0.6**
CHVC Chvalec 75.95 40 *e*P **P** **18 00 07.9 +1.5**
CHVC Chvalec 75.95 40 *e*P **P** **18 00 07.9 +1.5**
OSTC Ostas 76.05 40 *e*P **P** **18 00 07.7 +0.7**
OSTC Ostas 76.05 40 *e*P **P** **18 00 07.7 +0.7**
I28M Miner Creek 76.10 335 P **P** **18 00 06.8 -0.3**
baz=98,SNR=7.8
DPC Dobruska-Polom 76.11 40 *e*P **P** **18 00 08.3 +0.9**
DPC Dobruska-Polom 76.11 40 *e*P **P** **18 00 08.3 +0.9**
KSP Ksiaz 76.11 40 *e*P **P** **18 00 08.6 +1.3**
BVCY Beaver Creek 76.12 332 P **P** **18 00 07.2 0.0**
baz=96,SNR=7.2
VRAC Vranov 76.25 42 ⇑P **P** **18 00 08.9 +0.7**
VRAC Vranov 76.25 42 ⇑P **P** **18 00 08.9 +0.7**
D28M Stokes Point 76.26 339 P **P** **18 00 07.8 +0.1**
baz=100,SNR=21
KRLC Kraliky 76.40 41 *e*P **P** **18 00 10.1 +1.1**
KRLC Kraliky 76.40 41 *e*P **P** **18 00 10.1 +1.1**
LOF Lofoten 76.41 22 *e*P **P** **18 00 09.4 +0.8**
MESA MESA 76.42 330 P **P** **18 00 09.4 +0.3**
baz=95
E28M Babbage River 76.42 338 IAmb IAmb 18 00 08.3
comp=Z,14nm,0.7s
E28M Babbage River 76.42 338 P **P** **18 00 07.7 -1.1**
baz=99,SNR=27
M27K Edge Creek, AK 76.59 332 IAmb IAmb 18 00 11.4
comp=Z,6.3nm,0.7s
M27K Edge Creek, AK 76.59 332 P **P** **18 00 10.2 +0.3**
baz=96,SNR=7.0
BCAR Beaver Creek A 76.61 333 **P** **18 00 09.6 -0.3**
L27K Beaver Creek, 76.63 333 P **P** **18 00 10.6 +0.5**
baz=96,SNR=8.4
MODS Modra-Piesok 76.69 42 *e*P **P** **18 00 12.0 +1.4**
MODS Modra-Piesok 76.69 42 *e*P **P** **18 00 12.0 +1.4**
I27K Kandik River 76.82 335 P **P** **18 00 10.8 -0.2**
baz=97,SNR=9.5
K27K Chicken 76.84 334 P **P** **18 00 11.4 +0.3**
baz=96
H27K Steamboat Moun 76.85 336 IAmb IAmb 18 00 34.9
comp=Z,5.6nm,0.6s
H27K Steamboat Moun 76.85 336 P **P** **18 00 10.7 -0.5**
baz=97,SNR=8.6
FAUS Fauske 76.97 23 *e*P **P** **18 00 12.9 +1.2**
G27K Doyon Strip 76.97 337 P **P** **18 00 11.2 -0.7**
baz=97,SNR=11
D27M Malcolm River 77.03 339 IAmb IAmb 18 00 12.6
comp=Z,6.2nm,0.7s
D27M Malcolm River 77.03 339 P **P** **18 00 11.7 -0.5**
baz=98,SNR=12
MAUC Maruska 77.06 41 *e*P **P** **18 00 15.5 +2.8**
BGLC Bering Glacier 77.08 330 P **P** **18 00 12.4 -0.1**
baz=94
M26K Nabesna, AK 77.11 332 P **P** **18 00 12.6 -0.2**
baz=95
E27K Coleen River 77.12 338 IAmb IAmb 18 00 12.8
comp=Z,8.5nm,0.6s
E27K Coleen River 77.12 338 P **P** **18 00 12.2 -0.5**
baz=97,SNR=16
L26K Log Cabin Wild 77.32 333 P **P** **18 00 14.5 +0.6**
baz=94,SNR=16
I26K Coal Creek Min 77.42 335 P **P** **18 00 13.9 -0.5**
baz=95
J26L Joseph Creek 77.53 334 P **P** **18 00 14.6 -0.5**
baz=94,SNR=7.7
MORH Mrgy, Hungar 77.61 45 ⇑P **P** **18 00 16.5 +0.7**
KAIM Kayak Island 77.64 329 P **P** **18 00 15.5 -0.2**
baz=93
SCRK Sand Creek 77.68 334 IAmb IAmb 18 00 16.8
comp=Z,8.3nm,0.6s
SCRK Sand Creek 77.68 334 P **P** **18 00 15.8 -0.2**

baz=94,SNR=14
VYHS Vyhne 77.72 42 eP P 18 00 17.6 +1.2
VYHS Vyhne 77.72 42 eP P 18 00 17.6 +1.2
BMRM Bremner River 77.78 330 P P 18 00 16.7 +0.2
baz=93,SNR=5.4
N25K Chitina, Valde 77.81 331 IAmb IAmb 18 00 19.1
comp=Z,4.5nm,0.5s
N25K Chitina, Valde 77.81 331 P P 18 00 16.5 -0.2
baz=93
G26K Porcupine Rive 77.82 337 P P 18 00 16.2 -0.4
baz=95,SNR=8.7
F26K Sheenjek River 78.03 337 P P 18 00 17.6 -0.1
baz=95,SNR=5.5
C27K Jago River 78.04 339 P P 18 00 17.6 -0.2
baz=96,SNR=14
RIDG Independent Ri 78.04 333 P P 18 00 17.6 -0.3
baz=93
HARP HAARP 78.11 332 P P 18 00 18.3 0.0
baz=93
PAX Paxson 78.28 332 P P 18 00 19.3 -0.1
baz=92
J25K Salcha River, 78.32 334 P P 18 00 18.9 -0.6
baz=93,SNR=6.3
EYAK Cordova Ski Ar 78.33 330 P P 18 00 18.8 -0.6
baz=92
OJC Ojcow 78.34 41 eP P 18 00 21.6 +1.7
HSPB Hornsund (broa 78.40 13 eP P 18 00 21.0 +1.4
PRP Porcupine Dome 78.43 335 IAmb IAmb 18 00 26.6
comp=Z,8.6nm,0.6s
PRP Porcupine Dome 78.43 335 P P 18 00 19.7 -0.5
baz=93,SNR=14
KLU Klutina 78.44 331 P P 18 00 20.0 -0.2
baz=92
K24K Donnelly Dome 78.46 333 P P 18 00 19.9 -0.3
baz=92
C26K Camden Bay 78.48 340 P P 18 00 20.2 +0.1
baz=94,SNR=9.4
TRO Tromso 78.52 21 eP P 18 00 21.0 +0.6
M24K Tolsona, Glenn 78.58 332 P P 18 00 20.9 0.0
baz=92
F25K Christian Rive 78.59 337 IAmb IAmb 18 00 22.1
comp=Z,11nm,0.7s
F25K Christian Rive 78.59 337 P P 18 00 21.4 +0.5
baz=93,SNR=20
E25K Arctic Village 78.59 338 P P 18 00 21.2 +0.3
baz=93,SNR=16
NIE Niedzica 78.68 41 eP P 18 00 24.7 +3.0
G25K Bearman Lake 78.73 336 P P 18 00 21.9 +0.3
baz=93,SNR=12
SPA0 Spitsbergen Ar 78.76 12 eP P 18 00 21.2 -0.4
SPITS Spitsbergen Ar 78.76 12 P P 18 00 20.9 -0.7
comp=Z,4.3nm,0.6s,baz=214,slow=4.7,SNR=31
SPITS LR LR 18 31 58.6
comp=Z,26nm,21.8s,baz=246,slow=33
comp=Z,4.3nm,0.6s
SPITS Spitsbergen Ar 78.76 12 P P 18 00 21.5 -0.1
SPB2 Spitsbergen Ar 78.76 12 P 18 00 20.4 -1.3
SPB2 IAmb IAmb 18 00 21.0
comp=Z,17nm,1.2s
D25K Kavik River 78.95 339 P P 18 00 22.6 -0.3
baz=93,SNR=17
IL31 78.97 334 IAmb IAmb 18 00 23.2
comp=Z,5.8nm,0.6s
ILAR Eielson Array 78.97 334 P P 18 00 22.5 -0.5
comp=Z,3.8nm,0.6s,baz=94,slow=6.0,SNR=69
ILAR PP PP 18 03 21.2 -0.7
comp=Z,0.6nm,0.9s,baz=83,slow=7.4,SNR=5.4
comp=Z,3.8nm,0.6s
HDA Harding Lake 78.99 334 P P 18 00 22.8 -0.3
baz=91,SNR=5.4
GLI Glacier Island 79.00 330 P P 18 00 23.3 +0.1
baz=91
SCM Sheep Creek Mo 79.12 331 P P 18 00 23.9 0.0
baz=91
P23K Montague Islan 79.14 329 P P 18 00 23.8 -0.2
baz=90
POKR Poker Plat Res 79.22 335 P P 18 00 24.2 -0.1
baz=91
G24K Hadweenzic Riv 79.27 336 P P 18 00 24.7 +0.1
baz=91
M23K Glacier View 79.31 331 P P 18 00 25.2 +0.3
baz=90
COLA College 79.39 334⇑ iP P 18 00 24.9 -0.3
COLA pmax pmax
comp=Z,5.0nm,0.7s
COLA College 79.39 334 P P 18 00 25.5 +0.3
baz=91
H24K Noodor Dome 79.41 335 P P 18 00 25.4 -0.1
baz=91,SNR=8.5
F24K Squaw Lake 79.45 337 P P 18 00 25.8 +0.2
baz=91,SNR=8.5
SML Sawmill 79.59 331 P P 18 00 26.3 -0.2
baz=90
PWL Port Wells 79.60 330 P P 18 00 26.5 0.0
baz=90
KNK Knik Glacier 79.66 331 P P 18 00 26.5 -0.3
baz=90
E24K Your Creek 79.69 338 P P 18 00 26.8 -0.1
baz=91,SNR=9.2
SIRR Siria 79.70 45 ⇑P P 18 00 28.6 +1.3
BZS Buzias 79.70 45 ⇑P P 18 00 28.7 +1.4
BZS Buzias 79.70 45 ⇑P P 18 00 28.7 +1.4
C24K Franklin Bluff 79.79 339 P P 18 00 27.4 +0.1
baz=91
D24K Happy Valley 79.82 339 P P 18 00 27.3 -0.2
baz=91
MCK McKinley 79.86 333 P P 18 00 27.7 -0.2
baz=90
NEA2 Nenana 79.91 334 P P 18 00 27.9 -0.2
baz=90,SNR=6.4
PMR Palmer 79.98 331 P P 18 00 28.2 -0.2
baz=89
I23K Minto, Yukon-K 80.03 335 P P 18 00 28.7 0.0
baz=89,SNR=5.8
SURR Surduc 80.05 45 ⇓P P 18 00 30.8 +1.5
TOLK Toolik Lake Re 80.09 338 P P 18 00 29.0 -0.1
baz=90
H23K Yukon River 80.10 335 P P 18 00 29.1 0.0
baz=89
E23K Chandalar 80.11 338 P P 18 00 29.2 0.0
baz=90
SEW Seward 80.17 330 P P 18 00 29.3 -0.3
baz=88
RC01 Rabbit Creek A 80.28 331 P P 18 00 30.5 +0.3
baz=88
G23K Bananza Creek 80.28 336 P P 18 00 30.2 +0.1
baz=89
O22K Cooper Landing 80.29 330 P P 18 00 30.4 +0.3
baz=88
COLD Coldfoot 80.34 337 P P 18 00 30.2 -0.1
baz=89
DRGR 80.40 44 ⇓P P 18 00 29.9 -1.3
DRGR 80.40 44 ⇓P P 18 00 29.9 -1.3
M22K Willow 80.44 331 P P 18 00 30.9 -0.1
baz=88
C23K Itkillik River 80.45 339 IAmb IAmb 18 00 32.1
comp=Z,10nm,0.7s
C23K Itkillik River 80.45 339 P P 18 00 31.0 +0.2
baz=89,SNR=14
TRF Thorofare Moun 80.47 333 IAmb IAmb 18 00 32.6
comp=Z,11nm,0.8s
TRF Thorofare Moun 80.47 333 P P 18 00 31.2 -0.2
baz=88,SNR=11
D23K Nanushuk River 80.49 339 P P 18 00 31.4 +0.2
baz=89,SNR=5.3
CUT Chulitna 80.49 332 P P 18 00 31.6 +0.3
baz=88
MARR Marisel-Cluj 80.68 44 ⇑P P 18 00 33.0 +0.2
SUA Susitna One 80.75 331 IAmb IAmb 18 00 34.9
comp=Z,7.6nm,0.6s
SUA Susitna One 80.75 331 P P 18 00 33.2 +0.4
baz=88,SNR=5.2
BPAW Bear Paw Mtn. 80.76 334 P P 18 00 32.4 -0.3
baz=88,SNR=8.2
ARA0 ARCESS Array S 80.83 21 eP P 18 00 33.3 +0.3
ARCES ARCESS Array B 80.83 21 P P 18 00 32.8 -0.1
comp=Z,3.5nm,0.6s,baz=280,slow=5.4,SNR=28
ARCES LR LR 18 29 29.8
comp=Z,21nm,21.7s,baz=276,slow=31
comp=Z,3.5nm,0.6s
ARCES ARCESS Array B 80.83 21 eP P 18 00 33.2 +0.3
ARCES pmax pmax
comp=Z,4.0nm,0.6s
BRSE Bradley Lake S 80.83 329 P P 18 00 33.2 0.0
baz=87
H22K Ishtalitna Cre 80.85 335 P P 18 00 33.3 +0.1
baz=88
G22K Bettles 80.86 336 P P 18 00 33.3 +0.2
baz=88
E22K Anaktuvuk Pass 80.93 338 P P 18 00 33.3 -0.3
baz=88,SNR=9.4
CJR Cluj-Napoca 81.01 44 ⇓P P 18 00 35.1 +0.6
CJR Cluj-Napoca 81.01 44 ⇓P P 18 00 35.1 +0.6
F22K John River 81.10 337 P P 18 00 34.6 +0.1
baz=87
SKT Skwentna 81.10 331 IAmb IAmb 18 00 35.7
comp=Z,7.0nm,0.6s
SKT Skwentna 81.10 331 P P 18 00 34.5 -0.1
baz=87,SNR=7.3
I21K Tanana 81.14 335 P P 18 00 34.3 -0.3
baz=87
D22K Ayikyak River 81.22 338 P P 18 00 35.0 0.0
baz=87,SNR=5.8
CAST Castle Rocks 81.28 333 IAmb IAmb 18 00 36.4
comp=Z,43nm,2.0s
CAST Castle Rocks 81.28 333 P P 18 00 35.3 -0.2
baz=87,SNR=6.7
CHUM Lake Minchumin 81.35 333 P P 18 00 35.8 0.0
baz=86,SNR=5.4
PPLA Purkeypile 81.36 332 P P 18 00 35.7 -0.4
baz=86
B22K Teshekpuk Lake 81.39 340 IAmb IAmb 18 00 37.5
comp=Z,38nm,1.8s
B22K Teshekpuk Lake 81.39 340 P P 18 00 36.0 +0.1
baz=86,SNR=6.2
H21K Meloziina Rive 81.45 335 P P 18 00 36.4 0.0
baz=86,SNR=9.5
FINES FINESS Array B 81.47 29 P P 18 00 36.6 +0.1
comp=Z,3.7nm,0.6s,baz=277,slow=4.1,SNR=31
comp=Z,3.7nm,0.6s
SPCR Spurr Chakacha 81.47 331 P P 18 00 36.5 -0.1
baz=86
F21K Alatna River 81.62 337 P P 18 00 37.5 +0.3
baz=86
G21K Allakaket 81.68 336 P P 18 00 37.9 +0.4
baz=86
Q20K Shuyak Island 81.75 328 P P 18 00 38.1 +0.1
baz=86
ARR Arges 81.83 45 ⇑P P 18 00 39.5 +0.7
B21K Ikpikpuk River 81.85 339 IAmb IAmb 18 00 47.1
comp=Z,6.9nm,0.8s
B21K Ikpikpuk River 81.85 339 P P 18 00 38.8 +0.5
baz=85,SNR=7.5
A22K Sinclair Lake 81.86 341 P P 18 00 38.9 +0.6
baz=85
M20K Styx River 81.86 331 P P 18 00 38.9 +0.2
baz=86,SNR=7.7
KDAK Kodiak Island 81.91 327 P P 18 00 39.2 +0.3
baz=85
C21K Knifeblade Rid 81.95 339 P P 18 00 39.4 +0.5
baz=85,SNR=5.3
VSU Vasula 82.03 32 di P P 18 00 38.3 -1.1
VSU pmax pmax
comp=Z,30nm,1.2s
BUR08 Bucovina Ar. S 82.03 43 IAmb IAmb 18 00 43.1
comp=Z,19nm,1.1s
BURAR Bucovina Array 82.04 43 ⇓P P 18 00 42.1 +2.2
BURAR Bucovina Array 82.04 43 ⇓P P 18 00 42.1 +2.2
P19K Oil Pt 82.10 329 P P 18 00 40.3 +0.4
baz=85
VOIR 82.12 45 ⇓P P 18 00 41.7 +1.3
VOIR 82.12 45 ⇓P P 18 00 41.7 +1.3
J20K Nowinta River 82.14 334 IAmb IAmb 18 00 40.7
comp=Z,7.5nm,0.7s
J20K Nowinta River 82.14 334 P P 18 00 39.9 0.0
baz=85,SNR=9.2
L20K Farewell, AK 82.17 332 P P 18 00 40.1 0.0
baz=85,SNR=5.2
K20K Telida 82.17 333 IAmb IAmb 18 00 41.1
comp=Z,9.1nm,1.1s
K20K Telida 82.17 333 P P 18 00 39.8 -0.4
baz=85,SNR=5.7
I20K Naaghedeneel 82.22 334 P P 18 00 40.1 -0.2
baz=85
H20K Anotleneega Mo 82.33 335 P P 18 00 41.1 +0.1
baz=84,SNR=5.1
OHAK Old Harbor 82.34 327 P P 18 00 41.1 0.0
baz=85
A21K Barrow 82.36 341 P P 18 00 41.7 +0.8
baz=84
Q19K Cape Douglas, 82.37 328 P P 18 00 41.7 +0.4
baz=85
M19K Big River Lodg 82.46 331 IAmb IAmb 18 00 43.2
comp=Z,11nm,0.7s
M19K Big River Lodg 82.46 331 P P 18 00 42.0 +0.2
baz=84,SNR=7.4
F20K Avaraart Lake 82.51 337 IAmb IAmb 18 00 43.4
comp=Z,18nm,1.6s
F20K Avaraart Lake 82.51 337 P P 18 00 42.3 +0.5
baz=84,SNR=7.0
E20K Nigu River 82.55 338 P P 18 00 42.4 +0.3
baz=84
O19K Port Alsworth 82.59 330 P P 18 00 42.5 +0.1
baz=84
N19K Bonanza Creek 82.61 330 P P 18 00 42.6 0.0
baz=84
L19K White Mountain 82.65 332 IAmb IAmb 18 00 43.8
comp=Z,15nm,1.3s
L19K White Mountain 82.65 332 P P 18 00 42.5 -0.2
baz=84
D20K Etivluk River 82.66 338 P P 18 00 43.0 +0.4
baz=83
B20K Meade River 82.69 340 IAmb IAmb 18 00 50.1
comp=Z,12nm,0.7s
B20K Meade River 82.69 340 P P 18 00 43.1 +0.4
baz=83
MLR Muntele Rosu 82.74 45 P 18 00 45.0 +1.3
MLR IAmb IAmb 18 00 46.3
comp=Z,22nm,1.3s
MLR Muntele Rosu 82.74 45 ⇑P P 18 00 45.4 +1.7
MLR Muntele Rosu 82.74 45 ⇑P P 18 00 45.4 +1.7
J19K Poorman 82.80 334 P P 18 00 43.9 +0.5
baz=84
COVR Voineasa-Covas 82.89 45 ⇑P P 18 00 45.6 +1.3
SII Sitkinak Islan 82.89 326 P P 18 00 43.6 -0.5
baz=84
R18K Karluk 82.93 327 P P 18 00 44.2 0.0
baz=84
ONER Baraj Valea Uz 82.97 44 ⇑P P 18 00 46.7 +2.0
H19K Roundabout Mou 82.97 335 IAmb IAmb 18 00 45.7
comp=Z,12nm,0.8s
H19K Roundabout Mou 82.97 335 P P 18 00 44.9 +0.7
baz=83,SNR=12
MNK Minsk 83.04 36 i P P 18 00 44.0 -0.8
MNK i *PP sP 18 00 58.3 -0.4
MNK i 18 03 55.9
MNK i PPP PPP 18 05 47.3
MNK i S S 18 10 59.0 -3.0
MNK i SS SS 18 16 23.8 -1.9
MNK i SSS SSS 18 19 52.7
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,4.0nm,0.8s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK MLR MLR
comp=Z,28nm,15.0s
E19K Redstone River 83.04 337 P P 18 00 45.0 +0.4
baz=82
O18K Koktuh Hills 83.07 329 P P 18 00 45.2 +0.3
baz=83
Q18K Katmai Hardscr 83.11 328 P P 18 00 45.4 +0.2
baz=84
TESR Tescani 83.12 44 ⇓P P 18 00 45.9 +0.5
P18K Big Mountain, 83.14 329 P P 18 00 45.9 +0.6
baz=83
G19K Purcell Mounta 83.16 336 IAmb IAmb 18 00 46.6
comp=Z,13nm,1.1s
G19K Purcell Mounta 83.16 336 P P 18 00 45.5 +0.3
baz=82,SNR=8.5
M18K Stony River 83.18 331 P P 18 00 45.6 +0.2
baz=83
PLOR Plostina 83.20 45 ⇑P P 18 00 47.2 +1.3
PLOR Plostina 83.20 45 ⇑P P 18 00 47.2 +1.3
D19K Kuna River 83.23 338 P P 18 00 46.0 +0.4
baz=82
VRI Vrincioaia 83.25 45 ⇑P P 18 00 47.6 +1.4
VRI Vrincioaia 83.25 45 ⇑P P 18 00 47.6 +1.4
GCSA Galena City Sc 83.25 334 P P 18 00 46.2 +0.5
baz=82
N18K Kilae Creek 83.31 330 P P 18 00 46.3 +0.1
baz=83
F19K Shaleruckik Mo 83.33 337 P P 18 00 46.3 +0.2
baz=82
J18K Innoko River 83.34 333 P P 18 00 46.0 -0.3
baz=82
L18K Granite Mounta 83.50 332 P P 18 00 47.1 0.0
baz=82
P17K Kvichak River 83.78 329 P P 18 00 47.9 -0.6
baz=82
CHIR Chirikof Islan 83.78 325 P P 18 00 47.8 -0.8
baz=83
H18K Honhosa River 83.82 335 P P 18 00 49.1 +0.4
baz=81
G18K Tagagawik 83.83 336 P P 18 00 48.8 +0.1
baz=81,SNR=14
Q16K King Salmon 83.96 328 P P 18 00 49.0 -0.4
baz=82
M17K Holitna River 83.96 331 P P 18 00 49.5 +0.1
baz=82
N17K Nushagak Hills 83.97 330 P P 18 00 49.9 +0.4
baz=82
O17K Koliganek Bris 84.03 330 P P 18 00 49.9 +0.1
baz=82
SORM Soroca 84.08 42 ⇑P P 18 00 51.0 +0.7
SORM Soroca 84.08 42 ⇑P P 18 00 51.0 +0.7
F18K Selawik 84.11 336 P P 18 00 49.6 -0.4
baz=80,SNR=8.4
K17K Iditarod 84.17 333 P P 18 00 51.0 +0.5
baz=81,SNR=10
L17K Donlin 84.25 332 P P 18 00 51.3 +0.4
baz=81
AKASG Malin Array Be 84.31 40 P P 18 00 51.5 +0.1
comp=Z,1.9nm,0.7s,baz=267,slow=4.4,SNR=5.9
comp=Z,1.9nm,0.7s
AKASG Malin Array Be 84.31 40 eP P 18 00 52.0 +0.6
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 84.31 40⇑ iP P 18 00 52.1 +0.7
AKBB pmax pmax
comp=Z,6.0nm,0.9s
C18K Utukok River 84.32 339 P P 18 00 51.6 +0.4
baz=79
E18K Tukpahlearik C 84.33 337 P P 18 00 51.6 +0.4
baz=80
TSUM Tsumeb 84.34 110 LR LR 18 35 55.3
comp=Z,78nm,18.1s,baz=152,slow=34
B18K Kokolik River 84.40 339 P P 18 00 52.5 +1.0
baz=78
J17K VABM Dome 84.41 333 P P 18 00 51.8 +0.2
baz=80
H17K Granite Mounta 84.50 335 P P 18 00 51.2 -1.0
baz=80
O16K Kokwok River B 84.56 329 P P 18 00 51.6 -0.9
baz=81
P16K Nushagak River 84.59 329 P P 18 00 52.1 -0.5
baz=81
R16K Pilot Point 84.60 327 P P 18 00 52.3 -0.4
baz=81
G17K Kiwalik Mounta 84.71 335 P P 18 00 53.5 +0.3
baz=79
N16K Nishlik Lake 84.75 330 P P 18 00 51.9 -1.6
baz=80
M16K Timber Creek 84.75 331 P P 18 00 51.7 -1.8
baz=80
F17K Baldwin Pennin 84.77 336 P P 18 00 51.9 -1.5
baz=79
E17K Hotham Inlet 84.86 337 P P 18 00 54.2 +0.3
baz=78,SNR=14
L16K Owhat River 84.88 332 P P 18 00 54.7 +0.7
baz=80
BAND Balkesir-Ban 84.93 50 ⇑P P 18 00 55.9 +1.1
I17K Unalakleet 85.03 334 P P 18 00 55.3 +0.5
baz=79
RDOG Red Dog Mine 85.07 338 P P 18 00 55.3 +0.4
baz=77
J16K Anvik River 85.10 333 P P 18 00 55.7 +0.5
baz=79
D17K Noatak River 85.21 338 P P 18 00 56.4 +0.8
baz=77
G16K Koyuk River 85.42 336 P P 18 00 57.4 +0.7
baz=78
N15K Kwethluk River 85.45 330 P P 18 00 56.9 -0.1
baz=79
O15K Ungalikthiuk R 85.50 329 P P 18 00 57.5 +0.3
baz=79
H16K Elim 85.54 335 P P 18 00 57.5 +0.2
baz=78
M15K Kasigluk River 85.64 331 P P 18 00 58.1 +0.2
baz=79
K15K Wolf Creek Mou 85.72 332 P P 18 00 58.9 +0.7
baz=78
L15K Ungalak Mounta 85.82 332 P P 18 00 59.3 +0.5
baz=78
S14K Fog Glacier 85.89 326 P P 18 00 58.9 -0.4
baz=79
C16K Lisburne Hills 85.90 339 P P 18 00 59.3 +0.3
baz=75
G15K Niukluk 86.21 335 P P 18 00 60.0 -0.7
baz=76
O14K Tigyukauivet M 86.21 329 P P 18 01 00.1 -0.6
baz=78
M14K Bethel 86.24 331 P P 18 01 00.3 -0.6
baz=78
F15K North Star Dit 86.28 336 P P 18 01 00.1 -0.9
baz=76
N14K Kuskokwak Cree 86.28 330 P P 18 01 00.2 -0.9
baz=78
L14K Kuka Creek 86.45 332 P P 18 01 00.3 -1.6
baz=77
J14K Nanvaranak Lak 86.53 333 P P 18 01 00.8 -1.4
baz=76
SDPT Sand Point 86.58 325 P P 18 01 01.3 -1.3
baz=79
ANM Nome 86.87 335 P P 18 01 03.0 -0.9
baz=75
M13K Dall Lake 86.98 331 P P 18 01 03.7 -0.8
baz=76
F14K Arctic Creek 87.02 336 P P 18 01 04.2 -0.3
baz=74
K13K Kusilvak Mount 87.23 332 P P 18 01 05.0 -0.6
baz=75
S12K Black Hills 87.38 326 P P 18 01 05.3 -1.3
baz=77
TNA Tin City 87.63 336 P P 18 01 07.4 -0.1
baz=73
OBN Obninsk 87.89 35 deP P 18 01 09.3 +0.4
OBN e 18 04 36.6
OBN eS SKSac 18 11 39.7 +4.8
OBN pmax pmax
comp=Z,15nm,1.0s
OBN MLR MLR
comp=Z,25nm,16.0s
KLMR Klimovskoe 87.99 29 eP P 18 01 08.5 -0.8
KLMR pmax pmax
comp=Z,15nm,1.0s
FALS False Pass 88.33 325 P P 18 01 10.5 -0.5
baz=76
M11K Mekoryuk 88.36 331 P P 18 01 10.8 -0.3
baz=74
BELA Belgrano 2 88.51 174 P 18 01 12.7 +1.3
BELA IAmb IAmb 18 01 14.2
comp=Z,6.1nm,0.9s
SIM Simferopol' 88.53 45 eP P 18 01 12.1 -0.2
SIM e 18 04 45.0
SIM pmax pmax
comp=Z,13nm,1.2s
BR131 Keskin Array S 89.23 50 IAmb IAmb 18 01 18.0
comp=Z,8.2nm,0.8s
BR131 Keskin Array S 89.23 50 deP P 18 01 16.8 +0.9
BRTR Keskin Array B 89.23 50 P P 18 01 16.7 +0.8
comp=Z,5.8nm,0.8s,baz=260,slow=4.0,SNR=44
comp=Z,5.8nm,0.8s
BRTR Keskin Array B 89.23 50 eP P 18 01 17.0 +1.1
BRTR pmax pmax
comp=Z,6.0nm,0.8s
KIRS Kirsehir-Merke 89.56 51 ⇑P P 18 01 18.4 +1.0
GAMB Gambell 89.75 335 P P 18 01 17.0 -0.5
baz=69
SNAA Sanae 89.88 164 ⇓P P 18 01 19.5 +1.5
comp=Z,68nm,0.9s
SNAA Sanae 89.88 164 P P 18 01 19.6 +1.6
comp=Z,3.8nm,1.1s,baz=304,slow=9.5,SNR=4.9
comp=Z,3.8nm,1.1s
SNAA Sanae 89.88 164⇑ eP P 18 01 19.8 +1.8
SNAA pmax pmax
comp=Z,20nm,3.5s
UNV Unalaska Valle 90.34 325 P P 18 01 19.7 -0.8
baz=74
ANN Anapa 90.86 44 eP P 18 01 21.2 -1.9
ANN e*PP sP 18 01 35.9 -1.2
ANN e 18 04 57.0

ANN				*e*S	**SKSac**	**18 11 47.8**	**-5.1**
ANN				pmax	pmax		
	comp=Z,12nm,0.8s						
P08K	**Saint George I**	**91.17 328**		P	**P**	**18 01 23.1**	**-1.2**
	baz=71						
SPIA	**Saint Paul Isl**	**91.35 329**		P	**P**	**18 01 24.3**	**-0.8**
	baz=70						
TROLL	**Troll, Antarti**	**91.52 164**		⇓P	**P**	**18 01 27.6**	**+1.8**
	comp=Z,113nm,0.8s						
NIKH	**Nikolski High**	**91.94 324**		P	**P**	**18 01 27.1**	**-0.9**
	baz=72						
EIL	**Elat**	**92.33 60**		LR	LR	18 47 08.9	
	comp=Z,26nm,18.2s,baz=228,slow=38						
BOSA	**Boshof**	**92.96 118**		P	**P**	**18 01 33.8**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=293,slow=7.7,SNR=6.0						
	comp=Z,2.8nm,0.8s						
VSLR	**Vesyoloye**	**93.02 45**	⇑	*e*P	**P**	**18 01 34.0**	**+0.8**
KIRV	**Kirov**	**93.47 29**		LR	LR	18 38 08.7	
	comp=Z,38nm,21.9s,baz=310,slow=32						
LSZ	**Lusaka**	**93.63 105**		P	**P**	**18 01 39.2**	**+2.5**
	comp=Z,1.3nm,0.6s,baz=297,slow=4.5,SNR=3.7						
	comp=Z,1.3nm,0.6s						
KBZ	**Khabaz**	**94.93 44**		P	**P**	**18 01 43.8**	**+1.9**
	comp=Z,1.2nm,0.9s,baz=233,slow=7.4,SNR=4.0						
	comp=Z,1.2nm,0.9s						
BILL	**Bilibino**	**95.31 343**	⇑	*e*P	**P**	**18 01 42.8**	**-0.4**
GURO	**Guroymak-BITLI**	**95.84 50**		lAmb	lAmb	18 01 49.5	
	comp=Z,5.7nm,0.7s						
TIXI	**Tiksi**	**98.80 356**	⇑	*e*P	**P**	**18 01 57.5**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.7s						
NRIK	**Noril'sk**	**98.89 10**		LR	LR	18 48 11.5	
	comp=Z,18nm,20.0s,baz=24,slow=36						
NRIK	**Noril'sk**	**98.89 10**	⇑	*e*P	**P**	**18 01 57.9**	**-1.4**
NRIK				pmax	pmax		
	comp=Z,4.0nm,1.9s						
PETK	**Petropavlovsk-**	**108.78 335**		PKiKP	**PKiKP**	**18 06 48.7**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=90,slow=2.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**111.36 20**		PKiKP	**PKiKP**	**18 06 53.8**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=318,slow=1.9,SNR=5.3						
KURK	**Kurchatov**	**111.59 25**		*i* PKIKP	**PKiKP**	**18 06 54.1**	**+0.2**
KURBB	**Kurchatov Arra**	**111.62 25**		PKiKP	**PKiKP**	**18 06 54.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=306,slow=2.3,SNR=5.8						
AAK	**Ala-Archa**	**115.39 33**	⇓	*i* PKIKP	**PKPdf**	**18 07 03.4**	**+1.7**
MKAR	**Makanchi Array**	**116.16 26**		PKP	**PKiKP**	**18 07 03.1**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=321,slow=2.9,SNR=8.1						
WMQ	**Urumqi**	**120.81 24**		*e*PKP	**PKPdf**	**18 07 10.8**	**-1.2**
SONM	**Songino Array**	**122.32 8**		PKP	**PKPdf**	**18 07 15.1**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=354,slow=0.3,SNR=20						
GTA	**Gaotai**	**128.97 17**		*e*P	**PKPdf**	**18 07 28.5**	**+0.7**
GTA				pP	pPKPdf	18 07 34.3	-4.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**129.82 5**		*e*P	**PKPdf**	**18 07 28.5**	**-0.9**
MJA0	**Matsu Arr-Jizo**	**130.15 337**		*e*PKIKP	**PKPdf**	**18 07 29.8**	**-0.2**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MJAR	**Matsushiro Arr**	**130.17 338**		PKP	**PKPdf**	**18 07 29.5**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=36,slow=2.4,SNR=8.5						
MJAR				PP	**PP**	**18 09 41.4**	**-0.3**
	comp=Z,1.4nm,1.2s,baz=15,slow=5.2,SNR=4.0						
BJI	**Beijing**	**130.87 1**		PKP	**PKPdf**	**18 07 30.3**	**-0.9**
KSRS	**Korea Array**	**132.33 348**		PKP	**PKPdf**	**18 07 34.0**	**0.0**
	comp=Z,1.4nm,0.8s,baz=46,slow=2.5,SNR=8.1						
KSRS				SKPbc	**SKPbc**	**18 10 59.8**	**+1.3**
	comp=Z,1.9nm,1.0s,baz=2.9,slow=4.9,SNR=7.0						
LZH	**Lanzhou**	**133.17 15**		*e*PKP	**PKPdf**	**18 07 32.5**	**-3.4**
XAN	**Xi'an**	**136.20 10**		PKP	**PKiKP**	**18 07 43.3**	**+0.2**
XAN				sPKP		18 08 02.5	
XAN				LR	LR		
	comp=N,180nm,19.9s						
XAN				LR	LR		
	comp=E,170nm,19.2s						
XAN				LR	LR		
	comp=Z,230nm,16.5s						
CD2	**Chengdu**	**138.04 17**		PKP	**PKPdf**	**18 07 41.0**	**-4.0**
NJ2	**Nanjing**	**138.81 358**		*e*P	**PKPdf**	**18 07 45.3**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
PZH	**PanZhiHua**	**141.45 22**		PKP	**PKPdf**	**18 07 48.3**	**-3.1**
SSLB	**Suanglung**	**146.84 353**			**PKPdf**	**18 08 00.8**	**+0.1**
CHTO	**Chiang Mai**	**146.88 32**			**PKPdf**	**18 08 01.6**	**+0.7**
CHTO	**Chiang Mai**	**146.88 32**		PKP2	**PKPdf**	**18 08 01.6**	**+0.7**
SLVN	**Son La**	**146.95 23**			**PKPdf**	**18 08 01.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**147.18 33**			**PKPdf**	**18 08 02.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**147.18 33**		PKPbc	**PKPdf**	**18 08 02.8**	**+1.4**
	comp=Z,8.5nm,0.7s,baz=336,slow=2.3,SNR=44						
STKA	**Stephens Creek**	**147.96 222**			**PKPdf**	**18 08 03.6**	**+1.4**
STKA	**Stephens Creek**	**147.96 222**		PKPbc	**PKiKP**	**18 08 07.0**	**-0.2**
	comp=Z,5.8nm,0.5s,baz=105,slow=4.6,SNR=9.8						
ASAR	**Alice Springs**	**158.40 227**		PKP	**PKPdf**	**18 08 18.3**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=109,slow=1.3,SNR=14						
ASAR				PKPab	**PKPab**	**18 08 53.2**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=126,slow=4.0,SNR=18						
WRA	**Warramunga Arr**	**160.14 236**			**PKPdf**	**18 08 19.6**	**-0.1**
WRA	**Warramunga Arr**	**160.14 236**		PKP	**PKPdf**	**18 08 20.8**	**+1.1**
	comp=Z,2.8nm,0.7s,baz=105,slow=0.9,SNR=14						
WRA				PKPab	**PKPab**	**18 09 01.1**	**+1.3**
	comp=Z,5.1nm,0.7s,baz=115,slow=4.2,SNR=24						

IDC 28 18:22:39.2±2.1, 7°90S×129°60E, h0km, mb3.1/1, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=60.0km s-min=24.7km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.85**	**200**	Pn	Pn	18 25 16.9	+1.1
	0.4nm,0.3s,baz=21,slow=11,SNR=29						
FITZ				Sn	Sn	18 27 17.7	-0.4
	0.4nm,0.3s,baz=80,slow=19,SNR=2.1						
	2.2nm,0.5s						
WRA	**Warramunga Arr**	**12.82**	**159**	Pn	Pn	18 25 44.1	+1.2
	0.5nm,0.3s,baz=339,slow=13,SNR=21						
WRA				Sn	Sn	18 28 05.6	-0.9
	0.4nm,0.3s,baz=340,slow=22,SNR=6.6						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**16.21**	**166**	Pn	Pn	18 26 28.7	+0.1
	0.1nm,0.3s,baz=338,slow=9.0,SNR=12						
ASAR				Sn	Sn	18 29 27.9	-1.4
	0.1nm,0.3s,baz=340,slow=25,SNR=2.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**68.76**	**327**	P	P	18 33 44.9	-0.2
	0.1nm,0.6s,baz=136,slow=6.9,SNR=1.8						
	0.1nm,0.6s						

*IDC **28** 18:30:09.7±0.8, 12°81N×144°42E, h0km, mb3.5/12, mbtmp3.5/12, MS3.4/3, Error ellipse: s-maj=25.0km s-min=14.0km az=109.0*

ISC 28 18:30:16.2±0.8, 12°81N±0°10×144°6E±0°2, h54km, n22, σ0°81/15, mb3.4/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.82**	**19**	Pn	**Pn**	**18 30 30.5**	**-1.2**
	595nm,0.3s,baz=218,slow=6.2,SNR=646						
GUMO				Sn	**Sn**	**18 30 43.8**	**+0.8**
	2μm,0.3s,baz=163,slow=19,SNR=18						
DAV	**Davao City (W)**	**19.57**	**255**	LR	LR	18 42 53.5	
	comp=Z,60nm,19.6s,baz=324,slow=39						
JHJ	**Hachijo jima 2**	**20.69**	**349**	LR	LR	18 42 21.7	
	comp=Z,97nm,18.7s,baz=66,slow=36						
H11S3	**WAKE ISLAND Hy**	**22.00**	**72**	T	T	18 58 12.1	
	baz=258,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy**	**22.02**	**72**	T	T	18 58 11.8	
	baz=258,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**22.02**	**72**	T	T	18 58 09.1	
	baz=258,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**22.47**	**69**	T	T	18 58 45.6	
	baz=256,slow=75,SNR=68						
H11N2	**WAKE ISLAND Hy**	**22.48**	**69**	T	T	18 58 48.2	
	baz=256,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy**	**22.48**	**69**	T	T	18 58 46.6	
	baz=256,slow=75,SNR=56						
MJAR	**Matsushiro Arr**	**24.32**	**347**	P	**P**	**18 35 29.9**	**+1.0**
	2.8nm,1.0s,baz=172,slow=12,SNR=4.6						
MJAR				LR	LR	18 44 17.6	
	comp=Z,138nm,19.2s,baz=160,slow=35						
	2.8nm,1.0s						
KSRS	**Korea Array**	**28.71**	**332**	P	**P**	**18 36 08.6**	**+0.2**
	0.7nm,0.8s,baz=144,slow=8.9,SNR=2.8						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**34.08**	**197**	P	**P**	**18 36 56.1**	**+0.4**
	0.6nm,0.7s,baz=19,slow=8.5,SNR=2.5						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**37.73**	**196**	P	**P**	**18 37 27.9**	**+0.9**
	0.5nm,0.6s,baz=15,slow=11,SNR=6.0						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.23**	**283**	P	**P**	**18 38 20.8**	**+0.2**
	0.2nm,0.5s,baz=83,slow=7.9,SNR=4.5						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**44.53**	**184**	P	**P**	**18 38 21.7**	**-0.9**
	2.0nm,1.1s,baz=348,slow=9.3,SNR=3.3						
	2.0nm,1.1s						
SONM	**Songino Array**	**47.21**	**325**	P	**P**	**18 38 43.8**	**0.0**
	0.3nm,0.6s,baz=134,slow=8.3,SNR=4.6						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**61.86**	**316**	P	**P**	**18 40 29.8**	**-0.2**
	0.2nm,0.6s,baz=103,slow=6.7,SNR=1.6						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**65.04**	**320**	P	**P**	**18 40 49.4**	**-1.5**
	0.2nm,0.5s,baz=104,slow=6.9,SNR=6.7						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**69.38**	**25**	P	**P**	**18 41 18.5**	**+0.4**
	0.1nm,0.4s,baz=257,slow=6.4,SNR=1.8						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**70.37**	**322**	P	**P**	**18 41 24.6**	**+0.2**
	0.3nm,0.3s,baz=102,slow=9.4,SNR=4.3						
	0.3nm,0.3s						
YKA	**Yellowknife Ar**	**83.67**	**27**	P	**P**	**18 42 39.5**	**+0.6**
	0.1nm,0.5s,baz=290,slow=4.6,SNR=1.8						
	0.1nm,0.5s						
LPAZ	**La Paz**	**148.16**	**100**	PKPbc	**PKiKP**	**18 49 59.6**	**0.0**
	0.7nm,0.7s,baz=259,slow=5.2,SNR=2.0						

*DNK **28** 18:32:10.5±3.9, 78°17N×19°80W, h11km±34km, ML1.6*
*BER **28** 18:32:13.0±1.9, 78°12N×18°98W, h10km, mb(Pn)3.5, ML1.6(DNK), Confirmed Earthquake*

ISC 28 18:32:06.8±1.0, 78°32N±0°05×19°83W±0°06, h10km, n8, σ2°08/16, Eastern Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**3.35**	**8**	*e*P	**Pb**	**18 33 05.0**	**-1.1**
NOR				*e*S	**Sb**	**18 33 46.4**	**-0.4**
NOR				IAML		18 34 08.0	
	comp=Z,3.6nm,0.4s						
NOR	**Nord**	**3.35**	**8**	*i* P	**Pb**	**18 33 05.0**	**-1.1**
NOR				*i* S	**Sb**	**18 33 46.3**	**-0.4**
NOR				IAML		18 34 08.0	
	comp=Z,3.6nm,0.4s						
DBG	**Daneborg**	**4.04**	**182**	*i* P	**Pn**	**18 33 09.8**	**+1.4**
DBG				*e*S	**Sn**	**18 33 53.9**	**-1.8**
DBG				IAML		18 34 15.2	
	comp=Z,2.8nm,0.4s						
DBG	**Daneborg**	**4.04**	**182**	*i* P	**Pn**	**18 33 09.8**	**+1.4**
DBG				*i* S	**Sn**	**18 33 54.8**	**-0.9**
DBG				IAML		18 34 15.2	
	comp=Z,2.8nm,0.4s						
KBS	**Kingsbay**	**6.26**	**69**	*e*P	**Pn**	**18 33 40.7**	**+1.7**
KBS				*i* S	**Sn**	**18 34 47.9**	**-2.4**
KBS	**Kingsbay**	**6.26**	**69**	*i* P	**Pn**	**18 33 41.5**	**+2.5**
KBS				*i* S	**Sn**	**18 34 47.9**	**-2.4**
NEEM	**North Greenlan**	**6.58**	**278**	*i* P	**Pn**	**18 33 45.8**	**+2.2**
NEEM				*i* S	**Sn**	**18 34 55.9**	**-2.7**
NEEM				IAML		18 35 17.6	
	comp=Z,2.7nm,0.7s						
NEEM	**North Greenlan**	**6.58**	**278**	*i* P	**Pn**	**18 33 45.8**	**+2.2**
NEEM				*i* S	**Sn**	**18 34 55.9**	**-2.7**
NEEM				IAML		18 35 17.6	
	comp=Z,2.7nm,0.7s						

IDC 28 18:39:39.3±6.6, 4°22S×152°57E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=200.3km s-min=35.3km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.66**	**227**	P	P	18 44 52.2	-0.4
	1.0nm,0.5s,baz=53,slow=9.5,SNR=6.4						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**26.42**	**221**	P	P	18 45 18.2	+0.2
	0.8nm,0.7s,baz=47,slow=9.4,SNR=8.8						
	0.8nm,0.7s						
SONM	**Songino Array**	**65.72**	**328**	P	P	18 50 26.1	+0.1
	0.5nm,0.6s,baz=124,slow=6.1,SNR=2.1						
	0.5nm,0.6s						

*IDC **28** 18:42:49.0±0.9, 12°83N×144°26E, h0km, mb3.5/11, mbtmp3.5/11, MS3.5/29, Error ellipse: s-maj=23.0km s-min=15.1km az=118.0*

ISC 28 18:42:55.1±1.0, 12°8N±0°1×144°5E±0°2, h54km, n40, σ1°05/14, mb3.5/11, MS3.5/27, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.88**	**28**	Pn	**Pn**	**18 43 09.8**	**-1.5**
	718nm,0.3s,baz=191,slow=5.2,SNR=42						
GUMO				Sn	**Sn**	**18 43 24.1**	**+0.8**
	1μm,0.3s,baz=162,slow=19,SNR=9.1						
JAY	**Jayapura**	**15.66**	**194**	LR	LR	18 52 41.8	
	comp=Z,181nm,19.0s,baz=6.5,slow=38						
DAV	**Davao City (W)**	**19.43**	**255**	LR	LR	18 54 10.9	
	comp=Z,62nm,21.1s,baz=1.0,slow=35						
JOW	**Kunigami**	**20.61**	**315**	LR	LR	18 53 49.2	
	comp=Z,134nm,21.4s,baz=354,slow=32						
H11S3	**WAKE ISLAND Hy**	**22.14**	**72**	T	T	19 10 48.8	
	baz=258,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**22.16**	**72**	T	T	19 10 52.1	
	baz=258,slow=75,SNR=28						
H11S2	**WAKE ISLAND Hy**	**22.16**	**72**	T	T	19 10 53.0	
	baz=258,slow=75,SNR=21						
PMG	**Port Moresby**	**22.23**	**173**	LR	LR	18 55 14.8	
	comp=Z,106nm,18.8s,baz=322,slow=34						
H11N1	**WAKE ISLAND Hy**	**22.60**	**69**	T	T	19 11 25.9	
	baz=255,slow=75,SNR=38						
H11N2	**WAKE ISLAND Hy**	**22.61**	**69**	T	T	19 11 30.9	
	baz=255,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**22.62**	**69**	T	T	19 11 32.4	
	baz=255,slow=75,SNR=42						
TGY	**Tagaytay City**	**22.90**	**276**	LR	LR	18 54 53.8	
	comp=Z,89nm,21.5s,baz=180,slow=32						
JNU	**Nakatsue**	**23.72**	**331**	LR	LR	18 55 28.0	
	comp=Z,66nm,20.8s,baz=146,slow=32						
MJAR	**Matsushiro Arr**	**24.29**	**348**	P	**P**	**18 48 07.1**	**-0.3**
	1.4nm,0.9s,baz=164,slow=7.0,SNR=8.2						
MJAR				LR	LR	18 57 07.6	
	comp=Z,151nm,18.9s,baz=160,slow=35						
	1.4nm,0.9s						
HNR	**Honiara**	**26.93**	**144**	LR	LR	18 58 36.7	
	comp=Z,82nm,21.3s,baz=274,slow=35						
KSRS	**Korea Array**	**28.65**	**332**	P	**P**	**18 48 47.2**	**+0.6**
	0.2nm,0.4s,baz=141,slow=10,SNR=7.7						
KSRS				LR	LR	18 58 08.6	
	comp=Z,49nm,21.7s,baz=150,slow=32						
	0.2nm,0.4s						
ASAJ	**Asahikawa**	**31.24**	**357**	LR	LR	19 00 13.1	
	comp=Z,63nm,21.8s,baz=164,slow=34						
USRK	**Ussuriysk Ar.**	**33.06**	**343**	LR	LR	19 00 49.1	
	comp=Z,42nm,20.0s,baz=87,slow=33						
WRA	**Warramunga Arr**	**34.03**	**197**	P	**P**	**18 49 33.9**	**-0.2**
	1.5nm,0.9s,baz=16,slow=8.6,SNR=6.2						
WRA				LR	LR	19 03 11.6	
	comp=Z,120nm,20.4s,baz=244,slow=36						
	1.5nm,0.9s						
ASAR	**Alice Springs**	**37.68**	**196**	P	**P**	**18 50 06.2**	**+0.8**
	0.6nm,0.6s,baz=14,slow=8.2,SNR=7.0						
ASAR				LR	LR	19 07 17.1	
	comp=Z,50nm,18.5s,baz=82,slow=39						
	0.6nm,0.6s						
KLR	**Kul'dur**	**37.81**	**346**	LR	LR	19 04 20.1	
	comp=Z,57nm,21.8s,baz=164,slow=34						
PETK	**Petropavlovsk-**	**41.57**	**12**	LR	LR	19 09 59.9	
	comp=Z,51nm,18.2s,baz=190,slow=39						
CMAR	**Chiang Mai Arr**	**44.09**	**283**	P	**P**	**18 50 56.3**	**-2.0**
	0.3nm,0.8s,baz=92,slow=8.2,SNR=6.9						
CMAR				LR	LR	19 06 59.6	
	comp=Z,48nm,22.0s,baz=90,slow=33						
	0.3nm,0.8s						
MSVF	**Nonsavu**	**44.95**	**132**	LR	LR	19 08 25.4	
	comp=Z,35nm,20.2s,baz=315,slow=34						
SHEM	**Shemya Is, Ala**	**46.34**	**25**	LR	LR	19 07 35.7	
	comp=Z,59nm,21.2s,baz=172,slow=32						
SONM	**Songino Array**	**47.14**	**325**	P	**P**	**18 51 23.0**	**+0.9**
	0.2nm,0.4s,baz=157,slow=7.8,SNR=1.2						
	0.2nm,0.4s						
BRDH	**Bariadhala**	**51.02**	**289**	LR	LR	19 15 13.3	
	comp=Z,48nm,18.3s,baz=162,slow=38						
MKAR	**Makanchi Array**	**61.77**	**316**	P	**P**	**18 53 08.7**	**+0.5**
	0.2nm,0.5s,baz=92,slow=8.9,SNR=8.4						
MKAR				LR	LR	19 20 51.7	
	comp=Z,62nm,19.7s,baz=60,slow=37						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**62.02**	**325**	P	**P**	**18 53 11.0**	**+1.3**
	0.3nm,0.3s,baz=106,slow=8.7,SNR=1.2						
	0.3nm,0.3s						
RAR	**Rarotonga**	**64.36**	**121**	LR	LR	19 19 39.8	
	comp=Z,93nm,18.2s,baz=18,slow=34						
KURBB	**Kurchatov Arra**	**64.96**	**320**	P	**P**	**18 53 29.1**	**0.0**
	0.2nm,0.4s,baz=104,slow=6.7,SNR=4.3						
KURBB				LR	LR	19 22 20.5	
	comp=Z,82nm,19.5s,baz=176,slow=37						
	0.2nm,0.4s						
AAK	**Ala-Archa**	**66.71**	**311**	LR	LR	19 25 25.7	
	comp=Z,46nm,19.2s,baz=114,slow=38						
NRIK	**Noril'sk**	**66.74**	**341**	LR	LR	19 22 52.5	
	comp=Z,42nm,18.1s,baz=114,slow=36						
ILAR	**Eielson Array**	**69.45**	**25**	P	**P**	**18 53 57.6**	**+0.2**
	0.3nm,0.8s,baz=251,slow=5.8,SNR=5.7						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**70.29**	**322**	P	**P**	**18 54 04.0**	**+1.2**
	0.3nm,0.4s,baz=91,slow=8.6,SNR=6.5						
BVAR				LR	LR	19 26 45.8	
	comp=Z,86nm,18.1s,baz=104,slow=38						
	0.3nm,0.4s						
PPT	**Papeete**	**71.78**	**113**	LR	LR	19 20 27.1	
	comp=Z,63nm,18.2s,baz=90,slow=31						
ARTI	**Arti**	**77.28**	**325**	LR	LR	19 30 28.0	
	comp=Z,33nm,19.6s,baz=44,slow=37						
AKTO	**Aktyubinsk**	**77.99**	**319**	LR	LR	19 29 49.9	
	comp=Z,37nm,20.7s,baz=21,slow=36						
NOA	**NORSAR Array B**	**97.63**	**339**	LR	LR	19 42 53.1	
	comp=Z,18nm,19.1s,baz=345,slow=37						
LPAZ	**La Paz**	**148.30**	**100**	PKPbc	**PKiPab**	**19 02 40.3**	**0.0**
	2.8nm,0.9s,baz=256,slow=2.7,SNR=7.3						

*SOME **28** 19:13:48.2, 41°47N×82°13E, h10km*
*NNC **28** 19:13:50.0±5.8, 42°65N×82°77E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=51.3km s-min=21.8km az=152.0*

ISC 28 19:13:44.1±4.0, 42°0N±0°2×82°6E±0°1, h13km, n7, σ0°78/10, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**2.62**	**298**	Pg	**Pb**	**19 14 31.8**	**+0.9**
	15nm,0.2s						
SHLS				Lg	Lg	19 15 03.3	
	48nm,0.3s						
SHLS	**Shalkode**	**2.62**	**298**	*e*P	**Pb**	**19 14 31.8**	**+0.9**
	15nm,0.2s						
SHLS				*e*S	**Sb**	**19 15 03.3**	**+0.3**
	48nm,0.3s						
UZB	**Uzynbulak**	**2.91**	**295**	Pg	**Pg**	**19 14 39.9**	**+0.1**
	1.9nm,0.1s						
UZB				Lg	Lg	19 15 17.9	
	7.1nm,0.3s						
UZB	**Uzynbulak**	**2.91**	**295**	*e*P	**Pg**	**19 14 39.9**	**+0.1**
	1.9nm,0.1s						
UZB				*e*S	**Sg**	**19 15 17.1**	**-0.4**
	7.1nm,0.3s						
SATY	**Saty**	**3.30**	**290**	Pg	**Pg**	**19 14 46.4**	**-0.9**
	1.6nm,0.2s						
SATY				Lg	Lg	19 15 28.1	
	15nm,0.1s						
CHKK	**Chushkaly**	**4.54**	**296**	Pg	**Pg**	**19 15 10.1**	**-1.0**
	0.5nm,0.1s						
CHKK				Lg	Lg	19 16 10.1	
	3.7nm,0.2s						
MK31	**Makanchi Array**	**4.81**	**357**	⇓Pn	**Pn**	**19 14 55.9**	**-0.3**
	baz=178,slow=15,SNR=16						
MK31				⇑Pg	**Pb**	**19 15 08.9**	**+0.6**
	0.5nm,0.3s,baz=175,slow=15,SNR=7.7						
MK31				⇑Sn	Sn	19 15 40.3	-12
	0.7nm,0.3s,baz=185,slow=25,SNR=3.7						
MK31				⇑Lg	Lg	19 15 59.1	
	7.0nm,0.6s,baz=168,slow=28,SNR=10						

IDC 28 19:15:29.4±4.3, 11°28N×124°21E, h0km, mb3.5/4, mbtmp3.5/4, MS3.7/1, Error ellipse: s-maj=509.5km s-min=23.3km az=64.0, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.31**	**81**	LR	LR	19 26 05.0	
	comp=Z,239nm,20.7s,baz=128,slow=31						
ASAR	**Alice Springs**	**36.00**	**165**	P	P	19 22 32.2	-0.3
	0.1nm,0.4s,baz=343,slow=8.6,SNR=5.2						
	0.1nm,0.4s						
STKA	**Stephens Creek**	**46.03**	**159**	P	P	19 23 55.0	0.0
	1.2nm,0.5s,baz=324,slow=18,SNR=5.4						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**50.01**	**323**	P	P	19 24 26.5	+0.9
	0.2nm,0.5s,baz=138,slow=6.7,SNR=2.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**54.10**	**326**	P	P	19 24 55.2	-0.8
	0.5nm,0.6s,baz=127,slow=7.4,SNR=7.3						
	0.5nm,0.6s						

*IDC **28** 19:25:32.6±1.1, 12°97N×144°05E, h0km, mb3.6/8, mbtmp3.6/8, MS3.2/17, Error ellipse: s-maj=40.0km s-min=21.0km az=87.0

comp=Z,40nm,21.4s,baz=125,slow=36
AKTO Aktyubinsk 77.59 319 LR LR 20 11 59.8
comp=Z,19nm,21.6s,baz=176,slow=36
BBB Bella Bella 78.64 39 LR LR 20 04 23.5
comp=Z,33nm,21.4s,baz=100,slow=30
BELG Belogornoye 83.71 322 LR LR 20 15 58.3
comp=Z,18nm,21.6s,baz=313,slow=36
YBH Yreka Blue Hor 83.97 49 LR LR 20 08 54.0
comp=Z,25nm,19.2s,baz=238,slow=31
LPAZ La Paz 148.78 100 PKPbc **PKiKP 19 45 22.8 0.0**
1.1nm,0.7s,baz=270,slow=3.0,SNR=4.2

*NEIC **28** 20:13:43.9±1.3, 39°.79N±0°.03×117°.47W±0°.03, h5km±2km, Error ellipse: s-maj=5.1km s-min=4.4km az=348.0*
REN 28 20:13:45.0±1.4, 39°.80N±0°.03×117°.47W±0°.03, h3km±6km, ML3.3/7, ML3.0/68(NEIC), Error ellipse: s-maj=4.8km s-min=3.1km az=202.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q09A	**Carvers**	**0.99**	**167**		Pg	20 14 03.8	-0.3
Q09A					Sb	20 14 17.8	-0.8
RYN	**Ryan**	**1.43**	**215**		Pn	20 14 10.8	-1.3
RYN					Sg	20 14 30.5	-0.5
NV11	**Mina Array Sit**	**1.47**	**201**		Pn	20 14 11.8	-0.8
PAHR	**Pah Rah Range**	**1.48**	**267**		Pn	20 14 11.5	-1.2
PAHR	**Pah Rah Range**	**1.48**	**267**	IAML		20 14 36.1	
comp=E,160nm,0.4s
NVAR	**Mina Array Bea**	**1.52**	**206**		Pn	20 14 12.2	-1.1
NV09	**Mina Array Sit**	**1.52**	**206**		Pn	20 14 12.4	-1.0
NV08	**Mina Array Sit**	**1.54**	**206**		Pn	20 14 12.8	-0.8
TPH	**Tonopah**	**1.74**	**174**		Pn	20 14 15.7	-0.7
LHV	**Little Huntoon**	**1.75**	**208**		Pn	20 14 15.8	-0.4
PNTR	**Pine Nut**	**1.79**	**247**		Pn	20 14 16.2	-0.9
PNTR	**Pine Nut**	**1.79**	**247**	IAML		20 14 45.2	
comp=E,228nm,0.8s
PNTR						20 14 51.3	
comp=N,137nm,0.8s
PEAR	**Peavine Mounta**	**1.93**	**265**		Pn	20 14 18.5	-0.6
ELK	**Elko**	**1.95**	**60**		Pn	20 14 19.1	-0.2
WAKR	**Walker**	**2.00**	**230**		Pn	20 14 19.0	-1.0
WAKR	**Walker**	**2.00**	**230**	IAML		20 14 50.6	
comp=E,80nm,0.7s
WAKR				IAML		20 14 51.1	
comp=N,170nm,0.2s
MPK	**Martis Peak**	**2.04**	**256**		Pn	20 14 20.1	-0.6
MPK	**Martis Peak**	**2.04**	**256**	IAML		20 14 56.9	
comp=N,111nm,1.0s
R11B	**Troy Canyon, C**	**2.06**	**134**	Pn	Pn	20 14 19.7	-1.1
MZP	**Montezuma Peak**	**2.10**	**178**		Pn	20 14 20.9	-0.5
MZP	**Montezuma Peak**	**2.10**	**178**	IAML		20 14 51.5	
comp=E,146nm,0.8s
MZP				IAML		20 14 52.0	
comp=N,72nm,0.7s
DONR	**Donner Summit**	**2.25**	**259**		Pn	20 14 22.7	-0.7
DSP	**Deep Springs**	**2.46**	**189**		Pn	20 14 25.8	-0.2
DSP				IAML		20 15 07.2	
comp=E,54nm,1.0s
GMN	**Gold Mountain**	**2.50**	**176**		Pn	20 14 26.7	-0.2
GMN	**Gold Mountain**	**2.50**	**176**	IAML		20 15 08.9	
comp=N,92nm,0.7s
GMN				IAML		20 15 17.0	
comp=E,64nm,0.8s
S11A	**Rachel**	**2.54**	**147**		Pn	20 14 26.7	-0.7
SPR3	**Spring Creek 3**	**2.56**	**107**		Pn	20 14 27.2	-0.6
SPR3				IAML		20 15 10.2	
comp=E,57nm,0.7s
SPR3				IAML		20 15 10.3	
comp=N,96nm,0.8s
LCH	**Last Change Ra**	**2.57**	**183**		Pn	20 14 27.5	-0.3
BHPR	**Bishop**	**2.62**	**198**		Pn	20 14 29.4	+0.9
WVOR	**Wild Horse Val**	**2.77**	**342**		Pb	20 14 36.6	+1.3
WVOR				IAML		20 15 18.1	
comp=N,44nm,0.5s
WVOR				IAML		20 15 24.1	
comp=N,41nm,1.1s
SGV	**South Grapevin**	**2.84**	**173**		Pg	20 14 40.0	+0.5
AFDM	**Forest Hills D**	**2.84**	**254**		Pn	20 14 30.4	-1.0
AFDM				IAML		20 16 18.5	
comp=N,53nm,1.0s
CMB	**Columbia Colle**	**2.88**	**233**		Pn	20 14 31.2	-0.7
TPNV	**Topopah Spring**	**3.01**	**161**	IAML		20 15 34.5	
comp=N,51nm,1.0s
TPNV				IAML		20 15 44.5	
comp=N,46nm,1.0s
PRN	**Pahroc Range**	**3.05**	**141**		Pn	20 14 34.2	-0.2
CPY	**CP-1**	**3.07**	**158**		Pn	20 14 35.2	+0.6
WCT	**Wildcat Mounta**	**3.08**	**167**	IAML		20 15 26.7	
comp=E,39nm,0.8s
WCT				IAML		20 15 31.9	
comp=N,33nm,0.6s
PSUT	**Pine Spring**	**3.08**	**113**		Pn	20 14 33.7	-1.1
NSP	**Numbskull Pass**	**3.23**	**162**		Pn	20 14 37.4	+0.7
SDH	**Striped Hills**	**3.28**	**164**		Pn	20 14 38.4	+1.0
MCY	**Mercury**	**3.35**	**159**		Pn	20 14 39.0	+0.5
AMDNV	**Amargosa**	**3.47**	**164**		Pn	20 14 40.4	+0.4
BGU	**Big Grassy Mou**	**3.57**	**70**		Pn	20 14 40.2	-1.3
DUG	**Dugway, Tooele**	**3.60**	**82**		Pn	20 14 41.0	-0.9
DUG				IAML		20 15 45.9	
comp=N,36nm,0.5s
DUG				IAML		20 15 46.3	
comp=N,28nm,0.8s
J08A	**Circle Bar Ran**	**3.63**	**348**		Pn	20 14 43.8	+1.5
GWY	**Greenwater Val**	**3.67**	**170**		Pn	20 14 42.8	0.0
GWY				IAML		20 15 49.2	
comp=N,28nm,0.7s
GWY				IAML		20 15 52.1	
comp=E,32nm,0.8s
SHPR	**Sheep Range**	**3.76**	**150**		Pn	20 14 44.8	+0.7
V12A	**Nelson**	**4.57**	**152**		Pn	20 14 55.2	0.0
V12A				IAML		20 16 11.8	
comp=N,12nm,0.7s
V12A				IAML		20 16 12.0	
comp=E,14nm,0.7s

*SKHL **28** 20:24:39.7±0.6, 45°.30N×153°.50E, h35km±5km, mb4.4/3*
*IDC **28** 20:24:40.3±6.6, 47°.14N×152°.19E, h0km, mb3.4/5, mbtmp3.5/6, ML2.3/1, MS3.0/3, Error ellipse: s-maj=150.1km s-min=28.7km az=137.0*
ISC 28 20:24:37.9±2.3, 46°.2N±0°.2×153°.4E±0°.2, h50km, n20, σ2§60/17, mb3.5/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.99**	**259**	*e*P	**Pn**	**20 25 38.7**	**+2.3**
KUR				*e*S	**Sn**	**20 26 23.4**	**+1.5**
SHO	**Shikotan**	**5.19**	**246**	*e*P	**Pn**	**20 25 53.3**	**+0.4**
SHO				AMB	AMB	20 25 55.8	
10.0nm,0.3s
SHO				*e*S	**Sn**	**20 26 48.1**	**-3.4**
SHO				A	A	20 26 51.9	
20nm,0.3s
SHO				A	A	20 26 51.9	
20nm,0.3s
YUK	**Yuzh-Kuril'sk**	**5.75**	**251**	*e*P	**Pn**	**20 26 02.3**	**+1.8**
YUK				AMB	AMB	20 26 02.9	
30nm,0.3s
YUK				*e*S	**Sn**	**20 27 03.0**	**-2.1**
YUK				A	A	20 27 05.3	
50nm,0.5s
YUK				A	A	20 27 05.3	
80nm,0.5s
NMR	**Nemuro--Hokkai**	**6.13**	**246**	*e*P	**Pn**	**20 26 05.9**	**+0.1**
NMR				AMB	AMB	20 26 06.4	
10.0nm,0.2s
NMR				*e*S	**Sn**	**20 27 09.8**	**-4.8**
NMR				A	A	20 27 12.1	
20nm,0.2s
NMR				A	A	20 27 12.1	
10.0nm,0.2s
AKK	**Akkeshi**	**6.87**	**246**	*e*P	**Pn**	**20 26 16.2**	**+0.2**
AKK				*e*S	**Sn**	**20 27 28.6**	**-4.2**
PETK	**Petropavlovsk-**	**7.50**	**20**	Pn	**Pn**	**20 26 24.4**	**-0.1**
0.3nm,0.3s,baz=205,slow=14,SNR=5.4
PETK				Sn	**Sn**	**20 27 44.5**	**-3.6**
0.1nm,0.3s,baz=102,slow=14,SNR=2.4
4.6nm,1.0s
MJAR	**Matsushiro Arr**	**14.89**	**235**	LR	LR	20 34 05.7	
comp=Z,25nm,19.5s,baz=163,slow=38
KSRS	**Korea Array**	**20.82**	**254**	P	**P**	**20 29 18.4**	**+3.4**
0.7nm,0.5s,baz=48,slow=10,SNR=2.6
0.7nm,0.5s
H11N2	**WAKE ISLAND Hy**	**28.59**	**153**	T	T	21 02 06.6	
baz=340,slow=76,SNR=16
H11N1	**WAKE ISLAND Hy**	**28.61**	**153**	T	T	21 02 10.1	
baz=340,slow=76,SNR=7.5
H11N3	**WAKE ISLAND Hy**	**28.61**	**153**	T	T	21 02 12.1	
baz=340,slow=76,SNR=7.4
H11S1	**WAKE ISLAND Hy**	**29.68**	**154**	T	T	21 03 38.0	
baz=340,slow=76,SNR=21
H11S3	**WAKE ISLAND Hy**	**29.69**	**154**	T	T	21 03 26.5	
baz=340,slow=76,SNR=13
H11S2	**WAKE ISLAND Hy**	**29.70**	**154**	T	T	21 03 27.6	
baz=340,slow=76,SNR=7.5
KDAK	**Kodiak Island**	**34.33**	**50**	LR	LR	20 44 02.8	
comp=Z,23nm,20.6s,baz=32,slow=34
MKAR	**Makanchi Array**	**47.40**	**298**	P	**P**	**20 33 07.6**	**+0.6**
0.1nm,0.4s,baz=71,slow=8.4,SNR=2.7
0.1nm,0.4s
KURBB	**Kurchatov Arra**	**47.96**	**304**	P	**P**	**20 33 10.4**	**-0.8**
0.2nm,0.5s,baz=66,slow=7.6,SNR=2.7
0.2nm,0.5s
FINES	**FINESS Array B**	**64.67**	**335**	P	**P**	**20 35 10.6**	**+0.7**
0.5nm,0.7s,baz=36,slow=6.3,SNR=4.3
0.5nm,0.7s
HFS	**Hagfors**	**69.09**	**340**	P	**P**	**20 35 39.4**	**+1.3**
1.3nm,0.9s,baz=39,slow=5.5,SNR=4.6
1.3nm,0.9s
KVAR	**Kislovodsk Arr**	**71.36**	**315**	LR	LR	21 08 47.1	
comp=Z,28nm,20.2s,baz=82,slow=38

*TEH **28** 20:57:17.7, 27°.65N×53°.33E, h8km*
*DSN **28** 20:57:19.4±1.4, 26°.88N×52°.58E, h15km, ML2.9/6, Error ellipse: s-maj=23.8km s-min=10.9km az=48.0*
ISC 28 20:57:19.0±1.0, 27°.58N±0°.04×53°.31E±0°.05, h16km, n24, σ1§78/25, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.28**	**209**	Pg	**Pg**	**20 57 24.6**	**-0.3**
QIR1	**Qir**	**0.92**	**345**	Pg	**Pb**	**20 57 34.5**	**-2.1**
LAR1	**LAR**	**0.95**	**85**	Pg	**Pb**	**20 57 36.0**	**-1.0**
JHRM	**Jahrom**	**0.95**	**14**	Pg	**Pb**	**20 57 35.2**	**-1.9**
DSBU	**Dashti - Bushe**	**1.98**	**294**	Pn	**Pn**	**20 57 53.6**	**+1.8**
SHI	**Shiraz**	**2.17**	**341**	Pn	**Pn**	**20 57 55.7**	**+1.0**
AHBU	**AHRAM**	**2.19**	**306**	Pn	**Pb**	**20 57 57.0**	**-1.2**
BNDS	**Bandar-Abbas**	**2.54**	**93**	Pn	**Pb**	**20 58 02.0**	**-2.4**
SHME	**Shamm**	**2.95**	**120**	P	**Pb**	**20 58 10.9**	**-0.3**
BANOM	**Banah**	**3.14**	**121**	P	**Pb**	**20 58 12.1**	**-2.4**
MDH	**Madha**	**3.51**	**130**	P	**Pb**	**20 58 16.9**	**-3.9**
UOSS	**Minazif**	**3.69**	**135**	P	**Pn**	**20 58 17.2**	**+1.8**
KLNJ	**Kolanjah**	**3.73**	**337**	Pn	**Pn**	**20 58 17.3**	**+1.0**
HATD	**Hatta, Dubai**	**3.73**	**137**	P	**Pn**	**20 58 18.0**	**+2.0**
ASHO	**Ashiyiah**	**3.80**	**139**	P	**Pn**	**20 58 17.5**	**+0.6**
ASHO				S	**Sn**	**20 59 03.5**	**+2.3**
KRBR	**Kerman**	**3.86**	**51**	Pn	**Pn**	**20 58 19.4**	**+1.5**
KHGB	**Koh Gabri**	**3.93**	**44**	Pn	**Pn**	**20 58 20.2**	**+1.3**
IMEH	**Mehriz**	**3.96**	**16**	Pn	**Pn**	**20 58 20.4**	**+1.1**
IRAM	**Ramesheh**	**4.29**	**349**	Pn	**Pn**	**20 58 25.0**	**+1.2**
ISAD	**Sadrabad**	**4.33**	**4**	Pn	**Pn**	**20 58 25.6**	**+1.1**
CHMN	**Cheshme madani**	**4.35**	**58**	Pn	**Pn**	**20 58 26.2**	**+1.5**
SOHO	**SOHO**	**4.50**	**139**	P	**Pn**	**20 58 26.9**	**+0.5**
KBAM	**BAM**	**4.79**	**70**	Pn	**Pn**	**20 58 32.4**	**+1.9**
IZEF	**Zefreh**	**5.36**	**351**	Pn	**Pn**	**20 58 39.5**	**+0.9**

*BGR **28** 21:06:10.0, 20°.15S×170°.06E, h33km±11km, Hypocentre not reviewed by the ISC*
*NOU **28** 21:06:22.9, 20°.34S×169°.73E, h151km, mb4.9/44, Vanuatu Islands*
*IDC **28** 21:06:24.0±1.2, 20°.38S×169°.53E, h160km±9km, mb3.9/15, mbtmp4.4/18, MS3.2/4, Error ellipse: s-maj=14.3km s-min=9.8km az=153.0*
*NEIC **28** 21:06:24.3±1.7, 20°.2S±0°.1×169°.6E±0°.1, h162km±3km, mb4.7/40, Error ellipse: s-maj=22.2km s-min=14.3km az=146.0*
ISC 28 21:06:23.0±0.4, 20°.32S±0°.05×169°.63E±0°.07, h150km, n159, σ1§11/161, mb4.6/43, 8D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**0.84**	**336**	P	**Pn**	**21 06 48.2**	**+1.7**
INH	**Isangel**	**0.84**	**336**	S	**Sn**	**21 07 06.1**	**+1.7**
MARNC	**Mare, Loyalty**	**1.89**	**232**	P	**Pn**	**21 06 57.0**	**+0.2**
DVP	**Devils Point**	**2.92**	**332**	P	**Pn**	**21 07 09.3**	**-0.1**
PINNC	**Pines Island,**	**3.06**	**221**		**Pn**	**21 07 12.3**	**+1.3**
YATNC	**Mamie plateau,**	**3.09**	**235**	P	**Pn**	**21 07 10.9**	**-0.6**
OUENC	**Ouen Island, N**	**3.33**	**231**	P	**Pn**	**21 07 15.3**	**+0.7**
OUENC	**Ouen Island, N**	**3.33**	**231**	S	**Sn**	**21 07 56.6**	**+2.0**
DZM	**Mont Dzumac**	**3.45**	**239**		**Pn**	**21 07 17.3**	**+1.1**
DZM	**Mont Dzumac**	**3.45**	**239**	P	**Pn**	**21 07 17.1**	**+0.9**
92nm,0.4s,baz=70,slow=17,SNR=224
DZM				S	**Sn**	**21 07 55.9**	**-1.4**
103nm,0.7s,baz=344,slow=23,SNR=8.0
DZM				LR	LR	21 08 02.7	
comp=Z,121nm,20.6s,baz=354,slow=30
DZM	**Mont Dzumac**	**3.45**	**239**	P	**Pn**	**21 07 16.9**	**+0.7**
DZM	**Mont Dzumac**	**3.45**	**239**	S	**Sn**	**21 07 59.3**	**+1.9**
ONTNC	**Ouen Toro**	**3.56**	**236**		**Pn**	**21 07 18.6**	**+1.1**
ONTNC	**Ouen Toro**	**3.56**	**236**	P	**Pn**	**21 07 18.3**	**+0.8**
VLAKA	**Lakatoro**	**4.69**	**333**	P	**Pn**	**21 07 33.4**	**+1.1**
KOUNC	**Koumac, New Ca**	**5.02**	**266**	P	**Pn**	**21 07 38.5**	**+1.8**
MSVF	**Nonsavu**	**8.37**	**74**	P	**Pn**	**21 08 23.8**	**+2.4**
3.8nm,0.3s,baz=255,slow=20,SNR=1.2
EIDS	**Eidsvold**	**17.81**	**250**		**P**	**21 10 22.6**	**+2.2**
EIDS	**Eidsvold**	**17.81**	**250**	P	**P**	**21 10 22.5**	**+2.2**
URZ	**Urewera**	**19.02**	**162**	P	**P**	**21 10 34.0**	**+0.7**
8.8nm,0.9s,baz=297,slow=11,SNR=1.7
URZ				LR	LR	21 16 37.2	
comp=Z,84nm,21.4s,baz=294,slow=32
ARMA	**Armidale**	**19.10**	**235**		**P**	**21 10 36.3**	**+1.9**
ARMA				IAmb	IAmb	21 10 37.9	
comp=Z,32nm,0.9s
ARMA	**Armidale**	**19.10**	**235**	P	**P**	**21 10 36.3**	**+1.9**
CNB	**Canberra Magne**	**23.27**	**226**	P	**P**	**21 11 18.2**	**+0.9**
CAN	**Canberra**	**23.52**	**226**		**P**	**21 11 20.0**	**+0.5**
MTSU	**Mount Surprise**	**23.99**	**271**	P	**P**	**21 11 25.1**	**+1.1**
QLP	**Quilpie**	**24.09**	**250**	P	**P**	**21 11 25.7**	**+0.9**
CMSA	**Cobar Meteorol**	**24.20**	**238**	P	**P**	**21 11 26.3**	**+0.6**
COEN	**Coen**	**26.04**	**280**		**P**	**21 11 40.6**	**-1.9**
COEN				IAmb	IAmb	21 11 44.8	
comp=Z,24nm,1.1s
COEN	**Coen**	**26.04**	**280**	P	**P**	**21 11 44.4**	**+1.9**
TOO	**Toolangi**	**27.11**	**225**	P	**P**	**21 11 52.8**	**+0.8**
STKA	**Stephens Creek**	**27.60**	**240**		**P**	**21 11 56.6**	**+0.2**
STKA	**Stephens Creek**	**27.60**	**240**	P	**P**	**21 11 56.3**	**0.0**
comp=Z,17nm,0.7s,baz=88,slow=10,SNR=46
STKA				LR	LR	21 22 29.3	
comp=Z,88nm,18.4s,baz=214,slow=35
comp=Z,17nm,0.7s
STKA	**Stephens Creek**	**27.60**	**240**	P	**P**	**21 11 56.9**	**+0.5**
GLAD	**Gladstone**	**27.62**	**217**	P	**P**	**21 11 56.6**	**+0.3**
QIS	**Mount Isa**	**28.12**	**264**	P	**P**	**21 12 01.6**	**+0.5**
MOO	**Moorlands**	**29.05**	**216**	P	**P**	**21 12 09.9**	**+0.8**
LCRK	**Leigh Creek**	**30.03**	**244**	P	**P**	**21 12 17.8**	**-0.1**
HTT	**Hallett**	**30.22**	**238**	P	**P**	**21 12 19.8**	**+0.2**
GHSS	**Government Hou**	**30.95**	**235**	P	**P**	**21 12 27.2**	**+1.3**
OOD	**Oodnadatta**	**31.80**	**250**	P	**P**	**21 12 34.0**	**+0.5**
BBOO	**Buckleboo**	**32.36**	**240**	P	**P**	**21 12 38.2**	**-0.1**
BBOO	**Buckleboo**	**32.36**	**240**	P	**P**	**21 12 38.1**	**-0.2**
WR8	**Warramunga Arr**	**32.95**	**264**		**P**	**21 12 42.6**	**-1.0**
WR8				IAmb	IAmb	21 12 43.6	
comp=Z,22nm,1.2s
WB0	**Warramunga Arr**	**33.07**	**265**		**P**	**21 12 43.8**	**-0.9**
WB0				IAmb	IAmb	21 12 45.1	
comp=Z,18nm,1.0s
WRA	**Warramunga Arr**	**33.10**	**264**	P	**P**	**21 12 43.8**	**-1.1**
WRA	**Warramunga Arr**	**33.10**	**264**	P	**P**	**21 12 44.0**	**-1.0**
comp=Z,6.0nm,0.5s,baz=95,slow=8.2,SNR=52
WRA				S	**S**	**21 17 50.0**	**-3.1**
comp=Z,1.5nm,0.8s,baz=99,slow=14,SNR=5.8
WRA				ScP	**ScP**	**21 18 54.1**	**-1.1**
comp=Z,0.7nm,0.8s,baz=98,slow=3.4,SNR=2.9
comp=Z,6.0nm,0.5s
AS01	**Alice Springs**	**33.20**	**258**	P	**P**	**21 12 45.3**	**-0.5**
AS31	**Alice Springs**	**33.24**	**258**	P	**P**	**21 12 45.6**	**-0.5**
AS31				IAmb	IAmb	21 12 46.5	
comp=Z,12nm,0.8s
ASAR	**Alice Springs**	**33.24**	**258**	P	**P**	**21 12 45.8**	**-0.3**
comp=Z,27nm,0.7s,baz=86,slow=9.5,SNR=329
ASAR				PcP	**PcP**	**21 15 24.1**	**-1.1**
comp=Z,0.4nm,0.7s,baz=77,slow=2.8,SNR=3.4
ASAR				S	**S**	**21 17 53.6**	**-1.7**
comp=Z,0.5nm,0.7s,baz=96,slow=17,SNR=3.7
ASAR				ScP	**ScP**	**21 18 54.2**	**-1.5**
comp=Z,0.8nm,0.6s,baz=100,slow=3.7,SNR=5.3
ASAR				LR	LR	21 25 32.7	
comp=Z,41nm,19.2s,baz=90,slow=35
comp=Z,27nm,0.7s
MTN	**Manton Dam**	**37.57**	**275**	P	**P**	**21 13 22.3**	**-0.8**
MTN	**Manton Dam**	**37.57**	**275**	P	**P**	**21 13 23.3**	**+0.2**
WRKA	**Warakurna**	**38.32**	**255**	P	**P**	**21 13 29.4**	**0.0**
FORT	**Forrest**	**38.73**	**246**	P	**P**	**21 13 31.7**	**-1.1**
FORT	**Forrest**	**38.73**	**246**	P	**P**	**21 13 32.4**	**-0.3**
KNRA	**Kununurra**	**39.07**	**270**	P	**P**	**21 13 34.9**	**-0.8**
FAKI	**Fak Fak**	**40.34**	**290**	P	**P**	**21 13 45.5**	**-0.7**
FAKI	**Fak Fak**	**40.34**	**290**	P	**P**	**21 13 46.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**41.51**	**265**	P	**P**	**21 13 55.6**	**-0.2**
KMBL	**Kambalda**	**44.06**	**246**	P	**P**	**21 14 15.7**	**-0.5**
PSA00	**Pilbara Seismi**	**46.35**	**259**	P	**P**	**21 14 33.7**	**-0.6**
PSA00				IAmb	IAmb	21 14 35.2	
comp=Z,17nm,0.8s
PSA00	**Pilbara Seismi**	**46.35**	**259**	P	**P**	**21 14 33.0**	**-1.3**
MBWA	**Marble Bar**	**46.52**	**260**	P	**P**	**21 14 34.8**	**-0.8**
MBWA				IAmb	IAmb	21 14 36.0	
comp=Z,18nm,0.7s
MBWA	**Marble Bar**	**46.52**	**260**	P	**P**	**21 14 35.7**	**+0.1**
MEEK	**Meekatharra**	**46.97**	**252**	P	**P**	**21 14 38.7**	**-0.5**
KLBR	**Kellerberrin**	**47.59**	**245**	P	**P**	**21 14 43.2**	**-0.7**
NWAO	**Narrogin (SRO)**	**48.06**	**244**	P	**P**	**21 14 46.4**	**-1.0**
NWAO	**Narrogin (SRO)**	**48.06**	**244**	P	**P**	**21 14 47.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**48.06**	**244**	P	**P**	**21 14 46.9**	**-0.5**
BLDU	**Ballidu**	**48.49**	**247**	P	**P**	**21 14 50.2**	**-0.6**
MORW	**Morawa**	**49.12**	**249**	P	**P**	**21 14 53.6**	**-2.0**
MORW				IAmb	IAmb	21 14 56.4	
comp=Z,22nm,1.1s
LUWI	**Luwuk**	**49.62**	**287**	P	**P**	**21 14 59.7**	**+0.2**
TOLI2	**Tolitoli**	**52.35**	**288**	P	**P**	**21 15 20.1**	**+0.1**
VNDA	**Vanda**	**57.37**	**182**	P	**P**	**21 15 54.2**	**-0.9**
VNDA	**Vanda**	**57.37**	**182**	P	**P**	**21 15 54.9**	**-0.2**
comp=Z,0.5nm,0.5s,baz=350,slow=4.9,SNR=5.7
comp=Z,0.5nm,0.5s
SBA	**Scott Base**	**57.59**	**181**	P	**P**	**21 15 57.5**	**+0.8**
SBA				IAmb	IAmb	21 16 15.9	
comp=Z,14nm,1.4s
MJAR	**Matsushiro Arr**	**63.87**	**332**	P	**P**	**21 16 39.4**	**-0.3**
comp=Z,6.4nm,0.9s,baz=166,slow=6.8,SNR=20
comp=Z,6.4nm,0.9s
MAJO	**Matsushiro**	**63.88**	**332**	P	**P**	**21 16 38.1**	**-1.5**
MAJO				IAmb	IAmb	21 16 41.2	
comp=Z,7.5nm,0.7s
KSRS	**Korea Array**	**69.60**	**326**	P	**P**	**21 17 16.1**	**+0.2**
comp=Z,1.4nm,0.9s,baz=144,slow=6.7,SNR=6.3
comp=Z,1.4nm,0.9s
QSPA	**South Pole Qui**	**69.74**	**180**	P	**P**	**21 17 16.3**	**-0.3**
comp=Z,1.1nm,0.7s,baz=91,slow=1.4,SNR=11
comp=Z,1.1nm,0.7s
USRK	**Ussuriysk Ar.**	**72.86**	**333**	P	**P**	**21 17 35.8**	**+0.5**
comp=Z,2.8nm,0.7s,baz=113,slow=4.4,SNR=6.4
comp=Z,2.8nm,0.7s
CN2	**Changchun**	**75.57**	**329**	*e*P	**P**	**21 17 51.8**	**+0.7**
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s
CN2				pmax	pmax		
comp=Z,90nm,4.0s
BNX	**BinXian**	**76.10**	**331**	⇓P	**P**	**21 17 54.0**	**0.0**
BNX				pmax	pmax		
comp=Z,9.0nm,0.8s
LYN	**LuoYang**	**76.99**	**315**	P	**P**	**21 18 00.5**	**+1.2**
LYN				pmax	pmax		
comp=Z,18nm,0.6s
BJI	**Beijing**	**78.00**	**321**	P	**P**	**21 18 05.5**	**+0.7**
BJI				pmax	pmax		
comp=Z,4.0nm,0.8s
XAN	**Xi'an**	**79.11**	**312**	P	**P**	**21 18 12.0**	**+0.9**
XAN				pP	pP	21 18 49.0	+1.1
XAN				pmax	pmax		
comp=Z,10.0nm,1.0s
CMAR	**Chiang Mai Arr**	**79.28**	**294**	P	**P**	**21 18 13.7**	**+1.4**
comp=Z,0.6nm,0.3s,baz=138,slow=4.2,SNR=7.2
comp=Z,0.6nm,0.3s
XLT	**XiLinHaoTe**	**80.53**	**324**	*e*P	**P**	**21 18 20.3**	**+1.8**
XLT				pP	pP	21 18 58.8	+3.4
XLT				pmax	pmax		
comp=Z,11nm,0.8s
XLT				pmax	pmax		
comp=Z,55nm,4.9s
PZH	**PanZhiHua**	**80.60**	**303**	P	**P**	**21 18 21.0**	**+1.6**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s
PZH				pmax	pmax		
comp=Z,70nm,4.2s
HHC	**Hu-ho-hao-te**	**81.28**	**319**	*e*P	**P**	**21 18 23.0**	**+0.4**
HHC				pmax	pmax		
comp=Z,14nm,0.6s
HHC				pmax	pmax		
comp=Z,60nm,5.2s
SNAA	**Sanae**	**88.10**	**182**	P	**P**	**21 18 54.9**	**-1.4**
comp=Z,1.0nm,0.5s,baz=212,slow=7.2,SNR=10
comp=Z,1.0nm,0.5s
GTA	**Gaotai**	**88.13**	**313**	*e*P	**P**	**21 18 58.3**	**+1.3**
GTA				pP	PcP	21 19 08.8	+10
GTA				pmax	pmax		
comp=Z,3.0nm,0.9s
SONM	**Songino Array**	**88.30**	**323**	P	**P**	**21 18 57.9**	**+0.3**
comp=Z,2.0nm,0.5s,baz=134,slow=6.2,SNR=1.7
comp=Z,2.0nm,0.5s
CAST	**Castle Rocks**	**88.68**	**16**		P	21 18 53.2	-5.6
DSP	**Deep Springs**	**89.00**	**49**		**P**	**21 19 01.4**	**+0.4**
PAHR	**Pah Rah Range**	**89.07**	**47**	P	**P**	**21 19 01.5**	**+0.1**
PAHR				IAmb	IAmb	21 19 03.0	
comp=Z,6.3nm,1.2s
NVAR	**Mina Array Bea**	**89.24**	**48**	P	**P**	**21 19 02.4**	**0.0**
comp=Z,1.8nm,0.7s,baz=226,slow=9.0,SNR=12
comp=Z,1.8nm,0.7s
NV11	**Mina Array Sit**	**89.34**	**48**	P	**P**	**21 19 02.6**	**-0.1**
J05D	**Fort Rock, OR**	**89.53**	**43**	P	**P**	**21 19 02.3**	**-1.1**
J05D				IAmb	IAmb	21 19 05.2	
comp=Z,8.9nm,0.8s
MZP	**Montezuma Peak**	**89.56**	**49**	P	**P**	**21 19 03.4**	**-0.5**
WCT	**Wildcat Mounta**	**89.71**	**50**	P	**P**	**21 19 04.6**	**+0.2**
PINE	**Pine Mountain**	**89.96**	**43**		**P**	**21 19 06.2**	**+0.6**
PINE				IAmb	IAmb	21 19 07.4	
comp=Z,7.8nm,0.8s
TPNV	**Topopah Spring**	**90.05**	**50**	P	**P**	**21 19 05.9**	**-0.2**
P29M	**Windy Craggy**	**90.45**	**24**		**P**	**21 19 06.2**	**-1.0**
P29M				IAmb	IAmb	21 19 07.9	
comp=Z,6.7nm,1.0s
PRN	**Pahroc Range**	**91.11**	**50**		**P**	**21 19 10.1**	**-0.9**
PRN				IAmb	IAmb

comp=Z,7.1nm,0.8s,baz=37,slow=3.6
OSTC Ostas 143.25 332 *e*PKP PKPbc 21 25 37.0 +0.3
DPC Dobruska-Polom 143.34 331 *e*PKP PKPab 21 25 36.7 +0.9
FLTG Flechtingen 143.91 337 *e*PKPbc 21 25 38.0
baz=37,slow=3.6
BRG Berggiesshubel 144.00 334 *e*PKPbc 21 25 38.5
baz=37,slow=3.6
CLL Collm 144.05 335 *e*PKPbc 21 25 38.6
comp=Z,10nm,0.8s,baz=37,slow=3.6
NRDL Niedersach Rie 144.17 339 *e*PKPbc 21 25 39.1
comp=Z,6.4nm,1.0s,baz=37,slow=3.6
RETH Rethem/Aller, 144.22 339 *e*PKPbc 21 25 39.2
comp=Z,34nm,1.2s,baz=37,slow=3.6
ASSE Asse, Remlinge 144.27 338 *e*PKPbc 21 25 39.5
comp=Z,7.2nm,1.0s,baz=37,slow=3.6
PRU Pruhonice 144.40 332 *e*PKP **PKPab 21 25 39.8 0.0**
NEUB Neuenburg 144.60 336 *e*PKPbc 21 25 40.5
comp=Z,30nm,0.8s,baz=37,slow=3.6
CLZ Clausthal 144.61 338 *e*PKPbc 21 25 40.9
baz=37,slow=3.6
EKA Eskdalemuir Ar 144.62 353 PKP **PKPab 21 25 39.6 -0.8**
comp=Z,5.2nm,0.4s,baz=356,slow=2.3,SNR=80
TANN Tannenbergstha 144.96 334 *e*PKPbc 21 25 41.9
comp=Z,14nm,0.9s,baz=37,slow=3.6
ZVC Zvikov 144.96 332 *e*PKP **PKPab 21 25 41.8 -0.1**
EDMD Edmundbyers 144.96 352 *e*P **PKPab 21 25 41.0 -0.7**
GTTG Gottingen 145.00 338 *e*PKPbc 21 25 42.1
comp=Z,41nm,0.7s,baz=37,slow=3.6
PLN Plauen 145.02 335 *e*PKPbc 21 25 42.0
comp=Z,5.3nm,0.9s,baz=37,slow=3.6
IBBN Ibbenburen 145.10 340 *e*PKPbc 21 25 42.1
comp=Z,53nm,0.7s,baz=37,slow=3.6
NKC Novy Kostel 145.10 334 *e*PKP PKPbc 21 25 42.6 +0.3
MOX Moxa 145.11 335 *e*PKPbc 21 25 42.3
comp=Z,8.3nm,0.9s,baz=37,slow=3.6
CLGH Cloghs, Cushen 145.14 356 *e*P **PKPbc 21 25 41.6 -0.6**
GDLE Glaisdale, N Y 145.18 350 *e*P **PKPbc 21 25 41.5 -0.9**
RONA Rosalia, Austr 145.19 328 *e*PKP **PKPbc 21 25 43.0 +0.3**
comp=Z,3.3nm,0.6s
GAL1 Galloway 145.24 354 *e*P **PKPbc 21 25 41.3 -1.2**
CONA Conrad Observa 145.25 329 *i* PKP **PKPbc 21 25 43.3 +0.4**
comp=Z,7.2nm,0.8s
KESW Keswick, Cumbr 145.34 353 *e*P **PKPbc 21 25 42.2 -0.6**
CKRC Cesky Krumlov 145.36 331 *e*PKP **PKPbc 21 25 42.9 -0.2**
MANZ Manzenberg 145.43 334 *e*PKPbc 21 25 43.6
comp=Z,1.6nm,1.0s,baz=37,slow=3.6
KHC Kasperske Hory 145.46 332 *e*PKP **PKPdf 21 25 41.8 -1.4**
ROTZ Rotzenmuhle 145.56 334 *e*PKPbc 21 25 44.7
comp=Z,1.9nm,0.7s,baz=37,slow=3.6
UBBA Unterbreizbach 145.59 337 *e*PKPbc 21 25 44.4
baz=37,slow=3.6
GEC2 GERESS Array S 145.61 332 *e*PKPbc 21 25 43.7
baz=37,slow=3.6
GERES GERESS Array B 145.61 332 PKPbc **PKPdf 21 25 44.0 +0.5**
comp=Z,3.4nm,0.6s,baz=32,slow=3.1,SNR=31
WET Wettzell 145.75 333 *e*PKPbc 21 25 44.6
comp=Z,4.6nm,1.0s,baz=37,slow=3.6
HPK Haverah Park 145.76 351 *e*P **PKPdf 21 25 43.5 +0.1**
IOMK Kirk Michael 145.83 354 *e*P **PKPdf 21 25 43.5 0.0**
MOA Molln 146.07 330 *e*PKP **PKPdf 21 25 45.2 +0.9**
comp=Z,1.6nm,0.4s
LBWR Ladybower, Pea 146.31 351 *e*P **PKPdf 21 25 45.0 +0.6**
SOKA Soboth 146.52 328 *i* PKP **PKPdf 21 25 46.0 +0.9**
comp=Z,1.5nm,0.4s
WLF1 Llynfaes 146.77 353 *e*P **PKPdf 21 25 46.1 +0.9**
RJOB Jochberg 146.84 331 *e*PKPbc 21 25 49.4
baz=37,slow=3.6
CWF Charnwood Fore 146.89 350 *e*P **PKPdf 21 25 46.5 +1.1**
KBA Koelnbreinsper 147.06 330 *i* PKP **PKPdf 21 25 47.1 +0.9**
comp=Z,1.0nm,0.4s
BTNL Ternell 147.10 341 *d*PKPdf **PKPdf 21 25 42.9 -3.0**
MEM Membach 147.12 341 *d*PKP **PKPdf 21 25 47.6 +1.8**
LESA Schwarzleotal 147.12 331 *e*PKP **PKPdf 21 25 47.7 +1.6**
comp=Z,3.7nm,0.5s,SNR=5.4
FUR Furstenfeldbru 147.19 333 *e*PKPbc 21 25 51.5
comp=Z,21nm,0.9s,baz=37,slow=3.6
UCC Uccle 147.44 343 *d*PKP **PKPdf 21 25 48.5 +2.1**
BCLA Clavier 147.50 341 *d*PKP **PKPbc 21 25 50.8 +1.6**
ABTA Abfaltersbach 147.70 330 *e*PKP **PKPdf 21 25 48.7 +1.7**
comp=Z,2.7nm,0.7s
WTTA Wattenberg 147.72 331 *e*PKiKP **PKPdf 21 25 49.5 +2.3**
comp=Z,2.0nm,0.6s
BMRD Maredsous 147.76 342 *d*PKP **PKPdf 21 25 49.0 +2.1**
MOTA Moosalm 147.89 332 *e*PKP **PKPdf 21 25 49.7 +2.3**
comp=Z,3.2nm,0.6s
WLF Walferdange 147.89 340 *d*PKP **PKPbc 21 25 50.3 -0.1**
SQTA Sankt Quirin 147.94 332 *i* PKiKP **PKPbc 21 25 50.1 -0.6**
comp=Z,3.8nm,0.5s
DOU Dourbes 148.00 342 *d*PcP **PKPbc 21 25 50.2 -0.4**
UBR Ueberruh 148.06 333 *e*PKPbc 21 25 50.3
comp=Z,6.8nm,0.8s,baz=37,slow=3.6
BFO Black Forest 148.25 336 *e*PKPbc 21 25 55.0
comp=Z,8.1nm,0.9s,baz=37,slow=3.6
FETA Feichten 148.30 332 *i* PKiKP **PKPbc 21 25 51.2 -0.5**
comp=Z,2.3nm,0.6s,SNR=6.6
DAVA Damuels 148.46 333 *e*PKiKP **PKPbc 21 25 51.9 -0.2**
comp=Z,6.8nm,0.6s
ESDC Sonseca Array 159.94 345 PKPab **PKPab 21 26 43.5 -1.0**
comp=Z,0.6nm,0.9s,baz=29,slow=4.3,SNR=4.4

*IDC **28** 21:19:07.2±1.9, 1°.95N×126°.58E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=182.7km s-min=23.5km az=66.0*
*DJA **28** 21:19:12.3±0.3, 2°.N±.3°×12°.6E±.°, h10km, M3.3/5, MLv3.3/5*
ISC 28 21:19:13.0±1.2, 1°.6N±0°.2×126°.1E±0°.2, h35km, n6, σ0°.84/7, mb3.5/4, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.54**	**124**	P		**Pn**	**21 19 37.3**	**-0.7**
TNTI				S		**Sn**	**21 19 57.6**	**+0.9**
SGSI	**Sangihe**	**2.11**	**344**	P		**Pn**	**21 19 45.9**	**+0.1**
WRA	**Warramunga Arr**	**22.93**	**160**	P		**P**	**21 24 14.2**	**0.0**
	1.3nm,0.8s,baz=340,slow=11,SNR=6.3							
	1.3nm,0.8s							
ASAR	**Alice Springs**	**26.28**	**164**	P		**P**	**21 24 46.4**	**+1.1**
	0.4nm,0.6s,baz=338,slow=9.0,SNR=4.8							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**58.91**	**326**	P		**P**	**21 29 08.4**	**-0.3**
	0.2nm,0.5s,baz=122,slow=6.9,SNR=2.3							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**63.16**	**328**	P		**P**	**21 29 36.6**	**-0.7**
	0.3nm,0.7s,baz=118,slow=7.5,SNR=3.2							
	0.3nm,0.7s							

SJA 28 21:26:37.8±0.7, 31°.60S×66°.57W, h139km±3km, ML3.5, MW3.5, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ACHE	**Chepes**	**0.45**	**350**	*e*P		Pn	21 26 44.3	-14
ACHE				*e*S		Sn	21 26 58.9	-14
MRA	**San Martin**	**1.09**	**138**	*e*P		Pn	21 27 03.4	+1.0
MRA				*e*S		Sn	21 27 21.8	+0.6
MRA				IAML			21 27 22.1	
	comp=Z,520nm,0.2s							
APLL	**PUNTA DE LOS L**	**1.21**	**2**	*e*P		Pn	21 27 04.5	+0.9
AVFE	**Valle Fertil**	**1.21**	**321**	*e*P		Pn	21 27 04.6	+1.0
AVFE				*e*S		Sn	21 27 24.2	+1.0
AVFE				IAML			21 27 25.0	
	comp=Z,673nm,0.3s							
CFA	**Coronel Fontan**	**1.42**	**270**	*e*P		Pn	21 27 06.3	+0.6
CFA				*e*S		Sn	21 27 27.4	+0.4
RTLL	**Cerro Villicun**	**1.65**	**279**	*e*P		Pn	21 27 09.0	+0.8
RTLL				*e*S		Sn	21 27 31.8	+0.4
SJA	**San Juan**	**1.70**	**272**	*e*P		Pn	21 27 09.9	+1.1
SJA				*e*S		Sn	21 27 34.8	+2.4
TCA	**Tanti**	**1.71**	**82**	*e*P		Pn	21 27 09.7	+0.7
TCA				*e*S		Sn	21 27 33.0	+0.2
TCA				IAML			21 27 35.8	
	comp=Z,126nm,0.4s							
ZON	**Zonda**	**1.80**	**271**	*e*P		Pn	21 27 10.7	+0.7
ZON				*e*S		Sn	21 27 35.0	+0.5
ZON				IAML			21 27 36.3	
	comp=Z,184nm,0.2s							
ACLC	**CERRO LA CRUZ**	**2.20**	**351**	*e*P		Pn	21 27 15.6	+0.8
ACLC				*e*S		Sn	21 27 43.4	+0.2
ACLC				IAML			21 27 45.4	
	comp=Z,92nm,0.3s							
DOCA	**Reserva Natura**	**2.25**	**286**	*e*P		Pn	21 27 16.4	+0.8
DOCA				*e*S		Sn	21 27 44.9	+0.3
DOCA				IAML			21 27 45.5	
	comp=Z,121nm,0.2s							
RTLS	**Leoncito**	**2.33**	**265**	*e*P		Pn	21 27 17.5	+1.0
RTLS				IAML			21 27 49.8	
	comp=Z,259nm,0.3s							
ARCO	**CERRO ARCO**	**2.35**	**238**	*e*P		Pn	21 27 17.5	+0.9
ARCO				*e*S		Sn	21 27 47.4	+0.8
ARCO				IAML			21 27 48.0	
	comp=Z,331nm,0.7s							
ACCO	**Cerro Coronel**	**2.37**	**295**	*e*P		Pn	21 27 20.4	+3.4
ACCO				*e*S		Sn	21 27 50.2	+3.1
AAGR	**Agrelo**	**2.41**	**232**	*e*P		Pn	21 27 18.2	+0.8
AAGR				*e*S		Sn	21 27 42.0	-5.9
AAGR				*e*S			21 27 46.6	
AAGR				IAML			21 27 50.2	
	comp=Z,207nm,0.3s							
AVIZ	**Vizcacheras**	**2.48**	**221**	*e*P		Pn	21 27 13.4	-4.8
AVIZ				*e*S		Sn	21 27 44.9	-4.5
ACDV	**Cuesta del Vie**	**2.62**	**302**	*e*S		Sn	21 27 52.3	-0.2
ACDV				IAML			21 27 54.9	
	comp=Z,246nm,0.3s							
AGUA	**GUANDACOL**	**2.68**	**321**	*e*P		Pn	21 27 22.1	+1.3
AGUA				*e*S		Sn	21 27 54.8	+0.9
AGUA				IAML			21 27 56.0	
	comp=Z,253nm,0.2s							
AROD	**Rodeo**	**2.88**	**299**	*e*P		Pn	21 27 24.8	+1.3
AROD				*e*S		Sn	21 27 59.2	+0.6
VCA	**Vinchina**	**3.19**	**333**	*e*P		Pn	21 27 28.7	+1.3
VCA				*e*S		Sn	21 28 05.6	0.0
VCA				IAML			21 28 29.6	
	comp=Z,242nm,1.1s							
CYA	**Choya**	**3.22**	**12**	*e*P		Pn	21 27 28.0	+0.3
CYA				*e*S		Sn	21 28 05.4	-0.7
CYA				IAML			21 28 06.4	
	comp=Z,45nm,0.9s							
CO01	**Juntas del Tor**	**3.44**	**297**	*e*P		Pn	21 27 32.7	+2.0
CO01				*e*S		Sn	21 28 12.9	+1.5
CO01				IAML			21 28 14.5	
	comp=Z,114nm,0.6s							
MT08	**Bocatoma Ro**	**3.44**	**237**	*e*P		Pn	21 27 31.7	+1.1
MT08				*e*S		Sn	21 28 11.4	-0.1
MT08				IAML			21 28 13.4	
	comp=Z,37nm,0.3s							
MT04	**Ro Olivares**	**3.51**	**238**	*e*P		Pn	21 27 32.5	+1.0
MT04				IAML			21 29 00.5	
	comp=Z,51nm,0.2s							
VA03	**San Esteban**	**3.57**	**250**	*e*P		Pn	21 27 33.3	+1.2
VA03				*e*S		Sn	21 28 17.4	+3.2
VA03				IAML			21 28 20.7	
	comp=Z,73nm,0.3s							
CO02	**Combarbal**	**3.81**	**275**	*e*P		Pn	21 27 36.1	+0.8
MT03	**Universidad Ad**	**3.82**	**239**	*e*P		Pn	21 27 36.6	+1.1
GO04	**Tololo Observa**	**3.90**	**290**	*e*P		Pn	21 27 37.7	+0.9
LCO	**Las Campanas**	**4.41**	**305**	*e*S		Sn	21 28 33.9	-0.5
MT01	**Popeta**	**4.54**	**239**	IAML			21 28 37.5	
	comp=Z,25nm,0.2s							
GO03	**Copiapo**	**5.11**	**320**	*e*S		Sn	21 28 50.3	-0.6

*KRSC **28** 21:46:24.0±1.9, 51°.42N×160°.28E, h44km±24km, Ml4.3*
*NEIC **28** 21:46:24.1±1.2, 51°.8N±0°.1×160°.67E±0°.08, h10km±1km, mb4.2/16, Error ellipse: s-maj=18.4km s-min=8.3km az=177.0*
*IDC **28** 21:46:26.9±0.9, 51°.94N×159°.50E, h0km, mb3.8/23, mbtmp3.9/26, ML3.4/3, MS3.2/7, Error ellipse: s-maj=21.1km s-min=14.7km az=146.0*
*MOS **28** 21:46:29.4±1.0, 51°.67N×159°.91E, h42km, mb4.1/5, Error ellipse: s-maj=10.2km s-min=4.1km az=100.7*
ISC 28 21:46:29.4±0.5, 51°.57N±0°.05×160°.03E±0°.05, h35km, n133, σ1°.94/127, mb4.1/37, MS3.4/5, 5C-3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.24**	**282**	PN		**Pn**	**21 46 49.1**	**-1.1**
KDTR	**Khodutka, Kamc**	**1.24**	**282**	*e*P		**Pn**	**21 46 49.1**	**-1.1**
RUS	**Russkaya**	**1.28**	**313**	PN		**Pn**	**21 46 49.1**	**-1.6**
RUS	**Russkaya**	**1.28**	**313**	*e*P		**Pn**	**21 46 49.1**	**-1.6**
MTVR	**Mutnovka**	**1.46**	**309**	PN		**Pn**	**21 46 52.5**	**-0.9**
MTVR	**Mutnovka**	**1.46**	**309**	*e*P		**Pn**	**21 46 52.6**	**-0.9**
SPN	**Mys Shipunski**	**1.53**	**360**	PN		**Pn**	**21 46 53.5**	**-0.7**
SPN	**Mys Shipunski**	**1.53**	**360**	*e*P		**Pn**	**21 46 53.6**	**-0.7**
GRL	**Gorelyy**	**1.56**	**310**	PN		**Pn**	**21 46 54.1**	**-0.6**
GRL	**Gorelyy**	**1.56**	**310**	*e*P		**Pn**	**21 46 54.2**	**-0.6**
NLC	**Nalytchevo**	**1.66**	**346**	PN		**Pn**	**21 46 55.1**	**-0.8**
NLC	**Nalytchevo**	**1.66**	**346**	*e*P		**Pn**	**21 46 55.2**	**-0.8**
DALK	**Dalny**	**1.66**	**332**	PN		**Pn**	**21 46 54.7**	**-1.3**
DALK	**Dalny**	**1.66**	**332**	*e*P		**Pn**	**21 46 54.7**	**-1.3**
PET	**Petropavlovsk**	**1.69**	**330**			**Pn**	**21 46 54.7**	**-1.6**
PET	**Petropavlovsk**	**1.69**	**330**	*e*PN		**Pn**	**21 46 55.4**	**-1.0**
PET				*e*S		**Sn**	**21 47 18.1**	**+1.4**
PET				pmax	pmax			
	comp=Z,562nm,0.4s							
PET				smax	smax			
	comp=N,1μm,0.5s							
PET				smax	smax			
	comp=E,627nm,0.5s							
PET	**Petropavlovsk**	**1.69**	**330**	*e*P		**Pn**	**21 46 55.4**	**-1.0**
KRMR	**Karymshinskiy**	**1.72**	**318**	PN		**Pn**	**21 46 55.7**	**-1.1**
KRMR	**Karymshinskiy**	**1.72**	**318**	*e*P		**Pn**	**21 46 55.7**	**-1.1**
INSR	**Institute**	**1.74**	**330**	PN		**Pn**	**21 46 56.8**	**-0.2**
INSR	**Institute**	**1.74**	**330**	*e*P		**Pn**	**21 46 56.8**	**-0.2**
UGLR	**Uglovaya**	**1.80**	**336**	PN		**Pn**	**21 46 57.4**	**-0.6**
UGLR	**Uglovaya**	**1.80**	**336**	*e*P		**Pn**	**21 46 57.4**	**-0.6**
SDLR	**Sedlovina**	**1.85**	**338**	PN		**Pn**	**21 46 58.1**	**-0.6**
SDLR	**Sedlovina**	**1.85**	**338**	*e*P		**Pn**	**21 46 58.2**	**-0.6**
AVH	**Avacha**	**1.87**	**336**	PN		**Pn**	**21 46 58.8**	**-0.2**
AVH	**Avacha**	**1.87**	**336**	*e*P		**Pn**	**21 46 58.8**	**-0.2**
KRER	**Koryakskii**	**1.91**	**336**	PN		**Pn**	**21 46 58.9**	**-0.7**
KRER	**Koryakskii**	**1.91**	**336**	*e*P		**Pn**	**21 46 58.9**	**-0.7**
KOK	**Koryaka**	**1.93**	**334**	PN		**Pn**	**21 46 59.6**	**-0.1**
KOK	**Koryaka**	**1.93**	**334**	*e*P		**Pn**	**21 46 59.6**	**-0.1**
KRX	**Arik**	**1.98**	**335**	PN		**Pn**	**21 46 59.6**	**-0.9**
KRX	**Arik**	**1.98**	**335**	*e*P		**Pn**	**21 46 59.7**	**-0.9**
PAU	**Pauzhetka**	**2.01**	**268**	PN		**Pn**	**21 47 00.7**	**-0.1**
PAU	**Pauzhetka**	**2.01**	**268**	*e*P		**Pn**	**21 47 00.8**	**-0.1**
PEA0B	**Petropavlovsk-**	**2.10**	**318**			**Pn**	**21 47 01.6**	**-0.5**
PEA0B	**Petropavlovsk-**	**2.10**	**318**	PN		**Pn**	**21 47 01.8**	**-0.3**
PEA0B				S		**Sn**	**21 47 29.7**	**+2.7**
PETK	**Petropavlovsk-**	**2.10**	**318**			**Pn**	**21 47 01.4**	**-0.7**
PETK	**Petropavlovsk-**	**2.10**	**318**	Pn		**Pn**	**21 47 01.0**	**-1.1**
	comp=E,20nm,0.3s,baz=111,slow=18,SNR=262							
PETK				Sn		**Sn**	**21 47 33.6**	**+6.6**
	comp=E,25nm,0.3s,baz=143,slow=15,SNR=8.2							
PETK				LR		LR	21 47 34.7	
	comp=E,102nm,21.3s,baz=77,slow=42							
PETK	**Petropavlovsk-**	**2.10**	**318**	PN		**Pn**	**21 47 01.4**	**-0.7**
APC	**Apacha**	**2.23**	**309**	PN		**Pn**	**21 47 04.5**	**+0.8**
APC	**Apacha**	**2.23**	**309**	*e*P		**Pn**	**21 47 04.6**	**+0.8**
GNL	**Ganaly**	**2.48**	**330**	PN		**Pn**	**21 47 07.6**	**+0.2**
GNL	**Ganaly**	**2.48**	**330**	*e*P		**Pn**	**21 47 07.6**	**+0.2**
KII	**Karymskiy**	**2.50**	**352**	PN		**Pn**	**21 47 07.5**	**-0.1**
KII	**Karymskiy**	**2.50**	**352**	*e*P		**Pn**	**21 47 07.5**	**-0.1**
SKR	**Severo-Kuril's**	**2.62**	**252**	PN		**Pn**	**21 47 09.0**	**-0.1**
SKR				S		**Sn**	**21 47 39.2**	**-0.5**
SKR	**Severo-Kuril's**	**2.62**	**252**	*e*P		**Pn**	**21 47 09.1**	**-0.1**
SKR				*e*S		**Sn**	**21 47 39.2**	**-0.5**
MKZ	**Mys Kozlova**	**3.16**	**18**	PN		**Pn**	**21 47 15.4**	**-1.2**
MKZ	**Mys Kozlova**	**3.16**	**18**	*e*P		**Pn**	**21 47 15.4**	**-1.2**
TUMD	**Tumrok D**	**3.65**	**3**	PN		**Pn**	**21 47 21.7**	**-1.6**
TUMD	**Tumrok D**	**3.65**	**3**	*e*P		**Pn**	**21 47 21.8**	**-1.6**
KMNR	**Kamenistaya**	**4.20**	**2**	PN		**Pn**	**21 47 30.9**	**0.0**
KMNR	**Kamenistaya**	**4.20**	**2**	*e*P		**Pn**	**21 47 31.0**	**0.0**
KIRR	**Kirishev**	**4.40**	**2**	PN		**Pn**	**21 47 35.3**	**+1.6**
KIRR	**Kirishev**	**4.40**	**2**	*e*P		**Pn**	**21 47 35.4**	**+1.6**
KPT	**Kopyto**	**4.41**	**1**	PN		**Pn**	**21 47 35.3**	**+1.5**
KPT	**Kopyto**	**4.41**	**1**	*e*P		**Pn**	**21 47 35.4**	**+1.5**
KRSR	**Krestovskiy**	**4.67**	**4**	PN		**Pn**	**21 47 40.2**	**+2.8**
KRSR	**Krestovskiy**	**4.67**	**4**	*e*P		**Pn**	**21 47 40.3**	**+2.8**
KBTR	**Krutoberegovo**	**4.93**	**18**	PN		**Pn**	**21 47 40.9**	**0.0**
KBTR	**Krutoberegovo**	**4.93**	**18**	*e*P		**Pn**	**21 47 41.0**	**0.0**
SHEM	**Shemya Is, Ala**	**8.73**	**77**	LR		LR	21 52 02.9	
	comp=E,32nm,19.7s,baz=112,slow=37							
SEY	**Seymchan**	**12.11**	**343**	Pn		**Pn**	**21 49 15.3**	**-3.9**
	comp=E,0.1nm,0.3s,baz=186,slow=22,SNR=1.3							
	comp=E,0.5nm,0.3s							
ASAJ	**Asahikawa**	**13.86**	**244**	LR		LR	21 56 09.7	
	comp=E,71nm,18.4s,baz=77,slow=42							
BILL	**Bilibino**	**16.80**	**8**	*e*P		**Pn**	**21 50 21.1**	**-0.5**
KLR	**Kul'dur**	**18.13**	**274**	P		**P**	**21 50 40.0**	**+1.7**
	comp=E,3.0nm,0.9s,baz=65,slow=11,SNR=7.6							
KLR				LR		LR	21 58 38.1	
	comp=E,80nm,18.3s,baz=63,slow=41							
P08K	**Saint George I**	**18.45**	**62**	P		P	21 50 33.8	-7.8
YAK	**Yakutsk**	**19.45**	**314**	P		**P**	**21 50 49.8**	**-2.7**
	comp=E,0.1nm,0.3s,baz=154,slow=12,SNR=7.3							
	comp=E,14nm,0.8s							
YAK	**Yakutsk**	**19.45**	**314**	*e*P		**P**	**21 50 49.6**	**-2.9**
YAK				pmax	pmax			
	comp=Z,16nm,0.9s							
YAK				pmax	pmax			
	comp=N,2.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**20.11**	**260**	P		**P**	**21 50 58.5**	**-1.5**
	comp=E,0.2nm,0.3s,baz=63,slow=13,SNR=2.6							
	comp=E,1.3nm,0.7s							
MJB9	**Matsu-Tunnel**	**21.59**	**234**	P		**P**	**21 51 18.0**	**+1.9**
MJB9				IAmb		IAmb	21 51 20.9	
	comp=Z,5.6nm,0.7s							
MAJO	**Matsushiro**	**21.60**	**234**	P		**P**	**21 51 17.9**	**+1.9**
MAJO				IAmb		IAmb	21 51 20.0	
	comp=Z,5.8nm,0.7s							
MAJO	**Matsushiro**	**21.60**	**234**	P		**P**	**21 51 17.9**	**+1.9**
MAJO				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MJAR	**Matsushiro Arr**	**21.60**	**234**	P		**P**	**21 51 17.4**	**+1.4**
	comp=Z,2.8nm,0.8s,baz=23,slow=9.8,SNR=9.3							
MJAR				LR		LR	22 00 13.9	
	comp=Z,68nm,19.9s,baz=38,slow=38							
	comp=Z,2.8nm,0.8s							
K13K	**Kusilvak Mount**	**21.68**	**48**	P		**P**	**21 51 10.6**	**-6.1**
K13K				IAmb		IAmb	21 51 27.8	
	comp=Z,11nm,1.4s							
BNX	**BinXian**	**22.20**	**268**	⇓P		**P**	**21 51 23.5**	**+1.0**
BNX				pmax	pmax			
	comp=Z,5.0nm,1.4s							
J14K	**Nanvaranak Lak**	**22.36**	**46**	P		**P**	**21 51 17.6**	**-6.3**
J14K				IAmb		IAmb	21 51 36.2	
	comp=Z,16nm,1.4s							
JGF	**Kuroka**	**22.76**	**234**	P		**P**	**21 51 30.8**	**+2.3**
TIXI	**Tiksi**	**24.46**	**337**	P		**P**	**21 51 43.1**	**-1.4**
TIXI	**Tiksi**	**24.46**	**337**	LR		LR	22 02 43.2	
	comp=Z,68nm,18.1s,baz=192,slow=41							
TIXI	**Tiksi**	**24.46**	**337**	⇑*i*P		**P**	**21 51 43.5**	**-1.0**
TIXI				pmax	pmax			
	comp=Z,10.0nm,2.5s							
TIXI				MLR		MLR		
	comp=Z,70nm,17.0s							
J17K	**VABM Dome**	**24.48**	**45**	P		**P**	**21 51 38.5**	**-6.4**
O16K	**Kokwok River B**	**24.62**	**55**	P		**P**	**21 51 39.1**	**-7.1**
O16K				IAmb		IAmb	21 51 56.5	
	comp=Z,13nm,1.5s							
CHGN	**Chignik**	**24.63**	**63**	P		P	21 51 38.6	-7.6
KSRS	**Korea Array**	**26.64**	**251**	P		**P**	**21 52 06.2**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=44,slow=9.3,SNR=2.2							
	comp=Z,0.4nm,0.3s							
B22K	**Teshekpuk Lake**	**28.30**	**31**	P		P	21 52 14.1	-5.0
NEA2	**Nenana**	**28.99**	**44**	P		**P**	**21 52 20.8**	**-4.6**
ILAR	**Eielson Array**	**29.93**	**43**	P		**P**	**21 52 34.9**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=261,slow=6.7,SNR=2.8							
	comp=Z,0.3nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**32.23**	**168**	T		T	22 27 00.5	
	baz=352,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hy**	**32.24**	**168**	T		T	22 26 55.7	
	baz=352,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hy**	**32.24**	**168**	T		T	22 26 57.6	
	baz=352,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**33.41**	**168**	T		T	22 29 27.2	
	baz=351,slow=76,SNR=4.2							
H11S3	**WAKE ISLAND Hy**	**33.42**	**168**	T		T	22 29 34.5	
	baz=351,slow=76,SNR=4.8							
H11S2	**WAKE ISLAND Hy**	**33.43**	**168**	T		T	22 29 37.5	
	baz=351,slow=76,SNR=3.9							
ULN	**Ulaanbaatar**	**33.83**	**285**	⇑*e*P		**P**	**21 53 07.5**	**-0.7**
ULN				pmax	pmax			
	comp=Z,8.0nm,3.2s							
SONM	**Songino Array**	**34.24**	**285**	LR		LR	22 07 54.7	
	comp=Z,72nm,18.2s,baz=64,slow=38							
INK	**Inuvik**	**35.11**	**36**	P		**P**	**21 53 20.4**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=328,slow=6.6,SNR=3.5							
	comp=Z,0.5nm,0.6s							
YKA	**Yellowknife Ar**	**44.32**	**41**	P		**P**	**21 54 37.4**	**+1.9**
	comp=Z,0.2nm,0.8s,baz=303,slow=8.1,SNR=4.8							
	comp=Z,0.2nm,0.8s							
KURK	**Kurchatov**	**48.52**	**303**	P		**P**	**21 55 07.4**	**-1.1**
KURBB	**Kurchatov Arra**	**48.62**	**303**	P		**P**	**21 55 07.3**	**-1.9**
	comp=Z,4.5nm,0.7s,baz=61,slow=7.8,SNR=21							
	comp=Z,4.5nm,0.7s							
SPITS	**Spitsb

KBA	Koelnbreinsper	77.65	337	*e*P	P	21 58 24.0 +1.9
	comp=Z,2.5nm,0.8s					
BRTR	Keskin Array B	77.77	321	P	P	21 58 23.1 +0.2
	comp=Z,0.7nm,0.9s,baz=72,slow=4.0,SNR=6.1					
	comp=Z,0.7nm,0.9s					
BRTR	Keskin Array B	77.77	321	*i* P	P	21 58 23.2 +0.3
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
ASAR	Alice Springs	78.35	204	P	P	21 58 29.5 +3.6
	comp=Z,0.1nm,0.5s,baz=19,slow=5.9,SNR=1.5					
	comp=Z,0.1nm,0.5s					
MMAI	Mount Meron Ar	82.78	316	P	P	21 58 50.6 +0.8
	comp=Z,1.1nm,0.7s,baz=4.7,slow=5.1,SNR=4.7					
	comp=Z,1.1nm,0.7s					
ESDC	Sonseca Array	88.06	348	LR	LR	22 42 36.6
	comp=Z,29nm,19.1s,baz=144,slow=38					

TXNET 28 21:49:11.1,31°.3N±0°.6×103°.4W±0°.7, h6km±1km, ML1.9/9, 1D, Error ellipse: s-maj=1.1km s-min=0.8km az=73.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	Crockett Middl	0.12	316	P	Pg	21 49 14.3	+0.5
PCOS				S	Sg	21 49 16.6	+1.0
TPB04	Verhalen	0.18	138	P	Pg	21 49 15.2	+0.4
TPB04				S	Sg	21 49 18.7	+1.5
TPB16	Coyonosa	0.24	145	P	Pg	21 49 16.5	+0.7
TPB16				S	Sg	21 49 20.8	+1.8
TPB03	Saragosa	0.25	201	P	Pg	21 49 16.6	+0.5
TPB03				S	Sg	21 49 20.8	+1.4
TPB10	Southeast of T	0.30	263	P	Pg	21 49 17.5	+0.5
TPB10				S	Sb	21 49 22.8	-1.4
TPB06	Permian Basin	0.37	27	P	Pg	21 49 19.1	+0.8
TPB06				S	Sb	21 49 24.8	-1.4
PECS	Pecos	0.39	278	⇓P	Pg	21 49 18.9	+0.1
PECS				S	Sg	21 49 24.5	+0.5
TPB05	Hovey Rd	0.41	170	P	Pg	21 49 19.8	+0.8
TPB05				S	Sb	21 49 25.8	-1.4
TPB01	Permian Basin	0.49	220	P	Pg	21 49 21.1	+0.5
TPB01				S	Sg	21 49 27.9	+0.8
MNHN	Monahans	0.56	88	P	Pg	21 49 21.9	+0.1
MNHN				S	Sg	21 49 30.2	+1.1
TPB08	Permian Basin	0.61	135	P	Pg	21 49 22.7	-0.1
TPB08				S	Sb	21 49 32.1	-1.0
TPB11	China Draw	0.81	319	S	Sg	21 49 37.8	+0.4
ALPN	Alpine	0.96	192	P	Pg	21 49 29.1	-0.5
ALPN				S	Sg	21 49 41.6	-0.5
NM01	Eunice	1.03	1	S	Sb	21 49 45.9	+0.5
ODSA	Odessa	1.08	42	P	Pg	21 49 31.4	-0.6
ODSA				S	Sb	21 49 46.9	0.0
TMB02	Rankin	1.18	96	P	Pg	21 49 33.1	-0.7
TMB02				S	Sb	21 49 49.7	+0.1
TMB01	Midkiff	1.19	73	P	Pg	21 49 32.8	-1.1
TMB01				S	Sb	21 49 49.7	0.0
VHRN	Van Horn	1.45	249	P	Pn	21 49 37.7	-0.4
VHRN				S	Sb	21 49 57.0	-0.5
TMB04	Seminole	1.52	31	P	Pn	21 49 39.1	+0.1
TMB04				S	Sg	21 50 00.4	+0.4
MNTX	Cornudas Mount	1.73	283	P	Pb	21 49 42.7	-0.6
MNTX				S	Sg	21 50 06.1	-0.5
CPRX	Cap Rock	1.75	347	P	Pb	21 49 43.9	+0.1
SAND	Sanderson	1.75	140	P	Pb	21 49 44.0	+0.2
SAND				S	Sb	21 50 06.7	+0.6
TMB05	Klondike	1.85	45	S	Sb	21 50 09.7	+0.7
TX31	Lajitas Ar. Si	1.99	186	P	Pn	21 49 46.5	+1.0
TX31				S	Sb	21 50 13.7	+0.7
OZNA	Ozona	2.00	101	P	Pb	21 49 47.0	-0.9
OZNA				S	Sb	21 50 13.7	+0.6
SGCY	Sterling City	2.04	72	P	Pb	21 49 47.8	-0.9
SGCY				S	Sb	21 50 14.9	+0.7

NEIC ***28*** *21:56:47.4±1.3, 39°.85N±0°.03×117°.42W±0°.04, h5km±2km, Error ellipse: s-maj=5.2km s-min=4.3km az=39.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=6.40; $M_{\theta\theta}$5.60; $M_{r\theta}$=0.80; $M_{r\theta}$=1.39; $M_{\theta\theta}$=3.60; $M_{\theta r}$=2.40; Fault plane solution: $M_0$7.56000×10^{14} NP1:ϕ_s=48.95000°, δ55.80000°, λ=105.89000°. NP2:ϕ_s=255.82000°, δ37.30000°, λ=68.05000°. Principal axes: T 7.9208, Plg9.0000°, Azm150.0000°; N -0.7859, Plg13.0000°, Azm58.0000°; P -7.1349, Plg74.0000°, Azm275.0000°;*
IDC ***28*** *21:56:49.5±0.5, 39°.80N×117°.48W, h0km, mb3.7/9, mbtmp3.6/14, ML3.4/5, MS2.9/4 Error ellipse: s-maj=7.4km s-min=4.9km az=123.0*
NEIC ***28*** *21:56:49.1, 39°.79N×117°.48W, h18km*
REN ***28*** *21:56:49.4±1.4, 39°.79N±0°.03×117°.48W±0°.04, h4km±6km, ML4.1/9, ML3.9/150(NEIC), Mwr3.9/57(NEIC), Error ellipse: s-maj=5.2km s-min=3.5km az=216.0*

ISC 28 21:56:50.1±0.6, 39°.78N±0°.04×117°.48W±0°.04, h10km, n132, σ0°.93/110, mb3.9/8, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q09A	Carvers	0.97	166		Pg	21 57 08.0	-0.7
Q09A					Sg	21 57 20.9	-0.4
RYN	Ryan	1.41	216		Pn	21 57 14.9	-1.0
RYN					Sn	21 57 34.5	-0.1
NV11	Mina Array Sit	1.44	202		Pn	21 57 15.8	-0.6
NV11				IAML		21 57 44.1	
	comp=N,1μm,1.2s						
NV11				IAML		21 57 44.2	
	comp=E,1μm,1.4s						
NV11	Mina Array Sit	1.44	202		Sn	21 57 36.1	+0.7
PAHR	Pah Rah Range	1.47	268		Pn	21 57 15.6	-1.2
PAHR				IAML		21 57 38.5	
	comp=N,1μm,0.8s						
PAHR				IAML		21 57 39.2	
	comp=E,2μm,0.7s						
PAHR	Pah Rah Range	1.47	268		Sn	21 57 36.0	-0.3
NVAR	Mina Array Bea	1.49	206		Pn	21 57 16.5	-0.6
NVAR	Mina Array Bea	1.49	206	Pn	Pn	21 57 16.8	-0.3
	comp=E,230nm,0.3s,baz=29,slow=18,SNR=1164						
NVAR				Lg	Lg	21 57 37.4	
	comp=E,652nm,0.3s,baz=25,slow=34,SNR=51						
NVAR				LR	LR	21 57 52.1	
	comp=E,247nm,19.5s,baz=272,slow=43						
NV09	Mina Array Sit	1.50	207		Pn	21 57 16.6	-0.6
NV08	Mina Array Sit	1.52	206		Pn	21 57 16.9	-0.6
TPH	Tonopah	1.71	173		Pn	21 57 19.7	-0.4
LHV	Little Huntoon	1.72	208		Pn	21 57 19.8	-0.2
PNTR	Pine Nut	1.78	248		Pn	21 57 20.3	-0.8
PNTR				IAML		21 57 55.9	
	comp=N,2μm,0.7s						
PEAR	Peavine Mounta	1.93	266		Pn	21 57 22.4	-0.7
ELK	Elko	1.97	60		Pn	21 57 21.3	-2.4
ELK	Elko	1.97	60	Pn	Pn	21 57 23.2	-0.4
ELK				Pg	Pg	21 57 26.9	-0.9
ELK				Sn	Sb	21 57 49.8	-1.0
	comp=N,60nm,0.3s,baz=180,slow=20,SNR=15						
WAKR	Walker	1.98	231		Pn	21 57 22.8	-1.1
WAKR				IAML		21 57 54.9	
	comp=E,773nm,0.5s						
WAKR				IAML		21 57 55.0	
	comp=N,800nm,0.6s						
MPK	Martis Peak	2.03	257		Pn	21 57 24.2	-0.4
MPK	Martis Peak	2.03	257	IAML		21 57 59.2	
	comp=E,678nm,0.6s						
MPK				IAML		21 58 01.2	
	comp=N,1μm,1.0s						
R11B	Troy Canyon, C	2.05	133		Pn	21 57 23.6	-1.1
MZP	Montezuma Peak	2.07	178		Pn	21 57 25.0	-0.1
MZP	Montezuma Peak	2.07	178	IAML		21 57 56.2	
	comp=N,625nm,0.8s						
Q12A	Willow Creek R	2.18	109		Pn	21 57 26.0	-0.5
BENR	Benton	2.23	203		Pn	21 57 28.0	+0.7
DONR	Donner Summit	2.24	260		Pn	21 57 26.9	-0.5
DSP	Deep Springs	2.43	189		Pn	21 57 30.3	+0.5
DSP	Deep Springs	2.43	189	IAML		21 58 07.4	
	comp=N,417nm,0.9s						
DSP				IAML		21 58 10.9	
	comp=E,533nm,1.1s						
GMN	Gold Mountain	2.48	176		Pn	21 57 30.8	+0.1
GMN	Gold Mountain	2.48	176	IAML		21 58 08.8	
	comp=E,668nm,0.8s						
GMN				IAML		21 58 13.2	
	comp=N,807nm,0.7s						
S11A	Rachel	2.52	147	Pn	Pn	21 57 29.8	-1.5
SPR3	Spring Creek 3	2.56	107		Pn	21 57 31.7	-0.2
SPR3	Spring Creek 3	2.56	107	IAML		21 58 13.1	
	comp=E,316nm,0.7s						
SPR3				IAML		21 58 14.5	
	comp=N,689nm,0.8s						
BHPR	Bishop	2.60	198		Pn	21 57 33.2	+0.8
GRAC	Grapevine Rang	2.78	178		Pn	21 57 35.1	+0.5
WVOR	Wild Horse Val	2.80	342		Pn	21 57 34.5	-0.5
WVOR				IAML		21 58 28.3	
	comp=N,332nm,1.0s						
WVOR				IAML		21 58 30.1	
	comp=N,257nm,1.2s						
SGV	South Grapevin	2.81	173		Pn	21 57 35.4	+0.1
AFDM	Forest Hills D	2.83	254		Pn	21 57 34.8	-0.6
CMB	Columbia Colle	2.86	233		Pn	21 57 35.2	-0.6
TPNV	Topopah Spring	2.98	161		Pn	21 57 37.5	0.0
TPNV				IAML		21 58 41.9	
	comp=N,454nm,0.9s						
TPNV				IAML		21 58 48.7	
	comp=N,406nm,1.0s						
PRN	Pahroc Range	3.03	140		Pn	21 57 38.0	-0.2
CPY	CP-1	3.05	158		Pn	21 57 39.6	+1.1
WCT	Wildcat Mounta	3.05	167		Pn	21 57 38.5	0.0
WCT	Wildcat Mounta	3.05	167	IAML		21 58 33.4	
	comp=N,286nm,0.7s						
WCT				IAML		21 58 36.7	
	comp=E,261nm,0.7s						
PSUT	Pine Spring	3.08	113		Pn	21 57 37.8	-1.1
PSUT				IAML		21 58 31.8	
	comp=N,476nm,0.7s						
ORV	Oroville	3.11	267		Pn	21 57 38.9	-0.3
NSP	Numbskull Pass	3.20	162		Pn	21 57 41.6	+1.0
HATC	Hat Creek Radi	3.22	290		Pn	21 57 39.8	-1.0
HATC				IAML		21 58 47.5	
	comp=N,365nm,1.1s						
SDH	Striped Hills	3.25	164		Pn	21 57 42.4	+1.2
MCY	Mercury	3.33	159		Pn	21 57 42.4	+0.1
AMDNV	Amargosa	3.45	164		Pn	21 57 44.5	+0.7
BGU	Big Grassy Mou	3.59	70		Pn	21 57 45.6	-0.3
DUG	Dugway, Tooele	3.61	82	Pn	Pn	21 57 45.9	-0.2
DUG				IAML		21 58 46.3	
	comp=N,225nm,0.8s						
DUG				IAML		21 58 52.8	
	comp=N,182nm,1.1s						
GWY	Greenwater Val	3.64	170		Pn	21 57 47.0	+0.3
GWY	Greenwater Val	3.64	170	IAML		21 58 49.2	
	comp=N,260nm,0.6s						
GWY				IAML		21 58 56.4	
	comp=E,261nm,0.8s						
J08A	Circle Bar Ran	3.66	349		Pn	21 57 46.8	0.0
SHPR	Sheep Range	3.74	150		Pn	21 57 48.8	+0.8
MFID	Camas Ranch	3.84	18		Pn	21 57 51.0	+1.6
MFID				IAML		21 58 59.5	
	comp=E,236nm,0.7s						
MFID				IAML		21 58 59.5	
	comp=E,194nm,0.8s						
TCRU	Three Creeks R	4.08	105		Pn	21 57 53.2	+0.5
TCRU				IAML		21 59 10.1	
	comp=N,122nm,1.7s						
TCRU				IAML		21 59 17.7	
	comp=E,116nm,1.7s						
HVU	Hansel Valley	4.09	59		Pn	21 57 52.2	-0.7
HVU				IAML		21 59 02.8	
	comp=N,145nm,0.7s						
HVU				IAML		21 59 04.9	
	comp=E,117nm,0.5s						
O02D	Mt. Diablo Mer	4.10	277	Pn	Pn	21 57 52.6	-0.3
ISA	Isabella, Lake	4.18	191	Pn	Pn	21 57 54.8	+0.8
ISA				IAML		21 59 08.2	
	comp=E,83nm,1.0s						
BBGB	Big Mountain B	4.25	222		Pn	21 57 56.2	+1.3
MVU	Marysvale	4.29	106		Pn	21 57 55.4	-0.2
MVU				IAML		21 59 11.8	
	comp=E,96nm,1.2s						
MVU				IAML		21 59 14.5	
	comp=N,116nm,1.1s						
K04D	Chiloquin, OR	4.30	313	Pn	Pn	21 57 55.1	-0.6
MSU	Marysvale	4.31	105		Pn	21 57 55.4	-0.5
LCMT	Little Creek M	4.32	128		Pn	21 57 55.8	-0.1
SAO	San Andreas Ge	4.34	227		Pn	21 57 56.1	0.0
L04D	Klamath Falls	4.39	305	IAML		21 59 20.4	
	comp=N,180nm,1.6s						
HLID	Hailey	4.42	30	IAML		21 59 18.2	
	comp=N,75nm,1.1s						
YBH	Yreka Blue Hor	4.43	298	Pn	Pn	21 57 59.1	+1.6
	comp=N,0.2nm,0.3s,baz=115,slow=11,SNR=4.8						
YBH				Pg	Pb	21 58 07.0	-1.0
	comp=N,1.6nm,0.3s,baz=115,slow=9.7,SNR=15						
YBH				Lg	Lg	21 59 08.0	
	comp=N,4.7nm,0.3s,baz=166,slow=19,SNR=8.2						
	comp=N,3.3nm,0.7s						
MTPU	Mount Pierson	4.48	111	IAML		21 59 19.2	
	comp=N,87nm,1.7s						
GSC	Goldstone, Bar	4.50	173	IAML		21 59 20.0	
	comp=N,95nm,1.2s						
GSC				IAML		21 59 22.2	
	comp=E,152nm,1.6s						
J05D	Fort Rock, OR	4.50	322	IAML		21 59 21.5	
	comp=E,124nm,1.1s						
J05D				IAML		21 59 24.4	
	comp=N,112nm,1.3s						
V12A	Nelson	4.55	152	IAML		21 59 16.0	
	comp=N,86nm,0.8s						
V12A				IAML		21 59 16.3	
	comp=E,114nm,0.8s						
I07A	Izee	4.56	341	IAML		21 59 27.7	
	comp=N,71nm,1.1s						
KNB	Kanab	4.58	126	IAML		21 59 18.2	
	comp=E,90nm,1.3s						
KNB				IAML		21 59 20.7	
	comp=N,111nm,1.6s						
CCAC	Calif City Air	4.63	185	IAML		21 59 37.4	
	comp=N,97nm,1.2s						
CCAC				IAML		21 59 40.2	
	comp=E,86nm,1.5s						
PKCU	Pink Cliffs	4.67	118	IAML		21 59 34.6	
	comp=N,144nm,1.5s						
PINE	Pine Mountain	4.78	328	IAML		21 59 30.3	
	comp=N,109nm,1.0s						
PINE				IAML		21 59 35.9	
	comp=E,98nm,0.9s						
TMUT	Trail Mountain	4.87	94	IAML		21 59 25.5	
	comp=E,65nm,0.8s						
TMUT				IAML		21 59 30.1	
	comp=N,87nm,0.8s						
Q16A	Castle Valley	4.96	98	IAML		21 59 24.7	
	comp=E,48nm,0.9s						
BBOR	Butler Butte	5.00	310	IAML		21 59 31.4	
	comp=N,59nm,0.9s						
BBOR				IAML		21 59 41.2	
	comp=E,63nm,1.7s						
BMO	Blue Mountains	5.08	1	IAML		21 59 43.8	
	comp=E,47nm,1.3s						
U15A	North Rim	5.28	128	IAML		21 59 41.2	
	comp=E,94nm,0.9s						
I05D	Terrebonne, OR	5.39	329	IAML		21 59 47.9	
	comp=N,46nm,1.8s						
I05D				IAML		22 00 49.2	
	comp=E,46nm,3.8s						
PFO	Pinyon Flats O	6.21	172	Pn	Pn	21 58 23.3	+1.4
	comp=E,0.3nm,0.3s,baz=354,slow=12,SNR=4.1						
PFO				Lg	Lg	22 00 05.3	
	comp=E,0.9nm,0.3s,baz=48,slow=20,SNR=4.3						
	comp=E,1.6nm,0.5s						
MOOW	Moose Ponds	6.41	50		Pn	21 58 24.7	0.0
WUAZ	Wupatki	6.44	129	Pn	Pn	21 58 25.1	-0.1
BLYC	Blythe	6.46	158	Pn	Pn	21 58 25.9	+0.7
PD31	Pinedale Array	6.67	61		Pn	21 58 27.6	-0.7
PDAR	Pinedale Array	6.67	61		Pn	21 58 27.8	-0.5
PDAR	Pinedale Array	6.67	61	Pn	Pn	21 58 30.6	+2.3
	comp=E,0.3nm,0.3s,baz=244,slow=12,SNR=16						
PDAR				Lg	Lg	22 00 18.6	
	comp=E,0.3nm,0.3s,baz=227,slow=26,SNR=2.4						
	comp=E,1.8nm,0.7s						
PV10	Paradox Valley	6.71	99	Pn	Pn	21 58 28.3	-0.6
PV05	Paradox Valley	6.75	102	Pn	Pn	21 58 29.1	-0.3
PV19	Morning Glory	6.77	100	Pn	Pn	21 58 29.4	-0.3
YFT	Old Faithful	6.80	44	Pn	Pn	21 58 30.2	+0.2
PV04	Paradox Valley	6.81	99	Pn	Pn	21 58 29.5	-0.7
YHB	Horse Butte	6.81	41	Pn	Pn	21 58 29.1	-1.2
PV16	Nyswonger Mesa	6.82	100	Pn	Pn	21 58 30.1	-0.3
Y14A	Wickenburg	6.84	147	Pn	Pn	21 58 30.7	+0.2
PV22	Blue Mesa, Par	6.87	98		Pn	21 58 30.5	-0.5
YMR	Madison River	6.87	43	Pn	Pn	21 58 30.2	-0.9
YHL	Hebgen Lake	6.89	41		Pn	21 58 31.3	-0.1
H17A	Grant Village	6.90	46		Pn	21 58 31.0	-0.5
PV12	Saucer Basin,	6.91	99	Pn	Pn	21 58 29.9	-1.6
PV02	Paradox Valley	6.99	100		Pn	21 58 33.5	+0.8
YHH	Holmes Hill	7.01	42		Pn	21 58 33.7	+0.6
YNR	Norris Junctio	7.05	43		Pn	21 58 31.5	-2.1
MXC	Moxie City	7.10	344		Pn	21 58 36.2	+2.2
PV15	Paradox Valley	7.14	99		Pn	21 58 34.5	-0.3
X16A	Lo Mia Camp, P	7.20	136	Pn	Pn	21 58 36.1	+0.5
MVCO	Mesa Verde	7.49	107	Pn	Pn	21 58 39.4	-0.2
MSO	Missoula	7.51	19	Pn	Pn	21 58 39.2	-0.4
YNE	Yellowstone No	7.61	44		Pn	21 58 39.5	-1.6
113A	Mohawk Valley,	7.61	156	Pn	Pn	21 58 40.3	-0.6
LON	Longmire	7.65	337	Pn	Pn	21 58 41.0	-0.6
NEW	Newport	8.49	2	Pn	Pn	21 58 54.0	+0.9
	comp=E,0.1nm,0.3s,baz=224,slow=18,SNR=1.3						
NEW				Lg	Lg	22 01 15.8	
	comp=E,0.2nm,0.3s,baz=114,slow=20,SNR=4.6						
NEW				LR	LR	22 02 09.9	
	comp=E,89nm,18.3s,baz=118,slow=38						
	comp=E,0.5nm,0.3s						
ANMO	Albuquerque	10.01	115	Pg	Pn	21 59 50.7	+37
	comp=E,0.2nm,0.3s,baz=277,slow=17,SNR=11						
ANMO				Lg	Lg	22 02 05.0	
	comp=E,0.1nm,0.3s,baz=347,slow=16,SNR=3.4						
ANMO				LR	LR	22 03 42.6	
	comp=E,100nm,21.6s,baz=104,slow=41						
BBB	Bella Bella	14.43	333	LR	LR	22 05 15.4	
	comp=E,43nm,19.5s,baz=146,slow=35						
SN07	Snyder 07	14.91	111	P	Pn	22 00 19.5	-1.5
TX31	Lajitas Ar. Si	15.40	128		Pn	22 00 26.5	-1.1
TXAR	Lajitas Array	15.41	128	Pn	Pn	22 00 26.2	-1.4
TXAR	Lajitas Array	15.41	128	Pn	P	22 00 34.0	+1.8
	baz=304,slow=8.9,SNR=11						
TXAR				Lg	Lg	22 04 51.4	
	baz=314,slow=32,SNR=1.7						
TXAR				LR	LR	22 06 06.3	
	comp=E,29nm,19.7s,baz=310,slow=36						
	comp=E,2.0nm,1.0s						
DLBC	Dease Lake	20.34	341	P	Pn	22 01 28.5	+0.1
	comp=E,0.4nm,0.3s,baz=184,slow=12,SNR=1.5						
	comp=E,0.4nm,0.3s						
YKA	Yellowknife Ar	22.82	3	P	P	22 01 52.8	0.0
	comp=E,0.3nm,0.9s,baz=190,slow=8.9,SNR=5.2						
	comp=E,0.3nm,0.9s						
ILAR	Eielson Array	30.29	335	P	P	22 03 02.1	+1.0
	comp=E,0.2nm,0.9s,baz=125,slow=7.1,SNR=4.1						
	comp=E,0.2nm,0.9s						
NOA	NORSAR Array B	71.20	24	P	P	22 08 09.3	+0.5
	comp=E,0.4nm,0.7s,baz=317,slow=6.5,SNR=1.8						
	comp=E,0.4nm,0.7s						
HFS	Hagfors	72.68	23	P	P	22 08 20.0	+2.3
	comp=E,1.2nm,0.6s,baz=282,slow=7.2,SNR=3.2						
	comp=E,1.2nm,0.6s						
FINES	FINESS Array B	74.87	17	P	P	22 08 32.9	+2.4
	comp=E,1.0nm,0.7s,baz=345,slow=4.3,SNR=4.2						
	comp=E,1.0nm,0.7s						
BVAR	Borovoye Array	87.32	355	P	P	22 09 37.6	+0.7
	comp=E,0.4nm,0.6s,baz=20,slow=4.6,SNR=3.6						
	comp=E,0.4nm,0.6s						
KURBB	Kurchatov Arra	88.89	350	P	P	22 09 44.8	+0.5
	comp=E,0.6nm,0.2s,baz=18,slow=4.3,SNR=1.4						
	comp=E,0.6nm,0.2s						
BRTR	Keskin Array B	96.59	22	P	P	22 10 19.6	-0.8
	comp=E,0.2nm,0.6s,baz=323,slow=2.2,SNR=2.2						
	comp=E,0.2nm,0.6s						

NNC ***28*** *22:01:04.8±4.4, 36°.28N×70°.34E, h66km±92km, mb3.8, mpv3.8, Error ellipse: s-maj=46.2km s-min=25.7km az=147.0*

ISC 28 22:01:10.3±3.3, 36°.5N±0°.2×70°.7E±0°.1, h204km, n10, σ1°.83/13, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.08	21	P	Pn	22 02 37.0	-1.9
	SNR=18						
EKS2	Erkin-Say	6.59	20	P	Pn	22 02 44.4	-0.9
	SNR=5.1						
KK31	Karatay Array	6.60	359	P	Pn	22 02 43.0	-2.4
	4.1nm,0.5s,baz=180,slow=13,SNR=23						
KK31				⇑S	S	22 03 60.0	-0.7
	0.7nm,0.2s,baz=184,slow=24,SNR=4.3						
AAK	Ala-Archa	6.79	24	P	Pn	22 02 46.4	-1.5
	SNR=16						
AAK	Ala-Archa	6.79	24	⇑P	Pn	22 02 46.4	-1.5
	4.1nm,0.4s						
AAK				⇑S	S	22 04 06.7	+1.6
	3.1nm,0.5s						
CHMS	Chumysh	7.19	24	P	Pn	22 02 51.4	-1.6
	SNR=7.6						
TKM2	Tokmak 2	7.43	29	P	Pn	22 02 55.0	-1.3
	SNR=5.5						
TKM2	Tokmak 2	7.43	29	⇑P	Pn	22 02 54.6	-1.7
	1.3nm,0.4s						
TKM2				⇓S	S	22 04 21.7	+1.3
	1.3nm,0.6s						
AB31	Akbulak array	14.99	332	P	P	22 04 32.8	+0.2
	3.1nm,0.3s,baz=158,slow=12,SNR=153						
AKTO	Aktyubinsk	16.68	331	⇓P	Pn	22 04 55.1	+2.7
	0.6nm,0.5s						

UCR 28 22:04:54.9±0.7, 10°.28N×86°.39W, h12km±9km, MW4.3, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	Santa Cruz	0.79	91	*e*P	Pg	22 05 10.3	0.0
SACU				*e*S	Sb	22 05 21.2	-0.1
ALIBA	Liberia Airpor	0.89	69	*e*P	Pb	22 05 12.4	+0.2
ALIBA				*e*S	Sn	22 05 25.3	-0.7
NICO	Nicoya	0.94	99	*e*P	Pg	22 05 12.6	-0.5
LAPC	Finca la Perla	1.06	63	*e*P	Pb	22 05 14.3	-0.9
LCRUZ	La Cruz	1.09	43	*e*P	Pb	22 05 15.3	-0.4
LCRUZ				*e*S	Sn	22 05 30.8	-0.2
GPS3	Bodega del ICE	1.11	65	*e*P	Pb	22 05 16.2	+0.1
GPS2	Hotel Rincn d	1.12	65	*e*P	Pb	22 05 15.5	-0.8
VRLE	La Escondida,	1.13	63	*e*P	Pb	22 05 15.5	-0.9
VORI	VORI	1.16	62	*e*P	Pb	22 05 16.4	-0.5
BUAI	Buenos Aires	1.20	60	*e*P	Pn	22 05 17.0	-0.5
PEJA	Penjamo Buenos	1.22	60	*e*P	Pn	22 05 17.4	-0.5
COLC	Colonia	1.23	72	*e*P	Pn	22 05 17.1	-0.8
MESS	Mesas	1.26	69	*e*P	Pn	22 05 17.5	-0.9
CUI	Cuipilapa	1.26	73	*e*P	Pn	22 05 17.6	-0.8
INVE	Universidad In	1.32	81	*e*P	Pn	22

PET	Petropavlovsk	1.52 334			Pb	22 05 35.0	-1.5
PET	Petropavlovsk	1.52 334	*e*PN		Pb	22 05 34.3	-2.2
PET			*e*S		Sb	22 05 56.4	+1.1
PET			pmax	pmax			
comp=Z,764nm,0.5s							
PET			smax	smax			
comp=E,868nm,0.9s							
PET			smax	smax			
comp=N,2μm,0.7s							
PET	Petropavlovsk	1.52 334	*e*P		Pb	22 05 34.9	-1.6
NLC	Nalytchevo	1.52 350	PN		Pb	22 05 34.5	-2.0
NLC	Nalytchevo	1.52 350	*e*P		Pb	22 05 34.6	-2.0
KRMR	Karymshinskiy	1.54 320	PN		Pb	22 05 34.8	-2.0
KRMR	Karymshinskiy	1.54 320	*e*P		Pb	22 05 34.9	-2.0
INSR	Institute	1.57 333	PN		Pb	22 05 36.4	-0.9
INSR	Institute	1.57 333	*e*P		Pb	22 05 36.4	-0.9
UGLR	Uglovaya	1.64 340	PN		Pb	22 05 36.8	-1.9
UGLR	Uglovaya	1.64 340	*e*P		Pb	22 05 36.8	-1.9
SDLR	Sedlovina	1.70 342	PN		Pb	22 05 37.1	-2.5
SDLR	Sedlovina	1.70 342	*e*P		Pb	22 05 37.1	-2.5
AVH	Avacha	1.71 339	PN		Pb	22 05 37.9	-2.0
AVH	Avacha	1.71 339	*e*P		Pb	22 05 38.0	-2.0
KRER	Koryakskii	1.75 340	PN		Pb	22 05 38.4	-2.1
KRER	Koryakskii	1.75 340	*e*P		Pb	22 05 38.5	-2.1
KOK	Koryaka	1.76 337	PN		Pb	22 05 38.6	-2.1
KOK	Koryaka	1.76 337	*e*P		Pb	22 05 38.7	-2.1
KRX	Arik	1.82 338	PN		Pb	22 05 38.9	-2.8
KRX	Arik	1.82 338	*e*P		Pb	22 05 38.9	-2.8
PAU	Pauzhetka	1.86 265	PN		Pb	22 05 39.8	-2.4
PAU	Pauzhetka	1.86 265	*e*P		Pb	22 05 39.9	-2.4
PEA0B	Petropavlovsk-	1.92 319			Pb	22 05 41.0	-2.2
PEA0B	Petropavlovsk-	1.92 319	PN		Pb	22 05 41.1	-2.2
PETK	Petropavlovsk-	1.92 319			Pb	22 05 40.6	-2.7
PETK	Petropavlovsk-	1.92 319	P		Pb	22 05 40.0	-3.3
comp=N,82nm,0.4s,baz=123,slow=17,SNR=188							
PETK			S		Sb	22 06 11.1	+4.3
comp=N,184nm,0.8s,baz=331,slow=5.8,SNR=9.7							
PETK	Petropavlovsk-	1.92 319	PN		Pb	22 05 40.6	-2.7
APC	Apacha	2.04 309	PN		Pb	22 05 43.6	-1.6
APC	Apacha	2.04 309	*e*P		Pb	22 05 43.7	-1.6
GNL	Ganaly	2.31 332	PN		Pb	22 05 46.5	-3.5
GNL	Ganaly	2.31 332	*e*P		Pb	22 05 46.6	-3.5
KII	Karymskiy	2.38 355	PN		Pn	22 05 46.4	+0.7
KII	Karymskiy	2.38 355	*e*P		Pn	22 05 46.5	+0.7
SKR	Severo-Kuril's	2.50 248	⇑*i*PN		Pn	22 05 48.1	+0.7
SKR			*e*S		Sb	22 06 21.4	-2.2
SKR			pmax	pmax			
comp=Z,235nm,0.9s							
SKR			smax	smax			
comp=N,881nm,0.7s							
SKR			smax	smax			
comp=E,878nm,0.5s							
SKR			MLR	MLR			
comp=Z,600nm,14.0s							
SKR	Severo-Kuril's	2.50 248	*e*P		Pn	22 05 48.1	+0.7
SKR			*e*S		Sn	22 06 18.0	+1.2
MKZ	Mys Kozlova	3.12 21	PN		Pn	22 05 54.4	-1.5
MKZ	Mys Kozlova	3.12 21	*e*P		Pn	22 05 54.4	-1.5
KMNR	Kamenistaya	4.10 4	PN		Pn	22 06 12.4	+3.0
KMNR	Kamenistaya	4.10 4	*e*P		Pn	22 06 12.5	+3.0
KRSR	Krestovskiy	4.58 6	PN		Pn	22 06 18.7	+2.7
KRSR	Krestovskiy	4.58 6	*e*P		Pn	22 06 18.7	+2.7
KBTR	Krutoberegovo	4.89 20	PN		Pn	22 06 19.9	-0.3
KBTR	Krutoberegovo	4.89 20	*e*P		Pn	22 06 19.9	-0.3
SMKR	Semkarok	5.02 11	PN		Pn	22 06 27.4	+5.3
SMKR	Semkarok	5.02 11	*e*P		Pn	22 06 27.5	+5.4
SHEM	Shemya Is, Ala	8.87 78	LR		LR	22 10 22.7	
comp=Z,28nm,20.1s,baz=325,slow=34							
ASAJ	Asahikawa	13.76 243	P		Pn	22 08 23.4	+1.7
comp=Z,5.4nm,0.8s,baz=143,slow=30,SNR=2.0							
ASAJ			LR	LR		22 14 49.4	
comp=Z,75nm,18.6s,baz=49,slow=42							
BILL	Biiibino	16.72 9	⇓*e*P		P	22 09 03.2	+0.7
BILL			pmax	pmax			
comp=Z,17nm,3.3s							
BILL			MLR	MLR			
comp=Z,70nm,14.0s							
KLR	Kul'dur	17.96 273	P		P	22 09 16.4	+0.1
comp=Z,2.3nm,0.9s,baz=67,slow=13,SNR=4.9							
KLR			LR	LR		22 17 16.8	
comp=Z,86nm,18.1s,baz=68,slow=41							
KLR	Kul'dur	17.96 273	*e*P		P	22 09 17.0	+0.6
KLR			pmax	pmax			
comp=Z,5.0nm,1.6s							
YAK	Yakutsk	19.25 314	P		P	22 09 29.0	-1.4
YAK			IAmb	IAmb		22 09 30.1	
comp=Z,16nm,0.8s							
YAK	Yakutsk	19.25 314	P		P	22 09 28.6	-1.7
comp=Z,7.1nm,0.3s,baz=219,slow=0.8,SNR=6.7							
YAK	Yakutsk	19.25 314	*d i*P		P	22 09 28.7	-1.7
YAK			pmax	pmax			
comp=Z,18nm,0.9s							
YAK			MLR	MLR			
comp=Z,115nm,14.0s							
USRK	Ussuriysk Ar.	19.97 259	P		P	22 09 36.3	-2.0
USRK	Ussuriysk Ar.	19.97 259	P		P	22 09 38.9	+0.5
comp=Z,0.9nm,0.6s,baz=79,slow=10,SNR=1.9							
JSD	Sado	20.35 236			P	22 09 41.3	-1.2
LVA	Lava Point	20.65 70	P		P	22 09 44.9	-0.8
MJA0	Matsu Arr-Jizo	21.50 234	*e*P		P	22 09 57.7	+2.6
MJA0			pmax	pmax			
comp=Z,2.0nm,0.6s							
MJB9	Matsu-Tunnel	21.52 234			P	22 09 51.9	-3.3
MJB9			IAmb	IAmb		22 10 01.8	
comp=Z,6.7nm,0.7s							
MAJO	Matsushiro	21.52 234			P	22 09 50.9	-4.4
MAJO			IAmb	IAmb		22 10 00.8	
comp=Z,7.0nm,0.7s							
MAJO	Matsushiro	21.52 234	⇑*e*P		P	22 09 57.1	+1.9
MAJO			pmax	pmax			
comp=Z,27nm,2.3s							
MJAR	Matsushiro Arr	21.52 234	P		P	22 09 57.2	+1.9
comp=Z,1.9nm,0.6s,baz=22,slow=9.2,SNR=9.3							
MJAR			LR	LR		22 19 04.3	
comp=Z,52nm,21.0s,baz=39,slow=39							
comp=Z,1.9nm,0.6s							
TIXI	Tiksi	24.30 337			P	22 10 22.6	-0.4
TIXI			IAmb	IAmb		22 10 26.2	
comp=Z,5.1nm,1.1s							
TIXI	Tiksi	24.30 337	LR	LR		22 20 56.1	
comp=Z,58nm,20.3s,baz=184,slow=39							
TIXI	Tiksi	24.30 337	P		P	22 10 22.6	-0.4
TIXI			pmax	pmax			
comp=Z,5.0nm,1.2s							
F17K	Baldwin Pennin	24.35 38	P		P	22 10 23.0	-0.6
KSRS	Korea Array	26.52 250	P		P	22 10 42.2	-1.2
comp=Z,0.5nm,0.4s,baz=46,slow=9.3,SNR=4.1							
KSRS			LR	LR		22 21 35.6	
comp=Z,36nm,18.6s,baz=85,slow=37							
comp=Z,0.5nm,0.4s							
H11N2	WAKE ISLAND Hy	32.37 167	T		T	22 45 44.4	
baz=351,slow=76,SNR=24							
H11N3	WAKE ISLAND Hy	32.38 167	T		T	22 45 51.4	
baz=351,slow=76,SNR=16							
H11N1	WAKE ISLAND Hy	32.38 167	T		T	22 45 38.9	
baz=351,slow=76,SNR=16							
H11S1	WAKE ISLAND Hy	33.54 168	T		T	22 47 32.1	
baz=351,slow=76,SNR=6.1							
H11S3	WAKE ISLAND Hy	33.55 168	T		T	22 47 24.9	
baz=351,slow=76,SNR=6.1							
H11S2	WAKE ISLAND Hy	33.56 168	T		T	22 47 34.0	
baz=351,slow=76,SNR=5.7							
NRIK	Noril'sk	36.96 326	LR		LR	22 28 19.3	
comp=Z,28nm,18.9s,baz=122,slow=38							
NRIK	Noril'sk	36.96 326	⇓*e*P		P	22 12 11.7	-3.0
NRIK			MLR	MLR			
comp=Z,43nm,14.0s							
A36M	Sachs Harbour	37.46 30			P	22 12 18.8	0.0
BBB	Bella Bella	42.75 60	LR		LR	22 30 26.7	
comp=Z,32nm,18.0s,baz=170,slow=35							
ZALV	Zalesovo Beam	43.39 304	P		P	22 13 05.0	-3.1
comp=Z,0.6nm,0.3s,baz=39,slow=12,SNR=3.8							
comp=Z,0.6nm,0.3s							
ZALV	Zalesovo Beam	43.39 304	*e*P		P	22 13 07.2	-0.9
YKA	Yellowknife Ar	44.35 41	P		P	22 13 16.2	+0.5
comp=Z,0.2nm,0.7s,baz=300,slow=8.1,SNR=2.5							
comp=Z,0.2nm,0.7s							
KURK	Kurchatov	48.33 303	P		P	22 13 46.6	-0.4
KURBB	Kurchatov Arra	48.42 303	P		P	22 13 46.5	-1.2
comp=Z,4.8nm,0.7s,baz=61,slow=7.8,SNR=29							
KURBB			LR	LR		22 35 58.3	
comp=Z,48nm,18.5s,baz=168,slow=38							
comp=Z,4.8nm,0.7s							
SPITS	Spitsbergen Ar	48.51 351	P		P	22 13 48.5	+0.4
comp=Z,3.9nm,0.5s,baz=60,slow=8.9,SNR=48							
comp=Z,3.9nm,0.5s							
SPB2	Spitsbergen Ar	48.51 351			P	22 13 48.5	+0.4
SPB2			IAmb	IAmb		22 14 15.5	
comp=Z,11nm,1.2s							
MK31	Makanchi Array	48.60 297	P		P	22 13 48.0	-1.3
MK31			IAmb	IAmb		22 13 48.5	
comp=Z,1.5nm,0.6s							
MK31	Makanchi Array	48.60 297	P		P	22 13 48.0	-1.3
MK31			pmax	pmax			
comp=Z,2.0nm,0.6s							
MKAR	Makanchi Array	48.60 297			P	22 13 48.3	-1.0
MKAR	Makanchi Array	48.60 297	P		P	22 13 48.0	-1.2
comp=Z,1.3nm,0.5s,baz=54,slow=6.7,SNR=34							
comp=Z,1.3nm,0.5s							
MKAR	Makanchi Array	48.60 297	P		P	22 13 48.3	-1.0
MAKZ	Makanchi	48.77 297	P		P	22 13 49.0	-1.5
MAKZ			IAmb	IAmb		22 13 49.8	
comp=Z,1.8nm,0.6s							
MAKZ	Makanchi	48.77 297	P		P	22 13 49.0	-1.5
MAKZ			pmax	pmax			
comp=Z,2.0nm,0.6s							
BVAR	Borovoye Array	51.12 309	P		P	22 14 06.8	-1.5
comp=Z,2.4nm,0.4s,baz=55,slow=7.0,SNR=26							
comp=Z,2.4nm,0.4s							
BRVK	Borovoye	51.16 309	*d i*P		P	22 14 07.0	-1.5
BRVK			pmax	pmax			
comp=Z,5.0nm,1.4s							
BRVK			MLR	MLR			
comp=Z,76nm,15.0s							
ARTI	Arti	54.41 318	*c i*P		P	22 14 32.5	0.0
ARTI						22 15 31.4	
ARTI			S		S	22 22 10.3	+1.8
ARTI			SS		SKiKP	22 25 42.8	+3.4
ARTI			pmax	pmax			
comp=Z,3.0nm,1.8s							
ARCES	ARCESS Array B	54.58 342	P		P	22 14 32.6	-0.9
comp=Z,3.4nm,0.8s,baz=38,slow=8.3,SNR=9.6							
comp=Z,3.4nm,0.8s							
ARCES	ARCESS Array B	54.58 342	*e*P		P	22 14 33.3	-0.2
ARCES			pmax	pmax			
comp=Z,3.0nm,0.8s							
AAK	Ala-Archa	55.53 297	⇓*e*P		P	22 14 40.6	-0.4
AAK			pmax	pmax			
comp=Z,2.0nm,1.3s							
AAK			MLR	MLR			
comp=Z,28nm,14.0s							
CMAR	Chiang Mai Arr	57.70 259	P		P	22 14 57.0	+0.5
comp=Z,1.6nm,0.3s,baz=16,slow=7.4,SNR=6.3							
CMAR			LR	LR		22 44 53.1	
comp=Z,14nm,18.1s,baz=215,slow=41							
comp=Z,1.6nm,0.3s							
CMAR	Chiang Mai Arr	57.70 259	*e*P		P	22 14 58.6	+2.1
CMAR			pmax	pmax			
comp=Z,2.0nm,0.3s							
PDAR	Pinedale Array	58.40 60	P		P	22 15 04.7	+3.3
comp=Z,0.1nm,0.4s,baz=317,slow=6.8,SNR=1.6							
comp=Z,0.1nm,0.4s							
AB31	Akbulak array	58.57 311	P		P	22 15 01.8	-0.4
AB31			IAmb	IAmb		22 15 03.2	
comp=Z,1.6nm,1.1s							
ABKAR	Akbulak array	58.57 311	P		P	22 15 01.9	-0.3
ABKAR	Akbulak array	58.57 311	P		P	22 15 01.8	-0.3
ABKAR			IAmb	IAmb		22 15 03.2	
comp=Z,1.6nm,1.1s							
FINES	FINESS Array B	61.35 337	P		P	22 15 21.1	+0.1
comp=Z,2.3nm,0.6s,baz=34,slow=7.7,SNR=20							
comp=Z,2.3nm,0.6s							
NB2	NORSAR Subarra	64.85 344	P		P	22 15 44.4	0.0
comp=Z,0.6nm,0.5s,baz=23,slow=6.9							
NOA	NORSAR Array B	64.85 344	P		P	22 15 43.6	-0.8
comp=Z,0.7nm,0.7s,baz=16,slow=5.4,SNR=8.0							
NOA			LR	LR		22 46 43.3	
comp=Z,11nm,18.7s,baz=230,slow=38							
comp=Z,0.7nm,0.7s							
HFS	Hagfors	65.24 342	P		P	22 15 46.7	-0.1
comp=Z,2.8nm,0.4s,baz=56,slow=5.6,SNR=39							
comp=Z,2.8nm,0.4s							
MNK	Minsk	66.85 332	*i* P		P	22 15 54.5	-2.8
MNK			*i* *PP		pwP	22 16 10.9	+0.3
MNK			*i*			22 18 22.1	
MNK			*i* PPP	PPP		22 19 59.6	
MNK			*i* S		S	22 24 43.9	-3.4
MNK			*i* SS		SS	22 29 03.6	-1.0
MNK			pmax	pmax			
comp=E,7.0nm,1.1s							
MNK			pmax	pmax			
comp=Z,9.0nm,0.8s							
MNK			pmax	pmax			
comp=N,4.0nm,1.1s							
MNK			MLR	MLR			
comp=N,223nm,23.0s							
MNK			MLR	MLR			
comp=E,254nm,26.0s							
MNK			MLR	MLR			
comp=Z,47nm,19.0s							
AKASG	Malin Array Be	69.73 329	P		P	22 16 14.9	-0.4
comp=Z,4.0nm,0.5s,baz=32,slow=6.2,SNR=14							
comp=Z,0.4nm,0.5s							
AKBB	Malin Array Si	69.73 329			P	22 16 15.1	-0.2
AKBB			IAmb	IAmb		22 16 15.7	
comp=Z,6.7nm,0.8s							
AKBB	Malin Array Si	69.73 329	P		P	22 16 15.1	-0.2
AKBB			pmax	pmax			
comp=Z,7.0nm,0.9s							
KIEV	Kiev	69.74 329			P	22 16 15.1	-0.3
KIEV			IAmb	IAmb		22 16 15.7	
comp=Z,6.0nm,0.8s							
KIEV	Kiev	69.74 329	P		P	22 16 15.1	-0.3
KIEV			pmax	pmax			
comp=Z,6.0nm,0.9s							
PSI	Prapat	70.06 248	LR	LR		22 50 42.4	
comp=Z,75nm,18.9s,baz=212,slow=39							
TXAR	Lajitas Array	71.39 66	P		P	22 16 27.2	+1.3
comp=Z,0.2nm,0.7s,baz=299,slow=4.2,SNR=3.8							
comp=Z,0.2nm,0.7s							
EKA	Eskdalemuir Ar	72.42 350	P		P	22 16 30.6	-1.0
comp=Z,0.4nm,0.5s,baz=18,slow=5.0,SNR=6.1							
comp=Z,0.4nm,0.5s							
KOPT	Kop Dagi	74.50 316			P	22 16 44.7	+0.3
WB2	Warramunga Arr	74.70 205	P		P	22 16 43.3	-2.0
KHC	Kasperske Hory	75.52 338	⇑*e*P		P	22 16 49.4	-0.4
KHC			pmax	pmax			
comp=Z,11nm,1.9s							
GERES	GERESS Array B	75.75 338	P		P	22 16 50.8	-0.4
comp=Z,0.4nm,0.6s,baz=18,slow=6.3,SNR=3.4							
comp=Z,0.4nm,0.6s							
ILGA	Ilgaz	76.42 321			P	22 16 55.1	-0.3
MARD	Mardin	76.61 314			P	22 16 55.9	-0.5
BNN	Bunyan	77.44 318			P	22 17 01.7	+0.7
KBA	Koelnbreinsper	77.49 337	*e*PcP		P	22 17 03.1	+1.9
comp=Z,4.3nm,0.7s							
BRTR	Keskin Array B	77.59 320	P		P	22 17 01.5	-0.3
BRTR	Keskin Array B	77.59 320	P		P	22 17 00.7	-1.1
comp=Z,0.7nm,0.7s,baz=46,slow=3.6,SNR=7.6							
comp=Z,0.7nm,0.7s							
BRTR	Keskin Array B	77.59 320	*e*P		P	22 17 02.3	+0.4
BRTR			pmax	pmax			
comp=Z,1.0nm,0.7s							
ABTA	Abfaltersbach	78.00 338	*e*PcP		P	22 17 06.8	+2.8
comp=Z,1.6nm,0.7s							
FETA	Feichten	78.15 339	*e*PcP		P	22 17 07.8	+2.9
comp=Z,0.6nm,0.5s							
ASAR	Alice Springs	78.38 204	P		P	22 17 07.6	+1.5
comp=Z,0.2nm,0.5s,baz=20,slow=6.1,SNR=1.6							
comp=Z,0.2nm,0.5s							
CSS	Mathiatis	81.80 318			P	22 17 24.2	-0.5
CSS			IAmb	IAmb		22 17 26.2	
comp=Z,2.4nm,0.7s							
MMAI	Mount Meron Ar	82.59 316	P		P	22 17 29.4	+0.6
comp=Z,1.2nm,0.6s,baz=356,slow=3.6,SNR=7.4							
comp=Z,1.2nm,0.6s							
H03N2	Juan Fernandez	134.40 90	T		T	00 55 05.1	
baz=314,slow=78,SNR=6.4							
H03N1	Juan Fernandez	134.41 90	T		T	00 55 07.1	
baz=314,slow=78,SNR=5.1							
H03N3	Juan Fernandez	134.41 90	T		T	00 55 06.2	
baz=314,slow=78,SNR=7.2							

KRNET ***28*** *22:18:14.5±0.1,41°.94N×80°.31E,mb2.6*
SOME 28 22:18:09.4,42°.45N×80°.77E,h25km,14C-2D,
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	1.19 307		*e*P	Pn	22 18 27.9	-2.7
16nm,0.1s							
SHLS				*e*S	Sn	22 18 41.3	-4.8
37nm,0.3s							
UZB	Uzynbulak	1.46 299		*e*P	Pb	22 18 37.1	+1.1
4.8nm,0.2s							
UZB				*e*S	Sb	22 18 57.2	+3.0
12nm,0.3s							
PRZ	Przheval'sk	1.75 272	⇑	*i*P	Pb	22 18 43.1	+2.1
PRZ			⇑	*i*S	Sb	22 19 04.3	+1.7
ZHN	Zhinishke	1.86 293		*e*P	Pb	22 18 43.6	+0.8
5.1nm,0.2s							
ZHN				*e*S	Sb	22 19 08.2	+2.5
32nm,0.2s							
ANVS	Anan'yevo	2.31 279	⇑	*e*P	Pb	22 18 53.6	+3.1
ANVS			⇑	*i*S	Sb	22 19 21.9	+3.2
KDJ	Kajisay	2.68 264	⇓	*i*P	Pb	22 18 56.2	-0.6
KDJ			⇓	*i*S	Sb	22 19 26.5	-2.8
KOTS	Kotyrbulak	2.80 287		*e*P	Pb	22 19 00.5	+1.7
3.0nm,0.2s							
KOTS				*e*S	Sb	22 19 37.3	+4.6
17nm,0.3s							
TNSS	Tian-Shan	2.87 283		*e*P	Pb	22 19 01.6	+1.4
1.7nm,0.1s							
TNSS				*e*S	Sb	22 19 39.1	+4.1
5.2nm,0.3s							
CHKK	Chushkaly	3.10 298		*e*P	Pb	22 19 04.6	+0.8
0.4nm,0.0s							
CHKK				*e*S	Sb	22 19 44.5	+3.2
8.3nm,0.4s							
MTBS	Maitube	3.26 283		*e*P	Pb	22 19 08.8	+2.1
1.1nm,0.1s							
MTBS				*e*S	Sb	22 19 51.4	+5.4
5.9nm,0.3s							
ULHL	Ulahol	3.36 268	⇑	*i*P	Pb	22 19 06.0	-2.4
ULHL			⇑	*i*S	Sn	22 19 43.7	+4.0
BOOM	Boomskoye usch	3.57 272	⇑	*e*P	Pb	22 19 09.6	-2.4
BOOM			⇑	*i*S	Sn	22 19 49.7	+4.9
NRN	Naryn	3.70 256	⇑	*i*P	Pn	22 19 09.7	+4.5
NRN			⇑	*e*S	Sn	22 19 49.6	+1.4
TKM2	Tokmak 2	3.84 279	⇑	*i*P	Pb	22 19 14.0	-2.6
TKM2			⇑	*i*S	Sb	22 19 57.6	-5.1
KBK	Karagaybulak	4.30 275	⇑	*i*P	Pb	22 19 19.7	-4.7
KBK			⇑	*i*S	Sn	22 20 07.7	+4.8

IDC ***28*** *22:19:15.7±8.2,27°.30N×53°.36E,h0km,mb3.5/4,*
mbtmp3.5/6,ML3.4/2,Error ellipse: s-maj=151.5km
s-min=33.5km az=1.0
TEH ***28*** *22:19:18.3,27°.64N×53°.32E,h7km±104km*
DSN ***28*** *22:19:18.7±1.4,27°.78N×53°.22E,h15km,ML3.3/9,Error*
ellipse: s-maj=19.8km s-min=8.0km az=12.0
THR ***28*** *22:19:19.1±0.0,27°.66N×53°.11E,h16km±4km,mb4.0*
ISC 28 22:19:20.5±0.7,27°.63N±0°.04×53°.28E±0°.04,h16km,n49,
σ1§19/48,mb3.5/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.31 199		Pg	Pg	22 19 25.3	-1.8
LMD1	Lamerd	0.31 199		*e*Pg	Pg	22 19 25.5	-1.5
LMD1				*e*Sg	Sg	22 19 31.5	0.0
LMD1				IAML		22 19 35.2	
comp=Z,26nm,1.0s							
GHIR	Ghir-Karzin	0.70 338		*e*PgA		22 19 32.1	
GHIR				IAML		22 20 03.3	
comp=Z,0.6nm,1.0s							
QIR1	Qir	0.87 346		Pg	Pb	22 19 36.0	-1.3
JHRM	Jahrom	0.91 17		Pg	Pb	22 19 36.4	-1.6
LAR1	LAR	0.97 87		Pg	Pb	22 19 37.5	-1.5
DSBU	Dashti - Bushe	1.93 293		Pn	Pb	22 19 55.6	+0.3
SHI	Shiraz	2.11 342		Pn	Pn	22 19 57.1	+1.6
AHBU	AHRAM	2.14 306		Pn	Pb	22 19 57.7	-1.2
KAZ2	Kazeron-Fars-I	2.43 325		Pn	Pn	22 20 00.9	+1.2
BNDS	Bandar-Abbas	2.58 94		*e*Pn	Pb	22 20 05.5	-1.0
BNDS				IAML		22 21 07.2	
comp=Z,0.6nm,1.0s							
BANOM	Banah	3.19 122		P	Pn	22 20 10.4	+0.3
NAZ	Nazwa, Dubai	3.39 140		P	Pn	22 20 13.7	+0.9
MSFE	Esma-Masafi	3.43 131		P	Pn	22 20 14.3	+0.9
MDH	Madha	3.57 130		P	Pn	22 20 15.5	+0.3
NGRK	Negar Kerman	3.64 56		Pn	Pn	22 20 17.1	+0.5
KLNJ	Kolanjah	3.67 337		Pn	Pn	22 20 18.4	+1.4
KLNJ	Kolanjah	3.67 337		*e*Pn	Pn	22 20 16.0	-1.0
KLNJ				IAML		22 21 24.7	
comp=Z,0.2nm,1.0s							
UOSS	Minazif	3.75 135		P	Pn	22 20 18.2	+0.4
KRBR	Kerman	3.85 52		Pn	Pn	22 20 20.1	+0.7
KRBR	Kerman	3.85 52		*e*PnA		22 20 20.7	
KRBR				IAML		22 21 34.9	
comp=Z,0.2nm,1.0s							
ASHO	Ashiyiah	3.85 139		P	Pn	22 20 19.1	-0.1
ASHO				S	Sn	22 21 06.9	+2.6
KHGB	Koh Gabri	3.92 45		Pn	Pn	22 20 21.0	+0.7
IMEH	Mehriz	3.92 17		Pn	Pn	22 20 22.1	+1.8
KHNJ	Kahnooj	3.94 84		Pn	Pn	22 20 21.9	+1.6
ALNE	Al Ain	4.20 147		P	Pn	22 20 22.8	-1.2
IRAM	Ramesheh	4.24 350		Pn	Pn	22 20 25.8	+1.2
ISAD	Sadrabad	4.28 5		Pn	Pn	22 20 26.9	+1.5
CHMN	Cheshme madani	4.35 58		Pn	Pn	22 20 27.1	+0.7
KRM1	Kerman Provinc	4.52 50		Pn	Pn	22 20 29.0	+0.5
SOHO	SOHO	4.55 139		P	Pn	22 20 28.9	+0.2
MZR	Muzera	4.61 178		P	Pn	22 20 32.2	+2.5
KBAM	BAM	4.80 71		Pn	Pn	22 20 33.6	+1.4
YZKH	Yazd	4.88 13		*e*Pn	Pn	22 20 34.7	+1.3
YZKH				IAML		22 22 14.0	
comp=Z,0.0nm,1.0s							
NASN	Na'in	5.17 356		*e*Pn	Pn	22 20 38.1	+0.6
NASN				IAML		22 21 41.2	
comp=Z,0.0nm,1.0s							
ANAR	Anarak	5.55 4		Pn	Pn	22 20 43.7	+1.0
ISFB	Sefidab	6.76 353		Pn	Pn	22 20 59.1	-0.1
TKDS	Koohdasht(Taba	6.82 28		Pn	Pn	22 21 00.2	+0.2
TABS	Tabas	6.85 28		*e*PnA		22 21 00.8	
TABS				IAML		22 23

EOS4			S	Sn	22 24 38.9	+1.4
EGS		0.73 297	P	Pn	22 24 29.0	-0.4
EGS			S	Sn	22 24 41.5	-0.5
TWC	**Suao**	0.73 278	*i* P	Pn	22 24 29.0	-0.4
TWC			*i* S	Sn	22 24 41.0	-1.1
ESAO	**Su ao**	0.73 275	*eP*	Pn	22 24 29.8	+0.4
ESAO			*eS*	Sn	22 24 41.4	-0.6
TWB1	**Santiao Chiao**	0.78 310	P	Pn	22 24 29.9	0.0
TWB1			S	Sn	22 24 41.9	-0.9
EWUT	**Wuta**	0.79 266	P	Pn	22 24 30.1	+0.1
EWUT			S	Sn	22 24 42.9	-0.3
NTC	**Toucheng**	0.81 295	*eS*	Sn	22 24 43.4	-0.2
ENA	**Nanau**	0.83 265	*i* P	Pn	22 24 30.2	-0.2
ENA			*i* S	Sn	22 24 43.6	-0.2
EAHA	**Aohua**	0.84 258	P	Pn	22 24 30.5	-0.1
EAHA			*eS*	Sn	22 24 44.3	+0.2
ILA	**Ilan**	0.85 288	*eS*	Sn	22 24 44.1	-0.1
NDS	**Dongshan**	0.85 279	P	Pn	22 24 29.7	-1.0
NDS			S	Sn	22 24 42.9	-1.4
TIPB	**Shuangxi**	0.87 302	P	Pn	22 24 31.0	0.0
TIPB			S	Sn	22 24 43.6	-1.2
SXI1	**Grass Mountain**	0.91 310	P	Pn	22 24 31.2	-0.1
SXI1			S	Sn	22 24 45.7	+0.2
TWE	**Neicheng**	0.91 284	*i* P	Pn	22 24 31.2	-0.2
TWE			*i* S	Sn	22 24 45.1	-0.3
NWF	**Wu-fen Shan**	0.96 306	P	Pn	22 24 32.4	+0.4
NWF			S	Sn	22 24 45.8	-0.7
WFSB	**Wu-fen Shan**	0.96 306	*eP*	Pn	22 24 32.5	+0.6
WFSB			*i* S	Sn	22 24 46.4	0.0
ENTT	**Nioudou**	0.99 278	*i* P	Pn	22 24 32.7	+0.5
ENTT			*i* S	Sn	22 24 47.3	+0.3
FUSB	**Fushanzhiwuyua**	0.99 285	P	Pn	22 24 32.5	+0.2
FUSB			S	Sn	22 24 46.7	-0.4
ETL	**Fush Village**	0.99 250	P	Pn	22 24 31.9	-0.4
ETL			S	Sn	22 24 46.7	-0.4
IRIF	**Iriomote-Funau**	1.01 100	S	Sn	22 24 47.0	-0.2
NACB	**Ninganchiao**	1.01 251	P	Pn	22 24 31.9	-0.6
NACB	**Ninganchiao**	1.01 251	S	Sn	22 24 45.8	-1.6
NACB	**Ninganchiao**	1.01 251	*i* P	Pn	22 24 31.3	-1.1
NACB			S	Sn	22 24 46.5	-1.0
TNOU	**National Taiwa**	1.01 309	*eP*	Pn	22 24 32.9	+0.4
TNOU			*eS*	Sn	22 24 46.9	-0.5
LATG	**Datong**	1.02 272	P	Pn	22 24 32.8	+0.2
LATG			S	Sn	22 24 47.8	0.0
TWD	**Chiawan**	1.05 246	*i* P	Pn	22 24 32.5	-0.4
TWD			*i* S	Sn	22 24 47.5	-0.6
NWLT	**Wulai**	1.07 285	P	Pn	22 24 33.2	0.0
NWLT			S	Sn	22 24 48.0	-0.6
TWA	**Mucha**	1.07 296	*i* P	Pn	22 24 34.1	+1.0
TWA			*i* S	Sn	22 24 48.4	-0.2
HWA	**Hwalien**	1.09 241	P	Pn	22 24 33.0	-0.3
HWA			S	Sn	22 24 50.0	+1.1
ETLH	**Xiulin Townshi**	1.10 254	P	Pn	22 24 33.5	-0.1
ETLH			S	Sn	22 24 48.4	-1.0
NHDH	**Xindian Distri**	1.11 294	*eP*	Pn	22 24 33.7	+0.1
NHDH			*eS*	Sn	22 24 48.3	-1.1
TATO	**Taipei**	1.15 294	P	Pn	22 24 34.1	+0.1
TATO	**Taipei**	1.15 294	S	Sn	22 24 49.4	-0.8
TEYL	**Yanliau Villag**	1.15 236	P	Pn	22 24 33.8	-0.2
TEYL			S	Sn	22 24 49.8	-0.4
NNSB	**Datong**	1.15 266	P	Pn	22 24 34.3	+0.1
NNSB			S	Sn	22 24 49.8	-0.7
NNS	**Nan Shan**	1.16 267	P	Pn	22 24 33.4	-0.9
NNS			S	Sn	22 24 49.9	-0.8
TAP	**Taipei**	1.16 297	*eP*	Pn	22 24 34.4	+0.2
TAP			*eS*	Sn	22 24 50.0	-0.5
YM01	**YM01**	1.16 303	P	Pn	22 24 34.7	+0.4
YM01			S	Sn	22 24 50.1	-0.5
YHNB	**Yeheng**	1.16 278	P	Pn	22 24 34.5	+0.2
YHNB	**Yeheng**	1.16 278	P	Pn	22 24 34.5	+0.2
YHNB			S	Sn	22 24 50.6	-0.1
YM08	**YM08**	1.17 305	*eP*	Pn	22 24 33.8	-0.5
YM08			*eS*	Sn	22 24 50.1	-0.6
ETM	**Tongmen**	1.18 243	P	Pn	22 24 33.9	-0.5
ETM			*eS*	Sn	22 24 50.1	-0.9
NSK	**Sanguang**	1.18 278	P	Pn	22 24 34.9	+0.4
NSK			S	Sn	22 24 50.6	-0.4
ZUZH	**Zhuzihu**	1.19 303	P	Pn	22 24 34.6	0.0
ZUZH			*i* S	Sn	22 24 50.4	-0.8
TWY	**Chenhua**	1.22 309	*eP*	Pn	22 24 34.7	-0.2
TWY			*eS*	Sn	22 24 50.9	-0.7
SHUL	**Shoufeng**	1.22 234	P	Pn	22 24 34.7	-0.2
SHUL			*i* S	Sn	22 24 52.0	+0.2
ANP	**Anpu**	1.22 304	*eP*	Pn	22 24 35.1	+0.1
LXIB	**Xiulin Townshi**	1.22 247	P	Pn	22 24 34.9	-0.2
LXIB			S	Sn	22 24 51.2	-0.9
NTST	**Danshui**	1.27 301	*eS*	Sn	22 24 52.3	-0.4
JKRS	**Kuro-shima**	1.27 102	P	Pn	22 24 36.0	+0.5
JKRS			S	Sn	22 24 53.2	+0.3
TEGC	**Jichi Village**	1.28 232	P	Pn	22 24 36.0	+0.4
TEGC			*eS*	Sn	22 24 53.6	+0.5
FUSS	**Fushou**	1.30 259	P	Pn	22 24 36.3	+0.2
FUSS			*i* S	Sn	22 24 53.4	-0.5
ESL	**Shilin**	1.30 238	P	Pn	22 24 35.5	-0.4
ESL			S	Sn	22 24 53.3	-0.3
WHF	**Hehuan Shan**	1.31 254	*i* P	Pn	22 24 36.0	-0.4
WHF			*i* S	Sn	22 24 53.6	-0.7
KSHI	**Guanxi Townshi**	1.36 282	P	Pn	22 24 37.1	+0.5
KSHI			S	Sn	22 24 55.6	+0.8
TWT	**Tachien**	1.36 259	P	Pn	22 24 36.9	+0.1
TWT			S	Sn	22 24 54.9	-0.2
JIJ	**Ishigaki jima**	1.38 96	P	Pn	22 24 36.8	0.0
JIJ			S	Sn	22 24 54.2	-0.9
TDCB	**Techi**	1.38 260	P	Pn	22 24 37.5	+0.5
TDCB			S	Sn	22 24 55.2	-0.2
EGFH	**Guangfu**	1.39 233	P	Pn	22 24 36.9	-0.1
EGFH			*i* S	Sn	22 24 55.4	-0.1
WARBT	**Fenglin Townsh**	1.39 236	P	Pn	22 24 36.7	-0.4
WARBT			*eS*	Sn	22 24 54.6	-0.9
NFF	**Wufeng Townshi**	1.39 275	*i* P	Pn	22 24 37.6	+0.6
NFF			*eS*	Sn	22 24 57.1	+1.5
NCUH	**Zhongli**	1.40 289	*eP*	Pn	22 24 38.6	+1.5
NCUH			*eS*	Sn	22 24 55.8	+0.1
OWD	**Renai**	1.45 248	*i* P	Pn	22 24 37.4	-0.4
OWD			*i* S	Sn	22 24 56.2	-0.8
WUSB	**Renai**	1.48 250	*i* P	Pn	22 24 38.8	+0.5
WUSB			S	Sn	22 24 58.0	+0.2
LIOB	**Emei**	1.49 276	*eP*	Pn	22 24 38.8	+0.6
LIOB			*i* S	Sn	22 24 57.9	+0.3
NSTT	**Nanjuang**	1.50 275	*eP*	Pn	22 24 38.8	+0.4
NSTT			*i* S	Sn	22 24 57.8	0.0
HGSD	**Ruisui**	1.51 228	*eP*	Pn	22 24 38.2	-0.2
HGSD			S	Sn	22 24 57.8	-0.2
JISG	**Ishigakijimahi**	1.52 87	P	Pn	22 24 38.7	+0.1
JISG			S	Sn	22 24 57.6	-0.7
SBCB	**Hsinchu**	1.53 281	*eS*	Sn	22 24 59.5	+0.9
HSN	**Hsinchu**	1.55 281	*eP*	Pn	22 24 38.2	-0.8
HSN			S	Sn	22 24 58.4	-0.6
EHYH	**Wanrong**	1.56 230	*eP*	Pn	22 24 38.9	-0.2
WHP	**Taichung City**	1.56 262	*i* P	Pn	22 24 40.6	+1.3
WHP			*i* S	Sn	22 25 00.4	+0.9
VWDT	**VWDT**	1.56 242	*i* P	Pn	22 24 39.7	+0.5
VWDT			*i* S	Sn	22 24 59.4	+0.1
EHY	**Hungye**	1.57 231	*eP*	Pn	22 24 38.6	-0.6
ECBN	**Changbin**	1.61 223	*eP*	Pn	22 24 39.6	-0.2
ECBN			*i* S	Sn	22 25 00.0	-0.4
WCS	**Beigang Elemen**	1.64 254	*i* P	Pn	22 24 41.2	+1.1
WCS			S	Sn	22 25 03.0	+1.9
YULB	**Yu-li**	1.66 228	P	Pn	22 24 39.8	-0.6
YULB	**Yu-li**	1.66 228	S	Sn	22 25 00.7	-0.8
YULB	**Yu-li**	1.66 228	*eP*	Pn	22 24 40.0	-0.4
EYUL	**Yuli**	1.68 227	*eP*	Pn	22 24 40.8	+0.1
EYUL			*i* S	Sn	22 25 02.9	+1.0
TWF1	**Yuli**	1.69 227	*eP*	Pn	22 24 40.4	-0.3
TWF1			*eS*	Sn	22 25 01.3	-0.8
NMLH	**Miaoli**	1.69 271	*eP*	Pn	22 24 41.6	+0.9
NMLH			*i* S	Sn	22 25 02.8	+0.6
SSLB	**Suanglung**	1.70 245	P	Pn	22 24 41.1	+0.1
SSLB	**Suanglung**	1.70 245	*eP*	Pn	22 24 40.9	-0.1
SMLT	**Sun Moon Lake**	1.71 249	P	Pn	22 24 40.9	-0.2
TWQ1	**Liyutan**	1.71 265	*eP*	Pn	22 24 42.4	+1.4
TYC	**Yuchr**	1.74 250	*i* P	Pn	22 24 42.7	+1.3
CHKH	**Chenggong**	1.74 221	*eP*	Pn	22 24 40.8	-0.6
CHKH			S	Sn	22 25 01.7	-1.6
FULB	**Fuli**	1.80 224	*eP*	Pn	22 24 42.1	-0.1
FULB			*i* S	Sn	22 25 04.3	-0.4
WHYT	**Xinyi Township**	1.82 244	P	Pn	22 24 43.7	+1.1
WHYT			*eS*	Sn	22 25 07.5	+2.1
CHKT	**Chengkung**	1.83 220	*i* P	Pn	22 24 41.4	-1.2
CHKT			*eS*	Sn	22 25 03.7	-1.7
WJS	**Zhushan**	1.88 249	*eP*	Pn	22 24 44.8	+1.6
JTJ	**Tarama**	1.88 86	*eP*	Pn	22 24 43.6	+0.4
JTJ			*eS*	Sn	22 25 06.1	-0.4
EHD	**Haiduan**	1.89 224	*eP*	Pn	22 24 43.3	0.0
WNT	**Mingjian**	1.90 251	*eP*	Pn	22 24 45.2	+1.7
ECS	**Chishang**	1.92 223	*eP*	Pn	22 24 44.3	+0.6
WCHH	**Zhanghua**	1.95 258	*eP*	Pn	22 24 45.2	+1.0
EDH	**Donghe**	1.96 219	*i* P	Pn	22 24 43.8	-0.5
EDH			*i* S	Sn	22 25 07.0	-1.5
ELDTW	**Lidau**	1.99 229	*i* P	Pn	22 24 44.8	0.0
ELDTW			*i* S	Sn	22 25 08.5	-0.8
CHN5	**Tsauling**	2.01 244	*eP*	Pn	22 24 46.4	+1.4
WGK	**Gukeng**	2.07 247	*eP*	Pn	22 24 47.5	+1.8
WDLH	**Douliu**	2.09 247	*eP*	Pn	22 24 47.5	+1.6
LONT	**Longtian**	2.11 221	*i* P	Pn	22 24 46.0	-0.3
LDUT	**Ludao**	2.12 211	*eP*	Pn	22 24 45.6	-0.8
WCKO	**Fanlu**	2.15 241	P	Pn	22 24 48.4	+1.6
STYH	**Taoyuan**	2.17 232	*eP*	Pn	22 24 46.6	-0.4
TPUB	**Ta-pu**	2.20 237	P	Pn	22 24 47.6	+0.1
TPUB	**Ta-pu**	2.20 237	P	Pn	22 24 49.5	+2.1
CHN4	**Tsaushan**	2.20 239	*eP*	Pn	22 24 48.8	+1.3
CHN2	**Minshiung**	2.21 244	*eP*	Pn	22 24 49.1	+1.6
TWGBT	**Beinan**	2.21 221	P	Pn	22 24 47.1	-0.5
TWGBT	**Beinan**	2.21 221	S	Sn	22 25 13.1	-1.3
TWGBT	**Beinan**	2.21 221	*i* P	Pn	22 24 47.3	-0.3
TWGBT			*eS*	Sn	22 25 13.5	-0.9
TWG	**Pinlang**	2.21 221	*i* P	Pn	22 24 47.2	-0.4
WTK	**Tuku**	2.22 249	*eP*	Pn	22 24 48.5	+0.9
WTP	**Ta-pu**	2.24 236	*eP*	Pn	22 24 49.1	+1.1
JIRB	**Irabujima**	2.32 82	*eP*	Pn	22 24 49.5	+0.4
JIRB			*eS*	Sn	22 25 16.6	-0.4
TWK	**Hsinying**	2.33 238	*eP*	Pn	22 24 49.6	+0.4
CHN1	**Nanshi**	2.34 236	*eP*	Pn	22 24 50.7	+1.4
SNST	**Tainan City**	2.35 237	*eP*	Pn	22 24 50.9	+1.5
SGST	**Jiashian**	2.36 233	*eP*	Pn	22 24 50.1	+0.5
JIKM	**Ikemajima**	2.41 80	*eS*	Sn	22 25 19.1	+0.2
ICHU	**Yijhu**	2.45 243	*eP*	Pn	22 24 52.1	+1.4
JMJ2	**Miyako jima3**	2.45 84	*eS*	Sn	22 25 19.8	-0.3
ECL	**Taimali**	2.46 219	P	Pn	22 24 50.3	-0.6
JOGS	**Gusukube**	2.53 84	*eP*	Pn	22 24 52.4	+0.6
JOGS			*eS*	Sn	22 25 21.9	+0.1
SSD	**Sandimen**	2.55 227	*eP*	Pn	22 24 54.0	+2.0
MASBT	**Mashibuluo**	2.64 225	*eP*	Pn	22 24 55.8	+2.5
MASBT			*eS*	Sn	22 25 27.5	+3.0
LAY	**Lan-yu**	2.66 202	P	Pn	22 24 52.6	-0.9
LYUB	**Lan-yu**	2.68 202	*eP*	Pn	22 24 52.8	-1.0
TAWH	**Dawu Township**	2.69 217	*eP*	Pn	22 24 54.7	+0.6
TSCK	**Chigu Township**	2.71 240	*eP*	Pn	22 24 54.5	+0.3
SCZT	**Fangliau**	2.83 222	*eP*	Pn	22 24 57.5	+1.8
VWUC	**VWUC**	2.94 280	*i* P	Pn	22 24 56.9	-0.4
PHUB	**P'eng-hu**	2.98 251	*eP*	Pn	22 24 57.4	-0.4
PHUB			*eS*	Sn	22 25 31.3	-1.4
PTMZ	**Houxiangcun**	3.25 280	*i* P	Pn	22 25 01.1	-0.3
KNMB	**Chin-men Tao**	3.88 270	*eP*	Pn	22 25 09.4	-0.5
AXDP	**Jialang**	4.27 276	*eP*	Pn	22 25 15.2	-0.1

TEH ***28*** *22:25:48.7,27.°65N×53.°29E, h6km±669km*
DSN ***28*** *22:25:51.4±0.8,27.°60N×53.°21E, h15km, ML2.9/8, Error ellipse: s-maj=11.8km s-min=4.6km az=12.0*
SGS ***28*** *22:25:51.6,26.°84N×54.°15E, h15km, Ml3.5*
IDC ***28*** *22:25:56.4±9.7,28.°78N×53.°31E, h0km, mb3.7/3, mbtmp3.5/5, ML3.4/2, MS2.6/1, Error ellipse: s-maj=190.3km s-min=33.3km az=177.0*
OMAN ***28*** *22:25:56.9±0.1,27.°20N×53.°32E, h10km, mb4.2/4, ml3.4/16, Error ellipse: s-maj=1.0km s-min=0.5km az=357.0*

ISC 28 22:25:50.5±0.7,**27.°60N**±0.°04×**53.°26E**±0.°03,**h16**km,**n72,** σ2°**22**/101,**mb3.6/3,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	0.28	198	Pg	**Pg**	22 25 56.0	-0.4
QIR1	**Qir**	0.89	348	Pg	**Pb**	22 26 05.9	-1.7
JHRM	**Jahrom**	0.94	17	Pg	**Pb**	22 26 06.7	-1.8
LAR1	**LAR**	0.99	86	Pg	**Pb**	22 26 08.5	-0.8
DSBU	**Dashti - Bushe**	1.92	294	Pn	**Pn**	22 26 24.6	+2.1
SHI	**Shiraz**	2.13	342	Pn	**Pn**	22 26 27.1	+1.5
AHBU	**AHRAM**	2.14	306	Pn	**Pn**	22 26 28.4	+2.9
KAZ2	**Kazeron-Fars-I**	2.44	325	Pn	**Pn**	22 26 31.7	+1.9
BNDS	**Bandar-Abbas**	2.59	94	Pn	**Pn**	22 26 34.7	+2.8
JRN	**Qarnain Island**	2.68	188	P	**Pn**	22 26 36.2	+3.3
JRN				S	**Sn**	22 27 07.8	+2.8
SHMA	**Al-Shehemyia** SNR=6.2	2.69	230	P	**Pb**	22 26 38.0	-0.2
SHMA				S	**Sb**	22 27 10.3	-0.7
SAKB	**Bahrain**	2.92	237	P	**Pb**	22 26 41.0	-1.2
SAKB				S	**Sb**	22 27 15.6	-2.1
SHME	**Shamm**	3.00	120	P	**Pb**	22 26 42.8	-0.8
BANOM	**Banah**	3.19	121	P	**Pn**	22 26 44.7	+4.6
BANOM				S	**Sn**	22 27 20.8	+3.0
BANOM	**Banah**	3.19	121	P	**Pn**	22 26 41.8	+1.8
NAZ	**Nazwa, Dubai**	3.38	140	P	**Pn**	22 26 45.7	+3.1
NAZ				S	**Sn**	22 27 25.4	+3.0
TRNA	**Turayna** SNR=7.4	3.40	213	P	**Pn**	22 26 46.4	+3.5
TRNA				S	**Sb**	22 27 27.8	-3.6
MASF	**Masafi**	3.42	130	P	**Pn**	22 26 46.9	+3.7
MASF				S	**Sn**	22 27 24.8	+1.3
MSFE	**Esma-Masafi**	3.43	130	P	**Pn**	22 26 44.6	+1.3
ASUD	**Al Ashush, Dub**	3.50	147	P	**Pn**	22 26 47.1	+2.8
ASUD				S	**Sn**	22 27 27.3	+2.0
SMRA	**Abu-Samra**	3.59	218	P	**Pn**	22 26 49.0	+3.6
SMRA				S	**Sn**	22 27 32.7	+5.1
GHWR	**Ruwais**	3.64	186	P	**Pn**	22 26 47.7	+1.5
NGRK	**Negar Kerman**	3.67	56	Pn	**Pn**	22 26 47.9	+1.1
KLNJ	**Kolanjah**	3.69	337	Pn	**Pn**	22 26 49.3	+2.1
UOSS	**Minazif**	3.74	134	Pn	**Pn**	22 26 49.5	+1.9
UOSS	**Minazif**	3.74	134	P	**Pn**	22 26 51.5	+3.9
HATD	**Hatta, Dubai**	3.78	136	P	**Pn**	22 26 52.4	+4.3
HATD				S	**Sn**	22 27 33.7	+1.3
HATD	**Hatta, Dubai**	3.78	136	P	**Pn**	22 26 49.8	+1.7
ASHO	**Ashiyiah**	3.85	139	P	**Pn**	22 26 51.4	+2.4
ASHO				S	**Sn**	22 27 35.2	+1.3
ASHO	**Ashiyiah**	3.85	139	P	**Pn**	22 26 49.8	+0.8
ASHO				S	**Sn**	22 27 36.2	+2.2
MZWR	**Madinat Zayed**	3.87	172	P	**Pn**	22 26 51.1	+1.8
MZWR				S	**Sn**	22 27 35.6	+1.2
KRBR	**Kerman**	3.88	52	Pn	**Pn**	22 26 51.6	+1.8
KHGB	**Koh Gabri**	3.95	45	Pn	**Pn**	22 26 51.8	+1.2
IMEH	**Mehriz**	3.95	17	Pn	**Pn**	22 26 52.3	+1.6
ALNE	**Al Ain**	4.19	147	P	**Pn**	22 26 56.1	+2.4
ALNE				S	**Sn**	22 27 43.7	+1.3
ALNE	**Al Ain**	4.19	147	P	**Pn**	22 26 55.7	+2.0
IRAM	**Ramesheh**	4.26	350	Pn	**Pn**	22 26 55.8	+0.9
ISAD	**Sadrabad**	4.31	5	Pn	**Pn**	22 26 56.3	+0.6
CHMN	**Cheshme madani**	4.38	58	Pn	**Pn**	22 26 58.1	+1.4
SOHO	**SOHO**	4.54	139	P	**Pn**	22 27 01.4	+2.8
SOHO				S	**Sn**	22 27 52.3	+1.2
SOHO	**SOHO**	4.54	139	P	**Pn**	22 27 00.4	+1.8
KRM1	**Kerman Provinc**	4.55	50	Pn	**Pn**	22 27 00.3	+1.5
MZR	**Muzera**	4.59	177	P	**Pn**	22 27 01.6	+2.4
MZR				S	**Sn**	22 27 53.4	+1.2
MZR	**Muzera**	4.59	177	P	**Pn**	22 27 01.2	+2.0
NHRD	**Haradh**	4.77	234	S	**Sn**	22 28 01.0	+4.3
NHRD				P	**Pn**	22 27 05.6	+3.8
KBAM	**BAM**	4.82	70	Pn	**Pn**	22 27 04.5	+2.0
UMZA	**Um Al Zommool**	5.17	160	P	**Pn**	22 27 09.0	+1.9
UMZA				S	**Sn**	22 28 07.0	+0.6
ARQ	**Araqi** SNR=13	5.17	145	P	**Pn**	22 27 10.0	+2.7
ARQ				S	**Sn**	22 28 06.4	-0.3
IZEF	**Zefreh**	5.33	352	Pn	**Pn**	22 27 10.4	+0.7
HOQ	**Hoqain**	5.42	137	P	**Pn**	22 27 13.3	+2.6
HOQ				S	**Sn**	22 28 11.4	-1.5
ANAR	**Anarak**	5.58	4	Pn	**Pn**	22 27 14.3	+1.3
BSY	**Bisya**	6.01	143	P	**Pn**	22 27 20.9	+2.1
BSY				S	**Sn**	22 28 27.7	+0.3
SMDO	**Samad**	6.27	135	P	**Pn**	22 27 24.3	+2.0
SMDO				S	**Sn**	22 28 32.7	-1.0
WSAR	**Wadi Sarin**	6.52	131	P	**Pn**	22 27 28.1	+2.3
WSAR				S	**Sn**	22 28 37.2	-2.6
JMDO	**Jabal Madar**	6.82	139	P	**Pn**	22 27 33.6	+3.7
WBK	**Wadi Bani Khal**	7.18	133	Pn	**Pn**	22 27 36.4	+1.6
WBK	**Wadi Bani Khal**	7.18	133	P	**Pn**	22 27 35.6	+0.8
NGCH	**Negor - Chabah**	7.40	106	P	**Pn**	22 27 38.8	+0.9
JLN	**Jalan Bani Buh**	7.79	133	P	**Pn**	22 27 43.6	+0.4
JLN				S	**Sn**	22 29 09.7	-1.4
MHTO	**MHTO**	7.86	146	P	**Pn**	22 27 46.3	+2.1
MHTO				S	**Sn**	22 29 09.7	-3.2
RAYN	**Ar Rayn**	8.10	242	P	**Pn**	22 27 48.5	+1.0
RAYN				S	**Sn**	22 29 18.6	-0.1
RAYN	**Ar Rayn**	8.10	242	P	**Pn**	22 27 47.4	-0.1
DOK	**Doka**	8.98	175	P	**Pn**	22 27 59.3	-0.3
DOK				S	**Sn**	22 29 35.9	-4.5
WHFO	**Wadi Hawf** SNR=6.2	9.65	177	P	**Pn**	22 28 10.5	+1.7
WHFO				S	**Sn**	22 29 55.6	-1.3
DMTO	**DMTO**	9.96	171	P	**Pn**	22 28 14.3	+1.3
DMTO				S	**Sn**	22 30 01.7	-2.9
ABTO	**Aybut**	10.20	180	P	**Pn**	22 28 17.4	+1.0
ABTO				S	**Sn**	22 30 08.0	-2.6
GNI	**Garni** comp=Z,26nm,18.7s,baz=142,slow=38	14.36	333	LR	LR	22 34 29.4	
MMAI	**Mount Meron Ar** 0.2nm,0.3s,baz=107,slow=19,SNR=1.7 0.3nm,0.5s	16.33	294	Pn	**P**	22 29 43.0	+0.9
BRTR	**Keskin Array B** 0.1nm,0.3s,baz=116,slow=12,SNR=4.4 0.2nm,0.4s	20.27	312	P	**P**	22 30 26.1	+0.6
BVAR	**Borovoye Array** 1.3nm,0.8s,baz=211,slow=8.3,SNR=6.9 1.3nm,0.8s	28.41	22	P	**P**	22 31 43.1	-0.9
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=233,slow=10,SNR=5.8 0.2nm,0.4s	29.77	42	P	**P**	22 31 56.6	+0.3
FINES	**FINESS Array B** 0.6nm,0.5s,baz=140,slow=7.4,SNR=5.1 0.6nm,0.5s	38.41	339	P	**P**	22 33 09.5	-1.4

IDC ***28*** *22:26:24.0±0.8,37.°52N×141.°55E, h0km, mb3.7/15, mbtmp3.7/19, ML3.3/4, MS2.5/1, Error ellipse: s-maj=21.1km s-min=17.5km az=104.0*
NIED ***28*** *22:26:25.6,37.°32N×141.°59E, h30km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-2.76; Mθθ0.87; Mφφ1.89; Mrθ-0.49; Mθφ-0.62; Mφr0.62; Fault plane solution: M0 2.59000×10^14 NP1: φs337.00000°, δ36.00000°, λ-85.00000°. NP2: φs151.00000°, δ54.00000°, λ-93.00000°.*
JMA ***28*** *22:26:25.6±0.2,37.°3N±0.°4×141.°6E±0.°9, h30km±1km, MD4.0/40, MV3.9/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 28 22:26:26.7±1.1,**37.°37N**±0.°04×**141.°53E**±0.°09,**h22**km±7km, **n42,** σ1°**23**/41,**mb3.7**/15,**6D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	0.53	270	P	**Pb**	22 26 36.9	-0.4
JFK				S	**Sb**	22 26 44.8	+0.3
JFK	**Kawauchi** comp=N,4.0nm,1.1s,comp=E,7.0nm,0.8s	0.53	270	A	A	22 26 36.9	
JMST	**Minamisoumatoc**	0.62	305	P	**Pb**	22 26 38.9	0.0
JMST				*eS*	**Sb**	22 26 48.3	+1.0
JMST	**Minamisoumatoc** comp=N,10.0nm,0.4s,comp=E,5.0nm,0.4s	0.62	305	A	A	22 26 38.9	
ONAJ	**Iwakimizuishiy**	0.65	246	P	**Pb**	22 26 38.3	-1.0
ONAJ				S	**Sb**	22 26 47.7	-0.3
ONAJ	**Iwakimizuishiy** comp=N,9.0nm,0.3s,comp=E,8.0nm,0.3s	0.65	246	A	A	22 26 38.3	
JMM	**Marumori**	0.77	310	‖P	**Pn**	22 26 41.0	-1.2
JMM				‖S	**Sb**	22 26 52.1	+0.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.31**	**295**	P	**Pn**	**22 39 15.8**	**+0.5**
	10nm,0.7s,baz=136,slow=9.3,SNR=4.0						
JAY				S	Sn	22 39 52.1	-12
	12nm,0.5s,baz=134,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**18.41**	**212**	P	**Pn**	**22 42 21.0**	**+0.3**
	1.8nm,0.4s,baz=23,slow=12,SNR=19						
ASAR	**Alice Springs**	**21.77**	**207**	P	**P**	**22 42 57.4**	**+1.7**
	1.1nm,0.6s,baz=32,slow=11,SNR=11						
ASAR				S	**S**	**22 46 47.3**	**-3.4**
	0.7nm,0.9s,baz=26,slow=18,SNR=5.1						
	1.1nm,0.6s						
MSVF	**Nonsavu**	**35.33**	**115**	LR	LR	22 56 41.6	
	comp=Z,148nm,21.3s,baz=331,slow=31						
KSRS	**Korea Array**	**44.43**	**341**	P	**P**	**22 46 12.9**	**+0.1**
	1.2nm,0.8s,baz=158,slow=8.4,SNR=6.0						
	1.2nm,0.8s						
VNDA	**Vanda**	**73.66**	**176**	P	**P**	**22 49 35.0**	**+0.8**
	0.7nm,0.8s,baz=327,slow=5.3,SNR=3.6						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**74.74**	**321**	P	**P**	**22 49 40.8**	**-0.3**
	0.4nm,0.5s,baz=96,slow=8.9,SNR=7.0						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**76.39**	**328**	P	**P**	**22 49 49.3**	**-0.9**
	0.6nm,0.6s,baz=99,slow=4.5,SNR=1.9						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**78.52**	**324**	P	**P**	**22 50 01.5**	**-0.6**
	0.2nm,0.5s,baz=110,slow=6.4,SNR=3.0						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**84.07**	**324**	P	**P**	**22 50 31.6**	**+0.1**
	1.2nm,0.5s,baz=102,slow=5.4,SNR=11						
	1.2nm,0.5s						
ILAR	**Eielson Array**	**84.96**	**24**	P	**P**	**22 50 35.2**	**-0.5**
	0.7nm,0.7s,baz=252,slow=5.1,SNR=8.3						
	0.7nm,0.7s						
EKA	**Eskdalemuir Ar**	**122.97**	**339**	PKP	**PKPdf**	**22 56 56.4**	**-0.1**
	0.2nm,0.5s,baz=28,slow=3.8,SNR=3.7						

*TEH **28** 22:41:58.3, 33°.54N×45°.72E, h14km±27km*
*ISN **28** 22:42:01.5±3.2, 33°.58N×45°.75E, h10km±37km, ML3.2*
ISC 28 22:42:00.6±1.0**, 33°.60N**±0°.06×**45°.73E**±0°.04**, h13km, n18,**
σ1§05/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.53**	**16**	Pg	**Pg**	**22 42 10.8**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.91**	**353**	Pg	**Pb**	**22 42 17.7**	**-0.6**
IGHG	**Ghaleghazi**	**1.01**	**44**	Pg	**Pb**	**22 42 19.9**	**-0.2**
BHD	**Baghdad**	**1.18**	**254**	*e*Pg	**Pg**	**22 42 23.0**	**-0.2**
	baz=75						
BHD				*e*Sg	**Sn**	**22 42 40.0**	**+1.4**
BHD				AML	AML	22 42 52.5	
	comp=E,513nm,0.9s						
IDHR	**Dehrash**	**1.23**	**26**	Pg	**Pg**	**22 42 24.3**	**0.0**
KCHF	**Cheshme Sefid,**	**1.28**	**58**	Pg	**Pn**	**22 42 24.1**	**-0.3**
ILIN	**Lien**	**1.67**	**38**	Pg	**Pb**	**22 42 31.4**	**+0.1**
IKFM	**Kafar-mosalman**	**1.77**	**92**	Pg	**Pg**	**22 42 33.0**	**-1.6**
SNQR	**Sonqor, Kerman**	**2.01**	**51**	Pn	**Pb**	**22 42 36.0**	**-1.3**
IKRK	**Kirkuk**	**2.13**	**328**	*e*Pn	**Pn**	**22 42 35.0**	**-0.9**
IKRK				*e*Sn	**Sb**	**22 43 05.0**	**-0.4**
HSAM	**Samen**	**2.47**	**75**	Pn	**Pn**	**22 42 41.6**	**+0.8**
BDRS	**Dareh Seyedi**	**2.65**	**81**	Pn	**Pn**	**22 42 44.3**	**+1.0**
HAGD	**Aghdareh**	**3.08**	**66**	Pn	**Pn**	**22 42 49.7**	**+0.5**
HGHA	**Hamedan- Ghaye**	**3.20**	**53**	Pn	**Pn**	**22 42 52.6**	**+1.9**
IRAZ	**Razeghan**	**3.91**	**61**	Pn	**Pn**	**22 43 02.5**	**+1.9**
JHBN	**Jahan bin**	**4.37**	**107**	Pn	**Pn**	**22 43 07.1**	**+0.1**
ISFB	**Sefidab**	**5.46**	**80**	Pn	**Pn**	**22 43 22.6**	**+0.8**
IZEF	**Zefreh**	**5.58**	**95**	Pn	**Pn**	**22 43 24.4**	**+0.9**

*NNC **28** 23:04:25.2±1.8, 37°.57N×71°.73E, h146km±27km, mb3.1, mpv4.1, Error ellipse: s-maj=16.2km s-min=10.1km az=7.0*
*IDC **28** 23:04:25.1±4.8, 37°.61N×71°.71E, h145km±43km, mb3.2/4, mbtmp3.8/10, Error ellipse: s-maj=41.1km s-min=33.5km az=151.0*
ISC 28 23:04:25.4±1.4**, 37°.6N**±0°.1×**71°.7E**±0°.1**, h150km, n26,**
σ0§81/32, mb3.5/4, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.78**	**18**	P	**Pn**	**23 05 36.3**	**+0.2**
	SNR=238						
UCH	**Uchtor**	**5.10**	**24**	P	**Pn**	**23 05 40.6**	**+0.2**
	SNR=11						
EKS2	**Erkin-Say**	**5.30**	**17**	P	**Pn**	**23 05 43.3**	**+0.5**
	SNR=30						
AAK	**Ala-Archa**	**5.46**	**22**	P	**Pn**	**23 05 45.5**	**+0.5**
	36nm,0.3s,baz=134,slow=9.2,SNR=4.6						
AAK				S	**Sn**	**23 06 47.9**	**+0.7**
	18nm,0.7s,baz=188,slow=11,SNR=3.6						
AAK	**Ala-Archa**	**5.46**	**22**	P	**Pn**	**23 05 45.5**	**+0.5**
	SNR=72						
AAK	**Ala-Archa**	**5.46**	**22**	⇓P	**Pn**	**23 05 45.3**	**+0.3**
	21nm,0.4s						
AAK				⇑S	**Sn**	**23 06 48.2**	**+1.0**
	18nm,0.4s						
KK31	**Karatay Array**	**5.58**	**351**	⇑P	**Pn**	**23 05 46.9**	**+0.5**
	1.9nm,0.2s,baz=171,slow=11,SNR=88						
KK31				⇓S	**Sn**	**23 06 50.2**	**+0.5**
	15nm,0.3s,baz=169,slow=21,SNR=22						
KBK	**Karagaybulak**	**5.62**	**25**	P	**Pn**	**23 05 47.5**	**+0.4**
	SNR=19						
ULHL	**Ulahol**	**5.79**	**35**	P	**Pn**	**23 05 48.5**	**-1.0**
	SNR=8.1						
CHMS	**Chumysh**	**5.87**	**22**	P	**Pn**	**23 05 50.4**	**+0.1**
	SNR=22						
USP	**Ospenovka**	**6.04**	**20**	P	**Pn**	**23 05 52.4**	**-0.2**
	SNR=16						
TKM2	**Tokmak 2**	**6.08**	**28**	P	**Pn**	**23 05 53.4**	**+0.1**
	SNR=29						
TKM2	**Tokmak 2**	**6.08**	**28**	⇑P	**Pn**	**23 05 53.0**	**-0.3**
	13nm,0.6s						
TKM2				⇑S	**Sn**	**23 07 03.4**	**+1.2**
	5.4nm,0.5s						
MK31	**Makanchi Array**	**12.06**	**37**	P	**Pn**	**23 07 11.6**	**-0.7**
	0.8nm,0.5s,baz=221,slow=13,SNR=9.6						
MKAR	**Makanchi Array**	**12.06**	**37**	P	**Pn**	**23 07 11.4**	**-1.0**
	0.9nm,0.7s,baz=221,slow=15,SNR=11						
KURBB	**Kurchatov Arra**	**13.90**	**18**	P	**Pn**	**23 07 33.9**	**-1.9**
	0.4nm,0.5s,baz=204,slow=11,SNR=13						
AB31	**Akbulak array**	**14.44**	**328**	P	**Pn**	**23 07 42.8**	**+0.2**
	0.5nm,0.3s,baz=134,slow=14,SNR=37						
BVAR	**Borovoye Array**	**15.46**	**357**	P	**Pn**	**23 07 54.4**	**-0.8**
	1.8nm,0.6s,baz=150,slow=10,SNR=9.9						
BVAR				S	**Sn**	**23 10 45.9**	**-1.1**
	0.5nm,0.6s,baz=163,slow=26,SNR=5.6						
AKTO	**Aktyubinsk**	**16.15**	**327**	P	**Pn**	**23 08 03.8**	**+0.1**
	0.9nm,0.3s,baz=121,slow=5.8,SNR=6.4						
AKTO				S	**S**	**23 11 01.2**	**-2.0**
	2.4nm,0.7s,baz=354,slow=15,SNR=6.8						
AKTO	**Aktyubinsk**	**16.15**	**327**	⇑P	**P**	**23 08 05.1**	**+1.0**
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**18.68**	**25**	P	**P**	**23 08 31.7**	**0.0**
	3.6nm,0.5s,baz=224,slow=10,SNR=15						
BRTR	**Keskin Array B**	**29.68**	**286**	P	**P**	**23 10 17.1**	**0.0**
	0.2nm,0.5s,baz=130,slow=8.8,SNR=2.1						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**36.91**	**325**	P	**P**	**23 11 19.6**	**+0.3**
	0.6nm,0.8s,baz=120,slow=11,SNR=4.3						
	0.6nm,0.8s						
ARCES	**ARCESS Array B**	**40.36**	**337**	P	**P**	**23 11 48.6**	**+0.7**
	1.0nm,0.7s,baz=106,slow=8.9,SNR=5.8						
	1.0nm,0.7s						
HFS	**Hagfors**	**42.57**	**321**	P	**P**	**23 12 05.5**	**-0.6**
	1.1nm,0.7s,baz=94,slow=11,SNR=4.5						
	1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**66.33**	**269**	P	**P**	**23 14 58.1**	**0.0**
	87nm,0.3s,baz=60,slow=6.2,SNR=2.5						

WEL 28 23:05:01.6±1.2**, 46°S**±7°×**16°.6E**±°**, h12km, M3.8/9, mL4.0/9,**
MLv3.8/9, Error ellipse: s-maj=9.0km s-min=8.8km
az=94.0, confirmed, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.57**	**69**	P	Pb	23 05 13.4	-0.1
PYZ				S	Sb	23 05 22.7	+1.0
RRKS	**Rarakau**	**1.11**	**79**	P	Pb	23 05 21.6	-1.0
RRKS				S	Sn	23 05 37.9	-0.1
DCZ	**Deep Cove**	**1.25**	**44**	P	Pn	23 05 22.2	-2.8
DCZ				S	Sb	23 05 38.7	-2.5
WHZ	**Wether Hill Ro**	**1.49**	**72**	P	Pn	23 05 27.7	-0.5
WHZ				S	Sn	23 05 47.6	0.0
APZ	**The Paps**	**1.50**	**109**	P	Pn	23 05 27.5	-0.9
APZ				S	Sn	23 05 46.7	-1.3
MOSS	**Mossburn Schoo**	**1.77**	**67**	P	Pb	23 05 34.1	+0.2
MOSS				S	Sb	23 05 55.4	-0.7
MLZ	**Mavora Lakes**	**1.84**	**58**	P	Pn	23 05 33.4	+0.4
MLZ				S	Sb	23 05 58.2	0.0
MSZ	**Milford Sound**	**2.21**	**41**	P	Pn	23 05 37.7	-0.3
SYZ	**Scrubby Hill**	**2.24**	**95**	P	Pn	23 05 38.4	0.0
SYZ				S	Sn	23 06 07.4	+1.4
TUZ	**Tuapeka**	**2.62**	**82**	P	Pn	23 05 43.6	0.0
TUZ				S	Sn	23 06 16.1	+0.7
EAZ	**Earnscleugh**	**2.63**	**66**	P	Pn	23 05 44.2	+0.3
EAZ				S	Sn	23 06 17.7	+1.9
WKZ	**Wanaka**	**2.67**	**56**	P	Pn	23 05 45.4	+0.9
JCZ	**Jackson Bay**	**3.07**	**42**	P	Pn	23 05 50.9	+1.0
ODZ	**Otahua Downs**	**3.57**	**70**	P	Pn	23 05 55.3	-1.5
LBZ	**Lake Benmore**	**3.61**	**58**	P	Pn	23 05 56.1	-1.1
FOZ	**Fox Glacier**	**3.97**	**46**	P	Pn	23 06 02.8	+0.6
ARCZ	**Arundel**	**4.44**	**59**	P	Pn	23 06 06.7	-2.1
RPZ	**Rata Peaks**	**4.51**	**56**	P	Pn	23 06 07.7	-2.0
LTZ	**Lake Taylor**	**5.79**	**54**	P	Pn	23 06 27.2	-0.1
DSZ	**Denniston Nort**	**6.28**	**45**	P	Pn	23 06 33.7	-0.3
THZ	**Tophouse**	**6.83**	**50**	P	Pn	23 06 42.0	+0.4

*IDC **28** 23:31:18.6±0.8, 3°.64N×126°.90E, h0km, mb4.1/11, mbtmp4.1/11, MS2.9/3, Error ellipse: s-maj=57.2km s-min=15.6km az=73.0*
*DJA **28** 23:31:25.7±0.7, 4°N±8°×12°7E±°, h25km±12km, M4.4/7, mB4.9/1, mb4.6/4, MLv4.3/7, Mw(mB)4.2/1*
*NEIC **28** 23:31:25.9±1.5, 3°.58N±0°.07×126°.70E±0°.08, h47km±6km, mb4.2/37, Error ellipse: s-maj=11.5km s-min=10.5km az=65.0*
ISC 28 23:31:26.1±0.5**, 3°.57N**±0°.06×**126°.70E**±0°.07**, h53km, n69,**
σ1§14/70, mb4.2/32, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.18**	**276**	P	**Pn**	**23 31 46.3**	**0.0**
SGSI				S	**Sn**	**23 32 01.6**	**+0.3**
TNTI	**Ternate**	**2.86**	**167**		**Pn**	**23 32 09.3**	**0.0**
TNTI	**Ternate**	**2.86**	**167**	P	**Pn**	**23 32 09.8**	**+0.6**
TNTI				S	**Sn**	**23 32 45.5**	**+3.1**
SANI	**Sanana**	**5.63**	**187**	P	**Pn**	**23 32 47.0**	**-0.2**
MRSI	**Marisa**	**5.66**	**237**	P	**Pn**	**23 32 48.4**	**+0.7**
	0.2nm964nm56nm,0.8s						
MRSI				S	**Sn**	**23 33 53.5**	**+2.1**
	0.2nm964nm56nm,0.8s						
SWI	**Sorong**	**6.33**	**134**	P	**Pn**	**23 32 58.4**	**+1.5**
TOLI2	**Tolitoli**	**6.40**	**248**		**Pn**	**23 32 58.2**	**+0.4**
MYLDM	**Lahad Datu**	**8.33**	**281**	Pn	**Pn**	**23 33 23.5**	**-0.8**
FAKI	**Fak Fak**	**8.50**	**139**		**Pn**	**23 33 26.2**	**-0.5**
KAPI	**Kappang**	**10.99**	**219**	LR	LR	23 37 39.3	
	comp=Z,31nm,19.7s,baz=54,slow=34						
MTN	**Manton Dam**	**16.89**	**165**	Pn	**Pn**	**23 35 16.0**	**-3.0**
MTN				IAmb	IAmb	23 35 27.6	
	comp=Z,22nm,1.1s						
KNRA	**Kununurra**	**19.23**	**174**		**P**	**23 35 46.0**	**0.0**
KNRA				IAmb	IAmb	23 35 50.8	
	comp=Z,7.7nm,0.6s						
TPUB	**Ta-pu**	**20.48**	**344**	P	**P**	**23 35 58.4**	**-1.2**
TPUB				IAmb	IAmb	23 36 13.7	
	comp=Z,14nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.55**	**183**	P	**P**	**23 36 10.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.55**	**183**	P	**P**	**23 36 10.8**	**-0.4**
	comp=Z,2.9nm,0.4s,baz=5.1,slow=5.1,SNR=19						
	comp=Z,2.9nm,0.4s						
WB0	**Warramunga Arr**	**24.39**	**162**		**P**	**23 36 38.8**	**-0.8**
WRAB	**Tennant Creek**	**24.53**	**162**	P	**P**	**23 36 38.4**	**-2.5**
WRA	**Warramunga Arr**	**24.54**	**162**	P	**P**	**23 36 39.2**	**-1.7**
WRA	**Warramunga Arr**	**24.54**	**162**	P	**P**	**23 36 40.3**	**-0.7**
	comp=Z,15nm,0.8s,baz=342,slow=10,SNR=42						
	comp=Z,15nm,0.8s						
WR8	**Warramunga Arr**	**24.60**	**162**		**P**	**23 36 40.9**	**-0.6**
WR8				IAmb	IAmb	23 36 41.9	
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**27.96**	**166**	P	**P**	**23 37 11.5**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=338,slow=11,SNR=16						
ASAR				PcP	**PcP**	**23 40 26.8**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=354,slow=2.0,SNR=5.2						
	comp=Z,0.6nm,0.3s						
GIRL	**Giralia**	**28.76**	**204**	P	**P**	**23 37 18.6**	**-0.2**
NJ2	**Nanjing**	**29.28**	**346**	*e*P	**P**	**23 37 24.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PZH	**PanZhiHua**	**33.04**	**316**	P	**P**	**23 37 59.0**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,5.5s						
KSRS	**Korea Array**	**33.74**	**2**	LR	LR	23 56 06.1	
	comp=Z,8.6nm,18.1s,baz=165,slow=44						
XAN	**Xi'an**	**34.55**	**333**	*e*P	**P**	**23 38 09.8**	**+0.1**
BBOO	**Buckleboo**	**37.25**	**167**	P	**P**	**23 38 32.2**	**-0.6**
BBOO				IAmb	IAmb	23 38 50.5	
	comp=Z,5.0nm,0.9s						
BJI	**Beijing**	**37.54**	**347**	P	**P**	**23 38 36.5**	**+1.4**
BJI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
STKA	**Stephens Creek**	**37.99**	**159**	P	**P**	**23 38 38.9**	**-0.1**
STKA	**Stephens Creek**	**37.99**	**159**	LR	LR	23 58 07.5	
	comp=Z,64nm,18.8s,baz=208,slow=42						
HHC	**Hu-ho-hao-te**	**39.54**	**342**	*e*P	**P**	**23 38 52.8**	**+0.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,4.1s						
SHL	**Shillong**	**39.95**	**307**		**P**	**23 38 54.0**	**-1.8**
WMQ	**Urumqi**	**52.84**	**325**	*e*P	**P**	**23 40 37.5**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
MKAR	**Makanchi Array**	**57.67**	**325**	P	**P**	**23 41 10.7**	**-0.5**
MKAR	**Makanchi Array**	**57.67**	**325**	P	**P**	**23 41 11.9**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=121,slow=7.7,SNR=28						
	comp=Z,1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**60.72**	**333**	P	**P**	**23 41 31.5**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=121,slow=6.6,SNR=2.3						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**61.86**	**327**	P	**P**	**23 41 40.0**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=128,slow=6.3,SNR=20						
	comp=Z,2.4nm,0.7s						
KURK	**Kurchatov**	**61.86**	**328**	P	**P**	**23 41 40.0**	**+0.2**
BVAR	**Borovoye Array**	**67.44**	**327**	P	**P**	**23 42 17.1**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=137,slow=9.1,SNR=6.1						
	comp=Z,1.1nm,0.6s						
TIXI	**Tiksi**	**68.00**	**1**	P	**P**	**23 42 18.8**	**-0.6**
TIXI				IAmb	IAmb	23 42 33.4	
	comp=Z,2.7nm,1.1s						
NRIK	**Noril'sk**	**70.58**	**346**	P	**P**	**23 42 36.1**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=148,slow=7.2,SNR=3.9						
	comp=Z,1.1nm,0.4s						
AB31	**Akbulak array**	**72.26**	**321**	P	**P**	**23 42 45.7**	**-0.1**
ABKAR	**Akbulak array**	**72.26**	**321**	P	**P**	**23 42 45.6**	**-0.2**
RAYN	**Ar Rayn**	**80.52**	**293**	P	**P**	**23 43 32.8**	**-0.4**
L18K	**Granite Mounta**	**80.62**	**28**	P	**P**	**23 43 34.6**	**+1.6**
L18K				IAmb	IAmb	23 43 51.8	
	comp=Z,2.8nm,1.1s						
D19K	**Kuna River**	**81.28**	**21**	P	**P**	**23 43 38.1**	**+1.7**
D19K				IAmb	IAmb	23 43 49.2	
	comp=Z,2.8nm,1.1s						
H19K	**Roundabout Mou**	**81.33**	**24**	P	**P**	**23 43 37.4**	**+0.8**
E19K	**Redstone River**	**81.39**	**22**	P	**P**	**23 43 36.0**	**-0.9**
E19K				IAmb	IAmb	23 43 41.6	
	comp=Z,2.7nm,1.1s						
J19K	**Poorman**	**81.41**	**26**	P	**P**	**23 43 38.5**	**+1.4**
O19K	**Port Alsworth**	**81.44**	**30**	P	**P**	**23 43 36.6**	**-0.6**
N19K	**Bonanza Creek**	**81.44**	**29**	P	**P**	**23 43 36.5**	**-0.9**
N19K				IAmb	IAmb	23 43 51.5	
	comp=Z,2.7nm,1.0s						
Q19K	**Cape Douglas,**	**81.61**	**31**	P	**P**	**23 43 39.1**	**+0.8**
B20K	**Meade River**	**81.94**	**20**	P	**P**	**23 43 41.1**	**+1.4**
B20K				IAmb	IAmb	23 43 52.5	
	comp=Z,2.9nm,1.1s						
M20K	**Styx River**	**82.23**	**28**	P	**P**	**23 43 41.4**	**-0.1**
M20K				IAmb	IAmb	23 43 59.4	
	comp=Z,1.8nm,1.0s						
B21K	**Ikpikpuk River**	**82.73**	**20**	P	**P**	**23 43 45.8**	**+1.9**
B21K				IAmb	IAmb	23 43 58.9	
	comp=Z,1.4nm,1.0s						
H21K	**Melozitna Rive**	**82.84**	**24**	P	**P**	**23 43 45.7**	**+1.1**
CAST	**Castle Rocks**	**82.89**	**27**	P	**P**	**23 43 45.3**	**+0.4**
SKT	**Skwentna**	**82.99**	**28**	P	**P**	**23 43 45.8**	**+0.4**
SKT				IAmb	IAmb	23 43 47.4	
	comp=Z,3.2nm,1.0s						
BRLK	**Bradley Lake**	**83.11**	**30**	P	**P**	**23 43 46.1**	**0.0**
I21K	**Tanana**	**83.13**	**25**	P	**P**	**23 43 48.0**	**+2.0**
I21K				IAmb	IAmb	23 44 06.4	
	comp=Z,2.5nm,1.1s						
B22K	**Teshekpuk Lake**	**83.25**	**20**	P	**P**	**23 43 48.5**	**+2.0**
B22K				IAmb	IAmb	23 44 00.3	
	comp=Z,1.8nm,0.9s						
VNDA	**Vanda**	**83.27**	**173**	P	**P**	**23 43 46.6**	**0.0**
SUA	**Susitna One**	**83.32**	**29**	P	**P**	**23 43 47.5**	**+0.2**
SUA				IAmb	IAmb	23 44 01.2	
	comp=Z,4.1nm,0.9s						
C23K	**Itkillik River**	**84.14**	**20**	P	**P**	**23 43 52.5**	**+1.4**
C23K				IAmb	IAmb	23 44 07.5	
	comp=Z,2.0nm,1.1s						
H23K	**Yukon River**	**84.20**	**24**	P	**P**	**23 43 52.3**	**+0.8**
H23K				IAmb	IAmb	23 43 54.8	
	comp=Z,1.7nm,0.9s						
ILAR	**Eielson Array**	**85.26**	**25**	P	**P**	**23 43 56.2**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=261,slow=5.1,SNR=7.6						
	comp=Z,0.2nm,0.5s						
BRTR	**Keskin Array B**	**90.10**	**310**	P	**P**	**23 44 20.4**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=106,slow=4.4,SNR=4.4						
	comp=Z,0.6nm,0.9s						
ARCES	**ARCESS Array B**	**90.59**	**340**	P	**P**	**23 44 21.1**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=76,slow=6.4,SNR=5.8						
	comp=Z,1.3nm,0.8s						
QSPA	**South Pole Qui**	**93.47**	**180**	P	**P**	**23 44 36.0**	**+0.2**

*ISN **28** 23:41:40.8±0.6, 32°.83N×46°.45E, h9km±2km, ML2.9*
*TEH **28** 23:41:41.5, 32°.86N×46°.49E, h12km±20km*
ISC 28 23:41:42.1±1.7**, 32°.8N**±0°.1×**46°.45E**±0°.04**, h13km, n13,**
σ1§26/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.52**	**304**	*e*Pg	**Pg**	**23 41 51.5**	**-0.9**
IBDR				*e*Sg	**Sg**	**23 41 58.5**	**-0.8**
GLG1	**Gilan-e-Gharb**	**1.37**	**341**	Pg	**Pg**	**23 42 07.8**	**-0.6**
IKFM	**Kafar-mosalman**	**1.37**	**59**	Pg	**Pg**	**23 42 07.6**	**-0.8**
IGHG	**Ghaleghazi**	**1.51**	**4**	Pg	**Pg**	**23 42 10.7**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.54**	**19**	Pg	**Pg**	**23 42 10.5**	**-1.2**
BHD	**Baghdad**	**1.79**	**285**	*e*Pn	**Pb**	**23 42 13.5**	**-1.3**
BHD				*e*Sn	**Sb**	**23 42 38.0**	**+0.8**
BHD				AML	AML	23 42 53.9	
	comp=E,140nm,0.3s						
KGS1	**Ghasr-e-Shirin**	**1.83**	**337**	Pn	**Pb**	**23 42 15.1**	**-0.3**
IDHR	**Dehrash**	**1.88**	**359**	Pn	**Pb**	**23 42 15.3**	**-1.1**
ILIN	**Lien**	**2.14**	**11**	Pn	**Pb**	**23 42 19.4**	**-1.5**
SNQR	**Sonqor, Kerman**	**2.26**	**25**	Pn	**Pb**	**23 42 21.8**	**-1.2**
HAGD	**Aghdareh**	**3.00**	**48**	Pn	**Pn**	**23 42 31.2**	**+1.6**
IKRK	**Kirkuk**	**3.11**	**326**	*e*Pn	**Pn**	**23 42 32.0**	**+1.1**
IKRK				*e*Sn	**Sn**	**23 43 09.5**	**+1.5**
HGHA	**Hamedan- Ghaye**	**3.33**	**36**	Pn	**Pn**	**23 42 35.9**	**+1.8**

*DJA **28** 23:42:53.7±1.0, 10°S±4°×11°6E±°, h17km±9km, M4.6/19, mB5.5/2, mb4.7/10, MLv4.5/19, Mw(mB)4.9/2*
*NEIC **28** 23:42:56.6±2.6, 9°.35S±0°.10×116°.06E±0°.06, h81km±9km, mb4.2/9, Error ellipse: s-maj=15.3km s-min=6.6km az=207.0*
*IDC **28** 23:42:59.3±3.3, 9°.55S×116°.55E, h54km±35km, mb3.6/3, mbtmp4.1/5, ML4.3/2, MS2.8/1, Error ellipse: s-maj=39.9km s-min=22.0km az=100.0*
ISC 28 23:42:53.6±0.6**, 9°.64S**±0°.06×**116°.17E**±0°.04**, h26km, n57,**
σ1§33/59, mb4.2/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.14**	**38**	P	**Pb**	**23 43 15.5**	**+0.7**
TWSI				S	**Sn**	**23 43 29.7**	**+0.9**
DNP	**Denpasar**	**1.35**	**315**	P	**Pn**	**23 43 17.3**	**+0.5**
DNP				S	**Sn**	**23 43 34.1**	**+0.3**
PLAI	**Plampang**	**1.78**	**63**	P	**Pb**	**23 43 25.8**	**+0.1**
PLAI	**Plampang**	**1.78**	**63**	P	**Pb**	**23 43 25.9**	**+0.2**
SRBI	**Singaraja**	**1.81**	**329**	P	**Pn**	**23 43 23.5**	**+0.3**
JAGI	**Jajag, Banyuwa**	**2.31**	**300**	Pn	**Pn**	**23 43 30.2**	**+0.1**
JAGI				Sn	**Sn**	**23 43 54.5**	**-3.1**
JAGI	**Jajag, Banyuwa**	**2.31**	**300**	P	**Pn**	**23 43 30.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**2.31**	**300**	P	**Pn**	**23 43 30.1**	**+0.1

baz=95,slow=76,SNR=13
MKAR Makanchi Array 63.80 335 P P 23 53 16.8 -6.7
VNDA Vanda 71.80 171 P **P 23 54 12.7 -0.8**
VNDA IAmb IAmb 23 54 16.7
comp=Z,4.5nm,1.4s
AB31 Akbulak array 76.50 326 P P 23 54 36.0 -5.3
ABKAR Akbulak array 76.50 326 P P 23 54 35.2 -6.1
QSPA South Pole Qui 80.36 180 P **P 23 55 01.4 -1.1**
QSPA IAmb IAmb 23 55 15.4
comp=Z,7.2nm,1.4s

IDC 28 23:54:03.6±2.2,5°.65S×151°.13E,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=145.6km s-min=32.2km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.64**	**227**	P	P	23 58 55.5	-0.3
	0.9nm,0.6s,baz=54,slow=10,SNR=6.3 0.9nm,0.6s						
ASAR	**Alice Springs**	**24.41**	**221**	P	P	23 59 24.4	+0.3
	2.2nm,0.6s,baz=55,slow=9.3,SNR=21 2.2nm,0.6s						
ILAR	**Eielson Array**	**83.57**	**22**	P	P	00 06 33.3	-0.1
	0.3nm,0.9s,baz=281,slow=7.4,SNR=2.4 0.3nm,0.9s						

*NEIC **29** 00:13:13.8±0.8,33°.323N±0°.007×116°.416W±0°.010, h10km±2km,Error ellipse: s-maj=3.0km s-min=1.7km az=177.0*

PAS 29 00:13:14.3±0.9,33°.315N±0°.009×116°.42W±0°.01, h8km±7km,ML3.3/280,ML3.1/44(NEIC),Error ellipse: s-maj=1.3km s-min=1.3km az=182.0,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORC	**Borrego Spring**	**0.05**	**177**		Pg	00 13 17.1	+1.1
SLH	**Sleepy Hollow**	**0.18**	**131**		Pg	00 13 18.2	+0.1
SLH					Sg	00 13 21.4	+0.7
MATG	**Mataguay Scout**	**0.22**	**239**		Pg	00 13 19.0	+0.2
MATG					Sg	00 13 22.4	+0.5
JUEM	**Julian Eagle M**	**0.28**	**213**		Pg	00 13 20.0	+0.1
JUEM					Sg	00 13 24.1	+0.5
XPFO	**Pinon Flat**	**0.30**	**354**		Pg	00 13 19.8	-0.4
XPFO					Sg	00 13 23.9	-0.3
PFO	**Pinyon Flats O**	**0.30**	**354**	Pg	Pg	00 13 19.6	-0.7
PFO				Sg	Sg	00 13 23.7	-0.6
PMD	**Palm Desert**	**0.33**	**6**		Pn	00 13 24.6	-0.8
SALN	**Salton City**	**0.36**	**95**		Sg	00 13 26.8	+0.5
PLM	**Palomar**	**0.37**	**276**		Pg	00 13 21.8	+0.1
PLM					Sg	00 13 27.1	+0.6
MONP2	**Monument Peak**	**0.42**	**180**		Sg	00 13 27.8	-0.3
CTCC	**Cactus City**	**0.49**	**47**		Pg	00 13 23.8	-0.1
ERRC	**Elmore Ranch**	**0.54**	**111**		Sb	00 13 33.4	-0.4
DPP	**Dos Picos Cty**	**0.54**	**234**		Sg	00 13 31.5	-0.3
EML	**El Monte Cty P**	**0.55**	**220**		Sg	00 13 32.0	-0.2
POB	**Polly Butte**	**0.56**	**312**		Pg	00 13 24.9	-0.3
POB					Sg	00 13 32.2	-0.4
CRR	**Carrizo Plain**	**0.57**	**138**		Pg	00 13 25.2	-0.1
CRR					Sg	00 13 33.6	+0.8
5271	**Bombay Beach**	**0.58**	**86**		Pg	00 13 25.5	+0.1
BOMB	**Bombay Beach**	**0.58**	**85**		Sg	00 13 33.8	+0.7
CTW	**Cottonwood Mou**	**0.58**	**52**		Pg	00 13 25.2	-0.3
CTW					Sg	00 13 33.1	-0.1
DGR	**Domenigoni Val**	**0.59**	**304**		Sg	00 13 33.2	-0.5
BACC	**Bachelor Mtn.**	**0.60**	**300**		Pg	00 13 25.5	-0.4
BACC					Sg	00 13 33.4	-0.3
SUP	**Superstition M**	**0.61**	**126**		Pn	00 13 34.4	+5.1
EW2	**E Wide Canyon**	**0.62**	**1**		Sg	00 13 34.8	+0.3
HMTC	**Hemet**	**0.63**	**309**		Pg	00 13 26.0	-0.4
HMTC					Sg	00 13 33.9	-0.7
DEVC	**Devers**	**0.63**	**348**		Pg	00 13 26.2	-0.4
DEVC					Sg	00 13 34.2	-0.7
FRK	**Frink**	**0.66**	**82**		Pg	00 13 26.5	-0.5
FRK					Sg	00 13 35.2	-0.4
GORC	**Green Oak Ranc**	**0.70**	**257**		Pg	00 13 27.2	-0.6
GORC					Sg	00 13 36.4	-0.4
MURC	**Murrieta**	**0.71**	**294**		Sg	00 13 37.0	-0.2
IKP	**In-Ko-Pah, Jac**	**0.71**	**158**		Pg	00 13 27.7	-0.3
IKP					Sg	00 13 37.0	-0.3
SDRC	**San Diego Road**	**0.73**	**217**		Sg	00 13 37.1	-0.6
MTRP	**Mission Trails**	**0.73**	**227**		Pg	00 13 27.6	-0.7
MTRP					Sg	00 13 37.2	-0.6
HAY	**Hayfield**	**0.73**	**57**		Pg	00 13 28.3	-0.1
HAY					Sg	00 13 38.3	+0.4
CLI2	**Calipatria 2**	**0.73**	**105**		Pg	00 13 28.1	-0.2
CLI2					Sb	00 13 39.6	+0.3
COK2	**Cook Ranch 2**	**0.74**	**128**		Pg	00 13 28.2	-0.3
COK2					Sb	00 13 39.6	-0.1
BLAC	**Blackrock camp**	**0.75**	**2**		Sg	00 13 38.3	-0.3
WEMD	**Westmorland, C**	**0.76**	**111**		Pg	00 13 28.5	-0.3
WEMD					Sb	00 13 39.8	-0.3
TKX	**Tecate**	**0.76**	**192**		Pg	00 13 28.1	-0.9
TKX				Sg	Sg	00 13 38.2	-0.6
BBSC	**Beaumont Base**	**0.77**	**322**		Pg	00 13 28.6	-0.4
BBSC					Sg	00 13 39.1	+0.1
RMX	**La Rumorosa**	**0.77**	**158**		Pb	00 13 29.6	-0.3
RMX					Sb	00 13 40.5	-0.1
DUZA	**Dulzura**	**0.77**	**203**		Pg	00 13 28.3	-0.7
DUZA					Sg	00 13 38.2	-0.8
YUH	**Yuha Desert**	**0.79**	**148**		Pg	00 13 28.9	-0.5
YUH				Sg	Sg	00 13 39.5	-0.1
YUH				IAML		00 13 40.8	
	comp=N,483nm,0.1s						
WESC	**Westside Schoo**	**0.80**	**134**		Pg	00 13 28.8	-0.9
WESC					Sb	00 13 41.1	-0.3
SDMC	**San Diego Miss**	**0.80**	**229**		Pg	00 13 29.0	-0.7
SDMC					Sg	00 13 39.5	-0.7
OLP	**Otay Lakes Par**	**0.83**	**211**		Sg	00 13 39.9	-1.0
IMPE	**Imperial**	**0.83**	**120**		Pb	00 13 31.1	+0.2
IMPE					Sb	00 13 42.1	-0.2
PEC	**Perris**	**0.84**	**313**		Sg	00 13 40.5	-1.1
BC3	**Big Chuckawall**	**0.88**	**67**		Pg	00 13 30.4	-0.8
BC3					Pn	00 13 41.7	+8.7
SGL	**Mount Signal**	**0.88**	**138**		Pg	00 13 30.1	-1.2
SGL					Pn	00 13 42.0	+9.1
ELS	**Elsinore Mount**	**0.91**	**292**		Pg	00 13 30.7	-1.0
ELS				Sg	Sg	00 13 42.7	-0.8
ELS				IAML		00 13 43.0	
	comp=N,431nm,0.2s						
ELS				IAML		00 13 43.0	
	comp=E,374nm,0.2s						
CFT	**Crafton Hills**	**0.92**	**321**		Pg	00 13 31.6	-0.4
DREC	**Desert Rsrch C**	**0.96**	**122**		Pg	00 13 31.7	-1.1
TJX	**Tijuana**	**0.96**	**214**		Pg	00 13 32.2	-0.6
TJX				Sg	Sg	00 13 45.3	0.0
SVD	**Seven Oaks Dam**	**0.97**	**325**		Pg	00 13 32.4	-0.6
SVD					Sg	00 13 45.1	-0.5
RSBC	**Riverside Bore**	**1.00**	**311**		Sg	00 13 45.1	-1.4
CBX	**Cerro Bola**	**1.02**	**192**		Pg	00 13 32.8	-1.1
CBX				Sg	Sg	00 13 46.8	-0.4
CBX				IAML		00 13 47.6	
	comp=E,733nm,0.3s						
CBX				IAML		00 13 50.6	
	comp=N,573nm,0.6s						
BBRC	**Big Bear Solar**	**1.03**	**336**		Pg	00 13 33.3	-0.9
BBRC					Sg	00 13 46.9	-0.7
RVR	**Riverside**	**1.04**	**311**		Pg	00 13 33.3	-1.1
RVR					Sg	00 13 46.6	-1.4
MLSC	**Mira Loma**	**1.18**	**306**		Pb	00 13 35.7	-1.1
CPBX	**Cerro Prieto**	**1.30**	**133**		Pn	00 13 38.2	-0.4
CPBX					Pg	00 13 40.5	+1.3
GLA	**Glamis**	**1.36**	**101**		Pn	00 13 37.5	-2.1
ESJX	**Sierra Juarez**	**1.37**	**163**		Pn	00 13 38.1	-1.7
ESJX				Pn	Pb	00 13 38.5	-1.7
ESJX				IAML		00 13 57.9	
	comp=N,342nm,0.1s						
ESJX				IAML		00 13 58.5	
	comp=E,376nm,0.1s						
CCX	**Cicese**	**1.46**	**188**		Pn	00 13 39.9	-1.0
CCX				Pn	Pb	00 13 40.9	-0.7
CCX				IAML		00 14 02.1	
	comp=E,244nm,0.6s						
CCX				IAML		00 14 02.8	
	comp=N,241nm,0.6s						
BLYC	**Blythe**	**1.64**	**74**		Pn	00 13 41.4	-2.0
BLYC				IAML		00 14 06.9	
	comp=E,172nm,0.5s						
BLYC				IAML		00 14 10.7	
	comp=N,165nm,1.2s						
PASC	**Pasadena Art C**	**1.70**	**301**		Pn	00 13 43.5	-0.7
PASC				IAML		00 14 08.8	
	comp=N,282nm,0.6s						
PASC				IAML		00 14 08.8	
	comp=E,135nm,0.5s						
VTX	**Valle De La Tr**	**1.99**	**164**		Pn	00 13 47.9	-0.4
GSC	**Goldstone, Bar**	**2.01**	**351**		Pn	00 13 48.1	-0.4
GSC				IAML		00 14 21.3	
	comp=E,199nm,0.5s						
GSC				IAML		00 14 24.9	
	comp=N,87nm,0.9s						
CCAC	**Calif City Air**	**2.26**	**325**		Pb	00 13 55.5	+0.1
113A	**Mohawk Valley,**	**2.29**	**103**		Pg	00 13 57.3	-1.0
SNCC	**San Nicolas Is**	**2.60**	**269**		Pn	00 13 55.7	-1.0
V12A	**Nelson**	**2.73**	**28**		Pn	00 13 58.5	0.0
W13A	**Hualapai Mount**	**2.75**	**49**		Pn	00 13 58.6	-0.3
GWY	**Greenwater Val**	**2.87**	**356**		Pn	00 13 60.0	-0.5
ISA	**Isabella, Lake**	**2.89**	**325**		Pn	00 14 00.6	-0.1
ISA				IAML		00 14 50.6	
	comp=E,44nm,1.1s						
Y14A	**Wickenburg**	**2.92**	**77**		Pn	00 14 00.2	-0.8
BCW	**Bitter Crk WRg**	**2.96**	**304**		Pn	00 14 01.2	-0.5
BCW				IAML		00 14 49.0	
	comp=N,91nm,0.6s						
SHPR	**Sheep Range**	**3.35**	**18**	Pn	Pn	00 14 07.8	+0.8
SHPR					Pb	00 14 16.1	+2.1
WCT	**Wildcat Mounta**	**3.47**	**357**	Pn	Pn	00 14 08.7	0.0
WCT					Pb	00 14 18.0	+1.9
TPNV	**Topopah Spring**	**3.63**	**2**		Pn	00 14 11.0	+0.1
GRAC	**Grapevine Rang**	**3.75**	**348**	Pn	Pn	00 14 12.0	-0.5
GRAC				IAML		00 15 19.4	
	comp=N,49nm,0.8s						
GRAC				IAML		00 15 25.7	
	comp=E,28nm,0.9s						
GMN	**Gold Mountain**	**4.04**	**350**		Pn	00 14 16.4	-0.1
PRN	**Pahroc Range**	**4.23**	**15**		Pn	00 14 18.7	-0.5
PRN				Pg	Pg	00 14 33.3	-2.1
DSP	**Deep Springs**	**4.24**	**343**		Pn	00 14 19.4	+0.3
DSP				Pg	Pg	00 14 34.0	-1.6
X16A	**Lo Mia Camp, P**	**4.29**	**74**		Pn	00 14 18.9	-1.1
S11A	**Rachel**	**4.36**	**7**	Pn	Pn	00 14 20.0	-0.9
MZP	**Montezuma Peak**	**4.45**	**350**	Pn	Pn	00 14 21.0	-1.3
LCMT	**Little Creek M**	**4.51**	**34**		Pn	00 14 21.5	-1.6
U15A	**North Rim**	**4.60**	**46**	Pn	Pn	00 14 24.5	+0.1

*NAO **29** 00:14:20.6±1.8,79°.74N×3°.98E,ML3.0*
*BER **29** 00:14:24.5±4.2,79°.55N×4°.15E,h10km,mb(Pn)4.1, ML3.0(NAO),Confirmed Earthquake*
*DNK **29** 00:14:25.9±4.4,79°.63N×4°.57E,h36km±42km,ML1.9*
*KOLA **29** 00:14:25.4,79°.65N×5°.97E,h0km,ML2.6,Error ellipse: s-maj=62.0km s-min=17.5km az=20.0,Greenland sea,Knipovich ridge, north*
*FCIAR **29** 00:14:29.0,79°.38N×4°.92E,h10km,station OMEGA has station magnitude of 3.20 station ZFI2 has station magnitude of 3.20*

ISC 29 00:14:21.5±1.0,79°.58N±0°.07×4°.39E±0°.06,h10km,n43, σ2°.49/67,1C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.56**	**111**	Pn	**Pn**	**00 14 51.4**	**+2.2**
KBS				Sn	**Sn**	**00 15 09.0**	**-0.4**
KBS	**Kingsbay**	**1.56**	**111**	P	**Pn**	**00 14 50.9**	**+1.7**
KBS				S	**Sn**	**00 15 08.8**	**-0.6**
KBS	**Kingsbay**	**1.56**	**111**	*eP*	**Pn**	**00 14 51.2**	**+2.0**
KBS	**Kingsbay**	**1.56**	**111**	*i* P	**Pn**	**00 14 50.8**	**+1.7**
KBS				*i* S	**Sn**	**00 15 07.7**	**-1.7**
BRBB	**Barentsburg B**	**2.42**	**123**	Pn	**Pn**	**00 15 03.4**	**+2.4**
BRBB				Sn	**Sn**	**00 15 30.5**	**-0.1**
BRBB	**Barentsburg B**	**2.42**	**123**	P	**Pn**	**00 15 03.3**	**+2.4**
BRBB				S	**Sn**	**00 15 30.4**	**-0.2**
BRBB	**Barentsburg B**	**2.42**	**123**	*eP*	**Pn**	**00 15 03.4**	**+2.4**
BRBB				*eS*	**Sn**	**00 15 30.2**	**-0.4**
BRBA	**Barentsburg A**	**2.45**	**124**	Pn	**Pn**	**00 15 03.6**	**+2.3**
BRBA				Sn	**Sn**	**00 15 31.0**	**-0.2**
BRBA	**Barentsburg A**	**2.45**	**124**	*eP*	**Pn**	**00 15 04.6**	**+3.3**
BRBA				*eS*	**Sn**	**00 15 31.3**	**+0.1**
SPA0	**Spitsbergen Ar**	**2.71**	**115**	Pn	**Pn**	**00 15 07.7**	**+2.7**
	baz=310,slow=7.4						
SPA0				Sn	**Sn**	**00 15 38.0**	**+0.2**
	baz=332,slow=14						
SPA0	**Spitsbergen Ar**	**2.71**	**115**	⇑*iP*	**Pn**	**00 15 07.9**	**+2.9**
SPA0				*i* S	**Sn**	**00 15 37.0**	**-0.8**
SPA0	**Spitsbergen Ar**	**2.71**	**115**	Pn	**Pn**	**00 15 07.7**	**+2.7**
	baz=310,slow=7.4						
SPA0				Sn	**Sn**	**00 15 38.0**	**+0.2**
	baz=332,slow=14						
SPITS	**Spitsbergen Ar**	**2.71**	**115**	P	**Pn**	**00 15 07.5**	**+2.5**
SPITS				S	**Sn**	**00 15 38.1**	**+0.3**
HSPB	**Hornsund (broa**	**3.44**	**133**	Pn	**Pn**	**00 15 17.1**	**+2.2**
HSPB				Sn	**Sn**	**00 15 54.0**	**-1.6**
HSPB	**Hornsund (broa**	**3.44**	**133**	P	**Pn**	**00 15 17.2**	**+2.2**
HSPB				S	**Sn**	**00 15 53.2**	**-2.4**
HSPB	**Hornsund (broa**	**3.44**	**133**	*eP*	**Pn**	**00 15 17.3**	**+2.4**
HSPB				*eS*	**Sn**	**00 15 52.9**	**-2.7**
HSPB				*eS*	Sb	00 15 53.5	-11
NOR	**Nord**	**3.99**	**311**	Pn	Pn	00 15 20.5	-2.0
NOR				Sn	**Sn**	**00 16 07.4**	**-1.8**
NOR	**Nord**	**3.99**	**311**	Pn	Pn	00 15 20.5	-2.0
NOR				Sn	**Sn**	**00 16 07.4**	**-1.8**
NOR	**Nord**	**3.99**	**311**	*i* P	Pn	00 15 20.0	-2.5
HOPEN	**Hopen**	**5.25**	**115**	Pn	**Pn**	**00 15 42.5**	**+2.7**
HOPEN				Sn	**Sn**	**00 16 38.0**	**-2.1**
HOPEN	**Hopen**	**5.25**	**115**	*eP*	**Pn**	**00 15 42.4**	**+2.6**
HOPEN				*eS*	**Sn**	**00 16 37.3**	**-2.8**
HOPEN	**Hopen**	**5.25**	**115**	*eP*	**Pn**	**00 15 42.4**	**+2.6**
HOPEN				*eS*	**Sn**	**00 16 37.8**	**-2.3**
HOPEN				IAML		00 16 43.0	
	comp=Z,13nm,0.3s						
BJO1	**Bjornoya**	**6.04**	**140**	Pn	**Pn**	**00 15 53.0**	**+2.4**
BJO1				Sn	**Sn**	**00 16 57.5**	**-2.2**
BJO1	**Bjornoya**	**6.04**	**140**	*eP*	**Pn**	**00 15 52.7**	**+2.1**
BJO1				*eS*	**Sn**	**00 16 54.9**	**-4.7**
BJO1	**Bjornoya**	**6.04**	**140**	*eP*	**Pn**	**00 15 53.7**	**+3.1**
BJO1				*eS*	**Sn**	**00 16 55.6**	**-4.0**
BJO1				IAML		00 17 03.9	
	comp=Z,3.4nm,0.5s						
ZFI2	**Zemlya Franca-**	**7.34**	**60**	*eP*	**Pn**	**00 16 11.5**	**+3.1**
ZFI2				*eS*	**Sn**	**00 17 28.3**	**-3.2**
	comp=Z,6.5nm,0.5s						
OMEGA	**Omega**	**7.36**	**60**	*eP*	**Pn**	**00 16 11.5**	**+2.8**
OMEGA				*eS*	**Sn**	**00 17 28.6**	**-3.5**
	comp=Z,7.0nm,1.1s						
DBG	**Daneborg**	**7.60**	**239**	Pn	**Pn**	**00 16 13.2**	**+1.2**
DBG				Sn	Sn	00 17 29.8	-8.2
DBG	**Daneborg**	**7.60**	**239**	Pn	**Pn**	**00 16 13.2**	**+1.2**
DBG				Sn	Sn	00 17 29.8	-8.2
DBG	**Daneborg**	**7.60**	**239**	*i* P	**Pn**	**00 16 13.5**	**+1.5**
DBG				*i* S	Sn	00 17 28.3	-10
DBG				IAML		00 17 33.1	
	comp=Z,3.4nm,0.7s						
JNW	**Jan Mayen West**	**9.15**	**207**	*eP*	**Pn**	**00 16 36.1**	**+2.9**
JMIC	**Jan Mayen**	**9.20**	**207**	Pn	**Pn**	**00 16 35.5**	**+1.6**
JMIC	**Jan Mayen**	**9.20**	**207**	Pn	**Pn**	**00 16 35.5**	**+1.6**
HAMF	**Hammerfest**	**10.16**	**141**	Pn	**Pn**	**00 16 50.3**	**+3.2**
HAMF	**Hammerfest**	**10.16**	**141**	Pn	**Pn**	**00 16 50.3**	**+3.2**
NEEM	**North Greenlan**	**10.87**	**287**	*i* P	**Pn**	**00 16 55.6**	**-1.5**
NEEM				*i* S	Sn	00 18 46.1	-13
NEEM				IAML		00 18 52.1	
	comp=Z,2.7nm,0.5s						
NEEM	**North Greenlan**	**10.87**	**287**	*i* P	**Pn**	**00 16 55.6**	**-1.5**
NEEM				*i* S	Sn	00 18 46.1	-13
NEEM				IAML		00 18 52.1	
	comp=Z,2.7nm,0.5s						
VADS	**Vadso**	**11.35**	**133**	Pn	**Pn**	**00 17 06.3**	**+3.0**
VADS				Sn	Sn	00 19 04.1	-5.9
VADS	**Vadso**	**11.35**	**133**	Pn	**Pn**	**00 17 06.3**	**+3.0**
VADS				Sn	Sn	00 19 04.1	-5.9
ARA0	**ARCESS Array S**	**11.42**	**140**	Pn	**Pn**	**00 17 07.2**	**+2.9**
	baz=338,slow=12						
ARA0				Sn	**Sn**	**00 19 06.5**	**-5.2**
	baz=359,slow=22						
ARA0	**ARCESS Array S**	**11.42**	**140**	Pn	**Pn**	**00 17 07.2**	**+2.9**
	baz=338,slow=12						
ARA0				Sn	**Sn**	**00 19 06.5**	**-5.2**
	baz=359,slow=22						
SUMG	**Summit**	**12.09**	**258**	*i* P	**Pn**	**00 17 12.6**	**-1.2**
SUMG	**Summit**	**12.09**	**258**	*i* P	**Pn**	**00 17 12.6**	**-1.2**

GCG 29 00:14:32.8±0.4,14°.51N×90°.52W,h115km±17km,MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.80**	**264**	*eP*	Pn	00 14 55.4	+2.7
STG0				*eS*	Sn	00 15 13.5	+5.8
STG8	**El Palmar, Qui**	**0.81**	**266**	*eP*	Pn	00 14 56.0	+3.2
STG8				*eS*	Sn	00 15 14.0	+6.2
STG8				*eS*		00 15 14.2	
STG5	**El Palmar, Qui**	**0.81**	**263**	*eP*	Pn	00 14 55.4	+2.8
STG5				*eS*	Sn	00 15 12.0	+4.4

*MOS **29** 00:23:15.0±1.1,38°.97N×73°.68E,h33km,mb4.7/45,Error ellipse: s-maj=4.7km s-min=3.5km az=90.3*
*IDC **29** 00:23:16.1±2.7,39°.04N×73°.73E,h34km±20km,mb4.2/25, mbtmp4.4/31,ML3.9/6,MS3.3/32,Error ellipse: s-maj=15.1km s-min=9.3km az=21.0*
*NEIC **29** 00:23:17.7±2.2,39°.20N±0°.06×73°.71E±0°.07,h35km±1km, mb4.6/165,Mwr4.6/12,ML4.2(BJI),Error ellipse: s-maj=10.1km s-min=8.6km az=329.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.62; $M_{\theta\theta}$-3.04; $M_{\phi\phi}$1.41; $M_{r\theta}$8.73; $M_{\theta\phi}$-1.61; $M_{\phi r}$-3.27; Fault plane solution: $M_0$9.82000×10^{15} NP1:ϕ_s109.01000°, δ85.12000°,λ105.66000°. NP2:ϕ_s215.88000°,δ16.38000°, λ17.54000°. Principal axes: T 9.8511, Plg48.0000°, Azm35.0000°; N -0.0580, Plg16.0000°, Azm288.0000°; P -9.7931, Plg38.0000°, Azm185.0000°;*
*NEIC **29** 00:23:17.6,39°.19N×73°.71E,h35km*
*NNC **29** 00:23:18.4±2.6,39°.00N×73°.67E,h25km±11km,mb5.1, mpv4.8,Error ellipse: s-maj=17.7km s-min=11.3km az=27.0*
*KRNET **29** 00:23:19.2±0.1,39°.16N×73°.80E,h35km,mb5.1*
*BJI **29** 00:23:20.8,39°.33N×73°.62E,h86km,mB4.9/19,mb4.7/51, Ms4.2/18,Ms7 3.8/17*
*GCMT **29** 00:23:23.7±0.3,39°.10N±0°.02×73°.78E±0°.02,h78km±3km, MW4.8/78,Moment Tensor Solution. s14,c15; s78,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.13±.07; $M_{\theta\theta}$-0.17±.07; $M_{\phi\phi}$0.30±.07; $M_{r\theta}$0.51±.04; $M_{\theta\phi}$-1.65±.05; $M_{\phi r}$0.72±.04; Best double couple: $M_0$1.87800×10^{16} NP1:ϕ_s277.00000°,δ67.00000°,λ-167.00000°. NP2: ϕ_s182.00000°,δ78.00000°,λ-23.00000°. Principal axes: T 1.7600, Plg7.0000°, Azm231.0000°; N 0.2360, Plg64.0000°, Azm336.0000°; P -1.9960, Plg25.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **29** 00:23:35.2,39°.00N×74°.30E,h43km±4km,mb4.7,Ms3.5, Hypocentre not reviewed by the ISC*

ISC 29 00:23:20.0±0.4,39°.13N±0°.03×73°.75E±0°.02,h68km±3km, h68km:pP-P,n791,σ1$30/806,mb4.5/177,71C-66D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.90**	**348**	⇑*iP*	**Pn**	**00 23 36.5**	**-0.9**
SFK				⇑*iS*	**Sn**	**00 23 48.9**	**-1.4**
DRK	**Karamyk**	**1.56**	**283**		**Pn**	**00 23 42.5**	**-3.4**
DRK	**Karamyk**	**1.56**	**283**	⇑*iP*	**Pn**	**00 23 46.5**	**+0.6**
DRK				⇑*iS*	**Sn**	**00 24 06.2**	**+0.8**
DRK	**Karamyk**	**1.56**	**283**	P*	**Pn**	**00 23 42.5**	**-3.4**
OHH	**Osh**	**1.58**	**332**	⇑*iP*	**Pn**	**00 23 46.0**	**0.0**
OHH				⇑*iS*	**Sn**	**00 24 05.7**	**+0.1**
SALK	**Salom-Alik**	**1.75**	**2**	⇓*eP*	**Pn**	**00 23 48.5**	**+0.1**
SALK				⇓*iS*	**Sn**	**00 24 09.4**	**-0.5**
KSH	**Kashi**	**1.76**	**77**	P	**Pn**	**00 23 46.8**	**-1.8**
KSH				S	**Sn**	**00 24 06.5**	**-3.7**
KSH				smax	smax		
	comp=N,5μm,0.6s						
KSH				smax	smax		
	comp=E,5μm,0.6s						
ARSB	**Arslanbob**	**2.27**	**345**		**Pn**	**00 23 54.1**	**-1.3**
ARSB	**Arslanbob**	**2.27**	**345**	⇑*eP*	**Pn**	**00 23 55.6**	**+0.2**
ARSB				⇑*iS*	**Sn**	**00 24 22.0**	**-0.4**
ARSB	**Arslanbob**	**2.27**	**345**	PN	**Pn**	**00 23 54.1**	**-1.3**
BTK	**Batken**	**2.45**	**293**	⇑*eP*	**Pn**	**00 23 59.0**	**+1.2**
BTK				⇑*eS*	**Sn**	**00 24 27.8**	**+1.1**
GAR	**Garm**	**2.68**	**268**		**Pn**	**00 24 00.4**	**-0.6**
GAR	**Garm**	**2.68**	**268**	⇑*iP*	**Pn**	**00 24 01.5**	**+0.6**
GAR				⇑*iS*	**Sn**	**00 24 32.9**	**+0.5**
ARLS	**Aral**	**2.76**	**9**	⇑*iP*	**Pn**	**00 24 02.2**	**+0.1**
ARLS				⇑*eS*	**Sn**	**00 24 33.7**	**-0.7**
NRN	**Naryn**	**2.87**	**36**		**Pn**	**00 24 02.7**	**-1.0**
NRN	**Naryn**	**2.87**	**36**	⇓*iP*	**Pn**	**00 24 03.4**	**-0.3**
NRN				⇓*iS*	**Sn**	**00 24 35.6**	**-1.7**
NRN	**Naryn**	**2.87**	**36**	PN	**Pn**	**00 24 02.7**	**-1.0**
AML	**Almayashu**	**3.00**	**359**	P	**Pn**	**00 24 06.1**	**+0.6**
	SNR=97						
AML	**Almayashu**	**3.00**	**359**	⇓*iP*	**Pn**	**00 24 05.8**	**+0.3**
AML				⇓*iS*	**Sn**	**00 24 39.7**	**-0.7**
TRKS	**Terek-Say**	**3.12**	**321**	⇓*eP*	**Pn**	**00 24 06.1**	**-0.9**
TRKS				⇓*eS*	**Sn**	**00 24 40.5**	**-2.6**
UCH	**Uchtor**	**3.14**	**10**	P	**Pn**	**00 24 08.8**	**+1.2**
	SNR=21						
UCH	**Uchtor**	**3.14**	**10**	⇓*eP*	**Pn**	**00 24 07.6**	**0.0**
UCH				⇓*iS*	**Sn**	**00 24 43.2**	**-1.0**
MNAS	**Manas**	**3.48**	**345**	⇑*iP*	**Pn**	**00 24 12.3**	**+0.4**
MNAS				⇑*iS*	**Sn**	**00 24 51.5**	**-0.5**
**

TKM2	**Tokmak 2**	**4.03**	**20**	P		**Pn**	**00 24 20.5 +1.0**
	SNR=56						
TKM2	**Tokmak 2**	**4.03**	**20**	⇑Pn		**Pn**	**00 24 20.2 +0.8**
	42nm,0.9s						
TKM2				⇓Pg			00 24 34.4
	101nm,0.8s						
TKM2				⇓Lg		Lg	00 25 29.5
	686nm,0.7s						
TKM2	**Tokmak 2**	**4.03**	**20**	⇓*i*P		**Pn**	**00 24 19.7 +0.2**
TKM2				⇓*i*S		**Sn**	**00 25 04.2 -1.3**
TKM2	**Tokmak 2**	**4.03**	**20**	*i* PN		**Pn**	**00 24 20.2 +0.8**
TKM2				pmax		pmax	
	comp=Z,37nm,0.6s						
TARG	**Taragay, Kyrgy**	**4.03**	**49**			**Pn**	**00 24 19.2 -0.5**
TARG	**Taragay, Kyrgy**	**4.03**	**49**	PN		**Pn**	**00 24 19.2 -0.5**
IUG	**Iuzhnay**	**4.13**	**318**	*e*PN		**Pn**	**00 24 20.9 +0.2**
IUG	**Iuzhnay**	**4.13**	**318**	*e*P		**Pn**	**00 24 21.0 +0.2**
IUG				*e*S		**Sn**	**00 25 06.5 -1.4**
USP	**Ospenovka**	**4.17**	**8**	P		**Pn**	**00 24 22.1 +0.9**
	SNR=27						
USP	**Ospenovka**	**4.17**	**8**	⇓*e*P		**Pn**	**00 24 21.5 +0.3**
USP				⇓*i*S		**Sn**	**00 25 07.4 -1.2**
DZA	**Taraz**	**4.18**	**335**	*e*PN		**Pn**	**00 24 21.3 0.0**
DZA	**Taraz**	**4.18**	**335**	*e*P		**Pn**	**00 24 21.3 0.0**
DZA				*e*S		**Sn**	**00 25 06.9 -2.0**
SGDS	**Sogindy**	**4.37**	**8**	*e*PN		**Pn**	**00 24 23.9 +0.1**
SGDS	**Sogindy**	**4.37**	**8**	*e*P		**Pn**	**00 24 24.0 +0.1**
TNSS	**Tian-Shan**	**4.59**	**31**	*e*PN		**Pn**	**00 24 27.7 +0.5**
TNSS	**Tian-Shan**	**4.59**	**31**	*e*P		**Pn**	**00 24 27.7 +0.5**
KASK	**Kaskelen**	**4.63**	**27**	⇑Pg		Pn	00 24 45.3 +18
	comp=Z,205nm,0.5s						
KASK				⇓Lg		Lg	00 25 54.5
	comp=Z,687nm,0.6s						
KK31	**Karatay Array**	**4.66**	**329**			**Pn**	**00 24 27.3 -0.6**
KK31	**Karatay Array**	**4.66**	**329**	⇑Pn		**Pn**	**00 24 28.1 +0.2**
	comp=Z,52nm,0.5s,baz=139,slow=12,SNR=358						
KK31				⇑Sn		**Sn**	**00 25 24.2 +3.5**
	comp=Z,220nm,0.5s,baz=141,slow=22,SNR=5.5						
KK31				⇓Lg		Lg	00 25 44.5
	comp=Z,1μm,1.0s						
KK31	**Karatay Array**	**4.66**	**329**	*e*PN		**Pn**	**00 24 27.7 -0.2**
KKAR	**Karatay Array**	**4.66**	**329**			**Pn**	**00 24 27.1 -0.7**
KKAR	**Karatay Array**	**4.66**	**329**			**Pn**	**00 24 27.7 -0.2**
KKAR	**Karatay Array**	**4.66**	**329**	PN		**Pn**	**00 24 27.2 -0.7**
WUS	**Wushi**	**4.67**	**62**			**Pn**	**00 24 27.8 -0.3**
ANVS	**Anan'yevo**	**4.70**	**38**	⇑*e*P		**Pn**	**00 24 29.2 +0.7**
ANVS				⇑*e*S		**Sn**	**00 25 19.7 -2.1**
AAA	**Alma-Ata**	**4.72**	**29**	*e*PN		**Pn**	**00 24 29.2 +0.5**
AAA	**Alma-Ata**	**4.72**	**29**	*e*P		**Pn**	**00 24 29.2 +0.5**
MDOK	**Medeo**	**4.73**	**31**	⇓Pn		**Pn**	**00 24 29.7 +0.8**
	comp=Z,27nm,0.7s						
MDOK				Pg			00 24 47.8
	comp=Z,151nm,0.8s						
MDOK				Lg		Lg	00 25 54.6
	comp=Z,460nm,1.1s						
MDOK	**Medeo**	**4.73**	**31**	*e*PN		**Pn**	**00 24 29.4 +0.5**
MDOK	**Medeo**	**4.73**	**31**	*e*P		**Pn**	**00 24 29.5 +0.5**
KNDC	**Almaty**	**4.75**	**30**	⇑Pn		**Pn**	**00 24 31.1 +2.0**
	comp=Z,156nm,0.7s						
KNDC				⇓Pg			00 24 49.9
	comp=Z,552nm,0.6s						
KNDC				⇓Lg		Lg	00 25 54.3
	comp=Z,2μm,0.7s						
PRZ	**Przheval'sk**	**4.86**	**45**			**Pn**	**00 24 31.4 +0.6**
PRZ	**Przheval'sk**	**4.86**	**45**	⇑*e*P		**Pn**	**00 24 31.5 +0.7**
PRZ				⇑*e*S		**Sn**	**00 25 23.8 -2.0**
PRZ	**Przheval'sk**	**4.86**	**45**	PN		**Pn**	**00 24 31.4 +0.6**
SATY	**Saty**	**5.26**	**40**	*e*PN		**Pn**	**00 24 36.9 +0.7**
SATY				pmax		pmax	
	comp=Z,9.0nm,0.5s						
SATY	**Saty**	**5.26**	**40**	*e*P		**Pn**	**00 24 36.1 -0.1**
	comp=Z,9.0nm,0.5s						
CHKK	**Chushkaly**	**5.30**	**26**	*e*PN		**Pn**	**00 24 36.9 +0.3**
CHKK	**Chushkaly**	**5.30**	**26**	*e*P		**Pn**	**00 24 37.0 +0.3**
ZHN	**Zhinishke**	**5.36**	**40**	*e*PN		**Pn**	**00 24 38.2 +0.7**
ZHN				pmax		pmax	
	comp=Z,16nm,0.9s						
ZHN	**Zhinishke**	**5.36**	**40**	*e*P		**Pn**	**00 24 38.3 +0.7**
	comp=Z,16nm,0.9s						
NIL	**Nilore**	**5.49**	**184**			**Pn**	**00 24 41.7 +2.5**
NIL	**Nilore**	**5.49**	**184**	PN		**Pn**	**00 24 41.7 +2.5**
UZB	**Uzynbulak**	**5.65**	**43**	*e*PN		**Pn**	**00 24 42.2 +0.7**
UZB				pmax		pmax	
	comp=Z,8.0nm,0.6s						
UZB	**Uzynbulak**	**5.65**	**43**	*e*P		**Pn**	**00 24 42.2 +0.7**
	comp=Z,8.0nm,0.6s						
SHLS	**Shalkode**	**5.89**	**45**	*e*PN		**Pn**	**00 24 49.1 +4.3**
SHLS				pmax		pmax	
	comp=Z,38nm,0.8s						
SHLS	**Shalkode**	**5.89**	**45**	*e*P		**Pn**	**00 24 49.1 +4.3**
	comp=Z,38nm,0.8s						
KBL	**Kabul**	**5.94**	**221**			**Pn**	**00 24 46.5 +0.9**
KBL	**Kabul**	**5.94**	**221**	PN		**Pn**	**00 24 46.5 +0.9**
TDK	**Taldyqorghan**	**6.81**	**29**	*e*PN		**Pn**	**00 24 57.7 +0.5**
TDK				pmax		pmax	
	comp=Z,16nm,0.7s						
TDK	**Taldyqorghan**	**6.81**	**29**	*e*P		**Pn**	**00 24 57.7 +0.5**
	comp=Z,16nm,0.7s						
DHRM	**DHARAMSHALA**	**7.17**	**162**	*e*P		**Pn**	**00 25 02.7 +0.2**
DHRM				*e*S		**Sn**	**00 26 19.3 -3.3**
DHRM				IAML			00 26 29.2
	comp=N,676nm,0.7s						
DHRM				IAML			00 26 29.9
	comp=E,546nm,0.6s						
SMLA	**Simla**	**8.46**	**160**	*e*P		**Pn**	**00 25 19.8 0.0**
SMLA				*e*S		**Sn**	**00 26 49.6 -4.1**
SMLA				IAML			00 26 57.1
	comp=Z,157nm,0.7s						
SMLA				IAML			00 27 03.0
	comp=N,412nm,0.5s						
OTUK	**Ortayu**	**9.17**	**354**	⇑Pn		**Pn**	**00 25 28.2 -1.2**
	comp=N,17nm,0.6s						
OTUK				⇑Lg		Lg	00 28 11.3
	comp=N,338nm,1.1s						
DDI	**Dehra Dun**	**9.47**	**157**	*e*P		**Pn**	**00 25 33.1 -0.6**
DDI				*e*S		**Sn**	**00 27 13.2 -5.5**
DDI				IAML			00 27 17.6
	comp=E,181nm,0.2s						
DDI				IAML			00 27 18.1
	comp=N,235nm,0.6s						
MAKZ	**Makanchi**	**9.75**	**35**			**Pn**	**00 25 36.0 -1.3**
MAKZ	**Makanchi**	**9.75**	**35**	⇓Pn		**Pn**	**00 25 38.0 +0.7**
	comp=N,25nm,0.8s						
MAKZ				⇓Lg		Lg	00 28 34.9
	comp=N,84nm,1.2s						
MAKZ	**Makanchi**	**9.75**	**35**	P		**Pn**	**00 25 38.8 +1.4**
MK31	**Makanchi Array**	**9.88**	**36**	⇑Pn		**Pn**	**00 25 39.1 -0.1**
	comp=N,54nm,0.8s,baz=213,slow=14,SNR=356						
MK31				⇑Lg		Lg	00 28 40.3
	comp=N,60nm,1.1s						
MK31	**Makanchi Array**	**9.88**	**36**	P		**Pn**	**00 25 39.8 +0.6**
MKAR	**Makanchi Array**	**9.88**	**36**	Pn		**Pn**	**00 25 39.2 0.0**
	comp=N,1.6nm,0.3s,baz=212,slow=11,SNR=229						
MKAR				Lg		Lg	00 28 32.3
	comp=N,0.8nm,0.3s,baz=221,slow=30,SNR=1.7						
	comp=N,50nm,0.8s						
BRZS	**Berezniki**	**10.87**	**356**	*e*P		**Pn**	**00 25 51.5 -1.2**
BRZS	**Berezniki**	**10.87**	**356**	*e*P		**Pn**	**00 25 51.6 -1.2**
WMQ	**Urumqi**	**11.46**	**61**	*e*P		**Pn**	**00 26 00.5 -0.2**
WMQ				S		**Sn**	**00 28 03.3 -3.7**
WMQ				pmax		pmax	
	comp=N,37nm,0.9s						
WMQ				LR		LR	
	comp=N,100nm,15.3s						
ZSN	**Zaisan**	**11.59**	**41**	*e*P		**Pn**	**00 26 03.3 +0.8**
ZSN	**Zaisan**	**11.59**	**41**	*e*P		**Pn**	**00 26 03.3 +0.8**
KURBB	**Kurchatov Arra**	**11.97**	**15**	Pn		**Pn**	**00 26 05.3 -2.4**
	comp=N,0.2nm,0.3s,baz=208,slow=12,SNR=30						
KURBB				Lg		Lg	00 29 38.8
	comp=N,0.3nm,0.3s,baz=208,slow=29,SNR=3.3						
	comp=N,6.6nm,0.9s						
KURBB	**Kurchatov Arra**	**11.97**	**15**	⇑Pn		**Pn**	**00 26 09.0 +1.3**
	comp=N,9.5nm,0.6s						
KURBB				⇓Lg		Lg	00 29 41.4
	comp=N,235nm,1.1s						
KURK	**Kurchatov**	**12.08**	**15**			**Pn**	**00 26 07.4 -1.7**
KURK	**Kurchatov**	**12.08**	**15**	⇑Pn		**Pn**	**00 26 11.1 +2.0**
	comp=N,17nm,1.1s						
KURK				⇑Lg		Lg	00 29 44.5
	comp=N,252nm,1.1s						
KURK	**Kurchatov**	**12.08**	**15**	*d i*P		**Pn**	**00 26 07.5 -1.6**
KURK				pmax		pmax	
	comp=Z,21nm,1.3s						
SEM	**Semipalatinsk**	**12.18**	**20**	*e*P		**Pn**	**00 26 09.8 -0.8**
SEM				pmax		pmax	
	comp=Z,11nm,0.9s						
SEM	**Semipalatinsk**	**12.18**	**20**	*e*P		**Pn**	**00 26 09.9 -0.8**
	comp=Z,11nm,0.9s						
BVA0	**Borovoye Array**	**14.09**	**352**	⇑P		**P**	**00 26 41.3 -0.4**
	comp=Z,15nm,0.6s,baz=164,slow=13,SNR=62						
BVAR	**Borovoye Array**	**14.09**	**352**	Pn		**Pn**	**00 26 32.7 -3.4**
	comp=Z,0.1nm,0.3s,baz=161,slow=12,SNR=62						
BVAR				Lg		Lg	00 30 44.5
	comp=Z,0.1nm,0.3s,baz=160,slow=29,SNR=5.3						
	comp=Z,9.7nm,0.7s						
BRVK	**Borovoye**	**14.13**	**351**			**Pn**	**00 26 33.6 -3.1**
BRVK	**Borovoye**	**14.13**	**351**	⇑P		**P**	**00 26 41.3 -0.9**
	comp=Z,12nm,0.6s						
BRVK	**Borovoye**	**14.13**	**351**	P		**Pn**	**00 26 33.6 -3.1**
AB31	**Akbulak array**	**14.14**	**320**			**Pn**	**00 26 33.0 -3.7**
AB31	**Akbulak array**	**14.14**	**320**	⇓P		**Pn**	**00 26 36.3 -0.5**
	comp=Z,21nm,0.6s						
AB31	**Akbulak array**	**14.14**	**320**	P		**Pn**	**00 26 32.5 -4.3**
ABKAR	**Akbulak array**	**14.14**	**320**			**Pn**	**00 26 32.9 -3.9**
ABKAR	**Akbulak array**	**14.14**	**320**			**Pn**	**00 26 33.0 -3.7**
AKTO	**Aktyubinsk**	**15.85**	**321**	Pn		**Pn**	**00 26 56.0 -2.8**
	comp=Z,1.5nm,0.3s,baz=125,slow=9.8,SNR=42						
AKTO				Sn		Sn	00 29 39.4 -14
	comp=Z,0.5nm,0.3s,baz=112,slow=16,SNR=2.0						
AKTO				LR		LR	00 33 38.2
	comp=Z,208nm,18.3s,baz=144,slow=39						
	comp=Z,11nm,0.7s						
AKTO	**Aktyubinsk**	**15.85**	**321**	⇑P		**P**	**00 27 00.0 -1.3**
	comp=Z,15nm,0.8s						
ZAA0	**Zalesovo Array**	**16.63**	**23**			**Pn**	**00 27 07.0 -1.5**
ZALV	**Zalesovo Beam**	**16.63**	**23**			**Pn**	**00 27 06.5 -2.0**
ZALV	**Zalesovo Beam**	**16.63**	**23**	Pn		**Pn**	**00 27 06.8 -1.7**
	comp=Z,1.6nm,0.3s,baz=216,slow=12,SNR=30						
ZALV				Sn		**Sn**	**00 30 13.0 +0.8**
	baz=220,slow=11						
ZALV				Lg		Lg	00 32 11.1
	comp=Z,0.2nm,0.3s,baz=192,slow=26,SNR=1.5						
ZALV				LR		LR	00 33 22.5
	comp=Z,66nm,21.1s,baz=108,slow=36						
	comp=Z,7.3nm,0.5s						
GOMU	**GeErMu**	**16.93**	**93**	P		**Pn**	**00 27 13.0 +0.2**
GOMU				pmax		pmax	
	comp=Z,15nm,0.8s						
GOMU				LR		LR	
	comp=Z,260nm,5.9s						
GOMU				LR		LR	
	comp=Z,160nm,6.4s						
SVE	**Sverdlovsk**	**19.70**	**338**	*e*P		**P**	**00 27 42.4 -1.2**
SVE				pmax		pmax	
	comp=Z,26nm,1.1s						
BANOM	**Banah**	**19.70**	**233**	P		**P**	**00 27 43.1 -0.8**
BANOM	**Banah**	**19.70**	**233**	P		**P**	**00 27 43.2 -0.8**
SHME	**Shamm**	**19.71**	**234**	P		**P**	**00 27 42.3 -1.7**
SHME	**Shamm**	**19.71**	**234**	P		**P**	**00 27 41.8 -2.2**
AKT	**Akhty**	**19.96**	**285**	*e*P		**P**	**00 27 45.6 -1.1**
AKT				*e*S		**S**	**00 31 23.4 -4.2**
AKT				pmax		pmax	
	comp=Z,31nm,0.5s						
ARTI	**Arti**	**20.04**	**335**			**P**	**00 27 46.2 -1.0**
ARTI				IAmb		IAmb	00 27 50.1
	comp=Z,23nm,0.6s						
ARTI	**Arti**	**20.04**	**335**	P		**P**	**00 27 46.2 -1.0**
	comp=Z,16nm,0.7s,baz=150,slow=6.7,SNR=22						
ARTI				S		Sn	00 31 33.8 -0.5
	comp=Z,1.4nm,0.5s,baz=354,slow=23,SNR=1.0						
ARTI				Lg		Lg	00 33 54.0
	comp=Z,0.2nm,0.3s,baz=136,slow=22,SNR=1.9						
	comp=Z,16nm,0.7s						
ARTI	**Arti**	**20.04**	**335**	*c i*P		**P**	**00 27 46.7 -0.5**
ARTI				*PP		**pP**	**00 28 04.7 +2.3**
ARTI							00 28 16.4
ARTI				S		**S**	**00 31 26.8 -1.8**
ARTI				SS		**SnSn**	**00 31 59.4 +10**
ARTI				pmax		pmax	
	comp=Z,22nm,0.8s						
MAK	**Makhachkala**	**20.13**	**289**	*e*P		**P**	**00 27 45.5 -2.9**
MAK				*e*PP		**pP**	**00 28 02.6 -1.3**
MAK				*e*SP		**sP**	**00 28 11.9 -1.1**
MAK				*e*S		**S**	**00 31 25.6 -5.0**
MAK				pmax		pmax	
	comp=Z,67nm,1.2s						
MAK				MLR		MLR	
	comp=Z,100nm,15.0s						
GTA	**Gaotai**	**20.16**	**81**	P		**P**	**00 27 50.5 +1.6**
GTA				PP		**sP**	**00 28 14.8 +1.4**
GTA				S		**S**	**00 31 35.3 +3.8**
GTA				SS		**SnSn**	**00 31 57.0 +3.8**
GTA				pmax		pmax	
	comp=Z,46nm,1.0s						
GTA				LR		LR	
	comp=Z,230nm,10.4s						
GTA				LR		LR	
	comp=Z,150nm,10.4s						
MASF	**Masafi**	**20.19**	**232**	P		**P**	**00 27 49.2 0.0**
SHL	**Shillong**	**20.38**	**126**	P		**P**	**00 27 51.5 0.0**
SHL				IAmb		IAmb	00 27 57.0
	comp=Z,59nm,1.1s						
SHL	**Shillong**	**20.38**	**126**	P		**P**	**00 27 51.5 0.0**
SHL				pmax		pmax	
	comp=Z,59nm,1.1s						
WSAR	**Wadi Sarin**	**20.41**	**223**	P		**P**	**00 27 52.0 +0.4**
	comp=Z,0.3nm,0.7s,baz=66,slow=24,SNR=15						
WSAR	**Wadi Sarin**	**20.41**	**223**	P		**P**	**00 27 52.3 +0.8**
UOSS	**Minazif**	**20.48**	**231**			**P**	**00 27 52.1 -0.2**
UOSS				IAmb		IAmb	00 28 08.7
	comp=Z,15nm,0.7s						
UOSS	**Minazif**	**20.48**	**231**	P		**P**	**00 27 51.9 -0.4**
UOSS	**Minazif**	**20.48**	**231**	P		**P**	**00 27 50.8 -1.5**
HATD	**Hatta, Dubai**	**20.61**	**231**	P		**P**	**00 27 54.7 +0.9**
HATD	**Hatta, Dubai**	**20.61**	**231**	P		**P**	**00 27 54.2 +0.5**
WBK	**Wadi Bani Khal**	**20.75**	**222**	P		**P**	**00 27 56.1 +0.9**
ASHO	**Ashiyiah**	**20.76**	**231**	P		**P**	**00 27 55.5 +0.2**
	SNR=16						
ASHO	**Ashiyiah**	**20.76**	**231**	*i* P		**P**	**00 27 55.1 -0.2**
	SNR=15						
HOQ	**Hoqain**	**20.86**	**227**	P		**P**	**00 27 56.4 0.0**
SMDO	**Samad**	**20.87**	**224**	P		**P**	**00 27 54.0 -2.6**
SMDO				P		**P**	**00 27 54.0 -2.6**
SOHO	**SOHO**	**20.89**	**229**	P		**P**	**00 27 55.4 -1.3**
JLN	**Jalan Bani Buh**	**20.90**	**220**	P		**P**	**00 27 57.6 +0.8**
AGT	**Agartala**	**21.24**	**131**	*e*P		P	00 28 11.6 +11
JMDO	**Jabal Madar**	**21.40**	**223**	P		**P**	**00 27 59.1 -3.0**
ALNE	**Al Ain**	**21.41**	**231**	P		**P**	**00 28 01.6 -0.8**
	SNR=14						
ALNE	**Al Ain**	**21.41**	**231**	P		**P**	**00 28 01.4 -1.0**
AJN	**Ajban**	**21.51**	**233**	P		**P**	**00 28 02.8 -0.5**
ARQ	**Araqi**	**21.51**	**228**	P		**P**	**00 28 01.6 -1.7**
ARQ				P		**P**	**00 28 01.6 -1.7**
BSY	**Bisya**	**21.59**	**226**	P		**P**	**00 28 02.2 -2.0**
AZL	**Aizawl**	**22.22**	**128**	*e*P		P	00 28 24.8 +14
GNI	**Garni**	**22.33**	**282**			**P**	**00 28 12.5 +0.3**
GNI	**Garni**	**22.33**	**282**	LR		LR	00 38 15.9
	comp=Z,24nm,20.9s,baz=94,slow=40						
GNI	**Garni**	**22.33**	**282**	*c i*P		**P**	**00 28 13.3 +1.1**
GNI				pmax		pmax	
	comp=Z,139nm,1.7s						
GNI	**Garni**	**22.33**	**282**	P		**P**	**00 28 13.3 +1.1**
GNI	**Garni**	**22.33**	**282**	P		**P**	**00 28 12.9 +0.7**
	comp=Z,2μmcomp=Z,221nm,1.0s						
BELG	**Belogornoye**	**22.39**	**315**	P		**P**	**00 28 11.1 -1.4**
	comp=Z,26nm,0.8s,baz=100,slow=6.1,SNR=7.3						
BELG				S		**S**	**00 32 13.9 +0.1**
	comp=Z,8.4nm,0.7s,baz=155,slow=14,SNR=1.4						
	comp=Z,26nm,0.8s						
BRDH	**Bariadhala**	**22.40**	**132**	LR		LR	00 38 45.8
	comp=Z,154nm,21.0s,baz=278,slow=42						
JRN	**Qarnain Island**	**22.60**	**237**	P		**P**	**00 28 15.9 +0.8**
MHTO	**MHTO**	**22.61**	**221**	P		**P**	**00 28 12.0 -3.1**
MOY	**Mondy**	**22.71**	**48**	*e*P		**P**	**00 28 16.6 +0.4**
MOY				pmax		pmax	
	comp=Z,20nm,1.3s						
UMZA	**Um Al Zommool**	**22.78**	**229**	P		**P**	**00 28 15.5 -1.4**
UMZA				P		**P**	**00 28 15.5 -1.4**
NCK	**Nalchik**	**23.00**	**291**	*d i*P		**P**	**00 28 18.2 -0.9**
NCK				pmax		pmax	
	comp=Z,27nm,0.6s						
SHMA	**Al-Shehemyia**	**23.26**	**242**	P		**P**	**00 28 21.6 -0.1**
SAKB	**Bahrain**	**23.48**	**243**	P		**P**	**00 28 23.9 +0.2**
KBZ	**Khabaz**	**23.51**	**291**	P		**P**	**00 28 22.4 -1.4**
	comp=Z,5.0nm,0.8s,baz=129,slow=7.4,SNR=20						
KBZ				S		**S**	**00 32 33.9 +1.6**
	comp=Z,5.5nm,1.0s,baz=165,slow=9.2,SNR=2.2						
KBZ				LR		LR	00 39 29.1
	comp=Z,41nm,19.4s,baz=100,slow=41						
	comp=Z,5.0nm,0.8s						
KARS	**Kars**	**23.53**	**283**			**P**	**00 28 24.4 +0.1**
KARS	**Kars**	**23.53**	**283**	P		**P**	**00 28 24.4 +0.1**
KARS				pmax		pmax	
	comp=Z,87nm,0.8s						
MZR	**Muzera**	**23.59**	**233**	P		**P**	**00 28 23.5 -1.2**
MZR	**Muzera**	**23.59**	**233**	*i* P		**P**	**00 28 23.8 -0.8**
	SNR=6.4						
ZAK	**Zakamensk**	**23.63**	**52**	*e*P		**P**	**00 28 25.5 +0.5**
ZAK				pmax		pmax	
	comp=Z,11nm,1.1s						
KIV	**Kislovodsk**	**23.67**	**292**			**P**	**00 28 24.2 -1.1**
KIV	**Kislovodsk**	**23.67**	**292**	⇑P		**P**	**00 28 25.3 0.0**
KIV	**Kislovodsk**	**23.67**	**292**	*e*P		**P**	**00 28 24.6 -0.8**
KIV				*e*S		**S**	**00 32 33.5 -1.6**
KIV				pmax		pmax	
	comp=Z,18nm,1.1s						
KIV				MLR		MLR	
	comp=Z,37nm,14.0s						
KIV	**Kislovodsk**	**23.67**	**292**	*i* P		**P**	**00 28 25.0 -0.4**
	SNR=15						
KIV	**Kislovodsk**	**23.67**	**292**	P		**P**	**00 28 24.4 -1.0**
	comp=Z,550nmcomp=Z,49nm,0.8s						
SHA1	**Shidzhatmaz**	**23.68**	**291**	*c e*P		**P**	**00 28 25.7 0.0**
TRNA	**Turayna**	**23.83**	**240**	P		**P**	**00 28 26.5 -0.4**
GEVA	**Gevas**	**23.91**	**278**	P		**P**	**00 28 28.3 +0.6**
SLWR	**Sila**	**23.97**	**238**	P		**P**	**00 28 28.5 +0.4**
LZH	**Lanzhou**	**23.98**	**88**	*e*P		**P**	**00 28 30.5 +2.2**
LZH				S		**S**	**00 32 42.3 +1.8**
LZH				pmax		pmax	
	comp=Z,45nm,1.3s						
LZH				LR		LR	
	comp=Z,340nm,12.7s						
LZH				LR		LR	
	comp=Z,140nm,12.4s						
LZH				LR		LR	
	comp=Z,210nm,11.7s						
SMRA	**Abu-Samra**	**24.09**	**240**	P		**P**	**00 28 30.2 +1.1**
GURO	**Guroymak-BITLI**	**24.65**	**279**			**P**	**00 28 34.4 -0.1**
KIRV	**Kirov**	**24.96**	**329**	P		**P**	**00 28 37.6 +0.9**
	comp=Z,12nm,0.5s,baz=152,slow=4.9,SNR=4.2						
	comp=Z,12nm,0.5s						
SONM	**Songino Array**	**25.08**	**59**	P		**P**	**00 28 39.1 +0.9**
SONM	**Songino Array**	**25.08**	**59**	P		**P**	**00 28 39.5 +1.3**
	comp=Z,5.0nm,0.7s,baz=265,slow=9.7,SNR=8.1						
	comp=Z,5.0nm,0.7s						
LABN	**Labinsk**	**25.09**	**293**	*e*P		**P**	**00 28 39.0 +0.8**
LABN				*e*S		**S**	**00 32 57.9 +0.2**
LABN				pmax		pmax	
	comp=Z,37nm,1.3s						
TNCH	**TengChong**	**25.16**	**117**	⇑P		**P**	**00 28 41.3 +2.1**
TNCH				PP		**PnPn**	**00 29 22.0 +5.5**
TNCH				S		**S**	**00 32 53.0 -6.5**
TNCH				pmax		pmax	
	comp=Z,100nm,1.2s						
TNCH				LR		LR	
	comp=Z,260nm,4.8s						
TNCH				LR		LR	
	comp=Z,100nm,6.8s						
ERBR	**Yeremizino-Bor**	**25.30**	**296**	*e*P		**P**	**00 28 41.6 +1.6**
ERBR				*e*S		**S**	**00 33 04.2 +3.2**
ERBR				pmax		pmax	
	comp=Z,18nm,0.7s						
VRH	**Novokhopyorsk**	**25.39**	**309**	*e*P		**P**	**00 28 40.3 -0.5**
VRH				pmax		pmax	
	comp=Z,10.0nm,0.8s						
ULN	**Ulaanbaatar**	**25.52**	**59**			**P**	**00 28 42.8 +0.6**
ULN				IAmb		IAmb	00 28 44.5
	comp=Z,8.1nm,0.8s						
ULN	**Ulaanbaatar**	**25.52**	**59**	P		**P**	**00 28 43.8 +1.6**
KOPT	**Kop Dagi**	**25.57**	**283**	P		**P**	**00 28 43.0 +0.1**
VSLR	**Vesyoloye**	**25.59**	**291**	⇓*e*P		**P**	**00 28 44.8 +2.0**
VSLR				pmax		pmax	
	comp=Z,13nm,0.9s						
SOC	**Sochi**	**25.82**	**291**	*e*P		**P**	**00 28 43.0 -1.8**
SOC				*e*			00 29 23.1
SOC				*e*S		**S**	**00 33 06.2 -3.1**
SOC				*e*SS		**SnSn**	**00 34 09.8 -1.4**
SOC				pmax		pmax	
	comp=Z,4.0nm,0.5s						
SOC				MLR		MLR	
	comp=Z,64nm,20.0s						
MARD	**Mardin**	**25.89**	**276**			**P**	**00 28 46.2 +0.5**
PZH	**PanZhiHua**	**26.57**	**110**	P		**P**	**00 28 55.3 +3.5**
PZH				pmax		pmax	
	comp=Z,70nm,0.8s						
PZH				pmax		pmax	
	comp=Z,100nm,4.7s						
DOK	**Doka**	**26.60**	**225**	P		**P**	**00 28 52.4 +0.4**
	SNR=9.0						
VORD	**Divnogorie**	**26.82**	**308**	*e*P		**P**	**00 28 54.9 +1.2**
VORD				pmax		pmax	
	comp=Z,30nm,0.9s						
DMTO	**DMTO**	**26.89**	**223**	P		**P**	**00 28 54.3 -0.4**
VSR	**Storozhevoye**	**26.95**	**308**	*e*P		**P**	**00 28 55.3 +0.4**
VSR				pmax		pmax	
	comp=Z,20nm,1.0s						
VORR	**Voronezh**	**27.03**	**309

comp=Z,4.0nm,0.9s
SIM Simferopol' 29.79 294 *e*P **P 00 29 20.9 +0.7**
SIM *e**PP **pP 00 29 39.5 +1.5**
SIM pmax pmax
comp=Z,20nm,0.9s
SIM pmax pmax
comp=Z,32nm,1.5s
SIM pmax pmax
comp=Z,36nm,1.6s
CMAR Chiang Mai Arr 30.02 126 P **P 00 29 22.7 +0.2**
CMAR Chiang Mai Arr 30.02 126 P **P 00 29 21.9 -0.6**
comp=Z,3.4nm,0.9s,baz=315,slow=8.1,SNR=20
CMAR LR LR 00 43 59.7
comp=Z,44nm,19.2s,baz=310,slow=42
comp=Z,3.4nm,0.9s
CMAR Chiang Mai Arr 30.02 126 P **P 00 29 22.7 +0.2**
BZK Bozkurt 30.15 288 **P 00 29 23.6 +0.2**
BZK Bozkurt 30.15 288 ⇓P **P 00 29 24.6 +1.1**
KLMR Klimovskoe 30.36 327 *e*P **P 00 29 23.5 -1.5**
KLMR *e**PP **pP 00 29 41.4 -1.4**
KLMR *e* 00 30 23.8
KLMR pmax pmax
comp=Z,8.0nm,1.4s
ILGA Ilgaz 30.51 287 **P 00 29 27.1 +0.2**
ASF Jabal al Asfar 30.59 268 LR LR 00 42 58.3
comp=Z,55nm,18.1s,baz=96,slow=39
KIRS Kirsehir-Merke 30.73 283 ⇑P **P 00 29 29.9 +1.2**
BR131 Keskin Array S 30.81 284 **P 00 29 29.8 +0.3**
BR131 IAmb IAmb 00 29 31.2
comp=Z,9.6nm,0.7s
BR131 Keskin Array S 30.81 284*c i*P **P 00 29 30.0 +0.5**
BRTR Keskin Array B 30.81 284 **P 00 29 29.9 +0.3**
BRTR Keskin Array B 30.81 284 P **P 00 29 29.7 +0.3**
comp=Z,6.7nm,0.7s,baz=88,slow=7.5,SNR=74
comp=Z,6.7nm,0.7s
BRTR Keskin Array B 30.81 284 *i*P **P 00 29 30.2 +0.7**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
BR104 Keskin Array S 30.82 284 P **P 00 29 29.8 +0.3**
comp=Z,93nmcomp=Z,12nm,0.7s
BR106 Keskin Array S 30.83 284 P **P 00 29 30.1 +0.5**
comp=Z,97nmcomp=Z,12nm,0.7s
BR105 Keskin Array S 30.83 284 P **P 00 29 30.0 +0.3**
comp=Z,119nmcomp=Z,14nm,0.7s
LYN LuoYang 31.16 86 *e*P **P 00 29 35.0 +2.6**
LYN pmax pmax
comp=Z,25nm,0.7s
NRIK Noril'sk 31.16 9 **P 00 29 31.9 -0.1**
NRIK Noril'sk 31.16 9 P **P 00 29 32.1 +0.1**
comp=Z,1.4nm,0.5s,baz=180,slow=7.1,SNR=6.8
NRIK LR LR 00 43 47.5
comp=Z,34nm,19.4s,baz=202,slow=39
comp=Z,1.4nm,0.5s
NRIK Noril'sk 31.16 9⇓*e*P **P 00 29 32.3 +0.3**
NRIK pmax pmax
comp=Z,4.0nm,1.1s
SLVN Son La 31.31 116 P **P 00 29 35.9 +1.9**
SLVN IAmb IAmb 00 29 36.9
comp=Z,7.3nm,0.8s
SLVN Son La 31.31 116 P **P 00 29 36.3 +2.4**
ANTO Ankara 31.42 285 P **P 00 29 35.2 +0.5**
ANTO IAmb IAmb 00 29 37.0
comp=Z,7.1nm,0.8s
ANTO Ankara 31.42 285 ⇓P **P 00 29 36.2 +1.5**
ANTO Ankara 31.42 285 P **P 00 29 36.2 +1.5**
ANTO Ankara 31.42 285 P **P 00 29 36.1 +1.3**
comp=Z,117nmcomp=Z,5.6nm,0.6s
MMAI Mount Meron Ar 31.43 271 P **P 00 29 35.2 +0.4**
comp=Z,1.2nm,0.5s,baz=62,slow=8.9,SNR=12
MMAI PcP **PcP 00 32 27.2 +0.4**
comp=Z,0.7nm,0.5s,baz=48,slow=2.1,SNR=4.0
comp=Z,1.2nm,0.5s
XLT XiLinHaoTe 31.79 68 *e*P **P 00 29 38.8 +0.8**
GHAJ Ghor Haditha 31.98 268 P **P 00 29 39.6 0.0**
GHAJ IAmb IAmb 00 29 42.3
comp=Z,11nm,0.8s
HNS HongShan 32.01 80 ⇑P **P 00 29 42.0 +2.2**
HNS PcP **PcP 00 32 29.0 +0.8**
HNS ScS ScS 00 40 06.0 +1.7
HNS pmax pmax
comp=Z,6.0nm,1.0s
PALK Pallekele 32.33 167 LR LR 00 42 33.9
comp=Z,56nm,20.4s,baz=352,slow=36
CSS Mathiatis 32.34 275 **P 00 29 42.6 -0.2**
CSS Mathiatis 32.34 275 P **P 00 29 42.8 0.0**
comp=Z,4.6nm,0.8s
MDUB Mudurnu 32.49 286 P **P 00 29 44.8 +0.6**
PURM Purcari 32.67 298 ⇓P **P 00 29 46.3 +0.8**
BAL3X Bal3x, Balta 32.81 300 P **P 00 29 46.1 -0.6**
NONG Nongkai 33.03 121 P **P 00 29 49.7 +0.8**
AK09 Malin Array Si 33.06 305 P **P 00 29 48.5 -0.4**
AKASG Malin Array Be 33.10 305 **P 00 29 50.0 +0.8**
AKASG Malin Array Be 33.10 305 P **P 00 29 48.5 -0.7**
comp=Z,0.9nm,0.4s,baz=82,slow=7.1,SNR=18
comp=Z,0.9nm,0.4s
AKASG Malin Array Be 33.10 305 P **P 00 29 50.0 +0.8**
AKASG pmax pmax
comp=Z,13nm,0.6s
AKBB Malin Array Si 33.10 305 P **P 00 29 48.2 -1.0**
AKBB IAmb IAmb 00 29 49.9
comp=Z,4.5nm,0.6s
AKBB Malin Array Si 33.10 305*de*P **P 00 29 48.8 -0.4**
AKBB pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 33.10 305 P **P 00 29 48.3 -1.0**
AKBB pP **pP 00 30 08.1 +1.1**
KIEV Kiev 33.11 305 **P 00 29 47.9 -1.4**
KIEV IAmb IAmb 00 29 49.9
comp=Z,4.3nm,0.5s
KIEV Kiev 33.11 305 ⇑P **P 00 29 49.1 -0.2**
KIEV Kiev 33.11 305 P **P 00 29 49.1 -0.2**
KIEV Kiev 33.11 305 *i*P **P 00 29 48.7 -0.6**
SNR=7.8
KIEV Kiev 33.11 305 P **P 00 29 48.6 -0.7**
comp=Z,120nm,0.6s
EIL Elat 33.17 265 LR LR 00 47 09.9
comp=Z,52nm,18.6s,baz=48,slow=43
BORA Eskisehir 33.18 285 **P 00 29 49.8 -0.3**
BORA IAmb IAmb 00 29 51.6
comp=Z,9.3nm,0.7s
MILM Milestii Mici 33.38 298⇑*i*P **P 00 29 51.0 -0.7**
comp=Z,16nm,0.7s
MILM Milestii Mici 33.38 298*c i*P **P 00 29 51.0 -0.7**
ISP Isparta 33.64 282 **P 00 29 53.4 -0.7**
ISP IAmb IAmb 00 29 55.5
comp=Z,6.5nm,0.7s
ISP Isparta 33.64 282⇓*e*P **P 00 29 54.8 +0.6**
ISP pmax pmax
comp=Z,8.0nm,1.0s
SORM Soroca 33.64 301 ⇑P **P 00 29 53.7 -0.3**
SORM Soroca 33.64 301 P **P 00 29 53.7 -0.3**
TPGR Topolog 33.83 295 ⇑P **P 00 29 56.2 +0.5**
CFR Carcaliu 33.99 295 ⇑P **P 00 29 57.4 +0.4**
CFR Carcaliu 33.99 295 P **P 00 29 57.4 +0.4**
LUBAR Lubar, Ukraine 34.02 304 P **P 00 29 56.6 -0.6**
SCTR Scanteiesti 34.04 296 ⇑P **P 00 29 58.5 +1.0**
WHN Wuhan 34.17 92 P **P 00 30 01.0 +2.2**
WHN pmax pmax
comp=Z,110nm,1.3s
TIA Tai'an 34.21 81 P **P 00 30 01.0 +1.9**
TIA pmax pmax
comp=Z,13nm,1.1s
MNK Minsk 34.27 312 *i*P **P 00 29 57.7 -1.6**
comp=E,17nm,1.0s
MNK *i*P **P 00 29 57.7 -1.6**
comp=N,7.0nm,0.9s
MNK *i*P **P 00 29 57.7 -1.6**
comp=Z,8.0nm,0.8s,baz=97
MNK *i*pP **pP 00 30 16.5 -0.6**
MNK *i*PP **PnPn 00 31 13.9 -1.5**
MNK *i*S **S 00 35 18.5 -2.7**
MNK *i*sS **sS 00 35 51.5 -0.2**
MNK *i*SS **SnSn 00 37 35.1 -1.0**
MNK *i*LR LR 00 44 12.9
MNK *i*LRM MLR 00 45 31.3
comp=Z,69nm,18.8s
MNK *i*LRM MLR 00 45 36.0
comp=E,138nm,21.0s
MNK *i*LRM MLR 00 45 52.3
comp=N,135nm,21.7s
MNK Minsk 34.27 312 *i*P **P 00 29 57.6 -1.6**
MNK *i**PP **pP 00 30 16.4 -0.6**
MNK *i* 00 31 13.9
MNK *i* 00 32 33.0
MNK *i*S **S 00 35 18.5 -2.7**
MNK *i*SS **SnSn 00 37 35.0 -1.0**
MNK *i* 00 40 12.9
MNK pmax pmax
comp=E,17nm,1.0s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK MLR MLR
comp=Z,69nm,19.0s
MNK MLR MLR
comp=E,138nm,21.0s
MNK MLR MLR
comp=N,135nm,22.0s
NDNU Novodnistrovsk 34.29 301 P **P 00 29 59.0 -0.6**
ELL Elmali 34.41 280 P **P 00 30 00.3 -0.6**
ELL Elmali 34.41 280 P **P 00 30 00.3 -0.6**
ELL pmax pmax
comp=Z,16nm,0.9s
PANC Panciu 34.61 297 ⇑P **P 00 30 03.9 +1.5**
NAYO Nakonayok 34.64 128 P **P 00 30 03.7 +0.8**
ODBI Odobesti 34.69 296 ⇑P **P 00 30 04.4 +1.4**
JOF Joensuu 34.76 327 *e*P P 00 30 13.0 +10
AKAS Kas 34.80 279 P **P 00 30 03.0 -1.3**
BAND Balkesir-Ban 34.83 287 ⇑P **P 00 30 05.5 +1.2**
TESR Tescani 34.90 298 ⇑P **P 00 30 05.3 +0.5**
VRI Vrincioaia 34.90 297 ⇓P **P 00 30 06.2 +1.2**
VRI Vrincioaia 34.90 297 P **P 00 30 06.1 +1.2**
MANT Manisa 34.95 284 P **P 00 30 04.9 -0.8**
NACGM Naroch 34.95 313 *e*P **P 00 30 07.7 +2.5**
comp=Z,9.0nm,0.9s,baz=97
PLOR Plostina 34.96 297 ⇓P **P 00 30 07.0 +1.6**
PLOR Plostina 34.96 297 P **P 00 30 07.0 +1.6**
PRAR RASCA 35.11 299 ⇑P **P 00 30 07.3 +0.6**
RNPP5 Staryi Chortor 35.23 306 P **P 00 30 07.1 -0.6**
RNPP9 Sopachiv 35.23 306 P **P 00 30 07.4 -0.2**
NEHR Nehoiu 35.26 296 ⇑P **P 00 30 09.6 +1.6**
COVR Voineasa-Covas 35.27 297 ⇓P **P 00 30 09.6 +1.5**
MLR Muntele Rosu 35.49 296 P **P 00 30 10.6 +0.4**
MLR IAmb IAmb 00 30 12.8
comp=Z,8.9nm,0.8s
MLR Muntele Rosu 35.49 296 LR LR 00 46 00.6
comp=Z,34nm,21.4s,baz=63,slow=38
MLR Muntele Rosu 35.49 296 ⇑P **P 00 30 11.7 +1.5**
MLR Muntele Rosu 35.49 296 P **P 00 30 11.6 +1.5**
BURAR Bucovina Array 35.78 300 P **P 00 30 12.5 0.0**
BURAR Bucovina Array 35.78 300 ⇓P **P 00 30 13.1 +0.6**
BURAR Bucovina Array 35.78 300 P **P 00 30 13.1 +0.6**
BUR08 Bucovina Ar. S 35.79 300 P **P 00 30 12.2 -0.4**
DOPR Dopca 35.82 297 ⇓P **P 00 30 14.2 +1.4**
KSV Kosov 35.83 301 P **P 00 30 12.1 -0.8**
LVZ Lovozero 35.88 336 P **P 00 30 12.9 -0.2**
LVZ IAmb IAmb 00 30 19.4
comp=Z,11nm,1.0s
LVZ Lovozero 35.88 336*ce*P **P 00 30 13.9 +0.8**
LVZ pmax pmax
comp=Z,36nm,2.5s
VOIR 36.12 296 ⇓P **P 00 30 16.3 +0.8**
VOIR 36.12 296 P **P 00 30 16.3 +0.8**
STNU Starunia 36.18 302 P **P 00 30 15.3 -0.5**
RDO Rodhopi 36.55 289 P **P 00 30 19.1 +0.1**
UBPT Khong Chiam 36.57 122 P **P 00 30 19.2 -0.2**
UBPT IAmb IAmb 00 30 19.6
comp=Z,7.9nm,1.1s
FIA1 FINESS Array S 36.59 323 P **P 00 30 19.1 -0.1**
FINES FINESS Array B 36.59 323 P **P 00 30 18.7 -0.4**
FINES FINESS Array B 36.59 323 P **P 00 30 19.3 +0.2**
comp=Z,3.2nm,0.4s,baz=112,slow=9.7,SNR=73
FINES LR LR 00 47 16.6
comp=Z,27nm,18.1s,baz=106,slow=39
comp=Z,3.2nm,0.4s
PABE Paberze 36.62 313 P **P 00 30 19.4 0.0**
PABE IAmb IAmb 00 30 29.2
comp=Z,12nm,0.9s
PABE Paberze 36.62 313 *e*P P 00 30 29.0 +10
KARP Karpathos 36.90 279 **P 00 30 21.3 -0.9**
KARP Karpathos 36.90 279 P **P 00 30 22.2 0.0**
comp=Z,64nm,0.9s
CJR Cluj-Napoca 36.97 299 ⇑P **P 00 30 23.9 +1.3**
CJR Cluj-Napoca 36.97 299 P **P 00 30 23.9 +1.3**
SUW Suwalki 36.97 311 *e*P P 00 30 32.3 +10
LOT Lotru 37.02 296 ⇓P **P 00 30 24.8 +1.7**
NJ2 Nanjing 37.05 87 *e*P **P 00 30 25.0 +1.6**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
MEF Metsahovi 37.10 321 *e*P P 00 30 33.5 +10
MTSE Matsula 37.12 319 *e*P P 00 30 33.5 +10
MARR Marisel-Cluj 37.30 299 ⇓P **P 00 30 26.7 +1.2**
KEF Keuruu 37.34 324 *e*P P 00 30 34.8 +9.3
BERU Beregovo 37.45 301 P **P 00 30 27.6 +1.0**
KOLS Kolonicke sedl 37.63 302 *e*P **P 00 30 29.2 +1.0**
KOLS Kolonicke sedl 37.63 302 *e*P **P 00 30 29.2 +1.0**
KOLS *e*pP **pP 00 30 48.5 +2.4**
GZR Gura Zlata 37.71 297 ⇑P **P 00 30 29.7 +0.7**
GZR Gura Zlata 37.71 297 P **P 00 30 29.7 +0.7**
HERR Herculane 38.05 296 ⇓P **P 00 30 31.7 0.0**
SURR Surduc 38.11 297 ⇑P **P 00 30 33.6 +1.4**
HKPS Hong Kong Po S 38.22 104 P **P 00 30 35.7 +2.3**
SRIT Nakonsritamara 38.23 136 P **P 00 30 34.5 +1.0**
SRIT Nakonsritamara 38.23 136 P **P 00 30 34.5 +1.0**
STHS Stebnicka Huta 38.27 303 *e*pP pP 00 30 52.5 +1.0
BZS Buzias 38.48 297 ⇓P **P 00 30 36.4 +1.1**
BZS Buzias 38.48 297 P **P 00 30 36.4 +1.1**
CN2 Changchun 38.50 66 *e*P **P 00 30 35.3 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
RAF Rauma 38.53 322 *e*P P 00 30 45.6 +10
VAF Ylistaro 38.54 325 *e*P P 00 30 45.3 +10
MDVR Moldovita 38.56 296 ⇑P **P 00 30 37.0 +1.0**
VADS Vadso 38.67 337 *e*P **P 00 30 36.8 +0.2**
ZEA Zeya 38.69 50 *e*P **P 00 30 39.7 +2.7**
ZEA pmax pmax
comp=N,10.0nm,0.3s
ZEA pmax pmax
comp=Z,10.0nm,0.6s
NIE Niedzica 38.88 303 P **P 00 30 39.9 +1.2**
comp=Z,10nm,0.8s
HEH HeiHe 38.94 55 ⇓P **P 00 30 40.3 +1.2**
HEH pmax pmax
comp=Z,28nm,0.8s
PSZ Piszkesteto 39.32 301 P **P 00 30 42.8 +0.4**
PSZ Piszkesteto 39.32 301 P **P 00 30 42.8 +0.4**
PSZ pmax pmax
comp=Z,4.0nm,1.0s
PSZ Piszkesteto 39.32 301 *e*P P 00 30 52.4 +10
LANS Liptovska Anna 39.45 303 *e*pP pP 00 31 04.8 +3.4
AGG Agios Georgios 39.47 287 **P 00 30 44.0 +0.3**
AGG IAmb IAmb 00 30 46.6
comp=Z,6.1nm,0.8s
AGG Agios Georgios 39.47 287 P **P 00 30 44.0 +0.3**
AGG pmax pmax
comp=Z,6.0nm,0.8s
ARA0 ARCESS Array S 39.59 336 *e*P **P 00 30 44.7 +0.4**
ARCES ARCESS Array B 39.59 336 P **P 00 30 44.5 +0.1**
comp=Z,4.4nm,0.5s,baz=109,slow=8.6,SNR=86
comp=Z,4.4nm,0.5s
VYHS Vyhne 39.94 302 *e*P **P 00 30 48.5 +1.0**
VYHS Vyhne 39.94 302 *e*P **P 00 30 48.5 +1.0**
VYHS *e*pP **pP 00 31 08.4 +2.9**
SRO Srobarova 40.38 301 *e*pP pP 00 31 12.6 +3.4
MORH Mrgy, Hungar 40.43 299 P **P 00 30 51.7 +0.2**
comp=Z,8.8nm,1.0s
GKP Gorka Klasztor 40.51 310 *e*P P 00 31 01.9 +10
YAK Yakutsk 40.56 37 *e*P **P 00 30 52.2 -0.1**
YAK *e* 00 32 25.7
YAK *e* 00 32 53.5
YAK *e*S **S 00 36 55.1 -1.3**
YAK *e*SS **SS 00 39 51.4 -6.7**
YAK *e* 00 40 49.8
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=Z,119nm,3.4s
YAK pmax pmax
comp=N,75nm,3.8s
YAK pmax pmax
comp=E,40nm,4.5s
YAK smax smax
comp=N,70nm,4.6s
YAK smax smax
comp=E,50nm,4.4s
HAMF Hammerfest 40.62 337 *e*P **P 00 30 53.6 +0.9**
MORC Moravsky Berou 40.62 304 sP 00 31 13.6 -6.1
MODS Modra-Piesok 40.99 302 *ep*P **pP 00 31 17.1 +2.9**
MODS *e* 00 32 41.8
DLV Lat 41.00 122 P **P 00 30 57.4 +0.7**
BLEU Blekinge 41.24 314 *i*P **P 00 30 57.2 -0.8**
JETT Jettan, Norway 41.27 335 *e*P **P 00 30 58.9 +0.7**
VRAC Vranov 41.30 304 LR LR 00 50 35.5
comp=E,42nm,18.2s,baz=80,slow=40
DPC Dobruska-Polom 41.34 305 *e*P **P 00 30 59.4 +0.4**
DPC *ex* x 00 31 19.3
DPC Dobruska-Polom 41.34 305 *e*P **P 00 30 59.4 +0.4**
CHVC Chvalec 41.48 306 *ep*P pP 00 31 20.5 +2.2
UPC Upice 41.51 305 *ep*P pP 00 31 21.1 +2.5
KULM Kulim 41.56 137 P **P 00 31 00.9 -0.2**
KULM Kulim 41.56 137 P **P 00 31 01.9 +0.8**
RONA Rosalia, Austr 41.75 301 *i*P **P 00 31 03.4 +1.0**
comp=E,15nm,1.2s
BSD Bornholm Skovb 41.78 312 *i*P **P 00 31 00.8 -1.6**
BSD IAmb IAmb 00 31 37.4
comp=Z,57nm,1.0s
KLR Kul'dur 41.85 56 LR LR 00 51 07.2
comp=Z,25nm,18.4s,baz=270,slow=40
KLR Kul'dur 41.85 56*d i*P **P 00 31 03.4 +0.3**
KLR pmax pmax
comp=Z,10.0nm,1.4s
KSAR Wonju Array Be 41.99 75 P **P 00 31 04.1 -0.3**
KSAR Wonju Array Be 41.99 75 P **P 00 31 04.1 -0.3**
CONA Conrad Observa 41.99 302 *i*P **P 00 31 04.8 +0.4**
comp=Z,6.0nm,0.7s
KSRS Korea Array 42.02 75 P **P 00 31 04.2 -0.4**
comp=Z,1.9nm,0.9s,baz=274,slow=8.5,SNR=9.3
KSRS LR LR 00 51 16.8
comp=Z,29nm,18.4s,baz=285,slow=40
comp=Z,1.9nm,0.9s
DEL Delary 42.31 315 *i*P **P 00 31 06.0 -0.8**
ARSA Arzberg 42.34 301 *i*P **P 00 31 08.3 +1.1**
comp=Z,2.8nm,0.6s
HFS Hagfors 42.40 320 P **P 00 31 07.4 0.0**
comp=Z,4.6nm,0.5s,baz=98,slow=11,SNR=41
HFS LR LR 00 50 57.4
comp=Z,32nm,18.8s,baz=100,slow=39
comp=Z,4.6nm,0.5s
TIXI Tiksi 42.51 23 P **P 00 31 07.4 -0.8**
TIXI IAmb IAmb 00 31 26.4
comp=Z,6.1nm,0.5s
TIXI Tiksi 42.51 23 LR LR 00 49 23.3
comp=Z,74nm,19.8s,baz=218,slow=37
TIXI Tiksi 42.51 23⇓*e*P **P 00 31 07.9 -0.3**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
PRU Pruhonice 42.52 305 *ep*P pP 00 31 29.1 +2.3
FAUS Fauske 42.52 331 *e*P **P 00 31 08.8 +0.5**
LUNU Lund 42.59 313 *i*P **P 00 31 11.3 +2.3**
SSLB Suanglung 42.59 97 **P 00 31 11.0 +1.5**
STEI Steigen 42.65 332 *e*P **P 00 31 11.1 +1.8**
RUE Ruedersdorf 42.67 309 *e*P 00 31 30.5
comp=Z,14nm,0.6s,baz=80,slow=7.9
BRG Berggiesshubel 42.77 306 *e*P 00 31 30.9
comp=Z,10nm,0.8s,baz=80,slow=7.9
BRG *ep*P 00 31 42.5
SOKA Soboth 42.79 300 *i*P **P 00 31 12.0 +1.1**
comp=Z,10nm,1.2s
PSI Prapat 42.81 141 P **P 00 31 10.7 -0.7**
ZVC Zvikov 42.83 304 *ep*P pP 00 31 32.0 +2.6
CKRC Cesky Krumlov 42.86 303 *e*P **P 00 31 15.2 +3.8**
CKRC *ex* x 00 31 31.8
CKRC Cesky Krumlov 42.86 303 *e*P **P 00 31 15.2 +3.8**
CKRC *e**PP **pP 00 31 31.8 +2.1**
BORU Boraas 42.88 316 *i*P **P 00 31 11.7 +0.3**
FABU Falkenberg 42.93 315 *i*P **P 00 31 12.4 +0.7**
USRK Ussuriysk Ar. 43.01 64 LR LR 00 50 20.4
comp=Z,56nm,20.7s,baz=291,slow=38
MOA Molln 43.07 302 *i*P **P 00 31 12.2 -0.9**
comp=Z,4.0nm,0.8s
OBKA Obir 43.15 300 *i*P **P 00 31 13.6 -0.2**
comp=Z,1.8nm,0.4s
VAGH Vaagaholmen 43.19 330 *e*P **P 00 31 13.8 +0.1**
VAGH *e* 00 31 33.5
TWG Pinlang 43.21 98 P **P 00 31 16.5 +2.0**
GEC2 GERESS Array S 43.25 303 *e*P 00 31 35.1
comp=Z,15nm,1.0s,baz=80,slow=7.9
GERES GERESS Array B 43.25 303 P **P 00 31 14.9 +0.4**
comp=Z,1.3nm,0.6s,baz=62,slow=8.3,SNR=9.8
comp=Z,1.3nm,0.6s
GERES GERESS Array B 43.25 303 P **P 00 31 15.0 +0.4**
KHC Kasperske Hory 43.28 304 *e*P **P 00 31 15.0 +0.2**
KHC *ex* x 00 31 35.6
KHC Kasperske Hory 43.28 304 *e*P **P 00 31 15.0 +0.2**
KHC Kasperske Hory 43.28 304 P **P 00 31 15.5 +0.7**
comp=Z,14nm,0.7s
CLL Collm 43.29 307 *e*P **P 00 31 15.0 +0.2**
CLL *i* *PP **pP 00 31 33.7 +0.6**
CLL Collm 43.29 307 *e*P **P 00 31 15.0 +0.2**
CLL *i*pP **pP 00 31 33.7 +0.6**
comp=Z,13nm,0.8s
CLL *es*P **sP 00 31 41.0 -0.5**
CLL AMS AMS 00 51 00.0
comp=Z,100nm,19.6s
CLL Collm 43.29 307 *e*P 00 31 34.7
comp=Z,10nm,0.8s,baz=80,slow=7.9
NC405 NORSAR Array S 43.40 321 P **P 00 31 14.9 -0.6**
BJO1 Bjornoya 43.44 341 *e*P **P 00 31 15.6 0.0**
NC602 NORSAR Array S 43.48 321 P **P 00 31 17.0 +0.8**
NC602 IAmb IAmb 00 31 35.7
comp=Z,9.0nm,1.0s
GSI Gunungsitoli 43.49 144 **P 00 31 17.2 +0.5**
GSI Gunungsitoli 43.49 144 P **P 00 31 17.9 +1.2**
GSI Gunungsitoli 43.49 144 P **P 00 31 17.5 +0.8**
comp=Z,83nm,0.8s
BIOA Bad Ischl, Aus 43.51 302 *i*P **P 00 31 16.9 +0.2**
comp=Z,7.8nm,0.9s
NC303 NORSAR Array S 43.57 322 P **P 00 31 16.8 -0.1**
NC303 IAmb IAmb 00 31 34.4
comp=Z,7.1nm,0.7s
NB201 NORSAR Array S 43.60 321 P **P 00 31 17.0 -0.2**
NB2 NORSAR Subarra 43.64 321 P **P 00 31 17.2 -0.3**
comp=Z,29nm,0.9s,baz=92,slow=8.6
NB2 NORSAR Subarra 43.64 321 P **P 00 31 17.2 -0.3**
baz=92,slow=8.6
NOA NORSAR Array B 43.64 321 P **P 00 31 17.5 -0.1**
comp=Z,2.0nm,0.5s,baz=92,slow=7.7,SNR=16
NOA LR LR 00 50 07.7
comp=Z,31nm,19.7s,baz=95,slow=37
comp=Z,2.0nm,0.5s
STRU Stroemstad 43.67 318 *i*P **P 00 31 17.8 +0.1**
WET Wettzell 43.73 304 *e*P 00 31 38.8
comp=Z,13nm,1.0s,baz=80,slow=7.9
MYKA Terra Mystica 43.73 300 *i*P **P 00 31 19.8 +1.3**
comp=Z,2.1nm,0.5s
TANN Tannenbergstha 43.77 306 *e*P 00 31 38.8
comp=Z,4.2nm,0.8s,baz=80,slow=7.9
TANN *ep*P 00 31 50.7
NAO01 NORSAR Array S 43.80 321 P **P 00 31 18.7 -0.1**
KBA Koelnbreinsper 43.84 301 *i*P **P 00 31 19.7 +0.2**
comp=Z,0.9nm,0.6s
NBO00 NORSAR Array S 43.85 321 P **P 00 31 18.9 -0.4**
NC204 NORSAR Array S 43.86 322 P **P 00 31 18.5 -0.8**
NC204 IAmb IAmb 00 31 22.7
comp=Z,4.6nm,0.6s
OSL Oslo 43.89 320 *e* P 00 31 24.2 +4.8
SABO M.te Sabotino 43.91 299 **P 00 31 19.0 -0.9**
SABO IAmb IAmb 00 31 35.5
comp=Z,16nm,1.1s
PLN Plauen 43.95 306 *e*P 00 31 40.2
comp=Z,3.1nm,1.2s,baz=80,slow=7.9
CUC Castrocucco 43.98 290 P **P 00 31 20.8 +0.2**
ROTZ Rotzenmuhle 44.05 305 *e*P 00 31 41.6
comp=Z,2.3nm,1.2s,baz=80,slow=7.9
ROTZ *ep*P 00 31 52.4
RJOB Jochberg 44.06 302 *e*P 00 31 41.2
comp=Z,6.7nm,1.2s,baz=80,slow=7.9
RJOB *ep*P 00 31 52.5
RJOB *es*P 00 31 57.7
MANZ Manzenberg 44.07 305 *e*P 00 31 41.9
comp=Z,1.1nm,0.9s,baz=80,slow=7.9
NEUB Neuenburg 44.07 307 *e*P 00 31 41.1
comp=Z,60nm,1.8s,baz=80,slow=7.9
GORT1 Trebel 44.09 310 *e*P 00 31 41.9
comp=Z,18nm,1.2s,baz=80,slow=7.9
LESA Schwarzleotal 44.20 302 *i*P **P 00 31 22.3 +0.1**
comp=Z,5.3nm,0.6s
FLTG Flechtingen 44.23 309 *e*P 00 31 41.5

comp=Z,16nm,1.0s,baz=80,slow=7.9
MOX Moxa 44.27 306 *e*P 00 31 43.0
comp=Z,11nm,1.2s,baz=80,slow=7.9
MOX *ep*P 00 31 54.7
MOX *e*L 00 51 02.5
comp=Z,64nm,21.8s
ABTA Abfaltersbach 44.47 301 *i* P **P 00 31 24.2 -0.2**
comp=Z,1.5nm,0.6s
KONO Kongsberg 44.47 319 P **P 00 31 23.8 -0.3**
KONO IAmb IAmb 00 31 30.1
comp=Z,10.0nm,1.0s
KONO Kongsberg 44.47 319 P **P 00 31 23.8 -0.3**
KONO pmax pmax
comp=Z,10.0nm,1.0s
CEL Celeste 44.49 288 P **P 00 31 24.7 +0.1**
CEL IAmb IAmb 00 31 26.4
comp=Z,12nm,0.8s
CEL Celeste 44.49 288 P **P 00 31 24.8 +0.1**
comp=Z,33nm,1.4s
BSEG Bad Segeberg 44.56 311 *e*P 00 31 45.4
comp=Z,85nm,1.9s,baz=80,slow=7.9
BSEG *ep*P 00 31 55.9
GRA1 Grafenberg Arr 44.69 305 P **P 00 31 26.8 +0.8**
GRA1 IAmb IAmb 00 31 31.1
comp=Z,4.5nm,0.7s
GRF Grafenberg Arr 44.69 305 P **P 00 31 26.8 +0.8**
GRF pmax pmax
comp=Z,5.0nm,0.7s
GRF Grafenberg Arr 44.69 305 *e*P 00 31 46.2
comp=Z,21nm,1.0s,baz=80,slow=7.9
GRF *e*L 00 51 14.9
comp=Z,58nm,21.4s
GRFO Grafenberg 44.69 305 P **P 00 31 26.2 +0.2**
GRFO IAmb IAmb 00 31 31.0
comp=Z,4.1nm,0.7s
GRFO Grafenberg 44.69 305 P **P 00 31 26.2 +0.2**
GRFO pmax pmax
comp=Z,4.0nm,0.7s
CLZ Clausthal 44.83 308 *e*P 00 31 46.8
comp=Z,21nm,1.6s,baz=80,slow=7.9
MNSI Mandailing Nat 44.87 142 P **P 00 31 28.3 +0.5**
comp=Z,101nm,0.8s
NRDL Niedersach Rie 44.89 309 *e*P 00 31 47.4
comp=Z,37nm,1.4s,baz=80,slow=7.9
WTTA Wattenberg 44.93 302 *i* P **P 00 31 28.2 0.0**
comp=Z,11nm,0.8s
WATA Walderalm 44.95 302 *i* P **P 00 31 28.7 +0.4**
comp=Z,1.2nm,0.4s
FUR Furstenfeldbru 44.97 303 *e*P 00 31 49.0
comp=Z,19nm,1.0s,baz=80,slow=7.9
FUR *ep*P 00 32 01.0
SKAR Skarslia 45.07 321 *e*P **P 00 31 29.3 +0.3**
GTTG Gottingen 45.13 308 *e*P 00 31 50.0
comp=Z,22nm,1.0s,baz=80,slow=7.9
SQTA Sankt Quirin 45.22 302 *i* P **P 00 31 30.6 +0.2**
comp=Z,2.8nm,0.5s
UBBA Unterbreizbach 45.24 307 *e*P 00 31 50.5
comp=Z,23nm,1.6s,baz=80,slow=7.9
UBBA *ep*P 00 32 01.9
MOTA Moosalm 45.26 302 *e*P **P 00 31 30.5 -0.3**
comp=Z,4.4nm,0.8s
TEOL Teolo 45.37 299 P **P 00 31 30.4 -1.1**
TEOL IAmb IAmb 00 31 46.1
comp=Z,10nm,0.9s
SPB2 Spitsbergen Ar 45.45 346 P **P 00 31 32.5 +0.8**
SPB2 IAmb IAmb 00 31 39.1
comp=Z,9.1nm,1.2s
SPA0 Spitsbergen Ar 45.45 346 *e*P **P 00 31 32.7 +1.0**
SPITS Spitsbergen Ar 45.45 346 P **P 00 31 32.3 +0.6**
comp=Z,3.0nm,0.9s,baz=108,slow=9.5,SNR=2.6
SPITS LR LR 00 54 08.1
comp=Z,42nm,18.3s,baz=78,slow=41
comp=Z,3.0nm,0.9s
RETA Reutte 45.46 302 *e*P **P 00 31 30.8 -1.4**
comp=Z,3.6nm,0.7s
FETA Feichten 45.59 301 *e*P **P 00 31 32.0 -1.4**
comp=Z,2.2nm,0.7s
UBR Ueberruh 45.84 302 *e*P 00 31 55.1
comp=Z,18nm,1.0s,baz=80,slow=7.9
FUORN Ofenpass-Fuorn 46.00 301 P **P 00 31 36.5 -0.2**
DAVA Damuels 46.09 302 *e*P **P 00 31 37.0 -0.2**
comp=Z,2.0nm,0.9s
MYKOM Kota Tinggi 46.20 136 P **P 00 31 39.2 +0.9**
DAVOX Davos/Dischmat 46.21 301 LR LR 00 53 34.3
comp=Z,44nm,20.2s,baz=84,slow=39
IBBN Ibbenburen 46.34 309 *e*P 00 31 58.9
comp=Z,31nm,1.3s,baz=80,slow=7.9
BUG Bochum--Univer 46.81 308 *e*P 00 32 02.9
comp=Z,15nm,1.1s,baz=80,slow=7.9
BFO Black Forest 46.84 304 *e*P 00 32 02.5
comp=Z,9.3nm,1.1s,baz=80,slow=7.9
BFO *ep*P 00 32 14.7
BFO *es*P 00 32 20.3
WLF Walferdange 47.91 306 *e*P 00 32 12.1
comp=Z,18nm,1.1s,baz=80,slow=7.9
WLF *ep*P 00 32 23.6
BNI Bardonecchia 48.84 300 P **P 00 32 00.1 +1.4**
BNI IAmb IAmb 00 32 03.9
comp=Z,3.7nm,0.8s
BNI Bardonecchia 48.84 300 P **P 00 32 00.1 +1.4**
BNI pmax pmax
comp=Z,4.0nm,0.9s
YSS Yuzhno-Sakhali 49.55 57 *e*P **P 00 32 05.0 +1.2**
YSS *e*S **S 00 39 02.8 -3.7**
YSS MLR MLR
comp=Z,200nm,16.0s
LODK Lodwar 49.78 234 **P 00 32 07.1 +1.1**
LODK IAmb IAmb 00 32 08.8
comp=Z,3.4nm,0.8s
MAJO Matsushiro 50.00 72 *i* P **P 00 32 07.2 -0.3**
MJAR Matsushiro Arr 50.00 72 P **P 00 32 07.2 -0.3**
comp=Z,6.1nm,1.0s,baz=288,slow=9.5,SNR=12
MJAR LR LR 00 53 52.5
comp=Z,37nm,19.7s,baz=290,slow=37
comp=Z,6.1nm,1.0s
KEST Kesra 50.30 287 P **P 00 32 10.1 +0.3**
comp=Z,3.5nm,0.6s,baz=319,slow=3.1,SNR=8.3
comp=Z,3.5nm,0.6s
ASAJ Asahikawa 50.34 61 LR LR 00 55 39.7
comp=Z,76nm,19.4s,baz=360,slow=39
CLF Chambon-Foret 50.83 305 sP 00 32 34.1 -6.2
MA2 Magadan 50.95 40 LR LR 00 53 22.8
comp=Z,36nm,18.2s,baz=204,slow=35
MA2 Magadan 50.95 40⇑ *e*P **P 00 32 15.1 +0.9**
MA2 pmax pmax
comp=Z,7.0nm,1.3s
SEY Seymchan 51.02 35 LR LR 00 56 00.3
comp=Z,60nm,19.1s,baz=127,slow=38
SEY Seymchan 51.02 35⇑ *e*P **P 00 32 15.4 +0.7**
SEY pmax pmax
comp=Z,3.0nm,0.7s
EKA Eskdalemuir Ar 51.94 315 P **P 00 32 21.5 -0.2**
comp=Z,1.2nm,0.6s,baz=86,slow=7.8,SNR=20
comp=Z,1.2nm,0.6s
BILL Biiibino 55.28 27⇑ *e*P **P 00 32 46.6 +0.7**
BILL pmax pmax
comp=Z,5.0nm,1.1s
PETK Petropavlovsk- 56.57 46 LR LR 00 58 27.3
comp=Z,26nm,20.8s,baz=327,slow=37
ESDC Sonseca Array 58.17 297 P **P 00 33 06.3 -0.6**
comp=Z,1.4nm,0.5s,baz=66,slow=6.7,SNR=40
ESDC LR LR 01 04 08.4
comp=Z,30nm,18.2s,baz=112,slow=42
comp=Z,1.4nm,0.5s
NEEM North Greenlan 58.92 348 *i* P **P 00 33 12.7 +0.8**
SUMG Summit 59.28 341 P **P 00 33 15.7 +1.2**
SUMG IAmb IAmb 00 33 29.1
comp=Z,2.1nm,0.7s
SUMG Summit 59.28 341 P **P 00 33 15.7 +1.2**
SUMG pmax pmax
comp=Z,2.0nm,0.7s
SUMG Summit 59.28 341 *i* P P 00 33 23.1 +8.6
TAM Tamanrasset 59.45 276 **P 00 33 15.8 -0.3**
TAM IAmb IAmb 00 33 17.2
comp=Z,6.1nm,0.7s
TAM Tamanrasset 59.45 276 P **P 00 33 15.8 -0.3**
TAM pmax pmax
comp=Z,6.0nm,0.7s
KAPI Kappang 61.07 125 LR LR 01 05 07.7
comp=Z,36nm,18.3s,baz=299,slow=41
ICESG Greenland Ices 61.59 338 *i* P P 00 33 37.5 +7.2
A19K Wainwright 64.00 18 P **P 00 33 46.2 +0.4**
baz=315
C16K Lisburne Hills 64.23 21 P **P 00 33 47.5 +0.1**
baz=312
B18K Kokolik River 64.42 19 P **P 00 33 49.1 +0.6**
baz=315
A22K Sinclair Lake 64.79 16 P **P 00 33 51.4 +0.5**
baz=320
RDOG Red Dog Mine 65.05 20 P **P 00 33 53.3 +0.6**
baz=314
B20K Meade River 65.06 17 P **P 00 33 53.1 +0.4**
baz=318
C18K Utukok River 65.08 19 P **P 00 33 52.5 -0.4**
C18K IAmb IAmb 00 33 53.8
comp=Z,7.3nm,0.9s
C18K Utukok River 65.08 19 P **P 00 33 53.3 +0.4**
baz=316
GAMB Gambell 65.19 26 P **P 00 33 54.2 +0.6**
baz=309
D17K Noatak River 65.25 21 P **P 00 33 54.4 +0.4**
baz=314,SNR=6.9
B22K Teshekpuk Lake 65.64 16 IAmb IAmb 00 33 57.5
comp=Z,6.8nm,1.0s
B22K sP 00 34 13.0 -11
B22K Teshekpuk Lake 65.64 16 P **P 00 33 56.8 +0.4**
baz=321
F14K Arctic Creek 65.84 23 P **P 00 33 57.8 0.0**
baz=312
B21K Ikpikpuk River 65.94 17 **P 00 33 58.4 0.0**
B21K IAmb IAmb 00 33 59.5
comp=Z,5.0nm,0.9s
B21K Ikpikpuk River 65.94 17 P **P 00 33 58.7 +0.3**
baz=321,SNR=5.9
D19K Kuna River 65.97 19 IAmb IAmb 00 33 59.9
comp=Z,7.4nm,0.8s
D19K Kuna River 65.97 19 P **P 00 33 58.9 +0.3**
baz=318,SNR=6.9
E17K Hotham Inlet 66.03 21 P **P 00 33 59.0 0.0**
baz=316
E18K Tukpahlearik C 66.12 20 IAmb IAmb 00 34 00.4
comp=Z,5.1nm,0.9s
E18K Tukpahlearik C 66.12 20 P **P 00 33 59.8 +0.2**
baz=316
D20K Etivluk River 66.17 18 **P 00 33 59.0 -0.9**
D20K IAmb IAmb 00 34 00.8
comp=Z,4.5nm,0.9s
D20K Etivluk River 66.17 18 P **P 00 33 60.0 +0.1**
baz=319
F15K North Star Dit 66.19 23 P **P 00 34 01.0 +0.9**
baz=314
RES Resolute Bay 66.21 357 LR LR 01 05 10.5
comp=Z,26nm,18.9s,baz=15,slow=38
C21K Knifeblade Rid 66.26 17 P **P 00 34 00.7 +0.3**
baz=321
E20K Nigu River 66.62 18 P **P 00 34 03.1 +0.3**
baz=320,SNR=6.1
C23K Itkillik River 66.62 15 **P 00 34 02.8 +0.1**
C23K IAmb IAmb 00 34 04.0
comp=Z,4.9nm,0.9s
C23K Itkillik River 66.62 15 P **P 00 34 03.4 +0.7**
baz=324
F17K Baldwin Pennin 66.65 21 P **P 00 34 02.5 -0.4**
F17K IAmb IAmb 00 34 04.2
comp=Z,8.6nm,0.9s
F17K Baldwin Pennin 66.65 21 P **P 00 34 03.6 +0.6**
baz=316
ANM Nome 66.76 24 P **P 00 34 04.4 +0.7**
baz=314
G15K Niukluk 66.87 23 P **P 00 34 05.1 +0.7**
baz=314
D22K Ayikyak River 66.95 17 IAmb IAmb 00 34 06.0
comp=Z,2.8nm,0.8s
D22K Ayikyak River 66.95 17 P **P 00 34 05.1 +0.2**
baz=322
E19K Redstone River 66.97 19 IAmb IAmb 00 34 15.9
comp=Z,3.5nm,1.1s
E19K Redstone River 66.97 19 P **P 00 34 05.4 +0.4**
baz=319
F18K Selawik 66.98 20 P **P 00 34 05.3 +0.3**
baz=317
E21K Killik River 67.00 17 P **P 00 34 05.5 +0.3**
E21K IAmb IAmb 00 34 05.8
comp=Z,7.5nm,1.1s
E21K Killik River 67.00 17 P **P 00 34 05.3 0.0**
baz=321
G16K Koyuk River 67.09 22 P **P 00 34 06.3 +0.5**
baz=316
C24K Franklin Bluff 67.10 15 P **P 00 34 06.2 +0.4**
baz=325
F19K Shaleruckik Mo 67.30 20 P **P 00 34 07.0 -0.1**
baz=319
D23K Nanushuk River 67.31 16 P **P 00 34 07.6 +0.4**
baz=324
G17K Kiwalik Mounta 67.51 22 P **P 00 34 08.4 0.0**
baz=317
D24K Happy Valley 67.55 15 P **P 00 34 08.6 -0.1**
baz=325
C26K Camden Bay 67.66 13 P **P 00 34 09.1 -0.1**
baz=328
F20K Avaraart Lake 67.66 19 P **P 00 34 09.3 -0.1**
baz=320
H16K Elim 67.67 23 P **P 00 34 09.4 -0.1**
baz=316
E22K Anaktuvuk Pass 67.74 17 IAmb IAmb 00 34 10.6
comp=Z,3.8nm,0.9s
E22K Anaktuvuk Pass 67.74 17 P **P 00 34 09.6 -0.3**
baz=323
G18K Tagagawik 67.77 21 P **P 00 34 09.8 -0.3**
baz=318
TOLK Toolik Lake Re 67.81 16 IAmb IAmb 00 34 11.6
comp=Z,5.7nm,0.7s
TOLK Toolik Lake Re 67.81 16 P **P 00 34 10.2 -0.2**
baz=325,SNR=8.3
D25K Kavik River 67.89 14 IAmb IAmb 00 34 12.6
comp=Z,6.2nm,1.1s
D25K Kavik River 67.89 14 P **P 00 34 11.3 +0.4**
baz=327
TORD Torodi Ar. Bea 67.95 269 **P 00 34 11.4 -0.5**
TORD IAmb IAmb 00 34 12.0
comp=Z,3.6nm,0.7s
TORD Torodi Ar. Bea 67.95 269 P **P 00 34 10.9 -1.1**
comp=Z,114nm,0.4s,baz=49,slow=6.0,SNR=2.1
G19K Purcell Mounta 68.01 20 **P 00 34 11.6 0.0**
G19K IAmb IAmb 00 34 12.2
comp=Z,3.5nm,0.8s
G19K Purcell Mounta 68.01 20 P **P 00 34 11.8 +0.2**
baz=320
FAKI Fak Fak 68.03 113 P **P 00 34 12.6 +0.2**
F21K Alatna River 68.08 18 IAmb IAmb 00 34 12.7
comp=Z,3.6nm,0.9s
F21K Alatna River 68.08 18 P **P 00 34 11.8 -0.2**
baz=322,SNR=6.2
C27K Jago River 68.12 13 P **P 00 34 12.3 +0.1**
baz=330
H17K Granite Mounta 68.14 22 P **P 00 34 12.7 +0.3**
baz=318
F22K John River 68.16 17 P **P 00 34 12.4 -0.1**
baz=323,SNR=8.2
E23K Chandalar 68.28 16 IAmb IAmb 00 34 14.2
comp=Z,3.1nm,0.9s
E23K Chandalar 68.28 16 P **P 00 34 13.2 -0.2**
baz=325
A36M Sachs Harbour 68.37 6 IAmb IAmb 00 34 28.6
comp=Z,4.3nm,0.8s
A36M Sachs Harbour 68.37 6 P **P 00 34 13.7 0.0**
baz=344,SNR=5.1
H18K Honhosa River 68.41 21 P **P 00 34 14.3 +0.2**
baz=319
E24K Your Creek 68.51 16 IAmb IAmb 00 34 16.1
comp=Z,2.5nm,0.7s
E24K Your Creek 68.51 16 P **P 00 34 14.9 +0.1**
baz=326,SNR=5.3
J14K Nanvaranak Lak 68.61 25 P **P 00 34 15.6 +0.2**
baz=316
G21K Allakaket 68.63 18 P **P 00 34 15.4 0.0**
baz=322
H19K Roundabout Mou 68.65 20 P **P 00 34 15.6 0.0**
baz=320
I17K Unalakleet 68.68 23 P **P 00 34 15.9 +0.2**
baz=317
G22K Bettles 68.79 17 P **P 00 34 16.5 +0.1**
baz=324
K13K Kusilvak Mount 68.83 26 P **P 00 34 16.9 +0.2**
baz=315
COLD Coldfoot 68.84 17 IAmb IAmb 00 34 18.0
comp=Z,5.3nm,0.8s
COLD Coldfoot 68.84 17 P **P 00 34 16.7 0.0**
baz=325,SNR=13
LSZ Lusaka 68.84 228 P **P 00 34 18.1 +0.6**
LSZ IAmb IAmb 00 34 18.6
comp=Z,4.1nm,0.7s
LSZ Lusaka 68.84 228 P **P 00 34 18.1 +0.6**
LSZ pmax pmax
comp=Z,4.0nm,0.7s
D27M Malcolm River 68.94 13 P **P 00 34 17.6 +0.2**
baz=332
E25K Arctic Village 69.07 15 P **P 00 34 18.3 +0.1**
baz=328
H20K Anotleneega Mo 69.09 20 P **P 00 34 18.4 +0.1**
baz=322,SNR=6.7
F24K Squaw Lake 69.10 16 P **P 00 34 18.9 +0.4**
F24K Squaw Lake 69.10 16 P **P 00 34 18.6 +0.2**
baz=327
GCSA Galena City Sc 69.13 21 P **P 00 34 19.0 +0.5**
baz=320
J16K Anvik River 69.15 23 P **P 00 34 19.4 +0.6**
J16K IAmb IAmb 00 34 20.7
comp=Z,8.1nm,0.9s
J16K Anvik River 69.15 23 P **P 00 34 19.2 +0.5**
baz=318
D28M Stokes Point 69.23 12 P **P 00 34 19.6 +0.5**
baz=334,SNR=5.4
G23K Bananza Creek 69.30 17 P **P 00 34 19.8 +0.2**
baz=325
M11K Mekoryuk 69.38 27 P **P 00 34 20.6 +0.5**
baz=314
H21K Melozitna Rive 69.49 19 IAmb IAmb 00 34 22.6
comp=Z,4.1nm,1.1s
H21K Melozitna Rive 69.49 19 P **P 00 34 21.2 +0.4**
baz=323
F25K Christian Rive 69.50 15 P **P 00 34 21.3 +0.3**
baz=328,SNR=5.3
J17K VABM Dome 69.53 23 P **P 00 34 21.8 +0.7**
baz=319
H22K Ishtalitna Cre 69.65 18 P **P 00 34 22.0 +0.2**
baz=324
F26K Sheenjek River 69.71 14 P **P 00 34 22.2 0.0**
baz=330
I20K Naaghedeneel 69.74 20 P **P 00 34 22.5 +0.2**
baz=322
E28M Babbage River 69.75 12 P **P 00 34 22.6 +0.2**
baz=333
E27K Coleen River 69.76 13 P **P 00 34 22.8 +0.3**
baz=332
G24K Hadweenzic Riv 69.88 16 IAmb IAmb 00 34 24.3
comp=Z,4.6nm,0.9s
G24K Hadweenzic Riv 69.88 16 P **P 00 34 23.4 +0.2**
baz=327
L14K Kuka Creek 69.91 25 P **P 00 34 23.7 +0.3**
baz=316
SPIA Saint Paul Isl 70.03 31 P **P 00 34 24.6 +0.4**
baz=312
L15K Ungalak Mounta 70.06 25 P **P 00 34 24.8 +0.5**
baz=317
J19K Poorman 70.06 21 P **P 00 34 24.7 +0.4**
baz=321
I21K Tanana 70.08 19 P **P 00 34 24.5 +0.1**
baz=324
G25K Bearman Lake 70.12 16 P **P 00 34 24.8 +0.2**
baz=328
H23K Yukon River 70.14 17 P **P 00 34 24.8 0.0**
baz=326
J18K Innoko River 70.17 22 P **P 00 34 25.4 +0.4**
baz=320
E29M Blow River 70.21 12 IAmb IAmb 00 34 26.6
comp=Z,3.5nm,1.0s
E29M Blow River 70.21 12 P **P 00 34 25.3 +0.2**
baz=334,SNR=5.9
K17K Iditarod 70.28 23 P **P 00 34 25.8 +0.2**
baz=320
J20K Nowinta River 70.32 20 P **P 00 34 25.9 0.0**
baz=322
M13K Dall Lake 70.36 26 P **P 00 34 26.3 +0.2**
baz=316
G26K Porcupine Rive 70.43 15 **PcP 00 34 48.5 +1.0**
G26K Porcupine Rive 70.43 15 P **P 00 34 26.7 +0.2**
baz=330
H24K Noodor Dome 70.51 17 P **P 00 34 27.2 0.0**
baz=327
M14K Bethel 70.59 25 P **P 00 34 28.2 +0.6**
baz=317
L16K Owhat River 70.68 24 P **P 00 34 28.6 +0.5**
baz=319
P08K Saint George I 70.70 32 P **P 00 34 28.5 +0.2**
baz=313
L17K Donlin 70.72 23 P **P 00 34 28.9 +0.5**
baz=320
I23K Minto, Yukon-K 70.75 18 IAmb IAmb 00 34 29.5
comp=Z,4.4nm,1.0s
I23K Minto, Yukon-K 70.75 18 P **P 00 34 29.0 +0.6**
baz=326
INK Inuvik 70.94 10 P **P 00 34 30.0 +0.4**
baz=338,SNR=6.4
G27K Doyon Strip 70.97 14 P **P 00 34 30.1 +0.2**
baz=332
K20K Telida 71.00 21 P **P 00 34 30.2 +0.2**
baz=323
C36M Paulatuk 71.03 7 IAmb IAmb 00 34 44.3
comp=Z,5.9nm,0.7s
C36M Paulatuk 71.03 7 P **P 00 34 29.7 -0.4**
baz=346,SNR=8.6
CHUM Lake Minchumin 71.05 20 P **P 00 34 30.4 +0.1**
baz=324
M15K Kasigluk River 71.05 25 P **P 00 34 30.7 +0.3**
baz=318
L18K Granite Mounta 71.14 22 P **P 00 34 31.3 +0.4**
baz=321
BPAW Bear Paw Mtn. 71.21 19 P **P 00 34 31.5 +0.2**
baz=325
POKR Poker Plat Res 71.22 17 P **P 00 34 31.5 +0.2**
baz=327
F30M Barrier River 71.25 12 IAmb IAmb 00 34 50.9
comp=Z,6.2nm,1.1s
F30M Barrier River 71.25 12 P **P 00 34 32.0 +0.5**
baz=336
NEA2 Nenana 71.28 18 P **P 00 34 31.6 -0.1**
NEA2 IAmb IAmb 00 34 32.7
comp=Z,6.1nm,1.0s
NEA2 Nenana 71.28 18 P **P 00 34 32.2 +0.5**
baz=326
N14K Kuskokwak Cree 71.29 26 P **P 00 34 32.7 +0.9**
baz=318
PRP Porcupine Dome 71.31 16 P **P 00 34 32.6 +0.6**
baz=329
COLA College 71.33 17 P **P 00 34 32.2 +0.2**
COLA IAmb IAmb 00 34 33.1
comp=Z,9.7nm,0.8s
COLA College 71.33 17 P **P 00 34 32.2 +0.2**
COLA pmax pmax
comp=Z,10.0nm,0.9s
COLA College 71.33 17 P **P 00 34 32.5 +0.6**
baz=327
M16K Timber Creek 71.36 24 P **P 00 34 33.0 +0.7**
baz=319
CAST Castle Rocks 71.48 20 P **P 00 34 33.6 +0.6**
baz=324
H27K Steamboat Moun 71.50 14 P **P 00 34 33.6 +0.5**
baz=332
G29M Pine Creek 71.53 13 P **P 00 34 33.6 +0.4**
baz=335
M17K Holitna River 71.55 23 P **P 00 34 34.0 +0.6**
baz=320
ILAR Eielson Array 71.64 17 P **P 00 34 33.0 -0.9**
ILAR Eielson Array 71.64 17 P **P 00 34 33.0 -0.9**
comp=Z,2.2nm,0.8s,baz=329,slow=5.7,SNR=28
ILAR LR LR 01 09 43.0
comp=Z,34nm,18.2s,baz=244,slow=39
comp=Z,2.2nm,0.8s
N15K Kwethluk River 71.64 25 P **P 00 34 34.1 +0.2**
N15K IAmb IAmb 00 34 37.2
comp=Z,5.3nm,0.9s
N15K Kwethluk River 71.64 25 P **P 00 34 34.5 +0.5**
baz=319
KTH Kantishna Hill 71.68 19 IAmb IAmb 00 34 34.7
comp=Z,6.1nm,1.0s
L19K White Mountain 71.71 22 P **P 00 34 34.9 +0.6**
L19K White Mountain 71.71 22 P **P 00 34 34.6 +0.2**
baz=322
F31M Tsiigehtchic 71.72 11 IAmb IAmb 00 34 49.0
comp=Z,3.9nm,0.8s
F31M Tsiigehtchic 71.72 11 P **P 00 34 34.4 +0.2**
baz=338
L20K Farewell, AK 71.75 21 P **P 00 34 35.2 +0.6**
baz=323
G30M tAoh Zraii Nji 71.76 12 P **P 00 34 35.2 +0.5**
baz=336
PPLA Purkeypile 71.88 20 P **P 00 34 35.6 0.0**
baz=324
TRF Thorofare Moun 71.92 19 P **P 00 34 35.8 0.0**
baz=326
HDA Harding Lake 71.93 17 P **P 00 34 35.8 +0.2**
baz=328

M18K	Stony River	71.97	23	P	P	00 34 36.1 +0.2
	baz=322					
I26K	Coal Creek Min	71.99	15	P	P	00 34 36.2 +0.2
	baz=331					
MCK	McKinley	72.03	18	P	P	00 34 36.4 +0.2
	baz=326					
I27K	Kandik River	72.04	15	P	P	00 34 36.5 +0.2
	baz=332					
M19K	Big River Lodg	72.06	22	P	P	00 34 36.6 +0.1
	baz=323					
H29M	Whitestone	72.09	13	IAmb	IAmb	00 34 37.7
	comp=Z,3.9nm,0.8s					
H29M	Whitestone	72.09	13	P	P	00 34 36.6 0.0
	baz=334,SNR=5.1					
J25K	Salcha River,	72.12	17	P	P	00 34 37.5 +0.7
J25K	Salcha River,	72.12	17	P	P	00 34 37.0 +0.2
	baz=329					
G31M	Satah River	72.12	11	IAmb	IAmb	00 34 37.2
	comp=Z,6.2nm,1.1s					
G31M	Satah River	72.12	11	P	P	00 34 36.5 -0.1
	baz=338					
EPYK	Eagle Plains	72.24	12	P	P	00 34 37.4 -0.1
	baz=336					
RND	Reindeer	72.32	19		P	00 34 39.1 +1.1
RND				IAmb	IAmb	00 34 40.9
	comp=Z,4.4nm,1.1s					
RND	Reindeer	72.32	19	P	P	00 34 39.1 +1.1
RND				pmax	pmax	
	comp=Z,4.0nm,1.1s					
I28M	Miner Creek	72.50	14	IAmb	IAmb	00 34 39.5
	comp=Z,3.9nm,0.8s					
I28M	Miner Creek	72.50	14	P	P	00 34 39.0 -0.1
	baz=333,SNR=6.3					
J26L	Joseph Creek	72.61	16	P	P	00 34 39.3 -0.5
	baz=330					
K24K	Donnelly Dome	72.72	17	IAmb	IAmb	00 34 40.6
	comp=Z,9.5nm,0.8s					
K24K	Donnelly Dome	72.72	17	P	P	00 34 39.9 -0.5
	baz=329					
SKT	Skwentna	72.80	21	IAmb	IAmb	00 34 41.3
	comp=Z,10nm,1.1s					
SKT	Skwentna	72.80	21	P	P	00 34 40.5 -0.4
	baz=325					
O17K	Koliganek Bris	72.92	24	P	P	00 34 41.4 -0.1
	baz=321					
SCRK	Sand Creek	72.97	16		P	00 34 42.0 0.0
SCRK	Sand Creek	72.97	16	P	P	00 34 41.6 -0.4
	baz=330					
RIDG	Independent Ri	72.99	17	P	P	00 34 42.0 0.0
RIDG				IAmb	IAmb	00 34 42.0
	comp=Z,5.7nm,0.9s					
RIDG	Independent Ri	72.99	17	P	P	00 34 41.3 -0.7
	baz=330					
H31M	Peel River	73.14	12		P	00 34 42.5 -0.4
H31M	Peel River	73.14	12	P	P	00 34 42.7 -0.2
	baz=338					
P16K	Nushagak River	73.20	25	P	P	00 34 42.8 -0.4
	baz=320					
SPCR	Spurr Chakacha	73.25	21	P	P	00 34 43.7 +0.1
	baz=324					
K27K	Chicken	73.34	16	P	P	00 34 44.5 +0.5
	baz=332					
I30M	Mount Dempster	73.35	13	P	P	00 34 44.1 -0.1
	baz=336,SNR=5.0					
SUA	Susitna One	73.44	21	P	P	00 34 44.6 -0.1
	baz=326					
NIKH	Nikolski High	73.49	34	P	P	00 34 45.6 +0.5
	baz=314					
PAX	Paxson	73.51	18	IAmb	IAmb	00 34 45.4
	comp=Z,4.3nm,1.0s					
PAX	Paxson	73.51	18	P	P	00 34 45.1 0.0
	baz=329					
J29N	Klondike Camp	73.72	14	P	P	00 34 47.3 +0.9
J29N	Klondike Camp	73.72	14	P	P	00 34 46.6 +0.3
	baz=335					
PMR	Palmer	73.77	20	P	P	00 34 46.5 +0.1
	baz=327					
SML	Sawmill	73.80	19	P	P	00 34 46.9 +0.1
	baz=327					
J30M	Hart River	73.95	13	P	P	00 34 47.8 +0.1
	baz=336					
M23K	Glacier View	73.96	19	P	P	00 34 47.9 +0.2
	baz=328					
RC01	Rabbit Creek A	74.03	20	P	P	00 34 48.5 +0.5
	baz=326					
SCM	Sheep Creek Mo	74.03	19	P	P	00 34 48.2 0.0
	baz=328					
HARP	HAARP	74.08	18	P	P	00 34 48.5 +0.2
	baz=330					
M24K	Tolsona, Glenn	74.08	18	P	P	00 34 49.0 +0.5
	baz=329					
KNK	Knik Glacier	74.10	20	P	P	00 34 49.0 +0.5
	baz=327					
PSA00	Pilbara Seismi	74.20	136		P	00 34 50.1 +0.6
P19K	Oil Pt	74.21	23	P	P	00 34 49.5 +0.3
	baz=324					
L27K	Beaver Creek,	74.25	16	P	P	00 34 49.7 +0.4
	baz=332					
S12K	Black Hills	74.29	29	P	P	00 34 50.8 +1.1
	baz=318					
K29M	Barlow Dome	74.41	14	IAmb	IAmb	00 34 51.3
	comp=Z,5.0nm,1.1s					
K29M	Barlow Dome	74.41	14	P	P	00 34 51.1 +0.7
	baz=335					
M26K	Nabesna, AK	74.57	17	P	P	00 34 51.6 +0.3
	baz=331					
KLU	Klutina	74.67	19	P	P	00 34 52.7 +0.8
	baz=329					
M27K	Edge Creek, AK	74.86	16	P	P	00 34 53.7 +0.7
	baz=332					
BRSE	Bradley Lake S	74.87	22	P	P	00 34 53.4 +0.4
	baz=326					
KNRA	Kununurra	74.88	125		P	00 34 54.3 +0.8
N25K	Chitina, Valde	74.90	18	P	P	00 34 53.7 +0.5
	baz=330					
GLI	Glacier Island	74.90	19	P	P	00 34 53.7 +0.6
	baz=328					
L29M	L29M	74.96	14	P	P	00 34 53.9 +0.4
	baz=335					
BVCY	Beaver Creek	75.03	16	P	P	00 34 54.6 +0.7
	baz=333					
MREMI	Moremi	75.12	224		P	00 34 55.5 +0.5
BMRM	Bremner River	75.45	18	P	P	00 34 56.8 +0.5
	baz=330					
M29M	Somme Creek	75.50	15	P	P	00 34 56.8 +0.1
	baz=335					
P23K	Montague Islan	75.57	20	P	P	00 34 57.4 +0.4
	baz=328					
M30M	Minto, Yukon	75.70	14	P	P	00 34 58.3 +0.6
	baz=336					
KDAK	Kodiak Island	75.93	24	LR	LR	01 13 23.9
	comp=Z,41nm,19.7s,baz=87,slow=40					
OHAK	Old Harbor	76.16	24	P	P	00 35 00.6 +0.2
	baz=324					
YUK4	Talbot Arm	76.45	15	P	P	00 35 02.0 -0.2
	baz=335					
M31M	Drury Creek, Y	76.48	13	P	P	00 35 02.9 +0.7
	baz=338					
MMPY	Sheldon Lake,	76.61	12	P	P	00 35 03.4 +0.4
	baz=340					
FARO	Faro, Yukon	76.64	13	P	P	00 35 03.8 +0.7
	baz=339					
N31M	Braeburn, Yuko	76.89	14	P	P	00 35 04.8 +0.3
	baz=337					
HYT	Haines Junctio	77.16	15	P	P	00 35 06.4 +0.3
	baz=336					
PINM	Pinnacle	77.24	17	P	P	00 35 06.5 0.0
	baz=334					
KDWAN	Kaudwane	77.30	225	IAmb	IAmb	00 35 08.8
	comp=Z,8.2nm,0.8s					
O30N	Mendenhall	77.49	14	P	P	00 35 07.9 0.0
	baz=337					
N32M	Quiet Lake	77.69	13	P	P	00 35 09.5 +0.5
	baz=339					
PNL	Peninsula	77.81	16	P	P	00 35 09.8 +0.2
	baz=334					
KGCAE	Kacgae	78.26	228		P	00 35 13.6 +0.9
YKAW3	Yellowknife Wh	78.43	4		P	00 35 13.3 +0.4
YKAW3				IAmb	IAmb	00 35 13.9
	comp=Z,4.3nm,1.0s					
MORW	Morawa	78.47	143		P	00 35 13.9 +0.4
YKA	Yellowknife Ar	78.50	4	P	P	00 35 13.3 0.0
	comp=Z,1.9nm,0.8s,baz=350,slow=5.3,SNR=32					
	comp=Z,1.9nm,0.8s					
YKAW1	Yellowknife Wh	78.51	4		P	00 35 13.8 +0.4
YKAW1				IAmb	IAmb	00 35 14.8
	comp=Z,5.1nm,1.1s					
P33M	Teslin, Yukon	78.62	13	P	P	00 35 14.0 -0.2
	baz=339					
MAKGR	Makgori	79.16	224	P	P	00 35 17.7 +0.2
KOOLE	Kule	79.54	229	P	P	00 35 20.7 +1.0
R33M	Jennings River	79.71	13	P	P	00 35 19.9 -0.3
	baz=341					
LKGWB	Lokgwabe	79.81	227	P	P	00 35 20.5 -0.6
Q32M	Nakina River	79.89	13	P	P	00 35 21.2 -0.1
	baz=340					
PHPEN	Phepeng	79.95	225	IAmb	IAmb	00 35 23.3
	comp=Z,6.4nm,0.7s					
DLBC	Dease Lake	80.78	12	P	P	00 35 26.0 +0.1
	baz=342					
S34M	Telegraph Cree	81.09	13	P	P	00 35 28.0 +0.5
	baz=341					
BOSA	Boshof	81.16	222	P	P	00 35 28.6 +0.3
	comp=Z,5.7nm,0.7s,baz=22,slow=4.2,SNR=21					
	comp=Z,5.7nm,0.7s					
WRA	Warramunga Arr	81.59	124	P	P	00 35 30.4 -0.3
	comp=Z,19nm,0.8s,baz=323,slow=5.2,SNR=77					
WRAB	Tennant Creek	81.59	124	P	P	00 35 30.3 -0.3
WRAB	Tennant Creek	81.59	124	*de*P	P	00 35 30.8 +0.2
WRAB				pmax	pmax	
	comp=Z,27nm,0.8s					
WB2	Warramunga Arr	81.60	124	P	P	00 35 30.8 +0.2
WR0	Warramunga Arr	81.73	124	P	P	00 35 31.4 0.0
AS31	Alice Springs	84.03	127	IAmb	IAmb	00 35 43.9
	comp=Z,2.8nm,0.8s					
ASAR	Alice Springs	84.03	127	P	P	00 35 43.1 -0.1
	comp=Z,10nm,0.8s,baz=322,slow=5.5,SNR=72					
	comp=Z,10nm,0.8s					
KSCO	Kaye Shedlock'	102.16	357		Pdif	00 37 05.5 -1.9
VNDA	Vanda	127.44	164	PKP	PKPdf	00 42 14.9 -0.8
	comp=Z,0.6nm,0.8s,baz=282,slow=5.3,SNR=4.5					
QSPA	South Pole Qui	128.92	180	PKP	PKPdf	00 42 18.7 -0.2
	comp=Z,1.1nm,0.8s,baz=224,slow=1.6,SNR=6.0					

IDC 29 00:28:22.4±63.0, 18°.81S×179°.76W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1142.0km s-min=164.6km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.07	242	P	P	00 35 35.2	+0.7
	0.9nm,0.4s,baz=119,slow=11,SNR=3.4						
	0.9nm,0.4s						
WRA	Warramunga Arr	43.21	261	P	P	00 36 25.2	-0.4
	0.9nm,0.4s,baz=97,slow=8.2,SNR=8.7						
	0.9nm,0.4s						
ASAR	Alice Springs	43.31	255	P	P	00 36 26.1	-0.4
	1.4nm,0.4s,baz=92,slow=8.0,SNR=14						
	1.4nm,0.4s						

*NEIC **29** 00:37:08.0±1.1, 17°.26S±0°.08×174°.42W±0°.07, h183km±6km, mb4.3/92, Error ellipse: s-maj=12.1km s-min=9.8km az=169.0*

*IDC **29** 00:37:09.7±0.6, 17°.35S×174°.75W, h201km±4km, mb3.9/17, mbtmp4.4/18, Error ellipse: s-maj=15.8km s-min=10.2km az=126.0*

*BGR **29** 00:37:10.6, 17°.01S×174°.97W, h187km, Hypocentre not reviewed by the ISC*

ISC 29 00:37:08.8±0.3, 17°.43S±0°.08×174°.51W±0°.07, h200km, n374, d0°88/377, mb4.2/68, 29C-21D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.38	37		Pn	00 38 10.4	-5.1
NIUE	Niue	4.65	111		Pn	00 38 17.8	-1.0
FUTU	Fugatoga	4.66	311		Pn	00 38 17.1	-1.8
MSVF	Nonsavu	7.10	266		Pn	00 38 51.3	+0.8
MSVF	Nonsavu	7.10	266	P	Pn	00 38 51.6	+1.1
	35nm,0.8s,baz=113,slow=11,SNR=13						
RAR	Rarotonga	14.41	107	Pn	Pn	00 40 22.6	-1.2
DZM	Mont Dzumac	18.51	252	P	Pn	00 41 12.5	-0.5
DZM	Mont Dzumac	18.51	252	P	P	00 41 09.6	-0.8
	9.6nm,0.8s,baz=84,slow=18,SNR=4.9						
URZ	Urewera	22.01	198	P	P	00 41 47.3	+0.2
	10nm,0.4s,baz=2.8,slow=2.7,SNR=12						
URZ				S	S	00 45 32.8	-2.5
	9.3nm,0.9s,baz=74,slow=22,SNR=1.7						
	10nm,0.4s						
MRZ	Mangatainoka R	24.68	198	P	P	00 42 13.1	+1.8
QRZ	Quartz Range	25.86	203	P	P	00 42 22.9	+1.0
THZ	Tophouse	26.54	201	P	P	00 42 29.0	+0.9
LTZ	Lake Taylor	27.66	201	P	P	00 42 38.6	+0.5
EIDS	Eidsvold	32.92	250	P	P	00 43 24.2	-0.4
ARMA	Armidale	33.41	241	P	P	00 43 28.4	-0.3
TOO	Toolangi	40.37	232		P	00 44 26.4	-0.9
TOO				IAmb	IAmb	00 44 27.6	
	comp=Z,6.1nm,0.7s						
STKA	Stephens Creek	42.12	242		P	00 44 41.3	-0.3
STKA	Stephens Creek	42.12	242	P	P	00 44 40.9	-0.7
	comp=Z,23nm,0.8s,baz=87,slow=9.2,SNR=39						
	comp=Z,23nm,0.8s						
BBOO	Buckleboo	46.89	241	P	P	00 45 18.6	-0.7
WR8	Warramunga Arr	48.22	259	P	P	00 45 28.0	-1.7
WR8				IAmb	IAmb	00 45 37.2	
	comp=Z,12nm,1.4s						
WB0	Warramunga Arr	48.34	259		P	00 45 29.0	-1.6
WB0				IAmb	IAmb	00 45 29.5	
	comp=Z,12nm,1.0s						
WRA	Warramunga Arr	48.37	259		P	00 45 29.4	-1.5
WRA	Warramunga Arr	48.37	259	P	P	00 45 28.6	-2.3
	comp=Z,6.5nm,0.9s,baz=95,slow=7.5,SNR=22						
WRA				PcP	PcP	00 46 54.4	+0.1
	comp=Z,1.5nm,0.7s,baz=99,slow=2.9,SNR=4.7						
	comp=Z,6.5nm,0.9s						
AS31	Alice Springs	48.49	254	P	P	00 45 31.0	-0.8
AS31				IAmb	IAmb	00 45 31.3	
	comp=Z,7.5nm,0.7s						
ASAR	Alice Springs	48.49	254	P	P	00 45 30.3	-1.5
	comp=Z,31nm,0.8s,baz=86,slow=8.5,SNR=188						
ASAR				PcP	PcP	00 46 54.5	-0.3
	comp=Z,2.1nm,0.5s,baz=93,slow=3.5,SNR=7.2						
	comp=Z,31nm,0.8s						
FORT	Forrest	53.57	244	P	P	00 46 07.8	-1.6
KNRA	Kununurra	54.23	263	P	P	00 46 13.7	-0.7
FITZ	Fitzroy Crossi	56.77	259	P	P	00 46 31.3	-1.2
	comp=Z,1.8nm,0.6s,baz=105,slow=7.5,SNR=7.9						
	comp=Z,1.8nm,0.6s						
VNDA	Vanda	61.26	186	P	P	00 47 04.0	+1.7
	comp=Z,2.1nm,0.9s,baz=32,slow=4.4,SNR=8.3						
	comp=Z,2.1nm,0.9s						
TOLI2	Tolitoli	66.29	279		P	00 47 36.4	+0.1
GIRL	Giralia	66.59	252	P	P	00 47 37.2	-0.8
MJAR	Matsushiro Arr	69.81	321	P	P	00 47 56.6	-1.1
	comp=Z,2.9nm,0.9s,baz=151,slow=5.5,SNR=6.9						
	comp=Z,2.9nm,0.9s						
QSPA	South Pole Qui	72.62	180		P	00 48 16.4	+2.1
QSPA	South Pole Qui	72.62	180	P	P	00 48 16.0	+1.7
	comp=Z,6.8nm,0.9s,baz=32,slow=8.9,SNR=15						
	comp=Z,6.8nm,0.9s						
UGM	Wanagama	73.38	267	P	P	00 48 19.0	-0.6
PETK	Petropavlovsk-	74.24	343	P	P	00 48 23.5	-0.1
	comp=Z,4.1nm,0.7s,baz=150,slow=5.8,SNR=7.4						
	comp=Z,4.1nm,0.7s						
NVAR	Mina Array Bea	76.54	42	P	P	00 48 37.8	+0.5
	comp=Z,1.6nm,0.9s,baz=240,slow=5.1,SNR=6.6						
NVAR				pP	pwP	00 49 26.7	+1.9
	comp=Z,1.0nm,0.9s,baz=234,slow=4.2,SNR=2.4						
	comp=Z,1.6nm,0.9s						
KSRS	Korea Array	76.87	316	P	P	00 48 39.0	+0.2
	comp=Z,2.9nm,0.9s,baz=126,slow=6.5,SNR=12						
	comp=Z,2.9nm,0.9s						
M16K	Timber Creek	79.17	8	P	P	00 48 51.9	+0.9
	baz=195						
L15K	Ungalak Mounta	79.52	6	P	P	00 48 54.7	+1.9
	baz=193						
N19K	Bonanza Creek	79.62	10	P	P	00 48 54.8	+1.2
	baz=199						
M17K	Holitna River	79.74	8	P	P	00 48 55.9	+1.8
	baz=196						
L16K	Owhat River	79.78	7	P	P	00 48 56.0	+1.7
	baz=194						
SEW	Seward	79.89	12	P	P	00 48 56.3	+1.5
	baz=204						
M18K	Stony River	80.06	9	P	P	00 48 57.5	+1.7
	baz=198						
K15K	Wolf Creek Mou	80.12	6	P	P	00 48 57.5	+1.4
	baz=192						
CAPN	Captain Cook N	80.17	11	P	P	00 48 57.9	+1.6
	baz=202						
O22K	Cooper Landing	80.18	12	P	P	00 48 58.4	+2.0
	baz=204						
SPCR	Spurr Chakacha	80.37	11	P	P	00 48 59.3	+1.7
	baz=202						
J14K	Nanvaranak Lak	80.38	5	P	P	00 48 59.3	+1.9
	baz=190						
L18K	Granite Mounta	80.63	8	P	P	00 49 00.4	+1.6
	baz=197						
PWL	Port Wells	80.81	13	P	P	00 48 56.6	-3.2
M20K	Styx River	80.85	10	P	P	00 49 01.6	+1.5
	baz=201						
KAIM	Kayak Island	80.86	15	P	P	00 49 01.6	+1.6
	baz=209						
SUA	Susitna One	80.89	11	P	P	00 49 01.4	+1.1
	baz=203						
K17K	Iditarod	80.90	7	P	P	00 49 01.4	+1.2
	baz=196						
V35K	Ketchikan	81.06	23	P	P	00 49 02.2	+1.0
	baz=221						
SIT	Sitka	81.09	20	P	P	00 49 02.1	+0.8
	baz=218						
GLI	Glacier Island	81.09	13	P	P	00 49 01.3	0.0
	baz=206						
J16K	Anvik River	81.19	6	P	P	00 49 02.6	+0.9
	baz=193						
SKT	Skwentna	81.22	11	P	P	00 49 03.0	+1.0
	baz=202						
J17K	VABM Dome	81.46	7	P	P	00 49 04.1	+0.9
	baz=195						
S31K	Pelican	81.51	20	P	P	00 49 04.2	+0.7
	baz=217						
J18K	Innoko River	81.82	8		P	00 49 05.4	+0.3
J18K				IAmb	IAmb	00 49 06.6	
	comp=Z,4.6nm,0.8s						
J18K	Innoko River	81.82	8	P	P	00 49 06.1	+1.1
	baz=197						
BNX	BinXian	81.90	323	⇑P	P	00 49 06.0	+0.2
BNX				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SCM	Sheep Creek Mo	81.90	13	P	P	00 49 06.0	+0.4
	baz=206						
PNL	Peninsula	81.96	17	P	P	00 49 06.3	+0.4
	baz=214						
K20K	Telida	82.09	9	P	P	00 49 07.0	+0.5
	baz=200						
BELA	Belgrano 2	82.14	172		P	00 49 07.4	+0.7
N25K	Chitina, Valde	82.30	14		P	00 49 07.9	+0.2
N25K	Chitina, Valde	82.30	14	P	P	00 49 08.3	+0.6
	baz=209,SNR=6.7						
R32K	Eaglecrest	82.32	20	P	P	00 49 08.3	+0.6
	baz=218						
GLB	Gilahina Butte	82.34	14	P	P	00 49 08.2	+0.3
GLB				IAmb	IAmb	00 49 08.4	
	comp=Z,3.9nm,0.6s						
H16K	Elim	82.35	5	P	P	00 49 09.1	+1.3
	baz=192						
M24K	Tolsona, Glenn	82.39	13	P	P	00 49 09.2	+1.1
	baz=207						
P29M	Windy Craggy	82.41	18	P	P	00 49 07.4	-0.8
P29M				IAmb	IAmb	00 49 10.4	
	comp=Z,4.5nm,0.8s						
P29M	Windy Craggy	82.41	18	P	P	00 49 09.3	+1.0
	baz=215						
TXAR	Lajitas Array	82.62	56	P	P	00 49 12.4	+2.3
	comp=Z,0.3nm,0.7s,baz=246,slow=5.5,SNR=2.9						
TXAR				pP	pP	00 50 00.1	+1.5
	comp=Z,1.5nm,1.1s,baz=216,slow=6.2,SNR=5.1						
	comp=Z,0.3nm,0.7s						
O28M	Mount Upton	82.67	16	P	P	00 49 10.4	+0.5
	baz=213						
O29M	Mount Kennedy	82.72	17	P	P	00 49 10.6	+0.6
	baz=214						
TRF	Thorofare Moun	82.80	11	P	P	00 49 10.2	-0.2
TRF				IAmb	IAmb	00 49 11.4	
	comp=Z,6.0nm,0.8s						
TRF	Thorofare Moun	82.80	11	P	P	00 49 10.4	0.0
	baz=203						
J20K	Nowinta River	82.86	9	P	P	00 49 10.8	+0.4
	baz=200						
H17K	Granite Mounta	82.87	6	P	P	00 49 11.9	+1.5
	baz=194						
RND	Reindeer	83.03	11	P	P	00 49 12.0	+0.7
RND				IAmb	IAmb	00 49 12.3	
	comp=Z,6.2nm,0.9s						
GCSA	Galena City Sc	83.03	8	P	P	00 49 13.1	+1.9
	baz=197						
P30M	Million Dollar	83.04	18	P	P	00 49 12.6	+1.1
	baz=216						
G16K	Koyuk River	83.09	5	P	P	00 49 13.1	+1.6
	baz=192						
S34M	Telegraph Cree	83.19	22		P	00 49 12.0	-0.2
S34M				IAmb	IAmb	00 49 14.3	
	comp=Z,5.7nm,1.1s						
S34M	Telegraph Cree	83.19	22	P	P	00 49 13.4	+1.2
	baz=221						
YUK8	Steele Glacier	83.22	16	P	P	00 49 13.4	+0.8
	baz=213						
MCK	McKinley	83.31	11		P	00 49 11.8	-1.0
MCK				IAmb	IAmb	00 49 13.5	
	comp=Z,6.9nm,0.9s						
MCK	McKinley	83.31	11	P	P	00 49 13.4	+0.6
	baz=204						
PAX	Paxson	83.31	13	P	P	00 49 14.1	+1.2
	baz=208						
YUK6	Outpost Mounta	83.31	17	P	P	00 49 13.7	+0.6
	baz=214						
G17K	Kiwalik Mounta	83.35	6	P	P	00 49 14.1	+1.2
	baz=193						
M26K	Nabesna, AK	83.36	14	P	P	00 49 13.3	+0.2
M26K				IAmb	IAmb	00 49 14.4	
	comp=Z,5.3nm,1.0s						
M26K	Nabesna, AK	83.36	14	P	P	00 49 13.6	+0.5
	baz=210,SNR=5.5						
I20K	Naaghedeneel	83.40	8	P	P	00 49 14.1	+1.0
	baz=199						
YUK3	Moose Creek	83.45	16	P	P	00 49 14.5	+0.8
	baz=212						
HYT	Haines Junctio	83.45	17	P	P	00 49 13.8	+0.1
HYT	Haines Junctio	83.45	17	P	P	00 49 14.8	+1.1
	baz=215						
YUK4	Talbot Arm	83.57	17	P	P	00 49 15.9	+1.5
	baz=214						
M27K	Edge Creek, AK	83.59	15		P	00 49 15.1	+0.7
M27K				IAmb	IAmb	00 49 16.1	
	comp=Z,5.6nm,0.9s						
M27K	Edge Creek, AK	83.59	15	P	P	00 49 15.2	+0.8
	baz=211,SNR=5.5						
Q32M	Nakina River	83.59	21		P	00 49 15.0	+0.5
Q32M				IAmb	IAmb	00 49 19.6	
	comp=Z,5.7nm,1.2s						
Q32M	Nakina River	83.59	21	P	P	00 49 15.5	+1.0
	baz=220						
P32M	Atlin	83.61	20	P	P	00 49 15.4	+1.0
	baz=219						
O30N	Mendenhall	83.82	18	P	P	00 49 16.3	+0.9
O30N				IAmb	IAmb	00 49 17.2	
	comp=Z,3.9nm,0.8s						
O30N	Mendenhall	83.82	18	P	P	00 49 16.6	+1.2
	baz=217,SNR=5.3						
H19K	Roundabout Mou	83.83	7	P	P	00 49 15.6	+0.3
H19K				IAmb	IAmb	00 49 17.1	
	comp=Z,8.5nm,1.1s						
H19K	Roundabout Mou	83.83	7	P	P	00 49 16.8	+1.5
	baz=197						
BVCY	Beaver Creek	83.89	15	P	P	00 49 17.0	+1.2
	baz=212						
G18K	Tagagawik	83.93	6	P	P	00 49 15.7	-0.2
G18K				IAmb	IAmb	00 49 17.0	
	comp=Z,4.4nm,0.8s						
G18K	Tagagawik	83.93	6	P	P	00 49 16.6	+0.7
	baz=195						
DLBC	Dease Lake	83.97	22	P	P	00 49 17.0	+0.7
	baz=222						
H20K	Anotleneega Mo	84.00	8	P	P	00 49 17.0	+0.8
	baz=199						
NEA2	Nenana	84.07	11	P	P	00 49 16.9	+0.3
	baz=204						
WHY	Whitehorse	84.09	18	P	P	00 49 17.4	+0.5
	baz=218						
N30M	Aishikik Lake	84.09	17	P	P	00 49 17.4	+0.6
	baz=216						
RIDG	Independent Ri	84.12	13	P	P	00 49 17.3	+0.4
	baz=208						
I21K	Tanana	84.13	9	P	P	00 49 17.4	+0.6
	baz=202

L27K	Beaver Creek,	84.21	14	P		P	00 49 17.8	+0.5
	baz=211							
F17K	Baldwin Pennin	84.21	5	P		P	00 49 18.1	+0.9
F17K	Baldwin Pennin	84.21	5	P		P	00 49 18.3	+1.1
	baz=193							
DOT	Dot Lake	84.21	13	P		P	00 49 17.4	0.0
DOT				IAmb		IAmb	00 49 18.4	
	comp=Z,4.5nm,0.8s							
BCAR	Beaver Creek A	84.22	14	P		P	00 49 17.8	+0.4
HDA	Harding Lake	84.30	12	P		P	00 49 17.8	+0.1
G19K	Purcell Mounta	84.35	7	P		P	00 49 18.1	+0.1
G19K				IAmb		IAmb	00 49 19.5	
	comp=Z,5.1nm,0.8s							
G19K	Purcell Mounta	84.35	7	P		P	00 49 18.7	+0.8
	baz=197							
CCB	Clear Creek Bu	84.35	11			P	00 49 17.8	-0.2
R33M	Jennings River	84.36	21	P		P	00 49 18.7	+0.3
R33M				IAmb		IAmb	00 49 20.9	
	comp=Z,5.7nm,1.2s							
R33M	Jennings River	84.36	21	P		P	00 49 18.9	+0.6
	baz=221							
P33M	Teslin, Yukon	84.38	19	P		P	00 49 18.9	+0.6
	baz=220							
H21K	Melozitna Rive	84.45	9	P		P	00 49 18.8	+0.4
H21K	Melozitna Rive	84.45	9	P		P	00 49 18.9	+0.5
	baz=201							
PDAR	Pinedale Array	84.48	42	P		P	00 49 19.8	+0.3
	comp=Z,1.2nm,0.8s,baz=183,slow=4.8,SNR=9.5							
PDAR				pP		pwP	00 50 09.3	-0.6
	comp=Z,1.1nm,0.8s,baz=219,slow=3.8,SNR=5.0							
	comp=Z,1.2nm,0.8s							
N31M	Braeburn, Yuko	84.48	18	P		P	00 49 19.3	+0.6
	baz=217							
F18K	Selawik	84.52	6	P		P	00 49 18.9	+0.2
	baz=194							
SCRK	Sand Creek	84.52	13			P	00 49 19.3	+0.3
SCRK	Sand Creek	84.52	13	P		P	00 49 19.5	+0.5
	baz=209							
M29M	Somme Creek	84.53	16	P		P	00 49 19.4	+0.4
M29M	Somme Creek	84.53	16	P		P	00 49 19.3	+0.2
	baz=214							
I23K	Minto, Yukon-K	84.53	10	P		P	00 49 18.9	0.0
I23K				IAmb		IAmb	00 49 19.0	
	comp=Z,6.3nm,1.4s							
I23K	Minto, Yukon-K	84.53	10	P		P	00 49 19.1	+0.3
	baz=204							
COLA	College	84.55	11	P		P	00 49 18.9	0.0
	baz=205							
ILAR	Eielson Array	84.63	12	P		P	00 49 19.0	-0.4
	comp=Z,1.9nm,0.6s,baz=228,slow=5.8,SNR=42							
	comp=Z,1.9nm,0.6s							
E17K	Hotham Inlet	84.79	5	P		P	00 49 20.5	+0.4
	baz=192,SNR=6.1							
J25K	Salcha River,	84.79	12	P		P	00 49 20.9	+0.6
J25K				IAmb		IAmb	00 49 21.4	
	comp=Z,4.6nm,0.7s							
J25K	Salcha River,	84.79	12	P		P	00 49 20.5	+0.3
	baz=208,SNR=6.4							
POKR	Poker Plat Res	84.84	11	P		P	00 49 20.2	-0.2
	baz=206							
H22K	Ishtalitna Cre	84.89	9	P		P	00 49 20.8	+0.2
	baz=202,SNR=8.9							
F19K	Shaleruckik Mo	84.94	7	P		P	00 49 21.5	+0.7
F19K				IAmb		IAmb	00 49 22.0	
	comp=Z,6.5nm,0.8s							
F19K	Shaleruckik Mo	84.94	7	P		P	00 49 21.0	+0.2
	baz=196,SNR=7.9							
H03S2	Juan Fernandez	84.97	124	T		T	02 22 30.1	
	baz=249,slow=75,SNR=5.6							
H03S1	Juan Fernandez	84.98	124	T		T	02 22 31.0	
	baz=249,slow=75,SNR=5.0							
K27K	Chicken	84.98	14	P		P	00 49 22.3	+1.1
	baz=211,SNR=5.3							
H03S3	Juan Fernandez	84.99	124	T		T	02 22 30.1	
	baz=249,slow=75,SNR=5.0							
J26L	Joseph Creek	85.07	13	P		P	00 49 23.0	+1.3
J26L				IAmb		IAmb	00 49 23.5	
	comp=Z,7.3nm,0.8s							
J26L	Joseph Creek	85.07	13	P		P	00 49 22.5	+0.9
	baz=209,SNR=8.6							
M30M	Minto, Yukon	85.08	17	P		P	00 49 22.1	+0.4
	baz=216							
H23K	Yukon River	85.12	10	P		P	00 49 22.0	+0.2
	baz=204							
G21K	Allakaket	85.16	8	P		P	00 49 22.9	+0.9
G21K				IAmb		IAmb	00 49 23.5	
	comp=Z,4.3nm,0.8s							
G21K	Allakaket	85.16	8	P		P	00 49 22.5	+0.5
	baz=200,SNR=5.7							
L29M	L29M	85.16	16	P		P	00 49 23.2	+1.1
L29M				IAmb		IAmb	00 49 24.0	
	comp=Z,8.0nm,0.9s							
L29M	L29M	85.16	16	P		P	00 49 22.8	+0.7
	baz=215,SNR=8.8							
E18K	Tukpahlearik C	85.23	5	P		P	00 49 23.2	+1.0
E18K	Tukpahlearik C	85.23	5	P		P	00 49 23.2	+1.0
	baz=193,SNR=6.0							
D17K	Noatak River	85.30	4	P		P	00 49 23.5	+0.9
	baz=191							
F20K	Avaraart Lake	85.38	7	P		P	00 49 23.4	+0.4
F20K	Avaraart Lake	85.38	7	P		P	00 49 23.5	+0.5
	baz=198							
H24K	Noodor Dome	85.42	11	P		P	00 49 24.2	+0.9
	baz=205							
M31M	Drury Creek, Y	85.45	18	P		P	00 49 24.2	+0.6
	baz=218							
MAW	Mawson	85.54	199	P		P	00 49 25.6	+1.6
MAW				IAmb		IAmb	00 49 49.2	
	comp=Z,8.1nm,1.3s							
PRP	Porcupine Dome	85.56	12	P		P	00 49 24.3	+0.2
PRP				IAmb		IAmb	00 49 25.3	
	comp=Z,7.0nm,1.1s							
PRP	Porcupine Dome	85.56	12	P		P	00 49 24.4	+0.2
	baz=208,SNR=7.0							
E19K	Redstone River	85.60	7	P		P	00 49 24.7	+0.6
E19K				IAmb		IAmb	00 49 25.6	
	comp=Z,5.4nm,0.9s							
E19K	Redstone River	85.60	7	P		P	00 49 24.7	+0.6
	baz=196,SNR=5.4							
G22K	Bettles	85.83	9	P		P	00 49 25.8	+0.6
	baz=202							
F21K	Alatna River	85.83	8	P		P	00 49 25.8	+0.5
F21K	Alatna River	85.83	8	P		P	00 49 25.8	+0.5
	baz=200							
I26K	Coal Creek Min	85.86	13	P		P	00 49 26.2	+0.8
I26K				IAmb		IAmb	00 49 26.9	
	comp=Z,4.0nm,0.9s							
I26K	Coal Creek Min	85.86	13	P		P	00 49 25.9	+0.5
	baz=210,SNR=5.5							
G23K	Bananza Creek	85.86	10	P		P	00 49 26.1	+0.7
	baz=203							
K29M	Barlow Dome	85.92	16	P		P	00 49 27.1	+1.1
K29M				IAmb		IAmb	00 49 27.8	
	comp=Z,4.3nm,0.9s							
K29M	Barlow Dome	85.92	16	P		P	00 49 26.7	+0.8
	baz=215,SNR=6.1							
J29N	Klondike Camp	86.25	15	P		P	00 49 28.7	+1.2
	baz=214							
G24K	Hadweenzic Riv	86.27	10	P		P	00 49 28.4	+1.0
	baz=206							
F22K	John River	86.28	8	P		P	00 49 28.1	+0.7
	baz=201							
COLD	Coldfoot	86.31	9	P		P	00 49 28.4	+0.8
	baz=203							
C18K	Utukok River	86.38	5	P		P	00 49 29.0	+1.0
	baz=193							
I27K	Kandik River	86.44	13	P		P	00 49 29.3	+0.9
	baz=211							
E20K	Nigu River	86.48	7	P		P	00 49 29.6	+1.1
	baz=197							
D19K	Kuna River	86.51	6	P		P	00 49 28.7	+0.1
D19K	Kuna River	86.51	6	P		P	00 49 29.8	+1.2
	baz=196							
G25K	Bearman Lake	86.57	11	P		P	00 49 29.5	+0.7
	baz=207							
I28M	Miner Creek	86.68	14	P		P	00 49 29.8	+0.2
I28M				IAmb		IAmb	00 49 30.6	
	comp=Z,2.9nm,0.7s							
I28M	Miner Creek	86.68	14	P		P	00 49 29.9	+0.3
	baz=213							
MMPY	Sheldon Lake,	86.70	18	P		P	00 49 30.9	+1.2
MMPY				IAmb		IAmb	00 49 31.5	
	comp=Z,4.4nm,1.1s							
MMPY	Sheldon Lake,	86.70	18	P		P	00 49 30.6	+0.9
	baz=221							
D20K	Etivluk River	86.87	6	P		P	00 49 30.8	+0.4
D20K				IAmb		IAmb	00 49 33.0	
	comp=Z,4.1nm,1.1s							
D20K	Etivluk River	86.87	6	P		P	00 49 31.2	+0.9
	baz=197							
E22K	Anaktuvuk Pass	86.91	8	P		P	00 49 31.4	+0.7
E22K				IAmb		IAmb	00 49 31.8	
	comp=Z,6.0nm,1.3s							
E22K	Anaktuvuk Pass	86.91	8	P		P	00 49 31.3	+0.7
	baz=202							
E21K	Killik River	86.92	7	P		P	00 49 31.4	+0.8
	baz=200							
F24K	Squaw Lake	86.94	10	P		P	00 49 30.2	-0.5
F24K	Squaw Lake	86.94	10	P		P	00 49 31.8	+1.0
	baz=205							
H27K	Steamboat Moun	87.00	13	P		P	00 49 31.9	+0.9
H27K	Steamboat Moun	87.00	13	P		P	00 49 31.9	+0.9
	baz=211							
B18K	Kokolik River	87.03	4	P		P	00 49 32.2	+1.2
	baz=192							
E23K	Chandalar	87.16	9	P		P	00 49 32.5	+0.7
	baz=204							
G26K	Porcupine Rive	87.16	12	P		P	00 49 32.4	+0.7
G26K				IAmb		IAmb	00 49 33.7	
	comp=Z,3.8nm,0.9s							
G26K	Porcupine Rive	87.16	12	P		P	00 49 32.7	+1.0
	baz=209							
I30M	Mount Dempster	87.34	15	P		P	00 49 32.9	+0.1
I30M				IAmb		IAmb	00 49 34.1	
	comp=Z,4.9nm,1.2s							
I30M	Mount Dempster	87.34	15	P		P	00 49 33.5	+0.7
	baz=216							
E24K	Your Creek	87.35	9	P		P	00 49 32.8	+0.1
E24K	Your Creek	87.35	9	P		P	00 49 33.5	+0.8
	baz=205							
F25K	Christian Rive	87.39	11	P		P	00 49 33.7	+0.8
	baz=207							
BMAR	Burnt Mountain	87.44	11	P		P	00 49 33.8	+0.7
G27K	Doyon Strip	87.47	12	P		P	00 49 34.1	+0.8
G27K	Doyon Strip	87.47	12	P		P	00 49 34.1	+0.8
	baz=211							
D22K	Ayikyak River	87.50	8	P		P	00 49 34.0	+0.7
D22K				IAmb		IAmb	00 49 34.8	
	comp=Z,3.8nm,0.7s							
D22K	Ayikyak River	87.50	8	P		P	00 49 34.0	+0.7
	baz=201							
C21K	Knifeblade Rid	87.50	7	P		P	00 49 34.1	+0.8
	baz=199							
H29M	Whitestone	87.68	14	P		P	00 49 35.0	+0.7
H29M				IAmb		IAmb	00 49 35.4	
	comp=Z,4.9nm,1.1s							
H29M	Whitestone	87.68	14	P		P	00 49 34.6	+0.3
	baz=214							
TOLK	Toolik Lake Re	87.70	9	P		P	00 49 35.0	+0.6
TOLK	Toolik Lake Re	87.70	9	P		P	00 49 34.9	+0.6
	baz=204							
F26K	Sheenjek River	87.75	11	P		P	00 49 35.7	+1.2
F26K	Sheenjek River	87.75	11	P		P	00 49 35.2	+0.6
	baz=209							
D23K	Nanushuk River	87.84	8	P		P	00 49 35.8	+0.8
D23K				IAmb		IAmb	00 49 36.5	
	comp=Z,3.3nm,0.8s							
D23K	Nanushuk River	87.84	8	P		P	00 49 35.8	+0.8
	baz=203							
E25K	Arctic Village	87.87	10	P		P	00 49 36.3	+1.2
E25K	Arctic Village	87.87	10	P		P	00 49 35.9	+0.8
	baz=208							
B21K	Ikpikpuk River	87.96	7	P		P	00 49 35.6	+0.2
B21K				IAmb		IAmb	00 49 36.4	
	comp=Z,2.5nm,0.8s							
B21K	Ikpikpuk River	87.96	7	P		P	00 49 35.9	+0.5
	baz=199							
B20K	Meade River	88.06	6	P		P	00 49 36.4	+0.5
B20K	Meade River	88.06	6	P		P	00 49 36.4	+0.5
	baz=196							
EPYK	Eagle Plains	88.19	14	P		P	00 49 37.0	+0.4
	baz=216							
D24K	Happy Valley	88.28	9	P		P	00 49 37.7	+0.8
	baz=204							
H31M	Peel River	88.32	15	P		P	00 49 37.8	+0.6
H31M	Peel River	88.32	15	P		P	00 49 37.8	+0.6
	baz=218							
G29M	Pine Creek	88.33	14	P		P	00 49 37.8	+0.5
G29M				IAmb		IAmb	00 49 38.4	
	comp=Z,6.6nm,1.5s							
G29M	Pine Creek	88.33	14	P		P	00 49 38.1	+0.7
	baz=214							
C23K	Itkillik River	88.66	8	P		P	00 49 39.2	+0.4
C23K				IAmb		IAmb	00 49 39.8	
	comp=Z,3.3nm,0.8s							
C23K	Itkillik River	88.66	8	P		P	00 49 39.2	+0.4
	baz=203							
E27K	Coleen River	88.66	12	P		P	00 49 39.2	+0.3
E27K	Coleen River	88.66	12	P		P	00 49 39.5	+0.6
	baz=211							
B22K	Teshekpuk Lake	88.78	7	P		P	00 49 39.6	+0.3
B22K				IAmb		IAmb	00 49 40.7	
	comp=Z,3.3nm,1.1s							
B22K	Teshekpuk Lake	88.78	7	P		P	00 49 39.5	+0.3
	baz=200							
G30M	tAoh Zraii Nji	88.80	14	P		P	00 49 39.8	+0.3
G30M				IAmb		IAmb	00 49 42.8	
	comp=Z,3.5nm,1.1s							
G30M	tAoh Zraii Nji	88.80	14	P		P	00 49 39.3	-0.2
	baz=216							
D25K	Kavik River	88.81	10	P		P	00 49 38.9	-0.6
D25K	Kavik River	88.81	10	P		P	00 49 39.5	0.0
	baz=207							
C24K	Franklin Bluff	88.82	9	P		P	00 49 39.9	+0.4
	baz=204							
XAN	Xi'an	88.95	306	*e*P		P	00 49 42.8	+1.8
XAN				pmax		pmax		
	comp=Z,8.0nm,1.1s							
G31M	Satah River	89.22	15	P		P	00 49 41.9	+0.5
G31M				IAmb		IAmb	00 49 42.5	
	comp=Z,2.6nm,0.7s							
G31M	Satah River	89.22	15	P		P	00 49 41.6	+0.2
	baz=218							
A22K	Sinclair Lake	89.24	6	P		P	00 49 41.8	+0.4
	baz=198							
F30M	Barrier River	89.41	14	P		P	00 49 43.1	+0.8
E28M	Babbage River	89.42	12	P		P	00 49 43.0	+0.6
E28M	Babbage River	89.42	12	P		P	00 49 42.8	+0.4
	baz=213							
C27K	Jago River	89.52	10	P		P	00 49 43.4	+0.5
C27K	Jago River	89.52	10	P		P	00 49 43.3	+0.5
	baz=209							
E29M	Blow River	89.58	13	P		P	00 49 43.2	+0.1
E29M	Blow River	89.58	13	P		P	00 49 43.5	+0.4
	baz=215							
HHC	Hu-ho-hao-te	89.63	313	*e*P		P	00 49 45.5	+1.4
HHC				pmax		pmax		
	comp=Z,16nm,0.9s							
HHC				pmax		pmax		
	comp=Z,220nm,5.0s							
WRGLY	Wrigley	89.64	21	P		P	00 49 44.0	+0.5
	baz=228							
D27M	Malcolm River	89.69	11	P		P	00 49 44.1	+0.4
	baz=212							
F31M	Tsiigehtchic	89.75	15	P		P	00 49 44.3	+0.4
	baz=218							
ELIB	Princess Elisa	90.02	185	*d*P		P	00 49 46.4	+0.9
	comp=Z,3.6nm,0.8s							
D28M	Stokes Point	90.19	12	P		P	00 49 46.2	+0.4
	baz=214							
INK	Inuvik	90.48	14	P		P	00 49 47.5	+0.2
	baz=219							
PZH	PanZhiHua	92.23	297	P		P	00 49 58.5	+2.0
PZH				pmax		pmax		
	comp=Z,6.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,100nm,4.5s							
CMAR	Chiang Mai Arr	92.24	289	P		P	00 49 57.7	+1.1
	comp=Z,1.4nm,0.3s,baz=110,slow=4.5,SNR=14							
	comp=Z,1.4nm,0.3s							
YKA	Yellowknife Ar	92.38	24	P		P	00 49 56.0	-0.2
	comp=Z,0.2nm,0.5s,baz=205,slow=9.3,SNR=5.3							
	comp=Z,0.2nm,0.5s							
C36M	Paulatuk	93.59	16	P		P	00 50 02.1	+0.6
	baz=227							
A36M	Sachs Harbour	95.11	14	P		P	00 50 08.9	+0.4
	baz=226							
MKAR	Makanchi Array	111.47	314	PKiKP		PKiKP	00 55 18.1	-1.2
	comp=Z,0.7nm,0.6s,baz=113,slow=0.4,SNR=8.1							
KURBB	Kurchatov Arra	114.01	318	PKiKP		PKiKP	00 55 22.7	-1.2
	comp=Z,0.3nm,0.6s,baz=95,slow=1.6,SNR=7.1							
BVAR	Borovoye Array	118.81	321	PKP		PKPdf	00 55 32.5	-0.5
	comp=Z,2.1nm,0.4s,baz=104,slow=3.2,SNR=17							
SPITS	Spitsbergen Ar	118.99	357	PKP		PKPdf	00 55 31.2	-1.6
	comp=Z,2.3nm,0.8s,baz=15,slow=6.0,SNR=8.1							
ARCES	ARCESS Array B	126.45	351	PKP		PKPdf	00 55 46.9	-0.5
	comp=Z,1.7nm,0.6s,baz=40,slow=1.4,SNR=8.8							
FINES	FINESS Array B	133.67	346	PKP		PKPdf	00 56 00.0	-1.2
	comp=Z,0.8nm,0.5s,baz=29,slow=3.2,SNR=9.3							
EKA	Eskdalemuir Ar	141.59	8	PKhKP		PKPpre	00 56 10.2	
	comp=Z,0.3nm,0.6s,baz=343,slow=2.7,SNR=3.8							
NRDL	Niedersach Rie	144.82	355	*e*PKPbc			00 56 21.6	
	baz=11,slow=2.9							
FLTG	Flechtingen	144.88	354	*e*PKPbc			00 56 21.6	
	baz=11,slow=2.9							
ASSE	Asse, Remlinge	145.14	354	*e*PKPbc			00 56 22.8	
	baz=11,slow=2.9							
IBBN	Ibbenburen	145.15	358	*e*PKPbc			00 56 23.2	
	baz=11,slow=2.9							
CLZ	Clausthal	145.45	355	*e*PKPbc			00 56 24.2	
	baz=11,slow=2.9							
CLL	Collm	145.68	352	*e*PKPbc			00 56 24.4	
	baz=11,slow=2.9							
GTTG	Gottingen	145.78	355	*e*PKPbc			00 56 25.2	
	baz=11,slow=2.9							
OSTC	Ostas	145.85	348	*e*PKP		PKPab	00 56 25.3	0.0
NEUB	Neuenburg	145.93	353	*e*PKPbc			00 56 26.0	
	baz=11,slow=2.9							
BRG	Berggiesshubel	145.96	350	*e*PKPbc			00 56 25.2	
	baz=11,slow=2.9							
VLDR	Vladesti	146.00	331	⇑P		PKPab	00 56 25.6	-0.3
DPC	Dobruska-Polom	146.03	348	*e*PKP		PKPab	00 56 26.1	+0.1
BUG	Bochum--Univer	146.04	358	*e*PKPbc			00 56 25.7	
	baz=11,slow=2.9							
TESR	Tescani	146.12	333	⇑P		PKPab	00 56 26.0	-0.4
GHRR		146.14	332	⇓P		PKPab	00 56 27.0	+0.6
TLCR		146.14	330	⇑P		PKPbc	00 56 25.7	+0.2
SCTR	Scanteiesti	146.17	331	⇑P		PKPab	00 56 26.1	-0.5
PVCC	Panska Ves	146.19	350	*e*PKP		PKPab	00 56 26.5	0.0
HSKC	Hora Svate Kat	146.29	351	*e*PKP		PKPab	00 56 26.7	-0.3
NEGRR	Negrea	146.32	331	⇑P		PKPab	00 56 27.3	+0.1
ONER	Baraj Valea Uz	146.37	333	⇑P		PKPab	00 56 27.5	+0.1
IZVR	Izvoarele	146.37	331	⇑P		PKPab	00 56 27.1	-0.2
PANC	Panciu	146.40	332	⇑P		PKPab	00 56 27.6	+0.1
CFR	Carcaliu	146.47	330	⇑P		PKPbc	00 56 26.7	+0.3
MOX	Moxa	146.50	353	*e*PKPbc			00 56 26.9	
	baz=11,slow=2.9							
ODBI	Odobesti	146.52	332	⇑P		PKPab	00 56 28.2	+0.2
TPGR	Topolog	146.58	330	⇑P		PKPab	00 56 27.8	-0.5
ARCR	ARCALIA	146.58	336	⇑P		PKPbc	00 56 27.1	+0.4
VRI	Vrincioaia	146.59	333	⇓P		PKPbc	00 56 27.3	+0.5
PLN	Plauen	146.59	352	*e*PKPbc			00 56 27.2	
	baz=11,slow=2.9							
TANN	Tannenbergstha	146.62	352	*e*PKPbc			00 56 27.7	
	baz=11,slow=2.9							
PLOR	Plostina	146.63	333	⇑P		PKPbc	00 56 27.5	+0.5
PRU	Pruhonice	146.71	349	*e*PKP		PKPab	00 56 27.7	-0.9
NKC	Novy Kostel	146.80	352	*e*PKP		PKPbc	00 56 27.9	+0.6
OZUR		146.81	334	⇑P		PKPab	00 56 28.6	-0.6
TIRR	Tirgusor	146.87	329	⇑P		PKPbc	00 56 27.5	-0.1
MEM	Membach	146.90	359	*d*PKP		PKPbc	00 56 27.6	+0.1
BTNL	Ternell	146.92	359	*d*PKPdf		PKPdf	00 56 26.1	+0.7
BTNL				*d*PKP		PKPab	00 56 28.6	-0.8
BSTI	Sart Tilman	146.93	360	*d*PKP		PKPbc	00 56 28.3	+0.7
HARR	Harsova	146.93	330	⇑P		PKPab	00 56 28.8	-0.8
VRAC	Vranov	146.95	347	PKPbc		PKPbc	00 56 28.3	+0.6
	comp=Z,3.6nm,0.7s,baz=30,slow=6.2,SNR=7.7							
VRAC				pPKPbc		pPKPab	00 57 19.4	+0.2
	comp=Z,0.6nm,0.3s,baz=108,slow=2.4,SNR=1.6							
TLBR	Topalu	146.99	330	⇓P		PKPbc	00 56 28.1	+0.2
BRTR	Keskin Array B	147.00	318	PKPbc		PKPbc	00 56 28.6	+0.2
	comp=Z,3.7nm,0.7s,baz=85,slow=1.7,SNR=34							
BRTR				pPKPbc		pPKPab	00 57 19.9	0.0
	comp=Z,1.4nm,0.9s,baz=147,slow=2.5,SNR=3.5							
MESR	Meseseni	147.05	338	⇑P		PKiKP	00 56 30.9	+0.6
MFTR	Murfatlar	147.07	329	⇑P		PKPbc	00 56 28.2	0.0
DOPR	Dopca	147.08	334	⇓P		PKPbc	00 56 28.7	+0.5
MANZ	Manzenberg	147.09	352	*e*PKPbc			00 56 27.1	
	baz=11,slow=2.9							
BCLA	Clavier	147.09	0	*d*PKP		PKPdf	00 56 26.5	+0.8
BCLA				*d*PKiKP		PKiKP	00 56 30.1	-0.2
NEHR	Nehoiu	147.12	333	⇓P		PKPab	00 56 29.4	-1.0
BGES	Gesves	147.12	0	*d*PKiKP		PKPab	00 56 30.1	0.0
CBBR	Cluj-Babes-Bol	147.15	337	⇑P		PKPbc	00 56 28.9	+0.6
BHOU	Houvegnez	147.15	359	*d*PKP		PKPab	00 56 29.2	-1.1
CJR	Cluj-Napoca	147.18	337	⇑P		PKPbc	00 56 29.2	+0.7
TREC	Trest	147.20	348	*e*PKP		PKPbc	00 56 29.2	+0.8
BMRD	Maredsous	147.20	1	*d*PKP		PKPbc	00 56 28.9	+0.6
MLR	Muntele Rosu	147.22	333	⇑P		PKPbc	00 56 29.2	+0.4
MANR	Mangalia	147.25	328	⇓P		PKPbc	00 56 29.2	+0.5
ROTZ	Rotzenmuhle	147.29	352	*e*PKPbc			00 56 29.8	
	baz=11,slow=2.9							
ZVC	Zvikov	147.30	349	*e*PKP		PKiKP	00 56 29.7	-1.1
MARR	Marisel-Cluj	147.39	337	⇓P		PKPbc	00 56 29.6	+0.4
DOU	Dourbes	147.41	1	*d*PKP		PKPbc	00 56 29.4	+0.5
DRGR		147.44	338	⇑P		PKPbc	00 56 29.2	0.0
GRF	Grafenberg Arr	147.49	353	*e*PKPbc			00 56 30.3	
	baz=11,slow=2.9							
LEHL	Lehliu	147.62	331	⇓P		PKPbc	00 56 30.5	+0.9
VOIR		147.65	334	⇑P		PKPdf	00 56 23.1	-3.7
KHC	Kasperske Hory	147.71	350	*e*PKP		PKiKP	00 56 30.7	-1.0
WLF	Walferdange	147.84	359	*d*PKP		PKiKP	00 56 31.6	-0.3
WLF	Walferdange	147.84	359	*e*PKPbc			00 56 31.4	
	baz=11,slow=2.9							
ARR	Arges	147.88	334	⇓P		PKiKP	00 56 32.0	-0.1
CKRC	Cesky Krumlov	147.88	349	*e*PKP		PKPbc	00 56 30.8	+0.5
SRO	Srobarova	147

ABTA Abfaltersbach 150.19 350 *i* PKP **PKPbc 00 56 36.1 -0.1**
comp=Z,12nm,0.9s,SNR=12
EIL Elat 150.46 300 PKPbc **PKiKP 00 56 37.6 -0.3**
comp=Z,3.2nm,0.6s,baz=23,slow=8.5,SNR=5.3
DAVOX Davos/Dischmat 150.51 354 PKPbc **PKiKP 00 56 37.7 0.0**
comp=Z,13nm,0.7s,baz=333,slow=2.3,SNR=38
ESDC Sonseca Array 156.36 18 PKPab **PKPab 00 57 09.5 +0.4**
comp=Z,1.5nm,1.0s,baz=338,slow=3.4,SNR=9.1

*IDC **29** 00:37:53.5±0.9, 56.°30S×24.°73W, h0km, mb3.8/5, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=32.1km s-min=21.6km az=68.0*
ISC 29 00:37:58.2±0.8, 56.°4S±0.°1×24.°7W±0.°2, h33km, n12, σ0.°77/12, mb3.9/5, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.01**	**160**	⇑P	**Pn**	**00 41 39.8**	**-0.7**
	comp=Z,0.5nm,0.2s						
VNA3	**Neumayer Olymp**	**16.26**	**163**	⇑P	**Pn**	**00 41 42.4**	**-1.3**
	comp=Z,0.5nm,0.2s						
VNA2	**Neumayer--Vatty**	**16.40**	**160**	⇑P	**Pn**	**00 41 44.9**	**-0.6**
	comp=Z,0.9nm,0.2s,baz=328,slow=16						
SNAA	**Sanae**	**17.91**	**157**	⇑P	**P**	**00 42 04.8**	**+0.1**
	comp=Z,429μm,0.1s						
SNAA	**Sanae**	**17.91**	**157**	P	**P**	**00 42 04.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=335,slow=16,SNR=7.6						
	comp=Z,1.2nm,0.9s						
QSPA	**South Pole Qui**	**33.89**	**180**	P	**P**	**00 44 37.9**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=76,slow=0.3,SNR=16						
	comp=Z,1.7nm,0.5s						
CPUP	**Villa Florida**	**38.08**	**308**	P	**P**	**00 45 12.7**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=158,slow=12,SNR=2.1						
	comp=Z,0.9nm,0.5s						
BOSA	**Boshof**	**44.71**	**73**	P	**P**	**00 46 07.5**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=153,slow=6.8,SNR=1.6						
	comp=Z,1.3nm,0.9s						
VNDA	**Vanda**	**46.32**	**182**	P	**P**	**00 46 21.0**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=214,slow=6.8,SNR=1.7						
	comp=Z,0.2nm,0.5s						
LPAZ	**La Paz**	**51.70**	**303**	P	**P**	**00 47 02.5**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=178,slow=7.7,SNR=9.6						
	comp=Z,1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**72.67**	**27**	P	**P**	**00 49 23.3**	**+0.9**
	comp=Z,67nm,0.3s,baz=199,slow=6.7,SNR=1.6						
ILAR	**Eielson Array**	**151.36**	**311**	PKPbc	**PKiKP**	**00 57 47.6**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=82,slow=2.0,SNR=4.4						

*IDC **29** 00:54:17.6±1.4, 37.°72N×20.°66E, h0km, mb3.4/6, mbtmp3.4/13, ML3.1/3, MS3.2/3, Error ellipse: s-maj=23.3km s-min=18.3km az=6.0*
*ATH **29** 00:54:18.8, 37.°61N×20.°64E, h13km±1km, ML3.6/19, Manual Solution by S.Koutrakis First location: 2019/04/29 00:55:14, This location: 2020/06/30 05:42:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*THE **29** 00:54:18.8, 37.°58N×20.°64E, h11km, ML3.6/9, Error ellipse: s-maj=0.9km s-min=0.3km az=38.0*
ISC 29 00:54:18.9±1.0, 37.°61N±0.°03×20.°62E±0.°03, h12km±6km, n78, σ0.°91/106, mb3.5/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.19**	**60**	P	**Pg**	**00 54 23.2**	**0.0**
LTHK				S	**Sg**	**00 54 25.9**	**-0.2**
	67μm,0.1s						
LTHK	**Lithakia**	**0.19**	**60**	P	**Pg**	**00 54 23.1**	**-0.1**
LTHK				S	**Sg**	**00 54 25.1**	**-1.0**
ORTH	**Orthonies,Zaky**	**0.24**	**13**	P	**Pg**	**00 54 24.7**	**+0.6**
ORTH				S	**Sg**	**00 54 28.3**	**+0.7**
KYPS	**Kipseli, Zakin**	**0.26**	**37**	P	**Pb**	**00 54 24.9**	**-0.5**
KYPS				S	**Sg**	**00 54 27.9**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.48**	**14**	P	**Pg**	**00 54 28.4**	**+0.1**
CLEM	**Kyllini,Ilia,G**	**0.49**	**55**	P	**Pg**	**00 54 28.7**	**+0.2**
CLEM				S	**Sb**	**00 54 35.9**	**-0.6**
PSDA	**Pessada-Kefalo**	**0.50**	**356**	P	**Pg**	**00 54 29.1**	**+0.4**
PSDA				S	**Sb**	**00 54 36.8**	**0.0**
	7μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.50**	**356**	P	**Pb**	**00 54 29.2**	**-0.3**
PSDA				S	**Sg**	**00 54 35.6**	**+0.2**
VLS	**Valsamata**	**0.56**	**357**	P	**Pg**	**00 54 30.0**	**+0.1**
VLS				S	**Sb**	**00 54 39.2**	**+0.5**
	9μm,0.2s						
VLS	**Valsamata**	**0.56**	**357**	P	**Pg**	**00 54 30.1**	**+0.2**
VLS				S	**Sb**	**00 54 38.5**	**-0.2**
LXR1	**Lixouri, Cepha**	**0.60**	**346**	P	**Pg**	**00 54 31.1**	**+0.4**
SMHA	**Samh**	**0.64**	**2**	P	**Pg**	**00 54 30.5**	**-0.8**
SMHA				S	**Sg**	**00 54 40.1**	**+0.4**
DMLN	**Damoulianata-K**	**0.66**	**342**	P	**Pg**	**00 54 31.9**	**+0.3**
DMLN				S	**Sb**	**00 54 41.7**	**+0.4**
	8μm,0.4s						
DMLN	**Damoulianata-K**	**0.66**	**342**	P	**Pb**	**00 54 32.2**	**0.0**
DMLN				S	**Sg**	**00 54 40.9**	**+0.6**
YRMI	**Loutra Irminis**	**0.75**	**49**	P	**Pg**	**00 54 33.3**	**-0.2**
YRMI				S	**Sg**	**00 54 43.0**	**-0.4**
VSK1	**VASILIKIADES**	**0.80**	**357**	P	**Pg**	**00 54 34.0**	**-0.3**
VSK1				S	**Sn**	**00 54 46.7**	**-1.0**
	5μm,0.4s						
RLS	**Riolos of Patr**	**0.80**	**56**	P	**Pg**	**00 54 33.9**	**-0.5**
RLS				S	**Sb**	**00 54 46.1**	**+0.6**
	3μm,0.3s						
RLS	**Riolos of Patr**	**0.80**	**56**	P	**Pg**	**00 54 34.0**	**-0.3**
RLS				S	**Sg**	**00 54 44.5**	**-0.3**
ZARO	**Zacharo**	**0.82**	**98**	P	**Pb**	**00 54 35.4**	**+0.3**
AXS	**Araxos**	**0.83**	**45**	P	**Pg**	**00 54 34.5**	**-0.5**
AXS				S	**Sg**	**00 54 46.0**	**+0.2**
FSK	**Fiskardo**	**0.85**	**357**	P	**Pg**	**00 54 34.8**	**-0.4**
FSK				S	**Sb**	**00 54 47.9**	**+1.1**
	2μm,0.2s						
FSK	**Fiskardo**	**0.85**	**357**	P	**Pg**	**00 54 34.9**	**-0.3**
FSK				S	**Sb**	**00 54 46.8**	**0.0**
AMT	**Artemida-Makis**	**0.86**	**95**	P	**Pg**	**00 54 35.4**	**-0.2**
AMT				S	**Sg**	**00 54 47.0**	**0.0**
DRO	**Drossia**	**0.93**	**68**	P	**Pg**	**00 54 36.0**	**-0.7**
DRO				S	**Sb**	**00 54 49.7**	**+0.6**
	4μm,0.3s						
DRO	**Drossia**	**0.93**	**68**	P	**Pg**	**00 54 36.4**	**-0.3**
DRO				S	**Sg**	**00 54 48.8**	**0.0**
EVGI	**Lefkada island**	**1.01**	**1**	P	**Pb**	**00 54 38.1**	**-0.1**
EVGI				S	**Sn**	**00 54 53.5**	**+0.6**
	3μm,0.2s						
EVGI	**Lefkada island**	**1.01**	**1**	P	**Pb**	**00 54 37.8**	**-0.4**
EVGI				S	**Sn**	**00 54 52.4**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.07**	**358**	P	**Pn**	**00 54 39.8**	**+0.2**
DRAG				S	**Sn**	**00 54 54.4**	**0.0**
NYDR	**Nydri-Lefkada**	**1.10**	**3**	P	**Pb**	**00 54 39.4**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.10**	**3**	P	**Pb**	**00 54 39.3**	**-0.5**
ITM	**Ithomi**	**1.12**	**112**	P	**Pb**	**00 54 39.3**	**-0.9**
ITM	**Ithomi**	**1.12**	**112**	P	**Pg**	**00 54 40.7**	**+0.2**
UPR	**University Cam**	**1.14**	**54**	P	**Pb**	**00 54 40.0**	**-0.4**
PYL	**PYLOS**	**1.14**	**128**	P	**Pb**	**00 54 39.9**	**-0.6**
PYL	**PYLOS**	**1.14**	**128**	P	**Pb**	**00 54 40.2**	**-0.4**
PYL				S	**Sn**	**00 54 56.0**	**-0.2**
MTHA	**Methoni**	**1.17**	**132**	P	**Pg**	**00 54 41.8**	**+0.4**
LKD2	**Lefkada island**	**1.18**	**1**	P	**Pn**	**00 54 40.5**	**-0.6**
LKD2	**Lefkada island**	**1.18**	**1**	P	**Pn**	**00 54 40.9**	**-0.2**
TSLK	**Tsoukalades, L**	**1.21**	**1**	P	**Pn**	**00 54 41.2**	**-0.4**
TSLK	**Tsoukalades, L**	**1.21**	**1**	P	**Pn**	**00 54 41.6**	**0.0**
PVO	**Paravola**	**1.23**	**35**	P	**Pb**	**00 54 42.0**	**+0.1**
PVO				S	**Sb**	**00 54 58.1**	**+0.3**
KLV	**Kalavryta, Ach**	**1.28**	**70**	P	**Pn**	**00 54 41.9**	**-0.7**
KLV	**Kalavryta, Ach**	**1.28**	**70**	P	**Pn**	**00 54 42.7**	**+0.1**
EFP	**Efpalio**	**1.30**	**51**	P	**Pn**	**00 54 42.2**	**-0.6**
EFP	**Efpalio**	**1.30**	**51**	P	**Pn**	**00 54 42.7**	**-0.1**
SERG	**Sergoula**	**1.39**	**54**	P	**Pn**	**00 54 43.9**	**-0.1**
GUR	**Goura**	**1.40**	**76**	P	**Pn**	**00 54 43.6**	**-0.7**
GUR	**Goura**	**1.40**	**76**	P	**Pn**	**00 54 44.5**	**+0.2**
ANX	**Ano Chora**	**1.42**	**46**	P	**Pn**	**00 54 44.0**	**-0.5**
ANX	**Ano Chora**	**1.42**	**46**	P	**Pn**	**00 54 44.8**	**+0.4**
KALE	**Kalithea**	**1.43**	**57**	P	**Pn**	**00 54 44.5**	**-0.1**
OHR	**Ohrid**	**3.50**	**2**	*e*Pn	**Pn**	**00 55 16.4**	**+3.4**
OHR				*e*Sn	**Sn**	**00 55 57.8**	**+3.4**
VAY	**Valandovo**	**4.00**	**22**	*e*Pn	**Pn**	**00 55 22.1**	**+2.2**
VAY				*e*Sn	**Sn**	**00 56 06.9**	**+0.3**
IDI	**Anoyia**	**4.15**	**123**	Pn	**Pn**	**00 55 22.6**	**+0.6**
	1.9nm,0.7s,baz=290,slow=12,SNR=10						
IDI				Sn	**Sn**	**00 56 12.9**	**+2.4**
	3.9nm,0.3s,baz=313,slow=18,SNR=10						
DRME	**Dracevica, Mon**	**4.70**	**347**	*e*Pn	**Pn**	**00 55 29.1**	**-0.4**
VAE	**Valguarnera**	**4.94**	**270**	Pn	**Pn**	**00 55 34.6**	**+1.8**
	6.0nm,0.6s,baz=74,slow=14,SNR=2.8						
VAE				Sn	**Sn**	**00 56 27.5**	**-2.5**
	1.1nm,0.3s,baz=82,slow=14,SNR=2.5						
BRY	**Bratogost**	**5.52**	**344**	*e*Pn	**Pn**	**00 55 39.4**	**-1.5**
STON	**Ston**	**5.71**	**338**	*e*Pn	**Pn**	**00 55 42.0**	**-1.4**
UPM	**Unac-Piva**	**5.74**	**347**	*e*Pn	**Pn**	**00 55 44.1**	**+0.2**
TEKS	**Tekeris**	**6.98**	**354**	*e*Pn	**Pn**	**00 55 59.5**	**-1.3**
A050A	**Klekovaca**	**7.53**	**337**	*e*Pn	**Pn**	**00 56 09.0**	**+0.6**
BLY	**Banja Luka**	**7.59**	**341**	*e*Pn	**Pn**	**00 56 10.8**	**+1.7**
A051A	**Mrakovica**	**7.90**	**340**	*e*Pn	**Pn**	**00 56 12.2**	**-1.4**
MLR	**Muntele Rosu**	**8.82**	**25**	Pn	**Pn**	**00 56 27.3**	**+1.1**
	4.4nm,1.0s,baz=182,slow=14						
KEST	**Kesra**	**9.25**	**262**	Pn	**Pn**	**00 56 33.6**	**+1.4**
	0.2nm,0.3s,baz=95,slow=9.7,SNR=4.1						
	2.5nm,0.9s						
CEY	**Cerknica**	**9.35**	**332**	*e*Pn	**Pn**	**00 56 32.9**	**-0.4**
VRAC	**Vranov**	**12.05**	**347**	LR	LR	01 03 34.2	
	comp=Z,31nm,18.5s,baz=169,slow=47						
GERES	**GERESS Array B**	**12.30**	**338**	Pn	**Pn**	**00 57 14.1**	**+0.3**
	baz=166,slow=13,SNR=2.1						
	0.6nm,0.7s						
AKASG	**Malin Array Be**	**14.45**	**22**	Pn	**Pn**	**00 57 41.3**	**-1.8**
	0.1nm,0.3s,baz=209,slow=9.1,SNR=4.0						
ESDC	**Sonseca Array**	**19.30**	**284**	P	**Pn**	**00 58 44.5**	**-0.2**
	baz=91,slow=12,SNR=4.6						
	0.8nm,1.0s						
HFS	**Hagfors**	**22.97**	**351**	P	**P**	**00 59 23.4**	**+0.5**
	1.7nm,0.6s,baz=165,slow=12,SNR=8.2						
	1.7nm,0.6s						
EKA	**Eskdalemuir Ar**	**23.94**	**325**	P	**P**	**00 59 31.5**	**-1.1**
	0.4nm,0.6s,baz=132,slow=9.6,SNR=4.0						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**24.10**	**6**	P	**P**	**00 59 32.4**	**-1.6**
	1.2nm,0.8s,baz=186,slow=10.0,SNR=6.6						
	1.2nm,0.8s						
NOA	**NORSAR Array B**	**24.19**	**349**	P	**P**	**00 59 34.8**	**0.0**
	0.3nm,0.6s,baz=170,slow=9.4,SNR=2.0						
	0.3nm,0.6s						
DBIC	**Dimbokro**	**38.54**	**223**	LR	LR	01 17 54.8	
	comp=Z,51nm,18.1s,baz=144,slow=37						
BBTS	**Babate**	**40.06**	**245**	LR	LR	01 20 24.3	
	comp=Z,62nm,21.2s,baz=64,slow=39						
MKAR	**Makanchi Array**	**45.53**	**58**	P	**P**	**01 02 39.4**	**+1.2**
	0.2nm,0.5s,baz=272,slow=9.0,SNR=3.8						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**46.01**	**48**	P	**P**	**01 02 40.6**	**-1.2**
	0.5nm,0.4s,baz=270,slow=7.4,SNR=2.0						
	0.5nm,0.4s						

*MEX **29** 00:55:28.8±0.5, 16.°65N×94.°33W, h114km±6km, MD4.2*
*GCG **29** 00:55:28.0±2.4, 16.°65N×94.°40W, h86km±40km, MD4.4*
ISC 29 00:55:25.2±1.2, 16.°62N±0.°04×94.°37W±0.°03, h132km±9km, n40, σ2.°70/74, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.68**	**314**	*e*P	**Pn**	**00 55 46.2**	**+0.5**
CMIG				*e*S	**Sn**	**00 55 59.8**	**-1.4**
UXUV	**UXUV**	**0.73**	**17**	*e*P	**Pn**	**00 55 46.5**	**+0.4**
UXUV				*e*S	**Sn**	**00 55 59.9**	**-1.9**
TGIG		**1.21**	**82**	*e*P	**Pn**	**00 55 51.1**	**+0.7**
TGIG				*e*S	**Sn**	**00 56 07.8**	**-1.8**
TGIG		**1.21**	**82**	*i* P	**Pn**	**00 55 50.8**	**+0.4**
TGIG				*i* S	**Sn**	**00 56 07.8**	**-1.8**
TGBT	**Tuxtla Gutierr**	**1.24**	**83**	*e*S	**Sn**	**00 56 08.4**	**-1.6**
PCIG		**1.44**	**129**	*e*P	**Pn**	**00 55 53.8**	**+1.1**
PCIG				*e*S	**Sn**	**00 56 13.3**	**-0.5**
NEUV	**Arroyo Zacate**	**1.74**	**309**	*e*P	**Pn**	**00 55 57.4**	**+1.2**
NEUV				*e*S	**Sn**	**00 56 16.2**	**-3.8**
HUIG	**Huatulco**	**1.87**	**243**	*e*P	**Pn**	**00 55 57.1**	**-0.7**
HUIG				*e*S	**Sn**	**00 56 21.1**	**-1.5**
HUIG	**Huatulco**	**1.87**	**243**	*i* P	**Pn**	**00 55 57.0**	**-0.7**
HUIG				*i* S	**Sn**	**00 56 21.6**	**-1.0**
CCIG	**Comitan**	**2.17**	**99**	*e*P	**Pn**	**00 56 03.1**	**+1.4**
CCIG				*e*S	**Sn**	**00 56 26.6**	**-2.9**
CCIG	**Comitan**	**2.17**	**99**	*i* P	**Pn**	**00 56 03.0**	**+1.4**
CCIG				*i* S	**Sn**	**00 56 30.5**	**+1.0**
OXLC	**Oaxaca**	**2.27**	**282**	*e*P	Pn	00 56 07.4	+4.5
OXLC				*e*S	**Sn**	**00 56 33.5**	**+1.7**
OXBJ	**Oaxaca**	**2.29**	**281**	*e*P	**Pn**	**00 56 03.2**	**+0.1**
OXBJ				*e*S	**Sn**	**00 56 31.0**	**-1.2**
VHO	**Vista Hermosa**	**2.30**	**282**	*e*P	**Pn**	**00 56 05.7**	**+2.4**
VHO				*e*S	**Sn**	**00 56 33.1**	**+0.7**
PATR	**El Naranjo**	**2.54**	**126**	*e*P	**Pn**	**00 56 08.2**	**+1.8**
PATR				*e*S	**Sn**	**00 56 37.5**	**-0.4**
PAVE	**Pavencul**	**2.55**	**124**	*e*P	**Pn**	**00 56 08.4**	**+2.0**
PAVE				*e*S	**Sn**	**00 56 35.0**	**-3.0**
THIG		**2.65**	**130**	*e*S	**Sn**	**00 56 40.7**	**+0.8**
PEIG	**Puerto Escondi**	**2.73**	**257**	*e*P	**Pn**	**00 56 08.4**	**-0.2**
PEIG				*e*S	**Sn**	**00 56 40.0**	**-1.9**
TOIG	**Toxpalan**	**2.96**	**300**	*e*P	**Pn**	**00 56 13.9**	**+2.4**
TOIG				*e*S	**Sn**	**00 56 47.7**	**+0.5**
YOIG	**Yosondua**	**3.05**	**275**	*e*P	**Pn**	**00 56 15.3**	**+2.4**
YOIG				*e*S	**Sn**	**00 56 48.0**	**-1.5**
TXIG	**Tlaxiaco**	**3.31**	**281**	*e*P	**Pn**	**00 56 19.1**	**+2.9**
TXIG				*e*S	**Sn**	**00 56 51.3**	**-4.3**
TPIG	**Tehuac#an**	**3.37**	**303**	*e*P	**Pn**	**00 56 18.8**	**+2.0**
TPIG				*e*S	**Sn**	**00 56 56.0**	**-0.8**
HLIG	**Huajuapan de L**	**3.49**	**291**	*e*P	**Pn**	**00 56 21.8**	**+3.2**
HLIG				*e*S	**Sn**	**00 56 59.2**	**-0.6**
JAUV	**Jalcomulco**	**3.58**	**320**	*e*P	**Pn**	**00 56 20.5**	**+1.0**
JAUV				*e*S	**Sn**	**00 56 58.1**	**-3.4**
PNIG	**Pinotepa**	**3.61**	**267**	*e*P	**Pn**	**00 56 20.8**	**+0.9**
PNIG				*e*S	Sn	00 56 53.6	-8.7
STG8	**El Palmar, Qui**	**3.63**	**126**	*i* P	**Pn**	**00 56 18.3**	**-2.1**
STG8				*i* S	**Sn**	**00 56 57.4**	**-5.6**
LVIG	**Laguna Verde**	**3.65**	**328**	*e*P	**Pn**	**00 56 19.8**	**-0.6**
LVIG				*e*S	**Sn**	**00 56 59.3**	**-3.8**
STG0	**El Palmar, Qui**	**3.65**	**126**	*i* P	**Pn**	**00 56 18.5**	**-2.1**
STG0				*i* S	**Sn**	**00 56 58.3**	**-5.1**
POHV	**Veracruz**	**3.69**	**312**	*e*S	**Sn**	**00 56 58.0**	**-6.8**
FTIG	**Fresnillo de T**	**3.81**	**290**	*e*P	**Pn**	**00 56 26.4**	**+3.7**
FTIG				*e*S	**Sn**	**00 57 05.7**	**-1.5**
MGIG	**Malinaltepec**	**4.12**	**279**	*e*P	**Pn**	**00 56 29.4**	**+2.5**
MGIG				*e*S	**Sn**	**00 57 12.4**	**-2.2**
CRIG	**Cruz Grande**	**4.56**	**272**	*e*P	**Pn**	**00 56 33.6**	**+1.1**
CRIG				*e*S	**Sn**	**00 57 19.5**	**-5.3**
CXUV	**Coxquihui**	**4.67**	**320**	*e*P	**Pn**	**00 56 34.9**	**+0.9**
CXUV				*e*S	**Sn**	**00 57 25.5**	**-2.0**
PPM	**Popocatepetl**	**4.72**	**302**	*e*P	Pn	00 56 40.6	+5.4
PPM				*e*S	**Sn**	**00 57 28.7**	**-0.8**
YAIG	**Yautepec**	**5.00**	**297**	*e*P	**Pn**	**00 56 42.7**	**+4.2**
YAIG				*e*S	**Sn**	**00 57 33.3**	**-2.1**
DAIG	**Los Arroyos**	**5.07**	**275**	*e*P	**Pn**	**00 56 41.0**	**+1.7**
DAIG				*e*S	**Sn**	**00 57 35.1**	**-1.9**
MEIG	**Mezcala**	**5.18**	**285**	*e*P	**Pn**	**00 56 44.5**	**+3.7**
MEIG				*e*S	**Sn**	**00 57 36.7**	**-3.0**
PLIG	**Platanillo**	**5.20**	**291**	*e*P	**Pn**	**00 56 45.4**	**+4.2**
PLIG				*e*S	**Sn**	**00 57 36.1**	**-4.2**
CAIG	**El Cayaco**	**5.66**	**275**	*e*P	**Pn**	**00 56 46.5**	**-0.8**
CAIG				*e*S	**Sn**	**00 57 44.3**	**-6.8**
ARIG	**Puente Sto Nin**	**5.94**	**287**	*e*P	**Pn**	**00 56 54.9**	**+4.0**
ARIG				*e*S	**Sn**	**00 57 53.3**	**-4.5**

RSNC 29 01:21:30.3±0.0, 7.°N±1.°×7.°3W±.°, h148km±2km, M2.7, mb3.2, mB5.9, ML2.5, MLv3.2, Mw(mB)5.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**197**	P	Pn	01 21 50.4	-0.3
BARC				S	Sn	01 22 04.2	-2.0
BRJC	**Barrancabermej**	**0.64**	**286**	P	Pn	01 21 52.1	-0.1
BRJC				S	Sn	01 22 09.0	+0.1
PAMC	**Pamplona, Colo**	**0.68**	**38**	P	Pn	01 21 53.2	+0.1
PAMC				S	Sn	01 22 09.9	-0.4
RUSC	**La Rusia**	**0.90**	**178**	P	Pn	01 21 54.3	-0.4
RUSC				S	Sn	01 22 12.9	-0.3
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	P	Pn	01 21 56.9	-1.3
PTBC				S	Sn	01 22 18.1	-1.4
TAMC	**Tame, Arauca**	**1.37**	**105**	P	Pn	01 21 58.7	+0.3
TAMC				S	Sn	01 22 20.2	+0.3
OCAC	**Ocana**	**1.44**	**352**	P	Pn	01 21 58.6	-0.7
OCAC				S	Sn	01 22 20.2	-1.3
ZARC	**Zaragoza, Cauc**	**1.86**	**292**	P	Pn	01 22 03.5	-0.2
ZARC				S	Sn	01 22 29.7	+0.4
NORC	**Norcasia**	**2.13**	**235**	P	Pn	01 22 06.3	-0.6
NORC				S	Sn	01 22 34.6	-0.4
CHIC	**Chingaza**	**2.24**	**196**	P	Pn	01 22 08.6	0.0
CHIC				S	Sn	01 22 38.3	+0.3
ROSC	**El Rosal**	**2.28**	**212**	P	Pn	01 22 10.2	+1.1
ROSC				S	Sn	01 22 40.5	+1.6
UREC	**San Jos de Ur**	**2.57**	**292**	P	Pn	01 22 10.8	-1.5
UREC				S	Sn	01 22 42.2	-2.4
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	01 22 14.9	+0.3
PTGC	**Puerto Gaitan,**	**2.76**	**159**	P	Pn	01 22 13.5	-1.2
PTGC				S	Sn	01 22 46.7	-2.2
CBOC	**Ciudad Bolivar**	**3.02**	**252**	P	Pn	01 22 18.3	+0.3
CBOC				S	Sn	01 22 55.0	+0.1
DBBC	**Dabeiba**	**3.08**	**274**	P	Pn	01 22 18.3	-0.3
DBBC				S	Sn	01 22 55.0	-1.0
SDV	**Santo Domingo**	**3.22**	**50**	P	Pn	01 22 20.0	-0.6
SDV				S	Sn	01 22 57.6	-1.9
ANIL	**Santa Ana**	**3.23**	**225**	P	Pn	01 22 21.8	+1.0
ANIL				S	Sn	01 23 01.1	+1.2
ARGC	**Ariguani, Magd**	**3.24**	**340**	P	Pn	01 22 22.1	+1.5
ARGC				S	Sn	01 23 00.2	+0.6
PRAC	**Prado**	**3.53**	**210**	P	Pn	01 22 23.7	-0.8
PRAC				S	Sn	01 23 06.5	-0.1
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	01 22 25.2	+0.2
ORTC				S	Sn	01 23 08.0	+0.7
APAC	**Apartado, Choc**	**3.60**	**288**	P	Pn	01 22 24.7	-0.6
APAC				S	Sn	01 23 07.0	-1.0
SJCC	**San Jacinto, C**	**3.69**	**327**	P	Pn	01 22 24.8	-1.8
SJCC				S	Sn	01 23 06.3	-3.9
URMC	**La Uribe, Meta**	**3.75**	**200**	P	Pn	01 22 27.6	+0.3
URMC				S	Sn	01 23 11.6	0.0
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	P	Pn	01 22 31.1	-2.1
CRJC				S	Sn	01 23 17.3	-4.9
YOTC	**Yotoco, Valle**	**4.26**	**229**	P	Pn	01 22 33.4	-0.7
YOTC				S	Sn	01 23 22.5	-1.1
MACC	**Macarena, Meta**	**4.68**	**189**	P	Pn	01 22 37.7	-1.8
MACC				S	Sn	01 23 29.6	-3.9
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	01 22 41.1	-2.6
	0.1nm13nm,1.1s						
MALC	**Bahia Malaga**	**5.03**	**237**	P	Pn	01 22 45.2	+1.1
MALC				S	Sn	01 23 44.4	+2.8
FLOC	**Florencia**	**5.76**	**206**	P	Pn	01 22 53.2	-0.8
	3.9nm,1.8s						
FLOC				S	Sn	01 23 59.8	+0.5
	3.9nm,1.8s						
BBAC	**Balboa, Cauca**	**6.28**	**221**	P	Pn	01 23 02.0	+1.0

ROM 29 01:40:33.6±0.1, 37.°794N±0.°003×14.°815E±0.°005, h33km, ML1.9/16, 1C, Error ellipse: s-maj=0.4km s-min=0.2km az=75.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPZF	**Pizzo Felice**	**0.04**	**48**	P	Pb	01 40 39.0	-0.3
EPZF				S	Sb	01 40 43.3	0.0
EPZF				AML	AML		
	comp=E,1130μm,1.4s						
EPZF				AML	AML		
	comp=N,2225μm,0.4s						
EPZF				AML	AML		
	comp=E,1130μm,0.6s						
EMSG	**Monte Spagnolo**	**0.11**	**76**	P	Pb	01 40 39.3	-0.4
EMSG				S	Sb	01 40 43.9	+0.1
EMSG				AML	AML		
	comp=E,1585μm,0.6s						
EMSG				AML	AML		
	comp=N,1292μm,0.6s						
ECHR	**Santa Chiara**	**0.13**	**144**	P	Pb	01 40 39.6	-0.2
ECHR				S	Sb	01 40 44.5	+0.6
ESLN	**Serra La Nave**	**0.16**	**128**	P	Pb	01 40 40.1	0.0
MNO	**Monte Soro**	**0.17**	**326**	P	Pb	01 40 40.3	+0.1
EMCN	**Etna Monte Con**	**0.17**	**91**	P	Pb	01 40 40.0	-0.2
ESML	**S. M. di Licod**	**0.18**	**164**	P	Pb	01 40 40.0	0.0
ESML				AML	A

MUCR AML AML
comp=E,64μm,0.5s
NOV Novara 0.32 41 P Pb 01 41 29.4 +0.4
NOV S Sb 01 41 34.5 +0.5
MSFR San Fratello 0.33 318 P Pb 01 41 28.9 -0.1
MSFR S Sb 01 41 34.6 +0.4
AIO Antillo 0.34 58 P Pb 01 41 29.6 +0.4
HLNI Lentini 0.44 180 P Pb 01 41 30.9 +0.2
HLNI S Sb 01 41 38.0 +1.0
HLNI AML AML
comp=E,53μm,2.2s
HLNI AML AML
comp=N,24μm,1.0s

*IDC **29** 01:46:09.1±1.4, 33°.76N×90°.83E, h0km, mb3.5/6, mbtmp3.5/8, ML4.2/1, Error ellipse: s-maj=62.3km s-min=22.4km az=60.0*
ISC 29 01:46:13.8±1.0, 33°.7N±0°.2×90°.8E±0°.3, h35km, n10, σ1§27/10, mb3.5/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.55**	**336**	Pn	**Pn**	**01 49 35.7**	**-1.4**
	0.1nm,0.3s,baz=152,slow=13,SNR=2.1						
AAK	**Ala-Archa**	**15.57**	**310**	Pn	**P**	**01 49 55.5**	**+0.7**
	0.1nm,0.3s,baz=134,slow=13,SNR=10						
CMAR	**Chiang Mai Arr**	**16.88**	**152**	Pn	**Pn**	**01 50 05.5**	**-1.8**
	0.3nm,0.3s,baz=336,slow=36,SNR=1.3						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**19.12**	**336**	P	**Pn**	**01 50 33.4**	**-1.2**
	0.6nm,0.9s,baz=141,slow=12,SNR=5.9						
ZALV	**Zalesovo Beam**	**20.64**	**350**	P	**P**	**01 50 50.2**	**+0.1**
	0.6nm,0.5s,baz=151,slow=9.1,SNR=4.4						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**24.17**	**329**	P	**P**	**01 51 27.6**	**+1.0**
	0.5nm,0.5s,baz=139,slow=11,SNR=2.7						
	0.5nm,0.5s						
AKASG	**Malin Array Be**	**47.24**	**310**	P	**P**	**01 54 43.1**	**-0.2**
	0.5nm,0.7s,baz=80,slow=7.0,SNR=2.3						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**70.30**	**138**	P	**P**	**01 57 25.0**	**+1.2**
	1.0nm,0.8s,baz=320,slow=7.0,SNR=5.5						
	1.0nm,0.8s						
ILAR	**Eielson Array**	**72.02**	**22**	P	**P**	**01 57 33.4**	**-0.4**
	0.5nm,1.0s,baz=319,slow=4.0,SNR=2.5						
	0.5nm,1.0s						
YKA	**Yellowknife Ar**	**81.94**	**12**	P	**P**	**01 58 30.7**	**+1.2**
	0.3nm,0.9s,baz=322,slow=5.4,SNR=4.2						
	0.3nm,0.9s						

*ISK **29** 02:03:50.6, 36°.17N×28°.39E, h64km±1km, ML2.7/26*
*AFAD **29** 02:03:51.2, 36°.22N×28°.39E, h58km±4km, ML2.3*
*NIC **29** 02:03:51.5, 35°.90N×28°.53E, h52km±5km, Ml2.7/12*
*THE **29** 02:03:52.2, 36°.13N×28°.43E, h57km, ML2.5/3, Error ellipse: s-maj=1.4km s-min=0.4km az=351.0*
*ATH **29** 02:03:52.0, 35°.96N×28°.46E, h33km±6km, ML2.5/4, Manual Solution by A.Moschou First location: 2019/04/29 02:05:25, This location: 2019/04/29 11:46:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 6 km*
ISC 29 02:03:50.9±1.2, 36°.12N±0°.03×28°.43E±0°.02, h64km±6km, n60, σ0§77/94, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.26**	**291**	P	**Pn**	**02 04 01.3**	**+0.1**
ARG				S	**Sn**	**02 04 08.5**	**-0.2**
	465nm,0.1s						
ARG	**Arkhangelos**	**0.26**	**291**	Pg	**Pn**	**02 04 01.1**	**-0.1**
ARG				Sg	**Sn**	**02 04 08.6**	**-0.2**
ARG	**Arkhangelos**	**0.26**	**291**	P	**Pn**	**02 04 01.9**	**+0.7**
ARG				AML	AML	02 04 08.7	
	1.1nm,0.3s						
ARG				AML	AML	02 04 09.9	
	0.8nm,0.2s						
ARG	**Arkhangelos**	**0.26**	**291**	P	**Pn**	**02 04 01.2**	**+0.1**
ARG				S	**Sn**	**02 04 07.1**	**-1.6**
RODB	**Rodos**	**0.36**	**333**	P	**Pn**	**02 04 02.3**	**+0.4**
RODB				S	**Sn**	**02 04 10.2**	**+0.2**
TURN	**Turunc**	**0.67**	**347**	P	**Pn**	**02 04 05.4**	**+0.3**
TURN				S	**Sn**	**02 04 15.1**	**-0.2**
TURN				*i* AML	AML	02 04 16.0	
	comp=E,168nm,0.5s						
TURN				*i* AML	AML	02 04 19.0	
	comp=N,128nm,0.4s						
DALY	**Dalyan (Mula)**	**0.71**	**15**	Pg	**Pn**	**02 04 05.8**	**+0.2**
DALY				Sg	**Sn**	**02 04 16.3**	**-0.1**
FETY	**Fethiye**	**0.73**	**46**	Pg	**Pn**	**02 04 05.9**	**0.0**
FETY				Sg	**Sn**	**02 04 17.0**	**+0.1**
SABU	**Mula-Dalaman**	**0.82**	**32**	P	**Pn**	**02 04 07.0**	**0.0**
SABU				S	**Sn**	**02 04 18.0**	**-0.8**
SABU				*i* AML	AML	02 04 19.0	
	comp=N,121nm,0.3s						
SABU				*i* AML	AML	02 04 19.0	
	comp=E,108nm,0.2s						
DAT	**Datca**	**0.91**	**312**	Pg	**Pn**	**02 04 08.0**	**-0.1**
DAT				Sg	**Sn**	**02 04 20.4**	**-0.5**
KSL	**Kastellorizon**	**0.94**	**88**	P	**Pn**	**02 04 08.8**	**+0.5**
KSL				S	**Sn**	**02 04 21.4**	**+0.2**
	122nm,0.3s						
KSL	**Kastellorizon**	**0.94**	**88**	P	**Pn**	**02 04 08.8**	**+0.5**
KSL				S	**Sn**	**02 04 21.3**	**+0.1**
KSL				AML	AML	02 04 22.4	
	0.3nm,0.3s						
KSL				AML	AML	02 04 23.9	
	0.2nm,0.2s						
KSL	**Kastellorizon**	**0.94**	**88**	P	**Pn**	**02 04 08.8**	**+0.5**
KSL				S	**Sn**	**02 04 21.2**	**+0.1**
YAZI	**Mula-Dat§a-**	**0.96**	**306**	P	**Pn**	**02 04 08.9**	**+0.2**
YAZI				S	**Sn**	**02 04 21.2**	**-0.6**
YAZI				*i* AML	AML	02 04 22.0	
	comp=E,106nm,0.2s						
YAZI				*i* AML	AML	02 04 24.0	
	comp=N,92nm,0.9s						
YER	**Yerkesik**	**1.01**	**353**	Pg	**Pn**	**02 04 10.1**	**+0.7**
CAME	**Cameli-Denizli**	**1.08**	**40**	Pg	**Pn**	**02 04 10.9**	**+0.6**
NISR	**Nisiros**	**1.16**	**295**	P	**Pn**	**02 04 11.4**	**+0.3**
KARP	**Karpathos**	**1.18**	**241**	P	**Pn**	**02 04 12.2**	**+0.7**
KARP				S	**Sn**	**02 04 27.2**	**+0.4**
	512nm,0.1s						
KARP	**Karpathos**	**1.18**	**241**	Pn	**Pn**	**02 04 11.9**	**+0.4**
KARP				Sn	**Sn**	**02 04 27.3**	**+0.4**
KARP	**Karpathos**	**1.18**	**241**	P	**Pn**	**02 04 12.1**	**+0.7**
KARP				AML	AML	02 04 27.3	
	0.9nm,0.1s						
KARP				S	**Sn**	**02 04 27.4**	**+0.6**
KARP				AML	AML	02 04 27.9	
	1.1nm,0.2s						
KARP	**Karpathos**	**1.18**	**241**	P	**Pn**	**02 04 12.2**	**+0.7**
KARP				S	**Sn**	**02 04 26.7**	**-0.1**
BDRM	**Kayabasi**	**1.23**	**320**	P	**Pn**	**02 04 12.2**	**+0.1**
BDRM				S	**Sn**	**02 04 26.9**	**-1.1**
BDRM				*i* AML	AML	02 04 28.0	
	comp=E,43nm,0.3s						
MLSB	**Milas**	**1.28**	**336**	Pn	**Pn**	**02 04 12.8**	**0.0**
MLSB				Sn	**Sn**	**02 04 28.9**	**-0.3**
BODT	**Bodrum**	**1.30**	**316**	Pn	**Pn**	**02 04 12.9**	**-0.1**
BODT				Sn	**Sn**	**02 04 29.2**	**-0.4**
ELL	**Elmali**	**1.35**	**62**	Pn	**Pn**	**02 04 14.8**	**+1.1**
ELL				Sn	**Sn**	**02 04 32.1**	**+1.2**
ELL	**Elmali**	**1.35**	**62**	P	**Pn**	**02 04 14.9**	**+1.1**
ELL				S	**Sn**	**02 04 33.1**	**+2.2**
ELL				AML	AML	02 04 33.8	
	0.7nm,0.6s						
ELL				AML	AML	02 04 35.0	
	0.9nm,0.5s						
YKAV	**Yalikavak-Bodr**	**1.36**	**318**	Pn	**Pn**	**02 04 13.7**	**-0.1**
APMY	**Acipayam-Deniz**	**1.52**	**27**	Pn	**Pn**	**02 04 16.5**	**+0.5**
APMY				Sn	**Sn**	**02 04 35.2**	**+0.3**
AYDN	**Tasoluk**	**1.59**	**344**	P	**Pn**	**02 04 17.9**	**+0.8**
AYDN				S	**Sn**	**02 04 36.7**	**-0.1**
AYDN				*i* AML	AML	02 04 39.0	
	comp=N,78nm,0.2s						
AYDN				*i* AML	AML	02 04 39.0	
	comp=E,44nm,0.4s						
DDIM	**Aydin, Didim**	**1.64**	**325**	P	**Pn**	**02 04 17.5**	**0.0**
DDIM				S	**Sn**	**02 04 35.9**	**-1.7**
DDIM				*i* AML	AML	02 04 37.0	
	comp=N,39nm,0.7s						
DDIM				*i* AML	AML	02 04 38.0	
	comp=E,38nm,0.5s						
NAZL	**Nazilli-Aydin**	**1.84**	**357**	Pn	**Pn**	**02 04 20.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.87**	**347**	Pn	**Pn**	**02 04 20.7**	**-0.1**
AYDB				Sn	**Sn**	**02 04 43.1**	**-0.3**
ZKR	**Zakros**	**2.06**	**241**	Pn	**Pn**	**02 04 24.1**	**+0.8**
ZKR				Sn	**Sn**	**02 04 48.8**	**+0.8**
ODEM	**Odemis-Izmir**	**2.17**	**353**	Pn	**Pn**	**02 04 24.5**	**-0.2**
BCK	**Bucak**	**2.19**	**52**	Pn	**Pn**	**02 04 26.4**	**+1.4**
BASM	**Basmaki-Afyon**	**2.21**	**35**	Pn	**Pn**	**02 04 25.7**	**+0.3**
KULA	**Kula-Manisa**	**2.39**	**4**	Pn	**Pn**	**02 04 27.6**	**-0.2**
THR6	**Thira Island,**	**2.46**	**276**	P	**Pn**	**02 04 29.1**	**+0.4**
THR3	**Thira Island,**	**2.46**	**278**	P	**Pn**	**02 04 29.1**	**+0.4**
THR9	**Santorini-Faro**	**2.49**	**276**	P	**Pn**	**02 04 29.7**	**+0.6**
THR5	**Thira Island,**	**2.51**	**278**	P	**Pn**	**02 04 29.8**	**+0.5**
BLCB	**Balcova**	**2.51**	**334**	Pn	**Pn**	**02 04 29.2**	**-0.2**
SHUT	**Suhut-Afyon**	**2.96**	**34**	Pn	**Pn**	**02 04 35.6**	**+0.1**
IDI	**Anoyia**	**3.00**	**255**	P	**Pn**	**02 04 36.3**	**+0.2**
IDI	**Anoyia**	**3.00**	**255**	Pn	**Pn**	**02 04 36.1**	**0.0**
IDI	**Anoyia**	**3.00**	**255**	P	**Pn**	**02 04 36.3**	**+0.2**
IDI				S	**Sn**	**02 05 09.7**	**-1.2**
SEYD	**Seydisehir-KON**	**3.02**	**64**	Pn	**Pn**	**02 04 38.4**	**+2.0**
DKL	**Dikili**	**3.18**	**338**	Pn	**Pn**	**02 04 38.6**	**+0.1**
AKMS	**Akamas**	**3.37**	**108**	P	**Pn**	**02 04 40.4**	**-0.7**
AKMS				S	**Sn**	**02 05 18.3**	**-1.6**
AKMS				AML	AML	02 05 19.3	
	0.1nm,0.1s						
AKMS				AML	AML	02 05 19.4	
	0.1nm,0.4s						
HDMB	**Hadim**	**3.37**	**74**	Pn	**Pn**	**02 04 43.2**	**+1.9**
ALFC	**Alefka**	**3.53**	**105**	P	**Pn**	**02 04 42.5**	**-0.9**
ALFC				S	**Sn**	**02 05 22.7**	**-1.2**
ALFC				AML	AML	02 05 24.2	
	0.1nm,0.2s						
ALFC				AML	AML	02 05 25.7	
	0.1nm,0.2s						
NATA	**Nata**	**3.64**	**110**	P	**Pn**	**02 04 44.6**	**-0.2**
NATA				S	**Sn**	**02 05 25.8**	**-0.7**
NATA				AML	AML	02 05 26.5	
	0.3nm,0.3s						
NATA				AML	AML	02 05 27.2	
	0.3nm,0.4s						
YAYO	**Edremit-Balk**	**3.64**	**343**	Pn	**Pn**	**02 04 45.3**	**+0.5**
IMMV	**Iera Moni Meta**	**3.67**	**261**	Pn	**Pn**	**02 04 46.8**	**+1.6**
GVD	**Gavdhos**	**3.77**	**251**	Pn	**Pn**	**02 04 47.7**	**+1.2**
TROD	**Troodos**	**3.81**	**107**	P	**Pn**	**02 04 46.2**	**-1.0**
TROD				S	**Sn**	**02 05 29.4**	**-1.4**
TROD				AML	AML	02 05 35.6	
TROD				AML	AML	02 05 36.8	
APOL	**The Sanctuary**	**3.90**	**111**	P	**Pn**	**02 04 48.1**	**-0.2**
APOL				S	**Sn**	**02 05 31.6**	**-1.3**
APOL				AML	AML	02 05 32.4	
	0.1nm,0.1s						
APOL				AML	AML	02 05 33.6	
	0.1nm,0.2s						
ASGA	**Asgata**	**4.16**	**107**	P	**Pn**	**02 04 51.3**	**-0.5**
ASGA				S	**Sn**	**02 05 38.1**	**-1.0**
ASGA				AML	AML	02 05 40.6	
	0.1nm,0.4s						
ASGA				AML	AML	02 05 42.0	
CSS	**Mathiatis**	**4.16**	**105**	P	**Pn**	**02 04 51.3**	**-0.7**
CSS				AML	AML	02 05 42.6	
CSS				AML	AML	02 05 43.3	
MVOU	**Mavrovouni**	**4.38**	**103**	P	**Pn**	**02 04 55.1**	**+0.1**
MVOU				AML	AML	02 05 49.0	
MVOU				AML	AML	02 05 49.1	

*MEX **29** 02:08:25.1±0.3, 14°.74N×93°.08W, h20km±24km, MD3.9*
*GCG **29** 02:08:25.2±0.5, 15°.22N×91°.60W, h154km±19km, MD3.9*
ISC 29 02:08:20.9±1.8, 14°.63N±0°.10×92°.98W±0°.08, h66km±27km, n11, σ2§16/22, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATR	**El Naranjo**	**0.87**	**56**	*e*P	**Pn**	**02 08 39.4**	**+1.6**
PATR				*e*S	**Sn**	**02 08 50.5**	**+0.2**
PAVE	**Pavencul**	**0.96**	**54**	*e*P	**Pn**	**02 08 40.6**	**+1.7**
PAVE				*e*S	**Sn**	**02 08 53.0**	**+0.7**
PCIG		**1.10**	**348**	*i* P	**Pn**	**02 08 40.4**	**0.0**
PCIG				*i* S	**Sn**	**02 08 52.0**	**-2.9**
STG8	**El Palmar, Qui**	**1.59**	**96**	*e*P	**Pn**	**02 08 47.6**	**+0.5**
STG8				*e*S	**Sn**	**02 09 04.9**	**-2.1**
STG5	**El Palmar, Qui**	**1.60**	**98**	*e*P	**Pn**	**02 08 47.8**	**+0.6**
STG5				*e*S	**Sn**	**02 09 05.1**	**-1.9**
STG0	**El Palmar, Qui**	**1.60**	**97**	*e*P	**Pn**	**02 08 48.0**	**+0.7**
STG0				*e*S	**Sn**	**02 09 05.4**	**-1.8**
CCIG	**Comitan**	**1.84**	**26**	*e*P	**Pn**	**02 08 52.3**	**+1.9**
CCIG				*i* S	**Sn**	**02 09 08.9**	**-3.9**
CCIG	**Comitan**	**1.84**	**26**	*e*P	**Pn**	**02 08 52.7**	**+2.2**
CCIG				*e*S	**Sn**	**02 09 14.6**	**+1.7**
TGIG		**2.15**	**356**	*e*P	**Pn**	**02 08 55.0**	**+0.5**
TGIG				*e*S	**Sn**	**02 09 15.2**	**-4.9**
UXUV	**UXUV**	**2.90**	**337**	*e*P	**Pn**	**02 09 05.8**	**+1.0**
UXUV				*e*S	**Sn**	**02 09 37.8**	**-0.6**
CMIG	**Matias Romero**	**3.06**	**324**	*e*P	**Pn**	**02 09 09.0**	**+2.1**
CMIG				*e*S	**Sn**	**02 09 42.9**	**+0.6**

*IDC **29** 02:16:29.2±0.8, 54°.60S×127°.66W, h0km, mb3.9/6, mbtmp3.9/6, MS3.6/8, Error ellipse: s-maj=35.3km s-min=22.9km az=138.0*
ISC 29 02:16:30.9±0.8, 54°.6S±0°.2×127°.6W±0°.2, h10km, n32, σ1§18/11, mb3.9/6, MS3.6/8, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**32.23**	**134**	LR	LR	02 31 36.6	
	comp=Z,142nm,20.2s,baz=205,slow=28						
VNDA	**Vanda**	**33.27**	**202**	P	**P**	**02 23 08.7**	**+0.9**
	0.7nm,0.9s,baz=110,slow=5.2,SNR=6.1						
VNDA				LR	LR	02 33 16.5	
	comp=Z,78nm,21.0s,baz=176,slow=30						
	0.7nm,0.9s						
QSPA	**South Pole Qui**	**35.57**	**180**	P	**P**	**02 23 28.4**	**+0.4**
	2.3nm,0.9s,baz=80,slow=7.0,SNR=6.9						
QSPA				LR	LR	02 35 00.5	
	comp=Z,125nm,22.0s,baz=92,slow=31						
	2.3nm,0.9s						
H03S2	**Juan Fernandez**	**39.60**	**79**	T	T	03 05 53.0	
	baz=220,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**39.61**	**79**	T	T	03 06 00.2	
	baz=220,slow=74,SNR=9.8						
H03S3	**Juan Fernandez**	**39.62**	**79**	T	T	03 06 02.0	
	baz=220,slow=74,SNR=11						
PLCA	**Paso Flores**	**39.73**	**94**	LR	LR	02 37 04.6	
	comp=Z,61nm,18.2s,baz=209,slow=31						
H03N3	**Juan Fernandez**	**39.88**	**78**	T	T	03 06 17.7	
	baz=224,slow=72,SNR=84						
H03N2	**Juan Fernandez**	**39.89**	**78**	T	T	03 06 07.4	
	baz=224,slow=72,SNR=123						
H03N1	**Juan Fernandez**	**39.90**	**78**	T	T	03 06 16.7	
	baz=224,slow=72,SNR=105						
PPT	**Papeete**	**40.65**	**327**	LR	LR	02 34 51.5	
	comp=Z,39nm,19.9s,baz=168,slow=27						
SNAA	**Sanae**	**48.19**	**160**	LR	LR	02 45 28.0	
	comp=Z,72nm,18.9s,baz=50,slow=36						
CPUP	**Villa Florida**	**57.66**	**91**	LR	LR	02 47 34.6	
	comp=Z,91nm,18.0s,baz=217,slow=32						
LPAZ	**La Paz**	**59.31**	**74**	P	**P**	**02 26 32.8**	**-0.8**
	4.9nm,1.1s,baz=193,slow=3.5,SNR=10						
	4.9nm,1.1s						
ATAH	**Atahualpa**	**61.48**	**59**	LR	LR	02 46 29.7	
	comp=Z,91nm,21.9s,baz=189,slow=29						
ASAR	**Alice Springs**	**75.76**	**249**	P	**P**	**02 28 15.8**	**-1.0**
	0.7nm,0.8s,baz=148,slow=5.5,SNR=5.2						
	0.7nm,0.8s						
H01W1	**Cape Leeuwin H**	**76.29**	**228**	T	T	03 52 53.9	
	baz=148,slow=76,SNR=8.7						
H01W2	**Cape Leeuwin H**	**76.29**	**228**	T	T	03 52 52.8	
	baz=148,slow=76,SNR=7.5						
H01W3	**Cape Leeuwin H**	**76.31**	**228**	T	T	03 53 02.6	
	baz=148,slow=76,SNR=7.2						
WRA	**Warramunga Arr**	**78.51**	**252**	P	**P**	**02 28 31.6**	**-0.7**
	2.2nm,1.1s,baz=138,slow=5.6,SNR=4.6						
	2.2nm,1.1s						
TXAR	**Lajitas Array**	**86.11**	**21**	P	**P**	**02 29 13.5**	**+1.8**
	0.5nm,0.9s,baz=171,slow=8.6,SNR=4.1						
	0.5nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**91.67**	**300**	T	T	04 11 46.5	
	baz=148,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**91.68**	**300**	T	T	04 11 42.2	
	baz=148,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**91.68**	**300**	T	T	04 11 47.1	
	baz=148,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**92.60**	**301**	T	T	04 12 56.4	
	baz=149,slow=76,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**92.60**	**301**	T	T	04 12 54.9	
	baz=149,slow=76,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**92.62**	**301**	T	T	04 12 55.0	
	baz=149,slow=76,SNR=4.5						
ILAR	**Eielson Array**	**119.97**	**351**	PKP	**PKiKP**	**02 35 21.5**	**+1.4**
	0.5nm,0.9s,baz=214,slow=1.8,SNR=4.8						
EKA	**Eskdalemuir Ar**	**148.82**	**66**	PKPbc	**PKPbc**	**02 36 16.4**	**-1.0**
	1.4nm,0.9s,baz=268,slow=4.1,SNR=4.6						
DAVOX	**Davos/Dischmat**	**152.32**	**89**	PKPbc	**PKiKP**	**02 36 25.7**	**-0.8**
	1.3nm,0.7s,baz=344,slow=17,SNR=4.1						
MKAR	**Makanchi Array**	**159.63**	**260**	PKPab	**PKPab**	**02 37 06.5**	**-1.0**
	0.7nm,0.8s,baz=134,slow=3.5,SNR=3.9						
BRTR	**Keskin Array B**	**160.49**	**132**	PKPab	**PKPab**	**02 37 11.2**	**-0.3**
	0.8nm,1.0s,baz=191,slow=6.0,SNR=5.2						

*SNET **29** 02:21:34.8±1.6, 13°.33N×88°.04W, h5km, ML3.4*
*CATAC **29** 02:21:34.3±0.4, 13°.N±4°×.8°.8W±°, h4km±2km, M3.5/12, MLv3.5/12, Error ellipse: s-maj=9.4km s-min=2.9km az=13.3, confirmed*
ISC 29 02:21:35.0±1.1, 13°.24N±0°.06×88°.05W±0°.03, h11km±7km, n28, σ0§56/31, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.17**	**66**	*e*P	**Pg**	**02 21 38.4**	**-0.4**
LCND				*e*S	**Sg**	**02 21 41.6**	**+0.1**
LCND	**La Caada**	**0.17**	**66**	P	**Pg**	**02 21 38.6**	**-0.2**
CNCH	**Conchagua**	**0.22**	**80**	*e*P	**Pg**	**02 21 39.4**	**-0.2**
CNCH				*e*S	**Sg**	**02 21 43.0**	**+0.3**
CNCH	**Conchagua**	**0.22**	**80**	P	**Pg**	**02 21 39.4**	**-0.2**
CNRM	**Centro Naciona**	**0.26**	**334**	*e*P	**Pg**	**02 21 40.0**	**-0.4**
CNRM				*e*S	**Sg**	**02 21 44.5**	**+0.5**
CNRM	**Centro Naciona**	**0.26**	**334**	P	**Pg**	**02 21 39.9**	**-0.4**
BLLM	**Bellamira**	**0.27**	**318**	*e*P	**Pg**	**02 21 40.5**	**-0.1**
LCY	**Lacayo**	**0.30**	**308**	*e*P	**Pg**	**02 21 40.9**	**-0.2**
PACA	**Pacayal**	**0.35**	**311**	*e*P	**Pg**	**02 21 41.9**	**-0.1**
PACA	**Pacayal**	**0.35**	**311**	P	**Pg**	**02 21 41.9**	**-0.1**
CSGN	**Cosiguina Volc**	**0.55**	**118**	P	**Pg**	**02 21 45.0**	**-0.6**
CAHU	**Cacacuatique**	**0.55**	**344**	*e*P	**Pg**	**02 21 45.4**	**-0.4**
POTN	**Potosi Cosigui**	**0.58**	**114**	P	**Pg**	**02 21 45.9**	**-0.5**
SCLA	**Alcaldia de Sa**	**0.80**	**305**	P	**Pg**	**02 21 49.8**	**-0.7**
COEG	**Centro de Oper**	**0.89**	**295**	*e*S	**Sg**	**02 22 03.4**	**-0.3**
COEG	**Centro de Oper**	**0.89**	**295**	P	**Pg**	**02 21 51.5**	**-0.7**
PAVA	**Las Pavas**	**0.98**	**299**	P	**Pg**	**02 21 53.5**	**-0.4**
TGUH	**Tegucigalpa,Un**	**1.11**	**43**	P	**Pg**	**02 21 54.8**	**-1.6**
JAYA	**Jayaque - finc**	**1.42**	**287**	P	**Pn**	**02 22 00.5**	**-0.4**
JAYA	**Jayaque - finc**	**1.42**	**287**	S	**Sb**	**02 22 19.6**	**-0.2**
MTO3	**Montecristo**	**1.71**	**312**	P	**Pn**	**02 22 05.1**	**+0.1**
MTO3	**Montecristo**	**1.71**	**312**	S	**Sb**	**02 22 28.9**	**+0.5**
NUBE	**Las Nubes**	**1.80**	**292**	P	**Pn**	**02 22 05.6**	**-0.6**
NUBE	**Las Nubes**	**1.80**	**292**	S	**Sn**	**02 22 30.2**	**+1.0**
RCVN	**Varillal2**	**1.84**	**79**	P	**Pn**	**02 22 06.9**	**+0.2**
RCVN	**Varillal2**	**1.84**	**79**	S	**Sb**	**02 22 32.1**	**+0.1**
RCPN	**Sur Rio San Ju**	**1.93**	**81**	S	**Sn**	**02 22 33.1**	**+0.9**
RCPN	**Sur Rio San Ju**	**1.93**	**81**	P	**Pn**	**02 22 07.9**	**0.0**

*IDC **29** 02:21:47.3±1.9, 12°.44N×88°.06W, h0km, mb3.8/9, mbtmp3.8/10, ML3.3/1, MS3.0/2, Error ellipse: s-maj=60.4km s-min=25.6km az=42.0*
*SNET **29** 02:21:49.7±1.0, 12°.08N×88°.50W, h17km±12km, ML3.5*
*GCG **29** 02:21:51.6±1.6, 12°.35N×88°.38W, h15km±13km, MD4.3*
*NEIC **29** 02:21:53.4±2.0, 12°.40N±0°.04×88°.19W±0°.05, h35km±2km, mb4.4/53, Error ellipse: s-maj=8.9km s-min=5.8km az=119.0*
*UCR **29** 02:21:57.0±1.4, 12°.13N×88°.13W, h35km, MW3.9*
ISC 29 02:21:51.1±0.6, 12°.20N±0°.05×88°.46W±0°.04, h33km, n119, σ1§40/120, mb4.3/31, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**1.23**	**7**	*e*P	**Pb**	**02 22 13.1**	**-0.8**
CNCH	**Conchagua**	**1.23**	**30**	*e*P	**Pb**	**02 22 14.7**	**+0.7**
CNCH				*e*S	**Sb**	**02 22 32.5**	**+2.8**
LCND	**La Caada**	**1.24**	**27**	*e*P	**Pn**	**02 22 13.2**	**+1.0**
LCND				IAML		02 22 27.9	
	comp=Z,837nm,0.3s						
BLLM	**Bellamira**	**1.26**	**10**	*e*P	**Pb**	**02 22 13.7**	**-0.7**
PACA	**Pacayal**	**1.27**	**6**	*e*P	**Pb**	**02 22 14.5**	**-0.1**
PQSS	**Presa 15 de Se**	**1.42**	**356**	IAML		02 22 37.5	
	comp=Z,672nm,0.1s						
CRIN	**San Cristobal**	**1.46**	**70**	Pn	**Pn**	**02 22 14.0**	**-1.3**
COEG	**Centro de Oper**	**1.47**	**344**	*e*P	**Pb**	**02 22 16.6**	**-1.4**
COEG				*e*S	**Sb**	**02 22 37.7**	**+1.3**
LALI	**Alcalda de L**	**1.53**	**327**	*i* P	**Pn**	**02 22 16.5**	**+0.3**
LALI				*i* S	**Sb**	**02 22 37.0**	**-1.1**
LFRS	**El Faro**	**1.54**	**338**	*e*P	**Pn**	**02 22 17.1**	**+0.7**
PAVA	**Las Pavas**	**1.58**	**343**	*e*P	**Pb**	**02 22 18.2**	**-1.6**
PAVA				IAML		02 22 43.2	
	comp=Z,669nm,0.4s						
CAHU	**Cacacuatique**	**1.58**	**9**	*e*P	**Pb**	**02 22 18.7**	**-1.2**
HERN	**Volcan Telica**	**1.64**	**75**	Pn	**Pn**	**02 22 16.5**	**-1.3**
PIC2	**El Picacho**	**1.72**	**333**	*e*P	**Pb**	**02 22 20.8**	**-1.6**
PIC2				IAML		02 22 55.7	
	comp=Z,353nm,0.4s						
BOQS	**Boqueron**	**1.73**	**332**	*e*P	**Pb**	**02 22 20.4

TXAR	Lajitas Array	22.16 323	P	P	02 26 45.9 +1.5
TXAR	Lajitas Array	22.16 323	P	P	02 26 46.9 +2.4
	comp=Z,1.8nm,0.6s,baz=146,slow=12,SNR=26				
	comp=Z,1.8nm,0.6s				
TX31	Lajitas Ar. Si	22.16 323	P	P	02 26 45.8 +1.4
MIAR	Mount Ida	22.73 349	P	P	02 26 51.4 +1.0
MIAR			IAmb	IAmb	02 26 54.2
	comp=Z,16nm,1.3s				
ABTX	Abilene, Hawle	22.77 335	P	P	02 26 50.5 -0.4
ABTX			IAmb	IAmb	02 27 01.4
	comp=Z,7.7nm,0.7s				
MNHN	Monahans	23.18 328	P	P	02 26 55.4 +0.3
MNHN			IAmb	IAmb	02 27 06.3
	comp=Z,11nm,0.7s				
WHAR	Wooly Hollow	23.25 352	P	P	02 26 56.6 +0.9
WHAR			IAmb	IAmb	02 26 57.7
	comp=Z,9.3nm,0.9s				
PAULI	Pauline	23.32 14	P	P	02 26 57.2 +0.8
PAULI			IAmb	IAmb	02 26 58.4
	comp=Z,13nm,1.1s				
APMT	Aspermont	23.58 335	P	P	02 26 58.4 -0.6
APMT			IAmb	IAmb	02 27 10.3
	comp=Z,8.4nm,0.9s				
TKL	Tuckaleechee C	23.74 10	P	P	02 26 58.0 -2.4
	comp=Z,3.2nm,0.8s,baz=192,slow=13,SNR=4.3				
TKL			LR	LR	02 35 28.6
	comp=Z,41nm,20.7s,baz=156,slow=35				
	comp=Z,3.2nm,0.8s				
X34A	Smith Ranch, M	23.88 341	P	P	02 27 02.5 +0.7
POST	Post	23.96 332	P	P	02 27 01.9 -0.8
POST			IAmb	IAmb	02 27 13.9
	comp=Z,14nm,0.8s				
DKNS	Dickens	24.21 334	P	P	02 27 05.5 +0.5
WMOK	Wichita Mounta	24.32 339	P	P	02 27 05.8 -0.1
FNO	Franklin	24.35 342	P	P	02 27 05.8 -0.3
HHAR	Hobbs	24.48 349	P	P	02 27 07.9 +0.5
TUL3	Leonard	24.52 346	P	P	02 27 07.6 -0.1
TUL3			IAmb	IAmb	02 27 09.3
	comp=Z,6.2nm,0.7s				
OK052	Battle Ridge R	24.86 344	P	P	02 27 09.3 -1.4
MNTX	Cornudas Mount	24.89 324	P	P	02 27 11.6 +0.5
U54A	Nelsons Funny	24.95 13	P	P	02 27 12.4 +0.8
U54A			IAmb	IAmb	02 27 15.0
	comp=Z,9.2nm,0.8s				
MGMO	Mountain Grove	25.09 353	P	P	02 27 12.9 +0.2
SMWD	Samnorwood	25.19 337	P	P	02 27 13.6 -0.2
MSTX	Muleshoe	25.30 331	P	P	02 27 16.1 +1.2
MSTX			IAmb	IAmb	02 27 28.2
	comp=Z,6.2nm,0.7s				
AMTX	Amarillo	25.58 334	P	P	02 27 17.6 +0.3
AMTX			IAmb	IAmb	02 27 20.5
	comp=Z,19nm,1.2s				
NOKA	Waynoka	26.09 341	P	P	02 27 22.7 +0.8
CBE	Ff, Capester	26.31 78	eS	S	02 31 56.8 +1.8
CRNM	Carthage	27.32 325	P	P	02 27 35.9 +2.7
RTBA	Rita Blanca	27.35 334	P	P	02 27 34.8 +1.4
RTBA			IAmb	IAmb	02 27 45.8
	comp=Z,7.0nm,0.8s				
LENM	Lemitar	27.62 325	P	P	02 27 38.4 +2.5
P38A	Dawn	27.68 352	P	P	02 27 35.9 -0.3
P38A			IAmb	IAmb	02 27 37.2
	comp=Z,8.1nm,0.9s				
ANMO	Albuquerque	27.92 327	P	P	02 27 40.9 +2.3
	comp=Z,0.2nm,0.3s,baz=180,slow=16,SNR=1.4				
	comp=Z,0.2nm,0.3s				
SPMN	Marine on St.	33.12 354	P	P	02 28 22.9 -1.3
COWI	Conover	33.80 359	P	P	02 28 29.5 -0.5
COWI			IAmb	IAmb	02 28 30.3
	comp=Z,3.4nm,0.5s				
PDAR	Pinedale Array	35.54 333	LR	LR	02 47 18.2
	comp=Z,24nm,19.1s,baz=152,slow=43				
AGMN	Agassiz Nation	36.52 352	P	P	02 28 52.2 -1.3
EPLO	Experimental L	37.62 354	P	P	02 29 01.8 -1.0
ULM	Lac du Bonnet	38.43 352	P	P	02 29 07.8 -1.8
ULM	Lac du Bonnet	38.43 352	P	P	02 29 08.4 -1.1
	comp=Z,5.6nm,0.5s,baz=170,slow=9.0,SNR=8.5				
	comp=Z,5.6nm,0.5s				
FFC	Flin Flon	43.74 349	P	P	02 29 53.0 -0.2
YKAW1	Yellowknife Wh	53.56 345	P	P	02 31 08.4 -0.2
YKAW1			IAmb	IAmb	02 31 09.2
	comp=Z,4.6nm,1.3s				
YKA	Yellowknife Ar	53.60 345	P	P	02 31 08.7 -0.1
	comp=Z,1.0nm,0.9s,baz=142,slow=7.5,SNR=15				
YKA			PcP	PcP	02 32 15.7 +0.6
	comp=Z,0.2nm,0.5s,baz=144,slow=4.0,SNR=4.1				
	comp=Z,1.0nm,0.9s				
DLBC	Dease Lake	55.72 335	P	P	02 31 25.9 +1.5
	comp=Z,0.9nm,0.8s,baz=135,slow=7.1,SNR=2.3				
	comp=Z,0.9nm,0.8s				
MMPY	Sheldon Lake,	58.81 338	P	P	02 31 47.2 +1.0
G31M	Satah River	62.51 341	P	P	02 32 11.2 0.0
G31M			IAmb	IAmb	02 32 22.2
	comp=Z,3.1nm,0.9s				
INK	Inuvik	63.15 343	P	P	02 32 15.2 -0.2
	comp=Z,1.2nm,0.9s,baz=118,slow=7.6,SNR=4.5				
	comp=Z,1.2nm,0.9s				
F30M	Barrier River	63.40 342	P	P	02 32 17.9 +0.8
A36M	Sachs Harbour	63.70 348	P	P	02 32 18.1 -0.9
A36M			IAmb	IAmb	02 32 19.2
	comp=Z,5.4nm,1.3s				
G29M	Pine Creek	63.70 340	P	P	02 32 20.0 +0.8
G29M			IAmb	IAmb	02 32 20.3
	comp=Z,5.0nm,1.2s				
E28M	Babbage River	65.12 342	P	P	02 32 29.1 +0.7
ILAR	Eielson Array	65.85 336	P	P	02 32 32.8 -0.4
	comp=Z,0.5nm,0.9s,baz=143,slow=5.9,SNR=5.1				
	comp=Z,0.5nm,0.9s				
BMAR	Burnt Mountain	66.17 339	P	P	02 32 36.1 +0.9
D25K	Kavik River	67.62 341	P	P	02 32 44.7 +0.2
D25K			IAmb	IAmb	02 32 56.8
	comp=Z,3.1nm,1.1s				
EUNU	Eureka	67.88 0	P	P	02 32 45.1 -0.8
D20K	Etivluk River	70.84 339	P	P	02 33 04.9 +0.6
D20K			IAmb	IAmb	02 33 15.9
	comp=Z,7.3nm,1.4s				
ESDC	Sonseca Array	78.12 52	P	P	02 33 47.4 +0.2
	comp=Z,0.1nm,0.4s,baz=310,slow=6.0,SNR=2.2				
	comp=Z,0.1nm,0.4s				
CMAR	Chiang Mai Arr	148.68 346	PKPbc	PKPbc	02 41 35.4 -0.5
	comp=Z,0.9nm,0.4s,baz=8.2,slow=3.2,SNR=1.7				

TAP ***29*** *02:22:44.0,24.′62N×122.′58E,h96km,ML4.1,C*
JMA ***29*** *02:22:44.1±0.1,25.′7N±1.′7×122.′5E±0.′4,h94km±1km,*
MV3.2/16,NW OFF ISHIGAKIJIMA IS

ISC 29 02:22:44.4±1.3,24.′58N±0.′03×122.′57E±0.′02,h93km±6km,
n141,σ1§01/256,4C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.34	243	*i* P	Pn	02 22 58.9	+0.6
EOS2				S	Sn	02 23 10.2	+1.7
EOS3	EOS3	0.37	218	*i* P	Pn	02 22 59.2	+0.8
EOS3				*i* S	Sn	02 23 10.8	+2.0
JYNG	Yonagunijimaku	0.37	110	P	Pn	02 22 58.7	+0.1
JYNG				S	Sn	02 23 09.0	-0.1
YOJ	Yonaguni jima	0.42	106	P	Pn	02 22 59.0	+0.1
YOJ				S	Sn	02 23 09.5	-0.2
YOJ	Yonaguni jima	0.42	106	⇑*i* P	Pn	02 22 58.9	+0.1
YOJ				*i* S	Sn	02 23 09.6	-0.2
EOS4	EOS4	0.51	207	P	Pn	02 22 59.2	+0.1
EOS4				S	Sn	02 23 11.4	+1.3
EGS		0.64	295	*i* P	Pn	02 23 00.9	+0.3
EGS				S	Sn	02 23 12.4	-0.2
TWC	Suao	0.65	273	*i* P	Pn	02 23 00.4	-0.3
TWC				S	Sn	02 23 11.9	-1.0
ESAO	Su ao	0.66	270	*i* P	Pn	02 23 00.6	-0.1
ESAO				S	Sn	02 23 12.4	-0.6
TWB1	Santiao Chiao	0.68	309	*i* P	Pn	02 23 01.0	+0.1
TWB1				*i* S	Sn	02 23 12.3	-1.1
EWUT	Wuta	0.73	260	*eP*	Pn	02 23 01.4	0.0
EWUT				*i* S	Sn	02 23 14.1	-0.1
ENA	Nanau	0.77	259	*i* P	Pn	02 23 01.9	0.0
ENA				S	Sn	02 23 15.0	+0.2
ILA	Ilan	0.77	284	*i* P	Pn	02 23 02.1	+0.2
ILA				S	Sn	02 23 15.0	+0.1
NDS	Dongshan	0.78	274	P	Pn	02 23 01.2	-0.8
TIPB	Shuangxi	0.78	301	*i* P	Pn	02 23 02.1	+0.1
TIPB				*i* S	Sn	02 23 14.2	-1.0
EAHA	Aohua	0.79	252	*eP*	Pn	02 23 02.2	+0.1
EAHA				S	Sn	02 23 15.6	+0.3
SXI1	Grass Mountain	0.81	310	*eP*	Pn	02 23 02.5	+0.2
SXI1				*eS*	Sn	02 23 15.3	-0.6
TWE	Neicheng	0.83	280	*i* P	Pn	02 23 02.6	+0.1
TWE				S	Sn	02 23 15.3	-0.7
WFSB	Wu-fen Shan	0.87	305	P	Pn	02 23 03.4	+0.6
WFSB				S	Sn	02 23 16.7	0.0
FUSB	Fushanzhiwuyua	0.91	282	⇑*i* P	Pn	02 23 03.5	+0.2
FUSB				*i* S	Sn	02 23 16.9	-0.8
ENTT	Nioudou	0.91	274	*i* P	Pn	02 23 03.7	+0.4
ENTT				*i* S	Sn	02 23 17.9	+0.3
TNOU	National Taiwa	0.92	309	*eP*	Pn	02 23 03.6	+0.1
TNOU				S	Sn	02 23 17.4	-0.3
LATG	Datong	0.95	268	*i* P	Pn	02 23 04.0	+0.2
LATG				S	Sn	02 23 18.6	+0.1
ETL	Fush Village	0.95	244	P	Pn	02 23 03.5	-0.4
ETL				S	Sn	02 23 17.9	-0.6
NACB	Ninganchiao	0.97	246	P	Pn	02 23 03.5	-0.5
NACB				*eS*	Sn	02 23 17.3	-1.4
TWA	Mucha	0.98	294	*eP*	Pn	02 23 05.3	+1.2
TWA				*eS*	Sn	02 23 19.1	+0.2
NWLT	Wulai	0.99	282	*i* P	Pn	02 23 04.5	+0.3
NWLT				*i* S	Sn	02 23 18.4	-0.7
TWD	Chiawan	1.01	241	*i* P	Pn	02 23 04.1	-0.4
TWD				*i* S	Sn	02 23 19.0	-0.5
NHDH	Xindian Distri	1.02	292	P	Pn	02 23 04.6	+0.1
NHDH				S	Sn	02 23 19.0	-0.7
ETLH	Xiulin Townshi	1.05	250	P	Pn	02 23 05.0	-0.1
ETLH				S	Sn	02 23 20.1	-0.4
HWA	Hwalien	1.06	236	*i* P	Pn	02 23 05.0	0.0
HWA				S	Sn	02 23 21.1	+0.6
TAP	Taipei	1.07	296	*eS*	Sn	02 23 20.5	-0.1
YM01	YM01	1.07	302	P	Pn	02 23 05.3	+0.2
YM01				S	Sn	02 23 20.2	-0.5
YHNB	Yeheng	1.09	275	*i* P	Pn	02 23 05.8	+0.4
YHNB				S	Sn	02 23 21.0	-0.2
IRIF	Iriomote-Funau	1.09	103	*eP*	Pn	02 23 05.4	+0.1
IRIF				S	Sn	02 23 20.8	-0.2
NNSB	Datong	1.09	262	P	Pn	02 23 05.5	0.0
NNSB				*eS*	Sn	02 23 20.7	-0.6
NNS	Nan Shan	1.09	263	P	Pn	02 23 05.7	+0.2
NNS				S	Sn	02 23 21.1	-0.3
ZUZH	Zhuzihu	1.10	302	P	Pn	02 23 05.6	+0.2
ZUZH				S	Sn	02 23 20.6	-0.7
NSK	Sanguang	1.10	275	P	Pn	02 23 05.9	+0.3
NSK				*eS*	Sn	02 23 21.2	-0.3
TWY	Chenhua	1.12	309	P	Pn	02 23 05.1	-0.5
TWY				*eS*	Sn	02 23 21.0	-0.7
TEYL	Yanliau Villag	1.13	232	*i* P	Pn	02 23 05.5	-0.3
TEYL				S	Sn	02 23 21.3	-0.6
ETM	Tongmen	1.15	238	*i* P	Pn	02 23 05.7	-0.3
ETM				S	Sn	02 23 21.8	-0.6
NTST	Danshui	1.17	300	P	Pn	02 23 06.7	+0.5
NTST				*eS*	Sn	02 23 22.6	-0.1
LXIB	Xiulin Townshi	1.19	243	*i* P	Pn	02 23 06.2	-0.5
LXIB				*eS*	Sn	02 23 22.3	-1.1
SHUL	Shoufeng	1.21	230	*eP*	Pn	02 23 06.5	-0.2
SHUL				S	Sn	02 23 23.5	0.0
HATJ	Hateruma jima	1.24	114	*eS*	Sn	02 23 24.7	+0.4
FUSS	Fushou	1.25	255	*eP*	Pn	02 23 07.7	+0.3
WHF	Hehuan Shan	1.26	250	*i* P	Pn	02 23 07.8	0.0
WHF				*eS*	Sn	02 23 24.7	-0.7
TEGC	Jichi Village	1.27	228	P	Pn	02 23 07.5	0.0
TEGC				*eS*	Sn	02 23 24.9	0.0
KSHI	Guanxi Townshi	1.28	279	*i* P	Pn	02 23 08.4	+0.8
KSHI				S	Sn	02 23 25.9	+0.8
ESL	Shilin	1.28	234	P	Pn	02 23 06.8	-0.9
ESL				*eS*	Sn	02 23 23.5	-1.6
TWT	Tachien	1.31	256	*eP*	Pn	02 23 08.9	+0.8
TWT				S	Sn	02 23 26.0	0.0
NCUH	Zhongli	1.31	288	P	Pn	02 23 08.5	+0.5
NCUH				S	Sn	02 23 26.3	+0.4
NFF	Wufeng Townshi	1.32	273	*i* P	Pn	02 23 08.6	+0.5
NFF				*i* S	Sn	02 23 26.1	+0.1
TDCB	Techi	1.32	256	*i* P	Pn	02 23 08.8	+0.6
TDCB				S	Sn	02 23 25.8	-0.4
JKRS	Kuro-shima	1.36	104	S	Sn	02 23 27.3	+0.5
WARBT	Fenglin Townsh	1.38	232	*i* P	Pn	02 23 08.1	-0.7
WARBT				S	Sn	02 23 25.8	-1.4
EGFH	Guangfu	1.38	229	*eP*	Pn	02 23 08.6	-0.2
EGFH				*eS*	Sn	02 23 25.7	-1.5
OWD	Renai	1.41	244	*i* P	Pn	02 23 09.4	+0.1
OWD				*i* S	Sn	02 23 27.4	-0.8
LIOB	Emei	1.41	273	*eP*	Pn	02 23 09.8	+0.6
LIOB				*i* S	Sn	02 23 28.1	+0.1
NSTT	Nanjuang	1.43	273	P	Pn	02 23 09.7	+0.4
NSTT				*i* S	Sn	02 23 28.2	-0.1
WUSB	Renai	1.44	247	⇑*i* P	Pn	02 23 10.0	+0.3
WUSB				*i* S	Sn	02 23 28.6	-0.3
JIJ	Ishigaki jima	1.45	98	P	Pn	02 23 09.8	+0.1
JIJ				S	Sn	02 23 28.1	-0.7
SBCB	Hsinchu	1.45	279	P	Pn	02 23 10.2	+0.5
SBCB				S	Sn	02 23 29.0	+0.2
HSN	Hsinchu	1.47	279	P	Pn	02 23 09.7	-0.2
HSN				*i* S	Sn	02 23 28.2	-1.0
HGSD	Ruisui	1.50	224	P	Pn	02 23 09.8	-0.5
HGSD				*eS*	Sn	02 23 29.4	-0.6
WHP	Taichung City	1.51	259	*eP*	Pn	02 23 11.7	+1.2
WHP				S	Sn	02 23 30.9	+0.7
VWDT	VWDT	1.54	238	*i* P	Pn	02 23 11.1	+0.4
VWDT				S	Sn	02 23 30.1	-0.6
EHYH	Wanrong	1.55	226	*eP*	Pn	02 23 10.5	-0.4
EHYH				S	Sn	02 23 29.7	-1.4
EHY	Hungye	1.56	227	*eP*	Pn	02 23 10.5	-0.6
EHY				*eS*	Sn	02 23 29.3	-2.0
JISG	Ishigakijimahi	1.59	89	P	Pn	02 23 11.7	+0.3
JISG				*eS*	Sn	02 23 31.7	-0.2
WCS	Beigang Elemen	1.59	251	*i* P	Pn	02 23 12.6	+1.5
WCS				*i* S	Sn	02 23 33.5	+1.5
ECBN	Changbin	1.62	219	P	Pn	02 23 11.7	-0.1
ECBN				S	Sn	02 23 31.6	-1.0
NMLH	Miaoli	1.62	269	P	Pn	02 23 12.3	+0.6
NMLH				S	Sn	02 23 32.8	+0.3
TWQ1	Liyutan	1.65	262	*eP*	Pn	02 23 12.8	+0.6
TWQ1				*i* S	Sn	02 23 33.5	+0.1
YULB	Yu-li	1.65	225	⇑*i* P	Pn	02 23 11.6	-0.7
YULB				S	Sn	02 23 31.8	-1.7
SSLB	Suanglung	1.67	242	P	Pn	02 23 12.6	+0.1
SSLB				S	Sn	02 23 33.4	-0.4
SMLT	Sun Moon Lake	1.67	246	*eP*	Pn	02 23 12.3	-0.3
SMLT				*eS*	Sn	02 23 34.3	+0.4
EYUL	Yuli	1.67	223	P	Pn	02 23 12.2	-0.3
EYUL				S	Sn	02 23 33.8	0.0
TWF1	Yuli	1.68	224	*eP*	Pn	02 23 12.1	-0.5
TWF1				*eS*	Sn	02 23 32.4	-1.7
TYC	Yuchr	1.70	247	P	Pn	02 23 13.6	+0.8
TYC				*i* S	Sn	02 23 35.5	+1.2
CHKH	Chenggong	1.75	218	*eP*	Pn	02 23 12.8	-0.6
CHKH				*eS*	Sn	02 23 33.4	-2.0
WDJ	Dajia District	1.77	263	*eP*	Pn	02 23 14.5	+0.8
WDJ				*eS*	Sn	02 23 36.4	+0.4
TCU	Taichung	1.77	256	*eP*	Pn	02 23 16.0	+2.2
TCU				*eS*	Sn	02 23 38.8	+2.6
WHYT	Xinyi Township	1.79	241	*eP*	Pn	02 23 15.1	+1.1
WHYT				*eS*	Sn	02 23 37.6	+0.9
FULB	Fuli	1.80	221	P	Pn	02 23 13.9	-0.2
FULB				*eS*	Sn	02 23 36.0	-0.8
CHKT	Chengkung	1.84	217	*eP*	Pn	02 23 13.9	-0.7
CHKT				*eS*	Sn	02 23 35.3	-2.2
WJS	Zhushan	1.84	246	*eP*	Pn	02 23 15.9	+1.3
WJS				*eS*	Sn	02 23 39.6	+2.0
WNT	Mingjian	1.85	248	*eP*	Pn	02 23 16.4	+1.7
WNT				*eS*	Sn	02 23 40.5	+2.5
EHD	Haiduan	1.89	221	*eP*	Pn	02 23 14.8	-0.5
WCHH	Zhanghua	1.90	255	*eP*	Pn	02 23 15.4	+0.1
ECS	Chishang	1.92	220	*eP*	Pn	02 23 15.7	0.0
ECS				*eS*	Sn	02 23 39.5	-0.1
JTJ	Tarama	1.95	88	*eP*	Pn	02 23 16.7	+0.7
JTJ				*eS*	Sn	02 23 40.7	+0.6
EDH	Donghe	1.97	216	*eP*	Pn	02 23 16.1	-0.2
EDH				*eS*	Sn	02 23 39.1	-1.5
ELDTW	Lidau	1.98	226	P	Pn	02 23 16.2	-0.4
ELDTW				S	Sn	02 23 39.5	-1.5
CHN5	Tsauling	1.98	241	*eS*	Sn	02 23 42.9	+1.8
WDLH	Douliu	2.05	245	P	Pn	02 23 18.8	+1.4
WDLH				S	Sn	02 23 44.9	+2.3
LONT	Longtian	2.12	219	P	Pn	02 23 17.6	-0.7
LONT				*eS*	Sn	02 23 42.9	-1.3
WCKO	Fanlu	2.12	238	P	Pn	02 23 19.6	+1.3
WCKO				S	Sn	02 23 45.9	+1.7
LDUT	Ludao	2.14	208	P	Pn	02 23 17.9	-0.7
LDUT				S	Sn	02 23 43.0	-1.8
STYH	Taoyuan	2.15	230	*eP*	Pn	02 23 18.4	-0.4
STYH				*eS*	Sn	02 23 44.4	-0.5
WTK	Tuku	2.18	246	P	Pn	02 23 19.6	+0.6
WTK				S	Sn	02 23 46.2	+0.7
CHN4	Tsaushan	2.18	236	P	Pn	02 23 20.5	+1.5
CHN4				S	Sn	02 23 47.8	+2.2
TPUB	Ta-pu	2.18	235	P	Pn	02 23 19.9	+0.8
TPUB				*eS*	Sn	02 23 46.6	+0.9
TWGBT	Beinan	2.22	218	*eP*	Pn	02 23 19.3	-0.3
TWGBT				*eS*	Sn	02 23 44.7	-1.8
TWG	Pinlang	2.22	218	*eP*	Pn	02 23 19.8	+0.2
TWG				S	Sn	02 23 44.6	-2.0
WTP	Ta-pu	2.22	234	*eP*	Pn	02 23 20.8	+1.1
WTP				*eS*	Sn	02 23 49.4	+2.7
CHY	Chiayi	2.23	242	P	Pn	02 23 20.9	+1.1
CHY				*eS*	Sn	02 23 49.0	+2.2
TWK	Hsinying	2.31	236	P	Pn	02 23 21.9	+1.1
TWK				*eS*	Sn	02 23 50.7	+2.0
CHN1	Nanshi	2.32	234	P	Pn	02 23 22.6	+1.6
CHN1				*eS*	Sn	02 23 50.1	+1.1
SNST	Tainan City	2.33	235	*eP*	Pn	02 23 21.9	+0.9
WSF	Szhu	2.34	247	*eS*	Sn	02 23 50.0	+0.8
SGST	Jiashian	2.35	231	*eP*	Pn	02 23 21.6	+0.3
SGST				*eS*	Sn	02 23 51.6	+2.1
WSL	Shuilin Townsh	2.38	244	P	Pn	02 23 22.3	+0.6
WSL				S	Sn	02 23 50.8	+0.4
ICHU	Yijhu	2.42	240	P	Pn	02 23 23.1	+0.9
ICHU				*eS*	Sn	02 23 52.1	+0.9
ECL	Taimali	2.46	217	*eP*	Pn	02 23 22.1	-0.7
ECL				*eS*	Sn	02 23 50.1	-2.2
JIKM	Ikemajima	2.46	81	*eS*	Sn	02 23 52.3	0.0
JMJ2	Miyako jima3	2.52	86	*eS*	Sn	02 23 53.6	0.0
SCST	Cishan	2.54	229	*eP*	Pn	02 23 25.7	+1.9
SCST				*eS*	Sn	02 23 56.5	+2.4
SSD	Sandimen	2.54	225	*eP*	Pn	02 23 25.0	+1.1
SSD				*eS*	Sn	02 23 55.5	+1.3
TSMG	Majia	2.56	224	*eP*	Pn	02 23 26.5	+2.3
TSMG				*eS*	Sn	02 23 57.2	+2.5
MASBT	Mashibuluo	2.64	223	P	Pn	02 23 26.3	+1.1
MASBT				*eS*	Sn	02 23 57.8	+1.3
TSCK	Chigu Township	2.68	238	*eP*	Pn	02 23 25.7	+0.1
TSCK				*eS*	Sn	02 23 56.7	-0.7
LAY	Lan-yu	2.69	200	*eP*	Pn	02 23 25.0	-0.9
TAWH	Dawu Township	2.71	215	*eP*	Pn	02 23 25.3	-0.8
LYUB	Lan-yu	2.72	200	P	Pn	02 23 25.2	-1.0
SCZT	Fangliau	2.83	220	*eP*	Pn	02 23 30.0	+2.3
MATB	Ma-tsu	2.84	304	*eP*	Pn	02 23 27.2	-0.6
SLIU	Shizi	2.85	215	*eP*	Pn	02 23 28.6	+0.6
VWUC	VWUC	2.86	279	*eP*	Pn	02 23 27.8	-0.4
PNG	Penghu	2.93	251	*eP*	Pn	02 23 25.7	-3.3
PNG				*eS*	Sn	02 24 01.9	-1.5
PHUB	P'eng-hu	2.93	249	*eP*	Pn	02 23 27.5	-1.5
PHUB				*i* S	Sn	02 24 01.4	-2.1
WDGT	Dungji	2.96	244	*eP*	Pn	02 23 29.2	-0.2
WDGT				*eS*	Sn	02 24 03.1	-1.2
TWKBT	Hengchun	3.08	212	*eP*	Pn	02 23 33.4	+2.4
TWKBT				*eS*	Sn	02 24 08.1	+1.0
PTMZ	Houxiangcun	3.17	279	*eP*	Pn	02 23 31.5	-0.7
XPSS	Dashiqiu	3.17	318	*eP*	Pn	02 23 31.4	-0.9
MHZQ	Yeshan	3.54	296	*eP*	Pn	02 23 36.9	-0.4
KNM	Kinmen	3.77	268	*eP*	Pn	02 23 41.5	+1.2
KNMB	Chin-men Tao	3.81	269	*eP*	Pn	02 23 40.5	-0.3
AXDP	Jialang	4.19	275	*eP*	Pn	02 23 46.0	0.0
ZPLA	Ao Xicun	4.44	263	*eP*	Pn	02 23 48.9	-0.6

GII ***29*** *02:27:11.0±0.0,35.′75N×27.′12E,h2km,Mws3.4,*
confirmed
IDC ***29*** *02:27:15.3±1.0,35.′82N×27.′14E,h0km,mb3.6/5,*
mbtmp3.5/11,ML3.2/4,Error ellipse: s-maj=23.2km
s-min=14.6km az=166.0
ISK ***29*** *02:27:15.9,35.′74N×27.′15E,h5km,ML3.5/21*
THE ***29*** *02:27:16.6,35.′75N×27.′18E,h0km,ML3.2/7,Error ellipse:*
s-maj=0.8km s-min=0.4km az=324.0
NIC ***29*** *02:27:16.8,35.′68N×27.′17E,h20km±3km,Ml3.4/10*
AFAD ***29*** *02:27:16.2,35.′70N×27.′21E,h9km±2km,ML3.2*
ATH ***29*** *02:27:17.0,35.′73N×27.′14E,h6km±4km,ML3.3/4,Manual*
Solution by A.Moschou First location: 2019/04/29
02:28:35, This location: 2019/04/29 11:24:41 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 6 km;
Longitude uncertainty: 4 km

ISC 29 02:27:17.0±0.8,35.′69N±0.′02×27.′21E±0.′02,h14km±5km,
n102,σ1§16/138,mb3.5/5,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.15	196	P	Pg	02 27 20.8	-0.1
KARP				S	Sb	02 27 24.9	+0.3
	15μm,0.7s						
KARP	Karpathos	0.15	196	Pg	Pg	02 27 20.9	0.0
KARP				Sg	Sg	02 27 24.0	+0.5
KARP	Karpathos	0.15	196	P	Pg	02 27 20.8	-0.1
KARP				S	Sb	02 27 25.0	+0.3
KARP				AML	AML	02 27 27.8	
	34nm,0.7s						
K

SABU S **Sg** **02 28 15.9 +0.6**
SABU *i* AML AML 02 28 21.0
comp=E,294nm,0.8s
SABU *i* AML AML 02 28 28.0
comp=N,303nm,1.0s
IDI Anoyia 1.94 259 P **Pn** **02 27 49.1 -0.4**
IDI S **Sn** **02 28 14.4 +0.7**
212nm,0.4s
IDI Anoyia 1.94 259 Pn **Pb** **02 27 50.7 -1.4**
IDI Anoyia 1.94 259 Pn **Pn** **02 27 49.2 -0.3**
2.2nm,0.3s,baz=29,slow=7.9,SNR=40
IDI Sn **Sn** **02 28 13.5 -0.1**
13nm,0.3s,baz=234,slow=23,SNR=13
IDI Anoyia 1.94 259 P **Pb** **02 27 50.6 -1.4**
IDI S **Sn** **02 28 13.7 +0.1**
KSL Kastellorizon 1.98 76 P **Pn** **02 27 50.8 +0.8**
KSL S **Sb** **02 28 16.8 -0.4**
292nm,1.0s
KSL Kastellorizon 1.98 76 P **Pn** **02 27 51.1 +1.2**
KSL AML AML 02 28 32.8
0.7nm,1.0s
KSL AML AML 02 28 44.9
0.5nm,1.1s
KSL Kastellorizon 1.98 76 P **Pb** **02 27 52.5 -0.3**
KSL S **Sb** **02 28 17.6 +0.4**
AYDN Tasoluk 2.04 15 P **Pb** **02 27 52.8 -0.9**
AYDN *i* AML AML 02 28 28.0
comp=N,147nm,0.6s
AYDN *i* AML AML 02 28 28.0
comp=E,159nm,1.0s
TMBK Timbaki Herakl 2.09 253 P **Pn** **02 27 52.7 +1.1**
CAME Cameli-Denizli 2.10 53 Pn **Pb** **02 27 53.9 -1.0**
DNZT Denizli-Tavas- 2.15 42 P **Pb** **02 27 55.1 -0.7**
DNZT S **Sb** **02 28 22.5 +0.1**
DNZT *i* AML AML 02 28 28.0
comp=N,148nm,0.6s
DNZT *i* AML AML 02 28 30.0
comp=E,146nm,0.7s
TAVA DENIZLI_Tavas 2.24 37 P **Pb** **02 27 56.2 -1.0**
TAVA S **Sb** **02 28 24.2 -0.6**
TAVA *i* AML AML 02 28 33.0
comp=E,146nm,0.5s
TAVA *i* AML AML 02 28 34.0
comp=N,153nm,0.6s
ESEN Aydn-Nazilli 2.29 23 P **Pn** **02 27 55.2 +0.9**
AYDB Zeytinkoy-Aydi 2.31 13 Pn **Pn** **02 27 56.3 +1.6**
ELL Elmali 2.42 63 Pn **Pb** **02 27 58.6 -1.8**
ELL Elmali 2.42 63 P **Pn** **02 27 57.7 +1.5**
ELL AML AML 02 28 52.9
1.7nm,1.8s
ELL AML AML 02 28 56.6
1.6nm,1.3s
NAZL Nazilli-Aydin 2.43 21 Pn **Pn** **02 27 57.9 +1.7**
APMY Acipayam-Deniz 2.44 43 Pn **Pb** **02 27 58.7 -2.0**
IMMV Iera Moni Meta 2.64 266 Pn **Pn** **02 28 00.9 +1.8**
ODEM Odemis-Izmir 2.67 15 Pn **Pn** **02 28 01.5 +1.9**
BLCB Balcova 2.69 357 Pn **Pn** **02 28 01.7 +1.9**
GVD Gavdhos 2.69 252 Pn **Pn** **02 28 01.9 +2.0**
KNDR Palaiochora Ch 2.91 262 Pn **Pn** **02 28 05.2 +2.4**
KULA Kula-Manisa 3.04 22 Pn **Pn** **02 28 06.5 +1.8**
BASM Basmaki-Afyon 3.18 45 Pn **Pn** **02 28 09.1 +2.5**
BCK Bucak 3.24 56 Pn **Pn** **02 28 10.3 +2.9**
GORD Gordes-Manisa 3.30 13 Pn **Pn** **02 28 10.1 +1.9**
ATHU Athens Univers 3.56 311 P **Pn** **02 28 12.4 +0.6**
AKMS Akamas 4.24 98 P **Pn** **02 28 21.4 +0.3**
AKMS S **Sn** **02 29 11.4 +0.9**
AKMS AML AML 02 29 13.8
0.3nm,0.9s
AKMS AML AML 02 29 20.7
0.2nm,0.8s
ALFC Alefka 4.43 95 P **Pn** **02 28 24.2 +0.4**
ALFC S **Sn** **02 29 16.3 +1.1**
ALFC AML AML 02 29 19.1
0.2nm,0.7s
ALFC AML AML 02 29 21.5
0.2nm,0.6s
GUR Goura 4.50 301 P **Pn** **02 28 25.8 +0.9**
TROD Troodos 4.68 98 P **Pn** **02 28 27.3 -0.1**
TROD S **Sn** **02 29 22.4 +0.8**
TROD AML AML 02 29 33.4
0.2nm,0.6s
TROD AML AML 02 29 35.0
0.1nm,0.7s
APOL The Sanctuary 4.74 101 P **Pn** **02 28 28.2 +0.2**
APOL S **Sn** **02 29 24.3 +1.6**
APOL AML AML 02 29 27.6
0.2nm,0.6s
APOL AML AML 02 29 28.0
0.2nm,0.6s
ASGA Asgata 5.02 99 P **Pn** **02 28 32.7 +0.9**
ASGA S **Sn** **02 29 30.7 +1.0**
ASGA AML AML 02 29 39.6
0.2nm,0.5s
ASGA AML AML 02 29 45.2
0.2nm,0.7s
CSS Mathiatis 5.06 97 P **Pn** **02 28 32.8 +0.5**
CSS AML AML 02 29 35.6
0.1nm,1.4s
CSS AML AML 02 29 41.7
0.1nm,0.6s
CSS Mathiatis 5.06 97 P **Pn** **02 28 30.5 -1.9**
BRTR Keskin Array B 6.49 50 Pn **Pn** **02 28 52.6 +0.4**
0.2nm,0.3s,baz=244,slow=16,SNR=8.3
0.7nm,0.4s
MMAI Mount Meron Ar 7.28 109 Pn **Pn** **02 29 03.8 +0.9**
0.9nm,0.3s,baz=315,slow=13,SNR=5.1
MMAI Sn **Sn** **02 30 25.3 -0.2**
3.1nm,0.3s,baz=295,slow=25,SNR=10
0.4nm,0.2s
NATI Neve Ativ 7.45 107 P **Pn** **02 29 01.9 -3.2**
NATI Neve Ativ 7.45 107 S **Sn** **02 30 29.1 -0.2**
KZIT Kziot 7.68 126 P **Pn** **02 29 05.3 -3.0**
KZIT Kziot 7.68 126 S **Sn** **02 30 33.9 -1.2**
GHAJ Ghor Haditha 8.24 120 P **Pn** **02 29 13.9 -2.1**
PRNI Paran 8.44 127 P **Pn** **02 29 15.3 -3.5**
PRNI Paran 8.44 127 S **Sn** **02 30 52.3 -1.5**
HRFI Mount Harif 8.67 128 P **Pn** **02 29 19.9 -2.1**
MBRI Mt Berech 8.76 130 P **Pn** **02 29 21.2 -2.0**
MBRI Mt Berech 8.76 130 S **Sn** **02 31 00.6 -1.1**
EIL Elat 8.87 130 Pn **Pn** **02 29 25.8 +1.1**
0.4nm,0.3s,baz=308,slow=2.4,SNR=8.1
EIL Sn **Sn** **02 31 02.8 -1.5**
0.6nm,0.3s,baz=108,slow=19,SNR=4.1
1.4nm,0.4s
EIL Elat 8.87 130 P **Pn** **02 29 22.3 -2.3**
SOKA Soboth 14.28 324 *e*Pn **P** **02 30 46.2 +0.2**
4.8nm,0.9s
KBZ Khabaz 14.48 52 Pn **P** **02 30 45.5 -2.6**
0.1nm,0.3s,baz=252,slow=0.8,SNR=3.7
0.2nm,0.4s
RONA Rosalia, Austr 14.48 329 *i* Pn **P** **02 30 47.3 -0.9**
1.9nm,0.5s
CONA Conrad Observa 14.85 329 *e*Pn **Pn** **02 30 48.4 +2.0**
4.1nm,1.5s
KBA Koelnbreinsper 15.39 322 *e*Pn **P** **02 30 58.6 +0.2**
5.6nm,0.9s
MOA Molln 15.49 326 *e*Pn **P** **02 30 59.9 +0.6**
4.3nm,1.1s
ABTA Abfaltersbach 15.60 320 *e*Pn **P** **02 31 02.3 +1.7**
5.9nm,1.3s
VRAC Vranov 15.67 333 Pn **Pn** **02 30 57.0 -0.3**
3.1nm,0.9s,baz=148,slow=7.6,SNR=3.5
LESA Schwarzleotal 15.96 322 *e*Pn **P** **02 31 04.6 +0.1**
3.2nm,0.8s
WTTA Wattenberg 16.39 320 *e*Pn **P** **02 31 09.9 +0.4**
0.8nm,0.5s
WATA Walderalm 16.47 320 *e*Pn **P** **02 31 11.1 +0.8**
0.3nm,0.2s
GERES GERESS Array B 16.48 327 Pn **Pn** **02 31 07.9 +0.2**
0.6nm,0.7s,baz=133,slow=11,SNR=6.1
FETA Feichten 16.73 318 *e*Pn **P** **02 31 13.5 +0.2**
1.3nm,0.7s
DAVA Damuels 17.36 317 *e*Pn **P** **02 31 20.6 +0.5**
0.3nm,0.2s
ESDC Sonseca Array 24.92 289 P **P** **02 32 39.2 -0.5**
0.7nm,0.8s,baz=80,slow=9.6,SNR=7.2
0.7nm,0.8s
FINES FINESS Array B 25.78 359 P **P** **02 32 45.2 -1.8**
1.5nm,0.8s,baz=161,slow=18,SNR=4.7
1.5nm,0.8s
TORD Torodi Ar. Bea 32.13 232 P **P** **02 33 44.9 +0.9**
66nm,0.3s,baz=34,slow=11,SNR=1.3
KURBB Kurchatov Arra 39.48 51 P **P** **02 34 47.3 +0.6**
0.9nm,0.9s,baz=280,slow=8.9,SNR=3.9
KURBB PcP **PcP** **02 36 55.0 +0.7**
0.5nm,0.7s,baz=253,slow=3.4,SNR=5.0
0.9nm,0.9s
MKAR Makanchi Array 42.08 57 P **P** **02 35 09.0 +0.7**
0.2nm,0.4s,baz=265,slow=8.1,SNR=2.8
0.2nm,0.4s
KSRS Korea Array 76.62 53 P **P** **02 39 08.1 +0.9**
1.3nm,0.7s,baz=298,slow=5.3,SNR=4.9
1.3nm,0.7s

TRN 29 02:31:01.4, 17°.91N×62°.82W, h93km, MD3.7, Barthelemy., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**0.58**	**172**	*e*P	Pn	02 31 18.1	+0.9
SKI				*e*S	Sn	02 31 30.1	+1.3
ANWB	**Willy Bob**	**1.01**	**103**	*e*P	Pn	02 31 23.0	+1.6
ANWB				*e*S	Sn	02 31 38.8	+2.3
MBFL	**Flemmings, Mon**	**1.29**	**153**	*e*P	Pn	02 31 26.5	+1.8
MBFL				*e*S	Sn	02 31 44.5	+2.2
MBWH		**1.31**	**152**	*e*P	Pn	02 31 26.8	+1.8
MBWH				*e*S	Sn	02 31 44.9	+2.2
ANBD	**Bethesda, Anti**	**1.32**	**130**	*e*P	Pn	02 31 26.3	+1.2
ANBD				*e*S	Sn	02 31 44.4	+1.4
DSLB	**Salisbury**	**2.80**	**151**	*e*P	Pn	02 31 45.0	+0.6
DSLB				*e*S	Sn	02 32 19.1	+1.7

*IDC **29** 02:31:03.4±1.7, 54°.35N×161°.98W, h0km, mb3.7/11, mbtmp3.7/14, ML3.6/3, Error ellipse: s-maj=38.5km s-min=20.7km az=166.0*
*AEIC **29** 02:31:06.6±1.8, 54°.21N±0°.05×161°.56W±0°.05, h11km±5km, Error ellipse: s-maj=7.7km s-min=3.4km az=162.0*
*NEIC **29** 02:31:08.1±2.2, 54°.26N±0°.05×161°.55W±0°.03, h35km±2km, mb3.6/20, ML3.5/26, ML3.5(AEIC), Error ellipse: s-maj=7.9km s-min=3.1km az=186.0*
ISC 29 02:31:06.6±2.1, 54°.25N±0°.07×161°.55W±0°.04, h24km±14km, n144, σ1=97°/142, mb3.9/11, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAG	**Hague Volcano**	**1.09**	**349**		**Pn**	**02 31 25.7**	**-0.6**
HAG					**Sn**	**02 31 41.1**	**+0.5**
PS4A	**Pavlof South-4**	**1.11**	**351**		**Pn**	**02 31 25.9**	**-0.8**
PS4A					**Sn**	**02 31 41.2**	**0.0**
PVV	**Pavlof Volcano**	**1.13**	**353**		**Pn**	**02 31 26.1**	**-0.8**
PVV					**Sb**	**02 31 42.6**	**+0.9**
PS1A	**Pavlof South-1**	**1.18**	**355**		**Pn**	**02 31 27.1**	**-0.5**
FALS	**False Pass**	**1.25**	**300**		**Pn**	**02 31 28.0**	**-0.5**
FALS					**Sb**	**02 31 45.2**	**+0.3**
SDPT	**Sand Point**	**1.26**	**29**		**Pn**	**02 31 27.7**	**-1.0**
SDPT					**Sb**	**02 31 44.9**	**-0.5**
SDPT				IAML		02 32 00.2	
	comp=E,778nm,1.0s						
SDPT				IAML		02 32 02.0	
	comp=N,886nm,0.6s						
CNBA	**Chernabura Isl**	**1.28**	**63**		**Pn**	**02 31 27.0**	**-1.9**
CNBA	**Chernabura Isl**	**1.28**	**63**		**Sb**	**02 31 46.4**	**+0.5**
ISLZ	**Isanotski Laza**	**1.35**	**291**		**Pn**	**02 31 29.3**	**-0.7**
ISLZ					**Sb**	**02 31 47.8**	**-0.1**
ISNN	**Isanotski Nort**	**1.42**	**295**		**Pn**	**02 31 30.9**	**-0.1**
S12K	**Black Hills**	**1.48**	**349**		**Pn**	**02 31 32.1**	**+0.4**
S12K				IAML		02 31 58.7	
	comp=E,1μm,0.5s						
S12K				IAML		02 32 00.5	
	comp=N,966nm,0.3s						
S12K	**Black Hills**	**1.48**	**349**		**Sb**	**02 31 51.4**	**-0.4**
SSLS	**Shishaldin Sou**	**1.50**	**289**		**Pn**	**02 31 31.6**	**-0.5**
WESE	**West Dahl East**	**1.79**	**278**		**Pn**	**02 31 35.6**	**-0.5**
WEBT	**Westdahl Beart**	**1.90**	**282**		**Pn**	**02 31 37.1**	**-0.5**
WEBT					**Sn**	**02 32 01.2**	**+0.4**
VNSS	**Veniaminof 8**	**2.31**	**30**		**Pn**	**02 31 43.7**	**+0.4**
VNFG	**Fog Glacier, M**	**2.33**	**28**		**Pn**	**02 31 44.3**	**+0.8**
VNNF	**Veniaminof 3**	**2.40**	**31**		**Pn**	**02 31 45.3**	**+0.8**
AKUT	**Akutan**	**2.48**	**269**	Pn	**Pn**	**02 31 46.2**	**+0.7**
AKUT				IAML		02 32 30.9	
	comp=E,136nm,0.7s						
AKGG	**Akutan Green G**	**2.61**	**271**		**Pn**	**02 31 47.0**	**-0.2**
LVA	**Lava Point**	**2.64**	**270**	Pn	**Pn**	**02 31 48.6**	**+1.0**
LVA				IAML		02 32 48.6	
	comp=N,249nm,0.8s						
LVA				IAML		02 32 49.4	
	comp=E,131nm,0.8s						
CHGN	**Chignik**	**2.73**	**40**	Pn	**Pn**	**02 31 48.6**	**-0.2**
CHGN				IAML		02 32 40.6	
	comp=E,140nm,0.6s						
UNV	**Unalaska Valle**	**2.95**	**264**	Pn	**Pn**	**02 31 52.2**	**+0.3**
MREP	**Makushin Rep't**	**3.10**	**264**		**Pn**	**02 31 54.7**	**+0.7**
CHIR	**Chirikof Islan**	**3.75**	**63**		**Pn**	**02 32 02.9**	**0.0**
OKWE	**Okmok W'ng Wal**	**4.04**	**262**		**Pn**	**02 32 06.3**	**-0.5**
O14K	**Tigyukauivet M**	**5.02**	**2**	Pn	**Pn**	**02 32 20.8**	**+0.5**
O14K				IAML		02 34 09.8	
	comp=E,31nm,1.6s						
O14K				IAML		02 34 27.5	
	comp=N,31nm,1.2s						
O15K	**Ungalikthiuk R**	**5.03**	**10**	Pn	**Pn**	**02 32 21.5**	**+1.1**
O15K				IAML		02 33 59.6	
	comp=E,27nm,1.0s						
O15K				IAML		02 34 03.4	
	comp=N,28nm,2.1s						
CNTC	**Contact Creek**	**5.11**	**36**		**Pn**	**02 32 21.7**	**+0.1**
ANCK	**Angle Creek**	**5.20**	**38**		**Pn**	**02 32 23.5**	**+0.7**
ACHA	**Angle Creek He**	**5.27**	**39**	Pn	**Pn**	**02 32 25.1**	**+1.3**
ACHA				IAML		02 35 28.9	
	comp=N,15nm,3.4s						
ACHA				IAML		02 35 31.4	
	comp=E,22nm,3.4s						
OHAK	**Old Harbor**	**5.54**	**54**	Pn	**Pn**	**02 32 26.8**	**-0.5**
O16K	**Kokwok River B**	**5.68**	**18**	Pn	**Pn**	**02 32 31.0**	**+1.7**
N14K	**Kuskokwak Cree**	**5.69**	**359**	Pn	**Pn**	**02 32 28.4**	**-1.0**
N15K	**Kwethluk River**	**5.98**	**7**	Pn	**Pn**	**02 32 34.5**	**+1.0**
KDAK	**Kodiak Island**	**6.15**	**51**		**Pn**	**02 32 35.7**	**-0.1**
KDAK	**Kodiak Island**	**6.15**	**51**	Pn	**Pn**	**02 32 35.3**	**-0.5**
	comp=E,0.6nm,0.3s,baz=144,slow=18,SNR=12						
	comp=E,8.1nm,0.9s						
M13K	**Dall Lake**	**6.25**	**352**	Pn	**Pn**	**02 32 38.7**	**+1.5**
Q19K	**Cape Douglas,**	**6.40**	**40**	Pn	**Pn**	**02 32 40.1**	**+0.8**
N16K	**Nishlik Lake**	**6.42**	**12**		**Pn**	**02 32 40.5**	**+1.0**
M15K	**Kasigluk River**	**6.48**	**4**		**Pn**	**02 32 40.5**	**+0.2**
M14K	**Bethel**	**6.52**	**358**	Pn	**Pn**	**02 32 41.5**	**+0.6**
O18K	**Koktuh Hills**	**6.59**	**29**	Pn	**Pn**	**02 32 43.3**	**+1.4**
N17K	**Nushagak Hills**	**6.72**	**19**	Pn	**Pn**	**02 32 44.4**	**+0.8**
M16K	**Timber Creek**	**6.93**	**11**	Pn	**Pn**	**02 32 46.8**	**+0.3**
N18K	**Kilae Creek**	**7.13**	**23**	Pn	**Pn**	**02 32 50.2**	**+1.0**
L14K	**Kuka Creek**	**7.13**	**356**		**Pn**	**02 32 49.9**	**+0.6**
L15K	**Ungalak Mounta**	**7.45**	**0**		**Pn**	**02 32 53.8**	**+0.2**
M17K	**Holitna River**	**7.50**	**15**	Pn	**Pn**	**02 32 55.5**	**+1.2**
L16K	**Owhat River**	**7.56**	**8**	Pn	**Pn**	**02 32 55.2**	**+0.1**
N19K	**Bonanza Creek**	**7.59**	**27**	Pn	**Pn**	**02 32 57.4**	**+1.7**
CNPM	**China Poot**	**7.73**	**43**	Pn	**Pn**	**02 32 58.4**	**+0.8**
M18K	**Stony River**	**7.87**	**20**		**Pn**	**02 32 59.8**	**+0.4**
K13K	**Kusilvak Mount**	**7.88**	**349**		**Pn**	**02 33 00.7**	**+1.2**
K15K	**Wolf Creek Mou**	**8.06**	**0**	Pn	**Pn**	**02 33 02.9**	**+0.8**
L18K	**Granite Mounta**	**8.39**	**16**	Pn	**Pn**	**02 33 07.1**	**+0.6**
M19K	**Big River Lodg**	**8.55**	**23**	Pn	**Pn**	**02 33 09.2**	**+0.4**
J14K	**Nanvaranak Lak**	**8.59**	**354**	Pn	**Pn**	**02 33 09.7**	**+0.5**
K17K	**Iditarod**	**8.66**	**10**	Pn	**Pn**	**02 33 10.2**	**0.0**
L19K	**White Mountain**	**8.70**	**21**	Pn	**Pn**	**02 33 11.2**	**+0.4**
STLK	**Strandline Lak**	**8.91**	**32**	Pn	**Pn**	**02 33 14.2**	**+0.5**
J16K	**Anvik River**	**9.07**	**3**	Pn	**Pn**	**02 33 16.7**	**+0.8**
SUA	**Susitna One**	**9.23**	**34**	Pn	**Pn**	**02 33 17.9**	**-0.3**
J17K	**VABM Dome**	**9.26**	**7**		**Pn**	**02 33 17.7**	**-0.8**
SKT	**Skwentna**	**9.38**	**30**	Pn	**Pn**	**02 33 22.1**	**+2.1**
J18K	**Innoko River**	**9.57**	**13**	Pn	**Pn**	**02 33 22.8**	**+0.1**
P23K	**Montague Islan**	**9.60**	**47**	Pn	**Pn**	**02 33 23.2**	**+0.1**
PWL	**Port Wells**	**9.70**	**42**	Pn	**Pn**	**02 33 23.9**	**-0.5**
K20K	**Telida**	**9.91**	**20**		**Pn**	**02 33 26.2**	**-1.1**
KNK	**Knik Glacier**	**9.99**	**39**		**Pn**	**02 33 27.1**	**-1.5**
GHO	**Glory Hole Cre**	**10.07**	**36**	Pn	**Pn**	**02 33 28.7**	**-0.8**
HIN	**Hinchinbrook I**	**10.19**	**47**		**Pn**	**02 33 30.7**	**-0.5**
J19K	**Poorman**	**10.23**	**15**	Pn	**Pn**	**02 33 32.0**	**+0.4**
EYAK	**Cordova Ski Ar**	**10.59**	**47**	Pn	**Pn**	**02 33 35.6**	**-1.0**
J20K	**Nowinta River**	**10.64**	**18**	Pn	**Pn**	**02 33 37.8**	**+0.5**
SCM	**Sheep Creek Mo**	**10.68**	**39**	Pn	**Pn**	**02 33 36.8**	**-1.1**
KAIM	**Kayak Island**	**10.90**	**52**	Pn	**Pn**	**02 33 40.6**	**-0.3**
KLU	**Klutina**	**11.02**	**43**	Pn	**Pn**	**02 33 41.3**	**-1.3**
HMT	**Hamilton**	**11.14**	**50**	Pn	**Pn**	**02 33 42.8**	**-1.5**
BPAW	**Bear Paw Mtn.**	**11.24**	**24**	Pn	**Pn**	**02 33 46.6**	**+1.1**
M24K	**Tolsona, Glenn**	**11.28**	**40**	Pn	**Pn**	**02 33 46.1**	**0.0**
BMRM	**Bremner River**	**11.28**	**47**	Pn	**Pn**	**02 33 45.5**	**-0.7**
N25K	**Chitina, Valde**	**11.61**	**44**	Pn	**Pn**	**02 33 49.2**	**-1.4**
PAX	**Paxson**	**12.07**	**37**	Pn	**Pn**	**02 33 55.6**	**-1.4**
H21K	**Melozitna Rive**	**12.23**	**17**	Pn	**Pn**	**02 33 59.8**	**+0.7**
RIDG	**Independent Ri**	**12.78**	**35**	Pn	**Pn**	**02 34 05.2**	**-1.4**
IL31		**12.87**	**29**	Pn	**Pn**	**02 34 04.7**	**-2.9**
ILAR	**Eielson Array**	**12.87**	**29**	Pn	**Pn**	**02 34 04.5**	**-3.2**
	comp=E,0.2nm,0.3s,baz=220,slow=14,SNR=13						
	comp=E,0.4nm,0.4s						
DOT	**Dot Lake**	**12.99**	**37**	Pn	**Pn**	**02 34 08.8**	**-0.6**
SCRK	**Sand Creek**	**13.23**	**36**	Pn	**Pn**	**02 34 10.2**	**-2.5**
BCAR	**Beaver Creek A**	**13.50**	**41**	Pn	**Pn**	**02 34 15.6**	**-0.8**
O29M	**Mount Kennedy**	**13.78**	**55**	Pn	**Pn**	**02 34 19.9**	**-0.4**
COLD	**Coldfoot**	**14.11**	**18**	Pn	**Pn**	**02 34 25.0**	**+0.3**
C18K	**Utukok River**	**14.45**	**1**		**P**	**02 34 36.9**	**+0.9**
M29M	**Somme Creek**	**14.56**	**47**	Pn	**Pn**	**02 34 29.8**	**-1.1**
E22K	**Anaktuvuk Pass**	**14.66**	**14**	Pn	**Pn**	**02 34 34.2**	**+1.9**
D20K	**Etivluk River**	**14.69**	**7**	P	**P**	**02 34 39.0**	**+0.4**
N30M	**Aishikik Lake**	**14.81**	**51**	Pn	**Pn**	**02 34 33.4**	**-1.0**
E23K	**Chandalar**	**14.95**	**18**	Pn	**Pn**	**02 34 36.9**	**+0.8**
L29M	**L29M**	**14.98**	**44**	Pn	**Pn**	**02 34 35.8**	**-0.7**
E24K	**Your Creek**	**15.17**	**19**	Pn	**Pn**	**02 34 39.8**	**+0.7**
E24K				IAmb	IAmb	02 34 45.3	
	comp=Z,5.3nm,1.4s						
D22K	**Ayikyak River**	**15.24**	**12**	P	**P**	**02 34 45.5**	**+0.8**
D22K				IAmb	IAmb	02 34 52.3	
	comp=Z,4.1nm,0.9s						
G26K	**Porcupine Rive**	**15.34**	**27**	Pn	**Pn**	**02 34 43.2**	**+2.0**
BMAR	**Burnt Mountain**	**15.50**	**25**	Pn	**Pn**	**02 34 44.2**	**+0.8**
I28M	**Miner Creek**	**15.51**	**35**	Pn	**Pn**	**02 34 40.4**	**-3.1**
D23K	**Nanushuk River**	**15.60**	**15**	Pn	**Pn**	**02 34 45.5**	**+0.9**
D23K				IAmb	IAmb	02 34 49.9	
	comp=Z,6.0nm,1.4s						
B21K	**Ikpikpuk River**	**15.75**	**9**	Pn	**Pn**	**02 34 47.4**	**+0.9**
B21K				IAmb	IAmb	02 34 51.9	
	comp=Z,3.6nm,0.9s						
G27K	**Doyon Strip**	**15.84**	**30**	Pn	**Pn**	**02 34 49.1**	**+1.4**
B20K	**Meade River**	**15.94**	**6**	Pn	**Pn**	**02 34 50.4**	**+1.5**
B20K				IAmb	IAmb	02 34 54.2	
	comp=Z,8.5nm,1.2s						
C23K	**Itkillik River**	**16.41**	**13**	Pn	**Pn**	**02 34 54.8**	**-0.1**
C23K				IAmb	IAmb	02 35 00.9	
	comp=Z,5.8nm,1.0s						
B22K	**Teshekpuk Lake**	**16.55**	**10**	Pn	**Pn**	**02 34 57.1**	**+0.4**
I30M	**Mount Dempster**	**16.64**	**39**	Pn	**Pn**	**02 34 58.0**	**0.0**
G29M	**Pine Creek**	**17.00**	**33**	Pn	**Pn**	**02 35 01.4**	**-1.1**
G29M				IAmb	IAmb	02 35 04.5	
	comp=Z,8.0nm,1.2s						
G30M	**tAoh Zraii Nji**	**17.62**	**34**	Pn	**Pn**	**02 35 08.8**	**-1.4**
G30M				IAmb	IAmb	02 35 12.3	
	comp=Z,8.0nm,1.3s						
MMPY	**Sheldon Lake,**	**17.77**	**50**		**Pn**	**02 35 12.5**	**+0.3**
MMPY				IAmb	IAmb	02 35 14.8	
	comp=Z,3.1nm,0.9s						
F30M	**Barrier River**	**18.12**	**32**		**Pn**	**02 35 15.7**	**-0.6**
G31M	**Satah River**	**18.24**	**35**		**Pn**	**02 35 15.2**	**-2.5**
G31M				IAmb	IAmb	02 35 18.2	
	comp=Z,7.0nm,1.4s						
F31M	**Tsiigehtchic**	**18.68**	**34**	P	**P**	**02 35 21.2**	**-1.5**
INK	**Inuvik**	**19.22**	**32**	P	**P**	**02 35 27.8**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=258,slow=7.5,SNR=17						
	comp=Z,1.2nm,0.4s						
C36M	**Paulatuk**	**22.74**	**34**	P	**P**	**02 36 04.8**	**-1.6**
A36M	**Sachs Harbour**	**23.55**	**27**	P	**P**	**02 36 12.9**	**-1.8**
PETK	**Petropavlovsk-**	**23.93**	**284**	P	**P**	**02 36 16.1**	**-2.4**
	comp=Z,1.1nm,0.5s,baz=83,slow=13,SNR=6.1						
	comp=Z,1.1nm,0.5s						
YKAW3	**Yellowknife Wh**	**25.42**	**52**	P	**P**	**02 36 32.5**	**+0.7**
YKAW3				IAmb	IAmb	02 36 43.1	
	comp=Z,4.2nm,1.4s						
YKA	**Yellowknife Ar**	**25.42**	**52**	P	**P**	**02 36 32.0**	**0.0**
YKA	**Yellowknife Ar**	**25.42**	**52**	P	**P**	**02 36 34.0**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=304,slow=19,SNR=9.0						
	comp=Z,0.4nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**42.03**	**227**	T	T	03 23 45.0	
	baz=27,slow=76,SNR=368						
H11N3	**WAKE ISLAND Hy**	**42.04**	**227**	T	T	03 23 45.5	
	baz=27,slow=76,SNR=350						
H11N1	**WAKE ISLAND Hy**	**42.05**	**227**	T	T	03 23 46.4	
	baz=27,slow=76,SNR=282						
H11S1	**WAKE ISLAND Hy**	**43.20**	**227**	T	T	03 25 12.5	
	baz=26,slow=76,SNR=387						
H11S2	**WAKE ISLAND Hy**	**43.21**	**227**	T	T	03 25 17.1	
	baz=26,slow=76,SNR=264						
H11S3	**WAKE ISLAND Hy**	**43.22**	**227**	T	T	03 25 16.9	
	baz=26,slow=76,SNR=234						
TXAR	**Lajitas Array**	**48.16**	**97**	P	**P**	**02 39 47.3**	**+2.5**
	comp=Z,0.1nm,0.4s,baz=317,slow=6.6,SNR=1.8						
	comp=Z,0.1nm,0.4s						
ARCES	**ARCESS Array B**	**56.41**	**357**	P	**P**	**02 40 45.4**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=13,slow=8.3,SNR=4.1						
	comp=Z,1.1nm,0.7s						
HHC	**Hu-ho-hao-te**	**56.51**	**295**	*e*P	**P**	**02 40 46.3**	**-0.4**
FINES	**FINESS Array B**	**64.49**	**356**	P	**P**	**02 41 39.4**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=0.0,slow=7.6,SNR=5.9						
	comp=Z,0.7nm,0.6s						
NOA	**NORSAR Array B**	**64.91**	**4**	P	**P**	**02 41 43.5**	**0.0**
	comp=Z,0.8nm,0.9s,baz=356,slow=6.9,SNR=3.4						
	comp=Z,0.8nm,0.9s						
MKAR	**Makanchi Array**	**65.76**	**317**	P	**P**	**02 41 48.6**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=67,slow=7.9,SNR=2.4						
	comp=Z,0.2nm,0.4s						
HFS	**Hagfors**	**65.90**	**3**	P	**P**	**02 41 50.0**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=25,slow=3.9,SNR=42						
	comp=Z,2.3nm,0.4s						
EKA	**Eskdalemuir Ar**	**69.34**	**13**	P	**P**	**02 42 12.5**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=340,slow=4.3,SNR=9.5						
	comp=Z,0.7nm,0.5s						
AKASG	**Malin Array Be**	**75.03**	**353**	P	**P**	**02 42 45.5**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=14,slow=6.5,SNR=4.7						
	comp=Z,0.6nm,0.4s						
GERES	**GERESS Array B**	**77.20**	**3**	P	**P**	**02 42 58.1**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=38,slow=6.1,SNR=2.9						
	comp=Z,0.4nm,0.5s					

DRN	**Derbent**	**0.70**	**190**	*e*Pg	**Pb**	**02 38 43.6 +1.0**
DRN				*e*Sg	**Sb**	**02 38 53.4 +1.4**
DRN	**Derbent**	**0.70**	**190**	*e*P	**Pb**	**02 38 43.6 +1.0**
DRN				*e*S	**Sb**	**02 38 53.4 +1.4**
MAK	**Makhachkala**	**0.76**	**289**	⇑*i*P	**Pn**	**02 38 46.6 +1.6**
MAK				*e*S	**Sn**	**02 38 56.1 -0.2**
MAK				pmax	pmax	
	comp=Z,208nm,0.4s					
MAK				smax	smax	
	comp=N,2μm,0.5s					
MAK				smax	smax	
	comp=N,2μm,0.5s					
URKR	**Urkarakh**	**0.84**	**229**	*i* Pg	**Pb**	**02 38 45.5 +0.4**
URKR				*e*Sg	**Sb**	**02 38 56.2 -0.1**
URKR	**Urkarakh**	**0.84**	**229**	*i* P	**Pb**	**02 38 45.5 +0.4**
URKR				*e*S	**Sb**	**02 38 56.2 -0.1**
KANR	**Karaman**	**0.88**	**303**	*e*Pg	**Pn**	**02 38 49.9 +3.3**
KANR				*e*Sg	**Sn**	**02 39 03.5 +4.4**
KANR	**Karaman**	**0.88**	**303**	*e*P	**Pn**	**02 38 49.9 +3.3**
KANR				*e*S	**Sn**	**02 39 03.5 +4.4**
BUJR	**Buynaksk**	**1.02**	**277**	*e*Pg	**Pn**	**02 38 49.6 +1.0**
BUJR				*e*Sg	**Sb**	**02 39 02.3 +0.8**
BUJR	**Buynaksk**	**1.02**	**277**	*e*P	**Pn**	**02 38 49.6 +1.0**
BUJR				*e*S	**Sb**	**02 39 02.3 +0.8**
ARKR	**Arakani**	**1.11**	**265**	*e*Pg	**Pb**	**02 38 50.2 +0.5**
ARKR				*e*Sg	**Sb**	**02 39 04.7 +0.7**
ARKR	**Arakani**	**1.11**	**265**	*e*P	**Pb**	**02 38 50.2 +0.5**
ARKR				*e*S	**Sb**	**02 39 04.7 +0.7**
KSMR	**Kasumkent**	**1.15**	**194**	*e*Pg	**Pg**	**02 38 50.5 -0.3**
KSMR				*e*Sg	**Sg**	**02 39 05.2 -0.5**
KSMR	**Kasumkent**	**1.15**	**194**	⇓*e*P	**Pg**	**02 38 50.5 -0.3**
KSMR				*e*S	**Sg**	**02 39 05.2 -0.5**
KRNR	**Karanay**	**1.17**	**276**	*e*Pg	**Pb**	**02 38 51.6 +0.9**
KRNR				*e*Sg	**Sb**	**02 39 06.5 +0.7**
KRNR	**Karanay**	**1.17**	**276**	*e*P	**Pb**	**02 38 51.7 +0.9**
KRNR				*e*S	**Sb**	**02 39 06.5 +0.7**
GNBR	**Gunib**	**1.17**	**254**	*e*Pg	**Pb**	**02 38 51.5 +0.7**
GNBR				*e*Sg	**Sn**	**02 39 07.0 +0.5**
GNBR	**Gunib**	**1.17**	**254**	*e*P	**Pb**	**02 38 51.5 +0.7**
GNBR				*e*S	**Sn**	**02 39 07.0 +0.5**
KMKR	**Kumukh**	**1.19**	**241**	*e*P	**Pb**	**02 38 51.5 +0.5**
KMKR				*e*S	**Sb**	**02 39 06.2 -0.1**
UNCR	**Uncukul**	**1.25**	**270**	*i* Pg	**Pb**	**02 38 52.8 +0.7**
UNCR				*e*Sg	**Sb**	**02 39 08.6 +0.6**
UNCR	**Uncukul**	**1.25**	**270**	*i* P	**Pb**	**02 38 52.8 +0.7**
UNCR				*e*S	**Sb**	**02 39 08.6 +0.6**
DBC	**Dubki**	**1.26**	**285**	*i* Pg	**Pn**	**02 38 53.2 +1.3**
DBC				*e*Sg	**Sn**	**02 39 10.3 +1.7**
DBC	**Dubki**	**1.26**	**285**	*i* P	**Pn**	**02 38 53.2 +1.3**
DBC				*e*S	**Sn**	**02 39 10.3 +1.7**
HNZR	**Khunzah**	**1.32**	**264**	*i* P	**Pn**	**02 38 54.1 +1.3**
HNZR				*e*S	**Sn**	**02 39 11.5 +1.3**
XNZR	**Khunzakh**	**1.33**	**263**	*i* Pg	**Pn**	**02 38 54.1 +1.2**
XNZR				*e*Sg	**Sn**	**02 39 11.5 +1.0**
AKT	**Akhty**	**1.36**	**205**	*e*Pg	**Pn**	**02 38 53.5 +0.2**
AKT				*e*Sg	**Sb**	**02 39 09.6 -1.7**
AKT	**Akhty**	**1.36**	**205**	⇓*i*P	**Pn**	**02 38 53.4 +0.1**
AKT				*e*S	**Sb**	**02 39 09.9 -1.3**
AKT				pmax	pmax	
	comp=Z,425nm,0.3s					
AKT				smax	smax	
	comp=E,2μm,0.3s					
AKT				smax	smax	
	comp=N,2μm,0.2s					
AKT				smax	smax	
	comp=N,2μm,0.2s					
DLMR	**Dylym**	**1.41**	**285**	*e*Pg	**Pg**	**02 38 56.2 +0.3**
DLMR				*e*Sg	**Sn**	**02 39 15.1 +2.8**
DLMR	**Dylym**	**1.41**	**285**	*e*P	**Pg**	**02 38 56.2 +0.3**
DLMR				*e*S	**Sn**	**02 39 15.1 +2.8**
BTLR	**Botlikh**	**1.67**	**269**	*e*Pg	**Pb**	**02 38 59.7 +0.4**
BTLR				*e*Sg	**Sg**	**02 39 21.7 -0.9**
BTLR	**Botlikh**	**1.67**	**269**	*e*P	**Pb**	**02 38 59.7 +0.4**
BTLR				*e*S	**Sg**	**02 39 21.7 -0.9**
LGD	**Lagodekhi**	**1.89**	**243**	P	**Pb**	**02 39 02.6 -0.3**
LGD				S	**Sn**	**02 39 24.0 0.0**
LGD	**Lagodekhi**	**1.89**	**243**	*e*Pg	**Pb**	**02 39 02.6 -0.3**
LGD				*e*Sg	**Sn**	**02 39 24.0 0.0**
LGD	**Lagodekhi**	**1.89**	**243**	*e*P	**Pb**	**02 39 02.6 -0.3**
LGD				*e*S	**Sn**	**02 39 24.0 0.0**
VSHL	**Vashlovani**	**2.15**	**227**	P	**Pb**	**02 39 07.8 +0.3**
VSHL				S	**Sg**	**02 39 36.8 -1.1**
SHTL	**Shatili**	**2.46**	**270**	P	**Pn**	**02 39 10.8 +2.3**
SHTL				S	**Sb**	**02 39 41.9 -1.1**
SHTL	**Shatili**	**2.46**	**270**	P	**Pn**	**02 39 10.8 +2.3**
SHTL				S	**Sb**	**02 39 41.9 -1.1**
CHRG	**Chargali**	**2.66**	**263**	P	**Pb**	**02 39 14.9 -1.3**
CHRG				S	**Sb**	**02 39 50.5 +1.8**
MTEO	**Meteo**	**2.92**	**271**	P	**Pn**	**02 39 18.4 +3.3**
MTEO				S	**Sb**	**02 39 56.5 +0.1**
BTNK	**Botanikuri**	**2.93**	**251**	P	**Pn**	**02 39 17.6 +2.8**
BTNK				S	**Sn**	**02 39 52.4 +2.6**
TBLG	**Delisi**	**2.96**	**252**	P	**Pn**	**02 39 18.3 +3.1**
TBLG				S	**Sn**	**02 39 53.5 +3.1**
TBLG	**Delisi**	**2.96**	**252**	P	**Pn**	**02 39 18.3 +3.1**
TBLG				S	**Sn**	**02 39 53.5 +3.1**
BTKR	**Batakoyurt**	**2.97**	**284**	*e*Pn	**Pn**	**02 39 18.1 +2.7**
BTKR				*i* Sn	**Sb**	**02 39 54.8 -2.6**
BTKR	**Batakoyurt**	**2.97**	**284**	*e*P	**Pn**	**02 39 18.1 +2.7**
BTKR				*i* S	**Sb**	**02 39 54.8 -2.6**
LACR	**Lac**	**3.09**	**273**	*e*P	**Pn**	**02 39 20.1 +3.0**
LACR				*e*S	**Sb**	**02 39 58.4 -2.6**
STDR	**Stavd-Durt**	**3.31**	**283**	*e*P	**Pn**	**02 39 23.0 +3.0**
STDR				*e*S	**Sb**	**02 40 04.3 -2.9**
KZRT	**Kazreti**	**3.32**	**248**	P	**Pn**	**02 39 21.5 +1.2**
KZRT				S	**Sn**	**02 39 58.8 -0.8**
KZRT	**Kazreti**	**3.32**	**248**	P	**Pn**	**02 39 21.5 +1.2**
KZRT				S	**Sn**	**02 39 58.8 -0.8**
TRLG	**Trialeti**	**3.47**	**252**	P	**Pn**	**02 39 24.8 +2.4**
TRLG				S	**Sn**	**02 40 04.7 +1.4**
TRLG	**Trialeti**	**3.47**	**252**	P	**Pn**	**02 39 24.8 +2.4**
TRLG				S	**Sn**	**02 40 04.7 +1.4**
GNI	**Garni**	**3.81**	**229**	Pn	**Pn**	**02 39 27.3 +0.3**
	comp=N,0.8nm,0.3s,baz=105,slow=10.0,SNR=3.9					
GNI				Pg	**Pb**	**02 39 36.6 +0.8**
	comp=N,2.9nm,0.3s,baz=266,slow=6.8,SNR=11					
GNI				Lg	Lg	02 40 26.2
	comp=N,2.3nm,0.3s,baz=13,slow=18,SNR=3.8					
	comp=N,3.3nm,0.6s					
GNI	**Garni**	**3.81**	**229**	*e*Pn	**Pn**	**02 39 30.0 +2.9**
GNI				*e*Sn	**Sn**	**02 40 13.1 +1.4**
GNI	**Garni**	**3.81**	**229**	*e*P	**Pn**	**02 39 30.0 +2.9**
GNI				*e*S	**Sn**	**02 40 13.1 +1.4**
KBTC	**Kuba-Taba**	**3.87**	**288**	*e*Pn	**Pn**	**02 39 30.7 +2.9**
KBTC				*e*Sn	**Sn**	**02 40 14.0 +1.0**
KBTC	**Kuba-Taba**	**3.87**	**288**	*e*P	**Pn**	**02 39 30.7 +2.9**
KBTC				*e*S	**Sn**	**02 40 14.0 +1.0**
TKB	**Tkibuli**	**4.08**	**267**	P	**Pn**	**02 39 32.1 +1.5**
TKB	**Tkibuli**	**4.08**	**267**	P	**Pn**	**02 39 32.1 +1.5**
PYA1	**Pyatigorsk**	**4.16**	**291**	*e*Pn	**Pn**	**02 39 32.6 +0.9**
PYA1				*e*Sn	**Sn**	**02 40 18.6 -1.4**
PYA1	**Pyatigorsk**	**4.16**	**291**	*e*P	**Pn**	**02 39 32.6 +0.9**
PYA1				*e*S	**Sn**	**02 40 18.6 -1.4**
KBZ	**Khabaz**	**4.21**	**286**	Pn	**Pn**	**02 39 32.9 +0.5**
	comp=N,1.0nm,0.3s,baz=120,slow=3.6,SNR=22					
KBZ				Sn	**Sn**	**02 40 20.7 -0.6**
	comp=N,1.6nm,0.3s,baz=88,slow=8.9,SNR=7.1					
KBZ				Lg	Lg	02 40 43.0
	comp=N,1.5nm,0.3s,baz=305,slow=5.3,SNR=4.1					
	comp=N,2.1nm,0.3s					
KBZ	**Khabaz**	**4.21**	**286**	*e*Pn	**Pn**	**02 39 32.4 0.0**
KBZ				*e*Sn	**Sn**	**02 40 19.7 -1.6**
KBZ	**Khabaz**	**4.21**	**286**	*e*P	**Pn**	**02 39 32.4 0.0**
KBZ				*e*S	**Sn**	**02 40 19.7 -1.6**
BEYR	**Belyy Ugol+**	**4.33**	**289**	*e*Pn	**Pn**	**02 39 35.4 +1.2**
BEYR				*e*Sn	**Sn**	**02 40 23.2 -1.2**
BEYR	**Belyy Ugol+**	**4.33**	**289**	*e*P	**Pn**	**02 39 35.3 +1.2**
BEYR				*e*S	**Sn**	**02 40 23.2 -1.2**
SHA1	**Shidzhatmaz**	**4.38**	**285**	*e*Pn	**Pn**	**02 39 36.7 +1.7**
SHA1				*e*Sn	**Sn**	**02 40 26.6 +0.7**
SHA1	**Shidzhatmaz**	**4.38**	**285**	*e*P	**Pn**	**02 39 36.7 +1.7**
SHA1				*e*S	**Sn**	**02 40 26.6 +0.7**
KIV0	**Kislovodsk Arr**	**4.40**	**288**	*e*Pn	**Pn**	**02 39 36.8 +1.7**
KIV0				*e*Sn	**Sn**	**02 40 24.5 -1.8**
KVAR	**Kislovodsk Arr**	**4.40**	**288**	Pn	**Pn**	**02 39 36.8 +1.7**
	baz=150,slow=20					
KVAR				Sn	**Sn**	**02 40 25.0 -1.3**
	baz=215,slow=11					
KVAR				Lg	Lg	02 40 48.9
	baz=144,slow=19					
	comp=N,2.4nm,0.3s					
KIV	**Kislovodsk**	**4.41**	**288**	*e*Pn	**Pn**	**02 39 37.2 +1.9**
KIV				*e*Sn	**Sn**	**02 40 25.7 -0.7**
KIV	**Kislovodsk**	**4.41**	**288**	*e*P	**Pn**	**02 39 36.8 +1.6**
KIV				*e*S	**Sn**	**02 40 24.5 -1.9**
GRYR	**Gornoye**	**5.57**	**287**	*e*Pn	**Pn**	**02 39 52.5 +1.4**
GRYR				*e*Sn	**Sn**	**02 40 57.4 +2.6**
BELG	**Belogornoye**	**9.70**	**357**	Sn	**Sn**	**02 42 33.2 -3.1**
	comp=N,2.1nm,0.3s,baz=7.7,slow=23,SNR=6.9					
AKTO	**Aktyubinsk**	**10.12**	**37**	Pn	**Pn**	**02 40 53.6 +0.1**
	comp=N,0.4nm,0.3s,baz=209,slow=10.0,SNR=5.6					
AKTO				Sn	**Sn**	**02 42 43.8 -2.9**
	comp=N,0.8nm,0.3s,baz=20,slow=22,SNR=7.2					
	comp=N,1.2nm,0.3s					
AKTO	**Aktyubinsk**	**10.12**	**37**	⇓Pn	**Pn**	**02 40 53.8 +0.4**
	comp=N,0.4nm,0.3s					
AKTO				⇓Sn	Sn	02 42 42.0 -4.7
	comp=N,3.3nm,0.7s					
AB31	**Akbulak array**	**10.30**	**47**	⇑Pn	**Pn**	**02 40 57.5 +1.6**
	comp=N,0.3nm,0.4s,baz=242,slow=13,SNR=22					
AB31				⇓Sn	**Sn**	**02 42 47.9 -3.2**
	comp=N,0.6nm,0.3s,baz=236,slow=28,SNR=7.5					
AKASG	**Malin Array Be**	**15.41**	**308**	Pn	**Pn**	**02 42 01.4 -4.0**
	comp=N,0.6nm,0.3s,baz=116,slow=11,SNR=4.0					
	comp=N,0.6nm,0.7s					
KURBB	**Kurchatov Arra**	**21.96**	**58**	P	**P**	**02 43 22.9 +1.1**
	comp=N,0.2nm,0.5s,baz=269,slow=12,SNR=1.7					
	comp=N,0.2nm,0.5s					
KURK	**Kurchatov**	**22.03**	**58**	P	**P**	**02 43 22.9 +0.3**
FINES	**FINESS Array B**	**23.05**	**332**	P	**P**	**02 43 32.6 -0.6**
	comp=N,0.6nm,0.4s,baz=133,slow=11,SNR=7.8					
	comp=N,0.6nm,0.4s					
MKAR	**Makanchi Array**	**24.23**	**69**	P	**P**	**02 43 46.5 +1.5**
	comp=N,0.2nm,0.5s,baz=253,slow=11,SNR=1.9					
	comp=N,0.2nm,0.5s					
HFS	**Hagfors**	**27.37**	**322**	P	**P**	**02 44 13.4 +0.3**
	comp=N,0.5nm,0.3s,baz=104,slow=8.9,SNR=11					
	comp=N,0.5nm,0.3s					
NOA	**NORSAR Array B**	**28.85**	**322**	P	**P**	**02 44 26.0 -0.4**
	comp=N,0.1nm,0.4s,baz=116,slow=8.4,SNR=3.2					
	comp=N,0.1nm,0.4s					
ARCES	**ARCESS Array B**	**29.38**	**344**	P	**P**	**02 44 31.3 +0.3**
	comp=N,0.6nm,0.7s,baz=134,slow=8.7,SNR=4.4					
	comp=N,0.6nm,0.7s					
KEST	**Kesra**	**30.91**	**270**	P	**P**	**02 44 44.1 -0.7**
	comp=N,1.4nm,0.7s,baz=356,slow=1.5,SNR=4.4					
	comp=N,1.4nm,0.7s					
EKA	**Eskdalemuir Ar**	**35.31**	**309**	P	**P**	**02 45 22.4 -0.6**
	comp=N,0.3nm,0.4s,baz=93,slow=8.3,SNR=11					
	comp=N,0.3nm,0.4s					
SPITS	**Spitsbergen Ar**	**37.81**	**350**	P	**P**	**02 45 45.0 +1.0**
	comp=N,4.0nm,1.1s,baz=146,slow=11,SNR=6.7					
	comp=N,4.0nm,1.1s					

VAO ***29*** *02:44:18.1±0.6, 7˙.44N×73˙.27W, h214km±5km, mb4.1*
NEIC ***29*** *02:44:20.6±1.5, 6˙.85N±0˙.06×72˙.98W±0˙.05, h146km±6km, mb4.1/46, Error ellipse: s-maj=9.6km s-min=6.1km az=152.0*
IDC ***29*** *02:44:20.8±0.7, 6˙.80N×72˙.98W, h160km±7km, mb3.5/7, mbtmp4.0/10, Error ellipse: s-maj=14.5km s-min=7.3km az=128.0*
RSNC ***29*** *02:44:21.8±0.0, 7˚N±1˚×7˚3W±˚, h150km±2km, M4.0, mB5.0, mb4.3, ML3.7, MLv4.4, Mw(mB)4.3*
ISC 29 02:44:20.6±0.5, **6˙87N**±0˙03×**73˙07W**±0˙03, **h151**km±5km, **n143**, σ1§**56**/185, **mb4.1**/30, **1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**			P	**Pn**		**02 44 42.2**	**+0.6**
BARC				S	**Sn**		**02 44 57.4**	**-0.2**
PAMC	**Pamplona, Colo**	**0.59**	**39**	P	**Pn**		**02 44 45.0**	**+1.8**
PAMC				S	**Sn**		**02 45 02.1**	**+1.8**
BRJC	**Barrancabermej**	**0.68**	**278**	P	**Pn**		**02 44 43.8**	**+0.7**
BRJC				S	**Sn**		**02 45 00.7**	**+0.6**
RUSC	**La Rusia**	**0.97**	**181**		**Pn**		**02 44 45.8**	**-0.1**
RUSC				Sn	**Sn**		**02 45 03.6**	**-1.5**
RUSC	**La Rusia**	**0.97**	**181**	P	**Pn**		**02 44 46.1**	**+0.2**
RUSC				S	**Sn**		**02 45 04.8**	**-0.3**
TAMC	**Tame, Arauca**	**1.34**	**109**	P	**Pn**		**02 44 50.6**	**+1.9**
TAMC				S	**Sn**		**02 45 12.1**	**+1.9**
OCAC	**Ocana**	**1.38**	**350**	P	**Pn**		**02 44 50.1**	**+0.9**
OCAC				S	**Sn**		**02 45 12.0**	**+0.9**
PTBC	**PUERTO BERRIO,**	**1.42**	**257**	P	**Pn**		**02 44 48.8**	**-0.6**
PTBC				S	**Sn**		**02 45 09.7**	**-1.7**
ZARC	**Zaragoza, Cauc**	**1.88**	**289**	P	**Pn**		**02 44 54.6**	**+0.2**
ZARC				S	**Sn**		**02 45 20.0**	**-0.3**
NORC	**Norcasia**	**2.21**	**234**	P	**Pn**		**02 44 58.1**	**-0.3**
NORC				S	**Sn**		**02 45 25.5**	**-1.9**
CHIC	**Chingaza**	**2.32**	**196**	P	**Pn**		**02 45 00.4**	**+0.3**
CHIC				S	**Sn**		**02 45 29.7**	**-0.7**
ROSC	**El Rosal**	**2.37**	**212**	Pn	**Pn**		**02 45 01.7**	**+1.1**
ROSC	**El Rosal**	**2.37**	**212**	P	**Pn**		**02 45 02.5**	**+1.8**
	172nm,0.3s,baz=79,slow=11,SNR=73							
ROSC				S	**Sn**		**02 45 32.3**	**+0.9**
	816nm,0.4s,baz=117,slow=19,SNR=17							
ROSC	**El Rosal**	**2.37**	**212**	P	**Pn**		**02 45 02.2**	**+1.6**
ROSC				S	**Sn**		**02 45 32.3**	**+0.9**
CVER	**Cruz Verde, Cu**	**2.54**	**203**	P	**Pn**		**02 45 04.0**	**+1.2**
CVER				S	**Sn**		**02 45 35.2**	**0.0**
UREC	**San Jos de Ur**	**2.59**	**290**	P	**Pn**		**02 45 02.1**	**-0.8**
UREC				S	**Sn**		**02 45 33.5**	**-2.1**
GUY2C	**Guyana, Caldas**	**2.81**	**234**	P	**Pn**		**02 45 06.8**	**+0.7**
GUY2C				S	**Sn**		**02 45 42.3**	**+1.2**
PTGC	**Puerto Gaitan,**	**2.82**	**161**	P	**Pn**		**02 45 05.7**	**0.0**
PTGC				S	**Sn**		**02 45 38.5**	**-2.1**
NIZA	**Niza - Manizal**	**2.99**	**233**	P	**Pn**		**02 45 09.8**	**+1.6**
NIZA				S	**Sn**		**02 45 46.8**	**+1.8**
CBOC	**Ciudad Bolivar**	**3.09**	**251**	P	**Pn**		**02 45 09.9**	**+0.6**
CBOC				S	**Sn**		**02 45 46.1**	**-0.9**
DBBC	**Dabeiba**	**3.12**	**273**	P	**Pn**		**02 45 09.8**	**+0.2**
DBBC				S	**Sn**		**02 45 45.7**	**-1.8**
SDV	**Santo Domingo**	**3.14**	**50**	Pn	**Pn**		**02 45 11.2**	**+1.2**
SDV	**Santo Domingo**	**3.14**	**50**	P	**Pn**		**02 45 11.9**	**+2.0**
	132nm,0.3s,baz=181,slow=1.8,SNR=100							
SDV				S	**Sn**		**02 45 48.1**	**0.0**
	194nm,0.5s,baz=49,slow=22,SNR=22							
SDV	**Santo Domingo**	**3.14**	**50**	P	**Pn**		**02 45 11.5**	**+1.6**
SDV				S	**Sn**		**02 45 47.7**	**-0.4**
SDV	**Santo Domingo**	**3.14**	**50**	*e*P	**Pn**		**02 45 11.7**	**+1.7**
SDV				*e*S	**Sn**		**02 45 47.8**	**-0.3**
ARCC	**Ariguani, Magd**	**3.19**	**339**	P	**Pn**		**02 45 12.2**	**+1.8**
ARGC				S	**Sn**		**02 45 50.8**	**+1.8**
ANIL	**Santa Ana**	**3.31**	**225**	P	**Pn**		**02 45 12.7**	**+0.4**
ANIL				S	**Sn**		**02 45 54.2**	**+1.9**
PRAC	**Prado**	**3.62**	**210**	P	**Pn**		**02 45 16.0**	**-0.1**
PRAC				S	**Sn**		**02 45 57.6**	**-1.5**
SJCC	**San Jacinto, C**	**3.66**	**325**	P	**Pn**		**02 45 15.8**	**-0.7**
SJCC				S	**Sn**		**02 45 57.5**	**-2.4**
LCBC	**Los crdobas,**	**3.81**	**301**	P	**Pn**		**02 45 18.4**	**-0.1**
LCBC				S	**Sn**		**02 46 02.1**	**-1.3**
URMC	**La Uribe, Meta**	**3.83**	**200**	P	**Pn**		**02 45 19.1**	**+0.3**
URMC				S	**Sn**		**02 46 02.3**	**-1.7**
CRJC	**Cerrejon, Guaj**	**4.12**	**3**	P	**Pn**		**02 45 22.1**	**-0.5**
CRJC				S	**Sn**		**02 46 09.2**	**-1.7**
GUVC	**San Jose del G**	**4.32**	**174**	P	**Pn**		**02 45 24.6**	**-0.6**
GUVC				S	**Sn**		**02 46 13.5**	**-1.9**
SMRC	**Santa Marta, M**	**4.41**	**345**	Pn	**Pn**		**02 45 26.0**	**-0.3**
SMRC	**Santa Marta, M**	**4.41**	**345**	P	**Pn**		**02 45 27.3**	**+1.0**
SMRC				S	**Sn**		**02 46 15.3**	**-2.2**
PIZC	**Pizarro, Choco**	**4.67**	**246**	P	**Pn**		**02 45 31.9**	**+2.2**
PTAC	**Punta Ardita,**	**4.71**	**274**	P	**Pn**		**02 45 30.0**	**-0.2**
PTAC				S	**Sn**		**02 46 23.2**	**-1.3**
MACC	**Macarena, Meta**	**4.76**	**189**	P	**Pn**		**02 45 29.6**	**-1.3**
MACC				S	**Sn**		**02 46 22.2**	**-3.6**
URIC	**Uribia, Colomb**	**4.91**	**12**	P	**Pn**		**02 45 32.2**	**-0.7**
JAMC	**Jamundi, Valle**	**5.11**	**225**	P	**Pn**		**02 45 35.3**	**-0.4**
	0.2nm856nm28nm,0.6s							
JAMC				S	**Sn**		**02 46 35.0**	**+0.7**
	0.2nm856nm28nm,0.6s							
MALC	**Bahia Malaga**	**5.11**	**236**	P	**Pn**		**02 45 36.6**	**+1.1**
GARC	**Garzon, Huila**	**5.24**	**208**	P	**Pn**		**02 45 36.7**	**-0.9**
GARC				S	**Sn**		**02 46 33.1**	**-4.5**
BAUV	**El Baul**	**5.39**	**67**	Pn	**Pn**		**02 45 37.9**	**-1.3**
POPC	**Popayan, Colom**	**5.61**	**220**	P	**Pn**		**02 45 42.1**	**-0.2**
	16nm,0.5s							
POPC				S	**Sn**		**02 46 47.5**	**+1.3**
	16nm,0.5s							
FLOC	**Florencia**	**5.85**	**206**	Pn	**Pn**		**02 45 45.0**	**-0.5**
FLOC	**Florencia**	**5.85**	**206**	P	**Pn**		**02 45 44.8**	**-0.6**
	485nm27nm,0.8s							
BBAC	**Balboa, Cauca**	**6.37**	**221**	P	**Pn**		**02 45 53.3**	**+0.8**
	1μm24nm,0.4s							
BBAC				S	**Sn**		**02 47 03.0**	**-1.4**
	1μm24nm,0.4s							
CRUC	**La Cruz**	**6.54**	**216**	P	**Pn**		**02 45 58.8**	**+3.9**
OTAV	**Otavalo**	**8.50**	**219**	*e*P	**Pn**		**02 46 21.6**	**+0.4**
SGC2	**Sao Gabriel da**	**9.26**	**139**	P	**Pn**		**02 46 28.6**	**-2.2**
SGC2				S	**Sn**		**02 48 12.6**	**-0.9**
PRVC	**Isla de Provid**	**10.41**	**309**	P	**Pn**		**02 46 44.2**	**-1.8**
PRVC				S	Sn		02 48 34.2	-7.1
LCR2	**La Lucha 2**	**11.19**	**285**	Pn	**Pn**		**02 46 56.6**	**+0.1**
STH	**Stony Hill**	**11.72**	**342**	*e*P	**Pn**		**02 47 06.0**	**+2.8**
STH	**Stony Hill**	**11.72**	**342**	⇓*i*P	**Pn**		**02 47 06.2**	**+3.0**
MCJ	**Malvern**	**11.87**	**338**	*i* P	**Pn**		**02 47 08.2**	**+2.9**
MTDJ	**Mount Denham**	**12.09**	**339**	Pn	**Pn**		**02 47 10.4**	**+2.2**
MTDJ	**Mount Denham**	**12.09**	**339**	*e*P	**Pn**		**02 47 11.7**	**+3.5**
MTDJ				IAmb	IAmb		02 49 27.3	
	60nm,0.9s							
MTDJ				IAmb	IAmb		02 49 28.5	
	comp=Z,46nm,0.7s							
SDDR	**Presa de Saban**	**12.16**	**8**	*e*P	**P**		**02 47 13.3**	**-2.0**
SDDR				*e*S	**Sn**		**02 49 17.3**	**-6.3**
JTS	**Las Juntas de**	**12.23**	**287**	P	**Pn**		**02 47 12.7**	**+2.7**
	5.1nm,1.0s,baz=290,slow=1.7,SNR=6.7							
GTBY	**Guantanamo Bay**	**13.13**	**352**	P	**P**		**02 47 25.8**	**-0.1**
GTBY	**Guantanamo Bay**	**13.13**	**352**	*e*P	**P**		**02 47 25.0**	**-0.9**
GTBY	**Guantanamo Bay**	**13.13**	**352**	P	**P**		**02 47 25.6**	**-0.3**
GTBY				S	**Sn**		**02 49 42.4**	**-4.3**
BOAV	**Boa Vista**	**13.27**	**109**	Pn	**Pn**		**02 47 21.9**	**-1.4**
BOAV	**Boa Vista**	**13.27**	**109**	*e*P	**Pn**		**02 47 21.0**	**-2.4**
RCC	**Rio Carpintero**	**13.29**	**349**	*e*P	**P**		**02 47 27.8**	**0.0**
RCC				*e*S	**Sn**		**02 49 43.6**	**-7.0**
TEFE	**Tefe**	**13.31**	**141**	*e*P	**Pn**		**02 47 23.2**	**-0.6**
MARVS	**Santiago de Cu**	**13.34**	**348**	*e*P	**Pn**		**02 47 26.9**	**+2.8**
MARVS				*e*S	Sn		02 49 21.7	-30
QMBU	**Quimbuelo**	**13.35**	**353**	*e*P	**P**		**02 47 28.1**	**-0.4**
CHIV	**Chivirico**	**13.42**	**346**	*e*P	**P**		**02 47 28.6**	**-0.6**
PILO	**Pilon**	**13.62**	**342**	*e*P	**P**		**02 47 30.8**	**-0.8**
LMGC	**Las Mercedes**	**13.66**	**344**	*e*P	**P**		**02 47 31.0**	**-0.9**
PINC	**Pinares de May**	**13.79**	**349**	*e*P	**P**		**02 47 34.0**	**+0.7**
CZSB	**Cruzeiro do Su**	**14.51**	**179**	Pn	**Pn**		**02 47 38.0**	**-1.0**
CZSB	**Cruzeiro do Su**	**14.51**	**179**	*e*P	**Pn**		**02 47 39.2**	**+0.2**
MACA	**Manacapuru-AM**	**15.88**	**128**	*e*P	**P**		**02 47 56.2**	**-0.4**
TEIG	**Tepich**	**19.84**	**313**	P	**P**		**02 48 40.5**	**+0.7**
ITTB	**Itaituba**	**20.59**	**122**	*e*P	**P**		**02 48 47.3**	**-0.7**
MAL2	**Monte Alegre,**	**20.82**	**114**	P	**P**		**02 48 50.8**	**+0.3**
MAL2				IAmb	IAmb		02 49 18.1	
	comp=Z,9.1nm,1.0s							
NPGB	**Novo Progresso**	**22.44**	**128**	*e*P	**P**		**02 49 07.0**	**-0.2**
LPAZ	**La Paz**	**23.53**	**168**	P	**P**		**02 49 17.1**	**-0.7**
LPAZ	**La Paz**	**23.53**	**168**	P	**P**		**02 49 16.8**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=349,slow=5.8,SNR=12							
	comp=Z,0.9nm,0.4s							
**LPA

AS31	**Alice Springs**	**149.18 234**	PKPdf	**PKPdf**	**03 03 47.9**	**+0.1**
ASAR	**Alice Springs**	**149.18 234**		**PKPdf**	**03 03 48.8**	**+1.0**
ASAR	**Alice Springs**	**149.18 234**	PKPbc	**PKPdf**	**03 03 49.6**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=126,slow=3.3,SNR=5.1					
WRA	**Warramunga Arr**	**150.40 241**	PKPbc	**PKPbc**	**03 03 54.3**	**-0.9**
WRA	**Warramunga Arr**	**150.40 241**	PKPbc	**PKPdf**	**03 03 53.1**	**+3.4**
	comp=Z,0.6nm,0.4s,baz=107,slow=2.7,SNR=9.3					
WB0	**Warramunga Arr**	**150.42 242**	PKPbc	**PKPbc**	**03 03 54.0**	**-1.2**

RSNC ***29*** *02:48:36.6±3.6, 44°N±42°×2°6W±5°1, h10km, M5.3, mB5.7, mb5.2, Mw(mB)5.3*
BJI ***29*** *02:48:49.0, 43°.07N×29°.20W, h10km, mB5.5/29, mb5.2/49, Ms5.3/40, Ms7 5.1/40*
IGIL ***29*** *02:48:49.0, 43°.07N×29°.20W, h10km, Mb5.3*
MOS ***29*** *02:48:49.8±1.0, 43°.18N×29°.17W, h10km, mb5.4/78, MS4.9/31, Error ellipse: s-maj=7.6km s-min=4.0km az=45.7*
IDC ***29*** *02:48:50.1±0.4, 43°.20N×29°.23W, h0km, mb4.8/36, mbtmp4.8/37, ML4.9/1, MS4.8/77, Error ellipse: s-maj=13.0km s-min=9.5km az=152.0*
NEIC ***29*** *02:48:51.5±1.6, 43°.18N±0°.09×29°.1W±0°.1, h10km±1km, mb5.5/808, Ms_20 5.1/921, Mww5.5/49, Error ellipse: s-maj=15.0km s-min=13.4km az=194.0*
NEIC ***29*** *02:48:51.9, 43°.18N×29°.11W, h16km*
NEIC ***29*** *02:48:51.9, 43°.08N×30°.00W, h16km, Moment Tensor Solution. Duration: 3s4 Moment tensor: Scale 10^17^Nm; Mrr=1.72; Mθθ0.25; Mφφ1.47; Mrθ-0.92; Mθφ0.51; Mrφ0.45; Fault plane solution: M0 1.93000×10^17^ NP1:φs41.76000°, δ47.82000°, λ-56.19000°. NP2:φs176.84000°, δ51.99000°, λ-121.55000°. Principal axes: T 1.6654, Plg2.0000°, Azm289.0000°; N 0.5227, Plg24.0000°, Azm198.0000°; P -2.1881, Plg66.0000°, Azm24.0000°;*
INMG ***29*** *02:48:51.6±2.1, 43°.28N×29°.04W, h5km, ML5.1 Error ellipse: s-maj=22.5km s-min=8.6km az=76.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Crista Mdia AtIncico N*
SVSA ***29*** *02:48:51.6±2.1, 43°.28N×29°.04W, h5km, ML5.1(INMG), Error ellipse: s-maj=22.5km s-min=8.6km az=76.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Crista Mdia AtIncico N*
ISC-PP ***29*** *02:48:51, 43°.18N×29°.12W, h4km, Mwppsm5.7, Moment Tensor Solution. s49 Moment tensor: Scale 10^17^Nm; Mrr=0.54±.13; Mθθ-0.01±.17; Mφφ0.60±.13; Mrθ0.15±.13; Mθφ-0.23±.21; Mφr0.31±.17; Fault plane solution: M0 3.98000×10^17^ NP1:φs0.70000°, δ56.30000°, λ241.20000°. NP2:φs225.40000°, δ43.10000°, λ-54.10000°.*
GCMT ***29*** *02:48:53.5±0.1, 43°.24N±0°.01×29°.07W±0°.01, h12km, MW5.4/160, Moment Tensor Solution. s92, c151; s160, c345; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr=1.77±.02; Mθθ0.31±.02; Mφφ1.47±.01; Mrθ0.59±.06; Mθφ0.40±.01; Mφr0.10±.04; Best double couple: M0 1.77000×10^17^ NP1:φs4.00000°, δ42.00000°, λ-111.00000°. NP2:φs212.00000°, δ51.00000°, λ-72.00000°. Principal axes: T 1.6150, Plg5.0000°, Azm289.0000°; N 0.3170, Plg14.0000°, Azm20.0000°; P -1.9250, Plg75.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 02:48:51.7±0.4, 43°.11N±0°.03×29°.13W±0°.03, h11km±2km, h11km:pP-P, n1706, σ1s59/1162, mb5.4/537, MS5.1/569, 26C-60D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
SRBC	**Serra Branca**	**4.15 168**		*eP*	**Pn**	**02 49 53.3**		**-1.7**
SRBC				*eS*	**Sn**	**02 50 41.5**		**-2.0**
SRBC				*i* AML	AML	02 50 43.4		
SRBC				*i* AML	AML	02 50 46.0		
SRBC				*i* AML	AML	02 50 47.7		
SRBC	**Serra Branca**	**4.15 168**		*eP*	**Pn**	**02 49 53.3**		**-1.7**
SRBC				*eS*	**Sn**	**02 50 41.5**		**-2.0**
SRBC				*i* AML	AML	02 50 43.4		
SRBC				*i* AML	AML	02 50 46.0		
SRBC				*i* AML	AML	02 50 47.7		
PGRA	**Graciosa**	**4.17 168**		*eP*	**Pb**	**02 50 05.2**		**+0.2**
PGRA	**Graciosa**	**4.17 168**		*eP*	**Pb**	**02 50 05.2**		**+0.2**
ROSA	**Rosais**	**4.43 171**		*eP*	**Pn**	**02 49 56.6**		**-2.3**
ROSA				*eS*	**Sn**	**02 50 46.6**		**-3.9**
ROSA				*i* AML	AML	02 50 49.1		
ROSA				*i* AML	AML	02 50 49.7		
ROSA				*i* AML	AML	02 50 50.0		
ROSA	**Rosais**	**4.43 171**		*eP*	**Pn**	**02 49 56.6**		**-2.3**
ROSA				*eS*	**Sn**	**02 50 46.6**		**-3.9**
ROSA				*i* AML	AML	02 50 49.1		
ROSA				*i* AML	AML	02 50 49.7		
ROSA				*i* AML	AML	02 50 50.0		
PCED	**Cedros**	**4.49 176**		*eP*	**Pn**	**02 49 58.4**		**-1.2**
PCED	**Cedros**	**4.49 176**		*eP*	**Pn**	**02 49 58.4**		**-1.2**
CALA	**Caldeira**	**4.53 176**		*eP*	**Pn**	**02 49 59.0**		**-1.4**
CALA	**Caldeira**	**4.53 176**		*eP*	**Pn**	**02 49 59.0**		**-1.4**
PAGU	**Agualva, Azore**	**4.58 161**		*eP*	**Pn**	**02 49 57.9**		**-3.0**
PAGU				*eS*	**Sn**	**02 50 48.2**		**-5.8**
PAGU				*i* AML	AML	02 50 52.0		
PAGU				*i* AML	AML	02 50 52.6		
PAGU				*i* AML	AML	02 50 53.2		
PAGU	**Agualva, Azore**	**4.58 161**		*eP*	**Pn**	**02 49 57.9**		**-3.0**
PAGU				*eS*	**Sn**	**02 50 48.2**		**-5.8**
PAGU				*i* AML	AML	02 50 52.0		
PAGU				*i* AML	AML	02 50 52.6		
PAGU				*i* AML	AML	02 50 53.2		
HOR	**Horta**	**4.59 175**		*eP*	**Pn**	**02 49 59.9**		**-1.1**
HOR	**Horta**	**4.59 175**		*eP*	**Pn**	**02 49 59.9**		**-1.1**
PICO	**Pico**	**4.63 173**		*eP*	**Pn**	**02 50 00.0**		**-1.6**
PICO	**Pico**	**4.63 173**		*eP*	**Pn**	**02 50 00.0**		**-1.6**
PPV	**Praia da Vit**	**4.64 160**		*eP*	Pg	02 50 36.9		+16
PPV				*eS*	**Sg**	**02 51 26.5**		**+5.7**
PPV				*i* AML	AML	02 51 31.3		
PPV				*i* AML	AML	02 51 31.4		
PPV				*i* AML	AML	02 51 31.6		
PPV	**Praia da Vit**	**4.64 160**		*eP*	Pg	02 50 36.9		+16
PPV				*eS*	**Sg**	**02 51 26.5**		**+5.7**
PPV				*i* AML	AML	02 51 31.3		
PPV				*i* AML	AML	02 51 31.4		
PPV				*i* AML	AML	02 51 31.6		
ADH	**Angra Heroismo**	**4.67 162**		*eP*	**Pn**	**02 49 58.7**		**-3.5**
ADH				*eS*	**Sn**	**02 50 49.0**		**-7.4**
ADH				*i* AML	AML	02 50 53.8		
ADH				*i* AML	AML	02 50 55.3		
ADH	**Angra Heroismo**	**4.67 162**		*eP*	**Pn**	**02 49 58.7**		**-3.5**
ADH				*eS*	**Sn**	**02 50 49.0**		**-7.4**
ADH				*i* AML	AML	02 50 53.8		
ADH				*i* AML	AML	02 50 55.3		
PID	**Ribeirinha**	**4.72 170**		*eP*	**Pn**	**02 50 00.4**		**-2.4**
PID				*eS*	**Sn**	**02 50 53.7**		**-4.0**
PID				*i* AML	AML	02 50 58.9		
PID				*i* AML	AML	02 50 59.2		
PID				*i* AML	AML	02 50 59.4		
PID	**Ribeirinha**	**4.72 170**		*eP*	**Pn**	**02 50 00.4**		**-2.4**
PID				*eS*	**Sn**	**02 50 53.7**		**-4.0**
PID				*i* AML	AML	02 50 58.9		
PID				*i* AML	AML	02 50 59.2		
PID				*i* AML	AML	02 50 59.4		
PSET	**Sete Cidades**	**5.88 153**		*eP*	**Pn**	**02 50 17.3**		**-1.5**
PSET	**Sete Cidades**	**5.88 153**		*eP*	**Pn**	**02 50 17.3**		**-1.5**
CMLA	**Cha da Macela**	**6.00 152**		Pn	**Pn**	**02 50 18.7**		**-1.8**
CMLA	**Cha da Macela**	**6.00 152**		*eP*	**Pn**	**02 50 18.6**		**-1.8**
CMLA				*eS*	**Sn**	**02 51 23.6**		**-5.6**
CMLA				*i* AML	AML	02 51 29.6		
CMLA				*i* AML	AML	02 51 29.9		
CMLA				*i* AML	AML	02 51 30.5		
CMLA	**Cha da Macela**	**6.00 152**		*eP*	**Pn**	**02 50 18.6**		**-1.8**
CMLA				*eS*	**Sn**	**02 51 23.6**		**-5.6**
CMLA				*i* AML	AML	02 51 29.6		
CMLA				*i* AML	AML	02 51 29.9		
CMLA				*i* AML	AML	02 51 30.5		
CMLA	**Cha da Macela**	**6.00 152**		P	**Pn**	**02 50 18.7**		**-1.8**
PGRON	**Lagoa das Cont**	**6.05 151**		*eP*	**Pn**	**02 50 19.4**		**-1.8**
PGRON	**Lagoa das Cont**	**6.05 151**		*eP*	**Pn**	**02 50 19.4**		**-1.8**
BART	**Pico Bartolome**	**6.12 149**		*eP*	**Pn**	**02 50 20.3**		**-1.8**
BART				*eS*	**Sn**	**02 51 26.8**		**-5.3**
BART				*i* AML	AML	02 51 30.7		
BART				*i* AML	AML	02 51 31.9		
BART				*i* AML	AML	02 51 32.2		
BART	**Pico Bartolome**	**6.12 149**		*eP*	**Pn**	**02 50 20.3**		**-1.8**
BART				*eS*	**Sn**	**02 51 26.8**		**-5.3**
BART				*i* AML	AML	02 51 30.7		
BART				*i* AML	AML	02 51 31.9		
BART				*i* AML	AML	02 51 32.2		
PSMA	**Santa Maria**	**6.83 152**		*eP*	**Pn**	**02 50 30.1**		**-1.7**
PSMA				*eS*	**Sn**	**02 51 43.8**		**-5.7**
PSMA				*i* AML	AML	02 51 48.5		
PSMA				*i* AML	AML	02 51 48.9		
PSMA				*i* AML	AML	02 51 50.2		
PSMA	**Santa Maria**	**6.83 152**		*eP*	**Pn**	**02 50 30.1**		**-1.7**
PSMA				*eS*	**Sn**	**02 51 43.8**		**-5.7**
PSMA				*i* AML	AML	02 51 48.5		
PSMA				*i* AML	AML	02 51 48.9		
PSMA				*i* AML	AML	02 51 50.2		
PMOZ	**Porto Moniz, M**	**13.91 134**		Pn	**Pn**	**02 52 07.7**		**-1.1**
PMOZ	**Porto Moniz, M**	**13.91 134**		P	**Pn**	**02 52 08.4**		**-0.5**
PMOZ	**Porto Moniz, M**	**13.91 134**		P	**Pn**	**02 52 10.1**		**+1.2**
PMOZ				P	**Pn**	**02 52 10.1**		**+1.2**
PMOZ				P	**Pn**	**02 52 10.1**		**+1.2**
PMAR	**Madeira**	**14.14 133**		P	**Pn**	**02 52 12.2**		**+0.1**
PMAR				P	**Pn**	**02 52 12.2**		**+0.1**
PMAR				P	**Pn**	**02 52 12.2**		**+0.1**
VAL	**Valentia**	**15.48 49**		P	**P**	**02 52 36.9**		**+2.7**
PMAFR	**Mafra**	**15.53 99**		P	**Pn**	**02 52 27.4**		**-3.2**
LIS	**Lisbon**	**15.72 99**		*eP*	**Pn**	**02 52 31.1**		**-1.9**
LIS				IAmb	IAmb	02 52 33.6		
	comp=Z,485nm,1.6s							
LIS	**Lisbon**	**15.72 99**		*eP*	**Pn**	**02 52 31.1**		**-1.9**
COI	**Coimbra**	**15.75 94**		Pn	**Pn**	**02 52 29.2**		**-4.2**
COI				IAmb	IAmb	02 52 39.5		
	comp=Z,291nm,1.1s							
COI	**Coimbra**	**15.75 94**		P	**Pn**	**02 52 29.2**		**-4.2**
COI				pmax	pmax			
	comp=Z,291nm,1.1s							
MTE	**Manteigas**	**16.33 92**		Pn	**Pn**	**02 52 37.7**		**-3.2**
ECAL	**Calabor**	**16.54 86**		P	**Pn**	**02 52 43.2**		**-0.5**
EVO	**Evora**	**16.61 99**		P	**Pn**	**02 52 41.6**		**-2.9**
PFVI	**Vila Bisbo**	**16.62 104**		Pn	**Pn**	**02 52 42.8**		**-1.8**
PFVI	**Vila Bisbo**	**16.62 104**		P	**Pn**	**02 52 42.7**		**-1.8**
PFVI	**Vila Bisbo**	**16.62 104**		P	**Pn**	**02 52 43.6**		**-0.9**
PFVI				P	**Pn**	**02 52 43.6**		**-0.9**
PFVI				P	**Pn**	**02 52 43.6**		**-0.9**
IGLA	**Glengowla, Co**	**16.66 45**		P	**P**	**02 52 52.8**		**+5.5**
MORF	**Marmelete**	**16.66 103**		*eP*	**Pn**	**02 52 43.4**		**-1.8**
MORF				IAmb	IAmb	02 52 50.1		
	comp=Z,155nm,1.0s							
MORF	**Marmelete**	**16.66 103**		Pn	**Pn**	**02 52 43.6**		**-1.6**
MORF				IAmb	IAmb	02 52 51.1		
	comp=Z,637nm,1.8s							
MORF	**Marmelete**	**16.66 103**		P	**Pn**	**02 52 43.6**		**-1.6**
MORF				pmax	pmax			
	comp=Z,637nm,1.8s							
MESJ	**Messejana**	**16.74 101**		*eP*	**Pn**	**02 52 44.1**		**-1.9**
MESJ				IAmb	IAmb	02 52 51.7		
	comp=Z,318nm,1.5s							
MESJ				*eS*	**Sn**	**02 55 51.5**		**-0.5**
MESJ	**Messejana**	**16.74 101**		Pn	**Pn**	**02 52 43.6**		**-2.5**
MESJ	**Messejana**	**16.74 101**		*eP*	**Pn**	**02 52 44.2**		**-1.9**
MESJ				*eS*	**Sn**	**02 55 51.5**		**-0.5**
PESTR	**Estremoz**	**16.79 97**		Pn	**Pn**	**02 52 44.4**		**-2.4**
PESTR	**Estremoz**	**16.79 97**		P	**Pn**	**02 52 43.3**		**-3.5**
PESTR	**Estremoz**	**16.79 97**		P	**Pn**	**02 52 46.0**		**-0.8**
PESTR				P	**Pn**	**02 52 46.0**		**-0.8**
PESTR				P	**Pn**	**02 52 46.0**		**-0.8**
PCVE	**Castro Verde**	**16.96 102**		P	**Pn**	**02 52 46.7**		**-2.2**
EBAD	**Badajoz**	**17.25 97**		P	**Pn**	**02 52 49.4**		**-3.1**
PVAQ	**Vaqueiros**	**17.29 102**		Pn	**Pn**	**02 52 50.8**		**-2.2**
PVAQ	**Vaqueiros**	**17.29 102**		P	**Pn**	**02 52 51.4**		**-1.6**
PVAQ	**Vaqueiros**	**17.29 102**		P	**Pn**	**02 52 52.6**		**-0.4**
PVAQ				P	**Pn**	**02 52 52.6**		**-0.4**
PVAQ				P	**Pn**	**02 52 52.6**		**-0.4**
EGRO	**El Granado**	**17.40 101**		P	**Pn**	**02 52 52.5**		**-1.8**
PBAR	**Barrancos**	**17.46 99**		P	**Pn**	**02 52 53.8**		**-1.3**
IWEX	**Carrickbyrne,**	**17.60 50**		*eP*	**P**	**02 52 58.8**		**+1.1**
IWEX	**Carrickbyrne,**	**17.60 50**		P	**P**	**02 52 58.8**		**+1.1**
CCA1	**Carnmenellis**	**17.82 58**		*eP*	**P**	**02 53 00.9**		**+0.7**
CCA1				IAMs_20	IAMs_20	02 57 33.1		
	comp=Z,7μm,31.5s							
EMIN	**Mina Concepcio**	**17.89 100**		P	**Pn**	**02 52 58.3**		**-2.0**
DSB	**Dublin**	**18.17 48**			**P**	**02 53 03.9**		**-0.1**
DSB	**Dublin**	**18.17 48**		P	**P**	**02 53 04.9**		**+0.8**
DSB	**Dublin**	**18.17 48**		P	**P**	**02 53 07.6**		**+3.6**
IDGL	**Inch Island, C**	**18.45 42**		P	**Pn**	**02 53 13.0**		**+5.9**
ILTH	**Belurgan, Co L**	**18.54 46**		*eP*	**Pn**	**02 53 09.3**		**+1.1**
ILTH	**Belurgan, Co L**	**18.54 46**		P	**Pn**	**02 53 09.6**		**+1.4**
RSBS	**Rosebush, Pemb**	**18.62 53**		*eP*	**Pn**	**02 53 09.7**		**+0.4**
ECAB	**El Cabril**	**18.67 98**		P	**P**	**02 53 08.1**		**-1.5**
DYA	**Yadsworthy**	**18.69 58**		*eP*	**Pn**	**02 53 10.6**		**+0.5**
DYA				IAMs_20	IAMs_20	02 58 22.6		
	comp=Z,4μm,14.2s							
SFS	**San Fernando**	**18.79 103**		P	**Pn**	**02 53 11.8**		**+0.4**
PAB	**San Pablo**	**18.93 92**		P	**P**	**02 53 10.1**		**-2.4**
PAB	**San Pablo**	**18.93 92**		P	**P**	**02 53 12.8**		**+0.3**
PAB	**San Pablo**	**18.93 92**		P	**Pn**	**02 53 13.6**		**+0.4**
PAB				P	**Pn**	**02 53 13.6**		**+0.4**
PAB				P	**Pn**	**02 53 13.6**		**+0.4**
CNIL	**Conil**	**18.95 103**		P	**P**	**02 53 13.0**		**+0.3**
ESDC	**Sonseca Array**	**19.17 92**		P	**P**	**02 53 13.9**		**-1.3**
ESDC	**Sonseca Array**	**19.17 92**		P	**P**	**02 53 14.6**		**-0.6**
	comp=Z,0.9nm,0.3s,baz=286,slow=12,SNR=48							
ESDC				S	Sn	02 56 37.5		-13
	comp=Z,4.1nm,1.0s,baz=285,slow=24,SNR=4.9							
ESDC				LR	LR	02 59 04.4		
	comp=Z,3μm,20.3s,baz=276,slow=32							
	comp=Z,12nm,0.9s							
ESBB	**Sonseca Array**	**19.17 92**		P	**P**	**02 53 13.8**		**-1.3**
EADA	**Adamuz**	**19.25 97**		P	**P**	**02 53 14.7**		**-1.3**
WPS	**Cemaes, Angles**	**19.27 49**		*eP*	**Pn**	**02 53 16.6**		**-0.4**
WLF1	**Llynfaes**	**19.28 50**		*eP*	**Pn**	**02 53 16.6**		**-0.6**
WLF1				IAmb	IAmb	02 53 22.1		
	comp=Z,93nm,1.0s							
YLL	**Llanberis**	**19.35 50**		*eP*	**Pn**	**02 53 17.6**		**-0.5**
WME	**Myndd Eilian**	**19.37 49**		*eP*	**P**	**02 53 17.3**		**+0.1**
IOMK	**Kirk Michael**	**19.57 47**		*eP*	**Pn**	**02 53 20.8**		**+0.1**
IOMK				IAMs_20	IAMs_20	03 00 19.1		
	comp=Z,2μm,12.3s							
JSA	**Saint Aubin**	**19.58 63**		*eP*	**Pn**	**02 53 20.3**		**-0.5**
JSA				IAMs_20	IAMs_20	02 58 43.0		
	comp=Z,7μm,31.2s							
RTC	**Rabat Centre**	**19.61 110**		P	**P**	**02 53 20.1**		**+0.1**
AVE	**Averroes**	**19.63 113**		P	**P**	**02 53 20.0**		**-0.1**
AVE				IAmb	IAmb	02 53 23.3		
	comp=Z,583nm,1.8s							
AVE	**Averroes**	**19.63 113**		P	**P**	**02 53 19.2**		**-0.9**
AVE	**Averroes**	**19.63 113**		P	**Pn**	**02 53 22.1**		**+0.6**
AVE				P	**Pn**	**02 53 22.1**		**+0.6**
AVE				P	**Pn**	**02 53 22.1**		**+0.6**
ECEU	**Ceuta**	**19.65 104**		P	**Pn**	**02 53 21.2**		**-0.6**
CEU	**Ceuta**	**19.65 103**		P	**Pn**	**02 53 22.9**		**+1.1**
MCH1	**Michaelchurch**	**19.66 54**		*eP*	**Pn**	**02 53 22.3**		**+0.5**
MCH1				IAMs_20	IAMs_20	02 58 51.9		
	comp=Z,5μm,18.2s							
MONM	**Monmouth**	**19.73 55**		*eP*	**Pn**	**02 53 22.7**		**+0.1**
MONM				IAMs_20	IAMs_20	02 58 54.1		
	comp=Z,6μm,17.4s							
SMIR	**Smir Dam**	**19.75 104**		P	**Pn**	**02 53 22.6**		**-0.4**
SMIR				P	**Pn**	**02 53 22.6**		**-0.4**
SMIR				P	**Pn**	**02 53 22.6**		**-0.4**
GAL1	**Galloway**	**19.76 45**		*eP*	**Pn**	**02 53 22.3**		**-0.6**
GAL1				IAmb	IAmb	02 53 27.5		
	comp=Z,112nm,1.3s							
FOEL	**Foel Wylfa**	**19.82 51**		*eP*	**P**	**02 53 22.2**		**+0.1**
FOEL				IAMs_20	IAMs_20	02 59 33.0		
	comp=Z,4μm,15.3s							
OLDB	**Oldbury-Upon-S**	**19.84 55**		*eP*	**Pn**	**02 53 23.9**		**+0.1**
OLDB				IAMs_20	IAMs_20	02 58 56.9		
	comp=Z,5μm,17.9s							
HLM1	**Long Mynd**	**19.88 53**		*eP*	**Pn**	**02 53 24.2**		**-0.3**
HLM1				IAmb	IAmb	02 53 29.6		
	comp=Z,193nm,1.3s							
HLM1				IAMs_20	IAMs_20	02 59 13.5		
	comp=Z,5μm,20.9s							
EMAL	**Malaga-Limoner**	**19.93 100**		P	**Pn**	**02 53 24.7**		**-0.4**
ZHG	**ZHG**	**20.06 111**		P	Pn	02 53 27.0		+0.2
ZHG				P	Pn	02 53 27.0		+0.2
ZHG				P	Pn	02 53 27.0		+0.2
STRD	**Stroud**	**20.10 55**		*eP*	Pn	02 53 26.5		-0.5
STRD				IAmb	IAmb	02 53 32.9		
	comp=Z,521nm,1.3s							
STRD				IAMs_20	IAMs_20	02 59 04.9		
	comp=Z,5μm,16.9s							
SWN1	**Swindon**	**20.25 56**		*eP*	Pn	02 53 28.5		-0.3
SWN1				IAmb	IAmb	02 53 35.1		
	comp=Z,618nm,1.3s							
PGBU	**Glenifferbraes**	**20.31 43**		*eP*	Pn	02 53 28.9		-0.5
STNC	**Stoke**	**20.45 51**		*eP*	**P**	**02 53 29.7**		**+0.7**
STNC				IAmb	IAmb	02 53 35.7		
	comp=Z,177nm,1.2s							
KESW	**Keswick, Cumbr**	**20.49 47**		*eP*	**P**	**02 53 30.0**		**+0.6**
KESW				IAMs_20	IAMs_20	02 59 16.1		
	comp=Z,4μm,21.9s							
NRS	**Narsarsuaq**	**20.55 337**		P	**P**	**02 53 29.5**		**-0.4**
NRS				IAMs_20	IAMs_20	02 58 53.6		
	comp=Z,6μm,21.0s							
NRS	**Narsarsuaq**	**20.55 337**		P	**P**	**02 53 29.5**		**-0.4**
NRS				pmax	pmax			
	comp=Z,144nm,1.2s							
NRS	**Narsarsuaq**	**20.55 337**		*i* P	**P**	**02 53 30.1**		**+0.2**
NRS				IAmb	IAmb	02 53 32.3		
	comp=Z,115nm,1.1s							
NRS				IAMs_20	IAMs_20	02 58 48.5		
	comp=Z,6μm,18.0s							
TTIG	**Tnine Tigouga,**	**20.70 120**		P	Pn	02 53 35.1		+0.7
TTIG				P	Pn	02 53 35.1		+0.7
TTIG				P	Pn	02 53 35.1		+0.7
ESK	**Eskdalemuir**	**20.74 45**		P	**P**	**02 53 31.1**		**-0.9**
ESK	**Eskdalemuir**	**20.74 45**		P	**P**	**02 53 31.1**		**-0.9**
ESK				pmax	pmax			
	comp=Z,144nm,1.2s							
EKB	**Eskdalemuir**	**20.75 45**		P	**P**	**02 53 31.6**		**-0.6**
EKA	**Eskdalemuir Ar**	**20.77 45**		P	**P**	**02 53 33.1**		**+0.7**
	comp=Z,21nm,0.7s,baz=240,slow=9.4,SNR=108							
	comp=Z,21nm,0.7s							
INVG	**Invergeldie, C**	**20.82 41**		*eP*	**P**	**02 53 33.9**		**+1.0**
LBWR	**Ladybower, Pea**	**20.82 51**		*eP*	**P**	**02 53 33.7**		**+0.7**
LBWR				IAmb	IAmb	02 53 39.4		
	comp=Z,123nm,1.1s							
CWF	**Charnwood Fore**	**20.86 53**		*eP*	**P**	**02 53 33.6**		**+0.1**
CWF				IAMs_20	IAMs_20	02 59 42.8		
	comp=Z,5μm,22.7s							
EDI	**Edinburgh**	**21.01 43**		*eP*	**P**	**02 53 35.6**		**+0.6**
EDI				IAMs_20	IAMs_20	02 59 46.6		
	comp=Z,4μm,16.7s							
HPK	**Haverah Park**	**21.06 49**		*eP*	**P**	**02 53 36.2**		**+0.7**
IFR	**Ifrane**	**21.07 109**		P	**P**	**02 53 36.1**		**+0.1**
IFR				S	Sn	02 57 38.4		+1.7
EDMD	**Edmundbyers**	**21.19 47**		*eP*	**P**	**02 53 37.7**		**+0.7**
EDMD				IAMs_20	IAMs_20	03 00 28.2		
	comp=Z,5μm,13.4s							
TIO	**Tiouine**	**21.20 118**		P	**P**	**02 53 37.5**		**0.0**
TIO	**Tiouine**	**21.20 118**		P	**P**	**02 53 39.6**		**+2.1**
TIO				P	**P**	**02 53 39.6**		**+2.1**
TIO				P	**P**	**02 53 39.6**		**+2.1**
ESY	**Stoneypath**	**21.30 44**		*eP*	**P**	**02 53 38.4**		**+0.3**
OUZM	**OUZ**	**21.54 117**		P	**P**	**02 53 43.2**		**+2.1**
OUZM				P	**P**	**02 53 43.2**		**+2.1**
OUZM				P	**P**	**02 53 43.2**		**+2.1**
WMELI	**Melilla**	**21.66 102**		P	**P**	**02 53 41.9**		**-0.3**
GDLE	**Glaisdale, N Y**	**21.67 49**		*eP*	**P**	**02 53 43.6**		**+1.5**
GOG	**Mont Gurugu**	**21.68 103**		P	**P**	**02 53 44.5**		**+2.0**
GOG				P	**P**	**02 53 44.5**		**+2.0**
GOG				P	**P**	**02 53 44.5**		**+2.0**
MD31	**MD31**	**21.69 110**		P	**P**	**02 53 44.6**		**+2.0**
MD31				P	**P**	**02 53 44.6**		**+2.0**
MD31				P	**P**	**02 53 44.6**		**+2.0**
MCD	**Coleburn Disti**	**21.78 39**		*eP*	**P**	**02 53 43.6**		**+0.4**
MCD				IAmb	IAmb	02 53 49.8		
	comp=Z,468nm,1.4s							
DRUM	**Mains of Drumt**	**21.81 41**		*eP*	**P**	**02 53 43.8**		**+0.2**
MDT	**Midelt**	**21.82 110**		P	**P**	**02 53 45.3**		**+1.3**
	comp=Z,17nm,1.1s,baz=309,slow=10,SNR=20							
MDT				S	**S**	**02 57 40.3**		**-4.9**
	comp=Z,6.0nm,1.0s,baz=43,slow=22,SNR=4.2							
MDT				LR	LR	03 00 23.9		
	comp=Z,3μm,21.3s,baz=343,slow=32							
	comp=Z,17nm,1.1s							
MDT	**Midelt**	**21.82 110**		P	**P**	**02 53 46.1**		**+2.1**
MDT				P	**P**	**02 53 46.1**		**+2.1**
MDT				P	**P**	**02 53 46.1**		**+2.1**
ELMS	**Elmsett, Ipswi**	**22.07 55**		*eP*	**P**	**02 53 47.1**		**+0.7**
ELMS				IAmb	IAmb	02 53 50.6		

NUUK	Nuuk	24.74	336	*i* P	P	02 54 12.2	-0.5	
NUUK				IAmb	IAmb	02 54 17.8		
	comp=Z,70nm,1.1s							
HAL	Halifax	24.79	285	P	P	02 54 13.1	-0.3	
HAL				IAmb	IAmb	02 54 16.4		
	comp=Z,96nm,1.2s							
HAL				IAMs_20	IAMs_20	03 02 41.7		
	comp=Z,6μm,20.0s							
HAL	Halifax	24.79	285	P	P	02 54 13.1	-0.3	
HAL				pmax	pmax			
	comp=Z,96nm,1.2s							
HAL				MLR	MLR			
	comp=Z,6μm,20.0s							
BEBN	Eben Emael	24.79	60	*d*P	P	02 54 13.5	+0.2	
	comp=Z,54nm,1.0s							
BHOU	Houvegnez	24.97	61	*d*P	P	02 54 15.3	+0.3	
	comp=Z,34nm,1.3s							
MEM	Membach	24.99	60	*d*P	P	02 54 13.2	-1.9	
	comp=Z,38nm,1.2s							
WLF	Walferdange	25.03	62	P	P	02 54 14.7	-0.9	
WLF				IAmb	IAmb	02 54 23.4		
	comp=Z,87nm,1.2s							
WLF	Walferdange	25.03	62	*d*P	P	02 54 15.8	+0.2	
	comp=Z,34nm,1.2s							
WLF	Walferdange	25.03	62	P	P	02 54 14.7	-0.9	
WLF				pmax	pmax			
	comp=Z,87nm,1.2s							
WLF				MLR	MLR			
	comp=Z,3μm,20.0s							
BTNL	Ternell	25.06	60	*d*P	P	02 54 15.3	-0.6	
	comp=Z,35nm,1.1s							
MAHO	Mahon	25.12	86	IAMs_20	IAMs_20	03 02 41.0		
	comp=Z,4μm,19.0s							
LMN	Caledonia Moun	25.47	289	P	P	02 54 18.8	-0.8	
BNI	Bardonecchia	25.67	73	P	P	02 54 21.5	-0.1	
BNI				IAmb	IAmb	02 54 31.5		
	comp=Z,115nm,1.4s							
BNI	Bardonecchia	25.67	73	P	P	02 54 21.5	-0.1	
BNI				pmax	pmax			
	comp=Z,115nm,1.5s							
ECH	Echery	25.70	66	IAMs_20	IAMs_20	03 03 27.7		
	comp=Z,4μm,19.0s							
BATG	Bathurst New B	26.20	292	P	P	02 54 25.4	-0.8	
BATG				IAmb	IAmb	02 54 28.4		
	comp=Z,225nm,1.5s							
BFO	Black Forest	26.48	66	P	P	02 54 28.3	-0.5	
BFO				IAMs_20	IAMs_20	03 03 50.2		
	comp=Z,4μm,19.0s							
BFO	Black Forest	26.48	66	P	P	02 54 28.3	-0.5	
BFO				pmax	pmax			
	comp=Z,47nm,1.3s							
BFO				MLR	MLR			
	comp=Z,4μm,19.0s							
ICESG	Greenland Ices	26.62	352	*i* P	P	02 54 29.0	-1.2	
ICESG				IAmb	IAmb	02 54 30.2		
	comp=Z,114nm,1.2s							
SFJD	Kangerlussuaq	26.63	341	P	P	02 54 27.7	-2.1	
SFJD	Kangerlussuaq	26.63	341	IAMs_20	IAMs_20	03 02 19.4		
	comp=Z,4μm,21.0s							
SFJD	Kangerlussuaq	26.63	341	LR	LR	03 02 40.7		
	comp=Z,4μm,19.6s,baz=146,slow=31							
SFJD	Kangerlussuaq	26.63	341	P	P	02 54 27.7	-2.1	
SFJD				pmax	pmax			
	comp=Z,64nm,1.4s							
ICQ	Pointe Anglais	26.90	297	IAMs_20	IAMs_20	03 04 26.1		
	comp=Z,5μm,18.0s							
GGN	Saint George	27.00	287	P	P	02 54 32.2	-1.2	
GGN				IAmb	IAmb	02 54 37.8		
	comp=Z,129nm,1.3s							
GGN				IAMs_20	IAMs_20	03 04 19.1		
	comp=Z,4μm,18.0s							
STU	Stuttgart	27.04	64	IAMs_20	IAMs_20	03 03 23.8		
	comp=Z,4μm,20.0s							
SNART	Snartemo	27.17	43	*i* P	P	02 54 34.8	0.0	
SET	Setif	27.32	93	P	P	02 54 37.0	+0.4	
DAVA	Damuels	27.60	68	*i* P	P	02 54 38.8	-0.3	
	comp=Z,32nm,1.6s							
DAVOX	Davos/Dischmat	27.66	69	LR	LR	03 04 31.6		
	comp=Z,3μm,18.6s,baz=282,slow=34							
SCO	Scoresbysund	27.68	5	P	P	02 54 38.4	-0.9	
SCO	Scoresbysund	27.68	5	P	P	02 54 38.4	-0.9	
SCO				pmax	pmax			
	comp=Z,43nm,1.2s							
SCO	Scoresbysund	27.68	5	*i* P	P	02 54 40.1	+0.8	
SCO				IAmb	IAmb	02 54 41.2		
	comp=Z,41nm,1.2s							
MUD	Monsted U'grnd	27.70	48	*i* P	P	02 54 39.1	-0.4	
MUD				IAmb	IAmb	02 54 46.2		
	comp=Z,62nm,1.5s							
MUD				IAMs_20	IAMs_20	03 06 31.8		
	comp=Z,1μm,15.9s							
SSRD	Sdr. Stenderup	27.76	50	*i* P	P	02 54 40.0	-0.1	
SSRD				IAmb	IAmb	02 54 47.5		
	comp=Z,84nm,1.1s							
SSRD				IAMs_20	IAMs_20	03 03 33.6		
	comp=Z,2μm,21.6s							
F64A	Sherman	27.93	289	IAmb	IAmb	02 54 44.0		
	comp=Z,80nm,1.2s							
F64A				IAMs_20	IAMs_20	03 04 21.7		
	comp=Z,4μm,21.0s							
FUORN	Ofenpass-Fuorn	27.94	69	IAMs_20	IAMs_20	03 04 48.2		
	comp=Z,4μm,18.0s							
RETA	Reutte	28.18	67	*e*pP	pP	02 54 45.8	-0.9	
	comp=Z,14nm,1.4s							
FETA	Feichten	28.21	68	*e*pP	pP	02 54 46.6	-0.5	
	comp=Z,26nm,1.2s							
D62A	Allapoint, All	28.25	292	IAmb	IAmb	02 54 46.9		
	comp=Z,75nm,1.2s							
PRMA	PARMA	28.26	73	IAMs_20	IAMs_20	03 04 18.6		
	comp=Z,6μm,20.0s							
GRFO	Grafenberg	28.32	62	P	P	02 54 45.2	-0.1	
GRFO				IAMs_20	IAMs_20	03 04 36.9		
	comp=Z,4μm,20.0s							
GRFO	Grafenberg	28.32	62	P	P	02 54 45.2	-0.1	
GRFO				pmax	pmax			
	comp=Z,51nm,1.5s							
GRFO				MLR	MLR			
	comp=Z,4μm,20.0s							
GRA1	Grafenberg Arr	28.33	62	P	P	02 54 44.3	-1.0	
GRA1				IAMs_20	IAMs_20	03 04 37.2		
	comp=Z,4μm,20.0s							
GRF	Grafenberg Arr	28.33	62	P	P	02 54 44.3	-1.0	
GRF				pmax	pmax			
	comp=Z,34nm,1.3s							
GRF				MLR	MLR			
	comp=Z,4μm,20.0s							
MOTA	Moosalm	28.42	67	*e*pP	pP	02 54 48.0	-0.9	
	comp=Z,26nm,1.9s							
SQTA	Sankt Quirin	28.51	68	*e*pP	pP	02 54 49.2	-0.5	
	comp=Z,34nm,2.2s,SNR=7.6							
ILULI	Ilulissat	28.54	344	IAMs_20	IAMs_20	03 03 18.9		
	comp=Z,4μm,21.0s							
ILULI	Ilulissat	28.54	344	*i* P	P	02 54 45.4	-1.5	
ILULI				IAmb	IAmb	02 54 46.4		
	comp=Z,48nm,1.1s							
E62A	Clayton Lake	28.62	291	IAMs_20	IAMs_20	03 05 15.0		
	comp=Z,8μm,20.0s							
PKME	Peaks-Kenny Pk	28.68	288	P	P	02 54 47.7	-0.7	
PKME				IAmb	IAmb	02 54 51.2		
	comp=Z,146nm,1.5s							
WATA	Walderalm	28.74	67	*e*pP	pP	02 54 51.0	-0.8	
	comp=Z,19nm,1.1s							
KONO	Kongsberg	28.75	41	P	P	02 54 48.2	-0.7	
KONO				IAmb	IAmb	02 54 55.4		
	comp=Z,93nm,1.5s							
KONO	Kongsberg	28.75	41	*d i*P	P	02 54 49.0	+0.1	
KONO				pmax	pmax			
	comp=Z,52nm,1.7s							
WTTA	Wattenberg	28.79	67	*i* pP	P	02 54 50.5	+0.8	
	comp=Z,22nm,1.7s							
ZCCA	Zocca	28.81	74	P	P	02 54 49.5	-0.2	
VSL	Villasalto	28.98	84	IAMs_20	IAMs_20	03 05 12.3		
	comp=Z,4μm,19.0s							
LMQ	La Malbaie	29.05	293	IAmb	IAmb	02 54 54.2		
	comp=Z,104nm,1.5s							
WVL	Waterville	29.07	287	IAmb	IAmb	02 54 54.4		
	comp=Z,79nm,1.4s							
WVL				IAMs_20	IAMs_20	03 05 22.8		
	comp=Z,3μm,19.0s							
NKC	Novy Kostel	29.10	61	*e*P	P	02 54 53.6	+1.4	
NKC				*e*S	S	02 59 49.9	+6.3	
NKC				AMS	AMS	03 05 00.0		
	comp=Z,4μm,19.2s							
NKC	Novy Kostel	29.10	61	*e*P	P	02 54 53.6	+1.4	
NKC				*e*S	S	02 59 49.9	+6.3	
NKC				MLR	MLR			
	comp=Z,4μm,19.2s							
TEOL	Teolo	29.10	71	P	P	02 54 51.9	-0.3	
STRU	Stroemstad	29.36	43	*i* P	P	02 54 53.6	-0.7	
COP	Copenhagen	29.36	50	*i* P	P	02 54 55.3	+0.9	
COP				IAmb	IAmb	02 55 00.5		
	comp=Z,90nm,1.0s							
ONAU	Onsala	29.36	46	*i* P	P	02 54 54.4	+0.1	
CLL	Collm	29.43	59	*i* P	P	02 54 55.2	+0.2	
CLL				*i*		02 55 00.5		
CLL				*e*		02 58 02.0		
CLL				pmax	pmax			
	comp=Z,89nm,2.7s							
CLL				MLR	MLR			
	comp=Z,3μm,18.8s							
ABTA	Abfaltersbach	29.45	68	*i* pP	pP	02 54 57.8	-0.3	
	comp=Z,18nm,1.1s,SNR=11							
CIMO	Cimolais	29.47	69	IAMs_20	IAMs_20	03 04 52.8		
	comp=Z,4μm,22.0s							
LESA	Schwarzleotal	29.48	67	*e*pP	P	02 54 56.3	+0.7	
	comp=Z,28nm,1.6s,SNR=8.4							
G62A	West of Eustis	29.55	289	IAMs_20	IAMs_20	03 05 20.4		
	comp=Z,3μm,20.0s							
LDAQ	Lac Daran	29.62	294	IAmb	IAmb	02 54 59.4		
	comp=Z,64nm,1.2s							
LDAQ				IAMs_20	IAMs_20	03 05 45.2		
	comp=Z,6μm,20.0s							
HSKC	Hora Svate Kat	29.71	60	*e*S	S	02 59 58.0	+4.7	
HSKC				AMS	AMS	03 04 40.0		
	comp=Z,2μm,21.7s							
FABU	Falkenberg	29.72	47	*i* P	P	02 54 57.6	+0.1	
RGN	Rugen	29.74	52	IAMs_20	IAMs_20	03 06 11.4		
	comp=Z,3μm,19.0s							
JMIC	Jan Mayen	29.78	13	LR	LR	03 03 55.7		
	comp=Z,2μm,18.6s,baz=232,slow=30							
NC204	NORSAR Array S	29.81	39	P	P	02 54 58.1	-0.3	
I63A	Otisfield	29.82	286	IAMs_20	IAMs_20	03 06 22.8		
	comp=Z,5μm,19.0s							
BORU	Boraas	29.86	46	*i* P	P	02 54 59.6	+0.8	
SUMG	Summit	29.89	354	*i* P	P	02 54 58.7	-0.6	
SUMG				IAmb	IAmb	02 54 59.9		
	comp=Z,35nm,1.1s							
KHC	Kasperske Hory	29.90	63	*e*P	P	02 55 00.0	+0.7	
KHC				*ex*	x	02 55 04.0		
KHC				*e*S	S	02 59 56.7	+0.5	
KHC				AMS	AMS	03 05 50.0		
	comp=Z,3μm,14.6s							
KHC	Kasperske Hory	29.90	63	*e*P	P	02 55 00.0	+0.7	
KHC				*e*		02 55 04.0		
KHC				*e*S	S	02 59 56.7	+0.5	
KHC				MLR	MLR			
	comp=Z,3μm,14.6s							
LUNU	Lund	29.92	50	*i* P	P	02 55 00.1	+0.7	
NB2	NORSAR Subarra	29.95	39	P	P	02 54 59.5	-0.1	
	comp=Z,124nm,1.7s,baz=252,slow=9.3							
NB2	NORSAR Subarra	29.95	39	P	P	02 54 59.5	-0.1	
	baz=252,slow=9.3							
NOA	NORSAR Array B	29.95	39	P	P	02 54 59.7	+0.2	
	comp=Z,7.3nm,1.1s,baz=254,slow=9.6,SNR=11							
NOA				LR	LR	03 05 56.2		
	comp=Z,726nm,19.2s,baz=250,slow=34							
	comp=Z,7.3nm,1.1s							
UMMG	Uummannaq	29.95	345	*i* P	P	02 54 58.1	-1.3	
UMMG				IAmb	IAmb	02 54 58.8		
	comp=Z,46nm,1.5s							
KBA	Koelnbreinsper	29.97	67	*i* pP	pP	02 55 02.1	-0.6	
	comp=Z,48nm,1.5s,SNR=18							
NB201	NORSAR Array S	29.98	39	IAmb	IAmb	02 55 06.4		
	comp=Z,93nm,1.4s							
GERES	GERESS Array B	30.00	64	P	P	02 54 59.8	-0.5	
GERES	GERESS Array B	30.00	64	P	P	02 55 00.7	+0.4	
	comp=Z,5.6nm,1.1s,baz=281,slow=8.0,SNR=12							
GERES				LR	LR	03 05 44.6		
	comp=Z,3μm,20.2s,baz=258,slow=34							
	comp=Z,5.6nm,1.1s							
NC602	NORSAR Array S	30.00	40	IAmb	IAmb	02 55 06.7		
	comp=Z,129nm,1.7s							
BRG	Berggiesshubel	30.03	60	*e*P	P	02 55 00.9	+0.5	
BRG				Amp		02 55 06.7		
	comp=Z,18nm,1.4s							
BRG	Berggiesshubel	30.03	60	PP	PP	02 55 54.0	-14	
BRG	Berggiesshubel	30.03	60	S	S	03 00 01.0	+2.8	
BIOA	Bad Ischl, Aus	30.09	66	*e*pP	pP	02 55 02.1	-1.5	
	comp=Z,8.0nm,0.8s,SNR=5.3							
H62A	Milan	30.11	287	IAMs_20	IAMs_20	03 05 37.4		
	comp=Z,4μm,21.0s							
RICC	Richard	30.14	60	AMS	AMS	03 05 30.0		
	comp=Z,3μm,17.3s							
NC405	NORSAR Array S	30.20	39	IAmb	IAmb	02 55 08.5		
	comp=Z,93nm,1.5s							
PRED	Cave del Predi	30.22	69	IAMs_20	IAMs_20	03 05 35.5		
	comp=Z,4μm,20.0s							
MYKA	Terra Mystica	30.24	68	*i* pP	P	02 55 03.2	+0.8	
	comp=Z,23nm,1.8s							
DEL	Delary	30.27	49	*i* P	P	02 55 03.1	+0.7	
ZVC	Zvikov	30.27	63	*e*P	P	02 55 02.1	-0.4	
ZVC				AMS	AMS	03 06 00.0		
	comp=Z,3μm,14.4s							
SABO	M.te Sabotino	30.32	70	IAMs_20	IAMs_20	03 05 28.8		
	comp=Z,4μm,21.0s							
BBTS	Babate	30.34	155	LR	LR	03 04 38.6		
	comp=Z,3μm,20.5s,baz=230,slow=31							
PRA	Prague	30.38	61	*e*S	S	03 00 10.6	+6.9	
PRA				AMS	AMS	03 05 40.0		
	comp=Z,4μm,20.4s							
I62A	Tamworth	30.39	286	IAmb	IAmb	02 55 31.4		
	comp=Z,86nm,1.6s							
I62A				IAMs_20	IAMs_20	03 06 20.9		
	comp=Z,6μm,20.0s							
CKRC	Cesky Krumlov	30.41	64	*e*P	P	02 55 04.8	+1.1	
CKRC				*e*S	S	03 00 07.1	+2.9	
CKRC				AMS	AMS	03 06 00.0		
	comp=Z,2μm,16.2s							
CKRC	Cesky Krumlov	30.41	64	*e*P	P	02 55 04.8	+1.1	
CKRC				*e*S	S	03 00 07.1	+2.9	
CKRC				MLR	MLR			
	comp=Z,2μm,16.2s							
KEST	Kesra	30.41	91	IAmb	IAmb	02 55 06.9		
	comp=Z,98nm,1.4s							
KEST	Kesra	30.41	91	P	P	02 55 04.3	+0.3	
	comp=Z,26nm,1.1s,baz=36,slow=6.6,SNR=14							
KEST				LR	LR	03 06 26.8		
	comp=Z,2μm,21.2s,baz=301,slow=35							
	comp=Z,26nm,1.1s							
KEST	Kesra	30.41	91	P	P	02 55 03.5	-0.5	
	SNR=9.6							
KEST				P	P	02 55 03.5	-0.5	
	SNR=9.6							
PVCC	Panska Ves	30.44	60	AMS	AMS	03 05 40.0		
	comp=Z,3μm,17.8s							
PRU	Pruhonice	30.46	62	*e*P	P	02 55 06.1	+1.9	
PRU				*e*S	S	03 00 07.7	+2.8	
PRU				AMS	AMS	03 05 50.0		
	comp=Z,4μm,21.1s							
PRU	Pruhonice	30.46	62	*e*P	P	02 55 06.1	+1.9	
PRU				*e*S	S	03 00 07.7	+2.8	
MBO	M'Bour	30.47	156	IAMs_20	IAMs_20	03 04 08.2		
	comp=Z,4μm,22.0s							
MOA	Molln	30.49	66	*e*pP	P	02 55 05.2	+0.7	
	comp=Z,20nm,1.5s,SNR=6.7							
FRB	Frobisher Bay	30.52	326	LR	LR	03 04 00.7		
	comp=Z,3μm,21.4s,baz=112,slow=30							
L64A	Middleborough	30.54	282	IAmb	IAmb	02 55 07.0		
	comp=Z,66nm,1.2s							
GOPC	GO Pecny, Ondr	30.62	62	*e*S	S	03 00 15.2	+7.7	
GOPC				AMS	AMS	03 06 00.0		
	comp=Z,4μm,16.4s							
BCX	Boston College	30.67	283	IAmb	IAmb	02 55 08.8		
	comp=Z,102nm,1.3s							
BSD	Bornholm Skovb	30.71	51	*i* P	P	02 55 06.9	+0.6	
BSD				IAmb	IAmb	02 55 09.2		
	comp=Z,44nm,1.1s							
CRNS	Crni Vrh	30.76	69	*i* P	P	02 55 07.6	+0.7	
CRNS				*e*S	S	03 00 13.0	+3.2	
WES	Weston	30.76	283	IAmb	IAmb	02 55 09.1		
	comp=Z,70nm,1.2s							
NUUG	Nuugaatsiaq	30.86	345	*i* P	P	02 55 06.1	-1.3	
NUUG				IAmb	IAmb	02 55 07.9		
	comp=Z,25nm,1.0s							
HFS	Hagfors	30.87	42	P	P	02 55 07.2	-0.5	
	comp=Z,11nm,0.8s,baz=232,slow=7.3,SNR=25							
HFS				LR	LR	03 05 51.3		
	comp=Z,1μm,21.1s,baz=254,slow=33							
	comp=Z,11nm,0.8s							
OBKA	Obir	30.88	68	*e*P	P	02 55 08.4	+0.4	
	comp=Z,13nm,0.7s							
HRV	Adam Dziewonsk	30.89	284	P	P	02 55 08.8	+0.8	
HRV				IAmb	IAmb	02 55 22.9		
	comp=Z,117nm,1.8s							
HRV	Adam Dziewonsk	30.89	284	P	P	02 55 09.2	+1.1	
CEY	Cerknica	30.93	70	*i* P	P	02 55 09.6	+1.1	
CEY				*e*S	S	03 00 16.4	+3.8	
CAMP	Campotosto	30.96	76	IAMs_20	IAMs_20	03 06 32.5		
	comp=Z,4μm,21.0s							
HNH	Hanover	31.10	286	IAmb	IAmb	02 55 13.5		
	comp=Z,76nm,1.4s							
HNH				IAMs_20	IAMs_20	03 07 01.6		
	comp=Z,5μm,19.0s							
TREC	Trest	31.13	63	AMS	AMS	03 06 20.0		
	comp=Z,3μm,14.5s							
SOKA	Soboth	31.18	68	*e*pP	P	02 55 11.2	+0.5	
	comp=Z,18nm,1.5s							
VT1	Waterbury	31.28	288	IAmb	IAmb	02 55 15.1		
	comp=Z,71nm,1.3s							
VT1				IAMs_20	IAMs_20	03 06 33.4		
	comp=Z,4μm,20.0s							
UPC	Upice	31.36	60	*e*S	S	03 00 24.1	+5.0	
UPC				AMS	AMS	03 06 20.0		
	comp=Z,3μm,19.5s							
J61A	Chester	31.38	286	IAMs_20	IAMs_20	03 07 09.0		
	comp=Z,3μm,20.0s							
CHVC	Chvalec	31.38	60	AMS	AMS	03 06 30.0		
	comp=Z,3μm,17.5s							
ARSA	Arzberg	31.42	67	*e*pP	P	02 55 13.5	+0.8	
	comp=Z,26nm,1.2s,SNR=5.4							
OSTC	Ostas	31.49	60	*e*S	S	03 00 22.2	+1.1	
OSTC				AMS	AMS	03 06 30.0		
	comp=Z,3μm,17.0s							
KSP	Ksiaz	31.52	60	*e*P	P	02 55 14.1	+0.6	
KSP				*e*L	L	03 04 39.2		
	comp=Z,2μm,32.2s							
CONA	Conrad Observa	31.54	65	*e*pP	P	02 55 14.5	+0.6	
	comp=Z,26nm,1.4s,SNR=7.0							
DBG	Daneborg	31.55	5	*i* P	P	02 55 14.2	+0.6	
DBG				IAmb	IAmb	02 55 14.9		
	comp=Z,26nm,1.3s							
DPC	Dobruska-Polom	31.57	61	*e*S	S	03 00 26.3	+3.8	
DPC				AMS	AMS	03 06 20.0		
	comp=Z,3μm,19.7s							
MNTQ	Montreal, Queb	31.63	290	IAmb	IAmb	02 55 17.4		
	comp=Z,108nm,1.3s							
MNTQ				IAMs_20	IAMs_20	03 06 46.4		
	comp=Z,4μm,21.0s							
KRUC	Moravsky	31.75	63	*e*P	P	02 55 16.0	+0.5	
KRUC				*e*		02 58 07.2		
FRNY	Flat Rock	31.75	289	IAMs_20	IAMs_20	03 06 28.6		
	comp=Z,4μm,22.0s							
VRAC	Vranov	31.85	63	LR	LR	03 07 31.8		
	comp=Z,2μm,18.3s,baz=268,slow=35							
VRAC	Vranov	31.85	63	*e*P	P	02 55 17.0	+0.6	
VRAC				*e*		02 58 07.2		
RONA	Rosalia, Austr	31.86	66	*e*pP	pP	02 55 17.7	-1.6	
	comp=Z,44nm,1.4s,SNR=5.1							
KRLC	Kraliky	31.89	61	*e*S	S	03 00 34.3	+6.9	
KRLC				AMS	AMS	03 06 40.0		
	comp=Z,3μm,19.2s							
GKP	Gorka Klasztor	32.01	55	*e*P	P	02 55 19.3	+1.5	
GKP				*e*L	L	03 06 57.0		
	comp=Z,3μm,19.5s							
GKP	Gorka Klasztor	32.01	55	*e*P	P	02 55 18.4	+0.7	
TRQ	Mont Tremblant	32.12	292	IAmb	IAmb	02 55 21.9		
	comp=Z,101nm,1.3s							
ACCN	Adirondack Com	32.15	286	IAMs_20	IAMs_20	03 07 24.5		
	comp=Z,4μm,20.0s							
TRY	Troy	32.33	285	IAmb	IAmb	02 55 27.4		
	comp=Z,123nm,1.7s							
UPNV	Upernavik	32.40	345	*i* P	P	02 55 18.0	-3.0	
UPNV				IAmb	IAmb	02 55 20.8		
	comp=Z,20nm,1.0s							
MORC	Moravsky Berou	32.41	62	IAMs_20	IAMs_20	03 07 31.2		
	comp=Z,4μm,19.0s							
MORC	Moravsky Berou	32.41	62	*e*P	P	02 55 20.9	-0.5	
MORC				*e*		02 58 09.2		
MORC	Moravsky Berou	32.41	62	⇓P	P	02 55 21.9	+0.5	
MORC	Moravsky Berou	32.41	62	P	P	02 55 21.9	+0.5	
MODS	Modra-Piesok	32.41	64	*e*P	P	02 55 22.1	+0.7	
MODS				*e*		02 55 27.2		
MODS				*e*		02 58 09.3		
MODS				pmax	pmax			
	comp=Z,71nm,1.3s							
MODS	Modra-Piesok	32.41	64	*e*P	P	02 55 22.1	+0.7	
MODS				*e*		02 55 27.2		
MODS				*e*		02 58 09.3		
LONY	Lake Ozonia	32.49	289	IAmb	IAmb	02 55 25.2		
	comp=Z,100nm,1.6s							
LONY				IAMs_20	IAMs_20	03 07 01.2		
	comp=Z,4μm,22.0s							
SMOL	Smolenice	32.49	64	*e*P	P	02 55 23.2	+1.1	
SMOL				*e*		02 55 28.3		
SMOL				pmax	pmax			
	comp=Z,11nm,1.2s							
J59A	Piesco	32.72	287	IAMs_20	IAMs_20	03 07 51.5		
	comp=Z,4μm,19.0s							
OKC	Ostrava-Krasne	32.79	61	*e*S	S	03 00 44.4	+3.0	
OKC				AMS	AMS	03 07 20.0		
	comp=Z,3μm,18.1s							
SGRT	San Giovanni R	32.85	77	IAMs_20	IAMs_20	03 08 00.4		
	comp=Z,3μm,20.0s							
WBO	Williamsburg	32.88	290	IAMs_20	IAMs_20	03 08 27.5		
	comp=Z,4μm,18.0s							
CPNY	Central Park	33.13	282	IAMs_20	IAMs_20	03 10 32.4		
	comp=Z,3μm,20.0s							
SRO	Srobarova	33.19	65	*e*P	P	02 55 30.3	+2.1	
SRO				pmax	pmax			
	comp=Z,23nm,1.1s							
SRO	Srobarova	33.19	65	*e*P	P	02 55 30.3	+2.1	
VAE	Valguarnera	33.39	85	LR	LR	03 07 45.1		
	comp=Z,7μm,21.2s,baz=338,slow=34							
VYHS	Vyhne	33.42	64	*e*P	P	02 55 30.8	+0.6	
VYHS				*e*		02 55 36.0		
VYHS				*e*		02 58 12.0		
VYHS	Vyhne	33.42	64	*e*P	P	02 55 30.8	+0.6	
VYHS				*e*		02 55 36.0		
VYHS				*e*		02 58 12.0		
RAFF	Raffo Rosso	33.46	85	P	P	02 55 30.4	-0.3	
RAFF				IAMs_20	IAMs_20	03 08 16.0		
	comp=Z,5μm,19.0s							
CUC	Castrocucco	33.47	80	IAmb	IAmb	02 55 37.

K57A	Scipio Center	34.34	286		IAMs_20	IAMs_20			03 09 09.4	
	comp=Z,3μm,18.0s									
TIP	Timpagrande	34.45	81		IAmb	IAmb			02 55 46.5	
	comp=Z,77nm,1.6s									
TIP					IAMs_20	IAMs_20			03 09 37.8	
	comp=Z,3μm,21.0s									
DELO	Deloro Mine	34.61	289		P	P			02 55 40.2	-0.4
DELO					IAmb	IAmb			02 55 43.8	
	comp=Z,59nm,1.3s									
DELO					IAMs_20	IAMs_20			03 09 37.5	
	comp=Z,5μm,18.0s									
PBUR	Paburge	34.72	50		eP	P			02 55 41.3	-0.1
STHS	Stebnicka Huta	34.84	62		eP	P			02 55 47.4	+4.8
RAF	Rauma	34.95	41		eP	P			02 55 42.4	-0.8
N58A	Sunbury	35.08	283		IAmb	IAmb			02 55 47.8	
	comp=Z,56nm,1.2s									
TAM	Tamanrasset	35.09	114		IAMs_20	IAMs_20			03 08 45.4	
	comp=Z,4μm,19.0s									
J55A	Hilton	35.10	287		IAMs_20	IAMs_20			03 09 23.3	
	comp=Z,4μm,18.0s									
MVL	Millersville	35.11	281		IAmb	IAmb			02 55 48.1	
	comp=Z,75nm,1.5s									
MVL					IAMs_20	IAMs_20			03 08 01.0	
	comp=Z,3μm,22.0s									
L56A	Greenwood	35.26	285		IAmb	IAmb			02 55 52.7	
	comp=Z,84nm,1.6s									
L56A					IAMs_20	IAMs_20			03 10 16.7	
	comp=Z,2μm,18.0s									
MMNY	Mt. Morris Dam	35.32	287		IAmb	IAmb			02 55 50.5	
	comp=Z,95nm,1.3s									
MMNY					IAMs_20	IAMs_20			03 09 30.2	
	comp=Z,3μm,19.0s									
SUW	Suwalki	35.52	54		eP	P			02 55 47.9	-0.4
SUW					eL	L			03 09 26.4	
	comp=Z,3μm,20.6s									
SUW	Suwalki	35.52	54		IAMs_20	IAMs_20			03 09 53.0	
	comp=Z,3μm,19.0s									
SUW	Suwalki	35.52	54		eP	P			02 55 48.6	+0.4
MEDO	Medina	35.57	287		IAMs_20	IAMs_20			03 09 46.9	
	comp=Z,4μm,18.0s									
KOLS	Kolonicke sedl	35.59	62		eP	P			02 55 51.3	+2.3
KOLS					e				02 55 55.5	
KOLS					e				02 58 17.4	
KOLS					pmax	pmax				
	comp=Z,10.0nm,1.3s									
KOLS	Kolonicke sedl	35.59	62		eP	P			02 55 51.3	+2.3
KOLS					e				02 55 55.5	
KOLS					e				02 58 17.4	
NEEM	North Greenlan	35.60	352		i P	P			02 55 48.9	-0.2
NEEM					IAmb	IAmb			02 55 50.1	
	comp=Z,97nm,1.4s									
VAF	Ylistaro	35.66	38		eP	P			02 55 47.1	-2.3
SIRR	Siria	35.74	67	⇑	P	P			02 55 50.8	+0.5
MTSE	Matsula	35.79	45		eP	P			02 55 49.8	-0.7
VSVD	Vaisvydziai	35.85	50		eP	P			02 55 51.0	-0.1
BZS	Buzias	35.88	68	⇓	P	P			02 55 52.2	+0.7
BZS	Buzias	35.88	68		P	P			02 55 52.1	+0.7
PABE	Paberze	35.89	51		eP	P			02 55 53.3	+1.9
WVNY	West Valley, N	35.91	286		IAmb	IAmb			02 55 55.3	
	comp=Z,58nm,1.2s									
WVNY					IAMs_20	IAMs_20			03 09 57.9	
	comp=Z,3μm,18.0s									
SSPA	Standing Stone	35.99	283		P	P			02 55 51.8	-0.7
SSPA					IAmb	IAmb			02 55 55.7	
	comp=Z,58nm,1.1s									
MDVR	Moldovita	36.16	69	⇑	P	P			02 55 53.9	-0.1
MEF	Metsahovi	36.16	43		eP	P			02 55 53.3	-0.4
SURR	Surduc	36.19	68	⇑	P	P			02 55 54.5	+0.4
KEK	Kerkira	36.44	78		IAMs_20	IAMs_20			03 11 57.4	
	comp=Z,2μm,18.0s									
BOVS	Bovan	36.48	71	⇑	P	P			02 55 57.5	+0.8
P57A	Homestead Farm	36.49	281		IAMs_20	IAMs_20			03 08 52.6	
	comp=Z,3μm,22.0s									
KEF	Keuruu	36.55	40		eP	P			02 55 56.8	-0.2
HERR	Herculane	36.61	69	⇓	P	P			02 55 58.4	+0.6
MARR	Marisel-Cluj	36.63	66	⇑	P	P			02 55 58.2	+0.2
OHR	Ohrid	36.65	76		i P	P			02 56 01.6	+3.4
DEV	Deva	36.68	67	⇑	P	P			02 55 59.8	+1.5
DEV	Deva	36.68	67		P	P			02 55 59.8	+1.5
GZR	Gura Zlata	36.72	68	⇓	P	P			02 56 00.5	+1.7
GZR	Gura Zlata	36.72	68		P	P			02 56 00.4	+1.7
SKO	Skopje	36.82	74		i P	P			02 56 00.5	+0.9
CJR	Cluj-Napoca	36.94	66	⇑	P	P			02 56 00.9	+0.3
CJR	Cluj-Napoca	36.94	66		P	P			02 56 00.8	+0.3
ERPA	Erie	36.98	286		IAMs_20	IAMs_20			03 10 31.1	
	comp=Z,3μm,18.0s									
FINES	FINESS Array B	37.06	41		P	P			02 55 59.4	-2.0
FINES	FINESS Array B	37.06	41		P	P			02 56 01.0	-0.4
	comp=Z,21nm,0.9s,baz=255,slow=5.7,SNR=49									
FINES					LR	LR			03 09 32.6	
	comp=Z,1μm,21.1s,baz=264,slow=34									
	comp=Z,21nm,0.9s									
T59A	Double "B" Far	37.16	277		P	P			02 56 03.8	+1.3
T59A					IAMs_20	IAMs_20			03 08 45.4	
	comp=Z,3μm,22.0s									
SRE	Strehaia	37.22	69	⇑	P	P			02 56 04.2	+1.3
SRE	Strehaia	37.22	69		P	P			02 56 04.2	+1.3
ALLY	Alegheny Colle	37.24	286		P	P			02 56 03.1	0.0
ALLY					IAMs_20	IAMs_20			03 10 32.1	
	comp=Z,3μm,20.0s									
VSU	Vasula	37.32	46	d	iP	P			02 56 01.9	-1.6
VSU					pmax	pmax				
	comp=Z,77nm,1.3s									
VSU	Vasula	37.32	46		eP	P			02 56 01.4	-2.1
Q56A	Snyder Ridge,	37.51	281		IAmb	IAmb			02 56 12.3	
	comp=Z,112nm,1.4s									
NACGM	Naroch	37.54	52	⇓	iP	P			02 56 05.1	-0.4
	comp=Z,20nm,1.0s,baz=276									
TNR	Turnu Rosu	37.66	67	⇓	P	P			02 56 08.2	+1.4
TNR	Turnu Rosu	37.66	67		P	P			02 56 08.1	+1.4
MCWV	Mont Chateau	37.74	283		IAmb	IAmb			02 56 11.2	
	comp=Z,78nm,1.4s									
MCWV					IAMs_20	IAMs_20			03 10 06.5	
	comp=Z,3μm,21.0s									
BUR08	Bucovina Ar. S	37.77	64		P	P			02 56 07.8	+0.1
BURAR	Bucovina Array	37.79	64	⇑	P	P			02 56 09.1	+1.2
BURAR	Bucovina Array	37.79	64		P	P			02 56 09.0	+1.2
VAY	Valandovo	37.83	75		i P	P			02 56 10.0	+1.8
S57A	Dark Hollow, R	37.85	279		IAMs_20	IAMs_20			03 08 54.5	
	comp=Z,2μm,22.0s									
VTS	Vitosha	37.86	72		P	P			02 56 08.2	-0.4
N53A	Lisbon	38.02	285		IAMs_20	IAMs_20			03 11 25.9	
	comp=Z,2μm,19.0s									
PLNA	Plana	38.04	72		P	P			02 56 11.0	+0.9
KKB	Krupnik	38.05	73		P	P			02 56 11.0	+1.0
H05N1	Guadeloupe/Mar	38.10	235		T	T			03 36 18.5	
	SNR=5.1									
M52A	Chesterland	38.13	286		IAMs_20	IAMs_20			03 11 17.7	
	comp=Z,3μm,19.0s									
ARCES	ARCESS Array B	38.14	28		P	P			02 56 09.8	-0.6
	comp=Z,14nm,0.9s,baz=263,slow=9.7,SNR=22									
	comp=Z,14nm,0.9s									
MNK	Minsk	38.22	52		i P	P			02 56 09.7	-1.5
MNK	comp=E,17nm,1.0s									
MNK					i P	P			02 56 09.7	-1.5
	comp=N,51nm,1.1s									
MNK					i P	P			02 56 09.7	-1.5
	comp=Z,37nm,1.0s,baz=277									
MNK					i PP	PP			02 57 37.1	-1.3
MNK					i S	S			03 02 03.9	-0.6
MNK					i SS	SnSn			03 04 48.7	+0.5
MNK					i SSS	SSS			03 05 05.7	
MNK					i LQ	LQ			03 09 02.8	
MNK					i LR	LR			03 11 57.2	
MNK					i LRM	MLR			03 12 18.8	
	comp=E,1μm,15.7s									
MNK					i LRM	MLR			03 13 18.1	
	comp=N,2μm,17.2s									
MNK					i LRM	MLR			03 13 24.8	
	comp=Z,2μm,16.8s									
MNK	Minsk	38.22	52		i P	P			02 56 09.7	-1.5
MNK					i				02 57 37.0	
MNK					i				02 58 24.1	
MNK					i S	S			03 02 03.8	-0.6
MNK					i SS	SnSn			03 04 48.7	+0.5
MNK					i				03 06 21.6	
MNK					pmax	pmax				
	comp=N,51nm,1.1s									
MNK					pmax	pmax				
	comp=Z,37nm,1.0s									
MNK					pmax	pmax				
	comp=E,17nm,1.0s									
MNK					MLR	MLR				
	comp=E,1μm,16.0s									
MNK					MLR	MLR				
	comp=N,2μm,17.0s									
MNK					MLR	MLR				
	comp=Z,2μm,17.0s									
VOIR		38.25	67	⇓	P	P			02 56 11.7	-0.1
VOIR		38.25	67		P	P			02 56 11.6	-0.1
DOPR	Dopca	38.33	66	⇑	P	P			02 56 13.0	+0.7
T57A	Hurt	38.38	278		IAMs_20	IAMs_20			03 11 16.7	
	comp=Z,2μm,20.0s									
O53A	New Philadelph	38.49	284		IAmb	IAmb			02 56 15.9	
	comp=Z,91nm,1.4s									
O53A					IAMs_20	IAMs_20			03 12 27.4	
	comp=Z,2μm,18.0s									
OZUR		38.56	66	⇑	P	P			02 56 14.5	+0.2
MMB	Musomishta	38.59	74		P	P			02 56 14.8	+0.2
W59A	Clinton	38.60	275		IAMs_20	IAMs_20			03 09 01.5	
	comp=Z,3μm,21.0s									
K50A	Casco	38.60	288		IAmb	IAmb			02 56 21.0	
	comp=Z,134nm,1.5s									
K50A					IAMs_20	IAMs_20			03 10 25.0	
	comp=Z,3μm,22.0s									
E46A	Sault Ste Mari	38.66	295		IAmb	IAmb			02 56 21.6	
	comp=Z,218nm,1.9s									
E46A					IAMs_20	IAMs_20			03 10 47.4	
	comp=Z,3μm,21.0s									
KEV	Kevo	38.70	28		P	P			02 56 13.2	-1.9
KEV	Kevo	38.70	28		P	P			02 56 13.2	-1.9
KEV					pmax	pmax				
	comp=Z,29nm,1.1s									
COPA	Copaceanca	38.75	69	⇑	P	P			02 56 16.7	+0.9
V58A	Windy Hill, Pi	38.80	276		IAMs_20	IAMs_20			03 09 32.9	
	comp=Z,2μm,22.0s									
MLR	Muntele Rosu	38.84	67		IAMs_20	IAMs_20			03 11 38.5	
	comp=Z,3μm,20.0s									
MLR	Muntele Rosu	38.84	67		LR	LR			03 11 58.7	
	comp=Z,2μm,19.3s,baz=272,slow=36									
MLR	Muntele Rosu	38.84	67	⇓	P	P			02 56 17.8	+1.1
MLR	Muntele Rosu	38.84	67		P	P			02 56 17.8	+1.1
NOR	Nord	38.86	3	i	P	P			02 56 16.1	-0.2
NOR					IAmb	IAmb			02 56 17.1	
	comp=Z,29nm,1.1s									
NOR					IAMs_20	IAMs_20			03 08 44.7	
	comp=Z,2μm,21.6s									
P53A	Whipple	38.91	283		IAMs_20	IAMs_20			03 10 32.4	
	comp=Z,2μm,20.0s									
Y60A	Bolivia	38.97	273		IAMs_20	IAMs_20			03 09 06.5	
	comp=Z,2μm,21.0s									
TESR	Tescani	39.02	65	⇑	P	P			02 56 19.4	+1.3
N51A	Ashland	39.07	286		IAMs_20	IAMs_20			03 11 46.6	
	comp=Z,3μm,19.0s									
PLD	Plovdiv	39.08	72		P	P			02 56 19.0	+0.4
NEHR	Nehoiu	39.09	67	⇓	P	P			02 56 19.8	+1.1
PUL	Pulkovo	39.13	44	⇓	iP	P			02 56 19.9	+1.1
PUL					pmax	pmax				
	comp=Z,52nm,0.8s									
BLA	Blacksburg	39.13	279		P	P			02 56 19.7	+0.5
BLA					IAmb	IAmb			02 56 23.0	
	comp=Z,86nm,1.2s									
BLA	Blacksburg	39.13	279		P	P			02 56 19.7	+0.5
BLA					pmax	pmax				
	comp=Z,86nm,1.2s									
VRI	Vrincioaia	39.26	66	⇓	P	P			02 56 20.2	+0.1
VRI	Vrincioaia	39.26	66		P	P			02 56 20.1	+0.1
GLMI	Grayling	39.32	292		IAmb	IAmb			02 56 22.8	
	comp=Z,218nm,1.7s									
BISRR	Bisoca	39.34	67	⇑	P	P			02 56 21.9	+1.1
M50A	Fremont	39.37	287		IAMs_20	IAMs_20			03 11 56.3	
	comp=Z,3μm,19.0s									
P52A	Corning	39.38	284		IAMs_20	IAMs_20			03 11 19.9	
	comp=Z,2μm,20.0s									
SPITS	Spitsbergen Ar	39.45	13		P	P			02 56 19.3	-2.1
	comp=Z,7.7nm,0.9s,baz=175,slow=10,SNR=7.3									
	comp=Z,7.7nm,0.9s									
SPITS	Spitsbergen Ar	39.45	13		P	P			02 56 22.3	+1.0
AAM	Ann Arbor	39.48	288		IAmb	IAmb			02 56 28.6	
	comp=Z,132nm,1.8s									
AAM					IAMs_20	IAMs_20			03 11 57.2	
	comp=Z,3μm,18.0s									
U56A	King	39.48	278		IAMs_20	IAMs_20			03 11 30.8	
	comp=Z,2μm,20.0s									
X58A	Rowland	39.53	275		IAMs_20	IAMs_20			03 09 17.3	
	comp=Z,3μm,22.0s									
SZH	Strazhitsa	39.55	70		P	P			02 56 22.0	-0.5
JOF	Joensuu	39.58	39		eP	P			02 56 21.9	-0.5
KIEV	Kiev	39.65	58		P	P			02 56 22.6	-0.6
KIEV	Kiev	39.65	58		IAMs_20	IAMs_20			03 12 02.8	
	comp=Z,2μm,20.0s									
KIEV	Kiev	39.65	58	⇑	P	P			02 56 23.1	-0.1
KIEV	Kiev	39.65	58		P	P			02 56 23.1	-0.1
KIEV	Kiev	39.65	58	i	P	P			02 56 21.4	-1.9
	SNR=12									
AKASG	Malin Array Be	39.66	58		P	P			02 56 22.6	-0.7
	comp=Z,5.5nm,0.9s,baz=282,slow=8,2,SNR=34									
AKASG					PcP	PcP			02 58 29.0	-1.0
	comp=Z,3.3nm,0.9s,baz=274,slow=3.7,SNR=5.1									
AKASG					LR	LR			03 12 14.7	
	comp=Z,2μm,20.0s,baz=272,slow=35									
	comp=Z,5.5nm,0.9s									
AKBB	Malin Array Si	39.66	58	d	iP	P			02 56 22.3	-1.0
AKBB					pmax	pmax				
	comp=Z,45nm,1.5s									
W57A	Gilead	39.73	276		P	P			02 56 25.6	+1.5
W57A					IAMs_20	IAMs_20			03 09 58.5	
	comp=Z,3μm,21.0s									
HUMP	Col San Antoni	39.74	243		P	P			02 56 23.5	-0.8
Q52A	Bidwell	39.74	283		P	P			02 56 23.2	-0.9
Q52A					IAmb	IAmb			02 56 27.4	
	comp=Z,133nm,1.7s									
ACSO	Alum Creek Sta	39.76	285		IAMs_20	IAMs_20			03 12 09.7	
	comp=Z,3μm,19.0s									
TOA0	Torodi Ar. Sit	39.95	129		P	P			02 56 26.3	+0.1
TOA0					P	P			02 56 26.3	+0.1
TORD	Torodi Ar. Bea	39.95	129		P	P			02 56 25.7	-0.5
TORD	Torodi Ar. Bea	39.95	129		LR	LR			03 11 47.2	
	comp=Z,4μm,19.9s,baz=330,slow=34									
SJG	San Juan	39.96	243		P	P			02 56 26.3	+0.2
	comp=Z,16nm,0.8s,baz=42,slow=6.5,SNR=3.2									
	comp=Z,16nm,0.8s									
J47A	Sunmer	39.97	290		IAMs_20	IAMs_20			03 11 31.0	
	comp=Z,4μm,21.0s									
IGPR	InterUniversit	40.04	243		P	P			02 56 27.4	+0.6
IGPR					IAmb	IAmb			02 56 30.6	
	comp=Z,99nm,1.0s									
Y58A	Scranton	40.08	274		IAmb	IAmb			02 56 30.4	
	comp=Z,111nm,1.1s									
Y58A					IAMs_20	IAMs_20			03 09 18.8	
	comp=Z,2μm,22.0s									
P51A	Williamsport	40.10	284		IAMs_20	IAMs_20			03 12 01.9	
	comp=Z,2μm,20.0s									
CELP	Cerrillos	40.27	244		P	P			02 56 28.8	0.0
V55A	Taylorsville	40.30	278		IAMs_20	IAMs_20			03 12 05.6	
	comp=Z,2μm,20.0s									
BIRD	Birdtown, Kers	40.31	276		IAMs_20	IAMs_20			03 12 52.8	
	comp=Z,2μm,19.0s									
KIS	Kishinev	40.32	64		eP	P			02 56 28.0	-0.9
KIS	Kishinev	40.32	64		eP	P			02 56 28.0	-0.9
KIS					MLR	MLR				
	comp=Z,300nm,18.0s									
MILM	Milestii Mici	40.34	64	⇑	iP	P			02 56 27.0	-2.0
	comp=Z,140nm,3.5s									
MILM	Milestii Mici	40.34	64	⇓	iPP	PP			02 58 09.0	+7.3
MILM	Milestii Mici	40.34	64	c	iP	P			02 56 27.0	-2.0
MILM					i				02 58 09.0	
MILM					eS	S			03 02 33.0	-3.5
MILM					i SS	SS			03 05 25.0	-10
MILM					pmax	pmax				
	comp=Z,140nm,3.5s									
MILM					MLR	MLR				
	comp=Z,900nm,17.0s									
N49A	Columbus Grove	40.34	286		IAMs_20	IAMs_20			03 12 53.2	
	comp=Z,3μm,18.0s									
ALN	Alexandroupoli	40.43	74		IAMs_20	IAMs_20			03 13 15.2	
	comp=Z,2μm,19.0s									
Q51A	Peebles	40.49	283		IAMs_20	IAMs_20			03 11 43.2	
	comp=Z,2μm,21.0s									
SSFO	Shawnee State	40.52	283		IAmb	IAmb			02 56 34.0	
	comp=Z,126nm,1.5s									
SSFO					IAMs_20	IAMs_20			03 14 10.9	
	comp=Z,2μm,18.0s									
Y57A	Sumter	40.55	275		IAMs_20	IAMs_20			03 11 08.3	
	comp=Z,2μm,20.0s									
APA	Apatity	40.67	31	⇓	iP	P			02 56 30.8	-0.7
APA					i				02 58 30.0	
APA					i S	S			03 02 42.0	+0.9
APA					i SS	SS			03 05 35.0	-6.0
APA					pmax	pmax				
	comp=Z,12nm,0.8s									
KMSC	Kings Mountain	40.71	277		IAMs_20	IAMs_20			03 10 40.5	
	comp=Z,2μm,21.0s									
O49A	Covington	40.73	285		IAMs_20	IAMs_20			03 12 59.5	
	comp=Z,3μm,19.0s									
CSU	Charleston Sou	40.82	273		IAMs_20	IAMs_20			03 10 29.4	
	comp=Z,2μm,20.0s									
TIRR	Tirgusor	40.82	68		P	P			02 56 31.3	-1.8
TIRR					IAMs_20	IAMs_20			03 12 47.0	
	comp=Z,2μm,21.0s									
TIRR	Tirgusor	40.82	68	⇑	P	P			02 56 33.4	+0.3
TIRR	Tirgusor	40.82	68		P	P			02 56 33.3	+0.3
NHSC	New Hope	40.84	273		IAmb	IAmb			02 56 37.1	
	comp=Z,156nm,1.1s									
NHSC					IAMs_20	IAMs_20			03 10 50.9	
	comp=Z,2μm,20.0s									
PSN	Preselentsi	40.91	69		P	P			02 56 27.0	-6.8
GRTK	Grand Turk	40.98	252		IAMs_20	IAMs_20			03 10 01.6	
	comp=Z,2μm,20.0s									
JSC	Jenkinsville	41.06	276		IAMs_20	IAMs_20			03 10 25.7	
	comp=Z,3μm,21.0s									
LVZ	Lovozero	41.17	31		P	P			02 56 35.0	-0.7
LVZ	Lovozero	41.17	31		P	P			02 56 35.9	+0.2
PAULI	Pauline	41.21	277		IAMs_20	IAMs_20			03 10 55.7	
	comp=Z,2μm,21.0s									
S51A	Beattyville	41.24	281		IAMs_20	IAMs_20			03 11 29.2	
	comp=Z,2μm,21.0s									
O48B	Farmland	41.28	286		IAMs_20	IAMs_20			03 13 24.1	
	comp=Z,3μm,18.0s									
TBO	Thunder Bay	41.37	299		IAMs_20	IAMs_20			03 12 21.8	
	comp=Z,4μm,20.0s									
F42A	Maple Grove Fa	41.39	295		IAMs_20	IAMs_20			03 12 52.5	
	comp=Z,3μm,20.0s									
L46A	Eue Claire	41.41	289		IAmb	IAmb			02 56 39.7	
	comp=Z,82nm,1.3s									
L46A					IAMs_20	IAMs_20			03 12 01.4	
	comp=Z,3μm,22.0s									
N47A	Urbana	41.42	287		IAMs_20	IAMs_20			03 13 07.7	
	comp=Z,3μm,18.0s									
R50A	Paris	41.49	283		IAMs_20	IAMs_20			03 12 01.8	
	comp=Z,3μm,22.0s									
H43A	Windswept, Lux	41.56	293		P	P			02 56 40.4	+1.2
TZTN	Tazewell	41.68	280		P	P			02 56 39.5	-0.7
TZTN					IAMs_20	IAMs_20			03 11 14.0	
	comp=Z,2μm,22.0s									
P48A	Milroy	41.79	285		IAMs_20	IAMs_20			03 13 41.5	
	comp=Z,3μm,19.0s									
HODGE	Hodges	41.81	276		IAMs_20	IAMs_20			03 11 00.6	
	comp=Z,3μm,21.0s									
BG3	Lake Jocassee	41.94	278		IAMs_20	IAMs_20			03 13 07.0	
	comp=Z,2μm,20.0s									
COWI	Conover	41.95	296		IAMs_20	IAMs_20			03 13 49.2	
	comp=Z,2μm,18.0s									
IDI	Anoyia	41.96	82		P	P			02 56 42.9	+0.3
IDI	Anoyia	41.96	82		LR	LR			03 13 37.7	
	comp=Z,752nm,20.8s,baz=300,slow=35									
257A	Skidaway Islan	42.02	272		IAMs_20	IAMs_20			03 10 45.3	
	comp=Z,2μm,20.0s									
BAND	Balkesir-Ban	42.09	73	⇓	P	P			02 56 44.3	+0.8
R49A	Shelbyville	42.09	283		IAMs_20	IAMs_20			03 12 41.6	
	comp=Z,3μm,21.0s									
DBIC	Dimbokro	42.12	142		P	P			02 56 45.5	+1.6
DBIC	Dimbokro	42.12	142		P	P			02 56 44.8	+0.8
	comp=Z,13nm,1.0s,baz=324,slow=7.6,SNR=5.5									
DBIC					LR	LR			03 12 50.0	
	comp=Z,2μm,19.4s,baz=328,slow=34									
	comp=Z,13nm,1.0s									
DBIC	Dimbokro	42.12	142		P	P			02 56 46.5	+2.5
T50A	Nancy	42.40	281		IAMs_20	IAMs_20			03 12 03.9	
	comp=Z,2μm,21.0s									
BLKN	Baker Lake	42.42	324		P	P			02 56 45.1	-0.7
BLKN					IAmb	IAmb			02 56 46.9	
	comp=Z,112nm,1.3s									
L44A	Lake County Fo	42.47	290		IAmb	IAmb			02 56 52.9	
	comp=Z,225nm,1.7s									
I42A	Draeger Farm,	42.53	292		P	P			02 56 47.0	-0.1
RES	Resolute Bay	42.58	339		LR	LR			03 11 19.1	
	comp=Z,874nm,21.8s,baz=98,slow=32									
SFIN	Lafayette	42.60	287		IAMs_20	IAMs_20			03 13 52.8	
	comp=Z,4μm,19.0s									
BLO	Bloomington	42.68	285		IAMs_20	IAMs_20			03 14 28.2	
	comp=Z,4μm,19.0s									
SDDR	Presa de Saban	42.79	249		P	P			02 56 49.5	0.0
SDDR			

OLIL Olney 43.98 285 IAmb IAmb 02 57 01.9
comp=Z,66nm,1.1s
OLIL IAMs_20 IAMs_20 03 14 41.6
comp=Z,3μm,19.0s
USIN University of 44.01 284 IAMs_20 IAMs_20 03 15 01.3
comp=Z,3μm,19.0s
T47A Sharon Grove 44.04 282 IAMs_20 IAMs_20 03 13 19.3
comp=Z,3μm,21.0s
HDIL Hopedale 44.06 288 IAmb IAmb 02 57 13.2
comp=Z,57nm,1.1s
TIGA Tifton 44.17 273 IAMs_20 IAMs_20 03 12 44.2
comp=Z,2μm,20.0s
NMDO Nuevo Mundo 44.30 254 IAMs_20 IAMs_20 03 10 34.5
comp=Z,2μm,22.0s
152A Waverly Hall 44.37 276 IAmb IAmb 02 57 05.7
comp=Z,72nm,1.3s
152A IAMs_20 IAMs_20 03 12 27.3
comp=Z,2μm,21.0s
DWPF Disney Wildern 44.38 268 IAMs_20 IAMs_20 03 11 45.0
comp=Z,2μm,21.0s
V48A Smith Brothers 44.41 281 P **P** **02 57 01.6 -0.7**
V48A IAMs_20 IAMs_20 03 12 51.1
comp=Z,2μm,22.0s
SIM Simferopol' 44.47 65 *e*P **P** **02 57 04.0 +1.3**
SIM *e* 02 58 47.6
SIM *e*S **S** **03 03 39.8 +2.2**
SIM pmax pmax
comp=Z,100nm,2.1s
SIM pmax pmax
comp=Z,100nm,3.2s
SIM smax smax
comp=E,270nm,8.4s
SIM MLR MLR
comp=Z,1μm,21.0s
656A Willston 44.49 270 IAMs_20 IAMs_20 03 12 05.9
comp=Z,2μm,20.0s
Q44A Meyer Farm, Va 44.56 286 IAmb IAmb 02 57 06.5
comp=Z,55nm,1.0s
SPMN Marine on St. 44.66 296 IAmb IAmb 02 57 06.3
comp=Z,66nm,1.1s
SPMN IAMs_20 IAMs_20 03 14 01.0
comp=Z,2μm,22.0s
L40A Anamosa 44.79 291 IAmb IAmb 02 57 07.6
comp=Z,70nm,1.1s
GTBY Guantanamo Bay 44.81 254 IAMs_20 IAMs_20 03 11 02.0
comp=Z,2μm,22.0s
ISP Isparta 44.86 76⇓*i*P **P** **02 57 06.1 +0.1**
ISP pmax pmax
comp=Z,27nm,1.7s
WVT Waverly 44.95 282 IAMs_20 IAMs_20 03 13 33.4
comp=Z,3μm,22.0s
ULM Lac du Bonnet 44.95 303 P **P** **02 57 05.8 -0.7**
comp=Z,22nm,1.1s,baz=65,slow=8.8,SNR=16
ULM PP **PP** **02 58 50.0 -1.3**
comp=Z,23nm,1.3s,baz=56,slow=8.4,SNR=3.9
ULM LR LR 03 14 24.3
comp=Z,4μm,19.9s,baz=77,slow=34
comp=Z,22nm,1.1s
Y49A Blount Mountai 45.01 278 IAMs_20 IAMs_20 03 14 43.2
comp=Z,2μm,20.0s
LPSR Galich'ya Gora 45.05 53 *e*P **P** **02 57 04.1 -3.1**
LPSR *e* 02 58 46.3
LPSR pmax pmax
comp=Z,120nm,1.1s
LPSR MLR MLR
comp=Z,2μm,17.0s
N41A Harden Midland 45.08 289 IAMs_20 IAMs_20 03 15 44.5
comp=Z,2μm,18.0s
T45A Paducah 45.12 283 IAMs_20 IAMs_20 03 14 15.0
comp=Z,2μm,21.0s
352A Blakely 45.13 274 IAmb IAmb 02 57 11.8
comp=Z,89nm,1.3s
352A IAMs_20 IAMs_20 03 13 44.5
comp=Z,2μm,20.0s
ACRG Accra 45.21 137 IAMs_20 IAMs_20 03 14 25.4
comp=Z,3μm,21.0s
SIUC Southern Illin 45.22 284 IAmb IAmb 02 57 11.9
comp=Z,54nm,1.3s
SIUC IAMs_20 IAMs_20 03 15 12.4
comp=Z,3μm,20.0s
S44A Carbondale 45.26 284 IAMs_20 IAMs_20 03 15 12.9
comp=Z,3μm,20.0s
553A Crawfordville 45.44 272 IAMs_20 IAMs_20 03 13 10.9
comp=Z,2μm,20.0s
VORR Voronezh 45.48 54 *e*P **P** **02 57 08.7 -1.9**
VORR *e* 02 58 47.5
VORR pmax pmax
comp=Z,50nm,1.2s
SLM Saint Louis 45.53 286 IAmb IAmb 02 57 14.3
comp=Z,88nm,1.4s
BZK Bozkurt 45.54 69 IAMs_20 IAMs_20 03 17 47.9
comp=Z,2μm,20.0s
ANTO Ankara 45.57 72 P **P** **02 57 11.2 -0.4**
ANTO Ankara 45.57 72⇓P **P** **02 57 12.8 +1.1**
ANTO Ankara 45.57 72 P **P** **02 57 12.7 +1.1**
AGMN Agassiz Nation 45.57 301 IAmb IAmb 02 57 14.6
comp=Z,89nm,1.2s
AGMN IAMs_20 IAMs_20 03 14 25.8
comp=Z,3μm,21.0s
UTMT University of 45.59 283 IAMs_20 IAMs_20 03 14 16.3
comp=Z,3μm,22.0s
VSR Storozhevoye 45.59 55 *e*P **P** **02 57 09.1 -2.4**
VSR *e* 02 58 47.0
VSR pmax pmax
comp=Z,60nm,1.3s
VSR MLR MLR
comp=Z,2μm,21.0s
PLAL Pickwick Lake 45.67 280 IAmb IAmb 02 57 15.6
comp=Z,69nm,1.6s
PLAL IAMs_20 IAMs_20 03 16 44.5
comp=Z,2μm,18.0s
CHIV Chivirico 45.69 255 IAMs_20 IAMs_20 03 12 19.4
comp=Z,2μm,22.0s
ILGA Ilgaz 45.71 70 IAmb IAmb 02 57 20.3
comp=Z,84nm,1.2s
ILGA IAMs_20 IAMs_20 03 17 54.5
comp=Z,2μm,18.0s
CGM3 Cape Girardeau 45.72 284 IAmb IAmb 02 57 15.2
comp=Z,67nm,1.7s
CGM3 IAMs_20 IAMs_20 03 15 26.7
comp=Z,3μm,20.0s
VORD Divnogorie 45.75 55 *e*P **P** **02 57 10.7 -2.0**
VORD *e* 02 58 47.5
VORD pmax pmax
comp=Z,30nm,1.2s
HICK Hickman 45.76 283 IAMs_20 IAMs_20 03 14 32.8
comp=Z,2μm,21.0s
LRAL Lakeview Retre 45.84 277 IAMs_20 IAMs_20 03 13 50.2
comp=Z,2μm,21.0s
250A Grady 45.85 276 IAMs_20 IAMs_20 03 15 52.5
comp=Z,2μm,19.0s
GLAT Glass 45.93 283 IAMs_20 IAMs_20 03 14 26.3
comp=Z,3μm,21.0s
FVM French Village 45.95 285 IAmb IAmb 02 57 17.5
comp=Z,69nm,1.4s
PARMO Parma 46.08 283 IAMs_20 IAMs_20 03 15 05.1
comp=Z,2μm,21.0s
HALT Halls 46.13 282 IAMs_20 IAMs_20 03 14 30.7
comp=Z,2μm,22.0s
LNXT Lenox 46.15 283 IAMs_20 IAMs_20 03 14 32.2
comp=Z,3μm,21.0s
PVMO Portageville 46.16 283 IAMs_20 IAMs_20 03 14 46.3
comp=Z,3μm,21.0s
451A Vernon 46.18 274 IAMs_20 IAMs_20 03 14 07.3
comp=Z,2μm,20.0s
BR131 Keskin Array S 46.22 72 P **P** **02 57 17.3 +0.5**
SNR=28
BR131 P **P** **02 57 17.3 +0.5**
SNR=28
BR131 Keskin Array S 46.22 72*d i*P **P** **02 57 17.6 +0.8**
BRTR Keskin Array B 46.22 72 P **P** **02 57 15.9 -0.9**
BRTR Keskin Array B 46.22 72 P **P** **02 57 17.6 +0.8**
comp=Z,6.4nm,0.9s,baz=287,slow=6.3,SNR=48
BRTR PcP **PcP** **02 58 52.1 -0.3**
comp=Z,3.4nm,1.1s,baz=250,slow=2.5,SNR=4.7
BRTR LR LR 03 17 54.5
comp=Z,1μm,18.1s,baz=282,slow=38
comp=Z,6.4nm,0.9s
P40A Paris 46.41 288 IAmb IAmb 02 57 20.9
comp=Z,53nm,1.1s
P40A IAMs_20 IAMs_20 03 16 18.7
comp=Z,1μm,18.0s
PEBM Pemiscott Bayo 46.41 283 IAMs_20 IAMs_20 03 14 51.1
comp=Z,3μm,21.0s
PBMO Poplar Bluff 46.51 284 IAmb IAmb 02 57 20.8
comp=Z,54nm,1.1s
PBMO IAMs_20 IAMs_20 03 15 40.5
comp=Z,3μm,21.0s

DIKM Dikmen 46.52 69⇑P **P** **02 57 19.1 +0.1**
Z47A Carrollton 46.54 278 IAMs_20 IAMs_20 03 15 39.6
comp=Z,3μm,20.0s
GNAR Gosnell 46.59 283 IAMs_20 IAMs_20 03 14 45.9
comp=Z,3μm,21.0s
KIRS Kirsehir-Merke 46.67 72⇑P **P** **02 57 21.6 +1.3**
N38A Joes South For 46.69 290 IAmb IAmb 02 57 23.1
comp=Z,54nm,1.1s
ANN Anapa 46.72 64 *e*P **P** **02 57 20.5 0.0**
ANN *e* 02 59 07.6
ANN *e*PPP PPP 02 59 47.7
ANN *e*S **S** **03 04 11.8 +1.9**
ANN *e*SSS SSS 03 08 31.5
ANN pmax pmax
comp=Z,90nm,1.8s
ANN MLR MLR
comp=Z,1μm,16.0s
F33A 5 Mile Ranch, 46.72 298 IAMs_20 IAMs_20 03 15 31.3
comp=Z,2μm,19.0s
BRAL Brewton 46.84 275 IAMs_20 IAMs_20 03 13 29.7
comp=Z,2μm,22.0s
OXF Oxford 46.86 281 IAMs_20 IAMs_20 03 17 27.9
comp=Z,2μm,18.0s
T42A Van Buren 46.86 285 IAmb IAmb 02 57 24.2
comp=Z,76nm,1.3s
R40A Maddies Statio 47.11 287 IAMs_20 IAMs_20 03 16 25.4
comp=Z,2μm,18.0s
VRH Novokhopyorsk 47.12 54 *e*P **P** **02 57 20.9 -2.6**
VRH *e* 02 58 53.4
VRH pmax pmax
comp=Z,20nm,1.0s
FFC Flin Flon 47.16 311 P **P** **02 57 24.0 +0.2**
FFC IAmb IAmb 02 57 27.4
comp=Z,39nm,1.1s
FFC Flin Flon 47.16 311 P **P** **02 57 24.0 +0.2**
FFC pmax pmax
comp=Z,39nm,1.2s
HBAR Harrisburg 47.25 283 IAMs_20 IAMs_20 03 17 04.1
comp=Z,2μm,20.0s
Y45A Yeager Farm, C 47.27 280 IAMs_20 IAMs_20 03 17 51.9
comp=Z,2μm,18.0s
LCAR Lake Charles 47.35 283 IAmb IAmb 02 57 27.8
comp=Z,43nm,1.3s
LCAR IAMs_20 IAMs_20 03 15 44.0
comp=Z,3μm,21.0s
146A Union 47.54 278 IAMs_20 IAMs_20 03 16 21.1
comp=Z,2μm,20.0s
ECSD EROS Data Cent 47.75 295 P **P** **02 57 27.8 -0.8**
ECSD IAmb IAmb 02 57 30.0
comp=Z,61nm,1.2s
ECSD EROS Data Cent 47.75 295 IAMs_20 IAMs_20 03 16 29.8
comp=Z,3μm,20.0s
NBCL Cascavel-CE 47.84 192 *e*P **P** **02 57 31.2 +1.8**
BAUV El Baul 48.08 237 IAMs_20 IAMs_20 03 14 37.3
comp=Z,2μm,22.0s
S39A Bolivar 48.13 286 IAMs_20 IAMs_20 03 17 15.2
comp=Z,2μm,18.0s
CSS Mathiatis 48.20 78 IAmb IAmb 02 57 40.0
comp=Z,30nm,1.1s
ERBR Yeremizino-Bor 48.35 62 *e*P **P** **02 57 32.3 -0.8**
ERBR *e* 02 59 22.7
ERBR *e*S **S** **03 04 32.8 -0.2**
ERBR *e*SSS SSS 03 09 11.9
ERBR pmax pmax
comp=Z,34nm,1.1s
ERBR MLR MLR
comp=Z,903nm,16.0s
TMAB Tom-Au,PA,Br 48.39 206 *e*P **P** **02 57 34.7 +1.0**
346A Big Creek Wild 48.48 277 IAMs_20 IAMs_20 03 16 27.2
comp=Z,2μm,22.0s
WHAR Wooly Hollow 48.54 283 IAmb IAmb 02 57 36.8
comp=Z,50nm,1.4s
WHAR IAMs_20 IAMs_20 03 15 56.4
comp=Z,2μm,21.0s
SOR Soroa 48.65 263 IAmb IAmb 02 57 39.7
comp=Z,70nm,1.3s
SOC Sochi 48.71 64*c i*P **P** **02 57 36.9 +0.9**
SOC *e* 02 59 25.2
SOC *e*S **S** **03 04 42.2 +4.0**
SOC *e*SS **SS** **03 08 11.0 +2.9**
SOC *e*SSS SSS 03 09 23.5
SOC pmax pmax
comp=Z,16nm,1.4s
SOC MLR MLR
comp=Z,834nm,19.0s
VBMS Vicksburg 48.81 279 IAMs_20 IAMs_20 03 15 46.8
comp=Z,2μm,21.0s
UALR University of 48.83 283 IAMs_20 IAMs_20 03 18 40.1
comp=Z,2μm,18.0s
CCAR Cane Creek 48.85 281 IAMs_20 IAMs_20 03 17 03.7
comp=Z,2μm,20.0s
LABN Labinsk 48.93 63 *e*P **P** **02 57 36.3 -1.4**
LABN *e* 02 59 29.2
LABN *e*S **S** **03 04 40.7 -0.7**
LABN *e*SS **SS** **03 08 11.8 +0.1**
LABN pmax pmax
comp=Z,34nm,1.6s
LABN MLR MLR
comp=Z,1μm,15.0s
VSLR Vesyoloye 48.97 64*de*P **P** **02 57 38.8 +0.8**
VSLR pmax pmax
comp=Z,42nm,1.6s
KIRV Kirov 48.99 43 LR LR 03 16 53.8
comp=Z,929nm,22.0s,baz=287,slow=34
KIRV Kirov 48.99 43*d i*P **P** **02 57 36.8 -1.0**
SUSD Miller 49.00 297 IAMs_20 IAMs_20 03 17 45.8
comp=Z,2μm,18.0s
RCBR Riachuelo 49.09 189 LR LR 03 13 43.7
comp=Z,276nm,20.3s,baz=20,slow=30
RCBR Riachuelo 49.09 189 *e*P **P** **02 57 41.5 +2.4**
143A Socs Landing, 49.20 280 IAMs_20 IAMs_20 03 16 33.1
comp=Z,2μm,20.0s
BOAV Boa Vista 49.24 223 P **P** **02 57 40.2 -0.1**
BOAV Boa Vista 49.24 223 *e*P **P** **02 57 40.9 +0.6**
X40A Basin Creek Fa 49.33 282 IAMs_20 IAMs_20 03 19 03.2
comp=Z,2μm,18.0s
SDV Santo Domingo 49.73 239 P **P** **02 57 45.3 +1.0**
SDV IAmb IAmb 02 57 46.6
comp=Z,54nm,1.3s
SDV Santo Domingo 49.73 239 *e*P **P** **02 57 45.8 +1.6**
SDV Santo Domingo 49.73 239 P **P** **02 57 45.7 +1.5**
comp=Z,651nmcomp=Z,35nm,1.5s
KSU1 Kansas State U 49.76 290 IAmb IAmb 02 57 46.3
comp=Z,57nm,0.9s
MIAR Mount Ida 49.83 283 IAmb IAmb 02 57 45.5
comp=Z,76nm,1.4s
MIAR IAMs_20 IAMs_20 03 19 28.4
comp=Z,2μm,18.0s
GAZ Gaziantep 49.88 73 IAmb IAmb 02 57 55.2
comp=Z,57nm,1.6s
Z41A Richland Creek 49.92 281 IAMs_20 IAMs_20 03 19 24.2
comp=Z,1μm,19.0s
WLAR White Oak Lake 49.93 282 IAmb IAmb 02 57 47.6
comp=Z,65nm,1.1s
WLAR IAMs_20 IAMs_20 03 18 26.2
comp=Z,1μm,19.0s
RLO Rose Lookout 50.05 286 IAmb IAmb 02 57 46.7
comp=Z,56nm,1.2s
RLO IAMs_20 IAMs_20 03 17 53.3
comp=Z,2μm,19.0s
BELG Belogornoye 50.14 51 LR LR 03 18 53.0
comp=Z,2μm,20.1s,baz=273,slow=36
BELG Belogornoye 50.14 51*d i*P **P** **02 57 46.7 0.0**
BELG pmax pmax
comp=Z,31nm,1.1s
GOF Gofitskoye 50.26 61*ce*P **P** **02 57 48.9 +1.1**
MAL2 Monte Alegre, 50.27 213 P **P** **02 57 48.4 +0.3**
MAL2 IAmb IAmb 02 57 55.6
comp=Z,58nm,1.5s
KIV Kislovodsk 50.50 63 P **P** **02 57 49.1 -0.7**
KIV Kislovodsk 50.50 63 P **P** **02 57 50.4 +0.6**
KIV P **P** **02 57 50.4 +0.6**
KIV Kislovodsk 50.50 63⇓P **P** **02 57 50.1 +0.4**
KIV Kislovodsk 50.50 63 P **P** **02 57 50.1 +0.4**
KIV Kislovodsk 50.50 63 *i* P **P** **02 57 50.4 +0.6**
SNR=7.7
SHA1 Shidzhatmaz 50.58 63*d i*P **P** **02 57 51.7 +1.2**
MMAI Mount Meron Ar 50.66 79 P **P** **02 57 52.4 +1.3**
comp=Z,3.5nm,0.8s,baz=322,slow=5.3,SNR=12
MMAI LR LR 03 19 19.4
comp=Z,601nm,21.9s,baz=302,slow=36
comp=Z,3.5nm,0.8s
TUL3 Leonard 50.72 286 IAmb IAmb 02 57 52.5
comp=Z,34nm,0.9s
T35A Sooner Cattle 50.73 287 IAMs_20 IAMs_20 03 18 45.2
comp=Z,2μm,19.0s

KBZ Khabaz 50.74 63 P **P** **02 57 52.8 +1.4**
comp=Z,4.6nm,1.0s,baz=280,slow=7.3,SNR=14
comp=Z,4.6nm,1.0s
KBZ Khabaz 50.74 63*d i*P **P** **02 57 52.9 +1.5**
KBZ pmax pmax
comp=Z,30nm,1.2s
YKAW1 Yellowknife Wh 50.91 323 P **P** **02 57 50.7 -1.7**
YKAW1 IAmb IAmb 02 57 53.5
comp=Z,39nm,1.2s
YKAW3 Yellowknife Wh 50.94 324 P **P** **02 57 51.4 -1.2**
YKAW3 IAmb IAmb 02 57 58.5
comp=Z,66nm,1.6s
YKA Yellowknife Ar 50.96 323 P **P** **02 57 52.3 -0.4**
comp=Z,14nm,1.0s,baz=70,slow=7.2,SNR=103
YKA PcP **PcP** **02 59 09.4 +0.6**
comp=Z,2.0nm,1.0s,baz=60,slow=4.1,SNR=3.9
YKA LR LR 03 16 48.2
comp=Z,1μm,18.5s,baz=68,slow=33
comp=Z,14nm,1.0s
OK051 E0350 and S346 51.16 287 IAMs_20 IAMs_20 03 19 06.5
comp=Z,2μm,20.0s
NCK Nalchik 51.30 63⇓*i*P **P** **02 57 58.4 +2.8**
NCK pmax pmax
comp=Z,74nm,1.7s
ARGC Ariguani, Magd 51.31 243 P **P** **02 57 58.0 +2.0**
comp=Z,78nm,1.8s
OK052 Battle Ridge R 51.39 286 IAMs_20 IAMs_20 03 19 07.6
comp=Z,2μm,19.0s
A36M Sachs Harbour 51.48 337 IAMs_20 IAMs_20 03 16 37.2
comp=Z,1μm,20.0s
A36M Sachs Harbour 51.48 337 P **P** **02 57 56.1 -0.4**
baz=68
Z38A Mt. Pleasant 51.49 282 IAmb IAmb 02 57 58.2
comp=Z,48nm,1.2s
Z38A IAMs_20 IAMs_20 03 20 32.4
comp=Z,1μm,19.0s
441A DeRidder 51.52 279 IAMs_20 IAMs_20 03 21 52.6
comp=Z,2μm,18.0s
R32A Long Quarter, 51.53 290 IAmb IAmb 02 57 58.2
comp=Z,76nm,1.2s
GHAJ Ghor Haditha 51.68 80 P **P** **02 57 59.2 +0.6**
GHAJ IAmb IAmb 02 58 13.2
comp=Z,82nm,1.2s
OK029 Liberty Lake 51.95 286 IAmb IAmb 02 58 01.9
comp=Z,92nm,1.2s
OK029 IAMs_20 IAMs_20 03 20 38.3
comp=Z,2μm,18.0s
OK032 Salt Plains WL 51.97 288 IAmb IAmb 02 58 01.3
comp=Z,117nm,1.5s
NATX Nacogdoches 52.05 280 IAMs_20 IAMs_20 03 20 32.3
comp=Z,2μm,19.0s
C36M Paulatuk 52.10 333 IAMs_20 IAMs_20 03 17 03.9
comp=Z,2μm,19.0s
C36M Paulatuk 52.10 333 P **P** **02 58 00.5 -0.7**
baz=68,SNR=7.2
ASF Jabal al Asfar 52.18 79 LR LR 03 20 29.0
comp=Z,323nm,21.9s,baz=331,slow=36
FNO Franklin 52.18 286 IAmb IAmb 02 58 02.7
comp=Z,50nm,1.2s
KARS Kars 52.27 66 IAMs_20 IAMs_20 03 22 36.2
comp=Z,2μm,21.0s
OK038 West end E0370 52.51 288 IAmb IAmb 02 58 06.9
comp=Z,42nm,1.0s
PRPB Parauapebas 52.52 206 *e*P **P** **02 58 06.0 +1.1**
TREL Terrell 52.56 282 IAmb IAmb 02 58 06.3
comp=Z,108nm,1.4s
NOKA Waynoka 52.56 288 IAmb IAmb 02 58 05.9
comp=Z,76nm,1.3s
OGNE Ogallala 52.58 294 IAmb IAmb 02 58 06.5
comp=Z,84nm,1.2s
X34A Smith Ranch, M 52.82 285 IAmb IAmb 02 58 08.2
comp=Z,90nm,1.4s
NBAN Anadia - AL 52.92 189 *e*P **P** **02 58 09.1 +1.1**
ITTB Itaituba 53.03 214 *e*P **P** **02 58 09.7 +1.0**
ELIS Ellis County 53.19 288 IAmb IAmb 02 58 11.6
comp=Z,70nm,1.0s
WMOK Wichita Mounta 53.42 286 IAmb IAmb 02 58 13.7
comp=Z,46nm,1.2s
FW06 Azle 53.48 283 IAmb IAmb 02 58 12.7
comp=Z,46nm,1.1s
RUSC La Rusia 53.57 239 IAmb IAmb 02 58 17.3
comp=Z,55nm,1.6s
GNI Garni 53.61 66 P **P** **02 58 12.3 -0.7**
GNI IAmb IAmb 02 58 20.2
comp=Z,66nm,1.4s
GNI Garni 53.61 66 P **P** **02 58 13.2 +0.2**
GNI P **P** **02 58 13.2 +0.2**
GNI Garni 53.61 66*de*P **P** **02 58 13.9 +0.9**
GNI pmax pmax
comp=Z,60nm,1.5s
GNI Garni 53.61 66 P **P** **02 58 13.7 +0.7**
WTFS Witchita Falls 53.70 285 IAmb IAmb 02 58 14.0
comp=Z,62nm,1.4s
FW13 Cleburne 53.72 283 IAmb IAmb 02 58 14.6
comp=Z,67nm,1.4s
FW07 Weatherford 53.78 283 IAmb IAmb 02 58 16.5
comp=Z,47nm,1.3s
HKT Hockley 53.87 279 IAMs_20 IAMs_20 03 19 29.6
comp=Z,2μm,21.0s
KSCO Kaye Shedlock' 53.92 292 IAmb IAmb 02 58 15.8
comp=Z,64nm,1.2s
WHTX Lake Whitney, 53.93 282 IAMs_20 IAMs_20 03 20 26.0
comp=Z,2μm,21.0s
PTBC PUERTO BERRIO, 53.94 241 P **P** **02 58 16.5 +1.0**
comp=Z,158nmcomp=Z,14nm,1.2s
TEIG Tepich 54.08 265 P **P** **02 58 16.6 +0.1**
TEIG IAmb IAmb 02 58 18.4
comp=Z,47nm,1.1s
MAK Makhachkala 54.08 62*c i*P P 02 58 08.0 -8.2
MAK *e*PPP PPP 03 01 23.8
MAK *e*SS **SKiKP** **03 09 32.1 +4.0**
MAK *e*SSS SSS 03 11 31.5
MAK pmax pmax
comp=Z,32nm,0.3s
MAK MLR MLR
comp=Z,975nm,16.0s
PLPT Palo Pinto 54.10 284 IAmb IAmb 02 58 17.1
comp=Z,58nm,1.3s
MACA Manacapuru-AM 54.14 220 IAmb IAmb 02 58 23.6
comp=Z,69nm,1.3s
MACA Manacapuru-AM 54.14 220 *e*P **P** **02 58 18.2 +1.4**
SMWD Samnorwood 54.26 287 IAmb IAmb 02 58 18.7
comp=Z,50nm,1.3s
BRIGG Briggsdale 54.28 295 IAmb IAmb 02 58 20.9
comp=Z,69nm,1.3s
ARTI Arti 54.30 43 P **P** **02 58 16.2 -1.4**
ARTI Arti 54.30 43 LR LR 03 20 30.1
comp=Z,952nm,20.2s,baz=290,slow=35
ARTI Arti 54.30 43*d i*P **P** **02 58 17.4 -0.2**
ARTI 02 59 19.6
ARTI 03 00 19.0
ARTI PPP PPP 03 01 32.4
ARTI S **S** **03 05 57.4 +2.5**
ARTI 03 08 09.5
ARTI pmax pmax
comp=Z,91nm,1.2s
SMTB Santa Maria do 54.39 203 *e*P **P** **02 58 20.1 +1.5**
WRGLY Wrigley 54.41 326 IAMs_20 IAMs_20 03 17 54.0
comp=Z,1μm,21.0s
WRGLY Wrigley 54.41 326 P **P** **02 58 18.2 0.0**
baz=54,SNR=34
435B Jarrell 54.68 281 IAmb IAmb 02 58 27.6
comp=Z,93nm,1.8s
DBBC Dabeiba 54.72 243 P **P** **02 58 23.0 +1.8**
K22A Casper 54.72 298 IAMs_20 IAMs_20 03 20 35.0
comp=Z,2μm,18.0s
SGC2 Sao Gabriel da 54.80 229 P **P** **02 58 22.2 +0.5**
comp=Z,643nmcomp=Z,44nm,1.1s
AKT Akhty 54.94 63 *e*P **P** **02 58 21.1 -1.5**
AKT *e* 02 59 26.2
AKT *e*S **S** **03 06 02.3 -1.9**
AKT pmax pmax
comp=Z,25nm,2.0s
AKT MLR MLR
comp=Z,1μm,20.0s
APMT Aspermont 55.11 285 IAmb IAmb 02 58 24.3
comp=Z,48nm,1.3s
ABTX Abilene, Hawle 55.15 284 IAmb IAmb 02 58 24.2
comp=Z,44nm,1.3s
ABTX IAMs_20 IAMs_20 03 21 48.2
comp=Z,2μm,19.0s
ROSC El Rosal 55.16 239 P **P** **02 58 25.6 +0.8**
comp=Z,5.1nm,0.4s,baz=341,slow=20,SNR=5.9
comp=Z,5.1nm,0.4s
SVE Sverdlovsk 55.22 42*ce*P **P** **02 58 24.2 0.0**
SVE *e*S **S** **03 06 10.4 +3.2**
SVE pmax pmax

comp=Z,67nm,1.6s
SVE MLR MLR
comp=Z,1µm,19.0s
RTBA Rita Blanca 55.30 290 IAmb IAmb 02 58 26.5
comp=Z,76nm,1.3s
NPGB Novo Progresso 55.31 212 *e*P **P 02 58 25.6 +0.2**
CBOC Ciudad Bolivar 55.45 242 P **P 02 58 28.0 +1.3**
comp=Z,564nmcomp=Z,26nm,1.8s
GUY2C Guyana, Caldas 55.52 241 P **P 02 58 28.8 +1.3**
comp=Z,1µmcomp=Z,57nm,2.1s
ISCO Idaho Springs 55.53 295 IAmb IAmb 02 58 30.5
comp=Z,45nm,1.2s
INK Inuvik 55.64 334 LR LR 03 19 31.7
comp=Z,1µm,18.8s,baz=45,slow=33
INK Inuvik 55.64 334 P **P 02 58 26.2 -0.8**
baz=59,SNR=34
SN07 Snyder 07 55.78 285 IAmb IAmb 02 58 29.0
comp=Z,40nm,1.3s
YNE Yellowstone No 55.79 302 IAmb IAmb 02 58 35.3
comp=Z,65nm,1.3s
735A Kenedy 55.91 279 IAMs_20 IAMs_20 03 23 10.7
comp=Z,1µm,20.0s
T25A Trinidad 56.08 291 IAmb IAmb 02 58 32.9
comp=Z,70nm,1.3s
KOTAN Kotaneelee Air 56.08 323 P **P 02 58 30.8 +0.4**
baz=61,SNR=21
F31M Tsiigehtchic 56.16 333 IAMs_20 IAMs_20 03 19 34.1
comp=Z,2µm,19.0s
F31M Tsiigehtchic 56.16 333 P **P 02 58 30.4 -0.4**
baz=58,SNR=105
POST Post 56.22 286 P **P 02 58 29.9 -2.0**
TEFE Tefe 56.38 224 *e*P **P 02 58 33.9 +0.9**
JCT Junction City 56.44 282 IAMs_20 IAMs_20 03 22 44.4
comp=Z,2µm,19.0s
H17A Grant Village 56.44 302 IAmb IAmb 02 58 37.6
comp=Z,42nm,1.2s
ESPN Las Esperanzas 56.51 254 IAMs_20 IAMs_20 03 18 18.9
comp=Z,1µm,21.0s
ESPN Las Esperanzas 56.51 254 P **P 02 58 35.4 +1.4**
comp=Z,799nmcomp=Z,61nm,1.2s
YMR Madison River 56.55 302 IAmb IAmb 02 58 36.2
comp=Z,63nm,1.4s
SGCY Sterling City 56.59 284 IAmb IAmb 02 58 35.3
comp=Z,46nm,1.3s
G31M Satah River 56.61 333 IAMs_20 IAMs_20 03 19 48.0
comp=Z,2µm,19.0s
G31M Satah River 56.61 333 P **P 02 58 33.4 -0.6**
baz=58,SNR=49
PD31 Pinedale Array 56.61 300 IAmb IAmb 02 58 35.7
comp=Z,42nm,1.1s
PDAR Pinedale Array 56.61 300 P **P 02 58 33.2 -1.6**
PDAR Pinedale Array 56.61 300 P **P 02 58 33.8 -1.0**
comp=Z,26nm,1.0s,baz=62,slow=7.0,SNR=88
comp=Z,26nm,1.0s
MSTX Muleshoe 56.63 287 IAMs_20 IAMs_20 03 23 06.2
comp=Z,2µm,18.0s
YHB Horse Butte 56.65 302 IAmb IAmb 02 58 36.6
comp=Z,32nm,1.1s
D28M Stokes Point 56.68 336 P **P 02 58 34.5 0.0**
baz=56,SNR=30
F30M Barrier River 56.73 334 IAMs_20 IAMs_20 03 20 04.2
comp=Z,1µm,18.0s
F30M Barrier River 56.73 334 P **P 02 58 34.7 -0.3**
baz=57,SNR=69
LOHW Long Hollow 56.85 301 IAmb IAmb 02 58 37.7
comp=Z,52nm,1.2s
AKTO Aktyubinsk 56.85 50 LR LR 03 23 22.6
comp=Z,1µm,19.7s,baz=278,slow=36
MOOW Moose Ponds 56.87 301 IAmb IAmb 02 58 37.8
comp=Z,52nm,1.2s
MACC Macarena, Meta 56.95 237 P **P 02 58 37.2 0.0**
comp=Z,672nmcomp=Z,37nm,1.4s
E29M Blow River 56.96 335 IAmb IAmb 02 58 37.4
comp=Z,62nm,1.3s
E29M Blow River 56.96 335 P **P 02 58 35.9 -0.7**
baz=56,SNR=45
O20A White River Ci 57.10 296 IAmb IAmb 02 58 39.8
comp=Z,53nm,1.3s
O20A IAMs_20 IAMs_20 03 22 43.0
comp=Z,1µm,20.0s
FXWY Fox Creek 57.10 301 IAmb IAmb 02 58 44.3
comp=Z,65nm,1.4s
FXWY IAMs_20 IAMs_20 03 21 47.8
comp=Z,2µm,20.0s
SDBA SAO DESIDERIO 57.10 198 *e*P **P 02 58 39.1 +0.9**
TPAW Teton Pass 57.13 301 IAmb IAmb 02 58 39.8
comp=Z,58nm,1.2s
OZNA Ozona 57.13 283 IAmb IAmb 02 58 39.4
comp=Z,46nm,1.4s
TGTN Hyland Airport 57.19 326 P **P 02 58 39.0 +0.6**
baz=59,SNR=31
DLMT Dillon 57.20 304 IAmb IAmb 02 58 40.6
comp=Z,81nm,1.2s
G30M tAoh Zraii Nji 57.22 333 P **P 02 58 36.8 -1.6**
G30M IAmb IAmb 02 58 39.2
comp=Z,61nm,1.4s
G30M IAMs_20 IAMs_20 03 20 54.2
comp=Z,2µm,19.0s
G30M tAoh Zraii Nji 57.22 333 P **P 02 58 37.7 -0.8**
baz=56,SNR=33
H31M Peel River 57.23 332 IAmb IAmb 02 58 46.0
comp=Z,63nm,1.5s
H31M IAMs_20 IAMs_20 03 20 06.6
comp=Z,2µm,20.0s
H31M Peel River 57.23 332 P **P 02 58 38.3 -0.2**
baz=57,SNR=19
TOAD Toad River Com 57.23 322 P **P 02 58 38.9 +0.2**
baz=60,SNR=29
ACON Acoyapa 57.28 255 P **P 02 58 40.7 +1.2**
comp=Z,927nmcomp=Z,69nm,1.2s
MSO Missoula 57.28 306 IAmb IAmb 02 58 40.5
comp=Z,6nm,1.2s
E28M Babbage River 57.34 336 IAmb IAmb 02 58 40.0
comp=Z,40nm,1.2s
E28M Babbage River 57.34 336 P **P 02 58 38.6 -0.6**
baz=54,SNR=36
LIRD Liard River Hi 57.34 323 P **P 02 58 39.3 0.0**
baz=60
PETF Flores 57.34 263 IAmb IAmb 02 58 40.4
comp=Z,50nm,1.2s
TGUH Tegucigalpa,Un 57.35 258 IAMs_20 IAMs_20 03 19 18.2
comp=Z,2µm,20.0s
833A Chaparral WMA, 57.36 280 IAmb IAmb 02 58 40.7
comp=Z,54nm,1.3s
D27M Malcolm River 57.38 337 IAmb IAmb 02 58 40.8
comp=Z,48nm,1.2s
D27M Malcolm River 57.38 337 P **P 02 58 39.5 -0.1**
baz=54,SNR=37
GMAL Guarumal, Vera 57.51 248 P **P 02 58 36.6 -4.5**
AHID Auburn Hatcher 57.59 300 IAmb IAmb 02 58 42.6
comp=Z,52nm,1.2s
DRIO Del Rio 57.61 282 IAmb IAmb 02 58 43.7
comp=Z,36nm,1.2s
EPYK Eagle Plains 57.73 333 IAMs_20 IAMs_20 03 20 32.6
comp=Z,2µm,19.0s
EPYK Eagle Plains 57.73 333 P **P 02 58 41.8 -0.2**
baz=56,SNR=40
RDMU Red Mountain 57.74 297 IAMs_20 IAMs_20 03 22 51.9
comp=Z,1µm,18.0s
BRU2 Volcan 57.77 250 P **P 02 58 42.1 -1.0**
MMPY Sheldon Lake, 57.82 328 IAmb IAmb 02 58 45.1
comp=Z,55nm,1.2s
MMPY IAMs_20 IAMs_20 03 20 14.2
comp=Z,2µm,21.0s
MMPY Sheldon Lake, 57.82 328 P **P 02 58 43.7 +1.0**
baz=58,SNR=45
G29M Pine Creek 57.85 334 IAMs_20 IAMs_20 03 21 31.7
comp=Z,2µm,18.0s
G29M Pine Creek 57.85 334 P **P 02 58 42.4 -0.5**
baz=55,SNR=37
C27K Jago River 57.92 338 IAmb IAmb 02 58 44.4
comp=Z,38nm,1.2s
C27K IAMs_20 IAMs_20 03 22 33.5
comp=Z,1µm,21.0s
C27K Jago River 57.92 338 P **P 02 58 43.1 -0.2**
baz=52,SNR=28
SOCE Pocosol 57.99 253 IAmb IAmb 02 58 45.3
comp=Z,32nm,1.1s
LCR2 La Lucha 2 58.01 252 IAMs_20 IAMs_20 03 19 46.8
comp=Z,1µm,20.0s
HERN Volcan Telica 58.02 257 IAMs_20 IAMs_20 03 18 30.8
comp=Z,2µm,22.0s
C26K Camden Bay 58.06 338 P **P 02 58 44.0 -0.3**
baz=51,SNR=12
WTLY Watson Lake, Y 58.14 324 IAmb IAmb 02 58 46.9
comp=Z,47nm,1.1s
WTLY IAMs_20 IAMs_20 03 21 01.0
comp=Z,1µm,19.0s
WTLY Watson Lake, Y 58.14 324 P **P 02 58 45.5 +0.5**
baz=58,SNR=5.5
PV15 Paradox Valley 58.19 295 IAmb IAmb 02 58 49.0
comp=Z,43nm,1.5s
E27K Coleen River 58.20 336 IAmb IAmb 02 58 46.3
comp=Z,59nm,1.2s
E27K Coleen River 58.20 336 P **P 02 58 45.0 -0.3**
baz=53,SNR=62
PV07 Paradox Valley 58.25 295 IAmb IAmb 02 58 52.9
comp=Z,62nm,1.6s
I30M Mount Dempster 58.27 332 IAmb IAmb 02 58 47.0
comp=Z,37nm,1.2s
I30M Mount Dempster 58.27 332 P **P 02 58 45.7 -0.3**
baz=55,SNR=29
JTS Las Juntas de 58.28 253 P **P 02 58 45.2 -1.4**
JTS Las Juntas de 58.28 253 IAMs_20 IAMs_20 03 18 57.1
comp=Z,2µm,22.0s
JTS Las Juntas de 58.28 253 LR LR 03 19 18.4
comp=Z,2µm,21.9s,baz=34,slow=31
JTS Las Juntas de 58.28 253 P **P 02 58 45.2 -1.4**
JTS pmax pmax
comp=Z,19nm,1.2s
PV22 Blue Mesa, Par 58.29 295 IAmb IAmb 02 58 48.2
comp=Z,70nm,1.3s
H29M Whitestone 58.36 333 IAmb IAmb 02 58 47.4
comp=Z,73nm,1.2s
H29M IAMs_20 IAMs_20 03 21 39.3
comp=Z,2µm,19.0s
H29M Whitestone 58.36 333 P **P 02 58 46.2 -0.2**
baz=54,SNR=53
SAND Sanderson 58.39 283 IAmb IAmb 02 58 49.3
comp=Z,33nm,1.0s
POPC Popayan, Colom 58.41 240 P **P 02 58 47.8 +0.1**
comp=Z,505nmcomp=Z,23nm,1.4s
NEW Newport 58.42 308 LR LR 03 22 23.2
comp=Z,3µm,18.2s,baz=65,slow=34
PV12 Saucer Basin, 58.42 295 IAmb IAmb 02 58 53.0
comp=Z,49nm,1.5s
PV02 Paradox Valley 58.44 295 IAmb IAmb 02 59 45.6
comp=Z,63nm,1.5s
SNDB Serra Nova Dou 58.45 206 *e*P **P 02 58 48.8 +1.2**
PV03 Paradox Valley 58.48 295 IAmb IAmb 02 58 55.4
comp=Z,50nm,1.6s
HWUT Hardware Ranch 58.48 299 IAMs_20 IAMs_20 03 23 21.6
comp=Z,2µm,18.0s
PV16 Nyswonger Mesa 58.50 295 IAmb IAmb 02 58 54.6
comp=Z,67nm,1.5s
ESQI Esquipulas 58.51 260 IAmb IAmb 02 58 51.8
comp=Z,44nm,1.0s
ESQI IAMs_20 IAMs_20 03 22 50.7
comp=Z,1µm,19.0s
AB31 Akbulak array 58.52 50 IAmb IAmb 02 58 54.7
comp=Z,53nm,1.4s
ABKAR Akbulak array 58.52 50 P **P 02 58 47.5 -0.3**
ABKAR Akbulak array 58.52 50 IAmb IAmb 02 58 54.7
comp=Z,54nm,1.4s
BSUT Blindstream Ca 58.53 298 IAmb IAmb 02 58 51.4
comp=Z,48nm,1.1s
PV17 East Wray Mesa 58.55 295 IAmb IAmb 02 58 54.9
comp=Z,62nm,1.4s
J30M Hart River 58.62 331 IAmb IAmb 02 58 50.0
comp=Z,45nm,1.1s
J30M IAMs_20 IAMs_20 03 21 09.2
comp=Z,2µm,19.0s
J30M Hart River 58.62 331 P **P 02 58 48.6 +0.2**
baz=55,SNR=27
MTO3 Montecristo 58.63 260 IAmb IAmb 02 58 52.5
comp=Z,73nm,1.5s
MTO3 IAMs_20 IAMs_20 03 23 01.9
comp=Z,1µm,19.0s
TCUT Toone Canyon 58.64 299 IAmb IAmb 02 58 56.2
comp=Z,40nm,1.1s
TCUT IAMs_20 IAMs_20 03 23 00.7
comp=Z,2µm,19.0s
ANMO Albuquerque 58.65 290 P **P 02 58 49.0 -0.2**
ANMO Albuquerque 58.65 290 IAmb IAmb 02 58 51.3
comp=Z,24nm,1.2s
ANMO IAMs_20 IAMs_20 03 23 17.6
comp=Z,4µm,20.0s
ANMO Albuquerque 58.65 290 IAmb IAmb 02 58 51.4
comp=Z,24nm,1.2s
ANMO Albuquerque 58.65 290 LR LR 03 23 39.7
comp=Z,3µm,20.2s,baz=224,slow=36
ANMO Albuquerque 58.65 290*d i*P **P 02 58 49.7 +0.5**
ANMO pmax pmax
comp=Z,15nm,1.4s
P18A Preston Nutter 58.67 297 IAmb IAmb 02 58 50.7
comp=Z,55nm,1.2s
P18A IAMs_20 IAMs_20 03 23 24.8
comp=Z,2µm,20.0s
NRIK Noril'sk 58.68 22 P **P 02 58 49.4 +0.8**
comp=Z,13nm,1.2s,baz=310,slow=5.5,SNR=32
comp=Z,13nm,1.2s
NRIK Noril'sk 58.68 22*d i*P **P 02 58 49.5 +0.9**
NRIK pmax pmax
comp=Z,83nm,1.6s
PECS Pecos 58.83 285 IAmb IAmb 02 58 53.6
comp=Z,36nm,1.3s
D25K Kavik River 58.84 338 P **P 02 58 49.4 -0.4**
baz=50,SNR=21
FARO Faro, Yukon 58.84 328 IAmb IAmb 02 58 51.9
comp=Z,32nm,1.1s
FARO Faro, Yukon 58.84 328 P **P 02 58 50.6 +0.7**
baz=56,SNR=6.5
I29M Ogilvie Camp, 58.85 332 IAMs_20 IAMs_20 03 21 07.2
comp=Z,2µm,20.0s
I29M Ogilvie Camp, 58.85 332 P **P 02 58 49.7 -0.2**
baz=54
CLDB Colider 58.99 211 *e*P **P 02 58 51.8 +0.4**
G27K Doyon Strip 59.06 335 IAmb IAmb 02 58 52.4
comp=Z,54nm,1.2s
G27K IAMs_20 IAMs_20 03 21 48.7
comp=Z,1µm,19.0s
G27K Doyon Strip 59.06 335 P **P 02 58 51.1 -0.2**
baz=52,SNR=52
PTLC Puerto Leguiza 59.08 236 P **P 02 58 54.5 +2.4**
comp=Z,975nmcomp=Z,83nm,1.4s
SRU San Rafael Swe 59.13 296 IAmb IAmb 02 58 55.2
comp=Z,28nm,1.1s
HVU Hansel Valley 59.16 300 IAmb IAmb 02 58 53.5
comp=Z,60nm,1.2s
BBAC Balboa, Cauca 59.17 240 P **P 02 58 53.3 +0.3**
comp=Z,478nmcomp=Z,30nm,1.7s
C24K Franklin Bluff 59.19 339 P **P 02 58 51.4 -0.7**
C24K Franklin Bluff 59.19 339 P **P 02 58 52.1 0.0**
baz=48
ALPN Alpine 59.23 284 IAmb IAmb 02 58 58.9
comp=Z,59nm,1.7s
HLID Hailey 59.25 303 IAmb IAmb 02 58 55.2
comp=Z,35nm,1.1s
F26K Sheenjek River 59.26 336 IAmb IAmb 02 58 54.3
comp=Z,49nm,1.6s
F26K Sheenjek River 59.26 336 P **P 02 58 52.8 +0.1**
baz=50,SNR=20
M31M Drury Creek, Y 59.26 328 IAmb IAmb 02 58 55.2
comp=Z,51nm,1.1s
M31M IAMs_20 IAMs_20 03 21 21.4
comp=Z,2µm,20.0s
M31M Drury Creek, Y 59.26 328 P **P 02 58 53.8 +1.0**
baz=55
C09A Chrisman Ranch 59.32 308 IAmb IAmb 02 58 53.9
comp=Z,39nm,1.2s
I28M Miner Creek 59.34 333 IAmb IAmb 02 58 54.4
comp=Z,64nm,1.2s
I28M Miner Creek 59.34 333 P **P 02 58 53.1 -0.3**
baz=53,SNR=49
N32M Quiet Lake 59.35 327 IAMs_20 IAMs_20 03 21 02.7
comp=Z,1µm,21.0s
N32M Quiet Lake 59.35 327 P **P 02 58 53.7 +0.3**
baz=56
MPU Maple Canyon 59.37 298 IAmb IAmb 02 58 56.0
comp=Z,37nm,1.1s
MPU IAMs_20 IAMs_20 03 23 47.1
comp=Z,2µm,18.0s
H27K Steamboat Moun 59.38 334 IAmb IAmb 02 58 54.8
comp=Z,65nm,1.4s
H27K IAMs_20 IAMs_20 03 21 47.2
comp=Z,1µm,18.0s
H27K Steamboat Moun 59.38 334 P **P 02 58 53.4 -0.2**
baz=52,SNR=25
CRNM Carthage 59.39 289 P **P 02 58 53.8 -0.5**
E25K Arctic Village 59.40 337 IAmb IAmb 02 58 55.1
comp=Z,50nm,1.4s
E25K Arctic Village 59.40 337 P **P 02 58 53.7 0.0**
baz=50,SNR=24
Y22D IRIS PASSCAL I 59.45 290 P **P 02 58 55.8 +1.1**
baz=56
R33M Jennings River 59.46 324 IAmb IAmb 02 58 56.5
comp=Z,33nm,1.1s
R33M Jennings River 59.46 324 P **P 02 58 55.2 +0.9**
baz=56,SNR=26
K29M Barlow Dome 59.47 331 IAmb IAmb 02 58 56.0
comp=Z,44nm,1.1s
K29M Barlow Dome 59.47 331 P **P 02 58 54.6 +0.3**
baz=54,SNR=38
BMAR Burnt Mountain 59.56 336 P **P 02 58 53.8 -1.0**
HUEH Huehuetenango 59.57 263 IAMs_20 IAMs_20 03 20 06.8
comp=Z,1µm,22.0s
DLBC Dease Lake 59.58 323 LR LR 03 22 18.7
comp=Z,1µm,18.3s,baz=67,slow=34
DLBC Dease Lake 59.58 323 P **P 02 58 55.8 +0.7**
baz=56,SNR=27
C23K Itkillik River 59.60 340 IAmb IAmb 02 58 56.0
comp=Z,34nm,1.2s
C23K Itkillik River 59.60 340 P **P 02 58 55.5 +0.6**
baz=46,SNR=17
D24K Happy Valley 59.61 339 IAmb IAmb 02 58 55.6
comp=Z,32nm,1.2s
D24K Happy Valley 59.61 339 P **P 02 58 55.0 0.0**
baz=48
B08A Colville Reser 59.63 309 IAmb IAmb 02 58 56.3
comp=Z,50nm,1.3s
B08A IAMs_20 IAMs_20 03 22 31.2
comp=Z,2µm,19.0s
G26K Porcupine Rive 59.63 335 P **P 02 58 55.4 +0.2**
baz=50,SNR=34
Q16A Castle Valley 59.66 296 IAmb IAmb 02 58 59.2
comp=Z,64nm,1.4s
Q16A IAMs_20 IAMs_20 03 24 14.9
comp=Z,2µm,21.0s
F10A Beach Ranch, E 59.67 306 IAmb IAmb 02 59 02.0
comp=Z,88nm,1.7s
MNTX Cornudas Mount 59.71 286 P **P 02 58 54.5 -1.8**
TBTG Tabatinga, AM 59.76 229 *e*P **P 02 58 56.2 -0.5**
F25K Christian Rive 59.77 337 IAmb IAmb 02 58 58.1
comp=Z,60nm,1.8s
F25K Christian Rive 59.77 337 P **P 02 58 56.5 +0.3**
baz=49,SNR=11
P33M Teslin, Yukon 59.77 326 IAMs_20 IAMs_20 03 21 24.0
comp=Z,1µm,20.0s
P33M Teslin, Yukon 59.77 326 P **P 02 58 56.5 +0.1**
baz=55,SNR=19
BGU Big Grassy Mou 59.78 299 IAmb IAmb 02 58 58.0
comp=Z,50nm,1.2s
BGU IAMs_20 IAMs_20 03 23 26.9
comp=Z,2µm,19.0s
I27K Kandik River 59.80 334 P **P 02 58 56.3 -0.1**
baz=51,SNR=47
A22K Sinclair Lake 59.81 342 P **P 02 58 56.9 +0.6**
baz=43,SNR=32
LLLB Lillooet 59.84 313 IAmb IAmb 02 58 57.9
comp=Z,51nm,1.4s
TX31 Lajitas Ar. Si 59.84 283 IAmb IAmb 02 58 58.6
comp=Z,48nm,1.4s
TXAR Lajitas Array 59.84 283 P **P 02 58 56.1 -1.3**
TXAR Lajitas Array 59.84 283 P **P 02 58 56.8 -0.6**
comp=Z,18nm,1.1s,baz=76,slow=5.3,SNR=62
TXAR LR LR 03 24 44.6
comp=Z,1µm,18.7s,baz=52,slow=36
TXAR PKPPKP **P'P'df 03 28 30.7 +2.9**
comp=Z,0.8nm,1.0s,baz=192,slow=2.4,SNR=6.1
comp=Z,18nm,1.1s
E09A Wood Farm, Sta 59.92 307 IAmb IAmb 02 58 58.4
comp=Z,70nm,1.4s
B22K Teshekpuk Lake 59.93 341 P **P 02 58 57.5 +0.3**
baz=44,SNR=29
A21K Barrow 59.93 343 P **P 02 58 57.5 +0.3**
baz=42
VHRN Van Horn 59.95 285 IAmb IAmb 02 58 59.5
comp=Z,53nm,1.2s
M30M Minto, Yukon 59.96 329 P **P 02 58 58.2 +0.6**
baz=54,SNR=67
PDRB Porto dos Gac 60.02 212 *e*P **P 02 58 58.9 +0.5**
DUG Dugway, Tooele 60.04 299 IAMs_20 IAMs_20 03 24 06.7
comp=Z,2µm,18.0s
L29M L29M 60.13 330 IAMs_20 IAMs_20 03 21 57.2
comp=Z,2µm,20.0s
L29M L29M 60.13 330 P **P 02 58 59.4 +0.6**
baz=53,SNR=45
TOLK Toolik Lake Re 60.16 339 IAmb IAmb 02 59 00.1
comp=Z,55nm,1.4s
TOLK Toolik Lake Re 60.16 339 P **P 02 58 58.8 0.0**
baz=47,SNR=23
N31M Braeburn, Yuko 60.22 328 P **P 02 58 58.6 -0.8**
N31M IAMs_20 IAMs_20 03 21 51.6
comp=Z,2µm,20.0s
N31M Braeburn, Yuko 60.22 328 P **P 02 58 59.7 +0.3**
baz=54,SNR=34
D23K Nanushuk River 60.22 339 IAmb IAmb 02 59 01.1
comp=Z,46nm,1.2s
D23K IAMs_20 IAMs_20 03 24 06.3
comp=Z,2µm,20.0s
D23K Nanushuk River 60.22 339 P **P 02 58 59.7 +0.5**
baz=46,SNR=24
E24K Your Creek 60.25 338 IAmb IAmb 02 59 01.0
comp=Z,48nm,1.3s
E24K Your Creek 60.25 338 P **P 02 58 59.6 +0.1**
baz=47,SNR=34
Q32M Nakina River 60.26 324 IAMs_20 IAMs_20 03 21 48.9
comp=Z,976nm,20.0s
Q32M Nakina River 60.26 324 P **P 02 59 00.7 +0.8**
baz=55,SNR=11
WHY Whitehorse 60.35 327 P **P 02 59 00.9 +0.5**
baz=54,SNR=47
S34M Telegraph Cree 60.36 323 IAmb IAmb 02 59 02.5
comp=Z,30nm,1.2s
S34M IAMs_20 IAMs_20 03 22 32.7
comp=Z,1µm,19.0s
S34M Telegraph Cree 60.36 323 P **P 02 59 01.2 +0.9**
baz=55,SNR=12
G25K Bearman Lake 60.45 336 P **P 02 59 01.7 +0.9**
baz=48,SNR=33
F24K Squaw Lake 60.46 337 P **P 02 59 01.6 +0.7**
baz=48,SNR=16
E08A Dider Farm, El 60.47 307 IAmb IAmb 02 59 02.0
comp=Z,57nm,1.3s
I26K Coal Creek Min 60.48 334 IAMs_20 IAMs_20 03 22 58.3
comp=Z,1µm,19.0s
I26K Coal Creek Min 60.48 334 P **P 02 59 01.3 +0.2**
baz=50
T35M Bob Quinn 60.50 322 IAmb IAmb 02 59 03.6
comp=Z,33nm,1.4s
T35M IAMs_20 IAMs_20 03 22 58.4
comp=Z,2µm,20.0s
T35M Bob Quinn 60.50 322 P **P 02 59 02.1 +0.8**
baz=56,SNR=7.2
P32M Atlin 60.50 326 P **P 02 59 01.2 -0.1**
baz=54,SNR=5.7
E23K Chandalar 60.57 338 IAMs_20 IAMs_20 03 23 32.5
comp=Z,1µm,21.0s
E23K Chandalar 60.57 338 P **P 02 59 01.7 0.0**
baz=46,SNR=12
WAH2 Wahluke Slope 60.62 308 P **P 02 59 01.1 -1.2**
WAH2 IAmb IAmb 02 59 02.8
comp=Z,57nm,1.2s
M29M Somme Creek 60.66 330 IAmb IAmb 02 59 04.6
comp=Z,39nm,1.1s
M29M IAMs_20 IAMs_20 03 22 34.2
comp=Z,2µm,19.0s
M29M Somme Creek 60.66 330 P **P 02 59 03.2 +0.7**
baz=52,SNR=38
H25L Birch Creek 60.69 336 P **P 02 59 03.2 +0.8**
baz=48
B21K Ikpikpuk River 60.73 341 IAmb IAmb 02 59 04.5
comp=Z,62nm,1.2s
B21K Ikpikpuk River 60.73 341 P **P 02 59 03.3 +0.6**
baz=43,SNR=28
N30M Aishikik Lake 60.74 328 IAmb IAmb 02 59 05.0
comp=Z,63nm,1.2s
N30M IAMs_20 IAMs_20 03 22 47.4
comp=Z,2µm,19.0s
N30M Aishikik Lake 60.74 328 P **P 02 59 03.5 +0.5**
baz=53,SNR=37
O30N Mendenhall 60.77 327 IAMs_20 IAMs_20 03 21 58.1
comp=Z,1µm,21.0s
O30N Mendenhall 60.77 327 P **P 02 59 03.6 +0.4**
baz=53,SNR=38
D22K Ayikyak River 60.80 340 IAmb IAmb 02 59 09.9
comp=Z,57nm,1.6s
D22K Ayikyak River 60.80 340 P **P 02 59 03.5 +0.3**
baz=44,SNR=14
HAWA Hanford 60.80 308 IAmb IAmb 02 59 04.4
comp=Z,36nm,1.2s
MTPU Mount Pierson 60.81 296 IAMs_20 IAMs_20 03 23 45.2
comp=Z,2µm,22.0s
E07A Sunnyside 60.90 308 IAmb IAmb 02 59 04.9

comp=Z,48nm,1.3s
G24K Hadweenzic Riv 60.90 336 P P 02 59 04.5 +0.6
baz=48,SNR=24
K27K Chicken 60.95 332 P P 02 59 04.0 -0.3
K27K IAmb IAmb 02 59 06.0
comp=Z,47nm,1.2s
K27K IAms_20 IAms_20 03 22 32.5
comp=Z,2µm,20.0s
K27K Chicken 60.95 332 P P 02 59 04.7 +0.4
baz=50
BDFB Brasilia 60.98 201 P P 02 59 05.9 +0.8
comp=Z,17nm,1.1s,baz=32,slow=13,SNR=11
BDFB LR LR 03 20 59.4
comp=Z,1µm,22.0s,baz=3.8,slow=32
comp=Z,17nm,1.1s
LTY Liberty 60.98 309 IAms_20 IAms_20 03 23 31.9
comp=Z,2µm,19.0s
U35K Hyder 61.00 321 IAms_20 IAms_20 03 23 04.7
comp=Z,1µm,19.0s
U35K Hyder 61.00 321 P P 02 59 04.6 -0.1
baz=55
B20K Meade River 61.04 342 IAmb IAmb 02 59 06.5
comp=Z,54nm,1.1s
B20K Meade River 61.04 342 P P 02 59 05.3 +0.5
baz=41,SNR=12
PRP Porcupine Dome 61.10 335 IAms_20 IAms_20 03 22 53.6
comp=Z,929nm,18.0s
PRP Porcupine Dome 61.10 335 P P 02 59 05.8 +0.3
baz=48,SNR=33
E22K Anaktuvuk Pass 61.11 339 IAmb IAmb 02 59 06.6
comp=Z,37nm,1.5s
E22K Anaktuvuk Pass 61.11 339 P P 02 59 05.3 -0.1
baz=45,SNR=10
C21K Knifeblade Rid 61.12 341 P P 02 59 05.7 +0.4
baz=43,SNR=18
MXC Moxie City 61.14 308 IAmb IAmb 02 59 06.8
comp=Z,46nm,1.3s
J26L Joseph Creek 61.14 333 IAmb IAmb 02 59 07.0
comp=Z,32nm,1.2s
J26L IAms_20 IAms_20 03 22 49.7
comp=Z,1µm,19.0s
J26L Joseph Creek 61.14 333 P P 02 59 05.6 -0.1
baz=50,SNR=17
PKCU Pink Cliffs 61.22 296 IAmb IAmb 02 59 08.2
comp=Z,66nm,1.2s
SKAG Skagway 61.24 326 IAmb IAmb 02 59 08.1
comp=Z,37nm,1.3s
SKAG IAms_20 IAms_20 03 22 58.8
comp=Z,947nm,18.0s
SKAG Skagway 61.24 326 P P 02 59 06.9 +0.6
baz=53,SNR=5.6
X18A Snowflake 61.27 292 P P 02 59 06.5 -0.6
X18A IAmb IAmb 02 59 10.3
comp=Z,36nm,1.2s
ELK Elko 61.28 300 IAms_20 IAms_20 03 24 50.6
comp=Z,2µm,18.0s
HYT Haines Junctio 61.28 328 IAmb IAmb 02 59 08.7
comp=Z,44nm,1.1s
HYT IAms_20 IAms_20 03 22 35.8
comp=Z,2µm,20.0s
HYT Haines Junctio 61.28 328 P P 02 59 07.4 +0.6
baz=52,SNR=22
OTAV Otavalo 61.31 240 P P 02 59 07.8 -0.1
OTAV IAmb IAmb 02 59 09.5
comp=Z,37nm,1.4s
OTAV Otavalo 61.31 240 P P 02 59 07.8 -0.1
OTAV pmax pmax
comp=Z,37nm,1.4s
OTAV Otavalo 61.31 240 *e*P P 02 59 08.1 +0.2
OTAV Otavalo 61.31 240 P P 02 59 08.3 +0.4
comp=Z,19nm,1.5s
COLD Coldfoot 61.31 338 IAmb IAmb 02 59 08.3
comp=Z,36nm,1.3s
COLD Coldfoot 61.31 338 P P 02 59 06.9 +0.2
baz=46,SNR=29
YUK4 Talbot Arm 61.40 329 P P 02 59 07.5 -0.2
baz=52,SNR=9.4
E21K Killik River 61.44 340 IAmb IAmb 02 59 08.8
comp=Z,41nm,1.4s
E21K Killik River 61.44 340 P P 02 59 07.5 -0.1
baz=43
BCAR Beaver Creek A 61.46 331 P P 02 59 06.9 -0.9
L27K Beaver Creek, 61.48 331 P P 02 59 08.2 +0.3
baz=50,SNR=7.7
P30M Million Dollar 61.50 327 P P 02 59 09.1 +0.9
baz=52
YUK6 Outpost Mounta 61.54 328 P P 02 59 09.4 +0.8
baz=52,SNR=30
BVCY Beaver Creek 61.55 331 P P 02 59 09.1 +0.7
baz=51,SNR=26
KBD Kabd 61.56 76 P P 02 59 10.0 +1.1
BESE Bessie Mountai 61.57 325 IAmb IAmb 02 59 10.8
comp=Z,33nm,1.4s
BESE IAms_20 IAms_20 03 22 39.7
comp=Z,1µm,21.0s
H24K Noodor Dome 61.60 336 IAmb IAmb 02 59 10.4
comp=Z,48nm,1.4s
H24K Noodor Dome 61.60 336 P P 02 59 09.1 +0.3
baz=47,SNR=18
R32K Eaglecrest 61.62 325 IAms_20 IAms_20 03 22 40.7
comp=Z,1µm,20.0s
R32K Eaglecrest 61.62 325 P P 02 59 09.4 +0.5
baz=53,SNR=7.1
SCRK Sand Creek 61.62 333 IAmb IAmb 02 59 10.7
comp=Z,50nm,1.2s
SCRK IAms_20 IAms_20 03 22 54.6
comp=Z,1µm,20.0s
SCRK Sand Creek 61.62 333 P P 02 59 09.2 +0.2
baz=49,SNR=27
G23K Bananza Creek 61.62 337 P P 02 59 09.3 +0.5
baz=46,SNR=14
PSUT Pine Spring 61.62 297 P P 02 59 08.7 -0.8
PSUT IAmb IAmb 02 59 11.2
comp=Z,50nm,1.2s
F22K John River 61.65 339 P P 02 59 09.1 +0.1
baz=44,SNR=26
J25K Salcha River, 61.65 334 IAmb IAmb 02 59 10.5
comp=Z,42nm,1.2s
J25K IAms_20 IAms_20 03 23 07.3
comp=Z,1µm,20.0s
J25K Salcha River, 61.65 334 P P 02 59 09.2 +0.1
baz=48,SNR=25
SPR3 Spring Creek 3 61.67 298 IAmb IAmb 02 59 12.1
comp=Z,54nm,1.3s
SPR3 IAms_20 IAms_20 03 24 46.0
comp=Z,2µm,20.0s
A19K Wainwright 61.74 343 P P 02 59 09.8 +0.2
baz=38
PGC Sidney 61.77 311 IAms_20 IAms_20 03 23 34.6
comp=Z,1µm,21.0s
WRAK Wrangell Islan 61.77 322 IAms_20 IAms_20 03 23 37.9
comp=Z,1µm,20.0s
WRAK Wrangell Islan 61.77 322 P P 02 59 10.5 +0.6
baz=54
D05A Enumclaw 61.77 309 IAms_20 IAms_20 03 23 47.8
comp=Z,2µm,19.0s
KNB Kanab 61.80 295 IAmb IAmb 02 59 12.0
comp=Z,40nm,1.2s
T33K Petersburg 61.80 323 P P 02 59 11.0 +0.8
baz=54
YUK3 Moose Creek 61.81 330 P P 02 59 10.7 +0.3
baz=51,SNR=33
YUK8 Steele Glacier 61.86 329 P P 02 59 11.3 +0.5
baz=51,SNR=7.5
DOT Dot Lake 61.86 333 IAmb IAmb 02 59 12.1
comp=Z,50nm,1.3s
DOT IAms_20 IAms_20 03 23 11.0
comp=Z,1µm,19.0s
D20K Etivluk River 61.89 341 IAmb IAmb 02 59 11.9
comp=Z,40nm,1.1s
D20K Etivluk River 61.89 341 P P 02 59 10.7 +0.1
baz=41,SNR=26
G22K Bettles 61.89 338 P P 02 59 10.4 -0.1
baz=44,SNR=31
LON Longmire 61.91 309 IAms_20 IAms_20 03 23 10.6
comp=Z,2µm,22.0s
BRVK Borovoye 61.92 42 P P 02 59 10.2 -0.9
BRVK IAmb IAmb 02 59 12.9
comp=Z,52nm,1.2s
BRVK Borovoye 61.92 42 IAms_20 IAms_20 03 27 49.0
comp=Z,896nm,18.0s
BRVK Borovoye 61.92 42 P P 02 59 11.5 +0.4
BRVK P P 02 59 11.5 +0.4
BRVK Borovoye 61.92 42*d* *i*P P 02 59 11.5 +0.4
BRVK pmax pmax
comp=Z,58nm,1.3s
M27K Edge Creek, AK 61.95 331 IAms_20 IAms_20 03 23 05.3
comp=Z,2µm,20.0s
M27K Edge Creek, AK 61.95 331 P P 02 59 11.7 +0.4
baz=50,SNR=32
POKR Poker Plat Res 61.96 335 IAms_20 IAms_20 03 23 39.4
comp=Z,1µm,19.0s
POKR Poker Plat Res 61.96 335 P P 02 59 11.4 +0.2
baz=47,SNR=15
BVAR Borovoye Array 62.00 42 P P 02 59 12.1 +0.6
comp=Z,16nm,0.9s,baz=305,slow=5.2,SNR=67
BVAR LR LR 03 25 12.2
comp=Z,722nm,19.4s,baz=301,slow=35
comp=Z,16nm,0.9s
CBB Campbell River 62.02 313 IAms_20 IAms_20 03 25 27.3
comp=Z,1µm,19.0s
O29M Mount Kennedy 62.02 328 IAmb IAmb 02 59 13.6
comp=Z,48nm,1.2s
O29M IAms_20 IAms_20 03 22 50.4
comp=Z,2µm,21.0s
O29M Mount Kennedy 62.02 328 P P 02 59 12.2 +0.5
baz=51,SNR=18
GNW Green Mountain 62.03 310 IAmb IAmb 02 59 13.0
comp=Z,57nm,1.4s
GNW IAms_20 IAms_20 03 23 57.6
comp=Z,2µm,19.0s
IL31 62.03 335 IAmb IAmb 02 59 12.9
comp=Z,56nm,1.6s
ILAR Eielson Array 62.03 335 P P 02 59 10.3 -1.3
ILAR Eielson Array 62.03 335 P P 02 59 11.3 -0.2
comp=Z,8.3nm,1.1s,baz=43,slow=4.2,SNR=40
ILAR LR LR 03 24 17.3
comp=Z,1µm,18.1s,baz=58,slow=34
comp=Z,8.3nm,1.1s
L26K Log Cabin Wild 62.03 332 IAmb IAmb 02 59 13.3
comp=Z,61nm,1.4s
L26K Log Cabin Wild 62.03 332 P P 02 59 12.1 +0.4
baz=49
CLRS Cowichan Lake 62.05 312 IAmb IAmb 02 59 24.8
comp=Z,34nm,1.6s
CLRS IAms_20 IAms_20 03 23 40.9
comp=Z,1µm,21.0s
R31K City Hall, Gus 62.05 325 P P 02 59 12.5 +0.8
baz=52
RIDG Independent Ri 62.06 333 IAmb IAmb 02 59 13.6
comp=Z,57nm,1.3s
RIDG IAms_20 IAms_20 03 23 54.2
comp=Z,1µm,18.0s
RIDG Independent Ri 62.06 333 P P 02 59 12.4 +0.5
baz=48,SNR=16
V35K Ketchikan 62.08 321 IAms_20 IAms_20 03 24 05.2
comp=Z,1µm,18.0s
V35K Ketchikan 62.08 321 P P 02 59 12.6 +0.6
baz=54
G06A Carlson Farm, 62.08 307 IAmb IAmb 02 59 13.6
comp=Z,57nm,1.4s
LCMT Little Creek M 62.08 296 IAms_20 IAms_20 03 25 58.0
comp=Z,2µm,20.0s
H23K Yukon River 62.11 336 IAmb IAmb 02 59 14.0
comp=Z,55nm,1.4s
H23K Yukon River 62.11 336 P P 02 59 12.6 +0.5
baz=46
P29M Windy Craggy 62.11 327 IAms_20 IAms_20 03 22 51.8
comp=Z,1µm,22.0s
P29M Windy Craggy 62.11 327 P P 02 59 13.0 +0.7
baz=52,SNR=34
ARAG Araguaiana, MT 62.12 205 *e*P P 02 59 13.5 +0.9
S32K Killisnoo 62.12 324 IAmb IAmb 02 59 14.5
comp=Z,43nm,1.1s
S32K IAms_20 IAms_20 03 23 05.3
comp=Z,1µm,19.0s
S32K Killisnoo 62.12 324 P P 02 59 13.3 +1.1
baz=53,SNR=8.1
E20K Nigu River 62.13 340 P P 02 59 12.2 0.0
baz=41,SNR=21
PIAT Ana Tenorio 62.14 239 P P 02 59 11.4 -2.0
comp=Z,15nm,2.1s
F21K Alatna River 62.21 339 IAmb IAmb 02 59 14.2
comp=Z,58nm,1.4s
F21K Alatna River 62.21 339 P P 02 59 12.8 +0.1
baz=43,SNR=25
BBB Bella Bella 62.22 317 LR LR 03 23 40.6
comp=Z,877nm,19.5s,baz=46,slow=34
MENT Mentasta 62.22 332 IAmb IAmb 02 59 14.5
comp=Z,41nm,1.2s
COLA College 62.26 335 P P 02 59 12.2 -0.9
COLA College 62.26 335 IAms_20 IAms_20 03 23 48.4
comp=Z,2µm,18.0s
COLA College 62.26 335*d* *i*P P 02 59 12.7 -0.4
COLA pmax pmax
comp=Z,43nm,1.8s
COLA College 62.26 335 P P 02 59 13.2 +0.1
baz=46
HDA Harding Lake 62.30 334 IAmb IAmb 02 59 14.6
comp=Z,49nm,1.3s
HDA IAms_20 IAms_20 03 24 04.3
comp=Z,1µm,19.0s
HDA Harding Lake 62.30 334 P P 02 59 13.3 -0.1
baz=47,SNR=18
U33K Whale Pass 62.30 322 IAms_20 IAms_20 03 24 03.9
comp=Z,1µm,20.0s
U33K Whale Pass 62.30 322 P P 02 59 13.9 +0.4
baz=53
M26K Nabesna, AK 62.32 331 P P 02 59 13.7 +0.1
baz=49,SNR=8.7
K24K Donnelly Dome 62.33 333 IAms_20 IAms_20 03 24 21.2
comp=Z,2µm,18.0s
K24K Donnelly Dome 62.33 333 P P 02 59 14.2 +0.5
baz=48,SNR=18
O28M Mount Upton 62.35 329 IAmb IAmb 02 59 16.0
comp=Z,54nm,1.2s
O28M Mount Upton 62.35 329 P P 02 59 14.5 +0.4
baz=50,SNR=20
X16A Lo Mia Camp, P 62.35 292 IAmb IAmb 02 59 17.1
comp=Z,31nm,1.2s
CCB Clear Creek Bu 62.40 335 IAmb IAmb 02 59 15.2
comp=Z,57nm,1.5s
CCB IAms_20 IAms_20 03 23 51.1
comp=Z,1µm,18.0s
D19K Kuna River 62.42 341 P P 02 59 14.1 0.0
baz=40,SNR=12
SJMB Sao Joao De Ma 62.50 193 *e*P P 02 59 15.8 +0.7
I23K Minto, Yukon-K 62.53 336 IAms_20 IAms_20 03 24 17.4
comp=Z,858nm,18.0s
I23K Minto, Yukon-K 62.53 336 P P 02 59 15.2 +0.3
baz=45,SNR=19
S31K Pelican 62.53 325 IAms_20 IAms_20 03 23 39.9
comp=Z,1µm,20.0s
S31K Pelican 62.53 325 P P 02 59 15.7 +0.7
baz=52
DIAM Diamantina, MG 62.55 196 *e*P P 02 59 16.9 +1.2
B18K Kokolik River 62.57 343 P P 02 59 15.6 +0.5
baz=37,SNR=9.0
H22K Ishtalitna Cre 62.59 337 P P 02 59 15.6 +0.3
baz=44,SNR=12
WRH Wood River Hil 62.61 335 IAms_20 IAms_20 03 23 57.6
comp=Z,1µm,18.0s
319A Douglas 62.62 288 P P 02 59 17.2 +1.0
HOOD Mount Hood Mea 62.62 307 IAmb IAmb 02 59 16.9
comp=Z,52nm,1.3s
BCPM Bancas Point 62.66 328 IAms_20 IAms_20 03 23 10.1
comp=Z,2µm,21.0s
SIT Sitka 62.70 324 IAms_20 IAms_20 03 23 13.4
comp=Z,933nm,20.0s
SIT Sitka 62.70 324 P P 02 59 16.7 +0.5
baz=52
G21K Allakaket 62.73 338 P P 02 59 16.1 -0.2
baz=43,SNR=11
PNL Peninsula 62.75 328 P P 02 59 16.6 +0.1
baz=50,SNR=6.0
C03A Quillayute Air 62.78 311 IAms_20 IAms_20 03 24 26.4
comp=Z,2µm,20.0s
PAX Paxson 62.79 333 IAmb IAmb 02 59 18.3
comp=Z,53nm,1.4s
PAX IAms_20 IAms_20 03 23 41.5
comp=Z,1µm,20.0s
PAX Paxson 62.79 333 P P 02 59 16.8 0.0
baz=48,SNR=18
PINM Pinnacle 62.80 328 P P 02 59 16.8 -0.1
baz=50
NEA2 Nenana 62.83 335 IAmb IAmb 02 59 18.1
comp=Z,59nm,1.3s
NEA2 IAms_20 IAms_20 03 24 14.4
comp=Z,1µm,19.0s
NEA2 Nenana 62.83 335 P P 02 59 16.7 -0.2
baz=45,SNR=26
F20K Avaraart Lake 62.93 339 IAmb IAmb 02 59 19.1
comp=Z,50nm,1.4s
F20K Avaraart Lake 62.93 339 P P 02 59 17.7 +0.2
baz=41,SNR=26
ZAIG Zacatecas 62.95 277 P P 02 59 18.5 -0.2
ZAIG IAms_20 IAms_20 03 28 08.5
comp=Z,1µm,19.0s
F04D Rainier, OR 62.97 309 IAms_20 IAms_20 03 23 55.7
comp=Z,2µm,22.0s
E19K Redstone River 63.00 340 IAmb IAmb 02 59 19.5
comp=Z,34nm,1.2s
E19K Redstone River 63.00 340 P P 02 59 18.1 +0.1
baz=40,SNR=17
I05D Terrebonne, OR 63.00 306 IAmb IAmb 02 59 20.0
comp=Z,23nm,1.1s
C18K Utukok River 63.00 342 IAmb IAmb 02 59 19.5
comp=Z,43nm,1.2s
C18K IAms_20 IAms_20 03 25 35.7
comp=Z,1µm,21.0s
C18K Utukok River 63.00 342 P P 02 59 18.1 0.0
baz=38,SNR=17
HARP HAARP 63.07 332 P P 02 59 18.9 +0.3
baz=48
TUC Tucson 63.12 290 P P 02 59 18.6 -0.8
TUC IAmb IAmb 02 59 21.7
comp=Z,44nm,1.2s
TUC Tucson 63.12 290 P P 02 59 18.7 -0.8
TUC pmax pmax
comp=Z,44nm,1.3s
TUC MLR MLR
comp=Z,4µm,18.0s
HOLB Holberg 63.12 315 IAms_20 IAms_20 03 23 43.2
comp=Z,1µm,20.0s
H21K Melozitna Rive 63.17 337 P P 02 59 19.2 0.0
baz=43,SNR=14
GLB Gilahina Butte 63.24 331 IAms_20 IAms_20 03 23 48.5
comp=Z,1µm,20.0s
BWN Browne 63.25 335 IAms_20 IAms_20 03 24 17.1
comp=Z,1µm,19.0s
VRDI Verde Repeater 63.26 330 IAms_20 IAms_20 03 23 48.9
comp=Z,1µm,21.0s
IPMB Ipameri, GO 63.27 200 *e*P P 02 59 20.6 +0.2
I21K Tanana 63.28 337 IAmb IAmb 02 59 21.4
comp=Z,39nm,1.4s
I21K Tanana 63.28 337 P P 02 59 20.0 +0.1
baz=44
TLIG Tlapa 63.28 269 IAmb IAmb 02 59 24.4
comp=Z,51nm,1.3s
H04A Detroit Lake 63.30 307 IAmb IAmb 02 59 21.0
comp=Z,48nm,1.3s
RAYN Ar Rayn 63.36 82 P P 02 59 19.4 -1.7
RAYN Ar Rayn 63.36 82 P P 02 59 21.6 +0.4
RAYN Ar Rayn 63.36 82 P P 02 59 19.4 -1.7
RAYN pmax pmax
comp=Z,14nm,1.0s
RAYN MLR MLR
comp=Z,400nm,20.0s
RAYN Ar Rayn 63.36 82 *i* P P 02 59 21.2 +0.1
SNR=11
S11A Rachel 63.36 298 IAms_20 IAms_20 03 26 05.7
comp=Z,2µm,19.0s
PMNB Patos De Minas 63.37 198 *e*P P 02 59 21.7 +0.6
F03A Seaside 63.38 309 IAms_20 IAms_20 03 24 41.3
comp=Z,2µm,20.0s
MCK McKinley 63.40 334 IAmb IAmb 02 59 21.8
comp=Z,55nm,1.4s
MCK IAms_20 IAms_20 03 25 06.4
comp=Z,1µm,18.0s
MCK McKinley 63.40 334 P P 02 59 20.7 -0.1
baz=45,SNR=14
MESA MESA 63.40 329 P P 02 59 21.6 +0.6
baz=49,SNR=14
N25K Chitina, Valde 63.41 331 IAmb IAmb 02 59 22.1
comp=Z,28nm,1.3s
N25K Chitina, Valde 63.41 331 P P 02 59 20.6 -0.4
baz=48,SNR=8.2
MOBC Moresby Island 63.55 319 IAms_20 IAms_20 03 25 09.1
comp=Z,2µm,19.0s
WAX Waxell Ridge 63.56 330 IAms_20 IAms_20 03 24 28.8
comp=Z,2µm,19.0s
SALV Santo Antonio 63.59 209 *e*P P 02 59 22.4 0.0
Q09A Carvers 63.60 299 IAms_20 IAms_20 03 26 17.9
comp=Z,1µm,20.0s
RND Reindeer 63.60 334 IAmb IAmb 02 59 28.1
comp=Z,34nm,1.5s
RND IAms_20 IAms_20 03 25 04.8
comp=Z,1µm,19.0s
W13A Hualapai Mount 63.60 294 IAmb IAmb 02 59 24.9
comp=Z,42nm,1.2s
F19K Shaleruckik Mo 63.61 340 IAmb IAmb 02 59 23.1
comp=Z,39nm,1.3s
F19K Shaleruckik Mo 63.61 340 P P 02 59 21.7 -0.4
baz=40,SNR=16
G03D McMinnville, O 63.62 308 IAms_20 IAms_20 03 25 07.9
comp=Z,2µm,20.0s
M24K Tolsona, Glenn 63.62 332 IAms_20 IAms_20 03 24 27.4
comp=Z,2µm,20.0s
M24K Tolsona, Glenn 63.62 332 P P 02 59 22.4 +0.1
baz=47,SNR=11
SHPR Sheep Range 63.63 296 IAms_20 IAms_20 03 25 35.9
comp=Z,1µm,22.0s
Y14A Wickenburg 63.68 293 IAmb IAmb 02 59 26.9
comp=Z,30nm,1.1s
HG4B Hotspring 63.69 318 IAms_20 IAms_20 03 25 30.9
comp=Z,1µm,18.0s
H04D Lebanon 63.72 307 IAms_20 IAms_20 03 25 28.4
comp=Z,2µm,20.0s
SNH Sunshine Point 63.73 329 P P 02 59 23.3 +0.3
BPAW Bear Paw Mtn. 63.77 335 IAms_20 IAms_20 03 25 04.2
comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 63.77 335 P P 02 59 22.6 -0.6
baz=44,SNR=13
MOD Modoc Plateau 63.78 304 IAms_20 IAms_20 03 19 09.3
comp=Z,991nm,18.0s
E18K Tukpahlearik C 63.84 341 IAmb IAmb 02 59 25.0
comp=Z,32nm,1.2s
E18K IAms_20 IAms_20 03 27 50.9
comp=Z,917nm,18.0s
E18K Tukpahlearik C 63.84 341 P P 02 59 23.8 +0.2
baz=38,SNR=13
BMRM Bremner River 63.85 331 IAms_20 IAms_20 03 23 58.5
comp=Z,1µm,21.0s
BMRM Bremner River 63.85 331 P P 02 59 23.8 +0.1
baz=47,SNR=15
RDOG Red Dog Mine 63.86 342 IAmb IAmb 02 59 25.0
comp=Z,53nm,1.4s
RDOG Red Dog Mine 63.86 342 P P 02 59 23.8 +0.1
baz=36,SNR=5.9
H20K Anotleneega Mo 63.87 338 P P 02 59 24.1 +0.2
baz=41,SNR=19
V12A Nelson 63.88 295 IAmb IAmb 02 59 26.2
comp=Z,41nm,1.3s
BGLC Bering Glacier 63.94 329 P P 02 59 25.1 +0.8
baz=48
KLU Klutina 63.96 332 IAmb IAmb 02 59 25.7
comp=Z,48nm,1.2s
KLU IAms_20 IAms_20 03 24 20.3
comp=Z,2µm,20.0s
KLU Klutina 63.96 332 P P 02 59 24.3 -0.3
baz=47,SNR=14
G19K Purcell Mounta 63.97 339 IAmb IAmb 02 59 26.2
comp=Z,63nm,1.6s
G19K Purcell Mounta 63.97 339 P P 02 59 24.8 +0.4
baz=40,SNR=15
COR Corvallis 64.01 308 P P 02 59 24.9 -0.1
COR Corvallis 64.01 308 P P 02 59 24.9 -0.1
COR pmax pmax
comp=Z,118nm,1.2s
TRF Thorofare Moun 64.02 335 IAms_20 IAms_20 03 24 51.9
comp=Z,1µm,18.0s
TRF Thorofare Moun 64.02 335 P P 02 59 24.4 -0.6
baz=44,SNR=17
TPNV Topopah Spring 64.09 297 IAmb IAmb 02 59 27.4
comp=Z,31nm,1.2s
KTH Kantishna Hill 64.15 335 IAms_20 IAms_20 03 25 05.2
comp=Z,1µm,19.0s
HMT Hamilton 64.15 330 IAms_20 IAms_20 03 24 38.6
comp=Z,1µm,20.0s
SUCK Suckling Hills 64.15 330 IAmb IAmb 02 59 27.9
comp=Z,58nm,1.3s
DIV Divide 64.15 331 IAmb IAmb 02 59 26.9
comp=Z,60nm,1.3s
D17K Noatak River 64.19 342 P P 02 59 25.6 -0.2
baz=36,SNR=11
SCM Sheep Creek Mo 64.20 332 IAms_20 IAms_20 03 24 26.8
comp=Z,2µm,20.0s
SCM Sheep Creek Mo 64.20 332 P P 02 59 26.0 -0.1
baz=46
C16K Lisburne Hills 64.21 343 IAms_20 IAms_20 03 26 20.5
comp=Z,921nm,19.0s
C16K Lisburne Hills 64.21 343 P P 02 59 25.9 -0.1
baz=34
K04D Chiloquin, OR 64.24 305 P P 02 59 26.8 0.0

F18K	Selawik	64.27 340	P	P	02 59 26.5	+0.2
	baz=38,SNR=22					
RAGM	Ragged Mountai	64.27 330	IAmb	IAmb	02 59 28.0	
	comp=Z,48nm,1.0s					
RAGM			IAMs_20	IAMs_20	03 24 33.7	
	comp=Z,1μm,19.0s					
H19K	Roundabout Mou	64.27 338	IAmb	IAmb	02 59 27.9	
	comp=Z,34nm,1.2s					
H19K	Roundabout Mou	64.27 338	P	P	02 59 26.6	+0.2
	baz=40,SNR=17					
I20K	Naaghedeneel	64.28 337	P	P	02 59 26.8	+0.4
	baz=41,SNR=11					
CHUM	Lake Minchumin	64.33 336	P	P	02 59 26.4	-0.5
	baz=43,SNR=11					
M23K	Glacier View	64.37 332	P	P	02 59 27.0	-0.1
	baz=45,SNR=16					
MZP	Montezuma Peak	64.38 298	IAmb	IAmb	02 59 29.1	
	comp=Z,43nm,1.2s					
E17K	Hotham Inlet	64.40 341	P	P	02 59 27.0	-0.2
	baz=37,SNR=14					
WCT	Wildcat Mounta	64.42 297	IAmb	IAmb	02 59 29.8	
	comp=Z,26nm,1.1s					
PTLB	Pontes e Lacer	64.45 212	IAmb	IAmb	02 59 30.2	
	comp=Z,53nm,1.5s					
PTLB	Pontes e Lacer	64.45 212	eP	P	02 59 28.8	+0.7
NV11	Mina Array Sit	64.45 300	IAmb	IAmb	02 59 29.2	
	comp=Z,40nm,1.2s					
TIXI	Tiksi	64.48 8	P	P	02 59 26.8	-0.8
TIXI			IAmb	IAmb	02 59 29.6	
	comp=Z,47nm,1.4s					
TIXI	Tiksi	64.48 8	LR	LR	03 23 58.9	
	comp=Z,166nm,21.9s,baz=5.0,slow=33					
TIXI	Tiksi	64.48 8	d iP	P	02 59 28.1	+0.4
TIXI			pmax	pmax		
	comp=Z,37nm,1.3s					
PAHR	Pah Rah Range	64.48 301	IAmb	IAmb	02 59 30.2	
	comp=Z,55nm,1.2s					
KAIM	Kayak Island	64.49 330	IAMs_20	IAMs_20	03 25 19.5	
	comp=Z,1μm,18.0s					
KAIM	Kayak Island	64.49 330	P	P	02 59 28.3	+0.3
	baz=47					
GMN	Gold Mountain	64.54 298	IAmb	IAmb	02 59 30.1	
	comp=Z,34nm,1.3s					
EYAK	Cordova Ski Ar	64.55 331	P	P	02 59 28.2	-0.1
	baz=46					
NVAR	Mina Array Bea	64.55 300	P	P	02 59 27.9	-1.0
	comp=Z,15nm,1.1s,baz=62,slow=6.1,SNR=43					
	comp=Z,15nm,1.1s					
SML	Sawmill	64.56 333	IAMs_20	IAMs_20	03 24 38.2	
	comp=Z,1μm,21.0s					
SML	Sawmill	64.56 333	P	P	02 59 28.5	0.0
	baz=45,SNR=8.0					
G18K	Tagagawik	64.57 339	IAmb	IAmb	02 59 30.0	
	comp=Z,46nm,1.4s					
G18K	Tagagawik	64.57 339	P	P	02 59 28.6	+0.3
	baz=39,SNR=14					
RYN	Ryan	64.57 300	IAMs_20	IAMs_20	03 26 40.6	
	comp=Z,1μm,20.0s					
CAST	Castle Rocks	64.60 335	IAmb	IAmb	02 59 29.0	
	comp=Z,35nm,1.4s					
CAST			IAMs_20	IAMs_20	03 26 36.2	
	comp=Z,1μm,18.0s					
CAST	Castle Rocks	64.60 335	P	P	02 59 27.6	-1.1
	baz=43,SNR=12					
BBOR	Butler Butte	64.64 306	IAmb	IAmb	02 59 29.1	
	comp=Z,32nm,1.3s					
J20K	Nowinta River	64.65 337	IAmb	IAmb	02 59 30.0	
	comp=Z,53nm,1.4s					
J20K	Nowinta River	64.65 337	P	P	02 59 28.3	-0.6
	baz=42,SNR=13					
CUT	Chulitna	64.77 334	IAMs_20	IAMs_20	03 25 49.7	
	comp=Z,1μm,18.0s					
CUT	Chulitna	64.77 334	P	P	02 59 29.6	-0.2
	baz=44					
LHV	Little Huntoon	64.78 300	IAmb	IAmb	02 59 32.3	
	comp=Z,50nm,1.1s					
LHV			IAMs_20	IAMs_20	03 27 08.2	
	comp=Z,2μm,20.0s					
F17K	Baldwin Pennin	64.78 341	IAmb	IAmb	02 59 31.1	
	comp=Z,47nm,1.2s					
F17K			IAMs_20	IAMs_20	03 26 42.7	
	comp=Z,908nm,20.0s					
F17K	Baldwin Pennin	64.78 341	P	P	02 59 29.7	0.0
	baz=37,SNR=13					
GHO	Glory Hole Cre	64.78 333	IAmb	IAmb	02 59 31.5	
	comp=Z,46nm,1.3s					
GRAC	Grapevine Rang	64.78 298	IAMs_20	IAMs_20	03 27 02.4	
	comp=Z,2μm,20.0s					
GLI	Glacier Island	64.79 331	IAmb	IAmb	02 59 31.1	
	comp=Z,50nm,1.2s					
GLI	Glacier Island	64.79 331	P	P	02 59 29.8	-0.1
	baz=46,SNR=9.9					
L04D	Klamath Falls	64.80 305	IAMs_20	IAMs_20	03 26 08.4	
	comp=Z,2μm,20.0s					
GWY	Greenwater Val	64.81 297	IAmb	IAmb	02 59 32.4	
	comp=Z,49nm,1.3s					
BLYC	Blythe	64.82 293	IAmb	IAmb	02 59 32.5	
	comp=Z,47nm,1.3s					
DBO	Dodson Butte	64.83 306	IAMs_20	IAMs_20	03 26 45.1	
	comp=Z,2μm,20.0s					
113A	Mohawk Valley,	64.89 292	IAmb	IAmb	02 59 32.9	
	comp=Z,35nm,1.3s					
113A			IAMs_20	IAMs_20	03 26 14.5	
	comp=Z,1μm,21.0s					
KNK	Knik Glacier	64.89 332	IAMs_20	IAMs_20	03 24 48.8	
	comp=Z,1μm,20.0s					
KNK	Knik Glacier	64.89 332	P	P	02 59 31.1	+0.5
	baz=45,SNR=22					
HIN	Hinchinbrook I	64.92 331	IAmb	IAmb	02 59 32.6	
	comp=Z,38nm,1.2s					
DSP	Deep Springs	64.95 298	IAmb	IAmb	02 59 33.0	
	comp=Z,30nm,1.2s					
BRZS	Berezniki	64.96 44	eP	P	02 59 31.0	-0.1
BRZS	Berezniki	64.96 44	eP	P	02 59 31.1	-0.1
PNTR	Pine Nut	64.98 301	IAMs_20	IAMs_20	03 26 14.4	
	comp=Z,2μm,21.0s					
PMR	Palmer	64.98 333	IAMs_20	IAMs_20	03 24 51.4	
	comp=Z,1μm,20.0s					
PMR	Palmer	64.98 333	P	P	02 59 31.1	0.0
	baz=44,SNR=19					
GCSA	Galena City Sc	64.99 338	P	P	02 59 31.0	-0.1
	baz=40					
PPLA	Purkeypile	65.02 335	IAMs_20	IAMs_20	03 25 42.2	
	comp=Z,857nm,19.0s					
PPLA	Purkeypile	65.02 335	P	P	02 59 30.8	-0.8
	baz=42					
H18K	Honhosa River	65.08 339	IAmb	IAmb	02 59 33.5	
	comp=Z,49nm,1.4s					
H18K	Honhosa River	65.08 339	P	P	02 59 31.9	+0.3
	baz=39,SNR=9.2					
HSIG		65.17 287	IAmb	IAmb	02 59 34.9	
	comp=Z,57nm,1.3s					
HSIG			IAMs_20	IAMs_20	03 26 54.5	
	comp=Z,2μm,22.0s					
M22K	Willow	65.20 333	IAmb	IAmb	02 59 33.7	
	comp=Z,45nm,1.2s					
M22K			IAMs_20	IAMs_20	03 26 01.0	
	comp=Z,1μm,18.0s					
M22K	Willow	65.20 333	P	P	02 59 32.0	-0.4
	baz=44					
J19K	Poorman	65.22 337	IAmb	IAmb	02 59 33.6	
	comp=Z,50nm,1.9s					
J19K	Poorman	65.22 337	P	P	02 59 32.2	-0.4
	baz=40,SNR=6.5					
WAKR	Walker	65.22 300	IAMs_20	IAMs_20	03 26 51.9	
	comp=Z,2μm,20.0s					
PWL	Port Wells	65.24 332	P	P	02 59 32.4	-0.4
PWL			IAMs_20	IAMs_20	03 25 19.1	
	comp=Z,2μm,19.0s					
PWL	Port Wells	65.24 332	P	P	02 59 33.1	+0.3
	baz=45,SNR=18					
K20K	Telida	65.25 336	IAMs_20	IAMs_20	03 26 01.2	
	comp=Z,831nm,19.0s					
K20K	Telida	65.25 336	P	P	02 59 32.6	-0.3
	baz=41,SNR=7.4					
YBH	Yreka Blue Hor	65.34 305	IAMs_20	IAMs_20	03 26 27.5	
	comp=Z,2μm,20.0s					
YBH	Yreka Blue Hor	65.34 305	LR	LR	03 26 47.9	
	comp=Z,2μm,20.2s,baz=46,slow=35					
G17K	Kiwalik Mounta	65.39 340	P	P	02 59 33.6	-0.1
	baz=37,SNR=6.7					
ITRB	Iturama	65.48 202	eP	P	02 59 35.6	+0.8
SKT	Skwentna	65.49 334	IAMs_20	IAMs_20	03 26 22.7	
	comp=Z,2μm,18.0s					
SKT	Skwentna	65.49 334	P	P	02 59 34.0	-0.4
	baz=43,SNR=13					
P23K	Montague Islan	65.52 331	P	P	02 59 34.9	+0.3
	baz=45					

RC01	Rabbit Creek A	65.55 333	IAmb	IAmb	02 59 36.2	
	comp=Z,52nm,1.2s					
RC01			IAMs_20	IAMs_20	03 25 38.4	
	comp=Z,1μm,20.0s					
RC01	Rabbit Creek A	65.55 333	P	P	02 59 35.0	+0.2
	baz=44					
SUA	Susitna One	65.61 333	IAMs_20	IAMs_20	03 26 16.0	
	comp=Z,1μm,18.0s					
SUA	Susitna One	65.61 333	P	P	02 59 35.3	-0.1
	baz=43					
L02F	Cave Junction	65.62 305	IAmb	IAmb	02 59 36.3	
	comp=Z,56nm,1.3s					
H17K	Granite Mounta	65.65 339	IAmb	IAmb	02 59 37.0	
	comp=Z,43nm,1.4s					
H17K	Granite Mounta	65.65 339	P	P	02 59 35.8	+0.3
	baz=37,SNR=7.1					
SIV	San Ignacio	65.72 214	LR	LR	03 25 31.2	
	comp=Z,383nm,18.5s,baz=55,slow=34					
MCRA	Macar, Loja	65.81 238	P	P	02 59 36.7	-0.5
L20K	Farewell, AK	65.85 335	P	P	02 59 35.5	-1.3
	baz=41,SNR=11					
G16K	Koyuk River	65.90 340	IAmb	IAmb	02 59 38.7	
	comp=Z,49nm,1.3s					
G16K	Koyuk River	65.90 340	P	P	02 59 37.3	+0.3
	baz=36,SNR=8.7					
AFDM	Forest Hills D	65.93 301	IAmb	IAmb	02 59 38.7	
	comp=Z,39nm,1.4s					
J18K	Innoko River	65.94 337	IAMs_20	IAMs_20	03 26 14.4	
	comp=Z,849nm,19.0s					
J18K	Innoko River	65.94 337	P	P	02 59 37.0	-0.3
	baz=39,SNR=8.4					
STLK	Strandline Lak	65.94 334	IAmb	IAmb	02 59 38.3	
	comp=Z,27nm,1.3s					
O22K	Cooper Landing	65.98 332	IAMs_20	IAMs_20	03 25 24.9	
	comp=Z,1μm,20.0s					
O22K	Cooper Landing	65.98 332	P	P	02 59 37.2	-0.4
	baz=44					
M20K	Styx River	66.07 335	IAmb	IAmb	02 59 43.3	
	comp=Z,62nm,1.6s					
M20K			IAMs_20	IAMs_20	03 26 07.0	
	comp=Z,1μm,18.0s					
M20K	Styx River	66.07 335	P	P	02 59 37.2	-1.0
	baz=42,SNR=8.9					
CMB	Columbia Colle	66.10 300	IAmb	IAmb	02 59 40.4	
	comp=Z,36nm,1.2s					
CMB			IAMs_20	IAMs_20	03 29 04.1	
	comp=Z,1μm,18.0s					
SLKM	Skilak Lake	66.14 332	IAMs_20	IAMs_20	03 25 38.8	
	comp=Z,1μm,20.0s					
SEW	Seward	66.17 332	IAMs_20	IAMs_20	03 25 40.7	
	comp=Z,2μm,20.0s					
F15K	North Star Dit	66.19 342	IAmb	IAmb	02 59 45.6	
	comp=Z,60nm,1.4s					
F15K			IAMs_20	IAMs_20	03 27 38.8	
	comp=Z,1μm,20.0s					
F15K	North Star Dit	66.19 342	P	P	02 59 38.1	-0.8
	baz=34,SNR=6.6					
PFO	Pinyon Flats O	66.19 294	P	P	02 59 39.5	-0.1
PFO			IAmb	IAmb	02 59 41.7	
	comp=Z,48nm,1.2s					
PFO	Pinyon Flats O	66.19 294	LR	LR	03 28 27.3	
	comp=Z,3μm,20.3s,baz=68,slow=36					
PFO	Pinyon Flats O	66.19 294	d iP	P	02 59 40.1	+0.5
PFO			pmax	pmax		
	comp=Z,71nm,1.3s					
SPCR	Spurr Chakacha	66.28 334	P	P	02 59 38.8	-0.9
	baz=42,SNR=7.5					
ISA	Isabella, Lake	66.30 297	IAmb	IAmb	02 59 47.3	
	comp=Z,56nm,1.4s					
CCAC	Calif City Air	66.30 297	IAmb	IAmb	02 59 42.2	
	comp=Z,48nm,1.3s					
L19K	White Mountain	66.38 335	IAMs_20	IAMs_20	03 27 59.1	
	comp=Z,737nm,18.0s					
L19K	White Mountain	66.38 335	P	P	02 59 39.0	-1.1
	baz=40					
YUH	Yuha Desert	66.41 293	IAmb	IAmb	02 59 42.9	
	comp=Z,34nm,1.3s					
M19K	Big River Lodg	66.45 335	IAMs_20	IAMs_20	03 26 46.9	
	comp=Z,913nm,20.0s					
M19K	Big River Lodg	66.45 335	P	P	02 59 39.6	-1.0
	baz=41					
H16K	Elim	66.49 340	P	P	02 59 40.1	-0.7
	baz=36					
BBSD	Serra de San D	66.61 213	eP	P	02 59 43.1	+1.1
G15K	Niukluk	66.64 341	P	P	02 59 41.2	-0.5
	baz=34,SNR=5.2					
J17K	VABM Dome	66.65 338	IAmb	IAmb	02 59 43.4	
	comp=Z,31nm,1.4s					
J17K			IAMs_20	IAMs_20	03 27 01.3	
	comp=Z,996nm,21.0s					
J17K	VABM Dome	66.65 338	P	P	02 59 41.4	-0.4
	baz=38					
I17K	Unalakleet	66.70 339	P	P	02 59 41.7	-0.4
	baz=36					
TRNA	Turayna	66.73 77	P	P	02 59 43.3	+0.3
F14K	Arctic Creek	66.77 342	P	P	02 59 42.4	-0.1
	baz=33					
ELS	Elsinore Mount	66.82 295	IAmb	IAmb	02 59 45.1	
	comp=Z,36nm,1.4s					
BRSE	Bradley Lake S	66.88 332	P	P	02 59 43.0	-0.4
	baz=43					
L18K	Granite Mounta	66.90 336	IAmb	IAmb	02 59 44.7	
	comp=Z,32nm,1.4s					
L18K			IAMs_20	IAMs_20	03 28 01.8	
	comp=Z,1μm,19.0s					
L18K	Granite Mounta	66.90 336	P	P	02 59 43.3	-0.1
	baz=39,SNR=5.1					
BRLK	Bradley Lake	66.91 332	IAMs_20	IAMs_20	03 26 41.7	
	comp=Z,1μm,18.0s					
TKX	Tecate	66.92 294	IAmb	IAmb	03 01 58.3	
	comp=Z,21nm,0.5s					
K17K	Iditarod	66.98 337	IAmb	IAmb	02 59 45.3	
	comp=Z,60nm,1.4s					
K17K	Iditarod	66.98 337	P	P	02 59 43.8	-0.1
	baz=38,SNR=7.0					
ATAH	Atahualpa	67.03 235	LR	LR	03 26 58.5	
	comp=Z,405nm,21.9s,baz=15,slow=34					
TNA	Tin City	67.05 343	P	P	02 59 43.9	-0.4
	baz=32					
VTX	Valle De La Tr	67.08 292	IAmb	IAmb	02 59 47.5	
	comp=Z,44nm,1.3s					
SRIG	Santa Rosalia	67.11 287	IAMs_20	IAMs_20	03 27 43.8	
	comp=Z,2μm,22.0s					
CBX	Cerro Bola	67.11 293	IAmb	IAmb	02 59 47.3	
	comp=Z,24nm,1.1s					
J16K	Anvik River	67.16 338	P	P	02 59 45.0	-0.1
	baz=36					
RPRD	Ribas do Rio P	67.20 205	eP	P	02 59 46.9	+1.1
M18K	Stony River	67.20 335	P	P	02 59 44.8	-0.6
	baz=40,SNR=6.3					
CNPM	China Poot	67.20 332	IAMs_20	IAMs_20	03 26 14.2	
	comp=Z,1μm,19.0s					
N19K	Bonanza Creek	67.31 334	IAmb	IAmb	02 59 46.7	
	comp=Z,40nm,1.3s					
N19K			IAMs_20	IAMs_20	03 27 03.7	
	comp=Z,1μm,19.0s					
N19K	Bonanza Creek	67.31 334	P	P	02 59 45.5	-0.7
	baz=40,SNR=6.2					
ANM	Nome	67.31 341	IAMs_20	IAMs_20	03 28 53.5	
	comp=Z,1μm,19.0s					
ANM	Nome	67.31 341	P	P	02 59 45.2	-0.8
	baz=33					
BCW	Bitter Crk WRg	67.34 297	IAmb	IAmb	02 59 48.6	
	comp=Z,29nm,1.2s					
BBGB	Big Mountain B	67.40 299	IAMs_20	IAMs_20	03 28 57.4	
	comp=Z,2μm,19.0s					
L17K	Donlin	67.43 337	P	P	02 59 46.6	-0.3
	baz=38,SNR=6.3					
KURK	Kurchatov	67.44 41	P	P	02 59 45.7	-1.4
KURK	Kurchatov	67.44 41	P	P	02 59 46.8	-0.2
KURK			P	P	02 59 46.8	-0.2
KURK	Kurchatov	67.44 41	P	P	02 59 47.3	+0.3
KURBB	Kurchatov Arra	67.45 41	P	P	02 59 47.2	+0.1
	comp=Z,48nm,0.9s,baz=315,slow=6.9,SNR=187					
KURBB			PP	PP	03 02 17.8	+2.5
	comp=Z,1.5nm,0.9s,baz=319,slow=9.0,SNR=4.2					
KURBB			LR	LR	03 29 03.7	
	comp=Z,702nm,19.8s,baz=334,slow=36					
	comp=Z,48nm,0.9s					
ILSW	Iliamna Southw	67.50 333	IAmb	IAmb	02 59 48.8	
	comp=Z,35nm,1.2s					
ILSW			IAMs_20	IAMs_20	03 26 44.0	
	comp=Z,966nm,20.0s					
BRLS	Borolday	67.71 52	eP	P	02 59 49.3	+0.4
BRLS			pmax	pmax		
	comp=Z,39nm,1.7s					
BRLS	Borolday	67.71 52	eP	P	02 59 49.3	+0.4
	comp=Z,40nm,1.7s					

LPIG	La Paz	67.72 283	LR	LR	03 29 42.1	
	comp=Z,1μm,18.4s,baz=38,slow=36					
O19K	Port Alsworth	67.73 334	IAMs_20	IAMs_20	03 26 59.9	
	comp=Z,859nm,20.0s					
O19K	Port Alsworth	67.73 334	P	P	02 59 47.9	-0.8
	baz=40					
M17K	Holitna River	67.76 336	IAmb	IAmb	02 59 50.4	
	comp=Z,51nm,1.3s					
M17K	Holitna River	67.76 336	P	P	02 59 48.3	-0.6
	baz=38,SNR=6.2					
JRN	Qarnain Island	67.77 76	P	P	02 59 50.0	+0.5
JRN			P	P	02 59 50.0	+0.5
P19K	Oil Pt	67.78 333	IAMs_20	IAMs_20	03 26 43.4	
	comp=Z,1μm,21.0s					
P19K	Oil Pt	67.78 333	P	P	02 59 48.3	-0.8
	baz=41					
VAO	Valinhos	67.80 198	eP	P	02 59 50.9	+1.3
AQDB	Aquidauana	67.83 207	IAmb	IAmb	02 59 57.8	
	comp=Z,49nm,1.5s					
AQDB	Aquidauana	67.83 207	eP	P	02 59 51.0	+1.3
N18K	Kilae Creek	67.85 335	IAMs_20	IAMs_20	03 27 41.1	
	comp=Z,1μm,19.0s					
N18K	Kilae Creek	67.85 335	P	P	02 59 48.3	-1.2
	baz=39					
KK31	Karatay Array	68.05 51	IAmb	IAmb	02 59 58.0	
	comp=Z,69nm,1.8s					
KKAR	Karatay Array	68.05 51	P	P	02 59 50.5	-0.6
KKAR	Karatay Array	68.05 51	P	P	02 59 50.5	-0.6
ZAA0	Zalesovo Array	68.07 36	IAmb	IAmb	02 59 52.1	
	comp=Z,38nm,1.1s					
ZALV	Zalesovo Beam	68.07 36	P	P	02 59 49.9	-1.1
ZALV	Zalesovo Beam	68.07 36	P	P	02 59 50.8	-0.2
	comp=Z,22nm,0.9s,baz=308,slow=7.4,SNR=52					
ZALV			LR	LR	03 30 37.7	
	comp=Z,395nm,19.1s,baz=310,slow=37					
	comp=Z,22nm,0.9s					
L16K	Owhat River	68.11 337	IAmb	IAmb	02 59 52.3	
	comp=Z,40nm,1.4s					
L16K	Owhat River	68.11 337	P	P	02 59 50.3	-0.8
	baz=37					
BDQN	Bodoquena, MS	68.16 208	eP	P	02 59 53.1	+1.3
K15K	Wolf Creek Mou	68.21 338	IAMs_20	IAMs_20	03 27 59.5	
	comp=Z,991nm,20.0s					
K15K	Wolf Creek Mou	68.21 338	P	P	02 59 51.1	-0.7
	baz=36					
O18K	Koktuh Hills	68.28 334	P	P	02 59 51.4	-0.8
	baz=40					
SYI	Shuyak Island	68.29 332	IAMs_20	IAMs_20	03 27 00.8	
	comp=Z,2μm,21.0s					
Q20K	Shuyak Island	68.29 332	P	P	02 59 50.8	-1.5
	baz=41					
N17K	Nushagak Hills	68.37 335	IAmb	IAmb	02 59 54.4	
	comp=Z,49nm,1.4s					
N17K			IAMs_20	IAMs_20	03 27 39.9	
	comp=Z,1μm,18.0s					
N17K	Nushagak Hills	68.37 335	P	P	02 59 51.5	-1.3
	baz=38,SNR=6.7					
IUG	Iuzhnay	68.37 52	eP	P	02 59 53.1	-0.1
IUG			pmax	pmax		
	comp=Z,30nm,1.3s					
IUG	Iuzhnay	68.37 52	eP	P	02 59 53.1	-0.1
	comp=Z,30nm,1.3s					
J14K	Nanvaranak Lak	68.38 339	P	P	02 59 51.6	-1.1
	baz=34					
HRA	Herat	68.39 63	IAmb	IAmb	03 00 00.5	
	comp=Z,42nm,1.7s					
Q19K	Cape Douglas,	68.47 333	IAMs_20	IAMs_20	03 28 00.6	
	comp=Z,1μm,19.0s					
Q19K	Cape Douglas,	68.47 333	P	P	02 59 51.8	-1.6
	baz=40					
M16K	Timber Creek	68.51 336	IAMs_20	IAMs_20	03 28 03.5	
	comp=Z,915nm,20.0s					
M16K	Timber Creek	68.51 336	P	P	02 59 52.1	-1.5
	baz=37					
BILL	Bilibino	68.57 354	P	P	02 59 52.5	-1.4
BILL			IAmb	IAmb	02 59 55.4	
	comp=Z,38nm,1.5s					
BILL	Bilibino	68.57 354	IAMs_20	IAMs_20	03 28 17.4	
	comp=Z,926nm,20.0s					
BILL	Bilibino	68.57 354	d iP	P	02 59 53.8	-0.1
BILL			pmax	pmax		
	comp=Z,50nm,2.5s					
P18K	Big Mountain,	68.64 334	P	P	02 59 53.3	-1.2
	baz=39					
DZA	Taraz	68.65 51	eP	P	02 59 54.9	+0.1
DZA	Taraz	68.65 51	eP	P	02 59 54.9	+0.1
L15K	Ungalak Mounta	68.70 338	P	P	02 59 53.8	-1.0
	baz=35,SNR=5.6					
N16K	Nishlik Lake	68.89 336	P	P	02 59 54.7	-1.4
	baz=37,SNR=5.4					
O17K	Koliganek Bris	68.94 335	P	P	02 59 54.5	-1.7
	baz=38					
KDAK	Kodiak Island	68.98 331	IAMs_20	IAMs_20	03 28 00.1	
	comp=Z,1μm,18.0s					
KDAK	Kodiak Island	68.98 331	LR	LR	03 28 02.8	
	comp=Z,1μm,18.4s,baz=258,slow=34					
KDAK	Kodiak Island	68.98 331	P	P	02 59 54.7	-1.9
	baz=41					
ATD	Arta Tunnel	69.06 94	LR	LR	03 31 21.7	
	comp=Z,11nm,19.0s,baz=344,slow=37					
LPAZ	La Paz	69.10 220	IAmb	IAmb	03 00 05.2	
	comp=Z,54nm,1.6s					
LPAZ	La Paz	69.10 220	P	P	02 59 58.5	0.0
	comp=Z,8.6nm,1.2s,baz=14,slow=6.9,SNR=18					
LPAZ			LR	LR	03 26 56.2	
	comp=Z,370nm,21.0s,baz=30,slow=33					
	comp=Z,8.6nm,1.2s					
LPAZ	La Paz	69.10 220	eP	P	02 59 59.1	+0.6
Q18K	Katmai Hardscr	69.14 333	P	P	02 59 55.8	-1.9
	baz=39					
P17K	Kvichak River	69.19 334	P	P	02 59 56.2	-1.6
	baz=38					
LODK	Lodwar	69.19 105	IAmb	IAmb	03 00 04.0	
	comp=Z,47nm,1.6s					
LODK			IAMs_20	IAMs_20	03 31 23.5	
	comp=Z,2μm,19.0s					
LODK	Lodwar	69.19 105	P	P	03 00 00.4	+1.7
	SNR=17					
MZWR	Madinat Zayed	69.24 77	P	P	02 59 59.5	+0.8
MZWR			P	P	02 59 59.5	+0.8
M15K	Kasigluk River	69.28 337	P	P	02 59 56.5	-1.9
	baz=36					
L14K	Kuka Creek	69.31 338	IAmb	IAmb	03 00 00.4	
	comp=Z,47nm,1.1s					
L14K			IAMs_20	IAMs_20	03 28 30.5	
	comp=Z,989nm,20.0s					
L14K	Kuka Creek	69.31 338	P	P	02 59 56.5	-2.0
	baz=34					
K13K	Kusilvak Mount	69.34 339	IAmb	IAmb	03 00 00.7	
	comp=Z,66nm,1.4s					
K13K	Kusilvak Mount	69.34 339	P	P	02 59 57.0	-1.8
	baz=33					
O16K	Kokwok River B	69.39 335	IAmb	IAmb	03 00 00.6	
	comp=Z,52nm,1.3s					
O16K			IAMs_20	IAMs_20	03 28 29.8	
	comp=Z,949nm,19.0s					
O16K	Kokwok River B	69.39 335	P	P	02 59 57.3	-1.8
	baz=37,SNR=7.1					
SHME	Shamm	69.41 73	P	P	03 00 00.2	+0.4
SHME	Shamm	69.41 73	P	P	02 59 59.8	0.0
GAMB	Gambell	69.41 343	IAMs_20	IAMs_20	03 27 39.0	
	comp=Z,836nm,22.0s					
GAMB	Gambell	69.41 343	P	P	02 59 57.6	-1.5
	baz=28					
MZR	Muzera	69.43 77	P	P	03 00 00.6	+0.6
MZR	SNR=7.8					
MZR			P	P	03 00 00.6	+0.6
	SNR=7.8					
MZR	Muzera	69.43 77	i P	P	03 00 00.3	+0.4
	SNR=8.2					
AJN	Ajban	69.52 75	P	P	03 00 00.4	0.0
AJN			P	P	03 00 00.4	0.0
N15K	Kwethluk River	69.53 336	P	P	02 59 58.7	-1.3
	baz=36					
MURT	Porto Murtinho	69.58 208	eP	P	03 00

ASUD	**Al Ashush, Dub**	**69.72**	**75**	P	**P**	**03 00 02.2**	**+0.4**
ASUD	**Al Ashush, Dub**	**69.72**	**75**	P	**P**	**03 00 01.9**	**+0.2**
NAZ	**Nazwa, Dubai**	**69.73**	**74**	P	**P**	**03 00 01.9**	**+0.1**
R18K	**Karluk**	**69.79**	**332**	P	**P**	**02 59 59.9**	**-1.7**
	baz=39						
P16K	**Nushagak River**	**69.81**	**335**	IAMs_20	IAMs_20	03 28 41.8	
	comp=Z,975nm,19.0s						
P16K	**Nushagak River**	**69.81**	**335**	P	**P**	**02 59 59.9**	**-1.7**
	baz=37						
MASF	**Masafi**	**69.84**	**74**	P	**P**	**03 00 03.0**	**+0.5**
MSFE	**Esma-Masafi**	**69.85**	**74**	P	**P**	**03 00 02.7**	**+0.2**
AMBA	**Amambai (Brazi**	**69.89**	**205**	*e*P	**P**	**03 00 03.4**	**+0.9**
SIMJ	**Simiganj**	**69.97**	**56**	P	**P**	**03 00 02.8**	**-0.5**
SIMJ				IAMs_20	IAMs_20	03 34 39.7	
	comp=Z,931nm,18.0s						
MDH	**Madha**	**69.98**	**74**	P	**P**	**03 00 03.8**	**+0.4**
NNA	**Nana**	**70.03**	**230**	LR	LR	03 30 05.9	
	comp=Z,113nm,19.2s,baz=9.5,slow=35						
SGDS	**Sogindy**	**70.14**	**49**	*e*P	**P**	**03 00 04.1**	**0.0**
SGDS				pmax	pmax		
	comp=Z,34nm,2.0s						
SGDS	**Sogindy**	**70.14**	**49**	*e*P	**P**	**03 00 04.1**	**0.0**
	comp=Z,34nm,2.0s						
UOSS	**Minazif**	**70.14**	**74**	P	**P**	**03 00 03.5**	**-0.9**
UOSS	**Minazif**	**70.14**	**74**	P	**P**	**03 00 04.7**	**+0.4**
UOSS				P	**P**	**03 00 04.7**	**+0.4**
UOSS	**Minazif**	**70.14**	**74**	*i* P	**P**	**03 00 04.5**	**+0.2**
	SNR=9.9						
HATD	**Hatta, Dubai**	**70.17**	**74**	P	**P**	**03 00 05.0**	**+0.5**
	SNR=8.7						
HATD				P	**P**	**03 00 05.0**	**+0.5**
	SNR=8.7						
HATD	**Hatta, Dubai**	**70.17**	**74**	*i* P	**P**	**03 00 04.7**	**+0.2**
	SNR=6.9						
EKS2	**Erkin-Say**	**70.18**	**50**	P	**P**	**03 00 05.6**	**+1.2**
	SNR=46						
N14K	**Kuskokwak Cree**	**70.20**	**337**	IAMs_20	IAMs_20	03 30 39.0	
	comp=Z,990nm,18.0s						
N14K	**Kuskokwak Cree**	**70.20**	**337**	P	**P**	**03 00 02.7**	**-1.3**
	baz=35						
ASHO	**Ashiyiah**	**70.20**	**74**	P	**P**	**03 00 04.9**	**+0.1**
ASHO				P	**P**	**03 00 04.9**	**+0.1**
ASHO	**Ashiyiah**	**70.20**	**74**	*i* P	**P**	**03 00 04.8**	**+0.1**
	SNR=6.2						
O15K	**Ungalikthiuk R**	**70.26**	**335**	IAMs_20	IAMs_20	03 28 57.7	
	comp=Z,958nm,19.0s						
O15K	**Ungalikthiuk R**	**70.26**	**335**	P	**P**	**03 00 03.3**	**-1.2**
	baz=36						
M13K	**Dall Lake**	**70.26**	**338**	P	**P**	**03 00 03.1**	**-1.3**
	baz=34						
ALNE	**Al Ain**	**70.38**	**75**	P	**P**	**03 00 06.1**	**+0.3**
	SNR=13						
ALNE				P	**P**	**03 00 06.1**	**+0.3**
	SNR=13						
ALNE	**Al Ain**	**70.38**	**75**	*i* P	**P**	**03 00 06.2**	**+0.3**
	SNR=7.0						
AML	**Almayashu**	**70.48**	**50**	P	**P**	**03 00 07.9**	**+1.3**
	SNR=57						
SII	**Sitkinak Islan**	**70.48**	**331**	P	**P**	**03 00 04.5**	**-1.4**
	baz=39						
CHMS	**Chumysh**	**70.50**	**49**	P	**P**	**03 00 07.7**	**+1.4**
	SNR=6.1						
FRU1	**Bishkek**	**70.56**	**49**	IAMs_20	IAMs_20	03 33 16.6	
	comp=Z,1μm,19.0s						
AAK	**Ala-Archa**	**70.59**	**49**	P	**P**	**03 00 07.8**	**+0.7**
AAK	**Ala-Archa**	**70.59**	**49**	IAMs_20	IAMs_20	03 33 18.7	
	comp=Z,1μm,18.0s						
AAK	**Ala-Archa**	**70.59**	**49**	LR	LR	03 32 44.0	
	comp=Z,1μm,19.6s,baz=313,slow=37						
AAK	**Ala-Archa**	**70.59**	**49**	P	**P**	**03 00 08.6**	**+1.6**
AAK				P	**P**	**03 00 08.6**	**+1.6**
AAK	**Ala-Archa**	**70.59**	**49**	P	**P**	**03 00 08.4**	**+1.3**
	SNR=22						
AAK	**Ala-Archa**	**70.59**	**49**	*d i* P	**P**	**03 00 07.9**	**+0.9**
AAK				pmax	pmax		
	comp=Z,57nm,1.5s						
AAK	**Ala-Archa**	**70.59**	**49**	*i* P	**P**	**03 00 08.0**	**+1.0**
	SNR=26						
O14K	**Tigyukauivet M**	**70.63**	**336**	P	**P**	**03 00 05.2**	**-1.5**
	baz=35						
PTGB	**Pitanga**	**70.72**	**202**	*e*P	**P**	**03 00 07.1**	**-0.6**
KBK	**Karagaybulak**	**70.83**	**49**	P	**P**	**03 00 10.2**	**+1.7**
	SNR=7.3						
PB18	**Visviri**	**70.86**	**221**	IAmb	IAmb	03 00 53.7	
	comp=Z,103nm,1.9s						
UCH	**Uchtor**	**70.87**	**50**	P	**P**	**03 00 11.1**	**+2.0**
	SNR=5.5						
SOHO	**SOHO**	**70.88**	**75**	P	**P**	**03 00 09.1**	**+0.2**
SOHO				P	**P**	**03 00 09.1**	**+0.2**
SOHO	**SOHO**	**70.88**	**75**	*i* P	**P**	**03 00 08.9**	**+0.1**
	SNR=10						
TKM2	**Tokmak 2**	**71.02**	**49**	P	**P**	**03 00 10.6**	**+0.9**
	SNR=31						
M11K	**Mekoryuk**	**71.06**	**339**	P	**P**	**03 00 07.5**	**-1.7**
	baz=32						
DRK	**Karamyk**	**71.11**	**53**	IAMs_20	IAMs_20	03 32 38.7	
	comp=Z,1μm,20.0s						
TDK	**Taldyqorghan**	**71.13**	**46**	*e*P	**P**	**03 00 10.1**	**0.0**
TDK				pmax	pmax		
	comp=Z,41nm,1.4s						
TDK	**Taldyqorghan**	**71.13**	**46**	*e*P	**P**	**03 00 10.2**	**0.0**
	comp=Z,41nm,1.4s						
CHKK	**Chushkaly**	**71.15**	**47**	*e*P	**P**	**03 00 10.2**	**0.0**
CHKK	**Chushkaly**	**71.15**	**47**	*e*P	**P**	**03 00 10.2**	**0.0**
ARQ	**Araqi**	**71.38**	**75**	P	**P**	**03 00 11.9**	**0.0**
ARQ				P	**P**	**03 00 11.9**	**0.0**
BOOM	**Boomskoye usch**	**71.49**	**49**	IAmb	IAmb	03 00 14.9	
	comp=Z,34nm,1.1s						
BOOM				IAMs_20	IAMs_20	03 33 31.4	
	comp=Z,1μm,18.0s						
PB16	**IPOC Station P**	**71.52**	**220**	IAmb	IAmb	03 00 19.2	
	comp=Z,107nm,2.0s						
AAA	**Alma-Ata**	**71.55**	**48**	*e*P	**P**	**03 00 12.5**	**-0.1**
AAA				pmax	pmax		
	comp=Z,39nm,1.0s						
AAA	**Alma-Ata**	**71.55**	**48**	*e*P	**P**	**03 00 12.6**	**-0.1**
	comp=Z,38nm,1.0s						
CHIR	**Chirikof Islan**	**71.56**	**331**	P	**P**	**03 00 10.4**	**-2.0**
	baz=38						
MDOK	**Medeo**	**71.65**	**48**	*e*P	**P**	**03 00 13.1**	**-0.3**
MDOK	**Medeo**	**71.65**	**48**	*e*P	**P**	**03 00 13.2**	**-0.3**
TNSS	**Tian-Shan**	**71.68**	**48**	*e*P	**P**	**03 00 13.3**	**-0.6**
TNSS	**Tian-Shan**	**71.68**	**48**	*e*P	**P**	**03 00 13.4**	**-0.6**
MAKZ	**Makanchi**	**71.72**	**42**	P	**P**	**03 00 12.8**	**-0.8**
MAKZ				IAmb	IAmb	03 00 15.1	
	comp=Z,58nm,1.1s						
MAKZ				IAMs_20	IAMs_20	03 33 30.9	
	comp=Z,753nm,18.0s						
MAKZ	**Makanchi**	**71.72**	**42**	P	**P**	**03 00 12.8**	**-0.8**
MAKZ				pmax	pmax		
	comp=Z,58nm,1.2s						
MAKZ				MLR	MLR		
	comp=Z,800nm,18.0s						
HOQ	**Hoqain**	**71.78**	**75**	P	**P**	**03 00 14.7**	**+0.4**
HOQ				P	**P**	**03 00 14.7**	**+0.4**
ULHL	**Ulahol**	**71.82**	**49**	P	**P**	**03 00 15.7**	**+1.2**
	SNR=18						
MK31	**Makanchi Array**	**71.88**	**42**	*d i* P	**P**	**03 00 14.4**	**-0.2**
MKAR	**Makanchi Array**	**71.88**	**42**	P	**P**	**03 00 14.2**	**-0.4**
MKAR	**Makanchi Array**	**71.88**	**42**	P	**P**	**03 00 14.6**	**0.0**
	comp=Z,40nm,0.9s,baz=323,slow=3.8,SNR=152						
MKAR				LR	LR	03 31 28.7	
	comp=Z,435nm,20.4s,baz=298,slow=36						
	comp=Z,40nm,0.9s						
SJPY	**San Joaquin**	**72.18**	**206**	*e*P	**P**	**03 00 16.7**	**+0.3**
NRN	**Naryn**	**72.23**	**50**	IAMs_20	IAMs_20	03 33 46.8	
	comp=Z,1μm,18.0s						
BSY	**Bisya**	**72.24**	**75**	P	**P**	**03 00 17.0**	**-0.1**
	SNR=6.5						
BSY				P	**P**	**03 00 17.0**	**-0.1**
	SNR=6.5						
ZHN	**Zhinishke**	**72.39**	**47**	*e*P	**P**	**03 00 17.7**	**-0.1**
ZHN				pmax	pmax		
	comp=Z,23nm,1.3s						
ZHN	**Zhinishke**	**72.39**	**47**	*e*P	**P**	**03 00 17.8**	**-0.1**
	comp=Z,23nm,1.3s						
BIDO	**Bidbid**	**72.40**	**74**	P	**P**	**03 00 18.2**	**+0.2**
	SNR=9.1						
KDJ	**Kajisay**	**72.42**	**48**	IAmb	IAmb	03 00 20.4	
	comp=Z,31nm,1.1s						
KDJ				IAMs_20	IAMs_20	03 32 29.1	
	comp=Z,1μm,21.0s						
S14K	**Fog Glacier**	**72.52**	**334**	P	**P**	**03 00 16.1**	**-2.1**
	baz=36						
GO01	**Chusmiza**	**72.52**	**219**	IAmb	IAmb	03 00 25.2	
	comp=Z,79nm,1.8s						
SMDO	**Samad**	**72.64**	**75**	P	**P**	**03 00 20.1**	**+0.6**
KBL	**Kabul**	**72.64**	**59**	P	**P**	**03 00 18.8**	**-0.8**
KBL	**Kabul**	**72.64**	**59**	P	**P**	**03 00 20.1**	**+0.6**
	SNR=8.9						
KBL	**Kabul**	**72.64**	**59**	P	**P**	**03 00 18.8**	**-0.8**
KBL				pmax	pmax		
	comp=Z,13nm,1.1s						
ZSN	**Zaisan**	**72.66**	**41**	*e*P	**P**	**03 00 19.3**	**+0.1**
ZSN				pmax	pmax		
	comp=Z,68nm,1.7s						
ZSN	**Zaisan**	**72.66**	**41**	*e*P	**P**	**03 00 19.3**	**+0.1**
	comp=Z,68nm,1.7s						
DOK	**Doka**	**72.68**	**81**	P	**P**	**03 00 19.6**	**-0.2**
	SNR=12						
DOK				P	**P**	**03 00 19.6**	**-0.2**
	SNR=12						
UZB	**Uzynbulak**	**72.72**	**47**	*e*P	**P**	**03 00 19.8**	**0.0**
UZB				pmax	pmax		
	comp=Z,28nm,1.5s						
UZB	**Uzynbulak**	**72.72**	**47**	*e*P	**P**	**03 00 19.8**	**0.0**
	comp=Z,28nm,1.5s						
PB11	**IPOC Station P**	**72.82**	**220**	IAmb	IAmb	03 00 22.3	
	comp=Z,52nm,1.4s						
PRZ	**Przheval'sk**	**72.84**	**48**	IAMs_20	IAMs_20	03 31 48.7	
	comp=Z,1μm,22.0s						
WHFO	**Wadi Hawf**	**72.88**	**81**	P	**P**	**03 00 21.0**	**0.0**
	SNR=15						
WHFO				P	**P**	**03 00 21.0**	**0.0**
	SNR=15						
ABTO	**Aybut**	**72.90**	**82**	P	**P**	**03 00 21.5**	**+0.4**
	SNR=16						
ABTO				P	**P**	**03 00 21.5**	**+0.4**
	SNR=16						
PB08	**IPOC Station P**	**72.91**	**219**	IAmb	IAmb	03 00 29.6	
	comp=Z,43nm,1.2s						
WSAR	**Wadi Sarin**	**72.93**	**74**	P	**P**	**03 00 21.9**	**+0.8**
SHLS	**Shalkode**	**72.95**	**47**	*e*P	**P**	**03 00 22.5**	**+1.4**
SHLS				pmax	pmax		
	comp=Z,26nm,0.9s						
SHLS	**Shalkode**	**72.95**	**47**	*e*P	**P**	**03 00 22.5**	**+1.4**
	comp=Z,26nm,0.9s						
TARG	**Taragay, Kyrgy**	**73.03**	**48**	IAMs_20	IAMs_20	03 34 31.1	
	comp=Z,1μm,18.0s						
JMDO	**Jabal Madar**	**73.12**	**75**	P	**P**	**03 00 23.0**	**+0.7**
	SNR=8.2						
HMBC	**Humberstone**	**73.37**	**220**	IAmb	IAmb	03 00 25.6	
	comp=Z,50nm,1.4s						
RBK	**Rabkut**	**73.46**	**81**	P	**P**	**03 00 25.0**	**+0.6**
	SNR=18						
RBK				P	**P**	**03 00 25.0**	**+0.6**
	SNR=18						
KSH	**Kashi**	**73.50**	**51**	P	**P**	**03 00 26.3**	**+1.8**
KSH				pP	pwP	03 00 31.0	+0.5
KSH				S	**SKiKP**	**03 09 58.5**	**+3.7**
KSH				SS	**SS**	**03 14 39.5**	**+3.7**
KSH				pmax	pmax		
	comp=Z,67nm,1.3s						
KSH				LR	LR		
	comp=Z,750nm,17.1s						
KSH				LR	LR		
	comp=Z,1μm,18.4s						
KSH				LR	LR		
	comp=Z,1μm,18.4s						
WBK	**Wadi Bani Khal**	**73.58**	**74**	P	**P**	**03 00 25.4**	**+0.4**
SDPT	**Sand Point**	**73.58**	**333**	P	**P**	**03 00 22.2**	**-2.2**
	baz=35						
CHNA	**Chernabura Isl**	**73.72**	**333**	P	**P**	**03 00 22.9**	**-2.3**
	baz=35						
KMBO	**Kilima Mbogo**	**73.73**	**107**	P	**P**	**03 00 26.2**	**0.0**
KMBO	**Kilima Mbogo**	**73.73**	**107**	IAMs_20	IAMs_20	03 33 42.1	
	comp=Z,1μm,18.0s						
KMBO	**Kilima Mbogo**	**73.73**	**107**	P	**P**	**03 00 26.2**	**0.0**
KMBO				pmax	pmax		
	comp=Z,15nm,1.4s						
KMBO				MLR	MLR		
	comp=Z,1μm,18.0s						
KMBO	**Kilima Mbogo**	**73.73**	**107**	*i* P	**P**	**03 00 28.5**	**+2.3**
	SNR=8.0						
S12K	**Black Hills**	**73.80**	**334**	P	**P**	**03 00 23.4**	**-2.4**
	baz=34						
CPUP	**Villa Florida**	**73.81**	**206**	P	**P**	**03 00 25.9**	**-0.2**
	comp=Z,4.7nm,0.9s,baz=17,slow=11,SNR=6.8						
CPUP				LR	LR	03 30 59.9	
	comp=Z,268nm,19.4s,baz=28,slow=34						
	comp=Z,4.7nm,0.9s						
YAK	**Yakutsk**	**73.82**	**10**	LR	LR	03 31 41.1	
	comp=Z,200nm,18.2s,baz=334,slow=35						
YAK	**Yakutsk**	**73.82**	**10**	*e*P	**P**	**03 00 24.9**	**-0.8**
YAK				*e*PP	**sP**	**03 00 28.4**	**-1.2**
YAK				*e*		03 00 39.7	
YAK				*e*		03 03 09.9	
YAK				*e*PPP	PPP	03 04 54.5	
YAK				*e*S	**S**	**03 09 57.3**	**+0.7**
YAK				*e*		03 10 36.8	
YAK				*e*SS	**SS**	**03 14 46.0**	**+6.8**
YAK				*e*SSS	SSS	03 17 56.2	
YAK				pmax	pmax		
	comp=Z,28nm,1.4s						
YAK				pmax	pmax		
	comp=N,14nm,1.3s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,74nm,3.6s						
YAK				pmax	pmax		
	comp=E,12nm,1.9s						
YAK				pmax	pmax		
	comp=N,56nm,3.4s						
YAK				smax	smax		
	comp=N,95nm,4.9s						
YAK				smax	smax		
	comp=E,66nm,4.3s						
DMTO	**DMTO**	**73.86**	**81**	P	**P**	**03 00 26.1**	**-0.6**
	SNR=6.6						
DMTO				P	**P**	**03 00 26.1**	**-0.6**
	SNR=6.6						
MHTO	**MHTO**	**73.91**	**76**	P	**P**	**03 00 27.9**	**+0.9**
	SNR=26						
MHTO				P	**P**	**03 00 27.9**	**+0.9**
	SNR=26						
WUS	**Wushi**	**74.17**	**48**	IAmb	IAmb	03 00 30.2	
	comp=Z,45nm,1.1s						
WUS	**Wushi**	**74.17**	**48**	IAMs_20	IAMs_20	03 35 02.1	
	comp=Z,1μm,18.0s						
JLN	**Jalan Bani Buh**	**74.18**	**74**	P	**P**	**03 00 28.8**	**+0.3**
JLN				P	**P**	**03 00 28.8**	**+0.3**
SEY	**Seymchan**	**74.30**	**359**	LR	LR	03 30 53.4	
	comp=Z,408nm,20.0s,baz=9.0,slow=34						
SEY	**Seymchan**	**74.30**	**359**	*j i* P	**P**	**03 00 28.4**	**-0.1**
SEY				pmax	pmax		
	comp=Z,37nm,1.3s						
BOD	**Bodaibo**	**74.83**	**19**	*e*P	**P**	**03 00 30.5**	**-1.2**
BOD				pmax	pmax		
	comp=Z,80nm,1.8s						
SPIA	**Saint Paul Isl**	**74.89**	**339**	P	**P**	**03 00 29.6**	**-2.4**
	baz=28						
FALS	**False Pass**	**74.94**	**335**	IAMs_20	IAMs_20	03 31 45.5	
	comp=Z,924nm,19.0s						
FALS	**False Pass**	**74.94**	**335**	P	**P**	**03 00 30.3**	**-2.1**
	baz=33						
KIBK	**Kibwezi**	**75.15**	**108**	IAMs_20	IAMs_20	03 33 40.9	
	comp=Z,1μm,19.0s						
KIBK	**Kibwezi**	**75.15**	**108**	P	**P**	**03 00 36.4**	**+2.1**
	SNR=7.0						
P08K	**Saint George I**	**75.22**	**339**	P	**P**	**03 00 31.8**	**-2.1**
	baz=29						
TSUM	**Tsumeb**	**75.41**	**135**	LR	LR	03 31 21.0	
	comp=Z,2μm,20.0s,baz=330,slow=34						
NIL	**Nilore**	**75.84**	**57**	P	**P**	**03 00 37.4**	**-0.6**
NIL	**Nilore**	**75.84**	**57**	IAMs_20	IAMs_20	03 37 24.5	
	comp=Z,693nm,20.0s						
NIL	**Nilore**	**75.84**	**57**	P	**P**	**03 00 37.4**	**-0.6**
NIL				pmax	pmax		
	comp=Z,130nm,1.7s						
NIL				MLR	MLR		
	comp=Z,700nm,20.0s						
MOY	**Mondy**	**76.18**	**29**	*e*P	**P**	**03 00 39.9**	**+0.2**
MOY				pmax	pmax		
	comp=Z,70nm,2.0s						
CPSB	**Cacapava Do Su**	**76.48**	**201**	*e*P	**P**	**03 00 42.1**	**+0.7**
WMQ	**Urumqi**	**76.67**	**42**	*e*P	**P**	**03 00 44.3**	**+1.7**
WMQ				pP	pwP	03 00 49.0	+0.4
WMQ				pmax	pmax		
	comp=Z,34nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,270nm,3.7s						
WMQ				LR	LR		
	comp=Z,2μm,17.7s						
WMQ				LR	LR		
	comp=Z,980nm,19.3s						
WMQ				LR	LR		
	comp=Z,570nm,20.9s						
ITQB	**Itaqui**	**76.70**	**204**	*e*P	**P**	**03 00 42.9**	**+0.3**
UNV	**Unalaska Valle**	**76.75**	**336**	IAMs_20	IAMs_20	03 34 26.4	
	comp=Z,1μm,19.0s						
UNV	**Unalaska Valle**	**76.75**	**336**	P	**P**	**03 00 40.4**	**-2.3**
	baz=30						
GO02	**Mina Guanaco**	**77.47**	**217**	IAmb	IAmb	03 00 49.5	
	comp=Z,37nm,1.3s						
QNGWA	**Qangwa**	**77.59**	**132**	IAmb	IAmb	03 00 53.9	
	comp=Z,44nm,1.6s						
MA2	**Magadan**	**77.68**	**0**	P	**P**	**03 00 47.3**	**-0.6**
MA2				IAmb	IAmb	03 00 49.3	
	comp=Z,48nm,1.3s						
MA2	**Magadan**	**77.68**	**0**	LR	LR	03 32 32.0	
	comp=Z,256nm,20.6s,baz=340,slow=34						
MA2	**Magadan**	**77.68**	**0**	*d i* P	**P**	**03 00 47.6**	**-0.3**
MA2				pmax	pmax		
	comp=Z,53nm,1.5s						
PLTB	**Pedras Altas**	**77.82**	**201**	IAmb	IAmb	03 00 50.4	
	comp=Z,57nm,1.7s						
PLTB				IAMs_20	IAMs_20	03 31 26.0	
	comp=Z,989nm,21.0s						
PLTB	**Pedras Altas**	**77.82**	**201**	*e*P	**P**	**03 00 49.4**	**+0.6**
ZAK	**Zakamensk**	**78.06**	**29**	*e*P	**P**	**03 00 49.7**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,12nm,1.9s						
NIKH	**Nikolski High**	**78.21**	**336**	IAMs_20	IAMs_20	03 34 17.9	
	comp=Z,1μm,20.0s						
NIKH	**Nikolski High**	**78.21**	**336**	P	**P**	**03 00 48.8**	**-2.1**
	baz=29						
LSZ	**Lusaka**	**78.27**	**124**	P	**P**	**03 00 51.8**	**0.0**
LSZ				IAmb	IAmb	03 00 55.1	
	comp=Z,72nm,1.9s						
LSZ	**Lusaka**	**78.27**	**124**	LR	LR	03 34 29.8	
	comp=Z,2μm,21.6s,baz=333,slow=35						
LSZ	**Lusaka**	**78.27**	**124**	P	**P**	**03 00 53.5**	**+1.6**
LSZ				P	**P**	**03 00 53.5**	**+1.6**
LSZ	**Lusaka**	**78.27**	**124**	P	**P**	**03 00 51.8**	**0.0**
LSZ				pmax	pmax		
	comp=Z,72nm,2.0s						
TBOT	**Tacuaremb**	**78.38**	**203**	*e*P	**P**	**03 00 52.9**	**+1.0**
AC02	**Maricunga**	**78.72**	**216**	IAmb	IAmb	03 01 02.8	
	comp=Z,116nm,1.9s						
AC02				IAMs_20	IAMs_20	03 28 24.0	
	comp=Z,913nm,22.0s						
GRTLG	**Ghanzi**	**79.10**	**133**	IAmb	IAmb	03 01 02.4	
	comp=Z,56nm,1.7s						
KOOLE	**Kule**	**79.90**	**135**	IAmb	IAmb	03 01 06.9	
	comp=Z,55nm,1.5s						
SONM	**Songino Array**	**81.31**	**29**	P	**P**	**03 01 06.5**	**-1.5**
SONM				IAmb	IAmb	03 01 14.4	
	comp=Z,61nm,1.9s						
SONM	**Songino Array**	**81.31**	**29**	P	**P**	**03 01 07.9**	**-0.1**
	comp=Z,7.9nm,0.8s,baz=317,slow=6.1,SNR=9.6						
SONM				LR	LR	03 39 43.3	
	comp=Z,211nm,18.2s,baz=270,slow=38						
	comp=Z,7.9nm,0.8s						
ZEA	**Zeya**	**81.42**	**14**	*e*P	**P**	**03 01 07.8**	**-0.5**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ULN	**Ulaanbaatar**	**81.51**	**28**	P	**P**	**03 01 08.5**	**-0.7**
ULN				IAmb	IAmb	03 01 15.9	
	comp=Z,100nm,1.9s						
ULN	**Ulaanbaatar**	**81.51**	**28**	P	**P**	**03 01 09.9**	**+0.8**
ULN	**Ulaanbaatar**	**81.51**	**28**	*d i* P	**P**	**03 01 09.2**	**+0.1**
ULN				pmax	pmax		
	comp=Z,36nm,1.4s						
CO01	**Juntas del Tor**	**81.88**	**215**	IAmb	IAmb	03 01 15.2	
	comp=Z,48nm,1.6s						
MATP	**Matopo**	**82.44**	**127**	LR	LR	03 36 47.5	
	comp=Z,708nm,20.8s,baz=286,slow=35						
SHEM	**Shemya Is, Ala**	**82.46**	**346**	LR	LR	03 36 59.5	
	comp=Z,286nm,20.1s,baz=332,slow=35						
LPHEP	**Lephephe**	**83.24**	**131**	IAmb	IAmb	03 01 23.9	
	comp=Z,71nm,1.9s						
PHPEN	**Phepeng**	**83.31**	**134**	IAmb	IAmb	03 01 25.0	
	comp=Z,38nm,1.4s						
PEA0B	**Petropavlovsk-**	**83.98**	**356**	*de*P	**P**	**03 01 21.3**	**-0.4**
PETK	**Petropavlovsk-**	**83.98**	**356**	P	**P**	**03 01 20.8**	**-0.9**
PETK	**Petropavlovsk-**	**83.98**	**356**	P	**P**	**03 01 20.9**	**-0.7**
	comp=Z,7.3nm,1.1s,baz=70,slow=9.6,SNR=6.2						
PETK				LR	LR	03 40 11.4	
	comp=Z,452nm,18.1s,baz=13,slow=37						
	comp=Z,7.3nm,1.1s						
PET	**Petropavlovsk**	**84.01**	**355**	IAMs_20	IAMs_20	03 36 15.7	
	comp=Z,966nm,22.0s						
HIA	**Hailar**	**84.04**	**20**	IAmb	IAmb	03 01 23.9	
	comp=Z,34nm,1.2s						
LBTB	**Lobatse**	**84.41**	**132**	LR	LR	03 38 51.5	
	comp=Z,1μm,18.4s,baz=326,slow=36						
HEH	**HeiHe**	**84.79**	**15**	*e*P	**P**	**03 01 26.0**	**+0.2**
HEH				pP	**pwP**	**03 01 31.0**	**-0.9**
HEH				S	**S**	**03 11 57.5**	**+4.1**
HEH				pmax	pmax		
	comp=Z,26nm,1.7s						
HEH				LR	LR		
	comp=Z,390nm,20.9s						
HEH				LR	LR		
	comp=Z,160nm,19.5s						
HEH				LR	LR		
	comp=Z,570nm,22.4s						
GTA	**Gaotai**	**85.76**	**37**	P	**P**	**03 01 30.5**	**-0.5**
GTA				pP	PcP	03 01 35.0	+1.1
GTA				PP	**PP**	**03 04 48.5**	**-1.0**
GTA				S	**S**	**03 12 05.3**	**+1.5**
GTA				pmax	pmax		
	comp=Z,12nm,1.3s						
GTA				pmax	pmax		
	comp=Z,140nm,4.4s						
GTA				LR	LR		
	comp=Z,250nm,21.5s						
GTA				LR	LR		
	comp=Z,340nm,19.5s						
GTA				LR	LR		
	comp=Z,580nm,21.9s						
TRQA	**Tornquist**	**86.12**	**205**	P	**P**	**03 01 32.0**	**-0.4**
TRQA				IAmb	IAmb	03 01 42.8	
	comp=Z,34nm,1.6s						
TRQA	**Tornquist**	**86.12**	**205**	P	**P**	**03 01 32.0**	**-0.4**
TRQA				pmax	pmax		
	comp=Z,34nm,1.6s						
TYV	**Tymovskoe**	**86.14**	**5**	*e*P	**P**	**03 01 32.2**	**-0.3**
TYV				pmax	pmax		
	comp=Z,16nm,1.1s						
TYV				pmax	pmax		
	comp=Z,300nm,4.7s						
KLR	**K

BNX	**BinXian**	**89.11**	**16**	⇓P	**P**	**03 01 44.8**	**-2.1**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.2s						
LSA	**Lhasa**	**89.17**	**49**	IAMs_20	IAMs_20	03 44 51.2	
	comp=Z,517nm,19.0s						
HHC	**Hu-ho-hao-te**	**89.21**	**29**	*e*P	**P**	**03 01 44.5**	**-3.1**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
LZH	**Lanzhou**	**90.29**	**36**	*e*P	**P**	**03 01 53.5**	**+0.7**
LZH				sP	pwP	03 02 01.0	+2.0
LZH				S	**S**	**03 12 45.0**	**-2.1**
LZH				SS	**SS**	**03 18 51.3**	**+6.1**
LZH				pmax	pmax		
	comp=Z,30nm,1.2s						
LZH				LR	LR		
	comp=Z,370nm,16.8s						
LZH				LR	LR		
	comp=Z,480nm,14.4s						
LZH				LR	LR		
	comp=Z,630nm,17.2s						
CN2	**Changchun**	**90.53**	**18**	*e*P	**P**	**03 01 53.0**	**-0.6**
CN2				*e*pP	pwP	03 01 59.0	-0.7
CN2				*e*S	**S**	**03 12 54.0**	**+5.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
HYB	**Hyderabad**	**90.56**	**65**	*e*P	**P**	**03 01 53.3**	**-0.9**
MDJ	**Mudanjiang**	**90.62**	**15**	P	**P**	**03 01 52.8**	**-1.2**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
PLCA	**Paso Flores**	**91.45**	**210**	P	**P**	**03 01 57.6**	**0.0**
	comp=Z,4.2nm,1.1s,baz=325,slow=2.9,SNR=3.0						
PLCA				LR	LR	03 41 37.1	
	comp=Z,224nm,20.2s,baz=18,slow=35						
	comp=Z,4.2nm,1.1s						
PLCA	**Paso Flores**	**91.45**	**210**	*e*P	**P**	**03 01 58.3**	**+0.7**
USA0B	**Ussuriysk Arra**	**91.45**	**13**	*d*/P	**P**	**03 01 56.5**	**-1.3**
USRK	**Ussuriysk Ar.**	**91.45**	**13**	P	**P**	**03 01 56.7**	**-1.1**
	comp=Z,3.9nm,0.7s,baz=357,slow=4.0,SNR=10						
USRK				LR	LR	03 41 01.2	
	comp=Z,87nm,21.5s,baz=353,slow=34						
	comp=Z,3.9nm,0.7s						
SHL	**Shillong**	**92.78**	**51**	IAMs_20	IAMs_20	03 46 10.9	
	comp=Z,1μm,20.0s						
ASAJ	**Asahikawa**	**92.84**	**6**	LR	LR	03 43 40.5	
	comp=Z,134nm,19.4s,baz=97,slow=36						
MSHR	**Mys Shultsa**	**92.88**	**14**	*i*P	**P**	**03 02 03.6**	**-0.8**
OPO	**Ambohidratompo**	**92.94**	**113**	LR	LR	03 44 43.2	
	comp=Z,760nm,19.1s,baz=180,slow=36						
HNS	**HongShan**	**93.39**	**28**	⇑P	**P**	**03 02 07.5**	**+0.6**
HNS				pmax	pmax		
	comp=Z,12nm,1.2s						
HNS				LR	LR		
	comp=Z,540nm,20.1s						
HNS				LR	LR		
	comp=Z,210nm,18.6s						
HNS				LR	LR		
	comp=Z,660nm,21.2s						
XAN	**Xi'an**	**94.18**	**34**	P	**P**	**03 02 10.0**	**-0.7**
XAN				SS	SS	03 19 39.0	-1.8
XAN				pmax	pmax		
	comp=Z,11nm,1.7s						
XAN				LR	LR		
	comp=Z,750nm,19.0s						
XAN				LR	LR		
	comp=Z,560nm,21.5s						
XAN				LR	LR		
	comp=Z,1μm,21.8s						
BRDH	**Bariadhala**	**94.88**	**53**	LR	LR	03 49 32.8	
	comp=Z,466nm,19.3s,baz=313,slow=38						
VOI	**Vohitsoka**	**95.00**	**115**	IAMs_20	IAMs_20	03 45 49.9	
	comp=Z,908nm,18.0s						
LYN	**LuoYang**	**95.12**	**31**	P	**P**	**03 02 15.0**	**+0.1**
LYN				sP	pwP	03 02 19.3	-1.8
LYN				PP	**PP**	**03 06 06.5**	**+2.9**
LYN				pmax	pmax		
	comp=Z,22nm,1.0s						
LYN				pmax	pmax		
	comp=Z,250nm,4.2s						
LYN				LR	LR		
	comp=Z,420nm,18.2s						
LYN				LR	LR		
	comp=Z,580nm,16.5s						
LYN				LR	LR		
	comp=Z,880nm,17.1s						
COYC	**Coyhaique**	**96.21**	**209**	IAMs_20	IAMs_20	03 43 56.9	
	comp=Z,708nm,20.0s						
TNCH	**TengChong**	**96.85**	**46**	*e*P	P	03 02 17.3	-5.9
TNCH				pmax	pmax		
	comp=Z,220nm,3.3s						
KSRS	**Korea Array**	**97.14**	**18**	P	**P**	**03 02 23.0**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=346,slow=4.5,SNR=9.8						
KSRS				LR	LR	03 48 37.7	
	comp=Z,114nm,18.2s,baz=355,slow=37						
	comp=Z,2.9nm,0.8s						
KSAR	**Wonju Array Be**	**97.15**	**18**	P	**P**	**03 02 21.8**	**-2.3**
KSAR	**Wonju Array Be**	**97.15**	**18**	P	**P**	**03 02 21.8**	**-2.3**
PZH	**PanZhiHua**	**97.31**	**43**	P	Pdif	03 02 25.3	+0.1
PZH				S	**S**	**03 13 42.5**	**-6.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
PZH				LR	LR		
	comp=Z,350nm,18.5s						
PZH				LR	LR		
	comp=Z,380nm,18.6s						
PZH				LR	LR		
	comp=Z,480nm,18.8s						
PALK	**Pallekele**	**99.25**	**71**	LR	LR	03 51 48.9	
	comp=Z,132nm,18.3s,baz=328,slow=38						
NJ2	**Nanjing**	**99.65**	**27**	*e*P	**Pdif**	**03 02 33.5**	**-1.9**
NJ2				pmax	pmax		
	comp=Z,11nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,180nm,4.5s						
NJ2				LR	LR		
	comp=Z,360nm,11.4s						
NJ2				LR	LR		
	comp=Z,290nm,15.6s						
NJ2				LR	LR		
	comp=Z,550nm,15.2s						
SLVN	**Son La**	**102.69**	**44**	IAMs_20	IAMs_20	03 54 25.3	
	comp=Z,424nm,19.0s						
KNMB	**Chin-men Tao**	**106.41**	**31**	IAMs_20	IAMs_20	03 54 39.6	
	comp=Z,371nm,19.0s						
HKPS	**Hong Kong Po S**	**106.68**	**35**	IAMs_20	IAMs_20	03 55 57.0	
	comp=Z,392nm,20.0s						
YHNB	**Yeheng**	**107.30**	**28**	IAMs_20	IAMs_20	03 53 30.8	
	comp=Z,493nm,20.0s						
QIZ	**Qiongzhong**	**107.58**	**41**	IAMs_20	IAMs_20	03 55 26.3	
	comp=Z,401nm,20.0s						
QIZ	**Qiongzhong**	**107.58**	**41**	Pdif	**Pdif**	**03 03 08.5**	**-2.4**
QIZ				PP	**PP**	**03 07 35.8**	**-2.1**
QIZ				SS	SS	03 22 45.3	-2.2
QIZ				LR	LR		
	comp=Z,290nm,15.2s						
QIZ				LR	LR		
	comp=Z,220nm,14.5s						
QIZ				LR	LR		
	comp=Z,360nm,19.4s						
NACB	**Ninganchiao**	**107.83**	**28**	IAMs_20	IAMs_20	03 53 49.9	
	comp=Z,430nm,20.0s						
SSLB	**Suanglung**	**107.96**	**29**	IAMs_20	IAMs_20	03 55 49.5	
	comp=Z,463nm,20.0s						
TPUB	**Ta-pu**	**108.29**	**29**	IAMs_20	IAMs_20	03 56 26.3	
	comp=Z,463nm,18.0s						
YULB	**Yu-li**	**108.44**	**29**	IAMs_20	IAMs_20	03 54 31.3	
	comp=Z,568nm,20.0s						
TWG	**Pinlang**	**108.89**	**29**	IAMs_20	IAMs_20	03 56 47.3	
	comp=Z,450nm,20.0s						
TAOE	**Nuku Hiva Isla**	**111.33**	**278**	*e*LR	LR	03 40 29.3	
	comp=Z,1μm,21.8s						
RKT	**Rikitea**	**116.74**	**263**	*e*LR	LR	03 42 53.5	
	comp=Z,3μm,40.0s						
SYO	**Syowa Base**	**122.64**	**157**	⇓*e*PP	PP	03 09 22.6	-1.7
PMBI	**Palembang**	**122.80**	**59**	IAMs_20	IAMs_20	04 02 49.8	
	comp=Z,347nm,20.0s						
MDSI	**Maura Dua**	**123.62**	**61**	PKP	**PKPdf**	**03 07 46.6**	**-3.1**
MDSI				PKP	**PKiKP**	**03 07 48.6**	**-1.3**
PPT2	**Papeete2**	**123.95**	**278**	*e*SS	SS	03 26 24.2	+0.2
	comp=Z,272nm,30.0s						
PPT2	**Papeete2**	**123.95**	**278**	*e*LR	LR	03 46 16.9	
	comp=Z,399nm,24.0s						
PPT2				*e*LR	LR	03 46 18.3	
	comp=Z,352nm,29.0s						
TPI	**Tanjungpandan**	**124.44**	**56**	PKP	**PKPdf**	**03 07 49.3**	**-2.0**
TPI				PKP	**sPKPdf**	**03 07 57.2**	**+2.0**
TBI	**Tubuai**	**127.47**	**272**	*e*SS	SS	03 27 11.3	+3.3
	comp=Z,2μm,34.2s						
TBI	**Tubuai**	**127.47**	**272**	*e*LR	LR	03 47 47.2	
	comp=Z,1μm,29.2s						
TBI				*e*LR	LR	03 47 52.3	
	comp=Z,2μm,23.8s						
MPSI	**Mapaga**	**128.60**	**41**	PKP	**PKPdf**	**03 07 56.0**	**-3.2**
MPSI				PKP	**pPKPdf**	**03 08 00.8**	**-1.4**
QSPA	**South Pole Qui**	**132.99**	**180**		**PKPdf**	**03 08 06.3**	**+0.4**
QSPA	**South Pole Qui**	**132.99**	**180**	PKP	**PKPdf**	**03 08 05.7**	**-0.3**
	comp=Z,21nm,1.1s,baz=220,slow=2.1,SNR=17						
SBA	**Scott Base**	**144.56**	**186**	PKPdf	**PKPdf**	**03 08 26.2**	**-0.5**
SBA	**Scott Base**	**144.56**	**186**	PKIKP	**PKPdf**	**03 08 26.2**	**-0.5**
VNDA	**Vanda**	**145.19**	**184**		**PKPbc**	**03 08 27.3**	**-0.2**
VNDA	**Vanda**	**145.19**	**184**	PKPbc	**PKPdf**	**03 08 28.8**	**+0.9**
	comp=Z,30nm,1.1s,baz=219,slow=2.6,SNR=61						
MBWA	**Marble Bar**	**146.04**	**60**	PKPdf	**PKPdf**	**03 08 29.6**	**-1.4**
MBWA	**Marble Bar**	**146.04**	**60**	P	**PKPdf**	**03 08 30.9**	**-0.1**
PMG	**Port Moresby**	**146.27**	**7**	PKPbc	**PKPbc**	**03 08 32.8**	**+0.2**
	comp=Z,43nm,1.0s,baz=2.6,slow=5.4,SNR=5.6						
PSA00	**Pilbara Seismi**	**146.41**	**60**	PKPdf	**PKPdf**	**03 08 30.3**	**-1.3**
PSA00	**Pilbara Seismi**	**146.41**	**60**	PKPdf	**PKPdf**	**03 08 30.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**147.18**	**48**	PKPbc	**PKPbc**	**03 08 35.0**	**-0.1**
	comp=Z,27nm,1.1s,baz=340,slow=5.5,SNR=14						
CASY	**Casey**	**148.06**	**150**	PKPdf	**PKPdf**	**03 08 33.3**	**+0.5**
WRA	**Warramunga Arr**	**153.04**	**36**		**PKPbc**	**03 08 46.7**	**-2.8**
WRA	**Warramunga Arr**	**153.04**	**36**	PKPbc	**PKPbc**	**03 08 48.4**	**-1.1**
	comp=Z,6.9nm,1.0s,baz=338,slow=3.0,SNR=16						
WRA				PKPab	**PKPab**	**03 09 00.3**	**-0.5**
	comp=Z,6.5nm,1.0s,baz=339,slow=4.0,SNR=8.1						
DZM	**Mont Dzumac**	**155.34**	**323**	*e*LR	LR	04 00 42.3	
	comp=Z,601nm,23.1s						
ASAR	**Alice Springs**	**156.07**	**41**	PKP	**PKPdf**	**03 08 45.9**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=315,slow=0.6,SNR=4.1						
ASAR				PKPab	**PKPab**	**03 09 13.2**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=342,slow=4.5,SNR=8.3						
ASAR				PP	**PP**	**03 12 54.1**	**+3.6**
	comp=Z,1.0nm,1.1s,baz=310,slow=5.8,SNR=5.3						

RSNC 29 02:50:52.2±0.0, 7°N±1°×7°3W±°, h146km±3km, M2.7, mb3.0, mB6.2, ML2.5, MLv3.1, Mw(mB)5.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**191**	P	Pn	02 51 12.1	-0.3
BARC				S	Sn	02 51 27.0	-0.7
PAMC	**Pamplona, Colo**	**0.68**	**40**	P	Pn	02 51 14.9	+0.1
PAMC				S	Sn	02 51 31.7	-0.2
RUSC	**La Rusia**	**0.91**	**176**	P	Pn	02 51 16.2	-0.3
RUSC				S	Sn	02 51 34.4	-0.5
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	Pn	02 51 19.0	-0.8
PTBC				S	Sn	02 51 39.8	-1.0
TAMC	**Tame, Arauca**	**1.39**	**105**	P	Pn	02 51 20.5	+0.1
TAMC				S	Sn	02 51 41.9	0.0
OCAC	**Ocana**	**1.43**	**353**	P	Pn	02 51 20.3	-0.6
OCAC				S	Sn	02 51 41.9	-1.0
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	P	Pn	02 51 25.0	-0.2
ZARC				S	Sn	02 51 50.8	+0.3
NORC	**Norcasia**	**2.12**	**234**	P	Pn	02 51 28.7	+0.1
NORC				S	Sn	02 51 56.3	-0.2
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	02 51 31.7	+1.2
CHIC				S	Sn	02 52 00.2	+0.4
ROSC	**El Rosal**	**2.28**	**211**	P	Pn	02 51 32.7	+1.8
ROSC				S	Sn	02 52 00.4	-0.2
UREC	**San Jos de Ur**	**2.55**	**292**	P	Pn	02 51 32.5	-1.3
UREC				S	Sn	02 52 04.2	-1.6
GUY2C	**Guyana, Caldas**	**2.72**	**235**	P	Pn	02 51 35.9	-0.4
GUY2C				S	Sn	02 52 10.9	+0.7
PTGC	**Puerto Gaitan,**	**2.78**	**159**	P	Pn	02 51 35.4	-1.3
PTGC				S	Sn	02 52 08.7	-2.3
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	02 51 40.4	+0.7
CBOC				S	Sn	02 52 15.8	-0.5
DBBC	**Dabeiba**	**3.06**	**274**	P	Pn	02 51 40.4	+0.2
DBBC				S	Sn	02 52 15.9	-1.4
ARGC	**Ariguani, Magd**	**3.22**	**340**	P	Pn	02 51 43.6	+1.3
ARGC				S	Sn	02 52 22.1	+1.1
ANIL	**Santa Ana**	**3.22**	**224**	P	Pn	02 51 44.5	+1.9
ANIL				S	Sn	02 52 23.2	+1.7
SDV	**Santo Domingo**	**3.23**	**50**	P	Pn	02 51 41.7	-0.8
SDV				S	Sn	02 52 20.0	-1.5
PRAC	**Prado**	**3.53**	**210**	P	Pn	02 51 46.5	+0.1
PRAC				S	Sn	02 52 27.2	-1.1
APAC	**Apartado, Choc**	**3.58**	**288**	P	Pn	02 51 46.5	-0.4
APAC				S	Sn	02 52 27.4	-1.9
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn	02 51 46.6	-1.5
SJCC				S	Sn	02 52 28.0	-3.5
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	02 51 50.3	+1.1
URMC				S	Sn	02 52 34.7	+1.3
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	P	Pn	02 51 52.8	-2.2
CRJC				S	Sn	02 52 38.8	-5.0
YOTC	**Yotoco, Valle**	**4.25**	**229**	P	Pn	02 51 55.4	-0.4
YOTC				S	Sn	02 52 49.6	+4.4
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	02 52 02.5	-3.0
URIC				S	Sn	02 52 59.7	-2.9
JAMC	**Jamundi, Valle**	**5.01**	**225**	P	Pn	02 52 07.5	+1.5
	0.0nm5.6nm,1.6s						
JAMC				S	Sn	02 53 07.7	+4.2
	0.0nm5.6nm,1.6s						
MALC	**Bahia Malaga**	**5.02**	**237**	P	Pn	02 52 08.1	+2.3
MALC				S	Sn	02 53 07.0	+3.8
POPC	**Popayan, Colom**	**5.51**	**220**	P	Pn	02 52 15.5	+2.8
POPC				S	Sn	02 53 17.0	+1.6
BBAC	**Balboa, Cauca**	**6.28**	**221**	P	Pn	02 52 23.6	+0.8
BBAC				S	Sn	02 53 33.6	-0.1

*IDC **29** 03:08:30.2±2.5, 53°.35N×170°.24E, h0km, mb3.3/2, mbtmp3.3/3, ML2.4/1, Error ellipse: s-maj=97.8km s-min=35.7km az=171.0*
*KRSC **29** 03:08:30.1±1.4, 52°.50N×170°.02E, h64km±48km, Ml3.6*
*NEIC **29** 03:08:32.1±1.9, 53°.4N±0°.3×170°.2E±0°.1, h10km±2km, mb3.9/22, Error ellipse: s-maj=43.1km s-min=13.1km az=186.0*

ISC 29 03:08:33.3±1.1, 53°.4N±0°.2×169°.99E±0°.07, h26km, n42, σ1§32/38, mb3.8/13, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.56**	**103**	Pn	**Pn**	**03 09 12.1**	**-1.0**
NLC	**Nalytchevo**	**6.39**	**273**	*e*P	**Pn**	**03 10 07.5**	**+1.9**
SDLR	**Sedlovina**	**6.66**	**274**	*e*P	**Pn**	**03 10 10.3**	**+0.8**
UGLR	**Uglovaya**	**6.70**	**273**	*e*P	**Pn**	**03 10 11.5**	**+1.4**
AVH	**Avacha**	**6.75**	**274**	*e*P	**Pn**	**03 10 12.4**	**+1.7**
KRX	**Arik**	**6.79**	**275**	*e*P	**Pn**	**03 10 13.0**	**+1.6**
KOK	**Koryaka**	**6.80**	**274**	*e*P	**Pn**	**03 10 12.7**	**+1.3**
MTVR	**Mutnovka**	**7.20**	**268**	*e*P	**Pn**	**03 10 18.1**	**+1.2**
MTVR				*e*S	**Sn**	**03 11 34.5**	**-3.2**
PEA0B	**Petropavlovsk-**	**7.38**	**273**	Pn	**Pn**	**03 10 21.2**	**+1.9**
PETK	**Petropavlovsk-**	**7.38**	**273**	Pn	**Pn**	**03 10 21.4**	**+2.1**
PETK	**Petropavlovsk-**	**7.38**	**273**	Pn	**Pn**	**03 10 21.5**	**+2.2**
	0.3nm,0.3s,baz=91,slow=20,SNR=1.6						
PETK				Sn	**Sn**	**03 11 41.5**	**-0.7**
	0.5nm,0.3s,baz=94,slow=39,SNR=2.1						
	0.9nm,0.4s						
G18K	**Tagagawik**	**19.94**	**39**	P	**Pn**	**03 13 03.8**	**-0.9**
L19K	**White Mountain**	**20.48**	**51**	P	**P**	**03 13 09.1**	**+0.3**
L19K				IAmb	IAmb	03 13 19.9	
	comp=Z,11nm,1.5s						
H19K	**Roundabout Mou**	**20.65**	**41**	P	**P**	**03 13 10.8**	**+0.2**
J20K	**Nowinta River**	**21.19**	**45**	P	**P**	**03 13 16.8**	**+0.4**
J20K				IAmb	IAmb	03 13 29.8	
	comp=Z,9.2nm,1.4s						
STLK	**Strandline Lak**	**21.82**	**53**	P	**P**	**03 13 24.3**	**+1.0**
STLK				IAmb	IAmb	03 13 47.9	
	comp=Z,4.6nm,1.2s						
SKT	**Skwentna**	**22.00**	**52**	P	**P**	**03 13 26.6**	**+1.5**
SUA	**Susitna One**	**22.33**	**53**	P	**P**	**03 13 27.9**	**-0.9**
B20K	**Meade River**	**22.36**	**29**	P	**P**	**03 13 28.8**	**-0.1**
B22K	**Teshekpuk Lake**	**23.64**	**30**	P	**P**	**03 13 41.6**	**-0.3**
B22K				IAmb	IAmb	03 13 45.3	
	comp=Z,4.3nm,1.3s						
TOLK	**Toolik Lake Re**	**24.22**	**35**	P	**P**	**03 13 47.5**	**-0.1**
TOLK				IAmb	IAmb	03 13 58.2	
	comp=Z,5.0nm,1.4s						
C23K	**Itkillik River**	**24.30**	**32**	P	**P**	**03 13 46.8**	**-1.3**
IL31		**24.39**	**45**	P	**P**	**03 13 48.1**	**-1.0**
IL31				IAmb	IAmb	03 14 29.9	
	comp=Z,3.4nm,1.4s						
ILAR	**Eielson Array**	**24.39**	**45**	P	**P**	**03 13 48.5**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=252,slow=7.2,SNR=5.5						
	comp=Z,0.3nm,0.6s						
RIDG	**Independent Ri**	**25.19**	**48**	P	**P**	**03 13 54.8**	**-1.6**
E25K	**Arctic Village**	**25.51**	**38**	P	**P**	**03 13 59.5**	**+0.3**
D25K	**Kavik River**	**25.53**	**35**	P	**P**	**03 13 58.1**	**-1.3**
D25K				IAmb	IAmb	03 14 35.3	
	comp=Z,3.9nm,1.4s						
DOT	**Dot Lake**	**25.53**	**48**	P	**P**	**03 13 59.3**	**-0.1**
DOT				IAmb	IAmb	03 14 02.8	
	comp=Z,2.1nm,0.8s						
SCRK	**Sand Creek**	**25.58**	**47**	P	**P**	**03 13 58.0**	**-2.0**
SCRK				IAmb	IAmb	03 14 29.6	
	comp=Z,2.7nm,1.2s						
BMAR	**Burnt Mountain**	**25.74**	**39**	P	**P**	**03 14 01.9**	**+0.6**
VRDI	**Verde Repeater**	**25.85**	**54**	P	**P**	**03 14 04.1**	**+1.6**
H27K	**Steamboat Moun**	**26.77**	**42**	P	**P**	**03 14 11.5**	**+0.9**
G29M	**Pine Creek**	**28.22**	**41**	P	**P**	**03 14 24.0**	**+0.5**
G29M				IAmb	IAmb	03 14 35.9	
	comp=Z,3.6nm,1.4s						
K29M	**Barlow Dome**	**28.44**	**48**	P	**P**	**03 14 25.1**	**-0.6**
K29M				IAmb	IAmb	03 14 33.5	
	comp=Z,3.3nm,1.4s						
MMPY	**Sheldon Lake,**	**31.40**	**49**	P	**P**	**03 14 51.0**	**-0.8**
MMPY				IAmb	IAmb	03 15 18.5	
	comp=Z,4.0nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**33.65**	**185**	T	T	03 50 54.1	
	baz=4.1,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**33.66**	**185**	T	T	03 50 55.5	
	baz=4.1,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**33.67**	**185**	T	T	03 50 58.0	
	baz=4.1,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hy**	**34.88**	**185**	T	T	03 52 26.9	
	baz=4.3,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**34.89**	**185**	T	T	03 52 31.9	
	baz=4.3,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**34.89**	**185**	T	T	03 52 28.7	
	baz=4.3,slow=76,SNR=11						
TXAR	**Lajitas Array**	**64.94**	**74**	P	**P**	**03 19 11.0**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=303,slow=5.1,SNR=9.9						
	comp=Z,0.3nm,0.4s						

*LDG **29** 03:10:38.5±0.2, 45°.80N×11°.47E, h12km, Ml2.4/21, Error ellipse: s-maj=4.5km s-min=3.4km az=113.0*
*ROM **29** 03:10:39.6±0.0, 45°.864N±0°.002×11°.485E±0°.003, h13km, ML2.7/109, Error ellipse: s-maj=0.2km s-min=0.0km az=352.0*
*VIE **29** 03:10:40.0±0.3, 45°.93N×11°.47E, h9km±2km, mb2.1/18, ml2.9/19, Error ellipse: s-maj=2.0km s-min=1.4km az=13.0 14 km S of Borgo*
*STR **29** 03:10:41.5±1.5, 46°N±6°×1°1E±1°2, h10km, MLv3.4/23, Error ellipse: s-maj=0.0km s-min=0.0km az=96.7, preliminary*
*PRU **29** 03:10:42.0, 45°.96N×11°.53E, h13km*

ISC 29 03:10:39.4±0.8, 45°.86N±0°.01×11°.47E±0°.01, h18km±2km, n191, σ1§47/263, 8C-10D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEKR	**Cima Ekar Asia**	**0.07**	**95**	⇑*e*Pg	**Pg**	**03 10 42.9**	**-0.1**
CEKR				*e*Sg	**Sg**	**03 10 44.6**	**-0.8**
DOSS	**Dosso del Somm**	**0.20**	**278**	⇓*e*Pg	**Pb**	**03 10 44.7**	**+0.4**
DOSS				*e*Sg	**Sb**	**03 10 48.0**	**+0.6**
DOSS	**Dosso del Somm**	**0.20**	**278**	P	**Pb**	**03 10 44.7**	**+0.4**
DOSS				S	**Sb**	**03 10 48.1**	**+0.6**
DOSS	**Dosso del Somm**	**0.20**	**278**	⇓P	**Pb**	**03 10 44.7**	**+0.4**
DOSS				S	**Sb**	**03 10 48.0**	**+0.6**
DOSS				AML	AML		
	comp=N,4215μm,1.3s						
DOSS				AML	AML		
	comp=N,7820μm,0.6s						
DOSS				AML	AML		
	comp=E,3970μm,1.3s						
DOSS				AML	AML		
	comp=N,4215μm,0.7s						
DOSS				AML	AML		
	comp=E,8445μm,0.6s						
DOSS				AML	AML		
	comp=E,3970μm,0.7s						
PANI	**Panarotta**	**0.22**	**334**	⇓*e*Pg	**Pb**	**03 10 44.7**	**0.0**
PANI				*e*Sg	**Sb**	**03 10 48.2**	**-0.1**
PANI	**Panarotta**	**0.22**	**334**	⇓P	**Pb**	**03 10 44.7**	**0.0**
PANI				S	**Sb**	**03 10 48.0**	**-0.2**
PANI				AML	AML		
	comp=N,5810μm,0.2s						
PANI				AML	AML		
	comp=N,5805μm,0.2s						
PANI				AML	AML		
	comp=E,2965μm,0.2s						
CGRP	**Cima Grappa**	**0.23**	**84**	⇑*e*Pg	**Pb**	**03 10 44.9**	**0.0**
CGRP				*e*Sg	**Sb**	**03 10 48.2**	**-0.4**
CGRP	**Cima Grappa**	**0.23**	**84**	⇑P	**Pb**	**03 10 44.9**	**0.0**
CGRP				S	**Sb**	**03 10 48.3**	**-0.4**
CGRP				AML	AML		
	comp=E,1855μm,1.0s						
CGRP				AML	AML		
	comp=E,1810μm,0.4s						
CGRP				AML	AML		
	comp=N,1975μm,0.3s						
CGRP				AML	AML		
	comp=E,1855μm,1.0s						
CGRP				AML	AML		
	comp=N,1935μm,0.3s						
SANR	**Sandrigo**	**0.24**	**156**	P	**Pb**	**03 10 45.1**	**+0.2**
SANR				S	**Sg**	**03 10 49.4**	**+0.9**
MARN	**Marana (Italy)**	**0.28**	**220**	⇓*e*Pg	**Pg**	**03 10 46.0**	**+0.4**
MARN				*e*Sg	**Sg**	**03 10 50.4**	**+0.4**
MARN	**Marana (Italy)**	**0.28**	**220**	P	**Pg**	**03 10 46.1**	**+0.4**
MARN				S	**Sg**	**03 10 50.4**	**+0.4**
ASOL	**Asolo**	**0.30**	**100**	P	**Pg**	**03 10 46.3**	**+0.3**
ASOL				S	**Sg**	**03 10 51.0**	**+0.5**
**RO

ZIAN S **Sg** **03 10 53.3 -0.8**
ZIAN AML AML
comp=E,1290µm,1.2s
ZIAN AML AML
comp=N,1810µm,0.4s
ZIAN AML AML
comp=N,1260µm,0.5s
ZIAN AML AML
comp=E,1865µm,0.4s
ZIAN AML AML
comp=E,1290µm,0.8s
MTLO Montello 0.44 95⇑ *e*Pg **Pg** **03 10 48.2 -0.1**
MTLO *e*Sg **Sg** **03 10 54.5 +0.1**
VARN Col Varnada, M 0.46 72⇑ *e*Pg **Pg** **03 10 48.3 -0.5**
VARN *e*Sg **Sg** **03 10 54.7 -0.5**
VARN Col Varnada, M 0.46 72 ⇑P **Pg** **03 10 48.3 -0.5**
VARN S **Sg** **03 10 55.2 0.0**
VARN AML AML
comp=N,1390µm,1.5s
VARN AML AML
comp=E,1740µm,0.4s
VARN AML AML
comp=E,1810µm,0.4s
VARN AML AML
comp=N,1320µm,1.5s
BALD Monte Baldo 0.49 250 *e*Pg **Pg** **03 10 49.7 +0.3**
BALD Monte Baldo 0.49 250 P **Pg** **03 10 49.6 +0.3**
BALD S **Sb** **03 10 56.8 +0.3**
BALD Monte Baldo 0.49 250 P **Pg** **03 10 49.6 +0.3**
TEOL Teolo 0.51 164⇑ *e*Pg **Pg** **03 10 50.1 +0.3**
TEOL *e*Sg **Sb** **03 10 57.7 +0.7**
TEOL Teolo 0.51 164 P **Pg** **03 10 50.0 +0.3**
TEOL S **Sb** **03 10 57.2 +0.3**
FAU Forcella Aurin 0.52 43 *e*Pg **Pb** **03 10 49.1 -0.8**
FAU *e*Sg **Sb** **03 10 56.2 -1.0**
ZEN8 San Zeno di Mo 0.56 248 P **Pb** **03 10 50.4 -0.2**
OPPE Oppeano 0.59 201 P **Pg** **03 10 51.8 +0.8**
OPPE S **Sg** **03 10 59.5 +0.7**
OPPE Oppeano 0.59 201 P **Pg** **03 10 51.4 +0.4**
OPPE AML AML
comp=E,750µm,0.6s
OPPE AML AML
comp=N,574µm,1.0s
OPPE AML AML
comp=E,750µm,1.4s
MAGA Magasa 0.60 263 P **Pg** **03 10 51.7 +0.4**
MAGA AML AML
comp=N,1435µm,0.2s
MAGA AML AML
comp=E,1494µm,0.2s
MAGA AML AML
comp=E,1494µm,1.8s
RONC Roncone 0.61 282 *e*Pg **Pb** **03 10 51.9 +0.4**
RONC Roncone 0.61 282 P **Pb** **03 10 51.8 +0.4**
RONC AML AML
comp=E,1135µm,0.1s
RONC AML AML
comp=N,1465µm,0.6s
RONC AML AML
comp=E,1140µm,0.1s
KOSI Kohlern 0.61 354 ⇓P **Pb** **03 10 51.3 -0.3**
KOSI S **Sb** **03 10 59.8 -0.1**
KOSI AML AML
comp=N,663µm,0.1s
KOSI AML AML
comp=E,932µm,0.5s
OZOL Ozolo 0.62 332 *e*Pg **Pb** **03 10 51.8 0.0**
OZOL Ozolo 0.62 332 P **Pb** **03 10 51.6 -0.2**
OZOL S **Sb** **03 11 00.1 -0.1**
OZOL AML AML
comp=E,1625µm,0.4s
OZOL AML AML
comp=N,1395µm,0.4s
OZOL AML AML
comp=N,1325µm,0.4s
OZOL AML AML
comp=E,1755µm,0.4s
FRE8 Fregona 0.64 75 P **Pb** **03 10 51.5 -0.4**
APPI Appiano 0.65 345 P **Pb** **03 10 51.9 -0.3**
APPI S **Sb** **03 11 00.8 0.0**
APPI AML AML
comp=N,987µm,1.5s
APPI AML AML
comp=E,952µm,0.2s
BOSI Bolzano 0.65 351 P **Pb** **03 10 52.0 -0.1**
BOSI S **Sb** **03 11 00.8 0.0**
BOSI AML AML
comp=E,1280µm,0.4s
BOSI AML AML
comp=N,1990µm,0.2s
APGO Alpago 0.69 64 *e*Pg **Pb** **03 10 52.7 -0.1**
CAE Caneva 0.69 77 *e*Pg **Pb** **03 10 52.9 0.0**
CAE Caneva 0.69 77 P **Pb** **03 10 52.4 -0.5**
MABI Malga Bissina 0.70 287 P **Pb** **03 10 53.2 +0.1**
MABI AML AML
comp=E,356µm,1.0s
MABI AML AML
comp=N,498µm,1.0s
MABI AML AML
comp=E,356µm,1.0s
MABI AML AML
comp=N,498µm,1.0s
BAG8 Bagolino 0.70 268 P **Pg** **03 10 53.6 +0.4**
BAG8 S **Sg** **03 11 03.0 +0.4**
BAG8 Bagolino 0.70 268 P **Pb** **03 10 53.3 +0.2**
VOBA Vobarno 0.71 253 P **Pg** **03 10 53.6 +0.2**
VOBA AML AML
comp=E,1400µm,0.9s
VOBA AML AML
comp=N,1255µm,1.2s
VOBA AML AML
comp=E,1400µm,1.1s
GAVI Passo Gaver BS 0.71 276 *e*Pg **Pb** **03 10 53.3 0.0**
CSO Casso 0.73 54 *e*Pg **Pb** **03 10 53.3 -0.2**
POLC Polcenigo 0.74 76 P **Pb** **03 10 53.3 -0.3**
VENL Venezia Lido 0.77 124 P **Pb** **03 10 54.5 +0.3**
CARE Lago del Cares 0.79 317 *e*Pg **Pb** **03 10 54.8 0.0**
CARE Lago del Cares 0.79 317 P **Pb** **03 10 54.7 0.0**
CARE AML AML
comp=N,282µm,1.5s
CARE AML AML
comp=E,304µm,0.3s
GAZZ Gazzo Veronese 0.79 200 *e*Pg **Pn** **03 10 56.1 +0.5**
CIMO Cimolais 0.81 56 Pg **Pb** **03 10 54.8 -0.2**
CIMO Cimolais 0.81 56 P **Pb** **03 10 54.8 -0.2**
CIMO AML AML
comp=E,197µm,0.2s
CIMO AML AML
comp=N,167µm,0.3s
CIMO AML AML
comp=N,172µm,1.1s
CIMO AML AML
comp=N,172µm,0.9s
CIMO AML AML
comp=E,202µm,0.7s
AFL Alpe Faloria 0.83 36 *e*Pg **Pb** **03 10 55.8 +0.3**
MLNI Malnisio 0.85 69 *e*Pg **Pb** **03 10 55.6 +0.1**
MNTV Mantova 0.85 214 P **Pg** **03 10 56.2 +0.2**
SERM Sermide 0.85 188 S **Sn** **03 11 09.2 +0.8**
SERM Sermide 0.85 188 P **Pb** **03 10 55.7 +0.1**
SERM AML AML
comp=N,374µm,1.2s
SERM AML AML
comp=N,374µm,0.8s
SERM AML AML
comp=E,648µm,0.4s
BRES Bressanone 0.86 12 P **Pb** **03 10 55.7 -0.3**
BRES AML AML
comp=E,339µm,0.5s
BRES AML AML
comp=E,340µm,0.5s
BRES AML AML
comp=E,340µm,1.5s
BRES AML AML
comp=N,453µm,0.2s
SBPO S.Benedetto Po 0.89 206 P **Pb** **03 10 56.5 +0.2**
ZONE Zone 0.95 265 P **Pb** **03 10 57.9 +0.5**
ZONE AML AML
comp=E,780µm,0.3s
ZONE AML AML
comp=N,792µm,0.3s
BRMO Bormio 0.98 310 P **Pb** **03 10 58.3 +0.3**
BRMO S **Sb** **03 11 11.0 +0.3**
BRMO Bormio 0.98 310 P **Pb** **03 10 58.3 +0.3**
BRMO AML AML
comp=E,368µm,0.2s
BRMO AML AML
comp=N,464µm,0.6s
MOSI Grossmontoni 0.99 320 P **Pb** **03 10 58.4 +0.2**
MOSI AML AML
comp=N,1550µm,0.3s
MOSI AML AML
comp=E,1355µm,0.2s
CADC Capriano del C 1.02 248 P **Pn** **03 10 58.9 +0.1**
CAVE Cavezzo 1.04 199 S **Sg** **03 11 16.0 +2.7**
ROSI Rosskopf 1.07 358 P **Pb** **03 10 59.7 +0.2**
ROSI AML AML
comp=N,464µm,1.6s
ROSI AML AML
comp=N,464µm,0.4s
ROSI AML AML
comp=E,472µm,0.4s
DST2 Trieste 1.08 68 P **Pn** **03 10 59.4 -0.2**
DST2 AML AML
comp=N,924µm,0.5s
DST2 AML AML
comp=E,860µm,0.4s
CAPR Capriolo 1.10 259 P **Pb** **03 11 00.3 +0.5**
MPRI Monte Prat 1.12 69 P **Pn** **03 11 00.2 0.0**
MPRI AML AML
comp=E,230µm,1.4s
MPRI AML AML
comp=N,271µm,0.2s
MPRI AML AML
comp=E,304µm,0.8s
MPRI AML AML
comp=N,392µm,1.4s
MPRI AML AML
comp=E,304µm,1.2s
MPRI AML AML
comp=E,230µm,0.6s
FUORN Ofenpass-Fuorn 1.14 313 P **Pn** **03 11 00.9 +0.3**
FUORN AML AML
comp=N,122µm,1.4s
FUORN AML AML
comp=N,122µm,0.6s
FUORN AML AML
comp=E,119µm,0.4s
ABTA Abfaltersbach 1.15 39 *e*Pg **Pn** **03 11 01.2 +0.6**
comp=E,1.0nm,0.1s,SNR=13
ABTA *i* Sg **Sn** **03 11 16.7 +0.8**
comp=E,9.0nm,0.2s
CLUD Cludinico 1.15 58 P **Pn** **03 11 00.8 +0.2**
BERNI Berninapass 1.15 299 P **Pb** **03 11 01.5 +0.5**
BERNI Berninapass 1.15 299 P **Pn** **03 11 00.9 +0.1**
BERNI AML AML
comp=E,137µm,1.4s
BERNI AML AML
comp=N,146µm,1.0s
FVI Forni Avoltri 1.17 50 P **Pn** **03 11 01.0 0.0**
FVI AML AML
comp=E,250µm,0.2s
FVI AML AML
comp=N,208µm,0.2s
FUSE Fusea 1.20 62 P **Pn** **03 11 01.6 +0.3**
FIU Minerbio Fiu 1.22 179 P **Pb** **03 11 02.1 +0.3**
BOO Bordano 1.22 67 P **Pn** **03 11 02.0 +0.4**
GEPF Gemona 1.23 69 P **Pn** **03 11 02.4 +0.7**
GEPF AML AML
comp=E,290µm,0.6s
GEPF AML AML
comp=N,333µm,0.8s
GEPF AML AML
comp=E,290µm,1.4s
MDI Monti di Nese 1.23 267 P **Pb** **03 11 02.6 +0.4**
MDI Monti di Nese 1.23 267 P **Pb** **03 11 02.5 +0.4**
MDI AML AML
comp=E,360µm,0.2s
MDI AML AML
comp=N,262µm,0.4s
ZOU Zoufplan 1.26 56 P **Pn** **03 11 02.5 +0.3**
ZOU AML AML
comp=E,216µm,0.6s
ZOU AML AML
comp=N,198µm,0.6s
ZOU AML AML
comp=E,212µm,0.6s
ZOU AML AML
comp=E,212µm,1.4s
ZOU AML AML
comp=E,216µm,1.4s
ZOU AML AML
comp=N,187µm,0.6s
FETA Feichten 1.27 336 *e*Pg **Pn** **03 11 03.1 +0.7**
comp=N,1.4nm,0.1s,SNR=39
FETA *i* Sg **Sn** **03 11 19.4 +0.2**
comp=N,4.9nm,0.1s
BAD Bernadia 1.29 72 P **Pn** **03 11 03.0 +0.5**
VINO Villanova 1.32 72 P **Pn** **03 11 03.3 +0.4**
VINO AML AML
comp=N,262µm,0.6s
VINO AML AML
comp=E,212µm,0.3s
VINO AML AML
comp=N,262µm,1.4s
PLRO Paularo 1.35 59 P **Pn** **03 11 04.3 +0.8**
SQTA Sankt Quirin 1.38 352 *e*Pg **Pn** **03 11 04.9 +1.1**
comp=N,16nm,0.2s,SNR=41
SQTA *e*Sg **Sb** **03 11 22.8 +0.8**
comp=N,208nm,0.2s
WTTA Wattenberg 1.41 5 *e*Pg **Pb** **03 11 05.8 +0.5**
comp=N,2.8nm,0.1s,SNR=19
WTTA *e*Sn **Sn** **03 11 23.4 +0.8**
comp=N,18nm,0.2s
WTTA Wattenberg 1.41 5 P **Pn** **03 11 05.4 +1.0**
WTTA AML AML
comp=N,129µm,1.2s
WTTA AML AML
comp=N,129µm,0.8s
WTTA AML AML
comp=E,140µm,0.9s
PTCC Patocco-Chiusa 1.42 67 P **Pn** **03 11 05.2 +0.9**
DAVOX Davos/Dischmat 1.44 311 P **Pb** **03 11 06.7 +0.9**
DAVOX Davos/Dischmat 1.44 311 P **Pb** **03 11 05.9 +0.1**
DAVOX AML AML
comp=E,99µm,1.4s
DAVOX AML AML
comp=N,92µm,0.3s
DAVOX AML AML
comp=E,99µm,0.6s
WATA Walderalm 1.48 3 *e*Pg **Pb** **03 11 07.0 +0.5**
comp=E,4.8nm,0.2s,SNR=20
WATA *e*Sn **Sb** **03 11 25.9 +0.9**
comp=E,51nm,0.2s
SABO M.te Sabotino 1.49 84 P **Pn** **03 11 06.1 +0.8**
SABO AML AML
comp=E,1330µm,0.3s
SABO AML AML
comp=N,1850µm,0.8s
SABO AML AML
comp=N,487µm,0.8s
SABO AML AML
comp=N,1850µm,1.2s
SABO AML AML
comp=N,487µm,1.2s
SABO AML AML
comp=E,298µm,0.8s
MOTA Moosalm 1.51 350 *e*Pg **Pb** **03 11 07.2 +0.2**
comp=E,2.7nm,0.2s
MOTA *e*Sn **Sb** **03 11 26.5 +0.6**
comp=E,10nm,0.2s
VDL Val di Lei 1.54 295 P **Pb** **03 11 08.1 +0.6**
ZCCA Zocca 1.54 193 P **Pb** **03 11 07.1 -0.3**
ACOM Acomizza, Ital 1.58 63 P **Pn** **03 11 07.9 +1.3**
ACOM AML AML
comp=E,434µm,0.3s
ACOM AML AML
comp=N,318µm,1.1s
ACOM AML AML
comp=E,382µm,0.3s
ACOM AML AML
comp=N,300µm,0.4s
TUE Stuetta 1.60 293 P **Pb** **03 11 08.5 0.0**
TUE AML AML
comp=E,71µm,1.5s
TUE AML AML
comp=E,93µm,1.5s
TUE AML AML
comp=N,101µm,0.3s
TUE AML AML
comp=N,84µm,0.3s
TUE AML AML
comp=E,93µm,0.5s
TUE AML AML
comp=E,71µm,0.5s
TRI Trieste 1.61 94 P **Pb** **03 11 09.1 +0.5**
TRI AML AML
comp=N,116µm,0.4s
TRI AML AML
comp=E,154µm,0.2s
GRAM Graiana 1.69 217 P **Pb** **03 11 09.2 -0.8**
MYKA Terra Mystica 1.69 62 *e*Pg **Pb** **03 11 10.3 +0.3**
comp=E,1.9nm,0.1s,SNR=6.8
MYKA *e*Sg **Sg** **03 11 33.7 -0.3**
comp=E,13nm,0.3s
MUGIO Muggio 1.70 273 P **Pb** **03 11 09.6 -0.5**
MUGIO AML AML
comp=E,106µm,0.4s
MUGIO AML AML
comp=N,128µm,0.3s
MUGIO AML AML
comp=N,128µm,1.7s
RETA Reutte 1.70 344 *e*Pg **Pb** **03 11 10.9 +0.7**
comp=N,3.8nm,0.2s,SNR=5.5
RETA *e*Sg **Sb** **03 11 33.4 +2.1**
comp=N,14nm,0.3s
LESA Schwarzleotal 1.78 27 *e*Pg **Pb** **03 11 12.5 +1.1**
comp=N,5.8nm,0.2s
LESA *e*Sn **Sb** **03 11 33.8 +0.5**
comp=N,5.0nm,0.2s
KBA Koelnbreinsper 1.78 46 *e*Pn **Pb** **03 11 11.4 -0.2**
comp=N,2.8nm,0.2s
KBA *e*Sg **Sb** **03 11 35.9 +2.3**
comp=N,6.0nm,0.3s
LMD Lutirano 1.79 175 P **Pn** **03 11 10.3 +1.0**
LMD AML AML
comp=N,39µm,0.4s
LMD AML AML
comp=E,37µm,1.0s
DAVA Damuels 1.81 323 Pg **Pb** **03 11 12.5 +0.6**
comp=E,8.3nm,0.2s,SNR=16
DAVA Sg **Sg** **03 11 38.3 +0.7**
comp=E,11nm,0.4s
BDI Bagni Di Lucca 1.90 199 P **Pb** **03 11 12.7 -0.8**
SFI Santa Sofia 1.97 172 P **Pn** **03 11 12.7 +0.9**
FUSIO Fusio 2.04 288 P **Pn** **03 11 14.7 +1.7**
OBKA Obir 2.23 72 *e*Pn **Pn** **03 11 16.9 +1.3**
comp=E,0.1nm,0.1s
OBKA *e*Sg **Sg** **03 11 51.0 -0.3**
comp=E,8.7nm,0.4s
PII Pisa 2.24 198 P **Pn** **03 11 16.6 +1.2**
BIOA Bad Ischl, Aus 2.36 38 Pg **Pg** **03 11 24.0 -0.7**
comp=E,2.2nm,0.3s
BIOA *e*Sn **Sn** **03 11 48.3 +2.5**
comp=E,4.4nm,0.3s
PCP Piancastagn 2.45 239 P **Pn** **03 11 20.3 +1.8**
SATI Passo dei Sala 2.52 272 P **Pn** **03 11 19.1 -0.6**
SATI Passo dei Sala 2.52 272 S **Sb** **03 11 56.9 +1.9**
CAFI Castiglion Fio 2.55 172 P **Pn** **03 11 21.2 +1.4**
SOKA Soboth 2.60 70 *e*Pn **Pn** **03 11 22.2 +1.6**
comp=E,0.5nm,0.2s
SOKA *e*Sg **Sg** **03 12 03.1 +0.1**
comp=E,5.0nm,0.3s
TRAV Traversella 2.63 264 P **Pn** **03 11 20.3 -0.7**
TRAV Traversella 2.63 264 S **Sg** **03 12 02.6 -1.4**
MURB Monte Urbino 2.70 163 AML AML
comp=N,71µm,1.2s
MURB AML AML
comp=E,74µm,1.6s
MURB AML AML
comp=E,74µm,0.4s
MOA Molln 2.77 43 *i* Pn **Pn** **03 11 25.3 +2.5**
comp=E,0.3nm,0.1s
MOA *i* Sn **Sn** **03 11 57.5 +1.7**
comp=E,1.3nm,0.2s
EL6 Elcito 2.78 155 P **Pn** **03 11 23.9 +0.8**
EL6 AML AML
comp=E,81µm,1.6s
EL6 AML AML
comp=N,58µm,1.6s
EL6 AML AML
comp=N,58µm,0.4s
DIX Grande Dixence 2.84 276 P **Pn** **03 11 24.7 +0.6**
SULZ Cheisacher 2.85 307 P **Pn** **03 11 26.7 +2.7**
BALST Balsthal 3.00 301 P **Pn** **03 11 28.4 +2.4**
REMY Saint-Rhmy-en 3.02 271 P **Pn** **03 11 27.0 +0.6**
RSP Reno Superiore 3.04 258 P **Pn** **03 11 24.9 -1.8**
RSP Reno Superiore 3.04 258 S **Sn** **03 12 01.0 -1.6**
BHB Bricherasio 3.14 253 P **Pn** **03 11 28.0 +0.1**
AIGLE Aigle 3.18 280 P **Pn** **03 11 30.2 +1.7**
OGSI Sixt 3.30 275 P **Pn** **03 11 31.3 +1.2**
OGSI S **Sn** **03 12 11.9 +3.1**
ENR Entracque 3.30 242 P **Pn** **03 11 30.5 +0.3**
BOURR Bourrignon 3.30 299 P **Pn** **03 11 32.6 +2.4**
LPG La Plagne 3.33 266 *e*P **Pn** **03 11 33.0 +2.2**
LPG *e*Sn **Sn** **03 12 08.5 -1.5**
comp=N,2.2nm,0.3s
PZZ Stroppo 3.36 248 P **Pn** **03 11 30.3 -0.8**
PZZ Stroppo 3.36 248 S **Sn** **03 12 08.5 -2.1**
RSL Roselend 3.40 269 P **Pn** **03 11 34.2 +2.6**
RSL S **Sb** **03 12 16.5 -3.6**
RRL Rocca Remolon 3.43 256 P **Pn** **03 11 32.3 +0.3**
TURF col de Turini 3.46 238 P **Pn** **03 11 33.5 +1.1**
MBDF Montbardon 3.50 253 *e*P **Pn** **03 11 33.0 -0.1**
MBDF *e*Sn **Sn** **03 12 10.4 -3.7**
comp=N,1.6nm,0.4s
SPIF crte de Spivo 3.50 241 P **Pn** **03 11 34.4 +1.4**
CKRC Cesky Krumlov 3.54 32 *e*SN **Sn** **03 12 16.0 +1.2**
SURF Saint Ours 3.57 249 P **Pn** **03 11 33.5 -0.5**
KHC Kasperske Hory 3.58 23 *e*PN **Pn** **03 11 35.8 +1.9**
KHC *e*SN **Sn** **03 12 15.5 -0.2**
KHC *e*SG **Sg** **03 12 33.0 -1.1**
CHMF Charmoille 3.61 294 P **Pn** **03 11 36.4 +2.0**
CHMF S **Sn** **03 12 19.5 +3.0**
BRANT Les Verrieres 3.62 289 P **Pn** **03 11 36.6 +2.0**
JAUF Jausiers 3.63 249 P **Pn** **03 11 34.8 -0.1**
CREF Crivoux 3.67 251 P **Pn** **03 11 36.1 +0.8**
GIMEL St. Georges / 3.68 283 P **Pn** **03 11 38.0 +2.5**
HINF Hinteralfeld 3.73 303 *e*P **Pn** **03 11 37.7 +1.7**
HINF *e*Sn **Sn** **03 12 16.8 -2.7**
comp=N,0.4nm,0.1s
PGF Pioggiola 3.75 209 *e*Pn **Pn** **03 11 34.2 -2.2**
PGF *e*Sn **Sn** **03 12 16.5 -3.7**
comp=N,0.6nm,0.2s
CABF La Chapelle 3.81 283 *e*Pn **Pn** **03 11 38.2 +1.0**
CABF *e*Sn **Sn** **03 12 19.3 -2.3**
comp=N,1.2nm,0.3s
CDF Champ du Feu 3.84 313 *e*P **Pn** **03 11 39.0 +1.4**
CDF *e*Sn **Sn** **03 12 18.3 -4.0**
comp=N,1.7nm,0.3s
BOUC Bouclans 3.86 293 P **Pn** **03 11 38.3 +0.5**
CALF Calern 3.86 239 P **Pn** **03 11 39.2 +1.3**
SALSA La sagne 3.93 242 P **Pn** **03 11 40.1 +1.2**
SALSA S **Sn** **03 12 25.9 +1.3**
RIVEL MONT RIVEL 3.95 285 P **Pn** **03 11 41.5 +2.4**
RIVEL S **Sn** **03 12 29.6 +4.6**
ZVC Zvikov 4.03 26 *e*SN **Sn** **03 12 25.9 -0.9**
ORIF Oris-en-Rattie 4.05 259 *e*P **Pn** **03 11 42.4 +1.9**
ORIF Oris-en-Rattie 4.05 259 P **Pn** **03 11 43.4 +2.9**
OGSM Saint Maurice 4.05 269 P **Pn** **03 11 42.5 +2.0**
GRN Grenoble 4.07 263 P **Pn** **03 11 44.1 +3.3**
FOURG Fourg 4.11 290 P **Pn** **03 11 43.3 +2.1**
HAU Haudompre 4.12 303 *e*P **Pn** **03 11 43.2 +1.8**
HAU *e*Sn **Sn** **03 12 25.5 -3.5**
comp=N,1.9nm,0.2s
TRIGF Trigance 4.18 241 P **Pn** **03 11 43.3 +1.0**
TRIGF S **Sn** **03 12 30.7 +0.1**
BLAF les Blancs 4.30 246 P Pn 03 11 38.8 -5.1
LMR La Mourre 4.35 236 *e*P **Pn** **03 11 45.7 +1.2**
LMR *e*Sn **Sn** **03 12 30.7 -4.0**
comp=N,2.0nm,0.3s
VIVF Saint-Julien-l 4.90 261 *e*P **Pn** **03 11 53.0 +0.9**
VIVF *e*Sn **Sn** **03 12 44.5 -3.8**
comp=N,0.6nm,0.3s
SSB Saint Sauveur 4.90 266 P **Pn** **03 11 53.3 +1.2**
SMF Signal de Mont 5.35 281 *e*P **Pn** **03 11 59.6 +1.3**
SMF *e*Sn **Sn** **03 12 56.2 -3.3**
comp=N,1.9nm,0.3s
LOR Lormes 5.44 288 *e*P **Pn** **03 12 00.8 +1.3**
baz=101
LOR *e*Sn **Sn** **03 12 58.1 -3.5**
comp=N,1.1nm,0.3s
SSF Saint Saulge 5.63 285 *e*P **Pn** **03 12 03.0 +0.8**
SSF *e*Sn **Sn** **03 13 01.5 -4.9**
comp=N,0.2nm,0.2s
LASF Ste Croix 5.69 254 *e*P **Pn** **03 12 04.6 +1.7**

AVF	**Avril sur Loir**	**5.70**	**282**	*eP*	**Pn**	**03 12 04.0**	**+0.9**
AVF				*eSn*	**Sn**	**03 13 03.6**	**-4.4**
comp=N,0.5nm,0.2s							
BGF	**Bois d'Agland**	**6.03**	**280**	*eP*	**Pn**	**03 12 08.9**	**+1.3**
BGF				*eSn*	**Sn**	**03 13 11.7**	**-4.4**
comp=N,0.6nm,0.2s							
GIVF	**Givet**	**6.16**	**316**	*eP*	**Pn**	**03 12 10.7**	**+1.3**
GIVF				*eSn*	**Sn**	**03 13 13.4**	**-5.9**
comp=N,1.7nm,0.3s							
HYF	**Humbligny**	**6.25**	**286**	*eP*	**Pn**	**03 12 12.7**	**+2.0**
TCF	**Toulx Ste Croi**	**6.46**	**277**	*eP*	**Pn**	**03 12 15.0**	**+1.5**
TCF				*eSn*	**Sn**	**03 13 21.0**	**-5.7**
comp=N,0.4nm,0.2s							
CAF	**Calviac**	**6.69**	**265**	*eP*	**Pn**	**03 12 17.9**	**+1.2**
EPF	**Esparros**	**8.45**	**254**	*eP*	**Pn**	**03 12 43.6**	**+2.7**
ETSF	**Etsaut**	**9.11**	**255**	*eP*	**Pn**	**03 12 51.6**	**+1.7**

*UCR **29** 03:11:12.9±1.2, 8.˚29N×82.˚94W, h0km±12km, MW4.3*
*UPA **29** 03:11:14.1±1.9, 8.˚38N×83.˚04W, h8km±7km, MW4.3*
*IDC **29** 03:11:15.3±5.5, 8.˚93N×82.˚69W, h0km, mb3.7/4, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=146.1km s-min=30.3km az=16.0*
ISC 29 03:11:15.0±0.9, **8.˚36N**±0.˚04×**82.˚99W**±0.˚03, **h15**km±6km, **n59**, σ1º**05**/69, **mb3.7**/4, **1D**, **Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.19**	**145**	*eP*	**Pg**	**03 11 18.7**	**-0.8**
PTPM				*eS*	**Sg**	**03 11 23.1**	**+0.6**
LESP3	**La Esperanza,**	**0.20**	**77**	*eP*	**Pg**	**03 11 19.5**	**-0.2**
LIMO3	**Limones**	**0.28**	**154**	*eS*	**Sb**	**03 11 28.4**	**+2.0**
NELY	**Ciudad Neily**	**0.29**	**8**	*eP*	**Pb**	**03 11 21.6**	**-0.4**
PIRO	**Carate, Puerto**	**0.35**	**278**	*eP*	**Pg**	**03 11 21.5**	**-0.6**
JIME	**Puerto Jimenez**	**0.38**	**298**	*eP*	**Pg**	**03 11 22.6**	**-0.1**
JIME				*eS*	**Sb**	**03 11 31.2**	**+2.1**
VITO	**San Vito**	**0.46**	**2**	*eP*	**Pb**	**03 11 24.7**	**-0.2**
BRU2	**Volcan**	**0.52**	**34**	*eP*	**Pb**	**03 11 25.6**	**-0.4**
BRU2	**Volcan**	**0.52**	**34**	⇓*iP*	**Pb**	**03 11 25.7**	**-0.3**
BRU2				*eS*	**Sb**	**03 11 34.9**	**+1.4**
PTAR3	**Potrerillos Ar**	**0.59**	**56**	*eP*	**Pb**	**03 11 26.5**	**-0.6**
ALCO	**Alturas Coton,**	**0.61**	**15**	*eP*	**Pb**	**03 11 26.7**	**-0.8**
EDP2	**Potrero Grande**	**0.68**	**344**	*eP*	**Pb**	**03 11 28.5**	**-0.1**
FIMO	**Fila Mora**	**0.72**	**330**	*eP*	**Pg**	**03 11 28.6**	**-0.6**
BURE	**Buenos Aires**	**0.88**	**337**	*eP*	**Pb**	**03 11 31.7**	**-0.3**
DRK0	**Durika**	**0.93**	**344**	*eP*	**Pg**	**03 11 32.1**	**-1.0**
SAJE	**San Jernim**	**1.11**	**332**	*eP*	**Pg**	**03 11 34.9**	**-1.5**
CEUA	**Cerro Uatsi, L**	**1.25**	**2**	*eP*	**Pn**	**03 11 39.6**	**+1.5**
BRIBI	**Bribri**	**1.27**	**8**	*eP*	**Pn**	**03 11 39.2**	**+1.0**
LLNJ	**Naranjito**	**1.56**	**315**	*eP*	**Pn**	**03 11 42.3**	**+0.1**
PIEC	**Cerro El Cedra**	**1.58**	**323**	*eP*	**Pn**	**03 11 43.1**	**+0.3**
RAZU	**San Marcos de**	**1.65**	**322**	*eP*	**Pn**	**03 11 44.7**	**+1.1**
TURIB	**Turrialba**	**1.69**	**336**	*eP*	**Pn**	**03 11 44.2**	**+0.2**
PISJ	**San Jernim**	**1.69**	**319**	*eP*	**Pn**	**03 11 45.0**	**+0.8**
VINA	**Juan Vinas**	**1.70**	**334**	*eP*	**Pb**	**03 11 46.2**	**+0.1**
ABE2	**San Pablo**	**1.70**	**322**	*eP*	**Pn**	**03 11 45.5**	**+1.1**
LCR2	**La Lucha 2**	**1.70**	**324**	*eP*	**Pn**	**03 11 44.2**	**-0.2**
VERB	**Verbena**	**1.72**	**336**	*eP*	**Pn**	**03 11 45.6**	**+1.0**
RVSTA	**Santa Teresita**	**1.73**	**338**	*eP*	**Pn**	**03 11 46.0**	**+1.3**
PCAYA	**Pacayas**	**1.75**	**332**	*eP*	**Pn**	**03 11 45.6**	**+0.6**
VTCV	**VTCV, Calle Va**	**1.77**	**336**	*eP*	**Pn**	**03 11 45.6**	**+0.3**
RAFA	**San Farael, Vo**	**1.79**	**333**	*eP*	**Pn**	**03 11 46.2**	**+0.6**
CVTV	**Tajo**	**1.80**	**335**	*eP*	**Pn**	**03 11 47.2**	**+1.3**
IRES	**Siquirres**	**1.80**	**344**	*eP*	**Pn**	**03 11 46.9**	**+1.3**
CVTQ	**Turrialba Volc**	**1.81**	**335**	*eP*	**Pn**	**03 11 47.5**	**+1.5**
VTLA	**Turrialba Volc**	**1.81**	**335**	*eP*	**Pn**	**03 11 46.8**	**+0.8**
VTR0	**Volcan Turrial**	**1.81**	**335**	*eP*	**Pn**	**03 11 47.3**	**+1.1**
CVTR	**Volcan Turrial**	**1.82**	**335**	*eP*	**Pn**	**03 11 47.6**	**+1.4**
VICA	**Volcano Irazu**	**1.82**	**332**	*eP*	**Pn**	**03 11 46.7**	**+0.5**
GMAL	**Guarumal, Vera**	**1.84**	**109**	*eP*	**Pn**	**03 11 44.0**	**-2.0**
GMAL				*eS*	**Sn**	**03 12 09.4**	**+0.3**
RVLA	**Villa Bonita**	**1.84**	**341**	*eP*	**Pn**	**03 11 47.6**	**+1.6**
ACOS	**Acosta**	**1.84**	**321**	*eP*	**Pn**	**03 11 46.9**	**+0.6**
SJS3	**Mercedes San J**	**1.89**	**326**	*eP*	**Pn**	**03 11 46.1**	**-0.8**
CORON	**Coronado**	**1.89**	**328**	*eP*	**Pb**	**03 11 49.4**	**0.0**
CVTG	**V. Turrialba,**	**1.94**	**336**	*eP*	**Pn**	**03 11 48.7**	**+1.2**
SANTA	**Santa Ana**	**1.96**	**323**	*eP*	**Pn**	**03 11 49.2**	**+1.4**
PURI	**Puriscal**	**1.97**	**319**	*eP*	**Pn**	**03 11 49.3**	**+1.2**
HEME	**Heredia, Merce**	**1.98**	**325**	*eP*	**Pn**	**03 11 49.6**	**+1.5**
BELE	**Belen**	**2.00**	**324**	*eP*	**Pn**	**03 11 49.5**	**+1.1**
VBV1	**V. Barva**	**2.06**	**328**	*eP*	**Pn**	**03 11 50.3**	**+0.9**
CACAO	**El Cacao, Vera**	**2.34**	**115**	*eP*	**Pn**	**03 11 54.0**	**+1.0**
CACAO				*eS*	**Sn**	**03 12 22.2**	**+0.8**
CHIT3	**Chitre**	**2.58**	**99**	*eP*	**Pn**	**03 11 56.3**	**+0.1**
CHIT3				*eS*	**Sn**	**03 12 28.9**	**+1.6**
JTS	**Las Juntas de**	**2.73**	**315**	Pn	**Pn**	**03 11 58.7**	**+0.3**
20nm,0.3s,baz=135,slow=4.3,SNR=85							
JTS				Sn	**Sn**	**03 12 33.0**	**+1.9**
12nm,0.3s,baz=45,slow=22,SNR=6.8							
132nm,0.6s							
JTS	**Las Juntas de**	**2.73**	**315**	*eP*	**Pn**	**03 11 58.0**	**-0.4**
JTS				*eS*	**Sn**	**03 12 29.2**	**-1.9**
AZU	**Azuero**	**2.75**	**102**	*eP*	**Pn**	**03 11 59.6**	**+1.1**
AZU				*eS*	**Sn**	**03 12 33.0**	**+1.5**
BCIP	**Isla Barro Col**	**3.22**	**75**	*eP*	**Pn**	**03 12 05.2**	**+0.2**
BCIP				*eS*	**Sn**	**03 12 43.9**	**+0.7**
ULM	**Lac du Bonnet**	**43.12**	**348**	P	**P**	**03 19 13.1**	**-1.6**
2.7nm,0.8s,baz=186,slow=9.2,SNR=3.6							
2.7nm,0.8s							
YKA	**Yellowknife Ar**	**58.73**	**343**	P	**P**	**03 21 11.6**	**-0.4**
0.3nm,0.7s,baz=135,slow=7.7,SNR=7.3							
0.3nm,0.7s							
ILAR	**Eielson Array**	**71.51**	**336**	P	**P**	**03 22 35.0**	**-0.1**
0.3nm,0.6s,baz=109,slow=4.3,SNR=11							
0.3nm,0.6s							
ESDC	**Sonseca Array**	**76.28**	**51**	P	**P**	**03 23 03.2**	**-0.4**
0.9nm,1.0s,baz=268,slow=5.1,SNR=4.4							
0.9nm,1.0s							

*UCR **29** 03:13:02.3±0.9, 8.˚34N×82.˚99W, h0km±4km, MW3.8*
*UPA **29** 03:13:02.3±1.7, 8.˚35N×82.˚98W, h4km±5km, MW4.2*
ISC 29 03:13:01.7±1.1, **8.˚28N**±0.˚05×**82.˚98W**±0.˚04, **h29**km±5km, **n47**, σ0º**82**/57, **4D**, **Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.13**	**124**	*eP*	**Pb**	**03 13 06.8**	**-0.3**
PTPM				*eS*	**Sn**	**03 13 11.4**	**+0.6**
LIMO3	**Limones**	**0.21**	**146**	*eP*	**Pb**	**03 13 08.4**	**+0.4**
LIMO3				*eS*	**Sb**	**03 13 12.6**	**+0.4**
LESP3	**La Esperanza,**	**0.23**	**56**	*eP*	**Pb**	**03 13 07.7**	**-0.5**
LPPC	**Paso Canoas**	**0.29**	**29**	*eP*	**Pb**	**03 13 08.5**	**-0.5**
PIRO	**Carate, Puerto**	**0.37**	**290**	*eP*	**Pb**	**03 13 09.7**	**-0.5**
PIRO	**Carate, Puerto**	**0.37**	**290**	*eP*	**Pb**	**03 13 09.8**	**-0.3**
NELY	**Ciudad Neily**	**0.37**	**6**	*eP*	**Pb**	**03 13 09.9**	**-0.3**
EDAD	**Golfito**	**0.41**	**334**	*eP*	**Pb**	**03 13 09.7**	**-1.1**
EDAD				*eS*	**Sb**	**03 13 15.3**	**-1.7**
VITO	**San Vito**	**0.54**	**2**	*eP*	**Pb**	**03 13 12.9**	**0.0**
DVD	**David**	**0.55**	**73**	⇓*eP*	**Pn**	**03 13 13.2**	**-0.4**
DVD				*eS*	**Sn**	**03 13 21.4**	**-0.4**
PEDE3	**Pedregal, Chir**	**0.57**	**79**	*eP*	**Pb**	**03 13 13.3**	**+0.1**
PEDE3				*eS*	**Sn**	**03 13 21.7**	**-0.5**
BRU2	**Volcan**	**0.59**	**29**	*eP*	**Pn**	**03 13 13.8**	**-0.5**
BRU2	**Volcan**	**0.59**	**29**	⇓*iP*	**Pn**	**03 13 14.0**	**-0.4**
BRU2				*eS*	**Sn**	**03 13 23.8**	**+0.7**
LOMA3	**Las Lomas, Chi**	**0.61**	**75**	*eP*	**Pn**	**03 13 14.1**	**-0.3**
LOMA3				*eS*	**Sn**	**03 13 23.1**	**-0.2**
PTAR3	**Potrerillos Ar**	**0.64**	**49**	⇓*eP*	**Pn**	**03 13 14.7**	**-0.2**
PTAR3				*eS*	**Sn**	**03 13 24.9**	**+0.7**
BC3P	**Paso Ancho**	**0.65**	**35**	⇓*eP*	**Pn**	**03 13 14.8**	**-0.4**
ALCO	**Alturas Coton,**	**0.69**	**13**	*eP*	**Pb**	**03 13 15.1**	**-0.3**
EDP2	**Potrero Grande**	**0.76**	**346**	*eP*	**Pb**	**03 13 16.7**	**+0.2**
BURE	**Buenos Aires**	**0.96**	**339**	*eP*	**Pb**	**03 13 21.1**	**+1.3**
DRK0	**Durika**	**1.01**	**345**	*eP*	**Pb**	**03 13 20.6**	**-0.3**
SAJE	**San Jernim**	**1.18**	**334**	*eP*	**Pb**	**03 13 23.1**	**-0.6**
CEUA	**Cerro Uatsi, L**	**1.34**	**2**	*eP*	**Pb**	**03 13 27.9**	**+1.6**
BRIBI	**Bribri**	**1.34**	**7**	*eP*	**Pb**	**03 13 27.4**	**+1.0**
PIEC	**Cerro El Cedra**	**1.65**	**324**	*eP*	**Pb**	**03 13 31.9**	**+0.2**
PISJ	**San Jernim**	**1.75**	**320**	*eP*	**Pb**	**03 13 33.3**	**-0.1**
ABE2	**San Pablo**	**1.77**	**323**	*eP*	**Pb**	**03 13 33.8**	**+0.1**
LCR2	**La Lucha 2**	**1.77**	**325**	*eP*	**Pb**	**03 13 34.0**	**+0.3**
VINA	**Juan Vinas**	**1.78**	**335**	*eP*	**Pb**	**03 13 34.7**	**+1.0**
MESA3	**La Mesa, Verag**	**1.79**	**94**	*eP*	**Pb**	**03 13 32.5**	**-1.3**
MESA3				*eS*	**Sb**	**03 13 56.8**	**+1.0**
PICV	**PH. Pirrs**	**1.80**	**318**	*eP*	**Pb**	**03 13 33.7**	**-0.3**
GMAL	**Guarumal, Vera**	**1.81**	**106**	*eP*	**Pn**	**03 13 32.1**	**+1.2**
RVSTA	**Santa Teresita**	**1.81**	**339**	*eP*	**Pb**	**03 13 33.9**	**-0.4**
VTCV	**VTCV, Calle Va**	**1.85**	**337**	*eP*	**Pb**	**03 13 34.5**	**-0.5**
CVTV	**Tajo**	**1.88**	**336**	*eP*	**Pb**	**03 13 35.3**	**-0.3**
IRES	**Siquirres**	**1.88**	**344**	*eP*	**Pb**	**03 13 35.7**	**+0.3**
CVTQ	**Turrialba Volc**	**1.88**	**336**	*eP*	**Pb**	**03 13 35.4**	**-0.3**
VTLA	**Turrialba Volc**	**1.89**	**336**	*eP*	**Pb**	**03 13 35.1**	**-0.6**
VTR0	**Volcan Turrial**	**1.89**	**336**	*eP*	**Pb**	**03 13 35.6**	**-0.3**
CVTR	**Volcan Turrial**	**1.89**	**336**	*eP*	**Pb**	**03 13 35.5**	**-0.4**
VICA	**Volcano Irazu**	**1.90**	**333**	*eP*	**Pb**	**03 13 35.2**	**-0.8**
CVTG	**V. Turrialba,**	**2.02**	**337**	*eP*	**Pb**	**03 13 37.4**	**-0.4**
BELE	**Belen**	**2.06**	**325**	*eP*	**Pb**	**03 13 38.3**	**-0.3**
MARI3	**Mariato, Verag**	**2.07**	**107**	*eP*	**Pb**	**03 13 38.2**	**-0.4**
CACAO	**El Cacao, Vera**	**2.30**	**114**	*eP*	**Pb**	**03 13 41.3**	**-1.3**
CRIS3	**El Cristo, Coc**	**2.34**	**90**	*eP*	**Pb**	**03 13 40.9**	**-2.4**
CHIT3	**Chitre**	**2.56**	**97**	*eP*	**Pb**	**03 13 46.3**	**-0.7**
AZU	**Azuero**	**2.73**	**100**	*eP*	**Pb**	**03 13 49.0**	**-0.8**
AZU				*eS*	**Sb**	**03 14 25.1**	**+2.2**

*IDC **29** 03:15:02.8±0.8, 3.˚87S×80.˚27W, h73km±6km, mb3.5/7, mbtmp3.9/9, Error ellipse: s-maj=43.6km s-min=15.1km az=66.0*
*NEIC **29** 03:15:03.3±2.2, 3.˚87S±0.˚07×80.˚35W±0.˚10, h71km±7km, mb4.1/14, Error ellipse: s-maj=14.6km s-min=10.1km az=72.0*
*IGQ **29** 03:15:03.8±0.5, 4.˚S±3.˚×8.˚0W±.˚, h35km±4km, MLv4.3/30*
ISC 29 03:15:02.5±0.6, **3.˚98S**±0.˚05×**80.˚41W**±0.˚06, **h72**km±5km, **n92**, σ1º**54**/94, **mb4.2**/13, **4C-3D**, **Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAMO	**ALAMOR**	**0.40**	**95**	⇓*iP*	**Pn**	**03 15 15.3**	**+0.5**
LAMO				*S*	**Sn**	**03 15 23.9**	**0.0**
ARNL	**Arenillas**	**0.55**	**39**	⇓*iP*	**Pn**	**03 15 16.4**	**+0.4**
ARNL				*S*	**Sn**	**03 15 25.9**	**0.0**
MCRA	**Macar, Loja**	**0.60**	**130**	⇓*iP*	**Pn**	**03 15 16.7**	**+0.1**
MCRA				*S*	**Sn**	**03 15 26.6**	**-0.4**
ISPG	**Isla Puna-Puer**	**1.03**	**14**	*P*	**Pn**	**03 15 23.8**	**+2.2**
GONZ	**Gonzanam**	**1.05**	**104**	*P*	**Pn**	**03 15 22.4**	**+0.3**
GONZ				*S*	**Sn**	**03 15 37.1**	**+0.4**
PCRA	**Pucara 2**	**1.19**	**50**	⇑*P*	**Pn**	**03 15 24.7**	**+0.8**
ALJ1	**Ecuador-Loja-U**	**1.21**	**91**	⇑*P*	**Pn**	**03 15 25.3**	**+1.2**
ALJ1				*S*	**Sn**	**03 15 41.2**	**+1.0**
ZUMB	**Zumba**	**1.54**	**125**	*P*	**Pn**	**03 15 29.7**	**+1.4**
ZUMB				*S*	**Sn**	**03 15 49.1**	**+1.4**
ALIBE	**La Libertad**	**1.78**	**346**	*P*	**Pn**	**03 15 32.5**	**+1.2**
ACUE	**Ecuador-Cuenca**	**1.80**	**54**	*P*	**Pn**	**03 15 32.1**	**+0.3**
SALI	**Salinas**	**1.87**	**342**	*P*	**Pn**	**03 15 33.4**	**+0.9**
SALI				*S*	**Sn**	**03 15 56.2**	**+0.9**
MILO	**Milagro-Astudi**	**1.89**	**27**	*P*	**Pn**	**03 15 35.0**	**+2.2**
AZOG	**Ecuador-Azogue**	**1.98**	**52**	*P*	**Pn**	**03 15 35.1**	**+0.8**
BOSC	**San Juan Bosco**	**2.08**	**67**	⇑*P*	**Pn**	**03 15 36.6**	**+1.1**
PPLP	**Puerto Lpez**	**2.44**	**351**	*P*	**Pn**	**03 15 41.1**	**+0.8**
PPLP	**Puerto Lpez**	**2.44**	**351**	⇑*P*	**Pn**	**03 15 40.9**	**+0.7**
JSCH	**Cashca Tororas**	**2.66**	**33**	*P*	**Pn**	**03 15 43.4**	**-0.1**
ISPT	**Isla de la Pla**	**2.78**	**346**	*P*	**Pn**	**03 15 45.2**	**+0.4**
CHSH	**Refugio Sur-Vo**	**2.91**	**32**	*P*	**Pn**	**03 15 47.7**	**+0.6**
BMAS	**Trigal station**	**3.13**	**38**	*P*	**Pn**	**03 15 50.0**	**+0.2**
BPAT	**Tungurahua Vol**	**3.15**	**39**	*P*	**Pn**	**03 15 51.7**	**+1.4**
BBIL	**Ulba Tungurahu**	**3.16**	**38**	*P*	**Pn**	**03 15 53.4**	**+3.0**
JUI6	**Juive**	**3.19**	**37**	*P*	**Pn**	**03 15 53.0**	**+2.2**
POND	**Pondoa**	**3.21**	**38**	*P*	**Pn**	**03 15 53.3**	**+2.4**
BULB	**Ulba Tungurahu**	**3.22**	**38**	*P*	**Pn**	**03 15 54.6**	**+3.5**
TAIS	**Taisha**	**3.31**	**61**	*P*	**Pn**	**03 15 52.6**	**+0.5**
PUYO	**Puyo, Santa Ro**	**3.43**	**44**	*P*	**Pn**	**03 15 54.9**	**+1.1**
ILLI	**Illinizas Sur**	**3.65**	**27**	*P*	**Pn**	**03 16 00.5**	**+3.4**
BRRN	**Barrancas-Volc**	**3.72**	**31**	*P*	Pn	03 16 02.1	+4.1
ATAH	**Atahualpa**	**3.73**	**147**	*P*	**Pn**	**03 16 00.1**	**+2.1**
85nm,0.4s,baz=352,slow=8.4,SNR=195							
ATAH				*S*	**Sn**	**03 16 41.9**	**+1.0**
142nm,0.7s,baz=158,slow=22,SNR=6.7							
VCES	**Cotopaxi**	**3.75**	**33**	*P*	Pn	03 16 03.6	+5.2
SLOR	**San Lorenzo -**	**3.75**	**31**	Pn	**Pn**	**03 15 58.6**	**+0.1**
SLOR	**San Lorenzo -**	**3.75**	**31**	*P*	**Pn**	**03 16 01.6**	**+3.1**
CAMI	**Rancho Maria**	**3.79**	**30**	*P*	**Pn**	**03 16 02.1**	**+3.1**
BNAS	**Cotopaxi Volca**	**3.81**	**30**	*P*	Pn	03 16 03.5	+4.2
SUCR	**Mariscal Sucre**	**3.83**	**30**	*P*	**Pn**	**03 16 02.0**	**+2.5**
BREF	**Cotopaxi Volca**	**3.83**	**31**	*P*	Pn	03 16 07.0	+7.3
BTAM	**Cotopaxi Volca**	**3.85**	**32**	*P*	Pn	03 16 04.6	+4.7
BVC2	**Cotopaxi Volca**	**3.86**	**31**	*P*	Pn	03 16 06.7	+6.7
PITA	**Cotopaxi Volc**	**3.93**	**30**	*P*	**Pn**	**03 16 04.5**	**+3.6**
ARDO	**Archidona, Ten**	**3.95**	**41**	*P*	**Pn**	**03 16 00.7**	**0.0**
ANTS	**Antisana-Sarah**	**4.12**	**33**	*P*	**Pn**	**03 16 05.8**	**+2.2**
HPAL	**Hacienda Las P**	**4.13**	**25**	*P*	**Pn**	**03 16 05.4**	**+1.9**
GGPT	**Toaza - Volcan**	**4.14**	**26**	*P*	**Pn**	**03 16 05.5**	**+1.9**
JUA2	**San Juan 2**	**4.15**	**26**	*P*	**Pn**	**03 16 06.3**	**+2.3**
GGPC	**Guagua Pichinc**	**4.19**	**26**	*P*	**Pn**	**03 16 06.8**	**+2.3**
TERV	**Terraza Guagua**	**4.19**	**26**	*P*	**Pn**	**03 16 06.6**	**+2.1**
PINO	**Pino**	**4.20**	**25**	*P*	**Pn**	**03 16 06.9**	**+2.2**
YANA	**Yana**	**4.25**	**26**	*P*	**Pn**	**03 16 07.3**	**+2.0**
BV15	**Puerto Quito-O**	**4.28**	**16**	*P*	**Pn**	**03 16 04.9**	**-0.3**
PULU	**Pululahua**	**4.41**	**26**	*P*	**Pn**	**03 16 09.8**	**+2.5**
PAC1	**Pacto, Paraso**	**4.52**	**21**	*P*	**Pn**	**03 16 09.3**	**+0.7**
OTAV	**Otavalo**	**4.62**	**25**	Pn	**Pn**	**03 16 09.5**	**-0.8**
OTAV	**Otavalo**	**4.62**	**25**	*P*	**Pn**	**03 16 11.5**	**+1.2**
CUSE	**Cuicocha Este**	**4.71**	**25**	*P*	Pn	03 16 16.6	+5.1
CUIC	**Cuicocha-Domo**	**4.72**	**26**	*P*	Pn	03 16 17.1	+5.5
URCU	**Urcuqui**	**4.89**	**26**	*P*	Pn	03 16 20.0	+6.1
YAHU	**Yahuarcocha**	**4.91**	**29**	*P*	Pn	03 16 20.0	+5.8
CHMA	**Chilma**	**5.35**	**26**	*P*	**Pn**	**03 16 22.6**	**+2.4**
FLOC	**Florencia**	**7.29**	**41**	Pn	**Pn**	**03 16 45.3**	**-1.1**
CZSB	**Cruzeiro do Su**	**8.53**	**116**	Pn	**Pn**	**03 17 02.1**	**-1.2**
NNA	**Nana**	**8.71**	**156**	Pn	**Pn**	**03 17 05.8**	**-0.1**
NNA	**Nana**	**8.71**	**156**	*P*	**Pn**	**03 17 06.2**	**+0.4**
34nm,0.3s,baz=358,slow=4.0,SNR=40							
NNA				*S*	Sn	03 18 35.6	-6.9
12nm,0.3s,baz=247,slow=21,SNR=7.0							
PAYG	**Puerto Ayora**	**10.39**	**288**	Pn	**Pn**	**03 17 29.2**	**+0.4**
TBTG	**Tabatinga, AM**	**10.48**	**92**	Pn	**Pn**	**03 17 25.2**	**-4.8**
LPAZ	**La Paz**	**17.18**	**136**	Pn	**Pn**	**03 18 58.2**	**-0.3**
LPAZ	**La Paz**	**17.18**	**136**	*P*	**Pn**	**03 18 58.0**	**-0.5**
1.3nm,0.6s,baz=323,slow=13,SNR=10							
PB16	**IPOC Station P**	**17.82**	**144**	*P*	**Pn**	**03 19 07.8**	**+1.6**
PB11	**IPOC Station P**	**18.87**	**147**	*P*	**P**	**03 19 18.6**	**+1.3**
PB11				IAmb	IAmb	03 19 24.8	
comp=Z,12nm,1.1s							
MACA	**Manacapuru-AM**	**19.71**	**88**	*P*	**P**	**03 19 25.6**	**-0.7**
BOAV	**Boa Vista**	**20.86**	**73**	*P*	**P**	**03 19 38.9**	**+0.1**
SIV	**San Ignacio**	**22.45**	**123**	*P*	**P**	**03 19 55.5**	**-0.3**
comp=Z,0.7nm,0.6s,baz=304,slow=5.3,SNR=5.5							
comp=Z,0.7nm,0.6s							
AC02	**Maricunga**	**25.16**	**156**	*P*	**P**	**03 20 23.6**	**+1.9**
AC02				IAmb	IAmb	03 20 56.6	
comp=Z,14nm,1.4s							
PLTB	**Pedras Altas**	**37.39**	**141**	*P*	**P**	**03 22 06.9**	**-1.6**
TXAR	**Lajitas Array**	**39.94**	**328**	PcP	**PcP**	**03 24 34.6**	**+0.3**
comp=Z,0.4nm,0.8s,baz=152,slow=4.8,SNR=4.5							
SDCO	**Great Sand Dun**	**47.61**	**333**	*P*	**P**	**03 23 32.1**	**+0.5**
SDCO				IAmb	IAmb	03 23 34.0	
comp=Z,1.3nm,0.7s							
PDAR	**Pinedale Array**	**53.49**	**333**	*P*	**P**	**03 24 16.1**	**+0.3**
comp=Z,0.3nm,0.5s,baz=119,slow=7.5,SNR=3.1							
comp=Z,0.3nm,0.5s							
ULM	**Lac du Bonnet**	**55.64**	**348**	*P*	**P**	**03 24 30.8**	**-0.1**
comp=Z,1.9nm,0.5s,baz=169,slow=8.6,SNR=3.3							
comp=Z,1.9nm,0.5s							
YKA	**Yellowknife Ar**	**71.21**	**344**	*P*	**P**	**03 26 13.1**	**-0.4**
comp=Z,0.1nm,0.6s,baz=149,slow=6.2,SNR=3.6							
YKA				*pP*	**pP**	**03 26 32.1**	**-0.6**
comp=Z,0.2nm,0.7s,baz=142,slow=4.4,SNR=4.2							
comp=Z,0.1nm,0.6s							
ILON	**Igloolik, Nuna**	**73.20**	**359**	*P*	**P**	**03 26 23.9**	**-1.3**
ILON				IAmb	IAmb	03 26 25.2	
comp=Z,2.4nm,0.8s							
I28M	**Miner Creek**	**81.44**	**339**	*P*	**P**	**03 27 12.3**	**+0.8**
I28M				IAmb	IAmb	03 27 36.5	
comp=Z,2.8nm,1.4s							
G29M	**Pine Creek**	**81.52**	**340**	*P*	**P**	**03 27 12.2**	**+0.4**
G29M				IAmb	IAmb	03 27 19.7	
comp=Z,5.7nm,1.5s							
ESDC	**Sonseca Array**	**82.15**	**49**	*P*	**P**	**03 27 14.5**	**-1.2**
comp=Z,0.6nm,0.7s,baz=262,slow=5.6,SNR=5.3							
comp=Z,0.6nm,0.7s							
E29M	**Blow River**	**82.26**	**342**	*P*	**P**	**03 27 16.1**	**+0.5**
E29M				IAmb	IAmb	03 27 18.6	
comp=Z,5.0nm,1.4s							
SNAA	**Sanae**	**82.34**	**162**	*P*	**P**	**03 27 16.1**	**0.0**
comp=Z,1.9nm,0.6s,baz=285,slow=5.5,SNR=9.7							
SNAA				*pP*	**pP**	**03 27 36.5**	**+0.5**
comp=Z,1.2nm,0.8s,baz=288,slow=9.6,SNR=1.1							
comp=Z,1.9nm,0.6s							
BMAR	**Burnt Mountain**	**84.02**	**340**	*P*	**P**	**03 27 24.5**	**-0.2**
QSPA	**South Pole Qui**	**86.10**	**180**	*P*	**P**	**03 27 36.0**	**+0.6**
comp=Z,2.5nm,0.6s,baz=96,slow=0.4,SNR=30							
comp=Z,2.5nm,0.6s							
B21K	**Ikpikpuk River**	**88.25**	**340**	P	**P**	**03 27 46.4**	**+1.0**
BVAR	**Borovoye Array**	**125.52**	**21**	PKP	**PKPdf**	**03 33 55.5**	**+0.1**
comp=Z,0.6nm,0.5s,baz=245,slow=3.0,SNR=2.5							
BVAR				pPKP	**pPKPdf**	**03 34 16.5**	**+0.2**
comp=Z,0.4nm,0.4s,baz=345,slow=4.5,SNR=1.9							
KURBB	**Kurchatov Arra**	**130.25**	**17**	PKP	**PKPdf**	**03 34 04.5**	**0.0**
comp=Z,0.9nm,0.6s,baz=326,slow=2.4,SNR=8.3							
KURBB				pPKP	**pPKPdf**	**03 34 25.5**	**+0.1**
comp=Z,0.2nm,0.3s,baz=324,slow=2.5,SNR=2.9							
MKAR	**Makanchi Array**	**134.79**	**17**	PKP	**PKPdf**	**03 34 12.3**	**-0.9**
comp=Z,0.3nm,0.6s,baz=356,slow=4.6,SNR=3.0							
MKAR				pPKP	**pPKPdf**	**03 34 33.1**	**-1.1**
comp=Z,0.2nm,0.4s,baz=242,slow=3.1,SNR=2.2							
**ASA

ALLN	Telcor Managua	0.42	81	S	Sn	03 48 04.6	+0.2
TISN	Laguna Tiscapa	0.42	83	P	Pn	03 47 52.3	+0.2
ENAN	Enatrel Managu	0.43	87	P	Pn	03 47 51.9	-0.2
ENAN	Enatrel Managu	0.43	87	S	Sn	03 48 04.6	+0.2
R4DEC	Barrio San Lui	0.45	83	P	Pn	03 47 52.2	+0.1
R4DEC	Barrio San Lui	0.45	83	S	Sn	03 48 04.6	0.0
MGAN	Managua	0.45	83	⇑iP	Pn	03 47 52.2	+0.1
MGAN				eS	Sn	03 48 05.0	+0.4
MGAN	Managua	0.45	83	P	Pn	03 47 52.2	+0.1
MGAN	Managua	0.45	83	P	Pn	03 47 51.7	-0.4
MAFN	Magfor	0.45	90	P	Pn	03 47 52.3	0.0
MAFN	Magfor	0.45	90	S	Sn	03 48 04.4	-0.3
ILCN	San Idelfonso	0.48	0	P	Pn	03 47 52.3	-0.1
ILCN				S	Sn	03 48 04.6	-0.5
PLRN	Geotermica Pol	0.49	352	P	Pn	03 47 52.7	+0.2
PLRN				S	Sn	03 48 05.2	0.0
MAS3	Al N del Volca	0.52	97	P	Pn	03 47 52.6	-0.1
MAS3				S	Sn	03 48 05.4	0.0
QUEN	Al S del Volca	0.52	344	P	Pn	03 47 53.0	+0.3
QUEN				S	Sn	03 48 05.6	+0.1
HOYN	Al Sur del Vol	0.52	346	P	Pn	03 47 53.0	+0.3
HOYN				S	Sn	03 48 05.7	0.0
HERN	Volcan Telica	0.53	346	P	Pn	03 47 52.9	0.0
HERN	Volcan Telica	0.53	346	S	Sn	03 48 05.4	-0.3
SABN	Sabanita	0.54	104	P	Pn	03 47 53.3	+0.4
MASN	Masaya	0.55	101	S	Sn	03 48 06.2	+0.3
POLN	Al Sur del Vol	0.56	349	P	Pn	03 47 53.4	+0.4
POLN				S	Sn	03 48 06.3	+0.2
BC87	San Francisco	0.58	44	P	Pn	03 47 53.2	+0.1
BC87	San Francisco	0.58	44	S	Sn	03 48 06.0	-0.1
NANN	Nandasmo	0.59	105	P	Pn	03 47 54.2	+1.1
NANN	Nandasmo	0.59	105	S	Sn	03 48 06.5	+0.2
SBEN	San Benito	0.67	71	P	Pn	03 47 53.9	+0.2
SBEN	San Benito	0.67	71	S	Sn	03 48 07.6	+0.2
CRIN	San Cristobal	0.69	331	⇑iP	Pn	03 47 54.2	+0.2
CRIN				eS	Sn	03 48 09.1	+1.2
CRIN	San Cristobal	0.69	331	P	Pn	03 47 54.2	+0.2
CRIN	San Cristobal	0.69	331	S	Sn	03 48 07.9	-0.1
NADN	Granada	0.74	117	eP	Pn	03 47 53.5	-0.8
NADN				eS	Sn	03 48 08.4	0.0
ARIN	Rivas	1.06	127	S	Sn	03 48 13.3	-0.6
MATN	Matagalpa	1.13	42	P	Pn	03 47 58.2	-0.1
MATN	Matagalpa	1.13	42	S	Sn	03 48 14.5	-0.9
JAPN	Al SSO del Vol	1.15	119	P	Pn	03 47 57.6	-0.9
JAPN				S	Sn	03 48 14.7	-1.0
CONN	Concepcion	1.18	116	P	Pn	03 47 59.0	+0.2
CONN				S	Sn	03 48 15.8	-0.5
POTN	Potosi Cosigui	1.20	319	P	Pn	03 47 59.0	0.0
POTN				S	Sn	03 48 16.0	-0.6
CSGN	Cosiguina Volc	1.21	316	⇑iP	Pn	03 47 59.3	0.0
CSGN				eS	Sn	03 48 17.5	+0.4
CSGN	Cosiguina Volc	1.21	316	P	Pn	03 47 59.3	0.0
CSGN				S	Sn	03 48 16.4	-0.7
LCRUZ	La Cruz	1.45	134	⇓iP	Pn	03 48 02.3	+0.4
LCRUZ				eS	Sn	03 48 21.9	0.0
CARN	Rivas	1.46	128	P	Pn	03 48 02.1	+0.1
CARN				S	Sn	03 48 22.0	0.0
ACON	Acoyapa	1.50	95	⇓iP	Pn	03 48 02.4	-0.1
ACON	Acoyapa	1.50	95	P	Pn	03 48 02.3	-0.1
ACON	Acoyapa	1.50	95	S	Sn	03 48 22.7	-0.1
RCPN	Sur Rio San Ju	1.54	22	P	Pn	03 48 03.4	+0.2
RCVN	Varillal2	1.56	18	P	Pn	03 48 03.6	+0.2
RCVN	Varillal2	1.56	18	S	Sn	03 48 24.4	-0.1
CNCH	Conchagua	1.61	317	eP	Pn	03 48 04.0	+0.1
CNCH				eS	Sn	03 48 27.5	+2.0
CNCH	Conchagua	1.61	317	P	Pn	03 48 03.9	-0.1
CNCH	Conchagua	1.61	317	S	Sn	03 48 25.4	-0.1
LCND	La Caada	1.68	316	eP	Pn	03 48 04.7	+0.1
LCND				IAML		03 48 31.0	
	comp=Z,216nm,0.2s						
LCND	La Caada	1.68	316	P	Pn	03 48 04.6	-0.1
LCND	La Caada	1.68	316	S	Sn	03 48 26.9	+0.2
PEJA	Penjamo Buenos	1.81	131	eP	Pn	03 48 06.4	+0.1
LAPC	Finca la Perla	1.81	136	eP	Pn	03 48 06.6	+0.3
LAPC				eS	Sn	03 48 29.3	-0.4
ELI1	Hacienda Flor	1.83	142	eP	Pn	03 48 08.0	+1.6
ELI1				eS	Sn	03 48 31.6	+1.6
ALIBA	Liberia Airpor	1.87	143	eP	Pn	03 48 08.1	+1.0
GPS2	Hotel Rincn d	1.88	135	eP	Pn	03 48 07.8	+0.6
CNRM	Centro Naciona	1.99	314	S	Sn	03 48 33.8	+0.2
MESS	Mesas	2.00	132	⇑iP	Pn	03 48 09.1	+0.4
MESS				eS	Sn	03 48 35.0	+1.1
TGUH	Tegucigalpa,Un	2.03	344	P	Pn	03 48 09.6	+0.4
TGUH				S	Sn	03 48 34.5	-0.3
COLC	Colonia	2.04	134	eP	Pn	03 48 09.2	0.0
COLC				eS	Sn	03 48 36.0	+1.2
CUI	Cuipilapa	2.07	133	eP	Pn	03 48 09.7	+0.1
CUI				eS	Sn	03 48 36.2	+0.5
PACA	Pacayal	2.09	311	eP	Pn	03 48 10.6	+0.7
PACA				eS	Sn	03 48 37.0	+0.9
PACA	Pacayal	2.09	311	P	Pn	03 48 10.6	+0.7
PACA	Pacayal	2.09	311	S	Sn	03 48 36.4	+0.2
VERA	Finca Concepci	2.18	124	eP	Pn	03 48 11.1	+0.1
ALJI	Alcalda de J	2.20	304	S	Sn	03 48 38.3	-0.1
QUEB	Quebradon, Cot	2.29	129	⇓iP	Pn	03 48 12.6	+0.1
QUEB				eS	Sn	03 48 41.7	+1.0
PQSS	Presa 15 de Se	2.37	310	P	Pn	03 48 13.7	+0.4
PQSS	Presa 15 de Se	2.37	310	S	Sn	03 48 42.3	0.0
CMARA	Lajas Hojancha	2.41	149	eP	Pn	03 48 14.6	+0.6
CMARA				eS	Sn	03 48 41.8	-1.6
CMARA	Lajas Hojancha	2.41	149	S	Sn	03 48 43.4	0.0
JTS	Las Juntas de	2.48	136	eP	Pn	03 48 14.8	0.0
JTS				eS	Sn	03 48 44.0	-0.9
NYURE	Nandayure	2.52	146	eP	Pn	03 48 15.8	+0.4
NYURE				eS	Sn	03 48 44.3	-1.6
ARE1	Arenal 1	2.53	130	eP	Pn	03 48 15.7	+0.2
VARE2	V. Arenal	2.53	130	eP	Pn	03 48 15.8	+0.2
COEG	Centro de Oper	2.61	306	eP	Pn	03 48 16.6	-0.1
COEG				eS	Sn	03 48 48.0	-0.2
COEG				IAML		03 48 53.0	
	comp=Z,152nm,0.3s						
SOCE	Pocosol	2.66	130	eP	Pn	03 48 17.3	+0.1
SOCE	Pocosol	2.66	130	P	Pn	03 48 17.5	+0.3
SOCE	Pocosol	2.66	130	S	Sn	03 48 49.7	+0.6
LFRS	El Faro	2.76	304	eS	Sn	03 48 50.5	-1.2
LOMA	Loma Larga	2.86	303	eP	Pn	03 48 20.6	+0.6
LOMA				eS	Sn	03 48 52.9	-1.2
CBL1	Cabuya	2.95	147	eP	Pn	03 48 21.4	+0.4
CBL1				eS	Sn	03 48 53.0	-2.9
JAYA	Jayaque - finc	3.10	300	eP	Pn	03 48 23.1	0.0
JAYA	Jayaque - finc	3.10	300	iP	Pn	03 48 23.4	+0.3
JAYA				iS	Sn	03 48 58.2	-1.5
MTO3	Montecristo	3.46	312	iP	Pn	03 48 28.3	+0.3
NUBE	Las Nubes	3.50	301	iP	Pn	03 48 28.8	+0.4
NUBE				iS	Sn	03 49 07.9	-1.4
PISJ	San Jernim	3.52	134	eP	Pn	03 48 29.5	+0.7
LCR2	La Lucha 2	3.53	131	eP	Pn	03 48 29.0	+0.1

*IDC **29** 03:48:10.9±1.1, 36°.41N×70°.58E, h208km±8km, mb3.4/11, mbtmp4.0/16, Error ellipse: s-maj=17.6km s-min=15.3km az=119.0*

*NNC **29** 03:48:15.4±1.9, 36°.93N×70°.39E, h227km±23km, mb3.2, mpv4.3, Error ellipse: s-maj=17.3km s-min=14.2km az=40.0*

ISC 29 03:48:11.7±0.9, 36°.64N±0°.08×70°.35E±0°.09, h204km, n32, σ1§43/42, mb3.7/10, 7C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.07	24	P	Pn	03 49 40.6	+0.4
	SNR=184						
UCH	Uchtor	6.44	29	P	Pn	03 49 45.1	0.0
	SNR=10						
KK31	Karatay Array	6.46	1	⇓P	Pn	03 49 45.3	+0.4
	4.5nm,0.3s,baz=192,slow=16,SNR=48						
KK31				⇑S	S	03 50 57.4	-1.2
	26nm,0.7s,baz=194,slow=20,SNR=5.4						
EKS2	Erkin-Say	6.57	23	P	Pn	03 49 47.2	+0.7
	SNR=13						
AAK	Ala-Archa	6.79	27	P	Pn	03 49 50.0	+0.7
	9.7nm,0.4s,baz=201,slow=7.5,SNR=45						
AAK				S	S	03 51 06.2	-0.5
	38nm,0.8s,baz=332,slow=18,SNR=19						
AAK	Ala-Archa	6.79	27	P	Pn	03 49 50.1	+0.7
	SNR=19						
AAK	Ala-Archa	6.79	27	⇑P	Pn	03 49 49.5	+0.1
	14nm,0.7s						
AAK				⇑S	S	03 51 04.7	-2.0
	35nm,0.7s						
KBK	Karagaybulak	6.98	29	P	Pn	03 49 52.9	+1.1
	SNR=10						
CHMS	Chumysh	7.20	27	P	Pn	03 49 55.1	+0.6
	SNR=6.2						
CHMS	Chumysh	7.20	27	⇑P	Pn	03 49 54.5	0.0
	12nm,0.6s						
CHMS				⇓S	S	03 51 15.6	-0.5
	26nm,0.8s						
USP	Ospenovka	7.35	24	P	Pn	03 49 56.7	+0.3
	SNR=12						
TKM2	Tokmak 2	7.46	31	P	Pn	03 49 59.0	+0.9
	SNR=8.9						
TKM2	Tokmak 2	7.46	31	⇓P	Pn	03 49 58.5	+0.4
	29nm,0.5s						
TKM2				⇓S	S	03 51 21.3	-1.3
	14nm,1.0s						
MKAR	Makanchi Array	13.49	38	P	Pn	03 51 15.1	0.0
	1.9nm,0.8s,baz=218,slow=14,SNR=11						
AB31	Akbulak array	14.72	332	⇓P	Pn	03 51 29.8	-0.3
	2.2nm,0.5s,baz=146,slow=12,SNR=77						
AB31				⇑S	S	03 54 09.0	-4.3
	1.9nm,0.7s,baz=156,slow=23,SNR=2.6						
KURBB	Kurchatov Arra	15.17	20	P	Pn	03 51 35.1	-0.4
	0.3nm,0.3s,baz=206,slow=11,SNR=4.8						
BVAR	Borovoye Array	16.39	0	P	Pn	03 51 51.5	+1.2
	1.3nm,0.4s,baz=193,slow=11,SNR=6.8						
AKTO	Aktyubinsk	16.41	331	P	Pn	03 51 50.6	0.0
	8.1nm,0.8s,baz=144,slow=11,SNR=18						
AKTO	Aktyubinsk	16.41	331	⇑P	Pn	03 51 50.8	+0.2
	5.3nm,0.8s						
AKTO				⇑S	S	03 54 47.8	-3.1
	1.3nm,0.9s						
ZALV	Zalesovo Beam	20.01	26	P	P	03 52 29.0	+0.3
	2.5nm,0.4s,baz=215,slow=10,SNR=7.2						
	2.5nm,0.4s						
ARTI	Arti	21.34	342	P	P	03 52 45.1	+2.3
	1.7nm,0.5s,baz=154,slow=8.2,SNR=4.5						
	1.7nm,0.5s						
NRIK	Noril'sk	34.09	11	P	P	03 54 38.0	+1.6
	1.8nm,0.4s,baz=195,slow=7.1,SNR=4.3						
	1.8nm,0.4s						
FINES	FINESS Array B	37.08	326	P	P	03 55 02.6	+0.7
	2.2nm,0.8s,baz=120,slow=11,SNR=6.6						
	2.2nm,0.8s						
ARCES	ARCESS Array B	40.82	338	P	P	03 55 33.8	+0.9
	2.3nm,0.7s,baz=111,slow=7.4,SNR=15						
	2.3nm,0.7s						
HFS	Hagfors	42.64	322	P	P	03 55 48.3	+0.6
	2.0nm,0.8s,baz=103,slow=11,SNR=5.0						
	2.0nm,0.8s						
NB2	NORSAR Subarra	43.96	323	P	P	03 55 58.6	+0.3
	comp=Z,7nm,1.0s,baz=97,slow=7.9						
NOA	NORSAR Array B	43.96	323	P	P	03 55 59.0	+0.7
	comp=Z,1.0nm,0.8s,baz=97,slow=7.9,SNR=5.0						
NOA				pP	pP	03 56 44.5	+2.2
	comp=Z,0.8nm,0.8s,baz=96,slow=7.9,SNR=3.3						
	comp=Z,1.0nm,0.8s						
SPITS	Spitsbergen Ar	47.24	347	P	P	03 56 25.1	+1.4
	comp=Z,1.3nm,0.7s,baz=149,slow=6.2,SNR=5.8						
	comp=Z,1.3nm,0.7s						
TORD	Torodi Ar. Bea	65.20	268	P	P	03 58 29.7	-1.8
	comp=Z,57nm,0.4s,baz=44,slow=7.1,SNR=1.3						
TORD				pP	pP	03 59 20.2	+1.2
	comp=Z,124nm,0.5s,baz=53,slow=7.0,SNR=2.0						
YKA	Yellowknife Ar	81.13	2	P	P	04 00 04.4	+0.5
	comp=Z,0.5nm,0.8s,baz=350,slow=5.1,SNR=9.6						
YKA				pP	pP	04 00 54.1	+0.2
	comp=Z,0.3nm,0.6s,baz=355,slow=5.0,SNR=5.1						
	comp=Z,0.5nm,0.8s						
WRA	Warramunga Arr	82.51	121	P	P	04 00 08.6	-3.2
	comp=Z,0.7nm,0.6s,baz=323,slow=4.7,SNR=4.6						
	comp=Z,0.7nm,0.6s						
ASAR	Alice Springs	84.76	124	P	P	04 00 20.6	-2.5
	comp=Z,0.9nm,0.7s,baz=310,slow=5.1,SNR=5.6						
	comp=Z,0.9nm,0.7s						

BKK 29 03:54:26.9±1.2, 21°.N±6°.×99°.8E±°., h10km, M3.8/12, Mjma3.5/12, ML3.9/5, MLv3.8/11, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM15	Chiang Mai Arr	2.75	159	Pg	Pg	03 55 20.5	+0.8
CM13	Chiang Mai Arr	2.78	160	Pg	Pg	03 55 19.9	-0.2
CM09	Chiang Mai Arr	2.78	159	Pg	Pg	03 55 20.7	+0.5
CM09	Chiang Mai Arr	2.78	158	Pg	Pg	03 55 20.1	-0.2
CM01	Chiang Mai Arr	2.79	159	Pg	Pg	03 55 19.4	-1.1
CM05	Chiang Mai Arr	2.81	159	Pg	Pg	03 55 20.9	+0.2
CM04	Chiang Mai Arr	2.82	158	Pg	Pg	03 55 19.6	-1.4
PHIT	Phitsanulok	4.51	148	Pg	Pg	03 55 53.6	+0.2
UTHA	Uthaitani	5.65	165	Pg	Pn	03 55 52.9	+1.9
KHLT	Khaolaem Dam	6.25	174	Sg	Sg	03 57 51.9	+4.4

IDC 29 04:19:50.5±7.9, 6°.95S×149°.84E, h100km±53km, mb2.9/1, mbtmp3.5/3, Error ellipse: s-maj=114.2km s-min=55.5km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.60	227	P	Pn	04 20 45.6	+1.2
	17nm,0.3s,baz=352,slow=10,SNR=4.5						
PMG				S	Sn	04 21 25.9	-0.2
	60nm,0.7s,baz=13,slow=14,SNR=7.9						
WRA	Warramunga Arr	19.82	228	P	P	04 24 13.6	+0.1
	0.7nm,0.3s,baz=55,slow=10,SNR=10						
ASAR	Alice Springs	22.59	221	P	P	04 24 44.5	+1.5
	0.5nm,0.6s,baz=52,slow=8.2,SNR=5.7						
	0.5nm,0.6s						
TORD	Torodi Ar. Bea	148.06	284	PKPbc	PKPdf	04 39 23.9	+1.5
	92nm,0.3s,baz=78,slow=2.8,SNR=2.3						

*IDC **29** 04:43:07.5±10.0, 56°.28S×27°.32W, h90km±99km, mb3.8/3, mbtmp4.2/4, ML4.5/1, Error ellipse: s-maj=45.3km s-min=25.5km az=69.0*

*NEIC **29** 04:43:09.1±1.6, 56°.3S±0°.2×27°.6W±0°.3, h102km±8km, mb4.4/17, Error ellipse: s-maj=28.1km s-min=14.2km az=220.0*

ISC 29 04:43:08.5±0.7, 56°.4S±0°.1×27°.6W±0°.1, h100km, n31, σ0§74/32, mb4.4/9, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.46	289	Pn	Pn	04 44 28.0	+0.6
HOPE				Sn	Sn	04 45 27.8	-1.1
VNA1	Neumayer--Stat	16.61	157	⇑P	Pn	04 46 55.5	+0.6
	comp=Z,0.3nm,0.2s						
VNA3	Neumayer Olymp	16.79	160	⇑P	Pn	04 46 57.7	+0.6
	comp=Z,0.8nm,0.4s						
VNA2	Neumayer--Watz	17.01	157	⇑P	Pn	04 46 59.7	-0.1
	comp=Z,2.0nm,0.2s,baz=308,slow=15						
SNAA	Sanae	18.57	155	P	P	04 47 15.7	-1.6
SNAA				IAmb	IAmb	04 47 17.1	
	comp=Z,11nm,0.6s						
SNAA	Sanae	18.57	155	⇑P	P	04 47 16.2	-1.1
	comp=Z,30nm,0.3s						
SNAA	Sanae	18.57	155	P	P	04 47 16.3	-0.9
	comp=Z,1.4nm,0.3s,baz=302,slow=10,SNR=63						
	comp=Z,11nm,0.6s						
BELA	Belgrano 2	21.75	184	P	P	04 47 50.9	-0.6
PLTB	Pedras Altas	30.52	313	P	P	04 49 12.6	+0.6
PLTB				IAmb	IAmb	04 49 25.2	
	comp=Z,10.0nm,1.2s						
QSPA	South Pole Qui	33.90	180	P	P	04 49 41.7	+0.2
QSPA				IAmb	IAmb	04 49 43.2	
	comp=Z,11nm,1.4s						
QSPA	South Pole Qui	33.90	180	P	P	04 49 41.8	+0.4
	comp=Z,1.9nm,0.6s,baz=208,slow=1.9,SNR=25						
	comp=Z,1.9nm,0.6s						
MT09	Talagante	37.17	289	P	P	04 50 08.5	-1.3
MT02	Curacav	37.65	289	P	P	04 50 13.0	-0.6
AC02	Maricunga	41.79	297	P	P	04 50 48.1	-0.5
GO02	Mina Guanaco	43.41	298	P	P	04 51 01.2	-0.3
PB09	IPOC Station P	46.09	301	P	P	04 51 23.6	+0.9
VNDA	Vanda	46.26	183	P	P	04 51 24.0	+1.0
VNDA	Vanda	46.26	183	P	P	04 51 24.0	+1.0
	comp=Z,1.3nm,0.6s,baz=187,slow=7.9,SNR=20						
	comp=Z,1.3nm,0.6s						
PB01	IPOC Station P	46.85	301	P	P	04 51 28.3	-0.2
PB01				IAmb	IAmb	04 52 00.4	
	comp=Z,11nm,1.4s						
PB08	IPOC Station P	47.47	302	P	P	04 51 34.8	+1.2
PB08				IAmb	IAmb	04 51 58.1	
	comp=Z,9.3nm,1.1s						
GO01	Chusmiza	47.90	303	P	P	04 51 37.4	+0.4
GO01				IAmb	IAmb	04 52 17.9	
	comp=Z,7.5nm,1.4s						
PB16	IPOC Station P	49.20	303	P	P	04 51 47.6	+0.6
PB16				IAmb	IAmb	04 51 52.4	
	comp=Z,8.4nm,1.4s						
LPAZ	La Paz	50.35	306	P	P	04 51 56.3	+0.4
LPAZ				IAmb	IAmb	04 51 57.4	
	comp=Z,1.5nm,0.6s						
LPAZ	La Paz	50.35	306	P	P	04 51 56.6	+0.7
	comp=Z,1.6nm,0.6s,baz=168,slow=4.1,SNR=14						
	comp=Z,1.6nm,0.6s						
SAML	Samuel	54.84	315	P	P	04 52 28.3	0.0
BOAV	Boa Vista	64.37	323	P	P	04 53 33.8	+0.2
BOAV				IAmb	IAmb	04 53 53.2	
	comp=Z,7.9nm,1.5s						
TORD	Torodi Ar. Bea	73.44	30	P	P	04 54 29.3	-0.5
	comp=Z,84nm,0.4s,baz=200,slow=6.0,SNR=2.4						
A36M	Sachs Harbour	144.34	328		PKPab	05 02 29.6	+0.2
I30M	Mount Dempster	145.97	315	PKPdf	PKPdf	05 02 34.3	+0.1
D27M	Malcolm River	148.73	321		PKPbc	05 02 42.4	-0.1
ILAR	Eielson Array	150.13	311	PKPbc	PKPbc	05 02 45.5	-0.6
	comp=Z,0.7nm,0.8s,baz=129,slow=2.4,SNR=6.5						

*BEO **29** 04:42:45.0±4.0, 32°.40N×29°.16E, h255km±7km, ML4.3/2*

*BJI **29** 04:43:12.4, 35°.02N×27°.25E, h31km, mB5.1/19, mb5.0/66, Ms4.5/24, Ms7 4.3/25*

*NIC **29** 04:43:14.0, 35°.02N×27°.55E, h35km±26km, Ml4.9/14*

*MED_RC **29** 04:43:14.0±0.3, 35°.12N×27°.78E, h28km±1km, MW4.9/34, Moment Tensor Solution. Mantle waves: s34,c51; Duration: 1§3 Moment tensor: Scale 10^16 Nm; Mrr=0.84±.22; Mθθ=1.48±.12; Mφφ=2.32±.13; Mrθ=0.98±.16; Mθφ=0.67±.11; Mφr=0.68±.15; Best double couple: M0=2.42000×10^16 NP1:φs=212.00000°, δ=55.00000°, λ=-17.00000°. NP2:φs=311.00000°, δ=77.00000°, λ=-144.00000°. Principal axes: T 2.6500, Plg=14.0000°, Azm=77.0000°; N -0.4500, Plg=51.0000°, Azm=329.0000°; P -2.1900, Plg=35.0000°, Azm=178.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*MOS **29** 04:43:14.2±1.3, 35°.29N×27°.79E, h21km, mb5.0/44 Error ellipse: s-maj=4.8km s-min=2.8km az=81.9*

*ATH **29** 04:43:15.7, 35°.28N×27°.82E, h8km±2km, ML4.9/23, Manual Solution by A.Moschou First location: 2019/04/29 04:44:44, This location: 2021/05/05 05:30:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*

*IDC **29** 04:43:15.7±1.9, 35°.43N×27°.70E, h19km±11km, mb4.5/25, mbtmp4.6/39, ML4.1/12, MS4.0/55, Error ellipse: s-maj=11.4km s-min=10.3km az=167.0*

*ISK **29** 04:43:15.4, 35°.30N×27°.71E, h18km, ML5.0/25*

*AFAD **29** 04:43:15.4, 35°.28N×27°.66E, h38km±3km, MW4.8*

*MCSM **29** 04:43:16.7±0.5, 35°.N±3°.×2°.8E±°., h30km±4km, mb4.9, mB5.0, MLv4.8, Mw(mB)4.3*

*NEIC **29** 04:43:17.6±1.9, 35°.37N±0°.05×27°.69E±0°.06, h31km±4km, mb5.0/284, Mww4.8/11, Error ellipse: s-maj=7.5km s-min=6.8km az=181.0*

*PDG **29** 04:43:17.2±0.8, 35°.28N×27°.85E, h22km±5km, ML5.0/9, Error ellipse: s-maj=1.2km s-min=0.9km az=90.0*

*GII **29** 04:43:18.2±0.0, 35°.16N±0°.06×27°.86E±0°.02, h60km, Mws4.8, confirmed*

*GCMT **29** 04:43:18.6±0.3, 35°.26N±0°.02×27°.74E±0°.02, h21km±1km, MW4.9/100, Moment Tensor Solution. s19,c23; s100,c139; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.65±.12; Mθθ=1.13±.07; Mφφ=1.79±.09; Mrθ=1.71±.23; Mθφ=0.44±.06; Mφr=0.77±.14; Best double couple: M0=2.46600×10^16 NP1:φs=208.00000°, δ=41.00000°, λ=-16.00000°. NP2:φs=310.00000°, δ=79.00000°, λ=-130.00000°. Principal axes: T 2.3080, Plg=24.0000°, Azm=70.0000°; N 0.3240, Plg=39.0000°, Azm=319.0000°; P -2.6250, Plg=42.0000°, Azm=183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NAO **29** 04:43:33.2, 36°.97N×24°.85E, h10km, mb4.3*

ISC 29 04:43:16.6±0.4, 35°.27N±0°.02×27°.71E±0°.02, h27km±2km, h27km: pP-P, n1212, σ1§65/1222, mb4.9/220, MS4.1/61, 34C-39D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.53	302	Pg	Pb	04 43 26.3	-1.1
KARP				Sg	Sb	04 43 34.2	-0.5
KARP	Karpathos	0.53	302	Pn	Pb	04 43 26.4	-0.9
KARP					Sb	04 43 34.5	-0.1
KARP	Karpathos	0.53	302	P	Pb	04 43 26.5	-0.9
KARP				S	Sb	04 43 35.3	+0.6
KARP				AML	AML	04 43 35.7	
	447nm,0.7s						
KARP				AML	AML	04 43 36.9	
	288nm,0.4s						
KARP	Karpathos	0.53	302	P	Pb	04 43 26.9	-0.4
KARP				S	Sb	04 43 35.1	+0.5
ARG	Arkhangelos	1.00	20	Pg	Pn	04 43 34.0	-1.0
ARG				Sg	Sn	04 43 48.8	+0.5
ARG	Arkhangelos	1.00	20	Pn	Pn	04 43 33.8	-1.2
ARG				Sn	Sb	04 43 46.7	-1.5
ARG	Arkhangelos	1.00	20	P	Pn	04 43 33.8	-1.2
ARG						04 43 46.7	
ARG	Arkhangelos	1.00	20	P	Pn	04 43 33.9	-1.2
ARG				AML	AML	04 43 53.0	
	199nm,0.8s						
ARG				AML	AML	04 43 54.7	
	126nm,0.3s						
ARG	Arkhangelos	1.00	20	P	Pn	04 43 34.4	-0.6
ARG				S	Sn	04 43 47.9	-0.3
ZKR	Zakros	1

THR9	Santorini-Faro	2.20 300	P	Pb	04 43 53.5	-2.1
DDIM	Aydin, Didim	2.22 350	P	Pn	04 43 52.6	+1.0
CMBO	Columbo, Santo	2.22 303	P	Pn	04 43 53.6	+2.0
CMBO			S	Sb	04 44 21.6	-1.5
THR5	Thira Island,	2.23 302	P	Pb	04 43 55.0	-1.3
SAP3	Santorini-Thir	2.25 302	P	Pn	04 43 54.0	+2.0
CAEL	Denizli, Camel	2.26 35	P	Pn	04 43 53.2	+0.8
DNZT	Denizli-Tavas-	2.27 28	P	Pn	04 43 53.1	+0.6
DNZT			P	Pb	04 43 53.4	-3.6
DNZT			S	Sb	04 44 23.5	-1.2
IDI	Anoyia	2.31 271	Pn	Pn	04 43 53.4	+0.5
IDI	Anoyia	2.31 271	Pn	Pn	04 43 54.5	+1.6
IDI	Anoyia	2.31 271	P	Pb	04 43 55.8	-1.8
IDI			S	Sb	04 44 29.9	+4.2
IDI	Anoyia	2.31 271	Pn	Pb	04 43 55.7	-1.8
	79nm,0.3s,baz=65,slow=15,SNR=173					
IDI			LR	LR	04 44 26.2	
	comp=Z,1μm,18.8s,baz=88,slow=31					
IDI			Sn	Sb	04 44 27.6	+2.0
	242nm,0.3s,baz=108,slow=16,SNR=5.9					
IDI	Anoyia	2.31 271	P	Pb	04 43 56.1	-1.4
IDI			S	Sb	04 44 27.1	+1.5
ELL	Elmali	2.32 50	Pn	Pn	04 43 53.7	+0.6
ELL	Elmali	2.32 50	Pn	Pn	04 43 53.7	+0.6
ELL			Sn	Sn	04 44 19.8	-1.1
ELL	Elmali	2.32 50	P	Pn	04 43 54.3	+1.1
ELL			S	Sb	04 44 24.5	-1.5
ELL			AML	AML	04 44 26.4	
	45nm,0.7s					
ELL			AML	AML	04 44 27.3	
	41nm,0.7s					
ELL	Elmali	2.32 50	P	Pn	04 43 54.0	+0.9
ELL			S	Sn	04 44 21.0	+0.2
AKUM	Antalya-Kumluc	2.39 63	P	Pn	04 43 54.5	+0.5
AKUM			S	Sn	04 44 21.7	-0.6
AYDN	Tasoluk	2.39 3	P	Pn	04 43 54.7	+0.6
AYDN			S	Sn	04 44 23.3	+0.7
TAVA	DENIZLI_Tavas	2.40 24	P	Pn	04 43 54.7	+0.5
TAVA			S	Sb	04 44 29.8	+1.4
TMBK	Timbaki Herakl	2.42 266	P	Pb	04 43 58.3	-1.1
GCAM	G?zelcaml?	2.46 351	P	Pn	04 43 55.7	+0.8
GOLH	Golhisar	2.47 37	P	Pn	04 43 56.4	+1.2
GOLH			S	Sn	04 44 26.9	+2.3
APMY	Acipayam-Deniz	2.55 30	Pn	Pn	04 43 56.4	+0.1
ESEN	Aydn-Nazilli	2.58 11	P	Pn	04 43 57.1	+0.5
DNIZ	Denizli-Tavas-	2.59 24	P	Pn	04 43 57.1	+0.3
PRNS	Prines Rethymn	2.62 273	P	Pb	04 44 00.7	-2.2
PRNS			S	Sb	04 44 33.9	-0.8
AYDB	Zeytinkoy-Aydi	2.68 3	Pn	Pn	04 43 58.4	+0.3
NAZL	Nazilli-Aydin	2.73 10	Pn	Pn	04 43 58.9	+0.2
KORT	Korkueli	2.75 50	P	Pn	04 44 00.4	+1.3
KORT			S	Sb	04 44 35.1	-3.4
DGB	zmir	2.86 347	P	Pn	04 44 01.0	+0.6
INCE	Denizli-Bozkur	2.86 31	P	Pn	04 44 00.8	+0.2
IZMR	zmir-demi	2.87 4	P	Pn	04 44 00.8	+0.2
IZMR			P	Pb	04 44 01.1	-6.0
GMLD	Gumuldur	2.87 347	Pn	Pn	04 44 01.3	+0.7
ANTB	Antalya	2.89 55	Pn	Pn	04 44 02.1	+1.3
KIRA	zmir-Kiraz	2.98 11	P	Pn	04 44 02.5	+0.3
GVD	Gavdhos	3.00 263	Pn	Pn	04 44 03.7	+1.3
GVD	Gavdhos	3.00 263	P	Pn	04 44 05.6	+3.2
GVD			S	Sb	04 44 43.1	-2.4
CHAN	Chania	3.00 276	P	Pn	04 44 05.4	+2.9
CHAN			S	Sb	04 44 41.9	-3.7
ODEM	Odemis-Izmir	3.02 6	Pn	Pn	04 44 02.9	+0.2
MHLO	Agia Marina, M	3.03 299	P	Pb	04 44 07.1	-2.8
MHLO			S	Sn	04 44 41.9	+3.6
IMMV	Iera Moni Meta	3.05 275	Pn	Pn	04 44 04.9	+1.8
IMMV	Iera Moni Meta	3.05 275	P	Pb	04 44 07.6	-2.6
IMMV			S	Sb	04 44 44.0	-3.0
TNSA	Tinos	3.06 319	P	Pn	04 44 04.8	+1.6
TNSA			S	Sn	04 44 42.2	+3.3
BRDR	BURDUR-Merkez	3.08 37	P	Pn	04 44 04.1	+0.5
BUCA	Burdur, Bucak-	3.09 47	P	Pn	04 44 05.3	+1.6
BUCA			S	Sn	04 44 41.1	+1.4
ZEYE	Izmir, Urla-Ze	3.12 342	P	Pn	04 44 04.5	+0.5
BLCB	Balcova	3.16 350	Pn	Pn	04 44 05.1	+0.6
BCK	Bucak	3.19 46	Pn	Pn	04 44 06.2	+1.1
URLA	Izmir	3.21 344	P	Pn	04 44 06.2	+0.8
BASM	Basmaki-Afyon	3.25 35	Pn	Pn	04 44 06.2	+0.3
MANT	Manisa	3.29 12	Pn	Pn	04 44 05.5	-1.1
MANT	Manisa	3.29 12	P	Pn	04 44 05.7	-0.8
KNDR	Palaiochora Ch	3.29 271	Pn	Pn	04 44 08.4	+2.0
KNDR	Palaiochora Ch	3.29 271	P	Pn	04 44 10.0	+3.7
KNDR			S	Sb	04 44 50.6	-3.3
KULA	Kula-Manisa	3.33 13	Pn	Pn	04 44 06.9	-0.1
PASA	Karahalli, USA	3.39 24	P	Pn	04 44 07.4	-0.5
ISP	Isparta	3.41 41	Pn	Pn	04 44 08.5	+0.3
ISP	Isparta	3.41 41	Pn	Pn	04 44 07.9	-0.2
ISP	Isparta	3.41 41	*c iP*	Pn	04 44 08.5	+0.3
ISP			pmax	pmax		
	comp=Z,173nm,0.7s					
ISP	Isparta	3.41 41	P	Pn	04 44 08.3	+0.1
ISP	Isparta	3.41 41	P	Pn	04 44 08.8	+0.7
ISP			S	Sn	04 44 49.2	+1.4
GOMA	Golmarmara-Man	3.44 3	Pn	Pn	04 44 08.5	+0.1
EAG2	Marmaro, Chios	3.51 339	P	Pn	04 44 11.2	+1.8
EAG2			S	Sn	04 44 53.9	+3.8
FOCM	Foa	3.53 347	Pn	Pn	04 44 10.1	+0.5
KARB	zmir-Karabur	3.54 343	P	Pn	04 44 10.8	+1.0
USAK	Uak-Merkez	3.60 17	P	Pn	04 44 10.8	+0.1
AKHS	Akhisar	3.60 1	P	Pn	04 44 10.7	0.0
AKS	Akhisar	3.60 1	Pn	Pn	04 44 10.8	+0.1
ANKY	Antikythira Is	3.64 281	P	Pn	04 44 14.1	+2.9
ANKY			S	Sn	04 44 57.6	+4.3
GORD	Gordes-Manisa	3.65 6	Pn	Pn	04 44 11.7	+0.3
ZEDA	zmir-Bergama	3.73 352	P	Pn	04 44 12.7	+0.3
IZMD	zmir-Dikili-	3.76 351	P	Pn	04 44 13.2	+0.2
AKMS	Akamas	3.80 92	P	Pn	04 44 12.7	-0.7
AKMS			S	Sn	04 44 57.6	+0.3
AKMS			AML	AML	04 45 00.0	
	comp=Z,6.4nm,0.7s					
AKMS			AML	AML	04 45 02.3	
	comp=Z,5.8nm,0.6s					
AKMS	Akamas	3.80 92	P	Pn	04 44 12.9	-0.5
AKMS			S	Sn	04 44 57.2	0.0
KARY	Karystos	3.81 317	P	Pn	04 44 15.6	+2.0
DKL	Dikili	3.85 351	Pn	Pn	04 44 14.4	+0.3
DKL	Dikili	3.85 351	P	Pn	04 44 14.8	+0.7
DKL			S	Sn	04 45 00.8	+2.4
ALFC	Alefka	4.01 90	P	Pn	04 44 15.5	-0.7
ALFC			S	Sn	04 45 02.7	+0.3
ALFC			AML	AML	04 45 03.1	
	comp=Z,11nm,0.7s					
ALFC			AML	AML	04 45 03.6	
	comp=Z,9.9nm,0.6s					
ALFC	Alefka	4.01 90	P	Pn	04 44 15.7	-0.6
ALFC			S	Sn	04 45 02.4	0.0
NATA	Nata	4.02 96	P	Pn	04 44 16.0	-0.4
NATA			S	Sn	04 45 03.7	+1.0
NATA			AML	AML	04 45 05.0	
	comp=Z,13nm,0.6s					
NATA			AML	AML	04 45 06.9	
	comp=Z,20nm,0.5s					
NATA	Nata	4.02 96	P	Pn	04 44 16.2	-0.2
NATA			S	Sn	04 45 03.3	+0.6
VLY	Voula,Athens	4.07 310	P	Pn	04 44 19.6	+2.5
VLI	Veliai	4.13 292	P	Pn	04 44 20.1	+2.2
DION	Dionisos Attik	4.13 314	P	Pn	04 44 20.5	+2.5
DION			S	Sn	04 45 09.6	+4.2
PRK	Paraskevi	4.13 344	P	Pn	04 44 19.1	+1.2
ATHU	Athens Univers	4.15 312	P	Pn	04 44 20.7	+2.5
PTL	Penteli	4.15 313	P	Pn	04 44 20.4	+2.1
ATHP	Athens-Neo Psi	4.18 312	P	Pn	04 44 21.6	+3.1
ATH	Athens Observa	4.19 311	P	Pn	04 44 21.8	+3.0
MET4	Agioi Theodoro	4.19 305	P	Pn	04 44 21.8	+3.0
MET5	Makryloggos,Me	4.22 305	P	Pn	04 44 22.0	+2.8
TROD	Troodos	4.24 93	P	Pn	04 44 18.3	-1.4
TROD			S	Sn	04 45 08.6	+0.2
TROD			AML	AML	04 45 19.2	
	comp=Z,3.6nm,0.8s					
TROD			AML	AML	04 45 22.8	
	comp=Z,4.9nm,0.6s					
TROD	Troodos	4.24 93	P	Pn	04 44 18.9	-0.8
TROD			S	Sn	04 45 08.3	-0.1
KRND	KRANIDI	4.24 301	P	Pn	04 44 22.1	+2.7
KRND			S	Sn	04 45 12.9	+4.8
ACHAR	Athens-Acharne	4.24 312	P	Pn	04 44 22.2	+2.7
APOL	The Sanctuary	4.28 97	P	Pn	04 44 19.5	-0.4
APOL			S	Sn	04 45 09.6	+0.6
APOL			AML	AML	04 45 11.0	
	comp=Z,6.8nm,1.0s					
APOL			AML	AML	04 45 12.4	
	comp=Z,4.9nm,0.7s					
KYMI	Kymi, Euboea I	4.43 320	P	Pn	04 44 24.1	+2.0
ASGA	Asgata	4.57 94	P	Pn	04 44 23.0	-1.0
ASGA			S	Sn	04 45 16.3	0.0
ASGA			AML	AML	04 45 19.1	
	comp=Z,5.5nm,0.7s					
ASGA			AML	AML	04 45 24.7	
	comp=Z,4.9nm,0.7s					
CSS	Mathiatis	4.62 92	Pn	Pn	04 44 23.4	-1.3
CSS	Mathiatis	4.62 92	Pn	Pn	04 44 23.7	-1.0
CSS	Mathiatis	4.62 92	P	Pn	04 44 23.7	-1.0
CSS			S	Sn	04 45 18.1	+0.7
CSS			AML	AML	04 45 18.7	
	comp=Z,3.3nm,1.2s					
CSS			AML	AML	04 45 24.0	
	comp=Z,2.7nm,0.6s					
CSS	Mathiatis	4.62 92	P	Pn	04 44 23.8	-1.0
CSS	Mathiatis	4.62 92	S	Sn	04 45 15.7	-1.7
CSS	Mathiatis	4.62 92	P	Pn	04 44 24.2	-0.5
ATHAL	Athalassa	4.66 90	P	Pn	04 44 24.7	-0.5
ATHAL			S	Sn	04 45 20.2	+1.8
ATHAL			AML	AML	04 45 33.2	
	comp=Z,8.1nm,1.1s					
ATHAL			AML	AML	04 45 37.1	
	comp=Z,9.8nm,1.0s					
VLX	Vlachokerasia	4.79 298	P	Pn	04 44 30.1	+3.0
LAR1C	Larnaka City C	4.86 92	P	Pn	04 44 27.3	-0.6
MVOU	Mavrovouni	4.86 91	P	Pn	04 44 27.2	-0.7
MVOU			S	Sn	04 45 24.7	+1.3
MVOU			AML	AML	04 45 30.1	
	comp=Z,2.2nm,0.6s					
MVOU			AML	AML	04 45 33.6	
	comp=Z,2.9nm,1.0s					
MVOU	Mavrovouni	4.86 91	P	Pn	04 44 27.7	-0.3
ITM	Ithomi	5.05 294	Pn	Pn	04 44 32.0	+1.5
BAND	Balkesir-Ban	5.09 3	⇑P	Pn	04 44 31.2	+0.1
BORA	Eskisehir	5.09 25	Pn	Pn	04 44 30.5	-0.8
PARAL	Paralimni	5.20 91	P	Pn	04 44 32.8	+0.2
PARAL			S	Sn	04 45 33.8	+2.2
PARAL			AML	AML	04 45 41.7	
	comp=Z,3.8nm,0.9s					
PARAL			AML	AML	04 45 47.2	
	comp=Z,4.4nm,0.7s					
CAVK	Edirne/Enez-Ca	5.55 348	⇓P	Pn	04 44 39.1	+1.7
AGG	Agios Georgios	5.70 313	Pn	Pn	04 44 42.4	+2.9
AGG	Agios Georgios	5.70 313	P	Pn	04 44 42.4	+2.9
ALN	Alexandroupoli	5.77 347	Pn	Pn	04 44 40.7	+0.3
ALN	Alexandroupoli	5.77 347	P	Pn	04 44 40.7	+0.3
MDUB	Mudurnu	5.88 27	Pn	Pn	04 44 41.9	-0.2
RDO	Rodhopi	6.11 344	Pn	Pn	04 44 46.0	+0.9
ANTO	Ankara	6.12 40	Pn	Pn	04 44 44.8	-0.5
ANTO	Ankara	6.12 40	P	Pn	04 44 45.5	+0.2
ANTO			S	Sn	04 45 56.5	+2.1
ANTO	Ankara	6.12 40	P	Pn	04 44 44.8	-0.5
ANTO	Ankara	6.12 40	Pn	Pn	04 44 44.5	-0.8
	comp=Z,0.5nmcomp=Z,1μmcomp=Z,98nm,0.9s					
KIRS	Kirsehir-Merke	6.28 50	⇑P	Pn	04 44 48.5	+0.9
BR105	Keskin Array S	6.46 45	Pn	Pn	04 44 49.5	-0.6
	comp=Z,0.4nmcomp=Z,1μmcomp=Z,122nm,0.9s					
BR104	Keskin Array S	6.47 45	Pn	Pn	04 44 49.6	-0.6
	comp=Z,0.4nmcomp=Z,911nmcomp=Z,104nm,0.9s					
BR106	Keskin Array S	6.47 45	Pn	Pn	04 44 49.6	-0.7
	comp=Z,0.4nmcomp=Z,833nmcomp=Z,108nm,0.7s					
BR131	Keskin Array S	6.48 45	Pn	Pn	04 44 50.3	-0.1
BR131	Keskin Array S	6.48 45	P	Pn	04 44 50.5	+0.1
	SNR=142					
BR131			S	Sn	04 46 03.2	-0.3
BR131	Keskin Array S	6.48 45	P	Pn	04 44 50.3	-0.1
BRTR	Keskin Array B	6.48 45	Pn	Pn	04 44 49.0	-1.4
BRTR	Keskin Array B	6.48 45	Pn	Pn	04 44 50.1	-0.2
	comp=Z,7.2nm,0.3s,baz=221,slow=14,SNR=446					
BRTR			Sn	Sn	04 46 02.1	-1.4
	comp=Z,11nm,0.3s,baz=213,slow=27,SNR=11					
BRTR			LR	LR	04 48 11.0	
	comp=Z,4μm,20.0s,baz=226,slow=46					
	comp=Z,86nm,0.7s					
HNTI	Hanita	6.56 107	P	Pn	04 44 50.0	-1.3
OFRI	`Ofer	6.60 112	P	Pn	04 44 51.6	-0.3
KDZ	Kurdzhali	6.62 344	P	Pn	04 44 53.0	+0.9
DQRL	Deir Qamar	6.68 101	*eP*	Pn	04 44 51.1	-1.9
BHL	Bhannes	6.69 99	*eP*	Pn	04 44 47.4	-5.8
MMA0B	Mount Meron ar	6.76 107	P	Pn	04 44 52.5	-1.7
MMA0B	Mount Meron ar	6.76 107	S	Sn	04 46 08.1	-2.3
MMAI	Mount Meron Ar	6.76 107	Pn	Pn	04 44 52.8	-1.4
	comp=Z,19nm,0.3s,baz=302,slow=13,SNR=78					
MMAI			Sn	Sn	04 46 10.6	+0.1
	comp=Z,57nm,0.3s,baz=358,slow=25,SNR=7.8					
QRWL	Qaraoun	6.81 102	*eP*	Pn	04 44 53.4	-1.5
SLTI	Sal'it	6.81 114	P	Pn	04 44 54.5	-0.3
SLTI	Sal'it	6.81 114	S	Sn	04 46 08.6	-2.9
RZN	Rozhen	6.83 341	P	Pn	04 44 57.0	+1.9
HWQ	Hawqa	6.85 96	*eP*	Pn	04 44 53.7	-1.8
ZAHL	Zahle	6.89 99	*eP*	Pn	04 44 54.2	-1.8
SHBL	Chebaa	6.92 104	*eP*	Pn	04 44 54.8	-1.7
NATI	Neve Ativ	6.94 104	P	Pn	04 44 55.2	-1.3
NATI	Neve Ativ	6.94 104	S	Sn	04 46 11.9	-2.7
RCY	Rachaya	6.95 102	*eP*	Pn	04 44 55.3	-1.5
MMB	Musomishta	7.00 335	P	Pn	04 44 59.0	+1.7
BEIL	Beino	7.00 94	*eP*	Pn	04 44 55.5	-1.9
SALP	Salfit	7.01 115	P	Pn	04 44 56.5	-1.0
MMLI	Mount Malkishu	7.01 112	P	Pn	04 44 57.2	-0.3
MMLI	Mount Malkishu	7.01 112	S	Sn	04 46 12.4	-4.0
AMAZ	Amatzia	7.08 120	P	Pn	04 44 58.0	-0.5
AMAZ	Amatzia	7.08 120	S	Sn	04 46 15.5	-2.7
KSHT	Keshet	7.10 106	P	Pn	04 44 57.9	-0.9
KSHT	Keshet	7.10 106	S	Sn	04 46 16.9	-1.6
KZIT	Kziot	7.10 126	P	Pn	04 44 57.3	-1.5
KZIT	Kziot	7.10 126	S	Sn	04 46 14.3	-4.3
HMDT	Nahal Hemdat	7.17 113	P	Pn	04 44 58.6	-1.1
HMDT	Nahal Hemdat	7.17 113	S	Sn	04 46 16.7	-3.6
FKH	Fakeheh	7.24 96	*eP*	Pn	04 44 59.5	-1.2
VAY	Valandovo	7.27 328	*i* Pn	Pn	04 45 06.9	+5.9
JMB	Yambol	7.27 353	P	Pn	04 45 01.0	0.0
YTIR	Yattir	7.32 120	P	Pn	04 45 01.4	-0.5
YTIR	Yattir	7.32 120	S	Sn	04 46 21.4	-2.7
DSI	Dead Sea	7.40 118	P	Pn	04 45 02.1	-0.7
DSI	Dead Sea	7.40 118	S	Sn	04 46 23.1	-2.8
BNN	Bunyan	7.42 59	Pn	Pn	04 45 04.5	+1.2
ILGA	Ilgaz	7.46 38	Pn	Pn	04 45 04.1	+0.1
KKB	Krupnik	7.48 333	P	Pn	04 45 06.7	+2.8
MSBI	Mazada	7.52 119	P	Pn	04 45 03.6	-0.8
GHAJ	Ghor Haditha	7.67 119	Pn	Pn	04 45 06.3	-0.3
GHAJ	Ghor Haditha	7.67 119	P	Pn	04 45 06.2	-0.4
KEK	Kerkira	7.69 308	Pn	Pn	04 45 09.2	+2.3
CIDE	Kastamonu/Cide	7.77 30	⇑P	Pn	04 45 09.0	+1.0
KRMI	Paran Flat	7.83 129	P	Pn	04 45 07.7	-1.1
ZFRI	Zfri	7.84 125	P	Pn	04 45 07.2	-1.7
PRNI	Paran	7.86 127	P	Pn	04 45 07.6	-1.5
PRNI	Paran	7.86 127	S	Sn	04 46 33.3	-3.9
GAZ	Gaziantep	7.91 73	Pn	Pn	04 45 07.9	-2.0
OHR	Ohrid	7.97 319	*i* Pn	Pn	04 45 16.0	+5.3
HRFI	Mount Harif	8.09 128	P	Pn	04 45 10.9	-1.5
HRFI	Mount Harif	8.09 128	S	Sn	04 46 38.5	-4.3
SZH	Strazhitsa	8.10 351	P	Pn	04 45 12.9	+0.5
VTS	Vitosha	8.12 336	P	Pn	04 45 16.0	+3.1
MBRI	Mt Berech	8.17 130	P	Pn	04 45 12.6	-0.9
ASF	Jabal al Asfar	8.25 109	Pn	Pn	04 45 14.7	0.0
	comp=Z,6.1nm,0.3s,baz=316,slow=7.9,SNR=44					
	comp=Z,17nm,0.3s					
EIL	Elat	8.28 130	Pn	Pn	04 45 14.7	-0.3
	comp=Z,4.9nm,0.3s,baz=339,slow=9.5,SNR=70					
EIL			Sn	Sn	04 46 44.9	-2.7
	comp=Z,13nm,0.3s,baz=45,slow=16,SNR=6.9					
	comp=Z,71nm,0.8s					
EIL	Elat	8.28 130	P	Pn	04 45 14.0	-1.0
SKO	Skopje	8.30 326	*i* Pn	Pn	04 45 20.2	+5.1
BZK	Bozkurt	8.30 35	Pn	Pn	04 45 14.9	-0.3
BZK	Bozkurt	8.30 35	⇓P	Pn	04 45 16.7	+1.5
TOKA	Tokat	8.58 51	Pn	Pn	04 45 20.3	+1.2
SCTE	Santa Cesarea	8.75 306	Pn	Pn	04 45 20.6	-0.8
ICOR	Ion Corvin	8.84 0	⇓P	Pn	04 45 24.9	+2.4
TIRR	Tirgusor	9.20 3	Pn	Pn	04 45 25.9	-1.5
TIRR	Tirgusor	9.20 3	⇑P	Pn	04 45 28.5	+1.1
TIRR	Tirgusor	9.20 3	P	Pn	04 45 28.5	+1.1
TIRR	Tirgusor	9.20 3	P	Pn	04 45 27.1	-0.3
	comp=Z,503nmcomp=Z,43nm,0.8s					
ULC	Ulcinj	9.41 318	⇑*i* Pn	Pn	04 45 33.1	+2.7
PVY	Plav	9.48 323	*e*Pn	Pn	04 45 34.0	+2.5
TIP	Timpagrande	9.56 297	Pn	Pn	04 45 31.7	-0.8
TIP	Timpagrande	9.56 297	P	Pn	04 45 32.4	-0.2
	comp=Z,1μmcomp=Z,89nm,1.1s					
DRME	Dracevica, Mon	9.59 319	*e*Pn	Pn	04 45 34.5	+1.6
DRME	Dracevica, Mon	9.59 319	⇑*i* Pn	Pn	04 45 35.4	+2.5
DRME			*e*Sn	Sn	04 47 17.4	-2.3
TPGR	Topolog	9.59 3	⇑P	Pn	04 45 35.3	+2.4
IVA	Berane	9.72 324	*e*Pn	Pn	04 45 37.3	+2.6
PDG	Podgorica	9.72 320	Pn	Pn	04 45 35.1	+0.5
PDG	Podgorica	9.72 320	*e*Pn	Pn	04 45 37.1	+2.5
PDG	Podgorica	9.72 320	⇑P	Pn	04 45 37.5	+2.8
PDG	Podgorica	9.72 320	⇑*i* Pn	Pn	04 45 37.3	+2.7
PDG			*e*Sn	Sn	04 47 21.5	-1.4
BUM	Brajici-Budva	9.83 318	⇓*i* Pn	Pn	04 45 38.3	+2.1
ISR	Istrita	9.88 355	⇑P	Pn	04 45 39.1	+2.2
ISR	Istrita	9.88 355	P	Pn	04 45 39.0	+2.2
KOME	Kolasin	9.89 322	*e*Pn	Pn	04 45 39.6	+2.5
KOME			*e*Sn	Sn	04 47 23.7	-3.5
CEL	Celeste	9.94 291	Pn	Pn	04 45 36.5	-1.2
CEL	Celeste	9.94 291	P	Pn	04 45 37.7	0.0
	comp=Z,2μmcomp=Z,125nm,0.9s					
CEME	Cevo	9.98 319	⇑*i* Pn	Pn	04 45 40.4	+2.1
CEME			*e*Sn	Sn	04 47 26.5	-2.9
NKME	Niksic	10.12 320	*e*Pn	Pn	04 45 42.5	+2.4
HCY	Herceg Novi	10.14 318	*e*Pn	Pn	04 45 40.6	+0.1
HCY	Herceg Novi	10.14 318	*e*Pn	Pn	04 45 42.3	+1.8
HCY			*e*Sn	Sn	04 47 30.3	-3.0
NEGRR	Negrea	10.26 1	⇓P	Pn	04 45 44.4	+2.5
MLR	Muntele Rosu	10.30 353	Pn	Pn	04 45 43.4	+0.7
MLR	Muntele Rosu	10.30 353	Pn	Pn	04 45 43.6	+1.0
	comp=Z,0.5nm,0.3s,baz=226,slow=6.9,SNR=50					
MLR			LR	LR	04 50 27.8	
	comp=Z,2μm,18.6s,baz=205,slow=43					
	comp=Z,49nm,0.9s					
MLR	Muntele Rosu	10.30 353	⇓P	Pn	04 45 44.4	+1.7
MLR	Muntele Rosu	10.30 353	P	Pn	04 45 44.4	+1.7
PLE	Pljevlja	10.31 324	*e*Pn	Pn	04 45 45.7	+2.9
PLE			*e*Sn	Sn	04 47 34.2	-3.3
ARR	Arges	10.36 348	⇑P	Pn	04 45 46.3	+2.9
VOIR		10.36 350	⇓P	Pn	04 45 44.9	+1.4
VOIR		10.36 350	P	Pn	04 45 44.8	+1.4
TREB	Trebinje	10.40 318	*e*Pn	Pn	04 45 44.0	0.0
HERR	Herculane	10.42 339	⇓P	Pn	04 45 46.1	+1.9
BRY	Bratogost	10.43 320	*e*Pn	Pn	04 45 45.2	+0.7
BRY	Bratogost	10.43 320	⇓*i* Pn	Pn	04 45 46.9	+2.4
BRY			*e*Sn	Sn	04 47 37.8	-2.7
UPM	Unac-Piva	10.45 322	*e*Pn	Pn	04 45 47.1	+2.2
UPM	Unac-Piva	10.45 322	*e*Pn	Pn	04 45 47.9	+3.0
UPM			*e*Sn	Sn	04 47 40.2	-0.9
SPBR	Spulber	10.49 356	⇓P	Pn	04 45 47.9	+2.6
RUDO	Rudo	10.53 325	*e*Pn	Pn	04 45 48.2	+2.4
CUC	Castrocucco	10.54 300	Pn	Pn	04 45 44.8	-1.2
MDVR	Moldovita	10.55 336	⇑P	Pn	04 45 49.0	+2.9
MARD	Mardin	10.75 75	Pn	Pn	04 45 47.5	-1.3
WDD	Wied Dalam	10.76 277	Pn	Pn	04 45 47.9	-1.0
GZR	Gura Zlata	10.79 341	⇓P	Pn	04 45 51.8	+2.5
GZR	Gura Zlata	10.79 341	P	Pn	04 45 51.8	+2.5
DOPR	Dopca	10.83 351	⇑P	Pn	04 45 52.0	+2.1
SIM	Simferopol'	10.84 25	*e*P	Pn	04 45 51.2	+1.3
SIM			*e*		04 47 49.2	
SIM			pmax	pmax		
	comp=Z,42nm,0.5s					
SIM			smax	smax		
	comp=N,100nm,1.0s					
SIM			MLR	MLR		
	comp=Z,840nm,14.0s					
STON	Ston	10.86 317	*e*Pn	Pn	04 45 48.2	-2.1
VAE	Valguarnera	10.95 286	Pn	Pn	04 45 50.8	-0.7
	comp=Z,8.0nm,0.3s,baz=155,slow=9.8,SNR=4.2					
VAE			Sn	Sn	04 47 54.9	+1.8
	comp=Z,9.4nm,0.3s,baz=196,slow=18,SNR=4.6					
RAFF	Raffo Rosso	10.95 284	Pn	Pn	04 45 50.9	-0.7
MDB	Medias	11.15 348	⇑P	Pn	04 45 57.1	+2.8
MDB	Medias	11.15 348	P	Pn	04 45 57.0	+2.8
TEKS	Tekeris	11.19 328	*e*Pn	Pn	04 45 58.2	+3.4
KOPT	Kop Dagi	11.19 61	Pn	Pn	04 45 56.2	+1.1
TESR	Tescani	11.26 356	⇑P	Pn	04 45 57.0	+1.2
SURR	Surduc	11.30 340	⇑P	Pn	04 45 58.7	+2.4
BZS	Buzias	11.33 338	⇑P	Pn	04 45 59.8	+3.1
BZS	Buzias	11.33 338	P	Pn	04 45 59.7	+3.1
MILM	Milestii M

comp=Z,162nm,1.1s
KIV MLR MLR
comp=Z,400nm,13.0s
KIV Kislovodsk 14.42 49 P **P 04 46 42.8 -2.8**
KVAR Kislovodsk Arr 14.43 49 Pn **Pn 04 46 40.0 +0.9**
baz=96,slow=23
comp=Z,5.7nm,0.8s
KBZ Khabaz 14.44 50 Pn **Pn 04 46 41.3 +2.2**
comp=Z,0.2nm,0.3s,baz=246,slow=8.0,SNR=22
KBZ LR LR 04 53 52.4
comp=Z,442nm,18.6s,baz=250,slow=44
comp=Z,12nm,0.8s
CEY Cerknica 14.52 320 *e*Pn **Pn 04 46 38.8 -1.5**
SKDS Skadanscina 14.62 319 *e*Pn **Pn 04 46 39.8 -1.8**
LUBAR Lubar, Ukraine 14.64 0 P **Pn 04 46 41.2 -0.7**
VYHS Vyhne 14.76 336 *e*P **P 04 46 47.1 -2.1**
VYHS Vyhne 14.76 336 *e*P **P 04 46 47.1 -2.1**
SOKA Soboth 14.86 324 *i* Pn **Pn 04 46 46.7 +1.7**
comp=Z,27nm,1.2s,SNR=15
STHS Stebnicka Huta 14.91 343 *e*P **Pn 04 46 47.3 +1.7**
STHS Stebnicka Huta 14.91 343 *e*P **Pn 04 46 47.3 +1.7**
KEST Kesra 14.97 277 Pn **Pn 04 46 45.6 -0.8**
KEST Kesra 14.97 277 Pn **Pn 04 46 47.7 +1.3**
comp=Z,0.3nm,0.3s,baz=38,slow=5.8,SNR=8.2
comp=Z,8.7nm,0.8s
KEST Kesra 14.97 277 P **P 04 46 49.6 -2.1**
SNR=9.2
KEST S **Sn 04 49 30.2 -1.2**
OBKA Obir 14.98 323 *e*Pn **Pn 04 46 46.1 -0.4**
OBKA Obir 14.98 323 *i* Pn **Pn 04 46 48.0 +1.5**
comp=Z,28nm,1.1s,SNR=8.5
ARSA Arzberg 15.05 326 Pn **Pn 04 46 47.0 -0.4**
ARSA Arzberg 15.05 326 *i* P **P 04 46 49.9 -2.6**
comp=Z,31nm,1.3s
RONA Rosalia, Austr 15.06 329 *e*P **Pn 04 46 49.7 +2.2**
comp=Z,34nm,1.2s
SABO M.te Sabotino 15.12 319 Pn **Pn 04 46 47.7 -0.6**
LANS Liptovska Anna 15.14 339 *e*P **P 04 46 54.7 +1.2**
LANS Liptovska Anna 15.14 339 *e*P **P 04 46 54.6 +1.1**
NIE Niedzica 15.15 341 *e*P **P 04 46 57.8 +4.2**
NIE *e*S **S 04 49 58.2 +6.0**
NIE Niedzica 15.15 341 P **Pn 04 46 48.4 -0.3**
comp=Z,337nmcomp=Z,23nm,1.7s
MODS Modra-Piesok 15.21 333 *e*P **P 04 46 54.1 -0.1**
MODS Modra-Piesok 15.21 333 *e*P **P 04 46 54.1 -0.1**
GOF Gofitskoye 15.24 45 *c e*P **Pn 04 46 50.5 +0.6**
AK07 Malin Array Si 15.31 4 P **Pn 04 46 49.9 -0.9**
AK10 Malin Array Si 15.36 4 P **Pn 04 46 50.5 -1.0**
AK13 Malin Array Si 15.37 3 P **Pn 04 46 50.6 -0.9**
AK09 Malin Array Si 15.38 4 P **Pn 04 46 50.6 -1.1**
AK08 Malin Array Si 15.40 4 P **Pn 04 46 50.9 -1.0**
AK12 Malin Array Si 15.40 3 P **Pn 04 46 50.9 -1.1**
CONA Conrad Observa 15.42 329 *i* P **P 04 46 56.3 -0.4**
comp=Z,21nm,1.6s
AK16 Malin Array Si 15.43 3 P **Pn 04 46 51.2 -1.1**
AK11 Malin Array Si 15.44 3 P **Pn 04 46 51.4 -1.0**
AK01 Malin Array Si 15.45 4 P **Pn 04 46 51.9 -0.7**
KIEV Kiev 15.46 4 Pn **Pn 04 46 52.2 -0.5**
KIEV Kiev 15.46 4 P **Pn 04 46 52.2 -0.5**
KIEV pmax pmax
comp=Z,20nm,0.8s
AKASG Malin Array Be 15.46 4 Pn **Pn 04 46 52.7 -0.1**
AKASG Malin Array Be 15.46 4 Pn **Pn 04 46 50.7 -2.1**
comp=Z,4.4nm,0.3s,baz=195,slow=11,SNR=32
AKASG LR LR 04 53 23.6
comp=Z,592nm,19.2s,baz=176,slow=40
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 15.46 4 Pn **Pn 04 46 52.1 -0.7**
AKBB Malin Array Si 15.46 4 *d i* P **Pn 04 46 52.5 -0.3**
AKBB pmax pmax
comp=Z,33nm,1.0s
AKBB Malin Array Si 15.46 4 P **Pn 04 46 52.1 -0.7**
JAVC Velka Javorina 15.47 334 *e*PN **P 04 46 57.1 -0.1**
AK18 Malin Array Si 15.48 3 P **Pn 04 46 52.3 -0.6**
MYKA Terra Mystica 15.52 321 *i* Pn **Pn 04 46 53.8 +0.2**
comp=Z,2.5nm,0.5s
AK21 Malin Array Si 15.53 3 P **Pn 04 46 53.0 -0.6**
TEOL Teolo 15.82 314 Pn **Pn 04 46 57.0 -0.4**
TEOL IAmb IAmb 04 47 05.2
comp=Z,67nm,0.5s
KBA Koelnbreinsper 15.97 322 *e*Pn **Pn 04 47 00.6 +1.1**
comp=Z,76nm,1.4s,SNR=16
OJC Ojcow 16.02 341 *e*P **P 04 47 03.8 +0.6**
MOA Molln 16.07 326 *i* Pn **Pn 04 47 01.5 +0.9**
comp=Z,8.4nm,1.2s
KRUC Moravsky 16.11 332 *e*PN **P 04 47 03.2 -1.0**
RNPP8 Varash 16.12 356 P **Pn 04 47 00.1 -1.1**
OKC Ostrava-Krasne 16.15 337 AMS AMS 04 54 30.0
comp=Z,1μm,11.8s
ABTA Abfaltersbach 16.19 320 *i* Pn **Pn 04 47 01.3 -0.9**
comp=Z,6.8nm,0.6s
VRAC Vranov 16.24 333 Pn **Pn 04 47 03.1 +0.4**
comp=Z,0.8nm,0.3s,baz=116,slow=12,SNR=11
VRAC LR LR 04 54 00.4
comp=Z,554nm,19.8s,baz=155,slow=40
comp=Z,5.9nm,0.6s
VRAC Vranov 16.24 333 *e*PN **P 04 47 04.8 -0.8**
BIOA Bad Ischl, Aus 16.25 324 *e*Pn **Pn 04 47 03.6 +0.7**
comp=Z,52nm,0.9s,SNR=15
MORC Moravsky Berou 16.30 336 **Pn 04 47 04.0 +0.5**
MORC Moravsky Berou 16.30 336 *e*PN **P 04 47 05.1 -1.2**
MORC Moravsky Berou 16.30 336 ||P **P 04 47 05.6 -0.8**
MORC Moravsky Berou 16.30 336 P **P 04 47 05.5 -0.8**
LESA Schwarzleotal 16.54 322 *i* Pn **Pn 04 47 07.6 +0.8**
comp=Z,15nm,0.6s,SNR=24
TREC Trest 16.65 331 AMS AMS 04 53 20.0
comp=Z,400nm,16.5s
CKRC Cesky Krumlov 16.77 328 *e*P **P 04 47 10.5 -1.0**
CKRC *e*S **S 04 50 28.1 +2.9**
CKRC AMS AMS 04 54 30.0
comp=Z,800nm,10.1s
CKRC Cesky Krumlov 16.77 328 *e*P **P 04 47 10.5 -1.0**
CKRC MLR MLR
comp=Z,800nm,10.1s
CBBAR Babar 16.77 276 P **P 04 47 11.7 -0.1**
KRLC Kraliky 16.81 335 *e*S **S 04 50 36.2 +10**
KRLC AMS AMS 04 54 50.0
comp=Z,700nm,12.2s
AKT Akhty 16.87 62 *e*P **P 04 47 12.0 -0.8**
AKT *e*S **Sn 04 50 20.6 +3.1**
AKT pmax pmax
comp=Z,123nm,1.0s
AKT MLR MLR
comp=Z,1μm,17.0s
WTTA Wattenberg 16.98 320 *i* P **P 04 47 13.8 -0.2**
comp=Z,142nm,1.2s,SNR=29
WATA Walderalm 17.05 320 *i* P **P 04 47 14.6 -0.2**
comp=Z,81nm,1.4s,SNR=22
GEC2 GERESS Array S 17.05 327 IAmb IAmb 04 47 20.6
comp=Z,116nm,1.3s
GERES GERESS Array B 17.05 327 Pn **Pn 04 47 12.2 -0.9**
GERES GERESS Array B 17.05 327 Pn **Pn 04 47 13.3 +0.1**
comp=Z,0.1nm,0.3s,baz=142,slow=12,SNR=49
GERES ScP **ScP 04 55 31.0 +0.6**
comp=Z,1.1nm,0.7s,baz=180,slow=2.5,SNR=6.8
comp=Z,16nm,0.9s
CSGS Sigus 17.08 279 P **P 04 47 18.7 +3.6**
MAK Makhachkala 17.15 57 *e*P **Pn 04 47 14.6 +0.3**
MAK *e*S **S 04 50 28.9 -4.1**
MAK pmax pmax
comp=Z,470nm,0.7s
MAK MLR MLR
comp=Z,464nm,12.0s
SQTA Sankt Quirin 17.18 319 *i* P **Pn 04 47 15.2 +0.5**
comp=Z,87nm,1.4s,SNR=13
DPC Dobruska-Polom 17.20 335 *e*P **P 04 47 16.9 +0.6**
DPC *e*S **S 04 50 40.8 +6.7**
DPC AMS AMS 04 54 30.0
comp=Z,700nm,13.1s
DPC Dobruska-Polom 17.20 335 *e*P **P 04 47 16.9 +0.6**
DPC MLR MLR
comp=Z,700nm,13.1s
DPC Dobruska-Polom 17.20 335 P **Pn 04 47 14.1 -0.8**
comp=Z,484nmcomp=Z,34nm,0.8s
CTGD Timgad 17.27 277 P **P 04 47 18.3 +1.1**
BEL Belsk 17.29 345 *e*P **P 04 47 20.4 +3.2**
ZVC Zvikov 17.29 329 *e*P **Pn 04 47 16.4 +0.4**
ZVC *e*S **S 04 50 37.7 +1.9**
ZVC AMS AMS 04 54 50.0
comp=Z,700nm,11.6s
MOTA Moosalm 17.31 319 *e*P **Pn 04 47 16.9 +0.5**
comp=Z,36nm,1.0s
FETA Feichten 17.32 318 *i* Pn **P 04 47 17.6 -0.1**
comp=Z,35nm,0.9s,SNR=38
KHC Kasperske Hory 17.32 327 *e*P **P 04 47 17.1 -0.6**
KHC *e*x x 04 47 34.5
KHC *e*S **S 04 50 40.9 +4.4**
KHC AMS AMS 04 54 50.0
comp=Z,1μm,11.6s
KHC Kasperske Hory 17.32 327 *e*P **P 04 47 17.1 -0.6**
KHC MLR MLR
comp=Z,1μm,11.6s
KHC Kasperske Hory 17.32 327 P **Pn 04 47 15.9 -0.5**
comp=Z,671nmcomp=Z,52nm,0.8s
CTEI Djebel Teioual 17.33 279 P **P 04 47 18.5 +0.6**
CBOS Bilal Ibnou Ra 17.37 281 P **Pn 04 47 15.2 -1.9**
OSTC Ostas 17.41 335 *e*P **P 04 47 19.9 +1.3**
OSTC *e*S **S 04 50 39.1 +0.8**
OSTC AMS AMS 04 54 10.0
comp=Z,600nm,15.4s
OSTC Ostas 17.41 335 *e*P **P 04 47 19.9 +1.3**
OSTC *e*S **S 04 50 39.1 +0.8**
OSTC MLR MLR
comp=Z,600nm,15.4s
GOPC GO Pecny, Ondr 17.42 331 *e*P **P 04 47 18.2 -0.5**
GOPC AMS AMS 04 55 30.0
comp=Z,400nm,11.3s
GOPC GO Pecny, Ondr 17.42 331 *e*P **P 04 47 18.2 -0.5**
GOPC MLR MLR
comp=Z,400nm,11.3s
UPC Upice 17.44 334 *e*P **P 04 47 19.6 +0.7**
UPC *e*S **S 04 50 40.7 +1.8**
UPC AMS AMS 04 55 10.0
comp=Z,700nm,13.7s
UPC Upice 17.44 334 *e*P **P 04 47 19.6 +0.7**
UPC MLR MLR
comp=Z,700nm,13.7s
CHVC Chvalec 17.49 335 *e*P **P 04 47 21.6 +2.1**
CHVC *e*S **S 04 50 49.5 +9.5**
CHVC AMS AMS 04 54 50.0
comp=Z,600nm,12.2s
CHVC Chvalec 17.49 335 *e*P **P 04 47 21.6 +2.1**
CHVC MLR MLR
comp=Z,600nm,12.2s
PRU Pruhonice 17.57 331 *e*P **P 04 47 20.2 -0.2**
PRU *e*S **S 04 50 44.3 +2.7**
PRU AMS AMS 04 55 00.0
comp=Z,600nm,13.5s
PRU Pruhonice 17.57 331 *e*P **P 04 47 20.2 -0.2**
PRU MLR MLR
comp=Z,600nm,13.5s
RETA Reutte 17.58 319 *i* P **Pn 04 47 19.6 -0.1**
comp=Z,5.8nm,0.6s
R9F13 Warsaw-Wawer 17.59 347 *e*P **P 04 47 26.1 +5.6**
R9F13 *e*S **S 04 50 47.4 +5.7**
KSP Ksiaz 17.63 336 *e*P **P 04 47 21.4 +0.5**
KSP *e*S **S 04 50 48.9 +6.2**
KSP Ksiaz 17.63 336 P **Pn 04 47 19.6 -0.5**
comp=Z,669nmcomp=Z,51nm,1.3s
DAVOX Davos/Dischmat 17.65 316 P **Pn 04 47 20.9 +0.2**
comp=Z,1.0nm,0.3s,baz=152,slow=12,SNR=10
DAVOX LR LR 04 54 33.1
comp=Z,736nm,21.1s,baz=118,slow=39
comp=Z,5.0nm,0.6s
PRA Prague 17.68 331 *e*P **P 04 47 23.0 +1.4**
PRA AMS AMS 04 54 30.0
comp=Z,500nm,15.7s
PRA Prague 17.68 331 *e*P **P 04 47 23.0 +1.4**
PRA MLR MLR
comp=Z,500nm,15.7s
CJSR Ain Djasser 17.71 278 P **P 04 47 24.5 +2.3**
VORD Divnogorie 17.79 25 *e*P **Pn 04 47 21.6 -0.5**
VORD pmax pmax
comp=Z,20nm,0.8s
TUE Stuetta 17.79 315 P **Pn 04 47 22.1 -0.3**
comp=Z,118nm,0.7s
DAVA Damuels 17.94 317 *e*P **Pn 04 47 24.1 -0.1**
comp=Z,37nm,0.7s,SNR=5.6
KBD Kabd 17.96 104 P **P 04 47 25.2 +0.4**
VSR Storozhevoye 17.96 24 *e*P **Pn 04 47 21.6 -2.6**
VSR pmax pmax
comp=Z,30nm,0.9s
PVCC Panska Ves 17.99 332 *e*P **P 04 47 27.1 +2.1**
PVCC AMS AMS 04 55 50.0
comp=Z,500nm,13.2s
PVCC Panska Ves 17.99 332 *e*P **P 04 47 27.1 +2.1**
PVCC MLR MLR
comp=Z,500nm,13.2s
SET Setif 18.13 279 P **P 04 47 27.0 +0.2**
RICC Richard 18.19 331 AMS AMS 04 55 10.0
comp=Z,500nm,15.1s
CAZD Ain Tagrout 18.33 279 P **Pn 04 47 31.1 +2.1**
VORR Voronezh 18.36 23 *e*P **P 04 47 28.1 -0.9**
VORR pmax pmax
comp=Z,48nm,0.4s
HSKC Hora Svate Kat 18.50 330 *e*P **Pn 04 47 32.4 +1.5**
HSKC *e*S **S 04 51 02.5 +2.3**
HSKC AMS AMS 04 55 10.0
comp=Z,600nm,16.0s
BRG Berggiesshubel 18.51 332 *e*P **Pn 04 47 30.7 -0.3**
BRG Amp 04 47 38.8
comp=Z,14nm,0.8s
BRG Berggiesshubel 18.51 332 S **S 04 51 07.0 +6.8**
CDCN Doucen 18.53 274 P **Pn 04 47 32.9 +1.5**
NKC Novy Kostel 18.63 328 *e*P **Pn 04 47 32.6 +0.1**
NKC *e*S **S 04 51 07.4 +4.7**
NKC AMS AMS 04 55 40.0
comp=Z,800nm,12.9s
NKC Novy Kostel 18.63 328 *e*P **Pn 04 47 32.6 +0.1**
NKC MLR MLR
comp=Z,800nm,12.9s
CTCHA Tamokra 18.72 280 P **Pn 04 47 34.2 +0.5**
GRFO Grafenberg 18.80 325 **P 04 47 33.5 -0.3**
GRFO Grafenberg 18.80 325 P **P 04 47 33.5 -0.3**
GRFO pmax pmax
comp=Z,65nm,1.1s
VRH Novokhopyorsk 18.86 28 *e*P **P 04 47 34.0 -0.5**
VRH pmax pmax
comp=Z,46nm,0.7s
SENIN Lac Senin/Sane 18.95 312 IAmb IAmb 04 47 44.6
comp=Z,44nm,0.6s
SUW Suwalki 19.01 352 *e*P **Pn 04 47 36.6 -0.4**
LPSR Galich'ya Gora 19.08 21 *e*P **P 04 47 36.0 -0.9**
LPSR pmax pmax
comp=Z,46nm,0.5s
MAHO Mahon 19.13 291 P **Pn 04 47 38.6 +0.1**
ATKJ Tikjda 19.15 280 P **Pn 04 47 40.0 +1.0**
ABSD Ouled Sidi Bra 19.17 277 P **Pn 04 47 40.2 +1.0**
STU Stuttgart 19.20 320 *e*P **Pn 04 47 39.7 +0.4**
CLL Collm 19.22 331 P **P 04 47 38.3 -0.1**
CLL Collm 19.22 331 *e*P **Pn 04 47 39.0 -0.5**
CLL *e*S **S 04 51 19.0 +4.6**
CLL pmax pmax
comp=Z,45nm,1.4s
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 19.22 331 P **P 04 47 38.1 -0.3**
comp=Z,458nmcomp=Z,29nm,1.1s
CLL Collm 19.22 331 *e*P **Pn 04 47 39.0 -0.5**
comp=Z,45nm,1.4s
CLL *i* pP **pP 04 47 44.1 -1.2**
comp=Z,55nm,1.3s
CLL *i* sP **sP 04 47 48.9 +0.3**
CLL *i* PPP PPP 04 48 01.1
CLL *e*S **S 04 51 19.0 +4.6**
CLL *e*PcP **PcP 04 52 01.0 +0.1**
comp=Z,5.0nm,0.8s
CLL AMS AMS 04 55 00.0
comp=Z,500nm,18.0s
CLL *i* ScP **ScP 04 55 35.4 +0.5**
comp=Z,7.0nm,1.1s
CLL AMS AMS 04 56 00.0
MNK Minsk 19.23 0 *i* P **P 04 47 35.0 -3.6**
comp=E,25nm,0.9s
MNK *i* P **P 04 47 35.0 -3.6**
comp=N,16nm,0.7s
MNK *i* P **P 04 47 35.0 -3.6**
comp=Z,33nm,0.8s,baz=181
MNK *i* PP **sP 04 47 48.5 -0.2**
MNK *i* PPP PPP 04 47 56.3
MNK *i* S **Sn 04 51 11.0 -3.3**
MNK *i* SS **SnSn 04 51 26.6 -1.9**
MNK *i* SSS SSS 04 51 39.6
MNK *i* LQ LQ 04 53 19.6
MNK *i* LR LR 04 53 50.1
MNK *i* LRM MLR 04 55 53.1
comp=Z,319nm,14.9s
MNK *i* LRM MLR 04 55 57.0
comp=E,390nm,17.5s
MNK *i* LRM MLR 04 56 25.1
comp=N,530nm,18.1s
MNK Minsk 19.23 0 *i* P **P 04 47 34.9 -3.6**
MNK *i* S **Sn 04 51 11.0 -3.3**
MNK pmax pmax
comp=N,16nm,0.7s
MNK pmax pmax
comp=E,25nm,0.9s
MNK pmax pmax
comp=Z,33nm,0.8s
MNK MLR MLR
comp=Z,319nm,15.0s
MNK MLR MLR
comp=E,390nm,17.0s
MNK MLR MLR
comp=N,530nm,18.0s
AKET Djebel Ketaf 19.37 279 P **Pn 04 47 42.5 +0.9**
RAYN Ar Rayn 19.39 122 P **Pn 04 47 41.8 -0.1**
RAYN Ar Rayn 19.39 122 P **Pn 04 47 42.4 +0.5**
RAYN S **Sn 04 51 19.4 +0.7**
RAYN Ar Rayn 19.39 122 P **Pn 04 47 41.8 -0.1**
RAYN pmax pmax
comp=Z,38nm,0.8s
RAYN Ar Rayn 19.39 122 P **Pn 04 47 42.4 +0.5**
BFO Black Forest 19.40 318 P **P 04 47 39.6 -0.9**
BFO Black Forest 19.40 318 P **P 04 47 39.6 -0.9**
BFO pmax pmax
comp=Z,69nm,1.4s
GKP Gorka Klasztor 19.46 341 *e*P **Pn 04 47 41.6 -0.7**
GKP Gorka Klasztor 19.46 341 *e*P **Pn 04 47 41.8 -0.5**
NACGM Naroch 19.65 358 *e*P **P 04 47 42.9 -0.1**
comp=E,16nm,0.8s
RUE Ruedersdorf 19.86 334 *e*P **Pn 04 47 46.8 -0.3**
ABRIN Birine 20.02 278 P Pn 04 47 48.4 -0.9
ETOS Mallorca 20.23 290 P Pn 04 47 51.1 -0.5
ADJF Tadmit 20.24 274 P Pn 04 47 55.3 +3.4
SSB Saint Sauveur 20.24 307 P **P 04 47 50.2 +0.4**
SSB Saint Sauveur 20.24 307 P **P 04 47 50.2 +0.4**
SSB pmax pmax
comp=Z,32nm,1.5s
ISAL Salakas 20.33 357 *e*P Pn 04 47 51.7 -1.0
PABE Paberze 20.40 354 P **P 04 47 49.3 -2.0**
PABE IAmb IAmb 04 47 56.8
comp=Z,74nm,1.0s
PABE Paberze 20.40 354 *e*P **P 04 47 50.3 -1.0**
OBN Obninsk 20.77 14 P **P 04 47 52.6 -2.7**
OBN Obninsk 20.77 14 P **P 04 47 54.0 -1.3**
comp=Z,53nm,0.5s,baz=98,slow=4.3,SNR=11
OBN LR LR 04 56 58.5
comp=Z,720nm,18.1s,baz=127,slow=40
comp=Z,53nm,0.5s
OBN Obninsk 20.77 14 *c i* P **P 04 47 53.7 -1.6**
OBN *i* 04 48 12.0
OBN *e*S **S 04 51 46.2 +0.6**
OBN *e*SS Sn 04 51 57.8 +6.5
OBN pmax pmax
comp=Z,40nm,0.7s
OBN MLR MLR
comp=Z,520nm,17.0s
VSVD Vaisvydziai 20.88 354 *e*P **P 04 47 56.7 +0.3**
EIBI Ibiza 21.32 288 P **P 04 48 01.3 -0.1**
WLF Walferdange 21.34 319 P **P 04 48 00.2 -1.3**
WLF Walferdange 21.34 319 P **P 04 47 59.9 -1.6**
WLF Walferdange 21.34 319 *d*P **P 04 48 01.4 0.0**
comp=Z,22nm,0.9s
WLF Walferdange 21.34 319 P **P 04 48 00.2 -1.3**
WLF pmax pmax
comp=Z,30nm,0.9s
MOS Moscow 21.58 15 *e*P **P 04 48 02.4 -1.5**
MOS *e* 04 48 14.2
MOS *e* 04 48 21.5
MOS *e*S **S 04 52 02.6 +1.1**
MOS pmax pmax
comp=Z,57nm,0.7s
MOS MLR MLR
comp=Z,400nm,13.0s
SAKB Bahrain 21.68 109 P **P 04 48 05.3 0.0**
BSD Bornholm Skovb 21.73 340 *i* P **P 04 48 03.3 -2.3**
BSD IAmb IAmb 04 48 11.7
comp=Z,36nm,0.7s
BHOU Houvegnez 21.81 320 *d*P **P 04 48 06.4 -0.2**
comp=Z,15nm,1.0s
BTNL Ternell 21.88 321 *d*P **P 04 48 06.8 -0.6**
comp=Z,15nm,0.9s
MEM Membach 21.96 321 *d*P **P 04 48 07.5 -0.6**
comp=Z,32nm,0.8s
SHMA Al-Shehemyia 22.07 109 P **P 04 48 08.8 -0.7**
BCLA Clavier 22.22 320 κP **P 04 48 10.0 -0.9**
comp=Z,20nm,1.1s
BELG Belogornoye 22.23 33 LR LR 04 59 00.3
comp=Z,259nm,18.5s,baz=216,slow=43
BELG Belogornoye 22.23 33 *c i* P **P 04 48 09.2 -1.7**
BELG pmax pmax
comp=Z,15nm,0.9s
BGES Gesves 22.31 320 *d*P **P 04 48 10.8 -1.1**
comp=Z,18nm,0.8s
DOU Dourbes 22.42 318 *d*P **P 04 48 11.3 -1.7**
BMRD Maredsous 22.44 319 *d*P **P 04 48 14.8 +1.5**
SMRA Abu-Samra 22.55 111 P **P 04 48 14.8 +0.2**
BLEU Blekinge 22.55 343 *i* P **P 04 48 11.6 -2.8**
LUNU Lund 22.60 339 *i* P **P 04 48 13.0 -1.9**
TRNA Turayna 22.85 111 P **P 04 48 19.2 +1.4**
SNR=7.5
UCC Uccle 22.93 320 *d*P **P 04 48 17.8 -0.6**
TAM Tamanrasset 22.98 243 P **P 04 48 20.4 +1.0**
TAM IAmb IAmb 04 48 23.6
comp=Z,29nm,0.9s
TAM Tamanrasset 22.98 243 P **P 04 48 20.4 +1.0**
TAM pmax pmax
comp=Z,29nm,0.9s
BJUU Bjuv 23.11 339 *i* P **P 04 48 18.0 -2.2**
ECHE Chera 23.13 289 P **P 04 48 21.0 +0.3**
CART Cartagena 23.18 284 P **P 04 48 22.1 +1.0**
DEL Delary 23.20 340 *i* P **P 04 48 19.7 -1.5**
VSU Vasula 23.21 359 ||*e*P **P 04 48 19.0 -2.2**
VSU pmax pmax
comp=Z,21nm,1.0s
VSU Vasula 23.21 359 *e*P **P 04 48 20.5 -0.7**
EMUR La Murta 23.36 285 P **P 04 48 22.8 -0.1**
SLWR Sila 23.58 112 P **P 04 48 25.4 +0.2**
SLWR P **P 04 48 25.4 +0.2**
MTSE Matsula 23.60 355 *e*P **P 04 48 25.2 +0.3**
FABU Falkenberg 23.98 340 *i* P **P 04 48 27.4 -1.3**
JRN Qarnain Island 24.00 109 P **P 04 48 30.4 +1.3**
JRN P **P 04 48 30.4 +1.3**
ENIJ Nijar 24.18 283 P **P 04 48 30.2 -0.6**
BORU Boraas 24.52 340 *i* P **P 04 48 32.2 -1.3**
GHWR Ruwais 24.54 110 P **P 04 48 35.2 +1.1**
GHWR P **P 04 48 35.2 +1.1**
ONAU Onsala 24.55 339 *i* P **P 04 48 32.5 -1.3**
PUL Pulkovo 24.58 3 ||*e*P **P 04 48 33.2 -0.9**
PUL pmax pmax
comp=Z,67nm,0.8s
MEF Metsahovi 25.06 356 *e*P **P 04 48 38.2 -0.2**
MZWR Madinat Zayed 25.42 110 P **P 04 48 44.3 +2.2**
MZWR P **P 04 48 44.3 +2.2**
ESBB Sonseca Array 25.44 289 P **P 04 48 41.4 -0.8**
ESBB IAmb IAmb 04 48 52.0
comp=Z,32nm,1.1s
ESDC Sonseca Array 25.44 289 P **P 04 48 41.7 -0.6**
ESDC IAmb IAmb 04 48 52.1
comp=Z,52nm,1.2s
ESDC Sonseca Array 25.44 289 P **P 04 48 42.2 0.0**
comp=Z,17nm,0.8s,baz=81,slow=9.1,SNR=131
ESDC PcP **PcP 04 52 14.6 +0.8**
comp=Z,1.4nm,0.8s,baz=54,slow=1.8,SNR=4.5
comp=Z,17nm,0.8s
MZR Muzera 25.53 112 P **P 04 48 44.6 +1.5**
SNR=6.6
PAB San Pablo 25.74 289 P **P 04 48 44.6 -0.4**
PAB IAmb IAmb 04 48 46.4
comp=Z,25nm,0.9s
PAB San Pablo 25.74 289 P **P 04 48 44.6 -0.4**
PAB pmax pmax
comp=Z,25nm,0.9s
EMAL Malaga-Limoner 25.98 283 P **P 04 48 45.7 -1.3**
RAF Rauma 26.05 353 *e*P **P 04 48 48.7 +1.3**
STRU Stroemstad 26.15 341 *i* P **P 04 48 46.5 -1.8**
FINES FINESS Array B 26.21 358 P **P 04 48 46.8 -2.1**
FINES FINESS Array B 26.21 358 P **P 04 48 46.6 -2.3**
comp=Z,11nm,0.5s,baz=164,slow=11,SNR=53
FINES PcP **PcP 04 52 15.0 0.0**
comp=Z,3.2nm,0.7s,baz=169,slow=2.8,SNR=3.7
FINES ScP **ScP 04 55 52.5 -0.5**
comp=Z,2.8nm,0.8s,baz=99,slow=4.8,SNR=6.2

FINES LR LR 04 59 29.3
comp=Z,290nm,20.0s,baz=180,slow=37
comp=Z,11nm,0.5s
FIA1 FINESS Array S 26.22 358 P **P** **04 48 46.5 -2.4**
FIA1 IAmb IAmb 04 49 21.0
comp=Z,55nm,1.2s
HFS Hagfors 26.49 344 P **P** **04 48 49.6 -1.8**
comp=Z,14nm,0.6s,baz=152,slow=12,SNR=54
HFS LR LR 05 01 17.6
comp=Z,377nm,19.1s,baz=162,slow=41
comp=Z,14nm,0.6s
AKTO Aktyubinsk 26.66 46 LR LR 05 04 01.2
comp=Z,593nm,18.2s,baz=210,slow=47
AKTO Aktyubinsk 26.66 46 P **P** **04 48 52.7 -0.4**
KLMR Klimovskoe 26.70 13*d* iP P 04 48 45.9 -7.4
KLMR *e* 04 52 12.5
KLMR S **S** **04 53 21.5 -5.5**
KLMR pmax pmax
comp=Z,93nm,1.3s
KLMR MLR MLR
comp=Z,559nm,13.0s
KEF Keuruu 26.98 357 *e*P **P** **04 48 56.6 +0.8**
IFR Ifrane 27.09 276 P **P** **04 48 58.3 +1.0**
KONO Kongsberg 27.11 340 *e*P **P** **04 48 57.6 +0.7**
SOHO SOHO 27.29 106 P **P** **04 49 00.0 +1.0**
SOHO P **P** **04 49 00.0 +1.0**
SOHO SOHO 27.29 106 P **P** **04 48 59.7 +0.7**
ATD Arta Tunnel 27.34 146 LR LR 05 00 52.9
comp=Z,7.1nm,18.4s,baz=14,slow=38
KIRV Kirov 27.39 25 LR LR 05 01 36.0
comp=Z,268nm,19.1s,baz=221,slow=40
KIRV Kirov 27.39 25*d* iP **P** **04 48 57.8 -1.7**
AB31 Akbulak array 27.41 49 P **P** **04 48 58.5 -1.3**
AB31 Akbulak array 27.41 49 P **P** **04 48 59.5 -0.3**
ABKAR Akbulak array 27.41 49 P **P** **04 48 58.9 -0.9**
NC602 NORSAR Array S 27.52 343 P **P** **04 48 57.9 -2.8**
NC602 NORSAR Array S 27.52 343 *e*P **P** **04 48 59.2 -1.5**
ARQ Araqi 27.70 108 P **P** **04 49 03.3 +0.6**
ARQ P **P** **04 49 03.3 +0.6**
JOF Joensuu 27.77 4 *e*P **P** **04 49 01.0 -1.8**
NAO01 NORSAR Array S 27.78 342 IAmb IAmb 04 49 16.1
comp=Z,35nm,0.9s
NB201 NORSAR Array S 27.86 343 IAmb IAmb 04 49 16.5
comp=Z,29nm,1.3s
NB2 NORSAR Subarra 27.87 343 P **P** **04 49 01.6 -2.3**
comp=Z,3.6nm,0.6s,baz=154,slow=9.3
NB2 SCP **ScP** **04 55 57.9 -0.1**
comp=Z,0.9nm,0.8s,baz=133,slow=4.6
NB2 NORSAR Subarra 27.87 343 P **P** **04 49 01.6 -2.3**
baz=154,slow=9.3
NOA NORSAR Array B 27.87 343 P **P** **04 49 01.4 -2.4**
comp=Z,3.4nm,0.6s,baz=150,slow=8.7,SNR=21
NOA ScP **ScP** **04 55 57.6 -0.4**
comp=Z,1.9nm,0.9s,baz=133,slow=4.0,SNR=4.1
NOA LR LR 05 01 57.5
comp=Z,553nm,18.2s,baz=160,slow=40
comp=Z,3.4nm,0.6s
BLS5 Blasjo 27.88 337 *e*P **P** **04 49 01.8 -2.2**
NBO00 NORSAR Array S 27.97 342 IAmb IAmb 04 49 16.4
comp=Z,26nm,1.1s
VAF Ylistaro 27.98 355 *e*P **P** **04 49 03.5 -1.2**
NC204 NORSAR Array S 28.18 343 IAmb IAmb 04 49 22.1
comp=Z,69nm,1.9s
HOQ Hoqain 28.19 106 P **P** **04 49 06.4 -0.6**
HOQ P **P** **04 49 06.4 -0.6**
MTE Manteigas 28.19 291 P **P** **04 49 05.8 -1.1**
MTE IAmb IAmb 04 50 05.1
comp=Z,30nm,1.2s
MTE Manteigas 28.19 291 *e*P **P** **04 49 07.0 0.0**
HRA Herat 28.28 82 P **P** **04 49 08.6 +0.5**
PESTR Estremoz 28.29 288 IAmb IAmb 04 49 16.9
comp=Z,34nm,1.2s
SKAR Skarslia 28.33 340 *e*P **P** **04 49 07.6 -0.3**
PVAQ Vaqueiros 28.52 285 P **P** **04 49 08.9 -0.9**
PVAQ IAmb IAmb 04 49 17.8
comp=Z,43nm,1.4s
BSY Bisya 28.54 108 P **P** **04 49 11.5 +1.3**
BSY P **P** **04 49 11.5 +1.3**
EVO Evora 28.64 287 P **P** **04 49 09.3 -1.7**
DOK Doka 28.68 118 P **P** **04 49 12.3 +0.9**
SNR=8.8
DOK P **P** **04 49 12.3 +0.9**
SNR=8.8
MESJ Messejana 28.87 286 *e*P **P** **04 49 13.3 +0.4**
MESJ IAmb IAmb 04 49 14.6
comp=Z,11nm,0.9s
MESJ Messejana 28.87 286 *e*P **P** **04 49 13.3 +0.4**
WHFO Wadi Hawf 28.88 120 P **P** **04 49 13.8 +0.5**
ABTO Aybut 28.93 121 P **P** **04 49 14.7 +1.0**
SNR=8.6
ABTO P **P** **04 49 14.7 +1.0**
SNR=8.6
SMDO Samad 29.04 107 P **P** **04 49 15.8 +1.1**
SNR=5.4
SMDO P **P** **04 49 15.8 +1.1**
SNR=5.4
EKA Eskdalemuir Ar 29.18 323 P **P** **04 49 14.0 -1.6**
comp=Z,0.6nm,0.3s,baz=127,slow=10,SNR=14
EKA PcP **PcP** **04 52 22.8 +0.4**
comp=Z,0.7nm,0.5s,baz=122,slow=3.0,SNR=3.5
EKA ScP **ScP** **04 56 02.0 -0.1**
comp=Z,2.4nm,0.8s,baz=122,slow=4.0,SNR=7.8
comp=Z,0.6nm,0.3s
DOMB Dombas 29.26 342 *e*P **P** **04 49 15.8 -0.4**
WSAR Wadi Sarin 29.40 106 P **P** **04 49 19.0 +1.1**
JMDO Jabal Madar 29.44 108 P **P** **04 49 18.9 +0.7**
JMDO P **P** **04 49 18.9 +0.7**
RBK Rabkut 29.46 120 P **P** **04 49 20.0 +1.6**
SNR=11
RBK P **P** **04 49 20.0 +1.6**
SNR=11
TIO Tiouine 29.52 272 P **P** **04 49 19.8 +0.8**
ARTI Arti 29.64 35 P **P** **04 49 17.6 -2.1**
ARTI IAmb IAmb 04 49 29.1
comp=Z,17nm,0.8s
ARTI Arti 29.64 35 LR LR 05 03 20.2
comp=Z,323nm,20.9s,baz=244,slow=41
ARTI Arti 29.64 35*c* iP **P** **04 49 19.4 -0.2**
ARTI 04 50 12.8
ARTI 04 52 18.4
ARTI S **S** **04 54 17.7 +4.4**
ARTI SS **SnSn** **04 55 51.4 +8.5**
ARTI pmax pmax
comp=Z,6.0nm,0.7s
ARTI MLR MLR
comp=Z,258nm,16.0s
DMTO DMTO 29.85 119 P **P** **04 49 22.5 +0.6**
SNR=9.3
DMTO P **P** **04 49 22.5 +0.6**
SNR=9.3
AKN Aaknes 29.92 341 *e*P **P** **04 49 21.2 -0.8**
WBK Wadi Bani Khal 29.99 106 P **P** **04 49 25.5 +2.4**
WBK P **P** **04 49 25.5 +2.4**
FOO Floro 30.02 338 *e*P **P** **04 49 21.2 -1.6**
DQM DQM 30.39 112 P **P** **04 49 27.7 +1.1**
SNR=6.7
JLN Jalan Bani Buh 30.58 107 P **P** **04 49 29.1 +0.8**
SNR=5.2
JLN P **P** **04 49 29.1 +0.8**
SNR=5.2
NSS Namsos 30.81 347 *e*P **P** **04 49 28.7 -1.1**
SVE Sverdlovsk 30.94 36 *e*P P 04 49 35.7 +4.7
SVE pmax pmax
comp=Z,21nm,1.1s
MOR8 Moi Rana 31.92 350 *e*P **P** **04 49 39.6 0.0**
LEIR Leirfjorden 32.06 349 *e*P **P** **04 49 39.0 -1.8**
TOA0 Torodi Ar. Sit 32.19 233 P **P** **04 49 44.1 +1.7**
TORD Torodi Ar. Bea 32.19 233 P **P** **04 49 43.1 +0.7**
TORD IAmb IAmb 04 49 44.9
comp=Z,27nm,1.1s
TORD Torodi Ar. Bea 32.19 233 P **P** **04 49 42.7 +0.3**
comp=Z,71nm,0.3s,baz=32,slow=11,SNR=1.9
STOK Stokkvaagen 32.28 349 *e*P **P** **04 49 41.5 -1.2**
KONS Konsvik 32.42 349 *e*P **P** **04 49 42.2 -1.8**
LODK Lodwar 32.47 166 P **P** **04 49 46.6 +1.6**
SNR=6.9
APA Apatity 32.51 4‖ *i*P **P** **04 49 40.4 -4.3**
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,500nm,11.0s
VAGH Vaagaholmen 32.61 349 *e*P **P** **04 49 44.0 -1.5**
LVZ Lovozero 32.92 5 P **P** **04 49 45.8 -2.5**
LVZ IAmb IAmb 04 50 00.1
comp=Z,16nm,1.0s

LVZ Lovozero 32.92 5 P **P** **04 49 45.8 -2.5**
LVZ pmax pmax
comp=Z,17nm,1.0s
FAUS Fauske 32.95 351 *e*P **P** **04 49 45.8 -2.8**
SIMJ Simiganj 32.98 72 P **P** **04 49 48.9 -0.5**
SIMJ Simiganj 32.98 72 P **P** **04 49 50.6 +1.3**
BRLS Borolday 33.30 64 *e*P **P** **04 49 50.7 -1.3**
BRLS Borolday 33.30 64 *e*P **P** **04 49 50.7 -1.3**
IUG luzhnay 33.47 65 *e*P **P** **04 49 53.3 -0.2**
IUG pmax pmax
comp=Z,14nm,1.1s
IUG luzhnay 33.47 65 *e*P **P** **04 49 53.4 -0.1**
comp=Z,14nm,1.1s
STEI Steigen 33.47 351 *e*P **P** **04 49 51.6 -1.5**
KBL Kabul 33.73 79 P **P** **04 49 54.0 -2.0**
KBL Kabul 33.73 79 P **P** **04 49 57.0 +0.9**
KBL Kabul 33.73 79 P **P** **04 49 54.1 -2.0**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KK31 Karatay Array 33.79 63 IAmb IAmb 04 50 02.3
comp=Z,18nm,1.0s
KK31 Karatay Array 33.79 63 *i*P **P** **04 49 56.6 +0.3**
KKAR Karatay Array 33.79 63 P **P** **04 49 55.3 -0.9**
KKAR Karatay Array 33.79 63 IAmb IAmb 04 50 02.3
comp=Z,19nm,1.0s
KKAR Karatay Array 33.79 63 P **P** **04 49 55.3 -0.9**
ARA0 ARCESS Array S 34.34 359 *e*P **P** **04 49 58.8 -1.9**
ARCES ARCESS Array B 34.34 359 P **P** **04 49 58.7 -2.0**
comp=Z,1.7nm,0.3s,baz=173,slow=8.3,SNR=109
ARCES LR LR 05 06 37.5
comp=Z,135nm,18.5s,baz=172,slow=41
comp=Z,1.7nm,0.3s
DZA Taraz 34.40 64 *e*P **P** **04 50 01.3 -0.2**
DZA pmax pmax
comp=Z,8.0nm,0.6s
DZA Taraz 34.40 64 *e*P **P** **04 50 01.4 -0.2**
comp=Z,8.2nm,0.6s
JETT Jettan, Norway 34.58 355 *e*P **P** **04 50 01.7 -1.1**
BRVK Borovoye 34.71 46 P **P** **04 50 03.5 -0.6**
BRVK Borovoye 34.71 46 P **P** **04 50 05.1 +1.0**
BRVK Borovoye 34.71 46*d* iP **P** **04 50 04.3 +0.2**
BRVK pmax pmax
comp=Z,15nm,1.9s
BVA0 Borovoye Array 34.77 46 *i*P **P** **04 50 03.2 -1.4**
BVAR Borovoye Array 34.77 46 P **P** **04 50 03.9 -0.7**
comp=Z,1.7nm,0.5s,baz=260,slow=6.9,SNR=7.6
BVAR PP **PnPn** **04 51 13.0 -7.9**
comp=Z,6.3nm,0.6s,baz=248,slow=13,SNR=5.2
BVAR LR LR 05 08 49.5
comp=Z,374nm,19.0s,baz=259,slow=44
comp=Z,1.7nm,0.5s
VADS Vadso 34.92 1 *e*P **P** **04 50 04.6 -1.1**
BRZS Berezniki 35.64 52 *e*P **P** **04 50 11.8 -0.3**
BRZS Berezniki 35.64 52 *e*P **P** **04 50 11.9 -0.3**
ARSB Arslanbob 35.73 66 P **P** **04 50 13.0 -0.1**
ARSB Arslanbob 35.73 66 P **P** **04 50 13.0 -0.1**
ARSB pmax pmax
comp=Z,37nm,0.9s
EKS2 Erkin-Say 36.21 64 P **P** **04 50 18.6 +1.4**
SNR=10
AAK Ala-Archa 36.74 64 P **P** **04 50 20.9 -0.9**
AAK IAmb IAmb 04 50 24.5
comp=Z,17nm,1.0s
AAK Ala-Archa 36.74 64 LR LR 05 08 40.2
comp=Z,298nm,19.0s,baz=289,slow=42
AAK Ala-Archa 36.74 64 P **P** **04 50 22.3 +0.5**
AAK Ala-Archa 36.74 64 P **P** **04 50 23.4 +1.6**
SNR=14
AAK Ala-Archa 36.74 64*c* iP **P** **04 50 22.7 +0.9**
AAK pmax pmax
comp=Z,22nm,1.3s
AAK Ala-Archa 36.74 64 P **P** **04 50 23.0 +1.2**
AAK Ala-Archa 36.74 64 P **P** **04 50 23.2 +1.4**
AAK PcP **PcP** **04 52 45.3 +1.5**
SGDS Sogindy 36.78 63 *e*P **P** **04 50 21.8 -0.2**
SGDS Sogindy 36.78 63 *e*P **P** **04 50 21.8 -0.2**
CHMS Chumysh 36.90 63 P **P** **04 50 23.4 +0.4**
SNR=5.8
KBK Karagaybulak 37.07 64 P **P** **04 50 28.2 +3.6**
SNR=7.4
KMBO Kilima Mbogo 37.29 164 P **P** **04 50 30.1 +3.3**
KMBO Kilima Mbogo 37.29 164 P **P** **04 50 28.7 +2.0**
NIL Nilore 37.34 79 P **P** **04 50 27.5 +0.7**
NIL Nilore 37.34 79 P **P** **04 50 28.2 +1.4**
NIL Nilore 37.34 79 P **P** **04 50 27.5 +0.7**
NIL pmax pmax
comp=Z,47nm,0.9s
NIL Nilore 37.34 79 P **P** **04 50 28.6 +1.8**
TKM2 Tokmak 2 37.52 63 P **P** **04 50 29.5 +1.0**
SNR=7.2
TKM2 Tokmak 2 37.52 63 *i*P **P** **04 50 28.4 -0.1**
TKM2 pmax pmax
comp=Z,8.0nm,0.7s
BOOM Boomskoye usch 37.81 64 IAmb IAmb 04 50 51.6
comp=Z,15nm,1.0s
ULHL Ulahol 38.06 64 P **P** **04 50 35.5 +2.4**
SNR=11
KSH Kashi 38.22 69 P **P** **04 50 34.3 0.0**
KSH pmax pmax
comp=Z,11nm,1.3s
CHKK Chushkaly 38.46 62 *e*P **P** **04 50 36.1 -0.1**
CHKK Chushkaly 38.46 62 *e*P **P** **04 50 36.1 -0.1**
TNSS Tian-Shan 38.50 63 *e*P **P** **04 50 36.2 -0.8**
TNSS Tian-Shan 38.50 63 *e*P **P** **04 50 36.2 -0.8**
MDOK Medeo 38.56 63 *e*P **P** **04 50 36.9 -0.3**
MDOK Medeo 38.56 63 *e*P **P** **04 50 37.0 -0.3**
KIBK Kibwezi 38.65 163 P **P** **04 50 39.8 +1.8**
KIBK Kibwezi 38.65 163 P **P** **04 50 40.7 +2.7**
KDJ Kajisay 38.77 65 IAmb IAmb 04 50 46.6
comp=Z,19nm,0.9s
TARG Taragay, Kyrgy 39.28 65 P **P** **04 50 43.8 +0.2**
TARG Taragay, Kyrgy 39.28 65 P **P** **04 50 43.8 +0.2**
TARG pmax pmax
comp=Z,15nm,1.0s
TDK Taldyqorghan 39.39 60 *e*P **P** **04 50 43.7 -0.2**
TDK pmax pmax
comp=Z,19nm,0.7s
TDK Taldyqorghan 39.39 60 *e*P **P** **04 50 43.8 -0.2**
comp=Z,19nm,0.7s
KURBB Kurchatov Arra 39.43 51 P **P** **04 50 44.3 +0.1**
comp=Z,7.2nm,0.6s,baz=275,slow=8.7,SNR=40
KURBB PP **PnPn** **04 52 17.7 0.0**
comp=Z,12nm,1.0s,baz=275,slow=11,SNR=6.0
KURBB ScP **ScP** **04 56 39.7 +1.1**
comp=Z,2.0nm,0.9s,baz=269,slow=4.3,SNR=6.5
comp=Z,7.2nm,0.6s
KURBB Kurchatov Arra 39.43 51 P **P** **04 50 43.5 -0.7**
KURK Kurchatov 39.49 51 P **P** **04 50 44.0 -0.6**
KURK Kurchatov 39.49 51 P **P** **04 50 44.9 +0.2**
KURK Kurchatov 39.49 51 P **P** **04 50 44.3 -0.4**
KURK 04 56 39.7
BJO1 Bjornoya 39.54 356 *e*P **P** **04 50 42.0 -2.8**
ZHN Zhinishke 39.57 63 *e*P **P** **04 50 45.2 -0.4**
ZHN Zhinishke 39.57 63 *e*P **P** **04 50 45.3 -0.4**
UZB Uzynbulak 40.00 63 *e*P **P** **04 50 48.7 -0.5**
UZB Uzynbulak 40.00 63 *e*P **P** **04 50 48.8 -0.5**
SHLS Shalkode 40.32 63 *e*P **P** **04 50 54.0 +2.2**
SHLS Shalkode 40.32 63 *e*P **P** **04 50 54.0 +2.2**
WUS Wushi 40.41 66 P **P** **04 50 54.0 +1.4**
JMIC Jan Mayen 40.58 343 LR LR 05 09 19.7
comp=Z,112nm,18.1s,baz=104,slow=39
DBIC Dimbokro 41.29 234 P **P** **04 50 58.9 -1.0**
DBIC IAmb IAmb 04 51 01.8
comp=Z,21nm,0.9s
DBIC Dimbokro 41.29 234 P **P** **04 51 00.4 +0.5**
comp=Z,13nm,0.7s,baz=36,slow=8.2,SNR=18
DBIC LR LR 05 11 08.9
comp=Z,394nm,19.6s,baz=30,slow=40
comp=Z,13nm,0.7s
DBIC Dimbokro 41.29 234 P **P** **04 51 00.0 +0.1**
DBIC pP **sP** **04 51 09.4 -1.3**
DBIC PcP **PcP** **04 52 59.0 +0.7**
HOPEN Hopen 41.35 359 *e*P **P** **04 50 58.5 -1.2**
BORG Borgarnes 41.46 331 LR LR 05 08 33.1
comp=Z,174nm,21.9s,baz=117,slow=37
MK31 Makanchi Array 41.97 57 *i*P **P** **04 51 05.4 +0.2**
MKAR Makanchi Array 41.97 57 P **P** **04 51 05.1 -0.2**
comp=Z,6.6nm,0.6s,baz=271,slow=7.2,SNR=54
MKAR PP **PnPn** **04 52 46.4 -1.2**
comp=Z,10nm,0.8s,baz=269,slow=9.7,SNR=6.5
MKAR ScP **ScP** **04 56 49.3 +0.6**
comp=Z,2.9nm,0.8s,baz=268,slow=3.6,SNR=7.9
MKAR LR LR 05 12 51.4
comp=Z,184nm,19.7s,baz=261,slow=42
comp=Z,6.6nm,0.6s

HSPB Hornsund (broa 42.19 356 *e*P **P** **04 51 05.5 -1.0**
SPB2 Spitsbergen Ar 43.28 357 P **P** **04 51 14.0 -1.5**
SPB2 IAmb IAmb 04 51 24.2
comp=Z,20nm,0.9s
SPA0 Spitsbergen Ar 43.29 357 *e*P **P** **04 51 14.5 -1.0**
SPITS Spitsbergen Ar 43.29 357 P **P** **04 51 14.3 -1.2**
comp=Z,4.3nm,0.4s,baz=149,slow=11,SNR=134
SPITS PP **PcP** **04 53 00.8 -3.2**
comp=Z,1.1nm,0.3s,baz=146,slow=8.0,SNR=6.3
comp=Z,4.3nm,0.4s
ZAA0 Zalesovo Array 43.42 46 P **P** **04 51 15.3 -1.5**
ZALV Zalesovo Beam 43.42 46 P **P** **04 51 16.4 -0.5**
ZALV Zalesovo Beam 43.42 46 P **P** **04 51 16.1 -0.8**
comp=Z,7.9nm,0.7s,baz=266,slow=8.7,SNR=12
ZALV LR LR 05 13 11.3
comp=Z,200nm,20.5s,baz=268,slow=42
comp=Z,7.9nm,0.7s
ZALV Zalesovo Beam 43.42 46 *i*P **P** **04 51 18.6 +1.7**
ZALV pmax pmax
comp=Z,8.0nm,0.7s
SCO Scoresbysund 43.99 338 *i*P **P** **04 51 18.1 -3.1**
SCO IAmb IAmb 04 51 24.1
comp=Z,11nm,1.1s
KBS Kingsbay 44.26 356 P **P** **04 51 21.1 -2.1**
KBS IAmb IAmb 04 51 32.0
comp=Z,40nm,1.4s
KBS Kingsbay 44.26 356*c*e*P **P** **04 51 22.0 -1.2**
KBS Kingsbay 44.26 356 *e*P **P** **04 51 22.3 -0.9**
KBS Kingsbay 44.26 356 *i*P **P** **04 51 20.6 -2.7**
KBS Kingsbay 44.26 356 P **P** **04 51 22.0 -1.2**
KBS PcP **PcP** **04 53 08.1 +0.8**
BBTS Babate 44.60 254 LR LR 05 12 32.8
comp=Z,130nm,18.3s,baz=292,slow=39
WMQ Urumqi 46.14 60 *e*P **P** **04 51 40.5 +1.7**
WMQ pP pP 04 51 44.5 -1.9
WMQ sP sP 04 51 52.0 +2.5
WMQ pmax pmax
comp=Z,26nm,1.3s
WMQ LR LR
comp=Z,400nm,17.3s
WMQ LR LR
comp=Z,460nm,16.1s
WMQ LR LR
comp=Z,250nm,17.3s
NRIK Noril'sk 46.90 25 P **P** **04 51 43.9 -0.4**
NRIK IAmb IAmb 04 51 54.9
comp=Z,22nm,1.2s
NRIK Noril'sk 46.90 25 P **P** **04 51 44.6 +0.4**
comp=Z,5.1nm,0.4s,baz=224,slow=4.9,SNR=10
NRIK LR LR 05 14 52.7
comp=Z,150nm,18.4s,baz=251,slow=41
comp=Z,5.1nm,0.4s
HYB Hyderabad 48.37 98 *e*P **P** **04 51 56.7 +0.3**
HYB IVmB_BB 04 51 57.5
comp=Z,232nm,1.1s
NOR Nord 49.11 352 *i*P **P** **04 52 00.1 -1.2**
NOR IAmb IAmb 04 52 02.0
comp=Z,13nm,0.6s
ICESG Greenland Ices 49.49 334 *i*P **P** **04 52 03.1 -1.6**
ICESG IAmb IAmb 04 52 07.5
comp=Z,18nm,1.3s
SUMG Summit 49.63 339 IAmb IAmb 04 52 13.6
comp=Z,13nm,1.1s
SUMG Summit 49.63 339 *i*P **P** **04 52 04.0 -1.7**
SUMG IAmb IAmb 04 52 12.9
comp=Z,9.1nm,0.9s
LSZ Lusaka 50.27 179 P **P** **04 52 11.8 +0.9**
LSZ IAmb IAmb 04 52 13.9
comp=Z,11nm,0.9s
LSZ Lusaka 50.27 179 LR LR 05 16 08.1
comp=Z,156nm,18.8s,baz=180,slow=39
LSZ Lusaka 50.27 179 P **P** **04 52 12.9 +2.0**
LSZ Lusaka 50.27 179 P **P** **04 52 11.8 +0.9**
LSZ pmax pmax
comp=Z,11nm,1.0s
LSZ Lusaka 50.27 179 P **P** **04 52 12.7 +1.8**
LSZ PcP **PcP** **04 53 31.0 +1.5**
KSANE Kasane 52.83 183 IAmb IAmb 04 52 32.9
comp=Z,20nm,0.9s
MOY Mondy 53.40 48 *e*P **P** **04 52 34.9 +1.0**
MOY pmax pmax
comp=Z,16nm,1.7s
NEEM North Greenlan 53.43 345 *i*P **P** **04 52 31.1 -2.9**
NEEM IAmb IAmb 04 52 40.4
comp=Z,7.7nm,0.7s
GOMU GeErMu 53.45 68 P **P** **04 52 37.5 +2.6**
GOMU pP pP 04 52 41.5 -1.1
GOMU sP pwP 04 52 44.3 +1.7
GOMU pmax pmax
comp=Z,17nm,0.8s
SFJD Kangerlussuaq 53.59 331 LR LR 05 18 33.2
comp=Z,108nm,18.5s,baz=86,slow=40
XAUDM Khaudum 53.85 187 IAmb IAmb 04 52 40.4
comp=Z,18nm,1.1s
QNGWA Qangwa 54.85 188 P **P** **04 52 45.7 +1.0**
TSUM Tsumeb 55.02 192 P **P** **04 52 46.0 +0.1**
TSUM IAmb IAmb 04 52 48.5
comp=Z,14nm,1.0s
TSUM Tsumeb 55.02 192 LR LR 05 17 48.3
comp=Z,226nm,18.6s,baz=5.0,slow=38
TSUM Tsumeb 55.02 192 P **P** **04 52 47.5 +1.5**
TSUM pP **sP** **04 52 56.8 +0.1**
ZAK Zakamensk 55.10 49 *e*P **P** **04 52 47.0 +0.7**
ZAK pmax pmax
comp=Z,11nm,1.0s
SHL Shillong 55.34 81 P **P** **04 52 46.8 -1.7**
SHL IAmb IAmb 04 52 48.9
comp=Z,16nm,0.8s
SHL Shillong 55.34 81 P **P** **04 52 48.3 -0.2**
SNR=7.5
SHL Shillong 55.34 81 P **P** **04 52 46.8 -1.7**
SHL pmax pmax
comp=Z,16nm,0.8s
GTA Gaotai 56.07 63 P **P** **04 52 53.5 0.0**
GTA pmax pmax
comp=Z,13nm,1.1s
GTA LR LR
comp=Z,180nm,17.5s
GTA LR LR
comp=Z,120nm,15.9s
GTA LR LR
comp=Z,170nm,18.7s
GRTLG Ghanzi 56.66 187 *i*P **P** **04 53 00.1 +2.4**
MREMI Moremi 57.52 180 *i*P **P** **04 53 06.1 +2.3**
SONM Songino Array 57.80 51 P **P** **04 53 05.9 +0.3**
SONM Songino Array 57.80 51 P **P** **04 53 06.9 +1.3**
comp=Z,5.0nm,0.8s,baz=285,slow=6.9,SNR=7.4
comp=Z,5.0nm,0.8s
KGCAE Kacgae 58.04 186 *i*P **P** **04 53 09.4 +2.0**
ULN Ulaanbaatar 58.21 51 P **P** **04 53 07.5 -1.0**
ULN IAmb IAmb 04 53 17.2
comp=Z,13nm,1.1s
ULN Ulaanbaatar 58.21 51 P **P** **04 53 09.3 +0.8**
ULN Ulaanbaatar 58.21 51 P **P** **04 53 07.5 -1.0**
ULN pmax pmax
comp=Z,13nm,1.1s
LPHEP Lephephe 58.34 182 P **P** **04 53 11.1 +1.7**
LPHEP Lephephe 58.34 182 *i*P **P** **04 53 11.9 +2.5**
KDWAN Kaudwane 58.40 183 IAmb IAmb 04 53 14.0
comp=Z,15nm,0.9s
KDWAN Kaudwane 58.40 183 *i*P **P** **04 53 11.9 +2.0**
BOD Bodaibo 59.08 39 *e*P **P** **04 53 13.4 -0.8**
BOD pmax pmax
comp=Z,13nm,1.1s
LKGWB Lokgwabe 59.38 187 *i*P **P** **04 53 18.3 +1.6**
LBTB Lobatse 59.99 182 P **P** **04 53 22.0 +1.1**
LBTB Lobatse 59.99 182 P **P** **04 53 22.0 +1.1**
LBTB pmax pmax
comp=Z,23nm,0.9s
LBTB Lobatse 59.99 182 P **P** **04 53 23.0 +2.2**
LZH Lanzhou 60.27 65 *e*P **P** **04 53 24.0 +1.0**
LZH pP sP 04 53 33.0 -0.9
LZH pmax pmax
comp=Z,27nm,1.3s
LZH LR LR
comp=Z,300nm,15.1s
LZH LR LR
comp=Z,250nm,15.1s
LZH LR LR
comp=Z,410nm,14.4s
TIXI Tiksi 60.33 21 P **P** **04 53 21.4 -1.1**
TIXI IAmb IAmb 04 53 31.0
comp=Z,6.9nm,0.8s
TIXI Tiksi 60.33 21 LR LR 05 23 17.1
comp=Z,154nm,18.1s,baz=293,slow=40

TIXI Tiksi 60.33 21⇓eP P 04 53 22.0 -0.5
TIXI pmax pmax
comp=Z,4.0nm,0.8s
PHPEN Phepeng 60.59 185 P **P 04 53 25.5 +0.5**
PHPEN IAmb IAmb 04 53 27.6
comp=Z,31nm,1.0s
TNCH TengChong 60.93 79 eP **P 04 53 28.3 +0.6**
TNCH pP pP 04 53 37.0 +1.5
TNCH sP sP 04 53 40.8 +2.2
TNCH PP **PP 04 55 44.5 +2.6**
TNCH S **S 05 01 41.0 -3.4**
TNCH sS sS 05 01 58.0 +0.4
TNCH pmax pmax
comp=Z,120nm,3.3s
FRB Frobisher Bay 61.63 330 LR LR 05 20 27.6
comp=Z,77nm,20.0s,baz=82,slow=36
CD2 Chengdu 62.40 70 P **P 04 53 38.3 +1.0**
CD2 pmax pmax
comp=Z,20nm,0.6s
PZH PanZhiHua 62.82 76 P **P 04 53 40.3 0.0**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,100nm,4.7s
BTO Baotou 62.87 58 eP **P 04 53 40.3 -0.1**
BTO PP **PP 04 56 04.0 +5.5**
BTO S **S 05 02 10.5 +2.1**
BTO pmax pmax
comp=Z,20nm,0.5s
BTO pmax pmax
comp=Z,190nm,3.9s
BTO LR LR
comp=Z,500nm,22.9s
BTO LR LR
comp=Z,230nm,16.1s
BTO LR LR
comp=Z,160nm,10.3s
BOSA Boshof 63.58 182 P **P 04 53 46.9 +1.9**
comp=Z,14nm,0.8s,baz=6.4,slow=7.1,SNR=21
comp=Z,14nm,0.8s
BOSA Boshof 63.58 182 P **P 04 53 46.6 +1.6**
HHC Hu-ho-hao-te 63.84 57 eP **P 04 53 47.8 +1.0**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,110nm,6.1s
ILON Igloolik, Nuna 63.86 338 P **P 04 53 45.4 -0.9**
RES Resolute Bay 64.09 346 LR LR 05 23 40.0
comp=Z,104nm,18.4s,baz=358,slow=38
KMI Kunming 64.26 76 P **P 04 53 49.3 -0.6**
KMI pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 64.31 84 P **P 04 53 49.6 -0.4**
CHTO Chiang Mai 64.31 84 P **P 04 53 49.7 -0.3**
CHTO Chiang Mai 64.31 84 P **P 04 53 49.6 -0.4**
CHTO pmax pmax
comp=Z,34nm,1.4s
CHTO Chiang Mai 64.31 84 P **P 04 53 50.3 +0.3**
CHTO pP **sP 04 54 00.3 -0.7**
CHTO sP **pP 04 54 03.4 +5.4**
CM31 Chiang Mai Arr 64.48 85 P **P 04 53 51.3 +0.1**
CM31 Chiang Mai Arr 64.48 85 P **P 04 53 51.7 +0.5**
SNR=9.1
CMAR Chiang Mai Arr 64.48 85 P **P 04 53 49.9 -1.3**
CMAR Chiang Mai Arr 64.48 85 P **P 04 53 51.5 +0.2**
comp=Z,6.3nm,0.8s,baz=298,slow=8.2,SNR=48
comp=Z,6.3nm,0.8s
YAK Yakutsk 64.73 31 LR LR 05 26 57.3
comp=Z,232nm,18.1s,baz=300,slow=41
YAK Yakutsk 64.73 31⇓eP P 04 53 51.2 -0.9
YAK pmax pmax
comp=Z,13nm,0.4s
XAN Xi'an 64.91 65 P **P 04 53 54.3 +0.5**
XAN pP sP 04 54 03.5 -1.3
XAN pmax pmax
comp=Z,21nm,1.2s
XAN LR LR
comp=Z,210nm,24.5s
XAN LR LR
comp=Z,210nm,23.0s
XAN LR LR
comp=Z,320nm,22.6s
XLT XiLinHaoTe 65.55 53 eP **P 04 53 59.0 +1.2**
XLT pP pP 04 54 04.8 -1.0
XLT sP sP 04 54 08.5 -0.4
XLT PP **PP 04 56 26.5 +4.6**
XLT pmax pmax
comp=Z,7.0nm,1.1s
XLT pmax pmax
comp=Z,95nm,5.4s
XLT LR LR
comp=Z,140nm,23.4s
XLT LR LR
comp=Z,170nm,17.9s
GYA Guiyang 66.72 73 ⇓P **P 04 54 06.5 +0.8**
GYA pmax pmax
comp=Z,18nm,0.7s
LYN LuoYang 67.28 63 eP **P 04 54 11.5 +2.5**
LYN pP pP 04 54 16.0 -0.9
LYN pmax pmax
comp=Z,14nm,0.5s
BJI Beijing 67.35 56 P **P 04 54 09.0 -0.3**
BJI pP **sP 04 54 19.8 -0.5**
BJI S **S 05 02 59.5 -3.6**
BJI pmax pmax
comp=Z,4.0nm,0.9s
BJI LR LR
comp=Z,77nm,24.5s
BJI LR LR
comp=Z,44nm,20.6s
BJI LR LR
comp=Z,99nm,22.8s
ZEA Zeya 67.55 39 eP P 04 54 18.8 +8.4
ZEA pmax pmax
comp=Z,10.0nm,0.6s
HNS HongShan 67.56 59 ⇑P **P 04 54 11.8 +1.1**
HNS pmax pmax
comp=Z,6.0nm,0.9s
HNS LR LR
comp=Z,160nm,22.5s
SUR Sutherland 67.60 186 P **P 04 54 12.7 +1.7**
SUR Sutherland 67.60 186 P **P 04 54 13.0 +2.0**
SUR Sutherland 67.60 186 P **P 04 54 13.2 +2.2**
SUR pP **sP 04 54 23.2 +1.3**
HEH HeiHe 69.38 43 eP **P 04 54 22.0 +0.2**
HEH pmax pmax
comp=Z,8.0nm,0.6s
HEH LR LR
comp=Z,250nm,14.0s
HEH LR LR
comp=Z,260nm,13.3s
HEH LR LR
comp=Z,340nm,14.9s
TIA Tai'an 69.83 59 P **P 04 54 26.0 +1.1**
TIA pmax pmax
comp=Z,14nm,0.8s
CNSH ChangSha 70.72 69 P **P 04 54 31.5 +1.1**
CNSH pmax pmax
comp=Z,14nm,0.9s
A36M Sachs Harbour 71.36 351 IAmb IAmb 04 54 45.1
comp=Z,15nm,0.8s
A36M Sachs Harbour 71.36 351 P **P 04 54 32.9 -0.7**
baz=23
UBPT Khong Chiam 71.46 84 P **P 04 54 34.9 -0.2**
CN2 Changchun 71.54 49 eP **P 04 54 35.5 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BNX BinXian 71.71 47 ⇓P **P 04 54 36.8 +0.7**
BNX pmax pmax
comp=Z,7.0nm,1.0s
KLR Kul'dur 72.31 42 LR LR 05 33 08.4
comp=Z,135nm,18.1s,baz=314,slow=42
KLR Kul'dur 72.31 42 ceP **P 04 54 40.1 +0.4**
KLR pmax pmax
comp=Z,8.0nm,1.5s
RCBR Riachuelo 72.31 249 LR LR 05 29 06.2
comp=Z,55nm,18.1s,baz=62,slow=38
BILL Bilibino 72.43 15 P **P 04 54 39.0 -1.1**
BILL IAmb IAmb 04 54 53.5
comp=Z,34nm,1.7s
BILL Bilibino 72.43 15⇓ eP **P 04 54 39.5 -0.6**
BILL pmax pmax
comp=Z,8.0nm,1.5s
SEY Seymchan 72.65 23 LR LR 05 32 12.9
comp=Z,89nm,18.4s,baz=294,slow=40
SEY Seymchan 72.65 23⇑ eP **P 04 54 42.3 +0.9**
SEY pmax pmax
comp=Z,3.0nm,0.6s
KULM Kulim 73.04 96 IAmb IAmb 04 54 54.6
comp=Z,20nm,1.0s
PSI Prapat 73.08 99 P **P 04 54 44.4 -0.5**
PSI pmax pmax
comp=Z,21nm,1.0s
RPSI Rantau Prapat 73.14 99 P **P 04 54 44.4 -0.7**
RPSI IAmb IAmb 04 54 55.2
comp=Z,21nm,1.0s
NJ2 Nanjing 73.16 63 eP **P 04 54 46.5 +1.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
VLDQ Val d'Or 73.55 318 IAmb IAmb 04 54 57.0
comp=Z,18nm,1.0s
C36M Paulatuk 73.64 350 P **P 04 54 46.2 -1.0**
baz=24,SNR=10.0
A22K Sinclair Lake 74.01 1 P **P 04 54 48.1 -1.2**
baz=358
MA2 Magadan 74.48 26 P **P 04 54 52.3 +0.1**
MA2 IAmb IAmb 04 55 03.6
comp=Z,19nm,1.0s
MA2 Magadan 74.48 26 LR LR 05 32 18.8
comp=Z,97nm,19.0s,baz=298,slow=40
MA2 Magadan 74.48 26⇑ eP **P 04 54 52.9 +0.7**
MA2 pmax pmax
comp=Z,13nm,0.9s
A19K Wainwright 74.64 3 P **P 04 54 51.9 -1.0**
baz=353
B22K Teshekpuk Lake 74.69 0 IAmb IAmb 04 55 04.2
comp=Z,14nm,0.9s
B22K Teshekpuk Lake 74.69 0 P **P 04 54 52.1 -1.2**
baz=359,SNR=10
B20K Meade River 74.97 2 P **P 04 54 53.9 -0.9**
baz=356
C26K Camden Bay 74.98 357 P **P 04 54 54.3 -0.6**
baz=6.2
C23K Itkillik River 75.19 359 P **P 04 54 55.1 -1.1**
baz=1.4,SNR=7.6
C27K Jago River 75.22 357 IAmb IAmb 04 55 07.2
comp=Z,14nm,1.1s
C27K Jago River 75.22 357 P **P 04 54 55.4 -1.0**
baz=7.2
D28M Stokes Point 75.23 355 P **P 04 54 55.6 -0.8**
baz=11
USA0B Ussuriysk Arra 75.28 46 IAmb IAmb 04 55 08.1
comp=Z,16nm,0.8s
USRK Ussuriysk Ar. 75.28 46 P **P 04 54 57.0 -0.1**
comp=Z,6.7nm,0.6s,baz=288,slow=3.5,SNR=10
USRK LR LR 05 34 14.7
comp=Z,82nm,19.6s,baz=322,slow=41
comp=Z,6.7nm,0.6s
C24K Franklin Bluff 75.28 359 IAmb IAmb 04 55 07.2
comp=Z,11nm,0.9s
C24K Franklin Bluff 75.28 359 P **P 04 54 56.0 -0.7**
baz=3.0
B21K Ikpikpuk River 75.40 1 IAmb IAmb 04 55 11.2
comp=Z,12nm,0.8s
B21K Ikpikpuk River 75.40 1 P **P 04 54 56.9 -0.5**
baz=358,SNR=14
B18K Kokolik River 75.44 3 P **P 04 54 57.1 -0.5**
baz=352
D27M Malcolm River 75.46 356 P **P 04 54 57.7 -0.2**
D27M IAmb IAmb 04 55 08.9
comp=Z,12nm,1.1s
D27M Malcolm River 75.46 356 P **P 04 54 57.6 -0.3**
baz=9.6
D25K Kavik River 75.63 358 IAmb IAmb 04 55 10.1
comp=Z,11nm,0.9s
D25K Kavik River 75.63 358 P **P 04 54 57.9 -0.8**
baz=5.0
INK Inuvik 75.78 353 LR LR 05 31 55.9
comp=Z,67nm,18.9s,baz=243,slow=39
INK Inuvik 75.78 353 P **P 04 54 59.0 -0.6**
baz=16
D24K Happy Valley 75.86 359 IAmb IAmb 04 55 13.8
comp=Z,14nm,1.0s
D24K Happy Valley 75.86 359 P **P 04 54 59.4 -0.7**
baz=2.9
C21K Knifeblade Rid 75.87 1 P **P 04 54 59.7 -0.4**
baz=358,SNR=12
E28M Babbage River 76.00 355 P **P 04 55 00.5 -0.4**
baz=11,SNR=5.4
D23K Nanushuk River 76.07 359 P **P 04 55 00.4 -0.9**
baz=1.4
E29M Blow River 76.09 355 IAmb IAmb 04 55 11.8
comp=Z,19nm,0.9s
E29M Blow River 76.09 355 P **P 04 55 00.8 -0.6**
baz=12,SNR=20
D22K Ayikyak River 76.16 0 IAmb IAmb 04 55 12.8
comp=Z,17nm,1.1s
D22K Ayikyak River 76.16 0 P **P 04 55 00.8 -1.0**
baz=360
C18K Utukok River 76.18 3 IAmb IAmb 04 55 15.9
comp=Z,14nm,0.9s
C18K Utukok River 76.18 3 P **P 04 55 01.0 -1.0**
baz=352
D20K Etivluk River 76.28 2 IAmb IAmb 04 55 13.2
comp=Z,13nm,1.1s
D20K Etivluk River 76.28 2 P **P 04 55 01.7 -0.8**
baz=356,SNR=6.2
C16K Lisburne Hills 76.31 5 P **P 04 55 01.8 -0.7**
baz=349
TOLK Toolik Lake Re 76.38 359 P **P 04 55 03.1 0.0**
TOLK Toolik Lake Re 76.38 359 P **P 04 55 02.6 -0.5**
baz=2.3
D19K Kuna River 76.46 2 IAmb IAmb 04 55 13.5
comp=Z,21nm,1.2s
D19K Kuna River 76.46 2 P **P 04 55 02.7 -0.8**
baz=355
KSAR Wonju Array Be 76.53 54 P **P 04 55 04.2 -0.2**
KSAR Wonju Array Be 76.53 54 P **P 04 55 04.2 -0.2**
E27K Coleen River 76.55 356 P **P 04 55 03.3 -0.7**
baz=9.0
KSRS Korea Array 76.55 54 P **P 04 55 04.2 -0.3**
comp=Z,4.6nm,0.8s,baz=302,slow=4.9,SNR=17
KSRS LR LR 05 33 02.7
comp=Z,78nm,20.2s,baz=290,slow=39
comp=Z,4.6nm,0.8s
E21K Killik River 76.60 1 P **P 04 55 03.5 -0.8**
baz=359
F31M Tsiigehtchic 76.64 353 P **P 04 55 03.8 -0.7**
baz=16,SNR=7.8
F30M Barrier River 76.68 354 IAmb IAmb 04 55 31.7
comp=Z,13nm,0.9s
F30M Barrier River 76.68 354 P **P 04 55 03.8 -0.9**
baz=14
RDOG Red Dog Mine 76.68 4 P **P 04 55 04.3 -0.4**
baz=351
E20K Nigu River 76.75 1 P **P 04 55 04.7 -0.5**
baz=357
E25K Arctic Village 76.80 357 IAmb IAmb 04 55 16.3
comp=Z,11nm,0.9s
E25K Arctic Village 76.80 357 P **P 04 55 04.8 -0.6**
baz=5.7
E22K Anaktuvuk Pass 76.91 360 IAmb IAmb 04 55 16.6
comp=Z,10nm,0.8s
E22K Anaktuvuk Pass 76.91 360 P **P 04 55 05.4 -0.7**
baz=0.4,SNR=14
E24K Your Creek 76.93 359 P **P 04 55 05.2 -1.0**
baz=3.2
E23K Chandalar 76.97 359 IAmb IAmb 04 55 21.8
comp=Z,27nm,1.4s
E23K Chandalar 76.97 359 P **P 04 55 05.5 -1.0**
baz=2.3
D17K Noatak River 77.03 4 P **P 04 55 06.0 -0.6**
baz=351
F26K Sheenjek River 77.17 357 IAmb IAmb 04 55 18.6
comp=Z,12nm,1.1s
F26K Sheenjek River 77.17 357 P **P 04 55 06.5 -1.1**
baz=6.8
G31M Satah River 77.20 353 P **P 04 55 06.8 -0.9**
baz=15
F25K Christian Rive 77.33 357 P **P 04 55 07.3 -1.2**
baz=5.6,SNR=8.4
G30M tAoh Zrail Nji 77.33 354 IAmb IAmb 04 55 18.1
comp=Z,9.4nm,0.9s
G30M tAoh Zrail Nji 77.33 354 P **P 04 55 07.8 -0.6**
baz=13
E18K Tukpahlearik C 77.43 3 IAmb IAmb 04 55 22.4
comp=Z,10nm,0.7s
E18K Tukpahlearik C 77.43 3 P **P 04 55 07.7 -1.2**
baz=353
BMAR Burnt Mountain 77.45 357 P **P 04 55 08.3 -0.8**
F24K Squaw Lake 77.48 358 IAmb IAmb 04 55 20.5
comp=Z,13nm,0.8s
F24K Squaw Lake 77.48 358 P **P 04 55 08.0 -1.3**
baz=3.7,SNR=14
E19K Redstone River 77.52 2 IAmb IAmb 04 55 35.0
comp=Z,13nm,0.8s
E19K Redstone River 77.52 2 P **P 04 55 08.3 -1.1**
baz=356,SNR=16
F22K John River 77.54 360 P **P 04 55 09.1 -0.5**
baz=0.1
G29M Pine Creek 77.56 354 IAmb IAmb 04 55 19.6
comp=Z,9.5nm,0.8s
G29M Pine Creek 77.56 354 P **P 04 55 08.9 -0.8**
baz=12,SNR=7.0
E17K Hotham Inlet 77.71 4 P **P 04 55 09.7 -0.8**
baz=352
COLD Coldfoot 77.81 359 IAmb IAmb 04 55 22.4
comp=Z,9.4nm,1.0s
COLD Coldfoot 77.81 359 P **P 04 55 10.5 -0.6**
baz=1.8
F21K Alatna River 77.83 0 IAmb IAmb 04 55 22.1
comp=Z,12nm,0.9s
F21K Alatna River 77.83 0 P **P 04 55 10.6 -0.6**
baz=359,SNR=12
G26K Porcupine Rive 77.89 357 IAmb IAmb 04 55 22.8
comp=Z,16nm,0.9s
G26K Porcupine Rive 77.89 357 P **P 04 55 11.2 -0.3**
baz=7.1,SNR=9.3
YKAW3 Yellowknife Wh 77.91 343 IAmb IAmb 04 55 17.5
comp=Z,4.4nm,0.8s
G27K Doyon Strip 77.92 356 P **P 04 55 11.3 -0.4**
baz=8.9,SNR=8.5
YKAW1 Yellowknife Wh 77.95 343 IAmb IAmb 04 55 20.8
comp=Z,18nm,1.7s
F20K Avaraart Lake 77.97 1 IAmb IAmb 04 55 22.6
comp=Z,14nm,1.2s
F20K Avaraart Lake 77.97 1 P **P 04 55 11.6 -0.3**
baz=357
YKA Yellowknife Ar 77.97 343 P **P 04 55 10.8 -1.2**
comp=Z,1.6nm,0.7s,baz=33,slow=5.7,SNR=32
YKA LR LR 05 30 38.4
comp=Z,116nm,21.5s,baz=356,slow=36
comp=Z,1.6nm,0.7s
EPYK Eagle Plains 77.98 354 P **P 04 55 10.7 -1.4**
EPYK Eagle Plains 77.98 354 P **P 04 55 11.7 -0.4**
baz=13
G22K Bettles 78.13 360 P **P 04 55 12.3 -0.5**
baz=0.7
F19K Shaleruckik Mo 78.13 2 P **P 04 55 11.8 -1.0**
baz=355
G25K Bearman Lake 78.18 357 P **P 04 55 12.8 -0.3**
baz=5.2
H29M Whitestone 78.27 354 P **P 04 55 12.9 -0.7**
baz=12
G24K Hadweenzic Riv 78.29 358 P **P 04 55 12.9 -0.8**
baz=4.0
H31M Peel River 78.29 353 P **P 04 55 13.1 -0.7**
baz=15
F18K Selawik 78.30 3 P **P 04 55 13.1 -0.6**
baz=354
G23K Bananza Creek 78.33 359 IAmb IAmb 04 55 25.6
comp=Z,12nm,1.1s
G23K Bananza Creek 78.33 359 P **P 04 55 13.3 -0.8**
baz=1.9
E46A Sault Ste Mari 78.33 319 IAmb IAmb 04 55 24.2
comp=Z,16nm,0.9s
FYU Fort Yukon 78.34 357 IAmb IAmb 04 55 25.3
comp=Z,27nm,1.3s
F17K Baldwin Pennin 78.38 4 P **P 04 55 13.7 -0.5**
baz=353
H27K Steamboat Moun 78.48 356 IAmb IAmb 04 55 25.8
comp=Z,9.5nm,0.8s
H27K Steamboat Moun 78.48 356 P **P 04 55 14.4 -0.5**
baz=9.0,SNR=7.3
ERPA Erie 78.52 314 IAmb IAmb 04 55 24.4
comp=Z,18nm,0.9s
G21K Allakaket 78.53 0 P **P 04 55 14.3 -0.8**
G21K IAmb IAmb 04 55 25.8
comp=Z,17nm,1.1s
G21K Allakaket 78.53 0 P **P 04 55 14.4 -0.7**
baz=359,SNR=11
H25L Birch Creek 78.67 357 P **P 04 55 15.6 -0.2**
baz=5.4
TNA Tin City 78.76 7 P **P 04 55 15.9 -0.4**
baz=347
G19K Purcell Mounta 78.84 2 IAmb IAmb 04 55 27.4
comp=Z,11nm,1.0s
G19K Purcell Mounta 78.84 2 P **P 04 55 16.0 -0.8**
baz=356
F15K North Star Dit 78.89 5 P **P 04 55 16.6 -0.5**
baz=350
G18K Tagagawik 79.04 3 IAmb IAmb 04 55 28.7
comp=Z,11nm,0.9s
G18K Tagagawik 79.04 3 P **P 04 55 17.2 -0.7**
baz=355
I30M Mount Dempster 79.07 353 IAmb IAmb 04 55 28.2
comp=Z,13nm,0.9s
I30M Mount Dempster 79.07 353 P **P 04 55 16.3 -1.9**
baz=13,SNR=19
I29M Ogilvie Camp, 79.11 354 IAmb IAmb 04 55 28.2
comp=Z,14nm,0.8s
I29M Ogilvie Camp, 79.11 354 P **P 04 55 17.2 -1.1**
baz=12,SNR=17
I27K Kandik River 79.11 356 P **P 04 55 17.5 -0.9**
baz=8.9
I28M Miner Creek 79.15 355 IAmb IAmb 04 55 28.7
comp=Z,20nm,1.6s
I28M Miner Creek 79.15 355 P **P 04 55 17.3 -1.3**
baz=10
H22K Ishtalitna Cre 79.16 360 P **P 04 55 17.4 -1.2**
baz=0.8
H24K Noodor Dome 79.16 358 P **P 04 55 17.3 -1.3**
baz=3.7
WRGLY Wrigley 79.17 347 IAmb IAmb 04 55 29.8
comp=Z,16nm,1.0s
WRGLY Wrigley 79.17 347 P **P 04 55 17.7 -0.9**
baz=24
H23K Yukon River 79.21 359 IAmb IAmb 04 55 30.3
comp=Z,22nm,1.2s
H23K Yukon River 79.21 359 P **P 04 55 18.2 -0.6**
baz=2.3
G17K Kiwalik Mounta 79.35 4 P **P 04 55 19.2 -0.4**
baz=353
G16K Koyuk River 79.36 4 P **P 04 55 19.7 +0.1**
baz=352
H21K Melozitna Rive 79.40 0 IAmb IAmb 04 55 31.3
comp=Z,18nm,1.1s
H21K Melozitna Rive 79.40 0 P **P 04 55 19.4 -0.5**
baz=360
PRP Porcupine Dome 79.40 357 P **P 04 55 19.8 -0.2**
baz=5.6
TBO Thunder Bay 79.46 323 IAmb IAmb 04 55 29.0
comp=Z,13nm,0.9s
H19K Roundabout Mou 79.48 2 IAmb IAmb 04 55 31.0
comp=Z,11nm,0.9s
H19K Roundabout Mou 79.48 2 P **P 04 55 19.6 -0.7**
baz=357
I26K Coal Creek Min 79.50 356 IAmb IAmb 04 55 31.0
comp=Z,9.1nm,0.9s
I26K Coal Creek Min 79.50 356 P **P 04 55 20.0 -0.4**
baz=7.6
H20K Anotleneega Mo 79.55 1 P **P 04 55 19.9 -0.7**
baz=358
YSS Yuzhno-Sakhali 79.55 39 eP **P 04 55 21.7 +0.7**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=Z,200nm,15.0s
J30M Hart River 79.69 353 P **P 04 55 20.6 -1.1**
J30M IAmb IAmb 04 55 32.1
comp=Z,14nm,0.9s
J30M Hart River 79.69 353 P **P 04 55 21.0 -0.7**
baz=13,SNR=13
H18K Honhosa River 79.80 3 P **P 04 55 21.6 -0.4**
baz=355
POKR Poker Plat Res 79.87 358 P **P 04 55 21.8 -0.6**
baz=4.0
I21K Tanana 79.88 360 IAmb IAmb 04 55 33.6
comp=Z,9.3nm,0.8s
I21K Tanana 79.88 360 P **P 04 55 21.6 -0.8**
baz=0.3
I23K Minto, Yukon-K 79.89 359 P **P 04 55 21.7 -0.8**
baz=2.4
Q56A Snyder Ridge, 79.90 311 IAmb IAmb 04 55 32.1
comp=Z,17nm,1.0s
MCWV Mont Chateau 79.93 312 IAmb IAmb 04 55 32.5
comp=Z,23nm,1.1s
H17K Granite Mounta 79.94 3 P **P 04 55 22.0 -0.9**
baz=354
GAMB Gambell 80.09 9 P **P 04 55 21.8 -1.8**
baz=344

H16K	Elim	80.12	4	P	P	04 55 23.4	-0.3
	baz=352						
COLA	College	80.13 358		eP	P	04 55 23.4	-0.4
COLA				pmax	pmax		
	comp=Z,15nm,1.3s						
ILAR	Eielson Array	80.20 358		P	P	04 55 23.6	-0.6
	comp=Z,0.8nm,0.7s,baz=344,slow=4.1,SNR=15						
ILAR				PKKPbc	PKKPbc	05 14 06.5	-1.1
	comp=Z,0.6nm,0.9s,baz=224,slow=4.0,SNR=4.6						
	comp=Z,0.8nm,0.7s						
GCSA	Galena City Sc	80.25	2	P	P	04 55 24.0	-0.4
	baz=356						
I20K	Naaghedeneel	80.25	1	P	P	04 55 23.6	-0.8
	baz=358						
J25K	Salcha River,	80.30 357		P	P	04 55 24.1	-0.7
	baz=5.7						
J26L	Joseph Creek	80.32 356		P	P	04 55 23.8	-1.2
	baz=7.2						
NEA2	Nenana	80.44 359		P	P	04 55 24.7	-0.8
	baz=2.7						
FFC	Flin Flon	80.50 333		P	P	04 55 24.6	-1.4
FFC				IAmb	IAmb	04 55 36.5	
	comp=Z,25nm,1.4s						
FFC	Flin Flon	80.50 333		P	P	04 55 24.6	-1.4
FFC				pmax	pmax		
	comp=Z,25nm,1.5s						
K29M	Barlow Dome	80.53 353		P	P	04 55 25.1	-1.0
	baz=12						
HDA	Harding Lake	80.56 358		IAmb	IAmb	04 55 36.1	
	comp=Z,15nm,0.8s						
HDA	Harding Lake	80.56 358		P	P	04 55 25.2	-1.0
	baz=4.4						
K27K	Chicken	80.70 355		IAmb	IAmb	04 55 37.7	
	comp=Z,16nm,1.0s						
K27K	Chicken	80.70 355		P	P	04 55 26.1	-0.8
	baz=8.4						
EPLO	Experimental L	80.81 326		IAmb	IAmb	04 55 35.7	
	comp=Z,12nm,0.9s						
O52A	Adamsville	80.85 313		IAmb	IAmb	04 55 36.9	
	comp=Z,22nm,1.0s						
SCRK	Sand Creek	80.87 356		P	P	04 55 26.7	-1.2
	baz=6.9						
J20K	Nowinta River	80.88	1	IAmb	IAmb	04 55 41.6	
	comp=Z,12nm,0.8s						
J20K	Nowinta River	80.88	1	P	P	04 55 27.1	-0.7
	baz=358						
I17K	Unalakleet	80.95	4	P	P	04 55 27.4	-0.8
	baz=353						
BPAW	Bear Paw Mtn.	80.96 359		IAmb	IAmb	04 55 38.2	
	comp=Z,9.3nm,0.8s						
BPAW	Bear Paw Mtn.	80.96 359		P	P	04 55 27.3	-1.0
	baz=1.1						
MMPY	Sheldon Lake,	80.99 350		P	P	04 55 27.9	-0.7
	baz=17						
JNU	Nakatsue	81.02	56	LR	LR	05 36 06.5	
	comp=Z,96nm,18.8s,baz=306,slow=39						
J19K	Poorman	81.04	1	P	P	04 55 27.5	-1.2
J19K				IAmb	IAmb	04 55 40.2	
	comp=Z,27nm,1.3s						
J19K	Poorman	81.04	1	P	P	04 55 27.6	-1.1
	baz=357						
COWI	Conover	81.04 321		IAmb	IAmb	04 55 37.5	
	comp=Z,16nm,1.1s						
K24K	Donnelly Dome	81.13 357		IAmb	IAmb	04 55 41.0	
	comp=Z,15nm,0.8s						
K24K	Donnelly Dome	81.13 357		P	P	04 55 28.1	-1.1
	baz=5.4						
RIDG	Independent Ri	81.15 357		IAmb	IAmb	04 55 39.9	
	comp=Z,12nm,1.0s						
RIDG	Independent Ri	81.15 357		P	P	04 55 28.5	-0.9
	baz=6.2						
CHUM	Lake Minchumin	81.18	0	P	P	04 55 28.4	-1.0
	baz=360						
DOT	Dot Lake	81.20 356		IAmb	IAmb	04 55 40.4	
	comp=Z,9.6nm,0.8s						
MCK	McKinley	81.30 358		IAmb	IAmb	04 55 40.0	
	comp=Z,18nm,1.1s						
MCK	McKinley	81.30 358		P	P	04 55 29.1	-1.0
	baz=2.8						
L29M	L29M	81.31 354		P	P	04 55 29.9	-0.3
L29M	L29M	81.31 354		P	P	04 55 29.4	-0.8
	baz=12						
ULM	Lac du Bonnet	81.36 327		IAmb	IAmb	04 55 38.0	
	comp=Z,9.5nm,0.9s						
ULM	Lac du Bonnet	81.36 327		P	P	04 55 29.6	-1.1
	comp=Z,3.3nm,0.3s,baz=53,slow=7.0,SNR=8.0						
ULM				LR	LR	05 30 32.9	
	comp=Z,95nm,21.6s,baz=0.0,slow=35						
	comp=Z,3.3nm,0.3s						
J17K	VABM Dome	81.52	3	P	P	04 55 30.7	-0.6
	baz=354						
J18K	Innoko River	81.54	2	P	P	04 55 30.5	-0.9
	baz=356						
J16K	Anvik River	81.56	4	P	P	04 55 30.5	-0.9
	baz=353						
TGTN	Hyland Airport	81.59 349		P	P	04 55 30.0	-1.7
	baz=20						
TRF	Thorofare Moun	81.60 359		P	P	04 55 30.4	-1.5
	baz=1.7						
BCAR	Beaver Creek A	81.64 355		P	P	04 55 31.3	-0.7
FARO	Faro, Yukon	81.64 351		P	P	04 55 31.1	-0.9
	baz=16						
CAST	Castle Rocks	81.65 360		IAmb	IAmb	04 55 42.4	
	comp=Z,11nm,0.9s						
CAST	Castle Rocks	81.65 360		P	P	04 55 31.1	-0.9
	baz=0.2						
L27K	Beaver Creek,	81.65 355		P	P	04 55 31.1	-0.9
	baz=8.6						
M30M	Minto, Yukon	81.70 353		P	P	04 55 31.4	-0.9
	baz=13						
K20K	Telida	81.70	1	IAmb	IAmb	04 55 44.1	
	comp=Z,19nm,1.4s						
K20K	Telida	81.70	1	P	P	04 55 31.2	-1.1
	baz=358						
L26K	Log Cabin Wild	81.78 356		P	P	04 55 31.9	-0.8
	baz=7.4						
M31M	Drury Creek, Y	81.80 352		P	P	04 55 32.0	-0.8
	baz=15						
PETK	Petropavlovsk-	81.86	28	LR	LR	05 36 20.0	
	comp=Z,83nm,19.6s,baz=293,slow=39						
J14K	Nanvaranak Lak	81.90	5	P	P	04 55 33.0	-0.2
	baz=351						
PAX	Paxson	81.95 357		P	P	04 55 32.9	-0.8
	baz=5.6						
M29M	Somme Creek	81.99 354		P	P	04 55 33.5	-0.4
	baz=11						
KOTAN	Kotaneelee Air	82.14 346		P	P	04 55 34.2	-0.4
	baz=23						
G40A	Rib Lake	82.15 321		IAmb	IAmb	04 55 43.4	
	comp=Z,12nm,1.2s						
PPLA	Purkeypile	82.17 360		P	P	04 55 34.0	-0.9
	baz=0.1						
BVCY	Beaver Creek	82.22 355		P	P	04 55 34.6	-0.5
	baz=9.4						
K17K	Iditarod	82.23	3	IAmb	IAmb	04 55 51.0	
	comp=Z,22nm,1.1s						
K17K	Iditarod	82.23	3	P	P	04 55 35.0	-0.1
	baz=355						
M27K	Edge Creek, AK	82.35 355		IAmb	IAmb	04 55 46.9	
	comp=Z,25nm,1.5s						
M27K	Edge Creek, AK	82.35 355		P	P	04 55 35.1	-0.7
	baz=8.6						
M26K	Nabesna, AK	82.38 356		P	P	04 55 35.2	-0.7
M26K	Nabesna, AK	82.38 356		P	P	04 55 34.8	-1.1
	baz=7.7						
K15K	Wolf Creek Mou	82.49	4	P	P	04 55 35.2	-1.2
	baz=352						
HARP	HAARP	82.50 357		P	P	04 55 35.1	-1.4
	baz=5.9						
L20K	Farewell, AK	82.58	1	P	P	04 55 35.8	-1.1
	baz=359						
K13K	Kusilvak Mount	82.62	6	P	P	04 55 36.2	-0.8
	baz=350						
N32M	Quiet Lake	82.65 351		IAmb	IAmb	04 55 45.7	
	comp=Z,11nm,0.9s						
N32M	Quiet Lake	82.65 351		P	P	04 55 36.6	-0.7
	baz=16						
CUT	Chulitna	82.65 359		P	P	04 55 36.4	-0.8
	baz=1.7						
N31M	Braeburn, Yuko	82.65 352		P	P	04 55 36.5	-0.8
	baz=14						
L18K	Granite Mounta	82.79	2	IAmb	IAmb	04 55 48.9	
	comp=Z,9.4nm,0.8s						
L18K	Granite Mounta	82.79	2	P	P	04 55 37.2	-0.7
	baz=356						
SJG	San Juan	82.80 287		LR	LR	05 28 27.1	
	comp=Z,32nm,19.9s,baz=154,slow=33						
L17K	Donlin	82.82	3	P	P	04 55 38.0	-0.1
	baz=355						
YUK3	Moose Creek	82.82 354		P	P	04 55 37.6	-0.8
	baz=9.7						
N30M	Aishikik Lake	82.82 353		P	P	04 55 37.3	-1.0
	baz=12						
M24K	Tolsona, Glenn	82.84 357		P	P	04 55 37.6	-0.7
	baz=5.0						
L19K	White Mountain	82.87	1	P	P	04 55 37.6	-0.8
	baz=358						
JOW	Kunigami	82.88	62	LR	LR	05 36 12.5	
	comp=Z,98nm,21.1s,baz=292,slow=38						
WTLY	Watson Lake, Y	83.01 348		IAmb	IAmb	04 55 50.2	
	comp=Z,9.1nm,0.9s						
WTLY	Watson Lake, Y	83.01 348		P	P	04 55 38.5	-0.7
	baz=19						
YUK4	Talbot Arm	83.09 353		P	P	04 55 37.9	-1.9
	baz=11						
SKT	Skwentna	83.09 360		P	P	04 55 38.3	-1.2
	baz=0.6						
L15K	Ungalak Mounta	83.11	4	P	P	04 55 39.1	-0.5
	baz=352						
M19K	Big River Lodg	83.16	1	P	P	04 55 39.3	-0.6
	baz=358						
SCM	Sheep Creek Mo	83.16 358		P	P	04 55 39.0	-1.0
	baz=4.1						
L16K	Owhat River	83.19	3	P	P	04 55 38.9	-1.1
	baz=354						
M20K	Styx River	83.19	0	P	P	04 55 39.2	-1.0
	baz=359						
LIRD	Liard River Hi	83.20 347		P	P	04 55 38.9	-1.2
	baz=21						
M23K	Glacier View	83.21 358		P	P	04 55 39.1	-1.0
	baz=3.8						
SML	Sawmill	83.21 358		P	P	04 55 38.0	-2.2
	baz=3.3						
YUK8	Steele Glacier	83.25 354		P	P	04 55 38.9	-1.8
	baz=10						
N25K	Chitina, Valde	83.27 356		P	P	04 55 39.1	-1.4
	baz=6.3						
M22K	Willow	83.31 359		P	P	04 55 39.1	-1.5
	baz=1.8						
WHY	Whitehorse	83.35 351		P	P	04 55 39.9	-1.1
	baz=14						
L14K	Kuka Creek	83.36	5	P	P	04 55 39.9	-0.9
	baz=352						
O30N	Mendenhall	83.39 352		P	P	04 55 39.9	-1.3
	baz=13						
P48A	Milroy	83.40 314		IAmb	IAmb	04 55 49.7	
	comp=Z,13nm,0.9s						
PRPB	Parauapebas	83.43 258		eP	P	04 55 44.0	+2.0
KLU	Klutina	83.44 357		P	P	04 55 40.1	-1.3
	baz=5.2						
PMR	Palmer	83.45 358		P	P	04 55 40.6	-0.7
	baz=2.6						
YUK6	Outpost Mounta	83.46 353		P	P	04 55 40.7	-1.1
	baz=11						
HYT	Haines Junctio	83.49 353		P	P	04 55 40.6	-1.2
	baz=12						
SPMN	Marine on St.	83.51 322		P	P	04 55 39.9	-2.0
R50A	Paris	83.51 313		IAmb	IAmb	04 55 50.3	
	comp=Z,12nm,1.2s						
P33M	Teslin, Yukon	83.52 350		P	P	04 55 41.0	-0.9
	baz=16						
M18K	Stony River	83.54	2	P	P	04 55 41.1	-0.7
	baz=357						
TOAD	Toad River Com	83.56 346		P	P	04 55 41.0	-1.0
	baz=22						
M17K	Holitna River	83.58	2	P	P	04 55 41.1	-1.0
	baz=356						
SUA	Susitna One	83.60 359		P	P	04 55 40.9	-1.4
	baz=1.3						
KNK	Knik Glacier	83.61 358		IAmb	IAmb	04 55 52.8	
	comp=Z,15nm,1.0s						
KNK	Knik Glacier	83.61 358		P	P	04 55 41.3	-0.9
	baz=3.2						
MAJO	Matsushiro	83.69	49	eP	P	04 55 43.0	-0.1
MAJO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MJAR	Matsushiro Arr	83.69	49	P	P	04 55 43.9	+0.8
	comp=Z,5.9nm,1.0s,baz=316,slow=4.3,SNR=12						
	comp=Z,5.9nm,1.0s						
JFWS	Jewell Farm	83.79 319		IAmb	IAmb	04 55 51.0	
	comp=Z,11nm,0.9s						
O28M	Mount Upton	83.79 354		IAmb	IAmb	04 55 54.1	
	comp=Z,7.0nm,0.8s						
O28M	Mount Upton	83.79 354		P	P	04 55 42.5	-1.0
	baz=9.9						
SPCR	Spurr Chakacha	83.88 360		P	P	04 55 42.1	-1.5
	baz=0.1						
M16K	Timber Creek	83.90	3	P	P	04 55 41.8	-1.9
	baz=354						
BMRM	Bremner River	83.90 356		P	P	04 55 42.3	-1.5
	baz=6.3						
RC01	Rabbit Creek A	83.96 359		P	P	04 55 42.8	-1.2
	baz=2.1						
M14K	Bethel	84.00	5	P	P	04 55 43.0	-1.2
	baz=352						
M11K	Mekoryuk	84.01	7	P	P	04 55 43.4	-0.8
	baz=349						
R33M	Jennings River	84.04 349		IAmb	IAmb	04 55 56.1	
	comp=Z,9.8nm,0.8s						
R33M	Jennings River	84.04 349		P	P	04 55 43.1	-1.5
	baz=17						
GLI	Glacier Island	84.10 357		P	P	04 55 43.6	-1.1
	baz=4.3						
SBUM	Sibu	84.11	91	IAmb	IAmb	04 55 48.8	
	comp=Z,11nm,1.1s						
P30M	Million Dollar	84.12 352		P	P	04 55 43.6	-1.3
	baz=12						
M15K	Kasigluk River	84.13	4	P	P	04 55 43.7	-1.2
	baz=353						
PWL	Port Wells	84.16 358		P	P	04 55 44.2	-0.9
	baz=3.3						
M13K	Dall Lake	84.23	5	P	P	04 55 44.1	-1.3
	baz=351						
P32M	Atlin	84.24 351		P	P	04 55 44.2	-1.3
	baz=15						
N19K	Bonanza Creek	84.25	1	P	P	04 55 44.6	-1.0
	baz=358						
CAPN	Captain Cook N	84.30 359		P	P	04 55 44.3	-1.4
	baz=0.9						
N18K	Kilae Creek	84.35	2	P	P	04 55 44.4	-1.6
	baz=357						
EYAK	Cordova Ski Ar	84.38 357		P	P	04 55 45.0	-1.1
	baz=5.4						
N16K	Nishlik Lake	84.45	3	P	P	04 55 45.4	-1.1
	baz=355						
PINM	Pinnacle	84.47 354		P	P	04 55 45.7	-1.0
	baz=9.9						
N17K	Nushagak Hills	84.47	2	P	P	04 55 45.0	-1.6
	baz=356						
MESA	MESA	84.52 355		P	P	04 55 45.2	-1.9
	baz=8.5						
O22K	Cooper Landing	84.57 359		P	P	04 55 45.7	-1.4
	baz=2.1						
SKAG	Skagway	84.58 351		P	P	04 55 45.7	-1.4
	baz=14						
T50A	Nancy	84.64 312		IAmb	IAmb	04 55 56.5	
	comp=Z,12nm,0.9s						
Q32M	Nakina River	84.65 350		P	P	04 55 45.6	-2.2
	baz=16						
BGLC	Bering Glacier	84.67 355		P	P	04 55 46.1	-1.4
	baz=7.4						
P29M	Windy Craggy	84.68 353		P	P	04 55 46.0	-1.7
	baz=12						
N15K	Kwethluk River	84.69	4	P	P	04 55 45.9	-1.8
	baz=354						
WCI	Wyandotte Cave	84.72 314		P	P	04 55 47.8	-0.5
WCI	Wyandotte Cave	84.72 314		P	P	04 55 47.8	-0.5
WCI				pmax	pmax		
	comp=Z,16nm,1.0s						
DLBC	Dease Lake	84.80 348		LR	LR	05 35 46.2	
	comp=Z,150nm,19.9s,baz=316,slow=37						
PNL	Peninsula	84.81 353		P	P	04 55 47.0	-1.4
	baz=11						
N14K	Kuskokwak Cree	84.84	5	P	P	04 55 47.4	-1.1
	baz=352						
TKL	Tuckaleechee C	84.86 310		IAmb	IAmb	04 55 58.1	
	comp=Z,12nm,0.8s						
TKL	Tuckaleechee C	84.86 310		LR	LR	05 35 00.0	
	comp=Z,63nm,19.0s,baz=345,slow=37						
P23K	Montague Islan	85.00 358		P	P	04 55 47.1	-2.2
	baz=4.0						
O18K	Koktuh Hills	85.20	1	P	P	04 55 49.0	-1.3
	baz=358						
O17K	Koliganek Bris	85.22	2	P	P	04 55 49.3	-1.1
	baz=356						
BRSE	Bradley Lake S	85.33 359		P	P	04 55 49.1	-1.8
	baz=1.3						
O16K	Kokwok River B	85.36	3	P	P	04 55 49.8	-1.3
	baz=355						
HOM	Homer	85.42 360		P	P	04 55 50.6	-0.7
	baz=0.5						
P19K	Oil Pt	85.43	0	P	P	04 55 50.1	-1.4
	baz=359						
S34M	Telegraph Cree	85.48 349		IAmb	IAmb	04 56 03.2	
	comp=Z,7.4nm,0.9s						
S34M	Telegraph Cree	85.48 349		P	P	04 55 50.6	-1.1
	baz=17						
P18K	Big Mountain,	85.66	2	P	P	04 55 51.2	-1.4
	baz=358						
O15K	Ungalikthiuk R	85.70	4	P	P	04 55 51.2	-1.6
	baz=354						
GOGA	Godfrey	86.11 309		IAmb	IAmb	04 56 04.2	
	comp=Z,17nm,1.4s						
W50A	Signal Mountai	86.11 311		P	P	04 55 55.2	-0.1
CLTN	Cedars of Leba	86.15 312		IAmb	IAmb	04 56 05.2	
	comp=Z,7.0nm,1.0s						
ECSD	EROS Data Cent	86.47 323		IAmb	IAmb	04 56 05.2	
	comp=Z,6.5nm,0.8s						
FPAL	Fort Paine	86.73 311		IAmb	IAmb	04 56 07.5	
	comp=Z,9.5nm,1.0s						
WVT	Waverly	87.03 313		P	P	04 55 58.2	-1.5
WVT				IAmb	IAmb	04 56 07.1	
	comp=Z,6.9nm,0.9s						
WVT	Waverly	87.03 313		P	P	04 55 58.2	-1.5
WVT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ITTB	Itaituba	87.15 263		eP	P	04 56 02.1	+1.4
CGM3	Cape Girardeau	87.31 315		IAmb	IAmb	04 56 09.2	
	comp=Z,11nm,1.0s						
SHEM	Shemya Is, Ala	87.60	20	LR	LR	05 40 28.8	
	comp=Z,68nm,19.5s,baz=110,slow=39						
BDFB	Brasilia	87.68 249		P	P	04 56 03.6	+0.3
BDFB	Brasilia	87.68 249		P	P	04 56 04.9	+1.7
	comp=Z,6.4nm,0.8s,baz=60,slow=9.7,SNR=11						
BDFB				LR	LR	05 38 14.2	
	comp=Z,122nm,18.2s,baz=35,slow=38						
	comp=Z,6.4nm,0.8s						
CCM	Cathedral Cave	87.70 316		P	P	04 56 01.5	-1.5
CCM	Cathedral Cave	87.70 316		P	P	04 56 01.5	-1.5
PLAL	Pickwick Lake	87.95 312		IAmb	IAmb	04 56 12.2	
	comp=Z,11nm,1.1s						
SNDB	Serra Nova Dou	88.04 254		eP	P	04 56 06.9	+2.1
PBMO	Poplar Bluff	88.12 315		IAmb	IAmb	04 56 13.7	
	comp=Z,9.2nm,0.9s						
PMNB	Patos De Minas	88.25 246		eP	P	04 56 06.3	+0.4
NPGB	Novo Progresso	88.39 260		eP	P	04 56 07.2	+0.6
LRAL	Lakeview Retre	88.59 310		IAmb	IAmb	04 56 15.6	
	comp=Z,11nm,1.1s						
MGMO	Mountain Grove	88.91 316		IAmb	IAmb	04 56 17.2	
	comp=Z,11nm,1.1s						
LCAR	Lake Charles	89.03 315		IAmb	IAmb	04 56 17.8	
	comp=Z,7.5nm,1.0s						
BBB	Bella Bella	90.38 345		LR	LR	05 41 05.9	
	comp=Z,114nm,18.5s,baz=348,slow=38						
HHAR	Hobbs	90.47 317		IAmb	IAmb	04 56 24.8	
	comp=Z,9.0nm,1.2s						
ARAG	Araguaiana, MT	90.65 251		eP	P	04 56 19.1	+2.1
NEW	Newport	91.11 337		LR	LR	05 39 08.2	
	comp=Z,62nm,18.9s,baz=272,slow=37						
YNE	Yellowstone No	91.39 331		P	P	04 56 19.2	-1.3
YNE				IAmb	IAmb	04 56 42.6	
	comp=Z,5.9nm,1.0s						
MIAR	Mount Ida	91.51 315		IAmb	IAmb	04 56 30.0	
	comp=Z,8.2nm,0.9s						
YHL	Hebgen Lake	91.98 332		IAmb	IAmb	04 56 43.1	
	comp=Z,5.3nm,1.0s						
PDRB	Porto dos Gac	92.13 257		eP	P	04 56 26.0	+2.0
PDAR	Pinedale Array	93.08 330		P	P	04 56 27.1	-1.2
	comp=Z,0.5nm,0.7s,baz=51,slow=4.7,SNR=5.5						
PDAR				LR	LR	05 41 27.7	
	comp=Z,78nm,18.4s,baz=9.0,slow=38						
	comp=Z,0.5nm,0.7s						
RPRD	Ribas do Rio P	94.89 249		eP	P	04 56 39.3	+2.7
MFID	Camas Ranch	94.93 334		IAmb	IAmb	04 56 45.3	
	comp=Z,4.9nm,0.8s						
ELK	Elko	97.03 333		P	P	04 56 44.6	-1.8
ELK	Elko	97.03 333		P	P	04 56 44.6	-1.8
ELK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SIV	San Ignacio	98.08 256		LR	LR	05 43 14.1	
	comp=Z,78nm,20.5s,baz=101,slow=37						
YBH	Yreka Blue Hor	98.71 338		LR	LR	05 43 47.5	
	comp=Z,69nm,19.1s,baz=5.5,slow=37						
TXAR	Lajitas Array	101.08 318		P	Pdif	04 57 03.9	-0.6
	comp=Z,0.2nm,0.7s,baz=106,slow=4.4,SNR=4.1						
TXAR				PP	PP	05 01 16.9	+4.5
	comp=Z,0.4nm,0.9s,baz=74,slow=4.4,SNR=3.9						
ASAR	Alice Springs	116.02 102		PKP	PKPdf	05 01 56.8	-0.6
	comp=Z,1.2nm,0.9s,baz=1.9,slow=2.3,SNR=7.4						
QSPA	South Pole Qui	125.12 180		PKP	PKPdf	05 02 13.4	-0.2
	comp=Z,8.9nm,1.1s,baz=277,slow=1.5,SNR=12						
STKA	Stephens Creek	125.73 107		PKP	PKiKP	05 02 16.4	+0.2
	comp=Z,2.5nm,0.8s,baz=350,slow=7.1,SNR=4.4						
VNDA	Vanda	133.24 168		PKP	PKiKP	05 02 29.8	-0.1
	comp=Z,1.5nm,1.2s,baz=337,slow=5.4,SNR=4.4						
TAOE	Nuku Hiva Isla	151.46 334		eLR	LR	05 53 22.5	
	comp=Z,497nm,30.5s						
RKT	Rikitea	160.67 304		eLR	LR	05 57 43.3	
	comp=Z,3μm,41.8s						
PPT2	Papeete2	162.23 351		eLR	LR	05 58 18.1	
	comp=Z,89nm,24.8s						
PPT2				eLR	LR	05 58 25.1	
	comp=Z,148nm,29.0s						
TBI	Tubuai	167.87 348		eLR	LR	06 01 01.4	
	comp=Z,609nm,32.8s						

AFAD ***29*** *05:00:25.0, 35.°19N±27.°48E, h18km±12km, MW3.8*
IDC ***29*** *05:00:27.6±1.5, 35.°42N±27.°71E, h0km, mb3.4/3, mbtmp3.3/8, ML3.3/4, Error ellipse: s-maj=30.1km s-min=17.6km az=154.0*
NIC ***29*** *05:00:28.6, 35.°22N±27.°78E, h10km±1km, Ml3.2/6*
ISK ***29*** *05:00:30.6, 35.°39N±27.°76E, h9km, ML3.3/21*
THE ***29*** *05:00:31.7, 35.°39N±27.°71E, h13km±1km, ML3.2/7, Error ellipse: s-maj=1.9km s-min=0.8km az=310.0*
ATH ***29*** *05:00:31.4, 35.°44N±27.°79E, h9km±6km, ML3.5/4, Manual Solution by A.Moschou First location: 2019/04/29 05:01:58, This location: 2019/04/29 07:50:25 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 6 km*

ISC 29 05:00:30.5±1.1, 35.°31N±0.°03×27.°74E±0.°02, h25km±10km, n74, σ1985/107, mb3.2/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.53	297	P	Pb	05 00 40.8	-0.5
KARP				S	Sb	05 00 48.3	-0.3
	8μm,0.4s						
KARP	Karpathos	0.53	297	Pg	Pb	05 00 40.9	-0.4
KARP				Sg	Sb	05 00 48.9	+0.3
KARP	Karpathos	0.53	297	P	Pb	05 00 40.6	-0.6
KARP				S	Sb	05 00 49.4	+0.9
KARP				AML	AML	05 00 49.6	
	17nm,0.3s						
KARP				AML	AML	05 00 50.9	
	15nm,0.4s						
KARP	Karpathos	0.53	297	P	Pb	05 00 41.3	0.0
KARP				S	Sb	05 00 48.8	+0.2
ARG	Arkhangelos	0.96	19	P	Pn	05 00 48.4	0.0
ARG				S	Sn	05 01 01.4	+0.2
	2μm,0.6s						
ARG	Arkhangelos	0.96	19	Pg	Pn	05 00 48.0	-0.3
ARG				Sg	Sb	05 01 00.3	-0.4
ARG	Arkhangelos	0.96	19	P	Pn	05 00 48.3	0.0
ARG				S	Sn	05 01 03.1	+2.0
ARG				AML	AML	05 01 03.8	
	3.1nm,0.8s						
ARG				AML	AML	05 01 04.9	
	3.5nm,0.4s						
ARG	Arkhangelos	0.96	19	P	Pn	05 00 48.1	-0.3
ARG				S	Sb	05 00 59.0	-1.7
ZKR	Zakros	1.26	261	P	Pb	05 00 53.7	0.0
ZKR				S	Sb	05 01

NISR					S	Sn	05 01 11.3	-0.5
	802nm,0.6s								
DAT	Datca	1.42	355		Pn	Pb	05 00 56.3	-0.1
DAT					Sn	Sb	05 01 14.6	+0.4
TURN	Turunc	1.52	16		P	Pb	05 00 57.8	-0.2
TURN					S	Sb	05 01 21.4	+4.6
IZZE	Mula-Seydike	1.65	47		P	Pb	05 00 58.8	-1.5
ASTA	Astypalaia	1.67	318		P	Pb	05 00 59.9	-0.7
ASTA					S	Sb	05 01 20.7	-0.5
DALY	Dalyan (Mula)	1.68	26		Pn	Pb	05 00 59.9	-0.8
FETY	Fethiye	1.71	39		Pn	Pb	05 01 00.3	-1.1
KSL	Kastellorizon	1.72	60		P	Pb	05 00 59.9	-1.5
KSL					S	Sn	05 01 20.1	+0.2
	175nm,1.2s								
KSL	Kastellorizon	1.72	60		P	Pb	05 00 59.7	-1.8
KSL					S	Sb	05 01 22.5	-0.1
KSL					AML	AML	05 01 40.9	
	0.2nm,0.7s								
KSL					AML	AML	05 01 46.5	
	0.4nm,0.6s								
KSL	Kastellorizon	1.72	60		P	Pb	05 00 59.6	-1.8
BDRM	Kayabasi	1.77	352		P	Pn	05 01 00.4	+0.9
BDRM					S	Sb	05 01 23.2	-0.8
BODT	Bodrum	1.78	349		Pn	Pb	05 01 01.1	-1.4
SABU	Mula-Dalaman	1.81	33		P	Pb	05 01 01.8	-1.2
SABU					S	Sb	05 01 31.6	+6.4
YER	Yerkesik	1.87	13		Pn	Pb	05 01 02.6	-1.5
MLSB	Milas	1.98	1		Pn	Pb	05 01 04.2	-1.7
CAME	Cameli-Denizli	2.06	37		Pn	Pb	05 01 05.7	-1.7
DDIM	Aydin, Didim	2.18	350		P	Pb	05 01 08.3	-0.9
SNT5	Nea Kammeni, S	2.19	300		P	Pn	05 01 07.2	+1.9
CAEL	Denizli, Camel	2.21	35		P	Pn	05 01 06.8	+1.0
CMBO	Columbo, Santo	2.22	302		P	Pn	05 01 06.1	+0.4
CMBO					S	Sn	05 01 31.9	-0.4
	885nm,0.6s								
CMBO	Columbo, Santo	2.22	302		P	Pn	05 01 07.5	+1.8
DNZT	Denizli-Tavas-	2.22	28		P	Pb	05 01 07.9	-2.2
SAP3	Santorini-Thir	2.24	301		P	Pb	05 01 09.1	-1.3
ELL	Elmali	2.27	50		Pn	Pb	05 01 08.5	-2.4
IDI	Anoyia	2.33	270		P	Pn	05 01 08.2	+0.9
IDI					S	Sn	05 01 36.1	+0.9
	140nm,0.5s								
IDI	Anoyia	2.33	270		Pn	Pb	05 01 11.1	-0.8
IDI	Anoyia	2.33	270		Pn	Pn	05 01 08.9	+1.6
	22nm,0.5s,baz=83,slow=16,SNR=32								
IDI					Sn	Sb	05 01 39.0	-1.3
	18nm,0.3s,baz=333,slow=10,SNR=6.7								
IDI	Anoyia	2.33	270		P	Pb	05 01 10.6	-1.3
IDI					S	Sb	05 01 40.5	+0.2
AYDN	Tasoluk	2.35	3		P	Pn	05 01 08.7	+1.2
AYDN					S	Sb	05 01 39.5	-1.3
TAVA	DENIZLI_Tavas	2.35	23		P	Pn	05 01 08.9	+1.3
TAVA					S	Sb	05 01 44.5	+3.7
GOLH	Golhisar	2.42	37		P	Pb	05 01 10.8	-2.7
APMY	Acipayam-Deniz	2.50	30		Pn	Pn	05 01 11.0	+1.4
ESEN	Aydn-Nazilli	2.53	11		P	Pn	05 01 11.5	+1.5
ESEN					S	Sb	05 01 47.4	+1.5
DNIZ	Denizli-Tavas-	2.54	24		P	Pn	05 01 11.5	+1.3
AYDB	Zeytinkoy-Aydi	2.63	3		Pn	Pn	05 01 12.7	+1.2
PRNS	Prines Rethymn	2.65	272		P	Pb	05 01 16.3	-0.9
NAZL	Nazilli-Aydin	2.68	9		Pn	Pn	05 01 13.9	+1.7
KORT	Korkueli	2.70	51		P	Pb	05 01 14.9	-3.4
INCE	Denizli-Bozkur	2.81	31		P	Pn	05 01 14.9	+1.0
INCE					S	Sb	05 02 01.0	+6.9
DGB	zmir	2.82	346		P	Pn	05 01 14.7	+0.8
KIRA	zmir-Kiraz	2.93	10		P	Pn	05 01 16.7	+1.1
ODEM	Odemis-Izmir	2.97	5		Pn	Pn	05 01 17.6	+1.5
GVD	Gavdhos	3.03	262		Pn	Pn	05 01 20.4	+3.5
IMMV	Iera Moni Meta	3.07	274		P	Pn	05 01 18.3	+0.8
IMMV	Iera Moni Meta	3.07	274		Pn	Pb	05 01 21.3	-3.2
IMMV	Iera Moni Meta	3.07	274		P	Pb	05 01 20.9	+3.5
IMMV					S	Sb	05 01 58.4	-3.2
BCK	Bucak	3.14	46		Pn	Pn	05 01 20.7	+2.2
KULA	Kula-Manisa	3.28	13		Pn	Pn	05 01 21.6	+1.2
KNDR	Palaiochora Ch	3.32	270		Pn	Pn	05 01 24.7	+3.9
GORD	Gordes-Manisa	3.61	5		Pn	Pn	05 01 26.9	+2.0
AKMS	Akamas	3.78	93		P	Pn	05 01 26.8	-0.3
AKMS					S	Sn	05 02 11.6	+0.8
AKMS					AML	AML	05 02 14.2	
	0.2nm,0.3s								
AKMS					AML	AML	05 02 27.6	
	0.1nm,0.5s								
ALFC	Alefka	3.98	91		P	Pn	05 01 29.8	-0.2
ALFC					AML	AML	05 02 17.6	
	0.2nm,0.7s								
ALFC					S	Sn	05 02 17.6	+1.8
ALFC					AML	AML	05 02 27.3	
	0.2nm,0.5s								
TROD	Troodos	4.22	93		P	Pn	05 01 32.6	-0.8
TROD					S	Sn	05 02 22.8	+0.8
TROD					AML	AML	05 02 30.8	
	0.1nm,0.4s								
TROD					AML	AML	05 02 36.0	
	0.1nm,0.5s								
ASGA	Asgata	4.55	95		P	Pn	05 01 37.4	-0.4
ASGA					S	Sn	05 02 31.4	+1.6
CSS	Mathiatis	4.60	93		P	Pn	05 01 38.5	0.0
CSS					S	Sn	05 02 33.3	+2.3
BRTR	Keskin Array B	6.43	45		Pn	Pn	05 02 05.8	+2.1
	0.2nm,0.3s,baz=220,slow=15,SNR=9.6								
	0.9nm,0.5s								
MMAI	Mount Meron Ar	6.75	108		Pn	Pn	05 02 08.4	+0.3
	2.3nm,0.3s,baz=260,slow=16,SNR=2.3								
	0.7nm,0.2s								
MLR	Muntele Rosu	10.26	353		Pn	Pn	05 02 53.8	-2.4
	0.1nm,0.3s,baz=197,slow=11,SNR=3.9								
	1.3nm,1.1s								
KBZ	Khabaz	14.39	50		Pn	P	05 03 57.2	-1.9
	0.1nm,0.3s,baz=236,slow=5.6,SNR=4.6								
	0.3nm,0.5s								
ESDC	Sonseca Array	25.45	289		P	P	05 05 56.0	-0.4
	0.3nm,0.5s,baz=89,slow=9.2,SNR=1.7								
	0.3nm,0.5s								
FINES	FINESS Array B	26.17	358		P	P	05 06 03.6	+1.0
	1.2nm,1.0s,baz=170,slow=8.9,SNR=1.1								
	1.2nm,1.0s								
TORD	Torodi Ar. Bea	32.24	233		P	P	05 06 57.1	+0.1
	35nm,0.3s,baz=42,slow=8.2,SNR=1.3								
ARCES	ARCESS Array B	34.30	359		P	P	05 07 13.7	-0.7
	0.1nm,0.3s,baz=176,slow=8.0,SNR=4.9								
	0.1nm,0.3s								

IDC 29 05:12:37.4±3.2, 5°.01S×133°.70E, h0km, mb3.5/1, mbtmp4.0/4, ML4.2/3, Error ellipse: s-maj=125.4km s-min=31.2km az=82.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.86	178	Pn	Pn	05 16 07.9	-1.0
	0.8nm,0.3s,baz=358,slow=13,SNR=26						
WRA				Sn	Sn	05 18 46.6	-7.7
	0.3nm,0.3s,baz=357,slow=24,SNR=4.8						
	2.8nm,0.5s						
FITZ	Fitzroy Crossi	15.21	211	Pn	Pn	05 16 12.5	-1.1
	1.2nm,0.3s,baz=30,slow=10,SNR=32						
FITZ				Sn	Sn	05 18 54.3	-8.6
	1.5nm,0.3s,baz=186,slow=17,SNR=8.0						
	2.0nm,0.3s						
ASAR	Alice Springs	18.55	179	P	Pn	05 16 56.6	+0.7
	0.6nm,0.3s,baz=5.1,slow=7.4,SNR=22						
	2.9nm,0.7s						
MKAR	Makanchi Array	68.66	325	P	P	05 23 42.7	0.0
	0.5nm,0.8s,baz=104,slow=6.1,SNR=3.4						
	0.5nm,0.8s						

UCR ***29*** *05:15:49.3±0.8, 8°.32N×82°.99W, h0km±5km, MW4.8*
RSNC ***29*** *05:15:50.5±0.7, 8°N±5°×8°3W±°, h1km±2km, M3.5, mb4.7, ML3.5*
UPA ***29*** *05:15:50.4±2.7, 8°.32N×83°.23W, h10km±8km, MD4.2, MW4.8*
IDC ***29*** *05:15:51.8±1.1, 8°.53N×82°.81W, h0km, mb3.9/6, mbtmp3.9/7, ML3.7/1, MS3.4/5, Error ellipse: s-maj=59.9km s-min=19.0km az=64.0*
ISC 29 05:15:52.8±0.6, 8°.39N±0°.03×82°.99W±0°.02, h13km, n85, σ1§54/97, mb4.0/6, MS3.7/3, 6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPPC	Paso Canoas	0.21	47	⇓iP	Pg	05 15 55.8	-1.6
LPPC				eS	Sb	05 16 00.7	-1.5
PTPM	Petroterminale	0.22	149	eP	Pb	05 15 57.9	-0.7
PTPM				eS	Sb	05 16 02.2	-0.3
NELY	Ciudad Neily	0.26	10	⇓iP	Pg	05 15 57.2	-1.1
EDAD	Golfito	0.31	327	⇓eP	Pg	05 15 57.0	-2.2
LIMO3	Limones	0.31	156	eP	Pb	05 15 58.8	-1.4
PIRO	Carate, Puerto	0.34	272	eP	Pg	05 15 57.4	-2.3
PIRO				eS	Sb	05 16 05.8	-0.3
JIME	Puerto Jimenez	0.36	294	eP	Pg	05 15 58.0	-2.1
VITO	San Vito	0.43	3	⇓eP	Pg	05 16 00.3	-1.0
BRU2	Volcan	0.50	37	⇓eP	Pg	05 16 01.2	-1.5
BRU2	Volcan	0.50	37	eP	Pn	05 16 06.2	+0.4
BRU2				eS	Sn	05 16 15.7	+1.3
DVD	David	0.54	85	eP	Pn	05 16 04.9	-1.2
DVD				eS	Sn	05 16 14.8	-0.2
PEDE3	Pedregal, Chir	0.56	91	eP	Pg	05 16 00.8	-3.1
PEDE3				eS	Sb	05 16 12.7	+0.2
BC3P	Paso Ancho	0.57	42	eP	Pn	05 16 07.0	+0.2
BC3P				eS	Sn	05 16 16.1	0.0
PTAR3	Potrerillos Ar	0.58	59	eP	Pn	05 16 05.9	-0.9
ALCO	Alturas Coton,	0.58	16	⇓eP	Pg	05 16 02.3	-1.8
LOMA3	Las Lomas, Chi	0.60	86	eP	Pn	05 16 05.8	-1.2
LOMA3				eS	Sn	05 16 16.0	-0.5
EDP2	Potrero Grande	0.65	344	eP	Pg	05 16 03.9	-1.5
BRIBI	Bribri	1.23	8	eP	Pn	05 16 14.7	-1.1
LLNJ	Naranjito	1.54	315	eP	Pn	05 16 17.9	-2.0
PIEC	Cerro El Cedra	1.55	322	eP	Pn	05 16 18.6	-1.7
RAZU	San Marcos de	1.62	321	eP	Pn	05 16 20.1	-1.1
TURIB	Turrialba	1.66	336	eP	Pn	05 16 20.2	-1.4
PISJ	San Jernim	1.66	318	eP	Pn	05 16 20.6	-1.2
REPA	Paraso	1.67	329	eP	Pn	05 16 20.3	-1.6
VINA	Juan Vinas	1.67	334	eP	Pb	05 16 21.7	-1.8
ABE2	San Pablo	1.67	321	eP	Pn	05 16 21.0	-1.0
LCR2	La Lucha 2	1.67	323	eP	Pn	05 16 20.1	-1.9
VERB	Verbena	1.69	336	eP	Pn	05 16 21.1	-1.1
RVSTA	Santa Teresita	1.70	338	eP	Pn	05 16 21.2	-1.1
PICV	PH. Pirrs	1.71	316	eP	Pn	05 16 21.1	-1.2
PCAYA	Pacayas	1.72	332	eP	Pn	05 16 21.2	-1.4
TAAN	Batan	1.72	348	eP	Pn	05 16 21.9	-0.6
TAGO	Cartago	1.73	328	eP	Pn	05 16 21.8	-1.0
RITA	Parrita	1.73	310	eP	Pn	05 16 21.6	-1.1
VTCV	VTCV, Calle Va	1.74	335	eP	Pn	05 16 21.7	-1.2
CVTQ	Turrialba Volc	1.78	335	eP	Pn	05 16 22.6	-1.0
VTLA	Turrialba Volc	1.78	334	eP	Pn	05 16 22.7	-0.8
VTR0	Volcan Turrial	1.79	335	eP	Pn	05 16 23.0	-0.7
CVTR	Volcan Turrial	1.79	335	eP	Pn	05 16 22.8	-1.0
VICA	Volcano Irazu	1.79	332	eP	Pn	05 16 22.8	-1.1
TRIO	Tres Rios	1.80	327	eP	Pn	05 16 22.5	-1.2
ACOS	Acosta	1.81	320	eP	Pn	05 16 22.9	-1.0
AMPA	Desamparados	1.83	325	eP	Pn	05 16 23.1	-0.9
GMAL	Guarumal, Vera	1.85	110	P	Pn	05 16 23.2	-1.0
GMAL				S	Sb	05 16 49.0	-0.6
GMAL	Guarumal, Vera	1.85	110	eP	Pn	05 16 24.1	-0.2
GMAL				eS	Sb	05 16 49.5	-0.1
SJS3	Mercedes San J	1.86	326	eP	Pn	05 16 23.6	-0.9
SJS	Escuela Geolog	1.86	326	eP	Pn	05 16 24.0	-0.6
CVIMO	Finca Echandi	1.88	330	eP	Pn	05 16 24.2	-0.5
CVTG	V. Turrialba,	1.91	336	eP	Pn	05 16 24.5	-0.6
SANTA	Santa Ana	1.93	323	eP	Pn	05 16 24.7	-0.7
PURI	Puriscal	1.95	318	eP	Pn	05 16 24.6	-1.0
HEME	Heredia, Merce	1.95	325	eP	Pn	05 16 25.0	-0.8
BELE	Belen	1.97	323	eP	Pn	05 16 25.3	-0.7
VBV1	V. Barva	2.03	328	eP	Pn	05 16 26.1	-0.9
CACAO	El Cacao, Vera	2.35	116	P	Pn	05 16 29.7	-1.5
CACAO				S	Sn	05 17 00.7	+0.8
CACAO	El Cacao, Vera	2.35	116	eP	Pn	05 16 31.7	+0.5
CACAO				eS	Sb	05 17 02.3	-1.8
CHIT3	Chitre	2.59	99	eP	Pb	05 16 36.3	-2.7
CHIT3				eS	Sb	05 17 08.7	-2.1
JTS	Las Juntas de	2.70	314	Pn	Pn	05 16 36.3	+0.3
	13nm,0.3s,baz=286,slow=22,SNR=11						
JTS				Sn	Sb	05 17 12.7	-1.4
	56nm,0.3s,baz=324,slow=24,SNR=7.7						
JTS				LR	LR	05 17 13.0	
	comp=Z,33nm,20.3s,baz=166,slow=30						
	39nm,0.3s						
JTS	Las Juntas de	2.70	314	eP	Pn	05 16 34.8	-1.2
JTS	Las Juntas de	2.70	314	eP	Pn	05 16 36.2	+0.2
JTS				eS	Sb	05 17 11.2	-3.0
AZU	Azuero	2.76	102	P	Pb	05 16 39.9	-2.1
AZU				S	Sb	05 17 12.4	-3.3
AZU	Azuero	2.76	102	eP	Pn	05 16 37.5	+0.8
AZU				eS	Sb	05 17 13.1	-2.6
PEDA3	Pedasi	3.06	106	eP	Pb	05 16 44.8	-2.3
PEDA3				eS	Sb	05 17 25.1	+0.6
BCIP	Isla Barro Col	3.21	76	P	Pn	05 16 44.7	+1.7
BCIP				S	Sn	05 17 23.7	+2.5
BCIP	Isla Barro Col	3.21	76	eP	Pn	05 16 44.0	+1.0
BCIP				eS	Sb	05 17 24.6	-4.2
BLUN	Bluefields	3.67	348	P	Pn	05 16 48.3	-1.0
ESPN	Las Esperanzas	3.99	341	P	Pn	05 16 55.1	+1.4
ESPN	Las Esperanzas	3.99	341	eP	Pn	05 16 53.5	-0.2
ACON	Acoyapa	4.15	329	P	Pn	05 16 55.2	-0.7
ACON	Acoyapa	4.15	329	eP	Pn	05 16 55.2	-0.7
PRVC	Isla de Provid	5.21	18	P	Pn	05 17 14.4	+4.0
PRVC				S	Sn	05 18 15.2	+4.8
SDV	Santo Domingo	12.23	87	LR	LR	05 24 14.8	
	comp=Z,101nm,21.0s,baz=262,slow=42						
ATAH	Atahualpa	16.09	163	LR	LR	05 25 08.7	
	comp=Z,86nm,19.1s,baz=353,slow=34						
NNA	Nana	21.15	163	P	P	05 20 40.3	+2.5
	12nm,0.8s,baz=1.4,slow=11,SNR=5.3						
	12nm,0.8s						
H03N2	Juan Fernandez	41.78	175	T	T	06 08 08.9	
	baz=354,slow=76,SNR=7.9						
H03N1	Juan Fernandez	41.78	175	T	T	06 08 07.2	
	baz=354,slow=76,SNR=9.3						
H03N3	Juan Fernandez	41.79	175	T	T	06 08 06.4	
	baz=354,slow=76,SNR=10						
ULM	Lac du Bonnet	43.08	348	P	P	05 23 54.2	+1.8
	2.4nm,0.5s,baz=158,slow=4.7,SNR=3.7						
	2.4nm,0.5s						
NVAR	Mina Array Bea	43.62	319	P	P	05 23 59.3	+1.9
	0.3nm,0.6s,baz=134,slow=6.1,SNR=4.7						
	0.3nm,0.6s						
PLCA	Paso Flores	50.21	168	P	P	05 24 49.9	+1.3
	2.6nm,0.9s,baz=335,slow=6.7,SNR=4.7						
	2.6nm,0.9s						
FRB	Frobisher Bay	56.22	8	LR	LR	05 49 49.0	
	comp=Z,70nm,19.9s,baz=256,slow=36						
YKA	Yellowknife Ar	58.69	343	P	P	05 25 49.9	0.0
	0.9nm,0.8s,baz=137,slow=7.4,SNR=18						
	0.9nm,0.8s						
ILAR	Eielson Array	71.48	336	P	P	05 27 13.3	+0.4
	0.4nm,0.8s,baz=111,slow=4.3,SNR=10						
	0.4nm,0.8s						
ESDC	Sonseca Array	76.26	51	LR	LR	05 57 36.8	
	comp=Z,40nm,20.9s,baz=114,slow=33						
AKASG	Malin Array Be	97.24	36	LR	LR	06 12 14.8	
	comp=Z,19nm,18.9s,baz=20,slow=35						

MOS ***29*** *05:23:58.8±0.8, 34°.46N×137°.55E, h310km, mb4.4/27, Error ellipse: s-maj=7.1km s-min=4.1km az=109.1*
IDC ***29*** *05:24:00.4±0.5, 34°.48N×137°.49E, h309km±4km, mb4.1/24, mbtmp4.8/30, Error ellipse: s-maj=11.0km s-min=6.7km az=69.0*
JMA ***29*** *05:24:00.0±0.3, 35°N±1°×13°8E±°, h319km±2km, MD4.8/38, MW4.6/38, ENSYUNADA*
JMA Felt I J1 at ENSYUNADA .
NIED ***29*** *05:24:00.0, 34°.54N×137°.58E, h319km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.47; Mθθ4.41; Mφφ-4.88; Mrθ-3.14; Mφθ-0.68; Mφr-0.16; Fault plane solution: M0 5.57000×10^15 NP1: φs323.00000°, δ66.00000°, λ18.00000°. NP2: φs226.00000°, δ74.00000°, λ155.00000°.*
NEIC ***29*** *05:24:01.0±1.5, 34°.55N±0°.06×137°.54E±0°.09, h313km±5km, mb4.5/93 Error ellipse: s-maj=10.5km s-min=9.2km az=81.0*
ISC 29 05:24:00.3±0.4, 34°.56N±0°.04×137°.56E±0°.04, h310km±3km, n407, σ1§27/431, mb4.5/110, 36C-24D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHMK	Hamakita	0.30	33	eS	S	05 25 11.0	+0.3
HMMJ	Hamamatsu 2	0.33	25	A	A	05 24 40.6	
	comp=N,3.0nm,2.7s,comp=E,4.0nm,3.4s						
TTO5	TONANKAI O.B.S	0.34	157	⇓P	Pn	05 24 41.0	+1.4
TTO5				⇓eS	S	05 25 12.9	+1.9
JAA	Atsumi	0.35	282	P	Pn	05 24 41.0	+1.2
JAA				eS	S	05 25 12.0	+0.9
JAA	Atsumi	0.35	282	A	A	05 24 41.0	
	comp=N,5.0nm,2.6s,comp=E,3.0nm,3.7s						
JSG	Sagara	0.53	77		Pn	05 24 41.4	+1.3
JSG				Sn	S	05 25 14.3	+2.5
JSG	Sagara	0.53	77	A	A	05 24 40.9	
	comp=N,5.0nm,2.3s,comp=E,7.0nm,2.4s						
JIE	Ise	0.72	257	P	Pn	05 24 41.7	+1.0
JIE				S	S	05 25 13.2	+0.3
SHZ3	Shizuoka 3	0.74	47	A	A	05 24 41.5	
	comp=N,6.0nm,2.1s,comp=E,7.0nm,1.6s						
JAO	Obara	0.75	341	A	A	05 24 41.6	
	comp=N,7.0nm,2.4s,comp=E,5.0nm,2.4s						
INU	Inuyama	0.90	331		Pn	05 24 42.3	+1.0
INU				Sn	S	05 25 14.2	+0.3
INU	Inuyama	0.90	331	P	Pn	05 24 42.3	+1.0
JGF	Kuroka	1.05	351		Pn	05 24 42.9	+0.9
JGF				Sn	S	05 25 15.3	+0.1
JGF	Kuroka	1.05	351	P	Pn	05 24 42.8	+0.9
JGF	Kuroka	1.05	351	P	Pn	05 24 42.9	+0.9
JIZS	Izushimoda	1.10	81	A	A	05 24 42.9	
	comp=N,7.0nm,2.5s,comp=E,6.0nm,2.7s						
TTO1	TONANKAI O.B.S	1.13	215	⇓P	Pn	05 24 43.2	+1.1
JYTA	Yamagatataniai	1.23	327	P	Pn	05 24 44.0	+1.2
JYTA				eS	S	05 25 17.2	+0.4
JYN	Shimob	1.24	41	P	Pn	05 24 44.0	+1.1
JYN				eS	S	05 25 18.8	+1.8
JHTM	Izuhatsuma	1.26	71	A	A	05 24 43.8	
	comp=N,10.0nm,1.6s,comp=E,10.0nm,4.0s						
JTHY	Toshimahigashi	1.43	91	A	A	05 24 44.7	
	comp=N,12nm,2.9s,comp=E,16nm,2.8s						
JOD2	Odawara 2	1.44	60	⇓P	Pn	05 24 45.2	+1.1
JOD2				⇓eS	S	05 25 20.0	+1.0
JIM2	Oshima 3	1.55	84	A	A	05 24 45.4	
	comp=N,12nm,2.2s,comp=E,10.0nm,2.1s						
JWY	Kouya	1.66	259	P	Pn	05 24 46.3	+0.7
JWY				S	S	05 25 20.9	-0.8
JTNC	Tanabenakahech	1.77	246	eP	Pn	05 24 46.9	+0.5
JTNC				S	S	05 25 22.5	-0.6
JRY	Ryogami san	1.82	37	P	Pn	05 24 48.0	+1.4
JNG	Nsakai	1.90	13	A	A	05 24 48.0	
	comp=N,2.0nm,1.1s,comp=E,4.0nm,1.7s						
JWT	Wachi	1.91	293	P	Pn	05 24 48.0	+0.8
JWT				S	S	05 25 24.2	-0.5
JKG	Kaga	1.98	330	P	Pn	05 24 48.5	+0.8
JKG				eS	S	05 25 26.1	+0.5
MAJO	Matsushiro	2.05	15		Pn	05 24 49.3	+1.1
MAJO	Matsushiro	2.05	15	P	Pn	05 24 49.2	+0.9
MAJO	Matsushiro	2.05	15	S	S	05 25 27.6	+1.0
MAJO	Matsushiro	2.05	15	P	Pn	05 24 49.4	+1.1
MAJO	Matsushiro	2.05	15	P	Pn	05 24 49.3	+1.1
MAT	Matsushiro	2.05	15	P	Pn	05 24 49.3	+1.0
MAT				S	S	05 25 27.0	+0.3
MJAR	Matsushiro Arr	2.05	15	P	Pn	05 24 49.3	+1.0
	comp=E,2μm,0.5s,baz=195,slow=9.0,SNR=4434						
MJAR				S	S	05 25 27.1	+0.5
	comp=E,313nm,0.9s,baz=192,slow=13,SNR=11						
MJB9	Matsu-Tunnel	2.05	15		Pn	05 24 50.4	+2.1
TOK	Tokyo	2.13	57	A	A	05 24 49.6	
	comp=N,27nm,0.3s,comp=E,24nm,0.4s						
JHJ	Hachijo jima 2	2.35	127	P	Pn	05 24 51.3	+0.5
	comp=E,709nm,0.3s,baz=84,slow=22,SNR=67						
JHJ				S	S	05 25 32.8	+1.6
	comp=E,447nm,0.3s,baz=75,slow=21,SNR=5.6						
JHJ2	Mitsune	2.37	127		Pn	05 24 51.4	+0.3
JHJ2	Mitsune	2.37	127	P	Pn	05 24 51.0	0.0
JAG	Ashikaga	2.42	39	P	Pn	05 24 51.3	0.0
JAG				eS	S	05 25 30.7	-1.5
JKT	Katashina	2.60	32	A	A	05 24 53.6	
	comp=N,8.0nm,0.3s,comp=E,12nm,0.3s						
JAI	Aioi	2.69	254	P	Pn	05 24 53.7	-0.1
JAI				S	S	05 25 35.3	-1.3
JYT	Yasato	2.72	52	A	A	05 24 54.7	
	comp=N,15nm,0.3s,comp=E,16nm,0.4s						
JIHU	Itakohorinouch	2.81	59	A	A	05 24 55.4	
	comp=N,20nm,0.9s,comp=E,25nm,0.8s						
BSO1	Boso 1	2.82	87	eP	Pn	05 24 54.1	-0.3
BSO1				eS	S	05 25 37.6	-0.2
JSZ	Suzu	2.89	357	P	Pn	05 24 56.4	+0.9
JHYU	Hitachinakayam	3.05	53	A	A	05 24 57.7	
	comp=N,11nm,1.0s,comp=E,7.0nm,0.4s						
JSB	Shiboa	3.08	38	A	A	05 24 58.1	
	comp=N,9.0nm,0.7s,comp=E,8.0nm,1.7s						
JMN	Monobe	3.16	256		Pn	05 24 58.6	+0.3
JHO	Hitachi	3.20	49	A	A	05 24 59.2	
	comp=N,9.0nm,2.1s,comp=E,9.0nm,0.3s						
JSD	Sado	3.52	9		Pn	05 25 02.4	+0.6
JSD	Sado	3.52	9	P	Pn	05 25 02.2	+0.4
JSD	S

GLVR pmax pmax
comp=N,99nm,0.2s
RUSJ Misakicho 11.23 30⇑ *i*P Pn 05 26 33.8 +0.7
RUSJ *e*S **S 05 28 34.0 -4.7**
YUK Yuzh-Kuril'sk 11.44 32 *e*P **P 05 26 37.4 +0.2**
YUK *e*S **S 05 28 37.8 -5.4**
YUK pmax pmax
comp=Z,392nm,0.2s
YUK pmax pmax
comp=N,262nm,0.3s
YUK pmax pmax
comp=E,226nm,0.4s
SHO Shikotan 11.75 35 *e*P **Pn 05 26 39.7 +0.3**
SHO *e*S **S 05 28 44.4 -5.8**
SHO pmax pmax
comp=E,9.0nm,0.3s
SHO pmax pmax
comp=Z,49nm,0.3s
SHO pmax pmax
comp=N,16nm,0.2s
MDJ Mudanjiang 11.77 331 P 05 26 40.7 -0.2
MDJ Mudanjiang 11.77 331 P **P 05 26 40.8 -0.1**
MDJ S **S 05 28 51.5 +0.8**
MDJ Mudanjiang 11.77 331 ScS ScS 05 38 36.5 -1.4
MDJ pmax pmax
comp=Z,34nm,0.8s
YSS Yuzhno-Sakhali 12.99 16 P 05 26 54.5 +0.1
YSS Yuzhno-Sakhali 12.99 16 P **Pn 05 26 54.3 0.0**
YSS Yuzhno-Sakhali 12.99 16*αe*P **Pn 05 26 54.1 -0.2**
YSS *e*S **S 05 29 12.5 -5.2**
YSS pmax pmax
comp=Z,300nm,3.1s
YSS pmax pmax
comp=Z,330nm,0.4s
YSS smax smax
comp=N,200nm,4.0s
KUR Kuril'sk 13.26 33 *e*P **Pn 05 26 59.2 +1.6**
DL2 Dalian 13.49 293 P **P 05 26 59.0 -1.1**
DL2 pmax pmax
comp=Z,89nm,0.7s
BNX BinXian 13.59 328 ⇓P **Pn 05 27 01.5 +0.1**
BNX S **S 05 29 28.0 -2.8**
BNX pmax pmax
comp=Z,130nm,0.6s
BNX pmax pmax
comp=Z,99nm,3.2s
UGL Uglegorsk 14.89 12 *e*P **Pn 05 27 17.9 +1.1**
UGL pmax pmax
comp=Z,130nm,0.8s
KLR Kul'dur 15.28 345 P **P 05 27 19.6 0.0**
comp=Z,7.7nm,0.4s,baz=148,slow=10,SNR=36
NJ2 Nanjing 15.84 266 ⇑P **P 05 27 25.5 -0.4**
NJ2 pmax pmax
comp=Z,39nm,0.7s
GRNR Gornyy 16.22 357⇑ *i*P **Pn 05 27 31.5 -0.9**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,220nm,20.0s
GRNR MLR MLR
comp=N,240nm,16.0s
GRNR MLR MLR
comp=Z,100nm,14.0s
TYV Tymovskoe 16.71 11 *e*P **Pn 05 27 38.1 +0.1**
TYV *e*S **S 05 30 33.2 -0.4**
TYV pmax pmax
comp=Z,200nm,2.2s
TYV pmax pmax
comp=Z,42nm,1.1s
TYV smax smax
comp=N,200nm,6.0s
TYV smax smax
comp=E,100nm,6.0s
NACB Ninganchiao 17.32 238 P **P 05 27 41.5 -0.5**
NACB IAmb IAmb 05 28 02.7
comp=Z,16nm,0.9s
HEH HeiHe 17.35 338 *e*P **P 05 27 42.0 -0.1**
HEH pmax pmax
comp=Z,23nm,0.6s
BJI Beijing 17.85 294 P **P 05 27 45.8 -1.9**
BJI pmax pmax
comp=Z,21nm,0.7s
BJT Baijiatuau 17.86 294 P 05 27 46.3 -1.4
BJT IAmb IAmb 05 27 46.8
comp=Z,30nm,0.7s
BJT Baijiatuau 17.86 294 P **P 05 27 46.3 -1.4**
BJT pmax pmax
comp=Z,30nm,0.7s
HNS HongShan 18.70 285 ⇓P **P 05 27 55.0 -1.7**
HNS pmax pmax
comp=Z,92nm,0.8s
HIA Hailar 19.72 324 P 05 28 06.3 -1.1
HIA IAmb IAmb 05 28 11.2
comp=Z,31nm,0.6s
HIA Hailar 19.72 324 P **P 05 28 06.4 -1.1**
HIA pmax pmax
comp=Z,31nm,0.6s
WHN Wuhan 19.96 265⇓ *i*P **P 05 28 08.5 -1.6**
WHN S **S 05 31 35.0 -1.3**
WHN pmax pmax
comp=Z,210nm,0.8s
ZEA Zeya 20.51 342 *e*P **P 05 28 15.7 +0.3**
ZEA pmax pmax
comp=N,30nm,0.4s
ZEA pmax pmax
comp=Z,30nm,0.7s
TIY Taiyuan 20.52 286 *e*P **P 05 28 14.3 -1.4**
LYN LuoYang 20.65 277 ⇑P **P 05 28 14.8 -2.2**
LYN pmax pmax
comp=Z,98nm,0.8s
HHC Hu-ho-hao-te 21.46 295 *e*P **P 05 28 25.0 +0.4**
HHC S **S 05 31 58.8 -1.9**
HHC pmax pmax
comp=Z,84nm,0.8s
HHC pmax pmax
comp=Z,220nm,5.1s
GUMO Guam 21.90 161 P 05 28 27.7 -1.0
GUMO Guam 21.90 161 P **P 05 28 27.8 -0.9**
comp=Z,99nm,0.3s,baz=189,slow=8.5,SNR=6.9
BTO Baotou 22.59 294 *e*P **P 05 28 35.8 +1.0**
BTO PP sP 05 30 18.5 +13
BTO S **S 05 32 23.8 +4.8**
BTO pmax pmax
comp=Z,66nm,0.9s
BTO pmax pmax
comp=Z,140nm,5.1s
BTO LR LR
comp=N,220nm,4.8s
BTO LR LR
comp=E,300nm,5.3s
BTO LR LR
comp=Z,170nm,4.7s
PETK Petropavlovsk- 23.41 31 P **P 05 28 42.8 +0.7**
comp=Z,4.1nm,0.8s,baz=239,slow=8.4,SNR=3.9
comp=Z,4.1nm,0.8s
ENH Enshi 24.04 268 P 05 28 46.6 -1.4
ULN Ulaanbaatar 26.32 310 P 05 29 10.0 +1.6
ULN Ulaanbaatar 26.32 310 P **P 05 29 10.0 +1.6**
ULN pmax pmax
comp=Z,46nm,1.1s
SONM Songino Array 26.73 309 P 05 29 13.2 +1.2
SONM IAmb IAmb 05 29 18.0
comp=Z,21nm,0.6s
SONM Songino Array 26.73 309 P **P 05 29 13.4 +1.4**
comp=Z,17nm,0.5s,baz=112,slow=8.6,SNR=34
SONM ScP **ScP 05 35 36.1 -0.2**
comp=Z,1.3nm,0.7s,baz=153,slow=1.7,SNR=3.7
comp=Z,17nm,0.5s
LZH Lanzhou 27.47 283 *e*P **P 05 29 18.5 -0.3**
LZH pmax pmax
comp=Z,19nm,1.3s
ZAK Zakamensk 29.49 313 *e*P **P 05 29 37.4 +1.1**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
GTA Gaotai 30.38 290 P **P 05 29 44.3 0.0**
GTA pP pP 05 30 35.5 -8.3
GTA pmax pmax
comp=Z,9.0nm,0.6s
KMI Kunming 31.50 262 ⇑P **P 05 29 53.3 -1.0**
KMI pmax pmax
comp=Z,23nm,0.6s
PZH PanZhiHua 31.75 265 P **P 05 29 56.8 +0.4**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,110nm,4.8s

SLVN Son La 32.36 255 P 05 30 01.0 -0.6
UBPT Khong Chiam 34.64 244 P **P 05 30 20.9 -0.2**
GOMU GeErMu 34.68 285 P **P 05 30 21.5 -0.3**
GOMU pmax pmax
comp=Z,69nm,1.0s
TIXI Tiksi 37.44 355 P **P 05 30 44.1 +0.1**
TIXI Tiksi 37.44 355 P **P 05 30 44.1 +0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.5s
FAKI Fak Fak 37.61 189 P 05 30 44.7 -1.4
CHTO Chiang Mai 37.64 255 P 05 30 45.5 -0.9
CHTO Chiang Mai 37.64 255 P **P 05 30 45.5 -0.9**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CM31 Chiang Mai Arr 37.83 255 P **P 05 30 47.6 -0.4**
CM31 IAmb IAmb 05 30 50.4
comp=Z,7.6nm,0.6s
CMAR Chiang Mai Arr 37.83 255 P **P 05 30 47.4 -0.6**
comp=Z,2.0nm,0.3s,baz=51,slow=6.1,SNR=21
CMAR ScP **ScP 05 36 14.2 -0.5**
comp=Z,0.6nm,0.3s,baz=22,slow=2.8,SNR=5.5
comp=Z,2.0nm,0.3s
WMQ Urumqi 39.22 299 *e*P **P 05 31 01.5 +2.3**
WMQ pmax pmax
comp=Z,19nm,0.9s
SHL Shillong 40.25 270 P 05 31 06.5 -1.5
SHL IAmb IAmb 05 31 07.0
comp=Z,13nm,0.7s
SHL Shillong 40.25 270 P **P 05 31 06.5 -1.5**
SHL pmax pmax
comp=Z,13nm,0.7s
ZAA0 Zalesovo Array 41.34 315 P **P 05 31 15.5 -0.7**
ZALV Zalesovo Beam 41.34 315 P **P 05 31 16.3 +0.1**
comp=Z,9.5nm,0.5s,baz=106,slow=8.5,SNR=29
ZALV PcP **PcP 05 33 07.9 0.0**
comp=Z,4.8nm,0.6s,baz=105,slow=3.7,SNR=6.4
ZALV ScP **ScP 05 36 27.6 -0.1**
comp=Z,3.0nm,0.8s,baz=78,slow=3.5,SNR=8.2
comp=Z,9.5nm,0.5s
KAPI Kappang 42.80 207 P **P 05 31 27.5 -0.8**
KAPI IAmb IAmb 05 31 28.4
comp=Z,18nm,0.8s
KAPI Kappang 42.80 207 P **P 05 31 27.5 -0.8**
KAPI pmax pmax
comp=Z,18nm,0.8s
MK31 Makanchi Array 42.83 304 *i* P **P 05 31 28.8 +0.5**
MKAR Makanchi Array 42.83 304 P **P 05 31 28.9 +0.6**
comp=Z,27nm,0.6s,baz=89,slow=10.0,SNR=202
MKAR ScP **ScP 05 36 33.6 -0.3**
comp=Z,1.7nm,0.6s,baz=80,slow=5.7,SNR=9.0
comp=Z,27nm,0.6s
MAKZ Makanchi 43.04 304 P 05 31 30.8 +0.7
MAKZ IAmb IAmb 05 31 31.5
comp=Z,26nm,0.8s
MAKZ Makanchi 43.04 304 P **P 05 31 30.8 +0.7**
MAKZ pmax pmax
comp=Z,26nm,0.8s
NRIK Noril'sk 44.26 337 P 05 31 39.3 +0.1
NRIK Noril'sk 44.26 337 P **P 05 31 40.3 +1.0**
comp=Z,4.4nm,0.3s,baz=108,slow=7.7,SNR=12
comp=Z,4.4nm,0.3s
KURK Kurchatov 45.04 310 P 05 31 45.8 +0.1
KURK Kurchatov 45.04 310 P **P 05 31 46.2 +0.6**
KURBB Kurchatov Arra 45.10 310 P **P 05 31 46.2 0.0**
comp=Z,12nm,0.4s,baz=90,slow=8.1,SNR=75
KURBB ScP **ScP 05 36 41.6 -1.5**
comp=Z,0.6nm,0.7s,baz=87,slow=4.4,SNR=4.4
comp=Z,12nm,0.4s
PDGK Podgornoye 45.20 299 P **P 05 31 46.5 -0.7**
WUS Wushi 45.78 296 P 05 31 52.3 +0.5
WUS IAmb IAmb 05 31 53.9
comp=Z,12nm,0.5s
SOEI Soe 45.84 198 P **P 05 31 50.2 -2.2**
SOEI IAmb IAmb 05 31 51.5
comp=Z,68nm,1.3s
C16K Lisburne Hills 46.29 26 P **P 05 31 54.6 -0.5**
TARG Taragay, Kyrgy 46.71 297 P 05 31 59.9 +0.6
TARG IAmb IAmb 05 32 01.0
comp=Z,13nm,0.8s
TARG Taragay, Kyrgy 46.71 297 P **P 05 31 59.9 +0.6**
TARG pmax pmax
comp=Z,13nm,0.8s
KDJ Kajisay 47.09 298 P 05 32 02.6 +0.7
KDJ Kajisay 47.09 298 P **P 05 32 02.6 +0.7**
KDJ pmax pmax
comp=Z,13nm,1.2s
MTN Manton Dam 47.53 189 P 05 32 04.1 -1.2
BOOM Boomskoye usch 47.92 299 P 05 32 08.8 +0.6
BOOM Boomskoye usch 47.92 299 P **P 05 32 08.8 +0.6**
BOOM pmax pmax
comp=Z,5.0nm,0.6s
TKM2 Tokmak 2 48.08 299 P **P 05 32 10.4 +0.9**
SNR=8.6
TKM2 Tokmak 2 48.08 299 *i* P **P 05 32 09.4 -0.1**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
COEN Coen 48.54 173 P **P 05 32 13.0 +0.1**
COEN IAmb IAmb 05 32 17.0
comp=Z,30nm,1.2s
KSH Kashi 48.57 295 P **P 05 32 17.0 +3.8**
KSH pmax pmax
comp=Z,13nm,0.5s
KBK Karagaybulak 48.60 299 P **P 05 32 14.1 +0.7**
SNR=6.6
USP Ospenovka 48.79 300 P **P 05 32 15.0 +0.4**
SNR=7.5
AAK Ala-Archa 48.93 299 P 05 32 16.4 +0.6
AAK Ala-Archa 48.93 299 P **P 05 32 16.2 +0.3**
SNR=6.3
AAK Ala-Archa 48.93 299 P **P 05 32 16.4 +0.6**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AML Almayashu 49.62 299 P **P 05 32 22.4 +1.0**
SNR=9.3
BVA0 Borovoye Array 49.95 313 *e*P **P 05 32 23.3 +0.2**
BVAR Borovoye Array 49.95 313 P **P 05 32 23.2 +0.1**
comp=Z,6.1nm,0.3s,baz=108,slow=8.2,SNR=34
BVAR PcP **PcP 05 33 38.0 -0.2**
comp=Z,4.5nm,0.5s,baz=104,slow=3.2,SNR=5.5
BVAR ScP **ScP 05 37 03.5 -0.1**
comp=Z,1.1nm,0.6s,baz=26,slow=5.1,SNR=4.0
comp=Z,6.1nm,0.3s
BRVK Borovoye 50.01 313 P 05 32 24.3 +0.7
BRVK Borovoye 50.01 313 P **P 05 32 24.3 +0.7**
BRVK pmax pmax
comp=Z,10.0nm,0.9s
K20K Telida 50.12 33 P **P 05 32 23.7 -0.6**
B21K Ikpikpuk River 50.36 25 P **P 05 32 25.8 -0.1**
KNRA Kununurra 50.65 191 P 05 32 27.9 -0.8
KNRA IAmb IAmb 05 32 28.7
comp=Z,28nm,0.7s
E22K Anaktuvuk Pass 51.24 27 P **P 05 32 34.9 +2.4**
KK31 Karatay Array 51.67 301 P 05 32 36.8 +0.7
KK31 IAmb IAmb 05 32 37.3
comp=Z,22nm,0.8s
KK31 Karatay Array 51.67 301 P **P 05 32 36.8 +0.7**
KK31 pmax pmax
comp=Z,22nm,0.8s
KKAR Karatay Array 51.67 301 P 05 32 36.3 +0.2
KKAR Karatay Array 51.67 301 P **P 05 32 36.3 +0.2**
NIL Nilore 52.41 288 P **P 05 32 40.9 -0.8**
NIL IAmb IAmb 05 32 42.3
comp=Z,10nm,0.5s
NIL Nilore 52.41 288 P **P 05 32 40.9 -0.8**
NIL pmax pmax
comp=Z,10.0nm,0.5s
D25K Kavik River 53.24 25 P **P 05 32 48.3 +1.2**
ILAR Eielson Array 53.24 31 P **P 05 32 48.6 +1.5**
comp=Z,0.4nm,0.6s,baz=254,slow=4.9,SNR=5.5
FITZ Fitzroy Crossi 53.58 194 P **P 05 32 49.7 -0.4**
SIMJ Simiganj 54.01 296 P 05 32 53.3 +0.1
SIMJ IAmb IAmb 05 32 54.1
comp=Z,18nm,0.8s
WB0 Warramunga Arr 54.11 184 P 05 32 52.9 -1.0
WB0 IAmb IAmb 05 32 53.5
comp=Z,31nm,0.8s
C27K Jago River 54.17 25 P **P 05 32 54.0 +0.3**
WRAB Tennant Creek 54.28 184 P **P 05 32 53.9 -1.2**
WRAB Tennant Creek 54.28 184 P **P 05 32 53.9 -1.2**
WRAB pmax pmax
comp=Z,27nm,0.4s
WRA Warramunga Arr 54.29 184 P **P 05 32 54.1 -1.1**
comp=Z,22nm,0.3s,baz=360,slow=7.6,SNR=384
WR8 Warramunga Arr 54.29 184 P 05 32 54.2 -1.0
SVE Sverdlovsk 54.94 319 *e*P **P 05 32 59.9 +0.5**

SVE pmax pmax
comp=Z,28nm,1.0s
KBL Kabul 55.37 291 P 05 33 02.6 -0.5
KBL IAmb IAmb 05 33 03.4
comp=Z,10nm,0.9s
KBL Kabul 55.37 291 P **P 05 33 02.6 -0.5**
KBL pmax pmax
comp=Z,11nm,1.0s
ARTI Arti 56.25 319 P 05 33 09.0 +0.2
ARTI Arti 56.25 319*d i*P **P 05 33 08.9 +0.2**
ARTI 05 34 00.3
ARTI *PP **pP 05 34 15.1 -0.2**
ARTI 05 35 16.0
ARTI S **S 05 40 35.8 +2.4**
ARTI SS **SS 05 44 24.3 -0.5**
ARTI pmax pmax
comp=Z,35nm,1.0s
AB31 Akbulak array 57.14 310 P 05 33 15.1 0.0
AB31 IAmb IAmb 05 33 15.9
comp=Z,22nm,0.7s
AB31 Akbulak array 57.14 310 *i* P **P 05 33 14.8 -0.2**
ABKAR Akbulak array 57.14 310 P 05 33 15.1 0.0
G30M tAoh Zraii Nji 57.28 28 P **P 05 33 17.3 +1.5**
MBWA Marble Bar 57.95 200 P 05 33 19.7 -1.2
MBWA IAmb IAmb 05 33 20.3
comp=Z,17nm,0.7s
AKTO Aktyubinsk 58.00 312 P **P 05 33 21.1 +0.2**
comp=Z,29nm,0.7s,baz=74,slow=5.0,SNR=32
comp=Z,29nm,0.7s
AS31 Alice Springs 58.01 184 P 05 33 20.6 -0.7
AS31 IAmb IAmb 05 33 22.1
comp=Z,6.8nm,0.5s
ASAR Alice Springs 58.01 184 P **P 05 33 20.6 -0.7**
comp=Z,7.4nm,0.3s,baz=0.2,slow=4.8,SNR=106
comp=Z,7.4nm,0.3s
PSA00 Pilbara Seismi 58.31 199 P **P 05 33 22.0 -1.4**
PSA00 Pilbara Seismi 58.31 199 P **P 05 33 21.9 -1.4**
PSA00 IAmb IAmb 05 33 22.9
comp=Z,13nm,0.9s
A36M Sachs Harbour 59.70 21 P 05 33 33.9 +1.7
KIRV Kirov 60.33 323 P **P 05 33 37.1 +0.5**
comp=Z,27nm,0.6s,baz=110,slow=0.9,SNR=12
comp=Z,27nm,0.6s
HRA Herat 60.62 293 P 05 33 40.0 +0.6
HRA IAmb IAmb 05 33 40.5
comp=Z,15nm,0.7s
EIDS Eidsvold 60.97 166 P **P 05 33 41.5 +0.2**
EIDS IAmb IAmb 05 33 42.5
comp=Z,12nm,0.7s
SPB2 Spitsbergen Ar 62.33 349 P **P 05 33 51.2 +1.6**
SPB2 IAmb IAmb 05 34 08.3
comp=Z,7.7nm,1.0s
SPITS Spitsbergen Ar 62.33 349 P **P 05 33 50.7 +1.0**
comp=Z,2.7nm,0.6s,baz=115,slow=7.4,SNR=16
comp=Z,2.7nm,0.6s
SPITS Spitsbergen Ar 62.33 349 P **P 05 33 51.3 +1.6**
SPITS pmax pmax
comp=Z,8.0nm,1.1s
DZM Mont Dzumac 62.66 150 P **P 05 33 54.4 +1.7**
LVZ Lovozero 63.07 336 P **P 05 33 55.2 +0.5**
LVZ IAmb IAmb 05 34 17.6
comp=Z,9.5nm,1.1s
LVZ Lovozero 63.07 336 P **P 05 33 55.2 +0.5**
LVZ pmax pmax
comp=Z,10.0nm,1.1s
EUNU Eureka 63.08 8 P 05 33 56.1 +1.4
BELG Belogornoye 63.46 317*ce*P **P 05 33 56.9 -0.5**
BELG pmax pmax
comp=Z,7.0nm,0.8s
KLMR Klimovskoe 64.16 327 *e*P P 05 33 56.8 -5.0
KLMR pmax pmax
comp=Z,9.0nm,0.6s
KEV Kevo 64.62 339 P **P 05 34 05.9 +1.2**
KEV IAmb IAmb 05 34 06.5
comp=Z,9.2nm,0.8s
KEV Kevo 64.62 339 P **P 05 34 05.9 +1.2**
KEV pmax pmax
comp=Z,9.0nm,0.8s
ARA0 ARCESS Array S 65.19 339 *e*P **P 05 34 09.3 +1.0**
ARCES ARCESS Array B 65.19 339 P **P 05 34 09.2 +0.9**
comp=Z,4.7nm,0.5s,baz=67,slow=9.1,SNR=67
comp=Z,4.7nm,0.5s
FORT Forrest 65.61 189 P 05 34 11.1 -0.3
STKA Stephens Creek 66.19 176 P 05 34 15.2 +0.1
STKA Stephens Creek 66.19 176 P **P 05 34 15.1 +0.1**
comp=Z,6.8nm,0.4s,baz=346,slow=7.5,SNR=22
comp=Z,6.8nm,0.4s
STKA Stephens Creek 66.19 176 P **P 05 34 15.2 +0.1**
STKA pmax pmax
comp=Z,38nm,0.6s
MORW Morawa 66.47 200 P **P 05 34 15.7 -1.3**
MORW IAmb IAmb 05 34 24.2
comp=Z,12nm,1.2s
JETT Jettan, Norway 66.65 340 *e*P **P 05 34 18.6 +0.9**
BBOO Buckleboo 67.03 181 P 05 34 20.4 0.0
AKT Akhty 68.01 306 *e*P **P 05 34 26.9 +0.2**
AKT *e* 05 34 49.9
AKT *e*PP **pP 05 35 36.0 -0.2**
AKT *e*SP **sP 05 36 09.6 0.0**
AKT pmax pmax
comp=Z,39nm,0.6s
OBN Obninsk 68.17 323⇑ *e*P **P 05 34 27.5 +0.3**
OBN pmax pmax
comp=Z,7.0nm,0.5s
STEI Steigen 69.14 340 *e*P **P 05 34 33.7 +0.8**
FAUS Fauske 69.49 340 *e*P **P 05 34 36.1 +1.0**
FIA1 FINESS Array S 69.51 331 P 05 34 35.9 +0.6
FINES FINESS Array B 69.51 331 P 05 34 35.9 +0.6
FINES FINESS Array B 69.51 331 P **P 05 34 35.8 +0.4**
comp=Z,9.1nm,0.4s,baz=52,slow=6.2,SNR=77
comp=Z,9.1nm,0.4s
FINES FINESS Array B 69.51 331 P **P 05 34 35.9 +0.6**
KBZ Khabaz 70.10 310 P **P 05 34 39.8 +0.6**
comp=Z,17nm,0.8s,baz=76,slow=2.9,SNR=57
comp=Z,17nm,0.8s
KIV Kislovodsk 70.12 310 P 05 34 40.6 +1.1
KIV Kislovodsk 70.12 310 ⇓P **P 05 34 40.3 +0.7**
KIV Kislovodsk 70.12 310 P **P 05 34 40.2 +0.7**
KIV Kislovodsk 70.12 310 P **P 05 34 40.1 +0.6**
comp=Z,346nmcomp=Z,36nm,0.7s
SHA1 Shidzhatmaz 70.25 310*d i*P **P 05 34 40.8 +0.3**
VAGH Vaagaholmen 70.52 340 *e*P **P 05 34 41.8 +0.5**
MOR8 Moi Rana 70.56 339 *e*P **P 05 34 41.3 -0.3**
GNI Garni 70.63 306*d i*P **P 05 34 43.8 +1.0**
GNI pmax pmax
comp=Z,14nm,1.5s
KONS Konsvik 70.72 339 *e*P **P 05 34 43.0 +0.5**
VSU Vasula 70.96 329*de*P **P 05 34 43.6 -0.5**
VSU pmax pmax
comp=Z,19nm,0.7s
LEIR Leirfjorden 70.99 339 *e*P **P 05 34 44.8 +0.6**
MGBR Mount Gambier 71.97 177 P **P 05 34 50.7 +0.5**
VSLR Vesyoloye 72.04 311⇓ *e*P **P 05 34 51.2 +0.3**
VSLR pmax pmax
comp=Z,14nm,0.8s
ILON Igloolik, Nuna 72.42 14 P **P 05 34 53.8 +1.2**
MNK Minsk 72.74 325 *i* P **P 05 34 54.4 -0.3**
MNK *i* *PP **pP 05 36 04.7 -0.6**
MNK *i* 05 37 46.2
MNK *i* PPP PPP 05 39 27.5
MNK *i* S **SKiKP 05 43 55.4 +0.4**
MNK *i* SS **SS 05 48 43.8 +3.8**
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK pmax pmax
comp=Z,25nm,0.8s
MNK pmax pmax
comp=E,26nm,0.9s
MNK MLR MLR
comp=N,346nm,23.0s
MNK MLR MLR
comp=Z,30nm,24.0s
MNK MLR MLR
comp=E,291nm,20.0s
BLKN Baker Lake 72.86 22 P **P 05 34 55.0 -0.2**
SUMG Summit 73.12 359 P 05 34 59.4 +2.3
SUMG IAmb IAmb 05 35 00.1
comp=Z,6.8nm,0.8s
SUMG Summit 73.12 359 P **P 05 34 59.4 +2.3**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
PABE Paberze 73.95 327 P **P 05 35 02.4 +0.7**
AKASG Malin Array Be 74.29 321 P **P 05 35 03.5 -0.2**
AKASG IAmb IAmb 05 35 04.9
comp=Z,7.7nm,1.4s

AKASG	Malin Array Be	74.29 321	P		P	05 35 03.7	-0.1
	comp=Z,5.5nm,0.5s,baz=50,slow=6.2,SNR=29						
	comp=Z,5.5nm,0.5s						
AKBB	Malin Array Si	74.29 321			P	05 35 03.5	-0.2
AKBB				IAmb	IAmb	05 35 04.5	
	comp=Z,12nm,0.8s						
AKBB	Malin Array Si	74.29 321	*d*	*iP*	P	05 35 03.8	0.0
AKBB				pmax	pmax		
	comp=Z,12nm,0.8s						
AKBB	Malin Array Si	74.29 321		P	P	05 35 03.8	0.0
KIEV	Kiev	74.30 321			P	05 35 03.7	-0.1
KIEV				IAmb	IAmb	05 35 04.5	
	comp=Z,11nm,0.8s						
KIEV	Kiev	74.30 321		⇑P	P	05 35 04.2	+0.3
KIEV	Kiev	74.30 321		P	P	05 35 04.1	+0.3
AK09	Malin Array Si	74.31 321		P	P	05 35 04.0	+0.1
AK10	Malin Array Si	74.34 321		P	P	05 35 04.0	0.0
AK17	Malin Array Si	74.39 321		P	P	05 35 04.3	0.0
MARD	Mardin	74.74 305		P	P	05 35 07.4	+0.6
NC405	NORSAR Array S	74.99 336			P	05 35 08.1	+0.5
HFS	Hagfors	75.01 335		P	P	05 35 07.9	+0.2
	comp=Z,4.1nm,0.4s,baz=83,slow=3.7,SNR=26						
	comp=Z,4.1nm,0.4s						
NC303	NORSAR Array S	75.02 336		P	P	05 35 08.6	+0.8
NC303				IAmb	IAmb	05 35 09.3	
	comp=Z,8.6nm,1.2s						
DOMB	Dombas	75.17 338	*eP*		P	05 35 09.2	+0.6
NB201	NORSAR Array S	75.18 336		P	P	05 35 08.6	-0.1
NB201				IAmb	IAmb	05 35 10.6	
	comp=Z,19nm,1.2s						
NC204	NORSAR Array S	75.19 336			P	05 35 09.5	+0.7
NC204				IAmb	IAmb	05 35 10.2	
	comp=Z,11nm,0.8s						
NB2	NORSAR Subarra	75.21 336		P	P	05 35 09.0	+0.1
	comp=Z,4.5nm,0.6s,baz=43,slow=5.9						
NB2	NORSAR Subarra	75.21 336		P	pP	05 36 19.7	-0.3
	comp=Z,4.5nm,1.0s,baz=44,slow=5.9						
NB2	NORSAR Subarra	75.21 336		P	P	05 35 09.0	+0.1
	baz=43,slow=5.9						
NOA	NORSAR Array B	75.21 336		P	P	05 35 09.3	+0.4
	comp=Z,3.7nm,0.5s,baz=44,slow=5.6,SNR=22						
	comp=Z,3.7nm,0.5s						
SUW	Suwalki	75.24 326		P	P	05 35 09.5	+0.4
SUW	Suwalki	75.24 326		P	P	05 35 09.5	+0.4
NBO00	NORSAR Array S	75.36 336		P	P	05 35 10.3	+0.6
NBO00				IAmb	IAmb	05 35 11.1	
	comp=Z,5.7nm,0.8s						
NAO01	NORSAR Array S	75.46 336		P	P	05 35 09.8	-0.4
NAO01				IAmb	IAmb	05 35 17.5	
	comp=Z,13nm,1.4s						
LUBAR	Lubar, Ukraine	75.51 321		P	P	05 35 10.7	0.0
RNPP9	Sopachiv	75.56 323		P	P	05 35 11.2	+0.3
RNPP5	Staryi Chortor	75.67 323		P	P	05 35 11.9	+0.3
AKN	Aaknes	75.71 338	*eP*		P	05 35 12.7	+1.1
DIKM	Dikmen	75.99 311		⇓P	P	05 35 13.7	+0.1
SORM	Soroca	76.27 319		⇑P	P	05 35 14.0	-1.0
SORM	Soroca	76.27 319		P	P	05 35 13.9	-1.0
BNN	Bunyan	77.17 308		P	P	05 35 21.5	+1.0
ILGA	Ilgaz	77.28 311		P	P	05 35 22.2	+1.1
ILGA				IAmb	IAmb	05 35 23.4	
	comp=Z,17nm,0.9s						
ASK	Askoy	77.57 338	*eP*		P	05 35 23.1	+1.2
STNU	Starunia	77.94 321		P	P	05 35 24.7	+0.4
BR131	Keskin Array S	78.09 310			P	05 35 25.7	+0.2
BR131				IAmb	IAmb	05 35 26.9	
	comp=Z,5.6nm,0.9s						
BR131	Keskin Array S	78.09 310	*c*	*iP*	P	05 35 26.2	+0.8
BRTR	Keskin Array B	78.09 310			P	05 35 26.0	+0.5
BRTR	Keskin Array B	78.09 310		P	P	05 35 26.3	+0.8
	comp=Z,2.9nm,0.8s,baz=104,slow=5.2,SNR=21						
	comp=Z,2.9nm,0.8s						
CFR	Carcaliu	78.16 317		⇑P	P	05 35 25.7	+0.1
CFR	Carcaliu	78.16 317		P	P	05 35 25.6	+0.1
TESR	Tescani	78.17 319		⇑P	P	05 35 25.7	+0.1
TPGR	Topolog	78.20 317		⇑P	P	05 35 26.1	+0.3
BUR08	Bucovina Ar. S	78.24 320		P	P	05 35 27.1	+1.0
BUR08				IAmb	IAmb	05 35 27.3	
	comp=Z,3.8nm,0.6s						
BURAR	Bucovina Array	78.25 320		⇑P	P	05 35 27.1	+1.0
BURAR	Bucovina Array	78.25 320		P	P	05 35 27.1	+1.0
VRI	Vrincioaia	78.53 318		⇓P	P	05 35 28.6	+1.0
VRI	Vrincioaia	78.53 318		P	P	05 35 28.5	+1.0
HARR	Harsova	78.58 317		⇑P	P	05 35 28.5	+0.7
HARR	Harsova	78.58 317		P	P	05 35 28.4	+0.7
PLOR	Plostina	78.58 318		⇑P	P	05 35 28.8	+1.0
PLOR	Plostina	78.58 318		P	P	05 35 28.8	+1.0
SPBR	Spulber	78.59 318		⇑P	P	05 35 28.5	+0.6
TLBR	Topalu	78.60 317		⇑P	P	05 35 28.0	+0.1
RAYN	Ar Rayn	78.64 291			P	05 35 28.8	+0.2
RAYN	Ar Rayn	78.64 291		P	P	05 35 29.0	+0.4
OZUR		78.90 319		⇑P	P	05 35 29.5	-0.1
NVAR	Mina Array Bea	78.98 51		P	P	05 35 32.3	+1.9
	comp=Z,0.3nm,0.5s,baz=286,slow=6.6,SNR=1.6						
ICOR	Ion Corvin	79.00 316		⇑P	P	05 35 31.4	+1.3
NEHR	Nehoiu	79.04 318		⇓P	P	05 35 30.9	+0.6
ARCR	ARCALIA	79.04 320		⇑P	P	05 35 30.2	-0.1
ISR	Istrita	79.09 318		⇑P	P	05 35 31.4	+0.7
ISR	Istrita	79.09 318		P	P	05 35 31.3	+0.7
STHS	Stebnicka Huta	79.12 323	*eP*		P	05 35 31.9	+1.2
STHS	Stebnicka Huta	79.12 323	*eP*		P	05 35 31.9	+1.2
MLR	Muntele Rosu	79.19 318			P	05 35 31.5	+0.2
MLR				IAmb	IAmb	05 35 33.5	
	comp=Z,5.8nm,1.3s						
MLR	Muntele Rosu	79.19 318		⇑P	P	05 35 30.6	-0.7
MLR	Muntele Rosu	79.19 318		P	P	05 35 31.5	+0.2
MLR				pmax	pmax		
	comp=Z,6.0nm,1.3s						
DOPR	Dopca	79.19 319		⇓P	P	05 35 32.8	+1.6
OJC	Ojcow	79.29 325		P	P	05 35 32.1	+0.5
OJC	Ojcow	79.29 325		P	P	05 35 32.1	+0.5
BORG	Borgarnes	79.64 351	*iP*		P	05 35 32.5	-0.6
VOIR		79.71 319		⇑P	P	05 35 34.1	+0.1
VOIR		79.71 319		P	P	05 35 34.1	+0.1
MARR	Marisel-Cluj	79.96 320		⇑P	P	05 35 35.7	+0.3
ARR	Arges	79.98 319		⇓P	P	05 35 36.8	+1.3
MORC	Moravsky Berou	80.66 325		P	P	05 35 39.9	+1.0
MORC				IAmb	IAmb	05 35 40.2	
	comp=Z,3.7nm,0.7s						
MORC	Moravsky Berou	80.66 325	*eP*		P	05 35 39.7	+0.8
MORC	Moravsky Berou	80.66 325		P	P	05 35 39.9	+1.0
MORC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MMAI	Mount Meron Ar	80.78 304		P	P	05 35 40.9	+1.0
	comp=Z,1.8nm,0.4s,baz=52,slow=5.4,SNR=6.7						
	comp=Z,1.8nm,0.4s						
PSZ	Piszkesteto	80.79 323		P	P	05 35 39.9	+0.2
PSZ				IAmb	IAmb	05 35 41.6	
	comp=Z,6.1nm,1.0s						
PSZ	Piszkesteto	80.79 323		P	P	05 35 39.9	+0.2
PSZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VYHS	Vyhne	80.92 324	*eP*		P	05 35 41.6	+1.3
VYHS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VYHS	Vyhne	80.92 324	*eP*		P	05 35 41.6	+1.3
GZR	Gura Zlata	80.97 320		⇑P	P	05 35 40.6	-0.1
GZR	Gura Zlata	80.97 320		P	P	05 35 40.6	-0.1
CSS	Mathiatis	81.05 306			P	05 35 41.4	+0.1
CSS				IAmb	IAmb	05 35 42.5	
	comp=Z,4.4nm,0.7s						
SURR	Surduc	81.08 320		⇑P	P	05 35 41.6	+0.5
SRE	Strehaia	81.21 319		⇑P	P	05 35 43.1	+1.2
SRE	Strehaia	81.21 319		P	P	05 35 43.0	+1.2
JAVC	Velka Javorina	81.23 325	*eP*		P	05 35 44.0	+2.1
VRAC	Vranov	81.43 325	*eP*		P	05 35 44.1	+1.2
BZS	Buzias	81.44 320		⇑P	P	05 35 42.9	-0.1
BZS	Buzias	81.44 320		P	P	05 35 42.9	-0.1
HERR	Herculane	81.50 319		⇑P	P	05 35 42.7	-0.6
CLL	Collm	81.62 328			P	05 35 44.0	+0.2
CLL				IAmb	IAmb	05 35 45.1	
	comp=Z,5.8nm,0.8s						
CLL	Collm	81.62 328	*i*	P	P	05 35 44.0	+0.2
CLL			*e*	*PP	pP	05 36 58.0	+1.9
CLL	Collm	81.62 328	*i*	P	P	05 35 44.0	+0.2
CLL			*i*	PcP	PcP	05 35 48.6	-0.2
CLL			*ep*	P	pP	05 36 58.0	+1.9
PDAR	Pinedale Array	81.62 43		P	P	05 35 46.2	+1.9
	comp=Z,0.3nm,0.6s,baz=327,slow=8.7,SNR=2.9						
GHAJ	Ghor Haditha	81.65 302		P	P	05 35 43.7	-0.7
KRUC	Moravsky	81.69 325	*eP*		P	05 35 45.1	+0.8
MDVR	Moldovita	81.94 320		⇑P	P	05 35 45.0	-0.7
MORH	Mrgy, Hungar	82.57 322		⇑P	P	05 35 48.8	-0.1
RONA	Rosalia, Austr	82.70 324	*eP*		P	05 35 47.8	-1.7
	comp=Z,7.4nm,0.8s						
AKAS	Kas	82.72 309		P	P	05 35 49.8	-0.2
CONA	Conrad Observa	82.75 325	*i*	PcP	P	05 35 51.2	+1.3
	comp=Z,7.1nm,0.6s						
KHC	Kasperske Hory	82.94 327	*eP*		P	05 35 51.5	+0.7
KHC	Kasperske Hory	82.94 327	*eP*		P	05 35 51.5	+0.7
GEC2	GERESS Array S	83.10 326		P	P	05 35 51.8	+0.2
GEC2				IAmb	IAmb	05 35 52.8	
	comp=Z,4.6nm,0.8s						
GERES	GERESS Array B	83.10 326		P	P	05 35 52.1	+0.5
	comp=Z,4.1nm,0.7s,baz=36,slow=5.0,SNR=25						
	comp=Z,4.1nm,0.7s						
ARSA	Arzberg	83.39 324	*e*	PcP	P	05 35 53.8	+0.8
	comp=Z,3.0nm,0.6s						
MOA	Molln	83.55 325	*i*	PcP	P	05 35 54.6	+0.8
	comp=Z,4.6nm,1.1s						
ARG	Arkhangelos	83.67 310		P	P	05 35 55.0	+0.4
ARG	Arkhangelos	83.67 310		P	P	05 35 55.0	+0.4
ARG				pmax	pmax		
	comp=Z,33nm,1.4s						
BIOA	Bad Ischl, Aus	83.96 326	*i*	PcP	P	05 35 56.9	+1.0
	comp=Z,5.1nm,0.6s						
SOKA	Soboth	84.03 324	*i*	PcP	P	05 35 56.6	+0.2
	comp=Z,4.1nm,0.6s						
EKA	Eskdalemuir Ar	84.35 339		P	P	05 35 57.9	+0.2
	comp=Z,1.1nm,0.5s,baz=39,slow=4.0,SNR=10						
	comp=Z,1.1nm,0.5s						
KBA	Koelnbreinsper	84.54 325	*i*	P	P	05 35 57.0	-2.0
	comp=Z,3.1nm,0.7s						
LESA	Schwarzleotal	84.60 326	*eP*		P	05 35 57.9	-1.3
	comp=Z,2.1nm,1.0s						
WTTA	Wattenberg	85.20 326	*eP*		P	05 36 01.4	-0.8
	comp=Z,4.5nm,0.9s						
DAVA	Damuels	85.97 327	*i*	PcP	P	05 36 05.9	-0.2
	comp=Z,1.9nm,0.4s						
FUORN	Ofenpass-Fuorn	86.30 327		P	P	05 36 08.1	+0.4
FUORN				IAmb	IAmb	05 36 09.1	
	comp=Z,12nm,1.1s						
TXAR	Lajitas Array	94.11 50		P	P	05 36 45.2	+0.9
	comp=Z,0.2nm,0.5s,baz=311,slow=6.0,SNR=4.1						
	comp=Z,0.2nm,0.5s						
BOSA	Boshof	122.98 256		PKPdf	PKPdf	05 42 18.0	-2.2
BOSA	Boshof	122.98 256		PKIKP	PKPdf	05 42 18.0	-2.2
QSPA	South Pole Qui	124.31 180		PKPdf	PKPdf	05 42 21.3	-0.1
QSPA	South Pole Qui	124.31 180		PKP	PKPdf	05 42 20.8	-0.7
	comp=Z,1.4nm,0.6s,baz=272,slow=1.9,SNR=12						
LPAZ	La Paz	150.65 58		PKPbc	PKiKP	05 43 17.4	-0.2
	comp=Z,1.0nm,0.5s,baz=0.7,slow=3.7,SNR=8.2						

*UCR **29** 05:24:12.9±1.4, 8°.32N×82°.97W, h2km±6km, MW3.7*
*UPA **29** 05:24:13.1±1.2, 8°.35N×82°.97W, h7km±8km, MW3.8*
ISC 29 05:24:13.1±1.1, **8°.31N**±0°.03×**82°.99W**±0°.03, **h18**km±4km,
n50, σ0⁹71/55, **3C-6D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	Petroterminale	0.15	133	⇑*iP*	Pg	05 24 17.2	-0.2
PTPM				*eS*	Sg	05 24 21.2	+0.8
LIMO3	Limones	0.24	149	⇓*iP*	Pb	05 24 18.9	+0.1
LPPC	Paso Canoas	0.27	34	⇓*iP*	Pg	05 24 19.1	-0.1
NELY	Ciudad Neily	0.34	7	⇓*iP*	Pg	05 24 20.4	0.0
PIRO	Carate, Puerto	0.35	286	⇑*eP*	Pg	05 24 20.7	+0.1
EDAD	Golfito	0.38	333	⇓*iP*	Pg	05 24 20.3	-0.8
JIME	Puerto Jimenez	0.40	305	*eP*	Pg	05 24 21.4	-0.1
VITO	San Vito	0.51	2	*eP*	Pb	05 24 23.5	-0.1
BRU2	Volcan	0.57	32	⇓*iP*	Pg	05 24 24.4	-0.1
BRU2	Volcan	0.57	32	*eP*	Pg	05 24 24.4	-0.1
BRU2				*eS*	Sb	05 24 33.3	+0.9
PEDE3	Pedregal, Chir	0.57	82	*eP*	Pb	05 24 23.9	-0.6
PTAR3	Potrerillos Ar	0.62	52	*eP*	Pb	05 24 25.0	-0.5
PTAR3				*eS*	Sn	05 24 35.2	-1.5
BC3P	Paso Ancho	0.63	37	*eP*	Pb	05 24 25.3	-0.3
BC3P				*eS*	Sg	05 24 35.0	+0.9
ALCO	Alturas Coton,	0.66	14	⇓*iP*	Pb	05 24 25.6	-0.5
EDP2	Potrero Grande	0.73	345	*eP*	Pb	05 24 27.0	-0.3
FIMO	Fila Mora	0.77	332	*eP*	Pb	05 24 27.3	-0.7
BURE	Buenos Aires	0.93	338	*eP*	Pb	05 24 30.1	-0.5
DRK0	Durika	0.98	345	*eP*	Pb	05 24 30.8	-0.9
DRK0				*eS*	Sn	05 24 46.1	+0.4
SAJE	San Jernim	1.15	334	*eP*	Pn	05 24 33.5	-1.0
CEUA	Cerro Uatsi, L	1.30	2	⇑*eP*	Pg	05 24 38.4	0.0
BRIBI	Bribri	1.31	7	*eP*	Pb	05 24 37.7	+0.4
LLNJ	Naranjito	1.59	317	*eP*	Pn	05 24 40.9	+0.4
PIEC	Cerro El Cedra	1.62	324	*eP*	Pn	05 24 41.5	+0.4
RAZU	San Marcos de	1.69	323	*eP*	Pb	05 24 43.2	-0.5
PISJ	San Jernim	1.73	320	*eP*	Pn	05 24 43.2	+0.8
ABE2	San Pablo	1.74	323	*eP*	Pb	05 24 44.5	-0.2
LCR2	La Lucha 2	1.74	325	*eP*	Pn	05 24 43.4	+0.8
REPA	Paraso	1.74	330	*eP*	Pn	05 24 43.5	+0.8
VINA	Juan Vinas	1.74	335	*eP*	Pb	05 24 45.0	+0.3
VERB	Verbena	1.77	337	*eP*	Pn	05 24 44.0	+1.1
PICV	PH. Pirrs	1.77	318	*eP*	Pb	05 24 44.8	-0.3
RVSTA	Santa Teresita	1.78	339	*eP*	Pb	05 24 44.6	-0.7
RITA	Parrita	1.79	312	*eP*	Pg	05 24 47.1	-0.5
PCAYA	Pacayas	1.79	333	*eP*	Pn	05 24 44.4	+1.0
VTCV	VTCV, Calle Va	1.81	336	*eP*	Pb	05 24 45.4	-0.6
GMAL	Guarumal, Vera	1.82	107	*eP*	Pn	05 24 42.9	-0.7
CVTV	Tajo	1.84	336	*eP*	Pb	05 24 45.6	-1.0
IRES	Siquirres	1.85	344	*eP*	Pb	05 24 45.8	-0.6
CVTQ	Turrialba Volc	1.85	336	*eP*	Pn	05 24 45.2	+0.9
VTLA	Turrialba Volc	1.85	335	*eP*	Pb	05 24 45.7	-1.0
VTR0	Volcan Turrial	1.86	336	*eP*	Pb	05 24 46.3	-0.6
CVTR	Volcan Turrial	1.86	336	*eP*	Pb	05 24 46.4	-0.5
VICA	Volcano Irazu	1.87	333	*eP*	Pb	05 24 45.9	-1.1
TRIO	Tres Rios	1.87	328	*eP*	Pn	05 24 44.9	+0.5
ACOS	Acosta	1.88	322	*eP*	Pb	05 24 46.0	-1.0
RVLA	Villa Bonita	1.88	342	*eP*	Pb	05 24 46.1	-0.9
LUJA	Lujan	1.93	326	*eP*	Pb	05 24 47.7	-0.2
CVIMO	Finca Echandi	1.95	331	*eP*	Pb	05 24 47.5	-0.7
CVTG	V. Turrialba,	1.98	337	*eP*	Pb	05 24 47.8	-0.9
SANTA	Santa Ana	2.00	324	*eP*	Pb	05 24 47.7	-1.4

*NOU **29** 05:31:34.4, 31°.32S×179°.31W, h429km, mb4.3/12,*
Kermadec Islands Region
*WEL **29** 05:31:35.1±0.7, 31°.5±6°.×17°.9W±1°.7, h355km±10km,*
mB4.8/13, ML5.0/15, MLv5.0/19, Mw(mB)4.0/13, Error
ellipse: s-maj=22.7km s-min=4.7km az=107.3, confirmed
ISC 29 05:31:31.2±1.4, **31°.1S**±0°.1×**179°.1W**±0°.2, **h400**km, **n44,**
σ1⁹48/63, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.10	30	P	Pn	05 32 27.4	-0.5
GLKZ				S	S	05 33 12.4	-1.2
MXZ	Matakaoa Point	6.79	197	P	Pn	05 33 13.0	+0.6
MXZ	Matakaoa Point	6.79	197	P	P	05 33 14.8	+1.8
MXZ				S	S	05 34 34.0	-1.1
GRZ	Great Barrier	6.84	220	P	P	05 33 14.5	+0.9
WMGZ	Waiomatatini S	7.01	196	P	P	05 33 17.0	+1.5
WMGZ				S	S	05 34 38.8	-0.8
KUZ	Kuaotunu	7.08	216	P	P	05 33 18.2	+2.0
HAZ	Te Kaha	7.12	200	P	P	05 33 17.3	+0.7
HAZ				S	S	05 34 40.7	-1.1
PKGZ	Pakihiroa	7.14	198	P	P	05 33 17.8	+0.9
PKGZ				S	S	05 34 42.8	+0.5
WCZ	Waipu Caves	7.28	227	P	Pn	05 33 17.7	-0.2
PUZ	Puketiti	7.29	196	P	P	05 33 19.4	+0.9
PUZ				S	S	05 34 45.2	-0.2
RUGZ	Raukumara Rang	7.34	200	P	P	05 33 20.2	+1.0
RUGZ				S	S	05 34 44.7	-1.9
TWGZ	Tauwhareparae	7.46	198	P	P	05 33 21.3	+0.8
TWGZ				S	S	05 34 49.9	+1.0
MBAZ	Motutapu North	7.53	220	P	P	05 33 22.5	+1.3
MKAZ	Moumakai	7.64	217	P	P	05 33 24.8	+2.4
CNGZ	Carnagh Statio	7.69	196	P	P	05 33 24.7	+1.7
MWZ	Matawai	7.73	200	P	P	05 33 24.0	+0.5
MWZ				S	S	05 34 54.0	-0.5
TKGZ	Te Karaka	7.74	198	P	P	05 33 23.9	+0.4
TKGZ				S	S	05 34 54.0	-0.7
URZ	Urewera	7.79	202	P	P	05 33 25.0	+0.9
URZ	Urewera	7.79	202	P	Pn	05 33 23.8	+0.1
URZ				S	S	05 34 55.3	-0.4
RAGZ	Rawiri	7.91	200	P	Pn	05 33 25.5	+0.4
RAGZ				S	S	05 34 59.2	+0.7
OMRZ	Omania	7.92	207	P	P	05 33 28.6	+3.1
TOZ	Tahuroa Road	7.97	212	P	P	05 33 29.6	+3.5
RIGZ	Rimuhau	8.01	198	P	P	05 33 27.6	+1.0
RIGZ				S	S	05 35 00.8	+0.3
MUGZ	Murupara	8.10	203	P	Pn	05 33 27.5	+0.3
MUGZ				S	S	05 34 59.9	-2.4
RTZ	Ruatahuna	8.16	202	P	P	05 33 29.5	+1.3
RTZ				S	S	05 35 01.7	-1.9
PRGZ	Paritu Road	8.19	197	P	P	05 33 31.0	+2.5
HRRZ	Handcock Road	8.20	206	P	P	05 33 31.2	+2.5
SNGZ	Shannon Statio	8.20	200	P	Pn	05 33 28.3	0.0
SNGZ				S	S	05 35 03.5	-0.9
ALRZ	Allen Road	8.33	205	P	P	05 33 31.4	+1.4
KNZ	Kokohu	8.33	197	P	P	05 33 31.5	+1.4
KNZ				S	S	05 35 06.2	-1.0
WPRZ	Whakapapatarin	8.36	206	P	P	05 33 32.7	+2.2
RAHZ	Arahi	8.40	201	P	P	05 33 32.9	+2.0
RAHZ				S	S	05 35 07.1	-1.5
MHGZ	Mahia Peninsul	8.40	196	P	P	05 33 32.7	+1.8
MHGZ				S	S	05 35 09.4	+0.8
TLZ	Tolley Road	8.45	210	P	P	05 33 34.9	+3.4
MRHZ	Matea Rd	8.54	204	P	P	05 33 33.0	+0.5
BKZ	Black Stump Fm	8.82	203	P	P	05 33 35.8	+0.3
BKZ	Black Stump Fm	8.82	203	S	S	05 35 15.8	-1.7
HIZ	Hauiti	8.90	212	P	Pn	05 33 36.4	0.0
WAZ	Wanganui	9.88	207	P	P	05 33 47.1	-0.2
BFZ	Birch Farm	10.28	200	P	P	05 33 51.8	+0.1
BFZ	Birch Farm	10.28	200	S	S	05 35 45.7	-1.8
QRZ	Quartz Range	11.82	212	P	P	05 34 08.5	-0.3
KHZ	Kahutara	12.73	205	P	P	05 34 18.5	-0.2
KHZ	Kahutara	12.73	205	S	S	05 36 34.3	-3.0

*IDC **29** 05:58:46.2±10.0, 2°.04S×127°.81E, h0km, mb3.9/2,*
mbtmp3.9/4, ML3.4/2, MS3.0/1, Error ellipse:
s-maj=162.4km s-min=109.3km az=137.0
*DJA **29** 05:58:55.2±0.6, 3°.5±5°.×12°.7E±°., h10km, M3.5/6, MLv3.5/6*
ISC 29 05:58:58.4±1.0, **3°.1S**±0°.1×**126°.8E**±0°.1, **h35**km, **n9**, σ1⁹48/8,
Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.31	116	P	Pn	05 59 00.4	-6.1
SANI	Sanana	1.33	322	P	Pn	05 59 20.0	-0.6
SANI				S	Sn	05 59 37.8	+0.7
AAI	Ambon	1.49	113	P	Pn	05 59 22.1	-0.7
MSAI	Masohi	2.12	97	P	Pn	05 59 32.2	+0.8
JAY	Jayapura	13.88	88	LR	LR	06 08 44.7	
	comp=Z,69nm,19.9s,baz=332,slow=46						
FITZ	Fitzroy Crossi	14.95	184	Pn	P	06 02 34.8	+2.3
	0.1nm,0.3s,baz=15,slow=16,SNR=1.7						
	3.1nm,0.8s						
WRA	Warramunga Arr	18.28	157	P	Pn	06 03 07.9	-1.6
	0.2nm,0.3s,baz=340,slow=11,SNR=7.2						
	1.9nm,0.8s						
ASAR	Alice Springs	21.56	162	P	P	06 03 44.4	-0.7
	4.8nm,0.8s,baz=345,slow=12,SNR=27						
	4.8nm,0.8s						
STKA	Stephens Creek	31.82	156	P	P	06 05 19.2	-0.8
	0.5nm,0.4s,baz=336,slow=12,SNR=1.1						
	0.5nm,0.4s						

*IDC **29** 06:06:07.3±1.1, 6°.00S×142°.88E, h0km, mb4.1/7,*
mbtmp4.1/9, ML4.2/2, MS3.4/1, Error ellipse: s-maj=38.9km
s-min=18.9km az=86.0
ISC 29 06:06:12.6±1.1, **6°.12S**±0°.09×**142°.7E**±0°.2, **h35**km, **n10,**
σ2⁹04/11, **mb4.0/6, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	4.11	331	Pn	Pn	06 07 10.9	-2.2
	11nm,0.3s,baz=175,slow=10,SNR=16						
JAY				Sn	Sn	06 08 02.7	+2.7
	8.4nm,0.3s,baz=298,slow=20,SNR=6.7						
	24nm,0.4s						
WRA	Warramunga Arr	15.97	210	Pn	Pn	06 09 51.8	-3.0
	1.0nm,0.3s,baz=30,slow=13,SNR=25						
WRA				Sn	Sn	06 12 41.3	-10
	0.6nm,0.3s,baz=37,slow=25,SNR=5.4						
ASAR	Alice Springs	19.40	205	P	P	06 10 37.2	+1.4
	0.9nm,0.3s,baz=33,slow=10.0,SNR=51						
ASAR				S	S	06 14 02.6	-11
	1.7nm,0.6s,baz=23,slow=28,SNR=6.6						
ASAR				LR	LR	06 18 53.0	
	comp=Z,100nm,19.8s,baz=93,slow=39						
	3.8nm,0.6s						
FITZ	Fitzroy Crossi	20.48	233	P	P	06 10 47.4	-0.3
	2.9n

CAPN	**Captain Cook N**	**0.85**	**224**		Pn	06 30 12.5	+1.0
SML	**Sawmill**	**0.88**	**61**		Pn	06 30 10.9	-1.1
SML				IAML		06 30 26.0	
	comp=N,420nm,0.4s						
SML				IAML		06 30 26.3	
	comp=E,481nm,0.5s						
SLKM	**Skilak Lake**	**0.89**	**189**		Pn	06 30 11.3	-0.8
SLKM				IAML		06 30 26.1	
	comp=N,695nm,0.2s						
STLK	**Strandline Lak**	**0.91**	**278**		Pn	06 30 11.8	-0.7
STLK					Sn	06 30 24.2	-0.3
STLK				IAML		06 30 24.7	
	comp=E,622nm,0.2s						
O22K	**Cooper Landing**	**0.92**	**173**		Pn	06 30 11.7	-0.7
PWL	**Port Wells**	**0.94**	**123**		Pn	06 30 12.3	-0.6
PWL					Sn	06 30 25.9	+0.8
SKT	**Skwentna**	**0.96**	**309**		Pn	06 30 11.9	-1.2
SKT				IAML		06 30 27.8	
	comp=E,636nm,0.4s						
CUT	**Chulitna**	**1.03**	**352**		Pn	06 30 13.0	-1.1
SPCR	**Spurr Chakacha**	**1.11**	**261**		Pn	06 30 14.6	-0.5
SPCR					Sn	06 30 29.4	+0.1
M23K	**Glacier View**	**1.14**	**68**		Pn	06 30 14.9	-0.6
SPBG	**Spurr Blockage**	**1.18**	**265**		Pn	06 30 15.6	-0.5
SEW	**Seward**	**1.31**	**169**		Pn	06 30 17.1	-0.7
SEW				IAML		06 30 40.9	
	comp=N,273nm,0.6s						
SEW				IAML		06 30 41.7	
	comp=E,309nm,0.4s						
SCM	**Sheep Creek Mo**	**1.33**	**69**		Pn	06 30 17.8	-0.4
SCM				IAML		06 30 39.7	
	comp=N,340nm,0.5s						
RDT	**Redoubt**	**1.45**	**237**		Pn	06 30 19.4	-0.5
GLI	**Glacier Island**	**1.47**	**109**		Pn	06 30 19.2	-0.9
GLI				IAML		06 30 44.5	
	comp=N,295nm,0.4s						
GLI				IAML		06 30 46.2	
	comp=E,261nm,0.5s						
M20K	**Styx River**	**1.60**	**289**		Pn	06 30 21.6	-0.3
M20K				IAML		06 30 44.7	
	comp=N,226nm,1.0s						
RDJH	**Redoubt Jeurge**	**1.61**	**241**		Pn	06 30 21.8	-0.2
RDWB	**Redoubt West**	**1.68**	**239**		Pn	06 30 22.8	-0.2
RED	**Redoubt Volcan**	**1.69**	**236**		Pn	06 30 22.8	-0.3
BRLK	**Bradley Lake**	**1.69**	**196**		Pn	06 30 22.8	-0.4
BRLK				IAML		06 30 46.7	
	comp=E,184nm,0.6s						
BRLK				IAML		06 30 49.2	
	comp=N,158nm,0.2s						
BRSE	**Bradley Lake S**	**1.70**	**194**		Pn	06 30 22.5	-0.7
FID	**Port Fidalgo**	**1.80**	**109**		Pn	06 30 23.4	-1.2
FID				IAML		06 30 52.0	
	comp=E,196nm,0.4s						
FID				IAML		06 30 52.3	
	comp=N,239nm,0.5s						
PPLA	**Purkeypile**	**1.85**	**326**		Pn	06 30 25.0	-0.3
PPLA				IAML		06 30 49.5	
	comp=N,164nm,0.4s						
PPLA				IAML		06 30 49.8	
	comp=E,217nm,0.6s						
P23K	**Montague Islan**	**1.87**	**137**		Pn	06 30 24.1	-1.4
P23K				IAML		06 30 56.2	
	comp=E,171nm,0.3s						
P23K				IAML		06 30 56.5	
	comp=N,235nm,0.4s						
HOM	**Homer**	**1.93**	**207**	Pn	Pn	06 30 26.4	+0.1
M24K	**Tolsona, Glenn**	**1.93**	**66**		Pn	06 30 26.9	+0.5
KLU	**Klutina**	**1.94**	**85**		Pn	06 30 25.8	-0.7
KLU				IAML		06 30 58.5	
	comp=N,137nm,0.4s						
KLU				IAML		06 30 59.3	
	comp=E,102nm,0.4s						
HIN	**Hinchinbrook I**	**1.95**	**119**		Pn	06 30 25.6	-1.1
HIN				IAML		06 30 58.0	
	comp=N,171nm,0.9s						
HIN				IAML		06 31 01.3	
	comp=E,166nm,0.5s						
CNPM	**China Poot**	**1.97**	**199**		Pn	06 30 26.6	-0.4
CNPM				IAML		06 30 54.8	
	comp=E,138nm,0.5s						
CNPM				IAML		06 30 57.7	
	comp=N,122nm,0.5s						
DIV	**Divide**	**2.03**	**95**		Pn	06 30 27.1	-0.8
DIV				IAML		06 31 00.0	
	comp=N,137nm,0.3s						
DIV				IAML		06 31 00.8	
	comp=E,92nm,0.5s						
TRF	**Thorofare Moun**	**2.08**	**356**		Pn	06 30 28.1	-0.5
TRF				IAML		06 30 57.1	
	comp=E,155nm,0.5s						
RND	**Reindeer**	**2.09**	**14**		Pn	06 30 28.2	-0.4
ILSW	**Iliamna Southw**	**2.11**	**230**	Pn	Pn	06 30 28.9	-0.1
L20K	**Farewell, AK**	**2.16**	**302**		Pn	06 30 29.0	-0.6
M19K	**Big River Lodg**	**2.19**	**286**		Pn	06 30 29.7	-0.2
M19K				IAML		06 31 00.9	
	comp=E,72nm,0.8s						
EYAK	**Cordova Ski Ar**	**2.21**	**111**		Pn	06 30 30.7	+0.5
EYAK				IAML		06 31 07.8	
	comp=N,81nm,0.6s						
EYAK				IAML		06 31 11.1	
	comp=E,69nm,0.6s						
KTH	**Kantishna Hill**	**2.22**	**349**		Pn	06 30 30.3	-0.1
KTH				IAML		06 30 59.2	
	comp=E,168nm,0.5s						
CAST	**Castle Rocks**	**2.27**	**335**		Pn	06 30 30.9	-0.2
CAST				IAML		06 30 59.3	
	comp=E,124nm,0.5s						
CAST				IAML		06 31 02.2	
	comp=N,68nm,0.3s						
N19K	**Bonanza Creek**	**2.28**	**257**		Pn	06 30 31.1	-0.1
P19K	**Oil Pt**	**2.38**	**224**	Pn	Pn	06 30 32.5	-0.1
P19K				IAML		06 31 23.2	
	comp=E,143nm,0.5s						
P19K				IAML		06 31 23.5	
	comp=N,143nm,0.8s						
MCK	**McKinley**	**2.40**	**11**		Pn	06 30 32.9	+0.1
MCK				IAML		06 31 04.1	
	comp=E,81nm,0.4s						
MCK				IAML		06 31 13.5	
	comp=N,81nm,0.8s						
L19K	**White Mountain**	**2.46**	**291**		Pn	06 30 33.5	-0.2
HARP	**HAARP**	**2.48**	**64**		Pn	06 30 34.3	+0.3
N25K	**Chitina, Valde**	**2.57**	**83**		Pn	06 30 35.2	0.0
N25K				IAML		06 31 14.0	
	comp=N,73nm,0.5s						
N25K				IAML		06 31 15.5	
	comp=E,58nm,0.4s						
BMRM	**Bremner River**	**2.62**	**97**	Pn	Pn	06 30 34.7	-1.2
BMRM				IAML		06 31 19.0	
	comp=E,75nm,0.7s						
BMRM				IAML		06 31 25.1	
	comp=N,73nm,0.5s						
PAX	**Paxson**	**2.63**	**51**	Pn	Pn	06 30 35.5	-0.6
PAX				IAML		06 31 14.4	
	comp=N,48nm,0.6s						
WACK	**Wrangell Chich**	**2.74**	**75**		Pn	06 30 37.5	-0.2
K20K	**Telida**	**2.76**	**318**		Pn	06 30 37.0	-0.7
RAGM	**Ragged Mountai**	**2.76**	**109**	Pn	Pn	06 30 36.6	-1.3
BPAW	**Bear Paw Mtn.**	**2.77**	**350**		Pn	06 30 37.7	-0.1
BPAW				IAML		06 31 16.9	
	comp=E,63nm,0.4s						
M18K	**Stony River**	**2.83**	**275**		Pn	06 30 38.2	-0.4
GLB	**Gilahina Butte**	**2.95**	**86**		Pn	06 30 39.3	-1.1
GLB				IAML		06 31 25.6	
	comp=N,73nm,0.6s						
GLB				IAML		06 31 26.5	
	comp=E,37nm,0.5s						
HMT	**Hamilton**	**2.97**	**108**	Pn	Pn	06 30 38.9	-1.8
N18K	**Kilae Creek**	**2.98**	**259**		Pn	06 30 40.3	-0.5
O18K	**Koktuh Hills**	**3.02**	**242**	Pn	Pn	06 30 40.3	-1.0
O18K				IAML		06 31 45.7	
	comp=N,34nm,1.1s						
Q19K	**Cape Douglas,**	**3.08**	**218**	Pn	Pn	06 30 40.6	-1.6
VRDI	**Verde Repeater**	**3.14**	**90**		Pn	06 30 41.9	-1.2
WRH	**Wood River Hil**	**3.21**	**14**		Pn	06 30 43.4	-0.5
WRH				IAML		06 31 37.8	
	comp=E,35nm,0.7s						
NEA2	**Nenana**	**3.24**	**7**		Pn	06 30 43.0	-1.3
NEA2				IAML		06 31 38.6	
	comp=N,31nm,0.9s						
SUCK	**Suckling Hills**	**3.30**	**111**	Pn	Pn	06 30 44.5	-0.7
SUCK				IAML		06 31 42.3	
	comp=N,34nm,0.5s						
L18K	**Granite Mounta**	**3.31**	**288**		Pn	06 30 44.7	-0.6
MENT	**Mentasta**	**3.31**	**59**	Pn	Pn	06 30 45.2	-0.1
MENT				IAML		06 31 40.1	
	comp=N,52nm,0.6s						
MENT				IAML		06 31 43.7	
	comp=E,58nm,0.5s						
HDA	**Harding Lake**	**3.33**	**23**	Pn	Pn	06 30 46.2	+0.6
HDA				IAML		06 31 40.0	
	comp=N,50nm,0.6s						
HDA				IAML		06 31 44.3	
	comp=E,47nm,0.4s						
RIDG	**Independent Ri**	**3.34**	**43**	Pn	Pn	06 30 46.9	+1.2
RIDG				IAML		06 31 35.5	
	comp=E,58nm,0.7s						
RIDG				IAML		06 31 36.1	
	comp=N,46nm,0.6s						
J20K	**Nowinta River**	**3.40**	**327**		Pn	06 30 45.9	-0.6
J20K				IAML		06 31 26.0	
	comp=N,48nm,0.7s						
J20K				IAML		06 31 40.7	
	comp=E,58nm,0.5s						
CCB	**Clear Creek Bu**	**3.42**	**16**		Pn	06 30 46.9	+0.2
CCB				IAML		06 31 41.9	
	comp=E,24nm,0.7s						
M26K	**Nabesna, AK**	**3.44**	**70**		Pn	06 30 47.6	+0.5
L26K	**Log Cabin Wild**	**3.50**	**59**	Pn	Pn	06 30 47.7	-0.3
L26K				IAML		06 31 45.1	
	comp=N,39nm,0.4s						
L26K				IAML		06 31 49.9	
	comp=E,52nm,0.5s						
WAX	**Waxell Ridge**	**3.59**	**102**		Pn	06 30 48.1	-1.1
M17K	**Holitna River**	**3.60**	**274**		Pn	06 30 49.1	-0.2
M17K				IAML		06 31 48.5	
	comp=E,33nm,0.7s						
M17K				IAML		06 31 50.3	
	comp=N,41nm,0.9s						
COLA	**College**	**3.63**	**14**		Pn	06 30 50.2	+0.6
N17K	**Nushagak Hills**	**3.64**	**259**		Pn	06 30 49.4	-0.4
IL31		**3.67**	**21**		Pn	06 30 50.4	+0.2
ILAR	**Eielson Array**	**3.67**	**21**		Pn	06 30 50.7	+0.5
J19K	**Poorman**	**3.70**	**317**		Pn	06 30 50.3	-0.4
J19K				IAML		06 31 52.3	
	comp=E,23nm,0.5s						
J19K				IAML		06 31 53.2	
	comp=N,22nm,0.9s						
J18K	**Innoko River**	**3.78**	**306**		Pn	06 30 51.2	-0.5
SCRK	**Sand Creek**	**3.78**	**44**	Pn	Pn	06 30 50.7	-1.1
SCRK				IAML		06 31 54.3	
	comp=N,19nm,0.7s						
SCRK				IAML		06 31 55.8	
	comp=E,20nm,0.7s						
I23K	**Minto, Yukon-K**	**3.79**	**4**		Pn	06 30 51.1	-0.7
I23K				IAML		06 32 01.7	
	comp=N,22nm,1.1s						
J25K	**Salcha River,**	**3.85**	**31**		Pn	06 30 52.9	+0.1
J25K				IAML		06 31 46.2	
	comp=N,26nm,0.6s						
J25K				IAML		06 31 46.3	
	comp=E,39nm,0.6s						
POKR	**Poker Plat Res**	**3.91**	**16**		Pn	06 30 53.5	-0.1
POKR				IAML		06 31 56.4	
	comp=E,17nm,0.9s						
POKR				IAML		06 32 00.2	
	comp=N,19nm,0.8s						
I21K	**Tanana**	**3.92**	**347**		Pn	06 30 53.4	-0.2
I21K				IAML		06 31 53.7	
	comp=E,18nm,0.7s						
I21K				IAML		06 31 55.5	
	comp=N,21nm,0.8s						
M27K	**Edge Creek, AK**	**3.94**	**72**	Pn	Pn	06 30 53.8	-0.3
I20K	**Naaghedeneel**	**3.99**	**331**		Pn	06 30 54.7	+0.1
MESA	**MESA**	**4.10**	**104**	Pn	Pn	06 30 55.8	-0.6
MESA				IAML		06 32 07.4	
	comp=E,24nm,0.9s						
MESA				IAML		06 32 09.1	
	comp=N,28nm,0.9s						
YAH	**Yahtse**	**4.14**	**101**	Pn	Pn	06 30 54.4	-2.4
YAH				IAML		06 32 07.0	
	comp=N,15nm,1.0s						
YAH				IAML		06 32 10.5	
	comp=E,18nm,1.0s						
K17K	**Iditarod**	**4.15**	**292**		Pn	06 30 56.5	-0.4
K17K				IAML		06 32 04.0	
	comp=N,14nm,1.2s						
K17K				IAML		06 32 26.3	
	comp=E,16nm,0.9s						
L27K	**Beaver Creek,**	**4.15**	**63**	Pn	Pn	06 30 56.7	-0.2
BCAR	**Beaver Creek A**	**4.17**	**63**	Pn	Pn	06 30 57.0	-0.2
J26L	**Joseph Creek**	**4.27**	**40**	Pn	Pn	06 30 59.5	+0.9
J26L				IAML		06 31 56.0	
	comp=E,22nm,0.5s						
J26L				IAML		06 31 57.1	
	comp=N,21nm,0.7s						
M16K	**Timber Creek**	**4.38**	**269**		Pn	06 30 59.7	-0.2
O16K	**Kokwok River B**	**4.41**	**250**	Pn	Pn	06 31 00.1	-0.3
H23K	**Yukon River**	**4.46**	**2**		Pn	06 31 02.1	+1.0
H23K				IAML		06 32 25.7	
	comp=E,11nm,1.1s						
H21K	**Melozitna Rive**	**4.47**	**345**		Pn	06 31 00.9	-0.3
H21K				IAML		06 32 13.7	
	comp=N,12nm,0.7s						
OHAK	**Old Harbor**	**4.51**	**204**	Pn	Pn	06 31 00.8	-1.0
H24K	**Noodor Dome**	**4.56**	**11**		Pn	06 31 02.4	-0.1
H24K				IAML		06 32 17.5	
	comp=E,10nm,0.9s						
L16K	**Owhat River**	**4.57**	**278**		Pn	06 31 01.9	-0.7
L16K				IAML		06 32 26.9	
	comp=N,11nm,1.1s						
J17K	**VABM Dome**	**4.70**	**299**	Pn	Pn	06 31 03.4	-1.0
J17K				IAML		06 32 32.3	
	comp=E,9.3nm,0.9s						
O28M	**Mount Upton**	**4.78**	**93**		Pn	06 31 06.7	+1.0
I26K	**Coal Creek Min**	**4.98**	**35**		Pn	06 31 08.8	+0.6
I26K				IAML		06 32 14.6	
	comp=N,15nm,0.5s						
H19K	**Roundabout Mou**	**5.08**	**328**		Pn	06 31 09.2	-0.3
H19K				IAML		06 32 41.4	
	comp=E,10nm,1.0s						
H19K				IAML		06 32 49.6	
	comp=N,9.4nm,1.1s						
N15K	**Kwethluk River**	**5.12**	**261**	Pn	Pn	06 31 10.5	+0.3
N15K				IAML		06 32 38.8	
	comp=N,8.8nm,1.0s						
N15K				IAML		06 32 44.9	
	comp=E,12nm,1.1s						
J16K	**Anvik River**	**5.32**	**296**	Pn	Pn	06 31 12.2	-0.7
J16K				IAML		06 32 48.4	
	comp=E,6.0nm,1.1s						
H18K	**Honhosa River**	**5.36**	**319**		Pn	06 31 13.0	-0.4
H18K				IAML		06 32 16.0	
	comp=E,6.5nm,0.5s						
H18K				IAML		06 32 45.9	
	comp=N,6.8nm,1.1s						
G21K	**Allakaket**	**5.38**	**345**		Pn	06 31 14.1	+0.4
G21K				IAML		06 32 17.0	
	comp=N,6.4nm,0.7s						
G21K				IAML		06 32 40.4	
	comp=E,9.1nm,0.7s						
O15K	**Ungalikthiuk R**	**5.39**	**250**	Pn	Pn	06 31 14.0	+0.1
O15K				IAML		06 33 35.8	
	comp=E,6.0nm,1.1s						
G24K	**Hadweenzic Riv**	**5.44**	**10**	Pn	Pn	06 31 15.0	+0.4
M29M	**Somme Creek**	**5.53**	**74**	Pn	Pn	06 31 16.0	+0.1
I17K	**Unalakleet**	**5.56**	**302**		Pn	06 31 16.6	+0.5
K15K	**Wolf Creek Mou**	**5.56**	**284**	Pn	Pn	06 31 15.9	-0.3
FYU	**Fort Yukon**	**5.60**	**20**		Pn	06 31 17.7	+1.1
G19K	**Purcell Mounta**	**5.73**	**330**	Pn	Pn	06 31 17.5	-1.0
H17K	**Granite Mounta**	**5.75**	**313**		Pn	06 31 18.5	-0.2
L29M	**L29M**	**5.79**	**67**	Pn	Pn	06 31 17.9	-1.4
COLD	**Coldfoot**	**5.87**	**359**		Pn	06 31 21.6	+1.2
G18K	**Tagagawik**	**5.96**	**323**		Pn	06 31 21.4	-0.2
O14K	**Tigyukauivet M**	**6.02**	**254**	Pn	Pn	06 31 22.9	+0.4
F21K	**Alatna River**	**6.06**	**347**		Pn	06 31 24.1	+1.1
H27K	**Steamboat Moun**	**6.12**	**34**	Pn	Pn	06 31 24.2	+0.3
L14K	**Kuka Creek**	**6.13**	**275**	Pn	Pn	06 31 24.5	+0.6
G26K	**Porcupine Rive**	**6.20**	**23**	Pn	Pn	06 31 25.2	+0.3
F20K	**Avaraart Lake**	**6.22**	**339**		Pn	06 31 25.7	+0.6
F24K	**Squaw Lake**	**6.22**	**7**	Pn	Pn	06 31 25.6	+0.3
K29M	**Barlow Dome**	**6.24**	**61**	Pn	Pn	06 31 25.1	-0.5
P29M	**Windy Craggy**	**6.28**	**101**	Pn	Pn	06 31 25.9	-0.2
F19K	**Shaleruckik Mo**	**6.45**	**331**		Pn	06 31 28.5	+0.2
BMAR	**Burnt Mountain**	**6.49**	**19**	Pn	Pn	06 31 29.2	+0.2
F25K	**Christian Rive**	**6.50**	**15**	Pn	Pn	06 31 29.1	-0.1
G27K	**Doyon Strip**	**6.54**	**30**	Pn	Pn	06 31 29.7	+0.1
J14K	**Nanvaranak Lak**	**6.54**	**288**	Pn	Pn	06 31 29.4	-0.2
F26K	**Sheenjek River**	**6.80**	**19**	Pn	Pn	06 31 34.0	+0.7
E19K	**Redstone River**	**6.86**	**336**		Pn	06 31 34.4	+0.5
E25K	**Arctic Village**	**7.01**	**14**	Pn	Pn	06 31 36.5	+0.4
F17K	**Baldwin Pennin**	**7.10**	**320**	Pn	Pn	06 31 37.7	+0.5

*ATH **29** 06:35:05.6,38.′98N∧26.′09E,h14km±4km,ML2.6/6,*
Manual Solution by A.Moschou First location: 2019/04/29
06:36:20, This location: 2019/04/29 09:08:11 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 4 km;
Longitude uncertainty: 5 km
*ISK **29** 06:35:05.7,39.′01N∧26.′06E,h12km,ML2.9/23*
*AFAD **29** 06:35:06.1,39.′01N∧26.′07E,h6km±3km,ML2.7*
*THE **29** 06:35:06.5,39.′02N∧26.′07E,h11km,ML2.4/10,Error*
ellipse: s-maj=1.1km s-min=0.5km az=127.0

ISC 29 06:35:06.2±0.9,39.′00N±0.′02∧26.′06E±0.′02,h15km±6km,
n66,σ0.945/107,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.26**	**323**	P	**Pg**	**06 35 11.7**	**-0.1**
SIGR				S	**Sg**	**06 35 16.1**	**+0.4**
	5μm,0.3s						
SIGR	**SIGRI**	**0.26**	**323**	Pg	**Pg**	**06 35 11.7**	**-0.1**
SIGR				Sg	**Sg**	**06 35 15.7**	**+0.1**
SIGR	**SIGRI**	**0.26**	**323**	P	**Pg**	**06 35 11.6**	**-0.2**
SIGR				S	**Sg**	**06 35 16.0**	**+0.4**
PRK	**Paraskevi**	**0.29**	**34**	P	**Pg**	**06 35 12.0**	**-0.4**
PRK				S	**Sg**	**06 35 16.6**	**0.0**
	2μm,0.4s						
PRK	**Paraskevi**	**0.29**	**34**	P	**Pg**	**06 35 12.0**	**-0.4**
PRK				S	**Sg**	**06 35 16.5**	**-0.1**
KARB	**zmir-Karabur**	**0.44**	**141**	P	**Pg**	**06 35 14.7**	**-0.2**
KARB				S	**Sg**	**06 35 21.0**	**+0.2**
KARB				*i* AML	AML	06 35 22.0	
	comp=E,535nm,0.3s						
KARB				*i* AML	AML	06 35 24.0	
	comp=N,552nm,0.4s						
KOCA	**Canakkale, Ayv**	**0.50**	**7**	P	**Pg**	**06 35 15.9**	**-0.2**
KOCA				S	**Sb**	**06 35 23.6**	**-0.4**
KOCA				*i* AML	AML	06 35 29.0	
	comp=N,709nm,0.3s						
KOCA				*i* AML	AML	06 35 31.0	
	comp=E,492nm,0.3s						
AYVA	**Ayvalik**	**0.58**	**58**	P	**Pg**	**06 35 17.1**	**-0.5**
AYVA				*i* AML	AML	06 35 25.0	
	comp=N,676nm,0.2s						
AYVA				*i* AML	AML	06 35 25.0	
	comp=E,329nm,0.3s						
AYVA				S	**Sg**	**06 35 25.1**	**-0.1**
FOCM	**Foa**	**0.60**	**119**	Pg	**Pg**	**06 35 17.5**	**-0.4**
FOCM				Sg	**Sb**	**06 35 26.8**	**+0.1**
DKL	**Dikili**	**0.66**	**84**	Pg	**Pg**	**06 35 19.1**	**-0.1**
DKL				Sg	**Sb**	**06 35 28.8**	**+0.3**
IZMD	**zmir-Dikili-**	**0.68**	**91**	P	**Pb**	**06 35 20.2**	**+0.4**
IZMD				S	**Sg**	**06 35 28.6**	**+0.2**
URLA	**Izmir**	**0.77**	**147**	P	**Pg**	**06 35 20.8**	**-0.3**
URLA				S	**Sn**	**06 35 33.0**	**-0.9**
URLA				*i* AML	AML	06 35 34.0	
	comp=N,312nm,0.3s						
URLA				*i* AML	AML	06 35 34.0	
	comp=E,310nm,0.4s						
ZEDA	**zmir-Bergama**	**0.80**	**92**	P	**Pb**	**06 35 22.1**	**+0.4**
ZEDA				S	**Sn**	**06 35 33.8**	**-0.7**
ZEDA				*i* AML	AML	06 35 34.0	
	comp=N,252nm,0.3s						
ZEDA				*i* AML	AML	06 35 35.0	
	comp=E,184nm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.83**	**27**	P	**Pg**	**06 35 22.0**	**-0.3**
BAYC				S	**Sn**	**06 35 35.5**	**+0.1**
BAYC				*i* AML	AML	06 35 36.0	
	comp=N,294nm,0.3s						
BAYC				*i* AML	AML	06 35 36.0	
	comp=E,404nm,0.5s						
BOZC	**Bozcaada**	**0.84**	**360**	P	**Pg**	**06 35 21.9**	**-0.6**
BOZC				S	**Sb**	**06 35 34.0**	**+0.4**
BOZC				*i* AML	AML	06 35 36.0	
	comp=N,404nm,0.2s						
BOZC				*i* AML	AML	06 35 36.0	
	comp=E,426nm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**0.84**	**155**	P	**Pg**	**06 35 22.0**	**-0.4**
ZEYE				S	**Sb**	**06 35 34.6**	**+1.1**
ZEYE				*i* AML	AML	06 35 37.0	
	comp=E,394nm,0.4s						
ZEYE				*i* AML	AML	06 35 38.0	
	comp=N,398nm,0.3s						
EZN	**Ezine**	**0.85**	**14**	P	**Pg**	**06 35 22.0**	**-0.6**
EZN				S	**Sb**	**06 35 34.3**	**+0.4**
	2μm,0.4s						
EZN	**Ezine**	**0.85**	**14**	Pg	**Pg**	**06 35 22.3**	**-0.3**
BUHA	**Balikesir, Bur**	**0.94**	**57**	P	**Pb**	**06 35 23.1**	**-1.0**
BUHA				S	**Sg**	**06 35 36.5**	**0.0**
BUHA				*i* AML	AML	06 35 38.0	
	comp=N,400nm,0.6s						
BUHA				*i* AML	AML	06 35 42.0	
	comp=E,377nm,0.5s						
BLCB	**Balcova**	**0.99**	**128**	Pg	**Pb**	**06 35 25.1**	**+0.1**
EFSA	**Agios Efstrati**	**0.99**	**303**	P	**Pn**	**06 35 25.9**	**+0.4**
EFSA				S	**Sn**	**06 35 39.3**	**0.0**
YAYO	**Edremit-Balk**	**0.99**	**52**	Pg	**Pb**	**06 35 24.7**	**-0.4**
ECEA	**Canakkale, Ece**	**1.04**	**5**	P	**Pb**	**06 35 25.7**	**-0.3**
ECEA				S	**Sn**	**06 35 41.1**	**+0.5**
CNKL	**anakkale-Mer**	**1.09**	**13**	P	**Pb**	**06 35 26.5**	**-0.3**
CNKL				S	**Sn**	**06 35 42.8**	**+0.9**
CNKL				*i* AML	AML	06 35 43.0	
	comp=E,280nm,0.4s						
CNKL				*i* AML	AML	06 35 45.0	
	comp=N,325nm,0.4s						
COMU	**Canakkale**	**1.14**	**16**	Pn	**Pn**	**06 35 27.8**	**+0.1**
GOAD	**anakkale-G¶**	**1.16**	**354**	P	**Pn**	**06 35 27.6**	**-0.4**
GOAD				*i* AML	AML	06 35 44.0	
	comp=N,258nm,0.5s						
GOAD				S	**Sg**	**06 35 44.3**	**+0.5**
GOAD				*i* AML	AML	06 35 53.0	
	comp=E,254nm,0.4s						
GADA	**Gvkgeada**	**1.19**	**354**	Pn	**Pn**	**06 35 27.9**	**-0.5**
CANM	**Can-anakkale**	**1.27**	**37**	Pn	**Pb**	**06 35 29.8**	**0.0**
YENI	**Yenice-Canakka**	**1.31**	**44**	Pn	**Pb**	**06 35 30.6**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.34**	**73**	P	**Pg**	**06 35 31.7**	**-0.4**
STEP				S	**Sb**	**06 35 48.7**	**+0.5**
STEP				*i* AML	AML	06 35 56.0	
	comp=N,245nm,0.6s						
STEP				*i* AML	AML	06 35 56.0	
	comp=E,191nm,0.5s						
AKHS	**Akhisar**	**1.38**	**95**	P	**Pg**	**06 35 32.4**	**-0.3**
AKHS				*i* AML	AML	06 35 57.0	
	comp=E,65nm,0.7s						
BALY	**Balya**	**1.42**	**58**	P	**Pb**	**06 35 32.0**	**-0.4**
BALY				S	**Sn**	**06 35 49.6**	**-0.4**
BALY				*i* AML	AML	06 35 54.0	
	comp=N,135nm,0.7s						
BALY				*i* AML	AML

BLKS			S	Sn	06 35 57.2	-0.1
BLKS			*i* AML	AML	06 36 03.0	
	comp=N,51nm,0.9s					
IZMR	**zmir-demi**	**1.72 120**	P	**Pg**	**06 35 39.1**	**-0.1**
IZMR			S	**Sg**	**06 36 01.0**	**-0.5**
IZMR			*i* AML	AML	06 36 04.0	
	comp=E,31nm,0.4s					
ENEZ	**Enez**	**1.73 2**	Pn	**Pn**	**06 35 36.3**	**+0.5**
SUSR	**Susurluk-Balik**	**1.84 58**	Pn	**Pn**	**06 35 37.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.89 27**	Pn	**Pn**	**06 35 38.5**	**+0.5**
ALN	**Alexandroupoli**	**1.89 360**	P	**Pn**	**06 35 38.0**	**0.0**
ALN			S	**Sn**	**06 36 01.9**	**+0.3**
	55nm,0.4s					
ALN	**Alexandroupoli**	**1.89 360**	Pn	**Pn**	**06 35 38.2**	**+0.2**
DION	**Dionisos Attik**	**1.91 242**	P	**Pn**	**06 35 38.0**	**-0.2**
DION			S	**Sn**	**06 36 03.3**	**+1.3**
	62nm,0.5s					
DION	**Dionisos Attik**	**1.91 242**	P	**Pn**	**06 35 37.6**	**-0.5**
DION			S	**Sn**	**06 36 02.2**	**+0.2**
THAS	**Thassos island**	**1.91 328**	P	**Pn**	**06 35 38.4**	**+0.2**
THAS			S	**Sn**	**06 36 01.4**	**-0.5**
	65nm,0.5s					
THAS	**Thassos island**	**1.91 328**	P	**Pn**	**06 35 38.0**	**-0.2**
THAS			S	**Sn**	**06 36 01.2**	**-0.7**
EDC	**Edincik**	**1.94 45**	Pn	**Pn**	**06 35 38.9**	**+0.3**
AYDN	**Tasoluk**	**1.96 133**	P	**Pg**	**06 35 43.7**	**-0.1**
AYDN			S	**Sg**	**06 36 09.0**	**-0.3**
AYDN			*i* AML	AML	06 36 12.0	
	comp=N,43nm,1.1s					
AYDN			*i* AML	AML	06 36 16.0	
	comp=E,37nm,0.4s					
DURS	**Dursunbey**	**1.97 72**	P	**Pn**	**06 35 40.3**	**+1.2**
DURS			*i* AML	AML	06 36 10.0	
	comp=N,55nm,0.3s					
DURS			*i* AML	AML	06 36 11.0	
	comp=E,42nm,0.3s					
MRMT	**Marmara Adasi**	**1.99 36**	Pn	**Pn**	**06 35 39.4**	**0.0**
KIRA	**zmir-Kiraz**	**2.00 113**	P	**Pg**	**06 35 44.2**	**-0.5**
KIRA			S	**Sg**	**06 36 10.5**	**-0.2**
MANT	**Manisa**	**2.02 104**	P	**Pg**	**06 35 44.5**	**-0.5**
MANT			S	**Sg**	**06 36 10.5**	**-0.7**
UKOP	**Uzunkopru-Edir**	**2.17 12**	Pn	**Pn**	**06 35 41.8**	**0.0**
KCTX	**Karacabey (Bur**	**2.18 54**	Pn	**Pn**	**06 35 42.5**	**+0.6**
RDO	**Rodhopi**	**2.18 350**	Pn	**Pn**	**06 35 42.4**	**+0.5**

*IDC **29** 06:40:29.1±4.1, 53°.77N×90°.86E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=40.5km s-min=25.0km az=26.0*

ASRS 29 06:40:24.0±1.8, 53°.77N×91°.10E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.72**	**275**	I	I	07 04 50.0	
	0.1nm,1.0s,baz=90,slow=330,SNR=4.5						
ZALV	**Zalesovo Beam**	**3.72**	**275**	Pg	Pb	06 41 32.5	+1.9
	0.5nm,0.3s,baz=95,slow=16,SNR=5.2						
ZALV				Lg	Lg	06 42 23.1	
	0.8nm,0.3s,baz=93,slow=26,SNR=7.0						
KURBB	**Kurchatov Arra**	**8.34**	**253**	Pn	Pn	06 42 29.1	+3.1
	0.1nm,0.3s,baz=65,slow=15,SNR=5.3						
KURBB				Sn	Sn	06 44 01.3	+0.4
	baz=68,slow=26,SNR=8.0						
KURBB				Lg	Lg	06 44 49.4	
	baz=64,slow=33,SNR=5.8						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**8.97**	**222**	Pn	Pn	06 42 39.5	+4.7
	0.1nm,0.3s,baz=29,slow=13,SNR=4.8						
MKAR				Lg	Lg	06 45 07.0	
	0.1nm,0.3s,baz=43,slow=30,SNR=2.5						
	0.2nm,0.4s						

*AFAD **29** 06:51:43.6, 35°.05N×27°.63E, h21km±3km, MW3.7*
*ISK **29** 06:51:48.8, 35°.35N×27°.77E, h17km, ML3.1/16*
*ATH **29** 06:51:49.8, 35°.32N×27°.67E, h33km±6km, ML3.3/2, Manual Solution by A.Moschou First location: 2019/04/29 06:52:33, This location: 2019/04/29 11:19:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 14 km; Longitude uncertainty: 6 km*
*THE **29** 06:51:50.0, 35°.40N×27°.75E, h3km±1km, ML3.0/6, Error ellipse: s-maj=1.5km s-min=0.6km az=327.0*

ISC 29 06:51:50.8±1.3, 35°.36N±0°.05×27°.71E±0°.03, h26km±12km, n46, σ1§70/69, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.48**	**294**	P	**Pb**	**06 51 59.8**	**-1.0**
KARP				S	**Sb**	**06 52 07.9**	**+0.3**
	5μm,0.4s						
KARP	**Karpathos**	**0.48**	**294**	Pg	**Pb**	**06 51 59.9**	**-0.9**
KARP				Sg	**Sb**	**06 52 07.7**	**+0.1**
KARP	**Karpathos**	**0.48**	**294**	P	**Pb**	**06 52 00.0**	**-0.9**
KARP				S	**Sb**	**06 52 07.9**	**+0.3**
ARG	**Arkhangelos**	**0.93**	**22**	P	**Pb**	**06 52 07.2**	**-1.0**
ARG				S	**Sn**	**06 52 20.1**	**-0.5**
	1μm,0.8s						
ARG	**Arkhangelos**	**0.93**	**22**	Pg	**Pb**	**06 52 07.2**	**-1.0**
ARG				Sg	**Sn**	**06 52 20.2**	**-0.4**
ARG	**Arkhangelos**	**0.93**	**22**	P	**Pn**	**06 52 07.4**	**-0.8**
ARG				S	**Sn**	**06 52 20.0**	**-0.5**
ZKR	**Zakros**	**1.24**	**259**	P	**Pb**	**06 52 12.8**	**-0.8**
ZKR				S	**Sb**	**06 52 31.7**	**+2.5**
	620nm,0.7s						
ZKR	**Zakros**	**1.24**	**259**	Pn	**Pb**	**06 52 12.9**	**-0.7**
NISR	**Nisiros**	**1.34**	**340**	P	**Pn**	**06 52 12.9**	**-0.9**
NISR				S	**Sb**	**06 52 31.4**	**-0.5**
	492nm,0.5s						
YAZI	**Mula-Dat§a-**	**1.34**	**351**	P	**Pn**	**06 52 14.0**	**+0.1**
YAZI				S	**Sb**	**06 52 35.8**	**+3.9**
DAT	**Datca**	**1.38**	**356**	Pn	**Pb**	**06 52 14.8**	**-1.1**
TURN	**Turunc**	**1.48**	**17**	P	**Pb**	**06 52 16.8**	**-0.9**
TURN				S	**Sb**	**06 52 41.0**	**+4.9**
IZZE	**Mula-Seydike**	**1.64**	**48**	P	**Pn**	**06 52 17.1**	**-0.8**
IZZE				S	**Sb**	**06 52 40.0**	**-0.6**
DALY	**Dalyan (Mula)**	**1.65**	**27**	Pn	**Pn**	**06 52 17.9**	**-0.2**
FETY	**Fethiye**	**1.70**	**41**	Pn	**Pn**	**06 52 18.1**	**-0.7**
FETY	**Fethiye**	**1.70**	**41**	P	**Pb**	**06 52 19.8**	**-1.5**
FETY				S	Sb	06 52 50.9	+8.6
BDRM	**Kayabasi**	**1.72**	**353**	P	**Pn**	**06 52 18.4**	**-0.7**
BDRM				S	**Sb**	**06 52 43.7**	**+0.7**
KSL	**Kastellorizon**	**1.72**	**62**	P	**Pn**	**06 52 18.6**	**-0.4**
KSL				S	**Sn**	**06 52 40.1**	**-0.1**
	122nm,1.2s						
KSL	**Kastellorizon**	**1.72**	**62**	P	**Pn**	**06 52 18.5**	**-0.6**
KSL				S	**Sn**	**06 52 39.2**	**-1.0**
BODT	**Bodrum**	**1.73**	**349**	Pn	**Pn**	**06 52 19.0**	**-0.3**
AKAS	**Kas**	**1.77**	**60**	P	**Pn**	**06 52 18.3**	**-1.7**
SABU	**Mula-Dalaman**	**1.79**	**35**	P	**Pn**	**06 52 19.6**	**-0.4**
SABU				S	**Sb**	**06 52 51.3**	**+6.5**
YER	**Yerkesik**	**1.84**	**15**	Pn	**Pn**	**06 52 20.4**	**-0.3**
MLSB	**Milas**	**1.94**	**2**	Pn	**Pn**	**06 52 21.7**	**-0.4**
MULA	**Mugla, Merkez-**	**1.96**	**14**	P	**Pb**	**06 52 24.8**	**-1.1**
MULA				S	**Sb**	**06 52 55.1**	**+5.2**
CAME	**Cameli-Denizli**	**2.04**	**39**	Pn	**Pn**	**06 52 23.1**	**-0.6**
THR8	**Santorini-Mono**	**2.09**	**301**	P	**Pn**	**06 52 24.6**	**+0.5**
KNIK	**Mula-Seydike**	**2.12**	**45**	P	**Pn**	**06 52 24.1**	**-0.6**
THR6	**Thira Island,**	**2.12**	**299**	P	**Pn**	**06 52 24.9**	**+0.3**
THR3	**Thira Island,**	**2.15**	**300**	P	**Pn**	**06 52 25.2**	**+0.3**
CMBO	**Columbo, Santo**	**2.17**	**301**	P	**Pn**	**06 52 24.5**	**-0.8**
DNZT	**Denizli-Tavas-**	**2.20**	**29**	P	**Pn**	**06 52 26.7**	**+1.0**
DNZT				S	**Sb**	**06 53 00.2**	**+3.5**
ELL	**Elmali**	**2.26**	**51**	Pn	**Pn**	**06 52 25.7**	**-0.9**
IDI	**Anoyia**	**2.30**	**269**	P	**Pn**	**06 52 27.9**	**+0.8**
IDI				S	**Sn**	**06 52 56.9**	**+2.2**
	115nm,0.5s						
IDI	**Anoyia**	**2.30**	**269**	Pn	**Pn**	**06 52 28.2**	**+1.1**
AYDN	**Tasoluk**	**2.31**	**3**	P	**Pn**	**06 52 27.5**	**+0.4**
AYDN				S	**Sb**	**06 52 59.8**	**0.0**
TAVA	**DENIZLI_Tavas**	**2.32**	**24**	P	**Pn**	**06 52 27.5**	**+0.1**
TAVA				S	**Sb**	**06 53 00.6**	**+0.3**
GOLH	**Golhisar**	**2.40**	**38**	P	**Pn**	**06 52 29.2**	**+0.6**
APMY	**Acipayam-Deniz**	**2.47**	**31**	Pn	**Pn**	**06 52 29.2**	**-0.3**
ESEN	**Aydn-Nazilli**	**2.49**	**12**	P	**Pn**	**06 52 30.5**	**+0.9**
ESEN				S	**Sb**	**06 53 05.9**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.59**	**3**	Pn	**Pn**	**06 52 30.7**	**-0.5**
IZMR	**zmir-demi**	**2.78**	**4**	P	**Pn**	**06 52 34.6**	**+0.9**
IZMR				S	**Sb**	**06 53 10.4**	**-3.1**
KIRA	**zmir-Kiraz**	**2.89**	**11**	P	**Pn**	**06 52 36.0**	**+0.7**
GVD	**Gavdhos**	**3.01**	**261**	Pn	**Pn**	**06 52 38.3**	**+1.5**
IMMV	**Iera Moni Meta**	**3.04**	**273**	Pn	**Pn**	**06 52 37.9**	**+0.6**
IMMV	**Iera Moni Meta**	**3.04**	**273**	P	**Pn**	**06 52 35.0**	**-2.3**
IMMV				S	**Sn**	**06 53 10.0**	**-2.9**

*ISK **29** 06:52:30.8, 35°.81N×32°.12E, h24km, ML2.5/19*
*AFAD **29** 06:52:32.6, 35°.82N×32°.34E, h49km±2km, ML2.0*
*NIC **29** 06:52:32.4, 35°.92N×32°.35E, h38km±29km, Ml2.0/7*

ISC 29 06:52:31.8±1.4, 35°.82N±0°.03×32°.20E±0°.05, h21km±5km, n33, σ0§78/48, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.42**	**13**	P	**Pn**	**06 52 43.2**	**+0.6**
GAZI				*i* AML	AML	06 52 52.0	
	comp=E,168nm,0.5s						
GAZI				S	**Sn**	**06 52 52.1**	**+2.4**
GAZI				*i* AML	AML	06 52 53.0	
	comp=N,93nm,0.2s						
BOZY	**Bozyazi-Mersin**	**0.69**	**66**	Pg	**Pn**	**06 52 46.7**	**+0.4**
ALAN	**Alanya-ANTALYA**	**0.74**	**350**	Pg	**Pb**	**06 52 46.0**	**0.0**
ALAN				Sg	**Sn**	**06 52 57.4**	**-0.3**
ALFC	**Alefka**	**0.74**	**154**	P	**Pb**	**06 52 46.7**	**+0.7**
ALFC				S	**Sn**	**06 52 58.3**	**+0.6**
ALFC				AML	AML	06 52 59.1	
	0.4nm,0.3s						
ALFC				AML	AML	06 53 04.2	
	0.3nm,0.2s						
TEKE	**Tekeli-Mersin**	**0.81**	**67**	Pg	**Pn**	**06 52 48.2**	**+0.3**
TEKE				Sg	**Sn**	**06 53 00.7**	**+1.4**
AKMS	**Akamas**	**0.81**	**172**	P	**Pn**	**06 52 48.1**	**+0.1**
AKMS				S	**Sn**	**06 53 01.0**	**+1.6**
AKMS				AML	AML	06 53 05.4	
	0.2nm,0.2s						
AKMS				AML	AML	06 53 05.5	
	0.3nm,0.4s						
LEF	**Lefka**	**0.90**	**141**	Pg	**Pb**	**06 52 48.5**	**-0.2**
LEF				Sg	**Sn**	**06 53 01.4**	**-0.2**
LEF	**Lefka**	**0.90**	**141**	P	**Pb**	**06 52 48.9**	**+0.2**
LEF				S	**Sn**	**06 53 03.0**	**+1.4**
BERE	**Bereket-Mersin**	**0.98**	**58**	Pg	**Pn**	**06 52 50.5**	**+0.1**
BERE				Sg	**Sn**	**06 53 04.7**	**+0.9**
TROD	**Troodos**	**1.03**	**148**	P	**Pb**	**06 52 50.4**	**-0.6**
TROD				S	**Sn**	**06 53 06.3**	**+1.2**
TROD				AML	AML	06 53 06.6	
	0.1nm,0.3s						
TROD				AML	AML	06 53 12.1	
	0.1nm,0.3s						
YORU	**Yoruktepe-Mers**	**1.03**	**71**	Pn	**Pn**	**06 52 51.5**	**+0.5**
AKK1	**Akkuyu-Mersin**	**1.14**	**73**	Pn	**Pb**	**06 52 52.8**	**+0.1**
AKKU	**Akkuyu-Mersin**	**1.15**	**73**	Pn	**Pn**	**06 52 52.5**	**-0.1**
GULN	**MERSIN_Gulnar**	**1.15**	**71**	P	**Pn**	**06 52 52.2**	**-0.4**
GULN				S	**Sb**	**06 53 07.4**	**0.0**
GULN				*i* AML	AML	06 53 08.0	
	comp=N,34nm,0.2s						
GULN				*i* AML	AML	06 53 09.0	
	comp=E,23nm,0.2s						
HDMB	**Hadim**	**1.16**	**12**	Pn	**Pn**	**06 52 52.6**	**-0.4**
TEPK	**Tepekoy-MERSIN**	**1.17**	**70**	Pn	**Pn**	**06 52 52.8**	**0.0**
KEPZ	**Antalya-Kepez**	**1.18**	**336**	P	Pn	06 52 44.9	-8.1
KEPZ				S	**Sb**	**06 53 08.2**	**0.0**
TEVE	**Tevekalti-Mers**	**1.18**	**58**	Pn	**Pn**	**06 52 52.9**	**-0.2**
YESI	**Yesilovacik-Me**	**1.23**	**72**	Pn	**Pn**	**06 52 53.6**	**-0.1**
TISA	**Tisan-Mersin**	**1.25**	**74**	Pn	**Pn**	**06 52 54.0**	**+0.1**
CSS	**Mathiatis**	**1.27**	**133**	P	**Pn**	**06 52 53.6**	**-0.6**
CSS				S	**Sn**	**06 53 09.7**	**-0.9**
CSS				AML	AML	06 53 19.7	
	0.1nm,0.5s						
CSS				AML	AML	06 53 21.3	
APOL	**The Sanctuary**	**1.27**	**154**	P	**Pb**	**06 52 55.2**	**+0.1**
APOL				AML	AML	06 53 20.7	
IKL	**Isikli**	**1.28**	**71**	Pn	**Pn**	**06 52 54.2**	**-0.1**
KARG	**Kargicak-Mersi**	**1.28**	**72**	Pn	**Pn**	**06 52 54.9**	**+0.5**
ASGA	**Asgata**	**1.35**	**140**	P	**Pn**	**06 52 55.5**	**+0.2**
ASGA				S	**Sn**	**06 53 12.2**	**-0.3**
ASGA				AML	AML	06 53 17.2	
ASGA				AML	AML	06 53 20.7	
	0.1nm,0.3s						
KEBE	**Keben-Mersin**	**1.38**	**63**	Pn	**Pn**	**06 52 55.9**	**+0.1**
MVOU	**Mavrovouni**	**1.42**	**124**	P	**Pn**	**06 52 54.9**	**-1.4**
MVOU				S	**Sn**	**06 53 12.8**	**-1.6**
MVOU				AML	AML	06 53 14.7	
	0.1nm,0.3s						
MVOU				AML	AML	06 53 15.1	
	0.1nm,0.2s						
SILI	**Silifke-Mersin**	**1.50**	**68**	Pn	**Pn**	**06 52 57.7**	**+0.3**
KRMN	**Karaman**	**1.60**	**32**	Pn	**Pn**	**06 52 58.9**	**0.0**
SEYD	**Seydisehir-KON**	**1.60**	**350**	Pn	**Pn**	**06 52 58.6**	**-0.4**
SEDI	**Konya, Seydise**	**1.66**	**348**	P	Pn	06 52 50.8	-9.0
SEDI				S	**Sn**	**06 53 19.1**	**-1.4**
KIZK	**Mersin**	**1.71**	**67**	P	**Pn**	**06 53 00.1**	**-0.2**
KIZK				S	**Sn**	**06 53 21.0**	**-0.4**
KIZK				*i* AML	AML	06 53 22.0	
	comp=N,17nm,0.3s						
KIZK				*i* AML	AML	06 53 23.0	
	comp=E,19nm,0.4s						
KERG	**Konya-Eregli**	**2.22**	**44**	P	**Pn**	**06 53 06.8**	**-0.6**
KERG				*i* AML	AML	06 53 32.0	
	comp=N,41nm,1.0s						
KERG				*i* AML	AML	06 53 32.0	
	comp=E,12nm,0.9s						
KERG				S	**Sn**	**06 53 33.5**	**-0.8**

*ROM **29** 06:55:42.5±0.1, 45°.232N±0°.007×13°.07E±0°.01, h35km, ML2.1/12, Error ellipse: s-maj=1.0km s-min=0.3km az=129.0*

ISC 29 06:55:42.7±1.1, 45°.23N±0°.03×13°.06E±0°.03, h30km±12km, n44, σ0§55/64, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IESO	**Jesolo**	**0.46**	**309**	*e*Pg	**Pn**	**06 55 53.7**	**+0.6**
IESO				*e*Sg	**Sn**	**06 56 01.2**	**+0.8**
TRI	**Trieste**	**0.69**	**46**	*e*Pg	**Pb**	**06 55 55.9**	**-0.2**
TRI				*e*Sg	**Sn**	**06 56 05.2**	**-0.8**
TRI	**Trieste**	**0.69**	**46**	P	**Pb**	**06 55 56.0**	**-0.2**
TRI				S	**Sb**	**06 56 06.3**	**+0.9**
TRI				AML	AML		
	comp=E,192μm,0.2s						
TRI				AML	AML		
	comp=N,92μm,0.8s						
SKDS	**Skadanscina**	**0.74**	**64**	*i* Pg	**Pb**	**06 55 56.9**	**-0.2**
SKDS				*i* Sg	**Sb**	**06 56 07.2**	**+0.2**
SKDS				IAML		06 56 08.4	
	comp=Z,40nm,0.1s						
SABO	**M.te Sabotino**	**0.84**	**27**	*e*Pg	**Pb**	**06 55 58.4**	**-0.4**
SABO				*e*Sg	**Sb**	**06 56 10.0**	**+0.2**
SABO	**M.te Sabotino**	**0.84**	**27**	P	**Pb**	**06 55 58.6**	**-0.2**
SABO				S	**Sb**	**06 56 10.6**	**+0.9**
SABO				AML	AML		
	comp=E,788μm,1.5s						
SABO				AML	AML		
	comp=E,210μm,1.5s						
SABO				AML	AML		
	comp=N,645μm,0.2s						
SABO				AML	AML		
	comp=N,168μm,0.6s						
POLC	**Polcenigo**	**0.89**	**334**	P	**Pb**	**06 55 59.4**	**-0.2**
CRND	**Cornuda**	**0.92**	**312**	P	**Pb**	**06 56 00.3**	**+0.2**
COLI	**Coloredo**	**0.93**	**14**	*e*Pg	**Pb**	**06 55 59.8**	**-0.4**
COLI				*e*Sg	**Sb**	**06 56 13.2**	**+0.9**
JAVS	**Javornik**	**0.97**	**46**	*i* Pg	**Pn**	**06 56 00.2**	**-0.1**
JAVS				*i* Sg	**Sb**	**06 56 13.3**	**-0.1**
JAVS				IAML		06 56 16.1	
	comp=Z,5.5nm,0.1s						
KNDS	**Knezji Dol**	**0.98**	**72**	*i* Pg	**Pb**	**06 56 00.5**	**-0.6**
KNDS				IAML		06 56 16.0	
	comp=Z,7.3nm,0.1s						
VOJS	**Vojsko**	**0.99**	**35**	*i* Pg	**Pn**	**06 56 00.5**	**0.0**
VOJS				*i* Sg	**Sb**	**06 56 15.1**	**+1.1**
VOJS				IAML		06 56 17.4	
	comp=Z,3.7nm,0.1s						
TEOL	**Teolo**	**0.99**	**278**	P	**Pb**	**06 56 00.9**	**-0.3**
MPRI	**Monte Prat**	**1.01**	**357**	P	**Pn**	**06 56 00.9**	**+0.1**
BAD	**Bernadia**	**1.01**	**7**	P	**Pn**	**06 56 00.8**	**0.0**
BAD				S	**Sb**	**06 56 14.2**	**-0.5**
VARN	**Col Varnada, M**	**1.02**	**319**	P	**Pb**	**06 56 01.2**	**-0.6**
DST2	**Trieste**	**1.02**	**355**	P	**Pb**	**06 56 01.4**	**-0.4**
DST2				S	**Sb**	**06 56 14.8**	**0.0**
DST2				AML	AML		
	comp=N,78μm,1.6s						
DST2				AML	AML		
	comp=N,78μm,0.4s						
DST2				AML	AML		
	comp=E,76μm,0.8s						
DRE	**Drenchia**	**1.03**	**23**	P	**Pn**	**06 56 01.1**	**0.0**
DRE				S	**Sb**	**06 56 14.7**	**-0.4**
VINO	**Villanova**	**1.04**	**8**	P	**Pn**	**06 56 01.3**	**+0.1**
VINO				S	**Sb**	**06 56 15.1**	**-0.3**
VINO				AML	AML		
	comp=N,111μm,0.3s						
VINO				AML	AML		
	comp=E,72μm,0.4s						
GEPF	**Gemona**	**1.05**	**3**	P	**Pb**	**06 56 01.9**	**-0.3**
ROBS	**Robic**	**1.06**	**17**	*i* Pg	**Pb**	**06 56 01.8**	**-0.7**
ROBS				*i* Sg	**Sb**	**06 56 15.8**	**-0.2**
ROBS				IAML		06 56 17.7	
	comp=Z,8.1nm,0.1s						
CEY	**Cerknica**	**1.09**	**62**	*i* Pg	**Pb**	**06 56 02.1**	**-0.8**
CEY				*i* Sg	**Sb**	**06 56 18.6**	**+1.8**
CEY				IAML		06 56 21.6	
	comp=Z,4.1nm,0.1s						
BOO	**Bordano**	**1.09**	**1**	P	**Pn**	**06 56 01.9**	**0.0**
SANR	**Sandrigo**	**1.10**	**292**	P	**Pn**	**06 56 02.3**	**+0.3**
CADS	**Cadrg**	**1.10**	**25**	*i* Pg	**Pn**	**06 56 02.3**	**+0.2**
CADS				*i* Sg	**Sb**	**06 56 16.6**	**-0.7**
CADS				IAML		06 56 19.4	
	comp=Z,8.4nm,0.1s						
FERS	**Ferrara-Casagl**	**1.13**	**254**	P	**Pn**	**06 56 02.5**	**+0.2**
ZOVE	**Zovencedo**	**1.13**	**282**	P	**Pb**	**06 56 03.0**	**-0.6**
BRSN	**Barisano**	**1.18**	**217**	P	**Pb**	**06 56 03.7**	**-0.7**
PTCC	**Patocco-Chiusa**	**1.19**	**10**	P	**Pb**	**06 56 03.7**	**-1.0**
CRNS	**Crni Vrh**	**1.20**	**44**	*i* Pg	**Pb**	**06 56 03.8**	**-1.0**
CRNS				*i* Sg	**Sb**	**06 56 19.9**	**0.0**
CRNS				IAML		06 56 26.1	
	comp=Z,6.5nm,0.1s						
GBAS	**Gorenja Brezov**	**1.20**	**54**	*e*Pg	**Pn**	**06 56 03.6**	**+0.2**
GBAS				IAML		06 56 22.3	
	comp=Z,3.1nm,0.1s						
SERM	**Sermide**	**1.27**	**261**	P	**Pn**	**06 56 04.4**	**+0.2**
ZOU	**Zoufplan**	**1.33**	**357**	P	**Pn**	**06 56 05.5**	**+0.1**
MYKA	**Terra Mystica**	**1.46**	**16**	*i* Pn	**Pn**	**06 56 07.2**	**+0.2**
	comp=Z,0.3nm,0.1s						
MYKA				*i* Sn	**Sn**	**06 56 25.5**	**+0.4**
	comp=Z,2.1nm,0.2s						
PANI	**Panarotta**	**1.46**	**305**	P	**Pn**	**06 56 07.6**	**+0.5**
DOSS	**Dosso del Somm**	**1.47**	**297**	P	**Pn**	**06 56 07.2**	**0.0**
DOSS				S	**Sn**	**06 56 24.5**	**-1.0**
DOSS				AML	AML		
	comp=N,46μm,1.6s						
DOSS				AML	AML		
	comp=N,46μm,0.4s						
DOSS				AML	AML		
	comp=E,50μm,1.5s						
CAVE	**Cavezzo**	**1.50**	**257**	P	**Pn**	**06 56 07.7**	**+0.3**
LMD	**Lutirano**	**1.50**	**220**	P	**Pn**	**06 56 07.3**	**-0.2**
SBPO	**S.Benedetto Po**	**1.53**	**264**	P	**Pn**	**06 56 08.4**	**+0.6**
OBKA	**Obir**	**1.65**	**39**	*i* Pn	**Pn**	**06 56 09.9**	**+0.3**
	comp=E,0.1nm,0.1s						
OBKA				*e*Sn	**Sn**	**06 56 29.9**	**+0.1**
	comp=E,8.3nm,0.3s						
ASQU	**Asqua**	**1.70**	**213**	P	**Pn**	**06 56 10.4**	**+0.1**
AOI	**Ancona**	**1.72**	**167**	P	**Pn**	**06 56 11.2**	**+0.6**
RONC	**Roncone**	**1.87**	**295**	P	**Pn**	**06 56 13.2**	**+0.5**
RONC				AML	AML		
	comp=E,1254μm,1.5s						
RONC				AML	AML		
	comp=N,826μm,0.7s						
RONC				AML	AML		
	comp=N,826μm,1.3s						
RONC				AML	AML		
	comp=E,1254μm,0.5s						
SOKA	**Soboth**	**2.00**	**43**	*i* Sn	**Sn**	**06 56 39.1**	**+0.7**
	comp=E,0.1nm,0.1s						

TXNET 29 07:02:19.1, 31°.6N±0°.5×104°.3W±0°.6, h5km±1km, ML2.3/11, 4C-2D, Error ellipse: s-maj=0.9km s-min=0.7km az=64.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	⇑P	Pg	07 02 25.9	0.0
TPB11				S	Sg	07 02 30.7	+0.1
PECS	**Pecos**	**0.42**	**129**	P	Pg	07 02 27.4	+0.1
PECS				S	Sg	07 02 33.0	+0.2
TPB12	**Southwest of T**	**0.49**	**149**	P	Pg	07 02 28.6	0.0
TPB12				S	Sg	07 02 35.4	+0.4
TPB07	**Mentone**	**0.50**	**96**	P	Pg	07 02 29.1	+0.3
TPB07				S	Sg	07 02 35.7	+0.3
TPB10	**Southeast of T**	**0.55**	**129**	⇓P	Pg	07 02 29.9	+0.2
TPB10				S	Sg	07 02 37.5	+0.6
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	07 02 30.3	+0.2
PCOS	**Crockett Middl**	**0.68**	**109**	S	Sg	07 02 41.4	+0.6
CLNB	**Carlsbad**	**0.70**	**27**	P	Pg	07 02 32.4	-0.2
CLNB				S	Sg	07 02 42.1	+0.4
TPB01	**Permian Basin**	**0.80**	**149**	⇑P	Pg	07 02 33.9	-0.6
TPB01				S	Sg	07 02 44.4	-0.4
TPB03	**Saragosa**	**0.84**	**131**	⇓P	Pg	07 02 35.1	-0.1
TPB03				S	Sg	07 02 46.4	+0.3
TPB04	**Verhalen**	**0.95**	**118**	P	Pg	07 02 36.9	-0.5
TPB04				S	Sg	07 02 49.7	0.0
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	07 02 37.9	+0.3
MNTX				S	Sb	07 02 50.9	-0.5
HTMS	**Hat Mesa**	**0.99**	**32**	P	Pg	07 02 37.9	-0.1
HTMS				S

OBF0	Syolatti, Pyha	1.77	290	PG	Pb	07 05 46.2	-0.5
OBF0				MSG		07 06 07.1	
	comp=Z,2.9nm,0.2s						
OBF0				SN	Sg	07 06 10.9	+0.6
KU2	Taivalkoski	1.77	2	PG	Pb	07 05 46.4	-0.3
	baz=179						
KU2				SN	Sg	07 06 11.8	+1.4
JOF	Joensuu	1.78	124	PG	Pg	07 05 46.8	-0.7
JOF				SG	Sg	07 06 09.3	-1.3
KAF	Kangasniemi	2.01	205	PG	Pb	07 05 50.5	-0.3
KAF				MSG		07 06 14.1	
	comp=Z,1.9nm,0.2s						
KAF				SG	Sg	07 06 17.2	-0.7
MSF	Maaselka	2.02	11	PG	Pb	07 05 50.9	0.0
RANF	Ranua	2.15	346	PG	Pb	07 05 53.1	-0.1
	baz=169						
RANF				SG	Sb	07 06 20.2	-0.1
KU6	Riekki	2.23	19	PG	Pb	07 05 54.0	-0.5
KU6				MSG		07 06 20.6	
	comp=Z,0.9nm,0.2s						
KU6				SG	Sb	07 06 22.8	+0.3
KEF	Keuruu	2.31	221	PG	Pb	07 05 55.0	-0.9
	baz=37						
KEF				MSG		07 06 22.6	
	comp=Z,2.8nm,0.2s						
KEF				SG	Sb	07 06 25.2	+0.3
OLKF	Oulanka, Finla	2.45	13	PG	Pb	07 05 58.0	-0.3
OLKF				MSG		07 06 26.8	
	comp=Z,1.2nm,0.2s						
OLKF				SG	Sb	07 06 29.4	+0.4
RUF	Ruokolahti	2.56	171	PG	Pb	07 05 60.0	-0.2
RUF				MSG		07 06 30.2	
	comp=Z,2.2nm,0.2s						
RUF				SG	Sb	07 06 33.2	+1.0
VAF	Ylistaro	2.59	252	PG	Pb	07 05 59.7	-1.0
VAF				MSG		07 06 30.7	
	comp=Z,1.2nm,0.2s						
VAF				SG	Sb	07 06 33.3	+0.2
FIA0	FINESS Array S	2.68	201	PB	Pb	07 06 01.0	-1.2
FIA0				MSG		07 06 33.3	
	comp=Z,0.8nm,0.2s						
FIA0				SG	Sb	07 06 36.3	+0.8
FINES	FINESS Array B	2.68	201	Pn	Pb	07 06 00.3	-1.9
	comp=Z,0.1nm,0.3s,baz=22,slow=15,SNR=5.6						
FINES				Sn	Sb	07 06 35.0	-0.5
	comp=Z,0.3nm,0.3s,baz=20,slow=25,SNR=6.4						
	comp=Z,0.8nm,0.5s						
RNF	Rovaniemi	2.81	343	SB	Sb	07 06 39.1	-0.3
ERTU	Ertsjaerv	3.60	319	PB	Pb	07 06 14.2	-3.7
NUR	Nurmijarvi	3.81	207	PN	Pn	07 06 13.1	-0.1
ARCES	ARCESS Array B	5.71	351	Pn	Pn	07 06 40.3	+1.0
	baz=162,slow=15,SNR=1.5						
ARCES				Sn	Sn	07 07 43.3	-2.1
	baz=172,slow=22,SNR=1.5						
	comp=Z,1.3nm,1.1s						
I37NO	I37NO	6.39	328	I	I	07 45 30.0	
	baz=141,slow=323,SNR=2.9						

NEIC ***29*** *07:16:07.7±2.4,39°.34N±0°.01×123°.23W±0°.03,h10km±1km, Error ellipse: s-maj=3.5km s-min=2.0km az=261.0*
IDC ***29*** *07:16:07.8±0.8,39°.47N×123°.21W,h0km,mb4.0/13, mbtmp3.8/21,ML3.3/8,MS3.5/27,Error ellipse: s-maj=16.0km s-min=9.0km az=35.0*
NCEDC ***29*** *07:16:08.4±2.6,39°.35N±0°.01×123°.24W±0°.02,h3km±4km, Mwr4.3/5,mb4.2/28(NEIC),ML4.1/118(NEIC),Error ellipse: s-maj=2.7km s-min=1.9km az=77.0*

ISC 29 07:16:08.4±0.9,39°.34N±0°.02×123°.21W±0°.02,h12km±6km, n436,σ1§01/418,mb4.2/20,MS3.6/18,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWRM	Wonder Ranch	0.15	207		Pg	07 16 12.0	+0.1
GWRM					Sg	07 16 14.4	0.0
DCMP	DeCamp, Califo	0.16	324		Pg	07 16 11.5	-0.6
DCMP	DeCamp, Califo	0.16	324	IAML		07 16 14.1	
	comp=E,54μm,0.4s						
DCMP				IAML		07 16 14.4	
	comp=N,33μm,0.5s						
GTC	Three Chop Rid	0.27	283		Pg	07 16 13.8	-0.3
KFPM	Farley Peak	0.34	332		Pg	07 16 15.1	-0.2
GHOM	Hamilton Openi	0.39	221		Pn	07 16 21.6	+1.6
GSNM	Snow Mountain	0.40	178		Pb	07 16 16.9	-0.5
GSNM					Sb	07 16 23.6	0.0
KCPM	Cahto Peak	0.45	321		Pb	07 16 17.4	-1.0
KCPM					Sb	07 16 24.6	-0.6
KIPM	Iron Peak	0.51	336		Pb	07 16 18.5	-1.0
GGUM	Gualala	0.53	205		Pb	07 16 19.6	-0.1
KBNM	Bluenose Ridge	0.55	2		Pb	07 16 20.1	-0.1
GRTM	Round Top Moun	0.58	133		Pb	07 16 20.5	-0.1
GCVM	Cloverdale	0.59	165		Pb	07 16 21.1	+0.5
GVV	Valley View	0.60	43		Pb	07 16 21.1	0.0
GSGM	Seigler Mounta	0.61	140		Pb	07 16 21.2	+0.2
GDXM	Geysers	0.62	148		Pb	07 16 21.2	-0.1
GCK	Clark Valley	0.64	71		Pb	07 16 22.6	+1.1
GGPM	Geyser Peak	0.64	153		Pb	07 16 21.6	-0.1
GBGM	Boggs Mountain	0.67	141		Pb	07 16 22.6	+0.5
GROM	Round Mountain	0.71	36		Pb	07 16 23.0	0.0
GFC	Funks Creek	0.72	91		Pn	07 16 24.2	-0.2
GAXM	Alexander Vall	0.72	150		Pb	07 16 22.9	0.0
GHCM	House Creek	0.73	179		Pb	07 16 22.8	-0.3
MNRC	McLaughlin Min	0.76	127		Pb	07 16 24.0	+0.5
MNRC	McLaughlin Min	0.76	127	IAML		07 16 43.3	
	comp=E,6μm,1.2s						
MNRC				IAML		07 16 45.9	
	comp=N,7μm,0.9s						
NMTM	Middletown	0.80	131		Pb	07 16 24.7	+0.4
NHSM	Mount Saint He	0.83	145		Pb	07 16 24.8	0.0
O02D	Mt. Diablo Mer	0.90	21	Pg	Pb	07 16 26.5	+0.5
O02D				IAML		07 16 45.8	
	comp=E,8μm,1.2s						
O02D				IAML		07 16 46.2	
	comp=N,7μm,0.8s						
BRIC	Briceland Vine	0.94	326		Pg	07 16 25.7	-0.8
KMRM	Mail Ridge	0.96	337	Pg	Pg	07 16 26.3	-0.6
LBPM	Beegum Peak	1.01	15		Pb	07 16 28.0	0.0
OSUM	Sutter Buttes	1.06	93		Pg	07 16 27.9	-0.9
OAKV	Oakville Exper	1.10	145		Pg	07 16 28.2	-1.4
CVS	Carmenet Viney	1.15	149		Pg	07 16 28.8	-1.8
KCRM	Chalk Rock	1.18	337		Pg	07 16 29.6	-1.5
QRDG	Quail Ridge Na	1.20	135		Pb	07 16 31.2	+0.2
LTCM	Tuscan Springs	1.21	44		Pg	07 16 30.4	-1.2
MCCM	Marconi Confer	1.22	168		Pg	07 16 29.9	-2.0
MCCM				IAML		07 16 56.7	
	comp=E,3μm,1.0s						
MCCM				IAML		07 16 57.0	
	comp=N,3μm,1.3s						
OSTM	Stimpson Lane	1.25	88		Pg	07 16 30.4	-2.1
OGOM	Van Goodin Ran	1.28	75		Pg	07 16 30.6	-2.4
KMPM	Mount Pierce	1.28	327		Pg	07 16 30.5	-2.6
PETL	Petrolia	1.29	318		Pg	07 16 29.9	-3.3
NADM	Allendale	1.31	132		Pb	07 16 34.6	+1.7
RUSS	Russell Ranch	1.31	127		Pb	07 16 33.6	+0.6
RUSS	Russell Ranch	1.31	127	IAML		07 17 01.2	
	comp=N,2μm,1.4s						
RUSS				IAML		07 17 17.2	
	comp=E,2μm,1.2s						
PAM	Palermo	1.32	85		Pn	07 16 31.4	-1.3
KHBM	Hayfork Bally	1.32	360		Pg	07 16 32.4	-1.4
KHBM				IAML		07 17 01.4	
	comp=E,3μm,0.7s						
KHBM				IAML		07 17 07.0	
	comp=N,3μm,1.2s						
NOLM	Olema	1.34	166		Pn	07 16 31.4	-1.5
ORV	Oroville	1.34	80		Pn	07 16 31.4	-1.6
NPRM	Point Reyes	1.35	173		Pn	07 16 31.8	-1.3
WEAV	Weaverville	1.42	7		Pn	07 16 33.7	-0.5
KCTM	Capetown	1.43	323		Pn	07 16 32.8	-1.5
O03E	Paynes Creek	1.45	48		Pn	07 16 33.5	-1.0
O03E	Paynes Creek	1.45	48	IAML		07 17 00.6	
	comp=E,3μm,0.7s						
O03E				IAML		07 17 03.6	
	comp=N,2μm,0.9s						
SFRE	Sierra Foothil	1.47	93		Pn	07 16 33.4	-1.4
CPMM	Point Molate	1.52	155		Pn	07 16 34.1	-1.4
LCMM	Colby Mountain	1.54	58		Pn	07 16 35.4	-0.5
LDBM	Digger Butte	1.55	45		Pn	07 16 35.1	-0.9
CPIM	Pinole Ridge	1.56	150		Pn	07 16 35.2	-0.8
KHMM	Horse Mountain	1.58	346		Pn	07 16 35.6	-0.9
JCC	Jacoby Creek,	1.60	337		Pn	07 16 35.2	-1.4
JCC				IAML		07 17 20.6	
	comp=N,2μm,1.4s						
VAK	Adit at Lawren	1.64	152		Pn	07 16 36.0	-1.2
FARB	Farallon Islan	1.65	174		Pn	07 16 35.8	-1.4
FARB	Farallon Islan	1.65	174	IAML		07 17 10.8	
	comp=E,3μm,1.6s						
JPRM	Presidio of Sa	1.65	159		Pn	07 16 36.5	-0.7
N02D	Trinity Center	1.68	13		Pn	07 16 38.0	+0.2
LSHM	Sage Hen Hill	1.71	31		Pn	07 16 37.5	-0.7
BDM	Black Diamond	1.74	142		Pn	07 16 37.9	-0.6
LMEM	Manzanita Entr	1.74	46		Pn	07 16 38.5	-0.2
LRDM	Redding Peak	1.76	50		Pn	07 16 38.7	-0.1
AFDM	Forest Hills B	1.79	102		Pn	07 16 38.7	-0.5
LBKM	Bonanza King	1.79	13		Pn	07 16 39.7	+0.3
CSLM	San Leandro Hi	1.83	152		Pn	07 16 38.5	-1.2
SAC	San Andreas	1.86	160		Pn	07 16 39.0	-1.1
JCPM	Coyote Point	1.88	158		Pn	07 16 39.7	-0.7
KRPM	Rodgers	1.92	341		Pn	07 16 39.9	-1.2
KRPM				IAML		07 17 34.5	
	comp=E,2μm,1.9s						
JCHM	Cahill Ridge	1.93	160		Pn	07 16 39.7	-1.5
KOMM	Orleans Mounta	1.95	355		Pn	07 16 40.9	-0.6
CNIC	Niles Canyon	1.99	150		Pn	07 16 41.2	-0.7
HATC	Hat Creek Radi	2.00	42		Pn	07 16 42.4	+0.3
HATC				IAML		07 17 22.4	
	comp=N,2μm,1.5s						
HATC				IAML		07 17 39.7	
	comp=E,2μm,1.1s						
JRSC	Jasper Ridge	2.08	158		Pn	07 16 42.1	-1.0
JSFB	Stanford Teles	2.10	157		Pn	07 16 42.8	-0.6
M03C	McCloud	2.11	23		Pn	07 16 44.4	+0.8
BGH	Bear Gulch	2.11	161		Pn	07 16 42.7	-0.8
LGBM	Gray Butte	2.15	21		Pn	07 16 45.2	+0.8
CMLM	Mount Lewis	2.23	146		Pn	07 16 45.3	0.0
DONR	Donner Summit	2.24	89		Pn	07 16 46.5	+0.8
LBFM	Black Fox Moun	2.25	26		Pn	07 16 46.4	+0.7
LTIM	Timbered Crate	2.26	35		Pn	07 16 46.4	+0.7
LMPM	Military Pass	2.29	20		Pn	07 16 47.0	+0.7
LAMM	Antelope Mount	2.31	11		Pn	07 16 47.2	+0.6
MHC	Mount Hamilton	2.34	148		Pn	07 16 46.7	-0.3
MTOS	Mt Oso, Westle	2.35	140		Pn	07 16 48.5	+1.5
CCOS	Coe Ranch Numb	2.40	149		Pn	07 16 47.6	0.0
LHEM	Herd Peak	2.41	18		Pn	07 16 48.9	+0.9
YBH	Yreka Blue Hor	2.42	9		Pn	07 16 48.5	+0.6
YBH				IAML		07 17 36.8	
	comp=N,599nm,1.1s						
YBH	Yreka Blue Hor	2.42	9	Pn	Pn	07 16 48.5	+0.6
	comp=N,10nm,0.3s,baz=188,slow=7.2,SNR=78						
YBH				Lg	Lg	07 17 29.5	
	comp=N,26nm,0.3s,baz=8.1,slow=18,SNR=9.0						
	comp=N,116nm,0.4s						
MPK	Martis Peak	2.47	90		Pn	07 16 50.0	+1.2
LGMM	Garner Mountai	2.49	25		Pn	07 16 50.0	+1.0
CADM	Anderson Res.	2.50	150		Pn	07 16 48.4	-0.6
PEAR	Peavine Mounta	2.53	83		Pn	07 16 50.8	+1.2
CMB	Columbia Colle	2.57	120		Pn	07 16 51.1	+1.2
L02F	Cave Junction	2.79	355		Pn	07 16 53.3	+0.3
L02F				IAML		07 17 55.3	
	comp=N,440nm,1.2s						
L02F				IAML		07 17 58.0	
	comp=E,458nm,1.4s						
PNTR	Pine Nut	2.82	94		Pn	07 16 54.7	+1.1
SAO	San Andreas Ge	2.92	151		Pn	07 16 53.8	-1.0
L04D	Klamath Falls	2.96	13		Pn	07 16 56.4	+1.0
L04D				IAML		07 17 53.3	
	comp=E,782nm,1.5s						
L04D				IAML		07 18 00.6	
	comp=N,683nm,1.3s						
KBO	Bosley Butte	2.97	345		Pn	07 16 55.1	-0.5
KBO				IAML		07 18 08.2	
	comp=E,729nm,1.9s						
KBO				IAML		07 18 14.1	
	comp=N,670nm,1.6s						
PAHR	Pah Rah Range	2.98	82		Pn	07 16 56.4	+0.7
PAHR				IAML		07 17 51.3	
	comp=N,501nm,1.5s						
PAHR				IAML		07 17 57.1	
	comp=E,514nm,1.0s						
WAKR	Walker	3.06	105		Pn	07 16 58.5	+1.7
WAKR				IAML		07 18 07.9	
	comp=N,398nm,1.9s						
WAKR				IAML		07 18 12.7	
	comp=E,404nm,1.1s						
BAVM	Antelope Valle	3.19	147		Pn	07 17 01.9	+3.4
BBGB	Big Mountain B	3.25	147		Pn	07 16 59.5	+0.1
BBGB				IAML		07 18 18.9	
	comp=E,457nm,1.3s						
BBGB				IAML		07 18 46.3	
	comp=N,527nm,1.6s						
K02D	Willamette Mer	3.37	354		Pn	07 17 01.3	+0.3
K02D				IAML		07 18 23.6	
	comp=N,371nm,1.7s						
K02D				IAML		07 18 23.9	
	comp=E,330nm,1.2s						
K04D	Chiloquin, OR	3.46	18		Pn	07 17 03.8	+1.4
BBOR	Butler Butte	3.57	6		Pn	07 17 05.1	+1.3
BBOR				IAML		07 18 30.8	
	comp=N,224nm,1.6s						
BBOR				IAML		07 18 31.2	
	comp=E,230nm,1.3s						
PMPB	Monarch Peak	3.66	148		Pn	07 17 05.1	+0.2
PMPB				IAML		07 18 52.6	
	comp=E,247nm,1.7s						
PMPB				IAML		07 19 02.4	
	comp=N,248nm,1.9s						
MINS	Minaret Summit	3.67	116		Pb	07 17 10.1	-3.3
RYN	Ryan	3.72	99		Pn	07 17 06.9	+1.0
DBO	Dodson Butte	3.78	360	Pn	Pn	07 17 08.8	+2.2
DBO				IAML		07 18 24.8	
	comp=E,285nm,1.9s						
DBO				IAML		07 18 25.6	
	comp=N,272nm,1.2s						
LHV	Little Huntoon	3.84	105		Pn	07 17 08.0	+0.7
LHV				IAML		07 18 25.5	
	comp=N,343nm,1.2s						
LHV				IAML		07 18 41.3	
	comp=E,380nm,1.6s						
J01E	Myrtle Point	3.86	352		Pn	07 17 08.0	+0.4
J01E				IAML		07 18 34.5	
	comp=N,374nm,1.3s						
J01E				IAML		07 18 46.1	
	comp=E,389nm,3.5s						
NVAR	Mina Array Bea	3.94	102	Pn	Pn	07 17 10.0	+1.0
	comp=E,2.6nm,0.3s,baz=278,slow=14,SNR=35						
NVAR				Lg	Lg	07 18 13.2	
	comp=E,3.8nm,0.3s,baz=290,slow=22,SNR=4.2						
NVAR				LR	LR	07 18 39.3	
	comp=E,285nm,20.0s,baz=266,slow=37						
	comp=E,13nm,0.6s						
J04A	Umpqua Nationa	3.99	12		Pn	07 17 09.2	-0.4
NV11	Mina Array Sit	4.05	101		Pn	07 17 11.2	+0.8
NV11				IAML		07 18 34.6	
	comp=N,211nm,1.6s						
J05D	Fort Rock, OR	4.21	20		Pn	07 17 13.8	+1.2
J05D				IAML		07 18 38.3	
	comp=E,205nm,2.7s						
I03D	Drain, OR	4.36	359		Pn	07 17 15.1	+0.6
I03D				IAML		07 18 48.8	
	comp=N,163nm,2.2s						
I03D				IAML		07 18 53.0	
	comp=E,216nm,2.1s						
DSP	Deep Springs	4.57	114	Pn	Pn	07 17 18.7	+1.4
WVOR	Wild Horse Val	4.65	47		Pn	07 17 19.5	+0.9
Q09A	Carvers	4.72	94	Pn	Pn	07 17 19.3	-0.4
PINE	Pine Mountain	4.77	20		Pn	07 17 21.9	+1.7
PINE				IAML		07 18 56.4	
	comp=E,107nm,1.9s						
PINE				IAML		07 18 57.4	
	comp=N,88nm,1.9s						
TPH	Tonopah	4.85	103	Pn	Pn	07 17 22.0	+0.5
COR	Corvallis	5.24	359	Pn	Pn	07 17 23.3	-3.4
COR				IAML		07 19 07.8	
	comp=N,140nm,2.7s						
ISA	Isabella, Lake	5.26	133	Pn	Pn	07 17 26.0	-0.9
ISA				IAML		07 19 20.8	
	comp=E,76nm,1.6s						
BCW	Bitter Crk WRg	5.34	144	Pn	Pn	07 17 27.4	-0.7
BCW				IAML		07 19 37.2	
	comp=N,128nm,1.6s						
BCW				IAML		07 19 41.1	
	comp=E,108nm,1.7s						
J08A	Circle Bar Ran	5.37	40	Pn	Pn	07 17 28.9	+0.3
GWY	Greenwater Val	6.07	119	Pn	Pn	07 17 38.4	+0.3
HOOD	Mount Hood Mea	6.09	10	Pn	Pn	07 17 37.8	-0.6
S11A	Rachel	6.10	104	Pn	Pn	07 17 36.7	-1.8
ELK	Elko	6.28	75	Pn	Pn	07 17 39.6	-1.5
ELK	Elko	6.28	75	Pn	Pn	07 17 42.6	+1.5
	comp=E,0.1nm,0.3s,baz=262,slow=12,SNR=13						
ELK				Lg	Lg	07 19 26.6	
	comp=E,0.6nm,0.3s,baz=140,slow=15,SNR=4.2						
ELK				LR	LR	07 20 46.6	
	comp=E,231nm,18.3s,baz=250,slow=45						
	comp=E,3.0nm,0.8s						
PFO	Pinyon Flats O	7.89	134	Pn	Pn	07 18 07.2	+4.1
	comp=E,0.3nm,0.3s,baz=286,slow=10,SNR=4.6						
PFO				LR	LR	07 21 30.2	
	comp=E,414nm,19.2s,baz=358,slow=40						
	comp=E,1.7nm,0.5s						
PDAR	Pinedale Array	10.87	67	Pn	Pn	07 18 47.8	+3.8
	baz=250,slow=11,SNR=6.6						
PDAR				LR	LR	07 23 30.4	
	comp=E,147nm,18.4s,baz=244,slow=41						
	comp=E,0.2nm,0.6s						
BBB	Bella Bella	13.29	347	LR	LR	07 23 57.6	
	comp=E,207nm,19.7s,baz=190,slow=36						
ANMO	Albuquerque	14.06	103	Pn	Pn	07 19 30.4	+2.7
	comp=E,0.1nm,0.3s,baz=108,slow=13,SNR=3.3						
ANMO				LR	LR	07 24 58.6	
	comp=E,85nm,19.8s,baz=94,slow=38						
	comp=E,0.3nm,0.6s						
T25A	Trinidad	14.94	93	Pn	Pn	07 19 41.8	+2.1
T25A				IAmb	IAmb	07 20 18.3	
	comp=Z,9.0nm,1.2s						
V35K	Ketchikan	16.96	343	P	Pn	07 20 04.6	-0.7
	baz=157						
E28A	Huff	17.96	59	Pn	Pn	07 20 16.8	-1.2
E28A				IAmb	IAmb	07 20 50.2	
	comp=Z,17nm,1.0s						
U33K	Whale Pass	18.03	342	P	Pn	07 20 17.6	-1.0
	baz=155						
K30B	Basset	18.11	72		Pn	07 20 18.3	-1.5
K30B				IAmb	IAmb	07 20 22.1	
	comp=Z,15nm,0.7s						
WRAK	Wrangell Islan	18.13	344	P	P	07 20 20.8	+0.7
	baz=157						
T35M	Bob Quinn	18.25	348	P	Pn	07 20 21.6	+0.2
	baz=162						
LPIG	La Paz	18.71	140	LR	LR	07 27 59.2	
	comp=Z,344nm,18.7s,baz=332,slow=38						
TX31	Lajitas Ar. Si	18.94	116	P	P	07 20 29.6	+0.1
TX31				IAmb	IAmb	07 20 42.9	
	comp=Z,20nm,1.4s						
TXAR	Lajitas Array	18.94	116	P	P	07 20 27.4	-2.1
TXAR	Lajitas Array	18.94	116	P	Pn	07 20 32.7	+2.6
	baz=300,slow=6.8,SNR=19						
TXAR				LR	LR	07 28 55.1	
	comp=Z,74nm,20.6s,baz=294,slow=40						
	comp=Z,1.8nm,0.9s						
SIT	Sitka	19.43	340	P	P	07 20 34.6	+0.2
	baz=151						
TOAD	Toad River Com	19.57	357	P	Pn	07 20 37.5	+0.1
	baz=175						
S32K	Killisnoo	19.60	341	P	Pn	07 20 37.8	+0.2
	baz=153						
DLBC	Dease Lake	19.61	349	P	P	07 20 34.8	-1.7
	baz=121,slow=12,SNR=1.3						
DLBC				LR	LR	07 27 58.2	
	comp=Z,126nm,22.0s,baz=157,slow=36						
	comp=Z,1.5nm,1.0s						
DLBC	Dease Lake	19.61	349	P	P	07 20 36.8	+0.2
	baz=164						
KAN08	Anthony NE Sta	19.91	88	P	P	07 20 38.9	-1.1
CROK	Carrier	20.09	90	P	P	07 20 41.4	-0.5
R32K	Eaglecrest	20.31	343	P	P	07 20 45.3	+1.3
	baz=154						
ECSD	EROS Data Cent	20.35	69	P	P	07 20 42.5	-2.2
ECSD				IAmb	IAmb	07 20 43.4	
	comp=Z,12nm,0.7s						
S31K	Pelican	20.46	340	P	P	07 20 46.7	+1.1
	baz=150						
Q32M	Nakina River	20.48	347	P	P	07 20 47.2	+1.1
	baz=160						
L34A	Svendsen Farm,	20.50	74	P	P	07 20 44.1	-2.2
WTFS	Witchita Falls	20.62	98	P	P	07 20 46.2	-1.4
BESE	Bessie Mountai	20.66	343	P	P	07 20 46.0	-1.9
R33M	Jennings River	20.67	349	P	P	07 20 48.4	+0.2
R33M	Jennings River	20.67	349	P	P	07 20 49.7	+1.5
	baz=163						
R31K	City Hall, Gus	20.73	341	P	P	07 20 49.6	+1.1
	baz=152						
KOTAN	Kotaneelee Air	20.82	359	P	Pn	07 20 51.6	-0.4
	baz=178						
FFC	Flin Flon	21.00	36	P	P	07 20 50.1	-1.5
FFC				IAmb	IAmb	07 20 51.0	
	comp=Z,12nm,0.8s						
JCT	Junction City	21.09	108	P	P	07 20 52.8	0.0
JCT				IAmb	IAmb	07 21 00.3	
	comp=Z,17nm,1.4s						
P32M	Atlin	21.34	345	P	P	07 20 55.2	0.0
P32M	Atlin	21.34	345	P	P	07 20 56.1	+0.9
	baz=157						
DEOK	Depew	21.43	91	P	P	07 20 55.9	-0.5
DEOK				IAmb	IAmb	07 20 58.2	
	comp=Z,7.1nm,0.9s						
SKAG	Skagway	21.56	343	P	P	07 20 59.3	+1.8
	baz=154						
AGMN	Agassiz Nation	21.58	57	P	P	07 20 55.1	-2.7
P33M	Teslin, Yukon	21.75	347	P	P	07 21 01.2	+1.5
P33M	Teslin, Yukon	21.75	347	P	P	07 21 01.0	+1.3
	baz=160						
ULM	Lac du Bonnet	22.13	51	P	P	07 21 01.7	-2.1
ULM				IAmb	IAmb	07 21 04.6	
	comp=Z,7.0nm,0.8s						
ULM	Lac du Bonnet	22.13	51	P	P	07 21 02.0	-1.8
	comp=Z,7.9nm,0.7s,baz=248,slow=8.1,SNR=9.5						
ULM				LR	LR	07 30 17.2	
	comp=Z,282nm,20.0s,baz=276,slow=38						
	comp=Z,7.9nm,0.7s						
P29M	Windy Craggy	22.30	340	P	P	07 21 06.6	+1.0
	baz=149						
P30M	Million Dollar	22.53	342	P	P	07 21 09.0	+1.0
	baz=151						
WHY	Whitehorse	22.55	345	P	P	07 21 09.0	+0.6
	baz=156						
N32M	Quiet Lake	22.68	348	P	P	07 21 10.4	+0.8
	baz=160						
PNL	Peninsula	22.78	339	P	P	07 21 11.7	+1.0
	baz=146						
O30N	Mendenhall	22.91	344	P	P	07 21 12.9	+0.9
	baz=154						
O29M	Mount Kennedy	23.09	340	P	P	07 21 15.0	+1.0
	baz=148						
HYT	Haines Junctio	23.28	342	P	P	07 21 17.0	+1.2
	baz=151						
EPLO	Experimental L	23.29	54	P	P	07 21 13.0	-3.0
EPLO				IAmb	IAmb	07 21 31.0

	baz=147					
M29M	Somme Creek	24.92 343	P	P	07 21 31.6	+0.3
	baz=151,SNR=6.4					
BMRM	Bremner River	25.40 335	P	P	07 21 37.1	+1.6
	baz=139					
L29M	L29M	25.44 344	P	P	07 21 36.9	+1.0
	baz=152,SNR=6.9					
EYAK	Cordova Ski Ar	25.47 334	P	P	07 21 37.1	+1.0
	baz=136					
BVCY	Beaver Creek	25.47 341	P	P	07 21 37.3	+1.1
	baz=147					
P23K	Montague Islan	25.66 332	P	P	07 21 39.2	+1.3
	baz=133					
M27K	Edge Creek, AK	25.69 340	P	P	07 21 38.8	+0.5
	baz=145,SNR=5.2					
N25K	Chitina, Valde	25.88 336	P	P	07 21 40.4	+0.4
	baz=140					
K29M	Barlow Dome	25.97 346	P	P	07 21 41.6	+0.8
	baz=154,SNR=7.0					
M26K	Nabesna, AK	26.03 339	P	P	07 21 41.8	+0.5
	baz=143					
GLI	Glacier Island	26.17 333	P	P	07 21 42.7	+0.3
	baz=135					
KLU	Klutina	26.21 335	P	P	07 21 43.0	+0.1
	baz=137					
L27K	Beaver Creek,	26.26 341	P	P	07 21 43.4	+0.1
	baz=146					
J30M	Hart River	26.42 347	P	P	07 21 45.5	+0.6
	baz=157,SNR=5.4					
KDAK	Kodiak Island	26.47 324	LR	LR	07 29 41.0	
	comp=Z,112nm,21.6s,baz=320,slow=31					
KDAK	Kodiak Island	26.47 324	P	P	07 21 45.7	+0.5
	baz=122					
SEW	Seward	26.51 330	P	P	07 21 45.9	+0.4
	baz=130					
OHAK	Old Harbor	26.51 322	P	P	07 21 45.9	+0.3
	baz=120					
PWL	Port Wells	26.59 332	P	P	07 21 46.2	-0.1
	baz=133					
L26K	Log Cabin Wild	26.63 340	P	P	07 21 47.5	+0.9
	baz=144					
SII	Sitkinak Islan	26.63 321	P	P	07 21 47.3	+0.6
	baz=117					
HARP	HAARP	26.66 337	P	P	07 21 47.3	+0.4
	baz=140					
M24K	Tolsona, Glenn	26.75 336	P	P	07 21 48.2	+0.4
	baz=138					
BRSE	Bradley Lake S	26.79 329	P	P	07 21 48.9	+0.8
	baz=127					
Q20K	Shuyak Island	26.83 326	P	P	07 21 48.5	+0.1
	baz=123					
O22K	Cooper Landing	26.86 331	P	P	07 21 48.3	-0.3
	baz=130					
SCM	Sheep Creek Mo	26.92 335	P	P	07 21 49.9	+0.5
	baz=136					
KNK	Knik Glacier	27.01 333	P	P	07 21 50.5	+0.3
	baz=133					
M23K	Glacier View	27.03 334	P	P	07 21 50.9	+0.7
	baz=135					
I30M	Mount Dempster	27.03 348	P	P	07 21 50.9	+0.6
	baz=157					
CHIR	Chirikof Islan	27.04 318	P	P	07 21 50.9	+0.6
	baz=114					
HOM	Homer	27.11 328	P	P	07 21 51.0	+0.1
	baz=126					
K27K	Chicken	27.13 342	P	P	07 21 51.9	+0.8
	baz=147					
PAX	Paxson	27.19 338	P	P	07 21 52.3	+0.5
	baz=140					
SML	Sawmill	27.24 334	P	P	07 21 53.2	+1.0
	baz=134					
RC01	Rabbit Creek A	27.25 332	P	P	07 21 52.9	+0.7
	baz=131					
H31M	Peel River	27.27 350	P	P	07 21 53.0	+0.6
	baz=161,SNR=6.0					
PMR	Palmer	27.37 333	P	P	07 21 53.0	-0.2
PMR	Palmer	27.37 333	P	P	07 21 53.7	+0.4
	baz=133					
I29M	Ogilvie Camp,	27.49 346	P	P	07 21 55.5	+1.1
	baz=154					
Q19K	Cape Douglas,	27.55 325	P	P	07 21 55.3	+0.3
	baz=122					
SCRK	Sand Creek	27.57 340	P	P	07 21 55.6	+0.4
	baz=144					
CAPN	Captain Cook N	27.58 330	P	P	07 21 55.2	0.0
	baz=128					
RIDG	Independent Ri	27.61 339	P	P	07 21 55.6	+0.1
	baz=142					
P19K	Oil Pt	27.77 327	P	P	07 21 56.3	-0.6
	baz=124					
M22K	Willow	27.83 333	P	P	07 21 57.5	+0.2
	baz=131					
SUA	Susitna One	27.87 332	P	P	07 21 58.4	+0.5
	baz=130					
I28M	Miner Creek	27.88 345	P	P	07 21 58.1	+0.1
	baz=152					
J26L	Joseph Creek	27.89 341	P	P	07 21 58.1	+0.1
	baz=145,SNR=6.9					
K24K	Donnelly Dome	27.92 339	P	P	07 21 58.2	0.0
	baz=141					
EPYK	Eagle Plains	28.15 348	P	P	07 22 00.8	+0.6
	baz=158					
SPCR	Spurr Chakacha	28.25 330	P	P	07 22 02.0	+0.7
	baz=128					
H29M	Whitestone	28.28 347	P	P	07 22 02.5	+1.1
	baz=155					
CUT	Chulitna	28.32 333	P	P	07 22 02.9	+1.2
	baz=132					
G31M	Satah River	28.33 351	P	P	07 22 02.6	+0.9
	baz=162					
I27K	Kandik River	28.36 344	P	P	07 22 03.0	+0.8
	baz=149					
J25K	Salcha River,	28.44 340	P	P	07 22 03.2	+0.3
	baz=142,SNR=6.5					
I26K	Coal Creek Min	28.46 343	P	P	07 22 03.7	+0.8
	baz=146					
SKT	Skwentna	28.49 332	P	P	07 22 03.7	+0.4
	baz=130					
P18K	Big Mountain,	28.49 325	P	P	07 22 04.0	+0.7
	baz=120					
O19K	Port Alsworth	28.52 327	P	P	07 22 04.4	+0.9
	baz=123					
G30M	tAoh Zraii Nji	28.64 349	P	P	07 22 05.4	+0.8
	baz=159					
HDA	Harding Lake	28.72 339	P	P	07 22 05.7	+0.4
	baz=140					
O18K	Koktuh Hills	28.72 326	P	P	07 22 04.9	-0.5
	baz=121					
F31M	Tsiigehtchic	28.76 352	P	P	07 22 06.2	+0.7
	baz=163					
Q16K	King Salmon	28.79 323	P	P	07 22 06.2	+0.3
	baz=118					
MCK	McKinley	28.80 336	P	P	07 22 06.8	+0.7
	baz=136					
G29M	Pine Creek	28.85 348	P	P	07 22 06.9	+0.4
	baz=156					
H27K	Steamboat Moun	28.89 345	P	P	07 22 07.3	+0.5
	baz=150					
N19K	Bonanza Creek	28.93 328	P	P	07 22 07.0	-0.3
	baz=124					
P17K	Kvichak River	28.93 324	P	P	07 22 07.7	+0.5
	baz=119					
ILAR	Eielson Array	28.98 339	P	P	07 22 08.0	+0.4
ILAR	Eielson Array	28.98 339	P	P	07 22 09.3	+1.7
	comp=Z,1.9nm,0.7s,baz=149,slow=8.4,SNR=43					
ILAR			PcP	PcP	07 25 17.1	+1.2
	comp=Z,0.5nm,0.8s,baz=173,slow=1.5,SNR=7.1					
	comp=Z,1.9nm,0.7s					
M20K	Styx River	29.02 331	P	P	07 22 07.5	-0.6
	baz=127					
TRF	Thorofare Moun	29.04 335	P	P	07 22 08.3	0.0
	baz=133					
F30M	Barrier River	29.17 350	P	P	07 22 09.7	+0.4
	baz=160					
PRP	Porcupine Dome	29.20 341	P	P	07 22 10.1	+0.4
	baz=143					
S14K	Fog Glacier	29.26 317	P	P	07 22 09.0	-1.2
	baz=110					
PPLA	Purkeypile	29.31 333	P	P	07 22 09.9	-0.9
	baz=130					
POKR	Poker Plat Res	29.39 339	P	P	07 22 10.5	-0.8
	baz=140					
G27K	Doyon Strip	29.41 345	P	P	07 22 11.3	-0.2
G27K			IAmb	IAmb	07 22 14.6	
	comp=Z,5.8nm,1.4s					
G27K	Doyon Strip	29.41 345	P	P	07 22 11.1	-0.4
	baz=150					
N18K	Kilae Creek	29.44 327	P	P	07 22 12.8	+1.0
	baz=122					
SDPT	Sand Point	29.45 315	P	P	07 22 13.3	+1.4
	baz=107					
NEA2	Nenana	29.47 338	P	P	07 22 12.6	+0.7
	baz=137					
M19K	Big River Lodg	29.52 330	P	P	07 22 12.9	+0.5
	baz=126					
P16K	Nushagak River	29.57 323	P	P	07 22 13.4	+0.6
	baz=116					
INK	Inuvik	29.57 352	P	P	07 22 14.0	+1.3
	comp=Z,3.1nm,1.0s,baz=153,slow=8.9,SNR=11					
	comp=Z,3.1nm,1.0s					
INK	Inuvik	29.57 352	P	P	07 22 13.5	+0.8
	baz=164,SNR=6.6					
CAST	Castle Rocks	29.61 334	P	P	07 22 14.5	+1.2
	baz=131					
L20K	Farewell, AK	29.66 331	P	P	07 22 14.1	+0.4
	baz=127					
BPAW	Bear Paw Mtn.	29.71 336	P	P	07 22 15.2	+1.0
BPAW	Bear Paw Mtn.	29.71 336	P	P	07 22 14.7	+0.6
	baz=133,SNR=9.8					
M18K	Stony River	29.85 329	P	P	07 22 16.3	+0.9
	baz=123					
L19K	White Mountain	29.85 330	P	P	07 22 15.6	+0.2
	baz=125					
O16K	Kokwok River B	29.87 324	P	P	07 22 16.1	+0.6
	baz=117					
H25L	Birch Creek	29.88 342	P	P	07 22 16.1	+0.5
	baz=143					
N17K	Nushagak Hills	29.91 326	P	P	07 22 16.4	+0.5
	baz=120					
I23K	Minto, Yukon-K	29.96 338	P	P	07 22 17.0	+0.7
	baz=137					
G26K	Porcupine Rive	29.98 344	P	P	07 22 17.0	+0.7
	baz=147					
CHUM	Lake Minchumin	30.00 334	P	P	07 22 16.9	+0.3
	baz=131					
H24K	Noodor Dome	30.06 340	P	P	07 22 18.1	+0.9
	baz=140					
C36M	Paulatuk	30.07 359	P	P	07 22 18.4	+1.2
	baz=179					
E29M	Blow River	30.19 349	P	P	07 22 19.8	+1.5
	baz=157					
K20K	Telida	30.27 333	P	P	07 22 19.8	+0.7
	baz=128					
G25K	Bearman Lake	30.35 342	P	P	07 22 20.9	+1.2
	baz=143,SNR=5.6					
S12K	Black Hills	30.42 315	P	P	07 22 21.1	+0.6
	baz=106					
M17K	Holitna River	30.46 328	P	P	07 22 21.7	+1.0
	baz=121					
O15K	Ungalikthiuk R	30.49 323	P	P	07 22 21.6	+0.6
	baz=114					
H23K	Yukon River	30.51 339	P	P	07 22 22.4	+1.2
	baz=137					
N16K	Nishlik Lake	30.57 326	P	P	07 22 23.3	+1.5
	baz=118					
L18K	Granite Mounta	30.59 329	P	P	07 22 23.2	+1.4
	baz=123					
E27K	Coleen River	30.61 347	P	P	07 22 23.5	+1.5
	baz=151					
G24K	Hadweenzic Riv	30.63 341	P	P	07 22 22.9	+0.7
	baz=141,SNR=6.9					
E28M	Babbage River	30.64 348	P	P	07 22 22.9	+0.6
	baz=155					
F26K	Sheenjek River	30.68 344	P	P	07 22 23.3	+0.7
	baz=147					
I21K	Tanana	30.76 337	P	P	07 22 24.0	+0.7
	baz=133,SNR=6.4					
J20K	Nowinta River	30.80 334	P	P	07 22 24.6	+0.9
	baz=129,SNR=6.3					
M16K	Timber Creek	30.91 326	P	P	07 22 25.7	+1.0
	baz=116					
F25K	Christian Rive	30.92 343	P	P	07 22 25.5	+0.8
	baz=145					
N15K	Kwethluk River	31.03 324	P	P	07 22 26.4	+0.6
	baz=116					
H22K	Ishtalitna Cre	31.08 338	P	P	07 22 26.8	+0.6
	baz=135					
D28M	Stokes Point	31.18 349	P	P	07 22 27.9	+0.9
	baz=156					
L17K	Donlin	31.19 329	P	P	07 22 27.6	+0.4
	baz=121					
O14K	Tigyukauivet M	31.20 322	P	P	07 22 27.9	+0.7
	baz=113					
J19K	Poorman	31.20 333	P	P	07 22 29.1	+1.8
	baz=127,SNR=8.8					
J18K	Innoko River	31.29 331	P	P	07 22 28.9	+0.8
	baz=125					
G23K	Bananza Creek	31.30 340	P	P	07 22 29.5	+1.4
	baz=138,SNR=5.5					
I20K	Naaghedeneel	31.31 335	P	P	07 22 29.1	+1.0
	baz=129,SNR=5.5					
E25K	Arctic Village	31.33 344	P	P	07 22 29.7	+1.2
	baz=146					
TKL	Tuckaleechee C	31.34 84	LR	LR	07 35 50.6	
	comp=Z,89nm,19.0s,baz=303,slow=38					
H21K	Melozitna Rive	31.34 337	P	P	07 22 29.2	+0.7
	baz=133,SNR=6.1					
F24K	Squaw Lake	31.37 342	P	P	07 22 29.5	+0.7
	baz=142					
D27M	Malcolm River	31.44 348	P	P	07 22 30.3	+0.9
	baz=153					
L16K	Owhat River	31.46 327	P	P	07 22 30.6	+1.1
	baz=118					
K17K	Iditarod	31.49 330	P	P	07 22 30.4	+0.7
	baz=122					
M15K	Kasigluk River	31.52 325	P	P	07 22 31.0	+1.0
	baz=116					
N14K	Kuskokwak Cree	31.66 323	P	P	07 22 32.0	+0.7
	baz=113					
COLD	Coldfoot	31.73 340	P	P	07 22 32.5	+0.7
	baz=138					
G22K	Bettles	31.85 339	P	P	07 22 33.7	+0.8
	baz=136					
H20K	Anotleneega Mo	31.88 336	P	P	07 22 34.4	+1.1
	baz=130,SNR=8.1					
E24K	Your Creek	31.95 342	P	P	07 22 34.8	+0.9
	baz=141					
GCSA	Galena City Sc	32.09 333	P	P	07 22 35.2	+0.2
	baz=126					
M14K	Bethel	32.11 325	P	P	07 22 35.4	+0.2
	baz=114					
G21K	Allakaket	32.14 338	P	P	07 22 35.9	+0.5
	baz=133,SNR=5.3					
J17K	VABM Dome	32.15 330	P	P	07 22 35.6	+0.1
	baz=121					
E23K	Chandalar	32.21 342	P	P	07 22 36.4	+0.2
	baz=140					
C27K	Jago River	32.25 347	P	P	07 22 37.0	+0.6
	baz=150					
L15K	Ungalak Mounta	32.30 326	P	P	07 22 36.8	-0.1
	baz=116					
H19K	Roundabout Mou	32.42 335	P	P	07 22 37.7	-0.2
	baz=128,SNR=7.0					
F22K	John River	32.46 340	P	P	07 22 38.6	+0.4
	baz=136					
D25K	Kavik River	32.50 345	P	P	07 22 38.4	-0.2
	baz=146					
UNV	Unalaska Valle	32.54 311	P	P	07 22 38.8	-0.2
	baz=99					
K15K	Wolf Creek Mou	32.59 327	P	P	07 22 39.6	+0.1
	baz=117					
M13K	Dall Lake	32.61 324	P	P	07 22 39.6	0.0
	baz=112					
F21K	Alatna River	32.62 339	P	P	07 22 40.0	+0.3
	baz=134					
TOLK	Toolik Lake Re	32.65 342	P	P	07 22 40.2	+0.2
	baz=140,SNR=7.8					
L14K	Kuka Creek	32.67 325	P	P	07 22 40.4	+0.3
	baz=114					
J16K	Anvik River	32.68 329	P	P	07 22 40.5	+0.3
	baz=119					
C26K	Camden Bay	32.71 346	P	P	07 22 40.8	+0.4
	baz=148,SNR=5.3					
A36M	Sachs Harbour	32.74 359	P	P	07 22 41.1	+0.4
	baz=177					
E22K	Anaktuvuk Pass	32.81 341	P	P	07 22 41.5	+0.1
	baz=137,SNR=10.0					
H18K	Honhosa River	32.84 333	P	P	07 22 41.7	+0.1
	baz=125					
D24K	Happy Valley	32.88 343	P	P	07 22 41.9	0.0
	baz=142					
G19K	Purcell Mounta	33.00 335	P	P	07 22 43.5	+0.4
	baz=128					
I17K	Unalakleet	33.02 330	P	P	07 22 43.4	+0.3
	baz=120					
F20K	Avaraart Lake	33.15 337	P	P	07 22 44.5	+0.3
	baz=130					
D23K	Nanushuk River	33.16 342	P	P	07 22 44.9	+0.6
	baz=139,SNR=7.8					
H17K	Granite Mounta	33.27 332	P	P	07 22 46.4	+0.9
	baz=122					
C24K	Franklin Bluff	33.30 344	P	P	07 22 46.9	+1.3
	baz=143					
G18K	Tagagawik	33.37 334	P	P	07 22 47.3	+1.1
	baz=125					
D22K	Ayikyak River	33.58 341	P	P	07 22 49.6	+1.6
	baz=136					
E21K	Killik River	33.60 340	P	P	07 22 49.1	+0.9
	baz=134					
F19K	Shaleruckik Mo	33.64 336	P	P	07 22 48.5	0.0
	baz=128					
K13K	Kusilvak Mount	33.77 326	P	P	07 22 49.9	+0.1
	baz=113					
C23K	Itkillik River	33.81 343	P	P	07 22 49.9	-0.1
	baz=140					
NIKH	Nikolski High	33.83 309	P	P	07 22 50.1	-0.2
	baz=95					
G17K	Kiwalik Mounta	33.84 333	P	P	07 22 50.6	+0.3
	baz=122					
E19K	Redstone River	33.86 337	P	P	07 22 50.9	+0.4
	baz=129,SNR=11					
M11K	Mekoryuk	33.93 323	P	P	07 22 51.1	-0.1
	baz=109					
E20K	Nigu River	34.08 339	P	P	07 22 53.1	+0.7
	baz=131,SNR=8.3					
F18K	Selawik	34.11 335	P	P	07 22 52.7	+0.1
	baz=125					
C21K	Knifeblade Rid	34.31 341	P	P	07 22 54.8	+0.4
	baz=134					
G16K	Koyuk River	34.39 332	P	P	07 22 56.4	+1.3
	baz=120					
D20K	Etivluk River	34.50 339	P	P	07 22 56.6	+0.6
	baz=131					
F17K	Baldwin Pennin	34.55 334	P	P	07 22 57.3	+0.8
	baz=123					
B21K	Ikpikpuk River	34.59 341	P	P	07 22 57.1	+0.3
	baz=135					
D19K	Kuna River	34.78 338	P	P	07 22 58.3	-0.1
	baz=129					
B22K	Teshekpuk Lake	34.82 343	P	P	07 22 59.2	+0.5
	baz=137					
G15K	Niukluk	34.82 331	P	P	07 22 59.0	+0.2
	baz=118					
E18K	Tukpahlearik C	34.88 336	P	P	07 22 59.7	+0.4
	baz=125					
ANM	Nome	35.15 330	P	P	07 23 01.6	-0.1
	baz=115					
SPIA	Saint Paul Isl	35.18 316	P	P	07 23 02.7	+0.7
	baz=100					
F15K	North Star Dit	35.38 332	P	P	07 23 03.9	+0.3
	baz=118					
B20K	Meade River	35.50 341	P	P	07 23 05.1	+0.5
	baz=132					
A22K	Sinclair Lake	35.66 343	P	P	07 23 07.0	+1.0
	baz=136					
C18K	Utukok River	35.77 337	P	P	07 23 07.5	+0.5
	baz=125					
D17K	Noatak River	35.83 335	P	P	07 23 07.8	+0.3
	baz=122					
RDOG	Red Dog Mine	35.97 336	P	P	07 23 09.1	+0.4
	baz=122					
A19K	Wainwright	36.66 340	P	P	07 23 15.2	+0.7
	baz=127					
C16K	Lisburne Hills	36.86 335	P	P	07 23 17.4	+1.1
	baz=120					
ILON	Igloolik, Nuna	37.20 23	P	P	07 23 19.3	+0.3
ILON			IAmb	IAmb	07 23 20.4	
	comp=Z,4.5nm,0.9s					
RES	Resolute Bay	37.81 12	LR	LR	07 40 55.3	
	comp=Z,46nm,20.1s,baz=272,slow=40					
FRB	Frobisher Bay	40.10 34	LR	LR	07 41 24.2	
	comp=Z,167nm,20.4s,baz=239,slow=38					
JTS	Las Juntas de	44.66 120	LR	LR	07 43 49.2	
	comp=Z,58nm,18.6s,baz=319,slow=37					
SFJD	Kangerlussuaq	47.80 30	LR	LR	07 44 50.0	
	comp=Z,52nm,18.1s,baz=266,slow=36					
SDV	Santo Domingo	55.77 108	LR	LR	07 52 37.7	
	comp=Z,40nm,19.7s,baz=252,slow=39					
BORG	Borgarnes	59.88 29	LR	LR	07 52 10.5	
	comp=Z,62nm,19.9s,baz=308,slow=36					
SPITS	Spitsbergen Ar	60.26 9	LR	LR	07 53 30.9	
	comp=Z,42nm,18.1s,baz=316,slow=37					
JMIC	Jan Mayen	60.64 20	LR	LR	07 53 42.5	
	comp=Z,65nm,18.2s,baz=230,slow=37					
ARCES	ARCESS Array B	69.03 11	LR	LR	07 59 21.9	
	comp=Z,32nm,19.1s,baz=295,slow=38					
NOA	NORSAR Array B	73.30 21	P	P	07 27 40.2	+0.7
	comp=Z,0.2nm,0.5s,baz=324,slow=6.3,SNR=2.1					
NOA			LR	LR	07 59 30.1	
	comp=Z,29nm,20.6s,baz=345,slow=36					
	comp=Z,0.2nm,0.5s					
MJAR	Matsushiro Arr	73.67 304	P	P	07 27 42.0	-0.1
	comp=Z,1.5nm,0.8s,baz=43,slow=7.5,SNR=4.9					
	comp=Z,1.5nm,0.8s					
HFS	Hagfors	74.74 21	P	P	07 27 48.4	+0.5
	comp=Z,3.0nm,1.0s,baz=315,slow=14,SNR=3.7					
HFS			LR	LR	08 01 09.6	
	comp=Z,43nm,19.2s,baz=6.0,slow=36					
	comp=Z,3.0nm,1.0s					
LPAZ	La Paz	75.50 126	P	P	07 27 54.5	+1.0
	comp=Z,1.0nm,0.9s,baz=2.9,slow=9.5,SNR=4.2					
	comp=Z,1.0nm,0.9s					
FINES	FINESS Array B	76.51 15	P	P	07 27 57.6	-0.3
	comp=Z,1.3nm,0.8s,baz=341,slow=4.0,SNR=4.0					
	comp=Z,1.3nm,0.8s					
ZALV	Zalesovo Beam	83.99 344	P	P	07 28 39.0	+0.6
	comp=Z,1.3nm,0.4s,baz=32,slow=5.9,SNR=6.0					
	comp=Z,1.3nm,0.4s					
DAVOX	Davos/Dischmat	84.58 30	LR	LR	08 07 56.7	
	comp=Z,36nm,18.0s,baz=276,slow=37					
VRAC	Vranov	84.86 25	LR	LR	08 08 50.9	
	comp=Z,36nm,18.2s,baz=14,slow=37					
HHC	Hu-ho-hao-te	85.87 322	eP	P	07 28 47.3	-0.9
HHC			pmax	pmax		
	comp=Z,16nm,0.7s					
HHC			pmax	pmax		
	comp=Z,120nm,5.4s					
BVAR	Borovoye Array	87.26 352	P	P	07 28 55.6	+0.9
	comp=Z,1.7nm,0.7s,baz=336,slow=3.3,SNR=6.2					
	comp=Z,1.7nm,0.7s					
KURBB	Kurchatov Arra	88.40 346	P	P	07 29 01.1	+1.0
	comp=Z,3.0nm,0.8s,baz=17,slow=4.7,SNR=22					
	comp=Z,3.0nm,0.8s					
CPUP	Villa Florida	89.67 125	LR	LR	08 09 45.4	
	comp=Z,29nm,19.6s,baz=168,slow=36					
MKAR	Makanchi Array	91.27 343	P	P	07 29 12.5	-1.2
	comp=Z,0.4nm,0.7s,baz=11,slow=7.4,SNR=4.2					
	comp=Z,0.4nm,0.7s					
PZH	PanZhiHua	102.21 320	P	Pdif	07 30 04.8	+1.0
PZH			pmax	pmax		
	comp=Z,8.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,100nm,5.1s					
QSPA	South Pole Qui	129.15 180	PKP	PKiKP	07 35 17.1	+1.0
	comp=Z,2.6nm,1.0s,baz=109,slow=1.6,SNR=4.9					

*IDC **29** 07:16:15.4±0.9, 41°.79S×79°.94E, h0km, mb4.3/10, mbtmp4.3/10, MS4.0/34, Error ellipse: s-maj=27.3km s-min=18.8km az=132.0*

*NEIC **29** 07:16:17.5±1.1, 41°.89S±0°.04×79°.8E±0°.2, h10km±1km, mb4.8/18, Error ellipse: s-maj=19.8km s-min=6.1km az=269.0*

*GCMT **29** 07:16:18.5±0.4, 41°.75S±0°.02×80°.04E±0°.03, h16km±1km, MW4.9/74, Moment Tensor Solution. s15,c16; s74,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.60±.11; $M_{\theta\theta}$=2.21±.11; $M_{\phi\phi}$=-1.60±.08; $M_{r\theta}$=0.46±.29; $M_{\theta\phi}$=-0.23±.07; $M_{r\phi}$=1.82±.42; Best double couple: M_0=2.65600×10^{16} NP1:ϕ_s=130.00000°, δ57.00000°, λ-22.00000°. NP2: ϕ_s=233.00000°, δ72.00000°, λ-145.00000°. Principal axes: T 2.2840, Plg10.0000°, Azm359.0000°; N 0.7510, Plg51.0000°, Azm257.0000°; P -3.0290, Plg37.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 07:16:16.9±0.5, **41°.79S**±0°.09×**79°.87E**±0°.09, **h10**km, **n89**, σ0°**68**/53, **mb4.7**/18, **MS4.0**/34, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	Amsterdam Isla	4.37	335	Pn	Pn	07 17 21.9	-1.4
H04S1	CROZET ISLANDS	20.57	246	T	T	07 42 27.8	
	baz=93,slow=72,SNR=9.4						

CRZF	**Crozet Islands**	20.59	247	P	**P**	07 20 55.9	0.0
CRZF				IAmb	IAmb	07 20 56.4	
	comp=Z,133nm,1.2s						
H04S2	**CROZET ISLANDS**	20.59	246	T	T	07 42 24.7	
	baz=93,slow=72,SNR=12						
H04S3	**CROZET ISLANDS**	20.59	246	T	T	07 42 23.0	
	baz=93,slow=72,SNR=15						
H04N2	**CROZET ISLANDS**	20.62	248	T	T	07 42 27.8	
	baz=88,slow=75,SNR=810						
H04N3	**CROZET ISLANDS**	20.63	248	T	T	07 42 25.8	
	baz=88,slow=75,SNR=604						
H04N1	**CROZET ISLANDS**	20.63	248	T	T	07 42 27.0	
	baz=88,slow=75,SNR=968						
ROCAM	**Rodrigues Isla**	26.06	322	P	**P**	07 21 51.0	+0.6
MAW	**Mawson**	27.46	194	P	**P**	07 22 03.0	+0.3
	comp=Z,3.7nm,0.5s,baz=16,slow=7.4,SNR=1.3						
MAW				LR	LR	07 31 21.2	
	comp=Z,213nm,18.1s,baz=26,slow=33						
	comp=Z,3.7nm,0.5s						
H01W2	**Cape Leeuwin H**	27.61	87	T	T	07 50 47.4	
	baz=246,slow=74,SNR=34						
H01W3	**Cape Leeuwin H**	27.62	87	T	T	07 50 48.1	
	baz=246,slow=74,SNR=34						
H01W1	**Cape Leeuwin H**	27.63	87	T	T	07 50 48.8	
	baz=246,slow=74,SNR=33						
NWAO	**Narrogin (SRO)**	30.79	86	LR	LR	07 31 57.3	
	comp=Z,240nm,21.7s,baz=146,slow=31						
H08S2	**Diego Garcia H**	34.63	347	T	T	07 59 29.4	
	baz=170,slow=76,SNR=4.7						
H08S1	**Diego Garcia H**	34.64	347	T	T	07 59 29.7	
	baz=170,slow=76,SNR=4.8						
H08S3	**Diego Garcia H**	34.65	347	T	T	07 59 30.9	
	baz=170,slow=76,SNR=8.1						
PSA00	**Pilbara Seismi**	39.10	71	P	**P**	07 23 44.4	+0.1
FORT	**Forrest**	39.90	90	P	**P**	07 23 52.5	+1.5
FORT				IAmb	IAmb	07 23 52.8	
	comp=Z,22nm,0.8s						
LEM	**Lembang**	42.65	43	LR	LR	07 42 25.4	
	comp=Z,51nm,18.4s,baz=132,slow=37						
BBOO	**Buckleboo**	44.89	97	P	**P**	07 24 31.6	+0.1
BBOO				IAmb	IAmb	07 24 32.4	
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	45.48	73	P	**P**	07 24 37.0	+0.6
FITZ	**Fitzroy Crossi**	45.48	73	LR	LR	07 42 45.9	
	comp=Z,104nm,18.5s,baz=212,slow=35						
BOSA	**Boshof**	45.81	269	P	**P**	07 24 39.4	+0.3
	comp=Z,1.6nm,0.9s,baz=135,slow=11,SNR=3.7						
BOSA				LR	LR	07 40 19.5	
	comp=Z,250nm,18.5s,baz=130,slow=32						
	comp=Z,1.6nm,0.9s						
SUR	**Sutherland**	47.22	261	LR	LR	07 40 55.4	
	comp=Z,184nm,18.4s,baz=114,slow=31						
LBTB	**Lobatse**	47.52	273	LR	LR	07 40 31.4	
	comp=Z,123nm,21.6s,baz=126,slow=31						
PSI	**Prapat**	47.64	26	LR	LR	07 41 17.0	
	comp=Z,187nm,19.3s,baz=210,slow=32						
VNDA	**Vanda**	47.87	163	P	**P**	07 24 54.6	+0.2
VNDA	**Vanda**	47.87	163	P	**P**	07 24 55.1	+0.7
	comp=Z,0.5nm,0.6s,baz=288,slow=7.0,SNR=5.3						
VNDA				LR	LR	07 43 40.5	
	comp=Z,422nm,18.2s,baz=268,slow=34						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	48.11	85	P	**P**	07 24 56.9	-0.2
	comp=Z,3.9nm,0.8s,baz=233,slow=7.1,SNR=29						
ASAR				LR	LR	07 43 03.8	
	comp=Z,309nm,18.6s,baz=256,slow=34						
	comp=Z,3.9nm,0.8s						
AS31	**Alice Springs**	48.11	85	P	**P**	07 24 57.1	+0.1
QSPA	**South Pole Qui**	48.37	180	P	**P**	07 24 58.4	-0.2
QSPA				IAmb	IAmb	07 25 05.3	
	comp=Z,12nm,0.9s						
QSPA	**South Pole Qui**	48.37	180	P	**P**	07 24 58.5	-0.1
	comp=Z,3.2nm,0.9s,baz=283,slow=3.5,SNR=9.3						
QSPA				LR	LR	07 43 44.7	
	comp=Z,614nm,20.3s,baz=298,slow=34						
	comp=Z,3.2nm,0.9s						
SNAA	**Sanae**	48.71	205	P	**P**	07 25 00.8	-0.3
	comp=Z,1.4nm,1.0s,baz=143,slow=20,SNR=1.7						
SNAA				LR	LR	07 42 39.0	
	comp=Z,81nm,19.0s,baz=82,slow=32						
	comp=Z,1.4nm,1.0s						
PALK	**Pallekele**	48.83	1	LR	LR	07 41 18.2	
	comp=Z,192nm,20.1s,baz=183,slow=31						
SBA	**Scott Base**	48.87	163	P	**P**	07 25 01.9	-0.4
STKA	**Stephens Creek**	49.43	99	P	**P**	07 25 07.5	+0.4
STKA	**Stephens Creek**	49.43	99	P	**P**	07 25 06.7	-0.4
	comp=Z,6.0nm,0.8s,baz=237,slow=7.4,SNR=9.1						
STKA				LR	LR	07 43 13.4	
	comp=Z,219nm,18.1s,baz=207,slow=33						
	comp=Z,6.0nm,0.8s						
WRA	**Warramunga Arr**	50.66	82	P	**P**	07 25 16.2	-0.2
	comp=Z,5.0nm,0.8s,baz=232,slow=7.8,SNR=19						
	comp=Z,5.0nm,0.8s						
WB2	**Warramunga Arr**	50.67	82	P	**P**	07 25 16.6	+0.1
WB2				IAmb	IAmb	07 25 22.8	
	comp=Z,12nm,1.1s						
WR8	**Warramunga Arr**	50.77	82	P	**P**	07 25 17.5	+0.1
WR8				IAmb	IAmb	07 25 17.6	
	comp=Z,7.2nm,0.9s						
WR0	**Warramunga Arr**	50.80	82	P	**P**	07 25 17.6	0.0
WR0				IAmb	IAmb	07 25 24.4	
	comp=Z,15nm,1.4s						
WB0	**Warramunga Arr**	50.80	82	P	**P**	07 25 17.1	-0.6
WB0				IAmb	IAmb	07 25 24.3	
	comp=Z,22nm,1.2s						
LSZ	**Lusaka**	51.59	285	LR	LR	07 42 55.9	
	comp=Z,135nm,20.8s,baz=163,slow=31						
MTN	**Manton Dam**	52.91	72	P	**P**	07 25 33.3	0.0
BELA	**Belgrano 2**	54.31	194	P	**P**	07 25 42.1	-0.7
BELA				IAmb	IAmb	07 25 54.0	
	comp=Z,9.2nm,1.1s						
TSUM	**Tsumeb**	56.93	273	LR	LR	07 46 32.6	
	comp=Z,189nm,21.8s,baz=150,slow=32						
CMAR	**Chiang Mai Arr**	62.49	20	P	**P**	07 26 41.7	+1.1
CMAR	**Chiang Mai Arr**	62.49	20	P	**P**	07 26 41.1	+0.6
	comp=Z,2.2nm,0.8s,baz=209,slow=6.7,SNR=12						
CMAR				LR	LR	07 49 10.4	
	comp=Z,109nm,21.1s,baz=200,slow=32						
	comp=Z,2.2nm,0.8s						
BRDH	**Bariadhala**	65.06	12	LR	LR	07 52 18.2	
	comp=Z,113nm,19.2s,baz=161,slow=33						
PMG	**Port Moresby**	66.88	82	P	**P**	07 27 07.9	-1.5
	comp=Z,19nm,0.9s,baz=203,slow=7.7,SNR=2.5						
PMG				LR	LR	07 54 02.2	
	comp=Z,137nm,19.4s,baz=259,slow=34						
	comp=Z,19nm,0.9s						
PMSA	**Palmer Station**	70.07	196	LR	LR	07 58 17.0	
	comp=Z,167nm,19.6s,baz=118,slow=36						
ONTNC	**Ouen Toro**	73.03	105	P	**P**	07 27 46.9	-0.3
DZM	**Mont Dzumac**	73.17	105	LR	LR	07 56 39.9	
	comp=Z,88nm,18.3s,baz=196,slow=33						
HNR	**Honiara**	76.39	91	LR	LR	07 58 54.7	
	comp=Z,65nm,19.0s,baz=208,slow=34						
KBL	**Kabul**	76.61	351	P	**P**	07 28 08.5	+0.8
KBL				IAmb	IAmb	07 28 10.3	
	comp=Z,5.7nm,0.8s						
EIL	**Elat**	82.31	322	LR	LR	08 00 33.6	
	comp=Z,59nm,18.1s,baz=236,slow=32						
AAK	**Ala-Archa**	84.19	356	LR	LR	08 02 14.3	
	comp=Z,108nm,20.6s,baz=194,slow=33						
KKAR	**Karatay Array**	84.93	353	P	**P**	07 28 52.0	+0.3
GNI	**Garni**	87.58	334	LR	LR	08 05 57.2	
	comp=Z,56nm,18.1s,baz=148,slow=34						
MKAR	**Makanchi Array**	88.23	2	LR	LR	08 06 27.5	
	comp=Z,79nm,20.2s,baz=176,slow=34						
KSRS	**Korea Array**	90.25	36	LR	LR	08 07 38.7	
	comp=Z,14nm,20.0s,baz=235,slow=34						
DBIC	**Dimbokro**	90.48	278	LR	LR	08 05 43.2	
	comp=Z,86nm,18.9s,baz=140,slow=33						
KBZ	**Khabaz**	91.39	334	LR	LR	08 06 48.7	
	comp=Z,38nm,19.1s,baz=132,slow=33						
KURBB	**Kurchatov Arra**	92.05	359	LR	LR	08 08 24.4	
	comp=Z,41nm,19.9s,baz=184,slow=34						
PLCA	**Paso Flores**	93.59	202	LR	LR	08 10 00.7	
	comp=Z,37nm,19.4s,baz=200,slow=34						
BVAR	**Borovoye Array**	94.80	354	LR	LR	08 09 09.9	
	comp=Z,44nm,20.8s,baz=205,slow=34						
ZALV	**Zalesovo Beam**	95.46	3	LR	LR	08 10 16.9	
	comp=Z,36nm,21.7s,baz=50,slow=34						
ARTI	**Arti**	99.49	340	LR	LR	08 13 46.6	
	comp=Z,52nm,18.3s,baz=122,slow=35						
ILAR	**Eielson Array**	145.03	33	PKPbc	**PKPbc**	07 35 51.3	-1.4
	comp=Z,0.6nm,0.8s,baz=266,slow=4.0,SNR=5.1						
D27M	**Malcolm River**	145.29	24		**PKPbc**	07 35 53.8	+0.3
G26K	**Porcupine Rive**	145.42	29		**PKPbc**	07 35 53.0	-0.9
E27K	**Coleen River**	145.62	26		**PKPdf**	07 35 53.3	-0.9
K24K	**Donnelly Dome**	145.79	34		**PKPdf**	07 35 54.9	+0.2
E28M	**Babbage River**	146.06	25		**PKPdf**	07 35 55.7	+0.7
E29M	**Blow River**	146.69	24		**PKPbc**	07 35 57.7	0.0
A36M	**Sachs Harbour**	147.31	14		**PKPbc**	07 35 58.8	-0.5
G29M	**Pine Creek**	147.44	27		**PKPbc**	07 35 59.7	-0.2
VRDI	**Verde Repeater**	147.59	38	PKPbc	**PKPbc**	07 36 01.4	+0.7
H29M	**Whitestone**	147.68	28		**PKPbc**	07 36 00.5	0.0
L27K	**Beaver Creek,**	147.71	35	PKPbc	**PKPbc**	07 36 02.1	+1.4
BCAR	**Beaver Creek A**	147.73	35	PKPbc	**PKPbc**	07 36 01.7	+0.9
F30M	**Barrier River**	147.79	25		**PKPbc**	07 36 00.7	-0.1
EPYK	**Eagle Plains**	148.17	27		**PKPdf**	07 35 58.2	-0.4
G31M	**Satah River**	148.67	25		**PKPbc**	07 36 02.5	-0.6
H31M	**Peel River**	149.29	27	PKPbc	**PKPbc**	07 36 04.9	+0.1
T35M	**Bob Quinn**	155.47	41	PKPdf	**PKPdf**	07 36 10.5	+0.7
T35M				PKPab	**PKPab**	07 36 34.5	-1.1
G65A	**Princeton**	156.22	289	PKPab	**PKPab**	07 36 40.3	+1.2
L56A	**Greenwood**	163.21	279	PKPab	**PKPab**	07 37 10.2	+0.4

*UPA **29** 07:24:22.6±1.9, 8°.58N×84°.08W, h28km±57km, ML3.9*
*UCR **29** 07:24:24.9±1.2, 9°.43N×83°.57W, h5km±2km, MW3.8*
*CATAC **29** 07:24:24.7±0.3, 9°N±4°×8°4W±°, h9km±4km, M3.8/8, MLv3.8/8, Error ellipse: s-maj=11.9km s-min=3.9km az=48.0, confirmed*

ISC 29 07:24:24.7±1.0, **9°.41N**±0°.02×**83°.58W**±0°.02, **h12**km±8km, **n101**, σ0°**72**/144, **4C-25D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	0.31	192	P	**Pb**	07 24 32.6	+0.3
OCHAL	**Ojochal**	0.31	192	S	**Sb**	07 24 38.4	+1.0
BURE	**Buenos Aires**	0.33	134	*eP*	**Pg**	07 24 32.1	+0.7
BURE				*eS*	**Sb**	07 24 37.5	-0.4
DRK0	**Durika**	0.36	113	⇓*eP*	**Pg**	07 24 32.4	+0.4
DRK0				*eS*	**Sg**	07 24 37.8	+0.7
FIMO	**Fila Mora**	0.47	152	⇓*eP*	**Pb**	07 24 35.6	+0.6
RAZU	**San Marcos de**	0.50	300	*eP*	**Pg**	07 24 35.0	+0.3
REPA	**Paraso**	0.51	326	⇓*eP*	**Pg**	07 24 34.8	+0.1
REPA				*eS*	**Sb**	07 24 42.1	-0.9
TURIB	**Turrialba**	0.51	348	⇓*iP*	**Pb**	07 24 34.9	-0.8
TURIB				*eS*	**Sb**	07 24 41.7	-1.4
VINA	**Juan Vinas**	0.51	341	⇓*eP*	**Pb**	07 24 36.0	+0.3
LLNJ	**Naranjito**	0.52	277	⇑*eP*	**Pb**	07 24 35.7	-0.1
LLNJ				*eS*	**Sb**	07 24 43.9	+0.6
LCR2	**La Lucha 2**	0.54	308	⇓*iP*	**Pg**	07 24 35.2	-0.1
LCR2				*eS*	**Sg**	07 24 42.9	+0.4
LCR2	**La Lucha 2**	0.54	308	S	**Sb**	07 24 43.0	-0.9
LCR2	**La Lucha 2**	0.54	308	P	**Pg**	07 24 35.3	0.0
VERB	**Verbena**	0.55	348	⇓*iP*	**Pb**	07 24 35.8	-0.5
VERB				*eS*	**Sb**	07 24 43.9	-0.3
ABE2	**San Pablo**	0.55	302	*eP*	**Pb**	07 24 36.5	0.0
ABE2				*eS*	**Sb**	07 24 44.3	-0.2
EDP2	**Potrero Grande**	0.56	134	*eP*	**Pb**	07 24 36.7	+0.3
EDP2				*eS*	**Sb**	07 24 45.4	+1.1
PCAYA	**Pacayas**	0.56	336	⇓*eP*	**Pb**	07 24 35.9	-0.6
PCAYA				*eS*	**Sb**	07 24 44.0	-0.6
TAGO	**Cartago**	0.57	323	*eP*	**Pg**	07 24 35.8	-0.1
RVSTA	**Santa Teresita**	0.57	353	⇓*iP*	**Pb**	07 24 36.3	-0.5
RVSTA				*eS*	**Sb**	07 24 44.9	+0.1
QUEP	**Quepos**	0.58	272	*eP*	**Pg**	07 24 34.7	-1.3
QUEP				*eS*	**Sb**	07 24 44.8	-0.1
SVQ2	**Quepos**	0.58	273	*eP*	**Pg**	07 24 36.6	+0.5
SVQ2				*eS*	**Sb**	07 24 44.8	-0.2
PISJ	**San Jernim**	0.58	293	*eP*	**Pb**	07 24 36.7	-0.2
VTCV	**VTCV, Calle Va**	0.59	346	⇓*iP*	**Pb**	07 24 36.7	-0.5
VTCV				*eS*	**Sb**	07 24 45.0	-0.6
CVTV	**Tajo**	0.62	344	⇓*eP*	**Pb**	07 24 37.3	-0.4
CVTV				*eS*	**Sb**	07 24 46.1	-0.3
CVTQ	**Turrialba Volc**	0.62	343	*eP*	**Pb**	07 24 37.2	-0.5
CVTQ				*eS*	**Sb**	07 24 46.1	-0.2
VICA	**Volcano Irazu**	0.63	336	⇓*iP*	**Pg**	07 24 37.1	0.0
VICA				*eS*	**Sb**	07 24 46.5	-0.4
VTR0	**Volcan Turrial**	0.63	344	*eP*	**Pb**	07 24 37.5	-0.5
VTR0				*eS*	**Sb**	07 24 46.7	-0.3
CVTR	**Volcan Turrial**	0.64	344	⇓*eP*	**Pb**	07 24 37.5	-0.5
CVTR				*eS*	**Sb**	07 24 46.8	-0.3
TRIO	**Tres Rios**	0.64	321	*eP*	**Pg**	07 24 37.0	-0.3
TRIO				*eS*	**Sg**	07 24 45.7	-0.1
PICV	**PH. Pirrs**	0.65	290	⇑*eP*	**Pb**	07 24 38.1	+0.1
PICV				*eS*	**Sb**	07 24 48.1	+1.1
CEUA	**Cerro Uatsi, L**	0.67	71	*eP*	**Pb**	07 24 39.1	+0.8
AMPA	**Desamparados**	0.68	316	⇓*eP*	**Pg**	07 24 37.7	-0.3
AMPA				*eS*	**Sg**	07 24 46.9	-0.1
IRES	**Siquirres**	0.69	6	⇓*iP*	**Pb**	07 24 38.7	0.0
IRES				*eS*	**Sb**	07 24 48.5	+0.4
ACOS	**Acosta**	0.69	304	*eP*	**Pg**	07 24 38.1	-0.2
RVLA	**Villa Bonita**	0.70	359	*eP*	**Pb**	07 24 38.5	-0.3
RVLA				*eS*	**Sb**	07 24 48.8	+0.3
CORON	**Coronado**	0.70	323	⇓*eP*	**Pb**	07 24 38.5	-0.5
CORON				*eS*	**Sb**	07 24 49.1	+0.4
SJS3	**Mercedes San J**	0.70	319	⇓*eP*	**Pg**	07 24 38.5	+0.1
SJS3				*eS*	**Sb**	07 24 48.5	-0.3
SJS	**Escuela Geolog**	0.71	319	*eP*	**Pg**	07 24 38.3	-0.1
SJS				*eS*	**Sg**	07 24 48.0	+0.2
LUJA	**Lujan**	0.71	317	*eP*	**Pb**	07 24 39.3	+0.2
LUJA				*eS*	**Sb**	07 24 49.5	+0.6
CVIMO	**Finca Echandi**	0.71	330	*eP*	**Pg**	07 24 38.4	-0.2
TAAN	**Batan**	0.71	19	⇓*iP*	**Pb**	07 24 38.9	-0.2
TAAN				*eS*	**Sb**	07 24 49.6	+0.8
LUPE	**Guadalupe**	0.71	319	⇓*eP*	**Pb**	07 24 38.8	-0.4
LUPE				*eS*	**Sb**	07 24 48.8	-0.2
CENT	**San Jose**	0.72	317	*eP*	**Pg**	07 24 38.5	-0.2
MEXI	**Barrio Mexico**	0.73	317	*eP*	**Pg**	07 24 38.9	0.0
MEXI				*eS*	**Sb**	07 24 49.2	-0.3
TIBA	**Tibas**	0.73	319	*eP*	**Pg**	07 24 38.9	-0.1
RITA	**Parrita**	0.75	279	*eP*	**Pb**	07 24 40.8	+1.3
CVTG	**V. Turrialba,**	0.76	345	⇓*eP*	**Pb**	07 24 39.7	-0.3
CVTG				*eS*	**Sb**	07 24 50.8	+0.5
DOMI	**Santo Domingo**	0.76	319	*eP*	**Pg**	07 24 39.4	-0.1
DOMI				*eS*	**Sb**	07 24 50.1	-0.3
BRIBI	**Bribri**	0.78	74	⇓*eP*	**Pn**	07 24 40.9	-0.3
BRIBI				*eS*	**Sn**	07 24 53.6	+1.1
SANTA	**Santa Ana**	0.79	311	*eP*	**Pg**	07 24 39.6	-0.5
HEME	**Heredia, Merce**	0.80	317	⇓*eP*	**Pg**	07 24 40.2	0.0
HEME				*eS*	**Sb**	07 24 51.0	-0.6
BELE	**Belen**	0.82	313	*eP*	**Pg**	07 24 40.2	-0.5
PILE	**Guapiles**	0.83	346	⇓*eP*	**Pb**	07 24 41.9	-0.4
PILE				*eS*	**Sn**	07 24 53.6	-0.9
EDAD	**Golfito**	0.85	151	⇓*eP*	**Pg**	07 24 40.2	-1.0
EDAD				*eS*	**Sg**	07 24 51.8	-0.6
UELA	**Alajuela**	0.87	314	*eP*	**Pn**	07 24 42.6	-0.3
JIME	**Puerto Jimenez**	0.90	164	*eP*	**Pg**	07 24 41.6	-0.5
POAS	**San Pedro de P**	0.93	316	*eP*	**Pb**	07 24 42.8	-0.1
TCS1	**Tacares**	0.95	312	*eP*	**Pg**	07 24 42.9	-0.2
TCS1	**Tacares**	0.95	312	P	**Pb**	07 24 43.1	-0.1
CARI	**Cariari**	0.96	351	*eP*	**Pn**	07 24 43.9	-0.2
CARI				*eS*	**Sn**	07 24 58.1	+0.3
NELY	**Ciudad Neily**	0.98	140	*eP*	**Pg**	07 24 43.0	-0.6
VPS8	**V Poas**	1.01	320	*eP*	**Pg**	07 24 44.0	-0.2
VPS5	**V. Poas**	1.01	321	*eP*	**Pb**	07 24 44.3	-0.1
PIRO	**Carate, Puerto**	1.02	166	*eP*	**Pg**	07 24 43.7	-0.7
NARAN	**Naranjo de Ala**	1.04	311	*eP*	**Pn**	07 24 45.3	0.0
BRU2	**Volcan**	1.07	125	P	**Pg**	07 24 45.2	-0.1
BRU2	**Volcan**	1.07	125	S	**Sg**	07 24 59.6	+0.3
CDITO	**Canoas**	1.08	140	P	**Pg**	07 24 43.9	-1.7
SRA1	**San Ramn**	1.11	307	*eP*	**Pg**	07 24 45.4	-0.8
ARTO	**Ro Cuarto**	1.12	326	⇑*iP*	**Pg**	07 24 45.7	-0.6
ARTO				*eS*	**Sn**	07 25 01.7	0.0
BC3P	**Paso Ancho**	1.12	121	*eP*	**Pg**	07 24 46.1	-0.2
BC3P				*eS*	**Sn**	07 25 05.8	+3.9
LPPC	**Paso Canoas**	1.14	140	*eP*	**Pg**	07 24 43.6	-2.7
ITAL	**Pital**	1.24	327	⇓*iP*	**Pn**	07 24 47.8	-0.1
ITAL				*eS*	**Sn**	07 25 04.5	-0.1
LESP3	**La Esperanza,**	1.26	142	*eP*	Pn	07 24 42.7	-5.5
LESP3				AMP		07 24 42.8	
	comp=Z,1μm,0.1s						
PTAR3	**Potrerillos Ar**	1.28	123	*eP*	**Pn**	07 24 48.8	+0.2
PTPM	**Petroterminale**	1.38	150	*eP*	Pn	07 24 42.1	-7.7
PTPM				AMP		07 24 43.7	
	comp=Z,3μm,0.4s						
PAQE	**Paquera**	1.40	287	*eP*	**Pn**	07 24 50.4	+0.4
PAQE				*eS*	**Sb**	07 25 08.9	+0.3
SOCE	**Pocosol**	1.41	314	*eP*	**Pn**	07 24 50.4	+0.2
SOCE	**Pocosol**	1.41	314	P	**Pn**	07 24 50.6	+0.4
LIMO3	**Limones**	1.48	151	*eP*	Pn	07 24 42.9	-8.2
TUNA	**La Fortuna**	1.49	315	*eP*	**Pn**	07 24 51.9	+0.6
CBL1	**Cabuya**	1.50	277	*eP*	**Pn**	07 24 51.4	-0.1
CBL1				*eS*	**Sn**	07 25 11.4	+0.3
FORC	**Fortuna**	1.50	315	*eP*	**Pn**	07 24 52.1	+0.5
VACR	**Volcan Arenal**	1.51	315	*eP*	**Pn**	07 24 52.0	+0.3
PEDE3	**Pedregal, Chir**	1.53	132	*eP*	**Pn**	07 24 50.0	-1.9
ARE1	**Arenal 1**	1.54	313	⇑*eP*	**Pn**	07 24 52.5	+0.5
ARE1				*eS*	**Sb**	07 25 13.0	+0.4
COVE	**Coope Vega, Sa**	1.54	328	P	**Pn**	07 24 52.2	+0.2
CEDE	**Laguna Cedeo**	1.54	314	*eP*	**Pn**	07 24 52.8	+0.7
CEDE				*eS*	**Sg**	07 25 13.8	-0.6
JTS	**Las Juntas de**	1.61	303	*eP*	**Pn**	07 24 53.6	+0.6
JTS	**Las Juntas de**	1.61	303	*eP*	**Pn**	07 24 53.8	+0.7
JTS				*eS*	**Sb**	07 25 15.1	+0.2
JUNT	**Juntas**	1.61	303	*eP*	**Pn**	07 24 53.0	0.0
NYURE	**Nandayure**	1.75	290	*eP*	**Pn**	07 24 55.7	+0.8
CMARA	**Lajas Hojancha**	1.92	289	*eP*	**Pn**	07 24 57.3	+0.1
VERA	**Finca Concepci**	1.92	319	*eP*	**Pn**	07 24 58.1	+0.8
INDI	**Punta indio, G**	1.95	284	P	**Pn**	07 24 57.1	-0.6
COLC	**Colonia**	2.03	308	*eP*	**Pn**	07 25 00.3	+1.5
BLUN	**Bluefields**	2.59	356	P	**Pn**	07 25 06.7	+0.2
GMAL	**Guarumal, Vera**	2.84	125	*eP*	**Pn**	07 25 07.1	-2.8
ESPN	**Las Esperanzas**	2.86	346	*eP*	**Pn**	07 25 10.7	+0.5
ACON	**Acoyapa**	2.99	329	P	**Pn**	07 25 12.9	+0.9
BCIP	**Isla Barro Col**	3.70	93	*eP*	**Pn**	07 25 22.2	+0.5

*BER **29** 07:25:58.3±2.6, 77°.20N×17°.65E, h15km, ML2.5, ML2.8(NAO), Confirmed Earthquake*
*KOLA **29** 07:26:03.5, 76°.70N×17°.38E, h0km, ML2.1, Error ellipse: s-maj=93.6km s-min=62.7km az=40.0, Spitsbergen, Barentz Sea*

NAO 29 07:25:55.2±1.1, **77°.23N×17°.91E, h6**km±11km, **ML2.8, 1D, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	0.58	248	Pg	Pg	07 26 06.7	+0.4
HSPB				Lg	Lg	07 26 13.7	
HSPB	**Hornsund (broa**	0.58	248	P	Pg	07 26 06.3	0.0
HSPB				S	Sn	07 26 19.1	-0.7
HSPB	**Hornsund (broa**	0.58	248	⇓*iP*	Pg	07 26 06.7	+0.4
SPA0	**Spitsbergen Ar**	1.01	342	Pn	Pb	07 26 15.4	+0.4
	baz=157,slow=28						
SPA0				Lg	Lg	07 26 29.3	
	baz=166,slow=37						
SPA0	**Spitsbergen Ar**	1.01	342	Pn	Pb	07 26 15.4	+0.4
	baz=157,slow=28						
SPA0				*e*S	Sb	07 26 28.9	+0.3
SPA0				IAML		07 26 33.9	
	comp=Z,132nm,0.3s						
SPITS	**Spitsbergen Ar**	1.01	342	P	Pb	07 26 15.1	+0.1
SPITS				S	Sn	07 26 29.6	-0.8
BRBA	**Barentsburg A**	1.15	318	Pn	Pn	07 26 17.9	+0.1
BRBA				Lg	Lg	07 26 32.4	
BRBA	**Barentsburg A**	1.15	318	*eP*	Pn	07 26 17.9	+0.1
BRBA				*e*S	Sb	07 26 32.6	0.0
BRBA				IAML		07 26 35.5	
	comp=Z,130nm,0.4s						
BRBB	**Barentsburg B**	1.18	319	Pn	Pn	07 26 18.4	+0.2
BRBB				Lg	Lg	07 26 33.0	
BRBB	**

VAF				MSG			07 41 32.9	
	comp=Z,1.4nm,0.2s							
VAF				SN		**Sg**	**07 41 35.4**	**+0.2**
RMF	**Romuvaara**	**1.81**	**72**	PG		**Pb**	**07 41 16.9**	**+0.1**
	baz=261							
RMF				MSG			07 41 38.1	
	comp=Z,1.4nm,0.2s							
FIA0	**FINESS Array S**	**2.28**	**179**	PG		**Pb**	**07 41 24.5**	**-0.1**
	baz=360							
FIA0				MSG			07 41 51.8	
	comp=Z,0.9nm,0.2s							
FIA0				SG		**Sg**	**07 41 54.9**	**-0.9**
FINES	**FINESS Array B**	**2.28**	**179**	Pn		**Pb**	**07 41 24.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=4.6,slow=14,SNR=6.7							
FINES				Sn		**Sb**	**07 41 54.3**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=1.8,slow=24,SNR=12							
	comp=Z,0.8nm,0.4s							
RANF	**Ranua**	**2.34**	**8**	SG		**Sb**	**07 41 55.1**	**+0.1**
UMAU	**Umeaa**	**2.36**	**277**	SG		**Sb**	**07 41 55.6**	**0.0**
KU1	**Kurvinen**	**2.42**	**38**	SG		**Sb**	**07 41 58.5**	**+1.2**
JOF	**Joensuu**	**2.54**	**106**	SG		**Sb**	**07 42 00.2**	**-0.4**
KU6	**Riekki**	**2.86**	**34**	MSG			07 42 07.8	
	comp=Z,0.5nm,0.2s							
KU6				SG		**Sb**	**07 42 09.7**	**-0.3**
KLF	**Kolari**	**3.64**	**348**	SN		**Sn**	**07 42 24.2**	**+0.5**
LANU	**Lannavaara**	**4.65**	**341**	SB		**Sb**	**07 42 58.9**	**-2.6**
ARCES	**ARCESS Array B**	**5.85**	**358**	Pn		**Pn**	**07 42 10.9**	**+0.3**
	baz=180,slow=13,SNR=2.0							
ARCES				Sn		**Sn**	**07 43 15.8**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=178,slow=24,SNR=7.2							
	comp=Z,0.9nm,0.8s							
I37NO	**I37NO**	**6.14**	**334**	I		I	08 19 28.9	
	baz=150,slow=322,SNR=4.4							

*LDG **29** 07:44:43.8±0.1, 46°.35N×2°.76E, h8km, Ml2.8/2, Error ellipse: s-maj=1.3km s-min=0.9km az=133.0*
*STR **29** 07:44:44.2±0.7, 46°.N±3°.×°.±°., h0km, MLv2.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=120.5, preliminary*
ISC 29 07:44:43.5±0.9, 46°.35N±0°.02×2°.78E±0°.03, h0km, n17,
σ0.59/34, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGF	**Bois d'Agland**	**0.21**	**13**	*e*Pg	**Pg**	**07 44 48.3**	**+0.7**
BGF				*e*Sg	**Sg**	**07 44 51.6**	**+1.3**
	138nm,0.4s						
AGO	**Saint Agoulin**	**0.39**	**141**	Pg	**Pg**	**07 44 51.5**	**+0.5**
AGO				Sg	**Sg**	**07 44 56.7**	**+0.8**
TCF	**Toulx Ste Croi**	**0.40**	**261**	*e*Pg	**Pg**	**07 44 51.4**	**+0.2**
TCF				*e*Sg	**Sg**	**07 44 56.6**	**+0.2**
	23nm,0.2s						
AVF	**Avril sur Loir**	**0.59**	**42**	*e*Pg	**Pg**	**07 44 55.3**	**+0.5**
AVF				*e*Sg	**Sg**	**07 45 03.4**	**+0.9**
	45nm,0.2s						
VERF	**Verneugheol**	**0.64**	**199**	Pg	**Pg**	**07 44 55.8**	**+0.1**
VERF				Sg	**Sg**	**07 45 04.3**	**+0.3**
PLDF	**La Plantade**	**0.70**	**123**	*e*Pg	**Pb**	**07 44 58.0**	**-0.6**
PLDF				Sg	**Sg**	**07 45 07.4**	**+1.4**
SMF	**Signal de Mont**	**0.79**	**68**	*e*Pg	**Pb**	**07 45 00.2**	**0.0**
SMF				*e*Sg	**Sg**	**07 45 09.6**	**+0.7**
	18nm,0.2s						
SSF	**Saint Saulge**	**0.87**	**35**	*e*Pg	**Pg**	**07 45 00.3**	**+0.1**
SSF				*e*Sg	**Sg**	**07 45 11.8**	**+0.4**
	15nm,0.2s						
HYF	**Humbligny**	**0.92**	**354**	*e*Sg	**Sb**	**07 45 15.0**	**-0.2**
FRNF	**Fournols**	**0.98**	**189**	Pg	**Pg**	**07 45 02.2**	**-0.1**
FRNF				Sg	**Sg**	**07 45 15.1**	**+0.2**
COLF	**Collangettes**	**1.05**	**142**	Pg	**Pg**	**07 45 03.6**	**0.0**
COLF				Sg	**Sg**	**07 45 17.8**	**+0.5**
LBL	**Lubilhac**	**1.17**	**164**	Pg	**Pg**	**07 45 06.0**	**+0.1**
LBL				Sg	**Sg**	**07 45 21.1**	**+0.1**
LOR	**Lormes**	**1.18**	**39**	*e*Pg	**Pg**	**07 45 05.8**	**-0.3**
LOR				*e*Sg	**Sg**	**07 45 21.2**	**-0.2**
	18nm,0.2s						
LOR	**Lormes**	**1.18**	**39**	Pg	**Pg**	**07 45 06.1**	**0.0**
LOR				Sg	**Sg**	**07 45 21.3**	**-0.1**
PLYF	**Puligny Montra**	**1.48**	**65**	Pn	**Pn**	**07 45 09.9**	**-1.5**
PLYF				Pg	**Pb**	**07 45 12.1**	**+0.2**
PLYF				Sn	**Sg**	**07 45 31.1**	**-0.1**
LEUC	**Leucamp**	**1.60**	**186**	Pg	**Pn**	**07 45 13.6**	**+0.6**
LEUC				Sn	**Sn**	**07 45 34.2**	**-0.3**
SSB	**Saint Sauveur**	**1.63**	**130**	Pg	**Pg**	**07 45 14.9**	**0.0**
SSB				Sn	**Sn**	**07 45 35.6**	**+0.3**

*AEIC **29** 07:53:06.1±1.5, 52°.0N±0°.1×179°.54E±0°.10, h55km±8km, Error ellipse: s-maj=18.1km s-min=8.0km az=190.0*
NEIC 29 07:53:05.9±1.0, 51°.8N±0°.2×179°.50E±0°.07, h71km±10km, mb3.9/10, ML3.7/6, ML2.9(AEIC), Error ellipse: s-maj=26.0km s-min=3.9km az=192.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.02**	**93**		Sn	07 53 38.9	+0.1
GANO	**Gareloi North**	**1.05**	**91**		Pn	07 53 25.1	+0.1
GANE	**Gareloi Northe**	**1.07**	**91**		Pn	07 53 25.4	+0.1
GANE					Sn	07 53 40.1	+0.3
GALAA	**Gareloi Lava P**	**1.08**	**94**		Pn	07 53 25.2	-0.1
GALAA					Sn	07 53 39.3	-0.6
TANO	**Tanaga North**	**1.48**	**86**		Pn	07 53 30.8	+0.3
TANO					Sn	07 53 49.6	+0.5
TASE	**Tanaga Southea**	**1.53**	**89**		Pn	07 53 31.3	+0.1
TAFP	**Tanaga Falls P**	**1.56**	**87**		Pn	07 53 31.6	-0.1
TAFP					Sn	07 53 50.9	-0.2
KICM	**Kanaga Island**	**2.05**	**87**		Pn	07 53 38.6	+0.4
KIKV	**Kanaga Island**	**2.07**	**88**		Pn	07 53 38.5	+0.2
KIWB	**Kanaga Island**	**2.08**	**88**		Pn	07 53 38.6	+0.1
ADK	**Adak**	**2.37**	**88**		Pn	07 53 42.0	-0.4
ADK					Sn	07 54 09.7	-0.7
ADK	**Adak**	**2.37**	**88**	IAML		07 54 37.8	
	122nm,3.5s						
GSCK	**Great Sitkin C**	**2.69**	**85**		Pn	07 53 46.7	-0.1
GSTR	**Great Sitkin T**	**2.76**	**83**	Pn	Pn	07 53 48.0	+0.2
SMY	**Shemya**	**3.43**	**287**	Pn	Pn	07 53 56.4	-0.5
SMY				IAML		07 55 03.9	
	comp=N,173nm,3.3s						
ATKA	**Atka Island**	**3.91**	**82**		Pn	07 54 02.6	-0.8
ATKA				IAML		07 55 37.4	
	comp=N,116nm,4.6s						
ATKA				IAML		07 55 46.4	
	comp=E,119nm,2.8s						
K17K	**Iditarod**	**16.11**	**39**		Pn	07 56 47.6	+0.1
K17K				IAmb	IAmb	07 56 49.9	
	comp=Z,11nm,1.4s						
RDOG	**Red Dog Mine**	**18.36**	**21**	P	P	07 57 13.4	-1.0
RDOG				IAmb	IAmb	07 57 37.2	
	comp=Z,9.1nm,1.4s						
SKT	**Skwentna**	**18.62**	**46**	P	P	07 57 17.0	-0.3
SKT				IAmb	IAmb	07 57 53.0	
	comp=Z,8.5nm,1.3s						
RC01	**Rabbit Creek A**	**19.18**	**49**	P	P	07 57 23.9	+0.5
KTH	**Kantishna Hill**	**19.46**	**42**	P	P	07 57 25.3	-1.3
KTH				IAmb	IAmb	07 57 58.4	
	comp=Z,13nm,1.5s						
SCM	**Sheep Creek Mo**	**20.48**	**48**	P	P	07 57 37.8	+0.1
HIN	**Hinchinbrook I**	**20.58**	**52**	P	P	07 57 36.6	-2.0
GLB	**Gilahina Butte**	**22.05**	**50**	P	P	07 57 53.5	-0.8
GLB				IAmb	IAmb	07 57 55.1	
	comp=Z,7.5nm,1.5s						
VRDI	**Verde Repeater**	**22.19**	**51**	P	P	07 57 55.7	-0.3
VRDI				IAmb	IAmb	07 58 03.5	
	comp=Z,4.6nm,1.0s						
J26L	**Joseph Creek**	**22.83**	**42**	P	P	07 58 02.5	-0.2
L27K	**Beaver Creek,**	**23.25**	**46**	P	P	07 58 07.9	+1.2
BMAR	**Burnt Mountain**	**23.44**	**35**	P	P	07 58 09.8	+1.3
MKAR	**Makanchi Array**	**58.91**	**307**	P	P	08 02 57.0	-0.2
TXAR	**Lajitas Array**	**59.62**	**80**	P	P	08 03 01.6	-0.9

*GCG **29** 07:53:32.2±1.4, 12°.89N×88°.67W, h152km±37km, MD4.0*
*SNET **29** 07:53:36.3±1.5, 12°.45N×89°.03W, h20km, ML2.0*
ISC 29 07:53:33.2±4.8, 12°.8N±0°.5×88°.6W±0°.1, h138km±32km, n7,
σ0°.77/11, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEG	**Centro de Oper**	**0.84**	**344**	*e*P	**Pn**	**07 53 55.7**	**+0.2**
COEG				*e*S	**Sn**	**07 54 12.3**	**-0.3**
COEG				IAML		07 54 29.4	
	comp=Z,27nm,0.2s						
LCND	**La Caada**	**0.89**	**56**	*e*P	Pn	07 54 01.3	+5.5
LCND				*e*S	Sn	07 54 22.7	+10
LOMA	**Loma Larga**	**0.98**	**328**	*e*P	**Pn**	**07 53 57.1**	**+0.3**
LOMA				*e*S	**Sn**	**07 54 14.3**	**-0.4**
JAYA	**Jayaque - finc**	**1.15**	**317**	*e*P	**Pn**	**07 53 58.8**	**+0.3**
JAYA				*e*S	**Sn**	**07 54 16.9**	**-0.7**
JAYA	**Jayaque - finc**	**1.15**	**317**	*i* P	**Pn**	**07 53 58.7**	**+0.3**
JAYA				*i* S	**Sn**	**07 54 17.5**	**-0.1**
MARCA	**Marcala la Paz**	**1.47**	**24**	*i* P	**Pn**	**07 54 01.7**	**0.0**
NUBE	**Las Nubes**	**1.55**	**315**	*i* P	**Pn**	**07 54 01.7**	**-0.9**
NUBE				*i* S	**Sn**	**07 54 26.5**	**+1.5**

*HEL **29** 07:55:23.0±0.3, 61°.10N×29°.89E, h0km, ML1.6, Suspected explosion*
*IDC **29** 07:55:24.8±3.5, 60°.93N×29°.54E, h0km, mbtmp3.0/1, ML2.3/1, Error ellipse: s-maj=34.5km s-min=14.4km az=172.0*
ISC 29 07:55:23.0±1.4, 61°.22N±0°.05×29°.77E±0°.06, h0km, n13,
σ1.25/22, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.45**	**298**	PG	**Pb**	**07 55 33.2**	**-0.5**
RUF				SG	**Sb**	**07 55 40.2**	**-0.8**
RUF				MSG		07 55 40.9	
	comp=Z,8.2nm,0.2s						
VJF	**Virojoki**	**1.28**	**239**	PG	**Pg**	**07 55 46.2**	**-1.2**
VJF				MSG		07 56 01.6	
	comp=Z,4.5nm,0.2s						
VJF				SN	**Sn**	**07 56 07.6**	**+1.8**
FIA0	**FINESS Array S**	**1.79**	**279**	PG	**Pg**	**07 55 56.5**	**-0.8**
FIA0				MSG		07 56 19.0	
	comp=Z,3.1nm,0.2s						
FIA0				SG	**Sg**	**07 56 20.9**	**+0.3**
FINES	**FINESS Array B**	**1.79**	**279**	Pg	**Pb**	**07 55 56.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=105,slow=16,SNR=13						
FINES				Lg	Lg	07 56 19.7	
	comp=Z,0.9nm,0.3s,baz=105,slow=26,SNR=13						
JOF	**Joensuu**	**1.86**	**22**	PG	**Pg**	**07 55 58.0**	**-0.6**
JOF				SG	**Sg**	**07 56 22.8**	**+0.2**
KAF	**Kangasniemi**	**1.88**	**300**	PG	**Pg**	**07 55 59.2**	**+0.2**
	baz=123						
KAF				MSG		07 56 22.4	
	comp=Z,2.3nm,0.2s						
KAF				SG	**Sg**	**07 56 24.8**	**+1.5**
PVF	**Pernaja**	**2.03**	**252**	PG	**Pb**	**07 55 59.4**	**-1.2**
	baz=71						
PVF				MSG		07 56 23.9	
	comp=Z,5.3nm,0.2s						
PVF				SG	**Sg**	**07 56 28.3**	**+0.3**
SUF	**Sumiainen**	**2.28**	**313**	PG	**Pg**	**07 56 05.9**	**-0.7**
	baz=128						
SUF				MSG		07 56 34.0	
	comp=Z,2.3nm,0.2s						
SUF				SG	**Sg**	**07 56 37.6**	**+1.4**
NIF	**Nilsia**	**2.37**	**338**	PG	**Pg**	**07 56 07.1**	**-1.2**
	baz=155						
NIF				SG	**Sg**	**07 56 38.5**	**-0.5**
KEF	**Keuruu**	**2.52**	**294**	PB	**Pb**	**07 56 08.4**	**-0.7**
KEF				MSG		07 56 40.5	
	comp=Z,1.3nm,0.2s						
KEF				SG	**Sg**	**07 56 43.0**	**-0.9**
MEF	**Metsahovi**	**2.82**	**252**	PG	**Pb**	**07 56 13.8**	**-0.4**
	baz=73						
MEF				MSG		07 56 46.7	
	comp=Z,1.6nm,0.2s						
ARCES	**ARCESS Array B**	**8.54**	**350**	Pn	**Pn**	**07 57 30.3**	**+2.6**
	baz=171,slow=12,SNR=1.8						
ARCES				Sn	**Sn**	**07 59 02.1**	**-2.5**
	baz=169,slow=25,SNR=1.4						
	comp=Z,0.6nm,0.7s						
I37NO	**I37NO**	**9.16**	**334**	I	I	08 53 40.0	
	baz=145,slow=324,SNR=5.9						

*NEIC **29** 08:07:40.5±2.0, 14°.47S±0°.07×75°.51W±0°.09, h37km±7km, mb4.6/158, Error ellipse: s-maj=14.3km s-min=8.1km az=64.0*
*IDC **29** 08:07:43.1±0.6, 14°.40S×75°.55W, h65km±5km, mb3.7/11, mbtmp4.1/16, MS3.3/13, Error ellipse: s-maj=25.7km s-min=11.0km az=64.0*
*RSNC **29** 08:07:45.1±0.8, 14°.S±6°.×7°.6W±°., h56km±10km, mB5.4, mb4.7, ML4.1, Mw(mB)4.9*
*VAO **29** 08:07:47.2±0.9, 14°.21S×75°.09W, h76km±7km, mb4.2*
ISC 29 08:07:41.6±0.4, 14°.50S±0°.05×75°.58W±0°.06, h53km, n244,
σ1.53/238, mb4.5/76, MS3.4/11, 2C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.79**	**334**		**Pn**	**08 08 23.6**	**-0.3**
NNA				Sn	**Sn**	**08 08 55.6**	**-0.7**
NNA	**Nana**	**2.79**	**334**	P	**Pn**	**08 08 26.3**	**+2.4**
	336nm,0.4s,baz=122,slow=12,SNR=78						
NNA				S	**Sn**	**08 09 01.2**	**+4.9**
	1μm,0.4s,baz=348,slow=20,SNR=6.0						
NNA	**Nana**	**2.79**	**334**	P	**Pn**	**08 08 24.2**	**+0.3**
NNA				S	**Sn**	**08 09 01.0**	**+4.7**
PB18	**Visviri**	**6.62**	**118**	Pn	**Pn**	**08 09 12.4**	**-4.4**
PB16	**IPOC Station P**	**6.96**	**124**		**Pn**	**08 09 19.9**	**-1.7**
PB16	**IPOC Station P**	**6.96**	**124**	*e*P	**Pn**	**08 09 22.2**	**+0.6**
PB16				*i* S	**Sn**	**08 10 32.9**	**-6.9**
PB16				IAML		08 10 43.4	
	comp=N,252nm,0.9s						
CZSB	**Cruzeiro do Su**	**7.30**	**23**		**Pn**	**08 09 25.2**	**-0.5**
CZSB	**Cruzeiro do Su**	**7.30**	**23**	*e*P	**Pn**	**08 09 25.7**	**0.0**
CZSB	**Cruzeiro do Su**	**7.30**	**23**	P	**Pn**	**08 09 26.2**	**+0.5**
	comp=N,3μmcomp=N,262nm,0.6s						
CZSB				S	**Sn**	**08 10 50.1**	**+2.9**
	comp=N,3μmcomp=N,262nm,0.6s						
LPAZ	**La Paz**	**7.40**	**105**	Pn	**Pn**	**08 09 26.3**	**-1.4**
LPAZ	**La Paz**	**7.40**	**105**	P	**Pn**	**08 09 30.9**	**+3.2**
	comp=N,3.9nm,0.5s,baz=278,slow=8.7,SNR=28						
LPAZ				S	**Sn**	**08 10 59.2**	**+8.7**
	comp=N,7.0nm,0.7s,baz=124,slow=16,SNR=1.3						
LPAZ				LR	LR	08 12 40.1	
	comp=N,58nm,20.4s,baz=289,slow=40						
LPAZ	**La Paz**	**7.40**	**105**	*e*P	**Pn**	**08 09 26.4**	**-1.3**
LPAZ	**La Paz**	**7.40**	**105**	P	Pn	08 09 32.4	+4.7
	comp=N,17nm,0.7s						
PB11	**IPOC Station P**	**7.71**	**134**		**Pn**	**08 09 30.8**	**-0.6**
TA02	**Huaiquique**	**7.74**	**139**		**Pn**	**08 09 30.2**	**-1.5**
ATAH	**Atahualpa**	**7.83**	**339**	P	**Pn**	**08 09 35.4**	**+2.1**
	comp=N,6.1nm,0.5s,baz=138,slow=7.4,SNR=16						
ATAH				S	Sn	08 11 12.8	+12
	comp=N,36nm,0.6s,baz=296,slow=21,SNR=5.7						
ATAH				LR	LR	08 12 00.4	
	comp=N,25nm,21.9s,baz=179,slow=33						
HMBC	**Humberstone**	**7.91**	**137**		**Pn**	**08 09 34.1**	**0.0**
TA01	**Diego Aracena**	**7.93**	**140**		**Pn**	**08 09 34.3**	**-0.1**
GO01	**Chusmiza**	**7.98**	**131**		**Pn**	**08 09 35.2**	**-0.2**
PB08	**IPOC Station P**	**8.31**	**133**		**Pn**	**08 09 39.1**	**-0.8**
PB01	**IPOC Station P**	**8.72**	**139**		**Pn**	**08 09 43.6**	**-1.6**
PB09	**IPOC Station P**	**9.43**	**141**	Pn	Pn	08 09 50.8	-4.2
PB05	**IPOC Station P**	**9.74**	**149**		**Pn**	**08 09 58.5**	**-0.7**
PB10	**IPOC Station P**	**10.14**	**153**	Pn	**Pn**	**08 10 04.1**	**-0.6**
MCRA	**Macar, Loja**	**10.95**	**336**	P	**Pn**	**08 10 15.1**	**-0.7**
	comp=N,18nm,0.6s						
MCRA				S	**Sn**	**08 12 10.6**	**-6.4**
	comp=N,18nm,0.6s						
PB14	**IPOC Station P**	**11.19**	**155**		Pn	08 10 15.2	-4.0
TBTG	**Tabatinga, AM**	**11.67**	**29**		**Pn**	**08 10 24.6**	**-1.0**
TBTG	**Tabatinga, AM**	**11.67**	**29**	*e*P	**Pn**	**08 10 24.6**	**-1.0**
TBTG	**Tabatinga, AM**	**11.67**	**29**	P	**Pn**	**08 10 24.6**	**-1.0**
	comp=N,1μmcomp=N,156nm,0.9s						
AC01	**Pan de Azucar**	**12.49**	**159**	Pn	**Pn**	**08 10 35.2**	**-1.6**
SAML	**Samuel**	**13.33**	**67**	Pn	**Pn**	**08 10 45.2**	**-3.0**
AC02	**Maricunga**	**13.67**	**155**	Pn	**Pn**	**08 10 51.6**	**-1.7**
PIAT	**Ana Tenorio**	**13.68**	**349**	P	**Pn**	**08 10 55.4**	**+2.0**
	comp=N,23nm,0.7s						
AC06	**Mina Casimiro**	**13.69**	**160**	Pn	**Pn**	**08 10 49.7**	**-3.4**
GO03	**Copiapo**	**13.95**	**160**	Pn	Pn	08 10 52.0	-4.6
SIV	**San Ignacio**	**14.08**	**98**	P	**Pn**	**08 10 58.4**	**0.0**
	comp=N,1.3nm,0.6s,baz=270,slow=16,SNR=6.9						
BBSD	**Serra de San D**	**14.65**	**102**	*e*P	**Pn**	**08 11 05.4**	**-0.5**
OTAV	**Otavalo**	**14.92**	**349**		**Pn**	**08 11 06.9**	**-3.0**
OTAV	**Otavalo**	**14.92**	**349**	*e*P	**P**	**08 11 12.3**	**-2.2**
AC05	**El Transito**	**15.09**	**162**	Pn	**Pn**	**08 11 11.3**	**-0.4**
AC05				IAmb	IAmb	08 11 19.9	
	comp=Z,21nm,0.9s						
LCO	**Las Campanas**	**15.13**	**163**	Pn	**Pn**	**08 11 10.4**	**-2.0**
TEFE	**Tefe**	**15.36**	**46**	*e*P	**Pn**	**08 11 13.5**	**-1.6**
PTLB	**Pontes e Lacer**	**15.91**	**95**	Pn	**Pn**	**08 11 20.6**	**-1.7**
PTLB	**Pontes e Lacer**	**15.91**	**95**	*e*P	**Pn**	**08 11 21.9**	**-0.4**
FLOC	**Florencia**	**15.98**	**360**		**Pn**	**08 11 21.2**	**-2.0**
GO04	**Tololo Observa**	**16.21**	**165**	Pn	**Pn**	**08 11 24.8**	**-1.4**
GO04				IAmb	IAmb	08 11 55.0	
	comp=Z,43nm,1.1s						
CO01	**Juntas del Tor**	**16.21**	**163**	Pn	**Pn**	**08 11 22.8**	**-3.4**
BBAC	**Balboa, Cauca**	**16.50**	**354**	P	**P**	**08 11 35.0**	**+3.2**
	comp=Z,26nm,0.9s						
MACC	**Macarena, Meta**	**16.63**	**6**	P	**P**	**08 11 31.2**	**-1.8**
	comp=Z,26nm,0.7s						
CO03	**El Pedregal**	**16.87**	**165**	Pn	**Pn**	**08 11 33.4**	**-0.9**
POPC	**Popayan, Colom**	**16.97**	**356**	P	**P**	**08 11 39.1**	**+2.1**
	comp=Z,11nm,0.9s						
CO02	**Combarbal**	**17.15**	**167**		**Pn**	**08 11 37.8**	**0.0**
CO02				IAmb	IAmb	08 11 43.4	
	comp=Z,35nm,1.1s						
ZON	**Zonda**	**18.11**	**161**		**P**	**08 11 48.5**	**-0.7**
CFA	**Coronel Fontan**	**18.30**	**160**	P	**Pn**	**08 11 53.4**	**+1.6**
	comp=Z,7.6nm,0.9s,baz=336,slow=13,SNR=19						
MURT	**Porto Murtinho**	**18.50**	**115**	*e*P	**Pn**	**08 11 55.2**	**+1.0**
MACA	**Manacapuru-AM**	**18.52**	**54**	P	**P**	**08 11 52.4**	**-1.5**
MACA				IAmb	IAmb	08 11 58.8	
	comp=Z,24nm,0.6s						
MACA	**Manacapuru-AM**	**18.52**	**54**	*e*P	**P**	**08 11 51.6**	**-2.2**
PDRB	**Porto dos Gac**	**18.58**	**83**	*e*P	**P**	**08 11 53.2**	**-1.4**
VA03	**San Esteban**	**18.75**	**167**	P	**P**	**08 11 55.7**	**-0.7**
H03N1	**Juan Fernandez**	**19.10**	**189**	T	T	08 31 25.6	
	baz=9.5,slow=74,SNR=748						
H03N2	**Juan Fernandez**	**19.10**	**189**	T	T	08 31 20.8	
	baz=9.5,slow=74,SNR=293						
MT02	**Curacav**	**19.11**	**169**	P	**P**	**08 11 59.2**	**-1.0**
MT02				IAmb	IAmb	08 12 14.0	
	comp=Z,47nm,1.4s						
H03N3	**Juan Fernandez**	**19.11**	**189**	T	T	08 31 27.3	
	baz=9.5,slow=74,SNR=758						
MT08	**Bocatoma Ro**	**19.52**	**166**	P	**P**	**08 12 04.4**	**-0.6**
MT08				IAmb	IAmb	08 12 12.1	
	comp=Z,33nm,1.4s						
MT09	**Talagante**	**19.64**	**169**	P	**P**	**08 12 06.1**	**0.0**
MT01	**Popeta**	**19.67**	**169**	P	**P**	**08 12 07.0**	**+0.7**
MT13	**San Alfonso**	**19.75**	**167**	P	**P**	**08 12 07.7**	**+0.4**
MT13				IAmb	IAmb	08 12 16.2	
	comp=Z,19nm,0.8s						
AQDB	**Aquidauana**	**19.86**	**110**	P	**P**	**08 12 07.8**	**-0.7**
AQDB	**Aquidauana**	**19.86**	**110**	*e*P	**P**	**08 12 08.9**	**+0.4**
LMEL	**Las Melosas**	**19.87**	**167**	P	**P**	**08 12 08.6**	**-0.1**
LMEL				IAmb	IAmb	08 12 45.9	
	comp=Z,20nm,1.1s						
BO04	**La Punta**	**19.92**	**168**	P	**P**	**08 12 09.1**	**+0.1**
BO01	**Tunca**	**20.22**	**169**	P	**P**	**08 12 11.8**	**-0.4**
RUSC	**La Rusia**	**20.41**	**7**	P	**P**	**08 12 12.9**	**-2.1**
RUSC				IAmb	IAmb	08 12 27.9	
	comp=Z,24nm,0.8s						
BO02	**Sierra Bellavi**	**20.66**	**169**	P	**P**	**08 12 18.0**	**+0.9**
BO02				IAmb	IAmb	08 12 24.5	
	comp=Z,20nm,1.3s						
CPUP	**Villa Florida**	**20.73**	**127**	P	**P**	**08 12 18.6**	**+0.7**
	comp=Z,3.3nm,0.9s,baz=311,slow=15,SNR=5.2						
	comp=Z,3.3nm,0.9s						
SJPY	**San Joaquin**	**21.07**	**123**	*e*P	**P**	**08 12 23.0**	**+1.5**
AMBA	**Amambai (Brazi**	**21.20**	**116**	*e*P	**P**	**08 12 24.7**	**+1.7**
ML02	**Panimavida**	**21.50**	**171**	P	**P**	**08 12 27.2**	**+1.2**
ITTB	**Itaituba**	**21.99**	**65**	*e*P	**P**	**08 12 30.3**	**-1.2**
BOAV	**Boa Vista**	**22.46**	**43**	P	**P**	**08 12 35.7**	**-0.8**
BOAV				IAmb	IAmb	08 13 04.5	
	comp=Z,15nm,1.1s						
BOAV	**Boa Vista**	**22.46**	**43**	*e*P	**P**	**08 12 35.4**	**-1.1**
ARAG	**Araguaiana, MT**	**22.98**	**96**	*e*P	**P**	**08 12 40.1**	**-1.8**
ITQB	**Itaqui**	**23.11**	**134**	P	**P**	**08 12 42.4**	**-0.7**
ITQB				IAmb	IAmb	08 13 20.1	
	comp=Z,40nm,1.4s						
ITQB	**Itaqui**	**23.11**	**134**	*e*P	**P**	**08 12 44.8**	**+1.7**
SDV	**Santo Domingo**	**23.75**	**12**	P	**P**	**08 12 50.0**	**+0.5**
SDV				IAmb	IAmb	08 12 58.6	
	comp=Z,19nm,1.0s						
SDV	**Santo Domingo**	**23.75**	**12**	LR	LR	08 23 07.2	
	comp=Z,146nm,18.8s,baz=126,slow=39						
SDV	**Santo Domingo**	**23.75**	**12**	P	**P**	**08 12 50.8**	**+1.3**
SNDB	**Serra Nova Dou**	**23.77**	**87**	*e*P	**P**	**08 12 49.1**	**-0.5**
ARGC	**Ariguani, Magd**	**24.24**	**3**	P	P	08 13 04.0	+10
BAUV	**El Baul**	**24.46**	**18**	P	**P**	**08 12 55.4**	**-0.4**
LR05	**Currie**	**25.82**	**174**	P	**P**	**08 13 09.0**	**+1.0**
LR05				IAmb	IAmb	08 13 44.2	
	comp=Z,20nm,1.2s						
IPMB	**Ipameri, GO**	**26.49**	**101**	*e*P	**P**	**08 13 14.0**	**-0.3**
PLCA	**Paso Flores**	**26.50**	**171**	P	**P**	**08 13 15.1**	**+0.9**
PLCA	**Paso Flores**	**26.50**	**171**	P	**P**	**08 13 15.2**

MIAR Mount Ida 51.69 341 P **P** **08 16 43.8 +0.4**
MIAR IAmb IAmb 08 17 11.1
comp=Z,11nm,1.5s
T50A Nancy 51.98 351 P **P** **08 16 44.2 -1.3**
T50A IAmb IAmb 08 16 58.1
comp=Z,6.4nm,1.4s
WHAR Wooly Hollow 51.99 343 P **P** **08 16 45.2 -0.5**
WHAR IAmb IAmb 08 17 08.4
comp=Z,8.8nm,1.2s
R58B Mineral 52.23 358 P **P** **08 16 47.1 -0.3**
LCAR Lake Charles 52.41 344 P **P** **08 16 48.4 -0.3**
MNHN Monahans 52.52 330 P **P** **08 16 49.6 -0.2**
MNHN IAmb IAmb 08 16 51.0
comp=Z,3.5nm,0.9s
PBMO Poplar Bluff 52.89 345 P **P** **08 16 50.9 -1.4**
PBMO IAmb IAmb 08 16 51.5
comp=Z,5.6nm,0.7s
APMT Aspermont 53.02 334 P **P** **08 16 53.7 +0.4**
APMT IAmb IAmb 08 17 16.6
comp=Z,6.1nm,0.9s
R50A Paris 53.14 351 P **P** **08 16 52.7 -1.4**
R50A IAmb IAmb 08 17 29.6
comp=Z,8.2nm,1.3s
VHRN Van Horn 53.17 328 P **P** **08 16 55.0 +0.4**
VHRN IAmb IAmb 08 17 18.4
comp=Z,9.4nm,1.4s
T42A Van Buren 53.30 345 P **P** **08 16 53.8 -1.5**
T42A IAmb IAmb 08 16 54.4
comp=Z,2.9nm,0.8s
Q56A Snyder Ridge, 53.37 356 P **P** **08 16 55.9 +0.1**
Q56A IAmb IAmb 08 16 58.2
comp=Z,9.6nm,0.9s
WCI Wyandotte Cave 53.41 349 **P** **08 16 54.5 -1.6**
HHAR Hobbs 53.41 342 P **P** **08 16 55.1 -1.0**
HHAR IAmb IAmb 08 16 56.1
comp=Z,3.1nm,0.8s
SIUC Southern Illin 53.50 347 P **P** **08 16 55.4 -1.3**
DKNS Dickens 53.65 334 P **P** **08 16 57.9 -0.1**
TUL3 Leonard 53.66 340 P **P** **08 16 57.8 -0.2**
TUL3 IAmb IAmb 08 16 58.6
comp=Z,7.4nm,0.8s
MGMO Mountain Grove 53.73 343 P **P** **08 16 57.7 -0.8**
MGMO IAmb IAmb 08 16 58.3
comp=Z,7.9nm,1.0s
OKCSW OKLAHOMA CITY 53.79 338 P **P** **08 16 59.0 +0.1**
DEOK Depew 53.84 339 P **P** **08 16 59.1 -0.2**
HTMS Hat Mesa 53.88 331 P **P** **08 17 00.2 +0.5**
FVM French Village 54.04 346 P **P** **08 16 59.7 -1.0**
FVM IAmb IAmb 08 17 19.3
comp=Z,8.9nm,1.4s
OLIL Olney 54.24 348 P **P** **08 17 00.6 -1.5**
BLO Bloomington 54.36 350 P **P** **08 17 01.5 -1.5**
Q44A Meyer Farm, Va 54.59 347 **P** **08 17 03.3 -1.4**
SMWD Samnorwood 54.60 335 **P** **08 17 04.5 -0.4**
R40A Maddies Statio 54.80 344 IAmb IAmb 08 17 05.6
comp=Z,6.2nm,0.9s
P38A Dawn 56.39 343 **P** **08 17 17.1 -0.5**
P38A IAmb IAmb 08 17 18.1
comp=Z,7.0nm,0.8s
LENM Lemitar 56.88 329 P **P** **08 17 22.2 +0.8**
R32A Long Quarter, 56.93 338 P **P** **08 17 21.4 -0.2**
R32A IAmb IAmb 08 17 21.9
comp=Z,7.5nm,0.8s
ANMO Albuquerque 57.25 330 P **P** **08 17 24.4 +0.4**
ANMO Albuquerque 57.25 330 P **P** **08 17 24.3 +0.3**
ANMO IAmb IAmb 08 17 25.0
comp=Z,1.5nm,0.9s
T25A Trinidad 58.10 333 P **P** **08 17 29.0 -1.0**
SDCO Great Sand Dun 59.09 333 P **P** **08 17 36.4 -0.5**
SDCO IAmb IAmb 08 17 59.4
comp=Z,5.1nm,1.4s
L34A Svendsen Farm, 59.37 342 P **P** **08 17 37.4 -1.0**
X16A Lo Mia Camp, P 59.41 326 P **P** **08 17 39.9 +0.8**
BGNE Belgrade 59.42 340 P **P** **08 17 38.6 -0.3**
Y14A Wickenburg 59.92 324 P **P** **08 17 43.5 +1.0**
ECSD EROS Data Cent 61.06 343 **P** **08 17 49.3 -0.7**
ECSD IAmb IAmb 08 17 49.5
comp=Z,5.0nm,0.7s
PV18 Skein Mesa, Pa 61.07 330 P **P** **08 17 51.1 +0.7**
PV18 IAmb IAmb 08 17 53.1
comp=Z,3.3nm,0.9s
SPMN Marine on St. 61.46 346 P **P** **08 17 51.3 -1.4**
SPMN IAmb IAmb 08 17 52.4
comp=Z,8.0nm,1.0s
KNB Kanab 62.10 327 P **P** **08 17 57.5 +0.2**
KNB IAmb IAmb 08 17 59.3
comp=Z,3.0nm,0.9s
LDAQ Lac Daran 62.30 3 P **P** **08 17 58.4 +0.1**
VLDQ Val d'Or 62.35 359 P **P** **08 17 58.1 -0.4**
VLDQ IAmb IAmb 08 18 00.9
comp=Z,4.0nm,0.9s
MSU Marysvale 62.89 328 P **P** **08 18 03.8 +1.1**
MVU Marysvale 62.90 328 P **P** **08 18 03.8 +1.1**
SHPR Sheep Range 63.00 325 P **P** **08 18 03.8 +0.5**
TMUT Trail Mountain 63.01 330 P **P** **08 18 03.5 -0.1**
GSC Goldstone, Bar 63.09 323 P **P** **08 18 04.5 +0.7**
K22A Casper 63.59 335 P **P** **08 18 06.7 -0.4**
K22A IAmb IAmb 08 18 07.6
comp=Z,3.2nm,0.7s
PRN Pahroc Range 63.59 326 P **P** **08 18 08.0 +0.8**
BSUT Blindstream Ca 63.75 331 P **P** **08 18 09.1 +0.6**
BSUT IAmb IAmb 08 18 10.6
comp=Z,4.4nm,1.1s
PSUT Pine Spring 63.77 327 P **P** **08 18 08.0 -0.5**
TPNV Topopah Spring 63.92 324 P **P** **08 18 11.0 +1.6**
WCT Wildcat Mounta 64.03 324 P **P** **08 18 10.3 +0.3**
SPR3 Spring Creek 3 64.37 327 **P** **08 18 13.1 +0.6**
DUG Dugway, Tooele 64.49 329 **P** **08 18 13.8 +0.7**
DUG IAmb IAmb 08 18 15.1
comp=Z,4.9nm,0.9s
TCUT Toone Canyon 64.51 331 P **P** **08 18 14.2 +0.8**
TCUT IAmb IAmb 08 18 14.4
comp=Z,4.0nm,0.8s
R11B Troy Canyon, C 64.56 326 P **P** **08 18 14.7 +1.0**
E28A Huff 64.86 341 **P** **08 18 14.8 -0.4**
HWUT Hardware Ranch 64.97 331 **P** **08 18 16.2 0.0**
HWUT IAmb IAmb 08 18 16.9
comp=Z,3.1nm,0.8s
PD31 Pinedale Array 64.97 333 P **P** **08 18 15.7 -0.6**
PDAR Pinedale Array 64.97 333 P **P** **08 18 15.5 -0.7**
PDAR Pinedale Array 64.97 333 P **P** **08 18 15.8 -0.5**
comp=Z,0.3nm,0.6s,baz=144,slow=3.7,SNR=2.4
comp=Z,0.3nm,0.6s
AGMN Agassiz Nation 65.08 345 P **P** **08 18 16.2 -0.3**
AGMN IAmb IAmb 08 18 16.4
comp=Z,4.6nm,0.8s
MZP Montezuma Peak 65.09 324 P **P** **08 18 16.9 -0.3**
BBTS Babate 65.19 66 LR LR 08 44 03.1
comp=Z,32nm,21.6s,baz=185,slow=34
TPH Tonopah 65.27 325 P **P** **08 18 18.8 +0.6**
HVU Hansel Valley 65.68 330 P **P** **08 18 21.5 +0.7**
HVU IAmb IAmb 08 18 22.2
comp=Z,4.3nm,1.0s
EPLO Experimental L 65.87 347 P **P** **08 18 20.8 -0.8**
EPLO IAmb IAmb 08 18 32.6
comp=Z,7.0nm,1.2s
NVAR Mina Array Bea 66.12 324 P **P** **08 18 23.2 -0.6**
NVAR Mina Array Bea 66.12 324 P **P** **08 18 23.3 -0.4**
comp=Z,0.2nm,0.3s,baz=115,slow=5.0,SNR=5.1
comp=Z,0.2nm,0.3s
BELA Belgrano 2 66.56 171 P **P** **08 18 27.2 +1.5**
BELA IAmb IAmb 08 18 27.4
comp=Z,2.9nm,0.6s
RLMT Red Lodge 66.75 335 P **P** **08 18 27.6 0.0**
RLMT IAmb IAmb 08 18 50.8
comp=Z,7.2nm,1.4s
LAO LASA Array 66.85 338 P **P** **08 18 28.0 -0.1**
ULM Lac du Bonnet 66.90 346 P **P** **08 18 27.0 -1.1**
comp=Z,3.3nm,0.7s,baz=149,slow=7.1,SNR=4.4
comp=Z,3.3nm,0.7s
YNE Yellowstone No 66.96 334 P **P** **08 18 29.6 +0.5**
YNE IAmb IAmb 08 18 29.9
comp=Z,3.7nm,0.9s
PNTR Pine Nut 67.31 324 P **P** **08 18 33.3 +1.9**
PNTR IAmb IAmb 08 18 47.1
comp=Z,3.4nm,1.0s
YHL Hebgen Lake 67.34 333 P **P** **08 18 32.6 +1.2**
YHL IAmb IAmb 08 18 33.3
comp=Z,2.8nm,0.7s
HLID Hailey 67.82 331 **P** **08 18 34.7 +0.3**
MFID Camas Ranch 68.39 330 **P** **08 18 38.8 +0.9**
MFID IAmb IAmb 08 18 40.3
comp=Z,3.5nm,0.8s
SNAA Sanae 70.92 161 P **P** **08 18 54.1 +1.1**
SNAA IAmb IAmb 08 18 54.6
comp=Z,4.6nm,0.7s
SNAA Sanae 70.92 161 ⇑P **P** **08 18 53.6 +0.6**
comp=Z,85nm,0.6s
SNAA ⇑x x 08 18 54.3
comp=E,34nm,0.6s
SNAA Sanae 70.92 161 P **P** **08 18 53.5 +0.5**
comp=E,4.1nm,0.7s,baz=286,slow=6.7,SNR=12
SNAA pP **PcP** **08 19 11.3 -2.0**
comp=E,3.2nm,0.9s,baz=287,slow=6.8,SNR=3.5
comp=E,4.1nm,0.7s
F10A Beach Ranch, E 70.95 331 P **P** **08 18 54.6 +1.0**
DBIC Dimbokro 73.21 78 LR LR 08 50 18.7
comp=E,38nm,18.1s,baz=152,slow=35
QSPA South Pole Qui 75.65 180 P **P** **08 19 22.7 +1.6**
QSPA South Pole Qui 75.65 180 P **P** **08 19 22.2 +1.1**
comp=E,3.1nm,0.7s,baz=160,slow=1.0,SNR=24
QSPA pP **pP** **08 19 39.5 +3.3**
comp=E,3.1nm,0.9s,baz=140,slow=4.5,SNR=4.0
comp=E,3.1nm,0.7s
TORD Torodi Ar. Bea 81.28 74 P **P** **08 19 52.7 -0.1**
MDT Midelt 82.43 53 LR LR 08 53 53.6
comp=E,44nm,18.2s,baz=164,slow=34
VNDA Vanda 82.56 191 P **P** **08 20 00.7 +2.2**
VNDA Vanda 82.56 191 P **P** **08 19 59.4 +0.9**
comp=E,1.1nm,0.9s,baz=83,slow=4.4,SNR=5.8
comp=E,1.1nm,0.9s
YKA Yellowknife Ar 82.59 343 P **P** **08 19 57.9 -0.8**
comp=E,0.9nm,0.9s,baz=138,slow=5.2,SNR=12
YKA pP **pP** **08 20 16.1 +2.1**
comp=E,1.2nm,1.1s,baz=139,slow=5.1,SNR=3.9
comp=E,0.9nm,0.9s
T35M Bob Quinn 84.35 333 P **P** **08 20 08.4 +0.5**
T35M IAmb IAmb 08 20 23.0
comp=Z,8.4nm,1.4s
S34M Telegraph Cree 85.30 334 P **P** **08 20 13.9 +1.4**
S34M IAmb IAmb 08 20 20.9
comp=Z,2.7nm,0.7s
R33M Jennings River 86.12 335 P **P** **08 20 17.9 +1.0**
R33M IAmb IAmb 08 20 19.7
comp=Z,7.4nm,1.5s
P33M Teslin, Yukon 87.36 335 P **P** **08 20 23.7 +0.9**
P33M IAmb IAmb 08 20 53.6
comp=Z,3.1nm,1.4s
P32M Atlin 87.37 334 P **P** **08 20 24.6 +1.8**
P32M IAmb IAmb 08 21 02.9
comp=Z,4.2nm,1.2s
O30N Mendenhall 89.01 335 P **P** **08 20 31.8 +1.2**
O30N IAmb IAmb 08 20 48.4
comp=Z,3.9nm,1.2s
M29M Somme Creek 90.86 336 P **P** **08 20 39.2 -0.1**
M29M IAmb IAmb 08 20 56.9
comp=Z,6.0nm,1.4s
L29M L29M 91.07 336 P **P** **08 20 40.6 +0.5**
L29M IAmb IAmb 08 20 58.4
comp=Z,4.2nm,1.1s
K29M Barlow Dome 91.21 337 P **P** **08 20 41.5 +0.7**
K29M IAmb IAmb 08 21 12.3
comp=Z,4.9nm,1.3s
G31M Satah River 91.73 340 P **P** **08 20 42.6 -0.4**
G31M IAmb IAmb 08 20 54.9
comp=Z,3.7nm,1.4s
A36M Sachs Harbour 92.38 346 P **P** **08 20 45.2 -0.6**
A36M IAmb IAmb 08 21 27.4
comp=Z,3.2nm,1.0s
BCAR Beaver Creek A 92.50 335 P **P** **08 20 46.8 +0.1**
F30M Barrier River 92.61 341 P **P** **08 20 47.0 0.0**
MAW Mawson 92.75 165 LR LR 09 01 48.1
comp=Z,96nm,18.1s,baz=56,slow=35
E29M Blow River 93.69 341 P **P** **08 20 51.6 -0.5**
E29M IAmb IAmb 08 20 53.7
comp=Z,4.8nm,1.4s
BMAR Burnt Mountain 95.48 339 P **P** **08 21 00.5 +0.2**
DAVOX Davos/Dischmat 97.36 44 LR LR 09 02 43.3
comp=Z,12nm,19.4s,baz=248,slow=34
ASAR Alice Springs 132.36 218 PKP **PKPdf** **08 26 49.8 -1.1**
comp=Z,0.4nm,0.6s,baz=131,slow=2.3,SNR=8.2
ASAR pPKP **sPKPdf** **08 27 10.4 -2.3**
comp=Z,0.5nm,0.7s,baz=128,slow=1.6,SNR=3.2
WRA Warramunga Arr 134.86 221 PKP **PKPdf** **08 26 55.5 -0.1**
comp=Z,0.7nm,0.7s,baz=131,slow=1.6,SNR=7.3
SONM Songino Array 146.72 358 PKPbc **PKPbc** **08 27 17.8 -0.1**
comp=Z,1.7nm,0.7s,baz=302,slow=2.7,SNR=7.4
SONM pPKPbc pPKPab 08 27 35.1 +0.2
comp=Z,1.9nm,0.9s,baz=354,slow=4.6,SNR=4.6
KSRS Korea Array 149.04 322 pPKPbc pPKPbc 08 27 40.6 +0.4
comp=Z,0.5nm,0.3s,baz=51,slow=0.8,SNR=2.5

*IDC **29** 08:20:07.1±2.9, 53°.58N×87°.80E, h0km, mbtmp2.9/2,*
ML2.5/2, Error ellipse: s-maj=26.9km s-min=17.5km
az=59.0
ASRS 29 08:20:02.0±0.8, 53°.62N×87°.82E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**282**	I	I	08 31 59.3	
	0.1nm,0.5s,baz=98,slow=333,SNR=5.0						
ZALV	**Zalesovo Beam**	**1.81**	**282**	Pn	Pg	08 20 38.8	+2.1
	0.9nm,0.3s,baz=101,slow=14,SNR=9.6						
ZALV				Lg	Lg	08 21 04.5	
	1.3nm,0.3s,baz=105,slow=24,SNR=8.7						
KURBB	**Kurchatov Arra**	**6.46**	**246**	Pn	Pn	08 21 43.5	+5.3
	0.1nm,0.3s,baz=62,slow=14,SNR=9.4						
KURBB				Lg	Lg	08 23 31.5	
	baz=62,slow=32,SNR=5.2						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	08 22 01.2	+5.9
	0.1nm,0.3s,baz=29,slow=15,SNR=4.4						
MKAR				Lg	Lg	08 24 08.1	
	0.1nm,0.3s,baz=25,slow=29,SNR=6.3						
	0.3nm,0.5s						

*AFAD **29** 08:21:56.5, 35°.34N×31°.77E, h12km±2km, ML3.2*
*NIC **29** 08:21:57.1, 35°.32N×31°.48E, h17km±1km, Ml3.3/10*
*GII **29** 08:21:59.3±0.0, 35°.05N±0°.03×31°.643E±0°.006, h4km,*
Mws3.2, confirmed
*ISK **29** 08:22:02.3, 35°.58N×32°.05E, h6km, ML3.1/21*
ISC 29 08:21:57.6±1.3, 35°.31N±0°.03×31°.67E±0°.03, h9km±10km, n61, σ1°.36/83, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.62**	**118**	P	**Pb**	**08 22 11.0**	**+0.3**
AKMS				S	**Sn**	**08 22 23.3**	**+0.6**
AKMS				AML	AML	08 22 25.2	
	10nm,0.6s						
AKMS				AML	AML	08 22 25.8	
	7.8nm,0.3s						
ALFC	**Alefka**	**0.78**	**101**	P	**Pb**	**08 22 13.6**	**+0.2**
ALFC				S	**Sn**	**08 22 29.0**	**+2.4**
ALFC				AML	AML	08 22 29.2	
	2.9nm,0.4s						
ALFC				AML	AML	08 22 31.4	
	5.9nm,0.3s						
NATA	**Nata**	**0.91**	**125**	P	**Pn**	**08 22 17.0**	**+0.4**
NATA				S	**Sn**	**08 22 32.1**	**+2.3**
NATA				AML	AML	08 22 39.7	
	13nm,0.9s						
NATA				AML	AML	08 22 40.3	
	12nm,0.8s						
LEF	**Lefka**	**1.02**	**101**	Pg	**Pn**	**08 22 18.2**	**+0.2**
LEF				Sg	**Sg**	**08 22 29.6**	**-0.9**
TROD	**Troodos**	**1.05**	**110**	P	**Pg**	**08 22 17.9**	**+0.2**
TROD				S	**Sn**	**08 22 35.6**	**+2.1**
TROD				AML	AML	08 22 40.0	
	1.5nm,0.5s						
TROD				AML	AML	08 22 44.5	
	1.3nm,0.7s						
GAZI	**Gazipasa**	**1.06**	**30**	P	**Pg**	**08 22 15.9**	**-2.1**
GAZI				S	**Sg**	**08 22 30.5**	**-1.3**
GAZI				*i* AML	AML	08 22 33.0	
	comp=E,770nm,0.8s						
GAZI				*i* AML	AML	08 22 37.0	
	comp=N,659nm,0.6s						
AKDN	**Akdeniz- Kıbrı**	**1.06**	**90**	Pg	**Pb**	**08 22 18.4**	**+0.2**
AKDN				Sg	**Sg**	**08 22 29.8**	**-2.1**
APOL	**The Sanctuary**	**1.17**	**123**	P	**Pn**	**08 22 20.8**	**+0.7**
APOL				S	**Sn**	**08 22 38.6**	**+2.4**
APOL				AML	AML	08 22 48.9	
	1.6nm,1.0s						
APOL				AML	AML	08 22 54.6	
	1.6nm,1.0s						
BOZY	**Bozyazi-Mersin**	**1.33**	**53**	Pg	**Pn**	**08 22 20.3**	**-2.0**
ASGA	**Asgata**	**1.40**	**112**	P	**Pb**	**08 22 24.1**	**+0.2**
ASGA				S	**Sg**	**08 22 43.9**	**+1.3**
ASGA				AML	AML	08 22 53.6	
	1.3nm,0.8s						
ASGA				AML	AML	08 22 55.2	
	2.2nm,0.7s						
CSS	**Mathiatis**	**1.41**	**104**	Pn	**Pb**	**08 22 24.5**	**+0.4**
CSS	**Mathiatis**	**1.41**	**104**	P	**Pn**	**08 22 23.6**	**+0.2**
CSS				S	**Sg**	**08 22 44.9**	**+2.0**
CSS				AML	AML	08 22 54.6	
	0.8nm,0.9s						
CSS				AML	AML	08 22 57.7	
	0.9nm,0.8s						
CSS	**Mathiatis**	**1.41**	**104**	P	**Pb**	**08 22 24.4**	**+0.4**
CSS				S	**Sg**	**08 22 45.4**	**+2.5**
TEKE	**Tekeli-Mersin**	**1.44**	**54**	Pg	**Pn**	**08 22 22.7**	**-1.1**
AKUM	**Antalya-Kumluc**	**1.48**	**314**	P	**Pn**	**08 22 24.9**	**+0.6**
AKUM				S	**Sb**	**08 22 47.3**	**+3.3**
AKUM				*i* AML	AML	08 22 51.0	
	comp=N,286nm,0.8s						
AKUM				*i* AML	AML	08 22 54.0	
	comp=E,325nm,0.5s						
KEPZ	**Antalya-Kepez**	**1.59**	**358**	P	**Pn**	**08 22 25.9**	**0.0**
KEPZ				S	**Sn**	**08 22 46.6**	**0.0**
KEPZ				*i* AML	AML	08 22 49.0	
	comp=N,274nm,1.2s						
KEPZ				*i* AML	AML	08 22 52.0	
	comp=E,194nm,0.5s						
BERE	**Bereket-Mersin**	**1.63**	**50**	Pn	**Pn**	**08 22 25.9**	**-0.7**
MVOU	**Mavrovouni**	**1.64**	**100**	P	**Pn**	**08 22 27.4**	**+0.8**
MVOU				S	**Sg**	**08 22 50.5**	**+0.3**
MVOU				AML	AML	08 23 00.2	
	0.6nm,0.7s						
MVOU				AML	AML	08 23 03.2	
	0.7nm,0.7s						
OREN	**Orenkoy-Mersin**	**1.71**	**58**	Pn	**Pn**	**08 22 27.6**	**+0.1**
AKK1	**Akkuyu-Mersin**	**1.74**	**61**	Pn	**Pn**	**08 22 28.1**	**+0.2**
AKKU	**Akkuyu-Mersin**	**1.75**	**61**	Pn	**Pn**	**08 22 28.7**	**+0.6**
GULN	**MERSIN_Gulnar**	**1.76**	**60**	P	**Pn**	**08 22 26.6**	**-1.6**
GULN				S	**Sb**	**08 22 51.7**	**-0.4**
GULN				*i* AML	AML	08 23 00.0	
	comp=E,95nm,0.4s						
GULN				*i* AML	AML	08 23 03.0	
	comp=N,89nm,0.5s						
HDMB	**Hadim**	**1.78**	**22**	Pn	**Pn**	**08 22 29.1**	**+0.4**
TEPK	**Tepekoy-MERSIN**	**1.78**	**59**	Pn	**Pn**	**08 22 28.6**	**+0.1**
TEVE	**Tevekalti-Mers**	**1.83**	**52**	Pn	**Pn**	**08 22 29.2**	**0.0**
YESI	**Yesilovacik-Me**	**1.83**	**61**	Pn	**Pn**	**08 22 29.4**	**+0.2**
TISA	**Tisan-Mersin**	**1.84**	**62**	Pn	**Pn**	**08 22 29.6**	**+0.2**
IKL	**Isikli**	**1.88**	**60**	Pn	**Pn**	**08 22 30.2**	**+0.3**
KARG	**Kargicak-Mersi**	**1.88**	**61**	Pn	**Pn**	**08 22 30.2**	**+0.2**
KSL	**Kastellorizon**	**1.89**	**297**	S	**Sn**	**08 22 51.6**	**-2.3**
KSL				AML	AML	08 23 15.9	
	0.2nm,0.7s						
KSL				AML	AML	08 23 16.0	
	0.3nm,0.6s						
KORT	**Korkueli**	**1.99**	**328**	P	**Pb**	**08 22 35.1**	**+0.9**
KORT				S	**Sg**	**08 23 05.1**	**+3.4**
KORT				*i* AML	AML	08 23 11.0	
	comp=E,249nm,0.6s						
KORT				*i* AML	AML	08 23 12.0	
	comp=N,150nm,0.8s						
KEBE	**Keben-Mersin**	**2.01**	**55**	Pn	**Pn**	**08 22 31.9**	**+0.1**
EREN	**Erenkoy**	**2.06**	**83**	Pn	**Pn**	**08 22 33.8**	**+1.5**
EREN	**Erenkoy**	**2.06**	**83**	P	**Pn**	**08 22 32.2**	**-0.1**
EREN				S	**Sb**	**08 22 59.2**	**-1.5**
EREN				*i* AML	AML	08 23 11.0	
	comp=N,148nm,0.5s						
SILI	**Silifke-Mersin**	**2.11**	**59**	Pn	**Pn**	**08 22 33.4**	**+0.3**
SEDI	**Konya, Seydise**	**2.14**	**2**	P	**Pn**	**08 22 34.0**	**+0.5**
SEDI				S	**Sn**	**08 23 01.8**	**+1.5**
SEDI				*i* AML	AML	08 23 10.0	
	comp=N,267nm,0.5s						
SEDI				*i* AML	AML	08 23 12.0	
	comp=E,447nm,0.6s						
KKBE	**Karaman, Kazim**	**2.16**	**28**	P	**Pn**	**08 22 35.2**	**+1.2**
KKBE				S	**Sb**	**08 23 03.6**	**-0.3**
KKBE				*i* AML	AML	08 23 08.0	
	comp=N,169nm,0.5s						
KKBE				*i* AML	AML	08 23 11.0	
	comp=E,276nm,0.8s						
KRMN	**Karaman**	**2.26**	**34**	Pn	**Pn**	**08 22 35.9**	**+0.6**
KIZK	**Mersin**	**2.32**	**59**	P	**Pn**	**08 22 36.9**	**+0.9**
KIZK				S	**Sb**	**08 23 06.6**	**-1.9**
ISP	**Isparta**	**2.67**	**340**	P	**Pb**	**08 22 46.3**	**+0.6**
MERS	**Mersin**	**2.79**	**55**	Pn	**Pn**	**08 22 42.9**	**+0.5**
KERG	**Konya-Eregli**	**2.89**	**43**	P	**Pn**	**08 22 44.9**	**+1.0**
KERG				S	**Sb**	**08 23 22.9**	**-1.9**
KERG				*i* AML	AML	08 23 28.0	
	comp=E,97nm,0.9s						
KERG				*i* AML	AML	08 23 34.0	
	comp=N,100nm,0.6s						
GULE	**Gulek**	**3.19**	**51**	P	**Pn**	**08 22 49.7**	**+1.6**
GULE				S	**Sb**	**08 23 33.8**	**+0.2**
GULE				*i* AML	AML	08 23 45.0	
	comp=E,150nm,0.6s						
GULE				*i* AML	AML	08 23 47.0	
	comp=N,111nm,0.6s						
KARP	**Karpathos**	**3.69**	**275**	S	**Sn**	**08 23 34.1**	**-4.2**
KARP				AML	AML	08 23 35.3	
	0.3nm,0.2s						
KARP				AML	AML	08 23 38.2	
	0.3nm,0.2s						
MMA0B	**Mount Meron ar**	**3.85**	**125**	P	**Pn**	**08 22 57.5**	**+0.4**
MMA0B	**Mount Meron ar**	**3.85**	**125**	S	**Sn**	**08 23 42.0**	**-0.5**
GEM	**Giv'at Ha'Em**	**3.92**	**121**	P	**Pn**	**08 22 58.8**	**+0.9**
GEM	**Giv'at Ha'Em**	**3.92**	**121**	S	**Sn**	**08 23 44.0**	**0.0**
NATI	**Neve Ativ**	**3.94**	**120**	P	**Pn**	**08 22 59.0**	**+0.8**
NATI	**Neve Ativ**	**3.94**	**120**	S	**Sn**	**08 23 44.0**	**-0.5**
MMLI	**Mount Malkishu**	**4.24**	**131**	P	**Pn**	**08 23 02.9**	**+0.6**
MMLI	**Mount Malkishu**	**4.24**	**131**	S	**Sn**	**08 23 51.3**	**-0.7**
HMDT	**Nahal Hemdat**	**4.43**	**132**	P	**Pn**	**08 23 06.0**	**+1.0**
HMDT	**Nahal Hemdat**	**4.43**	**132**	S	**Sn**	**08 23 56.4**	**-0.3**
PRNI	**Paran**	**5.69**	**149**	P	**Pn**	**08 23 22.5**	**+0.2**
KRMI	**Paran Flat**	**5.79**	**153**	P	**Pn**	**08 23 23.3**	**-0.3**
KRMI	**Paran Flat**	**5.79**	**153**	S	**Sn**	**08 24 27.5**	**-2.7**
MBRI	**Mt Berech**	**6.15**	**153**	P	**Pn**	**08 23 28.6**	**0.0**
MBRI	**Mt Berech**	**6.15**	**153**	S	**Sn**	**08 24 36.7**	**-2.4**
EIL	**Elat**	**6.27**	**153**	P	**Pn**	**08 23 29.4**	**-0.9**
EIL	**Elat**	**6.27**	**153**	S	**Sn**	**08 24 40.2**	**-1.8**

*FUNV **29** 08:29:52.5, 10°.29N×70°.91W, h5km, MW2.7*
*RSNC **29** 08:29:53.6±0.0, 10°.N±2°×,7°.1W±°, h30km±4km, M2.2, ML2.0*
ISC 29 08:29:51.4±1.3, 10°.32N±0°.06×70°.90W±0°.05, h8km, n7, σ0°.79/12, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**1.45**	**170**	P	**Pn**	**08 30 17.6**	**-0.5**
SDV				S	**Sn**	**08 30 36.1**	**-1.3**
TEPV	**Terepaima**	**1.72**	**102**	*e*P	**Pn**	**08 30 22.2**	**+0.5**
TEPV				*e*S	**Sb**	**08 30 44.9**	**-0.2**
URIC	**Uribia, Colomb**	**1.74**	**322**	P	**Pn**	**08 30 21.3**	**-0.7**
SOCV	**Socops**	**2.02**	**179**	*e*P	**Pn**	**08 30 26.6**	**+0.7**
SOCV				*e*S	**Sn**	**08 30 52.1**	**+0.7**
CRJC	**Cerrejon, Guaj**	**2.07**	**290**	P	**Pn**	**08 30 26.6**	**0.0**
CRJC				S	**Sn**	**08 30 53.6**	**+1.0**
BAUV	**El Baul**	**3.13**	**116**	*e*P	**Pn**	**08 30 41.6**	**+0.5**
BAUV				*e*S	**Sn**	**08 31 18.1**	**-0.7**
BENV	**Beln**	**3.27**	**96**	*e*P	**Pn**	**08 30 43.5**	**+0.4**

UCR 29 08:40:03.0±1.4, 8°.31N×82°.95W, h0km±5km, MW3.5, 3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NELY	**Ciudad Neily**	**0.34**	**0**	‖ *i*P	Pb	08 40 11.2	-0.8
NELY				*e*S	Sb	08 40 17.4	-0.6
EDAD	**Golfito**	**0.41**	**328**	‖ *i*P	Pg	08 40 11.0	+0.2
EDAD				*e*S	Sg	08 40 17.3	+1.2
JIME	**Puerto Jimenez**	**0.44**	**302**	*e*P	Pb	08 40 12.8	-0.8
VITO	**San Vito**	**0.51**	**358**	*e*P	Pb	08 40 14.2	-0.7
VITO				*e*S	Sb	08 40 23.4	+0.5
ALCO	**Alturas Coton,**	**0.65**	**10**	‖ *i*P	Pb	08 40 16.5	-0.9
ALCO				*e*S	Sb	08 40 26.8	-0.3
EDP2	**Potrero Grande**	**0.74**	**342**	*e*P	Pg	08 40 17.9	+0.7
EDP2				*e*S	Sb	08 40 29.6	+0.1
FIMO	**Fila Mora**	**0.79**	**329**	*e*P	Pg	08 40 17.6	-0.5
BURE	**Buenos Aires**	**0.94**	**336**	*e*P	Pg	08 40 21.1	-0.1
SAJE	**San Jernim**	**1.17**	**332**	*e*P	Pg	08 40 24.6	-1.0

SAJE				eS	Sg	08 40 40.6	-0.2
CEUA	Cerro Uatsi, L	1.31	0	eP	Pn	08 40 29.0	+0.4
LLNJ	Naranjito	1.63	316	eP	Pn	08 40 31.9	-1.0
PIEC	Cerro El Cedra	1.65	323	eP	Pn	08 40 32.6	-0.8
RAZU	San Marcos de	1.71	322	eP	Pn	08 40 34.5	+0.2
TURIB	Turrialba	1.75	335	eP	Pn	08 40 34.3	-0.4
TURIB				eS	Sn	08 40 57.4	-0.3
PISJ	San Jernim	1.76	319	eP	Pn	08 40 34.5	-0.3
REPA	Paraso	1.76	329	eP	Pn	08 40 34.3	-0.7
ABE2	San Pablo	1.77	322	eP	Pn	08 40 35.6	+0.5
LCR2	La Lucha 2	1.77	324	eP	Pn	08 40 34.3	-0.8
GMAL	Guarumal, Vera	1.78	108	eP	Pn	08 40 33.6	-1.5
VERB	Verbena	1.79	336	eP	Pn	08 40 34.8	-0.5
PCAYA	Pacayas	1.81	332	eP	Pn	08 40 35.6	-0.1
IRES	Siquirres	1.86	343	eP	Pb	08 40 37.1	-0.8
VTLA	Turrialba Volc	1.87	334	eP	Pn	08 40 36.6	0.0
VICA	Volcano Irazu	1.89	332	eP	Pn	08 40 36.1	-0.8
RVLA	Villa Bonita	1.90	341	eP	Pn	08 40 37.1	+0.4
ACOS	Acosta	1.91	321	eP	Pn	08 40 36.6	-0.3
CORON	Coronado	1.96	328	eP	Pb	08 40 38.8	-0.9
CVTG	V. Turrialba,	2.00	336	eP	Pn	08 40 38.6	+0.4
SANTA	Santa Ana	2.03	323	eP	Pn	08 40 39.4	+0.8
PURI	Puriscal	2.04	319	eP	Pn	08 40 39.0	+0.3
BELE	Belen	2.06	324	eP	Pn	08 40 39.5	+0.4
TCS1	Tacares	2.18	322	eP	Pn	08 40 41.1	+0.5
SRA1	San Ramn	2.33	320	eP	Pn	08 40 43.7	+1.0
SOCE	Pocosol	2.64	322	eP	Pn	08 40 48.9	+1.9
VACR	Volcan Arenal	2.75	322	eP	Pn	08 40 50.0	+1.6
ARE1	Arenal 1	2.76	321	eP	Pb	08 40 51.1	-2.2
VARE2	V. Arenal	2.76	321	eP	Pn	08 40 49.6	+1.0
JTS	Las Juntas de	2.79	315	eP	Pn	08 40 49.8	+0.7

*IDC **29** 08:57:46.2±0.7, 9°.86N×126°.48E, $h0^{km}$, mb4.2/15, mbtmp4.2/15, MS3.3/18, Error ellipse: s-maj=44.6km s-min=15.6km az=68.0*
*NEIC **29** 08:57:49.1±2.3, 10°.17N±0°.03×126°.7E±0°.1, $h10^{km}$±1km, mb4.5/12, Error ellipse: s-maj=20.2km s-min=3.7km az=75.0*

ISC 29 08:57:52.5±0.6, 10°.08N±0°.07×126°.6E±0°.1, $h42^{km}$, n54, σ1ˢ35/38, mb4.3/19, MS3.3/14, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.16	199	Pn	Pn	08 58 40.5	+0.8
DAV	Davao City (W)	3.16	199	Pn	Pn	08 58 39.1	-0.7
	24nm,0.3s,baz=267,slow=9.7,SNR=1.3						
DAV				LR	LR	08 59 49.6	
	comp=Z,778nm,20.0s,baz=18,slow=42						
TGY	Tagaytay City	6.85	306	LR	LR	09 02 30.9	
	comp=Z,326nm,18.0s,baz=326,slow=42						
TNTI	Ternate	9.27	175	Pn	Pn	09 00 03.8	+0.1
MYLDM	Lahad Datu	9.40	239	Pn	Pn	09 00 06.3	+0.8
FAKI	Fak Fak	14.07	156	Pn	Pn	09 01 09.4	0.0
YULB	Yu-li	14.19	340	Pn	Pn	09 01 07.9	-2.9
KAPI	Kappang	16.48	205	LR	LR	09 08 19.8	
	comp=Z,68nm,20.1s,baz=34,slow=39						
GUMO	Guam	18.20	77	LR	LR	09 09 06.2	
	comp=Z,90nm,18.4s,baz=234,slow=37						
SOEI	Soe	19.84	187	P	P	09 02 19.7	-0.3
SOEI				IAmb	IAmb	09 02 58.5	
	comp=Z,40nm,1.0s						
JNU	Nakatsue	23.27	9	LR	LR	09 14 11.3	
	comp=Z,37nm,18.1s,baz=184,slow=42						
MYKOM	Kota Tinggi	24.08	251	P	P	09 03 04.2	-0.1
KSRS	Korea Array	27.28	2	LR	LR	09 16 46.5	
	comp=Z,52nm,18.4s,baz=205,slow=42						
FITZ	Fitzroy Crossi	28.01	182	P	P	09 03 38.5	-1.2
CMAR	Chiang Mai Arr	28.06	290	P	P	09 03 40.7	+0.5
CMAR	Chiang Mai Arr	28.06	290	P	P	09 03 39.9	-0.3
	comp=Z,0.9nm,0.2s,baz=101,slow=7.0,SNR=9.2						
CMAR				LR	LR	09 16 10.3	
	comp=Z,41nm,19.4s,baz=115,slow=39						
	comp=Z,0.9nm,0.2s						
MJAR	Matsushiro Arr	28.36	20	LR	LR	09 15 59.5	
	comp=Z,47nm,18.8s,baz=204,slow=38						
WRA	Warramunga Arr	30.78	166	P	P	09 04 06.3	+2.0
WRA	Warramunga Arr	30.78	166	P	P	09 04 02.0	-2.2
	comp=Z,0.9nm,1.0s,baz=332,slow=11,SNR=7.1						
	comp=Z,0.9nm,1.0s						
WR8	Warramunga Arr	30.84	165	P	P	09 04 03.3	-1.4
WR8				IAmb	IAmb	09 04 39.9	
	comp=Z,15nm,1.4s						
ASAR	Alice Springs	34.28	168	P	P	09 04 35.6	+0.7
ASAR	Alice Springs	34.28	168	P	P	09 04 31.8	-3.1
	comp=Z,0.3nm,0.4s,baz=355,slow=7.4,SNR=8.8						
	comp=Z,0.3nm,0.4s						
USRK	Ussuriysk Ar.	34.31	7	P	P	09 04 34.5	-0.4
USA0B	Ussuriysk Arra	34.31	7	P	P	09 04 34.1	-0.8
USA0B				IAmb	IAmb	09 04 43.0	
	comp=Z,5.6nm,0.7s						
HNR	Honiara	38.41	119	LR	LR	09 19 04.7	
	comp=Z,54nm,21.9s,baz=232,slow=33						
H11N1	WAKE ISLAND Hy	39.99	71	T	T	09 48 37.9	
	baz=262,slow=74,SNR=11						
H11N2	WAKE ISLAND Hy	39.99	71	T	T	09 48 38.6	
	baz=262,slow=74,SNR=12						
H11N3	WAKE ISLAND Hy	40.01	71	T	T	09 48 39.3	
	baz=262,slow=74,SNR=11						
ULN	Ulaanbaatar	41.12	340	P	P	09 05 31.9	-0.7
ULN				IAmb	IAmb	09 05 36.4	
	comp=Z,4.9nm,0.8s						
SONM	Songino Array	41.32	339	P	P	09 05 33.3	-0.9
SONM				IAmb	IAmb	09 05 37.9	
	comp=Z,5.6nm,1.2s						
SONM	Songino Array	41.32	339	P	P	09 05 32.9	-1.3
	comp=Z,2.2nm,0.6s,baz=152,slow=6.7,SNR=8.8						
	comp=Z,2.2nm,0.6s						
STKA	Stephens Creek	44.11	162	P	P	09 05 56.5	-0.3
STKA	Stephens Creek	44.11	162	P	P	09 05 55.9	-0.9
	comp=Z,0.7nm,0.3s,baz=355,slow=11,SNR=5.1						
	comp=Z,0.7nm,0.3s						
YAK	Yakutsk	51.91	2	LR	LR	09 31 01.5	
	comp=Z,29nm,19.4s,baz=292,slow=38						
MKAR	Makanchi Array	52.39	323	P	P	09 07 01.5	+1.0
MKAR	Makanchi Array	52.39	323	P	P	09 07 01.7	+1.1
	comp=Z,2.3nm,0.7s,baz=116,slow=8.2,SNR=14						
MKAR				LR	LR	09 30 43.5	
	comp=Z,25nm,20.1s,baz=108,slow=38						
	comp=Z,2.3nm,0.7s						
MAKZ	Makanchi	52.58	323	P	P	09 07 02.8	+0.8
ZALV	Zalesovo Beam	54.96	331	P	P	09 07 18.7	-0.5
	comp=Z,0.8nm,0.6s,baz=133,slow=14,SNR=1.5						
	comp=Z,0.8nm,0.6s						
AAK	Ala-Archa	55.71	315	LR	LR	09 34 18.7	
	comp=Z,48nm,18.1s,baz=81,slow=39						
KURK	Kurchatov	56.42	325	P	P	09 07 27.5	-2.2
KURK				IAmb	IAmb	09 07 29.1	
	comp=Z,8.0nm,0.9s						
KURBB	Kurchatov Arra	56.43	325	P	P	09 07 29.6	-0.2
	comp=Z,2.3nm,0.8s,baz=127,slow=6.8,SNR=6.3						
	comp=Z,2.3nm,0.8s						
NRIK	Noril'sk	64.29	346	P	P	09 08 25.0	+1.9
NRIK	Noril'sk	64.29	346	P	P	09 08 25.1	+1.9
	comp=Z,3.6nm,0.6s,baz=120,slow=5.5,SNR=9.8						
NRIK				LR	LR	09 40 56.3	
	comp=Z,21nm,18.1s,baz=141,slow=40						
	comp=Z,3.6nm,0.6s						
ARTI	Arti	69.66	327	LR	LR	09 42 00.1	
	comp=Z,21nm,19.2s,baz=37,slow=38						
KDAK	Kodiak Island	76.63	33	LR	LR	09 39 33.0	
	comp=Z,17nm,21.4s,baz=50,slow=33						
GNI	Garni	77.39	309	LR	LR	09 48 08.6	
	comp=Z,19nm,18.2s,baz=196,slow=39						
OBN	Obninsk	81.85	325	LR	LR	09 50 24.2	
	comp=Z,44nm,19.1s,baz=206,slow=38						
SPITS	Spitsbergen Ar	84.27	349	P	P	09 10 21.1	+1.7
	comp=Z,3.1nm,0.7s,baz=67,slow=12,SNR=4.6						
	comp=Z,3.1nm,0.7s						
ARCES	ARCESS Array B	84.49	340	P	P	09 10 22.3	+1.7
	comp=Z,4.2nm,0.7s,baz=77,slow=6.2,SNR=16						
	comp=Z,4.2nm,0.7s						
FINES	FINESS Array B	86.22	332	P	P	09 10 30.2	+0.8
	comp=Z,2.6nm,0.8s,baz=101,slow=3.9,SNR=7.9						
	comp=Z,2.6nm,0.8s						
HFS	Hagfors	92.38	333	P	P	09 10 57.8	-0.6
	comp=Z,2.7nm,0.8s,baz=138,slow=12,SNR=5.3						
	comp=Z,2.7nm,0.8s						
NB2	NORSAR Subarra	93.08	334	P	P	09 11 01.8	0.0
	comp=Z,1.0nm,0.6s,baz=62,slow=4.8						
NOA	NORSAR Array B	93.08	334	P	P	09 11 01.0	-0.8
	comp=Z,0.7nm,0.7s,baz=62,slow=4.7,SNR=4.3						
NOA				LR	LR	09 58 09.2	
	comp=Z,10nm,18.5s,baz=70,slow=39						
	comp=Z,0.7nm,0.7s						
YKA	Yellowknife Ar	93.79	24	P	P	09 11 06.8	+1.9
	comp=Z,0.5nm,0.8s,baz=303,slow=4.7,SNR=8.8						
	comp=Z,0.5nm,0.8s						

IDC 29 09:00:28.6±4.7, 18°.63S×176°.54W, $h0^{km}$, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=201.4km s-min=35.6km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.85	242	P	P	09 08 04.4	+0.2
	2.2nm,0.9s,baz=76,slow=16,SNR=3.0						
	2.2nm,0.9s						
WRA	Warramunga Arr	46.25	260	P	P	09 08 55.8	-0.3
	0.2nm,0.3s,baz=97,slow=7.5,SNR=8.9						
	0.2nm,0.3s						
ASAR	Alice Springs	46.31	255	P	P	09 08 56.5	-0.1
	1.5nm,0.7s,baz=92,slow=8.3,SNR=18						
	1.5nm,0.7s						
ILAR	Eielson Array	86.20	12	P	P	09 13 11.4	0.0
	0.1nm,0.3s,baz=224,slow=5.0,SNR=5.3						
	0.1nm,0.3s						

*IDC **29** 09:04:52.7±13.0, 13°.80N×91°.33W, $h0^{km}$, mb3.4/2, mbtmp3.5/3, ML3.5/1, MS3.3/5, Error ellipse: s-maj=258.7km s-min=110.9km az=7.0*
*GCG **29** 09:04:57.3±1.3, 13°.74N×92°.05W, $h6^{km}$±21^{km}, MD4.4, MW3.4*
*CATAC **29** 09:04:57.1±2.1, 14°N±11°×9°2W±1°6, $h10^{km}$, M3.6/10, MLv3.6/10, confirmed*
*MEX **29** 09:04:58.8±0.5, 13°.77N×92°.34W, $h10^{km}$±24^{km}, MD4.1*
*SNET **29** 09:05:00.6±0.7, 13°.02N×91°.87W, $h20^{km}$, ML3.3*

ISC 29 09:04:52.2±1.0, 13°.57N±0°.05×92°.23W±0°.03, $h10^{km}$, n60, σ2ˢ29/75, MS3.1/5, 2C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	1.08	29	i P	Pn	09 05 14.7	+1.3
RTAL				i S	Sb	09 05 26.9	-0.4
RTAL	Retalhuleu	1.08	29	P	Pn	09 05 14.8	+1.4
STG5	El Palmar, Qui	1.19	46	i P	Pn	09 05 16.6	+1.6
STG5	El Palmar, Qui	1.19	46	eP	Pn	09 05 16.6	+1.6
STG0	El Palmar, Qui	1.21	45	i P	Pn	09 05 17.5	+2.1
STG0	El Palmar, Qui	1.21	45	eP	Pn	09 05 17.1	+1.7
STG0				eS	Sn	09 05 33.5	+1.5
STG8	El Palmar, Qui	1.22	44	i P	Pn	09 05 17.7	+2.1
STG8	El Palmar, Qui	1.22	44	eP	Pn	09 05 17.4	+1.8
STG8				eS	Sn	09 05 32.8	+0.5
SMCA	Catarina	1.29	7	eP	Pg	09 05 18.1	+1.2
THIG		1.33	358	eP	Pg	09 05 17.2	-0.6
THIG				eS	Sb	09 05 31.1	-3.4
THIG		1.33	358	i P	Pg	09 05 17.5	-0.3
THIG				i S	Sg	09 05 35.1	0.0
THIG		1.33	358	eP	Pg	09 05 17.5	-0.3
PATR	El Naranjo	1.54	360	eP	Pn	09 05 19.9	-0.1
PATR				eS	Sn	09 05 36.8	-3.4
PAVE	Pavencul	1.62	2	eP	Pn	09 05 20.9	-0.1
PAVE				eS	Sn	09 05 38.6	-3.4
FG8	Yepocapa, Chim	1.76	67	i P	Pn	09 05 21.0	-1.9
FG8	Yepocapa, Chim	1.76	67	eP	Pn	09 05 21.2	-1.7
FG8				eS	Sn	09 05 40.3	-5.1
FG16	Alotenango, Sa	1.81	67	i P	Pn	09 05 22.0	-1.7
FG16	Alotenango, Sa	1.81	67	eP	Pn	09 05 21.9	-1.7
FG16				eS	Sn	09 05 41.7	-5.1
HUEH	Huehuetenango	1.88	22	eP	Pb	09 05 26.1	-0.6
HUEH				i S	Sn	09 05 46.5	-2.0
HUEH	Huehuetenango	1.88	22	i P	Pb	09 05 26.7	0.0
HUEH	Huehuetenango	1.88	22	P	Pg	09 05 27.1	-1.1
PCIG		2.33	336	eP	Pn	09 05 30.8	+0.1
NUBE	Las Nubes	2.40	82	i P	Pb	09 05 34.8	-0.8
NUBE	Las Nubes	2.40	82	eP	Pb	09 05 34.9	-0.8
NUBE				eS	Sn	09 06 02.5	+1.1
NUBE	Las Nubes	2.40	82	P	Pb	09 05 34.9	-0.8
CEVE	Cerro Verde	2.54	84	eP	Pb	09 05 38.7	+0.6
CEVE				eS	Sb	09 06 07.8	-1.8
CEVE				IAML		09 06 17.4	
	comp=Z,174nm,0.4s						
CCIG	Comitan	2.70	2	eP	Pb	09 05 39.2	-1.5
CCIG				eS	Sn	09 06 09.3	+0.6
CCIG	Comitan	2.70	2	i P	Pb	09 05 40.2	-0.6
CCIG	Comitan	2.70	2	eP	Pb	09 05 40.0	-0.7
CCIG				eS	Sg	09 06 15.7	-3.3
JAYA	Jayaque - finc	2.70	88	eP	Pn	09 05 38.6	+2.7
JAYA				eS	Sn	09 06 08.8	0.0
JAYA	Jayaque - finc	2.70	88	i P	Pb	09 05 38.9	-1.9
JAYA	Jayaque - finc	2.70	88	P	Pb	09 05 40.7	-0.1
MTO3	Montecristo	2.91	73	P	Pn	09 05 40.8	+2.0
ESQI	Esquipulas	2.97	70	P	Pn	09 05 42.0	+2.5
PAVA	Las Pavas	3.20	87	P	Pb	09 05 46.5	-2.8
COEG	Centro de Oper	3.26	89	eP	Pn	09 05 46.9	+3.5
COEG				eS	Sn	09 06 23.1	+0.7
COEG	Centro de Oper	3.26	89	P	Pb	09 05 47.4	-2.8
TGIG		3.31	345	eP	Pn	09 05 46.0	+1.9
TGIG		3.31	345	i P	Pn	09 05 46.4	+2.3
TGIG		3.31	345	eP	Pn	09 05 46.9	+2.8
SCLA	Alcaldia de Sa	3.41	87	P	Pn	09 05 48.4	+3.0
PETF	Flores	4.04	34	eP	Pn	09 05 54.5	+0.5
PETF				i S	Sn	09 06 44.3	+2.9
UXUV	UXUV	4.16	334	eP	Pn	09 05 59.2	+3.4
LCND	La Caada	4.23	93	eP	Pn	09 05 59.7	+3.0
CMIG	Matias Romero	4.34	324	eP	Pn	09 06 01.0	+2.8
HUIG	Huatulco	4.34	301	eP	Pn	09 05 59.8	+1.5
HUIG				eS	Sn	09 06 45.6	-3.5
PEIG	Puerto Escondi	5.34	298	eP	Pn	09 06 13.5	+1.6
PEIG				eS	Sn	09 07 08.5	-5.1
NEUV	Arroyo Zacate	5.37	321	eP	Pn	09 06 16.0	+3.6
SCIG	Sabancuy	5.46	10	eP	Pn	09 06 16.0	+2.3
SCIG				eS	Sn	09 07 16.1	-0.5
VHO	Vista Hermosa	5.57	309	i P	Pn	09 06 20.2	+4.9
PNIG	Pinotepa	6.35	297	eP	Pn	09 06 28.8	+2.8
PNIG				eS	Sn	09 07 34.4	-4.2
JAUV	Jalcomulco	7.25	323	eP	Pn	09 06 39.6	+1.3
JAUV				eS	Sn	09 08 00.1	-0.5
TXAR	Lajitas Array	18.94	328	P	Pn	09 09 18.4	+4.3
	baz=148,slow=9.6,SNR=8.7						
	comp=Z,1.7nm,1.1s						
TKL	Tuckaleechee C	23.28	18	LR	LR	09 20 18.5	
	comp=Z,69nm,19.1s,baz=191,slow=41						
NVAR	Mina Array Bea	33.87	322	P	P	09 11 40.9	+5.5
	comp=Z,0.6nm,0.8s,baz=130,slow=8.7,SNR=4.6						
	comp=Z,0.6nm,0.8s						
YBH	Yreka Blue Hor	38.57	322	LR	LR	09 30 55.8	
	comp=Z,29nm,19.1s,baz=245,slow=40						
NEW	Newport	40.29	334	LR	LR	09 32 19.4	
	comp=Z,28nm,18.7s,baz=165,slow=41						
YKA	Yellowknife Ar	51.39	347	P	P	09 13 58.6	+1.6
	comp=Z,0.3nm,0.7s,baz=154,slow=7.3,SNR=6.2						
	comp=Z,0.3nm,0.7s						
FRB	Frobisher Bay	52.78	13	LR	LR	09 37 22.2	
	comp=Z,31nm,18.6s,baz=329,slow=37						
SFJD	Kangerlussuaq	59.99	18	LR	LR	09 41 46.2	
	comp=Z,38nm,18.7s,baz=237,slow=37						

MEX 29 09:05:41.1±0.5, 15°.88N×93°.43W, $h105^{km}$±7^{km}, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.27	131	eP	Pn	09 05 54.6	-1.5
PCIG				i S	Sn	09 06 05.8	-1.6
TGIG		0.94	18	eP	Pn	09 06 00.0	-1.3
TGIG				eS	Sn	09 06 14.6	-2.0
TGIG		0.94	18	eS	Sn	09 06 14.7	-1.9
CCIG	Comitan	1.30	72	eS	Sn	09 06 22.9	-1.0
PATR	El Naranjo	1.38	123	eS	Sn	09 06 23.2	-2.4
PAVE	Pavencul	1.39	119	i P	Pn	09 06 05.4	-1.1
PAVE				eS	Sn	09 06 24.6	-1.1
UXUV	UXUV	1.59	334	eP	Pn	09 06 07.8	-0.8
UXUV				eS	Sn	09 06 27.1	-2.5
CMIG	Matias Romero	1.84	311	eP	Pn	09 06 10.9	-1.0
CMIG				i S	Sn	09 06 34.1	-1.2
HUIG	Huatulco	2.58	268	eP	Pn	09 06 18.0	-3.5
HUIG				eS	Sn	09 06 46.3	-6.1

*CNRM **29** 09:06:14.9, 35°.82N×10°.14W, $h30^{km}$*
*MDD **29** 09:06:16.7±1.2, 36°.00N×10°.23W, $h13^{km}$±24^{km}, mb_Lg2.9/9, Error ellipse: s-maj=28.3km s-min=7.8km az=44.0*
*IGIL **29** 09:06:17.2, 36°.05N×10°.29W, $h15^{km}$, ML2.0*

ISC 29 09:06:10.3±2.2, 35°.85N±0°.04×10°.4W±0°.1, $h10^{km}$, n37, σ2ˢ41/49, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.77	43	Pn	Pn	09 06 43.3	+2.3
PFVI				Sn	Sn	09 07 01.9	-1.7
PFVI	Vila Bisbo	1.77	43	P	Pn	09 06 42.9	+1.9
PFVI	Vila Bisbo	1.77	43	S	Sn	09 07 03.7	0.0
MORF	Marmelete	1.99	43	eP	Pn	09 06 46.4	+2.3
MORF				eS	Sn	09 07 07.4	-1.7
MORF				IAML		09 07 09.5	
	comp=E,22nm,0.1s						
PCVE	Castro Verde	2.57	45	Pn	Pn	09 06 54.7	+2.7
PCVE				Sn	Sn	09 07 22.8	-0.5
MESJ	Messejana	2.62	40	eP	Pn	09 06 54.9	+2.2
MESJ				eS	Sn	09 07 22.4	-2.1
MESJ				IAML		09 07 24.3	
	comp=E,4.0nm,0.2s						
PVAQ	Vaqueiros	2.62	53	Pn	Pn	09 06 55.4	+2.7
EGRO	El Granado	2.85	53	Pn	Pn	09 06 58.7	+2.9
EGRO				Sn	Sn	09 07 29.0	-1.2
EGRO	El Granado	2.85	53	Pn	Pn	09 06 58.7	+2.9
EGRO				Sn	Sn	09 07 29.1	-1.2
EGRO				i Vmb_Lg		09 07 31.2	
PMAFR	Mafra	3.22	15	Pn	Pn	09 07 02.0	+1.1
EVO	Evora	3.26	34	Sn	Sn	09 07 37.9	-2.5
EMIN	Mina Concepcio	3.52	56	Sn	Sn	09 07 44.5	-2.1
EMIN	Mina Concepcio	3.52	56	Sn	Sn	09 07 44.7	-2.0
EMIN				i Vmb_Lg		09 07 49.1	
PESTR	Estremoz	3.73	35	Sn	Sn	09 07 48.9	-3.1
ESPR	Espera	3.77	73	Pn	Pn	09 07 11.7	+3.3
ESPR				Sn	Sn	09 07 52.5	-0.3
ESPR	Espera	3.77	73	Pn	Pn	09 07 12.1	+3.7
ESPR				Sn	Sn	09 07 52.5	-0.3
ESPR				i Vmb_Lg		09 07 53.9	
ZHG	ZHG	3.88	127	P	Pn	09 07 10.6	+0.5
ZHG	ZHG	3.88	127	S	Sn	09 07 55.6	-0.2
EBAD	Badajoz	3.94	41	Sn	Sn	09 07 54.9	-2.1
EBAD	Badajoz	3.94	41	Sn	Sn	09 07 55.6	-1.4
EBAD				i Vmb_Lg		09 07 56.9	
ECAB	El Cabril	4.53	59	Pn	Pn	09 07 21.8	+2.8
ECAB				Sn	Sn	09 08 08.8	-2.9
ECAB	El Cabril	4.53	59	Pn	Pn	09 07 21.7	+2.8
ECAB				Sn	Sn	09 08 08.4	-3.3
ECAB				i Vmb_Lg		09 08 11.0	
EADA	Adamuz	5.17	62	Pn	Pn	09 07 30.5	+2.9
EADA	Adamuz	5.17	62	Pn	Pn	09 07 30.6	+2.9
EADA				Sn	Sn	09 08 24.8	-2.6
EADA				i Vmb_Lg		09 08 29.0	
EPLA	Plasencia	5.39	37	Sn	Sn	09 08 30.4	-2.6
EPLA				i Vmb_Lg		09 08 31.6	
MD31	MD31	5.49	121	P	Pn	09 07 31.3	-1.0
MD31	MD31	5.49	121	S	Sn	09 08 33.4	-2.2
JAND	Jandula	5.62	63	Pn	Pn	09 07 36.8	+2.8
JAND				Sn	Sn	09 08 35.3	-3.4
JAND				i Vmb_Lg		09 08 38.5	
MDT	Midelt	5.63	121	P	Pn	09 07 33.5	-0.6
MDT	Midelt	5.63	121	S	Sn	09 08 36.8	-2.1
OUZM	OUZ	5.77	148	P	Pn	09 07 37.5	+1.4
OUZM	OUZ	5.77	148	S	Sn	09 08 43.8	+1.5
PAB	San Pablo	6.02	50	Pn	Pn	09 07 41.9	+2.4
PAB				Sn	Sn	09 08 45.2	-3.3
PAB				i Vmb_Lg		09 12 05.6	
PSIM	Granatula de C	6.03	59	Sn	Sn	09 08 46.3	-2.5
ELOB	Lobios	6.27	16	Sn	Sn	09 08 49.5	-5.2
ECAL	Calabor	6.70	24	Sn	Sn	09 09 01.4	-3.9
GUD	Guadarrama	6.83	44	Sn	Sn	09 09 05.2	-3.4

*HEL **29** 09:18:47.7±0.3, 60°.94N×29°.08E, $h0^{km}$, ML1.7, Suspected explosion*
*IDC **29** 09:18:48.0±3.2, 60°.71N×28°.83E, $h0^{km}$, mbtmp3.0/1, ML2.2/1, Error ellipse: s-maj=30.1km s-min=15.9km az=4.0*

ISC 29 09:18:44.6±1.3, 60°.89N±0°.05×29°.19E±0°.05, $h0^{km}$, n22, σ1ˢ52/32, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	Ruokolahti	0.55	348	PG	Pb	09 18 56.5	-0.6
RUF				SG	Sg	09 19 02.4	0.0
RUF				MSG		09 19 03.5	
	comp=Z,5.4nm,0.2s						
VJF	Virojoki	0.88	247	PG	Pn	09 19 03.3	-0.8
VJF				MSG		09 19 13.9	
	comp=Z,9.6nm,0.2s						
VJF				SB	Sb	09 19 15.0	+0.1
FIA0	FINESS Array S	1.61	292	PG	Pb	09 19 14.8	-0.3
	baz=107						
FIA0				MSG		09 19 33.8	
	comp=Z,5.8nm,0.2s						
FIA0				SG	Sn	09 19 35.7	0.0
FINES	FINESS Array B	1.61	292	Pg	Pb	09 19 14.8	-0.3
	comp=Z,0.2nm,0.3s,baz=117,slow=18,SNR=11						
FINES				Lg	Lg	09 19 35.9	
	comp=Z,0.

SMCA *i* S **Sn** **09 24 55.8 -0.7**
SMCA IAML 09 24 57.7
comp=N,17μm,0.1s
PATR El Naranjo 0.63 32 *e*P **Pn** **09 24 47.5 -0.1**
PATR *e*S **Sn** **09 24 57.2 -1.0**
PAVE Pavencul 0.72 32 *e*P **Pn** **09 24 48.6 0.0**
PAVE *e*S **Sn** **09 24 59.6 -0.5**
RTAL Retalhuleu 0.86 94 *e*P **Pn** **09 24 50.3 +0.4**
RTAL *i* S **Sn** **09 25 02.1 -0.3**
RTAL Retalhuleu 0.86 94 P **Pn** **09 24 50.4 +0.5**
SOKI Kika Raxquin 1.16 78 *i* P **Pn** **09 24 55.1 +1.0**
STG8 El Palmar, Qui 1.20 96 *i* P **Pn** **09 24 51.4 -3.0**
STG8 IAML 09 25 06.3
comp=N,6μm,0.2s
STG5 El Palmar, Qui 1.21 98 *i* P **Pn** **09 24 51.5 -2.9**
STG5 *i* S Sn 09 25 02.5 -7.7
HUEH Huehuetenango 1.27 55 *e*P **Pn** **09 24 55.7 +0.4**
HUEH *e*S **Sn** **09 25 13.0 +1.0**
HUEH Huehuetenango 1.27 55 *i* P **Pn** **09 24 56.2 +0.7**
HUEH *i* S **Sn** **09 25 10.5 -1.6**
HUEH Huehuetenango 1.27 55 P **Pn** **09 24 56.1 +0.7**
PCIG 1.28 331 *e*P **Pn** **09 24 56.5 +1.3**
PCIG *e*S **Sn** **09 25 12.7 +0.9**
CCIG Comitan 1.75 14 *e*P **Pn** **09 25 03.0 +1.5**
CCIG *i* S **Sn** **09 25 22.8 -0.3**
CCIG Comitan 1.75 14 *i* P **Pn** **09 25 03.0 +1.5**
CCIG Comitan 1.75 14 P **Pn** **09 25 03.1 +1.5**
CCIG Comitan 1.75 14 S **Sn** **09 25 24.4 +1.3**
FG8 Yepocapa, Chim 1.98 99 *i* P Pn 09 25 00.3 -4.4
FG8 *i* S Sn 09 25 17.6 -11
FG16 Alotenango, Sa 2.03 98 *i* P Pn 09 25 01.6 -3.7
TGIG 2.25 347 *e*P **Pn** **09 25 08.3 +0.1**
TGIG *e*S **Sn** **09 25 32.3 -2.7**
TGIG 2.25 347 *i* P **Pn** **09 25 08.4 +0.1**
NUBE Las Nubes 2.80 104 *i* S **Sn** **09 25 47.4 -1.0**
NUBE Las Nubes 2.80 104 P **Pn** **09 25 16.9 +1.2**
NUBE Las Nubes 2.80 104 S **Sn** **09 25 49.7 +1.2**
CEVE Cerro Verde 2.96 104 *e*P **Pn** **09 25 20.1 +2.1**
CEVE *e*S **Sn** **09 25 53.3 +0.6**
CEVE IAML 09 26 04.8
comp=Z,439nm,0.4s
CEVE Cerro Verde 2.96 104 P **Pn** **09 25 20.1 +2.1**
UXUV UXUV 3.11 331 *e*P **Pn** **09 25 21.9 +2.0**
UXUV *i* S **Sn** **09 26 00.9 +5.0**
MTO3 Montecristo 3.12 93 *e*P **Pn** **09 25 20.5 +0.2**
MTO3 Montecristo 3.12 93 P **Pn** **09 25 20.6 +0.3**
MTO3 Montecristo 3.12 93 S **Sn** **09 25 58.5 +1.9**
JAYA Jayaque - finc 3.17 106 *e*P **Pn** **09 25 22.2 +1.3**
JAYA *e*S **Sn** **09 25 57.0 -0.7**
JAYA Jayaque - finc 3.17 106 *i* P **Pn** **09 25 22.1 +1.2**
JAYA Jayaque - finc 3.17 106 P **Pn** **09 25 22.2 +1.3**
JAYA Jayaque - finc 3.17 106 S **Sn** **09 25 59.2 +1.5**
CMIG Matias Romero 3.34 319 *e*P **Pn** **09 25 24.4 +1.4**
CMIG *e*S **Sn** **09 26 02.2 +0.7**
LOMA Loma Larga 3.43 105 *e*P **Pn** **09 25 26.4 +2.0**
LOMA Loma Larga 3.43 105 S **Sn** **09 26 05.6 +1.6**
LOMA Loma Larga 3.43 105 P **Pn** **09 25 26.8 +2.4**
PETF Flores 3.50 48 *e*P **Pn** **09 25 25.1 0.0**
PETF *e*S Sn 09 26 00.3 -5.0
PETF Flores 3.50 48 *i* P **Pn** **09 25 25.3 +0.2**
HUIG Huatulco 3.61 290 *e*P **Pn** **09 25 27.8 +1.2**
HUIG *e*S **Sn** **09 26 04.1 -4.0**
SCLA Alcaldia de Sa 3.84 103 P **Pn** **09 25 30.9 +1.1**
SCLA Alcaldia de Sa 3.84 103 S **Sn** **09 26 15.3 +1.6**
NEUV Arroyo Zacate 4.39 316 *e*P **Pn** **09 25 38.4 +1.1**
NEUV *e*S **Sn** **09 26 26.6 -0.7**
SCIG Sabancuy 4.56 17 *e*P **Pn** **09 25 39.5 -0.1**
SCIG *e*S **Sn** **09 26 27.4 -4.0**
PEIG Puerto Escondi 4.63 288 *e*P **Pn** **09 25 42.3 +1.7**
PEIG *e*S **Sn** **09 26 28.3 -4.8**
PMUV Sontecomapan 4.64 329 *e*P Pn 09 25 46.9 +6.1
PMUV *e*S **Sn** **09 26 29.2 -4.1**
VHO Vista Hermosa 4.70 302 *e*P **Pn** **09 25 44.9 +3.1**
VHO *e*S **Sn** **09 26 34.8 -0.4**
TOIG Toxpalan 5.55 310 *e*P Pn 09 25 57.4 +4.1
TOIG *i* S **Sn** **09 26 53.7 -2.0**
PNIG Pinotepa 5.64 289 *e*P **Pn** **09 25 56.8 +2.3**
PNIG *e*S **Sn** **09 26 54.0 -4.0**
JAUV Jalcomulco 6.24 320 *e*P **Pn** **09 26 00.9 -1.8**
JAUV *e*S **Sn** **09 27 07.7 -5.0**
CRIG Cruz Grande 6.67 290 *e*P **Pn** **09 26 11.2 +2.7**
CXUV Coxquihui 7.34 320 *e*P **Pn** **09 26 18.4 +0.8**
CXUV *e*S **Sn** **09 27 35.9 -3.6**
YAIG Yautepec 7.53 305 *e*P Pn 09 26 25.1 +4.7
CAIG El Cayaco 7.80 289 *e*P **Pn** **09 26 27.2 +3.3**

*SDD **29** 09:27:04.1±2.1, 18°.70N×71°.83W, h33km±21km, MD2.6, ML2.2, MW2.6*
*OSPL **29** 09:27:05.7±2.2, 18°.63N×71°.64W, h29km±16km, ML1.1*
ISC 29 09:27:04.6±1.1, 18°.64N±0°.05×71°.70W±0°.04, h26km±8km, n10, σ0°80/18, 9C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.21**	**224**	⇑*e*Pg	**Pb**	**09 27 10.4**	**0.0**
JIDR				⇑*e*Sg	**Sb**	**09 27 15.3**	**+0.9**
JIDR				IAML		09 27 15.8	
	comp=N,418nm,0.3s						
LONE3	**El Aguacate, B**	**0.23**	**100**	*i* P	**Pb**	**09 27 10.6**	**-0.2**
LONE3				*e*S	**Sb**	**09 27 15.3**	**+0.2**
LONE3				IAML		09 27 16.6	
	comp=Z,25nm,0.3s						
NEDR	**Neiba UASD**	**0.31**	**121**	⇑*e*Pg	**Pb**	**09 27 10.3**	**-1.5**
NEDR				⇑*e*Sg	**Sb**	**09 27 18.4**	**+1.6**
SDDR	**Presa de Saban**	**0.51**	**49**	⇑*e*Pg	**Pb**	**09 27 15.0**	**-0.1**
SDDR				⇑*e*Sg	**Sb**	**09 27 22.5**	**+0.2**
SDDR	**Presa de Saban**	**0.51**	**49**	*i* P	**Pb**	**09 27 15.3**	**+0.2**
SDDR				*e*S	**Sb**	**09 27 22.5**	**+0.2**
SDDR				IAML		09 27 26.0	
	comp=Z,12nm,1.9s						
PAPH	**Port-au-Prince**	**0.58**	**258**	*e*S	**Sn**	**09 27 26.4**	**+0.5**
PODR	**Polo**	**0.62**	**140**	⇓*e*Pg	**Pb**	**09 27 17.4**	**+0.4**
PODR				⇑*e*Sg	**Sn**	**09 27 27.4**	**+0.3**
PODR	**Polo**	**0.62**	**140**	*i* P	**Pb**	**09 27 17.5**	**+0.5**
PODR				*e*S	**Sn**	**09 27 27.4**	**+0.3**
LOBH	**Bahia de las A**	**0.78**	**176**	*i* P	**Pn**	**09 27 18.5**	**-1.4**
ABDR	**Alto Bandera**	**1.03**	**80**	⇑*e*Pg	**Pn**	**09 27 23.5**	**-0.2**
ABDR				IAML		09 27 37.6	
	comp=N,38nm,2.9s						
ABDR				⇑*e*Sg	**Sn**	**09 27 37.7**	**+0.3**

*NNC **29** 09:28:35.7±0.8, 50°.83N×73°.65E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=10.9km s-min=7.4km az=32.0, Suspected Mining explosion.*
*IDC **29** 09:28:35.6±0.7, 50°.91N×73°.62E, h0km, mb3.7/2, mbtmp3.6/9, ML3.2/7, Error ellipse: s-maj=14.0km s-min=7.2km az=32.0*
ISC 29 09:28:35.2±0.9, 50°.91N±0°.09×73°.61E±0°.07, h0km, n16, σ1°05/19, 8C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.79**	**198**	⇑Pn	**Pn**	**09 29 21.6**	**+0.5**
	6.8nm,0.3s						
OTUK				⇑Lg	Lg	09 29 58.4	
	54nm,0.8s						
BVA0	**Borovoye Array**	**2.91**	**318**	⇑Pn	**Pn**	**09 29 23.7**	**+1.0**
	7.9nm,0.5s,baz=130,slow=14,SNR=30						
BVA0				⇑Lg	Lg	09 30 10.0	
	54nm,0.9s,baz=139,slow=38,SNR=12						
BVAR	**Borovoye Array**	**2.91**	**318**	Pn	**Pn**	**09 29 23.1**	**+0.4**
	0.9nm,0.3s,baz=132,slow=13,SNR=18						
BVAR				Lg	Lg	09 30 09.7	
	1.4nm,0.3s,baz=134,slow=33,SNR=14						
	4.9nm,0.3s						
BRVK	**Borovoye**	**2.98**	**318**	⇑Pn	**Pn**	**09 29 25.9**	**+2.3**
	9.0nm,0.7s						
BRVK				⇓Lg	Lg	09 30 09.3	
	58nm,0.8s						
KURBB	**Kurchatov Arra**	**3.14**	**93**	Pn	**Pn**	**09 29 26.2**	**+0.3**
	0.7nm,0.3s,baz=278,slow=14,SNR=58						
KURBB				Lg	Lg	09 30 12.3	
	1.3nm,0.3s,baz=279,slow=30,SNR=11						
	4.3nm,0.3s						
KURBB	**Kurchatov Arra**	**3.14**	**93**	⇓Pn	**Pn**	**09 29 26.1**	**+0.3**
	5.0nm,0.3s						
KURBB				⇓Lg	Lg	09 30 12.4	
	54nm,0.7s						
KURK	**Kurchatov**	**3.19**	**91**	⇑Pn	**Pn**	**09 29 26.8**	**+0.3**
	1.5nm,0.4s						
KURK				⇓Lg	Lg	09 30 14.0	
	52nm,0.9s						
MAKZ	**Makanchi**	**6.88**	**123**	⇓Pn	**Pn**	**09 30 19.2**	**+1.9**
	1.1nm,0.5s						
MAKZ				⇓Lg	Lg	09 32 12.0	
	22nm,0.9s						
MK31	**Makanchi Array**	**7.05**	**122**	⇑Pn	**Pn**	**09 30 19.7**	**+0.1**
	0.6nm,0.5s,baz=299,slow=12,SNR=9.2						
MK31				⇑Pg	**Pb**	**09 30 39.9**	**+1.5**
	1.5nm,0.5s,baz=303,slow=13,SNR=5.0						
MK31				Lg	Lg	09 32 17.3	
	11nm,0.7s,baz=317,slow=26,SNR=6.2						
MKAR	**Makanchi Array**	**7.05**	**122**	Pn	**Pn**	**09 30 19.6**	**0.0**
	0.3nm,0.3s,baz=294,slow=10,SNR=6.7						
MKAR				Pg	**Pb**	**09 30 37.2**	**-1.3**
	0.8nm,0.3s,baz=299,slow=19,SNR=8.5						
MKAR				Sn	**Sn**	**09 31 40.2**	**-0.2**
	0.4nm,0.3s,baz=306,slow=20,SNR=3.8						
MKAR				Lg	Lg	09 32 16.1	
	1.0nm,0.3s,baz=310,slow=30,SNR=7.3						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**7.50**	**62**	Pn	**Pn**	**09 30 26.2**	**+0.5**
	0.4nm,0.3s,baz=255,slow=15,SNR=2.5						
	1.0nm,0.4s						
AAK	**Ala-Archa**	**8.29**	**175**	Pn	**Pn**	**09 30 36.7**	**-0.1**
	1.3nm,0.3s,baz=353,slow=2.3,SNR=5.9						
AAK				Lg	Lg	09 32 56.0	
	0.6nm,0.3s,baz=37,slow=20,SNR=4.3						
	2.1nm,0.3s						
AKTO	**Aktyubinsk**	**9.91**	**273**	Pn	**Pn**	**09 30 58.0**	**-0.8**
	0.8nm,0.3s,baz=88,slow=10,SNR=8.5						
	2.1nm,0.4s						
ARTI	**Arti**	**10.56**	**307**	Pn	**Pn**	**09 31 06.8**	**-0.9**
	0.8nm,0.3s,baz=110,slow=11,SNR=5.2						
ARTI				Lg	Lg	09 34 07.6	
	0.4nm,0.3s,baz=34,slow=22,SNR=5.6						
	1.6nm,0.3s						
ARCES	**ARCESS Array B**	**29.16**	**328**	P	**P**	**09 34 38.2**	**+0.7**
	0.9nm,0.8s,baz=106,slow=11,SNR=2.0						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**60.46**	**19**	P	**P**	**09 38 45.0**	**-1.1**
	0.4nm,0.5s,baz=318,slow=5.1,SNR=8.2						
	0.4nm,0.5s						

*MOS **29** 09:34:16.4±0.5, 44°.86N×148°.13E, h96km, mb4.4/1, Error ellipse: s-maj=24.2km s-min=12.6km az=135.3*
*IDC **29** 09:34:17.4±5.2, 44°.78N×148°.22E, h90km±46km, mb3.3/2, mbtmp3.7/4, MS2.5/2, Error ellipse: s-maj=110.4km s-min=32.4km az=143.0*
*SKHL **29** 09:34:18.5±0.4, 44°.70N×148°.00E, h97km±7km, mb5.0/5, msh5.8/4*
ISC 29 09:34:17.3±1.0, 44°.75N±0°.06×148°.19E±0°.08, h96km±8km, n20, σ1°44/33, 4C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.54**	**335**	*c i* PN	**Pn**	**09 34 32.8**	**-0.2**
KUR				*i* S	**Sn**	**09 34 44.3**	**-0.4**
KUR				pmax	pmax		
	comp=E,130nm,0.3s						
KUR				pmax	pmax		
	comp=Z,594nm,0.3s						
KUR				pmax	pmax		
	comp=N,188nm,0.2s						
KUR				smax	smax		
	comp=N,3μm,0.4s						
KUR				smax	smax		
	comp=E,2μm,0.4s						
KUR	**Kuril'sk**	**0.54**	**335**	*i* P	**Pn**	**09 34 33.4**	**+0.4**
KUR				AMB	AMB	09 34 33.5	
	comp=E,760nm,0.3s						
KUR				*i* S	**Sn**	**09 34 44.9**	**+0.2**
KUR				A	A	09 34 45.3	
	comp=E,1μm,0.3s						
KUR				A	A	09 34 45.3	
	comp=E,4μm,0.3s						
SHO	**Shikotan**	**1.31**	**229**	*c i* PN	**Pn**	**09 34 41.3**	**+0.3**
SHO				*i* S	**Sn**	**09 34 58.4**	**-0.5**
SHO				pmax	pmax		
	comp=Z,146nm,0.3s						
SHO				pmax	pmax		
	comp=N,63nm,0.2s						
SHO				pmax	pmax		
	comp=E,64nm,0.2s						
SHO				smax	smax		
	comp=N,478nm,0.2s						
SHO				smax	smax		
	comp=E,735nm,0.2s						
SHO	**Shikotan**	**1.31**	**229**	*i* P	**Pn**	**09 34 41.0**	**0.0**
SHO				AMB	AMB	09 34 41.7	
	comp=E,190nm,0.4s						
SHO				*i* S	**Sn**	**09 34 57.6**	**-1.3**
SHO				A	A	09 34 58.7	
	comp=E,450nm,0.2s						
SHO				A	A	09 34 58.7	
	comp=E,460nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.81**	**248**	*c i* PN	**Pn**	**09 34 47.3**	**0.0**
YUK				*i* S	**Sn**	**09 35 12.5**	**+2.4**
YUK				pmax	pmax		
	comp=N,59nm,0.2s						
YUK				pmax	pmax		
	comp=E,73nm,0.2s						
YUK				pmax	pmax		
	comp=Z,755nm,0.2s						
YUK				smax	smax		
	comp=N,311nm,0.2s						
YUK				smax	smax		
	comp=E,709nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.81**	**248**	*i* P	**Pn**	**09 34 47.6**	**+0.3**
YUK				AMB	AMB	09 34 47.9	
	comp=E,770nm,0.2s						
YUK				*i* S	**Sn**	**09 35 08.1**	**-2.0**
YUK				A	A	09 35 12.9	
	comp=E,370nm,0.3s						
YUK				A	A	09 35 12.9	
	comp=E,500nm,0.3s						
GLVR	**Golovnino**	**2.17**	**243**	*e*PN	**Pn**	**09 34 52.2**	**+0.3**
GLVR				*i* S	**Sn**	**09 35 19.8**	**+1.5**
GLVR				pmax	pmax		
	comp=Z,128nm,0.1s						
GLVR				smax	smax		
	comp=E,558nm,0.3s						
GLVR				smax	smax		
	comp=N,917nm,0.2s						
GLVR	**Golovnino**	**2.17**	**243**	*e*P	**Pn**	**09 34 52.2**	**+0.3**
GLVR				AMB	AMB	09 34 56.2	
	comp=N,130nm,0.1s						
GLVR				*i* S	**Sn**	**09 35 19.8**	**+1.5**
GLVR				A	A	09 35 23.4	
	comp=N,920nm,0.2s						
GLVR				A	A	09 35 23.4	
	comp=N,560nm,0.2s						
RUSJ	**Misakicho**	**2.20**	**254**	*e*PN	**Pn**	**09 34 52.0**	**-0.3**
RUSJ				*i* S	**Sn**	**09 35 23.5**	**+4.4**
NMR	**Nemuro--Hokkai**	**2.24**	**233**	⇑*i*PN	**Pn**	**09 34 52.4**	**-0.5**
NMR				*i* S	**Sn**	**09 35 18.2**	**-1.9**
NMR	**Nemuro--Hokkai**	**2.24**	**233**	*i* P	**Pn**	**09 34 52.4**	**-0.5**
NMR				*i* S	**Sn**	**09 35 18.0**	**-2.1**
AKK	**Akkeshi**	**2.97**	**236**	*e*P	**Pn**	**09 35 02.0**	**-0.6**
AKK				*e*S	**Sn**	**09 35 35.1**	**-2.3**
JKA	**Kamikawa-asahi**	**4.05**	**263**	*e*P	**Pn**	**09 35 17.5**	**+0.4**
ASAJ	**Asahikawa**	**4.05**	**263**	P	**Pn**	**09 35 17.5**	**+0.4**
	comp=N,7.5nm,0.5s,baz=81,slow=28,SNR=11						
YSS	**Yuzhno-Sakhali**	**4.39**	**302**	*e*PN	**Pn**	**09 35 20.6**	**-1.0**
YSS				*e*S	**Sn**	**09 36 09.8**	**-1.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				smax	smax		
	comp=N,20nm,0.6s						
YSS				smax	smax		
	comp=E,20nm,0.8s						
YSS	**Yuzhno-Sakhali**	**4.39**	**302**	*e*P	**Pn**	**09 35 22.1**	**+0.5**
YSS				AMB	AMB	09 35 22.6	
	comp=E,10.0nm,0.5s						
YSS				*e*S	**Sn**	**09 36 09.8**	**-1.8**
YSS				A	A	09 36 11.6	
	comp=E,20nm,0.3s						
YSS				A	A	09 36 11.6	
	comp=E,20nm,0.3s						
PETK	**Petropavlovsk-**	**10.44**	**33**	P	**Pn**	**09 36 43.5**	**-0.4**
	comp=E,2.8nm,0.7s,baz=219,slow=10,SNR=18						
PETK				LR	LR	09 40 28.0	
	comp=E,34nm,19.9s,baz=163,slow=36						
KLR	**Kul'dur**	**12.08**	**298**	LR	LR	09 42 19.6	
	comp=E,18nm,19.7s,baz=100,slow=40						
YKA	**Yellowknife Ar**	**54.56**	**34**	P	**P**	**09 43 35.1**	**+0.1**
	comp=E,0.5nm,0.9s,baz=305,slow=7.2,SNR=7.0						
	comp=E,0.5nm,0.9s						
TXAR	**Lajitas Array**	**81.48**	**57**	P	**P**	**09 46 25.0**	**+0.9**
	comp=E,0.4nm,0.5s,baz=297,slow=4.3,SNR=9.0						
	comp=E,0.4nm,0.5s						

*IDC **29** 09:35:08.3±0.9, 35°.74N×27°.14E, h0km, mb3.9/14, mbtmp3.8/22, ML3.7/8, Error ellipse: s-maj=19.7km s-min=13.5km az=3.0*
*ATH **29** 09:35:09.6, 35°.76N×27°.17E, h15km±4km, ML3.5/4, Manual Solution by A.Moschou First location: 2019/04/29 09:35:40, This location: 2019/04/29 09:44:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 3 km*
*THE **29** 09:35:10.2, 35°.75N×27°.17E, h4km±1km, ML3.4/6, Error ellipse: s-maj=1.4km s-min=0.4km az=163.0*
*ISK **29** 09:35:10.2, 35°.76N×27°.16E, h6km, ML3.6/17*
*NIC **29** 09:35:10.1, 35°.35N×27°.14E, h13km±3km, Ml3.6/10*
*AFAD **29** 09:35:11.9, 35°.83N×27°.15E, h6km±3km, MW3.7*
*GII **29** 09:35:13.8±0.0, 35°.516N±0°.004×27°.439E±0°.001, h8km, Mws3.6, confirmed*
ISC 29 09:35:10.3±0.8, 35°.76N±0°.02×27°.20E±0°.02, h13km±5km, n113, σ1°23/162, mb3.8/14, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.21**	**189**	P	**Pg**	**09 35 14.4**	**-0.5**
KARP				S	**Sg**	**09 35 18.1**	**+0.1**
	37μm,0.8s						
KARP	**Karpathos**	**0.21**	**189**	Pg	**Pg**	**09 35 14.6**	**-0.3**
KARP				Sg	**Sg**	**09 35 18.7**	**+0.7**
KARP	**Karpathos**	**0.21**	**189**	P	**Pg**	**09 35 14.4**	**-0.5**
KARP				S	**Sg**	**09 35 18.6**	**+0.5**
KARP				AML	AML	09 35 19.4	
	62nm,0.9s						
KARP				AML	AML	09 35 22.3	
	84nm,0.7s						
KARP	**Karpathos**	**0.21**	**189**	P	**Pg**	**09 35 14.3**	**-0.6**
KARP				S	**Sg**	**09 35 18.9**	**+0.9**
NISR	**Nisiros**	**0.86**	**356**	P	**Pb**	**09 35 27.0**	**0.0**
NISR				S	**Sn**	**09 35 39.6**	**-0.9**
	3μm,0.8s						
ARG	**Arkhangelos**	**0.88**	**58**	P	**Pg**	**09 35 27.3**	**0.0**
ARG				S	**Sn**	**09 35 41.3**	**+0.2**
	6μm,0.5s						
ARG	**Arkhangelos**	**0.88**	**58**	Pg	**Pg**	**09 35 27.2**	**0.0**
ARG				Sg	**Sn**	**09 35 41.3**	**+0.2**
ARG	**Arkhangelos**	**0.88**	**58**	P	**Pg**	**09 35 27.1**	**-0.2**
ARG				AML	AML	09 35 44.0	
	10nm,0.5s						
ARG				AML	AML	09 35 47.3	
	12nm,0.5s						
ARG	**Arkhangelos**	**0.88**	**58**	P	**Pg**	**09 35 27.2**	**0.0**
ARG				S	**Sb**	**09 35 39.6**	**+0.5**
YAZI	**Mula-Dat§a-**	**0.95**	**12**	P	**Pg**	**09 35 28.1**	**-0.5**
YAZI				S	**Sn**	**09 35 41.7**	**-1.0**
YAZI				*i* AML	AML	09 35 44.0	
	comp=E,790nm,1.0s						
DAT	**Datca**	**1.02**	**17**	Pg	**Pn**	**09 35 30.2**	**-0.2**
DAT				Sg	**Sn**	**09 35 45.1**	**+0.4**
ZKR	**Zakros**	**1.03**	**232**	P	**Pg**	**09 35 29.1**	**-1.0**
ZKR				S	**Sg**	**09 35 43.5**	**+0.1**
	2μm,0.5s						
ZKR	**Zakros**	**1.03**	**232**	Pg	**Pg**	**09 35 29.8**	**-0.2**
ZKR	**Zakros**	**1.03**	**232**	P	**Pg**	**09 35 29.8**	**-0.2**
ASTA	**Astypalaia**	**1.04**	**319**	P	**Pg**	**09 35 29.3**	**-1.1**
ASTA				S	**Sb**	**09 35 43.3**	**-0.5**
BODT	**Bodrum**	**1.31**	**4**	Pn	**Pg**	**09 35 35.1**	**-0.3**
BDRM	**Kayabasi**	**1.32**	**9**	P	**Pn**	**09 35 34.2**	**-0.4**
BDRM				S	**Sb**	**09 35 49.8**	**-2.1**
BDRM				*i* AML	AML	09 35 56.0	
	comp=E,301nm,0.5s						
TURN	**Turunc**	**1.32**	**39**	P	**Pn**	**09 35 34.6**	**+0.1**
TURN				S	**Sb**	**09 35 51.7**	**-0.1**
TURN				*i* AML	AML	09 36 00.0	
	comp=E,498nm,1.1s						
YKAV	**Yalikavak-Bodr**	**1.37**	**3**	Pn	**Pg**	**09 35 36.5**	**-0.1**
THR8	**Santorini-Mono**	**1.54**	**295**	P	**Pn**	**09 35 36.5**	**-0.9**
THR6	**Thira Island,**	**1.58**	**293**	P	**Pn**	**09 35 37.5**	**-0.5**
DALY	**Dalyan (Mula)**	**1.58**	**48**	Pn	**Pb**	**09 35 39.6**	**+0.2**
THR3	**Thira Island,**	**1.60**	**295**	P	**Pn**	**09 35 37.3**	**-0.9**
THR3	**Thira Island,**	**1.60**	**295**	P	**Pn**	**09 35 38.1**	**-0.1**
SNT5	**Nea Kammeni, S**	**1.60**	**294**	P	**Pn**	**09 35 37.8**	**-0.5**
MLSB	**Milas**	**1.60**	**17**	Pn	**Pb**	**09 35 40.1**	**+0.3**
THR9	**Santorini-Faro**	**1.61**	**292**	P	**Pn**	**09 35 37.1**	**-1.3**
CMBO	**Columbo, Santo**	**1.62**	**297**	P	**Pn**	**09 35 38.1**	**-0.4**
YER	**Yerkesik**	**1.63**	**32**	Pn	**Pb**	**09 35 39.5**	**-0.8**
DDIM	**Aydin, Didim**	**1.70**	**1**	P	**Pb**	**09 35 41.0**	**-0.3**
DDIM				S	**Sg**	**09 36 06.8**	**+1.9**
DDIM				*i* AML	AML	09 36 22.0	
	comp=E,405nm,1.2s						
MULA	**Mugla, Merkez-**	**1.75**	**31**	P	**Pb**	**09 35 41.4**	**-0.9**
MULA				S	**Sn**	**09 36 03.1**	**+0.5**
MULA				*i* AML	AML	09 36 12.0	
	comp=E,328nm,0.6s						
FETY	**Fethiye**	**1.76**	**60**	Pn	**Pb**	**09 35 42.5**	**+0.1**
FETY	**Fethiye**	**1.76**	**60**	P	**Pg**	**09 35 44.9**	**+0.9**
FETY				S	**Sg**	**09 36 07.6**	**+0.7**
IZZE	**Mula-Seydike**	**1.78**	**67**	P	**Pb**	**09 35 42.4**	**-0.3**
IZZE				S	**Sb**	**09 36 06.2**	**+1.3**
IZZE				*i* AML	AML	09 36 18.0	
	comp=E,388nm,0.5s						
SABU	**Mula-Dalaman**	**1.78**	**53**	P	**Pb**	**09 35 43.1**	**+0.3**
SABU				S	**Sb**	**09 36 06.0**	**+0.8**
SABU				*i* AML	AML	09 36 16.0	
	comp=N,312nm,0.9s						
IDI	**Anoyia**	**1.94**	**257**	P	**Pn**	**09 35 42.3**	**-0.8**
IDI				S	**Sn**	**09 36 07.4**	**0.0**
	340nm,0.6s						
IDI	**Anoyia**	**1.94**	**257**	Pn	**Pn**	**09 35 43.6**	**+0.5**
IDI	**Anoyia**	**1.94**	**257**	Pn	**Pn**	**09 35 42.8**	**-0.3**
	9.2nm,0.3s,baz=82,slow=8.5,SNR=38						
IDI				Sn	**Sn**	**09 36 08.2**	**+0.8**
	41nm,0.3s,baz=237,slow=20,SNR=12						
IDI	**Anoyia**	**1.94**	**257**	P	**Pn**	**09 35 43.0**	**-0.1**
IDI				S	**Sn**	**09 36 05.6**	**-1.8**
KSL	**Kastellorizon**	**1.97**	**78**	P	**Pn**	**09 35 43.5**	**+0.1**
KSL				S	**Sn**	**09 36 08.8**	**+0.7**
	378nm,1.0s						
KSL	**Kastellorizon**	**1.97**	**78**	P	**Pb**	**09 35 45.7**	**-0.4**
KSL				S	**Sg**	**09 36 12.9**	**-0.8**
KSL				AML	AML	09 36 26.3	
	0.7nm,0.8s						
KSL				AML	AML	09 36 34.2	
	0.8nm,0.8s						
KSL	**Kastellorizon**	**1.97**	**78**	P	**Pn**	**09 35 43.4**	**-0.1**
KSL				S	**Sn**	**09 36 07.6**	**-0.4**
AYDN	**Tasoluk**	**1.98**	**16**	P	**Pb**	**09 35 46.3**	**+0.1**
AYDN				S	**Sb**	**09 36 10.6**	**-0.2**
AYDN				*i* AML	AML	09 36 21.0	
	comp=N,226nm,1.3s						
**AKA

ELL	**Elmali**	**2.40**	**65**	P	**Pn**	**09 35 50.1**	**+0.6**
APMY	**Acipayam-Deniz**	**2.41**	**44**	Pn	**Pb**	**09 35 51.8**	**-1.7**
GOLH	**Golhisar**	**2.41**	**51**	P	**Pb**	**09 35 52.5**	**-1.1**
GOLH				S	**Sg**	**09 36 25.8**	**-1.9**
GOLH				*i* AML	AML	09 36 32.0	
	comp=N,643nm,0.9s						
IZMR	**zmir-demi**	**2.45**	**14**	P	**Pb**	**09 35 52.3**	**-1.9**
IZMR				S	**Sg**	**09 36 30.1**	**+1.1**
IZMR				*i* AML	AML	09 36 40.0	
	comp=E,93nm,0.8s						
KIRA	**zmir-Kiraz**	**2.62**	**21**	P	**Pn**	**09 35 53.0**	**+0.6**
KIRA				S	**Sn**	**09 36 22.8**	**-1.4**
KIRA				*i* AML	AML	09 37 00.0	
	comp=N,77nm,1.3s						
IMMV	**Iera Moni Meta**	**2.64**	**265**	Pn	**Pn**	**09 35 53.8**	**+1.2**
IMMV	**Iera Moni Meta**	**2.64**	**265**	P	**Pn**	**09 35 52.2**	**-0.4**
GVD	**Gavdhos**	**2.71**	**251**	Pn	**Pn**	**09 35 55.7**	**+2.2**
INCE	**Denizli-Bozkur**	**2.73**	**44**	P	**Pn**	**09 35 55.7**	**+1.8**
INCE				S	**Sb**	**09 36 30.7**	**-1.8**
INCE				*i* AML	AML	09 36 44.0	
	comp=E,163nm,1.1s						
KNDR	**Palaiochora Ch**	**2.91**	**261**	Pn	**Pn**	**09 35 59.1**	**+2.7**
BRDR	**BURDUR-Merkez**	**3.01**	**49**	P	**Pn**	**09 36 00.1**	**+2.4**
BRDR				S	**Sb**	**09 36 37.9**	**-2.6**
BRDR				*i* AML	AML	09 37 00.0	
	comp=N,94nm,0.8s						
PASA	**Karahalli, USA**	**3.17**	**35**	P	**Pn**	**09 36 00.6**	**+0.6**
PASA				S	**Sn**	**09 36 40.6**	**+2.9**
PASA				*i* AML	AML	09 37 06.0	
	comp=E,34nm,1.1s						
VLY	**Voula,Athens**	**3.44**	**308**	P	**Pn**	**09 36 03.5**	**-0.1**
AKMS	**Akamas**	**4.26**	**98**	P	**Pn**	**09 36 15.5**	**+0.6**
AKMS				S	**Sn**	**09 37 06.9**	**+2.4**
AKMS				AML	AML	09 37 07.3	
	0.3nm,0.8s						
AKMS				AML	AML	09 37 12.4	
	0.4nm,0.5s						
ALFC	**Alefka**	**4.45**	**96**	P	**Pn**	**09 36 18.1**	**+0.6**
ALFC				S	**Sn**	**09 37 10.7**	**+1.5**
ALFC				AML	AML	09 37 14.9	
	0.5nm,0.7s						
ALFC				AML	AML	09 37 17.6	
	0.2nm,0.5s						
TROD	**Troodos**	**4.70**	**98**	P	**Pn**	**09 36 21.8**	**+0.7**
TROD				S	**Sn**	**09 37 17.2**	**+1.5**
TROD				AML	AML	09 37 28.5	
	0.2nm,0.9s						
TROD				AML	AML	09 37 29.7	
	0.2nm,0.7s						
ASGA	**Asgata**	**5.04**	**99**	P	**Pn**	**09 36 26.3**	**+0.7**
ASGA				S	**Sn**	**09 37 25.2**	**+1.4**
ASGA				AML	AML	09 37 33.1	
	0.1nm,0.5s						
ASGA				AML	AML	09 37 38.6	
	0.2nm,1.0s						
CSS	**Mathiatis**	**5.07**	**97**	P	**Pn**	**09 36 26.4**	**+0.3**
CSS				S	**Sn**	**09 37 27.6**	**+3.1**
CSS				AML	AML	09 37 31.2	
	0.2nm,0.5s						
CSS				AML	AML	09 37 35.1	
	0.1nm,0.5s						
CSS	**Mathiatis**	**5.07**	**97**	P	**Pn**	**09 36 26.3**	**+0.3**
MVOU	**Mavrovouni**	**5.31**	**96**	P	**Pn**	**09 36 30.2**	**+0.9**
MVOU				S	**Sn**	**09 37 32.6**	**+2.4**
MVOU				AML	AML	09 37 36.3	
	0.1nm,0.6s						
MVOU				AML	AML	09 37 40.5	
	0.1nm,0.6s						
BRTR	**Keskin Array B**	**6.46**	**50**	Pn	**Pn**	**09 36 47.2**	**+2.0**
	0.7nm,0.3s,baz=239,slow=16,SNR=8.3						
	1.8nm,0.4s						
MMA0B	**Mount Meron ar**	**7.31**	**110**	P	**Pn**	**09 36 58.0**	**+1.2**
MMA0B	**Mount Meron ar**	**7.31**	**110**	S	**Sn**	**09 38 18.9**	**-0.9**
MMAI	**Mount Meron Ar**	**7.31**	**110**	Pn	**Pn**	**09 36 56.2**	**-0.7**
	2.8nm,0.3s,baz=310,slow=13,SNR=6.0						
MMAI				Sn	**Sn**	**09 38 19.3**	**-0.5**
	5.0nm,0.3s,baz=296,slow=28,SNR=8.4						
	1.3nm,0.3s						
GEM	**Giv'at Ha'Em**	**7.43**	**108**	P	**Pn**	**09 36 58.7**	**+0.2**
GEM	**Giv'at Ha'Em**	**7.43**	**108**	S	**Sn**	**09 38 21.2**	**-1.6**
KZIT	**Kziot**	**7.72**	**127**	P	**Pn**	**09 37 02.9**	**+0.5**
KZIT	**Kziot**	**7.72**	**127**	S	**Sn**	**09 38 26.2**	**-3.7**
HMDT	**Nahal Hemdat**	**7.75**	**114**	P	**Pn**	**09 37 03.6**	**+0.8**
YTIR	**Yattir**	**7.93**	**121**	P	**Pn**	**09 37 05.4**	**0.0**
YTIR	**Yattir**	**7.93**	**121**	S	**Sn**	**09 38 32.7**	**-2.3**
DSI	**Dead Sea**	**7.99**	**119**	P	**Pn**	**09 37 06.9**	**+0.7**
MSBI	**Mazada**	**8.12**	**121**	P	**Pn**	**09 37 08.6**	**+0.7**
GHAJ	**Ghor Haditha**	**8.28**	**120**	P	**Pn**	**09 37 11.3**	**+1.3**
KRMI	**Paran Flat**	**8.46**	**130**	P	**Pn**	**09 37 12.9**	**+0.2**
PRNI	**Paran**	**8.48**	**127**	P	**Pn**	**09 37 13.0**	**+0.1**
PRNI	**Paran**	**8.48**	**127**	S	**Sn**	**09 38 45.7**	**-2.8**
HRFI	**Mount Harif**	**8.71**	**129**	P	**Pn**	**09 37 15.9**	**-0.2**
HRFI	**Mount Harif**	**8.71**	**129**	S	**Sn**	**09 38 51.2**	**-3.0**
MBRI	**Mt Berech**	**8.80**	**130**	P	**Pn**	**09 37 18.0**	**+0.6**
EIL	**Elat**	**8.91**	**131**	Pn	**Pn**	**09 37 18.9**	**+0.1**
	1.2nm,0.3s,baz=266,slow=1.5,SNR=8.9						
EIL				Sn	**Sn**	**09 38 54.5**	**-4.5**
	1.6nm,0.3s,baz=25,slow=15,SNR=7.5						
	2.7nm,0.4s						
EIL	**Elat**	**8.91**	**131**	P	**Pn**	**09 37 19.1**	**+0.3**
EIL	**Elat**	**8.91**	**131**	S	**Sn**	**09 38 56.7**	**-2.4**
MLR	**Muntele Rosu**	**9.77**	**355**	Pn	**Pn**	**09 37 33.4**	**+2.8**
	0.1nm,0.3s,baz=184,slow=9.4,SNR=4.2						
	1.4nm,0.5s						
KBZ	**Khabaz**	**14.45**	**52**	Pn	**P**	**09 38 39.9**	**-1.3**
	0.1nm,0.3s,baz=238,slow=4.2,SNR=6.0						
	3.0nm,1.0s						
AKASG	**Malin Array Be**	**15.01**	**5**	Pn	**Pn**	**09 38 43.0**	**+0.9**
	1.2nm,0.3s,baz=194,slow=11,SNR=4.8						
	0.2nm,0.3s						
VRAC	**Vranov**	**15.62**	**333**	Pn	**Pn**	**09 38 50.9**	**+0.8**
	0.3nm,0.3s,baz=156,slow=7.9,SNR=4.2						
	4.6nm,0.6s						
GERES	**GERESS Array B**	**16.42**	**327**	Pn	**Pn**	**09 39 01.0**	**+0.5**
	baz=125,slow=11,SNR=8.1						
	0.9nm,0.6s						
ESDC	**Sonseca Array**	**24.89**	**288**	P	**P**	**09 40 31.6**	**-1.3**
	1.5nm,0.8s,baz=76,slow=9.3,SNR=10						
	1.5nm,0.8s						
FINES	**FINESS Array B**	**25.72**	**359**	P	**P**	**09 40 38.9**	**-1.2**
	1.1nm,0.5s,baz=156,slow=10.0,SNR=8.1						
	1.1nm,0.5s						
HFS	**Hagfors**	**25.91**	**344**	P	**P**	**09 40 41.3**	**-0.6**
	0.6nm,0.5s,baz=144,slow=13,SNR=4.4						
	0.6nm,0.5s						
AKTO	**Aktyubinsk**	**26.63**	**47**	P	**P**	**09 40 48.3**	**-0.2**
	2.6nm,0.9s,baz=236,slow=5.9,SNR=5.9						
	2.6nm,0.9s						
EKA	**Eskdalemuir Ar**	**28.54**	**323**	P	**P**	**09 41 07.2**	**+1.6**
	1.1nm,0.8s,baz=148,slow=4.9,SNR=3.6						
	1.1nm,0.8s						
ARCES	**ARCESS Array B**	**33.85**	**359**	P	**P**	**09 41 50.6**	**-1.4**
	1.5nm,0.7s,baz=170,slow=8.6,SNR=11						
ARCES				PcP	**PcP**	**09 44 29.1**	**-1.5**
	1.7nm,1.0s,baz=177,slow=2.4,SNR=3.8						
	1.5nm,0.7s						
BVAR	**Borovoye Array**	**34.73**	**47**	P	**P**	**09 42 00.3**	**+0.4**
	0.5nm,0.3s,baz=299,slow=10.0,SNR=4.1						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**39.45**	**52**	P	**P**	**09 42 40.3**	**+0.2**
	1.6nm,0.8s,baz=277,slow=8.9,SNR=8.9						
KURBB				PcP	**PcP**	**09 44 48.2**	**+0.4**
	1.1nm,0.8s,baz=265,slow=4.0,SNR=7.9						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**42.05**	**57**	P	**P**	**09 43 02.3**	**+0.7**
	0.6nm,0.7s,baz=264,slow=3.3,SNR=5.3						
MKAR				PcP	**PcP**	**09 44 57.3**	**+0.9**
	0.6nm,0.5s,baz=208,slow=2.3,SNR=4.6						
	0.6nm,0.7s						
SPITS	**Spitsbergen Ar**	**42.78**	**357**	P	**P**	**09 43 07.6**	**+0.4**
	1.4nm,0.6s,baz=137,slow=10,SNR=6.4						
	1.4nm,0.6s						
SONM	**Songino Array**	**57.82**	**51**	P	**P**	**09 45 02.6**	**+1.1**
	0.4nm,0.4s,baz=293,slow=7.6,SNR=3.6						
	0.4nm,0.4s						
KSRS	**Korea Array**	**76.59**	**53**	P	**P**	**09 47 01.2**	**+0.6**
	2.3nm,0.9s,baz=290,slow=4.7,SNR=8.1						
	2.3nm,0.9s						
ILAR	**Eielson Array**	**79.70**	**357**	P	**P**	**09 47 16.8**	**-0.6**
	0.3nm,0.8s,baz=338,slow=4.0,SNR=4.3						
	0.3nm,0.8s						
MJAR	**Matsushiro Arr**	**83.68**	**49**	P	**P**	**09 47 39.9**	**+0.9**
	1.9nm,0.9s,baz=322,slow=4.4,SNR=4.5						
	1.9nm,0.9s						

NNC ***29*** *09:38:55.0±0.7, 43°.13N×78°.22E, h7km±4km, mb3.2, mpv3.0, Error ellipse: s-maj=5.2km s-min=3.7km az=179.0*
SOME ***29*** *09:38:55.9, 43°.15N×78°.22E, h15km*

ISC 29 09:38:55.3±1.1, 43°.14N±0°.05×78°.24E±0°.02, h16km±10km, n12, σ0°.24/24, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.15**	**79**	P	**Pb**	**09 38 59.9**	**+0.1**
	9.5nm,0.1s						
ZHN				S	**Sb**	**09 39 02.8**	**+0.1**
	149nm,0.2s						
ZHN	**Zhinishke**	**0.15**	**79**	*e*P	**Pb**	**09 38 59.9**	**+0.1**
	9.5nm,0.1s						
ZHN				*e*S	**Sb**	**09 39 02.8**	**+0.1**
	149nm,0.2s						
KURS	**Kuram**	**0.35**	**352**	P	**Pb**	**09 39 03.2**	**-0.1**
	13nm,0.1s						
KURS				S	**Sb**	**09 39 08.5**	**-0.1**
	29nm,0.2s						
UZB	**Uzynbulak**	**0.57**	**89**	P	**Pg**	**09 39 06.7**	**0.0**
	3.2nm,0.1s						
UZB				S	**Sg**	**09 39 14.3**	**-0.1**
	39nm,0.1s						
UZB	**Uzynbulak**	**0.57**	**89**	*e*P	**Pg**	**09 39 06.7**	**0.0**
	3.2nm,0.1s						
UZB				*e*S	**Sg**	**09 39 14.3**	**-0.1**
	39nm,0.1s						
KOTS	**Kotyrbulak**	**0.83**	**277**	*e*P	**Pg**	**09 39 11.7**	**+0.2**
	3.9nm,0.2s						
KOTS				*e*S	**Sg**	**09 39 23.0**	**+0.6**
	16nm,0.2s						
TNSS	**Tian-Shan**	**0.95**	**264**	P	**Pb**	**09 39 13.4**	**-0.3**
	1.5nm,0.1s						
TNSS				S	**Sg**	**09 39 26.2**	**-0.1**
	1.7nm,0.2s						
TNSS	**Tian-Shan**	**0.95**	**264**	*e*P	**Pb**	**09 39 13.4**	**-0.3**
	1.5nm,0.1s						
TNSS				*e*S	**Sg**	**09 39 26.2**	**-0.1**
	1.7nm,0.2s						
BLB	**Baldybastay**	**0.97**	**10**	P	**Pb**	**09 39 14.0**	**+0.2**
	17nm,0.2s						
BLB				S	**Sg**	**09 39 27.0**	**+0.1**
	10nm,0.2s						
ARXS	**Arharly**	**1.11**	**345**	P	**Pn**	**09 39 16.5**	**+0.2**
	2.7nm,0.2s						
ARXS				S	**Sn**	**09 39 31.2**	**-0.2**
	7.2nm,0.2s						
KTBS	**Karatobe**	**1.27**	**297**	P	**Pb**	**09 39 19.2**	**+0.3**
	2.5nm,0.2s						
KTBS				S	**Sg**	**09 39 35.8**	**-0.5**
	8.4nm,0.4s						
KNOS	**Konyrlen**	**1.40**	**29**	P	**Pg**	**09 39 21.9**	**-0.3**
	1.9nm,0.1s						
KNOS				S	**Sg**	**09 39 40.4**	**0.0**
	7.2nm,0.3s						

IDC ***29*** *09:38:51.5±1.9, 6°.17S×124°.15E, h0km, mb3.4/1, mbtmp3.5/5, ML3.6/4, Error ellipse: s-maj=56.1km s-min=22.9km az=48.0*
DJA ***29*** *09:38:57.4±1.2, 6°.S±3°×12°.4E±°, h28km±14km, M3.8/9, MLv3.8/9*

ISC 29 09:38:56.4±1.0, 6°.06S±0°.07×124°.08E±0°.06, h35km, n12, σ1°.54/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**1.61**	**291**	P	**Pn**	**09 39 22.6**	**+0.3**
BBSI				S	**Sn**	**09 39 42.2**	**+0.3**
EDFI	**Ende, Flores**	**3.57**	**222**	P	**Pn**	**09 39 51.4**	**+2.0**
EDFI				S	**Sn**	**09 40 33.7**	**+3.2**
BSSI	**Bau Bau, Buton**	**3.58**	**269**	P	**Pn**	**09 39 49.6**	**+0.2**
BSSI				S	**Sn**	**09 40 30.7**	**+0.3**
BKSI	**Bulukumba**	**4.01**	**280**	P	**Pn**	**09 39 55.2**	**-0.1**
BKSI				S	**Sn**	**09 40 41.3**	**+0.1**
NLAI	**Namlea**	**4.11**	**47**	P	**Pn**	**09 39 58.5**	**+1.8**
BNSI	**Bone**	**4.29**	**292**	P	**Pn**	**09 40 00.0**	**+0.8**
BNSI				S	**Sn**	**09 40 48.1**	**0.0**
KAPI	**Kappang**	**4.44**	**283**	Pn	**Pn**	**09 40 02.8**	**+1.6**
	8.3nm,0.3s,baz=113,slow=7.1,SNR=6.8						
KAPI				Sn	**Sn**	**09 40 52.9**	**+1.2**
	3.8nm,0.3s,baz=24,slow=22,SNR=9.9						
	22nm,0.4s						
SPSI	**Sidrap Palu**	**4.78**	**296**	P	**Pn**	**09 40 05.9**	**0.0**
FITZ	**Fitzroy Crossi**	**12.06**	**173**	Pn	**Pn**	**09 41 43.3**	**-2.5**
	0.3nm,0.3s,baz=18,slow=7.8,SNR=6.1						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**17.02**	**145**	Pn	**Pn**	**09 42 50.2**	**-1.6**
	0.2nm,0.3s,baz=323,slow=12,SNR=9.4						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**19.89**	**153**	P	**P**	**09 43 23.1**	**-1.8**
	0.1nm,0.3s,baz=325,slow=11,SNR=16						
	0.5nm,1.0s						
MKAR	**Makanchi Array**	**64.33**	**329**	P	**P**	**09 49 29.6**	**+1.1**
	0.2nm,0.4s,baz=126,slow=7.3,SNR=2.6						
	0.2nm,0.4s						

VIE 29 09:50:24.6±0.2, 49°.03N×14°.05E, h0km, mb1.9/3, ml1.9/3, Error ellipse: s-maj=2.1km s-min=1.5km az=28.0 43 km N of Ãigen im Muehlkreis Suspected Mining explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOA	**Molln**	**1.20**	**173**	*i* Pg	Pb	09 50 48.0	-0.1
	0.6nm,0.1s						
MOA				*e*Sg	Sb	09 51 04.1	0.0
	0.8nm,0.1s						
BIOA	**Bad Ischl, Aus**	**1.37**	**192**	*i* Pg	Pg	09 50 50.9	+0.1
	3.0nm,0.2s						
BIOA				*e*Sg	Sn	09 51 10.5	+0.6
	3.3nm,0.2s						
KRUC	**Moravsky**	**1.55**	**88**	*e*PG	Pb	09 50 54.0	-0.1
KRUC				*e*SG	Sn	09 51 14.1	0.0
CONA	**Conrad Observa**	**1.64**	**132**	*i* Pg	Pb	09 50 55.5	-0.2
	0.2nm,0.1s						
CONA				*e*Sg	Sb	09 51 17.0	0.0
	0.9nm,0.2s						
VRAC	**Vranov**	**1.69**	**80**	*e*PG	Pb	09 50 56.4	-0.2
VRAC				*e*SG	Sn	09 51 17.8	0.0

WBNET 29 09:51:15.6, 50°.26N×12°.45E, h10km, MI0.7, 5C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**180**	⇓P	Pg	09 51 17.5	+0.1
NKC				S	Sg	09 51 18.8	+0.1
LBCW	**Luby**	**0.03**	**295**	⇓P	Pg	09 51 17.6	+0.1
LBCW				S	Sg	09 51 18.9	+0.2
STCW	**Studenec**	**0.05**	**85**	⇓P	Pg	09 51 17.7	+0.1
STCW				S	Sg	09 51 19.0	-0.1
VAC	**Vackov**	**0.05**	**246**	⇓P	Pg	09 51 17.7	0.0
VAC				S	Sg	09 51 19.0	-0.1
KVC	**Kvetna**	**0.07**	**139**	⇓P	Pg	09 51 17.8	+0.1
KVC				S	Sg	09 51 19.3	-0.1
POCW	**Potky**	**0.07**	**348**	⇓P	Pg	09 51 17.9	+0.1
POCW				S	Sg	09 51 19.5	+0.1
KRCW	**Kraslice**	**0.09**	**35**	⇑P	Pg	09 51 18.2	0.0
KRCW				S	Sg	09 51 19.9	-0.1
SKC	**Skalna**	**0.10**	**213**	⇑P	Pg	09 51 18.3	+0.1
SKC				S	Sg	09 51 20.1	0.0
KOCW	**Kopaniny**	**0.14**	**274**	⇑P	Pg	09 51 18.8	0.0
KOCW				S	Sg	09 51 20.9	-0.1
TRCW	**Trojmez**	**0.20**	**284**	⇑P	Pg	09 51 19.8	0.0
TRCW				S	Sg	09 51 22.6	-0.1
ZHC	**Zelena Hora**	**0.20**	**206**	⇑P	Pg	09 51 20.0	+0.1
ZHC				S	Sg	09 51 22.8	0.0

KRSC ***29*** *09:53:45.4±0.9, 53°.10N×160°.09E, h60km±9km, Mc3.7, Ml4.7, Felt [IV-V] at kordon Cape Nalichevo; [IV] at cape Shipunskiy; [II-III] at Petropavlovsk, river Karimshina (stationary KF GS); [II] at Ribachiy; [I-II] at Elizovo.*
MOS ***29*** *09:53:46.5±1.1, 53°.13N×159°.90E, h73km, mb4.7/8, Error ellipse: s-maj=7.9km s-min=4.0km az=81.3*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
IDC ***29*** *09:53:48.2±0.6, 53°.34N×159°.89E, h66km±5km, mb3.8/23, mbtmp4.1/27, MS3.0/18, Error ellipse: s-maj=16.2km s-min=6.2km az=165.0*
NEIC ***29*** *09:53:49.9±1.4, 53°.3N±0°.2×159°.7E±0°.1, h75km±10km, mb4.3/49, Error ellipse: s-maj=25.4km s-min=10.9km az=170.0*

ISC 29 09:53:47.3±0.5, 53°.15N±0°.03×159°.97E±0°.03, h61km±4km, n206, σ1°.44/230, mb4.2/53, 2C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.06**	**148**	PN	**Pn**	**09 53 56.0**	**-0.3**
SPN				S	**Sn**	**09 54 02.2**	**-0.6**
SPN	**Mys Shipunski**	**0.06**	**148**	*e*P	**Pn**	**09 53 56.0**	**-0.3**
SPN				*e*S	**Sn**	**09 54 02.2**	**-0.6**
NLC	**Nalytchevo**	**0.38**	**274**	PN	**Pn**	**09 53 58.1**	**+0.1**
NLC				S	**Sn**	**09 54 05.9**	**0.0**
NLC	**Nalytchevo**	**0.38**	**274**	*e*P	**Pn**	**09 53 58.2**	**+0.1**
NLC				*e*S	**Sn**	**09 54 05.9**	**0.0**
SDLR	**Sedlovina**	**0.67**	**282**	PN	**Pn**	**09 54 01.5**	**+0.2**
SDLR	**Sedlovina**	**0.67**	**282**	*e*P	**Pn**	**09 54 01.5**	**+0.2**
UGLR	**Uglovaya**	**0.69**	**276**	PN	**Pn**	**09 54 02.1**	**+0.5**
UGLR	**Uglovaya**	**0.69**	**276**	*e*P	**Pn**	**09 54 02.2**	**+0.5**
DALK	**Dalny**	**0.74**	**262**	PN	**Pn**	**09 54 02.0**	**-0.1**
DALK				S	**Sn**	**09 54 12.8**	**-0.1**
DALK	**Dalny**	**0.74**	**262**	*e*P	**Pn**	**09 54 02.0**	**-0.1**
DALK				*e*S	**Sn**	**09 54 12.8**	**-0.1**
AVH	**Avacha**	**0.75**	**280**	PN	**Pn**	**09 54 02.8**	**+0.6**
AVH				S	**Sn**	**09 54 13.6**	**+0.4**
AVH	**Avacha**	**0.75**	**280**	*e*P	**Pn**	**09 54 02.9**	**+0.6**
AVH				*e*S	**Sn**	**09 54 13.7**	**+0.4**
KRER	**Koryakskii**	**0.75**	**283**	PN	**Pn**	**09 54 02.7**	**+0.3**
KRER	**Koryakskii**	**0.75**	**283**	*e*P	**Pn**	**09 54 02.8**	**+0.3**
PET	**Petropavlovsk**	**0.81**	**262**		**Pn**	**09 54 03.0**	**+0.2**
PET	**Petropavlovsk**	**0.81**	**262**	⇓*i*PN	**Pn**	**09 54 03.0**	**+0.2**
PET				*e*S	**Sn**	**09 54 13.9**	**-0.4**
PET				pmax	pmax		
	comp=Z,2μm,0.3s						
PET				smax	smax		
	comp=E,10μm,0.5s						
PET				smax	smax		
	comp=N,5μm,0.4s						
PET	**Petropavlovsk**	**0.81**	**262**	*e*P	**Pn**	**09 54 02.9**	**+0.2**
PET				*e*S	**Sn**	**09 54 14.2**	**-0.1**
KOK	**Koryaka**	**0.82**	**281**	PN	**Pn**	**09 54 03.3**	**+0.2**
KOK	**Koryaka**	**0.82**	**281**	*e*P	**Pn**	**09 54 03.4**	**+0.2**
KRX	**Arik**	**0.82**	**286**	PN	**Pn**	**09 54 03.3**	**+0.1**
KRX	**Arik**	**0.82**	**286**	*e*P	**Pn**	**09 54 03.3**	**+0.1**
INSR	**Institute**	**0.83**	**265**	PN	**Pn**	**09 54 03.3**	**+0.2**
INSR				S	**Sn**	**09 54 15.0**	**+0.2**
INSR	**Institute**	**0.83**	**265**	*e*P	**Pn**	**09 54 03.4**	**+0.2**
INSR				*e*S	**Sn**	**09 54 15.0**	**+0.2**
KII	**Karymskiy**	**0.95**	**341**	PN	**Pn**	**09 54 05.1**	**+0.4**
KII				S	**Sn**	**09 54 17.7**	**+0.1**
KII	**Karymskiy**	**0.95**	**341**	*e*P	**Pn**	**09 54 05.2**	**+0.4**
KII				*e*S	**Sn**	**09 54 17.8**	**+0.1**
RUS	**Russkaya**	**1.14**	**232**	PN	**Pn**	**09 54 07.1**	**0.0**
RUS	**Russkaya**	**1.14**	**232**	*e*P	**Pn**	**09 54 07.1**	**0.0**
KRMR	**Karymshinskiy**	**1.16**	**255**	PN	**Pn**	**09 54 07.8**	**+0.4**
KRMR				S	**Sn**	**09 54 22.5**	**+0.2**
KRMR	**Karymshinskiy**	**1.16**	**255**	*e*P	**Pn**	**09 54 07.8**	**+0.4**
KRMR				*e*S	**Sn**	**09 54 22.6**	**+0.2**
MTVR	**Mutnovka**	**1.27**	**239**	PN	**Pn**	**09 54 09.6**	**+0.6**
MTVR	**Mutnovka**	**1.27**	**239**	*e*P	**Pn**	**09 54 09.6**	**+0.6**
GRL	**Gorelyy**	**1.30**	**243**	PN	**Pn**	**09 54 10.2**	**+0.9**
GRL				S	**Sn**	**09 54 26.9**	**+1.1**
GRL	**Gorelyy**	**1.30**	**243**	*e*P	**Pn**	**09 54 10.2**	**+0.9**
GRL				*e*S	**Sn**	**09 54 27.0**	**+1.1**
GNL	**Ganaly**	**1.33**	**295**	PN	**Pn**	**09 54 10.8**	**+1.0**
GNL	**Ganaly**	**1.33**	**295**	*e*P	**Pn**	**09 54 10.9**	**+1.0**
PEA0B	**Petropavlovsk-**	**1.37**	**269**		**Pn**	**09 54 11.2**	**+1.0**
PEA0B	**Petropavlovsk-**	**1.37**	**269**	PN	**Pn**	**09 54 11.2**	**+1.0**
PEA0B				S	**Sn**	**09 54 29.0**	**+1.5**
PETK	**Petropavlovsk-**	**1.37**	**269**		**Pn**	**09 54 10.4**	**+0.2**
PETK	**Petropavlovsk-**	**1.37**	**269**	P	**Pn**	**09 54 10.2**	**0.0**
	comp=N,2μm,0.5s,baz=96,slow=19,SNR=5744						
PETK				S	**Sn**	**09 54 28.9**	**+1.4**
	comp=N,494nm,0.3s,baz=114,slow=15,SNR=11						
PETK				LR	LR	09 54 57.8	
	comp=N,200nm,20.7s,baz=143,slow=52						
APC	**Apacha**	**1.71**	**264**	PN	**Pn**	**09 54 16.2**	**+1.4**
APC				S	**Sn**	**09 54 38.0**	**+2.4**
APC	**Apacha**	**1.71**	**264**	*e*P	**Pn**	**09 54 16.2**	**+1.4**
APC				*e*S	**Sn**	**09 54 38.1**	**+2.4**
MKZ	**Mys Kozlova**	**1.75**	**36**	PN	**Pn**	**09 54 15.1**	**-0.2**
MKZ				S	**Sn**	**09 54 35.5**	**-1.1**
MKZ	**Mys Kozlova**	**1.75**	**36**	*e*P	**Pn**	**09 54 15.1**	**-0.2**
MKZ				*e*S	**Sn**	**09 54 35.6**	**-1.1**
KDTR	**Khodutka, Kamc**	**1.77**	**222**	PN	**Pn**	**09 54 16.1**	**+0.6**
KDTR				S	**Sn**	**09 54 37.5**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.77**	**222**	*e*P	**Pn**	**09 54 16.1**	**+0.6**
KDTR				*e*S	**Sn**	**09 54 37.5**	**+0.5**
TUMD	**Tumrok D**	**2.08**	**7**	PN	**Pn**	**09 54 19.2**	**-0.6**
TUMD				S	**Sn**	**09 54 43.9**	**-0.6**
TUMD	**Tumrok D**	**2.08**	**7**	*e*P	**Pn**	**09 54 19.2**	**-0.6**
TUMD				*e*S	**Sn**	**09 54 43.9**	**-0.6**
PAU	**Pauzhetka**	**2.57**	**230**	PN	**Pn**	**09 54 28.1**	**

comp=Z,4.0nm,1.1s
JKA Kamikawa-asahi 14.58 239 Pn Pn 09 57 11.3 +1.2
ASAJ Asahikawa 14.58 239 P Pn 09 57 11.1 +1.0
comp=Z,3.1nm,0.4s,baz=62,slow=15,SNR=5.5
GRNR Gornyy 14.70 270 ⇑ i P P 09 57 18.0 +1.7
GRNR pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 15.25 9 i P Pn 09 57 18.4 -0.1
BILL pmax pmax
comp=Z,3.0nm,0.9s
ERM Erimo 15.85 232 Pn Pn 09 57 25.7 -0.7
ERM IAmb IAmb 09 57 39.1
comp=Z,30nm,1.2s
ERM Erimo 15.85 232 P Pn 09 57 25.7 -0.7
ERM pmax pmax
comp=Z,30nm,1.2s
TEY Ternei 17.27 251 eP P 09 57 53.3 +8.6
JTM Tenmabayashi 17.80 234 P P 09 57 48.2 -2.4
JTM IAmb IAmb 09 58 20.4
comp=Z,36nm,1.3s
KLR Kul'dur 18.06 269 P Pn 09 57 54.5 +0.7
comp=Z,2.2nm,0.4s,baz=60,slow=9.4,SNR=10
KLR LR LR 10 04 45.1
comp=Z,49nm,18.4s,baz=90,slow=36
KLR Kul'dur 18.06 269 eP Pn 09 57 55.3 +1.6
KLR pmax pmax
comp=Z,6.0nm,1.9s
YAK Yakutsk 18.35 311 LR LR 10 05 26.6
comp=Z,41nm,19.6s,baz=122,slow=38
YAK Yakutsk 18.35 311 eP P 09 57 55.4 -1.1
YAK eS Sn **10 01 19.3 -1.7**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK smax smax
comp=E,74nm,3.2s
HEH HeiHe 20.29 275 eP P 09 58 17.5 -0.2
HEH pmax pmax
comp=Z,6.0nm,0.8s
USRK Ussuriysk Ar. 20.42 255 P P 09 58 19.1 -0.1
comp=Z,3.0nm,0.7s,baz=58,slow=15,SNR=5.9
comp=Z,3.0nm,0.7s
BNX BinXian 22.29 264 ⇑ P P 09 58 38.3 -0.9
BNX pmax pmax
comp=Z,6.0nm,0.6s
MJA0 Matsu Arr-Jizo 22.50 231 eP P 09 58 42.6 +0.9
MJA0 pmax pmax
comp=Z,11nm,0.6s
MJAR Matsushiro Arr 22.52 231 P P 09 58 42.7 +0.8
comp=Z,5.3nm,0.4s,baz=24,slow=12,SNR=14
comp=Z,5.3nm,0.4s
N15K Kwethluk River 22.75 56 P P 09 58 46.9 +2.8
N15K IAmb IAmb 09 59 23.4
comp=Z,9.3nm,1.0s
TIXI Tiksi 23.00 335 LR LR 10 08 40.4
comp=Z,37nm,18.2s,baz=213,slow=39
F17K Baldwin Pennin 23.12 40 P P 09 58 49.4 +1.7
H17K Granite Mounta 23.30 44 P P 09 58 51.2 +1.7
H17K IAmb IAmb 09 58 56.6
comp=Z,11nm,1.4s
E18K Tukpahlearik C 23.65 38 P P 09 58 53.9 +1.2
G18K Tagagawik 24.01 42 P P 09 58 57.6 +1.6
G18K IAmb IAmb 09 59 12.4
comp=Z,8.6nm,1.2s
J18K Innoko River 24.49 48 P P 09 59 02.2 +1.9
H19K Roundabout Mou 24.84 43 P 09 59 05.1 +1.6
H19K IAmb IAmb 09 59 06.1
comp=Z,9.3nm,0.9s
J20K Nowinta River 25.68 47 P 09 59 12.7 +1.6
J20K IAmb IAmb 09 59 50.7
comp=Z,8.2nm,1.3s
B21K Ikpikpuk River 26.39 34 P P 09 59 18.3 +0.9
B21K IAmb IAmb 09 59 39.1
comp=Z,15nm,1.5s
CAST Castle Rocks 26.57 48 P P 09 59 20.9 +1.8
B22K Teshekpuk Lake 26.98 33 P P 09 59 23.4 +0.7
KTH Kantishna Hill 27.09 48 P P 09 59 25.6 +1.7
KTH IAmb IAmb 09 59 36.2
comp=Z,17nm,1.4s
KSRS Korea Array 27.17 248 LR LR 10 11 47.7
comp=Z,14nm,18.9s,baz=205,slow=40
C23K Itkillik River 27.80 34 P P 09 59 31.9 +1.8
C23K IAmb IAmb 09 59 37.8
comp=Z,6.5nm,1.4s
TOLK Toolik Lake Re 27.97 37 P P 09 59 32.7 +1.1
RND Reindeer 28.02 48 P P 09 59 32.8 +0.6
RND IAmb IAmb 09 59 33.8
comp=Z,7.0nm,1.2s
RND Reindeer 28.02 48 P P 09 59 32.8 +0.6
RND pmax pmax
comp=Z,7.0nm,1.2s
E24K Your Creek 28.30 38 P P 09 59 35.9 +1.3
ILAR Eielson Array 28.83 45 P P 09 59 39.6 +0.3
comp=Z,0.9nm,0.7s,baz=263,slow=7.8,SNR=14
comp=Z,0.9nm,0.7s
ILAR Eielson Array 28.83 45 eP P 09 59 40.4 +1.1
ILAR pmax pmax
comp=Z,1.0nm,0.7s
SCM Sheep Creek Mo 28.85 51 P P 09 59 40.9 +1.3
SCM Sheep Creek Mo 28.85 51 P P 09 59 40.9 +1.3
SCM pmax pmax
comp=Z,20nm,1.4s
JNU Nakatsue 28.86 238 LR LR 10 10 59.3
comp=Z,27nm,19.3s,baz=353,slow=36
D25K Kavik River 29.19 36 P P 09 59 43.3 +0.8
D25K IAmb IAmb 09 59 43.7
comp=Z,3.1nm,0.6s
BMAR Burnt Mountain 29.75 40 P P 09 59 49.5 +2.0
XLT XiLinHaoTe 30.08 270 eP P 09 59 41.3 -9.4
XLT pP pP 09 59 55.5 -10
XLT sP sP 10 00 04.3 -8.5
C27K Jago River 30.16 35 P P 09 59 52.5 +1.6
D27M Malcolm River 31.11 36 P P 10 00 00.7 +1.2
MESA MESA 31.73 54 P P 10 00 05.7 +0.6
YAH Yahtse 31.78 53 P P 10 00 04.3 -1.4
M29M Somme Creek 32.86 49 P P 10 00 16.9 +2.0
H11N2 WAKE ISLAND Hy 33.78 168 T T 10 36 09.5
baz=352,slow=76,SNR=571
H11N3 WAKE ISLAND Hy 33.79 168 T T 10 36 07.5
baz=352,slow=76,SNR=681
H11N1 WAKE ISLAND Hy 33.80 168 T T 10 36 23.9
baz=352,slow=76,SNR=912
SONM Songino Array 33.82 283 P P 10 00 21.6 -1.9
comp=Z,0.7nm,0.5s,baz=40,slow=7.6,SNR=2.1
comp=Z,0.7nm,0.5s
F31M Tsiigehtchic 33.91 39 P P 10 00 25.0 +1.1
M31M Drury Creek, Y 34.76 49 P P 10 00 33.4 +2.1
M31M IAmb IAmb 10 00 34.7
comp=Z,3.5nm,0.8s
H11S1 WAKE ISLAND Hy 34.96 169 T T 10 37 40.4
baz=352,slow=76,SNR=116
H11S3 WAKE ISLAND Hy 34.97 169 T T 10 37 41.4
baz=352,slow=76,SNR=240
WHY Whitehorse 34.98 51 P P 10 00 35.2 +1.9
H11S2 WAKE ISLAND Hy 34.98 169 T T 10 37 48.7
baz=352,slow=76,SNR=75
FARO Faro, Yukon 35.22 48 P P 10 00 37.2 +1.9
FARO IAmb IAmb 10 00 37.8
comp=Z,2.7nm,1.1s
JOW Kunigami 35.28 234 P P 10 00 36.6 +0.5
comp=Z,8.2nm,0.3s,baz=93,slow=14,SNR=13
NRIK Noril'sk 35.82 325 LR LR 10 16 52.9
comp=Z,52nm,18.5s,baz=40,slow=39
NRIK Noril'sk 35.82 325 i P P 10 00 38.5 -1.8
NRIK pmax pmax
comp=Z,1.0nm,0.9s
A36M Sachs Harbour 36.12 31 P 10 00 44.1 +1.3
A36M IAmb IAmb 10 00 45.2
comp=Z,4.9nm,0.8s
C36M Paulatuk 37.05 35 P 10 00 51.7 +1.0
R33M Jennings River 37.25 52 P 10 00 55.2 +2.4
R33M IAmb IAmb 10 00 56.4
comp=Z,4.4nm,0.9s
EUNU Eureka 41.92 14 P 10 01 32.1 +1.0
GTA Gaotai 42.53 276 eP P 10 01 35.8 -0.9
GTA pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 42.69 303 P P 10 01 35.8 -1.9
comp=Z,0.9nm,0.5s,baz=68,slow=9.4,SNR=2.2
ZALV LR LR 10 18 50.5
comp=Z,17nm,20.1s,baz=42,slow=35
comp=Z,0.9nm,0.5s
YKA Yellowknife Ar 43.17 43 P P 10 01 40.5 -1.0
comp=Z,1.2nm,0.7s,baz=298,slow=8.1,SNR=23
comp=Z,1.2nm,0.7s
SPITS Spitsbergen Ar 47.07 350 P P 10 02 11.4 -0.8
comp=Z,1.4nm,0.4s,baz=58,slow=6.2,SNR=28
comp=Z,1.4nm,0.4s
KURK Kurchatov 47.65 302 P 10 02 15.2 -1.8
KURK IAmb IAmb 10 02 15.7
comp=Z,3.0nm,0.6s
KURK Kurchatov 47.65 302 P P 10 02 15.9 -1.0
KURK 10 03 45.2
KURBB Kurchatov Arra 47.75 302 P P 10 02 15.9 -1.8
comp=Z,2.0nm,0.5s,baz=57,slow=7.5,SNR=16
KURBB PcP **PcP 10 03 45.2 -0.7**
comp=Z,0.7nm,0.6s,baz=62,slow=3.2,SNR=5.4
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 48.07 296 i P P 10 02 18.9 -1.4
MKAR Makanchi Array 48.07 296 P P 10 02 18.3 -2.0
comp=Z,0.7nm,0.5s,baz=45,slow=8.6,SNR=9.8
MKAR LR LR 10 22 37.9
comp=Z,20nm,18.1s,baz=198,slow=36
comp=Z,0.7nm,0.5s
BLKN Baker Lake 49.09 34 P 10 02 28.4 +0.5
BLKN IAmb IAmb 10 02 28.5
comp=Z,2.5nm,0.6s
BVAR Borovoye Array 50.30 308 P P 10 02 34.9 -2.3
comp=Z,1.5nm,0.5s,baz=68,slow=10.0,SNR=6.6
comp=Z,1.5nm,0.5s
BRVK Borovoye 50.33 308 i P P 10 02 36.8 -0.7
BRVK pmax pmax
comp=Z,5.0nm,1.6s
ARCES ARCESS Array B 53.22 342 P P 10 02 56.8 -2.0
comp=Z,1.3nm,0.9s,baz=27,slow=8.7,SNR=4.1
ARCES PcP **PcP 10 04 05.2 -0.6**
comp=Z,0.6nm,0.5s,baz=20,slow=3.9,SNR=9.3
ARCES LR LR 10 29 41.3
comp=Z,14nm,18.2s,baz=29,slow=41
comp=Z,1.3nm,0.9s
ARTI Arti 53.41 317 d i P P 10 02 57.9 -2.4
ARTI *PP **pP 10 03 17.9 +1.6**
ARTI 10 04 06.7
ARTI S S **10 10 26.9 -0.7**
ARTI SS **SS 10 14 04.2 -3.3**
ARTI pmax pmax
comp=Z,9.0nm,2.6s
KDJ Kajisay 53.87 294 P 10 03 02.6 -1.5
KDJ IAmb IAmb 10 03 04.1
comp=Z,2.4nm,0.7s
KDJ Kajisay 53.87 294 P P 10 03 02.6 -1.5
KDJ pmax pmax
comp=Z,2.0nm,0.7s
SUMG Summit 53.92 7 P P 10 03 05.0 +0.7
SUMG Summit 53.92 7 P P 10 03 05.0 +0.7
SUMG pmax pmax
comp=Z,9.0nm,1.1s
NVAR Mina Array Bea 55.79 70 P P 10 03 19.9 +1.7
comp=Z,0.9nm,0.6s,baz=305,slow=6.6,SNR=10
NVAR pP **pP 10 03 34.8 +0.9**
comp=Z,0.9nm,0.7s,baz=300,slow=7.4,SNR=6.3
comp=Z,0.9nm,0.6s
PD31 Pinedale Array 57.56 61 P 10 03 32.6 +2.0
PD31 IAmb IAmb 10 03 33.4
comp=Z,1.6nm,0.7s
PDAR Pinedale Array 57.56 61 P P 10 03 32.6 +2.0
comp=Z,1.3nm,0.7s,baz=297,slow=2.9,SNR=17
PDAR pP **pP 10 03 46.8 +0.6**
comp=Z,0.8nm,0.7s,baz=300,slow=3.3,SNR=5.2
comp=Z,1.3nm,0.7s
SPR3 Spring Creek 3 57.62 67 P 10 03 33.3 +2.1
SPR3 IAmb IAmb 10 03 34.7
comp=Z,1.8nm,0.8s
AKTO Aktyubinsk 57.73 312 LR LR 10 30 47.6
comp=Z,30nm,19.5s,baz=99,slow=39
CMAR Chiang Mai Arr 58.12 258 LR LR 10 31 48.0
comp=Z,16nm,18.1s,baz=160,slow=39
ULM Lac du Bonnet 58.84 47 P P 10 03 40.3 +1.2
comp=Z,3.3nm,0.5s,baz=316,slow=6.7,SNR=5.1
comp=Z,3.3nm,0.5s
SRU San Rafael Swe 59.63 64 IAmb IAmb 10 03 47.9
comp=Z,2.1nm,0.8s
FINES FINESS Array B 60.04 336 P P 10 03 46.1 -1.1
comp=Z,1.2nm,0.5s,baz=37,slow=7.9,SNR=6.7
FINES LR LR 10 35 14.4
comp=Z,11nm,20.4s,baz=350,slow=42
comp=Z,1.2nm,0.5s
PV18 Skein Mesa, Pa 61.13 64 P P 10 03 57.3 +2.0
PV13 Radium Mtn., P 61.24 64 P P 10 03 58.5 +2.4
PV13 IAmb IAmb 10 04 13.1
comp=Z,2.6nm,1.0s
OBN Obninsk 62.43 327 LR LR 10 33 40.2
comp=Z,43nm,18.1s,baz=58,slow=38
OBN Obninsk 62.43 327 eP P 10 04 03.3 -0.1
OBN eS **S 10 12 27.7 +2.3**
OBN pmax pmax
comp=Z,8.0nm,0.4s
ECSD EROS Data Cent 63.35 52 P 10 04 10.6 +0.8
ECSD IAmb IAmb 10 04 11.0
comp=Z,2.8nm,0.8s
NB2 NORSAR Subarra 63.47 344 P P 10 04 09.1 -1.2
comp=Z,0.8nm,0.5s,baz=22,slow=6.9
NOA NORSAR Array B 63.47 344 P P 10 04 09.5 -0.8
comp=Z,1.1nm,0.6s,baz=21,slow=6.7,SNR=8.1
NOA LR LR 10 37 31.9
comp=Z,5.5nm,18.2s,baz=240,slow=42
comp=Z,1.1nm,0.6s
HFS Hagfors 63.88 342 P P 10 04 11.8 -1.1
comp=Z,2.2nm,0.5s,baz=46,slow=4.3,SNR=17
comp=Z,2.2nm,0.5s
AKASG Malin Array Be 68.53 329 P P 10 04 40.9 -2.0
comp=Z,0.8nm,0.4s,baz=31,slow=6.7,SNR=5.1
comp=Z,0.8nm,0.4s
KIV Kislovodsk 69.35 317 eP P 10 04 47.4 -0.8
KIV pmax pmax
comp=Z,5.0nm,0.9s
TX31 Lajitas Ar. Si 70.68 67 IAmb IAmb 10 04 59.1
comp=Z,1.9nm,0.7s
TXAR Lajitas Array 70.68 67 P P 10 04 58.4 +1.8
comp=Z,1.5nm,0.6s,baz=299,slow=5.0,SNR=32
TXAR pP **pP 10 05 12.9 -0.1**
comp=Z,1.2nm,0.7s,baz=297,slow=4.3,SNR=7.7
comp=Z,1.5nm,0.6s
EKA Eskdalemuir Ar 70.99 350 P P 10 04 57.8 -0.2
comp=Z,0.7nm,0.4s,baz=13,slow=4.7,SNR=9.5
comp=Z,0.7nm,0.4s
CLL Collm 72.28 339 i P P 10 05 03.1 -2.6
BUR08 Bucovina Ar. S 72.47 330 P 10 05 06.5 -0.6
MLR Muntele Rosu 74.17 328 LR LR 10 42 24.2
comp=Z,19nm,18.8s,baz=243,slow=39
GERES GERESS Array B 74.44 338 P P 10 05 17.7 -0.9
comp=Z,0.3nm,0.3s,baz=53,slow=3.8,SNR=3.0
comp=Z,0.3nm,0.3s
WRA Warramunga Arr 76.10 205 P P 10 05 28.0 -0.2
comp=Z,0.9nm,0.8s,baz=23,slow=6.1,SNR=6.1
comp=Z,0.9nm,0.8s
ESDC Sonseca Array 86.51 348 P P 10 06 22.9 -0.5
comp=Z,3.3nm,0.8s,baz=3.5,slow=4.8,SNR=18
comp=Z,3.3nm,0.8s
QSPA South Pole Qui 142.89 180 PKhKP PKPpre 10 13 08.4
comp=Z,1.3nm,0.8s,baz=206,slow=1.7,SNR=12

NIED ***29*** *09:56:29.9, 31°.92N×138°.40E, h393km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.17; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$1.54; $M_{r\theta}$-0.67; $M_{\theta\phi}$-0.84; $M_{\phi r}$-0.88; Fault plane solution: $M_0$1.97000×10^{15} NP1: ϕ_s=128.00000°, δ45.00000°, λ-143.00000°. NP2: ϕ_s=10.00000°, δ65.00000°, λ-51.00000°.*

JMA ***29*** *09:56:29.9±0.4, 32°.N±2°×13°.8E±°, h393km±3km, MV3.8/32, NEAR TORISHIMA IS*

NEIC ***29*** *09:56:30.2±0.8, 31°.70N±0°.07×138°.4E±0°.1, h380km±4km, mb4.2/21, Error ellipse: s-maj=13.6km s-min=10.4km az=96.0*

MOS ***29*** *09:56:30.0±0.8, 31°.84N×138°.24E, h385km, mb4.5/14, Error ellipse: s-maj=12.2km s-min=5.9km az=112.8*

IDC ***29*** *09:56:31.0±1.0, 31°.84N×138°.20E, h376km±9km, mb3.6/20, mbtmp4.4/26, Error ellipse: s-maj=14.1km s-min=10.2km az=81.0*

ISC 29 09:56:30.1±0.5, 31°.72N±0°.05×138°.37E±0°.06, h381km, n133, σ1§41/153, mb4.2/49, 6C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.40**	**58**	P	**Pn**	**09 57 21.9**	**+1.0**
JAOM				S	**S**	**09 58 02.3**	**+0.5**
JHCJ	**Hachijojimakas**	**1.81**	**42**	P	**Pn**	**09 57 23.4**	**+0.4**
JHJ	**Hachijo jima 2**	**1.84**	**40**	P	**Pn**	**09 57 23.6**	**+0.5**
	235nm,0.3s,baz=337,slow=17,SNR=56						
JHJ				S	**S**	**09 58 05.4**	**-0.7**
	303nm,0.3s,baz=307,slow=23,SNR=6.5						
JHJ2	**Mitsune**	**1.85**	**41**		**Pn**	**09 57 23.7**	**+0.4**
JHJ2	**Mitsune**	**1.85**	**41**	P	**Pn**	**09 57 23.6**	**+0.4**
TTO1	**TONANKAI O.B.S**	**2.32**	**325**	P	**Pn**	**09 57 26.9**	**+0.9**
JIE	**Ise**	**3.00**	**333**	P	**Pn**	**09 57 32.1**	**+0.4**
JIE				S	**S**	**09 58 20.2**	**-1.4**
JTNC	**Tanabenakahech**	**3.12**	**313**	P	**Pn**	**09 57 32.7**	**-0.1**
JTNC				S	**S**	**09 58 21.4**	**-2.2**
JWY	**Kouya**	**3.41**	**318**	P	**Pn**	**09 57 35.9**	**+0.4**
JOD2	**Odawara 2**	**3.58**	**10**	P	**Pn**	**09 57 36.1**	**-0.8**
BSO1	**Boso 1**	**3.65**	**36**	P	**Pn**	**09 57 35.9**	**-1.1**
BSO1				S	**S**	**09 58 28.0**	**-3.2**
JYN	**Shimob**	**3.77**	**2**	P	**Pn**	**09 57 39.1**	**+0.4**
INU	**Inuyama**	**3.79**	**343**		**Pn**	**09 57 39.0**	**+0.1**
JAI	**Aioi**	**3.89**	**303**	P	**Pn**	**09 57 39.9**	**0.0**
JGF	**Kuroka**	**3.96**	**348**		**Pn**	**09 57 40.8**	**+0.2**
JMN	**Monobe**	**4.28**	**299**		**Pn**	**09 57 44.0**	**+0.3**
JMN	**Monobe**	**4.28**	**299**	P	**Pn**	**09 57 44.0**	**+0.3**
JRY	**Ryogami san**	**4.31**	**6**	P	**Pn**	**09 57 43.1**	**-0.8**
JRY				S	**S**	**09 58 39.8**	**-4.1**
MJA0	**Matsu Arr-Jizo**	**4.81**	**359**	eP	**Pn**	**09 57 48.3**	**-0.8**
MJA0				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MJAR	**Matsushiro Arr**	**4.81**	**358**	P	**Pn**	**09 57 47.4**	**-1.7**
	comp=Z,3.2nm,0.4s,baz=173,slow=11,SNR=29						
MAJO	**Matsushiro**	**4.81**	**358**		**Pn**	**09 57 48.3**	**-0.8**
MAJO	**Matsushiro**	**4.81**	**358**	P	**Pn**	**09 57 48.3**	**-0.8**
MJB9	**Matsu-Tunnel**	**4.81**	**358**		**Pn**	**09 57 49.2**	**+0.1**
JTO	**Tosashimizu**	**4.85**	**285**	P	**Pn**	**09 57 49.8**	**+0.2**
JHS	**Saijyo**	**5.47**	**308**	P	**Pn**	**09 57 56.2**	**0.0**
CBIJ	**Chichi jima**	**5.69**	**143**	P	**Pn**	**09 57 57.0**	**-1.7**
CBIJ				S	**S**	**09 59 06.5**	**-4.2**
JCJ	**Chichijima**	**5.69**	**143**		**Pn**	**09 57 57.8**	**-0.9**
JCJ					**S**	**09 59 07.5**	**-3.1**
JCJ	**Chichijima**	**5.69**	**143**	P	**Pn**	**09 57 56.3**	**-2.4**
	comp=Z,174nm,0.4s,baz=6.0,slow=17,SNR=52						
JCJ				S	**S**	**09 59 05.2**	**-5.5**
	comp=Z,310nm,0.3s,baz=288,slow=23,SNR=25						
JMM	**Marumori**	**6.45**	**17**		**Pn**	**09 58 05.1**	**-1.7**
JNU	**Nakatsue**	**6.48**	**284**		**P**	**09 58 07.7**	**+0.3**
JNU	**Nakatsue**	**6.48**	**284**	P	**P**	**09 58 07.8**	**+0.4**
	comp=Z,48nm,0.8s,baz=130,slow=3.9,SNR=25						
JMK	**Ichinoseki**	**7.58**	**17**	P	**P**	**09 58 18.6**	**-2.0**
JMK				S	**S**	**09 59 42.6**	**-6.8**
JTU	**Tsushima**	**8.02**	**293**	P	**P**	**09 58 25.2**	**-1.0**
JTM	**Tenmabayashi**	**9.30**	**13**		**P**	**09 58 40.2**	**-0.1**
TJN	**Taejon**	**10.24**	**300**		**P**	**09 58 50.8**	**0.0**
TJN	**Taejon**	**10.24**	**300**	P	**P**	**09 58 50.8**	**0.0**
KSRS	**Korea Array**	**10.33**	**306**	P	**Pn**	**09 58 52.0**	**+0.2**
	comp=Z,5.3nm,0.6s,baz=118,slow=11,SNR=26						
KSAR	**Wonju Array Be**	**10.35**	**306**		**Pn**	**09 58 52.5**	**+0.4**
KSAR	**Wonju Array Be**	**10.35**	**306**	P	**Pn**	**09 58 52.5**	**+0.4**
KS19	**Wonju Array Si**	**10.39**	**307**		**Pn**	**09 58 52.8**	**+0.2**
ERM	**Erimo**	**10.96**	**19**		**Pn**	**09 58 59.0**	**-0.1**
ERM	**Erimo**	**10.96**	**19**	i P	**Pn**	**09 58 59.4**	**+0.2**
INCN	**Inchon**	**11.24**	**304**		**Pn**	**09 59 02.4**	**-0.2**
INCN	**Inchon**	**11.24**	**304**	P	**Pn**	**09 59 02.4**	**-0.2**
ASAJ	**Asahikawa**	**12.81**	**14**	P	**Pn**	**09 59 20.8**	**0.0**
	comp=Z,5.7nm,0.4s,baz=233,slow=9.7,SNR=12						
JKA	**Kamikawa-asahi**	**12.81**	**14**	Pn	**Pn**	**09 59 20.9**	**+0.1**
USA0B	**Ussuriysk Arra**	**13.43**	**340**	P	**Pn**	**09 59 25.8**	**-2.1**
USA0B	**Ussuriysk Arra**	**13.43**	**340**	P	**Pn**	**09 59 25.8**	**-2.1**
USRK	**Ussuriysk Ar.**	**13.43**	**340**	P	**Pn**	**09 59 25.5**	**-2.4**
	comp=Z,6.0nm,0.5s,baz=143,slow=8.9,SNR=9.7						
YSS	**Yuzhno-Sakhali**	**15.58**	**11**		**Pn**	**09 59 50.0**	**-2.5**
YSS	**Yuzhno-Sakhali**	**15.58**	**11**	eP	**Pn**	**09 59 54.3**	**+1.8**
YSS				pmax	pmax		
	comp=Z,40nm,0.5s						
BNX	**BinXian**	**16.38**	**332**	⇓P	**P**	**09 59 57.0**	**-1.0**
BNX				pmax	pmax		
	comp=Z,19nm,0.8s						
KLR	**Kul'dur**	**18.18**	**346**	P	**P**	**10 00 16.2**	**-1.0**
	comp=Z,13nm,0.5s,baz=175,slow=9.5,SNR=38						
HHC	**Hu-ho-hao-te**	**23.37**	**300**	eP	**P**	**10 01 07.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.7s						
ZEA	**Zeya**	**23.41**	**343**	eP	**P**	**10 01 07.3**	**+0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**	**24.80**	**283**	P	**P**	**10 01 19.0**	**-0.3**
XAN				pP	PP	10 02 34.3	+9.2
XAN				pmax	pmax		
	comp=Z,23nm,0.9s						
ULN	**Ulaanbaatar**	**28.71**	**313**		**P**	**10 01 54.3**	**+0.4**
ULN				IAmb	IAmb	10 01 54.7	
	comp=Z,6.8nm,0.5s						
ULN	**Ulaanbaatar**	**28.71**	**313**	P	**P**	**10 01 54.3**	**+0.4**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
LZH	**Lanzhou**	**28.89**	**288**	eP	**P**	**10 01 55.0**	**-0.7**
LZH				pP	pP	10 02 04.5	-60
LZH				pmax	pmax		
	comp=Z,21nm,1.4s						
MA2	**Magadan**	**29.07**	**13**	P	**P**	**10 01 57.3**	**+0.6**
	comp=Z,4.6nm,0.6s,baz=196,slow=11,SNR=5.0						
	comp=Z,4.6nm,0.6s						
SONM	**Songino Array**	**29.11**	**313**	P	**P**	**10 01 57.5**	**+0.1**
SONM	**Songino Array**	**29.11**	**313**	P	**P**	**10 01 56.7**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=116,slow=8.2,SNR=12						
	comp=Z,2.7nm,0.5s						
SONM	**Songino Array**	**29.11**	**313**	P	**P**	**10 01 57.5**	**+0.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YAK	**Yakutsk**	**30.84**	**352**	eP	**P**	**10 02 12.0**	**-0.1**
YAK				e*PP	**pP**	**10 03 22.8**	**+0.2**
YAK				e		10 04 58.1	
YAK				eS	**S**	**10 06 47.0**	**0.0**
YAK				e*SS	**sS**	**10 08 57.1**	**+2.8**
YAK				eSS	**SS**	**10 09 18.2**	**-0.7**
YAK				e		10 12 02.1	
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				smax	smax		
	comp=E,99nm,4.0s						
PZH	**PanZhiHua**	**32.31**	**270**	P	**P**	**10 02 26.8**	**+1.3**
PZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,4.8s						
CMAR	**Chiang Mai Arr**	**37.86**	**259**	P	**P**	**10 03 12.4**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=52,slow=7.8,SNR=8.1						
	comp=Z,1.5nm,0.3s						
BILL	**Bilibino**	**39.82**	**16**	P	**P**	**10 03 28.9**	**+1.3**
BILL	**Bilibino**	**39.82**	**16**	ceP	**P**	**10 03 29.9**	**+2.3**
BILL				pmax	pmax		
	comp=Z,11nm,2.5s						
TIXI	**Tiksi**	**40.31**	**355**	ceP	**P**	**10 03 31.0**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SHL	**Shillong**	**41.01**	**274**	P	**P**	**10 03 37.4**	**-0.8**
SHL	**Shillong**	**41.01**	**274**	P	**P**	**10 03 37.4**	**-0.8**
SHL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ZALV	**Zalesovo Beam**	**43.83**	**317**	P	**P**	**10 03 59.4**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=101,slow=7.7,SNR=4.0						
ZALV				PcP	**PcP**	**10 05 39.2**	**+0.7**
	comp=Z,2.5nm,0.5s,baz=124,slow=3.9,SNR=8.2						
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**45.01**	**306**	ceP	**P**	**10 04 08.8**	**-0.5**
MKAR	**Makanchi Array**	**45.01**	**306**		**P**	**10 04 09.2**	**-0.1**
MKAR	**Makanchi Array**	**45.01**	**306**	P	**P**	**10 04 09.1**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=90,slow=10,SNR=22						
MKAR				PcP	**PcP**	**10 05 43.5**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=88,slow=4.9,SNR=4.7						
MKAR				ScP	**ScP**	**10 08 59.3**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=92,slow=3.9,SNR=5.3						
	comp=Z,3.3nm,0.7s						
NRIK	**Noril'sk**	**47.13**	**338**		**P**	**10 04 25.3**	**+0.1**
NRIK				IAmb	IAmb	10 04 26.1	
	comp=Z,14nm,1.2s						
NRIK	**Noril'sk**	**47.13**	**338**	P	**P**	**10 04 25.4**	**+0.2**
	comp=Z,5.3nm,0.4s,baz=118,slow=10,SNR=7.3						
	comp=Z,5.3nm,0.4s						
KURK	**Kurchatov**	**47.40**	**312**		**P**	**10 04 26.7**	**-0.8**
KURK	**Kurchatov**	**47.40**	**312**	P	**P**	**10 04 27.6**	**+0.1**
KURBB	**Kurchatov Arra**	**47.46**	**312**	P	**P**	**10 04 27.6**	**-0.4**

comp=Z,3.2nm,0.6s,baz=92,slow=7.1,SNR=26
comp=Z,3.2nm,0.6s
AAK Ala-Archa 50.94 301 *ceP* **P 10 04 54.5 +0.1**
AAK pmax pmax
comp=Z,8.0nm,2.5s
WRA Warramunga Arr 51.52 185 P **P 10 05 00.0 +1.4**
comp=Z,0.3nm,0.3s,baz=0.3,slow=7.7,SNR=12
WRA PcP **pP 10 06 09.2 -6.1**
comp=Z,0.6nm,0.5s,baz=359,slow=4.0,SNR=4.7
comp=Z,0.3nm,0.3s
BVAR Borovoye Array 52.41 315 P **P 10 05 04.7 0.0**
comp=Z,7.0nm,0.5s,baz=96,slow=7.7,SNR=22
BVAR PcP **PcP 10 06 10.5 +0.8**
comp=Z,3.2nm,0.6s,baz=111,slow=3.7,SNR=5.0
comp=Z,7.0nm,0.5s
BRVK Borovoye 52.47 315 *i* P **P 10 05 04.9 -0.3**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
KK31 Karatay Array 53.73 303 **P 10 05 14.7 +0.2**
KK31 IAmb IAmb 10 05 15.2
comp=Z,6.5nm,0.7s
KK31 Karatay Array 53.73 303 P **P 10 05 14.7 +0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 53.73 303 **P 10 05 14.5 0.0**
KKAR Karatay Array 53.73 303 IAmb IAmb 10 05 15.2
comp=Z,6.8nm,0.7s
KKAR Karatay Array 53.73 303 P **P 10 05 14.5 0.0**
NIL Nilore 54.00 291 **P 10 05 16.8 +0.2**
NIL IAmb IAmb 10 05 18.0
comp=Z,14nm,0.7s
NIL Nilore 54.00 291 P **P 10 05 16.8 +0.2**
NIL pmax pmax
comp=Z,14nm,0.7s
GAR Garm 54.82 298 IAmb IAmb 10 05 23.3
comp=Z,13nm,0.7s
ASAR Alice Springs 55.24 185 P **P 10 05 27.3 +2.0**
comp=Z,0.4nm,0.7s,baz=23,slow=12,SNR=9.1
comp=Z,0.4nm,0.7s
ILAR Eielson Array 55.33 30 P **P 10 05 27.5 +2.1**
comp=Z,0.3nm,0.8s,baz=257,slow=7.9,SNR=1.9
ILAR PcP **PcP 10 06 21.3 +0.6**
comp=Z,0.3nm,0.5s,baz=274,slow=3.7,SNR=5.4
SIMJ Simiganj 55.89 298 **P 10 05 30.0 0.0**
SIMJ IAmb IAmb 10 05 30.9
comp=Z,7.9nm,0.8s
ARTI Arti 58.85 320 **P 10 05 49.4 -0.5**
ARTI Arti 58.85 320 *c i* P **P 10 05 49.1 -0.8**
ARTI 10 06 33.2
ARTI S **S 10 13 24.9 +0.2**
ARTI SS **SS 10 17 21.8 -3.1**
ARTI pmax pmax
comp=Z,7.0nm,0.6s
AB31 Akbulak array 59.51 312 IAmb IAmb 10 05 55.2
comp=Z,5.6nm,0.7s
ABKAR Akbulak array 59.51 312 **P 10 05 54.6 0.0**
ABKAR Akbulak array 59.51 312 IAmb IAmb 10 05 55.2
comp=Z,5.6nm,0.7s
KIRV Kirov 63.01 324 *ceP* **P 10 06 18.3 +0.8**
SPITS Spitsbergen Ar 65.23 349 P **P 10 06 32.5 +1.0**
comp=Z,1.3nm,0.4s,baz=91,slow=6.8,SNR=18
comp=Z,1.3nm,0.4s
KLMR Klimovskoe 66.91 328 *eP* **P 10 06 40.3 -2.0**
KLMR pmax pmax
comp=Z,12nm,1.6s
ARCES ARCESS Array B 68.08 340 P **P 10 06 50.1 +0.7**
comp=Z,4.0nm,0.5s,baz=68,slow=8.8,SNR=52
comp=Z,4.0nm,0.5s
YKA Yellowknife Ar 69.66 28 P **P 10 06 59.8 +0.6**
comp=Z,0.3nm,0.6s,baz=303,slow=6.1,SNR=5.9
comp=Z,0.3nm,0.6s
OBN Obninsk 70.84 323||*eP* **P 10 07 07.4 +1.1**
OBN pmax pmax
comp=Z,9.0nm,0.5s
FINES FINESS Array B 72.33 332 P **P 10 07 15.2 +0.2**
comp=Z,4.1nm,0.4s,baz=65,slow=5.2,SNR=56
comp=Z,4.1nm,0.4s
KBZ Khabaz 72.45 311 P **P 10 07 17.1 +1.0**
comp=Z,6.9nm,0.8s,baz=85,slow=4.9,SNR=22
comp=Z,6.9nm,0.8s
KIV Kislovodsk 72.48 311 *eP* **P 10 07 16.5 +0.1**
KIV pmax pmax
comp=Z,12nm,1.1s
MNK Minsk 75.46 326 *i* P **P 10 07 33.0 -0.1**
MNK *i* *PP **pP 10 08 57.8 +0.9**
MNK *i* 10 10 27.5
MNK *i* PPP PPP 10 12 15.6
MNK *i* S **S 10 16 41.0 -0.1**
MNK *i* SS **SS 10 21 41.1 +1.1**
MNK *i* SSS SSS 10 25 05.9
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=Z,9.0nm,0.6s
MNK pmax pmax
comp=E,21nm,0.8s
MNK MLR MLR
comp=E,2μm,23.0s
MNK MLR MLR
comp=N,1μm,25.0s
MNK MLR MLR
comp=Z,84nm,18.0s
AK03 Malin Array Si 76.92 322 P **P 10 07 41.2 -0.1**
AKASG Malin Array Be 76.93 322 P **P 10 07 41.5 +0.1**
comp=Z,3.1nm,0.4s,baz=52,slow=5.3,SNR=23
comp=Z,3.1nm,0.4s
AKBB Malin Array Si 76.93 322 **P 10 07 41.5 +0.1**
AKBB Malin Array Si 76.93 322 P **P 10 07 41.5 +0.1**
AKBB pmax pmax
comp=Z,9.0nm,0.7s
KIEV Kiev 76.94 322 **P 10 07 41.3 -0.1**
KIEV Kiev 76.94 322 P **P 10 07 41.3 -0.1**
KIEV pmax pmax
comp=Z,8.0nm,0.7s
KIEV Kiev 76.94 322 P **P 10 07 41.3 -0.1**
AK23 Malin Array Si 76.95 322 P **P 10 07 41.5 0.0**
AK04 Malin Array Si 76.95 322 P **P 10 07 41.6 +0.1**
AK08 Malin Array Si 76.95 322 P **P 10 07 41.6 +0.1**
NC405 NORSAR Array S 77.85 337 IAmb IAmb 10 07 47.4
comp=Z,5.6nm,0.9s
HFS Hagfors 77.86 335 P **P 10 07 46.2 -0.1**
comp=Z,3.4nm,0.7s,baz=54,slow=7.5,SNR=8.6
comp=Z,3.4nm,0.7s
NB2 NORSAR Subarra 78.08 337 P **P 10 07 47.2 -0.3**
comp=Z,0.7nm,0.5s,baz=45,slow=5.3
NOA NORSAR Array B 78.08 337 P **P 10 07 47.6 +0.1**
comp=Z,1.9nm,0.7s,baz=45,slow=5.4,SNR=9.0
comp=Z,1.9nm,0.7s
RAYN Ar Rayn 80.29 292 **P 10 08 00.6 +0.5**
RAYN IAmb IAmb 10 08 01.4
comp=Z,5.3nm,0.6s
RAYN Ar Rayn 80.29 292 P **P 10 08 00.6 +0.5**
RAYN pmax pmax
comp=Z,5.0nm,0.6s
BRTR Keskin Array B 80.44 311 P **P 10 08 00.2 -0.5**
BRTR Keskin Array B 80.44 311 P **P 10 08 01.6 +0.8**
comp=Z,3.8nm,0.8s,baz=104,slow=5.2,SNR=11
comp=Z,3.8nm,0.8s
BUR08 Bucovina Ar. S 80.86 321 **P 10 08 03.5 +0.8**
GERES GERESS Array B 85.83 327 P **P 10 08 27.4 -0.3**
comp=Z,0.4nm,0.5s,baz=29,slow=3.3,SNR=4.1
comp=Z,0.4nm,0.5s
GERES GERESS Array B 85.83 327 *eP* **P 10 08 28.0 +0.2**
QSPA South Pole Qui 121.48 180 PKP **PKiKP 10 14 39.3 +1.1**
comp=Z,0.7nm,0.6s,baz=295,slow=2.9,SNR=8.5
LPAZ La Paz 151.44 64 PKPbc **PKiKP 10 15 43.8 +2.6**
comp=Z,0.5nm,0.6s,baz=290,slow=4.4,SNR=4.9

IDC 29 09:56:34.4±1.4, 16°.05S×172°.65W, h0km, mb4.0/6, mbtmp4.0/6, MS3.5/12, Error ellipse: s-maj=36.4km s-min=34.6km az=109.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.06**	**258**	LR	LR	10 01 54.6	
	comp=Z,278nm,21.6s,baz=95,slow=35						
RAR	**Rarotonga**	**13.23**	**115**	LR	LR	10 03 12.6	
	comp=Z,89nm,20.9s,baz=30,slow=30						
DZM	**Mont Dzumac**	**20.64**	**250**	LR	LR	10 08 02.9	
	comp=Z,224nm,18.2s,baz=27,slow=33						
HNR	**Honiara**	**27.51**	**281**	LR	LR	10 12 04.2	
	comp=Z,107nm,18.1s,baz=194,slow=34						
STKA	**Stephens Creek**	**44.35**	**241**	P	P	10 04 46.5	-0.1
	2.0nm,0.7s,baz=83,slow=9.4,SNR=4.6						
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**50.41**	**257**	P	P	10 05 34.5	+0.5
	1.3nm,1.1s,baz=98,slow=6.7,SNR=4.9						
WRA				LR	LR	10 26 14.8	
	comp=Z,65nm,18.7s,baz=347,slow=35						
	1.3nm,1.1s						
ASAR	**Alice Springs**	**50.60**	**252**	P	P	10 05 34.8	-0.7
	2.7nm,0.5s,baz=88,slow=8.6,SNR=70						
ASAR				LR	LR	10 26 10.0	
	comp=Z,77nm,18.4s,baz=88,slow=35						
	2.7nm,0.5s						
VNDA	**Vanda**	**62.80**	**186**	P	P	10 07 01.6	+0.3
	0.7nm,0.8s,baz=23,slow=5.7,SNR=5.0						
	0.7nm,0.8s						
YBH	**Yreka Blue Hor**	**73.68**	**37**	LR	LR	10 32 43.8	
	comp=Z,36nm,20.5s,baz=247,slow=29						
QSPA	**South Pole Qui**	**73.99**	**180**	P	P	10 08 11.7	0.0
	3.0nm,0.8s,baz=217,slow=1.0,SNR=22						
	3.0nm,0.8s						
KDAK	**Kodiak Island**	**75.42**	**11**	LR	LR	10 33 45.0	
	comp=Z,35nm,21.9s,baz=48,slow=30						
ILAR	**Eielson Array**	**82.95**	**11**	P	P	10 09 00.7	-0.1
	0.4nm,0.9s,baz=206,slow=4.8,SNR=5.1						
ILAR				LR	LR	10 41 24.1	
	comp=Z,15nm,18.8s,baz=242,slow=32						
	0.4nm,0.9s						
ATAH	**Atahualpa**	**92.11**	**98**	LR	LR	10 41 36.3	
	comp=Z,20nm,20.7s,baz=114,slow=29						
ULM	**Lac du Bonnet**	**93.98**	**39**	LR	LR	10 45 20.2	
	comp=Z,45nm,19.5s,baz=298,slow=31						
SONM	**Songino Array**	**95.81**	**318**	LR	LR	10 48 54.8	
	comp=Z,11nm,19.2s,baz=40,slow=33						

*UCR **29** 10:12:11.0±1.3, 8°.32N×82°.97W, h0km±4km, MW3.7*
*UPA **29** 10:12:11.5±1.1, 8°.35N×82°.99W, h12km±3km, ML3.9*

ISC 29 10:12:10.7±1.1, 8°.34N±0°.03×82°.93W±0°.03, h15km±9km, n42, σ0°95/56, 1C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.15**	**160**	*eP*	**Pb**	**10 12 15.6**	**+0.4**
PTPM				AMP		10 12 16.2	
	comp=Z,27μm,0.1s						
PTPM				*eS*	**Sb**	**10 12 20.1**	**+1.9**
LESP3	**La Esperanza,**	**0.15**	**66**	*eP*	**Pb**	**10 12 16.5**	**+1.2**
LPPC	**Paso Canoas**	**0.21**	**26**	||*iP*	**Pb**	**10 12 17.4**	**+1.1**
LPPC				*eS*	**Sb**	**10 12 22.4**	**+2.4**
LIMO3	**Limones**	**0.25**	**165**	*eP*	**Pb**	**10 12 17.4**	**+0.4**
NELY	**Ciudad Neily**	**0.30**	**357**	||*iP*	**Pb**	**10 12 18.7**	**+0.8**
NELY				*eS*	**Sn**	**10 12 24.9**	**-2.0**
EDAD	**Golfito**	**0.39**	**323**	||*iP*	**Pg**	**10 12 18.6**	**0.0**
EDAD				*eS*	**Sg**	**10 12 24.3**	**+0.4**
PIRO	**Carate, Puerto**	**0.41**	**279**	⇑*eP*	**Pg**	**10 12 18.8**	**-0.2**
JIME	**Puerto Jimenez**	**0.44**	**296**	*eP*	**Pb**	**10 12 20.6**	**+0.5**
JIME				*eS*	**Sb**	**10 12 27.9**	**+1.4**
VITO	**San Vito**	**0.47**	**355**	*eP*	**Pn**	**10 12 21.9**	**-1.2**
VITO				*eS*	**Sn**	**10 12 30.8**	**-0.5**
DVD	**David**	**0.48**	**79**	*eS*	**Sn**	**10 12 30.8**	**-0.6**
PEDE3	**Pedregal, Chir**	**0.51**	**85**	*eP*	**Pn**	**10 12 22.1**	**-1.3**
PTAR3	**Potrerillos Ar**	**0.55**	**51**	*eP*	**Pn**	**10 12 24.1**	**-0.2**
BC3P	**Paso Ancho**	**0.57**	**34**	*eP*	**Pn**	**10 12 23.7**	**-0.8**
ALCO	**Alturas Coton,**	**0.61**	**9**	*eP*	**Pn**	**10 12 23.9**	**-1.2**
EDP2	**Potrero Grande**	**0.71**	**340**	*eP*	**Pb**	**10 12 25.4**	**+0.5**
FIMO	**Fila Mora**	**0.77**	**327**	*eP*	**Pb**	**10 12 26.4**	**+0.5**
BURE	**Buenos Aires**	**0.92**	**334**	*eP*	**Pn**	**10 12 29.4**	**+0.2**
DRK0	**Durika**	**0.96**	**341**	*eP*	**Pg**	**10 12 29.2**	**-0.2**
DRK0				*eS*	**Sn**	**10 12 43.0**	**-0.5**
DRK0	**Durika**	**0.96**	**341**	*eP*	**Pn**	**10 12 29.6**	**-0.4**
DRK0				*eS*	**Sn**	**10 12 43.1**	**-0.5**
BRIBI	**Bribri**	**1.27**	**5**	*eP*	**Pg**	**10 12 36.3**	**+1.0**
LLNJ	**Naranjito**	**1.61**	**314**	*eP*	**Pn**	**10 12 39.1**	**+0.4**
LCR2	**La Lucha 2**	**1.75**	**323**	*eP*	**Pb**	**10 12 42.3**	**-0.4**
ABE2	**San Pablo**	**1.75**	**321**	*eP*	**Pb**	**10 12 43.0**	**+0.3**
VERB	**Verbena**	**1.76**	**335**	*eP*	**Pb**	**10 12 42.5**	**-0.3**
VERB				*eS*	**Sg**	**10 13 07.6**	**+0.1**
RVSTA	**Santa Teresita**	**1.77**	**336**	*eP*	**Pb**	**10 12 42.5**	**-0.5**
RVSTA				*eS*	**Sg**	**10 13 07.1**	**-0.7**
GMAL	**Guarumal, Vera**	**1.78**	**109**	*eP*	**Pb**	**10 12 42.0**	**-1.0**
GMAL	**Guarumal, Vera**	**1.78**	**109**	*eP*	**Pn**	**10 12 41.2**	**+0.3**
GMAL				*eS*	**Sb**	**10 13 05.0**	**-0.2**
PICV	**PH. Pirrs**	**1.79**	**316**	*eP*	**Pb**	**10 12 42.3**	**-0.9**
PICV				*eS*	**Sg**	**10 13 07.4**	**-0.9**
RAFA	**San Farael, Vo**	**1.82**	**332**	*eP*	**Pb**	**10 12 43.4**	**-0.7**
CVTV	**Tajo**	**1.84**	**334**	*eP*	**Pb**	**10 12 44.1**	**-0.1**
CVTQ	**Turrialba Volc**	**1.85**	**333**	*eP*	**Pb**	**10 12 44.1**	**-0.3**
VTLA	**Turrialba Volc**	**1.85**	**333**	*eP*	**Pb**	**10 12 43.9**	**-0.5**
VTLA				*eS*	**Sg**	**10 13 09.3**	**-1.1**
VTR0	**Volcan Turrial**	**1.85**	**334**	*eP*	**Pb**	**10 12 44.7**	**+0.1**
VICA	**Volcano Irazu**	**1.86**	**331**	*eP*	**Pb**	**10 12 44.5**	**-0.2**
CVTG	**V. Turrialba,**	**1.98**	**335**	*eP*	**Pb**	**10 12 46.4**	**-0.1**
VBV1	**V. Barva**	**2.10**	**327**	*eP*	**Pb**	**10 12 48.6**	**-0.2**
FORC	**Fortuna**	**2.72**	**321**	*eP*	**Pb**	**10 12 57.8**	**-1.3**
VACR	**Volcan Arenal**	**2.73**	**321**	*eP*	**Pb**	**10 12 57.8**	**-1.5**
ARE1	**Arenal 1**	**2.75**	**320**	*eP*	**Pb**	**10 12 58.5**	**-1.1**
CEDE	**Laguna Cedeo**	**2.76**	**321**	*eP*	**Pb**	**10 12 58.5**	**-1.3**
JTS	**Las Juntas de**	**2.78**	**314**	*eP*	**Pn**	**10 12 57.3**	**+2.5**
JTS	**Las Juntas de**	**2.78**	**314**	*eP*	**Pn**	**10 12 55.3**	**+0.5**
JTS				*eS*	**Sn**	**10 13 27.6**	**-0.5**

TXNET 29 10:12:30.4, 31°.6N±0°.5×104°.3W±0°.6, h5km±1km, ML2.3/10, 2C-1D, Error ellipse: s-maj=0.9km s-min=0.7km az=61.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.36**	**32**	⇑P	Pg	10 12 37.3	-0.1
TPB11				S	Sg	10 12 42.1	0.0
PECS	**Pecos**	**0.43**	**128**	||P	Pg	10 12 39.0	+0.3
PECS				S	Sg	10 12 44.6	+0.4
TPB12	**Southwest of T**	**0.49**	**148**	P	Pg	10 12 39.9	0.0
TPB12				S	Sg	10 12 46.6	+0.3
TPB07	**Mentone**	**0.51**	**96**	P	Pg	10 12 40.8	+0.6
TPB07				S	Sg	10 12 47.4	+0.6
TPB10	**Southeast of T**	**0.56**	**129**	P	Pg	10 12 41.4	+0.3
TPB10				S	Sg	10 12 49.1	+0.8
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	10 12 41.9	+0.5
PCOS	**Crockett Middl**	**0.68**	**109**	S	Sg	10 12 52.8	+0.6
CLNB	**Carlsbad**	**0.71**	**27**	P	Pg	10 12 43.9	-0.1
CLNB				S	Sg	10 12 53.7	+0.6
TPB01	**Permian Basin**	**0.80**	**149**	P	Pg	10 12 45.3	-0.5
TPB01				S	Sg	10 12 55.7	-0.4
TPB03	**Saragosa**	**0.84**	**131**	P	Pg	10 12 46.5	0.0
TPB03				S	Sg	10 12 57.9	+0.4
CLN7	**Carlsbad 7**	**0.87**	**26**	P	Pg	10 12 46.6	-0.4
TPB08	**Permian Basin**	**0.89**	**89**	S	Sg	10 12 58.4	-0.6
TPB04	**Verhalen**	**0.96**	**118**	S	Sg	10 13 01.4	+0.2
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pb	10 12 49.2	-0.3
MNTX				S	Sb	10 13 02.1	-0.3
HTMS	**Hat Mesa**	**0.99**	**32**	P	Pg	10 12 49.7	+0.2
TPB16	**Coyonosa**	**1.00**	**120**	P	Pg	10 12 49.4	-0.2
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	10 12 50.5	-0.1
VHRN				S	Sb	10 13 04.9	-0.2
TPB05	**Hovey Rd**	**1.07**	**131**	P	Pg	10 12 50.6	-0.3
TPB05				S	Sg	10 13 04.7	-0.2
MNHN	**Monahans**	**1.31**	**103**	P	Pn	10 12 54.2	-1.2
ALPN	**Alpine**	**1.36**	**157**	⇑P	Pn	10 12 54.9	-1.2
ALPN				S	Sb	10 13 12.7	-1.5
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	10 12 56.8	-0.3
ODSA	**Odessa**	**1.53**	**71**	P	Pn	10 12 58.1	-0.4
ODSA				S	Sn	10 13 17.9	-0.9
TMB04	**Seminole**	**1.80**	**56**	P	Pn	10 13 02.6	+0.5
TMB04				S	Sn	10 13 26.0	+0.6
TMB01	**Midkiff**	**1.86**	**88**	P	Pn	10 13 03.7	+0.8
TMB01				S	Sb	10 13 27.7	-0.7
EPT	**El Paso**	**1.92**	**275**	Sg	Sg	10 13 32.9	+0.8
TMB02	**Rankin**	**1.95**	**102**	S	Sb	10 13 30.1	-0.9
TMB06	**Greenwood**	**2.12**	**80**	S	Sb	10 13 34.8	-1.1
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg	Pb	10 13 12.9	-0.4

*IDC **29** 10:23:30.7±6.3, 6°.95S×147°.86E, h92km±43km, mb3.3/2, mbtmp3.7/4, MS3.2/2, Error ellipse: s-maj=57.3km s-min=49.8km az=76.0*

ISC 29 10:23:31.4±2.0, 7°.0S±0°.2×147°.7E±0°.3, h100km, n6, σ1§17/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.49**	**191**	P	**Pn**	**10 24 08.7**	**-1.7**
	58nm,0.3s,baz=22,slow=11,SNR=31						
PMG				S	**Sn**	**10 24 41.7**	**+1.5**
	143nm,0.3s,baz=312,slow=22,SNR=11						
WRA	**Warramunga Arr**	**18.27**	**224**	P	**P**	**10 27 37.4**	**0.0**
	0.5nm,0.4s,baz=53,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.23**	**217**	P	**P**	**10 28 09.8**	**+0.3**
	0.6nm,0.4s,baz=52,slow=9.2,SNR=50						
ASAR				S	**S**	**10 31 59.9**	**-0.2**
	1.1nm,1.0s,baz=33,slow=22,SNR=4.3						
ASAR				LR	LR	10 37 29.4	
	comp=Z,60nm,20.3s,baz=92,slow=39						
	0.6nm,0.4s						
URZ	**Urewera**	**41.00**	**144**	LR	LR	10 46 41.9	
	comp=Z,40nm,19.6s,baz=36,slow=34						
QSPA	**South Pole Qui**	**83.02**	**180**	P	**P**	**10 35 46.2**	**+0.6**
	0.6nm,0.6s,baz=223,slow=1.5,SNR=16						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**145.95**	**283**	PKPbc	**PKPab**	**10 43 01.4**	**+0.3**
	33nm,0.3s,baz=74,slow=4.1,SNR=1.2						

*NNC **29** 10:27:01.4±0.8, 50°.87N×73°.66E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=7.5km s-min=6.4km az=134.0, Suspected Mining explosion.*
*IDC **29** 10:27:05.4±1.1, 51°.33N×73°.84E, h0km, mb3.4/1, mbtmp3.2/4, ML2.3/3, Error ellipse: s-maj=28.3km s-min=8.0km az=31.0*

ISC 29 10:27:01.4±0.8, 50°.96N±0°.05×73°.61E±0°.05, h0km, n18, σ1§13/18, 10C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRZS	**Berezniki**	**1.14**	**212**	P	**Pg**	**10 27 22.2**	**-1.0**
	3.9nm,0.7s						
BRZS				S	**Sg**	**10 27 38.0**	**0.0**
	24nm,0.6s						
OTUK	**Ortayu**	**2.84**	**197**	Pg	**Pn**	**10 27 49.0**	**+1.1**
	2.1nm,0.3s						
OTUK				Lg	Lg	10 28 24.1	
	5.1nm,0.7s						
OTUK	**Ortayu**	**2.84**	**197**	||Pn	**Pn**	**10 27 48.8**	**+0.8**
	8.2nm,0.6s						
OTUK				⇑Lg	Lg	10 28 27.9	
	74nm,0.9s						
BVA0	**Borovoye Array**	**2.87**	**317**	⇑Pg	**Pg**	**10 27 55.1**	**-1.3**
	4.6nm,0.6s,baz=136,slow=16,SNR=12						
BVA0				⇑Lg	Lg	10 28 36.8	
	32nm,0.8s,baz=130,slow=29,SNR=9.7						
BVAR	**Borovoye Array**	**2.87**	**317**	Pg	**Pb**	**10 27 53.5**	**0.0**
	0.2nm,0.3s,baz=124,slow=15,SNR=9.2						
BVAR				Lg	Lg	10 28 33.6	
	0.6nm,0.3s,baz=124,slow=28,SNR=12						
BRVK	**Borovoye**	**2.94**	**317**	||Pg	**Pb**	**10 27 55.8**	**+1.1**
	5.4nm,0.8s						
BRVK				⇑Lg	Lg	10 28 36.7	
	67nm,0.9s						
KURBB	**Kurchatov Arra**	**3.14**	**94**	Pn	**Pn**	**10 27 53.4**	**+1.2**
	0.1nm,0.3s,baz=285,slow=14,SNR=17						
KURBB				Pg	**Pg**	**10 28 00.2**	**-1.4**
	0.4nm,0.3s,baz=283,slow=14,SNR=12						
KURBB				Lg	Lg	10 28 36.5	
	0.5nm,0.3s,baz=269,slow=30,SNR=11						
	5.8nm,0.7s						
KURBB	**Kurchatov Arra**	**3.14**	**94**	⇑Pg	**Pb**	**10 27 58.3**	**+0.2**
	17nm,0.6s						
KURBB				⇑Lg	Lg	10 28 39.8	
	123nm,0.7s						
KURK	**Kurchatov**	**3.19**	**92**	⇑Pg	**Pb**	**10 27 58.9**	**0.0**
	8.4nm,0.7s						
KURK				⇑Lg	Lg	10 28 41.6	
	39nm,0.7s						
MAKZ	**Makanchi**	**6.91**	**124**	⇑Pn	**Pn**	**10 28 42.6**	**-1.2**
	4.4nm,0.9s						
MAKZ				⇑Lg	Lg	10 30 35.7	
	15nm,0.9s						
MK31	**Makanchi Array**	**7.08**	**123**	Pn	**Pn**	**10 28 46.0**	**-0.3**
	2.0nm,0.7s,baz=324,slow=26,SNR=8.0						
MK31				Lg	Lg	10 30 47.5	
	14nm,0.8s,baz=322,slow=27,SNR=4.7						
MKAR	**Makanchi Array**	**7.08**	**123**	Pn	Pn	10 28 51.0	+4.8
	0.1nm,0.3s,baz=309,slow=15,SNR=12						
MKAR				Pg	**Pb**	**10 29 07.2**	**+2.1**
	0.3nm,0.3s,baz=297,slow=16,SNR=7.8						
MKAR				Lg	Lg	10 30 45.0	
	0.4nm,0.3s,baz=312,slow=27,SNR=7.2						
	1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**7.48**	**62**	Pn	**Pn**	**10 28 51.1**	**-0.5**
	0.4nm,0.3s,baz=243,slow=19,SNR=3.6						
ZALV				Sn	**Sn**	**10 30 15.6**	**-1.5**
	0.3nm,0.3s,baz=251,slow=23,SNR=3.8						
	1.2nm,0.5s						
KTBS	**Karatobe**	**7.54**	**163**	Pg	**Pb**	**10 29 13.0**	**-0.1**
	1.0nm,0.6s						
KTBS				Lg	Lg	10 30 47.9	
	8.7nm,0.8s						
AAK	**Ala-Archa**	**8.34**	**175**	Lg	Lg	10 31 29.7	
	0.3nm,0.3s,baz=45,slow=18,SNR=8.6						
AKTO	**Aktyubinsk**	**9.91**	**273**	Lg	Lg	10 32 19.2	
	0.2nm,0.3s,baz=208,slow=8.1,SNR=5.9						
ARTI	**Arti**	**10.53**	**307**	Lg	Lg	10 32 32.3	
	0.1nm,0.3s,baz=37,slow=19,SNR=3.6						
ILAR	**Eielson Array**	**60.42**	**19**	P	**P**	**10 37 13.3**	**+1.3**
	0.3nm,0.6s,baz=329,slow=4.6,SNR=5.1						
	0.3nm,0.6s						

*IDC **29** 10:39:34.9±1.3, 60°.64S×42°.42W, h0km, mb3.9/1, mbtmp3.9/2, ML3.5/1, Error ellipse: s-maj=112.5km s-min=30.8km az=39.0*
*NEIC **29** 10:39:36.0±2.2, 60°.61S±0°.09×42°.5W±0°.2, h10km±2km, mb4.3/10, Error ellipse: s-maj=19.9km s-min=4.2km az=140.0*

ISC 29 10:39:35.5±0.7, 60°.64S±0°.08×42°.33W±0°.09, h10km, n27, σ1§35/22, mb4.5/5, 3C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.11**	**29**	Pn	**Pn**	**10 41 20.0**	**+0.6**
HOPE				Sn	**Sn**	**10 42 38.1**	**-2.0**
ESPZ	**Base Esperanza**	**7.43**	**242**	Pn	**Pn**	**10 41 22.0**	**-1.8**
EFI	**East Falkland**	**12.52**	**309**	Pn	**Pn**	**10 42 34.7**	**+1.3**
VNA3	**Neumayer Olymp**	**16.75**	**143**	⇑P	**Pn**	**10 43 27.7**	**-2.2**
	comp=Z,1.0nm,0.2s						
VNA1	**Neumayer--Stat**	**16.97**	**140**	⇑P	**Pn**	**10 43 31.8**	**-0.8**
	comp=Z,1.0nm,0.2s						
BELA	**Belgrano 2**	**17.50**	**175**	P	**P**	**10 43 42.8**	**+2.4**
BELA				IAmb	IAmb	10 43 48.8	
	comp=Z,11nm,1.3s						
SNAA	**Sanae**	**18.96**	**142**	P	**Pn**	**10 43 57.3**	**+0.1**
SNAA	**Sanae**	**18.96**	**142**	⇑P	**Pn**	**10 44 00.1**	**+2.9**
	comp=Z,5.2nm,0.2s						
SNAA	**Sanae**	**18.96**	**142**	P	**Pn**	**10 43 57.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=295,slow=12,SNR=7.1						
	comp=Z,3.2nm,0.8s						
PLCA	**Paso Flores**	**26.41**	**306**	P	**P**	**10 45 13.1**	**+1.0**
PLCA				IAmb	IAmb	10 45 39.1	
	comp=Z,

KURBB	**Kurchatov Arra**	**146.28**	**80**	PKPbc	**PKPbc**	**10 59 15.3**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=231,slow=3.3,SNR=5.9						
ILAR	**Eielson Array**	**147.06**	**310**	PKPbc	**PKPbc**	**10 59 16.4**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=132,slow=2.6,SNR=4.2						

*IDC **29** 10:44:15.5±3.4, 2°.74N×128°.68E, h220km±34km, mb3.7/19, mbtmp4.2/19, Error ellipse: s-maj=24.2km s-min=8.8km az=78.0*
*NEIC **29** 10:44:16.4±1.4, 2°.7N±0°.1×128°.5E±0°.1, h217km±8km, mb4.4/33, Error ellipse: s-maj=18.1km s-min=13.4km az=55.0*
*DJA **29** 10:44:17.6±0.5, 3°.N±4°×12°8E±°, h195km±4km, M4.4/12, mB4.9/1, mb4.3/7, MLv4.5/12, Mw(mB)4.2/1*
ISC 29 10:44:14.2±0.5, 2°.79N±0°.06×128°.61E±0°.08, h200km, n70, σ1§14/74, mb4.2/33, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.36**	**212**		**Pn**	**10 44 58.6**	**+2.0**
TNTI	**Ternate**	**2.36**	**212**	P	**Pn**	**10 44 57.6**	**+1.0**
TNTI				S	**Sn**	**10 45 29.6**	**-0.1**
SGSI	**Sangihe**	**3.20**	**286**	P	**Pn**	**10 45 07.9**	**+1.7**
SGSI				S	**Sn**	**10 45 46.8**	**-0.1**
SWI	**Sorong**	**4.50**	**144**	P	**Pn**	**10 45 24.9**	**+2.7**
SANI	**Sanana**	**5.48**	**209**	P	**Pn**	**10 45 34.5**	**-0.3**
NLAI	**Namlea**	**6.18**	**194**	P	**Pn**	**10 45 45.3**	**+1.5**
	0.1nm22nm,0.5s						
FAKI	**Fak Fak**	**6.74**	**147**		**Pn**	**10 45 53.8**	**+2.6**
FAKI	**Fak Fak**	**6.74**	**147**	P	**Pn**	**10 45 54.1**	**+3.0**
	0.2nm46nm,0.9s						
LUWI	**Luwuk**	**6.97**	**237**	Pn	**Pn**	**10 45 55.3**	**+1.2**
LUWI	**Luwuk**	**6.97**	**237**	P	**Pn**	**10 45 55.3**	**+1.2**
	78nm,0.7s						
MRSI	**Marisa**	**7.05**	**251**	P	**Pn**	**10 45 56.5**	**+1.4**
TOLI2	**Tolitoli**	**8.00**	**258**	Pn	**Pn**	**10 46 06.8**	**-0.7**
MTN	**Manton Dam**	**15.74**	**171**		**P**	**10 47 44.8**	**-0.6**
KSM	**Kuching**	**18.34**	**266**	P	**P**	**10 48 15.1**	**+1.2**
KSM				IAmb	IAmb	10 48 21.1	
	comp=Z,19nm,1.3s						
KNRA	**Kununurra**	**18.35**	**180**		**P**	**10 48 14.2**	**+0.3**
KNRA				IAmb	IAmb	10 48 17.9	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.96**	**188**	P	**P**	**10 48 42.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**20.96**	**188**	P	**P**	**10 48 40.9**	**-1.1**
	comp=Z,2.7nm,0.7s,baz=31,slow=7.6,SNR=7.9						
	comp=Z,2.7nm,0.7s						
TPUB	**Ta-pu**	**21.80**	**340**	P	**P**	**10 48 50.7**	**+0.2**
TPUB				IAmb	IAmb	10 49 29.1	
	comp=Z,27nm,1.4s						
YHNB	**Yeheng**	**22.84**	**343**	P	**P**	**10 49 00.7**	**+0.4**
YHNB				IAmb	IAmb	10 49 19.9	
	comp=Z,22nm,1.4s						
WB0	**Warramunga Arr**	**23.13**	**166**		**P**	**10 49 02.3**	**-0.6**
WB0				IAmb	IAmb	10 49 03.4	
	comp=Z,9.8nm,1.1s						
WRA	**Warramunga Arr**	**23.28**	**166**	P	**P**	**10 49 02.9**	**-1.3**
WRA	**Warramunga Arr**	**23.28**	**166**	P	**P**	**10 49 03.0**	**-1.3**
	comp=Z,3.0nm,0.6s,baz=335,slow=11,SNR=44						
	comp=Z,3.0nm,0.6s						
WR8	**Warramunga Arr**	**23.34**	**166**	P	**P**	**10 49 04.4**	**-0.3**
WR8				IAmb	IAmb	10 49 05.5	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**26.80**	**169**		**P**	**10 49 35.6**	**-0.4**
ASAR	**Alice Springs**	**26.80**	**169**	P	**P**	**10 49 35.7**	**-0.3**
ASAR	**Alice Springs**	**26.80**	**169**	P	**P**	**10 49 35.1**	**-0.9**
	comp=Z,3.5nm,0.5s,baz=353,slow=7.8,SNR=126						
ASAR				PcP	**PcP**	**10 52 53.0**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=351,slow=2.5,SNR=10						
	comp=Z,3.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.96**	**300**	P	**P**	**10 50 31.7**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=117,slow=9.3,SNR=4.7						
	comp=Z,1.2nm,0.3s						
FORT	**Forrest**	**33.39**	**181**	P	**P**	**10 50 33.5**	**-0.3**
KSRS	**Korea Array**	**34.50**	**359**	P	**P**	**10 50 43.7**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=174,slow=10.0,SNR=10						
	comp=Z,1.7nm,0.6s						
MJAR	**Matsushiro Arr**	**34.73**	**14**	P	**P**	**10 50 44.4**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=186,slow=9.3,SNR=14						
	comp=Z,3.5nm,0.7s						
BBOO	**Buckleboo**	**36.11**	**169**	P	**P**	**10 50 56.8**	**-0.3**
STKA	**Stephens Creek**	**36.62**	**161**	P	**P**	**10 51 01.4**	**-0.1**
STKA	**Stephens Creek**	**36.62**	**161**	P	**P**	**10 51 00.2**	**-1.2**
	comp=Z,1.9nm,0.4s,baz=333,slow=8.3,SNR=13						
	comp=Z,1.9nm,0.4s						
ARMA	**Armidale**	**39.67**	**148**	P	**P**	**10 51 27.2**	**+0.1**
ARMA				IAmb	IAmb	10 52 04.1	
	comp=Z,15nm,1.4s						
USRK	**Ussuriysk Ar.**	**41.34**	**4**	P	**P**	**10 51 40.4**	**0.0**
USRK	**Ussuriysk Ar.**	**41.34**	**4**	P	**P**	**10 51 41.4**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=178,slow=4.3,SNR=5.4						
	comp=Z,2.5nm,0.7s						
SHL	**Shillong**	**41.94**	**306**		**P**	**10 51 46.4**	**+0.6**
XLT	**XiLinHaoTe**	**42.41**	**347**	*e*P	**P**	**10 51 49.8**	**+0.6**
XLT				pP	pP	10 52 34.3	+3.5
XLT				sP	sP	10 53 04.0	+11
XLT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
XLT				pmax	pmax		
	comp=Z,60nm,4.4s						
GTA	**Gaotai**	**44.87**	**328**	*e*P	**P**	**10 52 10.5**	**+1.6**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	**Songino Array**	**48.79**	**340**	P	**P**	**10 52 39.2**	**0.0**
	comp=Z,1.4nm,0.6s,baz=155,slow=7.7,SNR=6.1						
	comp=Z,1.4nm,0.6s						
MKAR	**Makanchi Array**	**59.39**	**325**	P	**P**	**10 53 55.6**	**0.0**
	comp=Z,3.0nm,0.6s,baz=118,slow=8.3,SNR=27						
MKAR				PcP	**pP**	**10 54 39.7**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=131,slow=3.4,SNR=7.1						
	comp=Z,3.0nm,0.6s						
MAKZ	**Makanchi**	**59.58**	**325**		**P**	**10 53 56.1**	**-0.9**
MAKZ				IAmb	IAmb	10 53 57.3	
	comp=Z,3.3nm,0.6s						
BKZ	**Black Stump Fm**	**60.64**	**139**	P	**P**	**10 54 03.5**	**-0.8**
ZAA0	**Zalesovo Array**	**62.27**	**332**	P	**P**	**10 54 13.2**	**-1.6**
ZALV	**Zalesovo Beam**	**62.27**	**332**	P	**P**	**10 54 13.5**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=102,slow=6.2,SNR=6.0						
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**63.54**	**327**	P	**P**	**10 54 23.0**	**-0.3**
KURBB	**Kurchatov Arra**	**63.54**	**327**	P	**P**	**10 54 22.9**	**-0.3**
	comp=Z,6.0nm,0.6s,baz=126,slow=6.0,SNR=32						
	comp=Z,6.0nm,0.6s						
KK31	**Karatay Array**	**65.19**	**317**	P	**P**	**10 54 33.6**	**-0.6**
KKAR	**Karatay Array**	**65.19**	**317**	P	**P**	**10 54 34.0**	**-0.3**
TIXI	**Tiksi**	**68.76**	**0**		**P**	**10 54 56.0**	**-0.1**
TIXI				IAmb	IAmb	10 54 56.1	
	comp=Z,3.0nm,0.5s						
BVAR	**Borovoye Array**	**69.12**	**327**	P	**P**	**10 54 58.2**	**-0.5**
	comp=Z,5.0nm,0.8s,baz=111,slow=8.1,SNR=10						
	comp=Z,5.0nm,0.8s						
NRIK	**Noril'sk**	**71.78**	**346**	P	**P**	**10 55 14.3**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=126,slow=5.0,SNR=4.8						
	comp=Z,2.0nm,0.4s						
E18K	**Tukpahlearik C**	**80.12**	**22**	P	**P**	**10 56 03.2**	**+1.6**
E18K				IAmb	IAmb	10 56 04.4	
	comp=Z,14nm,1.5s						
C18K	**Utukok River**	**80.27**	**20**	P	**P**	**10 56 02.8**	**+0.3**
C18K				IAmb	IAmb	10 56 12.7	
	comp=Z,7.4nm,1.4s						
L18K	**Granite Mounta**	**80.43**	**27**	P	**P**	**10 56 04.7**	**+1.3**
L18K				IAmb	IAmb	10 56 30.2	
	comp=Z,12nm,1.5s						
H19K	**Roundabout Mou**	**81.25**	**24**	P	**P**	**10 56 08.9**	**+1.3**
H19K				IAmb	IAmb	10 56 10.0	
	comp=Z,3.0nm,0.6s						
M19K	**Big River Lodg**	**81.43**	**28**	P	**P**	**10 56 09.6**	**+0.9**
M19K				IAmb	IAmb	10 56 46.3	
	comp=Z,12nm,1.5s						
B20K	**Meade River**	**82.02**	**20**	P	**P**	**10 56 12.2**	**+0.7**
VNDA	**Vanda**	**82.27**	**173**	P	**P**	**10 56 11.7**	**-1.0**
	comp=Z,6.0nm,0.8s,baz=327,slow=5.8,SNR=2.3						
	comp=Z,0.6nm,0.8s						
B21K	**Ikpikpuk River**	**82.80**	**20**	P	**P**	**10 56 17.4**	**+1.8**
B21K				IAmb	IAmb	10 56 17.7	
	comp=Z,5.2nm,0.7s						
B22K	**Teshekpuk Lake**	**83.34**	**19**	P	**P**	**10 56 19.6**	**+1.3**
B22K				IAmb	IAmb	10 56 20.0	
	comp=Z,3.4nm,0.7s						
E22K	**Anaktuvuk Pass**	**83.54**	**22**	P	**P**	**10 56 20.9**	**+1.4**
D24K	**Happy Valley**	**84.75**	**21**	P	**P**	**10 56 26.3**	**+0.8**
C24K	**Franklin Bluff**	**84.86**	**20**	P	**P**	**10 56 26.8**	**+0.8**
ILAR	**Eielson Array**	**85.14**	**25**	P	**P**	**10 56 26.5**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=240,slow=6.1,SNR=4.3						
	comp=Z,0.2nm,0.7s						

BMAR	**Burnt Mountain**	**86.21**	**23**	P	**P**	**10 56 34.0**	**+1.2**
ARCES	**ARCESS Array B**	**91.97**	**340**	P	**P**	**10 56 58.0**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=83,slow=5.7,SNR=16						
	comp=Z,0.8nm,0.4s						
QSPA	**South Pole Qui**	**92.70**	**180**	P	**P**	**10 57 02.3**	**-1.0**
	comp=Z,1.9nm,0.9s,baz=206,slow=1.2,SNR=9.8						
	comp=Z,1.9nm,0.9s						
HFS	**Hagfors**	**99.71**	**333**	P	**Pdif**	**10 57 32.9**	**-2.1**
	comp=Z,0.7nm,0.5s,baz=90,slow=10,SNR=4.6						
	comp=Z,0.7nm,0.5s						
TXAR	**Lajitas Array**	**120.67**	**53**	PKP	**PKPdf**	**11 02 43.0**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=33,slow=2.3,SNR=2.7						

*IDC **29** 10:49:55.0±0.8, 3°.32S×139°.60E, h0km, mb4.2/7, mbtmp4.2/8, ML4.5/1, MS3.1/4, Error ellipse: s-maj=23.6km s-min=12.9km az=136.0*
*DJA **29** 10:50:01.0±0.9, 3°S±3°×14°0E±°, h25km±10km, M4.7/7, mB6.3/1, mb4.9/2, MLv4.7/7, Mw(mB)6.1/1*
*NEIC **29** 10:50:09.4±1.5, 3°.9S±0°.2×139°.3E±0°.1, h49km±21km, mb4.0/15, Error ellipse: s-maj=28.3km s-min=14.5km az=210.0*
ISC 29 10:50:00.7±0.6, 3°.42S±0°.05×139°.86E±0°.05, h35km, n51, σ2§08/54, mb4.3/7, MS3.2/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.88**	**20**	P	**Pn**	**10 50 17.0**	**+0.4**
GENI	**Genyem**	**0.88**	**20**	P	**Pn**	**10 50 17.0**	**+0.4**
GENI				S	**Sn**	**10 50 28.5**	**+0.3**
JAY	**Jayapura**	**1.23**	**43**	Pg	**Pn**	**10 50 21.6**	**+0.1**
	91nm,0.3s,baz=228,slow=15,SNR=120						
JAY				Lg	Lg	10 50 39.4	
	81nm,0.3s,baz=10,slow=8.6,SNR=15						
JAY				LR	LR	10 50 59.3	
	comp=Z,400nm,18.6s,baz=174,slow=47						
JAY	**Jayapura**	**1.23**	**43**	P	**Pn**	**10 50 21.5**	**0.0**
JAY				S	**Sn**	**10 50 37.0**	**0.0**
WAMI	**Wamena**	**1.23**	**248**	P	**Pn**	**10 50 21.6**	**+0.1**
WAMI				S	**Sn**	**10 50 38.9**	**+2.0**
SMPI	**Sarmi**	**1.83**	**321**	P	**Pn**	**10 50 29.7**	**0.0**
SMPI				S	**Sn**	**10 50 54.6**	**+3.0**
SRPI	**Serui, Papua**	**3.93**	**293**	P	**Pn**	**10 51 00.7**	**+2.1**
BAKI	**Biak**	**4.36**	**301**	P	**Pn**	**10 51 05.6**	**+1.1**
MMPI	**Merauke**	**5.04**	**174**	P	**Pn**	**10 51 16.3**	**+2.5**
	32μm371nm,0.9s						
FAKI	**Fak Fak**	**7.62**	**274**		**Pn**	**10 51 50.4**	**+1.1**
FAKI	**Fak Fak**	**7.62**	**274**	P	**Pn**	**10 51 50.2**	**+0.9**
COEN	**Coen**	**10.97**	**163**	Pn	**Pn**	**10 52 38.4**	**+3.1**
COEN	**Coen**	**10.97**	**163**	P	**Pn**	**10 52 38.0**	**+2.8**
KDU	**Kakadu**	**11.75**	**218**	P	**Pn**	**10 52 44.6**	**-1.4**
DRS	**Darwin Rock St**	**12.60**	**224**	P	**Pn**	**10 52 56.7**	**-0.8**
MTN	**Manton Dam**	**12.73**	**222**		**Pn**	**10 52 57.6**	**-1.7**
SANI	**Sanana**	**13.92**	**275**	P	Pn	10 53 09.6	-6.1
KNRA	**Kununurra**	**16.36**	**221**		**Pn**	**10 53 45.8**	**-2.0**
KNRA				IAmb	IAmb	10 53 53.5	
	comp=Z,19nm,0.9s						
SOEI	**Soe**	**16.71**	**247**	Pn	**Pn**	**10 53 51.2**	**-1.2**
QIS	**Mount Isa**	**17.03**	**181**	P	**P**	**10 53 57.6**	**-0.2**
WB0	**Warramunga Arr**	**17.10**	**198**	Pn	**Pn**	**10 53 55.8**	**-1.3**
WB0				IAmb	IAmb	10 54 26.7	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**17.24**	**197**	Pn	**Pn**	**10 53 58.2**	**-0.7**
WR8	**Warramunga Arr**	**17.24**	**197**	Pn	**Pn**	**10 53 57.5**	**-1.5**
WR8				IAmb	IAmb	10 54 24.9	
	comp=Z,9.0nm,0.9s						
WRAB	**Tennant Creek**	**17.27**	**198**	Pn	**Pn**	**10 53 58.0**	**-1.3**
WRAB				IAmb	IAmb	10 54 25.7	
	comp=Z,8.6nm,0.9s						
WB2	**Warramunga Arr**	**17.28**	**198**	Pn	**Pn**	**10 53 58.9**	**-0.5**
WB2				IAmb	IAmb	10 54 14.8	
	comp=Z,9.9nm,0.8s						
WRA	**Warramunga Arr**	**17.28**	**198**	Pn	**Pn**	**10 53 57.4**	**-2.0**
WRA	**Warramunga Arr**	**17.28**	**198**	P	**Pn**	**10 53 56.9**	**-2.5**
	comp=Z,1.8nm,0.3s,baz=17,slow=13,SNR=34						
WRA				S	**Sn**	**10 57 07.2**	**-3.5**
	comp=Z,3.1nm,0.8s,baz=7.5,slow=22,SNR=5.2						
	comp=Z,2.0nm,0.5s						
GUMO	**Guam**	**17.62**	**16**	LR	LR	11 00 19.9	
	comp=Z,26nm,18.3s,baz=212,slow=36						
TOLI2	**Tolitoli**	**19.59**	**283**	P	**Pn**	**10 54 28.8**	**+1.2**
TOLI2				IAmb	IAmb	10 54 32.2	
	comp=Z,9.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.17**	**223**		**P**	**10 54 31.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**20.17**	**223**	P	**P**	**10 54 32.0**	**-0.3**
	comp=Z,9.5nm,0.3s,baz=35,slow=12,SNR=29						
FITZ				S	**S**	**10 58 08.9**	**-8.1**
	comp=Z,5.7nm,0.8s,baz=171,slow=8.4,SNR=3.8						
	comp=Z,9.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.17**	**223**	P	**P**	**10 54 32.0**	**-0.3**
AS01	**Alice Springs**	**20.92**	**195**	P	**P**	**10 54 41.0**	**+0.6**
AS31	**Alice Springs**	**20.93**	**195**	P	**P**	**10 54 41.5**	**+0.9**
AS31				IAmb	IAmb	10 54 44.5	
	comp=Z,5.1nm,0.9s						
ASAR	**Alice Springs**	**20.93**	**195**	P	**P**	**10 54 41.2**	**+0.6**
	comp=Z,9.9nm,0.8s,baz=24,slow=10,SNR=32						
ASAR				S	**S**	**10 58 30.8**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=11,slow=29,SNR=4.3						
ASAR				LR	LR	11 03 37.2	
	comp=Z,95nm,20.3s,baz=84,slow=39						
	comp=Z,9.9nm,0.8s						
INKA	**Innaminka**	**24.20**	**178**	P	**P**	**10 55 17.1**	**+3.1**
WRKA	**Warakurna**	**24.20**	**206**	P	**P**	**10 55 13.1**	**-1.1**
EIDS	**Eidsvold**	**24.34**	**155**	P	**P**	**10 55 20.6**	**+5.1**
EIDS				IAmb	IAmb	10 55 39.1	
	comp=Z,24nm,1.4s						
OOD	**Oodnadatta**	**24.56**	**189**	P	**P**	**10 55 19.5**	**+2.1**
MBWA	**Marble Bar**	**26.35**	**226**	P	**P**	**10 55 32.8**	**-0.9**
MBWA				IAmb	IAmb	10 55 35.1	
	comp=Z,8.0nm,0.9s						
PSA00	**Pilbara Seismi**	**26.53**	**226**	P	**P**	**10 55 35.1**	**-0.2**
STKA	**Stephens Creek**	**28.35**	**177**	P	**P**	**10 55 55.0**	**+3.5**
STKA	**Stephens Creek**	**28.35**	**177**	LR	LR	11 08 23.6	
	comp=Z,95nm,18.8s,baz=25,slow=39						
FORT	**Forrest**	**29.40**	**201**	P	**P**	**10 56 00.6**	**-0.3**
KSRS	**Korea Array**	**42.16**	**346**	LR	LR	11 13 44.8	
	comp=Z,12nm,21.8s,baz=145,slow=34						
MKAR	**Makanchi Array**	**71.05**	**322**	P	**P**	**11 01 14.1**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=116,slow=8.0,SNR=21						
	comp=Z,2.8nm,0.8s						
KURBB	**Kurchatov Arra**	**74.97**	**325**	P	**P**	**11 01 36.8**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=113,slow=5.4,SNR=9.4						
	comp=Z,1.1nm,0.7s						
BVAR	**Borovoye Array**	**80.55**	**325**	P	**P**	**11 02 08.2**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=111,slow=8.1,SNR=5.9						
	comp=Z,1.4nm,0.5s						
ILAR	**Eielson Array**	**86.00**	**24**	P	**P**	**11 02 35.3**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=265,slow=4.2,SNR=5.8						
	comp=Z,0.3nm,0.6s						
QSPA	**South Pole Qui**	**86.53**	**180**	P	**P**	**11 02 39.6**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=202,slow=1.0,SNR=17						
	comp=Z,2.4nm,0.9s						
DBIC	**Dimbokro**	**144.71**	**277**	PKP	**PKPab**	**11 09 32.9**	**-0.8**
	comp=Z,8.5nm,0.7s,baz=75,slow=3.4,SNR=7.6						

*HEL **29** 11:00:05.3±0.2, 64°.75N×30°.68E, h0km, ML1.7, Suspected explosion*
*KOLA **29** 11:00:07.0, 64°.85N×30°.66E, h0km, ML1.7, Error ellipse: s-maj=18.0km s-min=11.6km az=160.0, Karelia*
*IDC **29** 11:00:07.4±2.6, 64°.76N×30°.40E, h0km, mbtmp2.7/3, ML1.6/3, Error ellipse: s-maj=43.0km s-min=9.0km az=101.0*
ISC 29 11:00:04.8±0.9, 64°.79N±0°.02×30°.67E±0°.04, h0km, n34, σ1§46/57, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.66**	**210**	PG	**Pg**	**11 00 16.7**	**-0.7**
	baz=31						
RMF				MSG		11 00 25.0	
	comp=Z,10nm,0.2s						
RMF				SG	**Sg**	**11 00 25.5**	**-0.4**
KU1	**Kurvinen**	**0.91**	**329**	PG	**Pg**	**11 00 22.1**	**-0.1**
KU6	**Riekki**	**1.28**	**346**	PG	**Pg**	**11 00 28.9**	**-0.4**
	baz=161						
KU6				MSG		11 00 45.2	
	comp=Z,3.8nm,0.2s						
KU6				SG	**Sb**	**11 00 47.1**	**+0.3**
MSF	**Maaselka**	**1.32**	**329**	PG	**Pg**	**11 00 29.6**	**-0.5**
MSF				SG	**Sb**	**11 00 48.2**	**+0.4**
KU2	**Taivalkoski**	**1.38**	**313**	PG	**Pg**	**11 00 30.6**	**-0.7**
KU2				SB	**Sg**	**11 00 49.4**	**+0.3**
OLKF	**Oulanka, Finla**	**1.62**	**342**	PG	**Pn**	**11 00 35.0**	**+0.3**
OLKF				MSG		11 00 55.1	
	comp=Z,4.8nm,0.2s						
OLKF				SN	**Sg**	**11 00 57.3**	**+0.3**
NIF	**Nilsia**	**1.89**	**223**	PG	**Pn**	**11 00 38.7**	**+0.4**
NIF				SG	**Sn**	**11 01 03.6**	**+0.9**
JOF	**Joensuu**	**1.90**	**171**	PB	**Pn**	**11 00 37.5**	**-1.0**
JOF				SG	**Sn**	**11 01 02.6**	**-0.5**
RANF	**Ranua**	**2.04**	**309**	PG	**Pb**	**11 00 42.1**	**-0.6**
	baz=125						
RANF				SG	**Sb**	**11 01 07.8**	**-0.7**
OUL	**Oulu**	**2.06**	**280**	PG	**Pn**	**11 00 41.8**	**+1.3**
	baz=95						
OUL				SG	**Sn**	**11 01 07.9**	**+1.0**
KVDA	**Kovda**	**2.11**	**24**	P	**Pn**	**11 00 42.5**	**+1.1**
KVDA				S	**Sn**	**11 01 08.6**	**+0.3**
OBF4	**Vikkela, Lumij**	**2.38**	**273**	PB	**Pn**	**11 00 47.0**	**+1.9**
OBF4				MSG		11 01 15.8	
	comp=Z,5.4nm,0.2s						
OBF4				SG	**Sb**	**11 01 18.0**	**-0.5**
OUF	**Merijarvi**	**2.60**	**263**	PB	**Pn**	**11 00 49.7**	**+1.7**
OUF				MSG		11 01 21.7	
	comp=Z,4.7nm,0.2s						
OUF				SG	**Sb**	**11 01 24.2**	**-0.4**
RNF	**Rovaniemi**	**2.66**	**316**	PN	**Pn**	**11 00 50.2**	**+1.4**
	baz=134						
RNF				SG	**Sb**	**11 01 25.9**	**-0.3**
OBF0	**Syolatti, Pyha**	**2.79**	**267**	PB	**Pn**	**11 00 52.7**	**+2.1**
OBF0				MSG		11 01 27.4	
	comp=Z,3.5nm,0.2s						
OBF0				SG	**Sb**	**11 01 29.8**	**-0.2**
SUF	**Sumiainen**	**2.89**	**226**	PB	**Pn**	**11 00 54.5**	**+2.5**
SUF				MSG		11 01 29.5	
	comp=Z,1.3nm,0.2s						
SUF				SG	**Sb**	**11 01 33.0**	**0.0**
TOF	**Tornio**	**2.95**	**299**	PB	**Pn**	**11 00 54.3**	**+1.5**
TOF				MSG		11 01 32.6	
	comp=Z,1.3nm,0.2s						
TOF				SG	**Sb**	**11 01 34.4**	**-0.4**
APA0	**Apatity Array**	**2.98**	**17**	P	**Pn**	**11 00 54.0**	**+0.8**
APA0				S	**Sn**	**11 01 29.5**	**-0.1**
VRF	**Varrio**	**3.00**	**352**	PN	**Pn**	**11 00 55.0**	**+1.4**
VRF				MSG		11 01 34.7	
	comp=Z,1.0nm,0.2s						
KALU	**Kalix**	**3.25**	**293**	PN	**Pn**	**11 00 58.7**	**+1.7**
KLF	**Kolari**	**3.68**	**315**	PN	**Pn**	**11 01 04.0**	**+1.2**
KEF	**Keuruu**	**3.70**	**227**	PB	**Pn**	**11 01 05.9**	**+2.7**
RAJF	**Raja-Jooseppi**	**3.82**	**347**	PN	**Pn**	**11 01 05.5**	**+0.7**
PAJU	**Pajala**	**3.83**	**309**	PN	**Pn**	**11 01 06.4**	**+1.5**
PAJU				SG	**Sg**	**11 02 04.8**	**-2.8**
ERTU	**Ertsjaerv**	**3.93**	**301**	PN	**Pn**	**11 01 08.1**	**+1.8**
VAF	**Ylistaro**	**3.95**	**247**	SG	**Sg**	**11 02 08.2**	**-3.2**
FIA0	**FINESS Array S**	**3.96**	**214**	PG	**Pb**	**11 01 16.2**	**+0.9**
	baz=30						
FIA0				SG	**Sb**	**11 02 06.2**	**+2.6**
FINES	**FINESS Array B**	**3.96**	**214**	Pn	**Pn**	**11 01 07.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=25,slow=14,SNR=2.0						
FINES				Pg	**Pb**	**11 01 15.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=28,slow=16,SNR=4.8						
FINES				Lg	Lg	11 02 06.8	
	comp=Z,0.3nm,0.3s,baz=32,slow=28,SNR=9.3						
	comp=Z,0.7nm,0.7s						
BURU	**Burvik**	**4.00**	**271**	PN	**Pn**	**11 01 07.5**	**+0.3**
BURU				SN	**Sn**	**11 01 55.1**	**+0.4**
HEF	**Hetta**	**4.58**	**326**	PN	**Pn**	**11 01 17.3**	**+2.0**
HEF				SG	**Sb**	**11 02 26.1**	**+4.4**
ARCES	**ARCESS Array B**	**5.17**	**339**	Pn	**Pn**	**11 01 23.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=155,slow=12,SNR=30						
ARCES				Sn	**Sn**	**11 02 21.0**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=163,slow=23,SNR=1.8						
ARCES				Lg	Lg	11 02 41.7	
	comp=Z,0.1nm,0.3s,baz=148,slow=30,SNR=7.6						
	comp=Z,0.2nm,0.2s						
ARCES	**ARCESS Array B**	**5.17**	**339**	P	**Pn**	**11 01 23.4**	**0.0**
ARCES				S	**Sn**	**11 02 21.1**	**-2.6**
I37NO	**I37NO**	**6.39**	**318**	I	I	11 36 43.8	
	baz=129,slow=321,SNR=1.6						
HFS	**Hagfors**	**9.13**	**247**	Pn	**Pn**	**11 02 16.8**	**-0.8**
	comp=Z,0.1nm

WRAB				IAmb	IAmb	11 12 52.4	
	comp=Z,16nm,1.2s						
WRA	**Warramunga Arr**	**18.38 195**		P	**P**	**11 12 39.3**	**-2.3**
WRA	**Warramunga Arr**	**18.38 195**		P	**Pn**	**11 12 42.2**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=18,slow=12,SNR=55						
	comp=Z,1.8nm,0.5s						
KAPI	**Kappang**	**19.64 261**		LR	LR	11 23 34.6	
	comp=Z,30nm,18.1s,baz=152,slow=46						
FITZ	**Fitzroy Crossi**	**20.76 219**		P	**P**	**11 13 06.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.76 219**		P	**P**	**11 13 07.9**	**+0.4**
	comp=Z,2.8nm,1.1s,baz=57,slow=17,SNR=1.7						
	comp=Z,2.8nm,1.1s						
AS31	**Alice Springs**	**22.07 193**			**P**	**11 13 22.1**	**+0.5**
AS31				IAmb	IAmb	11 13 26.3	
	comp=Z,2.9nm,1.0s						
ASAR	**Alice Springs**	**22.07 193**			**P**	**11 13 20.8**	**-0.8**
ASAR	**Alice Springs**	**22.07 193**		P	**P**	**11 13 22.8**	**+1.1**
	comp=Z,3.3nm,0.6s,baz=27,slow=11,SNR=47						
	comp=Z,3.3nm,0.6s						
STKA	**Stephens Creek**	**29.72 176**		P	**P**	**11 14 30.8**	**-1.9**
STKA	**Stephens Creek**	**29.72 176**		P	**P**	**11 14 31.2**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=346,slow=15,SNR=3.9						
	comp=Z,1.3nm,0.7s						
FORT	**Forrest**	**30.44 199**		P	**P**	**11 14 40.4**	**+1.5**
FORT				IAmb	IAmb	11 15 09.0	
	comp=Z,31nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**33.90**	**52**	T	T	11 50 46.4	
	baz=235,slow=75,SNR=238						
H11S2	**WAKE ISLAND Hy**	**33.91**	**52**	T	T	11 50 45.7	
	baz=235,slow=75,SNR=298						
H11S1	**WAKE ISLAND Hy**	**33.91**	**52**	T	T	11 50 47.8	
	baz=235,slow=75,SNR=283						
H11N1	**WAKE ISLAND Hy**	**34.75**	**50**	T	T	11 51 51.0	
	baz=233,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**34.76**	**50**	T	T	11 51 51.9	
	baz=233,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**34.76**	**50**	T	T	11 51 54.3	
	baz=233,slow=75,SNR=18						
NWAO	**Narrogin (SRO)**	**36.98 212**		LR	LR	11 32 09.4	
	comp=Z,103nm,18.2s,baz=102,slow=38						
CMAR	**Chiang Mai Arr**	**44.57 299**		P	**P**	**11 16 39.5**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=122,slow=6.5,SNR=7.7						
	comp=Z,1.2nm,0.3s						
SONM	**Songino Array**	**57.37 334**		P	**P**	**11 18 15.7**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=143,slow=8.4,SNR=4.2						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**69.60 322**		P	**P**	**11 19 35.7**	**+0.3**
MKAR	**Makanchi Array**	**69.60 322**		P	**P**	**11 19 35.2**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=116,slow=8.2,SNR=9.2						
	comp=Z,1.1nm,0.8s						
MAKZ	**Makanchi**	**69.80 322**			**P**	**11 19 37.2**	**+0.5**
MAKZ				IAmb	IAmb	11 19 38.5	
	comp=Z,3.5nm,1.0s						
KURBB	**Kurchatov Arra**	**73.51 325**		P	**P**	**11 19 58.5**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=113,slow=5.7,SNR=5.9						
	comp=Z,0.9nm,0.9s						
VNDA	**Vanda**	**76.36 175**		P	**P**	**11 20 14.9**	**0.0**
	comp=Z,0.6nm,0.8s,baz=306,slow=6.8,SNR=3.5						
	comp=Z,0.6nm,0.8s						
BVAR	**Borovoye Array**	**79.09 325**		P	**P**	**11 20 31.4**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=99,slow=9.2,SNR=6.8						
	comp=Z,1.1nm,0.6s						
ILAR	**Eielson Array**	**85.05 24**		P	**P**	**11 21 00.6**	**-0.9**
	comp=Z,0.6nm,1.0s,baz=261,slow=6.2,SNR=4.4						
	comp=Z,0.6nm,1.0s						
QSPA	**South Pole Qui**	**87.86 180**		P	**P**	**11 21 15.5**	**0.0**
	comp=Z,1.5nm,0.9s,baz=27,slow=9.4,SNR=3.2						
	comp=Z,1.5nm,0.9s						
LPAZ	**La Paz**	**147.40 125**		PKPbc	**PKiKP**	**11 28 13.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=180,slow=2.0,SNR=6.7						

DJA 29 11:12:36.5±0.3, 3°S±3°×12°7E±°, h10km, M3.9/12, mB4.9/1, mb4.2/4, MLv3.8/12, Mw(mB)4.1/1, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.28**	**102**	P	Pg	11 12 42.2	+0.1
NLAI				S	Sg	11 12 45.7	-0.1
SANI	**Sanana**	**1.40**	**323**	P	Pn	11 13 01.8	-0.4
SANI				S	Sn	11 13 19.1	-1.6
AAI	**Ambon**	**1.45**	**110**	P	Pn	11 13 02.8	0.0
MSAI	**Masohi**	**2.10**	**95**	P	Pn	11 13 12.1	+0.3
BNDI	**Bandanaira**	**3.34**	**114**	P	Pn	11 13 29.5	+0.6
LUWI	**Luwuk**	**4.58**	**298**	P	Pn	11 13 46.1	+0.2
FAKI	**Fak Fak**	**5.42**	**87**	P	Pn	11 13 58.1	+0.7
	0.1nm14nm,0.7s						
MRSI	**Marisa**	**6.09**	**307**	P	Pn	11 14 07.0	+0.4
	848nm20nm,0.4s						
BSSI	**Bau Bau, Buton**	**6.97**	**245**	P	Pn	11 14 18.5	-0.3

IDC 29 11:12:45.9±3.4, 42°89N×29°43W, h0km, mb3.8/5, mbtmp3.7/6, ML4.1/1, MS3.0/15, Error ellipse: s-maj=109.1km s-min=31.5km az=3.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**19.38**	**91**	P	P	11 17 13.4	+0.1
	0.1nm,0.3s,baz=284,slow=12,SNR=4.1						
ESDC				LR	LR	11 23 46.9	
	comp=Z,24nm,18.6s,baz=280,slow=34						
	0.4nm,0.5s						
DAVOX	**Davos/Dischmat**	**27.94**	**68**	LR	LR	11 27 38.9	
	comp=Z,33nm,21.9s,baz=256,slow=32						
BBTS	**Babate**	**30.24**	**155**	LR	LR	11 28 33.2	
	comp=Z,34nm,21.4s,baz=76,slow=31						
NOA	**NORSAR Array B**	**30.25**	**39**	LR	LR	11 28 56.0	
	comp=Z,9.0nm,19.7s,baz=215,slow=32						
FRB	**Frobisher Bay**	**30.58**	**327**	LR	LR	11 29 35.9	
	comp=Z,27nm,18.0s,baz=69,slow=33						
HFS	**Hagfors**	**31.18**	**41**	LR	LR	11 28 50.8	
	comp=Z,20nm,21.8s,baz=198,slow=31						
FINES	**FINESS Array B**	**37.37**	**41**	LR	LR	11 33 09.7	
	comp=Z,22nm,20.9s,baz=5.5,slow=33						
MLR	**Muntele Rosu**	**39.13**	**67**	LR	LR	11 37 21.7	
	comp=Z,21nm,18.9s,baz=266,slow=38						
AKASG	**Malin Array Be**	**39.96**	**58**	LR	LR	11 36 44.3	
	comp=Z,30nm,19.0s,baz=90,slow=36						
TKL	**Tuckaleechee C**	**42.06**	**279**	LR	LR	11 37 45.3	
	comp=Z,19nm,18.5s,baz=148,slow=36						
MDP	**Montagnes des**	**42.88**	**215**	LR	LR	11 36 16.6	
	comp=Z,26nm,18.4s,baz=86,slow=33						
ULM	**Lac du Bonnet**	**44.89**	**304**	LR	LR	11 38 12.8	
	comp=Z,36nm,19.5s,baz=41,slow=34						
MMAI	**Mount Meron Ar**	**50.92**	**78**	LR	LR	11 43 38.2	
	comp=Z,19nm,19.9s,baz=184,slow=36						
PDAR	**Pinedale Array**	**56.52**	**300**	P	P	11 22 30.1	-0.1
	0.5nm,0.8s,baz=79,slow=7.7,SNR=6.0						
	0.5nm,0.8s						
JTS	**Las Juntas de**	**58.01**	**253**	LR	LR	11 43 14.9	
	comp=Z,23nm,20.7s,baz=53,slow=32						
KURBB	**Kurchatov Arra**	**67.77**	**41**	P	P	11 23 45.3	+0.2
	2.0nm,1.0s,baz=315,slow=6.7,SNR=12						
	2.0nm,1.0s						
ZALV	**Zalesovo Beam**	**68.37**	**35**	P	P	11 23 48.8	-0.2
	0.4nm,0.3s,baz=297,slow=7.7,SNR=4.2						
	0.4nm,0.3s						
AAK	**Ala-Archa**	**70.90**	**49**	LR	LR	11 57 24.6	
	comp=Z,24nm,18.1s,baz=223,slow=38						
MKAR	**Makanchi Array**	**72.19**	**42**	P	P	11 24 12.5	0.0
	1.2nm,0.8s,baz=316,slow=6.8,SNR=8.5						
	1.2nm,0.8s						
SONM	**Songino Array**	**81.61**	**28**	P	P	11 25 05.6	-0.1
	0.2nm,0.4s,baz=317,slow=6.1,SNR=2.1						
	0.2nm,0.4s						

TXNET 29 11:13:02.5, 31°6N±0°5×104°3W±0°6, h5km±1km, ML2.3/8, 5C-1D, Error ellipse: s-maj=0.9km s-min=0.7km az=68.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	⇑P	Pg	11 13 09.4	0.0
TPB11				S	Sg	11 13 14.1	+0.1
PECS	**Pecos**	**0.42**	**129**	⇑P	Pg	11 13 11.1	+0.4
PECS				S	Sg	11 13 16.6	+0.3
TPB12	**Southwest of T**	**0.49**	**149**	P	Pg	11 13 12.0	0.0
TPB12				S	Sg	11 13 18.8	+0.4
TPB07	**Mentone**	**0.50**	**96**	S	Sg	11 13 19.1	+0.4
TPB10	**Southeast of T**	**0.55**	**129**	P	Pg	11 13 13.4	+0.3
TPB10				S	Sg	11 13 21.1	+0.7
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	11 13 13.8	+0.3
PCOS	**Crockett Middl**	**0.68**	**109**	S	Sg	11 13 24.8	+0.6
CLNB	**Carlsbad**	**0.70**	**27**	P	Pg	11 13 15.9	-0.2
CLNB				S	Sg	11 13 26.0	+0.8
TPB01	**Permian Basin**	**0.80**	**149**	⇑P	Pg	11 13 17.3	-0.6
TPB01				S	Sg	11 13 27.8	-0.5
TPB03	**Saragosa**	**0.84**	**131**	P	Pg	11 13 18.6	0.0
TPB03				S	Sg	11 13 29.8	+0.3
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	11 13 21.3	+0.3
MNTX				S	Sb	11 13 34.2	-0.6
HTMS	**Hat Mesa**	**0.99**	**32**	P	Pg	11 13 21.6	+0.2
VHRN	**Van Horn**	**1.05**	**217**	⇑P	Pg	11 13 22.5	-0.2
VHRN				S	Sb	11 13 37.4	0.0
TPB05	**Hovey Rd**	**1.07**	**132**	⇑P	Pg	11 13 22.7	-0.3
TPB05				S	Sg	11 13 36.7	-0.2
ALPN	**Alpine**	**1.36**	**157**	⇓P	Pn	11 13 27.2	-1.2
ALPN				S	Sg	11 13 44.7	-1.7
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	11 13 28.8	-0.4
ODSA	**Odessa**	**1.53**	**71**	P	Pn	11 13 30.0	-0.6
ODSA				S	Sn	11 13 49.9	-1.0
TMB04	**Seminole**	**1.79**	**56**	P	Pn	11 13 34.5	+0.3
TMB04				S	Sb	11 13 58.2	-0.6
TMB01	**Midkiff**	**1.85**	**88**	P	Pn	11 13 35.9	+0.9
TMB01				S	Sb	11 13 59.6	-0.8
TMB02	**Rankin**	**1.94**	**102**	P	Pn	11 13 37.1	+0.8
TMB02				S	Sb	11 14 02.4	-0.7
TMB05	**Klondike**	**2.26**	**63**	P	Pb	11 13 42.5	-1.3
TMB05				S	Sb	11 14 11.1	-1.1
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg	Pb	11 13 45.2	-0.2

TAP 29 11:14:38.2, 23°24N×121°27E, h11km, ML2.2, 3C-4D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FULB	**Fuli**	**0.05**	**153**	⇑P	Pg	11 14 41.0	+0.7
FULB				S	Sg	11 14 43.2	+1.3
EHD	**Haiduan**	**0.11**	**213**	⇑P	Pg	11 14 41.6	+0.6
EHD				S	Sg	11 14 43.7	+0.6
TWF1	**Yuli**	**0.11**	**12**	⇑P	Pg	11 14 41.1	0.0
TWF1				S	Sg	11 14 42.9	-0.3
EYUL	**Yuli**	**0.12**	**23**	P	Pg	11 14 41.3	+0.2
EYUL				eS	Sg	11 14 43.9	+0.7
CHKH	**Chenggong**	**0.12**	**113**	P	Pg	11 14 41.7	+0.5
CHKH				S	Sg	11 14 44.3	+0.9
ECS	**Chishang**	**0.15**	**198**	P	Pb	11 14 42.5	-0.7
ECS				S	Sg	11 14 46.2	+2.0
YULB	**Yu-li**	**0.15**	**9**	P	Pg	11 14 41.7	0.0
YULB				S	Sg	11 14 43.8	-0.4
YULB	**Yu-li**	**0.15**	**9**		Pg	11 14 41.8	+0.1
CHKT	**Chengkung**	**0.17**	**148**	P	Pb	11 14 43.0	-0.4
CHKT				S	Sg	11 14 46.6	+2.1
ECBN	**Changbin**	**0.18**	**66**	P	Pb	11 14 43.2	-0.4
ECBN				S	Sg	11 14 47.5	+2.6
ELDTW	**Lidau**	**0.24**	**258**	⇓P	Pg	11 14 43.5	+0.2
ELDTW				S	Sg	11 14 46.6	0.0
EHYH	**Wanrong**	**0.26**	**15**	P	Pg	11 14 44.0	+0.4
EHYH				S	Sg	11 14 47.4	+0.2
EHY	**Hungye**	**0.27**	**10**	P	Pg	11 14 44.0	+0.2
EHY				S	Sg	11 14 47.3	-0.2
EDH	**Donghe**	**0.27**	**174**	P	Pb	11 14 44.8	-0.3
EDH				S	Sb	11 14 49.8	+0.1
HGSD	**Ruisui**	**0.29**	**29**	P	Pb	11 14 45.1	-0.3
HGSD				S	Sb	11 14 50.6	+0.4
LONT	**Longtian**	**0.36**	**201**	P	Pb	11 14 46.0	-0.6
LONT				S	Sb	11 14 52.4	+0.1
YUS	**Yu-Shan**	**0.38**	**310**	eP	Pg	11 14 42.2	-3.8
YUS				eS	Sg	11 14 47.4	-3.8
EGFH	**Guangfu**	**0.45**	**19**	P	Pg	11 14 47.5	+0.4
EGFH				S	Sg	11 14 53.4	+0.3
TWG	**Pinlang**	**0.46**	**204**	P	Pg	11 14 47.0	-0.2
TWG				S	Sb	11 14 54.5	-0.7
TWGBT	**Beinan**	**0.46**	**203**	P	Pg	11 14 46.9	-0.3
TWGBT				S	Sb	11 14 54.6	-0.5
STYH	**Taoyuan**	**0.46**	**261**	⇓P	Pg	11 14 46.5	-0.8
STYH				S	Sg	11 14 52.4	-1.0
STYT	**Tauyuan**	**0.48**	**261**	P	Pg	11 14 48.2	+0.5
STYT				S	Sg	11 14 54.4	+0.4
WARBT	**Fenglin Townsh**	**0.49**	**13**	P	Pg	11 14 47.3	-0.5
WARBT				S	Sg	11 14 53.8	-0.4
VWDT	**VWDT**	**0.52**	**347**	P	Pg	11 14 48.7	+0.2
VWDT				eS	Sb	11 14 56.4	-0.7
ESL	**Shilin**	**0.59**	**15**	P	Pg	11 14 50.0	+0.3
ESL				S	Sg	11 14 58.2	+0.7
TPUB	**Ta-pu**	**0.59**	**276**	⇓P	Pb	11 14 50.8	+0.2
TPUB				S	Sb	11 14 59.4	+0.3
LDUT	**Ludao**	**0.59**	**162**	P	Pg	11 14 50.2	+0.4
LDUT				S	Sb	11 14 59.8	+0.7
WHYT	**Xinyi Township**	**0.59**	**320**	P	Pb	11 14 50.6	-0.1
WHYT				S	Sb	11 14 58.4	-0.7
WTP	**Ta-pu**	**0.60**	**271**	P	Pb	11 14 51.1	+0.2
WTP				S	Sb	11 14 59.9	+0.4
SHUL	**Shoufeng**	**0.61**	**26**	P	Pb	11 14 50.6	-0.3
SHUL				eS	Sb	11 14 59.5	0.0
SSLB	**Suanglung**	**0.62**	**332**	P	Pg	11 14 50.3	+0.1
SSLB				S	Sg	11 14 58.5	+0.1
CHN4	**Tsaushan**	**0.63**	**280**	P	Pb	11 14 51.7	+0.3
CHN4				eS	Sb	11 15 00.3	+0.1
WCKO	**Fanlu**	**0.64**	**288**	P	Pb	11 14 51.8	+0.3
WCKO				eS	Sb	11 15 00.9	+0.4
CHN5	**Tsauling**	**0.65**	**303**	⇓P	Pb	11 14 52.0	+0.3
CHN5				eS	Sb	11 15 01.0	+0.2
SGST	**Jiashian**	**0.65**	**256**	eP	Pg	11 14 50.8	-0.1
SGST				eS	Sb	11 15 01.0	+0.2
CHN1	**Nanshi**	**0.69**	**265**	P	Pb	11 14 53.0	+0.7
CHN1				S	Sn	11 15 03.9	-0.7
ECL	**Taimali**	**0.70**	**205**	P	Pg	11 14 51.7	-0.2
ECL				S	Sg	11 15 01.5	+0.4
SNST	**Tainan City**	**0.71**	**268**	P	Pb	11 14 53.3	+0.6
SNST				S	Sn	11 15 04.3	-1.0
OWD	**Renai**	**0.72**	**353**	P	Pg	11 14 51.9	-0.2
OWD				S	Sb	11 15 02.4	-0.3
TWK	**Hsinying**	**0.72**	**272**	P	Pb	11 14 53.4	+0.5
TWK				S	Sn	11 15 04.9	-0.7
SMLT	**Sun Moon Lake**	**0.72**	**332**	P	Pg	11 14 51.4	-0.9
SMLT				eS	Sg	11 15 01.0	-0.8
ETM	**Tongmen**	**0.75**	**16**	eP	Pn	11 14 54.4	-0.4
ETM				eS	Sb	11 15 03.8	+0.2
TYC	**Yuchr**	**0.76**	**330**	P	Pb	11 14 53.5	-0.1
TYC				eS	Sg	11 15 03.4	+0.4
WUSB	**Renai**	**0.76**	**349**	P	Pg	11 14 52.9	-0.1
WUSB				S	Sg	11 15 02.9	-0.1
WJS	**Zhushan**	**0.76**	**319**	P	Pn	11 14 54.5	-0.5
WJS				S	Sn	11 15 06.3	-0.3
SSD	**Sandimen**	**0.77**	**230**	P	Pg	11 14 52.0	-1.1
SSD				S	Sg	11 15 02.8	-0.3
TSMG	**Majia**	**0.79**	**227**	P	Pg	11 14 52.9	-0.5
TSMG				eS	Sg	11 15 03.1	-0.6
LXIB	**Xiulin Townshi**	**0.79**	**10**	P	Pg	11 14 53.0	-0.5
LXIB				S	Sb	11 15 04.9	+0.1
WDLH	**Douliu**	**0.81**	**304**	P	Pn	11 14 55.8	+0.2
WDLH				S	Sn	11 15 08.0	+0.4
WNT	**Mingjian**	**0.83**	**320**	P	Pn	11 14 56.2	-0.3
WNT				S	Sn	11 15 08.2	0.0
MASBT	**Mashibuluo**	**0.86**	**223**	P	Pg	11 14 53.2	-1.6
MASBT				S	Sg	11 15 05.3	-0.7
WCS	**Beigang Elemen**	**0.88**	**338**	P	Pb	11 14 55.3	-0.2
WCS				S	Sb	11 15 08.2	+0.9
TWD	**Chiawan**	**0.89**	**20**	P	Pg	11 14 55.1	-0.2
WHF	**Hehuan Shan**	**0.90**	**360**	P	Pg	11 14 55.3	-0.3
WHF				eS	Sb	11 15 08.4	+0.1
TAWH	**Dawu Township**	**0.96**	**202**	eP	Pg	11 14 54.9	-1.9
TAWH				eS	Sg	11 15 08.5	-0.9
NACB	**Ninganchiao**	**0.97**	**18**	P	Pg	11 14 56.2	-0.9
NACB				eS	Sg	11 15 08.8	-0.9
ETLH	**Xiulin Townshi**	**0.98**	**11**	P	Pg	11 14 56.7	-0.5
ETLH				eS	Sn	11 15 11.7	-0.4
WSL	**Shuilin Townsh**	**1.00**	**287**	eP	Pn	11 14 58.2	0.0
WSL				S	Sn	11 15 13.3	+1.0
FUSS	**Fushou**	**1.00**	**359**	P	Pg	11 14 57.1	-0.5
FUSS				S	Sb	11 15 11.2	+0.1
SCZT	**Fangliau**	**1.05**	**215**	eP	Pb	11 14 57.7	-0.8
SCZT				eS	Sg	11 15 11.8	-0.4
WHP	**Taichung City**	**1.07**	**344**	P	Pn	11 14 59.6	+0.2
WHP				eS	Sn	11 15 14.1	-0.3
TSCK	**Chigu Township**	**1.09**	**265**	P	Pb	11 14 58.6	-0.6
TSCK				S	Sn	11 15 16.9	+2.2
NNSB	**Datong**	**1.19**	**5**	P	Pb	11 15 00.3	-0.6
NNSB				S	Sg	11 15 16.6	+0.1
TWQ1	**Liyutan**	**1.19**	**338**	P	Pg	11 15 01.6	+0.4
TWQ1				S	Sn	11 15 20.0	+2.8
NNS	**Nan Shan**	**1.20**	**4**	eP	Pb	11 15 00.9	-0.1
NNS				S	Sb	11 15 16.6	0.0
LATG	**Datong**	**1.31**	**10**	P	Pn	11 15 01.4	-1.2
LATG				eS	Sb	11 15 19.8	0.0
NFF	**Wufeng Townshi**	**1.39**	**354**	P	Pb	11 15 04.3	0.0
NFF				eS	Sg	11 15 23.0	-0.1
ENTT	**Nioudou**	**1.42**	**11**	eP	Pn	11 15 04.3	+0.3
ENTT				eS	Sn	11 15 22.4	-0.4
YHNB	**Yeheng**	**1.43**	**4**	P	Pn	11 15 04.4	+0.2
YHNB				eS	Sg	11 15 24.4	+0.2
NSK	**Sanguang**	**1.43**	**3**	eP	Pb	11 15 05.0	0.0
NSK				S	Sn	11 15 22.8	-0.4
WDGT	**Dungji**	**1.48**	**271**	P	Pb	11 15 06.0	+0.1
WDGT				S	Sg	11 15 25.6	-0.4
FUSB	**Fushanzhiwuyua**	**1.54**	**11**	eP	Pg	11 15 07.8	-0.1
FUSB				eS	Sn	11 15 25.9	+0.1
NWLT	**Wulai**	**1.54**	**8**	eP	Pn	11 15 06.3	+0.5
NWLT				eS	Sn	11 15 25.0	-0.9
VCHM	**Qimei**	**1.69**	**269**	eP	Pb	11 15 09.2	-0.2
VCHM				eS	Sb	11 15 31.7	+0.9

*IDC **29** 11:19:09.2±6.8, 7°83S×122°62E, h590km±115km, mb2.9/2, mbtmp3.7/5, Error ellipse: s-maj=201.9km s-min=31.4km az=49.0*

ISC 29 11:19:08.3±0.9, 7°4S±0°1×123°0E±0°2, h600km, n17, σ2°13/14, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.67**	**152**	P	P	11 20 19.0	-6.9
SOEI	**Soe**	**2.67**	**152**	S	S	11 21 19.4	-10
PLAI	**Plampang**	**5.36**	**254**	P	**P**	**11 20 41.5**	**-2.6**
TOLI2	**Tolitoli**	**8.72**	**345**	P	**P**	**11 21 12.9**	**-1.8**
FAKI	**Fak Fak**	**10.23**	**65**	P	P	11 21 23.2	-6.3
FITZ	**Fitzroy Crossi**	**10.96**	**167**	P	**P**	**11 21 34.0**	**-2.6**
	1.2nm,0.3s,baz=3.2,slow=14,SNR=17						
MBWA	**Marble Bar**	**14.05**	**193**	P	**P**	**11 22 07.4**	**-0.3**
DAV	**Davao City (W)**	**14.59**	**10**	P	**P**	**11 22 11.6**	**-1.3**
WRA	**Warramunga Arr**	**16.64**	**140**	P	**P**	**11 22 30.4**	**-1.3**
	0.3nm,0.3s,baz=315,slow=9.7,SNR=10.0						
GIRL	**Giralia**	**17.35**	**208**	P	**P**	**11 22 40.5**	**+2.4**
WRKA	**Warakurna**	**18.27**	**164**	P	**P**	**11 22 46.9**	**+0.4**
ASAR	**Alice Springs**	**19.28**	**148**	P	**P**	**11 22 55.9**	**+0.2**
	0.4nm,0.4s,baz=321,slow=8.6,SNR=25						
AS01	**Alice Springs**	**19.30**	**148**	P	**P**	**11 22 55.6**	**-0.3**
MEEK	**Meekatharra**	**19.59**	**192**	P	**P**	**11 23 00.2**	**+1.8**
BLDU	**Ballidu**	**23.84**	**193**	P	**P**	**11 23 38.3**	**+2.0**
MKAR	**Makanchi Array**	**64.92**	**330**	P	**P**	**11 28 53.4**	**+3.4**
	0.9nm,0.5s,baz=132,slow=7.4,SNR=11						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**69.36**	**332**	P	**P**	**11 29 19.2**	**+2.3**
	0.4nm,0.6s,baz=140,slow=5.9,SNR=4.4						
	0.4nm,0.6s						

*DNK **29** 11:30:37.9±1.7, 55°95N×15°61E, h0km, ML3.1(UPP), Explosion*
*UPP **29** 11:30:38.5±0.3, 56°00N×15°54E, h0km, ML3.1, Unknown*
*BER **29** 11:30:39.0±1.9, 55°95N×15°62E, h0km, ML3.1(UPP), Suspected explosion*
*IDC **29** 11:30:42.1±2.4, 56°23N×15°49E, h0km, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=21.7km s-min=14.1km az=25.0*

ISC 29 11:30:36.9±0.8, 55°96N±0°03×15°54E±0°03, h0km, n63, σ1°05/106, 2C, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLEU	**Blekinge**	**0.38**	**24**	P	**Pg**	**11 30 45.1**	**+0.9**
BLEU				S	**Sg**	**11 30 49.5**	**+0.3**
BLEU	**Blekinge**	**0.38**	**24**	P	**Pg**	**11 30 45.1**	**+0.9**
BLEU				S	**Sg**	**11 30 49.5**	**+0.3**
BLEU	**Blekinge**	**0.38**	**24**	⇑P	**Pg**	**11 30 45.1**	**+0.9**
BLEU				eS	**Sg**	**11 30 49.0**	**-0.2**
BLEU	**Blekinge**	**0.38**	**24**	P	**Pg**	**11 30 45.1**	**+0.9**
BLEU				P	**Pg**	**11 30 45.1**	**+0.9**
BLEU				S	**Sg**	**11 30 49.5**	**+0.3**
BLEU				S	**Sg**	**11 30 49.5**	**+0.3**
BSD	**Bornholm Skovb**	**0.91**	**203**	eP	**Pb**	**11 30 55.8**	**+0.3**
BSD				*i* S	**Sb**	**11 31 09.3**	**+1.1**
BSD				IAML		11 31 11.2	
	comp=Z,66nm,0.2s						
VXJU	**Vaexsjoe**	**1.02**	**341**	P	**Pg**	**11 30 56.9**	**+0.4**
VXJU	**Vaexsjoe**	**1.02**	**341**	P	**Pg**	**11 30 56.9**	**+0.4**
VXJU	**Vaexsjoe**	**1.02**	**341**	P	**Pg**	**11 30 56.9**	**+0.4**
VXJU				P	**Pg**	**11 30 56.9**	**+0.4**
DEL	**Delary**	**1.06**	**300**	P	**Pb**	**11 30 58.2**	**+0.1**
DEL	**Delary**	**1

HOMB	Homborsund	4.48	304	*e*P		Pn	11 31 45.9 0.0
CLL	Collm	4.89	199	*e*Pn		Pn	11 31 52.0 +0.4
CLL				*e*Sn		Sn	11 32 47.0 -1.9
CLL				*e*Sg		Sg	11 33 10.0 -4.0
SNART	Snartemo	5.12	301	*e*P		Pn	11 31 55.0 +0.2
SNART	Snartemo	5.12	301	*i* P		Pn	11 31 54.5 -0.3
SNART				*i* S		Sn	11 32 51.1 -3.4
SNART	Snartemo	5.12	301	*e*P		Pn	11 31 55.0 +0.2
NAO01	NORSAR Array S	5.48	335	*e*P		Pn	11 32 01.3 +1.7
NAO01	NORSAR Array S	5.48	335	*e*P		Pn	11 32 01.3 +1.7
NOA	NORSAR Array B	5.58	338	Pn		Pn	11 32 00.2 -0.9
	baz=174,slow=11,SNR=4.5						
NOA				Lg	Lg		11 33 27.1
	comp=Z,0.1nm,0.3s,baz=35,slow=7.1,SNR=7.1						
	comp=Z,0.1nm,0.4s						
BLS5	Blasjo	5.98	309	*e*P		Pn	11 32 06.3 -0.2
BLS5	Blasjo	5.98	309	*e*P		Pn	11 32 06.3 -0.2
SKAR	Skarslia	6.08	324	*e*P		Pn	11 32 07.6 -0.3
SKAR	Skarslia	6.08	324	*e*P		Pn	11 32 07.6 -0.3
KMY	Karmoy	6.42	305	*e*P		Pn	11 32 12.7 +0.1
KMY	Karmoy	6.42	305	*e*P		Pn	11 32 12.7 +0.1
AKN	Aaknes	7.63	328	*e*P		Pn	11 32 29.9 +0.8
AKN	Aaknes	7.63	328	*e*P		Pn	11 32 29.9 +0.8
FINES	FINESS Array B	7.77	41	Pn		Pn	11 32 31.4 +0.4
	comp=Z,0.4nm,0.3s,baz=227,slow=12,SNR=15						
FINES				Sn		Sn	11 33 55.5 -4.0
	comp=Z,0.4nm,0.3s,baz=227,slow=22,SNR=5.3						
FINES				Lg	Lg		11 34 39.6
	comp=Z,0.4nm,0.3s,baz=232,slow=22,SNR=4.8						
	comp=Z,0.9nm,0.3s						
EKA	Eskdalemuir Ar	10.58	274	Pn		Pn	11 33 09.4 -0.2
	baz=86,slow=13						
ARCES	ARCESS Array B	14.34	14	Pn		Pn	11 33 56.1 -4.8
	comp=Z,0.1nm,0.3s,baz=197,slow=13,SNR=8.3						
ARCES				Sn		Sn	11 36 28.1 -12
	comp=Z,0.1nm,0.3s,baz=225,slow=20,SNR=1.6						
	comp=Z,0.6nm,0.7s						

IDC ***29*** *11:38:19.2±0.9, 15°.36S×173°.15W, h0km, mb3.9/10, mbtmp3.9/10, MS3.5/17, Error ellipse: s-maj=36.7km s-min=19.9km az=141.0*

NEIC ***29*** *11:38:24.5±1.4, 15°.19S±0°.08×172°.7W±0°.2, h22km±7km, mb4.6/40, Error ellipse: s-maj=24.2km s-min=11.3km az=90.0*

ISC 29 11:38:23.7±0.7, 15°.33S±0°.08×173°.0W±0°.1, h29km, n60, σ1°.23/36, mb4.5/30, MS3.6/15, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.83	40		Pn	11 38 51.1	-2.2
NIUE	Niue	4.74	142		Pn	11 39 34.0	+0.8
NIUE					Sn	11 40 24.1	-3.1
MSVF	Nonsavu	8.92	253	LR	LR	11 43 10.8	
	comp=Z,111nm,19.2s,baz=138,slow=33						
RAR	Rarotonga	13.85	117	LR	LR	11 45 37.7	
	comp=Z,65nm,21.5s,baz=270,slow=31						
DZM	Mont Dzumac	20.59	248	LR	LR	11 49 33.3	
	comp=Z,177nm,18.3s,baz=24,slow=33						
URZ	Urewera	24.46	199	P	P	11 43 40.0	-0.1
	6.3nm,0.6s,baz=109,slow=6.2,SNR=6.8						
	6.3nm,0.6s						
WRA	Warramunga Arr	50.25	257	P	P	11 47 15.1	-2.6
	0.3nm,0.7s,baz=92,slow=7.4,SNR=5.5						
	0.3nm,0.7s						
ASAR	Alice Springs	50.51	252	P	P	11 47 17.7	-2.0
	0.9nm,0.6s,baz=85,slow=8.3,SNR=14						
ASAR				LR	LR	12 06 35.5	
	comp=Z,61nm,21.9s,baz=88,slow=34						
	0.9nm,0.6s						
SHEM	Shemya Is, Ala	68.69	352	LR	LR	12 12 59.4	
	comp=Z,60nm,21.7s,baz=218,slow=30						
MJAR	Matsushiro Arr	69.14	320	P	P	11 49 27.1	-0.4
	1.5nm,1.0s,baz=157,slow=5.3,SNR=4.4						
MJAR				LR	LR	12 14 02.0	
	comp=Z,22nm,21.9s,baz=154,slow=31						
	1.5nm,1.0s						
PFO	Pinyon Flats O	72.58	47	LR	LR	12 13 59.4	
	comp=Z,50nm,20.0s,baz=214,slow=29						
YBH	Yreka Blue Hor	73.30	37	LR	LR	12 14 28.5	
	comp=Z,51nm,18.8s,baz=232,slow=30						
NVAR	Mina Array Bea	74.01	42	P	P	11 49 57.7	+0.7
	0.7nm,0.7s,baz=229,slow=10,SNR=5.0						
NVAR				LR	LR	12 13 20.2	
	comp=Z,64nm,21.1s,baz=154,slow=28						
	0.7nm,0.7s						
QSPA	South Pole Qui	74.72	180	LR	LR	12 20 34.5	
	comp=Z,21nm,18.8s,baz=311,slow=34						
KDAK	Kodiak Island	74.77	11	LR	LR	12 15 20.9	
	comp=Z,51nm,20.9s,baz=53,slow=30						
M14K	Bethel	76.33	6	P	P	11 50 11.0	+1.4
KSRS	Korea Array	76.39	315	P	P	11 50 11.9	+1.5
	1.2nm,0.9s,baz=120,slow=7.2,SNR=4.4						
	1.2nm,0.9s						
BBB	Bella Bella	77.64	26	LR	LR	12 16 49.1	
	comp=Z,24nm,20.0s,baz=194,slow=30						
HLID	Hailey	79.32	39	P	P	11 50 27.6	+0.7
SCM	Sheep Creek Mo	79.54	12	P	P	11 50 27.9	+0.3
J18K	Innoko River	79.55	7		P	11 50 28.3	+0.8
J18K				IAmb	IAmb	11 50 29.2	
	comp=Z,10nm,1.1s						
PV23	Carpenter Ridg	80.23	46	P	P	11 50 33.3	+1.3
PV23				IAmb	IAmb	11 50 34.3	
	comp=Z,6.2nm,0.9s						
TX31	Lajitas Ar. Si	80.24	56	P	P	11 50 32.7	+0.6
TXAR	Lajitas Array	80.24	56	P	P	11 50 33.4	+1.3
	comp=Z,1.7nm,1.1s,baz=207,slow=5.3,SNR=8.5						
	comp=Z,1.7nm,1.1s						
NEW	Newport	80.42	34	LR	LR	12 21 18.7	
	comp=Z,32nm,19.2s,baz=224,slow=32						
ANMO	Albuquerque	80.45	50		P	11 50 34.4	+1.2
J20K	Nowinta River	80.57	8		P	11 50 33.6	+0.7
J20K				IAmb	IAmb	11 50 35.0	
	comp=Z,9.9nm,1.2s						
MCK	McKinley	80.98	11		P	11 50 34.5	-0.6
M27K	Edge Creek, AK	81.20	14		P	11 50 37.0	+0.5
O30N	Mendenhall	81.38	17	P	P	11 50 38.6	+1.2
O30N				IAmb	IAmb	11 50 39.1	
	comp=Z,3.9nm,0.8s						
DLMT	Dillon	81.38	38	IAmb	IAmb	11 50 40.0	
	comp=Z,5.6nm,1.1s						
WRH	Wood River Hil	81.81	11		P	11 50 39.6	+0.1
PDAR	Pinedale Array	81.94	42	P	P	11 50 41.7	+0.7
	comp=Z,0.9nm,0.9s,baz=222,slow=4.0,SNR=7.0						
PDAR				LR	LR	12 19 24.6	
	comp=Z,18nm,19.7s,baz=215,slow=30						
	comp=Z,0.9nm,0.9s						
HDA	Harding Lake	81.96	11	IAmb	IAmb	11 50 41.2	
	comp=Z,6.0nm,1.0s						
YHL	Hebgen Lake	81.97	39		P	11 50 43.1	+1.9
CCB	Clear Creek Bu	82.02	11		P	11 50 40.6	+0.1
CCB				IAmb	IAmb	11 50 41.7	
	comp=Z,7.2nm,0.9s						
ILAR	Eielson Array	82.30	11	P	P	11 50 41.6	-0.5
	comp=Z,1.3nm,0.8s,baz=226,slow=6.5,SNR=16						
	comp=Z,1.3nm,0.8s						
J25K	Salcha River,	82.44	12	IAmb	IAmb	11 50 44.0	
	comp=Z,4.4nm,0.9s						
F19K	Shaleruckik Mo	82.69	6	IAmb	IAmb	11 50 45.5	
	comp=Z,3.8nm,0.8s						
J26L	Joseph Creek	82.70	12	IAmb	IAmb	11 50 46.2	
	comp=Z,4.4nm,0.9s						
L29M	L29M	82.76	15		P	11 50 45.5	+0.9
L29M				IAmb	IAmb	11 50 46.2	
	comp=Z,7.1nm,0.9s						
F20K	Avaraart Lake	83.12	7	IAmb	IAmb	11 50 48.7	
	comp=Z,6.2nm,1.4s						
E19K	Redstone River	83.36	6	IAmb	IAmb	11 50 48.7	
	comp=Z,2.8nm,0.8s						
K29M	Barlow Dome	83.52	15	IAmb	IAmb	11 50 50.3	
	comp=Z,3.4nm,1.0s						
D20K	Etivluk River	84.63	6		P	11 50 55.0	+0.9
D20K				IAmb	IAmb	11 50 55.2	
	comp=Z,4.5nm,0.8s						
E22K	Anaktuvuk Pass	84.64	8		P	11 50 54.9	+0.8
E22K				IAmb	IAmb	11 50 55.7	
	comp=Z,4.4nm,0.9s						
G26K	Porcupine Rive	84.82	11		P	11 50 56.0	+1.1
BMAR	Burnt Mountain	85.11	11	P	P	11 50 57.6	+1.2
D22K	Ayikyak River	85.23	7	IAmb	IAmb	11 50 58.9	
	comp=Z,4.4nm,0.8s						
H29M	Whitestone	85.30	13	IAmb	IAmb	11 50 58.7	
	comp=Z,3.6nm,0.8s						
G30M	tAoh Zraii Nji	86.42	14	IAmb	IAmb	11 51 03.7	
	comp=Z,3.9nm,1.0s						
G31M	Satah River	86.83	14	IAmb	IAmb	11 51 05.4	
	comp=Z,5.0nm,1.1s						
F31M	Tsiigehtchic	87.36	14		P	11 51 07.9	+0.4
YKA	Yellowknife Ar	89.87	23	P	P	11 51 19.6	+0.2
	comp=Z,1.0nm,1.0s,baz=237,slow=4.4,SNR=11						
	comp=Z,1.0nm,1.0s						
A36M	Sachs Harbour	92.74	13		P	11 51 33.4	+0.8
ULM	Lac du Bonnet	93.62	39	LR	LR	12 28 35.9	
	comp=Z,28nm,19.2s,baz=298,slow=32						
SONM	Songino Array	95.06	318	LR	LR	12 28 21.9	
	comp=Z,16nm,19.8s,baz=84,slow=32						
TKL	Tuckaleechee C	98.14	55	LR	LR	12 29 23.1	
	comp=Z,20nm,18.3s,baz=257,slow=31						
GERES	GERESS Array B	146.12	352	PKPbc	PKPbc	11 58 01.1	-0.1
	comp=Z,1.2nm,0.8s,baz=270,slow=1.3,SNR=8.3						
BRTR	Keskin Array B	146.35	321	PKPbc	PKPab	11 58 02.9	-0.1
	comp=Z,2.6nm,0.7s,baz=112,slow=1.6,SNR=9.2						

IDC 29 11:39:25.9±5.9, 51°.22N×37°.80E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=66.9km s-min=26.1km az=138.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	Obninsk	3.97	350	Lg	Lg	11 41 30.4	
	11nm,0.3s,baz=53,slow=19,SNR=1.9						
AKASG	Malin Array Be	5.45	268	Pn	Pn	11 40 46.9	-1.4
	0.4nm,0.3s,baz=80,slow=16,SNR=1.0						
AKASG				Sn	Sn	11 41 48.0	-3.5
	1.1nm,0.3s,baz=84,slow=22,SNR=1.6						
AKASG				Lg	Lg	11 42 13.1	
	1.4nm,0.3s,baz=85,slow=26,SNR=4.6						
	0.2nm,0.2s						
I43RU	DUBNA INFRASON	5.53	357	I	I	12 12 50.0	
	0.1nm,0.8s,baz=176,slow=331,SNR=8.5						
FINES	FINESS Array B	12.12	332	Pn	Pn	11 42 14.1	-5.5
	0.1nm,0.3s,baz=142,slow=9.9,SNR=1.8						
	0.3nm,0.3s						

SNET ***29*** *11:48:14.3±1.5, 16°.25N×91°.56W, h34km±999km, ML3.6*

NEIC ***29*** *11:48:15.6±1.1, 15°.41N±0°.04×91°.73W±0°.10, h204km±5km, mb4.3/12, Error ellipse: s-maj=13.3km s-min=6.3km az=89.0*

GCG ***29*** *11:48:15.0±1.1, 15°.51N×91°.71W, h193km±7km, MD4.7, MW3.6*

IDC ***29*** *11:48:17.5±3.9, 15°.59N×91°.26W, h237km±41km, mb3.4/3, mbtmp3.9/4, Error ellipse: s-maj=54.9km s-min=16.0km az=54.0*

ISC 29 11:48:14.7±0.7, 15°.40N±0°.05×91°.77W±0°.06, h205km±6km, n44, σ1°.37/60, mb3.9/4, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUEH	Huehuetenango	0.27	107		Pn	11 48 42.3	+0.2
HUEH	Huehuetenango	0.27	107	*e*P	Pn	11 48 42.2	+0.2
HUEH				*e*S	S	11 49 02.5	-0.7
SMCA	Catarina	0.61	209	*i* P	Pn	11 48 42.6	-0.3
SMCA				*e*S	S	11 49 04.0	-0.7
SOKI	Kika Raxquin	0.67	148	*e*P	Pn	11 48 44.0	+0.4
SOKI				*e*S	S	11 49 07.7	+1.7
THIG		0.68	225	*i* P	Pn	11 48 43.2	0.0
THIG				*e*S	S	11 49 05.7	+0.5
RTAL	Retalhuleu	0.87	175		Pn	11 48 44.7	+0.5
RTAL				Sn	S	11 49 07.6	+0.5
CCIG	Comitan	0.95	338		Pn	11 48 45.3	+0.5
CCIG				Sn	S	11 49 08.4	+0.1
CCIG	Comitan	0.95	338	*i* P	Pn	11 48 45.3	+0.5
CCIG				*i* S	S	11 49 06.0	-2.3
STG8	El Palmar, Qui	1.02	157	*i* P	Pn	11 48 43.3	-2.2
STG5	El Palmar, Qui	1.07	158	*i* P	Pn	11 48 43.5	-2.1
STG5				*e*S	S	11 49 06.1	-3.4
ESSG	Sabana Grande	1.36	138	*i* P	Pn	11 48 48.1	+0.4
FG8	Yepocapa, Chim	1.63	134	*i* P	Pn	11 48 47.4	-2.8
FG16	Alotenango, Sa	1.65	132	*i* P	Pn	11 48 47.8	-2.7
FG16				*e*S	S	11 49 17.7	-0.2
TGIG		1.89	317	*i* P	Pn	11 48 52.4	-0.2
SLOZ	Alcaldia de Sa	2.36	125	*e*P	Pn	11 48 56.7	-0.6
PETF	Flores	2.37	50		Pn	11 48 57.7	+0.3
PETF				Sn	S	11 49 30.4	+0.1
PETF	Flores	2.37	50	*e*P	Pn	11 48 57.4	0.0
NUBE	Las Nubes	2.43	127	*e*P	Pn	11 48 58.4	+0.1
NUBE				*e*S	S	11 49 31.6	-0.2
NUBE	Las Nubes	2.43	127	*i* P	Pn	11 48 58.8	+0.5
MTO3	Montecristo	2.53	113		Pn	11 49 00.1	+0.6
MTO3	Montecristo	2.53	113	*e*P	Pn	11 48 58.8	-0.7
MTO3				*e*S	S	11 49 31.1	-2.7
MTO3	Montecristo	2.53	113	*i* P	Pn	11 49 00.2	+0.7
SNJE	San Jose	2.59	126	*e*P	Pn	11 49 00.7	+0.6
CEVE	Cerro Verde	2.60	127	*e*P	Pn	11 49 01.1	+0.8
CEVE				*e*S	S	11 49 38.6	+3.4
CEVE				IAML		11 49 53.1	
	comp=Z,170nm,0.3s						
JAYA	Jayaque - finc	2.84	127	*e*P	Pn	11 49 03.3	+0.5
JAYA				*e*S	S	11 49 43.0	+3.1
JAYA	Jayaque - finc	2.84	127	*i* P	Pn	11 49 03.4	+0.5
JAYA				*e*S	S	11 49 41.8	+1.8
MARCA	Marcala la Paz	3.82	108	*e*P	Pn	11 49 15.5	+0.9
TEIG	Tepich	5.84	34	P	Pn	11 49 38.1	-1.8
	comp=Z,0.3nm,0.5s,baz=36,slow=24,SNR=1.3						
TLIG	Tlapa	6.87	289	Pn	Pn	11 49 54.1	+0.8
OZNA	Ozona	17.67	333		Pn	11 52 08.7	0.0
OZNA				IAmb	IAmb	11 52 09.1	
	comp=Z,5.4nm,0.6s						
TXAR	Lajitas Array	17.68	324	P	Pn	11 52 08.5	-0.4
TXAR	Lajitas Array	17.68	324	P	Pn	11 52 08.8	-0.1
	comp=Z,1.4nm,0.7s,baz=153,slow=12,SNR=22						
TX31	Lajitas Ar. Si	17.68	324	P	Pn	11 52 08.7	-0.2
PLPT	Palo Pinto	18.33	342	P	P	11 52 14.6	+0.9
PLPT				IAmb	IAmb	11 52 15.1	
	comp=Z,16nm,0.6s						
MNHN	Monahans	18.78	330	P	P	11 52 19.3	+0.6
MNHN				IAmb	IAmb	11 52 20.6	
	comp=Z,10nm,0.9s						
VHRN	Van Horn	19.53	324		P	11 52 27.7	+0.9
VHRN				IAmb	IAmb	11 52 28.6	
	comp=Z,5.2nm,0.8s						
MNTX	Cornudas Mount	20.44	325	P	P	11 52 36.3	-0.1
SIUC	Southern Illin	22.34	5	P	P	11 52 54.4	-1.2
BBSR	BB Station	29.84	51	P	P	11 54 03.7	+0.9
NVAR	Mina Array Bea	32.74	320	P	P	11 54 30.3	+1.8
	comp=Z,1.4nm,0.7s,baz=137,slow=8.4,SNR=14						
	comp=Z,1.4nm,0.7s						
H17A	Grant Village	33.02	335	P	P	11 54 32.9	+2.1
H17A				IAmb	IAmb	11 54 33.6	
	comp=Z,6.4nm,0.5s						
LPAZ	La Paz	39.19	142	P	P	11 55 22.1	-1.7
LPAZ	La Paz	39.19	142	P	P	11 55 22.4	-1.4
	comp=Z,2.7nm,0.7s,baz=338,slow=5.8,SNR=11						
	comp=Z,2.7nm,0.7s						
YKA	Yellowknife Ar	49.73	346	P	P	11 56 44.7	-1.1
	comp=Z,0.6nm,0.7s,baz=149,slow=7.8,SNR=11						
YKA				pP	pP	11 57 31.8	+0.4
	comp=Z,0.2nm,0.7s,baz=150,slow=7.7,SNR=4.8						
	comp=Z,0.6nm,0.7s						

KRSC ***29*** *12:04:33.3±0.7, 55°.41N×160°.96E, h136km±9km, Mc4.2, Ml4.5*

MOS ***29*** *12:04:33.1±0.8, 55°.52N×160°.75E, h147km, mb4.3/9, Error ellipse: s-maj=9.1km s-min=4.0km az=80.7*

IDC ***29*** *12:04:34.9±0.5, 55°.62N×160°.44E, h141km±4km, mb3.9/32, mbtmp4.4/37, MS3.0/6, Error ellipse: s-maj=10.5km s-min=7.9km az=152.0*

NEIC ***29*** *12:04:35.6±1.6, 55°.54N±0°.09×160°.6E±0°.2, h145km±9km, mb4.4/159, Error ellipse: s-maj=15.4km s-min=12.4km az=124.0*

ISC 29 12:04:34.6±0.4, 55°.45N±0°.03×160°.78E±0°.03, h142km±3km, h142km:pP-P, n495, σ1°.07/495, mb4.4/117, 7C, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	Tumrok D	0.33	221	PN	Pn	12 04 51.9	-2.4
TUMD				S	Sn	12 05 06.0	-3.2
TUMD	Tumrok D	0.33	221	*e*P	Pn	12 04 51.9	-2.4
TUMD				*e*S	Sn	12 05 06.1	-3.2
KMNR	Kamenistaya	0.43	315	PN	Pn	12 04 54.4	-0.4
KMNR				S	Sn	12 05 10.2	0.0
KMNR	Kamenistaya	0.43	315	*e*P	Pn	12 04 54.4	-0.4
KMNR				*e*S	Sn	12 05 10.2	0.0
BZGR	Bezymyannyi-Gr	0.49	355	PN	Pn	12 04 54.1	-1.0
BZGR				S	Sn	12 05 09.8	-0.9
BZGR	Bezymyannyi-Gr	0.49	355	*e*P	Pn	12 04 54.1	-1.0
BZGR				*e*S	Sn	12 05 09.9	-0.9
BZMR	Bezymyannaya	0.51	341	PN	Pn	12 04 54.3	-0.9
BZMR				S	Sn	12 05 10.4	-0.6
BZMR	Bezymyannaya	0.51	341	*e*P	Pn	12 04 54.3	-0.9
BZMR				*e*S	Sn	12 05 10.4	-0.6
BZWR	Bezymyannyi-We	0.54	343	PN	Pn	12 04 54.6	-0.8
BZWR				S	Sn	12 05 11.0	-0.3
BZWR	Bezymyannyi-We	0.54	343	*e*P	Pn	12 04 54.7	-0.8
BZWR				*e*S	Sn	12 05 11.1	-0.3
KIRR	Kirishev	0.56	334	PN	Pn	12 04 54.4	-1.1
KIRR				S	Sn	12 05 10.4	-1.1
KIRR	Kirishev	0.56	334	*e*P	Pn	12 04 54.5	-1.1
KIRR				*e*S	Sn	12 05 10.4	-1.1
ZLN	Zelenaya	0.56	2	PN	Pn	12 04 55.1	-0.4
ZLN	Zelenaya	0.56	2	*e*P	Pn	12 04 55.2	-0.4
KPT	Kopyto	0.60	329	PN	Pn	12 04 54.7	-1.0
KPT				S	Sn	12 05 10.9	-0.8
KPT	Kopyto	0.60	329	*e*P	Pn	12 04 54.7	-1.0
KPT				*e*S	Sn	12 05 11.0	-0.8
LGNR	Loginova	0.63	356	PN	Pn	12 04 55.7	-0.4
LGNR				S	Sn	12 05 12.2	-0.3
LGNR	Loginova	0.63	356	*e*P	Pn	12 04 55.8	-0.4
LGNR				*e*S	Sn	12 05 12.3	-0.3
CIRR	Tsirk	0.66	359	PN	Pn	12 04 55.7	-0.4
CIRR	Tsirk	0.66	359	*e*P	Pn	12 04 55.8	-0.4
KRSR	Krestovskiy	0.78	351	PN	Pn	12 04 55.6	-1.3
KRSR				S	Sn	12 05 12.2	-1.7
KRSR	Krestovskiy	0.78	351	*e*P	Pn	12 04 55.6	-1.3
KRSR				*e*S	Sn	12 05 12.3	-1.7
KOZ	Kozyrevsk	0.79	320	PN	Pn	12 04 56.3	-0.6
KOZ				S	Sn	12 05 13.6	-0.3
KOZ	Kozyrevsk	0.79	320	*e*P	Pn	12 04 56.4	-0.6
KOZ				*e*S	Sn	12 05 13.6	-0.3
KLY	Klyuchi	0.86	355	PN	Pn	12 04 56.5	-0.9
KLY				S	Sn	12 05 13.9	-0.9
KLY	Klyuchi	0.86	355	*e*P	Pn	12 04 56.6	-0.9
KLY				*e*S	Sn	12 05 13.9	-0.9
SRDR	Sredinnyy	1.05	326	PN	Pn	12 04 58.2	-0.9
SRDR	Sredinnyy	1.05	326	*e*P	Pn	12 04 58.3	-0.9
MKZ	Mys Kozlova	1.05	148	PN	Pn	12 04 58.3	-0.7
MKZ	Mys Kozlova	1.05	148	*e*P	Pn	12 04 58.4	-0.7
SMKR	Semkarok	1.20	19	PN	Pn	12 04 59.7	-0.8
SMKR	Semkarok	1.20	19	*e*P	Pn	12 04 59.7	-0.8
SRKR	Sorokina	1.22	10	PN	Pn	12 05 00.8	+0.1
SRKR	Sorokina	1.22	10	*e*P	Pn	12 05 00.9	+0.1
ESO	Esso	1.27	293	PN	Pn	12 05 00.6	-0.5
ESO				S	Sn	12 05 21.1	-0.3
ESO	Esso	1.27	293	*e*P	Pn	12 05 00.7	-0.5
ESO				*e*S	Sn	12 05 21.1	-0.3
KBG	Krutoberegovo	1.35	53	PN	Pn	12 05 01.1	-0.8
KBG				S	Sn	12 05 21.7	-1.1
KBG	Krutoberegovo	1.35	53	*e*P	Pn	12 05 01.2	-0.8
KBG				*e*S	Sn	12 05 21.8	-1.1
KBTR	Krutoberegovo	1.38	56	PN	Pn	12 05 01.4	-0.7
KBTR				S	Sn	12 05 21.8	-1.5
KBTR	Krutoberegovo	1.38	56	*e*P	Pn	12 05 01.5	-0.7
KBTR				*e*S	Sn	12 05 21.8	-1.5
KII	Karymskiy	1.62	209	PN	Pn	12 05 05.1	+0.2
KII	Karymskiy	1.62	209	*e*P	Pn	12 05 05.1	+0.2
SPN	Mys Shipunski	2.40	191	PN	Pn	12 05 12.4	-1.6
SPN	Mys Shipunski	2.40	191	*e*P	Pn	12 05 12.5	-1.6
GNL	Ganaly	2.41	224	PN	Pn	12 05 14.8	+0.5
GNL				S	Sn	12 05 46.8	+1.9
GNL	Ganaly	2.41	224	*e*P	Pn	12 05 14.8	+0.5
GNL				*e*S	Sn	12 05 46.8	+1.9
NLC	Nalytchevo	2.44	201	PN	Pn	12 05 14.1	-0.3
NLC				S	Sn	12 05 44.5	-0.6
NLC	Nalytchevo	2.44	201	*e*P	Pn	12 05 14.2	-0.3
NLC				*e*S	Sn	12 05 44.6	-0.6
KRX	Arik	2.44	212	PN	Pn	12 05 15.7	+1.0
KRX	Arik	2.44	212	*e*P	Pn	12 05 15.7	+1.0
SDLR	Sedlovina	2.44	208	PN	Pn	12 05 15.1	+0.4
SDLR	Sedlovina	2.44	208	*e*P	Pn	12 05 15.2	+0.4
KRER	Koryakskii	2.46	210	PN	Pn	12 05 16.2	+1.2
KRER	Koryakskii	2.46	210	*e*P	Pn	12 05 16.3	+1.2
AVH	Avacha	2.50	209	PN	Pn	12 05 16.6	+1.3
AVH	Avacha	2.50	209	*e*P	Pn	12 05 16.6	+1.3
KOK	Koryaka	2.50	211	PN	Pn	12 05 16.7	+1.3
KOK	Koryaka	2.50	211	*e*P	Pn	12 05 16.8	+1.3
UGLR	Uglovaya	2.52	208	PN	Pn	12 05 16.5	+0.8
UGLR	Uglovaya	2.52	208	*e*P	Pn	12 05 16.6	+0.8
DALK	Dalny	2.70	207	PN	Pn	12 05 17.6	-0.2
DALK				S	Sn	12 05 51.3	+0.3
DALK	Dalny	2.70	207	*e*P	Pn	12 05 17.6	-0.2
DALK				*e*S	Sn	12 05 51.4	+0.3
INSR	Institute	2.71	209	PN	Pn	12 05 18.7	+0.8
INSR				S	Sn	12 05 52.6	+1.3
INSR	Institute	2.71	209	*e*P	Pn	12 05 18.8	+0.8
INSR				*e*S	Sn	12 05 52.6	+1.3
PET	Petropavlovsk	2.73	208		Pn	12 05 18.9

BILL pmax pmax
comp=Z,19nm,1.3s
YSS Yuzhno-Sakhali 14.11 240 *i* P **Pn 12 07 48.0 0.0**
YSS pmax pmax
comp=Z,8.0nm,1.0s
GRNR Gornyy 15.32 262 ⇑ *i* P **P 12 08 03.8 -0.9**
GRNR pmax pmax
comp=Z,8.0nm,1.2s
JKA Kamikawa-asahi 16.27 233 P 12 08 16.6 +1.5
JKA IAmb IAmb 12 08 19.1
comp=Z,32nm,1.1s
ASAJ Asahikawa 16.27 233 P **P 12 08 16.4 +1.2**
comp=Z,16nm,0.4s,baz=65,slow=8.4,SNR=32
ASAJ Asahikawa 16.27 233 P **P 12 08 16.7 +1.5**
ASAJ pmax pmax
comp=Z,31nm,1.1s
P08K Saint George I 16.57 74 P **P 12 08 20.6 +2.3**
baz=279
YAK Yakutsk 17.30 305 P 12 08 24.9 -1.4
YAK Yakutsk 17.30 305 P **P 12 08 24.5 -1.8**
comp=Z,60nm,0.7s,baz=261,slow=1.8,SNR=13
YAK Yakutsk 17.30 305 *e*P **P 12 08 25.3 -1.0**
YAK *e*S **S 12 11 36.7 -2.3**
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=E,21nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK smax smax
comp=E,67nm,3.0s
YAK smax smax
comp=N,60nm,2.8s
ERM Erimo 17.70 228 Pn 12 08 31.0 -1.0
ERM Erimo 17.70 228 P **Pn 12 08 31.0 -1.0**
ERM pmax pmax
comp=Z,32nm,0.5s
NIKH Nikolski High 17.86 85 P **Pn 12 08 34.8 +0.9**
baz=290
M11K Mekoryuk 18.09 61 P **Pn 12 08 36.3 -0.2**
baz=269
TNA Tin City 18.22 44 P **Pn 12 08 37.8 -0.2**
baz=252
KLR Kul'dur 18.71 263 P **P 12 08 41.8 0.0**
comp=Z,5.1nm,0.6s,baz=67,slow=10,SNR=29
F14K Arctic Creek 18.82 45 P **P 12 08 44.3 +1.3**
baz=254
UNV Unalaska Valle 18.91 81 P **Pn 12 08 46.2 0.0**
UNV Unalaska Valle 18.91 81 P **Pn 12 08 46.2 0.0**
baz=288,SNR=7.9
K13K Kusilvak Mount 18.91 56 P **Pn 12 08 45.8 -0.4**
baz=266
ANM Nome 18.99 48 P **P 12 08 46.1 +1.4**
baz=258
LVA Lava Point 19.07 80 P **Pn 12 08 48.1 0.0**
ZEA Zeya 19.40 279 *e*P **P 12 08 48.8 -0.5**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
J14K Nanvaranak Lak 19.50 54 P 12 08 51.8 +1.5
J14K IAmb IAmb 12 08 56.0
comp=Z,14nm,0.8s
J14K Nanvaranak Lak 19.50 54 P **P 12 08 51.7 +1.4**
baz=265
M13K Dall Lake 19.50 61 P **Pn 12 08 52.3 -0.8**
baz=272
F15K North Star Dit 19.56 45 Pn 12 08 53.3 -0.4
F15K IAmb IAmb 12 08 57.8
comp=Z,9.9nm,0.8s
F15K North Star Dit 19.56 45 P **P 12 08 52.9 +1.9**
baz=255
JTM Tenmabayashi 19.61 230 P **P 12 08 51.0 -0.7**
G15K Niukluk 19.64 47 P **Pn 12 08 54.0 -0.6**
baz=258
L14K Kuka Creek 19.83 58 P **Pn 12 08 56.7 -0.1**
baz=270
C16K Lisburne Hills 20.14 37 P 12 08 57.8 +0.7
C16K IAmb IAmb 12 09 13.6
comp=Z,21nm,1.4s
C16K Lisburne Hills 20.14 37 P **P 12 08 58.5 +1.4**
baz=248
M14K Bethel 20.18 60 P **P 12 08 59.6 +2.0**
M14K IAmb IAmb 12 09 15.2
comp=Z,28nm,1.2s
M14K Bethel 20.18 60 P **P 12 08 59.4 +1.8**
baz=272
H16K Elim 20.33 48 P **P 12 09 01.2 +2.0**
baz=261
FALS False Pass 20.33 77 P Pn 12 09 01.7 -1.1
baz=287
N14K Kuskokwak Cree 20.36 62 P Pn 12 09 02.5 -0.6
baz=274
K15K Wolf Creek Mou 20.40 55 P **P 12 09 02.1 +2.1**
baz=268
L15K Ungalak Mounta 20.41 57 P **P 12 09 02.2 +2.1**
baz=270
G16K Koyuk River 20.42 46 P **P 12 09 01.0 +0.9**
baz=259
O14K Tigyukauivet M 20.63 64 P **P 12 09 04.5 +2.1**
baz=276
HEH HeiHe 20.68 269 *e*P **P 12 09 00.8 -2.2**
HEH pmax pmax
comp=Z,19nm,0.7s
D17K Noatak River 20.73 39 P **P 12 09 05.3 +1.8**
baz=252,SNR=6.8
M15K Kasigluk River 20.81 60 P **P 12 09 06.2 +1.9**
baz=273
S12K Black Hills 20.85 74 P **P 12 09 06.8 +1.9**
S12K Black Hills 20.85 74 P **P 12 09 06.7 +1.9**
baz=285
J16K Anvik River 20.88 52 P **P 12 09 06.0 +0.9**
baz=266
I17K Unalakleet 20.89 51 P **P 12 09 06.7 +1.5**
baz=265
E17K Hotham Inlet 21.02 42 P **P 12 09 08.4 +1.8**
baz=255,SNR=11
F17K Baldwin Pennin 21.08 43 P 12 09 08.5 +1.3
F17K IAmb IAmb 12 09 14.3
comp=Z,8.6nm,0.8s
F17K Baldwin Pennin 21.08 43 P **P 12 09 08.3 +1.1**
baz=257
G17K Kiwalik Mounta 21.14 46 P **P 12 09 09.1 +1.2**
baz=260
TIXI Tiksi 21.14 332 P 12 09 08.1 +0.4
TIXI IAmb IAmb 12 09 10.7
comp=Z,15nm,0.8s
TIXI Tiksi 21.14 332 P **P 12 09 06.9 -0.8**
comp=Z,12nm,0.5s,baz=133,slow=10,SNR=48
TIXI PcP **PcP 12 13 07.0 -0.2**
comp=Z,2.6nm,0.4s,baz=118,slow=2.0,SNR=7.5
TIXI ScP **ScP 12 16 29.8 -0.7**
comp=Z,1.7nm,0.5s,baz=113,slow=3.0,SNR=8.6
comp=Z,12nm,0.5s
N15K Kwethluk River 21.14 61 P 12 09 09.7 +1.7
N15K Kwethluk River 21.14 61 P **P 12 09 09.6 +1.7**
baz=275,SNR=9.9
H17K Granite Mounta 21.36 48 P 12 09 11.1 +0.9
H17K Granite Mounta 21.36 48 P **P 12 09 12.0 +1.8**
baz=263
L16K Owhat River 21.36 57 P **P 12 09 11.2 +0.9**
baz=271
O15K Ungalikthiuk R 21.38 64 P **P 12 09 11.2 +0.7**
baz=278
USRK Ussuriysk Ar. 21.55 251 P **P 12 09 12.0 -0.5**
comp=Z,1.7nm,0.5s,baz=45,slow=11,SNR=6.4
comp=Z,1.7nm,0.5s
E18K Tukpahlearik C 21.57 41 P **P 12 09 13.3 +0.9**
baz=256
J17K VABM Dome 21.58 52 P 12 09 14.0 +1.4
J17K VABM Dome 21.58 52 P **P 12 09 13.0 +0.4**
baz=268
M16K Timber Creek 21.64 59 IAmb IAmb 12 09 16.6
comp=Z,38nm,1.4s
M16K Timber Creek 21.64 59 P **P 12 09 14.5 +1.2**
baz=274
C18K Utukok River 21.70 38 P 12 09 14.1 +0.2
C18K IAmb IAmb 12 09 15.7
comp=Z,11nm,0.6s
C18K Utukok River 21.70 38 P **P 12 09 14.2 +0.2**
baz=252,SNR=10
B18K Kokolik River 21.74 36 P **P 12 09 14.8 +0.6**
baz=250,SNR=7.4
F18K Selawik 21.74 43 P **P 12 09 14.9 +0.7**
baz=259
N16K Nishlik Lake 21.77 60 P **P 12 09 15.3 +0.7**
baz=275,SNR=5.4
SDPT Sand Point 21.81 74 P **P 12 09 16.0 +0.9**
baz=287

K17K Iditarod 21.91 54 P **P 12 09 16.5 +0.5**
baz=270
L17K Donlin 21.91 56 P **P 12 09 17.2 +1.1**
baz=271
G18K Tagagawik 22.02 45 P 12 09 18.1 +0.9
G18K Tagagawik 22.02 45 P **P 12 09 17.4 +0.3**
baz=262
H18K Honhosa River 22.04 47 P **P 12 09 18.2 +0.9**
baz=264
S14K Fog Glacier 22.07 71 P **P 12 09 18.6 +0.8**
baz=285
O16K Kokwok River B 22.20 62 P **P 12 09 19.8 +0.8**
baz=278
P16K Nushagak River 22.33 64 P **P 12 09 21.0 +0.7**
baz=279
M17K Holitna River 22.35 57 IAmb IAmb 12 09 24.2
comp=Z,20nm,1.1s
M17K Holitna River 22.35 57 P **P 12 09 21.2 +0.7**
baz=274,SNR=6.0
CHNA Chernabura Isl 22.45 75 P **P 12 09 21.3 -0.2**
baz=288
F19K Shaleruckik Mo 22.52 43 IAmb IAmb 12 09 27.5
comp=Z,7.4nm,0.7s
F19K Shaleruckik Mo 22.52 43 P **P 12 09 22.1 +0.1**
baz=260,SNR=13
N17K Nushagak Hills 22.55 60 P **P 12 09 22.5 +0.2**
baz=276
GCSA Galena City Sc 22.63 49 P **P 12 09 22.9 -0.2**
baz=266
J18K Innoko River 22.64 52 P 12 09 24.5 +1.2
J18K Innoko River 22.64 52 P **P 12 09 23.9 +0.6**
baz=270
L18K Granite Mounta 22.67 55 P **P 12 09 24.2 +0.7**
baz=272
O17K Koliganek Bris 22.68 62 P **P 12 09 23.9 +0.3**
baz=278
G19K Purcell Mounta 22.68 45 P **P 12 09 24.0 +0.4**
baz=263
D19K Kuna River 22.75 39 P 12 09 24.7 +0.5
D19K IAmb IAmb 12 09 27.2
comp=Z,16nm,1.2s
D19K Kuna River 22.75 39 P **P 12 09 24.1 -0.2**
baz=256,SNR=10
E19K Redstone River 22.84 42 IAmb IAmb 12 09 30.5
comp=Z,11nm,0.6s
E19K Redstone River 22.84 42 P **P 12 09 24.4 -0.7**
baz=260,SNR=16
H19K Roundabout Mou 22.87 47 IAmb IAmb 12 09 28.7
comp=Z,12nm,0.7s
H19K Roundabout Mou 22.87 47 P **P 12 09 25.3 -0.1**
baz=265,SNR=14
Q16K King Salmon 23.08 64 P **P 12 09 27.6 +0.3**
baz=281
P17K Kvichak River 23.10 63 P **P 12 09 28.1 +0.6**
baz=280
BNX BinXian 23.10 259 ⇑ P **P 12 09 25.3 -2.3**
BNX pmax pmax
comp=Z,6.0nm,0.8s
MSHR Mys Shultsa 23.10 249 *i* P **P 12 09 26.9 -0.8**
MSHR pmax pmax
comp=Z,21nm,1.2s
M18K Stony River 23.12 57 P **P 12 09 27.8 +0.1**
baz=275
J19K Poorman 23.14 51 P **P 12 09 28.1 +0.3**
baz=269
N18K Kilae Creek 23.16 59 IAmb IAmb 12 09 31.1
comp=Z,12nm,0.8s
N18K Kilae Creek 23.16 59 P **P 12 09 29.1 +0.9**
baz=277,SNR=5.3
D20K Etivluk River 23.33 39 P **P 12 09 29.5 -0.1**
baz=257,SNR=31
F20K Avaraart Lake 23.35 43 P **P 12 09 30.0 +0.3**
baz=262
E20K Nigu River 23.39 40 P **P 12 09 30.5 +0.3**
baz=259,SNR=16
B20K Meade River 23.48 35 P **P 12 09 31.2 +0.3**
baz=254
H20K Anotleneega Mo 23.52 47 P **P 12 09 32.2 +0.8**
baz=266
L19K White Mountain 23.53 55 P **P 12 09 32.9 +1.5**
baz=274
Q17K Contact Creek 23.55 65 P **P 12 09 33.2 +1.4**
baz=282
O18K Koktuh Hills 23.61 61 P **P 12 09 33.8 +1.6**
baz=279
I20K Naaghedeneel 23.66 49 P **P 12 09 33.5 +0.9**
baz=268
P18K Big Mountain, 23.68 62 P **P 12 09 34.8 +1.9**
baz=280
M19K Big River Lodg 23.77 56 P **P 12 09 35.0 +1.4**
baz=275
J20K Nowinta River 23.79 50 IAmb IAmb 12 09 41.1
comp=Z,6.6nm,0.7s
J20K Nowinta River 23.79 50 P **P 12 09 35.8 +2.1**
baz=270,SNR=8.1
K20K Telida 23.83 52 P **P 12 09 35.8 +1.6**
baz=272
N19K Bonanza Creek 23.84 59 P **P 12 09 35.7 +1.3**
baz=278
ACHA Angle Creek He 23.85 65 IAmb IAmb 12 09 40.4
comp=Z,15nm,1.2s
Q18K Katmai Hardscr 23.93 64 P **P 12 09 36.8 +1.6**
baz=282
L20K Farewell, AK 23.96 54 P **P 12 09 36.7 +1.3**
baz=274
O19K Port Alsworth 24.00 60 P **P 12 09 36.9 +1.2**
baz=279
A21K Barrow 24.06 32 P **P 12 09 36.9 +0.8**
baz=252
C21K Knifeblade Rid 24.08 38 P **P 12 09 36.7 +0.3**
baz=258,SNR=21
G21K Allakaket 24.16 44 P **P 12 09 37.0 -0.1**
baz=266
E21K Killik River 24.23 40 P **P 12 09 38.1 +0.3**
baz=261
B21K Ikpikpuk River 24.24 37 P **P 12 09 38.0 +0.2**
baz=257
F21K Alatna River 24.24 43 P **P 12 09 38.7 +0.9**
baz=264
CHIR Chirikof Islan 24.31 71 P **P 12 09 39.5 +0.9**
baz=288
M20K Styx River 24.36 56 P **P 12 09 40.2 +1.1**
baz=276
MJAR Matsushiro Arr 24.38 228 P **P 12 09 39.4 0.0**
comp=Z,4.1nm,0.8s,baz=28,slow=8.4,SNR=14
comp=Z,4.1nm,0.8s
H21K Melozitna Rive 24.39 47 P **P 12 09 39.3 0.0**
baz=268
R18K Karluk 24.46 66 P **P 12 09 40.5 +0.6**
baz=285
A22K Sinclair Lake 24.47 33 P **P 12 09 40.0 +0.2**
baz=254
Q19K Cape Douglas, 24.56 63 P **P 12 09 41.9 +1.0**
baz=282
CHUM Lake Minchumin 24.60 51 P **P 12 09 42.3 +1.2**
baz=272
P19K Oil Pt 24.63 61 P **P 12 09 42.2 +0.7**
baz=281
PPLA Purkeypile 24.71 53 P **P 12 09 42.4 +0.1**
baz=275
CAST Castle Rocks 24.72 52 P **P 12 09 42.9 +0.6**
baz=274
I21K Tanana 24.73 48 P **P 12 09 42.9 +0.7**
baz=270
D22K Ayikyak River 24.77 39 IAmb IAmb 12 09 48.9
comp=Z,9.8nm,0.5s
D22K Ayikyak River 24.77 39 P **P 12 09 42.7 +0.1**
baz=261,SNR=12
F22K John River 24.77 42 P **P 12 09 43.0 +0.3**
baz=265
B22K Teshekpuk Lake 24.80 35 P **P 12 09 43.1 +0.3**
baz=257,SNR=12
SII Sitkinak Islan 24.87 69 P **P 12 09 44.4 +0.7**
baz=287
SPCR Spurr Chakacha 24.88 57 P **P 12 09 44.3 +0.5**
baz=278
E22K Anaktuvuk Pass 24.98 41 IAmb IAmb 12 09 45.9
comp=Z,6.1nm,0.8s
E22K Anaktuvuk Pass 24.98 41 P **P 12 09 45.1 +0.5**
baz=264,SNR=12
G22K Bettles 24.99 44 P **P 12 09 44.6 0.0**
baz=267
H22K Ishtalitna Cre 24.99 46 P **P 12 09 45.7 +1.0**
baz=269,SNR=6.7
SKT Skwentna 25.10 55 P **P 12 09 46.9 +1.2**
baz=277
OHAK Old Harbor 25.16 67 P **P 12 09 47.9 +1.8**
baz=286

BPAW Bear Paw Mtn. 25.18 50 P **P 12 09 47.1 +0.8**
BPAW Bear Paw Mtn. 25.18 50 P **P 12 09 47.2 +0.8**
baz=273
Q20K Shuyak Island 25.27 63 P **P 12 09 48.4 +1.2**
baz=284
KDAK Kodiak Island 25.37 65 P **P 12 09 49.2 +1.0**
baz=285
HOM Homer 25.42 61 P **P 12 09 49.0 +0.4**
baz=282
BOD Bodaibo 25.43 295 *e*P **P 12 09 47.9 -0.8**
BOD pmax pmax
comp=Z,32nm,0.8s
CAPN Captain Cook N 25.46 58 P **P 12 09 48.5 -0.4**
baz=280
D23K Nanushuk River 25.50 39 P **P 12 09 49.4 +0.2**
baz=263,SNR=5.7
COLD Coldfoot 25.52 43 P **P 12 09 48.7 -0.6**
baz=267
TRF Thorofare Moun 25.53 52 P **P 12 09 50.3 +0.6**
baz=275
SUA Susitna One 25.54 56 P **P 12 09 50.5 +0.6**
baz=279
G23K Bananza Creek 25.56 44 P **P 12 09 50.3 +0.5**
baz=268
CUT Chulitna 25.64 54 P **P 12 09 51.4 +0.9**
baz=277
C23K Itkillik River 25.64 37 P **P 12 09 51.0 +0.5**
baz=261,SNR=13
H23K Yukon River 25.74 46 P **P 12 09 52.2 +0.8**
baz=271
E23K Chandalar 25.79 41 IAmb IAmb 12 09 53.2
comp=Z,4.8nm,0.6s
E23K Chandalar 25.79 41 P **P 12 09 52.5 +0.5**
baz=266,SNR=9.1
M22K Willow 25.80 56 P **P 12 09 53.1 +1.2**
baz=279
I23K Minto, Yukon-K 25.83 48 P **P 12 09 52.9 +0.6**
baz=272,SNR=8.6
BRSE Bradley Lake S 25.85 60 P **P 12 09 52.7 +0.2**
baz=282
TOLK Toolik Lake Re 25.86 40 IAmb IAmb 12 10 27.5
comp=Z,8.1nm,0.8s
TOLK Toolik Lake Re 25.86 40 P **P 12 09 52.8 +0.2**
baz=265
NEA2 Nenana 25.98 49 P **P 12 09 54.1 +0.5**
baz=274
D24K Happy Valley 26.18 39 P **P 12 09 55.2 -0.2**
baz=264
E24K Your Creek 26.22 41 P **P 12 09 55.8 0.0**
baz=267
C24K Franklin Bluff 26.29 37 P **P 12 09 56.7 +0.4**
baz=264
WRH Wood River Hil 26.41 49 IAmb IAmb 12 10 01.2
comp=Z,8.1nm,1.1s
F24K Squaw Lake 26.42 42 P **P 12 09 57.0 -0.6**
baz=269
G24K Hadweenzic Riv 26.57 44 IAmb IAmb 12 10 00.6
comp=Z,7.5nm,0.6s
G24K Hadweenzic Riv 26.57 44 P **P 12 09 59.4 +0.5**
baz=271,SNR=10
SML Sawmill 26.63 55 P **P 12 10 00.2 +0.7**
baz=280
KNK Knik Glacier 26.64 56 P **P 12 10 00.4 +0.8**
baz=281
POKR Poker Plat Res 26.65 48 P **P 12 09 59.9 +0.3**
baz=274
PWL Port Wells 26.80 57 P **P 12 10 01.4 +0.4**
baz=282
ILAR Eielson Array 26.91 49 P **P 12 10 01.9 +0.1**
comp=Z,1.5nm,0.6s,baz=256,slow=6.4,SNR=31
ILAR PcP **PcP 12 13 19.2 -0.7**
comp=Z,0.2nm,0.4s,baz=301,slow=3.5,SNR=4.2
ILAR LR LR 12 20 27.8
comp=Z,23nm,18.8s,baz=265,slow=35
comp=Z,1.5nm,0.6s
HDA Harding Lake 26.91 49 P **P 12 10 02.5 +0.6**
baz=276
M23K Glacier View 26.91 55 P **P 12 10 03.2 +1.1**
baz=280
D25K Kavik River 27.07 38 P **P 12 10 03.6 +0.3**
baz=267
SCM Sheep Creek Mo 27.09 55 P **P 12 10 04.7 +1.1**
baz=280
G25K Bearman Lake 27.12 44 P **P 12 10 04.3 +0.6**
baz=272
H25L Birch Creek 27.25 45 P **P 12 10 05.9 +1.0**
baz=273
F25K Christian Rive 27.28 42 P **P 12 10 06.2 +0.9**
baz=271
E25K Arctic Village 27.31 41 IAmb IAmb 12 10 07.2
comp=Z,9.7nm,1.4s
E25K Arctic Village 27.31 41 P **P 12 10 06.3 +0.8**
baz=270,SNR=7.6
PRP Porcupine Dome 27.42 47 P **P 12 10 07.9 +1.2**
baz=275
P23K Montague Islan 27.44 59 P **P 12 10 07.3 +0.7**
baz=284
FYU Fort Yukon 27.47 45 IAmb IAmb 12 10 12.2
comp=Z,5.9nm,0.7s
J25K Salcha River, 27.57 49 IAmb IAmb 12 10 37.7
comp=Z,7.6nm,1.5s
J25K Salcha River, 27.57 49 P **P 12 10 07.7 -0.2**
baz=277
M24K Tolsona, Glenn 27.58 54 P **P 12 10 08.6 +0.6**
baz=281
C26K Camden Bay 27.61 37 P **P 12 10 08.7 +0.6**
baz=267,SNR=15
PAX Paxson 27.75 52 P **P 12 10 10.3 +0.7**
baz=280
KLU Klutina 27.82 56 P **P 12 10 10.8 +0.7**
baz=282
F26K Sheenjek River 27.86 42 P **P 12 10 11.0 +0.7**
baz=272
RIDG Independent Ri 27.91 51 P **P 12 10 11.3 +0.4**
baz=279
HARP HAARP 27.99 53 P **P 12 10 11.3 -0.3**
baz=281
C27K Jago River 28.02 38 IAmb IAmb 12 10 13.2
comp=Z,4.5nm,0.8s
C27K Jago River 28.02 38 P **P 12 10 12.6 +0.9**
baz=269,SNR=12
G26K Porcupine Rive 28.03 44 IAmb IAmb 12 10 18.8
comp=Z,3.5nm,0.7s
G26K Porcupine Rive 28.03 44 P **P 12 10 11.6 -0.2**
baz=274
EYAK Cordova Ski Ar 28.11 57 P **P 12 10 12.9 +0.3**
baz=284
SCRK Sand Creek 28.25 50 IAmb IAmb 12 10 19.0
comp=Z,4.2nm,0.7s
SCRK Sand Creek 28.25 50 P **P 12 10 13.6 -0.4**
baz=279
J26L Joseph Creek 28.36 49 P **P 12 10 14.6 -0.3**
baz=278
N25K Chitina, Valde 28.41 55 P **P 12 10 14.8 -0.6**
baz=283
KSRS Korea Array 28.54 245 P **P 12 10 15.6 -1.1**
comp=Z,0.8nm,0.7s,baz=37,slow=8.7,SNR=5.2
KSRS pP **pP 12 10 47.4 +0.6**
comp=Z,1.7nm,0.8s,baz=38,slow=9.7,SNR=4.8
KSRS PcP **PcP 12 13 24.9 +0.6**
comp=Z,1.2nm,0.6s,baz=5.5,slow=1.9,SNR=6.0
comp=Z,0.8nm,0.7s
L26K Log Cabin Wild 28.70 52 P **P 12 10 17.2 -0.6**
baz=281
E27K Coleen River 28.80 41 P **P 12 10 18.7 -0.1**
baz=273
G27K Doyon Strip 28.88 44 P **P 12 10 19.6 +0.2**
baz=276
KAIM Kayak Island 28.91 58 P **P 12 10 20.0 +0.3**
baz=286
M26K Nabesna, AK 28.98 53 P **P 12 10 21.5 +1.1**
baz=283
H27K Steamboat Moun 28.99 45 P **P 12 10 21.6 +1.1**
baz=277
D27M Malcolm River 28.99 39 P **P 12 10 21.2 +0.8**
baz=272
K27K Chicken 29.07 50 P **P 12 10 22.0 +0.8**
baz=280
L27K Beaver Creek, 29.37 51 P **P 12 10 24.6 +0.8**
baz=282
M27K Edge Creek, AK 29.50 53 P **P 12 10 26.5 +1.4**
baz=283
E28M Babbage River 29.54 40 P **P 12 10 26.3 +1.1**
baz=274
I28M Miner Creek 29.74 46 P **P 12 10 27.9 +0.7**
baz=280
D28M Stokes Point 29.78 38 P **P 12 10 27.5 +0.3**
baz=274

```
BVCY Beaver Creek      29.95  53  P      P      12 10 29.4 +0.5
     baz=284
E29M Blow River        30.16  40  IAmb   IAmb   12 10 32.7
     comp=Z,6.2nm,1.4s
E29M Blow River        30.16  40  P      P      12 10 31.5 +0.8
     baz=276
H29M Whitestone        30.26  45  P      P      12 10 32.4 +0.8
     baz=279
YUK3 Moose Creek       30.29  54  P      P      12 10 32.8 +0.6
     baz=285
G29M Pine Creek        30.29  43  IAmb   IAmb   12 10 34.0
     comp=Z,5.0nm,0.6s
G29M Pine Creek        30.29  43  P      P      12 10 32.8 +1.0
     baz=278,SNR=6.4
I29M Ogilvie Camp,     30.43  46  P      P      12 10 33.7 +0.6
     baz=281
XLT  XiLinHaoTe        30.61 267  eP     P      12 10 34.5 -0.5
XLT                               sP     sP     12 11 29.0 +7.3
XLT                               PP     PnPn   12 11 41.5 +0.8
XLT                               pmax   pmax
     comp=Z,2.0nm,0.9s
O28M Mount Upton       30.69  56  P      P      12 10 36.7 +0.9
     baz=287
YUK8 Steele Glacier    30.74  54  P      P      12 10 36.5 +0.3
     baz=287
PCA  Pinnacle          30.86  57  IAmb   IAmb   12 10 39.2
     comp=Z,8.4nm,0.7s
PINM Pinnacle          30.86  57  P      P      12 10 38.0 +0.9
     baz=288
EPYK Eagle Plains      30.89  44  P      P      12 10 37.3 +0.1
     baz=280
G30M tAoh Zraii Nji    30.98  43  P      P      12 10 38.5 +0.6
     baz=280
L29M L29M              31.00  51  P      P      12 10 39.2 +1.1
     baz=285
M29M Somme Creek       31.02  52  IAmb   IAmb   12 10 42.6
     comp=Z,3.4nm,0.6s
M29M Somme Creek       31.02  52  P      P      12 10 39.3 +0.9
     baz=286
F30M Barrier River     31.04  42  IAmb   IAmb   12 10 42.9
     comp=Z,10nm,1.1s
F30M Barrier River     31.04  42  P      P      12 10 39.8 +1.4
     baz=279,SNR=6.6
K29M Barlow Dome       31.08  49  P      P      12 10 40.1 +1.2
     baz=284
YUK4 Talbot Arm        31.24  54  P      P      12 10 41.4 +0.9
     baz=287
I30M Mount Dempster    31.25  46  IAmb   IAmb   12 10 42.5
     comp=Z,5.8nm,1.3s
I30M Mount Dempster    31.25  46  P      P      12 10 41.4 +0.9
     baz=283,SNR=5.7
PNL  Peninsula         31.41  57  P      P      12 10 43.0 +1.2
     baz=289
J30M Hart River        31.42  47  P      P      12 10 43.0 +1.1
     baz=284
YUK6 Outpost Mounta    31.49  55  P      P      12 10 43.6 +0.9
     baz=288
O29M Mount Kennedy     31.59  56  P      P      12 10 44.6 +1.0
     baz=289
M30M Minto, Yukon      31.73  51  P      P      12 10 45.7 +1.1
     baz=286
G31M Satah River       31.75  43  P      P      12 10 45.5 +1.0
     baz=282
INK  Inuvik            31.77  40  P      P      12 10 45.2 +0.4
     baz=280,SNR=5.1
F31M Tsiigehtchic      31.85  42  IAmb   IAmb   12 10 46.8
     comp=Z,3.9nm,0.5s
F31M Tsiigehtchic      31.85  42  P      P      12 10 46.3 +0.9
     baz=281,SNR=6.3
N30M Aishikik Lake     31.92  53  P      P      12 10 47.5 +1.2
     baz=288
HYT  Haines Junctio    31.93  55  IAmb   IAmb   12 10 49.2
     comp=Z,3.5nm,0.7s
HYT  Haines Junctio    31.93  55  P      P      12 10 48.1 +1.7
     baz=289
H31M Peel River        31.95  45  P      P      12 10 47.6 +1.1
     baz=283
P29M Windy Craggy      32.21  57  P      P      12 10 50.7 +1.8
     baz=290
P30M Million Dollar    32.41  56  P      P      12 10 52.5 +1.9
     baz=290
O30N Mendenhall        32.60  54  P      P      12 10 54.3 +2.1
     baz=290
M31M Drury Creek, Y    32.91  51  P      P      12 10 55.9 +1.1
     baz=289
WHY  Whitehorse        33.20  54  IAmb   IAmb   12 11 00.1
     comp=Z,8.1nm,0.7s
WHY  Whitehorse        33.20  54  P      P      12 10 59.3 +1.8
     baz=291,SNR=5.0
FARO Faro, Yukon       33.36  51  P      P      12 11 00.6 +1.9
     baz=289
SKAG Skagway           33.42  56  P      P      12 11 01.3 +2.1
     baz=292
ULN  Ulaanbaatar       33.43 280  ceP    P      12 10 59.0 -0.7
ULN                               pmax   pmax
     comp=Z,2.0nm,0.8s
R31K City Hall, Gus    33.62  58  P      P      12 11 02.9 +1.9
     baz=293
SONM Songino Array     33.81 280  P      P      12 11 02.3 -0.7
     comp=Z,1.5nm,0.7s,baz=62,slow=8.4,SNR=7.4
SONM                              PcP    PcP    12 13 38.3 -0.3
     comp=Z,1.7nm,0.7s,baz=90,slow=1.1,SNR=6.0
SONM                              ScP    ScP    12 17 10.0 +0.4
     comp=Z,1.4nm,0.7s,baz=82,slow=2.5,SNR=6.2
     comp=Z,1.5nm,0.7s
A36M Sachs Harbour     33.90  32  IAmb   IAmb   12 11 05.0
     comp=Z,9.5nm,0.8s
A36M Sachs Harbour     33.90  32  P      P      12 11 04.2 +1.0
     baz=281,SNR=17
MMPY Sheldon Lake,     34.15  50  P      P      12 11 07.0 +1.4
     baz=290
NRIK Noril'sk          34.23 323  LR     LR     12 26 14.1
     comp=Z,35nm,18.4s,baz=163,slow=38
NRIK Noril'sk          34.23 323  ceP    P      12 11 04.9 -1.3
NRIK                              pmax   pmax
     comp=Z,2.0nm,1.0s
R32K Eaglecrest        34.27  58  P      P      12 11 08.2 +1.6
     baz=294
P33M Teslin, Yukon     34.32  54  P      P      12 11 08.2 +1.1
     baz=292
C36M Paulatuk          34.90  37  IAmb   IAmb   12 11 13.1
     comp=Z,4.7nm,0.7s
C36M Paulatuk          34.90  37  P      P      12 11 12.4 +0.6
     baz=286,SNR=11
Q32M Nakina River      35.07  56  P      P      12 11 15.6 +1.9
     baz=294
HHC  Hu-ho-hao-te      35.13 266  eP     P      12 11 14.8 +0.4
HHC                               pmax   pmax
     comp=Z,16nm,0.6s
HHC                               pmax   pmax
     comp=Z,57nm,4.6s
R33M Jennings River    35.50  55  P      P      12 11 19.3 +2.0
     baz=295
T35M Bob Quinn         36.90  58  P      P      12 11 30.9 +1.8
     baz=298
V35K Ketchikan         37.02  61  P      P      12 11 31.9 +1.9
     baz=299
TOAD Toad River Com    38.39  54  P      P      12 11 43.2 +1.6
     baz=298
RES  Resolute Bay      40.99  23  LR     LR     12 31 51.7
     comp=Z,41nm,19.0s,baz=318,slow=40
YKAW3 Yellowknife Wh   41.14  45  P      P      12 12 05.4 +1.2
YKAW3                             IAmb   IAmb   12 12 09.5
     comp=Z,3.3nm,0.7s
YKA  Yellowknife Ar    41.17  45  P      P      12 12 04.7 +0.3
     comp=Z,2.1nm,0.7s,baz=252,slow=6.6,SNR=28
YKA                               pP     pP     12 12 37.6 +1.8
     comp=Z,1.3nm,1.0s,baz=304,slow=8.2,SNR=2.0
YKA                               PcP    PcP    12 14 00.2 -0.4
     comp=Z,0.3nm,0.5s,baz=310,slow=3.7,SNR=7.7
     comp=Z,2.1nm,0.7s
ZALV Zalesovo Beam     41.87 301  P      P      12 12 08.1 -2.2
     comp=Z,0.9nm,0.4s,baz=46,slow=8.5,SNR=4.9
ZALV                              PP     PP     12 13 50.5 +0.8
     comp=Z,0.9nm,0.5s,baz=53,slow=7.8,SNR=4.1
ZALV                              LR     LR     12 29 13.5
     comp=Z,20nm,19.9s,baz=114,slow=36
     comp=Z,0.9nm,0.4s
GTA  Gaotai            42.79 274  eP     P      12 12 19.5 +1.5
GTA                               sP     pP     12 12 27.5  -22
GTA                               pmax   pmax
     comp=Z,5.0nm,0.9s
GUMO Guam              43.56 203  LR     LR     12 30 16.6
     comp=Z,8.8nm,20.4s,baz=120,slow=35
SPITS Spitsbergen Ar   44.87 350  P      P      12 12 32.8 -1.2
     comp=Z,3.5nm,0.4s,baz=51,slow=8.0,SNR=93
     comp=Z,3.5nm,0.4s
SPB2 Spitsbergen Ar    44.87 350  P      P      12 12 33.6 -0.4
SPB2                              IAmb   IAmb   12 12 34.0
     comp=Z,12nm,0.9s
KURK Kurchatov         46.86 300  P      P      12 12 48.6 -1.2
KURK Kurchatov         46.86 300  P      P      12 12 48.9 -1.0
KURK                                             12 14 19.3
BLKN Baker Lake        46.92  36  P      P      12 12 50.3 +0.2
BLKN                              IAmb   IAmb   12 12 50.6
     comp=Z,6.6nm,0.7s
KURBB Kurchatov Arra   46.96 300  P      P      12 12 48.9 -1.7
     comp=Z,5.4nm,0.4s,baz=55,slow=7.9,SNR=57
KURBB                             PcP    PcP    12 14 19.3 -1.3
     comp=Z,1.9nm,0.7s,baz=48,slow=3.1,SNR=6.9
KURBB                             PP     PP     12 14 42.9 +0.7
     comp=Z,4.0nm,1.1s,baz=49,slow=10,SNR=6.4
     comp=Z,5.4nm,0.4s
B08A Colville Reser    47.23  63  IAmb   IAmb   12 12 55.0
     comp=Z,4.1nm,0.8s
ILON Igloolik, Nuna    47.50  25  P      P      12 12 54.8 +0.3
ILON                              IAmb   IAmb   12 12 55.4
     comp=Z,14nm,1.3s
MK31 Makanchi Array    47.52 294  ceP    P      12 12 53.6 -1.5
MKAR Makanchi Array    47.52 294  P      P      12 12 54.6 -0.6
MKAR Makanchi Array    47.52 294  P      P      12 12 53.3 -1.9
     comp=Z,1.5nm,0.3s,baz=46,slow=6.6,SNR=38
     comp=Z,1.5nm,0.3s
MKAR Makanchi Array    47.52 294  P      P      12 12 54.6 -0.6
MAKZ Makanchi          47.68 294  P      P      12 12 54.8 -1.5
MAKZ Makanchi          47.68 294  P      P      12 12 54.8 -1.5
MAKZ                              pmax   pmax
     comp=Z,4.0nm,1.1s
BVAR Borovoye Array    49.26 307  P      P      12 13 06.9 -1.4
     comp=Z,4.7nm,0.5s,baz=63,slow=8.4,SNR=21
BVAR                              PcP    PcP    12 14 27.9 -1.1
     comp=Z,1.4nm,0.5s,baz=60,slow=3.9,SNR=3.5
     comp=Z,4.7nm,0.5s
BRVK Borovoye          49.28 307  P      P      12 13 07.4 -1.1
BRVK                              IAmb   IAmb   12 13 07.8
     comp=Z,4.8nm,0.8s
BRVK Borovoye          49.28 307  P      P      12 13 07.4 -1.1
BRVK                              pmax   pmax
     comp=Z,5.0nm,0.8s
J05D Fort Rock, OR     49.60  70  IAmb   IAmb   12 13 14.2
     comp=Z,7.4nm,0.9s
PLID Pearl Lake        51.12  65  IAmb   IAmb   12 13 24.8
     comp=Z,3.6nm,0.6s
PZH  PanZhiHua         51.14 261  P      P      12 13 23.5 +0.6
PZH                               pmax   pmax
     comp=Z,10.0nm,0.7s
PZH                               pmax   pmax
     comp=Z,100nm,5.3s
ARCES ARCESS Array B   51.17 341  P      P      12 13 20.4 -2.0
     comp=Z,1.0nm,0.7s,baz=21,slow=8.5,SNR=9.8
ARCES                             PcP    PcP    12 14 35.1 -0.6
     comp=Z,0.5nm,0.4s,baz=15,slow=5.0,SNR=6.2
     comp=Z,1.0nm,0.7s
WVOR Wild Horse Val    51.57  69  IAmb   IAmb   12 13 28.5
     comp=Z,4.0nm,0.9s
ARTI Arti              52.04 316  P      P      12 13 27.9 -1.2
ARTI Arti              52.04 316  P      P      12 13 27.8 -1.2
     comp=Z,7.2nm,0.5s,baz=55,slow=4.0,SNR=16
     comp=Z,7.2nm,0.5s
ARTI Arti              52.04 316  P      P      12 13 27.9 -1.2
ARTI                              pmax   pmax
     comp=Z,20nm,0.5s
PAHR Pah Rah Range     53.09  72  IAmb   IAmb   12 13 39.9
     comp=Z,4.1nm,0.9s
KDJ  Kajisay           53.38 293  IAmb   IAmb   12 13 41.3
     comp=Z,4.7nm,0.8s
KIRV Kirov             53.74 323  P      P      12 13 40.4 -1.1
     comp=Z,12nm,0.5s,baz=358,slow=5.7,SNR=4.5
     comp=Z,12nm,0.5s
BOOM Boomskoye usch    53.77 294  IAmb   IAmb   12 13 45.5
     comp=Z,3.3nm,0.8s
YFT  Old Faithful      54.19  62  IAmb   IAmb   12 13 49.3
     comp=Z,4.4nm,0.6s
RYN  Ryan              54.33  72  IAmb   IAmb   12 13 49.2
     comp=Z,6.5nm,0.7s
AAK  Ala-Archa         54.41 295  ceP    P      12 13 46.4 -0.4
AAK                               pmax   pmax
     comp=Z,5.0nm,0.7s
RLMT Red Lodge         54.50  60  IAmb   IAmb   12 13 50.6
     comp=Z,6.2nm,0.9s
ELK  Elko              54.57  68  IAmb   IAmb   12 13 50.6
     comp=Z,2.2nm,0.6s
NVAR Mina Array Bea    54.59  72  P      P      12 13 50.3 +2.0
NVAR Mina Array Bea    54.59  72  P      P      12 13 50.1 +1.9
     comp=Z,5.2nm,0.7s,baz=302,slow=7.2,SNR=50
NVAR                              pP     pP     12 14 22.9 +1.7
     comp=Z,2.5nm,0.8s,baz=305,slow=6.9,SNR=4.7
     comp=Z,5.2nm,0.7s
LHV  Little Huntoon    54.62  72  IAmb   IAmb   12 13 51.8
     comp=Z,6.6nm,0.8s
NV11 Mina Array Sit    54.67  72  IAmb   IAmb   12 13 51.8
     comp=Z,4.6nm,0.8s
KLMR Klimovskoe        55.11 329  eP     P      12 13 44.4  -6.9
KLMR                              pmax   pmax
     comp=Z,8.0nm,0.8s
PD31 Pinedale Array    56.05  63  IAmb   IAmb   12 14 01.6
     comp=Z,7.3nm,1.4s
PDAR Pinedale Array    56.05  63  P      P      12 14 00.1 +1.5
     comp=Z,1.6nm,0.6s,baz=317,slow=2.2,SNR=17
PDAR                              pP     pP     12 14 33.0 +1.2
     comp=Z,1.3nm,0.7s,baz=336,slow=3.3,SNR=4.0
     comp=Z,1.6nm,0.6s
KKAR Karatay Array     56.11 298  P      P      12 13 57.4 -1.4
KKAR Karatay Array     56.11 298  IAmb   IAmb   12 13 59.8
     comp=Z,6.7nm,0.8s
KKAR Karatay Array     56.11 298  P      P      12 13 57.4 -1.4
DUG  Dugway, Tooele    56.24  67  IAmb   IAmb   12 14 02.9
     comp=Z,5.3nm,0.9s
SPR3 Spring Creek 3    56.31  69  IAmb   IAmb   12 14 04.3
     comp=Z,4.1nm,0.8s
AKTO Aktyubinsk        56.54 312  P      P      12 14 00.3 -1.3
     comp=Z,1.2nm,0.4s,baz=33,slow=8.1,SNR=4.1
AKTO                              PcP    PcP    12 14 55.4 -1.2
     comp=Z,2.2nm,0.5s,baz=344,slow=2.7,SNR=4.4
     comp=Z,1.2nm,0.4s
S11A Rachel            56.55  71  IAmb   IAmb   12 14 38.1
     comp=Z,5.9nm,1.0s
AB31 Akbulak array     56.58 310  IAmb   IAmb   12 14 01.6
     comp=Z,7.7nm,1.3s
ABKAR Akbulak array    56.58 310  P      P      12 14 01.2 -0.7
ABKAR Akbulak array    56.58 310  IAmb   IAmb   12 14 01.6
     comp=Z,7.7nm,1.3s
TPNV Topopah Spring    56.79  72  IAmb   IAmb   12 14 08.1
     comp=Z,2.2nm,0.7s
BSUT Blindstream Ca    57.06  65  IAmb   IAmb   12 14 09.1
     comp=Z,4.4nm,0.6s
PRN  Pahroc Range      57.10  71  IAmb   IAmb   12 14 08.9
     comp=Z,4.7nm,0.8s
GWY  Greenwater Val    57.12  73  IAmb   IAmb   12 14 08.5
     comp=Z,3.4nm,0.7s
GSC  Goldstone, Bar    57.70  74  IAmb   IAmb   12 14 16.9
     comp=Z,6.7nm,0.9s
TMUT Trail Mountain    57.74  66  IAmb   IAmb   12 14 13.5
     comp=Z,3.6nm,0.7s
P18A Preston Nutter    58.00  66  IAmb   IAmb   12 14 25.8
     comp=Z,6.8nm,1.3s
FINES FINESS Array B   58.11 336  P      P      12 14 10.9 -1.6
     comp=Z,2.9nm,0.6s,baz=35,slow=7.1,SNR=17
     comp=Z,2.9nm,0.6s
FINES FINESS Array B   58.11 336  iP     P      12 14 11.3 -1.2
FINES                             pmax   pmax
     comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr    59.08 257  P      P      12 14 19.4 -0.4
     comp=Z,1.6nm,0.7s,baz=22,slow=6.7,SNR=10
CMAR                              PcP    PcP    12 15 07.3 +0.3
     comp=Z,2.3nm,0.5s,baz=4.4,slow=3.2,SNR=12
     comp=Z,1.6nm,0.7s
BELG Belogornoye       59.19 319  P      P      12 14 19.1 -1.0
     comp=Z,20nm,0.6s,baz=122,slow=3.8,SNR=4.7
     comp=Z,20nm,0.6s
PV23 Carpenter Ridg    59.51  66  IAmb   IAmb   12 14 25.4
     comp=Z,5.2nm,0.7s
PV22 Blue Mesa, Par    59.57  65  IAmb   IAmb   12 14 25.2
     comp=Z,3.3nm,0.6s
PV11 David Mesa, Pa    59.70  66  IAmb   IAmb   12 14 27.7
     comp=Z,5.0nm,0.7s
PV03 Paradox Valley    59.75  66  IAmb   IAmb   12 14 29.0
     comp=Z,4.3nm,1.2s
PV13 Radium Mtn., P    59.83  66  IAmb   IAmb   12 14 27.6
     comp=Z,3.2nm,0.7s
SIMJ Simiganj          60.16 296  P      P      12 14 28.2 +1.0
OBN  Obninsk           60.75 327  eP     P      12 14 30.7 +0.1
OBN                               pmax   pmax
     comp=Z,4.0nm,0.6s
S22A 4UR Ranch, Cre    61.17  65  P      P      12 14 36.5 +2.3
S22A                              IAmb   IAmb   12 14 37.2
     comp=Z,2.3nm,0.9s
NC204 NORSAR Array S   61.23 344  P      P      12 14 33.0 -1.0
NC204                             IAmb   IAmb   12 15 13.6
     comp=Z,5.4nm,1.1s
NB2  NORSAR Subarra    61.38 344  P      P      12 14 33.6 -1.3
     comp=Z,1.3nm,0.6s,baz=20,slow=6.9
NOA  NORSAR Array B    61.38 344  P      P      12 14 33.5 -1.5
     comp=Z,1.4nm,0.6s,baz=20,slow=6.8,SNR=11
NOA                               LR     LR     12 42 14.7
     comp=Z,10.0nm,20.6s,baz=305,slow=37
     comp=Z,1.4nm,0.6s
HFS  Hagfors           61.82 342  P      P      12 14 36.4 -1.4
     comp=Z,2.2nm,0.5s,baz=45,slow=4.4,SNR=15
     comp=Z,2.2nm,0.5s
SBUM Sibu              65.69 235  P      P      12 15 04.3 +0.6
MNTX Cornudas Mount    66.59  68  P      P      12 15 10.7 +1.3
AKASG Malin Array Be   66.80 329  P      P      12 15 08.8 -1.5
     comp=Z,0.9nm,0.4s,baz=28,slow=6.8,SNR=7.4
     comp=Z,0.9nm,0.4s
KSM  Kuching           67.45 237  P      P      12 15 15.4 +0.5
KIV  Kislovodsk        67.99 317  eP     P      12 15 18.0 -0.1
KIV                               pmax   pmax
     comp=Z,4.0nm,1.0s
KBZ  Khabaz            68.10 316  P      P      12 15 17.6 -1.0
     comp=Z,2.3nm,0.4s,baz=48,slow=6.5,SNR=10
     comp=Z,2.3nm,0.4s
EKA  Eskdalemuir Ar    68.80 350  P      P      12 15 21.7 -1.1
     comp=Z,3.0nm,0.5s,baz=17,slow=5.2,SNR=17
     comp=Z,3.0nm,0.5s
TXAR Lajitas Array     69.36  68  P      P      12 15 28.1 +1.3
     comp=Z,3.4nm,0.5s,baz=298,slow=4.9,SNR=64
TXAR                              pP     pP     12 16 02.2 +0.9
     comp=Z,0.8nm,0.5s,baz=289,slow=3.8,SNR=2.8
     comp=Z,3.4nm,0.5s
CLL  Collm             70.29 339  iP     P      12 15 31.3 -0.7
CLL                               e*PP   pP     12 16 07.0 -0.1
GERES GERESS Array B   72.47 338  P      P      12 15 44.5 -0.8
     comp=Z,0.2nm,0.3s,baz=8.5,slow=5.7,SNR=4.4
     comp=Z,0.2nm,0.3s
BRTR Keskin Array B    75.05 320  P      P      12 15 58.8 -1.7
     comp=Z,0.7nm,0.5s,baz=79,slow=2.2,SNR=2.4
     comp=Z,0.7nm,0.5s
WRA  Warramunga Arr    78.39 205  P      P      12 16 19.4 +0.2
     comp=Z,0.7nm,0.5s,baz=17,slow=6.0,SNR=8.2
WRA                               pP     pP     12 16 54.2 -0.3
     comp=Z,1.0nm,0.6s,baz=18,slow=6.0,SNR=4.0
     comp=Z,0.7nm,0.5s
ASAR Alice Springs     82.08 205  P      P      12 16 39.5 +0.7
     comp=Z,0.8nm,0.6s,baz=15,slow=4.9,SNR=20
ASAR                              pP     pP     12 17 14.7 +0.2
     comp=Z,0.9nm,0.5s,baz=15,slow=4.8,SNR=5.1
     comp=Z,0.8nm,0.6s
ESDC Sonseca Array     84.35 348  P      P      12 16 49.7 -0.8
     comp=Z,5.0nm,0.7s,baz=2.3,slow=4.8,SNR=35
     comp=Z,5.0nm,0.7s
QSPA South Pole Qui   145.20 180  PKPbc  PKPbc  12 23 53.5 -0.1
     comp=Z,2.4nm,0.5s,baz=174,slow=1.3,SNR=49
QSPA                              pPKPbc pPKPab 12 24 29.2 -1.9
     comp=Z,4.7nm,0.8s,baz=330,slow=2.4,SNR=4.6
```

AFAD ***29*** *12:07:24.8, 34°.26N×36°.01E, h3km±5km, MW3.7*
IDC ***29*** *12:07:25.4±3.0, 34°.19N×36°.25E, h0km, mb3.5/1, mbtmp3.4/3, ML3.4/2, MS2.6/7, Error ellipse: s-maj=51.8km s-min=14.9km az=101.0*
GII ***29*** *12:07:25.6±0.0, 34°.192N±0°.003×36°.152E±0°.001, h1km, Mws3.8/7, confirmed*
GRAL ***29*** *12:07:26.3±0.4, 34°.18N×36°.19E, h5km±8km, MD3.7*
NEIC ***29*** *12:07:26.9±2.2, 34°.18N±0°.07×36°.17E±0°.07, h10km±2km, mb3.4/4, Error ellipse: s-maj=11.4km s-min=9.8km az=194.0*
NIC ***29*** *12:07:28.8, 34°.17N×35°.88E, h0km±2km, Ml3.3/14*
ISK ***29*** *12:07:29.5, 34°.40N×35°.94E, h14km, ML3.6/30*
ISC 29 12:07:26.1±1.1, 34°.18N±0°.02×36°.13E±0°.03, h3km±9km, n141, σ1§08/166, Jordan-Syria region

```
Code Station Name      Δ°   AZ°   Phase ID      Time      Res
                                  Op    ISC     h m s     ISC
HWQ  Hawqa             0.18 302  eP    Pg      12 07 30.3 +0.6
HWQ                              eS    Sg      12 07 33.6 +1.5
FKH  Fakeheh           0.24  75  eP    Pg      12 07 29.9 -0.9
BEIL Beino             0.36   7  eP    Pg      12 07 33.1 -0.1
ZAHL Zahle             0.38 212  eP    Pg      12 07 33.5  0.0
ZAHL                             eS    Sg      12 07 39.1 +0.6
BHL  Bhannes           0.48 235  eP    Pg      12 07 35.6 +0.2
DQRL Deir Qamar        0.67 225  eP    Pg      12 07 38.7 -0.2
RCY  Rachaya           0.73 200  eP    Pg      12 07 39.7 -0.4
QRWL Qaraoun           0.73 211  eP    Pg      12 07 40.1 -0.2
SHBL Chebaa            0.89 201  eP    Pg      12 07 42.6 -0.7
NATI Neve Ativ         0.97 200  P     Pg      12 07 44.5 -0.4
NATI Neve Ativ         0.97 200  P     Pb      12 07 45.6  0.0
NATI                             S     Sb      12 07 59.3 +0.4
GEM  Giv'at Ha'Em      1.04 202  P     Pg      12 07 45.9 -0.3
GEM  Giv'at Ha'Em      1.04 202  S     Sn      12 08 02.1 -0.6
GEM  Giv'at Ha'Em      1.04 202  P     Pg      12 07 45.9 -0.3
KSHT Keshet            1.23 193  P     Pb      12 07 49.5 -0.5
KSHT Keshet            1.23 193  S     Sn      12 08 07.8 +0.5
MMC1 Mount Meron ar    1.30 208  P     Pg      12 07 50.4 -0.6
MMB1 Mount Meron ar    1.31 207  P     Pg      12 07 50.4 -0.9
MMA0B Mount Meron ar   1.31 208  P     Pg      12 07 50.4 -0.9
MMA0B Mount Meron ar   1.31 208  S     Sn      12 08 10.3 +0.8
MMAI Mount Meron Ar    1.31 208  Pg    Pg      12 07 50.5 -0.8
     146nm,0.3s,baz=27,slow=16,SNR=301
MMAI                             Lg    Lg      12 08 09.7
     184nm,0.3s,baz=14,slow=25,SNR=8.1
MMAI                             LR    LR      12 08 41.9
     comp=Z,164nm,19.9s,baz=134,slow=56
HNTI Hanita            1.36 216  P     Pg      12 07 51.8 -0.4
HNTI Hanita            1.36 216  S     Sn      12 08 11.2 +0.8
HNTI Hanita            1.36 216  P     Pn      12 07 51.5 -0.4
BLGI Bet Lehem HaGe    1.64 209  P     Pn      12 07 56.0 +0.1
BLGI Bet Lehem HaGe    1.64 209  S     Sg      12 08 18.5 -0.5
BLGI Bet Lehem HaGe    1.64 209  P     Pg      12 07 57.1 -0.6
OFRI `Ofer             1.83 212  P     Pn      12 07 58.5  0.0
OFRI `Ofer             1.83 212  S     Sb      12 08 23.4 -0.1
OFRI `Ofer             1.83 212  P     Pb      12 07 59.6 -0.6
MMLI Mount Malkishu    1.84 199  P     Pb      12 07 59.9 -0.5
MMLI                             S     Sg      12 08 25.5 +0.3
MMLI                             AML   AML     12 08 26.5
     1.6nm,0.6s
MMLI                             AML   AML     12 08 28.6
     1.1nm,0.7s
MMLI Mount Malkishu    1.84 199  P     Pb      12 07 59.3 -1.1
MMLI Mount Malkishu    1.84 199  P     Pb      12 07 59.9 -0.5
QRNJ Al-Qirein         1.90 194  P     Pb      12 08 00.6 -0.8
PARAL Paralimni        1.90 296  P     Pn      12 07 59.3 -0.2
PARAL                            S     Sn      12 08 24.9 +1.0
PARAL                            AML   AML     12 08 27.2
     0.8nm,0.5s
PARAL                            AML   AML     12 08 28.9
     1.0nm,0.6s
HMDT Nahal Hemdat      1.99 195  P     Pn      12 08 01.0 +0.3
HMDT Nahal Hemdat      1.99 195  S     Sb      12 08 26.9 -1.2
HMDT Nahal Hemdat      1.99 195  P     Pb      12 08 01.9 -1.1
HSUJ Al Zarqa          2.07 179  P     Pb      12 08 03.5 -0.9
EREN Erenkoy           2.10 310  Pn    Pn      12 08 01.7 -0.4
EREN Erenkoy           2.10 310  P     Pn      12 08 01.8 -0.3
EREN                             S     Sb      12 08 31.2 -0.1
EREN                             iAML  AML     12 08 46.0
     comp=E,192nm,0.4s
EREN                             iAML  AML     12 08 50.0
     comp=N,218nm,0.6s
ASF  Jabal al Asfar    2.11 162  LR    LR      12 08 28.1
     comp=Z,34nm,18.8s,baz=252,slow=30
ASF  Jabal al Asfar    2.11 162  P     Pb      12 08 04.3 -0.7
RHAN Hatay/Reyhanl     2.11  10  P     Pn      12 08 03.8 +1.5
RHAN                             S     Sb      12 08 30.9 -0.6
RHAN                             iAML  AML     12 08 36.0
     comp=N,2μm,0.3s
RHAN                             iAML  AML     12 08 36.0
     comp=E,1μm,0.4s
ASUZ Hatay-Arsuz       2.12 352  P     Pn      12 08 03.3 +0.8
ASUZ                             S     Sb      12 08 32.7 +0.8
ASUZ                             iAML  AML     12 08 34.0
     comp=N,1μm,0.5s
ASUZ                             iAML  AML     12 08 36.0
     comp=E,484nm,0.3s
SLTI Sal'it            2.14 206  P     Pn      12 08 03.0 +0.3
SLTI Sal'it            2.14 206  P     Pn      12 08 03.5 +0.8
TAHT Tahtakopru-Hat    2.19   1  Pn    Pn      12 08 03.4  0.0
MVOU Mavrovouni        2.22 293  P     Pn      12 08 03.9  0.0
MVOU                             S     Sn      12 08 31.8 +0.1
MVOU                             AML   AML     12 08 37.4
     0.6nm,0.7s
```

MVOU AML AML 12 08 39.5
0.4nm,0.6s
SALP Salfit 2.25 201 P **Pb 12 08 05.8 -1.6**
UJAP Al Uja 2.29 194 P **Pb 12 08 06.6 -1.5**
CSS Mathiatis 2.44 289 Pn **Pn 12 08 06.7 -0.1**
CSS Sn **Sn 12 08 34.2 -2.9**
CSS Mathiatis 2.44 289 Pn **Pn 12 08 06.1 -0.7**
CSS Sn **Sn 12 08 37.2 0.0**
CSS Mathiatis 2.44 289 P **Pn 12 08 07.1 +0.3**
CSS S **Sn 12 08 37.5 +0.4**
CSS AML AML 12 08 42.4
0.4nm,0.6s
CSS AML AML 12 08 44.7
0.4nm,0.7s
ATHAL Athalassa 2.45 294 S **Sn 12 08 38.0 +0.6**
ATHAL AML AML 12 08 49.9
1.2nm,0.8s
ATHAL AML AML 12 08 59.6
0.8nm,0.6s
ASGA Asgata 2.46 285 P **Pn 12 08 07.4 +0.4**
ASGA S **Sn 12 08 37.1 -0.5**
ASGA AML AML 12 08 46.6
0.4nm,0.6s
ASGA AML AML 12 08 52.2
0.3nm,0.5s
HASA Hatay-Hassa-Ha 2.58 6 P **Pg 12 08 14.8 -0.8**
HASA S **Sn 12 08 43.3 +2.6**
HASA *i* AML AML 12 08 57.0
comp=E,700nm,0.3s
HASA *i* AML AML 12 08 58.0
comp=N,727nm,0.3s
KUZU Kuzuini 2.70 16 P **Pn 12 08 11.9 +1.5**
KUZU S **Sb 12 08 48.0 -0.6**
KUZU *i* AML AML 12 08 56.0
comp=E,1μm,0.3s
KUZU *i* AML AML 12 09 03.0
comp=N,21nm,0.2s
APOL The Sanctuary 2.74 281 S **Sn 12 08 45.2 +0.5**
APOL AML AML 12 08 48.4
0.8nm,0.6s
APOL AML AML 12 08 51.2
0.7nm,0.5s
TROD Troodos 2.80 287 P **Pn 12 08 11.8 -0.1**
TROD S **Sn 12 08 47.2 +0.9**
TROD AML AML 12 08 54.5
0.6nm,0.7s
TROD AML AML 12 08 57.4
0.5nm,0.7s
KIZK Mersin 2.81 325 P **Pn 12 08 12.0 0.0**
KIZK S **Sn 12 08 42.5 -3.8**
KIZK *i* AML AML 12 08 52.0
comp=N,78nm,0.6s
KIZK *i* AML AML 12 08 54.0
comp=E,71nm,0.4s
TISA Tisan-Mersin 2.82 315 Pn **Pn 12 08 11.7 -0.3**
KARG Kargicak-Mersi 2.83 316 Pn **Pn 12 08 11.6 -0.6**
LEF Lefka 2.83 290 Pn **Pn 12 08 13.1 +0.9**
SILI Silifke-Mersin 2.83 321 Pn **Pn 12 08 12.1 -0.1**
SILI Sn **Sn 12 08 42.7 -4.1**
AMAZ Amatzia 2.83 201 P **Pn 12 08 14.3 +2.0**
AMAZ AML AML 12 09 12.1
1.9nm,1.2s
AMAZ AML AML 12 09 16.7
1.5nm,0.6s
AMAZ Amatzia 2.83 201 P **Pn 12 08 12.5 +0.2**
CEYT Ceyhan 2.84 354 Pn **Pn 12 08 12.4 +0.1**
YESI Yesilovacik-Me 2.86 315 Pn **Pn 12 08 11.8 -0.8**
IKL Isikli 2.87 316 Pn **Pn 12 08 12.3 -0.4**
AKK1 Akkuyu-Mersin 2.89 313 Pn **Pn 12 08 12.8 -0.2**
AKKU Akkuyu-Mersin 2.89 314 Pn **Pn 12 08 12.6 -0.4**
GHAJ Ghor Haditha 2.91 190 Pn **Pn 12 08 13.8 +0.5**
GHAJ Ghor Haditha 2.91 190 P **Pn 12 08 14.1 +0.8**
GHAJ Ghor Haditha 2.91 190 P **Pn 12 08 14.3 +1.0**
GULN MERSIN_Gulnar 2.91 314 P **Pn 12 08 13.3 -0.1**
GULN S **Sn 12 08 43.8 -5.0**
GULN *i* AML AML 12 08 53.0
comp=N,50nm,0.4s
GULN *i* AML AML 12 08 57.0
comp=E,70nm,0.4s
MSBI Mazada 2.94 193 P **Pn 12 08 13.5 -0.1**
YTIR Yattir 2.94 197 P **Pn 12 08 13.9 +0.1**
YTIR Yattir 2.94 197 S **Sn 12 08 50.8 +1.2**
YORU Yoruktepe-Mers 2.98 312 Pn **Pn 12 08 13.8 -0.4**
DED Mersin 2.98 339 P **Pn 12 08 14.8 +0.6**
DED S **Sn 12 08 48.3 -2.2**
DED *i* AML AML 12 08 53.0
comp=N,92nm,0.5s
DED *i* AML AML 12 08 53.0
comp=E,135nm,0.3s
OREN Orenkoy-Mersin 2.98 313 Pn **Pn 12 08 14.1 -0.1**
MERS Mersin 2.98 334 Pn **Pn 12 08 14.7 +0.3**
NATA Nata 3.00 282 P **Pn 12 08 15.8 +1.2**
NATA AML AML 12 08 56.4
2.2nm,0.9s
NATA AML AML 12 09 01.9
2.6nm,0.6s
KEBE Keben-Mersin 3.00 320 Pn **Pn 12 08 14.5 -0.1**
KAMA Osmaniye 3.03 8 P **Pn 12 08 16.1 +1.1**
KAMA S **Sb 12 08 59.8 +1.7**
KAMA *i* AML AML 12 09 04.0
comp=N,100nm,0.4s
KAMA *i* AML AML 12 09 08.0
comp=E,148nm,0.4s
ALFC Alefka 3.07 289 P **Pn 12 08 15.7 +0.2**
ALFC S **Sn 12 08 53.8 +1.1**
ALFC AML AML 12 09 03.5
0.5nm,0.6s
ALFC AML AML 12 09 06.0
0.5nm,0.5s
GAZ Gaziantep 3.11 16 Pn **Pn 12 08 17.2 +1.1**
GAZ Gaziantep 3.11 16 Pn **Pn 12 08 15.1 -1.1**
GAZ Gaziantep 3.11 16 P **Pb 12 08 21.2 -1.0**
GAZ AML AML 12 09 11.1
2.9nm,0.7s
GAZ AML AML 12 09 12.7
1.9nm,0.7s
NZIP Nizip/Gaziante 3.12 23 P **Pn 12 08 16.2 -0.1**
NZIP S **Sb 12 09 03.2 +2.4**
NZIP *i* AML AML 12 09 09.0
comp=N,818nm,0.6s
NZIP *i* AML AML 12 09 10.0
comp=E,2μm,0.7s
TEVE Tevekalti-Mers 3.14 316 Pn **Pn 12 08 16.4 -0.2**
TEKE Tekeli-Mersin 3.15 309 Pn **Pn 12 08 16.4 -0.2**
KARA Karaisali 3.19 344 Pn **Pn 12 08 16.9 -0.3**
BERE Bereket-Mersin 3.21 313 Pn **Pn 12 08 17.3 -0.3**
AKMS Akamas 3.24 286 P **Pn 12 08 18.7 +0.9**
AKMS S **Sn 12 08 58.2 +1.3**
AKMS AML AML 12 09 04.2
0.3nm,0.6s
AKMS AML AML 12 09 08.1
0.3nm,0.5s
GULE Gulek 3.28 341 P **Pn 12 08 19.7 +1.1**
GULE S **Sn 12 08 57.8 -0.5**
GULE *i* AML AML 12 09 03.0
comp=N,153nm,0.4s
GULE *i* AML AML 12 09 10.0
comp=E,180nm,0.4s
KOZT Kozan 3.30 356 Pn **Pn 12 08 19.4 +0.7**
AKO Adana 3.32 351 P **Pn 12 08 18.4 -0.5**
AKO S **Sb 12 09 07.8 +1.4**
AKO *i* AML AML 12 09 13.0
comp=E,44nm,0.5s
AKO *i* AML AML 12 09 15.0
comp=N,65nm,1.1s
SURC SANLIURFA_SURC 3.37 36 P **Pn 12 08 18.9 -0.7**
SURC S **Sb 12 09 08.5 +0.6**
SURC *i* AML AML 12 09 13.0
comp=N,568nm,0.5s
SURC *i* AML AML 12 09 15.0
comp=E,711nm,0.7s
GZT Gaziantep 3.37 20 P **Pn 12 08 19.7 -0.2**
GZT S **Sb 12 09 10.7 +2.6**
GZT *i* AML AML 12 09 22.0
comp=N,625nm,0.5s
GZT *i* AML AML 12 09 31.0
comp=E,539nm,0.9s
KMRS Kahramanmaras 3.37 10 Pn **Pn 12 08 20.9 +1.2**
ANDN Andirin 3.40 3 P **Pn 12 08 20.5 +0.4**
ANDN S **Sn 12 09 01.3 +0.4**
ANDN *i* AML AML 12 09 25.0
comp=E,151nm,0.5s
ANDN *i* AML AML 12 09 26.0
comp=N,136nm,0.5s
KAHM Kahramanmaras, 3.40 12 P **Pn 12 08 22.1 +2.0**
KAHM S **Sb 12 09 11.5 +2.7**
KAHM *i* AML AML 12 09 17.0
comp=E,194nm,1.2s
KAHM *i* AML AML 12 09 20.0
comp=N,180nm,1.0s
KZIT Kziot 3.58 205 P **Pn 12 08 25.3 +2.8**
KZIT AML AML 12 09 23.5
1.0nm,1.0s
KZIT AML AML 12 09 26.7
1.7nm,0.9s
KZIT Kziot 3.58 205 P **Pn 12 08 22.9 +0.4**
KZIT Kziot 3.58 205 S **Sn 12 09 06.6 +1.3**
CMRD Camardi-Nigde 3.59 345 Pn **Pn 12 08 22.7 -0.1**
KERG Konya-Eregli 3.61 334 P **Pn 12 08 23.7 +0.6**
KERG S **Sn 12 09 06.3 0.0**
KERG *i* AML AML 12 09 13.0
comp=E,114nm,0.5s
KERG *i* AML AML 12 09 14.0
comp=N,142nm,0.3s
KRMN Karaman 3.79 323 Pn **Pn 12 08 25.4 -0.1**
PRNI Paran 3.94 194 P **Pn 12 08 29.2 +1.7**
HDMB Hadim 4.06 314 Pn **Pn 12 08 29.6 +0.2**
YESY Yesilyurt 4.08 332 Pn **Pn 12 08 29.7 +0.2**
SARI SarD1z-Kayseri 4.22 3 Pn **Pn 12 08 32.6 +1.1**
HRFI Mount Harif 4.24 193 P **Pn 12 08 31.7 +0.1**
HRFI Mount Harif 4.24 193 S **Sn 12 09 22.8 +1.3**
GULA Gulagac 4.43 340 Pn **Pn 12 08 34.5 +0.2**
MBRI Mt Berech 4.50 194 P **Pn 12 08 35.4 +0.2**
SULT Sultanhani-AKS 4.53 333 Pn **Pn 12 08 36.6 +0.9**
EIL Elat 4.61 193 LR LR 12 10 47.3
comp=Z,79nm,19.2s,baz=245,slow=44
EIL Elat 4.61 193 P **Pn 12 08 37.1 +0.4**
BNN Bunyan 4.67 357 Pn **Pn 12 08 35.7 -1.9**
MARD Mardin 4.91 49 Pn **Pn 12 08 40.4 -0.5**
AKAS Kas 5.72 293 Pn **Pn 12 08 52.9 +0.9**
BR131 Keskin Array S 5.88 341 Pn **Pn 12 08 54.8 +0.5**
BRTR Keskin Array B 5.88 341 Pn **Pn 12 08 54.2 -0.1**
BRTR Keskin Array B 5.88 341 Pn **Pn 12 08 55.6 +1.3**
0.5nm,0.3s,baz=151,slow=18,SNR=5.1
BRTR LR LR 12 11 31.1
comp=Z,110nm,18.9s,baz=140,slow=42
1.1nm,0.4s
GURO Guroymak-BITLI 6.46 46 Pn **Pn 12 09 02.0 -0.1**
KOPT Kop Dagi 6.79 30 **Pn 12 09 06.4 -0.4**
ARG Arkhangelos 6.86 289 Pn **Pn 12 09 06.6 -1.0**
GNI Garni 9.09 47 LR LR 12 13 01.2
comp=Z,25nm,21.9s,baz=216,slow=37
IDI Anoyia 9.32 280 Pn **Pn 12 09 41.5 +0.2**
MLR Muntele Rosu 13.72 328 LR LR 12 16 40.3
comp=Z,37nm,19.5s,baz=80,slow=40
BURAR Bucovina Array 15.73 332 P **P 12 11 13.7 +0.9**
KIEV Kiev 17.26 345 P **P 12 11 30.0 +0.5**
KIEV IAmb IAmb 12 11 30.8
comp=Z,2.1nm,0.7s
AKASG Malin Array Be 17.26 345 P **P 12 11 29.2 -0.4**
comp=Z,0.3nm,0.3s,baz=164,slow=11,SNR=4.2
comp=Z,0.2nm,0.3s
AKBB Malin Array Si 17.26 345 P **P 12 11 30.0 +0.4**
AKBB IAmb IAmb 12 11 30.9
comp=Z,2.3nm,0.7s
BELG Belogornoye 19.99 21 LR LR 12 21 37.0
comp=Z,20nm,19.2s,baz=272,slow=43
VRAC Vranov 20.91 322 LR LR 12 22 50.3
comp=Z,14nm,19.1s,baz=224,slow=44
GEC2 GERESS Array S 22.17 318 P **P 12 12 22.7 -0.5**
GERES GERESS Array B 22.17 318 P **P 12 12 23.6 +0.3**
comp=Z,1.6nm,0.8s,baz=108,slow=8.8,SNR=9.3
comp=Z,1.6nm,0.8s

HEL 29 12:12:38.4±0.4, 67°.70N×33°.34E, h0km, ML1.1,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.54**	**68**	PG	Pg	12 12 47.8	-0.9
VRF	**Varrio**	**1.42**	**274**	PG	Pn	12 13 04.2	-1.2
	baz=88						
VRF				MSG		12 13 21.2	
	comp=Z,1.6nm,0.2s						
VRF				SG	Sn	12 13 25.3	+0.4
RAJF	**Raja-Jooseppi**	**2.04**	**295**	PG	Pn	12 13 13.9	-0.1
RAJF				SG	Sb	12 13 42.4	+0.2
OLKF	**Oulanka, Finla**	**2.08**	**230**	PG	Pn	12 13 14.8	+0.4
OLKF				MSG		12 13 40.1	
	comp=Z,0.8nm,0.2s						
OLKF				SG	Sb	12 13 42.8	-0.4
KU6	**Riekki**	**2.16**	**221**	PG	Pn	12 13 15.2	-0.5
	baz=37						
KU6				MSG		12 13 42.4	
	comp=Z,0.5nm,0.2s						
KU6				SB	Sn	12 13 44.0	+0.9
RANF	**Ranua**	**3.09**	**240**	PB	Pn	12 13 31.2	+2.9
KEV	**Kevo**	**3.10**	**315**	PN	Pn	12 13 28.1	-0.3
KEV				MSG		12 14 09.3	
	comp=Z,0.7nm,0.2s						
ARA0	**ARCESS Array S**	**3.41**	**306**	PN	Pn	12 13 31.5	-1.2
KLF	**Kolari**	**3.64**	**267**	PB	Pn	12 13 38.6	+2.7
ERTU	**Ertsjaerv**	**4.50**	**260**	PN	Pn	12 13 44.8	-2.9

*IDC **29** 12:16:59.7±1.3, 64°.00N×25°.54E, h0km, mbtmp2.4/2, ML1.6/2, Error ellipse: s-maj=48.0km s-min=8.1km az=87.0*
*HEL **29** 12:16:59.5±0.1, 64°.02N×24°.34E, h0km, ML1.3, Explosion*
ISC 29 12:16:58.3±0.7, 64°.01N±0°.02×24°.27E±0°.03, h0km, n30, σ1§10/51, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUF	**Merijarvi**	**0.41**	**29**	PG	**Pg**	**12 17 06.1**	**0.0**
OUF				SG	**Sg**	**12 17 09.9**	**-1.6**
OBF0	**Syolatti, Pyha**	**0.49**	**358**	PG	**Pg**	**12 17 07.8**	**+0.1**
OBF0				SG	**Sg**	**12 17 14.3**	**+0.3**
OBF0				MSG		12 17 15.1	
	comp=Z,6.1nm,0.2s						
OBF4	**Vikkela, Lumij**	**0.89**	**24**	PG	**Pg**	**12 17 15.1**	**-0.1**
OBF4				MSG		12 17 26.2	
	comp=Z,2.2nm,0.2s						
VAF	**Ylistaro**	**1.21**	**217**	PG	**Pn**	**12 17 22.0**	**-0.3**
VAF				MSG		12 17 36.8	
	comp=Z,2.8nm,0.2s						
VAF				SB	**Sb**	**12 17 38.3**	**+0.3**
OUL	**Oulu**	**1.29**	**32**	PG	**Pg**	**12 17 22.3**	**-0.7**
	baz=216						
OUL				SG	**Sg**	**12 17 39.0**	**-0.6**
BURU	**Burvik**	**1.39**	**296**	PG	**Pb**	**12 17 24.8**	**-0.3**
	baz=117						
BURU				SG	**Sn**	**12 17 43.8**	**-0.1**
SUF	**Sumiainen**	**1.55**	**146**	PG	**Pn**	**12 17 27.2**	**+0.2**
	baz=327						
SUF				MSG		12 17 45.6	
	comp=Z,1.9nm,0.2s						
SUF				SG	**Sn**	**12 17 47.5**	**-0.2**
UMAU	**Umeaa**	**1.59**	**267**	PG	**Pb**	**12 17 28.3**	**-0.2**
UMAU				SN	**Sg**	**12 17 50.3**	**+1.0**
NIF	**Nilsia**	**1.69**	**110**	PG	**Pb**	**12 17 29.7**	**-0.5**
NIF				SN	**Sb**	**12 17 52.2**	**+0.2**
KEF	**Keuruu**	**1.87**	**171**	PG	**Pb**	**12 17 32.9**	**-0.3**
	baz=352						
KEF				MSG		12 17 55.5	
	comp=Z,1.9nm,0.2s						
KEF				SG	**Sb**	**12 17 56.9**	**-0.2**
KALU	**Kalix**	**1.90**	**349**	PG	**Pb**	**12 17 33.8**	**0.0**
KALU				SG	**Sg**	**12 17 58.7**	**-0.5**
TOF	**Tornio**	**2.08**	**1**	PG	**Pb**	**12 17 36.5**	**-0.3**
TOF				MSG		12 18 00.7	
	comp=Z,1.3nm,0.2s						
TOF				SG	**Sb**	**12 18 02.5**	**-0.7**
KAF	**Kangasniemi**	**2.12**	**153**	PG	**Pb**	**12 17 37.2**	**-0.2**
	baz=339						
KAF				MSG		12 18 02.2	
	comp=Z,2.1nm,0.2s						
KAF				SG	**Sb**	**12 18 04.6**	**+0.4**
RANF	**Ranua**	**2.28**	**27**	PB	**Pn**	**12 17 37.9**	**+0.8**
RANF				SN	**Sn**	**12 18 05.8**	**0.0**
HUSU	**Husum**	**2.35**	**256**	SG	**Sg**	**12 18 12.9**	**-0.7**
KU2	**Taivalkoski**	**2.40**	**43**	PB	**Pn**	**12 17 39.6**	**+0.8**
KU2				SG	**Sb**	**12 18 13.8**	**+1.3**
KPF	**Kankaanpaa**	**2.40**	**206**	PG	**Pb**	**12 17 41.7**	**-0.6**
KPF				SG	**Sb**	**12 18 13.5**	**+1.1**
RMF	**Romuvaara**	**2.49**	**83**	PG	**Pb**	**12 17 43.5**	**-0.3**
RMF				MSG		12 18 12.1	
	comp=Z,1.2nm,0.2s						
RMF				SG	**Sb**	**12 18 14.9**	**-0.1**
ERTU	**Ertsjaerv**	**2.70**	**342**	PB	**Pn**	**12 17 44.5**	**+1.6**
ERTU				SB	**Sb**	**12 18 19.2**	**-1.9**
FIA0	**FINESS Array S**	**2.71**	**161**	PB	**Pb**	**12 17 45.8**	**-1.6**
	baz=346						
FIA0				MSG		12 18 19.3	
	comp=Z,0.8nm,0.2s						
FIA0				SB	**Sb**	**12 18 20.1**	**-1.0**
FINES	**FINESS Array B**	**2.71**	**161**	Pn	**Pb**	**12 17 45.8**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=355,slow=15,SNR=6.1						
FINES				Lg	Lg	12 18 19.5	
	comp=Z,0.7nm,0.3s,baz=355,slow=29,SNR=24						
	comp=Z,0.7nm,0.4s						
RNF	**Rovaniemi**	**2.71**	**15**	PB	**Pn**	**12 17 44.4**	**+1.4**
MSF	**Maaselka**	**2.79**	**45**	PN	**Pn**	**12 17 45.3**	**+1.2**
MSF				SG	**Sb**	**12 18 22.7**	**-0.8**
KU6	**Riekki**	**3.13**	**47**	PN	**Pn**	**12 17 49.7**	**+1.0**
KU6				MSG		12 18 30.4	
	comp=Z,0.4nm,0.2s						
OLKF	**Oulanka, Finla**	**3.17**	**41**	PN	**Pn**	**12 17 49.1**	**-0.3**
OLKF				MSG		12 18 31.7	
	comp=Z,0.4nm,0.2s						
KLF	**Kolari**	**3.24**	**358**	PB	**Pn**	**12 17 52.9**	**+2.6**
KLF				SG	**Sb**	**12 18 37.3**	**+0.7**
JOF	**Joensuu**	**3.34**	**106**	PB	**Pn**	**12 17 54.4**	**+2.7**
JOF				SB	**Sn**	**12 18 34.3**	**+2.2**
HEF	**Hetta**	**4.43**	**357**	PN	**Pn**	**12 18 08.1**	**+1.5**
I37NO	**I37NO**	**5.57**	**339**	I	I	12 50 50.7	
	baz=151,slow=326,SNR=1.6						
ARCES	**ARCESS Array B**	**5.57**	**4**	Pn	**Pn**	**12 18 22.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=176,slow=14,SNR=1.5						
ARCES				Sn	**Sn**	**12 19 24.4**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=182,slow=24,SNR=5.6						
ARCES				Lg	Lg	12 19 49.4	
	comp=Z,0.1nm,0.3s,baz=180,slow=29,SNR=5.9						
	comp=Z,0.7nm,0.8s						

DJA 29 12:20:13.5±1.3, 10°.5S±5°.5×11°.7E±°, h13km±10km, M4.0/9, mb4.2/3, MLv3.9/9, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.44**	**30**	P	Pn	12 20 39.1	-0.2
PLAI				S	Sb	12 20 58.5	0.0
WBSI	**Waikabubak, Su**	**2.36**	**80**	P	Pn	12 20 52.0	0.0
WBSI				S	Sn	12 21 22.0	+1.2
SRBI	**Singaraja**	**2.68**	**318**	P	Pn	12 20 54.7	-1.7
WSI	**Waingapu**	**3.24**	**83**	P	Pn	12 21 02.7	-1.3
JAGI	**Jajag, Banyuwa**	**3.27**	**299**	P	Pn	12 21 05.2	+0.7
GMJI	**Gumukmas**	**3.98**	**297**	P	Pn	12 21 14.2	0.0
PCJI	**Pacitan**	**6.08**	**287**	P	Pn	12 21 44.0	+0.8
	0.2nm23nm,1.6s						
UGM	**Wanagama**	**6.79**	**288**	P	Pn	12 21 53.3	+0.4
	36nm,1.3s						

*BER **29** 12:33:20.6±0.8, 68°.01N×33°.47E, h0km, ML1.5, Suspected explosion*
*HEL **29** 12:33:20.7±0.2, 68°.15N×33°.21E, h0km, ML1.6, Explosion*
*KOLA **29** 12:33:21.1, 68°.14N×33°.24E, h0km, ML2.1, Error ellipse: s-maj=2.4km s-min=1.4km az=100.0, Olenegorsk City, Mines*
*IDC **29** 12:33:24.7±2.8, 68°.13N×32°.31E, h0km, mbtmp2.6/2, ML1.7/2, Error ellipse: s-maj=36.0km s-min=12.9km az=57.0*
ISC 29 12:33:20.1±0.8, 68°.14N±0°.03×33°.20E±0°.03, h0km, n35, σ1§04/58, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.55**	**188**	P	**Pg**	**12 33 30.6**	**+0.1**
APA0				S	**Sg**	**12 33 37.8**	**+0.2**
APA	**Apatity**	**0.58**	**172**	P	**Pg**	**12 33 31.1**	**-0.1**
APA				S	**Sg**	**12 33 38.4**	**-0.3**
LVZ	**Lovozero**	**0.60**	**114**	P	**Pg**	**12 33 31.8**	**+0.2**
LVZ				S	**Sg**	**12 33 39.5**	**+0.2**
LVZ	**Lovozero**	**0.60**	**114**	PG	**Pg**	**12 33 31.7**	**+0.2**
LVZ				SG	**Sg**	**12 33 38.7**	**-0.6**
TERR	**Teriberka**	**1.27**	**32**	P	**Pg**	**12 33 43.5**	**-0.8**
TERR				S	**Sg**	**12 33 60.0**	**-0.9**
VRF	**Varrio**	**1.41**	**255**	PG	**Pn**	**12 33 46.2**	**-0.7**
	baz=68						
VRF				MSG		12 34 03.5	
	comp=Z,4.5nm,0.2s						
VRF				SB	**Sg**	**12 34 04.4**	**-0.9**
KVDA	**Kovda**	**1.46**	**185**	P	**Pn**	**12 33 46.9**	**-0.8**
KVDA				S	**Sg**	**12 34 06.3**	**-0.7**
RAJF	**Raja-Jooseppi**	**1.85**	**283**	PG	**Pn**	**12 33 53.7**	**+0.8**
RAJF				SG	**Sn**	**12 34 16.4**	**-0.6**
OLKF	**Oulanka, Finla**	**2.35**	**221**	PB	**Pn**	**12 34 01.1**	**+1.2**
OLKF				MSG		12 34 30.4	
	comp=Z,1.9nm,0.2s						
OLKF				SB	**Sb**	**12 34 31.2**	**-1.5**
VADS	**Vadso**	**2.41**	**327**	P	**Pb**	**12 34 03.3**	**-1.0**
VADS				S	**Sn**	**12 34 32.9**	**+1.9**
KU6	**Riekki**	**2.49**	**213**	PN	**Pn**	**12 34 03.1**	**+1.3**
	baz=28						
KU6				MSG		12 34 34.5	
	comp=Z,2.1nm,0.2s						
KU6				SB	**Sb**	**12 34 36.2**	**-0.5**
KEV	**Kevo**	**2.76**	**309**	*e*P	**Pn**	**12 34 06.8**	**+1.3**
KEV	**Kevo**	**2.76**	**309**	PB	**Pn**	**12 34 06.2**	**+0.8**
KEV				SB	**Sn**	**12 34 40.9**	**+1.5**
KEV				MSG		12 34 42.1	
	comp=Z,3.3nm,0.2s						
MSF	**Maaselka**	**2.77**	**218**	PN	**Pn**	**12 34 07.3**	**+1.6**
	baz=38						
MSF				SB	**Sb**	**12 34 43.4**	**-1.4**
KU1	**Kurvinen**	**2.96**	**211**	PB	**Pn**	**12 34 11.1**	**+2.8**
ARA0	**ARCESS Array S**	**3.12**	**300**	*e*P	**Pn**	**12 34 11.1**	**+0.6**
ARA0				*e*S	**Sn**	**12 34 48.9**	**+0.5**
ARA0				IAML		12 35 03.1	
	comp=Z,3.2nm,0.3s						
ARA0	**ARCESS Array S**	**3.12**	**300**	PN	**Pn**	**12 34 11.0**	**+0.6**
ARA0				SN	**Sn**	**12 34 48.8**	**+0.5**
ARCES	**ARCESS Array B**	**3.12**	**300**	Pn	**Pn**	**12 34 11.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=120,slow=14,SNR=18						
ARCES				Sn	**Sn**	**12 34 47.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=116,slow=20,SNR=5.5						
ARCES				Lg	Lg	12 34 53.7	
	comp=Z,0.9nm,0.3s,baz=118,slow=29,SNR=17						
	comp=Z,0.4nm,0.3s						
ARCES	**ARCESS Array B**	**3.12**	**300**	P	**Pn**	**12 34 10.8**	**+0.3**
ARCES				S	**Sn**	**12 34 47.4**	**-0.9**
KU2	**Taivalkoski**	**3.13**	**221**	PB	**Pn**	**12 34 12.7**	**+2.1**
	baz=40						
RNF	**Rovaniemi**	**3.18**	**244**	PN	**Pn**	**12 34 11.7**	**+0.6**
	baz=61						
RNF				SN	**Sn**	**12 34 49.8**	**+0.1**
RANF	**Ranua**	**3.29**	**233**	PN	**Pn**	**12 34 13.3**	**+0.5**
RANF				SB	**Sb**	**12 34 59.7**	**-0.1**
HEF	**Hetta**	**3.56**	**279**	*e*P	**Pn**	**12 34 16.6**	**+0.2**
HEF	**Hetta**	**3.56**	**279**	PN	**Pn**	**12 34 16.4**	**0.0**
HEF				SN	**Sn**	**12 34 57.8**	**-1.3**
KLF	**Kolari**	**3.64**	**260**	PN	**Pn**	**12 34 18.0**	**+0.5**
KLF				SN	**Sn**	**12 35 02.4**	**+1.3**
TOF	**Tornio**	**4.04**	**243**	PG	**Pb**	**12 34 33.2**	**+1.2**
TOF				SN	**Sn**	**12 35 09.8**	**-1.0**
RMF	**Romuvaara**	**4.16**	**200**	PN	**Pn**	**12 34 24.8**	**+0.1**
KALU	**Kalix**	**4.49**	**244**	SN	**Sn**	**12 35 20.6**	**-1.4**
ERTU	**Ertsjaerv**	**4.54**	**255**	PN	**Pn**	**12 34 29.5**	**-0.5**
ERTU				SN	**Sn**	**12 35 22.0**	**-1.4**
KIF	**Kilpisjarvi**	**4.63**	**286**	*e*P	**Pn**	**12 34 31.1**	**0.0**
KIF	**Kilpisjarvi**	**4.63**	**286**	PN	**Pn**	**12 34 31.0**	**0.0**
KIF				SG	**Sb**	**12 35 40.8**	**+2.7**
OBF4	**Vikkela, Lumij**	**4.66**	**228**	PN	**Pn**	**12 34 31.6**	**+0.1**
I37NO	**I37NO**	**5.42**	**287**	I	I	13 04 20.0	
	baz=94,slow=323,SNR=10						
SALU	**Saltoluokta**	**5.63**	**269**	*e*P	**Pn**	**12 34 45.0**	**+0.1**
FINES	**FINESS Array B**	**7.38**	**208**	Pn	**Pn**	**12 35 09.5**	**+0.7**
	baz=26,slow=13,SNR=2.0						
FINES				Lg	Lg	12 37 04.5	
	comp=Z,0.2nm,0.3s,baz=14,slow=29,SNR=4.0						
	comp=Z,0.8nm,0.8s						

*IDC **29** 12:40:41.5±1.5, 2°.47N×126°.12E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=116.3km s-min=18.8km az=68.0*
*NEIC **29** 12:40:50.3±0.8, 2°.5N±0°.1×126°.1E±0°.1, h70km±11km,*

mb4.1/11, Error ellipse: s-maj=18.3km s-min=12.2km az=216.0
*DJA **29** 12:40:50.3±2.0, 2°N±4°×12°6E±°, h22km±22km, M4.0/13, mB5.3/2, mb4.2/4, MLv3.9/13, Mw(mB)4.7/2*
ISC 29 12:40:48.4±0.8, 2°45N±0°07×126°23E±0°08, h50km, n27, σ1°76/27, mb3.8/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.41**	**330**	P	**Pn**	**12 41 15.1**	**+3.4**
TNTI	**Ternate**	**2.02**	**146**	Pn	**Pn**	**12 41 22.6**	**+2.5**
TNTI	**Ternate**	**2.02**	**146**	P	**Pn**	**12 41 22.9**	**+2.8**
SANI	**Sanana**	**4.48**	**183**	P	**Pn**	**12 41 56.1**	**+2.3**
MRSI	**Marisa**	**4.71**	**245**	P	**Pn**	**12 42 00.8**	**+3.8**
LUWI	**Luwuk**	**4.89**	**225**	Pn	**Pn**	**12 42 00.9**	**+1.4**
LUWI	**Luwuk**	**4.89**	**225**	P	**Pn**	**12 42 03.3**	**+3.8**
TOLI2	**Tolitoli**	**5.60**	**256**	Pn	**Pn**	**12 42 08.8**	**-0.4**
NLAI	**Namlea**	**5.72**	**171**	P	**Pn**	**12 42 11.9**	**+1.1**
	0.1nm833nm26nm,0.8s						
MTN	**Manton Dam**	**15.96**	**162**	Pn	**Pn**	**12 44 29.2**	**-0.5**
MTN				IAmb	IAmb	12 44 36.5	
	comp=Z,30nm,1.4s						
KNRA	**Kununurra**	**18.18**	**172**	P	**Pn**	**12 44 57.1**	**-0.2**
KNRA				IAmb	IAmb	12 45 12.4	
	comp=Z,20nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.43**	**182**	P	**P**	**12 45 21.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.43**	**182**	P	**P**	**12 45 21.9**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=3.0,slow=10,SNR=1.5						
	comp=Z,1.0nm,0.7s						
WB0	**Warramunga Arr**	**23.49**	**160**	P	**P**	**12 45 53.5**	**-0.4**
WB0				IAmb	IAmb	12 46 09.7	
	comp=Z,9.2nm,1.4s						
WRAB	**Tennant Creek**	**23.63**	**161**	P	**P**	**12 45 54.9**	**-0.3**
WRAB				IAmb	IAmb	12 46 11.6	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**23.64**	**161**	P	**P**	**12 45 54.9**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=338,slow=11,SNR=47						
	comp=Z,1.6nm,0.5s						
WR8	**Warramunga Arr**	**23.70**	**160**	P	**P**	**12 45 54.8**	**-1.1**
WR8				IAmb	IAmb	12 46 05.9	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**27.01**	**164**	P	**P**	**12 46 25.1**	**-0.9**
ASAR	**Alice Springs**	**27.01**	**164**	P	**P**	**12 46 26.2**	**+0.2**
ASAR	**Alice Springs**	**27.01**	**164**	P	**P**	**12 46 25.9**	**0.0**
	comp=Z,0.7nm,0.4s,baz=343,slow=7.9,SNR=23						
	comp=Z,0.7nm,0.4s						
BBOO	**Buckleboo**	**36.28**	**166**	P	**P**	**12 47 46.6**	**-0.6**
MKAR	**Makanchi Array**	**58.32**	**326**	P	**P**	**12 50 37.0**	**-1.4**
MKAR	**Makanchi Array**	**58.32**	**326**	P	**P**	**12 50 38.0**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=117,slow=7.5,SNR=12						
	comp=Z,0.9nm,0.3s						
KURBB	**Kurchatov Arra**	**62.54**	**328**	P	**P**	**12 51 06.0**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=128,slow=6.0,SNR=7.7						
	comp=Z,0.4nm,0.5s						
AB31	**Akbulak array**	**72.82**	**321**	P	**P**	**12 52 10.7**	**-1.2**
AB31				IAmb	IAmb	12 52 29.4	
	comp=Z,1.5nm,1.2s						
ABKAR	**Akbulak array**	**72.82**	**321**	P	**P**	**12 52 10.2**	**-1.6**
ABKAR				IAmb	IAmb	12 52 29.4	
	comp=Z,1.5nm,1.2s						
M31M	**Drury Creek, Y**	**92.23**	**28**	P	**P**	**12 53 53.1**	**+0.4**

*IDC **29** 12:50:18.9±9.4, 2°23S×127°81E, h0km, mb3.6/2, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=153.8km s-min=129.3km az=95.0*
*DJA **29** 12:50:24.8±0.5, 3°S±5°×12°7E±°, h10km, M3.0/6, MLv3.0/6*
ISC 29 12:50:25.2±1.0, 3°1S±0°1×126°9E±0°1, h10km, n7, σ0°38/9, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.26**	**120**	P	**Pg**	**12 50 30.5**	**0.0**
NLAI				S	**Sg**	**12 50 33.7**	**-0.3**
SANI	**Sanana**	**1.38**	**320**	P	**Pn**	**12 50 50.9**	**+0.3**
SANI				S	**Sb**	**12 51 08.6**	**-0.2**
AAI	**Ambon**	**1.44**	**114**	P	**Pn**	**12 50 51.3**	**0.0**
LUWI	**Luwuk**	**4.59**	**297**	P	**Pn**	**12 51 34.4**	**-0.3**
WRA	**Warramunga Arr**	**18.25**	**157**	P	**Pn**	**12 54 38.8**	**0.0**
	0.1nm,0.3s,baz=340,slow=12,SNR=5.2						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**21.54**	**162**	P	**P**	**12 55 15.5**	**+0.7**
	1.1nm,0.8s,baz=348,slow=12,SNR=10						
	1.1nm,0.8s						
STKA	**Stephens Creek**	**31.79**	**156**	P	**P**	**12 56 49.8**	**-0.2**
	1.2nm,0.7s,baz=309,slow=13,SNR=4.0						
	1.2nm,0.7s						

*IDC **29** 12:55:19.3±0.9, 31°90N×83°88E, h0km, mb3.8/15, mbtmp3.7/19, ML3.3/4, MS3.2/14, Error ellipse: s-maj=28.7km s-min=14.1km az=51.0*
*NEIC **29** 12:55:22.4±1.7, 32°00N±0°05×83°7E±0°1, h10km±1km, mb4.0/6, Error ellipse: s-maj=16.7km s-min=6.9km az=245.0*
*NDI **29** 12:55:33.0±0.8, 32°01N×83°69E, h10km, ML3.7, MW3.9, mb4.0(NEIC)*
ISC 29 12:55:21.2±0.5, 31°96N±0°06×83°82E±0°05, h10km, n59, σ1°45/54, mb4.0/19, MS3.1/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**3.91**	**250**	*e*P	**Pb**	**12 56 31.7**	**+1.3**
JOSI				*e*S	**Sb**	**12 57 15.1**	**-2.8**
JOSI				IAML		12 57 24.4	
	comp=N,137nm,0.9s						
JOSI				IAML		12 57 40.1	
	comp=E,136nm,0.9s						
PTH	**Pithoragarh**	**3.92**	**233**	*e*P	**Pb**	**12 56 32.1**	**+1.5**
PTH				*e*S	**Sb**	**12 57 15.8**	**-2.4**
PTH				IAML		12 57 20.0	
	comp=N,42nm,0.1s						
PTH				IAML		12 57 20.3	
	comp=E,69nm,0.1s						
LGTI	**Lohaghat**	**3.96**	**232**	*e*P	**Pg**	**12 56 34.9**	**-2.3**
LGTI				*e*S	**Sb**	**12 57 20.2**	**+1.0**
UGON	**Onchagaon**	**6.28**	**236**	*e*P	Pb	12 57 05.4	-5.3
UGON				*e*S	**Sn**	**12 58 11.5**	**+5.7**
UGON				IAML		12 58 25.1	
	comp=E,982nm,0.2s						
UGON				IAML		12 58 27.0	
	comp=N,700nm,0.1s						
LSA	**Lhasa**	**6.69**	**108**		**Pn**	**12 57 00.8**	**+0.7**
NIL	**Nilore**	**9.06**	**284**		**Pn**	**12 57 31.8**	**-0.3**
SHL	**Shillong**	**9.51**	**130**		**Pn**	**12 57 37.8**	**-0.7**
KSH	**Kashi**	**9.87**	**322**	P	**Pn**	**12 57 42.3**	**-1.1**
KSH				pP		12 57 45.8	
KSH				S	**Sn**	**12 59 34.5**	**+0.2**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WUS	**Wushi**	**9.94**	**339**	Pn	**Pn**	**12 57 45.1**	**+0.9**
TARG	**Taragay, Kyrgy**	**10.88**	**335**	Pn	**Pn**	**12 57 57.6**	**+0.3**
WMQ	**Urumqi**	**12.23**	**13**	*e*P	Pn	12 58 21.3	+5.7
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
BOOM	**Boomskoye usch**	**12.24**	**331**		**Pn**	**12 58 16.5**	**+0.7**
KBL	**Kabul**	**12.64**	**286**		**Pn**	**12 58 20.6**	**-0.6**
AAK	**Ala-Archa**	**12.98**	**328**	Pn	**Pn**	**12 58 25.6**	**-0.2**
AAK	**Ala-Archa**	**12.98**	**328**	Pn	**Pn**	**12 58 26.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=135,slow=12,SNR=4.4						
AAK				LR	LR	13 03 40.0	
	comp=Z,109nm,20.2s,baz=139,slow=38						
	comp=Z,0.5nm,0.4s						
GAR	**Garm**	**13.05**	**306**		**Pn**	**12 58 24.6**	**-2.2**
BTK	**Batken**	**13.26**	**311**		**Pn**	**12 58 27.7**	**-1.9**
SIMJ	**Simiganj**	**13.81**	**303**	Pn	**Pn**	**12 58 36.5**	**-0.8**
MK31	**Makanchi Array**	**14.86**	**356**	Pn	**Pn**	**12 58 49.6**	**-1.8**
MKAR	**Makanchi Array**	**14.86**	**356**		**Pn**	**12 58 50.7**	**-0.7**
MKAR	**Makanchi Array**	**14.86**	**356**	Pn	**Pn**	**12 58 50.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=174,slow=14,SNR=5.6						
MKAR				LR	LR	13 05 32.3	
	comp=Z,100nm,18.4s,baz=166,slow=41						
	comp=Z,0.5nm,0.6s						
MAKZ	**Makanchi**	**14.90**	**355**		**Pn**	**12 58 53.0**	**+1.0**
KKAR	**Karatay Array**	**15.32**	**320**	Pn	**Pn**	**12 58 56.4**	**-1.2**
HRA	**Herat**	**18.22**	**283**		**Pn**	**12 59 34.4**	**-0.1**
KURBB	**Kurchatov Arra**	**19.06**	**350**	P	**P**	**12 59 42.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=169,slow=10,SNR=13						
	comp=Z,2.2nm,0.9s						
KURK	**Kurchatov**	**19.14**	**350**		**P**	**12 59 44.5**	**+0.1**
KURK				IAmb	IAmb	12 59 45.5	
	comp=Z,6.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**19.15**	**131**	P	**P**	**12 59 41.9**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=308,slow=10,SNR=9.4						
CMAR				LR	LR	13 07 35.2	
	comp=Z,48nm,18.9s,baz=305,slow=39						
	comp=Z,0.6nm,0.4s						
XAN	**Xi'an**	**21.14**	**78**	P	**P**	**13 00 07.3**	**+0.8**
XAN				pP	pP	13 00 13.5	+2.8
XAN				pmax	pmax		
	comp=Z,14nm,1.1s						
ZAA0	**Zalesovo Array**	**21.99**	**2**		**P**	**13 00 15.1**	**-0.2**
ZAA0				IAmb	IAmb	13 00 17.4	
	comp=Z,5.2nm,0.8s						
ZALV	**Zalesovo Beam**	**21.99**	**2**		**P**	**13 00 15.6**	**+0.2**
ZALV	**Zalesovo Beam**	**21.99**	**2**	P	**P**	**13 00 14.2**	**-1.1**
	comp=Z,4.7nm,0.7s,baz=180,slow=11,SNR=23						
ZALV				LR	LR	13 09 43.1	
	comp=Z,64nm,18.3s,baz=114,slow=39						
	comp=Z,4.7nm,0.7s						
ENH	**Enshi**	**22.03**	**88**	P	**P**	**13 00 17.9**	**+1.9**
BVAR	**Borovoye Array**	**23.19**	**339**	P	**P**	**13 00 27.2**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=139,slow=14,SNR=4.3						
BVAR				LR	LR	13 09 36.5	
	comp=Z,43nm,18.1s,baz=166,slow=37						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**23.36**	**41**	P	**P**	**13 00 29.4**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=227,slow=9.4,SNR=4.4						
SONM				LR	LR	13 10 34.1	
	comp=Z,24nm,21.0s,baz=216,slow=39						
	comp=Z,1.0nm,0.8s						
AB31	**Akbulak array**	**24.88**	**321**		**P**	**13 00 43.9**	**-0.2**
AB31				IAmb	IAmb	13 00 48.5	
	comp=Z,3.6nm,0.8s						
ABKAR	**Akbulak array**	**24.88**	**321**		**P**	**13 00 44.5**	**+0.5**
ABKAR	**Akbulak array**	**24.88**	**321**		**P**	**13 00 44.1**	**+0.1**
ABKAR				IAmb	IAmb	13 00 48.5	
	comp=Z,3.6nm,0.8s						
UBPT	**Khong Chiam**	**25.78**	**125**		**P**	**13 00 53.2**	**+0.8**
AKTO	**Aktyubinsk**	**26.58**	**322**	LR	LR	13 13 02.1	
	comp=Z,44nm,21.4s,baz=64,slow=40						
GNI	**Garni**	**32.43**	**296**	LR	LR	13 16 10.8	
	comp=Z,31nm,19.9s,baz=114,slow=38						
KSRS	**Korea Array**	**36.42**	**69**	LR	LR	13 18 30.2	
	comp=Z,30nm,21.0s,baz=270,slow=38						
NRIK	**Noril'sk**	**37.49**	**2**	P	**P**	**13 02 34.5**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=193,slow=2.6,SNR=4.2						
	comp=Z,1.4nm,0.5s						
JNU	**Nakatsue**	**39.43**	**75**	LR	LR	13 19 27.2	
	comp=Z,40nm,19.1s,baz=314,slow=37						
ASF	**Jabal al Asfar**	**39.52**	**283**	LR	LR	13 21 53.3	
	comp=Z,49nm,19.6s,baz=136,slow=40						
KLR	**Kul'dur**	**39.54**	**50**	LR	LR	13 19 05.9	
	comp=Z,37nm,18.8s,baz=285,slow=36						
MMAI	**Mount Meron Ar**	**40.57**	**285**	LR	LR	13 21 48.7	
	comp=Z,44nm,21.6s,baz=46,slow=39						
AKASG	**Malin Array Be**	**43.97**	**312**	P	**P**	**13 03 27.8**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=79,slow=8.1,SNR=6.3						
	comp=Z,1.0nm,0.5s						
MJAR	**Matsushiro Arr**	**44.70**	**69**	P	**P**	**13 03 33.5**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=280,slow=8.6,SNR=5.0						
	comp=Z,1.6nm,0.9s						
MLR	**Muntele Rosu**	**46.19**	**304**	LR	LR	13 25 59.1	
	comp=Z,47nm,19.6s,baz=134,slow=40						
FINES	**FINESS Array B**	**47.16**	**326**	P	**P**	**13 03 53.4**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=66,slow=11,SNR=4.1						
	comp=Z,1.1nm,0.7s						
ARCES	**ARCESS Array B**	**49.45**	**337**	P	**P**	**13 04 12.5**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=91,slow=5.5,SNR=5.3						
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**53.09**	**324**	P	**P**	**13 04 38.4**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=81,slow=9.2,SNR=4.5						
	comp=Z,1.7nm,0.7s						
GERES	**GERESS Array B**	**54.10**	**310**	P	**P**	**13 04 47.1**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=54,slow=5.7,SNR=4.5						
	comp=Z,0.6nm,0.8s						
NB2	**NORSAR Subarra**	**54.28**	**325**	P	**P**	**13 04 46.3**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=87,slow=7.4						
NOA	**NORSAR Array B**	**54.28**	**325**	P	**P**	**13 04 46.1**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=88,slow=7.2,SNR=5.1						
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**70.74**	**130**	P	**P**	**13 06 37.0**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=324,slow=6.4,SNR=12						
	comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**73.15**	**133**	P	**P**	**13 06 51.7**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=316,slow=5.5,SNR=13						
	comp=Z,0.4nm,0.5s						
ILAR	**Eielson Array**	**75.81**	**20**	P	**P**	**13 07 08.3**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=298,slow=5.1,SNR=8.3						
	comp=Z,0.9nm,0.9s						
YKA	**Yellowknife Ar**	**84.72**	**8**	P	**P**	**13 07 56.6**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=341,slow=5.5,SNR=4.9						
	comp=Z,0.2nm,0.6s						

TXNET 29 12:56:32.1, 31°6N±0°5×104°3W±0°6, h5km±2km, ML2.2/6, 2C-1D, Error ellipse: s-maj=0.9km s-min=0.7km az=54.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	⇑P	Pg	12 56 39.0	0.0
TPB11				S	Sg	12 56 43.7	0.0
PECS	**Pecos**	**0.42**	**128**	P	Pg	12 56 40.6	+0.2
PECS				S	Sg	12 56 46.3	+0.3
TPB12	**Southwest of T**	**0.49**	**149**	P	Pg	12 56 41.5	-0.1
TPB12				S	Sg	12 56 48.3	+0.2
TPB07	**Mentone**	**0.51**	**96**	P	Pg	12 56 42.3	+0.4
TPB07				S	Sg	12 56 48.8	+0.3
TPB10	**Southeast of T**	**0.55**	**129**	P	Pg	12 56 43.0	+0.2
TPB10				S	Sg	12 56 50.6	+0.6
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	12 56 43.5	+0.3
PCOS	**Crockett Middl**	**0.68**	**109**	S	Sg	12 56 54.5	+0.6
CLNB	**Carlsbad**	**0.70**	**27**	S	Sg	12 56 55.6	+0.7
TPB01	**Permian Basin**	**0.80**	**149**	P	Pg	12 56 47.0	-0.5
TPB01				S	Sg	12 56 57.5	-0.4
TPB03	**Saragosa**	**0.84**	**131**	P	Pg	12 56 48.3	0.0
TPB03				S	Sg	12 56 59.4	+0.2
TPB06	**Permian Basin**	**0.89**	**89**	S	Sg	12 56 60.0	-0.7
TPB04	**Verhalen**	**0.95**	**118**	S	Sg	12 57 02.2	-0.6
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	12 56 50.8	+0.3
MNTX				S	Sb	12 57 03.7	-0.6
VHRN	**Van Horn**	**1.05**	**217**	⇑P	Pg	12 56 52.1	-0.2
VHRN				S	Sb	12 57 07.1	+0.1
TPB05	**Hovey Rd**	**1.07**	**132**	P	Pg	12 56 52.3	-0.4
TPB05				S	Sg	12 57 06.1	-0.4
MNHN	**Monahans**	**1.31**	**103**	P	Pn	12 56 55.9	-1.2
ALPN	**Alpine**	**1.36**	**157**	⇓P	Pn	12 56 56.9	-1.1
ALPN				S	Sg	12 57 14.3	-1.7
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	12 56 58.5	-0.4
TMB04	**Seminole**	**1.80**	**56**	P	Pn	12 57 04.2	+0.4
TMB04				S	Sn	12 57 27.7	+0.6
TMB02	**Rankin**	**1.95**	**102**	S	Sb	12 57 32.0	-0.7
TMB05	**Klondike**	**2.26**	**63**	P	Pb	12 57 12.6	-0.9
TMB05				S	Sb	12 57 41.0	-0.8
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg	Pb	12 57 14.5	-0.5

ROM 29 13:01:08.4±0.1, 37°726N±0°004×15°067E±0°004, h9km, ML2.4/24, Error ellipse: s-maj=0.4km s-min=0.4km az=271.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMCN	**Etna Monte Con**	**0.07**	**338**	P	Pg	13 01 10.8	0.0
EMCN				S	Sg	13 01 12.4	-0.1
EMCN				AML	AML		
	comp=E,21650μm,0.9s						
EMCN				AML	AML		
	comp=N,18500μm,0.2s						
EMCN				AML	AML		
	comp=N,18500μm,1.8s						
EMCN				AML	AML		
	comp=E,21650μm,1.1s						
ESLN	**Serra La Nave**	**0.08**	**246**	P	Pg	13 01 10.7	-0.2
ESLN				S	Sg	13 01 12.8	+0.2
ESLN				AML	AML		
	comp=N,6790μm,0.4s						
ESLN				AML	AML		
	comp=E,4930μm,0.3s						
EMSG	**Monte Spagnolo**	**0.13**	**316**	P	Pg	13 01 12.1	+0.5
EMSG				S	Sg	13 01 14.6	+0.8
EMSG				AML	AML		
	comp=E,4595μm,0.4s						
EMSG				AML	AML		
	comp=N,5115μm,1.5s						
EMSG				AML	AML		
	comp=N,5315μm,0.2s						
EMSG				AML	AML		
	comp=E,6115μm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECTS	**Castiglione**	**0.16**	**15**	P	Pg	13 01 12.2	+0.2
ECTS				S	Sg	13 01 15.7	+1.3
ECTS				AML	AML		
	comp=E,2055μm,0.3s						
ECTS				AML	AML		
	comp=N,1940μm,0.2s						
ECTS				AML	AML		
	comp=E,2060μm,0.3s						
ESML	**S. M. di Licod**	**0.18**	**235**	P	Pg	13 01 13.2	+0.9
ESML				AML	AML		
	comp=E,2310μm,1.0s						
ESML				AML	AML		
	comp=N,1345μm,0.7s						
ESML				AML	AML		
	comp=N,1345μm,1.3s						
EPZF	**Pizzo Felice**	**0.19**	**301**	P	Pg	13 01 13.3	+0.7
EPZF				AML	AML		
	comp=E,1615μm,0.4s						
EPZF				AML	AML		
	comp=N,1570μm,1.0s						
EPZF				AML	AML		
	comp=E,1745μm,0.4s						
EPZF				AML	AML		
	comp=N,1605μm,1.3s						
EPZF				AML	AML		
	comp=N,1605μm,0.7s						
EPOZ	**Pozzillo**	**0.21**	**177**	P	Pg	13 01 11.6	-1.2
EPOZ				S	Sg	13 01 14.0	-1.7
EPOZ				AML	AML		
	comp=N,52150μm,0.5s						
EPOZ				AML	AML		
	comp=E,31700μm,0.7s						
AIO	**Antillo**	**0.28**	**28**	P	Pg	13 01 14.6	+0.5
AIO				AML	AML		
	comp=E,1006μm,0.4s						
AIO				AML	AML		
	comp=N,1102μm,0.9s						
AIO				AML	AML		
	comp=N,1102μm,1.1s						
NOV	**Novara**	**0.31**	**10**	P	Pg	13 01 15.1	+0.5
NOV				AML	AML		
	comp=N,1620μm,0.7s						
NOV				AML	AML		
	comp=E,2195μm,0.4s						
NOV				AML	AML		
	comp=N,1620μm,1.3s						
MUCR	**Ucria**	**0.35**	**334**	P	Pg	13 01 16.1	+0.7
MUCR				AML	AML		
	comp=E,662μm,0.5s						
MUCR				AML	AML		
	comp=N,501μm,0.6s						
MNO	**Monte Soro**	**0.36**	**305**	P	Pg	13 01 16.1	+0.5
GALF	**Gagliano Caste**	**0.40**	**268**	P	Pb	13 01 17.3	-0.4
GALF				AML	AML		
	comp=E,806μm,0.6s						
GALF				AML	AML		
	comp=N,610μm,0.5s						
GALF				AML	AML		
	comp=N,610μm,1.5s						
HLNI	**Lentini**	**0.41**	**202**	P	Pg	13 01 16.9	+0.5
HLNI				AML	AML		
	comp=E,104μm,0.3s						
HLNI				AML	AML		
	comp=N,97μm,0.3s						
HAGA	**Augusta**	**0.45**	**171**	P	Pg	13 01 17.5	+0.4
HAGA				AML	AML		
	comp=E,194μm,0.3s						
HAGA				AML	AML		
	comp=N,189μm,1.1s						
MPNC	**Port Mandanici**	**0.47**	**28**	P	Pg	13 01 18.1	+0.3
MPNC				AML	AML		
	comp=N,720μm,0.4s						
MPNC				AML	AML		
	comp=E,824μm,0.5s						
MSFR	**San Fratello**	**0.49**	**309**	P	Pb	13 01 18.7	-0.5
MTTG	**Motta San Giov**	**0.57**	**61**	P	Pb	13 01 20.2	-0.3
MTTG				AML	AML		
	comp=N,188μm,0.7s						
MTTG				AML	AML		
	comp=E,178μm,1.4s						
SSY	**Sortino**	**0.57**	**180**	P	Pg	13 01 19.7	+0.2
SSY				AML	AML		
	comp=E,778μm,1.0s						
SSY				AML	AML		
	comp=E,778μm,1.0s						
SSY				AML	AML		
	comp=N,1755μm,0.2s						
MSRU	**Castanea**	**0.64**	**33**	P	Pg	13 01 21.0	+0.1

*IDC **29** 13:01:11.7±1.7, 52°26N×168°64W, h0km, mb3.6/8, mbtmp3.5/9, ML3.0/1, Error ellipse: s-maj=43.8km s-min=22.0km az=16.0*
*AEIC **29** 13:01:17.5±1.1, 52°37N±0°08×167°72W±0°09, h13km±6km, Error ellipse: s-maj=12.9km s-min=5.0km az=214.0*
*NEIC **29** 13:01:18.8±1.4, 52°46N±0°05×167°73W±0°09, h25km±8km, mb3.6/24, ML3.2/12, ML2.9(AEIC), Error ellipse: s-maj=8.6km s-min=5.4km az=124.0*
ISC 29 13:01:15.5±1.1, 52°31N±0°08×167°80W±0°08, h10km, n53, σ1°29/54, mb3.6/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.93**	**316**		**Pg**	**13 01 34.5**	**+1.2**
NIKH	**Nikolski High**	**0.93**	**316**		**Sb**	**13 01 46.9**	**+1.0**
OKSP	**Okmok Steeple**	**0.99**	**343**		**Pg**	**13 01 35.4**	**+0.9**
OKSP					**Sb**	**13 01 49.1**	**+1.2**
OKTU	**Okmok Mt. Tuli**	**1.09**	**352**		**Pg**	**13 01 36.7**	**+0.3**
OKWE	**Okmok W'ng Wal**	**1.20**	**347**		**Pb**	**13 01 38.5**	**+0.2**
OKWE					**Sg**	**13 01 54.9**	**+0.9**
MREP	**Makushin Rep't**	**1.64**	**22**		**Pn**	**13 01 44.3**	**-0.1**
UNV	**Unalaska Valle**	**1.73**	**26**		**Pn**	**13 01 44.8**	**-0.8**
UNV				IAML		13 02 13.5	
	comp=N,105nm,0.6s						
UNV	**Unalaska Valle**	**1.73**	**26**		**Sn**	**13 02 06.4**	**-1.2**
MTBL	**Makushin Table**	**1.80**	**22**		**Pn**	**13 01 47.1**	**+0.6**
LVA	**Lava Point**	**2.14**	**29**	Pn	**Pn**	**13 01 50.4**	**-0.8**
LVA				IAML		13 02 39.0	
	comp=E,152nm,1.1s						
LVA				IAML		13 02 48.0	
	comp=N,277nm,0.8s						
AKUT	**Akutan**	**2.20**	**33**	Pn	**Pn**	**13 01 51.2**	**-0.8**
S12K	**Black Hills**	**4.80**	**43**	Pn	**Pn**	**13 02 27.2**	**-0.6**
S12K				IAML		13 03 25.9	
	comp=N,27nm,1.1s						
CNBA	**Chernabura Isl**	**5.50**	**60**	Pn	**Pn**	**13 02 37.8**	**+0.4**
CNBA				IAML		13 04 33.4	
	comp=N,19nm,1.2s						
CNBA

L29M	**L29M**	**18.99**	**44**	P	**P**	**13 05 37.0**	**+0.1**
L29M				IAmb	IAmb	13 05 47.5	
comp=Z,7.4nm,1.5s							
E25K	**Arctic Village**	**19.13**	**26**	P	**P**	**13 05 37.2**	**-1.1**
E25K				IAmb	IAmb	13 05 41.6	
comp=Z,3.7nm,1.0s							
H27K	**Steamboat Moun**	**19.14**	**33**	P	**P**	**13 05 37.8**	**-0.7**
I28M	**Miner Creek**	**19.28**	**36**		**P**	**13 05 39.8**	**-0.3**
G29M	**Pine Creek**	**20.69**	**34**		**P**	**13 05 54.3**	**-1.0**
P33M	**Teslin, Yukon**	**20.76**	**54**	P	**P**	**13 05 57.5**	**+1.2**
PETK	**Petropavlovsk-**	**20.81**	**286**	P	P	13 05 47.9	-8.7
comp=Z,0.5nm,0.5s,baz=90,slow=17,SNR=12							
comp=Z,0.5nm,0.5s							
FARO	**Faro, Yukon**	**20.85**	**48**	Pn	**P**	**13 05 59.4**	**+2.3**
G30M	**tAoh Zraii Nji**	**21.34**	**34**		**P**	**13 06 00.6**	**-1.8**
G30M				IAmb	IAmb	13 06 15.3	
comp=Z,3.0nm,1.0s							
E29M	**Blow River**	**21.51**	**30**	P	**P**	**13 06 03.4**	**-0.7**
E29M				IAmb	IAmb	13 06 04.1	
comp=Z,2.0nm,0.7s							
H31M	**Peel River**	**21.52**	**38**		**P**	**13 06 02.8**	**-1.5**
F30M	**Barrier River**	**21.79**	**33**		**P**	**13 06 06.8**	**-0.4**
MMPY	**Sheldon Lake,**	**21.88**	**48**		**P**	**13 06 09.8**	**+1.6**
G31M	**Satah River**	**22.00**	**36**	P	**P**	**13 06 07.3**	**-2.0**
G31M				IAmb	IAmb	13 06 35.7	
comp=Z,2.9nm,1.0s							
NVAR	**Mina Array Bea**	**36.70**	**92**	P	**P**	**13 08 25.5**	**+2.9**
comp=Z,0.3nm,0.7s,baz=296,slow=8.1,SNR=2.4							
comp=Z,0.3nm,0.7s							
PDAR	**Pinedale Array**	**39.47**	**80**	P	**P**	**13 08 47.6**	**+1.6**
comp=Z,0.1nm,0.3s,baz=292,slow=6.4,SNR=2.1							
comp=Z,0.1nm,0.3s							
TXAR	**Lajitas Array**	**51.78**	**90**	P	**P**	**13 10 24.5**	**+1.2**
comp=Z,0.3nm,0.6s,baz=314,slow=5.7,SNR=4.9							
comp=Z,0.3nm,0.6s							
BVAR	**Borovoye Array**	**64.31**	**325**	P	**P**	**13 11 47.8**	**-2.8**
comp=Z,0.4nm,0.4s,baz=49,slow=9.7,SNR=2.8							
comp=Z,0.4nm,0.4s							
FINES	**FINESS Array B**	**66.06**	**353**	P	**P**	**13 12 00.3**	**-1.5**
comp=Z,1.7nm,0.7s,baz=12,slow=9.9,SNR=5.7							
comp=Z,1.7nm,0.7s							
NOA	**NORSAR Array B**	**67.00**	**1**	P	**P**	**13 12 06.2**	**-1.7**
comp=Z,0.4nm,0.7s,baz=358,slow=9.3,SNR=2.2							
comp=Z,0.4nm,0.7s							
HFS	**Hagfors**	**67.91**	**359**	P	**P**	**13 12 11.2**	**-2.4**
comp=Z,0.5nm,0.3s,baz=38,slow=5.6,SNR=4.4							
comp=Z,0.5nm,0.3s							

ROM 29 13:01:35.4±0.1, 37°.732N±0°.004×15°.086E±0°.007, h8km, ML2.2/11, 2D, Error ellipse: s-maj=0.5km s-min=0.3km az=294.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMCN	**Etna Monte Con**	**0.07**	**325**	⇓P	Pg	13 01 37.7	+0.1
EMCN				S	Sg	13 01 39.1	-0.1
EMCN				AML	AML		
comp=E,35500μm,0.8s							
EMCN				AML	AML		
comp=N,33000μm,0.2s							
EMCN				AML	AML		
comp=N,32982μm,0.2s							
EMCN				AML	AML		
comp=E,25806μm,0.2s							
ESLN	**Serra La Nave**	**0.10**	**247**	P	Pg	13 01 37.6	-0.2
ESLN				S	Sg	13 01 39.7	+0.1
ESLN				AML	AML		
comp=E,10485μm,0.3s							
ESLN				AML	AML		
comp=N,9785μm,0.4s							
ESLN				AML	AML		
comp=N,8456μm,0.2s							
ESLN				AML	AML		
comp=E,10016μm,0.2s							
EMSG	**Monte Spagnolo**	**0.14**	**310**	P	Pg	13 01 39.0	+0.5
EMSG				AML	AML		
comp=E,9523μm,0.4s							
EMSG				AML	AML		
comp=N,6624μm,0.3s							
ECTS	**Castiglione**	**0.15**	**11**	P	Pg	13 01 39.0	+0.3
ECTS				S	Sg	13 01 42.1	+1.2
ECTS				AML	AML		
comp=E,2855μm,0.3s							
ECTS				AML	AML		
comp=N,2415μm,0.2s							
ECTS				AML	AML		
comp=E,2856μm,0.3s							
ECTS				AML	AML		
comp=E,2856μm,1.7s							
ECTS				AML	AML		
comp=N,2415μm,0.2s							
ESML	**S. M. di Licod**	**0.20**	**236**	P	Pg	13 01 40.1	+0.6
ESML				S	Sg	13 01 43.8	+1.6
ESML				AML	AML		
comp=E,3615μm,1.0s							
ESML				AML	AML		
comp=N,1995μm,0.5s							
ESML				AML	AML		
comp=E,3587μm,0.5s							
ESML				AML	AML		
comp=E,1275μm,0.5s							
ESML				AML	AML		
comp=E,3587μm,1.5s							
ESML				AML	AML		
comp=N,1995μm,0.5s							
EPZF	**Pizzo Felice**	**0.20**	**297**	P	Pg	13 01 40.1	+0.6
EPZF				AML	AML		
comp=E,2680μm,0.3s							
EPZF				AML	AML		
comp=N,2455μm,0.3s							
EPZF				AML	AML		
comp=E,2680μm,0.3s							
EPZF				AML	AML		
comp=N,2455μm,0.3s							
EPOZ	**Pozzillo**	**0.22**	**181**	⇓P	Pg	13 01 38.6	-1.2
EPOZ				S	Sg	13 01 40.7	-2.0
EPOZ				AML	AML		
comp=E,56450μm,0.7s							
EPOZ				AML	AML		
comp=N,89450μm,0.4s							
EPOZ				AML	AML		
comp=N,89450μm,0.4s							
EPOZ				AML	AML		
comp=E,56438μm,0.7s							
EPOZ				AML	AML		
comp=E,7077μm,0.7s							
EPOZ				AML	AML		
comp=N,9658μm,0.7s							
AIO	**Antillo**	**0.27**	**26**	P	Pg	13 01 41.5	+0.7
AIO				AML	AML		
comp=N,1038μm,0.3s							
AIO				AML	AML		
comp=E,1233μm,0.4s							
NOV	**Novara**	**0.30**	**8**	P	Pg	13 01 42.0	+0.7
NOV				AML	AML		
comp=E,3630μm,0.3s							
NOV				AML	AML		
comp=N,2595μm,0.7s							
NOV				AML	AML		
comp=E,3632μm,0.3s							
NOV				AML	AML		
comp=N,2129μm,0.3s							
MUCR	**Ucria**	**0.35**	**332**	P	Pb	13 01 43.4	-0.6
MUCR				AML	AML		
comp=E,917μm,0.5s							
MUCR				AML	AML		
comp=E,917μm,1.5s							
MUCR				AML	AML		
comp=N,954μm,0.5s							
MNO	**Monte Soro**	**0.37**	**303**	P	Pb	13 01 44.0	-0.4
MNO				AML	AML		
comp=E,1027μm,0.5s							
MNO				AML	AML		
comp=N,928μm,0.8s							
MNO				AML	AML		
comp=N,868μm,0.5s							
MNO				AML	AML		
comp=E,1025μm,0.5s							
GALF	**Gagliano Caste**	**0.41**	**267**	P	Pb	13 01 44.9	-0.1
HLNI	**Lentini**	**0.42**	**204**	P	Pg	13 01 44.1	+0.6
HLNI				AML	AML		
comp=E,150μm,0.2s							
HLNI				AML	AML		
comp=N,141μm,0.2s							
HAGA	**Augusta**	**0.45**	**173**	P	Pg	13 01 44.5	+0.5
HAGA				AML	AML		
comp=E,369μm,0.5s							
HAGA				AML	AML		
comp=N,277μm,0.4s							
MPNC	**Port Mandanici**	**0.46**	**27**	P	Pg	13 01 44.8	+0.4
AGST	**Augusta-Monte**	**0.49**	**167**	P	Pg	13 01 45.0	+0.2
AGST				AML	AML		
comp=N,820μm,0.3s							
AGST				AML	AML		
comp=E,1044μm,0.3s							
MSFR	**San Fratello**	**0.49**	**308**	P	Pb	13 01 46.0	-0.4
MTTG	**Motta San Giov**	**0.55**	**61**	P	Pg	13 01 46.5	+0.4
SSY	**Sortino**	**0.58**	**181**	P	Pb	13 01 47.1	-0.6
SSY				AML	AML		
comp=E,1305μm,0.4s							
SSY				AML	AML		
comp=N,3000μm,0.3s							
SSY				AML	AML		
comp=E,1307μm,0.4s							
SSY				AML	AML		
comp=N,3002μm,0.3s							
SSY				AML	AML		
comp=E,1307μm,1.6s							

IGIL ***29*** *13:22:48.9, 44°.88N×28°.12W, h10km, Mb4.7*
IDC ***29*** *13:22:49.0±0.5, 44°.90N×28°.20W, h0km, mb4.2/27, mbtmp4.1/29, ML3.9/2, MS4.2/60, Error ellipse: s-maj=15.0km s-min=11.6km az=156.0*
NEIC ***29*** *13:22:51.5±1.6, 44°.87N±0°.10×28°.0W±0°.1, h10km±1km, mb4.7/183, Error ellipse: s-maj=16.9km s-min=14.8km az=206.0*
GCMT ***29*** *13:22:52.5±0.1, 44°.92N±0°.02×28°.01W±0°.01, h12km, MW5.1/133, Moment Tensor Solution. s61,c84; s133,c224; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=4.75±.09; $M_{\theta\theta}$=0.01±.10; $M_{\phi\phi}$=4.76±.07; $M_{r\theta}$=2.04±.30; $M_{\theta\phi}$=-0.03±.07; $M_{\phi r}$=1.38±.23; Best double couple: M_0=5.32100×10^16^ NP1=ϕ_s=342.00000°, δ=40.00000°, λ=121.00000°. NP2=ϕ_s=199.00000°, δ=56.00000°, λ=67.00000°. Principal axes: T 4.9700, Plg9.0000°, Azm273.0000°; N 0.7020, Plg19.0000°, Azm6.0000°; P -5.6710, Plg69.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 13:22:51.5±0.3, 44°.87N±0°.06×28°.09W±0°.05, h14km, n560, σ1§15/473, mb4.7/150, MS4.3/65, 11D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSBA	**Serra de Santa**	**6.12**	**174**	*e*P	**Pn**	**13 24 23.0**	**+1.5**
PSBA	**Serra de Santa**	**6.12**	**174**	*e*P	**Pn**	**13 24 23.0**	**+1.5**
PAGU	**Agualva, Azore**	**6.13**	**173**	*e*P	**Pn**	**13 24 20.9**	**-0.7**
PAGU	**Agualva, Azore**	**6.13**	**173**	*e*P	**Pn**	**13 24 20.9**	**-0.7**
ADH	**Angra Heroismo**	**6.24**	**174**	*e*P	**Pn**	**13 24 22.6**	**-0.6**
ADH	**Angra Heroismo**	**6.24**	**174**	*e*P	**Pn**	**13 24 22.6**	**-0.6**
PSET	**Sete Cidades**	**7.26**	**165**	*e*P	**Pn**	**13 24 36.5**	**-0.7**
PSET	**Sete Cidades**	**7.26**	**165**	*e*P	**Pn**	**13 24 36.5**	**-0.7**
CMLA	**Cha da Macela**	**7.36**	**164**	Pn	**Pn**	**13 24 37.9**	**-0.5**
PGRON	**Lagoa das Cont**	**7.38**	**163**	*e*P	**Pn**	**13 24 38.3**	**-0.5**
PGRON	**Lagoa das Cont**	**7.38**	**163**	*e*P	**Pn**	**13 24 38.3**	**-0.5**
PSMA	**Santa Maria**	**8.18**	**163**	*e*P	**Pn**	**13 24 49.5**	**-0.3**
PSMA	**Santa Maria**	**8.18**	**163**	*e*P	**Pn**	**13 24 49.5**	**-0.3**
PMOZ	**Porto Moniz, M**	**14.70**	**141**	Pn	**Pn**	**13 26 18.1**	**-1.0**
COI	**Coimbra**	**15.22**	**101**	Pn	**Pn**	**13 26 25.5**	**-0.5**
COI				IAmb	IAmb	13 26 27.2	
comp=Z,25nm,0.8s							
PESTR	**Estremoz**	**16.39**	**104**	Pn	**Pn**	**13 26 39.0**	**-2.0**
PESTR	**Estremoz**	**16.39**	**104**	P	**Pn**	**13 26 37.4**	**-3.6**
PFVI	**Vila Bisbo**	**16.44**	**111**	Pn	**Pn**	**13 26 40.8**	**-0.9**
PFVI				IAmb	IAmb	13 27 13.8	
comp=Z,70nm,1.2s							
MORF	**Marmelete**	**16.46**	**111**	*e*P	**Pn**	**13 26 40.4**	**-1.6**
MORF				IAmb	IAmb	13 26 56.6	
comp=Z,180nm,1.8s							
MESJ	**Messejana**	**16.46**	**108**	*e*P	**Pn**	**13 26 40.1**	**-1.9**
MESJ				IAmb	IAmb	13 26 52.4	
comp=Z,55nm,1.1s							
MESJ				*e*S	**Sn**	**13 29 44.5**	**0.0**
MESJ	**Messejana**	**16.46**	**108**	Pn	**Pn**	**13 26 40.9**	**-1.1**
MESJ				IAmb	IAmb	13 26 52.2	
comp=Z,72nm,1.3s							
PAB	**San Pablo**	**18.34**	**99**		**Pn**	**13 27 04.6**	**-0.9**
ESDC	**Sonseca Array**	**18.56**	**98**	P	**P**	**13 27 06.7**	**-1.2**
ESDC	**Sonseca Array**	**18.56**	**98**	P	**P**	**13 27 06.5**	**-1.5**
comp=Z,0.1nm,0.3s,baz=284,slow=11,SNR=13							
ESDC				LR	LR	13 32 57.4	
comp=Z,1μm,19.4s,baz=306,slow=33							
comp=Z,2.5nm,0.9s							
ESBB	**Sonseca Array**	**18.56**	**98**		**P**	**13 27 07.8**	**-0.1**
EKB	**Eskdalemuir**	**18.99**	**48**	P	**P**	**13 27 12.0**	**-0.4**
EKA	**Eskdalemuir Ar**	**19.01**	**48**	P	**P**	**13 27 13.0**	**+0.4**
baz=243,slow=9.1							
comp=Z,2.7nm,0.7s							
SMIR	**Smir Dam**	**19.55**	**110**	P	**P**	**13 27 17.7**	**-1.0**
AVE	**Averroes**	**19.71**	**119**		**P**	**13 27 19.1**	**-1.4**
AVE	**Averroes**	**19.71**	**119**	P	**P**	**13 27 19.1**	**-1.4**
ZHG	**ZHG**	**20.10**	**117**	P	**P**	**13 27 24.1**	**-0.7**
BORG	**Borgarnes**	**20.28**	**8**	LR	LR	13 33 03.5	
comp=Z,548nm,20.9s,baz=183,slow=30							
LCRM	**LCR**	**21.09**	**114**	P	**P**	**13 27 36.4**	**+0.8**
AKLM	**AKL**	**21.25**	**111**	P	**P**	**13 27 36.6**	**-0.6**
CEST	**Esterri de Car**	**21.27**	**86**		**P**	**13 27 37.5**	**+0.1**
CEST				IAmb	IAmb	13 27 45.8	
comp=Z,46nm,1.3s							
GOG	**Mont Gurugu**	**21.41**	**108**	P	**P**	**13 27 40.1**	**+1.1**
MD31	**MD31**	**21.68**	**116**	P	**P**	**13 27 42.3**	**+0.5**
MDT	**Midelt**	**21.81**	**115**	P	**P**	**13 27 43.9**	**+0.7**
comp=Z,2.6nm,0.6s,baz=303,slow=8.0,SNR=4.7							
MDT				LR	LR	13 34 22.0	
comp=Z,537nm,21.0s,baz=339,slow=32							
comp=Z,2.6nm,0.6s							
MDT	**Midelt**	**21.81**	**115**	P	**P**	**13 27 43.6**	**+0.4**
TAF	**Taforalt**	**22.04**	**108**	P	**P**	**13 27 47.2**	**+1.5**
JBK	**JBK**	**22.21**	**109**	P	**P**	**13 27 48.0**	**+0.3**
UCC	**Uccle**	**22.45**	**63**	P	**P**	**13 27 49.3**	**-0.5**
UCC				IAmb	IAmb	13 27 56.6	
comp=Z,45nm,1.3s							
UCC	**Uccle**	**22.45**	**63**	*d*P	**P**	**13 27 49.7**	**-0.2**
TZRR	**Tazzarine**	**22.57**	**121**	P	**P**	**13 27 51.5**	**0.0**
DOU	**Dourbes**	**22.58**	**65**	*d*P	**P**	**13 27 51.4**	**+0.1**
comp=Z,11nm,1.2s							
BMRD	**Maredsous**	**22.70**	**64**	*d*P	**P**	**13 27 51.9**	**-0.6**
comp=Z,17nm,1.2s							
BGES	**Gesves**	**22.90**	**64**	*d*P	**P**	**13 27 54.0**	**-0.6**
comp=Z,18nm,1.1s							
ARF	**Arif**	**22.96**	**118**	P	**P**	**13 27 55.8**	**+0.2**
SSB	**Saint Sauveur**	**22.96**	**77**		**P**	**13 27 55.7**	**+0.3**
ZGR	**Zagora**	**23.02**	**122**	P	**P**	**13 27 57.6**	**+1.5**
BCLA	**Clavier**	**23.04**	**64**	*d*P	**P**	**13 27 55.7**	**-0.4**
comp=Z,15nm,1.1s							
BSTI	**Sart Tilman**	**23.21**	**64**	*d*P	**P**	**13 27 57.3**	**-0.6**
BSTI				*d*PP	**PnPn**	**13 28 22.7**	**-0.5**
BHOU	**Houvegnez**	**23.49**	**64**	*d*P	**P**	**13 28 00.7**	**+0.1**
MEM	**Membach**	**23.50**	**64**	*d*P	**P**	**13 28 00.4**	**-0.3**
BTNL	**Ternell**	**23.57**	**64**	*d*P	**P**	**13 28 01.7**	**+0.2**
WLF	**Walferdange**	**23.59**	**66**	*d*P	**P**	**13 28 02.4**	**+0.8**
ECH	**Echery**	**24.34**	**69**		**P**	**13 28 08.8**	**+0.1**
ECH				IAmb	IAmb	13 28 14.7	
comp=Z,22nm,1.3s							
FIGM	**Figuig**	**24.42**	**112**	P	**P**	**13 28 09.5**	**-0.2**
SENIN	**Lac Senin/Sane**	**24.67**	**74**		**P**	**13 28 11.2**	**-0.8**
SENIN				IAmb	IAmb	13 28 19.9	
comp=Z,35nm,1.5s							
SFJD	**Kangerlussuaq**	**25.22**	**339**	LR	LR	13 35 55.9	
comp=Z,784nm,20.9s,baz=142,slow=31							
LMN	**Caledonia Moun**	**25.68**	**285**		**P**	**13 28 20.5**	**-0.3**
TUE	**Stuetta**	**26.05**	**73**	P	**P**	**13 28 23.7**	**-0.8**
comp=Z,42nm,2.5s							
DAVA	**Damuels**	**26.28**	**71**	*i* P	**P**	**13 28 26.4**	**-0.1**
comp=Z,9.3nm,1.0s							
BATG	**Bathurst New B**	**26.28**	**289**	P	**P**	**13 28 26.1**	**-0.2**
BATG				IAmb	IAmb	13 28 31.0	
comp=Z,29nm,1.1s							
DAVOX	**Davos/Dischmat**	**26.36**	**72**	LR	LR	13 37 55.8	
comp=Z,1μm,19.0s,baz=260,slow=34							
RETA	**Reutte**	**26.84**	**70**	*i* P	**P**	**13 28 30.9**	**-0.5**
comp=Z,2.6nm,0.5s							
FETA	**Feichten**	**26.89**	**71**	*e*P	**P**	**13 28 31.4**	**-0.6**
comp=Z,16nm,1.2s							
MOTA	**Moosalm**	**27.09**	**71**	*e*P	**P**	**13 28 33.2**	**-0.6**
comp=Z,17nm,1.3s							
SQTA	**Sankt Quirin**	**27.18**	**71**	*i* P	**P**	**13 28 34.6**	**0.0**
comp=Z,22nm,1.4s							
WATA	**Walderalm**	**27.41**	**71**	*i* pP	**P**	**13 28 38.0**	**+1.3**
comp=Z,10nm,1.1s							
WTTA	**Wattenberg**	**27.46**	**71**	*i* P	**P**	**13 28 37.3**	**+0.2**
comp=Z,21nm,1.6s							
JMIC	**Jan Mayen**	**27.89**	**14**	LR	LR	13 36 52.1	
comp=Z,160nm,20.3s,baz=226,slow=30							
CLL	**Collm**	**27.90**	**62**	P	**P**	**13 28 39.8**	**-1.0**
comp=Z,11nm,1.7s							
CLL	**Collm**	**27.90**	**62**	*i* P	**P**	**13 28 41.3**	**+0.5**
CLL				*i* pP	**pP**	**13 28 43.9**	**-0.3**
CLL				*i* sP	**sP**	**13 28 45.6**	**-0.1**
comp=Z,23nm,1.6s							
CLL				*e*x	x	13 28 51.0	
CLL				*e*Sx	Sx	13 33 15.0	
CLL				*e*x	x	13 34 14.0	
CLL				AMS	AMS	13 39 00.0	
comp=N,700nm,18.8s							
CLL				AMS	AMS	13 39 00.0	
comp=E,800nm,18.1s							
CLL				AMS	AMS	13 39 00.0	
NOA	**NORSAR Array B**	**28.11**	**41**	P	**P**	**13 28 43.4**	**+0.7**
comp=E,0.2nm,0.6s,baz=254,slow=9.8,SNR=3.8							
NOA				LR	LR	13 38 53.3	
comp=E,282nm,18.9s,baz=250,slow=34							
comp=E,0.2nm,0.6s							
LESA	**Schwarzleotal**	**28.13**	**70**	*i* P	**P**	**13 28 41.1**	**-1.9**
comp=E,6.8nm,1.2s							
ABTA	**Abfaltersbach**	**28.14**	**72**	*i* P	**P**	**13 28 42.4**	**-0.8**
comp=E,8.4nm,1.1s							
CIMO	**Cimolais**	**28.18**	**72**	P	**P**	**13 28 41.9**	**-1.5**
KHC	**Kasperske Hory**	**28.47**	**66**	*e*P	**P**	**13 28 43.0**	**-2.9**
BRG	**Berggiesshubel**	**28.52**	**63**	*e*P	**P**	**13 28 47.2**	**+0.8**
BRG				Amp		13 28 54.0	
comp=Z,4.8nm,1.0s							
BRG	**Berggiesshubel**	**28.52**	**63**	S	**S**	**13 33 38.0**	**+4.4**
GEC2	**GERESS Array S**	**28.59**	**67**	P	**P**	**13 28 47.5**	**+0.5**
GERES	**GERESS Array B**	**28.59**	**67**	P	**P**	**13 28 47.2**	**+0.2**
GERES	**GERESS Array B**	**28.59**	**67**	P	**P**	**13 28 48.2**	**+1.2**
comp=Z,0.6nm,0.4s,baz=285,slow=6.8,SNR=9.1							
GERES				LR	LR	13 39 07.7	
comp=Z,844nm,20.5s,baz=259,slow=34							
comp=Z,0.6nm,0.4s							
KBA	**Koelnbreinsper**	**28.64**	**71**	*e*P	**P**	**13 28 47.4**	**-0.2**
comp=Z,10nm,1.5s							
BIOA	**Bad Ischl, Aus**	**28.73**	**69**	*e*P	**P**	**13 28 49.1**	**+0.8**
comp=Z,10nm,1.3s							
PRED	**Cave del Predi**	**28.92**	**72**		**P**	**13 28 50.6**	**+0.6**
PRED				IAmb	IAmb	13 28 56.6	
comp=Z,25nm,1.4s							
MYKA	**Terra Mystica**	**28.93**	**71**	*i* pP	**P**	**13 28 51.4**	**+1.2**
comp=Z,11nm,1.2s							
HFS	**Hagfors**	**29.06**	**43**	P	**P**	**13 28 51.8**	**+0.7**
comp=Z,1.8nm,0.9s,baz=175,slow=18,SNR=4.7							
comp=Z,1.8nm,0.9s							
FRB	**Frobisher Bay**	**29.50**	**324**	LR	LR	13 37 46.3	
comp=Z,625nm,18.9s,baz=106,slow=30							
OBKA	**Obir**	**29.57**	**71**	*e*P	**P**	**13 28 53.5**	**-2.3**
comp=Z,11nm,0.9s							
KEST	**Kesra**	**29.75**	**95**	P	**P**	**13 28 57.5**	**0.0**
KEST				IAmb	IAmb	13 29 06.6	
comp=Z,12nm,1.0s							
KEST	**Kesra**	**29.75**	**95**	P	**P**	**13 28 57.7**	**+0.2**
comp=Z,5.3nm,0.9s,baz=303,slow=6.0,SNR=3.7							
comp=Z,5.3nm,0.9s							
SOKA	**Soboth**	**29.86**	**71**	*i* P	**P**	**13 28 56.2**	**-2.1**
comp=Z,2.3nm,0.6s							
KSP	**Ksiaz**	**30.01**	**62**	*e*P	**P**	**13 29 00.5**	**+1.0**
KSP	**Ksiaz**	**30.01**	**62**	P	**P**	**13 29 00.0**	**+0.5**
comp=Z,10nm,1.3s							
ARSA	**Arzberg**	**30.06**	**70**	P	**P**	**13 29 01.2**	**+1.1**
ARSA	**Arzberg**	**30.06**	**70**	*e*P	**P**	**13 29 00.4**	**+0.3**
comp=Z,4.9nm,0.8s							
DPC	**Dobruska-Polom**	**30.08**	**63**	P	**P**	**13 28 59.9**	**-0.4**
comp=Z,6.3nm,2.1s							
CONA	**Conrad Observa**	**30.16**	**68**	*i* pP	**P**	**13 29 02.4**	**+1.4**
comp=Z,10nm,1.7s							
KRUC	**Moravsky**	**30.31**	**66**	*e*P	**P**	**13 29 03.1**	**+0.9**
VRAC	**Vranov**	**30.40**	**65**	P	**P**	**13 29 02.4**	**-0.6**
comp=Z,2.8nm,0.5s,baz=271,slow=6.5,SNR=3.9							
VRAC				LR	LR	13 40 44.7	
comp=Z,1μm,18.8s,baz=270,slow=35							
comp=Z,2.8nm,0.5s							
VRAC	**Vranov**	**30.40**	**65**	*e*P	**P**	**13 29 03.9**	**+0.9**
RONA	**Rosalia, Austr**	**30.49**	**69**	*e*pP	**P**	**13 29 04.8**	**+1.0**
comp=Z,14nm,1.3s							
MORC	**Moravsky Berou**	**30.94**	**64**		**P**	**13 29 06.6**	**-1.3**
MORC				IAmb	IAmb	13 29 14.7	
comp=Z,13nm,1.3s							
MORC	**Moravsky Berou**	**30.94**	**64**	*e*P	**P**	**13 29 05.2**	**-2.6**
BBTS	**Babate**	**31.66**	**158**	LR	LR	13 39 13.0	
comp=Z,152nm,18.6s,baz=222,slow=31							
VYHS	**Vyhne**	**32.00**	**66**	*e*P	**P**	**13 29 21.0**	**+3.9**
TRQ	**Mont Tremblant**	**32.22**	**289**	P	**P**	**13 29 20.0**	**+0.9**
TRQ				IAmb	IAmb	13 29 23.2	
comp=Z,7.6nm,0.9s							
LANS	**Liptovska Anna**	**32.28**	**65**	*e*P	**P**	**13 29 22.8**	**+3.2**
OJC	**Ojcow**	**32.31**	**63**	*e*P	**P**	**13 29 21.2**	**+1.4**
OJC	**Ojcow**	**32.31**	**63**	P	**P**	**13 29 20.2**	**+0.4**
OJC	**Ojcow**	**32.31**	**63**	P	**P**	**13 29 20.2**	**+0.4**
comp=Z,11nm,1.3s							
MORH	**Mrgy, Hungar**	**32.39**	**71**	P	**P**	**13 29 20.5**	**0.0**
comp=Z,6.1nm,1.6s							
VAE	**Valguarnera**	**32.53**	**88**	LR	LR	13 41 58.7	
comp=Z,578nm,18.5s,baz=306,slow=35							
NIE	**Niedzica**	**32.77**	**64**	*e*P	**P**	**13 29 26.9**	**+3.0**
PSZ	**Piszkesteto**	**32.81**	**67**	P	**P**	**13 29 24.8**	**+0.5**
PSZ				IAmb	IAmb	13 29 32.7	
comp=Z,19nm,1.5s							
TIP	**Timpagrande**	**33.46**	**84**	P	**P**	**13 29 30.4**	**+0.3**
comp=Z,12nm,1.7s							
KOLS	**Kolonicke sedl**	**34.13**	**65**	*e*P	**P**	**13 29 36.1**	**+0.3**
HOLU	**Holmets**	**34.30**	**65**	P	**P**	**13 29 38.0**	**+0.9**
KSPA	**Keystone Colle**	**34.52**	**282**	P	**P**	**13 29 38.6**	**-0.6**
BERU	**Beregovo**	**34.54**	**66**	P	**P**	**13 29 39.6**	**+0.4**
BRIU	**Brid**	**34.75**	**66**	P	**P**	**13 29 41.4**	**+0.3**
FINES	**FINESS Array B**	**35.25**	**42**	P	**P**	**13 29 45.1**	**-0.1**
comp=Z,3.2nm,0.9s,baz=237,slow=6.6,SNR=8.4							
FINES				LR	LR	13 43 39.8	
comp=Z,280nm,18.3s,baz=265,slow=36							
comp=

AK17	**Malin Array Si**	**38.01**	**60**	P	**P**	**13 30 07.8**	**-1.0**
AK14	**Malin Array Si**	**38.05**	**60**	P	**P**	**13 30 08.6**	**-0.6**
AK11	**Malin Array Si**	**38.08**	**60**	P	**P**	**13 30 09.6**	**+0.2**
AK12	**Malin Array Si**	**38.08**	**60**	P	**P**	**13 30 09.3**	**-0.1**
KIEV	**Kiev**	**38.10**	**60**		**P**	**13 30 09.9**	**+0.3**
KIEV				IAmb	IAmb	13 30 15.6	
comp=Z,17nm,1.1s							
KIEV	**Kiev**	**38.10**	**60**	P	**P**	**13 30 09.5**	**-0.1**
comp=Z,59nm,1.3s							
AK02	**Malin Array Si**	**38.11**	**60**	P	**P**	**13 30 09.5**	**-0.2**
AKASG	**Malin Array Be**	**38.11**	**60**	P	**P**	**13 30 08.9**	**-0.7**
comp=Z,3.2nm,0.8s,baz=286,slow=8.5,SNR=15							
comp=Z,3.2nm,0.8s							
AKBB	**Malin Array Si**	**38.11**	**60**		**P**	**13 30 09.8**	**+0.1**
AKBB				IAmb	IAmb	13 30 15.6	
comp=Z,21nm,1.2s							
RDO	**Rodhopi**	**38.80**	**76**		**P**	**13 30 16.0**	**+0.4**
MILM	**Milestii Mici**	**38.91**	**66**	*e*P	**P**	**13 30 16.0**	**-0.5**
MILM	**Milestii Mici**	**38.91**	**66**	*e*PP	PP	13 31 40.0	-5.5
MILM	**Milestii Mici**	**38.91**	**66**	*e*PcP	PcP	13 32 19.0	-8.0
MILM				*e*S	**S**	**13 36 20.0**	**+5.9**
MILM				*e*L	L	13 41 12.0	
MILM				LRM	MLR	13 46 48.0	
comp=Z,600nm,17.0s							
TIRR	**Tirgusor**	**39.48**	**70**		**P**	**13 30 20.9**	**-0.4**
TIRR	**Tirgusor**	**39.48**	**70**	P	**P**	**13 30 21.2**	**-0.1**
comp=Z,10nm,0.8s							
TORD	**Torodi Ar. Bea**	**40.52**	**132**	P	**P**	**13 30 29.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**40.52**	**132**	LR	LR	13 46 19.7	
comp=Z,909nm,18.2s,baz=330,slow=35							
EUNU	**Eureka**	**40.77**	**347**	P	**P**	**13 30 32.1**	**+0.4**
RES	**Resolute Bay**	**41.22**	**338**	LR	LR	13 45 12.3	
comp=Z,192nm,20.7s,baz=41,slow=33							
OBN	**Obninsk**	**41.38**	**52**	LR	LR	13 47 02.8	
comp=Z,445nm,20.0s,baz=218,slow=35							
SJG	**San Juan**	**41.44**	**242**	LR	LR	13 44 13.4	
comp=Z,211nm,21.6s,baz=70,slow=31							
BLKN	**Baker Lake**	**41.47**	**322**		**P**	**13 30 37.0**	**-0.4**
O48B	**Farmland**	**41.55**	**284**	P	**P**	**13 30 38.9**	**+0.4**
TKL	**Tuckaleechee C**	**42.74**	**278**	LR	LR	13 48 01.5	
comp=Z,356nm,18.5s,baz=79,slow=36							
DBIC	**Dimbokro**	**43.10**	**145**	P	**P**	**13 30 51.1**	**-0.1**
comp=Z,11nm,1.1s,baz=336,slow=9.5,SNR=4.2							
comp=Z,11nm,1.1s							
CPCT	**Cooper Cave**	**43.37**	**278**	P	**P**	**13 30 55.4**	**+2.1**
AKAS	**Kas**	**43.86**	**80**	P	**P**	**13 30 55.6**	**-1.8**
ANTO	**Ankara**	**44.34**	**74**	P	**P**	**13 31 01.3**	**+0.2**
comp=Z,6.9nm,0.6s							
ILGA	**Ilgaz**	**44.43**	**72**	P	**P**	**13 31 03.0**	**+0.9**
ILGA				IAmb	IAmb	13 31 09.4	
comp=Z,23nm,1.3s							
ULM	**Lac du Bonnet**	**44.63**	**302**	P	**P**	**13 31 04.9**	**+1.7**
ULM	**Lac du Bonnet**	**44.63**	**302**	LR	LR	13 48 10.5	
comp=Z,968nm,18.1s,baz=64,slow=34							
BRTR	**Keskin Array B**	**44.98**	**74**	P	**P**	**13 31 06.9**	**+0.5**
comp=Z,1.7nm,0.8s,baz=286,slow=6.3,SNR=8.7							
BRTR				PcP	**PcP**	**13 32 47.4**	**0.0**
comp=Z,1.3nm,0.8s,baz=264,slow=2.4,SNR=3.9							
BRTR				LR	LR	13 50 10.3	
comp=Z,377nm,20.5s,baz=301,slow=36							
comp=Z,1.7nm,0.8s							
MDP	**Montagnes des**	**45.06**	**216**	LR	LR	13 45 13.1	
comp=Z,207nm,19.4s,baz=82,slow=30							
PLAL	**Pickwick Lake**	**46.11**	**279**	P	**P**	**13 31 15.7**	**+0.5**
PLAL				IAmb	IAmb	13 31 22.1	
comp=Z,11nm,1.0s							
FVM	**French Village**	**46.23**	**284**	P	**P**	**13 31 16.6**	**+0.5**
FVM				IAmb	IAmb	13 31 20.6	
comp=Z,17nm,1.3s							
FFC	**Flin Flon**	**46.59**	**310**	P	**P**	**13 31 19.6**	**+0.9**
FFC				IAmb	IAmb	13 31 30.2	
comp=Z,5.7nm,0.9s							
CCM	**Cathedral Cave**	**46.76**	**285**	P	**P**	**13 31 20.6**	**+0.4**
T42A	**Van Buren**	**47.16**	**283**	P	**P**	**13 31 24.7**	**+1.3**
KIRV	**Kirov**	**47.19**	**44**	LR	LR	13 50 26.1	
comp=Z,205nm,18.4s,baz=284,slow=35							
R40A	**Maddies Statio**	**47.35**	**286**	P	**P**	**13 31 24.8**	**0.0**
R40A				IAmb	IAmb	13 31 28.0	
comp=Z,6.8nm,0.7s							
LCAR	**Lake Charles**	**47.70**	**282**	P	**P**	**13 31 28.2**	**+0.7**
BELG	**Belogornoye**	**48.46**	**53**	LR	LR	13 52 58.2	
comp=Z,392nm,18.1s,baz=287,slow=37							
KBZ	**Khabaz**	**49.29**	**65**	P	**P**	**13 31 41.2**	**+1.5**
comp=Z,0.9nm,0.5s,baz=302,slow=7.4,SNR=3.8							
KBZ				LR	LR	13 52 34.5	
comp=Z,374nm,21.1s,baz=309,slow=36							
comp=Z,0.9nm,0.5s							
MMAI	**Mount Meron Ar**	**49.61**	**81**	LR	LR	13 54 48.9	
comp=Z,128nm,19.5s,baz=304,slow=39							
YKA	**Yellowknife Ar**	**50.00**	**323**	P	**P**	**13 31 44.2**	**-0.6**
comp=Z,0.7nm,0.8s,baz=70,slow=7.5,SNR=12							
YKA				PcP	**PcP**	**13 33 04.2**	**-0.5**
comp=Z,1.2nm,0.9s,baz=70,slow=4.0,SNR=12							
YKA				LR	LR	13 50 05.3	
comp=Z,291nm,20.2s,baz=76,slow=33							
comp=Z,0.7nm,0.8s							
A36M	**Sachs Harbour**	**50.16**	**336**	P	**P**	**13 31 46.0**	**+0.1**
A36M	**Sachs Harbour**	**50.16**	**336**	P	**P**	**13 31 44.7**	**-1.2**
baz=67							
MIAR	**Mount Ida**	**50.18**	**282**	P	**P**	**13 31 47.6**	**+1.0**
RLO	**Rose Lookout**	**50.32**	**285**	P	**P**	**13 31 48.4**	**+0.7**
C36M	**Paulatuk**	**50.87**	**333**	P	**P**	**13 31 50.5**	**-0.9**
baz=66							
ASF	**Jabal al Asfar**	**51.13**	**81**	LR	LR	13 54 18.8	
comp=Z,104nm,19.8s,baz=341,slow=37							
EIL	**Elat**	**51.18**	**85**	LR	LR	13 54 02.3	
comp=Z,67nm,21.2s,baz=271,slow=36							
SDV	**Santo Domingo**	**51.28**	**239**	LR	LR	13 49 34.6	
comp=Z,131nm,21.9s,baz=56,slow=31							
OK048	**Pawnee Station**	**51.50**	**286**	P	**P**	**13 31 57.4**	**+0.8**
OK048				IAmb	IAmb	13 31 59.3	
comp=Z,8.3nm,0.9s							
LAO	**LASA Array**	**52.37**	**302**	P	**P**	**13 32 04.7**	**+1.8**
ARTI	**Arti**	**52.51**	**44**	P	**P**	**13 32 03.3**	**-0.4**
ARTI				IAmb	IAmb	13 32 06.1	
comp=Z,5.7nm,0.8s							
ARTI	**Arti**	**52.51**	**44**	LR	LR	13 53 51.8	
comp=Z,189nm,18.4s,baz=294,slow=36							
WMOK	**Wichita Mounta**	**53.67**	**285**	P	**P**	**13 32 13.5**	**+0.8**
EGMT	**Eagleton**	**53.82**	**305**	P	**P**	**13 32 14.3**	**+0.7**
EGMT				IAmb	IAmb	13 32 25.2	
comp=Z,7.6nm,1.2s							
INK	**Inuvik**	**54.39**	**334**	LR	LR	13 52 27.5	
comp=Z,166nm,20.6s,baz=36,slow=33							
INK	**Inuvik**	**54.39**	**334**	P	**P**	**13 32 16.3**	**-1.1**
baz=57							
F31M	**Tsiigehtchic**	**54.93**	**333**	P	**P**	**13 32 20.4**	**-0.9**
F31M				IAmb	IAmb	13 32 37.9	
comp=Z,12nm,1.1s							
F31M	**Tsiigehtchic**	**54.93**	**333**	P	**P**	**13 32 20.2**	**-1.1**
baz=57,SNR=14							
KOTAN	**Kotaneelee Air**	**55.13**	**323**	P	**P**	**13 32 22.2**	**-0.7**
baz=60							
AKTO	**Aktyubinsk**	**55.15**	**51**	LR	LR	13 56 03.9	
comp=Z,229nm,18.4s,baz=228,slow=36							
D28M	**Stokes Point**	**55.37**	**336**	P	**P**	**13 32 24.3**	**-0.2**
baz=54,SNR=6.3							
G31M	**Satah River**	**55.39**	**333**	P	**P**	**13 32 24.0**	**-0.6**
G31M				IAmb	IAmb	13 32 35.5	
comp=Z,7.7nm,1.0s							
G31M	**Satah River**	**55.39**	**333**	P	**P**	**13 32 23.9**	**-0.7**
baz=56,SNR=6.3							
F30M	**Barrier River**	**55.48**	**334**	P	**P**	**13 32 24.4**	**-1.0**
F30M				IAmb	IAmb	13 32 26.2	
comp=Z,9.4nm,0.9s							
F30M	**Barrier River**	**55.48**	**334**	P	**P**	**13 32 25.1**	**-0.2**
baz=55,SNR=12							
E29M	**Blow River**	**55.68**	**335**	P	**P**	**13 32 26.1**	**-0.6**
baz=54,SNR=5.6							
BRDY	**Brady**	**55.78**	**282**	IAmb	IAmb	13 32 34.5	
comp=Z,4.9nm,0.9s							
G30M	**tAoh Zraii Nji**	**55.99**	**333**	P	**P**	**13 32 27.5**	**-1.5**
baz=54							
E28M	**Babbage River**	**56.04**	**336**	P	**P**	**13 32 28.8**	**-0.6**
baz=53,SNR=5.9							
H31M	**Peel River**	**56.04**	**332**	P	**P**	**13 32 28.2**	**-1.2**
baz=55							
D27M	**Malcolm River**	**56.06**	**337**	P	**P**	**13 32 28.9**	**-0.7**
baz=52							
TOAD	**Toad River Com**	**56.31**	**322**	P	**P**	**13 32 30.3**	**-1.2**
baz=58							
PDAR	**Pinedale Array**	**56.40**	**299**	P	**P**	**13 32 32.4**	**-0.2**
PDAR	**Pinedale Array**	**56.40**	**299**	P	**P**	**13 32 31.2**	**-1.4**
comp=Z,1.0nm,0.9s,baz=62,slow=6.9,SNR=7.3							
PDAR				LR	LR	13 55 24.0	
comp=Z,511nm,19.3s,baz=46,slow=35							
comp=Z,1.0nm,0.9s							
EPYK	**Eagle Plains**	**56.51**	**333**	IAmb	IAmb	13 32 57.8	
comp=Z,12nm,1.4s							
EPYK	**Eagle Plains**	**56.51**	**333**	P	**P**	**13 32 32.3**	**-0.4**
baz=54							
C27K	**Jago River**	**56.57**	**338**	P	**P**	**13 32 33.0**	**-0.1**
baz=50							
G29M	**Pine Creek**	**56.60**	**334**	IAmb	IAmb	13 32 36.9	
comp=Z,9.9nm,1.1s							
G29M	**Pine Creek**	**56.60**	**334**	P	**P**	**13 32 33.1**	**-0.3**
baz=53							
ROSC	**El Rosal**	**56.70**	**239**	LR	LR	13 55 44.4	
comp=Z,201nm,20.0s,baz=70,slow=35							
C26K	**Camden Bay**	**56.70**	**338**	P	**P**	**13 32 33.2**	**-0.8**
baz=49							
MMPY	**Sheldon Lake,**	**56.74**	**327**	P	**P**	**13 32 34.5**	**0.0**
baz=56							
NRIK	**Norilʼsk**	**56.76**	**22**	P	**P**	**13 32 35.4**	**+1.0**
comp=Z,2.2nm,0.6s,baz=319,slow=4.7,SNR=6.0							
NRIK				LR	LR	13 56 17.7	
comp=Z,71nm,22.0s,baz=312,slow=35							
comp=Z,2.2nm,0.6s							
ABKAR	**Akbulak array**	**56.83**	**51**	P	**P**	**13 32 34.7**	**-0.4**
ABKAR	**Akbulak array**	**56.83**	**51**	IAmb	IAmb	13 32 42.4	
comp=Z,5.2nm,1.2s							
MSTX	**Muleshoe**	**56.83**	**287**	P	**P**	**13 32 36.9**	**+1.3**
FXWY	**Fox Creek**	**56.84**	**301**	IAmb	IAmb	13 32 42.4	
comp=Z,7.8nm,1.4s							
DLMT	**Dillon**	**56.87**	**303**	IAmb	IAmb	13 32 54.1	
comp=Z,10.0nm,1.2s							
E27K	**Coleen River**	**56.90**	**336**	IAmb	IAmb	13 32 39.3	
comp=Z,10nm,1.4s							
E27K	**Coleen River**	**56.90**	**336**	P	**P**	**13 32 34.7**	**-0.7**
baz=51,SNR=7.3							
I30M	**Mount Dempster**	**57.07**	**332**	P	**P**	**13 32 35.6**	**-1.3**
baz=54							
H29M	**Whitestone**	**57.13**	**333**	IAmb	IAmb	13 32 39.2	
comp=Z,8.1nm,1.0s							
H29M	**Whitestone**	**57.13**	**333**	P	**P**	**13 32 36.4**	**-0.7**
baz=52							
J30M	**Hart River**	**57.45**	**331**	P	**P**	**13 32 38.5**	**-1.0**
baz=53							
OZNA	**Ozona**	**57.47**	**283**	IAmb	IAmb	13 32 51.6	
comp=Z,17nm,1.5s							
D25K	**Kavik River**	**57.48**	**338**	P	**P**	**13 32 39.6**	**0.0**
baz=48,SNR=5.9							
I29M	**Ogilvie Camp,**	**57.64**	**332**	IAmb	IAmb	13 32 55.9	
comp=Z,11nm,1.2s							
I29M	**Ogilvie Camp,**	**57.64**	**332**	P	**P**	**13 32 40.3**	**-0.4**
baz=52							
FARO	**Faro, Yukon**	**57.76**	**328**	P	**P**	**13 32 41.2**	**-0.4**
baz=54							
G27K	**Doyon Strip**	**57.79**	**335**	P	**P**	**13 32 41.0**	**-0.7**
G27K	**Doyon Strip**	**57.79**	**335**	P	**P**	**13 32 41.3**	**-0.5**
baz=50,SNR=8.0							
C24K	**Franklin Bluff**	**57.81**	**339**	P	**P**	**13 32 41.5**	**-0.3**
baz=46							
NEW	**Newport**	**57.92**	**308**	P	**P**	**13 32 42.7**	**-0.3**
NEW				IAmb	IAmb	13 32 50.1	
comp=Z,12nm,1.1s							
F26K	**Sheenjek River**	**57.95**	**336**	P	**P**	**13 32 41.8**	**-1.1**
baz=49							
E25K	**Arctic Village**	**58.07**	**337**	P	**P**	**13 32 43.0**	**-0.8**
baz=48							
I28M	**Miner Creek**	**58.12**	**333**	IAmb	IAmb	13 33 00.9	
comp=Z,5.3nm,0.8s							
I28M	**Miner Creek**	**58.12**	**333**	P	**P**	**13 32 43.4**	**-0.7**
baz=51,SNR=8.3							
H27K	**Steamboat Moun**	**58.12**	**334**	P	**P**	**13 32 43.5**	**-0.7**
baz=50							
M31M	**Drury Creek, Y**	**58.17**	**328**	P	**P**	**13 32 44.4**	**-0.1**
baz=53							
C23K	**Itkillik River**	**58.20**	**340**	P	**P**	**13 32 44.1**	**-0.5**
baz=45							
D24K	**Happy Valley**	**58.24**	**339**	P	**P**	**13 32 43.8**	**-1.1**
baz=46							
BMAR	**Burnt Mountain**	**58.26**	**336**	P	**P**	**13 32 45.8**	**+0.8**
HWUT	**Hardware Ranch**	**58.29**	**299**	IAmb	IAmb	13 32 52.9	
comp=Z,8.2nm,1.1s							
N32M	**Quiet Lake**	**58.29**	**327**	P	**P**	**13 32 44.2**	**-1.2**
baz=54							
K29M	**Barlow Dome**	**58.30**	**331**	P	**P**	**13 32 44.6**	**-1.0**
baz=52							
G26K	**Porcupine Rive**	**58.34**	**335**	IAmb	IAmb	13 32 59.4	
comp=Z,5.1nm,0.5s							
G26K	**Porcupine Rive**	**58.34**	**335**	P	**P**	**13 32 45.3**	**-0.2**
baz=49,SNR=6.0							
A22K	**Sinclair Lake**	**58.36**	**342**	P	**P**	**13 32 44.8**	**-0.8**
baz=42							
PV23	**Carpenter Ridg**	**58.43**	**294**	IAmb	IAmb	13 32 57.8	
comp=Z,9.3nm,0.9s							
F25K	**Christian Rive**	**58.45**	**336**	P	**P**	**13 32 45.7**	**-0.7**
baz=48							
A21K	**Barrow**	**58.47**	**343**	P	**P**	**13 32 45.6**	**-0.8**
baz=41							
PV10	**Paradox Valley**	**58.49**	**294**	IAmb	IAmb	13 32 59.1	
comp=Z,8.0nm,1.0s							
B22K	**Teshekpuk Lake**	**58.51**	**341**	P	**P**	**13 32 46.3**	**-0.4**
B22K				IAmb	IAmb	13 32 55.5	
comp=Z,8.7nm,1.0s							
B22K	**Teshekpuk Lake**	**58.51**	**341**	P	**P**	**13 32 46.1**	**-0.6**
baz=43							
I27K	**Kandik River**	**58.56**	**333**	P	**P**	**13 32 46.5**	**-0.7**
baz=50,SNR=6.6							
P18A	**Preston Nutter**	**58.56**	**296**	IAmb	IAmb	13 32 54.7	
comp=Z,7.0nm,1.1s							
DLBC	**Dease Lake**	**58.63**	**323**	LR	LR	13 55 25.6	
comp=Z,328nm,19.0s,baz=42,slow=33							
SAND	**Sanderson**	**58.73**	**283**	P	**P**	**13 32 48.8**	**-0.2**
P33M	**Teslin, Yukon**	**58.74**	**326**	P	**P**	**13 32 47.8**	**-0.8**
baz=54							
ANMO	**Albuquerque**	**58.76**	**290**	LR	LR	13 58 17.5	
comp=Z,643nm,18.3s,baz=226,slow=36							
TOLK	**Toolik Lake Re**	**58.79**	**339**	IAmb	IAmb	13 32 50.1	
comp=Z,13nm,1.4s							
TOLK	**Toolik Lake Re**	**58.79**	**339**	P	**P**	**13 32 48.1**	**-0.7**
baz=45							
M30M	**Minto, Yukon**	**58.83**	**329**	P	**P**	**13 32 48.5**	**-0.7**
baz=52							
D23K	**Nanushuk River**	**58.84**	**339**	IAmb	IAmb	13 32 52.2	
comp=Z,8.9nm,1.1s							
D23K	**Nanushuk River**	**58.84**	**339**	P	**P**	**13 32 48.4**	**-0.6**
baz=44							
E24K	**Your Creek**	**58.90**	**338**	P	**P**	**13 32 49.3**	**-0.2**
baz=46							
HLID	**Hailey**	**58.94**	**302**	IAmb	IAmb	13 32 57.8	
comp=Z,8.7nm,1.4s							
L29M	**L29M**	**58.98**	**330**	P	**P**	**13 32 49.2**	**-0.9**
baz=51							
FYU	**Fort Yukon**	**59.02**	**335**	P	**P**	**13 32 51.0**	**+0.7**
PECS	**Pecos**	**59.09**	**285**	IAmb	IAmb	13 33 01.1	
comp=Z,7.7nm,1.1s							
N31M	**Braeburn, Yuko**	**59.12**	**328**	P	**P**	**13 32 50.4**	**-0.7**
baz=52							
F24K	**Squaw Lake**	**59.13**	**337**	IAmb	IAmb	13 33 29.9	
comp=Z,5.5nm,1.2s							
F24K	**Squaw Lake**	**59.13**	**337**	P	**P**	**13 32 51.0**	**-0.1**
baz=46							
G25K	**Bearman Lake**	**59.14**	**336**	P	**P**	**13 32 50.7**	**-0.5**
baz=47							
E23K	**Chandalar**	**59.22**	**338**	IAmb	IAmb	13 32 55.0	
comp=Z,9.7nm,1.5s							
E23K	**Chandalar**	**59.22**	**338**	P	**P**	**13 32 50.6**	**-1.2**
baz=45							
I26K	**Coal Creek Min**	**59.24**	**334**	P	**P**	**13 32 50.8**	**-1.1**
baz=48							
Q32M	**Nakina River**	**59.27**	**324**	P	**P**	**13 32 51.6**	**-0.8**
baz=53							
WHY	**Whitehorse**	**59.29**	**327**	P	**P**	**13 32 51.3**	**-1.1**
baz=52							
B21K	**Ikpikpuk River**	**59.32**	**341**	IAmb	IAmb	13 33 01.3	
comp=Z,6.0nm,0.9s							
B21K	**Ikpikpuk River**	**59.32**	**341**	P	**P**	**13 32 51.9**	**-0.4**
baz=42							
TMUT	**Trail Mountain**	**59.36**	**296**	IAmb	IAmb	13 32 57.1	
comp=Z,6.2nm,0.9s							
H25L	**Birch Creek**	**59.40**	**335**	P	**P**	**13 32 52.4**	**-0.6**
baz=47							
D22K	**Ayikyak River**	**59.41**	**340**	IAmb	IAmb	13 33 28.8	
comp=Z,8.5nm,1.3s							
D22K	**Ayikyak River**	**59.41**	**340**	P	**P**	**13 32 52.1**	**-0.9**
baz=43							
S34M	**Telegraph Cree**	**59.41**	**323**	P	**P**	**13 32 51.9**	**-1.2**
baz=54							
P32M	**Atlin**	**59.48**	**325**	P	**P**	**13 32 52.7**	**-1.0**
baz=52							
JTS	**Las Juntas de**	**59.52**	**253**	LR	LR	13 54 06.3	
comp=Z,248nm,21.7s,baz=114,slow=32							
M29M	**Somme Creek**	**59.52**	**330**	P	**P**	**13 32 53.1**	**-0.9**
baz=51							
ALPN	**Alpine**	**59.53**	**284**	IAmb	IAmb	13 33 01.1	
comp=Z,5.7nm,1.1s							
T35M	**Bob Quinn**	**59.58**	**322**	P	**P**	**13 32 53.7**	**-0.7**
baz=54							
G24K	**Hadweenzic Riv**	**59.58**	**336**	IAmb	IAmb	13 33 00.1	
comp=Z,5.2nm,1.1s							
G24K	**Hadweenzic Riv**	**59.58**	**336**	P	**P**	**13 32 53.1**	**-1.1**
baz=46							
B20K	**Meade River**	**59.60**	**342**	P	**P**	**13 32 53.2**	**-1.1**
baz=40							
N30M	**Aishikik Lake**	**59.63**	**328**	P	**P**	**13 32 53.8**	**-0.9**
baz=51							
O30N	**Mendenhall**	**59.69**	**327**	IAmb	IAmb	13 32 57.5	
comp=Z,6.1nm,1.1s							
O30N	**Mendenhall**	**59.69**	**327**	P	**P**	**13 32 54.4**	**-0.7**
baz=52							
C21K	**Knifeblade Rid**	**59.71**	**341**	P	**P**	**13 32 54.4**	**-0.6**
baz=41							
E22K	**Anaktuvuk Pass**	**59.73**	**339**	P	**P**	**13 32 54.4**	**-0.9**
baz=43							
K27K	**Chicken**	**59.74**	**332**	P	**P**	**13 32 53.8**	**-1.5**
baz=49							
PRP	**Porcupine Dome**	**59.83**	**335**	IAmb	IAmb	13 33 27.3	
comp=Z,6.3nm,1.3s							
PRP	**Porcupine Dome**	**59.83**	**335**	P	**P**	**13 32 54.7**	**-1.4**
baz=47							
DUG	**Dugway, Tooele**	**59.86**	**298**	IAmb	IAmb	13 33 04.4	
comp=Z,8.2nm,1.0s							
J26L	**Joseph Creek**	**59.91**	**333**	P	**P**	**13 32 56.1**	**-0.4**
J26L				IAmb	IAmb	13 33 00.7	
comp=Z,4.7nm,0.9s							
J26L	**Joseph Creek**	**59.91**	**333**	P	**P**	**13 32 55.7**	**-0.9**
baz=48							
COLD	**Coldfoot**	**59.97**	**338**	P	**P**	**13 32 55.4**	**-1.4**
baz=44							
TXAR	**Lajitas Array**	**60.18**	**283**	P	**P**	**13 32 58.9**	**-0.1**
TXAR	**Lajitas Array**	**60.18**	**283**	P	**P**	**13 32 58.4**	**-0.6**
comp=Z,3.1nm,0.8s,baz=72,slow=6.4,SNR=21							
TXAR				LR	LR	13 58 32.5	
comp=Z,456nm,21.4s,baz=50,slow=36							
comp=Z,3.1nm,0.8s							
TX31	**Lajitas Ar. Si**	**60.18**	**283**	IAmb	IAmb	13 33 07.6	
comp=Z,4.5nm,0.9s							
HYT	**Haines Junctio**	**60.19**	**328**	P	**P**	**13 32 57.7**	**-1.0**
baz=50							
BVAR	**Borovoye Array**	**60.20**	**44**	P	**P**	**13 32 58.3**	**-0.3**
comp=Z,1.9nm,0.8s,baz=294,slow=4.7,SNR=10							
BVAR				LR	LR	14 00 33.5	
comp=Z,192nm,18.1s,baz=296,slow=38							
comp=Z,1.9nm,0.8s							
SKAG	**Skagway**	**60.21**	**326**	P	**P**	**13 32 57.9**	**-0.7**
baz=51							
VHRN	**Van Horn**	**60.21**	**285**	IAmb	IAmb	13 33 06.9	
comp=Z,12nm,1.3s							
YUK4	**Talbot Arm**	**60.29**	**329**	P	**P**	**13 32 57.0**	**-2.4**
baz=50							
F22K	**John River**	**60.29**	**338**	P	**P**	**13 32 58.4**	**-0.7**
baz=43							
G23K	**Bananza Creek**	**60.29**	**337**	P	**P**	**13 32 58.3**	**-0.8**
baz=44							
L27K	**Beaver Creek,**	**60.29**	**331**	P	**P**	**13 32 58.6**	**-0.6**
baz=48							
H24K	**Noodor Dome**	**60.31**	**336**	P	**P**	**13 32 58.6**	**-0.7**
baz=45							
BVCY	**Beaver Creek**	**60.39**	**330**	P	**P**	**13 32 59.1**	**-0.8**
baz=49							
SCRK	**Sand Creek**	**60.40**	**333**	IAmb	IAmb	13 33 01.6	
comp=Z,5.8nm,1.0s							
SCRK	**Sand Creek**	**60.40**	**333**	P	**P**	**13 32 59.3**	**-0.7**
baz=47,SNR=6.3							
J25K	**Salcha River,**	**60.40**	**334**	IAmb	IAmb	13 33 04.0	
comp=Z,4.8nm,1.0s							
J25K	**Salcha River,**	**60.40**	**334**	P	**P**	**13 32 59.4**	**-0.6**
baz=46							
P30M	**Million Dollar**	**60.43**	**327**	P	**P**	**13 32 58.9**	**-1.4**
baz=51							
YUK6	**Outpost Mounta**	**60.44**	**328**	P	**P**	**13 32 58.9**	**-1.6**
baz=50							
MVU	**Marysvale**	**60.46**	**296**	P	**P**	**13 33 01.8**	**+0.8**
MVU				IAmb	IAmb	13 33 08.5	
comp=Z,5.3nm,1.2s							
LTY	**Liberty**	**60.47**	**309**	IAmb	IAmb	13 33 08.0	
comp=Z,4.7nm,0.9s							
D20K	**Etivluk River**	**60.48**	**341**	IAmb	IAmb	13 33 01.9	
comp=Z,12nm,1.2s							
D20K	**Etivluk River**	**60.48**	**341**	P	**P**	**13 32 59.4**	**-0.9**
baz=40,SNR=5.8							
G22K	**Bettles**	**60.54**	**338**	P	**P**	**13 33 00.0**	**-0.7**
baz=43							
TCRU	**Three Creeks R**	**60.55**	**296**	IAmb	IAmb	13 33 09.1	
comp=Z,5.2nm,1.0s							
R32K	**Eaglecrest**	**60.62**	**324**	P	**P**	**13 33 00.8**	**-0.6**
baz=51							
YUK3	**Moose Creek**	**60.67**	**330**	P	**P**	**13 33 01.2**	**-0.8**
baz=49							
POKR	**Poker Plat Res**	**60.69**	**335**	P	**P**	**13 33 01.1**	**-0.7**
baz=45							
E20K	**Nigu

	baz=39					
PNL	Peninsula	61.66 328	P	P	13 33 07.4	-1.1
	baz=49					
SIT	Sitka	61.72 324	P	P	13 33 08.3	-0.5
	baz=50					
H21K	Melozitna Rive	61.84 337	IAmb	IAmb	13 33 12.2	
	comp=Z,7.7nm,1.2s					
H21K	Melozitna Rive	61.84 337	P	P	13 33 08.8	-0.8
	baz=41,SNR=6.2					
HARP	HAARP	61.87 332	P	P	13 33 08.4	-1.5
	baz=46					
I21K	Tanana	61.97 337	IAmb	IAmb	13 33 11.9	
	comp=Z,4.7nm,1.0s					
I21K	Tanana	61.97 337	P	P	13 33 09.6	-0.9
	baz=42					
WVOR	Wild Horse Val	62.12 303	P	P	13 33 12.6	+0.6
MCK	McKinley	62.13 334	P	P	13 33 09.9	-1.7
	baz=44					
F19K	Shaleruckik Mo	62.22 340	IAmb	IAmb	13 33 13.2	
	comp=Z,6.6nm,1.1s					
F19K	Shaleruckik Mo	62.22 340	P	P	13 33 10.6	-1.5
	baz=38					
N25K	Chitina, Valde	62.23 331	P	P	13 33 10.4	-2.0
	baz=46					
M24K	Tolsona, Glenn	62.42 332	P	P	13 33 12.4	-1.2
	baz=45					
E18K	Tukpahlearik C	62.42 341	P	P	13 33 12.1	-1.3
	baz=36					
BPAW	Bear Paw Mtn.	62.48 335	IAmb	IAmb	13 33 19.0	
	comp=Z,9.7nm,1.2s					
BPAW	Bear Paw Mtn.	62.48 335	P	P	13 33 12.9	-1.0
	baz=42					
H20K	Anotleneega Mo	62.52 338	P	P	13 33 13.6	-0.6
	baz=40					
G19K	Purcell Mounta	62.59 339	P	P	13 33 13.6	-1.0
	baz=38					
BMRM	Bremner River	62.68 331	P	P	13 33 14.9	-0.5
	baz=46					
R11B	Troy Canyon, C	62.69 298	P	P	13 33 16.0	+0.1
C16K	Lisburne Hills	62.73 343	P	P	13 33 15.2	-0.3
	baz=33					
D17K	Noatak River	62.74 342	P	P	13 33 15.4	-0.2
	baz=34					
TRF	Thorofare Moun	62.75 335	P	P	13 33 15.8	-0.2
	baz=42,SNR=5.3					
KLU	Klutina	62.77 332	P	P	13 33 15.2	-0.7
	baz=45					
F18K	Selawik	62.86 340	P	P	13 33 15.5	-0.8
	baz=37					
BDFB	Brasilia	62.89 202	P	P	13 33 17.8	+0.5
	comp=Z,4.4nm,0.7s,baz=72,slow=1.9,SNR=5.1					
BDFB			LR	LR	13 56 02.3	
	comp=Z,321nm,20.9s,baz=337,slow=32					
	comp=Z,4.4nm,0.7s					
H19K	Roundabout Mou	62.91 338	IAmb	IAmb	13 33 18.4	
	comp=Z,9.4nm,1.1s					
H19K	Roundabout Mou	62.91 338	P	P	13 33 16.6	-0.2
	baz=39					
I20K	Naaghedeneel	62.95 337	P	P	13 33 16.9	0.0
	baz=40					
E17K	Hotham Inlet	62.97 341	P	P	13 33 16.4	-0.8
	baz=35					
SCM	Sheep Creek Mo	62.99 332	P	P	13 33 16.5	-1.0
	baz=44					
CHUM	Lake Minchumin	63.03 336	P	P	13 33 16.9	-0.6
	baz=41					
M23K	Glacier View	63.16 332	P	P	13 33 17.6	-0.9
	baz=44					
G18K	Tagagawik	63.18 340	IAmb	IAmb	13 33 21.5	
	comp=Z,7.1nm,1.1s					
G18K	Tagagawik	63.18 340	P	P	13 33 17.3	-1.3
	baz=37					
CAST	Castle Rocks	63.32 335	P	P	13 33 18.4	-1.2
	baz=41					
J20K	Nowinta River	63.34 337	P	P	13 33 18.5	-1.1
	baz=40					
SML	Sawmill	63.34 333	P	P	13 33 19.3	-0.5
	baz=43					
KAIM	Kayak Island	63.35 330	P	P	13 33 18.7	-1.1
	baz=45					
F17K	Baldwin Pennin	63.37 341	P	P	13 33 19.0	-0.7
	baz=35					
GCSA	Galena City Sc	63.64 338	P	P	13 33 20.8	-0.7
	baz=38					
KNK	Knik Glacier	63.67 332	P	P	13 33 20.5	-1.4
	baz=43					
H18K	Honhosa River	63.70 339	P	P	13 33 22.8	+0.7
H18K	Honhosa River	63.70 339	P	P	13 33 21.0	-1.0
	baz=37					
PPLA	Purkeypile	63.74 335	P	P	13 33 21.3	-1.2
	baz=41					
PMR	Palmer	63.76 333	P	P	13 33 20.9	-1.5
	baz=43					
J19K	Poorman	63.89 337	P	P	13 33 21.9	-1.4
	baz=39					
K20K	Telida	63.95 336	P	P	13 33 22.3	-1.4
	baz=40					
G17K	Kiwalik Mounta	63.99 340	P	P	13 33 23.3	-0.6
	baz=36					
PWL	Port Wells	64.04 332	P	P	13 33 22.7	-1.6
	baz=43					
MZP	Montezuma Peak	64.21 298	P	P	13 33 26.6	+0.5
MZP			IAmb	IAmb	13 33 33.6	
	comp=Z,4.9nm,1.1s					
PAHR	Pah Rah Range	64.22 301	IAmb	IAmb	13 33 33.9	
	comp=Z,5.8nm,0.9s					
SKT	Skwentna	64.23 334	P	P	13 33 24.7	-0.9
	baz=41					
H17K	Granite Mounta	64.27 339	IAmb	IAmb	13 33 28.7	
	comp=Z,9.2nm,1.3s					
H17K	Granite Mounta	64.27 339	P	P	13 33 24.9	-0.8
	baz=36					
RC01	Rabbit Creek A	64.33 333	P	P	13 33 24.4	-1.8
	baz=42					
NVAR	Mina Array Bea	64.34 299	P	P	13 33 26.5	-0.4
NVAR	Mina Array Bea	64.34 299	P	P	13 33 25.8	-1.1
	comp=Z,0.9nm,0.9s,baz=22,slow=1.6,SNR=5.1					
NVAR			LR	LR	14 00 17.6	
	comp=Z,463nm,20.6s,baz=30,slow=35					
	comp=Z,0.9nm,0.9s					
P23K	Montague Islan	64.35 331	P	P	13 33 24.7	-1.7
	baz=43					
SUA	Susitna One	64.38 333	P	P	13 33 25.0	-1.6
	baz=42					
G16K	Koyuk River	64.49 341	P	P	13 33 25.9	-1.2
	baz=34					
L20K	Farewell, AK	64.57 335	P	P	13 33 27.2	-0.6
	baz=40					
J18K	Innoko River	64.61 337	P	P	13 33 26.7	-1.3
	baz=38					
F15K	North Star Dit	64.75 342	P	P	13 33 27.5	-1.4
	baz=33					
O22K	Cooper Landing	64.78 332	P	P	13 33 28.0	-1.1
	baz=42					
DSP	Deep Springs	64.78 298	P	P	13 33 30.5	+1.0
M20K	Styx River	64.80 335	P	P	13 33 27.9	-1.5
	baz=40					
YBH	Yreka Blue Hor	64.95 305	LR	LR	14 00 30.9	
	comp=Z,381nm,19.6s,baz=60,slow=35					
SEW	Seward	64.97 332	P	P	13 33 28.8	-1.5
	baz=42					
CAPN	Captain Cook N	65.03 333	P	P	13 33 29.4	-1.3
	baz=41					
L19K	White Mountain	65.09 336	P	P	13 33 30.4	-0.7
	baz=39					
H16K	Elim	65.09 340	P	P	13 33 30.3	-0.8
	baz=34					
M19K	Big River Lodg	65.17 335	P	P	13 33 30.4	-1.3
	baz=39					
G15K	Niukluk	65.22 341	P	P	13 33 31.2	-0.7
	baz=33					
J17K	VABM Dome	65.30 338	P	P	13 33 31.5	-1.0
	baz=36					
F14K	Arctic Creek	65.32 342	P	P	13 33 31.8	-0.8
	baz=31					
I17K	Unalakleet	65.33 339	P	P	13 33 31.9	-0.6
	baz=35					
L18K	Granite Mounta	65.59 336	P	P	13 33 33.3	-1.0
	baz=38					
KURK	Kurchatov	65.62 42	P	P	13 33 34.8	0.0
KURK			IAmb	IAmb	13 33 41.2	
	comp=Z,6.3nm,1.1s					
KURBB	Kurchatov Arra	65.64 42	P	P	13 33 34.2	-0.6
	comp=Z,2.9nm,0.2s,baz=317,slow=6.9,SNR=9.2					
KURBB			LR	LR	14 02 36.9	
	comp=Z,168nm,18.7s,baz=162,slow=36					
	comp=Z,2.9nm,0.2s					
K17K	Iditarod	65.64 337	P	P	13 33 34.2	-0.5
	baz=36					
BRSE	Bradley Lake S	65.67 332	P	P	13 33 33.9	-1.0
	baz=41					
J16K	Anvik River	65.80 339	P	P	13 33 35.0	-0.7
	baz=35					
ANM	Nome	65.89 341	P	P	13 33 35.1	-1.2
	baz=32					
M18K	Stony River	65.92 335	P	P	13 33 35.2	-1.2
	baz=38					
HOM	Homer	66.03 332	P	P	13 33 36.5	-0.7
	baz=40					
N19K	Bonanza Creek	66.05 334	P	P	13 33 36.2	-1.3
	baz=39					
L17K	Donlin	66.11 337	P	P	13 33 36.0	-1.7
	baz=36					
PFO	Pinyon Flats O	66.16 294	LR	LR	14 03 17.3	
	comp=Z,556nm,18.4s,baz=67,slow=37					
ZALV	Zalesovo Beam	66.20 37	P	P	13 33 39.0	+0.6
	comp=Z,0.7nm,0.6s,baz=319,slow=6.5,SNR=4.4					
ZALV			LR	LR	14 02 19.6	
	comp=Z,178nm,21.7s,baz=296,slow=36					
	comp=Z,0.7nm,0.6s					
M17K	Holitna River	66.46 336	P	P	13 33 38.6	-1.4
	baz=37					
O19K	Port Alsworth	66.48 334	P	P	13 33 38.9	-1.2
	baz=39					
P19K	Oil Pt	66.56 333	P	P	13 33 39.6	-1.1
	baz=39					
N18K	Kilae Creek	66.58 335	P	P	13 33 39.5	-1.3
	baz=38					
L16K	Owhat River	66.78 337	P	P	13 33 40.7	-1.4
	baz=35					
K15K	Wolf Creek Mou	66.86 338	P	P	13 33 40.9	-1.6
	baz=34					
J14K	Nanvaranak Lak	66.99 339	P	P	13 33 42.3	-1.0
	baz=33					
O18K	Koktuh Hills	67.02 334	P	P	13 33 42.0	-1.6
	baz=38					
N17K	Nushagak Hills	67.09 335	P	P	13 33 41.9	-2.1
	baz=37					
Q20K	Shuyak Island	67.09 332	P	P	13 33 42.2	-1.8
	baz=40					
M16K	Timber Creek	67.20 336	P	P	13 33 42.7	-2.0
	baz=36					
Q19K	Cape Douglas,	67.25 333	P	P	13 33 43.7	-1.4
	baz=39					
L15K	Ungalak Mounta	67.36 338	P	P	13 33 44.5	-1.1
	baz=34					
P18K	Big Mountain,	67.39 334	P	P	13 33 44.7	-1.3
	baz=38					
N16K	Nishlik Lake	67.59 336	P	P	13 33 45.6	-1.6
	baz=36					
SIV	San Ignacio	67.59 214	LR	LR	14 00 24.1	
	comp=Z,134nm,19.9s,baz=92,slow=33					
O17K	Koliganek Bris	67.67 335	P	P	13 33 46.4	-1.2
	baz=37					
KDAK	Kodiak Island	67.79 332	LR	LR	14 01 27.4	
	comp=Z,136nm,18.6s,baz=249,slow=34					
KDAK	Kodiak Island	67.79 332	P	P	13 33 46.2	-2.2
	baz=39					
Q18K	Katmai Hardscr	67.91 333	P	P	13 33 47.3	-2.1
	baz=38					
P17K	Kvichak River	67.93 334	P	P	13 33 46.9	-2.3
	baz=37					
GAMB	Gambell	67.94 343	P	P	13 33 47.1	-2.2
	baz=27					
L14K	Kuka Creek	67.95 338	P	P	13 33 50.1	+0.7
L14K	Kuka Creek	67.95 338	P	P	13 33 47.8	-1.6
	baz=33					
M15K	Kasigluk River	67.96 337	P	P	13 33 47.2	-2.3
	baz=34					
K13K	Kusilvak Mount	67.96 339	P	P	13 33 47.3	-2.2
	baz=32					
LPIG	La Paz	68.07 283	LR	LR	14 03 41.8	
	comp=Z,313nm,18.6s,baz=34,slow=36					
O16K	Kokwok River B	68.11 335	P	P	13 33 48.5	-1.9
	baz=36					
N15K	Kwethluk River	68.22 336	P	P	13 33 49.0	-2.2
	baz=35					
M14K	Bethel	68.26 338	P	P	13 33 52.5	+1.1
M14K	Bethel	68.26 338	P	P	13 33 49.9	-1.4
	baz=33					
Q16K	King Salmon	68.41 334	P	P	13 33 51.1	-1.2
	baz=37					
OHAK	Old Harbor	68.47 331	P	P	13 33 51.6	-1.1
	baz=38					
Q17K	Contact Creek	68.50 333	P	P	13 33 51.0	-2.1
	baz=37					
P16K	Nushagak River	68.54 335	P	P	13 33 51.3	-1.8
	baz=36					
R18K	Karluk	68.59 332	P	P	13 33 52.0	-1.4
	baz=38					
ATAH	Atahualpa	68.66 235	LR	LR	14 01 32.1	
	comp=Z,154nm,21.9s,baz=20,slow=34					
N14K	Kuskokwak Cree	68.87 337	P	P	13 33 53.7	-1.4
	baz=33					
M13K	Dall Lake	68.92 338	P	P	13 33 53.4	-2.0
	baz=32					
O15K	Ungalikthiuk R	68.96 336	P	P	13 33 54.1	-1.7
	baz=34					
SII	Sitkinak Islan	69.30 331	P	P	13 33 56.2	-1.7
	baz=38					
O14K	Tigyukauivet M	69.32 336	P	P	13 33 56.1	-1.8
	baz=34					
R16K	Pilot Point	69.60 334	P	P	13 33 58.3	-1.4
	baz=36					
M11K	Mekoryuk	69.68 339	P	P	13 33 58.2	-1.9
	baz=30					
MKAR	Makanchi Array	70.08 43	P	P	13 34 02.7	-0.3
MKAR	Makanchi Array	70.08 43	P	P	13 34 02.9	-0.1
	comp=Z,1.0nm,0.8s,baz=332,slow=6.8,SNR=9.1					
	comp=Z,1.0nm,0.8s					
CHIR	Chirikof Islan	70.37 332	P	P	13 34 02.6	-1.9
	baz=37					
LPAZ	La Paz	70.92 221	P	P	13 34 08.8	-0.3
LPAZ			IAmb	IAmb	13 34 17.5	
	comp=Z,14nm,1.5s					
LPAZ	La Paz	70.92 221	P	P	13 34 08.5	-0.6
	comp=Z,3.8nm,1.0s,baz=13,slow=11,SNR=8.4					
LPAZ			LR	LR	14 02 41.4	
	comp=Z,88nm,21.0s,baz=33,slow=34					
	comp=Z,3.8nm,1.0s					
S14K	Fog Glacier	71.27 334	P	P	13 34 07.8	-2.3
	baz=34					
NNA	Nana	71.72 231	LR	LR	14 03 45.0	
	comp=Z,88nm,21.1s,baz=28,slow=34					
KSH	Kashi	71.82 52	P	P	13 34 15.8	+2.0
KSH			pP	pwP	13 34 21.3	+0.4
KSH			pmax	pmax		
	comp=Z,6.0nm,1.3s					
KSH			LR	LR		
	comp=N,250nm,14.7s					
KSH			LR	LR		
	comp=E,260nm,16.2s					
KSH			LR	LR		
	comp=Z,380nm,19.1s					
SDPT	Sand Point	72.34 334	P	P	13 34 14.8	-1.6
	baz=33					
CHNA	Chernabura Isl	72.49 333	P	P	13 34 15.5	-1.8
	baz=34					
S12K	Black Hills	72.53 335	P	P	13 34 15.5	-2.1
	baz=32					
SEY	Seymchan	72.55 360	LR	LR	14 06 55.4	
	comp=Z,78nm,18.4s,baz=328,slow=36					
PB16	IPOC Station P	73.34 221	IAmb	IAmb	13 34 24.6	
	comp=Z,9.6nm,1.1s					
SPIA	Saint Paul Isl	73.51 340	P	P	13 34 21.4	-1.8
	baz=27					
GO01	Chusmiza	74.36 220	IAmb	IAmb	13 34 32.9	
	comp=Z,16nm,1.4s					
WMQ	Urumqi	74.86 42	eP	P	13 34 34.5	+3.0
WMQ			pmax	pmax		
	comp=Z,20nm,0.7s					
WMQ			LR	LR		
	comp=Z,170nm,23.5s					
CPUP	Villa Florida	75.72 207	P	P	13 34 35.7	-0.7
	comp=Z,2.7nm,0.8s,baz=6.0,slow=6.6,SNR=6.1					
CPUP			LR	LR	14 05 49.5	
	comp=Z,39nm,18.9s,baz=6.5,slow=34					
	comp=Z,2.7nm,0.8s					
PB09	IPOC Station P	76.23 219	P	P	13 34 41.0	+1.4
PB09			IAmb	IAmb	13 35 03.7	
	comp=Z,7.3nm,1.1s					
NIKH	Nikolski High	76.89 337	P	P	13 34 41.0	-1.9
	baz=27					
SONM	Songino Array	79.40 29	P	P	13 34 56.9	-0.2
SONM	Songino Array	79.40 29	P	P	13 34 56.6	-0.4
	comp=Z,4.2nm,0.8s,baz=322,slow=5.8,SNR=24					
	comp=Z,4.2nm,0.8s					
ULN	Ulaanbaatar	79.61 29	P	P	13 34 58.7	+0.5
ULN			IAmb	IAmb	13 34 59.9	
	comp=Z,7.1nm,1.0s					
AC02	Maricunga	80.59 216	P	P	13 35 04.9	+0.9
HEH	HeiHe	82.89 16	eP	P	13 35 16.0	+0.6
HEH			pmax	pmax		
	comp=Z,6.0nm,1.1s					
LCO	Las Campanas	83.16 217	P	P	13 35 17.9	+0.7
GTA	Gaotai	83.90 38	P	P	13 35 21.3	+0.3
GTA			pP	sP	13 35 26.8	+0.6
GTA			pmax	pmax		
	comp=Z,6.0nm,1.0s					
GTA			LR	LR		
	comp=N,120nm,16.7s					
GTA			LR	LR		
	comp=E,120nm,18.7s					
GTA			LR	LR		
	comp=Z,180nm,19.1s					
XLT	XiLinHaoTe	86.04 25	eP	P	13 35 32.5	+0.9
XLT			pP	pP	13 35 36.8	+1.4
XLT			sP	pwP	13 35 41.8	+3.2
XLT			pmax	pmax		
	comp=Z,5.0nm,1.0s					
XLT			pmax	pmax		
	comp=Z,160nm,4.6s					
HHC	Hu-ho-hao-te	87.31 29	eP	P	13 35 37.3	-0.6
HHC			pmax	pmax		
	comp=Z,10.0nm,0.7s					
HHC			pmax	pmax		
	comp=Z,110nm,5.0s					
BOSA	Boshof	87.81 135	P	P	13 35 40.1	-0.1
	comp=Z,3.6nm,0.8s,baz=326,slow=1.8,SNR=6.0					
	comp=Z,3.6nm,0.8s					
XAN	Xi'an	92.30 35	eP	P	13 36 02.5	+1.2
XAN			LR	LR		
	comp=N,230nm,19.2s					
XAN			LR	LR		
	comp=E,250nm,19.2s					
XAN			LR	LR		
	comp=Z,400nm,19.2s					
PZH	PanZhiHua	95.51 44	P	P	13 36 16.3	0.0
PZH			pmax	pmax		
	comp=Z,8.0nm,1.0s					
PZH			pmax	pmax		
	comp=Z,110nm,4.8s					
NJ2	Nanjing	97.74 28	eP	P	13 36 25.5	-0.6
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
TAOE	Nuku Hiva Isla	111.81 279	eLR	LR	14 14 38.5	
	comp=Z,409nm,31.3s					
RKT	Rikitea	117.69 264	eLR	LR	14 17 10.4	
	comp=Z,2μm,42.2s					
PPT2	Papeete2	124.44 280	eSS	SS	14 00 24.8	-4.2
	comp=Z,108nm,26.8s					
PPT2	Papeete2	124.44 280	eLR	LR	14 20 32.1	
	comp=Z,347nm,22.0s					
PPT2			eLR	LR	14 20 32.6	
	comp=Z,326nm,22.5s					
TBI	Tubuai	128.12 274	eLR	LR	14 22 13.8	
	comp=Z,938nm,42.5s					
TBI			eLR	LR	14 22 14.3	
	comp=Z,1μm,29.0s					
QSPA	South Pole Qui	134.75 180	PKP	PKPdf	13 42 09.4	+0.9
	comp=Z,4.2nm,1.1s,baz=255,slow=2.3,SNR=5.3					
VNDA	Vanda	147.00 184	PKPbc	PKPbc	13 42 33.4	+1.2
	comp=Z,3.4nm,1.1s,baz=235,slow=4.6,SNR=8.8					
WRA	Warramunga Arr	151.18 36	PKPbc	PKPbc	13 42 43.1	-1.4
	comp=Z,4.2nm,0.9s,baz=333,slow=2.6,SNR=16					
ASAR	Alice Springs	154.25 41	PKPbc	PKPbc	13 42 49.6	-1.6
	comp=Z,1.3nm,0.8s,baz=328,slow=1.4,SNR=12					
DZM	Mont Dzumac	154.31 328	eLR	LR	14 34 19.4	
	comp=Z,186nm,25.6s					

TXNET 29 13:35:17.2, 31°.0N±0°.9×103°.6W±0°.5, h5km±1km, ML1.8/7, 1C-1D, Error ellipse: s-maj=1.4km s-min=0.7km az=13.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	Saragosa	0.11	44	P	Pg	13 35 19.8	+0.3
TPB03				S	Sg	13 35 21.9	+0.9
TPB01	Permian Basin	0.17	248	↑P	Pg	13 35 21.2	+0.6
TPB01				S	Sg	13 35 24.2	+1.3
TPB05	Hovey Rd	0.25	110	P	Pg	13 35 23.0	+0.8
TPB05				S	Sg	13 35 27.0	+1.5
TPB10	Southeast of T	0.30	334	S	Sb	13 35 30.5	-0.1
TPB16	Coyonosa	0.32	69	P	Pb	13 35 25.1	-0.5
TPB16				S	Sb	13 35 30.1	-1.0
TPB04	Verhalen	0.34	58	P	Pb	13 35 25.1	-0.7
TPB12	Southwest of T	0.37	304	P	Pg	13 35 24.9	+0.5
TPB12				S	Sg	13 35 30.7	+1.4
PECS	Pecos	0.43	328	P	Pb	13 35 26.5	-0.8
PECS				S	Sb	13 35 33.0	-1.1
TPB08	Permian Basin	0.61	101	S	Sb	13 35 38.7	-0.6
ALPN	Alpine	0.63	183	P	Pg	13 35 29.1	-0.3
ALPN				S	Sg	13 35 37.9	+0.3
MNHN	Monahans	0.79	65	P	Pb	13 35 33.1	-0.5
MNHN				S	Sg	13 35 42.7	-0.1
VHRN	Van Horn	1.21	260	P	Pg	13 35 40.4	-0.1
VHRN				S	Sb	13 35 56.6	-0.1
TMB02	Rankin	1.35	82	S	Sg	13 36 00.3	-0.5
SAND	Sanderson	1.65	129	P	Pb	13 35 48.2	0.0
SAND				S	Sb	13 36 09.7	+0.3
TX31	Lajitas Ar. Si	1.67	182	↓P	Pb	13 35 47.9	-0.6
TX31				S	Sb	13 36 10.3	+0.4
MNTX	Cornudas Mount	1.67	295	P	Pb	13 35 48.4	-0.1
MNTX				S	Sg	13 36 10.6	-0.4
TMB04	Seminole	1.87	30	P	Pb	13 35 51.4	-0.6
OZNA	Ozona	2.13	92	S	Sb	13 36 24.1	+1.0

*IDC **29** 13:36:01.4±0.5, 33°.45N×81°.52E, h0km, mb4.2/23, mbtmp4.2/26, ML3.5/3, MS3.2/7, Error ellipse: s-maj=17.4km s-min=11.5km az=44.0*

*MOS **29** 13:36:01.5±0.9, 33°.53N×81°.56E, h10km, mb4.4/12, Error ellipse: s-maj=10.3km s-min=5.3km az=111.8*

*NEIC **29** 13:36:04.9±1.3, 33°.52N±0°.08×81°.5E±0°.1, h16km±4km, mb4.5/25, Error ellipse: s-maj=15.5km s-min=6.7km az=45.0*

*NDI **29** 13:36:14.4±1.5, 33°.58N×81°.17E, h10km, ML4.1, MW4.0, mb4.5(NEIC)*

ISC 29 13:36:03.5±0.4, 33°.56N±0°.04×81°.51E±0°.04, h10km, n154, σ1s45/157, mb4.4/54, MS3.1/5, 1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	Kalpa	3.41	235	eP	Pb	13 37 05.5	+1.2
KLP				eS	Sn	13 37 42.0	+4.1
KLP				IAML		13 38 04.5	
	comp=E,254nm,3.5s						
JOSI	Joshimath	3.42	210	eP	Pb	13 37 06.2	+1.9
JOSI				eS	Sb	13 37 44.4	-1.7
JOSI				AMP		13 37 47.7	
	comp=E,2μm,0.5s						
JOSI				AMP		13 37 50.6	
	comp=N,1μm,0.3s						
DDI	Dehra Dun	4.36	223	eP	Pb	13 37 18.1	-2.2
DDI				eS	Sn	13 38 04.8	+3.9
DDI				IAML		13 38 07.6	
	comp=E,165nm,0.2s						
SMLA	Simla	4.40	238	eP	Pb	13 37 17.8	-3.1
SMLA				eS	Sn	13 38 06.4	+4.6
SMLA				IAML		13 38 08.5	
	comp=E,226nm,0.7s						
DHRM	DHARAMSHALA	4.57	255	eP	Pb	13 37 20.2	-3.8
BHK	Bhakra	4.80	245	eP	Pn	13 37 18.9	+3.0
BHK				eS	Sn	13 38 04.4	-7.4
BHK				AMP		13 38 17.0	
	comp=E,1μm,0.4s						
BHK				AMP		13 38 17.4	
	comp=N,1μm,0.5s						
THN	Thein Dam	5.00	259	eP	Pn	13 37 24.5	+5.9
THN				eS	Sn	13 38 15.2	-1.2
THN				AMP		13 38 37.7	
	comp=N,795nm,0.7s						
THN				AMP		13 38 39.5	
	comp=E,746nm,0.7s						
PYUN	Piuthan	5.59	166	Pg	Pn	13 37 28.4	+1.5
	baz=163,slow=0.0						
PYUN				Sg	Sn	13 38 32.2	+0.9
	comp=E,104nm,0.7s,baz=163,slow=0.0						
KOLN	Koldanda	6.04	162	Pg	Pn	13 37 34.3	+1.2

baz=159,slow=0.0
KOLN Koldanda 6.04 162 Pg **Pn 13 37 34.4 +1.3**
baz=159,slow=0.0
KOLN Koldanda 6.04 162 Pg **Pn 13 37 34.5 +1.3**
baz=159,slow=0.0
KOLN Sg **Sn 13 38 43.3 +0.8**
baz=159,slow=0.0
KOLN Sg Sb 13 38 43.5 -18
comp=E,186nm,1.4s,baz=159,slow=0.0
KOLN Sg Sg 13 38 43.6 -34
baz=159,slow=0.0
KKN Kakani 6.60 150 Pg **Pn 13 37 42.5 +1.7**
baz=148,slow=0.0
KKN Kakani 6.60 150 Pg **Pn 13 37 42.6 +1.7**
baz=148,slow=0.0
KKN Kakani 6.60 150 Pg **Pn 13 37 42.7 +1.9**
baz=148,slow=0.0
KKN Sg **Sn 13 38 57.6 +1.3**
baz=148,slow=0.0
KKN Sg Sb 13 38 57.7 -20
comp=E,101nm,0.7s,baz=148,slow=0.0
KKN Sg Sg 13 38 57.9 -38
baz=148,slow=0.0
DMN Daman 6.69 151 Pg **Pn 13 37 44.4 +2.3**
baz=150,slow=0.0
DMN Sg **Sn 13 39 00.3 +1.8**
comp=E,153nm,0.9s,baz=150,slow=0.0
GUN Gumba 6.77 145 Pg **Pn 13 37 45.3 +2.1**
baz=144,slow=0.0
GUN Sg **Sn 13 39 02.9 +2.3**
comp=E,49nm,0.7s,baz=144,slow=0.0
PKIN Phulchoki 6.84 150 Pg **Pn 13 37 45.6 +1.5**
baz=148,slow=0.0
PKIN Sg **Sn 13 39 03.1 +1.0**
comp=E,53nm,0.5s,baz=148,slow=0.0
PKI Pulchoki 6.85 150 Pg **Pn 13 37 45.8 +1.5**
baz=148,slow=0.0
PKI Sg **Sn 13 39 03.5 +1.0**
baz=148,slow=0.0
NIL Nilore 6.89 273 **Pn 13 37 45.0 +0.3**
NIL Nilore 6.89 273 P **Pn 13 37 45.0 +0.3**
KUDL Kundal 6.91 220 *e*P Pn 13 37 53.1 +8.3
KUDL *e*S **Sn 13 39 04.7 +1.2**
KUDL AMP 13 39 06.6
comp=N,151nm,0.5s
KUDL AMP 13 39 08.8
comp=E,172nm,0.5s
TARG Taragay, Kyrgy 8.67 341 **Pn 13 38 11.1 +1.7**
TARG Taragay, Kyrgy 8.67 341 P **Pn 13 38 11.1 +1.7**
KDJ Kajisay 9.22 339 **Pn 13 38 18.6 +1.9**
KDJ Kajisay 9.22 339 P **Pn 13 38 18.6 +1.9**
BOOM Boomskoye usch 9.94 335 **Pn 13 38 28.1 +1.5**
BOOM Boomskoye usch 9.94 335 P **Pn 13 38 28.1 +1.5**
ARSB Arslanbob 10.29 321 **Pn 13 38 33.1 +1.7**
ARSB Arslanbob 10.29 321 P **Pn 13 38 33.1 +1.7**
KBL Kabul 10.39 279 **Pn 13 38 33.8 +1.0**
KBL Kabul 10.39 279 P **Pn 13 38 33.8 +1.0**
GAR Garm 10.54 304 **Pn 13 38 35.3 +0.5**
AAK Ala-Archa 10.61 331 Pn **Pn 13 38 36.8 +1.1**
comp=E,0.4nm,0.3s,baz=129,slow=9.7,SNR=4.3
AAK LR LR 13 42 59.0
comp=E,159nm,18.4s,baz=142,slow=39
comp=E,0.6nm,0.5s
AAK Ala-Archa 10.61 331 *i* P **Pn 13 38 40.2 +4.4**
BTK Batken 10.75 310 **Pn 13 38 37.6 +0.1**
BTK Batken 10.75 310 P **Pn 13 38 37.6 +0.1**
ARXS Arharly 11.02 346 *e*P **Pn 13 38 43.4 +2.1**
SIMJ Simiganj 11.32 300 **Pn 13 38 45.9 +0.4**
KKAR Karatay Array 12.85 321 **Pn 13 39 07.3 +1.1**
KKAR Karatay Array 12.85 321 P **Pn 13 39 07.3 +1.1**
MK31 Makanchi Array 13.23 2 *i* P **Pn 13 39 11.7 +0.2**
MKAR Makanchi Array 13.23 2 **Pn 13 39 11.7 +0.2**
MKAR Makanchi Array 13.23 2 Pn **Pn 13 39 12.1 +0.6**
comp=E,0.3nm,0.3s,baz=182,slow=12,SNR=18
MKAR LR LR 13 45 06.7
comp=E,54nm,19.7s,baz=200,slow=41
comp=E,1.6nm,0.6s
MAKZ Makanchi 13.24 1 **Pn 13 39 11.8 +0.3**
MAKZ Makanchi 13.24 1 P **Pn 13 39 11.8 +0.3**
KURBB Kurchatov Arra 17.19 354 P **Pn 13 40 03.6 -0.1**
comp=E,0.1nm,0.3s,baz=175,slow=10,SNR=21
comp=E,2.9nm,0.7s
KURK Kurchatov 17.28 354 **Pn 13 40 04.1 -0.6**
KURK Kurchatov 17.28 354 *i* P **Pn 13 40 04.8 +0.1**
KURK pmax pmax
comp=Z,15nm,1.0s
ZAA0 Zalesovo Array 20.52 6 **P 13 40 42.4 +0.6**
ZAA0 IAmb IAmb 13 40 46.9
comp=Z,9.1nm,0.7s
ZALV Zalesovo Beam 20.52 6 **P 13 40 42.1 +0.4**
ZALV Zalesovo Beam 20.52 6 P **P 13 40 41.9 +0.2**
comp=Z,13nm,0.8s,baz=189,slow=12,SNR=22
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 20.52 6 *i* P **P 13 40 42.9 +1.2**
ZALV pmax pmax
comp=Z,13nm,0.8s
BVAR Borovoye Array 21.03 341 P **P 13 40 48.1 +0.8**
comp=Z,9.2nm,0.7s,baz=134,slow=8.5,SNR=35
comp=Z,9.2nm,0.7s
BRVK Borovoye 21.09 341 **P 13 40 48.6 +0.7**
BRVK IAmb IAmb 13 40 54.0
comp=Z,16nm,0.8s
BRVK Borovoye 21.09 341 P **P 13 40 48.6 +0.7**
BRVK pmax pmax
comp=Z,16nm,0.9s
CHTO Chiang Mai 21.41 129 **P 13 40 51.2 -0.4**
CHTO Chiang Mai 21.41 129 P **P 13 40 51.2 -0.4**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CM31 Chiang Mai Arr 21.66 130 P **P 13 40 54.1 -0.2**
CM31 IAmb IAmb 13 40 55.1
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 21.66 130 P **P 13 40 53.0 -1.3**
CMAR Chiang Mai Arr 21.66 130 P **P 13 40 54.5 +0.1**
comp=Z,10.0nm,0.7s,baz=311,slow=11,SNR=66
CMAR LR LR 13 50 33.8
comp=Z,76nm,18.1s,baz=305,slow=40
comp=Z,10.0nm,0.7s
AB31 Akbulak array 22.41 321 **P 13 41 01.9 -0.2**
ABKAR Akbulak array 22.41 321 **P 13 41 02.0 -0.1**
ABKAR Akbulak array 22.41 321 IAmb IAmb 13 41 09.3
comp=Z,8.5nm,0.8s
SONM Songino Array 23.52 45 **P 13 41 15.1 +1.3**
SONM Songino Array 23.52 45 P **P 13 41 15.4 +1.6**
comp=Z,11nm,1.1s,baz=239,slow=10,SNR=32
SONM LR LR 13 51 17.4
comp=Z,62nm,19.1s,baz=242,slow=39
comp=Z,11nm,1.1s
ULN Ulaanbaatar 23.92 46 **P 13 41 18.8 +1.0**
ULN Ulaanbaatar 23.92 46 P **P 13 41 18.8 +1.0**
ULN pmax pmax
comp=Z,6.0nm,0.9s
AKTO Aktyubinsk 24.12 321 P **P 13 41 19.9 +0.5**
comp=Z,7.3nm,0.6s,baz=127,slow=7.1,SNR=15
comp=Z,7.3nm,0.6s
KBZ Khabaz 31.57 300 *i* P **P 13 42 27.9 +1.8**
KBZ pmax pmax
comp=Z,1.0nm,0.9s
NRIK Noril'sk 35.99 4 P **P 13 43 04.8 +0.6**
comp=Z,4.8nm,0.9s,baz=176,slow=8.3,SNR=7.1
comp=Z,4.8nm,0.9s
KSRS Korea Array 37.69 71 P **P 13 43 17.9 -1.2**
comp=Z,0.8nm,0.6s,baz=284,slow=8.7,SNR=6.5
KSRS PcP **PcP 13 45 35.1 -1.1**
comp=Z,1.2nm,0.8s,baz=296,slow=3.1,SNR=4.4
comp=Z,0.8nm,0.6s
OBN Obninsk 37.82 319 *e*P **P 13 43 21.5 +1.5**
OBN pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 38.41 328 *e*P **P 13 43 23.2 -1.7**
KLMR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 38.54 293 P **P 13 43 25.9 -0.5**
comp=Z,0.5nm,0.4s,baz=113,slow=9.6,SNR=5.3
comp=Z,0.5nm,0.4s
AK09 Malin Array Si 41.41 310 P **P 13 43 50.3 +0.3**
AK08 Malin Array Si 41.44 310 P **P 13 43 50.4 +0.3**
AKASG Malin Array Be 41.46 311 P **P 13 43 50.4 +0.1**
comp=Z,0.8nm,0.5s,baz=79,slow=8.0,SNR=9.7
comp=Z,0.8nm,0.5s
AKASG Malin Array Be 41.46 311 *e*P **P 13 43 52.5 +2.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AK07 Malin Array Si 41.46 310 P **P 13 43 50.8 +0.5**
AK01 Malin Array Si 41.47 311 P **P 13 43 50.6 +0.2**
AK05 Malin Array Si 41.47 310 P **P 13 43 50.6 +0.2**
AK11 Malin Array Si 41.49 311 P **P 13 43 50.8 +0.2**
AK12 Malin Array Si 41.50 310 P **P 13 43 50.8 +0.2**
AK14 Malin Array Si 41.53 310 P **P 13 43 51.0 +0.1**
ATD Arta Tunnel 41.56 247 LR LR 14 04 21.2
comp=Z,5.2nm,18.6s,baz=348,slow=41
KKM Kota Kinabalu 42.24 123 **P 13 43 57.1 -0.1**
LUBAR Lubar, Ukraine 42.36 309 P **P 13 43 58.3 +0.6**
RNPP5 Staryi Chortor 43.59 311 P **P 13 44 08.5 +0.8**
RNPP9 Sopachiv 43.60 311 P **P 13 44 08.4 +0.7**
BURAR Bucovina Array 44.06 306 **P 13 44 12.2 +0.6**
FINES FINESS Array B 44.75 326 P **P 13 44 17.4 +0.5**
comp=Z,4.4nm,0.7s,baz=108,slow=9.8,SNR=13
comp=Z,4.4nm,0.7s
HOLU Holmets 45.90 307 P **P 13 44 26.8 +0.7**
MJAR Matsushiro Arr 45.94 69 P **P 13 44 25.4 -1.2**
comp=Z,0.7nm,0.6s,baz=283,slow=8.9,SNR=5.3
comp=Z,0.7nm,0.6s
MJA0 Matsu Arr-Jizo 45.97 69 *e*P **P 13 44 26.4 -0.5**
MJA0 pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 47.22 337 P **P 13 44 36.6 +0.4**
comp=Z,2.5nm,0.8s,baz=100,slow=7.3,SNR=11
comp=Z,2.5nm,0.8s
OJC Ojcow 47.48 310 P **P 13 44 39.2 +0.7**
comp=Z,5.7nm,0.7s
LANS Liptovska Anna 47.78 308 *e*P P 13 44 36.0 -4.9
LANS Liptovska Anna 47.78 308 *e*P P 13 44 36.0 -4.9
MORC Moravsky Berou 48.97 309 **P 13 44 50.7 +0.6**
MORC IAmb IAmb 13 44 55.9
comp=Z,6.1nm,0.9s
MORC Moravsky Berou 48.97 309 *e*P **P 13 44 51.3 +1.3**
MORC *e* 13 44 54.7
MORC Moravsky Berou 48.97 309 P **P 13 44 50.7 +0.6**
MORC pmax pmax
comp=Z,6.0nm,0.9s
JAVC Velka Javorina 48.98 308 *e*P **P 13 44 52.3 +2.1**
VRAC Vranov 49.63 309 *e*P **P 13 44 56.5 +1.4**
VRAC *e* 13 45 00.5
DPC Dobruska-Polom 49.69 310 P **P 13 44 56.4 +0.9**
comp=Z,8.6nm,0.9s
KRUC Moravsky 49.80 309 *e*P **P 13 44 57.5 +1.2**
KRUC *e* 13 45 01.4
RONA Rosalia, Austr 50.05 307 *i* P **P 13 44 58.3 -0.1**
comp=Z,4.2nm,0.8s
CONA Conrad Observa 50.30 307 *e*P **P 13 45 00.9 +0.6**
comp=Z,7.9nm,0.8s
ARSA Arzberg 50.64 306 *e*P **P 13 45 02.4 -0.4**
comp=Z,3.8nm,0.7s
HFS Hagfors 50.65 323 P **P 13 45 02.9 +0.3**
comp=Z,3.1nm,0.7s,baz=82,slow=11,SNR=9.7
comp=Z,3.1nm,0.7s
SOKA Soboth 51.06 306 *i* P **P 13 45 07.5 +1.4**
comp=Z,5.8nm,0.6s
BRG Berggiesshubel 51.13 311 *e*P **P 13 45 07.6 +1.2**
BRG Amp 13 45 08.2
comp=Z,5.8nm,0.8s
BRG Berggiesshubel 51.13 311 P P 13 45 11.4 +5.0
BRG Amp 13 45 12.1
comp=Z,7.9nm,0.8s
MOA Molln 51.38 307 *i* P **P 13 45 09.2 +0.8**
comp=Z,6.8nm,0.9s
MA2 Magadan 51.38 38 P **P 13 45 08.9 +0.8**
comp=Z,1nm,1.4s
GEC2 GERESS Array S 51.58 309 IAmb IAmb 13 45 16.0
comp=Z,5.2nm,1.0s
GERES GERESS Array B 51.58 309 **P 13 45 10.5 +0.5**
GERES GERESS Array B 51.58 309 P **P 13 45 10.7 +0.8**
comp=Z,3.2nm,0.8s,baz=72,slow=4.8,SNR=12
comp=Z,3.2nm,0.8s
GERES GERESS Array B 51.58 309 *e*P **P 13 45 12.1 +2.2**
GERES pmax pmax
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 51.62 309 P **P 13 45 10.9 +0.8**
comp=Z,8.2nm,0.8s
CLL Collm 51.66 312 *e*P **P 13 45 12.0 +1.7**
CLL pmax pmax
comp=Z,6.0nm,1.0s
NB2 NORSAR Subarra 51.86 324 P **P 13 45 11.3 -0.4**
comp=Z,0.8nm,0.6s,baz=88,slow=7.9
NOA NORSAR Array B 51.86 324 P **P 13 45 11.7 0.0**
comp=Z,1.6nm,0.8s,baz=88,slow=7.3,SNR=8.0
NOA LR LR 14 08 08.2
comp=Z,36nm,18.1s,baz=145,slow=37
comp=Z,1.6nm,0.8s
SEY Seymchan 52.09 33 *e*P **P 13 45 13.3 0.0**
SEY pmax pmax
comp=Z,4.0nm,1.2s
LESA Schwarzleotal 52.51 307 *i* P **P 13 45 17.5 +0.6**
comp=Z,2.0nm,0.4s
SQTA Sankt Quirin 53.53 307 *i* P **P 13 45 24.4 0.0**
comp=Z,3.6nm,0.5s
DAVA Damuels 54.40 307 *i* P **P 13 45 30.4 -0.4**
comp=Z,4.1nm,0.6s
PETK Petropavlovsk- 56.00 45 P **P 13 45 41.3 -0.8**
comp=Z,4.5nm,0.9s,baz=336,slow=3.2,SNR=4.8
PETK LR LR 14 12 48.0
comp=Z,103nm,18.1s,baz=7.1,slow=39
comp=Z,4.5nm,0.9s
BMRD Maredsous 56.98 312 *d*P **P 13 45 49.8 +0.7**
BILL Bilibino 57.42 26 *i* P **P 13 45 52.0 +0.1**
BILL pmax pmax
comp=Z,1.0nm,1.0s
EKA Eskdalemuir Ar 60.27 319 P **P 13 46 12.1 +0.2**
comp=Z,0.8nm,0.6s,baz=97,slow=6.8,SNR=4.6
comp=Z,0.8nm,0.6s
TOLK Toolik Lake Re 71.35 18 IAmb IAmb 13 47 28.3
comp=Z,8.1nm,1.2s
C27K Jago River 71.98 15 IAmb IAmb 13 47 32.9
comp=Z,2.4nm,0.8s
A36M Sachs Harbour 73.09 8 **P 13 47 33.3 -0.1**
A36M IAmb IAmb 13 47 34.0
comp=Z,4.0nm,0.8s
WB0 Warramunga Arr 73.17 128 **P 13 47 34.1 -0.5**
WRA Warramunga Arr 73.25 128 P **P 13 47 34.6 -0.6**
WRA Warramunga Arr 73.25 128 P **P 13 47 34.8 -0.4**
comp=Z,6.9nm,0.8s,baz=324,slow=6.2,SNR=28
comp=Z,6.9nm,0.8s
WRAB Tennant Creek 73.25 128 P **P 13 47 34.8 -0.3**
WRAB Tennant Creek 73.25 128 P **P 13 47 34.8 -0.3**
WRAB pmax pmax
comp=Z,10.0nm,0.8s
E27K Coleen River 73.59 15 P **P 13 47 37.0 +0.4**
TORD Torodi Ar. Bea 74.44 276 P **P 13 47 41.7 -0.6**
TORD IAmb IAmb 13 47 46.3
comp=Z,2.9nm,0.7s
TORD Torodi Ar. Bea 74.44 276 P **P 13 47 41.8 -0.6**
comp=Z,45nm,0.2s,baz=50,slow=5.4,SNR=1.1
NEA2 Nenana 74.48 20 IAmb IAmb 13 47 46.6
comp=Z,8.9nm,1.2s
ILAR Eielson Array 74.96 19 P **P 13 47 44.1 -0.4**
comp=Z,1.0nm,0.9s,baz=313,slow=5.1,SNR=8.6
comp=Z,1.0nm,0.9s
AS31 Alice Springs 75.66 131 **P 13 47 48.8 -0.3**
AS31 IAmb IAmb 13 47 49.4
comp=Z,2.6nm,0.6s
ASAR Alice Springs 75.66 131 P **P 13 47 48.8 -0.3**
comp=Z,7.4nm,0.7s,baz=318,slow=5.9,SNR=92
comp=Z,7.4nm,0.7s
C36M Paulatuk 75.69 9 **P 13 47 47.6 -1.0**
C36M IAmb IAmb 13 47 52.6
comp=Z,3.7nm,0.8s
BOSA Boshof 81.62 228 P **P 13 48 20.0 -1.9**
comp=Z,2.4nm,0.8s,baz=100,slow=2.9,SNR=4.6
comp=Z,2.4nm,0.8s
YKA Yellowknife Ar 83.41 7 P **P 13 48 29.9 -0.7**
comp=Z,1.4nm,0.5s,baz=242,slow=1.8,SNR=39
comp=Z,1.4nm,0.5s
YKA Yellowknife Ar 83.41 7 P **P 13 48 30.0 -0.7**
STKA Stephens Creek 86.26 132 P **P 13 48 44.2 -1.3**
comp=Z,3.6nm,1.0s,baz=341,slow=7.5,SNR=3.8
comp=Z,3.6nm,1.0s
TXAR Lajitas Array 117.26 5 PKP **PKPdf 13 54 48.7 -0.9**
comp=Z,0.1nm,0.5s,baz=222,slow=2.0,SNR=2.1
VNDA Vanda 120.43 166 PKP **PKPdf 13 54 53.5 -0.5**
comp=Z,0.3nm,0.6s,baz=45,slow=1.4,SNR=1.9
QSPA South Pole Qui 123.35 180 PKP **PKPdf 13 54 57.9 -2.1**
comp=Z,0.8nm,0.7s,baz=264,slow=2.9,SNR=6.4
LPAZ La Paz 147.71 295 PKPbc **PKPdf 13 55 49.6 +2.6**
comp=Z,1.2nm,0.5s,baz=34,slow=8.1,SNR=3.5

*IDC **29** 13:36:56.5±0.6, 9°.63N×126°.69E, h0km, mb3.9/19, mbtmp3.9/19, MS3.2/9, Error ellipse: s-maj=38.2km s-min=14.3km az=72.0*
*NEIC **29** 13:36:58.4±1.7, 9°.66N±0°.07×126°.7E±0°.2, h10km±1km, mb4.6/11, Error ellipse: s-maj=38.1km s-min=4.8km az=72.0*
ISC 29 13:36:58.0±0.5, 9°.64N±0°.06×126°.7E±0°.1, h10km, n49, σ0.77/40, mb4.0/23, MS3.0/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.79**	**204**	Pn	**Pb**	**13 37 48.3**	**+0.3**
	28nm,0.3s,baz=79,slow=14,SNR=1.4						
DAV				LR	LR	13 39 07.8	
	comp=Z,700nm,20.8s,baz=46,slow=47						
FAKI	**Fak Fak**	**13.63**	**156**	Pn	**Pn**	**13 40 10.6**	**-1.0**
TPUB	**Ta-pu**	**14.79**	**337**	Pn	**Pn**	**13 40 26.1**	**-1.2**
KAPI	**Kappang**	**16.13**	**206**	LR	LR	13 47 39.7	
	comp=Z,40nm,18.9s,baz=30,slow=40						
GUMO	**Guam**	**18.19**	**76**	LR	LR	13 48 42.3	
	comp=Z,60nm,18.5s,baz=206,slow=39						
JCJ	**Chichijima**	**22.68**	**38**	LR	LR	13 50 54.5	
	comp=Z,51nm,19.0s,baz=106,slow=37						
JNU	**Nakatsue**	**23.68**	**9**	LR	LR	13 52 28.4	
	comp=Z,39nm,19.1s,baz=80,slow=39						
KNRA	**Kununurra**	**25.23**	**175**	P	**P**	**13 42 24.5**	**+0.3**
KNRA				IAmb	IAmb	13 42 28.7	
	comp=Z,15nm,1.0s						
KSRS	**Korea Array**	**27.71**	**2**	P	**P**	**13 42 46.7**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=180,slow=15,SNR=4.5						
KSRS				LR	LR	13 56 19.3	
	comp=Z,34nm,18.1s,baz=230,slow=42						
	comp=Z,0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.31**	**291**	P	**P**	**13 42 52.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=105,slow=6.8,SNR=2.1						
	comp=Z,0.4nm,0.3s						
MJAR	**Matsushiro Arr**	**28.74**	**19**	LR	LR	13 55 04.1	
	comp=Z,31nm,18.1s,baz=162,slow=38						
WRA	**Warramunga Arr**	**30.33**	**166**	P	**P**	**13 43 10.7**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=348,slow=8.4,SNR=6.8						
	comp=Z,0.7nm,0.7s						
MBWA	**Marble Bar**	**31.37**	**193**	P	**P**	**13 43 18.3**	**-0.8**
PSA00	**Pilbara Seismi**	**31.74**	**192**	P	**P**	**13 43 21.2**	**-1.2**
PSA00				IAmb	IAmb	13 43 36.5	
	comp=Z,16nm,1.3s						
AS31	**Alice Springs**	**33.83**	**168**	P	**P**	**13 43 40.9**	**+0.2**
ASAR	**Alice Springs**	**33.84**	**168**	P	**P**	**13 43 41.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=354,slow=6.9,SNR=11						
ASAR				PcP	**PcP**	**13 46 20.9**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=354,slow=2.6,SNR=4.6						
	comp=Z,0.5nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**40.03**	**71**	T	T	14 28 10.4	
	baz=265,slow=74,SNR=9.2						
H11N2	**WAKE ISLAND Hy**	**40.04**	**71**	T	T	14 28 11.0	
	baz=265,slow=74,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**40.05**	**71**	T	T	14 28 08.0	
	baz=265,slow=74,SNR=10						
FORT	**Forrest**	**40.20**	**178**	P	**P**	**13 44 35.7**	**+1.0**
SONM	**Songino Array**	**41.77**	**339**	P	**P**	**13 44 48.5**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=153,slow=10.0,SNR=3.8						
	comp=Z,0.4nm,0.4s						
BBOO	**Buckleboo**	**43.14**	**168**	P	**P**	**13 44 59.6**	**+0.8**
NWAO	**Narrogin (SRO)**	**43.28**	**192**	P	**P**	**13 45 00.8**	**+0.9**
STKA	**Stephens Creek**	**43.66**	**162**	P	**P**	**13 45 04.2**	**+1.2**
STKA	**Stephens Creek**	**43.66**	**162**	P	**P**	**13 45 03.6**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=338,slow=10,SNR=3.7						
	comp=Z,0.9nm,0.4s						
MKAR	**Makanchi Array**	**52.80**	**323**	P	**P**	**13 46 13.2**	**-0.3**
MKAR	**Makanchi Array**	**52.80**	**323**	P	**P**	**13 46 13.9**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=122,slow=9.0,SNR=6.7						
	comp=Z,0.8nm,0.7s						
MA2	**Magadan**	**53.02**	**15**	LR	LR	14 05 52.2	
	comp=Z,72nm,22.0s,baz=12,slow=33						
BOOM	**Boomskoye usch**	**55.04**	**316**	P	**P**	**13 46 29.0**	**-1.2**
ZALV	**Zalesovo Beam**	**55.39**	**331**	P	**P**	**13 46 30.9**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=104,slow=6.1,SNR=2.7						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**56.85**	**325**	P	**P**	**13 46 42.5**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=127,slow=6.8,SNR=4.2						
	comp=Z,0.9nm,0.3s						
SHEM	**Shemya Is, Ala**	**57.44**	**32**	LR	LR	14 09 52.7	
	comp=Z,40nm,19.3s,baz=290,slow=34						
KKAR	**Karatay Array**	**59.02**	**315**	P	**P**	**13 46 58.3**	**+0.1**
BVAR	**Borovoye Array**	**62.44**	**325**	P	**P**	**13 47 21.4**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=108,slow=9.5,SNR=4.7						
	comp=Z,0.5nm,0.5s						
NRIK	**Noril'sk**	**64.73**	**346**	P	**P**	**13 47 37.0**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=111,slow=6.6,SNR=3.6						
	comp=Z,3.5nm,0.6s						
MSWZ	**Moikau Station**	**67.57**	**142**	P	**P**	**13 47 54.2**	**-0.6**
AB31	**Akbulak array**	**67.65**	**319**	P	**P**	**13 47 54.7**	**-0.5**
AB31				IAmb	IAmb	13 49 23.3	
	comp=Z,6.9nm,1.9s						
ABKAR	**Akbulak array**	**67.65**	**319**	P	**P**	**13 47 54.5**	**-0.7**
ILAR	**Eielson Array**	**79.81**	**26**	P	**P**	**13 49 06.9**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=232,slow=5.5,SNR=6.2						
	comp=Z,0.2nm,0.6s						
BCAR	**Beaver Creek A**	**82.16**	**27**	P	**P**	**13 49 18.6**	**-0.4**
SPITS	**Spitsbergen Ar**	**84.72**	**349**	P	**P**	**13 49 31.9**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=106,slow=8.8,SNR=5.9						
	comp=Z,1.2nm,0.5s						
ARCES	**ARCESS Array B**	**84.94**	**340**	P	**P**	**13 49 33.4**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=77,slow=6.3,SNR=11						
	comp=Z,1.6nm,0.6s						
A36M	**Sachs Harbour**	**86.38**	**17**	P	**P**	**13 49 40.7**	**+0.6**
A36M				IAmb	IAmb	13 49 58.8	
	comp=Z,3.2nm,0.8s						
FINES	**FINESS Array B**	**86.66**	**332**	P	**P**	**13 49 41.9**	**+0.2**
FINES	**FINESS Array B**	**86.66**	**332**	P	**P**	**13 49 41.5**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=46,slow=5.5,SNR=6.0						
	comp=Z,1.2nm,0.7s						
VNDA	**Vanda**	**89.25**	**173**	P	**P**	**13 49 51.9**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=90,slow=21,SNR=8.2						
	comp=Z,0.9nm,0.7s						
HFS	**Hagfors**	**92.81**	**333**	P	**P**	**13 50 09.9**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=144,slow=12,SNR=2.1						
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**93.52**	**334**	P	**P**	**13 50 13.7**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=69,slow=6.2,SNR=2.1						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**94.15**	**24**	P	**P**	**13 50 17.1**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=302,slow=4.4,SNR=5.5						
	comp=Z,0.2nm,0.5s						

IDC 29 13:58:56.5±2.7, 10°.31S×119°.25E, h0km, mb3.3/1, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=211.7km s-min=27.7km az=51.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.91**	**142**	Pn	Pn	14 01 19.4	-0.9
	0.2nm,0.3s,baz=338,slow=16,SNR=9.0						
FITZ				Sn	Sn	14 03 02.8	-10
	0.5nm,0.3s,baz=181,slow=18,SNR=8.7						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**17.42**	**125**	P	Pn	14 03 01.2	+0.1
	baz=297,slow=14,SNR=1.8						
WRA				S	Sn	14 06 02.0	-14
	0.6nm,0.9s,baz=321,slow=25,SNR=1.7						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**19.28**	**135**	P	Pn	14 03 23.7	-0.3
	0.1nm,0.3s,baz=320,slow=14,SNR=7.2						
	0.7nm,0.9s						
MKAR	**Makanchi Array**	**65.73**	**333**	P	P	14 09 43.0	-0.1
	0.3nm,0.8s,baz=137,slow=6.9,SNR=2.0						
	0.3nm,0.8s						

*IDC **29** 14:07:07.5±0.7, 30°.83S×71°.49W, h0km, mb4.2/7, mbtmp4.1/11, ML3.8/4, MS3.1/5, Error ellipse: s-maj=26.8km s-min=18.4km az=90.0*
*SJA **29** 14:07:07.8±0.8, 30°.75S×71°.77W, h9km±3km, ML4.4, MW4.0*
*GUC **29** 14:07:12.3±0.8, 30°.84S×71°.51W, h50km±2km, ML4.4*
*NEIC **29** 14:07:13.7±1.7, 30°.79S±0°.04×71°.58W±0°.07, h36km±7km, mb4.7/7, Error ellipse: s-maj=9.3km s-min=5.2km az=89.0*
ISC 29 14:07:14.3±0.5, 30°.77S±0°.02×71°.62W±0°.04, h53km, n105, σ2.22/126, mb4.4/12, 3C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.10**	**352**		**Pn**	**14 07 20.5**	**-2.0**
CO06				Sn	**Sn**	**14 07 25.4**	**-2.9**
CO06	**Fray Jorge**	**0.10**	**352**	↑*i*P	**Pn**	**14 07 20.6**	**-2.0**
CO06				*e*S	**Sn**	**14 07 25.7**	**-2.6**
CO06				IAML		14 07 26.8	
	comp=N,29μm,0.2s						
CO02	**Combarbal**	**0.69**	**129**		**Pn**	**14 07 25.1**	**-3.1**
CO02				Sn	**Sn**	**14 07 33.7**	**-4.5**
CO02	**Combarbal**	**0.69**	**129**	↓*i*P	**Pn**	**14 07 25.2**	**-3.0**
CO02				*e*S	**Sn**	**14 07 33.6**	**-4.5**

CO02 IAML 14 07 35.0
comp=N,63μm,0.2s
CO02 Combarbal 0.69 129 *eP* **Pn 14 07 24.2 -4.0**
CO02 IAML 14 07 38.1
comp=Z,14μm,0.6s
CO03 El Pedregal 0.80 95 Pn 14 07 26.5 -3.1
CO03 El Pedregal 0.80 95 ⇓*iP* **Pn 14 07 26.6 -3.0**
CO03 *eS* **Sn 14 07 36.2 -4.6**
CO03 IAML 14 07 38.1
comp=E,13μm,0.4s
CO05 La Serena 0.91 21 Pn 14 07 29.9 -1.0
CO05 La Serena 0.91 21⇓*eP* **Pn 14 07 29.9 -1.0**
CO05 *eS* **Sn 14 07 39.6 -3.4**
CO05 IAML 14 07 48.6
comp=N,8μm,0.5s
GO04 Tololo Observa 0.92 50 Pn 14 07 29.3 -2.0
GO04 Tololo Observa 0.92 50⇓*eP* **Pn 14 07 29.4 -2.0**
GO04 *eS* **Sn 14 07 41.2 -2.6**
GO04 IAML 14 07 44.4
comp=E,27μm,0.7s
GO04 Tololo Observa 0.92 50 *eP* **Pn 14 07 28.7 -2.7**
GO04 *eS* **Sn 14 07 42.4 -1.5**
GO04 IAML 14 07 44.1
comp=Z,10μm,0.2s
CO01 Juntas del Tor 1.54 60 Pn 14 07 38.5 -1.1
CO01 Juntas del Tor 1.54 60⇓*iP* **Pn 14 07 38.6 -1.1**
CO01 *eS* **Sn 14 07 56.9 -1.7**
CO01 Juntas del Tor 1.54 60 *eP* Pn 14 07 32.8 -6.8
CO01 *eP* 14 07 38.5
CO01 *eS* **Sn 14 07 58.0 -0.5**
VA06 Catapilco 1.81 171 Pn 14 07 41.8 -1.3
VA06 Catapilco 1.81 171⇓*eP* **Pn 14 07 41.6 -1.4**
VA06 IAML 14 08 12.4
comp=E,9μm,0.5s
LCO Las Campanas 1.92 25 Pn 14 07 44.5 -0.5
LCO Las Campanas 1.92 25 *eP* **Pn 14 07 43.8 -1.1**
LCO *eS* **Sn 14 08 10.6 +2.5**
LCO IAML 14 08 17.0
comp=Z,3μm,0.5s
AROD Rodeo 1.95 73 *eP* **Pn 14 07 45.7 +0.5**
AROD *eP* 14 07 45.8
AROD *eS* **Sn 14 08 10.6 +1.9**
VA03 San Esteban 2.19 156 Pn 14 07 47.6 -0.8
VA03 San Esteban 2.19 156 *eP* **Pn 14 07 47.6 -0.8**
VA03 IAML 14 08 20.4
comp=N,7μm,0.4s
VA03 San Esteban 2.19 156 *eP* **Pn 14 07 47.1 -1.2**
VA03 *eS* **Sn 14 08 17.8 +3.5**
VA03 IAML 14 08 22.7
comp=Z,2μm,0.2s
DOCA Reserva Natura 2.19 95 *eP* **Pn 14 07 48.4 -0.2**
ACCO Cerro Coronel 2.21 86 *eP* **Pn 14 07 52.1 +3.3**
ACCO *eS* Sn 14 08 24.1 +9.0
RTLS Leoncito 2.24 118 *eP* **Pn 14 07 49.7 +0.5**
RTLS IAML 14 08 33.3
comp=Z,3μm,0.6s
ACDV Cuesta del Vie 2.24 75 *eP* **Pn 14 07 50.3 +1.2**
ACDV *eS* Sn 14 08 02.4 -13
VA01 Torpederas 2.25 181 Pn 14 07 46.9 -2.1
VA01 Torpederas 2.25 181 IAML 14 08 22.2
comp=E,2μm,0.3s
AC05 El Transito 2.25 32 Pn 14 07 49.4 +0.1
AC05 El Transito 2.25 32 *eP* **Pn 14 07 49.1 -0.2**
AC05 *eS* **Sn 14 08 23.3 +7.4**
ROCH El Roble 2.26 167 *eS* **Sn 14 08 16.6 +0.4**
ROCH *eP* **Pn 14 07 48.1 -1.3**
ROCH IAML 14 08 23.8
comp=N,5μm,0.4s
ROCH IAML 14 08 23.8
comp=N,3μm,0.4s
PEL Peldehue 2.50 162 Pn 14 07 51.5 -1.0
PEL Peldehue 2.50 162 *eP* **Pn 14 07 51.7 -0.8**
PEL IAML 14 08 27.6
comp=N,3μm,0.5s
MT02 Curacav 2.52 171 Pn 14 07 51.7 -1.1
MT02 Curacav 2.52 171 *eP* **Pn 14 07 51.2 -1.5**
MT02 *eS* **Sn 14 08 26.1 +3.8**
MT02 IAML 14 08 32.4
comp=Z,1μm,0.6s
AC04 Llanos de Chal 2.60 11 Pn 14 07 53.2 -0.7
AC04 Llanos de Chal 2.60 11 *eP* **Pn 14 07 53.0 -0.9**
AC04 *eS* **Sn 14 08 25.3 +1.1**
AC04 IAML 14 08 36.5
comp=Z,1μm,0.6s
ZON Zonda 2.64 108 Pn 14 07 54.5 0.0
ZON Zonda 2.64 108 *eP* **Pn 14 07 54.9 +0.4**
ZON *eS* **Sn 14 08 30.3 +5.0**
ZON IAML 14 08 44.9
comp=Z,2μm,0.6s
MT05 Renca 2.72 164 Pn 14 07 54.5 -1.1
MT05 Renca 2.72 164 *eP* **Pn 14 07 55.0 -0.7**
MT05 *eS* **Sn 14 08 31.8 +4.5**
MT05 IAML 14 08 33.4
comp=Z,1μm,0.6s
MT16 CCHEN 2.81 161 Pn 14 07 56.5 -0.3
MT16 CCHEN 2.81 161 *eP* **Pn 14 07 56.6 -0.3**
MT16 IAML 14 08 41.4
comp=E,2μm,0.8s
MT03 Universidad Ad 2.88 161 Pn 14 07 57.2 -0.6
MT03 Universidad Ad 2.88 161 IAML 14 08 45.7
comp=E,5μm,0.2s
MT03 Universidad Ad 2.88 161 *eP* **Pn 14 07 57.4 -0.4**
MT03 *eS* **Sn 14 08 32.8 +1.6**
MT03 IAML 14 08 46.8
comp=Z,2μm,0.4s
MT04 Ro Olivares 2.92 155 *eP* **Pn 14 07 58.5 +0.1**
MT04 *eS* **Sn 14 08 37.3 +5.0**
MT04 IAML 14 08 40.8
comp=Z,891nm,1.2s
MT15 Las Vizcachas 2.98 162 *eP* **Pn 14 07 58.7 -0.4**
MT15 IAML 14 08 45.2
comp=E,6μm,0.3s
MT08 Bocatoma Ro 3.00 153 Pn 14 07 58.7 -0.8
MT08 Bocatoma Ro 3.00 153 *eP* **Pn 14 08 00.3 +0.8**
MT08 *eS* **Sn 14 08 37.3 +3.0**
MT08 IAML 14 08 49.9
comp=Z,1μm,0.5s
CFA Coronel Fontan 3.02 107 Pn **Pn 14 07 59.2 -0.4**
comp=Z,38nm,0.3s,baz=291,slow=14,SNR=166
CFA Sn **Sn 14 08 37.6 +3.0**
comp=Z,92nm,0.3s,baz=99,slow=14,SNR=13
CFA LR LR 14 09 16.3
comp=Z,236nm,18.1s,baz=324,slow=44
CFA Coronel Fontan 3.02 107 *eS* **Sn 14 08 32.8 -1.7**
CFA *eS* 14 08 38.9
CFA IAML 14 08 55.8
comp=Z,1μm,0.5s
ARCO CERRO ARCO 3.08 133 *eP* **Pn 14 08 02.6 +1.9**
ARCO *eS* Sn 14 08 48.0 +12
ARCO IAML 14 08 54.5
comp=Z,1μm,1.3s
MT01 Popeta 3.10 174 *eP* **Pn 14 07 59.7 -1.1**
MT01 *eS* **Sn 14 08 37.8 +1.2**
MT01 IAML 14 08 53.6
comp=Z,812nm,0.4s
MT13 San Alfonso 3.17 160 *eP* **Pn 14 08 02.0 +0.1**
MT13 *eS* **Sn 14 08 40.8 +2.3**
MT13 IAML 14 08 51.1
comp=Z,806nm,0.5s
LMEL Las Melosas 3.30 159 *eP* **Pn 14 08 03.3 -0.3**
LMEL *eS* **Sn 14 08 43.6 +1.9**
LMEL IAML 14 08 50.4
comp=Z,1μm,0.7s
AAGR Agrelo 3.31 135 *eP* **Pn 14 08 05.6 +1.8**
AAGR *eS* Sn 14 08 56.1 +14
AAGR IAML 14 09 04.6
comp=Z,541nm,1.3s
GO03 Copiapo 3.39 21 Pn 14 08 04.1 -0.6
GO03 Copiapo 3.39 21 *eP* **Pn 14 08 04.7 0.0**
GO03 *eS* **Sn 14 08 45.8 +2.1**
GO03 IAML 14 08 57.6
comp=Z,847nm,0.7s
AVFE Valle Fertil 3.59 89 *eP* **Pn 14 08 07.2 -0.3**
AVFE *eS* **Sn 14 08 56.5 +7.9**
AVFE IAML 14 09 00.3
comp=Z,710nm,0.4s
VCA Vinchina 3.59 57 *eP* **Pn 14 08 04.8 -2.8**
VCA *eP* 14 08 09.6
VCA *eS* Sn 14 09 00.8 +12
VCA IAML 14 09 06.4
comp=Z,1μm,0.6s
BO01 Tunca 3.64 173 *eP* **Pn 14 08 07.3 -0.8**
BO01 *eS* **Sn 14 08 52.8 +3.0**
BO01 IAML 14 09 07.2
comp=Z,395nm,0.7s
BO02 Sierra Bellavi 4.08 170 *eP* **Pn 14 08 13.6 -0.5**
BO02 *eS* **Sn 14 09 04.8 +4.2**
BO02 IAML 14 09 29.7
comp=Z,620nm,0.6s
ACLC CERRO LA CRUZ 4.26 73 *eP* **Pn 14 08 17.2 +0.4**
ACLC *eS* **Sn 14 09 08.0 +2.6**
ACLC IAML 14 09 15.6
comp=Z,656nm,0.6s
ACHE Chepes 4.28 97 *eP* **Pn 14 08 16.6 -0.4**
ACHE *eS* **Sn 14 09 07.8 +2.1**
APLL PUNTA DE LOS L 4.41 86 *eP* **Pn 14 08 18.3 -0.4**
APLL *eS* **Sn 14 09 07.3 -1.5**
AC02 Maricunga 4.49 30 *eP* **Pn 14 08 20.5 +0.3**
AC02 *eS* **Sn 14 09 15.8 +4.4**
AC02 IAML 14 09 41.7
comp=Z,456nm,1.0s
AC01 Pan de Azucar 4.69 11 *eP* Pn 14 08 07.3 -15
AC01 *eS* Sn 14 09 26.3 +11
AC01 IAML 14 09 34.7
comp=Z,315nm,0.8s
H03N1 Juan Fernandez 6.74 245 T T 14 15 40.7
baz=74,slow=72,SNR=4231
H03N3 Juan Fernandez 6.75 245 T T 14 15 40.7
baz=74,slow=72,SNR=4750
H03N2 Juan Fernandez 6.75 245 T T 14 15 42.0
baz=74,slow=72,SNR=4596
PLCA Paso Flores 9.98 175 Pn **Pn 14 09 33.0 -2.1**
comp=Z,0.2nm,0.3s,baz=341,slow=12,SNR=3.3
comp=Z,0.8nm,0.4s
TRQA Tornquist 10.78 135 Pn 14 09 43.7 -2.2
CPUP Villa Florida 13.31 74 Pn **Pn 14 10 16.8 -3.8**
comp=Z,0.2nm,0.3s,baz=238,slow=8.4,SNR=3.8
CPUP LR LR 14 15 16.1
comp=Z,55nm,20.7s,baz=276,slow=37
comp=Z,0.6nm,0.3s
LPAZ La Paz 14.76 13 Pn **Pn 14 10 39.7 -0.9**
comp=Z,0.1nm,0.3s,baz=181,slow=7.5,SNR=18
comp=Z,6.4nm,0.8s
SIV San Ignacio 17.59 36 P **Pn 14 11 15.3 -0.5**
comp=Z,0.1nm,0.3s,baz=208,slow=9.9,SNR=24
SIV LR LR 14 17 27.4
comp=Z,65nm,21.4s,baz=46,slow=35
comp=Z,4.7nm,0.7s
PTLB Pontes e Lacer 19.06 40 P **P 14 11 31.1 -1.3**
ATAH Atahualpa 24.35 344 LR LR 14 20 43.0
comp=Z,61nm,19.1s,baz=103,slow=33
BDFB Brasilia 26.33 60 P **P 14 12 44.3 -1.1**
comp=Z,4.2nm,0.5s,baz=247,slow=7.3,SNR=6.0
BDFB LR LR 14 24 19.2
comp=Z,81nm,18.5s,baz=170,slow=39
comp=Z,4.2nm,0.5s
RUSC La Rusia 36.48 358 P 14 14 15.6 +0.6
RUSC IAmb IAmb 14 14 18.0
comp=Z,16nm,1.0s
SNAA Sanae 54.45 159 ⇑P **P 14 16 35.4 -0.5**
comp=Z,52nm,0.7s
SNAA Sanae 54.45 159 P **P 14 16 34.9 -0.9**
comp=Z,1.8nm,0.6s,baz=268,slow=9.7,SNR=9.4
comp=Z,1.8nm,0.6s
TROLL Troll, Antarti 56.16 159 ⇑P **P 14 16 47.9 -0.4**
comp=Z,78nm,0.7s
QSPA South Pole Qui 59.46 180 P **P 14 17 11.9 +0.4**
comp=Z,1.8nm,0.6s,baz=211,slow=0.5,SNR=18
comp=Z,1.8nm,0.6s
SAND Sanderson 67.00 331 P 14 18 03.1 +1.5
SAND IAmb IAmb 14 18 04.7
comp=Z,5.3nm,1.0s
TXAR Lajitas Array 67.11 330 P **P 14 18 04.2 +1.7**
comp=Z,1.1nm,0.7s,baz=150,slow=8.4,SNR=14
comp=Z,1.1nm,0.7s
LCAR Lake Charles 68.97 343 P 14 18 14.6 +0.7
LCAR IAmb IAmb 14 18 15.5
comp=Z,6.4nm,0.7s
DBIC Dimbokro 73.82 72 P **P 14 18 43.2 -0.4**
comp=Z,4.6nm,0.5s,baz=231,slow=5.5,SNR=7.3
comp=Z,4.6nm,0.5s
ECSD EROS Data Cent 77.59 342 P 14 19 05.3 +0.8
ECSD IAmb IAmb 14 19 06.0
comp=Z,6.8nm,0.8s
PDAR Pinedale Array 81.05 333 P **P 14 19 24.4 +0.7**
comp=Z,0.4nm,0.7s,baz=116,slow=6.8,SNR=4.3
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 82.78 70 P 14 19 32.4 -0.7
TORD IAmb IAmb 14 19 50.6
comp=Z,3.4nm,1.1s
TORD Torodi Ar. Bea 82.78 70 P **P 14 19 33.2 +0.1**
comp=Z,77nm,0.3s,baz=282,slow=5.5,SNR=1.6
ULM Lac du Bonnet 83.48 345 P **P 14 19 35.9 0.0**
comp=Z,3.6nm,0.9s,baz=123,slow=5.5,SNR=3.2
comp=Z,3.6nm,0.9s
H11S2 WAKE ISLAND Hyl 26.11 271 T T 16 45 06.2
baz=116,slow=75,SNR=57
H11S1 WAKE ISLAND Hyl 26.13 271 T T 16 44 58.5
baz=116,slow=75,SNR=48
H11S3 WAKE ISLAND Hyl 26.13 271 T T 16 45 07.5
baz=116,slow=75,SNR=36
H11N3 WAKE ISLAND Hyl 26.44 273 T T 16 45 26.6
baz=116,slow=75,SNR=15
H11N1 WAKE ISLAND Hyl 26.46 273 T T 16 45 28.0
baz=116,slow=75,SNR=6.3
H11N2 WAKE ISLAND Hyl 26.46 273 T T 16 45 30.5
baz=116,slow=75,SNR=32
BVAR Borovoye Array 144.63 40 PKP **PKPdf 14 26 44.1 -0.4**
comp=Z,2.3nm,0.6s,baz=290,slow=4.4,SNR=12
KURBB Kurchatov Arra 150.22 40 PKPbc **PKPbc 14 26 59.3 +0.3**
comp=Z,0.8nm,0.7s,baz=302,slow=3.0,SNR=9.3
ZALV Zalesovo Beam 151.28 29 PKPbc PKPbc 14 27 01.0 -0.3
ZALV Zalesovo Beam 151.28 29 PKPbc **PKPbc 14 27 01.5 +0.1**
comp=Z,3.4nm,0.7s,baz=294,slow=3.6,SNR=15
ZALV PKPab **pPKPdf 14 27 11.8 +0.4**
comp=Z,2.3nm,0.6s,baz=301,slow=3.7,SNR=6.9
MKAR Makanchi Array 154.29 44 PKPab **PKPab 14 27 25.0 +2.5**
comp=Z,0.5nm,0.7s,baz=308,slow=2.9,SNR=5.2

STR 29 14:09:33.1±1.7, 45°N±6°, ×±°, h0km, MLv1.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=72.5, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORIF	**Oris-en-Rattie**	**0.47**	**131**	Pg	Pg	14 09 42.1	0.0
ORIF				Sg	Sg	14 09 49.0	+0.9
RSL	**Roselend**	**0.99**	**62**	Pn	Pn	14 09 54.9	+0.4
RSL				Sn	Sn	14 10 09.3	0.0

JMA ***29*** *14:12:21.3±0.2, 24°.0N±0°.9×123°.6E±0°.6, h39km±1km, MV3.0/14, NEAR ISHIGAKIJIMA ISLAND*
ISC 29 14:12:21.2±1.4, 23°.98N±0°.08×123°.57E±0°.03, h31km±10km, n18, σ0°91/26, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.23**	**70**	P	**Pn**	**14 12 28.2**	**-0.3**
HATJ				S	**Sn**	**14 12 33.4**	**+0.2**
IRIF	**Iriomote-Funau**	**0.39**	**22**	*i* P	**Pb**	**14 12 29.7**	**-0.3**
IRIF				S	**Sb**	**14 12 35.7**	**-0.3**
JKRS	**Kuro-shima**	**0.48**	**57**	*i* P	**Pb**	**14 12 31.3**	**-0.1**
JKRS				S	**Sb**	**14 12 39.1**	**+0.8**
JIJ	**Ishigaki jima**	**0.65**	**54**	*i* P	**Pn**	**14 12 33.1**	**-1.2**
JIJ				S	**Sn**	**14 12 42.3**	**-1.3**
YOJ	**Yonaguni jima**	**0.70**	**314**	P	**Pn**	**14 12 34.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.70**	**314**	*i* P	**Pn**	**14 12 34.9**	**-0.2**
YOJ				S	**Sn**	**14 12 45.2**	**+0.4**
JYNG	**Yonagunijimaku**	**0.74**	**310**	*i* P	**Pn**	**14 12 35.5**	**-0.1**
JYNG				S	**Sn**	**14 12 46.3**	**+0.5**
JISG	**Ishigakijimahi**	**0.91**	**48**	*i* P	**Pn**	**14 12 36.9**	**-1.0**
JISG				S	**Sn**	**14 12 48.8**	**-1.2**
JTJ	**Tarama**	**1.23**	**57**	P	**Pn**	**14 12 42.4**	**+0.1**
JTJ				S	**Sn**	**14 12 58.1**	**+0.3**
JIRB	**Irabujima**	**1.69**	**60**	P	**Pn**	**14 12 49.1**	**+0.5**
JMJ2	**Miyako jima3**	**1.78**	**64**	P	**Pn**	**14 12 51.3**	**+1.5**
JIKM	**Ikemajima**	**1.80**	**58**	*eP*	**Pn**	**14 12 50.9**	**+0.8**
JOGS	**Gusukube**	**1.85**	**65**	*eP*	**Pn**	**14 12 53.0**	**+2.2**
YHNB	**Yeheng**	**2.12**	**289**	P	**Pn**	**14 12 55.6**	**+1.0**
YULB	**Yu-li**	**2.16**	**255**	P	**Pn**	**14 12 54.4**	**-0.7**
SSLB	**Suanglung**	**2.40**	**266**	P	**Pn**	**14 12 58.2**	**-0.2**
TWGBT	**Beinan**	**2.56**	**244**	P	**Pn**	**14 12 59.7**	**-0.9**
TPUB	**Ta-pu**	**2.78**	**257**	P	**Pn**	**14 13 04.4**	**+0.8**

MOS ***29*** *14:19:49.9±1.0, 10°.85N×57°.28E, h10km, mb6.1/68, MS6.0/55, Error ellipse: s-maj=5.8km s-min=3.3km az=100.9*
BJI ***29*** *14:19:50.0, 10°.82N×57°.26E, h10km, mB6.3/83, mb5.8/98, Ms6.3/99, Ms7 6.3/99*
IDC ***29*** *14:19:50.4±0.4, 10°.84N×57°.35E, h0km, mb5.3/47, mbtmp5.3/47, ML3.6/2, MS6.0/76, Error ellipse: s-maj=11.3km s-min=9.3km az=47.0*
DSN ***29*** *14:19:51.4±0.9, 10°.93N×57°.24E, h10km, mb6.5/11, Ms6.2/17, Error ellipse: s-maj=22.2km s-min=9.5km az=98.0*
NEIC ***29*** *14:19:52.6, 10°.68N×57°.00E, h20km, Moment Tensor Solution. Duration: 6s4 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.36; $M_{\theta\theta}$-2.68; $M_{\phi\phi}$3.05; $M_{r\theta}$0.31; $M_{\theta\phi}$-1.69; $M_{\phi r}$0.86; Fault plane solution: $M_0$3.45000×10^{18} NP1: ϕ_s209.56000°, δ74.83000°, λ-179.94000°. NP2: ϕ_s209.54000°, δ89.95000°, λ-15.17000°. Principal axes: T 3.6479, Plg11.0000°, Azm256.0000°; N -0.4030, Plg75.0000°, Azm29.0000°; P -3.2449, Plg11.0000°, Azm164.0000°;*
OMAN ***29*** *14:19:52.1±0.1, 10°.94N×57°.18E, h10km, mb6.0/62, ms6.1/41, Mwp6.6/48 Error ellipse: s-maj=0.6km s-min=0.3km az=259.0*
IPGP ***29*** *14:19:52.0, 10°.90N×57°.24E, h9km, Mw6.4, Fault plane solution: NP1:ϕ_s211.00000°, δ80.00000°, λ6.00000°. NP2:ϕ_s120.00000°, δ84.00000°, λ170.00000°.*
NEIC ***29*** *14:19:52.5±2.2, 10°.87N±0°.07×57°.23E±0°.08, h10km±1km, mb6.1/261, Ms_20 6.1/1065, Mwb6.2/69, Mww6.3/28, Error ellipse: s-maj=13.1km s-min=12.2km az=271.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.52; $M_{\theta\theta}$-2.52; $M_{\phi\phi}$2.00; $M_{r\theta}$-0.08; $M_{\theta\phi}$-1.39; $M_{\phi r}$-0.48; Fault plane solution: $M_0$2.73000×10^{18} NP1: ϕ_s209.96000°, δ83.65000°, λ11.51000°. NP2: ϕ_s118.67000°, δ78.57000°, λ173.52000°. Principal axes: T 2.4879, Plg13.0000°, Azm75.0000°; N 0.4374, Plg77.0000°, Azm238.0000°; P -2.9253, Plg4.0000°, Azm344.0000°;*
NEIC ***29*** *14:19:52.6, 10°.88N×57°.24E, h10km*
NEIC ***29*** *14:19:52.6, 10°.88N×57°.24E, h20km*
GCMT ***29*** *14:19:53.5±0.1, 10°.94N×57°.14E, h16km, MW6.3/167, Moment Tensor Solution. s161,c384; s167,c702; Duration: 3s5 Moment tensor: Scale 10^{18}Nm; M_{rr}0.15±.02; $M_{\theta\theta}$-3.08±.02; $M_{\phi\phi}$2.93±.02; $M_{r\theta}$-0.77±.05; $M_{\theta\phi}$-1.82±.01; $M_{\phi r}$-1.33±.06; Best double couple: $M_0$3.83600×10^{18} NP1:ϕ_s119.00000°, δ66.00000°, λ179.00000°. NP2:ϕ_s210.00000°, δ89.00000°, λ24.00000°. Principal axes: T 3.7710, Plg17.0000°, Azm77.0000°; N 0.1260, Plg66.0000°, Azm212.0000°; P -3.9000, Plg16.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 29 14:19:52.6±0.3, 10°.86N±0°.03×57°.29E±0°.02, h13km±1km, h13km:pP-P, n1958, σ1970/1831, mb5.9/409, MS6.1/689, 130C-129D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMTO	**DMTO**	**7.18**	**342**	P	**Pn**	**14 21 38.7**	**+1.4**
	SNR=435						
DMTO				P	**Pn**	**14 21 38.7**	**+1.4**
	SNR=435						
DMTO				P	**Pn**	**14 21 38.7**	**+1.4**
	SNR=435						
DMTO				S	**Sn**	**14 23 00.5**	**+1.7**
DMTO				S	**Sn**	**14 23 00.5**	**+1.7**
DMTO				S	**Sn**	**14 23 00.5**	**+1.7**
RBK	**Rabkut**	**7.25**	**336**	P	**Pn**	**14 21 39.5**	**+1.2**
	SNR=246						
RBK				P	**Pn**	**14 21 39.5**	**+1.2**
	SNR=246						
RBK				P	**Pn**	**14 21 39.5**	**+1.2**
	SNR=246						
RBK				S	**Sn**	**14 23 01.5**	**+1.0**
RBK				S	**Sn**	**14 23 01.5**	**+1.0**
RBK				S	**Sn**	**14 23 01.5**	**+1.0**
ABTO	**Aybut**	**7.53**	**329**	P	**Pn**	**14 21 43.8**	**+1.7**
	SNR=758						
ABTO				P	**Pn**	**14 21 43.8**	**+1.7**
	SNR=758						
ABTO				P	**Pn**	**14 21 43.8**	**+1.7**
	SNR=758						
ABTO				S	**Sn**	**14 23 07.1**	**-0.3**
ABTO				S	**Sn**	**14 23 07.1**	**-0.3**
ABTO				S	**Sn**	**14 23 07.1**	**-0.3**
WHFO	**Wadi Hawf**	**7.80**	**334**	P	**Pn**	**14 21 48.1**	**+2.3**
	SNR=965						
WHFO				P	**Pn**	**14 21 48.1**	**+2.3**
	SNR=965						
WHFO				P	**Pn**	**14 21 48.1**	**+2.3**
	SNR=965						
WHFO				S	**Sn**	**14 23 14.7**	**+0.6**
WHFO				S	**Sn**	**14 23 14.7**	**+0.6**
WHFO				S	**Sn**	**14 23 14.7**	**+0.6**
DOK	**Doka**	**8.29**	**339**	P	**Pn**	**14 21 55.4**	**+2.8**
	SNR=1124						
DOK				P	**Pn**	**14 21 55.4**	**+2.8**
	SNR=1124						
DOK				P	**Pn**	**14 21 55.4**	**+2.8**
	SNR=1124						
DQM	**DQM**	**9.02**	**1**	P	**Pn**	**14 22 03.4**	**+0.9**
	SNR=655						
DQM				P	**Pn**	**14 22 03.4**	**+0.9**
	SNR=655						
DQM				S	**Sn**	**14 23 45.5**	**+1.5**
DQM				S	**Sn**	**14 23 45.5**	**+1.5**
MHTO	**MHTO**	**10.09**	**4**	P	**Pn**	**14 22 16.6**	**-0.6**
	SNR=130						
MHTO				P	**Pn**	**14 22 16.6**	**-0.6**
	SNR=130						
JLN	**Jalan Bani Buh**	**11.41**	**10**	P	**Pn**	**14 22 34.3**	**-1.0**
	SNR=65						
JLN				P	**Pn**	**14 22 34.3**	**-1.0**
	SNR=65						
JLN				P	**Pn**	**14 22 34.3**	**-1.0**
	SNR=65						
JLN				S	**Sn**	**14 24 43.8**	**+1.1**
JLN				S	**Sn**	**14 24 43.8**	**+1.1**
JLN				S	**Sn**	**14 24 43.8**	**+1.1**
JMDO	**Jabal Madar**	**11.47**	**4**	P	**Pn**	**14 22 36.3**	**+0.2**
	SNR=279						
JMDO				P	**Pn**	**14 22 36.3**	**+0.2**
	SNR=279						
JMDO				S	**Sn**	**14 24 44.8**	**+0.6**
JMDO				S	**Sn**	**14 24 44.8**	**+0.6**
WBK	**Wadi Bani Khal**	**11.79**	**8**	P	**Pn**	**14 22 40.3**	**-0.3**
	SNR=91						
WBK				P	**Pn**	**14 22 40.3**	**-0.3**
	SNR=91						
WBK				P	**Pn**	**14 22 40.3**	**-0.3**
	SNR=91						
WBK				S	**Sn**	**14 24 54.2**	**+2.0**
WBK				S	**Sn**	**14 24 54.2**	**+2.0**
WBK				S	**Sn**	**14 24 54.2**	**+2.0**
BSY	**Bisya**	**11.82**	**360**	P	**Pn**	**14 22 41.5**	**+0.6**
	SNR=871						
BSY				P	**Pn**	**14 22 41.5**	**+0.6**
	SNR=871						
BSY				P	**Pn**	**14 22 41.5**	**+0.6**
	SNR=871						
BSY				P	**P**	**14 22 42.0**	**+1.1**
	SNR=567						
BSY				P	**P**	**14 22 42.0**	**+1.1**
	SNR=567						
BSY				P	**P**	**14 22 42.0**	**+1.1**
	SNR=567						
BSY				S	**Sn**	**14 24 54.8**	**+2.1**
BSY				S	**Sn**	**14 24 54.8**	**+2.1**
BSY				S	**Sn**	**14 24 54.8**	**+2.1**
UMZA	**Um Al Zommool**	**11.96**	**350**	P	**Pn**	**14 22 43.2**	**+0.4**
UMZA				P	**Pn**	**14 22 43.2**	**+0.4**
UMZA				P	**Pn**	**14 22 43.2**	**+0.4**
SMDO	**Samad**	**12.15**	**3**	P	**Pn**	**14 22 45.7**	**+0.1**
	SNR=393						
SMDO				P	**Pn**	**14 22 45.7**	**+0.1**
	SNR=393						
SMDO				S	**Sn**	**14 25 00.7**	**-0.3**
SMDO				S	**Sn**	**14 25 00.7**	**-0.3**
WSAR	**Wadi Sarin**	**12.38**	**6**	Pn	**Pn**	**14 22 47.8**	**-0.7**
	0.1nm,0.3s,baz=212,slow=24,SNR=82						

WSAR				Sn	Sn	14 25 07.3	+0.9
	baz=267,slow=24,SNR=1.5						
WSAR				LR	LR	14 27 00.1	
	comp=Z,2μm,18.7s,baz=204,slow=35						
WSAR	**Wadi Sarin**	**12.38**	**6**	P	Pn	14 22 48.9	+0.4
	SNR=94						
WSAR				S	Sn	14 25 09.5	+3.2
ARQ	**Araqi**	**12.43**	**357**	P	Pn	14 22 49.6	+0.3
	SNR=286						
ARQ				P	Pn	14 22 49.6	+0.3
	SNR=286						
ARQ				P	Pn	14 22 49.6	+0.3
	SNR=286						
ARQ				S	Sn	14 25 12.2	+4.6
ARQ				S	Sn	14 25 12.2	+4.6
ARQ				S	Sn	14 25 12.2	+4.6
MZR	**Muzera**	**12.61**	**344**	P	Pn	14 22 51.2	-0.6
	SNR=173						
MZR				P	Pn	14 22 51.2	-0.6
	SNR=173						
MZR				P	Pn	14 22 51.2	-0.6
	SNR=173						
MZR	**Muzera**	**12.61**	**344**	*i* P	Pn	14 22 51.1	-0.6
	SNR=175						
BIDO	**Bidbid**	**12.62**	**4**	P	Pn	14 22 51.5	-0.3
	SNR=183						
BIDO				P	Pn	14 22 51.5	-0.3
	SNR=183						
BIDO				P	Pn	14 22 51.5	-0.3
	SNR=183						
BIDO				S	Sn	14 25 14.6	+2.3
BIDO				S	Sn	14 25 14.6	+2.3
BIDO				S	Sn	14 25 14.6	+2.3
HOQ	**Hoqain**	**12.65**	**0**	P	Pn	14 22 52.3	0.0
	SNR=738						
HOQ				P	Pn	14 22 52.3	0.0
	SNR=738						
HOQ				P	Pn	14 22 52.3	0.0
	SNR=738						
HOQ				S	Sn	14 25 16.1	+2.9
HOQ				S	Sn	14 25 16.1	+2.9
HOQ				S	Sn	14 25 16.1	+2.9
ALNE	**Al Ain**	**13.21**	**354**	P	Pn	14 22 59.2	-0.7
	SNR=444						
ALNE				P	Pn	14 22 59.2	-0.7
	SNR=444						
ALNE				S	Sn	14 25 29.5	+2.9
ALNE				S	Sn	14 25 29.5	+2.9
ALNE	**Al Ain**	**13.21**	**354**	*i* P	Pn	14 22 58.9	-0.9
	SNR=179						
SOHO	**SOHO**	**13.22**	**357**	P	Pn	14 22 59.4	-0.6
SOHO				P	Pn	14 22 59.4	-0.6
SOHO				P	Pn	14 22 59.4	-0.6
SOHO				S	Sn	14 25 30.5	+3.5
SOHO				S	Sn	14 25 30.5	+3.5
SOHO				S	Sn	14 25 30.5	+3.5
SOHO	**SOHO**	**13.22**	**357**	*i* P	Pn	14 22 59.4	-0.6
	SNR=393						
MZWR	**Madinat Zayed**	**13.23**	**346**	P	Pn	14 22 59.3	-1.0
MZWR				P	Pn	14 22 59.3	-1.0
MZWR				P	Pn	14 22 59.3	-1.0
MZWR				S	Sn	14 25 31.3	+3.9
MZWR				S	Sn	14 25 31.3	+3.9
MZWR				S	Sn	14 25 31.3	+3.9
GHWR	**Ruwais**	**13.69**	**343**	P	Pn	14 23 05.1	-1.3
GHWR				P	Pn	14 23 05.1	-1.3
GHWR				P	Pn	14 23 05.1	-1.3
GHWR				S	Sn	14 25 39.7	+1.2
GHWR				S	Sn	14 25 39.7	+1.2
GHWR				S	Sn	14 25 39.7	+1.2
ASHO	**Ashiyiah**	**13.80**	**355**	P	Pn	14 23 06.9	-1.0
	SNR=86						
ASHO				P	Pn	14 23 06.9	-1.0
	SNR=86						
ASHO				S	Sn	14 25 40.4	-0.8
ASHO				S	Sn	14 25 40.4	-0.8
ASHO	**Ashiyiah**	**13.80**	**355**	*i* P	Pn	14 23 06.5	-1.4
	SNR=270						
AJN	**Ajban**	**13.80**	**351**	P	Pn	14 23 07.0	-1.0
	SNR=69						
AJN	**Ajban**	**13.80**	**351**	*i* P	Pn	14 23 06.5	-1.5
	SNR=104						
ASUD	**Al Ashush, Dub**	**13.82**	**353**	P	Pn	14 23 07.0	-1.2
	SNR=133						
ASUD				P	Pn	14 23 07.0	-1.2
	SNR=133						
ASUD				P	Pn	14 23 07.0	-1.2
	SNR=133						
ASUD	**Al Ashush, Dub**	**13.82**	**353**	*i* P	Pn	14 23 07.1	-1.1
	SNR=125						
FAQ	**Al Faqa, Dubai**	**13.90**	**354**	P	Pn	14 23 07.6	-1.8
	SNR=172						
FAQ				P	Pn	14 23 07.6	-1.8
	SNR=172						
FAQ				P	Pn	14 23 07.6	-1.8
	SNR=172						
FAQ	**Al Faqa, Dubai**	**13.90**	**354**	*i* P	Pn	14 23 07.8	-1.5
	SNR=191						
HATD	**Hatta, Dubai**	**13.93**	**356**	P	Pn	14 23 08.4	-1.3
	SNR=53						
HATD				P	Pn	14 23 08.4	-1.3
	SNR=53						
HATD				S	Sn	14 25 45.9	+1.5
HATD				S	Sn	14 25 45.9	+1.5
HATD	**Hatta, Dubai**	**13.93**	**356**	*i* P	Pn	14 23 08.6	-1.2
	SNR=57						
UOSS	**Minazif**	**14.05**	**356**		Pn	14 23 09.6	-1.7
UOSS	**Minazif**	**14.05**	**356**	P	Pn	14 23 10.0	-1.3
UOSS				P	Pn	14 23 10.0	-1.3
UOSS				P	Pn	14 23 10.0	-1.3
UOSS				S	Sn	14 25 47.9	+0.7
UOSS				S	Sn	14 25 47.9	+0.7
UOSS				S	Sn	14 25 47.9	+0.7
UOSS	**Minazif**	**14.05**	**356**	*i* P	Pn	14 23 09.6	-1.7
	SNR=105						
UOSS	**Minazif**	**14.05**	**356**	⇓P	Pn	14 23 09.7	-1.7
UOSS	**Minazif**	**14.05**	**356**	P	Pn	14 23 09.6	-1.7
UOSS				S	Sn	14 25 47.9	+0.7
NAZ	**Nazwa, Dubai**	**14.14**	**354**	P	Pn	14 23 11.1	-1.5
	SNR=136						
NAZ				P	Pn	14 23 11.1	-1.5
	SNR=136						
NAZ				P	Pn	14 23 11.1	-1.5
	SNR=136						
NAZ	**Nazwa, Dubai**	**14.14**	**354**	*i* P	Pn	14 23 11.1	-1.5
	SNR=155						
SLWR	**Sila**	**14.18**	**339**	P	Pn	14 23 11.0	-2.1
SLWR				P	Pn	14 23 11.0	-2.1
SLWR				S	Sn	14 25 48.9	-1.4
SLWR				S	Sn	14 25 48.9	-1.4
ATD	**Arta Tunnel**	**14.19**	**274**		Pn	14 23 11.7	-1.7
ATD	**Arta Tunnel**	**14.19**	**274**	Pn	Pn	14 23 11.9	-1.4
	0.8nm,0.3s,baz=245,slow=23,SNR=21						
ATD				Sn	Sn	14 25 48.0	-2.8
	0.5nm,0.3s,baz=277,slow=22,SNR=4.0						
ATD	**Arta Tunnel**	**14.19**	**274**	⇑P	Pn	14 23 12.2	-1.2
MDH	**Madha**	**14.39**	**356**	P	Pn	14 23 12.7	-3.4
	SNR=66						
MDH				P	Pn	14 23 12.7	-3.4
	SNR=66						
MDH				P	Pn	14 23 12.7	-3.4
	SNR=66						
MDH				S	Sn	14 25 55.0	-0.6
MDH				S	Sn	14 25 55.0	-0.6
MDH				S	Sn	14 25 55.0	-0.6
MDH	**Madha**	**14.39**	**356**	*i* P	Pn	14 23 13.5	-2.6
	SNR=131						
MSFE	**Esma-Masafi**	**14.46**	**356**	*i* P	Pn	14 23 15.4	-1.6
	SNR=320						
MASF	**Masafi**	**14.47**	**356**	P	Pn	14 23 15.5	-1.8
	SNR=221						
MASF				P	Pn	14 23 15.5	-1.8
	SNR=221						
MASF				P	Pn	14 23 15.5	-1.8
	SNR=221						
MASF				P	P	14 23 15.8	-8.1
	SNR=93						
MASF				P	P	14 23 15.8	-8.1
	SNR=93						
MASF				P	P	14 23 15.8	-8.1
	SNR=93						
MASF				S	Sn	14 25 57.6	0.0
MASF				S	Sn	14 25 57.6	0.0
MASF				S	Sn	14 25 57.6	0.0
JRN	**Qarnain Island**	**14.63**	**344**	P	Pn	14 23 16.1	-3.2
	SNR=37						
JRN				P	Pn	14 23 16.1	-3.2
	SNR=37						
JRN				P	Pn	14 23 16.1	-3.2
	SNR=37						
JRN				S	Sn	14 26 01.8	+0.5
JRN				S	Sn	14 26 01.8	+0.5
JRN				S	Sn	14 26 01.8	+0.5
UMQ	**Umm Al-Quwin**	**14.67**	**354**	P	Pn	14 23 17.7	-2.1
	SNR=19						
UMQ				P	Pn	14 23 17.7	-2.1
	SNR=19						
UMQ	**Umm Al-Quwin**	**14.67**	**354**	*i* P	Pn	14 23 17.8	-2.1
	SNR=40						
NGCH	**Negor - Chabah**	**14.87**	**14**	P	Pn	14 23 22.0	-0.6
	SNR=11						
NGCH				S	Sn	14 26 12.7	+5.4
TRNA	**Turayna**	**14.96**	**338**	P	Pn	14 23 21.0	-2.7
	SNR=81						
BANOM	**Banah**	**15.01**	**357**	P	Pn	14 23 22.7	-1.8
BANOM				P	Pn	14 23 22.7	-1.8
BANOM				S	Sn	14 26 10.5	-0.3
BANOM				S	Sn	14 26 10.5	-0.3
BANOM	**Banah**	**15.01**	**357**	*i* P	Pn	14 23 21.6	-2.9
	SNR=165						
SMRA	**Abu-Samra**	**15.11**	**337**	P	Pn	14 23 22.6	-3.3
	SNR=140						
SMRA				S	Sn	14 26 10.3	-2.9
SHME	**Shamm**	**15.15**	**356**	P	Pn	14 23 24.0	-2.3
	SNR=128						
SHME				P	Pn	14 23 24.0	-2.3
	SNR=128						
SHME				P	Pn	14 23 24.0	-2.3
	SNR=128						
SHME				S	Sn	14 26 13.1	-0.9
SHME				S	Sn	14 26 13.1	-0.9
SHME				S	Sn	14 26 13.1	-0.9
SHME	**Shamm**	**15.15**	**356**	*i* P	Pn	14 23 25.4	-0.8
	SNR=143						
MSEY	**Mahe Island**	**15.54**	**187**		Pn	14 23 28.5	-3.0
MSEY	**Mahe Island**	**15.54**	**187**	P	Pn	14 23 30.4	-1.1
MSEY				P	Pn	14 23 30.4	-1.1
MSEY				P	Pn	14 23 30.4	-1.1
MSEY				S	Sn	14 26 24.9	+1.2
MSEY				S	Sn	14 26 24.9	+1.2
MSEY				S	Sn	14 26 24.9	+1.2
MSEY	**Mahe Island**	**15.54**	**187**	P	Pn	14 23 28.5	-3.0
MSEY				pmax	pmax		
	comp=Z,601nm,1.8s						
MSEY	**Mahe Island**	**15.54**	**187**	*i* P	Pn	14 23 30.5	-1.0
	SNR=16						
SHMA	**Al-Shehemyia**	**16.07**	**339**	P	Pn	14 23 35.5	-2.8
	SNR=44						
SHMA				S	Sn	14 26 36.1	-0.4
HMDM	**Hanimaadhoo**	**16.22**	**103**		Pn	14 23 40.4	+0.1
HMDM	**Hanimaadhoo**	**16.22**	**103**	P	Pn	14 23 40.8	+0.5
	SNR=10.0						
SAKB	**Bahrain**	**16.34**	**338**	P	Pn	14 23 39.0	-2.7
SAKB				S	Sn	14 26 42.2	-0.7
GOA	**Goa**	**16.74**	**72**	*e*P	Pn	14 23 45.6	-1.3
GOA				IAmb	IAmb	14 24 03.3	
	comp=Z,2μm,1.3s						
RAYN	**Ar Rayn**	**16.88**	**320**		Pn	14 23 45.1	-3.5
RAYN	**Ar Rayn**	**16.88**	**320**	P	Pn	14 23 46.0	-2.6
RAYN				S	Sn	14 26 51.2	-4.9
RAYN	**Ar Rayn**	**16.88**	**320**	P	Pn	14 23 45.1	-3.5
RAYN				pmax	pmax		
	comp=Z,293nm,0.9s						
RAYN	**Ar Rayn**	**16.88**	**320**	*i* P	Pn	14 23 46.1	-2.6
	SNR=125						
RAYN	**Ar Rayn**	**16.88**	**320**	⇓P	Pn	14 23 45.5	-3.2
BHUJ	**Bhuj**	**17.06**	**42**	*e*P	P	14 23 53.1	+0.5
BHUJ				IAmb	IAmb	14 23 58.5	
	comp=Z,7μm,1.7s						
MNGI	**Mangalore**	**17.28**	**81**	*e*P	Pn	14 23 52.6	-1.1
KAD	**Karad**	**17.59**	**67**	*e*P	Pn	14 23 56.7	-0.8
TRD	**Trivandrum**	**19.53**	**95**	*e*P	Pn	14 24 21.2	0.0
TRD				IAmb	IAmb	14 24 42.9	
	comp=Z,1μm,1.7s						
KOD	**Kodaikanal**	**19.85**	**90**	*e*P	P	14 24 23.4	-0.3
KBD	**Kabd**	**20.31**	**335**	P	P	14 24 26.5	-1.8
KBD				S	S	14 28 12.5	-3.3
AKL	**Akola**	**21.33**	**60**	*e*P	P	14 24 41.9	+2.4
HYB	**Hyderabad**	**21.61**	**70**	⇑*e*P	P	14 24 43.6	+1.0
HYB				IVmB_BB		14 24 57.2	
	comp=Z,17μm,2.8s						
HYB				*e*S	S	14 28 43.6	+1.8
HYB				IVMs_BB	IVMs_BB	14 31 30.5	
	comp=Z,42μm,18.3s						
NRDN	**NARMADA NAGAR**	**22.35**	**56**	*e*P	P	14 24 43.3	-7.1
NRDN				IAmb	IAmb	14 25 02.8	
	comp=Z,2μm,1.8s						
MDRS	**Chennai**	**22.56**	**82**	*e*P	P	14 24 51.1	-1.6
MDRS				IAmb	IAmb	14 25 08.8	
	comp=Z,865nm,1.5s						
BKNR	**BIKANER**	**22.73**	**39**	*e*P	P	14 24 54.6	+0.3
BKNR				IAmb	IAmb	14 25 19.7	
	comp=Z,3μm,1.2s						
BHPL	**Bhopal**	**22.81**	**55**	*e*P	P	14 24 54.1	-1.3
BHPL				IAmb	IAmb	14 25 10.0	
	comp=Z,3μm,1.4s						
LODK	**Lodwar**	**22.96**	**253**		P	14 24 56.1	-0.9
LODK				IAmb	IAmb	14 25 15.3	
	comp=Z,642nm,1.5s						
LODK	**Lodwar**	**22.96**	**253**	P	P	14 24 57.3	+0.2
	SNR=300						
KIBK	**Kibwezi**	**23.21**	**237**		P	14 24 58.4	-1.2
KIBK				IAmb	IAmb	14 25 25.1	
	comp=Z,912nm,1.3s						
KIBK	**Kibwezi**	**23.21**	**237**	P	P	14 24 57.7	-1.9
KIBK				S	S	14 29 07.4	-4.0
KIBK	**Kibwezi**	**23.21**	**237**	P	P	14 24 58.7	-0.8
	SNR=219						
KMBO	**Kilima Mbogo**	**23.22**	**240**		P	14 24 58.3	-1.5
KMBO				IAmb	IAmb	14 25 06.1	
	comp=Z,2μm,2.0s						
KMBO	**Kilima Mbogo**	**23.22**	**240**	P	P	14 24 59.5	-0.3
	comp=Z,136nm,0.9s,baz=48,slow=12,SNR=6.5						
KMBO				LR	LR	14 33 36.8	
	comp=Z,16μm,21.4s,baz=71,slow=36						
	comp=Z,136nm,0.9s						
KMBO	**Kilima Mbogo**	**23.22**	**240**	P	P	14 24 59.7	-0.2
KMBO				P	P	14 24 59.7	-0.2
KMBO				S	S	14 29 10.9	-1.0
KMBO				S	S	14 29 10.9	-1.0
KMBO	**Kilima Mbogo**	**23.22**	**240**	*i* P	P	14 24 58.2	-1.6
	SNR=175						
KMBO	**Kilima Mbogo**	**23.22**	**240**	⇑P	P	14 24 58.9	-0.9
NGP	**Nagpur**	**23.25**	**61**	*e*P	P	14 24 56.8	-3.1
NGP				IAmb	IAmb	14 25 31.6	
	comp=Z,1μm,1.6s						
VJD	**Vijayawada**	**23.37**	**73**	*e*P	P	14 25 00.8	-0.3
VJD				IAmb	IAmb	14 25 20.6	
	comp=Z,2μm,1.4s						
PALK	**Pallekele**	**23.39**	**97**		P	14 25 02.4	+1.1
PALK	**Pallekele**	**23.39**	**97**	LR	LR	14 32 16.2	
	comp=Z,79μm,20.2s,baz=286,slow=32						
PALK	**Pallekele**	**23.39**	**97**	P	P	14 25 02.9	+1.6
PALK				P	P	14 25 02.9	+1.6
PALK				P	P	14 25 02.9	+1.6
PALK	**Pallekele**	**23.39**	**97**	P	P	14 25 02.4	+1.1
PALK				pmax	pmax		
	comp=Z,2μm,1.5s						
PALK	**Pallekele**	**23.39**	**97**	⇑P	P	14 25 03.1	+1.7
PALK	**Pallekele**	**23.39**	**97**	P	P	14 25 02.7	+1.4
PALK				S	S	14 29 14.0	-0.4
GUNA	**GUNA**	**23.46**	**52**	*e*P	P	14 24 58.4	-3.5
GUNA				IAmb	IAmb	14 25 09.4	
	comp=Z,10μm,2.4s						
DGAR	**Diego Garcia**	**23.61**	**140**	P	P	14 25 05.1	+1.7
DGAR				IAmb	IAmb	14 25 25.3	
	comp=Z,412nm,1.0s						
DGAR	**Diego Garcia**	**23.61**	**140**	P	P	14 25 05.7	+2.3
DGAR				P	P	14 25 05.7	+2.3
DGAR				S	S	14 29 18.5	+0.8
DGAR				S	S	14 29 18.5	+0.8
DGAR	**Diego Garcia**	**23.61**	**140**	P	P	14 25 05.1	+1.7
DGAR				pmax	pmax		
	comp=Z,412nm,1.0s						
HRA	**Herat**	**23.85**	**10**		P	14 25 05.6	-0.2
SRGN	**SRI GANGA NAGA**	**24.47**	**37**	*e*P	P	14 25 11.6	+0.2
SRGN				IAmb	IAmb	14 25 26.0	
	comp=Z,3μm,1.5s						
JHNI	**Jhansi**	**24.82**	**51**	*e*P	P	14 25 14.8	+0.2
KUDL	**Kundal**	**24.90**	**44**	*e*P	P	14 25 16.8	+1.6
SBV	**Sambava**	**25.24**	**197**	P	P	14 25 19.9	+1.4
	SNR=6.4						
SBV	**Sambava**	**25.24**	**197**	⇓P	P	14 25 19.5	+1.1
SONA	**Sohna**	**25.37**	**44**	*e*P	P	14 25 20.9	+1.4
AYAN	**Aya Nagar**	**25.55**	**44**	*e*P	P	14 25 20.9	-0.2
BHGR	**Bahadurgarh**	**25.55**	**43**	*e*P	P	14 25 23.0	+1.8
LDR	**Lodi Road**	**25.67**	**44**	*e*P	P	14 25 21.9	-0.4
LDR				IAmb	IAmb	14 25 29.6	
	comp=Z,396nm,1.1s						
NPLP	**NPLP New Delhi**	**25.67**	**44**	*e*P	P	14 25 21.8	-0.6
NPLP				IAmb	IAmb	14 25 30.8	
	comp=Z,195nm,1.0s						
JMIU	**JAMIA UNIVERSI**	**25.71**	**44**	*e*P	P	14 25 22.2	-0.5
JMIU				IAmb	IAmb	14 25 38.6	
	comp=Z,349nm,1.1s						
KBL	**Kabul**	**25.90**	**23**		P	14 25 25.9	+1.4
KBL				IAmb	IAmb	14 25 54.8	
	comp=Z,750nm,1.2s						
KBL	**Kabul**	**25.90**	**23**	P	P	14 25 27.3	+2.7
	SNR=238						
KBL				P	P	14 25 27.3	+2.7
	SNR=238						
KBL				S	S	14 29 56.3	+1.9
KBL				S	S	14 29 56.3	+1.9
KBL	**Kabul**	**25.90**	**23**	P	P	14 25 26.0	+1.4
KBL				pmax	pmax		
	comp=Z,750nm,1.3s						
UGON	**Onchagaon**	**25.98**	**45**	*e*P	P	14 25 24.2	-0.9
UGON				IAmb	IAmb	14 25 41.1	
	comp=Z,1μm,0.9s						
VIS	**Vishakhapatnam**	**26.12**	**72**	*e*P	P	14 25 25.9	-0.6
VIS				IAmb	IAmb	14 25 38.6	
	comp=Z,917nm,1.7s						
MERT	**Meerut**	**26.27**	**44**	*e*P	P	14 25 20.9	-6.7
BLSP	**Bilaspur**	**26.28**	**62**	*e*P	P	14 25 27.6	-0.3
BLSP				IAmb	IAmb	14 25 43.7	
	comp=Z,648nm,1.8s						
RAGD	**RAYAGADA**	**26.58**	**69**	*e*P	P	14 25 29.1	-1.5
FRKB	**FARRUKHABAD**	**26.64**	**49**	*e*P	P	14 25 30.3	-0.7
FRKB				IAmb	IAmb	14 25 38.8	
	comp=Z,5μm,1.9s						
NIL	**Nilore**	**26.99**	**30**	P	P	14 25 35.4	+1.1
NIL	**Nilore**	**26.99**	**30**	IAMs_20	IAMs_20	14 36 48.0	
	comp=Z,44μm,19.0s						
NIL	**Nilore**	**26.99**	**30**	P	P	14 25 36.5	+2.2
NIL				P	P	14 25 36.5	+2.2
NIL	**Nilore**	**26.99**	**30**	P	P	14 25 35.4	+1.1
NIL				pmax	pmax		
	comp=Z,888nm,1.4s						
NIL				MLR	MLR		
	comp=Z,44μm,19.0s						
BHK	**Bhakra**	**27.05**	**38**	*e*P	P	14 25 35.3	+0.5
JMU	**Jammu**	**27.13**	**34**	*e*P	P	14 25 35.3	-0.1
TKRD	**Thakurdwara**	**27.14**	**45**	*e*P	P	14 25 35.3	-0.3
LKN	**LUCKNOW**	**27.29**	**51**	*e*P	P	14 25 36.4	-0.5
LKN				IAmb	IAmb	14 26 04.4	
	comp=Z,2μm,1.4s						
ALBI	**Allahabad**	**27.31**	**55**	*e*P	P	14 25 35.3	-1.8
SMLA	**Simla**	**27.31**	**39**	*e*P	P	14 25 38.0	+1.0
SMLA				IAmb	IAmb	14 25 57.8	
	comp=Z,653nm,1.1s						
DDI	**Dehra Dun**	**27.34**	**42**	*e*P	P	14 25 38.6	+1.1
DDI				IAmb	IAmb	14 25 49.7	
	comp=Z,595nm,1.2s						
THN	**Thein Dam**	**27.37**	**36**	*e*P	P	14 25 39.7	+2.1
THN				IAmb	IAmb	14 25 56.8	
	comp=Z,628nm,1.3s						
DHRM	**DHARAMSHALA**	**27.58**	**37**	*e*P	P	14 25 41.9	+2.1
DHRM				IAmb	IAmb	14 25 47.6	
	comp=Z,1μm,1.6s						
JHSG	**JHARSUGUGA**	**27.58**	**64**	*e*P	P	14 25 37.4	-2.3
EIL	**Elat**	**28.00**	**315**	P	P	14 25 44.4	+1.1
	comp=Z,189nm,1.1s,baz=134,slow=3.4,SNR=51						
EIL				LR	LR	14 36 18.8	
	comp=Z,42μm,18.4s,baz=134,slow=35						
	comp=Z,189nm,1.1s						
EIL	**Elat**	**28.00**	**315**	⇓P	P	14 25 45.1	+1.8
SRNI	**Srinagar**	**28.16**	**32**	*e*P	P	14 25 46.3	+1.7
SRNI				IAmb	IAmb	14 26 00.2	
	comp=Z,750nm,0.8s						
KLP	**Kalpa**	**28.27**	**40**	*e*P	P	14 25 45.7	-0.3
KLP				IAmb	IAmb	14 26 06.1	
	comp=Z,615nm,1.2s						
VAR	**Varanasi**	**28.28**	**56**	*e*P	P	14 25 44.6	-1.2
VAR				IAmb	IAmb	14 25 57.2	
	comp=Z,540nm,1.1s						
LGTI	**Lohaghat**	**28.30**	**46**	*e*P	P	14 25 45.6	-0.3
PTH	**Pithoragarh**	**28.34**	**46**	*e*P	P	14 25 45.6	-0.9
ASF	**Jabal al Asfar**	**28.35**	**322**	P	P	14 25 47.9	+1.4
	comp=Z,66nm,1.0s,baz=171,slow=2.6,SNR=87						
ASF				LR	LR	14 36 46.1	
	comp=Z,46μm,21.1s,baz=164,slow=36						
	comp=Z,66nm,1.0s						
JOSI	**Joshimath**	**28.49**	**43**	*e*P	P	14 25 46.7	-1.2
JOSI				IAmb	IAmb	14 25 56.0	
	comp=Z,2μm,1.9s						
GHAJ	**Ghor Haditha**	**28.61**	**319**		P	14 25 49.3	+0.6
GHAJ				IAmb	IAmb	14 26 29.1	
	comp=Z,484nm,1.2s						
KZIT	**Kziot**	**29.13**	**317**	⇓P	P	14 25 55.3	+1.9
KNTI	**KHUNTI**	**29.33**	**62**	*e*P	P	14 25 56.0	+0.7
KNTI				IAmb	IAmb	14 26 08.7	
	comp=Z,876nm,1.9s						
SALP	**Salfit**	**29.35**	**319**	⇓P	P	14 25 57.6	+2.3
SIMJ	**Simiganj**	**29.60**	**19**		P	14 25 57.3	-0.2
GEM	**Giv'at Ha'Em**	**29.82**	**322**	⇓P	P	14 26 01.8	+2.3
MMAI	**Mount Meron Ar**	**29.85**	**321**	P	P	14 26 01.2	+1.5
	comp=Z,32nm,0.8s,baz=114,slow=11,SNR=38						
MMAI				LR	LR	14 38 07.0	
	comp=Z,31μm,20.5s,baz=126,slow=37						
	comp=Z,32nm,0.8s						
SHBL	**Chebaa**	**29.86**	**322**	*e*P	P	14 26 02.2	+2.2
RCY	**Rachaya**	**29.91**	**322**	*e*P	P	14 26 02.2	+1.8
QRWL	**Qaraoun**	**30.04**	**322**	*e*P	P	14 26 02.5	+1.0
FKH	**Fakeheh**	**30.10**	**324**	*e*P	P	14 26 04.6	+2.6
BOK	**Bokaro**	**30.10**	**61**	*e*P	P	14 26 01.1	-1.0
BOK				IAmb	IAmb	14 26 13.7	
	comp=Z,1μm,2.1s						
DQRL	**Deir Qamar**	**30.21**	**322**	*e*P	P	14 26 04.9	+1.8
GAR	**Garm**	**30.34**	**20**	IAmb	IAmb	14 27 12.1	
	comp=Z,552nm,1.6s						
HWQ	**Hawqa**	**30.39**	**323**	*e*P	P	14 26 06.5	+1.9
BEIL	**Beino**	**30.44**	**324**	*e*P	P	14 26 05.9	+1.0
GURO	**Guroymak-BITLI**	**30.77**	**336**	IAmb	IAmb	14 26 14.2	
	comp=Z,490nm,1.6s						
GURO				IAMs_20	IAMs_20	14 39 57.3	
	comp=Z,47μm,18.0s						
GURO	**Guroymak-BITLI**	**30.77**	**336**	⇓P	P	14 26 10.2	+2.3
GNI	**Garni**	**31.22**	**341**		P	14 26 12.6	+0.7
GNI	**Garni**	**31.22**	**341**	P	P	14 26 14.0	+2.1
	comp=Z,128nm,1.0s,baz=226,slow=2.1,SNR=55						
GNI				LR	LR	14 40 16.2	
	comp=Z,68μm,20.9s

KSH pmax pmax
comp=Z,200nm,2.0s
KSH pmax pmax
comp=Z,4μm,5.1s
KSH LR LR
comp=Z,34μm,14.5s
KSH LR LR
comp=Z,73μm,22.9s
MAK Makhachkala 33.10 347 *e*P **P 14 26 28.0 -0.1**
MAK *e* 14 27 34.9
MAK *e*S **S 14 31 48.9 +2.1**
MAK *e*SS **SnSn 14 33 39.4 -6.4**
MAK pmax pmax
comp=Z,721nm,0.8s
MAK MLR MLR
comp=Z,34μm,16.0s
IUG Iuzhnay 33.10 17 *e*P **P 14 26 28.9 +0.6**
IUG pmax pmax
comp=Z,107nm,1.0s
IUG Iuzhnay 33.10 17 *e*P **P 14 26 29.0 +0.6**
comp=Z,107nm,1.0s
ARSB Arslanbob 33.34 22 IAmb IAmb 14 26 50.0
comp=Z,225nm,1.2s
ARSB IAMs_20 IAMs_20 14 40 35.4
comp=Z,43μm,21.0s
JPG JALPAIGURI 33.48 58 *e*P **P 14 26 30.8 -0.9**
JPG IAmb IAmb 14 26 37.0
comp=Z,244nm,0.5s
GTK Tadong 33.68 56 *e*P **P 14 26 35.1 +1.5**
GTK IAmb IAmb 14 26 40.9
comp=Z,551nm,0.8s
BNN Bunyan 33.81 329 ⇓P **P 14 26 36.8 +2.2**
BRLS Borolday 33.86 17 *e*P **P 14 26 33.1 -1.7**
BRLS *e*S **S 14 31 56.4 -2.4**
BRLS pmax pmax
comp=Z,85nm,1.5s
BRLS Borolday 33.86 17 *e*P **P 14 26 33.2 -1.7**
comp=Z,85nm,1.5s
BRLS *e*S **S 14 31 56.5 -2.4**
KK31 Karatay Array 34.12 17 IAmb IAmb 14 26 43.9
comp=Z,257nm,1.2s
KKAR Karatay Array 34.12 17 P **P 14 26 37.8 +0.7**
KKAR Karatay Array 34.12 17 IAmb IAmb 14 26 43.9
comp=Z,270nm,1.2s
KKAR Karatay Array 34.12 17 P **P 14 26 37.8 +0.7**
KKAR Karatay Array 34.12 17 ⇓P **P 14 26 38.8 +1.7**
VOI Vohitsoka 34.16 198 P **P 14 26 35.0 -2.6**
VOI IAmb IAmb 14 26 44.9
comp=Z,617nm,1.9s
VOI IAMs_20 IAMs_20 14 36 39.9
comp=Z,36μm,22.0s
VOI Vohitsoka 34.16 198 P **P 14 26 39.3 +1.6**
SNR=9.8
VOI Vohitsoka 34.16 198 ⇓P **P 14 26 38.9 +1.2**
DZA Taraz 34.18 19 *e*P **P 14 26 38.2 +0.6**
DZA pmax pmax
comp=Z,153nm,1.0s
DZA Taraz 34.18 19 *e*P **P 14 26 38.3 +0.6**
comp=Z,153nm,1.0s
AML Almayashu 34.30 22 P **P 14 26 41.8 +2.6**
SNR=70
NCK Nalchik 34.62 342 *i*P **P 14 26 41.1 -0.3**
NCK pmax pmax
comp=Z,626nm,2.9s
NCK MLR MLR
comp=Z,35μm,18.0s
PBA Port Blair 34.77 85 P **P 14 26 44.5 +1.5**
PBA Port Blair 34.77 85 P **P 14 26 44.8 +1.8**
SNR=11
PBA Port Blair 34.77 85 *e*P **P 14 26 43.0 0.0**
PBA IAmb IAmb 14 26 58.0
comp=Z,2μm,1.9s
EKS2 Erkin-Say 34.79 22 P **P 14 26 45.7 +2.6**
SNR=191
AGT Agartala 34.80 64 *e*P **P 14 26 43.5 +0.4**
AGT IAmb IAmb 14 26 58.1
comp=Z,2μm,1.7s
BRDH Bariadhala 34.83 66 LR LR 14 39 48.2
comp=Z,61μm,21.6s,baz=232,slow=34
DGPR DIGLIPUR 34.92 83 *e*P **P 14 26 44.4 +0.1**
DGPR IAmb IAmb 14 26 58.9
comp=Z,353nm,1.1s
KIRS Kirsehir-Merke 35.02 327 ⇑P **P 14 26 47.2 +2.2**
AAK Ala-Archa 35.04 22 P **P 14 26 47.0 +1.8**
AAK IAmb IAmb 14 27 05.2
comp=Z,467nm,1.4s
AAK Ala-Archa 35.04 22 P **P 14 26 46.9 +1.7**
comp=Z,54nm,1.1s,baz=207,slow=8.1,SNR=105
AAK LR LR 14 42 30.2
comp=Z,46μm,19.4s,baz=215,slow=39
comp=Z,54nm,1.1s
AAK Ala-Archa 35.04 22 P **P 14 26 47.2 +2.1**
AAK P **P 14 26 47.2 +2.1**
AAK P **P 14 26 47.2 +2.1**
AAK S **S 14 32 19.7 +2.4**
AAK S **S 14 32 19.7 +2.4**
AAK S **S 14 32 19.7 +2.4**
AAK Ala-Archa 35.04 22 P **P 14 26 47.7 +2.5**
SNR=75
AAK Ala-Archa 35.04 22 P **P 14 26 47.0 +1.8**
AAK pmax pmax
comp=Z,467nm,1.4s
AAK MLR MLR
comp=Z,45μm,19.0s
AAK Ala-Archa 35.04 22 *i*P **P 14 26 46.8 +1.7**
SNR=92
AAK Ala-Archa 35.04 22 ⇑P **P 14 26 47.5 +2.3**
AAK Ala-Archa 35.04 22 P **P 14 26 47.3 +2.1**
AAK S **S 14 32 19.1 +1.8**
KBZ Khabaz 35.04 342 P **P 14 26 46.2 +1.3**
comp=Z,67nm,1.0s,baz=159,slow=5.8,SNR=91
KBZ LR LR 14 42 35.3
comp=Z,49μm,19.4s,baz=152,slow=39
comp=Z,67nm,1.0s
SHA1 Shidzhatmaz 35.13 341 *d i*P **P 14 26 46.1 +0.1**
KBK Karagaybulak 35.22 23 P **P 14 26 49.5 +2.6**
SNR=33
FRU1 Bishkek 35.24 22 IAMs_20 IAMs_20 14 42 25.7
comp=Z,42μm,20.0s
KVAR Kislovodsk Arr 35.31 342 LR LR 14 42 15.5
comp=Z,40μm,20.0s,baz=63,slow=38
KIV Kislovodsk 35.31 342 P **P 14 26 48.0 +0.5**
KIV IAmb IAmb 14 27 04.9
comp=Z,450nm,1.1s
KIV Kislovodsk 35.31 342 P **P 14 26 48.2 +0.7**
KIV P **P 14 26 48.2 +0.7**
KIV P **P 14 26 48.2 +0.7**
KIV S **S 14 32 21.3 -0.1**
KIV S **S 14 32 21.3 -0.1**
KIV S **S 14 32 21.3 -0.1**
KIV Kislovodsk 35.31 342 ⇓P **P 14 26 48.8 +1.4**
KIV Kislovodsk 35.31 342 *e*P **P 14 26 47.7 +0.2**
KIV *e* 14 28 05.1
KIV *e*S **S 14 32 21.5 +0.2**
KIV *e*SS **SnSn 14 34 41.4 +1.7**
KIV pmax pmax
comp=Z,332nm,1.1s
KIV pmax pmax
comp=Z,360nm,3.5s
KIV MLR MLR
comp=Z,29μm,16.0s
KIV Kislovodsk 35.31 342 *i*P **P 14 26 48.4 +0.9**
SNR=32
KIV Kislovodsk 35.31 342 P **P 14 26 48.5 +1.0**
comp=Z,9μmcomp=Z,331nm,1.1s
KIV Kislovodsk 35.31 342 ⇓P **P 14 26 48.3 +0.9**
KIV Kislovodsk 35.31 342 P **P 14 26 48.2 +0.7**
KIV S **S 14 32 26.4 +5.1**
ULHL Ulahol 35.39 25 P **P 14 26 50.0 +1.7**
SNR=65
CHMS Chumysh 35.44 22 P **P 14 26 51.4 +2.8**
SNR=15
BOOM Boomskoye usch 35.47 24 IAmb IAmb 14 27 08.3
comp=Z,514nm,1.4s
AKAS Kas 35.56 320 P **P 14 26 50.2 +0.4**
USP Ospenovka 35.58 22 P **P 14 26 52.5 +2.7**
SNR=51
BR104 Keskin Array S 35.58 328 P **P 14 26 50.7 +0.8**
comp=Z,1μmcomp=Z,114nm,1.4s
BR131 Keskin Array S 35.60 328 IAmb IAmb 14 27 03.5
comp=Z,829nm,2.0s
BR131 Keskin Array S 35.60 328 P **P 14 26 50.7 +0.7**
SNR=87
BR131 P **P 14 26 50.7 +0.7**
SNR=87
BR131 S **S 14 32 24.6 -1.3**
BR131 S **S 14 32 24.6 -1.3**
BR131 Keskin Array S 35.60 328 *d i*P **P 14 26 50.4 +0.4**
BRTR Keskin Array B 35.60 328 P **P 14 26 49.7 -0.4**
BRTR Keskin Array B 35.60 328 P **P 14 26 51.0 +1.0**
comp=Z,36nm,0.9s,baz=148,slow=9.6,SNR=49
BRTR LR LR 14 42 16.7
comp=Z,15μm,18.1s,baz=128,slow=38
comp=Z,36nm,0.9s
BR105 Keskin Array S 35.60 328 P **P 14 26 50.9 +0.8**
comp=Z,1μmcomp=Z,112nm,1.5s
BR106 Keskin Array S 35.62 328 P **P 14 26 51.0 +0.8**
comp=Z,969nmcomp=Z,108nm,1.2s
KDJ Kajisay 35.68 26 IAmb IAmb 14 27 10.1
comp=Z,296nm,1.2s
ELL Elmali 35.70 321 ⇓P **P 14 26 51.7 +0.7**
TKM2 Tokmak 2 35.70 23 P **P 14 26 52.3 +1.3**
SNR=27
VSLR Vesyoloye 35.77 338 *e*P **P 14 26 50.7 -0.6**
VSLR pmax pmax
comp=Z,124nm,1.4s
SGDS Sogindy 35.79 22 *e*P **P 14 26 52.2 +0.7**
SGDS *e*S **S 14 32 30.3 +1.7**
SGDS pmax pmax
comp=Z,130nm,1.9s
SGDS Sogindy 35.79 22 *e*P **P 14 26 52.2 +0.7**
comp=Z,130nm,1.9s
SGDS *e*S **S 14 32 30.3 +1.7**
SHL Shillong 35.83 61 P **P 14 26 52.5 +0.2**
SHL IAMs_20 IAMs_20 14 40 10.2
comp=Z,38μm,21.0s
SHL Shillong 35.83 61 P **P 14 26 53.2 +0.9**
SNR=194
SHL Shillong 35.83 61 *e*P **P 14 26 52.1 -0.2**
SHL IAmb IAmb 14 27 05.1
comp=Z,1μm,1.7s
SHL Shillong 35.83 61 P **P 14 26 52.5 +0.2**
SHL pmax pmax
comp=Z,2μm,1.7s
SHL MLR MLR
comp=Z,38μm,21.0s
WUS Wushi 35.86 29 IAmb IAmb 14 27 05.0
comp=Z,602nm,1.5s
GUWA GUWAHATI 35.86 60 *e*P **P 14 26 52.5 +0.2**
GUWA IAmb IAmb 14 27 05.2
comp=Z,974nm,1.4s
SOC Sochi 35.99 338 *e*P **P 14 26 52.1 -1.1**
SOC *e* 14 28 14.3
SOC *e*PPP PPP 14 28 32.2
SOC *e*S **S 14 32 32.1 +0.6**
SOC *e*SS **SnSn 14 34 55.9 0.0**
SOC *e*SSS SSS 14 35 13.9
SOC pmax pmax
comp=Z,199nm,1.2s
SOC MLR MLR
comp=Z,35μm,19.0s
ISP Isparta 36.02 323 *ce*P **P 14 26 53.9 +0.3**
ISP pmax pmax
comp=Z,405nm,1.8s
AZL Aizawl 36.03 64 *e*P **P 14 26 53.5 -0.4**
AZL IAmb IAmb 14 27 01.6
comp=Z,827nm,1.7s
ANTO Ankara 36.15 327 P **P 14 26 54.8 +0.1**
ANTO IAmb IAmb 14 27 09.3
comp=Z,416nm,1.1s
ANTO Ankara 36.15 327 P **P 14 26 56.3 +1.6**
ANTO S **S 14 32 36.3 +2.1**
ANTO Ankara 36.15 327 ⇓P **P 14 26 56.1 +1.3**
ANTO Ankara 36.15 327 P **P 14 26 56.0 +1.3**
ANTO Ankara 36.15 327 P **P 14 26 55.8 +1.1**
comp=Z,5μmcomp=Z,204nm,1.6s
ANTO Ankara 36.15 327 ⇓P **P 14 26 56.3 +1.6**
ANTO Ankara 36.15 327 P **P 14 26 55.8 +1.1**
ANTO S **S 14 32 34.2 0.0**
GOF Gofitskoye 36.21 343 *d i*P **P 14 26 55.3 +0.3**
GOF *e*S **S 14 32 40.4 +5.6**
DIKM Dikmen 36.26 332 ⇓P **P 14 26 56.9 +1.4**
TNSS Tian-Shan 36.34 25 *e*P **P 14 26 56.9 +0.3**
TNSS Tian-Shan 36.34 25 *e*P **P 14 26 57.0 +0.3**
CMBY CAMPBELL BAY 36.38 93 *e*P **P 14 26 57.9 +1.1**
CMBY IAmb IAmb 14 27 11.7
comp=Z,1μm,1.8s
AAA Alma-Ata 36.46 24 *e*P **P 14 27 00.9 +3.6**
AAA Alma-Ata 36.46 24 *e*P **P 14 26 58.0 +0.7**
comp=Z,127nm,1.5s
AAA LR LR 14 43 23.0
comp=Z,27μm,17.2s
MDOK Medeo 36.48 25 *e*P **P 14 26 58.1 +0.5**
MDOK *e*S **S 14 32 40.5 +1.2**
MDOK MLR MLR
comp=Z,13μm,15.0s
MDOK Medeo 36.48 25 *e*P **P 14 26 58.1 +0.5**
MDOK *e*S **S 14 32 40.6 +1.2**
MDOK LR LR 14 43 24.0
comp=Z,13μm,15.0s
ARG Arkhangelos 36.51 319 IAmb IAmb 14 27 04.0
comp=Z,394nm,1.2s
ARG Arkhangelos 36.51 319 ⇓P **P 14 26 58.6 +0.9**
LABN Labinsk 36.56 340 *e*P **P 14 26 57.0 -1.0**
LABN *e*S **S 14 32 40.5 +0.3**
LABN pmax pmax
comp=Z,326nm,1.2s
LABN MLR MLR
comp=Z,57μm,15.0s
LSA Lhasa 36.68 54 IAmb IAmb 14 27 11.9
comp=Z,565nm,1.5s
LSA Lhasa 36.68 54 P **P 14 27 00.0 +0.2**
LSA S S 14 32 33.8 -10
LSA pmax pmax
comp=Z,100nm,1.9s
LSA LR LR
comp=Z,57μm,19.4s
LSA LR LR
comp=Z,91μm,18.0s
KARP Karpathos 36.76 317 IAmb IAmb 14 27 06.6
comp=Z,326nm,1.1s
KARP Karpathos 36.76 317 P **P 14 27 00.9 +1.0**
comp=Z,9μmcomp=Z,368nm,1.3s
KARP Karpathos 36.76 317 ⇓P **P 14 27 01.8 +1.9**
KUU Kurty 36.81 23 *e*P **P 14 27 00.5 +0.3**
KUU pmax pmax
comp=Z,164nm,1.7s
KUU MLR MLR
comp=Z,22μm,15.0s
KUU Kurty 36.81 23 *e*P **P 14 27 00.6 +0.3**
comp=Z,164nm,1.7s
KUU LR LR 14 43 37.3
comp=Z,22μm,14.6s
SATY Saty 36.97 26 *e*P **P 14 27 02.2 +0.6**
SATY *e*S **S 14 32 48.3 +1.6**
SATY pmax pmax
comp=Z,160nm,1.9s
SATY Saty 36.97 26 *e*P **P 14 27 02.3 +0.6**
comp=Z,160nm,1.9s
SATY *e*S **S 14 32 48.4 +1.6**
ZHN Zhinishke 37.07 26 *e*P **P 14 27 03.1 +0.6**
ZHN Zhinishke 37.07 26 *e*P **P 14 27 03.2 +0.6**
BZK Bozkurt 37.09 331 ⇑P **P 14 27 04.2 +1.6**
BZK Bozkurt 37.09 331 ⇓P **P 14 27 03.4 +0.9**
UZB Uzynbulak 37.30 27 *e*P **P 14 27 05.2 +0.6**
UZB *e*S **S 14 32 53.6 +1.7**
UZB pmax pmax
comp=Z,160nm,2.0s
UZB Uzynbulak 37.30 27 *e*P **P 14 27 05.2 +0.6**
comp=Z,160nm,2.0s
UZB *e*S **S 14 32 53.6 +1.7**
BORA Eskisehir 37.44 325 IAmb IAmb 14 27 34.5
comp=Z,383nm,1.8s
SHLS Shalkode 37.51 27 *e*P **P 14 27 08.4 +2.2**
SHLS pmax pmax
comp=Z,182nm,1.9s
SHLS Shalkode 37.51 27 *e*P **P 14 27 08.5 +2.2**
comp=Z,182nm,1.9s
CIDE Kastamonu/Cide 37.55 330 ⇓P **P 14 27 07.7 +1.3**
ERBR Yeremizino-Bor 37.59 341 *d i*P **P 14 27 06.5 -0.2**
ERBR *i* 14 28 31.9
ERBR *e*S **S 14 32 55.7 -0.1**
ERBR *e*SS **SnSn 14 35 34.6 +0.1**
ERBR pmax pmax
comp=Z,375nm,1.2s
ERBR MLR MLR
comp=Z,59μm,19.0s
ARXS Arharly 37.67 24 *i*P **P 14 27 08.0 +0.4**
KOHI KOHIMA 37.80 62 *e*P **P 14 27 08.5 -0.5**
KOHI IAmb IAmb 14 27 28.1
comp=Z,1μm,1.7s
ANN Anapa 37.89 337 *d i*P **P 14 27 09.7 +0.4**
ANN *i* 14 28 35.2
ANN *e*S **S 14 33 01.2 +0.9**
ANN *e*SS **SnSn 14 35 39.2 -2.5**
ANN pmax pmax
comp=Z,327nm,1.1s
ANN MLR MLR
comp=Z,14μm,14.0s
BSI Banda Aceh 37.97 95 P **P 14 27 12.5 +2.1**
comp=Z,5μmcomp=Z,192nm,1.4s
IDI Anoyia 38.17 315 P **P 14 27 12.8 +0.9**
IDI IAmb IAmb 14 27 18.6
comp=Z,449nm,1.1s
IDI Anoyia 38.17 315 P **P 14 27 13.4 +1.5**
IDI S **S 14 33 03.1 -2.1**
IDI Anoyia 38.17 315 P **P 14 27 13.4 +1.5**
comp=Z,252nm,1.0s,baz=105,slow=8.6,SNR=49
IDI LR LR 14 44 39.1
comp=Z,7μm,21.9s,baz=106,slow=39
comp=Z,252nm,1.0s
AB31 Akbulak array 38.34 3 IAmb IAmb 14 27 20.2
comp=Z,505nm,1.2s
ABKAR Akbulak array 38.34 3 P **P 14 27 13.0 0.0**
ABKAR Akbulak array 38.34 3 IAmb IAmb 14 27 20.2
comp=Z,507nm,1.2s
ABKAR Akbulak array 38.34 3 ⇓P **P 14 27 13.6 +0.6**
TDK Taldyqorghan 38.55 24 *e*P **P 14 27 15.6 +0.7**
TDK pmax pmax
comp=Z,384nm,1.6s
TDK MLR MLR
comp=Z,14μm,15.0s
TDK Taldyqorghan 38.55 24 *e*P **P 14 27 15.6 +0.7**
comp=Z,384nm,1.6s
TDK LR LR 14 44 53.9
comp=Z,14μm,14.7s
LSZ Lusaka 38.80 229 P **P 14 27 17.2 -0.3**
LSZ Lusaka 38.80 229 IAMs_20 IAMs_20 14 44 24.2
comp=Z,27μm,18.0s
LSZ Lusaka 38.80 229 LR LR 14 44 35.9
comp=Z,22μm,18.1s,baz=60,slow=38
LSZ Lusaka 38.80 229 P **P 14 27 19.1 +1.6**
LSZ P **P 14 27 19.1 +1.6**
LSZ S **S 14 33 14.2 -0.9**
LSZ S **S 14 33 14.2 -0.9**
LSZ Lusaka 38.80 229 P **P 14 27 17.2 -0.3**
LSZ pmax pmax
comp=Z,59nm,0.9s
LSZ MLR MLR
comp=Z,27μm,18.0s
LSZ Lusaka 38.80 229 *i*P **P 14 27 15.8 -1.7**
LSZ Lusaka 38.80 229 ⇑P **P 14 27 17.9 +0.5**
DKL Dikili 39.00 321 ⇑P **P 14 27 20.2 +1.5**
BAND Balkesir-Ban 39.10 324 ⇓P **P 14 27 20.8 +1.2**
MLSI Meulaboh, Aceh 39.29 97 P **P 14 27 21.6 +0.1**
comp=Z,5μmcomp=Z,190nm,1.3s
SIM Simferopol' 39.37 334 *e*P **P 14 27 22.6 +0.9**
SIM *e* 14 28 53.4
SIM *e*S **S 14 33 24.5 +1.7**
SIM pmax pmax
comp=Z,4μm,3.8s
SIM pmax pmax
comp=Z,2μm,3.4s
SIM smax smax
comp=N,6μm,11.0s
SIM pmax pmax
comp=N,8μm,13.0s
SIM MLR MLR
comp=Z,10μm,21.0s
AKTO Aktyubinsk 39.46 1 P **P 14 27 23.0 +0.6**
comp=Z,124nm,0.6s,baz=181,slow=6.9,SNR=275
AKTO LR LR 14 46 22.0
comp=Z,19μm,18.7s,baz=169,slow=40
comp=Z,124nm,0.6s
AKTO Aktyubinsk 39.46 1 P **P 14 27 23.0 +0.6**
LHMI Lhok Sumawe 39.64 95 IAMs_20 IAMs_20 14 40 48.5
comp=Z,31μm,19.0s
LHMI Lhok Sumawe 39.64 95 P **P 14 27 24.4 0.0**
comp=Z,12μmcomp=Z,329nm,1.7s
ALN Alexandroupoli 40.65 323 P **P 14 27 32.4 0.0**
ALN IAmb IAmb 14 27 37.7
comp=Z,354nm,1.4s
ALN Alexandroupoli 40.65 323 P **P 14 27 32.4 0.0**
ALN pmax pmax
comp=Z,354nm,1.4s
ALN MLR MLR
comp=Z,13μm,20.0s
ALN Alexandroupoli 40.65 323 ⇑P **P 14 27 33.4 +1.0**
CM31 Chiang Mai Arr 40.92 74 P **P 14 27 35.4 +0.4**
CM31 Chiang Mai Arr 40.92 74 P **P 14 27 36.2 +1.2**
SNR=226
CM31 P **P 14 27 36.2 +1.2**
SNR=226
CM31 P **P 14 27 36.2 +1.2**
SNR=226
CM31 S **S 14 33 48.5 +1.8**
CM31 S **S 14 33 48.5 +1.8**
CM31 S **S 14 33 48.5 +1.8**
CMAR Chiang Mai Arr 40.92 74 **P 14 27 35.3 +0.3**
CMAR Chiang Mai Arr 40.92 74 P **P 14 27 35.8 +0.8**
comp=Z,53nm,1.0s,baz=270,slow=7.7,SNR=202
CMAR LR LR 14 45 48.1
comp=Z,10μm,18.4s,baz=255,slow=38
comp=Z,53nm,1.0s
CHTO Chiang Mai 40.95 74 P **P 14 27 34.8 -0.5**
CHTO Chiang Mai 40.95 74 P **P 14 27 35.7 +0.4**
CHTO P **P 14 27 35.7 +0.4**
CHTO P **P 14 27 35.7 +0.4**
CHTO S **S 14 33 46.7 -0.5**
CHTO S **S 14 33 46.7 -0.5**
CHTO S **S 14 33 46.7 -0.5**
CHTO Chiang Mai 40.95 74 P **P 14 27 35.5 +0.3**
CHTO Chiang Mai 40.95 74 P **P 14 27 34.8 -0.5**
CHTO pmax pmax
comp=Z,285nm,1.3s
CHTO MLR MLR
comp=Z,13μm,19.0s
CHTO Chiang Mai 40.95 74 ⇑P **P 14 27 35.3 0.0**
CHTO Chiang Mai 40.95 74 P **P 14 27 35.6 +0.3**
CHTO S **S 14 33 50.0 +2.8**
BRZS Berezniki 41.03 15 *e*P **P 14 27 36.1 +0.7**
BRZS *e*S **S 14 33 49.4 +1.9**
BRZS Berezniki 41.03 15 *e*P **P 14 27 36.2 +0.7**
BRZS *e*S **S 14 33 49.5 +1.9**
RDO Rodhopi 41.10 323 ⇓P **P 14 27 37.2 +1.1**
GSI Gunungsitoli 41.12 101 P **P 14 27 37.8 +1.2**
GSI IAmb IAmb 14 27 51.3
comp=Z,444nm,1.3s
GSI IAMs_20 IAMs_20 14 41 21.7
comp=Z,31μm,19.0s
GSI Gunungsitoli 41.12 101 P **P 14 27 38.7 +2.0**
comp=Z,7μmcomp=Z,278nm,1.8s
GSI Gunungsitoli 41.12 101 ⇑P **P 14 27 39.1 +2.5**
ITM Ithomi 41.20 315 P **P 14 27 36.7 -0.3**
ITM IAmb IAmb 14 27 50.6
comp=Z,229nm,0.9s
ITM Ithomi 41.20 315 ⇓P **P 14 27 37.6 +0.6**
PSN Preselentsi 41.27 328 P **P 14 27 36.0 -1.5**
EFOR EFORIE 41.32 328 ⇑P **P 14 27 40.8 +2.9**
PRD Provadia 41.34 326 P **P 14 27 39.0 +0.9**
NEF NEVSHA 41.48 327 P **P 14 27 39.0 -0.3**
MAKZ Makanchi 41.48 26 **P 14 27 39.3 0.0**
MAKZ IAmb IAmb 14 27 57.8
comp=Z,449nm,1.3s
MAKZ Makanchi 41.48 26 P **P 14 27 39.3 0.0**
MAKZ pmax pmax
comp=Z,449nm,1.3s
MAKZ MLR MLR
comp=Z,16μm,20.0s
MAKZ Makanchi 41.48 26 ⇑P **P 14 27 40.0 +0.7**
MFTR Murfatlar 41.50 328 ⇑P **P 14 27 40.5 +1.1**
TNCH TengChong 41.50 64 ⇑P **P 14 27 40.5 +0.6**
TNCH sP sP 14 27 44.8 +1.0
TNCH PP **PP 14 29 19.0 +3.2**
TNCH PcP **PcP 14 29 33.8 -3.8**
TNCH S **S 14 33 53.3 -2.2**
TNCH SS **SS 14 36 58.5 -1.6**
TNCH pmax pmax
comp=Z,410nm,1.6s
TNCH pmax pmax
comp=Z,4μm,3.0s
TNCH LR LR
comp=Z,16μm,18.9s
TNCH LR LR
comp=Z,78μm,20.8s
KDZ Kurdzhali 41.52 323 P **P 14 27 39.0 -0.6**

TSI Tuntungan 41.56 97 P P 14 27 41.0 +0.7
MK31 Makanchi Array 41.61 26*ce*P P 14 27 40.2 -0.1
MKAR Makanchi Array 41.61 26 P 14 27 39.9 -0.4
MKAR Makanchi Array 41.61 26 P P 14 27 40.3 0.0
comp=Z,21nm,0.6s,baz=207,slow=8.8,SNR=98
MKAR LR LR 14 46 56.9
comp=Z,21μm,18.6s,baz=210,slow=39
comp=Z,21nm,0.6s
MKAR Makanchi Array 41.61 26*ce*P P 14 27 41.0 +0.7
MKAR pmax pmax
comp=Z,21nm,0.6s
TIRR Tirgusor 41.70 329 P P 14 27 40.4 -0.6
TIRR IAmb IAmb 14 27 53.6
comp=Z,1μm,2.0s
TIRR Tirgusor 41.70 329 ⇑P P 14 27 41.7 +0.7
TIRR Tirgusor 41.70 329 P P 14 27 44.4 +3.4
TIRR Tirgusor 41.70 329 P P 14 27 40.9 -0.1
comp=Z,6μmcomp=Z,208nm,1.1s
TIRR Tirgusor 41.70 329 ⇓P P 14 27 40.0 -1.0
SRIT Nakonsritamara 41.74 89 IAmb IAmb 14 27 55.0
comp=Z,667nm,1.3s
BLWY Bulawayo 41.78 223 *i* P P 14 27 41.6 -0.5
AGG Agios Georgios 41.88 318 P P 14 27 42.1 -0.6
AGG Agios Georgios 41.88 318 P P 14 27 42.1 -0.6
AGG pmax pmax
comp=Z,165nm,1.3s
AGG Agios Georgios 41.88 318 ⇑P P 14 27 42.4 -0.3
RZN Rozhen 41.91 323 P P 14 27 42.0 -1.1
TLBR Topalu 41.95 328 ⇑P P 14 27 43.7 +0.6
TPGR Topolog 41.98 329 ⇓P P 14 27 43.5 +0.2
TLCR 42.01 330 ⇑P P 14 27 44.5 +1.0
TLCR 42.01 330 P P 14 27 44.5 +1.0
MATP Matopo 42.06 222 LR LR 14 43 43.6
comp=Z,11μm,20.4s,baz=53,slow=34
PSI Prapat 42.06 98 LR LR 14 42 32.5
comp=Z,30μm,21.3s,baz=272,slow=32
PSI Prapat 42.06 98 P P 14 27 45.1 +0.5
PSI pmax pmax
comp=Z,242nm,1.4s
WMQ Urumqi 42.06 33 ⇑P P 14 27 45.5 +1.4
WMQ sP pwP 14 27 54.0 +1.1
WMQ PP PP 14 29 24.3 +2.8
WMQ S S 14 34 03.8 +0.7
WMQ pmax pmax
comp=Z,220nm,2.4s
WMQ pmax pmax
comp=Z,5μm,5.1s
WMQ LR LR
comp=Z,30μm,18.7s
WMQ LR LR
comp=Z,12μm,22.5s
RPSI Rantau Prapat 42.09 98 P 14 27 45.1 +0.5
RPSI IAMs_20 IAMs_20 14 42 21.4
comp=Z,33μm,21.0s
RAZG Razgrad 42.10 326 ⇑P P 14 27 45.6 +1.2
HARR Harsova 42.11 329 ⇓P P 14 27 44.9 +0.6
HARR Harsova 42.11 329 P P 14 27 44.9 +0.6
BELG Belogornoye 42.15 351 P P 14 27 44.3 -0.2
comp=Z,158nm,0.9s,baz=9.5,slow=1.2,SNR=17
BELG LR LR 14 49 34.4
comp=Z,24μm,18.6s,baz=178,slow=42
comp=Z,158nm,0.9s
PBSI Pulau Batu 42.16 102 P P 14 27 45.5 +0.3
comp=Z,321nm,1.8s
SZH Strazhitsa 42.19 326 P P 14 27 44.5 -0.6
VRH Novokhopyorsk 42.20 345 *e*P P 14 27 44.6 -0.4
VRH *e* 14 27 46.8
VRH *e* 14 29 25.7
VRH *e*S S 14 33 58.1 -6.6
VRH pmax pmax
comp=Z,590nm,1.6s
VRH pmax pmax
comp=Z,2μm,2.2s
VRH smax smax
comp=N,22μm,13.1s
VRH MLR MLR
comp=Z,31μm,18.0s
GOMU GeErMu 42.25 47 P P 14 27 46.5 +0.4
GOMU pP pwP 14 27 53.0 -1.8
GOMU sP sP 14 27 56.8 +6.8
GOMU S S 14 34 05.5 -1.2
GOMU pmax pmax
comp=Z,170nm,1.5s
GOMU LR LR
comp=Z,20μm,16.9s
GOMU LR LR
comp=Z,40μm,17.8s
CFR Carcaliu 42.34 329 ⇓P P 14 27 46.6 +0.3
CFR Carcaliu 42.34 329 P P 14 27 46.5 +0.3
MMB Musomishta 42.42 322 P P 14 27 46.0 -1.0
MUSN Musina, Limpop 42.53 219 *i* P P 14 27 47.7 -0.4
MOPA Mopani 42.53 216 *i* P P 14 27 48.4 +0.3
VORD Divnogorie 42.63 343 *e*P P 14 27 48.9 +0.4
VORD *e* 14 27 50.7
VORD *e* 14 29 23.8
VORD *e*S S 14 34 02.9 -8.1
VORD pmax pmax
comp=Z,270nm,1.2s
VORD pmax pmax
comp=Z,2μm,3.0s
VORD smax smax
comp=N,17μm,14.3s
VORD MLR MLR
comp=Z,10μm,16.0s
SCHLR Schela 42.70 329 ⇑P P 14 27 50.0 +0.8
KHAM Kharkiv 42.72 340 P P 14 27 50.1 +0.8
PGB Panagyurishte 42.75 323 P P 14 27 49.0 -0.7
SGRR Singureni 42.82 327 ⇑P P 14 27 51.9 +1.7
VLDR Vladesti 42.84 330 ⇓P P 14 27 51.2 +0.8
TUDR 42.87 329 ⇑P P 14 27 51.7 +1.2
VSR Storozhevoye 42.89 343 *e*P P 14 27 49.6 -1.0
VSR *e* 14 27 51.4
VSR *e* 14 29 28.6
VSR *e*S S 14 34 07.6 -7.3
VSR pmax pmax
comp=Z,330nm,1.1s
VSR pmax pmax
comp=Z,4μm,3.2s
VSR smax smax
comp=N,20μm,13.2s
VSR MLR MLR
comp=Z,25μm,18.0s
KKB Krupnik 42.97 322 P P 14 27 50.0 -1.4
PLTM Poltava 42.98 338 P P 14 27 53.1 +1.7
VAY Valandovo 43.01 321 *i* P P 14 27 52.2 +0.5
VAY *i* S S 14 34 21.7 +4.7
ISR Istrita 43.12 328 ⇑P P 14 27 54.4 +1.7
ISR Istrita 43.12 328 P P 14 27 54.3 +1.7
COPA Copaceanca 43.17 326 ⇓P P 14 27 54.1 +1.1
MNSI Mandailing Nat 43.18 101 P P 14 27 55.5 +2.0
comp=Z,7μmcomp=Z,5μmcomp=Z,227nm,1.4s
ZSN Zaisan 43.24 27 *e*P P 14 27 54.3 +0.7
ZSN pmax pmax
comp=Z,176nm,1.8s
ZSN Zaisan 43.24 27 *e*P P 14 27 54.4 +0.7
comp=Z,176nm,1.8s
KULM Kulim 43.25 94 P 14 27 52.7 -1.4
KULM IAMs_20 IAMs_20 14 43 13.2
comp=Z,29μm,21.0s
KULM Kulim 43.25 94 P P 14 27 54.3 +0.2
KULM Kulim 43.25 94 ⇑P P 14 27 53.5 -0.6
MILM Milestii Mici 43.27 332 ⇓*i*P P 14 27 53.0 -0.7
comp=Z,3μm,3.5s
MILM Milestii Mici 43.27 332 *i* PP PP 14 29 30.0 -4.3
MILM *i* S S 14 34 16.0 -4.5
MILM *e*L L 14 37 15.0
MILM LQM 14 37 43.0
comp=Z,7μm,14.0s
MILM LRM MLR 14 50 05.0
comp=Z,12μm,16.0s
MILM Milestii Mici 43.27 332 ⇑P P 14 27 53.8 +0.1
MILM Milestii Mici 43.27 332*d*P P 14 27 53.0 -0.7
MILM *i* S S 14 34 16.0 -4.5
MILM pmax pmax
comp=Z,3μm,3.5s
MILM MLR MLR
comp=Z,12μm,16.0s
VORR Voronezh 43.28 344 *e*P P 14 27 53.7 -0.1
VORR *e* 14 27 56.2
VORR *e* 14 29 32.4
VORR *e*S S 14 34 14.3 -6.3
VORR pmax pmax
comp=Z,260nm,0.6s
VORR pmax pmax
comp=Z,340nm,0.6s
VORR smax smax
comp=N,3μm,7.6s
VORR MLR MLR
comp=Z,11μm,13.0s
SISI Saibi 43.30 104 P P 14 27 55.1 +0.7
comp=Z,249nm,1.4s
ODBI Odobesti 43.30 329 ⇑P P 14 27 55.8 +1.8
KIS Kishinev 43.32 332 *e*P P 14 27 53.8 -0.4
comp=Z,1μm,3.4s
KIS Kishinev 43.32 332 *e*PP PP 14 29 30.0 -4.9
KIS *e*S S 14 34 16.0 -5.4
KIS *e*SS SS 14 37 17.0 -18
KIS *e*LQ LQ 14 44 42.0
comp=Z,4μm,23.0s
KIS LRM MLR 14 50 04.0
comp=Z,5μm,16.0s
KIS Kishinev 43.32 332 *e*P P 14 27 53.8 -0.4
KIS *e* 14 29 30.0
KIS *i* 14 34 18.0
KIS pmax pmax
comp=Z,1μm,3.4s
KIS MLR MLR
comp=Z,5μm,16.0s
KURBB Kurchatov Arra 43.32 20 P P 14 27 55.0 +0.8
comp=Z,34nm,0.9s,baz=216,slow=8.0,SNR=105
KURBB PP PcP 14 29 41.1 -1.7
comp=Z,11nm,1.0s,baz=220,slow=11,SNR=4.1
KURBB LR LR 14 46 59.2
comp=Z,57μm,21.3s,baz=211,slow=38
comp=Z,34nm,0.9s
PANC Panciu 43.33 329 ⇑P P 14 27 55.7 +1.5
BVAR Borovoye Array 43.35 12 P P 14 27 54.8 +0.4
comp=Z,32nm,0.6s,baz=182,slow=5.0,SNR=56
BVAR LR LR 14 48 13.7
comp=Z,30μm,18.5s,baz=194,slow=39
comp=Z,32nm,0.6s
VTS Vitosha 43.36 323 P P 14 27 54.0 -0.8
BRVK Borovoye 43.37 11 P P 14 27 54.6 +0.1
BRVK IAmb IAmb 14 28 00.4
comp=Z,659nm,1.9s
BRVK Borovoye 43.37 11 IAMs_20 IAMs_20 14 47 53.4
comp=Z,29μm,19.0s
BRVK Borovoye 43.37 11 P P 14 27 55.5 +1.1
BRVK P P 14 27 55.5 +1.1
BRVK S S 14 34 22.4 +0.5
BRVK S S 14 34 22.4 +0.5
BRVK Borovoye 43.37 11 P P 14 27 54.6 +0.1
BRVK pmax pmax
comp=Z,659nm,1.9s
BRVK MLR MLR
comp=Z,29μm,19.0s
BRVK Borovoye 43.37 11 ⇓P P 14 27 54.9 +0.5
KURK Kurchatov 43.43 20 P P 14 27 55.0 0.0
KURK IAmb IAmb 14 28 14.2
comp=Z,301nm,1.2s
KURK Kurchatov 43.43 20 P P 14 27 55.8 +0.8
KURK P P 14 27 55.8 +0.8
KURK P P 14 27 55.8 +0.8
KURK S S 14 34 24.1 +1.2
KURK S S 14 34 24.1 +1.2
KURK S S 14 34 24.1 +1.2
KURK Kurchatov 43.43 20 P P 14 27 55.0 0.0
KURK Kurchatov 43.43 20 ⇑P P 14 27 55.6 +0.6
NEHR Nehoiu 43.46 328 ⇑P P 14 27 57.3 +2.0
VRI Vrincioaia 43.53 329 ⇓P P 14 27 57.2 +1.2
VRI Vrincioaia 43.53 329 P P 14 27 57.2 +1.2
VLAD Vladila 43.54 325 ⇑P P 14 27 57.2 +1.2
HUMR Humele 43.56 326 ⇓P P 14 27 57.7 +1.6
PLOR Plostina 43.56 329 ⇑P P 14 27 58.0 +1.8
PLOR Plostina 43.56 329 P P 14 27 58.0 +1.8
MLR Muntele Rosu 43.68 328 P P 14 27 57.5 +0.2
MLR IAmb IAmb 14 28 11.1
comp=Z,614nm,1.5s
MLR IAMs_20 IAMs_20 14 46 27.0
comp=Z,23μm,22.0s
MLR Muntele Rosu 43.68 328 P P 14 27 58.3 +1.1
comp=Z,28nm,0.9s,baz=160,slow=4.3,SNR=45
MLR LR LR 14 48 21.8
comp=Z,10μm,18.5s,baz=142,slow=39
comp=Z,28nm,0.9s
MLR Muntele Rosu 43.68 328 ⇑P P 14 27 58.8 +1.5
MLR Muntele Rosu 43.68 328 P P 14 27 58.8 +1.5
COVR Voineasa-Covas 43.79 329 ⇑P P 14 27 59.6 +1.5
KEK Kerkira 43.92 317 ⇓P P 14 28 01.2 +2.0
OHR Ohrid 44.00 320 *i* P P 14 28 01.4 +1.5
OHR *i* S S 14 34 34.5 +2.9
TESR Tescani 44.02 330 ⇓P P 14 28 00.5 +0.6
ONER Baraj Valea Uz 44.03 329 ⇑P P 14 28 01.1 +1.2
IASR Iasi 44.04 331 ⇓P P 14 28 00.9 +1.0
SKO Skopje 44.07 321 ⇓*i*P P 14 28 00.1 -0.2
SKO *i* S S 14 34 36.3 +3.7
VOIR 44.12 327 ⇑P P 14 28 01.7 +0.9
VOIR 44.12 327 P P 14 28 01.6 +0.9
OZUR 44.17 329 ⇓P P 14 28 01.7 +0.6
LPSR Galich'ya Gora 44.19 344*d*iP P 14 28 00.5 -0.6
LPSR pmax pmax
comp=Z,349nm,1.7s
MREMI Moremi 44.27 221 IAmb IAmb 14 28 19.2
comp=Z,208nm,1.1s
MREMI Moremi 44.27 221 *i* P P 14 28 03.1 +0.9
DOPR Dopca 44.29 328 ⇑P P 14 28 02.3 +0.3
ARR Arges 44.29 327 ⇑P P 14 28 02.9 +0.8
PPI Padang Panjang 44.30 102 P P 14 28 02.5 0.0
comp=Z,6μmcomp=Z,4μmcomp=Z,125nm,1.2s
SORM Soroca 44.37 332 ⇑P P 14 28 02.1 -0.5
SORM Soroca 44.37 332 P P 14 28 02.1 -0.5
SRE Strehaia 44.62 325 ⇑P P 14 28 05.7 +1.0
SRE Strehaia 44.62 325 P P 14 28 05.7 +1.0
PZH PanZhiHua 44.65 63 ⇑P P 14 28 05.3 0.0
PZH S S 14 34 42.3 +0.7
PZH sS sS 14 34 54.0 +8.0
PZH ScS ScS 14 38 03.3 -0.3
PZH pmax pmax
comp=Z,130nm,1.9s
PZH pmax pmax
comp=Z,3μm,7.9s
PZH LR LR
comp=Z,16μm,23.5s
PZH LR LR
comp=Z,27μm,25.9s
TNR Turnu Rosu 44.67 327 ⇑P P 14 28 05.3 +0.1
TNR Turnu Rosu 44.67 327 P P 14 28 05.2 +0.1
BKNI Bangkinang 44.71 101 IAMs_20 IAMs_20 14 43 34.1
comp=Z,22μm,19.0s
BKNI Bangkinang 44.71 101 P P 14 28 05.3 -0.5
BKNI Bangkinang 44.71 101 P P 14 28 05.5 -0.3
comp=Z,7μmcomp=Z,7μmcomp=Z,402nm,1.4s
TIR Tirane 44.72 319 P P 14 28 06.8 +1.3
comp=Z,2μmcomp=Z,88nm,0.9s
LOT Lotru 44.81 327 ⇑P P 14 28 06.4 +0.1
PRAR RASCA 44.82 330 ⇑P P 14 28 06.7 +0.5
BOVS Bovan 44.87 323 ⇑P P 14 28 06.5 -0.1
MDB Medias 44.93 328 ⇑P P 14 28 08.8 +1.6
MDB Medias 44.93 328 P P 14 28 08.7 +1.6
KHWEE KHWEE 45.16 224 IAmb IAmb 14 28 25.4
comp=Z,248nm,1.1s
KHWEE KHWEE 45.16 224 *i* P P 14 28 10.1 +0.7
HERR Herculane 45.20 325 ⇓P P 14 28 09.6 +0.3
DRBR Darabani 45.23 331 ⇑P P 14 28 09.0 -0.4
KMI Kunming 45.27 65 ⇑P P 14 28 10.8 +0.4
KMI pP sP 14 28 14.5 +0.1
KMI PP PcP 14 29 51.3 +1.0
KMI S S 14 34 52.3 +1.4
KMI sS sS 14 35 02.0 +6.7
KMI SS ScS 14 38 09.5 +1.7
KMI pmax pmax
comp=Z,170nm,1.5s
KMI pmax pmax
comp=Z,4μm,8.6s
KMI LR LR
comp=Z,10μm,19.7s
KMI LR LR
comp=Z,33μm,24.2s
GZR Gura Zlata 45.32 326 ⇑P P 14 28 10.1 -0.2
GZR Gura Zlata 45.32 326 P P 14 28 10.1 -0.2
ARTI Arti 45.43 1 P 14 28 10.3 -0.6
ARTI IAmb IAmb 14 28 30.5
comp=Z,242nm,1.1s
ARTI Arti 45.43 1 P P 14 28 11.0 +0.2
comp=Z,156nm,1.2s,baz=180,slow=5.5,SNR=52
ARTI LR LR 14 50 22.3
comp=Z,12μm,20.1s,baz=178,slow=40
comp=Z,156nm,1.2s
ARTI Arti 45.43 1*d*iP P 14 28 10.9 0.0
ARTI 14 30 00.8
ARTI PPP PPP 14 30 37.6
ARTI S S 14 34 53.1 +1.3
ARTI pmax pmax
comp=Z,253nm,1.7s
ARTI Arti 45.43 1 ⇓P P 14 28 10.9 0.0
BUR08 Bucovina Ar. S 45.52 330 IAmb IAmb 14 28 36.4
comp=Z,221nm,1.4s
IVA Berane 45.52 321 ⇓*i*P P 14 28 10.8 -1.2
MDVR Moldovita 45.54 325 ⇑P P 14 28 12.3 +0.2
KMPD K-Podol'skiy 45.55 335 P P 14 28 11.2 -0.8
ARCR ARCALIA 45.57 329 ⇓P P 14 28 13.2 +1.0
DRME Dracevica, Mon 45.60 320 *e*P P 14 28 11.1 -1.4
DRME Dracevica, Mon 45.60 320 ⇓*i*P P 14 28 12.0 -0.5
PDG Podgorica 45.68 320 ⇓*i*P P 14 28 11.9 -1.2
PDG Podgorica 45.68 320 ⇑P P 14 28 12.4 -0.7
PDG Podgorica 45.68 320 ⇓*i*P P 14 28 12.2 -0.9
PDG Podgorica 45.68 320 ⇓P P 14 28 12.7 -0.4
SJES Sjenica 45.69 322 ⇓*i*P P 14 28 12.1 -1.2
TIP Timpagrande 45.73 315 ⇑P P 14 28 14.6 +0.9
TIP Timpagrande 45.73 315 ⇑P P 14 28 14.8 +1.1
KOME Kolasin 45.74 321 ⇓*i*P P 14 28 12.9 -0.9
CBBR Cluj-Babes-Bol 45.78 328 ⇓P P 14 28 14.4 +0.6
AK09 Malin Array Si 45.83 335 P P 14 28 13.5 -0.6
AK10 Malin Array Si 45.83 335 P P 14 28 13.5 -0.6
BUM Brajici-Budva 45.84 320 ⇓*i*P P 14 28 13.8 -0.7
AK06 Malin Array Si 45.84 335 P P 14 28 13.8 -0.4
AK08 Malin Array Si 45.85 335 P P 14 28 13.9 -0.4
LPHEP Lephephe 45.86 222 P 14 28 14.3 -0.5
LPHEP IAmb IAmb 14 28 36.8
comp=Z,450nm,1.9s
LPHEP Lephephe 45.86 222 *i* P P 14 28 15.8 +0.9
AK05 Malin Array Si 45.86 335 P P 14 28 14.0 -0.4
AK02 Malin Array Si 45.89 335 P P 14 28 14.2 -0.4
SURR Surduc 45.90 326 ⇓P P 14 28 15.2 +0.4
AK12 Malin Array Si 45.90 335 P P 14 28 14.2 -0.5
AK14 Malin Array Si 45.91 335 P P 14 28 14.2 -0.6
AK01 Malin Array Si 45.91 335 P P 14 28 14.3 -0.5
AK13 Malin Array Si 45.92 335 P P 14 28 14.3 -0.5
AKASG Malin Array Be 45.92 335 P 14 28 13.3 -1.5
AKASG Malin Array Be 45.92 335 P P 14 28 14.2 -0.6
comp=Z,23nm,0.9s,baz=142,slow=7.1,SNR=58
AKASG PP PP 14 30 01.3 -1.2
comp=Z,20nm,0.8s,baz=143,slow=8.4,SNR=4.6
AKASG LR LR 14 50 20.1
comp=Z,14μm,18.6s,baz=139,slow=40
comp=Z,23nm,0.9s
AKBB Malin Array Si 45.92 335*ce*P P 14 28 13.9 -0.9
AKBB pmax pmax
comp=Z,108nm,1.0s
AKBB MLR MLR
comp=Z,16μm,17.0s
KIEV Kiev 45.92 335 P 14 28 13.4 -1.5
KIEV IAmb IAmb 14 28 27.5
comp=Z,461nm,1.4s
KIEV Kiev 45.92 335 ⇑P P 14 28 14.9 0.0
KIEV Kiev 45.92 335 P P 14 28 14.8 0.0
KIEV Kiev 45.92 335 *i* P P 14 28 14.4 -0.5
SNR=67
KIEV Kiev 45.92 335 P P 14 28 14.3 -0.5
comp=Z,26μmcomp=Z,884nm,1.2s
KIEV Kiev 45.92 335 ⇓P P 14 28 14.1 -0.7
AK11 Malin Array Si 45.92 335 P P 14 28 14.3 -0.6
CEL Celeste 45.93 314 IAmb IAmb 14 28 35.3
comp=Z,175nm,1.3s
CEL Celeste 45.93 314 ⇑P P 14 28 16.4 +1.1
SVE Sverdlovsk 45.93 3*ce*P P 14 28 14.4 -0.5
SVE *e* 14 30 06.6
SVE *e*S S 14 34 58.6 -0.4
SVE pmax pmax
comp=Z,251nm,1.5s
AK03 Malin Array Si 45.94 335 P P 14 28 14.4 -0.6
MARR Marisel-Cluj 45.94 327 ⇑P P 14 28 16.2 +0.9
LUBAR Lubar, Ukraine 45.95 334 P P 14 28 13.9 -1.2
CEME Cevo 45.95 320 ⇓*i*P P 14 28 14.6 -0.8
AK18 Malin Array Si 46.00 335 P P 14 28 14.8 -0.7
AK23 Malin Array Si 46.01 335 P P 14 28 14.8 -0.7
AK19 Malin Array Si 46.02 335 P P 14 28 15.0 -0.7
AK22 Malin Array Si 46.03 335 P P 14 28 15.1 -0.6
HORU Horodok 46.03 332 P P 14 28 15.1 -0.7
AK20 Malin Array Si 46.04 335 P P 14 28 15.1 -0.7
NKME Niksic 46.05 321 ⇓*i*P P 14 28 15.2 -0.9
AK21 Malin Array Si 46.05 335 P P 14 28 15.2 -0.7
BZS Buzias 46.10 325 ⇓P P 14 28 16.4 0.0
BZS Buzias 46.10 325 P P 14 28 16.4 0.0
BZS Buzias 46.10 325 ⇓P P 14 28 16.1 -0.3
DRGR 46.23 327 ⇑P P 14 28 18.2 +0.6
DRGR 46.23 327 P P 14 28 18.1 +0.6
RUDO Rudo 46.25 322 ⇓*i*P P 14 28 15.8 -1.9
BBLS Lazi&#263i 46.37 322 ⇓*i*P P 14 28 18.1 -0.5
BRY Bratogost 46.38 321 *e*P P 14 28 18.0 -0.8
BRY Bratogost 46.38 321 ⇓*i*P P 14 28 18.0 -0.8
BMR Baia Mare 46.40 329 ⇓P P 14 28 19.6 +0.9
BMR Baia Mare 46.40 329 P P 14 28 19.5 +0.9
TREB Trebinje 46.40 320 *e*P P 14 28 23.1 +4.3
MATE Matera 46.44 317 *e*P P 14 28 20.6 +1.4
MATE Matera 46.44 317 ⇑P P 14 28 19.0 -0.1
SIRR Siria 46.47 326 ⇑P P 14 28 20.3 +1.0
STNU Starunia 46.59 330 P P 14 28 19.8 -0.4
RAFF Raffo Rosso 46.61 312 IAmb IAmb 14 28 39.2
comp=Z,288nm,1.0s
KDWAN Kaudwane 46.66 223 IAmb IAmb 14 28 38.0
comp=Z,235nm,1.1s
KDWAN Kaudwane 46.66 223 *i* P P 14 28 21.8 +0.6
QNGWA Qangwa 46.67 230 IAmb IAmb 14 28 26.7
comp=Z,400nm,2.0s
QNGWA Qangwa 46.67 230 *i* P P 14 28 22.5 +1.2
TEKS Tekeris 46.67 323 ⇓*i*P P 14 28 20.1 -0.9
CUC Castrocucco 46.74 316 IAmb IAmb 14 28 36.6
comp=Z,313nm,1.3s
CUC Castrocucco 46.74 316 ⇑P P 14 28 22.6 +1.0
HAPS Han Pijesak,Bl 46.76 322 ⇓*i*P P 14 28 20.8 -1.0
FRGS Fruska Gora 46.85 324 ⇓*i*P P 14 28 21.9 -0.5
STON Ston 46.89 320 *e*P P 14 28 22.1 -0.5
BORR Bors 46.91 327 ⇑P P 14 28 23.2 +0.5
MRVN Minervino Murg 46.98 317 ⇓P P 14 28 23.9 +0.5
OBN Obninsk 47.07 344 P 14 28 22.6 -1.2
OBN IAMs_20 IAMs_20 14 50 04.8
comp=Z,27μm,20.0s
OBN Obninsk 47.07 344 P P 14 28 23.8 0.0
comp=Z,31nm,0.4s,baz=115,slow=19,SNR=14
OBN LR LR 14 50 16.6
comp=Z,26μm,20.3s,baz=93,slow=39
comp=Z,31nm,0.4s
OBN Obninsk 47.07 344*d*iP P 14 28 23.6 -0.2
OBN *i* 14 30 14.4
OBN *i* S S 14 35 14.2 -1.1
OBN *i* SS SS 14 38 36.6 -5.8
OBN pmax pmax
comp=Z,394nm,1.6s
OBN MLR MLR
comp=Z,24μm,19.0s
BRIU Brid 47.07 329 P P 14 28 24.1 +0.2
MYKOM Kota Tinggi 47.08 98 P P 14 28 25.2 +0.6
MYKOM Kota Tinggi 47.08 98 ⇑P P 14 28 24.9 +0.3
LBTB Lobatse 47.19 221 IAmb IAmb 14 28 41.5
comp=Z,251nm,1.3s
LBTB Lobatse 47.19 221 LR LR 14 46 11.7
comp=Z,20μm,20.3s,baz=45,slow=34
LBTB Lobatse 47.19 221 *i* P P 14 28 25.4 +0.1
LBTB Lobatse 47.19 221 ⇑P P 14 28 26.0 +0.7
BERU Beregovo 47.19 329 P P 14 28 24.7 -0.2
GTA Gaotai 47.22 46 P P 14 28 25.3 -0.1
GTA pP sP 14 28 30.0 +0.7
GTA S S 14 35 16.3 -1.9
GTA pmax pmax
comp=Z,71nm,1.6s
GTA pmax pmax
comp=Z,4μm,8.4s
GTA LR LR
comp=Z,10μm,20.7s
GTA LR LR
comp=Z,12μm,21.9s
GTA LR LR
comp=Z,22μm,24.3s
MUKU Mukachevo 47.31 329 P P 14 28 25.7 -0.1
KSI Kapahiang 47.34 105 P P 14 28 27.1 +0.5
MOS Moscow 47.35 345 *e*P P 14 28 25.2 -0.8
MOS *e* 14 29 53.9
MOS *e* 14 30 17.1
MOS *e*PPP PPP 14 31 00.5
MOS *e*S S 14 35 19.0 -0.3

MOS pmax pmax
comp=Z,392nm,1.4s
MOS pmax pmax
comp=Z,3μm,2.9s
MOS pmax pmax
comp=E,1μm,3.6s
MOS pmax pmax
comp=N,2μm,3.4s
MOS smax smax
comp=E,3μm,4.3s
MOS smax smax
comp=N,13μm,11.6s
MOS MLR MLR
comp=Z,23μm,18.0s
CD2 Chengdu 47.37 58 P **P** **14 28 25.5 -1.2**
CD2 sP sP 14 28 30.5 -0.1
CD2 PP **PP** **14 30 17.0 -1.0**
CD2 S **S** **14 35 17.5 -3.1**
CD2 ScS **ScS** **14 38 21.5 +0.5**
CD2 pmax pmax
comp=Z,180nm,1.0s
CD2 pmax pmax
comp=Z,1μm,7.5s
CD2 LR LR
comp=Z,17μm,16.5s
CD2 LR LR
comp=Z,18μm,18.2s
HOLU Holmets 47.52 329 P **P** **14 28 27.3 -0.1**
RNPP5 Staryi Chortor 47.72 334 P **P** **14 28 28.6 -0.4**
GRTLG Ghanzi 47.76 228 IAmb IAmb 14 28 46.5
comp=Z,196nm,1.2s
GRTLG Ghanzi 47.76 228 *i* P **P** **14 28 31.5 +1.7**
RNPP8 Varash 47.81 334 P **P** **14 28 29.3 -0.4**
KOLS Kolonicke sedl 47.84 329 *e*P **P** **14 28 30.9 +1.0**
KOLS pmax pmax
comp=Z,33nm,0.8s
KOLS Kolonicke sedl 47.84 329 *e*P **P** **14 28 30.9 +1.0**
RNPP9 Sopachiv 47.85 334 P **P** **14 28 29.6 -0.4**
MNAI Manna 47.90 106 P **P** **14 28 31.2 +0.3**
comp=Z,5μmcomp=Z,183nm,1.3s
KGCAE Kacgae 47.99 226 *i* P **P** **14 28 33.0 +1.3**
KIRV Kirov 48.00 354 P **P** **14 28 30.8 -0.2**
comp=Z,122nm,0.6s,baz=166,slow=4.3,SNR=25
KIRV LR LR 14 52 41.6
comp=Z,16μm,18.3s,baz=162,slow=41
comp=Z,122nm,0.6s
MORH Mrgy, Hungar 48.13 324 ⇓P **P** **14 28 32.2 +0.1**
MORH Mrgy, Hungar 48.13 324 P **P** **14 28 32.3 +0.1**
comp=Z,3μmcomp=Z,80nm,1.6s
SLATY Slatina 48.16 322 *e*P **P** **14 28 32.5 0.0**
BLY Banja Luka 48.19 322 ⇓*i*P **P** **14 28 32.2 -0.5**
BLY Banja Luka 48.19 322 ⇓P **P** **14 28 33.0 +0.3**
ZALV Zalesovo Beam 48.25 21 **P** **14 28 32.3 -0.7**
ZALV Zalesovo Beam 48.25 21 P **P** **14 28 33.0 0.0**
comp=Z,67nm,0.8s,baz=217,slow=7.3,SNR=52
ZALV LR LR 14 50 04.1
comp=Z,18μm,19.8s,baz=218,slow=38
comp=Z,67nm,0.8s
MAKGR Makgori 48.26 220 IAmb IAmb 14 28 49.7
comp=Z,122nm,1.1s
MAKGR Makgori 48.26 220 *i* P **P** **14 28 34.2 +0.6**
KOVH Kovagotottos 48.37 324 ⇓P **P** **14 28 33.9 -0.2**
PSZ Piszkesteto 48.43 327 IAmb IAmb 14 28 46.5
comp=Z,267nm,1.7s
PSZ Piszkesteto 48.43 327 ⇓P **P** **14 28 34.2 -0.5**
PSZ Piszkesteto 48.43 327 P **P** **14 28 34.1 -0.5**
PSZ Piszkesteto 48.43 327 *e*P **P** **14 28 33.8 -0.9**
PSZ Piszkesteto 48.43 327 ⇓P **P** **14 28 33.5 -1.1**
A050A Klekovaca 48.45 321 *e*P **P** **14 28 34.3 -0.5**
KECS Kecovo 48.47 328 *e*PP PP 14 30 28.3 +0.8
A051A Mrakovica 48.49 322 ⇓*i*P **P** **14 28 35.0 -0.1**
STHS Stebnicka Huta 48.66 329 *e*P **P** **14 28 35.8 -0.5**
STHS pmax pmax
comp=Z,13nm,1.3s
STHS Stebnicka Huta 48.66 329 *e*P **P** **14 28 35.8 -0.5**
LZH Lanzhou 48.93 51 ⇑P **P** **14 28 38.8 0.0**
LZH pP sP 14 28 43.5 +0.8
LZH sP pwP 14 28 47.3 -0.2
LZH PP **PP** **14 30 33.8 +1.6**
LZH S **S** **14 35 42.0 -0.7**
LZH sS sS 14 35 53.8 +6.6
LZH pmax pmax
comp=Z,93nm,1.3s
LZH pmax pmax
comp=Z,4μm,4.1s
LZH LR LR
comp=Z,24μm,15.5s
LZH LR LR
comp=Z,60μm,15.5s
INTR Introdacqua 48.94 317 IAmb IAmb 14 28 52.3
comp=Z,183nm,1.2s
GYA Guiyang 48.98 64 ⇑P **P** **14 28 38.8 -0.4**
GYA PP **PP** **14 30 33.0 +0.2**
GYA S **S** **14 35 42.5 -1.1**
GYA pmax pmax
comp=Z,200nm,1.5s
GYA pmax pmax
comp=Z,3μm,4.0s
GYA LR LR
comp=Z,11μm,22.1s
GYA LR LR
comp=Z,12μm,25.1s
GYA LR LR
comp=Z,29μm,24.4s
MDSI Maura Dua 49.10 106 P **P** **14 28 39.4 -0.7**
comp=Z,5μmcomp=Z,3μmcomp=Z,126nm,1.5s
NIE Niedzica 49.14 329 *e*P **P** **14 28 40.1 +0.1**
NIE *e*S **S** **14 35 41.4 -3.6**
NIE *e*L L 14 49 31.8
comp=Z,9μm,26.1s
NIE Niedzica 49.14 329 P **P** **14 28 40.1 +0.1**
comp=Z,1μmcomp=Z,45nm,1.6s
LWLI Liwa 49.15 106 P **P** **14 28 40.8 +0.1**
PMBI Palembang 49.19 103 P **P** **14 28 38.5 -2.4**
SRO Srobarova 49.23 326 *e*P **P** **14 28 40.7 0.0**
SRO pmax pmax
comp=Z,39nm,1.3s
SRO Srobarova 49.23 326 *e*P **P** **14 28 40.7 0.0**
TSUM Tsumeb 49.23 233 **P** **14 28 41.3 +0.1**
TSUM IAmb IAmb 14 29 00.2
comp=Z,158nm,1.3s
TSUM Tsumeb 49.23 233 IAMs_20 IAMs_20 14 50 31.6
comp=Z,18μm,20.0s
TSUM Tsumeb 49.23 233 LR LR 14 51 14.5
comp=Z,15μm,20.2s,baz=54,slow=38
TSUM Tsumeb 49.23 233 *i* P **P** **14 28 41.7 +0.4**
TSUM Tsumeb 49.23 233 ⇑P **P** **14 28 42.3 +1.0**
PHPEN Phepeng 49.29 222 IAmb IAmb 14 29 09.6
comp=Z,327nm,1.8s
MPLH Magyarpolny 49.30 325 P **P** **14 28 41.2 0.0**
comp=Z,7μmcomp=Z,263nm,1.6s
VYHS Vyhne 49.35 327 *e*P **P** **14 28 40.9 -0.7**
VYHS pmax pmax
comp=Z,33nm,1.1s
VYHS Vyhne 49.35 327 *e*P **P** **14 28 40.9 -0.7**
VYHS *e*PP **PP** **14 30 37.5 +1.9**
BEHE Becsehely 49.35 324 IAmb IAmb 14 29 20.0
comp=Z,288nm,1.2s
MNK Minsk 49.37 338 *i* P **P** **14 28 39.5 -2.1**
comp=E,86nm,1.0s
MNK *i* P **P** **14 28 39.5 -2.1**
comp=N,75nm,1.0s
MNK *i* P **P** **14 28 39.5 -2.1**
comp=Z,144nm,0.9s,baz=140
MNK *i* PcP **PcP** **14 30 02.0 -2.0**
MNK *i* PP **PP** **14 30 33.5 -2.1**
MNK *i* PPP PPP 14 31 25.1
MNK *i* S **S** **14 35 46.5 -1.4**
MNK *i* SS **SS** **14 39 19.7 +0.1**
MNK *i* SSS SSS 14 40 37.0
MNK *i* LR LR 14 48 05.1
MNK *i* LRM MLR 14 51 51.1
comp=E,15μm,21.1s
MNK *i* LRM MLR 14 51 51.1
comp=Z,28μm,20.4s
MNK *i* LRM MLR 14 51 57.5
comp=N,15μm,17.6s
MNK Minsk 49.37 338 *i* P **P** **14 28 39.4 -2.1**
MNK *i* 14 30 02.0
MNK *i* 14 30 33.5
MNK *i* PPP PPP 14 31 25.1
MNK *i* S **S** **14 35 46.5 -1.4**
MNK *i* SS **SS** **14 39 19.7 +0.1**
MNK *i* SSS SSS 14 40 37.0
MNK pmax pmax
comp=N,75nm,1.0s
MNK pmax pmax
comp=Z,144nm,0.9s
MNK pmax pmax
comp=E,86nm,1.0s
MNK MLR MLR
comp=E,15μm,21.0s
MNK MLR MLR
comp=Z,28μm,20.0s
MNK MLR MLR
comp=N,15μm,18.0s
LANS Liptovska Anna 49.41 328 *e*P **P** **14 28 42.7 +0.6**
LANS pmax pmax
comp=Z,14nm,0.9s
LANS Liptovska Anna 49.41 328 *e*P **P** **14 28 42.7 +0.6**
LANS *e*PP **PP** **14 30 39.3 +3.1**
AQU L'Aquila 49.43 317 S **S** **14 35 48.0 -1.2**
AQU P **P** **14 28 41.7 -0.7**
CAMP Campotosto 49.50 318 IAmb IAmb 14 29 03.0
comp=Z,179nm,1.5s
KOOLE Kule 49.51 227 IAmb IAmb 14 28 59.9
comp=Z,129nm,0.8s
BOJS Bojanci 49.75 322 ⇓*i*P **P** **14 28 44.4 -0.3**
BOJS Bojanci 49.75 322 *i* P **P** **14 28 44.1 -0.5**
BOJS *i* S **S** **14 35 53.9 +0.4**
BOJS *e*SS SS 14 39 37.2 +11
GUMA Gualdo di Mace 49.79 318 IAmb IAmb 14 28 58.9
comp=Z,236nm,0.9s
CRES Cresnjevec Ost 49.79 322 ⇓*i*P **P** **14 28 44.2 -0.8**
KEST Kesra 49.89 308 IAmb IAmb 14 30 25.2
comp=Z,224nm,1.2s
KEST Kesra 49.89 308 P **P** **14 28 46.7 +0.7**
comp=Z,16nm,0.8s,baz=89,slow=2.7,SNR=14
KEST LR LR 14 49 35.3
comp=Z,10μm,20.0s,baz=98,slow=36
comp=Z,16nm,0.8s
KEST Kesra 49.89 308 P **P** **14 28 48.3 +2.3**
SNR=9.4
KEST P **P** **14 28 48.3 +2.3**
SNR=9.4
KEST S **S** **14 35 55.3 -0.7**
KEST S **S** **14 35 55.3 -0.7**
OJC Ojcow 49.90 329 *e*P **P** **14 28 44.9 -0.9**
OJC *e*S **S** **14 35 57.6 +2.1**
OJC *e*L L 14 47 46.6
comp=Z,13μm,26.5s
OJC Ojcow 49.90 329 ⇓P **P** **14 28 44.8 -0.9**
FDMO Fiordimonte 49.94 318 IAmb IAmb 14 29 06.6
comp=Z,184nm,1.1s
BOSA Boshof 49.99 218 **P** **14 28 46.7 -0.1**
BOSA IAmb IAmb 14 29 02.3
comp=Z,161nm,1.1s
BOSA Boshof 49.99 218 P **P** **14 28 47.1 +0.3**
comp=Z,34nm,0.8s,baz=44,slow=8.2,SNR=56
BOSA LR LR 14 47 07.3
comp=Z,33μm,22.0s,baz=49,slow=33
comp=Z,34nm,0.8s
BOSA Boshof 49.99 218 ⇑P **P** **14 28 47.0 +0.1**
BOSA Boshof 49.99 218 P **P** **14 28 47.1 +0.3**
BOSA S **S** **14 35 55.9 -1.6**
CESX Cesi 50.09 317 IAmb IAmb 14 29 01.3
comp=Z,463nm,1.7s
NACGM Naroch 50.09 338 ⇓*i*P **P** **14 28 46.9 -0.2**
comp=Z,124nm,1.0s,baz=140
SMOL Smolenice 50.12 326 *e*P **P** **14 28 47.2 -0.2**
SMOL pmax pmax
comp=Z,11nm,1.0s
MODS Modra-Piesok 50.12 326 *e*P **P** **14 28 47.0 -0.5**
MODS pmax pmax
comp=Z,89nm,1.1s
MODS Modra-Piesok 50.12 326 *e*P **P** **14 28 47.0 -0.5**
MODS *e*PP **PP** **14 30 46.4 +3.7**
DLV Lat 50.14 83 IAmb IAmb 14 29 00.9
comp=Z,217nm,1.2s
DLV Lat 50.14 83 P **P** **14 28 49.2 +0.9**
DLV Lat 50.14 83 ⇑P **P** **14 28 48.3 -0.1**
JAVC Velka Javorina 50.19 327 ⇓*i*P **P** **14 28 48.1 +0.1**
RONA Rosalia, Austr 50.29 325 *i* P **P** **14 28 48.5 -0.3**
comp=Z,34nm,0.7s,SNR=29
CEY Cerknica 50.37 322 ⇓*i*P **P** **14 28 48.5 -0.9**
BLSI Bandar Lampung 50.38 106 P **P** **14 28 49.9 -0.1**
comp=Z,6μmcomp=Z,124nm,1.8s
PERS Pernice 50.41 323 *i* P **P** **14 28 49.4 -0.3**
PERS *i* PP **PP** **14 30 50.4 +5.0**
BEL Belsk 50.45 331 *e*P **P** **14 28 49.6 -0.3**
BEL *e*S **S** **14 36 00.9 -2.2**
BEL *e*L L 14 48 47.8
comp=Z,40μm,29.2s
LJU Ljubljana 50.46 322 *i* P **P** **14 28 50.1 +0.1**
LJU *e*pP **pP** **14 28 53.3 +0.5**
LJU *e* 14 29 47.6
LJU *e*PP **PP** **14 30 50.7 +5.0**
LJU *i* S **S** **14 36 04.4 +0.9**
SOKA Soboth 50.48 323 *i* P **P** **14 28 49.8 -0.5**
comp=Z,18nm,1.0s,SNR=17
ARSA Arzberg 50.49 324 IAmb IAmb 14 29 02.8
comp=Z,344nm,1.8s
ARSA Arzberg 50.49 324 *i* P **P** **14 28 50.2 -0.2**
comp=Z,23nm,0.9s,SNR=27
OKC Ostrava-Krasne 50.51 328 *e*P **P** **14 28 50.0 -0.4**
OKC *e*PP **PP** **14 30 49.3 +3.2**
OKC *e*S **S** **14 36 04.8 +0.8**
OKC AMS AMS 14 49 20.0
comp=Z,12μm,24.5s
OKC Ostrava-Krasne 50.51 328 *e*P **P** **14 28 50.0 -0.4**
OKC *e* 14 30 49.3
OKC *e*S **S** **14 36 04.8 +0.8**
OKC MLR MLR
comp=Z,12μm,24.5s
MGAB Montegabbione 50.53 318 ⇓P **P** **14 28 49.9 -0.8**
R9F13 Warsaw-Wawer 50.54 332 *e*P **P** **14 28 51.0 +0.5**
comp=Z,12nm,0.7s
R9F13 *e*pP **sP** **14 28 54.7 +0.3**
R9F13 *e*PP **PP** **14 30 47.6 +1.3**
R9F13 *e*PPP PPP 14 32 54.9
R9F13 *e*S **S** **14 36 04.1 -0.2**
RAC Raciborz 50.63 328 *e*P **P** **14 28 50.7 -0.6**
RAC *e*S **S** **14 36 06.0 +0.3**
RAC AMS AMS 14 53 05.8
comp=Z,16nm,18.8s
RAC Raciborz 50.63 328 *e*P **P** **14 28 50.7 -0.6**
RAC *e*S **S** **14 36 06.0 +0.3**
RAC MLR MLR
comp=Z,16μm,18.8s
IIGN Ignalina 50.64 338 *e*P **P** **14 28 52.5 +1.3**
CONA Conrad Observa 50.66 325 *i* P **P** **14 28 51.3 -0.4**
comp=Z,41nm,1.0s,SNR=69
OBKA Obir 50.68 323 ⇓*i*P **P** **14 28 51.4 -0.4**
OBKA Obir 50.68 323 *i* P **P** **14 28 51.7 -0.1**
comp=Z,28nm,1.1s,SNR=11
TAM Tamanrasset 50.72 291 ⇑P **P** **14 28 52.8 +0.2**
MORC Moravsky Berou 50.79 328 IAmb IAmb 14 29 05.3
comp=Z,532nm,1.6s
MORC Moravsky Berou 50.79 328 ⇓*i*P **P** **14 28 52.0 -0.6**
MORC *e*PP **PP** **14 30 52.3 +3.6**
MORC *e*S **S** **14 36 04.1 -3.9**
MORC Moravsky Berou 50.79 328 ⇓P **P** **14 28 52.3 -0.2**
MORC Moravsky Berou 50.79 328 P **P** **14 28 52.3 -0.2**
MORC Moravsky Berou 50.79 328 ⇓P **P** **14 28 51.9 -0.6**
ISAL Salakas 50.84 338 *e*P **P** **14 28 54.0 +1.2**
SUW Suwalki 50.87 335 *e*P **P** **14 28 52.7 -0.3**
SUW *e*S **S** **14 36 05.5 -3.3**
SUW *e*L L 14 54 12.1
comp=Z,24μm,20.9s
SUW Suwalki 50.87 335 IAMs_20 IAMs_20 14 54 21.0
comp=Z,24μm,21.0s
SUW Suwalki 50.87 335 *e*P **P** **14 28 53.6 +0.6**
SUW Suwalki 50.87 335 ⇓P **P** **14 28 52.6 -0.3**
SABO M.te Sabotino 50.99 322 IAmb IAmb 14 29 05.7
comp=Z,344nm,1.8s
KRUC Moravsky 50.99 326 ⇓*i*P **P** **14 28 53.0 -1.0**
KRUC *e*pP **pP** **14 28 57.3 +0.5**
KRUC *e*PP **PP** **14 30 57.1 +6.6**
KRUC *e*S **S** **14 36 11.7 +0.9**
VRAC Vranov 51.02 327 LR LR 14 52 28.9
comp=Z,9μm,21.3s,baz=110,slow=38
VRAC Vranov 51.02 327 ⇓*i*P **P** **14 28 53.9 -0.4**
VRAC *e*pP **sP** **14 28 57.7 -0.4**
VRAC *e*PP **PP** **14 30 57.2 +6.4**
VRAC *e*S **S** **14 36 13.1 +1.9**
VRAC Vranov 51.02 327 ⇑P **P** **14 28 54.3 0.0**
VRAC Vranov 51.02 327 P **P** **14 28 54.2 0.0**
VSL Villasalto 51.09 312 ⇓P **P** **14 28 58.8 +3.8**
CGJI Cibinong 51.21 108 P **P** **14 28 55.1 -1.1**
comp=Z,3μmcomp=Z,119nm,1.4s
QIZ Qiongzhong 51.27 74 P **P** **14 28 56.0 -0.6**
QIZ PP **PP** **14 30 54.5 +0.9**
QIZ S **S** **14 36 14.5 -0.9**
QIZ ScS **ScS** **14 38 45.5 -2.0**
QIZ pmax pmax
comp=Z,88nm,1.7s
QIZ pmax pmax
comp=Z,3μm,5.1s
QIZ LR LR
comp=Z,8μm,18.4s
QIZ LR LR
comp=Z,13μm,21.6s
MYKA Terra Mystica 51.28 322 *i* P **P** **14 28 56.0 -0.3**
comp=Z,34nm,1.0s,SNR=24
CASP Castiglione de 51.31 317 IAmb IAmb 14 29 25.1
comp=Z,215nm,1.2s
OSSC Osservatorio P 51.36 318 IAmb IAmb 14 29 54.6
comp=Z,280nm,1.9s
KRLC Kraliky 51.36 328 *e*P **P** **14 28 56.5 -0.4**
KRLC *e*PP **PP** **14 31 00.3 +6.4**
KRLC *e*S **S** **14 36 15.3 -0.7**
KRLC AMS AMS 14 48 30.0
comp=Z,13μm,27.4s
KRLC Kraliky 51.36 328 *e*P **P** **14 28 56.5 -0.4**
KRLC *e* 14 31 00.3
KRLC *e*S **S** **14 36 15.3 -0.7**
KRLC MLR MLR
comp=Z,13μm,27.4s
ABSA Djebel Ababsia 51.50 308 P **P** **14 29 00.0 +1.8**
MOA Molln 51.53 324 *i* P **P** **14 28 57.7 -0.4**
comp=Z,33nm,0.9s,SNR=29
KLMR Klimovskoe 51.60 349*c* *i*P **P** **14 28 56.0 -2.3**
KLMR *e**PP **pP** **14 29 00.6 -0.5**
KLMR S **S** **14 36 15.2 -3.5**
KLMR *SS **sS** **14 36 22.9 -0.6**
KLMR SS **SS** **14 39 55.6 +0.7**
KLMR pmax pmax
comp=Z,85nm,1.3s
KLMR MLR MLR
comp=Z,14μm,17.0s
PABE Paberze 51.62 337 *e*P **P** **14 28 58.7 +0.2**
TREC Trest 51.62 326 *e*P **P** **14 28 58.4 -0.3**
TREC *e*PP **PP** **14 31 02.6 +6.4**
TREC *e*S **S** **14 36 16.0 -3.4**
TREC AMS AMS 14 46 10.0
comp=Z,19μm,43.2s
TREC Trest 51.62 326 *e*P **P** **14 28 58.4 -0.3**
TREC *e* 14 31 02.6
TREC *e*S **S** **14 36 16.0 -3.4**
CMAH Djebel Manchou 51.65 308 P **P** **14 29 00.8 +1.6**
STAL STALIGIAL 51.66 322 IAmb IAmb 14 29 13.3
comp=Z,313nm,1.5s
KBA Koelnbreinsper 51.68 323 *i* P **P** **14 28 58.5 -0.9**
comp=Z,21nm,1.1s,SNR=21
KBA Koelnbreinsper 51.68 323 ⇑P **P** **14 28 58.5 -0.9**
DPC Dobruska-Polom 51.76 328 *e*P **P** **14 28 59.6 -0.2**
DPC *e*S **S** **14 36 18.1 -3.4**
DPC AMS AMS 14 48 30.0
comp=Z,13μm,27.5s
DPC Dobruska-Polom 51.76 328 *e*P **P** **14 28 59.6 -0.2**
DPC *e*S **S** **14 36 18.1 -3.4**
DPC MLR MLR
comp=Z,13μm,27.5s
DPC Dobruska-Polom 51.76 328 P **P** **14 29 00.0 +0.2**
comp=Z,3μmcomp=Z,113nm,1.5s
BIOA Bad Ischl, Aus 51.81 324 *i* P **P** **14 28 59.5 -0.8**
comp=Z,32nm,1.0s,SNR=34
TPI Tanjungpandan 51.90 102 P **P** **14 29 00.0 -1.4**
OSTC Ostas 51.94 328 *e*P **P** **14 29 01.0 -0.1**
OSTC *e*PP **PP** **14 31 05.1 +6.0**
OSTC *e*S **S** **14 36 18.5 -5.3**
OSTC AMS AMS 14 50 20.0
comp=Z,12μm,23.2s
OSTC Ostas 51.94 328 *e*P **P** **14 29 01.0 -0.1**
OSTC *e* 14 31 05.1
OSTC *e*S **S** **14 36 18.5 -5.3**
OSTC MLR MLR
comp=Z,12μm,23.2s
TNG Tangerang 51.96 107 P **P** **14 29 00.4 -1.4**
TNG P **pP** **14 29 01.7 -2.8**
VSVD Vaisvydziai 51.98 337 *e*P **P** **14 29 01.6 +0.4**
CKRC Cesky Krumlov 52.01 325 *e*P **P** **14 29 00.8 -0.9**
CKRC *e*PP PP 14 31 09.8 +10
CKRC *e*S **S** **14 36 20.1 -4.8**
CKRC AMS AMS 14 48 40.0
comp=Z,6μm,27.9s
CKRC Cesky Krumlov 52.01 325 *e*P **P** **14 29 00.8 -0.9**
CKRC *e*S **S** **14 36 20.1 -4.8**
CKRC MLR MLR
comp=Z,6μm,27.9s
UPC Upice 52.02 328 *e*P **P** **14 29 01.5 -0.2**
UPC *e*PP **PP** **14 31 05.7 +5.9**
UPC *e*S **S** **14 36 20.7 -4.1**
UPC AMS AMS 14 48 30.0
comp=Z,16μm,31.3s
UPC Upice 52.02 328 *e*P **P** **14 29 01.5 -0.2**
UPC *e* 14 31 05.7
UPC *e*S **S** **14 36 20.7 -4.1**
ABTA Abfaltersbach 52.02 322 *i* P **P** **14 29 01.3 -0.6**
comp=Z,27nm,1.2s,SNR=14
CHVC Chvalec 52.04 328 *e*P **P** **14 29 01.6 -0.3**
CHVC *e*PP **PP** **14 31 06.1 +6.1**
CHVC *e*S **S** **14 36 20.0 -5.2**
CHVC AMS AMS 14 48 40.0
comp=Z,13μm,27.7s
CHVC Chvalec 52.04 328 *e*P **P** **14 29 01.6 -0.3**
CHVC *e* 14 31 06.1
CHVC *e*S **S** **14 36 20.0 -5.2**
CHVC MLR MLR
comp=Z,13μm,27.7s
KSP Ksiaz 52.06 328 *e*P **P** **14 29 01.5 -0.6**
KSP *e*S **S** **14 36 27.6 +2.1**
KSP *e*L L 14 47 54.3
comp=Z,12μm,27.6s
KSP Ksiaz 52.06 328 P **P** **14 29 01.4 -0.6**
comp=Z,3μmcomp=Z,165nm,1.6s
ENH Enshi 52.06 60 IAmb IAmb 14 29 14.7
comp=Z,503nm,1.4s
CAEH 'Ain El Ouahch 52.13 308 P **P** **14 29 04.5 +1.7**
GULI GuiLin 52.14 66 P **P** **14 29 02.5 -0.5**
GULI S **S** **14 36 25.0 -2.3**
GULI pmax pmax
comp=Z,70nm,1.5s
GULI LR LR
comp=Z,10μm,22.2s
GULI LR LR
comp=Z,7μm,22.2s
GULI LR LR
comp=Z,16μm,21.7s
VLC Villacollemand 52.19 318 P **P** **14 29 00.7 -2.4**
VLC S **S** **14 36 24.1 -3.4**
LESA Schwarzleotal 52.25 323 *i* P **P** **14 29 02.2 -1.4**
comp=Z,28nm,1.0s,SNR=16
RJOB Jochberg 52.33 323 *e*P 14 29 02.9
comp=Z,461nm,2.4s,baz=119,slow=7.4
RJOB *e*S 14 36 33.0
baz=110,slow=12
GOPC GO Pecny, Ondr 52.34 327 *e*P **P** **14 29 03.8 -0.3**
GOPC *e*S **S** **14 36 31.0 +1.7**
GOPC AMS AMS 14 46 40.0
comp=Z,15μm,35.2s
GOPC GO Pecny, Ondr 52.34 327 *e*P **P** **14 29 03.8 -0.3**
GOPC *e*S **S** **14 36 31.0 +1.7**
GOPC MLR MLR
comp=Z,15μm,35.2s
XAN Xi'an 52.36 55 ⇑P **P** **14 29 04.0 -0.6**
XAN PP **PP** **14 31 03.3 0.0**
XAN S **S** **14 36 29.5 -0.7**
XAN ScS **ScS** **14 38 48.5 -6.2**
XAN SS **SS** **14 40 05.5 -2.6**
XAN pmax pmax
comp=Z,590nm,1.3s
XAN pmax pmax
comp=Z,7μm,8.5s
XAN LR LR
comp=Z,21μm,17.1s
XAN LR LR
comp=Z,29μm,19.7s
GEC2 GERESS Array S 52.37 325 *e*P 14 29 02.7
comp=Z,87nm,1.3s,baz=119,slow=7.4
GEC2 *e*S 14 36 35.2
baz=110,slow=12
GERES GERESS Array B 52.37 325 P **P** **14 29 02.5 -1.9**

GERES	**GERESS Array B**	**52.37 325**	P	**P**	**14 29 02.9**	**-1.5**
	comp=Z,3.9nm,0.7s,baz=122,slow=7.1,SNR=21					
GERES			LR	LR	14 54 46.1	
	comp=Z,5μm,18.2s,baz=124,slow=40					
	comp=Z,3.9nm,0.7s					
ZVC	**Zvikov**	**52.41 326**	*e*P	**P**	**14 29 04.0**	**-0.6**
ZVC			*e*S	**S**	**14 36 27.0**	**-3.2**
ZVC			AMS	AMS	14 46 10.0	
	comp=Z,13μm,36.0s					
PGF	**Pioggiola**	**52.48 316**	⇑P	**P**	**14 29 08.2**	**+2.9**
PRMA	**PARMA**	**52.49 319**	IAmb	IAmb	14 29 19.2	
	comp=Z,482nm,1.4s					
PRU	**Pruhonice**	**52.51 326**	*e*P	**P**	**14 29 05.2**	**-0.2**
PRU			*e*PP	**PP**	**14 31 09.4**	**+5.1**
PRU			*e*S	**S**	**14 36 29.3**	**-2.3**
PRU			AMS	AMS	14 46 30.0	
	comp=Z,15μm,36.9s					
PRU	**Pruhonice**	**52.51 326**	*e*P	**P**	**14 29 05.2**	**-0.2**
PRU			*e*		14 31 09.4	
PRU			*e*S	**S**	**14 36 29.3**	**-2.3**
PRU			MLR	MLR		
	comp=Z,15μm,36.9s					
KHC	**Kasperske Hory**	**52.59 325**	*e*P	**P**	**14 29 04.8**	**-1.2**
KHC			*e*PP	**PP**	**14 31 08.7**	**+3.7**
KHC			*e*S	**S**	**14 36 29.8**	**-3.0**
KHC			AMS	AMS	14 49 30.0	
	comp=Z,12μm,31.7s					
KHC	**Kasperske Hory**	**52.59 325**	*e*P	**P**	**14 29 04.8**	**-1.2**
KHC			*e*		14 31 08.7	
KHC			*e*S	**S**	**14 36 29.8**	**-3.0**
KHC			MLR	MLR		
	comp=Z,12μm,31.7s					
KHC	**Kasperske Hory**	**52.59 325**	⇓P	**P**	**14 29 04.4**	**-1.6**
PRA	**Prague**	**52.62 327**	*e*P	**P**	**14 29 08.6**	**+2.5**
PRA			*e*PP	PP	14 31 13.7	+8.5
PRA			*e*S	**S**	**14 36 32.7**	**-0.3**
PRA			AMS	AMS	14 46 40.0	
	comp=Z,12μm,30.1s					
PRA	**Prague**	**52.62 327**	*e*P	**P**	**14 29 08.6**	**+2.5**
PRA			*e*		14 31 13.7	
PRA			*e*S	**S**	**14 36 32.7**	**-0.3**
CNJI	**Cibinong**	**52.79 108**	P	**P**	**14 29 07.1**	**-0.8**
	comp=Z,124nm,1.2s					
PVCC	**Panska Ves**	**52.79 327**	*e*P	**P**	**14 29 07.1**	**-0.3**
PVCC			*e*S	**S**	**14 36 34.1**	**-1.3**
PVCC			AMS	AMS	14 46 20.0	
	comp=Z,25μm,54.0s					
PVCC	**Panska Ves**	**52.79 327**	*e*P	**P**	**14 29 07.1**	**-0.3**
PVCC			*e*S	**S**	**14 36 34.1**	**-1.3**
WTTA	**Wattenberg**	**52.79 322**	*i* P	**P**	**14 29 06.5**	**-1.2**
	comp=Z,37nm,0.9s,SNR=29					
PBUR	**Paburge**	**52.79 336**	*e*P	**P**	**14 29 09.0**	**+1.7**
PUL	**Pulkovo**	**52.81 343**	*i* P	**P**	**14 29 07.3**	**-0.1**
PUL			pmax	pmax		
	comp=Z,84nm,0.8s					
PUL			MLR	MLR		
	comp=Z,26μm,20.0s					
DFRA	**Djebel Bou Aff**	**52.82 308**	P	**P**	**14 29 09.9**	**+1.9**
VSU	**Vasula**	**52.85 340**	*c*eP	**P**	**14 29 06.4**	**-1.3**
VSU			pmax	pmax		
	comp=Z,221nm,2.5s					
VSU	**Vasula**	**52.85 340**	*e*P	**P**	**14 29 07.9**	**+0.2**
VSU	**Vasula**	**52.85 340**	⇑P	**P**	**14 29 07.9**	**+0.2**
GRHM	**Grahamstown, E**	**52.86 213**	IAmb	IAmb	14 29 15.7	
	comp=Z,224nm,1.3s					
GRHM	**Grahamstown, E**	**52.86 213**	⇑P	**P**	**14 29 09.4**	**+1.2**
WATA	**Walderalm**	**52.86 322**	*i* P	**P**	**14 29 06.7**	**-1.5**
	comp=Z,37nm,1.0s,SNR=14					
SOE	**Somerset East**	**52.87 214**	IAmb	IAmb	14 29 31.4	
	comp=Z,302nm,1.6s					
SOE	**Somerset East**	**52.87 214**	⇓P	**P**	**14 29 09.8**	**+1.5**
WET	**Wettzell**	**52.99 325**	*e*P		14 29 07.3	
	comp=Z,224nm,2.4s,baz=119,slow=7.4					
WET			*e*S		14 36 41.3	
	baz=110,slow=12					
SQTA	**Sankt Quirin**	**53.03 322**	*i* P	**P**	**14 29 08.0**	**-1.4**
	comp=Z,34nm,0.8s,SNR=20					
GKP	**Gorka Klasztor**	**53.04 331**	*e*P	**P**	**14 29 08.8**	**-0.3**
GKP			*e*S	**S**	**14 36 37.4**	**-1.2**
GKP			*e*L	L	14 50 27.2	
	comp=Z,13μm,28.6s					
GKP	**Gorka Klasztor**	**53.04 331**	*e*P	**P**	**14 29 09.0**	**-0.2**
RICC	**Richard**	**53.05 327**	*e*P	**P**	**14 29 08.9**	**-0.4**
RICC			*e*S	**S**	**14 36 40.3**	**+1.3**
RICC			AMS	AMS	14 46 50.0	
	comp=Z,11μm,42.2s					
LEM	**Lembang**	**53.09 107**	LR	LR	14 47 26.3	
	comp=Z,21μm,21.5s,baz=278,slow=31					
LEM	**Lembang**	**53.09 107**	P	**P**	**14 29 11.4**	**+1.1**
	comp=Z,4μmcomp=Z,163nm,1.3s					
SET	**Setif**	**53.10 307**	P	**P**	**14 29 14.0**	**+3.9**
MOTA	**Moosalm**	**53.15 322**	*i* P	**P**	**14 29 08.7**	**-1.6**
	comp=Z,43nm,0.9s					
FETA	**Feichten**	**53.23 322**	*i* P	**P**	**14 29 09.9**	**-1.0**
	comp=Z,17nm,0.9s,SNR=12					
BRG	**Berggiesshubel**	**53.31 327**	*e*P	**P**	**14 29 10.5**	**-0.8**
BRG			Amp		14 29 11.2	
	comp=Z,17nm,0.9s					
BRG	**Berggiesshubel**	**53.31 327**	P	**P**	**14 29 15.6**	**+4.4**
BRG			Amp		14 29 16.7	
	comp=Z,77nm,1.2s					
BRG	**Berggiesshubel**	**53.31 327**	P	P	14 29 20.1	+8.8
BRG			Amp		14 29 24.7	
	comp=Z,74nm,1.1s					
BRG	**Berggiesshubel**	**53.31 327**	S	**S**	**14 36 40.0**	**-2.5**
BRG	**Berggiesshubel**	**53.31 327**	SS	**SKiKP**	**14 40 24.0**	**-4.3**
BRG	**Berggiesshubel**	**53.31 327**	*e*P		14 29 10.5	
	comp=Z,77nm,1.2s,baz=119,slow=7.4					
BRG			*e*S		14 36 42.3	
	baz=110,slow=12					
BBJI	**Bungbulang**	**53.32 108**	P	**P**	**14 29 12.3**	**+0.3**
RETA	**Reutte**	**53.42 322**	*i* P	**P**	**14 29 10.8**	**-1.5**
	comp=Z,21nm,0.9s,SNR=11					
FUR	**Furstenfeldbru**	**53.43 323**	*e*P		14 29 11.2	
	comp=Z,258nm,1.2s,baz=119,slow=7.4					
FUR			*e*S		14 36 47.0	
	baz=110,slow=12					
HSKC	**Hora Svate Kat**	**53.45 327**	*e*P	**P**	**14 29 11.6**	**-0.7**
HSKC			*e*S	**S**	**14 36 41.7**	**-2.7**
HSKC			AMS	AMS	14 46 50.0	
	comp=Z,12μm,27.3s					
KSM	**Kuching**	**53.45 96**	IAMs_20	IAMs_20	14 51 38.5	
	comp=Z,13μm,18.0s					
JCJI	**Jatiwangi**	**53.59 106**	P	**P**	**14 29 13.9**	**0.0**
ROTZ	**Rotzenmuhle**	**53.68 325**	*e*P		14 29 12.8	
	comp=Z,22nm,1.4s,baz=119,slow=7.4					
ROTZ			*e*S		14 36 54.8	
	baz=110,slow=12					
NKC	**Novy Kostel**	**53.79 326**	*e*P	**P**	**14 29 14.9**	**+0.1**
NKC			*e*S	**S**	**14 36 48.6**	**-0.4**
NKC			AMS	AMS	14 46 40.0	
	comp=Z,15μm,40.8s					
NKC	**Novy Kostel**	**53.79 326**	*e*P	**P**	**14 29 14.9**	**+0.1**
NKC			*e*S	**S**	**14 36 48.6**	**-0.4**
NKC			MLR	MLR		
	comp=Z,15μm,40.8s					
SLIT	**Slitere, Latvi**	**53.79 338**	*e*P	**P**	**14 29 15.2**	**+0.6**
SLIT	**Slitere, Latvi**	**53.79 338**	⇓P	**P**	**14 29 13.4**	**-1.2**
TUE	**Stuetta**	**53.84 321**	⇑P	**P**	**14 29 17.6**	**+2.2**
MANZ	**Manzenberg**	**53.85 325**	*e*P		14 29 14.4	
	comp=Z,92nm,2.7s,baz=119,slow=7.4					
MANZ			*e*S		14 36 57.9	
	baz=110,slow=12					
DAVA	**Damuels**	**53.86 322**	*i* P	**P**	**14 29 14.3**	**-1.3**
	comp=Z,34nm,0.9s,SNR=16					
DAVA	**Damuels**	**53.86 322**	⇓P	**P**	**14 29 14.1**	**-1.5**
TANN	**Tannenbergstha**	**53.87 326**	*e*P		14 29 14.9	
	comp=Z,140nm,1.4s,baz=119,slow=7.4					
TANN			*e*S		14 36 52.9	
	baz=110,slow=12					
UBR	**Ueberruh**	**53.90 322**	*e*P		14 29 14.7	
	comp=Z,111nm,1.4s,baz=119,slow=7.4					
UBR			*e*S		14 36 53.9	
	baz=110,slow=12					
MOY	**Mondy**	**53.93 32**	*e*P	**P**	**14 29 16.4**	**+0.5**
MOY			pmax	pmax		
	comp=Z,369nm,2.2s					
MTSE	**Matsula**	**54.03 339**	*e*P	**P**	**14 29 16.3**	**0.0**
CLL	**Collm**	**54.05 327**	*i* P	**P**	**14 29 15.9**	**-0.7**
CLL			*i*		14 29 19.7	
CLL			*e*S	**S**	**14 36 47.0**	**-5.5**
CLL			pmax	pmax		
	comp=Z,735nm,2.1s					
CLL	**Collm**	**54.05 327**	P	**P**	**14 29 16.9**	**+0.3**
	comp=Z,3μmcomp=Z,138nm,2.7s					
CLL	**Collm**	**54.05 327**	*e*P		14 29 16.2	
	comp=Z,270nm,1.7s,baz=119,slow=7.4					
CLL			*e*S		14 36 52.0	
	baz=110,slow=12					
PLN	**Plauen**	**54.08 326**	*e*P		14 29 16.5	
	comp=Z,136nm,2.0s,baz=119,slow=7.4					
PLN			*e*S		14 36 55.8	
	baz=110,slow=12					
CMJI	**Cimerak**	**54.18 108**	P	**P**	**14 29 16.0**	**-2.1**
	comp=Z,4μmcomp=Z,255nm,1.5s					
GRA1	**Grafenberg Arr**	**54.20 325**	IAmb	IAmb	14 29 29.6	
	comp=Z,239nm,1.3s					
GRF	**Grafenberg Arr**	**54.20 325**	*e*P		14 29 16.6	
	comp=Z,150nm,1.3s,baz=119,slow=7.4					
GRF			*e*S		14 36 57.4	
	baz=110,slow=12					
GRF			*e*L		14 57 25.8	
	comp=Z,6μm,20.2s					
GRFO	**Grafenberg**	**54.20 325**	P	**P**	**14 29 16.3**	**-1.5**
GRFO			IAmb	IAmb	14 29 30.3	
	comp=Z,434nm,1.7s					
GRFO	**Grafenberg**	**54.20 325**	P	**P**	**14 29 16.3**	**-1.5**
GRFO			pmax	pmax		
	comp=Z,434nm,1.7s					
GRFO			MLR	MLR		
	comp=Z,7μm,19.0s					
RUE	**Ruedersdorf**	**54.28 329**	*e*P	**P**	**14 29 18.2**	**-0.1**
RUE	**Ruedersdorf**	**54.28 329**	⇓P	**P**	**14 29 17.8**	**-0.5**
RUE	**Ruedersdorf**	**54.28 329**	*e*P		14 29 18.2	
	comp=Z,333nm,1.0s,baz=119,slow=7.4					
RUE			*e*S		14 36 51.3	
	baz=110,slow=12					
TOA0	**Torodi Ar. Sit**	**54.34 278**	P	**P**	**14 29 21.4**	**+2.0**
TOA0			P	**P**	**14 29 21.4**	**+2.0**
TOA0			S	**S**	**14 36 55.7**	**-1.7**
TOA0			S	**S**	**14 36 55.7**	**-1.7**
TORD	**Torodi Ar. Bea**	**54.34 278**	P	**P**	**14 29 18.9**	**-0.5**
MOX	**Moxa**	**54.45 326**	*e*P		14 29 18.9	
	comp=Z,144nm,1.4s,baz=119,slow=7.4					
MOX			*e*S		14 37 00.0	
	baz=110,slow=12					
MOX			*e*L		14 55 47.8	
	comp=Z,10μm,18.8s					
ZAK	**Zakamensk**	**54.50 34**	*e*P	**P**	**14 29 18.8**	**-1.3**
ZAK			pmax	pmax		
	comp=Z,78nm,1.9s					
NEUB	**Neuenburg**	**54.65 327**	*e*P		14 29 20.8	
	comp=Z,368nm,1.4s,baz=119,slow=7.4					
NEUB			*e*S		14 37 00.0	
	baz=110,slow=12					
GZH	**Guangzhou**	**54.68 69**	P	**P**	**14 29 23.3**	**+1.6**
GZH			S	**S**	**14 37 05.0**	**+3.2**
GZH			pmax	pmax		
	comp=Z,70nm,1.6s					
GZH			pmax	pmax		
	comp=Z,3μm,6.2s					
GZH			LR	LR		
	comp=Z,7μm,21.8s					
GZH			LR	LR		
	comp=Z,13μm,18.8s					
GZH			LR	LR		
	comp=Z,18μm,16.9s					
CNSH	**ChangSha**	**54.73 63**	P	**P**	**14 29 20.8**	**-1.2**
CNSH			S	**S**	**14 37 00.5**	**-2.0**
CNSH			SS	**SS**	**14 40 42.0**	**-3.6**
CNSH			pmax	pmax		
	comp=Z,79nm,2.0s					
CNSH			LR	LR		
	comp=Z,13μm,18.8s					
CNSH			LR	LR		
	comp=Z,17μm,23.1s					
STKI	**Sintang**	**54.90 98**	P	**P**	**14 29 23.0**	**-0.4**
	comp=Z,145nm,0.9s					
STU	**Stuttgart**	**54.94 323**	*e*P	**P**	**14 29 21.8**	**-1.4**
STU	**Stuttgart**	**54.94 323**	*e*S		14 37 07.6	
	baz=110,slow=12					
BTO	**Baotou**	**54.95 48**	*e*P	**P**	**14 29 23.0**	**-0.5**
BTO			pP	**sP**	**14 29 28.0**	**+0.5**
BTO			sP	**pwP**	**14 29 29.8**	**-2.5**
BTO			S	**S**	**14 37 06.5**	**+1.3**
BTO			pmax	pmax		
	comp=Z,170nm,1.1s					
BTO			pmax	pmax		
	comp=Z,3μm,3.7s					
BTO			LR	LR		
	comp=Z,20μm,14.7s					
BTO			LR	LR		
	comp=Z,94μm,21.1s					
MEF	**Metsahovi**	**54.97 341**	*e*P	**P**	**14 29 22.6**	**-0.6**
BNI	**Bardonecchia**	**54.98 318**		**P**	**14 29 22.0**	**-1.7**
BNI	**Bardonecchia**	**54.98 318**	P	**P**	**14 29 22.0**	**-1.7**
BNI			pmax	pmax		
	comp=Z,119nm,1.3s					
BNI	**Bardonecchia**	**54.98 318**	⇑P	**P**	**14 29 22.9**	**-0.8**
SBUM	**Sibu**	**55.12 95**	P	**P**	**14 29 26.1**	**+1.1**
SBUM	**Sibu**	**55.12 95**	⇑P	**P**	**14 29 25.7**	**+0.7**
SONM	**Songino Array**	**55.14 38**	P	**P**	**14 29 24.4**	**-0.4**
SONM			IAmb	IAmb	14 29 43.0	
	comp=Z,255nm,1.4s					
SONM	**Songino Array**	**55.14 38**	P	**P**	**14 29 24.7**	**-0.1**
	comp=Z,25nm,0.8s,baz=234,slow=7.5,SNR=84					
	comp=Z,25nm,0.8s					
JOF	**Joensuu**	**55.21 346**	*e*P	**P**	**14 29 23.3**	**-1.5**
BSD	**Bornholm Skovb**	**55.24 332**	*i* P	**P**	**14 29 24.1**	**-1.1**
BSD			IAmb	IAmb	14 29 29.1	
	comp=Z,80nm,1.0s					
BFO	**Black Forest**	**55.26 322**	P	**P**	**14 29 24.1**	**-1.5**
BFO			IAmb	IAmb	14 29 49.6	
	comp=Z,222nm,1.5s					
BFO	**Black Forest**	**55.26 322**	P	**P**	**14 29 24.1**	**-1.5**
BFO			pmax	pmax		
	comp=Z,222nm,1.5s					
BFO			MLR	MLR		
	comp=Z,4μm,22.0s					
BFO	**Black Forest**	**55.26 322**	⇑P	**P**	**14 29 24.9**	**-0.6**
BFO	**Black Forest**	**55.26 322**	*e*P		14 29 24.4	
	comp=Z,173nm,1.4s,baz=119,slow=7.4					
BFO			*e*S		14 37 11.6	
	baz=110,slow=12					
LYN	**LuoYang**	**55.34 55**	⇑P	**P**	**14 29 26.0**	**-0.3**
LYN			PP	**PP**	**14 31 31.3**	**+1.2**
LYN			S	**S**	**14 37 06.5**	**-3.9**
LYN			sS	sS	14 37 21.8	+6.8
LYN			SS	**SS**	**14 40 53.5**	**-1.5**
LYN			pmax	pmax		
	comp=Z,70nm,1.3s					
LYN			pmax	pmax		
	comp=Z,5μm,8.1s					
LYN			LR	LR		
	comp=Z,21μm,16.2s					
LYN			LR	LR		
	comp=Z,23μm,16.9s					
SUR	**Sutherland**	**55.35 218**	P	**P**	**14 29 26.3**	**-0.3**
SUR			IAmb	IAmb	14 29 40.1	
	comp=Z,282nm,1.4s					
SUR	**Sutherland**	**55.35 218**	LR	LR	14 50 49.7	
	comp=Z,25μm,21.5s,baz=51,slow=34					
SUR	**Sutherland**	**55.35 218**	P	**P**	**14 29 29.0**	**+2.5**
SUR			P	**P**	**14 29 29.0**	**+2.5**
SUR	**Sutherland**	**55.35 218**	⇓P	**P**	**14 29 27.7**	**+1.1**
RUSF	**Rustrel**	**55.37 316**	⇓P	P	14 29 32.4	+5.9
HKPS	**Hong Kong Po S**	**55.38 70**	IAmb	IAmb	14 29 38.2	
	comp=Z,404nm,1.6s					
HKPS			IAMs_20	IAMs_20	14 55 14.8	
	comp=Z,15μm,18.0s					
FINES	**FINESS Array B**	**55.40 342**	P	**P**	**14 29 24.3**	**-1.9**
FINES	**FINESS Array B**	**55.40 342**	P	**P**	**14 29 25.4**	**-0.8**
	comp=Z,18nm,0.7s,baz=122,slow=7.2,SNR=21					
FINES			LR	LR	14 55 26.9	
	comp=Z,30μm,21.9s,baz=142,slow=38					
	comp=Z,18nm,0.7s					
HKC	**Hong Kong Obse**	**55.41 70**	⇑P	**P**	**14 29 26.0**	**-1.0**
UBBA	**Unterbreizbach**	**55.43 326**	*e*P		14 29 25.7	
	comp=Z,167nm,1.8s,baz=119,slow=7.4					
UBBA			*e*S		14 37 07.8	
	baz=110,slow=12					
FLTG	**Flechtingen**	**55.52 328**	*e*P		14 29 26.6	
	comp=Z,296nm,1.5s,baz=119,slow=7.4					
FLTG			*e*S		14 37 03.5	
	baz=110,slow=12					
ULN	**Ulaanbaatar**	**55.55 39**		**P**	**14 29 26.9**	**-1.0**
ULN			IAmb	IAmb	14 29 45.5	
	comp=Z,218nm,1.6s					
ULN	**Ulaanbaatar**	**55.55 39**	IAMs_20	IAMs_20	14 55 39.4	
	comp=Z,17μm,19.0s					
ULN	**Ulaanbaatar**	**55.55 39**	P	**P**	**14 29 27.8**	**0.0**
ULN			P	**P**	**14 29 27.8**	**0.0**
ULN			P	**P**	**14 29 27.8**	**0.0**
ULN			S	**S**	**14 37 10.6**	**-2.5**
ULN			S	**S**	**14 37 10.6**	**-2.5**
ULN			S	**S**	**14 37 10.6**	**-2.5**
ULN	**Ulaanbaatar**	**55.55 39**	*c*eP	**P**	**14 29 27.5**	**-0.3**
ULN			pmax	pmax		
	comp=Z,202nm,2.5s					
ULN	**Ulaanbaatar**	**55.55 39**	⇑P	**P**	**14 29 27.1**	**-0.7**
BLEU	**Blekinge**	**55.55 333**	*i* P	**P**	**14 29 28.1**	**+0.7**
RGN	**Rugen**	**55.66 331**	IAMs_20	IAMs_20	14 56 57.9	
	comp=Z,15μm,21.0s					
RGN	**Rugen**	**55.66 331**	*e*S		14 37 03.3	
	baz=110,slow=12					
ASSE	**Asse, Remlinge**	**55.71 327**	*e*P		14 29 28.0	
	comp=Z,168nm,1.4s,baz=119,slow=7.4					
ASSE			*e*S		14 37 08.5	
	baz=110,slow=12					
CLZ	**Clausthal**	**55.73 327**	*e*P		14 29 28.5	
	comp=Z,182nm,1.3s,baz=119,slow=7.4					
CLZ			*e*S		14 37 12.3	
	baz=110,slow=12					
GTTG	**Gottingen**	**55.80 326**	*e*P		14 29 29.2	
	comp=Z,152nm,1.4s,baz=119,slow=7.4					
GTTG			*e*S		14 37 12.3	
	baz=110,slow=12					
SMRI	**Semarang**	**55.81 106**	P	**P**	**14 29 33.2**	**+3.2**
	comp=Z,84nm,0.8s					
GORT1	**Trebel**	**55.82 328**	*e*P		14 29 29.0	
	comp=Z,195nm,1.4s,baz=119,slow=7.4					
GORT1			*e*S		14 37 05.9	
	baz=110,slow=12					
YOGI	**Yogyakarta**	**55.92 107**	P	**P**	**14 29 33.6**	**+2.9**
	comp=Z,4μmcomp=Z,276nm,1.8s					
ECH	**Echery**	**55.92 322**	⇓P	**P**	**14 29 29.4**	**-0.9**
TIY	**Taiyuan**	**55.99 52**	*e*P	**P**	**14 29 31.0**	**-0.1**
TIY			pP	**sP**	**14 29 35.3**	**+0.3**
TIY			PP	**PP**	**14 31 40.5**	**+4.6**
TIY			S	**S**	**14 37 16.8**	**-2.4**
TIY			pmax	pmax		
	comp=Z,290nm,1.3s					
TIY			pmax	pmax		
	comp=Z,4μm,4.9s					
TIY			LR	LR		
	comp=Z,16μm,16.5s					
TIY			LR	LR		
	comp=Z,40μm,18.6s					
ETOS	**Mallorca**	**56.00 311**	P	**P**	**14 29 32.4**	**+1.4**
ETOS			S	**S**	**14 37 11.7**	**-7.5**
TNS	**Taunus Mts**	**56.03 324**	*e*P		14 29 29.9	
	comp=Z,130nm,1.4s,baz=119,slow=7.4					
TNS			*e*S		14 37 20.8	
	baz=110,slow=12					
HHC	**Hu-ho-hao-te**	**56.14 48**	*e*P	**P**	**14 29 32.8**	**+0.7**
HHC			sP	pwP	14 29 39.5	-1.4
HHC			PP	**PP**	**14 31 38.0**	**+0.7**
HHC			S	**S**	**14 37 21.5**	**+0.3**
HHC			sS	sS	14 37 30.0	+4.3
HHC			SS	**SS**	**14 41 07.8**	**+0.2**
HHC			pmax	pmax		
	comp=Z,140nm,1.7s					
HHC			pmax	pmax		
	comp=Z,4μm,4.8s					
HHC			LR	LR		
	comp=Z,26μm,17.6s					
HHC			LR	LR		
	comp=Z,49μm,18.3s					
UGM	**Wanagama**	**56.16 107**	IAmb	IAmb	14 29 44.7	
	comp=Z,217nm,1.1s					
UGM	**Wanagama**	**56.16 107**	P	**P**	**14 29 33.6**	**+1.1**
UGM	**Wanagama**	**56.16 107**	P	**P**	**14 29 35.1**	**+2.6**
	comp=Z,4μmcomp=Z,178nm,1.1s					
NRDL	**Niedersach Rie**	**56.20 327**	*e*P		14 29 31.9	
	comp=Z,340nm,1.4s,baz=119,slow=7.4					
NRDL			*e*S		14 37 12.3	
	baz=110,slow=12					
WHN	**Wuhan**	**56.26 61**	⇑*i*P	**P**	**14 29 32.5**	**-0.4**
WHN			pP	**sP**	**14 29 36.8**	**-0.1**
WHN			PP	**PP**	**14 31 40.3**	**+2.0**
WHN			S	**S**	**14 37 21.0**	**-1.7**
WHN			SS	**SS**	**14 41 04.3**	**-5.2**
WHN			pmax	pmax		
	comp=Z,680nm,1.5s					
WHN			pmax	pmax		
	comp=Z,7μm,5.3s					
WHN			LR	LR		
	comp=Z,17μm,13.7s					
WHN			LR	LR		
	comp=Z,82μm,19.7s					
KEF	**Keuruu**	**56.32 342**	*e*P	**P**	**14 29 31.0**	**-1.9**
RAF	**Rauma**	**56.44 340**	*e*P	**P**	**14 29 32.8**	**-0.8**
SSB	**Saint Sauveur**	**56.47 318**	IAmb	IAmb	14 29 52.1	
	comp=Z,313nm,1.6s					
SSB	**Saint Sauveur**	**56.47 318**	⇓P	**P**	**14 29 33.6**	**-0.6**
KASTN	**Kahler Asten**	**56.50 325**	*e*P		14 29 34.0	
	comp=Z,229nm,1.9s,baz=119,slow=7.4					
KASTN			*e*S		14 37 25.3	
	baz=110,slow=12					
DEL	**Delary**	**56.52 333**	*i* P	**P**	**14 29 34.5**	**+0.2**
BJUU	**Bjuv**	**56.67 332**	*i* P	**P**	**14 29 33.6**	**-1.8**
RETH	**Rethem/Aller,**	**56.71 327**	*e*P		14 29 35.7	
	comp=Z,1μm,1.4s,baz=119,slow=7.4					
RETH			*e*S		14 37 24.3	
	baz=110,slow=12					
COP	**Copenhagen**	**56.73 331**	*i* P	**P**	**14 29 35.4**	**-0.4**
COP			IAmb	IAmb	14 29 41.3	
	comp=Z,292nm,1.2s					
BSEG	**Bad Segeberg**	**56.82 329**	*e*P		14 29 35.9	
	comp=Z,241nm,1.8s,baz=119,slow=7.4					
BSEG			*e*S		14 37 19.4	
	baz=110,slow=12					
PCJI	**Pacitan**	**56.86 107**	P	**P**	**14 29 39.7**	**+2.2**
	comp=Z,3μmcomp=Z,240nm,1.5s					
NGJI	**Ngawi**	**56.87 106**	P	**P**	**14 29 40.1**	**+2.5**
	comp=Z,106nm,1.9s					
EIBI	**Ibiza**	**56.92 310**	P	**P**	**14 29 37.5**	**0.0**
EIBI			S	**S**	**14 37 30.3**	**-1.0**
H04N1	**CROZET ISLANDS**	**56.98 185**	T	T	15 31 27.7	
	baz=11,slow=76,SNR=13					
H04N2	**CROZET ISLANDS**	**56.98 185**	T	T	15 31 26.3	
	baz=11,slow=76,SNR=11					
H04N3	**CROZET ISLANDS**	**56.99 185**	T	T	15 31 28.6	
	baz=11,slow=76,SNR=14					
ACRG	**Accra**	**57.07 270**	IAMs_20	IAMs_20	14 54 46.0	
	comp=Z,14μm,19.0s					
WLF	**Walferdange**	**57.13 323**	IAmb	IAmb	14 30 03.5	
	comp=Z,332nm,1.4s					
WLF	**Walferdange**	**57.13 323**	P	**P**	**14 29 37.8**	**-1.0**
WLF			S	**S**	**14 37 27.5**	**-6.1**
WLF	**Walferdange**	**57.13 323**	*d*P	**P**	**14 29 38.2**	**-0.6**
	comp=Z,95nm,1.1s					
WLF	**Walferdange**	**57.13 323**	⇓P	**P**	**14 29 38.2**	**-0.6**
WLF	**Walferdange**	**57.13 323**	*e*P		14 29 38.4	
	comp=Z,357nm,1.4s,baz=119,slow=7.4					
WLF			*e*S		14 37 36.6	
	baz=110,slow=12					
BUG	**Bochum--Univer**	**57.25 325**	*e*P		14 29 39.0	
	comp=Z,268nm,1.5s,baz=119,slow=7.4					
BUG			*e*S		14 37 36.2	
	baz=110,slow=12					
FABU	**Falkenberg**	**57.34 333**	*i* P	**P**	**14 29 39.3**	**-0.9**
IBBN	**Ibbenburen**	**57.37 326**	*e*P		14 29 40.6	
	comp=Z,138nm,1.2s,baz=119,slow=7.4					
IBBN			*e*S		14 37 32.2	
	baz=110,slow=12					
MTLF	**

BEBN	**Eben Emael**	57.87	324	dP	P	14 29 43.8	-0.2
ONAU	**Onsala**	57.93	333	i P	P	14 29 43.3	-1.0
BCLA	**Clavier**	57.94	324	dP	P	14 29 44.0	-0.4
	comp=Z,51nm,1.4s						
SSRD	**Sdr. Stenderup**	57.96	330	i P	P	14 29 44.9	+0.4
SSRD				IAmb	IAmb	14 29 48.2	
	comp=Z,95nm,0.8s						
SSRD				IAMs_20	IAMs_20	14 58 45.5	
	comp=Z,10μm,19.9s						
SSRD				IVMs_BB	IVMs_BB	14 58 51.0	
	comp=Z,3μm,19.6s						
BGES	**Gesves**	58.05	323	dP	P	14 29 44.8	-0.5
	comp=Z,51nm,1.3s						
HLG	**Helgoland**	58.19	328	eS		14 37 32.1	
	baz=110,slow=12						
BMRD	**Maredsous**	58.20	323	dP	P	14 29 45.9	-0.5
DOU	**Dourbes**	58.22	323	dP	P	14 29 46.2	-0.3
	comp=Z,88nm,1.2s						
CART	**Cartagena**	58.41	307	P	P	14 29 48.7	+0.7
KKM	**Kota Kinabalu**	58.41	90	⇑P	P	14 29 49.0	+0.4
UCC	**Uccle**	58.64	324	IAmb	IAmb	14 30 19.8	
	comp=Z,219nm,1.3s						
UCC	**Uccle**	58.64	324	dP	P	14 29 49.1	-0.3
EMUR	**La Murta**	58.64	308	P	P	14 29 47.1	-2.6
EMUR				S	S	14 37 51.3	-2.7
OVD	**Ostervraa, Den**	58.66	332	i P	P	14 29 50.6	+1.2
OVD				IAmb	IAmb	14 29 51.7	
	comp=Z,64nm,0.6s						
MUD	**Monsted U'grnd**	58.68	331	i P	P	14 29 48.4	-1.1
MUD				IAmb	IAmb	14 29 55.2	
	comp=Z,91nm,1.1s						
MUD				IAMs_20	IAMs_20	14 59 08.7	
	comp=Z,12μm,21.6s						
ECHE	**Chera**	58.79	310	P	P	14 29 51.4	+0.6
HFS	**Hagfors**	58.79	336	P	P	14 29 49.4	-0.9
	comp=Z,57nm,1.0s,baz=140,slow=7.8,SNR=19						
HFS				LR	LR	14 57 44.4	
	comp=Z,26μm,20.7s,baz=132,slow=39						
	comp=Z,57nm,1.0s						
APA	**Apatity**	58.83	350	⇓iP	P	14 29 50.9	+0.5
APA				i		14 30 39.0	
APA				i		14 31 57.0	
APA				i S	S	14 37 55.0	-0.4
APA				i		14 39 42.0	
APA				i SS	SS	14 41 50.0	+1.4
APA				pmax	pmax		
	comp=Z,35nm,0.9s						
LVZ	**Lovozero**	58.91	350	P	P	14 29 49.4	-1.6
LVZ				IAmb	IAmb	14 30 08.3	
	comp=Z,141nm,1.1s						
LVZ	**Lovozero**	58.91	350	ceP	P	14 29 50.6	-0.4
LVZ				pmax	pmax		
	comp=Z,150nm,2.5s						
LVZ	**Lovozero**	58.91	350	⇑P	P	14 29 50.0	-1.1
GMJI	**Gumukmas**	59.02	107	P	P	14 29 51.2	-1.4
KMMI	**Kalianget**	59.15	105	P	P	14 29 53.4	-0.1
STRU	**Stroemstad**	59.18	334	i P	P	14 29 51.3	-1.6
ENIJ	**Nijar**	59.24	307	P	P	14 29 55.1	+1.2
ENIJ				S	S	14 37 54.9	-6.9
KNMB	**Chin-men Tao**	59.35	68	IAMs_20	IAMs_20	14 56 09.9	
	comp=Z,13μm,20.0s						
BJI	**Beijing**	59.36	50	P	P	14 29 54.8	+0.2
BJI				pP	sP	14 29 59.5	+1.0
BJI				sP	pwP	14 30 02.0	-1.3
BJI				PP	PP	14 32 07.5	+1.8
BJI				S	S	14 38 02.0	-1.1
BJI				pmax	pmax		
	comp=Z,37nm,1.7s						
BJI				pmax	pmax		
	comp=Z,2μm,8.1s						
BJI				LR	LR		
	comp=Z,9μm,22.7s						
BJI				LR	LR		
	comp=Z,8μm,19.2s						
BJI				LR	LR		
	comp=Z,22μm,22.0s						
TIA	**Tai'an**	59.38	54	P	P	14 29 54.5	-0.3
TIA				pP	sP	14 29 58.5	-0.3
TIA				S	S	14 38 03.0	-0.6
TIA				SS	SS	14 41 58.0	-0.5
TIA				pmax	pmax		
	comp=Z,97nm,1.6s						
TIA				pmax	pmax		
	comp=Z,4μm,5.1s						
TIA				LR	LR		
	comp=Z,3μm,20.8s						
TIA				LR	LR		
	comp=Z,15μm,15.8s						
QZH	**Quanzhou**	59.55	67	⇑iP	P	14 29 55.3	-0.9
QZH				PP	PP	14 32 07.5	-0.2
QZH				S	S	14 38 04.5	-1.6
QZH				pmax	pmax		
	comp=Z,3μm,5.5s						
QZH				LR	LR		
	comp=Z,6μm,21.6s						
QZH				LR	LR		
	comp=Z,16μm,19.6s						
JAGI	**Jajag, Banyuwa**	59.75	106	IAmb	IAmb	14 30 13.7	
	comp=Z,242nm,1.3s						
JAGI	**Jajag, Banyuwa**	59.75	106	P	P	14 29 55.5	-2.2
	comp=Z,2μmcomp=Z,150nm,1.4s						
OSL	**Oslo**	59.88	335	eP	P	14 29 59.9	+2.1
OSL				IVmB_BB		14 30 02.7	
	comp=Z,1μm,3.5s						
OSL				eS	S	14 38 10.5	+1.3
OSL				IVMs_BB	IVMs_BB	14 58 15.8	
	comp=Z,6μm,18.6s						
HOMB	**Homborsund**	59.94	333	eP	P	14 29 57.3	-0.9
HOMB				IVmB_BB		14 30 02.6	
	comp=Z,834nm,3.0s						
HOMB				eS	S	14 38 12.4	+2.6
HOMB				IVMs_BB	IVMs_BB	14 58 28.9	
	comp=Z,3μm,14.7s						
HOMB	**Homborsund**	59.94	333	i P	P	14 29 56.8	-1.4
NC602	**NORSAR Array S**	60.01	336	eP	P	14 29 58.0	-0.8
XLT	**XiLinHaoTe**	60.18	45	eP	P	14 30 00.0	-0.3
XLT				pP	sP	14 30 05.5	+1.3
XLT				sP	pwP	14 30 09.8	+0.7
XLT				PcP	PcP	14 30 49.5	+3.7
XLT				PP	PP	14 32 14.5	+1.5
XLT				S	S	14 38 11.0	-2.8
XLT				ScS	SKKSac	14 39 46.8	-3.9
XLT				SS	SS	14 42 14.8	+3.9
XLT				pmax	pmax		
	comp=Z,66nm,1.8s						
XLT				pmax	pmax		
	comp=Z,4μm,6.4s						
XLT				LR	LR		
	comp=Z,19μm,18.3s						
XLT				LR	LR		
	comp=Z,30μm,16.6s						
KONO	**Kongsberg**	60.20	334	P	P	14 29 58.4	-1.6
KONO	**Kongsberg**	60.20	334	IAMs_20	IAMs_20	14 59 13.6	
	comp=Z,13μm,20.0s						
KONO	**Kongsberg**	60.20	334	ceP	P	14 30 00.4	+0.4
KONO				pmax	pmax		
	comp=Z,94nm,2.5s						
KONO	**Kongsberg**	60.20	334	eP	P	14 30 00.7	+0.8
KONO				IVmB_BB		14 30 04.5	
	comp=Z,795nm,3.5s						
KONO				eS	S	14 38 11.6	-1.6
KONO				IVMs_BB	IVMs_BB	14 59 11.3	
	comp=Z,4μm,17.4s						
EQTA	**Presa de Quent**	60.26	307	P	P	14 30 00.3	-0.6
NJ2	**Nanjing**	60.26	59	⇑iP	P	14 30 00.5	-0.4
NJ2				pP	sP	14 30 05.0	+0.1
NJ2				PP	PP	14 32 11.5	-2.3
NJ2				S	S	14 38 14.5	-0.5
NJ2				ScS	ScS	14 39 53.3	+1.6
NJ2				SS	SS	14 42 12.3	-0.1
NJ2				pmax	pmax		
	comp=Z,83nm,1.4s						
NJ2				pmax	pmax		
	comp=Z,2μm,3.7s						
NJ2				LR	LR		
	comp=Z,6μm,20.4s						
NJ2				LR	LR		
	comp=Z,15μm,23.2s						
NB2	**NORSAR Subarra**	60.32	336	P	P	14 29 59.0	-1.9
	comp=Z,499nm,3.3s,baz=125,slow=6.9						
NB2	**NORSAR Subarra**	60.32	336	P	P	14 29 59.0	-1.9
	baz=125,slow=6.9						
NOA	**NORSAR Array B**	60.32	336	P	P	14 29 59.3	-1.6
	comp=Z,14nm,0.9s,baz=119,slow=7.5,SNR=15						
NOA				LR	LR	14 58 41.0	
	comp=Z,23μm,20.2s,baz=130,slow=39						
	comp=Z,14nm,0.9s						
ELGU	**Los Guajares,**	60.35	306	P	P	14 30 01.6	0.0
ELGU				S	S	14 38 14.4	-1.8
BKB	**Balikpapan**	60.48	98	P	P	14 30 02.8	+0.1
	comp=Z,7μmcomp=Z,4μmcomp=Z,146nm,1.4s						
SNART	**Snartemo**	60.56	332	eP	P	14 30 00.0	-2.5
SNART				eS	S	14 38 18.7	+0.8
SNART				IVMs_BB	IVMs_BB	15 10 58.8	
	comp=Z,5μm,14.3s						
SNART	**Snartemo**	60.56	332	i P	P	14 30 01.7	-0.7
SMKI	**Samarinda**	60.60	97	P	P	14 30 04.5	+0.9
	comp=Z,6μmcomp=Z,102nm,0.5s						
SRBI	**Singaraja**	60.63	106	P	P	14 30 02.6	-1.1
	comp=Z,4μmcomp=Z,3μmcomp=Z,139nm,1.4s						
UCM	**Universidad Co**	60.65	310	P	P	14 30 04.0	+0.5
EGOR	**Sierra Gorda,**	60.77	306	P	P	14 30 02.6	-1.9
DNP	**Denpasar**	60.81	106	P	P	14 30 02.8	-2.1
	comp=Z,298nm,1.8s						
EMAL	**Malaga-Limoner**	60.97	306	P	P	14 30 05.6	0.0
EMAL				S	S	14 38 20.1	-3.8
CIT	**Chita**	61.03	36	eP	P	14 30 06.0	+0.1
CIT				eS	S	14 38 26.8	+2.5
CIT				pmax	pmax		
	comp=Z,974nm,2.3s						
ESBB	**Sonseca Array**	61.08	309	IAmb	IAmb	14 30 17.1	
	comp=Z,212nm,1.1s						
ESDC	**Sonseca Array**	61.08	309	P	P	14 30 05.5	-0.9
ESDC	**Sonseca Array**	61.08	309	P	P	14 30 06.2	-0.2
	comp=Z,88nm,1.1s,baz=87,slow=5.8,SNR=158						
	comp=Z,88nm,1.1s						
IFR	**Ifrane**	61.13	302	P	P	14 30 07.3	+0.2
IFR				S	S	14 38 24.4	-2.0
SKAR	**Skarslia**	61.30	335	eP	P	14 30 10.1	+2.5
SKAR				IVmB_BB		14 30 12.6	
	comp=Z,686nm,3.5s						
SKAR				eS	S	14 38 29.9	+2.4
SKAR				IVMs_BB	IVMs_BB	14 58 57.9	
	comp=Z,5μm,19.1s						
PAB	**San Pablo**	61.35	309	P	P	14 30 07.9	-0.4
PAB	**San Pablo**	61.35	309	P	P	14 30 07.9	-0.4
PAB				pmax	pmax		
	comp=Z,281nm,1.2s						
PAB	**San Pablo**	61.35	309	⇓P	P	14 30 08.6	+0.2
TPUB	**Ta-pu**	61.39	69	IAmb	IAmb	14 31 00.2	
	comp=Z,269nm,1.3s						
TPUB				IAMs_20	IAMs_20	14 57 56.2	
	comp=Z,11μm,19.0s						
BLS5	**Blasjo**	61.44	333	eP	P	14 30 09.4	+0.9
BLS5				IVmB_BB		14 30 14.0	
	comp=Z,1μm,3.9s						
BLS5				eS	S	14 38 29.6	+0.4
BLS5				IVMs_BB	IVMs_BB	15 00 37.6	
	comp=Z,4μm,14.4s						
DBIC	**Dimbokro**	61.48	272	P	P	14 30 09.6	0.0
DBIC	**Dimbokro**	61.48	272	P	P	14 30 09.8	+0.2
	comp=Z,26nm,0.8s,baz=76,slow=7.8,SNR=18						
DBIC				LR	LR	14 57 06.2	
	comp=Z,14μm,18.9s,baz=72,slow=36						
	comp=Z,26nm,0.8s						
DBIC	**Dimbokro**	61.48	272	P	P	14 30 10.5	+1.0
DBIC				S	S	14 38 31.3	+0.2
WACR	**West Acre**	61.51	325	eP	P	14 30 08.2	-0.9
NRIK	**Noril'sk**	61.57	12	P	P	14 30 08.7	-0.4
NRIK				IAmb	IAmb	14 30 20.6	
	comp=Z,160nm,1.1s						
NRIK	**Noril'sk**	61.57	12	P	P	14 30 09.4	+0.3
	comp=Z,56nm,0.9s,baz=209,slow=5.6,SNR=40						
NRIK				LR	LR	15 00 00.0	
	comp=Z,19μm,19.3s,baz=212,slow=39						
	comp=Z,56nm,0.9s						
CEU	**Ceuta**	61.61	305	P	P	14 30 10.9	+0.8
CEU				S	S	14 38 24.4	-7.6
ODD1	**Odda**	61.61	334	eP	P	14 30 11.8	+2.1
ODD1				IVmB_BB		14 30 14.8	
	comp=Z,1μm,2.8s						
ODD1				IVMs_BB	IVMs_BB	15 00 50.7	
	comp=Z,4μm,18.0s						
SSLB	**Suanglung**	61.69	69	IAmb	IAmb	14 30 17.2	
	comp=Z,257nm,1.4s						
SSLB				IAMs_20	IAMs_20	15 01 37.0	
	comp=Z,10μm,18.0s						
DOMB	**Dombas**	61.74	336	eP	P	14 30 09.3	-1.2
DOMB				IVmB_BB		14 30 15.8	
	comp=Z,989nm,4.3s						
DOMB				i		14 33 54.3	
DOMB				eS	S	14 38 33.0	+0.1
DOMB				IVMs_BB	IVMs_BB	14 59 11.9	
	comp=Z,7μm,18.9s						
VADS	**Vadso**	61.78	350	eP	P	14 30 10.0	-0.6
VADS				i		14 33 52.8	
VADS				eS	S	14 38 35.7	+2.6
VADS				IVMs_BB	IVMs_BB	15 00 13.2	
	comp=Z,4μm,15.7s						
TWG	**Pinlang**	61.80	70	IAMs_20	IAMs_20	14 58 16.3	
	comp=Z,16μm,20.0s						
KMY	**Karmoy**	61.88	333	eP	P	14 30 11.0	-0.4
KMY				eS	S	14 38 37.0	+2.4
KMY				IVmBBB		14 59 41.7	
	comp=Z,3μm,13.1s						
KEV	**Kevo**	61.92	349	P	P	14 30 10.5	-1.0
KEV				IAmb	IAmb	14 30 26.9	
	comp=Z,124nm,1.0s						
KEV				IAMs_20	IAMs_20	14 59 59.8	
	comp=Z,16μm,21.0s						
KEV	**Kevo**	61.92	349	P	P	14 30 10.5	-1.0
KEV				pmax	pmax		
	comp=Z,124nm,1.0s						
KEV				MLR	MLR		
	comp=Z,16μm,21.0s						
KEV	**Kevo**	61.92	349	⇑P	P	14 30 10.7	-0.8
KEV	**Kevo**	61.92	349	P	P	14 30 10.5	-1.0
KEV				S	S	14 38 34.3	-0.5
TBLU	**Trondheim**	61.97	338	eP	P	14 30 15.3	+3.3
TBLU				eS	S	14 38 37.1	+1.4
TBLU				IVMs_BB	IVMs_BB	14 59 35.1	
	comp=Z,8μm,17.4s						
YULB	**Yu-li**	62.00	69	IAMs_20	IAMs_20	14 58 24.3	
	comp=Z,14μm,19.0s						
YULB	**Yu-li**	62.00	69	P	P	14 30 14.3	+1.4
ARA0	**ARCESS Array S**	62.04	348	eP	P	14 30 11.2	-1.1
ARA0				eP	pP	14 30 11.8	-3.4
ARA0				IVmB_BB		14 30 17.0	
	comp=Z,1μm,3.0s						
ARA0				IVmB_BB		14 30 17.0	
	comp=Z,1μm,2.5s						
ARA0				i		14 33 54.1	
ARA0				eS	S	14 38 37.3	+0.8
ARA0				IVMs_BB	IVMs_BB	15 00 10.3	
	comp=Z,7μm,17.0s						
ARCES	**ARCESS Array B**	62.04	348	P	P	14 30 11.5	-0.9
	comp=Z,25nm,0.8s,baz=153,slow=6.5,SNR=45						
ARCES				LR	LR	15 00 31.8	
	comp=Z,20μm,19.0s,baz=140,slow=39						
	comp=Z,25nm,0.8s						
JSA	**Saint Aubin**	62.05	320	eP	P	14 30 11.7	-1.0
JSA				IAMs_20	IAMs_20	15 02 07.1	
	comp=Z,6μm,17.2s						
JSA	**Saint Aubin**	62.05	320	⇑P	P	14 30 14.3	+1.6
TGY	**Tagaytay City**	62.07	80	LR	LR	14 54 58.1	
	comp=Z,13μm,20.9s,baz=280,slow=34						
YHNB	**Yeheng**	62.08	68	IAMs_20	IAMs_20	14 58 03.3	
	comp=Z,14μm,20.0s						
YHNB	**Yeheng**	62.08	68	P	P	14 30 14.6	+1.1
NSS	**Namsos**	62.13	340	eP	P	14 30 14.6	+1.6
NSS				IVmB_BB		14 30 17.2	
	comp=Z,1μm,2.8s						
NSS				eS	S	14 38 39.8	+2.1
NSS				IVMs_BB	IVMs_BB	14 58 33.2	
	comp=Z,5μm,23.4s						
SSE	**Sheshan**	62.16	61	P	P	14 30 13.3	-0.5
SSE				S	S	14 38 38.8	-0.4
SSE				pmax	pmax		
	comp=Z,31nm,1.5s						
SSE				pmax	pmax		
	comp=Z,1μm,8.7s						
SSE				LR	LR		
	comp=Z,4μm,18.8s						
SSE				LR	LR		
	comp=Z,6μm,19.6s						
TATO	**Taipei**	62.18	67	P	P	14 30 14.2	+0.1
TATO	**Taipei**	62.18	67	IAMs_20	IAMs_20	14 58 47.4	
	comp=Z,12μm,20.0s						
TATO	**Taipei**	62.18	67	P	P	14 30 14.6	+0.5
TATO				P	P	14 30 14.6	+0.5
CNIL	**Conil**	62.21	305	P	P	14 30 13.8	-0.3
NACB	**Ninganchiao**	62.27	68	IAmb	IAmb	14 30 26.1	
	comp=Z,203nm,1.2s						
NACB				IAMs_20	IAMs_20	14 58 00.5	
	comp=Z,12μm,20.0s						
MOR8	**Moi Rana**	62.38	342	eP	P	14 30 13.9	-0.8
MOR8				IVmB_BB		14 30 18.7	
	comp=Z,1μm,2.5s						
MOR8				eS	S	14 38 39.3	-1.5
MOR8				IVMs_BB	IVMs_BB	14 59 10.5	
	comp=Z,8μm,18.4s						
BER	**Bergen**	62.41	334	eP	P	14 30 13.6	-1.3
BER				IVmB_BB		14 30 21.9	
	comp=Z,920nm,4.2s						
BER				eS	S	14 38 43.4	+2.1
BER				IVMs_BB	IVMs_BB	14 59 39.3	
	comp=Z,4μm,15.8s						
HYA	**Hoyanger**	62.44	335	eP	P	14 30 16.1	+1.0
HYA				IVmB_BB		14 30 20.2	
	comp=Z,811nm,3.5s						
HYA				eS	S	14 38 40.6	-1.0
HYA				IVMs_BB	IVMs_BB	15 02 30.9	
	comp=Z,4μm,17.0s						
ROSF	**Rostrenen**	62.51	319	⇑P	P	14 30 15.0	-0.9
ASK	**Askoy**	62.52	334	eP	P	14 30 15.3	-0.3
ASK				IVmB_BB		14 30 21.0	
	comp=Z,1μm,4.1s						
ASK				eS	S	14 38 44.5	+1.8
ASK				IVMs_BB	IVMs_BB	14 59 43.4	
	comp=Z,4μm,13.7s						
MOL	**Molde**	62.62	337	eP	P	14 30 18.3	+2.0
MOL				eS	S	14 38 45.8	+1.9
MOL				IVMs_BB	IVMs_BB	14 59 39.6	
	comp=Z,7μm,19.0s						
AKN	**Aaknes**	62.63	336	eP	P	14 30 16.4	-0.1
AKN				IVmB_BB		14 30 21.5	
	comp=Z,946nm,2.9s						
AKN				eS	S	14 38 48.0	+3.8
AKN				IVMs_BB	IVMs_BB	14 59 38.4	
	comp=Z,8μm,19.4s						
TIO	**Tiouine**	62.71	299	P	P	14 30 18.3	+0.6
LEIR	**Leirfjorden**	62.75	341	eP	P	14 30 16.7	-0.4
LEIR				IVmB_BB		14 30 21.3	
	comp=Z,1μm,3.0s						
LEIR				eS	S	14 38 46.6	+1.2
LEIR				IVMs_BB	IVMs_BB	14 59 57.0	
	comp=Z,7μm,18.1s						
GDLE	**Glaisdale, N Y**	62.92	326	eP	P	14 30 17.8	-0.7
GDLE				IAmb	IAmb	14 30 23.6	
	comp=Z,189nm,1.0s						
GDLE				IAMs_20	IAMs_20	15 01 58.7	
	comp=Z,10μm,21.3s						
STOK	**Stokkvaagen**	62.92	342	eP	P	14 30 15.9	-2.4
STOK				IVmB_BB		14 30 22.8	
	comp=Z,2μm,3.2s						
STOK				eS	S	14 38 48.5	+1.0
STOK				IVMs_BB	IVMs_BB	14 59 28.2	
	comp=Z,7μm,20.6s						
FAUS	**Fauske**	62.94	343	eP	P	14 30 17.4	-0.9
FAUS				IVmB_BB		14 30 22.7	
	comp=Z,2μm,2.5s						
FAUS				eS	S	14 38 47.9	+0.2
FAUS				i		14 42 37.5	
FAUS				IVMs_BB	IVMs_BB	14 59 37.5	
	comp=Z,5μm,19.4s						
SUE	**Sulen**	62.98	334	eP	P	14 30 20.0	+1.3
SUE				i		14 34 14.9	
SUE				eS	S	14 38 49.9	+1.4
SUE				IVMs_BB	IVMs_BB	15 01 23.8	
	comp=Z,4μm,19.0s						
KONS	**Konsvik**	63.00	342	eP	P	14 30 17.9	-0.9
AVE	**Averroes**	63.01	302	IAMs_20	IAMs_20	14 57 30.3	
	comp=Z,11μm,19.0s						
MPSI	**Mapaga**	63.06	95	P	P	14 30 19.0	-1.1
	comp=Z,5μmcomp=Z,3μmcomp=Z,85nm,1.4s						
LBWR	**Ladybower, Pea**	63.08	325	eP	P	14 30 19.5	-0.1
LBWR				IAMs_20	IAMs_20	15 03 46.3	
	comp=Z,9μm,18.1s						
VAGH	**Vaagaholmen**	63.10	342	eP	P	14 30 19.1	-0.3
VAGH				IVmB_BB		14 30 24.0	
	comp=Z,2μm,2.7s						
VAGH				eS	S	14 38 52.0	+2.3
VAGH				IVMs_BB	IVMs_BB	14 59 32.5	
	comp=Z,8μm,20.0s						
FOO	**Floro**	63.13	335	eP	P	14 30 20.6	+0.9
FOO				IVmB_BB		14 30 25.3	
	comp=Z,858nm,5.4s						
FOO				eS	S	14 38 51.0	+0.7
FOO				IVMs_BB	IVMs_BB	15 00 15.2	
	comp=Z,4μm,16.4s						
JETT	**Jettan, Norway**	63.17	346	eP	P	14 30 19.0	-1.0
JETT				IVmB_BB		14 30 24.4	
	comp=Z,2μm,2.2s						
JETT				eS	S	14 38 52.6	+1.9
JETT				IVMs_BB	IVMs_BB	15 00 40.5	
	comp=Z,6μm,14.4s						
MONM	**Monmouth**	63.21	323	eP	P	14 30 19.3	-1.2
STNC	**Stoke**	63.25	324	eP	P	14 30 20.4	-0.3
STNC				IAmb	IAmb	14 30 26.1	
	comp=Z,262nm,1.4s						
STNC				IAMs_20	IAMs_20	15 03 46.2	
	comp=Z,12μm,17.9s						
PCI	**Palu**	63.26	97	P	P	14 30 20.4	-1.1
	comp=Z,5μmcomp=Z,125nm,1.1s						
PLAI	**Plampang**	63.27	106	P	P	14 30 21.9	+0.4
PLAI	**Plampang**	63.27	106	P	P	14 30 19.0	-2.5
	comp=Z,4μmcomp=Z,3μmcomp=Z,253nm,1.6s						
HAMF	**Hammerfest**	63.30	348	eP	P	14 30 20.1	-0.6
HAMF				IVmB_BB		14 30 25.5	
	comp=Z,2μm,2.9s						
HAMF				i		14 34 13.1	
HAMF				IVMs_BB	IVMs_BB	15 00 58.4	
	comp=Z,7μm,18.1s						
DL2	**Dalian**	63.32	52	P	P	14 30 21.3	-0.1
DL2				S	S	14 38 52.0	-1.5
DL2				pmax	pmax		
	comp=Z,300nm,1.3s						
DL2				pmax	pmax		
	comp=Z,1μm,7.5s						
DL2				LR	LR		
	comp=Z,12μm,22.9s						
DL2				LR	LR		
	comp=Z,31μm,22.4s						
STEI	**Steigen**	63.32	344	eP	P	14 30 19.8	-1.1
STEI				IVmB_BB		14 30 25.2	
	comp=Z,2μm,2.7s						
STEI				eS	S	14 38 52.4	-0.1
STEI				IVMs_BB	IVMs_BB	14 59 47.3	
	comp=Z,7μm,19.0s						
MCH1	**Michaelchurch**	63.38	323	eP	P	14 30 20.5	-1.0
MCH1	**Michaelchurch**	63.38	323	⇑P	P	14 30 20.6	-1.0
HLM1	**Long Mynd**	63.46	324	eP	P	14 30 21.1	-1.0
HLM1				IAmb	IAmb	14 30 26.7	
	comp=Z,93nm,1.1s						
HLM1				IAMs_20	IAMs_20	15 07 02.3	
	comp=Z,6μm,15.7s						
BOD	**Bodaibo**	63.47	30	eP	P	14 30 21.2	-0.9
BOD				pmax	pmax		
	comp=Z,228nm,1.9s						
YOJ	**Yonaguni jima**	63.56	68	P	P	14 30 25.0	+1.7
TRO	**Tromso**	63.58	346	eP	P	14 30 22.0	-0.5
TRO				IVmB_BB		14 30 26.8	
	comp=Z,1μm,2.7s						
TRO				i		14 34 17.0	
TRO				eS	S	14 38 55.5	-0.1
TRO				i		14 42 57.8	
TRO				IVMs_BB	IVMs_BB	15 00 17.5	
	comp=Z,6μm,16.2s						
EDMD	**Edmundbyers**	63.69	326	eP	P	14 30 22.8	-0.8
EDMD				IAmb	IAmb	14 30 28.8	
	comp=Z,362nm,1.7s						
EDMD				IAMs_20	IAMs_20	15 02 40.6	
	comp=Z,9μm,18.1s						
PESTR	**Estremoz**	63.73	308	IAmb	IAmb	14 30 42.6	
	comp=Z,81nm,1.0s						
PESTR

comp=Z,15µm,22.0s
TOLI2 Tolitoli 63.77 94 P **P 14 30 26.2 +1.4**
SPSI Sidrap Palu 63.90 100 P **P 14 30 23.2 -2.5**
comp=Z,64nm,1.1s
MTE Manteigas 63.91 310 P **P 14 30 25.4 0.0**
MTE IAmb IAmb 14 30 37.3
comp=Z,111nm,1.0s
MTE Manteigas 63.91 310 ⇑P **P 14 30 26.1 +0.7**
LOF Lofoten 63.93 343 *e*P **P 14 30 25.8 +0.8**
LOF IVmB_BB 14 30 28.8
comp=Z,925nm,2.5s
LOF *e*S **S 14 39 01.7 +1.6**
LOF IVMs_BB IVMs_BB 15 02 43.3
comp=Z,5µm,19.6s
PCVE Castro Verde 63.94 307 P **P 14 30 25.8 +0.3**
PCVE S **S 14 39 01.2 -0.1**
LLW Llanuwychllyn 64.02 324 *e*P **P 14 30 25.1 -0.7**
EVO Evora 64.02 308 P **P 14 30 27.2 +1.1**
MESJ Messejana 64.10 307 *e*P **P 14 30 26.8 +0.1**
MESJ *e*S **S 14 39 04.3 +1.0**
MESJ IAMs_20 IAMs_20 14 48 06.2
comp=N,21µm,61.5s
MESJ Messejana 64.10 307 IAmb IAmb 14 30 39.1
comp=Z,149nm,1.4s
KAPI Kappang 64.14 101 P **P 14 30 26.0 -1.2**
KAPI Kappang 64.14 101 LR LR 14 55 31.0
comp=Z,15µm,20.8s,baz=278,slow=33
KAPI Kappang 64.14 101 P **P 14 30 26.5 -0.8**
KAPI P **P 14 30 26.5 -0.8**
KAPI S **S 14 39 02.7 -1.8**
KAPI S **S 14 39 02.7 -1.8**
KAPI Kappang 64.14 101 P **P 14 30 26.0 -1.2**
KAPI pmax pmax
comp=Z,570nm,1.5s
KAPI Kappang 64.14 101 P **P 14 30 26.3 -0.9**
KAPI S **S 14 39 03.1 -1.3**
KESW Keswick, Cumbr 64.23 326 *e*P **P 14 30 26.3 -0.9**
KESW IAmb IAmb 14 30 31.7
comp=Z,111nm,1.3s
KESW IAMs_20 IAMs_20 15 05 47.4
comp=Z,9µm,15.4s
BNSI Bone 64.33 100 P **P 14 30 29.1 +0.6**
MORF Marmelete 64.39 306 *e*P **P 14 30 28.6 0.0**
MORF *e*S **S 14 39 08.0 +1.1**
MORF IAMs_20 IAMs_20 14 55 34.9
comp=E,6µm,21.8s
RSBS Rosebush, Pemb 64.40 323 *e*P **P 14 30 27.5 -0.8**
ESY Stoneypath 64.40 327 *e*P **P 14 30 27.4 -0.9**
EKA Eskdalemuir Ar 64.50 327 P **P 14 30 27.7 -1.2**
comp=E,12nm,0.6s,baz=114,slow=7.0,SNR=40
comp=E,12nm,0.6s
PFVI Vila Bisbo 64.51 306 P **P 14 30 28.5 -0.8**
PFVI IAmb IAmb 14 30 41.2
comp=Z,204nm,1.1s
COI Coimbra 64.54 309 IAmb IAmb 14 30 48.0
comp=Z,109nm,0.9s
WME Myndd Eilian 64.55 324 *e*P **P 14 30 27.7 -1.5**
WLF1 Llynfaes 64.57 324 *e*P **P 14 30 28.7 -0.7**
BKSI Bulukumba 64.57 101 P **P 14 30 30.0 -0.1**
comp=Z,3µmcomp=Z,81nm,1.3s
WPS Cemaes, Angles 64.66 324 *e*P **P 14 30 28.3 -1.7**
LIS Lisbon 64.93 308 *e*P **P 14 30 32.1 +0.1**
LIS *e*S **S 14 39 14.2 +0.8**
LIS IAMs_20 IAMs_20 14 54 12.6
comp=N,11µm,24.3s
GIRL Giralia 64.95 121 P **P 14 30 34.4 +2.0**
comp=Z,335nm,1.7s
APSI Ampana 65.03 96 P **P 14 30 30.3 -2.8**
comp=Z,3µmcomp=Z,120nm,1.3s
WBSI Waikabubak, Su 65.03 106 P **P 14 30 30.3 -2.8**
comp=Z,4µmcomp=Z,234nm,1.5s
SNY Shenyang 65.19 49 ⇑P **P 14 30 32.8 -0.8**
SNY PP **PP 14 32 54.0 -3.0**
SNY S **S 14 39 15.0 -1.5**
SNY SS **SS 14 43 34.3 +5.2**
SNY pmax pmax
comp=Z,110nm,1.9s
SNY pmax pmax
comp=Z,2µm,5.9s
SNY LR LR
comp=Z,10µm,18.6s
SNY LR LR
comp=Z,18µm,21.0s
LRW Lerwick 65.22 332 ⇑P **P 14 30 35.2 +1.7**
MCD Coleburn Disti 65.30 329 *e*P **P 14 30 32.5 -1.5**
MCD IAMs_20 IAMs_20 15 03 00.4
comp=Z,15µm,20.0s
INVG Invergeldie, C 65.33 328 *e*P **P 14 30 33.0 -1.3**
INVG IAMs_20 IAMs_20 15 03 36.4
comp=Z,7µm,21.1s
SUJ Sinuiju 65.67 51 P **P 14 30 35.8 -0.9**
SUJ S **S 14 39 20.0 -2.5**
SUJ AmB
comp=Z,3µm,2.4s
SUJ AMS AMS
comp=Z,14µm,18.1s
DSB Dublin 65.70 324 P **P 14 30 36.5 -0.2**
DSB Dublin 65.70 324 ⇑P **P 14 30 36.6 -0.1**
IWEX Carrickbyrne, 65.71 323 P **P 14 30 38.3 +1.5**
ILTH Belurgan, Co L 65.88 325 P **P 14 30 38.3 +0.4**
WSI Waingapu 65.90 106 P **P 14 30 39.2 +0.5**
LUWI Luwuk 66.16 96 IAmb IAmb 14 31 05.8
comp=Z,120nm,1.1s
LUWI Luwuk 66.16 96 P P 14 30 34.7 -5.7
LUWI S S 14 39 18.5 -11
LUWI Luwuk 66.16 96 P **P 14 30 37.9 -2.5**
comp=Z,4µmcomp=Z,2µmcomp=Z,118nm,1.5s
HJU Haeju 66.42 53 P **P 14 30 40.5 -1.2**
HJU S **S 14 39 29.1 -2.7**
HJU AmB
comp=Z,2µm,1.8s
HJU AMS AMS
comp=Z,12µm,18.3s
LINV Loch Inver, As 66.46 329 *e*P **P 14 30 40.0 -1.5**
LINV IAMs_20 IAMs_20 15 01 02.6
comp=Z,9µm,25.3s
PYAG Pyongyang 66.53 52 P **P 14 30 41.1 -1.2**
PYAG S **S 14 39 30.0 -3.1**
PYAG AmB
comp=Z,2µm,1.8s
PYAG AMS AMS
comp=Z,19µm,19.0s
CN2 Changchun 66.81 47 ⇑P **P 14 30 43.5 -0.6**
CN2 *e*pP sP 14 30 50.0 +2.0
CN2 *e*S **S 14 39 33.8 -2.5**
CN2 pmax pmax
comp=Z,100nm,0.9s
CN2 pmax pmax
comp=Z,3µm,6.0s
CN2 LR LR
comp=Z,4µm,17.0s
CN2 LR LR
comp=Z,3µm,17.0s
CN2 LR LR
comp=Z,7µm,20.0s
IDGL Inch Island, C 66.82 326 P **P 14 30 44.9 +1.1**
EDFI Ende, Flores 66.97 104 P **P 14 30 42.7 -3.0**
BBSI Bau Bau 66.97 101 P **P 14 30 45.1 -0.5**
comp=Z,4µmcomp=Z,3µmcomp=Z,134nm,1.2s
KMSI Cibinong 67.01 94 P **P 14 30 45.4 -0.4**
INCN Inchon 67.10 54 P **P 14 30 45.0 -1.1**
INCN Inchon 67.10 54 P **P 14 30 45.3 -0.8**
INCN P **P 14 30 45.3 -0.8**
INCN S **S 14 39 38.3 -1.8**
INCN S **S 14 39 38.3 -1.8**
INCN Inchon 67.10 54 P **P 14 30 45.0 -1.1**
INCN pmax pmax
comp=Z,502nm,1.6s
INCN MLR MLR
comp=Z,10µm,21.0s
BJO1 Bjornoya 67.19 350 *e*P **P 14 30 45.8 -0.1**
BJO1 IVmB_BB 14 30 49.5
comp=Z,2µm,2.5s
BJO1 *e*S **S 14 39 40.9 +1.0**
BJO1 IVMs_BB IVMs_BB 15 03 40.5
comp=Z,3µm,17.8s
DAV Davao City (W) 67.44 87 LR LR 15 01 32.9
comp=Z,7µm,18.4s,baz=269,slow=37
DAV Davao City (W) 67.44 87 P **P 14 30 48.8 +0.1**
DAV P **P 14 30 48.8 +0.1**
DAV S **S 14 39 44.2 -0.6**
DAV S **S 14 39 44.2 -0.6**
DAV Davao City (W) 67.44 87 P **P 14 30 48.0 -0.6**
DAV Davao City (W) 67.44 87 P **P 14 30 48.2 -0.4**

DAV S **S 14 39 44.0 -0.9**
MMRI Maumere 67.46 104 P **P 14 30 45.8 -2.8**
comp=Z,4µmcomp=Z,291nm,1.6s
IGLA Glengowla, Co 67.49 323 P **P 14 30 49.3 +1.2**
VAL Valentia 67.70 322 P **P 14 30 47.6 -2.0**
VAL Valentia 67.70 322 P **P 14 30 49.8 +0.3**
SHEL Horse Pasture 67.83 248 P **P 14 30 50.0 -1.0**
SHEL Horse Pasture 67.83 248 IAMs_20 IAMs_20 14 59 51.3
comp=Z,11µm,20.0s
SHEL Horse Pasture 67.83 248 P **P 14 30 50.0 -1.0**
SHEL pmax pmax
comp=Z,316nm,1.2s
HOPEN Hopen 67.86 352 *e*P **P 14 30 50.7 +0.7**
HOPEN IVmB_BB 14 30 54.4
comp=Z,2µm,3.5s
HOPEN *e*S **S 14 39 49.8 +2.0**
HOPEN IVMs_BB IVMs_BB 15 08 45.5
comp=Z,4µm,13.8s
SGSI Sangihe 67.95 90 P **P 14 30 51.0 -0.8**
HHU Hamhung 67.97 51 P **P 14 30 50.2 -1.3**
HHU S **S 14 39 47.5 -2.9**
HHU AmB
comp=Z,2µm,2.6s
HHU AMS AMS
comp=Z,10µm,16.2s
KSAR Wonju Array Be 68.09 54 P **P 14 30 50.5 -1.8**
KSAR Wonju Array Be 68.09 54 P **P 14 30 50.5 -1.8**
KSRS Korea Array 68.12 54 P **P 14 30 51.5 -1.0**
comp=Z,36nm,0.9s,baz=265,slow=6.1,SNR=52
KSRS LR LR 15 02 20.7
comp=Z,10µm,19.9s,baz=275,slow=38
comp=Z,36nm,0.9s
JOW Kunigami 68.28 65 IAMs_20 IAMs_20 15 02 45.5
comp=Z,15µm,21.0s
JOW Kunigami 68.28 65 P **P 14 30 53.2 -0.5**
comp=Z,32nm,0.7s,baz=296,slow=4.5,SNR=9.9
JOW LR LR 15 02 36.6
comp=Z,14µm,19.8s,baz=268,slow=38
comp=Z,32nm,0.7s
JOW Kunigami 68.28 65 P **P 14 30 53.8 +0.1**
BNX BinXian 68.43 45 ⇑P **P 14 30 53.5 -0.7**
BNX pP **sP 14 30 58.0 -0.2**
BNX S **S 14 39 53.8 -1.8**
BNX pmax pmax
comp=Z,110nm,2.0s
BNX pmax pmax
comp=Z,4µm,8.2s
BNX LR LR
comp=Z,10µm,15.5s
BNX LR LR
comp=Z,22µm,17.7s
HEH HeiHe 69.03 40 *e*P **P 14 30 57.5 -0.4**
HEH sP **pwP 14 31 05.5 -1.2**
HEH S **S 14 40 00.3 -2.2**
HEH pmax pmax
comp=Z,150nm,1.6s
HEH pmax pmax
comp=Z,4µm,6.4s
HEH LR LR
comp=Z,9µm,14.5s
HEH LR LR
comp=Z,21µm,18.1s
MBWA Marble Bar 69.08 118 P **P 14 30 59.1 +0.4**
MBWA IAmb IAmb 14 31 17.2
comp=Z,285nm,1.8s
MBWA Marble Bar 69.08 118 P **P 14 30 58.0 -0.7**
comp=Z,81nm,1.7s
MBWA Marble Bar 69.08 118 ⇑P **P 14 30 59.8 +1.1**
MORW Morawa 69.17 127 P **P 14 30 58.8 -0.3**
MORW IAmb IAmb 14 31 14.9
comp=Z,160nm,1.4s
MORW Morawa 69.17 127 P **P 14 30 59.1 0.0**
comp=Z,70nm,1.1s
MORW Morawa 69.17 127 P **P 14 31 00.7 +1.6**
PSAD1 Pilbara Seismi 69.27 118 P **P 14 30 59.3 -0.6**
comp=Z,124nm,1.7s
PSAC1 Pilbara Seismi 69.28 118 P **P 14 30 59.8 -0.1**
comp=Z,116nm,1.7s
PSAD3 Pilbara Seismi 69.30 118 P **P 14 31 00.2 +0.1**
comp=Z,105nm,1.7s
PSAA1 Pilbara Seismi 69.32 118 P **P 14 31 01.6 +1.4**
comp=Z,120nm,1.8s
ZEA Zeya 69.48 37 *e*P **P 14 31 01.1 +0.5**
ZEA *e* 14 31 20.8
ZEA *e* 14 33 36.5
ZEA *e*S **S 14 40 11.1 +3.3**
ZEA *e* 14 40 59.2
ZEA pmax pmax
comp=E,20nm,1.8s
ZEA pmax pmax
comp=Z,40nm,1.5s
ZEA pmax pmax
comp=E,600nm,6.8s
ZEA pmax pmax
comp=N,400nm,6.1s
ZEA pmax pmax
comp=Z,2µm,8.9s
ZEA pmax pmax
comp=Z,500nm,6.6s
ZEA smax smax
comp=E,2µm,9.2s
ZEA smax smax
comp=N,3µm,16.8s
ZEA MLR MLR
comp=E,6µm,18.0s
ZEA MLR MLR
comp=Z,9µm,19.0s
SANI Sanana 69.51 96 P **P 14 30 57.8 -3.8**
SANI S **S 14 40 04.6 -4.9**
SANI Sanana 69.51 96 P **P 14 30 58.4 -3.1**
comp=Z,5µmcomp=Z,3µmcomp=Z,129nm,1.1s
SANI Sanana 69.51 96 ⇑P **P 14 31 00.0 -1.5**
HSPB Hornsund (broa 69.62 351 *e*P **P 14 31 01.6 +0.5**
HSPB *e*S **S 14 40 06.5 -2.2**
HSPB *e*L L 14 57 29.8
comp=Z,8µm,28.7s
SOEI Soe 69.68 105 P **P 14 30 59.2 -3.5**
SOEI S **S 14 40 03.3 -8.4**
SOEI Soe 69.68 105 P **P 14 31 03.7 +1.0**
SOEI Soe 69.68 105 P **P 14 31 01.7 -1.0**
SOEI Soe 69.68 105 ⇑P **P 14 31 01.6 -1.1**
MDJ Mudanjiang 69.86 46 IAmb IAmb 14 31 08.9
comp=Z,308nm,1.5s
MDJ Mudanjiang 69.86 46 P **P 14 31 03.0 -0.1**
MDJ S **S 14 40 12.5 -0.1**
MDJ sS sS 14 40 18.5 +1.1
MDJ SS **SS 14 44 44.3 +3.0**
MDJ pmax pmax
comp=Z,78nm,2.5s
MDJ pmax pmax
comp=Z,4µm,6.2s
MDJ LR LR
comp=Z,8µm,17.8s
MDJ LR LR
comp=Z,21µm,22.5s
MEEK Meekatharra 70.22 123 P **P 14 31 05.3 -0.4**
comp=Z,114nm,1.3s
MEEK Meekatharra 70.22 123 P **P 14 31 06.0 +0.3**
comp=Z,31nm,1.1s
TNTI Ternate 70.29 93 P **P 14 31 02.9 -3.4**
comp=Z,4µmcomp=Z,206nm,1.1s
SPB2 Spitsbergen Ar 70.35 352 IAmb IAmb 14 31 24.3
comp=Z,248nm,1.2s
SPA0 Spitsbergen Ar 70.35 352 *e*P **P 14 31 05.9 +0.3**
SPITS Spitsbergen Ar 70.35 352 P **P 14 31 05.3 -0.3**
comp=Z,31nm,1.1s,baz=143,slow=11,SNR=11
SPITS LR LR 15 05 20.3
comp=Z,16µm,21.9s,baz=94,slow=39
comp=Z,31nm,1.1s
BLDU Ballidu 70.37 128 P **P 14 31 07.1 +0.6**
H01W3 Cape Leeuwin H 70.42 133 T T 15 48 43.7
baz=301,slow=75,SNR=94
H01W2 Cape Leeuwin H 70.43 133 T T 15 48 44.1
baz=301,slow=75,SNR=115
H01W1 Cape Leeuwin H 70.44 133 T T 15 48 45.0
baz=301,slow=75,SNR=123
JNU Nakatsue 70.44 59 P **P 14 31 06.0 -1.0**
comp=Z,107nm,0.9s,baz=222,slow=0.6,SNR=21
JNU LR LR 15 03 11.5
comp=Z,10µm,21.8s,baz=277,slow=37
comp=Z,107nm,0.9s
JNU Nakatsue 70.44 59 P **P 14 31 07.2 +0.2**
MUN Mundaring 70.59 129 P **P 14 31 08.5 +0.7**
NLAI Namlea 70.85 97 P **P 14 31 08.3 -1.4**
comp=Z,4µmcomp=Z,2µmcomp=Z,136nm,0.8s
MSHR Mys Shultsa 70.86 49 *ce*P **P 14 31 07.9 -1.4**
MSHR pmax pmax

comp=Z,84nm,1.2s
MSHR MLR MLR
comp=Z,14µm,20.0s
KBS Kingsbay 71.51 352 P **P 14 31 11.7 -0.9**
KBS Kingsbay 71.51 352 P **P 14 31 11.7 -0.9**
KBS pmax pmax
comp=Z,112nm,1.2s
KBS MLR MLR
comp=Z,17µm,21.0s
KBS Kingsbay 71.51 352 *e*P **P 14 31 14.1 +1.5**
KBS *e*P **pP 14 31 15.6 +0.1**
KBS IVmB_BB 14 31 17.8
comp=Z,2µm,2.3s
KBS IVmB_BB 14 31 18.1
comp=Z,3µm,3.1s
KBS *e*PP **PP 14 33 51.0 -0.1**
KBS *e*S **S 14 40 33.7 +3.0**
KBS *e*SS **SS 14 45 07.9 +2.6**
KBS IVMs_BB IVMs_BB 15 05 40.7
comp=Z,5µm,19.0s
KBS Kingsbay 71.51 352 *i*P **P 14 31 14.6 +2.0**
KBS Kingsbay 71.51 352 ⇓P **P 14 31 13.0 +0.4**
USA0B Ussuriysk Arra 71.55 47 IAmb IAmb 14 31 36.9
comp=Z,188nm,1.4s
USA0B Ussuriysk Arra 71.55 47 *ci*P **P 14 31 12.4 -1.0**
USRK Ussuriysk Ar. 71.55 47 P **P 14 31 12.4 -1.0**
USRK Ussuriysk Ar. 71.55 47 P **P 14 31 12.7 -0.7**
comp=Z,8.5nm,0.6s,baz=236,slow=2.1,SNR=22
USRK LR LR 15 03 13.7
comp=Z,18µm,21.4s,baz=264,slow=36
comp=Z,8.5nm,0.6s
KLBR Kellerberrin 71.60 129 P **P 14 31 13.4 -0.5**
comp=Z,69nm,0.8s
KLBR Kellerberrin 71.60 129 P **P 14 31 13.9 0.0**
KLR Kul'dur 71.70 42 LR LR 15 05 14.3
comp=Z,30µm,18.3s,baz=262,slow=38
KLR Kul'dur 71.70 42 *ce*P **P 14 31 13.7 -0.6**
KLR pmax pmax
comp=Z,133nm,2.5s
NWAO Narrogin (SRO) 71.79 130 IAMs_20 IAMs_20 14 54 46.3
comp=Z,11µm,22.0s
NWAO Narrogin (SRO) 71.79 130 P **P 14 31 13.9 -1.2**
NWAO Narrogin (SRO) 71.79 130 P **P 14 31 15.2 +0.2**
comp=Z,10nm,0.7s,baz=273,slow=7.1,SNR=6.8
NWAO LR LR 14 55 42.5
comp=Z,8µm,21.5s,baz=296,slow=30
comp=Z,10nm,0.7s
NWAO Narrogin (SRO) 71.79 130 P **P 14 31 15.7 +0.7**
BBTS Babate 71.82 282 LR LR 15 03 31.7
comp=Z,13µm,18.9s,baz=326,slow=36
JNE Jan Mayen East 71.95 342 *e*P **P 14 31 19.0 +3.7**
JNE IVmB_BB 14 31 21.5
comp=Z,2µm,3.3s
JNE *e*S **S 14 40 39.0 +3.1**
JNW Jan Mayen West 72.00 342 *e*P **P 14 31 19.3 +3.7**
JNW IVmB_BB 14 31 22.1
comp=Z,3µm,3.2s
JNW *e*S **S 14 40 38.4 +1.9**
JMIC Jan Mayen 72.01 342 LR LR 15 05 15.9
comp=Z,6µm,20.7s,baz=112,slow=38
JMIC Jan Mayen 72.01 342 *e*P **P 14 31 19.8 +4.1**
JMIC IVmB_BB 14 31 21.9
comp=Z,3µm,2.7s
AAI Ambon 72.02 97 P **P 14 31 14.0 -2.8**
comp=Z,3µmcomp=Z,211nm,1.2s
JMI Jan Mayen 72.06 342 *e*P **P 14 31 19.9 +3.9**
JMI IVmB_BB 14 31 22.6
comp=Z,3µm,2.8s
JMI *e*S **S 14 40 40.1 +2.9**
YAK Yakutsk 72.23 28 P **P 14 31 15.6 -1.5**
YAK Yakutsk 72.23 28 IAMs_20 IAMs_20 15 04 12.4
comp=Z,11µm,22.0s
YAK Yakutsk 72.23 28 LR LR 15 04 08.9
comp=Z,13µm,21.5s,baz=256,slow=37
YAK Yakutsk 72.23 28 *ci*P **P 14 31 16.3 -0.8**
YAK *e* 14 31 34.3
YAK *e* 14 33 55.4
YAK *e*S **S 14 40 39.9 +0.5**
YAK *e* 14 41 22.9
YAK *e*SS **SS 14 45 16.6 -0.3**
YAK *e*SSS SSS 14 48 32.4
YAK pmax pmax
comp=Z,114nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,524nm,3.2s
YAK pmax pmax
comp=E,383nm,2.9s
YAK pmax pmax
comp=N,89nm,2.0s
YAK smax smax
comp=E,3µm,9.1s
YAK smax smax
comp=N,1µm,9.1s
YAK MLR MLR
comp=Z,16µm,21.0s
YAK MLR MLR
comp=E,11µm,22.0s
YAK MLR MLR
comp=N,11µm,22.0s
MSAI Masohi 72.66 97 P **P 14 31 18.1 -2.5**
comp=N,2µmcomp=N,118nm,1.2s
JMN Monobe 72.94 58 IAMs_20 IAMs_20 15 05 35.4
comp=Z,12µm,18.0s
JMN Monobe 72.94 58 P **P 14 31 22.0 -0.1**
FITZ Fitzroy Crossi 73.33 113 P **P 14 31 24.7 +0.2**
FITZ Fitzroy Crossi 73.33 113 P **P 14 31 24.6 +0.1**
comp=Z,34nm,1.1s,baz=301,slow=4.4,SNR=22
FITZ LR LR 14 57 46.2
comp=Z,9µm,20.9s,baz=294,slow=31
comp=Z,34nm,1.1s
BNDI Bandanaira 73.86 98 P **P 14 31 30.3 +2.6**
TIXI Tiksi 73.98 18 LR LR 15 06 18.1
comp=Z,16µm,19.3s,baz=282,slow=38
SWI Sorong 74.43 94 P **P 14 31 27.6 -3.5**
comp=Z,3µmcomp=Z,2µmcomp=Z,107nm,1.0s
GRNR Gornyy 74.80 40 ⇑*i*P **P 14 31 32.3 -0.2**
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=E,9µm,21.0s
GRNR MLR MLR
comp=N,4µm,19.0s
GRNR MLR MLR
comp=Z,16µm,19.0s
TEY Ternei 74.86 46 ⇑*e*P **P 14 31 31.3 -1.7**
TEY *e* 14 41 07.2
TEY pmax pmax
comp=E,10.0nm,1.9s
TEY pmax pmax
comp=Z,20nm,1.7s
TEY pmax pmax
comp=E,100nm,7.0s
TEY pmax pmax
comp=Z,300nm,7.1s
TEY pmax pmax
comp=E,300nm,7.6s
TEY pmax pmax
comp=N,400nm,8.0s
TEY MLR MLR
comp=E,300nm,19.0s
TEY MLR MLR
comp=N,200nm,18.0s
TEY MLR MLR
comp=Z,300nm,21.0s
BORG Borgarnes 75.39 334 LR LR 15 07 07.6
comp=Z,11µm,21.9s,baz=104,slow=38
INU Inuyama 75.46 56 IAmb IAmb 14 31 49.3
comp=Z,175nm,1.0s
INU Inuyama 75.46 56 P **P 14 31 36.5 -0.2**
KNRA Kununurra 75.50 109 P **P 14 31 35.5 -1.6**
JGF Kuroka 75.72 56 IAmb IAmb 14 31 50.5
comp=Z,384nm,1.8s
JGF Kuroka 75.72 56 P **P 14 31 38.1 -0.1**
FAKI Fak Fak 75.81 96 IAmb IAmb 14 31 51.2
comp=Z,343nm,1.4s
FAKI Fak Fak 75.81 96 P **P 14 31 39.5 +0.5**
FAKI Fak Fak 75.81 96 P **P 14 31 37.6 -1.4**
comp=Z,4µmcomp=Z,4µmcomp=Z,174nm,1.2s
DBG Daneborg 76.23 344 *i*P **P 14 31 43.1 +2.8**
DBG IAmb IAmb 14 31 53.6
comp=Z,118nm,1.4s
SCO Scoresbysund 76.23 340 IAmb IAmb 14 32 02.5

comp=Z,193nm,1.6s
SCO Scoresbysund 76.23 340 *i* P **P 14 31 42.0 +1.6**
SCO IAmb IAmb 14 31 53.9
comp=Z,78nm,1.1s
MJB9 Matsu-Tunnel 76.35 55 IAmb IAmb 14 31 53.7
comp=Z,299nm,1.4s
MAJO Matsushiro 76.36 55 P **P 14 31 40.1 -1.7**
MAJO IAmb IAmb 14 31 52.7
comp=Z,306nm,1.4s
MAJO Matsushiro 76.36 55 P **P 14 31 41.0 -0.8**
MAJO Matsushiro 76.36 55 P **P 14 31 40.1 -1.7**
MAJO pmax pmax
comp=Z,306nm,1.4s
MAJO MLR MLR
comp=Z,14µm,20.0s
MAJO Matsushiro 76.36 55 P **P 14 31 41.0 -0.8**
MAJO S **S 14 41 24.1 -2.7**
MJAR Matsushiro Arr 76.36 55 P **P 14 31 41.2 -0.6**
comp=Z,20nm,0.8s,baz=280,slow=7.3,SNR=32
MJAR LR LR 15 06 36.2
comp=Z,16µm,21.9s,baz=268,slow=37
comp=Z,20nm,0.8s
JSG Sagara 76.46 57 IAMs_20 IAMs_20 15 05 58.4
comp=Z,10µm,20.0s
DRS Darwin Rock St 76.66 106 P **P 14 31 44.9 +1.1**
MTN Manton Dam 76.98 106 IAmb IAmb 14 31 57.3
comp=Z,173nm,1.7s
NOR Nord 76.99 352 *i* P **P 14 31 46.0 +1.5**
NOR IAmb IAmb 14 31 56.2
comp=Z,65nm,1.2s
NOR IAMs_20 IAMs_20 15 08 43.2
comp=Z,10µm,21.2s
NKL Nikolayevsk 77.43 38 *e*P **P 14 31 45.7 -1.7**
NKL *e*S **S 14 41 39.1 +1.3**
NKL pmax pmax
comp=N,63nm,1.0s
NKL pmax pmax
comp=E,79nm,1.1s
NKL pmax pmax
comp=Z,310nm,1.1s
NKL smax smax
comp=E,1µm,6.0s
NKL smax smax
comp=N,597nm,8.5s
NKL MLR MLR
comp=N,41µm,17.0s
NKL MLR MLR
comp=E,28µm,16.0s
NKL MLR MLR
comp=Z,57µm,16.0s
WRKA Warakurna 77.81 119 P **P 14 31 50.2 +0.1**
JHJ Hachijo jima 2 77.91 58 LR LR 15 07 56.5
comp=Z,7µm,19.9s,baz=274,slow=37
KDU Kakadu 78.21 105 P **P 14 31 52.5 0.0**
JTM Tenmabayashi 78.31 50 IAmb IAmb 14 32 05.2
comp=Z,235nm,1.1s
JMM Marumori 78.32 53 IAmb IAmb 14 32 04.4
comp=Z,147nm,0.9s
JMM IAMs_20 IAMs_20 15 09 20.5
comp=Z,11µm,20.0s
MAW Mawson 78.36 178 P **P 14 31 52.7 +0.5**
comp=Z,14nm,0.7s,baz=27,slow=5.0,SNR=7.1
MAW LR LR 14 59 28.0
comp=Z,11µm,19.9s,baz=351,slow=30
comp=Z,14nm,0.7s
UGL Uglegorsk 78.47 42 *e*P **P 14 31 51.8 -1.5**
UGL *e*S **S 14 41 43.2 -6.0**
UGL *e*SS **SS 14 46 56.0 +3.9**
UGL pmax pmax
comp=Z,3µm,6.6s
UGL pmax pmax
comp=Z,140nm,2.4s
UGL smax smax
comp=E,5µm,8.8s
UGL smax smax
comp=N,7µm,7.9s
UGL MLR MLR
comp=E,11µm,22.0s
UGL MLR MLR
comp=N,9µm,15.0s
UGL MLR MLR
comp=Z,13µm,20.0s
SACV Santiago Islan 78.57 283 IAMs_20 IAMs_20 15 06 55.1
comp=Z,10µm,21.0s
TYV Tymovskoe 78.75 40 *e*P **P 14 31 55.2 +0.4**
TYV *e*S **S 14 41 50.0 -2.1**
TYV pmax pmax
comp=Z,2µm,6.7s
TYV pmax pmax
comp=Z,67nm,1.7s
TYV smax smax
comp=N,4µm,9.1s
TYV smax smax
comp=E,5µm,9.1s
TYV MLR MLR
comp=N,8µm,19.0s
TYV MLR MLR
comp=Z,26µm,18.0s
YSS Yuzhno-Sakhali 79.07 44 P **P 14 31 55.4 -1.3**
YSS IAmb IAmb 14 32 28.4
comp=Z,303nm,1.3s
YSS Yuzhno-Sakhali 79.07 44 P **P 14 31 58.0 +1.3**
YSS Yuzhno-Sakhali 79.07 44*ce*P **P 14 31 55.8 -0.9**
YSS *e* 14 34 55.3
YSS *e*S **S 14 41 54.0 -1.7**
YSS *e*PS **PnS 14 42 41.0 +2.5**
YSS *e*SS **SS 14 47 01.9 +0.7**
YSS *e*SSS SSS 14 50 22.7
YSS pmax pmax
comp=Z,2µm,8.5s
YSS pmax pmax
comp=E,1µm,8.1s
YSS pmax pmax
comp=Z,160nm,1.3s
YSS pmax pmax
comp=E,50nm,1.2s
YSS pmax pmax
comp=N,300nm,5.4s
YSS pmax pmax
comp=E,600nm,4.3s
YSS smax smax
comp=N,3µm,7.7s
YSS smax smax
comp=E,2µm,6.9s
YSS MLR MLR
comp=Z,11µm,18.0s
YSS MLR MLR
comp=N,5µm,16.0s
YSS MLR MLR
comp=E,9µm,18.0s
ASAJ Asahikawa 79.18 47 LR LR 15 08 04.1
comp=E,14µm,19.6s,baz=286,slow=37
JKA Kamikawa-asahi 79.18 47 IAmb IAmb 14 32 10.2
comp=Z,174nm,1.3s
BAKI Biak 79.24 93 P **P 14 31 56.4 -1.9**
comp=Z,3µmcomp=Z,4µmcomp=Z,197nm,1.5s
SRPI Serui, Papua 79.51 94 P **P 14 31 57.5 -2.2**
ERM Erimo 79.77 49 P **P 14 32 00.4 -0.2**
ERM S **S 14 42 00.5 -2.7**
SYO Syowa Base 80.64 186⇑*i*P **P 14 32 06.8 +2.2**
SYO Syowa Base 80.64 186⇑*i*pP pP 14 32 09.1 +1.7
SYO Syowa Base 80.64 186⇑*e*PcP **PcP 14 32 14.0 +2.7**
SUMG Summit 81.44 342 IAmb IAmb 14 32 21.6
comp=Z,156nm,1.3s
SUMG Summit 81.44 342 P **P 14 32 10.8 +1.3**
SUMG Summit 81.44 342 *i* P **P 14 32 12.5 +3.1**
SUMG IAmb IAmb 14 32 21.3
comp=Z,165nm,1.3s
YUK Yuzh-Kuril'sk 81.53 47*d i*P **P 14 32 09.3 -0.6**
YUK *e* 14 35 15.5
YUK *i* S **S 14 42 16.0 -5.6**
YUK *e*SS **SS 14 47 45.3 +7.2**
YUK *e*SSS SSS 14 51 05.8
YUK pmax pmax
comp=Z,1µm,2.0s
YUK pmax pmax
comp=Z,605nm,1.3s
YUK pmax pmax
comp=N,106nm,1.0s
YUK pmax pmax
comp=E,148nm,1.1s
WRA Warramunga Arr 81.74 112 P **P 14 32 10.5 -1.1**
WRA Warramunga Arr 81.74 112 P **P 14 32 10.6 -1.0**
comp=E,50nm,1.1s,baz=298,slow=4.3,SNR=56
WRA LR LR 15 02 22.1
comp=E,4µm,21.9s,baz=290,slow=31
comp=E,50nm,1.1s
WB0 Warramunga Arr 81.75 112 IAmb IAmb 14 32 24.1
comp=Z,224nm,1.3s
WRAB Tennant Creek 81.75 112 P **P 14 32 10.1 -1.5**
WRAB IAmb IAmb 14 32 24.3
comp=Z,246nm,1.4s
WRAB Tennant Creek 81.75 112 P **P 14 32 10.1 -1.5**
WRAB pmax pmax
comp=Z,246nm,1.4s
WR8 Warramunga Arr 81.89 112 IAmb IAmb 14 32 24.9
comp=Z,205nm,1.4s
SMPI Sarmi 81.95 94 P **P 14 32 14.6 +1.8**
ASAR Alice Springs 82.31 116 P **P 14 32 13.3 -1.2**
comp=Z,17nm,0.7s,baz=290,slow=5.1,SNR=184
ASAR PKKPbc **PKKPbc 14 50 47.5 +5.0**
comp=Z,0.6nm,0.8s,baz=182,slow=1.9,SNR=4.9
ASAR LR LR 15 03 02.8
comp=Z,12µm,21.9s,baz=287,slow=32
comp=Z,17nm,0.7s
ICESG Greenland Ices 82.41 339 *i* P **P 14 32 16.4 +1.8**
ICESG IAmb IAmb 14 32 25.6
comp=Z,674nm,2.3s
MA2 Magadan 82.48 31 P **P 14 32 13.6 -1.1**
MA2 IAMs_20 IAMs_20 15 13 20.7
comp=Z,9µm,18.0s
MA2 Magadan 82.48 31 LR LR 15 11 45.3
comp=Z,7µm,19.5s,baz=278,slow=38
MA2 Magadan 82.48 31 *i* P **P 14 32 14.1 -0.6**
MA2 pmax pmax
comp=Z,29nm,1.5s
SEY Seymchan 82.73 27 LR LR 15 11 44.0
comp=Z,12µm,20.8s,baz=280,slow=38
SEY Seymchan 82.73 27*ce*P **P 14 32 16.3 +0.4**
SEY pmax pmax
comp=Z,178nm,2.5s
SEY MLR MLR
comp=Z,12µm,20.0s
NEEM North Greenlan 83.40 348 *i* P **P 14 32 19.8 +0.3**
NEEM IAmb IAmb 14 32 26.2
comp=Z,94nm,1.2s
GENI Genyem 83.50 94 P **P 14 32 21.9 +1.1**
comp=Z,3µmcomp=Z,113nm,1.7s
JAY Jayapura 84.01 94 LR LR 15 08 04.9
comp=Z,1µm,21.6s,baz=284,slow=34
JAY Jayapura 84.01 94 P **P 14 32 23.8 +0.3**
comp=Z,72nm,1.5s
GUMO Guam 85.18 77 LR LR 15 06 45.0
comp=Z,3µm,21.5s,baz=288,slow=33
ELIB Princess Elisa 85.63 190 *d*P **P 14 32 31.3 +0.8**
comp=Z,19nm,1.4s
KULLO Kullorsuaq 85.91 346 *i* P **P 14 32 32.6 +0.8**
KULLO IAmb IAmb 14 32 38.8
comp=Z,235nm,1.6s
NUUG Nuugaatsiaq 86.11 343 *i* P **P 14 32 33.5 +0.7**
NUUG IAmb IAmb 14 32 40.4
comp=Z,85nm,1.5s
UMMG Uummannaq 86.11 342 *i* P **P 14 32 34.0 +1.1**
UMMG IAmb IAmb 14 32 38.9
comp=Z,316nm,1.6s
ILULI Ilulissat 86.32 340 IAMs_20 IAMs_20 15 12 36.3
comp=Z,9µm,22.0s
ILULI Ilulissat 86.32 340 *i* P **P 14 32 33.7 -0.2**
ILULI IAmb IAmb 14 32 34.7
comp=Z,79nm,0.7s
UPNV Upernavik 86.42 344 *i* P **P 14 32 36.2 +1.9**
UPNV IAmb IAmb 14 32 41.6
comp=Z,130nm,1.5s
BBOO Buckleboo 86.55 124 IAMs_20 IAMs_20 15 07 11.3
comp=Z,10µm,20.0s
SFJD Kangerlussuaq 86.94 338 IAMs_20 IAMs_20 15 14 41.8
comp=Z,7µm,20.0s
SFJD Kangerlussuaq 86.94 338 LR LR 15 15 13.0
comp=Z,8µm,19.5s,baz=62,slow=38
SFJD Kangerlussuaq 86.94 338 S **S 14 43 14.4 -0.5**
BILL Bilibino 86.94 21 P **P 14 32 36.3 -0.8**
BILL Bilibino 86.94 21*ce*P **P 14 32 37.8 +0.8**
BILL pmax pmax
comp=Z,114nm,2.5s
BILL MLR MLR
comp=Z,20µm,19.0s
NVL N'lazarevskaya 87.04 194 *e*P **P 14 32 39.0 +1.8**
NVL pmax pmax
comp=Z,45nm,0.9s
TULEG Thule 87.34 349 IAmb IAmb 14 33 11.2
comp=Z,98nm,1.0s
TULEG Thule 87.34 349 *i* P **P 14 32 39.6 +0.8**
TULEG IAmb IAmb 14 32 50.7
comp=Z,92nm,1.0s
PETK Petropavlovsk- 87.57 36 P **P 14 32 39.9 -0.5**
PETK Petropavlovsk- 87.57 36 P **P 14 32 41.0 +0.6**
comp=Z,5.7nm,0.9s,baz=214,slow=2.1,SNR=10
PETK LR LR 15 16 03.5
comp=Z,13µm,19.3s,baz=287,slow=38
comp=Z,5.7nm,0.9s
PET Petropavlovsk 88.15 36*c i*P **P 14 32 41.6 -1.5**
PET *e* 14 36 08.7
PET *e* 14 43 07.6
PET *e*S **S 14 43 23.3 -3.7**
PET *e*PS **PnS 14 44 30.3 +0.8**
PET *e*SS **SS 14 49 16.4 +1.3**
PET pmax pmax
comp=Z,700nm,8.5s
PET pmax pmax
comp=Z,1µm,8.5s
PET MLR MLR
comp=Z,12µm,18.0s
PET MLR MLR
comp=Z,11µm,19.0s
NUUK Nuuk 88.39 336 *i* P **P 14 32 46.3 +2.3**
NUUK IAmb IAmb 14 32 50.6
comp=Z,246nm,2.2s
COEN Coen 88.65 104 IAmb IAmb 14 32 59.1
comp=Z,135nm,1.3s
TROLL Troll, Antarti 90.10 195 ⇑P **P 14 32 53.2 +1.3**
comp=Z,345nm,0.8s
STKA Stephens Creek 90.89 122 P **P 14 32 55.6 -0.7**
STKA Stephens Creek 90.89 122 P **P 14 32 56.0 -0.3**
comp=Z,11nm,1.0s,baz=322,slow=7.5,SNR=9.6
STKA LR LR 15 08 11.7
comp=Z,18µm,21.5s,baz=272,slow=32
comp=Z,11nm,1.0s
SNAA Sanae 91.31 196 ⇑P **P 14 32 57.4 -0.1**
comp=Z,57nm,0.7s
SNAA Sanae 91.31 196 P **P 14 32 57.2 -0.2**
comp=Z,3.5nm,0.8s,baz=111,slow=5.7,SNR=6.3
SNAA LR LR 15 06 47.9
comp=Z,2µm,18.6s,baz=53,slow=31
comp=Z,3.5nm,0.8s
PMG Port Moresby 91.61 99 LR LR 15 15 32.3
comp=Z,2µm,18.9s,baz=266,slow=36
RES Resolute Bay 92.89 353 LR LR 15 20 41.5
comp=Z,5µm,19.3s,baz=24,slow=39
VNA3 Neumayer Olymp 93.03 197 ⇑P **P 14 33 05.5 +0.1**
comp=Z,3.8nm,0.8s
NBPV Pedro Velho 93.71 264 S **S 14 44 18.8 -0.6**
RCBR Riachuelo 94.20 265 IAMs_20 IAMs_20 15 11 34.1
comp=Z,6µm,20.0s
RCBR Riachuelo 94.20 265 LR LR 15 11 44.9
comp=Z,3µm,20.1s,baz=80,slow=33
A21K Barrow 94.90 10 P **P 14 33 14.0 -0.1**
baz=327
A19K Wainwright 94.96 12 P **P 14 33 13.8 -0.5**
baz=322
FRB Frobisher Bay 95.06 339 LR LR 15 17 54.0
comp=Z,9µm,21.8s,baz=57,slow=37
ILON Igloolik, Nuna 95.06 347 IAMs_20 IAMs_20 15 19 37.1
comp=Z,6µm,22.0s
TOO Toolangi 95.11 127 P **P 14 33 16.0 +0.2**
TOO Toolangi 95.11 127 P **P 14 33 16.0 +0.2**
TOO pmax pmax
comp=Z,38nm,1.9s
NBAN Anadia - AL 95.25 261 *e*P **P 14 33 18.9 +2.0**
NBAN Anadia - AL 95.25 261 P **P 14 33 17.9 +1.0**
NBAN S **S 14 44 41.7 +8.9**
A22K Sinclair Lake 95.46 10 P **P 14 33 16.9 +0.3**
baz=328
B18K Kokolik River 95.46 13 P **P 14 33 17.1 +0.4**
baz=322
C16K Lisburne Hills 95.47 15 P **P 14 33 16.0 -0.8**
baz=318
B20K Meade River 95.90 11 IAMs_20 IAMs_20 15 22 23.9
comp=Z,7µm,19.0s
B20K Meade River 95.90 11 P **P 14 33 18.3 -0.4**
baz=326
C18K Utukok River 96.17 13 P **P 14 33 18.7 -1.3**
baz=322
RDOG Red Dog Mine 96.23 14 P **P 14 33 20.2 -0.1**
baz=320
B22K Teshekpuk Lake 96.30 10 IAmb IAmb 14 34 04.6
comp=Z,102nm,1.8s
B22K IAMs_20 IAMs_20 15 23 11.3
comp=Z,6µm,20.0s
B22K Teshekpuk Lake 96.30 10 P **P 14 33 21.0 +0.6**
baz=330
D17K Noatak River 96.46 14 P **P 14 33 21.0 -0.2**
baz=320
B21K Ikpikpuk River 96.70 11 IAmb IAmb 14 34 07.9
comp=Z,80nm,1.9s
B21K IAMs_20 IAMs_20 15 18 42.1
comp=Z,7µm,22.0s
B21K Ikpikpuk River 96.70 11 P **P 14 33 22.7 +0.4**
baz=329
TNA Tin City 96.76 17 IAMs_20 IAMs_20 15 25 26.9
comp=Z,8µm,20.0s
TNA Tin City 96.76 17 P **P 14 33 23.6 +0.9**
baz=316
GAMB Gambell 96.81 20 P **P 14 33 23.0 +0.1**
baz=312
SHEM Shemya Is, Ala 96.94 33 LR LR 15 21 30.2
comp=Z,8µm,19.1s,baz=303,slow=38
D19K Kuna River 96.96 12 P **P 14 33 24.6 +1.0**
baz=325
C21K Knifebiade Rid 97.07 11 P Pdif 14 33 24.7 +0.6
baz=328
D20K Etivluk River 97.09 12 IAmb IAmb 14 37 14.2
comp=Z,50nm,1.6s
D20K IAMs_20 IAMs_20 15 25 05.3
comp=Z,7µm,19.0s
D20K Etivluk River 97.09 12 P Pdif 14 33 24.8 +0.6
baz=327
C23K Itkillik River 97.20 9 IAMs_20 IAMs_20 15 21 56.3
comp=Z,6µm,20.0s
C23K Itkillik River 97.20 9 P Pdif 14 33 25.5 +0.8
baz=332
E17K Hotham Inlet 97.25 14 P Pdif 14 33 25.4 +0.4
baz=321
E18K Tukpahlearik C 97.28 14 P Pdif 14 33 25.5 +0.4
baz=323
F14K Arctic Creek 97.28 17 P **P 14 33 24.9 -0.1**
baz=317
TAU Tasmania Unive 97.32 132 IAMs_20 IAMs_20 15 10 19.8
comp=Z,5µm,20.0s
A36M Sachs Harbour 97.32 1 IAMs_20 IAMs_20 15 25 08.9
comp=Z,7µm,19.0s
A36M Sachs Harbour 97.32 1 P **P 14 33 24.2 -0.9**
baz=358
E20K Nigu River 97.56 12 P Pdif 14 33 26.9 +0.5
baz=327
CAN Canberra 97.57 124 IAMs_20 IAMs_20 15 14 18.9
comp=Z,6µm,19.0s
F15K North Star Dit 97.58 16 IAMs_20 IAMs_20 15 25 38.5
comp=Z,6µm,18.0s
F15K North Star Dit 97.58 16 P **P 14 33 26.2 -0.2**
baz=319
C24K Franklin Bluff 97.61 9 IAMs_20 IAMs_20 15 22 09.9
comp=Z,5µm,20.0s
C24K Franklin Bluff 97.61 9 P **P 14 33 26.3 -0.1**
baz=334
D22K Ayikyak River 97.70 11 IAmb IAmb 14 37 02.0
comp=Z,57nm,1.8s
D22K IAMs_20 IAMs_20 15 24 15.3
comp=Z,6µm,20.0s
D22K Ayikyak River 97.70 11 P **P 14 33 26.5 -0.4**
baz=330
NBMO Morrinhos-CE 97.81 268 S S 14 45 04.5 +10
E21K Killik River 97.84 11 IAMs_20 IAMs_20 15 24 05.1
comp=Z,7µm,21.0s
E21K Killik River 97.84 11 P **P 14 33 27.5 0.0**
baz=329
F17K Baldwin Pennin 97.90 15 P Pdif 14 33 28.0 +0.2
baz=322
C26K Camden Bay 97.96 8 P Pdif 14 33 28.2 +0.2
baz=338
EIDS Eidsvold 97.96 114 IAMs_20 IAMs_20 15 13 38.0
comp=Z,5µm,20.0s
D23K Nanushuk River 97.97 10 P Pdif 14 33 28.7 +0.6
baz=332
E19K Redstone River 98.01 13 IAmb IAmb 14 37 06.4
comp=Z,52nm,1.9s
E19K Redstone River 98.01 13 P **P 14 33 26.7 -1.6**
baz=326
D24K Happy Valley 98.10 9 P **P 14 33 27.9 -0.8**
baz=334
F18K Selawik 98.16 14 P **P 14 33 27.8 -1.1**
baz=324
ANM Nome 98.23 17 P **P 14 33 28.5 -0.8**
baz=318
G15K Niukluk 98.28 16 P **P 14 33 29.2 -0.4**
baz=319
D25K Kavik River 98.31 8 IAMs_20 IAMs_20 15 21 57.5
comp=Z,7µm,21.0s
D25K Kavik River 98.31 8 P Pdif 14 33 29.8 +0.1
baz=337
C27K Jago River 98.38 7 IAmb IAmb 14 33 49.4
comp=Z,38nm,1.1s
C27K IAMs_20 IAMs_20 15 26 56.3
comp=Z,6µm,21.0s
C27K Jago River 98.38 7 P Pdif 14 33 30.1 +0.2
baz=339
F19K Shaleruckik Mo 98.41 13 IAMs_20 IAMs_20 15 21 31.2
comp=Z,8µm,22.0s
F19K Shaleruckik Mo 98.41 13 P **P 14 33 29.9 -0.2**
baz=325
G16K Koyuk River 98.44 16 P **P 14 33 28.8 -1.4**
baz=321
TOLK Toolik Lake Re 98.44 10 IAMs_20 IAMs_20 15 25 50.0
comp=Z,7µm,20.0s
TOLK Toolik Lake Re 98.44 10 P Pdif 14 33 30.6 +0.3
baz=333
E22K Anaktuvuk Pass 98.51 11 IAMs_20 IAMs_20 15 26 58.7
comp=Z,5µm,20.0s
E22K Anaktuvuk Pass 98.51 11 P **P 14 33 30.4 -0.1**
baz=331
F20K Avaraart Lake 98.67 12 Pdiff Pdif 14 33 31.7 +0.4
baz=327
G17K Kiwalik Mounta 98.79 15 Pdiff Pdif 14 33 32.4 +0.5
baz=322
E23K Chandalar 98.96 10 IAmb IAmb 14 37 21.9
comp=Z,61nm,1.9s
E23K Chandalar 98.96 10 Pdiff Pdif 14 33 33.4 +0.7
baz=333
G18K Tagagawik 98.97 14 Pdiff Pdif 14 33 33.4 +0.7
baz=324
F21K Alatna River 98.99 12 Pdiff Pdif 14 33 33.2 +0.5
baz=330
F22K John River 98.99 11 Pdiff Pdif 14 33 33.2 +0.5
baz=331
H16K Elim 99.05 16 Pdiff **Pdif 14 33 33.6 +0.6**
baz=321
D27M Malcolm River 99.07 6 Pdiff **Pdif 14 33 33.7 +0.6**
baz=342
E24K Your Creek 99.13 10 IAMs_20 IAMs_20 15 25 40.2
comp=Z,5µm,19.0s
E24K Your Creek 99.13 10 Pdiff **Pdif 14 33 33.8 +0.4**
baz=334
G19K Purcell Mounta 99.13 13 IAMs_20 IAMs_20 15 22 38.4
comp=Z,8µm,21.0s
G19K Purcell Mounta 99.13 13 Pdiff **Pdif 14 33 33.7 +0.4**
baz=326
D28M Stokes Point 99.22 6 Pdiff **Pdif 14 33 34.3 +0.6**
baz=344
H17K Granite Mounta 99.43 15 Pdiff **Pdif 14 33 35.6 +0.9**
baz=323
E25K Arctic Village 99.54 8 IAMs_20 IAMs_20 15 23 31.9
comp=Z,6µm,19.0s
E25K Arctic Village 99.54 8 Pdiff **Pdif 14 33 35.5 +0.3**
baz=337
G21K Allakaket 99.59 12 Pdiff **Pdif 14 33 35.5 +0.1**
baz=329
COLD Coldfoot 99.60 11 Pdiff **Pdif 14 33 35.6 +0.2**
baz=333
G22K Bettles 99.63 11 Pdiff **Pdif 14 33 36.1 +0.5**
baz=331
H18K Honhosa River 99.65 14 IAMs_20 IAMs_20 15 22 51.1
comp=Z,8µm,22.0s
H18K Honhosa River 99.65 14 Pdiff **Pdif 14 33 36.2 +0.5**
baz=325
F24K Squaw Lake 99.73 10 IAMs_20 IAMs_20 15 27 44.1
comp=Z,6µm,19.0s
F24K Squaw Lake 99.73 10 Pdiff **Pdif 14 33 36.8 +0.7**
baz=335
H19K Roundabout Mou 99.79 14 IAMs_20 IAMs_20 15 22 55.9
comp=Z,7µm,21.0s
H19K Roundabout Mou 99.79 14 Pdiff **Pdif 14 33 37.0 +0.7**
baz=326

E28M	Babbage River	99.84	6	IAMs_20	IAMs_20	15 24 18.7			
	comp=Z,6µm,22.0s								
E28M	Babbage River	99.84	6	Pdiff	**Pdif**	**14 33 37.1**	**+0.7**		
	baz=343								
C36M	Paulatuk	99.98	0	Pdiff	**Pdif**	**14 33 38.0**	**+0.9**		
	baz=359								
E27K	Coleen River	100.00	7	Pdiff	**Pdif**	**14 33 38.1**	**+0.8**		
	baz=341								
F25K	Christian Rive	100.02	9	Pdiff	**Pdif**	**14 33 37.7**	**+0.4**		
	baz=337								
I17K	Unalakleet	100.06	16	IAMs_20	IAMs_20	15 27 48.2			
	comp=Z,7µm,20.0s								
I17K	Unalakleet	100.06	16	Pdiff	**Pdif**	**14 33 37.8**	**+0.3**		
	baz=322								
G23K	Bananza Creek	100.09	11	Pdiff	**Pdif**	**14 33 38.1**	**+0.4**		
	baz=333								
J14K	Nanvaranak Lak	100.13	18	IAMs_20	IAMs_20	15 24 17.1			
	comp=Z,5µm,19.0s								
J14K	Nanvaranak Lak	100.13	18	Pdiff	**Pdif**	**14 33 38.3**	**+0.5**		
	baz=319								
F26K	Sheenjek River	100.14	8	Pdiff	**Pdif**	**14 33 37.9**	**0.0**		
	baz=339								
H20K	Anotleneega Mo	100.18	13	Pdiff	**Pdif**	**14 33 38.3**	**+0.3**		
	baz=328								
E29M	Blow River	100.21	6	Pdiff	**Pdif**	**14 33 38.6**	**+0.5**		
	baz=345								
GCSA	Galena City Sc	100.34	14	Pdiff	**Pdif**	**14 33 38.8**	**+0.1**		
	baz=326								
K13K	Kusilvak Mount	100.41	19	Pdiff	**Pdif**	**14 33 39.0**	**-0.1**		
	baz=318								
H21K	Melozitna Rive	100.48	12	Pdiff	**Pdif**	**14 33 39.4**	**0.0**		
	baz=330								
G24K	Hadweenzic Riv	100.55	10	Pdiff	**Pdif**	**14 33 39.3**	**-0.3**		
	baz=335								
H22K	Ishtalitna Cre	100.56	12	Pdiff	**Pdif**	**14 33 40.2**	**+0.4**		
	baz=331								
J16K	Anvik River	100.57	16	Pdiff	**Pdif**	**14 33 39.9**	**+0.1**		
	baz=322								
INK	Inuvik	100.66	4	Pdiff	**Pdif**	**14 33 40.4**	**+0.3**		
	baz=349								
G25K	Bearman Lake	100.71	9	Pdiff	**Pdif**	**14 33 40.0**	**-0.3**		
	baz=337								
QSPA	South Pole Qui	100.79	180	P	**Pdif**	**14 33 42.1**	**+1.3**		
	comp=Z,1.4nm,0.8s,baz=224,slow=1.2,SNR=7.3								
I20K	Naaghedeneel	100.86	13	IAMs_20	IAMs_20	15 22 32.1			
	comp=Z,8µm,22.0s								
I20K	Naaghedeneel	100.86	13	Pdiff	**Pdif**	**14 33 41.1**	**+0.1**		
	baz=328								
G26K	Porcupine Rive	100.89	8	Pdiff	**Pdif**	**14 33 41.0**	**-0.1**		
	baz=339								
J17K	VABM Dome	100.89	16	IAMs_20	IAMs_20	15 24 00.1			
	comp=Z,6µm,21.0s								
J17K	VABM Dome	100.89	16	Pdiff	**Pdif**	**14 33 41.4**	**+0.2**		
	baz=324								
HOPE	Hope Point	100.93	217	IAMs_20	IAMs_20	15 16 37.8			
	comp=Z,6µm,20.0s								
BELA	Belgrano 2	100.95	192	IAMs_20	IAMs_20	15 12 27.6			
	comp=Z,8µm,21.0s								
H23K	Yukon River	100.97	11	Pdiff	**Pdif**	**14 33 42.0**	**+0.4**		
	baz=333								
M11K	Mekoryuk	101.04	20	Pdiff	**Pdif**	**14 33 42.6**	**+0.7**		
	baz=317								
I21K	Tanana	101.07	12	Pdiff	**Pdif**	**14 33 42.5**	**+0.6**		
	baz=331								
K15K	Wolf Creek Mou	101.08	17	Pdiff	**Pdif**	**14 33 42.2**	**+0.1**		
	baz=321								
F30M	Barrier River	101.17	5	Pdiff	**Pdif**	**14 33 42.6**	**+0.3**		
	baz=347								
H25L	Birch Creek	101.22	9	Pdiff	**Pdif**	**14 33 43.0**	**+0.5**		
	baz=337								
H24K	Noodor Dome	101.27	10	Pdiff	**Pdif**	**14 33 42.7**	**-0.2**		
	baz=335								
J19K	Poorman	101.28	14	IAMs_20	IAMs_20	15 29 02.1			
	comp=Z,7µm,21.0s								
J19K	Poorman	101.28	14	Pdiff	**Pdif**	**14 33 43.1**	**+0.1**		
	baz=327								
G27K	Doyon Strip	101.31	8	Pdiff	**Pdif**	**14 33 43.0**	**-0.1**		
	baz=341								
J18K	Innoko River	101.45	15	IAMs_20	IAMs_20	15 24 06.7			
	comp=Z,7µm,22.0s								
J18K	Innoko River	101.45	15	Pdiff	**Pdif**	**14 33 43.6**	**-0.2**		
	baz=326								
J20K	Nowinta River	101.47	13	Pdiff	**Pdif**	**14 33 43.9**	**+0.1**		
	baz=329								
L14K	Kuka Creek	101.47	18	IAMs_20	IAMs_20	15 27 31.6			
	comp=Z,7µm,18.0s								
L14K	Kuka Creek	101.47	18	Pdiff	**Pdif**	**14 33 43.6**	**-0.2**		
	baz=320								
F31M	Tsiigehtchic	101.50	4	Pdiff	**Pdif**	**14 33 43.8**	**0.0**		
	baz=349								
L15K	Ungalak Mounta	101.58	18	Pdiff	**Pdif**	**14 33 43.7**	**-0.5**		
	baz=321								
I23K	Minto, Yukon-K	101.62	11	Pdiff	**Pdif**	**14 33 44.7**	**+0.3**		
	baz=333								
G29M	Pine Creek	101.63	6	Pdiff	**Pdif**	**14 33 45.0**	**+0.5**		
	baz=345								
K17K	Iditarod	101.65	16	IAMs_20	IAMs_20	15 24 22.2			
	comp=Z,6µm,20.0s								
K17K	Iditarod	101.65	16	Pdiff	**Pdif**	**14 33 44.6**	**0.0**		
	baz=324								
G30M	tAoh Zraii Nji	101.74	5	Pdiff	**Pdif**	**14 33 44.9**	**-0.1**		
	baz=346								
SPIA	Saint Paul Isl	101.78	24	Pdiff	**Pdif**	**14 33 45.4**	**+0.1**		
	baz=312								
H27K	Steamboat Moun	101.87	8	IAMs_20	IAMs_20	15 25 03.5			
	comp=Z,5µm,21.0s								
H27K	Steamboat Moun	101.87	8	Pdiff	**Pdif**	**14 33 45.5**	**-0.1**		
	baz=341								
PRP	Porcupine Dome	101.95	10	Pdiff	**Pdif**	**14 33 45.9**	**-0.2**		
	baz=337								
G31M	Satah River	101.97	5	Pdiff	**Pdif**	**14 33 46.5**	**+0.6**		
	baz=348								
M13K	Dall Lake	101.97	19	Pdiff	**Pdif**	**14 33 46.2**	**+0.2**		
	baz=319								
POKR	Poker Plat Res	102.00	10	Pdiff	**Pdif**	**14 33 46.2**	**+0.1**		
	baz=335								
L17K	Donlin	102.13	16	Pdiff	**Pdif**	**14 33 46.8**	**+0.1**		
	baz=324								
CHUM	Lake Minchumin	102.13	13	Pdiff	**Pdif**	**14 33 46.6**	**-0.2**		
	baz=330								
L16K	Owhat River	102.14	17	Pdiff	**Pdif**	**14 33 47.0**	**+0.3**		
	baz=323								
COLA	College	102.14	11	IAMs_20	IAMs_20	15 28 44.8			
	comp=Z,7µm,18.0s								
COLA	College	102.14	11	Pdiff	**Pdif**	**14 33 46.7**	**0.0**		
	baz=335								
M14K	Bethel	102.15	19	IAMs_20	IAMs_20	15 23 28.6			
	comp=Z,7µm,22.0s								
M14K	Bethel	102.15	19	Pdiff	**Pdif**	**14 33 47.5**	**+0.7**		
	baz=321								
NEA2	Nenana	102.17	11	Pdiff	**Pdif**	**14 33 47.3**	**+0.4**		
	baz=334								
K20K	Telida	102.19	14	Pdiff	**Pdif**	**14 33 47.2**	**+0.2**		
	baz=329								
BPAW	Bear Paw Mtn.	102.22	12	IAMs_20	IAMs_20	15 26 24.1			
	comp=Z,7µm,21.0s								
BPAW	Bear Paw Mtn.	102.22	12	Pdiff	**Pdif**	**14 33 47.0**	**-0.2**		
	baz=332								
H29M	Whitestone	102.27	6	Pdiff	**Pdif**	**14 33 47.5**	**+0.2**		
	baz=344								
EPYK	Eagle Plains	102.29	6	Pdiff	**Pdif**	**14 33 47.6**	**+0.2**		
	baz=346								
CCB	Clear Creek Bu	102.36	11	IAMs_20	IAMs_20	15 28 48.6			
	comp=Z,7µm,20.0s								
ILAR	Eielson Array	102.41	10	P	**Pdif**	**14 33 49.0**	**+1.1**		
	comp=Z,0.4nm,0.9s,baz=316,slow=3.8,SNR=3.1								
ILAR				PP	**PP**	**14 37 55.2**	**-4.6**		
	comp=Z,7.4nm,1.2s,baz=335,slow=6.1,SNR=4.6								
ILAR				PKiKP	**PKiKP**	**14 38 11.2**	**+1.7**		
	comp=Z,11nm,1.1s,baz=317,slow=1.8,SNR=6.0								
P08K	Saint George I	102.45	24	Pdiff	**Pdif**	**14 33 48.7**	**+0.4**		
	baz=313								
I27K	Kandik River	102.46	8	Pdiff	**Pdif**	**14 33 48.4**	**+0.1**		
	baz=341								
WRH	Wood River Hil	102.47	11	IAMs_20	IAMs_20	15 25 30.4			
	comp=Z,8µm,21.0s								
BWN	Browne	102.47	12	IAMs_20	IAMs_20	15 28 50.4			
	comp=Z,6µm,18.0s								
L18K	Granite Mounta	102.49	16	Pdiff	**Pdif**	**14 33 49.0**	**+0.6**		
	baz=326								
I26K	Coal Creek Min	102.52	9	Pdiff	**Pdif**	**14 33 48.9**	**+0.5**		
	baz=340								
CAST	Castle Rocks	102.59	13	IAMs_20	IAMs_20	15 28 08.7			
	comp=Z,6µm,20.0s								
CAST	Castle Rocks	102.59	13	Pdiff	**Pdif**	**14 33 48.8**	**0.0**		
	baz=330								
M15K	Kasigluk River	102.59	18	Pdiff	**Pdif**	**14 33 48.9**	**+0.1**		
	baz=322								
KTH	Kantishna Hill	102.72	13	IAMs_20	IAMs_20	15 28 29.2			
	comp=Z,7µm,21.0s								
HDA	Harding Lake	102.73	11	Pdiff	**Pdif**	**14 33 48.8**	**-0.6**		
	baz=336								
J25K	Salcha River,	102.82	10	IAMs_20	IAMs_20	15 25 07.6			
	comp=Z,7µm,21.0s								
J25K	Salcha River,	102.82	10	Pdiff	**Pdif**	**14 33 49.7**	**-0.2**		
	baz=337								
I28M	Miner Creek	102.82	7	Pdiff	**Pdif**	**14 33 50.7**	**+0.7**		
	baz=343								
M16K	Timber Creek	102.84	17	Pdiff	**Pdif**	**14 33 50.4**	**+0.5**		
	baz=324								
N14K	Kuskokwak Cree	102.88	19	IAMs_20	IAMs_20	15 27 37.9			
	comp=Z,7µm,18.0s								
N14K	Kuskokwak Cree	102.88	19	Pdiff	**Pdif**	**14 33 50.9**	**+0.8**		
	baz=321								
TRF	Thorofare Moun	102.95	12	Pdiff	**Pdif**	**14 33 50.7**	**+0.1**		
	baz=332								
M17K	Holitna River	102.96	16	Pdiff	**Pdif**	**14 33 50.7**	**+0.2**		
	baz=325								
MCK	McKinley	102.97	12	IAMs_20	IAMs_20	15 29 37.7			
	comp=Z,6µm,19.0s								
MCK	McKinley	102.97	12	Pdiff	**Pdif**	**14 33 50.9**	**+0.4**		
	baz=334								
L20K	Farewell, AK	102.98	14	Pdiff	**Pdif**	**14 33 50.9**	**+0.3**		
	baz=329								
L19K	White Mountain	102.99	15	IAMs_20	IAMs_20	15 29 36.6			
	comp=Z,7µm,18.0s								
L19K	White Mountain	102.99	15	Pdiff	**Pdif**	**14 33 51.4**	**+0.7**		
	baz=328								
PPLA	Purkeypile	103.02	13	IAMs_20	IAMs_20	15 29 13.1			
	comp=Z,7µm,20.0s								
PPLA	Purkeypile	103.02	13	Pdiff	**Pdif**	**14 33 50.8**	**-0.1**		
	baz=330								
H31M	Peel River	103.06	5	Pdiff	**Pdif**	**14 33 50.9**	**0.0**		
	baz=348								
I29M	Ogilvie Camp,	103.10	7	Pdiff	**Pdif**	**14 33 51.6**	**+0.6**		
	baz=344								
N15K	Kwethluk River	103.19	18	Pdiff	**Pdif**	**14 33 52.2**	**+0.7**		
	baz=322								
J26L	Joseph Creek	103.21	9	IAMs_20	IAMs_20	15 25 42.0			
	comp=Z,5µm,20.0s								
J26L	Joseph Creek	103.21	9	Pdiff	**Pdif**	**14 33 52.1**	**+0.5**		
	baz=339								
RND	Reindeer	103.28	12	IAMs_20	IAMs_20	15 28 08.9			
	comp=Z,7µm,20.0s								
M18K	Stony River	103.33	16	Pdiff	**Pdif**	**14 33 53.0**	**+0.9**		
	baz=327								
BATG	Bathurst New B	103.33	324	IAMs_20	IAMs_20	15 24 17.0			
	comp=Z,5µm,19.0s								
N16K	Nishlik Lake	103.34	17	Pdiff	**Pdif**	**14 33 52.8**	**+0.6**		
	baz=324								
M19K	Big River Lodg	103.35	15	IAMs_20	IAMs_20	15 24 40.9			
	comp=Z,6µm,20.0s								
M19K	Big River Lodg	103.35	15	Pdiff	**Pdif**	**14 33 53.0**	**+0.8**		
	baz=328								
LMN	Caledonia Moun	103.35	323	IAMs_20	IAMs_20	15 25 33.6			
	comp=Z,6µm,20.0s								
I30M	Mount Dempster	103.44	6	Pdiff	**Pdif**	**14 33 53.1**	**+0.4**		
	baz=346								
K24K	Donnelly Dome	103.50	10	Pdiff	**Pdif**	**14 33 53.5**	**+0.7**		
	baz=337								
O14K	Tigyukauivet M	103.54	19	Pdiff	**Pdif**	**14 33 53.7**	**+0.6**		
	baz=321								
SCRK	Sand Creek	103.64	9	IAMs_20	IAMs_20	15 25 40.2			
	comp=Z,6µm,20.0s								
SCRK	Sand Creek	103.64	9	Pdiff	**Pdif**	**14 33 54.3**	**+0.7**		
	baz=339								
M20K	Styx River	103.68	14	IAMs_20	IAMs_20	15 28 41.6			
	comp=Z,6µm,19.0s								
M20K	Styx River	103.68	14	Pdiff	**Pdif**	**14 33 54.0**	**+0.2**		
	baz=329								
VNDA	Vanda	103.68	167	PP	**PKiKP**	**14 38 12.7**	**+1.3**		
	comp=Z,7.2nm,1.3s,baz=252,slow=8.4,SNR=4.2								
RIDG	Independent Ri	103.72	10	IAMs_20	IAMs_20	15 29 55.3			
	comp=Z,5µm,19.0s								
RIDG	Independent Ri	103.72	10	Pdiff	**Pdif**	**14 33 54.2**	**+0.4**		
	baz=338								
N17K	Nushagak Hills	103.75	17	IAMs_20	IAMs_20	15 27 04.8			
	comp=Z,7µm,20.0s								
N17K	Nushagak Hills	103.75	17	Pdiff	**Pdif**	**14 33 54.6**	**+0.6**		
	baz=325								
CUT	Chulitna	103.88	13	Pdiff	**Pdif**	**14 33 55.0**	**+0.5**		
	baz=332								
K27K	Chicken	103.88	9	IAMs_20	IAMs_20	15 27 27.7			
	comp=Z,6µm,21.0s								
K27K	Chicken	103.88	9	Pdiff	**Pdif**	**14 33 55.2**	**+0.7**		
	baz=340								
DOT	Dot Lake	103.93	10	IAMs_20	IAMs_20	15 25 59.0			
	comp=Z,6µm,20.0s								
SKT	Skwentna	103.97	14	IAMs_20	IAMs_20	15 26 11.3			
	comp=Z,8µm,21.0s								
SKT	Skwentna	103.97	14	Pdiff	**Pdif**	**14 33 55.5**	**+0.5**		
	baz=331								
N18K	Kilae Creek	103.99	16	Pdiff	**Pdif**	**14 33 55.6**	**+0.5**		
	baz=326								
O15K	Ungalikthiuk R	104.06	19	Pdiff	**Pdif**	**14 33 56.0**	**+0.6**		
	baz=322								
J30M	Hart River	104.08	6	Pdiff	**Pdif**	**14 33 56.2**	**+0.6**		
	baz=346								
N19K	Bonanza Creek	104.25	15	Pdiff	**Pdif**	**14 33 56.9**	**+0.6**		
	baz=328								
O16K	Kokwok River B	104.25	18	Pdiff	**Pdif**	**14 33 55.8**	**-0.4**		
	baz=324								
PAX	Paxson	104.32	11	IAMs_20	IAMs_20	15 29 57.3			
	comp=Z,6µm,20.0s								
PAX	Paxson	104.32	11	Pdiff	**Pdif**	**14 33 56.5**	**-0.1**		
	baz=337								
O17K	Koliganek Bris	104.40	17	Pdiff	**Pdif**	**14 33 57.0**	**+0.2**		
	baz=325								
M22K	Willow	104.49	13	IAMs_20	IAMs_20	15 28 10.0			
	comp=Z,5µm,20.0s								
M22K	Willow	104.49	13	Pdiff	**Pdif**	**14 33 57.1**	**-0.1**		
	baz=332								
SPCR	Spurr Chakacha	104.49	14	Pdiff	**Pdif**	**14 33 57.4**	**0.0**		
	baz=330								
SUA	Susitna One	104.60	13	Pdiff	**Pdif**	**14 33 57.9**	**0.0**		
	baz=332								
L26K	Log Cabin Wild	104.63	10	IAMs_20	IAMs_20	15 30 04.5			
	comp=Z,5µm,20.0s								
L26K	Log Cabin Wild	104.63	10	Pdiff	**Pdif**	**14 33 58.1**	**+0.2**		
	baz=339								
K29M	Barlow Dome	104.66	7	Pdiff	**Pdif**	**14 33 58.2**	**+0.1**		
	baz=345								
P16K	Nushagak River	104.74	18	Pdiff	**Pdif**	**14 33 58.1**	**-0.2**		
	baz=324								
O19K	Port Alsworth	104.82	16	IAMs_20	IAMs_20	15 31 28.9			
	comp=Z,6µm,19.0s								
O19K	Port Alsworth	104.82	16	Pdiff	**Pdif**	**14 33 58.3**	**-0.4**		
	baz=328								
SML	Sawmill	104.83	12	Pdiff	**Pdif**	**14 33 58.1**	**-0.8**		
	baz=334								
L27K	Beaver Creek,	104.84	9	Pdiff	**Pdif**	**14 33 58.5**	**-0.4**		
	baz=341								
PMR	Palmer	104.85	13	IAMs_20	IAMs_20	15 30 15.5			
	comp=Z,6µm,19.0s								
PMR	Palmer	104.85	13	Pdiff	**Pdif**	**14 33 58.8**	**0.0**		
	baz=333								
O18K	Koktuh Hills	104.86	16	Pdiff	**Pdif**	**14 33 58.5**	**-0.5**		
	baz=327								
HARP	HAARP	104.90	11	Pdiff	**Pdif**	**14 33 58.7**	**-0.5**		
	baz=337								
M23K	Glacier View	104.96	12	Pdiff	**Pdif**	**14 33 58.9**	**-0.5**		
	baz=335								
M24K	Tolsona, Glenn	104.98	11	Pdiff	**Pdif**	**14 33 59.2**	**-0.4**		
	baz=336								
FIS	Fire Island	105.01	13	IAMs_20	IAMs_20	15 28 56.8			
	comp=Z,7µm,21.0s								
SCM	Sheep Creek Mo	105.01	12	IAMs_20	IAMs_20	15 29 52.7			
	comp=Z,6µm,21.0s								
SCM	Sheep Creek Mo	105.01	12	Pdiff	**Pdif**	**14 33 59.4**	**-0.3**		
	baz=335								
P17K	Kvichak River	105.07	17	Pdiff	**Pdif**	**14 33 59.7**	**-0.1**		
	baz=326								
CAPN	Captain Cook N	105.12	14	IAMs_20	IAMs_20	15 29 48.7			
	comp=Z,6µm,21.0s								
CAPN	Captain Cook N	105.12	14	Pdiff	**Pdif**	**14 34 00.1**	**0.0**		
	baz=331								
KNK	Knik Glacier	105.15	13	IAMs_20	IAMs_20	15 30 44.5			
	comp=Z,7µm,19.0s								
KNK	Knik Glacier	105.15	13	Pdiff	**Pdif**	**14 34 00.1**	**-0.2**		
	baz=334								
RC01	Rabbit Creek A	105.16	13	IAMs_20	IAMs_20	15 28 32.9			
	comp=Z,6µm,20.0s								
RC01	Rabbit Creek A	105.16	13	Pdiff	**Pdif**	**14 34 00.2**	**0.0**		
	baz=332								
M26K	Nabesna, AK	105.27	10	IAMs_20	IAMs_20	15 30 54.5			
	comp=Z,7µm,18.0s								
F64A	Sherman	105.43	324	IAMs_20	IAMs_20	15 25 39.5			
	comp=Z,5µm,20.0s								
P19K	Oil Pt	105.57	16	IAMs_20	IAMs_20	15 26 27.7			
	comp=Z,5µm,21.0s								
SLKM	Skilak Lake	105.57	14	IAMs_20	IAMs_20	15 26 52.5			
	comp=Z,6µm,21.0s								
KLU	Klutina	105.60	11	IAMs_20	IAMs_20	15 30 14.2			
	comp=Z,7µm,21.0s								
N25K	Chitina, Valde	105.74	11	IAMs_20	IAMs_20	15 27 03.9			
	comp=Z,6µm,20.0s								
GLI	Glacier Island	105.92	12	IAMs_20	IAMs_20	15 27 55.8			
	comp=Z,6µm,20.0s								
DIV	Divide	105.96	11	IAMs_20	IAMs_20	15 30 24.7			
	comp=Z,7µm,20.0s								
HOM	Homer	105.97	15	IAMs_20	IAMs_20	15 28 35.3			
	comp=Z,7µm,19.0s								
GLB	Gilahina Butte	106.03	10	IAMs_20	IAMs_20	15 27 04.7			
	comp=Z,5µm,21.0s								
SEW	Seward	106.11	14	IAMs_20	IAMs_20	15 27 18.8			
	comp=Z,7µm,21.0s								
FALS	False Pass	106.13	23	IAMs_20	IAMs_20	15 28 01.2			
	comp=Z,5µm,19.0s								
WRGLY	Wrigley	106.14	0	IAMs_20	IAMs_20	15 27 50.9			
	comp=Z,6µm,22.0s								
FID	Port Fidalgo	106.17	12	IAMs_20	IAMs_20	15 28 03.2			
	comp=Z,6µm,20.0s								
BMRM	Bremner River	106.33	11	IAMs_20	IAMs_20	15 25 35.5			
	comp=Z,6µm,21.0s								
HIN	Hinchinbrook I	106.48	12	IAMs_20	IAMs_20	15 28 22.7			
	comp=Z,7µm,20.0s								
M31M	Drury Creek, Y	106.59	6	IAMs_20	IAMs_20	15 32 47.3			
	comp=Z,5µm,20.0s								
YKA	Yellowknife Ar	106.60	356	Pdiff	**Pdif**	**14 34 08.5**	**+1.8**		
	comp=Z,0.7nm,0.8s,baz=0.4,slow=4.7,SNR=6.3								
YKA				PKiKP	**PKiKP**	**14 38 18.6**	**+1.4**		
	comp=Z,1.7nm,0.9s,baz=134,slow=1.5,SNR=5.9								
YKA				PP	PP	14 38 39.9	+9.1		
	comp=Z,5.7nm,0.9s,baz=6.3,slow=6.7,SNR=5.8								
YKA				PKKPbc	**PKKPbc**	**14 49 38.1**	**-0.7**		
	comp=Z,0.4nm,0.9s,baz=187,slow=3.1,SNR=3.7								
P23K	Montague Islan	106.66	13	IAMs_20	IAMs_20	15 31 53.3			
	comp=Z,7µm,19.0s								
SYI	Shuyak Island	106.69	16	IAMs_20	IAMs_20	15 31 37.3			
	comp=Z,6µm,19.0s								
WVL	Watervile	106.93	323	IAMs_20	IAMs_20	15 26 36.3			
	comp=Z,5µm,20.0s								
HMT	Hamilton	106.98	11	IAMs_20	IAMs_20	15 32 15.8			
	comp=Z,6µm,19.0s								
WAX	Waxell Ridge	107.13	10	IAMs_20	IAMs_20	15 32 35.7			
	comp=Z,7µm,19.0s								
O28M	Mount Upton	107.26	9	IAMs_20	IAMs_20	15 32 06.0			
	comp=Z,6µm,19.0s								
SUCK	Suckling Hills	107.32	11	IAMs_20	IAMs_20	15 32 53.6			
	comp=Z,6µm,18.0s								
SNH	Sunshine Point	107.39	10	IAMs_20	IAMs_20	15 28 06.4			
	comp=Z,7µm,20.0s								
YAH	Yahtse	107.40	10	IAMs_20	IAMs_20	15 26 30.9			
	comp=Z,7µm,21.0s								
MESA	MESA	107.54	10	IAMs_20	IAMs_20	15 30 09.5			
	comp=Z,6µm,21.0s								
OHAK	Old Harbor	107.63	17	IAMs_20	IAMs_20	15 32 08.4			
	comp=Z,5µm,20.0s								
N32M	Quiet Lake	107.75	5	IAMs_20	IAMs_20	15 32 36.8			
	comp=Z,5µm,20.0s								
H62A	Milan	107.79	324	IAMs_20	IAMs_20	15 30 33.1			
	comp=Z,5µm,18.0s								
PCA	Pinnacle	107.89	9	IAMs_20	IAMs_20	15 30 00.8			
	comp=Z,5µm,20.0s								
WHY	Whitehorse	108.06	6	IAMs_20	IAMs_20	15 30 43.0			
	comp=Z,6µm,20.0s								
BCPM	Bancas Point	108.13	9	IAMs_20	IAMs_20	15 32 26.9			
	comp=Z,5µm,20.0s								
P33M	Teslin, Yukon	108.70	5	IAMs_20	IAMs_20	15 30 45.0			
	comp=Z,5µm,22.0s								
P29M	Windy Craggy	108.71	8	IAMs_20	IAMs_20	15 33 08.3			
	comp=Z,5µm,19.0s								
SKAG	Skagway	109.18	7	IAMs_20	IAMs_20	15 34 17.7			
	comp=Z,5µm,18.0s								
P32M	Atlin	109.23	6	IAMs_20	IAMs_20	15 31 28.9			
	comp=Z,5µm,19.0s								
HRV	Adam Dziewonsk	109.25	322	IAMs_20	IAMs_20	15 29 30.6			
	comp=Z,4µm,20.0s								
K62A	Royalston	109.56	323	IAMs_20	IAMs_20	15 29 45.8			
	comp=

P57A	Homestead Farm	114.95	323	IAMs_20	IAMs_20	15 36 57.5		
	comp=Z,4µm,20.0s							
EYMN	Ely	115.23	337	IAMs_20	IAMs_20	15 30 37.8		
	comp=Z,7µm,21.0s							
K50A	Casco	115.26	328	IAMs_20	IAMs_20	15 33 00.2		
	comp=Z,4µm,21.0s							
CBN	Corbin Frederi	115.39	322	IAMs_20	IAMs_20	15 37 24.2		
	comp=Z,4µm,20.0s							
DSZ	Denniston Nort	115.42	131	IAMs_20	IAMs_20	15 19 39.8		
	comp=Z,5µm,19.0s							
M52A	Chesterland	115.46	327	IAMs_20	IAMs_20	15 34 14.7		
	comp=Z,5µm,19.0s							
N53A	Lisbon	115.68	326	IAMs_20	IAMs_20	15 34 28.7		
	comp=Z,5µm,21.0s							
COWI	Conover	115.79	335	IAMs_20	IAMs_20	15 36 17.8		
	comp=Z,5µm,22.0s							
R58B	Mineral	115.85	322	IAMs_20	IAMs_20	15 36 14.4		
	comp=Z,4µm,19.0s							
MCWV	Mont Chateau	115.90	324	IAMs_20	IAMs_20	15 31 54.6		
	comp=Z,7µm,22.0s							
J47A	Sunmer	116.03	330	IAMs_20	IAMs_20	15 33 48.4		
	comp=Z,4µm,20.0s							
THZ	Tophouse	116.23	131	IAMs_20	IAMs_20	15 19 26.3		
	comp=Z,4µm,20.0s							
T59A	Double "B" Far	116.27	321	IAMs_20	IAMs_20	15 27 57.8		
	comp=Z,5µm,22.0s							
E38A	The Farm, Brul	116.36	337	IAMs_20	IAMs_20	15 31 01.7		
	comp=Z,5µm,20.0s							
V61A	Roper	116.39	319	IAMs_20	IAMs_20	15 39 25.0		
	comp=Z,4µm,20.0s							
N51A	Ashland	116.44	327	IAMs_20	IAMs_20	15 34 52.7		
	comp=Z,4µm,20.0s							
H43A	Windswept, Lux	116.48	333	IAMs_20	IAMs_20	15 31 42.2		
	comp=Z,4µm,19.0s							
S57A	Dark Hollow, R	116.63	322	IAMs_20	IAMs_20	15 32 18.0		
	comp=Z,5µm,21.0s							
NNZ	Nelson	116.67	131	IAMs_20	IAMs_20	15 20 50.9		
	comp=Z,6µm,21.0s							
G40A	Rib Lake	116.90	335	IAMs_20	IAMs_20	15 30 21.2		
	comp=Z,6µm,22.0s							
HUMP	Col San Antoni	116.92	297	IAMs_20	IAMs_20	15 27 19.3		
	comp=Z,5µm,20.0s							
PDPR	Patillas Dam,	117.12	297	IAMs_20	IAMs_20	15 27 35.6		
	comp=Z,5µm,20.0s							
SJG	San Juan	117.19	297	IAMs_20	IAMs_20	15 27 20.6		
	comp=Z,6µm,21.0s							
P52A	Corning	117.21	326	IAMs_20	IAMs_20	15 34 53.1		
	comp=Z,4µm,20.0s							
IGPR	InterUniversit	117.21	297	IAMs_20	IAMs_20	15 27 28.1		
	comp=Z,5µm,20.0s							
ACSO	Alum Creek Sta	117.25	327	IAMs_20	IAMs_20	15 36 50.2		
	comp=Z,5µm,20.0s							
N49A	Columbus Grove	117.40	328	IAMs_20	IAMs_20	15 34 15.9		
	comp=Z,6µm,21.0s							
I42A	Draeger Farm,	117.44	333	IAMs_20	IAMs_20	15 35 26.7		
	comp=Z,5µm,21.0s							
CELP	Cerrillos	117.58	297	IAMs_20	IAMs_20	15 27 49.9		
	comp=Z,4µm,20.0s							
SNZO	South Karori	117.64	131	IAMs_20	IAMs_20	15 24 53.5		
	comp=Z,4µm,18.0s							
OUZ	Omahuta	117.64	124	IAMs_20	IAMs_20	15 23 13.4		
	comp=Z,6µm,21.0s							
L46A	Eue Claire	117.66	330	IAMs_20	IAMs_20	15 39 55.8		
	comp=Z,4µm,21.0s							
Q52A	Bidwell	117.75	325	IAMs_20	IAMs_20	15 33 01.4		
	comp=Z,4µm,21.0s							
BLA	Blacksburg	117.87	323	IAMs_20	IAMs_20	15 33 32.8		
	comp=Z,6µm,22.0s							
W59A	Clinton	117.97	320	IAMs_20	IAMs_20	15 32 15.8		
	comp=Z,6µm,22.0s							
SPMN	Marine on St.	117.99	336	IAMs_20	IAMs_20	15 32 23.9		
	comp=Z,7µm,22.0s							
V58A	Windy Hill Pi	117.99	321	IAMs_20	IAMs_20	15 36 58.4		
	comp=Z,6µm,20.0s							
O49A	Covington	118.01	327	IAMs_20	IAMs_20	15 37 50.1		
	comp=Z,4µm,19.0s							
MDND	Maddock	118.05	343	IAMs_20	IAMs_20	15 33 21.1		
	comp=Z,6µm,20.0s							
N47A	Urbana	118.21	329	IAMs_20	IAMs_20	15 30 51.3		
	comp=Z,5µm,22.0s							
HIZ	Hauiti	118.21	128	IAMs_20	IAMs_20	15 22 11.1		
	comp=Z,6µm,20.0s							
O48B	Farmland	118.39	328	IAMs_20	IAMs_20	15 35 15.2		
	comp=Z,5µm,22.0s							
U56A	King	118.42	322	IAMs_20	IAMs_20	15 33 32.4		
	comp=Z,5µm,21.0s							
Y60A	Bolivia	118.55	318	IAMs_20	IAMs_20	15 34 32.2		
	comp=Z,4µm,20.0s							
HOLB	Holberg	118.58	4	IAMs_20	IAMs_20	15 33 43.0		
	comp=Z,4µm,21.0s							
HQIL	Hanson Quary C	118.58	331	IAMs_20	IAMs_20	15 32 49.9		
	comp=Z,4µm,22.0s							
DGMT	Dagmar	118.70	346	IAMs_20	IAMs_20	15 34 05.1		
	comp=Z,5µm,22.0s							
LLLB	Lillooet	118.78	359	IAMs_20	IAMs_20	15 33 32.4		
	comp=Z,6µm,21.0s							
JFWS	Jewell Farm	118.81	333	IAMs_20	IAMs_20	15 30 54.8		
	comp=Z,7µm,22.0s							
TOZ	Tahuroa Road	118.83	127	IAMs_20	IAMs_20	15 23 20.7		
	comp=Z,6µm,19.0s							
X58A	Rowland	118.92	320	IAMs_20	IAMs_20	15 35 12.1		
	comp=Z,5µm,20.0s							
M44A	Midewin, Midew	118.99	331	IAMs_20	IAMs_20	15 37 00.7		
	comp=Z,5µm,22.0s							
V55A	Taylorsville	119.25	322	IAMs_20	IAMs_20	15 34 05.4		
	comp=Z,5µm,20.0s							
L42A	Oliver, Polo	119.27	332	IAMs_20	IAMs_20	15 37 00.1		
	comp=Z,4µm,22.0s							
SFIN	Lafayette	119.29	329	IAMs_20	IAMs_20	15 35 18.9		
	comp=Z,6µm,21.0s							
CBB	Campbell River	119.32	2	IAMs_20	IAMs_20	15 36 09.7		
	comp=Z,5µm,21.0s							
R50A	Paris	119.37	326	IAMs_20	IAMs_20	15 36 54.4		
	comp=Z,4µm,20.0s							
S51A	Beattyville	119.42	325	IAMs_20	IAMs_20	15 33 42.7		
	comp=Z,5µm,21.0s							
E28A	Huff	119.52	343	IAMs_20	IAMs_20	15 38 59.0		
	comp=Z,6µm,20.0s							
Y58A	Scranton	119.55	319	IAMs_20	IAMs_20	15 35 34.6		
	comp=Z,6µm,21.0s							
BIRD	Birdtown, Kers	119.58	320	IAMs_20	IAMs_20	15 37 55.3		
	comp=Z,4µm,20.0s							
KMSC	Kings Mountain	119.79	321	IAMs_20	IAMs_20	15 41 52.8		
	comp=Z,4µm,19.0s							
BLO	Bloomington	119.90	328	IAMs_20	IAMs_20	15 31 46.1		
	comp=Z,5µm,22.0s							
P46A	Rosedale	119.92	329	IAMs_20	IAMs_20	15 31 51.6		
	comp=Z,6µm,22.0s							
L40A	Anamosa	119.92	333	IAMs_20	IAMs_20	15 39 22.2		
	comp=Z,6µm,20.0s							
Y57A	Sumter	119.94	320	IAMs_20	IAMs_20	15 38 08.9		
	comp=Z,5µm,19.0s							
TZTN	Tazewell	120.16	324	IAMs_20	IAMs_20	15 37 16.3		
	comp=Z,5µm,21.0s							
EGMT	Eagleton	120.26	350	IAMs_20	IAMs_20	15 34 13.3		
	comp=Z,5µm,22.0s							
PAULI	Pauline	120.30	321	IAMs_20	IAMs_20	15 36 51.3		
	comp=Z,6µm,20.0s							
JSC	Jenkinsville	120.31	321	IAMs_20	IAMs_20	15 36 27.7		
	comp=Z,5µm,20.0s							
NHSC	New Hope	120.38	319	IAMs_20	IAMs_20	15 33 00.8		
	comp=Z,4µm,22.0s							
CSU	Charleston Sou	120.39	319	IAMs_20	IAMs_20	15 35 09.0		
	comp=Z,4µm,20.0s							
WCI	Wyandotte Cave	120.48	327	IAMs_20	IAMs_20	15 38 17.5		
	comp=Z,6µm,19.0s							
T50A	Nancy	120.56	325	IAMs_20	IAMs_20	15 34 38.8		
	comp=Z,4µm,22.0s							
CLRS	Cowichan Lake	120.57	1	IAMs_20	IAMs_20	15 35 40.6		
	comp=Z,5µm,20.0s							
LAO	LASA Array	120.84	347	IAMs_20	IAMs_20	15 35 33.8		
	comp=Z,4µm,20.0s							
BG3	Lake Jocassee	120.86	322	IAMs_20	IAMs_20	15 36 43.1		
	comp=Z,5µm,20.0s							
NEW	Newport	120.93	356	IAMs_20	IAMs_20	15 37 18.0		
	comp=Z,6µm,21.0s							
B08A	Colville Reser	120.97	357	IAMs_20	IAMs_20	15 34 50.1		
	comp=Z,6µm,21.0s							
OLIL	Olney	121.04	329	IAMs_20	IAMs_20	15 38 51.3		
	comp=Z,4µm,20.0s							
P43A	Skaggs, Pawnee	121.05	330	IAMs_20	IAMs_20	15 38 44.4		
	comp=Z,4µm,20.0s							
MXZ	Matakaoa Point	121.06	127	IAMs_20	IAMs_20	15 29 04.5		
	comp=Z,5µm,19.0s							
SDDR	Presa de Saban	121.27	300	IAMs_20	IAMs_20	15 32 08.4		
	comp=Z,4µm,20.0s							
Q44A	Meyer Farm, Va	121.38	330	IAMs_20	IAMs_20	15 36 03.0		
	comp=Z,6µm,21.0s							
W52A	Murphy	121.39	323	IAMs_20	IAMs_20	15 38 19.9		
	comp=Z,5µm,20.0s							
USIN	University of	121.40	328	IAMs_20	IAMs_20	15 41 59.8		
	comp=Z,4µm,20.0s							
C03A	Quillayute Air	121.43	1	IAMs_20	IAMs_20	15 40 45.4		
	comp=Z,5µm,19.0s							
U49A	Red Boiling Sp	121.45	325	IAMs_20	IAMs_20	15 34 12.3		
	comp=Z,5µm,21.0s							
C09A	Chrisman Ranch	121.47	356	IAMs_20	IAMs_20	15 36 20.3		
	comp=Z,5µm,21.0s							
CPCT	Cooper Cave	121.49	324	IAMs_20	IAMs_20	15 37 56.5		
	comp=Z,5µm,21.0s							
257A	Skidaway Islan	121.66	318	IAMs_20	IAMs_20	15 36 15.6		
	comp=Z,4µm,21.0s							
GNW	Green Mountain	121.84	0	IAMs_20	IAMs_20	15 35 11.2		
	comp=Z,6µm,22.0s							
NLWA	Neilton Lookou	122.00	1	IAMs_20	IAMs_20	15 40 55.5		
	comp=Z,4µm,21.0s							
LTY	Liberty	122.11	358	IAMs_20	IAMs_20	15 35 48.6		
	comp=Z,5µm,20.0s							
W50A	Signal Mountai	122.12	324	IAMs_20	IAMs_20	15 38 34.2		
	comp=Z,6µm,20.0s							
L34A	Svendsen Farm,	122.13	337	IAMs_20	IAMs_20	15 33 18.4		
	comp=Z,5µm,21.0s							
SLM	Saint Louis	122.18	330	IAMs_20	IAMs_20	15 36 21.4		
	comp=Z,4µm,20.0s							
D08A	Wollman Farm,	122.25	357	IAMs_20	IAMs_20	15 35 26.9		
	comp=Z,5µm,21.0s							
GOGA	Godfrey	122.26	321	IAMs_20	IAMs_20	15 37 40.2		
	comp=Z,5µm,21.0s							
WISH	Wishkah	122.28	1	IAMs_20	IAMs_20	15 41 02.8		
	comp=Z,5µm,20.0s							
Y52A	Lilburn	122.31	322	IAMs_20	IAMs_20	15 36 20.6		
	comp=Z,4µm,21.0s							
P40A	Paris	122.33	332	IAMs_20	IAMs_20	15 34 06.1		
	comp=Z,5µm,21.0s							
MSVF	Nonsavav	122.38	104	IAMs_20	IAMs_20	15 27 41.3		
	comp=Z,5µm,22.0s							
SIUC	Southern Illin	122.39	329	IAMs_20	IAMs_20	15 36 03.9		
	comp=Z,4µm,22.0s							
S44A	Carbondale	122.42	329	IAMs_20	IAMs_20	15 36 04.4		
	comp=Z,4µm,22.0s							
SWET	Sewanee	122.46	324	IAMs_20	IAMs_20	15 35 03.3		
	comp=Z,4µm,22.0s							
MG05	Puerto Natales	122.55	215	IAMs_20	IAMs_20	15 25 00.4		
	comp=Z,5µm,19.0s							
154A	Montrose	122.57	320	IAMs_20	IAMs_20	15 35 07.6		
	comp=Z,4µm,20.0s							
V48A	Smith Brothers	122.59	326	IAMs_20	IAMs_20	15 39 46.5		
	comp=Z,4µm,20.0s							
T45A	Paducah	122.62	328	IAMs_20	IAMs_20	15 33 30.2		
	comp=Z,6µm,22.0s							
K30B	Basset	122.68	340	IAMs_20	IAMs_20	15 36 15.8		
	comp=Z,5µm,21.0s							
E09A	Wood Farm, Sta	122.74	356	IAMs_20	IAMs_20	15 40 41.0		
	comp=Z,5µm,20.0s							
MXC	Moxie City	122.78	358	IAMs_20	IAMs_20	15 36 19.2		
	comp=Z,6µm,21.0s							
FVM	French Village	122.78	330	IAMs_20	IAMs_20	15 43 33.4		
	comp=Z,5µm,20.0s							
E07A	Sunnyside	122.79	358	IAMs_20	IAMs_20	15 35 55.2		
	comp=Z,6µm,21.0s							
E08A	Dider Farm, El	122.82	357	IAMs_20	IAMs_20	15 39 42.0		
	comp=Z,5µm,19.0s							
E03A	Lebam	122.85	1	IAMs_20	IAMs_20	15 41 20.0		
	comp=Z,4µm,19.0s							
WVT	Waverly	122.85	327	IAMs_20	IAMs_20	15 41 56.4		
	comp=Z,5µm,19.0s							
CGM3	Cape Girardeau	122.93	329	IAMs_20	IAMs_20	15 33 55.3		
	comp=Z,6µm,22.0s							
HAWA	Hanford	122.94	357	IAMs_20	IAMs_20	15 35 59.2		
	comp=Z,6µm,22.0s							
RLMT	Red Lodge	122.97	349	IAMs_20	IAMs_20	15 36 47.1		
	comp=Z,6µm,22.0s							
RADR	Rader Ridge	122.97	1	IAMs_20	IAMs_20	15 36 26.2		
	comp=Z,6µm,21.0s							
456A	Hilliard	123.11	318	IAMs_20	IAMs_20	15 41 55.1		
	comp=Z,4µm,20.0s							
CCM	Cathedral Cave	123.13	331	IAMs_20	IAMs_20	15 36 00.3		
	comp=Z,5µm,21.0s							
UTMT	University of	123.25	327	IAMs_20	IAMs_20	15 43 08.6		
	comp=Z,5µm,18.0s							
HICK	Hickman	123.29	328	IAMs_20	IAMs_20	15 42 12.8		
	comp=Z,4µm,19.0s							
DLMT	Dillon	123.30	351	IAMs_20	IAMs_20	15 40 42.8		
	comp=Z,4µm,20.0s							
R40A	Maddies Statio	123.43	331	IAMs_20	IAMs_20	15 44 17.2		
	comp=Z,4µm,19.0s							
F07A	Phinny Hill Vi	123.45	358	IAMs_20	IAMs_20	15 36 15.8		
	comp=Z,6µm,21.0s							
PARMO	Parma	123.47	328	IAMs_20	IAMs_20	15 42 18.5		
	comp=Z,4µm,20.0s							
GLAT	Glass	123.53	328	IAMs_20	IAMs_20	15 40 38.1		
	comp=Z,4µm,20.0s							
152A	Waverly Hall	123.53	321	IAMs_20	IAMs_20	15 38 37.9		
	comp=Z,4µm,20.0s							
YHL	Hebgen Lake	123.58	350	IAMs_20	IAMs_20	15 37 10.2		
	comp=Z,5µm,21.0s							
YNM	Yellowstone No	123.62	350	IAMs_20	IAMs_20	15 36 29.2		
	comp=Z,6µm,22.0s							
YNR	Norris Junctio	123.62	350	IAMs_20	IAMs_20	15 36 29.4		
	comp=Z,6µm,22.0s							
NMDO	Nuevo Mundo	123.63	304	IAMs_20	IAMs_20	15 33 12.5		
	comp=Z,3µm,20.0s							
PVMO	Portageville	123.63	328	IAMs_20	IAMs_20	15 36 35.9		
	comp=Z,4µm,20.0s							
X48A	Hartselle	123.65	325	IAMs_20	IAMs_20	15 38 24.7		
	comp=Z,4µm,20.0s							
TIGA	Tifton	123.66	320	IAMs_20	IAMs_20	15 37 40.5		
	comp=Z,4µm,21.0s							
YHB	Horse Butte	123.68	350	IAMs_20	IAMs_20	15 37 14.8		
	comp=Z,4µm,21.0s							
YMR	Madison River	123.72	350	IAMs_20	IAMs_20	15 37 58.9		
	comp=Z,5µm,20.0s							
PBMO	Poplar Bluff	123.72	329	IAMs_20	IAMs_20	15 41 56.2		
	comp=Z,5µm,20.0s							
LNXT	Lenox	123.76	328	IAMs_20	IAMs_20	15 40 52.3		
	comp=Z,4µm,20.0s							
HALT	Halls	123.83	327	IAMs_20	IAMs_20	15 42 21.1		
	comp=Z,5µm,19.0s							
PLAL	Pickwick Lake	123.84	326	IAMs_20	IAMs_20	15 41 14.5		
	comp=Z,4µm,18.0s							
T42A	Van Buren	123.86	330	IAMs_20	IAMs_20	15 43 58.8		
	comp=Z,5µm,20.0s							
PEBM	Pemiscott Bayo	123.94	328	IAMs_20	IAMs_20	15 36 54.2		
	comp=Z,5µm,22.0s							
G08A	Pilot Rock	124.01	357	IAMs_20	IAMs_20	15 39 16.6		
	comp=Z,4µm,21.0s							
GTBY	Guantanamo Bay	124.04	303	IAMs_20	IAMs_20	15 30 51.4		
	comp=Z,5µm,21.0s							
HOOD	Mount Hood Mea	124.07	359	IAMs_20	IAMs_20	15 36 00.3		
	comp=Z,5µm,22.0s							
G06A	Carlson Farm,	124.14	358	IAMs_20	IAMs_20	15 36 50.9		
	comp=Z,5µm,20.0s							
GNAR	Gosnell	124.14	328	IAMs_20	IAMs_20	15 42 18.3		
	comp=Z,4µm,20.0s							
G03D	McMinnville, O	124.19	0	IAMs_20	IAMs_20	15 38 46.4		
	comp=Z,4µm,20.0s							
060A	Indiantown	124.26	313	IAMs_20	IAMs_20	15 35 52.0		
	comp=Z,5µm,20.0s							
656A	Willston	124.32	317	IAMs_20	IAMs_20	15 36 21.2		
	comp=Z,6µm,22.0s							
BMO	Blue Mountains	124.33	355	IAMs_20	IAMs_20	15 36 17.2		
	comp=Z,5µm,21.0s							
MGMO	Mountain Grove	124.34	331	IAMs_20	IAMs_20	15 39 17.3		
	comp=Z,5µm,20.0s							
DWPF	Disney Wildern	124.36	315	IAMs_20	IAMs_20	15 37 36.5		
	comp=Z,4µm,20.0s							
S39A	Bolivar	124.40	332	IAMs_20	IAMs_20	15 41 35.8		
	comp=Z,4µm,18.0s							
MOOW	Moose Ponds	124.57	349	IAMs_20	IAMs_20	15 37 53.5		
	comp=Z,5µm,20.0s							
SDV	Santo Domingo	124.60	289	IAMs_20	IAMs_20	15 32 46.7		
	comp=Z,4µm,20.0s							
LRAL	Lakeview Retre	124.64	323	IAMs_20	IAMs_20	15 37 05.9		
	comp=Z,5µm,21.0s							
LOHW	Long Hollow	124.68	349	IAMs_20	IAMs_20	15 37 15.3		
	comp=Z,5µm,22.0s							
H04A	Detroit Lake	124.72	360	IAMs_20	IAMs_20	15 39 35.3		
	comp=Z,4µm,20.0s							
K22A	Casper	124.72	346	IAMs_20	IAMs_20	15 35 17.6		
	comp=Z,5µm,21.0s							
FXWY	Fox Creek	124.73	350	IAMs_20	IAMs_20	15 37 38.6		
	comp=Z,5µm,21.0s							
MET	Memphis–Engin	124.74	327	IAMs_20	IAMs_20	15 36 04.2		
	comp=Z,5µm,22.0s							
HBAR	Harrisburg	124.79	328	IAMs_20	IAMs_20	15 38 37.4		
	comp=Z,4µm,20.0s							
SNOW	Snow King Moun	124.85	349	IAMs_20	IAMs_20	15 37 30.9		
	comp=Z,5µm,21.0s							
TPAW	Teton Pass	124.86	350	IAMs_20	IAMs_20	15 38 47.1		
	comp=Z,5µm,21.0s							
H04D	Lebanon	124.88	0	IAMs_20	IAMs_20	15 36 17.6		
	comp=Z,4µm,21.0s							
OXF	Oxford	124.92	326	IAMs_20	IAMs_20	15 41 10.1		
	comp=Z,4µm,20.0s							
250A	Grady	124.95	322	IAMs_20	IAMs_20	15 39 09.5		
	comp=Z,5µm,20.0s							
I05D	Terrebonne, OR	125.05	359	IAMs_20	IAMs_20	15 37 41.1		
	comp=Z,4µm,20.0s							
CHIV	Chivirico	125.09	304	IAMs_20	IAMs_20	15 32 05.0		
	comp=Z,3µm,21.0s							
Z47A	Carrollton	125.14	324	IAMs_20	IAMs_20	15 36 43.2		
	comp=Z,4µm,21.0s							
I07A	Izee	125.24	357	IAMs_20	IAMs_20	15 40 17.2		
	comp=Z,5µm,21.0s							
BW06	Boulder Array	125.29	348	IAMs_20	IAMs_20	15 38 47.6		
	comp=Z,5µm,21.0s							
PD31	Pinedale Array	125.29	348		PKPdf	14 38 52.5	-1.2	
PDAR	Pinedale Array	125.29	348		PKPdf	14 38 52.8	-1.0	
PDAR	Pinedale Array	125.29	348	PKP	PKPdf	14 38 53.0	-0.8	
	comp=Z,2.1nm,0.8s,baz=69,slow=5.4,SNR=10							
HLID	Hailey	125.31	353	IAMs_20	IAMs_20	15 38 37.1		
	comp=Z,5µm,20.0s							
061Z	Ochoppi	125.35	313	IAMs_20	IAMs_20	15 40 52.9		
	comp=Z,4µm,20.0s							
PLCA	Paso Flores	125.43	227	PKP	PKiKP	14 38 54.1	0.0	
	comp=Z,2.4nm,0.8s,baz=333,slow=4.4,SNR=4.1							
Y45A	Yeager Farm, C	125.48	326	IAMs_20	IAMs_20	15 42 10.9		
	comp=Z,4µm,21.0s							
AHID	Auburn Hatcher	125.59	350	IAMs_20	IAMs_20	15 44 18.4		
	comp=Z,4µm,19.0s							
MFID	Camas Ranch	125.62	354	IAMs_20	IAMs_20	15 35 26.2		
	comp=Z,4µm,22.0s							
WHAR	Wooly Hollow	125.82	329	IAMs_20	IAMs_20	15 43 24.8		
	comp=Z,4µm,20.0s							
HHAR	Hobbs	125.83	331	IAMs_20	IAMs_20	15 39 35.9		
	comp=Z,5µm,20.0s							
J08A	Circle Bar Ran	125.91	356	IAMs_20	IAMs_20	15 41 14.7		
	comp=Z,4µm,20.0s							
U38A	Gravette	125.92	332	IAMs_20	IAMs_20	15 38 17.0		
	comp=Z,4µm,20.0s							
BRAL	Brewton	126.00	322	IAMs_20	IAMs_20	15 35 08.1		
	comp=Z,6µm,22.0s							
R32A	Long Quarter,	126.09	337	IAMs_20	IAMs_20	15 39 31.2		
	comp=Z,5µm,21.0s							
J05D	Fort Rock, OR	126.10	359	IAMs_20	IAMs_20	15 38 03.9		
	comp=Z,5µm,21.0s							
J04A	Umpqua Nationa	126.16	359	IAMs_20	IAMs_20	15 40 24.5		
	comp=Z,4µm,21.0s							
J01E	Myrtle Point	126.23	1	IAMs_20	IAMs_20	15 40 43.4		
	comp=Z,4µm,21.0s							
UALR	University of	126.26	329	IAMs_20	IAMs_20	15 39 15.3		
	comp=Z,5µm,19.0s							
RLO	Rose Lookout	126.43	332	IAMs_20	IAMs_20	15 42 25.7		
	comp=Z,5µm,19.0s							
CCAR	Cane Creek	126.63	328	IAMs_20	IAMs_20	15 41 53.4		
	comp=Z,4µm,20.0s							
K02D	Willamette Mer	126.70	1	IAMs_20	IAMs_20	15 37 30.8		
	comp=Z,6µm,22.0s							
AF01	San Pedro de A	126.73	249	IAMs_20	IAMs_20	15 30 14.6		
	comp=Z,5µm,22.0s							
X40A	Basin Creek Fa	126.73	329	IAMs_20	IAMs_20	15 39 36.9		
	comp=Z,5µm,20.0s							
K04D	Chiloquin, OR	126.77	359	IAMs_20	IAMs_20	15 40 43.6		
	comp=Z,4µm,20.0s							
LL07	Hotel Espejo d	126.78	224	IAMs_20	IAMs_20	15 31 17.1		
	comp=Z,5µm,20.0s							
HWUT	Hardware Ranch	126.79	350		PKPdf	14 38 55.9	-0.7	
HWUT				IAMs_20	IAMs_20	15 39 15.3		
	comp=Z,6µm,22.0s							
LPAZ	La Paz	126.80	258	PKP	PKiKP	14 38 59.3	+1.1	
	comp=Z,5.3nm,1.1s,baz=37,slow=5.9,SNR=9.3							
LPAZ	La Paz	126.80	258	*eP*	PKiKP	14 38 58.3	+0.1	
LPAZ	La Paz	126.80	258	PKP	PKPdf	14 38 55.8	-1.9	
HVU	Hansel Valley	126.83	351	IAMs_20	IAMs_20	15 43

PB10	IPOC Station P	128.87	249	IAMs_20	IAMs_20	15 35 49.2	
	comp=Z,4μm,19.0s						
KMPM	Mount Pierce	128.97	1	IAMs_20	IAMs_20	15 39 17.8	
	comp=Z,5μm,22.0s						
X34A	Smith Ranch, M	129.00	333	IAMs_20	IAMs_20	15 44 33.5	
	comp=Z,5μm,21.0s						
KMRM	Mail Ridge	129.17	1	IAMs_20	IAMs_20	15 46 55.7	
	comp=Z,5μm,19.0s						
O02D	Mt. Diablo Mer	129.22	0	IAMs_20	IAMs_20	15 40 51.6	
	comp=Z,6μm,22.0s						
T25A	Trinidad	129.25	341	IAMs_20	IAMs_20	15 40 27.7	
	comp=Z,4μm,19.0s						
Q16A	Castle Valley	129.32	348	IAMs_20	IAMs_20	15 42 31.3	
	comp=Z,4μm,20.0s						
S22A	4UR Ranch, Cre	129.41	344	IAMs_20	IAMs_20	15 43 37.7	
	comp=Z,5μm,20.0s						
SPR3	Spring Creek 3	129.79	352	IAMs_20	IAMs_20	15 43 41.5	
	comp=Z,5μm,21.0s						
Z35A	Perchaven, San	129.81	332	IAMs_20	IAMs_20	15 43 08.0	
	comp=Z,4μm,21.0s						
ORV	Oroville	129.83	359	IAMs_20	IAMs_20	15 40 02.7	
	comp=Z,5μm,22.0s						
441A	DeRidder	129.84	326	IAMs_20	IAMs_20	15 38 07.5	
	comp=Z,5μm,22.0s						
TCRU	Three Creeks R	129.86	350	IAMs_20	IAMs_20	15 45 08.5	
	comp=Z,4μm,21.0s						
MVU	Marysvale	129.92	349	IAMs_20	IAMs_20	15 41 53.1	
	comp=Z,5μm,20.0s						
MPK	Martis Peak	130.04	357	IAMs_20	IAMs_20	15 44 52.3	
	comp=Z,3μm,20.0s						
PNTR	Pine Nut	130.22	357	IAMs_20	IAMs_20	15 42 35.1	
	comp=Z,5μm,20.0s						
FW06	Azle	130.24	332	IAMs_20	IAMs_20	15 39 52.6	
	comp=Z,4μm,21.0s						
Q09A	Carvers	130.29	354	IAMs_20	IAMs_20	15 40 45.9	
	comp=Z,5μm,21.0s						
FW03	Perrin-Whitt E	130.42	333	IAMs_20	IAMs_20	15 40 13.2	
	comp=Z,4μm,22.0s						
FW07	Weatherford	130.57	332	IAMs_20	IAMs_20	15 40 23.3	
	comp=Z,5μm,22.0s						
RYN	Ryan	130.61	356	IAMs_20	IAMs_20	15 43 14.4	
	comp=Z,3μm,20.0s						
NVAR	Mina Array Bea	130.79	355	PKP	PKiKP	14 39 05.5	+0.2
	comp=Z,5.5nm,0.9s,baz=356,slow=1.1,SNR=12						
PKCU	Pink Cliffs	130.97	349	IAMs_20	IAMs_20	15 45 46.8	
	comp=Z,4μm,21.0s						
S11A	Rachel	131.31	353	IAMs_20	IAMs_20	15 45 11.8	
	comp=Z,4μm,20.0s						
CMB	Columbia Colle	131.31	358	IAMs_20	IAMs_20	15 44 03.9	
	comp=Z,5μm,20.0s						
ABTX	Abilene, Hawle	131.47	334	IAMs_20	IAMs_20	15 39 02.9	
	comp=Z,6μm,22.0s						
KNB	Kanab	131.48	349	IAMs_20	IAMs_20	15 44 25.3	
	comp=Z,5μm,21.0s						
LCMT	Little Creek M	131.56	350	IAMs_20	IAMs_20	15 43 52.4	
	comp=Z,4μm,20.0s						
GMN	Gold Mountain	131.82	354	IAMs_20	IAMs_20	15 40 18.3	
	comp=Z,4μm,22.0s						
ANMO	Albuquerque	131.91	342	IAMs_20	IAMs_20	15 49 58.0	
	comp=Z,5μm,20.0s						
ANMO	Albuquerque	131.91	342	IAMs_20	IAMs_20	15 49 57.0	
	comp=Z,5μm,20.0s						
ANMO	Albuquerque	131.91	342	IAMs_20	IAMs_20	15 49 57.0	
	comp=Z,5μm,20.0s						
SAO	San Andreas Ge	132.62	359	IAMs_20	IAMs_20	15 42 53.4	
	comp=Z,4μm,21.0s						
WUAZ	Wupatki	132.65	347	IAMs_20	IAMs_20	15 42 43.2	
	comp=Z,4μm,19.0s						
BBGB	Big Mountain B	132.79	358	IAMs_20	IAMs_20	15 40 54.0	
	comp=Z,5μm,22.0s						
Y22D	IRIS PASSCAL I	132.86	342	IAMs_20	IAMs_20	15 43 51.2	
	comp=Z,4μm,20.0s						
V12A	Nelson	133.07	351	IAMs_20	IAMs_20	15 43 39.5	
	comp=Z,4μm,20.0s						
JCT	Junction City	133.37	332	IAMs_20	IAMs_20	15 42 08.3	
	comp=Z,4μm,21.0s						
ISA	Isabella, Lake	133.56	355	IAMs_20	IAMs_20	15 47 13.2	
	comp=Z,4μm,19.0s						
GSC	Goldstone, Bar	133.75	353	IAMs_20	IAMs_20	15 41 08.4	
	comp=Z,4μm,21.0s						
TEIG	Tepich	134.15	312	IAMs_20	IAMs_20	15 43 48.1	
	comp=Z,4μm,21.0s						
BCW	Bitter Crk WRg	134.34	356	IAMs_20	IAMs_20	15 45 09.1	
	comp=Z,4μm,20.0s						
OTAV	Otavalo	134.65	281	IAMs_20	IAMs_20	15 42 13.5	
	comp=Z,4μm,21.0s						
OTAV	Otavalo	134.65	281	PKP	PKiKP	14 39 14.3	+0.3
EPT	El Paso	134.86	340	IAMs_20	IAMs_20	15 45 17.1	
	comp=Z,5μm,20.0s						
SLOR	San Lorenzo -	134.94	280	IAMs_20	IAMs_20	15 39 58.3	
	comp=Z,3μm,20.0s						
BLYC	Blythe	134.96	350	IAMs_20	IAMs_20	15 47 44.4	
	comp=Z,4μm,20.0s						
PASC	Pasadena Art C	135.01	355	IAMs_20	IAMs_20	15 50 27.8	
	comp=Z,3μm,20.0s						
NNA	Nana	135.07	264	IAMs_20	IAMs_20	15 40 47.0	
	comp=Z,3μm,20.0s						
ELS	Elsinore Mount	135.45	354	IAMs_20	IAMs_20	15 46 43.5	
	comp=Z,4μm,21.0s						
GLA	Glamis	135.69	351	IAMs_20	IAMs_20	15 47 48.8	
	comp=Z,5μm,22.0s						
KHU	Kahuku	135.88	47	IAMs_20	IAMs_20	15 43 21.9	
	comp=Z,3μm,20.0s						
UWE	Uwekahuna	136.00	47	IAMs_20	IAMs_20	15 42 07.0	
	comp=Z,4μm,19.0s						
TXAR	Lajitas Array	136.02	336	PKP	PKPdf	14 39 12.7	-1.5
	comp=Z,2.5nm,1.0s,baz=70,slow=2.5,SNR=13						
HATHI	Halema'uma'u T	136.02	47	IAMs_20	IAMs_20	15 41 58.5	
	comp=Z,4μm,20.0s						
BYL	Byron's Ledge	136.03	47	IAMs_20	IAMs_20	15 41 57.8	
	comp=Z,5μm,22.0s						
YUH	Yuha Desert	136.25	352	IAMs_20	IAMs_20	15 48 29.7	
	comp=Z,4μm,22.0s						
CPBX	Cerro Prieto	136.39	351	IAMs_20	IAMs_20	15 49 10.2	
	comp=Z,3μm,20.0s						
LCR2	La Lucha 2	136.40	297	IAMs_20	IAMs_20	15 43 46.7	
	comp=Z,3μm,21.0s						
CBX	Cerro Bola	136.68	353	IAMs_20	IAMs_20	15 49 17.0	
	comp=Z,3μm,21.0s						
ESJX	Sierra Juarez	136.89	352	IAMs_20	IAMs_20	15 46 35.5	
	comp=Z,5μm,21.0s						
HERN	Volcan Telica	137.42	302	IAMs_20	IAMs_20	15 34 37.1	
	comp=Z,3μm,21.0s						
VTX	Valle De La Tr	137.47	351	IAMs_20	IAMs_20	15 49 26.8	
	comp=Z,4μm,20.0s						
SFX	San Felipe	137.66	350	IAMs_20	IAMs_20	15 47 37.1	
	comp=Z,4μm,21.0s						
ESQI	Esquipulas	138.38	307	IAMs_20	IAMs_20	15 40 48.0	
	comp=Z,4μm,22.0s						
SRIG	Santa Rosalia	140.71	345	IAMs_20	IAMs_20	15 47 18.9	
	comp=Z,5μm,20.0s						
MOIG	Morelia	142.98	325	IAMs_20	IAMs_20	15 52 24.9	
	comp=Z,4μm,21.0s						
TLIG	Tlapa	143.03	320	IAMs_20	IAMs_20	15 48 29.7	
	comp=Z,3μm,22.0s						
PAYG	Puerto Ayora	146.23	285	IAMs_20	IAMs_20	15 59 38.3	
	comp=Z,3μm,20.0s						
TBI	Tubuai	151.64	119	*e*SS	SS	15 02 52.7	-0.4
	comp=Z,15μm,32.5s						
TBI	Tubuai	151.64	119	*e*LQ	LQ	15 23 30.6	
	comp=Z,40μm,40.0s						
TBI				*e*LR	LR	15 30 05.4	
	comp=Z,41μm,28.2s						
TBI				*e*LR	LR	15 30 08.4	
	comp=Z,10μm,28.8s						
PPT2	Papeete2	153.13	107	*e*PP	PP	14 43 27.9	-8.3
	comp=Z,537nm,39.0s						
PPT2	Papeete2	153.13	107	*e*SS	SS	15 03 07.0	-3.4
	comp=Z,4μm,26.8s						
PPT2	Papeete2	153.13	107	*e*LR	LR	15 30 45.4	
	comp=Z,7μm,27.5s						
PPT2				*e*LR	LR	15 30 45.4	
	comp=Z,5μm,28.5s						
TAOE	Nuku Hiva Isla	162.70	85	*e*P	PKPdf	14 39 55.8	+0.2
	comp=Z,247nm,25.1s						
TAOE	Nuku Hiva Isla	162.70	85	*e*PP	PP	14 44 22.5	-6.5
	comp=Z,450nm,37.9s						
TAOE	Nuku Hiva Isla	162.70	85	*e*SS	SS	15 04 49.7	-3.3
	comp=Z,3μm,26.6s						
TAOE	Nuku Hiva Isla	162.70	85	*e*LR	LR	15 35 19.0	
	comp=Z,9μm,33.3s						
RKT	Rikitea	163.10	138	*e*SS	SS	15 04 52.8	-1.6
	comp=Z,20μm,43.0s						
RKT	Rikitea	163.10	138	*e*LR	LR	15 35 26.3	
	comp=Z,29μm,28.5s						

NEIC ***29*** *14:28:14.1±1.3,21°.75N±0°.08×144°.2E±0°.1,h107km±7km,*
mb5.3/73,Error ellipse: s-maj=18.0km s-min=11.4km
az=78.0
IDC ***29*** *14:28:14.2±1.5,21°.74N×144°.21E,h123km±12km,*
mb4.3/24,mbtmp4.7/26,Error ellipse: s-maj=17.1km
s-min=10.0km az=86.0
JMA ***29*** *14:28:15.9±0.2,22°.N±1°.×14°.4E±°.,h113km,MV5.1/12,*
IOTO ISLANDS REGION
ISC 29 14:28:12.2±0.3,21°.73N±0°.05×144°.17E±0°.08,h100km,
n366,σ0°96/363,mb5.2/59,1C-1D,Mariana Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**5.21**	**340**	*e*P	**Pn**	**14 29 29.3**	**+1.5**
JHH2				*e*S	**Sn**	**14 30 25.9**	**-0.8**
JHH2	**Haha-jima-NKT2**	**5.21**	**340**	A	A	14 29 29.3	
	comp=N,7.0nm,0.4s,comp=E,9.0nm,0.4s						
CBIJ	**Chichi jima**	**5.64**	**342**	P	**Pn**	**14 29 35.0**	**+1.4**
CBIJ				S	**Sn**	**14 30 36.3**	**-0.9**
JCJ	**Chichijima**	**5.64**	**342**	Pn	**Pn**	**14 29 34.9**	**+1.2**
JCJ				Sn	**Sn**	**14 30 36.1**	**-1.1**
JCJ	**Chichijima**	**5.64**	**342**	P	**Pn**	**14 29 34.2**	**+0.5**
	comp=E,60nm,0.3s,baz=142,slow=12,SNR=38						
JCJ				S	**Sn**	**14 30 35.0**	**-2.1**
	comp=E,650nm,0.7s,baz=304,slow=23,SNR=20						
GUMO	**Guam**	**8.12**	**175**	P	Pn	14 30 14.9	+7.5
	comp=E,76nm,1.0s,baz=8.7,slow=11,SNR=2.2						
MJAR	**Matsushiro Arr**	**15.65**	**342**	P	**P**	**14 31 49.2**	**0.0**
	comp=E,27nm,1.0s,baz=156,slow=9.8,SNR=15						
TJN	**Taejon**	**20.66**	**319**	P	**P**	**14 32 45.9**	**+1.9**
NACB	**Ninganchiao**	**20.92**	**281**	P	**P**	**14 32 48.5**	**+1.5**
KSRS	**Korea Array**	**21.05**	**322**	P	**P**	**14 32 50.1**	**+2.0**
	comp=E,40nm,0.7s,baz=146,slow=8.4,SNR=52						
KSRS				ScP	**ScP**	**14 40 14.6**	**-4.3**
	comp=E,2.9nm,0.9s,baz=150,slow=2.5,SNR=8.9						
	comp=E,40nm,0.7s						
KSAR	**Wonju Array Be**	**21.06**	**322**	P	**P**	**14 32 49.9**	**+1.7**
KS19	**Wonju Array Si**	**21.11**	**322**	P	**P**	**14 32 50.6**	**+1.7**
YHNB	**Yeheng**	**21.15**	**282**	P	**P**	**14 32 51.2**	**+1.8**
YULB	**Yu-li**	**21.18**	**279**	P	**P**	**14 32 51.8**	**+2.1**
H11S3	**WAKE ISLAND Hy**	**21.39**	**95**	T	T	14 55 48.3	
	baz=283,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**21.40**	**95**	T	T	14 55 55.8	
	baz=283,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**21.41**	**95**	T	T	14 55 56.4	
	baz=283,slow=75,SNR=17						
SSLB	**Suanglung**	**21.50**	**280**		**P**	**14 32 55.0**	**+1.9**
MANU	**Manus Island**	**23.83**	**172**	P	**P**	**14 33 15.8**	**-0.5**
KNMB	**Chin-men Tao**	**23.86**	**282**	P	**P**	**14 33 17.4**	**+0.9**
USRK	**Ussuriysk Ar.**	**24.58**	**339**	P	**P**	**14 33 24.9**	**+2.2**
USRK	**Ussuriysk Ar.**	**24.58**	**339**	P	**P**	**14 33 23.6**	**+0.8**
	comp=E,14nm,0.9s,baz=160,slow=9.4,SNR=4.8						
	comp=E,14nm,0.9s						
RABL	**Rabaul**	**26.92**	**162**	P	**P**	**14 33 45.1**	**+0.9**
FAKI	**Fak Fak**	**27.13**	**207**	P	**P**	**14 33 46.5**	**+0.5**
FAKI				IAmb	IAmb	14 34 15.5	
	comp=Z,154nm,1.8s						
PMG	**Port Moresby**	**31.08**	**174**	P	**P**	**14 34 20.8**	**-0.3**
PMG	**Port Moresby**	**31.08**	**174**	P	**P**	**14 34 20.5**	**-0.6**
PMG				sP	**sP**	**14 34 56.9**	**+3.1**
PEA0B	**Petropavlovsk-**	**33.01**	**15**	P	**P**	**14 34 38.8**	**+1.2**
PEA0B				IAmb	IAmb	14 35 10.2	
	comp=Z,56nm,1.4s						
PETK	**Petropavlovsk-**	**33.01**	**15**	P	**P**	**14 34 38.2**	**+0.6**
PETK	**Petropavlovsk-**	**33.01**	**15**	P	**P**	**14 34 38.8**	**+1.2**
	comp=Z,6.7nm,0.8s,baz=237,slow=5.0,SNR=5.9						
	comp=Z,6.7nm,0.8s						
PET	**Petropavlovsk**	**33.17**	**16**	P	**P**	**14 34 39.5**	**+0.6**
PET				IAmb	IAmb	14 34 47.2	
	comp=Z,79nm,1.1s						
PET	**Petropavlovsk**	**33.17**	**16**	P	**P**	**14 34 40.1**	**+1.1**
COEN	**Coen**	**35.47**	**182**	P	**P**	**14 35 00.1**	**+0.8**
COEN				IAmb	IAmb	14 35 01.4	
	comp=Z,40nm,0.8s						
MTN	**Manton Dam**	**36.66**	**202**	P	**P**	**14 35 09.6**	**+0.2**
MTN				IAmb	IAmb	14 35 51.8	
	comp=Z,117nm,1.9s						
MA2	**Magadan**	**38.11**	**5**	P	**P**	**14 35 22.0**	**+0.8**
MA2				IAmb	IAmb	14 35 36.6	
	comp=Z,120nm,1.7s						
MA2	**Magadan**	**38.11**	**5**	P	**P**	**14 35 21.9**	**+0.8**
SMY	**Shemya**	**38.54**	**29**	P	**P**	**14 35 26.6**	**+1.8**
ULN	**Ulaanbaatar**	**39.52**	**320**	P	**P**	**14 35 33.5**	**+0.1**
ULN	**Ulaanbaatar**	**39.52**	**320**	P	**P**	**14 35 33.7**	**+0.3**
SONM	**Songino Array**	**39.90**	**320**	P	**P**	**14 35 36.8**	**+0.3**
SONM	**Songino Array**	**39.90**	**320**	P	**P**	**14 35 36.7**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=126,slow=6.1,SNR=6.3						
SONM				ScP	**ScP**	**14 41 16.4**	**-3.8**
	comp=Z,0.8nm,0.6s,baz=157,slow=4.2,SNR=4.2						
	comp=Z,2.9nm,0.5s						
KNRA	**Kununurra**	**40.12**	**203**	P	**P**	**14 35 38.9**	**+0.5**
YAK	**Yakutsk**	**41.50**	**350**	P	**P**	**14 35 49.4**	**+0.2**
YAK				IAmb	IAmb	14 35 50.2	
	comp=Z,49nm,0.8s						
YAK	**Yakutsk**	**41.50**	**350**	P	**P**	**14 35 48.8**	**-0.4**
YAK	**Yakutsk**	**41.50**	**350**	*e*PPP	PPP	14 35 48.7	
WB0	**Warramunga Arr**	**42.33**	**194**	P	**P**	**14 35 56.6**	**+0.2**
WB0				IAmb	IAmb	14 35 58.8	
	comp=Z,63nm,1.6s						
CMAR	**Chiang Mai Arr**	**42.48**	**274**	P	**P**	**14 35 58.5**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=65,slow=7.3,SNR=9.0						
CMAR				ScP	**ScP**	**14 41 28.1**	**-2.7**
	comp=Z,1.4nm,0.9s,baz=89,slow=1.3,SNR=8.0						
	comp=Z,1.5nm,0.7s						
WR8	**Warramunga Arr**	**42.49**	**194**	P	**P**	**14 35 57.9**	**+0.1**
WR8				IAmb	IAmb	14 35 58.4	
	comp=Z,48nm,1.4s						
WRA	**Warramunga Arr**	**42.51**	**194**	P	**P**	**14 35 58.1**	**+0.2**
WRA	**Warramunga Arr**	**42.51**	**194**	P	**P**	**14 35 57.9**	**0.0**
	comp=Z,7.7nm,0.6s,baz=14,slow=8.4,SNR=24						
WRA				ScP	**ScP**	**14 41 28.3**	**-2.4**
	comp=Z,1.5nm,0.8s,baz=7.8,slow=4.6,SNR=6.6						
	comp=Z,7.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**43.54**	**206**	P	**P**	**14 36 06.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**43.54**	**206**	P	**P**	**14 36 06.0**	**-0.1**
	comp=Z,6.9nm,0.6s,baz=15,slow=9.5,SNR=16						
	comp=Z,6.9nm,0.6s						
ATKA	**Atka Island**	**44.13**	**36**	P	**P**	**14 36 10.3**	**-0.3**
AS31	**Alice Springs**	**46.21**	**193**	P	**P**	**14 36 27.6**	**+0.2**
ASAR	**Alice Springs**	**46.21**	**193**	P	**P**	**14 36 27.1**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=18,slow=9.9,SNR=16						
ASAR				ScP	**ScP**	**14 41 43.5**	**-2.4**
	comp=Z,0.7nm,0.7s,baz=15,slow=4.3,SNR=4.5						
ASAR				S	**S**	**14 43 03.7**	**-2.8**
	comp=Z,1.2nm,1.1s,baz=16,slow=14,SNR=4.2						
	comp=Z,2.9nm,0.6s						
EIDS	**Eidsvold**	**47.29**	**171**	P	**P**	**14 36 35.7**	**0.0**
NIKH	**Nikolski High**	**47.41**	**37**	P	**P**	**14 36 36.3**	**-0.1**
	baz=247						
BILL	**Bilibino**	**48.32**	**11**	P	**P**	**14 36 43.8**	**+0.6**
BILL				IAmb	IAmb	14 36 58.8	
	comp=Z,119nm,1.9s						
BILL	**Bilibino**	**48.32**	**11**	P	**P**	**14 36 43.3**	**+0.2**
SPIA	**Saint Paul Isl**	**48.47**	**31**	P	**P**	**14 36 44.4**	**-0.1**
	baz=242						
DZM	**Mont Dzumac**	**48.65**	**152**	P	**P**	**14 36 46.3**	**-0.1**
DZM				IAmb	IAmb	14 38 34.4	
	comp=Z,118nm,2.0s						
MBWA	**Marble Bar**	**48.84**	**211**	P	**P**	**14 36 48.6**	**+0.9**
UNV	**Unalaska Valle**	**49.04**	**37**	P	**P**	**14 36 48.1**	**-0.8**
	baz=249						
PSA00	**Pilbara Seismi**	**49.15**	**210**	P	**P**	**14 36 50.1**	**0.0**
LVA	**Lava Point**	**49.41**	**36**	P	**P**	**14 36 51.7**	**-0.1**
AKUT	**Akutan**	**49.55**	**36**	P	**P**	**14 36 52.8**	**0.0**
TIXI	**Tiksi**	**50.72**	**354**	P	**P**	**14 37 01.4**	**+0.1**
TIXI				IAmb	IAmb	14 37 22.2	
	comp=Z,54nm,1.8s						
FALS	**False Pass**	**51.09**	**36**	P	**P**	**14 37 03.6**	**-0.8**
	baz=251						
GAMB	**Gambell**	**51.23**	**23**	P	**P**	**14 37 04.8**	**-0.4**
	baz=236						
M11K	**Mekoryuk**	**51.79**	**29**	P	**P**	**14 37 09.2**	**-0.3**
	baz=244						
S12K	**Black Hills**	**52.09**	**35**	P	**P**	**14 37 11.2**	**-0.6**
	baz=252						
SDPT	**Sand Point**	**52.85**	**36**	P	**P**	**14 37 16.3**	**-1.1**
	baz=254						
M13K	**Dall Lake**	**53.09**	**29**	P	**P**	**14 37 20.4**	**+1.3**
M13K				IAmb	IAmb	14 37 21.7	
	comp=Z,42nm,0.9s						
M13K	**Dall Lake**	**53.09**	**29**	P	**P**	**14 37 18.5**	**-0.6**
	baz=247						
K13K	**Kusilvak Mount**	**53.13**	**27**	P	**P**	**14 37 19.7**	**+0.3**
	baz=245						
CHNA	**Chernabura Isl**	**53.20**	**37**	P	**P**	**14 37 19.0**	**-1.0**
	baz=255						
STKA	**Stephens Creek**	**53.35**	**183**	P	**P**	**14 37 20.1**	**-1.2**
	comp=Z,12nm,0.9s,baz=351,slow=9.7,SNR=9.6						
	comp=Z,12nm,0.9s						
TNA	**Tin City**	**53.56**	**23**	P	**P**	**14 37 22.0**	**-0.5**
	baz=239						
S14K	**Fog Glacier**	**53.61**	**35**	P	**P**	**14 37 22.2**	**-0.9**
	baz=254						
O14K	**Tigyukauivet M**	**53.66**	**31**	P	**P**	**14 37 23.1**	**-0.1**
	baz=250						
N14K	**Kuskokwak Cree**	**53.69**	**30**	P	**P**	**14 37 23.1**	**-0.4**
	baz=249						
L14K	**Kuka Creek**	**53.76**	**29**	P	**P**	**14 37 24.3**	**+0.4**
	baz=247						
M14K	**Bethel**	**53.86**	**29**	P	**P**	**14 37 25.6**	**+0.9**
M14K	**Bethel**	**53.86**	**29**	P	**P**	**14 37 24.9**	**+0.2**
	baz=248						
J14K	**Nanvaranak Lak**	**53.95**	**27**	P	**P**	**14 37 25.5**	**+0.2**
	baz=245						
ANM	**Nome**	**54.02**	**24**	P	**P**	**14 37 25.4**	**-0.4**
	baz=242						
F14K	**Arctic Creek**	**54.09**	**23**	P	**P**	**14 37 26.9**	**+0.5**
	baz=241						
O15K	**Ungalikthiuk R**	**54.33**	**32**		**P**	**14 37 28.8**	**+0.6**
O15K				IAmb	IAmb	14 37 29.5	
	comp=Z,30nm,0.8s						
O15K	**Ungalikthiuk R**	**54.33**	**32**	P	**P**	**14 37 27.5**	**-0.7**
	baz=252						
L15K	**Ungalak Mounta**	**54.41**	**28**	P	**P**	**14 37 29.0**	**+0.2**
	baz=248						
M15K	**Kasigluk River**	**54.42**	**30**	P	**P**	**14 37 28.7**	**-0.1**
	baz=250						
N15K	**Kwethluk River**	**54.52**	**30**		**P**	**14 37 30.3**	**+0.7**
N15K				IAmb	IAmb	14 38 18.1	
	comp=Z,75nm,1.2s						
N15K	**Kwethluk River**	**54.52**	**30**	P	**P**	**14 37 29.2**	**-0.3**
	baz=251,SNR=6.8						
K15K	**Wolf Creek Mou**	**54.63**	**28**	P	**P**	**14 37 30.1**	**-0.2**
	baz=248						
G15K	**Niukluk**	**54.72**	**24**	P	**P**	**14 37 31.2**	**+0.3**
	baz=244						
ZALV	**Zalesovo Beam**	**54.76**	**321**	P	**P**	**14 37 30.8**	**-0.5**
	comp=Z,7.1nm,0.7s,baz=104,slow=7.0,SNR=15						
	comp=Z,7.1nm,0.7s						
BBOO	**Buckleboo**	**54.78**	**188**	P	**P**	**14 37 31.5**	**-0.2**
BBOO				IAmb	IAmb	14 37 33.8	
	comp=Z,40nm,1.4s						
F15K	**North Star Dit**	**54.82**	**23**	P	**P**	**14 37 32.3**	**+0.7**
	baz=242						
R16K	**Pilot Point**	**55.00**	**34**	P	**P**	**14 37 32.0**	**-1.0**
	baz=255						
P16K	**Nushagak River**	**55.19**	**32**	P	**P**	**14 37 34.4**	**0.0**
	baz=253						
N16K	**Nishlik Lake**	**55.24**	**30**	P	**P**	**14 37 34.8**	**0.0**
	baz=252,SNR=9.2						
H16K	**Elim**	**55.26**	**25**	P	**P**	**14 37 34.5**	**-0.4**
	baz=246						
O16K	**Kokwok River B**	**55.30**	**32**		**P**	**14 37 35.6**	**+0.4**
O16K	**Kokwok River B**	**55.30**	**32**	P	**P**	**14 37 35.1**	**-0.1**
	baz=253						
L16K	**Owhat River**	**55.32**	**29**	P	**P**	**14 37 35.1**	**-0.2**
	baz=250						
M16K	**Timber Creek**	**55.33**	**30**		**P**	**14 37 35.9**	**+0.5**
M16K				IAmb	IAmb	14 38 28.0	
	comp=Z,57nm,1.4s						
M16K	**Timber Creek**	**55.33**	**30**	P	**P**	**14 37 35.0**	**-0.4**
	baz=251						
MKAR	**Makanchi Array**	**55.35**	**313**	P	**P**	**14 37 35.1**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=94,slow=8.6,SNR=12						
MKAR				PcP	**PcP**	**14 38 34.1**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=82,slow=4.0,SNR=8.2						
MKAR				ScP	**ScP**	**14 42 20.7**	**-4.2**
	comp=Z,2.1nm,0.9s,baz=87,slow=4.8,SNR=7.0						
	comp=Z,2.9nm,0.7s						
J16K	**Anvik River**	**55.40**	**27**	P	**P**	**14 37 35.9**	**+0.1**
	baz=248						
G16K	**Koyuk River**	**55.54**	**24**	P	**P**	**14 37 35.4**	**-1.3**
	baz=245						
MAKZ	**Makanchi**	**55.57**	**313**	P	**P**	**14 37 37.4**	**0.0**
I17K	**Unalakleet**	**55.58**	**26**	P	**P**	**14 37 34.7**	**-2.4**
	baz=248						
CHIR	**Chirikof Islan**	**55.63**	**36**	P	**P**	**14 37 36.6**	**-1.0**
	baz=258						
Q16K	**King Salmon**	**55.76**	**33**	P	**P**	**14 37 37.2**	**-1.2**
	baz=255						
C16K	**Lisburne Hills**	**55.82**	**20**	P	**P**	**14 37 38.8**	**+0.1**
	baz=240						
O17K	**Koliganek Bris**	**55.84**	**32**	P	**P**	**14 37 38.3**	**-0.7**
	baz=254,SNR=7.3						
L17K	**Donlin**	**55.99**	**29**	P	**P**	**14 37 39.9**	**-0.2**
	baz=251,SNR=5.4						
P17K	**Kvichak River**	**56.00**	**32**	P	**P**	**14 37 39.1**	**-1.1**
	baz=255						
N17K	**Nushagak Hills**	**56.01**	**31**		**P**	**14 37 41.2**	**+1.0**
N17K	**Nushagak Hills**	**56.01**	**31**	P	**P**	**14 37 39.6**	**-0.6**
	baz=253	

L19K	White Mountain	57.55	29	IAmb	IAmb	14 38 15.7	
	comp=Z,66nm,1.5s						
L19K	White Mountain	57.55	29	P	P	14 37 51.0	-0.2
	baz=254						
KDAK	Kodiak Island	57.66	34	P	P	14 37 50.2	-1.8
	baz=259						
M19K	Big River Lodg	57.69	29	P	P	14 37 51.4	-0.7
	baz=255						
P19K	Oil Pt	57.70	32	P	P	14 37 50.3	-1.9
	baz=258						
J19K	Poorman	57.73	27	P	P	14 37 51.6	-0.7
	baz=253						
F19K	Shaleruckik Mo	57.82	23	P	P	14 37 52.4	-0.5
	baz=249						
G19K	Purcell Mounta	57.83	24	P	P	14 37 52.4	-0.6
	baz=250						
H19K	Roundabout Mou	57.87	25	P	P	14 37 52.9	-0.4
	baz=251						
Q20K	Shuyak Island	57.91	34	P	P	14 37 52.4	-1.3
	baz=259						
L20K	Farewell, AK	58.06	29	P	P	14 37 54.6	-0.1
	baz=255						
KURK	Kurchatov	58.08	317		P	14 37 54.6	-0.3
KURK				IAmb	IAmb	14 37 57.9	
	comp=Z,60nm,2.0s						
KURK	Kurchatov	58.08	317	P	P	14 37 54.5	-0.5
KURK				pP	pP	14 38 20.3	+1.6
A19K	Wainwright	58.08	19	P	P	14 37 55.1	+0.4
	baz=243						
KURBB	Kurchatov Arra	58.13	317	P	P	14 37 54.9	-0.4
	comp=Z,7.8nm,0.6s,baz=92,slow=7.7,SNR=71						
	comp=Z,7.8nm,0.6s						
K20K	Telida	58.21	28	IAmb	IAmb	14 37 57.6	
	comp=Z,34nm,1.1s						
K20K	Telida	58.21	28	P	P	14 37 55.6	-0.2
	baz=254,SNR=6.7						
E19K	Redstone River	58.24	23	P	P	14 37 55.8	0.0
	baz=249						
M20K	Styx River	58.26	30	IAmb	IAmb	14 38 40.3	
	comp=Z,74nm,1.6s						
M20K	Styx River	58.26	30	P	P	14 37 55.1	-1.1
	baz=256						
NRIK	Noril'sk	58.29	340	P	P	14 37 55.7	-0.4
	comp=Z,6.6nm,0.7s,baz=111,slow=9.9,SNR=6.9						
	comp=Z,6.6nm,0.7s						
D19K	Kuna River	58.32	21	P	P	14 37 57.5	+1.1
	baz=247						
J20K	Nowinta River	58.40	27	P	P	14 37 57.2	+0.2
	baz=254,SNR=8.0						
H20K	Anotleneega Mo	58.48	25	P	P	14 37 58.1	+0.6
	baz=252						
SPCR	Spurr Chakacha	58.53	31	P	P	14 37 58.1	0.0
	baz=258						
F20K	Avaraart Lake	58.65	23	P	P	14 37 59.6	+0.9
	baz=251						
STLK	Strandline Lak	58.77	30	IAmb	IAmb	14 38 29.0	
	comp=Z,43nm,1.4s						
E20K	Nigu River	58.90	22	P	P	14 38 00.6	+0.2
	baz=250						
D20K	Etivluk River	58.91	21	P	P	14 38 01.6	+1.1
	baz=249						
PPLA	Purkeypile	58.92	29	P	P	14 38 00.3	-0.5
	baz=257						
CAPN	Captain Cook N	58.95	31	P	P	14 38 00.3	-0.5
	baz=259						
BRSE	Bradley Lake S	58.96	32	P	P	14 38 00.3	-0.7
	baz=260						
SKT	Skwentna	59.02	30	IAmb	IAmb	14 38 06.4	
	comp=Z,71nm,1.7s						
SKT	Skwentna	59.02	30	P	P	14 38 01.2	-0.2
	baz=258						
CAST	Castle Rocks	59.09	28	P	P	14 38 01.9	+0.1
	baz=256,SNR=5.3						
CHUM	Lake Minchumin	59.10	27	P	P	14 38 02.2	+0.4
	baz=256						
B20K	Meade River	59.22	20	P	P	14 38 03.3	+0.8
	baz=248						
SUA	Susitna One	59.28	30	P	P	14 38 03.1	-0.1
	baz=259						
G21K	Allakaket	59.32	24	P	P	14 38 04.7	+1.4
	baz=253						
H21K	Melozitna Rive	59.36	25	P	P	14 38 04.8	+1.2
	baz=254						
F21K	Alatna River	59.54	24	P	P	14 38 05.2	+0.4
	baz=253						
I21K	Tanana	59.56	26	P	P	14 38 05.6	+0.6
	baz=255						
O22K	Cooper Landing	59.59	32	P	P	14 38 05.7	+0.5
	baz=260						
M22K	Willow	59.63	30	P	P	14 38 05.2	-0.3
	baz=259						
SEW	Seward	59.66	32	P	P	14 38 05.2	-0.5
	baz=261						
CUT	Chulitna	59.68	29	P	P	14 38 06.5	+0.6
	baz=259						
C21K	Knifeblade Rid	59.69	21	P	P	14 38 06.5	+0.7
	baz=250						
RC01	Rabbit Creek A	59.69	31	P	P	14 38 05.8	-0.2
	baz=260						
BPAW	Bear Paw Mtn.	59.72	27	P	P	14 38 06.5	+0.3
	baz=257						
E21K	Killik River	59.73	22	P	P	14 38 06.7	+0.5
	baz=252						
TRF	Thorofare Moun	59.89	28	P	P	14 38 07.3	-0.2
	baz=258						
B21K	Ikpikpuk River	59.90	21	P	P	14 38 08.2	+1.0
	baz=250						
H22K	Ishtalitna Cre	59.99	25	P	P	14 38 08.0	+0.1
	baz=256						
PMR	Palmer	60.06	30	P	P	14 38 07.9	-0.6
	baz=260						
F22K	John River	60.10	23	P	P	14 38 08.9	+0.2
	baz=254						
G22K	Bettles	60.20	24	P	P	14 38 10.0	+0.7
	baz=255						
A22K	Sinclair Lake	60.27	19	P	P	14 38 10.7	+1.0
	baz=249						
D22K	Ayikyak River	60.32	22	P	P	14 38 10.9	+0.8
	baz=253						
PWL	Port Wells	60.33	31	P	P	14 38 10.0	-0.4
	baz=261						
KNK	Knik Glacier	60.35	31	P	P	14 38 10.1	-0.4
	baz=261						
E22K	Anaktuvuk Pass	60.41	23	P	P	14 38 11.6	+0.8
	baz=254						
SML	Sawmill	60.47	30	IAmb	IAmb	14 38 11.9	
	comp=Z,42nm,0.9s						
SML	Sawmill	60.47	30	P	P	14 38 11.3	0.0
	baz=261,SNR=6.2						
B22K	Teshekpuk Lake	60.53	20	P	P	14 38 12.3	+0.8
	baz=251						
MCK	McKinley	60.53	28	P	P	14 38 10.4	-1.3
	baz=259						
I23K	Minto, Yukon-K	60.63	26	P	P	14 38 12.8	+0.5
	baz=258						
NEA2	Nenana	60.64	27	IAmb	IAmb	14 38 12.5	
	comp=Z,78nm,1.7s						
NEA2	Nenana	60.64	27	P	P	14 38 12.9	+0.5
	baz=259						
P23K	Montague Islan	60.66	32	P	P	14 38 12.2	-0.4
	baz=263						
H23K	Yukon River	60.70	26	P	P	14 38 12.7	-0.2
	baz=257						
G23K	Bananza Creek	60.72	25	P	P	14 38 13.0	+0.1
	baz=256						
M23K	Glacier View	60.76	30	P	P	14 38 12.8	-0.5
	baz=261						
COLD	Coldfoot	60.77	24	P	P	14 38 13.4	+0.2
	baz=256						
GLI	Glacier Island	60.93	31	P	P	14 38 14.4	0.0
	baz=262						
SCM	Sheep Creek Mo	60.95	30	P	P	14 38 14.8	+0.1
	baz=262						
D23K	Nanushuk River	61.04	22	P	P	14 38 16.3	+1.3
	baz=255						
E23K	Chandalar	61.19	23	P	P	14 38 17.2	+1.0
	baz=256						
COLA	College	61.21	27	P	P	14 38 16.8	+0.6
	baz=260						
C23K	Itkillik River	61.30	21	P	P	14 38 18.1	+1.4
	baz=254						
TOLK	Toolik Lake Re	61.34	22	P	P	14 38 17.7	+0.5
	baz=256						
H24K	Noodor Dome	61.38	26	P	P	14 38 18.0	+0.6
	baz=259						
POKR	Poker Plat Res	61.43	27	P	P	14 38 17.7	-0.1
	baz=260						
HDA	Harding Lake	61.51	27	P	P	14 38 18.6	+0.3
	baz=261						
M24K	Tolsona, Glenn	61.53	30	P	P	14 38 18.4	-0.1
	baz=263						
EYAK	Cordova Ski Ar	61.55	32	P	P	14 38 18.3	-0.2
	baz=264						
KLU	Klutina	61.57	31	P	P	14 38 18.8	0.0
	baz=263						
DIV	Divide	61.60	31	P	P	14 38 18.9	-0.1
ILAR	Eielson Array	61.60	27	P	P	14 38 17.5	-1.3
	comp=Z,8.4nm,0.8s,baz=268,slow=6.1,SNR=10						
	comp=Z,8.4nm,0.8s						
E24K	Your Creek	61.60	23	P	P	14 38 19.9	+0.9
	baz=257						
G24K	Hadweenzic Riv	61.70	25	P	P	14 38 19.6	0.0
	baz=259						
F24K	Squaw Lake	61.71	24	P	P	14 38 19.9	+0.3
	baz=258						
D24K	Happy Valley	61.73	22	P	P	14 38 20.4	+0.7
	baz=256						
C24K	Franklin Bluff	61.91	21	P	P	14 38 21.6	+0.8
	baz=256						
K24K	Donnelly Dome	61.93	28	P	P	14 38 20.2	-0.9
	baz=262						
PAX	Paxson	61.96	29	P	P	14 38 21.5	+0.1
	baz=263						
HARP	HAARP	62.03	30	P	P	14 38 21.5	-0.3
	baz=263						
BMRM	Bremner River	62.15	31	P	P	14 38 22.7	0.0
BMRM	Bremner River	62.15	31	P	P	14 38 23.6	+0.9
	baz=265,SNR=5.6						
KAIM	Kayak Island	62.15	33	P	P	14 38 22.3	-0.4
	baz=265						
N25K	Chitina, Valde	62.21	31	P	P	14 38 23.3	+0.2
	baz=264						
J25K	Salcha River,	62.22	27	P	P	14 38 23.7	+0.6
	baz=262						
G25K	Beaman Lake	62.25	25	P	P	14 38 24.4	+1.2
	baz=260						
H25L	Birch Creek	62.28	25	P	P	14 38 24.4	+1.0
	baz=261						
PRP	Porcupine Dome	62.28	26	P	P	14 38 24.2	+0.6
	baz=261						
RIDG	Independent Ri	62.33	28	P	P	14 38 23.9	0.0
	baz=263						
F25K	Christian Rive	62.57	24	P	P	14 38 26.2	+0.8
	baz=260						
GLB	Gilahina Butte	62.57	31	P	P	14 38 25.6	+0.1
GLB				IAmb	IAmb	14 38 52.6	
	comp=Z,96nm,1.9s						
D25K	Kavik River	62.62	22	P	P	14 38 26.4	+0.7
	baz=259						
E25K	Arctic Village	62.69	23	P	P	14 38 26.7	+0.6
	baz=260						
SCRK	Sand Creek	62.74	28	P	P	14 38 26.6	0.0
	baz=264						
L26K	Log Cabin Wild	62.93	29	P	P	14 38 27.8	0.0
	baz=265						
WAX	Waxell Ridge	62.97	32	IAmb	IAmb	14 38 59.6	
	comp=Z,98nm,1.4s						
J26L	Joseph Creek	62.98	28	P	P	14 38 28.3	+0.1
	baz=264						
M26K	Nabesna, AK	63.04	30	P	P	14 38 27.9	-0.7
	baz=265						
F26K	Sheenjek River	63.15	24	P	P	14 38 30.1	+0.9
	baz=262						
G26K	Porcupine Rive	63.19	25	P	P	14 38 30.3	+1.0
	baz=262						
C26K	Camden Bay	63.23	21	P	P	14 38 31.0	+1.3
	baz=260						
I26K	Coal Creek Min	63.24	27	P	P	14 38 30.5	+0.7
	baz=264						
BVAR	Borovoye Array	63.24	319	P	P	14 38 29.7	-0.3
	comp=Z,6.3nm,0.4s,baz=90,slow=8.3,SNR=19						
	comp=Z,6.3nm,0.4s						
BRVK	Borovoye	63.31	320	P	P	14 38 30.0	-0.4
BRVK				pP	pP	14 38 56.5	+1.9
BRVK				sP	PcP	14 39 08.1	+1.4
MESA	MESA	63.40	32	P	P	14 38 31.0	-0.1
	baz=267						
M27K	Edge Creek, AK	63.55	30	P	P	14 38 32.0	0.0
	baz=266						
K27K	Chicken	63.58	28	P	P	14 38 32.4	+0.3
	baz=265						
C27K	Jago River	63.60	22	P	P	14 38 33.2	+1.1
	baz=261						
L27K	Beaver Creek,	63.62	29	P	P	14 38 32.8	+0.4
	baz=266						
KK31	Karatay Array	63.75	308		P	14 38 33.7	+0.1
I27K	Kandik River	63.91	26	P	P	14 38 34.8	+0.6
	baz=265						
H27K	Steamboat Moun	64.00	26	P	P	14 38 35.6	+0.8
	baz=265						
G27K	Doyon Strip	64.00	25	P	P	14 38 35.8	+1.0
	baz=264						
BVCY	Beaver Creek	64.03	30	P	P	14 38 35.3	+0.2
	baz=267						
E27K	Coleen River	64.17	24	P	P	14 38 37.5	+1.6
	baz=264						
YUK3	Moose Creek	64.19	31	P	P	14 38 36.3	-0.1
	baz=268						
PINM	Pinnacle	64.25	33	P	P	14 38 37.0	+0.4
	baz=269						
O28M	Mount Upton	64.29	32	IAmb	IAmb	14 38 53.1	
	comp=Z,57nm,1.6s						
O28M	Mount Upton	64.29	32	P	P	14 38 36.8	-0.3
	baz=269,SNR=5.8						
D27M	Malcolm River	64.51	22	P	P	14 38 39.2	+1.1
	baz=264						
YUK8	Steele Glacier	64.51	31	P	P	14 38 38.5	0.0
	baz=269						
I28M	Miner Creek	64.60	27	P	P	14 38 39.0	+0.3
	baz=267						
PNL	Peninsula	64.67	33	P	P	14 38 39.3	0.0
	baz=270						
E28M	Babbage River	64.97	23	P	P	14 38 42.3	+1.3
	baz=266						
YUK4	Talbot Arm	65.05	31	P	P	14 38 42.7	+0.7
	baz=270						
O29M	Mount Kennedy	65.09	32	P	P	14 38 42.3	+0.2
	baz=270						
M29M	Somme Creek	65.14	30	P	P	14 38 43.0	+0.6
	baz=269						
YUK6	Outpost Mounta	65.19	32	P	P	14 38 43.0	+0.1
	baz=270						
I29M	Ogilvie Camp,	65.27	27	P	P	14 38 44.3	+1.2
	baz=268						
H29M	Whitestone	65.28	26	P	P	14 38 43.8	+0.7
	baz=268						
L29M	L29M	65.31	29	P	P	14 38 44.0	+0.6
	baz=269						
D28M	Stokes Point	65.31	22	P	P	14 38 44.7	+1.5
	baz=266						
G29M	Pine Creek	65.44	25	P	P	14 38 45.3	+1.2
	baz=268						
SIMJ	Simiganj	65.45	304	P	P	14 38 45.0	+0.1
SIMJ	Simiganj	65.45	304	P	P	14 38 45.0	+0.1
P29M	Windy Craggy	65.52	33	P	P	14 38 45.8	+1.0
	baz=271,SNR=8.2						
E29M	Blow River	65.56	23	P	P	14 38 45.3	+0.5
	baz=267						
K29M	Barlow Dome	65.58	28	P	P	14 38 46.1	+0.8
	baz=270						
HYT	Haines Junctio	65.61	32	P	P	14 38 45.0	-0.5
	baz=271						
N30M	Aishikik Lake	65.80	31	P	P	14 38 45.9	-0.6
	baz=271						
P30M	Million Dollar	65.90	33	P	P	14 38 48.0	+0.8
	baz=272						
M30M	Minto, Yukon	65.92	30	P	P	14 38 47.5	+0.2
	baz=271						
EPYK	Eagle Plains	65.95	26	P	P	14 38 48.0	+0.5
	baz=269						
I30M	Mount Dempster	66.08	27	P	P	14 38 48.4	-0.1
	baz=270						
J30M	Hart River	66.11	28	P	P	14 38 48.9	+0.3
	baz=270						
G30M	tAoh Zraii Nji	66.15	25	P	P	14 38 49.4	+0.7
	baz=269						
O30N	Mendenhall	66.30	32	P	P	14 38 49.8	0.0
	baz=272						
F30M	Barrier River	66.33	24	P	P	14 38 51.0	+1.2
	baz=270						
S31K	Pelican	66.37	35	P	P	14 38 50.1	-0.1
	baz=273						
N31M	Braeburn, Yuko	66.43	31	P	P	14 38 51.2	+0.6
	baz=272						
SKAG	Skagway	66.75	33	IAmb	IAmb	14 39 04.4	
	comp=Z,79nm,1.7s						
SKAG	Skagway	66.75	33	P	P	14 38 52.8	+0.3
	baz=274						
WHY	Whitehorse	66.90	32	P	P	14 38 53.4	-0.4
	baz=273						
G31M	Satah River	66.92	25	P	P	14 38 54.0	+0.4
	baz=271						
H31M	Peel River	66.92	26	P	P	14 38 53.9	+0.2
	baz=272						
SIT	Sitka	66.92	36	P	P	14 38 53.2	-0.4
	baz=274						
M31M	Drury Creek, Y	67.05	30	P	P	14 38 53.8	-0.7
	baz=273						
F31M	Tsiigehtchic	67.12	25	P	P	14 38 54.7	-0.1
	baz=272						
INK	Inuvik	67.18	24	P	P	14 38 55.7	+0.6
	baz=271						
R32K	Eaglecrest	67.26	34	P	P	14 38 56.2	+0.3
	baz=275						
P32M	Atlin	67.56	33	P	P	14 38 58.0	+0.2
	baz=275						
N32M	Quiet Lake	67.75	31	P	P	14 38 59.5	+0.6
	baz=275						
P33M	Teslin, Yukon	67.96	32	P	P	14 39 00.2	-0.1
	baz=275						
U33K	Whale Pass	68.23	37	P	P	14 39 01.2	-0.8
	baz=277						
Q32M	Nakina River	68.36	34	P	P	14 39 02.9	-0.1
	baz=276						
MMPY	Sheldon Lake,	68.47	30	P	P	14 39 04.2	+0.7
	baz=276						
WRAK	Wrangell Islan	68.62	36	P	P	14 39 04.5	+0.2
	baz=277						
R33M	Jennings River	68.98	33	P	P	14 39 07.2	+0.4
	baz=277						
S34M	Telegraph Cree	69.08	35	P	P	14 39 07.8	+0.5
	baz=278						
V35K	Ketchikan	69.17	37	P	P	14 39 08.2	+0.4
	baz=278						
DLBC	Dease Lake	69.59	34	P	P	14 39 11.3	+0.8
	baz=278						
T35M	Bob Quinn	69.69	36	P	P	14 39 11.7	+0.6
	baz=279						
A36M	Sachs Harbour	69.71	19	P	P	14 39 11.6	+0.7
	baz=278						
WTLY	Watson Lake, Y	69.97	32	P	P	14 39 12.7	0.0
	baz=279						
TGTN	Hyland Airport	70.00	31	P	P	14 39 13.2	+0.3
	baz=279						
C36M	Paulatuk	70.49	22	P	P	14 39 15.5	-0.1
	baz=280						
WRGLY	Wrigley	71.90	28	P	P	14 39 24.6	+0.4
	baz=282						
KOTAN	Kotaneelee Air	72.30	32	P	P	14 39 26.7	0.0
	baz=283						
SPITS	Spitsbergen Ar	75.96	350	P	P	14 39 47.0	-0.7
	comp=Z,2.5nm,0.6s,baz=41,slow=7.7,SNR=8.0						
	comp=Z,2.5nm,0.6s						
YKA	Yellowknife Ar	76.00	28	P	P	14 39 47.6	-0.6
	comp=Z,6.8nm,0.8s,baz=224,slow=6.6,SNR=16						
	comp=Z,6.8nm,0.8s						
E03A	Lebam	76.06	45	P	P	14 39 49.6	+0.8
E03A				IAmb	IAmb	14 39 50.5	
	comp=Z,35nm,0.9s						
ARCES	ARCESS Array B	79.18	342	P	P	14 40 05.0	-0.8
	comp=Z,3.1nm,0.6s,baz=69,slow=8.4,SNR=29						
	comp=Z,3.1nm,0.6s						
NVAR	Mina Array Bea	82.41	52	P	P	14 40 23.9	+0.1
	comp=Z,8.9nm,0.7s,baz=297,slow=5.7,SNR=3.2						
	comp=Z,8.9nm,0.7s						
KBZ	Khabaz	83.00	314	P	P	14 40 26.8	+0.3
	comp=Z,7.7nm,0.8s,baz=87,slow=3.9,SNR=16						
	comp=Z,7.7nm,0.8s						
FINES	FINESS Array B	83.55	335	P	P	14 40 27.3	-1.6
	comp=Z,6.1nm,0.6s,baz=58,slow=5.5,SNR=23						
	comp=Z,6.1nm,0.6s						
YHL	Hebgen Lake	84.76	44	P	P	14 40 36.7	+0.8
YHL				IAmb	IAmb	14 41 19.6	
	comp=Z,65nm,1.6s						
AKASG	Malin Array Be	88.01	325	P	P	14 40 48.5	-2.6
	comp=Z,1.7nm,0.8s,baz=58,slow=2.9,SNR=4.7						
	comp=Z,1.7nm,0.8s						
HFS	Hagfors	89.05	338	P	P	14 40 53.5	-2.4
	comp=Z,2.2nm,0.5s,baz=76,slow=6.3,SNR=8.9						
	comp=Z,2.2nm,0.5s						
NB2	NORSAR Subarra	89.25	339	P	P	14 40 54.4	-2.5
	comp=Z,1.3nm,0.7s,baz=53,slow=5.1						
NOA	NORSAR Array B	89.25	339	P	P	14 40 54.8	-2.0
	comp=Z,1.7nm,0.7s,baz=48,slow=4.7,SNR=8.3						
	comp=Z,1.7nm,0.7s						
SYO	Syowa Base	115.31	203	↑ ePdiff	Pdif	14 42 53.5	-0.1
SYO	Syowa Base	115.31	203	↓ ePdiff	pPdif	14 43 24.2	+5.1
PLCA	Paso Flores	145.09	131	PKPbc	PKPbc	14 47 37.5	-0.3
	comp=Z,10.0nm,1.0s,baz=206,slow=3.2,SNR=12						
LPAZ	La Paz	149.03	86		PKPbc	14 47 49.7	-0.6
LPAZ	La Paz	149.03	86	PKPbc	PKPdf	14 47 48.6	+2.5
	comp=Z,4.3nm,0.7s,baz=240,slow=2.7,SNR=12						

*IDC **29** 15:03:53.6±0.7, 15°.18S×173°.54W, h0km, mb4.1/10, mbtmp4.1/10, Error ellipse: s-maj=31.8km s-min=18.0km az=136.0*

*NEIC **29** 15:03:54.2±2.9, 15°.17S±0°.05×173°.2W±0°.1, h10km±1km, mb4.6/17, Error ellipse: s-maj=20.4km s-min=8.9km az=273.0*

ISC 29 15:03:58.3±0.6, 15°.2S±0°.1×173°.6W±0°.1, h30km, n66, σ0s80/57, mb4.4/16, 19C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.18	55	Pn	Pn	15 04 24.4	-8.2
FUTU	Fugatoga	4.43	280	Pn	Pn	15 05 02.6	-0.9
NIUE	Niue	5.26	138		Pn	15 05 06.4	-8.5
PINNC	Pines Island,	19.37	245		P	15 08 22.1	+0.4
DZM	Mont Dzumac	20.09	247		P	15 08 30.2	+0.5
H11S2	WAKE ISLAND Hy	38.65	329	T	T	15 52 58.8	
	baz=149,slow=76,SNR=14						
H11S3	WAKE ISLAND Hy	38.66	329	T	T	15 52 56.6	
	baz=149,slow=76,SNR=11						
H11S1	WAKE ISLAND Hy	38.66	329	T	T	15 52 54.8	
	baz=149,slow=76,SNR=13						
H11N3	WAKE ISLAND Hy	39.59	330	T	T	15 54 04.6	
	baz=150,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	39.60	330	T	T	15 54 06.7	
	baz=150,slow=76,SNR=13						
H11N2	WAKE ISLAND Hy	39.61	330	T	T	15 54 03.3	
	baz=150,slow=76,SNR=13						
STKA	Stephens Creek	43.97	240	P	P	15 12 03.4	+0.5
STKA	Stephens Creek	43.97	240	P	P	15 12 03.3	+0.3
	1.6nm,0.5s,baz=82,slow=9.9,SNR=9.9						
	1.6nm,0.5s						
BBOO	Buckleboo	48.74	240	P	P	15 12 40.3	-0.2
WR8	Warramunga Arr	49.53	257	P	P	15 12 47.0	+0.3
WR8				IAmb	IAmb	15 12 51.7	
	comp=Z,12nm,1.4s						
WB0	Warramunga Arr	49.65	257	P	P	15 12 48.5	+0.9
WB0				IAmb	IAmb	15 12 49.1	
	comp=Z,5.6nm,1.1s						
WRA	Warramunga Arr	49.69	257	P	P	15 12 47.2	-0.7
	comp=Z,2.1nm,0.8s,baz=91,slow=6.7,SNR=20						
	comp=Z,2.1nm,0.8s						
AS31	Alice Springs	49.98	252	P	P	15 12 50.3	+0.1
ASAR	Alice Springs	49.98	252	P	P	15 12 50.4	+0.2
	comp=Z,5.9nm,0.6s,baz=90,slow=7.6,SNR=152						
	comp=Z,5.9nm,0.6s						
FORT	Forrest	55.33	243	P	P	15 13 29.3	-0.3
FITZ	Fitzroy Crossi	58.05	258	P	P	15 13 50.1	+1.1
	comp=Z,0.7nm,0.5s,baz=115,slow=14,SNR=1.0						
	comp=Z,0.7nm,0.5s						
PSA00	Pilbara Seismi	63.06	253	P	P	15 14 22.2	-1.1
SBA	Scott Base	63.47	185	P	P	15 14 24.7	-0.3
VNDA	Vanda	63.59	186	P	P	15 14 26.2	+0.5
	comp=Z,1.6nm,1.0s,baz=0.9,slow=6.8,SNR=5.1						
	comp=Z,1.6nm,1.0s						
GSTR	Great Sitkin T	67.00	358	P	P	15 14 47.9	-0.3
QSPA	South Pole Qui	74.88	180	P	P	15 15 35.2	-0.9
QSPA				IAmb	IAmb	15 15 37.0	
	comp=Z,8.6nm,1.1s						
QSPA	South Pole Qui	74.88	180	P	P	15 15 35.6	-0.5
	comp=Z,6.5nm,1.0s,baz=50,slow=2.1,SNR=14						
	comp=Z,6.5nm,1.0s						
CLRS	Cowichan Lake	77.32	31	P	P	15 15 49.1	-0.8
TXAR	Lajitas Array	80.66	56	P	P	15 16 08.7	-0.2
	comp=Z,0.9nm,0.9s,baz=218,slow=5.9,SNR=8.5						

comp=Z,6.4nm,1.1s
PDAR Pinedale Array 82.23 42 P **P 15 16 16.8 -0.3**
comp=Z,0.9nm,0.8s,baz=219,slow=1.9,SNR=8.6
comp=Z,0.9nm,0.8s
ILAR Eielson Array 82.25 11 P **P 15 16 15.7 -0.6**
comp=Z,0.4nm,0.5s,baz=209,slow=5.4,SNR=9.6
comp=Z,0.4nm,0.5s
F19K Shaleruckik Mo 82.60 6 P **P 15 16 18.8 +0.7**
F19K IAmb IAmb 15 16 31.0
comp=Z,6.6nm,1.4s
J26L Joseph Creek 82.68 13 P **P 15 16 19.0 +0.3**
J26L IAmb IAmb 15 16 20.9
comp=Z,5.1nm,1.1s
G31M Satah River 86.82 14 P **P 15 16 39.4 0.0**
G31M IAmb IAmb 15 17 12.8
comp=Z,7.3nm,1.4s
YKA Yellowknife Ar 89.97 23 P **P 15 16 54.1 -0.3**
comp=Z,0.7nm,1.0s,baz=233,slow=4.6,SNR=9.5
comp=Z,0.7nm,1.0s
BVAR Borovoye Array 117.56 322 PKP **PKiKP 15 22 41.6 +0.4**
comp=Z,0.8nm,0.7s,baz=107,slow=2.0,SNR=5.6
BURAR Bucovina Array 144.06 338 ⇑P **PKPdf 15 23 30.2 -1.0**
MORC Moravsky Berou 144.29 348 *e*PKP PKPbc 15 23 30.2 +0.4
TESR Tescani 144.44 336 ⇑P **PKPdf 15 23 31.4 -0.4**
CIDE Kastamonu/Cide 144.86 325 ⇑P **PKPdf 15 23 33.0 +0.4**
CFR Carcaliu 144.89 333 ⇑P **PKPdf 15 23 33.4 +0.8**
VRAC Vranov 144.93 348 *e*PKP **PKPdf 15 23 33.1 +0.5**
VRI Vrincioaia 144.94 335 ⇑P **PKPdf 15 23 33.5 +0.9**
PLOR Plostina 144.98 335 ⇑P **PKPdf 15 23 32.9 +0.1**
TPGR Topolog 145.01 332 ⇑P **PKPdf 15 23 33.6 +0.7**
OZUR 145.12 336 ⇑P **PKPdf 15 23 34.5 +1.5**
JAVC Velka Javorina 145.14 347 *e*PKP **PKPdf 15 23 34.8 +1.8**
COVR Voineasa-Covas 145.16 335 ⇑P **PKPdf 15 23 33.9 +0.8**
KRUC Moravsky 145.21 348 *e*PKP **PKPdf 15 23 33.7 +0.7**
TIRR Tirgusor 145.32 332 ⇑P **PKPdf 15 23 35.0 +1.7**
HARR Harsova 145.36 333 ⇑P **PKPab 15 23 35.0 +1.6**
DOPR Dopca 145.38 336 ⇑P **PKPab 15 23 35.1 +1.6**
MLR Muntele Rosu 145.56 335 ⇑P **PKPab 15 23 34.6 +0.3**
MARR Marisel-Cluj 145.60 339 ⇓P **PKPab 15 23 35.4 +1.0**
KHC Kasperske Hory 145.61 352 *e*PKP **PKPab 15 23 35.5 +1.2**
BRTR Keskin Array B 145.83 321 PKPbc **PKPbc 15 23 34.9 -0.2**
comp=Z,4.6nm,1.0s,baz=107,slow=1.3,SNR=13
GERES GERESS Array B 145.87 351 PKPbc **PKPab 15 23 35.9 +0.6**
comp=Z,1.6nm,0.9s,baz=42,slow=4.2,SNR=12
VOIR 145.96 336 ⇑P **PKiKP 15 23 37.2 -1.5**
ARR Arges 146.18 337 ⇑P **PKiKP 15 23 38.4 -0.7**
SIRR Siria 146.44 341 ⇑P **PKPab 15 23 37.1 -0.4**
SURR Surduc 146.75 340 ⇑P **PKPbc 15 23 37.9 +0.5**
BZS Buzias 147.04 340 ⇑P **PKPab 15 23 39.4 -0.3**
MORH Mrgy, Hungar 147.37 344 ⇓P **PKPbc 15 23 39.7 +0.6**
HERR Herculane 147.41 339 ⇑P **PKPbc 15 23 40.1 +0.7**

---

*IDC **29** 15:29:40.6±2.3, 38°.68N×30°.32W, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=57.7km s-min=21.8km az=33.0*
*INMG **29** 15:29:43.0±0.9, 38°.68N×30°.18W, h15km, ML2.5, Error ellipse: s-maj=23.7km s-min=6.8km az=8.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Crista Mdia Atlntico N*
*SVSA **29** 15:29:43.0±0.9, 38°.68N×30°.18W, h15km, ML2.5(INMG), Error ellipse: s-maj=23.7km s-min=6.8km az=8.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Crista Mdia Atlntico N*
ISC 29 15:29:42.8±2.8, 38°.8N±0°.2×29°.8W±0°.1, h0km±15km, n22, σ0°40/32, mb3.7/3, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.84**	**104**	*e*P		**Pb**	**15 30 00.3**	**0.0**
PCED	**Cedros**	**0.84**	**104**	*e*P		**Pb**	**15 30 00.3**	**0.0**
CALA	**Caldeira**	**0.86**	**107**	*e*P		**Pb**	**15 30 00.2**	**-0.4**
CALA				*e*S		**Sb**	**15 30 13.4**	**+0.8**
CALA				*i* AML		AML	15 30 14.3	
CALA				*i* AML		AML	15 30 14.4	
CALA				*i* AML		AML	15 30 14.6	
CALA	**Caldeira**	**0.86**	**107**	*e*P		**Pb**	**15 30 00.2**	**-0.4**
CALA				*e*S		**Sb**	**15 30 13.4**	**+0.8**
CALA				*i* AML		AML	15 30 14.3	
CALA				*i* AML		AML	15 30 14.4	
CALA				*i* AML		AML	15 30 14.6	
PFCBR	**Castelo Branco**	**0.87**	**111**	*e*P		**Pg**	**15 29 59.8**	**+0.4**
PFCBR				*e*S		**Sb**	**15 30 13.1**	**+0.3**
PFCBR				*i* AML		AML	15 30 14.2	
PFCBR				*i* AML		AML	15 30 14.5	
PFCBR				*i* AML		AML	15 30 14.7	
PFCBR	**Castelo Branco**	**0.87**	**111**	*e*P		**Pg**	**15 29 59.8**	**+0.4**
PFCBR				*e*S		**Sb**	**15 30 13.1**	**+0.3**
PFCBR				*i* AML		AML	15 30 14.2	
PFCBR				*i* AML		AML	15 30 14.5	
PFCBR				*i* AML		AML	15 30 14.7	
HOR	**Horta**	**0.93**	**110**	*e*S		**Sb**	**15 30 14.8**	**+0.2**
HOR				*i* AML		AML	15 30 15.5	
HOR				*i* AML		AML	15 30 16.1	
HOR				*i* AML		AML	15 30 16.6	
HOR	**Horta**	**0.93**	**110**	*e*S		**Sb**	**15 30 14.8**	**+0.2**
HOR				*i* AML		AML	15 30 15.5	
HOR				*i* AML		AML	15 30 16.1	
HOR				*i* AML		AML	15 30 16.6	
PCAN	**Candelaria**	**1.06**	**111**	*e*P		**Pg**	**15 30 03.4**	**+0.3**
PCAN				*e*S		**Sb**	**15 30 17.9**	**-0.4**
PCAN				*i* AML		AML	15 30 19.0	
PCAN				*i* AML		AML	15 30 19.2	
PCAN				*i* AML		AML	15 30 19.2	
PCAN	**Candelaria**	**1.06**	**111**	*e*P		**Pg**	**15 30 03.4**	**+0.3**
PCAN				*e*S		**Sb**	**15 30 17.9**	**-0.4**
PCAN				*i* AML		AML	15 30 19.0	
PCAN				*i* AML		AML	15 30 19.2	
PCAN				*i* AML		AML	15 30 19.2	
PICO	**Pico**	**1.09**	**108**	*e*P		**Pg**	**15 30 03.9**	**+0.2**
PICO				*e*S		**Sb**	**15 30 19.4**	**+0.1**
PICO				*i* AML		AML	15 30 20.7	
PICO				*i* AML		AML	15 30 20.7	
PICO				*i* AML		AML	15 30 21.2	
PICO	**Pico**	**1.09**	**108**	*e*P		**Pg**	**15 30 03.9**	**+0.2**
PICO				*e*S		**Sb**	**15 30 19.4**	**+0.1**
PICO				*i* AML		AML	15 30 20.7	
PICO				*i* AML		AML	15 30 20.7	
PICO				*i* AML		AML	15 30 21.2	
ROSA	**Rosais**	**1.18**	**96**	*e*P		**Pg**	**15 30 05.4**	**0.0**
ROSA				*e*S		**Sb**	**15 30 22.1**	**+0.2**
ROSA				*i* AML		AML	15 30 22.9	
ROSA				*i* AML		AML	15 30 23.3	
ROSA				*i* AML		AML	15 30 23.6	
ROSA	**Rosais**	**1.18**	**96**	*e*P		**Pg**	**15 30 05.4**	**0.0**
ROSA				*e*S		**Sb**	**15 30 22.1**	**+0.2**
ROSA				*i* AML		AML	15 30 22.9	
ROSA				*i* AML		AML	15 30 23.3	
ROSA				*i* AML		AML	15 30 23.6	
PPNO	**Prainha do Nor**	**1.22**	**107**	*e*P		**Pg**	**15 30 05.6**	**-0.5**
PPNO				*e*S		**Sb**	**15 30 22.4**	**-0.6**
PPNO				*i* AML		AML	15 30 23.7	
PPNO				*i* AML		AML	15 30 27.3	
PPNO				*i* AML		AML	15 30 29.5	
PPNO	**Prainha do Nor**	**1.22**	**107**	*e*P		**Pg**	**15 30 05.6**	**-0.5**
PPNO				*e*S		**Sb**	**15 30 22.4**	**-0.6**
PPNO				*i* AML		AML	15 30 23.7	
PPNO				*i* AML		AML	15 30 27.3	
PPNO				*i* AML		AML	15 30 29.5	
H07S1	**FLORES T-PHASE**	**1.26**	**296**	Pn		Pn	15 30 01.9	-5.7
ESDC	**Sonseca Array**	**19.96**	**79**	P		Pn	15 34 20.9	+2.8
	0.7nm,0.9s,baz=286,slow=11,SNR=2.4							
	0.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**37.80**	**124**	P		**P**	**15 37 00.8**	**-0.1**
	76nm,0.3s,baz=321,slow=8.4,SNR=1.1							
ARCES	**ARCESS Array B**	**42.16**	**26**	P		**P**	**15 37 36.5**	**-0.1**
	0.7nm,0.7s,baz=260,slow=7.3,SNR=5.4							
	0.7nm,0.7s							
KURBB	**Kurchatov Arra**	**71.00**	**40**	P		**P**	**15 41 02.6**	**+0.5**
	0.7nm,0.9s,baz=311,slow=6.2,SNR=4.8							
	0.7nm,0.9s							
MKAR	**Makanchi Array**	**75.37**	**41**	P		**P**	**15 41 27.8**	**-0.2**
	0.7nm,0.9s,baz=318,slow=5.8,SNR=5.2							
	0.7nm,0.9s							

---

*IDC **29** 15:32:47.4±0.8, 5°.55S×146°.61E, h65km±6km, mb3.6/9, mbtmp4.0/11, Error ellipse: s-maj=33.7km s-min=14.5km az=86.0*
*NEIC **29** 15:32:48.4±0.9, 5°.61S±0°.06×146°.5E±0°.1, h71km±7km, mb4.4/20, Error ellipse: s-maj=17.3km s-min=9.3km az=92.0*
ISC 29 15:32:47.7±0.5, 5°.58S±0°.06×146°.49E±0°.09, h65km, n56, σ0°64/62, mb4.2/15, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.62**	**14**			**Pn**	**15 33 42.0**	**+0.6**
PMG	**Port Moresby**	**3.86**	**170**			**Pn**	**15 33 44.2**	**-0.4**
PMG	**Port Moresby**	**3.86**	**170**	P		**Pn**	**15 33 44.4**	**-0.2**
	65nm,0.3s,baz=13,slow=5.9,SNR=62							
PMG				S		**Sn**	**15 34 28.0**	**-0.7**
	178nm,0.9s,baz=292,slow=6.4,SNR=3.7							
RABL	**Rabaul**	**5.82**	**77**			**Pn**	**15 34 11.3**	**-0.2**
COEN	**Coen**	**8.94**	**201**			**Pn**	**15 34 54.2**	**+0.1**
COEN	**Coen**	**8.94**	**201**	P		**Pn**	**15 34 54.1**	**-0.1**
MTSU	**Mount Surprise**	**12.65**	**189**	P		**Pn**	**15 35 45.0**	**+0.1**
TV1H	**Townsville Har**	**13.60**	**179**	P		**Pn**	**15 35 58.9**	**+1.2**
KDU	**Kakadu**	**15.53**	**242**	P		**Pn**	**15 36 22.8**	**0.0**
QIS	**Mount Isa**	**16.32**	**204**	P		**Pn**	**15 36 33.6**	**+0.8**
MTN	**Manton Dam**	**16.78**	**243**			**Pn**	**15 36 38.7**	**+0.1**
MTN				IAmb		IAmb	15 37 14.2	
	comp=Z,30nm,1.2s							
MTN	**Manton Dam**	**16.78**	**243**	P		**Pn**	**15 36 38.7**	**+0.1**
WB0	**Warramunga Arr**	**18.37**	**219**	P		**P**	**15 36 56.9**	**-0.4**
WR8	**Warramunga Arr**	**18.44**	**218**	P		**P**	**15 36 57.9**	**-0.3**
WRA	**Warramunga Arr**	**18.53**	**219**	P		**P**	**15 36 58.6**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=36,slow=11,SNR=4.6							
KNRA	**Kununurra**	**20.08**	**239**	P		**P**	**15 37 15.6**	**-0.5**
KNRA				IAmb		IAmb	15 37 51.5	
	comp=Z,19nm,1.3s							
EIDS	**Eidsvold**	**20.16**	**168**	Pn		**P**	**15 37 17.9**	**+1.0**
EIDS				IAmb		IAmb	15 37 32.0	
	comp=Z,14nm,1.1s							
QLP	**Quilpie**	**20.99**	**186**	P		**P**	**15 37 26.5**	**+0.7**
AS01	**Alice Springs**	**21.66**	**213**	P		**P**	**15 37 33.4**	**+0.4**
AS31	**Alice Springs**	**21.68**	**213**	P		**P**	**15 37 33.3**	**0.0**
ASAR	**Alice Springs**	**21.68**	**213**	P		**P**	**15 37 33.4**	**+0.1**
ASAR	**Alice Springs**	**21.68**	**213**	P		**P**	**15 37 33.5**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=45,slow=8.4,SNR=43							
	comp=Z,1.9nm,0.6s							
INKA	**Innaminka**	**22.70**	**193**	P		**P**	**15 37 44.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**23.86**	**237**	P		**P**	**15 37 54.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**23.86**	**237**	P		**P**	**15 37 55.6**	**+0.3**
OOD	**Oodnadatta**	**24.36**	**204**	P		**P**	**15 37 59.7**	**0.0**
CMSA	**Cobar Meteorol**	**25.83**	**182**	P		**P**	**15 38 13.5**	**+0.5**
LCRK	**Leigh Creek**	**25.93**	**197**	P		**P**	**15 38 13.7**	**-0.3**
WRKA	**Warakurna**	**26.05**	**220**	P		**P**	**15 38 14.7**	**-0.5**
STKA	**Stephens Creek**	**26.56**	**189**	P		**P**	**15 38 19.1**	**-0.5**
STKA				IAmb		IAmb	15 38 27.8	
	comp=Z,22nm,1.1s							
STKA	**Stephens Creek**	**26.56**	**189**	P		**P**	**15 38 19.8**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=351,slow=10,SNR=12							
	comp=Z,1.0nm,0.3s							
STKA	**Stephens Creek**	**26.56**	**189**	P		**P**	**15 38 20.5**	**+0.9**
HTT	**Hallett**	**28.59**	**193**	P		**P**	**15 38 38.5**	**+0.7**
BBOO	**Buckleboo**	**28.78**	**198**	P		**P**	**15 38 38.8**	**-0.7**
BBOO				IAmb		IAmb	15 38 58.3	
	comp=Z,17nm,1.3s							
MEEK	**Meekatharra**	**33.84**	**229**	P		**P**	**15 39 24.1**	**0.0**
KMBL	**Kambalda**	**34.50**	**219**	P		**P**	**15 39 29.6**	**-0.1**
MORW	**Morawa**	**37.07**	**227**	P		**P**	**15 39 52.2**	**+0.5**
MORW	**Morawa**	**37.07**	**227**	P		**P**	**15 39 52.1**	**+0.3**
KLBR	**Kellerberrin**	**37.33**	**223**	P		**P**	**15 39 53.6**	**-0.3**
BLDU	**Ballidu**	**37.47**	**225**	P		**P**	**15 39 55.3**	**+0.2**
XMIS	**Christmas Isla**	**40.70**	**260**	P		**P**	**15 40 21.7**	**-0.6**
KSRS	**Korea Array**	**46.18**	**339**	P		**P**	**15 41 05.6**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=154,slow=9.0,SNR=3.1							
KSRS				pP		**pwP**	**15 41 23.6**	**-0.6**
	comp=Z,1.6nm,1.1s,baz=133,slow=8.4,SNR=3.1							
	comp=Z,0.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**52.60**	**298**	P		**P**	**15 41 57.0**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=106,slow=6.6,SNR=1.9							
	comp=Z,1.0nm,0.3s							
VNDA	**Vanda**	**72.36**	**177**	P		**P**	**15 44 07.0**	**+0.8**
VNDA	**Vanda**	**72.36**	**177**	P		**P**	**15 44 07.3**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=317,slow=6.0,SNR=8.7							
	comp=Z,1.5nm,0.8s							
MKAR	**Makanchi Array**	**76.85**	**321**	P		**P**	**15 44 31.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=106,slow=4.7,SNR=2.8							
MKAR				pP		**pP**	**15 44 51.1**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=120,slow=7.5,SNR=3.2							
	comp=Z,0.1nm,0.3s							
TIXI	**Tiksi**	**77.95**	**354**	P		**P**	**15 44 36.9**	**-1.4**
TIXI				IAmb		IAmb	15 45 13.4	
	comp=Z,3.9nm,1.4s							
O16K	**Kokwok River B**	**78.22**	**25**	P		**P**	**15 44 40.6**	**+0.5**
ZALV	**Zalesovo Beam**	**78.39**	**328**	P		**P**	**15 44 40.9**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=93,slow=7.4,SNR=1.6							
ZALV				pP		**pP**	**15 44 58.5**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=112,slow=1.6,SNR=2.4							
	comp=Z,0.4nm,0.4s							
G18K	**Tagagawik**	**81.54**	**20**	P		**P**	**15 44 58.0**	**+0.2**
G18K				IAmb		IAmb	15 45 22.5	
	comp=Z,8.7nm,1.5s							
E19K	**Redstone River**	**82.88**	**19**	P		**P**	**15 45 06.1**	**+1.2**
E19K				IAmb		IAmb	15 45 27.7	
	comp=Z,6.5nm,1.2s							
QSPA	**South Pole Qui**	**84.38**	**180**	P		**P**	**15 45 12.8**	**-0.1**
QSPA	**South Pole Qui**	**84.38**	**180**	P		**P**	**15 45 12.2**	**-0.6**
	comp=Z,2.6nm,1.0s,baz=317,slow=1.5,SNR=6.7							
QSPA				pP		**pP**	**15 45 30.5**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=252,slow=1.2,SNR=2.9							
	comp=Z,2.6nm,1.0s							
I23K	**Minto, Yukon-K**	**84.50**	**22**	P		**P**	**15 45 13.3**	**+0.1**
I23K				IAmb		IAmb	15 45 36.4	
	comp=Z,3.3nm,1.4s							
ILAR	**Eielson Array**	**85.30**	**23**	P		**P**	**15 45 16.3**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=264,slow=5.2,SNR=8.7							
ILAR				pP		**pP**	**15 45 34.2**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=247,slow=5.5,SNR=5.0							
	comp=Z,0.8nm,0.7s							
C24K	**Franklin Bluff**	**86.72**	**18**	P		**P**	**15 45 25.1**	**+1.0**
C24K				IAmb		IAmb	15 45 44.5	
	comp=Z,7.2nm,1.3s							

---

*IDC **29** 15:40:15.6±27.0, 16°.83S×174°.54W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=517.1km s-min=50.0km az=63.0*
*NEIC **29** 15:40:45.4±0.8, 17°.6S±0°.1×174°.9W±0°.1, h230km±13km, mb4.4/15, Error ellipse: s-maj=17.6km s-min=16.4km az=183.0*
ISC 29 15:40:42.7±0.7, 17°.6S±0°.1×175°.08W±0°.10, h200km, n23, σ0°91/24, mb4.3/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.88**	**41**	Pn		**Pn**	**15 41 57.9**	**+2.1**
AFI				Sn		**Sn**	**15 42 51.7**	**-1.6**
NIUE	**Niue**	**5.10**	**107**	Pn		**Pn**	**15 42 00.1**	**+1.7**
ONTNC	**Ouen Toro**	**17.96**	**252**	P		**Pn**	**15 44 39.9**	**-0.5**
ONTNC				IAmb		IAmb	15 45 20.1	
	comp=Z,20nm,0.8s							
URZ	**Urewera**	**21.65**	**197**	P		**P**	**15 45 17.5**	**+0.1**
	comp=Z,11nm,0.7s,baz=345,slow=4.1,SNR=9.6							
	comp=Z,11nm,0.7s							
BKZ	**Black Stump Fm**	**22.67**	**197**	P		**P**	**15 45 26.6**	**-0.5**
BKZ				IAmb		IAmb	15 46 02.5	
	comp=Z,27nm,1.3s							
PPTF	**Pamatai, Papee**	**24.31**	**94**	P		**P**	**15 45 40.3**	**-2.0**
QRZ	**Quartz Range**	**25.45**	**202**	P		**P**	**15 45 52.6**	**+0.3**
THZ	**Tophouse**	**26.15**	**201**	P		**P**	**15 45 59.0**	**+0.4**
ARMA	**Armidale**	**32.83**	**241**	P		**P**	**15 46 58.4**	**+0.7**
ARMA				IAmb		IAmb	15 47 35.3	
	comp=Z,21nm,1.4s							
STKA	**Stephens Creek**	**41.54**	**242**	P		**P**	**15 48 11.3**	**+0.5**
STKA				IAmb		IAmb	15 48 19.7	
	comp=Z,40nm,1.4s							
STKA	**Stephens Creek**	**41.54**	**242**	P		**P**	**15 48 11.5**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=91,slow=15,SNR=4.4							
	comp=Z,1.3nm,0.7s							
BBOO	**Buckleboo**	**46.31**	**241**	P		**P**	**15 48 48.8**	**0.0**
BBOO				IAmb		IAmb	15 49 20.8	
	comp=Z,23nm,1.4s							
WR8	**Warramunga Arr**	**47.65**	**259**	P		**P**	**15 48 58.8**	**-0.4**
WB0	**Warramunga Arr**	**47.77**	**259**	P		**P**	**15 48 59.8**	**-0.4**
WB0				IAmb		IAmb	15 49 31.8	
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**47.80**	**259**	P		**P**	**15 49 00.0**	**-0.4**
WRA	**Warramunga Arr**	**47.80**	**259**	P		**P**	**15 49 00.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=92,slow=7.2,SNR=28							
	comp=Z,0.4nm,0.3s							
AS31	**Alice Springs**	**47.91**	**254**	P		**P**	**15 49 01.2**	**0.0**
ASAR	**Alice Springs**	**47.91**	**254**	P		**P**	**15 49 00.9**	**-0.3**
ASAR	**Alice Springs**	**47.91**	**254**	P		**P**	**15 49 01.4**	**+0.1**
	comp=Z,8.3nm,0.6s,baz=92,slow=7.5,SNR=236							
	comp=Z,8.3nm,0.6s							
KNRA	**Kununurra**	**53.67**	**263**	P		**P**	**15 49 44.0**	**-0.3**
KNRA				IAmb		IAmb	15 50 17.9	
	comp=Z,16nm,1.4s							
FITZ	**Fitzroy Crossi**	**56.20**	**260**	P		**P**	**15 50 02.4**	**0.0**
SBA	**Scott Base**	**60.90**	**184**	P		**P**	**15 50 33.1**	**-0.7**
SBA				IAmb		IAmb	15 51 09.7	
	comp=Z,3.9nm,1.4s							
QSPA	**South Pole Qui**	**72.42**	**180**	P		**P**	**15 51 47.1**	**+0.1**
QSPA				IAmb		IAmb	15 51 57.0	
	comp=Z,2.6nm,1.2s							

---

*GEN **29** 15:48:32.9, 44°.35N×7°.38E, h5km±1km, Ml2.1*
*ROM **29** 15:48:32.4±0.1, 44°.341N±0°.005×7°.358E±0°.007, h11km, ML2.2/38, Error ellipse: s-maj=0.7km s-min=0.3km az=228.0*
*LDG **29** 15:48:33.3±0.1, 44°.38N×7°.41E, h2km, Md2.4/1, Ml2.6/22, Error ellipse: s-maj=1.5km s-min=1.1km az=60.0*
*STR **29** 15:48:33.3±0.2, 44°N±1°×°±°, h2km, MLv2.4/15, Error ellipse: s-maj=0.0km s-min=0.0km az=49.7, preliminary*
ISC 29 15:48:32.5±0.8, 44°.36N±0°.01×7°.39E±0°.01, h9km±5km, n121, σ1°11/201, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STV	**Sant Anna di V**	**0.12**	**201**	Pg		**Pg**	**15 48 35.7**	**+0.4**
STV	**Sant Anna di V**	**0.12**	**201**	Sg		**Sg**	**15 48 37.3**	**-0.2**
STV	**Sant Anna di V**	**0.12**	**201**	P		**Pg**	**15 48 35.8**	**+0.4**
STV				S		**Sg**	**15 48 37.1**	**-0.4**
STV	**Sant Anna di V**	**0.12**	**201**	⇑P		**Pg**	**15 48 35.8**	**+0.4**
STV				S		**Sg**	**15 48 37.3**	**-0.2**
STV				AML		AML		
	comp=N,780μm,0.6s							
STV				AML		AML		
	comp=E,884μm,0.3s							
ENR	**Entracque**	**0.14**	**170**	Pg		**Pg**	**15 48 35.9**	**+0.3**
ENR	**Entracque**	**0.14**	**170**	Sg		**Sg**	**15 48 37.8**	**0.0**
ENR	**Entracque**	**0.14**	**170**	P		**Pg**	**15 48 36.0**	**+0.3**
ENR				S		**Sg**	**15 48 37.6**	**-0.2**
ENR	**Entracque**	**0.14**	**170**	P		**Pg**	**15 48 35.9**	**+0.3**
ENR				S		**Sg**	**15 48 37.7**	**0.0**
ENR				AML		AML		
	comp=E,5010μm,0.1s							
ENR				AML		AML		
	comp=N,3420μm,0.3s							
ENR				AML		AML		
	comp=N,3420μm,1.7s							
PZZ	**Stroppo**	**0.24**	**307**	Sg		**Sg**	**15 48 41.9**	**+1.0**
PZZ	**Stroppo**	**0.24**	**307**	Pg		**Pg**	**15 48 38.2**	**+0.7**
PZZ	**Stroppo**	**0.24**	**307**	P		**Pg**	**15 48 38.1**	**+0.7**
PZZ				S		**Sg**	**15 48 41.9**	**+1.0**
PZZ	**Stroppo**	**0.24**	**307**	P		**Pg**	**15 48 38.2**	**+0.7**
PZZ				S		**Sg**	**15 48 41.9**	**+1.0**
PZZ				AML		AML		
	comp=N,1900μm,0.9s							
PZZ				AML		AML		
	comp=E,2000μm,0.1s							
PZZ				AML		AML		
	comp=E,2000μm,1.9s							
PIAF	**les Granges de**	**0.30**	**146**	Pg		**Pb**	**15 48 39.2**	**-0.8**
PIAF				Sg		**Sg**	**15 48 43.2**	**+0.8**
ISO	**Isola**	**0.30**	**234**	Pg		**Pb**	**15 48 39.3**	**-0.7**
ISO				Sg		**Sb**	**15 48 44.1**	**-1.0**
ISO	**Isola**	**0.30**	**234**	P		**Pb**	**15 48 39.8**	**-0.2**
ISO				S		**Sb**	**15 48 43.3**	**-1.8**
SPIF	**crte de Spivo**	**0.32**	**200**	Pg		**Pb**	**15 48 39.8**	**-0.7**
SPIF				Sg		**Sb**	**15 48 44.2**	**-1.6**
GBOS	**Grotte di Boss**	**0.35**	**110**	Sg		**Sg**	**15 48 44.9**	**+1.0**
GBOS	**Grotte di Boss**	**0.35**	**110**	Pg		**Pg**	**15 48 40.3**	**+0.9**
GBOS	**Grotte di Boss**	**0.35**	**110**	P		**Pg**	**15 48 40.2**	**+0.9**
GBOS				S		**Sg**	**15 48 45.0**	**+1.0**
GBOS	**Grotte di Boss**	**0.35**	**110**	P		**Pg**	**15 48 40.1**	**+0.8**
GBOS				S		**Sg**	**15 48 45.0**	**+1.0**
GBOS				AML		AML		
	comp=E,581μm,0.9s							
GBOS				AML		AML		
	comp=N,474μm,0.5s							
GBOS				AML		AML		
	comp=N,474μm,1.5s							
GBOS				AML		AML		
	comp=E,581μm,1.1s							
TURF	**col de Turini**	**0.39**	**179**	Pg		**Pb**	**15 48 40.9**	**-0.6**
TURF				Sg		**Sb**	**15 48 46.0**	**-1.6**
TURF	**col de Turini**	**0.39**	**179**	P		**Pb**	**15 48 41.5**	**-0.1**
TURF				S		**Sb**	**15 48 46.3**	**-1.3**
SAOF	**Saorge**	**0.40**	**162**	Pg		**Pb**	**15 48 41.0**	**-0.6**
SAOF				Sg		**Sg**	**15 48 46.1**	**+0.7**
SAOF	**Saorge**	**0.40**	**162**	P		**Pb**	**15 48 41.4**	**-0.2**
SAOF				S		**Sb**	**15 48 46.7**	**-1.0**
SAOF	**Saorge**	**0.40**	**162**	P		**Pb**	**15 48 40.9**	**-0.7**
SAOF				S		**Sg**	**15 48 46.0**	**+0.6**
SAOF				AML		AML		
	com

CANO			S	Sg	15 48 54.0	+1.0
CANO	**Canova, Maglio**	**0.63 104**	P	Pg	15 48 45.3	+0.7
CANO			S	Sg	15 48 53.8	+0.9
CANO			AML	AML		
	comp=N,454μm,1.4s					
CANO			AML	AML		
	comp=E,634μm,0.9s					
CANO			AML	AML		
	comp=N,454μm,0.6s					
MON	**Monaco**	**0.63 177**	Pg	Pb	15 48 45.3	-0.3
MON			Sg	Sb	15 48 54.1	-0.4
MON	**Monaco**	**0.63 177**	P	Pn	15 48 46.2	-1.3
MON			S	Sb	15 48 54.3	-0.2
QLNO	**Quiliano**	**0.69 93**	P	Pb	15 48 46.5	-0.1
QLNO			S	Sg	15 48 55.9	+1.2
QLNO	**Quiliano**	**0.69 93**	P	Pg	15 48 46.4	+0.6
QLNO			S	Sg	15 48 55.8	+1.0
QLNO			AML	AML		
	comp=N,198μm,1.2s					
QLNO			AML	AML		
	comp=N,198μm,0.8s					
QLNO			AML	AML		
	comp=E,220μm,0.1s					
CALF	**Calern**	**0.69 209**	Pg	Pb	15 48 46.8	0.0
CALF			Sg	Sb	15 48 56.1	-0.4
SALSA	**La sagne**	**0.70 227**	Pg	Pn	15 48 47.4	-1.2
SALSA			Sg	Sb	15 48 56.9	+0.4
RRL	**Rocca Remolon**	**0.70 323**	Sg	Sb	15 48 56.5	-0.3
RRL	**Rocca Remolon**	**0.70 323**	Pg	Pb	15 48 46.6	-0.4
RRL	**Rocca Remolon**	**0.70 323**	P	Pb	15 48 46.6	-0.4
RRL			S	Sb	15 48 56.5	-0.3
RRL	**Rocca Remolon**	**0.70 323**	P	Pb	15 48 46.5	-0.4
RRL			S	Sg	15 48 55.9	+0.6
RRL			AML	AML		
	comp=E,287μm,0.4s					
RRL			AML	AML		
	comp=N,184μm,1.1s					
RSP	**Reno Superiore**	**0.79 354**	Sg	Sg	15 48 59.0	+0.9
RSP	**Reno Superiore**	**0.79 354**	Pg	Pg	15 48 47.6	-0.1
RSP	**Reno Superiore**	**0.79 354**	P	Pg	15 48 47.5	-0.2
RSP			S	Sg	15 48 57.4	-0.7
RSP	**Reno Superiore**	**0.79 354**	P	Pg	15 48 47.5	-0.2
RSP			AML	AML		
	comp=E,124μm,0.5s					
RSP			AML	AML		
	comp=N,116μm,0.6s					
MONC	**Moncucco Torin**	**0.81 28**	P	Pn	15 48 50.2	+0.2
MONC			S	Sg	15 48 57.4	-1.2
MONC	**Moncucco Torin**	**0.81 28**	P	Pg	15 48 48.5	+0.5
MONC			AML	AML		
	comp=N,291μm,0.4s					
MONC			AML	AML		
	comp=E,330μm,0.4s					
ROTM	**Rocchetta Tana**	**0.84 54**	Pg	Pg	15 48 49.3	+0.5
ROTM	**Rocchetta Tana**	**0.84 54**	P	Pn	15 48 50.8	+0.3
ROTM			S	Sn	15 49 03.0	+0.1
ROTM	**Rocchetta Tana**	**0.84 54**	P	Pg	15 48 49.0	+0.2
ROTM			AML	AML		
	comp=N,1385μm,0.5s					
ROTM			AML	AML		
	comp=E,764μm,0.6s					
PCP	**Piancastagn**	**0.85 77**	Pg	Pb	15 48 49.6	+0.2
PCP	**Piancastagn**	**0.85 77**	P	Pb	15 48 49.8	+0.5
PCP			S	Sb	15 49 01.5	+0.6
PCP	**Piancastagn**	**0.85 77**	P	Pg	15 48 48.8	0.0
PCP			S	Sb	15 49 01.2	+0.4
PCP			AML	AML		
	comp=E,200μm,0.2s					
PCP			AML	AML		
	comp=N,168μm,0.3s					
BNI	**Bardonecchia**	**0.85 324**	P	Pg	15 48 48.7	-0.2
BNI			S	Sg	15 49 00.2	+0.1
BNI			AML	AML		
	comp=E,116μm,0.3s					
BNI			AML	AML		
	comp=N,59μm,0.4s					
TRIGF	**Trigance**	**0.94 229**	Pg	Pn	15 48 51.4	-0.5
TRIGF			Sg	Sn	15 49 03.8	-1.5
OGMO	**Fort Saint-Gob**	**0.98 330**	Pg	Pb	15 48 51.9	+0.2
OGMO			Sg	Sb	15 49 05.1	+0.3
BLAF	**les Blancs**	**1.05 247**	Pg	Pn	15 48 53.3	0.0
BLAF			Sg	Sn	15 49 07.8	-0.3
RNCA	**Ronca, Sant'Ol**	**1.13 84**	Pg	Pg	15 48 54.7	+0.6
RNCA	**Ronca, Sant'Ol**	**1.13 84**	Sg	Sn	15 49 10.1	+0.2
RNCA	**Ronca, Sant'Ol**	**1.13 84**	P	Pb	15 48 53.7	-0.4
RNCA			AML	AML		
	comp=E,41μm,0.9s					
RNCA			AML	AML		
	comp=N,38μm,0.4s					
TRAV	**Traversella**	**1.18 12**	P	Pb	15 48 54.1	-1.0
TRAV			AML	AML		
	comp=E,53μm,0.8s					
TRAV			AML	AML		
	comp=N,37μm,0.9s					
TRAV			AML	AML		
	comp=N,37μm,1.1s					
LMR	**La Mourre**	**1.21 212**	*e*Pg	Pg	15 48 56.0	+0.4
LMR			*e*Sg	Sn	15 49 12.3	+0.4
	comp=N,58nm,0.2s					
ORIF	**Oris-en-Rattie**	**1.21 298**	*e*Pg	Pg	15 48 56.4	+0.7
ORIF			*e*Sg	Sg	15 49 11.4	-0.1
	comp=N,42nm,0.3s					
ORIF	**Oris-en-Rattie**	**1.21 298**	Pg	Pg	15 48 56.3	+0.7
ORIF	**Oris-en-Rattie**	**1.21 298**	Sg	Sn	15 49 12.6	+0.4
LPG	**La Plagne**	**1.22 339**	*e*Pg	Pg	15 48 56.1	+0.1
LPG			*e*Sg	Sb	15 49 11.2	-0.7
	comp=N,21nm,0.2s					
MLYF	**Mely**	**1.22 253**	Pg	Pg	15 48 56.9	+1.0
LPL	**La Plagne**	**1.25 338**	*e*Pg	Pn	15 48 56.2	0.0
LPL			*e*Sg	Sb	15 49 10.9	-1.5
	comp=N,21nm,0.3s					
FLAF	**Flassans-sur-I**	**1.28 220**	Pg	Pg	15 48 57.5	+0.6
FLAF	**Flassans-sur-I**	**1.28 220**	Sg	Sn	15 49 15.3	+1.7
BSTF	**la Bastide-des**	**1.34 250**	Pn	Pg	15 48 59.8	+1.6
BSTF			Sn	Sg	15 49 18.9	+3.2
SMRF	**Simiane la Rot**	**1.36 254**	*e*Pg	Pg	15 48 59.3	+0.8
SMRF			*e*Sg	Sg	15 49 17.9	+1.7
	comp=N,22nm,0.3s					
ARTF	**Artigues**	**1.38 236**	Pn	Pg	15 48 59.7	+0.8
ARTF			Sn	Sg	15 49 18.9	+2.1
GORR	**Gorreto**	**1.39 79**	Pn	Pg	15 48 59.9	+0.9
GORR	**Gorreto**	**1.39 79**	Sn	Sg	15 49 18.9	+1.8
MRGE	**Morge**	**1.43 351**	P	Pn	15 48 58.3	-0.3
MRGE			AML	AML		
	comp=E,31μm,0.9s					
MRGE			AML	AML		
	comp=N,38μm,0.6s					
RSL	**Roselend**	**1.43 338**	Pn	Pg	15 49 00.2	+0.3
RSL			Sn	Sg	15 49 20.2	+1.7
RUSF	**Rustrel**	**1.43 254**	Pn	Pg	15 49 00.7	+0.7
RUSF			Sn	Sg	15 49 20.1	+1.6
LEPF	**PUYLOUBIER**	**1.48 236**	Pn	Pg	15 49 00.8	0.0
LEPF			Sn	Sg	15 49 21.5	+1.6
SATI	**Passo dei Sala**	**1.55 13**	P	Pn	15 48 59.9	-0.7
OGSM	**Saint Maurice**	**1.73 317**	Pn	Pb	15 49 04.5	+0.2
OGSM			Sn	Sb	15 49 27.1	+0.8
MUGIO	**Muggio**	**1.95 36**	P	Pn	15 49 06.2	+0.4
VIVF	**Saint-Julien-I**	**2.00 285**	*e*P	Pb	15 49 08.3	-0.7
VIVF			*e*Sg	Sb	15 49 33.8	-0.2
	comp=N,1.1nm,0.1s					
PGF	**Pioggiola**	**2.16 147**	*e*Pn	Pn	15 49 08.0	-0.7
PGF			*e*Sn	Sn	15 49 33.8	-1.8
	comp=N,3.2nm,0.2s					
SSB	**Saint Sauveur**	**2.22 295**	Pn	Pb	15 49 11.6	-1.2
SSB			Sn	Sb	15 49 38.4	-2.0
CABF	**La Chapelle**	**2.43 338**	*e*P	Pn	15 49 14.3	+2.0
CABF	**La Chapelle**	**2.43 338**	*e*Pg	Pg	15 49 18.1	-0.9
CABF			*e*Sg	Sb	15 49 47.6	+1.2
	comp=N,2.5nm,0.3s					
LASF	**Ste Croix**	**2.55 265**	*e*P	Pn	15 49 15.6	+1.6
LASF			*e*Sn	Sn	15 49 44.6	-0.6
	comp=N,2.8nm,0.2s					
SMF	**Signal de Mont**	**3.38 314**	*e*P	Pn	15 49 28.0	+2.6
SMF			*e*Sn	Sn	15 50 03.4	-2.2
SMF			*e*Sg	Sg	15 50 19.3	-1.7
	comp=N,1.0nm,0.2s					
HINF	**Hinteralfeld**	**3.48 354**	*e*P	Pn	15 49 27.8	+1.1
HINF			*e*Sn	Sn	15 50 03.7	-4.2
	comp=N,1.1nm,0.3s					
HAU	**Haudompre**	**3.71 349**	*e*P	Pn	15 49 30.9	+0.9
HAU			*e*Sn	Sn	15 50 10.5	-3.3
	comp=N,1.5nm,0.2s					
AVF	**Avril sur Loir**	**3.73 312**	*e*P	Pn	15 49 32.6	+2.5
AVF			*e*Sn	Sn	15 50 11.6	-2.6
LOR	**Lormes**	**3.81 321**	*e*P	Pn	15 49 33.4	+2.1
LOR			*e*Sn	Sn	15 50 14.6	-1.6
	comp=N,0.7nm,0.2s					
SSF	**Saint Saulge**	**3.83 316**	*e*P	Pn	15 49 34.5	+3.0
SSF			*e*Sn	Sn	15 50 14.4	-2.2
	comp=N,0.6nm,0.2s					
CAF	**Calviac**	**3.84 280**	*e*P	Pn	15 49 33.6	+1.9
CAF			*e*Sn	Sn	15 50 14.7	-2.2
	comp=N,0.7nm,0.3s					
BGF	**Bois d'Agland**	**3.88 306**	*e*Pn	Pn	15 49 32.3	+0.1
BGF	**Bois d'Agland**	**3.88 306**	*e*P	Pn	15 49 34.7	+2.5
MTLF	**Montolieu**	**3.88 257**	*e*P	Pn	15 49 34.5	+2.3
MTLF			*e*Sn	Sn	15 50 15.9	-1.9
	comp=N,2.4nm,0.3s					
TCF	**Toulx Ste Croi**	**4.13 300**	*e*P	Pn	15 49 38.3	+2.7
TCF			*e*Sn	Sn	15 50 21.6	-2.4
	comp=N,0.8nm,0.3s					

IDC 29 15:51:54.7±15.0, 10°.71N×57°.67E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=522.3km s-min=32.5km az=79.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.58**	**26**	P	P	15 59 44.1	-0.1
	0.3nm,0.7s,baz=207,slow=8.8,SNR=3.8						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**43.34**	**19**	P	P	15 59 58.8	+0.3
	0.4nm,0.7s,baz=219,slow=7.8,SNR=6.1						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**48.25**	**21**	P	P	16 00 36.4	-0.8
	0.5nm,0.3s,baz=217,slow=4.8,SNR=2.7						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**81.34**	**112**	P	P	16 04 14.7	+0.9
	0.4nm,0.8s,baz=289,slow=5.2,SNR=2.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**81.91**	**116**	P	P	16 04 16.3	-0.4
	0.2nm,0.4s,baz=289,slow=5.2,SNR=11						
	0.2nm,0.4s						

*NEIC **29** 16:04:53.4±0.7, 18°.7S±0°.2×177°.3W±0°.3, h374km±16km, mb4.2/12, Error ellipse: s-maj=47.4km s-min=9.6km az=131.0*

*IDC **29** 16:05:13.1±5.7, 18°.77S×177°.86W, h594km±34km, mb2.8/3, mbtmp3.8/4, Error ellipse: s-maj=138.9km s-min=74.6km az=143.0*

ISC 29 16:05:12.0±1.7, 19°.2S±0°.2×177°.6W±0°.3, h600km, n19, σ0°.80/19, mb4.1/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.37**	**289**	P	**P**	**16 06 38.3**	**-1.9**
	4.6nm,0.4s,baz=124,slow=18,SNR=4.2						
AFI	**Afiamalu**	**7.66**	**48**	Pn	P	16 06 37.5	-31
MRNZ	**Matariki Terra**	**23.63**	**198**	P	**P**	**16 09 36.6**	**-1.4**
LHI	**Lord Howe Isla**	**24.34**	**235**	P	**P**	**16 09 43.8**	**-0.6**
TOO	**Toolangi**	**36.98**	**232**	P	**P**	**16 11 32.9**	**+0.7**
STKA	**Stephens Creek**	**38.71**	**243**	P	**P**	**16 11 46.7**	**+0.5**
STKA				IAmb	IAmb	16 12 14.5	
	comp=Z,25nm,1.2s						
STKA	**Stephens Creek**	**38.71**	**243**	P	**P**	**16 11 47.1**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=86,slow=16,SNR=3.9						
	comp=Z,0.8nm,0.6s						
BBOO	**Buckleboo**	**43.48**	**242**	P	**P**	**16 12 24.3**	**+0.5**
BBOO				IAmb	IAmb	16 13 00.1	
	comp=Z,24nm,1.4s						
WR8	**Warramunga Arr**	**45.01**	**261**	P	**P**	**16 12 35.6**	**-0.2**
WR8				IAmb	IAmb	16 12 43.0	
	comp=Z,9.8nm,1.5s						
WB0	**Warramunga Arr**	**45.14**	**261**	P	**P**	**16 12 36.7**	**-0.1**
WB0				IAmb	IAmb	16 12 59.9	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**45.16**	**261**	P	**P**	**16 12 37.0**	**0.0**
	comp=Z,0.8nm,0.4s,baz=97,slow=7.7,SNR=3.7						
	comp=Z,0.8nm,0.4s						
AS31	**Alice Springs**	**45.19**	**255**	P	**P**	**16 12 37.6**	**+0.5**
ASAR	**Alice Springs**	**45.19**	**255**	P	**P**	**16 12 37.5**	**+0.3**
ASAR	**Alice Springs**	**45.19**	**255**	P	**P**	**16 12 37.7**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=85,slow=8.3,SNR=64						
ASAR				PcP	**PcP**	**16 14 05.0**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=96,slow=4.2,SNR=4.9						
	comp=Z,0.8nm,0.4s						
FORT	**Forrest**	**50.16**	**246**	P	**P**	**16 13 14.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**53.58**	**261**	P	**P**	**16 13 39.7**	**+1.1**
SOEI	**Soe**	**56.84**	**271**	P	**P**	**16 14 01.7**	**+0.3**
MBWA	**Marble Bar**	**58.51**	**256**	P	**P**	**16 14 13.0**	**+0.5**
MBWA				IAmb	IAmb	16 14 19.9	
	comp=Z,14nm,1.3s						
M19K	**Big River Lodg**	**82.90**	**11**	P	**P**	**16 16 34.7**	**+0.3**
M19K				IAmb	IAmb	16 17 01.5	
	comp=Z,11nm,1.4s						

*IDC **29** 16:08:06.9±3.0, 5°.21S×102°.18E, h0km, mb3.6/8, mbtmp3.6/8, MS3.8/1, Error ellipse: s-maj=136.4km s-min=18.8km az=56.0*

*DJA **29** 16:08:11.3±0.5, 5°S±3°×10°3E±°, h22km±6km, M4.1/10, mb4.1/4, MLv4.0/10*

ISC 29 16:08:13.5±1.0, 5°.18S±0°.09×102°.50E±0°.09, h44km, n30, σ1°35/20, mb3.6/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.93**	**30**	P	**Pn**	**16 08 29.5**	**-0.7**
MNAI				S	**Sn**	**16 08 42.3**	**-0.1**
KSI	**Kapahiang**	**1.52**	**4**	P	**Pn**	**16 08 38.2**	**-0.1**
KSI				S	**Sn**	**16 08 58.3**	**+1.4**
LWLI	**Liwa**	**1.57**	**84**	P	**Pn**	**16 08 37.3**	**-1.6**
MDSI	**Maura Dua**	**1.81**	**68**	P	**Pn**	**16 08 41.9**	**-0.3**
MDSI				S	**Sn**	**16 09 04.3**	**+0.3**
CGJI	**Cibinong**	**3.49**	**114**	P	**Pn**	**16 09 02.4**	**-2.8**
CNJI	**Cibinong**	**5.07**	**115**	P	**Pn**	**16 09 25.9**	**-1.1**
	0.1nm19nm,1.3s						
SISI	**Saibi**	**5.12**	**318**	P	**Pn**	**16 09 26.8**	**-0.8**
	0.3nm23nm,1.0s						
CMJI	**Cimerak**	**6.46**	**114**	P	**Pn**	**16 09 44.2**	**-1.8**
GSI	**Gunungsitoli**	**8.10**	**323**	P	**Pn**	**16 10 07.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**23.75**	**352**	P	**P**	**16 13 20.9**	**-0.9**
	0.4nm,0.3s,baz=186,slow=8.2,SNR=4.6						
	0.4nm,0.3s						
TGY	**Tagaytay City**	**26.49**	**43**	LR	LR	16 25 19.7	
	comp=Z,17nm,18.4s,baz=250,slow=39						
H08S2	**Diego Garcia H**	**29.91**	**264**	T	T	16 45 18.4	
	baz=87,slow=75,SNR=28						
H08S3	**Diego Garcia H**	**29.92**	**264**	T	T	16 45 19.9	
	baz=87,slow=75,SNR=40						
H01W3	**Cape Leeuwin H**	**31.46**	**161**	T	T	16 47 22.4	
	baz=337,slow=76,SNR=6.0						
H01W2	**Cape Leeuwin H**	**31.47**	**161**	T	T	16 47 23.7	
	baz=337,slow=76,SNR=7.6						
H01W1	**Cape Leeuwin H**	**31.47**	**161**	T	T	16 47 23.7	
	baz=337,slow=76,SNR=6.6						
WRA	**Warramunga Arr**	**34.27**	**118**	P	**P**	**16 14 57.2**	**+1.4**
	0.4nm,0.8s,baz=300,slow=9.0,SNR=1.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**35.40**	**124**	P	**P**	**16 15 06.3**	**+0.9**
	0.3nm,0.9s,baz=299,slow=7.7,SNR=4.3						
	0.3nm,0.9s						
STKA	**Stephens Creek**	**45.20**	**131**	P	**P**	**16 16 28.1**	**+1.7**
	0.9nm,0.6s,baz=303,slow=10,SNR=4.2						
	0.9nm,0.6s						
SONM	**Songino Array**	**52.90**	**3**	P	**P**	**16 17 25.7**	**+0.6**
	0.7nm,0.6s,baz=182,slow=8.7,SNR=3.0						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**54.76**	**343**	P	**P**	**16 17 37.6**	**-1.0**
	0.5nm,0.6s,baz=148,slow=8.2,SNR=7.4						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**59.30**	**342**	P	**P**	**16 18 10.5**	**-0.1**
	0.1nm,0.3s,baz=154,slow=3.5,SNR=4.3						
	0.1nm,0.3s						
H04N2	**CROZET ISLANDS**	**59.80**	**218**	T	T	17 22 37.9	
	baz=63,slow=75,SNR=22						
H04N1	**CROZET ISLANDS**	**59.82**	**218**	T	T	17 22 38.3	
	baz=63,slow=75,SNR=18						
H04N3	**CROZET ISLANDS**	**59.82**	**218**	T	T	17 22 37.0	
	baz=63,slow=75,SNR=22						
H04S1	**CROZET ISLANDS**	**60.04**	**218**	T	T	17 23 13.9	
	baz=63,slow=74,SNR=7.3						
H04S3	**CROZET ISLANDS**	**60.06**	**218**	T	T	17 23 14.1	
	baz=63,slow=74,SNR=11						
H04S2	**CROZET ISLANDS**	**60.06**	**218**	T	T	17 22 59.7	
	baz=63,slow=74,SNR=9.2						
ZALV	**Zalesovo Beam**	**60.75**	**348**	P	**P**	**16 18 19.1**	**-1.4**
	0.8nm,0.4s,baz=159,slow=4.6,SNR=5.1						
	0.8nm,0.4s						

*NEIC **29** 16:12:10.0±1.4, 43°.76N±0°.04×105°.44W±0°.04, h0km±1km, ML3.5/73, Error ellipse: s-maj=7.9km s-min=2.7km az=38.0*

*IDC **29** 16:12:11.4±1.0, 44°.01N×105°.79W, h0km, mb3.8/3, mbtmp3.5/8, ML3.4/5, MS4.4/5, Error ellipse: s-maj=25.3km s-min=8.3km az=146.0*

ISC 29 16:12:10.2±0.8, 43°.78N±0°.06×105°.40W±0°.07, h0km, n37, σ1°27/25, mb3.9/3, MS4.5/5, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.39**	**216**	Pg	**Pg**	**16 12 35.3**	**-1.6**
K22A				IAML		16 13 00.4	
	550nm,0.3s						
K22A				IAML		16 13 00.8	
	828nm,0.3s						
LAO	**LASA Array**	**2.97**	**349**	Pn	**Pn**	**16 12 59.9**	**+1.3**
LAO				IAML		16 13 54.3	
	215nm,1.2s						
RLMT	**Red Lodge**	**3.08**	**297**		**Pn**	**16 13 01.3**	**+1.1**
RLMT				IAML		16 13 56.4	
	102nm,0.4s						
RLMT				IAML		16 13 57.4	
	127nm,0.7s						
PD31	**Pinedale Array**	**3.20**	**253**		**Pn**	**16 13 03.0**	**+1.0**
PDAR	**Pinedale Array**	**3.20**	**253**	Pn	**Pn**	**16 13 03.0**	**+1.0**
	3.7nm,0.3s,baz=71,slow=16,SNR=51						
PDAR				Lg	Lg	16 13 45.8	
	19nm,0.3s,baz=70,slow=20,SNR=9.8						
	6.4nm,0.4s						
BRIGG	**Briggsdale**	**3.29**	**165**		**Pn**	**16 13 05.0**	**+1.8**
BRIGG				IAML		16 13 58.6	
	comp=E,138nm,0.6s						
BRIGG				IAML		16 13 59.0	
	comp=N,113nm,0.5s						
YNE	**Yellowstone No**	**3.52**	**292**		**Pn**	**16 13 07.5**	**+1.1**
YNE				IAML		16 14 06.3	
	comp=N,88nm,0.5s						
YNE				IAML		16 14 06.5	
	comp=E,112nm,0.6s						
YMP	**Mirror Lake Pl**	**3.55**	**287**		**Pn**	**16 13 08.0**	**+1.2**
YMP				IAML		16 14 08.5	
	comp=N,117nm,0.3s						
OGNE	**Ogallala**	**3.77**	**137**	Pn	**Pn**	**16 13 09.9**	**+0.2**
LOHW	**Long Hollow**	**3.78**	**269**		**Pn**	**16 13 11.8**	**+2.0**
H17A	**Grant Village**	**3.78**	**281**		**Pn**	**16 13 11.9**	**+1.9**
MOOW	**Moose Ponds**	**3.87**	**271**		**Pn**	**16 13 13.1**	**+1.9**
SNOW	**Snow King Moun**	**3.90**	**267**	Pn	**Pn**	**16 13 12.4**	**+0.8**
SNOW				IAML		16 14 32.5	
	comp=N,47nm,2.1s						
SNOW				IAML		16 14 40.2	
	comp=N,52nm,1.7s						
YFT	**Old Faithful**	**3.97**	**282**	Pn	**Pn**	**16 13 12.5**	**-0.1**
ISCO	**Idaho Springs**	**3.98**	**182**		**Pn**	**16 13 13.4**	**+0.6**
TPAW	**Teton Pass**	**4.04**	**268**	IAML		16 14 39.1	
	comp=N,48nm,0.8s						
YMR	**Madison River**	**4.10**	**284**	IAML		16 14 44.6	
	comp=N,76nm,0.9s						
YMR				IAML		16 15 10.6	
	comp=E,59nm,1.2s						
O20A	**White River Ci**	**4.21**	**211**	IAML		16 14 53.5	
	comp=E,66nm,2.4s						
O20A				IAML		16 15 02.8	
	comp=E,64nm,2.5s						
AHID	**Auburn Hatcher**	**4.28**	**258**	IAML		16 14 31.3	
	comp=E,53nm,0.8s						
AHID				IAML		16 14 31.4	
	comp=E,38nm,2.5s						
YHL	**Hebgen Lake**	**4.29**	**286**	IAML		16 14 35.5	
	comp=N,44nm,1.0s						
YHL				IAML		16 14 42.5	
	comp=E,43nm,1.2s						
E28A	**Huff**	**4.35**	**48**	Pn	**Pn**	**16 13 18.6**	**+1.0**
K30B	**Basset**	**4.37**	**103**		**Pn**	**16 13 19.3**	**+1.4**
Q24A	**Divide**	**4.81**	**178**	IAML		16 14 47.3	
	comp=N,25nm,0.7s						
HWUT	**Hardware Ranch**	**5.03**	**247**	IAML		16 15 00.7	
	comp=N,36nm,2.1s						
HWUT				IAML		16 15 08.2	
	comp=N,29nm,0.7s						
DLMT	**Dillon**	**5.38**	**290**	IAML		16 15 16.5	
	comp=N,20nm,2.2s						
DLMT				IAML		16 15 31.0	
	comp=N,16nm,1.6s						
ECSD	**EROS Data Cent**	**6.37**	**87**		**Pn**	**16 13 46.1**	**+0.9**
ELK	**Elko**	**7.90**	**251**	Pn	**Pn**	**16 14 08.7**	**+2.1**
	comp=N,0.3nm,0.3s,baz=64,slow=17,SNR=4.8						
	comp=N,0.4nm,0.3s						
ULM	**Lac du Bonnet**	**9.17**	**42**	Pn	**Pn**	**16 14 23.1**	**-0.7**
	comp=N,0.9nm,0.3s,baz=232,slow=12,SNR=4.7						
ULM				Pg		16 14 57.8	
	comp=N,0.8nm,0.3s,baz=223,slow=14,SNR=4.6						
ULM				Lg	Lg	16 16 58.0	
	comp=N,0.7nm,0.3s,baz=318,slow=22,SNR=3.1						
	comp=N,2.4nm,0.4s						
TXAR	**Lajitas Array**	**14.48**	**174**	Pn	**P**	**16 15 43.3**	**-0.2**
	comp=N,0.1nm,0.3s,baz=349,slow=12,SNR=2.4						
	comp=N,0.2nm,0.3s						
YKA	**Yellowknife Ar**	**19.51**	**347**	P	**P**	**16 16 38.4**	**-0.3**
	comp=N,0.1nm,0.3s,baz=160,slow=12,SNR=6.0						
	comp=N,0.2nm,0.5s						
BORG	**Borgarnes**	**49.09**	**34**	LR	LR	16 42 36.8	
	comp=N,292nm,20.9s,baz=283,slow=37						
FINES	**FINESS Array B**	**68.03**	**23**	P	**P**	**16 23 10.5**	**-0.4**
	comp=N,0.5nm,0.6s,baz=344,slow=10,SNR=3.4						
	comp=N,0.5nm,0.6s						
KIRV	**Kirov**	**75.88**	**13**	LR	LR	17 03 15.4	
	comp=N,187nm,18.5s,baz=356,slow=40						
ARTI	**Arti**	**79.27**	**9**	LR	LR	17 03 15.3	
	comp=N,243nm,20.1s,baz=20,slow=39						
ZALV	**Zalesovo Beam**	**82.26**	**354**	P	**P**	**16 24 33.4**	**+0.3**
	comp=N,1.2nm,0.8s,baz=354,slow=4.3,SNR=2.3						
	comp=N,1.2nm,0.8s						
VAE	**Valguarnera**	**82.46**	**44**	LR	LR	16 59 58.4	
	comp=N,348nm,19.1s,baz=334,slow=35						
MKAR	**Makanchi Array**	**89.56**	**355**	P	**P**	**16 25 08.7**	**-0.7**
	comp=N,0.4nm,0.7s,baz=11,slow=5.3,SNR=4.8						
MKAR				LR	LR	17 07 50.2	
	comp=N,208nm,19.6s,baz=37,slow=37						
	comp=N,0.4nm,0.7s						

*NEIC **29** 16:35:08.9±1.5, 28°.14S±0°.06×67°.40W±0°.03, h130km±6km,

FSA eS Sn 16 36 21.6 +1.4
ACDV Cuesta del Vie 2.49 215 eP Pn 16 35 51.1 +0.7
ACDV eS Sn 16 36 22.8 +1.0
ACDV IAML 16 36 23.5
comp=Z,3μm,0.3s
GO03 Copiapo 2.51 282 Pn 16 35 50.4 0.0
GO03 Sn Sn 16 36 20.1 -1.8
GO03 Copiapo 2.51 282 eP Pn 16 35 50.4 0.0
GO03 eS Sn 16 36 20.8 -1.1
AVFE Valle Fertil 2.52 180 eP Pn 16 35 50.9 +0.2
AVFE eS Sn 16 36 21.2 -1.1
AVFE IAML 16 36 22.0
comp=Z,3μm,0.9s
AC05 El Transito 2.57 253 Pn 16 35 51.8 +0.5
AC05 El Transito 2.57 253 eP Pn 16 35 51.7 +0.5
AC05 eS Sn 16 36 23.4 0.0
AC05 IAML 16 36 26.5
comp=Z,5μm,1.0s
AC06 Mina Casimiro 2.67 286 Pn 16 35 52.0 -0.5
AROD Rodeo 2.68 220 eP Pn 16 35 53.6 +0.7
AROD eS Sn 16 36 28.2 +1.9
ACCO Cerro Coronel 2.81 209 eP Pn 16 35 57.4 +2.8
ACCO eS Sn 16 36 32.7 +3.4
CO01 Juntas del Tor 2.94 231 eP Pn 16 35 56.9 +0.8
CO01 eS Sn 16 36 33.9 +1.8
CO01 IAML 16 36 34.9
comp=Z,2μm,0.7s
LCO Las Campanas 2.97 252 Pn 16 35 56.3 -0.3
LCO Las Campanas 2.97 252 eP Pn 16 35 56.2 -0.3
LCO eS Sn 16 36 32.1 -0.7
LCO Las Campanas 2.97 252 P Pn 16 35 56.3 -0.3
ACHE Chepes 3.10 167 eP Pn 16 35 58.4 +0.4
DOCA Reserva Natura 3.14 206 eP Pn 16 35 58.6 -0.1
DOCA eS Sn 16 36 36.6 -0.2
DOCA IAML 16 36 38.4
comp=Z,2μm,0.5s
AC04 Llanos de Chal 3.18 268 eP Pn 16 35 58.1 -0.8
AC04 eS Sn 16 36 34.8 -2.4
AC04 IAML 16 36 35.6
comp=Z,2μm,0.7s
RTLL Cerro Villicun 3.30 195 eP Pn 16 36 00.7 +0.1
RTLL eS Sn 16 36 39.3 -0.8
AC01 Pan de Azucar 3.42 305 Pn 16 36 01.5 -0.6
AC01 Pan de Azucar 3.42 305 eP Pn 16 36 01.4 -0.6
AC01 IAML 16 36 49.1
comp=Z,846nm,0.3s
SJA San Juan 3.51 195 eP Pn 16 36 03.5 +0.2
SJA eS Sn 16 36 45.3 +0.4
SJA IAML 16 36 47.9
comp=Z,2μm,0.5s
GO02 Mina Guanaco 3.52 327 eP Pn 16 36 03.4 -0.2
CFA Coronel Fontan 3.52 191 P Pn 16 36 03.2 -0.2
comp=Z,132nm,0.2s,baz=245,slow=18,SNR=932
CFA S Sn 16 36 43.6 -1.6
comp=Z,921nm,0.3s,baz=142,slow=20,SNR=37
CFA Coronel Fontan 3.52 191 eP Pn 16 36 03.4 0.0
CFA eS Sn 16 36 43.6 -1.6
GO04 Tololo Observa 3.55 234 Pn 16 36 03.2 -0.7
GO04 Tololo Observa 3.55 234 eP Pn 16 36 03.3 -0.7
GO04 eS Sn 16 36 45.9 -0.2
ZON Zonda 3.56 197 Pn 16 36 03.7 -0.2
ZON Zonda 3.56 197 eP Pn 16 36 03.9 0.0
ZON eS Sn 16 36 45.0 -1.1
ZON IAML 16 36 46.1
comp=Z,2μm,0.9s
ZON Zonda 3.56 197 P Pn 16 36 03.7 -0.2
CO05 La Serena 3.75 241 Pn 16 36 04.5 -1.8
SLA San Lorenzo 3.83 28 eP Pn 16 36 09.6 +2.0
SLA eS Sn 16 36 53.6 +1.1
CO03 El Pedregal 3.89 225 Pn 16 36 07.5 -0.7
CO03 El Pedregal 3.89 225 eP Pn 16 36 08.2 -0.1
CO03 eS Sn 16 36 54.1 +0.2
CO03 IAML 16 36 55.8
comp=Z,2μm,0.8s
RTLS Leoncito 3.98 203 eS Sn 16 36 57.3 +1.0
RTLS IAML 16 36 58.3
comp=Z,2μm,0.3s
CO02 Combarbal 4.34 224 Pn 16 36 12.9 -1.3
CO02 Combarbal 4.34 224 eS Sn 16 37 03.8 -0.6
CO02 IAML 16 37 06.9
comp=Z,2μm,0.5s
PB14 IPOC Station P 4.37 322 Pn 16 36 14.2 -0.7
CO06 Fray Jorge 4.43 234 Pn 16 36 13.1 -2.2
PIL Pilar 4.70 139 IAML 16 37 32.8
comp=Z,2μm,0.7s
ARCO CERRO ARCO 4.86 195 eS Sn 16 37 16.3 -0.5
AAGR Agrelo 5.07 193 eS Sn 16 37 20.4 -1.5
AF01 San Pedro de A 5.20 353 Pn 16 36 25.4 -0.5
VA03 San Esteban 5.33 209 Pn 16 36 25.4 -1.9
PB10 IPOC Station P 5.37 328 Pn 16 36 26.0 -1.8
VA06 Catapilco 5.51 216 Pn 16 36 27.0 -2.6
PEL Peldehue 5.71 208 Pn 16 36 29.9 -2.5
PEL Peldehue 5.71 208 P Pn 16 36 29.9 -2.5
PB05 IPOC Station P 5.81 334 Pn 16 36 32.1 -1.7
MT16 CCHEN 5.89 206 Pn 16 36 33.5 -1.3
PB09 IPOC Station P 6.51 345 Pn 16 36 42.8 -0.4
PB08 IPOC Station P 8.10 349 Pn 16 37 03.1 -1.6
PB11 IPOC Station P 8.57 346 Pn 16 37 07.5 -3.3
GO01 Chusmiza 8.57 349 Pn 16 37 08.5 -2.6
BI02 San Fabin de 9.09 200 Pn 16 37 14.1 -3.5
CPUP Villa Florida 9.20 81 P Pn 16 37 16.9 -2.1
comp=Z,11nm,0.5s,baz=256,slow=13,SNR=32
ITQB Itaqui 9.63 102 Pn 16 37 22.8 -1.9
ITQB Itaqui 9.63 102 eP Pn 16 37 22.2 -2.5
PB16 IPOC Station P 9.93 349 Pn 16 37 27.0 -2.3
TBOT Tacuaremb 10.61 112 eP Pn 16 37 35.1 -2.6
SJPY San Joaquin 10.64 76 eP Pn 16 37 36.8 -1.5
PB18 Visviri 10.66 350 Pn 16 37 38.6 -0.4
TRQA Tornquist 10.91 156 Pn 16 37 40.0 -1.7
TRQA Tornquist 10.91 156 P Pn 16 37 40.0 -1.7
MURT Porto Murtinho 11.03 56 eP Pn 16 37 41.6 -1.7
LPAZ La Paz 11.80 357 P Pn 16 37 52.9 -1.3
comp=Z,5.0nm,0.7s,baz=168,slow=7.6,SNR=17
AMBA Amambai (Brazi 12.40 68 eP Pn 16 38 00.3 -1.0
BDQN Bodoquena, MS 12.41 54 eP Pn 16 37 59.0 -2.3
CPSB Cacapava Do Su 12.46 104 eP Pn 16 37 59.6 -2.4
PLTB Pedras Altas 12.56 110 Pn 16 38 00.5 -2.8
PLTB Pedras Altas 12.56 110 eP Pn 16 38 01.0 -2.2
BBSD Serra de San D 12.60 32 eP Pn 16 38 02.3 -1.6
PLCA Paso Flores 12.82 191 P Pn 16 38 06.7 0.0
comp=Z,4.7nm,1.1s,baz=341,slow=14,SNR=3.6
AQDB Aquidauana 13.16 57 eP Pn 16 38 09.9 -1.1
SIV San Ignacio 13.46 27 P Pn 16 38 12.9 -2.0
comp=Z,9.7nm,0.5s,baz=187,slow=8.5,SNR=23
ITAB Concordia 13.62 90 Pn 16 38 15.4 -1.5
ITAB Concordia 13.62 90 eP Pn 16 38 15.7 -1.3
PTGB Pitanga 14.21 80 eP Pn 16 38 24.6 0.0
CNLB Canela 14.63 99 eP Pn 16 38 28.0 -1.7
RPRD Ribas do Rio P 14.68 62 eP Pn 16 38 30.9 +0.6
LL01 San Ignacio de 14.77 195 P P 16 38 34.2 +0.7
PTLB Pontes e Lacer 14.80 33 Pn 16 38 30.5 -1.3
PTLB Pontes e Lacer 14.80 33 eP Pn 16 38 30.9 -0.9
LDASE Londrina, Braz 15.47 76 eP Pn 16 38 39.3 -0.9
SALV Santo Antonio 16.34 44 eP Pn 16 38 49.7 -1.2
ITRB Iturama 17.74 65 eP P 16 39 06.5 0.0
COYC Coyhaique 17.79 191 Pn Pn 16 39 08.2 +0.2
NNA Nana 18.30 330 *i* P P 16 39 13.4 +0.7
NNA pmax pmax
comp=Z,62nm,1.4s
BB19B Bebedouro 18.59 72 eP P 16 39 15.8 -0.1
ARAG Araguaiana, MT 19.05 53 eP P 16 39 20.5 -0.4
VAO Valinhos 19.18 79 P P 16 39 22.3 0.0
VAO Valinhos 19.18 79 eP P 16 39 22.5 +0.2
PDRB Porto dos Gac 19.27 34 eP P 16 39 21.8 -1.4
AY03 Cochrane 19.50 190 P P 16 39 26.6 +1.2
PARB Paraibuna 20.25 81 eP P 16 39 33.9 +0.2
CLDB Colider 20.37 35 eP P 16 39 34.7 -0.4
IPMB Ipameri, GO 20.37 64 eP P 16 39 34.2 -0.9
CZSB Cruzeiro do Su 20.89 345 P P 16 39 41.2 +0.6
CZSB Cruzeiro do Su 20.89 345 eP P 16 39 41.5 +0.9
PMNB Patos De Minas 21.52 68 eP P 16 39 45.9 -1.5
BDFB Brasilia 21.88 59 P P 16 39 49.9 -1.4
BDFB Brasilia 21.88 59 P P 16 39 49.3 -2.0
comp=Z,9.5nm,0.4s,baz=231,slow=9.5,SNR=16
comp=Z,9.5nm,0.4s
BDFB Brasilia 21.88 59 P P 16 39 49.9 -1.4
SNDB Serra Nova Dou 22.08 46 eP P 16 39 50.3 -2.9
NPGB Novo Progresso 23.90 31 eP P 16 40 07.7 -2.6
DIAM Diamantina, MG 23.92 71 eP P 16 40 11.5 +0.8
TBTG Tabatinga, AM 23.93 354 P P 16 40 11.3 +0.8
TBTG Tabatinga, AM 23.93 354 eP P 16 40 11.7 +1.2
EFI East Falkland 24.55 166 *i* P P 16 40 15.4 -0.4

EFI pmax pmax
comp=Z,57nm,2.9s
TEFE Tefe 24.64 7 eP P 16 40 17.5 +0.6
JANB Januaria 25.10 64 eP P 16 40 19.8 -1.5
MACA Manacapuru-AM 25.66 16 P P 16 40 26.7 +0.5
MACA Manacapuru-AM 25.66 16 eP P 16 40 27.2 +1.0
SJMB Sao Joao De Ma 25.84 74 eP P 16 40 27.2 -0.6
ITTB Itaituba 26.14 27 eP P 16 40 30.0 -0.5
SDBA SAO DESIDERIO 26.25 58 eP P 16 40 29.9 -1.7
SMTB Santa Maria do 26.81 48 eP P 16 40 35.4 -1.1
OTAV Otavalo 30.11 338 P P 16 41 07.1 +0.8
OTAV Otavalo 30.11 338 P P 16 41 07.1 +0.8
OTAV pmax pmax
comp=Z,10.0nm,1.1s
FLOC Florencia 30.57 344 IAmb IAmb 16 41 12.8
comp=Z,22nm,0.9s
BOAV Boa Vista 31.08 14 P P 16 41 14.7 +0.4
BOAV IAmb IAmb 16 41 17.4
comp=Z,32nm,0.8s
BOAV Boa Vista 31.08 14 eP P 16 41 14.9 +0.6
HOPE Hope Point 34.52 148 *i* P P 16 41 40.8 -3.0
NBAN Anadia - AL 34.60 64 eP P 16 41 44.1 -0.9
SDV Santo Domingo 36.93 355 P P 16 42 04.1 -0.9
SDV Santo Domingo 36.93 355 eP P 16 42 04.4 -0.6
BIM Bigot 42.85 9 P P 16 42 52.8 -0.9
FDF Fort de France 43.05 9 P P 16 42 54.6 -0.7
FDF Fort de France 43.05 9 P P 16 42 54.6 -0.7
FDF pmax pmax
comp=Z,141nm,0.8s
FDF Fort de France 43.05 9 P P 16 42 54.2 -1.1
CELP Cerrillos 45.94 1 P 16 43 16.4 -1.8
TGUH Tegucigalpa,Un 46.12 333 P P 16 43 20.1 +0.3
MTO3 Montecristo 47.30 331 P P 16 43 29.7 +0.7
MTO3 IAmb IAmb 16 43 31.5
comp=Z,26nm,0.9s
TEIG Tepich 52.12 335 P P 16 44 05.7 +0.6
TEIG Tepich 52.12 335 P P 16 44 05.6 +0.5
VNA3 Neumayer Olymp 53.41 160 ⇓pP pP 16 44 49.1 +1.0
comp=Z,9.0nm,0.8s
SNAA Sanae 55.62 160 P P 16 44 30.2 +0.1
SNAA IAmb IAmb 16 45 04.9
comp=Z,18nm,1.3s
SNAA Sanae 55.62 160 ⇓P P 16 44 30.5 +0.4
comp=Z,45nm,0.6s
SNAA ⇓pP pP 16 45 05.0 +0.7
comp=Z,133nm,0.7s
SNAA Sanae 55.62 160 P P 16 44 30.2 +0.1
comp=Z,1.5nm,0.6s,baz=276,slow=7.8,SNR=13
SNAA pP pP 16 45 04.1 -0.2
comp=Z,7.4nm,0.9s,baz=310,slow=6.8,SNR=6.1
comp=Z,1.5nm,0.6s
SNAA Sanae 55.62 160 P P 16 44 30.2 +0.1
SNAA pmax pmax
comp=Z,18nm,1.3s
TROLL Troll, Antarti 57.34 160 ⇓P P 16 44 40.8 -1.5
comp=Z,22nm,0.2s
TROLL ⇓pP pP 16 45 16.8 +0.1
comp=Z,478nm,0.9s
DWPF Disney Wildern 57.50 345 P P 16 44 44.7 +0.9
ZAIG Zacatecas 60.89 323 IAmb IAmb 16 45 11.3
comp=Z,19nm,1.2s
352A Blakely 61.57 343 P P 16 45 11.5 -0.1
QSPA South Pole Qui 62.09 180 P P 16 45 16.2 +1.3
comp=Z,7.8nm,0.6s,baz=170,slow=0.7,SNR=79
QSPA pP pP 16 45 50.2 +0.8
comp=Z,12nm,0.7s,baz=175,slow=1.5,SNR=11
comp=Z,7.8nm,0.6s
QSPA South Pole Qui 62.09 180 P P 16 45 16.2 +1.3
QSPA pP pP 16 45 50.2 +0.8
QSPA sP sP 16 46 05.3 +0.1
HBVL Hebbronville 62.53 329 IAmb IAmb 16 45 20.9
comp=Z,18nm,1.0s
152A Waverly Hall 62.65 344 IAmb IAmb 16 45 19.6
comp=Z,16nm,0.9s
GOGA Godfrey 63.06 345 IAmb IAmb 16 45 22.5
comp=Z,16nm,0.8s
HODGE Hodges 63.59 346 IAmb IAmb 16 45 26.4
comp=Z,11nm,0.8s
LRAL Lakeview Retre 63.60 342 IAmb IAmb 16 45 26.1
comp=Z,11nm,0.9s
ELIB Princess Elisa 63.78 160 *d*P P 16 45 25.2 -0.8
comp=Z,6.0nm,1.0s
ELIB *d*PcP pP 16 46 00.8 -0.4
HKT Hockley 63.80 333 P P 16 45 27.6 +1.3
PAULI Pauline 64.07 347 IAmb IAmb 16 45 29.7
comp=Z,34nm,1.2s
KMSC Kings Mountain 64.28 347 IAmb IAmb 16 45 31.1
comp=Z,20nm,0.8s
BG3 Lake Jocassee 64.46 346 IAmb IAmb 16 45 32.2
comp=Z,23nm,0.8s
V58A Windy Hill, Pi 64.53 350 IAmb IAmb 16 45 32.7
comp=Z,27nm,0.9s
FPAL Fort Paine 64.65 343 IAmb IAmb 16 45 33.0
comp=Z,14nm,0.7s
W52A Murphy 64.78 345 IAmb IAmb 16 45 34.1
comp=Z,39nm,1.2s
U56A King 65.28 349 IAmb IAmb 16 45 37.6
comp=Z,22nm,0.7s
DRIO Del Rio 65.43 328 IAmb IAmb 16 45 39.0
comp=Z,48nm,1.7s
PLAL Pickwick Lake 65.73 342 IAmb IAmb 16 45 39.6
comp=Z,18nm,0.8s
JCT Junction City 65.95 330 IAmb IAmb 16 45 42.6
comp=Z,23nm,0.8s
TZTN Tazewell 66.09 346 IAmb IAmb 16 45 42.0
comp=Z,14nm,0.9s
BRDY Brady 66.29 331 IAmb IAmb 16 45 44.4
comp=Z,19nm,0.8s
SAND Sanderson 66.58 327 IAmb IAmb 16 45 47.1
comp=Z,30nm,1.1s
WVT Waverly 66.74 342 P P 16 45 45.3 +0.1
WVT Waverly 66.74 342 P P 16 45 45.3 +0.1
WVT pmax pmax
comp=Z,108nm,0.8s
WVT Waverly 66.74 342 P P 16 45 45.2 +0.1
TXAR Lajitas Array 66.81 326 P P 16 45 46.5 +0.5
TXAR Lajitas Array 66.81 326 P P 16 45 47.4 +1.4
comp=Z,2.6nm,0.7s,baz=146,slow=9.1,SNR=16
comp=Z,2.6nm,0.7s
TXAR Lajitas Array 66.81 326 P P 16 45 46.5 +0.5
T50A Nancy 66.83 345 IAmb IAmb 16 45 46.2
comp=Z,14nm,0.7s
UALR University of 66.84 338 IAmb IAmb 16 45 47.5
comp=Z,22nm,0.8s
S54A Dingess, Beckl 66.86 348 IAmb IAmb 16 45 47.5
comp=Z,32nm,0.9s
MIAR Mount Ida 67.05 337 IAmb IAmb 16 45 49.2
comp=Z,17nm,0.8s
WHAR Wooly Hollow 67.30 338 IAmb IAmb 16 45 50.4
comp=Z,25nm,1.0s
LCAR Lake Charles 67.65 339 IAmb IAmb 16 45 52.4
comp=Z,34nm,0.9s
Q56A Snyder Ridge, 67.72 350 IAmb IAmb 16 45 54.0
comp=Z,39nm,1.1s
ABTX Abilene, Hawle 67.72 331 IAmb IAmb 16 45 53.5
comp=Z,21nm,1.0s
MNHN Monahans 68.04 328 IAmb IAmb 16 45 55.9
comp=Z,19nm,0.7s
SSFO Shawnee State 68.09 347 IAmb IAmb 16 45 54.8
comp=Z,21nm,0.9s
Q52A Bidwell 68.16 348 IAmb IAmb 16 45 55.4
comp=Z,17nm,0.9s
WTFS Witchita Falls 68.21 332 IAmb IAmb 16 45 56.4
comp=Z,32nm,1.1s
MVL Millersville 68.28 353 IAmb IAmb 16 45 57.3
comp=Z,23nm,1.0s
WCI Wyandotte Cave 68.33 344 P 16 45 54.4 -0.8
WCI IAmb IAmb 16 45 55.8
comp=Z,29nm,0.8s
WCI Wyandotte Cave 68.33 344 P P 16 45 54.4 -0.8
WCI pmax pmax
comp=Z,29nm,0.8s
WCI Wyandotte Cave 68.33 344 P P 16 45 54.9 -0.3
WCI PcP PcP 16 46 20.1 +0.4
WCI pP pP 16 46 30.1 -0.3
MCWV Mont Chateau 68.42 350 IAmb IAmb 16 45 57.8
comp=Z,36nm,1.1s
T42A Van Buren 68.52 340 IAmb IAmb 16 45 58.1
comp=Z,17nm,0.9s
ODSA Odessa 68.59 328 IAmb IAmb 16 45 58.9
comp=Z,40nm,1.0s
SN07 Snyder 07 68.66 330 IAmb IAmb 16 45 59.1
comp=Z,17nm,0.8s
HHAR Hobbs 68.75 337 IAmb IAmb 16 46 00.3
comp=Z,20nm,0.8s
W35A Tecumseh 68.80 334 IAmb IAmb 16 45 58.8
comp=Z,13nm,0.7s
P51A Williamsport 68.82 347 IAmb IAmb 16 45 59.3
comp=Z,32nm,1.1s
U38A Gravette 69.05 337 P 16 45 59.9 +0.2
U38A IAmb IAmb 16 46 00.8
comp=Z,18nm,0.6s
TUL3 Leonard 69.07 336 IAmb IAmb 16 46 01.5
comp=Z,26nm,0.8s
SSPA Standing Stone 69.10 352 P P 16 46 00.7 +0.8
SSPA IAmb IAmb 16 46 02.2
comp=Z,23nm,1.2s
SSPA Standing Stone 69.10 352 P P 16 46 01.0 +1.1
N58A Sunbury 69.16 353 IAmb IAmb 16 46 02.2
comp=Z,26nm,1.0s
O52A Adamsville 69.20 348 IAmb IAmb 16 46 01.8
comp=Z,23nm,0.9s
OLIL Olney 69.26 343 IAmb IAmb 16 46 01.0
comp=Z,22nm,0.6s
BLO Bloomington 69.28 344 IAmb IAmb 16 46 25.2
comp=Z,28nm,0.7s
P48A Milroy 69.30 345 IAmb IAmb 16 46 01.2
comp=Z,12nm,0.7s
CCM Cathedral Cave 69.51 340 P P 16 46 02.9 +0.4
CCM Cathedral Cave 69.51 340 P P 16 46 02.9 +0.4
CCM pmax pmax
comp=Z,81nm,0.8s
CCM Cathedral Cave 69.51 340 P P 16 46 02.9 +0.4
CCM pP pP 16 46 37.9 0.0
ACSO Alum Creek Sta 69.53 347 IAmb IAmb 16 46 03.8
comp=Z,30nm,0.9s
DBIC Dimbokro 69.55 70 P P 16 46 03.7 +0.4
comp=Z,14nm,0.7s,baz=211,slow=3.9,SNR=16
comp=Z,14nm,0.7s
DBIC Dimbokro 69.55 70 P P 16 46 03.5 +0.2
SBA Scott Base 69.57 191 P P 16 46 04.2 +1.8
SBA pP pP 16 46 39.5 +1.7
SBA sP sP 16 46 54.0 +0.5
Q44A Meyer Farm, Va 69.66 342 IAmb IAmb 16 46 03.9
comp=Z,38nm,1.0s
KSPA Keystone Colle 69.76 353 IAmb IAmb 16 46 06.4
comp=Z,48nm,1.4s
SYO Syowa Base 69.87 158 ⇓*e*PcP PcP 16 46 23.8 -2.1
OK048 Pawnee Station 69.94 335 P P 16 46 05.5 +0.3
O48B Farmland 70.00 346 IAmb IAmb 16 46 06.3
comp=Z,34nm,1.1s
SMWD Samnorwood 70.10 332 IAmb IAmb 16 46 08.2
comp=Z,30nm,1.1s
MSTX Muleshoe 70.24 329 IAmb IAmb 16 46 09.0
comp=Z,30nm,0.9s
HRV Adam Dziewonsk 70.39 357 P P 16 46 09.1 +1.4
CROK Carrier 70.42 334 IAmb IAmb 16 46 09.4
comp=Z,25nm,0.8s
BINY Binghamton 70.42 353 IAmb IAmb 16 46 10.3
comp=Z,33nm,1.3s
L56A Greenwood 70.54 352 IAmb IAmb 16 46 10.3
comp=Z,20nm,0.8s
SFIN Lafayette 70.56 344 IAmb IAmb 16 46 09.3
comp=Z,23nm,0.8s
VNDA Vanda 70.57 190 P P 16 46 10.3 +1.7
comp=Z,1.6nm,0.8s,baz=132,slow=4.8,SNR=8.4
VNDA pP pP 16 46 45.6 +1.6
comp=Z,2.5nm,0.9s,baz=138,slow=4.2,SNR=7.0
comp=Z,1.6nm,0.8s
VNDA Vanda 70.57 190 P P 16 46 10.3 +1.7
VNDA pP pP 16 46 45.9 +1.9
TRY Troy 70.74 355 IAmb IAmb 16 46 13.1
comp=Z,46nm,1.3s
NOKA Waynoka 70.90 334 IAmb IAmb 16 46 13.1
comp=Z,22nm,0.8s
WVNY West Valley, N 70.94 351 IAmb IAmb 16 46 13.3
comp=Z,34nm,0.9s
MMNY Mt. Morris Dam 71.17 352 IAmb IAmb 16 46 13.8
comp=Z,18nm,0.7s
319A Douglas 71.34 323 IAmb IAmb 16 46 17.1
comp=Z,32nm,1.1s
DUN6 Lazy B Ranch 72.16 324 IAmb IAmb 16 46 22.2
comp=Z,42nm,1.0s
PECO Prince Edward 72.25 353 IAmb IAmb 16 46 20.2
comp=Z,14nm,0.7s
R32A Long Quarter, 72.37 335 IAmb IAmb 16 46 22.0
comp=Z,42nm,1.0s
ANMO Albuquerque 72.75 327 P P 16 46 23.5 +1.1
ANMO Albuquerque 72.75 327 P P 16 46 23.5 +1.1
ANMO pmax pmax
comp=Z,10.0nm,1.0s
FRNY Flat Rock 72.83 355 IAmb IAmb 16 46 24.3
comp=Z,19nm,1.0s
WBO Williamsburg 73.13 354 IAmb IAmb 16 46 25.9
comp=Z,23nm,0.8s
T25A Trinidad 73.61 330 IAmb IAmb 16 46 30.3
comp=Z,21nm,0.8s
BUKO Buck Lake 74.03 351 IAmb IAmb 16 46 31.1
comp=Z,19nm,1.1s
TRQ Mont Tremblant 74.28 355 IAmb IAmb 16 46 32.5
comp=Z,21nm,0.8s
I42A Draeger Farm, 74.32 344 IAmb IAmb 16 46 32.1
comp=Z,21nm,0.7s
E62A Clayton Lake 74.42 359 IAmb IAmb 16 46 34.1
comp=Z,22nm,0.7s
D62A Allapoint, All 74.88 359 IAmb IAmb 16 46 36.1
comp=Z,25nm,0.7s
Q24A Divide 75.45 331 IAmb IAmb 16 46 40.9
comp=Z,23nm,0.7s
MVCO Mesa Verde 75.55 327 IAmb IAmb 16 46 41.5
comp=Z,19nm,1.0s
WUAZ Wupatki 75.65 324 IAmb IAmb 16 46 42.5
comp=Z,21nm,0.9s
E46A Sault Ste Mari 75.70 348 IAmb IAmb 16 46 40.1
comp=Z,31nm,1.1s
ISCO Idaho Springs 76.35 331 IAmb IAmb 16 46 46.0
comp=Z,15nm,0.8s
ECSD EROS Data Cent 76.35 339 IAmb IAmb 16 46 44.3
comp=Z,25nm,1.0s
VLDQ Val d'Or 76.42 353 IAmb IAmb 16 46 44.9
comp=Z,22nm,1.2s
PV15 Paradox Valley 76.45 328 IAmb IAmb 16 46 47.0
comp=Z,26nm,1.2s
PV02 Paradox Valley 76.47 328 IAmb IAmb 16 46 46.8
comp=Z,58nm,1.4s
PV13 Radium Mtn., P 76.47 328 IAmb IAmb 16 46 46.6
comp=Z,21nm,1.0s
PV05 Paradox Valley 76.53 327 IAmb IAmb 16 46 46.8
comp=Z,21nm,1.0s
PV18 Skein Mesa, Pa 76.58 328 IAmb IAmb 16 46 47.1
comp=Z,25nm,0.9s
PV11 David Mesa, P 76.60 328 IAmb IAmb 16 46 47.3
comp=Z,37nm,1.6s
PV20 West Nyswonger 76.68 328 IAmb IAmb 16 46 47.7
comp=Z,23nm,1.1s
PV22 Blue Mesa, Par 76.75 328 IAmb IAmb 16 46 48.3
comp=Z,23nm,1.2s
PV23 Carpenter Ridg 76.79 328 IAmb IAmb 16 46 48.0
comp=Z,13nm,0.8s
U15A North Rim 76.83 324 IAmb IAmb 16 46 49.4
comp=Z,21nm,1.1s
TSUM Tsumeb 76.98 105 P P 16 46 47.0 0.0
PFO Pinyon Flats O 76.99 320 *i* P P 16 46 46.4 -0.2
PFO pmax pmax
comp=Z,17nm,1.1s
KNB Kanab 77.55 324 IAmb IAmb 16 46 53.4
comp=Z,44nm,1.0s
KOOLE Kule 77.56 109 IAmb IAmb 16 46 52.4
comp=Z,18nm,0.7s
SUSD Miller 77.75 337 IAmb IAmb 16 46 52.1
comp=Z,37nm,0.8s
O20A White River Ci 77.78 329 IAmb IAmb 16 46 54.0
comp=Z,39nm,1.0s
SRU San Rafael Swe 78.03 327 IAmb IAmb 16 46 55.0
comp=Z,23nm,0.9s
Q16A Castle Valley 78.19 327 IAmb IAmb 16 46 56.4
comp=Z,21nm,1.1s
P18A Preston Nutter 78.31 328 IAmb IAmb 16 46 57.1
comp=Z,25nm,0.9s
MVU Marysvale 78.38 326 IAmb IAmb 16 46 57.7
comp=Z,17nm,1.0s
TORD Torodi Ar. Bea 78.46 68 P 16 46 55.5 +0.4
PSUT Pine Spring 79.23 325 IAmb IAmb 16 47 02.1
comp=Z,15nm,0.9s
BOSA Boshof 79.25 117 P P 16 46 59.7 +0.3
BOSA Boshof 79.25 117 P P 16 47 00.1 +0.6
comp=Z,5.1nm,0.5s,baz=267,slow=3.7,SNR=22
BOSA pP pP 16 47 34.0 -1.4
comp=Z,3.9nm,0.8s,baz=328,slow=6.3,SNR=3.8
comp=Z,5.1nm,0.5s
BOSA Boshof 79.25 117 P P 16 46 59.7 +0.3
BOSA pmax pmax
comp=Z,8.0nm,1.0s

BSUT	Blindstream Ca	79.27	328	IAmb	IAmb	16 47 02.4	
	comp=Z,27nm,0.9s						
MPU	Maple Canyon	79.27	327	IAmb	IAmb	16 47 01.9	
	comp=Z,17nm,0.9s						
SPR3	Spring Creek 3	79.83	325	IAmb	IAmb	16 47 05.0	
	comp=Z,20nm,1.1s						
TCUT	Toone Canyon	80.03	328	IAmb	IAmb	16 47 05.8	
	comp=Z,69nm,1.6s						
AGMN	Agassiz Nation	80.23	341	IAmb	IAmb	16 47 05.6	
	comp=Z,16nm,0.8s						
HWUT	Hardware Ranch	80.48	328	IAmb	IAmb	16 47 08.0	
	comp=Z,33nm,0.9s						
PDAR	Pinedale Array	80.48	330	P	P	16 47 06.2	+0.5
PDAR	Pinedale Array	80.48	330	P	P	16 47 06.8	+1.1
	comp=Z,9.8nm,0.8s,baz=124,slow=7.8,SNR=38						
	comp=Z,9.8nm,0.8s						
EPLO	Experimental L	80.91	343	IAmb	IAmb	16 47 08.5	
	comp=Z,16nm,0.9s						
AHID	Auburn Hatcher	81.18	329	IAmb	IAmb	16 47 11.7	
	comp=Z,47nm,1.2s						
HVU	Hansel Valley	81.19	327	IAmb	IAmb	16 47 11.5	
	comp=Z,18nm,0.8s						
NVAR	Mina Array Bea	81.50	322	P	P	16 47 10.8	-0.3
NVAR	Mina Array Bea	81.50	322	P	P	16 47 12.8	+1.6
	comp=Z,4.6nm,0.9s,baz=159,slow=6.7,SNR=18						
	comp=Z,4.6nm,0.9s						
LOHW	Long Hollow	81.62	330	IAmb	IAmb	16 47 14.1	
	comp=Z,12nm,0.7s						
ULM	Lac du Bonnet	82.00	342	P	P	16 47 13.7	+0.5
	comp=Z,8.1nm,0.6s,baz=157,slow=7.4,SNR=10						
	comp=Z,8.1nm,0.6s						
ULM	Lac du Bonnet	82.00	342	*i* P	P	16 47 13.5	+0.3
LPHEP	Lephephe	82.08	112	P	P	16 47 14.0	-0.5
RLMT	Red Lodge	82.25	332	IAmb	IAmb	16 47 16.9	
	comp=Z,11nm,0.7s						
YMP	Mirror Lake Pl	82.32	331	IAmb	IAmb	16 47 33.0	
	comp=Z,17nm,0.9s						
PNTR	Pine Nut	82.68	322	IAmb	IAmb	16 47 20.2	
	comp=Z,22nm,0.8s						
YHB	Horse Butte	82.78	330	IAmb	IAmb	16 47 20.6	
	comp=Z,16nm,1.0s						
PAHR	Pah Rah Range	83.00	322	IAmb	IAmb	16 47 21.8	
	comp=Z,16nm,0.9s						
MPK	Martis Peak	83.06	322	IAmb	IAmb	16 47 22.3	
	comp=Z,24nm,1.3s						
HLID	Hailey	83.33	328	IAmb	IAmb	16 47 23.4	
	comp=Z,20nm,1.1s						
J08A	Circle Bar Ran	85.16	325	IAmb	IAmb	16 47 32.3	
	comp=Z,26nm,0.9s						
PLID	Pearl Lake	85.22	328	IAmb	IAmb	16 47 32.4	
	comp=Z,19nm,0.8s						
MESJ	Messejana	85.93	43	*e*P	P	16 47 34.4	+1.0
MESJ				IAmb	IAmb	16 47 35.9	
	comp=Z,37nm,1.1s						
I07A	Izee	86.19	325	IAmb	IAmb	16 47 37.3	
	comp=Z,14nm,1.1s						
F10A	Beach Ranch, E	86.46	328	IAmb	IAmb	16 47 39.5	
	comp=Z,16nm,1.4s						
J05D	Fort Rock, OR	86.52	324	IAmb	IAmb	16 47 38.9	
	comp=Z,28nm,1.2s						
I05D	Terrebonne, OR	87.31	325	IAmb	IAmb	16 47 42.7	
	comp=Z,18nm,1.0s						
DBO	Dodson Butte	87.46	323	IAmb	IAmb	16 47 43.5	
	comp=Z,27nm,1.0s						
FFC	Flin Flon	87.70	341	P	P	16 47 41.4	-0.1
FFC	Flin Flon	87.70	341	P	P	16 47 41.4	-0.1
FFC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ESDC	Sonseca Array	89.67	44		P	16 47 51.4	+0.2
ESDC				IAmb	IAmb	16 47 53.0	
	comp=Z,13nm,1.2s						
ESDC	Sonseca Array	89.67	44	P	P	16 47 52.0	+0.7
	comp=Z,1.8nm,0.8s,baz=237,slow=4.0,SNR=9.9						
	comp=Z,1.8nm,0.8s						
YKAW1	Yellowknife Wh	97.80	340	IAmb	IAmb	16 48 29.4	
	comp=Z,5.7nm,0.9s						
YKA	Yellowknife Ar	97.84	340	P	Pdif	16 48 28.6	+0.4
	comp=Z,2.8nm,0.8s,baz=141,slow=4.6,SNR=42						
	comp=Z,2.8nm,0.8s						
YKAW3	Yellowknife Wh	97.90	340	IAmb	IAmb	16 48 29.9	
	comp=Z,4.8nm,0.9s						
AKASG	Malin Array Be	115.31	44	PKP	PKPdf	16 53 33.5	-0.3
	comp=Z,2.2nm,0.7s,baz=264,slow=2.7,SNR=6.9						
AKBB	Malin Array Si	115.31	44*c*	*i* PKIKP	PKiKP	16 53 34.2	+0.5
BRTR	Keskin Array B	115.46	57	PKP	PKiKP	16 53 34.6	0.0
	comp=Z,1.3nm,0.7s,baz=213,slow=4.3,SNR=4.2						
FINES	FINESS Array B	115.95	32	PKP	PKiKP	16 53 34.9	+0.3
	comp=Z,0.5nm,0.5s,baz=212,slow=4.9,SNR=4.6						
ARCES	ARCESS Array B	117.08	23	PKP	PKiKP	16 53 37.2	+0.5
	comp=Z,3.3nm,1.1s,baz=234,slow=3.9,SNR=6.8						
OBN	Obninsk	120.46	40	⇑*i* PKIKP	PKPdf	16 53 41.3	-2.2
OBN				*e*		16 55 12.0	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MOS	Moscow	121.12	40	*e*PKIKP	PKiKP	16 53 45.3	+0.4
MOS				*e*		16 54 31.2	
KLMR	Klimovskoe	122.37	34	*e*PKIKP	PKPdf	16 53 42.5	-4.5
KLMR				*e*		16 54 19.7	
KLMR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SHA1	Shidzhatmaz	122.92	54	*i* PKIKP	PKPdf	16 53 48.2	-0.7
KIV	Kislovodsk	122.97	54	*e*PKIKP	PKiKP	16 53 49.2	+0.1
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KBZ	Khabaz	123.09	54	PKP	PKiKP	16 53 50.2	+1.1
	comp=Z,4.2nm,0.9s,baz=118,slow=1.6,SNR=13						
KBZ	Khabaz	123.09	54*c*	*i* PKIKP	PKiKP	16 53 49.4	+0.3
ASAR	Alice Springs	124.53	204		PKPdf	16 53 52.2	-0.3
ASAR	Alice Springs	124.53	204	PKP	PKPdf	16 53 52.5	-0.1
	comp=Z,4.4nm,0.5s,baz=133,slow=1.7,SNR=72						
ASAR				pPKP	pPKPdf	16 54 29.6	-1.4
	comp=Z,1.8nm,0.7s,baz=156,slow=2.3,SNR=5.7						
ASAR				PKKPbc	PKKPbc	17 03 35.5	+0.2
	comp=Z,0.4nm,0.6s,baz=338,slow=3.4,SNR=11						
ASAR	Alice Springs	124.53	204	PKIKP	PKPdf	16 53 52.2	-0.3
KIRV	Kirov	127.50	36*c*	*i* PKIKP	PKiKP	16 53 58.7	+1.3
WR8	Warramunga Arr	127.69	206		PKiKP	16 53 59.0	-0.2
WRA	Warramunga Arr	127.76	206		PKPdf	16 53 58.5	-0.2
WRA	Warramunga Arr	127.76	206	PKP	PKiKP	16 53 59.0	-0.3
	comp=Z,4.9nm,0.5s,baz=170,slow=1.7,SNR=41						
WRA				pPKP	pPKPdf	16 54 35.9	-1.3
	comp=Z,2.4nm,0.6s,baz=162,slow=1.6,SNR=5.9						
WRA	Warramunga Arr	127.76	206	PKIKP	PKPdf	16 53 58.5	-0.2
BILL	Bilibino	129.13	337*c*	*i* PKIKP	PKiKP	16 54 00.2	-0.3
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARTI	Arti	132.65	38	*i* PKIKP	PKiKP	16 54 08.8	+0.9
ARTI						16 56 32.0	
ABKAR	Akbulak array	134.90	47		PKiKP	16 54 12.0	-0.7
NRIK	Noril'sk	136.27	13	PKP	PKPdf	16 54 13.6	+0.4
	comp=Z,0.7nm,0.4s,baz=97,slow=2.0,SNR=4.6						
NRIK	Noril'sk	136.27	13*c*	*i* PKIKP	PKiKP	16 54 15.0	+0.1
SEY	Seymchan	136.66	335*c*	*i* PKIKP	PKiKP	16 54 16.0	+0.2
SEY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PETK	Petropavlovsk-	138.56	320	PKP	PKPdf	16 54 18.6	+0.7
	comp=Z,6.4nm,0.9s,baz=111,slow=3.3,SNR=4.2						
BRVK	Borovoye	140.23	39*c*	*i* PKIKP	PKiKP	16 54 22.3	-1.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BVAR	Borovoye Array	140.30	39	PKhKP	PKPpre	16 54 15.2	
	comp=Z,0.6nm,0.5s,baz=11,slow=1.5,SNR=5.3						
BVAR				PKP	PKPdf	16 54 22.1	+1.1
	comp=Z,3.4nm,0.5s,baz=308,slow=3.4,SNR=16						
BVAR				pPKP	pPKPdf	16 54 59.8	+0.1
	comp=Z,2.7nm,0.9s,baz=305,slow=5.2,SNR=3.0						
YAK	Yakutsk	144.24	346	*e*PKIKP	PKPdf	16 54 27.5	-0.2
YAK				*e*		16 55 04.6	
YAK				*e*		16 57 44.6	
YAK				pmax	pmax		
	comp=Z,77nm,0.8s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,34nm,2.5s						
YAK				pmax	pmax		
	comp=E,26nm,3.2s						
YAK				pmax	pmax		
	comp=N,24nm,2.3s						
EKS2	Erkin-Say	145.56	55	P	PKPab	16 54 33.1	+1.3
	SNR=72						
AML	Almayashu	145.61	56	P	PKPab	16 54 33.4	+1.0
	SNR=63						
KURBB	Kurchatov Arra	145.89	39	PKPbc	PKPab	16 54 32.4	-0.2
	comp=N,20nm,0.8s,baz=299,slow=3.2,SNR=4.9						
KURBB				pPKPbc	pPKPab	16 55 10.0	0.0
	comp=N,13nm,0.8s,baz=300,slow=3.4,SNR=9.9						
KURK	Kurchatov	145.90	39	PKP2	PKPab	16 54 32.3	-0.3
KURK	Kurchatov	145.90	39	P	PKPbc	16 54 31.9	+0.1
USP	Ospenovka	145.94	53	P	PKPab	16 54 33.5	+0.4
	SNR=16						
AAK	Ala-Archa	146.09	55	P	PKPab	16 54 34.2	+0.4
	SNR=79						
AAK	Ala-Archa	146.09	55*d*	*i* PKP2	PKPbc	16 54 32.9	0.0
AAK				pmax	pmax		
	comp=Z,88nm,1.3s						
CHMS	Chumysh	146.19	54	P	PKPab	16 54 33.7	-0.3
	SNR=18						
KBK	Karagaybulak	146.41	54	P	PKPab	16 54 34.9	-0.2
	SNR=38						
TKM2	Tokmak 2	146.81	54	P	PKPbc	16 54 34.8	-0.3
	SNR=21						
HYB	Hyderabad	147.01	102	*e*PKPab	PKPab	16 54 37.1	-0.9
ZALV	Zalesovo Beam	147.19	30	PKP	PKPbc	16 54 34.6	-0.9
	comp=Z,78nm,0.8s,baz=285,slow=2.7,SNR=109						
ZALV				PKPbc	PKPab	16 54 36.7	-0.8
	comp=Z,78nm,0.8s,baz=309,slow=3.6,SNR=94						
ZALV				pPKPbc	pPKPdf	16 55 12.1	+0.4
	comp=Z,17nm,0.6s,baz=305,slow=3.7,SNR=5.6						
ULHL	Ulahol	147.43	55	P	PKPbc	16 54 36.9	0.0
	SNR=25						
KSH	Kashi	147.78	60	pPKP	pPKPdf	16 55 15.3	+1.9
KSH	Kashi	147.78	60	PKPbc	PKPbc	16 54 36.8	-1.0
YSS	Yuzhno-Sakhali	149.82	317*c*	*i* PKP2	PKiKP	16 54 43.3	0.0
YSS				pmax	pmax		
	comp=Z,43nm,2.5s						
MK31	Makanchi Array	149.89	44	*i* PKIKP	PKPdf	16 54 37.5	-0.2
MKAR	Makanchi Array	149.89	44	PKP	PKPdf	16 54 38.6	+0.9
	comp=Z,37nm,0.8s,baz=281,slow=1.2,SNR=176						
MKAR				PKPbc	PKiKP	16 54 43.1	-0.4
	comp=Z,37nm,0.8s,baz=302,slow=2.4,SNR=225						
MKAR				pPKPbc	pPKPbc	16 55 20.8	-0.4
	comp=Z,9.1nm,0.7s,baz=310,slow=2.7,SNR=5.2						
ZEA	Zeya	152.22	341	*e*PKIKP	PKPdf	16 54 42.2	+1.2
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KLR	Kul'dur	154.28	330	*i* PKIKP	PKPdf	16 54 43.8	-0.3
KLR				pmax	pmax		
	comp=Z,5.0nm,1.5s						
WMQ	Urumqi	154.66	45	*e*PKPbc	PKPdf	16 54 45.5	+0.6
WMQ				LR	LR		
	comp=N,700nm,13.3s						
WMQ				LR	LR		
	comp=E,640nm,15.5s						
WMQ				LR	LR		
	comp=Z,290nm,14.3s						
HEH	HeiHe	155.17	337	PKP	PKPdf	16 54 46.0	+0.7
MJAR	Matsushiro Arr	156.79	298	PKPab	PKPab	16 55 19.4	+1.1
	comp=Z,3.9nm,0.7s,baz=78,slow=4.2,SNR=14						
USRK	Ussuriysk Ar.	157.64	321	PKPab	PKPab	16 55 22.9	+1.3
	comp=Z,0.8nm,0.7s,baz=88,slow=2.1,SNR=4.2						
BNX	BinXian	158.84	330	⇑P	PKPdf	16 54 49.8	-0.3
BNX				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	Songino Array	159.76	12	PKP	PKPdf	16 54 52.9	+1.6
	comp=Z,2.2nm,0.9s,baz=326,slow=0.4,SNR=14						
SONM				PKPab	PKPab	16 55 31.6	+0.8
	comp=Z,4.1nm,0.7s,baz=325,slow=4.0,SNR=15						
CN2	Changchun	161.23	330	*e*P	PKPdf	16 54 50.0	-2.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSRS	Korea Array	164.08	310	PKP	PKPdf	16 54 56.4	+0.6
	comp=Z,0.9nm,0.8s,baz=112,slow=1.3,SNR=6.2						
KSRS				PKPab	PKPab	16 55 51.5	+1.5
	comp=Z,2.2nm,0.8s,baz=53,slow=4.9,SNR=9.4						
CMAR	Chiang Mai Arr	164.25	125	PKP	PKPdf	16 54 57.5	+0.9
	comp=Z,1.7nm,0.9s,baz=261,slow=2.8,SNR=9.5						
CMAR				PKPab	PKPab	16 55 51.7	+0.5
	comp=Z,0.3nm,0.3s,baz=255,slow=1.9,SNR=2.0						
GTA	Gaotai	164.58	40	PKP	PKPdf	16 54 57.5	+1.1
GTA				PKPab	PKPab	16 55 53.5	+1.2
HHC	Hu-ho-hao-te	167.29	3	*e*P	PKPdf	16 54 54.0	-4.5
PZH	PanZhiHua	170.27	97	PKP	PKPdf	16 54 59.8	-1.1
TIA	Tai'an	171.06	335	PKP	PKPdf	16 55 02.5	+1.7
CD2	Chengdu	171.87	68	PKP	PKPdf	16 55 00.5	-1.0
NJ2	Nanjing	173.27	307	*e*P	PKPdf	16 55 04.0	+2.1
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
XAN	Xi'an	173.35	27	PKP	PKPdf	16 55 03.5	+1.5

*IDC **29** 16:44:44.9±1.8, 19.°16N×145.°01E, h228km±17km, mb3.4/4, mbtmp4.0/7, Error ellipse: s-maj=49.0km s-min=12.0km az=87.0*
*NEIC **29** 16:44:45.3±1.7, 19.°13N±0.°09×145.°1E±0.°2, h234km±9km, mb4.5/18, Error ellipse: s-maj=22.1km s-min=13.7km az=90.0*

ISC 29 16:44:45.8±0.6, 19.°10N±0.°06×145.°0E±0.°2, h250km, n26, σ1§19/28, mb4.4/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.48	181	P	Pn	16 46 07.4	-0.2
	21nm,0.5s,baz=348,slow=23,SNR=1.0						
GUMO				S	S	16 47 11.2	-1.7
	33nm,0.3s,baz=3.3,slow=22,SNR=2.1						
JCJ	Chichijima	8.36	343	P	Pn	16 46 43.0	-0.7
	85nm,0.9s,baz=265,slow=20,SNR=1.9						
JCJ				S	S	16 48 18.7	-0.1
	50nm,0.6s,baz=276,slow=20,SNR=1.6						
JGF	Kuroka	17.77	339	P	P	16 48 34.6	-1.3
JGF				IAmb	IAmb	16 49 06.0	
	comp=Z,28nm,1.5s						
PATS	Pohnpei	17.80	131	P	P	16 48 36.0	-0.4
MJAR	Matsushiro Arr	18.37	342	P	P	16 48 40.1	-2.2
	comp=Z,0.7nm,0.8s,baz=149,slow=9.8,SNR=1.8						
MAJO	Matsushiro	18.37	342	P	P	16 48 41.6	-0.8
MAJO				IAmb	IAmb	16 48 53.8	
	comp=Z,7.0nm,1.1s						
MANU	Manus Island	21.14	173	P	P	16 49 11.2	-0.7
RABL	Rabaul	24.20	162	P	P	16 49 38.7	-1.3
RABL				IAmb	IAmb	16 49 39.4	
	comp=Z,7.3nm,0.5s						
PMG	Port Moresby	28.41	175	P	P	16 50 15.6	-2.0
KAPI	Kappang	34.52	229	P	P	16 51 10.8	-0.1
MTN	Manton Dam	34.55	204	P	P	16 51 11.4	+0.3
MTN				IAmb	IAmb	16 51 54.6	
	comp=Z,37nm,1.4s						
KNRA	Kununurra	38.06	206	P	P	16 51 41.6	+0.9
KNRA				IAmb	IAmb	16 52 17.7	
	comp=Z,19nm,1.4s						
WB0	Warramunga Arr	40.00	196	P	P	16 51 57.8	+1.1
WR8	Warramunga Arr	40.15	195	P	P	16 51 59.4	+1.5
WRA	Warramunga Arr	40.18	196	P	P	16 51 59.4	+1.2
	comp=Z,2.2nm,0.6s,baz=18,slow=8.3,SNR=28						
	comp=Z,2.2nm,0.6s						
AS31	Alice Springs	43.86	195	P	P	16 52 28.9	+1.1
ASAR	Alice Springs	43.86	195	P	P	16 52 29.2	+1.4
ASAR	Alice Springs	43.86	195	P	P	16 52 29.8	+2.0
	comp=Z,1.4nm,0.6s,baz=15,slow=6.0,SNR=39						
	comp=Z,1.4nm,0.6s						
DZM	Mont Dzumac	45.99	152	P	P	16 52 44.8	+0.2
DZM				IAmb	IAmb	16 53 18.1	
	comp=Z,22nm,1.2s						
BBOO	Buckleboo	52.32	189	P	P	16 53 33.2	+1.0
BBOO				IAmb	IAmb	16 54 01.0	
	comp=Z,33nm,1.5s						
BMRM	Bremner River	63.99	31	P	P	16 54 52.8	+0.2
BMRM				IAmb	IAmb	16 55 07.6	
	comp=Z,20nm,1.4s						
F31M	Tsiigehtchic	69.18	24		P	16 55 24.7	-0.4
F31M				IAmb	IAmb	16 55 40.2	
	comp=Z,3.0nm,0.5s						
A36M	Sachs Harbour	71.92	19	P	P	16 55 42.1	+0.6
NVAR	Mina Array Bea	83.43	52	P	P	16 56 46.7	+0.8
	comp=Z,0.5nm,0.6s,baz=256,slow=8.1,SNR=4.1						
	comp=Z,0.5nm,0.6s						
FINES	FINESS Array B	86.24	335	P	P	16 57 00.0	+1.0
FINES	FINESS Array B	86.24	335	P	P	16 57 00.5	+1.4
	comp=Z,0.3nm,0.3s,baz=52,slow=4.3,SNR=5.9						
	comp=Z,0.3nm,0.3s						

*IDC **29** 16:59:36.4±1.1, 9.°23S×67.°01E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=31.6km s-min=27.5km az=95.0*

ISC 29 16:59:39.5±1.1, 9.°2S±0.°2×67.°0E±0.°2, h18km, n14, σ1§25/8, mb3.7/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	5.66	74	T	T	17 07 06.9	
	baz=244,slow=76,SNR=6.2						
H08S3	Diego Garcia H	5.67	74	T	T	17 06 53.0	
	baz=244,slow=76,SNR=6.3						
H08S2	Diego Garcia H	5.68	74	T	T	17 07 00.5	
	baz=244,slow=76,SNR=5.5						
CMAR	Chiang Mai Arr	41.85	49	P	P	17 07 29.9	+1.1
	0.2nm,0.3s,baz=240,slow=10,SNR=4.8						
	0.2nm,0.3s						
BOSA	Boshof	43.64	238	P	P	17 07 43.8	+0.4
	0.9nm,0.6s,baz=82,slow=9.0,SNR=3.7						
	0.9nm,0.6s						
H01W3	Cape Leeuwin H	50.02	128	T	T	18 02 11.0	
	baz=290,slow=75,SNR=83						
H01W2	Cape Leeuwin H	50.03	128	T	T	18 02 13.0	
	baz=290,slow=75,SNR=113						
H01W1	Cape Leeuwin H	50.04	128	T	T	18 02 14.7	
	baz=290,slow=75,SNR=97						
MKAR	Makanchi Array	57.41	12	P	P	17 09 25.6	-1.4
	0.3nm,0.6s,baz=202,slow=7.4,SNR=3.3						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	60.43	8	P	P	17 09 47.7	-0.2
	0.4nm,0.6s,baz=209,slow=7.2,SNR=4.5						
	0.4nm,0.6s						
BVAR	Borovoye Array	62.06	2	P	P	17 09 58.3	-0.6
	0.7nm,0.7s,baz=160,slow=9.5,SNR=4.0						
	0.7nm,0.7s						
ASAR	Alice Springs	65.28	112	P	P	17 10 19.0	-1.8
	0.6nm,0.9s,baz=271,slow=6.5,SNR=8.1						
	0.6nm,0.9s						
WRA	Warramunga Arr	65.70	108	P	P	17 10 24.6	+1.0
	0.6nm,1.0s,baz=279,slow=8.8,SNR=1.5						
	0.6nm,1.0s						
SONM	Songino Array	66.66	28	P	P	17 10 29.4	+0.2
	1.1nm,1.1s,baz=235,slow=5.2,SNR=3.5						
	1.1nm,1.1s						

*IDC **29** 17:19:11.0±1.6, 4.°89N×128.°12E, h96km±7km, mb3.7/9, mbtmp4.1/9, Error ellipse: s-maj=160.9km s-min=13.0km az=68.0*
*DJA **29** 17:19:11.4±0.7, 5.°N±6.°×12.°8E±.°, h60km±7km, M4.5/13, mb4.4/13, mB4.9/2, MLv4.5/12, Mw(mB)4.2/2*
*NEIC **29** 17:19:12.8±1.5, 4.°77N±0.°10×128.°0E±0.°1, h101km±11km, mb4.3/13, Error ellipse: s-maj=21.2km s-min=13.1km az=72.0*

ISC 29 17:19:11.7±0.7, 4.°80N±0.°07×127.°81E±0.°09, h100km, n39, σ1§32/43, mb4.1/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.53	244	P	Pn	17 19 48.2	-3.1
SGSI				S	Sn	17 20 16.1	-5.6
DAV	Davao City (W)	3.17	316	P	Pn	17 20 06.6	+6.9
	207nm,0.4s,baz=117,slow=14,SNR=3.6						
DAV				S	Sn	17 20 34.2	-2.6
	282nm,0.5s,baz=240,slow=17,SNR=6.2						
TNTI	Ternate	4.03	186		Pn	17 20 12.1	+0.8
TNTI				Sn	Sn	17 20 59.2	+1.8
TNTI	Ternate	4.03	186	P	Pn	17 20 11.7	+0.4
KMSI	Cibinong	5.68	222	P	Pn	17 20 32.2	-1.5
SWI	Sorong	6.59	148	P	Pn	17 20 45.6	-0.6
	0.1nm14nm,0.5s						
SANI	Sanana	7.04	195	P	Pn	17 20 49.0	-3.3
	0.1nm24nm,0.9s						
MRSI	Marisa	7.27	234	P	Pn	17 20 53.4	-1.9
TOLI2	Tolitoli	7.92	243	Pn	Pn	17 21 00.2	-4.0
NLAI	Namlea	8.02	185	P	Pn	17 21 04.3	-1.2
	0.1nm24nm,1.2s						
FAKI	Fak Fak	8.86	150	Pn	Pn	17 21 16.9	-0.1
FAKI				Sn	Sn	17 22 51.3	-3.7
FAKI	Fak Fak	8.86	150	P	Pn	17 21 17.0	0.0
	20nm,1.2s						
EDFI	Ende, Flores	14.78	204	P	Pn	17 22 36.7	+0.8
	9.8nm,1.3s						
WBSI	Waikabubak, Su	16.62	210	P	Pn	17 22 59.6	+0.8
	25nm,0.8s						
PLAI	Plampang	16.83	216	P	Pn	17 23 02.1	+0.7
	18nm,0.8s						
MTN	Manton Dam	17.84	169	P	P	17 23 11.4	-1.5
MTN				IAmb	IAmb	17 23 19.0	
	comp=Z,30nm,1.4s						
JAGI	Jajag, Banyuwa	18.96	226	P	P	17 23 26.6	+1.3
JAGI				IAmb	IAmb	17 23 29.6	
	comp=Z,46nm,1.3s						
JAGI	Jajag, Banyuwa	18.96	226	P	P	17 23 26.3	+1.0
KNRA	Kununurra	20.36	177	P	P	17 23 40.4	-0.1
KNRA				IAmb	IAmb	17 23 45.4	
	comp=Z,6.6nm,0.5s						
FITZ	Fitzroy Crossi	22.85	185	P	P	17 24 07.0	+0.3
WB0	Warramunga Arr	25.25	165	P	P	17 24 27.8	-0.9
WB0				IAmb	IAmb	17 24 31.0	
	comp=Z,12nm,1.1s						
WRA	Warramunga Arr	25.41	166	P	P	17 24 28.1	-2.1
WRA	Warramunga Arr	25.41	166	P	P	17 24 29.3	-0.8
	comp=Z,2.3nm,0.7s,baz=339,slow=10,SNR=43						
	comp=Z,2.3nm,0.7s						
WR8	Warramunga Arr	25.46	165	P	P	17 24 30.1	-0.6
WR8				IAmb	IAmb	17 24 33.3	
	comp=Z,4.3nm,0.6s						
AS31	Alice Springs	28.91	168	P	P	17 25 01.5	0.0
ASAR	Alice Springs	28.91	168	P	P	17 25 00.9	-0.6
ASAR	Alice Springs	28.91	168	P	P	17 25 01.2	-0.3
	comp=Z,

s-min=29.3km az=67.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.79**	**160**	P	Pn	17 31 11.7	+0.2
	0.1nm,0.3s,baz=342,slow=13,SNR=6.9						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**21.17**	**165**	P	P	17 31 49.5	+0.1
	0.2nm,0.3s,baz=345,slow=11,SNR=8.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**63.95**	**327**	P	P	17 37 37.2	-0.1
	0.3nm,0.8s,baz=134,slow=8.3,SNR=2.3						
	0.3nm,0.8s						

*IDC **29** 17:33:25.5±0.5, 18°.14N×120°.13E, h0km, mb4.2/23, mbtmp4.2/25, ML4.0/2, MS3.8/18, Error ellipse: s-maj=20.1km s-min=12.3km az=72.0*
*NEIC **29** 17:33:27.6±1.1, 18°.12N±0°.08×120°.04E±0°.06, h10km±1km, mb4.8/128, Error ellipse: s-maj=15.4km s-min=3.4km az=145.0*
*DJA **29** 17:33:29.0±0.3, 18°N±3°×12°0E±°, h10km, M4.7/18, mb4.7/18, mB6.0/4, MLv4.4/1, Mw(mB)5.6/4*
*BJI **29** 17:33:35.2, 18°.62N×119°.01E, h10km, mB4.8/10, mb4.3/30, Ms4.6/25, Ms7 4.3/24*
ISC 29 17:33:27.6±0.4, 18°.20N±0°.05×119°.94E±0°.06, h10km, n168, σ1972/104, mb4.7/96, MS3.9/21, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**4.19**	**167**	Pn	**Pn**	**17 34 30.1**	**-1.6**
	67nm,0.3s,baz=356,slow=6.5,SNR=8.5						
TGY				LR	LR	17 35 49.1	
	comp=Z,526nm,21.4s,baz=353,slow=35						
	163nm,0.4s						
TWG	**Pinlang**	**4.71**	**13**		**Pn**	**17 34 39.2**	**+0.3**
TPUB	**Ta-pu**	**5.11**	**7**		**Pn**	**17 34 43.3**	**-1.0**
YULB	**Yu-li**	**5.32**	**14**		**Pn**	**17 34 45.0**	**-2.1**
SSLB	**Suanglung**	**5.64**	**10**		**Pn**	**17 34 49.4**	**-2.1**
NACB	**Ninganchiao**	**6.14**	**14**		**Pn**	**17 34 55.4**	**-3.0**
HKPS	**Hong Kong Po S**	**6.78**	**308**		**Pn**	**17 35 05.0**	**-2.3**
QIZ	**Qiongzhong**	**9.61**	**276**		Pn	17 35 42.7	-3.3
QIZ	**Qiongzhong**	**9.61**	**276**	P	**Pn**	**17 35 43.0**	**-3.0**
QIZ				S	**Sn**	**17 37 28.0**	**-6.1**
UBPT	**Khong Chiam**	**14.16**	**260**		**Pn**	**17 36 48.4**	**+0.1**
ENH	**Enshi**	**15.32**	**324**		**Pn**	**17 37 03.5**	**-0.5**
SLVN	**Son La**	**15.41**	**284**	P	**Pn**	**17 37 03.7**	**-1.6**
KMI	**Kunming**	**17.39**	**296**	P	**P**	**17 37 34.5**	**+2.4**
KMI				S	**Sn**	**17 40 48.3**	**+3.7**
KMI				LR	LR		
	comp=N,670nm,13.5s						
KMI				LR	LR		
	comp=E,1μm,13.4s						
KMI				LR	LR		
	comp=Z,1μm,13.3s						
LYN	**LuoYang**	**17.59**	**339**	⇑P	**P**	**17 37 36.3**	**+2.4**
LYN				pmax	pmax		
	comp=Z,23nm,0.8s						
LYN				pmax	pmax		
	comp=Z,230nm,4.2s						
LYN				LR	LR		
	comp=Z,1μm,16.3s						
LYN				LR	LR		
	comp=Z,2μm,17.1s						
LYN				LR	LR		
	comp=Z,980nm,14.1s						
JNU	**Nakatsue**	**17.81**	**31**	P	**Pn**	**17 37 34.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=50,slow=8.9,SNR=4.5						
	comp=Z,12nm,0.9s						
KMSI	**Cibinong**	**17.96**	**167**	P	**P**	**17 37 43.3**	**+5.2**
XAN	**Xi'an**	**18.59**	**330**	P	**P**	**17 37 45.3**	**+0.3**
XAN				pP	pwP	17 37 52.3	+1.6
XAN				pmax	pmax		
	comp=Z,18nm,1.3s						
XAN				LR	LR		
	comp=Z,2μm,14.5s						
XAN				LR	LR		
	comp=Z,2μm,16.2s						
XAN				LR	LR		
	comp=Z,2μm,13.5s						
KSM	**Kuching**	**19.12**	**211**		**P**	**17 37 50.5**	**-0.5**
LUWI	**Luwuk**	**19.33**	**171**	P	**Pn**	**17 37 57.2**	**+3.0**
	comp=Z,48nm,0.8s						
CHTO	**Chiang Mai**	**19.92**	**275**		**P**	**17 38 00.2**	**+0.5**
CM31	**Chiang Mai Arr**	**19.93**	**274**	P	**P**	**17 38 00.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**19.93**	**274**		**P**	**17 38 00.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**19.93**	**274**	P	**P**	**17 38 01.1**	**+1.4**
	comp=Z,4.9nm,0.8s,baz=97,slow=9.1,SNR=23						
CMAR				LR	LR	17 45 59.0	
	comp=Z,123nm,19.8s,baz=75,slow=37						
	comp=Z,4.9nm,0.8s						
KSAR	**Wonju Array Be**	**20.40**	**18**		**P**	**17 38 05.0**	**+0.3**
KSRS	**Korea Array**	**20.42**	**18**	P	**P**	**17 38 05.3**	**+0.4**
	comp=Z,8.4nm,0.9s,baz=198,slow=11,SNR=37						
KSRS				LR	LR	17 47 21.8	
	comp=Z,241nm,18.8s,baz=225,slow=41						
	comp=Z,8.4nm,0.9s						
KS19	**Wonju Array Si**	**20.45**	**18**	P	**P**	**17 38 05.1**	**-0.1**
KS19				IAmb	IAmb	17 38 06.4	
	comp=Z,98nm,1.6s						
SANI	**Sanana**	**20.99**	**163**	P	Pn	17 38 16.6	+2.8
	comp=Z,39nm,0.8s						
BJT	**Baijiatuan**	**21.98**	**352**	P	**P**	**17 38 22.2**	**+0.5**
SPSI	**Sidrap Palu**	**22.03**	**180**	P	**P**	**17 38 25.9**	**+3.5**
	comp=Z,30nm,1.0s						
LZH	**Lanzhou**	**22.80**	**325**	*eP*	**P**	**17 38 31.8**	**+1.1**
LZH				pP	pwP	17 38 36.3	-0.1
LZH				pmax	pmax		
	comp=Z,13nm,1.3s						
LZH				LR	LR		
	comp=Z,2μm,13.4s						
LZH				LR	LR		
	comp=Z,1μm,14.4s						
LZH				LR	LR		
	comp=Z,1μm,13.7s						
INU	**Inuyama**	**22.83**	**38**		**P**	**17 38 30.4**	**-0.5**
INU				IAmb	IAmb	17 38 33.3	
	comp=Z,54nm,1.2s						
KAPI	**Kappang**	**23.07**	**180**	LR	LR	17 48 07.1	
	comp=Z,319nm,20.2s,baz=352,slow=38						
JGF	**Kuroka**	**23.21**	**38**	P	**P**	**17 38 34.3**	**-0.5**
JGF				IAmb	IAmb	17 38 35.8	
	comp=Z,50nm,1.3s						
BTO	**Baotou**	**23.90**	**341**	*eP*	**P**	**17 38 46.5**	**+4.8**
BTO				pmax	pmax		
	comp=Z,21nm,0.6s						
BTO				pmax	pmax		
	comp=Z,130nm,4.2s						
BTO				LR	LR		
	comp=Z,640nm,11.0s						
BTO				LR	LR		
	comp=Z,960nm,15.1s						
BTO				LR	LR		
	comp=Z,670nm,15.3s						
MJAR	**Matsushiro Arr**	**24.36**	**38**	P	**P**	**17 38 44.6**	**-1.2**
	comp=Z,4.7nm,1.1s,baz=236,slow=7.0,SNR=8.6						
	comp=Z,4.7nm,1.1s						
GUMO	**Guam**	**24.40**	**97**	LR	LR	17 46 22.3	
	comp=Z,279nm,20.6s,baz=298,slow=32						
XLT	**XiLinHaoTe**	**25.82**	**354**	*eP*	**P**	**17 39 01.8**	**+2.7**
XLT				pP	pwP	17 39 08.8	+3.4
XLT				sP	sP	17 39 13.3	+11
XLT				PP	**PnPn**	**17 39 38.0**	**+1.9**
XLT				pmax	pmax		
	comp=Z,12nm,1.0s						
XLT				pmax	pmax		
	comp=Z,99nm,4.2s						
XLT				LR	LR		
	comp=Z,620nm,16.2s						
XLT				LR	LR		
	comp=Z,380nm,16.6s						
JMM	**Marumori**	**26.77**	**39**	P	**P**	**17 39 07.4**	**-0.3**
JMM				IAmb	IAmb	17 39 08.5	
	comp=Z,25nm,0.9s						
GTA	**Gaotai**	**27.40**	**325**	*eP*	**P**	**17 39 15.3**	**+1.8**
GTA				sP	pwP	17 39 25.0	+5.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**27.83**	**19**	P	**P**	**17 39 17.0**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=213,slow=6.9,SNR=5.5						
	comp=Z,2.6nm,0.7s						
BNX	**BinXian**	**28.15**	**11**	⇑P	**P**	**17 39 21.5**	**+1.6**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.1s						
LSA	**Lhasa**	**28.61**	**299**	P	**P**	**17 39 26.1**	**+1.3**
SONM	**Songino Array**	**31.56**	**342**	P	**P**	**17 39 50.7**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=162,slow=8.1,SNR=3.8						
	comp=Z,0.6nm,0.6s						
ASAJ	**Asahikawa**	**32.09**	**31**	LR	LR	17 53 54.2	
	comp=Z,176nm,20.2s,baz=185,slow=38						
HEH	**HeiHe**	**32.53**	**9**	*eP*	**P**	**17 39 59.3**	**+0.7**
HEH				pmax	pmax		
	comp=Z,4.0nm,1.3s						
HEH				LR	LR		
	comp=N,370nm,13.5s						
HEH				LR	LR		
	comp=E,220nm,15.3s						
HEH				LR	LR		
	comp=Z,470nm,14.2s						
PMG	**Port Moresby**	**38.41**	**133**	LR	LR	17 57 14.8	
	comp=Z,97nm,20.3s,baz=250,slow=37						
RABL	**Rabaul**	**38.79**	**122**	P	**P**	**17 40 51.7**	**-1.1**
RABL				IAmb	IAmb	17 40 55.4	
	comp=Z,16nm,0.9s						
PALK	**Pallekele**	**39.69**	**259**	LR	LR	17 56 16.9	
	comp=Z,123nm,18.8s,baz=123,slow=34						
WB0	**Warramunga Arr**	**40.31**	**159**		**P**	**17 41 02.8**	**-2.6**
WRA	**Warramunga Arr**	**40.46**	**159**	P	**P**	**17 41 04.2**	**-2.3**
	comp=Z,6.6nm,0.7s,baz=339,slow=9.2,SNR=22						
WRA				PcP	**PcP**	**17 43 09.6**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=339,slow=3.5,SNR=4.8						
	comp=Z,6.6nm,0.7s						
WR8	**Warramunga Arr**	**40.53**	**159**		**P**	**17 41 04.3**	**-2.9**
MKAR	**Makanchi Array**	**42.03**	**321**	P	**P**	**17 41 20.3**	**+1.0**
MKAR	**Makanchi Array**	**42.03**	**321**	P	**P**	**17 41 20.6**	**+1.3**
	comp=Z,2.2nm,0.9s,baz=113,slow=9.3,SNR=15						
	comp=Z,2.2nm,0.9s						
MAKZ	**Makanchi**	**42.23**	**321**		**P**	**17 41 22.2**	**+1.3**
KSH	**Kashi**	**43.44**	**309**	P	**P**	**17 41 34.5**	**+3.5**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH				LR	LR		
	comp=Z,440nm,14.7s						
KSH				LR	LR		
	comp=Z,400nm,17.1s						
KSH				LR	LR		
	comp=Z,540nm,14.1s						
AS31	**Alice Springs**	**43.79**	**161**		**P**	**17 41 31.6**	**-2.2**
ASAR	**Alice Springs**	**43.79**	**161**		**P**	**17 41 32.0**	**-1.7**
ASAR	**Alice Springs**	**43.79**	**161**	P	**P**	**17 41 32.4**	**-1.4**
	comp=Z,9.4nm,0.8s,baz=342,slow=6.9,SNR=77						
	comp=Z,9.4nm,0.8s						
NRN	**Naryn**	**43.99**	**311**	IAmb	IAmb	17 41 52.5	
	comp=Z,13nm,1.0s						
YAK	**Yakutsk**	**44.31**	**7**		**P**	**17 41 36.9**	**-0.5**
YAK				IAmb	IAmb	17 41 51.6	
	comp=Z,9.2nm,0.8s						
NIL	**Nilore**	**44.34**	**300**		**P**	**17 41 37.8**	**-0.4**
NIL				IAmb	IAmb	17 42 01.3	
	comp=Z,17nm,0.9s						
ZALV	**Zalesovo Beam**	**44.76**	**331**		**P**	**17 41 40.3**	**-0.9**
ZALV	**Zalesovo Beam**	**44.76**	**331**	P	**P**	**17 41 41.2**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=110,slow=8.1,SNR=4.7						
ZALV				LR	LR	17 59 49.7	
	comp=Z,94nm,19.1s,baz=141,slow=35						
	comp=Z,0.7nm,0.6s						
PETK	**Petropavlovsk-**	**45.51**	**31**	P	**P**	**17 41 46.4**	**-0.8**
	comp=Z,4.2nm,0.9s,baz=243,slow=6.5,SNR=3.6						
PETK				LR	LR	18 02 36.8	
	comp=Z,129nm,18.6s,baz=242,slow=38						
	comp=Z,4.2nm,0.9s						
KURK	**Kurchatov**	**46.09**	**324**		**P**	**17 41 52.5**	**+0.8**
KURK				IAmb	IAmb	17 42 11.5	
	comp=Z,10nm,0.9s						
KURBB	**Kurchatov Arra**	**46.09**	**324**	P	**P**	**17 41 52.6**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=122,slow=8.2,SNR=16						
	comp=Z,3.4nm,0.7s						
MA2	**Magadan**	**46.95**	**21**	LR	LR	18 03 32.8	
	comp=Z,76nm,18.3s,baz=240,slow=38						
KBL	**Kabul**	**47.92**	**300**		**P**	**17 42 06.7**	**+0.1**
KBL				IAmb	IAmb	17 42 24.9	
	comp=Z,11nm,1.1s						
HNR	**Honiara**	**48.10**	**122**	LR	LR	18 01 30.4	
	comp=Z,151nm,18.8s,baz=260,slow=35						
KK31	**Karatay Array**	**48.37**	**312**	IAmb	IAmb	17 42 34.4	
	comp=Z,17nm,1.6s						
KKAR	**Karatay Array**	**48.37**	**312**		**P**	**17 42 10.2**	**+0.5**
KKAR	**Karatay Array**	**48.37**	**312**	IAmb	IAmb	17 42 34.4	
	comp=Z,18nm,1.6s						
SIMJ	**Simiganj**	**48.53**	**306**		**P**	**17 42 11.3**	**+0.1**
BVAR	**Borovoye Array**	**51.68**	**324**	P	**P**	**17 42 35.7**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=116,slow=10,SNR=14						
BVAR				PcP	**PcP**	**17 43 48.7**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=129,slow=4.0,SNR=5.2						
	comp=Z,1.9nm,0.8s						
BRVK	**Borovoye**	**51.76**	**324**		**P**	**17 42 36.0**	**+0.7**
BBOO	**Buckleboo**	**53.02**	**163**		**P**	**17 42 43.2**	**-1.6**
TIXI	**Tiksi**	**53.70**	**3**		**P**	**17 42 48.0**	**-1.3**
TIXI				IAmb	IAmb	17 43 18.6	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**53.95**	**157**		**P**	**17 42 50.2**	**-1.5**
STKA	**Stephens Creek**	**53.95**	**157**	P	**P**	**17 42 50.1**	**-1.5**
	comp=Z,8.6nm,0.8s,baz=334,slow=7.2,SNR=13						
STKA				LR	LR	18 07 24.3	
	comp=Z,107nm,21.1s,baz=232,slow=38						
	comp=Z,8.6nm,0.8s						
NRIK	**Noril'sk**	**54.89**	**347**	IAmb	IAmb	17 43 17.4	
	comp=Z,11nm,1.0s						
NRIK	**Noril'sk**	**54.89**	**347**	P	**P**	**17 42 58.1**	**+0.1**
	comp=Z,8.2nm,0.9s,baz=136,slow=6.7,SNR=11						
	comp=Z,8.2nm,0.9s						
ABKAR	**Akbulak array**	**56.90**	**317**		**P**	**17 43 13.1**	**+0.4**
AKTO	**Aktyubinsk**	**58.34**	**318**	LR	LR	18 10 15.9	
	comp=Z,156nm,19.2s,baz=196,slow=38						
DZM	**Mont Dzumac**	**60.60**	**129**	*e*LR	LR	18 01 33.3	
	comp=Z,132nm,25.6s						
KBZ	**Khabaz**	**68.38**	**311**	P	**P**	**17 44 30.8**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=67,slow=2.7,SNR=4.9						
KBZ				LR	LR	18 16 14.2	
	comp=Z,158nm,19.9s,baz=114,slow=38						
	comp=Z,1.4nm,0.8s						
RAYN	**Ar Rayn**	**69.06**	**289**		**P**	**17 44 33.7**	**-0.5**
J17K	**VABM Dome**	**69.86**	**28**	P	**P**	**17 44 39.0**	**+0.7**
E19K	**Redstone River**	**70.60**	**24**	IAmb	IAmb	17 44 44.7	
	comp=Z,9.9nm,1.2s						
G19K	**Purcell Mounta**	**70.67**	**25**	IAmb	IAmb	17 44 44.9	
	comp=Z,11nm,1.3s						
G21K	**Allakaket**	**72.10**	**25**	IAmb	IAmb	17 44 53.8	
	comp=Z,10nm,1.0s						
E22K	**Anaktuvuk Pass**	**72.62**	**23**	IAmb	IAmb	17 44 56.8	
	comp=Z,10nm,1.2s						
I21K	**Tanana**	**72.85**	**26**	IAmb	IAmb	17 44 58.6	
	comp=Z,13nm,1.1s						
D23K	**Nanushuk River**	**72.95**	**22**	IAmb	IAmb	17 44 59.0	
	comp=Z,12nm,1.1s						
E23K	**Chandalar**	**73.44**	**23**	IAmb	IAmb	17 45 12.0	
	comp=Z,12nm,1.2s						
G23K	**Bananza Creek**	**73.46**	**25**	IAmb	IAmb	17 45 02.0	
	comp=Z,11nm,1.1s						
I23K	**Minto, Yukon-K**	**73.95**	**26**	IAmb	IAmb	17 45 12.8	
	comp=Z,15nm,1.3s						
NEA2	**Nenana**	**74.16**	**27**	IAmb	IAmb	17 45 05.4	
	comp=Z,8.4nm,0.8s						
F24K	**Squaw Lake**	**74.17**	**24**	IAmb	IAmb	17 45 06.0	
	comp=Z,6.7nm,1.0s						
MCK	**McKinley**	**74.35**	**28**	IAmb	IAmb	17 45 06.2	
	comp=Z,13nm,1.0s						
D25K	**Kavik River**	**74.42**	**22**	IAmb	IAmb	17 45 07.1	
	comp=Z,11nm,1.2s						
RND	**Reindeer**	**74.44**	**28**	IAmb	IAmb	17 45 06.4	
	comp=Z,12nm,0.9s						
H24K	**Noodor Dome**	**74.45**	**25**	IAmb	IAmb	17 45 25.4	
	comp=Z,12nm,1.3s						
G24K	**Hadweenzic Riv**	**74.47**	**24**	IAmb	IAmb	17 45 07.8	
	comp=Z,11nm,1.1s						
ARCES	**ARCESS Array B**	**74.64**	**339**	P	**P**	**17 45 06.7**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=75,slow=6.4,SNR=4.2						
	comp=Z,1.4nm,0.9s						
ILAR	**Eielson Array**	**75.05**	**26**	P	**P**	**17 45 07.8**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=266,slow=4.0,SNR=11						
	comp=Z,1.2nm,0.8s						
HDA	**Harding Lake**	**75.09**	**27**	IAmb	IAmb	17 45 09.6	
	comp=Z,8.4nm,1.1s						
C27K	**Jago River**	**75.28**	**21**	IAmb	IAmb	17 45 23.3	
	comp=Z,6.7nm,0.9s						
BMAR	**Burnt Mountain**	**75.44**	**23**		**P**	**17 45 12.1**	**+0.6**
PRP	**Porcupine Dome**	**75.47**	**25**	IAmb	IAmb	17 45 43.4	
	comp=Z,22nm,2.0s						
F26K	**Sheenjek River**	**75.55**	**23**	IAmb	IAmb	17 45 14.3	
	comp=Z,9.5nm,1.2s						
G26K	**Porcupine Rive**	**75.85**	**24**	IAmb	IAmb	17 45 15.8	
	comp=Z,8.7nm,1.1s						
FINES	**FINESS Array B**	**76.02**	**330**	P	**P**	**17 45 14.3**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=38,slow=7.5,SNR=11						
	comp=Z,1.6nm,0.6s						
PAX	**Paxson**	**76.03**	**28**	IAmb	IAmb	17 45 29.8	
	comp=Z,8.5nm,1.1s						
D27M	**Malcolm River**	**76.32**	**21**	IAmb	IAmb	17 45 18.4	
	comp=Z,11nm,1.2s						
E27K	**Coleen River**	**76.37**	**22**	IAmb	IAmb	17 45 18.5	
	comp=Z,9.1nm,1.1s						
J26L	**Joseph Creek**	**76.51**	**26**	IAmb	IAmb	17 45 18.4	
	comp=Z,6.4nm,1.1s						
AKASG	**Malin Array Be**	**76.58**	**319**	P	**P**	**17 45 18.8**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=69,slow=4.5,SNR=6.6						
	comp=Z,1.5nm,0.8s						
G27K	**Doyon Strip**	**76.70**	**24**	IAmb	IAmb	17 45 20.5	
	comp=Z,7.6nm,1.2s						
MENT	**Mentasta**	**76.82**	**28**	IAmb	IAmb	17 45 23.9	
	comp=Z,6.1nm,0.9s						
K27K	**Chicken**	**77.25**	**27**	IAmb	IAmb	17 45 23.9	
	comp=Z,13nm,1.1s						
RPZ	**Rata Peaks**	**77.36**	**145**	LR	LR	18 22 01.2	
	comp=Z,41nm,18.2s,baz=314,slow=38						
L27K	**Beaver Creek,**	**77.62**	**27**	IAmb	IAmb	17 45 26.1	
	comp=Z,9.5nm,1.1s						
E29M	**Blow River**	**77.63**	**22**	IAmb	IAmb	17 45 35.3	
	comp=Z,11nm,1.4s						
BCAR	**Beaver Creek A**	**77.64**	**27**	P	**P**	**17 45 24.5**	**+0.4**
I28M	**Miner Creek**	**77.75**	**25**	IAmb	IAmb	17 45 37.2	
	comp=Z,7.4nm,0.9s						
M27K	**Edge Creek, AK**	**77.79**	**28**	IAmb	IAmb	17 45 26.6	
	comp=Z,6.5nm,0.9s						
G29M	**Pine Creek**	**78.05**	**23**	IAmb	IAmb	17 45 27.7	
	comp=Z,13nm,1.1s						
F30M	**Barrier River**	**78.64**	**22**	IAmb	IAmb	17 45 30.7	
	comp=Z,11nm,1.0s						
G30M	**tAoh Zrali Nji**	**78.69**	**23**	IAmb	IAmb	17 45 30.4	
	comp=Z,13nm,1.1s						
EPYK	**Eagle Plains**	**78.71**	**24**	IAmb	IAmb	17 45 30.6	
	comp=Z,9.7nm,1.1s						
L29M	**L29M**	**79.21**	**27**	IAmb	IAmb	17 45 35.0	
	comp=Z,10nm,1.1s						
K29M	**Barlow Dome**	**79.23**	**26**	IAmb	IAmb	17 45 43.7	
	comp=Z,16nm,1.6s						
I30M	**Mount Dempster**	**79.23**	**25**	IAmb	IAmb	17 45 44.9	
	comp=Z,8.7nm,1.1s						
M29M	**Somme Creek**	**79.28**	**28**	IAmb	IAmb	17 45 35.4	
	comp=Z,7.3nm,0.8s						
F31M	**Tsiigehtchic**	**79.43**	**22**	IAmb	IAmb	17 45 34.4	
	comp=Z,14nm,1.1s						
BURAR	**Bucovina Array**	**79.88**	**317**		**P**	**17 45 36.8**	**0.0**
M30M	**Minto, Yukon**	**79.97**	**27**	IAmb	IAmb	17 45 39.0	
	comp=Z,9.6nm,1.1s						
MLR	**Muntele Rosu**	**79.97**	**315**		**P**	**17 45 37.2**	**-0.1**
HYT	**Haines Junctio**	**80.25**	**29**	IAmb	IAmb	17 45 40.7	
	comp=Z,14nm,1.2s						
P29M	**Windy Craggy**	**80.54**	**30**	IAmb	IAmb	17 45 42.2	
	comp=Z,10nm,0.9s						
WHY	**Whitehorse**	**81.51**	**29**	IAmb	IAmb	17 45 46.6	
	comp=Z,12nm,1.0s						
FARO	**Faro, Yukon**	**81.59**	**27**	IAmb	IAmb	17 45 47.1	
	comp=Z,7.8nm,1.0s						
HFS	**Hagfors**	**82.20**	**331**	P	**P**	**17 45 48.0**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=67,slow=8.2,SNR=4.6						
	comp=Z,2.4nm,0.9s						
P33M	**Teslin, Yukon**	**82.63**	**29**	IAmb	IAmb	17 45 52.9	
	comp=Z,7.0nm,1.1s						
NB2	**NORSAR Subarra**	**82.95**	**332**	P	**P**	**17 45 53.6**	**+0.9**
	comp=Z,2.1nm,1.0s,baz=65,slow=5.1						
NOA	**NORSAR Array B**	**82.95**	**332**	P	**P**	**17 45 52.8**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=66,slow=5.2,SNR=5.4						
NOA				LR	LR	18 28 09.3	
	comp=Z,124nm,18.8s,baz=65,slow=40						
	comp=Z,1.8nm,0.9s						
MORC	**Moravsky Berou**	**84.02**	**320**	*eP*	**P**	**17 46 00.6**	**+2.2**
JAVC	**Velka Javorina**	**84.27**	**320**	*eP*	**P**	**17 46 01.9**	**+2.1**
VRAC	**Vranov**	**84.77**	**320**	*eP*	**P**	**17 46 04.7**	**+2.5**
KRUC	**Moravsky**	**84.98**	**320**	*eP*	**P**	**17 46 04.3**	**+1.1**
CONA	**Conrad Observa**	**85.74**	**319**	*e*PcP	**PcP**	**17 46 09.5**	**-0.5**
	comp=Z,3.7nm,1.5s						
BRG	**Berggiesshubel**	**85.74**	**322**	*eP*	**P**	**17 46 09.2**	**+2.2**
BRG				Amp		17 46 13.2	
	comp=Z,4.3nm,0.8s						
CLL	**Collm**	**86.11**	**323**	*i* P	**P**	**17 46 10.3**	**+1.5**
ARSA	**Arzberg**	**86.21**	**319**	*ep*P	pP	17 46 18.4	+6.7
	comp=Z,3.4nm,1.1s						
GERES	**GERESS Array B**	**86.70**	**321**		**P**	**17 46 11.3**	**-0.6**
GERES	**GERESS Array B**	**86.70**	**321**	P	**P**	**17 46 12.9**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=57,slow=8.1,SNR=6.5						
	comp=Z,0.9nm,0.9s						
MOA	**Molln**	**86.76**	**319**	*e*PcP	**PcP**	**17 46 14.4**	**-0.1**
	comp=Z,6.7nm,1.2s						
KBA	**Koelnbreinsper**	**87.64**	**319**	*eP*	**P**	**17 46 16.6**	**0.0**
	comp=Z,0.9nm,0.2s						
ABTA	**Abfaltersbach**	**88.30**	**319**	*eP*	**P**	**17 46 18.2**	**-1.5**
	comp=Z,4.7nm,1.2s						
WTTA	**Wattenberg**	**88.62**	**320**	*ep*P	pP	17 46 29.4	+5.9
	comp=Z,2.8nm,0.6s						
YKAW3	**Yellowknife Wh**	**88.87**	**22**	IAmb	IAmb	17 46 36.9	
	comp=Z,9.5nm,1.2s						
MOTA	**Moosalm**	**88.91**	**320**	*e*PcP	**P**	**17 46 24.0**	**+1.4**
	comp=Z,6.3nm,1.3s						
YKA	**Yellowknife Ar**	**88.91**	**22**	P	**P**	**17 46 22.2**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=316,slow=4.5,SNR=17						
	comp=Z,1.5nm,0.9s						
RETA	**Reutte**	**89.06**	**320**	*ep*P	pP	17 46 31.0	+5.6
	comp=Z,5.0nm,1.3s						
FETA	**Feichten**	**89.28**	**320**	*e*PcP	**P**	**17 46 25.7**	**+1.3**
	comp=Z,4.4nm,1.1s						
PPT	**Papeete**	**95.79**	**107**	LR	LR	18

LCH	**Last Change Ra**	**0.60 108**		Pg	17 37 12.7	-0.2
LCH				Sg	17 37 21.5	+0.7
MINS	**Minaret Summit**	**0.60 293**		Pg	17 37 12.9	-0.1
MINS				Sg	17 37 21.2	+0.3
MDPB	**Devils Postpil**	**0.61 291**		Pg	17 37 13.0	-0.1
MDPB				Sg	17 37 21.5	+0.4
MDPB	**Devils Postpil**	**0.61 291**	IAML		17 37 21.7	
	comp=E,4μm,0.4s					
MDPB			IAML		17 37 22.1	
	comp=N,3μm,0.4s					
MDCM	**Deadman Creek**	**0.61 299**		Pg	17 37 13.2	0.0
KCC	**Kaiser Creek**	**0.77 263**		Pg	17 37 15.7	-0.4
KCC				Sg	17 37 25.7	-0.3
MZP	**Montezuma Peak**	**0.83 70**		Pg	17 37 17.1	-0.2
MZP				Sg	17 37 28.6	+0.5
LHV	**Little Huntoon**	**0.84 352**		Pg	17 37 17.6	+0.2
LHV				Sb	17 37 29.9	+0.2
LHV	**Little Huntoon**	**0.84 352**	IAML		17 37 36.5	
	comp=N,3μm,0.6s					
LHV			IAML		17 37 36.5	
	comp=E,3μm,0.6s					
GMN	**Gold Mountain**	**0.89 97**		Pg	17 37 18.2	-0.2
GMN				Sb	17 37 30.7	-0.6
GRAC	**Grapevine Rang**	**0.90 118**		Pg	17 37 18.6	0.0
GRAC				Sb	17 37 31.3	-0.2
GRAC	**Grapevine Rang**	**0.90 118**	IAML		17 37 33.2	
	comp=E,4μm,0.5s					
CGO	**Cerro Gordo**	**0.98 152**		Pg	17 37 19.3	-0.8
CGO				Sg	17 37 32.6	-0.2
NV08	**Mina Array Sit**	**0.98 2**		Pg	17 37 20.1	-0.1
CWC	**Cottonwood Cre**	**1.00 167**		Pg	17 37 20.2	-0.4
CWC				Sg	17 37 33.9	+0.2
NVAR	**Mina Array Bea**	**1.01 3**		Pg	17 37 20.5	-0.2
NV09	**Mina Array Sit**	**1.01 1**		Pg	17 37 20.7	-0.1
NV11	**Mina Array Sit**	**1.02 9**		Pg	17 37 20.9	-0.2
NV11				Sg	17 37 34.3	0.0
TVH1	**TV Hill, Hawth**	**1.08 343**		Sb	17 37 37.1	-0.1
MMIM	**Miami Mountain**	**1.10 270**		Pg	17 37 21.8	-0.7
TPH	**Tonopah**	**1.12 54**		Pg	17 37 22.7	-0.1
TPH				Sg	17 37 37.4	+0.1
SGV	**South Grapevin**	**1.15 112**		Pg	17 37 22.9	-0.5
SGV				Sg	17 37 38.4	+0.1
FRI	**Friant**	**1.16 249**		Pg	17 37 22.6	-0.9
RYN	**Ryan**	**1.21 354**		Pg	17 37 24.4	-0.2
RYN				Sn	17 37 41.4	-0.3
RYN	**Ryan**	**1.21 354**	IAML		17 37 41.9	
	comp=N,1μm,0.4s					
RYN			IAML		17 37 42.3	
	comp=E,1μm,0.5s					
KARE	**Kearney REC, C**	**1.23 228**		Pb	17 37 23.9	-0.9
MHDM	**Hidden Dam**	**1.26 257**		Pn	17 37 24.6	-0.7
SPG2	**Springville 2**	**1.26 195**		Pn	17 37 24.4	-0.9
VOG	**Valley Oaks Go**	**1.37 217**		Pn	17 37 26.8	0.0
WAKR	**Walker**	**1.38 322**		Pn	17 37 27.1	0.0
WAKR	**Walker**	**1.38 322**	IAML		17 37 50.7	
	comp=E,1μm,0.8s					
LEGD	**La Grand CA**	**1.44 262**		Pn	17 37 27.8	0.0
WCT	**Wildcat Mounta**	**1.52 114**		Pn	17 37 29.5	+0.4
WCT	**Wildcat Mounta**	**1.52 114**	IAML		17 37 52.7	
	comp=E,852nm,0.5s					
WCT			IAML		17 37 55.3	
	comp=N,773nm,0.6s					
FURC	**Furnace Creek,**	**1.53 128**		Pg	17 37 30.7	0.0
WNMM	**Nine Mile Cany**	**1.61 167**		Pn	17 37 30.3	+0.1
MYLM	**Yosemite Lake**	**1.64 269**		Pb	17 37 31.4	-0.5
VES	**Vestal, Richgr**	**1.68 200**		Pb	17 37 32.1	-0.5
WASM	**Alta Sierra Ca**	**1.68 185**		Pb	17 37 32.2	-0.5
CMB	**Columbia Colle**	**1.72 292**		Pn	17 37 32.1	+0.4
CMB	**Columbia Colle**	**1.72 292**	IAML		17 38 04.6	
	comp=N,496nm,0.7s					
WORM	**Onyx Ranch**	**1.72 177**		Pn	17 37 32.4	+0.6
TPNV	**Topopah Spring**	**1.75 105**		Pn	17 37 32.4	+0.1
TPNV	**Topopah Spring**	**1.75 105**	IAML		17 38 01.1	
	comp=N,700nm,0.8s					
TPNV			IAML		17 38 01.4	
	comp=N,701nm,0.9s					
ISA	**Isabella, Lake**	**1.75 183**		Pn	17 37 32.0	-0.2
ISA			IAML		17 37 57.5	
	comp=E,582nm,0.5s					
ISA			IAML		17 37 57.8	
	comp=N,568nm,0.2s					
SDH	**Striped Hills**	**1.79 115**		Pn	17 37 33.5	+0.8
GWY	**Greenwater Val**	**1.83 132**	Pn	Pn	17 37 32.9	-0.5
GWY			IAML		17 38 04.7	
	comp=N,639nm,1.2s					
GWY			IAML		17 38 13.1	
	comp=E,631nm,1.0s					
NSP	**Numbskull Pass**	**1.85 111**		Pn	17 37 34.0	+0.4
CPY	**CP-1**	**1.91 104**		Pn	17 37 34.5	+0.2
AMDNV	**Amargosa**	**1.93 119**		Pn	17 37 34.9	+0.4
PNTR	**Pine Nut**	**1.93 330**		Pn	17 37 35.4	+0.6
PNTR	**Pine Nut**	**1.93 330**	IAML		17 38 09.4	
	comp=N,618nm,0.7s					
CCCA	**Chr Cany lake**	**2.05 157**		Pn	17 37 36.6	+0.3
MCY	**Mercury**	**2.06 111**		Pn	17 37 37.2	+0.7
BMSM	**Mercy Hot Spri**	**2.09 249**		Pb	17 37 38.7	-0.9
S11A	**Rachel**	**2.09 83**		Pn	17 37 36.2	-0.8
S11A			IAML		17 38 14.0	
	comp=N,714nm,0.9s					
MAGC	**SCE Magundon P**	**2.10 193**		Pb	17 37 39.7	-0.1
SCKWR	**San Luis Creek**	**2.17 265**		Pb	17 37 40.7	-0.2
CTM	**Castle Mountai**	**2.17 228**		Pb	17 37 40.0	-1.0
PSRM	**Scobie Ranch**	**2.19 225**		Pb	17 37 39.9	-1.4
TEJ	**El Tejon**	**2.20 187**		Pb	17 37 40.9	-0.5
PMRM	**Maxey Ranch**	**2.22 223**		Pn	17 37 40.1	+1.5
PSMM	**Smith Mountain**	**2.24 234**		Pb	17 37 40.6	-1.6
PHFM	**Heflinger Ranc**	**2.25 228**		Pn	17 37 40.2	+1.3
PSTM	**Stockdale Moun**	**2.28 230**		Pn	17 37 40.6	+1.2
PKD	**Bear Valley Ra**	**2.29 231**		Pn	17 37 40.2	+0.7
PKLM	**Kerr Lake**	**2.29 225**		Pn	17 37 40.8	+1.4
MPK	**Martis Peak**	**2.29 326**		Pn	17 37 41.0	+1.2
MPK	**Martis Peak**	**2.29 326**	IAML		17 38 22.1	
	comp=N,516nm,1.0s					
MPK			IAML		17 38 25.7	
	comp=E,344nm,1.0s					
PMPB	**Monarch Peak**	**2.29 239**		Pn	17 37 39.2	-0.5
PBPM	**Bitterwater Pu**	**2.30 217**		Pn	17 37 41.4	+1.7
PVCM	**Vineyard Canyo**	**2.30 230**		Pn	17 37 40.9	+1.3
BBGB	**Big Mountain B**	**2.30 249**		Pn	17 37 39.2	-0.5
PPTM	**Peach Tree Val**	**2.30 236**		Pn	17 37 41.3	+1.6
PHPM	**Hope Ranch**	**2.30 232**		Pn	17 37 41.0	+1.3
SLD	**San Luis Dam**	**2.31 262**		Pb	17 37 41.6	-1.6
ARVC	**Arvin**	**2.32 189**		Pb	17 37 42.3	-1.1
TRAY	**Twisselman Ran**	**2.34 218**		Pn	17 37 41.5	+1.3
LRV	**Little Rabbit**	**2.35 246**		Pn	17 37 41.8	+1.5
HPCM	**Pacheco Lake**	**2.35 262**		Pb	17 37 42.3	-1.7
CMPM	**Mikes Peak**	**2.35 269**		Pn	17 37 41.8	+1.3
PWKM	**Work Ranch**	**2.35 228**		Pn	17 37 41.6	+1.2
MTOS	**Mt Oso, Westle**	**2.36 273**		Pn	17 37 41.4	+0.9
PACP	**Pacheco Peak**	**2.37 261**		Pb	17 37 42.8	-1.6
TCHL	**Shandon**	**2.38 224**		Pn	17 37 39.6	-1.1
PPO	**Portuguese Can**	**2.38 230**		Pn	17 37 42.0	+1.2
R11B	**Troy Canyon, C**	**2.39 66**		Pn	17 37 39.3	-1.7
TJR	**Tejon Ranch**	**2.41 187**		Pb	17 37 44.6	-0.3
PAHR	**Pah Rah Range**	**2.42 341**		Pn	17 37 42.2	+0.8
CARC	**Carrizo Plain**	**2.42 210**		Pb	17 37 43.6	-1.6
BPIM	**Pinnacles**	**2.43 248**		Pn	17 37 43.3	+1.9
CRGC	**Crocker Grade**	**2.43 207**		Pb	17 37 43.6	-1.9
GSC	**Goldstone, Bar**	**2.46 149**		Pn	17 37 41.9	0.0
GSC			IAML		17 38 23.1	
	comp=E,261nm,1.4s					
TSCN	**Private Proper**	**2.46 221**		Pn	17 37 43.7	+1.8
HFEM	**San Felipe**	**2.46 261**		Pb	17 37 44.0	-1.9
SMMC	**Simmler**	**2.48 213**		Pn	17 37 43.8	+1.6
GHS	**Gilroy Hot Spr**	**2.48 263**		Pn	17 37 44.1	+1.9
BJOM	**Mount Johnson**	**2.49 252**		Pb	17 37 44.6	-1.7
CSTL	**Corral Hollow**	**2.50 276**		Pb	17 37 44.8	-1.7
PEAR	**Peavine Mounta**	**2.52 331**		Pn	17 37 43.9	+1.0
CDC	**Canada Road**	**2.52 262**		Pn	17 37 44.6	+1.9
BSGM	**Shirttail Gulc**	**2.52 247**		Pn	17 37 44.0	+1.3
ARN	**Arnold Ranch**	**2.52 269**		Pn	17 37 44.8	+2.0
TCAS	**Cass Winery, P**	**2.53 225**		Pn	17 37 44.3	+1.5
SAO	**San Andreas Ge**	**2.55 256**		Pb	17 37 45.4	-2.0
AFDM	**Forest Hills D**	**2.56 307**		Pn	17 37 42.5	-0.7
AFDM			IAML		17 38 31.6	
	comp=E,223nm,0.4s					
SCZ	**Santa Cruz**	**2.57 252**	IAML		17 38 22.5	
	comp=N,263nm,0.7s					
SCZ			IAML		17 38 26.6	
	comp=E,263nm,0.6s					
BCW	**Bitter Crk WRg**	**2.62 199**		Pn	17 37 42.8	-1.3
PRN	**Pahroc Range**	**2.64 89**		Pn	17 37 44.8	+0.4
PRN	**Pahroc Range**	**2.64 89**	IAML		17 38 38.0	
	comp=N,430nm,0.7s					
PRN			IAML		17 38 57.1	
	comp=E,323nm,0.8s					
SHPR	**Sheep Range**	**2.72 109**		Pn	17 37 45.0	-0.7
PKM	**Mcpherson Peak**	**2.78 205**		Pb	17 37 49.1	-2.4
RUSS	**Russell Ranch**	**2.99 293**		Pb	17 37 55.0	+0.2
SPR3	**Spring Creek 3**	**3.55 62**		Pn	17 37 56.4	-0.7
SPR3			IAML		17 38 54.8	
	comp=N,120nm,1.3s					
SPR3			IAML		17 38 54.8	
	comp=E,154nm,0.6s					
PSUT	**Pine Spring**	**3.73 71**	IAML		17 39 01.1	
	comp=N,139nm,0.9s					
PSUT			IAML		17 39 02.6	
	comp=E,148nm,1.1s					
ELS	**Elsinore Mount**	**3.84 168**		Pn	17 38 01.6	+0.7
ELK	**Elko**	**4.12 35**		Pn	17 38 05.8	+1.0
ELK	**Elko**	**4.12 35**	IAML		17 39 15.7	
	comp=E,55nm,0.7s					
HATC	**Hat Creek Radi**	**4.16 326**	Pg	Pg	17 38 20.0	-1.0
HATC			IAML		17 39 27.1	
	comp=N,112nm,2.5s					
KNB	**Kanab**	**4.44 94**		Pn	17 38 07.2	-2.0
KNB			IAML		17 39 39.0	
	comp=E,46nm,1.5s					
PKCU	**Pink Cliffs**	**4.82 88**	IAML		17 39 45.4	
	comp=E,68nm,1.0s					
PKCU			IAML		17 39 51.5	
	comp=N,65nm,1.8s					
TCRU	**Three Creeks R**	**4.82 74**	IAML		17 39 38.2	
	comp=E,53nm,0.9s					
TCRU			IAML		17 39 40.7	
	comp=N,65nm,1.0s					
MTPU	**Mount Pierson**	**4.94 81**	IAML		17 39 49.4	
	comp=N,30nm,1.7s					
MTPU			IAML		17 40 02.9	
	comp=E,32nm,1.2s					
U15A	**North Rim**	**4.96 100**	IAML		17 39 43.7	
	comp=E,50nm,0.9s					
U15A			IAML		17 39 58.5	
	comp=N,43nm,1.3s					
MVU	**Marysvale**	**4.98 76**	IAML		17 39 43.2	
	comp=E,78nm,0.7s					
PV04	**Paradox Valley**	**7.54 80**		Pg	17 39 20.1	-5.6

NDI ***29*** *17:39:40.9±1.5,23°.10N×94°.89E,h10km,ML4.4,MW4.4, mb4.7(NEIC)*

NEIC ***29*** *17:39:44.5±1.8,23°.03N±0°.07×94°.82E±0°.09,h133km±6km, mb4.7/53,Error ellipse: s-maj=12.4km s-min=8.6km az=59.0*

IDC ***29*** *17:39:44.9±0.6,23°.00N×94°.77E,h143km±5km,mb4.0/29, mbtmp4.4/31,MS3.9/4,Error ellipse: s-maj=10.2km s-min=7.7km az=26.0*

BJI ***29*** *17:39:44.2,23°.13N×94°.79E,h133km,mB4.7/9,mb4.4/39*

BKK ***29*** *17:39:44.9±0.3,23°.N±6°.×.9°.5E±°.,h125km±6km,M4.3/16, mB4.6/8,mb4.4/16,ML4.8/6,MLv4.6/9,Mw(mB)3.8/8*

ISC 29 17:39:45.3±0.3,23°.07N±0°.04×94°.76E±0°.04,h150km±24,n185, α2≥24/204,**mb4.5**/64,**9C-7D,Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZL	**Aizawl**	**2.02**	**290**	*e*P	**Pn**	**17 40 17.6**	**-3.1**
AZL				*e*S	**Sn**	**17 40 41.6**	**-6.3**
KOHI	**KOHIMA**	**2.71**	**347**	*e*P	**Pn**	**17 40 25.2**	**-3.9**
KOHI				*e*S	**Sn**	**17 40 56.9**	**-6.1**
KOHI				IAML		17 41 02.1	
	comp=N,3μm,0.6s						
KOHI				IAML		17 41 02.2	
	comp=E,2μm,0.4s						
BRDH	**Bariadhala**	**2.90**	**263**	P	**Pn**	**17 40 30.5**	**-0.9**
	comp=E,161nm,0.3s,baz=231,slow=22,SNR=5.8						
BRDH				S	**Sn**	**17 41 04.9**	**-2.1**
	comp=E,1μm,0.3s,baz=227,slow=20,SNR=28						
AGT	**Agartala**	**3.32**	**285**	*e*S	**Sn**	**17 41 14.3**	**-2.4**
AGT				IAML		17 41 17.2	
	comp=N,2μm,0.5s						
SHL	**Shillong**	**3.62**	**314**		**Pn**	**17 40 39.5**	**-1.3**
SHL	**Shillong**	**3.62**	**314**	*e*P	**Pn**	**17 40 37.1**	**-3.6**
SHL				*e*S	**Sn**	**17 41 18.6**	**-5.1**
TNCH	**TengChong**	**3.95**	**60**	↓*i*P	**Pn**	**17 40 45.5**	**+0.4**
TNCH				S	**Sn**	**17 41 23.5**	**-8.0**
TNCH				smax	smax		
	comp=N,120nm,1.4s						
TNCH				smax	smax		
	comp=N,120nm,1.3s						
TNCH				LR	LR		
	comp=N,260nm,6.1s						
GUWA	**GUWAHATI**	**4.18**	**319**	*e*P	**Pn**	**17 40 45.9**	**-2.0**
GUWA				*e*S	**Sn**	**17 41 31.4**	**-5.3**
GUWA				IAML		17 41 31.4	
	comp=N,2μm,0.1s						
GUWA				IAML		17 41 31.4	
	comp=E,2μm,0.1s						
CHTO	**Chiang Mai**	**5.76**	**137**		**Pn**	**17 41 06.0**	**-2.9**
CHTO	**Chiang Mai**	**5.76**	**137**	P	**Pn**	**17 41 06.3**	**-2.6**
CM31	**Chiang Mai Arr**	**6.03**	**139**		**Pn**	**17 41 09.5**	**-3.0**
CMAR	**Chiang Mai Arr**	**6.03**	**139**	P	**Pn**	**17 41 09.8**	**-2.6**
	comp=E,11nm,0.6s,baz=303,slow=13,SNR=71						
GTK	**Tadong**	**7.00**	**308**	*e*P	**Pn**	**17 41 24.4**	**-1.1**
GTK				*e*S	**Sn**	**17 42 39.8**	**-4.2**
GTK				IAML		17 42 42.5	
	comp=E,357nm,0.2s						
GTK				IAML		17 42 48.0	
	comp=N,313nm,0.4s						
PZH	**PanZhiHua**	**7.21**	**60**	P	**Pn**	**17 41 30.5**	**+2.3**
PZH				S	**Sn**	**17 42 45.0**	**-4.0**
PZH				LR	LR		
	comp=N,600nm,13.5s						
PZH				LR	LR		
	comp=N,660nm,10.4s						
PZH				LR	LR		
	comp=N,760nm,13.8s						
LSA	**Lhasa**	**7.35**	**335**		**Pn**	**17 41 31.1**	**+0.5**
LSA	**Lhasa**	**7.35**	**335**	P	**Pn**	**17 41 31.0**	**+0.5**
LSA				LR	LR		
	comp=N,580nm,14.4s						
LSA				LR	LR		
	comp=N,1μm,14.4s						
PHIT	**Phitsanulok**	**7.90**	**137**	P	**Pn**	**17 41 36.3**	**-1.2**
	comp=N,2.8nmcomp=N,0.2nmcomp=N,636nmcomp=N,56nm,1.0s						
UTHA	**Uthaitani**	**8.68**	**149**	P	**Pn**	**17 41 47.2**	**-0.7**
	comp=N,0.0nmcomp=N,131nmcomp=N,16nm,0.9s						
KNTI	**KHUNTI**	**8.73**	**272**	*e*P	**Pn**	**17 41 47.9**	**-0.6**
KNTI				*e*S	**Sn**	**17 43 21.2**	**-4.2**
GUN	**Gumba**	**9.36**	**303**	Pn	**Pn**	**17 41 56.1**	**-1.0**
	baz=304,slow=0.0						
GUN				Sn	**Sn**	**17 43 35.1**	**-6.0**
	comp=N,277nm,0.4s,baz=304,slow=0.0						
PKI	**Pulchoki**	**9.57**	**300**	Pn	**Pn**	**17 41 58.8**	**-1.2**
	baz=301,slow=0.0						
PKI				Sn	**Sn**	**17 43 40.1**	**-6.2**
	comp=N,188nm,0.5s,baz=301,slow=0.0						
PKIN	**Phulchoki**	**9.59**	**300**	Pn	**Pn**	**17 41 58.9**	**-1.2**
	baz=301,slow=0.0						
PKIN				Sn	**Sn**	**17 43 40.5**	**-6.0**
	comp=N,212nm,0.4s,baz=301,slow=0.0						
KKN	**Kakani**	**9.77**	**301**	Pg	**Pn**	**17 42 02.1**	**-0.4**
	baz=302,slow=0.0						
KKN	**Kakani**	**9.77**	**301**	Pn	**Pn**	**17 42 02.2**	**-0.3**
	baz=302,slow=0.0						
KKN	**Kakani**	**9.77**	**301**	Pn	**Pn**	**17 42 02.5**	**0.0**
	baz=302,slow=0.0						
KKN				Sn	**Sn**	**17 43 45.6**	**-5.3**
	comp=N,112nm,0.2s,baz=302,slow=0.0						
DMN	**Daman**	**9.83**	**299**	Pn	**Pn**	**17 42 02.1**	**-1.2**
	baz=301,slow=0.0						
DMN				Sn	**Sn**	**17 43 45.9**	**-6.5**
	comp=N,125nm,0.4s,baz=301,slow=0.0						
CHAI	**Chaiyaphum**	**9.86**	**135**	P	**Pn**	**17 42 04.2**	**+0.6**
JHSG	**JHARSUGUGA**	**10.25**	**265**	*e*S	**Sn**	**17 43 57.5**	**-4.6**
KOLN	**Koldanda**	**11.12**	**297**	Pn	**Pn**	**17 42 19.4**	**-0.9**
	baz=298,slow=0.0						
KOLN	**Koldanda**	**11.12**	**297**	Pn	**Pn**	**17 42 19.7**	**-0.5**
	baz=298,slow=0.0						
KOLN	**Koldanda**	**11.12**	**297**	Pn	**Pn**	**17 42 19.8**	**-0.5**
	baz=298,slow=0.0						
KOLN				Sn	**Sn**	**17 44 16.9**	**-6.4**
	comp=N,323nm,0.5s,baz=298,slow=0.0						
GYA	**Guiyang**	**11.33**	**70**	↓P	**Pn**	**17 42 20.5**	**-2.5**
GYA				pmax	pmax		
	comp=N,8.0nm,0.9s						
PBA	**Port Blair**	**11.51**	**190**		**Pn**	**17 42 23.3**	**-2.0**
PYUN	**Piuthan**	**11.74**	**298**	Pn	**Pn**	**17 42 27.6**	**-0.9**
	baz=299,slow=0.0						
PYUN				Sn	**Sn**	**17 44 31.2**	**-7.2**
	comp=N,178nm,0.7s,baz=299,slow=0.0						
GOMU	**GeErMu**	**13.08**	**0**	P	**Pn**	**17 42 44.0**	**-1.9**
RNTT	**Ranong**	**14.06**	**165**	P	**P**	**17 43 02.8**	**+1.6**
LGTI	**Lohaghat**	**14.48**	**299**	*e*P	**P**	**17 43 07.8**	**+2.0**
LGTI				IAML		17 45 43.1	
	comp=N,37nm,0.4s						
LGTI				IAML		17 45 45.3	
	comp=E,29nm,0.6s						
PTH	**Pithoragarh**	**14.55**	**299**	*e*P	**P**	**17 43 07.7**	**+1.0**
PTH				IAML		17 45 40.8	
	comp=E,44nm,0.4s						
PTH				IAML		17 45 46.0	
	comp=N,26nm,0.9s						
QIZ	**Qiongzhong**	**14.64**	**103**	P	**P**	**17 43 08.0**	**+0.4**
QIZ				S	**Sn**	**17 45 45.5**	**-2.4**
QIZ				LR	LR		
	comp=N,440nm,11.6s						
QIZ				LR	LR		
	comp=N,710nm,9.2s						
QIZ				LR	LR		
	comp=N,800nm,10.2s						
JHNI	**Jhansi**	**14.99**	**282**	*e*S	Sn	17 45 45.2	-11
JHNI				IAML		17 45 50.3	
	comp=N,20nm,0.3s						
JHNI				IAML		17 45 50.7	
	comp=E,16nm,0.3s						
LZH	**Lanzhou**	**15.18**	**29**	*e*P	**P**	**17 43 12.0**	**-1.6**
LZH				pmax	pmax		
	comp=E,19nm,1.4s						
HYB	**Hyderabad**	**16.21**	**253**	*e*P	**P**	**17 43 25.6**	**+0.6**
HYB				*e*		17 46 14.6	
HYB				*e*S	**Sn**	**17 46 25.8**	**+0.2**
NRDN	**NARMADA NAGAR**	**16.22**	**272**	*e*P	**P**	**17 43 29.8**	**+4.7**
NRDN				*e*S	**S**	**17 46 16.8**	**-8.3**
XAN	**Xi'an**	**16.54**	**46**	P	**Pn**	**17 43 28.5**	**-0.2**
XAN				pmax	pmax		
	comp=E,11nm,0.6s						
GTA	**Gaotai**	**16.85**	**14**	*e*P	**Pn**	**17 43 33.3**	**+0.9**
GTA				LR	LR		
	comp=E,390nm,15.9s						
GTA				LR	LR		
	comp=E,470nm,15.9s						
GTA				LR	LR		
	comp=E,540nm,15.5s						
KULM	**Kulim**	**18.57**	**161**	P	**Pn**	**17 43 50.9**	**-2.0**
WHN	**Wuhan**	**18.99**	**63**	P	**Pn**	**17 44 00.8**	**+3.1**
WHN				pmax	pmax		
	comp=E,44nm,0.6s						
PSI	**Prapat**	**20.55**	**168**	P	**P**	**17 44 13.2**	**+0.8**
	comp=E,15nm,0.8s,baz=315,slow=7.3,SNR=8.8						
	comp=E,15nm,0.8s						
RPSI	**Rantau Prapat**	**20.65**	**168**		**P**	**17 44 12.4**	**-1.0**
RPSI				IAmb	IAmb	17 44 16.3	
	comp=Z,22nm,1.1s						
PALK	**Pallekele**	**20.72**	**223**	S	**S**	**17 47 58.5**	**+0.9**
	comp=Z,13nm,0.9s,baz=296,slow=21,SNR=5.8						
WMQ	**Urumqi**	**21.50**	**346**	*e*P	**P**	**17 44 23.0**	**+0.7**
WMQ				LR	LR		
	comp=Z,660nm,13.3s						
WMQ				LR	LR		
	comp=Z,680nm,12.5s						
WMQ				LR	LR		
	comp=Z,350nm,18.7s						
NIL	**Nilore**	**21.62**	**304**	P	**P**	**17 44 22.4**	**-1.3**
NIL				IAmb	IAmb	17 44 28.6	
	comp=Z,12nm,0.6s						
GSI	**Gunungsitoli**	**21.81**	**172**		**P**	**17 44 23.9**	**-1.7**
GSI	**Gunungsitoli**	**21.81**	**172**	P	**P**	**17 44 24.5**	**-1.2**
WUS	**Wushi**	**22.30**	**328**		**P**	**17 44 30.9**	**+0.3**
HHC	**Hu-ho-hao-te**	**22.68**	**35**	*e*P	**P**	**17 44 35.0**	**+0.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,170nm,5.6s						
KSH	**Kashi**	**22.87**	**320**	P	**P**	**17 44 38.5**	**+2.5**
KSH				sP	sP	17 45 22.5	-0.6
KSH				S	**S**	**17 48 37.3**	**+3.1**
KSH				pmax	pmax		
	comp=Z,16nm,0.6s						
NJ2	**Nanjing**	**23.12**	**62**	*e*P	**P**	**17 44 38.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TIA	**Tai'an**	**23.37**	**51**	P	**P**	**17 44 42.5**	**+2.1**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KDJ	**Kajisay**	**24.01**	**326**		**P**	**17 44 48.8**	**+2.4**
ULHL	**Ulahol**	**24.58**	**325**	P	**P**	**17 44 54.4**	**+2.8**
	SNR=15						
KBL	**Kabul**	**25.20**	**303**		**P**	**17 44 58.5**	**+1.2**
TKM2	**Tokmak 2**	**25.39**	**326**	P	**P**	**17 45 01.9**	**+2.9**
	SNR=7.3						
KBK	**Karagaybulak**	**25.55**	**325**	P	**P**	**17 45 03.6**	**+3.3**
	SNR=6.3						
MKAR	**Makanchi Array**	**25.72**	**340**		**P**	**17 45 03.4**	**+1.8**
MKAR	**Makanchi Array**	**25.72**	**340**	P	**P**	**17 45 03.7**	**+2.1**
	comp=Z,6.4nm,0.5s,baz=151,slow=9.7,SNR=120						
MKAR				pP	**pP**	**17 45 33.9**	**+0.8**
	comp=Z,6.9nm,0.6s,baz=148,slow=12,SNR=7.0						
MKAR				S	**S**	**17 49 23.0**	**+3.8**
	comp=Z,0.3nm,0.4s,baz=189,slow=24,SNR=4.7						
MKAR				LR	LR	17 57 42.3	
	comp=Z,142nm,20.7s,baz=232,slow=42						
	comp=Z,6.4nm,0.5s						
AAK	**Ala-Archa**	**25.78**	**324**		**P**	**17 45 04.1**	**+1.7**
AAK	**Ala-Archa**	**25.78**	**324**	P	**P**	**17 45 05.5**	**+3.1**
	SNR=7.8						
MAKZ	**Makanchi**	**25.83**	**340**		**P**	**17 45 03.3**	**+0.6**
GAR	**Garm**	**26.17**	**313**	IAmb	IAmb	17 45 09.3	
	comp=Z,23nm,0.7s						
USP	**Ospenovka**	**26.21**	**325**	P	**P**	**17 45 08.9**	**+2.8**
	SNR=5.4						
BTK	**Batken**	**26.39**	**316**	IAmb	IAmb	17 45 11.4	
	comp=Z,12nm,0.7s						
SONM	**Songino Array**	**26.41**	**18**	P	**P**	**17 45 09.2**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=185,slow=8.5,SNR=2.1						
SONM				pP	**pP**	**17 45 39.0**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=201,slow=10,SNR=4.4						
	comp=Z,0.3nm,0.3s						
XLT	**XiLinHaoTe**	**27.20**	**35**	*e*P	**P**	**17 45 16.5**	**+1.5**
XLT				pP	pP	17 45 41.5	-5.1
XLT				sP

HEH pmax pmax
comp=Z,4.0nm,0.8s
AB31 Akbulak array 37.84 322 IAmb IAmb 17 46 50.1
comp=Z,10.0nm,0.9s
ABKAR Akbulak array 37.84 322 P 17 46 49.1 +1.8
ABKAR Akbulak array 37.84 322 IAmb IAmb 17 46 50.1
comp=Z,10nm,0.9s
MJAR Matsushiro Arr 39.70 60 P **P 17 47 02.4 -0.6**
comp=Z,2.9nm,0.9s,baz=274,slow=9.7,SNR=12
MJAR PcP **PcP 17 49 06.4 -0.3**
comp=Z,0.6nm,0.9s,baz=228,slow=1.1,SNR=4.3
comp=Z,2.9nm,0.9s
ARTI Arti 42.59 331 P 17 47 27.4 +1.1
RAYN Ar Rayn 45.06 281 P 17 47 48.0 +1.4
NRIK Noril'sk 46.48 356 P **P 17 47 57.4 +0.4**
comp=Z,1.3nm,0.4s,baz=138,slow=7.9,SNR=4.3
comp=Z,1.3nm,0.4s
KBZ Khabaz 47.10 309 P **P 17 48 02.8 +0.7**
comp=Z,2.5nm,0.6s,baz=142,slow=8.9,SNR=8.2
comp=Z,2.5nm,0.6s
GURO Guroymak-BITLI 47.22 302 IAmb IAmb 17 48 07.4
comp=Z,9.2nm,0.7s
KVAR Kislovodsk Arr 47.28 309 LR LR 18 13 38.9
comp=Z,308nm,18.3s,baz=110,slow=43
KIV Kislovodsk 47.29 309 P 17 48 04.5 +0.8
KIV IAmb IAmb 17 48 07.2
comp=Z,18nm,0.7s
KIV Kislovodsk 47.29 309 ⇑P **P 17 48 06.0 +2.2**
KIV Kislovodsk 47.29 309 P **P 17 48 05.6 +1.9**
comp=Z,20nm,0.9s
MARD Mardin 48.17 300 P 17 48 12.4 +1.8
GAZ Gaziantep 51.01 300 IAmb IAmb 17 48 35.3
comp=Z,11nm,0.8s
TIXI Tiksi 52.33 13 P 17 48 40.2 -1.0
DIKM Dikmen 52.54 306 ⇓P **P 17 48 45.1 +1.8**
MMAI Mount Meron Ar 52.72 295 P **P 17 48 46.7 +1.8**
comp=Z,2.5nm,0.6s,baz=88,slow=11,SNR=6.7
comp=Z,2.5nm,0.6s
GHAJ Ghor Haditha 52.76 293 IAmb IAmb 17 48 48.3
comp=Z,12nm,1.1s
BZK Bozkurt 53.48 306 ⇑P **P 17 48 52.0 +1.9**
KIRS Kirsehir-Merke 53.57 302 ⇑P **P 17 48 52.6 +1.7**
BR131 Keskin Array S 53.77 303 IAmb IAmb 17 48 54.2
comp=Z,5.0nm,0.6s
BRTR Keskin Array B 53.77 303 P 17 48 53.4 +0.9
BRTR Keskin Array B 53.77 303 P **P 17 48 53.8 +1.3**
comp=Z,2.7nm,0.5s,baz=125,slow=8.0,SNR=16
comp=Z,2.7nm,0.5s
BR106 Keskin Array S 53.78 303 P 17 48 53.6 +1.0
comp=Z,48nmcomp=Z,5.0nm,0.6s
CSS Mathiatis 54.27 297 IAmb IAmb 17 48 58.5
comp=Z,5.9nm,0.7s
CSS Mathiatis 54.27 297 P 17 48 57.2 +1.2
comp=Z,9.5nm,0.7s
ANTO Ankara 54.42 303 P 17 48 58.4 +1.3
ANTO IAmb IAmb 17 48 59.4
comp=Z,9.7nm,0.7s
BORA Eskisehir 56.22 303 IAmb IAmb 17 49 12.1
comp=Z,6.4nm,0.8s
AKASG Malin Array Be 57.10 316 P 17 49 15.9 +0.1
comp=Z,1.9nm,0.4s,baz=82,slow=6.9,SNR=26
AKASG PcP **PcP 17 50 08.6 -0.4**
comp=Z,1.3nm,0.4s,baz=81,slow=4.8,SNR=6.6
comp=Z,1.9nm,0.4s
AKBB Malin Array Si 57.10 316 IAmb IAmb 17 49 16.3
comp=Z,7.3nm,0.5s
KIEV Kiev 57.11 316 P 17 49 15.7 -0.2
KIEV IAmb IAmb 17 49 16.3
comp=Z,6.5nm,0.5s
KIEV Kiev 57.11 316 ⇑P **P 17 49 16.0 +0.1**
WB0 Warramunga Arr 57.52 135 P 17 49 19.5 +0.2
WRA Warramunga Arr 57.61 135 P **P 17 49 20.4 +0.5**
comp=Z,12nm,0.6s,baz=322,slow=7.4,SNR=146
comp=Z,12nm,0.6s
WRAB Tennant Creek 57.61 135 P **P 17 49 20.1 +0.3**
WR8 Warramunga Arr 57.72 135 P 17 49 21.0 +0.3
CFR Carcaliu 57.73 310 ⇑P **P 17 49 20.9 +0.5**
VRI Vrincioaia 58.70 311 ⇑P **P 17 49 29.0 +1.8**
PLOR Plostina 58.76 311 ⇑P **P 17 49 29.6 +1.9**
ONER Baraj Valea Uz 58.92 311 ⇓P **P 17 49 30.3 +1.6**
KARP Karpathos 59.22 299 P 17 49 32.2 +1.2
MLR Muntele Rosu 59.27 310 ⇓P **P 17 49 33.3 +2.0**
DOPR Dopca 59.63 311 ⇑P **P 17 49 35.0 +1.4**
FINES FINESS Array B 59.83 329 P **P 17 49 35.4 +0.7**
comp=Z,4.6nm,0.6s,baz=91,slow=5.7,SNR=22
comp=Z,4.6nm,0.6s
AS31 Alice Springs 60.04 138 P 17 49 37.1 +0.4
AS31 IAmb IAmb 17 49 38.0
comp=Z,3.6nm,0.6s
ASAR Alice Springs 60.04 138 P 17 49 37.2 +0.6
ASAR Alice Springs 60.04 138 P **P 17 49 37.4 +0.8**
comp=Z,8.0nm,0.5s,baz=319,slow=6.8,SNR=282
ASAR pP **pP 17 50 10.5 -1.5**
comp=Z,0.9nm,0.5s,baz=311,slow=6.8,SNR=2.8
comp=Z,8.0nm,0.5s
VADS Vadso 60.18 339 *eP* **P 17 49 38.1 +1.2**
MARR Marisel-Cluj 61.17 312 ⇑P **P 17 49 45.3 +1.3**
ARA0 ARCESS Array S 61.35 338 *eP* **P 17 49 45.9 +1.1**
ARCES ARCESS Array B 61.35 338 P **P 17 49 45.9 +1.1**
comp=Z,5.6nm,0.5s,baz=94,slow=8.3,SNR=109
comp=Z,5.6nm,0.5s
KOLS Kolonicke sedl 61.60 314 *eP* **P 17 49 47.8 +1.0**
SURR Surduc 61.92 311 ⇓P **P 17 49 50.3 +1.3**
HAMF Hammerfest 62.16 339 *eP* **P 17 49 51.5 +1.3**
MDVR Moldovita 62.30 310 ⇓P **P 17 49 53.5 +1.8**
JETT Jettan, Norway 63.12 338 *eP* **P 17 49 57.7 +1.1**
TRO Tromso 63.65 338 *eP* **P 17 50 00.6 +0.6**
MORC Moravsky Berou 64.61 316 *eP* **P 17 50 07.7 +1.0**
FAUS Fauske 64.89 335 *eP* **P 17 50 08.7 +0.6**
SPITS Spitsbergen Ar 65.20 347 P **P 17 50 10.5 +0.5**
comp=Z,13nm,1.1s,baz=117,slow=8.5,SNR=8.7
comp=Z,13nm,1.1s
MOR8 Moi Rana 65.23 334 *eP* **P 17 50 10.2 -0.2**
LOF Lofoten 65.55 336 *eP* **P 17 50 12.4 +0.1**
KONS Konsvik 65.76 334 *eP* **P 17 50 14.2 +0.5**
HFS Hagfors 65.86 327 P **P 17 50 15.1 +0.6**
comp=Z,5.8nm,0.4s,baz=90,slow=5.0,SNR=45
HFS pP **pP 17 50 50.9 +0.3**
comp=Z,3.0nm,0.5s,baz=114,slow=5.5,SNR=3.6
comp=Z,5.8nm,0.4s
NC405 NORSAR Array S 66.75 328 P 17 50 20.4 +0.2
NC405 IAmb IAmb 17 50 21.5
comp=Z,8.8nm,0.8s
NC602 NORSAR Array S 66.87 328 P **P 17 50 21.0 0.0**
NC602 IAmb IAmb 17 50 22.0
comp=Z,6.7nm,0.7s
NC602 NORSAR Array S 66.87 328 *eP* **P 17 50 21.4 +0.4**
NB2 NORSAR Subarra 67.00 328 P **P 17 50 21.8 0.0**
comp=Z,5.0nm,0.6s,baz=84,slow=6.5
NB2 NORSAR Subarra 67.00 328 P **P 17 50 21.8 0.0**
baz=84,slow=6.5
NOA NORSAR Array B 67.00 328 P **P 17 50 21.9 +0.1**
comp=Z,5.0nm,0.7s,baz=85,slow=6.3,SNR=31
NOA pP **pP 17 50 57.9 0.0**
comp=Z,0.8nm,0.6s,baz=85,slow=6.5,SNR=2.4
comp=Z,5.0nm,0.7s
NAO01 NORSAR Array S 67.18 328 IAmb IAmb 17 50 23.8
comp=Z,5.9nm,0.8s
NC204 NORSAR Array S 67.19 329 P 17 50 23.4 +0.3
NC204 IAmb IAmb 17 50 24.2
comp=Z,11nm,0.7s
GERES GERESS Array B 67.23 315 P **P 17 50 24.0 +0.5**
GERES GERESS Array B 67.23 315 P **P 17 50 24.4 +0.9**
comp=Z,1.1nm,0.3s,baz=79,slow=6.9,SNR=18
comp=Z,1.1nm,0.3s
OSL Oslo 67.37 327 *eP* **P 17 50 24.9 +0.9**
DOMB Dombas 67.90 330 *eP* **P 17 50 28.1 +0.7**
LESA Schwarzleotal 68.15 314 *i P* **P 17 50 29.7 +0.3**
comp=Z,2.5nm,0.4s
SKAR Skarslia 68.46 328 *eP* **P 17 50 32.7 +1.8**
MOL Molde 68.53 330 *eP* **P 17 50 32.5 +1.2**
WTTA Wattenberg 68.88 314 *i P* **P 17 50 34.0 0.0**
comp=Z,4.4nm,0.8s
SQTA Sankt Quirin 69.17 314 *i P* **P 17 50 35.4 -0.3**
comp=Z,1.9nm,0.5s
MOTA Moosalm 69.22 314 *i P* **P 17 50 36.6 +0.5**
comp=Z,5.3nm,0.9s
SNART Snartemo 69.40 326 *eP* **P 17 50 38.2 +1.4**
RETA Reutte 69.41 314 *i P* **P 17 50 37.3 +0.1**
comp=Z,2.1nm,0.5s
DAVA Damuels 70.04 314 *i P* **P 17 50 41.4 +0.3**
comp=Z,1.4nm,0.4s
STKA Stephens Creek 70.66 139 P **P 17 50 45.0 +0.3**
comp=Z,3.3nm,0.6s,baz=331,slow=5.6,SNR=6.2
comp=Z,3.3nm,0.6s
WLF Walferdange 71.90 317 P **P 17 50 53.1 +1.1**
WLF IAmb IAmb 17 50 55.1
comp=Z,11nm,0.9s
LSZ Lusaka 75.44 246 P 17 51 14.0 +0.6
LSZ IAmb IAmb 17 51 15.1
comp=Z,6.1nm,0.7s
EKA Eskdalemuir Ar 75.69 324 P **P 17 51 14.8 +0.9**
comp=Z,5.2nm,0.7s,baz=75,slow=5.4,SNR=24
comp=Z,5.2nm,0.7s
ILAR Eielson Array 80.53 22 P **P 17 51 39.5 -0.9**
comp=Z,0.3nm,0.5s,baz=292,slow=4.8,SNR=5.5
comp=Z,0.3nm,0.5s
A36M Sachs Harbour 81.33 12 P 17 51 44.4 -0.2
ESDC Sonseca Array 81.95 310 P **P 17 51 48.5 -0.1**
comp=Z,0.9nm,0.7s,baz=37,slow=5.6,SNR=5.7
comp=Z,0.9nm,0.7s
KDWAN Kaudwane 82.28 241 P **P 17 51 50.8 +0.2**
KDWAN IAmb IAmb 17 51 52.1
comp=Z,7.1nm,0.9s
INK Inuvik 82.31 16 P **P 17 51 49.4 -0.4**
comp=Z,1.0nm,0.5s,baz=225,slow=2.9,SNR=3.3
comp=Z,1.0nm,0.5s
LBTB Lobatse 82.34 239 P **P 17 51 51.2 +0.4**
LBTB Lobatse 82.34 239 LR LR 18 27 48.7
comp=Z,52nm,20.6s,baz=20,slow=35
BOSA Boshof 84.38 236 P **P 17 52 01.9 +0.7**
comp=Z,5.8nm,0.7s,baz=77,slow=4.5,SNR=11
comp=Z,5.8nm,0.7s
TXAR Lajitas Array 124.96 20 PKP **PKiKP 17 58 27.9 -0.7**
comp=Z,0.4nm,0.6s,baz=146,slow=1.4,SNR=4.4
BDFB Brasilia 144.19 275 PKP **PKPdf 17 59 04.1 -0.1**
comp=Z,16nm,0.5s,baz=96,slow=3.1,SNR=24

GCG ***29*** *17:45:23.9±0.4, 15°.15N×92°.28W, h70km±18km, MD3.4*
MEX ***29*** *17:45:24.0±0.8, 14°.66N×92°.72W, h10km±58km, MD3.9*
ISC 29 17:45:20.3±1.8, 14°.8N±0°.2×92°.3W±0°.1, h94km±10km, n12, σ1§76/20, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.10**	**351**	*eS*	**Sn**	**17 45 39.6**	**-3.7**
SMCA	**Catarina**	**0.17**	**75**	*eP*	**Pn**	**17 45 35.4**	**+1.7**
SMCA				*eS*	**Sn**	**17 45 44.4**	**+0.8**
PATR	**El Naranjo**	**0.30**	**3**	*eP*	**Pn**	**17 45 35.3**	**+0.8**
PATR				*eS*	**Sn**	**17 45 44.4**	**-0.7**
PAVE	**Pavencul**	**0.39**	**10**	*eP*	**Pn**	**17 45 36.4**	**+1.4**
PAVE				*eS*	**Sn**	**17 45 46.5**	**+0.7**
STG8	**El Palmar, Qui**	**0.94**	**112**	*i P*	**Pn**	**17 45 40.6**	**+0.7**
STG0	**El Palmar, Qui**	**0.96**	**113**	*eP*	**Pn**	**17 45 40.4**	**+0.4**
STG0				*eS*	**Sn**	**17 45 53.7**	**-1.1**
STG5	**El Palmar, Qui**	**0.96**	**115**	*i P*	**Pn**	**17 45 40.6**	**+0.6**
PCIG		**1.29**	**314**	*eP*	**Pn**	**17 45 43.6**	**-0.1**
PCIG				*eS*	**Sn**	**17 45 58.5**	**-2.8**
FG8	**Yepocapa, Chim**	**1.72**	**108**	*eP*	**Pn**	**17 45 49.3**	**+0.1**
TGIG		**2.13**	**337**	*eP*	**Pn**	**17 45 54.1**	**-0.3**
TGIG				*eS*	**Sn**	**17 46 18.3**	**-2.1**
UXUV	**UXUV**	**3.09**	**324**	*eP*	**Pn**	**17 46 09.2**	**+2.1**
UXUV				*eS*	**Sn**	**17 46 43.5**	**+0.3**
CMIG	**Matias Romero**	**3.40**	**312**	*eP*	**Pn**	**17 46 13.9**	**+2.6**
CMIG				*eS*	**Sn**	**17 46 49.0**	**-1.8**

IDC ***29*** *17:45:30.8±1.9, 25°.79N×125°.83E, h0km, mb3.5/3, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=80.0km s-min=27.6km az=72.0*
JMA ***29*** *17:45:32.0±0.2, 26°.0N±0°.9×12°6E±°, h21km, MV3.3/11, NW OFF MIYAKOJIMA ISLAND*
ISC 29 17:45:32.4±3.4, 25°.80N±0°.07×125°.84E±0°.07, h8km±24km, n17, σ1§17/22, mb3.5/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.00**	**58**	*eP*	**Pb**	**17 45 52.4**	**+0.4**
JKE				*eS*	**Sn**	**17 46 07.8**	**+0.8**
JIKM	**Ikemajima**	**1.02**	**211**	*eP*	**Pb**	**17 45 52.2**	**-0.1**
JIKM				*eS*	**Sb**	**17 46 06.7**	**+0.8**
JMJ	**Miyako jima 2**	**1.10**	**207**	P	**Pn**	**17 45 54.9**	**+0.8**
JOGS	**Gusukube**	**1.11**	**201**	*eP*	**Pn**	**17 45 54.3**	**+0.1**
JOGS				*eS*	**Sb**	**17 46 10.2**	**+1.9**
JIRB	**Irabujima**	**1.14**	**212**	*eP*	**Pn**	**17 45 53.7**	**-0.9**
JIRB				*eS*	**Sb**	**17 46 08.8**	**-0.5**
JMJ2	**Miyako jima3**	**1.15**	**204**	*eP*	**Pn**	**17 45 54.6**	**-0.2**
JMJ2				*eS*	**Sn**	**17 46 11.5**	**+0.8**
JAGN	**Aguni-jima**	**1.49**	**58**	*eP*	**Pn**	**17 45 59.9**	**+0.5**
JISG	**Ishigakijimahi**	**1.84**	**229**	*eP*	**Pn**	**17 46 03.1**	**-1.1**
JIJ	**Ishigaki jima**	**2.10**	**227**	*eP*	**Pn**	**17 46 06.5**	**-1.3**
YOJ	**Yonaguni jima**	**2.89**	**243**	P	**Pn**	**17 46 20.7**	**+2.0**
YULB	**Yu-li**	**4.78**	**241**	P	**Pn**	**17 46 45.0**	**+0.3**
SSLB	**Suanglung**	**4.87**	**247**	P	**Pn**	**17 46 47.2**	**+1.2**
TPUB	**Ta-pu**	**5.35**	**243**	P	**Pn**	**17 46 54.7**	**+2.1**
KSRS	**Korea Array**	**11.75**	**8**	Pn	**Pn**	**17 48 19.0**	**-1.3**
	0.1nm,0.3s,baz=180,slow=13,SNR=2.9						
	0.6nm,0.7s						
SONM	**Songino Array**	**26.80**	**330**	P	**P**	**17 51 13.9**	**+0.9**
	0.6nm,0.6s,baz=131,slow=9.1,SNR=4.6						
	0.6nm,0.6s						
MKAR	**Mananchi Array**	**40.23**	**313**	P	**P**	**17 53 08.4**	**-1.1**
	0.4nm,0.6s,baz=96,slow=10,SNR=5.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**49.79**	**170**	P	**P**	**17 54 25.3**	**-0.5**
	0.4nm,0.8s,baz=356,slow=10,SNR=4.2						
	0.4nm,0.8s						

REN ***29*** *17:46:11.5±0.8, 37°.42N±0°.02×118°.36W±0°.02, h7km±6km, Error ellipse: s-maj=2.7km s-min=2.5km az=97.0*
NEIC ***29*** *17:46:11.5±0.7, 37°.42N±0°.01×118°.38W±0°.02, h9km±10km, Error ellipse: s-maj=3.0km s-min=1.7km az=60.0*
NCEDC 29 17:46:11.4±0.9, 37°.42N±0°.02×118°.37W±0°.02, h7km±6km, Md3.0/43, ML2.4/8(REN), ML2.3/56(NEIC), Error ellipse: s-maj=2.7km s-min=2.5km az=97.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFBM	**Five Bridges**	**0.05**	**282**		Pg	**17 46 13.6**	**+0.3**
POCCA	**Poleta Canyon**	**0.09**	**130**		Pg	**17 46 13.7**	**0.0**
MCDM	**Chidago Canyon**	**0.14**	**334**		Pg	**17 46 15.1**	**+0.5**
BHPR	**Bishop**	**0.15**	**219**		Pg	**17 46 15.0**	**+0.3**
MTUM	**Tungsten Hills**	**0.17**	**248**		Pg	**17 46 15.3**	**+0.3**
MLNR	**Milner Canyon**	**0.17**	**6**		Pg	**17 46 15.4**	**+0.3**
MRCM	**Red Rock Canyo**	**0.28**	**336**		Pg	**17 46 17.3**	**+0.2**
DSP	**Deep Springs**	**0.32**	**99**		Pg	**17 46 17.8**	**+0.1**
DSP					Sg	**17 46 22.2**	**+0.3**
DSP	**Deep Springs**	**0.32**	**99**	IAML		**17 46 22.3**	
	comp=N,244nm,0.3s						
DSP				IAML		**17 46 25.8**	
	comp=E,184nm,0.6s						
BENR	**Benton**	**0.34**	**331**		Pg	**17 46 18.3**	**+0.1**
BENR	**Benton**	**0.34**	**331**		Sg	**17 46 23.5**	**+0.7**
TIN	**Tinemaha, Big**	**0.38**	**163**		Pg	**17 46 19.1**	**+0.2**
TIN					Sg	**17 46 25.0**	**+1.2**
MCVM	**Convict Lake**	**0.41**	**295**		Pg	**17 46 19.5**	**0.0**
MLAC	**Mammoth, Mammo**	**0.43**	**300**		Pg	**17 46 20.1**	**+0.3**
MLAC					Sg	**17 46 26.8**	**+1.3**
MDRNC	**Doe Ridge**	**0.43**	**300**		Pg	**17 46 20.2**	**+0.3**
MLHM	**Little Hot Cre**	**0.44**	**306**		Pg	**17 46 20.5**	**+0.4**
MGNR	**McGee Canyon**	**0.47**	**326**		Pg	**17 46 20.9**	**+0.2**
MLCM	**Laurel Creek C**	**0.48**	**294**		Pg	**17 46 20.9**	**+0.1**
MCBM	**Casa Benchmark**	**0.48**	**298**		Pg	**17 46 21.0**	**+0.3**
MCBM					Sb	**17 46 28.6**	**-1.2**
MCSM	**Casa Diablo Ho**	**0.49**	**299**		Pg	**17 46 21.2**	**+0.2**
MEMM	**East Mammoth H**	**0.52**	**299**		Pg	**17 46 21.7**	**+0.2**
MEMM					Sb	**17 46 29.7**	**-1.2**
ANTCA	**Antelope Range**	**0.52**	**342**		Pg	**17 46 21.6**	**0.0**
MMLB	**Mammoth Lakes**	**0.54**	**296**		Pg	**17 46 22.1**	**+0.1**
MMPM	**Mammoth Pass**	**0.56**	**290**		Pg	**17 46 22.3**	**-0.1**
MDYM	**Dry Creek**	**0.57**	**295**		Pg	**17 46 22.7**	**+0.2**
MRDM	**Red Cones**	**0.58**	**288**		Pg	**17 46 22.6**	**-0.1**
MINS	**Minaret Summit**	**0.60**	**293**		Pg	**17 46 23.0**	**-0.1**
LCH	**Last Change Ra**	**0.60**	**108**		Pg	**17 46 23.1**	**-0.1**
LCH					Sg	**17 46 31.5**	**+0.5**
MDPB	**Devils Postpil**	**0.61**	**291**		Pg	**17 46 23.0**	**-0.2**
MDPB				IAML		**17 46 31.8**	
	comp=N,115nm,0.2s						
MDPB				IAML		**17 46 32.0**	
	comp=N,115nm,0.2s						
MDPB	**Devils Postpil**	**0.61**	**291**		Sg	**17 46 31.6**	**+0.5**
MDCM	**Deadman Creek**	**0.61**	**299**		Pg	**17 46 23.3**	**0.0**
KCC	**Kaiser Creek**	**0.77**	**263**		Pg	**17 46 25.7**	**-0.5**
KCC	**Kaiser Creek**	**0.77**	**263**		Sg	**17 46 35.8**	**-0.3**
MZP	**Montezuma Peak**	**0.83**	**70**		Pg	**17 46 27.3**	**-0.1**
MZP					Sg	**17 46 38.2**	**0.0**
LHV	**Little Huntoon**	**0.84**	**353**		Pg	**17 46 27.6**	**+0.1**
LHV				IAML		**17 46 43.0**	
	comp=E,113nm,0.4s						
LHV				IAML		**17 46 46.5**	
	comp=N,126nm,0.5s						
LHV	**Little Huntoon**	**0.84**	**353**		Sb	**17 46 39.2**	**-0.6**
GMN	**Gold Mountain**	**0.89**	**97**		Pg	**17 46 28.4**	**-0.2**
GMN	**Gold Mountain**	**0.89**	**97**	IAML		**17 46 46.8**	
	comp=N,59nm,0.6s						
GRAC	**Grapevine Rang**	**0.90**	**118**		Pg	**17 46 28.9**	**+0.1**
CGO	**Cerro Gordo**	**0.98**	**152**		Pg	**17 46 29.5**	**-0.7**
NV08	**Mina Array Sit**	**0.98**	**2**		Pg	**17 46 30.2**	**-0.2**
NVAR	**Mina Array Bea**	**1.01**	**3**		Pg	**17 46 30.6**	**-0.3**
NV09	**Mina Array Sit**	**1.01**	**1**		Pg	**17 46 30.8**	**-0.2**
NV11	**Mina Array Sit**	**1.02**	**9**		Pg	**17 46 30.9**	**-0.2**
MMIM	**Miami Mountain**	**1.10**	**270**		Pg	**17 46 31.9**	**-0.7**
TPH	**Tonopah**	**1.12**	**54**		Pg	**17 46 32.6**	**-0.3**
SGV	**South Grapevin**	**1.15**	**112**		Pg	**17 46 33.1**	**-0.5**
FRI	**Friant**	**1.15**	**249**		Pg	**17 46 32.7**	**-0.8**
RYN	**Ryan**	**1.21**	**354**		Pg	**17 46 34.5**	**-0.3**
RYN	**Ryan**	**1.21**	**354**	IAML		**17 46 51.9**	
	comp=N,60nm,0.3s						
RYN				IAML		**17 46 52.3**	
	comp=E,55nm,0.4s						
KARE	**Kearney REC, C**	**1.23**	**228**		Pb	**17 46 34.1**	**-0.8**
MHDM	**Hidden Dam**	**1.26**	**257**		Pn	**17 46 34.7**	**-0.7**
SPG2	**Springville 2**	**1.26**	**195**		Pn	**17 46 34.5**	**-0.9**
VOG	**Valley Oaks Go**	**1.37**	**217**		Pn	**17 46 33.1**	**-3.8**
WAKR	**Walker**	**1.38**	**322**		Pn	**17 46 37.4**	**+0.1**
LEGD	**La Grand CA**	**1.44**	**262**		Pn	**17 46 37.9**	**0.0**
WCT	**Wildcat Mounta**	**1.52**	**114**		Pb	**17 46 39.7**	**-0.3**
WCT	**Wildcat Mounta**	**1.52**	**114**		Pb	**17 46 39.7**	**-0.4**
WCT	**Wildcat Mounta**	**1.52**	**114**	IAML		**17 47 02.6**	
	comp=N,30nm,0.5s						
WCT				IAML		**17 47 02.7**	
	comp=E,44nm,0.4s						
WNMM	**Nine Mile Cany**	**1.62**	**167**		Pb	**17 46 41.1**	**-0.5**
MYLM	**Yosemite Lake**	**1.64**	**269**		Pb	**17 46 41.5**	**-0.5**
VES	**Vestal, Richgr**	**1.68**	**200**		Pb	**17 46 42.5**	**-0.2**
WASM	**Alta Sierra Ca**	**1.68**	**185**		Pn	**17 46 40.3**	**-1.2**
CMB	**Columbia Colle**	**1.72**	**292**	Pn	Pn	**17 46 42.2**	**+0.4**
CMB				IAML		**17 47 06.7**	
	comp=E,20nm,0.2s						
WORM	**Onyx Ranch**	**1.72**	**177**		Pb	**17 46 43.1**	**-0.4**
TPNV	**Topopah Spring**	**1.75**	**105**		Pn	**17 46 42.5**	**+0.1**
TPNV	**Topopah Spring**	**1.75**	**105**	IAML		**17 47 10.8**	
	comp=E,21nm,1.1s						
TPNV				IAML		**17 47 15.4**	
	comp=E,31nm,1.0s						
ISA	**Isabella, Lake**	**1.75**	**183**	Pn	Pn	**17 46 42.1**	**-0.3**
ISA	**Isabella, Lake**	**1.75**	**183**		Pb	**17 46 43.5**	**-0.5**
ISA	**Isabella, Lake**	**1.75**	**183**	IAML		**17 47 07.9**	
	comp=N,30nm,0.2s						
SDH	**Striped Hills**	**1.80**	**115**		Pb	**17 46 43.8**	**-0.9**
GWY	**Greenwater Val**	**1.83**	**132**		Pn	**17 46 43.0**	**-0.5**
GWY				IAML		**17 47 12.8**	
	comp=E,18nm,0.7s						
GWY				IAML		**17 47 14.7**	
	comp=N,22nm,0.6s						
NSP	**Numbskull Pass**	**1.85**	**111**		Pn	**17 46 44.1**	**+0.4**
CPY	**CP-1**	**1.91**	**104**		Pn	**17 46 44.6**	**+0.1**
AMDNV	**Amargosa**	**1.93**	**119**		Pb	**17 46 45.9**	**-1.0**
PNTR	**Pine Nut**	**1.93**	**330**		Pb	**17 46 46.1**	**-0.9**
PNTR	**Pine Nut**	**1.93**	**330**	IAML		**17 47 18.5**	
	comp=E,29nm,0.7s						
PNTR				IAML		**17 47 19.1**	
	comp=N,20nm,1.0s						
CCCA	**Chr Cany lake**	**2.06**	**157**		Pn	**17 46 45.8**	**-0.6**
BMSM	**Mercy Hot Spri**	**2.09**	**249**		Pb	**17 46 49.0**	**-0.7**
CCAC	**Calif City Air**	**2.28**	**173**		Pb	**17 46 52.8**	**-0.1**
CCAC				IAML		**17 47 31.1**	
	comp=N,19nm,1.2s						
CCAC				IAML		**17 47 34.4**	
	comp=E,17nm,1.3s						
PMPB	**Monarch Peak**	**2.29**	**239**		Pn	**17 46 48.4**	**-1.4**
BBGB	**Big Mountain B**	**2.30**	**249**		Pn	**17 46 49.2**	**-0.6**
R11B	**Troy Canyon, C**	**2.39**	**66**		Pb	**17 46 55.0**	**+0.1**
GSC	**Goldstone, Bar**	**2.46**	**149**		Pb	**17 46 56.6**	**+0.6**
GSC				IAML		**17 48 18.3**	
	comp=E,13nm,4.2s						
BCW	**Bitter Crk WRg**	**2.62**	**199**		Pb	**17 46 57.1**	**-1.6**
PRN	**Pahroc Range**	**2.64**	**89**		Pb	**17 46 59.8**	**+0.6**
PRN				IAML		**17 47 45.9**	
	comp=N,16nm,0.7s						
SHPR	**Sheep Range**	**2.72**	**109**		Pb	**17 47 00.9**	**+0.3**
JCPM	**Coyote Point**	**3.15**	**274**		Pb	**17 47 04.8**	**-2.9**
SPR3	**Spring Creek 3**	**3.55**	**62**		Pb	**17 47 16.1**	**+1.4**
PSUT	**Pine Spring**	**3.73**	**71**		Pg	**17 47 21.4**	**-1.6**

TAP 29 17:46:26.3, 24°.79N×121°.83E, h10km±1km, ML1.7, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.06**	**357**	*eP*	**Pg**	**17 46 29.0**	**+0.5**
NTC				S	**Sg**	**17 46 30.9**	**+0.9**
ILA	**Ilan**	**0.08**	**253**	*i P*	**Pg**	**17 46 29.3**	**+0.6**
ILA				*eS*	**Sg**	**17 46 31.7**	**+1.3**
EGS		**0.10**	**58**	*i P*	**Pb**	**17 46 30.4**	**0.0**
EGS				*i S*	**Sg**	**17 46 32.0**	**+1.1**
TIPB	**Shuangxi**	**0.18**	**358**	*i P*	**Pb**	**17 46 31.3**	**-0.5**
TIPB				*i S*	**Sg**	**17 46 33.8**	**+0.9**
TWC	**Suao**	**0.18**	**176**	*i P*	**Pb**	**17 46 31.4**	**-0.2**
TWC				*i S*	**Sg**	**17 46 33.9**	**+1.0**
NDS	**Dongshan**	**0.19**	**215**	*eP*	**Pg**	**17 46 30.7**	**+0.4**
NDS				*i S*	**Sg**	**17 46 33.5**	**+0.4**
ESAO	**Su ao**	**0.21**	**178**	*eP*	**Pb**	**17 46 32.1**	**-0.1**
ESAO				*eS*	**Sg**	**17 46 36.0**	**+2.3**
FUSB	**Fushanzhiwuyua**	**0.23**	**262**	P	**Pb**	**17 46 32.1**	**-0.4**
FUSB				S	**Sg**	**17 46 35.4**	**+1.2**
TWB1	**Santiao Chiao**	**0.26**	**33**	*i P*	**Pg**	**17 46 32.0**	**+0.4**
TWB1				*i S*	**Sg**	**17 46 35.4**	**+0.3**
NWF	**Wu-fen Shan**	**0.28**	**350**	*eP*	**Pb**	**17 46 33.8**	**+0.2**
WFSB	**Wu-fen Shan**	**0.28**	**350**	*eS*	**Sb**	**17 46 37.7**	**-0.5**
ENTT	**Nioudou**	**0.29**	**239**	P	**Pb**	**17 46 33.2**	**-0.2**
ENTT				S	**Sb**	**17 46 37.9**	**-0.5**

NV08	**Mina Array Sit**	**1.58 205**		Pn	18 02 50.8	-0.9
TPH	**Tonopah**	**1.77 174**		Pn	18 02 53.2	-1.2
LHV	**Little Huntoon**	**1.78 208**		Pn	18 02 53.9	-0.4
LHV				Sb	18 03 19.1	+0.5
LHV	**Little Huntoon**	**1.78 208**	IAML		18 03 24.9	
	comp=N,78nm,0.7s					
PNTR	**Pine Nut**	**1.82 246**		Pn	18 02 54.4	-0.7
PNTR				Sg	18 03 21.4	+0.2
PNTR	**Pine Nut**	**1.82 246**	IAML		18 03 23.4	
	comp=E,50nm,0.8s					
ELK	**Elko**	**1.92 61**		Pn	18 02 55.2	-1.3
PEAR	**Peavine Mounta**	**1.95 264**		Pb	18 02 58.9	+0.1
WAKR	**Walker**	**2.04 230**		Pn	18 02 56.9	-1.0
WAKR			IAML		18 03 29.3	
	comp=N,46nm,0.2s					
WAKR	**Walker**	**2.04 230**		Sg	18 03 27.6	-0.5
MPK	**Martis Peak**	**2.06 256**	Pn	Pn	18 02 57.6	-0.8
MPK			IAML		18 03 35.1	
	comp=N,32nm,1.0s					
R11B	**Troy Canyon, C**	**2.08 135**		Pn	18 02 57.2	-1.4
MZP	**Montezuma Peak**	**2.14 178**		Pn	18 02 58.1	-1.3
MZP			IAML		18 03 29.6	
	comp=E,44nm,0.8s					
MZP			IAML		18 03 30.7	
	comp=N,26nm,0.4s					
DSP	**Deep Springs**	**2.50 189**		Pn	18 03 03.9	-0.2
DSP			IAML		18 03 43.0	
	comp=E,17nm,0.9s					
SPR3	**Spring Creek 3**	**2.56 108**	Pn	Pn	18 03 04.8	-0.5
SPR3			IAML		18 03 48.2	
	comp=N,21nm,0.8s					
SPR3			IAML		18 03 51.8	
	comp=E,17nm,2.1s					
SGV	**South Grapevin**	**2.87 173**		Pb	18 03 15.0	+0.3
TPNV	**Topopah Spring**	**3.04 161**	IAML		18 04 02.4	
	comp=E,19nm,1.1s					
TPNV			IAML		18 04 06.4	
	comp=E,18nm,0.6s					
PRN	**Pahroc Range**	**3.07 141**	IAML		18 04 06.5	
	comp=N,21nm,0.6s					
PRN			IAML		18 04 09.0	
	comp=E,22nm,0.8s					
PSUT	**Pine Spring**	**3.09 114**	IAML		18 04 00.7	
	comp=N,20nm,0.4s					
CPY	**CP-1**	**3.10 159**		Pg	18 03 20.4	-1.8
WCT	**Wildcat Mounta**	**3.11 168**		Pb	18 03 20.1	+1.4
WCT	**Wildcat Mounta**	**3.11 168**	IAML		18 04 11.2	
	comp=E,12nm,0.9s					
NSP	**Numbskull Pass**	**3.26 162**		Pg	18 03 23.3	-1.8
J08A	**Circle Bar Ran**	**3.60 348**	IAML		18 04 25.6	
	comp=E,14nm,1.4s					
J08A			IAML		18 04 32.9	
	comp=N,15nm,1.4s					
GWY	**Greenwater Val**	**3.70 170**	IAML		18 04 24.7	
	comp=E,12nm,1.7s					
GWY			IAML		18 04 25.5	
	comp=N,10.0nm,0.7s					
LCMT	**Little Creek M**	**4.35 129**	IAML		18 04 09.9	
	comp=E,4.0nm,4.8s					
LCMT			IAML		18 04 46.8	
	comp=N,4.7nm,4.5s					

NAO ***29*** *18:02:40.5,39°.66N±28°.33E,h10km,mb3.7*
IDC ***29*** *18:02:42.2±0.9,39°.35N±26°.36E,h0km,mb3.8/14, mbtmp3.9/27,ML3.5/10,MS3.5/20,Error ellipse: s-maj=15.6km s-min=12.0km az=19.0*
MOS ***29*** *18:02:42.2±1.1,39°.47N±26°.37E,h10km,mb4.4/5,Error ellipse: s-maj=6.3km s-min=3.5km az=83.1*
GII ***29*** *18:02:42.5±0.0,39°.38N±26°.29E,h10km,confirmed*
NEIC ***29*** *18:02:43.6±1.1,39°.39N±0°.05×26°.28E±0°.07,h10km±2km, mb4.6/4,Error ellipse: s-maj=9.9km s-min=7.5km az=235.0*
MED_RC ***29*** *18:02:43.0±0.4,39°.38N×26°.29E,h15km±3km,MW4.4/16, Moment Tensor Solution.Mantle waves: s16,c17; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.64±.90; $M_{\theta\theta}$5.02±.78; $M_{\phi\phi}$-2.37±.55; $M_{r\theta}$-1.75±.68; $M_{\theta\phi}$-2.50±.68; $M_{\phi r}$-1.08±.54; Best double couple: $M_0$5.27000×10^{15} NP1:ϕ_s325.00000°,δ54.00000°, λ-26.00000°. NP2:ϕ_s72.00000°,δ69.00000°, λ-141.00000°. Principal axes: T 6.0100, Plg9.0000°, Azm195.0000°; N -1.4600, Plg47.0000°, Azm96.0000°; P -4.5300, Plg42.0000°, Azm294.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
MCSM ***29*** *18:02:43.0±0.4,39°N±3°×2°6E±°,h10km,mb4.4,mB4.5, MLv4.7,Mw(mB)3.7*
ISK ***29*** *18:02:43.3,39°.40N×26°.32E,h12km,ML4.5/26*
AFAD ***29*** *18:02:44.0,39°.40N×26°.32E,h7km±1km,MW4.1*
ATH ***29*** *18:02:44.0,39°.35N×26°.28E,h17km,Mw4.3,Moment Tensor Solution. s11 Moment tensor: M_{rr}-0.01; $M_{\theta\theta}$2.16; $M_{\phi\phi}$-2.15; $M_{r\theta}$0.59; $M_{\theta\phi}$-3.12; $M_{\phi r}$-0.73; Fault plane solution: NP1:ϕ_s72.00000°,δ77.00000°, λ175.00000°. NP2:ϕ_s163.00000°,δ85.00000°,λ13.00000°.*
THE ***29*** *18:02:44.3,39°.41N×26°.26E,h9km±1km,ML4.2/14 Error ellipse: s-maj=2.0km s-min=0.6km az=115.0*
SOF ***29*** *18:02:45.8,39°.63N±0°.01×26°.27E±0°.01,h7km±2km, MD4.0/15*
CFUSG ***29*** *18:02:50.2,39°.81N×26°.72E,h13km,mb3.3/2,Western Turkey Magtype MSH 3.8 from 7 stations*

ISC 29 18:02:44.1±0.7,**39°.40N**±0°.01×**26°.30E**±0°.02,**h16**km±4km, **n395**,σ1$\hat{s}$**43**/467,**mb3.9**/21,**MS3.5**/12,**46C-16D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.14 294**		Pg	**Pg**	**18 02 47.6**	**-0.4**
GPNR				Sg	**Sg**	**18 02 50.8**	**+0.2**
PRK	**Paraskevi**	**0.15 189**		P	**Pg**	**18 02 47.7**	**-0.4**
PRK				S	**Sg**	**18 02 50.6**	**-0.1**
	191µm,0.5s						
PRK	**Paraskevi**	**0.15 189**		P	**Pg**	**18 02 47.5**	**-0.5**
PRK				S	**Sg**	**18 02 50.1**	**-0.7**
KOCA	**Canakkale, Ayv**	**0.17 310**		P	**Pg**	**18 02 48.0**	**-0.3**
KOCA				*i* AML	AML	18 02 51.0	
	comp=N,5µm,0.5s						
KOCA				*i* AML	AML	18 02 51.0	
	comp=E,7µm,0.8s						
KOCA				S	**Sg**	**18 02 51.3**	**+0.2**
AYVA	**Ayvalik**	**0.31 106**		P	**Pg**	**18 02 50.3**	**-0.3**
AYVA				*i* AML	AML	18 02 55.0	
	comp=E,3µm,0.9s						
AYVA				S	**Sg**	**18 02 55.4**	**+0.3**
AYVA				*i* AML	AML	18 03 01.0	
	comp=N,4µm,0.6s						
EZNE	**Ezine-Canakkal**	**0.36 8**		Pg	**Pg**	**18 02 51.1**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.39 29**		P	**Pg**	**18 02 51.8**	**-0.3**
BAYC				S	**Sb**	**18 02 58.2**	**-0.2**
BAYC				*i* AML	AML	18 03 02.0	
	comp=N,1µm,0.6s						
BAYC				*i* AML	AML	18 03 02.0	
	comp=E,1µm,0.3s						
SIGR	**SIGRI**	**0.39 242**		P	**Pg**	**18 02 51.7**	**-0.3**
SIGR				S	**Sg**	**18 02 57.4**	**-0.1**
	90µm,0.7s						
SIGR	**SIGRI**	**0.39 242**		Pg	**Pg**	**18 02 51.8**	**-0.3**
SIGR				Sg	**Sb**	**18 02 57.9**	**-0.5**
SIGR	**SIGRI**	**0.39 242**		P	**Pb**	**18 02 52.0**	**-0.6**
SIGR				S	**Sg**	**18 02 56.3**	**-1.2**
EZN	**Ezine**	**0.43 2**		P	**Pg**	**18 02 52.2**	**-0.5**
EZN				S	**Sg**	**18 02 58.5**	**-0.1**
	24µm,0.3s						
EZN	**Ezine**	**0.43 2**		Pg	**Pg**	**18 02 52.1**	**-0.6**
EZN				Sg	**Sg**	**18 02 58.4**	**-0.1**
BOZC	**Bozcaada**	**0.48 337**		P	**Pb**	**18 02 53.6**	**-0.6**
BOZC				S	**Sg**	**18 02 59.5**	**-0.8**
BOZC				*i* AML	AML	18 03 04.0	
	comp=E,9µm,0.2s						
BOZC				*i* AML	AML	18 03 05.0	
	comp=N,1µm,0.3s						
DKL	**Dikili**	**0.57 125**		Pg	**Pg**	**18 02 54.8**	**-0.5**
DKL	**Dikili**	**0.57 125**		P	**Pg**	**18 02 55.2**	**-0.1**
DKL				S	**Sg**	**18 03 03.0**	**+0.1**
BUHA	**Balikesir, Bur**	**0.61 80**		P	**Pg**	**18 02 55.7**	**-0.3**
BUHA				S	**Sg**	**18 03 03.4**	**-0.8**
BUHA				*i* AML	AML	18 03 09.0	
	comp=N,2µm,0.6s						
BUHA				*i* AML	AML	18 03 09.0	
	comp=E,2µm,0.8s						
YAYO	**Edremit-Balk**	**0.63 70**		Pg	**Pg**	**18 02 56.2**	**-0.3**
IZMD	**zmir-Dikili-**	**0.64 130**		P	**Pg**	**18 02 56.5**	**-0.1**
IZMD				S	**Sb**	**18 03 05.5**	**0.0**
IZMD				*i* AML	AML	18 03 08.0	
	comp=N,1µm,0.7s						
IZMD				*i* AML	AML	18 03 08.0	
	comp=E,1µm,0.7s						
ECEA	**Canakkale, Ece**	**0.65 351**		P	**Pb**	**18 02 56.7**	**-0.4**
ECEA				S	**Sb**	**18 03 06.2**	**+0.2**
ECEA				*i* AML	AML	18 03 08.0	
	comp=N,1µm,0.7s						
ECEA				*i* AML	AML	18 03 12.0	
	comp=E,2µm,0.4s						
CNKL	**anakkale-Mer**	**0.67 6**		P	**Pg**	**18 02 56.6**	**-0.6**
CNKL				*i* AML	AML	18 03 11.0	
	comp=E,1µm,0.3s						
CNKL				*i* AML	AML	18 03 14.0	
	comp=N,9µm,0.7s						
COMU	**Canakkale**	**0.71 11**		Pg	**Pg**	**18 02 57.3**	**-0.7**
KARB	**zmir-Karabur**	**0.74 173**		P	**Pb**	**18 02 58.5**	**0.0**
KARB				S	**Sb**	**18 03 08.3**	**-0.1**
KARB				*i* AML	AML	18 03 10.0	
	comp=E,5µm,0.4s						
KARB				*i* AML	AML	18 03 11.0	
	comp=N,2µm,0.4s						
ZEDA	**zmir-Bergama**	**0.74 125**		P	**Pg**	**18 02 58.2**	**-0.2**
ZEDA				S	**Sb**	**18 03 09.0**	**+0.6**
ZEDA				*i* AML	AML	18 03 11.0	
	comp=N,2µm,0.4s						
ZEDA				*i* AML	AML	18 03 11.0	
	comp=E,2µm,0.4s						
FOCM	**Foa**	**0.76 154**		Pg	**Pg**	**18 02 58.1**	**-0.8**
GOAD	**anakkale-G¶**	**0.82 338**		P	**Pb**	**18 03 00.0**	**0.0**
GOAD				S	**Sb**	**18 03 10.8**	**-0.1**
GOAD				*i* AML	AML	18 03 12.0	
	comp=N,1µm,0.2s						
GOAD				*i* AML	AML	18 03 14.0	
	comp=E,1µm,0.3s						
CANM	**Can-anakkale**	**0.84 43**		Pg	**Pg**	**18 02 59.7**	**-0.8**
GADA	**Gvkgeada**	**0.85 339**		Pg	**Pg**	**18 02 59.9**	**-0.7**
GOKC	**Gokceada-Canak**	**0.85 340**		Pg	**Pg**	**18 02 56.2**	**-4.5**
EAG2	**Marmaro, Chios**	**0.86 190**		P	**Pg**	**18 03 00.2**	**-0.7**
EAG2				S	**Sg**	**18 03 10.7**	**-1.5**
YENI	**Yenice-Canakka**	**0.90 53**		Pg	**Pg**	**18 03 01.1**	**-0.5**
SOMA	**Soma-Manisa**	**0.98 104**		Pg	**Pg**	**18 03 02.5**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.01 7**		Pg	**Pb**	**18 03 03.2**	**+0.1**
EFSA	**Agios Efstrati**	**1.03 278**		P	**Pn**	**18 03 03.6**	**-0.2**
LPK	**Lapseki**	**1.04 20**		Pg	**Pg**	**18 03 03.1**	**-1.0**
CESE	**eme**	**1.06 180**		Pg	**Pb**	**18 03 04.2**	**+0.1**
BALY	**Balya**	**1.07 71**		P	**Pg**	**18 03 04.4**	**-0.4**
BALY				S	**Sn**	**18 03 19.4**	**+0.3**
BALY				*i* AML	AML	18 03 20.0	
	comp=N,2µm,1.0s						
BALY				*i* AML	AML	18 03 20.0	
	comp=E,1µm,0.6s						
BLCB	**Balcova**	**1.16 150**		Pn	**Pb**	**18 03 05.8**	**0.0**
ENZZ	**Sultanice-Enez**	**1.22 354**		Pn	**Pn**	**18 03 06.3**	**-0.1**
SMTH	**Samothraki Isl**	**1.23 331**		P	**Pn**	**18 03 06.4**	**-0.2**
SMTH				S	**Sn**	**18 03 23.6**	**+0.8**
	10µm,0.5s						
SMTH	**Samothraki Isl**	**1.23 331**		P	**Pn**	**18 03 06.6**	**0.0**
GONE	**Gonen-Balikesi**	**1.25 58**		Pn	**Pn**	**18 03 06.8**	**0.0**
KRBG	**Karabiga-Canak**	**1.25 37**		Pn	**Pn**	**18 03 06.9**	**0.0**
AKS	**Akhisar**	**1.28 113**		Pn	**Pn**	**18 03 07.3**	**0.0**
ERIK	**Erikli-Kesan**	**1.28 7**		Pn	**Pn**	**18 03 07.3**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.30 355**		P	**Pn**	**18 03 07.7**	**+0.2**
CAVK				S	**Sg**	**18 03 26.3**	**+0.3**
CAVK	**Edirne/Enez-Ca**	**1.30 355**	⇑P	**Pb**	**Pn**	**18 03 07.9**	**-0.1**
CAVK			⇑S	**Sg**	**Pb**	**18 03 25.7**	**-0.3**
ENEZ	**Enez**	**1.34 355**		P	**Pb**	**18 03 08.8**	**0.0**
ENEZ				S	**Sg**	**18 03 26.5**	**-0.9**
	21µm,0.7s						
ENEZ	**Enez**	**1.34 355**	Pn	Pn	**Pn**	**18 03 08.2**	**+0.1**
GMLD	**Gumuldur**	**1.40 160**	Pn	Pn	**Pn**	**18 03 08.7**	**-0.2**
GOMA	**Golmarmara-Man**	**1.43 118**	Pn	Pn	**Pn**	**18 03 09.4**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.45 20**	Pn	Pn	**Pn**	**18 03 09.8**	**+0.1**
SKY	**Skiros Island**	**1.46 250**		P	**Pn**	**18 03 09.9**	**+0.2**
SKY				S	**Sb**	**18 03 29.7**	**+0.6**
	23µm,0.7s						
SKY	**Skiros Island**	**1.46 250**		P	**Pn**	**18 03 10.0**	**+0.3**
SUSR	**Susurluk-Balik**	**1.49 67**	Pn	Pn	**Pn**	**18 03 10.2**	**+0.1**
ALEX	**Alexandroupoli**	**1.49 348**		P	**Pn**	**18 03 10.2**	**+0.1**
ALN	**Alexandroupoli**	**1.51 353**		P	**Pn**	**18 03 10.4**	**0.0**
ALN				S	**Sn**	**18 03 30.4**	**+0.6**
	7µm,1.0s						
ALN	**Alexandroupoli**	**1.51 353**	Pn	Pn	**Pn**	**18 03 10.5**	**0.0**
ALN	**Alexandroupoli**	**1.51 353**		Pn	**Pn**	**18 03 10.4**	**0.0**
ALN	**Alexandroupoli**	**1.51 353**		P	**Pn**	**18 03 10.4**	**0.0**
EDC	**Edincik**	**1.53 51**	Pn	Pn	**Pn**	**18 03 10.6**	**-0.1**
GORD	**Gordes-Manisa**	**1.54 108**	Pn	Pn	**Pn**	**18 03 10.9**	**0.0**
MRMT	**Marmara Adasi**	**1.56 39**	Pn	Pn	**Pn**	**18 03 11.2**	**0.0**
BAND	**Balkesir-Ban**	**1.68 55**	⇑P	Pn	**Pn**	**18 03 13.1**	**+0.3**
BAND			⇑S	**Sn**	**Pn**	**18 03 35.1**	**+1.0**
THAS	**Thassos island**	**1.71 315**		P	**Pn**	**18 03 12.6**	**-0.6**
THAS				S	**Sn**	**18 03 35.2**	**+0.4**
	2µm,0.4s						
THAS	**Thassos island**	**1.71 315**		P	**Pn**	**18 03 12.9**	**-0.3**
UKOP	**Uzunkopru-Edir**	**1.75 8**	Pn	Pb	**Pn**	**18 03 14.9**	**-0.9**
RDO	**Rodhopi**	**1.84 342**		P	**Pn**	**18 03 15.1**	**+0.1**
RDO				S	**Sn**	**18 03 38.5**	**+0.5**
	4µm,0.8s						
RDO	**Rodhopi**	**1.84 342**	Pn	Pn	**Pn**	**18 03 15.3**	**+0.3**
RDO	**Rodhopi**	**1.84 342**		Pn	**Pn**	**18 03 15.0**	**+0.1**
RDO	**Rodhopi**	**1.84 342**		P	**Pn**	**18 03 15.4**	**+0.3**
KYMI	**Kymi, Euboea I**	**1.88 247**		P	**Pn**	**18 03 15.2**	**-0.3**
KYMI				S	**Sb**	**18 03 40.9**	**-0.3**
	6µm,0.9s						
KYMI	**Kymi, Euboea I**	**1.88 247**		P	**Pn**	**18 03 14.8**	**-0.7**
XANC	**Avdira**	**1.89 327**		P	**Pn**	**18 03 15.9**	**+0.2**
AOS	**Alonnisos**	**1.89 264**		P	**Pn**	**18 03 16.0**	**+0.3**
KARY	**Karystos**	**2.00 228**		P	**Pn**	**18 03 16.2**	**-0.9**
KARY				S	**Sn**	**18 03 40.1**	**-1.7**
	3µm,0.6s						
KARY	**Karystos**	**2.00 228**		P	**Pn**	**18 03 16.3**	**-0.9**
OUR	**Ouranopolis**	**2.02 298**		P	**Pn**	**18 03 17.4**	**0.0**
OUR				S	**Sn**	**18 03 41.0**	**-1.3**
	2µm,0.3s						
OUR	**Ouranopolis**	**2.02 298**		P	**Pn**	**18 03 17.4**	**0.0**
TNSA	**Tinos**	**2.06 206**		P	**Pn**	**18 03 17.2**	**-0.8**
PAIG	**Paliouri**	**2.09 285**		P	**Pn**	**18 03 18.2**	**-0.3**
KAVA	**Kavala**	**2.10 320**		P	**Pn**	**18 03 18.7**	**+0.1**
KAVA				S	**Sn**	**18 03 43.0**	**-1.5**
	3µm,0.3s						
KAVA	**Kavala**	**2.10 320**		P	**Pn**	**18 03 18.7**	**+0.1**
KVLA	**Kavala**	**2.13 317**		P	**Pn**	**18 03 18.7**	**-0.2**
KOKK	**Kokkinochori,**	**2.27 310**		P	**Pn**	**18 03 20.7**	**-0.1**
KOKK				S	**Sn**	**18 03 49.3**	**+0.8**
	545nm,0.6s						
KOKK	**Kokkinochori,**	**2.27 310**		P	**Pn**	**18 03 20.4**	**-0.4**
TRGA	**Dikaia**	**2.31 360**		P	**Pn**	**18 03 22.5**	**+1.1**
PTL	**Penteli**	**2.33 236**		P	**Pn**	**18 03 21.1**	**-0.7**
PTL	**Penteli**	**2.33 236**		P	**Pn**	**18 03 20.8**	**-1.0**
KDZ	**Kurdzhali**	**2.35 342**	*i* P	Pn	**Pn**	**18 03 22.5**	**+0.5**
KDZ				S	**Sn**	**18 03 50.1**	**-0.4**
NEO	**Neokhori**	**2.39 269**		P	**Pn**	**18 03 22.4**	**-0.2**
NEO	**Neokhori**	**2.39 269**		P	**Pn**	**18 03 21.9**	**-0.7**
PLG	**Polygyros**	**2.41 295**		P	**Pn**	**18 03 23.0**	**+0.2**
PLG	**Polygyros**	**2.41 295**		P	**Pn**	**18 03 23.0**	**+0.2**
XOR	**Xorichti**	**2.41 270**		P	**Pn**	**18 03 22.4**	**-0.5**
XOR	**Xorichti**	**2.41 270**		P	**Pn**	**18 03 22.0**	**-0.9**
ATHU	**Athens Univers**	**2.43 235**		P	**Pn**	**18 03 22.2**	**-1.0**
EDRB	**Edirne**	**2.47 8**		P	**Pn**	**18 03 23.1**	**-0.6**
ATH	**Athens Observa**	**2.47 236**		P	**Pn**	**18 03 22.6**	**-1.0**
VLY	**Voula,Athens**	**2.50 233**		P	**Pn**	**18 03 22.2**	**-1.9**
AMGA	**Amorgos Island**	**2.58 187**		P	**Pn**	**18 03 24.1**	**-1.1**
RZN	**Rozhen**	**2.59 333**	⇓*i* P		**Pn**	**18 03 26.0**	**+0.6**
RZN			*i* S		**Sn**	**18 03 56.3**	**-0.3**
SOH	**Sokhos**	**2.67 303**		P	**Pn**	**18 03 26.8**	**+0.3**
SOH	**Sokhos**	**2.67 303**		P	**Pn**	**18 03 26.8**	**+0.3**
LKR	**Lokris**	**2.68 255**		P	**Pn**	**18 03 26.0**	**-0.5**
LKR	**Lokris**	**2.68 255**		P	**Pn**	**18 03 25.8**	**-0.8**
ISK	**Istanbul-Kandi**	**2.69 51**		P	**Pn**	**18 03 26.4**	**-0.2**
SRS	**Serrai**	**2.69 311**		P	**Pn**	**18 03 26.7**	**0.0**
SRS	**Serrai**	**2.69 311**		P	**Pn**	**18 03 26.6**	**-0.2**
DIM	**Dimitrovgrad**	**2.70 348**	*i* P		**Pn**	**18 03 27.4**	**+0.6**
DIM				S	**Sn**	**18 03 58.9**	**-0.3**
HORT	**Hortiatis**	**2.74 297**		P	**Pn**	**18 03 27.4**	**0.0**
HORT	**Hortiatis**	**2.74 297**		P	**Pn**	**18 03 27.9**	**+0.5**
THE	**Thessaloniki**	**2.84 297**		P	**Pn**	**18 03 29.5**	**+0.7**
NISR	**Nisiros**	**2.86 167**		P	**Pn**	**18 03 29.8**	**+0.9**
MMB	**Musomishta**	**2.90 319**	*i* P		**Pn**	**18 03 30.4**	**+0.8**
AXAR	**Agios Charalam**	**2.91 259**		P	**Pn**	**18 03 29.7**	**0.0**
AXAR	**Agios Charalam**	**2.91 259**		P	**Pn**	**18 03 29.7**	**0.0**
MET5	**Makryloggos,Me**	**2.91 233**		P	**Pn**	**18 03 28.9**	**-0.8**
LTK	**Loutraki**	**2.95 243**		P	**Pn**	**18 03 29.9**	**-0.3**
PLD	**Plovdiv**	**2.99 337**	*i* P		**Pn**	**18 03 31.6**	**+0.8**
PLD				S	**Sn**	**18 04 05.5**	**-0.8**
CMBO	**Columbo, Santo**	**3.01 194**		P	**Pn**	**18 03 30.4**	**-0.6**
CMBO	**Columbo, Santo**	**3.01 194**		P	**Pn**	**18 03 30.4**	**-0.6**
JMB	**Yambol**	**3.10 3**	*i* P		**Pn**	**18 03 32.9**	**+0.7**
JMB				S	**Sb**	**18 04 19.3**	**+3.0**
AGG	**Agios Georgios**	**3.11 264**			**Pn**	**18 03 32.4**	**-0.1**
AGG	**Agios Georgios**	**3.11 264**		P	**Pn**	**18 03 32.4**	**-0.1**
KNT	**Kendrikon**	**3.15 305**		P	**Pn**	**18 03 33.7**	**+0.7**
KRND	**KRANIDI**	**3.19 232**		P	**Pn**	**18 03 32.9**	**-0.7**
BORA	**Eskisehir**	**3.24 80**			**Pn**	**18 03 34.8**	**+0.5**
KKB	**Krupnik**	**3.44 316**	*i* P		**Pn**	**18 03 38.1**	**+1.2**
KKB				S	**Sn**	**18 04 18.6**	**+1.3**
KKB				Sg	**Sg**	**18 04 32.7**	**-1.7**
ARG	**Arkhangelos**	**3.49 155**			**Pn**	**18 03 37.8**	**+0.2**
ARG	**Arkhangelos**	**3.49 155**		P	**Pn**	**18 03 37.8**	**+0.2**
PGB	**Panagyurishte**	**3.51 333**	*i* P		**Pn**	**18 03 38.7**	**+0.8**
PGB				S	**Sn**	**18 04 18.0**	**-1.1**
ISP	**Isparta**	**3.66 114**	Pn	Pn	**Pn**	**18 03 40.1**	**0.0**
ISP	**Isparta**	**3.66 114**	*i* P		**Pn**	**18 03 40.7**	**+0.6**
ISP	**Isparta**	**3.66 114**	P		**Pn**	**18 03 40.6**	**+0.4**
PLNA	**Plana**	**3.77 326**	*e*P		**Pn**	**18 03 42.9**	**+1.3**
PLNA				S	**Sn**	**18 04 25.5**	**-0.2**
ROIA	**ROIAK**	**3.78 12**	P		**Pn**	**18 03 42.5**	**+0.8**
ROIA				S	**Sn**	**18 04 27.2**	**+1.4**
PRD	**Provadia**	**3.85 12**	*i* P		**Pn**	**18 03 43.4**	**+0.8**
PRD				S	**Sn**	**18 04 27.4**	**-0.1**
AVR	**AVREN**	**3.86 15**	P		**Pn**	**18 03 42.9**	**+0.2**
AVR				S	**Sn**	**18 04 27.8**	**0.0**
SZH	**Strazhitsa**	**3.87 356**	*i* P		**Pn**	**18 03 43.5**	**+0.6**
SZH				S	**Sn**	**18 04 27.8**	**-0.3**
ELL	**Elmali**	**3.88 132**			**Pn**	**18 03 44.0**	**+0.8**
ELL	**Elmali**	**3.88 132**	P		**Pn**	**18 03 44.0**	**+0.8**
KARP	**Karpathos**	**3.90 170**			**Pn**	**18 03 43.1**	**-0.3**
KARP	**Karpathos**	**3.90 170**	P		**Pn**	**18 03 42.9**	**-0.5**
MDUB	**Mudurnu**	**3.91 73**			**Pn**	**18 03 44.3**	**+0.7**
NEF	**NEVSHA**	**3.93 10**	*i* P		**Pn**	**18 03 44.6**	**+0.8**
NEF				S	**Sn**	**18 04 29.2**	**-0.4**
SOF	**Sofia**	**3.96 327**	*e*S		**Sn**	**18 04 30.2**	**0.0**
VTS	**Vitosha**	**3.97 325**	*i* P		**Pn**	**18 03 45.4**	**+1.0**
VTS				S	**Sn**	**18 04 30.4**	**-0.2**
ITM	**Ithomi**	**4.09 239**			**Pn**	**18 03 46.3**	**+0.3**
AKAS	**Kas**	**4.10 139**			**Pn**	**18 03 46.9**	**+0.7**
RAZG	**Razgrad**	**4.17 2**	⇑P		**Pn**	**18 03 47.6**	**+0.6**
IDI	**Anoyia**	**4.25 196**			**Pn**	**18 03 47.3**	**-0.9**
IDI	**Anoyia**	**4.25 196**	Pn	Pn	**Pn**	**18 03 46.6**	**-1.6**
	9.0nm,0.3s,baz=23,slow=12,SNR=27						
IDI				Sn	**Sn**	**18 04 36.7**	**-0.9**
	10nm,0.3s,baz=14,slow=7.1,SNR=4.3						
IDI				LR	LR	18 05 38.6	
	comp=Z,338nm,18.3s,baz=320,slow=42						
MPEP	**Malo Peshtene**	**4.40 335**	*i* P		**Pn**	**18 03 51.1**	**+0.9**
MPEP				P	**Pn**	**18 03 51.1**	**+0.9**
MPEP				S	**Sn**	**18 04 40.9**	**-0.2**
PSN	**Preselentsi**	**4.46 17**	⇓*i* P		**Pn**	**18 03 51.5**	**+0.6**
PSN				S	**Sn**	**18 04 42.1**	**-0.3**
SKO	**Skopje**	**4.50 306**	*i* Pn		**Pn**	**18 03 53.3**	**+1.7**
OHR	**Ohrid**	**4.55 294**	*i* Pn		**Pn**	**18 03 54.2**	**+2.0**
TSMN	**Mangalia Port-**	**4.72 21**	⇑P		**Pn**	**18 03 55.3**	**+0.7**
MANR	**Mangalia**	**4.74 20**	⇓P		**Pn**	**18 03 55.2**	**+0.5**
VALD	**Valchedram**	**4.80 334**	P		**Pn**	**18 03 56.7**	**+1.1**
BARS	**Barje**	**4.81 317**	*i* Sn		**Sg**	**18 05 15.6**	**-2.9**
CICN	**Ciocanesti**	**4.83 6**	⇑P		**Pn**	**18 03 56.2**	**+0.2**
EFOR	**EFORIE**	**4.99 20**	⇑P		**Pn**	**18 03 58.7**	**+0.4**
ANTO	**Ankara**	**5.03 83**			**Pn**	**18 03 59.2**	**+0.2**
ANTO	**Ankara**	**5.03 83**	⇓P		**Pn**	**18 04 00.4**	**+1.4**
ANTO	**Ankara**	**5.03 83**	P		**Pn**	**18 04 00.3**	**+1.4**
ANTO	**Ankara**	**5.03 83**	P		**Pn**	**18 03 59.2**	**

CSS	**Mathiatis**	**7.14**	**126**	P		**Pn**	**18 04 28.1 +0.2**
	0.1nm24nm,0.7s						
CSS	**Mathiatis**	**7.14**	**126**	P		**Pn**	**18 04 27.6 -0.3**
DIKM	**Dikmen**	**7.18**	**69**	⇑P		**Pn**	**18 04 30.1 +1.7**
TEKS	**Tekeris**	**7.21**	**318**	*e*Pn		**Pn**	**18 04 26.7 -2.1**
HAPS	**Han Pijesak,BI**	**7.22**	**313**	*e*Pn		**Pn**	**18 04 29.9 +0.9**
STON	**Ston**	**7.36**	**301**	*e*Pn		**Pn**	**18 04 28.3 -2.5**
TIP	**Timpagrande**	**7.41**	**271**			**Pn**	**18 04 31.9 +0.3**
TIP	**Timpagrande**	**7.41**	**271**	⇑P		**Pn**	**18 04 31.7 +0.2**
FRGS	**Fruska Gora**	**7.50**	**322**	*e*Pn		Pn	18 04 39.9 +7.1
SEV	**Sevastopol'**	**7.52**	**44**	*i* P		**Pn**	**18 04 31.8 -1.2**
SEV				*i* S		**Sn**	**18 05 51.5 -6.3**
SEV	**Sevastopol'**	**7.52**	**44**	*i* P		**Pn**	**18 04 31.8 -1.2**
SEV				Pm			18 04 39.9
	comp=Z,12nm,0.3s						
SEV				*i* S		**Sn**	**18 05 51.5 -6.3**
SEV				Sm			18 05 56.0
	comp=N,10.0nm,0.3s						
SEV				Sm			18 05 56.0
	comp=E,9.0nm,0.3s						
TARU	**Tarkhankut**	**7.55**	**36**	*e*P		**Pn**	**18 04 32.6 -0.7**
TARU				Pm			18 04 35.9
	comp=Z,7.0nm,0.2s						
TARU				*e*S		**Sn**	**18 05 54.0 -4.5**
TARU				Sm			18 05 57.0
	comp=N,27nm,0.4s						
TARU				Sm			18 05 57.0
	comp=E,4.0nm,0.3s						
CJR	**Cluj-Napoca**	**7.58**	**346**	⇑P		**Pn**	**18 04 34.9 +1.0**
CJR	**Cluj-Napoca**	**7.58**	**346**	P		**Pn**	**18 04 34.8 +1.0**
MARR	**Marisel-Cluj**	**7.64**	**343**	⇑P		**Pn**	**18 04 35.1 +0.3**
SIRR	**Siria**	**7.67**	**335**	⇑P		**Pn**	**18 04 34.9 -0.1**
MILM	**Milestii Mici**	**7.74**	**13**	⇑*i*P		**Pn**	**18 04 35.5 -0.5**
	comp=E,110nm,1.8s						
MILM	**Milestii Mici**	**7.74**	**13**	*i* PP		Pn	18 04 44.0 +8.0
MILM				*e*S		**Sn**	**18 06 04.0 +0.8**
MILM				*e*L		L	18 07 00.0
MILM				LRM		MLR	18 07 49.0
	comp=E,400nm,9.0s						
MILM	**Milestii Mici**	**7.74**	**13**	*c i* P		**Pn**	**18 04 35.5 -0.5**
MILM				*e*S		**Sn**	**18 06 04.0 +0.8**
MILM				MLR		MLR	
	comp=Z,600nm,10.8s						
YAL	**Yalta**	**7.75**	**46**	*e*P		**Pn**	**18 04 36.8 +0.6**
YAL				*e*S		**Sn**	**18 05 58.7 -4.9**
YAL	**Yalta**	**7.75**	**46**	*e*P		**Pn**	**18 04 36.8 +0.6**
YAL				Pm			18 04 37.8
	comp=Z,13nm,0.3s						
YAL				*e*S		**Sn**	**18 05 58.7 -4.9**
YAL				Sm			18 06 05.4
	comp=N,9.0nm,0.3s						
YAL				Sm			18 06 05.4
	comp=E,4.0nm,0.3s						
ARCR	**ARCALIA**	**7.81**	**350**	⇑P		**Pn**	**18 04 38.1 +1.1**
KIS	**Kishinev**	**7.82**	**13**	*e*P		**Pn**	**18 04 37.0 0.0**
KIS	**Kishinev**	**7.82**	**13**	*e*PP		Pn	18 04 45.0 +8.0
KIS				*e*S		**Sn**	**18 06 04.0 -1.1**
KIS				*e*L		L	18 06 59.0
KIS				LRM		MLR	18 07 54.0
	comp=E,300nm,11.5s						
KIS	**Kishinev**	**7.82**	**13**	*e*P		**Pn**	**18 04 37.0 0.0**
KIS				*e*S		**Sn**	**18 06 04.0 -1.1**
KIS				MLR		MLR	
	comp=Z,300nm,11.5s						
DNZ2	**Donuzlav2**	**7.86**	**38**	*e*P		**Pn**	**18 04 37.0 -0.7**
DNZ2				Pm			18 04 44.0
	comp=Z,9.0nm,0.3s						
DNZ2				*e*S		**Sn**	**18 06 01.5 -4.8**
DNZ2				Sm			18 06 10.3
	comp=N,7.0nm,0.3s						
DNZ2				Sm			18 06 10.3
	comp=E,11nm,0.4s						
ALU	**Alushta**	**8.01**	**46**	⇓*i*P		**Pn**	**18 04 39.3 -0.4**
ALU				*e*S		**Sn**	**18 06 05.6 -4.4**
ALU	**Alushta**	**8.01**	**46**	*i* P		**Pn**	**18 04 39.3 -0.4**
ALU				Pm			18 04 40.6
	comp=Z,6.0nm,0.3s						
ALU				*e*S		**Sn**	**18 06 05.6 -4.4**
ALU				Sm			18 06 09.9
	comp=N,80nm,0.5s						
ALU				Sm			18 06 09.9
	comp=E,28nm,0.4s						
SIM	**Simferopol'**	**8.03**	**44**	*e*P		**Pn**	**18 04 40.2 +0.3**
SIM				*e*			18 06 13.0
SIM				pmax		pmax	
	comp=Z,30nm,1.1s						
SIM				smax		smax	
	comp=E,94nm,1.0s						
SIM				smax		smax	
	comp=N,77nm,1.0s						
SIM				pmax		pmax	
	comp=N,100nm,15.0s						
SIM				MLR		MLR	
	comp=Z,60nm,14.0s						
SIM	**Simferopol'**	**8.03**	**44**	*e*P		**Pn**	**18 04 39.1 -0.8**
SIM				Pm			18 04 41.8
	comp=Z,31nm,0.4s						
SIM				*i* S		**Sn**	**18 06 04.8 -5.5**
SIM				Sm			18 06 06.4
	comp=N,136nm,1.0s						
SIM				Sm			18 06 06.4
	comp=E,65nm,1.0s						
CEL	**Celeste**	**8.21**	**265**			**Pn**	**18 04 43.1 +0.6**
BURAR	**Bucovina Array**	**8.25**	**355**	⇓P		**Pn**	**18 04 45.3 +2.1**
BURAR	**Bucovina Array**	**8.25**	**355**	P		**Pn**	**18 04 45.2 +2.1**
BUR08	**Bucovina Ar. S**	**8.28**	**355**			**Pn**	**18 04 43.6 0.0**
SGRT	**San Giovanni R**	**8.37**	**290**			**Pn**	**18 04 44.4 -0.4**
SUDU	**Sudak**	**8.47**	**47**	*i* P		**Pn**	**18 04 45.1 -1.0**
SUDU				*e*S		**Sn**	**18 06 16.3 -5.0**
SUDU	**Sudak**	**8.47**	**47**	*i* P		**Pn**	**18 04 45.1 -1.0**
SUDU				Pm			18 04 46.6
	comp=Z,19nm,0.6s						
SUDU				*e*S		**Sn**	**18 06 16.3 -5.0**
SUDU				Sm			18 06 26.7
	comp=N,84nm,0.9s						
SUDU				Sm			18 06 26.7
	comp=E,19nm,0.6s						
BLY	**Banja Luka**	**8.63**	**311**	*e*Pn		**Pn**	**18 04 49.6 +1.3**
MORH	**Mrgy, Hungar**	**8.84**	**323**	⇑P		**Pn**	**18 04 51.5 +0.5**
MORH	**Mrgy, Hungar**	**8.84**	**323**	P		**Pn**	**18 04 50.4 -0.6**
	comp=E,8.9nm,0.7s						
A050A	**Klekovaca**	**8.88**	**308**	*e*Pn		**Pn**	**18 04 53.6 +1.9**
A051A	**Mrakovica**	**8.95**	**312**	*e*Pn		**Pn**	**18 04 52.9 +0.3**
BRIU	**Brid**	**9.25**	**346**	P		**Pn**	**18 04 55.7 -0.9**
VAE	**Valguarnera**	**9.53**	**262**	Pn		**Pn**	**18 05 01.0 +0.4**
	comp=E,8.7nm,0.8s,baz=214,slow=20,SNR=1.5						
RAFF	**Raffo Rosso**	**9.63**	**261**			**Pn**	**18 05 02.4 +0.3**
MMA0B	**Mount Meron ar**	**9.72**	**128**	P		**Pn**	**18 05 02.3 -1.1**
MMAI	**Mount Meron Ar**	**9.72**	**128**	Pn		**Pn**	**18 05 01.8 -1.6**
	comp=E,2.2nm,0.3s,baz=311,slow=12,SNR=10						
MMAI				Sn		**Sn**	**18 06 46.3 -6.0**
	comp=E,0.8nm,0.3s,baz=298,slow=28,SNR=2.1						
MMAI				LR		LR	18 10 50.2
	comp=E,128nm,19.1s,baz=308,slow=50						
	comp=E,1.1nm,0.3s						
NATI	**Neve Ativ**	**9.76**	**126**	P		**Pn**	**18 05 02.9 -0.9**
INTR	**Introdacqua**	**9.77**	**289**			**Pn**	**18 05 04.5 +0.6**
KOLS	**Kolonicke sedl**	**9.96**	**344**	*e*P		**Pn**	**18 05 05.1 -1.4**
KOLS	**Kolonicke sedl**	**9.96**	**344**	*e*PN		**Pn**	**18 05 05.1 -1.4**
KOLS				*e*			18 05 16.3
KECS	**Kecovo**	**10.00**	**337**	*e*P		Pn	18 05 19.2 +12
BOJS	**Bojanci**	**10.19**	**310**	*e*Pn		**Pn**	**18 05 11.2 +1.6**
CRES	**Cresnjevec Ost**	**10.25**	**312**	*e*Pn		**Pn**	**18 05 12.4 +2.0**
HMDT	**Nahal Hemdat**	**10.33**	**131**	P		**Pn**	**18 05 11.0 -0.7**
NRCA	**Norcia**	**10.53**	**293**			**Pn**	**18 05 13.5 -0.8**
VYHS	**Vyhne**	**10.56**	**332**	*e*P		**Pn**	**18 05 14.6 -0.1**
VYHS	**Vyhne**	**10.56**	**332**	*e*PN		**Pn**	**18 05 14.6 -0.1**
LUBAR	**Lubar, Ukraine**	**10.57**	**5**	P		**Pn**	**18 05 13.7 -1.1**
FDMO	**Fiordimonte**	**10.60**	**294**			**Pn**	**18 05 14.9 -0.3**
KZIT	**Kziot**	**10.75**	**140**	P		**Pn**	**18 05 16.4 -0.9**
SOKA	**Soboth**	**10.99**	**315**	*e*P		**Pn**	**18 05 24.8 +4.1**
	comp=E,7.0nm,1.0s						
OBKA	**Obir**	**11.16**	**313**	*e*Pn		**Pn**	**18 05 23.6 +0.6**
OBKA	**Obir**	**11.16**	**313**	*e*Pn		**Pn**	**18 05 24.0 +1.1**
	comp=E,12nm,1.6s						
ASF	**Jabal al Asfar**	**11.22**	**127**	LR		LR	18 11 27.0
	comp=E,149nm,18.1s,baz=336,slow=47						
CONA	**Conrad Observa**	**11.39**	**322**	*e*Pn		**Pn**	**18 05 28.6 +2.5**
	comp=E,2.1nm,0.7s						
AK10	**Malin Array Si**	**11.39**	**10**	P		**Pn**	**18 05 24.8 -1.2**
AK05	**Malin Array Si**	**11.41**	**9**	P		**Pn**	**18 05 25.5 -0.7**
AK08	**Malin Array Si**	**11.43**	**10**	P		**Pn**	**18 05 25.4 -1.1**
AKASG	**Malin Array Be**	**11.49**	**9**	Pn		**Pn**	**18 05 26.8 -0.5**
	comp=E,0.5nm,0.3s,baz=200,slow=13,SNR=4.7						
AKASG				LR		LR	18 10 21.3
	comp=E,189nm,18.2s,baz=171,slow=40						
	comp=E,0.2nm,0.4s						
AKBB	**Malin Array Si**	**11.49**	**9**	*i* P		**Pn**	**18 05 26.5 -0.8**
PRNI	**Paran**	**11.50**	**139**	P		**Pn**	**18 05 27.0 -0.7**
AK04	**Malin Array Si**	**11.50**	**9**	P		**Pn**	**18 05 27.0 -0.5**
AK03	**Malin Array Si**	**11.51**	**9**	P		**Pn**	**18 05 27.1 -0.6**
RNPP5	**Staryi Chortor**	**11.84**	**359**	P		**Pn**	**18 05 31.3 -0.8**
RNPP9	**Sopachiv**	**12.02**	**359**	P		**Pn**	**18 05 33.8 -0.8**
EIL	**Elat**	**12.03**	**141**	Pn		**Pn**	**18 05 35.4 +0.5**
	comp=E,0.5nm,0.3s,baz=346,slow=5.7,SNR=3.9						
	comp=E,1.4nm,0.5s						
MORC	**Moravsky Berou**	**12.10**	**332**	*e*P		**Pn**	**18 05 36.9 +1.1**
KBA	**Koelnbreinsper**	**12.16**	**313**	*e*Pn		**Pn**	**18 05 36.7 -0.1**
	comp=E,8.7nm,1.2s						
BIOA	**Bad Ischl, Aus**	**12.36**	**316**	*e*Pn		**Pn**	**18 05 39.7 +0.3**
	comp=E,3.8nm,1.0s						
ABTA	**Abfaltersbach**	**12.46**	**311**	*e*Pn		**Pn**	**18 05 40.9 +0.1**
	comp=E,2.9nm,0.5s						
CTI	**Castel Tesino**	**12.65**	**306**			**Pn**	**18 05 43.2 -0.2**
CTI	**Castel Tesino**	**12.65**	**306**	P		**Pn**	**18 05 43.2 -0.2**
LESA	**Schwarzleotal**	**12.73**	**313**	*e*Pn		**Pn**	**18 05 44.2 -0.3**
	comp=E,6.3nm,1.0s						
SHA1	**Shidzhatmaz**	**12.99**	**65**	*i* P		**Pn**	**18 05 48.0 -0.1**
KIV	**Kislovodsk**	**13.06**	**64**	*e*P		**Pn**	**18 05 49.2 +0.2**
KIV				pmax		pmax	
	comp=Z,3.0nm,0.9s						
GERES	**GERESS Array B**	**13.07**	**320**	Pn		**Pn**	**18 05 51.4 +2.4**
	baz=135,slow=19,SNR=4.1						
	comp=Z,0.2nm,0.4s						
KBZ	**Khabaz**	**13.16**	**65**	Pn		**Pn**	**18 05 53.0 +2.9**
	comp=Z,0.1nm,0.3s,baz=302,slow=4.2,SNR=4.6						
	comp=Z,0.5nm,0.7s						
WTTA	**Wattenberg**	**13.24**	**311**	*e*P		**P**	**18 05 57.4 -3.9**
	comp=Z,6.8nm,1.0s						
WATA	**Walderalm**	**13.32**	**311**	*e*Pn		**Pn**	**18 05 52.2 -0.3**
	comp=Z,6.6nm,0.9s						
SQTA	**Sankt Quirin**	**13.47**	**310**	*e*Pn		**Pn**	**18 05 55.3 +0.7**
	comp=Z,6.9nm,0.9s						
MOTA	**Moosalm**	**13.60**	**311**	*e*P		**Pn**	**18 06 00.6 +4.3**
	comp=Z,3.9nm,0.8s						
FETA	**Feichten**	**13.66**	**309**	*e*Pn		**Pn**	**18 05 58.1 +0.9**
	comp=Z,7.2nm,1.2s						
KEST	**Kesra**	**13.94**	**260**	Pn		**Pn**	**18 06 02.5 +1.5**
	comp=Z,0.1nm,0.3s,baz=61,slow=12,SNR=3.9						
	comp=Z,5.2nm,0.8s						
DAVOX	**Davos/Dischmat**	**14.07**	**307**	Pn		**Pn**	**18 06 03.1 +0.2**
	comp=Z,0.2nm,0.3s,baz=142,slow=14,SNR=8.3						
DAVOX				LR		LR	18 11 29.0
	comp=Z,180nm,21.1s,baz=116,slow=37						
	comp=Z,4.1nm,0.8s						
GNI	**Garni**	**14.21**	**81**			**P**	**18 06 12.5 +0.4**
GNI	**Garni**	**14.21**	**81**	LR		LR	18 11 31.9
	comp=Z,190nm,20.2s,baz=30,slow=37						
GNI	**Garni**	**14.21**	**81**	P		**P**	**18 06 12.5 +0.4**
TUE	**Stuetta**	**14.28**	**305**			**Pn**	**18 06 05.4 -0.3**
VORD	**Divnogorie**	**14.73**	**34**	*e*P		**Pn**	**18 06 10.4 -1.2**
VORD				pmax		pmax	
	comp=Z,7.0nm,0.9s						
VSR	**Storozhevoye**	**14.86**	**33**	*e*P		**Pn**	**18 06 10.4 -2.9**
VSR				pmax		pmax	
	comp=Z,10.0nm,0.9s						
CLL	**Collm**	**15.11**	**326**	*e*P		**Pn**	**18 06 19.0 +2.3**
CLL	**Collm**	**15.11**	**326**	*e*P		**Pn**	**18 06 19.0 +2.3**
CLL				*e*(PP)			18 06 23.0
CLL				*e*SS		**S**	**18 09 23.0 +2.2**
CLL				AMS		AMS	18 11 00.0
	comp=N,300nm,20.8s						
CLL				AMS		AMS	18 11 00.0
	comp=E,400nm,20.0s						
CLL				AMS		AMS	18 11 00.0
	comp=Z,100nm,20.7s						
MNK	**Minsk**	**15.15**	**4**	*i* P		**Pn**	**18 06 13.6 -3.7**
	comp=E,6.0nm,0.5s						
MNK				*i* P		**Pn**	**18 06 13.6 -3.7**
	comp=N,2.0nm,0.4s						
MNK				*i* P		**Pn**	**18 06 13.6 -3.7**
	comp=Z,2.0nm,0.4s,baz=184						
MNK				*i* PP		**P**	**18 06 21.6 -0.7**
MNK				*i* PPP		PPP	18 06 29.3
MNK				*i* S		**Sn**	**18 09 00.9 -3.7**
MNK				*i* SS		**SnSn**	**18 09 14.8 -2.5**
MNK				*i* SSS		SSS	18 09 27.4
MNK				*i* LR		LR	18 11 18.7
MNK				*i* LRM		MLR	18 12 02.3
	comp=N,334nm,15.7s						
MNK				*i* LRM		MLR	18 12 25.1
	comp=Z,143nm,15.6s						
MNK				*i* LRM		MLR	18 12 29.4
	comp=E,121nm,15.0s						
MNK	**Minsk**	**15.15**	**4**	*i* P		**Pn**	**18 06 13.5 -3.7**
MNK				*i* S		**Sn**	**18 09 00.8 -3.7**
MNK				pmax		pmax	
	comp=N,2.0nm,0.4s						
MNK				pmax		pmax	
	comp=Z,2.0nm,0.4s						
MNK				pmax		pmax	
	comp=E,6.0nm,0.5s						
MNK				MLR		MLR	
	comp=N,334nm,16.0s						
MNK				MLR		MLR	
	comp=Z,143nm,16.0s						
MNK				MLR		MLR	
	comp=E,121nm,15.0s						
VORR	**Voronezh**	**15.21**	**32**	*e*P		**P**	**18 06 21.4 -1.6**
VORR				pmax		pmax	
	comp=Z,58nm,0.5s						
NACGM	**Naroch**	**15.52**	**1**	*e*P		**Pn**	**18 06 19.6 -2.5**
	comp=N,4.0nm,1.0s						
LPSR	**Galich'ya Gora**	**15.82**	**29**	*e*P		**Pn**	**18 06 23.7 -2.3**
LPSR				pmax		pmax	
	comp=Z,26nm,1.6s						
VRH	**Novokhopyorsk**	**15.99**	**37**	*e*P		**Pn**	**18 06 26.7 -1.5**
VRH				pmax		pmax	
	comp=Z,48nm,1.4s						
MAK	**Makhachkala**	**16.35**	**71**	*e*P		**Pn**	**18 06 31.0 -1.8**
MAK				*e*S		**Sn**	**18 09 31.4 -2.4**
MAK				pmax		pmax	
	comp=Z,58nm,0.9s						
MAK				MLR		MLR	
	comp=Z,301nm,16.0s						
OBN	**Obninsk**	**17.17**	**20**	P		**Pn**	**18 06 44.0 +0.9**
	comp=Z,14nm,0.4s,baz=136,slow=20,SNR=5.4						
OBN	**Obninsk**	**17.17**	**20**	*e*P		**Pn**	**18 06 42.9 -0.1**
OBN				pmax		pmax	
	comp=Z,12nm,1.0s						
OBN				MLR		MLR	
	comp=Z,144nm,17.0s						
MOS	**Moscow**	**18.00**	**21**	*e*P		**Pn**	**18 06 54.0 +0.6**
MOS				*e*S		**Sn**	**18 10 15.5 +1.7**
MOS				pmax		pmax	
	comp=Z,31nm,0.8s						
VSU	**Vasula**	**19.08**	**1**	*c e*P		**P**	**18 07 04.9 -0.8**
VSU				pmax		pmax	
	comp=Z,35nm,2.5s						
BELG	**Belogornoye**	**19.63**	**42**	P		**P**	**18 07 11.7 0.0**
	comp=Z,0.6nm,0.3s,baz=126,slow=1.6,SNR=3.9						
BELG				LR		LR	18 14 47.5
	comp=Z,144nm,19.3s,baz=138,slow=37						
	comp=Z,19nm,0.8s						
BELG	**Belogornoye**	**19.63**	**42**	*i* P		**P**	**18 07 12.5 +0.8**
BELG				pmax		pmax	
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**22.07**	**360**	P		**P**	**18 07 37.1 -0.9**
	comp=Z,5.7nm,1.1s,baz=188,slow=12,SNR=9.4						
	comp=Z,5.7nm,1.1s						
HFS	**Hagfors**	**22.22**	**343**	P		**P**	**18 07 41.0 +1.3**
	comp=Z,4.2nm,1.1s,baz=150,slow=15,SNR=3.9						
HFS				LR		LR	18 16 42.9
	comp=Z,181nm,20.2s,baz=148,slow=38						
	comp=Z,4.2nm,1.1s						
HFS	**Hagfors**	**22.22**	**343**	P		**P**	**18 07 41.0 +1.3**
KLMR	**Klimovskoe**	**23.00**	**17**	*e*P		**P**	**18 07 45.3 -2.6**
KLMR				*e*			18 08 10.5
KLMR				pmax		pmax	
	comp=Z,24nm,1.4s						
ESDC	**Sonseca Array**	**23.30**	**280**	P		**P**	**18 07 52.9 +1.7**
	comp=Z,2.7nm,0.8s,baz=74,slow=10,SNR=18						
ESDC				LR		LR	18 19 03.5
	comp=Z,68nm,18.4s,baz=108,slow=42						
	comp=Z,2.7nm,0.8s						
NAO01	**NORSAR Array S**	**23.52**	**341**	P		**P**	**18 07 52.5 -0.6**
NAO01				IAmb		IAmb	18 08 07.3
	comp=Z,47nm,1.5s						
NB2	**NORSAR Subarra**	**23.60**	**342**	P		**P**	**18 07 52.9 -1.1**
	comp=Z,2.0nm,0.8s,baz=146,slow=10						
NOA	**NORSAR Array B**	**23.60**	**342**	P		**P**	**18 07 53.4 -0.6**
	comp=Z,0.7nm,0.8s,baz=146,slow=9.5,SNR=5.4						
NOA				LR		LR	18 18 11.5
	comp=Z,162nm,18.5s,baz=160,slow=39						
	comp=Z,0.7nm,0.8s						
AKTO	**Aktyubinsk**	**24.84**	**53**	P		**P**	**18 08 05.5 +0.1**
	comp=Z,1.8nm,0.7s,baz=264,slow=8.8,SNR=7.2						
	comp=Z,1.8nm,0.7s						
EKA	**Eskdalemuir Ar**	**25.27**	**319**	P		**P**	**18 08 10.3 +1.0**
	comp=Z,2.0nm,0.6s,baz=115,slow=10,SNR=20						
	comp=Z,2.0nm,0.6s						
ABKAR	**Akbulak array**	**25.81**	**56**			**P**	**18 08 13.2 -1.1**
ARTI	**Arti**	**27.07**	**40**	P		**P**	**18 08 27.6 +2.1**
	comp=Z,6.2nm,0.9s,baz=216,slow=4.4,SNR=8.8						
ARTI				LR		LR	18 19 04.5
	comp=Z,96nm,20.4s,baz=238,slow=36						
	comp=Z,6.2nm,0.9s						
ARTI	**Arti**	**27.07**	**40**	P		**P**	**18 08 25.8 +0.2**
ARTI							18 09 10.8
ARTI				S		**S**	**18 13 07.3 +4.6**
ARTI				SS		**SnSn**	**18 14 16.1 +7.0**
ARCES	**ARCESS Array B**	**30.20**	**359**	LR		LR	18 21 17.5
	comp=Z,179nm,20.9s,baz=151,slow=37						
BRVK	**Borovoye**	**32.80**	**51**	*i* P		**P**	**18 09 16.5 +0.1**
BRVK				pmax		pmax	
	comp=Z,3.0nm,1.2s						
BVAR	**Borovoye Array**	**32.86**	**51**	P		**P**	**18 09 17.4 +0.4**
	comp=Z,0.3nm,0.4s,baz=350,slow=4.5,SNR=3.9						
BVAR				LR		LR	18 24 19.5
	comp=Z,54nm,20.3s,baz=254,slow=40						
	comp=Z,0.3nm,0.4s						
KKAR	**Karatay Array**	**33.16**	**69**	P		**P**	**18 09 20.5 +0.9**
KKAR	**Karatay Array**	**33.16**	**69**	P		**P**	**18 09 20.5 +0.9**
GAR	**Garm**	**33.86**	**76**			**P**	**18 09 26.6 +0.6**
GAR				IAmb		IAmb	18 09 32.4
	comp=Z,9.7nm,1.0s						
AAK	**Ala-Archa**	**36.12**	**69**	*i* P		**P**	**18 09 45.3 -0.1**
AAK				pmax		pmax	
	comp=Z,3.0nm,1.0s						
JMIC	**Jan Mayen**	**36.32**	**342**	LR		LR	18 25 46.5
	comp=Z,87nm,18.2s,baz=86,slow=38						
BOOM	**Boomskoye usch**	**37.19**	**69**			**P**	**18 09 55.0 +0.4**
BOOM				IAmb		IAmb	18 10 01.9
	comp=Z,3.8nm,1.0s						
BOOM	**Boomskoye usch**	**37.19**	**69**	P		**P**	**18 09 55.0 +0.4**
BOOM				pmax		pmax	
	comp=Z,4.0nm,1.0s						
KURBB	**Kurchatov Arra**	**37.85**	**55**	P		**P**	**18 09 59.9 +0.1**
	comp=Z,2.3nm,1.1s,baz=279,slow=8.6,SNR=11						
	comp=Z,2.3nm,1.1s						
KURK	**Kurchatov**	**37.90**	**55**	*i* P		**P**	**18 10 00.3 +0.1**
KURK				pmax		pmax	
	comp=Z,6.0nm,1.6s						
MK31	**Makanchi Array**	**40.79**	**61**	*i* P		**P**	**18 10 24.9 +0.4**
MKAR	**Makanchi Array**	**40.79**	**61**			**P**	**18 10 24.5 0.0**
MKAR	**Makanchi Array**	**40.79**	**61**	P		**P**	**18 10 25.1 +0.6**
	comp=Z,1.1nm,0.7s,baz=277,slow=7.6,SNR=5.7						
MKAR				LR		LR	18 29 44.9
	comp=Z,66nm,19.3s,baz=223,slow=40						
	comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**41.49**	**50**	P		**P**	**18 10 30.2 +0.1**
ZALV	**Zalesovo Beam**	**41.49**	**50**	P		**P**	**18 10 30.0 -0.1**
	comp=Z,0.4nm,0.3s,baz=252,slow=8.9,SNR=3.9						
ZALV				LR		LR	18 30 41.8
	comp=Z,54nm,18.0s,baz=75,slow=40						
	comp=Z,0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**41.49**	**50**	P		**P**	**18 10 30.2 +0.1**
NRIK	**Noril'sk**	**43.68**	**27**	P		**P**	**18 10 49.5 +1.9**
	comp=Z,0.9nm,0.3s,baz=260,slow=7.6,SNR=3.5						
	comp=Z,0.9nm,0.3s						
SFJD	**Kangerlussuaq**	**49.45**	**330**	LR		LR	18 34 27.4
	comp=Z,63nm,18.1s,baz=98,slow=38						
CMAR	**Chiang Mai Arr**	**65.27**	**86**	P		**P**	**18 13 25.4 +0.1**
	comp=Z,0.3nm,0.3s,baz=296,slow=5.9,SNR=4.1						
	comp=Z,0.3nm,0.3s						
A36M	**Sachs Harbour**	**67.12**	**351**			**P**	**18 13 36.9 +0.6**
SEY	**Seymchan**	**69.31**	**23**	LR		LR	18 46 35.4
	comp=Z,125nm,20.7s,baz=328,slow=38						
YKA	**Yellowknife Ar**	**73.70**	**342**	P		**P**	**18 14 18.7 +2.0**
	comp=Z,0.1nm,0.3s,baz=26,slow=5.7,SNR=2.2						
	comp=Z,0.1nm,0.3s						
KSRS	**Korea Array**	**75.01**	**54**	LR		LR	18 51 25.5
	comp=Z,49nm,18.8s,baz=300,slow=39						

*BUT **29** 18:06:48.0±0.4, 47°.44N±0°.02×113°.03W±0°.03, h19km±6km, Error ellipse: s-maj=3.8km s-min=1.8km az=215.0*
NEIC 29 18:06:46.7±2.0, 47°.48N±0°.03×113°.03W±0°.03, h21km±7km, ML2.6/15(BUT), **Error ellipse: s-maj=4.8km s-min=3.3km az=182.0, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLMT	**Seeley Lake**	**0.40**	**233**		Pb	18 06 55.7	+0.7
SLMT					Sb	18 07 01.2	+0.5
OVMT	**Ovando**	**0.42**	**177**		Pb	18 06 55.6	+0.2
CHMT	**Chamberlain Mo**	**0.59**	**195**		Pb	18 06 58.6	0.0
SWMT

980nm,0.9s,baz=240,slow=0.0
AAK Ala-Archa 15.86 329 Pn **Pn 18 36 19.4 -0.1**
0.1nm,0.3s,baz=143,slow=14,SNR=7.3
0.4nm,0.3s
CMAR Chiang Mai Arr 16.43 129 Pn **P 18 36 29.2 -0.4**
0.1nm,0.3s,baz=309,slow=9.8,SNR=11
1.5nm,1.0s
MKAR Makanchi Array 17.48 353 P **P 18 36 39.1 -1.9**
baz=173,slow=14,SNR=4.3
0.5nm,0.7s
KURBB Kurchatov Arra 21.77 348 P **P 18 37 26.8 -1.0**
1.1nm,0.9s,baz=171,slow=11,SNR=6.1
1.1nm,0.9s
SONM Songino Array 24.40 36 P **P 18 37 54.9 +0.2**
2.6nm,0.9s,baz=219,slow=11,SNR=10
2.6nm,0.9s
ZALV Zalesovo Beam 24.46 359 P **P 18 37 55.4 +0.4**
0.6nm,0.6s,baz=178,slow=15,SNR=3.7
0.6nm,0.6s
BVAR Borovoye Array 26.03 339 P **P 18 38 10.3 +1.1**
0.4nm,0.7s,baz=96,slow=8.8,SNR=3.1
BVAR LR LR 18 50 12.0
comp=Z,41nm,19.9s,baz=167,slow=41
0.4nm,0.7s
PSI Prapat 29.42 152 LR LR 18 51 19.7
comp=Z,29nm,21.1s,baz=220,slow=38
KIRV Kirov 38.19 330 LR LR 18 56 48.6
comp=Z,20nm,19.9s,baz=106,slow=38
ASF Jabal al Asfar 41.57 286 LR LR 19 00 32.3
comp=Z,42nm,18.1s,baz=132,slow=40
AKASG Malin Array Be 46.73 313 LR LR 19 02 59.5
comp=Z,29nm,18.3s,baz=71,slow=39
FINES FINESS Array B 50.04 327 P **P 18 41 30.7 +0.2**
1.0nm,0.7s,baz=116,slow=6.6,SNR=4.4
1.0nm,0.7s
ARCES ARCESS Array B 52.30 337 P **P 18 41 47.3 -0.1**
2.2nm,0.9s,baz=59,slow=10.0,SNR=5.5
2.2nm,0.9s
HFS Hagfors 55.95 325 P **P 18 42 13.9 -0.3**
1.7nm,0.7s,baz=138,slow=10.0,SNR=4.5
1.7nm,0.7s
NB2 NORSAR Subarra 57.16 326 P **P 18 42 21.8 -1.0**
comp=Z,0.7nm,0.7s,baz=88,slow=7.4
NOA NORSAR Array B 57.16 326 P **P 18 42 22.3 -0.5**
comp=Z,1.7nm,0.9s,baz=87,slow=7.0,SNR=4.9
NOA LR LR 19 10 23.4
comp=Z,12nm,20.0s,baz=230,slow=40
comp=Z,1.7nm,0.9s
WRA Warramunga Arr 68.02 130 P **P 18 43 36.4 +0.5**
comp=Z,1.3nm,1.0s,baz=318,slow=6.3,SNR=4.8
comp=Z,1.3nm,1.0s
ASAR Alice Springs 70.39 133 P **P 18 43 52.7 +2.2**
comp=Z,0.7nm,1.0s,baz=315,slow=5.7,SNR=2.8
comp=Z,0.7nm,1.0s
YKA Yellowknife Ar 86.94 9 P **P 18 45 21.4 +0.4**
comp=Z,0.5nm,0.8s,baz=340,slow=5.3,SNR=6.8
comp=Z,0.5nm,0.8s

*JMA **29** 18:33:46.4±0.2,23°.9N±0°.8×123°.4E±0°.4,h29km±1km, MV3.5/11,NEAR ISHIGAKIJIMA ISLAND*
*NIED **29** 18:33:46.4,23°.85N×123°.39E,h29km,MW3.8,Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; M_{rr}2.27; $M_{\theta\theta}$-2.85; $M_{\phi\phi}$0.58; $M_{r\theta}$2.99; $M_{\theta\phi}$-1.65; $M_{r\phi}$3.02; Fault plane solution: $M_0$5.22000×10^14^ NP1: ϕ_s277.00000°,δ23.00000°,λ138.00000°. NP2: ϕ_s46.00000°,δ75.00000°,λ72.00000°.*

ISC 29 18:33:46.5±1.3,23°.85N±0°.07×123°.39E±0°.03,h26km±12km, n21,σ0°61/29,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.43**	**62**	*i* P	**Pb**	**18 33 55.5**	**0.0**
HATJ				*e*S	**Sb**	**18 34 02.1**	**+0.4**
IRIF	**Iriomote-Funau**	**0.57**	**33**	*i* P	**Pb**	**18 33 57.6**	**-0.3**
IRIF				*e*S	**Sb**	**18 34 06.0**	**+0.4**
JKRS	**Kuro-shima**	**0.68**	**56**	P	**Pb**	**18 33 59.9**	**+0.1**
JKRS				*e*S	**Sn**	**18 34 09.6**	**-0.5**
YOJ	**Yonaguni jima**	**0.70**	**330**	P	**Pb**	**18 33 59.9**	**-0.2**
YOJ	**Yonaguni jima**	**0.70**	**330**	P	**Pb**	**18 33 59.9**	**-0.2**
YOJ				*e*S	**Sb**	**18 34 09.4**	**+0.1**
JYNG	**Yonagunijimaku**	**0.72**	**326**	P	**Pb**	**18 34 00.1**	**-0.3**
JYNG				*e*S	**Sb**	**18 34 09.6**	**-0.4**
JIJ	**Ishigaki jima**	**0.85**	**53**	P	**Pn**	**18 34 02.1**	**-0.7**
JIJ				*e*S	**Sb**	**18 34 13.5**	**-0.2**
JISG	**Ishigakijimahi**	**1.11**	**49**	P	**Pn**	**18 34 06.0**	**-0.3**
JISG				*e*S	**Sn**	**18 34 20.6**	**-0.2**
JTJ	**Tarama**	**1.43**	**56**	*e*P	**Pb**	**18 34 12.6**	**+0.1**
JTJ				*e*S	**Sb**	**18 34 30.5**	**+0.3**
NACB	**Ninganchiao**	**1.68**	**281**	P	**Pn**	**18 34 13.6**	**-0.5**
NACB	**Ninganchiao**	**1.68**	**281**	S	**Sn**	**18 34 35.0**	**+0.3**
YULB	**Yu-li**	**1.98**	**257**	P	**Pn**	**18 34 17.7**	**-0.5**
YULB	**Yu-li**	**1.98**	**257**	S	**Sn**	**18 34 41.4**	**-0.8**
JMJ	**Miyako jima 2**	**1.98**	**61**	P	**Pb**	**18 34 22.4**	**+0.6**
YHNB	**Yeheng**	**2.01**	**294**	P	**Pn**	**18 34 19.8**	**+1.0**
TATO	**Taipei**	**2.06**	**303**	P	**Pn**	**18 34 20.5**	**+1.1**
TATO	**Taipei**	**2.06**	**303**	S	**Sb**	**18 34 47.5**	**-1.0**
SSLB	**Suanglung**	**2.23**	**269**	P	**Pn**	**18 34 22.4**	**+0.6**
SSLB	**Suanglung**	**2.23**	**269**	S	**Sn**	**18 34 49.6**	**+1.0**
TWGBT	**Beinan**	**2.36**	**245**	P	**Pn**	**18 34 22.9**	**-0.7**
TPUB	**Ta-pu**	**2.59**	**258**	P	**Pn**	**18 34 27.7**	**+0.9**

DJA 29 18:37:00.4±0.6,2°S±2°×12°3E±°,h13km±4km,M4.0/17, mb4.1/5,MLv3.9/17,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.83**	**15**	P	Pg	18 37 16.0	-0.6
LUWI				S	Sb	18 37 28.0	+0.1
APSI	**Ampana**	**1.30**	**316**	P	Pn	18 37 23.6	-0.6
MRSI	**Marisa**	**2.39**	**345**	P	Pn	18 37 38.4	-0.9
MRSI				S	Sn	18 38 08.0	-0.5
KMSI	**Cibinong**	**2.80**	**31**	P	Pn	18 37 46.4	+1.5
KMSI				S	Sn	18 38 19.9	+1.3
PCI	**Palu**	**2.87**	**289**	P	Pn	18 37 46.6	+0.7
MPSI	**Mapaga**	**3.43**	**309**	P	Pn	18 37 53.2	-0.4
SANI	**Sanana**	**3.44**	**93**	P	Pn	18 37 51.5	-2.3
SPSI	**Sidrap Palu**	**3.48**	**233**	P	Pn	18 37 55.0	+0.7
BNSI	**Bone**	**3.52**	**224**	P	Pn	18 37 55.3	+0.5
BBSI	**Bau Bau**	**3.61**	**180**	P	Pn	18 37 56.2	+0.1
BSSI	**Bau Bau, Buton**	**4.73**	**206**	P	Pn	18 38 14.0	+2.5
NLAI	**Namlea**	**4.75**	**107**	P	Pn	18 38 12.7	+0.9
EDFI	**Ende, Flores**	**6.91**	**187**	P	Pn	18 38 42.5	+1.0
SWI	**Sorong**	**8.76**	**84**	P	Pn	18 39 06.6	-0.3
FAKI	**Fak Fak**	**9.75**	**96**	P	Pn	18 39 18.3	-2.2

*AFAD **29** 18:39:50.7,39°.42N×26°.36E,h7km±5km,MW3.7*
*ISK **29** 18:39:50.2,39°.39N×26°.33E,h10km,ML3.9/27*
*ATH **29** 18:39:50.5,39°.36N×26°.32E,h20km±2km,ML3.4/29, Manual Solution by G.Panopoulou First location: 2019/04/29 18:41:04, This location: 2019/04/30 10:57:25 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
*THE **29** 18:39:51.3,39°.41N×26°.27E,h9km,ML3.6/10,Error ellipse: s-maj=1.2km s-min=0.3km az=119.0*
*SOF **29** 18:39:53.6,39°.53N±0°.02×26°.31E±0°.01,h35km±2km, MD3.5/13*
*CFUSG **29** 18:39:55.9,39°.88N×26°.54E,h5km,mb3.2/2,Western Turkey Magtype MSH 3.3 from 6 stations*

ISC 29 18:39:50.2±0.8,39°.37N±0°.02×26°.35E±0°.02,h17km±6km, n167,σ1§13/225,35C-9D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.14**	**205**	P	**Pb**	**18 39 54.7**	**+0.4**
PRK				S	**Sb**	**18 39 57.7**	**+0.6**
51μm,0.6s							
PRK	**Paraskevi**	**0.14**	**205**	P	**Pb**	**18 39 54.7**	**+0.4**
PRK				S	**Sb**	**18 39 57.7**	**+0.6**
GPNR	**Gulpinar-Canak**	**0.18**	**297**	Pg	**Pg**	**18 39 54.7**	**-0.2**
GPNR				Sg	**Sg**	**18 39 57.5**	**-0.5**
KOCA	**Canakkale, Ayv**	**0.21**	**309**	P	**Pg**	**18 39 55.1**	**-0.1**
KOCA				S	**Sg**	**18 39 57.8**	**-0.8**
KOCA				*i* AML	AML	18 39 58.0	
comp=N,2μm,0.6s							
KOCA				*i* AML	AML	18 39 59.0	
comp=E,2μm,0.6s							
AYVA	**Ayvalik**	**0.28**	**103**	P	**Pb**	**18 39 57.4**	**+0.7**
AYVA				S	**Sb**	**18 40 00.7**	**-0.3**
AYVA				*i* AML	AML	18 40 02.0	
comp=N,9μm,0.5s							
EZNE	**Ezine-Canakkal**	**0.39**	**2**	Pg	**Pg**	**18 39 58.2**	**0.0**
EZNE				Sg	**Sg**	**18 40 03.5**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.40**	**23**	P	**Pg**	**18 39 58.8**	**+0.3**
BAYC				S	**Sg**	**18 40 02.3**	**-1.8**
BAYC				*i* AML	AML	18 40 09.0	
comp=N,5μm,0.3s							
BAYC				*i* AML	AML	18 40 10.0	
comp=Z,3μm,0.4s							
SIGR	**SIGRI**	**0.41**	**247**	P	**Pg**	**18 39 58.9**	**+0.3**
SIGR				S	**Sg**	**18 40 04.6**	**+0.3**
14μm,0.6s							
SIGR	**SIGRI**	**0.41**	**247**	Pg	**Pg**	**18 39 58.7**	**0.0**
SIGR				Sg	**Sg**	**18 40 04.6**	**+0.3**
SIGR	**SIGRI**	**0.41**	**247**	P	**Pg**	**18 39 58.9**	**+0.3**
SIGR				S	**Sg**	**18 40 04.7**	**+0.3**
EZN	**Ezine**	**0.45**	**358**	P	**Pg**	**18 39 59.3**	**-0.1**
EZN				S	**Sg**	**18 40 05.6**	**0.0**
20μm,0.3s							
EZN	**Ezine**	**0.45**	**358**	Pg	**Pg**	**18 39 59.3**	**-0.1**
EZN				Sg	**Sg**	**18 40 05.7**	**+0.1**
BOZC	**Bozcaada**	**0.52**	**334**	P	**Pg**	**18 40 00.6**	**-0.1**
BOZC				S	**Sg**	**18 40 06.0**	**-1.7**
BOZC				*i* AML	AML	18 40 08.0	
comp=N,5μm,0.3s							
BOZC				*i* AML	AML	18 40 08.0	
comp=E,4μm,0.5s							
DKL	**Dikili**	**0.53**	**124**	Pg	**Pb**	**18 40 01.7**	**+0.7**
DKL	**Dikili**	**0.53**	**124**	P	**Pn**	**18 40 02.0**	**-1.0**
DKL				S	**Sb**	**18 40 09.0**	**+0.7**
YAYO	**Edremit-Balk**	**0.61**	**67**	Pg	**Pb**	**18 40 02.6**	**+0.2**
ECEA	**Canakkale, Ece**	**0.69**	**349**	P	**Pg**	**18 40 04.0**	**+0.3**
ECEA				S	**Sg**	**18 40 11.4**	**-1.4**
ECEA				*i* AML	AML	18 40 13.0	
comp=E,1μm,0.3s							
ECEA				*i* AML	AML	18 40 15.0	
comp=N,7μm,0.9s							
CNKL	**anakkale-Mer**	**0.69**	**3**	P	**Pg**	**18 40 03.8**	**-0.1**
ZEDA	**zmir-Bergama**	**0.70**	**125**	P	**Pn**	**18 40 05.4**	**+0.2**
ZEDA				S	**Sb**	**18 40 14.0**	**+0.8**
ZEDA				*i* AML	AML	18 40 18.0	
comp=N,4μm,0.3s							
ZEDA				*i* AML	AML	18 40 18.0	
comp=E,3μm,0.3s							
KARB	**zmir-Karabur**	**0.71**	**176**	P	**Pn**	**18 40 05.4**	**0.0**
FOCM	**Foa**	**0.72**	**155**	Pg	**Pb**	**18 40 04.9**	**+0.6**
COMU	**Canakkale**	**0.73**	**8**	Pg	**Pg**	**18 40 04.6**	**0.0**
CANM	**Can-anakkale**	**0.84**	**40**	Pg	**Pg**	**18 40 06.5**	**-0.1**
EAG2	**Marmaro, Chios**	**0.85**	**193**	P	**Pg**	**18 40 06.1**	**-0.6**
EAG2				S	**Sg**	**18 40 17.1**	**-0.8**
GOAD	**anakkale-G¶**	**0.86**	**337**	P	**Pb**	**18 40 06.7**	**0.0**
GOAD				S	**Sg**	**18 40 16.4**	**-1.9**
GOAD				*i* AML	AML	18 40 21.0	
comp=E,3μm,0.6s							
GOAD				*i* AML	AML	18 40 22.0	
comp=N,3μm,0.3s							
GADA	**Gvkgeada**	**0.89**	**337**	Pg	**Pb**	**18 40 07.1**	**-0.1**
YENI	**Yenice-Canakka**	**0.89**	**50**	Pg	**Pg**	**18 40 07.7**	**+0.1**
SOMA	**Soma-Manisa**	**0.95**	**103**	Pg	**Pn**	**18 40 09.2**	**+0.5**
URLA	**Izmir**	**1.03**	**169**	P	**Pn**	**18 40 10.6**	**+0.7**
URLA				S	**Sb**	**18 40 21.9**	**-0.8**
URLA				*i* AML	AML	18 40 27.0	
comp=N,5μm,0.7s							
URLA				*i* AML	AML	18 40 28.0	
comp=E,3μm,0.5s							
GELI	**Tayfur-Gelibol**	**1.03**	**5**	Pg	**Pb**	**18 40 09.9**	**+0.3**
CESE	**eme**	**1.04**	**182**	Pg	**Pn**	**18 40 10.7**	**+0.7**
LPK	**Lapseki**	**1.05**	**18**	Pg	**Pb**	**18 40 10.2**	**+0.3**
BALY	**Balya**	**1.05**	**69**	P	**Pn**	**18 40 11.7**	**+1.5**
BALY				S	**Sb**	**18 40 23.6**	**+0.2**
BALY				*i* AML	AML	18 40 26.0	
comp=N,4μm,0.6s							
BALY				*i* AML	AML	18 40 29.0	
comp=E,4μm,0.4s							
EFSA	**Agios Efstrati**	**1.06**	**280**	P	**Pb**	**18 40 10.5**	**+0.3**
EFSA				S	**Sb**	**18 40 24.4**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.06**	**89**	P	**Pn**	**18 40 11.7**	**+1.4**
STEP				S	**Sb**	**18 40 23.4**	**-0.4**
STEP				*i* AML	AML	18 40 29.0	
comp=N,4μm,0.4s							
STEP				*i* AML	AML	18 40 29.0	
comp=E,3μm,0.4s							
BLCB	**Balcova**	**1.12**	**151**	Pn	**Pg**	**18 40 12.6**	**+0.6**
ZEYE	**Izmir, Urla-Ze**	**1.14**	**174**	P	**Pg**	**18 40 12.0**	**-0.2**
ZEYE				S	**Sb**	**18 40 24.8**	**-1.1**
ZEYE				*i* AML	AML	18 40 32.0	
comp=N,2μm,0.3s							
ZEYE				*i* AML	AML	18 40 32.0	
comp=E,2μm,0.4s							
GONE	**Gonen-Balikesi**	**1.23**	**56**	Pn	**Pg**	**18 40 13.8**	**-0.3**
AKHS	**Akhisar**	**1.24**	**113**	P	**Pg**	**18 40 14.0**	**-0.3**
ENZZ	**Sultanice-Enez**	**1.25**	**353**	Pn	**Pb**	**18 40 14.3**	**+1.1**
KRBG	**Karabiga-Canak**	**1.26**	**35**	Pn	**Pb**	**18 40 13.9**	**+0.5**
SMTH	**Samothraki Isl**	**1.27**	**331**	P	**Pn**	**18 40 13.4**	**+0.3**
SMTH				S	**Sb**	**18 40 29.9**	**+0.3**
2μm,0.4s							
SMTH	**Samothraki Isl**	**1.27**	**331**	P	**Pn**	**18 40 13.4**	**+0.3**
SMTH				S	**Sb**	**18 40 29.2**	**-0.4**
BKES	**Balkesir-Mer**	**1.28**	**73**	P	**Pg**	**18 40 15.1**	**+0.2**
BKES				S	**Sg**	**18 40 31.0**	**-0.5**
BKES				*i* AML	AML	18 40 35.0	
comp=E,2μm,0.2s							
BKES				*i* AML	AML	18 40 37.0	
comp=N,2μm,0.7s							
ERIK	**Erikli-Kesan**	**1.30**	**6**	Pn	**Pn**	**18 40 14.4**	**+0.8**
CAVK	**Edirne/Enez-Ca**	**1.33**	**354**	P	**Pb**	**18 40 15.1**	**+0.5**
CAVK				S	**Sn**	**18 40 29.3**	**-1.8**
CAVK				*i* AML	AML	18 40 38.0	
comp=N,3μm,0.4s							
CAVK				*i* AML	AML	18 40 38.0	
comp=E,6μm,0.7s							
CAVK	**Edirne/Enez-Ca**	**1.33**	**354**	⇑P	**Pb**	**18 40 15.1**	**+0.5**
CAVK				⇑S	**Sb**	**18 40 33.0**	**+1.7**
GMLD	**Gumuldur**	**1.37**	**161**	Pn	**Pb**	**18 40 15.5**	**+0.2**
ENEZ	**Enez**	**1.37**	**354**	P	**Pn**	**18 40 15.2**	**+0.7**
ENEZ				S	**Sb**	**18 40 34.4**	**+1.8**
6μm,0.4s							
ENEZ	**Enez**	**1.37**	**354**	Pn	**Pn**	**18 40 15.4**	**+0.9**
RKY	**Sarkoy-Tekirda**	**1.46**	**26**	Pn	**Pn**	**18 40 16.9**	**+1.1**
SUSR	**Susurluk-Balik**	**1.47**	**66**	Pn	**Pb**	**18 40 17.0**	**0.0**
KESN	**Edirne-Kesan**	**1.48**	**10**	P	**Pb**	**18 40 17.7**	**+0.3**
KESN				S	**Sn**	**18 40 35.6**	**+0.2**
KESN				*i* AML	AML	18 40 41.0	
comp=N,2μm,0.5s							
KESN				*i* AML	AML	18 40 47.0	
comp=E,2μm,0.3s							
SKY	**Skiros Island**	**1.48**	**251**	P	**Pn**	**18 40 15.7**	**-0.3**
SKY				S	**Sn**	**18 40 35.1**	**+0.2**
GORD	**Gordes-Manisa**	**1.50**	**107**	Pn	**Pb**	**18 40 17.7**	**+0.1**
ALEX	**Alexandroupoli**	**1.52**	**347**	P	**Pn**	**18 40 16.3**	**-0.3**
ALEX				S	**Sn**	**18 40 35.8**	**-0.2**
EDC	**Edincik**	**1.52**	**50**	Pn	**Pn**	**18 40 17.6**	**+1.0**
ALN	**Alexandroupoli**	**1.54**	**352**	P	**Pn**	**18 40 17.3**	**+0.4**
ALN				S	**Sn**	**18 40 38.1**	**+1.6**
3μm,0.6s							
ALN	**Alexandroupoli**	**1.54**	**352**	Pn	**Pn**	**18 40 17.6**	**+0.7**
MRMT	**Marmara Adasi**	**1.56**	**38**	Pn	**Pn**	**18 40 18.3**	**+1.1**
BAND	**Balkesir-Ban**	**1.67**	**53**	P	**Pb**	**18 40 19.9**	**-0.5**
BAND	**Balkesir-Ban**	**1.67**	**53**	⇑P	**Pb**	**18 40 20.1**	**-0.3**
THAS	**Thassos island**	**1.76**	**315**	P	**Pn**	**18 40 19.5**	**-0.3**
THAS				S	**Sn**	**18 40 41.7**	**0.0**
575nm,0.4s							
THAS	**Thassos island**	**1.76**	**315**	P	**Pn**	**18 40 19.7**	**-0.1**
THAS				S	**Sn**	**18 40 40.6**	**-1.2**
UKOP	**Uzunkopru-Edir**	**1.77**	**7**	Pn	**Pb**	**18 40 21.9**	**-0.3**
RDO	**Rodhopi**	**1.88**	**341**	P	**Pn**	**18 40 21.6**	**+0.1**
RDO				S	**Sn**	**18 40 45.1**	**+0.3**
758nm,0.4s							
RDO	**Rodhopi**	**1.88**	**341**	Pn	**Pn**	**18 40 21.9**	**+0.4**
RDO	**Rodhopi**	**1.88**	**341**	P	**Pn**	**18 40 21.6**	**+0.1**
RDO				S	**Sn**	**18 40 44.0**	**-0.8**
KYMI	**Kymi, Euboea I**	**1.90**	**248**	P	**Pn**	**18 40 22.1**	**+0.3**
KYMI				S	**Sn**	**18 40 45.5**	**+0.2**
658nm,0.5s							
KYMI	**Kymi, Euboea I**	**1.90**	**248**	P	**Pn**	**18 40 22.1**	**+0.3**
KYMI				S	**Sn**	**18 40 44.7**	**-0.6**
AOS	**Alonnisos**	**1.92**	**265**	P	**Pn**	**18 40 22.9**	**+0.8**
AOS				S	**Sn**	**18 40 45.7**	**-0.2**
690nm,0.5s							
XANC	**Avdira**	**1.93**	**327**	P	**Pn**	**18 40 22.3**	**+0.2**
KARY	**Karystos**	**2.00**	**229**	P	**Pn**	**18 40 23.1**	**-0.1**
TNSA	**Tinos**	**2.05**	**207**	P	**Pn**	**18 40 24.6**	**+0.8**
OUR	**Ouranopolis**	**2.06**	**299**	P	**Pn**	**18 40 24.8**	**+0.8**
OUR	**Ouranopolis**	**2.06**	**299**	P	**Pn**	**18 40 23.8**	**-0.2**
OUR				S	**Sn**	**18 40 48.0**	**-1.2**
PAIG	**Paliouri**	**2.13**	**286**	P	**Pn**	**18 40 25.5**	**+0.5**
KAVA	**Kavala**	**2.15**	**320**	P	**Pn**	**18 40 25.6**	**+0.4**
KAVA	**Kavala**	**2.15**	**320**	P	**Pn**	**18 40 25.5**	**+0.3**
KAVA				S	**Sn**	**18 40 49.9**	**-1.5**
KVLA	**Kavala**	**2.17**	**317**	P	**Pn**	**18 40 25.8**	**+0.3**
KOKK	**Kokkinochori,**	**2.31**	**310**	P	**Pn**	**18 40 27.9**	**+0.4**
KOKK	**Kokkinochori,**	**2.31**	**310**	P	**Pn**	**18 40 27.8**	**+0.4**
PTL	**Penteli**	**2.35**	**237**	P	**Pn**	**18 40 27.9**	**0.0**
KDZ	**Kurdzhali**	**2.38**	**342**	*e*P	**Pn**	**18 40 29.5**	**+1.0**
KDZ				*e*S	**Sn**	**18 40 56.8**	**-0.5**
NEO	**Neokhori**	**2.42**	**269**	P	**Pn**	**18 40 27.9**	**-1.1**
XOR	**Xorichti**	**2.44**	**271**	P	**Pn**	**18 40 29.7**	**+0.4**
PLG	**Polygyros**	**2.45**	**295**	P	**Pn**	**18 40 29.9**	**+0.5**
ATHU	**Athens Univers**	**2.45**	**236**	P	**Pn**	**18 40 29.3**	**-0.1**
VLY	**Voula,Athens**	**2.51**	**234**	P	**Pn**	**18 40 29.7**	**-0.5**
RZN	**Rozhen**	**2.62**	**333**	*i* P	**Pn**	**18 40 33.2**	**+1.3**
RZN				*e*S	**Sn**	**18 41 03.1**	**-0.4**
LKR	**Lokris**	**2.70**	**256**	P	**Pn**	**18 40 33.0**	**+0.1**
SOH	**Sokhos**	**2.71**	**303**	P	**Pn**	**18 40 33.3**	**+0.3**
DIM	**Dimitrovgrad**	**2.73**	**348**	P	**Pn**	**18 40 34.6**	**+1.3**
DIM				S	**Sn**	**18 41 04.9**	**-1.0**
SRS	**Serrai**	**2.73**	**310**	P	**Pn**	**18 40 32.7**	**-0.7**
HORT	**Hortiatis**	**2.78**	**297**	P	**Pn**	**18 40 34.4**	**+0.4**
MET5	**Makryloggos,Me**	**2.92**	**234**	P	**Pn**	**18 40 35.9**	**0.0**
MMB	**Musomishta**	**2.94**	**318**	*i* P	**Pn**	**18 40 37.2**	**+1.0**
MMB				*i* S	**Sn**	**18 41 10.1**	**-1.0**
LTK	**Loutraki**	**2.97**	**244**	P	**Pn**	**18 40 37.1**	**+0.6**
PLD	**Plovdiv**	**3.03**	**337**	P	**Pn**	**18 40 38.6**	**+1.3**
JMB	**Yambol**	**3.12**	**3**	P	**Pn**	**18 40 39.5**	**+0.9**
AGG	**Agios Georgios**	**3.14**	**265**	P	**Pn**	**18 40 38.8**	**0.0**
KNT	**Kendrikon**	**3.19**	**305**	P	**Pn**	**18 40 39.7**	**+0.2**
MAKR	**Makrakomi, Fth**	**3.29**	**265**	P	**Pn**	**18 40 40.1**	**-0.9**
GUR	**Goura**	**3.45**	**247**	P	**Pn**	**18 40 43.7**	**+0.5**
ARG	**Arkhangelos**	**3.45**	**155**	P	**Pn**	**18 40 43.2**	**+0.1**
KKB	**Krupnik**	**3.48**	**316**	*i* P	**Pn**	**18 40 45.1**	**+1.6**
KKB				S	**Sn**	**18 41 23.3**	**-0.9**
ANX	**Ano Chora**	**3.54**	**259**	P	**Pn**	**18 40 44.8**	**+0.4**
KLV	**Kalavryta, Ach**	**3.54**	**249**	P	**Pn**	**18 40 44.8**	**+0.3**
PGB	**Panagyurishte**	**3.54**	**333**	P	**Pn**	**18 40 45.8**	**+1.4**
VLI	**Veliai**	**3.77**	**227**	P	**Pn**	**18 40 47.8**	**+0.2**
PLNA	**Plana**	**3.81**	**325**	P	**Pn**	**18 40 50.2**	**+2.0**
PLNA				S	**Sn**	**18 41 32.3**	**-0.3**
PRD	**Provadia**	**3.87**	**12**	P	**Pn**	**18 40 50.0**	**+1.1**
KARP	**Karpathos**	**3.87**	**170**	P	**Pn**	**18 40 48.6**	**-0.4**
SZH	**Strazhitsa**	**3.90**	**356**	*i* P	**Pn**	**18 40 50.5**	**+1.2**
SZH				S	**Sn**	**18 41 34.2**	**-0.5**
TETR	**Tetrakomo, Epi**	**3.93**	**271**	P	**Pn**	**18 40 49.3**	**-0.5**
NEF	**NEVSHA**	**3.95**	**10**	P	**Pn**	**18 40 51.6**	**+1.6**
VTS	**Vitosha**	**4.01**	**325**	*i* P	**Pn**	**18 40 52.6**	**+1.7**
VTS				S	**Sn**	**18 41 36.5**	**-1.0**
RAZG	**Razgrad**	**4.19**	**2**	⇑P	**Pn**	**18 40 54.8**	**+1.4**
MPEP	**Malo Peshtene**	**4.44**	**335**	P	**Pn**	**18 40 58.2**	**+1.5**
MPEP				S	**Sn**	**18 41 46.9**	**-1.0**
PSN	**Preselentsi**	**4.47**	**17**	*i* P	**Pn**	**18 40 58.5**	**+1.4**
MANR	**Mangalia**	**4.75**	**20**	⇑P	**Pn**	**18 41 02.2**	**+1.3**
COPA	**Copaceanca**	**4.83**	**350**	⇑P	**Pn**	**18 41 02.9**	**+0.8**
HUMR	**Humele**	**5.25**	**349**	⇑P	**Pn**	**18 41 08.5**	**+0.6**
TIRR	**Tirgusor**	**5.31**	**16**	⇓P	**Pn**	**18 41 10.1**	**+1.4**
TLBR	**Topalu**	**5.32**	**13**	⇑P	**Pn**	**18 41 10.0**	**+1.2**
HARR	**Harsova**	**5.44**	**12**	⇑P	**Pn**	**18 41 11.6**	**+1.1**
BOVS	**Bovan**	**5.50**	**322**	⇓P	**Pn**	**18 41 12.4**	**+1.1**
CIDE	**Kastamonu/Cide**	**5.61**	**61**	⇑P	**Pn**	**18 41 15.3**	**+2.5**
TPGR	**Topolog**	**5.69**	**15**	⇑P	**Pn**	**18 41 15.0**	**+1.0**
JURR	**Jurilovca**	**5.71**	**18**	⇓P	**Pn**	**18 41 15.4**	**+1.2**
ISR	**Istrita**	**5.75**	**1**	⇑P	**Pn**	**18 41 17.1**	**+2.4**
SRE	**Strehaia**	**5.78**	**337**	⇑P	**Pn**	**18 41 15.4**	**+0.3**
KIRS	**Kirsehir-Merke**	**5.88**	**90**	⇑P	**Pn**	**18 41 19.7**	**+3.1**
CFR	**Carcaliu**	**5.95**	**12**	⇓P	**Pn**	**18 41 18.3**	**+0.9**
MLR	**Muntele Rosu**	**6.12**	**357**	⇑P	**Pn**	**18 41 22.1**	**+2.1**
ARR	**Arges**	**6.12**	**349**	⇑P	**Pn**	**18 41 21.2**	**+1.3**
VOIR		**6.14**	**351**	⇓P	**Pn**	**18 41 21.7**	**+1.6**
HERR	**Herculane**	**6.23**	**333**	⇑P	**Pn**	**18 41 21.5**	**+0.2**
BZK	**Bozkurt**	**6.37**	**64**	⇑P	**Pn**	**18 41 26.0**	**+2.8**
SPBR	**Spulber**	**6.38**	**3**	⇑P	**Pn**	**18 41 25.7**	**+2.3**
MDVR	**Moldov

ISC 29 18:53:52.7±0.8, 27°41'N±0'.06×53°18'E±0'.06, h10km, n32, σ1ꝑ87/30, mb3.5/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.07	188	Pg	Pg	18 53 55.0	0.0
QIR1	Qir	1.07	354	Pg	Pn	18 54 11.2	-2.6
LAR1	LAR	1.09	76	Pg	Pn	18 54 13.5	-0.7
JHRM	Jahrom	1.15	18	Pg	Pn	18 54 12.2	-2.8
AHBU	AHRAM	2.20	311	Pn	Pb	18 54 30.3	-2.3
SHI	Shiraz	2.30	345	Pn	Pb	18 54 31.7	-2.7
BANOM	Banah	3.16	117	P	Pn	18 54 44.9	+2.3
BANOM				S	Sb	18 55 27.3	-0.4
UOSS	Minazif	3.67	131	P	Pn	18 54 52.3	+2.7
HATD	Hatta, Dubai	3.70	133	P	Pb	18 54 54.9	-3.3
ASHO	Ashiyiah	3.75	136	P	Pb	18 54 56.3	-2.9
NGRK	Negar Kerman	3.84	54	Pn	Pn	18 54 53.0	+0.8
KLNJ	Kolanjah	3.84	339	Pn	Pn	18 54 53.7	+1.4
KRBR	Kerman	4.06	50	Pn	Pn	18 54 56.6	+1.4
IMEH	Mehriz	4.16	17	Pn	Pn	18 54 57.7	+1.2
MZR	Muzera	4.40	176	P	Pb	18 55 07.7	-2.4
IRAM	Ramesheh	4.44	351	Pn	Pn	18 55 01.6	+1.3
SOHO	SOHO	4.45	136	P	Pn	18 55 05.1	+4.8
ISAD	Sadrabad	4.51	6	Pn	Pn	18 55 02.5	+1.1
KRM1	Kerman Provinc	4.73	48	Pn	Pn	18 55 05.2	+0.9
KBAM	BAM	4.96	69	Pn	Pn	18 55 09.4	+2.0
IZEF	Zefreh	5.51	353	Pn	Pn	18 55 15.9	+0.8
ANAR	Anarak	5.78	5	Pn	Pn	18 55 19.4	+0.8
TPRV	Parvadeh(Tabas	6.37	28	Pn	Pn	18 55 27.4	+0.7
KRSH	Karshahi	6.60	352	Pn	Pn	18 55 31.0	+1.1
ISFB	Sefidab	6.96	354	Pn	Pn	18 55 35.1	+0.2
RAYN	Ar Rayn	7.94	243	P	Pn	18 55 52.5	+4.2
AKTO	Aktyubinsk	23.29	8	LR	LR	19 09 00.7	
	comp=Z,25nm,18.8s,baz=166,slow=40						
AKASG	Malin Array Be	29.54	328	P	P	18 59 58.8	+1.5
	0.2nm,0.4s,baz=125,slow=6.6,SNR=1.9						
	0.2nm,0.4s						
MKAR	Makanchi Array	29.96	42	P	P	19 00 01.8	+0.6
	0.2nm,0.5s,baz=225,slow=8.8,SNR=4.4						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	35.24	33	P	P	19 00 45.9	-1.3
	0.3nm,0.3s,baz=210,slow=14,SNR=1.7						
	0.3nm,0.3s						
FINES	FINESS Array B	38.57	339	P	P	19 01 17.9	+2.5
	0.5nm,0.5s,baz=133,slow=9.1,SNR=7.5						
	0.5nm,0.5s						
ARCES	ARCESS Array B	45.12	347	P	P	19 02 10.1	+1.2
	0.6nm,0.7s,baz=141,slow=8.2,SNR=1.4						
	0.6nm,0.7s						

*IDC **29** 18:59:16.4±1.7, 22°.58N×142°.30E, h234km±17km, mb3.2/8, mbtmp3.7/11, Error ellipse: s-maj=36.6km s-min=13.8km az=82.0*

ISC 29 18:59:18.3±1.2, 22°.7N±0°.1×142°.1E±0°.3, h250km, n11, σ1ꝑ08/12, mb3.2/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.40	1	P	Pn	19 00 27.0	+0.3
	51nm,0.4s,baz=270,slow=23,SNR=66						
JCJ				S	S	19 01 19.4	-1.9
	59nm,0.3s,baz=229,slow=22,SNR=11						
MJAR	Matsushiro Arr	14.22	347	P	P	19 02 29.6	+0.2
	0.8nm,0.8s,baz=183,slow=9.7,SNR=1.2						
KSRS	Korea Array	19.14	323	P	Pn	19 03 26.2	-0.9
	0.5nm,0.7s,baz=146,slow=8.6,SNR=2.4						
WRA	Warramunga Arr	43.04	191	P	P	19 06 52.0	-1.7
	0.3nm,0.3s,baz=17,slow=9.9,SNR=15						
	0.3nm,0.3s						
ASAR	Alice Springs	46.76	190	P	P	19 07 22.8	-0.1
	0.2nm,0.5s,baz=16,slow=12,SNR=5.6						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	52.83	321	P	P	19 08 09.0	+0.9
	0.5nm,0.3s,baz=107,slow=9.2,SNR=2.8						
	0.5nm,0.3s						
MKAR	Makanchi Array	53.31	312	P	P	19 08 12.4	+0.7
	0.3nm,0.5s,baz=79,slow=7.4,SNR=3.7						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	56.13	317	P	P	19 08 32.6	+0.8
	0.7nm,0.5s,baz=92,slow=7.6,SNR=7.8						
	0.7nm,0.5s						
BVAR	Borovoye Array	61.28	319	P	P	19 09 08.2	+1.0
	0.6nm,0.4s,baz=98,slow=7.3,SNR=4.9						
	0.6nm,0.4s						
YKA	Yellowknife Ar	76.05	28	P	P	19 10 38.6	+0.7
	0.2nm,0.5s,baz=295,slow=5.5,SNR=4.1						
	0.2nm,0.5s						
FINES	FINESS Array B	81.87	334	P	P	19 11 09.6	+0.1
	1.5nm,0.3s,baz=65,slow=4.8,SNR=35						
	1.5nm,0.3s						

*NEIC **29** 19:07:41.9±2.1, 55°.43N±0°.05×154°.26W±0°.05, h10km±2km, ML3.3/36, ML3.1(AEIC), Error ellipse: s-maj=8.7km s-min=4.5km az=172.0*
*IDC **29** 19:07:42.4±1.4, 55°.45N×154°.75W, h0km, mb3.7/9, mbtmp3.7/12, ML3.6/3, Error ellipse: s-maj=28.6km s-min=20.2km az=149.0*
*AEIC **29** 19:07:43.3±2.3, 55°.34N±0°.05×154°.2W±0°.1, h4km±7km, Error ellipse: s-maj=8.8km s-min=7.5km az=64.0*

ISC 29 19:07:44.4±1.9, 55°.56N±0°.08×154°.39W±0°.05, h17km±10km, n84, σ1ꝑ33/76, mb3.9/9, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	Chirikof Islan	0.74	291		Pg	19 07 58.3	-0.7
CHIR					Sb	19 08 10.3	+1.5
SII	Sitkinak Islan	1.01	7		Pb	19 08 02.7	-0.8
SII					Sg	19 08 17.8	+0.6
SII	Sitkinak Islan	1.01	7	IAML		19 08 36.9	
	comp=N,424nm,0.6s						
SII				IAML		19 08 38.8	
	comp=E,497nm,0.8s						
OHAK	Old Harbor	1.78	20		Pn	19 08 13.1	-1.2
OHAK					Sn	19 08 35.5	-1.0
R18K	Karluk	2.02	359		Pn	19 08 16.7	-0.9
R18K					Sn	19 08 42.2	-0.2
R18K	Karluk	2.02	359	IAML		19 08 45.7	
	comp=E,202nm,0.5s						
R18K				IAML		19 08 46.3	
	comp=N,238nm,0.5s						
CHGN	Chignik	2.38	290		Sn	19 08 50.2	-1.2
KDAK	Kodiak Island	2.44	23		Pn	19 08 22.4	-1.1
KDAK				IAML		19 08 51.6	
	comp=N,96nm,0.3s						
KDAK	Kodiak Island	2.44	23	Pn	Pn	19 08 22.5	-1.0
	comp=N,4.8nm,0.3s,baz=123,slow=1.7,SNR=97						
KDAK				Sn	Sn	19 08 50.3	-2.7
	comp=N,8.7nm,0.3s,baz=194,slow=20,SNR=4.6						
	comp=N,13nm,0.4s						
ANNE	Aniakchak Nort	2.46	305		Pn	19 08 23.3	-0.4
ACHA	Angle Creek He	2.71	350		Pn	19 08 28.1	+0.8
ANCK	Angle Creek	2.72	348		Pn	19 08 27.4	0.0
VNHG	Veniaminof 1	2.77	286		Pn	19 08 27.1	-0.9
CNTC	Contact Creek	2.83	344		Pn	19 08 28.7	-0.3
KAHG	Katmai Hook Gl	2.95	358		Pn	19 08 29.5	-1.0
VNFG	Fog Glacier, M	2.99	286		Pn	19 08 29.6	-1.6
CNBA	Chernabura Isl	3.07	258		Pn	19 08 29.2	-2.9
CNBA	Chernabura Isl	3.07	258	IAML		19 10 07.5	
	comp=N,59nm,2.3s						
KAHC	Katmai Hardscr	3.12	354		Pn	19 08 32.1	-0.8
SYI	Shuyak Island	3.25	19		Pn	19 08 33.2	-1.4
SYI	Shuyak Island	3.25	19	IAML		19 09 00.1	
	comp=N,64nm,2.7s						
SYI				IAML		19 10 16.1	
	comp=E,81nm,3.3s						
Q19K	Cape Douglas,	3.41	7	Pn	Pn	19 08 37.1	+0.3
SDPT	Sand Point	3.47	269		Sn	19 09 14.3	-4.0
P18K	Big Mountain,	3.87	354		Pn	19 08 42.2	-1.0
P18K	Big Mountain,	3.87	354	IAML		19 10 49.2	
	comp=E,26nm,3.7s						
CNPM	China Poot	4.33	22		Pn	19 08 48.4	-1.0
CNPM	China Poot	4.33	22	IAML		19 09 25.9	
	comp=N,54nm,3.5s						
O18K	Koktuh Hills	4.33	355	Pn	Pn	19 08 49.7	+0.2
O18K				IAML		19 11 30.2	
	comp=N,27nm,2.9s						
O18K				IAML		19 11 43.7	
	comp=E,28nm,3.6s						
ILSW	Iliamna Southw	4.49	8		Pn	19 08 51.3	-0.4
ILSW	Iliamna Southw	4.49	8	IAML		19 11 01.1	
	comp=E,25nm,3.3s						
ILSW				IAML		19 11 08.6	
	comp=N,32nm,3.8s						
O16K	Kokwok River B	4.51	335	Pn	Pn	19 08 52.0	+0.1
O16K				IAML		19 09 29.9	
	comp=E,25nm,3.3s						
O16K				IAML		19 10 41.7	
	comp=N,19nm,2.9s						
BRLK	Bradley Lake	4.62	23		Pn	19 08 52.0	-1.4
BRSE	Bradley Lake S	4.63	24		Pn	19 08 51.8	-1.8
O15K	Ungalikthiuk R	4.67	323		Pn	19 08 53.6	-0.4
O15K	Ungalikthiuk R	4.67	323	IAML		19 10 41.3	
	comp=N,22nm,2.0s						
O15K				IAML		19 10 49.8	
	comp=E,22nm,2.5s						
DFR	Drift River	5.13	9		Pn	19 08 59.8	-0.7
SEW	Seward	5.27	28	Pn	Pn	19 09 02.4	+0.2
N19K	Bonanza Creek	5.27	360	Pn	Pn	19 09 02.9	+0.5
SLKM	Skilak Lake	5.44	22		Pn	19 09 03.6	-1.1
N16K	Nishlik Lake	5.45	337		Pn	19 09 04.6	-0.2
N15K	Kwethluk River	5.53	329	Pn	Pn	19 09 05.5	-0.4
M16K	Timber Creek	5.99	338		Pn	19 09 11.9	-0.2
RC01	Rabbit Creek A	6.07	22	Pn	Pn	19 09 13.6	+0.4
STLK	Strandline Lak	6.11	12		Pn	19 09 13.1	-0.8
PWL	Port Wells	6.20	29		Pn	19 09 13.2	-2.0
SUA	Susitna One	6.22	16	Pn	Pn	19 09 15.8	+0.3
M19K	Big River Lodg	6.37	0	Pn	Pn	19 09 17.5	+0.2
M20K	Styx River	6.38	5		Pn	19 09 16.7	-1.0
GLI	Glacier Island	6.58	33	Pn	Pn	19 09 20.6	+0.3
SKT	Skwentna	6.61	12	Pn	Pn	19 09 20.5	-0.3
KNK	Knik Glacier	6.64	25	Pn	Pn	19 09 20.6	-0.6
L19K	White Mountain	6.65	358	Pn	Pn	19 09 22.2	+0.9
FID	Port Fidalgo	6.68	36	Pn	Pn	19 09 19.9	-1.8
GHO	Glory Hole Cre	6.85	22		Pn	19 09 23.7	-0.4
SML	Sawmill	7.02	24	Pn	Pn	19 09 26.6	+0.3
RAGM	Ragged Mountai	7.08	43	Pn	Pn	19 09 26.3	-0.9
SCM	Sheep Creek Mo	7.29	27		Pn	19 09 29.0	-1.1
KLU	Klutina	7.42	33	Pn	Pn	19 09 30.9	-1.0
K17K	Iditarod	7.46	346	Pn	Pn	19 09 33.1	+0.8
BMRM	Bremner River	7.48	40	Pn	Pn	19 09 33.0	+0.3
M24K	Tolsona, Glenn	7.83	30	Pn	Pn	19 09 38.2	+0.8
N25K	Chitina, Valde	7.93	36		Pn	19 09 36.9	-2.0
CAST	Castle Rocks	7.97	8	Pn	Pn	19 09 40.4	+0.9
GLB	Gilahina Butte	8.09	39	Pn	Pn	19 09 40.8	-0.3
TRF	Thorofare Moun	8.19	13	Pn	Pn	19 09 43.5	+1.0
KTH	Kantishna Hill	8.21	11	Pn	Pn	19 09 44.5	+1.8
RND	Reindeer	8.36	17	Pn	Pn	19 09 45.7	+0.9
ILAR	Eielson Array	9.96	19	Pn	Pn	19 10 06.0	-0.6
	comp=E,0.4nm,0.3s,baz=200,slow=14,SNR=8.4						
ILAR				Sn	Sn	19 11 52.9	-5.0
	comp=E,0.1nm,0.3s,baz=198,slow=16,SNR=1.8						
	comp=E,0.8nm,0.5s						
INK	Inuvik	15.99	29	Pn	Pn	19 11 30.4	+2.2
	comp=E,0.4nm,0.3s,baz=232,slow=11,SNR=5.1						
	comp=E,1.3nm,0.5s						
YKA	Yellowknife Ar	21.32	55	P	P	19 12 32.5	+2.4
	comp=E,0.3nm,0.7s,baz=275,slow=9.8,SNR=6.2						
	comp=E,0.3nm,0.7s						
TXAR	Lajitas Array	44.35	105	P	P	19 15 55.9	+2.3
	comp=E,0.2nm,0.7s,baz=312,slow=7.1,SNR=2.6						
	comp=E,0.2nm,0.7s						
H11N2	WAKE ISLAND Hy	46.07	235	T	T	20 05 36.7	
	baz=28,slow=76,SNR=33						
H11N3	WAKE ISLAND Hy	46.07	235	T	T	20 05 37.6	
	baz=29,slow=76,SNR=34						
H11N1	WAKE ISLAND Hy	46.09	235	T	T	20 05 37.5	
	baz=29,slow=76,SNR=22						
H11S1	WAKE ISLAND Hy	47.22	234	T	T	20 07 10.8	
	baz=28,slow=76,SNR=129						
H11S2	WAKE ISLAND Hy	47.23	234	T	T	20 07 10.4	
	baz=28,slow=76,SNR=76						
H11S3	WAKE ISLAND Hy	47.24	234	T	T	20 07 07.9	
	baz=28,slow=76,SNR=80						
NRIK	Noril'sk	47.58	335	P	P	19 16 19.2	+0.6
	comp=E,2.5nm,0.4s,baz=38,slow=6.2,SNR=3.5						
	comp=E,2.5nm,0.4s						
SONM	Songino Array	56.85	307	P	P	19 17 28.7	+0.8
	comp=E,1.1nm,0.8s,baz=47,slow=6.0,SNR=7.4						
	comp=E,1.1nm,0.8s						
ZALV	Zalesovo Beam	60.54	324	P	P	19 17 53.8	+0.6
	comp=E,0.7nm,0.6s,baz=28,slow=6.5,SNR=2.1						
	comp=E,0.7nm,0.6s						
KURBB	Kurchatov Arra	65.41	326	P	P	19 18 26.2	+0.6
	comp=E,1.3nm,0.2s,baz=28,slow=5.4,SNR=4.8						
	comp=E,1.3nm,0.2s						
BVAR	Borovoye Array	65.66	332	P	P	19 18 27.2	-0.1
	comp=E,0.8nm,0.8s,baz=23,slow=4.8,SNR=4.5						
	comp=E,0.8nm,0.8s						
MKAR	Makanchi Array	67.45	322	P	P	19 18 39.1	+0.3
	comp=E,0.4nm,0.8s,baz=46,slow=8.3,SNR=3.1						
	comp=E,0.4nm,0.8s						
CMAR	Chiang Mai Arr	84.01	294	P	P	19 20 13.4	-0.5
	comp=E,0.4nm,0.6s,baz=21,slow=6.3,SNR=5.0						
	comp=E,0.4nm,0.6s						

*SOME **29** 19:31:30.9, 40°.62N×78°.87E, h15km*
*KRNET **29** 19:31:31.2±0.1, 40°.43N×79°.03E, mb3.7*
*NNC **29** 19:31:32.1±1.4, 40°.67N×78°.86E, h0km±7km, mb4.2, mpv3.9, Error ellipse: s-maj=9.4km s-min=6.5km az=149.0*
*IDC **29** 19:31:33.6±5.4, 40°.74N×79°.39E, h0km, mb3.4/1, mbtmp3.3/4, ML2.7/3, MS2.4/1, Error ellipse: s-maj=68.8km s-min=36.2km az=60.0*

ISC 29 19:31:32.7±1.3, 40°.65N±0°.06×78°.82E±0°.04, h10km, n71, σ1ꝑ73/102, 35C-24D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	1.85	350	⇓eP	Pb	19 32 06.7	-0.1
PRZ				⇓eS	Sg	19 32 32.6	+0.2
KDJ	Kajisay	1.93	321	⇑eP	Pb	19 32 07.6	-0.4
KDJ				⇑eS	Sg	19 32 34.1	-0.5
NRN	Naryn	2.27	291	⇑eP	Pb	19 32 12.2	-1.8
NRN				⇑eS	Sb	19 32 42.1	-0.2
ANVS	Anan'yevo	2.30	338	⇓eP	Pb	19 32 12.8	-1.6
ANVS				⇓eS	Sb	19 32 43.2	+0.3
UZB	Uzynbulak	2.50	3	Pg	Pb	19 32 17.5	-0.2
	39nm,0.3s						
UZB				Lg	Lg	19 32 52.6	
	117nm,0.3s						
UZB	Uzynbulak	2.50	3	eP	Pb	19 32 16.8	-0.9
	39nm,0.3s						
UZB				eS	Sb	19 32 49.3	+0.8
	117nm,0.3s						
ULHL	Ulahol	2.51	310	⇓eP	Pb	19 32 15.8	-2.2
ULHL				⇓eS	Sb	19 32 48.2	-0.8
ZHN	Zhinishke	2.53	354	Pg	Pb	19 32 18.4	+0.1
	25nm,0.2s						
ZHN				Lg	Lg	19 32 54.1	
	264nm,0.2s						
ZHN	Zhinishke	2.53	354	eP	Pb	19 32 18.1	-0.2
	25nm,0.2s						
ZHN				eS	Sb	19 32 51.2	+1.7
	264nm,0.2s						
SHLS	Shalkode	2.55	11	Pg	Pg	19 32 20.0	-1.5
	41nm,0.3s						
SHLS				Lg	Lg	19 32 56.6	
	216nm,0.3s						
SHLS	Shalkode	2.55	11	eP	Pb	19 32 19.2	+0.6
	41nm,0.3s						
SHLS				eS	Sg	19 32 53.1	-1.4
	216nm,0.3s						
PDGK	Podgornoye	2.72	10	⇑Pn	Pn	19 32 18.1	+1.5
	34nm,0.4s						
PDGK				⇓Lg	Lg	19 32 53.9	
	175nm,0.7s						
TNSS	Tian-Shan	2.76	330	Pg	Pb	19 32 22.8	+0.4
	21nm,0.3s						
TNSS				Lg	Lg	19 33 01.6	
	26nm,0.5s						
TNSS	Tian-Shan	2.76	330	eP	Pb	19 32 23.0	+0.6
	21nm,0.3s						
TNSS				eS	Sg	19 33 00.1	-1.4
	26nm,0.5s						
BOOM	Boomskoye usch	2.84	311	⇓eP	Pn	19 32 20.3	+2.1
BOOM				⇓eS	Sb	19 32 56.0	-2.4
KURS	Kuram	2.87	350	Pg	Pb	19 32 25.2	+1.1
	20nm,0.3s						
KURS				Lg	Lg	19 33 05.8	
	27nm,0.4s						
KOTS	Kotyrbulak	2.88	334	Pg	Pb	19 32 24.9	+0.7
	24nm,0.4s						
KOTS				Lg	Lg	19 33 05.0	
	90nm,0.5s						
KOTS	Kotyrbulak	2.88	334	eP	Pb	19 32 22.6	-1.6
	24nm,0.4s						
KOTS				eS	Sb	19 32 59.5	0.0
	90nm,0.5s						
KNDC	Almaty	2.91	332	⇑Pn	Pb	19 32 21.6	-3.2
	33nm,0.6s						
KNDC				⇑Lg	Lg	19 33 00.2	
	60nm,0.5s						
AAA	Alma-Ata	2.92	331	Pg	Pb	19 32 25.3	+0.3
	13nm,0.1s						
AAA				Lg	Lg	19 33 05.6	
	36nm,0.4s						
AAA	Alma-Ata	2.92	331	eP	Pb	19 32 24.6	-0.4
	13nm,0.1s						
AAA				eS	Sb	19 33 02.4	+1.6
	36nm,0.4s						
MTBS	Maitube	3.05	325	Pg	Pb	19 32 27.5	+0.4
	10nm,0.2s						
MTBS				Lg	Lg	19 33 09.4	
	24nm,0.4s						
MTBS	Maitube	3.05	325	eP	Pb	19 32 27.8	+0.6
	10nm,0.2s						
MTBS				eS	Sg	19 33 08.2	-2.6
	24nm,0.4s						
KST	Kastek	3.20	319	Pg	Pb	19 32 30.2	+0.4
	35nm,0.2s						
KST				Lg	Lg	19 33 14.0	
	48nm,0.4s						
KST	Kastek	3.20	319	eP	Pb	19 32 30.8	+1.0
	35nm,0.2s						
KST				eS	Sg	19 33 13.6	-2.0
	48nm,0.4s						
TKM2	Tokmak 2	3.31	314	P	Pb	19 32 32.9	+1.3
	SNR=9.6						
TKM2	Tokmak 2	3.31	314	⇑Pg	Pb	19 32 31.4	-0.2
	18nm,0.4s						
TKM2				⇓Lg	Lg	19 33 18.8	
	16nm,0.4s						
TKM2	Tokmak 2	3.31	314	⇑eP	Pn	19 32 26.9	+2.1
TKM2				⇑eS	Sn	19 33 07.6	+3.3
KTBS	Karatobe	3.44	333	Pg	Pb	19 32 34.4	+0.6
	11nm,0.5s						
KTBS				Lg	Lg	19 33 21.4	
	31nm,0.4s						
BLB	Baldybastay	3.45	356	Pg	Pb	19 32 34.2	+0.2
	64nm,0.4s						
BLB				Lg	Lg	19 33 20.8	
	57nm,0.4s						
CHKK	Chushkaly	3.48	338	Pg	Pg	19 32 36.5	-2.8
	16nm,0.3s						
CHKK				Lg	Lg	19 33 24.9	
	48nm,0.4s						
CHKK	Chushkaly	3.48	338	eP	Pg	19 32 36.8	-2.5
	16nm,0.3s						
CHKK				eS	Sg	19 33 23.5	-0.8
	48nm,0.4s						
KBK	Karagaybulak	3.53	306	P	Pb	19 32 36.4	+1.1
	SNR=18						
KBK	Karagaybulak	3.53	306	⇓eP	Pn	19 32 29.8	+2.1
KBK				⇓eS	Sn	19 33 12.5	+2.9
ARLS	Aral	3.60	291	⇓eP	Pn	19 32 30.3	+1.6
ARLS				⇓eS	Sn	19 33 13.3	+1.9
UCH	Uchtor	3.60	297	⇑eP	Pn	19 32 30.7	+1.7
UCH				⇑eS	Sn	19 33 14.2	+2.4
ARXS	Arharly	3.63	349	Pg	Pb	19 32 37.4	+0.4
	17nm,0.2s						
ARXS				Lg	Lg	19 33 26.5	
	25nm,0.3s						
KNOS	Konyrlen	3.71	4	Pg	Pb	19 32 39.3	+0.9
	21nm,0.4s						
KNOS				Lg	Lg	19 33 29.9	
	27nm,0.3s						
KUU	Kurty	3.73	331	Pg	Pb	19 32 39.9	+1.3
	13nm,0.7s						
KUU				Lg	Lg	19 33 30.8	
	25nm,0.5s						
KUU	Kurty	3.73	331	eP	Pb	19 32 38.4	-0.2
	13nm,0.7s						
KUU				eS	Sb	19 33 26.5	+2.7
	25nm,0.5s						
AAK	Ala-Archa	3.80	303	LR	LR	19 34 12.3	
	comp=Z,42nm,19.5s,baz=148,slow=38						
AAK	Ala-Archa	3.80	303	P	Pb	19 32 41.0	+1.0
	SNR=19						
AAK	Ala-Archa	3.80	303	⇑Pg	Pb	19 32 40.1	+0.2
	5.6nm,0.3s						
AAK				⇓Lg	Lg	19 33 32.8	
	28nm,0.6s						
AAK	Ala-Archa	3.80	303	⇑eP	Pn	19 32 33.5	+2.0
AAK				⇑eS	Sn	19 33 18.9	+2.6
FRU1	Bishkek	3.81	306	⇑eP	Pn	19 32 33.9	+2.4
FRU1				⇑eS	Sn	19 33 19.5	+3.2
SALK	Salom-Alik	3.81	275	⇓eP	Pn	19 32 32.5	+0.9
SALK				⇓eS	Sn	19 33 17.3	+0.8
CHMS	Chumysh	3.84	309	P	Pb	19 32 41.6	+1.0
	SNR=14						
CHMS	Chumysh	3.84	309	⇓Pg	Pb	19 32 41.5	+1.0
	7.6nm,0.5s						
CHMS				⇑Lg	Lg	19 33 33.2	
	16nm,0.7s						
CHMS	Chumysh	3.84	309	⇑eP	Pn	19 32 34.1	+2.2
CHMS				⇑eS	Sn	19 33 19.8	+2.7
SFK	Sufi-Kurgan	4.12	263	⇑P	Pb	19 32 36.2	+0.3
SFK				⇑eS	Sn	19 33 23.7	-0.5
AML	Almayashu	4.13	293	P	Pb	19 32 47.5	+1.7
	SNR=11						
AML	Almayashu	4.13	293	⇑eP	Pn	19 32 37.9	+1.7
AML				⇑eS	Sn	19 33 26.6	+1.8
USP	Ospenovka	4.15	310	P	Pb	19 32 46.9	+1.1
	SNR=14						
USP	Ospenovka	4.15	310	⇓eP	Pn	19 32 38.3	+2.2
USP				⇓eS	Sn	19 33 27.3	+2.6
SGDS	Sogindy	4.19	313	Pg	Pb	19 32 48.4	+1.8
	6.1nm,0.6s						
SGDS				Lg	Lg	19 33 45.3	
	16nm,0.4s						
EKS2	Erkin-Say	4.28	300	P	Pb	19 32 50.1	+2.0
	SNR=7.3						
EKS2	Erkin-Say	4.28	300	⇑eP	Pn	19 32 39.9	+1.9
EKS2				⇑eS	Sn	19 33 30.1	+2.0
OHH	Osh	4.60	270	⇓eP	Pn	19 32 43.0	+0.6
OHH				⇓eS	Sn	19 33 35.5	-0.4
KAPS	Kapalarasan	4.64	5	Pg	Pb	19 32 56.6	+2.3
	5.6nm,0.5s						
KAPS				Lg	Lg	19 33 59.7	
	22nm,0.3s						
MRKS	Merke	4.68	298

*IDC **29** 19:44:43.6±0.8, 7°.57N×36°.49W, h0km, mb4.0/10, mbtmp4.0/11, ML4.0/1, MS3.6/47, Error ellipse: s-maj=42.9km s-min=17.0km az=124.0*
*NEIC **29** 19:44:44.9±0.7, 7°.3N±0°.2×36°.2W±0°.1, h10km±1km, mb4.5/8, Error ellipse: s-maj=32.6km s-min=7.1km az=324.0*
ISC 29 19:44:46.6±0.6, **7°.4N**±0°.1×**36°.3W**±0°.1, **h24**km, **n80**, σ0:99/35, **mb4.2**/13, **MS3.6**/45, **Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBCL	**Cascavel-CE**	**11.67**	**190**	*e*P	**Pn**	**19 47 31.5**	**-0.3**
RCBR	**Riachuelo**	**13.10**	**178**		**Pn**	**19 47 48.4**	**-2.9**
RCBR				Sn	Sn	19 50 07.8	-8.5
RCBR	**Riachuelo**	**13.10**	**178**	Pn	**Pn**	**19 47 52.4**	**+1.1**
	0.8nm,0.3s,baz=3.9,slow=20,SNR=18						
RCBR				Sn	Sn	19 50 08.8	-7.6
	0.2nm,0.3s,baz=105,slow=23,SNR=3.7						
RCBR				LR	LR	19 51 41.5	
	comp=Z,43nm,18.0s,baz=69,slow=31 3.1nm,0.5s						
NBPB	**Pedra_Branca-C**	**13.23**	**195**	*e*P	**Pn**	**19 47 53.3**	**+0.2**
SACV	**Santiago Islan**	**14.55**	**58**	Pn	Pn	19 48 05.3	-5.8
SACV				Sn	Sn	19 50 14.9	-37
TMAB	**Tom-Au,PA,Br**	**15.24**	**231**	*e*P	**Pn**	**19 48 19.7**	**-0.7**
MDP	**Montagnes des**	**16.42**	**263**	LR	LR	19 54 32.7	
	comp=Z,78nm,19.8s,baz=101,slow=36						
SMTB	**Santa Maria do**	**19.66**	**215**	*e*P	**P**	**19 49 14.0**	**+0.1**
MAL2	**Monte Alegre,**	**20.14**	**243**	P	**P**	**19 49 19.1**	**-0.2**
MAL2				IAmb	IAmb	19 49 37.0	
	comp=Z,18nm,1.0s						
BBTS	**Babate**	**20.69**	**68**	LR	LR	19 55 18.1	
	comp=Z,176nm,21.9s,baz=130,slow=30						
SDBA	**SAO DESIDERIO**	**21.42**	**204**	*e*P	**P**	**19 49 33.5**	**+0.4**
ITTB	**Itaituba**	**22.64**	**240**	*e*P	**P**	**19 49 44.5**	**-1.6**
JANB	**Januaria**	**23.64**	**200**	*e*P	**P**	**19 49 56.9**	**+0.5**
NPGB	**Novo Progresso**	**23.80**	**233**	*e*P	**P**	**19 49 58.3**	**+0.4**
SNDB	**Serra Nova Dou**	**24.32**	**218**	*e*P	**P**	**19 50 04.0**	**+1.4**
BOAV	**Boa Vista**	**24.64**	**260**	P	**P**	**19 50 05.2**	**-0.4**
BOAV				IAmb	IAmb	19 50 06.1	
	comp=Z,10nm,0.9s						
BOAV	**Boa Vista**	**24.64**	**260**	*e*P	**P**	**19 50 05.2**	**-0.4**
H05S1	**Guadeloupe/Mar**	**25.10**	**288**	T	T	20 15 52.6	
	SNR=12						
BDFB	**Brasilia**	**25.63**	**207**	P	**P**	**19 50 14.5**	**-0.2**
BDFB	**Brasilia**	**25.63**	**207**	P	**P**	**19 50 15.8**	**+1.2**
	comp=Z,8.9nm,0.7s,baz=44,slow=12,SNR=11						
BDFB				LR	LR	19 59 13.9	
	comp=Z,142nm,19.9s,baz=310,slow=34 comp=Z,8.9nm,0.7s						
SJMB	**Sao Joao De Ma**	**26.34**	**191**	*e*P	**P**	**19 50 22.1**	**+1.2**
H10N3	**ASCENSION HYDR**	**26.44**	**124**	T	T	20 18 06.8	
	baz=304,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**26.45**	**124**	T	T	20 18 08.1	
	baz=304,slow=75,SNR=9.9						
H10N1	**ASCENSION HYDR**	**26.46**	**124**	T	T	20 18 09.4	
	baz=304,slow=75,SNR=8.9						
H10S3	**ASCENSION HYDR**	**26.95**	**127**	T	T	20 18 45.9	
	baz=301,slow=74,SNR=8.8						
H10S2	**ASCENSION HYDR**	**26.97**	**127**	T	T	20 18 47.0	
	baz=279,slow=74,SNR=12						
ARAG	**Araguaiana, MT**	**27.60**	**214**	*e*P	**P**	**19 50 32.9**	**+0.7**
PDRB	**Porto dos Gac**	**27.73**	**227**	*e*P	**P**	**19 50 34.4**	**+0.9**
SJG	**San Juan**	**30.98**	**293**	LR	LR	20 00 40.2	
	comp=Z,86nm,20.9s,baz=155,slow=31						
DBIC	**Dimbokro**	**31.19**	**89**	LR	LR	20 00 52.0	
	comp=Z,41nm,19.0s,baz=178,slow=31						
SAML	**Samuel**	**31.32**	**239**	P	**P**	**19 51 05.1**	**-0.3**
SAML				IAmb	IAmb	19 51 06.8	
	comp=Z,4.0nm,0.8s						
SIV	**San Ignacio**	**33.77**	**227**	LR	LR	20 04 35.2	
	comp=Z,191nm,18.6s,baz=97,slow=35						
RUSC	**La Rusia**	**36.58**	**270**	P	**P**	**19 51 51.5**	**-0.1**
RUSC				IAmb	IAmb	19 51 58.5	
	comp=Z,16nm,1.4s						
TORD	**Torodi Ar. Bea**	**37.78**	**78**	P	**P**	**19 52 00.2**	**-1.0**
MDT	**Midelt**	**38.79**	**45**	LR	LR	20 06 34.5	
	comp=Z,90nm,18.9s,baz=172,slow=34						
CPUP	**Villa Florida**	**39.23**	**211**	LR	LR	20 08 34.5	
	comp=Z,122nm,18.1s,baz=45,slow=36						
LPAZ	**La Paz**	**39.31**	**233**	P	**P**	**19 52 15.0**	**+0.2**
LPAZ	**La Paz**	**39.31**	**233**	P	**P**	**19 52 15.8**	**+1.0**
	comp=Z,4.2nm,0.5s,baz=49,slow=4.5,SNR=18						
LPAZ				LR	LR	20 08 26.6	
	comp=Z,90nm,18.2s,baz=62,slow=36 comp=Z,4.2nm,0.5s						
ESDC	**Sonseca Array**	**43.30**	**37**	P	**P**	**19 52 46.8**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=234,slow=8.8,SNR=3.4						
ESDC				LR	LR	20 08 00.2	
	comp=Z,76nm,18.4s,baz=240,slow=32 comp=Z,0.6nm,0.8s						
ATAH	**Atahualpa**	**44.40**	**252**	LR	LR	20 12 49.9	
	comp=Z,128nm,18.1s,baz=72,slow=38						
NNA	**Nana**	**44.68**	**245**	LR	LR	20 11 12.1	
	comp=Z,103nm,21.5s,baz=16,slow=36						
KEST	**Kesra**	**50.34**	**49**	P	**P**	**19 53 42.9**	**+1.0**
	comp=Z,5.3nm,1.0s,baz=236,slow=9.4,SNR=4.0						
KEST				LR	LR	20 13 37.8	
	comp=Z,154nm,21.3s,baz=279,slow=34 comp=Z,5.3nm,1.0s						
TKL	**Tuckaleechee C**	**51.72**	**310**	LR	LR	20 10 49.9	
	comp=Z,45nm,21.4s,baz=80,slow=30						
VAE	**Valguarnera**	**54.77**	**49**	LR	LR	20 16 28.6	
	comp=Z,120nm,20.5s,baz=302,slow=35						
DAVOX	**Davos/Dischmat**	**55.63**	**37**	LR	LR	20 14 13.2	
	comp=Z,107nm,21.9s,baz=264,slow=32						
PLCA	**Paso Flores**	**57.30**	**211**	LR	LR	20 20 00.6	
	comp=Z,82nm,18.7s,baz=26,slow=37						
BORG	**Borgarnes**	**58.27**	**7**	LR	LR	20 12 44.7	
	comp=Z,36nm,21.9s,baz=214,slow=29						
VRAC	**Vranov**	**60.79**	**37**	LR	LR	20 17 39.7	
	comp=Z,68nm,21.5s,baz=250,slow=32						
FRB	**Frobisher Bay**	**60.87**	**344**	LR	LR	20 18 29.8	
	comp=Z,38nm,18.9s,baz=81,slow=33						
NOA	**NORSAR Array B**	**64.07**	**24**	P	**P**	**19 55 18.2**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=237,slow=6.8,SNR=2.2						
NOA				LR	LR	20 18 50.0	
	comp=Z,40nm,21.1s,baz=230,slow=32 comp=Z,0.3nm,0.7s						
HFS	**Hagfors**	**64.58**	**25**	LR	LR	20 19 27.1	
	comp=Z,50nm,20.2s,baz=280,slow=32						
MLR	**Muntele Rosu**	**65.45**	**43**	P	**P**	**19 55 27.0**	**-0.8**
MLR	**Muntele Rosu**	**65.45**	**43**	LR	LR	20 23 27.6	
	comp=Z,55nm,19.4s,baz=272,slow=36						
BURAR	**Bucovina Array**	**65.55**	**41**	P	**P**	**19 55 28.2**	**-0.3**
JMIC	**Jan Mayen**	**65.94**	**10**	LR	LR	20 16 34.8	
	comp=Z,18nm,21.7s,baz=228,slow=29						
LBTB	**Lobatse**	**68.24**	**121**	LR	LR	20 19 55.9	
	comp=Z,54nm,19.2s,baz=296,slow=31						
AKASG	**Malin Array Be**	**68.92**	**38**	P	**P**	**19 55 50.1**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=260,slow=5.7,SNR=2.0						
AKASG				LR	LR	20 25 59.3	
	comp=Z,17nm,19.0s,baz=230,slow=36 comp=Z,0.5nm,0.6s						
BOSA	**Boshof**	**69.20**	**124**	LR	LR	20 20 31.9	
	comp=Z,50nm,18.7s,baz=356,slow=31						
ANMO	**Albuquerque**	**69.59**	**304**	LR	LR	20 23 32.2	
	comp=Z,58nm,19.3s,baz=270,slow=34						
BRTR	**Keskin Array B**	**69.91**	**50**	P	**P**	**19 55 56.1**	**0.0**
BRTR	**Keskin Array B**	**69.91**	**50**	P	**P**	**19 55 58.5**	**+2.4**
	comp=Z,1.2nm,0.7s,baz=248,slow=6.1,SNR=1.9 comp=Z,1.2nm,0.7s						
EIL	**Elat**	**70.10**	**61**	LR	LR	20 25 47.4	
	comp=Z,74nm,21.1s,baz=260,slow=35						
FINES	**FINESS Array B**	**70.57**	**27**	P	**P**	**19 55 59.0**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=282,slow=3.7,SNR=6.4						
FINES				LR	LR	20 23 59.6	
	comp=Z,47nm,20.5s,baz=228,slow=33 comp=Z,1.8nm,0.8s						
MMAI	**Mount Meron Ar**	**70.68**	**58**	LR	LR	20 26 58.6	
	comp=Z,24nm,21.4s,baz=249,slow=36						
ASF	**Jabal al Asfar**	**71.89**	**59**	LR	LR	20 30 02.6	
	comp=Z,27nm,18.2s,baz=288,slow=38						
PDAR	**Pinedale Array**	**72.77**	**312**	LR	LR	20 25 04.1	
	comp=Z,15nm,20.1s,baz=139,slow=33						
ARCES	**ARCESS Array B**	**73.51**	**19**	P	**P**	**19 56 17.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=252,slow=7.1,SNR=6.9						
ARCES				LR	LR	20 24 43.9	
	comp=Z,23nm,19.2s,baz=233,slow=33 comp=Z,0.5nm,0.5s						
KBZ	**Khabaz**	**77.14**	**47**	LR	LR	20 33 00.2	
	comp=Z,26nm,19.0s,baz=250,slow=38						
PFO	**Pinyon Flats O**	**77.81**	**303**	LR	LR	20 28 54.3	
	comp=Z,43nm,20.2s,baz=204,slow=34						
YKA	**Yellowknife Ar**	**78.13**	**332**	P	**P**	**19 56 42.5**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=102,slow=5.9,SNR=8.9 comp=Z,0.5nm,0.7s						
GNI	**Garni**	**78.45**	**51**	LR	LR	20 31 38.4	
	comp=Z,39nm,21.8s,baz=262,slow=36						
BELG	**Belogornoye**	**80.50**	**38**	LR	LR	20 33 17.7	
	comp=Z,18nm,18.1s,baz=243,slow=36						
KIRV	**Kirov**	**81.53**	**32**	LR	LR	20 29 12.0	
	comp=Z,23nm,21.8s,baz=292,slow=33						
YBH	**Yreka Blue Hor**	**82.50**	**311**	LR	LR	20 31 51.7	
	comp=Z,39nm,18.9s,baz=100,slow=34						
ARTI	**Arti**	**86.52**	**34**	LR	LR	20 35 45.7	
	comp=Z,31nm,18.5s,baz=286,slow=35						
AKTO	**Aktyubinsk**	**87.12**	**40**	LR	LR	20 34 50.5	
	comp=Z,16nm,20.2s,baz=284,slow=34						
ILAR	**Eielson Array**	**91.99**	**336**	LR	LR	20 38 14.3	
	comp=Z,52nm,18.3s,baz=36,slow=35						
BVAR	**Borovoye Array**	**94.05**	**35**	LR	LR	20 38 40.8	
	comp=Z,23nm,20.3s,baz=280,slow=34						
NRIK	**Noril'sk**	**94.43**	**17**	LR	LR	20 42 11.8	
	comp=Z,14nm,19.3s,baz=20,slow=37						
KDAK	**Kodiak Island**	**97.36**	**331**	LR	LR	20 42 32.3	
	comp=Z,30nm,18.0s,baz=343,slow=36						

IDC 29 19:46:02.1±7.0, **5.70S**×**147°.21E**, **h188**km±40km, **mb3.1**/2, **mbtmp3.5**/4, **Error ellipse: s-maj=71.0km s-min=65.8km az=60.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.68**	**181**	P	Pn	19 46 59.8	+0.3
	8.5nm,0.5s,baz=46,slow=13,SNR=7.1						
PMG				S	Sn	19 47 44.9	+0.3
	7.0nm,0.4s,baz=82,slow=13,SNR=1.7						
WRA	**Warramunga Arr**	**18.89**	**220**	P	P	19 50 08.2	-0.3
	0.5nm,0.4s,baz=45,slow=11,SNR=10						
ASAR	**Alice Springs**	**21.98**	**214**	P	P	19 50 41.3	0.0
	0.4nm,0.5s,baz=50,slow=8.3,SNR=9.5 0.4nm,0.5s						
STKA	**Stephens Creek**	**26.56**	**191**	P	P	19 51 22.9	+0.2
	1.4nm,0.6s,baz=27,slow=11,SNR=2.9 1.4nm,0.6s						

*NEIC **29** 19:52:04.5±0.9, 38°.819N±0°.010×122°.794W±0°.009, h5km±1km, Error ellipse: s-maj=1.6km s-min=0.9km az=210.0*
NCEDC 29 19:52:04.4±0.7, **38°.817N**±0°.009×**122°.80W**±0°.01, **h4**km±2km, **ML3.0**/31, **ML2.8**/64(NEIC), **Error ellipse: s-maj=1.4km s-min=1.1km az=217.0, Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.01**	**147**		Pg	19 52 05.2	0.0
GGPM	**Geyser Peak**	**0.06**	**212**		Pg	19 52 06.1	+0.3
GSGM	**Seigler Mounta**	**0.09**	**55**		Pg	19 52 06.8	+0.6
GBGM	**Boggs Mountain**	**0.10**	**92**		Pg	19 52 06.8	+0.4
GAXM	**Alexander Vall**	**0.11**	**161**		Pg	19 52 08.6	+2.0
GRTM	**Round Top Moun**	**0.16**	**40**		Pg	19 52 07.8	+0.2
GCVM	**Cloverdale**	**0.17**	**254**		Pg	19 52 08.3	+0.5
NHSM	**Mount Saint He**	**0.22**	**137**		Pg	19 52 08.8	+0.2
NMTM	**Middletown**	**0.28**	**92**		Pg	19 52 10.2	+0.4
MNRC	**McLaughlin Min**	**0.29**	**77**		Pg	19 52 10.8	+0.8
MNRC	**McLaughlin Min**	**0.29**	**77**	IAML		19 52 18.6	
	comp=N,3μm,1.1s						
MNRC				IAML		19 52 20.0	
	comp=E,3μm,0.9s						
GSNM	**Snow Mountain**	**0.33**	**292**		Pg	19 52 11.4	+0.6
GHCM	**House Creek**	**0.37**	**236**		Pg	19 52 12.3	+0.6
OAKV	**Oakville Exper**	**0.49**	**141**		Pg	19 52 14.2	+0.3
CVS	**Carmenet Viney**	**0.54**	**150**		Pg	19 52 15.1	+0.3
CVS	**Carmenet Viney**	**0.54**	**150**	IAML		19 52 17.9	
	comp=N,1μm,0.6s						
CVS				IAML		19 52 20.3	
	comp=E,1μm,0.4s						
GGUM	**Gualala**	**0.55**	**274**		Pg	19 52 15.6	+0.7
GWRM	**Wonder Ranch**	**0.55**	**315**		Pg	19 52 15.3	+0.3
QRDG	**Quail Ridge Na**	**0.61**	**123**		Pg	19 52 16.9	+0.7
MCCM	**Marconi Confer**	**0.67**	**185**		Sg	19 52 18.2	-7.9
MCCM	**Marconi Confer**	**0.67**	**185**	Pg	Pg	19 52 17.9	+0.6
MCCM				IAML		19 52 31.1	
	comp=E,893nm,1.0s						
MCCM				IAML		19 52 34.2	
	comp=N,599nm,0.9s						
NADM	**Allendale**	**0.74**	**118**		Pb	19 52 20.4	+0.4
DCMP	**DeCamp, Califo**	**0.77**	**328**		Pg	19 52 19.6	+0.3
DCMP	**DeCamp, Califo**	**0.77**	**328**	IAML		19 52 25.5	
	comp=N,153nm,0.9s						
DCMP				IAML		19 52 30.0	
	comp=E,52nm,1.4s						
NOLM	**Olema**	**0.78**	**179**		Pg	19 52 19.8	+0.5
GCK	**Clark Valley**	**0.78**	**21**		Pb	19 52 21.4	+0.8
RUSS	**Russell Ranch**	**0.78**	**110**		Pb	19 52 19.4	+0.4
GTC	**Three Chop Rid**	**0.83**	**315**		Pg	19 52 20.6	+0.4
NPRM	**Point Reyes**	**0.84**	**192**		Pb	19 52 21.1	-0.4
NLHM	**Lake Herman**	**0.86**	**143**		Pg	19 52 21.0	0.0
OSUM	**Sutter Buttes**	**0.87**	**58**		Pg	19 52 21.2	+0.1
PINL	**Point Pinole R**	**0.88**	**157**		Pg	19 52 21.4	+0.2
CPMM	**Point Molate**	**0.92**	**160**		Pg	19 52 21.8	-0.3
CSPM	**San Pablo Ridg**	**0.94**	**156**		Pb	19 52 23.0	-0.3
CPIM	**Pinole Ridge**	**0.95**	**151**		Pg	19 52 22.4	-0.1
JEPS	**Jepson Natural**	**0.95**	**126**		Pb	19 52 23.8	+0.4
CTAM	**Taylor**	**1.00**	**142**		Pb	19 52 24.1	-0.3
BL67	**Building 67, L**	**1.03**	**155**		Pg	19 52 24.4	+0.1
VAK	**Adit at Lawren**	**1.03**	**155**		Pg	19 52 24.2	0.0
CVPM	**Vollmer Peak**	**1.04**	**154**		Pg	19 52 24.3	0.0
BKS	**Berkeley--Byer**	**1.04**	**154**		Pg	19 52 23.8	-0.5
JPRM	**Presidio of Sa**	**1.05**	**166**		Pg	19 52 24.4	-0.2
KCPM	**Cahto Peak**	**1.06**	**325**		Pg	19 52 24.4	-0.3
KCPM				IAML		19 52 44.7	
	comp=E,416nm,1.0s						
KCPM				IAML		19 52 47.4	
	comp=N,304nm,0.6s						
KBNM	**Bluenose Ridge**	**1.12**	**344**		Pn	19 52 27.3	+0.3
KIPM	**Iron Peak**	**1.12**	**332**		Pb	19 52 26.4	-0.1
FARB	**Farallon Islan**	**1.13**	**188**		Pg	19 52 25.1	-0.9
FARB	**Farallon Islan**	**1.13**	**188**	IAML		19 52 46.9	
	comp=E,282nm,1.4s						
FARB				IAML		19 52 49.7	
	comp=N,114nm,1.1s						
BDM	**Black Diamond**	**1.13**	**139**		Pg	19 52 25.6	-0.6
BGC	**Bolinger Road**	**1.16**	**150**		Pg	19 52 25.7	-0.8
JSBM	**San Bruno Moun**	**1.18**	**164**		Pg	19 52 25.4	-1.6
CSLM	**San Leandro Hi**	**1.22**	**154**		Pg	19 52 26.7	-1.1
SFRE	**Sierra Foothil**	**1.23**	**69**		Pg	19 52 26.3	-1.8
ORV	**Oroville**	**1.25**	**54**	Pg	Pg	19 52 27.4	-1.0
JCPM	**Coyote Point**	**1.28**	**163**		Pg	19 52 28.3	-0.7
JCHM	**Cahill Ridge**	**1.34**	**165**		Pn	19 52 28.3	-1.6
CBSNC	**Byron Hot Spri**	**1.35**	**137**		Pn	19 52 27.7	-2.4
O02D	**Mt. Diablo Mer**	**1.36**	**0**		Pb	19 52 30.6	+0.1
O02D	**Mt. Diablo Mer**	**1.36**	**0**		Pn	19 52 29.4	-1.0
O02D				IAML		19 52 35.7	
	comp=N,61nm,0.8s						
O02D				IAML		19 53 02.6	
	comp=E,54nm,1.6s						
CNIC	**Niles Canyon**	**1.38**	**151**		Pn	19 52 28.6	-1.9
AFDM	**Forest Hills D**	**1.43**	**84**		Pn	19 52 29.1	-2.2
JRSC	**Jasper Ridge**	**1.48**	**162**		Pn	19 52 29.8	-2.0
JSFB	**Stanford Teles**	**1.50**	**161**		Pn	19 52 29.8	-2.2
JFP	**Foothills Park**	**1.53**	**161**		Pn	19 52 30.6	-2.0
MTOS	**Mt Oso, Westle**	**1.75**	**138**		Pn	19 52 32.9	-2.7
MTOS	**Mt Oso, Westle**	**1.75**	**138**	IAML		19 52 56.7	
	comp=N,64nm,0.7s						
MTOS				IAML		19 53 02.7	
	comp=E,54nm,1.0s						
ARN	**Arnold Ranch**	**1.77**	**145**		Pn	19 52 34.5	-1.5
CCOB	**Coe Ranch Numb**	**1.79**	**150**		Pn	19 52 35.1	-1.1
CMPM	**Mikes Peak**	**1.87**	**141**		Pn	19 52 36.4	-0.9
LRDM	**Redding Peak**	**1.94**	**32**		Pn	19 52 35.6	-2.7
HLPM	**Lions Peak**	**2.00**	**152**		Pn	19 52 36.8	-2.2
DONR	**Donner Summit**	**2.00**	**74**		Pn	19 52 39.0	-0.3
GHS	**Gilroy Hot Spr**	**2.02**	**148**		Pn	19 52 37.9	-1.6
CMB	**Columbia Colle**	**2.05**	**112**		Pn	19 52 39.0	-0.8
CMB	**Columbia Colle**	**2.05**	**112**		Pn	19 52 39.1	-0.7
CMB				IAML		19 53 06.8	
	comp=E,26nm,0.7s						
CMB				IAML		19 53 13.4	
	comp=N,48nm,0.7s						
HPCM	**Pacheco Lake**	**2.13**	**145**		Pn	19 52 39.3	-1.5
SLD	**San Luis Dam**	**2.14**	**144**		Pn	19 52 39.8	-1.3
FRP	**Fremont Peak**	**2.31**	**153**		Pn	19 52 40.8	-2.5
PEAR	**Peavine Mounta**	**2.34**	**69**		Pn	19 52 44.6	+0.6
PNTR	**Pine Nut**	**2.51**	**83**		Pn	19 52 47.0	+0.7
PNTR	**Pine Nut**	**2.51**	**83**	IAML		19 53 39.9	
	comp=E,78nm,1.1s						
WAKR	**Walker**	**2.65**	**96**	IAML		19 53 32.6	
	comp=E,40nm,0.8s						
WAKR				IAML		19 53 39.1	
	comp=N,29nm,1.0s						
MMIM	**Miami Mountain**	**2.79**	**119**		Pn	19 52 50.0	0.0
PAHR	**Pah Rah Range**	**2.80**	**70**	IAML		19 53 37.6	
	comp=E,17nm,1.2s						
MHDM	**Hidden Dam**	**2.86**	**126**		Pn	19 52 51.1	+0.3
YBH	**Yreka Blue Hor**	**2.91**	**1**	IAML		19 53 10.8	
	comp=E,17nm,3.8s						
PMPB	**Monarch Peak**	**3.04**	**148**	IAML		19 53 29.4	
	comp=N,48nm,4.3s						
PMPB				IAML		19 54 02.0	
	comp=E,42nm,1.1s						
RYN	**Ryan**	**3.35**	**92**	IAML		19 53 53.3	
	comp=E,23nm,1.4s						
RYN				IAML		19 54 01.5	
	comp=N,18nm,2.8s						
LHV	**Little Huntoon**	**3.42**	**98**	IAML		19 54 03.4	
	comp=N,34nm,1.1s						
LHV				IAML		19 54 07.5	
	comp=E,33nm,1.9s						
NV11	**Mina Array Sit**	**3.66**	**95**	IAML		19 54 05.1	
	comp=E,17nm,2.3s						
NV11				IAML		19 54 11.9	
	comp=N,15nm,1.8s						
DSP	**Deep Springs**	**4.08**	**109**	IAML		19 54 12.6	
	comp=E,12nm,5.0s						
DSP				IAML		19 54 22.8	
	comp=N,12nm,2.5s						
GMN	**Gold Mountain**	**4.63**	**107**	IAML		19 54 43.2	
	comp=N,5.9nm,1.8s						

*JMA **29** 19:58:00.5±0.1, 23°.7N±0°.4×12°.2E±°, h0km, MV3.1/13, TAIWAN REGION*
*ASIES **29** 19:58:01.4, 23°.74N×121°.47E, h9km, ML3.7, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.59; $M_{\theta\theta}$-0.88; $M_{\phi\phi}$-0.71; $M_{r\theta}$1.11; $M_{\theta\phi}$-0.92; $M_{\phi r}$0.24; Fault plane solution: $M_0$2.01300×10^{21} NP1: ϕ_s211.49000°, δ31.75000°, λ61.54000°. NP2:ϕ_s64.00000°, δ62.44000°, λ106.43000°. Principal axes: T Plg68.1890°, Azm6.5730°; N Plg14.5230°, Azm236.2370°; P Plg15.9120°, Azm142.0010°;*
*TAP **29** 19:58:01.4, 23°.74N×121°.47E, h9km, ML3.7, B*
ISC 29 19:58:01.3±0.8, **23°.73N**±0°.01×**121°.52E**±0°.02, **h12**km±4km, **n158**, σ0:73/256, **14C-34D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.03**	**137**	↑*i*P	**Pg**	**19 58 04.2**	**+0.7**
TEGC				S	**Sg**	**19 58 06.3**	**+1.2**
SHUL	**Shoufeng**	**0.07**	**35**	↑*i*P	**Pg**	**19 58 04.6**	**+0.7**
SHUL				*i* S	**Sg**	**19 58 06.9**	**+1.1**
EGFH	**Guangfu**	**0.10**	**234**	↓*i*P	**Pg**	**19 58 03.8**	**-0.4**
EGFH				*e*S	**Sg**	**19 58 05.3**	**-1.1**
ESL	**Shilin**	**0.12**	**317**	↓*i*P	**Pg**	**19 58 04.0**	**-0.5**
ESL				*i* S	**Sg**	**19 58 05.4**	**-1.2**
WARBT	**Fenglin Townsh**	**0.12**	**264**	↑*i*P	**Pg**	**19 58 03.9**	**-0.7**
WARBT				*i* S	**Sg**	**19 58 05.2**	**-1.6**
TEYL	**Yanliau Villag**	**0.16**	**28**	↓*i*P	**Pb**	**19 58 06.4**	**+0.2**
TEYL				*e*S	**Sg**	**19 58 09.9**	**+2.3**
ETM	**Tongmen**	**0.24**	**354**	↓*i*P	**Pg**	**19 58 06.4**	**0.0**
ETM				S	**Sg**	**19 58 09.3**	**-0.4**
HGSD	**Ruisui**	**0.25**	**200**	↑*i*P	**Pb**	**19 58 07.2**	**-0.6**
HGSD				S	**Sb**	**19 58 11.9**	**-0.2**
HWA	**Hwalien**	**0.26**	**18**	↓*i*P	**Pb**	**19 58 07.7**	**-0.3**
HWA				*e*S	**Sb**	**19 58 11.8**	**-0.5**
EHYH	**Wanrong**	**0.28**	**214**	↑*i*P	**Pg**	**19 58 07.0**	**-0.2**
EHYH				S	**Sg**	**19 58 10.7**	**-0.5**
EHY	**Hungye**	**0.29**	**219**	↑*i*P	**Pg**	**19 58 06.9**	**-0.3**
EHY				*e*S	**Sg**	**19 58 10.4**	**-0.8**
LXIB	**Xiulin Townshi**	**0.30**	**342**	↓*i*P	**Pg**	**19 58 07.5**	**-0.2**
LXIB				S	**Sg**	**19 58 11.3**	**-0.6**
VWDT	**VWDT**	**0.35**	**274**	↓*i*P	**Pg**	**19 58 08.3**	**-0.1**
VWDT				S	**Sg**	**19 58 12.7**	**-0.3**
TWD	**Chiawan**	**0.36**	**11**	↓*i*P	**Pg**	**19 58 08.8**	**+0.3**
TWD				S	**Sg**	**19 58 13.3**	**0.0**
OWD	**Renai**	**0.39**	**306**	↓*i*P	**Pg**	**19 58 08.7**	**-0.4**
OWD				*e*S	**Sg**	**19 58 13.7**	**-0.

WCKO	Fanlu	0.89	251	⇓P	Pn	19 58 19.3	-0.3
WCKO				S	Sb	19 58 30.6	+0.1
ESAO	Su ao	0.89	19	P	Pg	19 58 18.5	-0.1
ESAO				eS	Sb	19 58 30.7	+0.1
LONT	Longtian	0.89	204	eP	Pb	19 58 18.9	+0.1
WDLH	Douliu	0.90	268	⇓P	Pn	19 58 19.9	+0.1
WDLH				S	Sn	19 58 31.9	-0.8
ENTT	Nioudou	0.91	3	⇓iP	Pb	19 58 18.9	-0.1
ENTT				eS	Sg	19 58 29.7	-1.1
EOS3	EOS3	0.92	53	eP	Pn	19 58 19.9	0.0
NDS	Dongshan	0.92	11	eP	Pg	19 58 18.3	-0.8
NDS				eS	Sg	19 58 31.1	0.0
TWQ1	Liyutan	0.92	312	eP	Pn	19 58 20.0	-0.1
TWQ1				eS	Sn	19 58 33.1	-0.1
TPUB	Ta-pu	0.92	243	P	Pn	19 58 19.6	-0.5
TPUB	Ta-pu	0.92	243	S	Sb	19 58 31.4	-0.1
TPUB	Ta-pu	0.92	243	⇑P	Pn	19 58 19.7	-0.4
TPUB				iS	Sb	19 58 31.5	0.0
TWC	Suao	0.93	19	P	Pg	19 58 19.0	-0.3
TWC				eS	Sb	19 58 31.7	+0.1
CHN4	Tsaushan	0.93	246	⇑iP	Pn	19 58 20.2	0.0
CHN4				eS	Sb	19 58 31.5	-0.2
WCHH	Zhanghua	0.94	292	eP	Pn	19 58 20.7	+0.3
WCHH				eS	Sn	19 58 33.8	-0.1
YHNB	Yeheng	0.94	352	P	Pb	19 58 19.7	0.0
YHNB	Yeheng	0.94	352	S	Sg	19 58 31.8	-0.2
YHNB	Yeheng	0.94	352	⇓iP	Pb	19 58 19.8	+0.1
YHNB				S	Sg	19 58 31.3	-0.7
EOS2	EOS2	0.95	43	eP	Pn	19 58 21.2	+0.9
WCH1	Changhua City	0.95	291	eP	Pn	19 58 20.8	+0.3
NSK	Sanguang	0.95	351	⇓iP	Pb	19 58 19.9	0.0
NSK				iS	Sg	19 58 31.6	-0.7
WTP	Ta-pu	0.96	240	⇑iP	Pn	19 58 20.3	-0.4
WTP				eS	Sb	19 58 32.7	+0.1
NFF	Wufeng Townshi	0.97	338	eP	Pn	19 58 20.4	-0.5
NFF				eS	Sg	19 58 32.2	-0.6
CHN2	Minshiung	0.98	259	eP	Pn	19 58 21.4	+0.6
CHN2				eS	Sn	19 58 34.8	+0.1
TWG	Pinlang	0.99	204	eP	Pb	19 58 20.1	-0.4
TWGBT	Beinan	0.99	204	P	Pb	19 58 20.4	-0.1
TWGBT	Beinan	0.99	204	eP	Pb	19 58 20.3	-0.2
TWE	Neicheng	1.00	8	eP	Pb	19 58 20.2	-0.3
TWE				eS	Sb	19 58 33.5	-0.2
WDJ	Dajia District	1.01	308	eP	Pn	19 58 22.4	+1.1
NSTT	Nanjuang	1.01	332	iP	Pn	19 58 21.2	-0.2
NSTT				eS	Sg	19 58 34.0	-0.1
LIOB	Emei	1.02	333	P	Pn	19 58 21.6	+0.1
LIOB				S	Sn	19 58 34.9	-0.9
FUSB	Fushanzhiwuyua	1.03	4	eP	Pb	19 58 20.8	-0.3
FUSB				eS	Sb	19 58 34.4	-0.1
CHY	Chiayi	1.03	257	eP	Pn	19 58 21.8	+0.2
CHY				eS	Sn	19 58 35.8	-0.1
TTN	Taitung	1.03	199	eP	Pg	19 58 21.1	-0.1
WTK	Tuku	1.04	268	eP	Pn	19 58 21.9	+0.3
WTK				S	Sn	19 58 36.2	+0.1
NMLH	Miaoli	1.04	321	eP	Pn	19 58 22.5	+0.7
NMLH				eS	Sn	19 58 36.3	0.0
NWLT	Wulai	1.04	359	P	Pb	19 58 21.2	-0.1
NWLT				eS	Sb	19 58 34.5	-0.5
ILA	Ilan	1.05	11	eP	Pg	19 58 21.7	0.0
ILA				eS	Sg	19 58 35.3	-0.1
TWK	Hsinying	1.05	244	iP	Pn	19 58 22.1	+0.1
TWK				eS	Sn	19 58 36.0	-0.6
LDUT	Ludao	1.05	182	eP	Pb	19 58 19.7	-1.7
CHN1	Nanshi	1.06	239	P	Pn	19 58 22.3	+0.3
CHN1				iS	Sn	19 58 37.0	+0.3
SNST	Tainan City	1.07	242	eP	Pn	19 58 22.7	+0.6
SNST				eS	Sb	19 58 36.8	-0.1
SGST	Jiashian	1.07	233	eP	Pb	19 58 21.5	-0.4
SGST				S	Sn	19 58 37.0	0.0
KSHI	Guanxi Townshi	1.09	343	eP	Pn	19 58 23.3	+0.9
SBCB	Hsinchu	1.16	335	eP	Pg	19 58 24.7	+1.0
SBCB				eS	Sn	19 58 40.0	+0.7
EGS		1.17	19	eP	Pg	19 58 24.2	+0.3
HSN	Hsinchu	1.18	335	P	Pg	19 58 25.4	+1.3
HSN				eS	Sn	19 58 41.5	+1.8
WSF	Szhu	1.19	266	eP	Pg	19 58 24.3	0.0
WSF				iS	Sn	19 58 40.5	+0.5
ICHU	Yijhu	1.20	252	eP	Pg	19 58 24.9	+0.5
ICHU				iS	Sn	19 58 41.8	+1.8
WSL	Shuilin Townsh	1.20	260	eP	Pg	19 58 25.1	+0.6
WSL				eS	Sn	19 58 41.8	+1.6
TATO	Taipei	1.24	359	P	Pg	19 58 25.1	-0.1
ECL	Taimali	1.24	205	eP	Pn	19 58 23.5	-1.0
CHN3	Shinhua	1.24	239	eP	Pg	19 58 26.7	+1.4
CHN3				eS	Sg	19 58 44.4	+2.9
TWA	Mucha	1.25	3	eP	Pg	19 58 25.9	+0.6
CHN8	Yiju	1.26	253	eP	Pg	19 58 25.8	+0.3
CHN8				eS	Sg	19 58 43.8	+1.8
SCST	Cishan	1.26	228	iP	Pg	19 58 26.9	+1.3
SCST				eS	Sg	19 58 45.0	+2.9
TIPB	Shuangxi	1.27	13	eP	Pb	19 58 25.1	-0.1
TIPB				eS	Sb	19 58 41.2	-0.3
NCUH	Zhongli	1.27	346	eP	Pg	19 58 27.1	+1.3
NCUH				eS	Sg	19 58 44.3	+2.0
SSD	Sandimen	1.27	220	eP	Pb	19 58 25.3	+0.1
SSHA	Shanhua	1.27	243	eP	Pg	19 58 26.6	+0.7
SHHT	Tainan City	1.29	237	eP	Pg	19 58 27.1	+1.1
SHHT				eS	Sg	19 58 46.0	+3.2
TSMG	Majia	1.30	218	eP	Pg	19 58 26.2	-0.1
TAP	Taipei	1.30	360	eP	Pg	19 58 26.9	+0.5
TWB1	Santiao Chiao	1.34	19	eP	Pg	19 58 27.0	-0.2
TWM1	Shoushan	1.35	228	eP	Pg	19 58 28.8	+1.4
SGLT	Jiouru	1.38	224	eP	Pg	19 58 28.5	+0.7
MASBT	Mashibuluo	1.38	216	eP	Pb	19 58 26.8	-0.2
SXI1	Grass Mountain	1.40	13	eP	Pg	19 58 27.8	-0.4
YM01	YM01	1.41	2	eP	Pb	19 58 27.7	+0.1
ZUZH	Zhuzihu	1.43	1	eP	Pb	19 58 28.0	+0.1
ZUZH				eS	Sn	19 58 45.2	-0.6
TNOU	National Taiwa	1.43	9	eP	Pb	19 58 28.3	+0.3
TSCK	Chigu Township	1.44	246	eP	Pg	19 58 28.5	-0.5
YM08	YM08	1.45	3	eP	Pb	19 58 28.3	0.0
JYNG	Yonaguni jima	1.49	61	eP	Pb	19 58 29.2	+0.3
JYNG				eS	Sg	19 58 49.4	+0.1
TAWH	Dawu Township	1.50	203	eP	Pn	19 58 27.2	-0.8
TWY	Chenhua	1.54	3	eP	Pn	19 58 28.9	+0.3
YOJ	Yonaguni jima	1.55	62	P	Pn	19 58 28.8	+0.1
YOJ	Yonaguni jima	1.55	62	eP	Pb	19 58 29.4	-0.5
YOJ				eS	Sg	19 58 50.6	-0.6
YOJ	Yonaguni jima	1.55	62	eP	Pb	19 58 29.5	-0.4
WSSB	Gushan	1.58	227	eP	Pg	19 58 32.4	+0.7
SCZT	Fangliau	1.58	212	eP	Pb	19 58 31.0	+0.5
SCZT				eS	Sb	19 58 50.4	-0.2
SLIU	Shizi	1.65	204	eP	Pb	19 58 32.1	+0.5
LAY	Lan-yu	1.68	179	eP	Pn	19 58 29.4	-1.2
LAY				S	Sn	19 58 51.9	-0.3
LYUB	Lan-yu	1.72	178	eP	Pn	19 58 29.8	-1.3
WLCH	Liuqiu	1.73	218	eP	Pg	19 58 35.4	+0.8
TWP	Hsiaoliuchiu	1.74	218	eP	Pg	19 58 34.2	-0.6
TWP				eS	Sg	19 58 57.9	+0.6
WDGT	Dungji	1.77	255	eP	Pn	19 58 32.2	+0.4
PHUB	P'eng-hu	1.80	264	eP	Pn	19 58 32.6	+0.4
PNG	Penghu	1.81	265	eP	Pn	19 58 32.9	+0.6
PNG				iS	Sb	19 58 56.6	-0.4
TWK1	Hengchun	1.90	200	eP	Pn	19 58 34.4	+0.9
TWKBT	Hengchun	1.90	200	eP	Pb	19 58 34.8	-1.0
VCHM	Qimei	1.99	255	eP	Pn	19 58 34.8	+0.1
IRIF	Iriomote-Funau	2.11	73	eP	Pn	19 58 37.2	+0.7
HATJ	Hateruma jima	2.12	81	eP	Pn	19 58 36.8	+0.3
JKRS	Kuro-shima	2.33	77	eP	Pn	19 58 40.6	+1.1
JKRS				eS	Sn	19 59 08.1	0.0
JIJ	Ishigaki jima	2.48	75	eP	Pn	19 58 41.6	0.0
JIJ				eS	Sn	19 59 10.6	-1.1
PTMZ	Houxiangcun	2.55	301	eP	Pn	19 58 42.4	-0.1
JISG	Ishigakijimahi	2.69	71	eP	Pn	19 58 44.4	0.0
JISG				eS	Sn	19 59 15.1	-1.8
KNM	Kinmen	2.90	284	eP	Pn	19 58 49.3	+1.9
KNMB	Chin-men Tao	2.95	285	eP	Pn	19 58 47.9	-0.1
MHZQ	Yeshan	3.27	317	eP	Pn	19 58 51.4	-0.9
ZPLA	Ao Xicun	3.46	274	eP	Pn	19 58 55.0	+0.1
SXFK	Yanhouchang	4.40	308	eP	Pn	19 59 07.9	-0.2

*IDC **29** 20:19:05.1±1.6, 34°.86N×24°.08E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=46.6km s-min=28.8km az=134.0*
*ISK **29** 20:19:07.1, 34°.66N×24°.17E, h3km, ML3.4/5*
*THE **29** 20:19:08.5, 34°.69N×24°.16E, h23km, ML2.9/5, Error ellipse: s-maj=1.7km s-min=0.9km az=194.0*
*ATH **29** 20:19:09.0, 34°.73N×24°.13E, h24km±5km, ML3.4/6, Manual Solution by S.Koutrakis First location: 2019/04/29 20:20:09, This location: 2019/04/29 20:32:25 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 5 km*

ISC 29 20:19:08.4±1.1, 34°.72N±0°.07×24°.16E±0°.04, h25km±5km, n24, σ0ˢ.64/37, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.13	333	P	Pb	20 19 13.6	+0.2
GVD				S	Sb	20 19 17.0	+0.3
	69μm,0.1s						
GVD	Gavdhos	0.13	333	Pg	Pb	20 19 12.2	-1.2
GVD	Gavdhos	0.13	333	P	Pb	20 19 13.6	+0.2
GVD				S	Sb	20 19 17.0	+0.3
TMBK	Timbaki Herakl	0.61	55	P	Pn	20 19 21.5	+0.1
TMBK	Timbaki Herakl	0.61	55	P	Pn	20 19 21.8	+0.4
TMBK				S	Sn	20 19 30.0	-0.4
KNDR	Palaiochora Ch	0.64	323	P	Pn	20 19 21.5	-0.4
KNDR				S	Sn	20 19 31.9	+0.7
	812nm,0.4s						
KNDR	Palaiochora Ch	0.64	323	Pg	Pn	20 19 21.7	-0.2
KNDR				Sg	Sn	20 19 33.0	+1.8
KNDR	Palaiochora Ch	0.64	323	P	Pn	20 19 21.6	-0.2
KNDR				S	Sn	20 19 30.8	-0.4
PRNS	Prines Rethymn	0.70	24	P	Pb	20 19 21.6	-0.4
IMMV	Iera Moni Meta	0.75	349	P	Pb	20 19 22.4	-0.4
IMMV				S	Sn	20 19 34.1	+0.1
	2μm,0.4s						
IMMV	Iera Moni Meta	0.75	349	Pg	Pn	20 19 23.4	0.0
IMMV	Iera Moni Meta	0.75	349	P	Pb	20 19 22.6	-0.2
IMMV				S	Sb	20 19 33.2	+0.6
CHNB	Souda	0.77	354	P	Pn	20 19 24.1	+0.5
CHNB				S	Sn	20 19 34.4	+0.1
CHAN	Chania	0.80	353	P	Pb	20 19 23.6	-0.1
CHAN				S	Sn	20 19 35.7	+0.5
	460nm,0.7s						
CHAN	Chania	0.80	353	P	Pn	20 19 24.7	+0.6
IDI	Anoyia	0.82	47	P	Pb	20 19 24.1	0.0
IDI				S	Sn	20 19 35.6	-0.2
	712nm,0.5s						
IDI	Anoyia	0.82	47	Pg	Pn	20 19 24.3	-0.2
IDI				Sg	Sn	20 19 37.3	+1.5
IDI	Anoyia	0.82	47	P	Pn	20 19 24.2	-0.2
IDI				S	Sn	20 19 36.4	+0.5
ZKR	Zakros	1.73	76	Pn	Pb	20 19 39.5	-0.1
HFS	Hagfors	26.32	348	P	P	20 24 41.6	-0.3
	0.5nm,0.4s,baz=156,slow=11,SNR=5.2						
	0.5nm,0.4s						
TORD	Torodi Ar. Bea	29.58	229	P	P	20 25 12.2	+0.8
	118nm,0.3s,baz=33,slow=9.6,SNR=1.8						
ARCES	ARCESS Array B	34.87	1	P	P	20 25 55.7	-1.5
	0.6nm,0.8s,baz=188,slow=7.7,SNR=1.4						
	0.6nm,0.8s						
MKAR	Makanchi Array	44.70	56	P	P	20 27 19.6	+0.3
	0.4nm,0.5s,baz=284,slow=6.9,SNR=6.9						
	0.4nm,0.5s						
ZALV	Zalesovo Beam	45.90	46	P	P	20 27 28.7	+0.1
	1.2nm,0.4s,baz=265,slow=8.4,SNR=5.1						
	1.2nm,0.4s						

*NNC **29** 20:39:31.7±1.8, 45°.18N×84°.93E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=13.6km s-min=7.4km az=98.0*
*SOME **29** 20:39:31.0, 45°.38N×84°.93E, h20km*

ISC 29 20:39:31.4±1.8, 45°.21N±0°.07×84°.83E±0°.10, h10km, n17, σ2ˢ.57/21, 8C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	2.24	1	Pg	Pn	20 40 09.2	+0.6
	115nm,0.4s						
ZSN				Lg	Lg	20 40 36.2	
	99nm,0.3s						
ZSN	Zaisan	2.24	1	eP	Pn	20 40 09.1	+0.5
	115nm,0.4s						
ZSN				eS	Sn	20 40 36.0	-0.3
	99nm,0.3s						
MK31	Makanchi Array	2.37	313	⇑Pn	Pn	20 40 12.1	+1.7
	7.1nm,0.3s,baz=119,slow=14,SNR=828						
MK31				⇑Sn	Sb	20 40 44.8	+1.2
	35nm,0.3s,baz=125,slow=27,SNR=23						
MAKZ	Makanchi	2.55	310	⇑Pn	Pb	20 40 16.0	-1.2
	5.1nm,0.3s						
MAKZ				⇑Sn	Sb	20 40 49.3	+0.7
	34nm,0.6s						
KAPS	Kapalarasan	3.86	273	Pg	Pb	20 40 41.4	+1.7
	2.8nm,0.2s						
KAPS				Lg	Lg	20 41 31.4	
	13nm,0.2s						
KNOS	Konyrlen	4.11	260	Pg	Pg	20 40 48.2	-1.9
	7.3nm,0.3s						
KNOS				Lg	Lg	20 41 43.2	
	23nm,0.3s						
PDGK	Podgornoye	4.27	246	⇑Pg	Pg	20 40 51.1	-2.1
	5.4nm,0.8s						
PDGK				⇑Lg	Lg	20 41 51.8	
	50nm,0.8s						
SHLS	Shalkode	4.37	244	Pg	Pb	20 40 48.0	-0.3
	6.8nm,0.3s						
SHLS				Lg	Lg	20 41 42.7	
	35nm,0.4s						
SHLS	Shalkode	4.37	244	eP	Pb	20 40 48.0	-0.3
	6.8nm,0.3s						
SHLS				eS	Sb	20 41 42.6	+1.6
	35nm,0.4s						
TDK	Taldyqorghan	4.55	270	Pg	Pb	20 40 55.3	+4.0
	12nm,0.2s						
TDK				Lg	Lg	20 41 55.6	
	83nm,0.5s						
TDK	Taldyqorghan	4.55	270	eP	Pb	20 40 55.3	+4.0
	12nm,0.2s						
TDK				eS	Sg	20 41 55.5	-1.9
	83nm,0.5s						
BLB	Baldybastay	4.66	258	Pg	Pb	20 40 57.1	+3.7
	15nm,0.4s						
BLB				Lg	Lg	20 41 58.7	
	41nm,0.6s						
ARXS	Arharly	5.09	261	Pg	Pb	20 41 04.2	+3.7
	2.6nm,0.4s						
ARXS				Lg	Lg	20 42 10.9	
	21nm,0.6s						
SATY	Saty	5.09	247	eP	Pb	20 41 04.2	+3.5
	2.6nm,0.4s						
SATY				eS	Sg	20 42 10.9	-4.1
	21nm,0.6s						
KTBS	Karatobe	6.02	258	Pg	Pg	20 41 24.1	-2.5
	2.6nm,0.4s						
KTBS				Lg	Lg	20 42 44.3	
	17nm,0.5s						
KURBB	Kurchatov Arra	6.87	324	⇑Pg	Pg	20 41 38.6	-4.3
	1.2nm,0.5s						
KURBB				⇑Lg	Lg	20 43 08.7	
	30nm,0.8s						
KURK	Kurchatov	6.91	325	⇓Pg	Pg	20 41 38.6	-4.9
	0.8nm,0.6s						
KURK				⇓Lg	Lg	20 43 09.2	
	14nm,0.6s						

*ISK **29** 21:11:47.6, 35°.29N×27°.82E, h4km, ML3.2/12*
*AFAD **29** 21:11:48.6, 35°.28N×27°.80E, h28km±3km, MW3.6*
*ATH **29** 21:11:49.7, 35°.34N×27°.79E, h13km±2km, ML3.2/13, Manual Solution by F.Xalaris First location: 2019/04/29 21:12:32, This location: 2020/09/14 11:09:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 29 21:11:48.9±1.3, 35°.31N±0°.05×27°.80E±0°.03, h12km±9km, n47, σ0ˢ.90/71, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.57	295	Pg	Pg	21 11 59.8	-0.3
KARP				Sg	Sb	21 12 08.7	-0.3
KARP	Karpathos	0.57	295	P	Pg	21 11 59.8	-0.3
KARP				S	Sg	21 12 08.3	+0.6
ARG	Arkhangelos	0.94	16	Pg	Pb	21 12 06.7	-0.5
ARG				Sg	Sb	21 12 20.5	+0.8
ARG	Arkhangelos	0.94	16	P	Pg	21 12 07.2	+0.1
ARG				S	Sg	21 12 19.5	0.0
ZKR	Zakros	1.31	262	Pn	Pg	21 12 13.6	-0.4
ZKR	Zakros	1.31	262	P	Pg	21 12 13.8	-0.2
YAZI	Mula-Dat§a-	1.40	349	P	Pb	21 12 14.7	-0.3
YAZI				S	Sn	21 12 31.5	-1.2
DAT	Datca	1.43	353	Pn	Pb	21 12 15.2	-0.3
DATC	Datca-Mugla	1.45	356	Pn	Pb	21 12 15.7	-0.2
DATC				Sn	Sg	21 12 36.2	+0.5
TURN	Turunc	1.51	14	P	Pb	21 12 17.2	+0.4
TURN				S	Sg	21 12 37.3	-0.1
IZZE	Mula-Seydike	1.62	45	P	Pn	21 12 17.5	+0.2
DALY	Dalyan (Mula)	1.66	24	Pn	Pb	21 12 18.5	-0.9
KSL	Kastellorizon	1.68	59	P	Pb	21 12 18.8	-0.9
KSL				S	Sb	21 12 40.0	-0.8
FETY	Fethiye	1.69	38	Pn	Pn	21 12 18.6	+0.4
FETY	Fethiye	1.69	38	P	Pg	21 12 20.6	-0.7
FETY				S	Sg	21 12 43.5	+0.4
ASTA	Astypalaia	1.70	317	P	Pn	21 12 18.5	+0.1
ASTA				S	Sn	21 12 40.2	0.0
AKAS	Kas	1.73	57	P	Pn	21 12 19.4	+0.5
AKAS				S	Sb	21 12 42.4	-0.2
BDRM	Kayabasi	1.78	351	P	Pn	21 12 19.7	+0.3
BDRM				S	Sn	21 12 39.6	-2.4
SABU	Mula-Dalaman	1.79	32	P	Pn	21 12 20.3	+0.7
SABU				S	Sg	21 12 48.5	+2.2
BODT	Bodrum	1.79	347	Pn	Pn	21 12 19.5	-0.2
YER	Yerkesik	1.86	12	Pn	Pn	21 12 21.6	+0.9
MLSB	Milas	1.98	359	Pn	Pn	21 12 23.1	+0.8
MULA	Mugla, Merkez-	1.99	12	P	Pb	21 12 24.2	-0.9
MULA				S	Sb	21 12 50.8	+0.9
CAME	Cameli-Denizli	2.04	36	Pn	Pn	21 12 23.6	+0.5
KNIK	Mula-Seydike	2.10	43	P	Pn	21 12 24.5	+0.5
CAEL	Denizli, Camel	2.19	34	P	Pn	21 12 26.2	+0.9
DDIM	Aydin, Didim	2.19	348	P	Pb	21 12 27.3	-1.2
DDIM				S	Sn	21 12 51.6	-0.6
DNZT	Denizli-Tavas-	2.20	26	P	Pb	21 12 27.3	-1.4
DNZT				S	Sb	21 12 55.8	-0.2
ELL	Elmali	2.23	49	P	Pn	21 12 26.6	+0.7
CMBO	Columbo, Santo	2.26	302	P	Pn	21 12 26.6	+0.5
CMBO				S	Sn	21 12 54.0	+0.1
TAVA	DENIZLI_Tavas	2.33	22	P	Pn	21 12 27.8	+0.7
TAVA				S	Sn	21 12 57.5	+1.6
AYDN	Tasoluk	2.35	2	P	Pn	21 12 28.4	+1.0
AYDN				S	Sn	21 12 55.8	-0.4
IDI	Anoyia	2.38	270	Pn	Pn	21 12 28.9	+1.1
IDI	Anoyia	2.38	270	P	Pn	21 12 28.2	+0.4
IDI				S	Sn	21 12 57.6	+0.7
GOLH	Golhisar	2.40	36	P	Pn	21 12 29.8	+1.8
DNIZ	Denizli-Tavas-	2.52	23	P	Pn	21 12 30.9	+1.2
DNIZ				S	Sn	21 13 02.0	+1.5
DNIZ				iAML	AML	21 13 14.0	
	comp=E,251nm,0.5s						
ESEN	Aydn-Nazilli	2.52	10	P	Pn	21 12 31.2	+1.5
ESEN				S	Sn	21 13 00.9	+0.5
INCE	Denizli-Bozkur	2.79	30	P	Pn	21 12 30.6	-2.8
IZMR	zmir-demi	2.83	2	P	Pn	21 12 34.5	+0.7
IZMR				S	Sn	21 13 06.7	-1.1
KIRA	zmir-Kiraz	2.92	9	P	Pn	21 12 35.7	+0.4
KIRA				S	Sn	21 13 10.9	+0.5
GVD	Gavdhos	3.08	262	P	Pn	21 12 38.0	+0.7
IMMV	Iera Moni Meta	3.12	274	P	Pn	21 12 38.7	+0.7
KARY	Karystos	3.83	316	P	Pn	21 12 48.1	+0.4
DION	Dionisos Attik	4.16	313	P	Pn	21 12 52.7	+0.5
VLI	Veliai	4.18	291	P	Pn	21 12 52.6	0.0
KYMI	Kymi, Euboea I	4.45	319	P	Pn	21 12 56.3	+0.1
ITM	Ithomi	5.10	293	P	Pn	21 13 05.4	+0.3

TXNET 29 21:23:57.4, 31°.6N±0°.6×104°.3W±0°.7, h6km±2km, ML2.0/8, 1C-2D, Error ellipse: s-maj=1.2km s-min=0.8km az=66.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.35	32	⇑P	Pg	21 24 04.2	-0.1
TPB11				S	Sg	21 24 09.3	+0.3
PECS	Pecos	0.42	129	P	Pg	21 24 05.8	+0.2
PECS				S	Sg	21 24 11.4	+0.3
PECS	Pecos	0.42	129	P	Pg	21 24 05.9	+0.3
TPB12	Southwest of T	0.49	149	⇓P	Pg	21 24 07.2	+0.3
TPB12				S	Sg	21 24 13.7	+0.4
TPB07	Mentone	0.50	96	P	Pg	21 24 07.6	+0.5
TPB07				S	Sg	21 24 14.0	+0.3
TPB10	Southeast of T	0.55	129	P	Pg	21 24 08.3	+0.2
GDL2	Guadalupe Moun	0.57	350	P	Pg	21 24 08.6	+0.2
PCOS	Crockett Middl	0.67	109	S	Sg	21 24 19.6	+0.5
CLNB	Carlsbad	0.70	27	P	Pg	21 24 10.7	-0.2
TPB01	Permian Basin	0.80	150	P	Pg	21 24 12.3	-0.5
TPB01				S	Sg	21 24 22.7	-0.4
TPB04	Verhalen	0.95	118	P	Pg	21 24 15.3	-0.4
TPB04				S	Sg	21 24 27.6	-0.5
MNTX	Cornudas Mount	0.96	274	P	Pg	21 24 16.1	+0.2
MNTX				S	Sg	21 24 28.9	+0.4
MNTX	Cornudas Mount	0.96	274	P	Pg	21 24 16.2	+0.2
NM01	Eunice	1.02	45	S	Sg	21 24 30.3	0.0
VHRN	Van Horn	1.05	217	P	Pg	21 24 17.4	-0.3
VHRN				S	Sb	21 24 32.6	+0.4
VHRN	Van Horn	1.05	217	P	Pg	21 24 17.5	-0.1
TPB05	Hovey Rd	1.07	132	S	Sg	21 24 31.5	-0.2
MNHN	Monahans	1.31	103	P	Pn	21 24 21.2	-1.1
MNHN				S	Sb	21 24 38.2	-1.2
MNHN	Monahans	1.31	103	P	Pn	21 24 21.2	-1.0
ALPN	Alpine	1.36	157	⇓P	Pn	21 24 22.1	-1.0
ALPN				S	Sb	21 24 39.6	-1.5
ALPN	Alpine	1.36	157	P	Pn	21 24 22.1	-1.0

MMRI	**Maumere**	**6.71 183**	Pn	**Pn**	**21 35 23.6**	**-0.3**
EDFI	**Ende, Flores**	**6.88 188**	P	**Pn**	**21 35 26.6**	**+0.3**
	0.1nm26nm,0.6s					
SOEI	**Soe**	**7.98 168**	Pn	**Pn**	**21 35 42.7**	**+1.3**
SWI	**Sorong**	**8.68 83**	P	**Pn**	**21 35 51.7**	**+0.7**
	44nm,0.6s					
DAV	**Davao City (W)**	**9.38 18**	LR	LR	21 40 01.8	
	comp=Z,30nm,18.8s,baz=220,slow=42					
FAKI	**Fak Fak**	**9.65 96**	Pn	**Pn**	**21 36 03.3**	**-1.0**
FAKI	**Fak Fak**	**9.65 96**	P	**Pn**	**21 36 03.9**	**-0.5**
FAKI	**Fak Fak**	**9.65 96**	P	**Pn**	**21 36 03.8**	**-0.6**
KNRA	**Kununurra**	**14.97 157**	Pn	**Pn**	**21 37 15.3**	**-1.6**
KNRA			IAmb	IAmb	21 37 46.1	
	comp=Z,18nm,1.4s					
WB0	**Warramunga Arr**	**21.16 148**		**P**	**21 38 29.9**	**-0.2**
WB0			IAmb	IAmb	21 38 38.6	
	comp=Z,9.6nm,0.8s					
WRA	**Warramunga Arr**	**21.27 148**	P	**P**	**21 38 31.1**	**-0.3**
WRA	**Warramunga Arr**	**21.27 148**	P	**P**	**21 38 31.6**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=332,slow=9.8,SNR=18					
	comp=Z,3.0nm,0.8s					
WR8	**Warramunga Arr**	**21.37 148**	P	**P**	**21 38 31.6**	**-0.8**
UBPT	**Khong Chiam**	**24.08 316**	P	**P**	**21 39 00.6**	**+0.4**
UBPT			IAmb	IAmb	21 39 01.8	
	comp=Z,6.7nm,0.6s					
AS31	**Alice Springs**	**24.24 154**	P	**P**	**21 39 02.0**	**+0.4**
ASAR	**Alice Springs**	**24.24 154**	P	**P**	**21 39 02.5**	**+0.8**
ASAR	**Alice Springs**	**24.24 154**	P	**P**	**21 39 01.8**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=336,slow=9.2,SNR=20					
	comp=Z,1.8nm,0.7s					
GSI	**Gunungsitoli**	**25.26 277**	P	**P**	**21 39 09.8**	**-1.2**
CM31	**Chiang Mai Arr**	**30.87 312**	P	**P**	**21 40 00.5**	**-0.6**
CM31			IAmb	IAmb	21 40 02.7	
	comp=Z,5.0nm,0.8s					
CMAR	**Chiang Mai Arr**	**30.87 312**	P	**P**	**21 40 01.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**30.87 312**	P	**P**	**21 40 02.0**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=138,slow=7.1,SNR=33					
	comp=Z,2.7nm,0.7s					
PZH	**PanZhiHua**	**34.70 326**	P	**P**	**21 40 37.0**	**+2.3**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,100nm,4.7s					
STKA	**Stephens Creek**	**34.77 151**	P	**P**	**21 40 34.3**	**-0.8**
STKA	**Stephens Creek**	**34.77 151**	P	**P**	**21 40 35.5**	**+0.5**
	comp=Z,2.9nm,1.0s,baz=327,slow=11,SNR=3.1					
	comp=Z,2.9nm,1.0s					
LSA	**Lhasa**	**43.50 319**	P	**P**	**21 41 49.6**	**+1.0**
LSA			IAmb	IAmb	21 41 50.9	
	comp=Z,3.2nm,0.4s					
HHC	**Hu-ho-hao-te**	**43.72 348**	*e*P	**P**	**21 41 51.0**	**+1.2**
HHC			pmax	pmax		
	comp=Z,16nm,0.7s					
HHC			pmax	pmax		
	comp=Z,100nm,4.9s					
GTA	**Gaotai**	**46.14 335**	*e*P	**P**	**21 42 11.0**	**+1.9**
GTA			sP	sP	21 42 45.5	+22
GTA			pmax	pmax		
	comp=Z,3.0nm,0.9s					
USRK	**Ussuriysk Ar.**	**46.65 9**	P	**P**	**21 42 11.3**	**-1.4**
MKAR	**Makanchi Array**	**60.03 329**	P	**P**	**21 43 50.1**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=134,slow=7.4,SNR=11					
MKAR			PcP	**PcP**	**21 44 36.0**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=120,slow=4.8,SNR=6.2					
	comp=Z,1.1nm,0.6s					
KBL	**Kabul**	**61.89 311**	P	**P**	**21 44 03.0**	**-1.3**
ZALV	**Zalesovo Beam**	**63.88 336**	P	**P**	**21 44 15.6**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=120,slow=14,SNR=4.3					
	comp=Z,1.0nm,0.7s					
KURBB	**Kurchatov Arra**	**64.42 331**	P	**P**	**21 44 18.9**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=136,slow=5.6,SNR=9.8					
KURBB			PcP	**PcP**	**21 44 53.6**	**-0.9**
	comp=Z,0.2nm,0.2s,baz=135,slow=3.7,SNR=4.1					
	comp=Z,1.1nm,0.8s					
KURK	**Kurchatov**	**64.43 331**	P	**P**	**21 44 19.1**	**-1.4**
KURK			IAmb	IAmb	21 44 21.1	
	comp=Z,3.3nm,0.9s					
BVAR	**Borovoye Array**	**69.91 329**	P	**P**	**21 44 54.8**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=99,slow=9.3,SNR=4.1					
	comp=Z,0.7nm,0.8s					
VNDA	**Vanda**	**78.43 172**	P	**P**	**21 45 44.5**	**-0.1**
VNDA	**Vanda**	**78.43 172**	P	**P**	**21 45 44.8**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=307,slow=7.6,SNR=2.3					
	comp=Z,0.4nm,0.7s					

RSNC 29 21:48:48.7±0.0, 7°N±1°×7°3W±°, h150km±2km, M3.2, mB4.4, mb3.5, ML3.0, Mw(mB)3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.19**	**187**	P	Pn	21 49 08.6	-0.7
BARC				S	Sn	21 49 24.2	-0.8
BRJC	**Barrancabermej**	**0.61**	**288**	P	Pn	21 49 10.5	-0.1
BRJC				S	Sn	21 49 27.4	+0.1
PAMC	**Pamplona, Colo**	**0.72**	**39**	P	Pn	21 49 11.6	-0.3
PAMC				S	Sn	21 49 28.8	-0.8
RUSC	**La Rusia**	**0.89**	**175**	P	Pn	21 49 12.5	-0.6
RUSC				S	Sn	21 49 31.4	-0.3
PTBC	**PUERTO BERRIO,**	**1.31**	**260**	P	Pn	21 49 15.1	-1.3
PTBC				S	Sn	21 49 36.5	-1.0
TAMC	**Tame, Arauca**	**1.40**	**104**	P	Pn	21 49 17.0	-0.3
TAMC				S	Sn	21 49 39.2	0.0
OCAC	**Ocana**	**1.46**	**354**	P	Pn	21 49 16.9	-1.1
OCAC				S	Sn	21 49 39.5	-1.0
ZARC	**Zaragoza, Cauc**	**1.83**	**293**	P	Pn	21 49 20.8	-1.1
ZARC				S	Sn	21 49 47.2	-0.1
NORC	**Norcasia**	**2.08**	**235**	P	Pn	21 49 24.4	-0.5
NORC				S	Sn	21 49 52.7	0.0
CHIC	**Chingaza**	**2.21**	**195**	P	Pn	21 49 26.7	-0.1
CHIC				S	Sn	21 49 55.9	-0.1
ROSC	**El Rosal**	**2.25**	**211**	P	Pn	21 49 28.3	+1.1
ROSC				S	Sn	21 49 59.2	+2.5
CVER	**Cruz Verde, Cu**	**2.42**	**202**	P	Pn	21 49 30.0	+0.6
CVER				S	Sn	21 50 01.9	+1.3
UREC	**San Jos de Ur**	**2.54**	**292**	P	Pn	21 49 28.3	-2.1
UREC				S	Sn	21 50 00.1	-2.4
GUY2C	**Guyana, Caldas**	**2.68**	**235**	P	Pn	21 49 32.6	0.0
GUY2C				S	Sn	21 50 06.0	-0.3
PTGC	**Puerto Gaitan,**	**2.76**	**158**	P	Pn	21 49 31.6	-1.5
PTGC				S	Sn	21 50 04.8	-2.6
CBOC	**Ciudad Bolivar**	**2.98**	**252**	P	Pn	21 49 36.2	+0.2
CBOC				S	Sn	21 50 12.7	+0.2
DBBC	**Dabeiba**	**3.04**	**275**	P	Pn	21 49 35.9	-0.7
DBBC				S	Sn	21 50 11.6	-2.1
ANIL	**Santa Ana**	**3.19**	**225**	P	Pn	21 49 40.1	+1.3
ANIL				S	Sn	21 50 19.1	+1.7
ARGC	**Ariguani, Magd**	**3.24**	**341**	P	Pn	21 49 38.7	-0.5
ARGC				S	Sn	21 50 17.9	-0.4
SDV	**Santo Domingo**	**3.26**	**50**	P	Pn	21 49 38.2	-1.4
SDV				S	Sn	21 50 15.4	-3.6
PRAC	**Prado**	**3.50**	**210**	P	Pn	21 49 42.4	-0.1
PRAC				S	Sn	21 50 24.2	0.0
ORTC	**Ortega, Tolima**	**3.53**	**216**	P	Pn	21 49 42.9	0.0
ORTC				S	Sn	21 50 26.4	+1.5
APAC	**Apartado, Choc**	**3.57**	**288**	P	Pn	21 49 42.3	-1.1
APAC				S	Sn	21 50 26.3	+0.5
SJCC	**San Jacinto, C**	**3.69**	**327**	P	Pn	21 49 42.2	-2.8
SJCC				S	Sn	21 50 23.7	-4.9
URMC	**La Uribe, Meta**	**3.71**	**199**	P	Pn	21 49 45.6	+0.2
URMC				S	Sn	21 50 29.2	-0.1
YOTC	**Yotoco, Valle**	**4.22**	**229**	P	Pn	21 49 51.3	-0.6
YOTC				S	Sn	21 50 42.9	+1.8
CRJC	**Cerrejon, Guaj**	**4.22**	**4**	P	Pn	21 49 48.8	-3.2
CRJC				S	Sn	21 50 37.4	-3.8
SMRC	**Santa Marta, M**	**4.48**	**347**	P	Pn	21 49 53.9	-1.4
SMRC				S	Sn	21 50 41.6	-5.6
MACC	**Macarena, Meta**	**4.66**	**188**	P	Pn	21 49 55.4	-2.2
MACC				S	Sn	21 50 46.6	-4.8
MALC	**Bahia Malaga**	**4.98**	**237**	P	Pn	21 50 02.5	+0.6
MALC				S	Sn	21 51 00.3	+1.2
URIC	**Uribia, Colomb**	**5.02**	**13**	P	Pn	21 49 59.1	-3.4
POPC	**Popayan, Colom**	**5.48**	**220**	P	Pn	21 50 10.7	+2.0
FLOC	**Florencia**	**5.73**	**206**	P	Pn	21 50 10.9	-1.0
	11nm,1.7s					
BBAC	**Balboa, Cauca**	**6.24**	**221**	P	Pn	21 50 19.6	+0.7

*IDC **29** 21:56:35.2±1.0, 13°.2N×50°.60E, h0km, mb3.9/16, mbtmp3.9/17, ML3.1/1, MS3.5/28, Error ellipse: s-maj=25.1km s-min=18.5km az=23.0*
*NEIC **29** 21:56:38.9±2.2, 13°.4N±0°.2×50°.5E±0°.1, h10km±2km, mb4.3/16, Error ellipse: s-maj=29.9km s-min=18.4km az=167.0*

ISC 29 21:56:38.7±0.9, 13°3N±0°.1×50°60E±0°10, h21km, n59, σ1ᵗ11/38, mb4.1/22, MS3.5/28, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.77**	**258**		**Pn**	**21 58 31.2**	**+0.5**
ATD	**Arta Tunnel**	**7.77**	**258**	Pn	**Pn**	**21 58 31.6**	**+0.9**
	0.3nm,0.3s,baz=358,slow=4.8,SNR=23						
ATD				LR	LR	22 00 49.4	
	comp=Z,14nm,19.7s,baz=22,slow=33						
	0.8nm,0.3s						
EIL	**Elat**	**21.83**	**321**	LR	LR	22 09 25.0	
	comp=Z,87nm,20.7s,baz=136,slow=35						
ASF	**Jabal al Asfar**	**22.62**	**329**	P	**P**	**22 01 39.3**	**+0.9**
	0.5nm,0.3s,baz=136,slow=3.4,SNR=4.7						
ASF				LR	LR	22 10 13.8	
	comp=Z,76nm,19.7s,baz=166,slow=36						
	0.5nm,0.3s						
GHAJ	**Ghor Haditha**	**22.66**	**325**	P	**P**	**22 01 35.0**	**-3.6**
GHAJ				IAmb	IAmb	22 01 54.8	
	comp=Z,8.5nm,1.1s						
HRA	**Herat**	**23.53**	**25**	P	**P**	**22 01 47.5**	**-0.3**
HRA				IAmb	IAmb	22 01 57.1	
	comp=Z,13nm,1.3s						
MMAI	**Mount Meron Ar**	**24.06**	**327**	LR	LR	22 12 03.9	
	comp=Z,67nm,18.3s,baz=137,slow=39						
MARD	**Mardin**	**25.50**	**342**	P	**P**	**22 02 06.0**	**+0.2**
KBL	**Kabul**	**26.98**	**35**	P	**P**	**22 02 21.4**	**+2.1**
GNI	**Garni**	**27.27**	**350**	P	**P**	**22 02 23.5**	**+1.7**
GNI				IAmb	IAmb	22 02 33.6	
	comp=Z,7.0nm,0.9s						
GNI	**Garni**	**27.27**	**350**	LR	LR	22 14 55.2	
	comp=Z,171nm,21.1s,baz=170,slow=40						
SIMJ	**Simiganj**	**30.09**	**30**	P	**P**	**22 02 47.8**	**+0.8**
SIMJ				IAmb	IAmb	22 02 49.4	
	comp=Z,4.0nm,1.1s						
BRTR	**Keskin Array B**	**30.30**	**334**	LR	LR	22 15 50.8	
	comp=Z,63nm,21.9s,baz=136,slow=38						
ANTO	**Ankara**	**30.79**	**333**	P	**P**	**22 02 54.7**	**+1.7**
KBZ	**Khabaz**	**31.06**	**349**	P	**P**	**22 02 54.3**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=155,slow=6.9,SNR=5.4						
KBZ				LR	LR	22 17 51.1	
	comp=Z,148nm,19.5s,baz=169,slow=41						
	comp=Z,1.6nm,0.8s						
KVAR	**Kislovodsk Arr**	**31.32**	**349**	LR	LR	22 17 19.1	
	comp=Z,76nm,19.9s,baz=128,slow=40						
OPO	**Ambohidratompo**	**31.82**	**186**	LR	LR	22 15 04.5	
	comp=Z,85nm,19.2s,baz=180,slow=35						
DRK	**Karamyk**	**32.11**	**32**	P	**P**	**22 03 06.0**	**+1.1**
NRN	**Naryn**	**35.74**	**34**	P	**P**	**22 03 37.7**	**+1.3**
NRN				IAmb	IAmb	22 03 49.0	
	comp=Z,5.7nm,1.3s						
AAK	**Ala-Archa**	**35.82**	**31**	LR	LR	22 20 57.7	
	comp=Z,39nm,19.6s,baz=236,slow=41						
LSZ	**Lusaka**	**36.01**	**219**	LR	LR	22 19 07.7	
	comp=Z,123nm,18.5s,baz=44,slow=38						
BOOM	**Boomskoye usch**	**36.45**	**32**	P	**P**	**22 03 44.0**	**+1.6**
AB31	**Akbulak array**	**36.70**	**10**	P	**P**	**22 03 44.0**	**-0.1**
ABKAR	**Akbulak array**	**36.70**	**10**	P	**P**	**22 03 44.2**	**+0.1**
ABKAR	**Akbulak array**	**36.70**	**10**	P	**P**	**22 03 44.4**	**+0.2**
ABKAR				IAmb	IAmb	22 03 51.9	
	comp=Z,3.9nm,1.1s						
MLR	**Muntele Rosu**	**38.32**	**332**	LR	LR	22 20 52.8	
	comp=Z,53nm,21.2s,baz=151,slow=38						
BRDH	**Bariadhala**	**40.03**	**71**	LR	LR	22 19 31.0	
	comp=Z,90nm,18.4s,baz=157,slow=34						
BURAR	**Bucovina Array**	**40.26**	**333**	P	**P**	**22 04 15.0**	**+0.7**
AKASG	**Malin Array Be**	**41.18**	**339**	P	**P**	**22 04 22.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=146,slow=6.9,SNR=5.1						
AKASG				LR	LR	22 24 22.6	
	comp=Z,31nm,18.0s,baz=122,slow=40						
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**42.68**	**18**	P	**P**	**22 04 33.8**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=190,slow=7.4,SNR=6.9						
BVAR				LR	LR	22 24 48.6	
	comp=Z,49nm,19.6s,baz=208,slow=40						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**42.70**	**32**	P	**P**	**22 04 34.2**	**+0.1**
MKAR	**Makanchi Array**	**42.70**	**32**	P	**P**	**22 04 34.5**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=222,slow=7.8,SNR=14						
	comp=Z,0.6nm,0.5s						
ARTI	**Arti**	**43.44**	**6**	LR	LR	22 25 59.9	
	comp=Z,56nm,20.5s,baz=183,slow=41						
KURBB	**Kurchatov Arra**	**43.63**	**26**	P	**P**	**22 04 42.1**	**+0.5**
	comp=Z,0.7nm,0.2s,baz=226,slow=8.2,SNR=5.3						
	comp=Z,0.7nm,0.2s						
LBTB	**Lobatse**	**45.20**	**213**	LR	LR	22 22 20.3	
	comp=Z,78nm,20.0s,baz=67,slow=34						
TSUM	**Tsumeb**	**45.82**	**226**	LR	LR	22 24 29.5	
	comp=Z,75nm,18.0s,baz=351,slow=36						
CMAR	**Chiang Mai Arr**	**46.68**	**77**	P	**P**	**22 05 05.6**	**-0.8**
	comp=Z,2.4nm,0.3s,baz=220,slow=8.2,SNR=4.3						
CMAR				LR	LR	22 24 45.8	
	comp=Z,9.6nm,18.8s,baz=190,slow=36						
	comp=Z,2.4nm,0.3s						
GERES	**GERESS Array B**	**46.72**	**327**	P	**P**	**22 05 04.2**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=145,slow=4.9,SNR=4.9						
	comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**47.55**	**276**	P	**P**	**22 05 13.6**	**+0.5**
BOSA	**Boshof**	**48.32**	**210**	LR	LR	22 24 33.7	
	comp=Z,64nm,18.7s,baz=351,slow=35						
ZALV	**Zalesovo Beam**	**48.71**	**26**	P	**P**	**22 05 21.0**	**-0.5**
ZALV	**Zalesovo Beam**	**48.71**	**26**	P	**P**	**22 05 20.6**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=235,slow=7.7,SNR=7.1						
	comp=Z,1.1nm,0.6s						
SENIN	**Lac Senin/Sane**	**49.06**	**321**	P	**P**	**22 05 25.0**	**+0.3**
FINES	**FINESS Array B**	**51.27**	**345**	P	**P**	**22 05 40.1**	**-0.7**
FINES	**FINESS Array B**	**51.27**	**345**	P	**P**	**22 05 40.2**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=142,slow=14,SNR=5.1						
	comp=Z,1.8nm,0.8s						
SUR	**Sutherland**	**53.60**	**211**	LR	LR	22 27 22.4	
	comp=Z,58nm,21.4s,baz=42,slow=34						
HFS	**Hagfors**	**54.05**	**338**	P	**P**	**22 06 00.7**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=125,slow=13,SNR=5.6						
HFS				LR	LR	22 32 38.8	
	comp=Z,31nm,21.4s,baz=158,slow=40						
	comp=Z,1.0nm,0.6s						
ESDC	**Sonseca Array**	**54.50**	**309**	P	**P**	**22 06 05.3**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=94,slow=6.8,SNR=8.3						
	comp=Z,1.3nm,0.9s						
NOA	**NORSAR Array B**	**55.56**	**338**	LR	LR	22 33 33.6	
	comp=Z,25nm,19.0s,baz=285,slow=40						
SONM	**Songino Array**	**57.50**	**41**	P	**P**	**22 06 26.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=251,slow=5.3,SNR=4.8						
SONM				LR	LR	22 34 18.0	
	comp=Z,32nm,18.6s,baz=254,slow=39						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**58.42**	**350**	LR	LR	22 34 28.9	
	comp=Z,57nm,20.5s,baz=128,slow=39						
EKA	**Eskdalemuir Ar**	**58.93**	**327**	P	**P**	**22 06 35.0**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=118,slow=7.1,SNR=6.6						
	comp=Z,0.8nm,0.6s						
NRIK	**Noril'sk**	**60.70**	**14**	LR	LR	22 37 54.2	
	comp=Z,64nm,18.3s,baz=217,slow=41						
SPITS	**Spitsbergen Ar**	**67.09**	**353**	LR	LR	22 40 19.1	
	comp=Z,37nm,19.2s,baz=179,slow=39						
YAK	**Yakutsk**	**73.25**	**29**	LR	LR	22 45 25.1	
	comp=Z,25nm,18.5s,baz=330,slow=40						
KLR	**Kul'dur**	**74.31**	**42**	LR	LR	22 45 43.8	
	comp=Z,26nm,18.1s,baz=252,slow=40						
WRA	**Warramunga Arr**	**88.71**	**111**	P	**P**	**22 09 30.9**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=302,slow=3.6,SNR=7.2						
	comp=Z,2.1nm,0.9s						
ASAR	**Alice Springs**	**89.25**	**114**	P	**P**	**22 09 33.9**	**0.0**
	comp=Z,1.4nm,0.9s,baz=301,slow=4.9,SNR=7.6						
	comp=Z,1.4nm,0.9s						
PLCA	**Paso Flores**	**122.07**	**230**	PKP	**PKPdf**	**22 15 31.9**	**-0.2**
	comp=Z,3.9nm,1.1s,baz=48,slow=6.4,SNR=3.1						

*IDC **29** 22:24:13.3±1.2, 32°.48S×71°.90W, h0km, mb4.2/3, mbtmp4.0/7, ML4.1/3, MS3.1/2, Error ellipse: s-maj=37.4km s-min=30.1km az=105.0*
*SJA **29** 22:24:14.3±0.8, 32°.56S×71°.91W, h13km±2km, ML4.1, MW4.0*
*NEIC **29** 22:24:16.6±1.3, 32°.59S±0°.03×71°.94W±0°.07, h18km±5km, mb4.4/8, Error ellipse: s-maj=8.7km s-min=4.3km az=77.0*
*GUC **29** 22:24:18.6±0.8, 32°.65S×71°.68W, h29km±3km, ML4.2*

ISC 29 22:24:16.2±1.5, 32°59S±0°.02×71°87W±0°.04, h18km±7km, n112, σ1ᵗ30/135, mb4.4/6, 1C-13D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.48**	**157**	Pg	**Pb**	**22 24 27.3**	**+1.3**
VA01				Sg	**Sb**	**22 24 33.8**	**+1.0**
VA01	**Torpederas**	**0.48**	**157**	*e*P	**Pb**	**22 24 27.2**	**+1.1**
VA01				*e*S	**Sb**	**22 24 33.9**	**+1.2**
VA01	**Torpederas**	**0.48**	**157**	*e*P	**Pb**	**22 24 26.9**	**+0.8**
VA01				*e*S	**Pb**	**22 24 27.4**	**+1.3**
VA01				IAML		22 24 34.7	
	comp=Z,6μm,0.1s						
VA06	**Catapilco**	**0.48**	**87**		**Pb**	**22 24 26.9**	**+0.7**
VA06					**Sg**	**22 24 32.9**	**+0.2**
VA06	**Catapilco**	**0.48**	**87**	*i* P	**Pb**	**22 24 26.9**	**+0.7**
VA06				*e*S	**Sg**	**22 24 32.8**	**+0.2**
VA06				IAML		22 24 34.0	
	comp=E,64μm,0.4s						
ROCH	**El Roble**	**0.82**	**118**	⇓*i*P	**Pb**	**22 24 32.4**	**+0.3**
ROCH				⇓*i*P	**Pb**	**22 24 32.4**	**+0.3**
ROCH				*e*S	**Sb**	**22 24 42.6**	**-0.3**
ROCH				*e*S	**Sg**	**22 24 42.8**	**-0.4**
MT02	**Curacav**	**0.91**	**138**		**Pb**	**22 24 33.5**	**-0.1**
MT02				Sg	**Sb**	**22 24 44.7**	**-0.6**
MT02	**Curacav**	**0.91**	**138**	*i* P	**Pb**	**22 24 33.8**	**+0.2**
MT02				*e*S	**Sb**	**22 24 44.8**	**-0.5**
MT02	**Curacav**	**0.91**	**138**	*e*P	**Pb**	**22 24 32.9**	**-0.6**
MT02				*e*S	**Sb**	**22 24 45.2**	**-0.2**
MT02				IAML		22 24 48.4	
	comp=Z,3μm,0.5s						
VA05	**Santo Domingo**	**1.09**	**169**		**Pb**	**22 24 37.0**	**+0.5**
VA05	**Santo Domingo**	**1.09**	**169**	*e*P	**Pb**	**22 24 37.2**	**+0.6**
VA05				IAML		22 24 58.8	
	comp=E,9μm,0.3s						
VA03	**San Esteban**	**1.13**	**99**	Pn	**Pn**	**22 24 36.6**	**-0.5**
VA03	**San Esteban**	**1.13**	**99**	⇓*i*P	**Pn**	**22 24 36.8**	**-0.5**
VA03				*e*S	**Sb**	**22 24 50.9**	**-0.7**
VA03				IAML		22 24 51.6	
	comp=E,13μm,0.2s						
VA03	**San Esteban**	**1.13**	**99**	*e*P	**Pn**	**22 24 36.7**	**-0.5**
VA03				*e*S	**Sn**	**22 24 52.5**	**+0.2**
VA03				IAML		22 24 54.3	
	comp=Z,3μm,0.1s						
PEL	**Peldehue**	**1.14**	**120**	*e*P	**Pn**	**22 24 37.4**	**0.0**
PEL				*e*S	**Sb**	**22 24 51.5**	**-0.5**
PEL				IAML		22 24 55.5	
	comp=E,13μm,0.2s						
MT05	**Renca**	**1.25**	**131**	Pn	**Pn**	**22 24 39.1**	**+0.3**
MT05	**Renca**	**1.25**	**131**	⇓*i*P	**Pn**	**22 24 39.2**	**+0.4**
MT05				IAML		22 24 58.5	
	comp=E,11μm,0.3s						
MT10	**Hacienda Santa**	**1.31**	**122**	⇓*i*P	**Pn**	**22 24 40.3**	**+0.4**
MT10				IAML		22 24 59.3	
	comp=N,9μm,0.3s						
MT01	**Popeta**	**1.38**	**158**	Pn	**Pn**	**22 24 41.1**	**+0.5**
MT01	**Popeta**	**1.38**	**158**	⇑*i*P	**Pb**	**22 24 41.4**	**0.0**
MT01				IAML		22 25 01.3	
	comp=E,6μm,0.2s						
MT01	**Popeta**	**1.38**	**158**	*e*P	**Pn**	**22 24 40.7**	**+0.2**
MT01				*e*S	**Sb**	**22 25 00.2**	**+1.4**
MT01				IAML		22 25 03.5	
	comp=Z,2μm,0.5s						
MT14	**Cerro Calı̣n**	**1.38**	**126**	⇓*i*P	**Pn**	**22 24 41.4**	**+0.7**
MT14				IAML		22 25 05.8	
	comp=N,7μm,0.4s						
MT09	**Talagante**	**1.40**	**148**	Pn	**Pn**	**22 24 41.7**	**+0.7**
MT09	**Talagante**	**1.40**	**148**	⇓*i*P	**Pb**	**22 24 41.9**	**0.0**
MT09				IAML		22 25 07.7	
	comp=N,7μm,0.2s						
MT16	**CCHEN**	**1.41**	**127**	Pn	**Pn**	**22 24 41.7**	**+0.6**
MT16	**CCHEN**	**1.41**	**127**	⇓*i*P	**Pn**	**22 24 41.9**	**+0.8**
MT03	**Universidad Ad**	**1.46**	**129**	Pn	**Pn**	**22 24 42.5**	**+0.7**
MT03	**Universidad Ad**	**1.46**	**129**	⇓*i*P	**Pn**	**22 24 42.6**	**+0.9**
MT03				IAML		22 25 06.3	
	comp=N,10μm,0.2s						
MT03	**Universidad Ad**	**1.46**	**129**	*e*P	**Pb**	**22 24 42.8**	**-0.1**
MT03				*e*S	**Sb**	**22 25 01.8**	**+0.7**
MT03				IAML		22 25 03.1	
	comp=Z,4μm,0.2s						
MT15	**Las Vizcachas**	**1.53**	**132**	⇓*i*P	**Pn**	**22 24 43.6**	**+0.9**
MT15				IAML		22 25 07.2	
	comp=E,9μm,0.3s						
CO02	**Combarbal**	**1.56**	**28**	Pn	**Pn**	**22 24 44.1**	**+0.9**
CO02	**Combarbal**	**1.56**	**28**	*i* P	**Pn**	**22 24 44.0**	**+0.9**
CO02	**Combarbal**	**1.56**	**28**	*e*P	**Pn**	**22 24 43.4**	**+0.2**
CO02				*e*S	**Sb**	**22 25 04.9**	**+0.7**
CO02				IAML		22 25 07.2	
	comp=Z,3μm,0.5s						
MT12	**Pirque**	**1.59**	**136

BI02	**San Fabin de**	**4.10**	**173**	Pn		**Pn**		**22 25 19.3**	**+1.2**
BI02	**San Fabin de**	**4.10**	**173**	*e*P		**Pn**		**22 25 18.9**	**+0.9**
BI02				IAML				22 26 37.3	
comp=Z,147nm,0.7s									
BI05	**Punta Hualpn**	**4.29**	**194**	Pn		**Pn**		**22 25 21.0**	**+0.3**
AC04	**Llanos de Chal**	**4.42**	**9**	Pn		**Pn**		**22 25 21.8**	**-0.6**
AC04	**Llanos de Chal**	**4.42**	**9**	*e*P		**Pn**		**22 25 22.2**	**-0.2**
AC04				*e*S		**Sb**		**22 26 31.6**	**+5.3**
AC04				IAML				22 26 36.1	
comp=Z,233nm,0.7s									
ACHE	**Chepes**	**4.65**	**74**	*e*P		**Pn**		**22 25 28.5**	**+2.8**
ACHE				*e*S		**Sn**		**22 26 24.9**	**+5.5**
GO03	**Copiapo**	**5.17**	**16**	Pn		**Pn**		**22 25 32.7**	**-0.1**
GO03	**Copiapo**	**5.17**	**16**	*e*P		**Pn**		**22 25 33.3**	**+0.5**
GO03				IAML				22 26 59.4	
comp=Z,234nm,0.5s									
AC06	**Mina Casimiro**	**5.37**	**15**	Pn		**Pn**		**22 25 35.2**	**-0.3**
H03N1	**Juan Fernandez**	**5.98**	**260**	Pn		**Pn**		**22 25 45.4**	**+1.9**
baz=194,slow=18									
H03N1				T		T		22 32 15.9	
baz=88,slow=74,SNR=1140									
H03N3	**Juan Fernandez**	**5.99**	**260**	Pn		**Pn**		**22 25 45.3**	**+1.6**
baz=194,slow=18									
H03N3				T		T		22 32 15.1	
baz=88,slow=74,SNR=1076									
H03N2	**Juan Fernandez**	**5.99**	**260**	Pn		**Pn**		**22 25 45.6**	**+1.8**
baz=194,slow=18									
H03N2				T		T		22 32 14.3	
baz=88,slow=74,SNR=915									
H03S3	**Juan Fernandez**	**6.03**	**256**	Pn		**Pn**		**22 25 45.1**	**+0.9**
baz=287,slow=74									
H03S3				T		T		22 32 08.2	
baz=85,slow=75,SNR=170									
H03S1	**Juan Fernandez**	**6.03**	**256**	Pn		**Pn**		**22 25 44.9**	**+0.6**
H03S1				T		T		22 32 09.2	
baz=85,slow=75,SNR=140									
H03S2	**Juan Fernandez**	**6.04**	**256**	Pn		**Pn**		**22 25 45.0**	**+0.6**
baz=13,slow=74									
H03S2				T		T		22 32 10.0	
baz=85,slow=75,SNR=270									
AC02	**Maricunga**	**6.21**	**23**	Pn		**Pn**		**22 25 47.6**	**+0.2**
AC01	**Pan de Azucar**	**6.51**	**10**	Pn		**Pn**		**22 25 49.1**	**-2.0**
GO02	**Mina Guanaco**	**7.66**	**16**	Pn		**Pn**		**22 26 04.0**	**-3.2**
PLCA	**Paso Flores**	**8.20**	**173**	Pn		**Pn**		**22 26 15.7**	**+1.3**
comp=Z,0.6nm,0.3s,baz=332,slow=12,SNR=18									
PLCA				LR		LR		22 29 33.8	
comp=Z,89nm,18.1s,baz=328,slow=39									
comp=Z,1.9nm,0.4s									
TRQA	**Tornquist**	**9.75**	**127**	Pn		**Pn**		**22 26 36.8**	**+1.2**
CPUP	**Villa Florida**	**14.11**	**68**	Pn		**Pn**		**22 27 35.8**	**+0.6**
comp=Z,0.3nm,0.3s,baz=222,slow=8.2,SNR=3.5									
comp=Z,1.0nm,0.4s									
PLTB	**Pedras Altas**	**15.49**	**92**	Pn		**Pn**		**22 27 54.6**	**+0.7**
PLTB				IAmb		IAmb		22 28 05.1	
comp=Z,20nm,1.5s									
LPAZ	**La Paz**	**16.58**	**13**	Pn		**Pn**		**22 28 07.9**	**-0.5**
comp=Z,0.2nm,0.3s,baz=172,slow=7.6,SNR=9.0									
comp=Z,1.2nm,0.5s									
ITAB	**Concordia**	**17.92**	**78**			**P**		**22 28 25.8**	**+0.7**
SIV	**San Ignacio**	**19.21**	**33**	P		**P**		**22 28 38.6**	**-0.7**
comp=Z,1.4nm,0.6s,baz=212,slow=13									
SIV				LR		LR		22 37 30.2	
comp=Z,77nm,20.4s,baz=102,slow=42									
PTLB	**Pontes e Lacer**	**20.61**	**37**			**P**		**22 28 54.5**	**0.0**
BDFB	**Brasilia**	**27.44**	**58**			**P**		**22 30 00.2**	**-1.1**
comp=Z,5.0nm,0.8s,baz=226,slow=5.8,SNR=5.3									
comp=Z,5.0nm,0.8s									
BOAV	**Boa Vista**	**36.41**	**19**	P		**P**		**22 31 20.2**	**+0.4**
BOAV				IAmb		IAmb		22 31 21.1	
comp=Z,4.4nm,1.0s									
TXAR	**Lajitas Array**	**68.57**	**330**	P		**P**		**22 35 16.6**	**-1.4**
comp=Z,0.6nm,0.8s,baz=134,slow=3.2,SNR=2.3									
comp=Z,0.6nm,0.8s									
WVT	**Waverly**	**69.97**	**346**	P		**P**		**22 35 26.9**	**+0.5**
WVT				IAmb		IAmb		22 35 27.5	
comp=Z,5.9nm,0.9s									
DBIC	**Dimbokro**	**74.60**	**72**	P		**P**		**22 35 54.4**	**-0.1**
DBIC	**Dimbokro**	**74.60**	**72**	P		**P**		**22 35 53.8**	**-0.8**
comp=Z,5.4nm,0.9s,baz=192,slow=3.7,SNR=4.7									
comp=Z,5.4nm,0.9s									
KDWAN	**Kaudwane**	**82.92**	**113**	P		**P**		**22 36 40.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**83.60**	**70**	P		**P**		**22 36 43.0**	**-0.8**
TORD				IAmb		IAmb		22 36 44.3	
comp=Z,3.8nm,0.9s									
TORD	**Torodi Ar. Bea**	**83.60**	**70**	P		**P**		**22 36 43.2**	**-0.6**
comp=Z,90nm,0.4s,baz=237,slow=6.7,SNR=2.0									
H11S2	**WAKE ISLAND Hyl**	**25.92**	**270**	T		T		01 02 16.8	
baz=118,slow=75,SNR=133									
H11S1	**WAKE ISLAND Hyl**	**25.93**	**270**	T		T		01 02 16.8	
baz=118,slow=75,SNR=154									
H11S3	**WAKE ISLAND Hyl**	**25.94**	**270**	T		T		01 02 17.1	
baz=118,slow=75,SNR=126									
H11N3	**WAKE ISLAND Hyl**	**26.30**	**272**	T		T		01 02 45.2	
baz=113,slow=78,SNR=21									
H11N1	**WAKE ISLAND Hyl**	**26.31**	**272**	T		T		01 02 45.6	
baz=113,slow=78,SNR=10									
H11N2	**WAKE ISLAND Hyl**	**26.32**	**272**	T		T		01 02 46.4	
baz=113,slow=78,SNR=38									
BVAR	**Borovoye Array**	**146.14**	**42**	PKPbc		**PKPab**		**22 43 55.5**	**0.0**
comp=Z,1.1nm,0.5s,baz=310,slow=2.8,SNR=4.8									
KURBB	**Kurchatov Arra**	**151.73**	**42**	PKPbc		**PKPbc**		**22 44 08.9**	**-0.3**
comp=Z,2.3nm,0.8s,baz=296,slow=2.9,SNR=18									
ZALV	**Zalesovo Beam**	**152.95**	**31**	PKPbc		**PKPbc**		**22 44 12.1**	**+0.2**
comp=Z,2.1nm,0.7s,baz=316,slow=4.3,SNR=10									
MKAR	**Makanchi Array**	**155.71**	**47**	PKPab		**PKPab**		**22 44 34.8**	**-0.4**
comp=Z,0.9nm,0.7s,baz=280,slow=4.0,SNR=5.7									

*NEIC **29** 22:26:36.8±2.0, 53°.24S±0°.07×45°.1W±0°.1, h10km±1km, mb4.7/24, Error ellipse: s-maj=13.5km s-min=10.5km az=312.0*

*IDC **29** 22:26:36.1±0.7, 53°.13S×44°.93W, h0km, mb4.2/10, mbtmp4.2/10, MS3.9/29, Error ellipse: s-maj=24.2km s-min=15.7km az=60.0*

ISC 29 22:26:37.0±0.5, 53°.21S±0°.08×45°.06W±0°.09, h10km, n98, σ0§88/69, mb4.6/18, MS3.9/29, 5D, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.20**	**105**	Pn	**Pn**	**22 27 53.1**	**-1.6**
EFI	**East Falkland**	**8.09**	**276**	Pn	**Pn**	**22 28 32.9**	**-1.5**
MG03	**Isla Dawson**	**15.10**	**257**	Pn	**Pn**	**22 30 07.2**	**-2.9**
MG03				IAmb	IAmb	22 30 31.0	
comp=Z,37nm,1.1s							
TRQA	**Tornquist**	**19.15**	**316**	P	**P**	**22 31 00.6**	**+0.3**
TRQA				IAmb	IAmb	22 31 05.1	
comp=Z,40nm,0.7s							
LL01	**San Ignacio de**	**21.20**	**290**	P	**P**	**22 31 21.8**	**-0.6**
PLCA	**Paso Flores**	**21.27**	**296**	P	**P**	**22 31 24.1**	**+0.8**
PLCA	**Paso Flores**	**21.27**	**296**	P	**P**	**22 31 24.7**	**+1.3**
comp=Z,6.2nm,0.8s,baz=145,slow=9.2,SNR=8.3							
PLCA				LR	LR	22 40 01.9	
comp=Z,465nm,20.6s,baz=128,slow=38							
comp=Z,6.2nm,0.8s							
PLTB	**Pedras Altas**	**22.31**	**341**	P	**P**	**22 31 34.9**	**+0.4**
PLTB				IAmb	IAmb	22 31 44.7	
comp=Z,22nm,0.9s							
PLTB	**Pedras Altas**	**22.31**	**341**	*e*P	**P**	**22 31 35.0**	**+0.5**
CPSB	**Cacapava Do Su**	**23.59**	**342**	*e*P	**P**	**22 31 48.6**	**+0.8**
VNA3	**Neumayer Olymp**	**23.86**	**152**	⇓P	**P**	**22 31 50.2**	**+0.2**
comp=Z,33nm,0.8s							
VNA1	**Neumayer--Stat**	**23.97**	**151**	⇓P	**P**	**22 31 51.8**	**+0.7**
comp=Z,90nm,1.0s							
VNA2	**Neumayer--Watz**	**24.36**	**151**	⇓P	**P**	**22 31 54.4**	**-0.3**
comp=Z,27nm,0.8s,baz=302,slow=13							
BELA	**Belgrano 2**	**25.06**	**175**	P	**P**	**22 32 01.2**	**+0.3**
SNAA	**Sanae**	**26.00**	**151**	P	**P**	**22 32 08.2**	**-1.4**
SNAA				IAmb	IAmb	22 32 28.4	
comp=Z,14nm,1.0s							
SNAA	**Sanae**	**26.00**	**151**	⇓P	**P**	**22 32 10.1**	**+0.5**
comp=Z,68nm,1.1s							
SNAA	**Sanae**	**26.00**	**151**	P	**P**	**22 32 10.1**	**+0.5**
comp=Z,3.4nm,1.0s,baz=323,slow=14,SNR=4.4							
SNAA				LR	LR	22 40 14.3	
comp=Z,332nm,20.3s,baz=284,slow=31							
comp=Z,3.4nm,1.0s							
TROLL	**Troll, Antarti**	**27.70**	**150**	⇓P	**P**	**22 32 25.8**	**+0.8**
comp=Z,279nm,0.9s							
CPUP	**Villa Florida**	**28.37**	**336**	LR	LR	22 47 27.8	
comp=Z,163nm,18.0s,baz=165,slow=44							
BB19B	**Bebedouro**	**32.20**	**354**	*e*P	**P**	**22 33 04.9**	**-0.2**
RPRD	**Ribas do Rio P**	**33.34**	**345**	*e*P	**P**	**22 33 15.7**	**+0.6**
AQDB	**Aquidauana**	**33.69**	**342**	P	**P**	**22 33 17.0**	**-1.1**
AQDB				IAmb	IAmb	22 33 18.6	
comp=Z,13nm,1.0s							
IPMB	**Ipameri, GO**	**35.24**	**355**	*e*P	**P**	**22 33 31.6**	**0.0**
GUA01	**Guaratinga, BA**	**36.78**	**8**	*e*P	**P**	**22 33 45.3**	**+0.6**
QSPA	**South Pole Qui**	**37.05**	**180**	P	**P**	**22 33 47.0**	**+0.2**
QSPA				IAmb	IAmb	22 33 55.2	
comp=Z,20nm,1.1s							
QSPA	**South Pole Qui**	**37.05**	**180**	P	**P**	**22 33 47.4**	**+0.6**
comp=Z,9.0nm,0.8s,baz=175,slow=3.0,SNR=33							
QSPA				LR	LR	22 49 41.1	
comp=Z,138nm,19.1s,baz=178,slow=37							
comp=Z,9.0nm,0.8s							
BDFB	**Brasilia**	**37.55**	**355**	P	**P**	**22 33 50.8**	**-0.6**
BDFB				IAmb	IAmb	22 33 52.4	
comp=Z,16nm,1.1s							
BDFB	**Brasilia**	**37.55**	**355**	P	**P**	**22 33 50.7**	**-0.7**
comp=Z,12nm,1.0s,baz=186,slow=7.0,SNR=11							
BDFB				LR	LR	22 50 24.5	
comp=Z,63nm,19.6s,baz=157,slow=38							
comp=Z,12nm,1.0s							
ARAG	**Araguaiana, MT**	**37.79**	**349**	*e*P	**P**	**22 33 53.3**	**0.0**
BBSD	**Serra de San D**	**37.95**	**335**	*e*P	**P**	**22 33 54.7**	**+0.1**
CMC01	**Camacan, BA**	**38.01**	**9**	*e*P	**P**	**22 33 55.3**	**+0.1**
JANB	**Januaria**	**38.07**	**1**	*e*P	**P**	**22 33 55.0**	**-0.7**
GO01	**Chusmiza**	**38.32**	**322**	P	**P**	**22 33 57.8**	**-0.5**
GO01				IAmb	IAmb	22 34 18.1	
comp=Z,11nm,0.9s							
PB11	**IPOC Station P**	**38.41**	**321**	P	**P**	**22 33 58.8**	**+0.1**
PB11				IAmb	IAmb	22 34 15.1	
comp=Z,15nm,0.9s							
SIV	**San Ignacio**	**39.21**	**335**	P	**P**	**22 34 05.5**	**+0.2**
comp=Z,6.3nm,0.8s,baz=147,slow=7.7,SNR=23							
SIV				LR	LR	22 52 42.1	
comp=Z,162nm,19.4s,baz=118,slow=40							
comp=Z,6.3nm,0.8s							
PTLB	**Pontes e Lacer**	**39.28**	**338**	P	**P**	**22 34 05.4**	**-0.4**
PTLB	**Pontes e Lacer**	**39.28**	**338**	*e*P	**P**	**22 34 06.4**	**+0.6**
PB16	**IPOC Station P**	**39.66**	**322**	P	**P**	**22 34 09.0**	**-0.6**
SDBA	**SAO DESIDERIO**	**40.70**	**0**	*e*P	**P**	**22 34 17.3**	**-0.3**
LPAZ	**La Paz**	**41.05**	**325**	P	**P**	**22 34 21.5**	**+0.2**
LPAZ	**La Paz**	**41.05**	**325**	P	**P**	**22 34 21.4**	**+0.2**
comp=Z,3.6nm,0.8s,baz=137,slow=6.1,SNR=12							
LPAZ				LR	LR	22 54 51.0	
comp=Z,159nm,18.8s,baz=151,slow=41							
comp=Z,3.6nm,0.8s							
SNDB	**Serra Nova Dou**	**41.43**	**351**	*e*P	**P**	**22 34 23.2**	**-0.5**
PDRB	**Porto dos Gac**	**42.53**	**343**	*e*P	**P**	**22 34 32.2**	**-0.4**
SMTB	**Santa Maria do**	**44.27**	**356**	*e*P	**P**	**22 34 46.5**	**-0.1**
NPGB	**Novo Progresso**	**46.78**	**346**	*e*P	**P**	**22 35 06.3**	**-0.3**
RCBR	**Riachuelo**	**47.83**	**12**	LR	LR	22 56 39.0	
comp=Z,36nm,18.1s,baz=226,slow=38							
MAW	**Mawson**	**48.17**	**151**	LR	LR	22 54 52.9	
comp=Z,119nm,18.2s,baz=228,slow=35							
VNDA	**Vanda**	**48.47**	**188**	P	**P**	**22 35 20.7**	**+1.7**
comp=Z,0.7nm,0.8s,baz=131,slow=7.2,SNR=4.2							
VNDA				LR	LR	22 56 23.4	
comp=Z,96nm,18.9s,baz=148,slow=37							
comp=Z,0.7nm,0.8s							
ITTB	**Itaituba**	**49.47**	**346**	*e*P	**P**	**22 35 27.0**	**-0.3**
H10S3	**ASCENSION HYDR**	**50.50**	**40**	T	T	23 29 57.6	
baz=204,slow=74,SNR=61							
H10S2	**ASCENSION HYDR**	**50.50**	**40**	T	T	23 30 02.6	
baz=16,slow=74,SNR=109							
SUR	**Sutherland**	**50.67**	**93**	LR	LR	22 53 44.2	
comp=Z,148nm,21.5s,baz=226,slow=32							
MACA	**Manacapuru-AM**	**51.52**	**340**	*e*P	**P**	**22 35 43.7**	**+0.9**
H10N3	**ASCENSION HYDR**	**51.58**	**40**	T	T	23 31 20.7	
baz=201,slow=75,SNR=104							
H10N1	**ASCENSION HYDR**	**51.58**	**40**	T	T	23 31 21.4	
baz=201,slow=75,SNR=74							
H10N2	**ASCENSION HYDR**	**51.60**	**40**	T	T	23 31 22.1	
baz=201,slow=75,SNR=70							
TEFE	**Tefe**	**52.10**	**335**	*e*P	**P**	**22 35 48.1**	**+1.0**
BOSA	**Boshof**	**56.03**	**93**	P	**P**	**22 36 14.7**	**-1.3**
BOSA				IAmb	IAmb	22 36 23.9	
comp=Z,8.3nm,1.0s							
BOSA	**Boshof**	**56.03**	**93**	P	**P**	**22 36 15.0**	**-0.9**
comp=Z,3.0nm,0.9s,baz=228,slow=1.4,SNR=4.8							
BOSA				LR	LR	22 56 39.9	
comp=Z,279nm,21.3s,baz=224,slow=32							
comp=Z,3.0nm,0.9s							
LKGWB	**Lokgwabe**	**56.93**	**87**	P	**P**	**22 36 24.1**	**+1.7**
KOOLE	**Kule**	**57.16**	**85**	P	**P**	**22 36 23.1**	**-0.9**
KOOLE				IAmb	IAmb	22 36 24.3	
comp=Z,8.5nm,1.1s							
MAKGR	**Makgori**	**57.82**	**91**	P	**P**	**22 36 27.2**	**-1.4**
H04S2	**CROZET ISLANDS**	**57.92**	**126**	T	T	23 40 00.4	
baz=226,slow=75,SNR=18							
H04S3	**CROZET ISLANDS**	**57.93**	**126**	T	T	23 39 59.0	
baz=226,slow=75,SNR=15							
H04S1	**CROZET ISLANDS**	**57.94**	**126**	T	T	23 40 02.0	
baz=226,slow=75,SNR=15							
MDP	**Montagnes des**	**58.44**	**351**	LR	LR	23 05 03.1	
comp=Z,122nm,18.3s,baz=162,slow=40							
KGCAE	**Kagoe**	**58.47**	**86**	P	**P**	**22 36 32.5**	**-0.7**
TSUM	**Tsumeb**	**58.51**	**80**	LR	LR	22 57 02.2	
comp=Z,197nm,21.8s,baz=170,slow=31							
LBTB	**Lobatse**	**58.89**	**91**	P	**P**	**22 36 34.6**	**-1.5**
LBTB	**Lobatse**	**58.89**	**91**	LR	LR	22 58 22.2	
comp=Z,198nm,21.6s,baz=216,slow=32							
KHWEE	**KHWEE**	**61.11**	**88**	P	**P**	**22 36 49.9**	**-1.5**
MREMI	**Moremi**	**61.84**	**90**	P	**P**	**22 36 54.9**	**-1.4**
ROSC	**El Rosal**	**62.87**	**327**	LR	LR	23 08 36.5	
comp=Z,151nm,18.5s,baz=99,slow=40							
MATP	**Matopo**	**64.10**	**90**	P	**P**	**22 37 12.5**	**+1.1**
comp=Z,0.7nm,0.6s,baz=220,slow=4.4,SNR=3.8							
comp=Z,0.7nm,0.6s							
SDV	**Santo Domingo**	**65.57**	**332**	LR	LR	23 11 31.7	
comp=Z,129nm,18.1s,baz=138,slow=41							
LSZ	**Lusaka**	**67.88**	**86**	P	**P**	**22 37 35.4**	**-0.4**
LSZ				IAmb	IAmb	22 37 44.0	
comp=Z,5.9nm,0.9s							
LSZ	**Lusaka**	**67.88**	**86**	P	**P**	**22 37 36.5**	**+0.8**
comp=Z,2.8nm,0.8s,baz=221,slow=5.1,SNR=7.4							
LSZ				LR	LR	23 06 23.3	
comp=Z,156nm,18.2s,baz=198,slow=35							
comp=Z,2.8nm,0.8s							
DBIC	**Dimbokro**	**68.64**	**44**	LR	LR	23 02 45.8	
comp=Z,118nm,19.2s,baz=182,slow=32							
SJG	**San Juan**	**73.33**	**339**	LR	LR	23 14 50.5	
comp=Z,76nm,18.7s,baz=200,slow=40							
TORD	**Torodi Ar. Bea**	**77.24**	**47**	P	**P**	**22 38 31.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**77.24**	**47**	P	**P**	**22 38 30.9**	**-0.3**
comp=Z,55nm,0.4s,baz=223,slow=4.2,SNR=1.1							
URZ	**Urewera**	**81.85**	**212**	LR	LR	23 09 18.7	
comp=Z,67nm,19.0s,baz=260,slow=31							
PPT	**Papeete**	**84.50**	**248**	LR	LR	23 08 58.4	
comp=Z,46nm,20.8s,baz=180,slow=30							
MDT	**Midelt**	**92.61**	**33**	LR	LR	23 17 56.6	
comp=Z,87nm,19.0s,baz=216,slow=33							
NWAO	**Narrogin (SRO)**	**92.85**	**165**	LR	LR	23 18 37.6	
comp=Z,89nm,19.4s,baz=260,slow=34							
TKL	**Fakaofo Atoll C**	**94.67**	**329**	LR	LR	23 23 20.0	
comp=Z,38nm,22.0s,baz=142,slow=36							
STKA	**Stephens Creek**	**95.07**	**186**	LR	LR	23 21 38.0	
comp=Z,49nm,18.9s,baz=204,slow=35							
LPIG	**La Paz**	**95.41**	**304**	LR	LR	23 17 42.0	
comp=Z,41nm,18.9s,baz=177,slow=32							
TXAR	**Lajitas Array**	**96.65**	**311**	LR	LR	23 18 52.7	
comp=Z,35nm,21.9s,baz=182,slow=32							
ATD	**Arta Tunnel**	**97.88**	**81**	LR	LR	23 21 30.5	
comp=Z,6.6nm,20.4s,baz=188,slow=34							
YKA	**Yellowknife Ar**	**127.59**	**327**	PKP	**PKiKP**	**22 45 41.3**	**-0.1**
comp=Z,0.5nm,0.7s,baz=141,slow=2.1,SNR=3.8							
CMAR	**Chiang Mai Arr**	**135.51**	**127**	PKP	**PKiKP**	**22 45 58.9**	**+0.1**
comp=Z,1.3nm,0.3s,baz=240,slow=3.3,SNR=6.1							
INK	**Inuvik**	**137.36**	**327**	PKP	**PKiKP**	**22 46 01.4**	**+0.4**
comp=Z,1.4nm,0.7s,baz=170,slow=2.8,SNR=3.8							
ILAR	**Eielson Array**	**140.77**	**318**	PKP	**PKPdf**	**22 46 06.6**	**+1.1**
comp=Z,0.5nm,0.8s,baz=126,slow=2.5,SNR=3.3							
BVAR	**Borovoye Array**	**142.45**	**63**	PKhKP	PKPpre	22 46 06.0	
comp=Z,1.0nm,0.7s,baz=230,slow=9.3,SNR=4.0							
KURBB	**Kurchatov Arra**	**145.88**	**71**	PKPbc	**PKPab**	**22 46 16.2**	**+0.2**
comp=Z,8.9nm,0.9s,baz=247,slow=4.3,SNR=35							
MKAR	**Makanchi Array**	**146.22**	**79**	PKPbc	**PKPdf**	**22 46 16.1**	**+0.5**
comp=Z,1.4nm,0.8s,baz=270,slow=1.9,SNR=7.6							
ZALV	**Zalesovo Beam**	**150.73**	**68**	PKPbc	**PKPbc**	**22 46 28.0**	**-0.2**
comp=Z,0.4nm,0.3s,baz=250,slow=4.2,SNR=2.5							

*IDC **29** 22:27:17.0±7.2, 36°.45N×71°.18E, h153km±61km, mb3.2/6, mbtmp3.7/12, MS3.0/1, Error ellipse: s-maj=56.1km s-min=20.2km az=36.0*

*NNC **29** 22:27:18.8±5.5, 36°.95N×70°.97E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=45.2km s-min=38.6km az=136.0*

ISC 29 22:27:21.4±1.3, 36°.7N±0°.1×71°.2E±0°.1, h188km, n23, σ1§09/27, mb3.3/6, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.73**	**19**	P	**Pn**	**22 28 43.8**	**-1.4**
SNR=36							
EKS2	**Erkin-Say**	**6.25**	**18**	P	**Pn**	**22 28 51.2**	**-0.5**
SNR=7.5							
KK31	**Karatay Array**	**6.38**	**356**	⇑P	**Pn**	**22 28 51.6**	**-1.8**
2.6nm,0.3s,baz=175,slow=12,SNR=35							
KK31				⇓S	**Sn**	**22 30 04.2**	**-1.9**
9.1nm,0.6s,baz=184,slow=21,SNR=17							
AAK	**Ala-Archa**	**6.43**	**22**	P	**Pn**	**22 28 53.3**	**-0.8**
5.2nm,0.3s,baz=164,slow=5.2,SNR=32							
AAK				S	**Sn**	**22 30 06.6**	**-0.8**
4.5nm,0.4s,baz=41,slow=17,SNR=8.5							
AAK	**Ala-Archa**	**6.43**	**22**	P	**Pn**	**22 28 53.3**	**-0.8**
SNR=11							
AAK	**Ala-Archa**	**6.43**	**22**	⇑P	**Pn**	**22 28 53.5**	**-0.7**
2.5nm,0.3s							
AAK				⇑S	**Sn**	**22 30 06.9**	**-0.5**
5.4nm,0.6s							
CHMS	**Chumysh**	**6.83**	**23**	P	**Pn**	**22 28 59.1**	**-0.2**
SNR=5.1							
CHMS	**Chumysh**	**6.83**	**23**	⇓P	**Pn**	**22 28 58.2**	**-1.1**
2.7nm,0.3s							
CHMS				⇑S	**Sn**	**22 30 16.1**	**-0.7**
6.2nm,0.7s							
TKM2	**Tokmak 2**	**7.05**	**27**	P	**Pn**	**22 29 02.7**	**+0.3**
SNR=11							
TKM2	**Tokmak 2**	**7.05**	**27**	⇑P	**Pn**	**22 29 01.5**	**-0.8**
4.0nm,0.6s							
TKM2				⇑S	**Sn**	**22 30 21.7**	**-0.5**
3.1nm,0.7s							
MKAR	**Makanchi Array**	**13.02**	**36**	P	**Pn**	**22 30 21.1**	**+1.7**
0.8nm,0.7s,baz=197,slow=16,SNR=5.3							
KURBB	**Kurchatov Arra**	**14.86**	**19**	P	**P**	**22 30 44.0**	**+0.8**
0.4nm,0.5s,baz=206,slow=10,SNR=5.4							
BVAR	**Borovoye Array**	**16.30**	**358**	P	**Pn**	**22 31 00.7**	**+1.1**
0.6nm,0.4s,baz=161,slow=9.1,SNR=2.7							
AKTO	**Aktyubinsk**	**16.65**	**329**	P	**P**	**22 31 03.8**	**+0.7**
1.0nm,0.3s,baz=167,slow=4.8,SNR=3.6							
ZALV	**Zalesovo Beam**	**19.64**	**25**	P	**P**	**22 31 36.8**	**+1.3**
1.4nm,0.3s,baz=236,slow=11,SNR=8.0							
KIRV	**Kirov**	**26.09**	**334**	LR	LR	22 43 13.4	
comp=Z,32nm,18.7s,baz=131,slow=36							
FINES	**FINESS Array B**	**37.37**	**326**	P	**P**	**22 34 16.4**	**+0.9**
0.4nm,0.3s,baz=116,slow=8.7,SNR=6.7							
0.4nm,0.3s							
ARCES	**ARCESS Array B**	**40.98**	**337**	P	**P**	**22 34 46.4**	**+1.0**
0.7nm,0.6s,baz=106,slow=9.1,SNR=6.3							
0.7nm,0.6s							
HFS	**Hagfors**	**42.97**	**322**	P	**P**	**22 35 02.2**	**+0.6**
1.0nm,0.5s,baz=98,slow=11,SNR=6.7							
1.0nm,0.5s							
NB2	**NORSAR Subarra**	**44.28**	**323**	P	**P**	**22 35 12.4**	**+0.4**
comp=Z,0.3nm,0.4s,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**44.28**	**323**	P	**P**	**22 35 12.4**	**+0.4**
comp=Z,0.4nm,0.6s,baz=97,slow=7.8,SNR=4.3							
comp=Z,0.4nm,0.6s							
WRA	**Warramunga Arr**	**82.00**	**122**	P	**P**	**22 39 19.2**	**-1.3**
comp=Z,0.4nm,0.9s,baz=325,slow=5.1,SNR=4.9							
comp=Z,0.4nm,0.9s							
ASAR	**Alice Springs**	**84.27**	**125**	P	**P**

PB11	IPOC Station P	48.12	302	P	P	22 46 58.5	0.0
H10S2	ASCENSION HYDR	48.16	17	T	T	23 39 44.0	
	baz=190,slow=74,SNR=30						
H10S3	ASCENSION HYDR	48.16	17	T	T	23 39 44.3	
	baz=30,slow=74,SNR=24						
PB16	IPOC Station P	49.28	303	P	P	22 47 08.0	+0.2
PB16				IAmb	IAmb	22 47 08.8	
	comp=Z,5.9nm,0.4s						
H10N1	ASCENSION HYDR	49.28	17	T	T	23 41 08.2	
	baz=187,slow=76,SNR=4.0						
H10N3	ASCENSION HYDR	49.28	17	T	T	23 41 08.1	
	baz=187,slow=76,SNR=16						
H10N2	ASCENSION HYDR	49.29	17	T	T	23 41 09.4	
	baz=187,slow=76,SNR=4.8						
LPAZ	La Paz	50.42	305	P	P	22 47 17.4	+0.8
LPAZ				IAmb	IAmb	22 47 18.7	
	comp=Z,6.4nm,0.6s						
LPAZ	La Paz	50.42	305	P	P	22 47 17.3	+0.8
	comp=Z,5.9nm,0.5s,baz=202,slow=8.1,SNR=36						
	comp=Z,5.9nm,0.5s						
LPAZ	La Paz	50.42	305	P	P	22 47 17.1	+0.6
LPAZ				pP	pP	22 47 39.0	+0.4
LPAZ				PcP	PcP	22 48 34.2	+0.6
CASY	Casey	53.78	160	P	P	22 47 40.6	+0.5
BOAV	Boa Vista	64.37	323	P	P	22 48 53.2	-0.6
DBIC	Dimbokro	65.33	25	P	P	22 49 00.4	+0.4
DBIC				IAmb	IAmb	22 49 09.8	
	comp=Z,38nm,1.5s						
DBIC	Dimbokro	65.33	25	P	P	22 48 60.0	0.0
	comp=Z,4.2nm,0.9s,baz=164,slow=8.8,SNR=1.9						
	comp=Z,4.2nm,0.9s						
TORD	Torodi Ar. Bea	73.21	30	P	P	22 49 48.8	+0.2
TORD	Torodi Ar. Bea	73.21	30	P	P	22 49 49.3	+0.8
	comp=Z,73nm,0.4s,baz=201,slow=6.4,SNR=1.4						
TORD				pP	pP	22 50 10.0	-1.8
	comp=Z,90nm,0.3s,baz=115,slow=16,SNR=1.7						
PLWZ	Palliser	80.74	197	P	P	22 50 30.5	-0.1
ASAR	Alice Springs	98.86	163	P	P	22 51 57.2	-0.2
	comp=Z,0.4nm,0.4s,baz=180,slow=4.7,SNR=5.6						
	comp=Z,0.4nm,0.4s						
PV18	Skein Mesa, Pa	116.56	299	PKPdf	PKPdf	22 57 00.5	0.0
PDAR	Pinedale Array	120.38	302	PKPdf	PKPdf	22 57 06.5	-1.2
PDAR	Pinedale Array	120.38	302	PKP	PKPdf	22 57 06.7	-1.0
	comp=Z,0.2nm,0.4s,baz=98,slow=2.2,SNR=2.9						
FXWY	Fox Creek	121.74	302	PKPdf	PKPdf	22 57 10.3	0.0
FINES	FINESS Array B	124.54	28	PKPdf	PKPdf	22 57 14.3	-0.4
FINES	FINESS Array B	124.54	28	PKP	PKPdf	22 57 14.5	-0.2
	comp=Z,2.1nm,0.4s,baz=167,slow=1.1,SNR=32						
FIA1	FINESS Array S	124.54	28	PKPdf	PKPdf	22 57 14.1	-0.6
PLID	Pearl Lake	125.20	300	PKPdf	PKPdf	22 57 16.4	-0.4
ABKAR	Akbulak array	127.50	56	PKPdf	PKPdf	22 57 20.7	-0.1
AAK	Ala-Archa	130.08	71	PKP	PKPdf	22 57 25.7	-0.5
	comp=Z,0.5nm,0.4s,baz=225,slow=4.3,SNR=2.4						
ARCES	ARCESS Array B	131.10	22	PKP	PKPdf	22 57 27.1	+0.1
	comp=Z,1.1nm,0.5s,baz=218,slow=1.4,SNR=20						
YKAW1	Yellowknife Wh	136.19	318	PKPdf	PKPdf	22 57 36.1	-0.7
YKA	Yellowknife Ar	136.25	318	PKP	PKPdf	22 57 36.6	-0.2
	comp=Z,0.6nm,0.5s,baz=164,slow=7.8,SNR=20						
MKAR	Makanchi Array	136.99	72	PKP	PKPdf	22 57 38.2	-0.6
	comp=Z,0.7nm,0.9s,baz=245,slow=2.4,SNR=2.8						
KURBB	Kurchatov Arra	137.42	65	PKhKP	PKPpre	22 57 31.9	
	comp=Z,0.1nm,0.4s,baz=294,slow=5.0,SNR=1.2						
KURBB				PKP	PKPdf	22 57 37.8	-1.7
	comp=Z,0.2nm,0.5s,baz=238,slow=3.0,SNR=4.3						
ZALV	Zalesovo Beam	142.48	64	PKhKP	PKPpre	22 57 44.5	
	comp=Z,0.6nm,0.4s,baz=224,slow=3.1,SNR=4.5						
MMPY	Sheldon Lake,	142.91	312	PKPpre	PKPpre	22 57 46.0	
WHY	Whitehorse	143.60	308	P	PKPbc	22 57 48.5	+0.3
	baz=116						
FARO	Faro, Yukon	143.62	311	P	PKPbc	22 57 48.3	+0.2
	baz=115						
M31M	Drury Creek, Y	144.05	310	P	PKPbc	22 57 50.1	+0.7
	baz=115						
O30N	Mendenhall	144.19	307	PKPdf	PKPbc	22 57 50.2	+0.3
O30N	Mendenhall	144.19	307	P	PKPbc	22 57 50.3	+0.4
	baz=115						
A36M	Sachs Harbour	144.31	328	P	PKPbc	22 57 50.5	+0.6
	baz=108						
N31M	Braeburn, Yuko	144.35	309	P	PKPbc	22 57 50.5	+0.2
	baz=115						
P29M	Windy Craggy	144.44	305	P	PKPbc	22 57 51.1	+0.5
	baz=116						
HYT	Haines Junctio	144.84	307		PKPdf	22 57 52.4	-0.2
HYT	Haines Junctio	144.84	307	P	PKPdf	22 57 53.0	+0.4
	baz=114,SNR=5.7						
N30M	Aishikik Lake	144.91	308	P	PKPdf	22 57 53.3	+0.6
	baz=114,SNR=19						
M30M	Minto, Yukon	145.23	310	P	PKPab	22 57 53.3	0.0
	baz=113						
H31M	Peel River	145.40	316	P	PKPbc	22 57 53.5	+0.1
	baz=110,SNR=16						
YUK4	Talbot Arm	145.56	307	P	PKPab	22 57 55.1	+0.4
	baz=113,SNR=11						
F31M	Tsiigehtchic	145.70	319	PKPdf	PKPbc	22 57 54.3	0.0
F31M	Tsiigehtchic	145.70	319	P	PKPab	22 57 54.8	0.0
	baz=108						
G31M	Satah River	145.74	318	P	PKPbc	22 57 54.5	0.0
	baz=108,SNR=21						
J30M	Hart River	145.76	314	P	PKPab	22 57 55.5	+0.1
	baz=110,SNR=7.7						
PINM	Pinnacle	145.78	305	P	PKPab	22 57 56.2	+0.7
	baz=114						
PCA	Pinnacle	145.79	305	PKPdf	PKPbc	22 57 55.1	+0.2
INK	Inuvik	145.89	320	P	PKPbc	22 57 55.1	+0.3
	baz=107,SNR=18						
M29M	Somme Creek	145.90	309	P	PKPab	22 57 55.7	-0.2
	baz=112,SNR=14						
L29M	L29M	146.00	311	P	PKPab	22 57 55.9	-0.3
	baz=111,SNR=29						
K29M	Barlow Dome	146.00	312	P	PKPbc	22 57 55.6	+0.1
	baz=110						
I30M	Mount Dempster	146.00	315	P	PKPbc	22 57 55.6	+0.1
	baz=109,SNR=41						
O28M	Mount Upton	146.02	306	P	PKPab	22 57 57.0	+0.4
	baz=113						
YUK8	Steele Glacier	146.03	307	P	PKPab	22 57 56.6	0.0
	baz=112,SNR=5.2						
G30M	tAoh Zraii Nji	146.49	318	PKPdf	PKPbc	22 57 56.4	-0.3
G30M	tAoh Zraii Nji	146.49	318	P	PKPbc	22 57 57.3	+0.6
	baz=107,SNR=17						
EPYK	Eagle Plains	146.50	316	P	PKPbc	22 57 57.0	+0.2
	baz=107,SNR=7.4						
F30M	Barrier River	146.50	319	P	PKPbc	22 57 57.0	+0.2
	baz=106,SNR=25						
YUK3	Moose Creek	146.52	308	P	PKPbc	22 57 57.7	+0.5
	baz=111						
I29M	Ogilvie Camp,	146.82	314	P	PKPbc	22 57 57.6	-0.1
	baz=108,SNR=5.3						
DAWY	Dawson	146.85	312	P	PKPbc	22 57 58.0	+0.1
	baz=109						
BVCY	Beaver Creek	146.93	309	P	PKPbc	22 57 58.6	+0.5
	baz=110,SNR=5.0						
H29M	Whitestone	147.09	316	P	PKPbc	22 57 58.5	+0.1
	baz=106,SNR=35						
G29M	Pine Creek	147.15	317	P	PKPbc	22 57 59.1	+0.5
	baz=106						
M27K	Edge Creek, AK	147.35	308	PKPdf	PKPdf	22 57 58.0	+1.1
M27K	Edge Creek, AK	147.35	308	P	PKPbc	22 57 60.0	+0.5
	baz=110						
E29M	Blow River	147.47	320	P	PKPbc	22 57 59.4	0.0
	baz=104						
I28M	Miner Creek	147.49	314	P	PKPbc	22 57 59.5	-0.1
	baz=106,SNR=20						
L27K	Beaver Creek,	147.56	309	P	PKPbc	22 58 00.0	+0.2
	baz=109,SNR=7.9						
M26K	Nabesna, AK	147.86	308	P	PKPbc	22 58 01.0	+0.3
	baz=109						
K27K	Chicken	147.97	311	P	PKiKP	22 58 01.8	-0.8
	baz=107						
D28M	Stokes Point	147.97	321	P	PKPbc	22 58 01.2	+0.6
	baz=101,SNR=10						
BMRM	Bremner River	148.11	305	P	PKiKP	22 58 02.7	-0.3
	baz=110						
E28M	Babbage River	148.11	320	P	PKPbc	22 58 00.9	-0.2
	baz=102						
I27K	Kandik River	148.21	314	P	PKPbc	22 58 01.8	+0.3
	baz=105,SNR=9.4						
L26K	Log Cabin Wild	148.21	309	P	PKPbc	22 58 02.1	+0.5
	baz=108						
N25K	Chitina, Valde	148.32	306	P	PKPbc	22 58 02.7	+0.8
	baz=109						
H27K	Steamboat Moun	148.33	315	P	PKPbc	22 58 02.2	+0.4
	baz=104,SNR=29						
G27K	Doyon Strip	148.52	316	P	PKPbc	22 58 02.6	+0.4
	baz=103						
J26L	Joseph Creek	148.72	312	P	PKPbc	22 58 03.3	+0.4
	baz=105,SNR=12						
D27M	Malcolm River	148.74	321	PKPbc	PKPbc	22 58 03.1	+0.4
D27M	Malcolm River	148.74	321	P	PKiKP	22 58 03.6	-0.5
	baz=100,SNR=22						
I26K	Coal Creek Min	148.76	313	P	PKPbc	22 58 03.3	+0.5
	baz=104						
SCRK	Sand Creek	148.76	311	P	PKPbc	22 58 03.5	+0.5
	baz=106,SNR=7.2						
E27K	Coleen River	148.78	319	P	PKPbc	22 58 03.5	+0.6
	baz=101						
HARP	HAARP	148.82	307	P	PKPbc	22 58 03.3	+0.2
	baz=108						
KLU	Klutina	148.88	305	P	PKiKP	22 58 04.6	-0.1
	baz=108						
RIDG	Independent Ri	149.06	310	P	PKiKP	22 58 04.6	-0.3
	baz=106,SNR=16						
PAX	Paxson	149.12	308	P	PKPbc	22 58 04.4	+0.5
	baz=106						
NRIK	Noril'sk	149.16	39	PKPbc	PKPbc	22 58 03.7	-0.1
	comp=Z,2.2nm,0.9s,baz=162,slow=1.4,SNR=5.3						
M24K	Tolsona, Glenn	149.18	307	PKPbc	PKiKP	22 58 04.8	-0.5
M24K	Tolsona, Glenn	149.18	307	P	PKiKP	22 58 04.9	-0.3
	baz=107						
G26K	Porcupine Rive	149.37	316	P	PKPbc	22 58 04.7	+0.4
	baz=101,SNR=16						
J25K	Salcha River,	149.50	311	P	PKPbc	22 58 05.1	+0.3
	baz=104						
SCM	Sheep Creek Mo	149.62	306	P	PKPbc	22 58 05.7	+0.5
	baz=107						
F26K	Sheenjek River	149.64	318	P	PKiKP	22 58 06.0	0.0
	baz=100,SNR=5.1						
C27K	Jago River	149.75	321	P	PKPbc	22 58 05.3	+0.1
	baz=97						
PRP	Porcupine Dome	149.77	313	P	PKPbc	22 58 05.9	+0.4
	baz=102,SNR=8.6						
M23K	Glacier View	149.79	305	P	PKiKP	22 58 06.6	+0.1
	baz=107						
PWL	Port Wells	149.79	304	P	PKiKP	22 58 06.1	-0.3
	baz=108						
KNK	Knik Glacier	150.02	305	P	PKiKP	22 58 06.8	-0.1
	baz=107						
SML	Sawmill	150.07	305	P	PKiKP	22 58 06.8	-0.3
	baz=106						
HDA	Harding Lake	150.12	311	P	PKPbc	22 58 06.6	+0.4
	baz=103						
ILAR	Eielson Array	150.18	311	PKPbc	PKPbc	22 58 06.3	-0.1
	comp=Z,9.8nm,0.8s,baz=130,slow=1.9,SNR=79						
F25K	Christian Rive	150.19	317	P	PKiKP	22 58 07.3	+0.1
	baz=98,SNR=14						
C26K	Camden Bay	150.20	322	P	PKPbc	22 58 06.6	+0.4
	baz=95						
E25K	Arctic Village	150.23	318	PKPbc	PKiKP	22 58 07.2	0.0
E25K	Arctic Village	150.23	318	P	PKiKP	22 58 07.2	0.0
	baz=98,SNR=20						
G25K	Bearman Lake	150.24	316	P	PKiKP	22 58 07.4	+0.3
	baz=100,SNR=10						
RC01	Rabbit Creek A	150.52	304	P	PKiKP	22 58 08.2	+0.2
	baz=107						
BRSE	Bradley Lake S	150.59	301	P	PKiKP	22 58 08.2	0.0
	baz=108						
D25K	Kavik River	150.66	321	P	PKPbc	22 58 07.6	+0.2
	baz=95						
G24K	Hadweenzic Riv	150.76	315	P	PKiKP	22 58 08.4	+0.1
	baz=99,SNR=7.3						
H24K	Noodor Dome	150.79	313	P	PKPbc	22 58 07.9	+0.1
	baz=100						
SONM	Songino Array	150.79	87	PKPbc	PKPbc	22 58 08.4	-0.2
	comp=Z,1.1nm,0.5s,baz=208,slow=3.0,SNR=6.5						
SONM				pPKPbc	pPKPdf	22 58 29.8	+1.7
	comp=Z,1.2nm,0.7s,baz=216,slow=1.5,SNR=3.2						
MCK	McKinley	150.82	309	P	PKiKP	22 58 08.6	+0.1
	baz=103,SNR=8.8						
KDAK	Kodiak Island	150.84	296	P	PKiKP	22 58 09.1	+0.5
	baz=111						
M22K	Willow	150.88	305	P	PKiKP	22 58 09.2	+0.6
	baz=105						
Q20K	Shuyak Island	151.03	298	P	PKiKP	22 58 09.2	+0.1
	baz=109						
F24K	Squaw Lake	151.03	317	PKPbc	PKiKP	22 58 08.7	-0.2
F24K	Squaw Lake	151.03	317	P	PKiKP	22 58 09.1	+0.2
	baz=97,SNR=5.8						
NEA2	Nenana	151.06	311	P	PKPbc	22 58 08.4	0.0
	baz=101,SNR=7.7						
I23K	Minto, Yukon-K	151.28	312	P	PKPbc	22 58 08.6	-0.3
	baz=100						
E24K	Your Creek	151.32	318	P	PKiKP	22 58 09.8	+0.3
	baz=95,SNR=9.3						
TRF	Thorofare Moun	151.35	308	P	PKiKP	22 58 09.7	-0.1
	baz=102,SNR=7.1						
H23K	Yukon River	151.46	313	P	PKPbc	22 58 09.6	+0.2
	baz=98						
C24K	Franklin Bluff	151.50	321	PKPbc	PKPbc	22 58 09.1	-0.2
C24K					PKPab	22 58 18.9	+0.7
C24K	Franklin Bluff	151.50	321	P	PKPbc	22 58 09.2	-0.1
	baz=92						
D24K	Happy Valley	151.52	320	P	PKPbc	22 58 09.0	-0.4
	baz=93						
SKT	Skwentna	151.58	305	P	PKiKP	22 58 10.2	0.0
	baz=104,SNR=6.3						
SPCR	Spurr Chakacha	151.70	303	P	PKiKP	22 58 11.0	+0.5
	baz=105						
E23K	Chandalar	151.74	318	P	PKPbc	22 58 09.6	-0.4
	baz=94						
TOLK	Toolik Lake Re	151.76	319	P	PKiKP	22 58 10.6	+0.2
	baz=93,SNR=18						
G23K	Bananza Creek	151.77	315	P	PKiKP	22 58 10.9	+0.5
	baz=96,SNR=9.6						
BPAW	Bear Paw Mtn.	151.79	309	P	PKPbc	22 58 10.2	+0.1
	baz=100,SNR=15						
COLD	Coldfoot	151.89	316	P	PKiKP	22 58 11.5	+0.9
	baz=95,SNR=6.6						
PPLA	Purkeypile	152.08	307	P	PKPbc	22 58 11.2	+0.1
	baz=102						
CAST	Castle Rocks	152.14	308	P	PKPbc	22 58 10.9	-0.1
	baz=101,SNR=7.4						
C23K	Itkillik River	152.16	322	P	PKiKP	22 58 11.1	+0.1
	baz=90						
D23K	Nanushuk River	152.18	320	P	PKPbc	22 58 10.8	0.0
	baz=92						
H22K	Ishtalitna Cre	152.22	313	P	PKPbc	22 58 11.1	+0.1
	baz=97						
M20K	Styx River	152.29	304	P	PKPbc	22 58 11.4	-0.1
	baz=103						
CHUM	Lake Minchumin	152.32	309	P	PKiKP	22 58 11.6	0.0
	baz=100,SNR=7.4						
G22K	Bettles	152.38	315	P	PKiKP	22 58 11.6	0.0
	baz=95						
I21K	Tanana	152.38	312	P	PKPbc	22 58 11.5	+0.1
	baz=98						
E22K	Anaktuvuk Pass	152.57	318	P	PKPbc	22 58 11.5	-0.3
	baz=92						
F22K	John River	152.68	317	P	PKiKP	22 58 13.1	+0.8
	baz=93,SNR=6.5						
H21K	Melozitna Rive	152.78	312	P	PKPbc	22 58 12.4	0.0
	baz=96						
D22K	Ayikyak River	152.90	320	P	PKiKP	22 58 13.2	+0.6
	baz=90						
K20K	Telida	153.01	307	P	PKPbc	22 58 12.9	0.0
	baz=100						
B22K	Teshekpuk Lake	153.11	323	P	PKiKP	22 58 13.1	+0.1
	baz=86						
G21K	Allakaket	153.14	314	P	PKPbc	22 58 13.1	0.0
	baz=94						
F21K	Alatna River	153.17	316	P	PKiKP	22 58 13.4	+0.1
	baz=92						
I20K	Naaghedeneel	153.39	310	P	PKiKP	22 58 14.2	+0.5
	baz=96						
B21K	Ikpikpuk River	153.56	321	P	PKiKP	22 58 14.4	+0.4
	baz=87						
H20K	Anotleneega Mo	153.62	312	P	PKiKP	22 58 14.9	+0.7
	baz=95						
J19K	Poorman	153.79	308	PKPbc	PKiKP	22 58 15.1	+0.5
K15K	Wolf Creek Mou	156.26	304	PKPab	PKPab	22 58 39.6	+0.9

*IDC **29** 22:42:25.6±2.3, 51°.37N×176°.31W, h0km, mb3.4/6, mbtmp3.4/6, MS2.6/1, Error ellipse: s-maj=66.7km s-min=24.8km az=5.0*
*NEIC **29** 22:42:31.4±2.1, 51°.47N±0°.08×175°.98W±0°.06, h28km±11km, mb4.0/20, ML4.0/6, ML3.5(AEIC), Error ellipse: s-maj=12.5km s-min=5.0km az=173.0*
*AEIC **29** 22:42:31.8±4.1, 51°.55N±0°.09×176°.04W±0°.06, h55km±8km, Error ellipse: s-maj=12.6km s-min=5.2km az=171.0*
ISC 29 22:42:32.3±1.0, 51°.39N±0°.10×175°.99W±0°.05, h47km, n65, σ1§59/57, mb3.9/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSCK	Great Sitkin C	0.63	350		Pn	22 42 43.7	-1.3
ADK	Adak	0.66	319		Pn	22 42 43.2	-2.2
ADK				Sg	Sn	22 42 51.5	-3.2
ADK	Adak	0.66	319	IAML		22 42 52.8	
	24μm,0.4s						
ADK				IAML		22 42 53.0	
	19μm,0.3s						
GSTR	Great Sitkin T	0.71	357		Pn	22 42 45.0	-1.0
GSSP	Great Sitkin S	0.71	351		Pn	22 42 45.1	-1.0
GSSP					Sn	22 42 55.3	-0.8
KIRH	Kanaga Island	0.86	307		Pn	22 42 46.5	-1.5
KIWB	Kanaga Island	0.86	303		Pn	22 42 45.9	-2.1
KIKV	Kanaga Island	0.88	304		Pn	22 42 46.8	-1.6
KINC	Kanaga Island	0.89	308		Pn	22 42 46.9	-1.5
KICM	Kanaga Island	0.92	306		Pn	22 42 47.3	-1.5
TAFP	Tanaga Falls P	1.34	293		Pn	22 42 53.1	-1.5
TAFP					Sn	22 43 09.9	-1.4
TASE	Tanaga Southea	1.35	290		Pn	22 42 53.6	-1.1
ATKA	Atka Island	1.38	53		Pn	22 42 52.6	-2.4
ATKA					Sn	22 43 09.9	-2.3
ATKA				IAML		22 43 14.7	
	comp=N,929nm,0.5s						
TANO	Tanaga North	1.43	292		Pn	22 42 55.0	-0.8
GAEA	Gareloi East	1.77	284		Pn	22 42 59.9	-0.5
GANE	Gareloi Northe	1.79	285		Pn	22 43 00.5	-0.3
NIKH	Nikolski High	4.67	67	Pn	Pn	22 43 39.2	-0.9
NIKH				IAML		22 44 49.4	
	comp=E,87nm,1.2s						
NIKH				IAML		22 44 57.8	
	comp=N,215nm,0.8s						
UNV	Unalaska Valle	6.28	63	Pn	Pn	22 44 00.4	-1.8
CNBA	Chernabura Isl	10.44	64		Pn	22 44 59.1	0.0
M11K	Mekoryuk	10.54	27	Pn	Pn	22 45 03.8	+3.3
O14K	Tigyukauivet M	11.48	41	Pn	Pn	22 45 15.5	+2.1
O15K	Ungalikthiuk R	12.05	43	Pn	Pn	22 45 23.6	+2.5
N15K	Kwethluk River	12.51	39	Pn	Pn	22 45 29.5	+2.0
O16K	Kokwok River B	13.02	44	Pn	Pn	22 45 36.6	+2.3
M17K	Holitna River	14.30	38	Pn	Pn	22 45 52.6	+1.0
OHAK	Old Harbor	14.44	57	Pn	Pn	22 45 49.8	-3.9
KDAK	Kodiak Island	14.95	56	Pn	Pn	22 45 58.4	-2.0
J17K	VABM Dome	15.03	30	P	P	22 46 05.9	0.0
L18K	Granite Mounta	15.07	37	P	Pn	22 46 04.1	+2.2
N19K	Bonanza Creek	15.19	43	P	P	22 46 06.9	-0.9
G16K	Koyuk River	15.70	21	P	P	22 46 15.0	+1.8
J18K	Innoko River	15.85	33	Pn	Pn	22 46 12.3	+0.4
J18K				IAmb	IAmb	22 46 28.4	
	comp=Z,15nm,1.4s						
F21K	Alatna River	19.40	27	P	P	22 46 55.1	+1.1
I23K	Minto, Yukon-K	19.43	35	P	P	22 46 55.0	+0.7
CCB	Clear Creek Bu	19.74	37	P	P	22 46 57.5	-0.3
ILAR	Eielson Array	20.15	37	P	P	22 47 01.2	-1.0
	comp=Z,0.2nm,0.4s,baz=237,slow=9.2,SNR=12						
	comp=Z,0.2nm,0.4s						
H24K	Noodor Dome	20.32	34	P	P	22 47 05.4	+1.3
H24K				IAmb	IAmb	22 47 12.0	
	comp=Z,6.1nm,0.9s						
RIDG	Independent Ri	20.52	41	P	P	22 47 05.8	-0.5
RIDG				IAmb	IAmb	22 47 42.2	
	comp=Z,10nm,1.3s						
J25K	Salcha River,	20.66	38	P	P	22 47 08.0	+0.2
B21K	Ikpikpuk River	20.88	21	P	Pn	22 47 11.8	-1.1
B21K				IAmb	IAmb	22 47 14.5	
	comp=Z,8.1nm,0.9s						
SCRK	Sand Creek	20.96	41	P	P	22 47 10.3	-0.8
J26L	Joseph Creek	21.33	40	P	P	22 47 13.8	-1.3
J26L				IAmb	IAmb	22 47 20.1	
	comp=Z,4.7nm,0.6s						
D23K	Nanushuk River	21.36	25	P	P	22 47 16.1	+0.8
D23K				IAmb	IAmb	22 47 20.0	
	comp=Z,4.2nm,0.8s						
C23K	Itkillik River	21.98	23	P	P	22 47 22.6	+0.8
BMAR	Burnt Mountain	22.27	32	P	P	22 47 25.0	0.0
G26K	Porcupine Rive	22.31	34	P	P	22 47 27.2	+1.9
G26K				IAmb	IAmb	22 47 30.2	
	comp=Z,4.2nm,0.8s						
I28M	Miner Creek	23.11	39	P	P	22 47 33.9	0.0
K29M	Barlow Dome	23.64	43	P	P	22 47 39.9	+0.8
K29M				IAmb	IAmb	22 47 43.8	
	comp=Z,2.7nm,0.7s						
H29M	Whitestone	23.98	38	P	P	22 47 42.7	+0.7
H29M				IAmb	IAmb	22 47 46.8	
	comp=Z,4.2nm,0.9s						
I30M	Mount Dempster	24.47	40	P	P	22 47 47.3	+0.7
I30M				IAmb	IAmb	22 47 51.9	
	comp=Z,3.9nm,0.8s						
YKA	Yellowknife Ar	33.94	47	P	P	22 49 12.8	+2.2
	comp=Z,0.4nm,0.8s,baz=285,slow=7.3,SNR=6.7						
	comp=Z,0.4nm,0.8s						
H11N2	WAKE ISLAND Hy	34.34	209	T	T	23 25 43.7	
	baz=18,slow=76,SNR=78						
H11N3	WAKE ISLAND Hy	34.35	209	T	T	23 25 44.3	
	baz=18,slow=76,SNR=68						
H11N1	WAKE ISLAND Hy	34.36	209	T	T	23 25 45.1	
	baz=18,slow=76,SNR=101						
H11S1	WAKE ISLAND Hy	35.56	209	T	T	23 27 18.2	
	baz=18,slow=76,SNR=19						
H11S2	WAKE ISLAND Hy	35.57	209	T	T	23 27 37.6	
	baz=18,slow=76,SNR=22						
H11S3	WAKE ISLAND Hy	35.57	209	T	T	23 27 21.2	
	baz=18,slow=76,SNR=15						
KSRS	Korea Array	41.40	273	LR	LR	23 09 13.0	
	comp=Z,6.7nm,18.5s,baz=235,slow=39						
PDAR	Pinedale Array	44.62	74	P	P	22 50 41.1	+1.1
	comp=Z,0.7nm,0.7s,baz=300,slow=2.9,SNR=6.1						
	comp=Z,0.7nm,0.7s						
TXAR	Lajitas Array	56.91	83	P	P	22 52 13.3	+0.8
	comp=Z,0.2n

GORC					Sg	22 54 20.1	+0.2
CPE	**Camp Elliot**	**0.61**	**109**		Pg	22 54 15.8	-0.4
CPE					Sg	22 54 24.3	+0.1
CPE	**Camp Elliot**	**0.61**	**109**	IAML		22 54 26.9	
	comp=N,734nm,0.2s						
CIAC	**Catalina I. Ai**	**0.61**	**301**		Pg	22 54 15.4	-0.8
CIAC					Sg	22 54 24.0	-0.4
SANC	**Santa Ana**	**0.62**	**352**		Pg	22 54 16.5	+0.1
SANC					Sb	22 54 25.7	0.0
SDMC	**San Diego Miss**	**0.62**	**119**		Sg	22 54 24.9	+0.1
ELS	**Elsinore Mount**	**0.64**	**28**		Pg	22 54 15.8	-1.0
ELS				Sg	Sg	22 54 24.0	-1.2
ELS				IAML		22 54 24.5	
	comp=E,606nm,0.4s						
MTRP	**Mission Trails**	**0.67**	**113**		Pg	22 54 17.1	-0.2
MURC	**Murrieta**	**0.71**	**44**		Pg	22 54 17.2	-0.9
MURC					Sg	22 54 26.7	-0.8
DPP	**Dos Picos Cty**	**0.72**	**97**		Pg	22 54 17.5	-0.7
DPP					Sg	22 54 27.6	-0.1
BREC	**Barre Substati**	**0.74**	**347**		Pb	22 54 19.3	+0.3
FMP	**Fort Macarthur**	**0.75**	**326**		Pg	22 54 18.8	-0.1
FMP					Sg	22 54 28.7	-0.1
FULC	**Fullerton**	**0.79**	**352**		Pb	22 54 20.0	+0.1
SDRC	**San Diego Road**	**0.79**	**116**		Pg	22 54 18.7	-0.9
SDRC					Sg	22 54 29.8	-0.3
DLAC	**Del Amo**	**0.80**	**341**		Pb	22 54 20.6	+0.4
DLAC					Sn	22 54 32.3	-0.9
BACC	**Bachelor Mtn.**	**0.82**	**50**		Pg	22 54 19.0	-1.1
BACC					Sg	22 54 29.8	-1.0
EML	**El Monte Cty P**	**0.82**	**104**		Pg	22 54 19.1	-1.0
EML					Sg	22 54 30.0	-0.8
PLM	**Palomar**	**0.82**	**71**		Pg	22 54 19.1	-1.1
PLM					Sg	22 54 30.1	-1.0
RPV	**Rancho Palos V**	**0.83**	**322**		Pg	22 54 20.2	-0.2
RPV					Sg	22 54 31.3	0.0
TJX	**Tijuana**	**0.84**	**133**	Pg	Pg	22 54 20.1	-0.5
TJX				Sg	Sb	22 54 32.1	0.0
TJX				IAML		22 54 35.5	
	comp=N,570nm,0.3s						
TJX				IAML		22 54 35.9	
	comp=E,632nm,0.5s						
DGR	**Domenigoni Val**	**0.86**	**49**		Pg	22 54 19.6	-1.3
DGR					Pn	22 54 30.9	+8.7
OLP	**Otay Lakes Par**	**0.87**	**123**		Pg	22 54 20.6	-0.4
HMTC	**Hemet**	**0.90**	**46**		Pg	22 54 20.4	-1.4
HMTC					Pn	22 54 32.4	+10
MLSC	**Mira Loma**	**0.94**	**12**		Pg	22 54 22.1	-0.3
POB	**Polly Butte**	**0.94**	**50**		Pg	22 54 21.1	-1.4
POB					Pn	22 54 33.2	+10
PEC	**Perris**	**0.96**	**33**		Pg	22 54 21.4	-1.5
PEC					Sg	22 54 34.1	-1.2
MATG	**Mataguay Scout**	**0.96**	**83**		Pg	22 54 21.7	-1.2
MATG					Sg	22 54 34.3	-1.2
RVR	**Riverside**	**0.97**	**21**		Pb	22 54 21.7	-1.3
DUZA	**Dulzura**	**0.98**	**119**		Pb	22 54 22.2	-0.9
GVRC	**Garvey Reservo**	**1.00**	**344**		Pb	22 54 23.1	-0.4
GVRC					Sg	22 54 37.0	+0.4
JUEM	**Julian Eagle M**	**1.00**	**90**		Pb	22 54 22.1	-1.5
JUEM					Sg	22 54 35.7	-1.0
PSRC	**Puddingstone R**	**1.00**	**359**		Pb	22 54 22.6	-0.9
PSRC					Sb	22 54 36.1	-0.6
BZNA	**Buzz No.'s Pla**	**1.02**	**66**		Pb	22 54 22.6	-1.3
BZNA					Sg	22 54 37.1	-0.3
BAR	**Barrett**	**1.02**	**113**		Pb	22 54 22.7	-1.2
BAR					Sg	22 54 37.8	+0.4
BBSC	**Beaumont Base**	**1.07**	**39**		Pb	22 54 23.4	-1.4
BBSC					Sb	22 54 38.7	0.0
FRD	**Ford Ranch, An**	**1.07**	**67**		Pb	22 54 23.7	-1.1
FRD	**Ford Ranch, An**	**1.07**	**67**		Pb	22 54 23.7	-1.2
FRD					Sb	22 54 38.8	0.0
TKX	**Tecate**	**1.12**	**117**	Pg	Pb	22 54 24.7	-0.9
TKX				Sg	Sb	22 54 39.1	-1.0
TKX				IAML		22 54 41.8	
	comp=E,379nm,0.2s						
SSK	**Sunset Peak**	**1.12**	**4**		Pb	22 54 24.7	-1.1
PASC	**Pasadena Art C**	**1.13**	**343**		Pb	22 54 24.4	-1.4
PASC	**Pasadena Art C**	**1.13**	**343**	Pg	Pb	22 54 24.3	-1.5
PASC	**Pasadena Art C**	**1.13**	**343**	Sg	Sb	22 54 38.4	-2.1
SS2	**San Sevaine**	**1.14**	**12**		Pb	22 54 24.9	-1.1
BFSC	**Mount Baldy Ra**	**1.15**	**5**		Pb	22 54 25.1	-1.2
BFSC					Sb	22 54 41.3	+0.1
MWC	**Mount Wilson**	**1.16**	**349**		Pb	22 54 24.8	-1.5
DJJ	**Donna J Jenkin**	**1.16**	**331**		Pb	22 54 24.6	-1.6
DJJ					Sb	22 54 39.7	-1.6
BORC	**Borrego Spring**	**1.16**	**81**		Pb	22 54 25.3	-1.0
MONP2	**Monument Peak**	**1.16**	**99**		Sb	22 54 41.1	-0.5
SVD	**Seven Oaks Dam**	**1.17**	**29**		Pb	22 54 25.5	-1.0
SVD					Sg	22 54 42.1	+0.1
CBX	**Cerro Bola**	**1.22**	**129**		Pn	22 54 26.5	-0.8
PFO	**Pinyon Flats O**	**1.23**	**64**		Sb	22 54 42.8	-0.6
XPFO	**Pinon Flat**	**1.23**	**65**		Pn	22 54 26.4	-1.0
XPFO					Sb	22 54 42.9	-0.5
CHFC	**Chilao Flat St**	**1.26**	**351**		Pn	22 54 26.4	-1.4
PMD	**Palm Desert**	**1.31**	**64**		Pn	22 54 27.5	-0.8
PMD					Sb	22 54 44.7	-0.7
JNH	**Juniper Hills**	**1.36**	**354**		Pn	22 54 28.1	-1.1
HOLC	**Holcomb Ridge**	**1.37**	**358**		Pn	22 54 28.4	-0.9
HOLC					Sn	22 54 47.5	+0.1
BBRC	**Big Bear Solar**	**1.38**	**31**		Sb	22 54 47.5	-0.3
EW2	**E Wide Canyon**	**1.43**	**53**		Sb	22 54 49.2	0.0
LRRC	**Littlerock Res**	**1.45**	**352**		Pn	22 54 29.8	-0.5
SNCC	**San Nicolas Is**	**1.47**	**277**	Pn	Pn	22 54 28.7	-1.8
IKP	**In-Ko-Pah, Jac**	**1.48**	**107**		Pn	22 54 30.7	0.0
IKP					Sb	22 54 50.3	-0.2
VTV	**Victorville**	**1.52**	**14**		Sn	22 54 51.1	+0.1
BLAC	**Blackrock camp**	**1.52**	**50**		Pn	22 54 31.6	+0.2
BLAC					Sb	22 54 51.8	0.0
CCX	**Cicese**	**1.54**	**142**	Pn	Pn	22 54 30.8	-0.8
CTCC	**Cactus City**	**1.61**	**69**		Sb	22 54 55.1	+0.9
YUH	**Yuha Desert**	**1.63**	**105**		Pn	22 54 33.3	+0.5
YUH					Sb	22 54 55.4	+0.7
YUH	**Yuha Desert**	**1.63**	**105**	Pn	Pn	22 54 32.9	+0.2
YUH				IAML		22 54 56.1	
	comp=E,91nm,0.2s						
YUH				IAML		22 54 56.3	
	comp=N,95nm,0.5s						
GTM	**Goat Mountain**	**1.70**	**44**		Sb	22 54 56.2	-0.5
CTW	**Cottonwood Mou**	**1.71**	**69**		Pb	22 54 35.5	-0.1
CTW					Sb	22 54 57.8	+0.8
HYS	**Haystack Butte**	**1.78**	**6**		Sb	22 54 59.5	+0.3
ESJX	**Sierra Juarez**	**1.89**	**124**	Pn	Pn	22 54 35.4	-1.1
CCAC	**Calif City Air**	**2.07**	**355**	Pn	Pn	22 54 38.3	-0.6
CCAC				IAML		22 55 20.0	
	comp=N,52nm,0.8s						
BCW	**Bitter Crk WRg**	**2.29**	**324**	Pn	Pn	22 54 41.5	-0.4
BCW				IAML		22 55 18.9	
	comp=E,79nm,0.5s						
BCW				IAML		22 55 20.5	
	comp=N,80nm,0.6s						
GSC	**Goldstone, Bar**	**2.35**	**20**	Pn	Pn	22 54 42.8	0.0
GSC				IAML		22 55 20.1	
	comp=E,49nm,0.4s						
GSC				IAML		22 55 23.0	
	comp=N,36nm,0.6s						
WORM	**Onyx Ranch**	**2.63**	**352**		Pn	22 54 45.0	-1.5
WNMM	**Nine Mile Cany**	**2.75**	**358**		Pn	22 54 48.2	0.0
GWY	**Greenwater Val**	**3.23**	**16**	Pn	Pn	22 54 54.6	-0.3
GWY				IAML		22 55 49.2	
	comp=E,21nm,0.5s						
WCT	**Wildcat Mounta**	**3.82**	**14**	Pn	Pn	22 55 02.4	-0.5
TPNV	**Topopah Spring**	**4.05**	**18**	Pn	Pn	22 55 06.9	+0.7
TPNV				IAML		22 57 36.1	
	comp=E,21nm,0.3s						

*IDC **29** 22:57:33.9±1.6, 3°.07S×137°.89E, h0km, mb3.5/2, mbtmp3.6/5, ML3.7/3, Error ellipse: s-maj=34.6km s-min=24.5km az=140.0*
*DJA **29** 22:57:41.2±1.1, 3°.5S±3°.×13°.8E±°, h22km±9km, M4.0/7, mb3.9/1, MLv4.0/7*
ISC 29 22:57:40.8±1.1, 3°.14S±0°.09×138°.04E±0°.04, h68km±19km, n12, σ1§42/18, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.32**	**31**	P	**Pn**	**22 58 03.2**	**-0.1**
SMPI				S	**Sn**	**22 58 19.6**	**-0.6**
SRPI	**Serui, Papua**	**2.19**	**305**	P	**Pn**	**22 58 15.7**	**+0.8**
SRPI				S	**Sn**	**22 58 40.1**	**-1.0**
GENI	**Genyem**	**2.20**	**76**	P	**Pn**	**22 58 15.9**	**+0.9**
GENI				S	**Sn**	**22 58 41.7**	**+0.5**
BAKI	**Biak**	**2.73**	**315**	P	**Pn**	**22 58 22.3**	**0.0**
BAKI				S	**Sn**	**22 58 53.9**	**-0.2**
JAY	**Jayapura**	**2.74**	**77**	Pn	**Pn**	**22 58 21.9**	**-0.5**
	4.8nm,0.3s,baz=242,slow=10,SNR=26						
JAY				Sn	**Sn**	**22 58 55.6**	**+1.2**
	11nm,0.3s,baz=112,slow=19,SNR=7.1 12nm,0.4s						
JAY	**Jayapura**	**2.74**	**77**	P	**Pn**	**22 58 22.0**	**-0.5**
KMPI	**Kaimana, Papua**	**4.36**	**263**	P	**Pn**	**22 58 47.3**	**+2.8**
FAKI	**Fak Fak**	**5.78**	**272**	P	**Pn**	**22 59 02.4**	**-1.6**
WRA	**Warramunga Arr**	**17.09**	**192**	P	**Pn**	**23 01 33.0**	**-2.3**
	0.3nm,0.3s,baz=13,slow=13,SNR=11						
WRA				S	Sn	23 04 34.0	-11
	1.0nm,0.6s,baz=16,slow=22,SNR=5.2 0.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.20**	**218**	P	**P**	**23 02 00.3**	**+1.0**
	0.2nm,0.3s,baz=48,slow=16,SNR=1.8						
FITZ				S	S	23 05 23.2	-10
	1.5nm,0.5s,baz=190,slow=15,SNR=6.5 2.2nm,1.0s						
ASAR	**Alice Springs**	**20.80**	**191**	P	**P**	**23 02 17.3**	**+0.6**
	2.2nm,0.6s,baz=20,slow=11,SNR=20						
ASAR				S	**S**	**23 06 02.9**	**-2.3**
	1.8nm,0.8s,baz=12,slow=22,SNR=7.2 2.2nm,0.6s						
MKAR	**Makanchi Array**	**69.72**	**323**	P	**P**	**23 08 44.5**	**+1.0**
	0.2nm,0.5s,baz=116,slow=4.8,SNR=2.7 0.2nm,0.5s						

*CATAC **29** 23:05:15.9±0.4, 12°.N±2°.×8°.8W±°, h8km±2km, M4.0/33, MLv4.0/33, Error ellipse: s-maj=4.5km s-min=2.1km az=29.7, confirmed*
*IDC **29** 23:05:16.7±2.3, 12°.63N×87°.46W, h0km, mb3.7/4, mbtmp3.7/5, ML3.4/1, MS3.5/4, Error ellipse: s-maj=73.1km s-min=28.6km az=50.0*
*NEIC **29** 23:05:18.8±1.4, 12°.28N±0°.05×87°.79W±0°.07, h23km±11km, mb4.4/28, Error ellipse: s-maj=11.2km s-min=3.8km az=58.0*
*SNET **29** 23:05:18.1±0.7, 12°.20N×88°.06W, h13km±9km, ML3.5*
*GCG **29** 23:05:22.1±1.0, 12°.72N×88°.10W, h149km±45km, MD4.4*
ISC 29 23:05:14.8±1.3, 12°.19N±0°.04×87°.91W±0°.02, h3km±9km, n139, σ1§16/157, mb4.4/15, MS3.6/3, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**0.90**	**26**	P	**Pn**	**23 05 35.0**	**+0.6**
POTN				S	**Sn**	**23 05 48.7**	**+0.8**
CRIN	**San Cristobal**	**0.98**	**59**		**Pn**	**23 05 35.9**	**+0.2**
CRIN				Sn	**Sn**	**23 05 50.4**	**+0.2**
CRIN	**San Cristobal**	**0.98**	**59**	S	**Sn**	**23 05 51.4**	**+1.2**
CRIN	**San Cristobal**	**0.98**	**59**	P	**Pn**	**23 05 36.1**	**+0.5**
CNCH	**Conchagua**	**1.09**	**4**	*eP*	**Pn**	**23 05 37.6**	**+0.5**
CNCH				*eS*	**Sn**	**23 05 53.2**	**+0.4**
CNCH	**Conchagua**	**1.09**	**4**	P	**Pn**	**23 05 37.8**	**+0.8**
CNCH	**Conchagua**	**1.09**	**4**	S	**Sn**	**23 05 54.4**	**+1.6**
QUEN	**Al S del Volca**	**1.11**	**69**	P	**Pn**	**23 05 37.2**	**-0.1**
LCND	**La Caada**	**1.12**	**1⇑**	*eP*	**Pn**	**23 05 38.0**	**+0.6**
LCND				*eS*	**Sn**	**23 05 53.9**	**+0.6**
LCND				IAML		23 06 02.2	
	comp=Z,2μm,0.6s						
LCND	**La Caada**	**1.12**	**1**	P	**Pn**	**23 05 37.9**	**+0.6**
HOYN	**Al Sur del Vol**	**1.14**	**69**	P	**Pn**	**23 05 37.8**	**+0.1**
HOYN				S	**Sn**	**23 05 55.0**	**+1.1**
HERN	**Volcan Telica**	**1.14**	**68**		**Pb**	**23 05 37.2**	**0.0**
HERN				Sn	**Sg**	**23 05 48.2**	**-3.1**
HERN	**Volcan Telica**	**1.14**	**68**	P	**Pb**	**23 05 37.4**	**+0.3**
PACN	**Al O del Volca**	**1.14**	**74**	P	**Pb**	**23 05 37.6**	**+0.4**
POLN	**Al Sur del Vol**	**1.17**	**67**	P	**Pn**	**23 05 38.4**	**+0.3**
POLN				S	**Sn**	**23 05 54.9**	**+0.3**
CNGA	**Al SSO del Vol**	**1.22**	**75**	P	**Pb**	**23 05 38.9**	**+0.3**
CNGA				S	**Sn**	**23 05 56.6**	**+0.6**
CNGN	**Cerro Negro**	**1.23**	**75**		**Pg**	**23 05 38.5**	**+0.2**
CNGN				Sn	**Sg**	**23 05 52.2**	**-2.0**
CNGN	**Cerro Negro**	**1.23**	**75**	P	**Pg**	**23 05 38.6**	**+0.3**
CNGN	**Cerro Negro**	**1.23**	**75**	S	**Sn**	**23 05 57.1**	**+1.1**
ILCN	**San Idelfonso**	**1.25**	**72**	P	**Pg**	**23 05 39.0**	**+0.3**
ILCN				S	**Sn**	**23 05 57.5**	**+1.0**
LEVN	**Ruinas Leon Vi**	**1.28**	**80**	P	**Pg**	**23 05 39.8**	**+0.3**
LCY	**Lacayo**	**1.29**	**343**	*eP*	**Pn**	**23 05 40.6**	**+0.8**
BLLM	**Bellamira**	**1.29**	**346**	*eP*	**Pn**	**23 05 40.6**	**+0.8**
COPN	**Copaltepe**	**1.29**	**90**	P	**Pn**	**23 05 39.9**	**+0.1**
RANC	**El Ranchito**	**1.29**	**344**	*eP*	**Pn**	**23 05 40.6**	**+0.6**
RANC	**El Ranchito**	**1.29**	**344**	P	**Pn**	**23 05 41.7**	**+1.7**
RANC	**El Ranchito**	**1.29**	**344**	S	**Sn**	**23 05 59.7**	**+1.8**
PACA	**Pacayal**	**1.34**	**343**	*eP*	**Pb**	**23 05 41.3**	**+0.7**
PACA				*eS*	**Sn**	**23 05 59.0**	**+0.1**
PACA	**Pacayal**	**1.34**	**343**	P	**Pb**	**23 05 41.8**	**+1.2**
PACA	**Pacayal**	**1.34**	**343**	S	**Sn**	**23 06 00.3**	**+1.4**
MOMN	**Momotombo**	**1.36**	**80**	P	**Pn**	**23 05 40.4**	**-0.3**
MOMN				S	**Sn**	**23 05 59.5**	**+0.1**
TECA	**Tecapa**	**1.42**	**336**	*eP*	**Pg**	**23 05 42.4**	**+0.3**
TECA				*eP*	**Pb**	**23 05 42.5**	**+0.4**
TECA				IAML		23 06 08.1	
	comp=Z,388nm,0.3s						
SAPS	**Ciudad Sandino**	**1.47**	**90**	S	**Sn**	**23 06 01.9**	**-0.2**
SAPS	**Ciudad Sandino**	**1.47**	**90**	P	**Pn**	**23 05 42.7**	**+0.5**
CHOHN	**Orocuina**	**1.48**	**30**	P	**Pg**	**23 05 43.4**	**+0.1**
CHOHN	**Orocuina**	**1.48**	**30**	S	**Sg**	**23 06 04.4**	**+1.9**
APYN	**Apoyeque**	**1.53**	**88**	P	**Pb**	**23 05 44.1**	**+0.3**
TECO	**Alcaldia de Te**	**1.59**	**328**	P	**Pb**	**23 05 44.9**	**0.0**
CAHU	**Cacaocuatique**	**1.60**	**350**	*eP*	**Pg**	**23 05 46.1**	**+0.6**
TISN	**Laguna Tiscapa**	**1.61**	**91**	P	**Pn**	**23 05 44.7**	**+0.6**
UNAN	**Cigeo UNAN**	**1.61**	**92**	P	**Pn**	**23 05 44.4**	**+0.3**
UNAN				S	**Sb**	**23 06 06.2**	**+0.4**
MGAN	**Managua**	**1.63**	**91**		**Pn**	**23 05 44.6**	**+0.2**
MGAN	**Managua**	**1.63**	**91**	P	**Pn**	**23 05 45.0**	**+0.6**
MGAN	**Managua**	**1.63**	**91**	S	**Sb**	**23 06 06.7**	**+0.2**
UESV	**Universidad de**	**1.68**	**329**	S	**Sg**	**23 06 09.6**	**+0.9**
UESV	**Universidad de**	**1.68**	**329**	P	**Pg**	**23 05 46.6**	**-0.4**
MAS3	**Al N del Volca**	**1.71**	**95**	P	**Pn**	**23 05 45.9**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.71**	**332**	*eP*	**Pb**	**23 05 46.5**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.71**	**332**	S	**Sg**	**23 06 10.4**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.71**	**332**	P	**Pg**	**23 05 47.0**	**-0.5**
COEG	**Centro de Oper**	**1.71**	**327**	*eP*	**Pb**	**23 05 46.4**	**-0.5**
COEG				IAML		23 06 18.0	
	comp=Z,532nm,0.5s						
COEG	**Centro de Oper**	**1.71**	**327**	P	**Pb**	**23 05 47.0**	**+0.1**
SABN	**Sabanita**	**1.73**	**97**	P	**Pn**	**23 05 45.6**	**-0.1**
LIMN	**Finca el Limon**	**1.74**	**60**	P	**Pb**	**23 05 47.2**	**-0.3**
NANN	**Nandasmo**	**1.77**	**98**	P	**Pn**	**23 05 47.6**	**+1.2**
NANN	**Nandasmo**	**1.77**	**98**	S	**Sn**	**23 06 10.4**	**+1.0**
LFRS	**El Faro**	**1.82**	**322**	*eP*	**Pb**	**23 05 47.9**	**-0.9**
PAVA	**Las Pavas**	**1.82**	**327**	P	**Pb**	**23 05 48.5**	**-0.3**
LOMA	**Loma Larga**	**1.90**	**320**	P	**Pb**	**23 05 49.5**	**-0.8**
LOMA	**Loma Larga**	**1.90**	**320**	S	**Sg**	**23 06 14.9**	**-1.0**
TGUH	**Tegucigalpa,Un**	**1.96**	**18**		**Pn**	**23 05 48.4**	**-0.7**
TGUH	**Tegucigalpa,Un**	**1.96**	**18**	P	**Pb**	**23 05 50.8**	**-0.5**
TGUH				S	**Sg**	**23 06 17.2**	**-0.7**
MARCA	**Marcala la Paz**	**1.96**	**357**	*eP*	**Pb**	**23 05 51.0**	**-0.4**
MARCA				*eS*	**Sg**	**23 06 17.8**	**-0.2**
YUSH	**Yuscaran**	**2.04**	**31**	P	**Pb**	**23 05 51.6**	**-1.0**
PMON	**Piamonte**	**2.04**	**318**	P	**Pb**	**23 05 51.5**	**-1.1**
PMON	**Piamonte**	**2.04**	**318**	S	**Sb**	**23 06 18.2**	**-0.4**
MATN	**Matagalpa**	**2.08**	**69**	S	**Sb**	**23 06 18.9**	**-0.5**
MATN	**Matagalpa**	**2.08**	**69**	P	**Pn**	**23 05 51.9**	**+1.3**
JAYA	**Jayaque - finc**	**2.09**	**314**	*eP*	**Pb**	**23 05 53.4**	**-0.2**
JAYA				*eS*	**Sn**	**23 06 16.2**	**-1.4**
JAYA	**Jayaque - finc**	**2.09**	**314**	P	**Pn**	**23 05 51.8**	**+0.8**
RCVN	**Varillal2**	**2.18**	**50**	P	**Pn**	**23 05 53.0**	**+0.9**
RCPN	**Sur Rio San Ju**	**2.22**	**53**	P	**Pb**	**23 05 54.4**	**-1.3**
COMHN	**El Horno**	**2.27**	**9**	P	**Pb**	**23 05 55.6**	**-1.0**
JAPN	**Al SSO del Vol**	**2.28**	**106**	P	**Pn**	**23 05 54.1**	**+0.7**
CONN	**Concepcion**	**2.32**	**105**	P	**Pn**	**23 05 54.2**	**+0.2**
CEVE	**Cerro Verde**	**2.33**	**315**	P	**Pn**	**23 05 55.4**	**+1.1**
NUBE	**Las Nubes**	**2.50**	**313**	*eP*	**Pn**	**23 05 58.4**	**+1.9**
NUBE				*eS*	**Sn**	**23 06 25.3**	**-2.2**
CARN	**Rivas**	**2.54**	**113**	P	**Pn**	**23 05 56.7**	**-0.3**
CARN				S	**Sn**	**23 06 29.2**	**+0.8**
MTO3	**Montecristo**	**2.61**	**327**		**Pn**	**23 05 59.6**	**+1.4**
MTO3	**Montecristo**	**2.61**	**327**	*eP*	**Pn**	**23 05 59.4**	**+1.3**
MTO3				*eS*	**Sn**	**23 06 27.2**	**-3.4**
MTO3	**Montecristo**	**2.61**	**327**	P	**Pn**	**23 05 59.8**	**+1.6**
ACON	**Acoyapa**	**2.69**	**94**		**Pn**	**23 05 58.5**	**-0.5**
ALIBA	**Liberia Airpor**	**2.81**	**124**	*eP*	**Pn**	**23 06 01.3**	**+0.7**
GPS3	**Bodega del ICE**	**2.87**	**119**	*eP*	**Pn**	**23 05 59.3**	**-2.3**
COLC	**Colonia**	**3.05**	**119**	*eP*	**Pn**	**23 06 04.7**	**+0.6**
CUI	**Cuipilapa**	**3.09**	**119**	*eP*	**Pn**	**23 06 04.8**	**+0.2**
INDI	**Punta indio, G**	**3.30**	**134**	P	**Pn**	**23 06 07.3**	**-0.1**
QUEB	**Quebradon, Cot**	**3.34**	**117**	*eP*	**Pn**	**23 06 09.7**	**+1.7**
JTS	**Las Juntas de**	**3.46**	**123**		**Pn**	**23 06 10.9**	**+1.3**
JTS	**Las Juntas de**	**3.46**	**123**	Pn	**Pn**	**23 06 11.2**	**+1.5**
	comp=Z,3.4nm,0.3s,baz=315,slow=9.9,SNR=7.1						
JTS				Sn	**Sn**	**23 06 48.9**	**-2.3**
	comp=Z,9.0nm,0.3s,baz=82,slow=20,SNR=4.5						
JTS				LR	LR	23 07 53.1	
	comp=Z,647nm,18.8s,baz=307,slow=46 comp=Z,7.2nm,0.3s						
JTS	**Las Juntas de**	**3.46**	**123**	*eP*	**Pn**	**23 06 11.7**	**+2.0**
ESPN	**Las Esperanzas**	**3.53**	**89**	Pn	**Pn**	**23 06 09.8**	**-0.8**
ARE1	**Arenal 1**	**3.57**	**118**	*eP*	**Pn**	**23 06 12.1**	**+0.9**
VARE2	**V. Arenal**	**3.57**	**118**	*eP*	**Pn**	**23 06 12.2**	**+1.0**
CEDE	**Laguna Cedeo**	**3.57**	**118**	*eP*	**Pn**	**23 06 11.0**	**-0.2**
PICV	**PH. Pirrs**	**4.45**	**124**	*eP*	**Pn**	**23 06 25.4**	**+2.1**
PISJ	**San Jernim**	**4.50**	**124**	*eP*	**Pn**	**23 06 26.2**	**+2.1**
ABE2	**San Pablo**	**4.52**	**123**	*eP*	**Pn**	**23 06 26.9**	**+2.5**
CVTG	**V. Turrialba,**	**4.54**	**116**	*eP*	**Pn**	**23 06 28.7**	**+4.2**
LCR2	**La Lucha 2**	**4.54**	**122**		**Pn**	**23 06 25.6**	**+0.9**
LCR2	**La Lucha 2**	**4.54**	**122**	*eP*	**Pn**	**23 06 25.7**	**+1.0**
VICA	**Volcano Irazu**	**4.55**	**118**	*eP*	**Pn**	**23 06 29.1**	**+4.1**
CVTV	**Tajo**	**4.62**	**118**	*eP*	Pn	23 06 30.9	+4.9
PIEC	**Cerro El Cedra**	**4.64**	**123**	*eP*	**Pn**	**23 06 28.2**	**+2.0**
SAJE	**San Jernim**	**5.16**	**123**	*eP*	**Pn**	**23 06 35.1**	**+1.9**
ALCO	**Alturas Coton,**	**5.94**	**122**	*eP*	**Pn**	**23 06 44.5**	**+0.6**
BRU2	**Volcan**	**6.14**	**123**		**Pn**	**23 06 47.2**	**+0.6**
FLOC	**Florencia**	**16.08**	**130**		**Pn**	**23 09 03.9**	**+1.7**
FLOC				IAmb	IAmb	23 09 09.3	
	comp=Z,28nm,1.1s						
COHC	**Cochancay**	**16.91**	**149**	P	**P**	**23 09 15.0**	**+0.3**
833A	**Chaparral WMA,**	**19.31**	**328**	P	**P**	**23 09 40.3**	**-0.9**
833A				IAmb	IAmb	23 09 44.0	
	comp=Z,22nm,1.0s						
HNDO	**Hondo**	**20.24**	**330**	P	**P**	**23 09 51.5**	**+0.2**
152A	**Waverly Hall**	**20.60**	**8**	P	**P**	**23 09 55.9**	**+0.8**
DRIO	**Del Rio**	**20.83**	**327**	P	**P**	**23 09 58.6**	**+0.9**
JCT	**Junction City**	**21.28**	**331**	P	**P**	**23 10 03.9**	**+1.4**
JCT				IAmb	IAmb	23 10 06.9	
	comp=Z,7.2nm,0.8s						
ATAH	**Atahualpa**	**21.40**	**153**	LR	LR	23 17 15.5	
	comp=Z,91nm,19.0s,baz=0.1,slow=33						
BRDY	**Brady**	**21.59**	**333**	P	**P**	**23 10 06.2**	**+0.3**
OZNA	**Ozona**	**22.29**	**329**	P	**P**	**23 10 14.0**	**+0.5**
OZNA				IAmb	IAmb	23 10 28.8	
	comp=Z,8.0nm,1.0s						
TXAR	**Lajitas Array**	**22.50**	**322**	P	**P**	**23 10 16.9**	**+1.2**
	comp=Z,3.9nm,0.8s,baz=138,slow=8.8,SNR=33 comp=Z,3.9nm,0.8s						
ABTX	**Abilene, Hawle**	**23.02**	**334**	P	**P**	**23 10 21.1**	**-0.1**
ABTX				IAmb	IAmb	23 10 22.6	
	comp=Z,5.0nm,0.6s						
MNHN	**Monahans**	**23.48**	**327**	P	**P**	**23 10 25.5**	**-0.4**
MNHN				IAmb	IAmb	23 10 28.0	
	comp=Z,16nm,1.1s						
TKL	**Tuckaleechee C**	**23.67**	**8**	P	**P**	**23 10 25.6**	**-2.1**
	comp=Z,2.2nm,0.8s,baz=175,slow=9.3,SNR=3.5 comp=Z,2.2nm,0.8s						
SN05	**Snyder 5**	**23.78**

NFF	Wufeng Townshi	1.42	294	eP	Pb	23 06 29.8 +0.5
NFF				eS	Sb	23 06 48.4 +1.4
WHP	Taichung City	1.48	279	P	Pb	23 06 31.0 +0.8
WHP				eS	Sb	23 06 50.5 +1.9
SSLB	Suanglung	1.48	260	eP	Pb	23 06 30.5 +0.3
JIJ	Ishigaki jima	1.49	78	eP	Pn	23 06 29.4 +0.4
JIJ				eS	Sb	23 06 48.7 -0.2
LIOB	Emei	1.51	293	eP	Pb	23 06 30.8 -0.1
LIOB				eS	Sb	23 06 51.7 +2.1
NSTT	Nanjuang	1.52	293	eP	Pb	23 06 30.9 0.0
TYC	Yuchr	1.55	265	eP	Pb	23 06 31.9 +0.5
WHYT	Xinyi Township	1.59	258	eP	Pn	23 06 30.7 +0.4
JISG	Ishigakijimahi	1.70	71	eP	Pn	23 06 32.0 +0.1
JISG				eS	Sn	23 06 52.8 -0.2

TXNET 29 23:14:25.3, 31°.5N±0°.6×103°.2W±0°.7, h5km±1km, ML2.1/6, 2C, Error ellipse: s-maj=1.0km s-min=0.9km az=112.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB06	Permian Basin	0.10	7	⇑P	Pg	23 14 28.0	+0.4
TPB06				S	Sg	23 14 30.0	+0.9
PCOS	Crockett Middl	0.27	241	S	Sb	23 14 36.2	-1.5
TPB04	Verhalen	0.36	185	P	Pg	23 14 33.2	+0.9
TPB04				S	Sg	23 14 38.5	+1.6
TPB07	Mentone	0.37	276	P	Pg	23 14 33.2	+0.7
TPB16	Coyonosa	0.42	182	P	Pb	23 14 34.3	-0.9
TPB16				S	Sb	23 14 40.6	-1.3
MNHN	Monahans	0.45	117	P	Pg	23 14 34.5	+0.5
MNHN				S	Sb	23 14 41.6	-1.3
TPB10	Southeast of T	0.52	240	P	Pg	23 14 35.9	+0.7
TPB10				S	Sb	23 14 43.4	-1.3
TPB03	Saragosa	0.52	208	S	Sb	23 14 43.7	-1.0
PECS	Pecos	0.57	253	⇑P	Pg	23 14 36.8	+0.5
PECS				S	Sg	23 14 44.6	+0.9
TPB05	Hovey Rd	0.63	187	P	Pg	23 14 37.7	+0.4
TPB05				S	Sb	23 14 47.3	-0.5
TPB12	Southwest of T	0.70	242	S	Sg	23 14 48.9	+1.0
TPB08	Permian Basin	0.71	157	S	Sb	23 14 49.9	-0.3
ODSA	Odessa	0.82	45	P	Pb	23 14 41.6	-0.5
ODSA				S	Sb	23 14 52.6	-0.9
ALPN	Alpine	1.22	197	P	Pg	23 14 47.7	-0.9
ALPN				S	Sb	23 15 04.9	0.0
VHRN	Van Horn	1.68	244	P	Pb	23 14 56.3	-0.5
VHRN				S	Sb	23 15 18.4	+0.1
SGCY	Sterling City	1.83	78	P	Pb	23 14 58.5	-0.9
SGCY				S	Sg	23 15 24.4	+0.2
MNTX	Cornudas Mount	1.84	275	P	Pb	23 14 59.0	-0.4
MNTX				S	Sg	23 15 24.0	-0.5
SAND	Sanderson	1.85	149	P	Pb	23 14 59.5	-0.1
SAND				S	Sg	23 15 24.5	-0.2
OZNA	Ozona	1.91	108	P	Pb	23 15 00.3	-0.3
OZNA				S	Sg	23 15 27.0	+0.4

RSNC 29 23:54:06.4±0.0, 11°.N±1°.×7°.2W±°., h15km±2km, M2.0, ML1.9
FUNV 29 23:54:07.4, 10°.73N×72°.43W, h74km, MW3.1

ISC 29 23:54:03.6±2.3, 10°.82N±0°.05×72°.30W±0°.05, h13km±17km, n7, σ1°69/13, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	Cerrejon, Guaj	0.61	289	P	Pb	23 54 15.7	-0.4
CRJC				S	Sg	23 54 22.9	-0.6
MCQV	Machiques	0.80	197	eP	Pn	23 54 21.3	+0.7
MCQV				eS	Sn	23 54 33.5	+1.2
URIC	Uribia, Colomb	0.93	19	P	Pn	23 54 22.8	+0.5
URIC				S	Sn	23 54 35.7	+0.2
SOCV	Socops	2.89	150	eP	Pn	23 54 50.1	+0.7
SOCV				eS	Sn	23 55 22.0	-2.1
SJCC	San Jacinto, C	2.98	252	P	Pn	23 54 51.1	+0.5
SJCC				S	Sn	23 55 26.2	-0.1
BAUV	El Baul	4.59	114	eP	Pn	23 55 15.1	+2.3
BAUV				eS	Sn	23 56 02.9	-3.1
BENV	Beln	4.70	100	eP	Pn	23 55 16.1	+1.7

KRSC 30 00:21:35.5±1.4, 50°.70N×157°.09E, h101km±15km, Ml3.9
IDC 30 00:21:39.1±2.4, 51°.16N×156°.37E, h126km±20km, mb3.2/8, mbtmp3.6/11, Error ellipse: s-maj=32.5km s-min=16.5km az=162.0

ISC 30 00:21:36.7±0.9, 50°.83N±0°.10×156°.68E±0°.10, h113km±6km, n31, σ1°17/44, mb3.5/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.38	248	eP	Pn	00 21 53.3	+0.3
SKR				eS	Sn	00 22 05.2	-0.1
PAU	Pauzhetka	0.65	8	eP	Pn	00 21 54.6	-0.2
PAU				eS	Sn	00 22 08.4	-0.1
KDTR	Khodutka, Kamc	1.32	41	eP	Pn	00 22 01.0	-0.4
KDTR				eS	Sn	00 22 18.6	-1.6
MTVR	Mutnovka	1.91	29	eP	Pn	00 22 09.2	+0.6
MTVR				eS	Sn	00 22 33.1	0.0
GRL	Gorelyy	1.93	26	eP	Pn	00 22 09.9	+0.9
GRL				eS	Sn	00 22 34.4	+0.7
RUS	Russkaya	1.97	35	eP	Pn	00 22 09.2	-0.1
RUS				eS	Sn	00 22 32.9	-1.5
APC	Apacha	2.12	8	eP	Pn	00 22 11.2	0.0
KRMR	Karymshinskiy	2.20	24	eP	Pn	00 22 12.7	+0.5
KRMR				eS	Sn	00 22 40.5	+1.1
PETK	Petropavlovsk-	2.37	15	P	Pn	00 22 14.2	-0.2
	19nm,0.6s,baz=174,slow=11,SNR=93						
PET	Petropavlovsk	2.52	28	eP	Pn	00 22 16.6	+0.3
PET				eS	Sn	00 22 46.3	-0.4
INSR	Institute	2.54	27	eS	Sn	00 22 48.9	+1.6
DALK	Dalny	2.55	29	eP	Pn	00 22 17.2	+0.5
DALK				eS	Sn	00 22 48.0	+0.4
UGLR	Uglovaya	2.73	28	eP	Pn	00 22 20.6	+1.4
UGLR				eS	Sn	00 22 53.3	+1.4
KOK	Koryaka	2.75	25	eP	Pn	00 22 21.2	+1.7
AVH	Avacha	2.75	27	eP	Pn	00 22 21.0	+1.5
SDLR	Sedlovina	2.81	28	eP	Pn	00 22 20.9	+0.7
SDLR				eS	Sn	00 22 53.3	-0.5
KRX	Arik	2.81	25	eP	Pn	00 22 21.7	+1.4
KRX				eS	Sn	00 22 55.9	+2.0
NLC	Nalytchevo	2.87	34	eS	Sn	00 22 53.8	-1.2
SPN	Mys Shipunski	3.08	41	eP	Pn	00 22 23.7	+0.1
SPN				eS	Sn	00 22 58.3	-1.6
MKZ	Mys Kozlova	4.84	37	eP	Pn	00 22 45.9	-1.2
KBTR	Krutoberegovo	6.51	32	eP	Pn	00 23 09.3	-0.5
KLR	Kul'dur	16.08	274	P	Pn	00 25 16.8	+0.8
	1.0nm,0.5s,baz=85,slow=11,SNR=4.7						
MJAR	Matsushiro Arr	19.47	230	P	P	00 25 56.2	+1.7
	0.8nm,0.4s,baz=16,slow=13,SNR=6.0						
MKAR	Makanchi Array	47.23	296	P	P	00 29 56.8	-1.2
	0.2nm,0.3s,baz=66,slow=9.2,SNR=5.0						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	47.23	302	P	P	00 29 55.8	-2.1
	0.3nm,0.3s,baz=57,slow=7.0,SNR=5.2						
	0.3nm,0.3s						
BVAR	Borovoye Array	50.13	308	P	P	00 30 19.3	-0.8
	0.6nm,0.5s,baz=57,slow=11,SNR=5.2						
	0.6nm,0.5s						
CMAR	Chiang Mai Arr	55.62	257	P	P	00 31 00.7	-0.1
	0.7nm,0.4s,baz=44,slow=6.6,SNR=4.2						
	0.7nm,0.4s						
NVAR	Mina Array Bea	58.55	67	P	P	00 31 22.4	+1.0
	0.4nm,0.6s,baz=305,slow=7.6,SNR=2.2						
	0.4nm,0.6s						
PDAR	Pinedale Array	60.50	58	P	P	00 31 35.9	+1.1
	0.3nm,0.6s,baz=321,slow=1.9,SNR=3.5						
	0.3nm,0.6s						
EKA	Eskdalemuir Ar	72.88	348	P	P	00 32 50.3	-2.5
	0.2nm,0.3s,baz=17,slow=5.7,SNR=3.9						
	0.2nm,0.3s						
TXAR	Lajitas Array	73.50	64	P	P	00 32 59.0	+1.9
	0.3nm,0.5s,baz=288,slow=5.3,SNR=3.6						
	0.3nm,0.5s						

NEIC 30 00:22:41.8±2.3, 24°.9S±0°.1×178°.8E±0°.2, h545km±7km, mb4.4/7, Error ellipse: s-maj=21.4km s-min=17.2km az=74.0
IDC 30 00:22:44.2±2.0, 24°.89S×178°.71E, h564km±21km, mb3.4/8, mbtmp4.4/9, Error ellipse: s-maj=22.1km s-min=15.3km az=95.0

ISC 30 00:22:41.9±0.6, 25°.01S±0°.07×179°.0E±0°.1, h545km, n97, σ1°63/90, mb4.1/12, 8C-6D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	5.03	148	P	P	00 24 21.0	+9.5
GLKZ	Green Lake	5.05	148	P	P	00 24 20.8	+9.1
MSVF	Nonsavu	7.30	353	P	P	00 24 34.6	+1.8
	15nm,0.4s,baz=277,slow=20,SNR=11						
PINNC	Pines Island,	10.83	280	P	P	00 25 09.2	+0.9
OUZ	Omahuta	11.19	203	P	P	00 25 15.4	+3.6
WCZ	Waipu Caves	11.60	199	P	P	00 25 19.8	+3.7
GRZ	Great Barrier	11.60	194	P	P	00 25 19.6	+3.5
DZM	Mont Dzumac	11.87	282	P	P	00 25 19.4	+0.1
KUZ	Kuaotunu	12.03	193	P	P	00 25 24.0	+3.5
WIAZ	Waiheke Island	12.20	195	P	P	00 25 25.9	+3.6
MBAZ	Motutapu North	12.23	196	P	P	00 25 26.4	+3.8
MKAZ	Moumakai	12.49	194	P	P	00 25 28.7	+3.5
MXZ	Matakaoa Point	12.52	183	P	P	00 25 27.1	+1.4
MXZ	Matakaoa Point	12.52	183	P	P	00 25 25.9	+0.3
AWAZ	Awhitu Peninsu	12.57	196	P	P	00 25 29.4	+3.2
HAZ	Te Kaha	12.74	184	P	P	00 25 27.9	-0.1
WMGZ	Waiomatatini S	12.78	182	P	P	00 25 28.1	-0.2
RUGZ	Raukumara Rang	12.96	185	P	P	00 25 30.8	+0.5
TOZ	Tahuroa Road	13.02	192	P	P	00 25 33.9	+3.0
TOZ	Tahuroa Road	13.02	192	P	P	00 25 33.8	+3.0
TWGZ	Tauwhareparae	13.15	183	P	P	00 25 32.0	-0.2
URZ	Urewera	13.30	186	P	P	00 25 32.8	-0.8
	22nm,0.6s,baz=136,slow=2.1,SNR=14						
URZ				S	S	00 27 51.4	-3.8
	6.7nm,0.5s,baz=138,slow=23,SNR=9.1						
URZ	Urewera	13.30	186	P	P	00 25 33.0	-0.7
MWZ	Matawai	13.34	185	P	P	00 25 33.6	-0.6
RIGZ	Rimuhau	13.69	184	P	P	00 25 38.4	+0.6
BKZ	Black Stump Fm	14.27	188	P	P	00 25 42.8	-0.9
TWVZ	Taurewa	14.33	191	P	P	00 25 46.2	+1.7
FWVZ	Far West T-bar	14.49	191	P	P	00 25 47.1	+0.8
VRZ	Vera Road	14.52	193	P	P	00 25 50.0	+3.7
MOVZ	Moawhango	14.61	190	P	P	00 25 47.3	0.0
BFZ	Birch Farm	15.79	188	P	P	00 25 59.5	+0.1
TCW	Tory Channel	16.62	193	P	P	00 26 07.8	+0.6
QRZ	Quartz Range	16.66	197	P	P	00 26 08.8	+1.3
QRZ	Quartz Range	16.66	197	P	P	00 26 08.9	+1.3
BHW	Baring Head	16.71	191	P	P	00 26 08.2	+0.3
NNZ	Nelson	16.82	195	P	P	00 26 09.2	+0.2
MRNZ	Matariki Terra	17.14	196	P	P	00 26 12.6	+0.6
BSWZ	Blackbirch Sta	17.19	193	P	P	00 26 13.2	+0.8
THZ	Tophouse	17.45	195	P	P	00 26 15.5	+0.7
DSZ	Denniston Nort	17.72	198	P	P	00 26 19.0	+1.7
KHZ	Kahutara	17.93	193	P	P	00 26 19.6	+0.4
GVZ	Greta Valley S	18.57	194	P	P	00 26 25.5	+0.6
LTZ	Lake Taylor	18.57	196	P	P	00 26 25.1	0.0
OXZ	Oxford	19.14	196	P	P	00 26 29.6	-0.5
FOZ	Fox Glacier	19.94	200	P	P	00 26 38.0	+0.5
LBZ	Lake Benmore	20.61	198	P	P	00 26 42.2	-1.3
MLZ	Mavora Lakes	22.12	201	P	P	00 26 58.6	+1.5
WHZ	Wether Hill Ro	22.65	200	P	P	00 27 03.1	+1.3
ARMA	Armidale	24.78	251	P	P	00 27 21.3	+0.2
EIDS	Eidsvold	25.24	263	P	P	00 27 24.3	-0.8
MTSU	Mount Surprise	32.90	275	P	P	00 28 30.0	-1.6
STKA	Stephens Creek	33.46	250	P	P	00 28 35.6	-0.5
	3.0nm,0.5s,baz=102,slow=13,SNR=8.5						
	3.0nm,0.5s						
ASAR	Alice Springs	40.96	262	P	P	00 29 36.7	-1.0
	10nm,0.7s,baz=99,slow=7.5,SNR=2.0						
	10nm,0.7s						
WB0	Warramunga Arr	41.42	268	P	P	00 29 39.5	-1.9
WB0				IAmb	IAmb	00 30 27.6	
	comp=Z,143nm,0.8s						
WRA	Warramunga Arr	41.43	268	P	P	00 29 39.5	-1.9
	comp=Z,16nm,0.5s,baz=99,slow=6.6,SNR=7.8						
	comp=Z,16nm,0.5s						
MHA	Mahukona	51.14	31		pP	00 32 33.5	-3.9
VNDA	Vanda	53.20	185	P	P	00 31 10.4	+1.6
VNDA	Vanda	53.20	185	P	P	00 31 10.4	+1.6
	comp=Z,0.6nm,0.7s,baz=16,slow=8.4,SNR=7.3						
	comp=Z,0.6nm,0.7s						
SBA	Scott Base	53.22	183	P	P	00 31 12.0	+3.1
SBA				IAmb	IAmb	00 31 26.2	
	comp=Z,15nm,1.7s						
CASY	Casey	58.71	206	P	P	00 31 46.4	-0.7
CASY				IAmb	IAmb	00 33 22.7	
	comp=Z,8.9nm,0.9s						
QSPA	South Pole Qui	65.07	180	P	P	00 32 30.3	+1.7
QSPA				IAmb	IAmb	00 32 31.2	
	comp=Z,6.3nm,0.9s						
QSPA	South Pole Qui	65.07	180	P	P	00 32 30.4	+1.7
	comp=Z,4.3nm,0.7s,baz=293,slow=0.9,SNR=30						
	comp=Z,4.3nm,0.7s						
KSRS	Korea Array	78.52	321	P	P	00 33 46.3	-0.6
	comp=Z,0.8nm,0.4s,baz=149,slow=5.7,SNR=1.9						
	comp=Z,0.8nm,0.4s						
PETK	Petropavlovsk-	79.97	347	P	P	00 33 54.9	+0.6
	comp=Z,2.9nm,0.7s,baz=123,slow=7.2,SNR=6.3						
	comp=Z,2.9nm,0.7s						
NVAR	Mina Array Bea	86.19	44	P	P	00 34 26.8	+0.8
	comp=Z,0.2nm,0.3s,baz=207,slow=7.3,SNR=3.7						
	comp=Z,0.2nm,0.3s						
J18K	Innoko River	90.25	11	P	P	00 34 44.9	+0.8
J18K				IAmb	IAmb	00 35 33.7	
	comp=Z,15nm,1.6s						
BVAR	Borovoye Array	120.66	318	PKP	PKPdf	00 40 31.1	-0.5
	comp=Z,1.9nm,0.4s,baz=129,slow=2.1,SNR=13						
ARCES	ARCESS Array B	132.78	348	PKP	PKPdf	00 40 53.0	-1.3
	comp=Z,2.0nm,0.8s,baz=64,slow=2.8,SNR=5.3						
FINES	FINESS Array B	139.19	340	PKhKP	PKPpre	00 40 57.6	
	comp=Z,0.7nm,0.5s,baz=62,slow=4.5,SNR=7.2						
FINES				PKP	PKPdf	00 41 07.0	+0.7
	comp=Z,0.7nm,0.4s,baz=28,slow=4.9,SNR=4.5						
NC303	NORSAR Array S	142.82	350		PKPdf	00 41 10.6	-2.3
NC405	NORSAR Array S	142.88	350		PKPdf	00 41 10.3	-2.7
NB201	NORSAR Array S	143.00	350		PKPbc	00 41 11.2	-0.1
NB2	NORSAR Subarra	143.03	350	PKP	PKPab	00 41 10.5	-0.4
	comp=Z,1.3nm,0.6s,baz=16,slow=3.2						
NOA	NORSAR Array B	143.03	350	PKP	PKPab	00 41 11.0	+0.2
	comp=Z,4.8nm,0.8s,baz=16,slow=4.8,SNR=23						
NAO01	NORSAR Array S	143.26	350		PKPab	00 41 11.8	+0.1
HFS	Hagfors	143.44	348	PKP	PKPab	00 41 12.2	-0.3
	comp=Z,12nm,0.5s,baz=68,slow=4.0,SNR=76						
AKASG	Malin Array Be	145.39	326	PKPbc	PKPdf	00 41 17.9	+0.3
	comp=Z,2.0nm,0.5s,baz=47,slow=4.2,SNR=18						
AKBB	Malin Array Si	145.39	326		PKPbc	00 41 18.3	-0.5
KIEV	Kiev	145.40	326		PKPbc	00 41 18.2	-0.7
KIEV	Kiev	145.40	326	⇑P	PKPdf	00 41 17.1	-0.6
ILGA	Ilgaz	147.04	308		PKPbc	00 41 24.4	+0.4
MMAI	Mount Meron Ar	147.30	293	PKPbc	PKPbc	00 41 25.4	+0.6
	comp=Z,3.9nm,0.5s,baz=74,slow=6.2,SNR=18						
SORM	Soroca	147.34	323	⇓P	PKPbc	00 41 23.7	-0.6
BRTR	Keskin Array B	147.49	305	PKPbc	PKPbc	00 41 24.6	-0.5
	comp=Z,1.6nm,0.6s,baz=116,slow=2.9,SNR=7.3						
VLDR	Vladesti	148.75	319	⇓P	PKPbc	00 41 28.2	+0.3
CFR	Carcaliu	149.06	318	⇑P	PKPbc	00 41 27.1	-1.6
TESR	Tescani	149.22	321	⇑P	PKPab	00 41 35.8	0.0
BURAR	Bucovina Array	149.35	324	⇑P	PKiKP	00 41 30.4	+0.1
HARR	Harsova	149.44	317	⇓P	PKPbc	00 41 29.7	+0.1
VRI	Vrincioaia	149.53	320	⇓P	PKPdf	00 41 24.0	-0.6
EKA	Eskdalemuir Ar	149.67	2	PKPbc	PKPbc	00 41 28.9	-1.0
	comp=Z,0.7nm,0.4s,baz=353,slow=3.2,SNR=12						
MLR	Muntele Rosu	150.20	320	⇓P	PKPbc	00 41 30.6	-1.0
DOPR	Dopca	150.25	321	⇑P	PKiKP	00 41 32.3	+0.2
CBBR	Cluj-Babes-Bol	150.77	324	⇑P	PKiKP	00 41 33.2	+0.1
HUMR	Humele	151.31	319	⇓P	PKPbc	00 41 33.7	-0.3
SURR	Surduc	152.18	324	⇑P	PKPbc	00 41 35.0	-0.9
HERR	Herculane	152.57	322	⇑P	PKPbc	00 41 36.2	-0.6

MOS 30 00:23:45.4±0.9, 7°.95S×122°.68E, h224km, mb5.1/59, Error ellipse: s-maj=8.5km s-min=4.5km az=115.3
GCMT 30 00:23:45.9±0.4, 8°.05S±0°.02×122°.84E±0°.04, h222km±4km, MW4.9/76, Moment Tensor Solution. s21,c21; s76,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.75±.13; $M_{\theta\theta}$-1.20±.16; $M_{\phi\phi}$-0.54±.16; $M_{r\theta}$2.28±.12; $M_{r\phi}$-0.51±.14; $M_{\theta\phi}$0.06±.13; Best double couple: $M_0$2.77700×10^{16} NP1:ϕ_s233.00000°, δ20.00000°, λ62.00000°. NP2: ϕ_s83.00000°, δ73.00000°, λ100.00000°. Principal axes: T 3.0010, Plg61.0000°, Azm6.0000°; N -0.4440, Plg9.0000°, Azm260.0000°; P -2.5530, Plg27.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
NEIC 30 00:23:46.7, 8°.20S×122°.60E, h200km, Moment Tensor Solution. Duration: 1±3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.43; $M_{\theta\theta}$-1.15; $M_{\phi\phi}$-0.29; $M_{r\theta}$1.09; $M_{\theta\phi}$0.03; $M_{r\phi}$0.25; Fault plane solution: $M_0$1.70000×10^{16} NP1: ϕ_s276.43000°, δ25.13000°, λ102.17000°. NP2: ϕ_s83.02000°, δ65.47000°, λ84.35000°. Principal axes: T 1.8602, Plg69.0000°, Azm342.0000°; N -0.3114, Plg5.0000°, Azm85.0000°; P -1.5488, Plg20.0000°, Azm177.0000°;
NEIC 30 00:23:46.7±1.6, 8°.02S±0°.06×122°.70E±0°.06, h219km±4km, mb5.0/183, Mww4.8/13 Error ellipse: s-maj=10.0km s-min=8.6km az=222.0
NEIC 30 00:23:46.7, 8°.00S×122°.70E, h200km
DJA 30 00:23:46.0±0.1, 8°.S±1°.×12°.3E±°., h220km±1km, M4.8/91, mb5.0/91, mB5.3/42, MLv5.3/20, Mw(mB)4.8/42, MwMwp4.9/5, Mwp5.2/5
IDC 30 00:23:46.8±1.2, 7°.94S×122°.67E, h220km±10km, mb4.6/29, mbtmp5.2/34, Error ellipse: s-maj=12.8km s-min=7.3km az=70.0

ISC 30 00:23:45.9±0.3, 8°.05S±0°.03×122°.66E±0°.04, h216km±2km, h217km:pP-P, n834, σ1°19/889, mb5.0/193, 26C-17D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.72	216		Pn	00 24 16.6	+0.8
MMRI				Sn	S	00 24 44.3	+5.1
MMRI	Maumere	0.72	216	P	Pn	00 24 16.7	+0.8
MMRI	Maumere	0.72	216	P	Pn	00 24 16.7	+0.8
MMRI				S	S	00 24 39.9	+0.7
EDFI	Ende, Flores	1.19	234	P	Pn	00 24 19.7	+0.9
EDFI				S	S	00 24 46.3	+2.1
SOEI	Soe	2.32	137		Pn	00 24 29.2	0.0
SOEI	Soe	2.32	137	P	Pn	00 24 29.6	+0.5
SOEI	Soe	2.32	137	P	Pn	00 24 30.2	+1.1
BBSI	Bau Bau	2.55	358	P	Pn	00 24 32.8	+1.4
WSI	Waingapu	2.84	235	P	Pn	00 24 34.8	+0.2
WSI				S	S	00 25 12.0	-0.4
BSSI	Bau Bau, Buton	2.87	311	P	Pn	00 24 35.5	+0.5
BSSI				S	S	00 25 14.9	+1.9
WBSI	Waikabubak, Su	3.60	244	P	Pn	00 24 44.1	+0.6
WBSI				S	S	00 25 25.9	-2.5
KAPI	Kappang	4.17	316		Pn	00 24 51.3	+0.8
KAPI	Kappang	4.17	316	P	Pn	00 24 52.1	+1.6
	938nm,0.9s,baz=137,slow=9.0,SNR=231						
KAPI	Kappang	4.17	316	P	Pn	00 24 52.6	+2.1
KAPI				S	S	00 25 43.8	+2.6
BNSI	Bone	4.42	325	P	Pn	00 24 55.1	+1.5
PLAI	Plampang	4.89	261	P	Pn	00 25 00.5	+1.1
PLAI	Plampang	4.89	261	P	Pn	00 25 00.1	+0.7
SPSI	Sidrap Palu	4.97	325	P	Pn	00 25 00.7	+0.3
	1.0nm4μm362nm,0.9s						
NLAI	Namlea	6.51	43	P	Pn	00 25 21.3	+1.3
	0.5nm147nm,0.8s						
SANI	Sanana	6.82	29	P	Pn	00 25 25.2	+1.2
SANI	Sanana	6.82	29	P	Pn	00 25 24.0	0.0
	96nm,1.0s						
LUWI	Luwuk	6.96	1		Pn	00 25 26.0	+0.1
LUWI	Luwuk	6.96	1	P	Pn	00 25 26.8	+1.0
LUWI	Luwuk	6.96	1	P	Pn	00 25 26.0	+0.1
	1.0nm3μm215nm,0.8s						
AAI	Ambon	7.00	52	P	Pn	00 25 27.4	+1.0
	0.5nm114nm,0.9s						
APSI	Ampana	7.16	352	P	Pn	00 25 29.2	+0.8
	1.8nm5μm548nm,1.0s						
SRBI	Singaraja	7.37	269	P	Pn	00 25 28.9	-2.2
	0.5nm59nm,0.6s						
DNP	Denpasar	7.40	265	P	Pn	00 25 35.4	+4.0
	313nm,0.7s						
PCI	Palu	7.63	338	P	Pn	00 25 36.8	+2.3
	5μm503nm,0.8s						
MSAI	Masohi	7.79	54	P	Pn	00 25 35.7	-0.9
	0.9nm3μm103nm,0.7s						
BNDI	Bandanaira	8.01	64	P	Pn	00 25 40.9	+1.6
BNDI	Bandanaira	8.01	64	P	Pn	00 25 39.9	+0.6
JAGI	Jajag, Banyuwa	8.43	267		Pn	00 25 44.3	-0.5
JAGI	Jajag, Banyuwa	8.43	267	P	Pn	00 25 47.2	+2.4
JAGI	Jajag, Banyuwa	8.43	267	P	Pn	00 25 44.2	-0.6
	2μm70nm,0.6s						
MRSI	Marisa	8.50	355	P	Pn	00 25 45.6	-0.1
	2μm130nm,1.1s						
SAUI	Saumlaki	8.56	90	Pn	Pn	00 25 46.6	+0.1
SAUI				Sn	S	00 27 22.9	-0.1
KMSI	Cibinong	8.67	9	P	Pn	00 25 48.4	+0.5
	3μm299nm,0.9s						
KMMI	Kalianget	8.68	276	P	Pn	00 25 50.0	+2.0
	98nm,1.1s						
MPSI	Mapaga	8.77	342	P	Pn	00 25 50.6	+1.4
GMJI	Gumukmas	9.13	268	P	Pn	00 25 53.6	-0.2
	62nm,0.9s						
DRS	Darwin Rock St	9.20	119	P	Pn	00 25 53.6	-1.2
TOLI2	Tolitoli	9.29	348		Pn	00 25 57.4	+1.5
TOLI2	Tolitoli	9.29	348	P	Pn	00 25 58.6	+2.7
MTN	Manton Dam	9.60	120		Pn	00 25 58.7	-1.1
MTN	Manton Dam	9.60	120	P	Pn	00 25 58.7	-1.1
	comp=Z,2μm,0.8s

WRA S **S** **00 30 19.9 -3.6**
comp=Z,55nm,0.9s,baz=324,slow=21,SNR=8.4
WRAB Tennant Creek 16.36 137 P **P** **00 27 22.7 -0.3**
WRAB Tennant Creek 16.36 137 *i* P **P** **00 27 22.8 -0.1**
WRAB pmax pmax
comp=Z,143nm,0.6s
WB2 Warramunga Arr 16.37 137 P **P** **00 27 23.3 +0.2**
WR8 Warramunga Arr 16.48 137 **P** **00 27 24.1 -0.1**
WR0 Warramunga Arr 16.51 137 P **P** **00 27 24.8 +0.3**
GIRL Giralia 16.62 208 P **Pn** **00 27 27.5 +0.6**
GIRL Giralia 16.62 208 P **Pn** **00 27 27.7 +0.8**
comp=Z,332nm,0.7s
CGJI Cibinong 16.89 274 P **P** **00 27 27.8 -0.9**
comp=Z,2μmcomp=Z,119nm,0.6s
XMIS Christmas Isla 16.96 260 P **P** **00 27 30.2 +0.7**
XMIS Christmas Isla 16.96 260 P **Pn** **00 27 32.3 +1.2**
SMPI Sarmi 17.08 70 P **P** **00 27 31.5 +0.7**
comp=Z,2μmcomp=Z,215nm,1.1s
WRKA Warakurna 17.73 163 P **Pn** **00 27 39.4 -0.7**
comp=Z,762nm,0.9s
WRKA Warakurna 17.73 163 P **Pn** **00 27 39.3 -0.7**
WRKA Warakurna 17.73 163 S **S** **00 30 51.5 +0.9**
GENI Genyem 18.25 74 P **P** **00 27 44.8 +1.2**
GENI Genyem 18.25 74 P **P** **00 27 43.2 -0.4**
comp=Z,4μmcomp=Z,227nm,0.9s
MDSI Maura Dua 18.71 280 P **Pn** **00 27 50.3 -1.3**
JAY Jayapura 18.78 74 P **P** **00 27 49.0 -0.4**
comp=Z,78nm,0.8s,baz=234,slow=5.4,SNR=17
JAY Jayapura 18.78 74 P **P** **00 27 49.6 +0.2**
comp=Z,2μmcomp=Z,93nm,0.8s
MEEK Meekatharra 18.88 191 P **P** **00 27 51.8 +1.5**
comp=Z,407nm,0.8s
MEEK Meekatharra 18.88 191 P **P** **00 27 51.6 +1.3**
AS31 Alice Springs 18.90 147 P **P** **00 27 51.9 +1.3**
AS31 Alice Springs 18.90 147 P **P** **00 27 51.6 +1.0**
comp=Z,292nm,0.8s
ASAR Alice Springs 18.90 147 P **P** **00 27 51.7 +1.1**
comp=Z,544nm,0.7s,baz=333,slow=14,SNR=541
ASAR S **S** **00 31 10.0 -4.0**
comp=Z,28nm,0.9s,baz=328,slow=23,SNR=7.0
ASAR ScP **ScP** **00 35 20.0 -2.4**
comp=Z,16nm,0.8s,baz=351,slow=2.1,SNR=6.8
AS01 Alice Springs 18.93 146 P **P** **00 27 52.1 +1.2**
MNAI Manna 19.93 279 P **P** **00 28 01.9 +0.3**
QIS Mount Isa 20.57 129 P **P** **00 28 08.7 +0.3**
comp=Z,244nm,1.0s
QIS Mount Isa 20.57 129 P **P** **00 28 08.6 +0.1**
QIS Mount Isa 20.57 129 S **S** **00 31 47.5 +1.3**
COEN Coen 20.97 108 P **P** **00 28 11.8 -0.9**
COEN Coen 20.97 108 P **P** **00 28 11.8 -0.9**
comp=Z,122nm,1.0s
COEN Coen 20.97 108 P **P** **00 28 12.1 -0.6**
COEN Coen 20.97 108 S **S** **00 31 54.2 +0.8**
MYKOM Kota Tinggi 21.15 297 P **P** **00 28 16.9 +2.4**
MORW Morawa 21.82 196 P **P** **00 28 21.6 +0.5**
MORW Morawa 21.82 196 P **P** **00 28 21.5 +0.5**
comp=Z,159nm,0.7s
MORW Morawa 21.82 196 P **P** **00 28 21.6 +0.5**
TGY Tagaytay City 22.07 356 P **P** **00 28 24.4 +0.8**
comp=Z,222nm,0.4s,baz=165,slow=2.6,SNR=9.1
comp=Z,222nm,0.4s
BKNI Bangkinang 23.10 290 P **P** **00 28 36.6 +3.6**
BLDU Ballidu 23.13 193 P **P** **00 28 33.5 +0.4**
comp=Z,274nm,0.8s
BLDU Ballidu 23.13 193 P **P** **00 28 33.5 +0.4**
FORT Forrest 23.17 168 P **P** **00 28 34.2 +0.8**
FORT Forrest 23.17 168 P **P** **00 28 34.3 +0.8**
comp=Z,418nm,0.8s
FORT Forrest 23.17 168 P **P** **00 28 34.0 +0.6**
OOD Oodnadatta 23.18 150 P **P** **00 28 34.1 +0.5**
KMBL Kambalda 23.21 182 P **P** **00 28 34.3 +0.5**
comp=Z,166nm,0.9s
KMBL Kambalda 23.21 182 P **P** **00 28 34.3 +0.5**
MTSU Mount Surprise 23.33 118 P **P** **00 28 36.2 +1.1**
PPI Padang Panjang 23.43 288 P **P** **00 28 35.6 -0.4**
KLBR Kellerberrin 23.87 190 P **P** **00 28 40.3 +0.5**
comp=Z,324nm,0.8s
KLBR Kellerberrin 23.87 190 P **P** **00 28 40.3 +0.5**
PMG Port Moresby 24.25 95 P **P** **00 28 45.2 +1.7**
PMG IAmb IAmb 00 28 48.1
comp=Z,50nm,0.8s
PMG Port Moresby 24.25 95 P **P** **00 28 44.6 +1.1**
PMG Port Moresby 24.25 95 P **P** **00 28 45.2 +1.7**
PMG pmax pmax
comp=Z,50nm,0.8s
DLV Lat 24.35 324 P **P** **00 28 48.2 +3.7**
MUN Mundaring 24.56 193 P **P** **00 28 46.3 +0.2**
comp=Z,78nm,0.7s
MUN Mundaring 24.56 193 P **P** **00 28 47.0 +1.0**
MNSI Mandailing Nat 24.63 290 P **P** **00 28 45.0 -1.9**
NWAO Narrogin (SRO) 25.26 191 P **P** **00 28 52.8 +0.4**
NWAO Narrogin (SRO) 25.26 191 P **P** **00 28 53.1 +0.7**
NWAO Narrogin (SRO) 25.26 191 P **P** **00 28 52.8 +0.4**
NWAO pmax pmax
comp=Z,57nm,0.7s
KULM Kulim 25.64 300 P **P** **00 28 56.2 +0.2**
RPSI Rantau Prapat 25.97 293 P **P** **00 28 57.5 -1.5**
RPSI IAmb IAmb 00 29 02.9
comp=Z,30nm,1.1s
INKA Innaminka 26.00 141 P **P** **00 29 00.1 +1.0**
PSI Prapat 26.01 294 P **P** **00 28 57.5 -2.0**
PSI pmax pmax
comp=Z,30nm,1.1s
LCRK Leigh Creek 26.62 149 P **P** **00 29 05.7 +1.1**
GSI Gunungsitoli 26.68 289 P **P** **00 29 04.4 -0.9**
GSI IAmb IAmb 00 29 08.6
comp=Z,22nm,0.6s
GSI Gunungsitoli 26.68 289 P **P** **00 29 02.6 -2.8**
comp=Z,41nm,0.7s
QLP Quilpie 27.56 135 P **P** **00 29 14.0 +1.0**
BBOO Buckleboo 27.59 155 P **P** **00 29 13.5 +0.3**
comp=Z,123nm,0.7s
BBOO Buckleboo 27.59 155 P **P** **00 29 13.5 +0.3**
BBOO Buckleboo 27.59 155 P **P** **00 29 13.7 +0.5**
SRIT Nakonsritamara 28.31 305 P **P** **00 29 19.7 -0.1**
SRIT IAmb IAmb 00 29 22.8
comp=Z,50nm,0.9s
SRIT Nakonsritamara 28.31 305 P **P** **00 29 20.9 +1.1**
WHYH Whyalla 28.44 153 P **P** **00 29 22.4 +1.7**
UBPT Khong Chiam 28.77 324 P **P** **00 29 23.9 +0.2**
MLSI Meulaboh, Aceh 28.91 294 P **P** **00 29 22.7 -2.4**
comp=Z,87nm,0.7s
HTT Hallett 29.39 152 P **P** **00 29 30.2 +0.9**
comp=Z,30nm,0.8s
HTT Hallett 29.39 152 P **P** **00 29 30.4 +1.1**
STKA Stephens Creek 29.54 146 P **P** **00 29 31.6 +1.1**
STKA Stephens Creek 29.54 146 P **P** **00 29 31.6 +1.1**
comp=Z,64nm,0.5s,baz=320,slow=9.5,SNR=105
STKA S **S** **00 34 08.4 -0.8**
comp=Z,9.3nm,0.7s,baz=35,slow=7.0,SNR=3.0
comp=Z,64nm,0.5s
STKA Stephens Creek 29.54 146 P **P** **00 29 31.5 +1.0**
STKA Stephens Creek 29.54 146 P **P** **00 29 31.7 +1.1**
STKA pmax pmax
comp=Z,286nm,0.8s
BSI Banda Aceh 30.43 295 P **P** **00 29 36.8 -1.7**
comp=Z,35nm,0.8s
NAYO Nakonayok 30.69 316 P **P** **00 29 44.1 +3.4**
TPUB Ta-pu 31.22 356 P **P** **00 29 45.6 +0.3**
TPUB IAmb IAmb 00 29 48.5
comp=Z,37nm,0.7s
YULB Yu-li 31.28 358 P **P** **00 29 45.3 -0.5**
YULB IAmb IAmb 00 29 48.5
comp=Z,51nm,1.0s
SSLB Suanglung 31.68 357 P **P** **00 29 48.6 -0.8**
SSLB IAmb IAmb 00 29 49.7
comp=Z,44nm,0.9s
CMSA Cobar Meteorol 31.73 141 P **P** **00 29 51.1 +1.4**
NACB Ninganchiao 32.04 358 P **P** **00 29 51.0 -1.4**
NACB IAmb IAmb 00 29 53.6
comp=Z,30nm,0.9s
EIDS Eidsvold 32.10 126 P **P** **00 29 52.6 -0.4**
EIDS IAmb IAmb 00 29 56.8
comp=Z,81nm,1.9s
YOJ Yonaguni jima 32.31 1 P **P** **00 29 54.8 0.0**
YOJ Yonaguni jima 32.31 1 P **P** **00 29 54.8 0.0**
YOJ pmax pmax
comp=Z,109nm,0.7s
KNMB Chin-men Tao 32.58 353 P **P** **00 29 57.7 +0.6**
KNMB IAmb IAmb 00 29 58.0
comp=Z,45nm,1.0s
ARPS Mount Arapiles 33.49 151 P **P** **00 30 06.5 +1.5**
SLVN Son La 34.52 328 P **P** **00 30 17.5 +3.5**
ARMA Armidale 35.07 133 P **P** **00 30 20.7 +1.9**

ARMA Armidale 35.07 133 P **P** **00 30 21.1 +2.4**
CMAR Chiang Mai Arr 35.23 319 P **P** **00 30 20.2 +0.1**
comp=Z,5.3nm,0.7s,baz=143,slow=6.9,SNR=25
CMAR PcP **PcP** **00 32 47.2 +1.1**
comp=Z,5.0nm,0.7s,baz=169,slow=3.2,SNR=13
CMAR ScP **ScP** **00 36 10.8 -0.5**
comp=Z,1.3nm,0.2s,baz=164,slow=3.2,SNR=11
comp=Z,5.3nm,0.7s
CHTO Chiang Mai 35.49 319 P **P** **00 30 22.5 +0.2**
CHTO Chiang Mai 35.49 319 P **P** **00 30 22.5 +0.2**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CHTO Chiang Mai 35.49 319 P **P** **00 30 23.0 +0.7**
GEXS Deakin Univers 35.81 150 P **P** **00 30 27.1 +2.3**
TOO Toolangi 35.94 148 P **P** **00 30 26.3 +0.4**
TOO Toolangi 35.94 148 P **P** **00 30 26.3 +0.4**
TOO pmax pmax
comp=Z,19nm,1.0s
CAN Canberra 36.31 142 P **P** **00 30 29.9 +0.7**
CAN IAmb IAmb 00 30 32.4
comp=Z,47nm,1.2s
CAN Canberra 36.31 142 P **P** **00 30 31.2 +2.0**
CAN Canberra 36.31 142 P **P** **00 30 29.9 +0.7**
CAN pmax pmax
comp=Z,47nm,1.2s
CAN Canberra 36.31 142 P **P** **00 30 30.7 +1.5**
CAN ScP **ScP** **00 36 12.7 -2.4**
CNB Canberra Magne 36.53 142 P **P** **00 30 32.5 +1.5**
CNSH ChangSha 37.23 346 P **P** **00 30 37.5 +0.7**
CNSH pmax pmax
comp=Z,45nm,0.9s
KMI Kunming 38.26 330 P **P** **00 30 47.3 +1.5**
KMI pmax pmax
comp=Z,22nm,0.8s
WHN Wuhan 39.19 349 ⇑P **P** **00 30 54.5 +1.4**
WHN pmax pmax
comp=Z,280nm,1.1s
JCJ Chichijima 39.73 28 P **P** **00 30 57.4 -0.3**
PZH PanZhiHua 39.90 330 P **P** **00 31 02.5 +3.3**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.4s
JSU Suzuyama 40.03 10 P **P** **00 31 03.1 +3.0**
NJ2 Nanjing 40.04 355 ⇑P **P** **00 31 00.5 +0.4**
NJ2 pmax pmax
comp=Z,65nm,0.9s
ENH Enshi 40.15 342 P **P** **00 31 00.7 -0.4**
ENH IAmb IAmb 00 31 02.1
comp=Z,42nm,0.7s
TAU Tasmania Unive 40.93 152 P **P** **00 31 08.4 +1.1**
TAU IAmb IAmb 00 31 10.5
comp=Z,44nm,0.8s
TAU Tasmania Unive 40.93 152 P **P** **00 31 08.4 +1.1**
TAU pmax pmax
comp=Z,45nm,0.9s
JNU Nakatsue 41.68 10 P **P** **00 31 12.7 -0.8**
JMN Monobe 42.89 14 P **P** **00 31 23.6 +0.3**
LYN LuoYang 43.45 348 ⇑P **P** **00 31 27.3 -0.4**
LYN PP **PP** **00 33 13.3 -0.3**
LYN pmax pmax
comp=Z,100nm,0.8s
LYN pmax pmax
comp=Z,270nm,5.3s
XAN Xi'an 43.84 343 ⇑P **P** **00 31 30.5 -0.4**
XAN pP pP 00 32 21.3 +4.7
XAN PP **PcP** **00 33 14.3 +1.0**
XAN pmax pmax
comp=Z,120nm,0.8s
XAN Xi'an 43.84 343 P **P** **00 31 29.9 -0.9**
XAN PcP **PcP** **00 33 13.7 +0.5**
TIA Tai'an 44.33 354 P **P** **00 31 34.0 -0.7**
TIA PcP **PcP** **00 33 16.0 +1.2**
TIA pmax pmax
comp=Z,31nm,0.8s
DZM Mont Dzumac 44.35 113 P **P** **00 31 34.8 -0.5**
TJN Taejon 44.41 5 P **P** **00 31 35.1 -0.2**
TJN Taejon 44.41 5 P **P** **00 31 35.1 -0.2**
TJN pmax pmax
comp=Z,115nm,0.9s
INU Inuyama 45.24 17 P **P** **00 31 41.6 -0.2**
INU Inuyama 45.24 17 P **P** **00 31 41.8 0.0**
PINNC Pines Island, 45.36 114 P **P** **00 31 45.0 +1.9**
KSRS Korea Array 45.53 6 P **P** **00 31 43.4 -0.7**
comp=Z,9.2nm,0.9s,baz=179,slow=9.5,SNR=43
KSRS PcP **PcP** **00 33 19.7 +0.8**
comp=Z,11nm,0.8s,baz=189,slow=3.4,SNR=18
KSRS ScP **ScP** **00 36 50.6 -0.6**
comp=Z,0.5nm,0.5s,baz=204,slow=2.7,SNR=4.5
comp=Z,9.2nm,0.9s
JGF Kuroka 45.57 17 P **P** **00 31 44.3 -0.2**
HNS HongShan 45.82 351 ⇑P **P** **00 31 45.5 -0.8**
HNS pP **pwP** **00 32 37.0 +2.3**
HNS PcP **PcP** **00 33 21.0 +1.1**
HNS ScP **ScP** **00 36 54.0 +1.6**
HNS pmax pmax
comp=Z,54nm,1.1s
TIY Taiyuan 46.52 349 *e*P **P** **00 31 51.5 -0.4**
TIY pmax pmax
comp=Z,64nm,0.6s
MAJO Matsushiro 46.70 17 P **P** **00 31 52.8 -0.4**
MAJO IAmb IAmb 00 31 53.9
comp=Z,135nm,1.6s
MAJO Matsushiro 46.70 17 P **P** **00 31 52.8 -0.4**
MAJO pmax pmax
comp=Z,135nm,1.7s
MAJO Matsushiro 46.70 17 P **P** **00 31 52.2 -1.0**
MJAR Matsushiro Arr 46.70 17 P **P** **00 31 52.3 -0.9**
comp=Z,53nm,1.1s,baz=191,slow=7.5,SNR=39
MJAR PcP **PcP** **00 33 23.0 -0.2**
comp=Z,6.7nm,0.9s,baz=178,slow=3.3,SNR=5.0
comp=Z,53nm,1.1s
MJB9 Matsu-Tunnel 46.70 17 P **P** **00 31 53.6 +0.4**
MJB9 IAmb IAmb 00 31 55.2
comp=Z,133nm,1.6s
LZH Lanzhou 47.34 339 *e*P **P** **00 31 58.8 +0.5**
LZH pP pP 00 32 47.0 +2.0
LZH sP sP 00 33 04.5 -4.5
LZH pmax pmax
comp=Z,53nm,1.3s
JSD Sado 48.10 17 P **P** **00 32 04.0 0.0**
BJT Baijiatuau 48.20 353 P **P** **00 32 04.0 -0.7**
BJT IAmb IAmb 00 32 04.9
comp=Z,42nm,0.8s
BJT Baijiatuau 48.20 353 P **P** **00 32 04.0 -0.7**
BJT pmax pmax
comp=Z,42nm,0.8s
BJT Baijiatuau 48.20 353 P **P** **00 32 03.9 -0.8**
BJT PcP **PcP** **00 33 29.4 +1.0**
BJI Beijing 48.22 353 P **P** **00 32 03.8 -1.0**
BJI PcP **PcP** **00 33 29.5 +1.1**
BJI pmax pmax
comp=Z,29nm,1.1s
BJI pmax pmax
comp=Z,51nm,4.3s
LSA Lhasa 48.24 322 P **P** **00 32 06.3 +0.5**
LSA IAmb IAmb 00 32 08.7
comp=Z,28nm,0.5s
LSA Lhasa 48.24 322 P **P** **00 32 06.8 +1.0**
LSA pmax pmax
comp=Z,33nm,0.5s
LSA Lhasa 48.24 322 P **P** **00 32 06.3 +0.5**
LSA pmax pmax
comp=Z,28nm,0.5s
JMM Marumori 48.72 19 P **P** **00 32 07.7 -1.0**
JMM IAmb IAmb 00 32 10.3
comp=Z,104nm,1.1s
HHC Hu-ho-hao-te 49.72 349 ⇓*i*P **P** **00 32 16.3 0.0**
HHC pmax pmax
comp=Z,32nm,1.0s
HHC pmax pmax
comp=Z,110nm,3.8s
BTO Baotou 49.80 347 *e*P **P** **00 32 17.0 +0.1**
BTO sP **PcP** **00 33 35.5 +1.1**
BTO PP **PP** **00 34 06.3 -7.7**
BTO S **S** **00 39 09.3 -0.3**
BTO pmax pmax
comp=Z,46nm,0.6s
BTO pmax pmax
comp=Z,180nm,4.3s
BTO LR LR
comp=N,140nm,6.7s
BTO LR LR
comp=E,210nm,5.7s
BTO LR LR

comp=Z,170nm,5.9s
EVN Everest 49.82 317 P **P** **00 32 19.7 +1.7**
MSHR Mys Shultsa 50.98 8 *ce*P **P** **00 32 24.4 -1.2**
MSHR pmax pmax
comp=Z,51nm,1.3s
PSTR Posyet 51.00 8 *e*P **P** **00 32 25.0 -0.7**
JTM Tenmabayashi 51.47 18 P **P** **00 32 29.1 -0.2**
VLA Vladivostok 51.61 9 *e*P **P** **00 32 29.8 -0.4**
VLA pmax pmax
comp=Z,27nm,1.0s
GTA Gaotai 51.75 337 P **P** **00 32 32.5 +0.9**
GTA PcP **sP** **00 33 43.5 +0.4**
GTA ScP **ScP** **00 37 18.3 +0.5**
GTA pmax pmax
comp=Z,17nm,1.0s
XLT XiLinHaoTe 52.05 354 *e*P **P** **00 32 32.5 -1.1**
XLT pP pwP 00 33 23.8 +0.6
XLT pmax pmax
comp=Z,41nm,0.9s
XLT pmax pmax
comp=Z,86nm,4.0s
USA0B Ussuriysk Arra 52.68 8 P **P** **00 32 37.8 -0.3**
USA0B IAmb IAmb 00 32 38.5
comp=Z,38nm,0.8s
USA0B Ussuriysk Arra 52.68 8 P **P** **00 32 37.8 -0.3**
USA0B pmax pmax
comp=Z,38nm,0.8s
USRK Ussuriysk Ar. 52.68 8 P **P** **00 32 37.3 -0.9**
USRK Ussuriysk Ar. 52.68 8 P **P** **00 32 37.6 -0.5**
comp=Z,44nm,0.8s,baz=192,slow=6.7,SNR=49
comp=Z,44nm,0.8s
MDJ Mudanjiang 52.79 6 P **P** **00 32 38.3 -0.6**
MDJ IAmb IAmb 00 32 39.6
comp=Z,60nm,0.8s
MDJ Mudanjiang 52.79 6 P **P** **00 32 38.5 -0.4**
MDJ pmax pmax
comp=Z,93nm,0.8s
MDJ Mudanjiang 52.79 6 P **P** **00 32 38.3 -0.6**
ERM Erimo 53.24 19 P **P** **00 32 42.0 -0.2**
ERM Erimo 53.24 19 *ce*P **P** **00 32 42.2 0.0**
ERM pmax pmax
comp=Z,16nm,1.0s
BNX BinXian 53.71 4 ⇓P **P** **00 32 44.3 -1.3**
BNX pmax pmax
comp=Z,12nm,1.2s
WHZ Wether Hill Ro 54.12 142 P **P** **00 32 49.4 +0.8**
WHZ IAmb IAmb 00 32 50.4
comp=Z,30nm,0.8s
FOZ Fox Glacier 54.18 139 P **P** **00 32 48.5 -0.6**
TEY Ternei 54.31 12 ⇓*e*P **P** **00 32 50.1 +0.2**
TEY pmax pmax
comp=E,10.0nm,1.4s
TEY pmax pmax
comp=N,30nm,0.9s
TEY pmax pmax
comp=Z,50nm,0.9s
MSVF Nonsavu 54.68 106 P **P** **00 32 54.1 +0.8**
comp=Z,14nm,0.9s,baz=191,slow=7.5,SNR=5.0
comp=Z,14nm,0.9s
LBZ Lake Benmore 54.80 140 P **P** **00 32 54.2 +0.6**
LBZ IAmb IAmb 00 34 37.9
comp=Z,100nm,1.6s
QRZ Quartz Range 54.90 135 P **P** **00 32 56.5 +2.1**
ASAJ Asahikawa 54.97 17 P **P** **00 32 54.8 +0.1**
comp=Z,34nm,0.8s,baz=233,slow=12,SNR=27
comp=Z,34nm,0.8s
ASAJ Asahikawa 54.97 17 P **P** **00 32 55.1 +0.4**
ASAJ pmax pmax
comp=Z,45nm,0.9s
JKA Kamikawa-asahi 54.97 17 P **P** **00 32 55.1 +0.4**
JKA IAmb IAmb 00 32 56.3
comp=Z,45nm,0.9s
RPZ Rata Peaks 55.07 139 P **P** **00 32 56.6 +1.1**
MRNZ Matariki Terra 55.28 135 P **P** **00 32 58.2 +1.2**
LTZ Lake Taylor 55.49 137 P **P** **00 32 56.9 -1.7**
THZ Tophouse 55.52 136 P **P** **00 33 00.0 +1.2**
OXZ Oxford 55.56 138 P **P** **00 32 59.6 +0.6**
GVZ Greta Valley S 56.08 137 P **P** **00 33 04.1 +1.4**
TUWZ Tuamarina 56.12 135 P **P** **00 33 04.2 +1.2**
KHZ Kahutara 56.21 136 P **P** **00 33 04.7 +1.1**
HIA Hailar 57.13 358 P **P** **00 33 09.3 -0.6**
HIA Hailar 57.13 358 P **P** **00 33 09.3 -0.6**
HIA pmax pmax
comp=Z,21nm,0.9s
HIA Hailar 57.13 358 P **P** **00 33 09.7 -0.2**
BKZ Black Stump Fm 57.19 132 P **P** **00 33 11.4 +0.7**
ULN Ulaanbaatar 57.36 348 P **P** **00 33 11.6 -0.1**
ULN Ulaanbaatar 57.36 348 *ce*P **P** **00 33 11.6 -0.1**
ULN pmax pmax
comp=Z,24nm,1.3s
URZ Urewera 57.38 130 P **P** **00 33 12.3 +0.4**
comp=Z,15nm,0.7s,baz=166,slow=7.6,SNR=7.7
comp=Z,15nm,0.7s
SONM Songino Array 57.47 347 P **P** **00 33 12.2 -0.2**
SONM Songino Array 57.47 347 P **P** **00 33 12.4 -0.1**
comp=Z,11nm,0.8s,baz=167,slow=8.0,SNR=48
SONM pP **pP** **00 34 01.5 +0.5**
comp=Z,3.5nm,0.8s,baz=164,slow=8.8,SNR=3.8
comp=Z,11nm,0.8s
KLR Kul'dur 57.59 7 P **P** **00 33 12.5 -0.6**
comp=Z,7.8nm,1.0s,baz=229,slow=4.6,SNR=16
KLR PcP **PcP** **00 34 03.6 -0.2**
comp=Z,4.0nm,0.6s,baz=189,slow=2.9,SNR=7.5
comp=Z,7.8nm,1.0s
YSS Yuzhno-Sakhali 57.60 16 *e*P **P** **00 33 14.1 +0.9**
YSS pmax pmax
comp=Z,20nm,0.7s
HEH HeiHe 58.21 4 ⇑P **P** **00 33 16.5 -0.8**
HEH pP **pP** **00 34 05.5 +0.1**
HEH pmax pmax
comp=Z,71nm,1.0s
CASY Casey 58.74 186 P **P** **00 33 21.3 +0.5**
DRV Dumont d'Urvil 59.73 172 P **P** **00 33 28.6 +1.0**
DRV pP **pwP** **00 34 21.0 +1.0**
GRNR Gornyy 59.78 10 ⇑*i*P **P** **00 33 28.7 +0.5**
GRNR pmax pmax
comp=Z,40nm,0.9s
WMQ Urumqi 60.56 332 *e*P **P** **00 33 34.5 +0.8**
WMQ pmax pmax
comp=Z,53nm,0.9s
WMQ pmax pmax
comp=Z,66nm,3.9s
ZAK Zakamensk 60.58 346 *e*P **P** **00 33 31.9 -1.8**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
ZEA Zeya 61.67 3 *e*P **P** **00 33 40.9 +0.1**
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,20nm,1.2s
MOY Mondy 62.33 345 *e*P **P** **00 33 44.8 -0.6**
MOY pmax pmax
comp=Z,26nm,2.0s
NIL Nilore 62.56 314 **P** **00 33 47.0 -0.2**
NIL Nilore 62.56 314 P **P** **00 33 47.0 -0.2**
NIL pmax pmax
comp=Z,70nm,0.5s
NIL Nilore 62.56 314 P **P** **00 33 46.8 -0.5**
WUS Wushi 63.17 324 P **P** **00 33 51.1 -0.1**
WUS IAmb IAmb 00 33 57.0
comp=Z,21nm,0.9s
PDGK Podgornoye 64.41 326 P **P** **00 33 59.1 -0.1**
PRZ Przheval'sk 64.47 325 P **P** **00 34 00.6 +0.9**
PRZ Przheval'sk 64.47 325 P **P** **00 34 00.6 +0.9**
PRZ pmax pmax
comp=Z,40nm,0.6s
KDJ Kajisay 64.94 324 P **P** **00 34 04.0 +1.2**
KDJ IAmb IAmb 00 34 05.0
comp=Z,24nm,0.6s
KDJ Kajisay 64.94 324 P **P** **00 34 04.0 +1.2**
KDJ pmax pmax
comp=Z,24nm,0.6s
NRN Naryn 65.21 323 P **P** **00 34 05.5 +0.9**
NRN IAmb IAmb 00 34 06.3
comp=Z,18nm,0.6s
NRN Naryn 65.21 323 P **P** **00 34 05.5 +0.9**
NRN pmax pmax
comp=Z,18nm,0.6s
MK31 Makanchi Array 65.33 331 P **P** **00 34 05.2 +0.2**
MK31 Makanchi Array 65.33 331 *ce*P **P** **00 34 04.8 -0.2**
MKAR Makanchi Array 65.33 331 P **P** **00 34 05.7 +0.7**
MKAR Makanchi Array 65.33 331 P **P** **00 34 05.0 0.0**
comp=Z,54nm,0.7s,baz=136,slow=7.1,SNR=170
comp=Z,54nm,0.7s
MKAR Makanchi Array 65.33 331 P **P** **00 34 05.7 +0.7**

MAKZ Makanchi 65.50 331 P P 00 34 05.7 -0.3
MAKZ IAmb IAmb 00 34 08.1
comp=Z,29nm,0.8s
MAKZ Makanchi 65.50 331 P **P 00 34 05.7 -0.3**
MAKZ pmax pmax
comp=Z,29nm,0.8s
MAKZ Makanchi 65.50 331 P **P 00 34 05.6 -0.4**
ULHL Ulahol 65.56 324 P **P 00 34 07.6 +0.8**
SNR=9.3
BOOM Boomskoye usch 65.89 324 P 00 34 09.1 +0.3
BOOM Boomskoye usch 65.89 324 P **P 00 34 09.1 +0.3**
BOOM pmax pmax
comp=Z,54nm,0.6s
ARXS Arharly 65.90 326 *e*P **P 00 34 08.5 -0.2**
KBL Kabul 66.02 313 P **P 00 34 09.7 -0.2**
KBL Kabul 66.02 313 P **P 00 34 10.2 +0.3**
SNR=14
KBL Kabul 66.02 313 P **P 00 34 09.7 -0.2**
KBL pmax pmax
comp=Z,51nm,0.8s
TKM2 Tokmak 2 66.35 324 P **P 00 34 12.6 +0.8**
SNR=44
TKM2 Tokmak 2 66.35 324 *i* P **P 00 34 11.8 0.0**
TKM2 pmax pmax
comp=Z,27nm,0.6s
KBK Karagaybulak 66.57 324 P **P 00 34 13.9 +0.8**
SNR=18
DRK Karamyk 66.69 319 P **P 00 34 14.8 +0.6**
DRK Karamyk 66.69 319 P **P 00 34 14.8 +0.6**
DRK pmax pmax
comp=Z,49nm,0.6s
MSEY Mahe Island 66.79 268 P **P 00 34 12.6 -2.4**
AAK Ala-Archa 66.83 323 P **P 00 34 15.6 +0.8**
AAK Ala-Archa 66.83 323 P **P 00 34 15.2 +0.5**
SNR=58
AAK Ala-Archa 66.83 323 P **P 00 34 15.6 +0.8**
AAK pmax pmax
comp=Z,49nm,0.6s
AAK Ala-Archa 66.83 323 *i* P **P 00 34 15.3 +0.5**
SNR=72
AAK Ala-Archa 66.83 323 P **P 00 34 15.1 +0.5**
AAK PcP **PcP 00 34 42.9 +1.0**
CHMS Chumysh 66.89 324 P **P 00 34 15.3 +0.3**
SNR=12
ARSB Arslanbob 66.97 321 P **P 00 34 16.0 +0.3**
ARSB Arslanbob 66.97 321 P **P 00 34 16.0 +0.3**
ARSB pmax pmax
comp=Z,63nm,0.6s
AML Almayashu 67.01 322 P **P 00 34 17.6 +1.4**
SNR=47
USP Ospenovka 67.20 324 P **P 00 34 16.6 -0.3**
SNR=51
EKS2 Erkin-Say 67.27 323 P **P 00 34 18.1 +0.6**
SNR=22
GAR Garm 67.40 318 P **P 00 34 18.9 +0.5**
PEA0B Petropavlovsk- 67.80 22 P **P 00 34 20.8 +0.4**
PEA0B IAmb IAmb 00 34 23.4
comp=Z,33nm,1.1s
PEA0B Petropavlovsk- 67.80 22*ce*P **P 00 34 21.0 +0.6**
PETK Petropavlovsk- 67.80 22 P **P 00 34 20.7 +0.3**
PETK Petropavlovsk- 67.80 22 P **P 00 34 20.1 -0.3**
comp=Z,15nm,0.8s,baz=246,slow=1.8,SNR=19
comp=Z,15nm,0.8s
PETK Petropavlovsk- 67.80 22 P **P 00 34 20.7 +0.3**
CHGR Chuyangaron 68.00 317 P **P 00 34 22.5 +0.4**
CHGR Chuyangaron 68.00 317 P **P 00 34 22.5 +0.4**
SIMJ Simiganj 68.10 317 P **P 00 34 23.2 +0.4**
SIMJ Simiganj 68.10 317 P **P 00 34 23.2 +0.4**
KK31 Karatay Array 69.49 322 P **P 00 34 31.2 +0.1**
KK31 IAmb IAmb 00 34 33.0
comp=Z,14nm,0.6s
KK31 Karatay Array 69.49 322 P **P 00 34 31.2 +0.1**
KK31 pmax pmax
comp=Z,14nm,0.6s
KKAR Karatay Array 69.49 322 P **P 00 34 31.6 +0.5**
KKAR Karatay Array 69.49 322 **P 00 34 31.3 +0.2**
KKAR IAmb IAmb 00 34 33.0
comp=Z,15nm,0.6s
KKAR Karatay Array 69.49 322 P **P 00 34 31.6 +0.5**
ZAA0 Zalesovo Array 69.51 337 P **P 00 34 30.1 -0.8**
ZAA0 IAmb IAmb 00 34 32.4
comp=Z,28nm,0.8s
ZALV Zalesovo Beam 69.51 337 P **P 00 34 29.7 -1.2**
ZALV Zalesovo Beam 69.51 337 P **P 00 34 29.6 -1.3**
comp=Z,22nm,0.5s,baz=131,slow=4.9,SNR=89
ZALV PKPPKP **P'P'df 01 02 38.0 +1.2**
comp=Z,0.5nm,0.5s,baz=310,slow=6.8,SNR=4.1
comp=Z,22nm,0.5s
KURBB Kurchatov Arra 69.79 332 P **P 00 34 32.1 -0.6**
comp=Z,22nm,0.5s,baz=142,slow=5.5,SNR=219
comp=Z,22nm,0.5s
KURBB Kurchatov Arra 69.79 332 P **P 00 34 31.7 -1.0**
KURK Kurchatov 69.81 332 P **P 00 34 32.9 +0.1**
KURK Kurchatov 69.81 332 P **P 00 34 32.9 +0.1**
KURK pmax pmax
comp=Z,51nm,0.8s
KURK Kurchatov 69.81 332 P **P 00 34 32.3 -0.5**
KURK pP **pwP 00 35 26.2 +1.3**
YAK Yakutsk 70.08 4 P **P 00 34 34.5 +0.3**
YAK Yakutsk 70.08 4 P **P 00 34 34.1 -0.1**
comp=Z,43nm,0.6s,baz=193,slow=2.4,SNR=8.2
comp=Z,43nm,0.6s
YAK Yakutsk 70.08 4 *e*P **P 00 34 33.7 -0.5**
YAK *e* 00 44 13.5
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
BIDO Bidbid 70.39 298 P **P 00 34 37.0 +0.1**
SNR=6.6
HRA Herat 70.97 310 P **P 00 34 40.2 -0.3**
HRA IAmb IAmb 00 34 42.8
comp=Z,42nm,1.4s
MA2 Magadan 71.05 15 **P 00 34 40.3 +0.1**
MA2 IAmb IAmb 00 34 42.5
comp=Z,31nm,0.9s
MA2 Magadan 71.05 15*ce*P **P 00 34 40.9 +0.8**
MA2 pmax pmax
comp=Z,35nm,1.0s
MA2 Magadan 71.05 15 P **P 00 34 40.5 +0.4**
comp=Z,42nm,0.9s
MA2 Magadan 71.05 15 P **P 00 34 40.8 +0.6**
HOQ Hoqain 71.12 298 P **P 00 34 41.5 +0.1**
MAW Mawson 71.37 200 P **P 00 34 41.5 -0.5**
MAW Mawson 71.37 200 P **P 00 34 41.5 -0.5**
MAW pmax pmax
comp=Z,4.0nm,1.1s
OTUK Ortayu 71.39 327 P **P 00 34 42.2 -0.3**
DMTO DMTO 71.58 292 P **P 00 34 43.8 -0.4**
ARQ Araqi 71.73 298 P **P 00 34 44.6 -0.5**
SOHO SOHO 71.96 299 P **P 00 34 46.0 -0.3**
SOHO SOHO 71.96 299 *i* P **P 00 34 46.1 -0.3**
SNR=7.1
VNDA Vanda 72.38 172 P **P 00 34 49.2 +1.3**
VNDA Vanda 72.38 172 P **P 00 34 49.2 +1.3**
comp=Z,7.0nm,0.6s,baz=318,slow=6.7,SNR=96
comp=Z,7.0nm,0.6s
UOSS Minazif 72.50 299 P **P 00 34 49.2 -0.3**
UOSS Minazif 72.50 299 P **P 00 34 49.2 -0.3**
UOSS Minazif 72.50 299 P **P 00 34 49.0 -0.5**
HATD Hatta, Dubai 72.52 299 P **P 00 34 49.8 +0.1**
HATD Hatta, Dubai 72.52 299 *i* P **P 00 34 49.7 +0.1**
SNR=10
ASHO Ashiyiah 72.54 299 P **P 00 34 49.9 +0.1**
SNR=7.2
ASHO Ashiyiah 72.54 299 *i* P **P 00 34 49.6 -0.2**
SNR=12
DOK Doka 72.57 292 P **P 00 34 49.2 -0.9**
SNR=12
ALNE Al Ain 72.62 298 *i* P **P 00 34 50.2 -0.1**
SNR=7.7
MSFE Esma-Masafi 72.66 300 P **P 00 34 50.8 +0.3**
MASF Masafi 72.67 300 P **P 00 34 51.2 +0.7**
BANOM Banah 72.72 300 P **P 00 34 51.1 +0.2**
BANOM Banah 72.72 300 P **P 00 34 50.5 -0.3**
WHFO Wadi Hawf 72.72 292 P **P 00 34 50.0 -1.0**
SNR=34
SHME Shamm 72.89 300 P **P 00 34 52.3 +0.5**
SHME Shamm 72.89 300 P **P 00 34 51.7 -0.1**
FAQ Al Faqa, Dubai 72.97 299 P **P 00 34 52.4 +0.1**
FAQ Al Faqa, Dubai 72.97 299 *i* P **P 00 34 51.9 -0.4**
SNR=16
NAZ Nazwa, Dubai 72.98 299 P **P 00 34 52.0 -0.3**
NAZ Nazwa, Dubai 72.98 299 *i* P **P 00 34 51.6 -0.7**
SNR=6.9
ABTO Aybut 73.02 291 P **P 00 34 52.1 -0.7**
SNR=10
ASUD Al Ashush, Dub 73.16 299 P **P 00 34 53.7 +0.3**
SNR=24
ASUD Al Ashush, Dub 73.16 299 *i* P **P 00 34 53.7 +0.3**
SNR=24
SBA Scott Base 73.35 171 P **P 00 34 55.5 +2.0**
SBA Scott Base 73.35 171 P **P 00 34 55.5 +2.0**
SBA pmax pmax
comp=Z,42nm,1.9s
AJN Ajban 73.44 299 P **P 00 34 54.5 -0.5**
ABPO Ambohimpanom 73.70 253 P **P 00 34 56.9 0.0**
ABPO IAmb IAmb 00 35 33.7
comp=Z,35nm,1.4s
ABPO Ambohimpanom 73.70 253 P **P 00 34 56.9 0.0**
ABPO pmax pmax
comp=Z,35nm,1.4s
VOI Vohitsoka 73.97 250 P **P 00 34 58.4 0.0**
VOI IAmb IAmb 00 36 21.7
comp=Z,78nm,1.7s
MZWR Madinat Zayed 74.18 297 P **P 00 34 59.1 -0.2**
MZR Muzera 74.32 297 P **P 00 35 00.3 +0.1**
MZR Muzera 74.32 297 *i* P **P 00 35 00.4 +0.2**
SNR=19
SEY Seymchan 74.35 14 *e*P **P 00 34 57.8 -1.7**
SEY pmax pmax
comp=Z,33nm,0.7s
GHWR Ruwais 75.11 297 P **P 00 35 04.9 +0.2**
BVA0 Borovoye Array 75.22 330 *i* P **P 00 35 03.1 -1.6**
BVAR Borovoye Array 75.22 330 P **P 00 35 03.6 -1.1**
comp=Z,13nm,0.6s,baz=131,slow=6.7,SNR=78
BVAR S **S 00 44 22.5 -3.0**
comp=Z,0.5nm,0.6s,baz=157,slow=17,SNR=3.5
comp=Z,13nm,0.6s
BRVK Borovoye 75.29 330 P **P 00 35 05.0 -0.1**
BRVK Borovoye 75.29 330 P **P 00 35 05.0 -0.1**
BRVK pmax pmax
comp=Z,22nm,1.1s
JRN Qarnain Island 75.41 298 P **P 00 35 06.1 -0.3**
SLWR Sila 76.19 297 P **P 00 35 10.9 +0.1**
TRNA Turayna 76.78 298 P **P 00 35 14.1 0.0**
SMRA Abu-Samra 77.13 298 P **P 00 35 16.0 -0.1**
SHMA Al-Shehemyia 77.30 299 P **P 00 35 17.3 +0.4**
SAKB Bahrain 77.70 299 P **P 00 35 19.4 +0.2**
AB31 Akbulak array 78.91 324 P **P 00 35 25.9 +0.6**
AB31 IAmb IAmb 00 35 26.2
comp=Z,19nm,0.7s
AB31 Akbulak array 78.91 324 *i* P **P 00 35 24.3 -1.0**
ABKAR Akbulak array 78.91 324 P **P 00 35 25.5 +0.2**
ABKAR IAmb IAmb 00 35 26.2
comp=Z,19nm,0.7s
GSTR Great Sitkin T 79.39 33 P **P 00 35 28.1 +0.2**
TIXI Tiksi 79.64 2 P **P 00 35 28.5 -0.2**
TIXI Tiksi 79.64 2 P **P 00 35 28.6 -0.2**
comp=Z,30nm,0.4s,baz=224,slow=6.3,SNR=48
comp=Z,30nm,0.4s
ATKA Atka Island 80.46 34 P **P 00 35 33.7 +0.2**
AKTO Aktyubinsk 80.55 324 P **P 00 35 32.9 -1.2**
NRIK Noril'sk 80.94 348 P **P 00 35 35.8 +0.1**
NRIK Noril'sk 80.94 348 P **P 00 35 35.4 -0.4**
comp=Z,13nm,0.8s,baz=128,slow=5.1,SNR=21
NRIK PP **PP 00 38 47.3 +3.7**
comp=Z,1.3nm,0.7s,baz=120,slow=6.5,SNR=4.4
comp=Z,13nm,0.8s
NRIK Noril'sk 80.94 348 P **P 00 35 35.8 +0.1**
NRIK pmax pmax
comp=Z,16nm,1.0s
RAYN Ar Rayn 81.56 295 P **P 00 35 40.0 -0.1**
RAYN IAmb IAmb 00 35 41.9
comp=Z,22nm,0.8s
RAYN Ar Rayn 81.56 295 P **P 00 35 40.0 -0.1**
RAYN pmax pmax
comp=Z,22nm,0.8s
RAYN Ar Rayn 81.56 295 *i* P **P 00 35 40.2 +0.1**
SNR=44
ATD Arta Tunnel 81.72 283 P **P 00 35 41.9 +0.8**
BILL Bilibino 81.91 15 *i* P **P 00 35 42.0 +1.2**
BILL pmax pmax
comp=Z,3.0nm,0.8s
QSPA South Pole Qui 81.94 180 **P 00 35 42.4 +1.1**
QSPA South Pole Qui 81.94 180 P **P 00 35 42.5 +1.1**
comp=Z,11nm,0.6s,baz=296,slow=1.1,SNR=102
QSPA S **S 00 45 36.9 +0.2**
comp=Z,3.1nm,1.1s,baz=158,slow=23,SNR=8.0
comp=Z,11nm,0.6s
SVE Sverdlovsk 82.00 331 *e*P **P 00 35 40.2 -1.4**
SVE pmax pmax
comp=Z,40nm,1.0s
ARTI Arti 82.91 330 P **P 00 35 45.9 -0.3**
ARTI Arti 82.91 330*d i* P **P 00 35 45.4 -0.9**
ARTI *PP **pP 00 36 36.2 -1.9**
ARTI 00 38 58.2
ARTI S **S 00 45 45.4 -1.0**
ARTI SS **SS 00 51 22.2 +7.2**
ARTI pmax pmax
comp=Z,35nm,0.7s
AKT Akhty 84.16 313 *e*P **P 00 35 51.6 -1.6**
AKT *e**PP **pP 00 36 42.0 -2.4**
AKT *e* 00 39 09.8
AKT *e**SS **sS 00 47 26.7 -4.9**
AKT pmax pmax
comp=Z,35nm,1.2s
KIBK Kibwezi 84.35 268 P **P 00 35 54.2 -0.4**
GNI Garni 86.01 311 **P 00 36 03.6 +1.2**
GNI Garni 86.01 311 P **P 00 36 03.6 +1.2**
GNI pmax pmax
comp=Z,15nm,0.9s
GNI Garni 86.01 311 P **P 00 36 03.4 +1.0**
GNI Garni 86.01 311 P **P 00 36 02.8 +0.4**
comp=Z,289nmcomp=Z,18nm,1.1s
GEVA Gevas 86.86 309 **P 00 36 07.8 +1.1**
BELG Belogornoye 87.32 324 *i* P **P 00 36 07.7 -0.5**
BELG pmax pmax
comp=Z,8.0nm,1.0s
KARS Kars 87.36 311 P **P 00 36 09.4 +0.5**
KARS Kars 87.36 311 P **P 00 36 09.4 +0.5**
KARS pmax pmax
comp=Z,70nm,0.8s
GURO Guroymak-BITLI 87.70 309 P **P 00 36 10.7 +0.2**
GURO IAmb IAmb 00 36 13.1
comp=Z,35nm,1.1s
KBZ Khabaz 88.18 314 P **P 00 36 13.1 +0.6**
comp=Z,12nm,0.8s,baz=119,slow=3.9,SNR=42
comp=Z,12nm,0.8s
KIRV Kirov 88.22 330*ce*P **P 00 36 11.8 -0.5**
SHA1 Shidzhatmaz 88.35 314 *i* P **P 00 36 13.1 -0.5**
GOF Gofitskoye 88.37 316*ce*P **P 00 36 13.5 +0.1**
KIV Kislovodsk 88.38 315 **P 00 36 13.5 -0.1**
KIV Kislovodsk 88.38 315 ⇓P **P 00 36 13.3 -0.3**
KIV Kislovodsk 88.38 315 ⇓P **P 00 36 13.3 -0.3**
KIV Kislovodsk 88.38 315 *i* P **P 00 36 14.4 +0.9**
SNR=5.5
MARD Mardin 88.42 308 P **P 00 36 13.8 -0.1**
MARD IAmb IAmb 00 36 15.3
comp=Z,25nm,1.3s
K13K Kusilvak Mount 89.03 27 P **P 00 36 16.1 0.0**
baz=251
KOPT Kop Dagi 89.16 310 P **P 00 36 18.6 +1.0**
L14K Kuka Creek 89.75 28 P **P 00 36 19.5 +0.1**
baz=253
O14K Tigyukauivet M 89.82 30 P **P 00 36 19.0 -0.8**
baz=254
M14K Bethel 89.91 28 P **P 00 36 19.1 -1.1**
baz=253
F15K North Star Dit 90.27 23 P **P 00 36 20.7 -1.1**
baz=251
G15K Niukluk 90.28 24 P **P 00 36 21.3 -0.5**
baz=252
L15K Ungalak Mounta 90.39 28 P **P 00 36 21.5 -1.0**
baz=254
M15K Kasigluk River 90.49 29 P **P 00 36 22.3 -0.6**
baz=254
VRH Novokhopyorsk 90.57 322 *e*P **P 00 36 21.4 -2.1**
VRH pmax pmax
comp=Z,10.0nm,0.8s
N15K Kwethluk River 90.64 29 P **P 00 36 23.7 +0.1**
baz=255
C16K Lisburne Hills 90.87 21 P **P 00 36 23.9 -0.6**
baz=250
H16K Elim 90.91 25 P **P 00 36 23.9 -0.8**
baz=253
G16K Koyuk River 91.08 24 P **P 00 36 24.8 -0.7**
baz=253
J16K Anvik River 91.23 26 P **P 00 36 26.1 -0.1**
baz=255
TROLL Troll, Antarti 91.28 196 ⇓P **P 00 36 28.6 +1.9**
comp=Z,202nm,0.8s
L16K Owhat River 91.33 28 P **P 00 36 26.1 -0.7**
baz=256
N16K Nishlik Lake 91.35 29 P **P 00 36 26.9 -0.1**
baz=256
M16K Timber Creek 91.40 28 P **P 00 36 26.9 -0.2**
baz=256
O16K Kokwok River B 91.48 30 P **P 00 36 26.8 -0.7**
baz=257
D17K Noatak River 91.49 22 P **P 00 36 27.0 -0.4**
baz=252
GHAJ Ghor Haditha 91.66 301 P **P 00 36 28.5 -0.4**
GHAJ IAmb IAmb 00 36 30.6
comp=Z,15nm,1.1s
MREMI Moremi 91.72 247 P **P 00 36 29.7 0.0**
E17K Hotham Inlet 91.78 22 P **P 00 36 28.4 -0.3**
baz=254
G17K Kiwalik Mounta 91.80 24 P **P 00 36 28.6 -0.3**
baz=255
F17K Baldwin Pennin 91.81 23 P **P 00 36 28.2 -0.7**
baz=254
J17K VABM Dome 91.92 26 P **P 00 36 28.9 -0.6**
baz=256
H17K Granite Mounta 91.95 25 P **P 00 36 29.0 -0.6**
H17K Granite Mounta 91.95 25 P **P 00 36 29.0 -0.6**
baz=255
CHIR Chirikof Islan 91.97 34 P **P 00 36 31.0 +1.1**
baz=259
L17K Donlin 91.97 27 P **P 00 36 29.3 -0.4**
baz=257
VORD Divnogorie 92.03 321 *e*P **P 00 36 27.9 -2.3**
VORD pmax pmax
comp=Z,20nm,0.8s
MMAI Mount Meron Ar 92.04 303 P **P 00 36 31.6 +0.8**
comp=Z,2.0nm,0.5s,baz=96,slow=5.1,SNR=14
comp=Z,2.0nm,0.5s
K17K Iditarod 92.10 27 P **P 00 36 30.1 -0.2**
baz=257
VSR Storozhevoye 92.15 321 *e*P **P 00 36 27.9 -2.9**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LSZ Lusaka 92.18 254 P **P 00 36 31.3 -0.7**
LSZ IAmb IAmb 00 36 32.6
comp=Z,14nm,0.7s
LSZ Lusaka 92.18 254 P **P 00 36 31.3 -0.7**
LSZ pmax pmax
comp=Z,14nm,0.7s
M17K Holitna River 92.20 28 P **P 00 36 30.9 0.0**
baz=257
VORR Voronezh 92.21 322 *e*P **P 00 36 29.4 -1.6**
VORR pmax pmax
comp=Z,18nm,0.7s
TOKA Tokat 92.25 310 P **P 00 36 31.5 -0.1**
TOKA IAmb IAmb 00 36 33.3
comp=Z,16nm,0.9s
Q17K Contact Creek 92.31 32 P **P 00 36 29.7 -1.8**
baz=258
E18K Tukpahlearik C 92.33 22 P **P 00 36 30.3 -1.0**
E18K Tukpahlearik C 92.33 22 P **P 00 36 30.9 -0.4**
baz=255
B18K Kokolik River 92.43 20 P **P 00 36 31.0 -0.7**
baz=254
C18K Utukok River 92.44 21 P **P 00 36 30.4 -1.5**
C18K Utukok River 92.44 21 P **P 00 36 30.7 -1.2**
baz=254
F18K Selawik 92.47 23 P **P 00 36 30.7 -1.2**
baz=256
BNN Bunyan 92.52 309 P **P 00 36 33.5 +0.5**
BNN IAmb IAmb 00 36 34.4
comp=Z,26nm,1.2s
LPSR Galich'ya Gora 92.54 323 *e*P **P 00 36 30.3 -2.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
BOSA Boshof 92.63 241 P **P 00 36 34.0 +0.3**
BOSA IAmb IAmb 00 36 39.6
comp=Z,31nm,1.6s
BOSA Boshof 92.63 241 P **P 00 36 33.6 -0.1**
comp=Z,6.4nm,0.9s,baz=106,slow=3.9,SNR=13
comp=Z,6.4nm,0.9s
BOSA Boshof 92.63 241 P **P 00 36 34.1 +0.3**
BOSA pmax pmax
comp=Z,31nm,1.7s
H18K Honhosa River 92.64 25 P **P 00 36 31.8 -1.0**
baz=257
G18K Tagagawik 92.70 24 P **P 00 36 32.1 -0.9**
G18K IAmb IAmb 00 36 35.6
comp=Z,25nm,1.9s
G18K Tagagawik 92.70 24 P **P 00 36 32.0 -1.0**
baz=256
L18K Granite Mounta 92.72 28 P **P 00 36 33.3 +0.1**
L18K IAmb IAmb 00 36 33.7
comp=Z,13nm,1.1s
L18K Granite Mounta 92.72 28 P **P 00 36 32.4 -0.8**
baz=258
N18K Kilae Creek 92.79 29 P **P 00 36 33.1 -0.5**
baz=259
SNAA Sanae 92.86 195 ⇓P **P 00 36 35.0 +1.1**
SNAA Sanae 92.86 195 P **P 00 36 35.5 +1.6**
SNAA Sanae 92.86 195 P **P 00 36 34.1 +0.3**
comp=Z,1.7nm,0.7s,baz=62,slow=2.0,SNR=3.7
comp=Z,1.7nm,0.7s
SNAA Sanae 92.86 195 P **P 00 36 35.5 +1.6**
SNAA pmax pmax
comp=Z,14nm,1.5s
SII Sitkinak Islan 92.89 33 P **P 00 36 34.6 +0.4**
baz=260
J18K Innoko River 92.97 26 P **P 00 36 33.5 -0.9**
baz=258
M18K Stony River 92.98 28 P **P 00 36 34.4 0.0**
baz=259
LBTB Lobatse 92.98 244 P **P 00 36 35.9 +0.5**
LBTB IAmb IAmb 00 38 46.1
comp=Z,19nm,1.6s
LBTB Lobatse 92.98 244 P **P 00 36 35.9 +0.5**
LBTB pmax pmax
comp=Z,19nm,1.7s
F19K Shaleruckik Mo 93.26 23 P **P 00 36 34.0 -1.5**
F19K Shaleruckik Mo 93.26 23 P **P 00 36 34.8 -0.8**
baz=257,SNR=5.3
BELA Belgrano 2 93.28 185 P **P 00 36 36.9 +1.3**
G19K Purcell Mounta 93.38 24 P **P 00 36 35.7 -0.5**
G19K IAmb IAmb 00 36 36.6
comp=Z,13nm,0.9s
G19K Purcell Mounta 93.38 24 P **P 00 36 36.0 -0.1**
baz=258,SNR=10
N19K Bonanza Creek 93.49 29 P **P 00 36 36.6 -0.3**
baz=260
OHAK Old Harbor 93.49 33 P **P 00 36 36.7 -0.1**
baz=261
D19K Kuna River 93.50 21 P **P 00 36 35.9 -0.8**
D19K IAmb IAmb 00 36 37.1
comp=Z,9.2nm,0.8s
D19K Kuna River 93.50 21 P **P 00 36 36.5 -0.2**
baz=257,SNR=6.4
H19K Roundabout Mou 93.50 24 P **P 00 36 36.3 -0.4**
H19K IAmb IAmb 00 36 37.2
comp=Z,13nm,0.9s
H19K Roundabout Mou 93.50 24 P **P 00 36 36.7 0.0**
baz=258,SNR=10.0
MAKGR Makgori 93.54 243 P **P 00 36 38.0 -0.1**
J19K Poorman 93.55 26 P **P 00 36 36.1 -0.9**
J19K IAmb IAmb 00 36 38.0
comp=Z,25nm,1.6s
J19K Poorman 93.55 26 P **P 00 36 35.8 -1.2**
baz=259
L19K White Mountain 93.56 28 P **P 00 36 36.6 -0.5**
baz=260
E19K Redstone River 93.60 22 P **P 00 36 36.9 -0.2**
E19K IAmb IAmb 00 36 37.7
comp=Z,13nm,0.8s
E19K Redstone River 93.60 22 P **P 00 36 37.5 +0.4**
baz=258,SNR=15
KLMR Klimovskoe 93.63 331 *e*P **P 00 36 33.4 -4.0**
KLMR pmax pmax
comp=Z,28nm,1.5s
M19K Big River Lodg 93.72 28 P **P 00 36 39.5 +1.7**
baz=260
MOS Moscow 93.80 326 *e*P **P 00 36 36.6 -1.7**
MOS pmax pmax
comp=Z,37nm,0.7s
CSS Mathiatis 94.00 305 P **P 00 36 39.6 -0.2**
CSS Mathiatis 94.00 305 P **P 00 36 40.0 +0.2**
KIRS Kirsehir-Merke 94.04 309 ⇑P **P 00 36 38.0 -1.9**
KIRS Kirsehir-Merke 94.04 309 ⇑P **PKiKP 00 41 23.1 0.0**

D20K	Etivluk River	94.08	21	P	P	00 36 38.7	-0.7	
D20K	Etivluk River	94.08	21	P	P	00 36 38.6	-0.8	
	baz=258,SNR=6.5							
F20K	Avaraart Lake	94.09	23		P	00 36 38.9	-0.5	
F20K	Avaraart Lake	94.09	23	P	P	00 36 39.0	-0.3	
	baz=259,SNR=7.3							
KDWAN	Kaudwane	94.11	246	P	P	00 36 40.5	-0.1	
H20K	Anotleneega Mo	94.14	24	P	P	00 36 39.1	-0.5	
	baz=260							
E20K	Nigu River	94.15	22	P	P	00 36 39.5	-0.2	
	baz=259,SNR=20							
B20K	Meade River	94.16	20	P	P	00 36 39.1	-0.5	
	baz=258							
Q20K	Shuyak Island	94.18	32	P	P	00 36 39.9	-0.1	
	baz=262							
J20K	Nowinta River	94.22	26	P	P	00 36 39.1	-1.0	
J20K	Nowinta River	94.22	26	P	P	00 36 39.4	-0.6	
	baz=260							
OBN	Obninsk	94.30	325	P	P	00 36 39.3	-1.3	
OBN	Obninsk	94.30	325	*c i*P	P	00 36 39.4	-1.2	
OBN				*e**PP	pP	00 37 33.0	-0.2	
OBN				*e*PPP	PPP	00 42 33.5		
OBN				pmax	pmax			
	comp=Z,60nm,1.7s							
OBN				MLR	MLR			
	comp=Z,20nm,15.0s							
M20K	Styx River	94.31	28	P	P	00 36 40.4	-0.2	
	baz=261							
BR131	Keskin Array S	94.33	309	P	P	00 36 40.1	-1.2	
BR131	Keskin Array S	94.33	309	P	P	00 36 40.1	-1.2	
BR131				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BRTR	Keskin Array B	94.33	309	P	P	00 36 40.1	-1.2	
BRTR	Keskin Array B	94.33	309	P	P	00 36 39.9	-1.5	
	comp=Z,3.6nm,0.7s,baz=120,slow=4.9,SNR=14							
	comp=Z,3.6nm,0.7s							
BRTR	Keskin Array B	94.33	309	*ce*P	P	00 36 40.5	-0.8	
BRTR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ILGA	Ilgaz	94.43	311	P	P	00 36 40.7	-1.1	
ILGA				IAmb	IAmb	00 36 45.7		
	comp=Z,8.9nm,0.9s							
SPCR	Spurr Chakacha	94.65	29	P	P	00 36 41.9	-0.3	
	baz=262							
C21K	Knifeblade Rid	94.82	21	P	P	00 36 42.4	-0.3	
	baz=260							
G21K	Allakaket	94.86	24	P	P	00 36 42.2	-0.8	
G21K	Allakaket	94.86	24	P	P	00 36 42.7	-0.2	
	baz=261							
B21K	Ikpikpuk River	94.95	20	P	P	00 36 42.8	-0.5	
B21K				IAmb	IAmb	00 36 43.9		
	comp=Z,8.5nm,1.0s							
B21K	Ikpikpuk River	94.95	20	P	P	00 36 43.3	+0.1	
	baz=260,SNR=5.7							
CHUM	Lake Minchumin	94.97	26	P	P	00 36 43.3	-0.1	
	baz=262							
F21K	Alatna River	94.98	23	P	P	00 36 42.9	-0.6	
F21K				IAmb	IAmb	00 37 01.6		
	comp=Z,16nm,1.9s							
F21K	Alatna River	94.98	23	P	P	00 36 43.0	-0.5	
	baz=261							
CAST	Castle Rocks	95.01	27	P	P	00 36 42.9	-0.9	
CAST				IAmb	IAmb	00 39 59.2		
	comp=Z,27nm,2.0s							
CAST	Castle Rocks	95.01	27	P	P	00 36 43.4	-0.4	
	baz=262							
H21K	Melozitna Rive	95.02	24	P	P	00 36 43.0	-0.7	
	baz=262							
A22K	Sinclair Lake	95.07	19	P	P	00 36 43.9	+0.1	
	baz=260,SNR=12							
SKT	Skwentna	95.07	28	P	P	00 36 42.8	-1.2	
	baz=262							
I21K	Tanana	95.29	25	P	P	00 36 44.3	-0.6	
	baz=262							
SUA	Susitna One	95.38	29	P	P	00 36 45.3	-0.3	
	baz=263							
B22K	Teshekpuk Lake	95.47	20	P	P	00 36 45.2	-0.4	
B22K				IAmb	IAmb	00 36 46.1		
	comp=Z,11nm,0.8s							
B22K	Teshekpuk Lake	95.47	20	P	P	00 36 45.6	0.0	
	baz=262,SNR=7.6							
D22K	Ayikyak River	95.52	21	P	P	00 36 46.7	+0.8	
D22K				IAmb	IAmb	00 36 46.7		
	comp=Z,10nm,1.2s							
D22K	Ayikyak River	95.52	21	P	P	00 36 46.0	+0.1	
	baz=262,SNR=5.5							
F22K	John River	95.52	23	P	P	00 36 45.8	-0.2	
	baz=262,SNR=7.3							
BPAW	Bear Paw Mtn.	95.58	26	P	P	00 36 45.8	-0.5	
BPAW				IAmb	IAmb	00 37 05.2		
	comp=Z,15nm,1.6s							
BPAW	Bear Paw Mtn.	95.58	26	P	P	00 36 45.5	-0.8	
	baz=263							
SUR	Sutherland	95.62	236	P	P	00 36 48.4	+0.9	
H22K	Ishtalitna Cre	95.63	24	P	P	00 36 46.3	-0.2	
	baz=263							
E22K	Anaktuvuk Pass	95.74	22		P	00 36 47.0	0.0	
E22K				IAmb	IAmb	00 36 47.6		
	comp=Z,11nm,1.0s							
E22K	Anaktuvuk Pass	95.74	22	P	P	00 36 46.8	-0.2	
	baz=263,SNR=10							
TRF	Thorofare Moun	95.82	27	P	P	00 36 46.6	-0.9	
	baz=264							
COLD	Coldfoot	96.25	23	P	P	00 36 49.3	+0.1	
COLD				IAmb	IAmb	00 36 50.0		
	comp=Z,7.1nm,0.8s							
COLD	Coldfoot	96.25	23	P	P	00 36 49.6	+0.4	
	baz=264							
D23K	Nanushuk River	96.25	21	P	P	00 36 49.1	-0.1	
D23K				IAmb	IAmb	00 36 50.9		
	comp=Z,14nm,1.1s							
D23K	Nanushuk River	96.25	21	P	P	00 36 49.7	+0.5	
	baz=264,SNR=7.4							
G23K	Bananza Creek	96.27	24	P	P	00 36 49.1	-0.2	
G23K				IAmb	IAmb	00 36 50.2		
	comp=Z,12nm,1.1s							
G23K	Bananza Creek	96.27	24	P	P	00 36 49.6	+0.2	
	baz=264,SNR=9.4							
C23K	Itkillik River	96.36	20		P	00 36 49.6	0.0	
C23K				IAmb	IAmb	00 36 50.2		
	comp=Z,9.2nm,0.8s							
C23K	Itkillik River	96.36	20	P	P	00 36 49.7	0.0	
	baz=264,SNR=8.9							
H23K	Yukon River	96.38	24	P	P	00 36 49.7	-0.2	
H23K				IAmb	IAmb	00 36 50.2		
	comp=Z,6.3nm,0.9s							
H23K	Yukon River	96.38	24	P	P	00 36 49.6	-0.3	
	baz=265							
I23K	Minto, Yukon-K	96.39	25	P	P	00 36 49.4	-0.5	
I23K				IAmb	IAmb	00 36 50.1		
	comp=Z,14nm,1.0s							
I23K	Minto, Yukon-K	96.39	25	P	P	00 36 49.9	0.0	
	baz=265							
MCK	McKinley	96.45	27	P	P	00 36 49.8	-0.5	
	baz=265							
RND	Reindeer	96.46	27		P	00 36 48.5	-1.8	
RND				IAmb	IAmb	00 36 49.7		
	comp=Z,16nm,1.1s							
RND	Reindeer	96.46	27	P	P	00 36 48.5	-1.8	
RND				pmax	pmax			
	comp=Z,16nm,1.1s							
NEA2	Nenana	96.47	26	P	P	00 36 49.5	-0.7	
	baz=265							
KNK	Knik Glacier	96.47	29	P	P	00 36 50.4	0.0	
	baz=265							
E23K	Chandalar	96.55	22		P	00 36 50.8	+0.1	
E23K				IAmb	IAmb	00 36 51.6		
	comp=Z,10nm,0.9s							
E23K	Chandalar	96.55	22	P	P	00 36 50.6	-0.1	
	baz=265,SNR=12							
SML	Sawmill	96.56	29	P	P	00 36 49.5	-1.4	
SML	Sawmill	96.56	29	P	P	00 36 50.4	-0.4	
	baz=265							
TOLK	Toolik Lake Re	96.62	22	P	P	00 36 51.0	+0.1	
	baz=265							
M23K	Glacier View	96.85	29	P	P	00 36 51.6	-0.4	
	baz=266							
P23K	Montague Islan	96.88	30	P	P	00 36 52.6	+0.4	
	baz=266							
WRH	Wood River Hil	96.88	26	P	P	00 36 51.0	-1.1	
WRH				IAmb	IAmb	00 36 51.9		
	comp=Z,17nm,1.3s							
D24K	Happy Valley	96.93	21	P	P	00 36 52.7	+0.5	
D24K				IAmb	IAmb	00 36 53.1		
	comp=Z,9.1nm,1.0s							
D24K	Happy Valley	96.93	21	P	P	00 36 52.0	-0.3	
	baz=266							
ELL	Elmali	96.95	306	P	P	00 36 52.9	-0.4	
ELL	Elmali	96.95	306	P	P	00 36 52.9	-0.4	
E24K	Your Creek	96.98	22	P	P	00 36 52.4	-0.2	
E24K				IAmb	IAmb	00 40 08.1		
	comp=Z,15nm,1.9s							
E24K	Your Creek	96.98	22	P	P	00 36 52.7	+0.1	
	baz=266							
CCB	Clear Creek Bu	97.01	26		P	00 36 51.3	-1.4	
CCB				IAmb	IAmb	00 36 51.6		
	comp=Z,8.6nm,1.0s							
C24K	Franklin Bluff	97.02	21	P	P	00 36 51.7	-0.9	
C24K				IAmb	IAmb	00 36 53.1		
	comp=Z,9.4nm,0.9s							
C24K	Franklin Bluff	97.02	21	P	P	00 36 52.4	-0.2	
	baz=266							
SCM	Sheep Creek Mo	97.04	29	P	P	00 36 52.5	-0.4	
SCM	Sheep Creek Mo	97.04	29	P	P	00 36 52.6	-0.4	
SCM				pmax	pmax			
	comp=Z,61nm,1.6s							
SCM	Sheep Creek Mo	97.04	29	P	Pdif	00 36 53.1	+0.1	
	baz=266							
H24K	Noodor Dome	97.06	25	P	P	00 36 52.8	-0.2	
H24K				IAmb	IAmb	00 36 53.6		
	comp=Z,12nm,1.1s							
H24K	Noodor Dome	97.06	25	P	P	00 36 52.5	-0.5	
	baz=266							
GLI	Glacier Island	97.09	30	P	P	00 36 53.0	-0.1	
	baz=266							
F24K	Squaw Lake	97.17	23	P	Pdif	00 36 53.5	0.0	
F24K	Squaw Lake	97.17	23	P	Pdif	00 36 53.6	+0.1	
	baz=266							
G24K	Hadweenzic Riv	97.28	24	P	P	00 36 52.5	-1.4	
G24K				IAmb	IAmb	00 36 54.7		
	comp=Z,10nm,1.2s							
G24K	Hadweenzic Riv	97.28	24	P	P	00 36 53.0	-0.9	
	baz=267							
HDA	Harding Lake	97.37	26	P	P	00 36 52.1	-2.2	
HDA				IAmb	IAmb	00 36 53.0		
	comp=Z,7.5nm,1.0s							
HDA	Harding Lake	97.37	26	P	P	00 36 53.0	-1.3	
	baz=267							
IL31		97.41	26	P	P	00 36 52.1	-2.3	
IL31				IAmb	IAmb	00 39 05.0		
	comp=Z,18nm,1.8s							
ILAR	Eielson Array	97.41	26	P	P	00 36 51.6	-2.9	
ILAR	Eielson Array	97.41	26	P	P	00 36 52.5	-2.0	
	comp=Z,1.4nm,0.8s,baz=253,slow=4.0,SNR=12							
ILAR				PP	PP	00 40 53.2	-1.2	
	comp=Z,0.9nm,1.0s,baz=272,slow=6.2,SNR=5.7							
ILAR				PKKPbc	PKKPdf	00 53 35.8	-0.1	
	comp=Z,0.7nm,0.7s,baz=14,slow=0.4,SNR=6.1							
	comp=Z,1.4nm,0.8s							
M24K	Tolsona, Glenn	97.60	28	P	P	00 36 54.3	-1.2	
	baz=267							
GRTLG	Ghanzi	97.63	247	P	P	00 36 56.1	-0.6	
GRTLG				IAmb	IAmb	00 38 43.9		
	comp=Z,12nm,1.6s							
D25K	Kavik River	97.81	21	P	P	00 36 55.3	-1.0	
D25K				IAmb	IAmb	00 36 57.2		
	comp=Z,9.4nm,1.6s							
D25K	Kavik River	97.81	21	P	P	00 36 55.4	-0.9	
	baz=268							
G25K	Bearman Lake	97.83	24	P	P	00 36 56.0	-0.3	
	baz=268							
K24K	Donnelly Dome	97.85	27	P	P	00 36 56.2	-0.3	
	baz=268							
PAX	Paxson	97.96	27	P	P	00 36 56.3	-0.9	
	baz=268							
PRP	Porcupine Dome	98.02	25	P	P	00 36 56.5	-0.9	
	baz=268							
F25K	Christian Rive	98.03	23	P	Pdif	00 36 57.3	0.0	
F25K				IAmb	IAmb	00 39 40.5		
	comp=Z,9.7nm,1.8s							
F25K	Christian Rive	98.03	23	P	P	00 36 57.1	-0.2	
	baz=268							
J25K	Salcha River,	98.06	26	P	P	00 36 55.6	-1.9	
J25K				IAmb	IAmb	00 40 43.9		
	comp=Z,12nm,1.6s							
J25K	Salcha River,	98.06	26	P	P	00 36 56.2	-1.3	
	baz=268							
E25K	Arctic Village	98.07	22	P	P	00 36 57.4	-0.1	
E25K				IAmb	IAmb	00 36 59.1		
	comp=Z,10nm,1.4s							
E25K	Arctic Village	98.07	22	P	Pdif	00 36 57.4	-0.1	
	baz=269							
HARP	HAARP	98.09	28	P	Pdif	00 36 58.4	+0.7	
	baz=268							
RIDG	Independent Ri	98.26	27	P	P	00 36 58.2	-0.2	
RIDG	Independent Ri	98.26	27	P	P	00 36 58.4	-0.1	
	baz=269							
BMRM	Bremner River	98.31	29	P	Pdif	00 36 58.8	+0.1	
	baz=268							
C26K	Camden Bay	98.34	20	P	Pdif	00 36 58.5	-0.1	
	baz=270							
AKASG	Malin Array Be	98.34	320	P	P	00 36 58.3	-0.7	
AKASG	Malin Array Be	98.34	320	P	P	00 36 58.2	-0.8	
	comp=Z,5.9nm,0.8s,baz=78,slow=4.3,SNR=16							
	comp=Z,5.9nm,0.8s							
AKASG	Malin Array Be	98.34	320	P	P	00 36 58.3	-0.7	
AKASG				pmax	pmax			
	comp=Z,5.0nm,1.0s							
AKBB	Malin Array Si	98.34	320	P	P	00 36 58.0	-0.9	
AKBB				IAmb	IAmb	00 36 59.2		
	comp=Z,7.7nm,0.8s							
AKBB	Malin Array Si	98.34	320	*ce*P	P	00 36 58.4	-0.6	
AKBB	Malin Array Si	98.34	320	P	P	00 36 58.1	-0.9	
AK07	Malin Array Si	98.35	320	P	P	00 36 58.6	-0.4	
KIEV	Kiev	98.35	320	P	P	00 36 58.4	-0.6	
KIEV				IAmb	IAmb	00 36 59.2		
	comp=Z,6.9nm,0.8s							
KIEV	Kiev	98.35	320	⇑P	P	00 36 58.2	-0.9	
KIEV	Kiev	98.35	320	P	P	00 36 58.4	-0.6	
KIEV				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KIEV	Kiev	98.35	320	*i* P	P	00 36 58.1	-0.9	
	SNR=8.4							
KAIM	Kayak Island	98.37	31	P	P	00 36 58.5	-0.5	
	baz=268							
BMAR	Burnt Mountain	98.44	23	P	Pdif	00 36 59.3	+0.2	
MILM	Milestii Mici	98.44	316	⇓P	P	00 36 58.3	-1.2	
MILM	Milestii Mici	98.44	316	⇓P	P	00 36 58.3	-1.2	
F26K	Sheenjek River	98.61	23	P	P	00 36 59.3	-0.5	
F26K				IAmb	IAmb	00 37 00.9		
	comp=Z,14nm,1.8s							
F26K	Sheenjek River	98.61	23	P	P	00 36 59.7	-0.1	
	baz=270							
DOT	Dot Lake	98.61	27	P	P	00 36 59.9	-0.1	
SCRK	Sand Creek	98.65	26	P	P	00 36 59.9	-0.3	
	baz=269							
G26K	Porcupine Rive	98.75	23	P	Pdif	00 37 00.7	+0.3	
G26K				IAmb	IAmb	00 37 01.5		
	comp=Z,5.2nm,1.0s							
G26K	Porcupine Rive	98.75	23	P	Pdif	00 37 00.6	+0.2	
	baz=270							
C27K	Jago River	98.76	21	P	Pdif	00 37 00.5	+0.1	
C27K				IAmb	IAmb	00 37 01.7		
	comp=Z,14nm,1.5s							
C27K	Jago River	98.76	21	P	Pdif	00 37 01.1	+0.6	
	baz=271							
SORM	Soroca	98.81	317	⇓P	Pdif	00 37 00.2	-0.9	
SORM	Soroca	98.81	317	⇓P	Pdif	00 37 00.2	-0.9	
J26L	Joseph Creek	98.84	26	P	Pdif	00 37 00.2	-0.8	
J26L				IAmb	IAmb	00 37 01.7		
	comp=Z,11nm,1.4s							
J26L	Joseph Creek	98.84	26	P	Pdif	00 37 00.5	-0.6	
	baz=270							
VRDI	Verde Repeater	98.87	29	P	Pdif	00 37 00.9	-0.5	
VRDI				IAmb	IAmb	00 41 04.6		
	comp=Z,13nm,1.2s							
I26K	Coal Creek Min	99.01	25	P	Pdif	00 37 01.5	-0.2	
	baz=270							
M26K	Nabesna, AK	99.09	28	P	Pdif	00 37 02.3	+0.1	
	baz=270							
LUBAR	Lubar, Ukraine	99.25	319	P	Pdif	00 37 02.5	-0.6	
MNK	Minsk	99.27	324	*i* P	Pdif	00 37 02.7	-0.4	
	comp=E,6.0nm,0.9s							
MNK				*i* P	Pdif	00 37 02.7	-0.4	
	comp=N,3.0nm,0.7s							
MNK				*i* P	Pdif	00 37 02.7	-0.4	
	comp=Z,9.0nm,0.8s,baz=91							
MNK				*i* pP	pP	00 37 56.8	+1.1	
MNK				*i* sP	sP	00 38 28.6	+11	
MNK				*i* PP	PKiKP	00 41 23.3	-8.5	
MNK				*i* PPP	PPP	00 43 16.6		
MNK				*i* SKS		00 46 03.1		
MNK				*i* S	SKSac	00 47 19.4	-1.0	
MNK				*i* sS	pS	00 49 08.8	-15	
MNK				*i* SP	SP	00 49 39.8	-3.6	
MNK				*i* PS	PS	00 50 03.1	-7.9	
MNK				*i* SKKS		00 52 33.2		
MNK				*i* SS	SKKPbc	00 56 23.2	-27	
MNK				*i* SSS	SSS	00 58 58.5		
MNK	Minsk	99.27	324	*i* P	Pdif	00 37 02.6	-0.4	
MNK				*i* *PP	pP	00 37 56.8	+1.1	
MNK				*i* PPP	PPP	00 43 16.6		
MNK				*i* S	SKSac	00 47 19.3	-1.0	
MNK				*i* SP	SP	00 49 39.8	-3.6	
MNK				*i* PS	PS	00 50 03.1	-7.9	
MNK				*i* SSS	SSS	00 58 58.4		
MNK				pmax	pmax			
	comp=N,3.0nm,0.7s							
MNK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
MNK				pmax	pmax			
	comp=E,6.0nm,0.9s							
K27K	Chicken	99.49	26	P	Pdif	00 37 04.2	+0.4	
	baz=271							
E27K	Coleen River	99.56	22		Pdif	00 37 04.0	-0.1	
E27K	Coleen River	99.56	22	P	Pdif	00 37 03.7	-0.4	
	baz=272							
G27K	Doyon Strip	99.59	24	Pdif	Pdif	00 37 04.6	+0.4	
G27K	Doyon Strip	99.59	24	P	Pdif	00 37 04.7	+0.4	
	baz=272							
L27K	Beaver Creek,	99.62	27	P	Pdif	00 37 03.7	-0.8	
	baz=271							
I27K	Kandik River	99.65	25	P	Pdif	00 37 05.0	+0.5	
	baz=272							
H27K	Steamboat Moun	99.66	24		Pdif	00 37 05.0	+0.4	
H27K				IAmb	IAmb	00 37 06.9		
	comp=Z,12nm,1.8s							
H27K	Steamboat Moun	99.66	24	P	Pdif	00 37 04.4	-0.2	
	baz=272							
D27M	Malcolm River	99.74	21	Pdif	Pdif	00 37 05.2	+0.2	
D27M				IAmb	IAmb	00 38 52.6		
	comp=Z,13nm,1.9s							
D27M	Malcolm River	99.74	21	P	Pdif	00 37 04.9	-0.1	
	baz=273							
VRI	Vrincioaia	99.85	315	⇑P	Pdif	00 37 06.3	+0.4	
VRI	Vrincioaia	99.85	315	⇑P	Pdif	00 37 06.3	+0.4	
VSU	Vasula	99.91	328	*ce*P	Pdif	00 37 04.7	-1.0	
VSU				pmax	pmax			
	comp=Z,24nm,1.3s							
TESR	Tescani	99.92	316	⇑P	Pdif	00 37 05.1	-1.0	
ARCES	ARCESS Array B	100.00	339	P	Pdif	00 37 05.3	-0.6	
	comp=Z,2.8nm,0.7s,baz=88,slow=5.4,SNR=11							
ARCES				PKiKP	PKiKP	00 41 31.4	-1.3	
	comp=Z,1.9nm,0.9s,baz=96,slow=1.2,SNR=4.8							
	comp=Z,2.8nm,0.7s							
FIA1	FINESS Array S	100.17	331	Pdif	Pdif	00 37 06.5	-0.3	
FINES	FINESS Array B	100.17	331	Pdif	Pdif	00 37 06.7	-0.2	
FINES	FINESS Array B	100.17	331	P	Pdif	00 37 06.1	-0.8	
	comp=Z,2.0nm,0.7s,baz=93,slow=4.2,SNR=11							
FINES				PKiKP	PKiKP	00 41 34.7	+1.6	
	comp=Z,1.4nm,0.7s,baz=85,slow=2.9,SNR=4.8							
E28M	Babbage River	100.30	22		Pdif	00 37 06.9	-0.4	
E28M	Babbage River	100.30	22	P	Pdif	00 37 07.0	-0.3	
	baz=274							
I28M	Miner Creek	100.35	25		Pdif	00 37 07.8	0.0	
I28M	Miner Creek	100.35	25	P	Pdif	00 37 07.5	-0.2	
	baz=273							
MLR	Muntele Rosu	100.39	315		Pdif	00 37 08.4	0.0	
MLR	Muntele Rosu	100.39	315	⇓P	Pdif	00 37 08.1	-0.3	
MLR	Muntele Rosu	100.39	315	P	Pdif	00 37 08.4	0.0	
RNPP9	Sopachiv	100.46	321	P	Pdif	00 37 08.5	+0.1	
RNPP5	Staryi Chortor	100.46	321	P	Pdif	00 37 08.4	0.0	
O28M	Mount Upton	100.47	30	P	Pdif	00 37 08.3	-0.3	
	baz=272							
D28M	Stokes Point	100.52	21	P	Pdif	00 37 07.7	-0.5	
	baz=275							
DAWY	Dawson	100.67	26	P	Pdif	00 37 08.8	-0.3	
	baz=274							
BURAR	Bucovina Array	100.91	317	Pdif	Pdif	00 37 11.0	+0.4	
BURAR	Bucovina Array	100.91	317	⇓P	Pdif	00 37 11.0	+0.4	
BURAR	Bucovina Array	100.91	317	⇓P	Pdif	00 37 11.0	+0.4	
E29M	Blow River	100.92	22	P	Pdif	00 37 09.8	-0.3	
	baz=276							
BUR08	Bucovina Ar. S	100.92	317	Pdif	Pdif	00 37 10.7	0.0	
H29M	Whitestone	100.94	24	Pdif	Pdif	00 37 10.9	+0.6	
H29M	Whitestone	100.94	24	P	Pdif	00 37 10.4	+0.2	
	baz=275							
G29M	Pine Creek	101.01	23	Pdif	Pdif	00 37 10.4	-0.2	
G29M	Pine Creek	101.01	23	P	Pdif	00 37 10.5	-0.1	
	baz=275							
SPITS	Spitsbergen Ar	101.15	348	P	Pdif	00 37 10.3	-0.7	
	comp=Z,13nm,1.1s,baz=108,slow=5.4,SNR=5.5							
M29M	Somme Creek	101.20	28	P	Pdif	00 37 13.2	+1.6	
	baz=274							
L29M	L29M	101.30	27	P	Pdif	00 37 12.9	+1.0	
	baz=275							
STNU	Starunia	101.38	318	P	Pdif	00 37 12.4	-0.2	
PABE	Paberze	101.51	325	Pdif	Pdif	00 37 13.2	+0.2	
K29M	Barlow Dome	101.51	26	P	Pdif	00 37 13.4	+0.4	
	baz=275							
EPYK	Eagle Plains	101.59	24	P	Pdif	00 37 13.1	-0.1	
	baz=276							
G30M	tAoh Zraii Nji	101.71	23	P	Pdif	00 37 12.9	-0.8	
	baz=277							
F30M	Barrier River	101.80	23	Pdif	Pdif	00 37 13.8	-0.2	
F30M	Barrier River	101.80	23	P	Pdif	00 37 13.1	-1.0	
	baz=278							
I30M	Mount Dempster	101.86	25	P	Pdif	00 37 13.5	-1.0	
	baz=277							
M30M	Minto, Yukon	101.96	28	P	Pdif	00 37 15.2	+0.3	
	baz=276							
G31M	Satah River	102.48	23	P	Pdif	00 37 16.1	-0.9	
	baz=279							
INK	Inuvik	102.53	22	P	Pdif	00 37 17.6	+0.4	
	baz=280							
N31M	Braeburn, Yuko	102.55	29	P	Pdif	00 37 18.5	+0.9	
	baz=276							
KOLS	Kolonicke sedl	102.84	318	*e*P	Pdif	00 37 20.1	+1.0	
KOLS				*e*		00 41 32.4		
KOLS	Kolonicke sedl	102.84	318	*e*PDIFF	Pdif	00 37 20.1	+1.0	
KOLS				*e*		00 41 32.4		
M31M	Drury Creek, Y	103.11	28	P	Pdif	00 37 21.1	+1.1	
	baz=278							
SIT	Sitka	103.25	33	P	Pdif	00 37 20.7	+0.1	
	baz=276							
SIRR	Siria	103.37	316	⇓P	PKiKP	00 41 35.8	-3.6	
BZS	Buzias	103.43	315	⇓P	PKiKP	00 41 35.7	-3.8	
A36M	Sachs Harbour	104.36	17	P	Pdif	00 37 25.2	-0.1	
	baz=289							
C36

comp=Z,2.8nm,0.9s,baz=61,slow=7.8,SNR=6.3
ILON Igloolik, Nuna 116.71 9 PKPdf 00 42 03.2 -0.6
BLKN Baker Lake 117.52 18 PKPdf 00 42 05.1 -0.5
NVAR Mina Array Bea 117.62 51 PKPdf **PKPdf 00 42 06.5 -0.3**
NVAR Mina Array Bea 117.62 51 PKPdf **PKiKP 00 42 06.9 0.0**
comp=Z,1.5nm,0.8s,baz=267,slow=4.0,SNR=5.4
NVAR PP **PP 00 43 20.4 -2.1**
comp=Z,1.7nm,1.0s,baz=261,slow=7.4,SNR=4.7
NVAR PKKPbc **PKKPbc 00 52 31.3 +0.8**
comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=4.3
DSP Deep Springs 118.10 52 PKPdf **PKiKP 00 42 08.6 +1.1**
PFO Pinyon Flats O 120.05 56 PKP **PKPdf 00 42 11.0 -0.6**
comp=Z,1.7nm,0.2s,baz=181,slow=5.8,SNR=4.0
PFO Pinyon Flats O 120.05 56 PKIKP **PKPdf 00 42 11.0 -0.6**
PDAR Pinedale Array 122.74 44 PKP **PKiKP 00 42 16.9 0.0**
comp=Z,0.7nm,0.5s,baz=198,slow=1.9,SNR=7.0
PDAR PKKPbc **PKKPbc 00 52 11.3 -0.4**
comp=Z,0.7nm,0.6s,baz=107,slow=5.0,SNR=4.9
ESDC Sonseca Array 122.98 312 PKP **PKPdf 00 42 16.8 -0.2**
comp=Z,2.0nm,0.7s,baz=19,slow=2.8,SNR=16
PAB San Pablo 123.31 312 ⇑PKIKP **PKPdf 00 42 16.4 -1.2**
MVCO Mesa Verde 125.42 50 PKPdf **PKiKP 00 42 22.5 +0.2**
ULM Lac du Bonnet 127.15 30 PKP **PKPdf 00 42 23.8 -0.7**
comp=Z,4.2nm,0.8s,baz=334,slow=2.6,SNR=5.3
DBIC Dimbokro 127.96 272 PKP **PKPdf 00 42 26.7 -0.4**
comp=Z,4.5nm,0.5s,baz=57,slow=2.6,SNR=9.4
PLCA Paso Flores 129.96 167 PKP **PKiKP 00 42 31.1 -0.1**
comp=Z,3.1nm,0.6s,baz=291,slow=1.8,SNR=6.4
TXAR Lajitas Array 131.68 58 PKP **PKPdf 00 42 33.9 0.0**
comp=Z,0.6nm,0.6s,baz=196,slow=2.2,SNR=7.1
TXAR SKPbc **SKPbc 00 45 38.9 -0.4**
comp=Z,1.3nm,0.9s,baz=279,slow=2.4,SNR=6.0
PLTB Pedras Altas 140.25 185 *eP* **PKPdf 00 42 49.8 +0.2**
TBOT Tacuaremb 140.47 182 *eP* **PKPdf 00 42 49.8 -0.2**
CPSB Cacapava Do Su 141.58 185 *eP* **PKPdf 00 42 53.0 +1.0**
CNLB Canela 142.33 189 *eP* **PKPdf 00 42 54.7 +1.2**
ITQB Itaqui 142.49 181 *eP* **PKiKP 00 42 55.4 -1.5**
TER01 Tubaro-SC 142.78 192 *eP* **PKPdf 00 42 55.1 +0.9**
MAJ01 Sao Joao Batis 143.85 193 *eP* **PKPdf 00 42 55.9 -0.3**
ITAB Concordia 144.56 188 *eP* **PKPdf 00 42 57.4 0.0**
CPUP Villa Florida 145.83 180 PKPbc **PKPab 00 43 01.2 +0.1**
comp=Z,15nm,0.8s,baz=168,slow=1.9,SNR=27
CPUP Villa Florida 145.83 180 *eP* **PKPbc 00 43 00.1 -0.4**
DUB01 Friburgo-RJ 146.65 206 *eP* **PKPbc 00 43 02.5 -0.6**
SJPY San Joaquin 147.13 182 *eP* **PKPdf 00 43 02.3 +0.4**
AMBA Amambai (Brazi 149.13 184 *eP* **PKPdf 00 43 06.8 +1.6**
MURT Porto Murtinho 150.48 179 *eP* **PKPdf 00 43 08.4 +1.1**
DIAM Diamantina, MG 150.55 207 *eP* **PKPdf 00 43 08.0 +0.3**
AQDB Aquidauana 151.61 183 *eP* **PKPdf 00 43 10.1 +1.0**
NBAN Anadia - AL 152.62 230 *eP* **PKPdf 00 43 11.8 +1.1**
LPAZ La Paz 153.57 156 PKP **PKPdf 00 43 13.3 +0.5**
comp=Z,1.3nm,0.8s,baz=184,slow=2.2,SNR=5.4
LPAZ PKPbc **PKiKP 00 43 22.2 +1.4**
comp=Z,1.5nm,0.6s,baz=185,slow=8.1,SNR=4.2
LPAZ PKPab **PKPab 00 43 35.6 +1.9**
comp=Z,4.8nm,0.6s,baz=127,slow=1.4,SNR=10
LPAZ La Paz 153.57 156 *eP* **PKPdf 00 43 12.8 0.0**
JANB Januaria 153.66 209 *eP* **PKPdf 00 43 12.8 +0.6**
RCBR Riachuelo 154.56 238 *eP* **PKPdf 00 43 14.9 +1.3**
BDFB Brasilia 154.72 201 PKP **PKPdf 00 43 13.8 0.0**
comp=Z,1.5nm,0.5s,baz=233,slow=17,SNR=1.9
BBSD Serra de San D 154.72 173 *eP* **PKPdf 00 43 14.7 +1.0**
SALV Santo Antonio 156.15 184 *eP* **PKPdf 00 43 14.9 -0.7**
CZSB Cruzeiro do Su 158.09 135 *eP* **PKPdf 00 43 18.3 +0.2**
SNDB Serra Nova Dou 159.22 197 *eP* **PKPdf 00 43 20.3 +0.9**
TEFE Tefe 166.41 147 *eP* **PKPdf 00 43 27.5 +1.2**

---

*TEH **30** 00:41:40.6,29°.88N×50°.34E, h15km±47km*
*IDC **30** 00:41:44.0±7.6, 30°.58N×50°.48E, h0km, mb3.6/7, mbtmp3.6/8, ML3.6/1, MS2.7/2, Error ellipse: s-maj=151.1km s-min=27.4km az=180.0*
*OMAN **30** 00:41:48.9±0.1, 29°.34N×50°.74E, h10km, mb4.4/13, ml3.8/1, Error ellipse: s-maj=1.4km s-min=1.2km az=3.0*
ISC 30 00:41:42.0±0.7, 29°.80N±0°.05×50°.47E±0°.05, h22km, n76, σ1°68/94, mb3.6/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ2	**Kazeron-Fars-I**	**1.05**	**100**	Pg	**Pb**	**00 42 02.9**	**+1.2**
AHBU	**AHRAM**	**1.18**	**142**	Pg	**Pb**	**00 42 05.2**	**+1.6**
KLNJ	**Kolanjah**	**1.55**	**38**	Pg	**Pn**	**00 42 09.2**	**+0.5**
DSBU	**Dashti - Bushe**	**1.59**	**154**	Pg	**Pb**	**00 42 12.6**	**+1.9**
SHI	**Shiraz**	**1.78**	**95**	Pn	**Pb**	**00 42 14.7**	**+0.5**
IBRJ	**Brojen**	**2.21**	**18**	Pn	**Pn**	**00 42 18.9**	**+1.3**
ZNGN	**Zangian**	**2.33**	**8**	Pn	**Pn**	**00 42 20.1**	**+0.6**
JHBN	**Jahan bin**	**2.43**	**4**	Pn	**Pn**	**00 42 21.4**	**+0.6**
IRAM	**Ramesheh**	**2.59**	**39**	Pn	**Pn**	**00 42 24.8**	**+1.9**
IPIR	**Pirpir**	**2.90**	**7**	Pn	**Pn**	**00 42 28.6**	**+1.4**
IGAR	**Gharneh**	**2.92**	**27**	Pn	**Pn**	**00 42 28.8**	**+1.3**
IZEF	**Zefreh**	**3.47**	**27**	Pn	**Pn**	**00 42 36.5**	**+1.5**
ISAD	**Sadrabad**	**3.48**	**52**	Pn	**Pn**	**00 42 37.5**	**+2.4**
IKLH	**Kolahrood**	**3.63**	**15**	Pn	**Pn**	**00 42 38.1**	**+0.8**
IMEH	**Mehriz**	**3.91**	**65**	Pn	**Pn**	**00 42 43.0**	**+2.0**
SHMA	**Al-Shehemyia**	**3.95**	**174**	P	**Pn**	**00 42 43.2**	**+1.9**
SHMA	SNR=8.6			S	**Sn**	**00 43 25.8**	**-1.2**
IKFM	**Kafar-mosalman**	**4.34**	**330**	Pn	**Pn**	**00 42 47.1**	**+0.5**
ANAR	**Anarak**	**4.38**	**39**	Pn	**Pn**	**00 42 48.8**	**+1.4**
KRSH	**Karshahi**	**4.39**	**18**	Pn	**Pn**	**00 42 48.6**	**+1.0**
HSAM	**Samen**	**4.68**	**341**	Pn	**Pn**	**00 42 50.7**	**-0.9**
ISFB	**Sefidab**	**4.78**	**18**	Pn	**Pn**	**00 42 53.3**	**+0.4**
SMRA	**Abu-Samra**	**5.04**	**176**	P	**Pn**	**00 42 58.2**	**+1.8**
TRNA	**Turayna**	**5.09**	**172**	P	**Pn**	**00 42 59.1**	**+2.1**
TRNA	SNR=7.6			S	**Sn**	**00 43 53.8**	**-1.2**
HAGD	**Aghdareh**	**5.13**	**348**	Pn	**Pn**	**00 42 57.6**	**-0.3**
KHGB	**Koh Gabri**	**5.24**	**82**	Pn	**Pn**	**00 43 01.9**	**+2.6**
IVRN	**Varamin**	**5.29**	**11**	Pn	**Pn**	**00 42 59.9**	**+0.1**
KRBR	**Kerman**	**5.46**	**87**	Pn	**Pn**	**00 43 04.6**	**+2.1**
GLG1	**Gilan-e-Gharb**	**5.79**	**319**	Pn	**Pn**	**00 43 05.8**	**-0.9**
SLWR	**Sila**	**5.81**	**169**	P	**Pn**	**00 43 08.1**	**+1.2**
SLWR				S	**Sn**	**00 44 12.3**	**-0.6**
HGHA	**Hamedan- Ghaye**	**5.83**	**347**	Pn	**Pn**	**00 43 06.8**	**-0.7**
IDMV	**Damavand**	**5.91**	**12**	Pn	**Pn**	**00 43 09.1**	**+0.6**
QABG	**Abgarm-Qazvin**	**5.94**	**353**	Pn	**Pn**	**00 43 08.8**	**-0.1**
IDHR	**Dehrash**	**5.99**	**326**	Pn	**Pn**	**00 43 09.1**	**-0.4**
TPRV	**Parvadeh(Tabas**	**6.21**	**57**	Pn	**Pn**	**00 43 13.5**	**+1.0**
BANOM	**Banah**	**6.44**	**125**	P	**Pn**	**00 43 17.6**	**+2.0**
BANOM				S	**Sn**	**00 44 27.3**	**-1.3**
IALA	**Alasht**	**6.57**	**17**	Pn	**Pn**	**00 43 18.5**	**+1.0**
NAZ	**Nazwa, Dubai**	**6.65**	**135**	P	**Pn**	**00 43 20.4**	**+1.9**
NAZ	**Nazwa, Dubai**	**6.65**	**135**	Pn	**Pn**	**00 43 19.8**	**+1.3**
TNSJ	**Nastanj**	**6.67**	**50**	Pn	**Pn**	**00 43 20.3**	**+1.5**
MASF	**Masafi**	**6.70**	**130**	P	**Pn**	**00 43 22.2**	**+3.0**
MASF				S	**Sn**	**00 44 32.2**	**-2.8**
MSFE	**Esma-Masafi**	**6.71**	**130**	Pn	**Pn**	**00 43 22.4**	**+3.1**
MSFE				Sn	**Sn**	**00 44 32.0**	**-3.1**
KLST	**Kelardasht - M**	**6.72**	**4**	Pn	**Pn**	**00 43 20.5**	**+0.8**
ASUD	**Al Ashush, Dub**	**6.73**	**139**	P	**Pn**	**00 43 21.2**	**+1.7**
ASUD	SNR=5.1			S	**Sn**	**00 44 32.7**	**-2.8**
ASUD	**Al Ashush, Dub**	**6.73**	**139**	Pn	**Pn**	**00 43 21.5**	**+2.0**
MZWR	**Madinat Zayed**	**6.74**	**152**	P	**Pn**	**00 43 21.7**	**+2.0**
MZWR				S	**Sn**	**00 44 33.5**	**-2.4**
TKDS	**Koohdasht(Taba**	**6.82**	**54**	Pn	**Pn**	**00 43 22.2**	**+1.3**
MDH	**Madha**	**6.84**	**130**	P	**Pn**	**00 43 23.2**	**+2.0**
MDH				S	**Sn**	**00 44 36.5**	**-1.9**
UOSS	**Minazif**	**7.02**	**132**	P	**Pn**	**00 43 25.8**	**+2.1**
UOSS				S	**Sn**	**00 44 41.0**	**-1.9**
HATD	**Hatta, Dubai**	**7.06**	**133**	P	**Pn**	**00 43 26.0**	**+1.8**
HATD				S	**Sn**	**00 44 41.6**	**-2.2**
HATD	**Hatta, Dubai**	**7.06**	**133**	Pn	**Pn**	**00 43 25.2**	**+1.1**
ASHO	**Ashiyiah**	**7.12**	**134**	P	**Pn**	**00 43 26.5**	**+1.6**
ASHO				S	**Sn**	**00 44 43.2**	**-2.0**
ASHO	**Ashiyiah**	**7.12**	**134**	Pn	**Pn**	**00 43 26.0**	**+1.0**
ASHO				Sn	**Sn**	**00 44 43.1**	**-2.1**
MZR	**Muzera**	**7.29**	**158**	P	**Pn**	**00 43 28.7**	**+1.4**
MZR				S	**Sn**	**00 44 48.0**	**-1.3**
ALNE	**Al Ain**	**7.41**	**139**	P	**Pn**	**00 43 30.5**	**+1.6**
ALNE				S	**Sn**	**00 44 51.4**	**-0.9**
SOHO	**SOHO**	**7.81**	**135**	P	**Pn**	**00 43 35.6**	**+1.1**
SOHO				S	**Sn**	**00 45 00.3**	**-1.9**
SOHO	**SOHO**	**7.81**	**135**	Pn	**Pn**	**00 43 35.4**	**+1.0**
UMZA	**Um Al Zommool**	**8.21**	**148**	P	**Pn**	**00 43 40.8**	**+0.8**
UMZA				S	**Sn**	**00 45 09.3**	**-2.8**
ARQ	**Araqi**	**8.41**	**139**	P	**Pn**	**00 43 43.7**	**+1.1**
ARQ				S	**Sn**	**00 45 14.2**	**-2.8**
HOQ	**Hoqain**	**8.70**	**134**	S	**Sn**	**00 45 22.7**	**-1.4**
BSY	**Bisya**	**9.26**	**138**	P	**Pn**	**00 43 55.6**	**+1.2**
BSY				S	**Sn**	**00 45 33.8**	**-4.1**
SMDO	**Samad**	**9.55**	**133**	P	**Pn**	**00 44 00.7**	**+2.4**
SMDO				S	**Sn**	**00 45 43.0**	**-2.0**
MHTO	**MHTO**	**11.08**	**141**	P	**Pn**	**00 44 19.9**	**+0.6**
DOK	**Doka**	**11.62**	**163**	P	**Pn**	**00 44 26.3**	**-0.3**
WHFO	**Wadi Hawf**	**12.20**	**165**	P	**Pn**	**00 44 34.8**	**+0.1**
ABTO	**Aybut**	**12.65**	**168**	P	**Pn**	**00 44 39.7**	**-1.1**
DMTO	**DMTO**	**12.70**	**160**	P	**Pn**	**00 44 40.0**	**-1.4**
MMAI	**Mount Meron Ar**	**13.26**	**288**	Pn	**Pn**	**00 44 51.9**	**+2.8**
	0.4nm,0.3s,baz=107,slow=20,SNR=1.5 0.2nm,0.3s						
AKTO	**Aktyubinsk**	**21.38**	**13**	LR	LR	00 56 49.6	
	comp=Z,28nm,18.9s,baz=63,slow=44						
MLR	**Muntele Rosu**	**24.81**	**316**	LR	LR	00 59 31.3	
	comp=Z,12nm,18.6s,baz=124,slow=44						
AKASG	**Malin Array Be**	**26.27**	**329**	P	**P**	**00 47 16.0**	**+0.4**
	0.2nm,0.3s,baz=123,slow=7.8,SNR=2.0 0.2nm,0.3s						
BVAR	**Borovoye Array**	**27.42**	**27**	P	**P**	**00 47 25.6**	**-0.3**
	0.9nm,0.6s,baz=226,slow=7.6,SNR=7.5 0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**29.57**	**37**	P	**P**	**00 47 43.8**	**-1.3**
	0.4nm,0.7s,baz=241,slow=9.8,SNR=4.0 0.4nm,0.7s						
MKAR	**Makanchi Array**	**29.92**	**47**	P	**P**	**00 47 49.2**	**+0.8**
	0.3nm,0.8s,baz=233,slow=8.8,SNR=1.7 0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**34.61**	**36**	P	**P**	**00 48 29.4**	**+0.2**
	0.6nm,0.3s,baz=245,slow=9.4,SNR=5.1 0.6nm,0.3s						
FINES	**FINESS Array B**	**35.51**	**340**	P	**P**	**00 48 36.1**	**-0.8**
	0.9nm,0.8s,baz=156,slow=7.2,SNR=4.3 0.9nm,0.8s						
HFS	**Hagfors**	**39.06**	**332**	P	**P**	**00 49 05.0**	**-2.1**
	0.6nm,0.5s,baz=138,slow=9.2,SNR=6.9 0.6nm,0.5s						

---

*IDC **30** 00:41:49.0±2.5, 37°.97N×139°.35E, h230km±17km, mb3.1/5, mbtmp3.6/5, Error ellipse: s-maj=51.8km s-min=21.0km az=64.0*
*JMA **30** 00:41:56.4±0.3, 37°N±1°×13°8E±°, h250km±3km, MV2.7/23, OFF S NIIGATA PREF*
ISC 30 00:41:56.5±0.9, 37°.17N±0°.08×137°.68E±0°.09, h245km±8km, n17, σ0°82/22, mb3.1/5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**0.38**	**318**	*eP*	**Pn**	**00 42 28.7**	**+0.3**
MAT	**Matsushiro**	**0.75**	**146**	P	**Pn**	**00 42 30.4**	**+0.5**
MAT				S	**S**	**00 42 56.1**	**+0.1**
MJAR	**Matsushiro Arr**	**0.76**	**146**	P	**Pn**	**00 42 28.8**	**-1.1**
	1.9nm,0.3s,baz=29,slow=18,SNR=13						
MJAR				S	**S**	**00 42 57.0**	**+0.9**
	3.5nm,0.8s,baz=188,slow=15,SNR=10						
JHG	**Hegura jima**	**0.91**	**319**	*eP*	**Pn**	**00 42 31.0**	**+0.6**
JSD	**Sado**	**0.98**	**28**	P	**Pn**	**00 42 31.2**	**+0.4**
JSD				*eS*	**S**	**00 42 57.0**	**-1.0**
JKG	**Kaga**	**1.40**	**231**	*eP*	**Pn**	**00 42 34.4**	**+0.8**
JRY	**Ryogami san**	**1.51**	**139**	*eP*	**Pn**	**00 42 35.4**	**+0.8**
JAG	**Ashikaga**	**1.60**	**117**	P	**Pn**	**00 42 35.3**	**+0.1**
JAG				*eS*	**S**	**00 43 05.4**	**-0.2**
JYN	**Shimob**	**1.81**	**157**	P	**Pn**	**00 42 37.1**	**+0.1**
JYN				*eS*	**S**	**00 43 08.5**	**-0.3**
JOTO	**OTAMA OYAMA**	**2.15**	**79**	*eP*	**Pn**	**00 42 41.5**	**+1.6**
JOD2	**Odawara 2**	**2.21**	**149**	*eP*	**Pn**	**00 42 40.9**	**+0.2**
JOD2				*eS*	**S**	**00 43 14.1**	**-1.3**
JWT	**Wachi**	**2.63**	**225**	P	**Pn**	**00 42 45.8**	**+1.0**
SONM	**Songino Array**	**25.25**	**305**	P	**P**	**00 46 59.1**	**-1.2**
	0.2nm,0.5s,baz=95,slow=9.0,SNR=2.3 0.2nm,0.5s						
MKAR	**Makanchi Array**	**41.51**	**301**	P	**P**	**00 49 19.9**	**+0.1**
	0.4nm,0.8s,baz=91,slow=10,SNR=2.1 0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**43.56**	**307**	P	**P**	**00 49 35.9**	**-0.2**
	0.9nm,0.6s,baz=77,slow=7.5,SNR=6.6 0.9nm,0.6s						
WRA	**Warramunga Arr**	**56.89**	**184**	P	**P**	**00 51 16.3**	**+0.3**
	0.2nm,0.4s,baz=0.1,slow=7.2,SNR=5.4 0.2nm,0.4s						
HFS	**Hagfors**	**72.70**	**334**	P	P	00 52 49.9	-7.4
	1.6nm,0.5s,baz=48,slow=2.2,SNR=15 1.6nm,0.5s						

---

*DJA **30** 00:47:10.0±0.4, 3°S±2°×12°0E±°, h10km, M3.6/9, MLv3.6/9*
*IDC **30** 00:47:11.8±2.4, 2°.06S×119°.52E, h0km, mb3.5/4, mbtmp3.5/4, MS2.7/2, Error ellipse: s-maj=216.9km s-min=29.6km az=59.0*
ISC 30 00:47:08.3±1.0, 2°.94S±0°.05×119°.5E±0°.1, h10km, n13, σ1°63/11, mb3.6/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPSI	**Sidrap Palu**	**1.06**	**163**	P	**Pg**	**00 47 27.3**	**-1.5**
BNSI	**Bone**	**1.59**	**156**	P	**Pn**	**00 47 37.5**	**+1.0**
PCI	**Palu**	**2.06**	**11**	P	**Pn**	**00 47 44.4**	**+1.4**
PCI				S	**Sn**	**00 48 10.9**	**+2.2**
KAPI	**Kappang**	**2.08**	**172**	LR	LR	00 49 09.7	
	comp=Z,43nm,19.8s,baz=328,slow=40						
APSI	**Ampana**	**2.98**	**47**	P	**Pn**	**00 47 55.6**	**0.0**
MPSI	**Mapaga**	**3.29**	**8**	P	**Pn**	**00 48 00.6**	**+0.7**
BSSI	**Bau Bau, Buton**	**3.34**	**162**	P	**Pn**	**00 48 03.3**	**+2.6**
LUWI	**Luwuk**	**3.81**	**60**	P	**Pn**	**00 48 08.3**	**+1.2**
WRA	**Warramunga Arr**	**22.28**	**140**	P	P	00 52 17.6	+12
	0.7nm,0.8s,baz=315,slow=9.2,SNR=3.1 0.7nm,0.8s						
JOW	**Kunigami**	**30.80**	**16**	LR	LR	01 07 34.5	
	comp=Z,38nm,18.4s,baz=260,slow=41						
SONM	**Songino Array**	**51.84**	**349**	P	**P**	**00 56 15.2**	**-1.7**
	0.4nm,0.5s,baz=175,slow=7.4,SNR=3.6 0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.35**	**331**	P	**P**	**00 57 10.7**	**-0.1**
	0.4nm,0.7s,baz=128,slow=8.0,SNR=4.0 0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**63.60**	**338**	P	**P**	**00 57 39.4**	**+0.1**
	0.3nm,0.3s,baz=128,slow=2.4,SNR=2.0 0.3nm,0.3s						

---

*NEIC **30** 01:07:21.3±1.4, 19°.62N±0°.03×156°.38W±0°.05, h27km±9km, Error ellipse: s-maj=7.8km s-min=2.9km az=59.0*
HVO 30 01:07:23.6±1.5, 19°.57N±0°.04×156°.43W±0°.07, h37km±10km, ML2.5/13, ML2.6/24(NEIC), Error ellipse: s-maj=10.3km s-min=3.8km az=69.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPH	**Captain Cook**	**0.49**	**100**		Pn	01 07 32.7	-1.3
CPH					Sn	01 07 39.4	-2.0
HUH	**Hualalai**	**0.57**	**78**		Pn	01 07 33.9	-1.7
HUH					Sn	01 07 41.5	-2.3
HUH	**Hualalai**	**0.57**	**78**	IAML		01 07 42.4	
	comp=N,259nm,1.6s						
HUH				IAML		01 07 43.4	
	comp=E,263nm,0.1s						
ALEP	**Alea Permanent**	**0.74**	**92**		Pn	01 07 36.3	-1.6
ALEP					Sn	01 07 45.9	-2.1
MWH	**Mokuaweoweo**	**0.79**	**96**		Pn	01 07 36.5	-2.1
MWH					Sn	01 07 46.7	-2.8
MWH	**Mokuaweoweo**	**0.79**	**96**	IAML		01 07 51.9	
	comp=E,217nm,3.1s						
MWH				IAML		01 08 06.0	
	comp=N,232nm,3.9s						
HPAH	**Hawaii Prepara**	**0.82**	**56**		Sn	01 07 45.8	-4.1
KHU	**Kahuku**	**0.83**	**113**		Pn	01 07 37.1	-1.9
KHU					Sn	01 07 47.4	-2.8
KHU	**Kahuku**	**0.83**	**113**	IAML		01 07 57.1	
	comp=E,213nm,4.7s						
KHU				IAML		01 08 04.2	
	comp=N,202nm,4.2s						
POHA	**Pohakuloa**	**0.86**	**77**		Sn	01 07 47.6	-3.3
HMH	**Humu'ula Sheep**	**0.89**	**88**		Pn	01 07 38.4	-1.5
HMH	**Humu'ula Sheep**	**0.89**	**88**		Sn	01 07 49.5	-2.2
HMH	**Humu'ula Sheep**	**0.89**	**88**	IAML		01 07 42.3	
	comp=N,125nm,3.9s						
HMH				IAML		01 07 48.9	
	comp=E,134nm,3.9s						
MLH	**Mauna Loa**	**0.98**	**94**		Pn	01 07 39.2	-1.9
MLH					Sn	01 07 51.1	-2.8
MLH	**Mauna Loa**	**0.98**	**94**	IAML		01 07 51.6	
	comp=E,158nm,0.6s						
MLH				IAML		01 08 10.6	
	comp=N,160nm,4.2s						
HTC	**Hot Caves**	**1.03**	**109**		Pn	01 07 39.6	-1.9
SDHHI	**Sand Hill**	**1.08**	**99**		Sn	01 07 52.7	-3.5
SBLHI	**Steaming Bluff**	**1.10**	**97**		Sn	01 07 53.5	-3.1
PUH	**Pauahi**	**1.16**	**100**	Pn	Pn	01 07 41.4	-1.9
PUH				IAML		01 08 24.4	
	comp=E,130nm,4.2s						
HLK	**Haleakala**	**1.19**	**8**		Pn	01 07 41.8	-2.2
HLK					Sn	01 07 54.6	-4.4
STCH	**Steam Cracks**	**1.24**	**98**		Pn	01 07 42.4	-2.1
STCH					Sn	01 07 56.2	-3.8
STCH	**Steam Cracks**	**1.24**	**98**	IAML		01 08 24.4	
	comp=N,102nm,3.6s						
NPOC	**North of Pu'u**	**1.25**	**98**		Pn	01 07 43.2	-1.4
NPOC					Sn	01 07 56.4	-4.0
JOKA	**Jonika Flow**	**1.35**	**96**		Pn	01 07 43.8	-2.1

---

*IDC **30** 01:23:00.3±2.9, 6°.06S×146°.78E, h45km±27km, mb3.7/6, mbtmp4.0/9, ML3.9/2, MS3.3/6, Error ellipse: s-maj=36.0km s-min=17.1km az=68.0*
*NEIC **30** 01:23:03.7±1.1, 6°.19S±0°.10×146°.64E±0°.07, h68km±8km, mb4.4/37, Error ellipse: s-maj=15.9km s-min=7.7km az=209.0*
ISC 30 01:23:01.8±0.7, 6°.13S±0°.07×146°.6E±0°.1, h52km, n74, σ0°84/64, mb4.5/23, MS3.1/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.30**	**171**	P	**Pn**	**01 23 52.0**	**+1.1**
	44nm,0.3s,baz=287,slow=3.9,SNR=12						
PMG				S	**Sn**	**01 24 29.0**	**+0.1**
	82nm,0.3s,baz=171,slow=20,SNR=6.2						
PMG	**Port Moresby**	**3.30**	**171**	P	**Pn**	**01 23 52.3**	**+1.4**
JAY	**Jayapura**	**6.91**	**301**	P	**Pn**	**01 24 39.7**	**-0.9**
	0.4nm,0.3s,baz=86,slow=22,SNR=1.5 2.3nm,0.4s						
COEN	**Coen**	**8.49**	**203**		**Pn**	**01 25 02.8**	**+0.7**
COEN	**Coen**	**8.49**	**203**	P	**Pn**	**01 25 03.5**	**+1.4**
HNR	**Honiara**	**13.60**	**105**	LR	LR	01 30 36.0	
	comp=Z,89nm,20.9s,baz=352,slow=34						
FAKI	**Fak Fak**	**14.68**	**282**	P	**P**	**01 26 32.5**	**+0.9**
KDU	**Kakadu**	**15.40**	**244**	P	**Pn**	**01 26 36.2**	**+0.3**
QIS	**Mount Isa**	**15.88**	**205**	P	**P**	**01 26 44.2**	**-0.7**
MTN	**Manton Dam**	**16.67**	**245**		**Pn**	**01 26 52.1**	**+0.2**
MTN				IAmb	IAmb	01 26 54.8	
	comp=Z,17nm,0.7s						
MTN	**Manton Dam**	**16.67**	**245**	P	**Pn**	**01 26 52.3**	**+0.4**
WB0	**Warramunga Arr**	**18.03**	**220**	P	**P**	**01 27 08.2**	**-0.5**
WR8	**Warramunga Arr**	**18.10**	**219**		**P**	**01 27 09.0**	**-0.5**
WRA	**Warramunga Arr**	**18.20**	**220**	P	**P**	**01 27 09.8**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=44,slow=12,SNR=20 comp=Z,4.7nm,0.8s						
EIDS	**Eidsvold**	**19.60**	**168**	P	**P**	**01 27 25.4**	**-0.4**
EIDS				IAmb	IAmb	01 27 40.6	
	comp=Z,20nm,1.3s						
KNRA	**Kununurra**	**19.93**	**240**		**P**	**01 27 28.4**	**-1.1**
KNRA				IAmb	IAmb	01 27 48.7	
	comp=Z,19nm,1.1s						
AS01	**Alice Springs**	**21.28**	**214**	P	**P**	**01 27 44.8**	**+0.8**
AS31	**Alice Springs**	**21.30**	**214**		**P**	**01 27 44.4**	**+0.1**
ASAR	**Alice Springs**	**21.30**	**214**	P	**P**	**01 27 44.3**	**-0.1**
ASAR	**Alice Springs**	**21.30**	**214**	P	**P**	**01 27 44.0**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=53,slow=8.8,SNR=29						
ASAR				LR	LR	01 36 49.0	
	comp=Z,78nm,21.4s,baz=90,slow=39 comp=Z,1.5nm,0.4s						
INKA	**Innaminka**	**22.21**	**194**	P	**P**	**01 27 54.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**23.68**	**238**		**P**	**01 28 06.7**	**-2.2**
FITZ	**Fitzroy Crossi**	**23.68**	**238**	P	**P**	**01 28 07.0**	**-1.9**
OOD	**Oodnadatta**	**23.92**	**204**	P	**P**	**01 28 10.7**	**-0.3**
LUWI	**Luwuk**	**24.33**	**281**	P	**P**	**01 28 15.4**	**+0.4**
DZM	**Mont Dzumac**	**24.85**	**132**	LR	LR	01 37 12.3	
	comp=Z,135nm,18.7s,baz=189,slow=34						
LCRK	**Leigh Creek**	**25.45**	**197**	P	**P**	**01 28 24.9**	**0.0**
WRKA	**Warakurna**	**25.73**	**221**	P	**P**	**01 28 26.5**	**-1.0**
STKA	**Stephens Creek**	**26.04**	**190**	P	**P**	**01 28 29.5**	**-0.7**
STKA				IAmb	IAmb	01 28 31.7	
	comp=Z,28nm,1.2s						
STKA	**Stephens Creek**	**26.04**	**190**	P	**P**	**01 28 29.9**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=21,slow=12,SNR=3.6			

QSPA	**South Pole Qui**	**83.84**	**180**	P	**P**	**01 35 25.1**	**-0.5**
QSPA				IAmb	IAmb	01 35 49.1	
	comp=Z,6.8nm,1.5s						
H21K	**Melozitna Rive**	**83.92**	**21**	P	**P**	**01 35 26.2**	**+0.3**
ILAR	**Eielson Array**	**85.75**	**23**	P	**P**	**01 35 33.1**	**-1.9**
	comp=Z,1.4nm,0.7s,baz=254,slow=5.3,SNR=13						
	comp=Z,1.4nm,0.7s						
D25K	**Kavik River**	**87.77**	**19**	P	**P**	**01 35 44.5**	**-0.4**
D25K				IAmb	IAmb	01 35 45.6	
	comp=Z,3.8nm,1.1s						
H27K	**Steamboat Moun**	**88.36**	**23**	P	**P**	**01 35 47.9**	**+0.1**
H27K				IAmb	IAmb	01 35 48.9	
	comp=Z,2.0nm,0.9s						
K29M	**Barlow Dome**	**89.28**	**25**	P	**P**	**01 35 52.2**	**0.0**
K29M				IAmb	IAmb	01 35 53.5	
	comp=Z,3.2nm,0.9s						

*IDC **30** 01:33:13.3±1.3, 56°.56S×26°.00W, h0km, mb4.3/4, mbtmp4.3/5, ML4.1/1, Error ellipse: s-maj=61.9km s-min=20.5km az=64.0*
*NEIC **30** 01:33:18.2±2.0, 56°.6S±0°.1×25°.8W±0°.2, h35km±2km, mb4.7/23, Error ellipse: s-maj=28.0km s-min=17.2km az=39.0*

ISC 30 01:33:17.8±0.7, 56°.5S±0°.1×25°.9W±0°.1, h33km, n37, σ1§01/37, mb4.7/15, 4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.46**	**286**	Pn	**Pn**	**01 34 52.1**	**+1.7**
VNA1	**Neumayer--Stat**	**16.07**	**159**	⇓P	**Pn**	**01 37 00.4**	**-0.5**
	comp=Z,15nm,0.9s						
VNA3	**Neumayer Olymp**	**16.29**	**161**	⇓P	**Pn**	**01 37 02.8**	**-0.9**
	comp=Z,0.6nm,0.2s						
SNAA	**Sanae**	**18.00**	**156**	⇓P	**P**	**01 37 25.6**	**+0.2**
	comp=Z,12nm,0.3s						
SNAA	**Sanae**	**18.00**	**156**	P	**P**	**01 37 24.5**	**-0.8**
SNAA	**Sanae**	**18.00**	**156**	P	**P**	**01 37 25.6**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=327,slow=17,SNR=23						
	comp=Z,2.1nm,0.4s						
TROLL	**Troll, Antarti**	**19.48**	**154**	⇓P	**Pn**	**01 37 45.9**	**+2.8**
	comp=Z,30nm,0.5s						
BELA	**Belgrano 2**	**21.65**	**185**	P	**P**	**01 38 03.4**	**-1.5**
TRQA	**Tornquist**	**30.19**	**292**	P	**P**	**01 39 24.2**	**-0.7**
TRQA				IAmb	IAmb	01 40 06.1	
	comp=Z,14nm,1.4s						
PLTB	**Pedras Altas**	**31.37**	**310**	P	**P**	**01 39 35.5**	**+0.2**
PLTB				IAmb	IAmb	01 39 52.6	
	comp=Z,15nm,1.4s						
QSPA	**South Pole Qui**	**33.71**	**180**	P	**P**	**01 39 55.6**	**0.0**
QSPA				IAmb	IAmb	01 39 56.3	
	comp=Z,5.8nm,0.6s						
QSPA	**South Pole Qui**	**33.71**	**180**	P	**P**	**01 39 55.4**	**-0.3**
	comp=Z,5.1nm,0.5s,baz=212,slow=1.7,SNR=67						
	comp=Z,5.1nm,0.5s						
BO02	**Sierra Bellavi**	**37.27**	**286**	P	**P**	**01 40 26.1**	**-0.4**
CPUP	**Villa Florida**	**37.69**	**310**	P	**P**	**01 40 29.9**	**0.0**
	comp=Z,1.2nm,0.5s,baz=140,slow=5.8,SNR=4.2						
	comp=Z,1.2nm,0.5s						
MT09	**Talagante**	**38.16**	**287**	P	**P**	**01 40 32.5**	**-1.6**
MT01	**Popeta**	**38.23**	**287**	P	**P**	**01 40 32.7**	**-1.8**
MAW	**Mawson**	**39.32**	**143**	P	**P**	**01 40 44.1**	**+1.0**
CO03	**El Pedregal**	**40.30**	**290**	P	**P**	**01 40 51.8**	**-0.1**
CO03				IAmb	IAmb	01 41 09.7	
	comp=Z,21nm,1.4s						
CO01	**Juntas del Tor**	**40.68**	**292**	P	**P**	**01 40 55.2**	**0.0**
CO01				IAmb	IAmb	01 41 37.9	
	comp=Z,22nm,1.4s						
AC05	**El Transito**	**41.70**	**293**	P	**P**	**01 41 02.8**	**-0.6**
AC05				IAmb	IAmb	01 41 31.3	
	comp=Z,21nm,1.3s						
AC01	**Pan de Azucar**	**44.06**	**295**	P	**P**	**01 41 21.7**	**-0.7**
GO02	**Mina Guanaco**	**44.37**	**296**	P	**P**	**01 41 25.3**	**0.0**
GO02				IAmb	IAmb	01 42 04.4	
	comp=Z,15nm,1.4s						
PB14	**IPOC Station P**	**45.22**	**296**	P	**P**	**01 41 30.9**	**-1.2**
PB14				IAmb	IAmb	01 42 04.7	
	comp=Z,12nm,1.1s						
AF01	**San Pedro de A**	**45.54**	**300**	P	**P**	**01 41 34.7**	**+0.1**
SBA	**Scott Base**	**45.64**	**184**	P	**P**	**01 41 35.2**	**+0.9**
VNDA	**Vanda**	**46.12**	**182**	P	**P**	**01 41 38.2**	**+0.1**
VNDA	**Vanda**	**46.12**	**182**	P	**P**	**01 41 38.3**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=188,slow=5.9,SNR=20						
	comp=Z,1.7nm,0.7s						
PB05	**IPOC Station P**	**46.61**	**297**	P	**P**	**01 41 44.7**	**+1.9**
PB05				IAmb	IAmb	01 41 53.1	
	comp=Z,7.9nm,1.0s						
PB09	**IPOC Station P**	**47.03**	**299**	P	**P**	**01 41 46.8**	**+0.7**
PB09				IAmb	IAmb	01 42 00.5	
	comp=Z,11nm,1.2s						
PB01	**IPOC Station P**	**47.79**	**300**	P	**P**	**01 41 52.2**	**+0.2**
PB01				IAmb	IAmb	01 41 53.1	
	comp=Z,8.0nm,0.8s						
LPAZ	**La Paz**	**51.26**	**304**	P	**P**	**01 42 19.9**	**+0.8**
LPAZ				IAmb	IAmb	01 42 20.7	
	comp=Z,3.9nm,0.6s						
LPAZ	**La Paz**	**51.26**	**304**	P	**P**	**01 42 19.8**	**+0.8**
	comp=Z,4.2nm,0.5s,baz=98,slow=4.4,SNR=33						
	comp=Z,4.2nm,0.5s						
OTAV	**Otavalo**	**70.54**	**303**	P	**P**	**01 44 29.1**	**-0.8**
OTAV				IAmb	IAmb	01 44 32.6	
	comp=Z,3.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.13**	**28**	P	**P**	**01 44 44.6**	**-0.2**
YKA	**Yellowknife Ar**	**137.03**	**317**	PKP	**PKiKP**	**01 52 36.4**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=132,slow=1.0,SNR=5.2						
SONM	**Songino Array**	**150.02**	**86**	PKPbc	**PKiKP**	**01 53 05.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=256,slow=6.2,SNR=3.6						
ILAR	**Eielson Array**	**150.99**	**311**	PKPbc	**PKPbc**	**01 53 04.3**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=130,slow=1.7,SNR=9.5						

*NEIC **30** 01:47:35.9±1.4, 56°.0S±0°.1×27°.5W±0°.2, h113km±2km, mb4.9/38, Error ellipse: s-maj=18.1km s-min=13.7km az=199.0*
*IDC **30** 01:47:37.4±1.5, 56°.07S×27°.50W, h132km±12km, mb4.2/9, mbtmp4.7/11, MS3.4/4, Error ellipse: s-maj=18.0km s-min=12.5km az=66.0*

ISC 30 01:47:35.1±0.6, 56°.11S±0°.07×27°.54W±0°.08, h116km±5km, n139, σ0§97/152, mb4.9/26, 6C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.44**	**286**		**Pn**	**01 48 54.4**	**+0.7**
VNA1	**Neumayer--Stat**	**16.82**	**158**	⇑P	**P**	**01 51 23.8**	**+0.5**
	comp=Z,10.0nm,0.5s						
VNA3	**Neumayer Olymp**	**17.00**	**160**	⇑P	**P**	**01 51 25.9**	**+0.5**
	comp=Z,28nm,0.7s						
VNA2	**Neumayer--Watz**	**17.21**	**158**	⇑P	**Pn**	**01 51 28.3**	**+0.4**
	comp=Z,13nm,0.4s,baz=316,slow=12						
EFI	**East Falkland**	**18.44**	**271**	P	**P**	**01 51 41.1**	**-0.1**
SNAA	**Sanae**	**18.77**	**156**	⇑P	**P**	**01 51 45.1**	**+0.3**
	comp=Z,1μm,0.5s						
SNAA	**Sanae**	**18.77**	**156**	P	**P**	**01 51 45.3**	**+0.5**
	comp=Z,42nm,0.5s,baz=308,slow=9.8,SNR=510						
PMSA	**Palmer Station**	**19.71**	**229**	P	**Pn**	**01 51 56.8**	**-0.7**
PMSA	**Palmer Station**	**19.71**	**229**	P	**P**	**01 51 56.6**	**+1.7**
	comp=Z,68nm,0.7s,baz=83,slow=6.3,SNR=12						
TROLL	**Troll, Antarti**	**20.28**	**153**	⇑P	**P**	**01 52 01.4**	**+0.2**
	comp=Z,1μm,0.5s						
BELA	**Belgrano 2**	**22.01**	**184**		**P**	**01 52 19.2**	**-0.2**
MG02	**Cerro Sombrero**	**24.20**	**260**	P	**P**	**01 52 40.6**	**+0.2**
TRQA	**Tornquist**	**29.16**	**294**	P	**P**	**01 53 24.2**	**-0.9**
TRQA				IAmb	IAmb	01 53 54.7	
	comp=Z,52nm,1.8s						
PLTB	**Pedras Altas**	**30.39**	**312**	P	**P**	**01 53 36.8**	**+0.8**
SYO	**Syowa Base**	**31.66**	**141**	⇑*eP*	**P**	**01 53 44.3**	**-2.5**
PLCA	**Paso Flores**	**31.82**	**281**	LR	LR	02 06 31.5	
	comp=Z,66nm,18.7s,baz=138,slow=36						
ITQB	**Itaqui**	**33.48**	**310**	P	**P**	**01 54 03.0**	**0.0**
ITQB				IAmb	IAmb	01 54 34.1	
	comp=Z,47nm,1.6s						
ITAB	**Concordia**	**33.83**	**318**	P	**P**	**01 54 07.0**	**+0.9**
ITAB				IAmb	IAmb	01 55 20.4	
	comp=Z,70nm,2.0s						
QSPA	**South Pole Qui**	**34.14**	**180**		**P**	**01 54 09.5**	**+0.9**
QSPA				IAmb	IAmb	01 54 12.0	
	comp=Z,10nm,0.7s						
QSPA	**South Pole Qui**	**34.14**	**180**	P	**P**	**01 54 09.6**	**+0.9**
	comp=Z,11nm,0.6s,baz=7.2,slow=0.5,SNR=82						
QSPA				ScP	**ScP**	**02 00 13.9**	**-2.8**
	comp=Z,1.6nm,0.5s,baz=283,slow=1.3,SNR=11						
	comp=Z,11nm,0.6s						
QSPA	**South Pole Qui**	**34.14**	**180**	P	**P**	**01 54 09.4**	**+0.9**
QSPA				PcP	**PcP**	**01 56 42.8**	**0.0**
QSPA				ScP	**ScP**	**02 00 14.0**	**-2.8**
VAO	**Valinhos**	**36.03**	**329**	P	**P**	**01 54 25.5**	**+0.4**
VAO				IAmb	IAmb	01 54 43.5	
	comp=Z,60nm,1.9s						
CPUP	**Villa Florida**	**36.70**	**312**	P	**P**	**01 54 30.5**	**-0.1**
	comp=Z,6.4nm,0.9s,baz=150,slow=7.6,SNR=13						
CPUP				PcP	**PcP**	**01 56 50.7**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=159,slow=5.8,SNR=4.7						
CPUP				ScP	**ScP**	**02 00 25.4**	**-1.0**
	comp=Z,2.1nm,1.0s,baz=130,slow=2.0,SNR=4.1						
CPUP				LR	LR	02 08 31.0	
	comp=Z,31nm,19.4s,baz=158,slow=34						
	comp=Z,6.4nm,0.9s						
CPUP	**Villa Florida**	**36.70**	**312**	P	**P**	**01 54 30.2**	**-0.4**
CPUP				pP	**pP**	**01 54 54.7**	**-1.2**
CPUP				PcP	**PcP**	**01 56 50.6**	**-0.1**
CPUP				ScP	**ScP**	**02 00 25.8**	**-0.6**
BO04	**La Punta**	**36.78**	**289**	P	**P**	**01 54 30.9**	**-0.5**
MT09	**Talagante**	**37.14**	**288**	P	**P**	**01 54 33.0**	**-1.5**
MT01	**Popeta**	**37.21**	**288**	P	**P**	**01 54 33.3**	**-1.6**
MT01				IAmb	IAmb	01 55 39.1	
	comp=Z,38nm,1.4s						
MT02	**Curacav**	**37.62**	**289**	P	**P**	**01 54 37.3**	**-1.0**
VA03	**San Esteban**	**37.69**	**290**	P	**P**	**01 54 39.2**	**+0.1**
VA03				IAmb	IAmb	01 54 48.1	
	comp=Z,39nm,1.4s						
MAW	**Mawson**	**40.22**	**144**	P	**P**	**01 55 00.5**	**+0.9**
	comp=Z,4.4nm,0.6s,baz=249,slow=8.4,SNR=6.9						
	comp=Z,4.4nm,0.6s						
SUR	**Sutherland**	**40.84**	**75**	LR	LR	02 07 30.7	
	comp=Z,47nm,20.1s,baz=161,slow=29						
AC02	**Maricunga**	**41.73**	**297**		**P**	**01 55 13.4**	**+0.4**
AC02				IAmb	IAmb	01 55 14.5	
	comp=Z,17nm,0.8s						
BDFB	**Brasilia**	**43.31**	**331**	P	**P**	**01 55 25.7**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=67,slow=4.0,SNR=4.3						
	comp=Z,2.4nm,0.6s						
GO02	**Mina Guanaco**	**43.34**	**298**		**P**	**01 55 26.0**	**+0.1**
GO02				IAmb	IAmb	01 55 26.8	
	comp=Z,21nm,0.7s						
AF01	**San Pedro de A**	**44.52**	**301**	P	**P**	**01 55 36.6**	**+1.3**
PB05	**IPOC Station P**	**45.58**	**299**	P	**P**	**01 55 43.2**	**-0.2**
PB09	**IPOC Station P**	**46.01**	**301**	P	**P**	**01 55 47.8**	**+0.9**
PB09				IAmb	IAmb	01 55 48.5	
	comp=Z,17nm,0.7s						
BOSA	**Boshof**	**46.17**	**76**	P	**P**	**01 55 48.1**	**0.0**
	comp=Z,4.4nm,0.8s,baz=213,slow=5.8,SNR=7.2						
BOSA				LR	LR	02 12 08.5	
	comp=Z,76nm,18.8s,baz=179,slow=32						
	comp=Z,4.4nm,0.8s						
BOSA	**Boshof**	**46.17**	**76**	P	**P**	**01 55 48.1**	**0.0**
VNDA	**Vanda**	**46.51**	**183**		**P**	**01 55 51.2**	**+1.3**
VNDA	**Vanda**	**46.51**	**183**	P	**P**	**01 55 51.5**	**+1.5**
	comp=Z,5.3nm,0.7s,baz=191,slow=5.7,SNR=33						
VNDA				ScP	**ScP**	**02 01 03.9**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=153,slow=2.8,SNR=4.4						
	comp=Z,5.3nm,0.7s						
VNDA	**Vanda**	**46.51**	**183**	P	**P**	**01 55 51.2**	**+1.3**
VNDA				pP	**pwP**	**01 56 16.1**	**-3.5**
VNDA				PcP	**PcP**	**01 57 23.9**	**+1.7**
VNDA				ScP	**ScP**	**02 01 05.3**	**+0.7**
PB01	**IPOC Station P**	**46.77**	**301**	P	**P**	**01 55 53.6**	**+0.9**
PTLB	**Pontes e Lacer**	**47.20**	**316**		**P**	**01 55 55.9**	**-0.1**
PB08	**IPOC Station P**	**47.38**	**302**	P	**P**	**01 55 58.6**	**+0.7**
CCD	**Concordia, Ant**	**47.65**	**170**	P	**P**	**01 55 59.4**	**0.0**
CCD				PcP	**PcP**	**01 57 27.6**	**+0.7**
GO01	**Chusmiza**	**47.81**	**302**	P	**P**	**01 56 01.4**	**+0.1**
PB11	**IPOC Station P**	**47.95**	**302**	P	**P**	**01 56 02.1**	**+0.1**
PB11				IAmb	IAmb	01 56 03.8	
	comp=Z,20nm,0.8s						
KOOLE	**Kule**	**48.02**	**67**	P	**P**	**01 56 02.7**	**+0.3**
KOOLE				IAmb	IAmb	01 56 03.6	
	comp=Z,16nm,1.1s						
H10S2	**ASCENSION HYDR**	**48.11**	**17**	T	T	02 48 11.6	
	baz=190,slow=74,SNR=17						
H10S3	**ASCENSION HYDR**	**48.12**	**17**	T	T	02 48 30.0	
	baz=30,slow=74,SNR=16						
PB16	**IPOC Station P**	**49.11**	**303**		**P**	**01 56 12.0**	**+0.7**
KGCAE	**Kacgae**	**49.17**	**68**		**P**	**01 56 11.9**	**+0.6**
KGCAE				IAmb	IAmb	01 56 12.6	
	comp=Z,15nm,1.0s						
LBTB	**Lobatse**	**49.21**	**73**	P	**P**	**01 56 11.9**	**+0.4**
LBTB	**Lobatse**	**49.21**	**73**	P	**P**	**01 56 11.6**	**0.0**
H10N1	**ASCENSION HYDR**	**49.23**	**17**	T	T	02 49 38.6	
	baz=188,slow=76,SNR=5.3						
H10N3	**ASCENSION HYDR**	**49.23**	**17**	T	T	02 49 23.0	
	baz=188,slow=76,SNR=13						
H10N2	**ASCENSION HYDR**	**49.25**	**17**	T	T	02 49 32.5	
	baz=188,slow=76,SNR=9.8						
GRTLG	**Ghanzi**	**49.89**	**66**		**P**	**01 56 16.6**	**-0.1**
GRTLG				IAmb	IAmb	01 56 17.8	
	comp=Z,19nm,1.6s						
KDWAN	**Kaudwane**	**50.03**	**71**	P	**P**	**01 56 18.2**	**+0.4**
KDWAN				IAmb	IAmb	01 56 19.2	
	comp=Z,18nm,1.2s						
LPAZ	**La Paz**	**50.25**	**306**		**P**	**01 56 20.8**	**+0.8**
LPAZ				IAmb	IAmb	01 56 21.6	
	comp=Z,13nm,0.5s						
LPAZ	**La Paz**	**50.25**	**306**	P	**P**	**01 56 20.9**	**+0.8**
	comp=Z,8.1nm,0.3s,baz=150,slow=4.5,SNR=67						
	comp=Z,8.1nm,0.3s						
LPAZ	**La Paz**	**50.25**	**306**	P	**P**	**01 56 20.8**	**+0.8**
LPAZ				pP	**pP**	**01 56 46.5**	**-0.1**
LPAZ				sP	**sP**	**01 56 59.4**	**+0.2**
QNGWA	**Qangwa**	**51.40**	**65**		**P**	**01 56 28.7**	**+0.6**
KHWEE	**KHWEE**	**51.62**	**71**	P	**P**	**01 56 30.0**	**+0.3**
KHWEE				IAmb	IAmb	01 56 30.8	
	comp=Z,14nm,0.8s						
MREMI	**Moremi**	**52.18**	**73**		**P**	**01 56 34.4**	**+0.6**
XAUDM	**Khaudum**	**52.31**	**65**	P	**P**	**01 56 35.2**	**+0.4**
XAUDM				IAmb	IAmb	01 56 36.8	
	comp=Z,17nm,1.2s						
PHDHD	**Phuduhudu**	**52.58**	**69**	P	**P**	**01 56 37.2**	**+0.5**
DRV	**Dumont d'Urvil**	**57.19**	**174**	P	**P**	**01 57 09.8**	**+0.6**
DRV				PcP	**PcP**	**01 58 00.8**	**-1.5**
LSZ	**Lusaka**	**58.58**	**69**		**P**	**01 57 20.0**	**+0.3**
LSZ				IAmb	IAmb	01 57 21.0	
	comp=Z,9.2nm,1.0s						
LSZ	**Lusaka**	**58.58**	**69**	P	**P**	**01 57 19.9**	**+0.2**
MACA	**Manacapuru-AM**	**59.09**	**320**		**P**	**01 57 22.3**	**-0.7**
MACA				IAmb	IAmb	01 57 22.8	
	comp=Z,11nm,0.8s						
DBIC	**Dimbokro**	**65.30**	**25**	P	**P**	**01 58 05.3**	**+0.8**
	comp=Z,3.4nm,0.6s,baz=183,slow=6.2,SNR=7.2						
	comp=Z,3.4nm,0.6s						
DBIC	**Dimbokro**	**65.30**	**25**	P	**P**	**01 58 04.9**	**+0.5**
OTAV	**Otavalo**	**69.52**	**304**		**P**	**01 58 31.6**	**-0.1**
OTAV	**Otavalo**	**69.52**	**304**	P	**P**	**01 58 31.1**	**-0.5**
OTAV				PcP	**PcP**	**01 58 54.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.20**	**30**		**P**	**01 58 53.9**	**+0.8**
TAM	**Tamanrasset**	**83.44**	**30**		**P**	**01 59 50.7**	**+1.2**
ASAR	**Alice Springs**	**99.00**	**163**	P	**Pdif**	**02 01 02.4**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=183,slow=4.4,SNR=8.1						
	comp=Z,1.0nm,0.7s						
HWUT	**Hardware Ranch**	**120.28**	**300**		**PKPdf**	**02 06 11.8**	**0.0**
NVAR	**Mina Array Bea**	**121.24**	**293**	PKP	**PKiKP**	**02 06 14.5**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=111,slow=3.3,SNR=3.6						
MOOW	**Moose Ponds**	**121.52**	**302**		**PKiKP**	**02 06 14.5**	**+0.1**
FINES	**FINESS Array B**	**124.53**	**28**	PKP	**PKPdf**	**02 06 18.7**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=158,slow=3.4,SNR=13						
CMAR	**Chiang Mai Arr**	**125.23**	**111**	PKP	**PKPdf**	**02 06 21.6**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=244,slow=3.4,SNR=4.6						
MSO	**Missoula**	**125.31**	**303**		**PKiKP**	**02 06 21.6**	**0.0**
AB31	**Akbulak array**	**127.56**	**56**		**PKPdf**	**02 06 25.2**	**-0.1**
ABKAR	**Akbulak array**	**127.56**	**56**		**PKPdf**	**02 06 25.3**	**0.0**
ARCES	**ARCESS Array B**	**131.07**	**22**	PKP	**PKPdf**	**02 06 30.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=180,slow=1.2,SNR=7.4						
BVAR	**Borovoye Array**	**134.98**	**58**	PKP	**PKPdf**	**02 06 39.0**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=243,slow=4.8,SNR=4.9						
YKA	**Yellowknife Ar**	**136.08**	**318**	PKP	**PKPdf**	**02 06 41.0**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=130,slow=2.4,SNR=10						
YKA				SKPbc	**SKPbc**	**02 09 59.0**	**-2.9**
	comp=Z,0.9nm,0.9s,baz=122,slow=2.1,SNR=10						
MKAR	**Makanchi Array**	**137.09**	**72**	PKP	**PKPdf**	**02 06 43.9**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=239,slow=1.8,SNR=4.2						
MKAR				SKPbc	**SKPbc**	**02 10 02.8**	**-2.7**
	comp=Z,0.5nm,0.8s,baz=252,slow=2.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**137.50**	**65**	SKPbc	**SKPbc**	**02 10 04.1**	**-2.4**
	comp=Z,0.4nm,0.6s,baz=235,slow=2.5,SNR=3.1						
ZALV	**Zalesovo Beam**	**142.57**	**64**	PKP	**PKPdf**	**02 06 51.9**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=208,slow=8.4,SNR=4.0						
A36M	**Sachs Harbour**	**144.15**	**328**		**PKPdf**	**02 06 55.0**	**-0.3**
HYT	**Haines Junctio**	**144.67**	**307**		**PKPdf**	**02 06 56.8**	**+0.1**
N30M	**Aishikik Lake**	**144.74**	**308**		**PKPdf**	**02 06 56.8**	**+0.1**
H31M	**Peel River**	**145.23**	**316**		**PKPbc**	**02 06 57.3**	**-0.1**
F31M	**Tsiigehtchic**	**145.54**	**319**		**PKPbc**	**02 06 58.2**	**0.0**
G31M	**Satah River**	**145.57**	**318**		**PKPab**	**02 06 58.6**	**-0.1**
M29M	**Somme Creek**	**145.72**	**310**		**PKPbc**	**02 06 59.2**	**+0.1**
L29M	**L29M**	**145.82**	**311**		**PKPbc**	**02 06 59.2**	**-0.1**
K29M	**Barlow Dome**	**145.83**	**312**		**PKPdf**	**02 06 58.9**	**+0.3**
I30M	**Mount Dempster**	**145.83**	**315**		**PKPdf**	**02 06 58.5**	**0.0**
G30M	**tAoh Zraii Nji**	**146.32**	**318**		**PKPbc**	**02 07 00.7**	**0.0**
F30M	**Barrier River**	**146.34**	**319**		**PKPbc**	**02 07 00.6**	**-0.1**
H29M	**Whitestone**	**146.92**	**316**		**PKPbc**	**02 07 02.0**	**-0.4**
G29M	**Pine Creek**	**146.98**	**317**		**PKPbc**	**02 07 02.1**	**-0.5**
BCAR	**Beaver Creek A**	**147.38**	**310**		**PKPbc**	**02 07 03.0**	**-0.8**
BCAR					**SKPdf**	**02 10 26.9**	**+2.9**
L27K	**Beaver Creek,**	**147.39**	**310**		**PKPbc**	**02 07 03.0**	**-0.8**
E28M	**Babbage River**	**147.94**	**320**		**PKPbc**	**02 07 03.7**	**-1.4**
H27K	**Steamboat Moun**	**148.16**	**315**		**PKPbc**	**02 07 05.1**	**-0.7**
G27K	**Doyon Strip**	**148.35**	**316**		**PKPbc**	**02 07 05.1**	**-1.1**
DIV	**Divide**	**148.52**	**305**		**PKPdf**	**02 07 03.9**	**+0.8**
DOT	**Dot Lake**	**148.53**	**310**	PKPdf	**PKPdf**	**02 07 04.7**	**+1.8**
J26L	**Joseph Creek**	**148.55**	**312**		**PKPbc**	**02 07 05.2**	**-1.6**
D27M	**Malcolm River**	**148.57**	**321**		**PKPbc**	**02 07 05.9**	**-0.9**
SCRK	**Sand Creek**	**148.59**	**311**		**PKPbc**	**02 07 05.3**	**-1.7**
E27K	**Coleen River**	**148.61**	**319**		**PKPbc**	**02 07 05.4**	**-1.4**
RIDG	**Independent Ri**	**148.89**	**310**		**PKPbc**	**02 07 06.4**	**-1.3**
PAX	**Paxson**	**148.95**	**308**	PKPdf	**PKPbc**	**02 07 06.4**	**-1.5**
NRIK	**Noril'sk**	**149.18**	**39**	PKPbc	**PKiKP**	**02 07 08.8**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=216,slow=4.3,SNR=5.8						
G26K	**Porcupine Rive**	**149.20**	**316**	PKPdf	**PKPbc**	**02 07 06.8**	**-1.5**
BMAR	**Burnt Mountain**	**149.59**	**317**		**PKPbc**	**02 07 09.1**	**-0.2**
ILAR	**Eielson Array**	**150.00**	**312**	PKPbc	**PKPbc**	**02 07 10.3**	**0.0**
	comp=Z,1.6nm,0.9s,baz=132,slow=1.6,SNR=107						
SONM	**Songino Array**	**150.93**	**87**	PKPbc	**PKPbc**	**02 07 13.1**	**-0.1**
SONM	**Songino Array**	**150.93**	**87**	PKPbc	**PKPbc**	**02 07 13.2**	**0.0**
	comp=Z,4.5nm,0.5s,baz=231,slow=2.4,SNR=20						
E24K	**Your Creek**	**151.15**	**318**		**PKiKP**	**02 07 14.2**	**+0.7**
TRF	**Thorofare Moun**	**151.18**	**308**		**PKPbc**	**02 07 13.5**	**+0.2**
SKT	**Skwentna**	**151.41**	**305**		**PKiKP**	**02 07 14.2**	**0.0**
E23K	**Chandalar**	**151.57**	**318**		**PKiKP**	**02 07 14.5**	**+0.1**
G23K	**Bananza Creek**	**151.60**	**315**		**PKiKP**	**02 07 14.8**	**+0.4**
BPAW	**Bear Paw Mtn.**	**151.62**	**310**		**PKPbc**	**02 07 14.4**	**+0.3**
CAST	**Castle Rocks**	**151.97**	**308**		**PKPbc**	**02 07 14.7**	**-0.3**
C23K	**Itkillik River**	**152.00**	**322**		**PKiKP**	**02 07 15.1**	**0.0**
D23K	**Nanushuk River**	**152.01**	**320**		**PKiKP**	**02 07 15.8**	**+0.6**
D22K	**Ayikyak River**	**152.73**	**320**		**PKiKP**	**02 07 17.7**	**+1.0**
B22K	**Teshekpuk Lake**	**152.94**	**323**		**PKiKP**	**02 07 17.5**	**+0.5**
F21K	**Alatna River**	**153.00**	**316**		**PKiKP**	**02 07 17.9**	**+0.7**
B21K	**Ikpikpuk River**	**153.40**	**321**		**PKiKP**	**02 07 18.3**	**+0.3**

IDC 30 02:04:38.9±5.9, 8°.37S×127°.17E, h312km±67km, mb2.9/2, mbtmp4.0/5, Error ellipse: s-maj=67.3km s-min=31.3km az=57.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.78**	**189**	P	Pn	02 06 52.9	-1.3
	3.6nm,0.3s,baz=6.5,slow=12,SNR=40						
FITZ				S	S	02

JAYA	Jayaque - finc	1.11 97	*i* P	Pn	02 14 44.1	+0.5
JAYA			*i* S	Sn	02 14 57.6	-0.9
SOKI	Kika Raxquin	1.30 322	*i* S	Sn	02 15 05.7	+2.4

IDC ***30*** *02:28:40.7±0.4, 6°.34S×131°.54E, h0km, mb4.9/22, mbtmp4.9/26, ML5.0/4, MS3.8/29, Error ellipse: s-maj=21.0km s-min=11.3km az=71.0*
BJI ***30*** *02:28:43.6, 6°.58S×131°.83E, h52km, mB5.2/33, mb5.3/77, Ms4.5/18, Ms7 4.1/18*
MOS ***30*** *02:28:46.1±0.8, 6°.23S×131°.61E, h47km, mb5.6/33, Error ellipse: s-maj=10.9km s-min=5.6km az=122.4*
NEIC ***30*** *02:28:49.4, 6°.28S×131°.56E, h60km*
DJA ***30*** *02:28:49.7±0.1, 6°.5±1°×13°.2E±°, h69km±2km, M5.2/93, mb5.4/93, mB5.7/51, MLv5.9/15, Mw(mB)5.2/51, MwMwp4.7/6, Mwp5.0/6*
NEIC ***30*** *02:28:49.5±1.4, 6°.28S±0°.04×131°.56E±0°.08, h59km±4km, mb5.3/87, Mww5.1/16, Error ellipse: s-maj=10.9km s-min=5.4km az=81.0*
NEIC ***30*** *02:28:49.4, 6°.28S×131°.56E, h60km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16^Nm; M_{rr}1.23; $M_{\theta\theta}$-1.84; $M_{\phi\phi}$0.60; $M_{r\theta}$0.47; $M_{\theta\phi}$4.50; $M_{\phi r}$1.76; Fault plane solution: $M_0$5.12000×10^16^ NP1:ϕ_s84.90000°, δ67.67000°, λ14.04000°. NP2:ϕ_s349.48000°, δ77.04000°, λ157.06000°. Principal axes: T 4.8428, Plg25.0000°, Azm306.0000°; N 0.5141, Plg64.0000°, Azm142.0000°; P -5.3569, Plg6.0000°, Azm39.0000°;*
GCMT ***30*** *02:28:51.4±0.2, 6°.22S±0°.01×131°.59E±0°.01, h65km±1km, MW5.1/118, Moment Tensor Solution. s69,c88; s118,c174; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}2.24±.15; $M_{\theta\theta}$-4.06±.13; $M_{\phi\phi}$1.82±.14; $M_{r\theta}$0.73±.11; $M_{\theta\phi}$4.69±.11; $M_{\phi r}$2.29±.10; Best double couple: $M_0$6.30500×10^16^ NP1:ϕ_s79.00000°, δ65.00000°, λ22.00000°. NP2:ϕ_s339.00000°, δ70.00000°, λ153.00000°. Principal axes: T 5.9270, Plg33.0000°, Azm298.0000°; N 0.7540, Plg57.0000°, Azm125.0000°; P -6.6820, Plg3.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 02:28:49.1±0.3, 6°.34S±0°.03×131°.67E±0°.04, h65km±3km, h65km:pP-P, n510, σ1§50/530, mb5.2/138, 11C-5D, Tanimbar Islands region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.67 193**		**Pn**	**02 29 17.3**	**+1.1**
SAUI			Sn	**Sn**	**02 29 36.4**	**-0.4**
SAUI	**Saumlaki**	**1.67 193**	P	**Pn**	**02 29 18.4**	**+2.1**
SAUI			S	**Sn**	**02 29 39.3**	**+2.5**
BNDI	**Bandanaira**	**2.52 316**	P	**Pn**	**02 29 28.2**	**+0.6**
BNDI	**Bandanaira**	**2.52 316**	S	**Sn**	**02 29 57.7**	**+0.5**
BNDI	**Bandanaira**	**2.52 316**	P	**Pn**	**02 29 28.1**	**+0.5**
KMPI	**Kaimana, Papua**	**3.34 37**	P	**Pn**	**02 29 40.0**	**+1.0**
FAKI	**Fak Fak**	**3.44 10**		**Pn**	**02 29 40.4**	**0.0**
FAKI			Sn	**Sn**	**02 30 16.1**	**-3.9**
FAKI	**Fak Fak**	**3.44 10**	P	**Pn**	**02 29 40.2**	**-0.2**
FAKI	**Fak Fak**	**3.44 10**	P	**Pn**	**02 29 40.3**	**0.0**
MSAI	**Masohi**	**4.04 317**	P	**Pn**	**02 29 48.1**	**-0.3**
AAI	**Ambon**	**4.35 307**	P	**Pn**	**02 29 52.8**	**+0.1**
SWI	**Sorong**	**5.45 356**	P	**Pn**	**02 30 06.2**	**-1.6**
NLAI	**Namlea**	**5.49 304**	P	**Pn**	**02 30 09.0**	**+0.6**
DRS	**Darwin Rock St**	**6.10 187**	P	**Pn**	**02 30 16.4**	**-0.3**
DRS	**Darwin Rock St**	**6.10 187**	S	**Sn**	**02 31 21.3**	**-3.9**
KDU	**Kakadu**	**6.36 173**	P	**Pn**	**02 30 20.1**	**-0.1**
	comp=Z,1μm,0.4s					
KDU	**Kakadu**	**6.36 173**	P	**Pn**	**02 30 19.9**	**-0.3**
KDU	**Kakadu**	**6.36 173**	S	**Sn**	**02 31 27.2**	**-4.2**
SRPI	**Serui, Papua**	**6.36 46**	P	**Pn**	**02 30 21.4**	**+1.1**
	comp=Z,3.2nmcomp=Z,2μmcomp=Z,8μmcomp=Z,309nm,0.8s					
MTN	**Manton Dam**	**6.49 185**		**Pn**	**02 30 21.7**	**-0.2**
MTN	**Manton Dam**	**6.49 185**	P	**Pn**	**02 30 22.1**	**+0.1**
	comp=Z,0.0nmcomp=Z,5μm,0.5s					
MTN	**Manton Dam**	**6.49 185**	P	**Pn**	**02 30 21.8**	**-0.2**
MTN	**Manton Dam**	**6.49 185**	S	**Sn**	**02 31 31.0**	**-3.6**
BAKI	**Biak**	**6.76 41**	P	**Pn**	**02 30 27.0**	**+1.2**
SANI	**Sanana**	**7.09 307**	P	**Pn**	**02 30 29.7**	**-0.5**
SANI	**Sanana**	**7.09 307**	P	**Pn**	**02 30 28.6**	**-1.6**
	comp=Z,2.7nmcomp=Z,9μmcomp=Z,491nm,0.6s					
SOEI	**Soe**	**8.07 245**		**Pn**	**02 30 42.8**	**-1.0**
SOEI	**Soe**	**8.07 245**	P	**Pn**	**02 30 43.1**	**-0.7**
SOEI	**Soe**	**8.07 245**	S	**Sn**	**02 32 11.1**	**-2.7**
SOEI	**Soe**	**8.07 245**	P	**Pn**	**02 30 42.8**	**-1.0**
SMPI	**Sarmi**	**8.24 59**	P	**Pn**	**02 30 47.5**	**+1.5**
	comp=Z,3μmcomp=Z,272nm,1.1s					
TNTI	**Ternate**	**8.27 329**		**Pn**	**02 30 45.2**	**-1.1**
TNTI	**Ternate**	**8.27 329**	P	**Pn**	**02 30 46.5**	**+0.2**
TNTI	**Ternate**	**8.27 329**	P	**Pn**	**02 30 46.0**	**-0.3**
	comp=Z,146nm,0.7s					
MMPI	**Merauke**	**8.90 104**	P	**Pn**	**02 30 56.8**	**+1.8**
BBSI	**Bau Bau**	**9.09 275**	P	**Pn**	**02 31 00.0**	**+2.4**
	comp=Z,7μmcomp=Z,502nm,1.5s					
GENI	**Genyem**	**9.26 67**	P	**Pn**	**02 31 01.7**	**+1.8**
	comp=Z,4μmcomp=Z,292nm,0.8s					
MMRI	**Maumere**	**9.62 256**		**Pn**	**02 31 05.2**	**+0.3**
MMRI	**Maumere**	**9.62 256**	P	**Pn**	**02 31 04.9**	**0.0**
MMRI	**Maumere**	**9.62 256**	S	**Sn**	**02 32 49.6**	**-1.9**
MMRI	**Maumere**	**9.62 256**	P	**Pn**	**02 31 04.5**	**-0.4**
	comp=Z,5μmcomp=Z,240nm,0.8s					
KNRA	**Kununurra**	**9.71 197**		**Pn**	**02 31 04.6**	**-1.5**
KNRA	**Kununurra**	**9.71 197**	P	**Pn**	**02 31 05.1**	**-0.9**
	comp=Z,2μm,0.6s					
JAY	**Jayapura**	**9.78 68**	Pn	**Pn**	**02 31 06.2**	**-0.9**
	comp=Z,4.7nm,0.3s,baz=270,slow=6.5,SNR=9.9					
JAY			Sn	**Sn**	**02 32 52.6**	**-2.8**
	comp=Z,7.7nm,0.3s,baz=302,slow=22,SNR=9.9 comp=Z,88nm,0.9s					
JAY	**Jayapura**	**9.78 68**	P	**Pn**	**02 31 08.5**	**+1.4**
	comp=Z,137nm,0.7s					
EDFI	**Ende, Flores**	**10.18 256**	P	**Pn**	**02 31 12.2**	**-0.4**
	comp=Z,2μcomp=Z,202nm,1.1s					
KMSI	**Cibinong**	**10.30 312**	P	**Pn**	**02 31 12.9**	**-1.2**
	comp=Z,6μcomp=Z,489nm,0.9s					
LUWI	**Luwuk**	**10.32 300**	Pn	**Pn**	**02 31 13.5**	**-0.9**
LUWI	**Luwuk**	**10.32 300**	P	**Pn**	**02 31 14.3**	**-0.1**
LUWI	**Luwuk**	**10.32 300**	P	**Pn**	**02 31 13.7**	**-0.7**
	comp=Z,6μcomp=Z,463nm,1.3s					
BSSI	**Bau Bau, Buton**	**11.11 270**	P	**Pn**	**02 31 25.3**	**0.0**
	comp=Z,3μcomp=Z,275nm,1.0s					
APSI	**Ampana**	**11.36 298**	P	**Pn**	**02 31 29.2**	**+0.6**
	comp=Z,3μcomp=Z,298nm,1.3s					
BKSI	**Bulukumba**	**11.53 274**	P	**Pn**	**02 31 32.3**	**+1.4**
	comp=Z,1μcomp=Z,135nm,0.8s					
BNSI	**Bone**	**11.67 279**	P	**Pn**	**02 31 35.8**	**+2.9**
	comp=Z,2μcomp=Z,237nm,0.8s					
SGSI	**Sangihe**	**11.69 328**	P	**Pn**	**02 31 33.7**	**+0.5**
	comp=Z,232nm,1.1s					
WSI	**Waingapu**	**11.73 253**	P	**Pn**	**02 31 32.2**	**-1.5**
MRSI	**Marisa**	**11.84 305**	P	**Pn**	**02 31 34.6**	**-0.5**
	comp=Z,3μcomp=Z,307nm,0.9s					
KAPI	**Kappang**	**11.93 276**		**Pn**	**02 31 36.2**	**-0.2**
KAPI	**Kappang**	**11.93 276**	Pn	**Pn**	**02 31 32.2**	**-4.3**
	comp=Z,1.5nm,0.3s,baz=104,slow=6.0,SNR=30					
KAPI			LR	LR	02 37 20.5	
	comp=Z,491nm,18.2s,baz=106,slow=44 comp=Z,6.2nm,0.9s					
KAPI	**Kappang**	**11.93 276**	P	**Pn**	**02 31 39.7**	**+3.3**
KAPI			S	**Sn**	**02 33 52.2**	**+4.3**
KAPI	**Kappang**	**11.93 276**	P	**Pn**	**02 31 36.2**	**-0.2**
SPSI	**Sidrap Palu**	**12.08 281**	P	**Pn**	**02 31 40.1**	**+1.6**
	comp=Z,230nm,0.9s					
WBSI	**Waikabubak, Su**	**12.59 254**	P	**Pn**	**02 31 43.1**	**-2.4**
	comp=Z,3μcomp=Z,381nm,0.7s					
PCI	**Palu**	**12.98 294**	P	**Pn**	**02 31 51.6**	**+0.9**
	comp=Z,193nm,1.1s					
FITZ	**Fitzroy Crossi**	**13.09 206**	Pn	Pn	02 31 47.1	-5.0
FITZ	**Fitzroy Crossi**	**13.09 206**	Pn	Pn	02 31 47.0	-5.1
	comp=Z,65nm,0.3s,baz=22,slow=11,SNR=409					
FITZ			Sn	Sn	02 34 04.1	-12
	comp=Z,48nm,0.3s,baz=126,slow=19,SNR=9.4					
FITZ			LR	LR	02 37 43.5	
	comp=Z,350nm,20.8s,baz=29,slow=42					
TOLI2	**Tolitoli**	**13.15 304**		**Pn**	**02 31 51.8**	**-1.2**
TOLI2	**Tolitoli**	**13.15 304**	P	**Pn**	**02 31 52.9**	**-0.1**
MPSI	**Mapaga**	**13.49 299**	P	**Pn**	**02 31 57.3**	**-0.3**
	comp=Z,135nm,0.9s					
WB0	**Warramunga Arr**	**13.61 169**		Pn	02 31 54.1	-5.1
COEN	**Coen**	**13.62 125**		**Pn**	**02 31 56.7**	**-2.7**
COEN	**Coen**	**13.62 125**	P	**Pn**	**02 31 57.6**	**-1.8**
	comp=Z,242nm,0.9s					
COEN	**Coen**	**13.62 125**	P	**Pn**	**02 31 57.6**	**-1.8**
WRAB	**Tennant Creek**	**13.76 169**		Pn	02 31 56.1	-5.1
WRAB	**Tennant Creek**	**13.76 169**	P	Pn	02 31 56.2	-5.1
WRA	**Warramunga Arr**	**13.77 169**	Pn	Pn	02 31 56.5	-4.9
	comp=Z,18nm,0.3s,baz=346,slow=13,SNR=246					
WRA			Sn	Sn	02 34 21.0	-12
	comp=Z,44nm,0.3s,baz=350,slow=23,SNR=8.3					
WRA			LR	LR	02 38 11.2	
	comp=Z,611nm,18.8s,baz=358,slow=41					
WR8	**Warramunga Arr**	**13.81 169**		Pn	02 31 56.8	-5.1
PLAI	**Plampang**	**13.99 259**	P	**Pn**	**02 32 02.6**	**-1.7**
PLAI	**Plampang**	**13.99 259**	P	**Pn**	**02 32 01.1**	**-3.2**
	comp=Z,2μcomp=Z,209nm,0.8s					
DAV	**Davao City (W)**	**14.64 335**	Pn	**Pn**	**02 32 10.8**	**-2.0**
	baz=228,slow=14					
DAV			Sn	**Sn**	**02 34 57.8**	**+3.9**
	comp=Z,103nm,0.3s,baz=246,slow=20,SNR=1.9					
DAV			LR	LR	02 38 09.6	
	comp=Z,391nm,21.7s,baz=148,slow=39					
TWSI	**Taliwang, Sumb**	**14.85 260**	P	**Pn**	**02 32 12.6**	**-2.9**
	comp=Z,88nm,0.8s					
SMKI	**Samarinda**	**15.57 292**	P	**Pn**	**02 32 24.9**	**+0.1**
	comp=Z,333nm,0.8s					
PMG	**Port Moresby**	**15.64 102**	Pn	**Pn**	**02 32 25.2**	**-0.5**
PMG			IAmb	IAmb	02 32 29.2	
	comp=Z,120nm,0.8s					
PMG	**Port Moresby**	**15.64 102**	Pn	**Pn**	**02 32 25.6**	**-0.1**
	comp=Z,120nm,0.8s,baz=281,slow=10,SNR=20					
PMG			Sn	**Sn**	**02 35 09.6**	**-8.7**
	comp=Z,6.4nm,0.3s,baz=257,slow=18,SNR=8.4					
PMG			LR	LR	02 39 59.9	
	comp=Z,548nm,18.2s,baz=1.5,slow=43					
PMG	**Port Moresby**	**15.64 102**	P	**Pn**	**02 32 26.5**	**+0.8**
QIS	**Mount Isa**	**16.10 152**	P	**Pn**	**02 32 29.8**	**-1.7**
	comp=Z,115nm,0.6s					
QIS	**Mount Isa**	**16.10 152**	P	**Pn**	**02 32 29.7**	**-1.7**
MANU	**Manus Island**	**16.23 75**	Pn	**Pn**	**02 32 33.6**	**+0.6**
SRBI	**Singaraja**	**16.42 263**	P	**Pn**	**02 32 33.7**	**-1.7**
	comp=Z,90nm,0.9s					
MTSU	**Mount Surprise**	**17.02 135**	P	**Pn**	**02 32 42.5**	**-0.5**
	comp=Z,107nm,0.8s					
MTSU	**Mount Surprise**	**17.02 135**	P	**Pn**	**02 32 42.9**	**-0.1**
AS15	**Alice Springs**	**17.33 173**	P	**Pn**	**02 32 43.6**	**-3.2**
	comp=Z,176nm,0.7s					
AS16	**Alice Springs**	**17.34 173**	P	**Pn**	**02 32 44.0**	**-2.8**
	comp=Z,338nm,0.6s					
AS04	**Alice Springs**	**17.36 173**	P	**Pn**	**02 32 44.2**	**-2.9**
	comp=Z,215nm,0.5s					
ABJI	**Asem Bagus**	**17.36 264**	P	**Pn**	**02 32 45.7**	**-1.5**
AS31	**Alice Springs**	**17.36 173**	P	**Pn**	**02 32 43.8**	**-3.4**
AS31	**Alice Springs**	**17.36 173**	P	**Pn**	**02 32 44.3**	**-2.9**
	comp=Z,70nm,0.4s					
ASAR	**Alice Springs**	**17.36 173**	P	**Pn**	**02 32 44.9**	**-2.3**
	comp=Z,20nm,0.3s,baz=352,slow=9.4,SNR=227					
ASAR			S	Sn	02 35 48.0	-12
	comp=Z,161nm,0.8s,baz=354,slow=26,SNR=10 comp=Z,48nm,0.5s					
MYLDM	**Lahad Datu**	**17.43 311**		**Pn**	**02 32 46.3**	**-1.6**
JAGI	**Jajag, Banyuwa**	**17.50 262**	P	**Pn**	**02 32 45.3**	**-3.5**
JAGI	**Jajag, Banyuwa**	**17.50 262**	P	**Pn**	**02 32 46.2**	**-2.6**
JAGI	**Jajag, Banyuwa**	**17.50 262**	P	**Pn**	**02 32 45.6**	**-3.2**
	comp=Z,87nm,0.8s					
KMMI	**Kalianget**	**17.59 267**	P	**P**	**02 32 51.5**	**+1.3**
	comp=Z,3μcomp=Z,282nm,1.1s					
GMJI	**Gumukmas**	**18.18 263**	P	**P**	**02 32 54.5**	**-2.1**
MBWA	**Marble Bar**	**18.73 217**	P	**P**	**02 33 00.3**	**-2.3**
MBWA			IAmb	IAmb	02 33 03.8	
	comp=Z,606nm,1.6s					
MBWA	**Marble Bar**	**18.73 217**	P	**P**	**02 33 00.9**	**-1.7**
	comp=Z,200nm,1.2s					
MBWA	**Marble Bar**	**18.73 217**	P	**P**	**02 33 01.7**	**-1.0**
WRKA	**Warakurna**	**18.87 189**	P	**P**	**02 33 03.0**	**-1.3**
	comp=Z,397nm,0.6s					
WRKA	**Warakurna**	**18.87 189**	P	**P**	**02 33 02.8**	**-1.4**
PSAD1	**Pilbara Seismi**	**18.90 216**	P	**P**	**02 33 03.1**	**-1.4**
	comp=Z,402nm,0.8s					
BWJI	**Bawean**	**18.91 270**	P	**P**	**02 33 03.9**	**-0.8**
	comp=Z,201nm,1.0s					
PSA00	**Pilbara Seismi**	**18.98 216**		**P**	**02 33 04.1**	**-1.2**
PSA00			IAmb	IAmb	02 33 12.9	
	comp=Z,120nm,0.8s					
PSA00	**Pilbara Seismi**	**18.98 216**	P	**P**	**02 33 04.3**	**-1.0**
PSA00			IAmb	IAmb	02 33 06.4	
	comp=Z,48nm,0.8s					
PSA00	**Pilbara Seismi**	**18.98 216**	P	**P**	**02 33 04.4**	**-1.0**
	comp=Z,235nm,0.9s					
PSA00	**Pilbara Seismi**	**18.98 216**	P	**P**	**02 33 05.1**	**-0.3**
GRJI	**Gresik**	**19.07 267**	P	**Pn**	**02 33 07.3**	**-0.5**
	comp=Z,5μcomp=Z,655nm,1.0s					
PSAD3	**Pilbara Seismi**	**19.07 216**	P	**P**	**02 33 05.5**	**-1.0**
	comp=Z,255nm,0.7s					
TV1H	**Townsville Har**	**19.54 132**	P	**Pn**	**02 33 12.8**	**-0.5**
TBJI	**Tambak Boyo**	**19.70 267**	P	**P**	**02 33 13.7**	**+0.4**
	comp=Z,4μcomp=Z,342nm,1.1s					
KKM	**Kota Kinabalu**	**19.73 308**		**P**	**02 33 13.0**	**-0.7**
NGJI	**Ngawi**	**20.09 266**	P	**P**	**02 33 17.5**	**0.0**
	comp=Z,122nm,1.2s					
PCJI	**Pacitan**	**20.41 264**	P	**P**	**02 33 19.2**	**-1.8**
	comp=Z,115nm,1.0s					
SMRI	**Semarang**	**21.09 267**	P	**P**	**02 33 27.2**	**-1.2**
	comp=Z,82nm,1.0s					
STKI	**Sintang**	**21.13 287**	P	**P**	**02 33 27.3**	**-1.5**
SBUM	**Sibu**	**21.29 294**		**P**	**02 33 29.1**	**-1.3**
OOD	**Oodnadatta**	**21.68 170**	P	**P**	**02 33 35.7**	**+1.2**
KSM	**Kuching**	**22.69 289**	P	**P**	**02 33 43.7**	**-1.8**
TGY	**Tagaytay City**	**22.93 332**	P	**P**	**02 33 47.1**	**-0.9**
	comp=Z,137nm,0.4s,baz=249,slow=3.6,SNR=7.0					
TGY			S	**S**	**02 37 49.1**	**-4.1**
	comp=Z,141nm,0.3s,baz=233,slow=20,SNR=2.0 comp=Z,137nm,0.4s					
CMJI	**Cimerak**	**23.09 265**	P	**P**	**02 33 45.9**	**-3.6**
	comp=Z,136nm,0.8s					
GIRL	**Giralia**	**23.36 224**	P	**P**	**02 33 53.0**	**+1.0**
QLP	**Quilpie**	**23.43 151**	P	**P**	**02 33 54.5**	**+1.9**
	comp=Z,376nm,1.0s					
QLP	**Quilpie**	**23.43 151**	P	**P**	**02 33 53.9**	**+1.3**
QLP	**Quilpie**	**23.43 151**	S	**S**	**02 38 04.8**	**+3.7**
MEEK	**Meekatharra**	**23.71 210**	P	**P**	**02 33 54.9**	**-0.4**
	comp=Z,266nm,0.9s					
MEEK	**Meekatharra**	**23.71 210**	P	**P**	**02 33 55.7**	**+0.4**
GUMO	**Guam**	**23.74 33**	P	**P**	**02 33 56.0**	**+0.4**
GUMO	**Guam**	**23.74 33**	LR	LR	02 44 09.8	
	comp=Z,73nm,19.4s,baz=214,slow=39					
GUMO	**Guam**	**23.74 33**	P	**P**	**02 33 56.0**	**+0.4**
GUMO			pmax	pmax		
	comp=Z,341nm,1.0s					
BBJI	**Bungbulang**	**23.87 266**	P	**P**	**02 33 56.1**	**-0.8**
LEM	**Lembang**	**23.90 267**	P	**P**	**02 33 56.8**	**-0.4**
	comp=Z,2μcomp=Z,131nm,1.3s					
TPI	**Tanjungpandan**	**24.20 277**	P	**P**	**02 33 58.1**	**-1.7**
CNJI	**Cibinong**	**24.38 266**	P	**P**	**02 33 59.3**	**-2.1**
	comp=Z,1μcomp=Z,135nm,1.0s					
FORT	**Forrest**	**24.55 187**		**P**	**02 34 03.3**	**+0.6**
FORT	**Forrest**	**24.55 187**	P	**P**	**02 34 03.0**	**+0.3**
	comp=Z,579nm,0.7s					
FORT	**Forrest**	**24.55 187**	P	**P**	**02 34 03.5**	**+0.7**
CBJI	**Citeko**	**24.66 268**	P	**P**	**02 34 02.6**	**-1.4**
LCRK	**Leigh Creek**	**24.76 166**	P	**P**	**02 34 06.3**	**+1.6**
RK1H	**Rockhampton Ha**	**24.81 135**	P	**P**	**02 34 06.7**	**+1.4**
PPBI	**Pangkal Pinang**	**25.79 278**	P	**P**	**02 34 13.3**	**-1.0**
CGJI	**Cibinong**	**25.81 268**	P	**P**	**02 34 13.8**	**-0.6**
	comp=Z,256nm,0.7s					
EIDS	**Eidsvold**	**26.52 138**	P	**P**	**02 34 22.6**	**+2.0**
KMBL	**Kambalda**	**26.53 199**	P	**P**	**02 34 20.7**	**-0.1**
	comp=Z,115nm,1.0s					
KMBL	**Kambalda**	**26.53 199**	P	**P**	**02 34 21.3**	**+0.5**
BBOO	**Buckleboo**	**26.66 172**		**P**	**02 34 22.1**	**+0.2**
BBOO	**Buckleboo**	**26.66 172**	P	**P**	**02 34 21.8**	**0.0**
	comp=Z,52nm,0.7s					
BBOO	**Buckleboo**	**26.66 172**	P	**P**	**02 34 22.6**	**+0.7**
MORW	**Morawa**	**27.00 211**	P	**P**	**02 34 25.2**	**+0.1**
MORW			IAmb	IAmb	02 34 59.7	
	comp=Z,60nm,1.1s					
MORW	**Morawa**	**27.00 211**	P	**P**	**02 34 25.1**	**+0.1**
	comp=Z,51nm,0.9s					
MORW	**Morawa**	**27.00 211**	P	**P**	**02 34 26.8**	**+1.8**
KASI	**Kota Agung**	**27.04 270**	P	**P**	**02 34 24.9**	**-0.6**
	comp=Z,929nmcomp=Z,30nm,0.7s					
STKA	**Stephens Creek**	**27.05 161**	P	**P**	**02 34 24.6**	**-0.9**
STKA	**Stephens Creek**	**27.05 161**	P	**P**	**02 34 26.6**	**+1.2**
	comp=Z,259nm,0.8s					
STKA	**Stephens Creek**	**27.05 161**	P	**P**	**02 34 26.0**	**+0.6**
	comp=Z,8.7nm,0.6s,baz=332,slow=9.9,SNR=15					
STKA			LR	LR	02 46 40.1	
	comp=Z,429nm,19.7s,baz=331,slow=40 comp=Z,8.7nm,0.6s					
STKA	**Stephens Creek**	**27.05 161**	P	**P**	**02 34 26.6**	**+1.2**
MDSI	**Maura Dua**	**27.43 272**	P	**P**	**02 34 29.1**	**+0.1**
HTT	**Hallett**	**27.79 167**	P	**P**	**02 34 32.9**	**+0.8**
	comp=Z,13nm,0.8s					
HTT	**Hallett**	**27.79 167**	P	**P**	**02 34 32.9**	**+0.8**
BLDU	**Ballidu**	**27.94 208**	P	**P**	**02 34 33.5**	**+0.1**
	comp=Z,96nm,1.2s					
HNR	**Honiara**	**28.18 98**	LR	LR	02 45 16.5	
	comp=Z,265nm,21.8s,baz=294,slow=35					
KLBR	**Kellerberrin**	**28.30 206**	P	**P**	**02 34 37.0**	**+0.4**
	comp=Z,238nm,1.1s					
KLBR	**Kellerberrin**	**28.30 206**	P	**P**	**02 34 37.2**	**+0.6**
CMSA	**Cobar Meteorol**	**28.30 154**	P	**P**	**02 34 37.9**	**+1.3**
	comp=Z,41nm,0.8s					
CMSA	**Cobar Meteorol**	**28.30 154**	P	**P**	**02 34 38.8**	**+2.2**
MNAI	**Manna**	**28.65 272**	P	**P**	**02 34 39.2**	**-0.7**
	comp=Z,85nm,1.4s					
MYKOM	**Kota Tinggi**	**28.92 285**	P	**P**	**02 34 40.6**	**-1.7**
MTKN	**Mount Kenneth**	**29.48 208**	P	**P**	**02 34 47.9**	**+0.9**
NWAO	**Narrogin (SRO)**	**29.67 205**	LR	LR	02 48 33.0	
	comp=Z,363nm,18.6s,baz=338,slow=40					
NWAO	**Narrogin (SRO)**	**29.67 205**	P	**P**	**02 34 49.9**	**+1.2**
ARPS	**Mount Arapiles**	**31.68 164**	P	**P**	**02 35 07.6**	**+1.2**
	comp=Z,49nm,0.7s					
ARPS	**Mount Arapiles**	**31.68 164**	P	**P**	**02 35 08.5**	**+2.0**
PPI	**Padang Panjang**	**31.74 279**	P	**P**	**02 35 06.5**	**-0.8**
	comp=Z,51nm,0.9s					
MNSI	**Mandailing Nat**	**32.80 281**	P	**P**	**02 35 15.8**	**-0.8**
	comp=Z,39nm,0.8s					
KULM	**Kulim**	**33.05 290**	P	**P**	**02 35 16.1**	**-2.5**
JOW	**Kunigami**	**33.14 354**	P	**P**	**02 35 19.1**	**-0.1**
JOW			IAmb	IAmb	02 35 21.6	
	comp=Z,89nm,1.0s					
JOW	**Kunigami**	**33.14 354**	LR	LR	02 48 20.2	
	comp=Z,166nm,21.7s,baz=310,slow=36					
TOO	**Toolangi**	**33.54 160**	P	**P**	**02 35 24.4**	**+1.7**
TOO	**Toolangi**	**33.54 160**	P	**P**	**02 35 22.7**	**0.0**
	comp=Z,11nm,0.9s					
TOO	**Toolangi**	**33.54 160**	P	**P**	**02 35 24.4**	**+1.7**
TOO			pmax	pmax		
	comp=Z,24nm,1.1s					
UBPT	**Khong Chiam**	**33.69 310**	P	**P**	**02 35 23.6**	**-0.7**
RPSI	**Rantau Prapat**	**33.90 284**	P	**P**	**02 35 23.4**	**-2.7**
RPSI			IAmb	IAmb	02 35 28.7	
	comp=Z,39nm,0.9s					
PSI	**Prapat**	**33.93 285**	P	**P**	**02 35 23.4**	**-3.1**
PSI			pmax	pmax		
	comp=Z,39nm,0.9s					
JCJ	**Chichijima**	**34.76 17**	LR	LR	02 49 08.1	
	comp=Z,126nm,21.3s,baz=114,slow=35					
GSI	**Gunungsitoli**	**34.87 281**	P	**P**	**02 35 32.3**	**-2.2**
GSI			IAmb	IAmb	02 35 35.9	
	comp=Z,41nm,0.9s					
GSI	**Gunungsitoli**	**34.87 281**	P	**P**	**02 35 30.9**	**-3.6**
	comp=Z,43nm,1.0s					
SRIT	**Nakonsritamara**	**35.24 295**		**P**	**02 35 36.5**	**-1.2**
MLSI	**Meulaboh, Aceh**	**36.75 286**	P	**P**	**02 35 48.9**	**-1.7**
	comp=Z,126nm,1.1s					
DZM	**Mont Dzumac**	**37.03 119**	*e*LR	LR	02 46 01.9	
	comp=Z,386nm,33.6s					
SLVN	**Son La**	**38.71 316**		**P**	**02 36 05.4**	**-1.7**
SLVN			IAmb	IAmb	02 36 11.8	
	comp=Z,41nm,1.6s					
JNU	**Nakatsue**	**39.25 359**		**P**	**02 36 11.3**	**-0.1**
JNU	**Nakatsue**	**39.25 359**	LR	LR	02 54 07.2	
	comp=Z,84nm,18.8s,baz=168,slow=39					
JHJ	**Hachijo jima 2**	**39.99 11**	LR	LR	02 50 18.7	
	comp=Z,388nm,22.0s,baz=97,slow=32					
NJ2	**Nanjing**	**40.08 343**	*e*P	**P**	**02 36 19.5**	**+1.2**
NJ2			pmax	pmax		
	comp=Z,21nm,0.6s					
WHN	**Wuhan**	**40.25 337**	⇑P	**P**	**02 36 20.5**	**+0.8**
WHN			pP	**pP**	**02 36 36.5**	**+2.5**
WHN			pmax	pmax		
	comp=Z,160nm,1.0s					
CM31	**Chiang Mai Arr**	**40.60 308**	P	**P**	**02 36 22.4**	**-0

CD2			pmax	pmax		
	comp=Z,20nm,0.5s					
DL2	**Dalian**	**45.97 349**	P	**P**	**02 37 06.3**	**+0.6**
DL2			pmax	pmax		
	comp=Z,45nm,1.0s					
HNS	**HongShan**	**46.30 341**	⇑P	**P**	**02 37 08.3**	**-0.1**
HNS			S	**S**	**02 43 46.5**	**-4.2**
HNS			pmax	pmax		
	comp=Z,51nm,0.9s					
MSVF	**Nonsavu**	**46.63 108**	LR	LR	02 57 19.9	
	comp=Z,192nm,18.1s,baz=162,slow=37					
TIY	**Taiyuan**	**47.35 339**	*e*P	**P**	**02 37 17.0**	**+0.3**
TIY			pmax	pmax		
	comp=Z,35nm,0.7s					
BJT	**Baijiatuau**	**48.29 344**	P	**P**	**02 37 23.6**	**-0.2**
BJT			IAmb	IAmb	02 37 25.1	
	comp=Z,47nm,1.3s					
BJT	**Baijiatuau**	**48.29 344**	P	**P**	**02 37 23.6**	**-0.2**
BJT			pmax	pmax		
	comp=Z,47nm,1.3s					
BJT	**Baijiatuau**	**48.29 344**	P	**P**	**02 37 24.1**	**+0.3**
BJI	**Beijing**	**48.31 344**	P	**P**	**02 37 23.8**	**-0.1**
BJI			pmax	pmax		
	comp=Z,14nm,1.2s					
BJI			pmax	pmax		
	comp=Z,53nm,3.9s					
BJI			LR	LR		
	comp=Z,58nm,22.3s					
BJI			LR	LR		
	comp=Z,35nm,15.7s					
LZH	**Lanzhou**	**49.63 330**	*e*P	**P**	**02 37 34.8**	**+0.5**
LZH			pP	sP	02 37 53.0	-3.0
LZH			pmax	pmax		
	comp=Z,40nm,1.3s					
LZH			pmax	pmax		
	comp=Z,210nm,4.8s					
LZH			LR	LR		
	comp=Z,200nm,14.1s					
LZH			LR	LR		
	comp=Z,150nm,13.7s					
LZH			LR	LR		
	comp=Z,200nm,14.8s					
SHL	**Shillong**	**50.00 311**		**P**	**02 37 35.5**	**-1.8**
SHL	**Shillong**	**50.00 311**	P	**P**	**02 37 36.3**	**-1.1**
	SNR=16					
SHL	**Shillong**	**50.00 311**	P	**P**	**02 37 35.5**	**-1.8**
SHL			pmax	pmax		
	comp=Z,65nm,0.8s					
CN2	**Changchun**	**50.22 354**	P	**P**	**02 37 39.5**	**+1.0**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.8s					
USRK	**Ussuriysk Ar.**	**50.30 0**	P	**P**	**02 37 39.6**	**+0.6**
	comp=Z,6.6nm,0.8s,baz=186,slow=8.3,SNR=11					
USRK			LR	LR	02 57 24.7	
	comp=Z,108nm,21.9s,baz=173,slow=34					
	comp=Z,6.6nm,0.8s					
HHC	**Hu-ho-hao-te**	**50.46 340**	*e*P	**P**	**02 37 41.0**	**+0.5**
HHC			pmax	pmax		
	comp=Z,26nm,0.9s					
HHC			pmax	pmax		
	comp=Z,110nm,5.1s					
MDJ	**Mudanjiang**	**50.75 358**	P	**P**	**02 37 43.3**	**+0.8**
MDJ			pP	pP	02 37 58.3	+0.7
MDJ			PP	**PP**	**02 39 37.5**	**-1.8**
MDJ			S	**S**	**02 44 54.5**	**+1.3**
MDJ			SS	**SS**	**02 48 29.0**	**+0.3**
MDJ			pmax	pmax		
	comp=Z,17nm,0.8s					
BTO	**Baotou**	**50.78 339**	*e*P	**P**	**02 37 43.0**	**+0.1**
BTO			pP	**pP**	**02 37 59.5**	**+1.7**
BTO			sP	**sP**	**02 38 03.8**	**-0.7**
BTO			S	**S**	**02 44 55.5**	**+1.5**
BTO			SS	**SS**	**02 48 28.3**	**-1.2**
BTO			pmax	pmax		
	comp=Z,32nm,0.5s					
BTO			pmax	pmax		
	comp=Z,200nm,5.4s					
BTO			LR	LR		
	comp=Z,150nm,4.5s					
BTO			LR	LR		
	comp=Z,220nm,7.1s					
ASAJ	**Asahikawa**	**51.18 10**	LR	LR	02 58 13.3	
	comp=Z,130nm,21.9s,baz=164,slow=35					
URZ	**Urewera**	**51.93 135**	LR	LR	03 01 49.9	
	comp=Z,132nm,18.4s,baz=30,slow=38					
XLT	**XiLinHaoTe**	**51.95 346**	*e*P	**P**	**02 37 51.8**	**+0.2**
XLT			pmax	pmax		
	comp=Z,10.0nm,1.1s					
BNX	**BinXian**	**51.98 356**	⇓P	**P**	**02 37 52.0**	**+0.4**
BNX			pmax	pmax		
	comp=Z,15nm,1.0s					
LSA	**Lhasa**	**52.89 315**	P	**P**	**02 37 59.0**	**-0.2**
LSA			pmax	pmax		
	comp=Z,33nm,1.0s					
LSA	**Lhasa**	**52.89 315**	P	**P**	**02 37 59.4**	**+0.2**
LSA	**Lhasa**	**52.89 315**	P	**P**	**02 37 59.6**	**+0.4**
YSS	**Yuzhno-Sakhali**	**53.96 9**	*e*P	P	02 38 12.0	+5.8
YSS			pmax	pmax		
	comp=Z,20nm,0.8s					
GTA	**Gaotai**	**54.22 330**	P	**P**	**02 38 09.5**	**+1.1**
GTA			pP	sP	02 38 26.5	-3.7
GTA			ScP	**ScP**	**02 43 05.5**	**+0.7**
GTA			pmax	pmax		
	comp=Z,34nm,1.0s					
GTA			LR	LR		
	comp=Z,67nm,16.3s					
GTA			LR	LR		
	comp=Z,82nm,16.7s					
GOMU	**GeErMu**	**54.63 323**	P	**P**	**02 38 11.8**	**+0.1**
GOMU			pmax	pmax		
	comp=Z,13nm,0.9s					
EVN	**Everest**	**55.09 310**		**P**	**02 38 16.5**	**+0.9**
KLR	**Kul'dur**	**55.34 0**	*ce*P	**P**	**02 38 16.7**	**+0.6**
KLR			pmax	pmax		
	comp=Z,18nm,1.7s					
HEH	**HeiHe**	**56.48 357**	*e*P	**P**	**02 38 24.5**	**+0.3**
HEH			pmax	pmax		
	comp=Z,13nm,1.3s					
HYB	**Hyderabad**	**57.52 295**	*e*P	**P**	**02 38 30.9**	**-1.4**
HYB			IAmb	IAmb	02 38 31.6	
	comp=Z,41nm,1.2s					
ULN	**Ulaanbaatar**	**58.17 341**		**P**	**02 38 36.9**	**+0.5**
ULN			IAmb	IAmb	02 38 38.6	
	comp=Z,32nm,0.8s					
ULN	**Ulaanbaatar**	**58.17 341**	P	**P**	**02 38 37.7**	**+1.3**
ULN	**Ulaanbaatar**	**58.17 341**	*ce*P	**P**	**02 38 37.4**	**+0.9**
ULN			pmax	pmax		
	comp=Z,42nm,1.0s					
ULN	**Ulaanbaatar**	**58.17 341**	P	**P**	**02 38 37.3**	**+0.9**
ULN			pP	**pP**	**02 38 53.6**	**+2.0**
SONM	**Songino Array**	**58.36 340**		**P**	**02 38 37.8**	**+0.1**
SONM			IAmb	IAmb	02 38 39.8	
	comp=Z,28nm,1.2s					
SONM	**Songino Array**	**58.36 340**	P	**P**	**02 38 38.6**	**+0.9**
	comp=Z,16nm,1.0s,baz=160,slow=6.6,SNR=63					
	comp=Z,16nm,1.0s					
ZEA	**Zeya**	**59.97 357**	*e*P	**P**	**02 38 47.8**	**-0.7**
ZEA			pmax	pmax		
	comp=Z,10.0nm,1.3s					
DRV	**Dumont d'Urvil**	**60.51 176**	P	**P**	**02 38 53.9**	**+1.9**
DRV			pP	**pP**	**02 39 09.5**	**+0.6**
DRV			PcP	**PcP**	**02 39 38.8**	**+2.7**
ZAK	**Zakamensk**	**61.60 340**	*e*P	**P**	**02 39 00.1**	**+0.3**
ZAK			pmax	pmax		
	comp=Z,12nm,1.3s					
PETK	**Petropavlovsk-**	**63.20 17**	P	**P**	**02 39 11.3**	**+1.0**
PETK	**Petropavlovsk-**	**63.20 17**	P	**P**	**02 39 12.1**	**+1.8**
	comp=Z,6.2nm,0.9s,baz=170,slow=4.4,SNR=6.3					
PETK			PcP	**PcP**	**02 39 45.0**	**-2.2**
	comp=Z,6.6nm,0.8s,baz=191,slow=5.6,SNR=3.9					
PETK			LR	LR	03 01 57.7	
	comp=Z,30nm,21.9s,baz=206,slow=32					
	comp=Z,6.2nm,0.9s					
MOY	**Mondy**	**63.47 339**	*e*P	**P**	**02 39 13.5**	**+1.2**
MOY			pmax	pmax		
	comp=Z,51nm,1.8s					
WMQ	**Urumqi**	**63.76 326**	*e*P	**P**	**02 39 15.3**	**+1.0**
WMQ			pP	pP	02 39 30.5	+0.5
WMQ			PP	**PP**	**02 41 38.5**	**+3.1**
WMQ			ScP		02 43 47.5	
WMQ			pmax	pmax		
	comp=Z,110nm,1.1s					
WMQ			pmax	pmax		
	comp=Z,240nm,3.9s					
WMQ			LR	LR		
	comp=Z,98nm,24.2s					
WMQ	**Urumqi**	**63.76 326**	P	**P**	**02 39 15.5**	**+1.2**
BOD	**Bodaibo**	**65.53 350**	*e*P	**P**	**02 39 25.1**	**-0.3**
BOD			pmax	pmax		
	comp=Z,21nm,1.2s					
WUS	**Wushi**	**67.34 320**	P	**P**	**02 39 37.7**	**+0.1**
WUS			IAmb	IAmb	02 39 39.7	
	comp=Z,60nm,1.2s					
WUS	**Wushi**	**67.34 320**	P	**P**	**02 39 38.4**	**+0.8**
WUS			pP	**pP**	**02 39 54.8**	**+1.7**
WUS			PcP	**PcP**	**02 40 07.0**	**+2.2**
MA2	**Magadan**	**67.44 10**	LR	LR	03 11 18.5	
	comp=Z,18nm,18.2s,baz=264,slow=38					
ZSN	**Zaisan**	**67.59 328**	*e*P	**P**	**02 39 39.4**	**+0.6**
ZSN			pmax	pmax		
	comp=Z,11nm,0.8s					
ZSN	**Zaisan**	**67.59 328**	*e*P	**P**	**02 39 39.5**	**+0.6**
	comp=Z,11nm,0.8s					
NIL	**Nilore**	**68.05 310**		**P**	**02 39 41.8**	**-0.3**
NIL			IAmb	IAmb	02 39 43.3	
	comp=Z,40nm,1.0s					
NIL	**Nilore**	**68.05 310**	P	**P**	**02 39 41.8**	**-0.3**
NIL			pmax	pmax		
	comp=Z,40nm,1.0s					
NIL	**Nilore**	**68.05 310**	P	**P**	**02 39 42.0**	**-0.1**
NIL			PcP	**PcP**	**02 40 09.1**	**+1.2**
YAK	**Yakutsk**	**68.19 359**	*e*P	**P**	**02 39 42.1**	**-0.1**
YAK			*e**PP	**pP**	**02 39 58.1**	**+0.2**
YAK			*e*		02 42 11.9	
YAK			*e*S	**S**	**02 48 36.1**	**-1.1**
YAK			*e**SS	**sS**	**02 49 06.0**	**+2.3**
YAK			*e*SS	**SS**	**02 53 01.0**	**-0.4**
YAK			pmax	pmax		
	comp=Z,18nm,0.8s					
YAK			pmax	pmax		
	comp=N,6.0nm,0.9s					
YAK			pmax	pmax		
	comp=Z,13nm,0.5s					
YAK			smax	smax		
	comp=N,11nm,1.1s					
YAK			smax	smax		
	comp=E,43nm,1.5s					
SHLS	**Shalkode**	**68.22 321**	*e*P	**P**	**02 39 41.8**	**-1.2**
SHLS	**Shalkode**	**68.22 321**	*e*P	**P**	**02 39 41.9**	**-1.2**
UZB	**Uzynbulak**	**68.49 321**	*e*P	**P**	**02 39 45.2**	**+0.5**
UZB			pmax	pmax		
	comp=Z,14nm,1.2s					
UZB	**Uzynbulak**	**68.49 321**	*e*P	**P**	**02 39 45.2**	**+0.5**
	comp=Z,14nm,1.2s					
TARG	**Taragay, Kyrgy**	**68.53 319**	P	**P**	**02 39 44.6**	**-0.8**
TARG			IAmb	IAmb	02 39 57.2	
	comp=Z,34nm,1.0s					
TARG	**Taragay, Kyrgy**	**68.53 319**	P	**P**	**02 39 44.6**	**-0.8**
TARG			pmax	pmax		
	comp=Z,34nm,1.0s					
PRZ	**Przheval'sk**	**68.53 320**		**P**	**02 39 46.1**	**+1.1**
PRZ	**Przheval'sk**	**68.53 320**	P	**P**	**02 39 46.2**	**+1.1**
PRZ			pmax	pmax		
	comp=Z,87nm,1.0s					
MK31	**Makanchi Array**	**68.59 326**	*ce*P	**P**	**02 39 45.8**	**+0.6**
MKAR	**Makanchi Array**	**68.59 326**		**P**	**02 39 45.8**	**+0.7**
MKAR	**Makanchi Array**	**68.59 326**	P	**P**	**02 39 46.0**	**+0.8**
	comp=Z,64nm,0.8s,baz=124,slow=8.0,SNR=397					
MKAR			S	**S**	**02 48 35.7**	**-7.1**
	comp=Z,0.2nm,0.6s,baz=126,slow=7.4,SNR=1.4					
	comp=Z,64nm,0.8s					
MKAR	**Makanchi Array**	**68.59 326**	P	**P**	**02 39 46.0**	**+0.8**
KSH	**Kashi**	**68.66 317**	P	**P**	**02 39 47.3**	**+1.4**
KSH			pmax	pmax		
	comp=Z,61nm,0.9s					
MAKZ	**Makanchi**	**68.78 326**		**P**	**02 39 46.4**	**+0.1**
MAKZ	**Makanchi**	**68.78 326**	P	**P**	**02 39 46.4**	**+0.1**
MAKZ			pmax	pmax		
	comp=Z,81nm,1.0s					
MAKZ	**Makanchi**	**68.78 326**	P	**P**	**02 39 47.0**	**+0.7**
MAKZ			PcP	**PcP**	**02 40 13.1**	**+2.6**
SATY	**Saty**	**68.83 321**	*e*P	**P**	**02 39 47.3**	**+0.5**
SATY	**Saty**	**68.83 321**	*e*P	**P**	**02 39 47.3**	**+0.5**
ZHN	**Zhinishke**	**68.87 321**	*e*P	**P**	**02 39 47.5**	**+0.4**
ZHN			pmax	pmax		
	comp=Z,10.0nm,0.7s					
ZHN	**Zhinishke**	**68.87 321**	*e*P	**P**	**02 39 47.5**	**+0.4**
	comp=Z,9.6nm,0.7s					
KDJ	**Kajisay**	**69.13 320**		**P**	**02 39 49.4**	**+0.6**
KDJ			IAmb	IAmb	02 39 51.0	
	comp=Z,62nm,1.0s					
KDJ	**Kajisay**	**69.13 320**	P	**P**	**02 39 49.4**	**+0.6**
KDJ			pmax	pmax		
	comp=Z,62nm,1.0s					
NRN	**Naryn**	**69.56 318**		**P**	**02 39 51.7**	**+0.1**
NRN			IAmb	IAmb	02 39 53.3	
	comp=Z,46nm,1.0s					
NRN	**Naryn**	**69.56 318**	P	**P**	**02 39 51.7**	**+0.1**
NRN			pmax	pmax		
	comp=Z,46nm,1.0s					
TNSS	**Tian-Shan**	**69.74 320**	*e*P	**P**	**02 39 52.9**	**+0.1**
TNSS	**Tian-Shan**	**69.74 320**	*e*P	**P**	**02 39 52.9**	**+0.1**
ARXS	**Arharly**	**69.79 322**	*e*P	**P**	**02 39 51.5**	**-1.2**
AAA	**Alma-Ata**	**69.84 321**	*e*P	**P**	**02 39 53.5**	**+0.5**
AAA	**Alma-Ata**	**69.84 321**	*e*P	**P**	**02 39 53.6**	**+0.5**
TDK	**Taldyqorghan**	**69.85 323**	*e*P	**P**	**02 39 53.5**	**+0.6**
TDK	**Taldyqorghan**	**69.85 323**	*e*P	**P**	**02 39 53.6**	**+0.6**
BOOM	**Boomskoye usch**	**70.11 319**		**P**	**02 39 55.7**	**+0.9**
BOOM			IAmb	IAmb	02 39 56.9	
	comp=Z,63nm,1.0s					
BOOM	**Boomskoye usch**	**70.11 319**	P	**P**	**02 39 55.7**	**+0.9**
BOOM			pmax	pmax		
	comp=Z,63nm,1.0s					
CHKK	**Chushkaly**	**70.12 321**	*e*P	**P**	**02 39 55.1**	**+0.5**
CHKK	**Chushkaly**	**70.12 321**	*e*P	**P**	**02 39 55.1**	**+0.5**
TKM2	**Tokmak 2**	**70.54 320**	P	**P**	**02 39 58.4**	**+0.9**
	SNR=52					
KBK	**Karagaybulak**	**70.83 319**	P	**P**	**02 40 00.1**	**+0.9**
	SNR=13					
SEY	**Seymchan**	**70.86 10**	*ce*P	**P**	**02 40 00.5**	**+1.8**
SEY			pmax	pmax		
	comp=Z,16nm,1.7s					
UCH	**Uchtor**	**70.91 319**	P	**P**	**02 40 01.4**	**+1.4**
	SNR=12					
AAK	**Ala-Archa**	**71.12 319**		**P**	**02 40 01.3**	**+0.4**
AAK			IAmb	IAmb	02 40 03.2	
	comp=Z,57nm,1.1s					
AAK	**Ala-Archa**	**71.12 319**	P	**P**	**02 40 01.5**	**+0.5**
	comp=Z,38nm,0.9s,baz=122,slow=5.1,SNR=69					
	comp=Z,38nm,0.9s					
AAK	**Ala-Archa**	**71.12 319**	P	**P**	**02 40 02.2**	**+1.2**
AAK	**Ala-Archa**	**71.12 319**	P	**P**	**02 40 02.0**	**+1.0**
	SNR=42					
AAK	**Ala-Archa**	**71.12 319**	*ce*P	**P**	**02 40 02.0**	**+1.0**
AAK			pmax	pmax		
	comp=Z,62nm,1.0s					
AAK	**Ala-Archa**	**71.12 319**	*i* P	**P**	**02 40 01.9**	**+1.0**
	SNR=51					
AAK	**Ala-Archa**	**71.12 319**	P	**P**	**02 40 02.0**	**+1.0**
CHMS	**Chumysh**	**71.12 319**	P	**P**	**02 40 01.5**	**+0.7**
	SNR=10					
AML	**Almayashu**	**71.41 318**	P	**P**	**02 40 04.3**	**+1.3**
	SNR=142					
USP	**Ospenovka**	**71.41 320**	P	**P**	**02 40 03.4**	**+0.9**
	SNR=89					
SGDS	**Sogindy**	**71.42 320**	*e*P	**P**	**02 40 03.0**	**+0.4**
SGDS			pmax	pmax		
	comp=Z,7.0nm,0.8s					
SGDS	**Sogindy**	**71.42 320**	*e*P	**P**	**02 40 03.0**	**+0.4**
	comp=Z,7.2nm,0.8s					
ARSB	**Arslanbob**	**71.52 317**		**P**	**02 40 03.6**	**+0.2**
ARSB	**Arslanbob**	**71.52 317**	P	**P**	**02 40 03.6**	**+0.2**
ARSB			pmax	pmax		
	comp=Z,122nm,0.9s					
DRK	**Karamyk**	**71.53 315**	P	**P**	**02 40 03.8**	**+0.1**
DRK	**Karamyk**	**71.53 315**	P	**P**	**02 40 03.8**	**+0.1**
DRK			pmax	pmax		
	comp=Z,70nm,0.8s					
EKS2	**Erkin-Say**	**71.60 319**	P	**P**	**02 40 05.2**	**+1.4**
	SNR=36					
KBL	**Kabul**	**71.61 309**		**P**	**02 40 03.9**	**-0.3**
KBL	**Kabul**	**71.61 309**	P	**P**	**02 40 04.6**	**+0.4**
	SNR=40					
KBL	**Kabul**	**71.61 309**	P	**P**	**02 40 03.9**	**-0.3**
KBL			pmax	pmax		
	comp=Z,86nm,0.9s					
ZAA0	**Zalesovo Array**	**71.74 333**		**P**	**02 40 03.6**	**-0.6**
ZAA0			IAmb	IAmb	02 40 05.0	
	comp=Z,42nm,1.1s					
ZALV	**Zalesovo Beam**	**71.74 333**		**P**	**02 40 03.6**	**-0.5**
ZALV	**Zalesovo Beam**	**71.74 333**	P	**P**	**02 40 03.9**	**-0.3**
	comp=Z,21nm,0.8s,baz=108,slow=4.8,SNR=79					
ZALV			S	**S**	**02 49 14.4**	**-4.7**
	comp=Z,1.1nm,0.8s,baz=138,slow=14,SNR=3.6					
	comp=Z,21nm,0.8s					
GAR	**Garm**	**72.39 314**		**P**	**02 40 08.4**	**-0.2**
KURBB	**Kurchatov Arra**	**72.83 328**	P	**P**	**02 40 10.8**	**0.0**
	comp=Z,34nm,0.9s,baz=127,slow=4.7,SNR=256					
KURBB			S	S	02 49 22.4	-9.4
	comp=Z,0.2nm,0.3s,baz=113,slow=11,SNR=5.2					
	comp=Z,34nm,0.9s					
KURK	**Kurchatov**	**72.83 328**		**P**	**02 40 10.3**	**-0.5**
KURK			IAmb	IAmb	02 40 12.3	
	comp=Z,55nm,0.9s					
KURK	**Kurchatov**	**72.83 328**	P	**P**	**02 40 11.3**	**+0.5**
KURK	**Kurchatov**	**72.83 328**	P	**P**	**02 40 10.3**	**-0.5**
KURK			pmax	pmax		
	comp=Z,55nm,1.0s					
VNDA	**Vanda**	**72.91 173**		**P**	**02 40 12.3**	**+1.5**
VNDA	**Vanda**	**72.91 173**	P	**P**	**02 40 12.5**	**+1.7**
	comp=Z,1.2nm,0.5s,baz=325,slow=7.0,SNR=17					
	comp=Z,1.2nm,0.5s					
VNDA	**Vanda**	**72.91 173**	P	**P**	**02 40 12.3**	**+1.5**
VNDA			pmax	pmax		
	comp=Z,12nm,1.0s					
SIMJ	**Simiganj**	**73.19 313**		**P**	**02 40 13.2**	**-0.2**
DZA	**Taraz**	**73.31 318**	*e*P	**P**	**02 40 14.3**	**+0.5**
DZA			pmax	pmax		
	comp=Z,9.0nm,0.6s					
DZA	**Taraz**	**73.31 318**	*e*P	**P**	**02 40 14.4**	**+0.5**
	comp=Z,9.4nm,0.6s					
IUG	**Iuzhnay**	**73.87 317**	*e*P	**P**	**02 40 17.6**	**+0.4**
IUG			pmax	pmax		
	comp=Z,17nm,1.2s					
IUG	**Iuzhnay**	**73.87 317**	*e*P	**P**	**02 40 17.7**	**+0.4**
	comp=Z,17nm,1.2s					
KK31	**Karatay Array**	**73.95 318**		**P**	**02 40 17.1**	**-0.5**
KK31			IAmb	IAmb	02 40 19.2	
	comp=Z,48nm,1.1s					
KK31	**Karatay Array**	**73.95 318**	P	**P**	**02 40 17.1**	**-0.5**
KK31			pmax	pmax		
	comp=Z,48nm,1.1s					
KKAR	**Karatay Array**	**73.95 318**		**P**	**02 40 17.2**	**-0.4**
KKAR			IAmb	IAmb	02 40 19.2	
	comp=Z,50nm,1.1s					
KKAR	**Karatay Array**	**73.95 318**	P	**P**	**02 40 17.2**	**-0.4**
KKAR			pmax	pmax		
	comp=Z,50nm,1.1s					
BRZS	**Berezniki**	**75.71 325**	*e*P	**P**	**02 40 27.9**	**+0.3**
BRZS	**Berezniki**	**75.71 325**	*e*P	**P**	**02 40 27.1**	**-0.5**
MSEY	**Mahe Island**	**75.80 267**	P	**P**	**02 40 29.8**	**+0.9**
MSEY	**Mahe Island**	**75.80 267**	P	**P**	**02 40 29.1**	**+0.3**
JLN	**Jalan Bani Buh**	**76.13 295**	P	**P**	**02 40 30.6**	**+0.1**
MAW	**Mawson**	**76.17 202**	LR	LR	03 11 57.7	
	comp=Z,83nm,20.4s,baz=50,slow=34					
WBK	**Wadi Bani Khal**	**76.63 295**	P	**P**	**02 40 33.9**	**+0.5**
WSAR	**Wadi Sarin**	**77.07 295**	P	**P**	**02 40 36.6**	**+0.7**
MHTO	**MHTO**	**77.19 293**	P	**P**	**02 40 36.4**	**-0.1**
JMDO	**Jabal Madar**	**77.36 295**	P	**P**	**02 40 38.3**	**+0.8**
DQM	**DQM**	**77.37 292**	P	**P**	**02 40 37.9**	**+0.3**
PPT2	**Papeete2**	**77.42 107**	*e*LR	LR	03 04 41.4	
	comp=Z,131nm,40.2s					
PPT2			*e*LR	LR	03 04 42.2	
	comp=Z,311nm,42.5s					
SMDO	**Samad**	**77.56 295**	P	**P**	**02 40 39.0**	**+0.3**
BIDO	**Bidbid**	**77.58 296**	P	**P**	**02 40 39.2**	**+0.5**
	SNR=8.2					
TIXI	**Tiksi**	**77.85 359**		**P**	**02 40 39.2**	**0.0**
TIXI	**Tiksi**	**77.85 359**	*ce*P	**P**	**02 40 39.3**	**+0.2**
TIXI			pmax	pmax		
	comp=Z,15nm,1.7s					
BILL	**Bilibino**	**78.11 13**	*i* P	**P**	**02 40 41.8**	**+1.2**
BILL			pmax	pmax		
	comp=Z,2.0nm,0.9s					
BSY	**Bisya**	**78.25 295**	P	**P**	**02 40 42.6**	**+0.1**
HOQ	**Hoqain**	**78.33 296**	P	**P**	**02 40 43.3**	**+0.4**
BVAR	**Borovoye Array**	**78.40 327**	P	**P**	**02 40 42.8**	**+0.2**
	comp=Z,33nm,0.9s,baz=123,slow=5.5,SNR=93					
	comp=Z,33nm,0.9s					
BRVK	**Borovoye**	**78.47 327**		**P**	**02 40 42.9**	**-0.1**
BRVK			IAmb	IAmb	02 40 44.4	
	comp=Z,42nm,1.0s					
BRVK	**Borovoye**	**78.47 327**	P	**P**	**02 40 43.4**	**+0.4**
BRVK	**Borovoye**	**78.47 327**	*ce*P	**P**	**02 40 42.8**	**-0.1**
BRVK			pmax	pmax		
	comp=Z,61nm,1.3s					
ARQ	**Araqi**	**78.99 295**	P	**P**	**02 40 47.0**	**+0.6**
SOHO	**SOHO**	**79.14 296**	P	**P**	**02 40 47.8**	**+0.5**
SOHO	**SOHO**	**79.14 296**	*i* P	**P**	**02 40 46.5**	**-0.7**
	SNR=6.2					
DMTO	**DMTO**	**79.37 289**	P	**P**	**02 40 48.7**	**0.0**
UOSS	**Minazif**	**79.60 297**		**P**	**02 40 48.9**	**-0.9**
UOSS			IAmb	IAmb	02 40 51.0	
	comp=Z,28nm,1.0s					
UOSS	**Minazif**	**79.60 297**	P	**P**	**02 40 50.1**	**+0.3**
UOSS	**Minazif**	**79.60 297**	P	**P**	**02 40 49.7**	**-0.1**
HATD	**Hatta, Dubai**	**79.64 297**	P	**P**	**02 40 50.9**	**+0.8**
HATD	**Hatta, Dubai**	**79.64 297**	P	**P**	**02 40 50.6**	**+0.5**
ASHO	**Ashiyiah**	**79.68 296**	P	**P**	**02 40 51.1**	**+0.8**
ASHO	**Ashiyiah**	**79.68 296**	*i* P	**P**	**02 40 50.7**	**+0.4**
	SNR=6.6					
BANOM	**Banah**	**79.72 298**	P	**P**	**02 40 51.2**	**+0.7**
BANOM	**Banah**	**79.72 298**	*i* P	**P**	**02 40 50.5**	**0.0**
	SNR=9.0					
MSFE	**Esma-Masafi**	**79.73 297**	*i* P	**P**	**02 40 51.3**	**+0.8**
	SNR=8.1					
MASF	**Masafi**	**79.73 297**	P	**P**	**02 40 51.7**	**+1.2**
SHME	**Shamm**	**79.89 298**	P	**P**	**02 40 52.0**	**+0.7**
SHME	**Shamm**	**79.89 298**	*i* P	**P**	**02 40 51.6**	**+0.3**
	SNR=6.5					
RBK	**Rabkut**	**80.03 289**	P	**P**	**02 40 52.8**	**+0.5**
	SNR=9.8					
NAZ	**Nazwa, Dubai**	**80.09 297**	P	**P**	**02 40 53.0**	**+0.6**
NAZ	**Nazwa, Dubai**	**80.09 297**	P	**P**	**02 40 52.6**	**+0.2**
UMZA	**Um Al Zommool**	**80.09 294**	P	**P**	**02 40 52.4**	**-0.1**
FAQ	**Al Faqa, Dubai**	**80.11 296**	P	**P**	**02 40 52.8**	**+0.3**
FAQ	**Al Faqa, Dubai**	**80.11 296**	P	**P**	**02 40 52.6**	**+0.1**
UMQ	**Umm Al-Quwin**	**80.20 297**	P	**P**	**02 40 52.4**	**-0.6**
DOK	**Doka**	**80.29 290**	P	**P**	**02 40 53.3**	**-0.3**
	SNR=9.8					
ASUD	**Al Ashush, Dub**	**80.31 296**	P	**P**	**02 40 54.4**	**+0.8**
ASUD	**Al Ashush, Dub**	**80.31 296**	P	**P**	**02 40 54.1**	**+0.5**
WHFO	**Wadi Hawf**	**80.51 289**	P	**P**	**02 40 54.5**	**-0.4**
	SNR=11					
ABTO	**Aybut**	**80.86 289**	P	**P**	**02 40 57.0**	**+0.2**
	SNR=15					
NRIK	**Noril'sk**	**81.33 346**		**P**	**02 40 58.6**	**+0.5**
NRIK	**Noril'sk**	**81.33 346**	P	**P**	**02 40 57.9**	**-0.2**
	comp=Z,7.3nm,0.8s,baz=133,slow=4.3,SNR=18					
NRIK			LR	LR	03 18 06.2	
	comp=Z,69nm,21.7s,baz=148,slow=36					
	comp=Z,7.3nm,0.8s					
MZR	**Muzera**	**81.67 294**	*i* P	**P**	**02 41 00.7**	**-0.2**
	SNR=7.1					
JRN	**

ARTI S **SKSac** **02 51 42.0 -1.0**
ARTI pmax pmax
comp=Z,18nm,0.8s
J17K VABM Dome 86.53 25 P **P** **02 41 25.9 +1.3**
J17K IAmb IAmb 02 42 00.8
comp=Z,13nm,0.8s
K17K Iditarod 86.61 26 P **P** **02 41 26.8 +1.7**
K17K IAmb IAmb 02 42 01.2
comp=Z,20nm,1.0s
TAOE Nuku Hiva Isla 87.25 99 *e*LR LR 03 09 15.1
comp=Z,49nm,25.2s
KDAK Kodiak Island 87.80 31 LR LR 03 17 18.2
comp=Z,57nm,19.3s,baz=104,slow=33
L19K White Mountain 87.95 27 P **P** **02 41 33.5 +1.9**
H19K Roundabout Mou 88.33 23 P **P** **02 41 32.6 -0.7**
RAYN Ar Rayn 89.00 294 **P** **02 41 37.3 -0.1**
RAYN IAmb IAmb 02 41 38.5
comp=Z,38nm,1.3s
RAYN Ar Rayn 89.00 294 P **P** **02 41 37.6 +0.2**
RAYN Ar Rayn 89.00 294 P **P** **02 41 37.3 -0.1**
RAYN pmax pmax
comp=Z,38nm,1.3s
RAYN Ar Rayn 89.00 294 *i* P **P** **02 41 37.0 -0.5**
SNR=26
ELIB Princess Elisa 89.61 197 *d*P **P** **02 41 41.6 +2.1**
comp=Z,5.8nm,0.9s
AKT Akhty 89.63 312 *e*P **P** **02 41 40.0 -0.1**
AKT pmax pmax
comp=Z,17nm,1.3s
RKT Rikitea 90.62 113 *e*LR LR 03 10 49.4
comp=Z,1μm,41.5s
E22K Anaktuvuk Pass 90.85 21 P **P** **02 41 46.1 +0.9**
E22K IAmb IAmb 02 42 16.5
comp=Z,26nm,1.9s
G23K Bananza Creek 91.18 23 P **P** **02 41 47.9 +1.2**
KIRV Kirov 91.33 329 P **P** **02 41 46.1 -1.3**
comp=Z,9.2nm,0.7s,baz=14,slow=1.1,SNR=4.9
comp=Z,9.2nm,0.7s
KIRV Kirov 91.33 329 *ce*P **P** **02 41 46.3 -1.1**
BELG Belogornoye 91.34 322 *i* P **P** **02 41 48.6 +1.0**
BELG pmax pmax
comp=Z,3.0nm,1.0s
E23K Chandalar 91.64 22 **P** **02 41 48.6 -0.2**
E23K IAmb IAmb 02 42 27.4
comp=Z,25nm,1.6s
GNI Garni 91.69 310 P **P** **02 41 49.3 -0.5**
comp=Z,2.4nm,0.7s,baz=74,slow=18,SNR=4.0
comp=Z,2.4nm,0.7s
GNI Garni 91.69 310 P **P** **02 41 49.7 -0.1**
ILAR Eielson Array 92.05 25 P **P** **02 41 50.0 -0.7**
comp=Z,0.4nm,0.6s,baz=274,slow=5.0,SNR=8.3
ILAR LR LR 03 19 47.8
comp=Z,18nm,19.8s,baz=282,slow=33
comp=Z,0.4nm,0.6s
GEVA Gevas 92.79 308 **P** **02 41 54.6 -0.4**
E25K Arctic Village 93.14 22 P **P** **02 41 57.1 +1.4**
E25K IAmb IAmb 02 42 12.9
comp=Z,20nm,1.8s
KIBK Kibwezi 93.34 267 **P** **02 41 57.2 -0.7**
KIBK IAmb IAmb 02 42 00.1
comp=Z,9.6nm,1.1s
KIBK Kibwezi 93.34 267 P **P** **02 41 58.7 +0.8**
BMAR Burnt Mountain 93.41 23 P **P** **02 41 57.8 +0.8**
J26L Joseph Creek 93.42 26 P **P** **02 41 57.8 +0.7**
KBZ Khabaz 93.44 313 P **P** **02 41 57.0 -0.5**
comp=Z,1.5nm,0.8s,baz=126,slow=4.3,SNR=4.8
comp=Z,1.5nm,0.8s
GURO Guroymak-BITLI 93.62 308 **P** **02 41 58.3 -0.4**
GURO IAmb IAmb 02 42 01.4
comp=Z,21nm,1.3s
KIV Kislovodsk 93.62 314 *e*P **P** **02 41 59.5 +1.0**
KIV pmax pmax
comp=Z,3.0nm,1.1s
G26K Porcupine Rive 93.65 23 P **P** **02 41 59.3 +1.4**
G26K IAmb IAmb 02 42 33.5
comp=Z,11nm,1.2s
KOPT Kop Dagi 94.92 310 **P** **02 42 04.7 -0.2**
KOPT IAmb IAmb 02 42 07.0
comp=Z,18nm,1.5s
D27M Malcolm River 94.94 21 P **P** **02 42 04.0 0.0**
I28M Miner Creek 95.05 25 P **P** **02 42 05.2 +0.6**
I28M IAmb IAmb 02 42 39.6
comp=Z,15nm,1.4s
I29M Ogilvie Camp, 95.72 25 P **P** **02 42 08.3 +0.7**
I29M IAmb IAmb 02 42 42.2
comp=Z,7.8nm,1.1s
KLMR Klimovskoe 96.54 331 *e*P **P** **02 42 08.0 -3.3**
KLMR pmax pmax
comp=Z,11nm,0.9s
SNAA Sanae 96.69 193 *i* P **P** **02 42 13.9 +1.9**
SNAA pmax pmax
comp=Z,3.0nm,1.1s
ASF Jabal al Asfar 97.37 302 LR LR 03 31 40.9
comp=Z,31nm,20.6s,baz=143,slow=39
MOS Moscow 97.47 325 *e*P **P** **02 42 12.8 -2.8**
MOS *e* 02 46 13.9
OBN Obninsk 98.08 325‖ *e*P **P** **02 42 17.2 -1.2**
OBN *e* 02 42 26.6
OBN *PP **pP** **02 42 34.0 -1.2**
OBN 02 46 14.0
OBN S **SKSac** **02 52 56.0 +5.7**
OBN SS **SS** **03 00 34.0 +10**
OBN SSS SSS 03 04 17.0
OBN pmax pmax
comp=Z,6.0nm,0.8s
MMAI Mount Meron Ar 98.66 302 LR LR 03 30 27.8
comp=Z,28nm,21.9s,baz=103,slow=38
EIL Elat 98.93 299 LR LR 03 32 29.6
comp=Z,30nm,19.9s,baz=72,slow=39
BRTR Keskin Array B 100.19 309 *i* P **Pdif** **02 42 29.8 +1.4**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 101.53 340 P **Pdif** **02 42 33.0 -0.5**
comp=Z,0.6nm,0.4s,baz=78,slow=4.9,SNR=10.0
ARCES PKiKP **PKiKP** **02 46 57.4 +0.3**
comp=Z,2.8nm,0.9s,baz=69,slow=2.2,SNR=5.3
ARCES ARCESS Array B 101.53 340 P **Pdif** **02 42 33.0 -0.5**
AKASG Malin Array Be 102.76 320 Pdiff **Pdif** **02 42 37.5 -1.9**
comp=Z,0.5nm,0.4s,baz=69,slow=5.1,SNR=3.1
FINES FINESS Array B 102.97 332 Pdiff **Pdif** **02 42 38.7 -1.3**
comp=Z,1.2nm,0.7s,baz=97,slow=5.9,SNR=4.7
FINES PKiKP **PKiKP** **02 46 58.9 -1.0**
comp=Z,0.7nm,0.8s,baz=112,slow=7.6,SNR=3.5
FINES FINESS Array B 102.97 332 *i* P **Pdif** **02 42 39.5 -0.6**
FINES pmax pmax
comp=Z,1.0nm,0.7s
MNK Minsk 103.13 324 *i* P **Pdif** **02 42 38.9 -2.0**
MNK *i* PPP PPP 02 49 05.1
MNK *i* 02 53 11.9
MNK *i* S **Sdif** **02 54 20.4 -2.0**
MNK *i* PS **PS** **02 56 04.6 -1.7**
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK MLR MLR
comp=N,46nm,17.0s
MNK MLR MLR
comp=Z,35nm,17.0s
BUR08 Bucovina Ar. S 105.74 318 **Pdif** **02 42 52.9 0.0**
YKA Yellowknife Ar 106.43 26 PKiKP **PKiKP** **02 47 04.0 -2.1**
comp=Z,0.1nm,0.3s,baz=286,slow=2.2,SNR=3.8
YKA PKKPbc **PKKPbc** **02 58 25.1 -4.0**
comp=Z,0.3nm,0.8s,baz=122,slow=2.5,SNR=4.8
HFS Hagfors 109.17 332 Pdiff **Pdif** **02 43 06.5 -1.1**
comp=Z,1.9nm,0.9s,baz=104,slow=6.1,SNR=2.9
CLL Collm 112.62 323 *e*PKiKP **PKiKP** **02 47 19.0 +0.9**
CLL Collm 112.62 323 *e*PKiKP **PKiKP** **02 47 19.0 +0.9**
GERES GERESS Array B 112.97 321 PKiKP **PKiKP** **02 47 19.1 +0.1**
comp=Z,1.2nm,0.7s,baz=98,slow=2.2,SNR=8.0
BIOA Bad Ischl, Aus 113.35 319 *i* PKiKP **PKiKP** **02 47 19.7 0.0**
comp=Z,2.5nm,0.8s
LESA Schwarzleotal 114.06 319 *i* PKP **PKiKP** **02 47 21.4 +0.2**
comp=Z,2.3nm,0.7s
ABTA Abfaltersbach 114.37 319 *i* PKP PKPdf 02 47 21.8 +0.1
comp=Z,3.8nm,0.8s
WTTA Wattenberg 114.78 320 *i* PKP PKPdf 02 47 23.0 +0.3
comp=Z,3.8nm,0.4s
WATA Walderalm 114.79 320 *i* PKiKP PKPdf 02 47 23.3 +0.6
comp=Z,3.8nm,1.0s
SQTA Sankt Quirin 115.07 320 *i* PKP **PKPdf** **02 47 23.4 +0.3**
comp=Z,1.7nm,0.4s
MOTA Moosalm 115.09 320 *i* PKP **PKPdf** **02 47 23.6 +0.4**
comp=Z,3.5nm,0.7s
PDAR Pinedale Array 115.25 46 PKKPbc PKKPbc 02 57 59.4 -0.6
comp=Z,0.5nm,0.7s,baz=132,slow=2.9,SNR=5.6
FETA Feichten 115.44 319 *i* PKiKP **PKPdf** **02 47 24.5 +0.6**
comp=Z,2.1nm,0.7s
DAVA Damuels 115.90 320 *i* PKiKP **PKPdf** **02 47 25.4 +0.6**
comp=Z,3.6nm,0.5s
ILULI Ilulissat 117.19 1 **PKPdf** **02 47 25.2 -1.2**
ILULI Ilulissat 117.19 1 PKIKP **PKPdf** **02 47 25.2 -1.2**
EKA Eskdalemuir Ar 119.36 332 PKP **PKPdf** **02 47 31.1 +0.1**
comp=Z,0.4nm,0.3s,baz=30,slow=3.3,SNR=8.4
KEST Kesra 119.75 308 PKP **PKiKP** **02 47 32.8 +0.2**
comp=Z,2.7nm,0.7s,baz=10,slow=15,SNR=3.5
TXAR Lajitas Array 123.17 59 PKP **PKiKP** **02 47 39.8 +0.4**
comp=Z,0.2nm,0.4s,baz=207,slow=3.5,SNR=5.1
ESDC Sonseca Array 128.18 317 PKP **PKPdf** **02 47 48.0 -0.4**
comp=Z,0.5nm,0.8s,baz=355,slow=2.1,SNR=3.6
ESDC PP **PP** **02 49 52.4 -0.1**
comp=Z,1.5nm,0.9s,baz=62,slow=6.7,SNR=7.7
DBIC Dimbokro 136.81 273 PKP **PKiKP** **02 48 07.3 +0.2**
comp=Z,4.0nm,0.7s,baz=77,slow=3.1,SNR=2.4
SOCE Pocosol 143.89 81 PKPbc 02 48 16.7 +0.6
CPUP Villa Florida 146.37 165 PKPbc **PKPbc** **02 48 23.6 +0.2**
comp=Z,3.9nm,0.8s,baz=284,slow=1.7,SNR=6.4
ATAH Atahualpa 147.16 114 PKPbc **PKPdf** **02 48 25.1 +0.8**
comp=Z,3.1nm,0.8s,baz=156,slow=12,SNR=2.3
PB16 IPOC Station P 147.79 140 **PKiKP** **02 48 30.7 +0.5**
LPAZ La Paz 150.18 139 PKPbc **PKiKP** **02 48 36.7 +1.4**
comp=Z,5.2nm,0.9s,baz=204,slow=0.9,SNR=15
SIV San Ignacio 154.48 151 PKP **PKPdf** **02 48 35.8 +0.8**
comp=Z,0.2nm,0.3s,baz=211,slow=12,SNR=1.5
SIV PKPab **PKPab** **02 48 58.3 +0.6**
comp=Z,1.2nm,0.9s,baz=205,slow=6.4,SNR=3.6
SDV Santo Domingo 157.75 82 PKP **PKPdf** **02 48 39.3 -0.3**
comp=Z,3.1nm,0.5s,baz=323,slow=5.1,SNR=2.7
BDFB Brasilia 158.16 181 PKP **PKPdf** **02 48 41.6 +1.7**
comp=Z,2.9nm,0.6s,baz=90,slow=2.0,SNR=4.9

---

*IDC **30** 02:35:00.3±0.6, 29°.15S×74°.94E, h0km, mb4.5/21, mbtmp4.5/21, MS4.0/39, Error ellipse: s-maj=21.4km s-min=18.5km az=68.0*
*NEIC **30** 02:35:02.7±1.1, 29°.1S±0°.1×75°.0E±0°.1, h10km±1km, mb4.9/31, Error ellipse: s-maj=21.8km s-min=15.7km az=188.0*
*GCMT **30** 02:35:05.7±0.3, 29°.13S±0°.02×74°.88E±0°.03, h20km, MW4.9/110, Moment Tensor Solution. s33, c36; s110, c143; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.43±.17; Mθθ 1.81±.11; Mφφ 1.62±.11; Mrθ 0.23±.21; Mθφ-1.17±.06; Mφr 0.37±.22; Best double couple: M0 3.18300×10^16^ NP1 φs 307.00000°, δ 45.00000°, λ-99.00000°. NP2 φs 139.00000°, δ 46.00000°, λ-82.00000°. Principal axes: T 2.8900, Plg 1.0000°, Azm 223.0000°; N 0.5870, Plg 6.0000°, Azm 313.0000°; P -3.4770, Plg 84.0000°, Azm 126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 02:35:02.1±0.5, 29°.1S±0°.1×74°.9E±0°.1, h10km, n119, σ0 s74/79, mb4.7/33, MS4.1/39, 13C-4D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**21.51**	**353**	T	T	03 01 57.9	
	baz=175,slow=76,SNR=313						
H08S1	**Diego Carcia H**	**21.51**	**353**	T	T	03 02 05.6	
	baz=175,slow=76,SNR=298						
H08S3	**Diego Garcia H**	**21.53**	**353**	T	T	03 02 03.8	
	baz=175,slow=76,SNR=520						
H04N2	**CROZET ISLANDS**	**24.84**	**221**	T	T	03 06 20.4	
	baz=56,slow=74,SNR=2000						
H04N1	**CROZET ISLANDS**	**24.85**	**221**	T	T	03 06 22.3	
	baz=56,slow=74,SNR=2451						
H04N3	**CROZET ISLANDS**	**24.86**	**221**	T	T	03 06 21.2	
	baz=56,slow=74,SNR=2026						
H04S1	**CROZET ISLANDS**	**25.18**	**219**	T	T	03 06 39.9	
	baz=54,slow=76,SNR=131						
H04S3	**CROZET ISLANDS**	**25.19**	**219**	T	T	03 06 41.5	
	baz=54,slow=76,SNR=137						
H04S2	**CROZET ISLANDS**	**25.19**	**219**	T	T	03 06 43.6	
	baz=54,slow=76,SNR=206						
H01W2	**Cape Leeuwin H**	**33.58**	**110**	T	T	03 17 03.1	
	baz=269,slow=74,SNR=35						
H01W3	**Cape Leeuwin H**	**33.58**	**110**	T	T	03 17 03.5	
	baz=269,slow=74,SNR=27						
H01W1	**Cape Leeuwin H**	**33.59**	**110**	T	T	03 17 04.6	
	baz=269,slow=74,SNR=38						
PALK	**Pallekele**	**36.63**	**10**	LR	LR	02 53 21.6	
	comp=Z,258nm,21.9s,baz=140,slow=30						
LEM	**Lembang**	**37.97**	**61**	LR	LR	02 54 12.7	
	comp=Z,342nm,21.7s,baz=166,slow=30						
MAW	**Mawson**	**39.16**	**187**	LR	LR	02 54 47.9	
	comp=Z,308nm,20.1s,baz=17,slow=30						
PSI	**Prapat**	**39.22**	**40**	LR	LR	02 55 08.9	
	comp=Z,397nm,20.9s,baz=150,slow=31						
BOSA	**Boshof**	**43.24**	**258**	P	**P**	**02 43 04.2**	**+0.4**
	4.0nm,0.9s,baz=106,slow=5.9,SNR=5.0						
BOSA				LR	LR	02 57 27.4	
	comp=Z,338nm,20.0s,baz=104,slow=31						
	4.0nm,0.9s						
LBTB	**Lobatse**	**43.87**	**263**	LR	LR	02 57 50.3	
	comp=Z,216nm,21.2s,baz=106,slow=31						
LSZ	**Lusaka**	**45.14**	**277**		**P**	**02 43 20.1**	**+0.9**
LSZ	**Lusaka**	**45.14**	**277**	LR	LR	02 59 40.0	
	comp=Z,212nm,18.9s,baz=165,slow=33						
SUR	**Sutherland**	**46.21**	**252**	LR	LR	02 58 36.7	
	comp=Z,297nm,21.8s,baz=118,slow=31						
FITZ	**Fitzroy Crossi**	**47.43**	**88**	LR	LR	03 02 04.3	
	comp=Z,250nm,18.9s,baz=274,slow=34						
LKGWB	**Lokgwabe**	**47.94**	**263**		**P**	**02 43 38.0**	**-3.2**
KAPI	**Kappang**	**48.68**	**69**	LR	LR	03 01 01.0	
	comp=Z,201nm,21.6s,baz=216,slow=32						
KOOLE	**Kule**	**49.19**	**264**	P	**P**	**02 43 51.3**	**+0.5**
KOOLE				IAmb	IAmb	02 43 53.7	
	comp=Z,11nm,1.1s						
QNGWA	**Qangwa**	**49.55**	**268**		**P**	**02 43 52.8**	**-0.7**
ASAR	**Alice Springs**	**52.64**	**99**	P	**P**	**02 44 16.8**	**+0.1**
	comp=Z,5.7nm,1.1s,baz=249,slow=7.5,SNR=2.7						
ASAR				LR	LR	03 04 20.7	
	comp=Z,177nm,19.7s,baz=272,slow=33						
	comp=Z,5.7nm,1.1s						
CMAR	**Chiang Mai Arr**	**52.70**	**29**		**P**	**02 44 16.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**52.70**	**29**	P	**P**	**02 44 18.2**	**+1.3**
	comp=Z,5.1nm,0.9s,baz=210,slow=7.1,SNR=21						
CMAR				LR	LR	03 03 46.7	
	comp=Z,153nm,20.3s,baz=205,slow=33						
	comp=Z,5.1nm,0.9s						
TSUM	**Tsumeb**	**52.81**	**267**	LR	LR	03 03 19.6	
	comp=Z,362nm,21.8s,baz=146,slow=32						
CHTO	**Chiang Mai**	**53.01**	**29**		**P**	**02 44 19.8**	**+0.5**
CHTO				IAmb	IAmb	02 44 27.6	
	comp=Z,29nm,1.4s						
BRDH	**Bariadhala**	**53.98**	**19**	LR	LR	03 03 18.1	
	comp=Z,264nm,20.5s,baz=156,slow=32						
WRA	**Warramunga Arr**	**54.33**	**95**	P	**P**	**02 44 29.8**	**+0.7**
WRA	**Warramunga Arr**	**54.33**	**95**	P	**P**	**02 44 29.3**	**+0.2**
	comp=Z,8.0nm,0.9s,baz=250,slow=6.5,SNR=5.9						
WRA				LR	LR	03 07 19.3	
	comp=Z,136nm,18.4s,baz=264,slow=36						
	comp=Z,8.0nm,0.9s						
WRAB	**Tennant Creek**	**54.34**	**95**	P	**P**	**02 44 28.9**	**-0.3**
STKA	**Stephens Creek**	**56.67**	**111**	LR	LR	03 06 10.3	
	comp=Z,148nm,20.6s,baz=219,slow=33						
SHL	**Shillong**	**56.78**	**18**		**P**	**02 44 46.6**	**0.0**
EVN	**Everest**	**57.91**	**12**		**P**	**02 44 54.7**	**-0.4**
EVN				IAmb	IAmb	02 45 05.3	
	comp=Z,20nm,1.2s						
SNAA	**Sanae**	**58.79**	**201**	LR	LR	03 05 29.5	
	comp=Z,95nm,21.4s,baz=84,slow=31						
RAYN	**Ar Rayn**	**59.53**	**328**		**P**	**02 45 04.8**	**-1.0**
RAYN				IAmb	IAmb	02 45 07.4	
	comp=Z,13nm,1.1s						
DAV	**Davao City (W)**	**60.57**	**62**	LR	LR	03 09 43.3	
	comp=Z,67nm,21.1s,baz=170,slow=34						
QSPA	**South Pole Qui**	**61.00**	**180**	P	**P**	**02 45 15.9**	**+0.4**
QSPA				IAmb	IAmb	02 45 23.1	
	comp=Z,9.2nm,0.9s						
QSPA	**South Pole Qui**	**61.00**	**180**	P	**P**	**02 45 14.7**	**-0.8**
	comp=Z,4.2nm,0.9s,baz=278,slow=5.8,SNR=3.5						
QSPA				LR	LR	03 09 03.4	
	comp=Z,93nm,20.0s,baz=334,slow=34						
	comp=Z,4.2nm,0.9s						
VNDA	**Vanda**	**61.11**	**166**		**P**	**02 45 16.2**	**+0.3**
VNDA				IAmb	IAmb	02 45 18.2	
	comp=Z,9.6nm,1.2s						
VNDA	**Vanda**	**61.11**	**166**	P	**P**	**02 45 15.6**	**-0.4**
	comp=Z,4.1nm,1.1s,baz=276,slow=7.3,SNR=5.5						
	comp=Z,4.1nm,1.1s						
TGY	**Tagaytay City**	**61.82**	**52**	LR	LR	03 08 30.5	
	comp=Z,131nm,21.5s,baz=198,slow=32						
PMG	**Port Moresby**	**69.99**	**90**	LR	LR	03 14 59.3	
	comp=Z,168nm,19.9s,baz=270,slow=34						
ARSB	**Arslanbob**	**70.14**	**358**		**P**	**02 46 14.4**	**-0.3**
ARSB				IAmb	IAmb	02 46 16.2	
	comp=Z,17nm,1.2s						
NRN	**Naryn**	**70.23**	**1**		**P**	**02 46 15.4**	**-0.1**
AAK	**Ala-Archa**	**71.43**	**360**		**P**	**02 46 22.9**	**+0.3**
AAK	**Ala-Archa**	**71.43**	**360**	P	**P**	**02 46 22.4**	**-0.1**
	comp=Z,2.2nm,0.2s,baz=207,slow=6.2,SNR=5.8						
	comp=Z,2.2nm,0.2s						
KK31	**Karatay Array**	**72.01**	**357**		**P**	**02 46 26.0**	**+0.1**
KKAR	**Karatay Array**	**72.01**	**357**		**P**	**02 46 25.7**	**-0.1**
KKAR	**Karatay Array**	**72.01**	**357**		**P**	**02 46 26.0**	**+0.1**
KKAR				IAmb	IAmb	02 46 28.0	
	comp=Z,27nm,1.3s						
MMAI	**Mount Meron Ar**	**72.29**	**326**	P	**P**	**02 46 28.6**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=103,slow=7.0,SNR=5.6						
	comp=Z,3.1nm,0.9s						
GNI	**Garni**	**74.43**	**336**	P	**P**	**02 46 40.6**	**+0.1**
	comp=Z,4.6nm,0.9s,baz=147,slow=5.4,SNR=4.6						
	comp=Z,4.6nm,0.9s						
MKAR	**Makanchi Array**	**75.87**	**5**		**P**	**02 46 47.0**	**-1.4**
MKAR	**Makanchi Array**	**75.87**	**5**	P	**P**	**02 46 47.3**	**-1.1**
	comp=Z,4.0nm,0.9s,baz=187,slow=7.0,SNR=11						
MKAR				LR	LR	03 18 24.1	
	comp=Z,86nm,20.8s,baz=134,slow=34						
	comp=Z,4.0nm,0.9s						
KOPT	**Kop Dagi**	**75.89**	**333**	P	**P**	**02 46 50.6**	**+1.6**
KIRS	**Kirsehir-Merke**	**77.95**	**329**	‖P	**P**	**02 47 01.2**	**+0.8**
KBZ	**Khabaz**	**78.24**	**337**	P	**P**	**02 47 02.6**	**+0.9**
	comp=Z,3.4nm,0.9s,baz=210,slow=5.2,SNR=5.8						
	comp=Z,3.4nm,0.9s						
BRTR	**Keskin Array B**	**78.55**	**329**		**P**	**02 47 03.7**	**-0.1**
BRTR	**Keskin Array B**	**78.55**	**329**	P	**P**	**02 47 03.5**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=155,slow=6.1,SNR=6.8						
	comp=Z,2.5nm,0.9s						
AB31	**Akbulak array**	**79.18**	**350**		**P**	**02 47 06.8**	**0.0**
AB31				IAmb	IAmb	02 47 08.2	
	comp=Z,13nm,1.2s						
ABKAR	**Akbulak array**	**79.18**	**350**		**P**	**02 47 06.8**	**0.0**
ABKAR				IAmb	IAmb	02 47 08.2	
	comp=Z,13nm,1.2s						
KURBB	**Kurchatov Arra**	**79.48**	**2**	P	**P**	**02 47 08.2**	**-0.2**
	comp=Z,2.6nm,1.0s,baz=190,slow=5.4,SNR=11						
KURBB				LR	LR	03 19 49.2	
	comp=Z,107nm,21.3s,baz=176,slow=34						
	comp=Z,2.6nm,1.0s						
GUMO	**Guam**	**79.71**	**68**	LR	LR	03 17 40.7	
	comp=Z,29nm,21.2s,baz=108,slow=32						
PMSA	**Palmer Station**	**81.09**	**197**	LR	LR	03 21 38.4	
	comp=Z,56nm,18.6s,baz=252,slow=34						
HNR	**Honiara**	**81.15**	**96**	LR	LR	03 21 48.1	
	comp=Z,41nm,19.5s,baz=336,slow=35						
JNU	**Nakatsue**	**81.51**	**45**	LR	LR	03 19 46.4	
	comp=Z,163nm,21.9s,baz=218,slow=33						
SONM	**Songino Array**	**81.68**	**21**		**P**	**02 47 20.6**	**+0.1**
SONM				IAmb	IAmb	02 47 22.2	
	comp=Z,14nm,1.5s						
SONM	**Songino Array**	**81.68**	**21**	P	**P**	**02 47 20.5**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=201,slow=5.2,SNR=11						
SONM				LR	LR	03 23 04.0	
	comp=Z,65nm,19.6s,baz=233,slow=35						
	comp=Z,2.3nm,0.9s						
ULN	**Ulaanbaatar**	**81.91**	**21**		**P**	**02 47 21.8**	**0.0**
ULN				IAmb	IAmb	02 47 23.2	
	comp=Z,22nm,1.6s						
BVAR	**Borovoye Array**	**81.92**	**357**	P	**P**	**02 47 21.6**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=164,slow=6.9,SNR=9.2						
BVAR				LR	LR	03 22 00.7	
	comp=Z,66nm,19.8s,baz=153,slow=34						
	comp=Z,3.8nm,0.8s						
BRVK	**Borovoye**	**81.95**	**357**	P	**P**	**02 47 21.8**	**+0.2**
BRVK				IAmb	IAmb	02 47 23.2	
	comp=Z,9.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.17**	**290**		**P**	**02 47 23.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**82.17**	**290**	P	**P**	**02 47 23.5**	**-0.1**
	comp=Z,129nm,0.5s,baz=110,slow=5.0,SNR=1.5						
KSAR	**Wonju Array Be**	**82.75**	**40**	P	**P**	**02 47 25.8**	**-0.4**
KSRS	**Korea Array**	**82.78**	**40**	P	**P**	**02 47 25.9**	**-0.3**
	comp=Z,2.0nm,0.9s,baz=222,slow=5.7,SNR=8.9						
KSRS				LR	LR	03 20 59.4	
	comp=Z,139nm,21.8s,baz=210,slow=33						
	comp=Z,2.0nm,0.9s						
ZAA0	**Zalesovo Array**	**83.19**	**6**		**P**	**02 47 27.6**	**-0.4**
ZAA0				IAmb	IAmb	02 47 28.6	
	comp=Z,6.1nm,1.0s						
ZALV	**Zalesovo Beam**	**83.19**	**6**		**P**	**02 47 27.6**	**-0.4**
ZALV	**Zalesovo Beam**	**83.19**	**6**	P	**P**	**02 47 27.2**	**-0.8**
	comp=Z,3.9nm,0.9s,baz=212,slow=4.5,SNR=9.2						
ZALV				LR	LR	03 23 26.0	
	comp=Z,52nm,19.7s,baz=140,slow=35						
	comp=Z,3.9nm,0.9s						
DBIC	**Dimbokro**	**84.37**	**281**	LR	LR	03 24 22.3	
	comp=Z,63nm,18.6s,baz=142,slow=35						
BELG	**Belogornoye**	**84.64**	**344**	P	**P**	**02 47 34.5**	**-0.9**
	comp=Z,6.2nm,0.6s,baz=157,slow=7.7,SNR=6.1						
	comp=Z,6.2nm,0.6s						
JURR	**Jurilovca**	**84.70**	**329**	⇑P	**P**	**02 47 35.4**	**-0.5**
JCJ	**Chichijima**	**85.29**	**56**	LR	LR	03 24 01.4	
	comp=Z,50nm,18.8s,baz=134,slow=34						
CFR	**Carcaliu**	**85.35**	**329**	⇑P	**P**	**02 47 39.4**	**+0.2**
ODBI	**Odobesti**	**86.29**	**329**	⇑P	**P**	**02 47 44.9**	**+1.1**
ARTI	**Arti**	**86.35**	**351**		**P**	**02 47 44.6**	**+0.7**
VRI	**Vrincioaia**	**86.51**	**329**	‖P	**P**	**02 47 46.0**	**+1.0**
PLOR	**Plostina**	**86.54**	**328**	⇑P	**P**	**02 47 44.5**	**-0.7**
MLR	**Muntele Rosu**	**86.59**	**328**		**P**	**02 47 45.9**	**+0.3**
MLR	**Muntele Rosu**	**86.59**	**328**	⇑P	**P**	**02 47 46.2**	**+0.7**
COVR	**Voineasa-Covas**	**86.74**	**328**	‖P	**P**	**02 47 45.9**	**-0.3**
VOIR		**86.97**	**327**	⇑P	P	02 47 41.1	-6.3
OZUR		**87.12**	**328**	⇑P	**P**	**02 47 48.3**	**+0.4**
DOPR	**Dopca**	**87.21**	**328**	⇑P	**P**	**02 47 48.1**	**-0.3**
SORM	**Soroca**	**87.53**	**331**	⇑P	**P**	**02 47 49.5**	**-0.3**
MJAR	**Matsushiro Arr**	**88.31**	**46**	P	**P**	**02 47 53.3**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=206,slow=4.5,SNR=4.8						
MJAR				LR	LR	03 22 26.9	
	comp=Z,40nm,21.6s,baz=234,slow=32						
	comp=Z,2.6nm,0.8s						
DEV	**Deva**	**88.32**	**327**	⇑P	**P**	**02 47 55.1**	**+1.5**
BURAR	**Bucovina Array**	**88.51**	**329**	P	**P**	**02 47 55.0**	**+0.3**
SURR	**Surduc**	**88.61**	**326**	⇑P	**P**	**02 47 54.5**	**-0.5**
BZS	**Buzias**	**88.76**	**326**	‖P	**P**	**02 47 55.7**	**-0.1**
MARR	**Marisel-Cluj**	**88.79**	**327**	⇑P	**P**	**02 47 56.9**	**+0.8**
AKASG	**Malin Array Be**	**89.17**	**333**	P	**P**	**02 47 57.5**	**0.0**
	comp=Z,3.6nm,0.9s,baz=138,slow=4.3,SNR=14						
	comp=Z,3.6nm,0.9s						
AKBB	**Malin Array Si**	**89.17**	**333**		**P**	**02 47 58.0**	**+0.5**
AKBB				IAmb	IAmb	02 47 59.0	
	comp

0.8nm,0.3s,baz=58,slow=16,SNR=6.8
2.2nm,0.3s

WRA	**Warramunga Arr**	**12.41 167**	Pn	Pn	03 15 42.7	-1.4
	0.7nm,0.3s,baz=346,slow=13,SNR=28					
WRA			Sn	Sn	03 18 06.7	+3.4
	1.0nm,0.3s,baz=348,slow=23,SNR=11					
	0.8nm,0.3s					
ASAR	**Alice Springs**	**15.96 171**	Pn	Pn	03 16 30.8	-1.4
	0.4nm,0.3s,baz=350,slow=9.4,SNR=9.1					
ASAR			Sn	Sn	03 19 32.6	+2.6
	0.2nm,0.3s,baz=357,slow=28,SNR=2.1					
	0.5nm,0.3s					
MKAR	**Makanchi Array**	**69.63 326**	P	P	03 23 57.4	+0.1
	0.2nm,0.5s,baz=123,slow=5.3,SNR=2.4					
	0.2nm,0.5s					

*RSNC **30** 03:15:12.8±0.0,9°N±3°×7°1W±°,h17km±4km,M2.9,mb3.6,mB5.7,ML2.5,Mw(mB)5.3*
*FUNV **30** 03:15:12.0,8°.54N×70°.82W,h5km,MW3.5*
ISC 30 03:15:10.4±1.3,8°.57N±0°.03×70°.73W±0°.03,h1km±11km, n34,σ1°63/65,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.31**	**204**	*eP*	**Pg**	**03 15 16.6**	**+0.2**
SOCV				*eS*	**Sg**	**03 15 19.8**	**-0.7**
SDV	**Santo Domingo**	**0.33**	**16**	P	**Pg**	**03 15 18.3**	**+1.6**
SDV				S	**Sb**	**03 15 23.3**	**-1.7**
CAPV	**Capacho**	**1.72**	**246**	*eP*	**Pn**	**03 15 41.5**	**-0.3**
CAPV				*eS*	**Sn**	**03 16 03.2**	**-1.3**
TEPV	**Terepaima**	**2.05**	**47**	*eP*	**Pb**	**03 15 48.4**	**-0.2**
TEPV				*eS*	**Sg**	**03 16 15.0**	**-1.4**
PAMC	**Pamplona, Colo**	**2.31**	**238**	P	**Pn**	**03 15 51.0**	**+1.0**
PAMC				S	**Sb**	**03 16 22.1**	**-0.3**
MCQV	**Machiques**	**2.31**	**310**	*eP*	**Pn**	**03 15 49.3**	**-0.4**
MCQV				*eS*	**Sn**	**03 16 17.8**	**-1.1**
TAMC	**Tame, Arauca**	**2.37**	**207**	P	**Pn**	**03 15 51.9**	**+1.4**
TAMC				S	**Sb**	**03 16 23.6**	**-0.2**
OCAC	**Ocana**	**2.59**	**263**	P	**Pn**	**03 15 54.5**	**+0.9**
OCAC				S	**Sb**	**03 16 29.9**	**-0.3**
BAUV	**El Baul**	**2.68**	**82**	*eP*	**Pn**	**03 15 55.6**	**+0.9**
BAUV				*eS*	**Sn**	**03 16 28.4**	**+0.6**
JACV	**Jacura**	**3.12**	**37**	*eP*	**Pn**	**03 16 02.3**	**+1.4**
JACV				*eS*	**Sn**	**03 16 39.4**	**+0.5**
BARC	**Barichara**	**3.13**	**231**	P	**Pn**	**03 16 03.4**	**+2.2**
CRJC	**Cerrejon, Guaj**	**3.23**	**319**	P	**Pn**	**03 16 02.5**	**+0.1**
CRJC				S	**Sn**	**03 16 41.6**	**-0.1**
URIC	**Uribia, Colomb**	**3.35**	**338**	P	**Pn**	**03 16 03.2**	**-0.8**
URIC				S	**Sn**	**03 16 43.8**	**-0.7**
BENV	**Beln**	**3.38**	**66**	*eP*	**Pn**	**03 16 06.1**	**+1.6**
BENV				*eS*	**Sn**	**03 16 45.5**	**+0.2**
BRJC	**Barrancabermej**	**3.39**	**242**	P	**Pb**	**03 16 09.8**	**-1.5**
BRJC				S	**Sb**	**03 16 55.1**	**+2.1**
RUSC	**La Rusia**	**3.54**	**221**	P	**Pn**	**03 16 08.0**	**+0.9**
RUSC				S	**Sn**	**03 16 53.7**	**+3.8**
ARGC	**Ariguani, Magd**	**3.70**	**290**	P	**Pn**	**03 16 09.5**	**+0.6**
ARGC				S	**Sn**	**03 16 53.5**	**+0.3**
TACV	**Tcata**	**3.97**	**67**	*eP*	**Pn**	**03 16 13.4**	**+0.9**
TACV				*eS*	**Sn**	**03 16 59.5**	**-0.3**
PTBC	**PUERTO BERRIO,**	**4.21**	**242**	P	**Pn**	**03 16 16.6**	**+0.7**
PTBC				S	**Sn**	**03 17 06.0**	**+0.2**
ZARC	**Zaragoza, Cauc**	**4.23**	**256**	P	**Pn**	**03 16 16.9**	**+0.8**
ZARC				S	**Sn**	**03 17 09.6**	**+3.4**
CACV	**CAICARA DEL OR**	**4.26**	**103**	*eP*	**Pb**	**03 16 25.0**	**-1.2**
CACV				*eS*	**Sb**	**03 17 18.9**	**+0.6**
FUNV	**FUNVISIS**	**4.30**	**64**	*eP*	**Pn**	**03 16 18.8**	**+1.7**
FUNV				*eS*	**Sn**	**03 17 07.9**	**-0.1**
SMRC	**Santa Marta, M**	**4.30**	**307**	P	**Pn**	**03 16 16.9**	**-0.2**
SMRC				S	**Sn**	**03 17 05.5**	**-2.5**
PTGC	**Puerto Gaitan,**	**4.56**	**198**	P	**Pn**	**03 16 20.0**	**-0.7**
PTGC				S	**Sn**	**03 17 15.5**	**+1.1**
SJCC	**San Jacinto, C**	**4.59**	**287**	P	**Pn**	**03 16 23.0**	**+1.9**
SJCC				S	**Sn**	**03 17 17.1**	**+1.9**
CHIC	**Chingaza**	**4.92**	**218**	P	**Pn**	**03 16 26.1**	**+0.1**
	7.7nm,0.7s						
CHIC				S	**Sn**	**03 17 21.1**	**-2.8**
	7.7nm,0.7s						
NORC	**Norcasia**	**5.08**	**234**	P	**Pn**	**03 16 30.5**	**+2.6**
	3.2nm,0.7s						
GUY2C	**Guyana, Caldas**	**5.68**	**234**	P	**Pn**	**03 16 38.9**	**+2.4**
	5.2nm,0.6s						
GUY2C				S	**Sn**	**03 17 44.1**	**+1.5**
	5.2nm,0.6s						
APAC	**Apartado, Choc**	**5.83**	**264**	P	**Pn**	**03 16 38.6**	**+0.5**
	9.4nm,1.5s						
APAC				S	**Sn**	**03 17 47.4**	**+1.6**
	9.4nm,1.5s						
CBOC	**Ciudad Bolivar**	**5.89**	**243**	P	**Pn**	**03 16 42.1**	**+3.0**
	6.4nm,2.6s						
GUVC	**San Jose del G**	**6.28**	**198**	P	**Pn**	**03 16 44.8**	**+0.5**
GUVC				S	**Sn**	**03 17 52.4**	**-4.4**
PRAC	**Prado**	**6.36**	**221**	P	**Pn**	**03 16 45.7**	**+0.3**
PRAC				S	**Sn**	**03 17 58.2**	**-0.5**
URMC	**La Uribe, Meta**	**6.42**	**215**	P	**Pn**	**03 16 47.5**	**+1.3**
	5.1nm,1.1s						
URMC				S	**Sn**	**03 17 59.8**	**-0.5**
	5.1nm,1.1s						
MACC	**Macarena, Meta**	**7.10**	**206**	P	**Pn**	**03 16 55.2**	**-0.4**
MACC				S	**Sn**	**03 18 12.2**	**-4.8**

*IDC **30** 03:19:27.2±1.6,24°.31S×179°.99E,h505km±17km,mb3.2/9,mbtmp4.1/11,Error ellipse: s-maj=18.5km s-min=15.9km az=92.0*
*NEIC **30** 03:19:27.9±2.0,24°.3S±0°.1×179°.9W±0°.1,h513km±8km,mb4.4/25,Error ellipse: s-maj=16.0km s-min=14.1km az=223.0*
ISC 30 03:19:27.3±0.5,24°.33S±0°.06×179°.96W±0°.08,h500km, n73,σ1°62/84,mb4.2/21,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.24**	**160**	P	**P**	**03 20 57.6**	**+1.3**
GLKZ				S	**S**	**03 22 07.3**	**-1.8**
MSVF	**Nonsavu**	**6.82**	**344**	P	**P**	**03 21 13.1**	**+1.2**
MSVF	**Nonsavu**	**6.82**	**344**	P	**P**	**03 21 12.9**	**+1.1**
	22nm,0.5s,baz=166,slow=5.9,SNR=18						
NIUE	**Niue**	**10.69**	**63**	P	**P**	**03 21 53.5**	**+1.5**
PINNC	**Pines Island,**	**11.69**	**276**	P	**P**	**03 22 03.9**	**+1.4**
OUZ	**Omahuta**	**12.21**	**206**	P	**P**	**03 22 10.7**	**+2.8**
WCZ	**Waipu Caves**	**12.57**	**202**	P	**P**	**03 22 14.5**	**+2.8**
DZM	**Mont Dzumac**	**12.71**	**277**	P	**P**	**03 22 15.7**	**+2.3**
DZM	**Mont Dzumac**	**12.71**	**277**	P	**P**	**03 22 15.5**	**+2.0**
	16nm,0.9s,baz=98,slow=18,SNR=5.3						
AFI	**Afiamalu**	**12.92**	**38**	P	**P**	**03 22 13.8**	**-2.0**
MXZ	**Matakaoa Point**	**13.28**	**186**	P	**P**	**03 22 22.1**	**+3.0**
MXZ	**Matakaoa Point**	**13.28**	**186**	P	**P**	**03 22 22.7**	**+3.6**
HAZ	**Te Kaha**	**13.52**	**188**	P	**P**	**03 22 21.0**	**-0.7**
HAZ				S	**S**	**03 24 47.1**	**+1.4**
PKGZ	**Pakihiroa**	**13.60**	**187**	P	**P**	**03 22 26.0**	**+3.4**
PUZ	**Puketiti**	**13.78**	**186**	P	**P**	**03 22 27.7**	**+3.2**
PUZ				S	**S**	**03 24 52.7**	**+2.0**
TOZ	**Tahuroa Road**	**13.91**	**195**	P	**P**	**03 22 26.3**	**+0.5**
TOZ	**Tahuroa Road**	**13.91**	**195**	P	P	03 22 30.7	+4.9
TWGZ	**Tauwhareparae**	**13.92**	**187**	P	**P**	**03 22 28.6**	**+2.6**
TWGZ				S	**S**	**03 24 55.3**	**+2.0**
URZ	**Urewera**	**14.11**	**190**	P	**P**	**03 22 26.7**	**-1.3**
	15nm,0.6s,baz=99,slow=2.2,SNR=8.9						
URZ				S	**S**	**03 24 55.1**	**-1.8**
	18nm,0.7s,baz=177,slow=21,SNR=11						
URZ	**Urewera**	**14.11**	**190**	P	**P**	**03 22 27.7**	**-0.2**
URZ				S	**S**	**03 24 55.3**	**-1.6**
MWZ	**Matawai**	**14.12**	**188**	S	**S**	**03 24 57.8**	**+0.5**
BKZ	**Black Stump Fm**	**15.10**	**191**	P	**P**	**03 22 37.1**	**-1.3**
BKZ				IAmb	IAmb	03 22 42.8	
	comp=Z,22nm,1.0s						
BKZ	**Black Stump Fm**	**15.10**	**191**	P	**P**	**03 22 37.3**	**-1.0**
BKZ				S	**S**	**03 25 12.5**	**-3.4**
TWVZ	**Taurewa**	**15.21**	**194**	P	**P**	**03 22 41.1**	**+1.6**
SNVZ	**South Ngauruho**	**15.27**	**193**	P	**P**	**03 22 40.9**	**+0.6**
KWHZ	**Kaweka Forest**	**15.36**	**191**	P	**P**	**03 22 41.5**	**+0.5**
KWHZ				S	**S**	**03 25 17.0**	**-4.0**
FWVZ	**Far West T-bar**	**15.36**	**193**	P	**P**	**03 22 42.4**	**+1.1**
WHVZ	**Whangaehu Hut**	**15.38**	**193**	P	**P**	**03 22 41.7**	**+0.2**
WNVZ	**Wahianoa**	**15.42**	**193**	P	**P**	**03 22 41.2**	**-0.6**
WNVZ				S	**S**	**03 25 21.2**	**-1.2**
MOVZ	**Moawhango**	**15.46**	**193**	P	**P**	**03 22 42.5**	**+0.3**
MOVZ				S	**S**	**03 25 22.4**	**-0.6**
KRHZ	**Kereru**	**15.58**	**191**	P	**P**	**03 22 42.4**	**-1.0**
KAHZ	**Kahuranaki**	**15.65**	**189**	P	**P**	**03 22 44.4**	**+0.3**
PNHZ	**Pukenui**	**15.87**	**191**	P	**P**	**03 22 46.7**	**+0.3**
PNHZ				S	**S**	**03 25 26.7**	**-4.1**
TKNZ	**Takaka Hill**	**17.68**	**198**	P	**P**	**03 23 03.2**	**-1.3**
OXZ	**Oxford**	**20.06**	**197**	P	**P**	**03 23 25.4**	**-0.8**
RPZ	**Rata Peaks**	**20.70**	**199**	P	**P**	**03 23 31.4**	**-0.6**
FOZ	**Fox Glacier**	**20.92**	**201**	P	**P**	**03 23 33.0**	**-1.0**
LBZ	**Lake Benmore**	**21.57**	**200**	P	**P**	**03 23 37.6**	**-2.3**
EIDS	**Eidsvold**	**26.28**	**262**	P	**P**	**03 24 22.3**	**+0.1**
EIDS				IAmb	IAmb	03 24 56.5	
	comp=Z,23nm,1.5s						
COEN	**Coen**	**36.22**	**280**	P	**P**	**03 25 45.8**	**-1.8**
COEN				IAmb	IAmb	03 26 23.6	
	comp=Z,19nm,1.3s						
BBOO	**Buckleboo**	**39.31**	**247**	P	**P**	**03 26 14.2**	**+1.5**
AS31	**Alice Springs**	**42.00**	**261**	P	**P**	**03 26 34.8**	**+0.5**
ASAR	**Alice Springs**	**42.01**	**261**	P	**P**	**03 26 33.9**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=93,slow=7.6,SNR=11						
ASAR				ScP	**ScP**	**03 31 19.9**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=85,slow=3.9,SNR=4.8						
	comp=Z,1.4nm,0.8s						
WR0	**Warramunga Arr**	**42.23**	**267**	P	**P**	**03 26 35.1**	**-1.0**
WR0				IAmb	IAmb	03 26 35.4	
	comp=Z,9.6nm,1.3s						
WR8	**Warramunga Arr**	**42.27**	**267**	P	**P**	**03 26 35.5**	**-0.9**
WR8				IAmb	IAmb	03 26 53.9	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**42.41**	**267**	P	**P**	**03 26 36.7**	**-0.9**
WB2				IAmb	IAmb	03 26 36.9	
	comp=Z,4.7nm,0.5s						
WRAB	**Tennant Creek**	**42.41**	**267**	P	**P**	**03 26 36.5**	**-1.0**
WB0	**Warramunga Arr**	**42.41**	**267**	P	**P**	**03 26 36.5**	**-1.1**
WB0				IAmb	IAmb	03 26 37.2	
	comp=Z,5.3nm,0.7s						
WRA	**Warramunga Arr**	**42.42**	**267**	P	**P**	**03 26 36.7**	**-1.0**
WRA	**Warramunga Arr**	**42.42**	**267**	P	**P**	**03 26 36.3**	**-1.3**
	comp=Z,3.3nm,0.5s,baz=97,slow=8.2,SNR=65						
WRA				ScP	**ScP**	**03 31 22.4**	**0.0**
	comp=Z,2.5nm,1.0s,baz=98,slow=4.2,SNR=6.1						
	comp=Z,3.3nm,0.5s						
MTN	**Manton Dam**	**47.53**	**275**	P	**P**	**03 27 15.8**	**-1.2**
MTN				IAmb	IAmb	03 27 33.5	
	comp=Z,22nm,1.2s						
KNRA	**Kununurra**	**48.73**	**270**	P	**P**	**03 27 25.4**	**-0.5**
KNRA				IAmb	IAmb	03 27 26.1	
	comp=Z,10nm,1.0s						
FITZ	**Fitzroy Crossi**	**50.84**	**266**	P	**P**	**03 27 40.7**	**-0.8**
VNDA	**Vanda**	**53.96**	**185**	P	**P**	**03 28 02.8**	**-0.1**
VNDA	**Vanda**	**53.96**	**185**	P	**P**	**03 28 02.5**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=10.0,slow=4.3,SNR=2.3						
	comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**65.76**	**180**	P	**P**	**03 29 22.3**	**+0.3**
QSPA				IAmb	IAmb	03 29 23.9	
	comp=Z,12nm,1.5s						
QSPA	**South Pole Qui**	**65.76**	**180**	P	**P**	**03 29 22.3**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=311,slow=1.0,SNR=16						
	comp=Z,2.8nm,0.7s						
MJAR	**Matsushiro Arr**	**72.27**	**326**	P	**P**	**03 29 59.8**	**-1.7**
	comp=Z,1.7nm,0.7s,baz=162,slow=6.2,SNR=2.3						
	comp=Z,1.7nm,0.7s						
PMSA	**Palmer Station**	**78.50**	**157**	P	**P**	**03 30 35.1**	**-0.7**
KSRS	**Korea Array**	**78.60**	**320**	P	**P**	**03 30 36.6**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=111,slow=6.8,SNR=2.5						
P08K	**Saint George I**	**81.09**	**6**	P	**P**	**03 30 49.3**	**0.0**
SNAA	**Sanae**	**84.24**	**179**	P	**P**	**03 31 03.9**	**-1.4**
SNAA	**Sanae**	**84.24**	**179**	P	**P**	**03 31 03.6**	**-1.7**
	comp=Z,1.0nm,0.6s,baz=217,slow=12,SNR=6.0						
	comp=Z,1.0nm,0.6s						
COYC	**Coyhaique**	**84.55**	**138**	P	**P**	**03 31 07.8**	**+0.5**
COYC				IAmb	IAmb	03 31 10.2	
	comp=Z,21nm,1.3s						
NVAR	**Mina Array Bea**	**85.03**	**44**	P	**P**	**03 31 10.5**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=207,slow=5.4,SNR=2.0						
	comp=Z,0.4nm,0.6s						
TMUT	**Trail Mountain**	**90.11**	**46**	P	**P**	**03 31 33.5**	**-0.4**
TMUT				IAmb	IAmb	03 31 34.6	
	comp=Z,3.4nm,0.8s						
TX31	**Lajitas Ar. Si**	**90.62**	**58**	P	**P**	**03 31 35.8**	**-0.5**
TX31				IAmb	IAmb	03 31 36.9	
	comp=Z,2.4nm,0.9s						
TXAR	**Lajitas Array**	**90.62**	**58**	P	**P**	**03 31 36.1**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=243,slow=4.5,SNR=20						
	comp=Z,1.4nm,0.7s						
PDAR	**Pinedale Array**	**92.97**	**44**	P	**P**	**03 31 45.2**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=259,slow=0.8,SNR=4.1						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**142.97**	**349**	PKhKP	PKPpre	03 37 58.5	
	comp=Z,1.6nm,0.4s,baz=64,slow=3.4,SNR=22						
AKASG	**Malin Array Be**	**145.35**	**327**	PKPbc	**PKPdf**	**03 38 06.6**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=48,slow=4.6,SNR=6.4						
BRTR	**Keskin Array B**	**147.87**	**307**	PKPab	**PKiKP**	**03 38 19.1**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=99,slow=4.5,SNR=5.0						
EKA	**Eskdalemuir Ar**	**148.94**	**4**	PKPbc	**PKPdf**	**03 38 15.7**	**+2.4**
	comp=Z,1.4nm,0.9s,baz=351,slow=3.1,SNR=2.2						

*NEIC **30** 03:33:17.9±2.3,18°.88N±0°.03×155°.18W±0°.02,h10km±2km,Error ellipse: s-maj=5.4km s-min=3.0km az=339.0*
HVO 30 03:33:17.6±1.6,18°.82N±0°.03×155°.14W±0°.02,h9km±7km, ML2.7/32,ML2.7/36(NEIC),Error ellipse: s-maj=5.0km s-min=2.2km az=157.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.47**	**304**		Pg	03 33 26.8	0.0
HTC	**Hot Caves**	**0.48**	**329**		Pg	03 33 27.2	+0.2
HLP	**Hilina Pali**	**0.50**	**341**		Pg	03 33 27.5	+0.2
HLP					Sb	03 33 35.0	-1.1
HLP	**Hilina Pali**	**0.50**	**341**	IAML		03 33 35.2	
	comp=N,1μm,0.3s						
HLP				IAML		03 33 35.5	
	comp=E,993nm,0.2s						
PUH	**Pauahi**	**0.55**	**352**		Sg	03 33 35.4	-0.3
PUH	**Pauahi**	**0.55**	**352**		Pg	03 33 27.7	-0.7
KNHH	**Kane Nui o Ham**	**0.55**	**357**		Pg	03 33 27.8	-0.6
JCUZ	**Jacuzzi**	**0.56**	**3**		Pg	03 33 27.8	-0.7
JCUZ					Sg	03 33 35.0	-0.8
STCH	**Steam Cracks**	**0.56**	**1**		Pg	03 33 27.8	-0.7
STCH					Sg	03 33 35.3	-0.5
STCH	**Steam Cracks**	**0.56**	**1**	IAML		03 33 35.4	
	comp=E,440nm,0.3s						
STCH				IAML		03 33 36.1	
	comp=N,549nm,0.2s						
NPOC	**North of Pu'u**	**0.57**	**3**		Pg	03 33 27.9	-0.8
NPOC					Sg	03 33 35.5	-0.6
SDHHI	**Sand Hill**	**0.58**	**345**		Pg	03 33 28.1	-0.9
SDHHI					Sg	03 33 35.8	-0.8
KKO	**Keanakako'i**	**0.58**	**348**		Pg	03 33 28.1	-0.8
KKO					Sg	03 33 35.9	-0.8
RIM	**Rim**	**0.58**	**347**		Pg	03 33 28.1	-0.9
RIM					Sg	03 33 35.8	-0.8
BYL	**Byron's Ledge**	**0.60**	**349**		Pg	03 33 28.2	-1.0
BYL					Sg	03 33 36.2	-0.9
BYL	**Byron's Ledge**	**0.60**	**349**	IAML		03 33 36.8	
	comp=E,261nm,0.4s						
BYL				IAML		03 33 37.2	
	comp=N,245nm,0.5s						
WRMHI	**West Rim**	**0.60**	**345**		Pg	03 33 28.2	-1.1
WRMHI					Sg	03 33 36.8	-0.4
OBL	**Observatory Le**	**0.61**	**347**		Pg	03 33 28.3	-1.1
OBL					Sg	03 33 37.5	+0.1
HATHI	**Halema'uma'u T**	**0.61**	**349**		Pg	03 33 28.3	-1.1
HATHI					Sg	03 33 36.1	-1.3
HATHI	**Halema'uma'u T**	**0.61**	**349**	IAML		03 33 37.2	
	comp=N,270nm,0.4s						
HATHI				IAML		03 33 37.6	
	comp=E,269nm,0.2s						
SBLHI	**Steaming Bluff**	**0.61**	**348**		Pg	03 33 28.3	-1.2
SBLHI					Sg	03 33 36.5	-1.0
UWB	**Uwekahuna Bluf**	**0.61**	**347**		Pg	03 33 28.2	-1.3
UWB					Sg	03 33 36.5	-1.1
UWE	**Uwekahuna**	**0.61**	**346**		Pg	03 33 28.4	-1.1
UWE					Sg	03 33 36.4	-1.2
UWE	**Uwekahuna**	**0.61**	**346**	IAML		03 33 37.5	
	comp=E,446nm,0.6s						
UWE				IAML		03 33 46.0	
	comp=N,462nm,2.7s						
KHU	**Kahuku**	**0.62**	**313**		Pg	03 33 28.6	-1.0
KHU					Sg	03 33 37.0	-0.7
KHU	**Kahuku**	**0.62**	**313**	IAML		03 33 37.3	
	comp=E,256nm,0.2s						
KHU				IAML		03 33 37.8	
	comp=N,201nm,0.4s						
JOKA	**Jonika Flow**	**0.62**	**12**		Pg	03 33 28.4	-1.2
JOKA					Sg	03 33 36.5	-1.2
JOKA	**Jonika Flow**	**0.62**	**12**	IAML		03 33 37.4	
	comp=E,262nm,0.6s						
JOKA				IAML		03 33 38.6	
	comp=N,464nm,0.4s						
RSD	**Rainshed**	**0.65**	**348**		Pg	03 33 28.7	-1.5
RSD					Sg	03 33 37.2	-1.6
MLH	**Mauna Loa**	**0.71**	**341**		Pg	03 33 29.9	-1.5
MLH					Sg	03 33 38.8	-1.8
MLH	**Mauna Loa**	**0.71**	**341**	IAML		03 33 39.8	
	comp=E,388nm,0.3s						
MWH	**Mokuaweoweo**	**0.79**	**327**		Pg	03 33 30.7	-2.2
MWH					Sg	03 33 41.0	-2.2
MWH	**Mokuaweoweo**	**0.79**	**327**	IAML		03 33 43.0	
	comp=N,269nm,0.5s						
MWH				IAML		03 33 43.2	
	comp=E,342nm,0.9s						
HMH	**Humu'ula Sheep**	**0.84**	**337**		Pg	03 33 31.7	-2.2
HMH	**Humu'ula Sheep**	**0.84**	**337**		Sg	03 33 42.1	-2.8
ALEP	**Alea Permanent**	**0.86**	**326**		Pg	03 33 31.4	-2.8
ALEP					Sg	03 33 41.9	-3.6
POHA	**Pohakuloa**	**1.00**	**338**		Sg	03 33 44.6	-5.3
POHA	**Pohakuloa**	**1.00**	**338**		Pg	03 33 33.2	-3.7
POHA				IAML		03 33 45.6	
	comp=E,138nm,0.5s						
POHA				IAML		03 33 46.0	
	comp=E,154nm,0.5s						
HUH	**Hualalai**	**1.08**	**322**		Pg	03 33 34.6	-3.9

IDC 30 03:35:20.2±293.0,53°.35N×33°.80E,h0km,Error ellipse: s-maj=116.9km s-min=79.7km az=19.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.91**	**29**	I	I	03 58 20.0	
	0.2nm,0.7s,baz=212,slow=336,SNR=11						
I37NO	**I37NO**	**17.30**	**342**	I	I	05 23 50.0	
	baz=150,slow=334,SNR=1.5						
I48TN	**KESRA INFRASON**	**24.53**	**234**	I	I	06 05 10.0	
	baz=36,slow=323,SNR=1.3						

DJA 30 03:41:50.0±0.5,8°S±20°×11°6E±°,h262km±4km,M3.4/11, mb3.5/3,MLv3.3/11,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.76**	**249**	S	S	03 42 55.3	+2.4
SRBI	**Singaraja**	**0.78**	**294**	P	Pn	03 42 25.0	-0.2
TWSI	**Taliwang, Sumb**	**1.00**	**110**	P	Pn	03 42 27.5	+1.2
TWSI				S	S	03 42 54.8	-0.1
JAGI	**Jajag, Banyuwa**	**1.76**	**268**	P	Pn	03 42 31.5	0.0
JAGI				S	S	03 43 05.0	+0.8
PLAI	**Plampang**	**1.88**	**103**	P	Pn	03 42 32.9	+0.5
PLAI				S	S	03 43 05.4	-0.5
GMJI	**Gumukmas**	**2.46**	**273**	P	Pn	03 42 37.8	0.0
GMJI				S	S	03 43 16.0	+0.4
WBSI	**Waikabubak, Su**	**3.63**	**110**	P	Pn	03 42 50.7	+0.5
WBSI				S	S	03 43 38.4	+0.3
PCJI	**Pacitan**	**4.71**	**272**	P	Pn	03 43 02.6	-0.1
PCJI				S	S	03 43 59.8	-0.9
UGM	**Wanagama**	**5.38**	**275**	P	Pn	03 43 10.4	-0.4
	68nm,2.1s						
EDFI	**Ende, Flores**	**5.71**	**94**	P	Pn	03 43 14.5	-0.4
	0.0nm4.5nm,1.0s						

*DNK **30** 03:45:57.9±4.0,79°.02N×3°.74E,h10km,ML2.1*
*BER **30** 03:45:59.9±3.5,78°.97N×3°.64E,h10km,mb(Pn)4.2,ML3.6(NAO),Confirmed Earthquake*
*KOLA **30** 03:46:01.4,78°.90N×4°.83E,h0km,ML2.4,Error ellipse: s-maj=24.3km s-min=12.7km az=140.0,Greenland sea,Knipovich ridge, north*
*FCIAR **30** 03:46:02.0,78°.71N×4°.37E,h10km,station ZFI2 has station magnitude of 3.70 station OMEGA has station magnitude of 3.60*
*NAO **30** 03:46:02.5±4.3,78°.73N×5°.39E,ML3.6*
ISC 30 03:45:56.8±1.7,78°.98N±0°.06×3°.63E±0°.05,h15km±12km, n33,σ2°18/55,2C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.60**	**88**	Pn	**Pg**	**03 46 26.6**	**-0.9**
KBS				Lg	Lg	03 46 44.0	
KBS	**Kingsbay**	**1.60**	**88**	P	**Pb**	**03 46 26.1**	**+0.1**
KBS				S	**Sn**	**03 46 44.1**	**-0.7**
KBS	**Kingsbay**	**1.60**	**88**	↑*iP*	**Pg**	**03 46 26.6**	**-0.9**
KBS				*eS*	**Sn**	**03 46 44.1**	**-0.7**
KBS	**Kingsbay**	**1.60**	**88**	*i P*	**Pb**	**03 46 26.5**	**+0.5**
KBS				*i S*	**Sn**	**03 46 44.6**	**-0.2**
BRBB	**Barentsburg B**	**2.29**	**108**	Pn	**Pn**	**03 46 36.2**	**+2.3**
BRBB				Sn	**Sn**	**03 47 01.3**	**-0.5**
BRBB	**Barentsburg B**	**2.29**	**108**	P	**Pb**	**03 46 37.0**	**-0.8**
BRBB		

comp=Z,5.0nm,0.4s
SUMG Summit 11.84 260 *i* P **Pn 03 48 45.5 +0.5**
SUMG Summit 11.84 260 *i* P **Pn 03 48 45.5 +0.5**

*MEX **30** 03:52:15.2±0.7, 14°.79N×92°.42W, h89km±8km, MD4.3*
*GCG **30** 03:52:17.0±0.9, 14°.76N×92°.33W, h62km±6km, MD4.0*
ISC 30 03:52:13.4±1.4, 14°.57N±0°.06×92°.44W±0°.04, h76km±9km, n27, σ2°.50/44, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.38**	**27**	*eP*	**Pn**	**03 52 26.2**	**+0.4**
THIG				*eS*	**Sn**	03 52 35.6	+0.7
THIG		**0.38**	**27**	*i P*	**Pn**	**03 52 26.2**	**+0.4**
SMCA	**Catarina**	**0.46**	**51**	*i P*	**Pn**	**03 52 27.2**	**+0.8**
SMCA				*i S*	**Sn**	03 52 35.4	-0.7
PATR	**El Naranjo**	**0.58**	**20**	*eP*	**Pn**	**03 52 27.4**	**-0.5**
PATR				*eS*	**Sn**	03 52 37.4	-1.1
PAVE	**Pavencul**	**0.67**	**22**	*eP*	**Pn**	**03 52 28.7**	**-0.1**
PAVE				*eS*	**Sn**	03 52 39.3	-0.7
RTAL	**Retalhuleu**	**0.72**	**93**	*eP*	**Pn**	**03 52 30.9**	**+1.9**
RTAL				*eS*	**Sn**	03 52 43.6	+3.0
STG8	**El Palmar, Qui**	**1.06**	**96**	*i P*	**Pn**	**03 52 31.9**	**-1.3**
STG8				*i S*	**Sn**	03 52 45.2	-2.8
STG5	**El Palmar, Qui**	**1.07**	**99**	*i P*	**Pn**	**03 52 32.0**	**-1.2**
STG0	**El Palmar, Qui**	**1.07**	**97**	*i P*	**Pn**	**03 52 32.1**	**-1.2**
STG0				*i S*	**Sn**	03 52 44.7	-3.5
HUEH	**Huehuetenango**	**1.18**	**51**	*eP*	**Pn**	**03 52 37.9**	**+3.3**
HUEH				*eS*	**Sn**	03 52 53.2	+2.7
PCIG		**1.36**	**327**	*eP*	**Pn**	03 52 36.3	-0.4
PCIG				*eS*	**Sn**	03 52 52.3	-1.9
CCIG	**Comitan**	**1.73**	**10**	*eP*	**Pn**	**03 52 42.8**	**+1.1**
CCIG				*eS*	**Sn**	03 52 57.8	-5.4
CCIG	**Comitan**	**1.73**	**10**	*i P*	**Pn**	**03 52 43.0**	**+1.2**
FG8	**Yepocapa, Chim**	**1.85**	**99**	*i P*	Pn	03 52 41.0	-2.2
FG16	**Alotenango, Sa**	**1.90**	**99**	*i P*	**Pn**	**03 52 42.3**	**-1.7**
FG16				*i S*	Sn	03 53 00.4	-6.8
TGIG		**2.29**	**343**	*eP*	**Pn**	**03 52 50.9**	**+1.8**
TGIG				*eS*	**Sn**	03 53 13.5	-3.0
NUBE	**Las Nubes**	**2.67**	**104**	*i P*	**Pn**	**03 52 57.7**	**+3.5**
UXUV	**UXUV**	**3.19**	**329**	*eP*	**Pn**	**03 53 01.6**	**+0.3**
UXUV				*eS*	**Sn**	03 53 37.3	-0.8
PETF	**Flores**	**3.41**	**46**	*eP*	**Pn**	**03 53 04.5**	**+0.4**
PETF				*eS*	**Sn**	03 53 42.4	-1.0
CMIG	**Matias Romero**	**3.44**	**317**	*eP*	**Pn**	**03 53 06.0**	**+1.4**
CMIG				*eS*	**Sn**	03 53 42.7	-1.5
PEIG	**Puerto Escondi**	**4.76**	**288**	*eP*	**Pn**	**03 53 22.4**	**-0.2**
YOIG	**Yosondua**	**5.42**	**296**	*eP*	**Pn**	**03 53 34.5**	**+2.6**
YOIG				*eS*	**Sn**	03 54 33.1	+0.1
TOIG	**Toxpalan**	**5.66**	**309**	*eP*	**Pn**	**03 53 38.9**	**+3.9**
TOIG				*eS*	**Sn**	03 54 37.3	-1.3
PNIG	**Pinotepa**	**5.77**	**289**	*eP*	**Pn**	**03 53 36.4**	**-0.2**
TXIG	**Tlaxiaco**	**5.78**	**298**	*eP*	**Pn**	**03 53 38.7**	**+1.9**
HLIG	**Huajuapan de L**	**6.09**	**303**	*eP*	**Pn**	**03 53 44.2**	**+3.2**
HLIG				*eS*	**Sn**	03 54 52.9	+3.5
FTIG	**Fresnillo de T**	**6.39**	**302**	*eP*	**Pn**	**03 53 47.5**	**+2.4**
FTIG				*eS*	**Sn**	**03 54 48.7**	**-8.1**

*SNET **30** 04:10:21.9±0.8, 12°.86N×90°.32W, h18km±7km, ML3.0*
*CATAC **30** 04:10:21.5±1.2, 13°.N±6°.×9°.0W±°, h2km±6km, M3.1/11, MLv3.1/11, Error ellipse: s-maj=13.9km s-min=7.4km az=15.3, confirmed*
*GCG **30** 04:10:22.2±0.9, 12°.85N×90°.42W, h34km±999km, MD4.0*
ISC 30 04:10:22.0±4.0, 12°.9N±0°.1×90°.3W±0°.1, h18km±11km, n37, σ0°.47/42, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**1.02**	**16**	S	**Sb**	**04 10 54.8**	**+0.7**
JAYA	**Jayaque - finc**	**1.15**	**47**	*eP*	**Pn**	**04 10 42.7**	**-0.7**
JAYA				*eS*	**Sn**	**04 10 58.8**	**+0.1**
JAYA				IAML		04 11 05.1	
	comp=Z,314nm,0.2s						
JAYA	**Jayaque - finc**	**1.15**	**47**	*eP*	**Pn**	**04 10 42.7**	**-0.7**
JAYA				*eS*	**Sg**	04 10 59.5	+0.1
JAYA	**Jayaque - finc**	**1.15**	**47**	P	**Pn**	**04 10 43.0**	**-0.4**
NUBE	**Las Nubes**	**1.16**	**26**	*eP*	**Pn**	**04 10 42.7**	**-0.8**
NUBE				*eS*	**Sb**	04 10 57.8	-0.5
NUBE	**Las Nubes**	**1.16**	**26**	⇑*iP*	**Pn**	**04 10 42.9**	**-0.6**
NUBE				*eS*	**Sb**	04 10 58.4	+0.1
NUBE	**Las Nubes**	**1.16**	**26**	P	**Pn**	**04 10 42.9**	**-0.6**
CEVE	**Cerro Verde**	**1.17**	**35**	*eP*	**Pn**	**04 10 43.5**	**-0.2**
CEVE	**Cerro Verde**	**1.17**	**35**	P	**Pn**	**04 10 43.5**	**-0.2**
SBLS	**San Blas**	**1.18**	**34**	*eP*	**Pn**	**04 10 43.5**	**-0.4**
SNJE	**San Jose**	**1.21**	**34**	*eP*	**Pn**	**04 10 43.9**	**-0.4**
LOAL	**Lomas de Alarc**	**1.24**	**24**	P	**Pn**	**04 10 44.4**	**-0.1**
LOAL	**Lomas de Alarc**	**1.24**	**24**	S	**Sn**	**04 11 01.0**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.27**	**24**	*eP*	**Pn**	**04 10 44.5**	**-0.4**
SLOZ	**Alcaldia de Sa**	**1.27**	**24**	P	**Pn**	**04 10 44.5**	**-0.4**
SLOZ	**Alcaldia de Sa**	**1.27**	**24**	S	**Sn**	**04 11 01.8**	**+0.3**
PMON	**Piamonte**	**1.28**	**49**	*eP*	**Pn**	**04 10 45.0**	**-0.1**
PMON	**Piamonte**	**1.28**	**49**	P	**Pn**	**04 10 44.7**	**-0.5**
PMON	**Piamonte**	**1.28**	**49**	S	**Sn**	**04 11 01.3**	**-0.7**
PANCS	**Alcalda de**	**1.33**	**56**	S	**Sn**	**04 11 03.0**	**0.0**
UNIC	**Universidad Ca**	**1.34**	**33**	S	**Sb**	**04 11 03.8**	**+0.3**
UNIC	**Universidad Ca**	**1.34**	**33**	P	**Pn**	**04 10 45.9**	**0.0**
LOMA	**Loma Larga**	**1.35**	**55**	*eP*	**Pn**	**04 10 45.6**	**-0.5**
LOMA	**Loma Larga**	**1.35**	**55**	P	**Pn**	**04 10 45.8**	**-0.4**
LFRS	**El Faro**	**1.43**	**58**	*eP*	**Pn**	**04 10 47.1**	**-0.1**
COEG	**Centro de Oper**	**1.58**	**61**	P	**Pn**	**04 10 49.0**	**-0.3**
COEG	**Centro de Oper**	**1.58**	**61**	S	**Sn**	**04 11 09.5**	**+0.2**
PAVA	**Las Pavas**	**1.58**	**57**	P	**Pn**	**04 10 49.7**	**+0.4**
PAVA	**Las Pavas**	**1.58**	**57**	S	**Sb**	**04 11 10.6**	**+0.1**
TECO	**Alcaldia de Te**	**1.63**	**65**	P	**Pn**	**04 10 50.5**	**+0.6**
TECO	**Alcaldia de Te**	**1.63**	**65**	S	**Sn**	**04 11 09.6**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.75**	**61**	*eP*	**Pn**	**04 10 52.0**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.75**	**61**	S	**Sb**	**04 11 15.5**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.75**	**61**	P	**Pn**	**04 10 52.0**	**+0.4**
MTO3	**Montecristo**	**1.78**	**31**	*eP*	**Pn**	**04 10 52.6**	**+0.4**
MTO3	**Montecristo**	**1.78**	**31**	*eP*	**Pn**	**04 10 52.9**	**+0.7**
MTO3				*eS*	**Sb**	**04 11 16.7**	**+0.2**
MTO3	**Montecristo**	**1.78**	**31**	P	**Pn**	**04 10 52.9**	**+0.7**

IDC 30 04:11:45.8±2.0, 4°.74S×124°.74E, h0km, mb3.5/2, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=347.6km s-min=29.6km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.77**	**149**	P	Pn	04 15 53.7	-1.0
	0.1nm,0.3s,baz=326,slow=13,SNR=2.6 0.7nm,0.6s						
ASAR	**Alice Springs**	**20.79**	**156**	P	P	04 16 29.2	+0.5
	2.6nm,0.8s,baz=328,slow=10,SNR=9.6 2.6nm,0.8s						
MKAR	**Makanchi Array**	**63.54**	**329**	P	P	04 22 18.1	-0.1
	0.2nm,0.6s,baz=139,slow=4.8,SNR=2.9 0.2nm,0.6s						

*RSNC **30** 04:16:30.8±1.0, 2°.5±9°.×8°.1W±°, h0km, M3.3, mb3.9, ML2.9*
*IGQ **30** 04:16:36.2±0.3, 2°.5±2°.×8°.1W±°, h3km±1km, MLv3.4/24*
ISC 30 04:16:35.2±1.0, 1°.91S±0°.03×80°.72W±0°.05, h14km±12km, n63, σ2°.14/72, 2C-5D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLP	**Puerto Lpez**	**0.37**	**351**	P	**Pg**	**04 16 42.5**	**-0.2**
PPLP				S	**Sg**	**04 16 48.8**	**+1.0**
PPLP	**Puerto Lpez**	**0.37**	**351**	⇓P	**Pg**	**04 16 43.5**	**+0.8**
PPLP				S	**Sg**	**04 16 49.6**	**+1.9**
SALI	**Salinas**	**0.39**	**225**	⇑P	**Pg**	**04 16 42.0**	**-1.1**
SALI				S	**Sg**	**04 16 46.7**	**-1.7**
ISPT	**Isla de la Pla**	**0.74**	**331**	⇓P	**Pg**	**04 16 48.3**	**-1.3**
ISPT				S	**Sg**	**04 16 59.0**	**-0.2**
AMNT	**Manta-Manabi**	**0.96**	**359**	P	**Pb**	**04 16 54.6**	**+0.8**
MILO	**Milagro-Astudi**	**1.22**	**108**	P	**Pn**	**04 16 58.6**	**+0.7**
AQUE	**Quevedo**	**1.49**	**55**	P	**Pb**	**04 17 03.8**	**+1.0**
COHC	**Cochancay**	**1.56**	**111**	P	Pg	04 17 11.2	+5.9
JSCH	**Cashca Tororas**	**1.75**	**84**	P	**Pn**	**04 17 06.7**	**+1.2**
PCRA	**Pucara 2**	**1.77**	**137**	P	**Pb**	**04 17 08.5**	**+0.7**
CHSH	**Refugio Sur-Vo**	**1.89**	**77**	P	**Pb**	**04 17 09.9**	**-0.1**
BMAS	**Trigal station**	**2.27**	**80**	P	**Pn**	**04 17 14.9**	**+2.2**
JUI6	**Juive**	**2.30**	**78**	P	**Pb**	**04 17 16.4**	**-0.3**
ILLI	**Illinizas Sur**	**2.31**	**59**	P	**Pn**	**04 17 15.5**	**+2.1**
POND	**Pondoa**	**2.31**	**78**	⇑P	**Pb**	**04 17 16.8**	**-0.2**
BPAT	**Tungurahua Vol**	**2.32**	**80**	P	**Pb**	**04 17 16.7**	**-0.4**
BULB	**Ulba Tungurahu**	**2.35**	**79**	P	**Pb**	**04 17 17.7**	**+0.1**
BRRN	**Barrancas-Volc**	**2.50**	**63**	P	**Pb**	**04 17 20.3**	**0.0**
SLOR	**San Lorenzo -**	**2.51**	**62**	P	**Pb**	**04 17 19.9**	**-0.5**
CAMI	**Rancho Maria**	**2.53**	**61**	P	**Pb**	**04 17 21.0**	**+0.3**
BOSC	**San Juan Bosco**	**2.54**	**119**	P	**Pb**	**04 17 21.4**	**+0.7**
BV15	**Puerto Quito-O**	**2.54**	**36**	P	**Pn**	**04 17 18.6**	**+2.5**
BMOR	**Cotopaxi Volca**	**2.54**	**63**	P	**Pb**	**04 17 22.9**	**+1.9**
BNAS	**Cotopaxi Volca**	**2.55**	**61**	⇓P	**Pb**	**04 17 22.5**	**+1.3**
SUCR	**Mariscal Sucre**	**2.55**	**60**	P	**Pb**	**04 17 21.1**	**-0.1**
VCES	**Cotopaxi**	**2.57**	**65**	P	**Pb**	**04 17 22.3**	**+0.8**
BREF	**Cotopaxi Volca**	**2.59**	**62**	P	**Pb**	**04 17 22.5**	**+0.7**
PIAT	**Ana Tenorio**	**2.62**	**70**	P	**Pb**	**04 17 22.3**	**+0.2**
PIAT	**Ana Tenorio**	**2.62**	**70**	P	**Pb**	**04 17 21.5**	**-0.7**
PIAT				S	**Sb**	**04 17 55.8**	**+1.4**
BVC2	**Cotopaxi Volca**	**2.62**	**62**	P	**Pb**	**04 17 22.2**	**-0.1**
BTAM	**Cotopaxi Volca**	**2.62**	**62**	P	**Pb**	**04 17 22.1**	**-0.3**
TAMB	**Tambo**	**2.64**	**63**	P	**Pb**	**04 17 22.5**	**-0.2**
PITA	**Cotopaxi Volc**	**2.65**	**60**	P	**Pb**	**04 17 22.6**	**-0.2**
HPAL	**Hacienda Las P**	**2.66**	**51**	P	**Pn**	**04 17 21.6**	**+3.5**
GGPT	**Toaza - Volcan**	**2.68**	**51**	P	**Pn**	**04 17 21.7**	**+3.2**
JUA2	**San Juan 2**	**2.70**	**51**	P	**Pb**	**04 17 22.5**	**-1.2**
PUYO	**Puyo, Santa Ro**	**2.72**	**81**	P	**Pb**	**04 17 24.7**	**+0.9**
TERV	**Terraza Guagua**	**2.73**	**51**	P	**Pn**	**04 17 22.0**	**+2.9**
GGPC	**Guagua Pichinc**	**2.73**	**51**	P	**Pb**	**04 17 23.1**	**-1.1**
PINO	**Pino**	**2.73**	**50**	⇓P	**Pn**	**04 17 22.6**	**+3.3**
YANA	**Yana**	**2.79**	**50**	P	**Pb**	**04 17 23.7**	**-1.4**
PAC1	**Pacto, Paraso**	**2.89**	**42**	P	**Pn**	**04 17 23.1**	**+2.0**
PAC1	**Pacto, Paraso**	**2.89**	**42**	P	**Pn**	**04 17 22.8**	**+1.7**
PAC1				S	**Sg**	**04 18 07.9**	**-0.4**
ANTS	**Antisana-Sarah**	**2.91**	**61**	P	**Pb**	**04 17 27.1**	**-0.2**
PULU	**Pululahua**	**2.93**	**49**	P	**Pb**	**04 17 26.4**	**-1.2**
ANTI	**Antisana**	**2.94**	**60**	P	**Pb**	**04 17 28.3**	**+0.5**
ARDO	**Archidona, Ten**	**3.05**	**73**	P	**Pb**	**04 17 27.7**	**-1.7**
OTAV	**Otavalo**	**3.11**	**47**	P	**Pn**	**04 17 27.9**	**+3.5**
OTAV	**Otavalo**	**3.11**	**47**	P	**Pn**	**04 17 27.3**	**+2.9**
OTAV				S	**Sb**	**04 18 08.0**	**-0.7**
CUSE	**Cuicocha Este**	**3.19**	**47**	P	**Pn**	**04 17 29.5**	**+4.1**
CUSE	**Cuicocha Este**	**3.19**	**47**	P	**Pn**	**04 17 29.6**	**+4.1**
CUSE				S	**Sg**	**04 18 17.8**	**-0.2**
CUSW	**Cuicocha Oeste**	**3.22**	**47**	P	**Pb**	**04 17 32.4**	**0.0**
CUIC	**Cuicocha-Domo**	**3.22**	**47**	P	**Pn**	**04 17 29.7**	**+3.9**
CAYR	**Refugio Cayamb**	**3.32**	**55**	P	**Pb**	**04 17 33.3**	**-1.0**
IMBA	**Imbabura, San**	**3.32**	**49**	P	**Pb**	**04 17 33.9**	**-0.4**
ZUMB	**Zumba**	**3.33**	**152**	P	**Pb**	**04 17 30.2**	**+3.1**
ANGU	**Angureal**	**3.33**	**54**	⇓P	**Pb**	**04 17 33.4**	**-1.1**
URCU	**Urcuqui**	**3.39**	**47**	P	**Pb**	**04 17 33.7**	**-1.7**
YAHU	**Yahuarcocha**	**3.48**	**49**	P	**Pb**	**04 17 34.7**	**-2.3**
CHMA	**Chilma**	**3.82**	**44**	P	**Pn**	**04 17 38.6**	**+4.6**
CHL2	**Volc¡n Chiles**	**3.88**	**46**	P	**Pb**	**04 17 41.3**	**-2.6**
BBAC	**Balboa, Cauca**	**5.22**	**42**	P	**Pn**	**04 17 56.2**	**+3.0**
	8.8nm,0.9s						
BBAC				S	**Sb**	**04 19 03.1**	**-6.2**
	8.8nm,0.9s						
POPC	**Popayan, Colom**	**5.99**	**42**	P	**Pn**	**04 18 05.6**	**+1.8**
	4.9nm,1.3s						
POPC				S	**Sb**	**04 19 24.7**	**-6.6**
	4.9nm,1.3s						

*IDC **30** 04:27:47.9±2.7, 25°.04S×68°.67W, h96km±23km, mb3.4/4, mbtmp3.6/7, Error ellipse: s-maj=34.7km s-min=19.0km az=95.0*
*SJA **30** 04:27:47.4±1.1, 24°.99S×68°.94W, h125km, ML3.6, MW3.6*
*GUC **30** 04:27:49.1±0.9, 24°.98S×69°.01W, h118km±5km, ML3.9*
ISC 30 04:27:48.2±0.7, 24°.98S±0°.03×68°.87W±0°.04, h110km±6km, n57, σ1°.99/81, mb3.8/4, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.68**	**254**	*eP*	**Pn**	**04 28 06.9**	**+0.2**
GO02				*eS*	**Sn**	**04 28 21.1**	**+0.6**
GO02				IAML		04 28 22.0	
	comp=E,11μm,0.1s						
GO02	**Mina Guanaco**	**0.68**	**254**	*eP*	**Pn**	**04 28 06.8**	**+0.1**
GO02				*eS*	**Sn**	04 28 20.8	+0.2
PB14	**IPOC Station P**	**1.44**	**284**	⇑*iP*	**Pn**	**04 28 14.9**	**+0.4**
PB14				*i S*	**Sn**	**04 28 34.4**	**-0.1**
PB14	**IPOC Station P**	**1.44**	**284**	*eP*	**Pn**	**04 28 15.0**	**+0.4**
PB14				*eS*	**Sn**	**04 28 36.4**	**+1.9**
PB14				IAML		04 28 37.8	
	comp=Z,634nm,0.4s						
AC02	**Maricunga**	**1.86**	**187**	*eP*	**Pn**	**04 28 21.2**	**+1.3**
AC02				*eS*	**Sn**	**04 28 46.0**	**+1.9**
AC02	**Maricunga**	**1.86**	**187**	*eP*	**Pn**	**04 28 21.3**	**+1.3**
AC02				*eS*	**Sn**	**04 28 46.4**	**+2.3**
AC01	**Pan de Azucar**	**1.95**	**233**	⇑*iP*	**Pn**	**04 28 20.4**	**-0.1**
AC01				*i S*	**Sn**	**04 28 43.9**	**-1.3**
AC01				IAML		04 28 49.1	
	comp=N,553nm,0.4s						
AC01	**Pan de Azucar**	**1.95**	**233**	*eP*	**Pn**	**04 28 20.4**	**-0.1**
AC01				IAML		04 28 45.2	
	comp=Z,259nm,0.2s						
AC01				*eS*	**Sn**	**04 28 45.4**	**+0.2**
AF01	**San Pedro de A**	**2.11**	**18**	*eP*	**Pn**	**04 28 24.6**	**+1.6**
AF01				*i S*	**Sn**	**04 28 51.4**	**+2.0**
AF01				IAML		04 28 57.0	
	comp=N,892nm,0.4s						
AF01	**San Pedro de A**	**2.11**	**18**	*eP*	**Pn**	**04 28 24.7**	**+1.8**
AF01				*eS*	**Sn**	**04 28 52.0**	**+2.6**
AF01				IAML		04 28 55.2	
	comp=Z,374nm,0.6s						
PB10	**IPOC Station P**	**2.12**	**313**	⇑*iP*	**Pn**	**04 28 23.3**	**+0.6**
PB10				*i S*	**Sn**	**04 28 47.1**	**-1.9**
PB10				IAML		04 28 58.9	
	comp=N,529nm,0.3s						
PB10	**IPOC Station P**	**2.12**	**313**	*eP*	**Pn**	**04 28 23.2**	**+0.6**
PB10				*eS*	**Sn**	**04 28 49.0**	**0.0**
PB10				IAML		04 28 57.3	
	comp=Z,296nm,0.3s						
PB06	**IPOC Station P**	**2.35**	**344**	⇑*iP*	**Pn**	**04 28 26.9**	**+1.1**
PB06				*i S*	**Sn**	**04 28 54.6**	**0.0**
PB06				IAML		04 29 04.1	
	comp=E,448nm,0.1s						
PB06	**IPOC Station P**	**2.35**	**344**	*eP*	**Pn**	**04 28 26.9**	**+1.1**
PB06				*eS*	**Sn**	**04 28 54.5**	**-0.1**
PB06				IAML		04 29 05.1	
	comp=Z,276nm,0.2s						
SALTA		**2.42**	**73**	*eP*	**Pn**	**04 28 28.6**	**+1.5**
PB05	**IPOC Station P**	**2.44**	**330**	⇑*iP*	**Pn**	**04 28 27.4**	**+0.5**
PB05				*i S*	**Sn**	**04 28 55.1**	**-1.5**
PB05				IAML		04 29 05.4	
	comp=E,504nm,0.5s						
PB05	**IPOC Station P**	**2.44**	**330**	*eP*	**Pn**	**04 28 27.5**	**+0.5**
PB05				*eS*	**Sn**	**04 28 48.7**	**-8.0**
PB05				IAML		04 29 05.2	
	comp=Z,540nm,0.7s						
AC06	**Mina Casimiro**	**2.72**	**209**	*eP*	**Pn**	**04 28 29.9**	**-0.6**
AC06				*i S*	**Sn**	**04 29 02.0**	**-1.1**
FSA	**Cafayete**	**2.85**	**114**	*eP*	**Pn**	**04 28 33.9**	**+1.6**
GO03	**Copiapo**	**2.88**	**205**	*eP*	**Pn**	**04 28 32.4**	**-0.3**
GO03				*i S*	**Sn**	**04 29 06.5**	**-0.4**
GO03	**Copiapo**	**2.88**	**205**	*eP*	**Pn**	**04 28 32.4**	**-0.3**
GO03				*eS*	Sn	04 28 56.0	-11
PB03	**IPOC Station P**	**3.02**	**344**	*eP*	**Pn**	**04 28 34.9**	**+0.3**
PB03	**IPOC Station P**	**3.02**	**344**	*eP*	**Pn**	**04 28 35.0**	**+0.3**
PB03				*eS*	Sn	04 28 58.4	-12
PB03				IAML		04 29 04.1	
	comp=Z,277nm,0.6s						
SLA	**San Lorenzo**	**3.07**	**86**	*eP*	**Pn**	**04 28 37.4**	**+2.1**
PB09	**IPOC Station P**	**3.18**	**354**	*eP*	**Pn**	**04 28 38.3**	**+1.4**
PB09				*i S*	**Sn**	**04 29 07.7**	**-6.6**
PB09	**IPOC Station P**	**3.18**	**354**	*eP*	**Pn**	**04 28 38.1**	**+1.3**
PB09				*eS*	Sn	04 29 03.0	-11
PB09				IAML		04 29 48.0	
	comp=Z,213nm,0.6s						
AZAP	**Zapla**	**3.54**	**79**	*eP*	**Pn**	**04 28 43.4**	**+1.8**
AC04	**Llanos de Chal**	**3.77**	**211**	*eP*	**Pn**	**04 28 42.5**	**-1.9**
AC04				*eS*	Sn	04 29 16.6	-11
AC04				IAML		04 29 55.9	
	comp=Z,61nm,0.3s						
VCA	**Vinchina**	**3.79**	**171**	*eP*	**Pn**	**04 28 42.1**	**-2.7**
VCA				*eS*	**Sn**	**04 29 26.6**	**-2.1**
PB01	**IPOC Station P**	**3.96**	**352**	*eP*	**Pn**	**04 28 47.0**	**0.0**
PB01				*eS*	Sn	04 29 19.6	-13
PB01				IAML		04 30 02.8	
	comp=Z,73nm,0.2s						
AC05	**El Transito**	**4.04**	**198**	*eP*	**Pn**	**04 28 48.1**	**-0.1**
AC05				*eS*	**Sn**	**04 29 34.2**	**-0.5**
AC05				IAML		04 30 08.2	
	comp=Z,52nm,0.7s						
LCO	**Las Campanas**	**4.34**	**202**	*eP*	**Pn**	**04 28 51.2**	**-1.1**
LCO				*eS*	**Sn**	**04 29 39.9**	**-2.1**
LCO				IAML		04 29 42.1	
	comp=Z,102nm,0.9s						
CYA	**Choya**	**4.41**	**142**	*eP*	**Pn**	**04 28 54.3**	**+1.2**
CYA				*eS*	**Sn**	**04 29 41.0**	**-2.4**
AGUA	**GUANDACOL**	**4.50**	**176**	*eP*	**Pn**	**04 28 56.2**	**+1.8**
ACLC	**CERRO LA CRUZ**	**4.75**	**159**	*eP*	**Pn**	**04 28 58.9**	**+1.2**
ACLC				*eS*	**Sn**	**04 29 47.6**	**-4.3**
PB08	**IPOC Station P**	**4.82**	**357**	*eP*	**Pn**	**04 28 58.8**	**-0.2**
PB08				IAML		04 30 24.5	
	comp=Z,26nm,0.9s						
TA02	**Huaiquique**	**4.83**	**346**	*eP*	**Pn**	**04 28 59.8**	**+1.1**
CO01	**Juntas del Tor**	**5.10**	**192**	*eP*	**Pn**	**04 29 03.3**	**+0.7**
CO01				*eS*	**Sn**	**04 30 02.7**	**+2.3**
CO01				IAML		04 30 31.8	
	comp=Z,19nm,1.9s						
AROD	**Rodeo**	**5.20**	**186**	*eP*	**Pn**	**04 29 04.9**	**+0.9**
AROD				*eS*	Sn	04 29 44.4	-18
PB11	**IPOC Station P**	**5.24**	**352**	*eP*	**Pn**	**04 29 02.9**	**-1.5**
PB11				IAML		04 30 30.5	
	comp=Z,38nm,0.9s						
GO01	**Chusmiza**	**5.29**	**357**	*eP*	**Pn**	**04 29 05.0**	**-0.4**
GO01				*eS*	Sn	04 29 46.8	-19
CFA	**Coronel Fontan**	**6.63**	**175**	P	**Pn**	**04 29 22.2**	**-0.8**
	comp=Z,2.0nm,0.3s,baz=351,slow=13,SNR=30						
CFA				S	**Sn**	**04 30 32.0**	**-5.2**
	comp=Z,1.8nm,0.3s,baz=45,slow=20,SNR=2.4						
LPAZ	**La Paz**	**8.67**	**5**	P	**Pn**	**04 29 52.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=215,slow=7.9,SNR=5.5						
CPUP	**Villa Florida**	**10.50**	**100**	P	**Pn**	**04 30 12.5**	**-3.1**
	comp=Z,0.4nm,0.4s,baz=246,slow=19,SNR=1.9						
SIV	**San Ignacio**	**11.54**	**41**	P	Pn	04 30 25.6	-4.1
	comp=Z,1.9nm,0.4s,baz=247,slow=9.2,SNR=15						
SIV				S	**Sn**	**04 32 31.6**	**-5.1**
	comp=Z,0.4nm,0.5s,baz=182,slow=16,SNR=1.5						
H03N1	**Juan Fernandez**	**12.16**	**224**	T	T	04 42 59.6	
	baz=49,slow=74						
H03N2	**Juan Fernandez**	**12.17**	**224**	T	T	04 42 59.7	
	baz=49,slow=74						
H03N3	**Juan Fernandez**	**12.18**	**224**	T	T	04 42 58.2	
	baz=49						
BDFB	**Brasilia**	**21.63**	**69**	P	**P**	**04 32 28.5**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=218,slow=10,SNR=4.1 comp=Z,1.8nm,0.6s						
SNAA	**Sanae**	**59.00**	**160**	P	**P**	**04 37 36.9**	**+0.9**
	comp=Z,1.4nm,1.0s,baz=275,slow=18,SNR=1.6 comp=Z,1.4nm,1.0s						
QSPA	**South Pole Qui**	**65.23**	**180**	P	**P**	**04 38 18.4**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=113,slow=13,SNR=19 comp=Z,1.1nm,0.5s						
PDAR	**Pinedale Array**	**77.13**	**330**	P	**P**	**04 39 31.6**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=107,slow=4.2,SNR=1.8 comp=Z,0.1nm,0.5s						
ASAR	**Alice Springs**	**126.84**	**206**	PKP	**PKPdf**	**04 46 40.2**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=95,slow=1.5,SNR=4.1						
WRA	**Warramunga Arr**	**129.97**	**209**	PKP	**PKiKP**	**04 46 46.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=152,slow=1.9,SNR=5.9						
KURBB	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTS				Lg	Lg	04 50 36.7	
	22nm,0.4s						
KOTS	**Kotyrbulak**	**4.65**	**30**	*eP*	**Pb**	**04 49 39.5**	**-0.9**
	5.7nm,0.4s						
KOTS				*e*S	**Sb**	**04 50 36.7**	**+0.1**
	22nm,0.4s						
KTBS	**Karatobe**	**4.91**	**24**	Pg	**Pb**	**04 49 45.0**	**+0.1**
	5.6nm,0.7s						
KTBS				Lg	Lg	04 50 46.3	
	19nm,0.8s						
KUU	**Kurty**	**4.98**	**21**	Pg	**Pb**	**04 49 46.3**	**+0.3**
	3.6nm,0.6s						
KUU				Lg	Lg	04 50 48.6	
	24nm,0.8s						
KUU	**Kurty**	**4.98**	**21**	*e*P	**Pb**	**04 49 46.3**	**+0.3**
	3.6nm,0.6s						
KUU				*e*S	**Sb**	**04 50 48.5**	**+2.5**
	24nm,0.8s						
SATY	**Saty**	**5.09**	**40**	*e*P	**Pg**	**04 49 59.6**	**+3.5**
	5.0nm,0.7s						
SATY				*e*S	Sg	04 51 10.8	+8.8
	7.1nm,0.4s						
UZB	**Uzynbulak**	**5.47**	**43**	Pg	**Pb**	**04 49 55.2**	**+0.8**
	5.7nm,0.8s						
UZB				Lg	Lg	04 51 03.8	
	4.1nm,0.2s						
UZB	**Uzynbulak**	**5.47**	**43**	*e*P	**Pb**	**04 49 55.2**	**+0.8**
	5.7nm,0.8s						
UZB				*e*S	**Sb**	**04 51 03.8**	**+3.4**
	4.1nm,0.2s						
ARXS	**Arharly**	**5.75**	**29**	Pg	**Pb**	**04 49 59.6**	**+0.4**
	5.0nm,0.7s						
ARXS				Lg	Lg	04 51 10.8	
	7.1nm,0.4s						
BLB	**Baldybastay**	**5.92**	**34**	Pg	**Pb**	**04 50 03.1**	**+1.0**
	13nm,0.7s						
BLB				Lg	Lg	04 51 17.5	
	12nm,1.0s						

*NEIC **30** 04:51:25.1±0.4,36°.697N±0°.009×97°.69W±0°.01,h3km±2km, mb_Lg3.3/131,ML3.5/46,ML3.7/57,Mwr3.1/21(SLM),Error ellipse: s-maj=1.3km s-min=1.1km az=212.0*
*IDC **30** 04:51:25.2±1.0,36°.75N×97°.68W,h0km,mb3.4/1, mbtmp3.4/5,ML3.3/4,Error ellipse: s-maj=12.4km s-min=11.5km az=118.0*
*NEIC **30** 04:51:25.4±0.5,36°.694N±0°.008×97°.69W±0°.01,h7km±1km, Error ellipse: s-maj=2.8km s-min=1.6km az=232.0*
*NEIC **30** 04:51:25,36°.69N×97°.69W,h3km,Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}=0.67; $M_{\theta\theta}$=4.09; $M_{\phi\phi}$=-3.41; $M_{r\theta}$=1.54; $M_{\theta\phi}$=-2.55; $M_{\phi r}$=1.55; Fault plane solution: M_0=5.07000×10^{13} NP1:φ_s=244.00000°, δ=81.00000°,λ=-155.00000°. NP2:φ_s=150.00000°, δ=65.00000°,λ=-10.00000°. Principal axes: T 5.0662, Plg11.0000°, Azm15.0000°; N 0.0031, Plg63.0000°, Azm263.0000°; P -5.0693, Plg24.0000°, Azm110.0000°;*
ISC 30 04:51:25.4±0.9,36°.69N±0°.02×97°.69W±0°.02,h12km±7km, n127,σ0°.87/113,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.21**	**318**		**Pg**	**04 51 30.1**	**+0.1**
GC02				Sg	**Sg**	**04 51 33.2**	**+0.1**
CROK	**Carrier**	**0.30**	**232**	Pg	**Pg**	**04 51 31.6**	**0.0**
CROK				Sg	**Sg**	**04 51 36.1**	**+0.3**
KAN14	**Manchester OK**	**0.34**	**320**	Pg	**Pg**	**04 51 32.4**	**0.0**
KAN14				Sg	**Sg**	**04 51 37.3**	**+0.3**
KAN14				IAML		04 51 37.6	
	comp=E,8μm,0.5s						
KAN14				IAML		04 51 37.9	
	comp=N,7μm,0.3s						
KAN17	**Caldwell West**	**0.36**	**350**	Pg	**Pb**	**04 51 32.8**	**-0.9**
KAN17				Sg	**Sb**	**04 51 37.8**	**-1.5**
KAN17				IAML		04 51 38.1	
	comp=E,6μm,0.4s						
KAN13	**South Haven SW**	**0.36**	**27**	Pg	**Pb**	**04 51 32.8**	**-0.9**
KAN13				Sg	**Sb**	**04 51 37.9**	**-1.5**
KAN13				IAML		04 51 38.2	
	comp=E,6μm,0.4s						
BLOK	**Blackwell**	**0.38**	**80**		**Pg**	**04 51 33.2**	**+0.2**
BLOK					**Sg**	**04 51 38.7**	**+0.5**
OK032	**Salt Plains WL**	**0.44**	**285**	Pg	**Pg**	**04 51 34.0**	**-0.1**
OK032				Sg	**Sg**	**04 51 39.7**	**-0.1**
OK032				IAML		04 51 40.9	
	comp=E,6μm,0.2s						
OK032				IAML		04 51 42.4	
	comp=E,6μm,0.2s						
KAN05	**Bluff City Nor**	**0.44**	**340**	Pg	**Pb**	**04 51 34.4**	**-0.8**
KAN05				Sg	**Sb**	**04 51 40.4**	**-1.4**
KAN05				IAML		04 51 41.2	
	comp=N,4μm,0.2s						
KAN05				IAML		04 51 42.5	
	comp=E,5μm,0.3s						
KAN09	**Caldwell North**	**0.45**	**7**	Pg	**Pb**	**04 51 34.3**	**-0.9**
KAN09				Sg	**Sb**	**04 51 40.6**	**-1.3**
KAN09				IAML		04 51 45.8	
	comp=N,6μm,0.3s						
KAN09				IAML		04 51 48.3	
	comp=E,4μm,0.3s						
KAN01	**Argonia South**	**0.46**	**353**	Pg	**Pb**	**04 51 34.6**	**-0.9**
KAN01				Sg	**Sb**	**04 51 41.2**	**-1.2**
KAN01				IAML		04 51 41.5	
	comp=E,4μm,0.6s						
KAN10	**Anthony SW Sta**	**0.54**	**323**		**Pb**	**04 51 36.2**	**-0.7**
KAN10					**Sb**	**04 51 43.7**	**-1.0**
KAN08	**Anthony NE Sta**	**0.58**	**337**	Pg	**Pb**	**04 51 36.8**	**-0.7**
KAN08				Sg	**Sb**	**04 51 45.1**	**-0.7**
KAN08				IAML		04 51 45.2	
	comp=E,7μm,0.4s						
KAN12	**Harper NE Stat**	**0.65**	**338**	Pg	**Pb**	**04 51 38.1**	**-0.6**
KAN12				Sg	**Sb**	**04 51 47.2**	**-0.7**
OK048	**Pawnee Station**	**0.66**	**115**	Pg	**Pg**	**04 51 38.1**	**-0.1**
OK048				Sg	**Sg**	**04 51 47.0**	**+0.2**
OK051	**E0350 and S346**	**0.71**	**105**	Pg	**Pg**	**04 51 39.0**	**-0.1**
OK051				IAML		04 51 54.4	
	comp=E,2μm,0.2s						
OK051				IAML		04 51 54.7	
	comp=E,2μm,0.2s						
OK038	**West end E0370**	**0.88**	**256**	Pg	**Pg**	**04 51 42.0**	**-0.4**
OK029	**Liberty Lake**	**0.91**	**168**	Pg	**Pg**	**04 51 42.8**	**-0.3**
OK029					**Sg**	**04 51 55.2**	**+0.3**
OK029				IAML		04 52 01.4	
	comp=E,2μm,0.6s						
QUOK	**Quay**	**0.94**	**123**	Pg	**Pg**	**04 51 43.4**	**-0.2**
QUOK				IAML		04 52 02.0	
	comp=E,2μm,0.2s						
T35A	**Sooner Cattle**	**0.97**	**76**		**Pg**	**04 51 43.7**	**-0.4**
OK052	**Battle Ridge R**	**1.00**	**134**	Pg	**Pg**	**04 51 44.3**	**-0.3**
OK052				IAML		04 51 59.5	
	comp=E,2μm,0.3s						
OK052				IAML		04 51 59.7	
	comp=E,3μm,0.3s						
NOKA	**Waynoka**	**1.00**	**267**	Pg	**Pg**	**04 51 44.3**	**-0.5**
NOKA				IAML		04 52 02.2	
	comp=E,2μm,0.2s						
ADOK	**Arcadia Dam**	**1.07**	**166**	Pg	**Pg**	**04 51 45.5**	**-0.4**
OK004	**Okla Sci Mus**	**1.18**	**172**		**Pg**	**04 51 47.7**	**-0.4**
OK004					**Sg**	**04 52 03.7**	**+0.2**
DEOK	**Depew**	**1.28**	**131**	Pg	**Pg**	**04 51 49.1**	**-0.9**
DEOK					**Sg**	**04 52 06.4**	**-0.2**
DEOK				IAML		04 52 07.1	
	comp=E,2μm,0.2s						
OKCSW	**OKLAHOMA CITY**	**1.30**	**171**	Pg	**Pg**	**04 51 49.7**	**-0.7**
OKCSW					**Sg**	**04 52 07.4**	**+0.1**
CSTR	**Hydro, Custer**	**1.32**	**218**		**Pg**	**04 51 50.0**	**-0.8**
FNO	**Franklin**	**1.45**	**171**		**Pn**	**04 51 52.0**	**+0.5**
ELIS	**Ellis County**	**1.53**	**246**		**Pn**	**04 51 53.5**	**+0.9**
W35A	**Tecumseh**	**1.67**	**157**		**Pn**	**04 51 55.6**	**+1.1**
TUL3	**Leonard**	**1.72**	**117**		**Pn**	**04 51 56.3**	**+1.1**
R32A	**Long Quarter,**	**1.91**	**335**	Pn	**Pn**	**04 51 58.8**	**+1.0**
X34A	**Smith Ranch, M**	**2.09**	**183**	Pn	**Pn**	**04 52 01.9**	**+1.5**
DRZT	**Darrouzett**	**2.12**	**264**		**Pb**	**04 52 03.3**	**-0.5**
DRZT					LR	04 52 32.8	
WMOK	**Wichita Mounta**	**2.15**	**205**		**Pn**	**04 52 02.2**	**+1.1**
WMOK	**Wichita Mounta**	**2.15**	**205**	Pn	**Pn**	**04 52 02.1**	**+1.1**
WMOK				IAmb_Lg		04 52 36.7	
	comp=Z,149nm,0.9s						
RLO	**Rose Lookout**	**2.21**	**103**	Pn	**Pn**	**04 52 03.3**	**+1.4**
KSU1	**Kansas State U**	**2.55**	**19**	Pn	**Pn**	**04 52 07.9**	**+1.3**
SMWD	**Samnorwood**	**2.61**	**233**	Pn	**Pn**	**04 52 08.8**	**+1.3**
SMWD				IAmb_Lg		04 52 46.8	
	comp=Z,74nm,1.0s						
U38A	**Gravette**	**2.67**	**94**	Pn	**Pn**	**04 52 09.6**	**+1.3**
CBKS	**Cedar Bluff**	**2.67**	**323**	Pn	**Pn**	**04 52 09.8**	**+1.5**
LOOK	**Love County**	**2.73**	**171**		**Pn**	**04 52 10.7**	**+1.6**
WTFS	**Witchita Falls**	**2.99**	**193**	Pn	**Pn**	**04 52 13.8**	**+1.1**
HHAR	**Hobbs**	**3.05**	**97**	Pn	**Pn**	**04 52 14.6**	**+1.2**
Z35A	**Perchaven, San**	**3.37**	**174**	Pn	**Pn**	**04 52 18.9**	**+1.0**
FW03	**Perrin-Whitt E**	**3.66**	**185**	Pn	**Pn**	**04 52 22.9**	**+1.0**
FW06	**Azle**	**3.71**	**178**	Pn	**Pn**	**04 52 24.0**	**+1.4**
AMTX	**Amarillo**	**3.72**	**242**	Pn	**Pn**	**04 52 23.8**	**+1.1**
AMTX				IAmb_Lg		04 53 33.1	
	comp=Z,117nm,0.8s						
PLPT	**Palo Pinto**	**3.91**	**188**	Pn	**Pn**	**04 52 26.1**	**+0.8**
APMT	**Aspermont**	**3.91**	**211**	Pn	**Pn**	**04 52 26.6**	**+1.2**
MIAR	**Mount Ida**	**3.97**	**121**	Pn	**Pn**	**04 52 27.6**	**+1.5**
MIAR				IAmb_Lg		04 53 42.0	
	comp=Z,90nm,0.8s						
FW07	**Weatherford**	**3.98**	**181**	Pn	**Pn**	**04 52 27.5**	**+1.2**
DKNS	**Dickens**	**4.02**	**222**	Pn	**Pn**	**04 52 28.1**	**+1.2**
DKNS				IAmb_Lg		04 53 31.6	
	comp=Z,58nm,0.7s						
RTBA	**Rita Blanca**	**4.08**	**268**	Pn	**Pn**	**04 52 28.9**	**+1.2**
Z38A	**Mt. Pleasant**	**4.08**	**146**	Pn	**Pn**	**04 52 28.6**	**+1.0**
TREL	**Terrell**	**4.17**	**161**	Pn	**Pn**	**04 52 29.5**	**+0.6**
TREL				IAmb_Lg		04 53 45.6	
	comp=Z,74nm,0.8s						
FW14	**Alvarado**	**4.30**	**174**		**Pn**	**04 52 32.1**	**+1.4**
FW14				IAmb_Lg		04 53 45.9	
	comp=Z,54nm,0.7s						
FW13	**Cleburne**	**4.34**	**177**		**Pn**	**04 52 31.8**	**+0.6**
MGMO	**Mountain Grove**	**4.36**	**82**		**Pn**	**04 52 32.8**	**+1.2**
MGMO				IAmb_Lg		04 53 42.0	
	comp=Z,66nm,0.8s						
ABTX	**Abilene, Hawle**	**4.37**	**202**	Pn	**Pn**	**04 52 31.7**	**+0.1**
ABTX				IAmb_Lg		04 53 49.1	
	comp=Z,77nm,1.2s						
P38A	**Dawn**	**4.39**	**47**	Pn	**Pn**	**04 52 33.2**	**+1.3**
N35A	**Tabor**	**4.46**	**20**	Pn	**Pn**	**04 52 33.7**	**+0.9**
SN07	**Snyder 07**	**4.46**	**217**	Pn	**Pn**	**04 52 33.6**	**+0.7**
X40A	**Basin Creek Fa**	**4.52**	**118**	Pn	**Pn**	**04 52 34.0**	**+0.2**
X40A				IAmb_Lg		04 53 53.7	
	comp=Z,70nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.54**	**302**	Pn	**Pn**	**04 52 34.9**	**+0.7**
KSCO				IAmb_Lg		04 54 01.2	
	comp=Z,95nm,0.8s						
R40A	**Maddies Statio**	**4.59**	**68**		**Pn**	**04 52 35.6**	**+0.9**
R40A				IAmb_Lg		04 53 53.0	
	comp=Z,74nm,0.7s						
WHAR	**Wooly Hollow**	**4.59**	**106**	Pn	**Pn**	**04 52 35.3**	**+0.6**
WHAR				IAmb_Lg		04 54 00.5	
	comp=Z,78nm,0.9s						
SN05	**Snyder 5**	**4.63**	**216**	IAmb_Lg		04 53 59.2	
	comp=Z,54nm,0.8s						
WHTX	**Lake Whitney,**	**4.70**	**178**		**Pn**	**04 52 36.8**	**+0.7**
BGNE	**Belgrade**	**4.72**	**356**	Pn	**Pn**	**04 52 37.1**	**+0.7**
UALR	**University of**	**4.75**	**112**	Pn	**Pn**	**04 52 38.0**	**+1.1**
UALR				IAmb_Lg		04 53 57.9	
	comp=Z,59nm,0.9s						
POST	**Post**	**4.79**	**222**		**Pn**	**04 52 37.8**	**+0.3**
POST				IAmb_Lg		04 54 05.2	
	comp=Z,49nm,0.8s						
WLAR	**White Oak Lake**	**4.80**	**127**		**Pn**	**04 52 37.7**	**+0.2**
WLAR				IAmb_Lg		04 54 07.9	
	comp=Z,40nm,0.8s						
237A	**Washetta, Mont**	**4.93**	**161**	IAmb_Lg		04 54 13.0	
	comp=Z,65nm,0.8s						
MSTX	**Muleshoe**	**4.97**	**238**	Pn	**Pn**	**04 52 40.8**	**+0.8**
MSTX				IAmb_Lg		04 54 13.5	
	comp=Z,52nm,0.9s						
Z41A	**Richland Creek**	**5.27**	**129**	IAmb_Lg		04 54 24.7	
	comp=Z,65nm,0.8s						
T42A	**Van Buren**	**5.30**	**84**	IAmb_Lg		04 54 21.5	
	comp=Z,46nm,0.8s						
LCAR	**Lake Charles**	**5.31**	**95**		**Pn**	**04 52 44.2**	**-0.3**
LCAR				IAmb_Lg		04 54 19.2	
	comp=Z,57nm,1.0s						
CCM	**Cathedral Cave**	**5.31**	**73**		**Pn**	**04 52 45.4**	**+0.9**
L34A	**Svendsen Farm,**	**5.36**	**11**	Pn	**Pn**	**04 52 45.2**	**-0.1**
L34A				IAmb_Lg		04 54 27.2	
	comp=Z,88nm,0.7s						
T25A	**Trinidad**	**5.41**	**277**	IAmb_Lg		04 54 18.9	
	comp=Z,62nm,1.0s						
OGNE	**Ogallala**	**5.43**	**323**		**Pn**	**04 52 48.1**	**+1.7**
BRDY	**Brady**	**5.50**	**192**		**Pn**	**04 52 47.4**	**+0.2**
BRDY				IAmb_Lg		04 54 27.3	
	comp=Z,34nm,0.9s						
NATX	**Nacogdoches**	**5.52**	**152**	IAmb_Lg		04 54 31.4	
	comp=Z,58nm,0.8s						
SGCY	**Sterling City**	**5.55**	**212**		**Pn**	**04 52 47.9**	**0.0**
SGCY				IAmb_Lg		04 54 30.7	
	comp=Z,72nm,1.0s						
CCAR	**Cane Creek**	**5.57**	**118**		**Pn**	**04 52 49.3**	**+1.2**
CCAR				IAmb_Lg		04 54 29.8	
	comp=Z,38nm,0.8s						
PBMO	**Poplar Bluff**	**5.83**	**87**	Pn	**Pn**	**04 52 51.8**	**+0.1**
PBMO				IAmb_Lg		04 54 39.8	
	comp=Z,74nm,0.7s						
435B	**Jarrell**	**5.90**	**179**	IAmb_Lg		04 54 45.5	
	comp=Z,77nm,0.9s						
FVM	**French Village**	**5.93**	**75**	Pn	**Pn**	**04 52 53.1**	**+0.1**
SLM	**Saint Louis**	**6.22**	**70**	IAmb_Lg		04 54 49.6	
	comp=Z,54nm,0.8s						
SCIA	**State Center**	**6.25**	**32**	IAmb_Lg		04 54 55.2	
	comp=Z,68nm,0.7s						
SDCO	**Great Sand Dun**	**6.33**	**282**		**Pn**	**04 52 58.8**	**+0.1**
Q24A	**Divide**	**6.33**	**293**	IAmb_Lg		04 54 57.0	
	comp=Z,29nm,0.7s						
OZNA	**Ozona**	**6.43**	**207**	IAmb_Lg		04 55 06.1	
	comp=Z,26nm,0.7s						
JCT	**Junction City**	**6.44**	**197**		**Pn**	**04 53 00.6**	**+0.5**
JCT				IAmb_Lg		04 55 03.6	
	comp=Z,39nm,0.8s						
CGM3	**Cape Girardeau**	**6.45**	**82**	IAmb_Lg		04 54 47.6	
	comp=Z,51nm,0.7s						
143A	**Socs Landing,**	**6.53**	**126**	IAmb_Lg		04 55 09.1	
	comp=Z,54nm,1.0s						
HALT	**Halls**	**6.79**	**94**	IAmb_Lg		04 55 14.3	
	comp=Z,70nm,1.0s						
MNHN	**Monahans**	**6.80**	**220**		**Pn**	**04 53 04.7**	**-0.4**
ISCO	**Idaho Springs**	**6.97**	**299**		**Pn**	**04 53 08.0**	**+0.4**
ISCO				IAmb_Lg		04 55 19.7	
	comp=Z,28nm,0.8s						
ECSD	**EROS Data Cent**	**7.08**	**6**		**Pn**	**04 53 08.4**	**-0.5**
OXF	**Oxford**	**7.08**	**105**	IAmb_Lg		04 55 14.5	
	comp=Z,33nm,0.8s						
Y45A	**Yeager Farm, C**	**7.23**	**111**	IAmb_Lg		04 55 31.9	
	comp=Z,25nm,0.8s						
HNDO	**Hondo**	**7.27**	**191**		**Pn**	**04 53 11.0**	**-0.5**
HNDO				IAmb_Lg		04 55 27.7	
	comp=Z,22nm,0.9s						
L40A	**Anamosa**	**7.33**	**41**		**Pn**	**04 53 13.0**	**+0.7**
L40A				IAmb_Lg		04 55 18.9	
	comp=Z,64nm,0.9s						
ANMO	**Albuquerque**	**7.34**	**259**	IAmb_Lg		04 55 20.4	
	comp=Z,13nm,0.7s						
ANMO	**Albuquerque**	**7.34**	**259**	IAmb_Lg		04 55 22.5	
	comp=Z,12nm,0.8s						
ANMO	**Albuquerque**	**7.34**	**259**	Pn	Pn	04 53 20.5	+8.0
	comp=Z,0.3nm,0.3s,baz=218,slow=14,SNR=3.8						
ANMO				Pg	Pg	04 53 40.2	-5.7
	comp=Z,1.4nm,0.3s,baz=216,slow=8.2,SNR=18						
ANMO				Lg	Lg	04 55 12.3	
	comp=Z,0.7nm,0.3s,baz=155,slow=19,SNR=3.8						
PECS	**Pecos**	**7.38**	**226**	IAmb_Lg		04 55 32.8	
	comp=Z,24nm,0.8s						
HDIL	**Hopedale**	**7.62**	**57**		**Pn**	**04 53 17.0**	**+0.8**
DRIO	**Del Rio**	**7.66**	**200**	IAmb_Lg		04 55 36.4	
	comp=Z,21nm,0.7s						
SAND	**Sanderson**	**7.68**	**210**		**Pn**	**04 53 16.9**	**-0.3**
SAND				IAmb_Lg		04 55 42.8	
	comp=Z,25nm,0.9s						
SUSD	**Miller**	**7.80**	**353**	IAmb_Lg		04 55 40.7	
	comp=Z,51nm,0.7s						
I37A	**Lemond, Waseca**	**8.01**	**23**	IAmb_Lg		04 55 48.3	
	comp=Z,25nm,0.8s						
ALPN	**Alpine**	**8.02**	**220**		**Pn**	**04 53 22.2**	**+0.2**
MNTX	**Cornudas Mount**	**8.09**	**234**	IAmb_Lg		04 55 42.9	
	comp=Z,19nm,0.8s						
L42A	**Oliver, Polo**	**8.16**	**47**	IAmb_Lg		04 55 54.0	
	comp=Z,53nm,0.8s						
JFWS	**Jewell Farm**	**8.44**	**40**	IAmb_Lg		04 55 52.2	
	comp=Z,48nm,0.7s						
VHRN	**Van Horn**	**8.46**	**228**	IAmb_Lg		04 56 09.9	
	comp=Z,22nm,1.1s						
TXAR	**Lajitas Array**	**8.89**	**216**	Pn	**Pn**	**04 53 33.7**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=9.8						
TXAR				Pg	Pg	04 54 02.9	-13
	comp=Z,0.9nm,0.3s,baz=38,slow=14,SNR=6.7						
TXAR				Lg	Lg	04 56 03.7	
	comp=Z,1.2nm,0.3s,baz=36,slow=28,SNR=3.9						
	comp=Z,0.3nm,0.4s						
I40A	**Norwalk**	**8.99**	**35**	IAmb_Lg		04 56 21.3	
	comp=Z,32nm,0.9s						
K22A	**Casper**	**9.04**	**314**	IAmb_Lg		04 56 31.7	
	comp=Z,31nm,0.8s						
I42A	**Draeger Farm,**	**9.82**	**40**	IAmb_Lg		04 56 58.3	
	comp=Z,21nm,0.9s						
PDAR	**Pinedale Array**	**10.97**	**307**	Pn	**Pn**	**04 54 02.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=123,slow=12,SNR=3.7						
PDAR				Pg		04 54 46.6	
	comp=Z,0.2nm,0.3s,baz=119,slow=15,SNR=7.2						
PDAR				Lg	Lg	04 57 08.5	
	comp=Z,0.6nm,0.3s,baz=105,slow=32,SNR=6.1						
	comp=Z,0.1nm,0.4s						
TKL	**Tuckaleechee C**	**11.29**	**91**	Pn	**Pn**	**04 54 07.0**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=284,slow=17,SNR=4.1						
TKL				Lg	Lg	04 57 15.3	
	comp=Z,0.8nm,0.3s,baz=342,slow=20,SNR=6.4						
	comp=Z,1.8nm,0.5s						
ULM	**Lac du Bonnet**	**13.61**	**5**	Pn	Pn	04 54 33.5	-4.7
	comp=Z,0.2nm,0.3s,baz=182,slow=15,SNR=1.6						
ULM				Sn	Sn	04 56 58.6	-11
	comp=Z,0.2nm,0.3s,baz=105,slow=19,SNR=3.0						
ULM				Lg	Lg	04 58 27.2	
	comp=Z,0.3nm,0.3s,baz=128,slow=19,SNR=4.5						
	comp=Z,0.9nm,0.4s						
SADO	**Sadowa**	**16.18**	**54**	Lg	Lg	04 59 43.4	
	baz=315,slow=8.6,SNR=3.2						
ILAR	**Eielson Array**	**40.30**	**330**	P	**P**	**04 59 04.0**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=113,slow=7.2,SNR=6.5						
	comp=Z,0.5nm,0.8s						

*NEIC **30** 05:07:11.4±1.3,15°.4S±0°.1×177°.0W±0°.1,h402km±8km, mb4.2/16,Error ellipse: s-maj=18.2km s-min=14.0km az=171.0*
*IDC **30** 05:07:13.6±2.3,15°.41S×177°.30W,h420km±19km,mb3.4/6, mbtmp4.3/8,Error ellipse: s-maj=51.5km s-min=20.5km az=142.0*
ISC 30 05:07:11.2±0.6,15°.4S±0°.1×177°.09W±0°.10,h400km,n34, σ1°.01/36,mb4.1/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**1.45**	**316**		**Pn**	**05 08 05.2**	**+1.0**
MSVF	**Nonsavu**	**5.22**	**243**		**Pn**	**05 08 37.4**	**+1.8**
MSVF	**Nonsavu**	**5.22**	**243**	P	**Pn**	**05 08 36.9**	**+1.2**
	145nm,0.5s,baz=76,slow=9.9,SNR=82						
MSVF				S	**S**	**05 09 45.8**	**+1.6**
	14nm,0.9s,baz=139,slow=12,SNR=1.1						
AFI	**Afiamalu**	**5.34**	**75**		**Pn**	**05 08 36.6**	**-0.4**
NIUE	**Niue**	**7.78**	**119**		**Pn**	**05 09 03.6**	**-0.1**
DZM	**Mont Dzumac**	**16.95**	**244**	P	**P**	**05 10 44.5**	**-0.4**
	6.6nm,0.9s,baz=60,slow=20,SNR=2.1						
EIDS	**Eidsvold**	**31.38**	**246**	P	**P**	**05 12 57.8**	**+0.6**
EIDS				IAmb	IAmb	05 13 05.0	
	comp=Z,28nm,1.5s						
COEN	**Coen**	**38.43**	**267**	P	**P**	**05 13 57.2**	**+0.5**
COEN				IAmb	IAmb	05 14 02.6	
	comp=Z,38nm,1.5s						
STKA	**Stephens Creek**	**40.99**	**239**	P	**P**	**05 14 16.5**	**-0.8**
STKA	**Stephens Creek**	**40.99**	**239**	P	**P**	**05 14 16.2**	**-1.1**
	comp=Z,2.2nm,0.5s,baz=79,slow=9.1,SNR=7.2						
	comp=Z,2.2nm,0.5s						
BBOO	**Buckleboo**	**45.76**	**239**	P	**P**	**05 14 54.1**	**-0.9**
BBOO				IAmb	IAmb	05 15 29.0	
	comp=Z,30nm,1.3s						
WR8	**Warramunga Arr**	**46.23**	**257**	P	**P**	**05 14 57.4**	**-1.3**
WB0	**Warramunga Arr**	**46.34**	**257**	P	**P**	**05 14 58.3**	**-1.3**
WB0				IAmb	IAmb	05 14 58.9	
	comp=Z,6.8nm,0.8s						
WRAB	**Tennant Creek**	**46.37**	**257**	P	**P**	**05 14 58.9**	**-1.0**
WRA	**Warramunga Arr**	**46.38**	**257**	P	**P**	**05 14 58.9**	**-1.1**
WRA	**Warramunga Arr**	**46.38**	**257**	P	**P**	**05 14 58.2**	**-1.8**
	comp=Z,3.6nm,0.6s,baz=81,slow=6.0,SNR=58						
WRA				PcP	**PcP**	**05 16 26.4**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=94,slow=3.0,SNR=2.5						
	comp=Z,3.6nm,0.6s						
AS31	**Alice Springs**	**46.73**	**252**	P	**P**	**05 15 02.2**	**-0.4**
ASAR	**Alice Springs**	**46.74**	**252**	P	**P**	**05 15 01.8**	**-0.9**
	comp=Z,65nm,0.4s,baz=85,slow=8.0,SNR=884						
ASAR				PcP	**PcP**	**05 16 27.7**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=109,slow=3.2,SNR=2.5						
MTN	**Manton Dam**	**50.18**	**266**	P	**P**	**05 15 28.1**	**-0.5**
FORT	**Forrest**	**52.26**	**243**	P	**P**	**05 15 42.2**	**-1.4**
FITZ	**Fitzroy Crossi**	**54.73**	**259**	P	**P**	**05 16 01.0**	**-0.4**
PSA00	**Pilbara Seismi**	**59.80**	**254**	P	**P**	**05 16 34.9**	**-1.6**
PSA00				IAmb	IAmb	05 17 15.8	
	comp=Z,4.8nm,1.0s						
MJAR	**Matsushiro Arr**	**66.66**	**322**	P	**P**	**05 17 19.8**	**-0.8**
	comp=Z,1

comp=Z,2μm,0.2s
PB10 IPOC Station P 1.36 256 ⇑*i*P **Pn 05 13 26.4 0.0**
PB10 *i* S **Sn 05 13 43.4 -0.9**
PB10 IAML 05 13 48.4
comp=N,2μm,0.3s
PB10 IPOC Station P 1.36 256 *e*P **Pn 05 13 26.3 0.0**
PB10 *e*S **Sn 05 13 43.9 -0.4**
PB10 IAML 05 13 51.6
comp=Z,938nm,0.3s
PB09 IPOC Station P 1.38 355 ⇓*i*P **Pn 05 13 27.8 +1.0**
PB09 *i* S **Sn 05 13 46.0 +1.0**
PB09 IAML 05 13 49.6
comp=N,1μm,0.6s
PB09 IPOC Station P 1.38 355 *e*P **Pn 05 13 27.7 +1.0**
PB09 *e*S **Sn 05 13 47.4 +2.4**
PB09 IAML 05 13 49.7
comp=Z,841nm,0.2s
PB14 IPOC Station P 1.86 219 *i*P **Pn 05 13 33.5 +0.5**
PB14 IAML 05 14 03.0
comp=N,1μm,0.4s
PB14 IPOC Station P 1.86 219 *e*P **Pn 05 13 33.6 +0.5**
PB14 *e*S **Sn 05 14 00.7 +4.4**
PB14 IAML 05 14 02.7
comp=Z,1μm,0.2s
GO02 Mina Guanaco 2.02 192 *i*P **Pn 05 13 36.2 +1.0**
GO02 *i* S **Sn 05 14 01.7 +1.7**
GO02 IAML 05 14 09.8
comp=N,960nm,0.3s
GO02 Mina Guanaco 2.02 192 *e*P **Pn 05 13 36.2 +1.0**
GO02 *e*S **Sn 05 14 02.5 +2.6**
PB01 IPOC Station P 2.15 351 ⇓*i*P **Pn 05 13 37.4 +0.6**
PB01 *i* S **Sn 05 14 03.9 +1.1**
PB01 IAML 05 14 09.7
comp=E,1μm,0.1s
PB01 IPOC Station P 2.15 351 *e*P **Pn 05 13 37.5 +0.8**
PB01 *e*S **Sn 05 14 06.0 +3.1**
PB01 IAML 05 14 09.1
comp=Z,733nm,0.3s
SALTA 2.75 113 *e*P **Pn 05 13 42.9 -2.2**
SALTA *e*P 05 13 43.1
TA01 Diego Aracena 2.78 339 *e*P **Pn 05 13 44.7 -0.4**
TA01 IAML 05 14 28.8
comp=E,482nm,0.3s
TA01 Diego Aracena 2.78 339 *e*P Pn 05 13 31.5 -14
TA01 *e*S Sn 05 14 27.6 +10
TA01 IAML 05 14 27.9
comp=Z,194nm,0.3s
PB08 IPOC Station P 3.02 359 *i*P **Pn 05 13 49.3 +0.6**
PB08 *i* S **Sn 05 14 27.9 +3.7**
PB08 IPOC Station P 3.02 359 *e*P **Pn 05 13 49.5 +0.8**
PB08 *e*S **Sn 05 14 29.3 +5.1**
PB08 IAML 05 14 46.0
comp=Z,140nm,0.4s
TA02 Huaiquique 3.04 342 *e*S **Sn 05 14 25.7 +1.6**
TA02 IAML 05 14 36.6
comp=Z,328nm,0.6s
AC01 Pan de Azucar 3.25 204 *e*P **Pn 05 13 50.6 -0.8**
AC01 Pan de Azucar 3.25 204 *e*P **Pn 05 13 51.0 -0.5**
AC01 *e*S **Sn 05 14 30.1 +1.1**
AC01 IAML 05 14 40.0
comp=Z,406nm,0.3s
PB11 IPOC Station P 3.44 351 *i*P **Pn 05 13 53.5 -0.6**
PB11 IPOC Station P 3.44 351 *e*P **Pn 05 13 53.6 -0.5**
PB11 *e*S **Sn 05 14 34.9 +1.0**
PB11 IAML 05 14 45.1
comp=Z,227nm,0.4s
GO01 Chusmiza 3.50 359 *e*P **Pn 05 13 56.1 +0.9**
GO01 Chusmiza 3.50 359 *e*P **Pn 05 13 55.8 +0.6**
GO01 *e*S **Sn 05 14 38.3 +2.6**
AC02 Maricunga 3.64 180 *e*P **Pn 05 13 58.2 +1.1**
AC02 *e*S Sn 05 14 51.8 +13
AC02 IAML 05 14 54.9
comp=Z,125nm,0.3s
AZAP Zapla 3.85 106 *e*P **Pn 05 13 57.8 -2.0**
GO03 Copiapo 4.51 193 *e*P **Pn 05 14 08.1 -0.5**
GO03 *e*S **Sn 05 15 00.5 +0.7**
PB16 IPOC Station P 4.83 356 *e*P **Pn 05 14 13.8 +0.4**
PB16 *e*S Sn 05 15 21.3 +13
PB16 IAML 05 15 28.3
comp=Z,88nm,0.5s
LPAZ La Paz 6.92 8 P **Pn 05 14 43.8 +1.8**
comp=Z,2.2nm,0.3s,baz=189,slow=4.3,SNR=31
CFA Coronel Fontan 8.43 175 P **Pn 05 15 00.1 -1.9**
comp=Z,3.4nm,0.3s,baz=348,slow=12,SNR=4.2
CFA S **Sn 05 16 32.1 -3.4**
comp=Z,1.1nm,0.4s,baz=39,slow=22,SNR=1.1
SIV San Ignacio 10.42 48 P **Pn 05 15 27.3 -1.9**
comp=Z,6.0nm,0.4s,baz=239,slow=12,SNR=47
SIV S **Sn 05 17 16.8 -7.4**
comp=Z,0.8nm,0.5s,baz=299,slow=23,SNR=1.5
CPUP Villa Florida 11.16 109 P Pn 05 15 33.8 -5.4
comp=Z,1.5nm,0.8s,baz=298,slow=16,SNR=2.7
BDFB Brasilia 21.25 73 P **P 05 17 41.6 -0.6**
comp=Z,1.1nm,0.4s,baz=216,slow=9.8,SNR=3.6
comp=Z,1.1nm,0.4s
SNAA Sanae 60.76 161 P **P 05 23 05.9 +0.6**
comp=Z,0.8nm,0.6s,baz=303,slow=6.6,SNR=1.3
comp=Z,0.8nm,0.6s
QSPA South Pole Qui 67.02 180 P **P 05 23 47.6 +1.1**
comp=Z,1.3nm,0.5s,baz=129,slow=6.5,SNR=16
comp=Z,1.3nm,0.5s
TORD Torodi Ar. Bea 78.10 70 P **P 05 24 52.4 -0.5**
comp=Z,1.6nm,0.7s,baz=259,slow=4.8,SNR=6.4
MKAR Makanchi Array 147.09 37 PKPbc **PKPdf 05 32 33.9 +0.2**
comp=Z,0.8nm,1.0s,baz=319,slow=2.6,SNR=4.3

*JMA **30** 05:13:41.8±0.1,23°.3N±0°.8×122°.4E±0°.5,h44km,MV2.8/13, NEAR ISHIGAKIJIMA ISLAND*
*TAP **30** 05:13:41.4,23°.27N×122°.51E,h50km,ML3.5,D*
ISC 30 05:13:38.0±1.2,23°.31N±0°.03×122°.49E±0°.02,h3km±10km, n103,σ0°88/138,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.82**	**349**	*i*P	**Pn**	**05 13 56.8**	**+0.6**
EOS4				S	**Sn**	**05 14 08.2**	**-0.5**
ECBN	**Changbin**	**0.96**	**271**	*e*S	**Sg**	**05 14 09.8**	**+0.9**
TEGC	**Jichi Village**	**0.96**	**295**	*e*S	**Sb**	**05 14 10.9**	**+0.4**
SHUL	**Shoufeng**	**0.98**	**299**	*e*P	**Pn**	**05 13 58.4**	**-0.2**
SHUL				*e*S	**Sb**	**05 14 11.3**	**+0.3**
EOS3	**EOS3**	**0.99**	**351**	*e*P	**Pn**	**05 13 59.8**	**+1.1**
EOS3				*e*S	**Sn**	**05 14 12.9**	**-0.2**
TEYL	**Yanliau Villag**	**0.99**	**304**	*e*P	**Pn**	**05 13 58.8**	**0.0**
HGSD	**Ruisui**	**1.00**	**281**	*e*P	**Pg**	**05 13 58.0**	**+0.8**
HGSD				*e*S	**Sg**	**05 14 10.5**	**+0.3**
CHKH	**Chenggong**	**1.02**	**264**	P	**Pg**	**05 13 58.2**	**+0.6**
CHKH				S	**Sg**	**05 14 10.4**	**-0.3**
EGFH	**Guangfu**	**1.04**	**290**	*e*S	**Sb**	**05 14 12.8**	**-0.1**
CHKT	**Chengkung**	**1.06**	**259**	*e*S	**Sg**	**05 14 11.2**	**-1.0**
EHYH	**Wanrong**	**1.07**	**280**	*e*P	**Pb**	**05 13 59.8**	**+0.6**
EYUL	**Yuli**	**1.08**	**272**	*e*P	**Pg**	**05 13 59.4**	**+0.6**
EHY	**Hungye**	**1.09**	**281**	P	**Pg**	**05 13 59.8**	**+0.7**
WARBT	**Fenglin Townsh**	**1.10**	**292**	P	**Pg**	**05 13 59.5**	**+0.4**
WARBT				*e*S	**Sg**	**05 14 13.2**	**-0.1**
TWF1	**Yuli**	**1.10**	**272**	P	**Pg**	**05 13 59.8**	**+0.6**
TWF1				*e*S	**Sg**	**05 14 14.4**	**+0.9**
YULB	**Yu-li**	**1.10**	**275**	P	**Pb**	**05 14 00.1**	**+0.3**
YULB				*i*S	**Sg**	**05 14 14.1**	**+0.6**
FULB	**Fuli**	**1.11**	**265**	*e*P	**Pg**	**05 13 59.7**	**+0.4**
FULB				*e*S	**Sg**	**05 14 12.9**	**-0.8**
TWD	**Chiawan**	**1.13**	**313**	*e*P	**Pb**	**05 14 00.0**	**-0.1**
TWD				*e*S	**Sb**	**05 14 14.4**	**-0.8**
EOS2	**EOS2**	**1.13**	**348**	P	**Pn**	**05 14 02.1**	**+1.5**
EDH	**Donghe**	**1.15**	**253**	*e*P	**Pg**	**05 14 00.1**	**+0.1**
EDH				*e*S	**Sg**	**05 14 13.8**	**-1.1**
ETL	**Fush Village**	**1.16**	**317**	*e*P	**Pn**	**05 14 01.2**	**-0.1**
ECS	**Chishang**	**1.19**	**260**	*e*P	**Pn**	**05 14 02.6**	**+1.0**
NACB	**Ninganchiao**	**1.19**	**316**	*i*P	**Pb**	**05 14 01.2**	**-0.1**
NACB				*e*S	**Sg**	**05 14 15.9**	**-0.5**
EHD	**Haiduan**	**1.20**	**263**	*e*P	**Pg**	**05 14 01.8**	**+0.8**
EHD				*e*S	**Sg**	**05 14 16.1**	**-0.4**
JYNG	**Yonagunijimaku**	**1.21**	**20**	P	**Pn**	**05 14 03.1**	**+1.3**
LXIB	**Xiulin Townshi**	**1.22**	**306**	*e*P	**Pb**	**05 14 01.7**	**-0.1**
YOJ	**Yonaguni jima**	**1.24**	**22**	*e*P	**Pn**	**05 14 03.8**	**+1.5**
YOJ				*e*S	**Sn**	**05 14 19.7**	**+0.1**
YOJ	**Yonaguni jima**	**1.24**	**22**	P	**Pn**	**05 14 03.7**	**+1.4**
ETLH	**Xiulin Townshi**	**1.29**	**314**	*e*P	**Pb**	**05 14 03.0**	**0.0**
EWUT	**Wuta**	**1.31**	**330**	*e*P	**Pn**	**05 14 04.3**	**+1.1**
EWUT				*e*S	**Sn**	**05 14 20.7**	**-0.4**
ENA	**Nanau**	**1.31**	**328**	*e*P	**Pn**	**05 14 03.8**	**+0.6**
LONT	**Longtian**	**1.32**	**253**	*e*P	**Pb**	**05 14 04.2**	**+0.8**
VWDT	**VWDT**	**1.32**	**290**	⇑*i*P	**Pg**	**05 14 03.5**	**+0.1**
ELDTW	**Lidau**	**1.36**	**265**	*e*P	**Pn**	**05 14 03.7**	**-0.4**
ELDTW				*e*S	**Sg**	**05 14 19.3**	**-2.6**
OWD	**Renai**	**1.37**	**298**	*i*P	**Pn**	**05 14 04.0**	**-0.2**
OWD				*i*S	**Sg**	**05 14 20.6**	**-1.6**
TWGBT	**Beinan**	**1.39**	**250**	*e*S	**Sb**	**05 14 21.4**	**-1.5**
TWG	**Pinlang**	**1.40**	**250**	*e*P	**Pn**	**05 14 04.5**	**0.0**
TWG				*e*S	**Sb**	**05 14 21.1**	**-1.9**
WHF	**Hehuan Shan**	**1.40**	**307**	*e*P	**Pg**	**05 14 04.8**	**-0.2**
HATJ	**Hateruma jima**	**1.41**	**58**	P	**Pg**	**05 14 06.4**	**+1.2**
HATJ				S	**Sn**	**05 14 24.9**	**+1.1**
TWC	**Suao**	**1.42**	**336**	*e*P	**Pg**	**05 14 06.2**	**+0.8**
WUSB	**Renai**	**1.43**	**299**	*i*P	**Pb**	**05 14 05.5**	**0.0**
WUSB				*e*S	**Sg**	**05 14 23.2**	**-1.0**
FUSS	**Fushou**	**1.48**	**309**	*i*P	**Pb**	**05 14 06.3**	**0.0**
FUSS				*e*S	**Sg**	**05 14 24.3**	**-1.3**
SSLB	**Suanglung**	**1.49**	**289**	*i*P	**Pn**	**05 14 06.1**	**+0.3**
SSLB				*e*S	**Sb**	**05 14 24.4**	**-1.4**
LATG	**Datong**	**1.51**	**324**	*e*P	**Pg**	**05 14 06.9**	**-0.1**
NNSB	**Datong**	**1.51**	**318**	*i*P	**Pb**	**05 14 06.8**	**0.0**
NNSB				*i*S	**Sb**	**05 14 25.1**	**-1.3**
NNS	**Nan Shan**	**1.52**	**318**	*e*P	**Pg**	**05 14 07.0**	**-0.2**
NNS				*e*S	**Sb**	**05 14 25.9**	**-0.9**
IRIF	**Iriomote-Funau**	**1.52**	**48**	P	**Pg**	**05 14 08.0**	**+0.7**
TWT	**Tachien**	**1.53**	**308**	*e*S	**Sn**	**05 14 25.9**	**-1.0**
LAY	**Lan-yu**	**1.54**	**215**	*e*P	**Pn**	**05 14 05.3**	**-1.1**
TDCB	**Techi**	**1.54**	**308**	*e*P	**Pb**	**05 14 07.3**	**-0.1**
LYUB	**Lan-yu**	**1.55**	**213**	*e*P	**Pn**	**05 14 05.7**	**-0.8**
WHYT	**Xinyi Township**	**1.56**	**285**	*e*P	**Pb**	**05 14 07.5**	**0.0**
SMLT	**Sun Moon Lake**	**1.57**	**292**	*e*P	**Pn**	**05 14 07.0**	**0.0**
ENTT	**Nioudou**	**1.57**	**328**	*e*P	**Pg**	**05 14 08.2**	**0.0**
ECL	**Taimali**	**1.59**	**244**	*e*S	**Sn**	**05 14 25.0**	**-3.0**
STYH	**Taoyuan**	**1.59**	**265**	*e*P	**Pn**	**05 14 06.4**	**-0.6**
STYH				*e*S	**Sn**	**05 14 25.0**	**-3.0**
EGS		**1.61**	**342**	*e*P	**Pg**	**05 14 09.1**	**+0.1**
TYC	**Yuchr**	**1.61**	**292**	*e*P	**Pb**	**05 14 08.6**	**+0.1**
WCS	**Beigang Elemen**	**1.63**	**297**	*e*P	**Pb**	**05 14 08.6**	**-0.2**
FUSB	**Fushanzhiwuyua**	**1.67**	**330**	*e*P	**Pg**	**05 14 10.0**	**0.0**
JKRS	**Kuro-shima**	**1.67**	**56**	P	**Pg**	**05 14 10.3**	**+0.2**
CHN5	**Tsauling**	**1.69**	**280**	P	**Pb**	**05 14 10.4**	**+0.5**
YHNB	**Yeheng**	**1.70**	**323**	*e*P	**Pb**	**05 14 09.8**	**-0.2**
NSK	**Sanguang**	**1.71**	**323**	*e*P	**Pb**	**05 14 10.1**	**-0.1**
TPUB	**Ta-pu**	**1.71**	**270**	*e*P	**Pb**	**05 14 10.6**	**+0.4**
TPUB				*e*S	**Sn**	**05 14 31.2**	**0.0**
WHP	**Taichung City**	**1.71**	**305**	*e*P	**Pb**	**05 14 10.5**	**+0.2**
NWLT	**Wulai**	**1.72**	**328**	*e*P	**Pg**	**05 14 10.8**	**-0.2**
WCKO	**Fanlu**	**1.74**	**275**	*e*S	**Sb**	**05 14 33.5**	**+0.6**
CHN4	**Tsaushan**	**1.75**	**272**	*e*P	**Pb**	**05 14 11.3**	**+0.5**
CHN4				S	**Sb**	**05 14 33.2**	**+0.1**
WNT	**Mingjian**	**1.75**	**289**	*e*P	**Pb**	**05 14 11.2**	**+0.3**
TIPB	**Shuangxi**	**1.77**	**340**	*e*P	**Pg**	**05 14 11.4**	**-0.5**
SGST	**Jiashian**	**1.77**	**263**	*e*P	**Pb**	**05 14 11.3**	**+0.1**
SGST				*e*S	**Sn**	**05 14 33.3**	**+0.6**
SSD	**Sandimen**	**1.81**	**252**	*e*P	**Pb**	**05 14 11.9**	**+0.2**
CHN1	**Nanshi**	**1.81**	**266**	*e*P	**Pb**	**05 14 12.4**	**+0.5**
CHN1				*e*S	**Sb**	**05 14 35.3**	**+0.3**
NFF	**Wufeng Townshi**	**1.82**	**317**	*e*P	**Pg**	**05 14 12.9**	**-0.2**
NFF				*e*S	**Sb**	**05 14 34.5**	**-0.9**
JIJ	**Ishigaki jima**	**1.84**	**55**	*e*P	**Pb**	**05 14 12.2**	**-0.1**
JIJ				*e*S	**Sb**	**05 14 34.7**	**-1.1**
SNST	**Tainan City**	**1.84**	**268**	*e*S	**Sn**	**05 14 35.5**	**+1.2**
TWK	**Hsinying**	**1.84**	**269**	*e*S	**Sn**	**05 14 35.6**	**+1.1**
MASBT	**Mashibuluo**	**1.85**	**248**	*e*P	**Pn**	**05 14 11.8**	**+1.1**
SXI1	**Grass Mountain**	**1.86**	**342**	*i*P	**Pb**	**05 14 12.4**	**-0.4**
TWQ1	**Liyutan**	**1.89**	**304**	*e*P	**Pb**	**05 14 13.7**	**+0.6**
KSHI	**Guanxi Townshi**	**1.89**	**321**	*e*P	**Pg**	**05 14 13.9**	**-0.5**
NSTT	**Nanjuang**	**1.90**	**314**	*e*P	**Pb**	**05 14 13.5**	**+0.2**
NSTT				*e*S	**Sn**	**05 14 36.0**	**+0.2**
LIOB	**Emei**	**1.90**	**315**	*e*P	**Pb**	**05 14 13.7**	**+0.3**
SLIU	**Shizi**	**1.91**	**236**	*e*P	**Pn**	**05 14 12.1**	**+0.6**
CHY	**Chiayi**	**1.91**	**276**	*e*S	**Sn**	**05 14 37.1**	**+1.1**
WCHH	**Zhanghua**	**1.93**	**294**	*e*S	**Sb**	**05 14 39.1**	**+0.6**
SCZT	**Fangliau**	**1.96**	**242**	*e*P	**Pn**	**05 14 13.4**	**+1.2**
SHHT	**Tainan City**	**2.00**	**262**	*e*S	**Sg**	**05 14 42.7**	**+0.5**
YM01	**YM01**	**2.02**	**335**	*e*P	**Pb**	**05 14 15.6**	**+0.3**
ICHU	**Yijhu**	**2.04**	**272**	*e*S	**Sn**	**05 14 40.5**	**+1.3**
ZUZH	**Zhuzihu**	**2.04**	**335**	*e*P	**Pb**	**05 14 15.3**	**-0.5**
TWKBT	**Hengchun**	**2.07**	**229**	*e*P	**Pn**	**05 14 14.7**	**+1.1**
TWK1	**Hengchun**	**2.07**	**229**	*e*P	**Pn**	**05 14 14.7**	**+1.0**
JISG	**Ishigakijimahi**	**2.09**	**52**	*e*P	**Pb**	**05 14 15.5**	**-1.1**
JISG				S	**Sb**	**05 14 41.3**	**-1.7**
WSL	**Shuilin Townsh**	**2.09**	**276**	*e*P	**Pb**	**05 14 16.6**	**-0.1**
WSL				S	**Sn**	**05 14 41.9**	**+1.3**
CHN8	**Yiju**	**2.10**	**271**	*e*S	**Sb**	**05 14 42.6**	**-0.6**
WDGT	**Dungji**	**2.61**	**269**	*e*P	**Pn**	**05 14 22.5**	**+1.4**
WDGT				*e*S	**Sn**	**05 14 52.7**	**-0.5**
PHUB	**P'eng-hu**	**2.69**	**275**	*e*S	**Sn**	**05 14 55.0**	**-0.4**
PNG	**Penghu**	**2.71**	**276**	*e*P	**Pn**	**05 14 24.1**	**+1.6**
VCHM	**Qimei**	**2.82**	**269**	*e*P	**Pn**	**05 14 25.4**	**+1.4**
VWUC	**VWUC**	**3.25**	**302**	*e*P	**Pn**	**05 14 31.0**	**+1.1**
PTMZ	**Houxiangcun**	**3.53**	**300**	*e*P	**Pn**	**05 14 35.0**	**+1.3**

*IDC **30** 05:30:27.2±3.8,3°.20S×100°.47E,h0km,mb3.6/6, mbtmp3.6/6,Error ellipse: s-maj=152.6km s-min=23.2km az=58.0.*
*DJA **30** 05:30:28.1±1.5,3°.5±9°.×9°.9E±°.,h18km±16km,M3.9/5, MLv3.9/5*
ISC 30 05:30:29.3±2.6,3°.5S±0°.4×99°.9E±0°.6,h35km,n20, σ1°65/10,mb3.6/6,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**2.25**	**340**	P	**Pn**	**05 31 03.0**	**-1.0**
SISI				S	**Sn**	**05 31 31.3**	**+0.8**
PPI	**Padang Panjang**	**3.02**	**10**	P	Pn	05 31 16.0	+1.3
PPI				S	Sn	05 31 53.8	+4.2
PBSI	**Pulau Batu**	**3.72**	**335**	S	**Sn**	**05 32 04.7**	**-2.3**
MDSI	**Maura Dua**	**4.42**	**104**	P	Pn	05 31 40.1	+6.1
CMAR	**Chiang Mai Arr**	**21.79**	**358**	P	**P**	**05 35 19.2**	**+0.9**
	1.5nm,0.3s,baz=172,slow=10,SNR=8.8						
	1.5nm,0.3s						
H08S2	**Diego Garcia H**	**27.55**	**260**	T	T	06 06 17.0	
	baz=80,slow=76,SNR=8.6						
H08S3	**Diego Garcia H**	**27.56**	**260**	T	T	06 06 32.1	
	baz=80,slow=76,SNR=8.3						
H08S1	**Diego Garcia H**	**27.57**	**260**	T	T	06 06 26.9	
	baz=80,slow=76,SNR=5.8						
H01W3	**Cape Leeuwin H**	**33.97**	**159**	T	T	06 13 51.6	
	baz=334						
H01W2	**Cape Leeuwin H**	**33.98**	**159**	T	T	06 13 44.7	
	baz=334						
H01W1	**Cape Leeuwin H**	**33.98**	**159**	T	T	06 13 48.7	
	baz=334						
WRA	**Warramunga Arr**	**37.40**	**119**	P	**P**	**05 37 37.5**	**-1.8**
	0.6nm,0.9s,baz=302,slow=8.3,SNR=1.8						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**38.53**	**125**	P	**P**	**05 37 49.2**	**+0.4**
	0.1nm,0.3s,baz=305,slow=8.4,SNR=1.5						
	0.1nm,0.3s						
SONM	**Songino Array**	**51.39**	**6**	P	**P**	**05 39 31.0**	**+0.3**
	0.9nm,0.7s,baz=187,slow=5.8,SNR=2.6						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**52.38**	**345**	P	**P**	**05 39 40.5**	**+2.4**
	0.2nm,0.4s,baz=154,slow=8.6,SNR=2.8						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**58.56**	**350**	P	**P**	**05 40 23.2**	**+1.0**
	0.6nm,0.3s,baz=224,slow=4.1,SNR=3.8						
	0.6nm,0.3s						
H04N2	**CROZET ISLANDS**	**59.56**	**217**	T	T	06 45 55.2	
	baz=60,slow=75,SNR=9.4						
H04N1	**CROZET ISLANDS**	**59.57**	**217**	T	T	06 45 56.8	
	baz=60,slow=75,SNR=15						
H04N3	**CROZET ISLANDS**	**59.58**	**217**	T	T	06 46 17.4	
	baz=60,slow=75,SNR=9.0						
TXAR	**Lajitas Array**	**145.92**	**38**	PKPbc	**PKiKP**	**05 50 08.6**	**-1.0**
	0.7nm,0.8s,baz=317,slow=1.1,SNR=7.4						

*ISK **30** 05:39:30.7,38°.98N×42°.90E,h27km,ML2.6/4*
*AFAD **30** 05:39:31.7,38°.98N×42°.89E,h7km±2km,ML1.9*
ISC 30 05:39:31.2±1.1,38°.97N±0°.03×42°.90E±0°.04,h16km±9km, n10,σ0°52/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADCV	**BITLIS_Adilcev**	**0.21**	**222**	P	**Pg**	**05 39 36.2**	**-0.1**
ADCV				S	**Sb**	**05 39 40.5**	**0.0**
ADCV				*i* AML	AML	05 39 41.0	
	comp=N,355nm,0.3s						
ADCV				*i* AML	AML	05 39 42.0	
	comp=E,406nm,0.3s						
MLAZ	**Malazgirt-MUS**	**0.33**	**303**	Pg	**Pb**	**05 39 38.5**	**-0.3**
MLAZ				Sg	**Sb**	**05 39 44.6**	**+0.7**
DORK	**Agr/Tutak/Do**	**0.43**	**347**	P	**Pg**	**05 39 39.8**	**-0.2**
DORK				S	**Sb**	**05 39 46.6**	**-0.3**
DORK				*i* AML	AML	05 39 47.0	
	comp=N,579nm,0.3s						
DORK				*i* AML	AML	05 39 47.0	
	comp=E,405nm,0.4s						
VMUR	**Van-Muradiye**	**0.52**	**87**	P	**Pg**	**05 39 42.0**	**+0.3**
VMUR				S	**Sb**	**05 39 50.3**	**+0.9**
VMUR				*i* AML	AML	05 39 51.0	
	comp=N,52nm,0.6s						
VMUR				*i* AML	AML	05 39 56.0	
	comp=E,58nm,0.4s						
VANB	**Van**	**0.53**	**134**	Pg	**Pn**	**05 39 43.7**	**-0.5**
VANB				Sg	**Sn**	**05 39 53.1**	**+0.2**
AGRB	**Hanur-Agry**	**0.61**	**6**	Pg	**Pb**	**05 39 43.5**	**-0.2**
AGRB				Sg	**Sb**	**05 39 52.7**	**+0.5**
GURO	**Guroymak-BITLI**	**0.80**	**239**	Pg	**Pb**	**05 39 46.5**	**-0.3**
GURO				Sg	**Sg**	**05 39 57.9**	**+0.5**
KOTA	**Agri, Merkez-K**	**0.87**	**16**	P	**Pb**	**05 39 47.6**	**-0.5**
KOTA				S	**Sn**	**05 40 00.8**	**-0.6**
KOTA				*i* AML	AML	05 40 02.0	
	comp=N,17nm,0.7s						
KOTA				*i* AML	AML	05 40 02.0	
	comp=E,22nm,0.3s						
EATA	**Eleskirt**	**0.95**	**341**	P	**Pg**	**05 39 49.7**	**-0.1**
EATA				*i* AML	AML	05 40 04.0	
	comp=N,89nm,0.4s						
EATA				S	**Sn**	**05 40 04.4**	**+0.8**
EATA				*i* AML	AML	05 40 06.0	
	comp=E,72nm,0.5s						
HOMI	**Horasan**	**1.33**	**325**	P	**Pg**	**05 39 57.3**	**+0.5**

*SOME **30** 05:51:59.8,40°.80N×77°.68E,h15km*
*NNC **30** 05:52:00.7±0.9,40°.86N×77°.63E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=6.2km s-min=3.5km az=170.0*
*KRNET **30** 05:52:00.1±0.1,40°.84N×77°.58E,h18km,mb2.8*
ISC 30 05:52:02.4±1.9,40°.93N±0°.07×77°.61E±0°.04,h6km±12km, n34,σ1°01/55,19C-11D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.81**	**10**	⇑*i*P	**Pg**	**05 52 17.3**	**-0.8**
TARG				⇑*e*S	**Sb**	**05 52 29.8**	**-0.8**
KDJ	**Kajisay**	**1.25**	**345**	⇑*e*P	**Pn**	**05 52 24.7**	**-1.8**
KDJ				⇑*e*S	**Sn**	**05 52 42.7**	**-0.9**
NRN	**Naryn**	**1.31**	**293**	⇑*e*P	**Pn**	**05 52 25.3**	**-2.3**
NRN				⇑*e*S	**Sb**	**05 52 43.5**	**-1.4**
PRZ	**Przheval'sk**	**1.67**	**21**	⇑*e*P	**Pb**	**05 52 32.4**	**-1.1**
PRZ				⇑*e*S	**Sg**	**05 52 56.1**	**+0.2**
ULHL	**Ulahol**	**1.67**	**323**	⇓*e*P	**Pn**	**05 52 31.9**	**-0.4**
ULHL				⇓*e*S	**Sb**	**05 52 55.0**	**+0.2**
ANVS	**Anan'yevo**	**1.86**	**1**	⇓*e*P	**Pb**	**05 52 35.9**	**-0.9**
ANVS				⇓*e*S	**Sg**	**05 53 02.1**	**+0.1**
BOOM	**Boomskoye usch**	**2.00**	**322**	⇓*e*P	**Pn**	**05 52 37.4**	**+0.6**
BOOM				⇓*i*S	**Sb**	**05 53 04.5**	**0.0**
TNSS	**Tian-Shan**	**2.17**	**347**	Pg	**Pb**	**05 52 42.1**	**-0.1**
	7.5nm,0.2s						
TNSS				Lg	Lg	05 53 12.8	
	17nm,0.4s						
TNSS	**Tian-Shan**	**2.17**	**347**	*e*P	**Pb**	**05 52 42.1**	**-0.1**
	7.5nm,0.2s						
TNSS				*e*S	**Sg**	**05 53 12.3**	**+0.3**
	17nm,0.4s						
ZHN	**Zhinishke**	**2.32**	**15**	Pg	**Pb**	**05 52 44.7**	**0.0**
	6.0nm,0.1s						
ZHN				Lg	Lg	05 53 17.0	
	77nm,0.3s						
ZHN	**Zhinishke**	**2.32**	**15**	*e*P	**Pb**	**05 52 44.7**	**0.0**
	6.0nm,0.1s						
ZHN				*e*S	**Sg**	**05 53 17.0**	**0.0**
	77nm,0.3s						
KOTS	**Kotyrbulak**	**2.33**	**351**	Pg	**Pb**	**05 52 45.5**	**+0.5**
	6.2nm,0.3s						
KOTS				Lg	Lg	05 53 18.3	
	57nm,0.3s						
KOTS	**Kotyrbulak**	**2.33**	**351**	*e*P	**Pb**	**05 52 45.5**	**+0.5**
	6.2nm,0.3s						
KOTS				*e*S	**Sg**	**05 53 18.3**	**+0.8**
	57nm,0.3s						
MTBS	**Maitube**	**2.37**	**339**	Pg	**Pb**	**05 52 45.8**	**+0.3**
	7.5nm,0.3s						
MTBS				Lg	Lg	05 53 19.0	
	17nm,0.3s						
MTBS	**Maitube**	**2.37**	**339**	*e*P	**Pb**	**05 52 45.8**	**+0.3**
	7.5nm,0.3s						
MTBS				*e*S	**Sg**	**05 53 19.0**	**+0.4**
	17nm,0.3s						
KST	**Kastek**	**2.44**	**330**	Pg	**Pb**	**05 52 47.0**	**+0.2**
	5.6nm,0.4s						
KST				Lg	Lg	05 53 21.0	
	23nm,0.7s						
KST	**Kastek**	**2.44**	**330**	*e*P	**Pb**	**05 52 47.0**	**+0.2**
	5.6nm,0.4s		

-1.2014, Plg88.0000°, Azm242.0000°;
*NEIC **30** 06:02:57, 39°.71N×117°.46W, h6km*
REN 30 06:02:57.0±2.0, 39°.71N±0°.03×117°.46W±0°.04, h6km±6km, ML3.5/5, ML3.2/64(NEIC), Mwr3.3/14(NEIC), Error ellipse: s-maj=5.2km s-min=3.7km az=222.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q09A	**Carvers**	**0.90**	**166**		Pg	06 03 14.1	-0.2
Q09A					Sb	06 03 28.0	+0.5
RYN	**Ryan**	**1.36**	**218**		Pn	06 03 21.2	-1.4
RYN					Sg	06 03 40.8	0.0
NV11	**Mina Array Sit**	**1.39**	**203**		Pn	06 03 22.3	-0.8
NV11					Sn	06 03 41.8	+0.1
NV09	**Mina Array Sit**	**1.45**	**209**		Pn	06 03 22.8	-1.1
NV09					Sg	06 03 43.5	0.0
NV08	**Mina Array Sit**	**1.47**	**207**		Pn	06 03 23.0	-1.2
NV08					Sn	06 03 42.8	-1.0
PAHR	**Pah Rah Range**	**1.49**	**270**		Pn	06 03 21.9	-2.5
PAHR					Sn	06 03 41.9	-2.3
PAHR	**Pah Rah Range**	**1.49**	**270**	IAML		06 03 44.7	
	comp=N,244nm,0.8s						
PAHR				IAML		06 03 45.4	
	comp=E,317nm,0.5s						
TPH	**Tonopah**	**1.65**	**174**		Pn	06 03 25.9	-0.6
LHV	**Little Huntoon**	**1.67**	**210**		Pn	06 03 26.1	-0.7
PNTR	**Pine Nut**	**1.77**	**250**		Pn	06 03 26.6	-1.8
PNTR	**Pine Nut**	**1.77**	**250**	IAML		06 04 02.1	
	comp=N,291nm,0.7s						
PEAR	**Peavine Mounta**	**1.94**	**268**		Pn	06 03 28.6	-2.0
WAKR	**Walker**	**1.96**	**233**		Pn	06 03 29.3	-1.6
WAKR	**Walker**	**1.96**	**233**	IAML		06 04 01.2	
	comp=E,161nm,0.5s						
WAKR				IAML		06 04 01.4	
	comp=N,241nm,0.3s						
ELK	**Elko**	**1.98**	**58**	Pn	Pn	06 03 29.5	-1.8
R11B	**Troy Canyon, C**	**1.99**	**132**	Pn	Pn	06 03 31.2	-0.2
MZP	**Montezuma Peak**	**2.01**	**178**		Pb	06 03 33.4	-0.6
MZP	**Montezuma Peak**	**2.01**	**178**	IAML		06 04 02.0	
	comp=E,255nm,0.8s						
MZP				IAML		06 04 02.4	
	comp=N,150nm,0.8s						
MPK	**Martis Peak**	**2.04**	**259**		Pn	06 03 30.4	-1.6
MPK	**Martis Peak**	**2.04**	**259**	IAML		06 04 03.1	
	comp=E,138nm,0.4s						
MPK				IAML		06 04 07.5	
	comp=N,251nm,1.0s						
Q12A	**Willow Creek R**	**2.14**	**107**		Pb	06 03 35.0	-1.2
BENR	**Benton**	**2.18**	**204**		Pn	06 03 34.0	0.0
DSP	**Deep Springs**	**2.37**	**190**		Pn	06 03 36.6	+0.2
DSP	**Deep Springs**	**2.37**	**190**	IAML		06 04 13.6	
	comp=N,97nm,0.9s						
DSP				IAML		06 04 17.1	
	comp=E,118nm,1.1s						
GMN	**Gold Mountain**	**2.41**	**176**		Pn	06 03 37.0	-0.2
GMN				IAML		06 04 15.1	
	comp=E,152nm,0.8s						
GMN				IAML		06 04 16.4	
	comp=N,160nm,0.6s						
S11A	**Rachel**	**2.46**	**147**		Pn	06 03 37.5	-0.2
LCH	**Last Change Ra**	**2.48**	**184**		Pn	06 03 37.8	-0.2
SPR3	**Spring Creek 3**	**2.52**	**105**		Pn	06 03 40.7	+2.0
SPR3	**Spring Creek 3**	**2.52**	**105**	IAML		06 04 20.6	
	comp=N,112nm,0.8s						
BHPR	**Bishop**	**2.54**	**199**		Pn	06 03 39.4	+0.5
GRAC	**Grapevine Rang**	**2.71**	**179**	Pn	Pn	06 03 41.7	+0.5
SGV	**South Grapevin**	**2.75**	**173**		Pn	06 03 42.0	+0.3
AFDM	**Forest Hills D**	**2.83**	**255**		Pn	06 03 41.7	-1.0
CMB	**Columbia Colle**	**2.84**	**235**		Pn	06 03 41.8	-1.0
WVOR	**Wild Horse Val**	**2.86**	**342**		Pn	06 03 43.4	+0.1
TPNV	**Topopah Spring**	**2.92**	**161**		Pn	06 03 44.8	+0.8
TPNV				IAML		06 04 39.0	
	comp=N,92nm,0.7s						
TPNV				IAML		06 04 39.3	
	comp=N,91nm,1.1s						
PRN	**Pahroc Range**	**2.98**	**140**	IAML		06 04 41.1	
	comp=N,109nm,0.9s						
PRN				IAML		06 04 41.5	
	comp=E,111nm,0.8s						
CPY	**CP-1**	**2.99**	**158**		Pn	06 03 46.0	+1.0
WCT	**Wildcat Mounta**	**2.99**	**167**		Pn	06 03 45.1	+0.2
SDH	**Striped Hills**	**3.19**	**164**		Pn	06 03 48.3	+0.6
HATC	**Hat Creek Radi**	**3.26**	**291**	Pn	Pn	06 03 49.5	+0.9
HATC				IAML		06 04 48.5	
	comp=N,69nm,0.9s						
HATC				IAML		06 05 04.8	
	comp=E,78nm,3.6s						
MCY	**Mercury**	**3.27**	**158**		Pn	06 03 49.7	+0.9
AMDNV	**Amargosa**	**3.38**	**164**		Pn	06 03 50.9	+0.6
GWY	**Greenwater Val**	**3.58**	**170**		Pn	06 03 53.7	+0.6
GWY				IAML		06 05 00.0	
	comp=E,50nm,0.7s						
GWY				IAML		06 05 13.2	
	comp=N,59nm,1.0s						
BGU	**Big Grassy Mou**	**3.59**	**69**	Pn	Pn	06 03 53.5	+0.2
J08A	**Circle Bar Ran**	**3.72**	**348**		Pn	06 03 54.8	-0.2
J08A	**Circle Bar Ran**	**3.72**	**348**	IAML		06 04 57.1	
	comp=E,55nm,0.9s						
MFID	**Camas Ranch**	**3.90**	**18**		Pn	06 03 58.4	+0.9
MFID				IAML		06 05 05.5	
	comp=E,30nm,0.7s						
MFID				IAML		06 05 06.0	
	comp=E,28nm,1.2s						
MSU	**Marysvale**	**4.28**	**105**	Pn	Pn	06 04 01.8	-1.0
SAO	**San Andreas Ge**	**4.31**	**228**	Pn	Pn	06 04 03.0	0.0

*IDC **30** 06:03:47.8±3.5, 55°.73N×86°.33E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=28.8km s-min=27.1km az=77.0*
ASRS 30 06:03:47.0±1.1, 55°.81N×86°.12E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.01**	**202**	I	I	06 16 10.0	
	baz=21,slow=329,SNR=4.6						
ZALV	**Zalesovo Beam**	**2.01**	**202**	Pg	Pb	06 04 24.4	0.0
	2.9nm,0.3s,baz=23,slow=17,SNR=14						
ZALV				Lg	Lg	06 04 51.5	
	2.4nm,0.3s,baz=26,slow=26,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.91**	**224**	Pn	Pn	06 05 31.4	+2.0
	0.1nm,0.3s,baz=40,slow=14,SNR=5.9						
KURBB				Lg	Lg	06 07 28.9	
	0.1nm,0.3s,baz=46,slow=30,SNR=1.3						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**9.34**	**196**	Pn	Pn	06 06 01.5	-1.3
	0.2nm,0.3s,baz=13,slow=13,SNR=1.7						
MKAR				Lg	Lg	06 08 40.2	
	0.1nm,0.3s,baz=16,slow=27,SNR=2.3						
	0.1nm,0.3s						

IDC 30 06:11:02.9±302.0, 52°.80N×33°.49E, h0km, Error ellipse: s-maj=124.8km s-min=90.9km az=14.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.48**	**27**	I	I	06 38 30.0	
	0.2nm,0.6s,baz=210,slow=332,SNR=12						
I37NO	**I37NO**	**17.76**	**342**	I	I	08 00 10.7	
	baz=150,slow=332,SNR=3.0						
I48TN	**KESRA INFRASON**	**24.06**	**235**	I	I	08 38 00.0	
	baz=35,slow=320,SNR=0.9						

*NOU **30** 06:42:27.4, 38°.01S×175°.97E, h210km, MLv4.2/15, North Island, New Zealand*
*WEL **30** 06:42:29.7±0.6, 38°S±3°×17°6E±°, h194km±5km, M3.7/29, MLv3.7/29, Error ellipse: s-maj=4.8km s-min=3.4km az=47.5, confirmed*
ISC 30 06:42:26.2±1.8, 37°.95S±0°.05×176°.00E±0°.05, h222km±11km, n56, σ1§30/84, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	**0.45**	**299**	P	**Pn**	**06 42 56.3**	**+0.5**
TLZ	**Tolley Road**	**0.52**	**224**	P	**Pn**	**06 42 56.8**	**+0.8**
MUGZ	**Murupara**	**0.80**	**131**	P	**Pn**	**06 42 57.7**	**+0.6**
MUGZ				S	**S**	**06 43 20.1**	**-1.4**
URZ	**Urewera**	**0.93**	**110**	P	**Pn**	**06 42 57.8**	**0.0**
URZ	**Urewera**	**0.93**	**110**	S	**S**	**06 43 21.2**	**-1.3**
MRHZ	**Matea Rd**	**0.94**	**160**	P	**Pn**	**06 42 59.0**	**+1.0**
MRHZ				S	**S**	**06 43 22.1**	**-0.8**
MKAZ	**Moumakai**	**1.08**	**322**	P	**Pn**	**06 42 59.9**	**+1.0**
MKAZ				S	**S**	**06 43 24.4**	**+0.2**
MTHZ	**Maungataniwha**	**1.12**	**144**	P	**Pn**	**06 43 00.1**	**+1.1**
MTHZ				S	**S**	**06 43 23.6**	**-1.2**
KUZ	**Kuaotunu**	**1.22**	**350**	P	**Pn**	**06 43 00.3**	**+0.5**
RAGZ	**Rawiri**	**1.24**	**116**	P	**Pn**	**06 43 01.1**	**+1.1**
RAGZ				S	**S**	**06 43 25.1**	**-1.2**
BKZ	**Black Stump Fm**	**1.27**	**162**	P	**Pn**	**06 43 01.0**	**+0.8**
BKZ	**Black Stump Fm**	**1.27**	**162**	S	**S**	**06 43 25.5**	**-1.3**
RAHZ	**Arahi**	**1.29**	**139**	P	**Pn**	**06 43 01.9**	**+1.6**
RAHZ				S	**S**	**06 43 26.6**	**-0.2**
NMHZ	**Naumai**	**1.31**	**151**	P	**Pn**	**06 43 02.5**	**+2.1**
NMHZ				S	**S**	**06 43 27.6**	**+0.3**
ETAZ	**East Tamaki Re**	**1.31**	**319**	P	**Pn**	**06 43 01.0**	**+0.5**
ETAZ				S	**S**	**06 43 27.4**	**+0.4**
RUGZ	**Raukumara Rang**	**1.33**	**91**	P	**Pn**	**06 42 59.9**	**-0.8**
RUGZ				S	**S**	**06 43 24.1**	**-3.4**
SNGZ	**Shannon Statio**	**1.34**	**129**	P	**Pn**	**06 43 02.1**	**+1.4**
SNGZ				S	**S**	**06 43 26.6**	**-1.0**
WIAZ	**Waiheke Island**	**1.35**	**329**	P	**Pn**	**06 43 01.5**	**+0.8**
AWAZ	**Awhitu Peninsu**	**1.40**	**309**	P	**Pn**	**06 43 01.8**	**+0.7**
HAZ	**Te Kaha**	**1.43**	**83**	P	**Pn**	**06 43 01.2**	**-0.1**
HAZ				S	**S**	**06 43 26.0**	**-2.5**
MBAZ	**Motutapu North**	**1.47**	**323**	P	**Pn**	**06 43 02.6**	**+0.9**
WHHZ	**Waihua**	**1.48**	**140**	P	**Pn**	**06 43 03.5**	**+1.7**
HBAZ	**Herne Bay Bore**	**1.49**	**317**	P	**Pn**	**06 43 02.9**	**+1.0**
KWHZ	**Kaweka Forest**	**1.51**	**167**	P	**Pn**	**06 43 03.7**	**+1.7**
KWHZ				S	**S**	**06 43 29.8**	**-0.2**
WTAZ	**Waiatarua**	**1.52**	**311**	P	**Pn**	**06 43 03.4**	**+1.3**
ARHZ	**Aropaoanui**	**1.52**	**149**	P	**Pn**	**06 43 03.8**	**+1.8**
ARHZ				S	**S**	**06 43 29.9**	**-0.2**
TKGZ	**Te Karaka**	**1.54**	**109**	P	**Pn**	**06 43 03.3**	**+1.1**
TKGZ				S	**S**	**06 43 29.2**	**-1.0**
RIGZ	**Rimuhau**	**1.58**	**119**	P	**Pn**	**06 43 04.0**	**+1.4**
RIGZ				S	**S**	**06 43 30.3**	**-0.6**
TWGZ	**Tauwhareparae**	**1.58**	**99**	P	**Pn**	**06 43 03.9**	**+1.2**
TWGZ				S	**S**	**06 43 29.8**	**-1.2**
MCHZ	**McNeill Hill**	**1.59**	**160**	P	**Pn**	**06 43 04.5**	**+1.9**
MCHZ				S	**S**	**06 43 31.3**	**+0.2**
RVAZ	**Riverhead Bore**	**1.63**	**316**	P	**Pn**	**06 43 03.2**	**+0.1**
ABAZ	**Army Bay**	**1.64**	**325**	P	**Pn**	**06 43 04.0**	**+0.9**
PKGZ	**Pakihiroa**	**1.65**	**88**	P	**Pn**	**06 43 03.9**	**+0.7**
PKGZ				S	**S**	**06 43 29.8**	**-2.2**
KRHZ	**Kereru**	**1.71**	**170**	P	**Pn**	**06 43 05.0**	**+1.3**
KRHZ				S	**S**	**06 43 32.1**	**-1.0**
GKBS	**Kaiti Beach**	**1.76**	**115**	P	**Pn**	**06 43 06.6**	**+2.5**
GKBS				S	**S**	**06 43 35.0**	**+1.4**
PRGZ	**Paritu Road**	**1.77**	**124**	P	**Pn**	**06 43 05.7**	**+1.5**
PRGZ				S	**S**	**06 43 30.5**	**-3.4**
CNGZ	**Carnagh Statio**	**1.82**	**108**	P	**Pn**	**06 43 06.5**	**+1.8**
TBAS	**Tolaga Bay Are**	**1.86**	**104**	P	**Pn**	**06 43 07.1**	**+2.0**
TBAS				S	**S**	**06 43 37.1**	**+1.8**
MXZ	**Matakaoa Point**	**1.87**	**79**	P	**Pn**	**06 43 05.8**	**+0.6**
MXZ	**Matakaoa Point**	**1.87**	**79**	S	**S**	**06 43 35.7**	**+0.3**
CKHZ	**Cape Kidnapper**	**1.90**	**154**	P	**Pn**	**06 43 07.2**	**+1.8**
CKHZ				S	**S**	**06 43 35.6**	**-0.5**
WMGZ	**Waiomatatini S**	**1.92**	**87**	P	**Pn**	**06 43 06.3**	**+0.7**
WMGZ				S	**S**	**06 43 34.1**	**-2.1**
MHGZ	**Mahia Peninsul**	**1.92**	**129**	P	**Pn**	**06 43 07.3**	**+1.8**
MHGZ				S	**S**	**06 43 35.2**	**-1.1**
KAHZ	**Kahuranaki**	**1.96**	**160**	P	**Pn**	**06 43 07.8**	**+1.7**
KAHZ				S	**S**	**06 43 36.4**	**-0.8**
PNHZ	**Pukenui**	**1.96**	**175**	P	**Pn**	**06 43 07.2**	**+1.2**
PNHZ				S	**S**	**06 43 35.9**	**-1.4**
WAZ	**Wanganui**	**1.97**	**203**	P	**Pn**	**06 43 07.3**	**+1.2**
WAZ				S	**S**	**06 43 37.3**	**+0.1**
WCZ	**Waipu Caves**	**2.41**	**326**	P	**Pn**	**06 43 11.7**	**+1.1**
BFZ	**Birch Farm**	**2.73**	**176**	P	**Pn**	**06 43 14.4**	**+0.4**
OUZ	**Omahuta**	**3.34**	**324**	P	**Pn**	**06 43 22.2**	**+1.2**
OUZ	**Omahuta**	**3.34**	**324**	P	**Pn**	**06 43 21.9**	**+0.9**
SNZO	**South Karori**	**3.50**	**196**	P	**Pn**	**06 43 22.7**	**0.0**
QRZ	**Quartz Range**	**3.93**	**222**	P	**Pn**	**06 43 28.3**	**+0.4**
KHZ	**Kahutara**	**4.84**	**202**	P	**Pn**	**06 43 38.9**	**-0.1**
RPZ	**Rata Peaks**	**6.87**	**212**	P	**Pn**	**06 44 04.3**	**-0.5**
ODZ	**Otahua Downs**	**8.14**	**208**	P	**Pn**	**06 44 20.8**	**-0.3**
JCZ	**Jackson Bay**	**8.19**	**219**	P	**Pn**	**06 44 22.3**	**+0.4**

*NEIC **30** 06:53:20.3±0.5, 32°.16N±0°.01×102°.62W±0°.01, h1km, mb_Lg2.7/62, ML2.9/18, Error ellipse: s-maj=1.7km s-min=1.6km az=181.0*
*TXNET **30** 06:53:21.2, 32°.1N±0°.5×102°.6W±0°.5, h6km±1km, ML3.1/19, Error ellipse: s-maj=0.9km s-min=0.7km az=137.3, final*
ISC 30 06:53:20.8±0.9, 32°.14N±0°.01×102°.66W±0°.01, h5km±7km, n97, σ1§07/146, 6C-3D, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODSA	**Odessa**	**0.10**	**99**		**Pg**	**06 53 23.0**	**+0.1**
ODSA				Sg	**Sg**	**06 53 24.5**	**+0.2**
ODSA	**Odessa**	**0.10**	**99**	⇑P	**Pg**	**06 53 23.0**	**+0.1**
ODSA				S	**Sg**	**06 53 24.5**	**+0.2**
TMB04	**Seminole**	**0.51**	**17**	⇑P	**Pg**	**06 53 30.6**	**-0.1**
TMB04				S	**Sg**	**06 53 37.8**	**+0.5**
NM01	**Eunice**	**0.66**	**290**	P	**Pg**	**06 53 34.3**	**+0.7**
NM01				S	**Sb**	**06 53 43.8**	**-0.7**
TMB01	**Midkiff**	**0.68**	**133**	⇑P	**Pg**	**06 53 34.0**	**+0.2**
TMB01				S	**Sg**	**06 53 43.2**	**+0.6**
TPB06	**Permian Basin**	**0.68**	**224**	P	**Pb**	**06 53 34.7**	**-0.4**
TPB06				S	**Sb**	**06 53 44.7**	**-0.3**
MNHN	**Monahans**	**0.80**	**186**	Pg	**Pg**	**06 53 36.3**	**+0.2**
MNHN				Sg	**Sg**	**06 53 47.0**	**+0.6**
MNHN				IAML		06 53 51.8	
	527nm,0.6s						
MNHN				IAML		06 53 53.7	
	455nm,0.4s						
MNHN	**Monahans**	**0.80**	**186**	⇑P	**Pg**	**06 53 36.3**	**+0.2**
MNHN				S	**Sg**	**06 53 47.3**	**+0.9**
TMB05	**Klondike**	**0.84**	**54**	P	**Pg**	**06 53 36.4**	**-0.4**
TMB05				S	**Sg**	**06 53 47.9**	**+0.2**
HTMS	**Hat Mesa**	**0.89**	**292**	Pg	**Pg**	**06 53 38.2**	**+0.3**
HTMS	**Hat Mesa**	**0.89**	**292**	P	**Pb**	**06 53 38.5**	**-0.3**
HTMS				S	**Sb**	**06 53 50.8**	**-0.3**
CLN7	**Carlsbad 7**	**1.01**	**286**	Pg	**Pg**	**06 53 40.6**	**+0.4**
TPB07	**Mentone**	**1.02**	**237**	⇓P	**Pn**	**06 53 41.2**	**-0.7**
TPB07				S	**Sn**	**06 53 55.9**	**-0.7**
PCOS	**Crockett Middl**	**1.02**	**225**	P	**Pb**	**06 53 41.2**	**+0.1**
PCOS				S	**Sn**	**06 53 55.7**	**-1.0**
CLNB	**Carlsbad**	**1.04**	**277**	Pg	**Pg**	**06 53 41.0**	**+0.3**
CLNB	**Carlsbad**	**1.04**	**277**	⇑P	**Pb**	**06 53 41.4**	**0.0**
CLNB				S	**Sb**	**06 53 55.7**	**+0.3**
TMB02	**Rankin**	**1.07**	**150**	P	**Pg**	**06 53 41.3**	**-0.1**
TMB02				S	**Sb**	**06 53 55.9**	**-0.4**
TPB04	**Verhalen**	**1.08**	**209**	P	**Pb**	**06 53 41.8**	**-0.2**
TPB04				S	**Sn**	**06 53 57.1**	**-1.0**
TPB16	**Coyonosa**	**1.13**	**207**	P	**Pg**	**06 53 42.7**	**+0.3**
TPB16				S	**Sn**	**06 53 58.5**	**-0.8**
TPB11	**China Draw**	**1.18**	**261**	P	**Pg**	**06 53 44.3**	**+0.8**
TPB11				S	**Sn**	**06 54 00.1**	**-0.5**
TPB08	**Permian Basin**	**1.26**	**190**	P	**Pg**	**06 53 45.2**	**+0.3**
TPB08				S	**Sn**	**06 54 02.8**	**+0.3**
TPB10	**Southeast of T**	**1.26**	**228**	P	**Pg**	**06 53 45.4**	**+0.5**
TPB10				S	**Sn**	**06 54 02.8**	**+1.2**
TPB03	**Saragosa**	**1.28**	**215**	⇑P	**Pb**	**06 53 45.3**	**0.0**
TPB03				S	**Sn**	**06 54 02.9**	**0.0**
PECS	**Pecos**	**1.28**	**234**	Pg	**Pb**	**06 53 45.3**	**-0.1**
PECS				Sg	**Sg**	**06 54 02.5**	**+0.5**
PECS				IAML		06 54 05.0	
	262nm,0.4s						
PECS				IAML		06 54 10.7	
	252nm,0.4s						
PECS	**Pecos**	**1.28**	**234**	⇓P	**Pb**	**06 53 45.3**	**-0.1**
PECS				S	**Sg**	**06 54 02.8**	**+0.9**
SGCY	**Sterling City**	**1.32**	**99**	Pg	**Pn**	**06 53 44.9**	**-1.1**
SGCY				Sg	**Sb**	**06 54 01.7**	**-1.7**
SGCY	**Sterling City**	**1.32**	**99**	⇓P	**Pn**	**06 53 45.1**	**-0.9**
SGCY				Pg	**Pg**	**06 53 47.0**	**+0.8**
SGCY				S	**Sb**	**06 54 02.3**	**-1.2**
TPB05	**Hovey Rd**	**1.34**	**205**	P	**Pb**	**06 53 46.2**	**-0.3**
TPB05				S	**Sg**	**06 54 04.9**	**+1.2**
POST	**Post**	**1.35**	**46**	Pg	**Pn**	**06 53 44.8**	**-1.6**
POST				Sg	**Sb**	**06 54 02.6**	**-1.6**
POST	**Post**	**1.35**	**46**	P	**Pn**	**06 53 44.8**	**-1.6**
POST				Pg	**Pb**	**06 53 45.8**	**-0.9**
POST				S	**Sb**	**06 54 03.0**	**-1.2**
POST				Sg	**Sg**	**06 54 07.0**	**+2.8**
CPRX	**Cap Rock**	**1.35**	**312**		**Pn**	**06 53 45.9**	**-0.7**
TPB12	**Southwest of T**	**1.44**	**231**	Pn	**Pg**	**06 53 48.4**	**0.0**
TPB12				S	**Sg**	**06 54 08.4**	**+1.4**
GDL2	**Guadalupe Moun**	**1.45**	**273**		**Pg**	**06 53 48.7**	**+0.2**
GDL2	**Guadalupe Moun**	**1.45**	**273**	P	**Pg**	**06 53 48.7**	**+0.2**
SN08	**Arah**	**1.50**	**64**	P	**Pn**	**06 53 48.1**	**-0.3**
SN08				Pg	**Pg**	**06 53 49.1**	**-0.4**
SN08				S	**Sg**	**06 54 08.6**	**-0.4**
TPB01	**Permian Basin**	**1.52**	**219**	P	**Pb**	**06 53 49.1**	**-0.5**
TPB01				Pg	**Pg**	**06 53 50.4**	**+0.4**
TPB01				S	**Sg**	**06 54 09.9**	**+0.1**
SN02	**Snyder 2**	**1.65**	**63**	P	**Pb**	**06 53 51.2**	**-0.5**
SN02				S	**Sb**	**06 54 12.3**	**-0.5**
SN02				Sg	**Sg**	**06 54 15.1**	**+1.3**
SN03	**Snyder 3**	**1.65**	**61**	P	**Pb**	**06 53 50.8**	**-1.0**
SN03				S	**Sg**	**06 54 13.1**	**-0.8**
SN03				S	**Sb**	**06 54 15.4**	**+2.4**
SN01	**Snyder 1**	**1.66**	**64**	P	**Pb**	**06 53 51.1**	**-0.8**
SN01				S	**Sg**	**06 54 14.3**	**0.0**
SN05	**Snyder 5**	**1.67**	**63**		**Pb**	**06 53 51.2**	**-1.0**
SN05	**Snyder 5**	**1.67**	**63**	P	**Pb**	**06 53 51.6**	**-0.6**
SN05				S	**Sb**	**06 54 13.2**	**-0.4**
SN05				Sg	**Sg**	**06 54 16.5**	**+1.9**
SN07	**Snyder 07**	**1.77**	**57**		**Pb**	**06 53 52.8**	**-1.0**
SN07				IAmb_Lg		06 54 17.7	
	comp=Z,50nm,0.7s						
SN07	**Snyder 07**	**1.77**	**57**	P	**Pb**	**06 53 52.5**	**-1.3**
SN07				S	**Sb**	**06 54 15.8**	**-0.5**
SN07				Sg	**Sg**	**06 54 18.8**	**+1.1**
OZNA	**Ozona**	**1.78**	**132**		**Pb**	**06 53 53.4**	**-0.6**
OZNA				IAmb_Lg		06 54 17.6	
	comp=Z,35nm,0.7s						
OZNA	**Ozona**	**1.78**	**132**	P	**Pb**	**06 53 53.6**	**-0.4**
OZNA				S	**Sg**	**06 54 17.1**	**-0.9**
MSTX	**Muleshoe**	**1.83**	**357**		**Pn**	**06 53 53.5**	**+0.3**
MSTX	**Muleshoe**	**1.83**	**357**	P	**Pn**	**06 53 53.4**	**+0.3**
MSTX				Pg	**Pb**	**06 53 54.3**	**-0.6**
MSTX				S	**Sb**	**06 54 18.6**	**+0.4**
MSTX				Sg	**Sg**	**06 54 20.3**	**+0.6**
MSTX	**Muleshoe**	**1.83**	**357**	P	**Pn**	**06 53 53.4**	**+0.3**
MSTX				S	**Sb**	**06 54 18.5**	**+0.4**
ALPN	**Alpine**	**1.94**	**206**		**Pb**	**06 53 56.4**	**-0.5**
ALPN	**Alpine**	**1.94**	**206**	P	**Pb**	**06 53 56.3**	**-0.5**
ALPN				S	**Sg**	**06 54 22.5**	**-0.8**
DKNS	**Dickens**	**2.11**	**43**		**Pb**	**06 53 57.8**	**-1.9**
DKNS	**Dickens**	**2.11**	**43**	P	**Pn**	**06 53 57.6**	**+0.7**
DKNS				S	**Sb**	**06 54 26.0**	**-0.3**
SAND	**Sanderson**	**2.22**	**168**	Pn	**Pb**	**06 54 00.2**	**-1.3**
SAND	**Sanderson**	**2.22**	**168**	P	**Pb**	**06 54 00.2**	**-1.3**
SAND				Pg	**Pg**	**06 54 01.8**	**-1.6**
SAND				S	**Sg**	**06 54 30.7**	**-1.4**
MNTX	**Cornudas Mount**	**2.35**	**260**		**Pb**	**06 54 02.5**	**-1.3**
MNTX	**Cornudas Mount**	**2.35**	**260**	P	**Pb**	**06 54 02.8**	**-1.0**
MNTX				Pg	**Pg**	**06 54 03.8**	**-2.1**
MNTX				S	**Sg**	**06 54 35.3**	**-1.1**
VHRN	**Van Horn**	**2.40**	**237**	Pn	**Pb**	**06 54 02.9**	**-1.7**
VHRN	**Van Horn**	**2.40**	**237**	P	**Pb**	**06 54 03.9**	**-0.7**
VHRN				Pg	**Pg**	**06 54 05.3**	**-1.4**
VHRN				S	**Sg**	**06 54 37.6**	**-0.3**
APMT	**Aspermont**	**2.45**	**60**		**Pn**	**06 54 02.5**	**+1.0**
APMT	**Aspermont**	**2.45**	**60**	P	**Pn**	**06 54 02.5**	**+1.0**
APMT				Pg	**Pb**	**06 54 04.9**	**-0.4**
APMT				S	**Sb**	**06 54 33.8**	**-2.0**
APMT				S	**Sg**	**06 54 37.1**	**-2.4**
ABTX	**Abilene, Hawle**	**2.60**	**78**	Pn	**Pn**	**06 54 04.4**	**+0.9**
ABTX	**Abilene, Hawle**	**2.60**	**78**	P	**Pn**	**06 54 04.4**	**+0.9**
ABTX				Pg	**Pb**	**06 54 07.8**	**-0.1**
AMTX	**Amarillo**	**2.86**	**16**	P	**Pn**	**06 54 08.5**	**+1.2**
AMTX				S	**Sb**	**06 54 44.8**	**-3.0**
TX31	**Lajitas Ar. Si**	**2.92**	**198**		**Pn**	**06 54 09.8**	**+1.7**
TX31	**Lajitas Ar. Si**	**2.92**	**198**	P	**Pn**	**06 54 09.8**	**+1.7**
TX31				Sg	**Sg**	**06 54 52.5**	**-2.2**
TXAR	**Lajitas Array**	**2.92**	**197**		**Pn**	**06 54 09.7**	**+1.6**
JCT	**Junction City**	**2.95**	**123**	P	**Pn**	**06 54 10.3**	**+1.9**
JCT				Pg	**Pb**	**06 54 14.0**	**+0.1**
JCT				S	**Sb**	**06 54 52.3**	**+2.0**
DRIO	**Del Rio**	**3.22**	**146**		**Pn**	**06 54 13.6**	**+1.4**
DRIO	**Del Rio**	**3.22**	**146**	P	**Pn**	**06 54 13.4**	**+1.3**
BRDY	**Brady**	**3.23**	**104**	IAmb_Lg		06 55 01.5	
	comp=Z,25nm,0.7s						
BRDY

*WEL **30** 07:07:17.6±0.4, 42°S±3°×17°3E±°, h5km, M2.8/7, ML3.0/7, MLv2.8/7, Error ellipse: s-maj=3.6km s-min=3.4km az=107.1, confirmed*

ISC 30 07:07:17.8±1.0, 42°28S±0°02×172°85E±0°03, h10km±9km, n26, σ0°83/32, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSES	Hanmer Springs	0.25	184	P	Pg	07 07 23.0	+0.1
HSES				S	Sg	07 07 26.8	+0.5
MOLW	Molesworth Sta	0.35	58	P	Pg	07 07 24.8	-0.1
MOLW				S	Sg	07 07 29.7	+0.1
WTMC	Te Mara Farm W	0.38	157	P	Pb	07 07 25.7	-0.9
WTMC				S	Sb	07 07 31.6	-0.9
SJFS	Springs Juncti	0.50	263	P	Pg	07 07 27.9	+0.2
SJFS				S	Sg	07 07 34.4	+0.2
THZ	Tophouse	0.51	4	P	Pg	07 07 27.6	-0.2
THZ				S	Sg	07 07 33.9	-0.7
KHZ	Kahutara	0.53	106	P	Pg	07 07 28.0	-0.1
KHZ	Kahutara	0.53	106	S	Sg	07 07 35.7	+0.7
KHZ	Kahutara	0.53	106	P	Pg	07 07 28.2	+0.1
CECS	Cheviot Emerge	0.62	150	P	Pb	07 07 30.8	0.0
KIKS	Kaikoura	0.63	104	P	Pb	07 07 30.8	-0.2
KIKS				S	Sb	07 07 40.3	+0.4
LTZ	Lake Taylor	0.66	220	P	Pg	07 07 30.4	-0.3
GVZ	Greta Valley S	0.70	169	P	Pb	07 07 32.1	-0.1
MRNZ	Matariki Terra	0.88	355	P	Pg	07 07 34.3	-0.5
AMCZ	Amberley	0.91	189	P	Pb	07 07 36.1	+0.3
DSZ	Denniston Nort	0.94	304	P	Pb	07 07 36.2	-0.1
BSWZ	Blackbirch Sta	0.95	54	P	Pg	07 07 35.0	-1.0
NNZ	Nelson	1.13	21	P	Pg	07 07 37.9	-1.5
TKNZ	Takaka Hill	1.24	4	P	Pg	07 07 40.5	-1.2
QRZ	Quartz Range	1.47	350	P	Pn	07 07 44.6	+0.2
QRZ	Quartz Range	1.47	350	S	Sn	07 08 04.5	+0.9
SNZO	South Karori	1.69	56	P	Pn	07 07 47.1	-0.2
RPZ	Rata Peaks	1.95	222	P	Pn	07 07 50.3	-0.7
KHEZ	Kahui Hut	3.11	17	P	Pn	07 08 09.0	+2.1
ODZ	Otahua Downs	3.20	209	P	Pn	07 08 06.7	-1.4
JCZ	Jackson Bay	3.48	237	P	Pn	07 08 12.8	+0.7
HIZ	Hauiti	4.06	23	P	Pn	07 08 21.5	+1.5

TRN 30 07:25:35.8, 17°27N×61°77W, h53km, MD3.7, North of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	Bethesda, Anti	0.22	180	eP	Pn	07 25 45.5	+0.9
ANBD				eS	Sn	07 25 52.4	+1.6
ANWB	Willy Bob	0.40	357	eP	Pn	07 25 47.1	+1.0
ANWB				eS	Sn	07 25 54.7	+1.1
MBWH		0.66	218	eP	Pn	07 25 50.2	+0.9
MBWH				eS	Sn	07 26 00.3	+1.3
MBFL	Flemmings, Mon	0.67	220	eP	Pn	07 25 50.3	+1.0
SKOC	St. Kitts, UWI	0.92	272	eP	Pn	07 25 53.3	+0.8
SKOC				eS	Sn	07 26 05.9	+0.9
SKI	Saint Kitts	0.93	274	eP	Pn	07 25 54.1	+1.4
SKI				eS	Sn	07 26 06.9	+1.7
MAGL	Barre de l'ile	1.39	160	eP	Pn	07 25 59.7	+0.8
TBG	Guadaloupe-3	1.41	175	eP	Pn	07 26 00.2	+1.0
TBG				eS	Sn	07 26 18.3	+1.6
DWS	Wesley	1.75	165	eP	Pn	07 26 04.6	+0.9
DWS				eS	Sn	07 26 26.6	+1.8
DSLB	Salisbury	1.85	170	eP	Pn	07 26 05.5	+0.3
DSLB				eS	Sn	07 26 29.2	+1.8
MDN	Morne-Daniel	1.97	169	eP	Pn	07 26 07.0	+0.2
MDN				eS	Sn	07 26 31.8	+1.4
BIM	Bigot	2.82	166	eP	Pn	07 26 19.6	+1.2
BIM				eS	Sn	07 26 51.3	+0.2
SLBI	Saint Lucia, B	3.31	167	eP	Pn	07 26 26.0	+0.8
SLBI				eS	Sn	07 27 03.4	0.0
SLAC	Saint Lucia, A	3.46	166	eP	Pn	07 26 28.8	+1.7
SLAC				eS	Sn	07 27 07.7	+0.8

JMA 30 07:26:40.4±0.1, 25°N±3°×122°9E±0°7, h87km±1km, MV1.6/8, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonaguni jima	0.25	176	eS	Sn	07 27 02.9	+0.2
YOJ	Yonaguni jima	0.25	161	eP	Pn	07 26 53.2	0.0
YOJ				eS	Sn	07 27 02.8	+0.2
IRIF	Iriomote-Funau	0.82	116	P	Pn	07 26 57.9	0.0
IRIF				eS	Sn	07 27 11.2	+0.3
JKRS	Kuro-shima	1.09	115	eP	Pn	07 27 01.3	+0.4
JKRS				eS	Sn	07 27 16.8	+0.5
JIJ	Ishigaki jima	1.16	106	P	Pn	07 27 02.0	+0.2
JIJ				eS	Sn	07 27 17.5	-0.3
JISG	Ishigakijimahi	1.27	95	eP	Pn	07 27 03.5	+0.5

TAP 30 07:27:02.3, 23°87N×121°62E, h35km, ML2.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	Yanliau Villag	0.02	281	eP	Pb	07 27 08.4	+0.4
TEYL				S	Sb	07 27 13.2	+1.1
SHUL	Shoufeng	0.09	212	P	Pb	07 27 08.0	-0.3
SHUL				eS	Sb	07 27 13.6	+1.2
HWA	Hwalien	0.11	355	eP	Pb	07 27 08.8	+0.3
HWA				eS	Sb	07 27 13.6	+1.0
ETM	Tongmen	0.15	312	iP	Pb	07 27 08.6	-0.2
ETM				eS	Sb	07 27 13.0	-0.1
TEGC	Jichi Village	0.17	204	eP	Pb	07 27 09.2	+0.3
TEGC				eS	Sb	07 27 14.6	+1.3
TWD	Chiawan	0.21	355	eP	Pn	07 27 09.2	+0.1
TWD				eS	Sb	07 27 14.5	+0.4
LXIB	Xiulin Townshi	0.24	310	P	Pn	07 27 09.2	-0.4
LXIB				S	Sb	07 27 14.8	-0.1
WARBT	Fenglin Townsh	0.26	235	iP	Pn	07 27 09.3	-0.3
WARBT				iS	Sn	07 27 14.3	0.0
EGFH	Guangfu	0.26	221	eP	Pn	07 27 09.5	-0.2
EGFH				S	Sb	07 27 15.0	+0.1
NACB	Ninganchiao	0.31	357	eP	Pn	07 27 10.0	-0.3
NACB				S	Sb	07 27 15.8	-0.1
ETLH	Xiulin Townshi	0.36	340	eP	Pb	07 27 10.6	-0.6
ETLH				iS	Sn	07 27 16.6	-0.5
HGSD	Ruisui	0.41	205	eP	Pn	07 27 12.3	+0.5
HGSD				eS	Sn	07 27 20.1	+2.0
OWD	Renai	0.41	283	iP	Pn	07 27 11.9	0.0
OWD				iS	Sn	07 27 18.7	+0.2
WHF	Hehuan Shan	0.42	311	P	Pb	07 27 11.9	-0.4
WHF				eS	Sb	07 27 18.9	-0.3
EHY	Hungye	0.45	217	eP	Pb	07 27 11.4	-0.8
EHY				S	Sb	07 27 18.4	-0.7
VWDT	VWDT	0.45	256	iP	Pn	07 27 12.6	+0.4
VWDT				eS	Sb	07 27 18.9	-0.2
WUSB	Renai	0.47	286	P	Pn	07 27 13.0	+0.3
WUSB				eS	Sb	07 27 19.6	-0.3
FUSS	Fushou	0.51	318	iP	Pn	07 27 13.4	0.0
FUSS				iS	Sb	07 27 21.0	0.0
YULB	Yu-li	0.55	212	eP	Pn	07 27 12.7	-1.1
YULB				eS	Sn	07 27 20.5	-1.2
TWF1	Yuli	0.59	210	eP	Pn	07 27 13.2	-1.1
TWF1				eS	Sn	07 27 21.4	-1.2
NNSB	Datong	0.60	339	P	Pn	07 27 14.6	+0.1
NNSB				eS	Sn	07 27 22.7	-0.3
SSLB	Suanglung	0.61	263	eP	Pn	07 27 14.6	0.0
NNS	Nan Shan	0.61	339	eP	Pn	07 27 14.5	-0.2
NNS				eS	Sn	07 27 23.3	-0.2
LATG	Datong	0.67	353	eP	Pn	07 27 14.2	-1.3
TYC	Yuchr	0.69	273	eP	Pn	07 27 15.9	+0.2
TYC				eS	Sn	07 27 25.4	+0.1
WHYT	Xinyi Township	0.72	257	eP	Pb	07 27 17.6	+1.0
WHYT				eS	Sb	07 27 27.1	+0.8
WHP	Taichung City	0.74	304	eP	Pb	07 27 18.2	+1.3
WHP				eS	Sb	07 27 27.6	+0.8
YHNB	Yeheng	0.83	345	eP	Pn	07 27 17.4	-0.3
YHNB				eS	Sn	07 27 28.6	-0.1
NSK	Sanguang	0.84	344	eP	Pb	07 27 19.2	+0.5
CHN5	Tsauling	0.90	253	eP	Pb	07 27 19.9	+0.2
CHN5				eS	Sb	07 27 32.6	+1.2

IDC 30 07:32:26.1±2.1, 7°21S×127°56E, h0km, mb3.6/1, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=106.1km s-min=28.0km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.99	190	Pn	Pn	07 35 04.8	+0.1
	0.8nm,0.3s,baz=8.9,slow=12,SNR=23						
FITZ				Sn	Sn	07 36 56.0	-12
	3.0nm,0.3s,baz=154,slow=19,SNR=8.9						
	2.2nm,0.3s						
WRA	Warramunga Arr	14.27	153	Pn	Pn	07 35 48.6	-1.0
	0.3nm,0.3s,baz=330,slow=14,SNR=21						
WRA				Sn	Sn	07 38 14.3	-14
	0.9nm,0.3s,baz=329,slow=23,SNR=8.2						
	0.6nm,0.7s						
ASAR	Alice Springs	17.46	160	P	Pn	07 36 31.7	+0.5
	0.4nm,0.3s,baz=339,slow=11,SNR=27						
ASAR				S	Sn	07 39 31.4	-15
	1.2nm,0.5s,baz=319,slow=16,SNR=5.8						
	3.1nm,0.8s						
MKAR	Makanchi Array	67.09	328	P	P	07 43 21.5	0.0
	0.3nm,0.4s,baz=120,slow=7.2,SNR=4.7						
	0.3nm,0.4s						

*JSN **30** 07:58:14.4±0.6, 18°26N×76°41W, h6km±6km, MD2.8*
*SSNC **30** 07:58:15.2±1.4, 18°35N×76°48W, h10km±17km, MD3.0, ML2.2, MW1.9*

ISC 30 07:58:12.2±1.2, 18°45N±0°07×76°47W±0°05, h16km±13km, n15, σ0°51/26, 2C-1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	Stony Hill	0.49	221	eP	Pg	07 58 22.2	+0.3
STH				eS	Sg	07 58 27.9	-0.6
STH	Stony Hill	0.49	221	↑↑iP	Pg	07 58 22.3	+0.3
HOJ	Hope	0.51	211	↑iP	Pg	07 58 22.3	-0.1
MTDJ	Mount Denham	1.03	258	eP	Pn	07 58 32.4	+0.2
MTDJ				eS	Sn	07 58 46.3	0.0
MTDJ				IAML		07 58 53.2	
	68nm,0.3s						
MTDJ				IAML		07 58 54.5	
	comp=Z,47nm,0.4s						
MTDJ	Mount Denham	1.03	258	↑iP	Pg	07 58 32.9	+0.7
MCJ	Malvern	1.27	246	iP	Pg	07 58 36.8	+0.1
CHIV	Chivirico	1.52	2	eP	Pn	07 58 38.8	0.0
CHIV				eS	Sb	07 58 59.4	+0.2
CHIV				IAML		07 59 02.6	
	comp=E,8.2nm,0.2s						
CHIV				IAML		07 59 03.0	
	comp=N,11nm,0.1s						
MARVS	Santiago de Cu	1.64	19	eP	Pb	07 58 43.1	+1.1
MARVS				eS	Sb	07 59 02.8	+0.4
MARVS				IAML		07 59 05.3	
	comp=N,9.1nm,0.2s						
MARVS				IAML		07 59 05.6	
	comp=E,12nm,0.2s						
LMGC	Las Mercedes	1.69	343	eP	Pb	07 58 43.4	+0.5
LMGC				eS	Sb	07 59 04.1	+0.2
LMGC				IAML		07 59 05.7	
	comp=N,64nm,0.1s						
LMGC				IAML		07 59 06.5	
	comp=E,44nm,0.0s						
PILO	Pilon	1.70	329	eP	Pb	07 58 43.3	+0.2
PILO				eS	Sn	07 59 02.5	-0.2
PILO				IAML		07 59 06.2	
	comp=N,98nm,0.3s						
PILO				IAML		07 59 06.5	
	comp=E,66nm,0.0s						
RCC	Rio Carpintero	1.71	25	eP	Pb	07 58 43.7	+0.6
RCC				eS	Sb	07 59 04.3	-0.1
RCC				IAML		07 59 07.4	
	comp=E,5.7nm,0.6s						
RCC				IAML		07 59 10.6	
	comp=N,5.4nm,0.5s						
GTBY	Guantanamo Bay	1.95	41	eP	Pb	07 58 47.5	+0.1
GTBY				eS	Sb	07 59 11.5	-0.1
GTBY				IAML		07 59 13.3	
	comp=N,15nm,0.6s						
GTBY				IAML		07 59 20.0	
	comp=N,17nm,0.8s						
PINC	Pinares de May	2.13	17	eP	Pb	07 58 49.8	-0.6
PINC				eS	Sn	07 59 13.3	0.0
PINC				IAML		07 59 18.3	
	comp=N,19nm,0.1s						
PINC				IAML		07 59 23.2	
	comp=E,14nm,0.1s						
HLGC	Holguin	2.46	9	eP	Pb	07 58 55.6	-0.5
HLGC				eS	Sb	07 59 25.3	-0.9
HLGC				IAML		07 59 34.0	
	comp=N,6.4nm,0.6s						
HLGC				IAML		07 59 35.5	
	comp=E,13nm,1.0s						
LTUP	Las Tunas	2.55	349	eP	Pb	07 58 57.1	-0.6
LTUP				eS	Sb	07 59 28.0	-0.9

DJA 30 08:01:01.5±0.6, 2°S±2°×12°3E±°, h11km±4km, M4.1/16, mb4.3/5, MLv4.1/16, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.98	12	P	Pg	08 01 20.2	-0.3
LUWI				S	Sb	08 01 33.8	+0.3
APSI	Ampana	1.43	320	P	Pn	08 01 27.0	-0.4
APSI				S	Sn	08 01 45.4	-0.8
PCI	Palu	2.94	292	P	Pn	08 01 48.7	+0.4
PCI				S	Sn	08 02 24.5	+0.8
SPSI	Sidrap Palu	3.41	235	P	Pn	08 01 55.6	+1.0
SPSI				S	Sn	08 02 35.6	+0.6
SANI	Sanana	3.42	91	P	Pn	08 01 52.4	-2.4
SANI				S	Sn	08 02 35.8	+0.5
BNSI	Bone	3.42	226	P	Pn	08 01 55.1	+0.3
BNSI				S	Sn	08 02 36.3	+1.0
BBSI	Bau Bau	3.45	180	P	Pn	08 01 55.5	+0.2
MPSI	Mapaga	3.55	311	P	Pn	08 01 56.6	+0.1
MPSI				S	Sn	08 02 39.7	+1.2
BKSI	Bulukumba	4.10	217	P	Pn	08 02 04.0	-0.1
BKSI				S	Sn	08 02 53.0	+0.9
BSSI	Bau Bau, Buton	4.60	207	P	Pn	08 02 11.7	+0.7
BSSI				S	Sn	08 03 05.3	+0.8
EDFI	Ende, Flores	6.75	187	P	Pn	08 02 40.7	0.0
	0.0nm9.3nm,0.7s						

GCG 30 08:04:21.7±0.8, 15°31N×91°77W, h178km±17km, MD3.8, 1D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUEH	Huehuetenango	0.26	88	eP	Pn	08 04 46.6	+0.9
HUEH				iS	Sn	08 05 05.0	+0.8
THIG		0.62	230	eP	Pn	08 04 47.5	+0.7
THIG				eS	Sn	08 05 08.0	+1.9
STG8	El Palmar, Qui	0.94	155	eP	Pn	08 04 47.2	-1.9
STG8				eS	Sn	08 05 11.5	+1.2
STG5	El Palmar, Qui	0.99	156	eP	Pn	08 04 47.3	-2.0
STG5				eS	Sn	08 05 12.4	+1.8
CCIG	Comitan	1.03	340	↓iP	Pn	08 04 50.8	+1.2
CCIG				eS	Sn	08 05 12.7	+1.4
TGIG		1.96	319	eP	Pn	08 04 58.5	+0.3
TGIG				eS	Sn	08 05 25.9	-0.7

*IDC **30** 08:06:51.0±0.7, 23°84N×63°23W, h0km, mb4.0/17, mbtmp4.0/18, ML4.3/2, MS3.5/45, Error ellipse: s-maj=19.6km s-min=16.3km az=140.0*
*NEIC **30** 08:06:51.7±1.7, 23°64N±0°06×63°08W±0°09, h10km±1km, mb4.6/324, Error ellipse: s-maj=15.5km s-min=9.4km az=62.0*

ISC 30 08:06:51.2±0.4, 23°50N±0°04×63°26W±0°06, h10km, n627, σ1°54/540, mb4.6/145, MS3.6/44, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	St. Maarten	5.43	178	Pn	Pn	08 09 14.1	+1.8
SMRT				Sn	Sn	08 09 17.1	+2.3
GCPR	Guaynabo City	5.80	208		Pn	08 08 21.3	+4.0
SABA	Saba	5.85	180		Pn	08 08 19.9	+1.8
SABA				Sn	Sn	08 09 28.0	+2.7
HUMP	Col San Antoni	5.86	205		Pn	08 08 22.3	+4.2
EMPR	Esperanza - Ma	5.86	212		Pn	08 08 22.5	+4.4
ANWB	Willy Bob	5.97	166	Pn	Pn	08 08 21.2	+1.6
ANWB	Willy Bob	5.97	166	eP	Pn	08 08 21.2	+1.6
ANWB	Willy Bob	5.97	166	eP	Pn	08 08 21.7	+2.0
SEUS	St. Eustatius	5.99	177	Pn	Pn	08 08 21.8	+1.9
SJG	San Juan	6.01	207	Pn	Pn	08 08 24.3	+4.2
	69nm,0.3s,baz=3.4,slow=14,SNR=69						
SJG				Sn	Sn	08 09 27.4	-1.6
	38nm,0.3s,baz=154,slow=23,SNR=7.4						
SJG				LR	LR	08 11 37.0	
	comp=Z,158nm,18.7s,baz=8.5,slow=45						
SJG	San Juan	6.01	207	eP	Pn	08 08 24.1	+4.0
SJG	San Juan	6.01	207	eP	Pn	08 08 24.6	+4.5
PDPR	Patillas Dam,	6.04	206		Pn	08 08 24.7	+4.1
AOPR	Arecibo Observ	6.08	213		Pn	08 08 25.2	+4.0
IGPR	InterUniversit	6.12	206		Pn	08 08 25.8	+4.1
UUPR	Utuado, UPR, P	6.14	212		Pn	08 08 26.1	+4.0
SKI	Saint Kitts	6.16	175	eP	Pn	08 08 25.1	+2.9
SKI	Saint Kitts	6.16	175	eS	Sn	08 09 23.4	-9.5
AGPR	Aguadilla, PR	6.17	216		Pn	08 08 26.0	+3.6
SKOC	St. Kitts, UWI	6.20	175	eP	Pn	08 08 23.5	+0.7
SKOC	St. Kitts, UWI	6.20	175	eP	Pn	08 08 25.6	+2.8
SKOC	St. Kitts, UWI	6.20	175	eS	Sn	08 09 23.7	-10
CELP	Cerrillos	6.23	210		Pn	08 08 27.5	+4.2
OBIP	Obispado Ponce	6.27	211	Pn	Pn	08 08 27.9	+4.1
PRSN	Puerto Rico Se	6.39	215		Pn	08 08 29.5	+4.1
CRPR	Cabo Rojo, PR	6.55	214		Pn	08 08 31.9	+4.3
ANBD	Bethesda, Anti	6.58	167	eP	Pn	08 08 29.1	+1.1
ANBD	Bethesda, Anti	6.58	167	eP	Pn	08 08 29.6	+1.6
ANBD	Bethesda, Anti	6.58	167	e	Sn	08 09 40.9	-2.2
PCDR	Punta Cana, DR	6.89	225	Pn	Pn	08 08 36.2	+3.9
ABD	La Joyeuse, An	7.19	166	Pn	Pn	08 08 38.3	+1.9
GDHS	Morne Mazeau,	7.33	169		Pn	08 08 39.7	+1.3
DR12	Loma Pena Alta	7.39	232		Pn	08 08 43.3	+4.0
H05N1	Guadeloupe/Mar	7.45	163	Pn	Pn	08 08 42.0	+2.0
H05N1				Sn	Sn	08 09 52.1	-12
GDSD	La Dsirade Is	7.45	163	Pn	Pn	08 08 40.2	+2.0
GRTK	Grand Turk	7.54	256	IAML		08 10 06.0	
	comp=Z,260nm,1.0s						
GRTK				eP	Sn	08 10 08.4	+1.5
CBE	Ff, Capester	7.56	168		Pn	08 08 43.9	+2.4
MAGL	Barre de l'ile	7.74	166	Pn	Pn	08 08 44.0	-0.1
TBG	Guadaloupe-3	7.76	168	eP	Pn	08 08 46.3	+2.0
TBG	Guadaloupe-3	7.76	168	e	Sn	08 10 12.2	-0.1
TDBA	Terre de Bas,	7.77	168	Pn	Pn	08 08 47.1	+2.7
SDD	Santo Domingo	7.99	232	Pn	Pn	08 08 52.3	+5.0
SC01	Santiago de lo	8.05	241		Pn	08 08 52.3	+4.1
DWS	Wesley	8.11	167	eP	Pn	08 08 49.6	+0.6
DWS	Wesley	8.11	167	e	Sn	08 10 17.3	-3.4
DSLB	Salisbury	8.21	167	eP	Pn	08 08 53.2	+2.8
DSLB	Salisbury	8.21	167	e	Sn	08 10 23.2	-0.2
MDN	Morne-Daniel	8.33	167	eP	Pn	08 08 52.7	+0.6
MDN	Morne-Daniel	8.33	167	e	Sn	08 10 24.6	-1.7
DLPL	La Plaine	8.35	166	e	Sn	08 10 24.8	-2.0
BANI	BANI	8.35	234		Pn	08 08 57.7	+5.1
DRTD	Roseau, Domini	8.36	167	eP	Pn	08 08 46.2	-6.3
DRTD	Roseau, Domini	8.36	167	e	Sn	08 10 26.6	-0.3
SDDR	Presa de Saban	8.73	240		Pn	08 09 01.7	+4.1
SDDR	Presa de Saban	8.73	240	eP	Pn	08 09 01.2	+3.5
SDDR				eS	Sn	08 10 28.1	-8.1
SDDR				IAML		08 10 45.3	
	comp=Z,98nm,0.9s						
SDDR				IAML		08 10 47.4	
	comp=Z,112nm,0.5s						
SDDR	Presa de Saban	8.73	240	eP	Pn	08 09 01.4	+3.7
SDDR	Presa de Saban	8.73	240	eP	Pn	08 09 02.2	+4.6
SDDR	Presa de Saban	8.73	240	e	Sn	08 10 27.0	-9.2
FDF	Fort de France	8.95	167	Pn	Pn	08 09 02.6	+2.0
BIM	Bigot	9.18	167	Pn	Pn	08 09 05.2	+1.4
BIM	Bigot	9.18	167	eP	Pn	08 09 06.0	+2.2
BIM	Bigot	9.18	167	e	Sn	08 10 42.4	-4.7
MPOM	Morne Pois Mar	9.29	165	Pn	Pn	08 09 06.7	+1.3
H05S1	Guadeloupe/Mar	9.32	165	Pn	Pn	08 09 08.0	+2.3
H05S1				Sn	Sn	08 10 44.7	-5.9
SLBI	Saint Lucia, B	9.68	167	eP	Pn	08 09 12.2	+1.7
SLBI	Saint Lucia, B	9.68	167	e	Sn	08 10 54.5	-4.8
PAPH	Port-au-Prince	9.79	241		Pn	08 09 14.9	+2.9
PAPH	Port-au-Prince	9.79	241	eP	Pn	08 09 15.7	+3.7
PAPH				eS	Sn	08 10 58.3	-3.8
SLAC	Saint Lucia, A	9.81	166	e	Sn	08 10 51.3	-12
SVB	Belmont	10.35	169	eP	Pn	08 09 21.1	+1.2
MASC	Masc	10.71	254	eP	Pn	08 09 25.1	+0.4
MASC				eS	Sn	08 11 13.3	-11
BBGH	Gun Hill	10.89	161	eP	Pn	08 09 28.9	+1.8
MOAC	Moa	11.21	258	eP	Pn	08 09 29.5	-2.0
MOAC				eS	Sn	08 11 24.3	-13
QMBU	Quimbuelo	11.22	255	eP	Pn	08 09 30.2	-1.5
QMBU				eS	Sn	08 11 24.9	-12
NMDO	Nuevo Mundo	11.26	257		Pn	08 09 31.6	-0.6
NMDO	Nuevo Mundo	11.26	257	eP	Pn	08 09 29.8	-2.4
NMDO				eS	Sn	08 11 25.7	-12
GTBY	Guantanamo Bay	11.57	254		Pn	08 09 38.2	+1.7
GTBY	Guantanamo Bay	11.57	254	eP	Pn	08 09 36.7	+0.2
GTBY				eS	Sn	08 11 35.2	-11
PINC	Pinares de May	12.00	258	eP	Pn	08 09 39.9	-2.5
PINC				eS	Sn	08 11 42.0	-14
RCC	Rio Carpintero	12.07	256	eP	Pn	08 09 42.5	-0.8
RCC				eS	Sn	08 11 45.0	-13
HLGC	Holguin	12.14	260	eP	Pn	08 09 43.9	-0.4
HLGC				IAmb	IAmb	08 09 46.8	
	comp=Z,40nm,0.8s						
HLGC				eS	Sn	08 11 49.5	-10
MARVS	Santiago de Cu	12.25	256	eP	Pn	08 09 44.4	-1.4
MARVS				eS	Sn	08 11 50.3	-12
CHIV	Chivirico	12.71	256		Pn	08 09 52.0	-0.1
CHIV	Chivirico	12.71	256	eS	Sn	08 11 57.0	-17
LTUP	Las Tunas	12.97	261	eP	Pn	08 09 52.8	-2.9
LTUP				eS	Sn	08 12 07.2	-13
LMGC	Las Mercedes	13.22	258	eP	Pn	08 09 56.0	-3.0
LMGC				eS	Sn	08 12 13.6	-13
PILO	Pilon	13.62	257	eP	Pn	08 10 02.2	-2.4
PILO				eS	Sn	08 12 22.2	-14
MTDJ	Mount Denham	14.33	251	Pn	Pn	08 10 14.9	+0.5
MTDJ	Mount Denham	14.33	251	eP	Pn	08 10 14.0	-0.3
MTDJ				eS	Sn	08 12 39.8	-14
BAUV	El Baul	15.19	198	eP	P	08 10 30.8	-0.1
CBCY	The Bluff, Cay	15.79	259	eP	Pn	08 10 30.4	-3.3
CBCY				eS	Sn	08 13 14.5	-14
SDV	Santo Domingo	16.16	207	Pn	Pn	08 10 40.2	+1.5

PAL	Palisades	19.61	335	P	P	08 11 18.8	-0.8
TIGA	Tifton	19.67	298	P	P	08 11 20.4	0.0
TIGA				IAmb	IAmb	08 11 38.2	
	comp=Z,33nm,0.7s						
154A	Montrose	19.70	302	P	P	08 11 21.2	+0.5
PAULI	Pauline	19.70	309	P	P	08 11 20.1	-0.7
UCCT	U. Connecticut	19.72	340	P	P	08 11 19.8	-1.0
UCCT				IAmb	IAmb	08 11 25.9	
	comp=Z,36nm,0.9s						
HODGE	Hodges	19.74	307	P	P	08 11 21.5	+0.3
MVL	Millersville	19.82	329	P	P	08 11 20.8	-1.2
MVL				IAmb	IAmb	08 11 42.2	
	comp=Z,38nm,1.5s						
TRNY	Table Rock, Ra	19.85	335	P	P	08 11 20.8	-1.5
TRNY				IAmb	IAmb	08 11 28.4	
	comp=Z,20nm,0.8s						
LUPA	Lehigh Univers	19.86	332	P	P	08 11 21.4	-1.0
LUPA				IAmb	IAmb	08 11 28.9	
	comp=Z,40nm,0.9s						
PRVC	Isla de Provid	19.89	243	P	P	08 11 23.5	+0.7
RUSC	La Rusia	19.90	210		Pn	08 11 24.9	-0.2
ODNJ	Ogdensburg	19.95	334	P	P	08 11 22.1	-1.3
ODNJ				IAmb	IAmb	08 11 30.0	
	comp=Z,36nm,1.0s						
KSCT	Kent School, K	20.08	337		P	08 11 22.9	-1.8
HRV	Adam Dziewonsk	20.17	342	P	P	08 11 23.4	-2.3
HRV				IAmb	IAmb	08 11 32.4	
	comp=Z,26nm,0.9s						
P57A	Homestead Farm	20.25	325	P	P	08 11 25.9	-0.7
GOGA	Godfrey	20.29	304		Pn	08 11 28.5	-0.6
L61B	Northampton	20.45	340	P	P	08 11 27.6	-1.3
K62A	Royalston	20.51	341	P	P	08 11 28.4	-1.1
K62A				IAmb	IAmb	08 11 29.7	
	comp=Z,25nm,0.9s						
Q56A	Snyder Ridge,	20.57	323	P	P	08 11 29.9	-0.3
Q56A				IAmb	IAmb	08 11 41.9	
	comp=Z,26nm,1.0s						
BG3	Lake Jocassee	20.59	308	P	P	08 11 30.6	+0.2
U54A	Nelsons Funny	20.61	313	P	P	08 11 30.2	-0.4
U54A				IAmb	IAmb	08 11 56.8	
	comp=Z,33nm,0.9s						
N58A	Sunbury	20.65	330		P	08 11 30.6	-0.5
352A	Blakely	20.77	297	P	P	08 11 31.8	-0.6
352A				IAmb	IAmb	08 12 02.2	
	comp=Z,34nm,0.7s						
KSPA	Keystone Colle	20.82	333	P	P	08 11 31.3	-1.5
KSPA				IAmb	IAmb	08 11 33.4	
	comp=Z,45nm,1.4s						
Y52A	Lilburn	20.93	304	P	P	08 11 33.6	-0.5
Y52A				IAmb	IAmb	08 12 01.1	
	comp=Z,18nm,0.7s						
MDP	Montagnes des	20.97	149	LR	LR	08 18 53.8	
	comp=Z,220nm,19.6s,baz=330,slow=34						
152A	Waverly Hall	20.98	301	P	Pn	08 11 36.2	-1.1
152A				IAmb	IAmb	08 12 09.1	
	comp=Z,46nm,1.3s						
S54A	Dingess, Beckl	21.02	317	P	P	08 11 34.2	-0.9
S54A				IAmb	IAmb	08 12 01.9	
	comp=Z,19nm,0.7s						
TRY	Troy	21.03	338	P	P	08 11 34.0	-1.0
SSPA	Standing Stone	21.05	328		P	08 11 34.8	-0.5
L59A	Walton	21.06	335		P	08 11 34.1	-1.4
L59A				IAmb	IAmb	08 11 35.6	
	comp=Z,21nm,1.0s						
BOAV	Boa Vista	21.15	172		P	08 11 36.6	0.0
451A	Vernon	21.22	294	P	P	08 11 38.3	+1.1
J61A	Chester	21.23	341		P	08 11 36.0	-1.2
J61A				IAmb	IAmb	08 11 37.5	
	comp=Z,32nm,1.1s						
W52A	Murphy	21.36	307	P	P	08 11 39.5	+0.7
W52A				IAmb	IAmb	08 11 59.2	
	comp=Z,21nm,0.9s						
MCWV	Mont Chateau	21.36	323	P	P	08 11 37.9	-0.8
MCWV				IAmb	IAmb	08 11 56.1	
	comp=Z,22nm,0.9s						
I62A	Tamworth	21.38	344		P	08 11 37.4	-1.4
I62A				IAmb	IAmb	08 11 52.6	
	comp=Z,14nm,0.4s						
ROSC	El Rosal	21.40	212		P	08 11 41.5	+1.8
ROSC				IAmb	IAmb	08 12 09.8	
	comp=Z,37nm,1.0s						
ROSC	El Rosal	21.40	212	P	P	08 11 44.0	+4.3
	comp=Z,6.0nm,0.3s,baz=31,slow=4.2,SNR=7.6						
	comp=Z,6.0nm,0.3s						
BINY	Binghamton	21.44	333	P	P	08 11 38.0	-1.5
BINY				IAmb	IAmb	08 11 43.7	
	comp=Z,54nm,1.4s						
TKL	Tuckaleechee C	21.51	309	P	P	08 11 41.1	+0.8
TKL				IAmb	IAmb	08 11 53.0	
	comp=Z,30nm,1.1s						
TKL	Tuckaleechee C	21.51	309	P	P	08 11 39.9	-0.5
	comp=Z,8.5nm,1.0s,baz=134,slow=14,SNR=5.9						
TKL				LR	LR	08 18 31.1	
	comp=Z,183nm,21.8s,baz=118,slow=33						
	comp=Z,8.5nm,1.0s						
ACCN	Adirondack Com	21.61	339	P	P	08 11 39.6	-1.8
WVL	Waterville	21.65	348	P	P	08 11 41.0	-0.7
WVL				IAmb	IAmb	08 11 42.2	
	comp=Z,39nm,1.2s						
TZTN	Tazewell	21.79	311		P	08 11 44.0	+0.6
X51A	Calhoun	21.82	305	P	P	08 11 43.6	0.0
X51A				IAmb	IAmb	08 11 56.4	
	comp=Z,26nm,1.0s						
LBNH	Lisbon	21.87	343	P	P	08 11 42.9	-1.2
LBNH				IAmb	IAmb	08 11 44.3	
	comp=Z,28nm,1.1s						
GBN	Guysborough	21.90	3	P	P	08 11 42.4	-2.0
G65A	Princeton	21.93	352	P	P	08 11 43.8	-0.9
G65A				IAmb	IAmb	08 11 45.1	
	comp=Z,35nm,0.9s						
CPCT	Cooper Cave	21.95	308		P	08 11 45.6	+0.5
H62A	Milan	21.99	345	P	P	08 11 44.3	-1.1
H62A				IAmb	IAmb	08 11 49.9	
	comp=Z,25nm,1.3s						
250A	Grady	22.01	298	P	P	08 11 46.8	+1.0
L56A	Greenwood	22.07	331		P	08 11 45.8	-0.5
L56A				IAmb	IAmb	08 12 09.1	
	comp=Z,22nm,0.9s						
K57A	Scipio Center	22.10	333	IAmb	IAmb	08 12 09.2	
	comp=Z,55nm,1.5s						
P53A	Whipple	22.13	320	IAmb	IAmb	08 11 50.1	
	comp=Z,32nm,1.1s						
PKME	Peaks-Kenny Pk	22.26	349	P	P	08 11 46.9	-1.3
PKME				IAmb	IAmb	08 12 03.7	
	comp=Z,29nm,1.3s						
Q52A	Bidwell	22.32	318	P	P	08 11 49.1	0.0
Q52A				IAmb	IAmb	08 12 02.8	
	comp=Z,27nm,0.8s						
FPAL	Fort Paine	22.37	304		P	08 11 51.1	+1.5
FPAL				IAmb	IAmb	08 11 55.3	
	comp=Z,18nm,1.1s						
W50A	Signal Mountai	22.42	306	P	P	08 11 50.9	+0.7
W50A				IAmb	IAmb	08 12 06.9	
	comp=Z,18nm,0.7s						
BRAL	Brewton	22.44	295	P	P	08 11 50.2	-0.1
G62A	West of Eustis	22.46	346	P	P	08 11 50.1	-0.4
G62A				IAmb	IAmb	08 11 58.5	
	comp=Z,35nm,1.4s						
J57A	Williamstown	22.47	335	IAmb	IAmb	08 12 13.8	
	comp=Z,28nm,0.9s						
O53A	New Philadelph	22.54	322	P	P	08 11 51.4	+0.2
O53A				IAmb	IAmb	08 12 23.6	
	comp=Z,20nm,1.1s						
P52A	Corning	22.66	320	P	P	08 11 53.3	+0.6
P52A				IAmb	IAmb	08 11 58.7	
	comp=Z,31nm,1.4s						
F64A	Sherman	22.68	351	P	P	08 11 51.0	-1.8
MMNY	Mt. Morris Dam	22.70	331	P	P	08 11 52.0	-0.9
WVNY	West Valley, N	22.76	330		P	08 11 53.3	-0.4
WVNY				IAmb	IAmb	08 12 00.7	
	comp=Z,21nm,1.1s						
O52A	Adamsville	22.80	321	P	P	08 11 54.5	+0.4
SWET	Sewanee	22.89	306	IAmb	IAmb	08 12 14.1	
	comp=Z,16nm,1.1s						
FRNY	Flat Rock	22.89	341		P	08 11 53.8	-1.2
LRAL	Lakeview Retre	22.92	300		P	08 11 55.6	+0.3
LRAL				IAmb	IAmb	08 12 12.5	
	comp=Z,24nm,1.1s						
T50A	Nancy	22.93	311	P	P	08 11 55.9	+0.5
LONY	Lake Ozonia	23.01	339	P	P	08 11 55.4	-0.8
Q51A	Peebles	23.03	317	IAmb	IAmb	08 11 58.9	
	comp=Z,18nm,0.9s						
P51A	Williamsport	23.13	318	P	P	08 11 57.0	-0.5
P51A				IAmb	IAmb	08 12 14.4	
	comp=Z,13nm,0.7s						
R50A	Paris	23.24	314	P	P	08 11 58.8	+0.1
R50A				IAmb	IAmb	08 12 01.8	
	comp=Z,28nm,1.0s						
X48A	Hartselle	23.43	303		P	08 12 00.9	+0.3
X48A				IAmb	IAmb	08 12 20.3	
	comp=Z,12nm,0.9s						
MNTQ	Montreal, Queb	23.50	342	P	P	08 11 59.9	-1.3
MNTQ				IAmb	IAmb	08 12 02.6	
	comp=Z,19nm,1.3s						
V48A	Smith Brothers	23.77	306	P	P	08 12 04.8	+0.8
PLAL	Pickwick Lake	24.42	304	P	P	08 12 10.9	+1.0
PLAL				IAmb	IAmb	08 12 16.9	
	comp=Z,24nm,1.2s						
146A	Union	24.46	298	P	P	08 12 11.2	+0.8
JTS	Las Juntas de	24.51	241	LR	LR	08 21 19.8	
	comp=Z,88nm,19.8s,baz=64,slow=35						
WCI	Wyandotte Cave	24.53	312	P	P	08 12 11.6	+0.7
WCI				IAmb	IAmb	08 12 45.5	
	comp=Z,17nm,1.3s						
WVT	Waverly	24.67	306		P	08 12 12.9	+0.6
SADO	Sadowa	24.87	332	LR	LR	08 21 06.3	
	comp=Z,10nm,19.7s,baz=140,slow=35						
O48B	Farmland	24.89	317	P	P	08 12 14.0	-0.2
O48B				IAmb	IAmb	08 12 47.7	
	comp=Z,20nm,1.3s						
LDAQ	Lac Daran	25.22	347	P	P	08 12 17.1	-0.1
LDAQ				IAmb	IAmb	08 12 18.0	
	comp=Z,31nm,1.5s						
OXF	Oxford	25.29	302	P	P	08 12 18.3	+0.4
SFIN	Lafayette	26.18	316		P	08 12 26.1	+0.2
PARMO	Parma	26.31	306	P	P	08 12 27.9	+0.8
SIUC	Southern Illin	26.34	309	P	P	08 12 26.8	-0.5
SIUC				IAmb	IAmb	08 12 40.3	
	comp=Z,13nm,1.1s						
CGM3	Cape Girardeau	26.49	307	P	P	08 12 28.5	-0.2
CGM3				IAmb	IAmb	08 12 50.1	
	comp=Z,17nm,1.3s						
Q44A	Meyer Farm, Va	26.73	311	P	P	08 12 32.0	+1.1
Q44A				IAmb	IAmb	08 12 45.4	
	comp=Z,17nm,1.0s						
PBMO	Poplar Bluff	26.86	306	P	P	08 12 31.7	-0.3
VLDQ	Val d'Or	27.03	339	P	P	08 12 34.2	+0.8
FVM	French Village	27.32	308		P	08 12 36.6	+0.4
FVM				IAmb	IAmb	08 13 11.4	
	comp=Z,8.5nm,0.7s						
X40A	Basin Creek Fa	27.99	300	P	P	08 12 43.6	+1.4
X40A				IAmb	IAmb	08 12 49.7	
	comp=Z,8.4nm,1.0s						
WLAR	White Oak Lake	28.02	298	P	P	08 12 44.4	+2.0
MGMO	Mountain Grove	28.36	305	P	P	08 12 45.9	+0.3
L42A	Oliver, Polo	28.69	316	P	P	08 12 48.5	+0.1
L42A				IAmb	IAmb	08 12 49.6	
	comp=Z,16nm,0.9s						
R40A	Maddies Statio	28.78	308	P	P	08 12 49.0	-0.2
N41A	Harden Midland	28.82	313	IAmb	IAmb	08 12 50.7	
	comp=Z,12nm,1.1s						
W35A	Tecumseh	31.37	299		P	08 13 12.8	+0.5
W35A				IAmb	IAmb	08 13 16.6	
	comp=Z,13nm,1.1s						
QUOK	Quay	31.48	301	P	P	08 13 14.4	+1.3
OK052	Battle Ridge R	31.51	301	P	P	08 13 14.0	+0.6
OK052				IAmb	IAmb	08 13 14.9	
	comp=Z,12nm,0.9s						
OK051	E0350 and S346	31.66	302	P	P	08 13 15.8	+1.0
OK051				IAmb	IAmb	08 13 16.1	
	comp=Z,8.3nm,0.7s						
OK048	Pawnee Station	31.72	302	P	P	08 13 15.4	0.0
OK048				IAmb	IAmb	08 13 28.0	
	comp=Z,18nm,1.4s						
FNO	Franklin	31.82	299	P	P	08 13 17.5	+1.3
FNO				IAmb	IAmb	08 13 18.4	
	comp=Z,18nm,1.3s						
FW03	Perrin-Whitt E	31.97	295	P	P	08 13 18.9	+1.5
OK029	Liberty Lake	31.98	300	P	P	08 13 18.4	+0.9
PLPT	Palo Pinto	32.14	295	P	P	08 13 20.9	+1.9
KAN09	Caldwell North	32.43	303	P	P	08 13 23.4	+1.9
BRDY	Brady	32.55	292		P	08 13 24.1	+1.4
BRDY				IAmb	IAmb	08 13 29.5	
	comp=Z,8.0nm,1.1s						
OK032	Salt Plains WL	32.81	302	P	P	08 13 26.5	+1.6
WMOK	Wichita Mounta	32.83	298	P	P	08 13 26.2	+1.1
WMOK				IAmb	IAmb	08 13 37.7	
	comp=Z,7.6nm,1.2s						
CSTR	Hydro, Custer	32.93	300	P	P	08 13 27.6	+1.7
JCT	Junction City	33.19	290	P	P	08 13 30.1	+1.8
JCT				IAmb	IAmb	08 13 35.0	
	comp=Z,19nm,1.5s						
ABTX	Abilene, Hawle	33.23	294		P	08 13 29.8	+1.2
TLIG	Tlapa	33.53	267		P	08 13 32.1	+0.7
ELIS	Ellis County	33.59	300	P	P	08 13 33.5	+1.7
R32A	Long Quarter,	33.61	305		P	08 13 32.7	+0.9
APMT	Aspermont	33.71	295		P	08 13 33.4	+0.6
APMT				IAmb	IAmb	08 13 39.1	
	comp=Z,9.2nm,1.1s						
ATAH	Atahualpa	33.85	208	LR	LR	08 29 25.6	
	comp=Z,60nm,21.1s,baz=22,slow=40						
DRIO	Del Rio	33.86	288	P	P	08 13 33.8	-0.2
ECSD	EROS Data Cent	34.00	315		P	08 13 34.8	-0.4
SMWD	Samnorwood	34.07	298	P	P	08 13 37.5	+1.6
SMWD				IAmb	IAmb	08 13 42.6	
	comp=Z,11nm,0.9s						
BGNE	Belgrade	34.13	310	P	P	08 13 37.7	+1.4
SN05	Snyder 5	34.30	294	P	P	08 13 39.1	+1.1
SN05				IAmb	IAmb	08 13 44.8	
	comp=Z,13nm,1.1s						
SN07	Snyder 07	34.33	295	P	P	08 13 39.6	+1.4
SN07				IAmb	IAmb	08 14 07.8	
	comp=Z,10nm,1.0s						
DKNS	Dickens	34.42	296	P	P	08 13 40.0	+1.0
DKNS				IAmb	IAmb	08 13 45.7	
	comp=Z,10.0nm,0.9s						
F33A	5 Mile Ranch,	34.75	318	IAmb	IAmb	08 13 43.0	
	comp=Z,6.7nm,0.7s						
POST	Post	34.83	295	P	P	08 13 42.9	+0.3
AMTX	Amarillo	35.20	298		P	08 13 47.1	+1.3
AMTX				IAmb	IAmb	08 13 50.3	
	comp=Z,22nm,1.4s						
K30B	Basset	35.60	311	P	P	08 13 49.3	+0.3
AGMN	Agassiz Nation	35.74	322	IAmb	IAmb	08 13 55.1	
	comp=Z,11nm,1.2s						
MSTX	Muleshoe	35.98	296	P	P	08 13 54.0	+1.4
TXAR	Lajitas Array	36.52	288	P	P	08 13 58.0	+0.9
	comp=Z,1.5nm,0.8s,baz=106,slow=8.4,SNR=4.8						
TXAR				LR	LR	08 31 32.5	
	comp=Z,37nm,18.5s,baz=78,slow=41						
	comp=Z,1.5nm,0.8s						
KSCO	Kaye Shedlock'	36.72	304	P	P	08 13 59.9	+1.2
KSCO				IAmb	IAmb	08 14 00.5	
	comp=Z,20nm,1.2s						
OGNE	Ogallala	36.77	308	P	P	08 13 58.9	-0.2
OGNE				IAmb	IAmb	08 14 00.4	
	comp=Z,13nm,0.9s						
ULM	Lac du Bonnet	36.82	325	LR	LR	08 28 11.4	
	comp=Z,138nm,20.4s,baz=120,slow=35						
MDND	Maddock	37.70	319	P	P	08 14 06.9	+0.1
T25A	Trinidad	37.74	301		P	08 14 07.4	-0.2
T25A				IAmb	IAmb	08 14 15.9	
	comp=Z,13nm,1.4s						
BRIGG	Briggsdale	38.35	306	P	P	08 14 13.4	+0.8
BRIGG				IAmb	IAmb	08 14 14.0	
	comp=Z,9.7nm,0.8s						
SDCO	Great Sand Dun	38.69	302	P	P	08 14 16.4	+0.7
ANMO	Albuquerque	39.11	297		P	08 14 14.7	-4.4
ANMO	Albuquerque	39.11	297		P	08 14 14.7	-4.4
ANMO	Albuquerque	39.11	297	P	P	08 14 15.3	-3.8
ANMO				IAmb	IAmb	08 14 22.2	
	comp=Z,9.8nm,1.4s						
ANMO	Albuquerque	39.11	297	LR	LR	08 30 07.2	
	comp=Z,104nm,20.5s,baz=254,slow=36						
ISCO	Idaho Springs	39.15	305	P	P	08 14 19.5	0.0
BNM	Barren Site	39.19	296	P	P	08 14 20.2	+0.4
SIV	San Ignacio	39.31	177	LR	LR	08 31 49.5	
	comp=Z,76nm,19.5s,baz=292,slow=38						
Y22D	IRIS PASSCAL I	39.43	296	P	P	08 14 21.7	0.0
Y22D				IAmb	IAmb	08 14 25.2	
	comp=Z,19nm,0.8s						
LENM	Lemitar	39.48	296	P	P	08 14 23.1	+0.9
S22A	4UR Ranch, Cre	39.73	301		P	08 14 20.3	-4.0
LPAZ	La Paz	39.83	187	LR	LR	08 34 14.7	
	comp=Z,48nm,18.1s,baz=19,slow=41						
FRB	Frobisher Bay	40.38	356	LR	LR	08 30 28.7	
	comp=Z,110nm,18.8s,baz=197,slow=35						
K22A	Casper	40.45	309	P	P	08 14 30.2	0.0
DGMT	Dagmar	40.75	318		P	08 14 32.2	-0.2
DGMT				IAmb	IAmb	08 14 33.7	
	comp=Z,8.9nm,0.9s						
PV15	Paradox Valley	41.11	302		P	08 14 34.6	-1.1
PV01	Paradox Valley	41.15	302	P	P	08 14 35.3	-0.7
PV02	Paradox Valley	41.29	302	IAmb	IAmb	08 14 44.3	
	comp=Z,17nm,0.9s						
PV13	Radium Mtn., P	41.35	302	IAmb	IAmb	08 14 45.2	
	comp=Z,19nm,1.1s						
PV03	Paradox Valley	41.38	302	P	P	08 14 37.1	-0.8
PV11	David Mesa, Pa	41.41	302	IAmb	IAmb	08 14 48.3	
	comp=Z,9.5nm,1.0s						
PV18	Skein Mesa, Pa	41.43	302	P	P	08 14 39.3	+1.0
PV18				IAmb	IAmb	08 14 45.6	
	comp=Z,19nm,1.1s						
PV20	West Nyswonger	41.48	302	IAmb	IAmb	08 14 43.9	
	comp=Z,24nm,1.4s						
PV19	Morning Glory	41.49	302	P	P	08 14 38.3	-0.5
PV21	Cone Mtn., Par	41.52	302	P	P	08 14 39.6	+0.5
PV14	Lion Creek, Pa	41.53	302	P	P	08 14 39.4	+0.3
PV14				IAmb	IAmb	08 14 45.4	
	comp=Z,11nm,1.2s						
PV10	Paradox Valley	41.55	302	IAmb	IAmb	08 14 43.2	
	comp=Z,14nm,1.1s						
PV05	Paradox Valley	41.56	301	IAmb	IAmb	08 14 45.4	
	comp=Z,9.4nm,0.9s						
BDFB	Brasilia	41.66	158	P	P	08 14 44.2	+4.0
	comp=Z,2.2nm,0.8s,baz=1.6,slow=4.8,SNR=3.3						
BDFB				LR	LR	08 34 58.7	
	comp=Z,53nm,18.0s,baz=321,slow=40						
	comp=Z,2.2nm,0.8s						
X18A	Snowflake	41.95	296	P	P	08 14 42.0	-0.6
X18A				IAmb	IAmb	08 14 50.0	
	comp=Z,9.9nm,1.0s						
FFC	Flin Flon	42.39	327	P	P	08 14 44.4	-1.3
TUC	Tucson	42.62	293	P	P	08 14 47.5	-0.4
P18A	Preston Nutter	42.64	304	P	P	08 14 49.2	+0.9
PD31	Pinedale Array	42.66	308		P	08 14 47.6	-0.7
PDAR	Pinedale Array	42.66	308		P	08 14 47.5	-0.8
PDAR	Pinedale Array	42.66	308	P	P	08 14 48.9	+0.6
	comp=Z,1.3nm,0.8s,baz=114,slow=6.6,SNR=12						
PDAR				LR	LR	08 31 52.0	
	comp=Z,51nm,21.7s,baz=106,slow=35						
	comp=Z,1.3nm,0.8s						
SRU	San Rafael Swe	42.79	303	P	P	08 14 49.5	+0.2
LPIG	La Paz	42.89	281	LR	LR	08 31 08.6	
	comp=Z,52nm,21.8s,baz=79,slow=34						
RLMT	Red Lodge	42.99	312		P	08 14 51.2	+0.3
BSUT	Blindstream Ca	43.16	305		P	08 14 53.4	+0.8
BSUT				IAmb	IAmb	08 14 59.8	
	comp=Z,13nm,1.0s						
Q16A	Castle Valley	43.27	302	IAmb	IAmb	08 15 00.1	
	comp=Z,12nm,1.3s						
TMUT	Trail Mountain	43.34	303	IAmb	IAmb	08 15 01.8	
	comp=Z,13nm,1.2s						
YNE	Yellowstone No	43.47	311	P	P	08 14 55.0	+0.1
SNOW	Snow King Moun	43.66	309	P	P	08 14 55.6	-0.8
MPU	Maple Canyon	43.75	304	P	P	08 14 56.2	-1.0
MPU				IAmb	IAmb	08 14 59.6	
	comp=Z,8.5nm,1.0s						
TPAW	Teton Pass	43.80	309	P	P	08 14 58.2	+0.6
HWUT	Hardware Ranch	43.92	306	IAmb	IAmb	08 15 00.5	
	comp=Z,8.9nm,0.9s						
YHH	Holmes Hill	44.00	311	P	P	08 14 59.4	+0.2
MSU	Marysvale	44.01	302		P	08 15 00.2	+0.9
MVU	Marysvale	44.04	302	P	P	08 15 01.1	+1.6
MVU				IAmb	IAmb	08 15 02.7	
	comp=Z,8.7nm,1.1s						
EGMT	Eagleton	44.09	316		P	08 15 00.2	+0.6
SFJD	Kangerlussuaq	44.22	7	LR	LR	08 31 45.6	
	comp=Z,77nm,18.8s,baz=206,slow=34						
YHL	Hebgen Lake	44.25	311		P	08 15 02.2	+1.0
DUG	Dugway, Tooele	44.67	304	IAmb	IAmb	08 15 11.9	
	comp=Z,7.7nm,1.1s						
BBTS	Babate	44.87	93	LR	LR	08 29 22.3	
	comp=Z,102nm,21.7s,baz=162,slow=30						
PSUT	Pine Spring	45.32	302		P	08 15 11.2	+1.5
PSUT				IAmb	IAmb	08 15 27.9	
	comp=Z,5.9nm,0.9s						
SPR3	Spring Creek 3	45.73	302		P	08 15 14.3	+1.2
SPR3				IAmb	IAmb	08 15 21.1	
	comp=Z,12nm,1.1s						
BLKN	Baker Lake	46.10	341		P	08 15 13.9	-1.2
BLKN				IAmb	IAmb	08 15 15.4	
	comp=Z,6.9nm,1.0s						
HLID	Hailey	46.30	308		P	08 15 17.1	-0.3
ELK	Elko	46.57	304		P	08 15 19.8	+0.3
R11B	Troy Canyon, C	46.67	301		P	08 15 21.8	+1.5
S11A	Rachel	46.77	300	P	P	08 15 22.2	+1.2
TPNV	Topopah Spring	47.15	299		P	08 15 24.6	+0.5
TPNV				IAmb	IAmb	08 15 31.7	
	comp=Z,5.6nm,1.1s						
ILON	Igloolik, Nuna	47.22	351	P	P	08 15 22.7	-1.2
MFID	Camas Ranch	47.30	308		P	08 15 25.4	+0.4
MFID				IAmb	IAmb	08 15 27.2	
	comp=Z,5.7nm,1.1s						
PFO	Pinyon Flats O	47.35	295	LR	LR	08 36 44.9	
	comp=Z,83nm,18.6s,baz=80,slow=38						
WCT	Wildcat Mounta	47.45	299	P	P	08 15 27.5	+1.2
WCT				IAmb	IAmb	08 15 33.9	
	comp=Z,7.0nm,1.2s						
DSP	Deep Springs	48.53	300	IAmb	IAmb	08 15 42.3	
	comp=Z,8.3nm,1.3s						
NVAR	Mina Array Bea	48.81	301	P	P	08 15 37.7	+0.7
	comp=Z,1.2nm,0.9s,baz=100,slow=6.6,SNR=6.9						
NVAR				LR	LR	08 35 35.0	
	comp=Z,49nm,20.9s,baz=233,slow=36						
	comp=Z,1.2nm,0.9s						
NEW	Newport	48.94	314		P	08 15 37.7	0.0
NEW				IAmb	IAmb	08 15 38.9	
	comp=Z,5.3nm,0.9s						
NEW	Newport	48.94	314	LR	LR	08 35 50.7	
	comp=Z,108nm,20.0s,baz=97,slow=36						
LHV	Little Huntoon	48.96	301	IAmb	IAmb	08 15 52.3	
	comp=Z,13nm,1.3s						
J08A	Circle Bar Ran	49.21	308	IAmb	IAmb	08 15 46.7	
	comp=Z,9.9nm,1.3s						
BORG	Borgarnes	49.37	22	LR	LR	08 31 33.4	
	comp

baz=109
T35M Bob Quinn 58.11 324 P P 08 16 45.9 +1.1
baz=95
DLBC Dease Lake 58.15 325 LR LR 08 41 57.0
comp=Z,100nm,18.8s,baz=94,slow=36
DLBC Dease Lake 58.15 325 P P 08 16 46.1 +1.1
baz=96
DBIC Dimbokro 58.44 97 LR LR 08 37 02.7
comp=Z,61nm,21.2s,baz=264,slow=31
S34M Telegraph Cree 58.67 325 P P 08 16 49.5 +0.9
baz=95
V35K Ketchikan 58.74 322 P P 08 16 51.0 +1.9
baz=93
R33M Jennings River 58.74 326 P P 08 16 50.0 +0.7
baz=96
WRAK Wrangell Islan 59.22 323 P P 08 16 52.2 -0.1
baz=93
A36M Sachs Harbour 59.27 341 P P 08 16 50.7 -1.8
baz=109,SNR=5.5
MMPY Sheldon Lake, 59.29 330 P 08 16 53.1 +0.2
MMPY IAmb IAmb 08 16 54.7
comp=Z,5.5nm,1.1s
MMPY Sheldon Lake, 59.29 330 P P 08 16 53.3 +0.4
baz=98
Q32M Nakina River 59.36 326 P P 08 16 55.3 +1.6
baz=95
U33K Whale Pass 59.63 322 P P 08 16 57.7 +2.5
baz=92
P33M Teslin, Yukon 59.75 327 P P 08 16 57.3 +1.1
baz=95,SNR=9.3
N32M Quiet Lake 59.97 328 P P 08 16 59.1 +1.5
baz=95
P32M Atlin 60.15 326 IAmb IAmb 08 17 01.4
comp=Z,9.9nm,1.2s
P32M Atlin 60.15 326 P P 08 17 00.0 +1.1
baz=94
FARO Faro, Yukon 60.21 330 IAmb IAmb 08 17 00.9
comp=Z,5.8nm,1.1s
FARO Faro, Yukon 60.21 330 P P 08 17 00.4 +1.2
baz=96
S32K Killisnoo 60.49 324 P P 08 17 01.5 +0.4
baz=92
R32K Eaglecrest 60.49 325 P P 08 17 02.2 +1.0
baz=92
M31M Drury Creek, Y 60.69 329 P P 08 17 02.9 +0.4
baz=95,SNR=11
WHY Whitehorse 60.81 328 P P 08 17 03.7 +0.2
baz=93
SKAG Skagway 60.97 326 P P 08 17 05.4 +1.0
baz=92
F31M Tsiigehtchic 61.04 335 P P 08 17 04.0 -0.7
baz=98,SNR=5.7
H31M Peel River 61.05 334 IAmb IAmb 08 17 05.7
comp=Z,6.0nm,1.2s
H31M Peel River 61.05 334 P P 08 17 04.4 -0.5
baz=97
INK Inuvik 61.09 336 P P 08 17 04.4 -0.6
baz=99,SNR=21
G31M Satah River 61.17 335 P 08 17 04.6 -1.0
G31M Satah River 61.17 335 P P 08 17 05.2 -0.3
baz=98,SNR=8.5
N31M Braeburn, Yuko 61.30 329 P P 08 17 07.9 +1.2
baz=93,SNR=11
S31K Pelican 61.39 325 P P 08 17 09.2 +2.0
baz=91
O30N Mendenhall 61.41 328 P P 08 17 08.5 +1.1
baz=92
P30M Million Dollar 61.82 327 P P 08 17 11.2 +1.0
baz=91
I30M Mount Dempster 61.84 333 P P 08 17 09.8 -0.6
baz=95
M30M Minto, Yukon 61.84 330 IAmb IAmb 08 17 12.0
comp=Z,6.1nm,1.1s
M30M Minto, Yukon 61.84 330 P P 08 17 10.3 +0.1
baz=93,SNR=5.1
F30M Barrier River 61.84 336 IAmb IAmb 08 17 10.8
comp=Z,9.1nm,1.1s
F30M Barrier River 61.84 336 P P 08 17 09.6 -0.6
baz=96,SNR=5.3
N30M Aishikik Lake 61.92 328 P P 08 17 12.7 +1.8
baz=92,SNR=5.4
G30M tAoh Zraii Nji 61.94 335 P P 08 17 10.2 -0.7
baz=96
EPYK Eagle Plains 62.08 334 P P 08 17 11.8 0.0
baz=95
HYT Haines Junctio 62.10 328 P P 08 17 13.4 +1.2
baz=91
P29M Windy Craggy 62.20 326 P P 08 17 14.3 +1.6
baz=90
NOA NORSAR Array B 62.23 32 P P 08 17 12.8 -0.1
comp=Z,1.0nm,0.8s,baz=270,slow=6.5,SNR=4.3
NOA LR LR 08 39 19.7
comp=Z,20nm,20.6s,baz=255,slow=32
comp=Z,1.0nm,0.8s
K29M Barlow Dome 62.23 331 IAmb IAmb 08 17 13.9
comp=Z,4.1nm,1.1s
K29M Barlow Dome 62.23 331 P P 08 17 13.7 +0.7
baz=93
L29M L29M 62.47 330 P P 08 17 15.2 +0.6
baz=92
YUK6 Outpost Mounta 62.53 328 P P 08 17 16.3 +1.1
baz=90,SNR=5.3
M29M Somme Creek 62.60 330 IAmb IAmb 08 17 18.6
comp=Z,5.5nm,1.1s
M29M Somme Creek 62.60 330 P P 08 17 16.5 +1.0
baz=91
O29M Mount Kennedy 62.62 327 P P 08 17 16.6 +0.9
baz=90
G29M Pine Creek 62.64 335 P P 08 17 15.2 -0.3
baz=94
I29M Ogilvie Camp, 62.65 333 P P 08 17 15.0 -0.7
I29M IAmb IAmb 08 17 16.4
comp=Z,8.7nm,1.4s
I29M Ogilvie Camp, 62.65 333 P P 08 17 15.4 -0.3
baz=93
YUK4 Talbot Arm 62.67 328 P P 08 17 16.8 +0.7
baz=91,SNR=7.3
E29M Blow River 62.71 336 IAmb IAmb 08 17 16.5
comp=Z,5.0nm,0.9s
E29M Blow River 62.71 336 P P 08 17 15.5 -0.5
baz=95,SNR=9.0
H29M Whitestone 62.73 334 IAmb IAmb 08 17 16.9
comp=Z,5.9nm,0.9s
H29M Whitestone 62.73 334 P P 08 17 15.6 -0.6
baz=93,SNR=6.0
KEST Kesra 63.01 61 LR LR 08 39 42.6
comp=Z,42nm,21.4s,baz=293,slow=31
PNL Peninsula 63.04 326 P P 08 17 18.3 -0.1
baz=89
DAWY Dawson 63.07 331 IAmb IAmb 08 17 20.0
comp=Z,8.3nm,1.2s
DAWY Dawson 63.07 331 P P 08 17 18.9 +0.4
baz=91
D28M Stokes Point 63.10 337 P P 08 17 17.8 -0.7
baz=94,SNR=15
YUK8 Steele Glacier 63.21 328 P P 08 17 20.4 +0.7
baz=89
E28M Babbage River 63.33 336 P P 08 17 19.4 -0.7
baz=93
I28M Miner Creek 63.34 333 P P 08 17 19.5 -0.8
I28M Miner Creek 63.34 333 P P 08 17 20.2 -0.1
baz=91
O28M Mount Upton 63.42 328 P P 08 17 22.0 +0.8
O28M Mount Upton 63.42 328 P P 08 17 22.7 +1.5
baz=89,SNR=5.9
HFS Hagfors 63.45 33 P P 08 17 19.7 -1.3
comp=Z,0.9nm,0.5s,baz=219,slow=11,SNR=1.5
HFS LR LR 08 40 13.6
comp=Z,32nm,20.9s,baz=276,slow=32
comp=Z,0.9nm,0.5s
PINM Pinnacle 63.47 327 P P 08 17 22.7 +1.4
baz=88
YUK3 Moose Creek 63.54 329 P P 08 17 22.2 +0.4
baz=89
BVCY Beaver Creek 63.72 330 P P 08 17 23.5 +0.7
baz=89
D27M Malcolm River 63.88 337 P P 08 17 23.8 0.0
baz=92
H27K Steamboat Moun 64.01 334 IAmb IAmb 08 17 24.8
comp=Z,8.1nm,1.4s
H27K Steamboat Moun 64.01 334 P P 08 17 24.1 -0.6
baz=90,SNR=5.5
I27K Kandik River 64.04 333 P P 08 17 24.5 -0.5
baz=90,SNR=5.2
G27K Doyon Strip 64.07 334 IAmb IAmb 08 17 26.2
comp=Z,5.3nm,1.4s
G27K Doyon Strip 64.07 334 P P 08 17 24.0 -1.0
baz=90
E27K Coleen River 64.07 336 IAmb IAmb 08 17 25.6
comp=Z,5.5nm,1.2s
E27K Coleen River 64.07 336 P P 08 17 24.9 -0.2
baz=91,SNR=6.0
BCAR Beaver Creek A 64.14 330 P 08 17 26.3 +0.7
L27K Beaver Creek, 64.15 330 IAmb IAmb 08 17 27.6
comp=Z,6.2nm,1.1s
L27K Beaver Creek, 64.15 330 P P 08 17 25.9 +0.2
baz=88
M27K Edge Creek, AK 64.19 329 P P 08 17 26.4 +0.3
baz=88
GERES GERESS Array B 64.25 46 P P 08 17 26.2 -0.4
comp=Z,0.2nm,0.3s,baz=282,slow=6.7,SNR=3.7
comp=Z,0.2nm,0.3s
K27K Chicken 64.25 331 P P 08 17 26.9 +0.7
baz=89
PLCA Paso Flores 64.27 186 LR LR 08 49 29.5
comp=Z,39nm,18.6s,baz=3.0,slow=40
MESA MESA 64.31 327 P P 08 17 28.0 +1.1
baz=87
I26K Coal Creek Min 64.69 333 P P 08 17 29.6 +0.5
baz=88
M26K Nabesna, AK 64.71 330 P P 08 17 30.1 +0.7
baz=87
L26K Log Cabin Wild 64.85 330 P P 08 17 31.1 +0.8
baz=87
C27K Jago River 64.86 338 P P 08 17 29.6 -0.6
baz=90,SNR=14
J26L Joseph Creek 64.89 332 IAmb IAmb 08 17 31.7
comp=Z,3.4nm,0.9s
J26L Joseph Creek 64.89 332 P P 08 17 30.6 +0.2
baz=88,SNR=5.4
G26K Porcupine Rive 64.91 335 IAmb IAmb 08 17 31.2
comp=Z,8.5nm,1.2s
G26K Porcupine Rive 64.91 335 P P 08 17 30.5 0.0
baz=89,SNR=5.7
SPITS Spitsbergen Ar 65.03 13 LR LR 08 44 31.0
comp=Z,29nm,19.4s,baz=192,slow=35
F26K Sheenjek River 65.03 335 P P 08 17 31.6 +0.2
baz=89
SCRK Sand Creek 65.09 331 IAmb IAmb 08 18 01.7
comp=Z,6.9nm,1.4s
SCRK Sand Creek 65.09 331 P P 08 17 32.3 +0.5
baz=87
DOT Dot Lake 65.14 331 P P 08 17 32.6 +0.5
GLB Gilahina Butte 65.15 329 IAmb IAmb 08 17 39.4
comp=Z,4.2nm,0.8s
C26K Camden Bay 65.28 338 P P 08 17 33.3 +0.5
baz=89,SNR=13
RIDG Independent Ri 65.48 331 P P 08 17 34.3 0.0
baz=86
N25K Chitina, Valde 65.52 329 P P 08 17 35.5 +0.9
baz=85,SNR=5.7
E25K Arctic Village 65.56 336 P P 08 17 34.4 -0.3
baz=88
KAIM Kayak Island 65.56 327 P P 08 17 36.3 +1.4
baz=85
BMRM Bremner River 65.57 328 P P 08 17 35.0 +0.1
BMRM Bremner River 65.57 328 P P 08 17 36.2 +1.3
baz=85
F25K Christian Rive 65.61 335 P P 08 17 34.9 -0.2
F25K IAmb IAmb 08 17 36.4
comp=Z,6.4nm,1.1s
F25K Christian Rive 65.61 335 P P 08 17 35.1 0.0
baz=87,SNR=6.1
J25K Salcha River, 65.66 332 P P 08 17 35.9 +0.4
baz=86
PRP Porcupine Dome 65.67 333 P P 08 17 35.2 -0.4
baz=86,SNR=6.5
HARP HAARP 65.72 330 P P 08 17 37.1 +1.2
baz=85,SNR=6.1
D25K Kavik River 65.81 337 IAmb IAmb 08 17 37.3
comp=Z,7.8nm,1.1s
D25K Kavik River 65.81 337 P P 08 17 36.1 -0.3
baz=87,SNR=7.3
PAX Paxson 65.82 330 P P 08 17 37.2 +0.7
baz=85
G25K Bearman Lake 65.83 334 P P 08 17 37.0 +0.6
baz=86
K24K Donnelly Dome 65.89 331 P P 08 17 37.3 +0.3
baz=85
VRAC Vranov 66.07 45 LR LR 08 42 14.4
comp=Z,20nm,20.3s,baz=223,slow=32
KLU Kluting 66.16 329 P P 08 17 39.9 +1.1
baz=84,SNR=7.3
EYAK Cordova Ski Ar 66.17 328 P P 08 17 40.9 +2.2
baz=84
M24K Tolsona, Glenn 66.22 329 P P 08 17 39.8 +0.7
baz=84
ILAR Eielson Array 66.30 332 P P 08 17 39.0 -0.5
ILAR Eielson Array 66.30 332 P P 08 17 38.4 -1.1
comp=Z,3.0nm,0.9s,baz=84,slow=5.6,SNR=31
ILAR LR LR 08 45 46.6
comp=Z,42nm,19.2s,baz=118,slow=35
comp=Z,3.0nm,0.9s
HDA Harding Lake 66.36 332 P P 08 17 39.6 -0.3
baz=85
G24K Hadweenzic Riv 66.38 334 P P 08 17 39.8 -0.3
baz=85
F24K Squaw Lake 66.47 335 IAmb IAmb 08 17 42.1
comp=Z,7.1nm,1.1s
F24K Squaw Lake 66.47 335 P P 08 17 40.1 -0.5
baz=85,SNR=9.4
POKR Poker Plat Res 66.50 333 P P 08 17 41.4 +0.6
baz=84
C24K Franklin Bluff 66.60 338 P P 08 17 40.9 -0.4
baz=85
H24K Noodor Dome 66.62 333 IAmb IAmb 08 17 42.8
comp=Z,7.2nm,1.1s
H24K Noodor Dome 66.62 333 P P 08 17 41.5 -0.1
baz=84
E24K Your Creek 66.66 336 P P 08 17 41.9 +0.1
baz=85
D24K Happy Valley 66.69 337 P P 08 17 41.6 -0.3
baz=85
COLA College 66.70 332 P P 08 17 42.4 +0.4
baz=84
CCB Clear Creek Bu 66.70 332 IAmb IAmb 08 17 42.5
comp=Z,6.7nm,1.0s
GLI Glacier Island 66.79 328 P P 08 17 43.4 +0.7
baz=83
SCM Sheep Creek Mo 66.79 329 P P 08 17 43.4 +0.6
baz=83
M23K Glacier View 66.98 329 P P 08 17 44.6 +0.7
baz=83
TOLK Toolik Lake Re 67.00 337 P P 08 17 43.1 -1.0
baz=84
P23K Montague Islan 67.05 327 P P 08 17 45.6 +1.3
baz=82
E23K Chandalar 67.08 336 IAmb IAmb 08 17 45.7
comp=Z,4.8nm,1.2s
E23K Chandalar 67.08 336 P P 08 17 43.7 -0.9
baz=84
NEA2 Nenana 67.25 332 P P 08 17 45.6 +0.1
baz=83,SNR=7.3
C23K Itkillik River 67.25 338 P P 08 17 45.0 -0.5
baz=84
SML Sawmill 67.27 329 P P 08 17 46.6 +0.8
baz=82
MCK McKinley 67.30 331 P P 08 17 46.3 +0.4
baz=83
H23K Yukon River 67.30 334 P P 08 17 45.6 -0.3
baz=83,SNR=6.0
RND Reindeer 67.30 331 IAmb IAmb 08 18 01.8
comp=Z,11nm,1.4s
I23K Minto, Yukon-K 67.31 333 P P 08 17 46.2 +0.3
baz=83
D23K Nanushuk River 67.37 337 P P 08 17 45.8 -0.5
D23K Nanushuk River 67.37 337 P P 08 17 46.2 -0.1
baz=83
KNK Knik Glacier 67.38 329 P P 08 17 47.8 +1.3
baz=82
G23K Bananza Creek 67.39 335 P P 08 17 46.0 -0.5
baz=83
PWL Port Wells 67.39 328 P P 08 17 48.0 +1.4
baz=82
COLD Coldfoot 67.39 335 P P 08 17 46.6 +0.2
COLD IAmb IAmb 08 17 47.8
comp=Z,3.7nm,0.9s
COLD Coldfoot 67.39 335 P P 08 17 45.8 -0.6
baz=83,SNR=5.6
PMR Palmer 67.67 329 P P 08 17 48.7 +0.5
baz=82
ARCES ARCESS Array B 67.78 22 P P 08 17 48.2 -0.6
comp=Z,3.5nm,0.8s,baz=268,slow=5.7,SNR=5.7
comp=Z,3.5nm,0.8s
E22K Anaktuvuk Pass 67.89 336 P P 08 17 49.2 -0.4
baz=82
TRF Thorofare Moun 67.93 331 P P 08 17 50.3 +0.2
baz=81
G22K Bettles 67.94 335 P P 08 17 50.5 +0.6
baz=82
H22K Ishtalitna Cre 68.04 334 P P 08 17 50.9 +0.3
baz=81
SEW Seward 68.05 327 P P 08 17 52.1 +1.5
baz=81
CUT Chulitna 68.08 330 P P 08 17 51.8 +0.9
baz=81
D22K Ayikyak River 68.10 337 P P 08 17 50.0 -1.0
baz=81
F22K John River 68.12 336 P P 08 17 50.6 -0.5
baz=81
O22K Cooper Landing 68.12 328 P P 08 17 51.7 +0.6
baz=81
B22K Teshekpuk Lake 68.14 339 P P 08 17 50.8 -0.2
baz=81
BPAW Bear Paw Mtn. 68.14 332 IAmb IAmb 08 17 51.5
comp=Z,7.1nm,1.0s
BPAW Bear Paw Mtn. 68.14 332 P P 08 17 51.4 +0.1
baz=81
KTH Kantishna Hill 68.20 331 P P 08 17 51.9 +0.2
I21K Tanana 68.40 333 P P 08 17 53.1 +0.3
baz=80
SUA Susitna One 68.46 329 P P 08 17 54.0 +0.6
baz=80
A22K Sinclair Lake 68.55 339 P P 08 17 53.9 +0.3
baz=80
H21K Melozitna Rive 68.66 334 IAmb IAmb 08 17 55.5
comp=Z,8.6nm,1.1s
H21K Melozitna Rive 68.66 334 P P 08 17 54.2 -0.2
baz=80,SNR=5.8
F21K Alatna River 68.66 335 P P 08 17 54.1 -0.3
baz=80
B21K Ikpikpuk River 68.66 338 IAmb IAmb 08 17 55.9
comp=Z,6.7nm,1.1s
B21K Ikpikpuk River 68.66 338 P P 08 17 53.9 -0.4
baz=80,SNR=5.0
CAST Castle Rocks 68.74 331 P P 08 17 54.6 -0.3
baz=80
SKT Skwentna 68.74 330 P P 08 17 55.2 +0.2
baz=80
BRSE Bradley Lake S 68.75 327 P P 08 17 55.5 +0.3
baz=79
CHUM Lake Minchumin 68.76 332 P P 08 17 54.9 -0.1
baz=80,SNR=6.9
G21K Allakaket 68.79 335 IAmb IAmb 08 17 56.6
comp=Z,9.1nm,1.3s
G21K Allakaket 68.79 335 P P 08 17 54.9 -0.4
baz=80
C21K Knifeblade Rid 68.80 337 P P 08 17 55.0 -0.3
baz=80
PPLA Purkeypile 68.88 331 P P 08 17 55.6 -0.4
baz=79
SPCR Spurr Chakacha 69.20 329 P P 08 17 58.8 +0.8
baz=79
HOM Homer 69.22 327 P P 08 17 59.5 +1.6
baz=79
FINES FINESS Array B 69.34 31 P P 08 17 58.2 -0.5
comp=Z,0.8nm,0.3s,baz=285,slow=5.3,SNR=13
FINES LR LR 08 43 40.9
comp=Z,20nm,20.6s,baz=180,slow=32
comp=Z,0.8nm,0.3s
B20K Meade River 69.46 339 P P 08 17 59.5 +0.2
baz=78
E20K Nigu River 69.48 337 P P 08 17 58.6 -1.0
baz=78,SNR=7.6
J20K Nowinta River 69.49 332 P P 08 17 59.6 0.0
baz=78
M20K Styx River 69.50 330 P P 08 17 59.5 -0.4
baz=78
I20K Naagheedeneel 69.51 333 P P 08 17 59.9 +0.2
baz=78
H20K Anotleneega Mo 69.54 334 P P 08 18 00.1 +0.2
baz=78
D20K Etivluk River 69.54 337 P P 08 17 59.3 -0.6
baz=78
F20K Avaraart Lake 69.55 335 P P 08 17 59.6 -0.3
baz=78
K20K Telida 69.63 331 P 08 18 00.3 -0.2
K20K Telida 69.63 331 P P 08 18 00.3 -0.2
baz=78,SNR=6.2
L20K Farewell, AK 69.72 330 P P 08 18 01.2 +0.1
baz=78
Q20K Shuyak Island 69.81 326 P P 08 18 02.4 +0.7
baz=78
M19K Big River Lodg 70.08 330 P P 08 18 03.0 -0.3
baz=77
KDAK Kodiak Island 70.08 325 LR LR 08 46 42.7
comp=Z,54nm,21.6s,baz=290,slow=34
D19K Kuna River 70.12 337 P P 08 18 02.7 -0.7
baz=76
J19K Poorman 70.17 332 P P 08 18 03.3 -0.5
baz=77
H19K Roundabout Mou 70.17 334 P P 08 18 03.1 -0.6
baz=77
L19K White Mountain 70.23 330 P P 08 18 04.1 -0.1
baz=77
G19K Purcell Mounta 70.28 334 P P 08 18 03.7 -0.7
baz=76,SNR=6.6
N19K Bonanza Creek 70.36 329 P P 08 18 05.6 +0.5
baz=77
Q19K Cape Douglas, 70.37 327 P P 08 18 06.0 +0.8
baz=77
F19K Shaleruckik Mo 70.39 335 P 08 18 03.9 -1.2
F19K IAmb IAmb 08 18 05.7
comp=Z,7.3nm,1.1s
F19K Shaleruckik Mo 70.39 335 P P 08 18 04.6 -0.5
baz=76,SNR=7.1
O19K Port Alsworth 70.42 328 P P 08 18 05.9 +0.5
baz=77
GCSA Galena City Sc 70.53 333 P P 08 18 05.7 -0.2
baz=76
OHAK Old Harbor 70.58 325 P P 08 18 06.4 +0.1
baz=76
A19K Wainwright 70.71 339 P P 08 18 06.0 -0.9
baz=74
J18K Innoko River 70.76 332 P P 08 18 08.1 +0.7
baz=76
M18K Stony River 70.84 330 P P 08 18 08.4 +0.6
baz=76
O18K Koktuh Hills 70.94 328 P P 08 18 09.9 +1.3
baz=76
G18K Tagagawik 70.96 334 P P 08 18 08.4 -0.2
baz=75
H18K Honhosa River 71.04 334 P P 08 18 09.4 +0.3
baz=75
L18K Granite Mounta 71.06 330 P P 08 18 09.8 +0.6
baz=75
P18K Big Mountain, 71.06 327 P P 08 18 10.4 +1.1
baz=76
N18K Kilae Creek 71.06 329 P P 08 18 08.8 -0.5
baz=76
R18K Karluk 71.11 325 P P 08 18 11.4 +1.8
baz=76
Q18K Katmai Hardscr 71.13 326 P P 08 18 11.5 +1.6
baz=76
F18K Selawik 71.17 335 P P 08 18 09.3 -0.5
baz=74
C18K Utukok River 71.18 337 P P 08 18 10.1 +0.1
baz=74
SII Sitkinak Islan 71.21 324 P P 08 18 12.1 +1.8
baz=76
E18K Tukpahlearik C 71.31 336 P P 08 18 10.8 +0.1
baz=74
M17K Holitna River 71.61 330 P P 08 18 14.0 +1.4
baz=74
K17K Iditarod 71.65 331 P P 08 18 13.6 +0.8
baz=74
Q17K Contact Creek 71.67 326 P P 08 18 14.5 +1.4
baz=75
P17K Kvichak River 71.71 327 P P 08 18 15.3 +2.1
baz=75
H17K Granite Mounta 71.73 334 P P 08 18 14.4 +1.2
baz=74
J17K VABM Dome 71.81 332 P P 08 18 13.8 +0.1
J17K VABM Dome 71.81 332 P P 08 18 14.4 +0.7
baz=74
L17K Donlin 71.81 330 P P 08 18 15.1 +1.3
baz=74
F17K Baldwin Pennin 71.83 335 P P 08 18 14.3 +0.5
baz=73
E17K Hotham Inlet 71.86 336 P P 08 18 14.3 +0.3
baz=72
G17K Kiwalik Mounta 71.87 334 P P 08 18 14.5 +0.4
baz=73
O17K Koliganek Bris 71.88 328 P P 08 18 15.6 +1.4

baz=74
RDOG Red Dog Mine 71.96 337 P **P** **08 18 14.1 -0.5**
RDOG IAmb IAmb 08 18 15.2
comp=Z,4.4nm,1.0s
RDOG Red Dog Mine 71.96 337 P **P** **08 18 14.4 -0.2**
baz=72
D17K Noatak River 72.13 337 P **P** **08 18 15.8 +0.2**
baz=72
I17K Unalakleet 72.36 333 P **P** **08 18 17.6 +0.6**
baz=72
L16K Owhat River 72.46 330 **P** **08 18 18.3 +0.6**
L16K Owhat River 72.46 330 P **P** **08 18 18.5 +0.8**
baz=73
J16K Anvik River 72.50 332 P **P** **08 18 18.8 +1.0**
baz=72
G16K Koyuk River 72.58 334 P **P** **08 18 18.3 0.0**
baz=72
C16K Lisburne Hills 72.75 338 P **P** **08 18 18.7 -0.5**
baz=70
H16K Elim 72.77 334 P **P** **08 18 19.7 +0.2**
baz=71
K15K Wolf Creek Mou 73.21 331 P **P** **08 18 22.5 +0.4**
baz=71
AKASG Malin Array Be 73.70 41 P **P** **08 18 25.9 +0.7**
comp=Z,0.1nm,0.3s,baz=285,slow=5.3,SNR=1.6
comp=Z,0.1nm,0.3s
S14K Fog Glacier 74.15 325 P **P** **08 18 29.6 +1.8**
baz=71
M13K Dall Lake 74.66 330 P **P** **08 18 31.7 +1.1**
baz=69
K13K Kusilvak Mount 74.71 331 P **P** **08 18 31.6 +0.7**
baz=69
TIXI Tiksi 84.73 356 LR LR 08 57 25.0
comp=Z,36nm,19.9s,baz=29,slow=36
NRIK Noril'sk 85.05 10 P **P** **08 19 26.2 -0.5**
comp=Z,0.8nm,0.4s,baz=346,slow=4.2,SNR=4.2
comp=Z,0.8nm,0.4s
MA2 Magadan 92.63 343 LR LR 09 02 35.2
comp=Z,25nm,20.5s,baz=304,slow=36
SUR Sutherland 97.54 122 LR LR 08 54 02.5
comp=Z,34nm,20.8s,baz=227,slow=29
LBTB Lobatse 98.64 113 LR LR 08 57 28.5
comp=Z,26nm,19.8s,baz=114,slow=31
BOSA Boshof 99.68 117 LR LR 08 59 05.2
comp=Z,33nm,18.1s,baz=73,slow=31

TXNET 30 08:12:18.6,31°.6N±0°.5×104°.3W±0°.6, h5km±2km, ML2.0/6, 1C-1D, Error ellipse: s-maj=1.0km s-min=0.6km az=64.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.34**	**32**	⇑P	Pg	08 12 25.3	0.0
TPB11				S	Sg	08 12 29.9	0.0
PECS	**Pecos**	**0.43**	**129**	P	Pg	08 12 27.0	+0.1
PECS				S	Sg	08 12 32.8	+0.4
TPB12	**Southwest of T**	**0.50**	**150**	P	Pg	08 12 28.2	+0.1
TPB12				S	Sg	08 12 35.0	+0.4
TPB07	**Mentone**	**0.50**	**97**	S	Sg	08 12 35.1	+0.3
TPB10	**Southeast of T**	**0.56**	**130**	P	Pg	08 12 29.7	+0.5
TPB10				S	Sg	08 12 37.1	+0.5
GDL2	**Guadalupe Moun**	**0.56**	**350**	P	Pg	08 12 29.7	+0.2
PCOS	**Crockett Middl**	**0.68**	**110**	S	Sg	08 12 40.7	+0.4
CLNB	**Carlsbad**	**0.70**	**27**	P	Pg	08 12 31.7	-0.2
CLNB				S	Sg	08 12 41.7	+0.7
TPB01	**Permian Basin**	**0.81**	**150**	P	Pg	08 12 33.5	-0.6
TPB01				S	Sg	08 12 44.1	-0.4
TPB03	**Saragosa**	**0.84**	**131**	P	Pg	08 12 34.6	-0.1
TPB03				S	Sg	08 12 46.0	+0.3
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	08 12 37.2	+0.1
MNTX				S	Sg	08 12 50.1	+0.5
VHRN	**Van Horn**	**1.06**	**217**	P	Pg	08 12 38.5	-0.4
VHRN				S	Sb	08 12 53.6	-0.1
TPB05	**Hovey Rd**	**1.07**	**132**	P	Pg	08 12 38.7	-0.5
TPB05				S	Sg	08 12 52.8	-0.3
MNHN	**Monahans**	**1.31**	**103**	P	Pn	08 12 42.3	-1.3
MNHN				S	Sg	08 12 59.2	-1.4
ALPN	**Alpine**	**1.37**	**157**	⇓P	Pn	08 12 43.3	-1.2
ALPN				S	Sg	08 13 00.7	-1.9
CPRX	**Cap Rock**	**1.42**	**13**	P	Pn	08 12 44.8	-0.4
ODSA	**Odessa**	**1.52**	**71**	S	Sn	08 13 05.7	-1.2
TMB04	**Seminole**	**1.79**	**56**	P	Pn	08 12 50.5	+0.3
TMB04				S	Sb	08 13 14.0	-0.6
TMB01	**Midkiff**	**1.85**	**89**	S	Sn	08 13 15.6	+0.8
TMB02	**Rankin**	**1.94**	**103**	S	Sb	08 13 18.3	-0.8
TMB05	**Klondike**	**2.25**	**64**	S	Sb	08 13 27.4	-0.7
TX31	**Lajitas Ar. Si**	**2.36**	**167**	Pg	Pb	08 13 00.9	-0.7

*DNK **30** 08:12:31.1±1.9, 78°.75N×18°.46W, h4km±20km, ML1.7*
*BER **30** 08:12:34.5±1.5, 78°.74N×18°.21W, h10km, mb(Pn)3.5, ML1.7(DNK), Confirmed Earthquake*
ISC 30 08:12:20.3±1.0, 78°51N±0°.04×16°01W±0°.06, h10km, n8, σ2s01/14, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**3.11**	**358**	*i* P	**Pg**	**08 13 17.6**	**-2.2**
NOR				*e*S	**Sb**	**08 13 52.5**	**-0.9**
NOR				IAML		08 13 57.8	
comp=Z,9.8nm,0.4s							
NOR	**Nord**	**3.11**	**358**	*i* P	**Pg**	**08 13 17.6**	**-2.2**
NOR				*i* S	**Sb**	**08 13 52.1**	**-1.4**
NOR				IAML		08 13 57.8	
comp=Z,9.8nm,0.4s							
DBG	**Daneborg**	**4.34**	**195**	*i* P	**Pg**	**08 13 40.4**	**-2.9**
DBG				*e*S	**Sb**	**08 14 29.5**	**+0.6**
DBG				IAML		08 14 58.8	
comp=Z,2.3nm,0.4s							
DBG	**Daneborg**	**4.34**	**195**	*i* P	**Pg**	**08 13 40.4**	**-2.9**
DBG				*i* S	**Sb**	**08 14 29.0**	**+0.1**
DBG				IAML		08 14 58.8	
comp=Z,2.3nm,0.4s							
KBS	**Kingsbay**	**5.47**	**72**	*e*P	**Pb**	**08 13 56.9**	**+1.2**
KBS				*e*S	**Sb**	**08 15 00.8**	**-0.4**
KBS	**Kingsbay**	**5.47**	**72**	*i* P	**Pb**	**08 13 56.8**	**+1.1**
KBS				*i* S	**Sb**	**08 15 01.5**	**+0.3**
NEEM	**North Greenlan**	**7.31**	**279**	*i* P	**Pn**	**08 14 09.6**	**+2.4**
NEEM				IAML		08 15 39.5	
comp=Z,1.6nm,0.4s							
NEEM	**North Greenlan**	**7.31**	**279**	*i* P	**Pn**	**08 14 09.6**	**+2.4**
NEEM				IAML		08 15 39.5	
comp=Z,1.6nm,0.4s							

*ASRS **30** 08:14:44.0±0.9, 53°.82N×88°.23E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 30 08:14:45.8±3.6, 53°.83N×88°.31E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=31.6km s-min=20.4km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.07**	**275**	I	I	08 27 30.0	
baz=91,slow=328,SNR=2.2							
ZALV	**Zalesovo Beam**	**2.07**	**275**	Pg	Pb	08 15 23.8	-0.3
2.0nm,0.3s,baz=92,slow=16,SNR=7.9							
ZALV				Lg	Lg	08 15 50.2	
2.7nm,0.3s,baz=93,slow=28,SNR=12							
KURBB	**Kurchatov Arra**	**6.81**	**246**	Pn	Pn	08 16 27.7	+0.9
0.1nm,0.3s,baz=61,slow=14,SNR=4.9							
KURBB				Sn	Sn	08 17 44.9	-0.1
baz=61,slow=19,SNR=1.3							
KURBB				Lg	Lg	08 18 16.3	
baz=52,slow=44,SNR=2.4							
0.6nm,0.3s							
MKAR	**Makanchi Array**	**8.02**	**211**	Pn	Pn	08 16 43.9	+0.4
baz=32,slow=15,SNR=2.3							
0.2nm,0.5s							

IDC 30 08:15:57.5±1.4, 3°.19N×64°.22E, h0km, mb3.8/5, mbtmp3.8/5, MS3.4/18, Error ellipse: s-maj=55.4km s-min=28.3km az=45.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**16.91**	**75**	LR	LR	08 24 51.8	
comp=Z,152nm,18.3s,baz=254,slow=32							
BRDH	**Bariadhala**	**32.89**	**52**	LR	LR	08 37 45.7	
comp=Z,177nm,18.1s,baz=108,slow=40							
PSI	**Prapat**	**34.66**	**90**	LR	LR	08 33 40.0	
comp=Z,67nm,21.3s,baz=242,slow=31							

CMAR Chiang Mai Arr 37.22 63 LR LR 08 37 23.9
comp=Z,36nm,20.3s,baz=270,slow=35
LSZ Lusaka 40.11 242 LR LR 08 37 50.5
comp=Z,91nm,18.2s,baz=216,slow=33
AAK Ala-Archa 40.33 12 LR LR 08 40 55.8
comp=Z,30nm,18.0s,baz=196,slow=37
GNI Garni 40.79 337 LR LR 08 41 52.9
comp=Z,22nm,18.4s,baz=250,slow=38
KBZ Khabaz 44.57 338 LR LR 08 44 03.0
comp=Z,26nm,18.9s,baz=132,slow=38
MKAR Makanchi Array 46.18 17 LR LR 08 44 43.3
comp=Z,28nm,19.6s,baz=174,slow=37
LBTB Lobatse 46.80 231 LR LR 08 41 25.6
comp=Z,64nm,20.6s,baz=47,slow=33
KURBB Kurchatov Arra 48.78 12 P P 08 24 42.7 -1.5
0.4nm,0.9s,baz=211,slow=7.4,SNR=2.9
KURBB LR LR 08 45 57.7
comp=Z,41nm,19.7s,baz=174,slow=37
0.4nm,0.9s
BVAR Borovoye Array 49.93 5 LR LR 08 46 50.6
comp=Z,42nm,19.6s,baz=226,slow=37
BELG Belogornoye 50.94 347 LR LR 08 48 16.6
comp=Z,26nm,19.9s,baz=196,slow=38
TSUM Tsumeb 50.96 242 LR LR 08 44 50.3
comp=Z,63nm,20.9s,baz=163,slow=34
ZALV Zalesovo Beam 53.34 15 LR LR 08 49 15.8
comp=Z,22nm,19.1s,baz=67,slow=38
SONM Songino Array 57.36 32 P P 08 25 48.8 +1.1
0.2nm,0.3s,baz=216,slow=8.6,SNR=1.8
0.2nm,0.3s
KSRS Korea Array 67.33 51 LR LR 08 56 43.4
comp=Z,24nm,21.2s,baz=40,slow=36
NOA NORSAR Array B 70.07 336 LR LR 08 59 22.5
comp=Z,14nm,19.6s,baz=100,slow=37
ARCES ARCESS Array B 70.98 347 LR LR 09 00 40.3
comp=Z,26nm,18.7s,baz=285,slow=38
ESDC Sonseca Array 71.24 311 P P 08 27 18.8 -0.1
0.8nm,0.8s,baz=95,slow=5.3,SNR=5.0
0.8nm,0.8s
WRA Warramunga Arr 72.51 112 P P 08 27 26.8 0.0
1.6nm,0.8s,baz=279,slow=6.3,SNR=7.1
1.6nm,0.8s
ASAR Alice Springs 72.80 116 P P 08 27 28.4 -0.1
1.0nm,0.8s,baz=285,slow=5.2,SNR=8.1
1.0nm,0.8s
TXAR Lajitas Array 145.63 341 PKPbc PKPdf 08 35 38.7 -0.2
0.9nm,0.8s,baz=39,slow=3.0,SNR=13

*FUNV **30** 08:20:33.8, 10°.26N×70°.93W, h4km, MW3.0*
*RSNC **30** 08:20:34.4±0.0, 10°N±1°×7°1W±°, h13km±3km, M2.4, mB3.6, mb2.9, ML2.3, Mw(mB)2.5*
ISC 30 08:20:35.1±2.2, 10°27N±0°.04×70°94W±0°.03, h26km±21km, n16, σ1s16/30, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**1.40**	**168**	P	**Pn**	**08 20 59.0**	**-0.2**
SDV				S	**Sb**	**08 21 18.1**	**-0.2**
MCQV	**Machiques**	**1.59**	**262**	*e*P	**Pn**	**08 21 01.8**	**+0.2**
MCQV				*e*S	**Sb**	**08 21 23.9**	**+0.5**
TEPV	**Terepaima**	**1.75**	**100**	*e*S	**Sn**	**08 21 26.3**	**+1.0**
URIC	**Uribia, Colomb**	**1.76**	**324**	P	**Pn**	**08 21 03.3**	**-0.7**
URIC				S	**Sn**	**08 21 25.8**	**+0.2**
SOCV	**Socops**	**1.97**	**178**	*e*P	**Pn**	**08 21 07.4**	**+0.5**
SOCV				*e*S	**Sn**	**08 21 32.2**	**+1.4**
CRJC	**Cerrejon, Guaj**	**2.05**	**292**	P	**Pn**	**08 21 07.1**	**-1.0**
CRJC				S	**Sn**	**08 21 33.6**	**+0.7**
CAPV	**Capacho**	**2.75**	**210**	*e*P	**Pn**	**08 21 18.2**	**+0.5**
CAPV				*e*S	**Sn**	**08 21 50.1**	**-0.1**
OCAC	**Ocana**	**3.10**	**230**	P	**Pn**	**08 21 23.6**	**+1.1**
OCAC				S	**Sn**	**08 22 00.0**	**+1.2**
BAUV	**El Baul**	**3.14**	**114**	*e*P	**Pn**	**08 21 23.2**	**+0.2**
BAUV				*e*S	**Sn**	**08 21 59.4**	**-0.4**
ARGC	**Ariguani, Magd**	**3.28**	**263**	P	**Pn**	**08 21 24.3**	**-0.6**
ARGC				S	**Sn**	**08 22 03.0**	**-0.2**
BENV	**Beln**	**3.30**	**95**	*e*P	**Pn**	**08 21 25.2**	**0.0**
BENV				*e*S	**Sn**	**08 22 03.2**	**-0.6**
SMRC	**Santa Marta, M**	**3.35**	**286**	P	**Pn**	**08 21 26.2**	**+0.3**
TAMC	**Tame, Arauca**	**3.90**	**193**	P	**Pn**	**08 21 32.9**	**-0.5**
TAMC				S	**Sn**	**08 22 18.8**	**+0.4**
SJCC	**San Jacinto, C**	**4.19**	**265**	P	**Pn**	**08 21 37.8**	**+0.3**
SJCC				S	**Sn**	**08 22 29.0**	**+3.3**
ZARC	**Zaragoza, Cauc**	**4.75**	**235**	P	**Pn**	**08 21 44.4**	**-0.8**
ZARC				S	**Sn**	**08 22 37.6**	**-1.9**
PTBC	**PUERTO BERRIO,**	**5.08**	**224**	P	**Pn**	**08 21 48.1**	**-1.6**
PTBC				S	**Sn**	**08 22 44.9**	**-2.7**

*ATH **30** 08:47:01.3, 39°.01N×26°.06E, h14km±3km, ML2.4/7, Manual Solution by G.Panopoulou First location: 2019/04/30 08:48:24, This location: 2019/04/30 09:05:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
*AFAD **30** 08:47:01.0, 39°.03N×26°.11E, h31km±9km, ML2.8*
*ISK **30** 08:47:01.1, 39°.02N×26°.09E, h11km, ML2.6/15*
ISC 30 08:47:01.1±0.9, 39°01N±0°.03×26°09E±0°.03, h15km±7km, n35, σ0s51/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.27**	**318**	P	**Pg**	**08 47 06.9**	**0.0**
SIGR				Sg	**Sg**	**08 47 11.1**	**+0.2**
SIGR	**SIGRI**	**0.27**	**318**	P	**Pg**	**08 47 07.0**	**0.0**
SIGR				S	**Sg**	**08 47 11.2**	**+0.2**
PRK	**Paraskevi**	**0.28**	**31**	P	**Pg**	**08 47 07.1**	**+0.1**
PRK				S	**Sb**	**08 47 11.5**	**-0.7**
GPNR	**Gulpinar-Canak**	**0.45**	**4**	Pg	**Pb**	**08 47 10.4**	**-0.3**
EAG2	**Marmaro, Chios**	**0.46**	**178**	P	**Pg**	**08 47 10.4**	**0.0**
EAG2				S	**Sg**	**08 47 16.4**	**-0.2**
KOCA	**Canakkale, Ayv**	**0.49**	**4**	P	**Pb**	**08 47 11.0**	**-0.5**
KOCA				S	**Sb**	**08 47 19.3**	**+0.8**
AYVA	**Ayvalik**	**0.56**	**57**	P	**Pg**	**08 47 11.1**	**-1.0**
AYVA				*i* AML	AML	08 47 20.0	
comp=N,444nm,0.2s							
AYVA				S	**Sb**	**08 47 20.1**	**-0.2**
FOCM	**Foa**	**0.58**	**120**	Pg	**Pb**	**08 47 12.9**	**0.0**
DKL	**Dikili**	**0.64**	**84**	Pg	**Pb**	**08 47 13.9**	**0.0**
DKL	**Dikili**	**0.64**	**84**	P	**Pb**	**08 47 14.3**	**+0.3**
DKL				S	**Sb**	**08 47 22.8**	**+0.2**
IZMD	**zmir-Dikili-**	**0.66**	**92**	P	**Pg**	**08 47 14.1**	**+0.1**
IZMD				S	**Sn**	**08 47 25.6**	**-0.4**
ZEDA	**zmir-Bergama**	**0.77**	**93**	P	**Pn**	**08 47 17.0**	**-0.4**
ZEDA				S	**Sn**	**08 47 28.8**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.81**	**26**	P	**Pn**	**08 47 17.7**	**-0.3**
BAYC				S	**Sn**	**08 47 30.6**	**+0.8**
BAYC				*i* AML	AML	08 47 32.0	
comp=E,253nm,0.2s							
BOZC	**Bozcaada**	**0.83**	**358**	P	**Pg**	**08 47 16.4**	**-0.9**
BOZC				S	**Sn**	**08 47 29.5**	**-0.8**
BOZC				*i* AML	AML	08 47 30.0	
comp=N,252nm,0.5s							
BOZC				*i* AML	AML	08 47 31.0	
comp=E,324nm,0.4s							
EZN	**Ezine**	**0.84**	**13**	Pg	**Pb**	**08 47 17.2**	**-0.1**
EZN				Sg	**Sn**	**08 47 29.4**	**-0.9**
BUHA	**Balikesir, Bur**	**0.91**	**57**	P	**Pb**	**08 47 18.6**	**+0.1**
BUHA				S	**Sn**	**08 47 32.1**	**-0.1**
BLCB	**Balcova**	**0.97**	**130**	Pg	**Pb**	**08 47 19.9**	**+0.3**
YAYO	**Edremit-Balk**	**0.97**	**51**	Pg	**Pg**	**08 47 19.6**	**-0.3**
YAYO				Sg	**Sn**	**08 47 33.7**	**0.0**
EFSA	**Agios Efstrati**	**1.01**	**302**	P	**Pg**	**08 47 20.4**	**-0.1**
CNKL	**anakkale-Mer**	**1.08**	**12**	P	**Pn**	**08 47 22.5**	**+0.8**
CNKL				S	**Sn**	**08 47 37.6**	**+1.2**
CNKL				*i* AML	AML	08 47 40.0	
comp=E,212nm,0.4s							
CNKL				*i* AML	AML	08 47 42.0	
comp=N,210nm,0.4s							
COMU	**Canakkale**	**1.13**	**15**	Pn	**Pg**	**08 47 22.7**	**-0.2**
GOAD	**anakkale-G¶**	**1.16**	**353**	P	**Pg**	**08 47 24.2**	**+0.7**
GOAD				S	**Sn**	**08 47 38.9**	**+0.6**
GOAD				*i* AML	AML	08 47 42.0	
comp=N,183nm,0.5s							
GOAD				*i* AML	AML	08 47 43.0	
comp=E,185nm,0.3s							
GADA	**Gvkgeada**	**1.19**	**353**	Pn	**Pg**	**08 47 23.5**	**-0.6**
CANM	**Can-anakkale**	**1.25**	**36**	Pn	**Pg**	**08 47 24.8**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.42**	**12**	Pn	**Pn**	**08 47 26.7**	**+0.4**
LPK	**Lapseki**	**1.46**	**21**	Pn	**Pb**	**08 47 27.7**	**-0.2**
SMTH	**Samothraki Isl**	**1.52**	**344**	P	**Pb**	**08 47 28.5**	**-0.5**
SMTH				S	**Sb**	**08 47 48.3**	**+0.1**
KYMI	**Kymi, Euboea I**	**1.60**	**257**	P	**Pn**	**08 47 28.9**	**+0.2**

KARY Karystos 1.62 234 P **Pn** **08 47 28.9 -0.2**
GORD Gordes-Manisa 1.63 93 Pn **Pn** **08 47 30.2 +0.9**
ODEM Odemis-Izmir 1.72 115 Pn **Pb** **08 47 31.7 -0.7**
SUSR Susurluk-Balik 1.81 58 Pn **Pn** **08 47 32.4 +0.6**
THAS Thassos island 1.91 327 P **Pn** **08 47 33.6 +0.5**
DION Dionisos Attik 1.93 242 P **Pn** **08 47 33.2 -0.2**
RDO Rodhopi 2.18 349 P **Pn** **08 47 37.3 +0.5**

*SOME **30** 08:53:19.1, 41°.00N×79°.65E, h10km*
NNC 30 08:53:18.7±3.1, 41°.02N×79°.77E, h0km, mb3.7, mpv3.4, 1C-1D, Error ellipse: s-maj=21.9km s-min=19.6km az=104.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.15**	**354**	Pg	Pb	08 53 58.8	+0.1
17nm,0.2s							
SHLS				Lg	Lg	08 54 27.3	
29nm,0.6s							
SHLS	**Shalkode**	**2.15**	**354**	*e*P	Pb	08 53 58.8	+0.1
17nm,0.2s							
SHLS				*e*S	Sg	08 54 27.3	-0.6
29nm,0.6s							
UZB	**Uzynbulak**	**2.20**	**346**	Pg	Pg	08 54 00.3	-0.7
5.0nm,0.3s							
UZB				Lg	Lg	08 54 29.7	
8.3nm,0.4s							
UZB	**Uzynbulak**	**2.20**	**346**	*e*P	Pg	08 54 00.3	-0.7
5.0nm,0.3s							
UZB				*e*S	Sg	08 54 29.7	+0.2
8.3nm,0.4s							
PDGK	**Podgornoye**	**2.32**	**355**	⇑Pg	Pn	08 53 59.3	+0.9
4.7nm,0.8s							
PDGK				⇓Lg	Lg	08 54 33.2	
15nm,0.8s							
ZHN	**Zhinishke**	**2.37**	**336**	Pg	Pb	08 54 02.3	-0.1
8.4nm,0.2s							
ZHN				Lg	Lg	08 54 33.5	
20nm,0.3s							
ZHN	**Zhinishke**	**2.37**	**336**	*e*P	Pb	08 54 02.3	-0.1
8.4nm,0.2s							
ZHN				*e*S	Sb	08 54 33.5	+1.3
20nm,0.3s							
TNSS	**Tian-Shan**	**2.92**	**315**	Pg	Pb	08 54 12.5	+0.6
3.8nm,0.3s							
TNSS				Lg	Lg	08 54 51.0	
3.1nm,0.4s							
TNSS	**Tian-Shan**	**2.92**	**315**	*e*P	Pb	08 54 12.5	+0.6
3.8nm,0.3s							
TNSS				*e*S	Sg	08 54 51.0	-1.5
3.1nm,0.4s							
BLB	**Baldybastay**	**3.23**	**343**	Pg	Pb	08 54 17.6	+0.7
8.6nm,0.3s							
BLB				Lg	Lg	08 54 60.0	
9.3nm,0.4s							

STR 30 08:53:36.6±0.4, 46°N±1°×±°, h0km, MLv1.6/11, Error ellipse: s-maj=0.0km s-min=0.0km az=69.7, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGSM	**Saint Maurice**	**0.28**	**134**	Pg	Pg	08 53 42.1	+0.1
OGSM				Sg	Sg	08 53 46.5	+0.8
OGMY	**Moye**	**0.34**	**78**	Pg	Pg	08 53 43.3	+0.1
OGMY				Sg	Sg	08 53 49.1	+1.4
A215A	**Commelle, 3812**	**0.40**	**198**	Sg	Sg	08 53 49.8	+0.5
GRN	**Grenoble**	**0.61**	**157**	Pg	Pg	08 53 48.5	+0.1
GRN				Sg	Sg	08 53 56.9	+0.6
SSB	**Saint Sauveur**	**0.81**	**229**	Pg	Pg	08 53 52.6	+0.6
SSB				Sg	Sb	08 54 04.7	-0.3
GIMEL	**St. Georges /**	**0.94**	**39**	Pn	Pn	08 53 56.6	-0.6
ORIF	**Oris-en-Rattie**	**0.95**	**159**	Pn	Pb	08 53 56.4	+0.4
ORIF	**Oris-en-Rattie**	**0.95**	**159**	Sg	Sb	08 54 08.2	-0.9
OGSI	**Sixt**	**0.97**	**74**	Pg	Pg	08 53 55.3	0.0
RIVEL	**MONT RIVEL**	**1.01**	**20**	Pg	Pb	08 53 57.1	0.0

*UPP **30** 09:00:17.8±0.4, 67°.42N×23°.33E, h0km, ML1.9, Unknown*
*IDC **30** 09:00:17.6±1.6, 67°.47N×23°.58E, h0km, mbtmp2.6/2, ML1.4/1, Error ellipse: s-maj=34.2km s-min=8.4km az=97.0.*
*HEL **30** 09:00:18.4±0.1, 67°.42N×23°.36E, h0km, ML1.6, Explosion*
ISC 30 09:00:16.0±0.8, 67°47N±0°.02×23°57E±0°.02, h0km, n32, σ1s05/48, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLF	**Kolari**	**0.28**	**146**	PG	**Pb**	**09 00 23.9**	**+0.1**
KLF				SG	**Sb**	**09 00 27.7**	**-1.3**
PAJU	**Pajala**	**0.48**	**202**	P	**Pg**	**09 00 25.7**	**+0.6**
PAJU				S	**Sg**	**09 00 31.6**	**+0.4**
PAJU	**Pajala**	**0.48**	**202**	PG	**Pg**	**09 00 25.5**	**+0.4**
baz=10.0							
PAJU				SG	**Sg**	**09 00 32.6**	**+1.4**
MASU	**Masugnsbyn**	**0.60**	**270**	P	**Pg**	**09 00 27.6**	**+0.1**
HEF	**Hetta**	**0.95**	**2**	*e*P	**Pn**	**09 00 36.7**	**+0.2**
HEF	**Hetta**	**0.95**	**2**	PG	**Pn**	**09 00 36.8**	**+0.2**
HEF				MSG		09 00 49.0	
comp=Z,4.3nm,0.2s							
HEF				SB	**Sn**	**09 00 50.5**	**-0.3**
ERTU	**Ertsjaerv**	**1.06**	**211**	P	**Pg**	**09 00 35.9**	**-0.4**
ERTU	**Ertsjaerv**	**1.06**	**211**	PG	**Pg**	**09 00 36.0**	**-0.4**
ERTU				SB	**Sg**	**09 00 49.9**	**-0.2**
DUNU	**Dundret**	**1.21**	**255**	P	**Pg**	**09 00 38.7**	**-0.5**
RNF	**Rovaniemi**	**1.29**	**131**	PG	**Pn**	**09 00 42.3**	**+1.1**
RNF				SG	**Sn**	**09 01 00.2**	**+1.1**
KUA	**Kurravaara**	**1.33**	**293**	P	**Pg**	**09 00 41.1**	**-0.2**
KOVU	**Salmi**	**1.50**	**302**	P	**Pb**	**09 00 44.6**	**-0.1**
RATU	**Laukkuluspa**	**1.56**	**285**	P	**Pn**	**09 00 45.2**	**+0.2**
KALU	**Kalix**	**1.61**	**183**	P	**Pb**	**09 00 46.5**	**-0.1**
KALU	**Kalix**	**1.61**	**183**	PG	**Pb**	**09 00 46.6**	**-0.1**
baz=360							
KALU				SN	**Sg**	**09 01 10.0**	**+2.3**
HARU	**Harads**	**1.66**	**219**	P	**Pn**	**09 00 46.4**	**+0.1**
KIF	**Kilpisjarvi**	**1.86**	**328**	PG	**Pg**	**09 00 52.1**	**+0.6**
KIF				MSG		09 01 14.6	
comp=Z,4.5nm,0.2s							
KIF				SG	**Sg**	**09 01 16.8**	**+1.1**
RANF	**Ranua**	**1.94**	**137**	PG	**Pg**	**09 00 53.4**	**+0.3**
baz=314							
RANF				SG	**Sg**	**09 01 19.1**	**+0.9**
SALU	**Saltoluokta**	**1.96**	**270**	*e*P	**Pb**	**09 00 51.6**	**-0.8**
RAJF	**Raja-Jooseppi**	**2.06**	**58**	PG	**Pg**	**09 00 56.2**	**+0.8**
RAJF				SG	**Sg**	**09 01 24.9**	**+2.9**
ARA0	**ARCESS Array S**	**2.20**	**18**	PB	**Pb**	**09 00 57.0**	**+0.4**
ARA0				SG	**Sg**	**09 01 26.6**	**0.0**
ARCES	**ARCESS Array B**	**2.20**	**18**	Pn	**Pb**	**09 00 56.6**	**+0.1**
comp=Z,0.1nm,0.3s,baz=201,slow=15,SNR=13							
ARCES				Lg	Lg	09 01 25.7	
comp=Z,0.5nm,0.3s,baz=200,slow=29,SNR=13							
comp=Z,1.3nm,0.8s							
VRF	**Varrio**	**2.33**	**80**	PB	**Pg**	**09 01 00.6**	**0.0**
VRF				MSG		09 01 29.7	
comp=Z,3.5nm,0.2s							
VRF				SG	**Sg**	**09 01 32.2**	**+1.4**
I37NO	**I37NO**	**2.45**	**313**	I	I	09 15 10.0	
baz=134,slow=331,SNR=2.0							
KU2	**Taivalkoski**	**2.56**	**131**	SG	**Sg**	**09 01 38.4**	**+0.1**

FINES Sn **Sn** **09 02 59.4 +0.7**
comp=Z,0.1nm,0.3s,baz=345,slow=22,SNR=1.2

---

*ASRS **30** 09:05:29.0±1.3, 53°.58N×87°.77E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 30 09:05:30.6±2.9, 53°.45N×87°.60E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=23.3km s-min=14.0km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**288**	I	I	09 16 40.0	
	0.1nm,0.8s,baz=101,slow=327,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.73**	**288**	Pg	Pn	09 06 01.8	0.0
	1.7nm,0.3s,baz=104,slow=16,SNR=13						
ZALV				Lg	Lg	09 06 25.4	
	1.7nm,0.3s,baz=107,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**6.27**	**247**	Pn	Pn	09 07 05.4	+1.1
	0.1nm,0.3s,baz=62,slow=14,SNR=5.4						
KURBB				Sn	Sn	09 08 15.2	-1.4
	baz=60,slow=29,SNR=1.0						
KURBB				Lg	Lg	09 08 48.2	
	0.1nm,0.3s,baz=64,slow=30,SNR=7.4						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.48**	**209**	Pn	Pn	09 07 22.2	+1.3
	0.2nm,0.3s,baz=31,slow=16,SNR=4.9						
MKAR				Sn	Sn	09 08 45.5	-1.0
	0.1nm,0.3s,baz=27,slow=26,SNR=3.6						
MKAR				Lg	Lg	09 09 28.9	
	0.1nm,0.3s,baz=28,slow=32,SNR=1.4						
	0.3nm,0.3s						

---

*KRNET **30** 09:29:35.8±0.1, 41°.59N×75°.46E, h20km, mb3.5*
*SOME **30** 09:29:35.6, 41°.53N×75°.43E, h20km*
*NNC **30** 09:29:38.0±0.8, 41°.68N×75°.38E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=5.2km s-min=2.7km az=9.0*
*KNET **30** 09:29:37.3±0.7, 41°.69N×75°.42E, h10km±4km, ml2.8, Error ellipse: s-maj=5.5km s-min=3.0km az=159.0*

ISC 30 09:29:34.7±1.1, 41°.46N±0°.03×75°.42E±0°.02, h28km±12km, n69, σ1§67/118, 41C-35D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.44**	**93**	↑*iP*	**Pn**	**09 29 44.4**	**-1.1**
NRN				↑*iS*	**Sb**	**09 29 50.3**	**-0.5**
ARLS	**Aral**	**0.92**	**296**	↑*iP*	**Pn**	**09 29 52.3**	**+0.4**
ARLS				↑*iS*	**Sn**	**09 30 04.3**	**0.0**
ULHL	**Ulahol**	**0.99**	**38**	↑P	**Pn**	**09 29 52.9**	**-0.2**
	57nm,0.1s,SNR=263						
ULHL				↑S	**Sb**	**09 30 04.3**	**-2.0**
	587nm,0.1s						
ULHL	**Ulahol**	**0.99**	**38**	↓*iP*	**Pn**	**09 29 52.4**	**-0.7**
ULHL				↓*iS*	**Sb**	**09 30 04.4**	**-2.0**
UCH	**Uchtor**	**1.02**	**319**	↓P	**Pn**	**09 29 54.1**	**+0.4**
	29nm,0.2s,SNR=26						
UCH				↓S	**Sn**	**09 30 06.9**	**-0.4**
	17nm,0.1s						
UCH	**Uchtor**	**1.02**	**319**	↑*iP*	**Pn**	**09 29 53.8**	**+0.1**
UCH				↑*iS*	**Sn**	**09 30 06.8**	**-0.6**
BOOM	**Boomskoye usch**	**1.10**	**20**	↓*iP*	**Pn**	**09 29 53.8**	**-0.7**
BOOM				↓*iS*	**Sb**	**09 30 07.1**	**-2.2**
KBK	**Karagaybulak**	**1.25**	**344**	↑P	**Pb**	**09 29 57.8**	**0.0**
	59nm,0.1s,SNR=29						
KBK				↑S	**Sn**	**09 30 13.0**	**+0.5**
	689nm,0.1s						
KBK	**Karagaybulak**	**1.25**	**344**	↑*iP*	**Pb**	**09 29 57.0**	**-0.7**
KBK				↑*iS*	**Sb**	**09 30 12.1**	**-1.4**
SALK	**Salom-Alik**	**1.34**	**245**	↓*iP*	**Pb**	**09 30 01.7**	**+2.4**
SALK				↓*iS*	**Sb**	**09 30 20.8**	**+4.7**
AAK	**Ala-Archa**	**1.36**	**330**	↓P	**Pb**	**09 29 59.9**	**+0.2**
	35nm,0.1s,SNR=131						
AAK				↑S	**Sb**	**09 30 16.9**	**+0.1**
	104nm,0.2s						
AAK	**Ala-Archa**	**1.36**	**330**	↑P	**Pb**	**09 29 59.8**	**0.0**
	20nm,0.3s						
AAK				↓S	**Sb**	**09 30 15.7**	**-1.1**
	27nm,0.3s						
AAK	**Ala-Archa**	**1.36**	**330**	↓*iP*	**Pb**	**09 29 59.3**	**-0.4**
AAK				↓*iS*	**Sb**	**09 30 16.1**	**-0.7**
AML	**Almayashu**	**1.46**	**298**	↓P	**Pb**	**09 30 02.3**	**+0.9**
	27nm,0.2s,SNR=103						
AML				↓S	**Sb**	**09 30 21.4**	**+1.8**
	94nm,0.3s						
AML	**Almayashu**	**1.46**	**298**	↑*iP*	**Pb**	**09 30 02.0**	**+0.6**
AML				↑*iS*	**Sb**	**09 30 21.2**	**+1.5**
TKM2	**Tokmak 2**	**1.47**	**5**	↓P	**Pb**	**09 30 01.3**	**-0.2**
	38nm,0.1s,SNR=120						
TKM2				↓S	**Sb**	**09 30 19.3**	**-0.5**
	234nm,0.1s						
TKM2	**Tokmak 2**	**1.47**	**5**	↓P	**Pb**	**09 30 01.1**	**-0.4**
	7.8nm,0.2s						
TKM2				↓S	**Sb**	**09 30 18.7**	**-1.0**
	35nm,0.2s						
TKM2	**Tokmak 2**	**1.47**	**5**	↑*iP*	**Pb**	**09 30 00.5**	**-1.0**
TKM2				↑*iS*	**Sb**	**09 30 18.6**	**-1.2**
FRU1	**Bishkek**	**1.47**	**337**	↑*iP*	**Pb**	**09 30 01.4**	**-0.1**
FRU1				↑*iS*	**Sb**	**09 30 20.0**	**+0.2**
KDJ	**Kajisay**	**1.48**	**62**	↑*iP*	**Pb**	**09 30 01.5**	**-0.1**
KDJ				↑*iS*	**Sb**	**09 30 20.6**	**+0.6**
CHMS	**Chumysh**	**1.61**	**342**	↓P	**Pb**	**09 30 04.0**	**0.0**
	29nm,0.1s,SNR=10						
CHMS				↓S	**Sb**	**09 30 24.0**	**+0.1**
	74nm,0.1s						
CHMS	**Chumysh**	**1.61**	**342**	↑P	**Pb**	**09 30 04.0**	**0.0**
	8.5nm,0.3s						
CHMS				↓S	**Sb**	**09 30 23.4**	**-0.5**
	90nm,0.5s						
CHMS	**Chumysh**	**1.61**	**342**	↓*iP*	**Pb**	**09 30 03.3**	**-0.6**
CHMS				↓*iS*	**Sb**	**09 30 23.4**	**-0.5**
KST	**Kastek**	**1.63**	**14**	P	**Pb**	**09 30 04.4**	**+0.2**
	14nm,0.2s						
KST				S	**Sb**	**09 30 24.4**	**-0.1**
	227nm,0.3s						
KST	**Kastek**	**1.63**	**14**	*eP*	**Pb**	**09 30 04.2**	**-0.1**
	14nm,0.2s						
KST				*eS*	**Sb**	**09 30 24.8**	**+0.3**
	227nm,0.3s						
EKS2	**Erkin-Say**	**1.71**	**315**	↑P	**Pb**	**09 30 07.2**	**+1.6**
	14nm,0.1s,SNR=11						
EKS2				↓S	**Sb**	**09 30 29.6**	**+2.8**
	36nm,0.2s						
EKS2	**Erkin-Say**	**1.71**	**315**	↑*iP*	**Pb**	**09 30 05.8**	**+0.1**
EKS2				↑*iS*	**Sb**	**09 30 27.4**	**+0.6**
TARG	**Taragay, Kyrgy**	**1.81**	**81**	↓*iP*	**Pb**	**09 30 08.0**	**+0.6**
TARG				↓*iS*	**Sb**	**09 30 31.6**	**+1.8**
MTBS	**Maitube**	**1.83**	**24**	P	**Pb**	**09 30 08.2**	**+0.6**
	60nm,0.2s						
MTBS				S	**Sb**	**09 30 30.3**	**+0.2**
	134nm,0.2s						
MTBS	**Maitube**	**1.83**	**24**	*eP*	**Pb**	**09 30 08.0**	**+0.5**
	60nm,0.2s						
MTBS				*eS*	**Sb**	**09 30 30.9**	**+0.8**
	134nm,0.2s						
USP	**Ospenovka**	**1.93**	**340**	P	**Pb**	**09 30 09.8**	**+0.5**
	47nm,0.2s,SNR=183						
USP				↓S	**Sb**	**09 30 33.9**	**+1.0**
	158nm,0.3s						
USP	**Ospenovka**	**1.93**	**340**	↓*iP*	**Pb**	**09 30 08.4**	**-0.9**
USP				↓*iS*	**Sb**	**09 30 32.1**	**-0.8**
TNSS	**Tian-Shan**	**1.94**	**35**	P	**Pb**	**09 30 10.3**	**+0.6**
	60nm,0.3s						
TNSS				S	**Sb**	**09 30 34.5**	**+0.9**
	123nm,0.4s						
TNSS	**Tian-Shan**	**1.94**	**35**	*eP*	**Pb**	**09 30 10.3**	**+0.6**
	60nm,0.3s						
TNSS				*eS*	**Sb**	**09 30 34.7**	**+1.1**
	123nm,0.4s						
SFK	**Sufi-Kurgan**	**2.05**	**226**	↓*iP*	**Pb**	**09 30 13.3**	**+1.8**
SFK				↓*iS*	**Sb**	**09 30 40.7**	**+4.0**
AAA	**Alma-Ata**	**2.07**	**32**	Pg	**Pb**	**09 30 13.4**	**+1.7**
	270nm,0.3s						
AAA				Lg	Lg	09 30 39.3	
	87nm,0.3s						
AAA	**Alma-Ata**	**2.07**	**32**	*eP*	**Pb**	**09 30 12.3**	**+0.7**
	270nm,0.3s						
AAA				*eS*	**Sb**	**09 30 39.4**	**+2.4**
	87nm,0.3s						
SGDS	**Sogindy**	**2.07**	**344**	Pg	**Pb**	**09 30 12.7**	**+1.0**
	47nm,0.2s						
SGDS				Lg	Lg	09 30 38.1	
	86nm,0.3s						
MRKS	**Merke**	**2.08**	**309**	Pg	**Pb**	**09 30 13.8**	**+2.0**
	31nm,0.3s						
MRKS				Lg	Lg	09 30 39.6	
	65nm,0.3s						
MRKS	**Merke**	**2.08**	**309**	*eP*	**Pb**	**09 30 12.7**	**+0.8**
	31nm,0.3s						
MRKS				*eS*	**Sb**	**09 30 39.6**	**+2.4**
	65nm,0.3s						
MDOK	**Medeo**	**2.08**	**35**	Pn	**Pb**	**09 30 12.6**	**+0.6**
	37nm,0.8s						
MDOK				Pg	Pn	09 30 12.8	+4.8
	13nm,0.3s						
MDOK				Sn	**Sb**	**09 30 38.2**	**+0.6**
	39nm,0.4s						
MDOK				Lg	Lg	09 30 38.6	
	72nm,0.4s						
KNDC	**Almaty**	**2.10**	**33**	↓Pn	**Pb**	**09 30 13.5**	**+1.4**
	118nm,0.3s						
KNDC				↑Sn	**Sb**	**09 30 40.0**	**+2.3**
	360nm,0.5s						
ANVS	**Anan'yevo**	**2.13**	**51**	↑*eP*	**Pb**	**09 30 11.4**	**-1.4**
ANVS				↑*eS*	**Sb**	**09 30 38.1**	**-0.7**
KOTS	**Kotyrbulak**	**2.17**	**35**	Pg	**Pb**	**09 30 14.7**	**+1.3**
	82nm,0.5s						
KOTS				Lg	Lg	09 30 41.8	
	471nm,0.3s						
KOTS	**Kotyrbulak**	**2.17**	**35**	*eP*	**Pb**	**09 30 14.0**	**+0.6**
	82nm,0.5s						
KOTS				*eS*	**Sb**	**09 30 42.2**	**+2.2**
	471nm,0.3s						
OHH	**Osh**	**2.20**	**246**	↓*eP*	**Pb**	**09 30 14.8**	**+0.8**
OHH				↓*iS*	**Sb**	**09 30 43.3**	**+2.4**
MNAS	**Manas**	**2.41**	**296**	↑*eP*	**Pb**	**09 30 16.2**	**-1.2**
MNAS				↑*eS*	**Sb**	**09 30 45.5**	**-1.2**
KTBS	**Karatobe**	**2.44**	**22**	Pg	**Pb**	**09 30 18.9**	**+1.0**
	33nm,0.3s						
KTBS				Lg	Lg	09 30 49.0	
	416nm,0.5s						
PRZ	**Przheval'sk**	**2.44**	**64**	↑*eP*	**Pb**	**09 30 16.2**	**-1.9**
PRZ				↑*eS*	**Sb**	**09 30 46.2**	**-1.7**
KUU	**Kurty**	**2.52**	**15**	Pg	**Pb**	**09 30 19.5**	**+0.1**
	14nm,0.2s						
KUU				Lg	Lg	09 30 49.8	
	282nm,0.3s						
KUU	**Kurty**	**2.52**	**15**	*eP*	**Pb**	**09 30 18.2**	**-1.2**
	14nm,0.2s						
KUU				*eS*	**Sb**	**09 30 49.8**	**-0.2**
	282nm,0.3s						
CHKK	**Chushkaly**	**2.66**	**25**	Pg	**Pb**	**09 30 23.5**	**+1.8**
	6.3nm,0.3s						
CHKK				Lg	Lg	09 30 56.7	
	170nm,0.2s						
CHKK	**Chushkaly**	**2.66**	**25**	*eP*	**Pb**	**09 30 22.3**	**+0.7**
	6.3nm,0.3s						
CHKK				*eS*	**Sb**	**09 30 56.8**	**+3.0**
	170nm,0.2s						
ZHN	**Zhinishke**	**2.81**	**52**	Pg	**Pb**	**09 30 26.2**	**+1.8**
	20nm,0.4s						
ZHN				Lg	Lg	09 31 01.4	
	114nm,0.2s						
ZHN	**Zhinishke**	**2.81**	**52**	*eP*	**Pb**	**09 30 25.1**	**+0.8**
	20nm,0.4s						
ZHN				*eS*	**Sb**	**09 31 01.7**	**+3.4**
	114nm,0.2s						
KURS	**Kuram**	**2.87**	**44**	Pg	**Pb**	**09 30 26.4**	**+1.1**
	35nm,0.7s						
KURS				Lg	Lg	09 31 01.5	
	42nm,0.7s						
KURS	**Kuram**	**2.87**	**44**	*eP*	**Pb**	**09 30 22.3**	**-3.0**
	6.3nm,0.3s						
KURS				*eS*	**Sb**	**09 30 56.8**	**-3.2**
	170nm,0.2s						
UZB	**Uzynbulak**	**3.16**	**57**	Pg	**Pb**	**09 30 31.8**	**+1.6**
	18nm,0.3s						
UZB				Lg	Lg	09 31 11.3	
	31nm,0.4s						
UZB	**Uzynbulak**	**3.16**	**57**	*eP*	**Pb**	**09 30 30.2**	**0.0**
	18nm,0.3s						
UZB				*eS*	**Sb**	**09 31 10.5**	**+2.1**
	31nm,0.4s						
TRKS	**Terek-Say**	**3.22**	**273**	↑*eP*	**Pb**	**09 30 27.9**	**-3.3**
TRKS				↑*eS*	**Sb**	**09 31 06.0**	**-4.0**
ARXS	**Arharly**	**3.27**	**32**	Pg	**Pb**	**09 30 33.5**	**+1.4**
	16nm,0.4s						
ARXS				Lg	Lg	09 31 14.3	
	209nm,0.5s						
DRK	**Karamyk**	**3.40**	**236**	↑*eP*	**Pb**	**09 30 31.9**	**-2.5**
DRK				↑*eS*	**Sb**	**09 31 12.2**	**-3.2**
SHLS	**Shalkode**	**3.44**	**59**	Pg	Pb	09 30 43.2	+8.1
	14nm,0.3s						
SHLS				Lg	Lg	09 31 30.5	
	38nm,0.5s						
SHLS	**Shalkode**	**3.44**	**59**	*eP*	Pb	09 30 42.0	+6.9
	14nm,0.3s						
SHLS				*eS*	Sb	09 31 29.9	+13
	38nm,0.5s						
BLB	**Baldybastay**	**3.46**	**39**	Pg	**Pb**	**09 30 37.2**	**+1.7**
	29nm,0.3s						
BLB				Lg	Lg	09 31 20.4	
	166nm,0.3s						
BTK	**Batken**	**3.77**	**250**	↑*eP*	**Pb**	**09 30 36.7**	**-3.9**
BTK				↑*eS*	**Sb**	**09 31 21.0**	**-4.8**
KK31	**Karatay Array**	**4.00**	**296**	Pg	**Pb**	**09 30 47.7**	**+3.3**
	1.8nm,0.4s,baz=110,slow=16,SNR=18						
KK31				↑Lg	Lg	09 31 39.7	
	4.6nm,0.3s,baz=111,slow=27,SNR=6.3						
KNOS	**Konyrlen**	**4.00**	**42**	Pg	**Pb**	**09 30 47.2**	**+2.6**
	4.4nm,0.3s						
KNOS				Lg	Lg	09 31 37.3	
	20nm,0.4s						
MK31	**Makanchi Array**	**7.27**	**41**	↓Pn	Pn	09 31 25.9	+6.9
	0.7nm,0.5s,baz=216,slow=15,SNR=5.6						
MK31				↑Lg	Lg	09 33 23.1	
	1.6nm,0.5s,baz=228,slow=30,SNR=4.1						

---

*IDC **30** 09:31:54.4±1.1, 29°.36N×85°.17E, h0km, mb3.8/10, mbtmp3.8/12, ML4.5/1, MS3.2/16, Error ellipse: s-maj=44.1km s-min=17.7km az=57.0*
*DMN **30** 09:31:56.7±0.0, 29°.49N×85°.37E, h10km, Ml4.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **30** 09:31:56.9±1.4, 29°.53N±0°.09×85°.4E±0°.1, h10km±1km, mb4.2/32, Error ellipse: s-maj=20.9km s-min=11.1km az=235.0*

ISC 30 09:31:55.9±0.5, 29°.50N±0°.03×85°.43E±0°.04, h10km, n86, σ1§19/92, mb4.1/23, MS3.2/14, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**1.63**	**166**	Pg	**Pb**	**09 32 25.9**	**-0.4**
	baz=166,slow=0.0						
GUN				Sg	**Sb**	**09 32 47.4**	**+0.3**
	502nm,0.5s,baz=166,slow=0.0						
GUN	**Gumba**	**1.63**	**166**	Pg	**Pb**	**09 32 26.1**	**-0.2**
	baz=164,slow=0.0						
GUN				Sg	**Sb**	**09 32 47.3**	**+0.2**
	304nm,0.3s,baz=164,slow=0.0						
KKN	**Kakani**	**1.71**	**185**	Pg	**Pb**	**09 32 27.5**	**0.0**
	baz=184,slow=0.0						
KKN	**Kakani**	**1.71**	**185**	Pg	**Pg**	**09 32 27.8**	**-1.0**
	baz=184,slow=0.0						
KKN				Sg	**Sb**	**09 32 49.1**	**-0.1**
	318nm,0.3s,baz=184,slow=0.0						
KKN	**Kakani**	**1.71**	**185**	Pg	**Pg**	**09 32 27.7**	**-1.0**
	baz=183,slow=0.0						
KKN	**Kakani**	**1.71**	**185**	Pg	**Pg**	**09 32 27.9**	**-0.8**
	baz=183,slow=0.0						
KKN				Sg	**Sb**	**09 32 48.6**	**-0.6**
	baz=183,slow=0.0						
KKN				Sg	**Sn**	**09 32 48.9**	**+0.9**
	baz=183,slow=0.0						
KKN				Sg	**Sg**	**09 32 49.3**	**-1.6**
	259nm,0.3s,baz=183,slow=0.0						
DMN	**Daman**	**1.91**	**189**	Pg	**Pg**	**09 32 31.9**	**-0.6**
	baz=188,slow=0.0						
DMN				Sg	**Sg**	**09 32 56.9**	**-0.3**
	426nm,0.6s,baz=188,slow=0.0						
DMN	**Daman**	**1.91**	**189**	Pg	**Pg**	**09 32 31.6**	**-0.9**
	baz=187,slow=0.0						
DMN				Sg	**Sg**	**09 32 56.3**	**-0.9**
	420nm,0.6s,baz=187,slow=0.0						
PKIN	**Phulchoki**	**1.92**	**181**	Pg	**Pb**	**09 32 30.9**	**-0.2**
	baz=180,slow=0.0						
PKIN				Sg	**Sg**	**09 32 56.5**	**-1.0**
	658nm,0.7s,baz=180,slow=0.0						
PKIN	**Phulchoki**	**1.92**	**181**	Pg	**Pg**	**09 32 31.9**	**-0.8**
	baz=179,slow=0.0						
PKIN				Sg	**Sg**	**09 32 56.6**	**-1.0**
	658nm,0.7s,baz=179,slow=0.0						
PKI	**Pulchoki**	**1.92**	**181**	Pg	**Pg**	**09 32 32.4**	**-0.4**
	baz=180,slow=0.0						
PKI				Sg	**Sb**	**09 32 56.3**	**+0.9**
	839nm,0.7s,baz=180,slow=0.0						
PKI	**Pulchoki**	**1.92**	**181**	Pg	**Pg**	**09 32 32.6**	**-0.2**
	baz=179,slow=0.0						
PKI				Sg	**Sb**	**09 32 56.5**	**+1.1**
	839nm,0.7s,baz=179,slow=0.0						
EVN	**Everest**	**1.96**	**141**		**Pb**	**09 32 30.6**	**-1.5**
KOLN	**Koldanda**	**2.36**	**224**	Pg	**Pb**	**09 32 38.7**	**+0.1**
	baz=222,slow=0.0						
KOLN				Sg	**Sg**	**09 33 10.1**	**-1.7**
	baz=222,slow=0.0						
KOLN	**Koldanda**	**2.36**	**224**	Pg	**Pb**	**09 32 38.9**	**+0.3**
	baz=222,slow=0.0						
KOLN	**Koldanda**	**2.36**	**224**	Pg	**Pg**	**09 32 39.4**	**-1.7**
	baz=222,slow=0.0						
KOLN	**Koldanda**	**2.36**	**224**	Pg	**Pg**	**09 32 39.5**	**-1.7**
	baz=222,slow=0.0						
KOLN				Sg	**Sb**	**09 33 09.1**	**+1.2**
	baz=222,slow=0.0						
KOLN				Sg	**Sg**	**09 33 09.4**	**-2.4**
	baz=222,slow=0.0						
KOLN				Sg	**Sn**	**09 33 09.7**	**+5.7**
	baz=222,slow=0.0						
PYUN	**Piuthan**	**2.56**	**238**	Pg	**Pb**	**09 32 42.1**	**+0.1**
	baz=237,slow=0.0						
PYUN				Sg	**Sg**	**09 33 16.1**	**-2.0**
	425nm,0.5s,baz=237,slow=0.0						
PYUN	**Piuthan**	**2.56**	**238**	Pg	**Pb**	**09 32 42.3**	**+0.3**
	baz=237,slow=0.0						
PYUN				Sg	**Sb**	**09 33 14.7**	**+1.1**
	425nm,0.5s,baz=237,slow=0.0						
LSA	**Lhasa**	**4.98**	**86**	Pn	**Pn**	**09 33 10.3**	**-0.9**
SHL	**Shillong**	**6.94**	**123**		**Pn**	**09 33 39.6**	**+1.8**
HYB	**Hyderabad**	**13.58**	**209**	*eP*	**Pn**	**09 35 08.1**	**-0.6**
KBL	**Kabul**	**14.78**	**294**	Pn	**Pn**	**09 35 23.9**	**-1.3**
GAR	**Garm**	**15.67**	**311**	Pn	**P**	**09 35 37.9**	**-3.1**
AAK	**Ala-Archa**	**15.79**	**329**	Pn	**Pn**	**09 35 37.6**	**-1.0**
AAK	**Ala-Archa**	**15.79**	**329**	Pn	**P**	**09 35 41.8**	**-0.6**
	0.2nm,0.3s,baz=145,slow=14,SNR=5.2						
AAK				LR	LR	09 41 14.8	
	comp=Z,11nm,21.6s,baz=176,slow=36						
BTK	**Batken**	**15.95**	**315**		**Pn**	**09 35 39.7**	**-0.8**
BTK				IAmb	IAmb	09 35 50.3	
	comp=Z,15nm,1.4s						
CHTO	**Chiang Mai**	**16.27**	**128**	Pn	**Pn**	**09 35 44.1**	**-0.6**
SIMJ	**Simiganj**	**16.37**	**308**	Pn	**Pn**	**09 35 45.0**	**-0.9**
SIMJ				IAmb	IAmb	09 35 52.5	
	comp=Z,23nm,1.4s						
CM31	**Chiang Mai Arr**	**16.51**	**129**	Pn	**P**	**09 35 49.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**16.51**	**129**	Pn	**P**	**09 35 49.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**16.51**	**129**	Pn	**P**	**09 35 49.8**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=307,slow=12,SNR=14						
CMAR				LR	LR	09 43 37.6	
	comp=Z,36nm,18.6s,baz=280,slow=42						
	comp=Z,2.4nm,0.5s						
MKAR	**Makanchi Array**	**17.44**	**353**	Pn	**P**	**09 35 59.0**	**-1.6**
MKAR	**Makanchi Array**	**17.44**	**353**	P	**P**	**09 36 02.3**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=177,slow=13,SNR=3.0						
KURBB	**Kurchatov Arra**	**21.73**	**348**	P	**P**	**09 36 48.2**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=166,slow=10,SNR=4.8						
	comp=Z,1.4nm,0.9s						
PALK	**Pallekele**	**22.55**	**192**	LR	LR	09 46 17.6	
	comp=Z,59nm,18.5s,baz=301,slow=39						
SONM	**Songino Array**	**24.43**	**36**	P	**P**	**09 37 15.0**	**+0.2**
SONM	**Songino Array**	**24.43**	**36**	P	**P**	**09 37 16.9**	**+2.1**
	comp=Z,2.4nm,0.8s,baz=227,slow=9.0,SNR=9.2						
	comp=Z,2.4nm,0.8s						
ULN	**Ulaanbaatar**	**24.78**	**36**	P	**P**	**09 37 18.3**	**+0.3**
ULN				IAmb	IAmb	09 37 25.1	
	comp=Z,7.0nm,1.1s						
AB31	**Akbulak array**	**27.66**	**323**	P	**P**	**09 37 44.6**	**+0.8**
ABKAR	**Akbulak array**	**27.66**	**323**	P	**P**	**09 37 43.8**	**0.0**
AKTO	**Aktyubinsk**	**29.36**	**323**	LR	LR	09 51 06.4	
	comp=Z,60nm,18.1s,baz=44,slow=39						
PSI	**Prapat**	**29.48**	**152**	LR	LR	09 50 42.5	
	comp=Z,27nm,21.2s,baz=194,slow=38						
GNI	**Garni**	**34.78**	**299**	LR	LR	09 56 39.8	
	comp=Z,22nm,18.2s,baz=164,slow=43						
BELG	**Belogornoye**	**35.98**	**320**	LR	LR	09 55 33.4	
	comp=Z,37nm,21.2s,baz=117,slow=40						
KSRS	**Korea Array**	**36.08**	**66**	LR	LR	09 55 01.5	
	comp=Z,56nm,18.1s,baz=260,slow=38						
JOW	**Kunigami**	**37.71**	**83**	LR	LR	09 54 23.4	
	comp=Z,102nm,20.3s,baz=304,slow=36						
NRIK	**Noril'sk**	**39.90**	**1**	P	**P**	**09 39 31.4**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=158,slow=5.4,SNR=2.2						
	comp=Z,0.7nm,0.4s						
KLR	**Kul'dur**	**40.12**	**47**	LR	LR	09 58 16.9	
	comp=Z,24nm,19.0s,baz=221,slow=39						
BRTR	**Keskin Array B**	**43.31**	**298**	LR	LR	10 00 27.4	
	comp=Z,273nm,20.6s,baz=317,slow=40						
EIL	**Elat**	**43.61**	**283**	LR	LR	10 01 39.6	
	comp=Z,26nm,19.7s,baz=66,slow=41						
MJAR	**Matsushiro Arr**	**44.35**	**67**	LR	LR	09 59 35.6	
	comp=Z,35nm,18.8s,baz=236,slow=37						
AKASG	**Malin Array Be**	**46.65**	**313**	LR	LR	10 03 12.9	
	comp=Z,25nm,21.9s,baz=70,slow=40						
FIA1	**FINESS Array S**	**49.97**	**327**	P	**P**	**09 40 50.1**	**+0.2**
FINES	**FINESS Array B**	**49.97**	**327**	P	**P**	**09 40 49.3**	**-0.5**
FINES	**FINESS Array B**	**49.97**	**327**	P	**P**	**09 40 49.2**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=108,slow=8.5,SNR=2.4						
FINES				LR	LR	10 04 49.3	
	comp=Z,25nm,18.9s,baz=78,slow=40						
	comp=Z,1.6nm,0.9s						
ARCES	**ARCESS Array B**	**52.25**	**337**	P	**P**	**09 41 06.9**	**0.0**
	comp=Z,4.7nm,1.0s,baz=107,slow=8.7,SNR=2.0						
	comp=Z,4.7nm,1.0s						
HFS	**Hagfors**	**55.88**	**325**	P

H29M IAmb IAmb 09 44 26.3
comp=Z,3.9nm,1.4s
G31M Satah River 79.29 15 P **P 09 44 02.4 +1.2**
G31M IAmb IAmb 09 44 20.8
comp=Z,1.8nm,1.1s
H31M Peel River 80.20 16 P **P 09 44 07.5 +1.2**
YKA Yellowknife Ar 86.92 9 P **P 09 44 40.5 -0.3**
comp=Z,0.6nm,0.8s,baz=344,slow=5.1,SNR=7.0
comp=Z,0.6nm,0.8s

---

*ISN **30** 09:37:10.3±0.5, 33°.55N×45°.46E, h20km±11km, ML3.0*
*TEH **30** 09:37:10.2, 33°.58N×45°.47E, h8km±86km*
ISC 30 09:37:10.6±0.9, 33°.60N±0°.04×45°.43E±0°.04, h13km, n13, σ1ᵢ16/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.64**	**38**	Pg	**Pg**	**09 37 22.1**	**-1.0**
IBDR	**Badra**	**0.64**	**140**	*e*Pg	**Pg**	**09 37 22.0**	**-1.1**
IBDR				*e*Sg	**Sg**	**09 37 30.0**	**-1.6**
KGS1	**Ghasr-e-Shirin**	**0.91**	**8**	Pg	**Pn**	**09 37 29.0**	**-0.1**
BHD	**Baghdad**	**0.94**	**250**	*e*Pn	**Pn**	**09 37 30.0**	**+0.5**
BHD				*e*Sn	**Sn**	**09 37 45.0**	**+2.2**
IGHG	**Ghaleghazi**	**1.19**	**52**	Pg	**Pb**	**09 37 32.9**	**-0.2**
IGHG				Sg	**Sn**	**09 37 50.6**	**+1.3**
IDHR	**Dehrash**	**1.35**	**36**	Pg	**Pb**	**09 37 35.7**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.49**	**63**	Pg	**Pg**	**09 37 38.7**	**-0.6**
ILIN	**Lien**	**1.82**	**44**	Pn	**Pb**	**09 37 43.8**	**-0.2**
IKRK	**Kirkuk**	**2.01**	**334**	*e*Pn	**Pb**	**09 37 46.0**	**-0.9**
IKRK				*e*Sn	**Sb**	**09 38 12.0**	**+0.2**
IKRK				AML	AML	09 38 22.8	
	comp=N,125nm,0.4s						
IKRK				AML	AML	09 38 29.4	
	comp=E,143nm,0.8s						
IKFM	**Kafar-mosalman**	**2.02**	**92**	Pn	**Pb**	**09 37 47.2**	**+0.1**
SNQR	**Sonqor, Kerman**	**2.21**	**55**	Pn	**Pb**	**09 37 49.4**	**-1.1**
BDRS	**Dareh Seyedi**	**2.89**	**82**	Pn	**Pn**	**09 37 58.0**	**+1.4**
HGHA	**Hamedan- Ghaye**	**3.39**	**55**	Pn	**Pn**	**09 38 05.0**	**+1.5**

---

*IDC **30** 09:48:49.6±3.5, 54°.44N×87°.07E, h0km, mbtmp2.9/2, ML2.1/2, Error ellipse: s-maj=32.3km s-min=21.1km az=49.0*
ASRS 30 09:48:50.0±0.6, 54°.39N×86°.82E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**250**	I	I	09 57 20.0	
	baz=67,slow=325,SNR=4.0						
ZALV	**Zalesovo Beam**	**1.26**	**250**	Pg	Pn	09 49 16.5	+1.7
	1.0nm,0.3s,baz=66,slow=15,SNR=4.4						
ZALV				Lg	Lg	09 49 34.6	
	1.2nm,0.3s,baz=72,slow=30,SNR=5.0						
KURBB	**Kurchatov Arra**	**6.31**	**237**	Pn	Pn	09 50 25.9	+1.7
	0.1nm,0.3s,baz=53,slow=14,SNR=6.7						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**8.13**	**203**	Pn	Pn	09 50 51.4	+2.1
	baz=22,slow=16,SNR=2.0						
	0.3nm,0.7s						

---

*GCG **30** 09:50:46.7±0.8, 15°.21N×91°.84W, h157km±10km, MD4.1*
*IDC **30** 09:50:51.2±3.8, 15°.39N×91°.39W, h199km±49km, mb2.8/2, mbtmp3.4/4, Error ellipse: s-maj=54.6km s-min=18.7km az=72.0*
ISC 30 09:50:47.1±0.9, 15°.21N±0°.07×91°.74W±0°.07, h150km, n13, σ1ᵢ40/18, 1C, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.48**	**223**	*i* P	**Pn**	**09 51 08.7**	**+0.4**
SOKI	**Kika Raxquin**	**0.50**	**140**	*i* P	**Pn**	**09 51 10.9**	**+1.9**
THIG		**0.59**	**240**	*i* P	**Pn**	**09 51 09.5**	**+0.6**
THIG				*i* S	**Sn**	**09 51 26.7**	**+1.3**
STG8	**El Palmar, Qui**	**0.84**	**154**	*i* P	**Pn**	**09 51 09.5**	**-1.4**
STG0	**El Palmar, Qui**	**0.87**	**154**	*i* P	**Pn**	**09 51 09.7**	**-1.3**
STG0				*i* S	**Sn**	**09 51 27.9**	**-1.3**
STG5	**El Palmar, Qui**	**0.89**	**155**	*i* P	**Pn**	**09 51 09.7**	**-1.4**
CCIG	**Comitan**	**1.13**	**340**	↑*i*P	**Pn**	**09 51 14.4**	**+1.2**
CCIG				*e*S	**Sn**	**09 51 34.5**	**+1.2**
TGIG		**2.05**	**320**	*i* P	**Pn**	**09 51 22.4**	**-0.5**
TEIG	**Tepich**	**5.98**	**33**	P	**Pn**	**09 52 13.8**	**+0.4**
	0.2nm,0.7s,baz=47,slow=24,SNR=24						
TEIG				S	**Sn**	**09 53 20.0**	**-1.1**
	0.2nm,0.3s,baz=45,slow=24,SNR=1.8						
JTS	**Las Juntas de**	**8.23**	**126**	P	**Pn**	**09 52 45.3**	**+1.7**
	1.6nm,0.3s,baz=101,slow=21,SNR=4.6						
JTS				S	**Sn**	**09 54 17.2**	**+2.0**
	1.5nm,0.4s,baz=115,slow=22,SNR=2.0						
TXAR	**Lajitas Array**	**17.85**	**324**	P	**Pn**	**09 54 45.7**	**-0.5**
	0.4nm,0.6s,baz=150,slow=12,SNR=6.5						
NVAR	**Mina Array Bea**	**32.91**	**320**	P	**P**	**09 57 08.1**	**+0.8**
	0.3nm,0.6s,baz=103,slow=5.6,SNR=3.6						
	0.3nm,0.6s						
YKA	**Yellowknife Ar**	**49.91**	**346**	P	**P**	**09 59 23.2**	**-1.9**
	0.3nm,0.7s,baz=152,slow=7.3,SNR=4.4						
	0.3nm,0.7s						

---

*IDC **30** 09:55:42.7±3.4, 54°.27N×87°.12E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=31.0km s-min=19.2km az=58.0*
ASRS 30 09:55:41.0±1.1, 54°.21N×87°.06E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**260**	I	I	10 04 40.0	
	baz=76,slow=327,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.35**	**260**	Pg	Pb	09 56 08.0	+0.9
	0.9nm,0.3s,baz=75,slow=17,SNR=7.6						
ZALV				Lg	Lg	09 56 27.1	
	1.2nm,0.3s,baz=77,slow=29,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.33**	**239**	Pn	Pn	09 57 18.8	+3.2
	0.1nm,0.3s,baz=55,slow=14,SNR=4.8						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**8.02**	**204**	Pn	Pn	09 57 42.6	+3.8
	0.1nm,0.3s,baz=25,slow=15,SNR=1.4						
	0.2nm,0.4s						

---

*IDC **30** 09:58:09.2±3.7, 54°.15N×87°.44E, h0km, mbtmp2.8/2, ML2.6/1, Error ellipse: s-maj=33.1km s-min=20.2km az=46.0*
ASRS 30 09:58:09.0±0.9, 54°.15N×87°.19E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**263**	I	I	10 07 30.0	
	0.1nm,0.7s,baz=80,slow=327,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.41**	**263**	Pg	Pb	09 58 37.1	+0.9
	2.6nm,0.3s,baz=79,slow=13,SNR=5.5						
ZALV				Lg	Lg	09 58 58.7	
	3.0nm,0.3s,baz=84,slow=23,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.37**	**240**	Pn	Pn	09 59 46.9	+2.9
	0.1nm,0.3s,baz=55,slow=14,SNR=1.9						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.00**	**205**	Pn	Pn	10 00 08.5	+2.1
	0.2nm,0.5s,baz=28,slow=15,SNR=1.3						

---

*ASRS **30** 10:00:13.0±0.9, 53°.56N×87°.67E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 30 10:00:16.9±2.9, 53°.53N×87°.64E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=25.4km s-min=14.3km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**285**	I	I	10 11 40.0	
	baz=100,slow=324,SNR=9.2						
ZALV	**Zalesovo Beam**	**1.72**	**285**	Pg	Pn	10 00 47.7	-0.4
	1.2nm,0.3s,baz=103,slow=14,SNR=5.0						
ZALV				Lg	Lg	10 01 11.4	
	3.4nm,0.3s,baz=105,slow=26,SNR=17						
KURBB	**Kurchatov Arra**	**6.32**	**246**	Pn	Pn	10 01 52.0	+0.8
	0.1nm,0.3s,baz=60,slow=13,SNR=4.2						
KURBB				Lg	Lg	10 03 36.3	
	0.1nm,0.3s,baz=65,slow=31,SNR=8.6						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.57**	**209**	Pn	Pn	10 02 09.7	+1.3
	0.3nm,0.3s,baz=29,slow=13,SNR=8.7						
MKAR				Sn	Sn	10 03 34.6	-0.2
	0.1nm,0.3s,baz=25,slow=29,SNR=3.3						
MKAR				Lg	Lg	10 04 16.6	
	0.1nm,0.3s,baz=31,slow=31,SNR=4.6						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**10.34**	**274**	Sn	Sn	10 04 38.2	-4.7
	baz=82,slow=25,SNR=2.0						

HEL 30 10:01:48.1±0.3, 61°.31N×23°.78E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPF	**Kankaanpaa**	**0.97**	**303**	PB	Pg	10 02 06.8	+0.1
KEF	**Keuruu**	**1.00**	**31**	PB	Pg	10 02 06.8	-0.4
KEF				MSG		10 02 18.7	
	comp=Z,1.0nm,0.2s						
RAF	**Rauma**	**1.02**	**254**	PN	Pb	10 02 08.7	+0.1
RAF				MSG		10 02 19.2	
	comp=Z,1.0nm,0.2s						
FIA0	**FINESS Array S**	**1.11**	**82**	PB	Pg	10 02 09.0	-0.4
FIA0				MSG		10 02 21.8	
	comp=Z,1.1nm,0.2s						
FIA0				SN	Sn	10 02 26.8	-0.1
MEF	**Metsahovi**	**1.14**	**164**	PN	Pn	10 02 11.5	+0.2
MEF				MSG		10 02 22.8	
	comp=Z,1.4nm,0.2s						
PVF	**Pernaja**	**1.27**	**126**	PN	Pn	10 02 13.0	-0.1
	baz=309						
PVF				MSG		10 02 26.5	
	comp=Z,0.9nm,0.2s						
KAF	**Kangasniemi**	**1.45**	**55**	PN	Pn	10 02 14.6	-0.8
KAF				MSG		10 02 31.4	
	comp=Z,0.9nm,0.2s						
KAF				SN	Sg	10 02 34.2	-0.3
RUF	**Ruokolahti**	**2.49**	**85**	MSG		10 03 01.7	
	comp=Z,1.7nm,0.2s						
NIF	**Nilsia**	**2.81**	**40**	SN	Sn	10 03 05.4	-3.2
VSU	**Vasula**	**3.22**	**151**	PN	Pn	10 02 39.4	-0.5
BURU	**Burvik**	**3.46**	**343**	SN	Sn	10 03 19.8	-5.0
KALU	**Kalix**	**4.57**	**358**	PG	Pb	10 03 06.5	-2.5
TOF	**Tornio**	**4.79**	**3**	PN	Pn	10 02 59.3	-2.1

---

*NEIC **30** 10:02:01.5±1.1, 5°.76S±0°.04×150°.31E±0°.08, h120km±8km, mb4.2/24, Error ellipse: s-maj=12.1km s-min=4.6km az=111.0*
*IDC **30** 10:02:01.8±3.2, 5°.67S×150°.16E, h125km±28km, mb3.7/10, mbtmp4.1/11, Error ellipse: s-maj=26.2km s-min=16.9km az=82.0*
ISC 30 10:02:01.2±0.5, 5°.72S±0°.06×150°.27E±0°.08, h120km, n44, σ0ᵢ86/48, mb4.0/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.42**	**51**	Pn	**Pn**	**10 02 39.6**	**-0.4**
RABL				Sn	**Sn**	**10 03 10.5**	**+0.6**
MANU	**Manus Island**	**4.67**	**322**	Pn	**Pn**	**10 03 10.7**	**+1.0**
PMG	**Port Moresby**	**4.78**	**220**		**Pn**	**10 03 11.4**	**+0.1**
PMG				Sn	**Sn**	**10 04 05.2**	**-0.6**
PMG	**Port Moresby**	**4.78**	**220**	P	**Pn**	**10 03 11.6**	**+0.3**
	82nm,0.3s,baz=50,slow=6.1,SNR=52						
PMG				S	**Sn**	**10 04 06.2**	**+0.5**
	177nm,0.4s,baz=325,slow=24,SNR=12						
COEN	**Coen**	**10.76**	**220**	Pn	**Pn**	**10 04 31.5**	**-0.4**
EIDS	**Eidsvold**	**19.55**	**178**	P	**P**	**10 06 19.1**	**-0.4**
EIDS				IAmb	IAmb	10 06 22.5	
	comp=Z,9.6nm,0.7s						
WB0	**Warramunga Arr**	**20.82**	**226**	P	**P**	**10 06 33.5**	**+0.2**
WB0				IAmb	IAmb	10 06 36.0	
	comp=Z,6.5nm,0.9s						
WR8	**Warramunga Arr**	**20.86**	**226**	P	**P**	**10 06 33.7**	**0.0**
WR8				IAmb	IAmb	10 06 35.1	
	comp=Z,8.5nm,1.2s						
WRA	**Warramunga Arr**	**20.97**	**226**	P	**P**	**10 06 33.2**	**-1.8**
WRA	**Warramunga Arr**	**20.97**	**226**	P	**P**	**10 06 34.6**	**-0.3**
	comp=Z,4.3nm,0.4s,baz=52,slow=11,SNR=66						
WRA				PcP	**PcP**	**10 10 37.3**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=46,slow=2.8,SNR=3.4						
	comp=Z,4.3nm,0.4s						
DZM	**Mont Dzumac**	**22.56**	**138**	P	**P**	**10 06 52.5**	**+1.0**
DZM				IAmb	IAmb	10 07 23.7	
	comp=Z,30nm,1.3s						
DZM	**Mont Dzumac**	**22.56**	**138**	P	**P**	**10 06 52.7**	**+1.1**
	comp=Z,6.2nm,0.5s,baz=255,slow=11,SNR=12						
	comp=Z,6.2nm,0.5s						
KNRA	**Kununurra**	**23.31**	**243**	P	**P**	**10 06 58.1**	**-0.6**
KNRA				IAmb	IAmb	10 06 59.8	
	comp=Z,7.0nm,0.8s						
AS31	**Alice Springs**	**23.80**	**220**	P	**P**	**10 07 03.1**	**-0.1**
ASAR	**Alice Springs**	**23.80**	**220**	P	**P**	**10 07 03.4**	**+0.2**
ASAR	**Alice Springs**	**23.80**	**220**	P	**P**	**10 07 03.6**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=55,slow=8.6,SNR=50						
	comp=Z,1.4nm,0.5s						
ARMA	**Armidale**	**24.60**	**177**	P	**P**	**10 07 08.4**	**-1.9**
ARMA				IAmb	IAmb	10 07 41.8	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.01**	**241**	P	**P**	**10 07 31.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**27.01**	**241**	P	**P**	**10 07 31.4**	**-0.8**
	comp=Z,2.3nm,0.4s,baz=58,slow=12,SNR=3.9						
	comp=Z,2.3nm,0.4s						
STKA	**Stephens Creek**	**27.26**	**196**	P	**P**	**10 07 33.4**	**-0.9**
STKA	**Stephens Creek**	**27.26**	**196**	P	**P**	**10 07 35.3**	**+1.1**
	comp=Z,2.7nm,0.5s,baz=39,slow=15,SNR=5.7						
	comp=Z,2.7nm,0.5s						
MBWA	**Marble Bar**	**33.33**	**240**	P	**P**	**10 08 27.4**	**-0.5**
MJAR	**Matsushiro Arr**	**43.54**	**346**	P	**P**	**10 09 52.0**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=162,slow=7.6,SNR=1.6						
	comp=Z,1.6nm,0.9s						
JTM	**Tenmabayashi**	**47.05**	**350**	P	**P**	**10 10 20.6**	**0.0**
KSRS	**Korea Array**	**47.74**	**336**	P	**P**	**10 10 25.7**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=156,slow=7.4,SNR=6.7						
	comp=Z,1.0nm,0.6s						
JKA	**Kamikawa-asahi**	**50.09**	**353**	P	**P**	**10 10 44.4**	**+0.5**
JKA				IAmb	IAmb	10 11 16.5	
	comp=Z,5.9nm,1.0s						
USRK	**Ussuriysk Ar.**	**52.36**	**343**	P	**P**	**10 11 01.8**	**+1.0**
ENH	**Enshi**	**52.98**	**315**	P	**P**	**10 11 04.8**	**-0.9**
SONM	**Songino Array**	**65.79**	**329**	P	**P**	**10 12 34.1**	**+0.5**
SONM				IAmb	IAmb	10 12 35.2	
	comp=Z,1.7nm,0.6s						
SONM	**Songino Array**	**65.79**	**329**	P	**P**	**10 12 33.4**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=141,slow=5.4,SNR=6.5						
	comp=Z,2.0nm,0.6s						
CASY	**Casey**	**66.41**	**196**	P	**P**	**10 12 37.8**	**+0.7**
J16K	**Anvik River**	**78.12**	**20**	P	**P**	**10 13 47.9**	**+1.2**
MKAR	**Makanchi Array**	**79.38**	**320**	P	**P**	**10 13 53.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=90,slow=6.5,SNR=2.3						
	comp=Z,0.2nm,0.3s						
G18K	**Tagagawik**	**80.42**	**19**	P	**P**	**10 13 59.3**	**+0.2**
CAST	**Castle Rocks**	**81.31**	**23**	P	**P**	**10 14 03.8**	**-0.1**
KTH	**Kantishna Hill**	**81.83**	**23**	P	**P**	**10 14 06.9**	**+0.1**
KTH				IAmb	IAmb	10 14 46.9	
	comp=Z,14nm,1.5s						
E19K	**Redstone River**	**81.83**	**18**	P	**P**	**10 14 06.9**	**+0.4**
D19K	**Kuna River**	**82.20**	**17**	P	**P**	**10 14 08.5**	**0.0**
D19K				IAmb	IAmb	10 14 35.0	
	comp=Z,3.2nm,1.4s						
ILAR	**Eielson Array**	**83.97**	**23**	P	**P**	**10 14 14.6**	**-3.1**
	comp=Z,0.2nm,0.6s,baz=245,slow=5.1,SNR=6.7						
QSPA	**South Pole Qui**	**84.24**	**180**	P	**P**	**10 14 20.2**	**+0.9**
QSPA				IAmb	IAmb	10 14 33.8	
	comp=Z,6.7nm,1.5s						
QSPA	**South Pole Qui**	**84.24**	**180**	P	**P**	**10 14 19.8**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=132,slow=14,SNR=1.9						
	comp=Z,1.1nm,0.9s						
DOT	**Dot Lake**	**84.59**	**24**	P	**P**	**10 14 21.5**	**+0.7**
DOT				IAmb	IAmb	10 15 03.7	
	comp=Z,2.7nm,1.3s						
BCAR	**Beaver Creek A**	**85.30**	**25**	P	**P**	**10 14 24.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**148.16**	**286**	PKPbc	**PKPdf**	**10 21 31.0**	**+0.3**
	comp=Z,54nm,0.4s,baz=54,slow=3.6,SNR=1.6						

---

*UPP **30** 10:02:05.2±2.8, 64°.51N×31°.07E, h0km, ML1.8*
*IDC **30** 10:02:06.8±2.3, 64°.61N×31°.55E, h0km, mbtmp3.0/3, ML2.1/3, Error ellipse: s-maj=31.3km s-min=9.7km az=103.0*
*KOLA **30** 10:02:07.6, 64°.59N×30°.47E, h0km, ML2.2, Error ellipse: s-maj=17.9km s-min=14.2km az=160.0, Karelia*
*HEL **30** 10:02:07.3±0.2, 64°.70N×30°.68E, h0km, ML2.0, Suspected explosion*
ISC 30 10:02:08.2±0.8, 64°.71N±0°.02×30°.55E±0°.04, h0km, n51, σ1ᵢ58/79, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.56**	**209**	PG	**Pg**	**10 02 17.9**	**-1.0**
	baz=38						
RMF				MSG		10 02 26.0	
	comp=Z,31nm,0.2s						
RMF				SG	**Sg**	**10 02 26.3**	**+0.1**
KU1	**Kurvinen**	**0.95**	**334**	PB	**Pg**	**10 02 25.7**	**-0.8**
KU1				SB	**Sg**	**10 02 39.7**	**+0.9**
KU6	**Riekki**	**1.35**	**349**	PG	**Pg**	**10 02 32.3**	**-1.7**
	baz=165						
KU6				MSG		10 02 48.8	
	comp=Z,15nm,0.2s						
KU6				SB	**Sg**	**10 02 51.1**	**-0.4**
MSF	**Maaselka**	**1.36**	**333**	PG	**Pg**	**10 02 32.7**	**-1.5**
MSF				SN	**Sg**	**10 02 51.9**	**0.0**
KU2	**Taivalkoski**	**1.40**	**317**	PN	**Pn**	**10 02 33.8**	**-1.2**
KU2				SN	**Sg**	**10 02 53.4**	**+0.3**
OLKF	**Oulanka, Finla**	**1.69**	**344**	PG	**Pn**	**10 02 38.4**	**-0.4**
OLKF				MSG		10 02 58.6	
	comp=Z,13nm,0.2s						
OLKF				SG	**Sb**	**10 03 02.1**	**+0.3**
NIF	**Nilsia**	**1.79**	**223**	PG	**Pn**	**10 02 40.5**	**+0.2**
JOF	**Joensuu**	**1.83**	**169**	PG	**Pn**	**10 02 39.5**	**-1.3**
JOF				SG	**Sn**	**10 03 04.6**	**-0.1**
OUL	**Oulu**	**2.02**	**283**	PG	**Pn**	**10 02 44.4**	**+1.0**
	baz=99						
OUL				SG	**Sb**	**10 03 11.0**	**-0.2**
RANF	**Ranua**	**2.05**	**311**	PG	**Pn**	**10 02 44.5**	**+0.7**
	baz=126						
RANF				SG	**Sb**	**10 03 12.7**	**+0.5**
KVDA	**Kovda**	**2.21**	**25**	P	**Pn**	**10 02 46.9**	**+0.8**
KVDA				S	**Sb**	**10 03 16.4**	**-0.4**
OBF4	**Vikkela, Lumij**	**2.33**	**275**	PG	**Pn**	**10 02 49.5**	**+1.8**
OBF4				MSG		10 03 18.0	
	comp=Z,10nm,0.2s						
OBF4				SG	**Sb**	**10 03 21.5**	**+1.1**
OUF	**Merijarvi**	**2.54**	**265**	PB	**Pn**	**10 02 51.2**	**+0.7**
	baz=82						
OUF				MSG		10 03 23.7	
	comp=Z,15nm,0.2s						
OUF				SG	**Sb**	**10 03 25.4**	**-0.8**
RNF	**Rovaniemi**	**2.68**	**317**	PB	**Pn**	**10 02 54.4**	**+1.9**
RNF				SG	**Sb**	**10 03 30.8**	**+0.6**
OBF0	**Syolatti, Pyha**	**2.73**	**268**	PB	**Pn**	**10 02 54.4**	**+1.3**
OBF0				MSG		10 03 29.4	
	comp=Z,6.6nm,0.2s						
OBF0				SG	**Sb**	**10 03 32.6**	**+0.9**
SUF	**Sumiainen**	**2.80**	**226**	PG	**Pb**	**10 02 56.9**	**-2.0**
SUF				MSG		10 03 30.7	
	comp=Z,3.2nm,0.2s						
SUF				SG	**Sb**	**10 03 33.9**	**+0.2**
TOF	**Tornio**	**2.94**	**301**	PB	**Pn**	**10 02 57.0**	**+0.9**
TOF				MSG		10 03 35.4	
	comp=Z,3.6nm,0.2s						
TOF				SG	**Sb**	**10 03 38.3**	**+0.4**
APA0	**Apatity Array**	**3.07**	**18**	P	**Pn**	**10 02 58.5**	**+0.6**
APA0				S	**Sn**	**10 03 35.5**	**+0.2**
VRF	**Varrio**	**3.08**	**353**	PN	**Pn**	**10 02 58.2**	**+0.2**
VRF				MSG		10 03 38.2	
	comp=Z,3.5nm,0.2s						
VRF				SG	**Sb**	**10 03 41.2**	**-0.5**
APA	**Apatity**	**3.10**	**21**	S	**Sn**	**10 03 35.9**	**0.0**
KAF	**Kangasniemi**	**3.23**	**218**	PG	**Pb**	**10 03 05.0**	**-1.3**
KALU	**Kalix**	**3.23**	**294**	P	**Pn**	**10 03 01.0**	**+0.9**
KALU				S	**Sn**	**10 03 43.2**	**+4.0**
KALU	**Kalix**	**3.23**	**294**	PB	**Pn**	**10 03 01.6**	**+1.6**
KALU				SB	**Sb**	**10 03 45.0**	**-1.2**
RUF	**Ruokolahti**	**3.38**	**193**	PB	**Pn**	**10 03 02.8**	**+0.8**
LVZ	**Lovozero**	**3.60**	**26**	PB	**Pn**	**10 03 08.4**	**+3.2**
KEF	**Keuruu**	**3.61**	**228**	PB	**Pn**	**10 03 07.9**	**+2.7**
KLF	**Kolari**	**3.70**	**316**	PB	**Pn**	**10 03 09.4**	**+3.0**
PAJU	**Pajala**	**3.84**	**311**	P	**Pn**	**10 03 08.8**	**+0.5**
PAJU				S	**Sn**	**10 03 56.1**	**+2.0**
PAJU	**Pajala**	**3.84**	**311**	PN	**Pn**	**10 03 08.9**	**+0.5**
FIA0	**FINESS Array S**	**3.86**	**214**	PB	**Pn**	**10 03 11.5**	**+2.9**
	baz=29						
FINES	**FINESS Array B**	**3.86**	**214**	Pn	**Pn**	**10 03 08.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=33,slow=14,SNR=7.3						
FINES				Pg	**Pb**	**10 03 17.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=39,slow=18,SNR=9.7						
FINES				Sn	**Sn**	**10 03 57.3**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=39,slow=24,SNR=2.9						
FINES				Lg	Lg	10 04 09.4	
	comp=Z,1.5nm,0.3s,baz=38,slow=32,SNR=9.4						
	comp=Z,0.5nm,0.3s						
SJUU	**Sjulsmark**	**3.86**	**286**	P	**Pn**	**10 03 09.3**	**+0.5**
VAF	**Ylistaro**	**3.86**	**248**	PB	**Pb**	**10 03 14.1**	**-3.0**
RAJF	**Raja-Jooseppi**	**3.89**	**348**	PN	**Pn**	**10 03 09.1**	**+0.1**
RAJF				SB	**Sn**	**10 04 00.3**	**+5.0**
ERTU	**Ertsjaerv**	**3.93**	**302**	P	**Pn**	**10 03 10.6**	**+0.9**
ERTU	**Ertsjaerv**	**3.93**	**302**	PN	**Pn**	**10 03 10.5**	**+0.9**
BURU	**Burvik**	**3.95**	**272**	P	**Pn**	**10 03 09.6**	**-0.2**
BURU	**Burvik**	**3.95**	**272**	PN	**Pn**	**10 03 09.8**	**-0.1**
ODEU	**Stanfors**	**4.25**	**270**	P	**Pn**	**10 03 13.3**	**-0.8**
UMAU	**Umeaa**	**4.38**	**264**	P	**Pn**	**10 03 15.0**	**-0.8**
UMAU	**Umeaa**	**4.38**	**264**	PN	**Pn**	**10 03 15.7**	**-0.1**
	baz=76						
VJF	**Virojoki**	**4.41**	**200**	SG	**Sb**	**10 04 24.4**	**+4.5**
HEF	**Hetta**	**4.62**	**327**	PN	**Pn**	**10 03 20.6**	**+1.5**
HEF				SG	**Sb**	**10 04 30.6**	**+4.5**
SVAU	**Svanoeiden**	**4.73**	**272**	P	**

6.2nm,0.9s
INKA Innaminka 41.80 248 P **P 10 11 15.8 +0.2**
HTT Hallett 43.97 240 P **P 10 11 33.2 +0.2**
LCRK Leigh Creek 44.21 245 P **P 10 11 34.3 -0.6**
BBOO Buckleboo 46.27 242 P **P 10 11 50.5 -0.6**
OOD Oodnadatta 46.28 249 P **P 10 11 51.0 -0.2**
WRA Warramunga Arr 47.90 259 P **P 10 12 02.6 -1.2**
8.1nm,0.4s,baz=98,slow=6.5,SNR=174
8.1nm,0.4s
AS01 Alice Springs 47.93 254 P **P 10 12 03.1 -1.0**
ASAR Alice Springs 47.97 254 P **P 10 12 03.2 -1.2**
42nm,0.6s,baz=91,slow=7.7,SNR=481
ASAR PcP **PcP 10 13 29.1 +0.2**
0.8nm,0.7s,baz=88,slow=4.9,SNR=2.2
MTN Manton Dam 52.14 268 P **P 10 12 34.1 -1.6**
FITZ Fitzroy Crossi 56.30 260 P **P 10 13 05.0 -0.6**
4.7nm,0.6s,baz=65,slow=4.5,SNR=25
4.7nm,0.6s
FITZ Fitzroy Crossi 56.30 260 P **P 10 13 04.8 -0.8**
PSA00 Pilbara Seismi 61.11 255 P **P 10 13 37.6 -1.1**
MBWA Marble Bar 61.28 255 P **P 10 13 38.9 -0.9**
MEEK Meekatharra 61.51 249 P **P 10 13 40.1 -1.2**
KLBR Kellerberrin 61.76 243 P **P 10 13 42.5 -0.4**
MJAR Matsushiro Arr 70.08 321 P **P 10 14 35.8 +0.1**
2.1nm,0.7s,baz=143,slow=7.9,SNR=4.6
2.1nm,0.7s
KSRS Korea Array 77.08 317 P **P 10 15 18.0 +1.7**
1.1nm,0.7s,baz=134,slow=6.1,SNR=6.0
1.1nm,0.7s
ILAR Eielson Array 85.33 12 P **P 10 16 00.0 +1.0**
0.2nm,0.7s,baz=222,slow=5.4,SNR=5.5
0.2nm,0.7s

*NEIC **30** 10:11:01.7±1.2,39.°82N±0.°03×117.°47W±0.°03, h5km±2km, Error ellipse: s-maj=5.5km s-min=2.9km az=39.0*
REN 30 10:11:02.8±1.4, 39.°81N±0.°03×117.°45W±0.°04, h4km±6km, ML3.1/6, ML3.0/94(NEIC), Error ellipse: s-maj=5.2km s-min=3.5km az=207.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q09A	**Carvers**	**1.00**	**168**		Pg	10 11 21.8	-0.2
Q09A				Sg	Sn	10 11 37.8	-0.6
RYN	**Ryan**	**1.45**	**216**		Pn	10 11 28.9	-1.1
RYN				Sg	Sg	10 11 48.4	-0.9
NV11	**Mina Array Sit**	**1.48**	**202**		Pn	10 11 29.6	-0.9
NV11					Sb	10 11 48.3	-2.0
PAHR	**Pah Rah Range**	**1.50**	**267**		Pn	10 11 29.4	-1.3
PAHR					Sb	10 11 49.2	-1.5
PAHR				IAML		10 11 52.3	
	comp=N,137nm,0.8s						
PAHR				IAML		10 11 53.0	
	comp=E,140nm,0.4s						
NVAR	**Mina Array Bea**	**1.53**	**206**		Pn	10 11 30.2	-1.0
NV09	**Mina Array Sit**	**1.54**	**207**		Pn	10 11 30.4	-0.8
NV08	**Mina Array Sit**	**1.56**	**206**		Pn	10 11 30.7	-0.9
TPH	**Tonopah**	**1.74**	**174**		Pn	10 11 33.7	-0.4
TPH					Sb	10 11 57.6	-0.2
LHV	**Little Huntoon**	**1.76**	**208**		Pn	10 11 33.8	-0.4
LHV					Sn	10 11 57.4	+0.4
PNTR	**Pine Nut**	**1.81**	**247**		Pn	10 11 34.2	-0.9
PNTR				IAML		10 12 06.5	
	comp=E,151nm,0.6s						
PNTR				IAML		10 12 06.9	
	comp=N,116nm,0.6s						
ELK	**Elko**	**1.93**	**60**	Pn	Pn	10 11 36.8	+0.1
PEAR	**Peavine Mounta**	**1.95**	**265**		Pn	10 11 36.8	-0.2
WAKR	**Walker**	**2.02**	**230**		Pn	10 11 37.1	-0.9
WAKR				IAML		10 12 09.2	
	comp=N,85nm,0.2s						
R11B	**Troy Canyon, C**	**2.06**	**135**		Pn	10 11 37.5	-0.9
MPK	**Martis Peak**	**2.06**	**256**	Pn	Pn	10 11 38.0	-0.6
MPK				IAML		10 12 12.4	
	comp=E,74nm,0.8s						
MPK				IAML		10 12 15.1	
	comp=N,117nm,1.0s						
MZP	**Montezuma Peak**	**2.11**	**179**		Pn	10 11 38.3	-0.9
MZP				IAML		10 12 09.6	
	comp=E,149nm,0.8s						
MZP				IAML		10 12 10.6	
	comp=N,88nm,0.4s						
Q12A	**Willow Creek R**	**2.17**	**110**		Pn	10 11 40.3	+0.4
DSP	**Deep Springs**	**2.47**	**190**	Pn	Pn	10 11 43.9	0.0
DSP				IAML		10 12 21.2	
	comp=N,46nm,1.0s						
DSP				IAML		10 12 24.7	
	comp=E,54nm,1.0s						
S11A	**Rachel**	**2.54**	**148**		Pn	10 11 44.6	-0.4
SPR3	**Spring Creek 3**	**2.55**	**108**		Pn	10 11 45.9	+0.6
SPR3				IAML		10 12 27.4	
	comp=E,64nm,0.5s						
SPR3				IAML		10 12 28.1	
	comp=N,71nm,0.8s						
BHPR	**Bishop**	**2.64**	**198**		Pn	10 11 47.0	+0.6
GRAC	**Grapevine Rang**	**2.81**	**179**	Pn	Pn	10 11 48.6	0.0
SGV	**South Grapevin**	**2.84**	**173**		Pn	10 11 49.2	0.0
AFDM	**Forest Hills D**	**2.86**	**254**		Pn	10 11 49.2	-0.2
CMB	**Columbia Colle**	**2.90**	**233**	Pn	Pn	10 11 48.7	-1.1
TPNV	**Topopah Spring**	**3.01**	**161**		Pn	10 11 50.5	-1.0
TPNV				IAML		10 12 46.3	
	comp=N,55nm,0.6s						
TPNV				IAML		10 12 47.4	
	comp=N,54nm,0.6s						
PRN	**Pahroc Range**	**3.05**	**141**		Pn	10 11 51.8	-0.2
WCT	**Wildcat Mounta**	**3.08**	**168**	Pn	Pn	10 11 49.8	-2.6
WCT				IAML		10 12 42.4	
	comp=E,41nm,0.4s						
WCT				IAML		10 12 46.8	
	comp=N,33nm,0.8s						
HATC	**Hat Creek Radi**	**3.23**	**289**	Pn	Pn	10 11 55.6	+1.2
HATC				IAML		10 13 18.2	
	comp=N,47nm,3.5s						
NSP	**Numbskull Pass**	**3.23**	**162**		Pn	10 11 55.4	+1.0
SDH	**Striped Hills**	**3.28**	**164**		Pn	10 11 56.1	+1.0
AMDNV	**Amargosa**	**3.48**	**164**		Pn	10 11 58.3	+0.6
BGU	**Big Grassy Mou**	**3.55**	**70**	Pn	Pn	10 12 00.4	+1.5
DUG	**Dugway, Tooele**	**3.58**	**82**	Pn	Pn	10 11 57.4	-1.9
DUG				IAML		10 13 01.7	
	comp=N,39nm,0.7s						
DUG				IAML		10 13 03.4	
	comp=N,26nm,0.5s						
J08A	**Circle Bar Ran**	**3.63**	**348**		Pb	10 12 06.1	-1.5
GWY	**Greenwater Val**	**3.67**	**170**		Pn	10 12 00.4	-0.2
GWY				IAML		10 13 01.9	
	comp=E,29nm,0.5s						
GWY				IAML		10 13 07.2	
	comp=N,34nm,0.7s						
SHPR	**Sheep Range**	**3.76**	**151**	Pn	Pn	10 12 02.3	+0.5
MFID	**Camas Ranch**	**3.80**	**18**		Pn	10 12 06.4	+4.1
MFID				IAML		10 13 07.9	
	comp=N,25nm,0.8s						
MFID				IAML		10 13 13.1	
	comp=N,35nm,0.7s						
HVU	**Hansel Valley**	**4.05**	**59**	Pn	Pn	10 12 08.5	+2.7
HVU				IAML		10 13 17.6	
	comp=N,25nm,0.4s						
HVU				IAML		10 13 28.9	
	comp=E,18nm,0.8s						
MVU	**Marysvale**	**4.27**	**106**		Pn	10 12 10.5	+1.5
MVU				IAML		10 13 27.0	
	comp=N,18nm,0.7s						
MVU				IAML		10 13 30.7	
	comp=E,12nm,1.0s						
K04D	**Chiloquin, OR**	**4.29**	**312**	Pn	Pn	10 12 10.3	+1.2
MSU	**Marysvale**	**4.30**	**106**		Pn	10 12 10.7	+1.4
MTPU	**Mount Pierson**	**4.47**	**112**	Pn	Pn	10 12 12.8	+1.0
MTPU				IAML		10 13 31.9	
	comp=E,8.8nm,1.7s						
MTPU				IAML		10 13 35.8	
	comp=N,9.3nm,1.4s						
GSC	**Goldstone, Bar**	**4.53**	**173**	Pn	Pn	10 12 09.5	-2.8
GSC				IAML		10 13 29.3	
	comp=N,10nm,1.1s						
GSC				IAML		10 13 35.8	
	comp=E,20nm,1.3s						
I07A	**Izee**	**4.53**	**341**	Pn	Pn	10 12 10.7	-1.7
V12A	**Nelson**	**4.57**	**152**	Pn	Pn	10 12 09.6	-3.3
V12A				IAML		10 13 30.0	
	comp=E,11nm,0.7s						
V12A				IAML		10 13 37.2	
	comp=N,8.7nm,0.6s						
PINE	**Pine Mountain**	**4.76**	**328**	Pn	Pn	10 12 14.6	-0.9
PINE				IAML		10 12 55.9	
	comp=E,16nm,4.5s						
PINE				IAML		10 14 22.1	
	comp=N,14nm,4.2s						
TMUT	**Trail Mountain**	**4.85**	**94**	Pn	Pn	10 12 13.8	-3.2
BMO	**Blue Mountains**	**5.04**	**1**	Pn	Pn	10 12 15.0	-4.3
BMO				IAML		10 13 49.4	
	comp=N,6.1nm,2.2s						
U15A	**North Rim**	**5.29**	**128**	Pn	Pn	10 12 21.3	-1.6
U15A				IAML		10 13 55.3	
	comp=N,11nm,1.0s						
U15A				IAML		10 14 04.2	
	comp=E,9.8nm,0.9s						

*ISN **30** 10:15:42.0±0.7,33.°65N×45.°73E, h6km±12km, ML3.1*
*TEH **30** 10:15:42.8,33.°69N×45.°80E, h14km±67km*
ISC 30 10:15:43.8±0.9, 33.°70N±0.°04×45.°75E±0.°04, h19km, n22, σ1§86/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.43**	**18**	Pg	**Pg**	**10 15 51.8**	**-0.9**
IBDR	**Badra**	**0.61**	**166**	*e*Pg	**Pb**	**10 15 54.0**	**-1.7**
IBDR				*e*Sg	**Sb**	**10 16 02.0**	**-1.8**
IBDR				AML	AML	10 16 20.4	
	comp=E,1μm,0.0s						
IBDR				AML	AML	10 16 23.5	
	comp=N,922nm,0.7s						
KGS1	**Ghasr-e-Shirin**	**0.81**	**351**	Pg	**Pn**	**10 16 00.3**	**0.0**
IGHG	**Ghaleghazi**	**0.92**	**47**	Pg	**Pn**	**10 16 01.8**	**-0.2**
IDHR	**Dehrash**	**1.13**	**28**	Pg	**Pg**	**10 16 05.2**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.21**	**62**	Pg	**Pg**	**10 16 06.8**	**-0.5**
BHD	**Baghdad**	**1.22**	**250**	*e*Pn	**Pg**	**10 16 07.0**	**-0.5**
BHD				*e*Sn	**Sg**	**10 16 25.0**	**+1.5**
ILIN	**Lien**	**1.57**	**39**	Pg	**Pg**	**10 16 13.7**	**-0.5**
IKFM	**Kafar-mosalman**	**1.76**	**95**	Pg	**Pb**	**10 16 15.2**	**-0.2**
SNQR	**Sonqor, Kerman**	**1.94**	**53**	Pn	**Pb**	**10 16 17.1**	**-1.5**
IKRK	**Kirkuk**	**2.06**	**326**	*e*Pn	**Pb**	**10 16 19.0**	**-1.5**
IKRK				*e*Sn	**Sb**	**10 16 47.0**	**+1.3**
HSAM	**Samen**	**2.42**	**77**	Pn	**Pb**	**10 16 24.7**	**-2.3**
BDRS	**Dareh Seyedi**	**2.62**	**84**	Pn	**Pb**	**10 16 27.4**	**-2.8**
HAGD	**Aghdareh**	**3.02**	**67**	Pn	**Pn**	**10 16 33.3**	**+2.4**
HGHA	**Hamedan- Ghaye**	**3.12**	**54**	Pn	**Pn**	**10 16 34.9**	**+2.8**
QABG	**Abgarm-Qazvin**	**3.74**	**57**	Pn	**Pn**	**10 16 43.1**	**+2.5**
IPIR	**Pirpir**	**4.43**	**102**	Pn	**Pn**	**10 16 51.6**	**+1.4**
QAMS	**Qamsar**	**4.71**	**88**	Pn	**Pn**	**10 16 56.2**	**+2.2**
KLST	**Kelardasht - M**	**5.18**	**56**	Pn	**Pn**	**10 17 02.4**	**+1.9**
KRSH	**Karshahi**	**5.32**	**85**	Pn	**Pn**	**10 17 04.7**	**+2.4**
ISFB	**Sefidab**	**5.43**	**81**	Pn	**Pn**	**10 17 05.9**	**+2.1**
IRAM	**Ramesheh**	**5.90**	**107**	Pn	**Pn**	**10 17 12.9**	**+2.5**

*IDC **30** 10:22:48.8±2.9,7.°41S×156.°16E, h55km±26km, mb4.0/14, mbtmp4.3/16, ML2.1/1, MS3.5/23, Error ellipse: s-maj=22.5km s-min=18.0km az=95.0*
*NEIC **30** 10:22:52.3±1.0,7.°55S±0.°1×156.°3E±0.°1, h89km±11km, mb4.4/10, Error ellipse: s-maj=21.9km s-min=3.9km az=220.0*
ISC 30 10:22:48.0±0.6, 7.°3S±0.°1×156.°10E±0.°08, h44km, n56, σ1§27/35, mb4.4/19, MS3.5/20, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.37**	**120**		**Pn**	**10 23 51.2**	**-0.7**
HNR	**Honiara**	**4.37**	**120**	P	**Pn**	**10 23 51.4**	**-0.5**
	80nm,0.4s,baz=333,slow=2.4,SNR=12						
HNR				S	**Sn**	**10 24 45.5**	**+3.9**
	845nm,0.8s,baz=309,slow=22,SNR=8.2						
HNR				LR	LR	10 25 28.3	
	comp=Z,1μm,18.4s,baz=286,slow=38						
RABL	**Rabaul**	**4.97**	**308**	Pn	Pn	10 24 05.8	+5.5
PMG	**Port Moresby**	**9.09**	**256**	Pn	**Pn**	**10 25 00.4**	**+3.6**
PMG	**Port Moresby**	**9.09**	**256**	P	**Pn**	**10 24 57.6**	**+0.9**
	1.0nm,0.3s,baz=191,slow=23,SNR=1.5						
PMG				LR	LR	10 28 23.4	
	comp=Z,541nm,18.0s,baz=137,slow=37						
	11nm,0.6s						
DZM	**Mont Dzumac**	**17.77**	**147**	LR	LR	10 32 10.5	
	comp=Z,218nm,19.1s,baz=172,slow=32						
GUMO	**Guam**	**23.54**	**332**	LR	LR	10 36 09.2	
	comp=Z,34nm,21.9s,baz=136,slow=34						
WR8	**Warramunga Arr**	**24.44**	**237**	P	**P**	**10 28 02.6**	**-0.3**
WR8				IAmb	IAmb	10 28 14.9	
	comp=Z,18nm,1.4s						
WB0	**Warramunga Arr**	**24.44**	**237**	P	**P**	**10 28 02.2**	**-0.7**
WB0				IAmb	IAmb	10 28 15.8	
	comp=Z,16nm,1.3s						
WRAB	**Tennant Creek**	**24.55**	**237**	P	**P**	**10 28 03.8**	**-0.1**
WRAB				IAmb	IAmb	10 28 14.3	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**24.57**	**237**	P	**P**	**10 28 03.2**	**-0.9**
WRA	**Warramunga Arr**	**24.57**	**237**	P	**P**	**10 28 03.7**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=64,slow=9.7,SNR=21						
WRA				PcP	**PcP**	**10 31 41.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=62,slow=2.7,SNR=7.5						
	comp=Z,1.5nm,0.5s						
SAUI	**Saumlaki**	**24.59**	**267**	P	**P**	**10 28 05.5**	**+1.3**
MTN	**Manton Dam**	**25.18**	**255**	P	**P**	**10 28 10.4**	**+0.7**
MTN				IAmb	IAmb	10 28 48.1	
	comp=Z,26nm,1.4s						
ASAR	**Alice Springs**	**26.82**	**230**	P	**P**	**10 28 22.7**	**-1.8**
ASAR	**Alice Springs**	**26.82**	**230**	P	**P**	**10 28 23.6**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=63,slow=9.3,SNR=8.5						
ASAR				PcP	**PcP**	**10 31 46.4**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=57,slow=2.7,SNR=4.3						
ASAR				LR	LR	10 38 36.8	
	comp=Z,185nm,18.8s,baz=36,slow=35						
	comp=Z,0.4nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**27.66**	**22**	T	T	10 56 45.1	
	baz=202,slow=76,SNR=168						
H11S2	**WAKE ISLAND Hy**	**27.66**	**22**	T	T	10 56 46.7	
	baz=202,slow=76,SNR=153						
H11S1	**WAKE ISLAND Hy**	**27.68**	**22**	T	T	10 56 46.4	
	baz=202,slow=76,SNR=88						
STKA	**Stephens Creek**	**27.96**	**207**	P	**P**	**10 28 33.4**	**-1.2**
STKA	**Stephens Creek**	**27.96**	**207**	LR	LR	10 39 34.0	
	comp=Z,137nm,18.6s,baz=23,slow=36						
KNRA	**Kununurra**	**28.03**	**250**	P	**P**	**10 28 35.7**	**+0.4**
KNRA				IAmb	IAmb	10 28 46.1	
	comp=Z,9.2nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**28.85**	**21**	T	T	10 58 27.1	
	baz=201,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**28.86**	**21**	T	T	10 58 40.5	
	baz=201,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**28.87**	**21**	T	T	10 58 27.3	
	baz=201,slow=76,SNR=7.6						
FITZ	**Fitzroy Crossi**	**31.54**	**247**	P	**P**	**10 29 05.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**31.54**	**247**	LR	LR	10 42 15.8	
	comp=Z,122nm,18.4s,baz=66,slow=37						
DAV	**Davao City (W)**	**33.61**	**294**	LR	LR	10 43 38.8	
	comp=Z,42nm,18.2s,baz=166,slow=37						
KAPI	**Kappang**	**36.20**	**271**	LR	LR	10 45 25.5	
	comp=Z,32nm,20.6s,baz=125,slow=37						
NWAO	**Narrogin (SRO)**	**44.13**	**229**	LR	LR	10 49 06.0	
	comp=Z,117nm,18.7s,baz=264,slow=36						
MJAR	**Matsushiro Arr**	**46.71**	**340**	P	**P**	**10 31 12.5**	**-0.3**
	comp=Z,10nm,1.4s,baz=149,slow=7.4,SNR=2.0						
	comp=Z,10nm,1.4s						
KSRS	**Korea Array**	**51.70**	**331**	P	**P**	**10 31 52.0**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=140,slow=7.3,SNR=11						
KSRS				LR	LR	10 53 56.5	
	comp=Z,14nm,19.0s,baz=135,slow=36						
	comp=Z,1.5nm,0.6s						
ASAJ	**Asahikawa**	**52.59**	**348**	LR	LR	10 54 08.8	
	comp=Z,56nm,19.5s,baz=8.0,slow=36						
KLR	**Kul'dur**	**60.17**	**342**	LR	LR	10 57 58.7	
	comp=Z,19nm,20.9s,baz=154,slow=35						
PETK	**Petropavlovsk-**	**60.17**	**1**	LR	LR	10 56 53.9	
	comp=Z,38nm,20.4s,baz=171,slow=34						
SHEM	**Shemya Is, Ala**	**61.72**	**12**	LR	LR	10 55 17.7	
	comp=Z,46nm,22.0s,baz=282,slow=32						
CMAR	**Chiang Mai Arr**	**61.89**	**295**	P	**P**	**10 33 03.7**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=125,slow=41,SNR=2.1						
	comp=Z,0.6nm,0.4s						
SONM	**Songino Array**	**70.17**	**327**	P	**P**	**10 33 57.3**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=140,slow=7.1,SNR=9.5						
SONM				LR	LR	11 04 07.0	
	comp=Z,26nm,21.0s,baz=170,slow=35						
	comp=Z,2.9nm,0.6s						
YAK	**Yakutsk**	**72.07**	**347**	LR	LR	11 08 43.2	
	comp=Z,14nm,18.0s,baz=247,slow=38						
TIXI	**Tiksi**	**80.79**	**352**	LR	LR	11 13 03.6	
	comp=Z,10nm,18.6s,baz=59,slow=37						
QSPA	**South Pole Qui**	**82.70**	**180**	P	**P**	**10 35 06.1**	**-0.9**
QSPA				IAmb	IAmb	10 35 09.2	
	comp=Z,12nm,1.5s						
QSPA	**South Pole Qui**	**82.70**	**180**	P	**P**	**10 35 05.7**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=274,slow=1.0,SNR=33						
	comp=Z,1.4nm,0.5s						
ILAR	**Eielson Array**	**83.24**	**21**	P	**P**	**10 35 09.2**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=243,slow=5.4,SNR=8.2						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**84.34**	**318**	P	**P**	**10 35 16.2**	**+0.6**
	comp=Z,9.3nm,0.7s,baz=100,slow=6.0,SNR=67						
	comp=Z,9.3nm,0.7s						
MAW	**Mawson**	**84.56**	**203**	P	**P**	**10 35 15.3**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=143,slow=5.1,SNR=1.9						
	comp=Z,1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**85.03**	**326**	P	**P**	**10 35 18.7**	**-0.1**
	comp=Z,8.4nm,0.5s,baz=119,slow=5.8,SNR=24						
	comp=Z,8.4nm,0.5s						
BBB	**Bella Bella**	**87.09**	**37**	LR	LR	11 09 25.7	
	comp=Z,47nm,19.2s,baz=254,slow=32						
KURBB	**Kurchatov Arra**	**87.76**	**322**	P	**P**	**10 35 32.3**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=97,slow=4.8,SNR=18						
	comp=Z,2.1nm,0.5s						
NRIK	**Noril'sk**	**89.36**	**341**	LR	LR	11 19 33.1	
	comp=Z,14nm,18.0s,baz=146,slow=38						
INK	**Inuvik**	**89.60**	**20**	LR	LR	11 13 08.0	
	comp=Z,36nm,19.1s,baz=250,slow=34						
BVAR	**Borovoye Array**	**93.18**	**323**	P	**P**	**10 35 57.1**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=114,slow=3.6,SNR=7.1						
BVAR				LR	LR	11 18 05.3	
	comp=Z,20nm,20.9s,baz=43,slow=36						
	comp=Z,1.4nm,0.5s						
YKA	**Yellowknife Ar**	**96.08**	**28**	P	**P**	**10 36 10.6**	**0.0**
	comp=Z,0.2nm,0.6s,baz=255,slow=4.7,SNR=2.6						
	comp=Z,0.2nm,0.6s						
LPIG	**La Paz**	**96.20**	**67**	LR	LR	11 09 46.3	
	comp=Z,22nm,20.3s,baz=214,slow=29						
ABKAR	**Akbulak array**	**99.48**	**319**	Pdif	**Pdif**	**10 36 25.3**	**-1.0**
ESDC	**Sonseca Array**	**143.11**	**334**	PKP	PKPbc	10 42 14.6	-0.1
	comp=Z,0.4nm,0.4s,baz=18,slow=2.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**154.15**	**285**	PKP	**PKPdf**	**10 42 35.4**	**-0.7**
	comp=Z,47nm,0.3s,baz=29,slow=1.8,SNR=1.4						
TORD				PKPbc	**PKPbc**	**10 42 42.4**	**-1.8**
	comp=Z,35nm,0.3s,baz=26,slow=1.7,SNR=1.4						

RSNC 30 10:35:46.4±0.0, 6.°N±1.°×7.°3W±.°, h182km±2km, M2.8, mb4.1, ML2.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.34**	**174**	P	Pn	10 36 11.5	0.0
RUSC				S	Sn	10 36 30.5	-0.4
BARC	**Barichara**	**0.36**	**350**	P	Pn	10 36 10.9	-0.4
BARC				S	Sn	10 36 29.4	-1.1
BRJC	**Barrancabermej**	**0.96**	**320**	P	Pn	10 36 14.1	0.0
BRJC				S	Sn	10 36 35.9	+0.4
PAMC	**Pamplona, Colo**	**1.18**	**21**	P	Pn	10 36 16.5	+0.2
PAMC				S	Sn	10 36 38.5	-0.9
TAMC	**Tame, Arauca**	**1.34**	**81**	P	Pn	10 36 17.1	0.0
TAMC				S	Sn	10 36 40.3	-0.5
PTBC	**PUERTO BERRIO,**	**1.36**	**283**	P	Pn	10 36 16.5	-0.8
PTBC				S	Sn	10 36 39.8	-1.4
CHIC	**Chingaza**	**1.70**	**201**	P	Pn	10 36 21.3	+0.3
CHIC				S	Sn	10 36 47.3	-0.5
ROSC	**El Rosal**	**1.83**	**221**	P	Pn	10 36 17.9	-4.3
ROSC				S	Sn	10 36 51.8	+1.9
NORC	**Norcasia**	**1.86**	**249**	P	Pn	10 36 22.6	+0.4
NORC				S	Sn	10 36 48.6	-1.4
OCAC	**Ocana**	**2.01**	**354**	P	Pn	10 36 23.3	-0.6
OCAC				S	Sn	10 36 52.1	-0.9
ZARC	**Zaragoza, Cauc**	**2.13**	**306**	P	Pn	10 36 24.1	-1.0
ZARC				S	Sn	10 36 54.0	-1.2
PTGC	**Puerto Gaitan,**	**2.24**	**154**	P	Pn	10 36 25.3	-1.0
PTGC				S	Sn	10 36 55.5	-1.9
GUY2C	**Guyana, Caldas**	**2.45**	**246**	P	Pn	10 36 30.3	+1.2
GUY2C				S	Sn	10 37 02.2	0.0
UREC	**San Jos de Ur**	**2.83**	**302**	P	Pn	10 36 31.8	-1.4
UREC				S	Sn	10 37 06.7	-2.9
ANIL	**Santa Ana**	**2.85**	**233**	P	Pn	10 36 37.6	+3.9
CBOC	**Ciudad Bolivar**	**2.90**	**263**	P	Pn	10 36 34.7	+0.6
CBOC				S	Sn	10 37 10.5	-0.7
PRAC	**Prado**	**3.06**	**215**	P	Pn	10 36 35.9	0.0
PRAC				S	Sn	10 37 12.7	-1.9
DBBC	**Dabeiba**	**3.17**	**284**	P	Pn	10 36 37.3	0.0
DBBC				S	Sn	10 37 16.2	-0.8
SDV	**Santo Domingo**	**3.61**	**43**	P	Pn	10 36 42.7	-0.2
SDV				S	Sn	10 37 25.3	-1.8
ARGC	**Ariguani, Magd**	**3.77**	**343**	P	Pn	10 36 44.9	+0.2
ARGC				S	Sn	10 37 30.6	+0.1
APAC	**Apartado, Choc**	**3.81**	**296**	P	Pn	10 36 44.7	-0.5
APAC				S	Sn	10 37 30.5	-0.8
SJCC	**San Jacinto, C**	**4.17**	**331**	P	Pn	10 36 47.4	-2.5
SJCC				S	Sn	10 37 35.5	-4.2
CRJC	**Cerrejon, Guaj**	**4.76**	**3**	P	Pn	10 36 55.1	-2.4
CRJC				S	Sn	10 37 48.6	-4.8
SMRC	**Santa Marta, M**	**5.02**	**348**	P	Pn	10 36 58.8	-1.9
	52nm,1.2s						
SMRC				S	Sn	10 37 52.9	-6.3
	52nm,1.2s						
URIC	**Uribia, Colomb**	**5.55**	**11**	P	Pn	10 37 05.4	-2.2
URIC				S	Sn	10 38 06.2	-5.3

*NEIC **30** 10:36:35.1±0.9,7.°4S±0.°1×156.°07E±0.°09, h45km±7km, mb4.4/17, Error ellipse: s-maj=17.0km s-min=10.7km az=211.0*
*IDC **30** 10:36:36.9±3.8,7.°46S×155.°92E, h67km±39km, mb3.8/11, mbtmp4.1/12, ML4.1/1, MS3.1/

SONM	**Songino Array**	**70.14 327**	P	**P**	**10 47 43.2**	**+0.5**
SONM			IAmb	IAmb	10 47 44.9	
	comp=Z,2.0nm,0.8s					
SONM	**Songino Array**	**70.14 327**	P	**P**	**10 47 44.2**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=135,slow=6.5,SNR=9.3					
	comp=Z,1.9nm,0.7s					
P18K	**Big Mountain,**	**77.00 23**	P	**P**	**10 48 22.5**	**-0.1**
QSPA	**South Pole Qui**	**82.63 180**	P	**P**	**10 48 52.4**	**-0.8**
QSPA			IAmb	IAmb	10 49 04.7	
	comp=Z,4.1nm,1.3s					
QSPA	**South Pole Qui**	**82.63 180**	P	**P**	**10 48 52.3**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=247,slow=2.0,SNR=6.9					
	comp=Z,1.2nm,0.8s					
MKAR	**Makanchi Array**	**84.29 319**		**P**	**10 49 02.2**	**+0.3**
MKAR	**Makanchi Array**	**84.29 319**	P	**P**	**10 49 02.5**	**+0.7**
	comp=Z,5.3nm,0.7s,baz=106,slow=5.8,SNR=44					
	comp=Z,5.3nm,0.7s					
MAKZ	**Makanchi**	**84.50 318**		**P**	**10 49 03.6**	**+0.7**
ZAA0	**Zalesovo Array**	**85.00 326**	P	**P**	**10 49 04.8**	**-0.5**
ZALV	**Zalesovo Beam**	**85.00 326**	P	**P**	**10 49 04.8**	**-0.5**
	comp=Z,3.8nm,0.5s,baz=109,slow=4.7,SNR=13					
	comp=Z,3.8nm,0.5s					
H29M	**Whitestone**	**87.17 22**	P	**P**	**10 49 15.9**	**+0.2**
H29M			IAmb	IAmb	10 49 36.8	
	comp=Z,8.6nm,1.4s					
G29M	**Pine Creek**	**87.59 21**	P	**P**	**10 49 17.6**	**-0.2**
G29M			IAmb	IAmb	10 49 24.4	
	comp=Z,3.6nm,1.2s					
KURBB	**Kurchatov Arra**	**87.72 322**	P	**P**	**10 49 18.4**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=105,slow=3.8,SNR=11					
	comp=Z,1.0nm,0.6s					
BVAR	**Borovoye Array**	**93.14 323**	P	**P**	**10 49 43.1**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=93,slow=5.1,SNR=4.7					
	comp=Z,1.0nm,0.5s					
YKA	**Yellowknife Ar**	**96.21 28**	P	**P**	**10 49 56.3**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=89,slow=6.5,SNR=4.7					
	comp=Z,0.2nm,0.3s					

STR 30 10:39:01.5±0.4, 46°N±4°×°±°, h0km, MLv1.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=15.4, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSB	**Saint Sauveur**	**0.45**	**175**	Pg	Pg	10 39 10.1	0.0
SSB				Sg	Sg	10 39 16.7	+0.8
COLF	**Collangettes**	**0.60**	**250**	Pg	Pg	10 39 13.1	+0.2
COLF				Sg	Sg	10 39 21.8	+1.1
PLDF	**La Plantade**	**0.65**	**292**	Pg	Pg	10 39 13.8	-0.2
PLDF				Sg	Sg	10 39 23.7	+1.1
OGSM	**Saint Maurice**	**0.85**	**97**	Pg	Pg	10 39 17.7	-0.2
OGSM				Sg	Sg	10 39 29.6	+0.6
OGMY	**Moye**	**0.99**	**81**	Pg	Pg	10 39 20.5	0.0
OGMY				Sg	Sg	10 39 34.5	-0.8
AGO	**Saint Agoulin**	**1.00**	**289**	Pg	Pg	10 39 20.7	0.0
AGO				Sg	Sg	10 39 34.6	+0.9
GRN	**Grenoble**	**1.01**	**118**	Pg	Pg	10 39 20.3	-0.5
GRN				Sg	Sg	10 39 34.5	+0.6

WEL 30 10:50:41.7±1.1, 38°S±12°×17°9W±°, h33km, M3.3/6, ML3.6/12, MLv3.3/6, Error ellipse: s-maj=15.5km s-min=6.8km az=5.7, confirmed, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.91**	**261**	P	Pn	10 51 12.2	+0.3
WMGZ				S	Sn	10 51 35.8	+1.0
MXZ	**Matakaoa Point**	**1.98**	**268**	P	Pn	10 51 12.7	-0.1
MXZ				S	Sn	10 51 37.2	+0.7
PUZ	**Puketiti**	**2.08**	**254**	P	Pn	10 51 14.0	-0.3
PUZ				S	Sn	10 51 40.2	+1.1
PKGZ	**Pakihiroa**	**2.18**	**260**	P	Pn	10 51 15.4	-0.2
PKGZ				S	Sn	10 51 42.1	+0.7
CNGZ	**Carnagh Statio**	**2.25**	**244**	P	Pn	10 51 16.8	+0.2
TWGZ	**Tauwhareparae**	**2.32**	**253**	P	Pn	10 51 17.6	+0.1
TWGZ				S	Sn	10 51 45.8	+0.9
HAZ	**Te Kaha**	**2.40**	**264**	P	Pn	10 51 18.9	+0.3
HAZ				S	Sn	10 51 48.0	+1.1
TKGZ	**Te Karaka**	**2.50**	**248**	P	Pn	10 51 19.9	-0.1
TKGZ				S	Sn	10 51 50.4	+1.2
RUGZ	**Raukumara Rang**	**2.51**	**259**	P	Pn	10 51 20.3	+0.1
RUGZ				S	Sn	10 51 50.1	+0.3
RIGZ	**Rimuhau**	**2.66**	**243**	P	Pn	10 51 22.3	0.0
RIGZ				S	Sn	10 51 54.1	+0.7
MWZ	**Matawai**	**2.71**	**252**	P	Pn	10 51 22.4	-0.4
MWZ				S	Sn	10 51 54.4	-0.1
MHGZ	**Mahia Peninsul**	**2.79**	**234**	P	Pn	10 51 23.6	-0.4
KNZ	**Kokohu**	**2.87**	**238**	P	Pn	10 51 24.3	-0.7
URZ	**Urewera**	**3.00**	**255**	P	Pn	10 51 27.5	+0.6
URZ				S	Sn	10 52 02.0	+0.2
RTZ	**Ruatahuna**	**3.20**	**249**	P	Pn	10 51 30.0	+0.4
CTZ	**Chatham Island**	**6.50**	**163**	P	Pn	10 52 15.4	+0.6
CTZ				S	Sn	10 53 23.1	-4.7

*SOME **30** 10:53:27.8, 44°.68N×82°.00E, h10km*
*NNC **30** 10:53:30.2±1.0, 44°.71N×81°.92E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=13.2km s-min=3.3km az=120.0, Suspected Mining explosion.*
ISC 30 10:53:29.3±1.8, 44°.64N±0°.08×81°.9E±0°.1, h0km, n11, σ0§47/17, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**1.91**	**291**	Pg	**Pb**	**10 54 05.3**	**+0.1**
	8.2nm,0.1s						
KAPS				Lg	Lg	10 54 32.6	
	46nm,0.1s						
MAKZ	**Makanchi**	**2.17**	**1**	⇓Pn	**Pn**	**10 54 06.6**	**-0.1**
	2.2nm,0.3s						
MAKZ				⇑Sn	**Sn**	**10 54 34.2**	**0.0**
	3.4nm,0.3s						
MK31	**Makanchi Array**	**2.17**	**7**	⇓Pn	**Pn**	**10 54 06.9**	**+0.1**
	3.7nm,0.3s,baz=185,slow=15,SNR=165						
MK31				⇑Sn	**Sn**	**10 54 34.6**	**+0.2**
	1.0nm,0.2s,baz=189,slow=25,SNR=14						
PDGK	**Podgornoye**	**2.18**	**234**	⇓Pn	**Pb**	**10 54 09.4**	**-0.3**
	3.1nm,0.5s						
PDGK				⇓Sn	**Sg**	**10 54 38.9**	**-0.4**
	5.5nm,0.6s						
SHLS	**Shalkode**	**2.30**	**231**	Pg	**Pn**	**10 54 09.0**	**+0.4**
	13nm,0.2s						
SHLS				Lg	Lg	10 54 38.9	
	28nm,0.3s						
SHLS	**Shalkode**	**2.30**	**231**	*e*P	**Pn**	**10 54 08.8**	**+0.2**
	13nm,0.2s						
SHLS				*e*S	**Sn**	**10 54 38.5**	**+0.8**
	28nm,0.3s						
BLB	**Baldybastay**	**2.51**	**259**	Pg	**Pb**	**10 54 15.5**	**+0.1**
	26nm,0.2s						
BLB				Lg	Lg	10 54 50.0	
	15nm,0.2s						
UZB	**Uzynbulak**	**2.56**	**235**	Pg	**Pb**	**10 54 16.0**	**-0.2**
	6.6nm,0.2s						
UZB				Lg	Lg	10 54 50.8	
	3.0nm,0.3s						
UZB	**Uzynbulak**	**2.56**	**235**	*e*P	**Pb**	**10 54 15.8**	**-0.4**
	6.6nm,0.2s						
UZB				*e*S	**Sg**	**10 54 50.5**	**-1.1**
	3.0nm,0.3s						
ZHN	**Zhinishke**	**2.90**	**241**	Pg	**Pb**	**10 54 22.5**	**+0.4**
	5.2nm,0.1s						
ZHN				Lg	Lg	10 55 01.8	
	20nm,0.2s						
ZHN	**Zhinishke**	**2.90**	**241**	*e*P	**Pb**	**10 54 22.6**	**+0.5**
	5.2nm,0.1s						
ZHN				*e*S	**Sg**	**10 55 02.1**	**-0.5**
	20nm,0.2s						

HEL 30 11:03:35.5±0.1, 62°.91N×29°.21E, h0km, ML0.8, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.80**	**308**	PB	Pg	11 03 50.7	-0.1
	baz=123						
JOF	**Joensuu**	**0.96**	**88**	PG	Pg	11 03 53.1	-0.9
	baz=271						
JOF				SG	Sg	11 04 05.1	-1.3
RMF	**Romuvaara**	**1.36**	**14**	PN	Pg	11 04 01.1	-0.3
RMF				MSG		11 04 16.5	
	comp=Z,0.7nm,0.2s						
RMF				SN	Sn	11 04 20.1	-0.2
SUF	**Sumiainen**	**1.42**	**264**	PG	Pn	11 04 01.2	-1.3
	baz=93						
SUF				MSG		11 04 18.3	
	comp=Z,0.4nm,0.2s						
KAF	**Kangasniemi**	**1.56**	**241**	PG	Pn	11 04 03.5	-1.0
	baz=58						
KAF				MSG		11 04 22.4	
	comp=Z,0.5nm,0.2s						
FIA0	**FINESS Array S**	**2.08**	**226**	PB	Pn	11 04 11.5	0.0
FIA0				MSG		11 04 37.2	
	comp=Z,0.5nm,0.2s						
OUF	**Merijarvi**	**2.48**	**308**	PG	Pb	11 04 19.9	-0.9
	baz=126						
OUF				MSG		11 04 48.6	
	comp=Z,0.4nm,0.2s						
NUR	**Nurmijarvi**	**3.24**	**224**	PN	Pn	11 04 25.0	-2.5

*KRNET **30** 11:06:46.9±0.1, 40°.56N×77°.39E, h22km, mb3.3*
*SOME **30** 11:06:47.7, 40°.60N×77°.35E, h10km*
*NNC **30** 11:06:55.0±1.8, 40°.87N×77°.35E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=12.9km s-min=11.0km az=158.0*
ISC 30 11:06:49.0±1.4, 40°.63N±0°.06×77°.28E±0°.04, h10km, n44, σ1§92/72, 36C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.17**	**20**	⇑*i*P	**Pg**	**11 07 09.3**	**-2.3**
TARG				⇑*i*S	**Sg**	**11 07 25.7**	**-1.2**
NRN	**Naryn**	**1.26**	**310**	⇑*i*P	**Pn**	**11 07 12.3**	**-0.7**
NRN				⇑*i*S	**Sn**	**11 07 31.0**	**+0.8**
KDJ	**Kajisay**	**1.51**	**357**	⇑*i*P	**Pn**	**11 07 15.6**	**-0.6**
KDJ				⇑*i*S	**Sg**	**11 07 36.8**	**-0.7**
ULHL	**Ulahol**	**1.80**	**335**	⇑*i*P	**Pb**	**11 07 21.2**	**-1.0**
ULHL				⇑*i*S	**Sg**	**11 07 46.2**	**-0.6**
PRZ	**Przheval'sk**	**2.04**	**24**	⇑*e*P	**Pb**	**11 07 24.1**	**-2.1**
PRZ				⇑*e*S	**Sb**	**11 07 50.9**	**-0.8**
BOOM	**Boomskoye usch**	**2.12**	**332**	⇑*i*P	**Pb**	**11 07 25.6**	**-2.0**
BOOM				⇑*i*S	**Sb**	**11 07 53.8**	**-0.2**
ANVS	**Anan'yevo**	**2.18**	**8**	⇓*e*P	**Pn**	**11 07 25.7**	**+0.2**
ANVS				⇓*e*S	**Sb**	**11 07 54.0**	**-1.7**
TNSS	**Tian-Shan**	**2.42**	**354**	Pg	**Pg**	**11 07 33.9**	**-1.6**
	35nm,0.4s						
TNSS				Lg	Lg	11 08 06.9	
	13nm,0.5s						
TNSS	**Tian-Shan**	**2.42**	**354**	⇑*e*P	**Pg**	**11 07 33.9**	**-1.6**
	35nm,0.4s						
TNSS				*e*S	**Sg**	**11 08 07.0**	**0.0**
	13nm,0.5s						
MDOK	**Medeo**	**2.54**	**356**	Pn	**Pb**	**11 07 35.2**	**+0.4**
	23nm,1.0s						
MDOK				Pg	**Pg**	**11 07 35.7**	**-2.0**
	13nm,0.4s						
MDOK				Lg	Lg	11 08 10.1	
	28nm,0.9s						
MDOK				Lg	Lg	11 08 10.8	
	15nm,0.6s						
ARLS	**Aral**	**2.55**	**300**	⇑*i*P	**Pn**	**11 07 31.6**	**+1.0**
ARLS				⇑*i*S	**Sn**	**11 08 04.2**	**+2.5**
MTBS	**Maitube**	**2.58**	**346**	Pg	**Pg**	**11 07 36.7**	**-1.8**
	6.8nm,0.4s						
MTBS				Lg	Lg	11 08 11.6	
	18nm,0.3s						
MTBS	**Maitube**	**2.58**	**346**	*e*P	**Pg**	**11 07 36.7**	**-1.8**
	6.8nm,0.4s						
MTBS				*e*S	**Sg**	**11 08 11.7**	**-0.3**
	18nm,0.3s						
KST	**Kastek**	**2.61**	**338**	Pg	**Pg**	**11 07 37.3**	**-1.7**
	4.8nm,0.4s						
KST				Lg	Lg	11 08 12.5	
	19nm,0.7s						
KST	**Kastek**	**2.61**	**338**	*e*P	**Pg**	**11 07 37.3**	**-1.7**
	4.8nm,0.4s						
KST				*e*S	**Sg**	**11 08 12.5**	**-0.4**
	19nm,0.7s						
KOTS	**Kotyrbulak**	**2.61**	**357**	Pg	**Pg**	**11 07 37.1**	**-1.9**
	13nm,0.4s						
KOTS				Lg	Lg	11 08 12.3	
	38nm,0.6s						
KOTS	**Kotyrbulak**	**2.61**	**357**	*e*P	**Pg**	**11 07 37.1**	**-1.9**
	13nm,0.4s						
KOTS				*e*S	**Sg**	**11 08 12.3**	**-0.6**
	38nm,0.6s						
TKM2	**Tokmak 2**	**2.62**	**332**	⇑Pn	**Pb**	**11 07 36.7**	**+0.6**
	11nm,0.6s						
TKM2				⇓Lg	Lg	11 08 14.6	
	15nm,0.8s						
TKM2	**Tokmak 2**	**2.62**	**332**	⇑*i*P	**Pn**	**11 07 32.4**	**+0.9**
TKM2				⇑*i*S	**Sn**	**11 08 05.9**	**+2.4**
UCH	**Uchtor**	**2.62**	**308**	⇑*i*P	**Pn**	**11 07 33.0**	**+1.1**
UCH				⇑*i*S	**Sn**	**11 08 06.6**	**+2.6**
SALK	**Salom-Alik**	**2.64**	**277**	⇑*i*P	**Pn**	**11 07 32.8**	**+1.0**
SALK				⇑*i*S	**Sn**	**11 08 06.2**	**+2.2**
KBK	**Karagaybulak**	**2.68**	**320**	⇓*i*P	**Pn**	**11 07 33.6**	**+1.2**
KBK				⇓*i*S	**Sn**	**11 08 07.4**	**+2.4**
UZB	**Uzynbulak**	**2.84**	**27**	Pg	**Pb**	**11 07 40.3**	**+0.4**
	5.1nm,0.3s						
UZB				Lg	Lg	11 08 17.5	
	16nm,0.9s						
UZB	**Uzynbulak**	**2.84**	**27**	*e*P	**Pb**	**11 07 40.2**	**+0.4**
	5.1nm,0.3s						
UZB				*e*S	**Sg**	**11 08 17.5**	**-2.6**
	16nm,0.9s						
AAK	**Ala-Archa**	**2.90**	**315**	Pn	**Pg**	**11 07 42.6**	**-2.0**
	10nm,0.7s						
AAK				⇓Lg	Lg	11 08 22.4	
	20nm,1.1s						
AAK	**Ala-Archa**	**2.90**	**315**	⇑*i*P	**Pn**	**11 07 36.5**	**+1.1**
AAK				⇑*i*S	**Sn**	**11 08 12.7**	**+2.3**
KURS	**Kuram**	**2.94**	**13**	Pg	**Pg**	**11 07 42.7**	**-2.6**
	4.1nm,0.2s						
KURS				Lg	Lg	11 08 22.1	
	12nm,0.6s						
KURS	**Kuram**	**2.94**	**13**	*e*P	**Pg**	**11 07 47.9**	**+2.6**
	4.5nm,0.4s						
KURS				*e*S	**Sg**	**11 08 30.9**	**+7.6**
	11nm,0.3s						
SFK	**Sufi-Kurgan**	**2.95**	**259**	⇑*e*P	**Pn**	**11 07 36.6**	**+0.4**
SFK				⇑*e*S	**Sn**	**11 08 13.2**	**+1.4**
CHMS	**Chumysh**	**3.03**	**322**	⇑Pn	**Pb**	**11 07 44.7**	**+1.6**
	7.6nm,0.6s						
CHMS				⇑Lg	Lg	11 08 26.3	
	5.4nm,0.6s						
CHMS	**Chumysh**	**3.03**	**322**	⇑*i*P	**Pn**	**11 07 38.3**	**+1.2**
CHMS				⇑*i*S	**Sn**	**11 08 15.9**	**+2.4**
AML	**Almayashu**	**3.09**	**300**	⇑*i*P	**Pn**	**11 07 39.4**	**+1.2**
AML				⇑*i*S	**Sn**	**11 08 17.8**	**+2.4**
KTBS	**Karatobe**	**3.12**	**352**	Pg	**Pb**	**11 07 45.8**	**+1.3**
	15nm,0.5s						
KTBS				Lg	Lg	11 08 27.6	
	28nm,0.4s						
PDGK	**Podgornoye**	**3.17**	**31**	⇑Pn	**Pb**	**11 07 45.0**	**-0.4**
	3.6nm,0.7s						
PDGK				⇑Lg	Lg	11 08 28.0	
	20nm,0.8s						
CHKK	**Chushkaly**	**3.23**	**356**	Pg	**Pb**	**11 07 47.9**	**+1.4**
	4.5nm,0.4s						
CHKK				Lg	Lg	11 08 30.9	
	11nm,0.3s						
CHKK	**Chushkaly**	**3.23**	**356**	*e*P	**Pb**	**11 07 47.9**	**+1.4**
	4.5nm,0.4s						
CHKK				*e*S	**Sg**	**11 08 30.9**	**-2.0**
	11nm,0.3s						
EKS2	**Erkin-Say**	**3.32**	**309**	⇓*i*P	**Pn**	**11 07 42.4**	**+1.3**
EKS2				⇓*i*S	**Sn**	**11 08 22.9**	**+2.2**
KUU	**Kurty**	**3.34**	**348**	Pg	**Pb**	**11 07 49.2**	**+0.9**
	4.4nm,0.4s						
KUU				Lg	Lg	11 08 33.0	
	13nm,0.6s						
KUU	**Kurty**	**3.34**	**348**	*e*P	**Pb**	**11 07 49.2**	**+0.9**
	4.4nm,0.4s						
KUU				*e*S	**Sg**	**11 08 33.0**	**-3.3**
	13nm,0.6s						
USP	**Ospenovka**	**3.36**	**323**	⇑*i*P	**Pn**	**11 07 42.9**	**+1.3**
USP				⇑*i*S	**Sn**	**11 08 23.6**	**+2.1**
SGDS	**Sogindy**	**3.45**	**326**	Pg	**Pg**	**11 07 52.3**	**-2.7**
	6.1nm,0.5s						
SGDS				Lg	Lg	11 08 38.6	
	8.2nm,0.7s						
BLB	**Baldybastay**	**3.58**	**14**	Pg	**Pb**	**11 07 53.9**	**+1.3**
	9.9nm,0.3s						
BLB				Lg	Lg	11 08 41.0	
	7.9nm,0.5s						
MRKS	**Merke**	**3.70**	**306**	Pg	**Pg**	**11 07 57.2**	**-2.8**
	3.4nm,0.5s						
MRKS				Lg	Lg	11 08 46.7	
	3.8nm,0.6s						
MRKS	**Merke**	**3.70**	**306**	*e*P	**Pg**	**11 07 57.2**	**-2.8**
	3.4nm,0.5s						
MRKS				*e*S	**Sg**	**11 08 46.7**	**-1.2**
	3.8nm,0.6s						

*NOU **30** 11:09:49.6, 38°.07S×178°.70E, h28km, MLv4.2/10, Off E. Coast of N. Island, N.Z.*
*WEL **30** 11:09:50.2±0.7, 38°S±3°×17°9E±°, h33km, M3.8/22, ML4.2/24, MLv3.8/22, Error ellipse: s-maj=6.3km s-min=4.5km az=85.2, confirmed*
ISC 30 11:09:48.6±2.1, 38°.00S±0°.05×178°.83E±0°.10, h61km±11km, n113, σ0§82/128, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.38**	**299**	P	**Pn**	**11 09 59.5**	**0.0**
PUZ	**Puketiti**	**0.46**	**261**	P	**Pn**	**11 10 00.1**	**-0.1**
PUZ				S	**Sn**	**11 10 07.5**	**-1.2**
TBAS	**Tolaga Bay Are**	**0.56**	**228**	P	**Pn**	**11 10 02.5**	**+1.2**
MXZ	**Matakaoa Point**	**0.60**	**317**	P	**Pn**	**11 10 02.1**	**+0.3**
MXZ	**Matakaoa Point**	**0.60**	**317**	P	**Pn**	**11 10 02.3**	**+0.5**
MXZ				S	**Sn**	**11 10 11.5**	**+0.1**
PKGZ	**Pakihiroa**	**0.61**	**283**	P	**Pn**	**11 10 01.8**	**-0.1**
PKGZ				S	**Sn**	**11 10 10.3**	**-1.2**
CNGZ	**Carnagh Statio**	**0.69**	**225**	P	**Pn**	**11 10 03.8**	**+1.0**
TWGZ	**Tauwhareparae**	**0.69**	**255**	P	**Pn**	**11 10 03.2**	**+0.4**
TWGZ				S	**Sn**	**11 10 13.3**	**0.0**
HAZ	**Te Kaha**	**0.86**	**286**	P	**Pn**	**11 10 04.9**	**0.0**
HAZ				S	**Sn**	**11 10 16.0**	**-1.0**
TKGZ	**Te Karaka**	**0.89**	**240**	P	**Pn**	**11 10 05.6**	**+0.3**
TKGZ				S	**Sn**	**11 10 17.8**	**+0.3**
RUGZ	**Raukumara Rang**	**0.91**	**272**	P	**Pn**	**11 10 05.5**	**-0.2**
RUGZ				S	**Sn**	**11 10 16.5**	**-1.8**
MWZ	**Matawai**	**1.08**	**252**	P	**Pn**	**11 10 07.7**	**-0.1**
MWZ				S	**Sn**	**11 10 21.2**	**-0.8**
RIGZ	**Rimuhau**	**1.09**	**230**	P	**Pn**	**11 10 08.6**	**+0.6**
RIGZ				S	**Sn**	**11 10 23.0**	**+0.6**
PRGZ	**Paritu Road**	**1.18**	**219**	P	**Pn**	**11 10 09.7**	**+0.6**
RAGZ	**Rawiri**	**1.22**	**246**	P	**Pn**	**11 10 09.8**	**+0.1**
RAGZ				S	**Sn**	**11 10 24.4**	**-0.9**
MHGZ	**Mahia Peninsul**	**1.36**	**212**	P	**Pn**	**11 10 12.1**	**+0.6**
MHGZ				S	**Sn**	**11 10 29.8**	**+1.3**
KNZ	**Kokohu**	**1.36**	**221**	P	**Pn**	**11 10 11.7**	**+0.2**
KNZ				S	**Sn**	**11 10 28.5**	**-0.1**
URZ	**Urewera**	**1.38**	**259**	P	**Pn**	**11 10 12.2**	**+0.5**
URZ	**Urewera**	**1.38**	**259**	P	**Pn**	**11 10 12.2**	**+0.5**
URZ				S	**Sn**	**11 10 28.5**	**-0.5**
WIZ	**White Island**	**1.39**	**290**	P	**Pn**	**11 10 11.9**	**+0.1**
SNGZ	**Shannon Statio**	**1.41**	**236**	P	**Pn**	**11 10 12.5**	**+0.4**
SNGZ				S	**Sn**	**11 10 29.9**	**+0.2**
WHRZ	**Whale Island**	**1.48**	**275**	P	**Pn**	**11 10 13.4**	**+0.4**
RTZ	**Ruatahuna**	**1.58**	**247**	P	**Pn**	**11 10 15.1**	**+0.6**
RTZ				S	**Sn**	**11 10 34.1**	**+0.2**
RAHZ	**Arahi**	**1.65**	**236**	P	**Pn**	**11 10 15.8**	**+0.5**
WHHZ	**Waihua**	**1.65**	**229**	P	**Pn**	**11 10 16.0**	**+0.7**
MUGZ	**Murupara**	**1.69**	**253**	P	**Pn**	**11 10 16.1**	**+0.2**
MARZ	**Manawahe**	**1.70**	**270**	P	**Pn**	**11 10 16.4**	**+0.3**
MTHZ	**Maungataniwha**	**1.78**	**241**	P	**Pn**	**11 10 17.8**	**+0.7**
OPRZ	**Ohinepanea**	**1.81**	**274**	P	**Pn**	**11 10 17.1**	**-0.3**
TARZ	**Mount Tarawera**	**1.85**	**262**	P	**Pn**	**11 10 18.6**	**+0.5**
RRRZ	**Republican Roa**	**1.86**	**259**	P	**Pn**	**11 10 18.4**	**+0.2**
ARHZ	**Aropaoanui**	**1.91**	**228**	P	**Pn**	**11 10 19.3**	**+0.5**
LIRZ	**Lichensteins R**	**1.93**	**269**	P	**Pn**	**11 10 19.4**	**+0.2**
OMRZ	**Omania**	**1.94**	**266**	P	**Pn**	**11 10 19.4**	**+0.1**
HLRZ	**Highlands Stat**	**1.97**	**262**	P	**Pn**	**11 10 20.0**	**+0.3**
PRRZ	**Plateau Road**	**1.98**	**255**	P	**Pn**	**11 10 20.0**	**+0.2**
ALRZ	**Allen Road**	**2.04**	**253**	P	**Pn**	**11 10 20.8**	**+0.2**
HRRZ	**Handcock Road**	**2.04**	**258**	P	**Pn**	**11 10 20.9**	**+0.2**
KARZ	**Kaharoa**	**2.04**	**269**	P	**Pn**	**11 10 20.6**	**-0.1**
TGRZ	**Tauranga**	**2.05**	**277**	P	**Pn**	**11 10 20.4**	**-0.4**
HSRZ	**Hossack Road**	**2.06**	**261**	P	**Pn**	**11 10 21.4**	**+0.5**
MRHZ	**Matea Rd**	**2.07**	**246**	P	**Pn**	**11 10 21.4**	**+0.3**
UTU	**Utuhina**	**2.09**	**264**	P	**Pn**	**11 10 22.4**	**+1.1**
NGRZ	**Ngongotaha**	**2.09**	**266**	P	**Pn**	**11 10 22.1**	**+0.8**
CKHZ	**Cape Kidnapper**	**2.15**	**219**	P	**Pn**	**11 10 22.1**	**+0.1**
WPRZ	**Whakapapatarin**	**2.16**	**255**	P	**Pn**	**11 10 22.8**	**+0.5**
BKZ	**Black Stump Fm**	**2.17**	**237**	P	**Pn**	**11 10 22.7**	**+0.3**
BKZ	**Black Stump Fm**	**2.17**	**237**	P	**Pn**	**11 10 22.8**	**+0.3**
GRRZ	**Galatos Road**	**2.17**	**260**	P	**Pn**	**11 10 22.9**	**+0.5**
MYRZ	**Mayor Island**	**2.18**	**289**	P	**Pn**	**11 10 22.5**	**-0.1**
MCHZ	**McNeill Hill**	**2.20**	**229**	P	**Pn**	**11 10 23.4**	**+0.5**
KAHZ	**Kahuranaki**	**2.35**	**220**	P	**Pn**	**11 10 24.7**	**-0.2**
WHTZ	**Whakaora**	**2.35**	**253**	P	**Pn**	**11 10 25.9**	**+0.9**
KWHZ	**Kaweka Forest**	**2.36**	**232**	P	**Pn**	**11 10 24.9**	**-0.1**
KUTZ	**Kaahu Road**	**2.42**	**257**	P	**Pn**	**11 10 26.0**	**+0.3**
KRHZ	**Kereru**	**2.52**	**229**	P	**Pn**	**11 10 27.0**	**-0.2**
RITZ	**Rihia Road**	**2.53**	**246**	P	**Pn**	**11 10 27.5**	**+0.2**
WATZ	**Wairara**	**2.53**	**253**	P	**Pn**	**11 10 27.5**	**+0.1**
PXZ	**Pawanui**	**2.54**	**217**	P	**Pn**	**11 10 26.6**	**-0.8**
TLZ	**Tolley Road**	**2.62**	**262**	P	**Pn**	**11 10 28.4**	**-0.1**
TOZ	**Tahuroa Road**	**2.65**	**275**	P	**Pn**	**11 10 28.6**	**-0.3**
TMVZ	**Te Maari**	**2.69**	**245**	P	**Pn**	**11 10 29.6**	**0.0**
NTVZ	**North Tongarir**	**2.70

JHJ S **Sn** **11 43 05.1 +3.2**
71nm,0.3s,baz=108,slow=18,SNR=1.9
JHJ2 Mitsune 0.51 62 *e*P **Pn** **11 42 42.4 +1.4**
JMKN Mikurajimanish 1.05 14 P **Pn** **11 42 44.5 +0.5**
TTO4 TONANKAI O.B.S 1.85 308 P **Pn** **11 42 50.4 -0.1**
JIZS Izushimoda 1.87 350 P **Pn** **11 42 50.9 -0.2**
TTO2 TONANKAI O.B.S 2.07 295 P **Pn** **11 42 53.0 +0.3**
TTO2 *e*S **Sn** **11 43 23.7 +0.6**
BSO3 Boso 3 2.18 28 *e*P **Pn** **11 42 53.9 0.0**
BSO3 *e*S **Sn** **11 43 24.6 -0.8**
TTO1 TONANKAI O.B.S 2.22 290 *e*P **Pn** **11 42 54.6 +0.3**
BSO1 Boso 1 2.27 38 *e*P **Pn** **11 42 54.7 +0.1**
BSO1 *e*S **Sn** **11 43 26.5 -0.1**
JOD2 Odawara 2 2.39 356 P **Pn** **11 42 56.7 +0.2**
JIE Ise 2.63 306 P **Pn** **11 42 58.7 -0.5**
JYN Shimob 2.69 347 P **Pn** **11 42 59.9 -0.1**
JRY Ryogami san 3.16 354 P **Pn** **11 43 05.1 -0.2**
JRY *e*S **Sn** **11 43 44.5 -1.3**
JTNC Tanabenakahech 3.21 288 P **Pn** **11 43 05.6 -0.4**
JWY Kouya 3.36 295 P **Pn** **11 43 07.7 -0.1**
JYTA Yamagatataniai 3.44 323 P **Pn** **11 43 08.2 -0.5**
JAG Ashikaga 3.55 2 P **Pn** **11 43 08.3 -1.7**
MJAR Matsushiro Arr 3.77 347 P **Pn** **11 43 11.2 -1.6**
1.2nm,0.3s,baz=149,slow=17,SNR=13
MJAR S **Sn** **11 43 59.4 +0.3**
2.4nm,0.5s,baz=189,slow=23,SNR=4.6
MAT Matsushiro 3.77 347 P **Pn** **11 43 10.9 -1.8**
JCJ Chichijima 6.28 156 P **Pn** **11 43 42.2 -2.6**
40nm,0.8s,baz=5.8,slow=21,SNR=6.4
JCJ S **Sn** **11 44 53.5 -3.3**
35nm,0.4s,baz=286,slow=23,SNR=9.2
ASAJ Asahikawa 11.53 12 P **Pn** **11 44 50.9 -1.7**
1.8nm,0.3s,baz=249,slow=12,SNR=7.4
WRA Warramunga Arr 52.73 186 P **P** **11 51 08.6 +0.4**
0.5nm,0.6s,baz=3.2,slow=7.6,SNR=15
0.5nm,0.6s
ILAR Eielson Array 53.95 31 P **P** **11 51 18.1 +1.5**
0.3nm,0.7s,baz=272,slow=6.7,SNR=4.7
0.3nm,0.7s
ASAR Alice Springs 56.45 186 P **P** **11 51 36.8 +1.8**
0.1nm,0.4s,baz=9.9,slow=8.0,SNR=7.0
0.1nm,0.4s
FINES FINESS Array B 71.68 332 P **P** **11 53 13.8 +0.4**
0.4nm,0.4s,baz=46,slow=6.0,SNR=5.2
0.4nm,0.4s

SOME ***30*** *12:02:19.3,43°.83N×69°.55E*
KRNET ***30*** *12:02:20.1±0.1,43°.54N×69°.41E,mb3.2*
NNC ***30*** *12:02:20.4±1.4,43°.59N×69°.53E,h0km,mb3.5,mpv2.9,*
Error ellipse: s-maj=25.0km s-min=7.6km az=37.0,
Suspected Mining explosion.
ISC 30 12:02:23.3±2.9,43°.51N±0°.10×69°.6E±0°.1,h0km,n13,
σ1§08/24,17C-5D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.79**	**121**	⇓P	**Pg**	**12 02 37.2**	**-1.4**
	3.0nm,0.6s,baz=322,slow=18,SNR=51						
KK31				S	**Sg**	**12 02 49.2**	**+0.4**
	27nm,0.6s,baz=309,slow=27,SNR=72						
KKAR	**Karatay Array**	**0.79**	**121**	⇑*i*P	**Pg**	**12 02 37.5**	**-1.0**
KKAR				⇑*i*S	**Sb**	**12 02 50.4**	**-0.9**
TRKS	**Terek-Say**	**2.29**	**149**	⇑*i*P	**Pn**	**12 03 03.3**	**+0.7**
TRKS				⇑*i*S	**Sb**	**12 03 34.6**	**0.0**
MNAS	**Manas**	**2.38**	**115**	⇑*i*P	**Pn**	**12 03 04.0**	**+0.3**
MNAS				⇑*i*S	**Sb**	**12 03 35.8**	**-1.2**
EKS2	**Erkin-Say**	**3.19**	**104**	⇑*i*P	**Pn**	**12 03 15.3**	**+0.4**
EKS2				⇑*i*S	**Sn**	**12 03 55.5**	**+1.9**
AML	**Almayashu**	**3.33**	**113**	⇑*i*P	**Pn**	**12 03 17.3**	**+0.3**
AML				⇑*i*S	**Sn**	**12 03 59.0**	**+1.6**
ARSB	**Arslanbob**	**3.33**	**130**	⇑*i*P	**Pn**	**12 03 17.0**	**+0.1**
ARSB				⇑*i*S	**Sn**	**12 03 58.7**	**+1.4**
USP	**Ospenovka**	**3.59**	**92**	⇑*i*P	**Pn**	**12 03 20.6**	**+0.3**
USP				⇑*i*S	**Sn**	**12 04 04.9**	**+1.4**
AAK	**Ala-Archa**	**3.70**	**102**	Pg	**Pb**	**12 03 28.4**	**-1.4**
	3.2nm,0.5s						
AAK				Lg	Lg	12 04 18.9	
	4.1nm,0.6s						
AAK	**Ala-Archa**	**3.70**	**102**	⇑*i*P	**Pn**	**12 03 22.3**	**+0.3**
AAK				⇑*i*S	**Sn**	**12 04 07.7**	**+1.3**
CHMS	**Chumysh**	**3.81**	**96**	⇓*i*P	**Pn**	**12 03 23.9**	**+0.6**
CHMS				⇓*i*S	**Sn**	**12 04 10.0**	**+1.1**
ARLS	**Aral**	**3.87**	**114**	⇓*e*P	**Pn**	**12 03 24.6**	**+0.4**
ARLS				⇓*i*S	**Sn**	**12 04 11.9**	**+1.5**
TKM2	**Tokmak 2**	**4.44**	**96**	Pg	**Pb**	**12 03 42.4**	**+0.2**
	1.9nm,0.6s						
TKM2				⇑Lg	Lg	12 04 46.2	
	3.3nm,0.5s						

WEL 30 12:04:12.7±1.0,35°.S±6°.×18°.0W±°.,h12km,M3.7/6,
ML4.1/19,MLv3.7/6,Error ellipse: s-maj=11.2km
s-min=7.2km az=93.3,confirmed,South of Kermadec
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.13**	**204**	P	Pn	12 05 02.8	+0.9
PKGZ	**Pakihiroa**	**3.29**	**208**	P	Pn	12 05 04.2	+0.1
PKGZ				S	Sn	12 05 44.6	+1.4
HAZ	**Te Kaha**	**3.32**	**212**	P	Pn	12 05 05.0	+0.5
PUZ	**Puketiti**	**3.41**	**204**	P	Pn	12 05 05.7	0.0
PUZ				S	Sn	12 05 47.2	+1.1
RUGZ	**Raukumara Rang**	**3.54**	**212**	P	Pn	12 05 08.5	+0.8
RUGZ				S	Sn	12 05 50.3	+0.8
TWGZ	**Tauwhareparae**	**3.60**	**207**	P	Pn	12 05 07.8	-0.6
TWGZ				S	Sn	12 05 54.2	+3.3
CNGZ	**Carnagh Statio**	**3.80**	**202**	P	Pn	12 05 11.1	-0.1
TKGZ	**Te Karaka**	**3.88**	**206**	P	Pn	12 05 12.5	+0.3
TKGZ				S	Sn	12 05 59.0	+1.3
MWZ	**Matawai**	**3.91**	**210**	P	Pn	12 05 12.6	-0.1
MWZ				S	Sn	12 05 59.2	+0.6
KUZ	**Kuaotunu**	**3.92**	**242**	P	Pn	12 05 13.2	+0.4
KUZ				S	Sn	12 05 59.5	+0.9
URZ	**Urewera**	**4.04**	**215**	P	Pn	12 05 14.8	+0.5
RIGZ	**Rimuhau**	**4.15**	**205**	P	Pn	12 05 15.9	0.0
RIGZ				S	Sn	12 06 05.3	+0.9
PRGZ	**Paritu Road**	**4.30**	**203**	P	Pn	12 05 17.2	-0.8
WIAZ	**Waiheke Island**	**4.37**	**244**	P	Pn	12 05 18.0	-0.9
MUGZ	**Murupara**	**4.37**	**216**	P	Pn	12 05 18.3	-0.6
SNGZ	**Shannon Statio**	**4.37**	**209**	P	Pn	12 05 19.1	+0.1
MKAZ	**Moumakai**	**4.48**	**240**	P	Pn	12 05 21.8	+1.4
MHGZ	**Mahia Peninsul**	**4.51**	**201**	P	Pn	12 05 20.6	-0.2
ETAZ	**East Tamaki Re**	**4.58**	**243**	P	Pn	12 05 22.8	+1.0
WCZ	**Waipu Caves**	**4.73**	**257**	P	Pn	12 05 23.8	-0.1
BKZ	**Black Stump Fm**	**5.05**	**213**	P	Pn	12 05 26.2	-2.2
OUZ	**Omahuta**	**5.27**	**265**	P	Pn	12 05 31.0	-0.4
WNVZ	**Wahianoa**	**5.61**	**218**	S	Sn	12 06 41.6	+1.2
PNHZ	**Pukenui**	**5.80**	**210**	P	Pn	12 05 36.7	-1.9
PNHZ				S	Sn	12 06 41.7	-3.3
WAZ	**Wanganui**	**6.24**	**219**	P	Pn	12 05 43.6	-1.0

NEIC ***30*** *12:38:42.7±1.5,15°.36S±0°.08×173°.05W±0°.08,h10km±1km,*
mb4.5/37,Error ellipse: s-maj=13.7km s-min=11.3km
az=140.0
IDC ***30*** *12:38:59.6±4.6,15°.24S×173°.61W,h134km±41km,*
mb3.6/12,mbtmp4.1/13,MS3.5/25,Error ellipse:
s-maj=26.4km s-min=16.4km az=127.0
ISC 30 12:38:45.5±0.5,15°.37S±0°.07×173°.13W±0°.07,h29km,n84,
σ1§41/61,mb4.5/29,MS3.6/24,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.95**	**42**		**Pn**	**12 39 15.3**	**-1.4**
NIUE	**Niue**	**4.79**	**141**		**Pn**	**12 39 55.1**	**-0.6**
FUTU	**Fugatoga**	**4.94**	**282**	Pn	**Pn**	**12 39 57.3**	**-0.5**
MSVF	**Nonsavu**	**8.78**	**253**	P	Pn	12 40 58.6	+8.0
	8.0nm,0.6s,baz=124,slow=18,SNR=4.6						
MSVF				LR	LR	12 43 50.4	
	comp=Z,578nm,18.3s,baz=88,slow=35						
FUNA	**Funafuti**	**10.12**	**311**	Pn	**Pn**	**12 41 09.0**	**0.0**
PINNC	**Pines Island,**	**19.72**	**246**	P	**P**	**12 43 11.0**	**-1.8**
DZM	**Mont Dzumac**	**20.45**	**248**	*e*S	**S**	**12 47 06.4**	**-2.3**
	77nm,23.6s						
DZM				*e*LR	LR	12 49 02.4	
	278nm,25.4s						
DZM	**Mont Dzumac**	**20.45**	**248**	P	Pn	12 43 23.1	-0.1
	5.8nm,0.8s,baz=250,slow=20,SNR=4.2						
	5.8nm,0.8s						
ONTNC	**Ouen Toro**	**20.51**	**247**	P	**P**	**12 43 21.1**	**-0.4**
PPT2	**Papeete2**	**22.69**	**99**	*e*S	**S**	**12 47 51.3**	**-0.5**
	451nm,26.5s						
PPT2				*e*LR	LR	12 49 06.9	
	58nm,24.8s						
TBI	**Tubuai**	**23.68**	**113**	*e*S	**S**	**12 48 04.1**	**-3.9**
	1μm,28.2s						
TBI				*e*LR	LR	12 49 37.9	
	735nm,36.2s						
URZ	**Urewera**	**24.38**	**199**	LR	LR	12 51 53.5	
	comp=Z,192nm,21.6s,baz=92,slow=32						
HNR	**Honiara**	**26.93**	**279**	LR	LR	12 53 10.9	
	comp=Z,44nm,19.4s,baz=46,slow=32						
TAOE	**Nuku Hiva Isla**	**32.86**	**83**	*e*LR	LR	12 53 55.4	
	74nm,23.8s						
ARMA	**Armidale**	**35.58**	**239**	P	**P**	**12 45 40.6**	**-0.1**
H11S2	**WAKE ISLAND Hy**	**39.07**	**329**	T	T	13 27 49.2	
	baz=149,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**39.08**	**329**	T	T	13 27 49.2	
	baz=149,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**39.09**	**329**	T	T	13 27 51.0	
	baz=149,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**40.01**	**330**	T	T	13 28 58.0	
	baz=150,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy**	**40.02**	**330**	T	T	13 28 58.4	
	baz=150,slow=76,SNR=42						
H11N2	**WAKE ISLAND Hy**	**40.03**	**330**	T	T	13 28 59.4	
	baz=150,slow=76,SNR=46						
STKA	**Stephens Creek**	**44.28**	**240**	P	**P**	**12 46 52.7**	**-0.1**
	2.1nm,0.5s,baz=90,slow=9.4,SNR=4.4						
STKA				LR	LR	13 02 15.4	
	comp=Z,58nm,19.5s,baz=28,slow=32						
	2.1nm,0.5s						
BBOO	**Buckleboo**	**49.05**	**240**	P	**P**	**12 47 29.9**	**-0.3**
WR8	**Warramunga Arr**	**49.95**	**257**	P	**P**	**12 47 37.6**	**+0.3**
WR8				IAmb	IAmb	12 47 58.4	
	comp=Z,13nm,1.5s						
WB0	**Warramunga Arr**	**50.07**	**257**	P	**P**	**12 47 38.2**	**+0.1**
WB0				IAmb	IAmb	12 47 45.1	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**50.11**	**257**	P	**P**	**12 47 38.3**	**-0.1**
WRA	**Warramunga Arr**	**50.11**	**257**	P	**P**	**12 47 37.9**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=92,slow=7.0,SNR=28						
WRA				PcP	**PcP**	**12 48 57.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=93,slow=2.9,SNR=2.2						
	comp=Z,1.7nm,0.5s						
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**12 47 39.6**	**-0.8**
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**12 47 40.1**	**-0.3**
	comp=Z,6.1nm,0.5s,baz=88,slow=7.9,SNR=150						
ASAR				PcP	**PcP**	**12 48 59.2**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=96,slow=3.6,SNR=1.4						
ASAR				LR	LR	13 07 09.0	
	comp=Z,109nm,21.9s,baz=91,slow=34						
	comp=Z,6.1nm,0.5s						
KNRA	**Kununurra**	**55.83**	**261**	P	**P**	**12 48 19.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**58.47**	**258**	P	**P**	**12 48 38.5**	**-0.9**
SBA	**Scott Base**	**63.31**	**185**	P	**P**	**12 49 10.6**	**-0.6**
VNDA	**Vanda**	**63.44**	**186**	P	**P**	**12 49 12.3**	**+0.2**
VNDA	**Vanda**	**63.44**	**186**	P	**P**	**12 49 15.2**	**+3.1**
	comp=Z,1.4nm,0.8s,baz=18,slow=4.1,SNR=6.4						
	comp=Z,1.4nm,0.8s						
DAV	**Davao City (W)**	**64.68**	**286**	LR	LR	13 15 59.1	
	comp=Z,19nm,19.1s,baz=188,slow=35						
SHEM	**Shemya Is, Ala**	**68.71**	**352**	LR	LR	13 12 54.9	
	comp=Z,54nm,20.8s,baz=304,slow=30						
MJAR	**Matsushiro Arr**	**69.08**	**320**	LR	LR	13 12 45.7	
	comp=Z,34nm,20.8s,baz=155,slow=30						
PETK	**Petropavlovsk-**	**72.68**	**342**	P	**P**	**12 50 10.8**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=157,slow=5.9,SNR=3.7						
PETK				LR	LR	13 17 48.0	
	comp=Z,13nm,19.8s,baz=102,slow=32						
	comp=Z,2.5nm,0.8s						
PFO	**Pinyon Flats O**	**72.71**	**47**	LR	LR	13 14 23.0	
	comp=Z,73nm,19.3s,baz=228,slow=29						
LPIG	**La Paz**	**72.80**	**58**	LR	LR	13 13 05.6	
	comp=Z,41nm,20.7s,baz=204,slow=28						
YBH	**Yreka Blue Hor**	**73.41**	**37**	LR	LR	13 13 39.7	
	comp=Z,52nm,20.7s,baz=222,slow=28						
NVAR	**Mina Array Bea**	**74.13**	**42**	P	**P**	**12 50 23.0**	**+3.4**
	comp=Z,0.7nm,0.7s,baz=233,slow=5.9,SNR=4.9						
NVAR				LR	LR	13 16 36.9	
	comp=Z,67nm,20.0s,baz=174,slow=30						
	comp=Z,0.7nm,0.7s						
QSPA	**South Pole Qui**	**74.68**	**180**	P	**P**	**12 50 23.9**	**+1.7**
QSPA				IAmb	IAmb	12 50 26.0	
	comp=Z,5.0nm,0.7s						
QSPA	**South Pole Qui**	**74.68**	**180**	P	**P**	**12 50 25.0**	**+2.8**
	comp=Z,4.9nm,0.7s,baz=27,slow=1.4,SNR=31						
	comp=Z,4.9nm,0.7s						
KDAK	**Kodiak Island**	**74.84**	**11**	LR	LR	13 15 17.0	
	comp=Z,55nm,20.7s,baz=51,slow=29						
USRK	**Ussuriysk Ar.**	**77.51**	**323**	LR	LR	13 19 11.4	
	comp=Z,32nm,21.2s,baz=127,slow=31						
MA2	**Magadan**	**80.21**	**342**	LR	LR	13 21 24.0	
	comp=Z,12nm,21.0s,baz=140,slow=32						
PV10	**Paradox Valley**	**80.30**	**46**	P	**P**	**12 50 52.5**	**-1.8**
PV10				IAmb	IAmb	12 50 58.3	
	comp=Z,6.7nm,0.9s						
PV19	**Morning Glory**	**80.31**	**46**	P	**P**	**12 50 53.4**	**-0.8**
TX31	**Lajitas Ar. Si**	**80.38**	**56**	P	**P**	**12 50 52.3**	**-2.4**
TXAR	**Lajitas Array**	**80.38**	**56**	P	**P**	**12 50 52.4**	**-2.3**
TXAR	**Lajitas Array**	**80.38**	**56**	P	**P**	**12 50 58.2**	**+3.6**
	comp=Z,0.9nm,1.0s,baz=224,slow=6.7,SNR=5.5						
TXAR				LR	LR	13 18 20.6	
	comp=Z,22nm,19.4s,baz=228,slow=29						
	comp=Z,0.9nm,1.0s						
PV12	**Saucer Basin,**	**80.44**	**46**	P	**P**	**12 50 54.1**	**-0.8**
PV12				IAmb	IAmb	12 50 58.1	
	comp=Z,6.9nm,1.1s						
KLR	**Kul'dur**	**80.63**	**327**	LR	LR	13 22 59.1	
	comp=Z,18nm,19.3s,baz=122,slow=33						
TPAW	**Teton Pass**	**81.54**	**41**	P	**P**	**12 51 00.5**	**-0.3**
WRH	**Wood River Hil**	**81.87**	**11**	P	**P**	**12 51 01.7**	**+0.1**
WRH				IAmb	IAmb	12 51 16.1	
	comp=Z,5.9nm,1.0s						
HDA	**Harding Lake**	**82.02**	**11**	P	**P**	**12 51 03.2**	**+0.8**
HDA				IAmb	IAmb	12 51 17.2	
	comp=Z,7.1nm,1.3s						
PDAR	**Pinedale Array**	**82.07**	**42**	P	**P**	**12 51 05.6**	**+2.2**
	comp=Z,0.8nm,0.9s,baz=202,slow=3.2,SNR=6.1						
PDAR				LR	LR	13 22 58.2	
	comp=Z,26nm,20.5s,baz=234,slow=32						
	comp=Z,0.8nm,0.9s						
YHL	**Hebgen Lake**	**82.09**	**39**		**P**	**12 51 03.4**	**-0.2**
YHL				IAmb	IAmb	12 51 10.4	
	comp=Z,4.9nm,1.0s						
ILAR	**Eielson Array**	**82.36**	**11**	P	**P**	**12 51 06.1**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=227,slow=6.1,SNR=7.4						
ILAR				LR	LR	13 20 21.2	
	comp=Z,24nm,21.7s,baz=192,slow=30						
	comp=Z,0.3nm,0.6s						
F19K	**Shaleruckik Mo**	**82.75**	**6**	P	**P**	**12 51 06.3**	**+0.1**
L29M	**L29M**	**82.83**	**15**	P	**P**	**12 51 07.2**	**+0.4**
E18K	**Tukpahlearik C**	**83.06**	**5**	P	**P**	**12 51 07.2**	**-0.6**
E18K				IAmb	IAmb	12 51 21.8	
	comp=Z,5.1nm,1.4s						
RLMT	**Red Lodge**	**83.40**	**40**	P	**P**	**12 51 08.7**	**-1.6**
RLMT				IAmb	IAmb	12 51 27.6	
	comp=Z,6.1nm,1.4s						
BELA	**Belgrano 2**	**84.00**	**172**	P	**P**	**12 51 13.1**	**+0.4**
BELA				IAmb	IAmb	12 51 39.7	
	comp=Z,4.8nm,1.3s						
D20K	**Etivluk River**	**84.69**	**6**	P	**P**	**12 51 15.6**	**-0.5**
E22K	**Anaktuvuk Pass**	**84.69**	**8**	P	**P**	**12 51 15.8**	**-0.4**
E22K				IAmb	IAmb	12 51 34.0	
	comp=Z,3.1nm,1.1s						
I30M	**Mount Dempster**	**85.01**	**15**	P	**P**	**12 51 16.9**	**-1.1**
I30M				IAmb	IAmb	12 51 28.6	
	comp=Z,2.3nm,1.0s						
D22K	**Ayikyak River**	**85.28**	**7**	P	**P**	**12 51 18.8**	**-0.4**
D22K				IAmb	IAmb	12 51 35.2	
	comp=Z,4.2nm,1.1s						
F26K	**Sheenjek River**	**85.48**	**11**	P	**P**	**12 51 20.0**	**-0.1**
F26K				IAmb	IAmb	12 51 36.7	
	comp=Z,3.9nm,1.4s						
D23K	**Nanushuk River**	**85.62**	**8**	P	**P**	**12 51 20.9**	**+0.1**
D23K				IAmb	IAmb	12 51 36.8	
	comp=Z,5.2nm,1.2s						
B20K	**Meade River**	**85.89**	**5**	P	**P**	**12 51 21.6**	**-0.4**
G29M	**Pine Creek**	**86.03**	**13**	P	**P**	**12 51 23.2**	**+0.4**
D24K	**Happy Valley**	**86.05**	**8**	P	**P**	**12 51 22.9**	**0.0**
D24K				IAmb	IAmb	12 51 37.4	
	comp=Z,4.8nm,1.4s						
G31M	**Satah River**	**86.90**	**14**	P	**P**	**12 51 28.1**	**+1.0**
G31M				IAmb	IAmb	12 51 39.5	
	comp=Z,6.0nm,1.4s						
F31M	**Tsiigehtchic**	**87.44**	**14**		**P**	**12 51 30.3**	**+0.7**
MAW	**Mawson**	**87.91**	**199**	P	**P**	**12 51 31.1**	**-1.0**
MAW				IAmb	IAmb	12 51 37.0	
	comp=Z,2.5nm,1.4s						
YAK	**Yakutsk**	**89.18**	**337**	LR	LR	13 28 18.4	
	comp=Z,10nm,20.0s,baz=250,slow=33						
YKA	**Yellowknife Ar**	**89.96**	**23**	P	**P**	**12 51 44.2**	**+2.6**
	comp=Z,0.2nm,0.8s,baz=232,slow=4.8,SNR=5.5						
YKA				LR	LR	13 27 31.5	
	comp=Z,35nm,18.5s,baz=338,slow=32						
	comp=Z,0.2nm,0.8s						
SNAA	**Sanae**	**92.93**	**177**	LR	LR	13 31 45.7	
	comp=Z,30nm,21.1s,baz=274,slow=34						
ULM	**Lac du Bonnet**	**93.74**	**39**	LR	LR	13 27 27.5	
	comp=Z,57nm,20.6s,baz=341,slow=31						
SONM	**Songino Array**	**94.99**	**318**	LR	LR	13 35 17.2	
	comp=Z,12nm,18.6s,baz=165,slow=36						
GERES	**GERESS Array B**	**146.14**	**352**	PKPbc	**PKiKP**	**12 58 25.6**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=354,slow=1.0,SNR=4.6						
BRTR	**Keskin Array B**	**146.29**	**321**	PKPbc	**PKiKP**	**12 58 26.8**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=67,slow=3.7,SNR=4.8						

TEH ***30*** *12:46:13.8,29°.18N×56°.40E,h10km±37km*
OMAN ***30*** *12:46:18.6±0.1,28°.96N×56°.31E,h10km,mb3.6/3,*
ml3.3/11,Error ellipse: s-maj=2.8km s-min=1.6km
az=247.0
DSN ***30*** *12:46:19.2±0.6,28°.88N×56°.87E,h15km,ML2.8/8,Error*
ellipse: s-maj=31.9km s-min=5.7km az=101.0
ISC 30 12:46:15.5±0.9,29°.14N±0°.03×56°.44E±0°.06,h10km,n49,
σ0§87/60,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGRK	**Negar Kerman**	**0.56**	**27**	Pg	**Pg**	**12 46 26.6**	**+0.2**
KRBR	**Kerman**	**0.88**	**18**	Pg	**Pg**	**12 46 32.2**	**-0.3**
CHMN	**Cheshme madani**	**1.20**	**53**	Pg	**Pb**	**12 46 38.0**	**-0.5**
KHGB	**Koh Gabri**	**1.23**	**1**	Pg	**Pn**	**12 46 37.2**	**-1.7**
KRM1	**Kerman Provinc**	**1.54**	**28**	Pg	**Pn**	**12 46 43.5**	**+0.4**
KHNJ	**Kahnooj**	**1.63**	**137**	Pg	**Pg**	**12 46 46.9**	**+0.1**
IBND	**Bandar-abas**	**1.69**	**177**	Pg	**Pg**	**12 46 47.6**	**-0.3**
BNDS	**Bandar-Abbas**	**1.75**	**188**	Pg	**Pb**	**12 46 47.8**	**0.0**
KBAM	**BAM**	**1.76**	**90**	Pg	**Pn**	**12 46 47.3**	**+1.1**
ZRDN	**Zarand Kerman**	**1.82**	**3**	Pg	**Pn**	**12 46 48.2**	**+1.1**
IBAF	**Bafgh**	**2.55**	**343**	Pn	**Pn**	**12 46 58.0**	**+0.9**
IMEH	**Mehriz**	**2.74**	**325**	Pn	**Pn**	**12 47 00.8**	**+1.0**
SHME	**Shamm**	**3.09**	**185**	P	**Pn**	**12 47 05.1**	**+0.7**
SHME				S	**Sn**	**12 47 40.4**	**-1.1**
SHME	**Shamm**	**3.09**	**185**	P	**Pn**	**12 47 04.3**	**-0.1**
SHME				S	**Sn**	**12 47 40.4**	**-1.1**
BANOM	**Banah**	**3.21**	**182**	P	**Pn**	**12 47 06.9**	**+0.8**
BANOM				S	**Sn**	**12 47 45.4**	**+1.0**
BANOM	**Banah**	**3.21**	**182**	P	**Pn**	**12 47 06.7**	**+0.7**
BSRN	**Basiran**	**3.64**	**39**	Pn	**Pn**	**12 47 14.2**	**+2.1**
UMQ	**Umm Al-Quwin**	**3.67**	**191**	P	**Pn**	**12 47 13.6**	**+1.3**
MASF	**Masafi**	**3.77**	**184**	P	**Pn**	**12 47 14.8**	**+1.1**
MASF				S	**Sn**	**12 47 57.4**	**-0.7**
MSFE	**Esma-Masafi**	**3.78**	**184**	P	**Pn**	**12 47 14.3**	**+0.4**
MDH	**Madha**	**3.83**	**182**	P	**Pn**	**12 47 14.5**	**-0.1**
MDH				S	**Sn**	**12 47 59.7**	**0.0**
MDH	**Madha**	**3.83**	**182**	P	**Pn**	**12 47 14.4**	**-0.1**
IKOO	**Kooshah**	**3.94**	**33**	Pn	**Pn**	**12 47 17.7**	**+1.4**
UOSS	**Minazif**	**4.19**	**183**	Pn	**Pn**	**12 47 19.9**	**+0.4**
UOSS	**Minazif**	**4.19**	**183**	P	**Pn**	**12 47 19.6**	**+0.2**
UOSS				S	**Sn**	**12 48 06.9**	**-1.5**
UOSS	**Minazif**	**4.19**	**183**	P	**Pn**	**12 47 19.6**	**+0.2**
NAZ	**Nazwa, Dubai**	**4.20**	**190**	P	**Pn**	**12 47 20.8**	**+1.2**
NAZ	**Nazwa, Dubai**	**4.20**	**190**	P	**Pn**	**12 47 21.0**	**+1.4**
HATD	**Hatta, Dubai**	**4.31**	**184**	P	**Pn**	**12 47 22.2**	**+1.1**
HATD				S	**Sn**	**12 48 11.3**	**-0.2**
HATD	**Hatta, Dubai**	**4.31**	**184**	P	**Pn**	**12 47 21.4**	**+0.2**
FAQ	**Al Faqa, Dubai**	**4.45**	**190**	P	**Pn**	**12 47 24.1**	**+1.1**
	SNR=7.1						
ASHO	**Ashiyiah**	**4.46**	**184**	P	**Pn**	**12 47 24.2**	**+1.0**
	SNR=11						
ASHO				S	**Sn**	**12 48 14.8**	**-0.3**
	SNR=12						
ASHO	**Ashiyiah**	**4.46**	**184**	P	**Pn**	**12 47 23.6**	**+0.5**
ASHO				S	**Sn**	**12 48 14.0**	**-1.1**
KLNJ	**Kolanjah**	**4.59**	**295**	Pn	**Pn**	**12 47 26.0**	**+0.7**
ASUD	**Al Ashush, Dub**	**4.61**	**193**	P	**Pn**	**12 47 27.0**	**+1.8**
ASUD				S	**Sn**	**12 48 18.9**	**+0.1**
ASUD	**Al Ashush, Dub**	**4.61**	**193**	P	**Pn**	**12 47 26.2**	**+1.0**
DSBU	**Dashti - Bushe**

comp=Z,5.1nm,0.6s
TOLI2 Tolitoli 21.76 92 P **P** **12 52 44.3 +1.5**
SHL Shillong 24.55 344 P **P** **12 53 08.6 -0.8**
SHL IAmb IAmb 12 53 11.3
comp=Z,7.8nm,0.9s
PZH PanZhiHua 24.63 6 P **P** **12 53 12.5 +2.4**
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
YULB Yu-li 30.39 43 P **P** **12 54 04.4 +2.9**
SSLB Suanglung 30.43 42 P **P** **12 54 00.1 -1.7**
FITZ Fitzroy Crossi 32.87 128 P **P** **12 54 21.6 -1.7**
KNRA Kununurra 34.18 122 P **P** **12 54 33.2 -1.4**
KNRA IAmb IAmb 12 55 10.4
comp=Z,12nm,1.3s
MTN Manton Dam 35.06 116 P **P** **12 54 40.2 -2.1**
MTN IAmb IAmb 12 55 00.8
comp=Z,16nm,1.4s
HHC Hu-ho-hao-te 40.43 15 *e*P **P** **12 55 28.8 +1.6**
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,85nm,4.7s
WB0 Warramunga Arr 40.83 124 **P** **12 55 29.8 -0.9**
WB0 IAmb IAmb 12 55 33.4
comp=Z,8.2nm,1.1s
WRA Warramunga Arr 40.86 124 P **P** **12 55 29.2 -1.7**
WRA Warramunga Arr 40.86 124 P **P** **12 55 30.3 -0.7**
comp=Z,4.5nm,0.3s,baz=305,slow=8.6,SNR=47
WRA PcP **PcP** **12 57 29.4 -0.1**
comp=Z,0.3nm,0.5s,baz=314,slow=2.6,SNR=2.3
comp=Z,4.5nm,0.3s
WRAB Tennant Creek 40.87 124 P **P** **12 55 30.1 -1.0**
WRAB IAmb IAmb 12 55 33.4
comp=Z,7.2nm,0.5s
WR8 Warramunga Arr 41.00 124 P **P** **12 55 31.3 -0.9**
AS31 Alice Springs 42.37 129 P **P** **12 55 42.1 -1.1**
ASAR Alice Springs 42.37 129 P **P** **12 55 41.5 -1.7**
ASAR Alice Springs 42.37 129 P **P** **12 55 42.0 -1.2**
comp=Z,1.2nm,0.5s,baz=296,slow=7.5,SNR=37
ASAR PcP **PcP** **12 57 34.7 +0.2**
comp=Z,0.4nm,0.6s,baz=307,slow=2.9,SNR=4.5
comp=Z,1.2nm,0.5s
JNU Nakatsue 43.11 40 LR LR 13 14 11.2
comp=Z,14nm,19.2s,baz=94,slow=36
KSAR Wonju Array Be 44.25 33 P **P** **12 55 57.0 -1.1**
KS19 Wonju Array Si 44.28 33 P **P** **12 55 57.9 -0.5**
KS19 IAmb IAmb 12 55 59.4
comp=Z,5.6nm,0.9s
SONM Songino Array 46.23 7 P **P** **12 56 14.4 +0.7**
comp=Z,0.5nm,0.4s,baz=193,slow=9.3,SNR=4.8
comp=Z,0.5nm,0.4s
MKAR Makanchi Array 47.07 344 P **P** **12 56 20.3 +0.2**
MKAR Makanchi Array 47.07 344 P **P** **12 56 20.6 +0.4**
comp=Z,2.4nm,0.4s,baz=156,slow=8.6,SNR=32
comp=Z,2.4nm,0.4s
MAKZ Makanchi 47.16 344 P **P** **12 56 21.5 +0.6**
KKAR Karatay Array 48.30 332 P **P** **12 56 29.9 +0.2**
KURBB Kurchatov Arra 51.59 343 P **P** **12 56 54.9 +0.5**
comp=Z,1.4nm,0.4s,baz=157,slow=7.1,SNR=18
comp=Z,1.4nm,0.4s
KURK Kurchatov 51.65 344 P **P** **12 56 55.6 +0.8**
KURK IAmb IAmb 12 56 57.2
comp=Z,2.7nm,0.8s
ZAA0 Zalesovo Array 53.21 350 P **P** **12 57 06.6 +0.3**
ZALV Zalesovo Beam 53.21 350 P **P** **12 57 06.8 +0.6**
ZALV Zalesovo Beam 53.21 350 P **P** **12 57 06.6 +0.3**
comp=Z,4.0nm,0.3s,baz=176,slow=6.5,SNR=18
comp=Z,4.0nm,0.3s
BVAR Borovoye Array 56.24 340 P **P** **12 57 28.1 -0.1**
comp=Z,1.4nm,0.5s,baz=141,slow=9.7,SNR=8.5
comp=Z,1.4nm,0.5s
BRVK Borovoye 56.31 340 P **P** **12 57 28.8 +0.1**
AB31 Akbulak array 57.80 331 P **P** **12 57 39.4 +0.1**
AB31 IAmb IAmb 12 57 39.8
comp=Z,3.4nm,0.7s
ABKAR Akbulak array 57.80 331 P **P** **12 57 39.5 +0.2**
ARTI Arti 63.34 336 P **P** **12 58 16.3 -0.4**
ARTI Arti 63.34 336 P **P** **12 58 16.1 -0.5**
comp=Z,4.2nm,0.6s,baz=166,slow=3.0,SNR=6.4
comp=Z,4.2nm,0.6s
KBZ Khabaz 64.78 318 **P** **12 58 26.4 +0.1**
comp=Z,1.7nm,0.8s,baz=173,slow=5.4,SNR=4.6
comp=Z,1.7nm,0.8s
CMWZ Cape Campbell 80.23 133 P **P** **12 59 56.0 -2.0**
FINES FINESS Array B 80.26 332 P **P** **12 59 57.9 +0.2**
FINES FINESS Array B 80.26 332 P **P** **12 59 57.7 0.0**
comp=Z,0.3nm,0.3s,baz=123,slow=5.2,SNR=5.7
comp=Z,0.3nm,0.3s
ARCES ARCESS Array B 82.53 340 P **P** **13 00 09.7 +0.2**
comp=Z,1.9nm,0.8s,baz=109,slow=5.4,SNR=3.7
comp=Z,1.9nm,0.8s
HFS Hagfors 86.06 330 P **P** **13 00 27.8 +0.3**
comp=Z,0.7nm,0.5s,baz=98,slow=5.7,SNR=4.8
comp=Z,0.7nm,0.5s
SPITS Spitsbergen Ar 86.67 348 P **P** **13 00 30.5 +0.2**
comp=Z,7.1nm,1.0s,baz=98,slow=4.4,SNR=5.2
comp=Z,7.1nm,1.0s

GII 30 12:58:23.7±0.0, 31°.266N±0°.001×36°.367E±0°.002, h0km, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHAJ	**Ghor Haditha**	**0.69**	**273**	P	Pg	12 58 36.6	-0.2
GHAJ	**Ghor Haditha**	**0.69**	**273**	P	Pg	12 58 36.9	+0.1
DSI	**Dead Sea**	**0.90**	**290**	P	Pg	12 58 40.5	-0.4
YTIR	**Yattir**	**1.07**	**275**	P	Pg	12 58 44.0	-0.3
HMDT	**Nahal Hemdat**	**1.22**	**324**	P	Pg	12 58 47.0	-0.1
HMDT	**Nahal Hemdat**	**1.22**	**324**	S	Sb	12 59 03.6	-0.3
MMLI	**Mount Malkishu**	**1.42**	**326**	P	Pn	12 58 49.8	-1.0
MMLI	**Mount Malkishu**	**1.42**	**326**	S	Sn	12 59 10.0	-0.2
PRNI	**Paran**	**1.48**	**232**	P	Pn	12 58 50.4	-1.3
PRNI	**Paran**	**1.48**	**232**	S	Sn	12 59 12.0	+0.2
HRFI	**Mount Harif**	**1.68**	**223**	P	Pn	12 58 52.9	-1.4
KRMI	**Paran Flat**	**1.82**	**231**	P	Pn	12 58 55.7	-0.6
KRMI	**Paran Flat**	**1.82**	**231**	S	Sn	12 59 19.7	-0.4
MBRI	**Mt Berech**	**1.93**	**221**	P	Pn	12 58 58.4	+0.5

---

*IDC **30** 13:08:25.7±5.2, 13°.59S×166°.81E, h0km, mb3.5/3, mbtmp3.5/3, MS2.8/1, Error ellipse: s-maj=253.7km s-min=36.3km az=141.0*
*NOU **30** 13:08:31.1, 13°.57S×166°.84E, h0km, MLv4.7/9, Vanuatu Islands*

ISC 30 13:08:32.9±1.3, 13°.54S±0°.09×166°.8E±0°.1, h35km, n10, σ2s44/9, mb3.5/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**2.62**	**168**	P	**Pn**	**13 09 13.3**	**+0.6**
LUES	**Luesalemba Tem**	**3.00**	**342**	P	**Pn**	**13 09 20.4**	**+2.4**
DVP	**Devils Point**	**4.36**	**163**	P	**Pn**	**13 09 39.0**	**+2.3**
NGOA	**Tingoa Renbel**	**6.91**	**286**	P	**Pn**	**13 10 13.3**	**+1.6**
KOUNC	**Koumac, New Ca**	**7.39**	**199**	P	**Pn**	**13 10 19.6**	**+1.2**
SAVO	**Savo Central**	**8.15**	**302**	P	**Pn**	**13 10 31.1**	**+2.2**
DZM	**Mont Dzumac**	**8.50**	**183**	LR	LR	13 13 09.8	
comp=Z,61nm,20.3s,baz=198,slow=34
WRA Warramunga Arr 31.73 254 P **P** **13 14 51.2 -2.7**
0.7nm,1.0s,baz=85,slow=8.7,SNR=1.6
0.7nm,1.0s
ASAR Alice Springs 32.73 247 P **P** **13 15 00.1 -2.6**
0.3nm,0.6s,baz=73,slow=9.0,SNR=9.2
0.3nm,0.6s
ILAR Eielson Array 85.53 18 P **P** **13 21 05.7 -1.3**
0.2nm,0.6s,baz=220,slow=6.0,SNR=4.2
0.2nm,0.6s

IDC 30 13:09:29.5±5.2, 3°.66S×136°.90E, h168km±64km, mb3.1/2, mbtmp3.6/5, MS3.6/1, Error ellipse: s-maj=75.9km s-min=20.2km az=114.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.96**	**74**	P	Pn	13 10 30.9	+1.0
4.6nm,0.3s,baz=240,slow=14,SNR=8.0
JAY S Sn 13 11 16.7 -0.3
5.9nm,0.6s,baz=310,slow=17,SNR=1.4
WRA Warramunga Arr 16.38 189 P P 13 13 09.1 -0.8
0.7nm,0.5s,baz=7.6,slow=12,SNR=9.0
FITZ Fitzroy Crossi 18.10 217 P P 13 13 28.7 -0.1
2.0nm,1.0s,baz=305,slow=24,SNR=1.6
ASAR Alice Springs 20.10 188 P P 13 13 50.7 +0.3
0.4nm,0.6s,baz=11,slow=11,SNR=12
0.4nm,0.6s
NWAO Narrogin (SRO) 34.45 210 LR LR 13 31 19.4
comp=Z,80nm,18.5s,baz=124,slow=38
NRIK Noril'sk 80.12 344 P P 13 21 20.4 0.0
1.2nm,0.6s,baz=105,slow=20,SNR=3.8
1.2nm,0.6s

---

*IDC **30** 13:11:26.9±0.7, 6°.75N×72°.97W, h156km±7km, mb3.7/7, mbtmp4.2/10, MS3.0/1, Error ellipse: s-maj=18.6km s-min=7.4km az=128.0*
*NEIC **30** 13:11:27.9±1.2, 6°.74N±0°.08×72°.92W±0°.09, h160km±6km, mb4.3/107, Error ellipse: s-maj=13.4km s-min=10.9km az=126.0*
*RSNC **30** 13:11:28.0±0.0, 7°.N±1°×7°.3W±°, h150km±2km, M4.1, mB5.2, mb4.6, ML3.8, Mw(mB)4.5*

ISC 30 13:11:27.5±0.6, 6°.84N±0°.03×73°.08W±0°.03, h153km±5km, n171, σ1§41/213, mb4.3/56, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**203**	P	**Pn**	**13 11 48.3**	**-0.3**
BARC S **Sn** 13 12 03.4 -1.3
PAMC Pamplona, Colo 0.63 37 P **Pn** 13 11 51.2 +0.7
PAMC S **Sn** 13 12 08.0 0.0
BRJC Barrancabermej 0.68 282 P **Pn** 13 11 50.1 0.0
BRJC S **Sn** 13 12 07.0 -0.4
RUSC La Rusia 0.94 180 **Pn** 13 11 52.1 -0.5
RUSC La Rusia 0.94 180 P **Pn** 13 11 52.2 -0.4
RUSC S **Sn** 13 12 10.9 -0.9
TAMC Tame, Arauca 1.34 107 P **Pn** 13 11 56.7 +1.0
TAMC S **Sn** 13 12 18.1 +0.8
PTBC PUERTO BERRIO, 1.40 258 P **Pn** 13 11 54.8 -1.5
PTBC S **Sn** 13 12 16.0 -2.3
OCAC Ocana 1.42 350 P **Pn** 13 11 56.5 -0.1
OCAC S **Sn** 13 12 18.2 -0.8
ZARC Zaragoza, Cauc 1.88 290 P **Pn** 13 12 01.1 -0.4
ZARC S **Sn** 13 12 26.5 -1.1
NORC Norcasia 2.18 235 P **Pn** 13 12 04.0 -1.0
NORC S **Sn** 13 12 32.5 -1.4
CHIC Chingaza 2.29 197 P **Pn** 13 12 06.1 -0.5
CHIC S **Sn** 13 12 35.5 -1.2
ROSC El Rosal 2.33 212 **Pn** 13 12 08.0 +0.8
ROSC El Rosal 2.33 212 P **Pn** 13 12 08.5 +1.4
332nm,0.3s,baz=89,slow=23,SNR=96
ROSC S **Sn** 13 12 37.0 -0.7
784nm,0.5s,baz=51,slow=17,SNR=13
ROSC El Rosal 2.33 212 P **Pn** 13 12 08.0 +0.8
ROSC S **Sn** 13 12 37.2 -0.5
CVER Cruz Verde, Cu 2.50 203 P **Pn** 13 12 09.6 +0.3
CVER S **Sn** 13 12 41.0 -0.5
UREC San Jos de Ur 2.60 291 P **Pn** 13 12 08.5 -1.5
UREC S **Sn** 13 12 39.3 -3.5
GUY2C Guyana, Caldas 2.78 235 P **Pn** 13 12 12.7 0.0
GUY2C S **Sn** 13 12 47.3 -0.2
PTGC Puerto Gaitan, 2.78 160 P **Pn** 13 12 11.4 -0.9
PTGC S **Sn** 13 12 44.8 -2.1
NIZA Niza - Manizal 2.96 234 P **Pn** 13 12 15.8 +1.0
NIZA S **Sn** 13 12 53.3 +2.0
CBOC Ciudad Bolivar 3.07 252 P **Pn** 13 12 15.9 -0.1
CBOC S **Sn** 13 12 53.6 0.0
DBBC Dabeiba 3.11 274 P **Pn** 13 12 16.1 -0.4
DBBC S **Sn** 13 12 51.2 -3.2
SDV Santo Domingo 3.17 50 **Pn** 13 12 17.7 +0.4
SDV Santo Domingo 3.17 50 P **Pn** 13 12 17.9 +0.7
279nm,0.3s,baz=161,slow=2.8,SNR=252
SDV S **Sn** 13 12 55.1 -0.7
245nm,0.5s,baz=262,slow=20,SNR=18
SDV Santo Domingo 3.17 50 P **Pn** 13 12 17.8 +0.6
SDV S **Sn** 13 12 54.6 -1.2
ARGC Ariguani, Magd 3.22 339 P **Pn** 13 12 18.8 +1.0
ARGC S **Sn** 13 12 57.4 +0.6
ANIL Santa Ana 3.28 225 P **Pn** 13 12 19.6 +0.8
ANIL S **Sn** 13 12 58.6 0.0
PRAC Prado 3.58 210 P **Pn** 13 12 21.5 -1.0
PRAC S **Sn** 13 13 04.1 -1.1
ORTC Ortega, Tolima 3.62 217 P **Pn** 13 12 22.5 -0.5
ORTC S **Sn** 13 13 05.9 -0.1
APAC Apartado, Choc 3.63 287 P **Pn** 13 12 22.6 -0.4
APAC S **Sn** 13 13 04.0 -2.2
SJCC San Jacinto, C 3.69 326 P **Pn** 13 12 22.3 -1.5
SJCC S **Sn** 13 13 03.8 -3.8
URMC La Uribe, Meta 3.79 200 P **Pn** 13 12 25.1 -0.1
URMC S **Sn** 13 13 08.7 -1.4
LCBC Los crdobas, 3.83 302 P **Pn** 13 12 25.1 -0.5
LCBC S **Sn** 13 13 05.7 -5.1
CRJC Cerrejon, Guaj 4.16 3 P **Pn** 13 12 28.6 -1.4
CRJC S **Sn** 13 13 15.8 -3.0
GUVC San Jose del G 4.29 174 P **Pn** 13 12 30.6 -1.0
GUVC S **Sn** 13 13 18.8 -2.7
YOTC Yotoco, Valle 4.31 229 P **Pn** 13 12 31.0 -1.0
YOTC S **Sn** 13 13 25.6 +3.3
SMRC Santa Marta, M 4.45 345 P **Pn** 13 12 33.1 -0.6
SMRC S **Sn** 13 13 21.8 -3.5
CAPC Capurgana 4.60 293 P **Pn** 13 12 33.6 -2.0
CAPC S **Sn** 13 13 24.1 -4.7
PIZC Pizarro, Choco 4.65 247 P **Pn** 13 12 37.4 +1.1
PIZC S **Sn** 13 13 31.7 +1.8
MACC Macarena, Meta 4.72 189 P **Pn** 13 12 35.5 -1.8
MACC S **Sn** 13 13 26.4 -5.4
URIC Uribia, Colomb 4.95 12 P **Pn** 13 12 38.8 -1.5
JAMC Jamundi, Valle 5.08 225 P **Pn** 13 12 41.0 -1.2
2μm42nm,0.5s
JAMC S **Sn** 13 13 38.7 -1.8
2μm42nm,0.5s
MALC Bahia Malaga 5.08 237 P **Pn** 13 12 42.7 +0.7
MALC S **Sn** 13 13 40.5 +0.2
GARC Garzon, Huila 5.21 208 P **Pn** 13 12 42.5 -1.5
GARC S **Sn** 13 13 37.5 -6.2
BAUV El Baul 5.41 67 Pn **Pn** 13 12 44.8 -1.6
FLOC Florencia 5.81 206 **Pn** 13 12 50.9 -0.9
FLOC Florencia 5.81 206 P **Pn** 13 12 51.0 -0.9
2μm62nm,0.9s
FLOC S **Sn** 13 13 56.2 -1.6
2μm62nm,0.9s
BBAC Balboa, Cauca 6.33 221 P **Pn** 13 12 59.3 +0.4
BBAC S **Sn** 13 14 06.0 -4.5
OTAV Otavalo 8.47 219 **Pn** 13 13 26.1 -1.4
STH Stony Hill 11.75 342 *e*P **Pn** 13 14 13.1 +2.6
STH *e*S Sn 13 16 03.8 -17
STH IAML 13 16 15.8
comp=N,1μm,0.1s
STH IAML 13 16 16.1
comp=E,1μm,0.2s
MTDJ Mount Denham 12.13 339 *e*P **Pn** 13 14 18.1 +2.7
MTDJ *e*S Sn 13 16 12.7 -17
MTDJ IAML 13 16 24.8
comp=E,46nm,0.5s
MTDJ IAML 13 16 25.8
comp=E,30nm,0.9s
SDDR Presa de Saban 12.20 8 Pn **Pn** 13 14 14.5 -1.9
JTS Las Juntas de 12.23 287 P **P** 13 14 24.7 +1.9
comp=E,7.4nm,0.5s,baz=10.0,slow=15,SNR=4.7
PDPR Patillas Dam, 13.07 31 Pn **Pn** 13 14 26.5 -1.0
GTBY Guantanamo Bay 13.16 352 *e*P **Pn** 13 14 32.4 +3.7
BOAV Boa Vista 13.27 109 Pn **Pn** 13 14 27.9 -2.2
MASC Masc 13.31 355 *e*P **P** 13 14 34.6 -0.1
RCC Rio Carpintero 13.33 349 *e*P **Pn** 13 14 34.0 +3.3
QMBU Quimbuelo 13.39 353 *e*P **Pn** 13 14 34.8 +3.2
PINC Pinares de May 13.82 349 *e*P **P** 13 14 40.7 +0.3
ATAH Atahualpa 14.86 201 P **Pn** 13 14 51.0 +0.6
comp=E,3.0nm,0.6s,baz=76,slow=21,SNR=4.9
SAML Samuel 18.52 148 Pn **P** 13 15 31.8 -0.6
PAYG Puerto Ayora 18.72 247 P **P** 13 15 35.3 +0.7
LPAZ La Paz 23.49 168 P **P** 13 16 22.2 -2.0
comp=E,1.5nm,0.7s,baz=312,slow=10.0,SNR=4.9
comp=E,1.5nm,0.7s
GOGA Godfrey 28.15 341 P **P** 13 17 06.0 +0.7
GOGA IAmb IAmb 13 17 46.9
comp=Z,7.8nm,1.4s
X58A Rowland 28.18 349 P **P** 13 17 06.2 +0.6
346A Big Creek Wild 28.84 330 P **P** 13 17 12.6 +1.2
TKL Tuckaleechee C 30.32 343 LR LR 13 30 16.9
comp=Z,25nm,19.8s,baz=276,slow=37
X48A Hartselle 30.36 337 P **P** 13 17 26.0 +1.2
X48A IAmb IAmb 13 17 27.1
comp=Z,6.8nm,0.8s
W50A Signal Mountai 30.39 340 P **P** 13 17 26.1 +1.0
W50A IAmb IAmb 13 17 27.6
comp=Z,6.0nm,0.9s
KVTX Kingsville 31.28 314 P **P** 13 17 32.8 -0.3
V48A Smith Brothers 31.41 338 P **P** 13 17 35.6 +1.5
WVT Waverly 32.14 337 **P** 13 17 41.3 +0.9
WVT IAmb IAmb 13 17 42.0
comp=Z,8.9nm,1.0s
WHAR Wooly Hollow 33.38 331 P **P** 13 17 51.7 +0.4
WHAR IAmb IAmb 13 17 52.8
comp=Z,5.8nm,1.0s
LCAR Lake Charles 33.48 333 **P** 13 17 53.0 +0.9
LCAR IAmb IAmb 13 17 53.3
comp=Z,5.5nm,0.9s
PBMO Poplar Bluff 33.75 334 P **P** 13 17 55.5 +1.0
CGM3 Cape Girardeau 33.87 336 P **P** 13 17 56.0 +0.5
O52A Adamsville 34.06 348 P **P** 13 17 58.5 +1.4
O52A IAmb IAmb 13 17 59.5
comp=Z,6.7nm,0.9s
T42A Van Buren 34.25 334 **P** 13 17 59.3 +0.5
T42A IAmb IAmb 13 18 00.1
comp=Z,5.0nm,0.6s
BRDY Brady 34.34 318 P **P** 13 17 59.7 0.0
BRDY IAmb IAmb 13 18 01.1
comp=Z,4.0nm,0.8s
P46A Rosedale 35.03 341 P **P** 13 18 06.6 +1.2
CCM Cathedral Cave 35.18 335 P **P** 13 18 07.1 +0.4
SFIN Lafayette 35.68 342 P **P** 13 18 11.9 +0.9
R40A Maddies Statio 35.81 334 P **P** 13 18 12.4 +0.2
R40A IAmb IAmb 13 18 13.0
comp=Z,5.6nm,0.5s
TXAR Lajitas Array 36.48 312 P **P** 13 18 18.0 -0.1
TXAR Lajitas Array 36.48 312 P **P** 13 18 18.6 +0.5
comp=Z,1.2nm,0.4s,baz=129,slow=9.1,SNR=20
TXAR PcP **PcP** 13 20 38.8 +0.1
comp=Z,0.4nm,0.5s,baz=132,slow=5.3,SNR=4.0
comp=Z,1.2nm,0.4s
TX31 Lajitas Ar. Si 36.48 312 P **P** 13 18 18.4 +0.3
WMOK Wichita Mounta 36.49 323 P **P** 13 18 17.3 -0.8
WMOK IAmb IAmb 13 18 18.3
comp=Z,3.4nm,0.8s
OK051 E0350 and S346 36.65 327 P **P** 13 18 19.2 -0.1
SN07 Snyder 07 36.72 319 P **P** 13 18 20.1 0.0
SN07 IAmb IAmb 13 18 20.5
comp=Z,3.9nm,0.5s
P40A Paris 36.76 335 P **P** 13 18 20.0 -0.1
P38A Dawn 37.47 334 P **P** 13 18 26.2 +0.1
SMWD Samnorwood 37.62 322 P **P** 13 18 27.5 -0.1
MNTX Cornudas Mount 38.99 314 P **P** 13 18 39.6 +0.5
MNTX IAmb IAmb 13 18 41.1
comp=Z,4.8nm,0.8s
JFWS Jewell Farm 39.00 340 P **P** 13 18 38.7 -0.2
I42A Draeger Farm, 39.44 342 P **P** 13 18 42.6 +0.1
RTBA Rita Blanca 40.03 322 P **P** 13 18 48.0 +0.3
E46A Sault Ste Mari 40.56 348 P **P** 13 18 52.9 +1.2
E46A IAmb IAmb 13 18 53.2
comp=Z,7.8nm,0.5s
ECSD EROS Data Cent 42.15 334 P **P** 13 19 04.4 -0.4
ECSD IAmb IAmb 13 19 05.5
comp=Z,2.9nm,0.4s
SDCO Great Sand Dun 42.56 321 P **P** 13 19 08.6 0.0
K30B Basset 42.69 331 P **P** 13 19 09.1 -0.1
EYMN Ely 43.87 342 P **P** 13 19 18.7 +0.1
PV02 Paradox Valley 44.89 319 P **P** 13 19 28.2 +1.1
PV02 IAmb IAmb 13 19 29.1
comp=Z,7.2nm,0.7s
PV13 Radium Mtn., P 44.92 319 P **P** 13 19 28.4 +1.1
PV13 IAmb IAmb 13 19 29.2
comp=Z,5.0nm,0.7s
PV03 Paradox Valley 44.99 319 P **P** 13 19 28.6 +0.7
PV12 Saucer Basin, 45.00 319 P **P** 13 19 27.8 -0.2
PV12 IAmb IAmb 13 19 29.0
comp=Z,3.3nm,0.6s
AGMN Agassiz Nation 45.63 339 P **P** 13 19 32.5 +0.1
AGMN IAmb IAmb 13 19 33.1
comp=Z,4.8nm,0.6s
MTPU Mount Pierson 47.08 317 P **P** 13 19 44.9 +0.5
ULM Lac du Bonnet 47.29 340 P **P** 13 19 44.7 -0.6
ULM IAmb IAmb 13 19 45.7
comp=Z,11nm,1.1s
ULM Lac du Bonnet 47.29 340 P **P** 13 19 44.8 -0.6
comp=Z,5.9nm,0.4s,baz=143,slow=7.1,SNR=11
comp=Z,5.9nm,0.4s
BSUT Blindstream Ca 47.51 321 P **P** 13 19 48.4 +0.7
V12A Nelson 47.83 313 P **P** 13 19 50.4 +0.5
V12A IAmb IAmb 13 19 51.5
comp=Z,3.7nm,0.8s
PD31 Pinedale Array 48.09 324 P **P** 13 19 51.5 -0.5
PDAR Pinedale Array 48.09 324 P **P** 13 19 52.1 +0.1
comp=Z,1.3nm,0.6s,baz=127,slow=9.5,SNR=15
comp=Z,1.3nm,0.6s
HWUT Hardware Ranch 48.62 322 P **P** 13 19 55.9 0.0
BGU Big Grassy Mou 49.16 320 P **P** 13 20 00.4 +0.3
BGU IAmb IAmb 13 20 01.3
comp=Z,4.8nm,0.7s
TPAW Teton Pass 49.34 324 P **P** 13 20 01.7 +0.2
MOOW Moose Ponds 49.38 324 P **P** 13 20 01.7 -0.1
R11B Troy Canyon, C 49.56 316 P **P** 13 20 03.9 +0.7
DSP Deep Springs 50.81 313 P **P** 13 20 13.4 +1.1
DSP IAmb IAmb 13 20 14.4
comp=Z,3.8nm,1.0s
NVAR Mina Array Bea 51.50 315 P **P** 13 20 18.0 +0.2
comp=Z,0.8nm,0.6s,baz=124,slow=7.1,SNR=10.0
comp=Z,0.8nm,0.6s
MFID Camas Ranch 52.24 321 P **P** 13 20 23.2 +0.1
MFID IAmb IAmb 13 20 25.5
comp=Z,3.8nm,0.8s
PLID Pearl Lake 53.23 323 P **P** 13 20 29.9 -0.5
WVOR Wild Horse Val 53.55 319 P **P** 13 20 32.8 +0.1
WVOR IAmb IAmb 13 20 35.8
comp=Z,3.2nm,0.8s
F10A Beach Ranch, E 54.44 323 P **P** 13 20 38.6 -0.4
F10A IAmb IAmb 13 20 40.4
comp=Z,3.1nm,0.6s
I07A Izee 54.88 320 P **P** 13 20 42.7 +0.4
I07A IAmb IAmb 13 20 44.4
comp=Z,4.1nm,1.1s
PINE Pine Mountain 55.67 319 P **P** 13 20 48.8 +0.8
G06A Carlson Farm, 56.14 321 P **P** 13 20 52.4 +1.2
G06A IAmb IAmb 13 20 52.8
comp=Z,3.4nm,0.8s
B08A Colville Reser 56.91 325 P **P** 13 20 56.1 -0.3
B08A IAmb IAmb 13 20 57.3
comp=Z,2.9nm,0.8s
LTY Liberty 57.13 323 P **P** 13 20 58.5 +0.4
LTY IAmb IAmb 13 21 32.1
comp=Z,5.5nm,1.5s
YKAW1 Yellowknife Wh 63.22 340 P **P** 13 21 38.8 -0.4
YKAW1 IAmb IAmb 13 21 39.8
comp=Z,3.6nm,0.8s
YKA Yellowknife Ar 63.27 340 P **P** 13 21 39.2 -0.2
comp=Z,2.9nm,0.6s,baz=135,slow=6.7,SNR=58
YKA PcP **PcP** 13 22 14.6 -0.6
comp=Z,0.2nm,0.5s,baz=138,slow=5.2,SNR=1.7
comp=Z,2.9nm,0.6s
T35M Bob Quinn 66.82 330 P **P** 13 22 03.8 +1.2
T35M IAmb IAmb 13 22 15.3
comp=Z,10nm,1.5s
S34M Telegraph Cree 67.64 331 P **P** 13 22 08.5 +0.8
S34M IAmb IAmb 13 22 09.4
comp=Z,4.1nm,0.8s
P33M Teslin, Yukon 69.37 333 P **P** 13 22 19.9 +1.4
N32M Quiet Lake 69.87 333 P **P** 13 22 22.1 +0.6
N32M IAmb IAmb 13 22 49.5
comp=Z,9.1nm,1.4s
O30N Mendenhall 71.08 332 P **P** 13 22 29.7 +0.8
O30N IAmb IAmb 13 22 30.7
comp=Z,2.8nm,0.8s
HYT Haines Junctio 71.75 332 P **P** 13 22 34.0 +1.0
HYT IAmb IAmb 13 23 08.7
comp=Z,5.4nm,1.4s
M30M Minto, Yukon 72.04 334 P **P** 13 22 35.1 +0.6
M30M IAmb IAmb 13 22 35.9
comp=Z,3.7nm,0.7s
H31M Peel River 72.27 338 P **P** 13 22 36.5 +0.7
A36M Sachs Harbour 72.43 345 P **P** 13 22 36.2 -0.3
F31M Tsiigehtchic 72.74 339 P **P** 13 22 38.6 +0.2
F31M IAmb IAmb 13 22 39.2
comp=Z,2.9nm,0.5s
K29M Barlow Dome 72.79 335 P **P** 13 22 39.3 +0.2
L29M L29M 72.80 334 P **P** 13 22 39.3 +0.3
F30M Barrier River 73.52 339 P **P** 13 22 43.3 +0.2
F30M IAmb IAmb 13 22 44.3
comp=Z,7.1nm,1.3s
H29M Whitestone 73.95 337 P **P** 13 22 45.8 +0.1
G29M Pine Creek 74.07 338 P **P** 13 22 46.6 +0.2
G29M IAmb IAmb 13 22 54.0
comp=Z,8.3nm,1.5s
M27K Edge Creek, AK 74.21 333 P **P** 13 22 48.4 +0.9

M27K			IAmb	IAmb	13 22 49.4
	comp=Z,7.7nm,1.2s				
I28M	**Miner Creek**	**74.31 336**	P	**P**	**13 22 48.1 +0.3**
BCAR	**Beaver Creek A**	**74.37 334**	P	**P**	**13 22 49.1 +0.9**
E29M	**Blow River**	**74.55 340**	P	**P**	**13 22 49.2 +0.1**
E29M			IAmb	IAmb	13 22 50.1
	comp=Z,4.1nm,0.8s				
BMRM	**Bremner River**	**75.13 331**	P	**P**	**13 22 53.3 +0.7**
BMRM			IAmb	IAmb	13 23 25.9
	comp=Z,9.2nm,1.3s				
E28M	**Babbage River**	**75.20 340**	P	**P**	**13 22 52.4 -0.4**
DOT	**Dot Lake**	**75.51 334**	P	**P**	**13 22 55.8 +1.1**
DOT			IAmb	IAmb	13 22 56.0
	comp=Z,3.4nm,0.8s				
ILAR	**Eielson Array**	**76.97 335**	P	**P**	**13 23 02.6 -0.2**
	comp=Z,0.6nm,0.7s,baz=106,slow=4.3,SNR=10				
	comp=Z,0.6nm,0.7s				
RND	**Reindeer**	**77.56 333**	P	**P**	**13 23 06.9 +0.6**
RND			IAmb	IAmb	13 23 07.9
	comp=Z,6.1nm,0.8s				
SLKM	**Skilak Lake**	**77.76 330**	P	**P**	**13 23 07.8 +0.4**
F24K	**Squaw Lake**	**77.92 338**	P	**P**	**13 23 09.5 +1.3**
SUA	**Susitna One**	**78.14 331**	P	**P**	**13 23 09.9 +0.3**
J20K	**Nowinta River**	**79.99 334**	P	**P**	**13 23 19.5 +0.1**
J20K			IAmb	IAmb	13 23 20.1
	comp=Z,2.4nm,0.6s				
B22K	**Teshekpuk Lake**	**80.35 340**	P	**P**	**13 23 21.7 +0.5**
N18K	**Kilae Creek**	**80.56 330**	P	**P**	**13 23 22.2 -0.3**
N18K			IAmb	IAmb	13 23 31.2
	comp=Z,11nm,1.3s				
B21K	**Ikpikpuk River**	**80.68 339**	P	**P**	**13 23 23.0 0.0**
B21K			IAmb	IAmb	13 23 24.1
	comp=Z,4.0nm,1.0s				
D20K	**Etivluk River**	**81.32 338**	P	**P**	**13 23 27.1 +0.6**
D19K	**Kuna River**	**81.86 338**	P	**P**	**13 23 30.0 +0.6**
J17K	**VABM Dome**	**82.14 333**	P	**P**	**13 23 31.9 +1.0**
J17K			IAmb	IAmb	13 24 14.1
	comp=Z,14nm,1.4s				
J16K	**Anvik River**	**82.83 333**	P	**P**	**13 23 35.6 +1.2**
C16K	**Lisburne Hills**	**84.54 338**	P	**P**	**13 23 43.6 +0.6**
C16K			IAmb	IAmb	13 24 27.6
	comp=Z,8.3nm,1.4s				
MKAR	**Makanchi Array**	**122.30 20**	PKP	**PKPdf**	**13 30 03.2 -1.3**
	comp=Z,0.3nm,0.4s,baz=342,slow=1.8,SNR=5.7				
ASAR	**Alice Springs**	**149.15 234**	PKPbc	**PKPbc**	**13 30 57.2 -1.4**
	comp=Z,1.1nm,0.5s,baz=116,slow=3.6,SNR=7.5				
WRA	**Warramunga Arr**	**150.38 241**	PKPbc	**PKPbc**	**13 31 00.5 -1.2**
	comp=Z,1.2nm,0.4s,baz=109,slow=2.6,SNR=33				
CMAR	**Chiang Mai Arr**	**153.66 17**	PKPbc	**PKPbc**	**13 31 08.4 -0.7**
	comp=Z,0.7nm,0.5s,baz=329,slow=4.0,SNR=4.7				

*IDC **30** 13:16:34.5±1.3, 27°.81N×53°.78E, h0km, mb3.7/11, mbtmp3.8/13, ML1.1/1, MS3.1/2, Error ellipse: s-maj=26.8km s-min=21.4km az=31.0*
*TEH **30** 13:16:37.0, 27°.79N×53°.94E, h13km±27km*
ISC 30 13:16:38.6±0.7, 27°.80N±0°.06×53°.90E±0°.04, h26km, n37, σ1°59/35, mb3.6/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.44**	**107**	Pg	**Pb**	**13 16 45.2**	**-2.7**
JHRM	**Jahrom**	**0.76**	**338**	Pg	**Pb**	**13 16 51.8**	**-1.4**
LMD1	**Lamerd**	**0.80**	**235**	Pg	**Pb**	**13 16 52.7**	**-1.2**
QIR1	**Qir**	**1.01**	**312**	Pg	**Pn**	**13 16 57.1**	**-0.1**
SHI	**Shiraz**	**2.20**	**327**	Pn	**Pn**	**13 17 15.3**	**+1.7**
DSBU	**Dashti - Bushe**	**2.40**	**284**	Pn	**Pn**	**13 17 17.6**	**+1.4**
KAZ2	**Kazeron-Fars-I**	**2.67**	**313**	Pn	**Pn**	**13 17 22.6**	**+2.6**
KRBR	**Kerman**	**3.32**	**48**	Pn	**Pn**	**13 17 30.4**	**+1.3**
KHGB	**Koh Gabri**	**3.42**	**41**	Pn	**Pn**	**13 17 31.6**	**+1.2**
IMEH	**Mehriz**	**3.63**	**10**	Pn	**Pn**	**13 17 35.0**	**+1.6**
KLNJ	**Kolanjah**	**3.78**	**328**	Pn	**Pn**	**13 17 37.4**	**+1.9**
IBAF	**Bafgh**	**4.04**	**21**	Pn	**Pn**	**13 17 40.1**	**+1.1**
ISAD	**Sadrabad**	**4.10**	**357**	Pn	**Pn**	**13 17 41.7**	**+1.8**
IRAM	**Ramesheh**	**4.21**	**342**	Pn	**Pn**	**13 17 43.2**	**+2.0**
KBAM	**BAM**	**4.22**	**71**	Pn	**Pn**	**13 17 42.7**	**+1.4**
IGAR	**Gharneh**	**4.86**	**341**	Pn	**Pn**	**13 17 52.2**	**+2.0**
ANAR	**Anarak**	**5.37**	**358**	Pn	**Pn**	**13 17 58.9**	**+1.7**
WSAR	**Wadi Sarin**	**6.24**	**136**	Pn	**Pn**	**13 18 09.3**	**+0.3**
	baz=301,slow=24,SNR=5.5						
WSAR				Sn	**Sn**	**13 19 23.6**	**+4.1**
	baz=350,slow=24,SNR=1.6						
KRSH	**Karshahi**	**6.33**	**347**	Pn	**Pn**	**13 18 11.6**	**+1.2**
ISFB	**Sefidab**	**6.68**	**348**	Pn	**Pn**	**13 18 16.4**	**+1.2**
IGLO	**Ghaloghah**	**8.68**	**360**	Pn	**Pn**	**13 18 45.1**	**+2.5**
GNI	**Garni**	**14.46**	**331**	Pn	**Pn**	**13 20 02.2**	**+0.5**
	4.7nm,0.4s,baz=273,slow=23,SNR=1.2						
KBZ	**Khabaz**	**18.20**	**334**	P	**P**	**13 20 48.3**	**-1.1**
	1.1nm,0.7s,baz=140,slow=11,SNR=4.0						
BRTR	**Keskin Array B**	**20.57**	**311**	P	**P**	**13 21 14.7**	**-0.9**
	0.9nm,0.6s,baz=130,slow=12,SNR=6.3						
	0.9nm,0.6s						
AAK	**Ala-Archa**	**22.33**	**43**	LR	LR	13 31 13.7	
	comp=Z,34nm,19.1s,baz=218,slow=39						
AKTO	**Aktyubinsk**	**22.82**	**7**	P	**P**	**13 21 39.8**	**+0.4**
	1.0nm,0.3s,baz=167,slow=8.6,SNR=3.8						
	1.0nm,0.3s						
BVAR	**Borovoye Array**	**28.01**	**21**	P	**P**	**13 22 27.2**	**-0.1**
	1.0nm,0.7s,baz=207,slow=9.3,SNR=5.1						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**29.24**	**42**	P	P	13 22 44.7	+6.3
	0.2nm,0.6s,baz=238,slow=9.2,SNR=2.5						
KURBB	**Kurchatov Arra**	**29.47**	**33**	P	**P**	**13 22 40.5**	**+0.2**
	0.5nm,0.8s,baz=234,slow=8.6,SNR=4.3						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**34.57**	**32**	P	**P**	**13 23 25.1**	**+0.2**
	0.6nm,0.3s,baz=232,slow=8.9,SNR=5.8						
	0.6nm,0.3s						
FINES	**FINESS Array B**	**38.43**	**339**	P	**P**	**13 23 57.1**	**-0.7**
	1.4nm,0.8s,baz=136,slow=9.5,SNR=5.8						
	1.4nm,0.8s						
HFS	**Hagfors**	**42.24**	**331**	P	**P**	**13 24 28.6**	**-0.8**
	0.5nm,0.5s,baz=128,slow=8.7,SNR=4.1						
	0.5nm,0.5s						
SONM	**Songino Array**	**45.07**	**49**	P	**P**	**13 24 53.3**	**+0.8**
	0.3nm,0.4s,baz=264,slow=7.7,SNR=1.8						
	0.3nm,0.4s						
YAK	**Yakutsk**	**59.22**	**32**	LR	LR	13 56 18.5	
	comp=Z,22nm,19.1s,baz=257,slow=40						
DBIC	**Dimbokro**	**59.34**	**261**	P	**P**	**13 26 38.0**	**-0.8**
	5.5nm,0.8s,baz=68,slow=8.2,SNR=3.2						
	5.5nm,0.8s						
ILAR	**Eielson Array**	**86.32**	**9**	P	**P**	**13 29 17.0**	**-1.0**
	0.4nm,0.9s,baz=337,slow=4.2,SNR=4.2						
	0.4nm,0.9s						
YKA	**Yellowknife Ar**	**89.55**	**355**	P	**P**	**13 29 33.5**	**+0.1**
	0.3nm,0.8s,baz=2.4,slow=4.1,SNR=4.7						
	0.3nm,0.8s						

*NOU **30** 13:20:01.7, 37°.94S×176°.31E, h217km, MLv4.0/16, North Island, New Zealand*
*WEL **30** 13:20:04.7±0.7, 38°.S±6°.×17°.6E±°., h192km±6km, M3.2/37, ML3.4/30, MLv3.2/37, Error ellipse: s-maj=8.2km s-min=5.4km az=35.4, confirmed*
ISC 30 13:19:58.5±1.5, 37°.86S±0°.07×176°.32E±0°.06, h236km±9km, n178, σ2°30/187, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.14**	**340**	P	**Pn**	**13 20 30.6**	**+1.5**
TGRZ				S	**S**	**13 20 51.4**	**-1.6**
KARZ	**Kaharoa**	**0.17**	**201**	P	**Pn**	**13 20 30.9**	**+1.8**
OPRZ	**Ohinepanea**	**0.19**	**86**	P	**Pn**	**13 20 30.5**	**+1.5**
OPRZ				S	**S**	**13 20 51.2**	**-1.8**
OMRZ	**Omania**	**0.25**	**171**	P	**Pn**	**13 20 31.0**	**+1.8**
NGRZ	**Ngongotaha**	**0.27**	**203**	P	**Pn**	**13 20 31.3**	**+2.0**
KMRZ	**Kaimai**	**0.30**	**272**	P	**Pn**	**13 20 31.2**	**+1.8**
KMRZ				S	**S**	**13 20 52.7**	**-0.7**
MARZ	**Manawahe**	**0.31**	**114**	P	**Pn**	**13 20 31.2**	**+1.9**
UTU	**Utuhina**	**0.33**	**198**	P	**Pn**	**13 20 31.5**	**+2.1**
HLRZ	**Highlands Stat**	**0.39**	**176**	P	**Pn**	**13 20 31.6**	**+2.1**
TARZ	**Mount Tarawera**	**0.40**	**159**	P	**Pn**	**13 20 31.6**	**+2.0**
HSRZ	**Hossack Road**	**0.46**	**188**	P	**Pn**	**13 20 31.7**	**+2.1**
RRRZ	**Republican Roa**	**0.50**	**162**	P	**Pn**	**13 20 31.8**	**+2.0**
WHRZ	**Whale Island**	**0.52**	**90**	P	**Pn**	**13 20 31.8**	**+1.9**
GRRZ	**Galatos Road**	**0.52**	**199**	P	**Pn**	**13 20 32.0**	**+2.1**
HRRZ	**Handcock Road**	**0.53**	**183**	P	**Pn**	**13 20 31.9**	**+2.0**
MYRZ	**Mayor Island**	**0.58**	**354**	P	**Pn**	**13 20 31.9**	**+1.8**
PRRZ	**Plateau Road**	**0.64**	**175**	P	**Pn**	**13 20 32.2**	**+1.9**
TOZ	**Tahuroa Road**	**0.66**	**281**	P	**Pn**	**13 20 32.4**	**+2.0**
WPRZ	**Whakapapatarin**	**0.67**	**191**	P	**Pn**	**13 20 32.6**	**+2.2**
ALRZ	**Allen Road**	**0.70**	**179**	P	**Pn**	**13 20 32.6**	**+2.1**
MUGZ	**Murupara**	**0.71**	**150**	P	**Pn**	**13 20 32.2**	**+1.7**
URZ	**Urewera**	**0.74**	**123**	P	**Pn**	**13 20 32.2**	**+1.6**
URZ	**Urewera**	**0.74**	**123**	P	**Pn**	**13 20 32.2**	**+1.6**
URZ				S	**S**	**13 20 53.1**	**-2.7**
KUTZ	**Kaahu Road**	**0.74**	**212**	P	**Pn**	**13 20 32.9**	**+2.2**
TLZ	**Tolley Road**	**0.78**	**232**	P	**Pn**	**13 20 33.2**	**+2.3**
WHTZ	**Whakaora**	**0.86**	**199**	P	**Pn**	**13 20 33.9**	**+2.6**
RTZ	**Ruatahuna**	**0.92**	**146**	P	**Pn**	**13 20 33.7**	**+2.0**
RTZ				S	**S**	**13 20 55.9**	**-1.7**
WATZ	**Wairara**	**0.97**	**208**	P	**Pn**	**13 20 34.3**	**+2.5**
MRHZ	**Matea Rd**	**0.98**	**176**	P	**Pn**	**13 20 34.0**	**+2.1**
HATZ	**Hinemaiaia**	**1.05**	**190**	P	**Pn**	**13 20 34.4**	**+2.1**
MWZ	**Matawai**	**1.06**	**117**	P	**Pn**	**13 20 34.4**	**+1.9**
MWZ				S	**S**	**13 20 57.2**	**-1.8**
RAGZ	**Rawiri**	**1.07**	**127**	P	**Pn**	**13 20 35.0**	**+2.5**
RAGZ				S	**S**	**13 20 57.9**	**-1.4**
MTHZ	**Maungataniwha**	**1.07**	**158**	P	**Pn**	**13 20 34.7**	**+2.2**
RUGZ	**Raukumara Rang**	**1.08**	**96**	P	**Pn**	**13 20 33.7**	**+1.1**
RUGZ				S	**S**	**13 20 55.8**	**-3.6**
RATZ	**Rangitukua**	**1.10**	**203**	P	**Pn**	**13 20 35.0**	**+2.4**
HAZ	**Te Kaha**	**1.16**	**85**	P	**Pn**	**13 20 34.4**	**+1.4**
HAZ				S	**S**	**13 20 57.4**	**-2.6**
RITZ	**Rihia Road**	**1.18**	**198**	P	**Pn**	**13 20 35.8**	**+2.7**
MKAZ	**Moumakai**	**1.19**	**309**	P	**Pn**	**13 20 35.4**	**+2.2**
KUZ	**Kuaotunu**	**1.21**	**337**	P	**Pn**	**13 20 34.9**	**+1.5**
KUZ	**Kuaotunu**	**1.21**	**337**	P	**Pn**	**13 20 35.1**	**+1.7**
RAHZ	**Arahi**	**1.22**	**151**	P	**Pn**	**13 20 36.2**	**+2.8**
KATZ	**Kakaramea**	**1.22**	**204**	P	**Pn**	**13 20 36.0**	**+2.5**
SNGZ	**Shannon Statio**	**1.22**	**139**	P	**Pn**	**13 20 36.3**	**+2.8**
BKZ	**Black Stump Fm**	**1.31**	**174**	P	**Pn**	**13 20 36.2**	**+2.1**
BKZ	**Black Stump Fm**	**1.31**	**174**	S	**S**	**13 21 00.4**	**-1.7**
BKZ	**Black Stump Fm**	**1.31**	**174**	P	**Pn**	**13 20 36.4**	**+2.3**
HIZ	**Hauiti**	**1.33**	**248**	P	**Pn**	**13 20 36.8**	**+2.7**
HIZ	**Hauiti**	**1.33**	**240**	P	**Pn**	**13 20 36.9**	**+2.8**
TKGZ	**Te Karaka**	**1.34**	**116**	P	**Pn**	**13 20 37.0**	**+2.8**
NTVZ	**North Tongarir**	**1.34**	**202**	P	**Pn**	**13 20 36.5**	**+2.1**
KRVZ	**Karewarewa**	**1.34**	**203**	P	**Pn**	**13 20 36.7**	**+2.3**
TMVZ	**Te Maari**	**1.35**	**201**	P	**Pn**	**13 20 36.8**	**+2.4**
TWGZ	**Tauwhareparae**	**1.35**	**104**	P	**Pn**	**13 20 37.1**	**+2.8**
ETVZ	**East Tongariro**	**1.36**	**200**	P	**Pn**	**13 20 37.0**	**+2.5**
WTVZ	**West Tongariro**	**1.38**	**204**	P	**Pn**	**13 20 37.1**	**+2.4**
NNVZ	**North Ngauruho**	**1.39**	**203**	P	**Pn**	**13 20 37.1**	**+2.4**
PKGZ	**Pakihiroa**	**1.39**	**91**	P	**Pn**	**13 20 37.1**	**+2.4**
TWVZ	**Taurewa**	**1.40**	**210**	P	**Pn**	**13 20 37.3**	**+2.5**
OTVZ	**Oturere**	**1.40**	**201**	P	**Pn**	**13 20 37.6**	**+2.7**
WHHZ	**Waihua**	**1.41**	**150**	P	**Pn**	**13 20 37.9**	**+3.1**
RIGZ	**Rimuhau**	**1.42**	**127**	P	**Pn**	**13 20 37.9**	**+3.1**
WIAZ	**Waiheke Island**	**1.42**	**318**	P	**Pn**	**13 20 37.1**	**+2.2**
ETAZ	**East Tamaki Re**	**1.43**	**309**	P	**Pn**	**13 20 37.2**	**+2.2**
SNVZ	**South Ngauruho**	**1.43**	**202**	P	**Pn**	**13 20 37.5**	**+2.4**
NGZ	**Ngauruhoe**	**1.43**	**203**	P	**Pn**	**13 20 37.9**	**+2.8**
COVZ	**Chateau Observ**	**1.47**	**204**	P	**Pn**	**13 20 37.6**	**+2.2**
ARHZ	**Aropaoanui**	**1.50**	**160**	P	**Pn**	**13 20 38.7**	**+3.3**
TUVZ	**Tukino**	**1.50**	**200**	P	**Pn**	**13 20 38.3**	**+2.6**
FWVZ	**Far West T-bar**	**1.52**	**203**	P	**Pn**	**13 20 38.2**	**+2.3**
MAVZ	**Matarangi**	**1.53**	**203**	P	**Pn**	**13 20 38.3**	**+2.3**
WHVZ	**Whangaehu Hut**	**1.53**	**202**	P	**Pn**	**13 20 38.3**	**+2.3**
PUZ	**Puketiti**	**1.54**	**99**	P	**Pn**	**13 20 38.1**	**+2.3**
AWAZ	**Awhitu Peninsu**	**1.55**	**300**	P	**Pn**	**13 20 38.2**	**+2.3**
TRVZ	**Turoa**	**1.56**	**203**	P	**Pn**	**13 20 38.6**	**+2.4**
KWHZ	**Kaweka Forest**	**1.57**	**177**	P	**Pn**	**13 20 38.8**	**+2.7**
MBAZ	**Motutapu North**	**1.57**	**313**	P	**Pn**	**13 20 38.5**	**+2.4**
WNVZ	**Wahianoa**	**1.57**	**201**	P	**Pn**	**13 20 38.7**	**+2.5**
KNZ	**Kokohu**	**1.57**	**138**	P	**Pn**	**13 20 39.1**	**+3.1**
EPAZ	**Eden Park BICE**	**1.59**	**307**	P	**Pn**	**13 20 38.4**	**+2.2**
MXZ	**Matakaoa Point**	**1.60**	**80**	P	**Pn**	**13 20 38.8**	**+2.5**
MXZ	**Matakaoa Point**	**1.60**	**80**	S	**S**	**13 21 06.1**	**+0.3**
MXZ	**Matakaoa Point**	**1.60**	**80**	P	**Pn**	**13 20 38.8**	**+2.5**
MOVZ	**Moawhango**	**1.61**	**196**	P	**Pn**	**13 20 38.5**	**+2.1**
MCHZ	**McNeill Hill**	**1.61**	**170**	P	**Pn**	**13 20 39.7**	**+3.4**
CNGZ	**Carnegh Statio**	**1.61**	**113**	P	**Pn**	**13 20 40.1**	**+3.7**
HBAZ	**Herne Bay Bore**	**1.62**	**308**	P	**Pn**	**13 20 38.7**	**+2.3**
PKVZ	**Pokaka**	**1.62**	**208**	P	**Pn**	**13 20 39.0**	**+2.5**
PRGZ	**Paritu Road**	**1.62**	**131**	P	**Pn**	**13 20 39.5**	**+3.1**
WMGZ	**Waiomatatini S**	**1.66**	**89**	P	**Pn**	**13 20 39.5**	**+2.7**
MTVZ	**Mangateitei**	**1.66**	**203**	P	**Pn**	**13 20 39.5**	**+2.6**
ABAZ	**Army Bay**	**1.73**	**316**	P	**Pn**	**13 20 40.1**	**+2.7**
GRZ	**Great Barrier**	**1.75**	**336**	P	**Pn**	**13 20 39.7**	**+2.1**
VRZ	**Vera Road**	**1.76**	**224**	P	**Pn**	**13 20 40.8**	**+3.2**
RVAZ	**Riverhead Bore**	**1.76**	**307**	P	**Pn**	**13 20 40.0**	**+2.3**
KRHZ	**Kereru**	**1.78**	**179**	P	**Pn**	**13 20 40.6**	**+2.7**
MHGZ	**Mahia Peninsul**	**1.79**	**137**	P	**Pn**	**13 20 41.4**	**+3.5**
CKHZ	**Cape Kidnapper**	**1.89**	**162**	P	**Pn**	**13 20 42.2**	**+3.5**
KAHZ	**Kahuranaki**	**1.98**	**168**	P	**Pn**	**13 20 43.0**	**+3.4**
PNHZ	**Pukenui**	**2.06**	**183**	P	**Pn**	**13 20 42.9**	**+2.6**
WAZ	**Wanganui**	**2.16**	**208**	P	**Pn**	**13 20 44.1**	**+2.8**
LREZ	**Lake Rotokare**	**2.18**	**223**	P	**Pn**	**13 20 44.6**	**+2.8**
WPHZ	**Waipukurau**	**2.21**	**178**	P	**Pn**	**13 20 44.6**	**+2.9**
PXZ	**Pawanui**	**2.21**	**169**	P	**Pn**	**13 20 44.7**	**+3.0**
TSZ	**Takapari Road**	**2.21**	**187**	P	**Pn**	**13 20 44.5**	**+2.6**
NEZ	**North Egmont**	**2.24**	**230**	P	**Pn**	**13 20 46.7**	**+4.5**
PREZ	**Palmer Road**	**2.25**	**228**	P	**Pn**	**13 20 46.3**	**+4.1**
NBEZ	**Newall Road No**	**2.38**	**233**	P	**Pn**	**13 20 47.7**	**+4.2**
PRHZ	**Porangahau**	**2.42**	**174**	P	**Pn**	**13 20 46.6**	**+2.8**
DVHZ	**Dannevirke**	**2.44**	**183**	P	**Pn**	**13 20 46.6**	**+2.4**
OHWZ	**Ohakea**	**2.47**	**198**	P	**Pn**	**13 20 47.6**	**+3.2**
WCZ	**Waipu Caves**	**2.49**	**320**	P	**Pn**	**13 20 47.7**	**+3.0**
POWZ	**Post Office Ro**	**2.57**	**189**	P	**Pn**	**13 20 47.8**	**+2.4**
ANWZ	**Angora Road**	**2.60**	**177**	P	**Pn**	**13 20 48.7**	**+2.9**
PRWZ	**Pori Road**	**2.71**	**186**	P	**Pn**	**13 20 49.5**	**+2.6**
BFZ	**Birch Farm**	**2.82**	**181**	P	**Pn**	**13 20 50.5**	**+2.4**
BFZ	**Birch Farm**	**2.82**	**181**	P	**S**	**13 21 26.9**	**-0.3**
BFZ	**Birch Farm**	**2.82**	**181**	P	**Pn**	**13 20 50.5**	**+2.4**
MRZ	**Mangatainoka R**	**2.86**	**191**	P	**Pn**	**13 20 50.7**	**+2.2**
TIWZ	**Tintock**	**2.93**	**186**	P	**Pn**	**13 20 51.8**	**+2.4**
CPWZ	**Castlepoint**	**3.05**	**182**	P	**Pn**	**13 20 53.6**	**+3.0**
OGWZ	**Otaki Gorge**	**3.09**	**196**	P	**Pn**	**13 20 53.2**	**+2.2**
HOWZ	**Holdsworth Sta**	**3.10**	**191**	P	**Pn**	**13 20 53.1**	**+1.9**
KIW	**Kapiti Island**	**3.19**	**200**	P	**Pn**	**13 20 54.0**	**+1.8**
TMWZ	**Te Maipa**	**3.26**	**186**	P	**Pn**	**13 20 55.3**	**+2.2**
MTW	**Mount Morrison**	**3.36**	**191**	P	**Pn**	**13 20 55.8**	**+1.7**
CAW	**Cannon Point**	**3.39**	**196**	P	**Pn**	**13 20 56.3**	**+1.9**
OUZ	**Omahuta**	**3.43**	**319**	P	**Pn**	**13 20 57.8**	**+2.8**
OUZ	**Omahuta**	**3.43**	**319**	P	**Pn**	**13 20 58.4**	**+3.4**
DUWZ	**D'Urville Isla**	**3.48**	**212**	P	**Pn**	**13 20 57.2**	**+1.7**
TRWZ	**Traveller**	**3.57**	**188**	P	**Pn**	**13 20 58.6**	**+2.1**
PAWZ	**Paruwai Farm**	**3.59**	**191**	P	**Pn**	**13 20 58.5**	**+1.7**
WEL	**Wellington**	**3.63**	**199**	P	**Pn**	**13 20 59.0**	**+1.8**
MSWZ	**Moikau Station**	**3.65**	**193**	P	**Pn**	**13 20 59.1**	**+1.6**
SNZO	**South Karori**	**3.67**	**199**	P	**Pn**	**13 20 59.2**	**+1.6**
TCW	**Tory Channel**	**3.70**	**205**	P	**Pn**	**13 20 59.8**	**+1.7**
BHW	**Barring Head**	**3.72**	**197**	P	**Pn**	**13 20 59.7**	**+1.5**
PLWZ	**Palliser**	**3.80**	**192**	P	**Pn**	**13 21 00.8**	**+1.6**
TUWZ	**Tuamarina**	**4.01**	**206**	P	**Pn**	**13 21 03.9**	**+2.1**
NNZ	**Nelson**	**4.05**	**213**	P	**Pn**	**13 21 03.9**	**+1.6**
TKNZ	**Takaka Hill**	**4.10**	**218**	P	**Pn**	**13 21 04.4**	**+1.5**
QRZ	**Quartz Range**	**4.17**	**224**	P	**Pn**	**13 21 05.2**	**+1.5**
QRZ	**Quartz Range**	**4.17**	**224**	P	**Pn**	**13 21 05.0**	**+1.3**
CMWZ	**Cape Campbell**	**4.21**	**202**	P	**Pn**	**13 21 06.8**	**+2.6**
BSWZ	**Blackbirch Sta**	**4.29**	**205**	P	**Pn**	**13 21 07.0**	**+1.9**
MRNZ	**Matariki Terra**	**4.48**	**217**	P	**Pn**	**13 21 08.8**	**+1.4**
THZ	**Tophouse**	**4.70**	**213**	P	**Pn**	**13 21 12.1**	**+1.9**
KHZ	**Kahutara**	**5.03**	**204**	P	**Pn**	**13 21 16.0**	**+1.9**
KHZ	**Kahutara**	**5.03**	**204**	P	**Pn**	**13 21 16.1**	**+2.0**
DSZ	**Denniston Nort**	**5.21**	**220**	P	**Pn**	**13 21 17.6**	**+1.1**
GVZ	**Greta Valley S**	**5.69**	**205**	P	**Pn**	**13 21 24.0**	**+1.6**
LTZ	**Lake Taylor**	**5.81**	**211**	P	**Pn**	**13 21 25.2**	**+1.3**
AMCZ	**Amberley**	**6.00**	**207**	P	**Pn**	**13 21 27.8**	**+1.5**
INZ	**Inchbonnie**	**6.12**	**216**	P	**Pn**	**13 21 29.5**	**+1.6**
OKCZ	**Okains Bay**	**6.36**	**202**	P	**Pn**	**13 21 32.6**	**+1.8**
OXZ	**Oxford**	**6.36**	**209**	P	**Pn**	**13 21 31.6**	**+0.8**
MQZ	**McQueen's Vall**	**6.47**	**204**	P	**Pn**	**13 21 32.9**	**+0.7**
AKCZ	**Akaroa Harbour**	**6.54**	**202**	P	**Pn**	**13 21 35.3**	**+2.2**
RACZ	**Rakaia**	**6.67**	**207**	P	**Pn**	**13 21 35.5**	**+0.9**
MHCZ	**Mount Hutt**	**6.72**	**211**	P	**Pn**	**13 21 36.7**	**+1.3**
WVZ	**Waitaha Valley**	**6.73**	**217**	P	**Pn**	**13 21 36.8**	**+1.4**
WACZ	**Wakanui South**	**6.96**	**208**	P	**Pn**	**13 21 39.5**	**+1.1**
RPZ	**Rata Peaks**	**7.08**	**213**	P	**Pn**	**13 21 41.6**	**+1.6**
RPZ	**Rata Peaks**	**7.08**	**213**	P	**Pn**	**13 21 41.7**	**+1.6**
GCSZ	**Gaunt Creek Bo**	**7.11**	**218**	P	**Pn**	**13 21 41.9**	**+1.6**
ARCZ	**Arundel**	**7.22**	**211**	P	**Pn**	**13 21 43.1**	**+1.3**
FOZ	**Fox Glacier**	**7.52**	**219**	P	**Pn**	**13 21 47.2**	**+1.7**
TMZ	**Timaru**	**7.65**	**210**	P	**Pn**	**13 21 48.6**	**+1.3**
LBZ	**Lake Benmore**	**8.00**	**213**	P	**Pn**	**13 21 53.1**	**+1.4**
ODZ	**Otahua Downs**	**8.35**	**209**	P	**Pn**	**13 21 58.2**	**+2.1**
ODZ	**Otahua Downs**	**8.35**	**209**	P	**Pn**	**13 21 58.1**	**+2.1**
JCZ	**Jackson Bay**	**8.43**	**220**	P	**Pn**	**13 21 58.4**	**+1.2**
JCZ	**Jackson Bay**	**8.43**	**220**	P	**Pn**	**13 21 58.0**	**+0.8**
WKZ	**Wanaka**	**8.87**	**216**	P	**Pn**	**13 22 03.7**	**+1.0**
EAZ	**Earnscleugh**	**9.05**	**213**	P	**Pn**	**13 22 05.7**	**+0.7**
MSZ	**Milford Sound**	**9.29**	**220**	P	**Pn**	**13 22 10.8**	**+2.7**
TUZ	**Tuapeka**	**9.50**	**210**	P	**Pn**	**13 22 13.7**	**+3.0**
WHZ	**Wether Hill Ro**	**10.16**	**215**	P	**Pn**	**13 22 20.9**	**+1.7**
APZ	**The Paps**	**10.88**	**212**	P	**P**	**13 22 31.3**	**-2.0**

*CNRM **30** 13:53:12.6, 35°.54N×3°.61W, h25km, ML2.1*
*MDD **30** 13:53:13.4±0.8, 35°.37N×3°.70W, h4km±7km, mb_Lg2.5/15, Error ellipse: s-maj=6.1km s-min=4.3km az=147.0*
*SFS **30** 13:53:14.2, 35°.54N×3°.61W, h4km, ML3.0/11, ML2.5/13, MLv2.3/13*
ISC 30 13:53:13.8±1.0, 35°.39N±0°.03×3°.59W±0°.03, h31km±10km, n39, σ1°31/62, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.33**	**240**	P	**Pb**	**13 53 21.7**	**-0.1**
PALE	**Palemas**	**0.33**	**240**	S	**Sn**	**13 53 27.6**	**-0.7**
GOG	**Mont Gurugu**	**0.51**	**108**	P	**Pn**	**13 53 24.7**	**-0.4**
GOG	**Mont Gurugu**	**0.51**	**108**	S	**Sb**	**13 53 31.6**	**-0.3**
EMEL	**Melilla**	**0.52**	**99**	Pg	**Pn**	**13 53 24.9**	**-0.3**
EMEL				Sg	**Sn**	**13 53 32.3**	**-0.7**
EMEL				*i* Vmb_Lg		13 53 38.0	
WMELI	**Melilla**	**0.53**	**

baz=74,SNR=41
O28M S **Sg** 14 08 41.1 +0.1
baz=74
N30M Aishikik Lake 0.90 58 P **Pg** 14 08 33.3 -0.2
baz=238,SNR=63
N30M S **Sg** 14 08 44.6 -0.6
baz=238
YUK3 Moose Creek 1.17 313 P **Pg** 14 08 37.2 -1.3
baz=132,SNR=28
YUK3 S **Sg** 14 08 53.3 -0.3
baz=132
PINM Pinnacle 1.19 222 P **Pg** 14 08 38.5 -0.3
baz=41
PINM S **Sb** 14 08 54.9 +0.2
baz=41
P30M Million Dollar 1.21 135 P **Pg** 14 08 38.4 -1.0
baz=316
P30M S **Sb** 14 08 55.5 -0.1
baz=316
O30N Mendenhall 1.28 99 P **Pg** 14 08 39.7 -1.1
baz=281,SNR=16
O30N S **Sg** 14 08 56.6 -0.8
baz=281
PNL Peninsula 1.37 195 Pg **Pg** 14 08 42.1 -0.3
baz=15
P29M Windy Craggy 1.44 161 Pb **Pn** 14 08 42.2 -0.6
baz=342,SNR=21
P29M S **Sg** 14 09 01.5 -0.8
baz=342
M29M Somme Creek 1.47 4 Pg **Pn** 14 08 43.5 +0.2
baz=184,SNR=90
M29M S **Sg** 14 09 01.9 -1.3
baz=184
N31M Braeburn, Yuko 1.49 69 Sg **Sn** 14 09 04.1 +0.8
baz=251
M30M Minto, Yukon 1.83 28 Pg **Pb** 14 08 50.5 +0.4
baz=210
M30M Sb **Sb** 14 09 13.7 +0.4
baz=210
WHY Whitehorse 1.89 98 Sb **Sb** 14 09 15.4 +0.4
baz=282
L29M L29M 2.15 7 Pg **Pb** 14 08 56.2 +0.7
baz=187
L29M Sb **Sb** 14 09 23.2 +0.9
baz=187

*GCG **30** 14:13:02.9±1.3, 14°.86N×90°.91W, h216km±14km, MD4.3*
*SNET **30** 14:13:02.5±1.9, 14°.93N×91°.60W, h130km±68km, ML3.9*
*NEIC **30** 14:13:02.5±0.8, 14°.73N±0°.10×91°.01W±0°.08, h233km±7km, mb4.3/59, Error ellipse: s-maj=14.8km s-min=9.8km az=207.0*
*CATAC **30** 14:13:03.4±0.6, 15°N±4°×9°1W±°, h222km±4km, M3.6/12, MLv3.6/12, Error ellipse: s-maj=8.9km s-min=5.0km az=33.7, confirmed*
*IDC **30** 14:13:05.6±1.9, 14°.90N×90°.60W, h256km±17km, mb3.4/11, mbtmp4.0/13, Error ellipse: s-maj=23.7km s-min=12.1km az=53.0*

ISC 30 14:13:02.1±0.6,**14°.77N**±0°.06×**90°.95W**±0°.05,**h231**km±5km, **n131**,σ0°**80**/136,**mb4.3**/33,**Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.40**	**163**	*i* P	**Pn**	**14 13 32.6**	**-0.1**
SOKI	**Kika Raxquin**	**0.44**	**277**	*i* P	**Pn**	**14 13 33.8**	**+0.6**
STG8	**El Palmar, Qui**	**0.50**	**231**	*i* P	**Pn**	**14 13 33.5**	**+0.3**
STG0	**El Palmar, Qui**	**0.51**	**228**	*i* P	**Pn**	**14 13 33.3**	**+0.2**
FG8	**Yepocapa, Chim**	**0.63**	**143**	*i* P	**Pn**	**14 13 32.5**	**-1.0**
FG16	**Alotenango, Sa**	**0.65**	**139**	*i* P	**Pn**	**14 13 32.6**	**-1.1**
RTAL	**Retalhuleu**	**0.76**	**251**		**Pn**	**14 13 33.9**	**+0.1**
RTAL				Sn	**S**	**14 13 58.3**	**-0.4**
RTAL	**Retalhuleu**	**0.76**	**251**	P	**Pn**	**14 13 33.7**	**-0.1**
RTAL	**Retalhuleu**	**0.76**	**251**	S	**S**	**14 13 59.0**	**+0.4**
HUEH	**Huehuetenango**	**0.76**	**316**	Pn	**Pn**	**14 13 34.3**	**+0.2**
HUEH	**Huehuetenango**	**0.76**	**316**	*i* P	**Pn**	**14 13 34.5**	**+0.3**
HUEH	**Huehuetenango**	**0.76**	**316**	P	**Pn**	**14 13 34.8**	**+0.7**
SMCA	**Catarina**	**1.09**	**275**	*i* P	**Pn**	**14 13 35.4**	**-0.3**
THIG		**1.27**	**276**	*i* P	**Pn**	**14 13 37.2**	**+0.2**
FAME	**Alcaldia de Sa**	**1.29**	**135**	P	**Pn**	**14 13 38.0**	**+0.9**
FAME	**Alcaldia de Sa**	**1.29**	**135**	S	**S**	**14 14 03.8**	**-0.7**
SLOZ	**Alcaldia de Sa**	**1.35**	**123**	*e*P	**Pn**	**14 13 36.6**	**-1.0**
NUBE	**Las Nubes**	**1.43**	**127**	*e*P	**Pn**	**14 13 38.2**	**-0.1**
NUBE				*e*S	**S**	**14 14 05.2**	**-1.3**
NUBE	**Las Nubes**	**1.43**	**127**	*i* P	**Pn**	**14 13 38.5**	**+0.2**
NUBE	**Las Nubes**	**1.43**	**127**	P	**Pn**	**14 13 38.8**	**+0.5**
NUBE	**Las Nubes**	**1.43**	**127**	S	**S**	**14 14 06.4**	**-0.1**
ESQI	**Esquipulas**	**1.57**	**97**	Pn	**Pn**	**14 13 40.0**	**+0.6**
ESQI				Sn	**S**	**14 14 09.4**	**+1.0**
ESQI	**Esquipulas**	**1.57**	**97**	S	**S**	**14 14 09.1**	**+0.7**
ESQI	**Esquipulas**	**1.57**	**97**	P	**Pn**	**14 13 40.8**	**+1.4**
SNJE	**San Jose**	**1.58**	**124**	*e*P	**Pn**	**14 13 39.9**	**+0.3**
MTO3	**Montecristo**	**1.59**	**103**	Pn	**Pn**	**14 13 39.9**	**+0.3**
MTO3	**Montecristo**	**1.59**	**103**	*e*P	**Pn**	**14 13 39.9**	**+0.3**
MTO3	**Montecristo**	**1.59**	**103**	*i* P	**Pn**	**14 13 40.0**	**+0.4**
MTO3	**Montecristo**	**1.59**	**103**	S	**S**	**14 14 08.5**	**-0.4**
MTO3	**Montecristo**	**1.59**	**103**	P	**Pn**	**14 13 39.8**	**+0.1**
SBLS	**San Blas**	**1.59**	**125**	*e*P	**Pn**	**14 13 39.9**	**+0.2**
CEVE	**Cerro Verde**	**1.59**	**126**	*e*P	**Pn**	**14 13 39.9**	**+0.1**
CEVE				IAML		14 14 25.9	
	comp=Z,426nm,0.3s						
CEVE	**Cerro Verde**	**1.59**	**126**	P	**Pn**	**14 13 40.6**	**+0.9**
JAYA	**Jayaque - finc**	**1.83**	**127**	*e*P	**Pn**	**14 13 41.8**	**+0.1**
JAYA				*e*S	**S**	**14 14 12.3**	**-0.3**
JAYA				IAML		14 14 19.2	
	comp=Z,611nm,0.3s						
JAYA	**Jayaque - finc**	**1.83**	**127**	*i* P	**Pn**	**14 13 41.9**	**+0.2**
JAYA				*i* S	**S**	**14 14 10.0**	**-2.6**
JAYA	**Jayaque - finc**	**1.83**	**127**	P	**Pn**	**14 13 42.5**	**+0.8**
CCIG	**Comitan**	**1.89**	**323**	Pn	**Pn**	**14 13 42.7**	**+0.5**
CCIG	**Comitan**	**1.89**	**323**	*i* P	**Pn**	**14 13 42.8**	**+0.5**
CCIG				*i* S	**S**	**14 14 12.7**	**-0.8**
CCIG	**Comitan**	**1.89**	**323**	P	**Pn**	**14 13 43.2**	**+1.0**
CCIG	**Comitan**	**1.89**	**323**	S	**S**	**14 14 14.0**	**+0.4**
PMON	**Piamonte**	**1.91**	**123**	*e*P	**Pn**	**14 13 42.8**	**+0.5**
PMON	**Piamonte**	**1.91**	**123**	P	**Pn**	**14 13 42.3**	**0.0**
PMON	**Piamonte**	**1.91**	**123**	S	**S**	**14 14 16.4**	**+2.7**
LFRS	**El Faro**	**2.16**	**122**	*e*P	**Pn**	**14 13 47.7**	**+3.0**
PETF	**Flores**	**2.38**	**26**	Pn	**Pn**	**14 13 46.5**	**-0.3**
PETF	**Flores**	**2.38**	**26**	*i* P	**Pn**	**14 13 46.3**	**-0.4**
PETF	**Flores**	**2.38**	**26**	S	**S**	**14 14 20.1**	**-1.7**
PETF	**Flores**	**2.38**	**26**	P	**Pn**	**14 13 46.6**	**-0.1**
PACA	**Pacayal**	**2.86**	**117**	*e*P	Pn	14 13 58.0	+5.9
TGIG		**2.89**	**314**	*i* P	**Pn**	**14 13 52.3**	**0.0**
TGUH	**Tegucigalpa,Un**	**3.64**	**101**		**Pn**	**14 14 01.8**	**+0.9**
TGUH	**Tegucigalpa,Un**	**3.64**	**101**	P	**Pn**	**14 14 01.8**	**+0.9**
YUSH	**Yuscaran**	**4.07**	**101**	P	**Pn**	**14 14 06.1**	**+0.1**
TEIG	**Tepich**	**6.00**	**25**		**Pn**	**14 14 28.9**	**-0.9**
TEIG	**Tepich**	**6.00**	**25**	P	**Pn**	**14 14 29.1**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=202,slow=24,SNR=18						
JTS	**Las Juntas de**	**7.36**	**127**		**Pn**	**14 14 47.8**	**+0.5**
JTS	**Las Juntas de**	**7.36**	**127**	P	**Pn**	**14 14 47.9**	**+0.7**
	comp=Z,8.4nm,0.3s,baz=318,slow=18,SNR=8.3						
JTS				S	**S**	**14 16 10.9**	**-0.5**
	comp=Z,17nm,0.4s,baz=147,slow=22,SNR=13						
SOR	**Soroa**	**10.96**	**42**	Pn	**Pn**	**14 15 34.8**	**+1.6**
BRDY	**Brady**	**18.02**	**337**		**P**	**14 16 56.1**	**0.0**
TXAR	**Lajitas Array**	**18.66**	**323**	P	**Pn**	**14 17 06.8**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=156,slow=12,SNR=5.1						
Z38A	**Mt. Pleasant**	**18.77**	**349**		**P**	**14 17 05.3**	**+1.2**
GOGA	**Godfrey**	**19.77**	**19**	P	**P**	**14 17 15.7**	**+0.8**
GOGA				IAmb	IAmb	14 17 18.0	
	comp=Z,9.5nm,1.0s						
MIAR	**Mount Ida**	**19.83**	**354**	P	**P**	**14 17 15.8**	**+0.3**
MIAR				IAmb	IAmb	14 17 24.5	
	comp=Z,4.1nm,0.9s						
Y52A	**Lilburn**	**20.01**	**17**	P	**P**	**14 17 18.0**	**+0.5**
Y52A				IAmb	IAmb	14 17 20.6	
	comp=Z,11nm,0.8s						
FPAL	**Fort Paine**	**20.27**	**13**	P	**P**	**14 17 21.2**	**+1.0**
FPAL				IAmb	IAmb	14 17 22.4	
	comp=Z,4.7nm,0.9s						
SDV	**Santo Domingo**	**20.72**	**104**	P	**P**	**14 17 25.9**	**+0.4**
	comp=Z,2.9nm,0.4s,baz=314,slow=3.0,SNR=3.8						
	comp=Z,2.9nm,0.4s						
HODGE	**Hodges**	**20.91**	**21**	P	**P**	**14 17 27.3**	**+0.3**
HODGE				IAmb	IAmb	14 17 28.3	
	comp=Z,7.2nm,0.8s						
W35A	**Tecumseh**	**20.98**	**346**		**P**	**14 17 27.1**	**-0.7**
CPCT	**Cooper Cave**	**21.39**	**15**	P	**P**	**14 17 32.1**	**+0.3**
CPCT				IAmb	IAmb	14 17 34.1	
	comp=Z,4.3nm,0.7s						
BG3	**Lake Jocassee**	**21.39**	**18**	P	**P**	**14 17 32.3**	**+0.4**
BG3				IAmb	IAmb	14 17 33.8	
	comp=Z,8.2nm,0.9s						
RLO	**Rose Lookout**	**21.62**	**351**	P	**P**	**14 17 34.0**	**0.0**
RLO				IAmb	IAmb	14 17 34.9	
	comp=Z,8.6nm,0.7s						
TKL	**Tuckaleechee C**	**21.78**	**16**	P	**P**	**14 17 36.3**	**+0.8**
TKL	**Tuckaleechee C**	**21.78**	**16**	P	**P**	**14 17 36.4**	**+0.8**
	comp=Z,8.7nm,0.5s,baz=180,slow=11,SNR=13						
	comp=Z,8.7nm,0.5s						
OK051	**E0350 and S346**	**22.28**	**347**	P	**P**	**14 17 40.3**	**+0.1**
TZTN	**Tazewell**	**22.67**	**16**	P	**P**	**14 17 43.9**	**+0.1**
TZTN				IAmb	IAmb	14 17 46.0	
	comp=Z,8.0nm,0.6s						
T50A	**Nancy**	**22.82**	**13**	P	**P**	**14 17 45.3**	**+0.2**
T50A				IAmb	IAmb	14 17 45.9	
	comp=Z,5.3nm,1.0s						
CCM	**Cathedral Cave**	**23.20**	**359**	P	**P**	**14 17 48.7**	**+0.2**
CCM				IAmb	IAmb	14 17 50.0	
	comp=Z,3.7nm,0.9s						
V58A	**Windy Hill, Pi**	**23.47**	**25**	P	**P**	**14 17 51.6**	**+0.6**
WCI	**Wyandotte Cave**	**23.73**	**9**		**P**	**14 17 53.8**	**+0.4**
LENM	**Lemitar**	**24.14**	**326**	P	**P**	**14 17 57.0**	**-0.3**
S54A	**Dingess, Beckl**	**24.48**	**19**	P	**P**	**14 18 00.5**	**+0.3**
SSPA	**Standing Stone**	**28.18**	**21**	P	**P**	**14 18 33.7**	**+0.5**
SSPA				IAmb	IAmb	14 18 33.9	
	comp=Z,4.5nm,0.6s						
WVNY	**West Valley, N**	**29.53**	**19**	P	**P**	**14 18 45.5**	**+0.4**
WVNY				IAmb	IAmb	14 19 08.7	
	comp=Z,12nm,1.1s						
COWI	**Conover**	**31.27**	**2**	P	**P**	**14 18 59.7**	**-0.6**
COWI				IAmb	IAmb	14 19 00.1	
	comp=Z,4.7nm,0.6s						
UCCT	**U. Connecticut**	**31.43**	**27**	P	**P**	**14 19 02.4**	**+0.6**
DELO	**Deloro Mine**	**31.75**	**18**	P	**P**	**14 19 04.5**	**0.0**
DELO				IAmb	IAmb	14 19 05.0	
	comp=Z,6.9nm,0.8s						
LONY	**Lake Ozonia**	**32.84**	**22**	P	**P**	**14 19 14.3**	**+0.2**
LONY				IAmb	IAmb	14 19 14.8	
	comp=Z,13nm,1.2s						
EYMN	**Ely**	**33.08**	**359**	P	**P**	**14 19 15.2**	**-0.9**
I62A	**Tamworth**	**33.49**	**26**	P	**P**	**14 19 20.4**	**+0.8**
I62A				IAmb	IAmb	14 19 43.6	
	comp=Z,13nm,1.0s						
AGMN	**Agassiz Nation**	**33.68**	**354**		**P**	**14 19 21.2**	**0.0**
AGMN				IAmb	IAmb	14 19 21.5	
	comp=Z,4.9nm,0.8s						
NVAR	**Mina Array Bea**	**33.73**	**319**	P	**P**	**14 19 25.3**	**+3.2**
	comp=Z,1.3nm,0.7s,baz=127,slow=8.9,SNR=8.1						
	comp=Z,1.3nm,0.7s						
EPLO	**Experimental L**	**34.88**	**357**		**P**	**14 19 31.1**	**-0.5**
G62A	**West of Eustis**	**34.92**	**26**	P	**P**	**14 19 31.9**	**0.0**
G62A				IAmb	IAmb	14 19 37.2	
	comp=Z,12nm,1.2s						
PKME	**Peaks-Kenny Pk**	**35.48**	**27**	P	**P**	**14 19 37.0**	**+0.3**
PKME				IAmb	IAmb	14 19 37.5	
	comp=Z,14nm,1.1s						
ULM	**Lac du Bonnet**	**35.61**	**355**	P	**P**	**14 19 38.3**	**+0.6**
	comp=Z,2.5nm,0.3s,baz=172,slow=12,SNR=4.1						
	comp=Z,2.5nm,0.3s						
F64A	**Sherman**	**36.36**	**27**	P	**P**	**14 19 44.3**	**+0.1**
F64A				IAmb	IAmb	14 20 15.3	
	comp=Z,17nm,1.3s						
D62A	**Allapoint, All**	**37.03**	**25**	P	**P**	**14 19 49.9**	**+0.2**
D62A				IAmb	IAmb	14 20 24.4	
	comp=Z,24nm,1.4s						
FFC	**Flin Flon**	**40.79**	**350**	P	**P**	**14 20 20.8**	**+0.1**
YKA	**Yellowknife Ar**	**50.52**	**346**	P	**P**	**14 21 36.5**	**-0.1**
YKA	**Yellowknife Ar**	**50.52**	**346**	P	**P**	**14 21 36.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=152,slow=8.3,SNR=6.2						
	comp=Z,0.4nm,0.6s						
YKAW3	**Yellowknife Wh**	**50.58**	**346**	P	**P**	**14 21 37.0**	**0.0**
YKAW3				IAmb	IAmb	14 21 38.4	
	comp=Z,5.1nm,1.4s						
CPUP	**Villa Florida**	**52.33**	**141**	P	**P**	**14 21 50.4**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=284,slow=7.1,SNR=3.1						
	comp=Z,1.0nm,0.5s						
MMPY	**Sheldon Lake,**	**55.55**	**339**	P	**P**	**14 22 14.0**	**+0.6**
M29M	**Somme Creek**	**58.12**	**336**	P	**P**	**14 22 31.9**	**+0.5**
PLTB	**Pedras Altas**	**58.51**	**143**	P	**P**	**14 22 33.6**	**-0.9**
PLTB				IAmb	IAmb	14 22 41.7	
	comp=Z,7.7nm,1.1s						
G31M	**Satah River**	**59.32**	**342**	P	**P**	**14 22 39.3**	**-0.1**
BCAR	**Beaver Creek A**	**59.75**	**336**	P	**P**	**14 22 43.1**	**+0.5**
H29M	**Whitestone**	**60.20**	**340**	P	**P**	**14 22 45.2**	**-0.3**
H29M				IAmb	IAmb	14 23 10.9	
	comp=Z,5.0nm,1.4s						
F30M	**Barrier River**	**60.21**	**342**	P	**P**	**14 22 45.9**	**+0.4**
G29M	**Pine Creek**	**60.48**	**341**	P	**P**	**14 22 47.3**	**-0.1**
A36M	**Sachs Harbour**	**60.70**	**348**	P	**P**	**14 22 48.1**	**-0.6**
H27K	**Steamboat Moun**	**61.27**	**339**	P	**P**	**14 22 53.5**	**+0.7**
E29M	**Blow River**	**61.32**	**342**	P	**P**	**14 22 53.4**	**+0.4**
G27K	**Doyon Strip**	**61.62**	**340**	P	**P**	**14 22 55.1**	**0.0**
E28M	**Babbage River**	**61.93**	**342**	P	**P**	**14 22 56.8**	**-0.2**
ILAR	**Eielson Array**	**62.54**	**336**	P	**P**	**14 23 00.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=119,slow=5.5,SNR=9.8						
	comp=Z,0.2nm,0.4s						
RND	**Reindeer**	**62.77**	**335**	P	**P**	**14 23 03.2**	**+0.4**
RND				IAmb	IAmb	14 23 03.7	
	comp=Z,4.6nm,1.2s						
BMAR	**Burnt Mountain**	**62.92**	**340**	P	**P**	**14 23 04.0**	**+0.4**
SKT	**Skwentna**	**63.40**	**333**	P	**P**	**14 23 06.8**	**0.0**
SKT				IAmb	IAmb	14 23 46.8	
	comp=Z,11nm,1.4s						
M19K	**Big River Lodg**	**64.66**	**332**	P	**P**	**14 23 15.2**	**+0.1**
M19K				IAmb	IAmb	14 23 27.9	
	comp=Z,15nm,1.5s						
E22K	**Anaktuvuk Pass**	**65.71**	**339**	P	**P**	**14 23 22.1**	**+0.4**
B22K	**Teshekpuk Lake**	**67.06**	**341**	P	**P**	**14 23 30.5**	**+0.4**
B22K				IAmb	IAmb	14 23 58.1	
	comp=Z,5.7nm,1.4s						
EKB	**Eskdalemuir**	**76.73**	**36**	P	**P**	**14 24 26.2**	**-1.6**
EKA	**Eskdalemuir Ar**	**76.75**	**36**	P	**P**	**14 24 26.7**	**-1.2**
	comp=Z,1.2nm,0.4s,baz=270,slow=5.7,SNR=10						
	comp=Z,1.2nm,0.4s						
ESDC	**Sonseca Array**	**78.45**	**52**	P	**P**	**14 24 35.9**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=266,slow=3.9,SNR=2.3						
	comp=Z,0.3nm,0.3s						
HFS	**Hagfors**	**84.44**	**29**	P	**P**	**14 25 07.9**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=288,slow=4.5,SNR=4.8						
	comp=Z,0.6nm,0.5s						
ARCES	**ARCESS Array B**	**85.09**	**18**	P	**P**	**14 25 10.8**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=299,slow=4.3,SNR=5.0						
	comp=Z,2.6nm,0.9s						
WRA	**Warramunga Arr**	**136.56**	**257**	PKP	**PKPdf**	**14 31 58.5**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=87,slow=2.6,SNR=9.7						
ASAR	**Alice Springs**	**136.87**	**251**	PKhKP	PKPpre	14 31 48.6	
	comp=Z,0.9nm,1.0s,baz=100,slow=3.1,SNR=4.8						
ASAR				PKP	**PKPdf**	**14 31 58.5**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=88,slow=2.4,SNR=10						
FITZ	**Fitzroy Crossi**	**144.78**	**259**	PKPbc	PKPbc	14 32 13.2	+1.4
	comp=Z,2.6nm,0.8s,baz=29,slow=3.5,SNR=5.6						
CMAR	**Chiang Mai Arr**	**145.57**	**343**	PKPbc	**PKPdf**	**14 32 13.7**	**0.0**
	comp=Z,0.9nm,0.5s,baz=337,slow=3.0,SNR=6.2						

TXNET 30 14:15:26.0,31°.6N±0°.7×**104°.3W**±0°.7,**h5**km±2km,**ML1.6/6, Error ellipse: s-maj=1.1km s-min=0.8km az=45.7, final, Western Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**33**	P	Pg	14 15 32.6	-0.3
TPB11				S	Sg	14 15 37.3	-0.3
PECS	**Pecos**	**0.43**	**128**	P	Pg	14 15 34.5	+0.2
PECS				S	Sg	14 15 40.1	+0.2
TPB12	**Southwest of T**	**0.50**	**148**	P	Pg	14 15 35.7	+0.1
TPB12				S	Sg	14 15 42.4	+0.3
TPB07	**Mentone**	**0.51**	**96**	S	Sg	14 15 42.8	+0.4
TPB10	**Southeast of T**	**0.56**	**129**	P	Pg	14 15 37.0	+0.2
TPB10				S	Sg	14 15 44.6	+0.5
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	14 15 37.3	+0.3
CLNB	**Carlsbad**	**0.70**	**27**	S	Sg	14 15 49.5	+0.7
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	14 15 44.6	+0.2
MNTX				S	Sg	14 15 57.5	+0.6
VHRN	**Van Horn**	**1.05**	**216**	P	Pg	14 15 46.1	-0.1
VHRN				S	Sb	14 16 00.5	-0.4
TPB05	**Hovey Rd**	**1.07**	**132**	S	Sg	14 16 00.5	-0.1
MNHN	**Monahans**	**1.31**	**103**	S	Sg	14 16 06.8	-1.6
ALPN	**Alpine**	**1.37**	**157**	P	Pn	14 15 50.9	-1.1
ALPN				S	Sg	14 16 08.5	-1.5
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	14 15 52.4	-0.4
ODSA	**Odessa**	**1.53**	**71**	S	Sn	14 16 13.2	-1.4
ODSA				Sg	Sg	14 16 16.7	+1.3
TMB04	**Seminole**	**1.80**	**56**	P	Pn	14 15 57.9	0.0
TMB04				Sg	Sg	14 16 23.5	-0.4
TMB02	**Rankin**	**1.95**	**102**	S	Sn	14 16 25.8	+1.0
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg	Pb	14 16 08.2	-0.9

*IDC **30** 14:31:27.7±1.0, 28°.04S×65°.13E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=33.1km s-min=29.5km az=60.0*

ISC 30 14:31:29.2±1.0,**28°.0S**±0°.2×**65°.1E**±0°.2,**h10**km,**n10**, σ0°**37**/7,**mb4.0**/5,**Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**20.95**	**207**	T	T	14 57 50.4	
	baz=35,slow=73,SNR=77						
H04N1	**CROZET ISLANDS**	**20.95**	**207**	T	T	14 57 48.4	
	baz=35,slow=73,SNR=89						
H04N3	**CROZET ISLANDS**	**20.96**	**207**	T	T	14 57 47.8	
	baz=35,slow=73,SNR=77						
CMAR	**Chiang Mai Arr**	**56.62**	**39**	P	**P**	**14 41 12.9**	**+0.3**
	0.8nm,0.6s,baz=226,slow=6.2,SNR=6.1						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**61.31**	**103**	P	**P**	**14 41 45.4**	**0.0**
	1.4nm,0.8s,baz=249,slow=6.2,SNR=20						
	1.4nm,0.8s						
QSPA	**South Pole Qui**	**62.12**	**180**	P	**P**	**14 41 50.2**	**-0.1**
	1.4nm,0.8s,baz=264,slow=2.1,SNR=6.8						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**63.02**	**99**	P	**P**	**14 41 57.0**	**+0.2**
	0.5nm,0.8s,baz=246,slow=6.2,SNR=2.1						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.77**	**295**	P	**P**	**14 43 04.5**	**+0.3**
	99nm,0.3s,baz=126,slow=6.7,SNR=1.7						
ZALV	**Zalesovo Beam**	**83.39**	**12**	P	**P**	**14 43 55.8**	**-0.5**
	0.6nm,0.5s,baz=191,slow=5.8,SNR=3.6						
	0.6nm,0.5s						
YKA	**Yellowknife Ar**	**145.53**	**360**	PKPbc	**PKPdf**	**14 51 06.7**	**-0.3**
	1.0nm,0.8s,baz=345,slow=3.3,SNR=16						

*ISK **30** 14:52:23.8, 39°.07N×26°.50E, h10km, ML3.6/31*
*ATH **30** 14:52:24.5, 39°.07N×26°.50E, h14km±4km, ML3.2/12, Manual Solution by A.Plessa First location: 2019/04/30 14:53:40, This location: 2019/05/01 06:59:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*
*AFAD **30** 14:52:24.3, 39°.09N×26°.51E, h7km±2km, MW3.5*
*THE **30** 14:52:26.8, 39°.19N×26°.52E, h6km±1km, ML3.2/8, Error ellipse: s-maj=1.7km s-min=0.7km az=301.0*

ISC 30 14:52:24.7±0.8,**39°.08N**±0°.02×**26°.51E**±0°.02,**h13**km±6km, **n107**,σ0°**72**/136,**8C-9D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.25**	**313**	P	**Pg**	**14 52 30.1**	**0.0**
PRK				S	**Sg**	**14 52 34.2**	**+0.5**
	25μm,0.5s						
PRK	**Paraskevi**	**0.25**	**313**	P	**Pg**	**14 52 29.9**	**-0.2**
PRK				S	**Sg**	**14 52 33.9**	**+0.2**
AYVA	**Ayvalik**	**0.27**	**31**	P	**Pg**	**14 52 30.2**	**-0.2**
AYVA				S	**Sg**	**14 52 33.4**	**-0.8**
DKL	**Dikili**	**0.31**	**91**	Pg	**Pg**	**14 52 31.1**	**+0.1**
DKL				Sg	**Sg**	**14 52 35.8**	**+0.6**
DKL	**Dikili**	**0.31**	**91**	P	**Pg**	**14 52 31.0**	**+0.1**
DKL				S	**Sg**	**14 52 35.5**	**+0.2**
IZMD	**zmir-Dikili-**	**0.34**	**105**	P	**Pg**	**14 52 31.5**	**-0.1**
IZMD				P	**Pg**	**14 52 31.5**	**-0.1**
IZMD				S	**Sg**	**14 52 36.1**	**-0.1**
FOCM	**Foa**	**0.40**	**155**	Pg	**Pg**	**14 52 31.9**	**-0.8**
FOCM				Sg	**Sg**	**14 52 37.8**	**-0.2**
KARB	**zmir-Karabur**	**0.42**	**191**	P	**Pg**	**14 52 33.0**	**0.0**
ZEDA	**zmir-Bergama**	**0.45**	**104**	P	**Pg**	**14 52 33.7**	**0.0**
GPNR	**Gulpinar-Canak**	**0.48**	**322**	Pg	**Pg**	**14 52 34.1**	**-0.1**
KOCA	**Canakkale, Ayv**	**0.52**	**326**	P	**Pg**	**14 52 34.8**	**-0.1**
KOCA				S	**Sg**	**14 52 41.0**	**-0.7**
SIGR	**SIGRI**	**0.53**	**285**	P	**Pn**	**14 52 37.1**	**-0.9**
SIGR				S	**Sb**	**14 52 44.7**	**+1.3**
	2μm,0.5s						
SIGR	**SIGRI**	**0.53**	**285**	Pg	**Pn**	**14 52 37.1**	**-0.9**
BUHA	**Balikesir, Bur**	**0.61**	**46**	P	**Pg**	**14 52 36.0**	**-0.7**
BUHA				S	**Sg**	**14 52 44.9**	**+0.1**
EAG2	**Marmaro, Chios**	**0.62**	**211**	P	**Pg**	**14 52 36.6**	**-0.1**
EAG2				S	**Sg**	**14 52 45.1**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.67**	**2**	P	**Pg**	**14 52 36.8**	**-0.9**
BAYC				S	**Sg**	**14 52 46.2**	**-0.3**
EZNE	**Ezine-Canakkal**	**0.69**	**351**	Pg	**Pg**	**14 52 37.5**	**-0.6**
YAYO	**Edremit-Balk**	**0.69**	**39**	Pg	**Pg**	**14 52 37.5**	**-0.6**
URLA	**Izmir**	**0.72**	**175**	P	**Pg

OUR	**Ouranopolis**	**2.32 304**	P	**Pn**	**14 53 03.5 +0.9**
OUR	**Ouranopolis**	**2.32 304**	P	**Pn**	**14 53 03.5 +0.9**
ATHU	**Athens Univers**	**2.41 243**	P	**Pn**	**14 53 03.9 +0.1**
KAVA	**Kavala**	**2.46 322**	P	**Pn**	**14 53 04.3 -0.2**
VLY	**Voula,Athens**	**2.46 241**	P	**Pn**	**14 53 03.5 -1.0**
XOR	**Xorichti**	**2.59 277**	P	**Pn**	**14 53 06.2 -0.2**
KOKK	**Kokkinochori,**	**2.60 313**	P	**Pn**	**14 53 06.5 0.0**
PLG	**Polygyros**	**2.70 300**	P	**Pn**	**14 53 07.8 0.0**
KDZ	**Kurdzhali**	**2.71 341**	P	**Pn**	**14 53 08.2 +0.3**
DIM	**Dimitrovgrad**	**3.05 347**	P	**Pn**	**14 53 13.1 +0.4**
MMB	**Musomishta**	**3.25 320**	P	**Pn**	**14 53 16.2 +0.8**
PLD	**Plovdiv**	**3.35 337**	P	**Pn**	**14 53 17.9 +1.1**
GUR	**Goura**	**3.46 252**	P	**Pn**	**14 53 18.4 0.0**
VAY	**Valandovo**	**3.76 308**	*e*Pn	**Pn**	**14 53 24.6 +2.2**
VAY			*i* Sn	**Sg**	**14 54 24.6 -0.8**
KKB	**Krupnik**	**3.78 318**	*e*P	**Pn**	**14 53 26.0 +3.3**
PGB	**Panagyurishte**	**3.87 333**	P	**Pn**	**14 53 24.9 +1.0**
PRD	**Provadia**	**4.14 9**	P	**Pn**	**14 53 28.5 +0.9**
PVL	**Pavlikeni**	**4.17 346**	P	**Pn**	**14 53 29.5 +1.5**
SZH	**Strazhitsa**	**4.21 355**	P	**Pn**	**14 53 29.3 +0.7**
NEF	**NEVSHA**	**4.22 8**	P	**Pn**	**14 53 29.6 +0.8**
VTS	**Vitosha**	**4.32 326**	P	**Pn**	**14 53 31.6 +1.3**
MPEP	**Malo Peshtene**	**4.76 335**	P	**Pn**	**14 53 37.0 +0.8**
KIRS	**Kirsehir-Merke**	**5.76 87**	⇑P	**Pn**	**14 53 51.1 +1.1**
BOVS	**Bovan**	**5.82 323**	⇓P	**Pn**	**14 53 52.1 +1.4**
MLR	**Muntele Rosu**	**6.43 356**	⇓P	**Pn**	**14 54 00.7 +1.6**
VOIR		**6.45 351**	⇓P	**Pn**	**14 54 00.4 +1.0**
LOT	**Lotru**	**6.69 343**	⇑P	**Pn**	**14 54 03.0 +0.3**
MDVR	**Moldovita**	**6.73 329**	⇑P	**Pn**	**14 54 03.9 +0.7**
GZR	**Gura Zlata**	**6.89 338**	⇓P	**Pn**	**14 54 05.6 +0.1**
DOPR	**Dopca**	**6.94 354**	⇓P	**Pn**	**14 54 07.2 +1.1**
OZUR		**7.04 356**	⇑P	**Pn**	**14 54 07.7 +0.2**
TESR	**Tescani**	**7.43 1**	⇑P	**Pn**	**14 54 13.9 +1.0**
BZS	**Buzias**	**7.47 333**	⇓P	**Pn**	**14 54 13.6 +0.2**
MARR	**Marisel-Cluj**	**7.99 343**	⇓P	**Pn**	**14 54 20.9 +0.2**
SIRR	**Siria**	**8.03 335**	⇑P	**Pn**	**14 54 21.2 +0.2**

*NEIC **30** 15:13:19.5±2.0, 32°.10N±0°.04×115°.01W±0°.04, h25km±9km, Error ellipse: s-maj=6.6km s-min=3.9km az=138.0*
*ECX **30** 15:13:19.4±0.4, 32°.11N×115°.11W, h9km±1km, MD2.8, ML3.0*
*PAS **30** 15:13:21.0±1.8, 32°.12N±0°.02×115°.06W±0°.02, h19km±4km, ML3.0/43, ML2.8/24(NEIC), Error ellipse: s-maj=3.2km s-min=2.4km az=137.0*

ISC 30 15:13:19.7±0.8, 32°.10N±0°.02×115°.11W±0°.02, h12km, n49, σ0°82/65, 6C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITX	**Riito Sonora**	**0.14**	**62**	*e*P	**Pb**	**15 13 24.4**	**0.0**
RITX				*e*S	**Sg**	15 13 27.5	+1.8
RHX	**Rio Hardy**	**0.15**	**284**	⇑*i*P	**Pb**	15 13 24.1	-0.3
RHX				*e*S	**Sg**	15 13 26.7	+1.0
GUVIX	**Guadalupe Vict**	**0.21**	**9**		**Pb**	**15 13 25.8**	**+0.3**
GUVIX					**Sg**	**15 13 29.9**	**+2.6**
GUVIX	**Guadalupe Vict**	**0.21**	**9**	*e*P	**Pb**	**15 13 25.3**	**-0.2**
GUVIX				*e*S	**Sg**	**15 13 29.5**	**+2.2**
GUVIX				⇑*e*		15 13 30.2	
GUVIX				IAML		15 13 30.2	
	comp=N,6μm,0.4s						
GUVIX				⇑*e*		15 13 35.6	
EDOMX	**El Doctor, EDO**	**0.34**	**114**	*e*P	**Pb**	**15 13 28.2**	**+0.5**
EDOMX				*e*S	**Sb**	**15 13 34.2**	**+1.2**
PESCX	**Ej. Pescaderos**	**0.36**	**21**		**Pb**	**15 13 28.0**	**0.0**
PESCX					**Sb**	**15 13 34.4**	**+0.8**
CPBX	**Cerro Prieto**	**0.36**	**333**		**Pb**	**15 13 28.3**	**+0.2**
CPBX					**Sb**	**15 13 35.0**	**+1.3**
CPBX	**Cerro Prieto**	**0.36**	**333**	IAML		15 13 37.9	
	comp=N,5μm,0.2s						
CPBX				IAML		15 13 42.0	
	comp=E,5μm,0.2s						
CPBX	**Cerro Prieto**	**0.36**	**333**	*e*P	**Pb**	**15 13 28.3**	**+0.2**
CPBX				*e*S	**Sb**	**15 13 34.5**	**+0.8**
CPBX				IAML		15 13 37.9	
	comp=N,5μm,0.1s						
CPBX				⇓*e*		15 13 37.9	
CPBX				IAML		15 13 43.3	
	comp=E,6μm,0.3s						
ALAMX	**Rancho Alamar**	**0.51**	**260**	⇑*i*P	**Pb**	**15 13 31.1**	**+0.4**
ALAMX				*e*S	**Sb**	**15 13 38.6**	**+0.5**
ALAMX				*e*		15 13 40.6	
ALAMX				IAML		15 13 40.6	
	comp=E,1μm,0.2s						
ALAMX				⇑*e*		15 13 41.3	
ALAMX				IAML		15 13 41.3	
	comp=N,976nm,0.2s						
JARAX	**Ej. Heriberto**	**0.59**	**318**	*e*P	**Pb**	**15 13 31.4**	**-0.6**
JARAX				*e*S	**Sb**	**15 13 41.1**	**+0.8**
UABX	**UABC, Campus M**	**0.60**	**333**		**Sn**	**15 13 43.1**	**-0.7**
5054	**Holtville Bond**	**0.62**	**342**		**Pb**	**15 13 32.8**	**+0.3**
5054					**Sn**	**15 13 43.1**	**-1.2**
EMSC	**East Mesa**	**0.65**	**9**		**Pb**	**15 13 33.2**	**+0.3**
EMSC					**Sn**	**15 13 43.2**	**-1.7**
EMSC	**East Mesa**	**0.65**	**9**	*e*P	**Pb**	**15 13 33.2**	**+0.3**
5053	**Calexico**	**0.66**	**331**		**Pb**	**15 13 33.3**	**+0.2**
5053					**Sn**	**15 13 44.4**	**-0.7**
ESJX	**Sierra Juarez**	**0.72**	**263**		**Pb**	**15 13 34.8**	**+0.5**
ESJX					Pn	15 13 44.5	+8.6
ESJX	**Sierra Juarez**	**0.72**	**263**	IAML		15 13 45.5	
	comp=N,797nm,0.2s						
SGL	**Mount Signal**	**0.76**	**317**		**Pb**	**15 13 35.1**	**+0.3**
SGL					Pn	15 13 46.0	+10
DREC	**Desert Rsrch C**	**0.76**	**338**		**Pb**	**15 13 35.1**	**+0.3**
DREC					**Sn**	**15 13 48.1**	**+0.5**
COA	**Coachella**	**0.76**	**359**		**Pb**	**15 13 34.8**	**-0.2**
COA					Pn	15 13 46.2	+10
SJX	**San Joaquin**	**0.79**	**245**	⇑*e*P	**Pg**	**15 13 34.8**	**-0.3**
SNR	**Schaffner Ranc**	**0.81**	**340**		**Pn**	**15 13 36.4**	**-0.5**
SNR					**Sn**	**15 13 49.2**	**+0.3**
WESC	**Westside Schoo**	**0.84**	**322**		**Pb**	**15 13 36.6**	**+0.4**
YUH	**Yuha Desert**	**0.88**	**309**		**Pb**	**15 13 37.2**	**+0.2**
YUH					**Sb**	**15 13 49.1**	**+0.5**
YUH	**Yuha Desert**	**0.88**	**309**	Pg	**Pb**	**15 13 37.1**	**+0.2**
YUH	**Yuha Desert**	**0.88**	**309**	IAML		15 13 49.6	
	comp=N,124nm,0.5s						
YUH				IAML		15 13 50.1	
	comp=E,133nm,0.4s						
RUN	**Ruthven**	**0.88**	**7**		**Pg**	**15 13 36.1**	**-0.6**
VTX	**Valle De La Tr**	**0.91**	**219**		**Pn**	**15 13 38.1**	**-0.2**
VTX					**Sn**	**15 13 50.7**	**-0.7**
VTX	**Valle De La Tr**	**0.91**	**219**	IAML		15 13 53.5	
	comp=N,252nm,0.1s						
VTX				IAML		15 13 54.8	
	comp=E,298nm,0.4s						
COK2	**Cook Ranch 2**	**0.91**	**325**		**Pb**	**15 13 37.3**	**-0.2**
RMX	**La Rumorosa**	**0.96**	**302**		**Pg**	**15 13 37.7**	**-0.5**
RMX					**Sg**	**15 13 49.9**	**-0.9**
GLA	**Glamis**	**0.98**	**14**		**Pg**	**15 13 37.9**	**-0.8**
GLA	**Glamis**	**0.98**	**14**		**Pg**	**15 13 37.8**	**-0.8**
GLA				IAML		15 13 52.4	
	comp=N,229nm,0.4s						
GLA				IAML		15 13 52.4	
	comp=E,220nm,0.4s						
IKP	**In-Ko-Pah, Jac**	**1.01**	**303**		**Pn**	**15 13 39.4**	**-0.4**
IKP					**Sn**	**15 13 53.0**	**-1.0**
CRR	**Carrizo Plain**	**1.07**	**318**		**Pn**	**15 13 40.5**	**0.0**
CRR					**Sn**	**15 13 55.3**	**0.0**
SFX	**San Felipe**	**1.08**	**168**		**Pg**	**15 13 40.7**	**+0.2**
SFX					**Sg**	**15 13 55.2**	**+0.6**
SFX	**San Felipe**	**1.08**	**168**	IAML		15 13 56.6	
	comp=N,276nm,0.4s						
SFX				IAML		15 13 56.8	
	comp=E,252nm,0.4s						
SFX	**San Felipe**	**1.08**	**168**	*e*P	**Pb**	**15 13 39.7**	**-0.7**
113A	**Mohawk Valley,**	**1.32**	**59**		**Pn**	**15 13 43.0**	**-1.0**
CBX	**Cerro Bola**	**1.33**	**280**		**Pn**	**15 13 44.3**	**0.0**
CBX				IAML		15 14 04.9	
	comp=N,325nm,0.5s						
CCX	**Cicese**	**1.34**	**261**		**Pb**	**15 13 44.9**	**+0.2**
BAR	**Barrett**	**1.44**	**294**		**Pg**	**15 13 47.3**	**-0.1**
PPXB	**Puerto Peasco**	**1.47**	**121**	*e*P	**Pn**	**15 13 44.5**	**-1.6**
BLYC	**Blythe**	**1.72**	**17**	Pn	**Pn**	**15 13 49.0**	**-0.5**
BLYC				IAML		15 14 37.9	
	comp=E,52nm,0.9s						
XPFO	**Pinon Flat**	**1.89**	**324**		**Pn**	**15 13 51.1**	**-0.8**
PFO	**Pinyon Flats O**	**1.89**	**323**		**Pn**	**15 13 51.0**	**-0.9**
BBSC	**Beaumont Base**	**2.40**	**320**		**Pg**	**15 14 04.3**	**-1.5**
ELS	**Elsinore Mount**	**2.49**	**309**	Pn	**Pn**	**15 14 00.2**	**+0.1**
ELS				IAML		15 14 44.0	
	comp=E,24nm,0.5s						

NOU 30 15:22:52.8, 14°.69S×166°.63E, h0km, mb4.4/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**1.60**	**152**	P	Pb	15 23 23.3	0.0
VLAKA	**Lakatoro**	**1.60**	**152**	S	Sn	15 23 42.9	-0.9
DVP	**Devils Point**	**3.37**	**154**	P	Pn	15 23 45.2	-1.5
YATNC	**Mamie plateau,**	**7.33**	**178**	P	Pn	15 24 39.6	-1.6
DZM	**Mont Dzumac**	**7.34**	**181**	P	Pn	15 24 42.0	+0.5
PINNC	**Pines Island,**	**7.92**	**175**	P	Pn	15 24 50.2	+1.0

*BER **30** 15:33:32.7±0.5, 67°.57N×34°.40E, h0km, ML1.9, Suspected explosion*
*HEL **30** 15:33:32.8±0.2, 67°.66N×34°.16E, h0km, ML1.9, Suspected explosion*
*KOLA **30** 15:33:33.2, 67°.67N×34°.15E, h0km, ML2.1, Error ellipse: s-maj=3.0km s-min=1.4km az=120.0, Khibiny, mines Koashva, Nyurkpakh*
*IDC **30** 15:33:35.8±2.1, 67°.69N×33°.56E, h0km, mbtmp3.6/3, ML2.4/3, Error ellipse: s-maj=23.8km s-min=11.3km az=78.0*

ISC 30 15:33:31.9±0.9, 67°.65N±0°.03×34°.20E±0°.04, h0km, n34, σ1°23/57, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.31**	**34**	P	**Pg**	**15 33 38.1**	**+0.4**
LVZ				S	**Sg**	**15 33 42.2**	**+0.5**
LVZ	**Lovozero**	**0.31**	**34**	PG	**Pg**	**15 33 38.1**	**+0.4**
LVZ				SG	**Sg**	**15 33 42.4**	**+0.7**
APA	**Apatity**	**0.31**	**256**	P	**Pg**	**15 33 38.2**	**+0.4**
APA				S	**Sg**	**15 33 42.4**	**+0.6**
APA0	**Apatity Array**	**0.46**	**266**	P	**Pg**	**15 33 40.7**	**0.0**
APA0				S	**Sg**	**15 33 46.6**	**0.0**
KVDA	**Kovda**	**1.09**	**209**	P	**Pg**	**15 33 52.6**	**0.0**
KVDA				S	**Sg**	**15 34 07.5**	**+0.8**
TERR	**Teriberka**	**1.60**	**12**	P	**Pn**	**15 34 01.3**	**0.0**
TERR				S	**Sn**	**15 34 21.9**	**-0.8**
VRF	**Varrio**	**1.75**	**276**	PG	**Pn**	**15 34 03.6**	**+0.1**
VRF				MSG		15 34 24.6	
	comp=Z,12nm,0.2s						
VRF				SN	**Sn**	**15 34 26.6**	**+0.1**
OLKF	**Oulanka, Finla**	**2.31**	**237**	PG	**Pb**	**15 34 13.3**	**-1.0**
OLKF				MSG		15 34 41.0	
	comp=Z,5.2nm,0.2s						
OLKF				SG	**Sb**	**15 34 43.5**	**+0.2**
KU6	**Riekki**	**2.35**	**228**	PB	**Pn**	**15 34 13.4**	**+1.7**
	baz=48						
KU6				MSG		15 34 42.2	
	comp=Z,4.7nm,0.2s						
KU6				SG	**Sb**	**15 34 45.0**	**+0.4**
RAJF	**Raja-Jooseppi**	**2.36**	**293**	PB	**Pn**	**15 34 12.8**	**+1.0**
RAJF				SG	**Sn**	**15 34 42.8**	**+1.3**
MSF	**Maaselka**	**2.68**	**232**	PB	**Pn**	**15 34 18.4**	**+2.2**
	baz=48						
MSF				SG	**Sb**	**15 34 55.0**	**+0.9**
KU1	**Kurvinen**	**2.79**	**224**	PB	**Pn**	**15 34 20.4**	**+2.7**
VADS	**Vadso**	**3.04**	**327**	P	**Pn**	**15 34 21.5**	**+0.4**
VADS				S	**Sn**	**15 34 58.3**	**+0.1**
VADS	**Vadso**	**3.04**	**327**	*e*P	**Pn**	**15 34 21.3**	**+0.2**
VADS				*e*S	**Sn**	**15 34 58.0**	**-0.1**
VADS				IAML		15 35 13.3	
	comp=Z,8.8nm,0.3s						
KU2	**Taivalkoski**	**3.07**	**233**	PB	**Pb**	**15 34 25.8**	**-1.4**
	baz=45						
RANF	**Ranua**	**3.35**	**244**	PG	**Pb**	**15 34 30.9**	**-1.2**
RANF				SG	**Sb**	**15 35 14.4**	**+1.0**
RNF	**Rovaniemi**	**3.36**	**256**	PN	**Pn**	**15 34 25.8**	**+0.2**
	baz=67						
RNF				SN	**Sn**	**15 35 07.6**	**+1.5**
KEV	**Kevo**	**3.37**	**312**	*e*P	**Pn**	**15 34 26.6**	**+0.9**
KEV				*e*S	**Sn**	**15 35 05.6**	**-0.7**
KEV	**Kevo**	**3.37**	**312**	PN	**Pn**	**15 34 26.6**	**+0.9**
KEV				SN	**Sn**	**15 35 06.6**	**+0.3**
ARA0	**ARCESS Array S**	**3.71**	**305**	*e*P	**Pn**	**15 34 30.7**	**+0.3**
ARA0	**ARCESS Array S**	**3.71**	**305**	PN	**Pn**	**15 34 30.6**	**+0.3**
ARA0				SN	**Sn**	**15 35 12.9**	**-1.8**
ARCES	**ARCESS Array B**	**3.71**	**305**	Pn	**Pn**	**15 34 30.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=120,slow=14,SNR=83						
ARCES				Pg	**Pb**	**15 34 39.0**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=115,slow=16,SNR=9.3						
ARCES				Sn	**Sn**	**15 35 11.9**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=120,slow=27,SNR=8.9						
ARCES				Lg	Lg	15 35 23.2	
	comp=Z,1.1nm,0.3s,baz=121,slow=26,SNR=2.5						
	comp=Z,1.2nm,0.2s						
ARCES	**ARCESS Array B**	**3.71**	**305**	P	**Pn**	**15 34 30.5**	**+0.2**
ARCES				S	**Sn**	**15 35 13.0**	**-1.7**
RMF	**Romuvaara**	**3.86**	**209**	PN	**Pn**	**15 34 33.4**	**+1.1**
KLF	**Kolari**	**3.96**	**269**	PG	**Pb**	**15 34 43.5**	**+1.0**
HEF	**Hetta**	**4.03**	**286**	*e*P	**Pn**	**15 34 35.2**	**+0.5**
HEF	**Hetta**	**4.03**	**286**	PN	**Pn**	**15 34 35.3**	**+0.5**
	baz=95						
HEF				SN	**Sn**	**15 35 22.9**	**+0.2**
PAJU	**Pajala**	**4.33**	**267**	PN	**Pn**	**15 34 39.4**	**+0.5**
PAJU				SN	**Sn**	**15 35 30.6**	**+0.6**
OBF4	**Vikkela, Lumij**	**4.65**	**237**	SB	**Sb**	**15 35 47.8**	**-2.7**
KIF	**Kilpisjarvi**	**5.15**	**292**	*e*P	**Pn**	**15 34 50.3**	**+0.3**
I37NO	**I37NO**	**5.94**	**291**	I	I	16 12 10.0	
	baz=99,slow=326,SNR=3.0						
FINES	**FINESS Array B**	**7.13**	**213**	Pn	**Pn**	**15 35 18.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=24,slow=21,SNR=1.7						
FINES				Sn	**Sn**	**15 36 35.5**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=19,slow=22,SNR=2.0						
FINES				Lg	Lg	15 37 11.2	
	comp=Z,0.1nm,0.3s,baz=23,slow=26,SNR=2.0						
	comp=Z,1.5nm,0.9s						
FAUS	**Fauske**	**7.25**	**277**	S	**Sn**	**15 36 39.0**	**-2.7**
SPITS	**Spitsbergen Ar**	**11.71**	**342**	Pn	**Pn**	**15 36 17.5**	**-2.4**
	baz=150,slow=15						
	comp=Z,12nm,1.1s						

*NEIC **30** 15:40:41.3±0.9, 9°.83N±0°.08×126°.6E±0°.1, h35km±2km, mb4.5/31, Error ellipse: s-maj=20.4km s-min=13.8km az=98.0*
*IDC **30** 15:40:50.2±2.0, 9°.71N×126°.44E, h115km±19km, mb3.8/23, mbtmp4.2/24, MS3.3/9, Error ellipse: s-maj=24.4km s-min=11.3km az=74.0*

ISC 30 15:40:48.3±0.4, 9°.75N±0°.05×126°.48E±0°.10, h100km, n90, σ1°09/79, mb4.3/48, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.81**	**199**	P	**Pn**	**15 41 32.3**	**+0.8**
	143nm,0.3s,baz=348,slow=5.7,SNR=4.3						
DAV				S	**Sn**	**15 42 07.9**	**+3.2**
	298nm,0.5s,baz=78,slow=14,SNR=5.6						
DAV				LR	LR	15 42 14.9	
	comp=Z,228nm,21.1s,baz=19,slow=31						
MYLDM	**Lahad Datu**	**9.12**	**241**	Pn	Pn	15 42 52.5	-4.6
TOLI2	**Tolitoli**	**10.28**	**214**	Pn	Pn	15 43 07.0	-5.9
YULB	**Yu-li**	**14.45**	**341**	Pn	Pn	15 44 01.4	-6.6
TPUB	**Ta-pu**	**14.60**	**338**	P	**Pn**	**15 44 10.5**	**+0.6**
SBUM	**Sibu**	**15.92**	**244**	Pn	**Pn**	**15 44 23.5**	**-3.2**
KAPI	**Kappang**	**16.12**	**205**	LR	LR	15 52 06.7	
	comp=Z,76nm,18.5s,baz=40,slow=42						
QIZ	**Qiongzhong**	**18.56**	**302**	P	**P**	**15 44 56.5**	**-0.9**
QIZ				S	**S**	**15 48 25.0**	**+1.0**
QIZ				pmax	pmax		
	comp=Z,260nm,8.4s						
QIZ				LR	LR		
	comp=N,200nm,8.1s						
QIZ				LR	LR		
	comp=E,270nm,6.9s						
QIZ				LR	LR		
	comp=Z,190nm,6.4s						
MTN	**Manton Dam**	**22.91**	**168**	P	**P**	**15 45 42.1**	**-1.8**
MTN				IAmb	IAmb	15 45 56.1	
	comp=Z,16nm,1.1s						
NJ2	**Nanjing**	**23.30**	**343**	*e*P	**P**	**15 45 45.5**	**-1.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WHN	**Wuhan**	**23.58**	**333**	P	**P**	**15 45 51.3**	**+1.3**
JNU	**Nakatsue**	**23.61**	**9**	P	**P**	**15 45 47.6**	**-2.7**
JNU				IAmb	IAmb	15 45 51.6	
	comp=Z,19nm,1.1s						
MYKOM	**Kota Tinggi**	**23.85**	**252**		**P**	**15 45 52.8**	**+0.2**
MYKOM				IAmb	IAmb	15 45 57.4	
	comp=Z,18nm,0.9s						
KNRA	**Kununurra**	**25.36**	**175**	P	**P**	**15 46 04.9**	**-1.3**
KNRA				IAmb	IAmb	15 46 40.3	
	comp=Z,8.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.68**	**182**		**P**	**15 46 26.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**28.05**	**291**	P	**P**	**15 46 29.8**	**-0.7**
	comp=Z,14nm,0.9s,baz=95,slow=7.4,SNR=7.2						
	comp=Z,14nm,0.9s						
PSI	**Prapat**	**28.23**	**258**	LR	LR	15 59 20.4	
	comp=Z,57nm,19.2s,baz=100,slow=39						
PZH	**PanZhiHua**	**28.73**	**309**	P	**P**	**15 46 37.5**	**+1.0**
PZH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,110nm,4.9s						
XMIS	**Christmas Isla**	**28.87**	**226**	P	**P**	**15 46 37.8**	**+0.1**
XAN	**Xi'an**	**29.06**	**329**	P	**P**	**15 46 38.5**	**-0.8**
XAN				pP	pP	15 46 43.3	-17
XAN				pmax	pmax		
	comp=Z,16nm,0.7s						
HNS	**HongShan**	**29.51**	**341**	⇑P	**P**	**15 46 44.0**	**+0.8**
HNS				pmax	pmax		
	comp=Z,18nm,1.0s						
WB0	**Warramunga Arr**	**30.34**	**165**	P	**P**	**15 46 50.9**	**+0.2**
WB0				IAmb	IAmb	15 47 27.9	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**30.50**	**165**	P	**P**	**15 46 50.7**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=346,slow=9.1,SNR=5.8						
	comp=Z,0.5nm,0.8s						
WR8	**Warramunga Arr**	**30.55**	**165**	P	**P**	**15 46 51.2**	**-1.3**
PSA00	**Pilbara Seismi**	**31.80**	**192**	P	**P**	**15 47 02.9**	**-0.6**
PSA00				IAmb	IAmb	15 47 03.8	
	comp=Z,13nm,1.1s						
HHC	**Hu-ho-hao-te**	**33.68**	**339**	*e*P	**P**	**15 47 20.8**	**+1.0**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,5.7s						
AS31	**Alice Springs**	**33.99**	**168**	P	**P**	**15 47 21.2**	**-1.4**
ASAR	**Alice Springs**	**33.99**	**168**	P	**P**	**15 47 21.3**	**-1.3**
ASAR	**Alice Springs**	**33.99**	**168**	P	**P**	**15 47 21.1**	**-1.5**
	comp=Z,0.8nm,1.0s,baz=350,slow=7.3,SNR=14						
ASAR				PcP	**PcP**	**15 49 59.7**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=350,slow=2.5,SNR=4.1						
	comp=Z,0.8nm,1.0s						
USRK	**Ussuriysk Ar.**	**34.66**	**7**	P	**P**	**15 47 28.5**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=172,slow=5.5,SNR=2.5						
USRK				LR	LR	16 01 11.2	
	comp=Z,34nm,20.2s,baz=176,slow=35						
	comp=Z,2.3nm,0.8s						
MDJ	**Mudanjiang**	**34.85**	**4**	P	**P**	**15 47 31.3**	**+1.6**
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,170nm,6.9s						
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ASAJ	**Asahikawa**	**36.99**	**19**	LR	LR	16 03 20.0	
	comp=Z,42nm,18.8s,baz=188,slow=36						
GTA	**Gaotai**	**37.93**	**326**	*e*P	**P**	**15 47 56.8**	**+0.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KLR	**Kul'dur**	**39.60**	**5**	P	**P**	**15 48 09.5**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=221,slow=4.1,SNR=6.1						
KLR				LR	LR	16 04 45.9	
	comp=Z,31nm,19.1s,baz=210,slow=36						
	comp=Z,1.6nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**39.87**	**73**	T	T	16 31 19.7	
	baz=262,slow=75,SNR=8.3						
MORW	**Morawa**	**39.88**	**194**	P	**P**	**15 48 11.6**	**-0.8**
H11S1	**WAKE ISLAND Hy**	**39.88**	**73**	T	T	16 31 15.0	
	baz=262,slow=75,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**39.89**	**73**	T	T	16 31 13.6	
	baz=262,slow=75,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**40.22**	**71**	T	T	16 31 45.1	
	baz=265,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.23**	**71**	T	T	16 31 53.9	
	baz=265,slow=74,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**40.24**	**71**	T	T	16 31 48.8	
	baz=265,slow=74,SNR=13						
FORT	**Forrest**	**40.32**	**178**	P	**P**	**15 48 15.5**	**-0.5**
HEH	**HeiHe**	**40.39**	**1**	*e*P	**P**	**15 48 15.8**	**-0.5**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ULN	**Ulaanbaatar**	**41.38**	**340**		**P**	**15 48 23.1**	**-1.7**
ULN				IAmb	IAmb	15 48 26.8	
	comp=Z,4.8nm,0.8s						
SONM	**Songino Array**	**41.58**	**340**	P	**P**	**15 48 27.2**	**+0.9**
SONM	**Songino Array**	**41.58**	**340**	P	**P**	**15 48 27.2**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=161,slow=9.2,SNR=14						
	comp=Z,2.9nm,0.7s						
BBOO	**Buckleboo**	**43.29**	**168**	P	**P**	**15 48 39.3**	**-0.9**
NWAO	**Narrogin (SRO)**	**43.34**	**191**	P	**P**	**15 48 41.9**	**+1.3**
STKA	**Stephens Creek**	**43.84**	**161**	P	**P**	**15 48 44.0**	**-0.6**
STKA	**Stephens Creek**	**43.84**	**161**	P	**P**	**15 48 43.5**	**-1.1**
	comp=Z,3.3nm,0.9s,baz=348,slow=14,SNR=3.4						
	comp=Z,3.3nm,

AKBB Malin Array Si 87.10 321 P P 15 53 21.9 -1.0
AKBB IAmb IAmb 15 53 34.9
comp=Z,2.5nm,0.9s
KIEV Kiev 87.11 321 P P 15 53 21.7 -1.3
KIEV IAmb IAmb 15 53 35.0
comp=Z,2.4nm,0.9s
PPT Papeete 87.20 108 LR LR 16 26 54.7
comp=Z,29nm,19.9s,baz=30,slow=32
EUNU Eureka 88.75 5 P P 15 53 30.2 -0.2
EUNU IAmb IAmb 15 54 12.3
comp=Z,3.6nm,1.4s
VNDA Vanda 89.39 173 P P 15 53 34.0 +0.9
comp=Z,1.0nm,0.9s,baz=279,slow=6.4,SNR=4.5
comp=Z,1.0nm,0.9s
KOLS Kolonicke sedl 91.90 320 *e*P **P 15 53 45.0 -0.5**
STHS Stebnicka Huta 92.40 321 *e*P **P 15 53 47.8 -0.1**
HFS Hagfors 92.61 332 P **P 15 53 48.7 +0.2**
comp=Z,2.3nm,0.8s,baz=90,slow=6.7,SNR=8.2
comp=Z,2.3nm,0.8s
NB2 NORSAR Subarra 93.32 334 P **P 15 53 51.0 -0.9**
comp=Z,0.3nm,0.4s,baz=64,slow=4.8
NOA NORSAR Array B 93.32 334 P **P 15 53 51.8 -0.1**
comp=Z,1.0nm,0.8s,baz=64,slow=4.6,SNR=3.8
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 94.15 24 P **P 15 53 57.2 +1.6**
comp=Z,1.1nm,0.8s,baz=302,slow=4.4,SNR=13
comp=Z,1.1nm,0.8s
PLCA Paso Flores 145.65 157 PKPbc **PKPdf 16 00 16.9 +1.5**
comp=Z,2.6nm,0.8s,baz=205,slow=1.8,SNR=6.0

*NIED **30** 15:43:39.9, 36°.27N × 141°.01E, h42km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr=0.17; Mθθ=0.10; Mφφ=0.07; Mrθ=0.29; Mrφ=0.27; Mθφ=1.36; Fault plane solution: M0=1.42000×10^15 NP1:φs=83.00000°, δ=11.00000°, λ=-20.00000°. NP2:φs=193.00000°, δ=86.00000°, λ=-100.00000°.*
*JMA **30** 15:43:39.9±0.1, 36°.3N±0°.3 × 141°.0E±0°.9, h42km±1km, MD4.5/38, MV4.1/38, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
*IDC **30** 15:43:41.9±2.4, 36°.28N × 141°.02E, h40km±20km, mb3.7/16, mbtmp3.9/23, ML3.3/7, MS3.2/15, Error ellipse: s-maj=19.2km s-min=15.1km az=80.0*
*NEIC **30** 15:43:46.1±1.6, 36°.54N±0°.08 × 140°.8E±0°.1, h56km±9km, mb4.5/35, Error ellipse: s-maj=15.9km s-min=8.2km az=124.0*
ISC 30 15:43:40.9±1.2, 36°.34N±0°.04 × 141°.00E±0°.06, h28km±8km, n116, σ1§35/98, mb4.5/40, MS3.2/11, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.34**	**270**	⇓*i*P	**Pb**	**15 43 49.0**	**+0.4**
JHYU				⇓S	**Sn**	**15 43 54.9**	**-0.8**
JHYU	**Hitachinakayam**	**0.34**	**270**	A	A	15 43 49.0	
	comp=N,97nm,0.4s,comp=E,94nm,0.4s						
JHO	**Hitachi**	**0.44**	**308**	*i*P	**Pb**	**15 43 50.4**	**+0.2**
JHO				S	**Sn**	**15 43 57.6**	**-0.8**
JHO	**Hitachi**	**0.44**	**308**	A	A	15 43 50.4	
	comp=N,13nm,0.8s,comp=E,10.0nm,0.9s						
JIHU	**Itakohorinouch**	**0.54**	**226**	*i*P	**Pb**	**15 43 51.4**	**-0.4**
JIHU				S	**Sb**	**15 43 59.1**	**-0.1**
JYT	**Yasato**	**0.66**	**261**	*i*P	**Pb**	**15 43 52.9**	**-1.0**
JYT				*e*S	**Sb**	**15 44 01.7**	**-1.0**
JYT	**Yasato**	**0.66**	**261**	A	A	15 43 52.9	
	comp=N,47nm,0.4s,comp=E,29nm,0.4s						
ONAJ	**Iwakimizuishiy**	**0.78**	**348**	P	**Pb**	**15 43 55.0**	**-0.9**
ONAJ				*e*S	**Sb**	**15 44 05.3**	**-0.9**
JFK	**Kawauchi**	**1.03**	**354**	P	**Pn**	**15 43 58.5**	**-0.9**
JFK				*e*S	**Sb**	**15 44 11.4**	**-1.9**
JAG	**Ashikaga**	**1.25**	**274**	*i*P	**Pn**	**15 44 01.6**	**-0.9**
JAG				*e*S	**Sn**	**15 44 17.0**	**-1.4**
JOTO	**OTAMA OYAMA**	**1.33**	**336**	P	**Pn**	**15 44 04.2**	**+0.6**
JOTO				*e*S	**Sb**	**15 44 21.3**	**-0.5**
JOTO	**OTAMA OYAMA**	**1.33**	**336**	A	A	15 44 04.2	
	comp=N,19nm,0.4s,comp=E,24nm,0.6s						
JKT	**Katashina**	**1.48**	**287**	P	**Pn**	**15 44 05.7**	**+0.1**
JKT	**Katashina**	**1.48**	**287**	A	A	15 44 05.7	
	comp=N,5.0nm,0.3s,comp=E,9.0nm,0.3s						
JMM	**Marumori**	**1.53**	**354**		**Pn**	**15 44 06.0**	**-0.4**
JMM				Sn	**Sn**	**15 44 24.7**	**-0.6**
JMM	**Marumori**	**1.53**	**354**	P	**Pn**	**15 44 06.2**	**-0.1**
JMM	**Marumori**	**1.53**	**354**	S	**Sn**	**15 44 25.3**	**0.0**
MJAR	**Matsushiro Arr**	**2.26**	**276**	Pn	**Pn**	**15 44 16.1**	**-0.2**
	comp=E,8.2nm,0.3s,baz=112,slow=9.1,SNR=930						
MJAR				Sn	**Sn**	**15 44 43.6**	**+0.2**
	comp=E,6.1nm,0.3s,baz=51,slow=16,SNR=3.7						
MJAR				LR	LR	15 45 22.3	
	comp=E,736nm,18.1s,baz=54,slow=44						
	comp=E,74nm,0.7s						
MAJO	**Matsushiro**	**2.26**	**276**		**Pn**	**15 44 17.0**	**+0.6**
MAJO	**Matsushiro**	**2.26**	**276**	P	**Pn**	**15 44 17.1**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.27**	**276**		**Pn**	**15 44 18.4**	**+2.0**
JSD	**Sado**	**2.77**	**309**		**Pn**	**15 44 23.8**	**+0.5**
JSD	**Sado**	**2.77**	**309**	P	**Pn**	**15 44 24.3**	**+1.0**
JGF	**Kuroka**	**3.05**	**257**		**Pn**	**15 44 28.7**	**+1.5**
JGF	**Kuroka**	**3.05**	**257**	P	**Pn**	**15 44 28.8**	**+1.6**
JHJ	**Hachijo jima 2**	**3.37**	**198**	Pn	**Pn**	**15 44 31.6**	**0.0**
	comp=E,6.5nm,0.3s,baz=58,slow=20,SNR=1.2						
JHJ				Sn	**Sn**	**15 45 09.6**	**-1.0**
	comp=E,18nm,0.3s,baz=81,slow=18,SNR=2.3						
	comp=E,76nm,0.7s						
INU	**Inuyama**	**3.38**	**254**		**Pn**	**15 44 33.5**	**+1.7**
INU	**Inuyama**	**3.38**	**254**	P	**Pn**	**15 44 33.6**	**+1.8**
JTM	**Tenmabayashi**	**4.44**	**1**		**Pn**	**15 44 48.4**	**+2.1**
JTM	**Tenmabayashi**	**4.44**	**1**	P	**Pn**	**15 44 48.8**	**+2.5**
ERM	**Erimo**	**5.91**	**16**	Pn	**Pn**	**15 45 06.6**	**+0.1**
ERM	**Erimo**	**5.91**	**16**	P	**Pn**	**15 45 08.9**	**+2.4**
JEM	**Erimo**	**5.91**	**16**	P	**Pn**	**15 45 08.8**	**+2.3**
JMN	**Monobe**	**6.40**	**248**	P	**Pn**	**15 45 15.9**	**+2.6**
ASAJ	**Asahikawa**	**7.86**	**8**	Pn	**Pn**	**15 45 32.7**	**-0.6**
	comp=E,0.5nm,0.3s,baz=216,slow=16,SNR=5.0						
ASAJ				Sn	**Sn**	**15 47 00.1**	**-1.2**
	comp=E,0.6nm,0.3s,baz=266,slow=32,SNR=4.5						
	comp=E,3.6nm,0.6s						
JKA	**Kamikawa-asahi**	**7.86**	**8**	Pn	**Pn**	**15 45 32.5**	**-0.7**
JNU	**Nakatsue**	**8.93**	**252**	Pn	**Pn**	**15 45 48.7**	**+0.7**
	comp=E,0.2nm,0.3s,baz=62,slow=4.5,SNR=5.4						
JNU				LR	LR	15 49 33.0	
	comp=E,319nm,18.0s,baz=70,slow=39						
	comp=E,12nm,0.9s						
JCJ	**Chichijima**	**9.27**	**173**	Pn	Pn	15 45 48.0	-4.6
	comp=E,3.4nm,0.3s,baz=306,slow=21,SNR=1.7						
JCJ				Sn	**Sn**	15 47 23.4	-13
	comp=E,2.2nm,0.3s,baz=277,slow=16,SNR=1.9						
USRK	**Ussuriysk Ar.**	**10.44**	**322**	Pn	**Pn**	**15 46 10.1**	**+1.6**
	comp=E,0.5nm,0.3s,baz=140,slow=13,SNR=6.8						
USRK				LR	LR	15 49 58.2	
	comp=E,113nm,20.1s,baz=130,slow=36						
	comp=E,2.5nm,0.5s						
KSRS	**Korea Array**	**10.54**	**280**	Pn	**Pn**	**15 46 12.7**	**+2.8**
	comp=E,0.2nm,0.3s,baz=89,slow=14,SNR=10						
KSRS				LR	LR	15 50 06.3	
	comp=E,121nm,21.2s,baz=90,slow=36						
	comp=E,3.5nm,1.0s						
MDJ	**Mudanjiang**	**11.98**	**317**	P	**Pn**	**15 46 32.8**	**+3.1**
KLR	**Kul'dur**	**14.55**	**335**	Pn	**Pn**	**15 47 03.8**	**-0.9**
	comp=E,0.1nm,0.3s,baz=166,slow=21,SNR=2.2						
	comp=E,0.5nm,0.5s						
NJ2	**Nanjing**	**18.80**	**263**	*e*P	**Pn**	**15 47 59.3**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
TIA	**Tai'an**	**19.25**	**277**	P	**P**	**15 48 02.3**	**-0.7**
TIA				pmax	pmax		
	comp=Z,11nm,0.7s						
PETK	**Petropavlovsk-**	**20.45**	**30**	LR	LR	15 55 39.8	
	comp=Z,27nm,21.9s,baz=215,slow=35						
HNS	**HongShan**	**21.05**	**281**	⇓P	**P**	**15 48 20.0**	**-2.5**
HNS				pmax	pmax		
	comp=Z,13nm,1.0s						
TPUB	**Ta-pu**	**21.88**	**239**	P	**P**	**15 48 32.6**	**+1.0**
HHC	**Hu-ho-hao-te**	**23.39**	**290**	*e*P	**P**	**15 48 46.5**	**-0.9**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,78nm,4.5s						
XAN	**Xi'an**	**26.26**	**275**	*e*P	**P**	**15 49 13.5**	**-0.2**
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
YAK	**Yakutsk**	**26.68**	**348**	P	**P**	**15 49 17.4**	**+0.3**
YAK				IAmb	IAmb	15 49 53.8	
	comp=Z,13nm,1.1s						
YAK	**Yakutsk**	**26.68**	**348**	LR	LR	15 59 49.5	
	comp=Z,35nm,18.1s,baz=232,slow=36						
ENH	**Enshi**	**26.95**	**266**	P	**P**	**15 49 20.0**	**0.0**
ENH				IAmb	IAmb	15 49 22.2	
	comp=Z,7.2nm,0.5s						
SONM	**Songino Array**	**27.91**	**305**	P	**P**	**15 49 28.3**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=101,slow=9.4,SNR=5.2						
SONM				LR	LR	16 00 32.9	
	comp=Z,53nm,20.2s,baz=132,slow=36						
	comp=Z,1.8nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.09**	**119**	T	T	16 18 49.6	
	baz=312,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy**	**28.10**	**119**	T	T	16 18 47.0	
	baz=312,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**28.11**	**119**	T	T	16 18 50.6	
	baz=312,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**28.77**	**121**	T	T	16 19 31.5	
	baz=314,slow=76,SNR=178						
H11S3	**WAKE ISLAND Hy**	**28.77**	**121**	T	T	16 19 36.1	
	baz=314,slow=76,SNR=178						
H11S2	**WAKE ISLAND Hy**	**28.79**	**121**	T	T	16 19 35.6	
	baz=314,slow=76,SNR=138						
LZH	**Lanzhou**	**29.86**	**281**	*e*P	**P**	**15 49 50.3**	**+4.2**
LZH				sP	sP	15 50 06.0	+8.3
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
PZH	**PanZhiHua**	**34.71**	**265**	P	**P**	**15 50 29.8**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
CMAR	**Chiang Mai Arr**	**41.00**	**256**	LR	LR	16 09 18.6	
	comp=Z,26nm,19.1s,baz=170,slow=38						
ZAA0	**Zalesovo Array**	**42.14**	**313**		**P**	**15 51 30.1**	**-0.4**
ZALV	**Zalesovo Beam**	**42.14**	**313**		**P**	**15 51 30.1**	**-0.4**
ZALV	**Zalesovo Beam**	**42.14**	**313**	P	**P**	**15 51 30.4**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=90,slow=6.9,SNR=16						
ZALV				LR	LR	16 09 45.0	
	comp=Z,30nm,18.1s,baz=68,slow=37						
	comp=Z,4.5nm,0.7s						
K15K	**Wolf Creek Mou**	**43.57**	**35**	P	**P**	**15 51 44.8**	**+2.8**
MKAR	**Makanchi Array**	**44.21**	**303**	P	**P**	**15 51 47.6**	**+0.2**
MKAR	**Makanchi Array**	**44.21**	**303**	P	**P**	**15 51 47.9**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=90,slow=10,SNR=11						
MKAR				LR	LR	16 11 00.2	
	comp=Z,36nm,20.0s,baz=82,slow=37						
	comp=Z,2.6nm,0.7s						
J17K	**VABM Dome**	**44.85**	**34**	P	**P**	**15 51 54.0**	**+1.8**
J17K				IAmb	IAmb	15 52 28.2	
	comp=Z,14nm,1.4s						
C18K	**Utukok River**	**45.05**	**26**	P	**P**	**15 51 55.4**	**+1.6**
H18K	**Honhosa River**	**45.41**	**31**	P	**P**	**15 51 58.1**	**+1.5**
KURK	**Kurchatov**	**46.10**	**309**	P	**P**	**15 52 01.7**	**-0.6**
KURK				IAmb	IAmb	15 52 04.3	
	comp=Z,5.2nm,0.7s						
KURBB	**Kurchatov Arra**	**46.17**	**308**	P	**P**	**15 52 02.4**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=84,slow=8.0,SNR=16						
	comp=Z,3.4nm,0.6s						
D20K	**Etivluk River**	**46.69**	**26**	P	**P**	**15 52 08.3**	**+1.5**
J20K	**Nowinta River**	**47.10**	**33**	P	**P**	**15 52 11.3**	**+1.3**
J20K				IAmb	IAmb	15 52 31.6	
	comp=Z,12nm,1.5s						
B21K	**Ikpikpuk River**	**47.56**	**25**		**P**	**15 52 15.3**	**+1.9**
H21K	**Melozitna Rive**	**47.78**	**31**	P	**P**	**15 52 17.2**	**+1.9**
H21K				IAmb	IAmb	15 52 36.0	
	comp=Z,7.3nm,1.4s						
KDAK	**Kodiak Island**	**47.84**	**41**	LR	LR	16 12 23.8	
	comp=Z,22nm,21.1s,baz=78,slow=36						
E22K	**Anaktuvuk Pass**	**48.37**	**28**	P	**P**	**15 52 21.6**	**+1.8**
HNR	**Honiara**	**48.90**	**155**	LR	LR	16 16 05.5	
	comp=Z,31nm,18.0s,baz=226,slow=40						
H23K	**Yukon River**	**49.13**	**31**	P	**P**	**15 52 27.7**	**+2.0**
H23K				IAmb	IAmb	15 52 33.9	
	comp=Z,6.5nm,1.4s						
E23K	**Chandalar**	**49.19**	**28**	P	**P**	**15 52 27.9**	**+1.8**
E23K				IAmb	IAmb	15 52 45.4	
	comp=Z,4.0nm,1.0s						
H24K	**Noodor Dome**	**49.82**	**31**	P	**P**	**15 52 33.1**	**+2.2**
H24K				IAmb	IAmb	15 52 47.6	
	comp=Z,11nm,1.5s						
ILAR	**Eielson Array**	**50.26**	**32**	P	**P**	**15 52 34.5**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=267,slow=6.8,SNR=14						
	comp=Z,1.5nm,0.7s						
BVAR	**Borovoye Array**	**50.80**	**313**	P	**P**	**15 52 38.2**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=73,slow=6.5,SNR=6.4						
	comp=Z,1.3nm,0.5s						
ARSB	**Arslanbob**	**52.00**	**298**	IAmb	IAmb	15 52 49.4	
	comp=Z,5.1nm,0.7s						
BCAR	**Beaver Creek A**	**52.65**	**34**	P	**P**	**15 52 54.0**	**+1.7**
I28M	**Miner Creek**	**53.13**	**31**	P	**P**	**15 52 57.5**	**+1.7**
I28M				IAmb	IAmb	15 53 04.5	
	comp=Z,3.0nm,0.8s						
G29M	**Pine Creek**	**53.69**	**29**		**P**	**15 53 02.0**	**+2.3**
L29M	**L29M**	**54.29**	**34**	IAmb	IAmb	15 53 11.5	
	comp=Z,7.9nm,1.4s						
I30M	**Mount Dempster**	**54.64**	**31**	IAmb	IAmb	15 53 22.3	
	comp=Z,7.0nm,1.2s						
G31M	**Satah River**	**55.15**	**29**	IAmb	IAmb	15 53 13.5	
	comp=Z,5.5nm,1.2s						
H31M	**Peel River**	**55.35**	**30**	IAmb	IAmb	15 53 26.8	
	comp=Z,7.1nm,1.1s						
SIMJ	**Simiganj**	**55.77**	**296**		**P**	**15 53 15.2**	**-0.2**
SIMJ				IAmb	IAmb	15 53 16.4	
	comp=Z,4.0nm,0.9s						
WRA	**Warramunga Arr**	**56.33**	**188**	P	**P**	**15 53 17.9**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=2.9,slow=7.2,SNR=6.2						
	comp=Z,0.9nm,0.8s						
FARO	**Faro, Yukon**	**56.64**	**34**	IAmb	IAmb	15 53 21.7	
	comp=Z,6.6nm,1.1s						
ARTI	**Arti**	**56.77**	**319**		**P**	**15 53 21.7**	**-0.4**
AB31	**Akbulak array**	**58.13**	**310**	IAmb	IAmb	15 53 32.3	
	comp=Z,4.0nm,0.7s						
ABKAR	**Akbulak array**	**58.13**	**310**		**P**	**15 53 31.0**	**-0.7**
ABKAR	**Akbulak array**	**58.13**	**310**	IAmb	IAmb	15 53 32.3	
	comp=Z,4.0nm,0.7s						
ASAR	**Alice Springs**	**60.06**	**188**	P	**P**	**15 53 44.3**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=16,slow=9.0,SNR=6.8						
	comp=Z,0.5nm,0.8s						
ARCES	**ARCESS Array B**	**64.53**	**339**	LR	LR	16 25 37.5	
	comp=Z,29nm,18.2s,baz=246,slow=39						
FINES	**FINESS Array B**	**69.27**	**332**	P	**P**	**15 54 44.6**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=9.7,slow=7.3,SNR=2.3						
	comp=Z,1.3nm,0.8s						
KBZ	**Khabaz**	**71.10**	**311**	P	**P**	**15 54 56.4**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=15,slow=6.9,SNR=4.0						
	comp=Z,1.5nm,0.9s						
HFS	**Hagfors**	**74.58**	**336**	P	**P**	**15 55 16.8**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=73,slow=9.8,SNR=1.3						
HFS				LR	LR	16 29 04.8	
	comp=Z,18nm,19.7s,baz=24,slow=36						
	comp=Z,0.7nm,0.9s						
AKASG	**Malin Array Be**	**74.64**	**322**	P	**P**	**15 55 16.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=44,slow=6.4,SNR=6.3						
	comp=Z,0.4nm,0.3s						
NB2	**NORSAR Subarra**	**74.70**	**337**	P	**P**	**15 55 17.8**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**74.70**	**337**	P	**P**	**15 55 17.7**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=39,slow=5.8,SNR=4.2						
NOA				LR	LR	16 31 10.8	
	comp=Z,20nm,18.4s,baz=335,slow=38						
	comp=Z,0.8nm,0.7s						
NVAR	**Mina Array Bea**	**75.67**	**53**	P	**P**	**15 55 23.2**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=273,slow=2.5,SNR=3.5						
	comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**78.39**	**45**	P	**P**	**15 55 39.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=232,slow=2.1,SNR=6.3						
	comp=Z,0.3nm,0.5s						
RAYN	**Ar Rayn**	**80.61**	**292**		**P**	**15 55 50.4**	**-0.8**
CLL	**Collm**	**81.53**	**330**	*e*pP	pP	15 56 11.0	+6.6
MMAI	**Mount Meron Ar**	**82.10**	**305**	P	**P**	**15 55 58.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=107,slow=5.0,SNR=2.2						
	comp=Z,0.2nm,0.3s						
H03N2	**Juan Fernandez**	**147.28**	**97**	T	T	18 47 55.6	
	baz=289,slow=76,SNR=5.3						
H03N3	**Juan Fernandez**	**147.29**	**97**	T	T	18 47 55.6	
	baz=289,slow=76,SNR=7.5						
H03N1	**Juan Fernandez**	**147.29**	**97**	T	T	18 47 58.1	
	baz=289,slow=76,SNR=10						

*NEIC **30** 15:53:10.0±1.4, 9°.78N±0°.09 × 126°.4E±0°.1, h35km±2km, mb4.2/22, Error ellipse: s-maj=21.3km s-min=15.4km az=268.0*
*IDC **30** 15:53:19.6±2.1, 9°.64N × 126°.47E, h145km±20km, mb3.6/16, mbtmp4.0/17, MS2.9/4, Error ellipse: s-maj=30.2km s-min=13.6km az=72.0*
ISC 30 15:53:20.9±0.5, 9°.68N±0°.06 × 126°.3E±0°.1, h150km, n57, σ1§35/49, mb3.9/29, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.68**	**195**	P	**Pn**	**15 54 03.3**	**-0.9**
	256nm,0.4s,baz=284,slow=9.2,SNR=2.0						
DAV				S	**Sn**	**15 54 38.0**	**+0.3**
	154nm,0.3s,baz=58,slow=23,SNR=1.2						
DAV				LR	LR	15 54 40.7	
	comp=Z,149nm,20.9s,baz=6.5,slow=30						
KKM	**Kota Kinabalu**	**10.58**	**251**	Pn	Pn	15 55 41.4	-7.3
LUWI	**Luwuk**	**11.20**	**198**	Pn	Pn	15 55 47.4	-9.4
TPUB	**Ta-pu**	**14.58**	**339**	P	**Pn**	**15 56 38.3**	**-1.7**
SBUM	**Sibu**	**15.69**	**244**	P	**Pn**	**15 56 54.5**	**+0.5**
SOEI	**Soe**	**19.41**	**186**	P	**P**	**15 57 33.8**	**-1.9**
MTN	**Manton Dam**	**22.89**	**168**	P	**P**	**15 58 09.7**	**-2.1**
MTN				IAmb	IAmb	15 58 22.1	
	comp=Z,24nm,1.4s						
KNRA	**Kununurra**	**25.31**	**174**	P	**P**	**15 58 33.5**	**-0.3**
KNRA				IAmb	IAmb	15 58 59.2	
	comp=Z,7.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.61**	**181**	P	**P**	**15 58 53.8**	**-0.6**
KSRS	**Korea Array**	**27.70**	**3**	P	**P**	**15 58 52.7**	**-2.2**
	comp=Z,0.5nm,0.5s,baz=189,slow=10,SNR=2.9						
KSRS				LR	LR	16 11 42.0	
	comp=Z,19nm,18.2s,baz=180,slow=40						
	comp=Z,0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.86**	**291**	P	**P**	**15 58 57.3**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=116,slow=8.9,SNR=4.2						
	comp=Z,0.6nm,0.5s						
MJAR	**Matsushiro Arr**	**28.86**	**20**	LR	LR	16 10 39.0	
	comp=Z,26nm,18.9s,baz=200,slow=36						
WRAB	**Tennant Creek**	**30.48**	**165**	P	**P**	**15 59 19.6**	**-0.3**
WRAB				IAmb	IAmb	15 59 29.9	
	comp=Z,9.7nm,1.3s						
WRA	**Warramunga Arr**	**30.49**	**165**	P	**P**	**15 59 16.4**	**-3.5**
	comp=Z,0.7nm,1.0s,baz=342,slow=9.3,SNR=1.9						
	comp=Z,0.7nm,1.0s						
WR8	**Warramunga Arr**	**30.55**	**165**	P	**P**	**15 59 21.4**	**+1.0**
WR8				IAmb	IAmb	16 00 05.6	
	comp=Z,5.6nm,1.1s						
ASAR	**Alice Springs**	**33.97**	**167**	P	**P**	**15 59 46.8**	**-3.5**
	comp=Z,0.3nm,0.4s,baz=352,slow=7.1,SNR=13						
ASAR				PcP	**PcP**	**16 02 26.2**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=340,slow=2.6,SNR=4.9						
	comp=Z,0.3nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**40.10**	**73**	T	T	16 43 39.1	
	baz=260,slow=76,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**40.12**	**73**	T	T	16 43 39.5	
	baz=260,slow=76,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**40.12**	**73**	T	T	16 43 40.9	
	baz=260,slow=76,SNR=3.1						
H11N1	**WAKE ISLAND Hy**	**40.45**	**71**	T	T	16 44 13.2	
	baz=265,slow=74,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**40.46**	**71**	T	T	16 44 13.4	
	baz=265,slow=74,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**40.47**	**71**	T	T	16 44 21.8	
	baz=265,slow=74,SNR=10.0						
ULN	**Ulaanbaatar**	**41.37**	**340**	P	**P**	**16 00 52.5**	**+0.2**
ULN				IAmb	IAmb	16 00 53.2	
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**41.57**	**340**	P	**P**	**16 00 53.8**	**0.0**
SONM	**Songino Array**	**41.57**	**340**	P	**P**	**16 00 54.0**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=154,slow=10,SNR=7.7						
	comp=Z,1.3nm,0.5s						
NWAO	**Narrogin (SRO)**	**43.23**	**191**	P	**P**	**16 01 08.6**	**+1.3**
BBOO	**Buckleboo**	**43.27**	**168**	P	**P**	**16 01 09.1**	**+1.4**
PETK	**Petropavlovsk-**	**50.18**	**24**	P	**P**	**16 02 00.6**	**-0.5**
PETK	**Petropavlovsk-**	**50.18**	**24**	P	**P**	**16 01 60.0**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=226,slow=7.0,SNR=5.4						
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**52.49**	**323**	P	**P**	**16 02 17.9**	**-0.6**
MKAR	**Makanchi Array**	**52.49**	**323**	P	**P**	**16 02 18.1**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=117,slow=8.5,SNR=12						
	comp=Z,1.0nm,0.6s						
MA2	**Magadan**	**53.11**	**15**	LR	LR	16 28 03.7	
	comp=Z,11nm,18.0s,baz=146,slow=39						
ZALV	**Zalesovo Beam**	**55.14**	**332**	P	**P**	**16 02 37.5**	**0.0**
	comp=Z,0.6nm,0.5s,baz=134,slow=8.3,SNR=1.7						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**56.55**	**326**	P	**P**	**16 02 47.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=122,slow=7.1,SNR=6.5						
	comp=Z,0.6nm,0.6s						
TIXI	**Tiksi**	**61.94**	**1**	P	**P**	**16 03 24.0**	**-0.3**
TIXI				IAmb	IAmb	16 03 36.0	
	comp=Z,3.0nm,1.1s						
BVAR	**Borovoye Array**	**62.14**	**326**	P	**P**	**16 03 25.6**	**-0.4**
	comp=Z,

KHZ	Kahutara	23.61	196	P	P	16 08 44.9	-12
HNR	Honiara	24.05	293	P	P	16 09 00.6	-0.2
	21nm,0.7s,baz=195,slow=8.0,SNR=3.8						
	21nm,0.7s						
OXZ	Oxford	24.87	198	P	P	16 09 06.2	-1.5
RPZ	Rata Peaks	25.52	199	P	P	16 09 13.2	-0.3
	4.1nm,0.4s,baz=104,slow=18,SNR=1.7						
	4.1nm,0.4s						
WHZ	Wether Hill Ro	28.48	201		P	16 09 40.3	+1.0
PMG	Port Moresby	35.56	282		P	16 10 39.8	-0.3
PMG	Port Moresby	35.56	282	P	P	16 10 40.4	+0.4
PMG	Port Moresby	35.56	282	P	P	16 10 40.2	+0.2
COEN	Coen	37.90	273		P	16 10 59.3	+0.1
STKA	Stephens Creek	38.34	244	P	P	16 11 02.6	0.0
	3.8nm,0.6s,baz=94,slow=11,SNR=5.8						
	3.8nm,0.6s						
HTT	Hallett	40.79	242	P	P	16 11 22.2	-0.1
LCRK	Leigh Creek	41.07	246	P	P	16 11 24.3	-0.2
BBOO	Buckleboo	43.10	243	P	P	16 11 40.0	-0.5
OOD	Oodnadatta	43.19	250	P	P	16 11 41.5	+0.3
WR8	Warramunga Arr	44.87	261		P	16 11 53.3	-1.1
WR8				IAmb	IAmb	16 11 55.0	
	comp=Z,16nm,1.0s						
AS01	Alice Springs	44.94	256	P	P	16 11 54.3	-0.6
AS31	Alice Springs	44.98	256		P	16 11 54.8	-0.4
ASAR	Alice Springs	44.98	256	P	P	16 11 54.9	-0.4
	comp=Z,23nm,0.8s,baz=87,slow=8.0,SNR=388						
ASAR				PcP	PcP	16 13 24.4	-0.3
	comp=Z,1.0nm,0.7s,baz=100,slow=4.4,SNR=1.5						
ASAR				ScP	ScP	16 16 23.2	-1.6
	comp=Z,1.3nm,0.8s,baz=111,slow=5.0,SNR=5.9						
ASAR				S	S	16 17 51.0	-3.0
	comp=Z,2.7nm,0.7s,baz=93,slow=16,SNR=15						
	comp=Z,23nm,0.8s						
WB0	Warramunga Arr	45.00	262		P	16 11 54.4	-1.0
WRAB	Tennant Creek	45.01	261	P	P	16 11 54.1	-1.4
WRAB				IAmb	IAmb	16 11 55.3	
	comp=Z,16nm,1.0s						
WRA	Warramunga Arr	45.02	261	P	P	16 11 54.5	-1.0
	comp=Z,11nm,0.5s,baz=98,slow=7.5,SNR=223						
WRA				S	S	16 17 51.7	-2.9
	comp=Z,1.3nm,1.0s,baz=98,slow=15,SNR=6.5						
	comp=Z,11nm,0.5s						
KDU	Kakadu	48.29	271	P	P	16 12 19.5	-0.7
MTN	Manton Dam	49.51	270		P	16 12 28.1	-1.0
MTN	Manton Dam	49.51	270	P	P	16 12 28.2	-1.0
WRKA	Warakurna	49.95	254	P	P	16 12 31.6	-0.8
KNRA	Kununurra	51.04	266	P	P	16 12 39.6	-0.8
KNRA				IAmb	IAmb	16 12 40.6	
	comp=Z,9.7nm,0.7s						
FITZ	Fitzroy Crossi	53.45	262		P	16 12 57.3	-0.3
FITZ	Fitzroy Crossi	53.45	262	P	P	16 12 57.0	-0.6
SOEI	Soe	56.83	271		P	16 13 22.1	+0.7
SOEI	Soe	56.83	271	P	P	16 13 22.5	+1.1
MBWA	Marble Bar	58.31	257	P	P	16 13 30.6	-0.7
SBA	Scott Base	58.44	184		P	16 13 33.6	+2.5
VNDA	Vanda	58.49	185		P	16 13 32.8	+1.3
VNDA	Vanda	58.49	185	P	P	16 13 32.7	+1.3
	comp=Z,2.5nm,0.8s,baz=4.0,slow=7.4,SNR=13						
	comp=Z,2.5nm,0.8s						
PLAI	Plampang	63.22	270	P	P	16 14 03.0	-0.6
KKM	Kota Kinabalu	69.96	284	P	P	16 14 45.6	+0.2
MJAR	Matsushiro Arr	69.97	323	P	P	16 14 44.3	-0.5
	comp=Z,7.5nm,0.7s,baz=157,slow=5.8,SNR=39						
	comp=Z,7.5nm,0.7s						
MAJO	Matsushiro	69.97	323	P	P	16 14 44.6	-0.3
QSPA	South Pole Qui	70.12	180	P	P	16 14 46.1	+0.7
	comp=Z,14nm,0.7s,baz=18,slow=1.0,SNR=80						
	comp=Z,14nm,0.7s						
UGM	Wanagama	70.32	269	P	P	16 14 47.4	-0.1
JSD	Sado	71.02	324	P	P	16 14 51.1	+0.2
JKA	Kamikawa-asahi	73.41	331		P	16 15 06.0	+1.4
JKA				IAmb	IAmb	16 15 07.0	
	comp=Z,15nm,0.8s						
ASAJ	Asahikawa	73.41	331	P	P	16 15 06.1	+1.4
	comp=Z,14nm,0.9s,baz=168,slow=9.3,SNR=8.2						
	comp=Z,14nm,0.9s						
YULB	Yu-li	73.49	303	P	P	16 15 04.5	-1.1
KSM	Kuching	73.68	278		P	16 15 06.7	-0.2
SSLB	Suanglung	73.96	303	P	P	16 15 07.1	-1.2
TPUB	Ta-pu	73.97	303	P	P	16 15 07.0	-1.3
YSS	Yuzhno-Sakhali	75.56	333		P	16 15 17.3	+0.6
YSS				IAmb	IAmb	16 15 18.4	
	comp=Z,16nm,1.0s						
PETK	Petropavlovsk-	75.83	345	P	P	16 15 17.3	-0.7
	comp=Z,5.2nm,0.8s,baz=162,slow=5.2,SNR=7.8						
	comp=Z,5.2nm,0.8s						
KSRS	Korea Array	76.71	318	P	P	16 15 23.4	+0.2
	comp=Z,2.4nm,1.0s,baz=140,slow=7.6,SNR=9.0						
	comp=Z,2.4nm,1.0s						
USA0B	Ussuriysk Arra	78.70	326	IAmb	IAmb	16 15 35.9	
	comp=Z,9.6nm,0.8s						
USRK	Ussuriysk Ar.	78.70	326	P	P	16 15 34.7	+0.9
USRK	Ussuriysk Ar.	78.70	326	P	P	16 15 34.9	+1.1
	comp=Z,6.7nm,0.8s,baz=111,slow=3.9,SNR=17						
	comp=Z,6.7nm,0.8s						
BELA	Belgrano 2	80.06	173		P	16 15 40.2	-0.3
MDJ	Mudanjiang	80.27	325	IAmb	IAmb	16 15 44.0	
	comp=Z,9.0nm,0.9s						
MDJ	Mudanjiang	80.27	325	P	P	16 15 43.0	+0.9
MDJ				pmax	pmax		
	comp=Z,12nm,0.9s						
BNX	BinXian	82.18	325	⇑P	P	16 15 52.0	+0.2
BNX				pmax	pmax		
	comp=Z,12nm,0.8s						
MAW	Mawson	82.20	200	P	P	16 15 51.2	-0.4
	comp=Z,2.1nm,0.7s,baz=154,slow=13,SNR=2.6						
	comp=Z,2.1nm,0.7s						
KLR	Kul'dur	82.23	329	P	P	16 15 52.0	0.0
	comp=Z,1.6nm,0.9s,baz=101,slow=6.8,SNR=4.8						
	comp=Z,1.6nm,0.9s						
PWL	Port Wells	83.92	14	IAmb	IAmb	16 16 00.8	
	comp=Z,20nm,1.4s						
TRF	Thorofare Moun	85.84	12		P	16 16 08.8	-0.9
TRF				IAmb	IAmb	16 16 10.6	
	comp=Z,5.8nm,0.8s						
SEY	Seymchan	85.92	347	P	P	16 16 09.7	-0.1
	comp=Z,4.8nm,0.7s,baz=132,slow=6.9,SNR=16						
	comp=Z,4.8nm,0.7s						
RND	Reindeer	86.08	13		P	16 16 10.5	-0.2
RND				IAmb	IAmb	16 16 11.4	
	comp=Z,8.0nm,0.9s						
TXAR	Lajitas Array	86.47	57	P	P	16 16 14.8	+1.4
	comp=Z,0.6nm,0.7s,baz=224,slow=7.0,SNR=4.5						
	comp=Z,0.6nm,0.7s						
WRH	Wood River Hil	87.19	12	IAmb	IAmb	16 16 16.2	
	comp=Z,5.6nm,0.9s						
ELIB	Princess Elisa	87.23	186	dP	P	16 16 16.0	-0.3
	comp=Z,7.8nm,0.7s						
HDA	Harding Lake	87.37	13	IAmb	IAmb	16 16 17.0	
	comp=Z,4.1nm,0.6s						
CCB	Clear Creek Bu	87.40	12	IAmb	IAmb	16 16 16.9	
	comp=Z,5.2nm,0.6s						
ILAR	Eielson Array	87.70	13	P	P	16 16 17.3	-0.9
	comp=Z,1.3nm,0.8s,baz=224,slow=6.0,SNR=10						
	comp=Z,1.3nm,0.8s						
XAN	Xi'an	88.08	307	P	P	16 16 21.8	+1.0
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
J26L	Joseph Creek	88.19	14	IAmb	IAmb	16 16 22.2	
	comp=Z,3.7nm,1.0s						
TROLL	Troll, Antarti	88.28	180	⇑P	P	16 16 21.2	0.0
	comp=Z,216nm,0.7s						
PDAR	Pinedale Array	88.32	43	P	P	16 16 22.4	+0.4
	comp=Z,0.4nm,0.5s,baz=216,slow=2.1,SNR=5.9						
	comp=Z,0.4nm,0.5s						
M30M	Minto, Yukon	88.34	18	IAmb	IAmb	16 16 22.6	
	comp=Z,3.4nm,0.8s						
L29M	L29M	88.39	17	IAmb	IAmb	16 16 22.9	
	comp=Z,4.2nm,0.7s						
SNAA	Sanae	88.55	178	⇑P	P	16 16 21.6	-0.8
	comp=Z,81nm,1.2s						
SNAA	Sanae	88.55	178	P	P	16 16 21.5	-0.8
	comp=Z,2.6nm,0.8s,baz=235,slow=14,SNR=3.5						
	comp=Z,2.6nm,0.8s						
VNA3	Neumayer Olymp	88.67	176	⇑P	P	16 16 22.5	-0.3
	comp=Z,15nm,0.6s						
VNA2	Neumayer--Watz	89.11	177	⇑P	P	16 16 24.7	-0.2
	comp=Z,10nm,0.6s,baz=182,slow=4.8						
K29M	Barlow Dome	89.15	17	IAmb	IAmb	16 16 26.7	
	comp=Z,5.1nm,0.9s						
HHC	Hu-ho-hao-te	89.22	314	eP	P	16 16 27.3	+1.3
HHC				pmax	pmax		
	comp=Z,23nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,5.5s						
VNA1	Neumayer--Stat	89.34	176	⇑P	P	16 16 26.3	+0.4
	comp=Z,14nm,0.8s						
PLCA	Paso Flores	89.40	133	P	P	16 16 27.8	+0.8
	comp=Z,2.7nm,1.0s,baz=201,slow=4.2,SNR=3.7						
	comp=Z,2.7nm,1.0s						
E23K	Chandalar	90.12	10	IAmb	IAmb	16 16 31.2	
	comp=Z,3.8nm,1.1s						
CMAR	Chiang Mai Arr	90.26	289		P	16 16 31.3	+0.1
CMAR	Chiang Mai Arr	90.26	289	P	P	16 16 32.3	+1.2
	comp=Z,1.7nm,0.8s,baz=112,slow=3.0,SNR=13						
	comp=Z,1.7nm,0.8s						
D22K	Ayikyak River	90.40	9		P	16 16 31.3	+0.6
D22K				IAmb	IAmb	16 16 51.7	
	comp=Z,5.1nm,1.4s						
PZH	PanZhiHua	90.76	298	P	P	16 16 34.8	+1.3
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
G30M	tAoh Zraii Nji	91.97	15	IAmb	IAmb	16 16 38.7	
	comp=Z,3.1nm,0.8s						
G31M	Satah River	92.41	16	IAmb	IAmb	16 16 40.6	
	comp=Z,2.7nm,0.8s						
MKAR	Makanchi Array	111.07	314	PKiKP	PKiKP	16 21 57.8	-1.7
	comp=Z,0.3nm,0.6s,baz=64,slow=3.4,SNR=2.3						
KURBB	Kurchatov Arra	113.88	317	PKiKP	PKiKP	16 22 02.7	-2.0
	comp=Z,0.2nm,0.4s,baz=63,slow=2.7,SNR=4.1						
BVAR	Borovoye Array	118.88	320	PKP	PKPdf	16 22 13.2	-1.0
	comp=Z,1.1nm,0.6s,baz=51,slow=1.4,SNR=6.8						
KBL	Kabul	119.93	299		PKiKP	16 22 17.6	+0.3
ARCES	ARCESS Array B	128.44	350	PKP	PKPdf	16 22 31.5	-0.7
	comp=Z,2.2nm,0.8s,baz=339,slow=3.1,SNR=3.9						
FINES	FINESS Array B	135.34	344	PKP	PKPdf	16 22 43.1	-2.2
	comp=Z,0.4nm,0.5s,baz=95,slow=4.6,SNR=3.7						
HFS	Hagfors	139.05	351	PKhKP	PKPpre	16 22 42.4	
	comp=Z,1.1nm,0.8s,baz=60,slow=8.8,SNR=5.2						
AKASG	Malin Array Be	142.70	332	PKhKP	PKPpre	16 22 55.1	
	comp=Z,2.7nm,0.5s,baz=44,slow=4.4,SNR=27						
EKA	Eskdalemuir Ar	144.42	5	PKP	PKPbc	16 23 01.1	-0.7
	comp=Z,0.9nm,0.5s,baz=318,slow=3.0,SNR=7.0						
BRTR	Keskin Array B	146.72	313	PKPdf	PKPdf	16 23 07.1	+0.7
BRTR	Keskin Array B	146.72	313	PKPbc	PKPdf	16 23 07.5	+1.0
	comp=Z,2.1nm,0.7s,baz=103,slow=5.5,SNR=5.2						
BUR08	Bucovina Ar. S	146.73	331		PKPbc	16 23 09.0	+0.1
BURAR	Bucovina Array	146.75	331		PKPbc	16 23 09.1	+0.1
KOLS	Kolonicke sedl	146.96	336	ePKP	PKiKP	16 23 10.3	-0.9
CLL	Collm	147.60	348		PKPbc	16 23 10.7	-0.3
CLL	Collm	147.60	348	i PKPbc	PKPbc	16 23 10.9	0.0
	comp=Z,9.0nm,0.8s						
CLL				i PKPab	PKPab	16 23 14.8	-0.2
	comp=Z,9.0nm,1.2s						
LANS	Liptovska Anna	147.80	339	ePKP	PKiKP	16 23 12.4	-0.6
BRG	Berggiesshubel	147.81	346	ePKP	PKPbc	16 23 11.9	+0.4
BRG				Amp		16 23 12.5	
	comp=Z,3.3nm,0.7s						
MMAI	Mount Meron Ar	147.84	301	PKPbc	PKPbc	16 23 12.3	+0.1
	comp=Z,3.2nm,0.5s,baz=79,slow=4.3,SNR=7.7						
MORC	Moravsky Berou	147.87	341	ePKP	PKPdf	16 23 07.6	-0.3
VRAC	Vranov	148.57	342	ePKP	PKPbc	16 23 13.5	+0.1
VYHS	Vyhne	148.57	339	ePKP	PKiKP	16 23 14.1	-0.5
BORA	Eskisehir	148.79	316		PKPbc	16 23 13.8	-0.5
KRUC	Moravsky	148.84	342	ePKP	PKPbc	16 23 14.3	+0.2
MODS	Modra-Piesok	149.19	340	ePKP	PKiKP	16 23 15.8	-0.1
MEM	Membach	149.27	355	dPKP	PKPbc	16 23 14.8	-0.3
BTNL	Ternell	149.28	355	dPKP	PKPbc	16 23 14.8	-0.4
BCLA	Clavier	149.50	356	dPKPbc	PKPbc	16 23 15.4	-0.2
BCLA				dPKPab	PKPab	16 23 22.3	-0.6
BMRD	Maredsous	149.65	357	dPKP	PKPbc	16 23 16.3	+0.3
GERES	GERESS Array B	149.76	345		PKPbc	16 23 16.2	-0.2
GERES	GERESS Array B	149.76	345	PKPbc	PKPbc	16 23 16.5	0.0
	comp=Z,2.5nm,0.8s,baz=0.0,slow=2.8,SNR=18						
DOU	Dourbes	149.87	357	dPKPdf	PKPdf	16 23 11.3	+0.3
DOU				dPKP	PKPbc	16 23 16.6	+0.1
DOU				dPKPab	PKPab	16 23 23.9	-0.5
WLF	Walferdange	150.19	355	dPKP	PKiKP	16 23 18.2	+0.3

*ECX **30** 16:17:08.4±0.4, 32°.09N×115°.11W, h9km±1km, MD2.3, ML2.5*
*MEX **30** 16:17:10.8±0.8, 32°.08N×115°.09W, h10km±12km, MD3.1*

ISC 30 16:17:09.7±0.9, 32°.07N±0°.02×115°.13W±0°.03, h16km±7km, n19, σ0°71/31, 4C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHX	Rio Hardy	0.14	296	⇑i P	Pg	16 17 13.3	-0.4
RITX	Riito Sonora	0.17	57	eP	Pg	16 17 13.5	-0.5
RITX				eS	Sg	16 17 16.6	-0.4
RITX				IAML		16 17 17.1	
	comp=N,2μm,0.2s						
RITX				e		16 17 17.1	
RITX				e		16 17 17.3	
RITX				IAML		16 17 17.3	
	comp=E,3μm,0.1s						
GUVIX	Guadalupe Vict	0.24	11	eP	Pg	16 17 14.6	-0.4
MBIG	Mexicali	0.34	350	i P	Pg	16 17 16.0	-0.8
MBIG				eP	Pb	16 17 17.1	-0.3
MBIG				i S	Sb	16 17 23.3	+0.8
MBIG				i S	Sg	16 17 23.6	+2.0
MBIG	Mexicali	0.34	350	eP	Pg	16 17 16.7	-0.1
EDOMX	El Doctor, EDO	0.35	109	eP	Pb	16 17 17.2	-0.2
EDOMX				eS	Sb	16 17 23.1	+0.5
EDOMX				⇓e		16 17 23.9	
CPBX	Cerro Prieto	0.38	337	eP	Pg	16 17 17.4	0.0
CPBX				eS	Sb	16 17 24.3	+0.7
CPBX				⇑e		16 17 32.3	
CPBX				IAML		16 17 32.3	
	comp=E,1μm,0.3s						
PESCX	Ej. Pescaderos	0.39	21	eP	Pg	16 17 17.3	-0.3
ALAMX	Rancho Alamar	0.49	263	⇑eP	Pg	16 17 20.2	+0.6
YUCAX	Ej. Yucat¡n	0.53	3	eS	Sb	16 17 29.1	+1.1
JARAX	Ej. Heriberto	0.60	321	eP	Pg	16 17 21.5	0.0
EMSC	East Mesa	0.68	10	eP	Pg	16 17 22.4	-0.6
EMSC				eS	Sb	16 17 32.2	0.0
SJX	San Joaquin	0.77	247	⇑eP	Pg	16 17 23.9	-0.7
YUH2	Yuha Desert	0.88	311	eP	Pg	16 17 26.1	-0.8
YUH2				eS	Sg	16 17 38.2	-0.2
IKP	In-Ko-Pah, Jac	1.01	305	eP	Pg	16 17 28.6	-0.6
SFX	San Felipe	1.06	167	i P	Pg	16 17 29.7	-0.5
SFX				eS	Sb	16 17 44.5	+1.3
SPIG	San Pedro Mart	1.06	196	eP	Pg	16 17 29.9	-0.4
SPIG				eS	Sg	16 17 44.7	+0.5
CBX	Cerro Bola	1.32	281	eP	Pn	16 17 33.6	+0.1
CBX				eS	Sb	16 17 51.1	+0.2
TJIG	Tijuana	1.36	286	eP	Pn	16 17 33.5	-0.4
TJIG				eS	Sb	16 17 51.1	-0.7

*IDC **30** 16:20:32.8±8.0, 39°.74N×70°.33E, h0km, mb3.9/3, mbtmp3.7/5, ML2.8/2, MS3.6/2, Error ellipse: s-maj=147.8km s-min=24.7km az=165.0*

ISC 30 16:20:37.2±4.0, 40°.0N±0°.5×70°.3E±0°.2, h17km, n8, σ0°85/7, mb3.9/3, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	4.14	49	Pn	Pb	16 21 50.2	+0.5
	1.4nm,0.5s						
AAK				Sn	Sg	16 22 50.3	+0.1
	7.1nm,0.6s						
MKAR	Makanchi Array	11.08	48	Pn	Pn	16 23 14.4	-0.4
	baz=218,slow=13,SNR=1.6						
MKAR				Lg	Lg	16 26 28.8	
	0.1nm,0.3s,baz=213,slow=32,SNR=1.2						
	0.2nm,0.6s						
ZALV	Zalesovo Beam	17.08	30	P	Pn	16 24 33.8	-1.2
	0.2nm,0.3s,baz=211,slow=11,SNR=4.8						
	1.0nm,0.4s						
FINES	FINESS Array B	34.29	324	P	P	16 27 22.7	+0.5
	1.3nm,0.9s,baz=116,slow=13,SNR=3.6						
	1.3nm,0.9s						
ARCES	ARCESS Array B	37.70	336	P	P	16 27 52.1	+0.8
	2.6nm,0.9s,baz=119,slow=7.8,SNR=3.9						
	2.6nm,0.9s						
HFS	Hagfors	39.99	319	P	P	16 28 10.2	-0.4
	0.9nm,0.6s,baz=87,slow=7.4,SNR=4.2						
	0.9nm,0.6s						
VAE	Valguarnera	43.02	285	LR	LR	16 51 09.9	
	comp=Z,42nm,18.8s,baz=309,slow=42						
LBTB	Lobatse	76.90	221	LR	LR	17 06 52.3	
	comp=Z,51nm,18.9s,baz=146,slow=36						

*IDC **30** 16:28:43.6±2.2, 6°.86S×129°.62E, h0km, mb3.5/1, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=88.0km s-min=29.1km az=77.0*

ISC 30 16:29:04.7±4.3, 7°.9S±0°.3×129°.4E±0°.2, h100km, n7, σ0°63/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	Darwin Rock St	4.70	162	P	Pn	16 30 19.3	+5.9
MTN	Manton Dam	5.16	161	P	Pn	16 30 22.6	+3.0
KDU	Kakadu	5.59	148	P	Pn	16 30 26.0	+0.5
FITZ	Fitzroy Crossi	10.75	200	Pn	Pn	16 31 35.0	-0.8
	0.1nm,0.3s,baz=22,slow=12,SNR=9.2						
FITZ				Sn	Sn	16 33 34.8	+0.6
	0.4nm,0.3s,baz=353,slow=17,SNR=5.1						
	1.2nm,0.9s						
WRA	Warramunga Arr	12.85	159	Pn	Pn	16 32 00.2	-3.6
	0.1nm,0.3s,baz=341,slow=13,SNR=6.8						
	0.5nm,0.8s						
ASAR	Alice Springs	16.22	165	P	Pn	16 32 45.0	-1.9
	0.1nm,0.3s,baz=353,slow=12,SNR=7.3						
ASAR				S	Sn	16 35 45.4	-1.3
	0.3nm,0.8s,baz=344,slow=25,SNR=4.4						
	0.6nm,1.1s						
MKAR	Makanchi Array	68.69	327	P	P	16 39 44.1	-13
	0.2nm,0.3s,baz=126,slow=7.2,SNR=4.6						
	0.2nm,0.3s						

TXNET 30 16:33:14.7, 31°.6N±0°.5×104°.3W±0°.6, h5km±2km, ML1.9/6, 1C-1D, Error ellipse: s-maj=0.9km s-min=0.7km az=62.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.35	33	⇑P	Pg	16 33 21.5	-0.1
TPB11				S	Sg	16 33 26.7	+0.5
PECS	Pecos	0.43	129	P	Pg	16 33 23.2	+0.2
PECS				S	Sg	16 33 29.0	+0.3
PECS	Pecos	0.43	129	P	Pg	16 33 23.3	+0.2
TPB12	Southwest of T	0.50	149	P	Pg	16 33 24.5	+0.2
TPB12				S	Sg	16 33 31.2	+0.5
TPB07	Mentone	0.51	97	P	Pb	16 33 26.8	+0.6
TPB07				S	Sg	16 33 31.4	+0.3
TPB10	Southeast of T	0.56	129	P	Pg	16 33 25.5	0.0
TPB10				S	Sg	16 33 33.4	+0.7
GDL2	Guadalupe Moun	0.57	351	P	Pg	16 33 25.8	+0.1
PCOS	Crockett Middl	0.68	110	S	Sg	16 33 37.1	+0.5
PCOS	Crockett Middl	0.68	110	P	Pg	16 33 18.5	-9.3
CLNB	Carlsbad	0.70	27	P	Pg	16 33 27.9	-0.3
CLNB				S	Sg	16 33 38.0	+0.6
TPB01	Permian Basin	0.81	149	P	Pg	16 33 29.7	-0.5
TPB01				S	Sg	16 33 40.1	-0.6
TPB01	Permian Basin	0.81	149	P	Pg	16 33 29.7	-0.5
TPB04	Verhalen	0.96	118	P	Pg	16 33 32.8	-0.3
TPB04				S	Sg	16 33 45.6	0.0
MNTX	Cornudas Mount	0.96	274	P	Pg	16 33 33.4	+0.2
MNTX				S	Sb	16 33 46.2	-0.6
VHRN	Van Horn	1.05	216	P	Pg	16 33 34.8	-0.1
VHRN				S	Sb	16 33 49.8	+0.2
TPB05	Hovey Rd	1.07	132	P	Pg	16 33 34.8	-0.5
TPB05				S	Sg	16 33 49.1	-0.2
MNHN	Monahans	1.31	103	P	Pn	16 33 38.5	-1.2
MNHN				S	Sg	16 33 55.9	-1.1
ALPN	Alpine	1.37	157	⇓P	Pn	16 33 39.5	-1.1
ALPN				S	Sg	16 33 57.0	-1.8
ODSA	Odessa	1.53	71	P	Pn	16 33 42.2	-0.6
ODSA				S	Sn	16 34 01.8	-1.4
TMB04	Seminole	1.79	56	P	Pn	16 33 47.1	+0.6
TMB04				S	Sb	16 34 11.0	0.0
TMB01	Midkiff	1.86	89	S	Sb	16 34 12.1	-0.6
TMB05	Klondike	2.26	64	S	Sb	16 34 23.3	-1.1
TX31	Lajitas Ar. Si	2.35	167	Pg	Pb	16 33 57.3	-0.3

*NEIC **30** 16:46:05.8±2.8, 32°.06N±0°.03×115°.04W±0°.03, h21km±2km, Error ellipse: s-maj=4.8km s-min=3.0km az=126.0*
*ECX **30** 16:46:05.4±0.4, 32°.10N×115°.12W, h12km±2km, MD3.1, ML3.3*
*PAS **30** 16:46:06.8±3.4, 32°.11N±0°.02×115°.06W±0°.02, h20km±4km, ML3.3/53, ML3.0/38(NEIC), Error ellipse: s-maj=3.5km s-min=1.6km az=134.0*

ISC 30 16:46:06.5±0.9, 32°.10N±0°.02×115°.10W±0°.02, h18km±2km, n53, σ0°76/68, 6C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITX	Riito Sonora	0.13	62	⇑i P	Pg	16 46 10.4	-0.1
RITX				eS	Sg	16 46 13.7	+0.5
RITX				⇑e		16 46 14.0	
RITX				IAML		16 46 14.0	
	comp=E,27μm,0.2s						
RITX				IAML		16 46 14.0	
	comp=N,26μm,0.2s						
RITX				⇑e		16 46 14.1	
RHX	Rio Hardy	0.16	281	⇑i P	Pb	16 46 10.0	-0.1
GUVIX	Guadalupe Vict	0.20	5		Pg	16 46 11.7	+0.2
GUVIX					Sg	16 46 15.9	+1.0
GUVIX	Guadalupe Vict	0.20	5	eP	Pg	16 46 11.6	+0.2
GUVIX				eS	Sg	16 46 15.6	+0.8
GUVIX				⇓e		16 46 16.3	
GUVIX				IAML		16 46 16.3	
	comp=N,12μm,0.4s						
GUVIX				⇓e	

comp=E,256nm,0.5s
YUH2 Yuha Desert 0.88 308 *e*P **Pb 16 46 22.6 -0.7**
COK2 Cook Ranch 2 0.92 325 Pb 16 46 23.3 -0.5
VTX Valle De La Tr 0.92 220 Pb 16 46 24.1 +0.2
VTX **Sb 16 46 37.0 +1.2**
VTX Valle De La Tr 0.92 220 IAML 16 46 38.4
comp=N,377nm,0.4s
VTX IAML 16 46 40.8
comp=E,527nm,0.4s
RMX La Rumorosa 0.97 301 Pb 16 46 23.4 -1.4
RMX **Sb 16 46 35.9 -1.5**
GLA Glamis 0.97 14 Pb 16 46 23.7 -1.1
GLA **Sb 16 46 37.3 -0.1**
GLA Glamis 0.97 14 IAML 16 46 39.0
comp=N,704nm,0.4s
GLA IAML 16 46 39.1
comp=E,602nm,0.3s
IKP In-Ko-Pah, Jac 1.01 303 Pb 16 46 25.1 -0.5
IKP **Sb 16 46 39.1 +0.5**
IKP In-Ko-Pah, Jac 1.01 303 *e*P **Pb 16 46 24.7 -0.9**
CRR Carrizo Plain 1.07 317 Pn 16 46 26.4 -0.2
CRR **Sn 16 46 41.5 +0.5**
SFX San Felipe 1.08 169 Pn 16 46 26.3 -0.5
SFX **Sn 16 46 41.2 0.0**
SFX San Felipe 1.08 169 IAML 16 46 42.5
comp=N,674nm,0.2s
SFX IAML 16 46 42.8
comp=E,594nm,0.4s
113A Mohawk Valley, 1.31 59 Pn 16 46 28.8 -1.0
113A IAML 16 46 53.4
comp=N,170nm,0.7s
CBX Cerro Bola 1.34 279 Pn 16 46 30.2 -0.3
CCX Cicese 1.35 260 Pn 16 46 30.8 +0.4
TKX Tecate 1.36 290 IAML 16 46 50.2
comp=E,283nm,0.3s
PPXB Puerto Peasco 1.47 121 *e*P **Pn 16 46 30.6 -1.4**
BLYC Blythe 1.71 16 Pn 16 46 34.9 -0.5
BLYC IAML 16 47 10.9
comp=N,114nm,0.9s
BLYC IAML 16 47 13.9
comp=E,130nm,0.9s
PFO Pinyon Flats O 1.89 323 Pn 16 46 36.9 -1.0
POB Polly Butte 2.20 316 Pb 16 46 47.4 +1.6
ELS Elsinore Mount 2.49 309 IAML 16 47 29.3
comp=E,50nm,0.7s
GSC Goldstone, Bar 3.49 336 IAML 16 48 37.5
comp=E,21nm,1.6s
TUC Tucson 3.66 86 IAML 16 48 17.3
comp=E,29nm,0.7s
TPNV Topopah Spring 4.93 349 IAML 16 49 26.8
comp=E,11nm,1.3s
TPNV IAML 16 49 33.0
comp=E,10nm,1.5s

---

*IDC **30** 16:47:19.3±2.0, 7°.64S×158°.03E, h0km, mb3.5/3, mbtmp3.6/4, ML3.9/1, MS2.4/1, Error ellipse: s-maj=45.8km s-min=25.8km az=29.0*
*NEIC **30** 16:47:20.9±1.6, 7°.64S±0°.08×158°.1E±0°.1, h10km±1km, mb4.3/9, Error ellipse: s-maj=24.9km s-min=11.5km az=251.0*
ISC 30 16:47:24.3±0.7, 7°.64S±0°.09×158°.1E±0°.1, h46km, n22, σ1°.20/17, mb4.1/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.58 134**		Pn	**Pn**	**16 48 02.1**	**-1.5**
HNR	**Honiara**	**2.58 134**		Pn	**Pn**	**16 48 03.1**	**-0.5**
22nm,0.3s,baz=328,slow=19,SNR=53							
HNR				Sn	**Sn**	**16 48 34.2**	**+0.4**
69nm,0.3s,baz=302,slow=19,SNR=9.2							
HNR				LR	LR	16 48 51.9	
comp=Z,67nm,19.2s,baz=120,slow=36							
93nm,0.4s							
PATS	**Pohnpei**	**14.38**	**1**	Pn	**Pn**	**16 50 44.3**	**-1.0**
WR8	**Warramunga Arr**	**25.91**	**239**	P	**P**	**16 52 53.5**	**+1.2**
WR8				IAmb	IAmb	16 52 56.5	
comp=Z,11nm,1.4s							
WB0	**Warramunga Arr**	**25.92**	**240**	P	**P**	**16 52 53.6**	**+1.1**
WB0				IAmb	IAmb	16 53 25.9	
comp=Z,9.2nm,1.3s							
WRAB	**Tennant Creek**	**26.03**	**240**	P	**P**	**16 52 54.6**	**+1.2**
WRAB				IAmb	IAmb	16 53 17.2	
comp=Z,8.2nm,1.3s							
WRA	**Warramunga Arr**	**26.04**	**240**	P	**P**	**16 52 54.6**	**+1.1**
comp=Z,0.6nm,0.5s,baz=64,slow=8.8,SNR=9.9							
comp=Z,0.6nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**27.32**	**18**	T	T	17 21 35.1	
baz=198,slow=76,SNR=128							
H11S2	**WAKE ISLAND Hy**	**27.33**	**18**	T	T	17 21 29.3	
baz=198,slow=76,SNR=173							
H11S1	**WAKE ISLAND Hy**	**27.34**	**18**	T	T	17 21 33.2	
baz=198,slow=76,SNR=81							
AS31	**Alice Springs**	**28.12**	**233**	P	**P**	**16 53 13.1**	**+0.9**
ASAR	**Alice Springs**	**28.12**	**233**	P	**P**	**16 53 12.5**	**+0.3**
comp=Z,0.2nm,0.5s,baz=62,slow=9.4,SNR=7.1							
comp=Z,0.2nm,0.5s							
H11N1	**WAKE ISLAND Hy**	**28.54**	**18**	T	T	17 23 01.3	
baz=198,slow=76,SNR=14							
H11N3	**WAKE ISLAND Hy**	**28.54**	**18**	T	T	17 23 02.5	
baz=198,slow=76,SNR=14							
H11N2	**WAKE ISLAND Hy**	**28.55**	**18**	T	T	17 23 08.6	
baz=198,slow=76,SNR=6.7							
STKA	**Stephens Creek**	**28.59**	**210**	P	**P**	**16 53 16.6**	**+0.4**
MRNZ	**Matariki Terra**	**36.07**	**161**	P	**P**	**16 54 22.0**	**+0.4**
PSA00	**Pilbara Seismi**	**39.36**	**245**	P	**P**	**16 54 47.9**	**-1.7**
PSA00				IAmb	IAmb	16 54 51.2	
comp=Z,24nm,1.4s							
BKB	**Balikpapan**	**41.50**	**277**	P	**P**	**16 55 05.9**	**-1.6**
N19K	**Bonanza Creek**	**77.67**	**22**	P	**P**	**16 59 16.4**	**+0.5**
TIXI	**Tiksi**	**81.44**	**351**	P	**P**	**16 59 36.6**	**+0.6**
TIXI				IAmb	IAmb	16 59 37.8	
comp=Z,6nm,1.1s							
MKAR	**Makanchi Array**	**85.90**	**318**	P	**P**	**17 00 01.5**	**+2.0**
comp=Z,0.3nm,0.6s,baz=108,slow=4.7,SNR=3.7							
comp=Z,0.3nm,0.6s							

---

*IDC **30** 16:49:22.3±0.8, 60°.42N×60°.10E, h0km, mb3.6/5, mbtmp3.6/16, ML3.3/11, MS3.0/1, Error ellipse: s-maj=14.9km s-min=10.2km az=43.0*
*MIRAS **30** 16:49:24.3, 60°.18N×60°.08E, h1km, ML3.5/8*
*NNC **30** 16:49:31.1±1.7, 59°.62N×60°.72E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=13.5km s-min=8.5km az=166.0*
ISC 30 16:49:21.6±1.3, 60°.26N±0°.05×60°.20E±0°.04, h4km±8km, n32, σ2°.16/65, mb3.5/5, 7C-5D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVUR	**Severouralsk**	**0.13 240**		*i* P	**Pg**	**16 49 24.2**	**0.0**
2μm,0.3s							
SVUR				*i* S	**Sg**	**16 49 25.1**	**-0.8**
SVUR				*i* S	**Sg**	**16 49 25.1**	**-0.8**
3μm,0.1s							
SVUR				*i* S	**Sg**	**16 49 25.1**	**-0.8**
4μm,0.1s							
SVUR				*i* AML	AML	16 49 25.9	
10μm,0.1s							
PR7R	**Sarany**	**1.87 204**		*i* P	**Pn**	**16 49 55.7**	**+1.4**
403nm,0.5s							
PR7R				*i* S	**Sn**	**16 50 18.0**	**-0.3**
1μm,0.5s							
PR7R				*i* S	**Sn**	**16 50 18.0**	**-0.3**
PR7R				*i* S	**Sn**	**16 50 18.0**	**-0.3**
PR7R				*i* AML	AML	16 50 25.8	
1μm,0.6s							
PR1R	**Pomanovo**	**2.06 240**		*i* P	**Pb**	**16 49 59.9**	**+0.5**
240nm,0.5s							
PR1R				*i* S	**Sb**	**16 50 26.5**	**+1.2**
PR1R				*i* S	**Sb**	**16 50 26.5**	**+1.2**
PR1R				*i* S	**Sb**	**16 50 26.5**	**+1.2**
578nm,0.5s							
PR1R				*i* AML	AML	16 50 29.3	
630nm,0.4s							
PR0R	**Verkhnechusovs**	**2.60 219**		*i* P	**Pn**	**16 50 06.9**	**+2.6**
225nm,0.3s							
PR0R				*i* S	**Sb**	**16 50 40.1**	**-0.8**
2μm,0.2s							
PR0R				*i* S	**Sb**	**16 50 40.1**	**-0.8**
PR0R				*i* S	**Sb**	**16 50 40.1**	**-0.8**
PR0R				*i* AML	AML	16 50 44.4	
2μm,0.2s							
PR6R	**Ekimyata**	**2.98 227**		*i* P	**Pn**	**16 50 11.1**	**+1.6**
18nm,0.4s							
PR6R				*i* S	**Sn**	**16 50 47.3**	**+1.7**
PR6R				*i* S	**Sn**	**16 50 47.3**	**+1.7**
144nm,0.3s							
PR6R				*i* S	**Sn**	**16 50 47.3**	**+1.7**
PR6R				*i* AML	AML	16 50 55.1	
357nm,0.3s							
PR3R	**Kungur**	**3.28 212**		*i* P	**Pn**	**16 50 16.9**	**+3.3**
42nm,0.3s							
PR3R				*i* S	**Sn**	**16 50 53.9**	**+0.9**
211nm,0.5s							
PR3R				*i* S	**Sn**	**16 50 53.9**	**+0.9**
PR3R				*i* S	**Sn**	**16 50 53.9**	**+0.9**
PR3R				*i* AML	AML	16 51 06.1	
252nm,0.4s							
PR4R	**Vlasy**	**3.32 227**		*i* P	**Pn**	**16 50 15.6**	**+1.5**
SVE	**Sverdlovsk**	**3.45 176**		*i* P	**Pn**	**16 50 18.5**	**+2.5**
14nm,0.3s							
SVE				*i* S	**Sn**	**16 50 57.6**	**+0.3**
ARTI	**Arti**	**4.00 195**	Pn		**Pn**	**16 50 25.9**	**+2.4**
2.0nm,0.3s,baz=325,slow=9.1,SNR=14							
ARTI			Sn		**Sn**	**16 51 13.8**	**+3.0**
4.3nm,0.3s,baz=21,slow=17,SNR=4.0							
4.5nm,0.4s							
ARTI	**Arti**	**4.00 195**		*i* P	**Pn**	**16 50 26.2**	**+2.6**
6.6nm,0.6s							
ARTI				*i* S	**Sn**	**16 51 13.3**	**+2.5**
ARTI				*i* S	**Sn**	**16 51 13.3**	**+2.5**
62nm,0.3s							
ARTI				*i* S	**Sn**	**16 51 13.3**	**+2.5**
ARTI				*i* AML	AML	16 51 29.2	
158nm,0.5s							
KIRV	**Kirov**	**5.76 258**	Pn		**Pn**	**16 50 48.2**	**+0.6**
1.2nm,0.3s,baz=81,slow=18,SNR=1.7							
KIRV			Sn		**Sn**	**16 51 52.5**	**-1.4**
1.8nm,0.3s,baz=139,slow=19,SNR=1.6							
KIRV			Lg		Lg	16 52 16.2	
2.4nm,0.3s,baz=351,slow=24,SNR=8.7							
3.9nm,0.4s							
BRVK	**Borovoye**	**9.10 138**	⇑Pn		**Pn**	**16 51 34.5**	**+1.0**
3.2nm,0.6s							
BRVK			⇑Sn		**Sn**	**16 53 11.9**	**-4.3**
3.6nm,0.5s							
BRVK			⇓Lg		Lg	16 54 02.9	
3.3nm,0.6s							
BVA0	**Borovoye Array**	**9.16 138**	⇓Pn		**Pn**	**16 51 36.2**	**+1.8**
5.3nm,0.6s,baz=327,slow=14,SNR=44							
BVA0			⇓Sn		**Sn**	**16 53 12.5**	**-5.3**
6.2nm,0.8s,baz=321,slow=25,SNR=18							
BVA0			⇓Lg		Lg	16 54 02.9	
6.6nm,0.9s							
BVAR	**Borovoye Array**	**9.16 138**	Pn		**Pn**	**16 51 36.3**	**+1.9**
0.4nm,0.3s,baz=331,slow=16,SNR=65							
BVAR			Sn		**Sn**	**16 53 14.5**	**-3.3**
0.3nm,0.3s,baz=325,slow=24,SNR=5.9							
7.9nm,0.5s							
AKTO	**Aktyubinsk**	**9.93 188**	Pn		**Pn**	**16 51 47.3**	**+2.4**
0.2nm,0.3s,baz=334,slow=8.3,SNR=2.5							
AKTO			Sn		**Sn**	**16 53 34.8**	**-1.8**
0.7nm,0.3s,baz=80,slow=16,SNR=4.0							
AKTO			Lg		Lg	16 54 34.9	
0.3nm,0.3s,baz=98,slow=14,SNR=5.4							
0.9nm,0.3s							
AKTO	**Aktyubinsk**	**9.93 188**	⇓Pn		**Pn**	**16 51 46.6**	**+1.7**
2.1nm,1.0s							
AKTO			⇑Sn		**Sn**	**16 53 33.4**	**-3.2**
1.8nm,0.6s							
AKTO			⇑Lg		Lg	16 54 29.7	
7.6nm,0.9s							
BELG	**Belogornoye**	**10.52 227**	Pn		**Pn**	**16 51 51.9**	**-1.0**
1.8nm,0.3s,baz=63,slow=18,SNR=6.8							
BELG			Sn		**Sn**	**16 53 44.8**	**-6.1**
1.2nm,0.3s,baz=132,slow=13,SNR=1.8							
BELG			Lg		Lg	16 54 47.0	
1.5nm,0.3s,baz=322,slow=17,SNR=3.6							
AB31	**Akbulak array**	**11.03 181**	⇑Pn		**Pn**	**16 52 01.4**	**+1.4**
0.8nm,0.4s,baz=15,slow=12,SNR=28							
AB31			⇑Sn		**Sn**	**16 54 00.4**	**-3.3**
0.6nm,0.3s							
AB31			⇑Lg		Lg	16 55 00.8	
8.3nm,0.7s,baz=6.2,slow=24,SNR=5.5							
KURBB	**Kurchatov Arra**	**14.14 125**	Pn		**Pn**	**16 52 41.9**	**-0.4**
baz=347,slow=13,SNR=5.8							
0.8nm,0.7s							
NRIK	**Noril'sk**	**14.63 40**	Pn		**Pn**	**16 52 48.0**	**-0.9**
0.3nm,0.3s,baz=241,slow=10,SNR=3.7							
NRIK			Sn		Sn	16 55 21.5	-10
0.1nm,0.3s,baz=326,slow=18,SNR=1.4							
0.9nm,0.4s							
ZALV	**Zalesovo Beam**	**14.73 105**	Pn		**Pn**	**16 52 54.3**	**+3.8**
0.1nm,0.3s,baz=310,slow=16,SNR=2.0							
ZALV			Sn		**Sn**	**16 55 36.0**	**+2.0**
0.2nm,0.3s,baz=288,slow=27,SNR=1.9							
0.5nm,0.3s							
FINES	**FINESS Array B**	**16.56 289**	Pn		**Pn**	**16 53 10.4**	**-3.8**
0.2nm,0.3s,baz=83,slow=12,SNR=9.6							
FINES			Sn		Sn	16 56 02.9	-15
0.3nm,0.3s,baz=65,slow=23,SNR=5.9							
0.7nm,0.3s							
ARCES	**ARCESS Array B**	**17.13 317**	Pn		**Pn**	**16 53 18.4**	**-3.0**
0.2nm,0.3s,baz=94,slow=14,SNR=9.0							
ARCES			Sn		Sn	16 56 15.5	-16
0.1nm,0.3s,baz=36,slow=24,SNR=1.8							
ARCES			LR		LR	17 00 02.8	
comp=Z,50nm,19.2s,baz=270,slow=38							
MKAR	**Makanchi Array**	**18.69 126**	P		**Pn**	**16 53 42.3**	**+1.4**
0.2nm,0.3s,baz=318,slow=8.9,SNR=9.8							
MKAR			S		**Sn**	**16 57 07.9**	**-2.2**
0.1nm,0.3s,baz=274,slow=32,SNR=1.8							
0.4nm,0.5s							
KBZ	**Khabaz**	**19.58 220**	P		**P**	**16 53 50.9**	**+0.7**
0.2nm,0.3s,baz=22,slow=13,SNR=5.4							
1.3nm,0.5s							
AKASG	**Malin Array Be**	**19.81 255**	P		**P**	**16 53 52.3**	**-0.4**
0.7nm,0.3s,baz=49,slow=11,SNR=6.1							
1.3nm,0.7s							
SPITS	**Spitsbergen Ar**	**22.72 338**	P		**P**	**16 54 25.3**	**+1.4**
7.5nm,0.9s,baz=172,slow=13,SNR=2.0							
7.5nm,0.9s							
HFS	**Hagfors**	**22.75 290**	P		**P**	**16 54 23.9**	**-0.4**
0.7nm,0.3s,baz=86,slow=12,SNR=5.7							
0.7nm,0.3s							
NB2	**NORSAR Subarra**	**23.58 293**	P		**P**	**16 54 33.8**	**+1.0**
comp=Z,1.7nm,0.6s,baz=69,slow=11							
NOA	**NORSAR Array B**	**23.58 293**	P		**P**	**16 54 33.0**	**+0.2**
comp=Z,0.6nm,0.7s,baz=70,slow=11,SNR=5.2							
comp=Z,0.6nm,0.7s							
GERES	**GERESS Array B**	**28.66 268**	P		**P**	**16 55 19.8**	**+0.7**
comp=Z,0.6nm,0.7s,baz=50,slow=8.8,SNR=4.1							
comp=Z,0.6nm,0.7s							
YKA	**Yellowknife Ar**	**57.50 357**	P		**P**	**16 59 10.7**	**-0.4**
comp=Z,0.3nm,0.7s,baz=6.2,slow=6.6,SNR=6.0							
comp=Z,0.3nm,0.7s							

---

*NEIC **30** 17:10:49.2±1.2, 35°.80N±0°.01×121°.43W±0°.02, h3km±2km, Error ellipse: s-maj=2.7km s-min=1.1km az=64.0*
NCEDC 30 17:10:50.0±1.2, 35°.80N±0°.01×121°.40W±0°.02, h7km±4km, ML3.4/60, ML3.0/80(NEIC), Error ellipse: s-maj=2.8km s-min=1.4km az=64.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HULI	**Fort Hunter Li**	**0.26 30**			Pg	17 10 55.5	+0.4
HULI					Sg	17 10 59.7	+1.1
HULI	**Fort Hunter Li**	**0.26 30**		IAML		17 10 59.9	
comp=E,8μm,0.6s							
HULI				IAML		17 10 60.0	
comp=N,14μm,0.7s							
PHSB	**Hesperia Broad**	**0.28 84**			Pg	17 10 55.9	+0.4
PHSB					Sg	17 11 00.2	+0.9
PCCM	**Crazy Canyon**	**0.35 33**			Pg	17 10 57.1	+0.3
PCCM					Sg	17 11 02.6	+1.1
PANM	**San Antonio Re**	**0.40 92**			Pg	17 10 58.1	+0.4
BAPM	**Anderson Peak**	**0.43 332**			Pg	17 10 58.8	+0.5
RAMR	**Ramage Ranch**	**0.46 110**			Pg	17 10 59.4	+0.5
RAMR	**Ramage Ranch**	**0.46 110**		IAML		17 11 08.7	
comp=E,6μm,0.3s							
RAMR				IAML		17 11 09.6	
comp=N,8μm,0.5s							
PSAM	**San Ardo**	**0.47 61**			Pg	17 10 59.2	+0.1
PSAM					Sg	17 11 06.0	+0.7
ARDC	**Alexander Ranc**	**0.48 134**			Pn	17 11 06.4	+3.2
LRC	**Lone Oak Road**	**0.53 33**			Pn	17 11 02.8	-1.1
LCUV	**Le Cuvier**	**0.56 105**			Pg	17 11 00.9	+0.2
BSMM	**Soledad Missio**	**0.58 358**			Pg	17 11 01.2	-0.1
BSGM	**Shirttail Gulc**	**0.63 11**			Pg	17 11 01.8	-0.3
PPTM	**Peach Tree Val**	**0.63 60**			Pg	17 11 02.1	0.0
PMPB	**Monarch Peak**	**0.64 49**			Pg	17 11 02.1	-0.2
PMPB					Sg	17 11 10.7	0.0
PPO	**Portuguese Can**	**0.64 84**			Pg	17 11 02.7	+0.4
BPRM	**Ponciano Ridge**	**0.67 336**			Pg	17 11 02.6	-0.2
PHPM	**Hope Ranch**	**0.67 74**			Pg	17 11 02.7	-0.2
LSDC	**Los Osos Digit**	**0.67 138**			Pg	17 11 03.3	+0.4
PTAM	**Tassajara Cree**	**0.69 126**			Pg	17 11 03.5	+0.2
LRV	**Little Rabbit**	**0.70 26**			Pg	17 11 03.5	+0.1
VPDC	**Valencia Peak**	**0.70 142**			Pg	17 11 04.0	+0.5
PSMM	**Smith Mountain**	**0.71 67**			Pg	17 11 03.7	+0.1
TCAS	**Cass Winery, P**	**0.71 105**			Pg	17 11 03.9	+0.3
PKD	**Bear Valley Ra**	**0.71 78**			Pg	17 11 03.4	-0.2
PVCM	**Vineyard Canyo**	**0.71 80**			Pg	17 11 03.6	-0.1
PWKM	**Work Ranch**	**0.72 88**			Pg	17 11 04.2	+0.3
EFD	**Emergency Oper**	**0.73 131**			Pg	17 11 03.8	-0.1
PSTM	**Stockdale Moun**	**0.73 79**			Pg	17 11 03.8	-0.3
DCD	**Diablo Creek**	**0.74 142**			Pg	17 11 04.2	0.0
BJCM	**Johnson Can.**	**0.75 0**			Pg	17 11 04.1	-0.2
DPD	**Davis Peak**	**0.75 138**			Pg	17 11 04.5	+0.1
BPCNC	**Pine Canyon**	**0.80 347**			Pg	17 11 05.1	-0.2
SCZ	**Santa Cruz**	**0.80 360**			Pg	17 11 05.0	-0.4
SCZ	**Santa Cruz**	**0.80 360**		IAML		17 11 18.7	
comp=E,765nm,0.3s							
SCZ				IAML		17 11 18.9	
comp=N,1μm,0.5s							
PHFM	**Heflinger Ranc**	**0.81 84**			Pg	17 11 05.5	-0.1
TCHL	**Shandon**	**0.82 97**			Pg	17 11 05.8	+0.2
BBGB	**Big Mountain B**	**0.83 20**			Pg	17 11 06.2	+0.2
BBGB					Sg	17 11 18.6	+0.3
BJOM	**Mount Johnson**	**0.83 5**			Pg	17 11 05.3	-0.7
GHC	**Gold Hill**	**0.85 87**			Pg	17 11 06.1	-0.2
PKLM	**Kerr Lake**	**0.86 91**			Pg	17 11 06.4	-0.1
CTM	**Castle Mountai**	**0.87 81**			Pg	17 11 07.0	+0.3
BSRM	**Salinas Radio**	**0.87 354**			Pg	17 11 06.5	-0.3
TSCN	**Private Proper**	**0.89 106**			Pg	17 11 07.3	+0.2
HMOM	**Monterey**	**0.91 332**			Pg	17 11 06.8	-0.5
PSRM	**Scobie Ranch**	**0.91 86**			Pg	17 11 07.2	-0.2
TRAM	**Private Proper**	**0.92 97**			Pg	17 11 07.8	0.0
PAGB	**Antelope Grade**	**0.94 94**			Pg	17 11 07.8	-0.1
PMRM	**Maxey Ranch**	**0.94 90**			Pg	17 11 07.8	-0.3
FRP	**Fremont Peak**	**0.96 356**			Pg	17 11 07.9	-0.5
SAO	**San Andreas Ge**	**0.97 358**			Pg	17 11 07.8	-0.7
SAO					Sg	17 11 20.5	-0.6
BMSM	**Mercy Hot Spri**	**0.99 29**			Pb	17 11 09.5	+0.1
HERM	**Elkhorn Road**	**1.03 346**			Pg	17 11 09.5	-0.3
HTUM	**Tustin Road**	**1.05 349**			Pg	17 11 09.3	-0.7
TRAY	**Twisselman Ran**	**1.06 103**			Pg	17 11 09.3	-1.0
PBPM	**Bitterwater Pu**	**1.10 101**			Pg	17 11 10.0	-1.0
HCOM	**Corn Cob Canyo**	**1.12 347**			Pg	17 11 10.7	-0.7
HCBM	**Chamberlain**	**1.15 349**			Pg	17 11 11.6	-0.5
JELB	**Ellicott, Sant**	**1.18 343**			Pb	17 11 12.7	0.0
HFEM	**San Felipe**	**1.18 360**			Pg	17 11 11.6	-1.1
PACP	**Pacheco Peak**	**1.21 4**			Pg	17 11 11.6	-1.6
CDC	**Canada Road**	**1.23 357**			Pb	17 11 12.0	-1.5
SMMC	**Simmler**	**1.24 112**			Pb	17 11 12.1	-1.6
HLPM	**Lions Peak**	**1.26 351**			Pn	17 11 12.3	-1.6
HPCM	**Pacheco Lake**	**1.26 4**			Pn	17 11 13.0	-1.1
SLD	**San Luis Dam**	**1.28 6**			Pn	17 11 13.1	-1.2
GHS	**Gilroy Hot Spr**	**1.30 358**			Pn	17 11 13.0	-1.5
CADM	**Anderson Res.**	**1.38 352**			Pn	17 11 14.2	-1.3
CCOB	**Coe Ranch Numb**	**1.48 351**			Pn	17 11 15.9	-1.0
JJOM	**Saint Joseph's**	**1.48 342**			Pn	17 11 15.2	-1.8
ARN	**Arnold Ranch**	**1.55 356**			Pn	17 11 16.4	-1.7
MHC	**Mount Hamilton**	**1.55 353**			Pn	17 11 16.8	-1.3
CMPM	**Mikes Peak**	**1.56 2**			Pn	17 11 17.2	-0.9
FIGC	**Figueroa Mtn.**	**1.57 132**			Pn	17 11 16.4	-1.9
JPSM		**1.59 332**			Pn	17 11 16.8	-1.7
JSJM	**St Joseph**	**1.63 340**			Pn	17 11 17.8	-1.2
JFP	**Foothills Park**	**1.69 338**			Pn	17 11 17.7	-2.1
CMLM	**Mount Lewis**	**1.69 353**			Pn	17 11 18.1	-1.9
MTOS	**Mt Oso, Westle**	**1.71 2**			Pn	17 11 19.3	-0.8
MTOS	**Mt Oso, Westle**	**1.71 2**		IAML		17 11 52.5	
comp=N,190nm,0.6s							
MTOS				IAML		17 11 53.5	
comp=E,146nm,0.5s							
JSFB	**Stanford Teles**	**1.72 339**			Pn	17 11 18.5	-1.8
KARE	**Kearney REC, C**	**1.73 62**			Pn	17 11 18.0	-2.3
LEGD	**La Grand CA**	**1.73 35**			Pn	17 11 19.2	-1.2
JRSC	**Jasper Ridge**	**1.74 337**			Pn	17 11 18.8	-1.8
MYLM	**Yosemite Lake**	**1.77 26**			Pn	17 11 19.5	-1.4
MHDM	**Hidden Dam**	**1.79 42**			Pn	17 11 20.3	-0.9
FRI	**Friant**	**1.81 48**			Pn	17 11 20.7	-0.8
BCW	**Bitter Crk WRg**	**1.83 117**			Pn	17 11 20.7	-1.2
CNIC	**Niles Canyon**	**1.86 346**			Pn	17 11 20.3	-1.9
MMIM	**Miami Mountain**	**2.10 39**			Pn	17 11 25.3	-0.3
BKS	**Berkeley--Byer**	**2.18 342**			Pn	17 11 24.4	-2.3
CMB	**Columbia Colle**	**2.38 20**			Pn	17 11 28.7	-0.7
CMB				IAML		17 12 02.0	
comp=N,45nm,0.5s							
ISA	**Isabella, Lake**	**2.38 92**			Pn	17 11 28.4	-1.1
ISA				IAML		17 12 04.5	
comp=N,82nm,0.4s							
ISA				IAML		17 12 06.5	
comp=E,54nm,0.6s							
MCCM	**Marconi Confer**	**2.63 334**	Pn		Pn	17 11 30.2	-2.5
MCCM				IAML		17 12 15.6	
comp=E,96nm,0.8s							
MCCM				IAML		17 12 17.4	
comp=N,71nm,1.4s							
BHPR	**Bishop**	**2.78 57**			Pn	17 11 35.9	+0.8
CCAC	**Calif City Air**	**2.83 102**			Pn	17 11 34.5	-1.1
CCAC				IAML		17 12 40.2	
comp=E,66nm,0.9s							
CCAC				IAML		17 12 45.5	
comp=N,73nm,1.2s							
POCCA	**Poleta Canyon**	**2.96 57**			Pn	17 11 38.6	+1.2
SNCC	**San Nicolas Is**	**2.98 148**	Pn		Pn	17 11 35.7	-1.8
SNCC				IAML		17 11 59.3	
comp=N,49nm,5.0s							
SNCC				IAML		17

PAHR IAML 17 13 12.0
comp=N,12nm,2.1s
PAHR IAML 17 13 20.8
comp=E,11nm,1.3s
TPNV Topopah Spring 4.31 73 Pn Pn 17 11 55.2 -0.9
TPNV IAML 17 13 25.3
comp=E,14nm,1.5s
TPNV IAML 17 13 39.8
comp=E,14nm,3.8s
O02D Mt. Diablo Mer 4.51 346 Pn Pn 17 11 58.2 -0.5
O02D IAML 17 13 03.7
comp=E,16nm,3.7s
O02D IAML 17 14 10.4
comp=N,12nm,4.1s
PFO Pinyon Flats O 4.62 117 Pn Pn 17 11 59.0 -1.2
KMPM Mount Pierce 5.09 336 Pn Pn 17 12 06.2 -0.5
SHPR Sheep Range 5.10 80 Pn 17 12 04.6 -2.2
CBX Cerro Bola 5.25 130 Pn Pn 17 12 06.4 -2.5
R11B Troy Canyon, C 5.30 60 Pn Pn 17 12 09.4 -0.3
PRN Pahroc Range 5.35 71 Pn Pn 17 12 09.0 -1.3
PRN IAML 17 13 46.3
comp=N,9.0nm,0.8s
PRN IAML 17 13 56.2
comp=E,9.9nm,0.9s
YUH Yuha Desert 5.52 123 Pn Pn 17 12 10.7 -1.8
ESJX Sierra Juarez 5.90 128 Pn Pn 17 12 16.4 -1.6
SPR3 Spring Creek 3 6.47 58 Pn Pn 17 12 24.4 -1.5

---

*IDC **30** 17:18:46.8±3.0, 42°.17N×142°.98E, h61km±19km, mb3.4/8, mbtmp3.6/10, MS2.2/2, Error ellipse: s-maj=34.6km s-min=16.4km az=109.0*
*JMA **30** 17:18:48.0±0.2, 42°.3N±0°.6×143°.0E±0°.6, h51km±1km, MV3.2/38, HIDAKA MOUNTAINS REGION*
*SKHL **30** 17:18:47.9±0.3, 42°.20N×143°.10E, h55km±5km, mb4.3/3*
ISC 30 17:18:46.8±0.8,**42°.22**N±0°.06×**143°.05**E±0°.04,**h61**km±6km,
n34,σ0$91/41,**mb3.7**/8,**3D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.20**	**69**	*i* P	**Pn**	**17 18 56.4**	**+0.1**
JTHR				S	**Sn**	**17 19 03.0**	**-0.1**
JEM	**Erimo**	**0.22**	**159**	*i* P	**Pn**	**17 18 57.3**	**+0.9**
JEM				*e*S	**Sn**	**17 19 05.5**	**+2.1**
JNBK	**Urakawa-nobuka**	**0.23**	**285**	*i* P	**Pn**	**17 18 56.2**	**-0.2**
JNBK				*e*S	**Sn**	**17 19 03.1**	**-0.3**
JCH	**Churui**	**0.46**	**30**	*i* P	**Pn**	**17 18 58.2**	**-0.1**
JCH				S	**Sn**	**17 19 06.2**	**-0.4**
JSHD	**Hidakashinhida**	**0.47**	**294**	||*i* P	**Pn**	**17 18 58.6**	**+0.2**
JBT2	**Biratori 2**	**0.75**	**318**	||*i* P	**Pn**	**17 19 01.8**	**+0.1**
JBT2				||S	**Sn**	**17 19 13.2**	**+0.6**
JOB	**Onbets**	**0.89**	**40**	*i* P	**Pn**	**17 19 04.5**	**+1.0**
JOB				S	**Sn**	**17 19 17.1**	**+1.3**
JIAM	**Iburiatsuma**	**0.93**	**296**	P	**Pn**	**17 19 05.2**	**+1.3**
JFR	**Furan**	**1.00**	**340**	*e*P	**Pn**	**17 19 04.2**	**-0.6**
JAR	**Ashorobuto**	**1.20**	**26**	*i* P	**Pn**	**17 19 07.6**	**+0.2**
JAR				*e*S	**Sn**	**17 19 21.9**	**-0.9**
JEW	**Eniwo**	**1.34**	**298**	P	**Pn**	**17 19 10.1**	**+0.9**
JEW				S	**Sn**	**17 19 27.2**	**+1.1**
AKK	**Akkeshi**	**1.54**	**58**	*e*P	**Pn**	**17 19 12.5**	**+0.5**
AKK				*e*S	**Sn**	**17 19 30.4**	**-0.6**
ASAJ	**Asahikawa**	**1.92**	**350**	P	**Pn**	**17 19 17.6**	**+0.4**
	47nm,0.4s,baz=214,slow=9.0,SNR=83						
ASAJ				S	**Sn**	**17 19 42.0**	**+1.7**
	35nm,0.7s,baz=171,slow=17,SNR=6.5						
NMR	**Nemuro--Hokkai**	**2.28**	**59**	*e*P	**Pn**	**17 19 22.3**	**+0.3**
NMR				*i* S	**Sn**	**17 19 48.0**	**-0.9**
GLVR	**Golovnino**	**2.36**	**49**	*e*P	**Pn**	**17 19 24.1**	**+1.0**
GLVR				AMB	AMB	17 19 29.0	
	60nm,0.2s						
GLVR				*i* S	**Sn**	**17 19 52.5**	**+1.6**
GLVR				A	A	17 19 54.1	
	270nm,0.3s						
GLVR				A	A	17 19 54.1	
	130nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.74**	**48**	*e*P	**Pn**	**17 19 29.4**	**+1.1**
YUK				AMB	AMB	17 19 31.1	
	60nm,0.4s						
YUK				*i* S	**Sn**	**17 20 00.2**	**0.0**
YUK				A	A	17 20 01.7	
	100nm,0.4s						
YUK				A	A	17 20 01.7	
	130nm,0.4s						
SHO	**Shikotan**	**3.22**	**58**	*e*P	**Pn**	**17 19 35.7**	**+0.9**
SHO				AMB	AMB	17 19 36.3	
	10.0nm,0.2s						
SHO				*i* S	**Sn**	**17 20 11.4**	**-0.6**
SHO				A	A	17 20 18.6	
	30nm,0.2s						
SHO				A	A	17 20 18.6	
	20nm,0.2s						
MJAR	**Matsushiro Arr**	**6.80**	**215**	P	**Pn**	**17 20 23.4**	**-0.5**
	1.5nm,1.0s,baz=25,slow=12,SNR=2.2						
KLR	**Kul'dur**	**10.55**	**315**	LR	LR	17 25 22.2	
	comp=Z,15nm,20.4s,baz=180,slow=37						
KSRS	**Korea Array**	**12.56**	**253**	P	**Pn**	**17 21 40.8**	**-1.8**
	0.2nm,0.3s,baz=68,slow=14,SNR=1.9						
KSRS				LR	LR	17 25 59.3	
	comp=Z,11nm,18.5s,baz=115,slow=34						
SONM	**Songino Array**	**26.33**	**295**	P	**P**	**17 24 16.1**	**-0.9**
	0.3nm,0.5s,baz=101,slow=10,SNR=1.8						
	0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy 30.15**	**131**		T	T	17 56 26.2	
	baz=324,slow=75,SNR=9.9						
H11N1	**WAKE ISLAND Hy 30.16**	**131**		T	T	17 56 30.0	
	baz=324,slow=75,SNR=9.5						
H11N3	**WAKE ISLAND Hy 30.17**	**131**		T	T	17 56 25.2	
	baz=324,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy 31.03**	**132**		T	T	17 57 32.3	
	baz=325,slow=76,SNR=8.2						
H11S3	**WAKE ISLAND Hy 31.03**	**132**		T	T	17 57 31.8	
	baz=325,slow=76,SNR=7.1						
H11S2	**WAKE ISLAND Hy 31.05**	**132**		T	T	17 57 34.0	
	baz=325,slow=76,SNR=7.6						
ZALV	**Zalesovo Beam**	**39.54**	**308**	P	**P**	**17 26 11.1**	**-0.4**
	0.6nm,0.5s,baz=82,slow=11,SNR=3.8						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**42.63**	**298**	P	**P**	**17 26 37.4**	**+0.4**
	0.6nm,0.8s,baz=81,slow=9.6,SNR=5.8						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**43.97**	**304**	P	**P**	**17 26 47.9**	**+0.2**
	1.1nm,0.7s,baz=77,slow=8.7,SNR=4.5						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**44.48**	**35**	P	**P**	**17 26 52.5**	**+0.9**
	0.3nm,0.7s,baz=270,slow=7.1,SNR=3.1						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**48.14**	**309**	P	**P**	**17 27 21.0**	**+0.6**
	0.3nm,0.3s,baz=70,slow=10,SNR=2.5						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**64.83**	**332**	P	**P**	**17 29 18.1**	**-0.7**
	0.5nm,0.4s,baz=51,slow=8.1,SNR=10						
	0.5nm,0.4s						
HFS	**Hagfors**	**69.89**	**336**	P	**P**	**17 29 50.5**	**-0.3**
	0.5nm,0.5s,baz=44,slow=6.4,SNR=4.9						
	0.5nm,0.5s						

---

*KRSC **30** 17:50:55.3±1.1, 52°.74N×160°.77E, h25km±15km, Ml4.2*
*MOS **30** 17:50:56.6±0.8, 52°.79N×160°.80E, h32km, mb4.9/2, Error ellipse: s-maj=9.4km s-min=7.5km az=42.2*
*NEIC **30** 17:51:01.5±2.7, 53°.1N±0°.1×160°.1E±0°.1, h42km±13km, mb4.2/17, Error ellipse: s-maj=22.4km s-min=8.3km az=163.0*
*IDC **30** 17:51:03.4±3.1, 52°.85N×160°.33E, h80km±22km, mb3.6/11, mbtmp3.9/14, MS3.0/9, Error ellipse: s-maj=26.4km s-min=23.0km az=111.0*
ISC 30 17:50:56.0±1.4,**52°.85N**±0°.04×**160°.70E**±0°.04,**h18**km±7km,
n94,σ1$41/105,**mb4.1**/21,**MS3.2**/6,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.48**	**302**	PN	**Pn**	**17 51 07.4**	**-0.5**
SPN				S	**Sb**	**17 51 14.9**	**+2.4**
SPN	**Mys Shipunski**	**0.48**	**302**	*e*P	**Pn**	**17 51 07.4**	**-0.5**
SPN				*e*S	**Sb**	**17 51 15.0**	**+2.4**
NLC	**Nalytchevo**	**0.88**	**292**	PN	**Pb**	**17 51 13.1**	**+0.5**
NLC	**Nalytchevo**	**0.88**	**292**	*e*P	**Pb**	**17 51 13.2**	**+0.5**
SDLR	**Sedlovina**	**1.18**	**292**	PN	**Pg**	**17 51 18.1**	**-0.6**
SDLR				S	**Sn**	**17 51 34.6**	**+1.3**
SDLR	**Sedlovina**	**1.18**	**292**	*e*P	**Pg**	**17 51 18.2**	**-0.6**
SDLR				*e*S	**Sn**	**17 51 34.7**	**+1.3**
UGLR	**Uglovaya**	**1.19**	**288**	PN	**Pg**	**17 51 18.3**	**-0.6**
UGLR	**Uglovaya**	**1.19**	**288**	*e*P	**Pg**	**17 51 18.4**	**-0.6**
DALK	**Dalny**	**1.19**	**280**	PN	**Pn**	**17 51 17.8**	**+0.1**
DALK	**Dalny**	**1.19**	**280**	*e*P	**Pn**	**17 51 17.9**	**+0.1**
PET	**Petropavlovsk**	**1.25**	**279**		**Pn**	**17 51 18.6**	**0.0**
PET				Sn	**Sb**	**17 51 29.4**	**-5.3**
PET	**Petropavlovsk**	**1.25**	**279**	PN	**Pn**	**17 51 18.7**	**+0.2**
PET				S	**Sb**	**17 51 35.2**	**+0.5**
PET	**Petropavlovsk**	**1.25**	**279**	*e*P	**Pn**	**17 51 18.7**	**+0.2**
PET				*e*S	**Sb**	**17 51 35.2**	**+0.5**
AVH	**Avacha**	**1.25**	**290**	PN	**Pg**	**17 51 19.6**	**-0.6**
AVH	**Avacha**	**1.25**	**290**	*e*P	**Pg**	**17 51 19.6**	**-0.6**
INSR	**Institute**	**1.28**	**281**	PN	**Pn**	**17 51 19.4**	**+0.4**
INSR				S	**Sb**	**17 51 36.4**	**+0.7**
INSR	**Institute**	**1.28**	**281**	*e*P	**Pn**	**17 51 19.5**	**+0.4**
INSR				*e*S	**Sb**	**17 51 36.5**	**+0.7**
KOK	**Koryaka**	**1.32**	**290**	PN	**Pg**	**17 51 20.8**	**-0.6**
KOK				S	**Sg**	**17 51 38.9**	**+0.2**
KOK	**Koryaka**	**1.32**	**290**	*e*P	**Pg**	**17 51 20.9**	**-0.6**
KOK				*e*S	**Sg**	**17 51 39.0**	**+0.2**
KRX	**Arik**	**1.34**	**293**	PN	**Pb**	**17 51 20.5**	**-0.1**
KRX	**Arik**	**1.34**	**293**	*e*P	**Pb**	**17 51 20.5**	**-0.1**
RUS	**Russkaya**	**1.40**	**253**	PN	**Pn**	**17 51 20.1**	**-0.4**
RUS	**Russkaya**	**1.40**	**253**	*e*P	**Pn**	**17 51 20.1**	**-0.4**
KII	**Karymskiy**	**1.40**	**328**	PN	**Pg**	**17 51 23.1**	**+0.1**
KII				S	**Sg**	**17 51 42.8**	**+1.5**
KII	**Karymskiy**	**1.40**	**328**	*e*P	**Pg**	**17 51 23.1**	**+0.1**
KII				*e*S	**Sg**	**17 51 42.8**	**+1.5**
KRMR	**Karymshinskiy**	**1.56**	**270**	PN	**Pn**	**17 51 23.0**	**+0.3**
KRMR				S	**Sb**	**17 51 45.1**	**+1.5**
KRMR	**Karymshinskiy**	**1.56**	**270**	*e*P	**Pn**	**17 51 23.1**	**+0.3**
KRMR				*e*S	**Sb**	**17 51 45.1**	**+1.5**
MTVR	**Mutnovka**	**1.57**	**258**	PN	**Pn**	**17 51 23.4**	**+0.3**
MTVR	**Mutnovka**	**1.57**	**258**	*e*P	**Pn**	**17 51 23.5**	**+0.3**
GRL	**Gorelyy**	**1.62**	**260**	PN	**Pn**	**17 51 24.5**	**+0.7**
GRL	**Gorelyy**	**1.62**	**260**	*e*P	**Pn**	**17 51 24.5**	**+0.7**
MKZ	**Mys Kozlova**	**1.82**	**19**	PN	**Pb**	**17 51 27.9**	**-0.7**
MKZ				S	**Sb**	**17 51 51.1**	**+0.1**
MKZ	**Mys Kozlova**	**1.82**	**19**	*e*P	**Pb**	**17 51 28.0**	**-0.7**
MKZ				*e*S	**Sb**	**17 51 51.2**	**+0.1**
PEA0B	**Petropavlovsk-**	**1.83**	**279**		**Pn**	**17 51 27.5**	**+0.9**
PEA0B	**Petropavlovsk-**	**1.83**	**279**	PN	**Pn**	**17 51 27.7**	**+1.1**
PETK	**Petropavlovsk-**	**1.83**	**279**		**Pn**	**17 51 26.1**	**-0.4**
PETK	**Petropavlovsk-**	**1.83**	**279**	P	**Pb**	**17 51 28.4**	**-0.6**
	220nm,0.4s,baz=93,slow=20,SNR=231						
PETK				S	**Sn**	**17 51 50.9**	**+1.6**
	122nm,0.6s,baz=88,slow=24,SNR=11						
GNL	**Ganaly**	**1.86**	**298**	PN	**Pb**	**17 51 29.3**	**-0.2**
GNL	**Ganaly**	**1.86**	**298**	*e*P	**Pb**	**17 51 29.3**	**-0.2**
KDTR	**Khodutka, Kamc**	**1.92**	**238**	PN	**Pn**	**17 51 27.6**	**0.0**
KDTR				S	**Sn**	**17 51 50.7**	**-0.6**
KDTR	**Khodutka, Kamc**	**1.92**	**238**	*e*P	**Pn**	**17 51 27.7**	**0.0**
KDTR				*e*S	**Sn**	**17 51 50.8**	**-0.6**
TUMD	**Tumrok D**	**2.37**	**356**	PN	**Pn**	**17 51 35.2**	**+1.3**
TUMD				S	**Sb**	**17 52 04.5**	**-2.4**
TUMD	**Tumrok D**	**2.37**	**356**	*e*P	**Pn**	**17 51 35.2**	**+1.3**
TUMD				*e*S	**Sb**	**17 52 04.5**	**-2.4**
SKR	**Severo-Kuril's**	**3.58**	**235**	*e*PN	**Pn**	**17 51 52.7**	**+2.2**
SKR				pmax	pmax		
	comp=Z,49nm,0.9s						
MA2	**Magadan**	**8.71**	**325**	LR	LR	17 56 56.8	
	comp=Z,42nm,19.7s,baz=160,slow=41						
JKA	**Kamikawa-asahi**	**14.81**	**241**	Pn	**Pn**	**17 54 24.7**	**+0.4**
ASAJ	**Asahikawa**	**14.81**	**241**	P	**Pn**	**17 54 24.5**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=76,slow=14,SNR=4.5						
ASAJ	**Asahikawa**	**14.81**	**241**	P	**Pn**	**17 54 24.7**	**+0.3**
P08K	**Saint George I**	**17.52**	**66**	Pn	P	17 55 07.8	+7.8
KLR	**Kul'dur**	**18.50**	**270**	P	**P**	**17 55 09.1**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=94,slow=14,SNR=2.0						
KLR				LR	LR	18 02 53.2	
	comp=Z,44nm,18.3s,baz=71,slow=39						
YAK	**Yakutsk**	**18.87**	**311**	P	**P**	**17 55 11.9**	**-3.0**
YAK	**Yakutsk**	**18.87**	**311**	P	**P**	**17 55 13.4**	**-1.5**
	comp=Z,2.9nm,0.4s,baz=100,slow=10,SNR=4.2						
YAK				LR	LR	18 02 22.1	
	comp=Z,28nm,19.6s,baz=121,slow=36						
MJB9	**Matsu-Tunnel**	**22.68**	**233**	P	**P**	**17 55 58.5**	**+2.2**
MJB9				IAmb	IAmb	17 56 06.2	
	comp=Z,6.5nm,1.0s						
MAJO	**Matsushiro**	**22.69**	**233**	P	**P**	**17 55 57.3**	**+0.9**
MAJO				IAmb	IAmb	17 56 04.8	
	comp=Z,6.1nm,0.9s						
MAJO	**Matsushiro**	**22.69**	**233**	P	**P**	**17 55 57.3**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MJAR	**Matsushiro Arr**	**22.69**	**233**	P	**P**	**17 55 56.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=19,slow=13,SNR=9.1						
	comp=Z,0.8nm,0.6s						
TIXI	**Tiksi**	**23.46**	**335**	P	**P**	**17 56 02.7**	**-1.2**
	comp=Z,1.6nm,0.2s,baz=131,slow=9.9,SNR=6.9						
	comp=Z,1.6nm,0.2s						
JGF	**Kuroka**	**23.85**	**233**	P	**P**	**17 56 10.8**	**+2.7**
JGF				IAmb	IAmb	17 56 43.7	
	comp=Z,52nm,1.5s						
H18K	**Honhosa River**	**23.91**	**43**	P	**P**	**17 56 09.4**	**+1.0**
H18K				IAmb	IAmb	17 56 51.0	
	comp=Z,6.7nm,1.3s						
F19K	**Shaleruckik Mo**	**24.52**	**39**	P	**P**	**17 56 14.8**	**+0.9**
D19K	**Kuna River**	**24.86**	**35**	P	**P**	**17 56 17.1**	**+0.1**
J19K	**Poorman**	**24.90**	**46**	P	**P**	**17 56 19.6**	**+2.1**
J19K				IAmb	IAmb	17 56 31.7	
	comp=Z,9.2nm,1.4s						
K20K	**Telida**	**25.54**	**48**	P	**P**	**17 56 26.1**	**+2.8**
K20K				IAmb	IAmb	17 56 52.9	
	comp=Z,6.2nm,1.3s						
B21K	**Ikpikpuk River**	**26.39**	**34**	P	**P**	**17 56 32.6**	**+1.7**
KSRS	**Korea Array**	**27.47**	**249**	LR	LR	18 06 35.6	
	comp=Z,15nm,21.2s,baz=110,slow=34						
BWN	**Browne**	**27.61**	**46**	P	**P**	**17 56 46.9**	**+5.0**
YAH	**Yahtse**	**31.61**	**53**	P	**P**	**17 57 19.6**	**+2.0**
YAH				IAmb	IAmb	17 57 54.8	
	comp=Z,16nm,1.4s						
H11N2	**WAKE ISLAND Hy 33.40**	**169**		T	T	18 32 47.2	
	baz=353,slow=76						
H11N3	**WAKE ISLAND Hy 33.42**	**169**		T	T	18 32 51.1	
	baz=353,slow=76						
H11N1	**WAKE ISLAND Hy 33.42**	**169**		T	T	18 32 49.6	
	baz=353,slow=76						
SONM	**Songino Array**	**34.31**	**284**	P	**P**	**17 57 39.7**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=83,slow=12,SNR=1.0						
SONM				LR	LR	18 13 09.3	
	comp=Z,32nm,19.9s,baz=114,slow=39						
	comp=Z,0.2nm,0.4s						
H11S1	**WAKE ISLAND Hy 34.59**	**170**		T	T	18 34 20.6	
	baz=354,slow=76						
H11S3	**WAKE ISLAND Hy 34.60**	**170**		T	T	18 34 22.3	
	baz=354,slow=76						
H11S2	**WAKE ISLAND Hy 34.61**	**170**		T	T	18 34 19.6	
	baz=354,slow=76						
NRIK	**Noril'sk**	**36.32**	**325**	LR	LR	18 14 24.1	
	comp=Z,51nm,19.1s,baz=104,slow=39						
EUNU	**Eureka**	**42.10**	**14**	P	**P**	**17 58 47.3**	**+0.9**
EUNU				IAmb	IAmb	17 58 51.2	
	comp=Z,6.5nm,1.4s						
SPITS	**Spitsbergen Ar**	**47.44**	**351**	P	**P**	**17 59 29.4**	**+0.7**
	comp=Z,11nm,1.0s,baz=53,slow=8.5,SNR=5.2						
	comp=Z,11nm,1.0s						
KURK	**Kurchatov**	**48.17**	**302**	P	**P**	**17 59 33.5**	**-1.3**
KURK				IAmb	IAmb	17 59 37.1	
	comp=Z,1.9nm,0.8s						
KURK	**Kurchatov**	**48.17**	**302**	P	**P**	**17 59 33.6**	**-1.2**
KURBB	**Kurchatov Arra**	**48.27**	**302**	P	**P**	**17 59 33.6**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=60,slow=7.5,SNR=5.2						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**48.59**	**296**	P	**P**	**17 59 35.9**	**-2.2**
MKAR	**Makanchi Array**	**48.59**	**296**	P	**P**	**17 59 36.2**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=54,slow=7.2,SNR=12						
MKAR				LR	LR	18 20 23.6	
	comp=Z,27nm,19.7s,baz=186,slow=36						
	comp=Z,0.5nm,0.5s						
BVAR	**Borovoye Array**	**50.83**	**309**	P	**P**	**17 59 53.2**	**-1.8**
	comp=Z,0.9nm,0.5s,baz=60,slow=7.3,SNR=7.5						
	comp=Z,0.9nm,0.5s						
ARTI	**Arti**	**53.92**	**318**	LR	LR	18 25 28.3	
	comp=Z,23nm,20.5s,baz=43,slow=38						
BOOM	**Boomskoye usch**	**54.83**	**296**	P	**P**	**18 00 22.1**	**-2.8**
BOOM	**Boomskoye usch**	**54.83**	**296**	P	**P**	**18 00 22.1**	**-2.8**
BOOM				pmax	pmax		
	comp=Z,49nm,1.4s						
FIA1	**FINESS Array S**	**60.49**	**337**	P	**P**	**18 01 04.8**	**+0.6**
FINES	**FINESS Array B**	**60.49**	**337**	P	**P**	**18 01 04.5**	**+0.3**
FINES	**FINESS Array B**	**60.49**	**337**	P	**P**	**18 01 04.2**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=32,slow=7.6,SNR=16						
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**60.49**	**337**	P	**P**	**18 01 04.5**	**+0.3**
AKASG	**Malin Array Be**	**69.01**	**329**	P	**P**	**18 01 59.4**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=30,slow=6.8,SNR=2.4						
AKASG				LR	LR	18 36 03.4	
	comp=Z,21nm,19.1s,baz=236,slow=39						
	comp=Z,0.6nm,0.4s						
KBZ	**Khabaz**	**69.96**	**317**	P	**P**	**18 02 06.2**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=342,slow=6.4,SNR=5.0						
	comp=Z,1.5nm,0.6s						
TXAR	**Lajitas Array**	**70.39**	**67**	P	**P**	**18 02 10.0**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=319,slow=5.0,SNR=3.2						
	comp=Z,0.3nm,0.6s						
VNDA	**Vanda**	**130.10**	**180**	PKP	**PKPdf**	**18 10 02.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=24,slow=3.6,SNR=7.5						

---

*NEIC **30** 18:17:52.1±2.0, 10°.34S±0°.08×38°.92E±0°.04, h10km±1km, mb4.3/21, Error ellipse: s-maj=13.0km s-min=5.8km az=187.0*
*IDC **30** 18:17:52.2±0.8, 10°.45S×39°.04E, h0km, mb3.9/9, mbtmp3.9/13, ML4.1/4, MS3.3/3, Error ellipse: s-maj=26.7km s-min=16.7km az=131.0*
ISC 30 18:17:52.0±0.5,**10°.47S**±0°.06×**38°.92E**±0°.07,**h10**km,**n53**,
σ**1**$**85/50**,**mb4.2**/12,**MS3.1**/3,**Tanzania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIBK	**Kibwezi**	**8.12**	**354**		**Pn**	**18 19 46.8**	**-3.3**
KMBO	**Kilima Mbogo**	**9.42**	**350**		**Pn**	**18 20 06.2**	**-2.0**
OPO	**Ambohidratompo**	**11.36**	**136**	Pn	**Pn**	**18 20 36.1**	**+1.5**
	0.1nm,0.3s,baz=293,slow=13,SNR=5.5						
OPO				Sn	**Sn**	**18 22 37.0**	**-4.7**
	0.1nm,0.3s,baz=126,slow=12,SNR=2.6						
	5.0nm,0.8s						
LSZ	**Lusaka**	**11.50**	**244**		**Pn**	**18 20 37.5**	**+1.0**
LSZ	**Lusaka**	**11.50**	**244**	Pn	**Pn**	**18 20 38.0**	**+1.5**
	2.4nm,0.3s,baz=71,slow=11,SNR=26						
LSZ				Sn	**Sn**	**18 22 41.3**	**-3.9**
	4.3nm,0.3s,baz=350,slow=23,SNR=11						
LSZ				Lg	Lg	18 23 58.0	
	3.3nm,0.3s,baz=193,slow=7.6,SNR=3.6						
LSZ				LR	LR	18 25 31.6	
	comp=Z,115nm,19.3s,baz=104,slow=40						
	9.4nm,0.6s						
LSZ	**Lusaka**	**11.50**	**244**	*i* P	Pn	18 20 31.1	-5.5
LSZ				*i* S	Sn	18 22 31.7	-14
ABPO	**Ambohimpanom**	**11.70**	**138**	Pn	**Pn**	**18 20 38.8**	**-0.5**
BLWY	**Bulawayo**	**13.83**	**225**	*i* P	Pn	18 21 05.3	-3.0
BLWY				*i* S	Sn	18 23 33.3	-8.8
MATP	**Matopo**	**14.10**	**224**	Pn	**Pn**	**18 21 15.1**	**+3.1**
	0.3nm,0.3s,baz=41,slow=14,SNR=9.5						
MATP				Sn	**Sn**	**18 23 45.1**	**-3.6**
	0.3nm,0.3s,baz=319,slow=4.4,SNR=4.1						
MATP				Lg	Lg	18 25 20.7	
	1.3nm,0.3s,baz=115,slow=22,SNR=6.9						
	0.9nm,0.4s						
MUSN	**Musina, Limpop**	**14.61**	**215**	*i* P	Pn	18 21 15.3	-3.6
MUSN				*i* S	Sn	18 23 51.4	-10
MOPA	**Mopani**	**14.83**	**208**	*i* P	Pn	18 21 18.7	-3.3
KSANE	**Kasane**	**15.20**	**240**		**Pn**	**18 21 26.3**	**-0.6**
KSANE				IAmb	IAmb	18 21 48.1	
	comp=Z,11nm,0.7s						
MREMI	**Moremi**	**16.29**	**221**		**Pn**	**18 21 41.6**	**+0.5**
MREMI				IAmb	IAmb	18 21 59.7	
	comp=Z,16nm,0.6s						
PHDHD	**Phuduhudu**	**16.90**	**233**	P	**Pn**	**18 21 49.1**	**+0.2**
PHDHD				IAmb	IAmb	18 22 04.5	
	comp=Z,23nm,0.7s						
KHWEE	**KHWEE**	**17.23**	**227**		**Pn**	**18 21 54.0**	**+0.9**
LPHEP	**Lephephe**	**17.89**	**223**		**Pn**	**18 22 00.5**	**-0.7**
LPHEP				IAmb	IAmb	18 22 18.4	
	comp=Z,44nm,1.3s						
KDWAN	**Kaudwane**	**18.71**	**225**	P	**P**	**18 22 10.1**	**-0.8**
LBTB	**Lobatse**	**19.22**	**219**	P	**P**	**18 22 16.8**	**+0.3**
LBTB	**Lobatse**	**19.22**	**219**	P	**P**	**18 22 18.5**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=30,slow=15,SNR=5.0						
LBTB				Lg	Lg	18 27 52.7	
	comp=Z,0.3nm,0.3s,baz=183,slow=12,SNR=3.7						
	comp=Z,0.7nm,0.5s						
LBTB	**Lobatse**	**19.22**	**219**	*i* P	**P**	**18 22 14.2**	**-2.3**
QNGWA	**Qangwa**	**19.35**	**240**	P	**P**	**18 22 18.2**	**+0.3**
GRTLG	**Ghanzi**	**20.15**	**235**	P	**P**	**18 22 26.8**	**0.0**
KGCAE	**Kacgae**	**20.17**	**230**	P	**P**	**18 22 27.0**	**0.0**
KGCAE				IAmb	IAmb	18 23 03.1	
	comp=Z,14nm,1.1s						
MAKGR	**Makgori**	**20.29**	**219**	P	**P**	**18 22 29.9**	**+1.6**
MAKGR				IAmb	IAmb	18 22 44.5	
	comp=Z,14nm,1.1s						
PHPEN	**Phepeng**	**21.32**	**223**	P	**P**	**18 22 39.3**	**

PRD	Provadia	0.09 291	⇓	*i*Pg	Pg	18 22 36.4	-0.6
PRD				Sg	Sg	18 22 37.4	-1.1
AVR	AVREN	0.10 94	⇑	*i*Pg	Pg	18 22 38.5	+1.2
AVR				Sg	Sg	18 22 40.7	+1.9
ROIA	ROIAK	0.11 253	⇑	*i*Pg	Pg	18 22 37.4	0.0
ROIA				Sg	Sg	18 22 39.6	+0.5
NEF	NEVSHA	0.23 307		Pg	Pg	18 22 39.1	-0.4
NEF				Sg	Sg	18 22 42.4	-0.2
PSN	Preselentsi	0.68 41		*i* Pg	Pg	18 22 48.7	+0.7
PSN				Sg	Sb	18 22 58.5	-0.3
RAZG	Razgrad	0.86 301	⇓	P	Pg	18 22 51.7	+0.2
RAZG			⇑	S	Sg	18 23 03.7	+1.0
JMB	Yambol	0.97 229		Pg	Pb	18 22 54.9	+0.8
JMB				Sg	Sb	18 23 08.8	+1.6
JMB	Yambol	0.97 229		*i* Pg	Pg	18 22 54.5	+0.9
JMB				Sg	Sg	18 23 07.2	+1.0
JMB	Yambol	0.97 229		*e*Pg	Pb	18 22 55.0	+0.8
JMB				*e*Sg	Sb	18 23 08.8	+1.6
ICOR	Ion Corvin	1.01 11	⇓	P	Pg	18 22 54.9	+0.5
ICOR			⇑	S	Sn	18 23 10.3	+0.2
TSMN	Mangalia Port-	1.03 49	⇓	P	Pn	18 22 56.3	+0.5
TSMN			⇓	S	Sn	18 23 12.1	+1.5
MANR	Mangalia	1.03 48	⇓	P	Pb	18 22 56.1	+0.8
MANR			⇑	S	Sn	18 23 10.9	+0.2
CICN	Ciocanesti	1.13 341	⇓	P	Pg	18 22 57.1	+0.5
SZH	Strazhitsa	1.14 277		P	Pg	18 22 56.7	-0.2
SZH				Sg	Sg	18 23 12.0	+0.3
MFTR	Murfatlar	1.23 31	⇓	P	Pn	18 22 59.4	+0.6
MFTR			⇑	S	Sn	18 23 16.9	+1.2
EFOR	EFORIE	1.25 40	⇓	P	Pn	18 22 59.9	+1.1
EFOR			⇓	S	Sn	18 23 18.4	+2.5
CVDA	Cernavoda	1.26 17	⇓	P	Pn	18 22 59.6	+0.5
CVDA			⇓	S	Sn	18 23 17.6	+1.3
ARMN	Kirklareli, Me	1.27 183		P	Pn	18 22 59.7	+0.5
ARMN				S	Sn	18 23 17.1	+0.7
TSCT	Constanta Port	1.32 38	⇑	P	Pg	18 23 00.9	+0.6
TSCT			⇑	S	Sn	18 23 20.1	+2.4
KIRK	Kırklareli	1.38 193		P	Pn	18 23 01.5	+0.7
KIRK				S	Sg	18 23 20.6	+1.2
EDRB	Edirne	1.40 205		Pn	Pn	18 23 01.9	+0.8
EDRB				Sn	Sg	18 23 21.5	+1.4
LEHL	Lehliu	1.44 339	⇓	P	Pn	18 23 02.4	+0.8
LEHL			⇑	S	Sg	18 23 23.1	+1.9
TLBR	Topalu	1.47 15	⇑	P	Pb	18 23 03.2	+0.6
TLBR			⇑	S	Sg	18 23 23.9	+1.8
TIRR	Tirgusor	1.48 25		Pn	Pb	18 23 03.1	+0.3
TIRR				Sn	Sg	18 23 23.2	+0.8
TIRR	Tirgusor	1.48 25	⇓	P	Pb	18 23 03.2	+0.4
TIRR			⇑	S	Sg	18 23 23.9	+1.5
PHSR	Pinarhisar	1.50 180		Pn	Pn	18 23 03.3	+1.0
PHSR				Sn	Sb	18 23 23.3	+1.0
VIZE	Kirklareli, Vi	1.56 171		P	Pn	18 23 04.3	+1.0
VIZE				S	Sb	18 23 25.1	+0.7
SGRR	Singureni	1.57 315	⇓	P	Pn	18 23 04.0	+0.6
SGRR			⇑	S	Sg	18 23 25.8	+0.3
HARR	Harsova	1.59 10	⇓	P	Pb	18 23 04.8	+0.1
BUC1	Bucharest	1.63 319	⇑	P	Pn	18 23 05.4	+1.2
BUC1			⇑	S	Sg	18 23 27.7	+0.2
INCR	INCERC-Sediu C	1.64 323	⇓	P	Pb	18 23 06.0	+0.3
INCR			⇑	S	Sg	18 23 28.7	+0.9
ZIMR		1.66 289	⇑	P	Pn	18 23 05.8	+1.2
ZIMR			⇓	S	Sb	18 23 28.5	+1.4
PVL	Pavlikeni	1.72 271		P	Pn	18 23 06.9	+1.4
PVL				S	Sb	18 23 30.0	+1.1
CTYL	Yalikoy Yolu	1.75 161		Pn	Pn	18 23 06.7	+1.0
CIOR	Ciorogarla	1.78 318	⇑	P	Pb	18 23 08.1	+0.1
CIOR			⇑	S	Sb	18 23 31.7	+1.2
SULR		1.80 330	⇓	P	Pb	18 23 08.6	+0.3
SULR			⇑	S	Sb	18 23 32.2	+1.1
PGOR	Pogoanele	1.82 348	⇑	P	Pb	18 23 08.4	-0.3
PGOR			⇓	S	Sg	18 23 33.6	0.0
TPGR	Topolog	1.84 20	⇓	P	Pb	18 23 09.4	+0.3
TPGR			⇓	S	Sb	18 23 33.5	+1.1
JURR	Jurilovca	1.91 30	⇑	P	Pn	18 23 09.4	+1.5
COPA	Copaceanca	1.96 302	⇑	P	Pn	18 23 09.2	+0.5
COPA			⇑	S	Sb	18 23 35.9	+0.4
SLVT	Silivri	1.96 165		Pn	Pn	18 23 09.8	+1.1
CRLT	Corlu	2.00 175		Pn	Pn	18 23 10.4	+1.1
CTKS	Kestanelik-??a	2.02 159		Pn	Pn	18 23 10.7	+1.1
CTKS				Sn	Sn	18 23 36.1	+1.0
ELBA	Catalca	2.09 161		P	Pn	18 23 11.9	+1.4
ELBA				S	Sn	18 23 37.7	+0.9
BGKT	Bogazkoy	2.15 154		Pn	Pn	18 23 12.6	+1.2
KLYT	Kilyos	2.19 148		Pn	Pn	18 23 13.0	+1.2
KDZ	Kurdzhali	2.21 228		Pn	Pn	18 23 13.6	+1.5
TLCR		2.26 24	⇑	P	Pn	18 23 14.9	+2.2
TLCR			⇑	S	Sb	18 23 43.8	-0.4
PLD	Plovdiv	2.27 245	*e*Pg		Pb	18 23 16.9	+0.5
PLD			*e*Sg		Sb	18 23 47.3	+2.6
AVCI	Avcilar-stanb	2.31 157		Pn	Pn	18 23 14.9	+1.4
HUMR	Humele	2.31 308	⇑	P	Pn	18 23 13.9	+0.3
HUMR			⇓	S	Sn	18 23 44.7	+2.3
SCHLR	Schela	2.35 5	⇓	P	Pn	18 23 15.7	+1.6
SCHLR			⇓	S	Sn	18 23 44.9	+1.6
ISK	Istanbul-Kandi	2.35 151		Pn	Pn	18 23 15.6	+1.5
KAVV	Kandilli-Istan	2.36 151		Pn	Pn	18 23 15.2	+1.1
KESN	Edirne-Kesan	2.38 196		P	Pn	18 23 15.8	+0.9
GIUM	Giurgiulesti	2.41 11	⇑	P	Pn	18 23 16.2	+1.3
GIUM			⇑	S	Sb	18 23 47.5	-1.1
IZVR	Izvoarele	2.42 4	⇓	S	Sn	18 23 47.3	+2.3
NEGRR	Negrea	2.42 6	⇓	P	Pn	18 23 16.3	+1.2
VLAD	Vladila	2.43 292	⇑	P	Pn	18 23 15.6	+0.4
TUDR		2.47 2	⇑	P	Pn	18 23 16.5	+0.8
TUDR			⇓	S	Sn	18 23 48.3	+2.2
RDO	Rodhopi	2.47 217		Pn	Pn	18 23 16.1	+0.4
ALN	Alexandroupoli	2.49 207		Pn	Pn	18 23 16.6	+0.7
SILT	Sile	2.52 141		Pn	Pn	18 23 18.1	+1.7
SCTR	Scanteiesti	2.57 7	⇓	P	Pn	18 23 18.9	+1.8
SCTR			⇑	S	Sb	18 23 51.5	-1.7
ENEZ	Enez	2.60 204		Pn	Pn	18 23 17.7	+0.2
MLR	Muntele Rosu	2.62 335		Pn	Pn	18 23 20.3	+2.4
MLR	Muntele Rosu	2.62 335		Pn	Pb	18 23 24.4	+2.0
	1.8nm,0.3s,baz=276,slow=17,SNR=15						
MLR				Sn	Sb	18 23 55.9	+1.0
	11nm,0.3s,baz=78,slow=19,SNR=5.4						
	37nm,0.5s						
MLR	Muntele Rosu	2.62 335	⇓	P	Pn	18 23 20.1	+2.2
MLR			⇓	S	Sb	18 23 53.2	-1.7
MLR	Muntele Rosu	2.62 335	*e*Pn		Pn	18 23 20.1	+2.2
VLDR	Vladesti	2.75 8	⇑	P	Pn	18 23 21.5	+2.0
MTUR	Matau	2.75 321	⇑	P	Pn	18 23 21.2	+1.6
MPEP	Malo Peshtene	2.78 276		P	Pn	18 23 20.7	+0.8
MPEP				S	Sb	18 24 02.5	+3.3
VARL	Varlezi	2.78 5	⇑	P	Pn	18 23 22.0	+2.1
VARL			⇑	S	Sn	18 23 56.8	+3.0
SEMS	Kocaeli-K¶rfe	2.79 143		P	Pn	18 23 20.6	+0.5
SEMS				S	Sn	18 23 54.0	-0.2
PLOR	Plostina	2.79 347	⇓	P	Pn	18 23 22.5	+2.3
VRI	Vrincioaia	2.80 348		Pn	Pn	18 23 22.6	+2.3
VRI	Vrincioaia	2.80 348	⇓	P	Pn	18 23 22.5	+2.3
VRI			⇑	S	Sn	18 23 56.8	+2.5
BAND	Balkesir-Ban	2.80 171	⇑	P	Pn	18 23 21.5	+1.2
BAND			⇓	S	Sn	18 23 55.0	+0.6
HRT	Hereke	2.80 145		Pn	Pn	18 23 21.9	+1.6
VOIR		2.92 323	⇓	P	Pn	18 23 24.0	+2.1
VALD	Valchedram	3.03 282		P	Pn	18 23 24.4	+0.9
BAIL	Bailesti	3.17 288	⇓	P	Pn	18 23 27.0	+1.7
VTS	Vitosha	3.20 262	*e*Pn		Pn	18 23 26.7	+0.9
HISA	Bilecik-Osmane	3.21 145		P	Pb	18 23 31.0	-1.4
OZUR		3.22 338	⇑	P	Pn	18 23 27.7	+1.6
DOPR	Dopca	3.23 332	⇑	P	Pn	18 23 27.9	+1.8
ONER	Baraj Valea Uz	3.31 346	⇑	P	Pn	18 23 29.3	+2.0
SAHE	Sakarya_HENDEK	3.36 131	⇓	P	Pn	18 23 28.8	+0.8
LEOM	Leova	3.38 8		Pn	Pn	18 23 31.7	+3.4
TNR	Turnu Rosu	3.44 318	⇑	P	Pn	18 23 30.4	+1.4
TNR			⇑	S	Sn	18 24 12.6	+2.6
TESR	Tescani	3.44 350	⇑	P	Pn	18 23 30.8	+1.7
TESR			⇑	S	Sn	18 24 12.5	+2.3
SRE	Strehaia	3.48 298	⇑	P	Pn	18 23 31.1	+1.5
PUNG	Punghina	3.52 291	*e*Pn		Pn	18 23 31.8	+1.6
SRS	Serrai	3.55 237	*e*Pn		Pn	18 23 31.0	+0.4
LOT	Lotru	3.56 312	⇑	P	Pn	18 23 31.7	+0.9
BLKB	Belogradchik	3.57 280	*e*Pn		Pn	18 23 31.4	+0.5
ZAPS	Zavoj	3.58 274	*e*Pn		Pn	18 23 31.2	+0.2
DURS	Dursunbey	3.59 168		P	Pn	18 23 32.7	+1.4
MDB	Medias	3.76 324	⇓	P	Pn	18 23 35.1	+1.6
BOSS	Bosilegrad	3.77 262	*e*Pn		Pn	18 23 34.9	+1.3
MILM	Milestii Mici	3.90 13	*e*P		Pn	18 23 36.0	+0.7
	35nm,0.6s						
MILM			*e*S		Sn	18 24 21.0	-0.4
MILM			LRM		MLR	18 24 42.0	
	260nm,8.0s						
MILM	Milestii Mici	3.90 13	⇑	P	Pn	18 23 36.7	+1.3
ZAGS	Zajecar	3.91 282	*e*Pn		Pn	18 23 36.3	+0.7
KURC	Kurucasile-Bar	4.06 107		Pn	Pn	18 23 39.2	+1.6
GZR	Gura Zlata	4.10 305	⇑	P	Pn	18 23 38.6	+0.5
GZR	Gura Zlata	4.10 305	*e*Pn		Pn	18 23 37.4	-0.7
VAY	Valandovo	4.10 246	*e*Pn		Pn	18 23 43.0	+4.9
VAY			*e*Sn		Sg	18 24 45.8	-0.8
BORS2	Bor- Borsko je	4.12 285	*e*Pn		Pn	18 23 36.1	-2.3
BARS	Barje	4.20 268	*e*Pn		Pn	18 23 40.2	+0.6
TARU	Tarkhankut	4.24 56	*e*P		Pn	18 23 41.5	+1.5
TARU			Pm			18 23 42.3	
	comp=Z,15nm,0.3s						
TARU			*i* S		Sn	18 24 32.6	+2.8
TARU			Sm			18 24 33.9	
	comp=N,17nm,0.3s						
TARU			Sm			18 24 33.9	
	comp=E,6.0nm,0.4s						
BOVS	Bovan	4.27 279	⇓	P	Pn	18 23 41.3	+0.8
BOVS	Bovan	4.27 279	*e*Pn		Pn	18 23 40.9	+0.4
DEV	Deva	4.30 311	⇓	P	Pn	18 23 42.2	+1.3
KUBS	Kucevo	4.43 289	*e*Pn		Pn	18 23 40.7	-2.0
MDVR	Moldovita	4.51 293	⇑	P	Pn	18 23 44.1	+0.3
MDVR	Moldovita	4.51 293	*e*Pn		Pn	18 23 43.2	-0.6
ARCR	ARCALIA	4.55 332	⇓	P	Pn	18 23 45.6	+1.3
DNZ2	Donuzlav2	4.66 59	*e*P		Pn	18 23 46.4	+0.6
DNZ2			Pm			18 23 51.1	
	comp=Z,7.0nm,0.3s						
DNZ2			*e*S		Sn	18 24 42.1	+1.9
DNZ2			Sm			18 24 48.7	
	comp=N,17nm,0.4s						
DNZ2			Sm			18 24 48.7	
	comp=E,8.0nm,0.3s						
SEV	Sevastopol'	4.66 70	*e*P		Pn	18 23 46.2	+0.4
SEV			Pm			18 23 54.6	
	comp=Z,8.0nm,0.4s						
SEV			*e*S		Sn	18 24 41.8	+1.6
SEV			Sm			18 24 57.3	
	comp=N,23nm,0.6s						
SEV			Sm			18 24 57.3	
	comp=E,10.0nm,0.4s						
SURR	Surduc	4.67 306	⇓	P	Pn	18 23 46.5	+0.4
SELS	Selova	4.69 273	*e*Pn		Pn	18 23 47.0	+0.8
MARR	Marisel-Cluj	4.73 320	⇓	P	Pn	18 23 47.7	+0.8
BURAR	Bucovina Array	4.77 341	⇓	P	Pn	18 23 49.9	+2.4
GOCS	Kraljevo Serbi	4.87 277	*e*Pn		Pn	18 23 47.9	-0.9
VRSS	Vrsac	4.89 296	*e*Pn		Pn	18 23 48.8	-0.2
BZS	Buzias	4.91 302	⇑	P	Pn	18 23 49.3	0.0
BZS	Buzias	4.91 302	*e*Pn		Pn	18 23 49.0	-0.3
BZK	Bozkurt	4.92 102	⇓	P	Pn	18 23 50.8	+1.3
YAL	Yalta	4.99 72	*e*P		Pn	18 23 51.5	+1.2
YAL			Pm			18 23 53.5	
	comp=Z,3.0nm,0.3s						
YAL			*e*S		Sn	18 24 50.7	+2.5
YAL			Sm			18 24 55.3	
	comp=N,3.0nm,0.3s						
YAL			Sm			18 24 55.3	
	comp=E,5.0nm,0.3s						
GRUS	Gruza	5.01 281	*e*Pn		Pn	18 23 50.9	+0.2
SORM	Soroca	5.04 6	⇓	P	Pn	18 23 52.0	+0.9
ALU	Alushta	5.21 70	*e*P		Pn	18 23 53.1	-0.2
ALU			Pm			18 23 58.1	
	comp=Z,3.0nm,0.2s						
ALU			*e*S		Sn	18 24 53.8	+0.2
ALU			Sm			18 24 57.3	
	comp=N,45nm,0.4s						
ALU			Sm			18 24 57.3	
	comp=E,31nm,0.6s						
SIRR	Siria	5.23 309	⇓	P	Pn	18 23 54.0	+0.3
SIRR	Siria	5.23 309	*e*Pn		Pn	18 23 53.4	-0.3
TRUS	Trudelj	5.28 284	*e*Pn		Pn	18 23 50.6	-3.7
AVAS	Avala Beograd	5.30 290	*e*Pn		Pn	18 23 54.2	-0.5
IVAS	Ivanjica	5.40 277	*e*Pn		Pn	18 23 55.8	-0.2
SJES	Sjenica	5.52 274	*e*Pn		Pn	18 23 58.6	+0.8
DIVS	Divibare	5.56 283	*e*Pn		Pn	18 23 57.8	-0.4
SUDU	Sudak	5.67 69	*e*P		Pn	18 23 59.7	0.0
SUDU			Pm			18 24 04.1	
	comp=Z,12nm,0.3s						
SUDU			*e*S		Sn	18 25 06.4	+1.4
SUDU			Sm			18 25 11.1	
	comp=N,45nm,0.6s						
SUDU			Sm			18 25 11.1	
	comp=E,5.0nm,0.4s						
BRTR	Keskin Array B	5.71 124		Pn	Pn	18 24 01.4	+1.0
	comp=E,0.5nm,0.3s,baz=295,slow=13,SNR=9.1						
BRTR			Sn		Sn	18 25 03.5	-2.9
	comp=E,0.2nm,0.3s,baz=320,slow=25,SNR=1.3						
	comp=E,1.6nm,0.7s						
BBLS	Lazi&#263i	5.95 280	*e*Pn		Pn	18 24 03.9	+0.2
TEKS	Tekeris	5.96 287	*e*Pn		Pn	18 24 02.6	-1.1
AKASG	Malin Array Be	7.67 8		Pn	Pn	18 24 26.7	-0.4
	comp=E,1.0nm,0.3s,baz=193,slow=12,SNR=4.7						
AKASG			Sn		Sn	18 25 50.1	-4.0
	comp=E,2.3nm,0.3s,baz=194,slow=23,SNR=4.0						
	comp=E,0.2nm,0.2s						
KVAR	Kislovodsk Arr	11.05 81		Pn	Pn	18 25 10.7	-2.8
	baz=286,slow=19						
	comp=E,2.5nm,0.8s						
KBZ	Khabaz	11.20 82		Pn	Pn	18 25 14.3	-1.1
	comp=E,0.2nm,0.3s,baz=252,slow=15,SNR=5.0						
	comp=E,0.4nm,0.3s						
NACGM	Naroch	11.80 358	*e*P		Pn	18 25 22.4	-1.2
	comp=Z,8.0nm,0.9s,baz=178						
FINES	FINESS Array B	18.37 358		Pn	Pn	18 26 44.7	-5.3
	comp=Z,0.1nm,0.3s,baz=176,slow=11,SNR=5.8						
	comp=Z,0.7nm,0.7s						
HFS	Hagfors	19.00 338		Pn	P	18 26 57.3	+0.3
	comp=Z,0.1nm,0.3s,baz=140,slow=11,SNR=2.7						
	comp=Z,1.7nm,0.9s						
NOA	NORSAR Array B	20.44 337		P	Pn	18 27 15.7	+0.8
	comp=Z,0.3nm,0.6s,baz=141,slow=11,SNR=1.9						
	comp=Z,0.3nm,0.6s						

*IDC **30** 18:48:28.8±0.7, 60.°42S×26.°37W, h0km, mb4.4/9, mbtmp4.4/9, MS3.5/11, Error ellipse: s-maj=27.2km s-min=17.8km az=62.0*
*NEIC **30** 18:48:30.4±1.4, 60.°43S±0.°07×26.°4W±0.°2, h10km±1km, mb4.6/25, Error ellipse: s-maj=21.8km s-min=10.8km az=69.0*

ISC 30 18:48:29.9±0.5, **60.°49S**±0.°09×**26.°3W**±0.°1, **h10**km, **n61**, σ1§04/45, **mb4.5**/20, **MS3.6/9**, **3C-5D**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	8.29 314		Pn	Pn	18 50 24.2	-5.9
VNA1	Neumayer--Stat	12.56 152		⇓P	Pn	18 51 24.6	-3.7
	comp=Z,90nm,0.4s						
VNA3	Neumayer Olymp	12.69 155		⇓P	Pn	18 51 25.5	-4.7
	comp=Z,78nm,0.5s						
VNA3				⇑S	Sn	18 53 33.2	-18
VNA2	Neumayer--Watz	12.96 152		⇓P	Pn	18 51 29.1	-4.7
	comp=Z,21nm,0.4s,baz=303,slow=16						
VNA2				⇑S	Sn	18 53 39.2	-19
	baz=244,slow=33						
SNAA	Sanae	14.56 150		⇓P	Pn	18 51 51.5	-4.2
	comp=Z,110nm,0.3s						
SNAA	Sanae	14.56 150			Pn	18 51 51.1	-4.6
SNAA	Sanae	14.56 150		Pn	Pn	18 51 51.7	-4.0
	comp=Z,2.0nm,0.3s,baz=328,slow=19,SNR=27						
SNAA				Sn	Sn	18 54 19.0	-18
	comp=Z,1.0nm,0.3s,baz=271,slow=11,SNR=5.2						
SNAA				LR	LR	18 56 14.3	
	comp=Z,113nm,18.8s,baz=228,slow=32						
TROLL	Troll, Antarti	16.14 147		⇓P	Pn	18 52 12.6	-4.0
	comp=Z,332nm,0.5s						
TROLL				⇑S	Sn	18 55 02.6	-13
PMSA	Palmer Station	17.67 240		LR	LR	18 58 36.2	
	comp=Z,72nm,19.0s,baz=114,slow=34						
BELA	Belgrano 2	17.68 186			Pn	18 52 34.4	-1.5
BELA				IAmb	IAmb	18 52 47.9	
	comp=Z,14nm,0.5s						
QSPA	South Pole Qui	29.75 180		P	P	18 54 36.9	+0.8
QSPA	South Pole Qui	29.75 180		P	P	18 54 37.3	+1.1
	comp=Z,10nm,0.7s,baz=210,slow=1.8,SNR=87						
QSPA				LR	LR	19 05 43.7	
	comp=Z,123nm,21.1s,baz=264,slow=35						
	comp=Z,10nm,0.7s						
TRQA	Tornquist	31.69 299			P	18 54 53.4	0.0
TRQA				IAmb	IAmb	18 55 17.5	
	comp=Z,12nm,1.2s						
PLTB	Pedras Altas	33.91 316		P	P	18 55 13.5	+0.7
PLTB				IAmb	IAmb	18 55 23.1	
	comp=Z,10nm,0.9s						
MAW	Mawson	36.37 140		P	P	18 55 34.3	+0.8
MT09	Talagante	39.28 292		P	P	18 55 58.2	-0.5
MT01	Popeta	39.33 292		P	P	18 55 58.4	-0.5
MT01				IAmb	IAmb	18 56 37.6	
	comp=Z,32nm,1.4s						
MT02	Curacav	39.78 293		P	P	18 56 02.4	-0.4
CFA	Coronel Fontan	39.88 297		P	P	18 56 02.6	-0.9
	comp=Z,2.7nm,0.5s,baz=161,slow=9.4,SNR=5.1						
	comp=Z,2.7nm,0.5s						
CPUP	Villa Florida	40.17 314		P	P	18 56 06.2	+0.2
CPUP	Villa Florida	40.17 314		P	P	18 56 06.0	0.0
	comp=Z,2.1nm,0.4s,baz=170,slow=7.3,SNR=6.7						
	comp=Z,2.1nm,0.4s						
CO02	Combarbal	41.45 294		P	P	18 56 17.0	+0.3
SUR	Sutherland	41.57 69		LR	LR	19 10 21.9	
	comp=Z,38nm,21.5s,baz=183,slow=32						
SBA	Scott Base	41.67 184		P	P	18 56 20.4	+2.6
SBA				IAmb	IAmb	18 56 20.7	
	comp=Z,11nm,1.2s						
VNDA	Vanda	42.15 183		P	P	18 56 23.0	+1.3
VNDA	Vanda	42.15 183		P	P	18 56 23.2	+1.5
	comp=Z,3.7nm,0.6s,baz=191,slow=6.5,SNR=28						
VNDA				LR	LR	19 12 41.4	
	comp=Z,102nm,19.6s,baz=264,slow=34						
	comp=Z,3.7nm,0.6s						
AC05	El Transito	43.15 297			P	18 56 30.5	0.0
AC05				IAmb	IAmb	18 56 55.1	
	comp=Z,13nm,0.7s						
LCO	Las Campanas	43.19 296		P	P	18 56 30.1	-0.9
LCO				IAmb	IAmb	18 57 06.1	
	comp=Z,19nm,1.2s						
H04S2	CROZET ISLANDS	45.46 110		T	T	19 46 22.8	
	baz=223,slow=74,SNR=5.5						
H04S3	CROZET ISLANDS	45.47 110		T	T	19 46 12.0	
	baz=223,slow=74,SNR=5.4						
H04S1	CROZET ISLANDS	45.48 110		T	T	19 46 06.3	
	baz=223,slow=74,SNR=5.4						
BOSA	Boshof	46.80 71		P	P	18 57 00.2	+0.7
BOSA	Boshof	46.80 71		P	P	18 56 59.9	+0.3
	comp=Z,2.7nm,1.0s,baz=214,slow=14,SNR=4.0						
BOSA				LR	LR	19 12 29.6	
	comp=Z,61nm,18.3s,baz=194,slow=31						
	comp=Z,2.7nm,1.0s						
BDFB	Brasilia	47.47 331		LR	LR	19 13 05.1	
	comp=Z,28nm,21.3s,baz=162,slow=31						
CASY	Casey	49.58 159		P	P	18 57 21.3	+0.9
CASY				IAmb	IAmb	18 57 45.1	
	comp=Z,14nm,1.3s						
LBTB	Lobatse	50.02 69		LR	LR	19 15 55.5	
	comp=Z,52nm,18.3s,baz=166,slow=33						
GO01	Chusmiza	50.76 304		P	P	18 57 30.0	-0.4
GO01				IAmb	IAmb	18 57 42.9	
	comp=Z,4.0nm,0.7s						
PTLB	Pontes e Lacer	50.86 318		P	P	18 57 30.4	-0.2
SIV	San Ignacio	51.02 315		P	P	18 57 31.7	-0.2
	comp=Z,1.7nm,0.4s,baz=163,slow=9.5,SNR=9.2						
	comp=Z,1.7nm,0.4s						
QNGWA	Qangwa	52.82 61		P	P	18 57 45.7	+0.3
QNGWA				IAmb	IAmb	18 57 59.3	
	comp=Z,3.4nm,0.8s						
LPAZ	La Paz	53.38 307		P	P	18 57 49.7	-0.4
LPAZ	La Paz	53.38 307		P	P	18 57 50.1	0.0
	comp=Z,2.4nm,0.4s,baz=77,slow=9.1,SNR=16						
	comp=Z,2.4nm,0.4s						
SAML	Samuel	58.29 316		P	P	18 58 24.8	+0.1
SAML				IAmb	IAmb	18 58 35.4	
	comp=Z,2.4nm,0.8s						
BOAV	Boa Vista	68.10 323		P	P	18 59 28.7	-0.9
BOAV				IAmb	IAmb	18 59 29.9	
	comp=Z,9.0nm,1.4s						
MDP	Montagnes des	68.58 332		LR	LR	19 28 41.1	
	comp=Z,30nm,18.3s,baz=125,slow=35						
DBIC	Dimbokro	69.06 23		P	P	18 59 35.5	0.0
DBIC	Dimbokro	69.06 23		P	P	18 59 35.9	+0.3
	comp=Z,5.8nm,0.9s,baz=176,slow=7.5,SNR=4.3						
DBIC				LR	LR	19 24 06.5	
	comp=Z,37nm,18.1s,baz=170,slow=31						
	comp=Z,5.8nm,0.9s						
SACV	Santiago Islan	75.23 3		P	P	19 00 11.6	-0.9
ASAR	Alice Springs	94.61 162		P	P	19 01 50.6	-0.3
ASAR	Alice Springs	94.61 162		P	P	19 01 50.2	-0.6
	comp=Z,0.7nm,0.7s,baz=182,slow=4.9,SNR=10						
	comp=Z,0.7nm,0.7s						
MDT	Midelt	94.66 18		LR

QIZ				S	Sn	18 56 54.3	-1.6
QIZ				LR	LR		
	comp=N,270nm,10.6s						
QIZ				LR	LR		
	comp=E,230nm,10.6s						
QIZ				LR	LR		
	comp=Z,170nm,9.4s						
LEM	**Lembang**	**19.36**	**137**	LR	LR	19 01 44.1	
	comp=Z,106nm,20.4s,baz=191,slow=39						
PZH	**PanZhiHua**	**20.10**	**19**	P	Pn	18 53 42.0	+0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,90nm,4.8s						
MNCY	**Minicoy**	**21.26**	**273**	*e*P	P	18 54 03.7	+12
MNCY				IAmb	IAmb	18 54 37.1	
	comp=Z,14nm,0.9s						
MNCY				*e*S	S	18 57 36.6	-9.1
EVN	**Everest**	**21.58**	**341**		**P**	**18 53 56.1**	**+0.1**
LSA	**Lhasa**	**22.28**	**352**	P	**P**	**18 54 05.5**	**+2.2**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
H08S3	**Diego Garcia H**	**26.60**	**236**	T	T	19 21 18.4	
	baz=54,slow=75,SNR=30						
H08S2	**Diego Garcia H**	**26.61**	**236**	T	T	19 21 28.5	
	baz=54,slow=75,SNR=32						
H08S1	**Diego Carcia H**	**26.62**	**236**	T	T	19 21 25.3	
	baz=54,slow=75,SNR=28						
KAPI	**Kappang**	**28.12**	**116**	LR	LR	19 05 48.7	
	comp=Z,54nm,20.1s,baz=260,slow=35						
XAN	**Xi'an**	**29.56**	**25**	P	**P**	**18 55 12.5**	**+2.6**
XAN				pP	sP	18 55 32.3	+4.5
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
NJ2	**Nanjing**	**33.32**	**40**	*e*P	**P**	**18 55 42.5**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**36.51**	**22**	*e*P	**P**	**18 56 11.8**	**+1.3**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,5.8s						
DRK	**Karamyk**	**37.77**	**331**	P	**P**	**18 56 20.4**	**-1.1**
GAR	**Garm**	**38.15**	**329**	P	**P**	**18 56 23.2**	**-1.2**
GAR				IAmb	IAmb	18 56 29.8	
	comp=Z,7.9nm,1.2s						
AAK	**Ala-Archa**	**39.16**	**336**	LR	LR	19 14 19.3	
	comp=Z,39nm,20.2s,baz=176,slow=39						
MK31	**Makanchi Array**	**40.50**	**347**	P	**P**	**18 56 43.2**	**-0.6**
MKAR	**Makanchi Array**	**40.50**	**347**	P	**P**	**18 56 43.1**	**-0.7**
MKAR	**Makanchi Array**	**40.50**	**347**	P	**P**	**18 56 43.4**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=166,slow=8.1,SNR=26						
	comp=Z,2.7nm,0.7s						
MAKZ	**Makanchi**	**40.58**	**347**	P	**P**	**18 56 44.0**	**-0.5**
SONM	**Songino Array**	**41.43**	**12**	P	**P**	**18 56 53.7**	**+2.2**
	comp=Z,0.9nm,0.8s,baz=189,slow=7.5,SNR=3.9						
	comp=Z,0.9nm,0.8s						
KSRS	**Korea Array**	**42.51**	**40**	LR	LR	19 15 29.3	
	comp=Z,22nm,18.1s,baz=230,slow=37						
KURBB	**Kurchatov Arra**	**44.96**	**346**	P	**P**	**18 57 20.0**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=166,slow=7.2,SNR=24						
	comp=Z,2.9nm,0.7s						
KURK	**Kurchatov**	**45.03**	**346**	P	**P**	**18 57 19.9**	**-0.4**
ZAA0	**Zalesovo Array**	**46.94**	**352**	P	**P**	**18 57 35.2**	**-0.1**
ZAA0				IAmb	IAmb	18 57 43.8	
	comp=Z,3.7nm,1.0s						
ZALV	**Zalesovo Beam**	**46.94**	**352**		**P**	**18 57 35.2**	**-0.1**
ZALV	**Zalesovo Beam**	**46.94**	**352**	P	**P**	**18 57 35.6**	**+0.2**
	comp=Z,1.9nm,0.4s,baz=188,slow=7.3,SNR=12						
	comp=Z,1.9nm,0.4s						
WB0	**Warramunga Arr**	**47.74**	**125**	P	**P**	**18 57 39.6**	**-2.5**
WB0				IAmb	IAmb	18 57 58.2	
	comp=Z,8.1nm,1.3s						
WRA	**Warramunga Arr**	**47.79**	**126**	P	**P**	**18 57 46.0**	**+3.5**
	comp=Z,0.3nm,0.5s,baz=301,slow=7.7,SNR=7.6						
	comp=Z,0.3nm,0.5s						
WB2	**Warramunga Arr**	**47.80**	**125**	P	**P**	**18 57 40.3**	**-2.2**
WB2				IAmb	IAmb	18 57 56.2	
	comp=Z,8.5nm,1.4s						
BVAR	**Borovoye Array**	**49.42**	**341**	P	**P**	**18 57 53.6**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=145,slow=5.4,SNR=11						
	comp=Z,1.9nm,0.8s						
ASAR	**Alice Springs**	**49.44**	**130**	P	**P**	**18 57 56.5**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=302,slow=7.6,SNR=5.3						
	comp=Z,0.2nm,0.6s						
BRVK	**Borovoye**	**49.49**	**341**	P	**P**	**18 57 54.2**	**-0.8**
BRVK				IAmb	IAmb	18 58 01.3	
	comp=Z,5.2nm,1.5s						
RAYN	**Ar Rayn**	**49.54**	**294**		**P**	**18 57 56.0**	**+0.1**
RAYN				IAmb	IAmb	18 57 57.1	
	comp=Z,4.7nm,0.6s						
AB31	**Akbulak array**	**50.70**	**331**	P	**P**	**18 58 03.7**	**-0.6**
AB31				IAmb	IAmb	18 58 05.0	
	comp=Z,2.8nm,1.0s						
ABKAR	**Akbulak array**	**50.70**	**331**	P	**P**	**18 58 04.2**	**-0.1**
ABKAR	**Akbulak array**	**50.70**	**331**	P	**P**	**18 58 03.8**	**-0.5**
ABKAR				IAmb	IAmb	18 58 05.0	
	comp=Z,2.8nm,1.0s						
ARTI	**Arti**	**56.38**	**337**	LR	LR	19 23 33.9	
	comp=Z,30nm,18.2s,baz=156,slow=37						
NRIK	**Noril'sk**	**61.90**	**357**	LR	LR	19 26 58.6	
	comp=Z,19nm,19.4s,baz=330,slow=37						
H04N2	**CROZET ISLANDS**	**65.60**	**211**	T	T	20 10 21.7	
	baz=47,slow=75,SNR=10						
H04N1	**CROZET ISLANDS**	**65.61**	**211**	T	T	20 10 13.6	
	baz=47,slow=75,SNR=21						
H04N3	**CROZET ISLANDS**	**65.62**	**211**	T	T	20 10 13.3	
	baz=47,slow=75,SNR=19						
TIXI	**Tiksi**	**67.50**	**11**		**P**	**18 59 59.9**	**-0.4**
TIXI				IAmb	IAmb	19 00 06.7	
	comp=Z,2.6nm,0.5s						
AKASG	**Malin Array Be**	**68.63**	**322**	P	**P**	**19 00 04.8**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=99,slow=4.7,SNR=4.1						
	comp=Z,0.2nm,0.3s						
IDI	**Anoyia**	**69.04**	**305**	P	**P**	**19 00 09.7**	**-1.0**
FIA1	**FINESS Array S**	**73.17**	**332**	P	**P**	**19 00 34.7**	**-0.3**
FINES	**FINESS Array B**	**73.17**	**332**	P	**P**	**19 00 34.4**	**-0.6**
FINES	**FINESS Array B**	**73.17**	**332**	P	**P**	**19 00 34.6**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=108,slow=6.2,SNR=9.8						
	comp=Z,2.2nm,0.7s						
ARCES	**ARCESS Array B**	**75.70**	**340**	P	**P**	**19 00 50.9**	**+1.3**
ARCES				IAmb	IAmb	19 01 27.3	
	comp=Z,7.2nm,1.1s						
GERES	**GERESS Array B**	**78.31**	**318**	P	**P**	**19 01 03.9**	**-0.9**
GERES	**GERESS Array B**	**78.31**	**318**	P	**P**	**19 01 03.2**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=90,slow=5.3,SNR=6.6						
	comp=Z,0.6nm,0.7s						
HFS	**Hagfors**	**78.92**	**330**	P	**P**	**19 01 07.3**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=98,slow=7.8,SNR=6.6						
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**80.20**	**331**	P	**P**	**19 01 13.5**	**-1.3**
	comp=Z,2.4nm,1.0s,baz=91,slow=5.9						
NOA	**NORSAR Array B**	**80.20**	**331**	P	**P**	**19 01 13.8**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=93,slow=5.6,SNR=5.7						
	comp=Z,0.7nm,0.6s						
EKA	**Eskdalemuir Ar**	**88.20**	**325**	P	**P**	**19 01 55.7**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=105,slow=5.3,SNR=5.4						
	comp=Z,0.7nm,0.7s						

*GII **30** 19:09:55.1±0.0, 36°.26N×25°.18E, h100km, Md3.3/1, confirmed*
*THE **30** 19:10:02.7, 36°.24N×25°.20E, h102km±1km, ML3.2/8, Error ellipse: s-maj=1.8km s-min=0.7km az=58.0*
*HLW **30** 19:10:03.1, 35°.89N×25°.69E, h6km±9km, Ml3.7*
*ISK **30** 19:10:03.1, 36°.32N×25°.22E, h54km±1km, ML3.1/7*
*ATH **30** 19:10:03.5, 36°.31N×25°.21E, h33km±4km, ML3.1/22, Manual Solution by F.Xalaris First location: 2019/04/30 19:11:06, This location: 2019/05/02 09:51:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
*AFAD **30** 19:10:04.8, 35°.99N×25°.85E, h10km±1km, ML2.6*

ISC 30 19:10:00.7±1.0, **36°.20N**±0°.04×**25°.23E**±0°.03, **h106**km±8km, **n118**, σ**9**15/125, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR6	**Thira Island,**	**0.21**	**41**	P	**Pn**	**19 10 16.5**	**+0.9**
THR3	**Thira Island,**	**0.25**	**33**	P	**Pn**	**19 10 16.5**	**+0.8**
THR8	**Santorini-Mono**	**0.29**	**44**	P	**Pn**	**19 10 16.6**	**+0.7**
CMBO	**Columbo, Santo**	**0.30**	**27**	P	**Pn**	**19 10 16.6**	**+0.6**
CMBO				S	**Sn**	**19 10 27.8**	**+0.4**
	2μm,0.5s						
AMGA	**Amorgos Island**	**0.83**	**40**	P	**Pn**	**19 10 20.4**	**+0.6**
AMGA				S	**Sn**	**19 10 29.8**	**-4.5**
MHLO	**Agia Marina, M**	**0.83**	**306**	P	**Pn**	**19 10 20.1**	**+0.3**
MHLO				S	**Sn**	**19 10 33.5**	**-0.7**
	2μm,0.6s						
MHLO	**Agia Marina, M**	**0.83**	**306**	P	**Pn**	**19 10 20.2**	**+0.3**
MHLO				S	**Sn**	**19 10 29.9**	**-4.3**
IDI	**Anoyia**	**0.95**	**197**	P	**Pn**	**19 10 22.3**	**+1.2**
IDI				S	**Sn**	**19 10 37.1**	**+0.6**
	495nm,0.1s						
IDI	**Anoyia**	**0.95**	**197**	Pg	**Pn**	**19 10 22.4**	**+1.3**
IDI				Sg	**Sn**	**19 10 36.7**	**+0.2**
IDI	**Anoyia**	**0.95**	**197**	P	**Pn**	**19 10 22.6**	**+1.4**
IDI				S	**Sn**	**19 10 36.0**	**-0.5**
PRNS	**Prines Rethymn**	**1.02**	**216**	P	**Pn**	**19 10 23.7**	**+2.0**
PRNS				S	**Sn**	**19 10 38.7**	**+1.1**
CHAN	**Chania**	**1.18**	**235**	P	**Pn**	**19 10 25.2**	**+1.8**
CHAN				S	**Sn**	**19 10 40.3**	**-0.4**
IMMV	**Iera Moni Meta**	**1.26**	**234**	P	**Pn**	**19 10 25.6**	**+1.2**
IMMV				S	**Sn**	**19 10 42.9**	**+0.6**
	845nm,0.3s						
IMMV	**Iera Moni Meta**	**1.26**	**234**	Pn	**Pn**	**19 10 26.0**	**+1.6**
IMMV				Sn	**Sn**	**19 10 42.9**	**+0.6**
IMMV	**Iera Moni Meta**	**1.26**	**234**	P	**Pn**	**19 10 25.9**	**+1.6**
IMMV				S	**Sn**	**19 10 42.0**	**-0.3**
TNSA	**Tinos**	**1.34**	**358**	P	**Pn**	**19 10 25.3**	**0.0**
ZKR	**Zakros**	**1.35**	**143**	P	**Pn**	**19 10 27.5**	**+2.0**
ZKR				S	**Sn**	**19 10 46.1**	**+1.9**
	285nm,0.3s						
ZKR	**Zakros**	**1.35**	**143**	Pn	**Pn**	**19 10 27.8**	**+2.3**
ZKR				Sn	**Sn**	**19 10 45.9**	**+1.7**
ZKR	**Zakros**	**1.35**	**143**	P	**Pn**	**19 10 28.4**	**+2.9**
NISR	**Nisiros**	**1.58**	**74**	P	**Pn**	**19 10 30.2**	**+2.0**
ANKY	**Antikythira Is**	**1.60**	**259**	P	**Pn**	**19 10 28.7**	**+0.3**
ANKY				S	**Sn**	**19 10 49.5**	**0.0**
	495nm,0.3s						
ANKY	**Antikythira Is**	**1.60**	**259**	P	**Pn**	**19 10 28.9**	**+0.4**
GVD	**Gavdhos**	**1.65**	**215**	P	**Pn**	**19 10 31.5**	**+2.4**
KARP	**Karpathos**	**1.70**	**112**	P	**Pn**	**19 10 32.1**	**+2.4**
KARP				S	**Sn**	**19 10 53.6**	**+1.8**
	325nm,0.2s						
KARP	**Karpathos**	**1.70**	**112**	Pn	**Pn**	**19 10 32.1**	**+2.4**
KARP				Sn	**Sn**	**19 10 53.3**	**+1.5**
KARP	**Karpathos**	**1.70**	**112**	P	**Pn**	**19 10 32.0**	**+2.3**
KARP				S	**Sn**	**19 10 53.6**	**+1.8**
YAZI	**Mula-Dat§a-**	**1.85**	**74**	P	**Pn**	**19 10 32.6**	**+1.0**
BODT	**Bodrum**	**1.88**	**62**	Pn	**Pn**	**19 10 33.4**	**+1.4**
BODT				Sn	**Sn**	**19 10 55.3**	**-0.5**
VLI	**Veliai**	**1.92**	**286**	P	**Pn**	**19 10 32.6**	**+0.1**
KARY	**Karystos**	**1.94**	**341**	P	**Pn**	**19 10 32.9**	**+0.2**
DAT	**Datca**	**1.96**	**74**	Pn	**Pn**	**19 10 34.9**	**+1.8**
BDRM	**Kayabasi**	**1.98**	**63**	P	**Pn**	**19 10 35.0**	**+1.8**
BDRM				S	**Sn**	**19 10 59.7**	**+1.7**
BDRM				*i* AML	AML	19 11 01.0	
	comp=E,58nm,0.5s						
VLY	**Voula,Athens**	**2.01**	**326**	P	**Pn**	**19 10 33.1**	**-0.5**
MET4	**Agioi Theodoro**	**2.04**	**315**	P	**Pn**	**19 10 34.6**	**+0.6**
KRND	**KRANIDI**	**2.05**	**306**	P	**Pn**	**19 10 34.7**	**+0.6**
MET5	**Makryloggos,Me**	**2.07**	**314**	P	**Pn**	**19 10 35.0**	**+0.7**
ATHU	**Athens Univers**	**2.11**	**327**	P	**Pn**	**19 10 35.1**	**+0.3**
DION	**Dionisos Attik**	**2.14**	**331**	P	**Pn**	**19 10 35.7**	**+0.4**
ATH	**Athens Observa**	**2.14**	**326**	P	**Pn**	**19 10 35.9**	**+0.6**
PTL	**Penteli**	**2.14**	**330**	P	**Pn**	**19 10 35.9**	**+0.6**
ARG	**Arkhangelos**	**2.34**	**89**	P	**Pn**	**19 10 40.4**	**+2.5**
ARG				S	**Sn**	**19 11 08.0**	**+1.6**
	118nm,0.3s						
ARG	**Arkhangelos**	**2.34**	**89**	P	**Pn**	**19 10 40.5**	**+2.7**
TURN	**Turunc**	**2.50**	**76**	P	**Pn**	**19 10 42.4**	**+2.5**
TURN				S	**Sn**	**19 11 11.6**	**+1.7**
TURN				*i* AML	AML	19 11 16.0	
	comp=N,39nm,0.6s						
LTK	**Loutraki**	**2.57**	**316**	P	**Pn**	**19 10 41.6**	**+0.8**
KYMI	**Kymi, Euboea I**	**2.59**	**340**	P	**Pn**	**19 10 41.5**	**+0.4**
YER	**Yerkesik**	**2.62**	**68**	Pn	**Pn**	**19 10 44.1**	**+2.5**
ITM	**Ithomi**	**2.83**	**291**	P	**Pn**	**19 10 45.3**	**+1.0**
GUR	**Goura**	**2.89**	**308**	P	**Pn**	**19 10 45.3**	**+0.2**
ESEN	**Aydn-Nazilli**	**2.96**	**56**	P	**Pn**	**19 10 48.1**	**+2.1**
LKR	**Lokris**	**3.02**	**325**	P	**Pn**	**19 10 47.5**	**+0.7**
KLV	**Kalavryta, Ach**	**3.07**	**308**	P	**Pn**	**19 10 47.8**	**+0.2**
SABU	**Mula-Dalaman**	**3.07**	**77**	P	**Pn**	**19 10 50.4**	**+2.9**
SABU				*i* AML	AML	19 11 29.0	
	comp=E,26nm,0.6s						
SABU				*i* AML	AML	19 11 33.0	
	comp=N,35nm,0.6s						
AMT	**Artemida-Makis**	**3.12**	**296**	P	**Pn**	**19 10 49.3**	**+1.1**
FETY	**Fethiye**	**3.14**	**81**	P	Pn	19 10 53.9	+5.5
PRK	**Paraskevi**	**3.15**	**15**	P	**Pn**	**19 10 49.1**	**+0.6**
DNZT	**Denizli-Tavas-**	**3.23**	**69**	P	Pn	19 10 54.6	+4.9
DNZT				S	**Sn**	**19 11 32.4**	**+4.8**
IZZE	**Mula-Seydike**	**3.23**	**85**	P	**Pn**	**19 10 52.3**	**+2.6**
IZZE				S	**Sn**	**19 11 26.8**	**-0.7**
IZZE				*i* AML	AML	19 11 30.0	
	comp=E,28nm,0.3s						
IZZE				*i* AML	AML	19 11 39.0	
	comp=N,34nm,0.5s						
AXAR	**Agios Charalam**	**3.28**	**322**	P	**Pn**	**19 10 51.4**	**+1.1**
EFP	**Efpalio**	**3.46**	**311**	P	**Pn**	**19 10 53.5**	**+0.9**
KSL	**Kastellorizon**	**3.52**	**90**	P	**Pn**	**19 10 56.0**	**+2.5**
KSL				S	**Sn**	**19 11 35.7**	**+1.4**
RLS	**Riolos of Patr**	**3.53**	**303**	P	**Pn**	**19 10 55.2**	**+1.6**
AKAS	**Kas**	**3.54**	**88**	P	**Pn**	**19 10 56.2**	**+2.4**
AKAS				*i* AML	AML	19 11 39.0	
	comp=E,24nm,0.4s						
XOR	**Xorichti**	**3.55**	**334**	P	**Pn**	**19 10 54.7**	**+0.8**
ANX	**Ano Chora**	**3.56**	**313**	P	**Pn**	**19 10 55.1**	**+1.1**
GOLH	**Golhisar**	**3.63**	**72**	P	**Pn**	**19 10 58.2**	**+3.2**
GOLH				S	**Sn**	**19 11 37.9**	**+0.8**
GOLH				*i* AML	AML	19 11 42.0	
	comp=N,16nm,0.5s						
GOLH				*i* AML	AML	19 11 48.0	
	comp=E,14nm,0.6s						
AGG	**Agios Georgios**	**3.64**	**322**	P	**Pn**	**19 10 56.1**	**+1.0**
MAKR	**Makrakomi, Fth**	**3.73**	**320**	P	**Pn**	**19 10 57.6**	**+1.2**
ELL	**Elmali**	**3.81**	**80**	P	**Pn**	**19 11 00.5**	**+3.0**
THL	**Klokotos Trika**	**4.21**	**324**	P	**Pn**	**19 11 04.0**	**+1.2**
TYRN	**Tyrnavos**	**4.23**	**327**	P	**Pn**	**19 11 04.2**	**+1.2**
SLUM	**Salum**	**4.70**	**180**	P	**Pn**	**19 11 10.3**	**+1.0**
MATC	**Matruh**	**5.12**	**160**	P	**Pn**	**19 11 14.1**	**-1.0**
DB3	**El Dabaa**	**5.84**	**151**	⇑P	**Pn**	**19 11 23.7**	**-1.2**
DB3				S	Sn	19 12 24.0	-6.5
CSS	**Mathiatis**	**6.71**	**98**	P	Pn	19 11 31.9	-4.8
CSS	**Mathiatis**	**6.71**	**98**	S	**Sn**	**19 12 48.7**	**-3.0**
SWA2		**6.94**	**178**	P	**Pn**	**19 11 41.0**	**+1.2**
RYAN	**Fayoum**	**8.27**	**148**	P	**Pn**	**19 11 57.8**	**-0.1**
RYAN				S	Sn	19 13 23.6	-6.0
OFRI	**`Ofer**	**8.81**	**111**	P	Pn	19 12 00.5	-4.8
OFRI	**`Ofer**	**8.81**	**111**	S	**Sn**	**19 13 38.7**	**-4.1**
MMA0B	**Mount Meron ar**	**8.97**	**108**	P	Pn	19 12 03.6	-3.7
MMA0B	**Mount Meron ar**	**8.97**	**108**	S	**Sn**	**19 13 43.0**	**-3.6**
SLTI	**Sal'it**	**9.03**	**113**	P	Pn	19 12 03.3	-4.9
SLTI	**Sal'it**	**9.03**	**113**	S	**Sn**	**19 13 44.1**	**-3.9**
GEM	**Giv'at Ha'Em**	**9.09**	**106**	P	Pn	19 12 04.6	-4.4
GEM	**Giv'at Ha'Em**	**9.09**	**106**	S	**Sn**	**19 13 45.4**	**-4.1**
NBNS	**Bani Suef**	**9.13**	**144**	P	**Pn**	**19 12 09.5**	**+0.1**
NATI	**Neve Ativ**	**9.13**	**106**	P	Pn	19 12 05.3	-4.1
NATI	**Neve Ativ**	**9.13**	**106**	S	**Sn**	**19 13 46.6**	**-3.8**
MMLI	**Mount Malkishu**	**9.22**	**111**	P	Pn	19 12 06.3	-4.5
MMLI	**Mount Malkishu**	**9.22**	**111**	S	**Sn**	**19 13 48.6**	**-4.2**
KZIT	**Kziot**	**9.29**	**122**	P	Pn	19 12 08.0	-3.7
KZIT	**Kziot**	**9.29**	**122**	S	**Sn**	**19 13 50.3**	**-4.1**
AMAZ	**Amatzia**	**9.30**	**117**	P	Pn	19 12 07.8	-4.0
AMAZ	**Amatzia**	**9.30**	**117**	S	**Sn**	**19 13 50.3**	**-4.3**
HMDT	**Nahal Hemdat**	**9.39**	**112**	P	Pn	19 12 09.1	-3.9
HMDT	**Nahal Hemdat**	**9.39**	**112**	S	**Sn**	**19 13 53.1**	**-3.6**
HFRF	**Wahat Farafira**	**9.40**	**163**	P	**Pn**	**19 12 14.0**	**+0.9**
YTIR	**Yattir**	**9.54**	**118**	P	Pn	19 12 10.6	-4.5
YTIR	**Yattir**	**9.54**	**118**	S	**Sn**	**19 13 56.3**	**-4.1**
DSI	**Dead Sea**	**9.62**	**116**	P	Pn	19 12 11.5	-4.5
DSI	**Dead Sea**	**9.62**	**116**	S	**Sn**	**19 13 58.4**	**-3.9**
MSBI	**Mazada**	**9.74**	**117**	P	Pn	19 12 13.8	-3.9
MSBI	**Mazada**	**9.74**	**117**	S	**Sn**	**19 14 01.0**	**-4.1**
GHAJ	**Ghor Haditha**	**9.89**	**117**	P	Pn	19 12 15.8	-3.9
GHAJ	**Ghor Haditha**	**9.89**	**117**	S	**Sn**	**19 14 05.5**	**-3.4**
KRMI	**Paran Flat**	**10.00**	**125**	P	Pn	19 12 17.4	-4.0
KRMI	**Paran Flat**	**10.00**	**125**	S	**Sn**	**19 14 08.0**	**-3.7**
PRNI	**Paran**	**10.04**	**123**	P	Pn	19 12 17.5	-4.4
PRNI	**Paran**	**10.04**	**123**	S	**Sn**	**19 14 08.9**	**-3.8**
MBRI	**Mt Berech**	**10.34**	**125**	P	Pn	19 12 22.2	-3.7
MBRI	**Mt Berech**	**10.34**	**125**	S	**Sn**	**19 14 16.2**	**-3.7**
EIL	**Elat**	**10.44**	**126**	P	Pn	19 12 23.2	-4.1
EIL	**Elat**	**10.44**	**126**	S	**Sn**	**19 14 18.1**	**-4.2**
HKAT	**Jabal Katrina**	**10.65**	**133**	P	**Pn**	**19 12 30.6**	**+0.3**
HDK1	**Dakhla**	**11.21**	**160**	⇑P	**Pn**	**19 12 39.5**	**+1.7**
HHRG	**Al Ghardaqah**	**11.42**	**139**	⇑P	**Pn**	**19 12 43.7**	**+3.2**
HHRG				S	**Sn**	**19 14 44.1**	**-2.1**
AKRG	**Al Kharijah**	**11.58**	**156**	⇑P	**Pn**	**19 12 44.1**	**+1.5**
GTR	**Jabal at Tayr**	**11.59**	**155**	⇑P	**Pn**	**19 12 44.0**	**+1.1**

*IDC **30** 19:14:07.5±1.3, 39°.90S×176°.28E, h0km, mb4.1/3, mbtmp4.0/4, ML3.3/1, MS3.4/1, Error ellipse: s-maj=35.4km s-min=24.3km az=120.0*
*NOU **30** 19:14:09.3, 40°.12S×176°.83E, h64km, MLv4.2/13, North Island, New Zealand*
*WEL **30** 19:14:11.3±0.6, 40°.5±3°.1×17°.7E±°, h36km±6km, M4.1/12, ML4.5/12, MLv4.1/12, Error ellipse: s-maj=4.6km s-min=3.4km az=117.9, confirmed*

ISC 30 19:14:11.7±0.8, **40°.02S**±0°.03×**176°.63E**±0°.04, **h53**km±5km, **n62**, σ1§**40**/78, **mb4.0**/3, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPHZ	**Waipukurau**	**0.15**	**254**	P	**Pn**	**19 14 19.5**	**-0.6**
WPHZ				S	**Sn**	**19 14 25.2**	**-0.8**
PXZ	**Pawanui**	**0.18**	**93**	P	**Pn**	**19 14 19.7**	**-0.5**
PXZ				S	**Sn**	**19 14 26.1**	**-0.2**
PRHZ	**Porangahau**	**0.24**	**178**	P	**Pn**	**19 14 20.5**	**-0.2**
PRHZ				S	**Sn**	**19 14 27.2**	**+0.1**
KAHZ	**Kahuranaki**	**0.30**	**40**	P	**Pn**	**19 14 20.8**	**-0.3**
KAHZ				S	**Sn**	**19 14 28.2**	**+0.3**
PNHZ	**Pukenui**	**0.34**	**288**	P	**Pn**	**19 14 20.8**	**-0.8**
PNHZ				S	**Sn**	**19 14 27.4**	**-1.2**
KRHZ	**Kereru**	**0.43**	**332**	P	**Pn**	**19 14 21.4**	**-1.0**
KRHZ				S	**Sn**	**19 14 28.1**	**-1.9**
DVHZ	**Dannevirke**	**0.45**	**232**	P	**Pn**	**19 14 22.3**	**-0.3**
DVHZ				S	**Sn**	**19 14 30.0**	**-0.4**
ANWZ	**Angora Road**	**0.45**	**195**	P	**Pn**	**19 14 22.7**	**+0.1**
ANWZ				S	**Sn**	**19 14 31.8**	**+1.4**
CKHZ	**Cape Kidnapper**	**0.50**	**44**	P	**Pn**	**19 14 22.9**	**-0.3**
CKHZ				S	**Sn**	**19 14 32.0**	**+0.5**
TSZ	**Takapari Road**	**0.51**	**266**	P	**Pn**	**19 14 22.8**	**-0.6**
TSZ				S	**Sn**	**19 14 30.8**	**-0.9**
MCHZ	**McNeill Hill**	**0.58**	**5**	P	**Pn**	**19 14 23.9**	**-0.2**
MCHZ				S	**Sn**	**19 14 33.3**	**+0.2**
KWHZ	**Kaweka Forest**	**0.62**	**345**	P	**Pn**	**19 14 24.0**	**-0.7**
KWHZ				S	**Sn**	**19 14 33.0**	**-1.0**
BFZ	**Birch Farm**	**0.72**	**204**	P	**Pn**	**19 14 25.8**	**-0.1**
BFZ	**Birch Farm**	**0.72**	**204**	P	**Pn**	**19 14 25.8**	**-0.1**
BFZ				S	**Sn**	**19 14 37.2**	**+1.1**
PRWZ	**Pori Road**	**0.73**	**223**	P	**Pn**	**19 14 26.3**	**+0.3**
PRWZ				S	**Sn**	**19 14 38.1**	**+1.8**
POWZ	**Post Office Ro**	**0.75**	**240**	P	**Pn**	**19 14 26.3**	**0.0**
ARHZ	**Aropaoanui**	**0.81**	**21**	P	**Pn**	**19 14 27.0**	**0.0**
BKZ	**Black Stump Fm**	**0.86**	**353**	P	**Pn**	**19 14 27.0**	**-0.8**
BKZ	**Black Stump Fm**	**0.86**	**353**	P	**Pn**	**19 14 27.3**	**-0.4**
MOVZ	**Moawhango**	**0.91**	**312**	P	**Pn**	**19 14 28.6**	**+0.1**
TIWZ	**Tintock**	**0.94**	**217**	P	**Pn**	**19 14 28.8**	**0.0**
CPWZ	**Castlepoint**	**0.94**	**200**	P	**Pn**	**19 14 29.2**	**+0.4**
OHWZ	**Ohakea**	**1.02**	**259**	P	**Pn**	**19 14 30.8**	**+1.0**
MRZ	**Mangatainoka R**	**1.02**	**231**	P	**Pn**	**19 14 29.5**	**-0.3**
WNVZ	**Wahianoa**	**1.05**	**311**	P	**Pn**	**19 14 31.0**	**+0.6**
TUVZ	**Tukino**	**1.06**	**315**	P	**Pn**	**19 14 31.2**	**+0.7**
WHVZ	**Whangaehu Hut**	**1.09**	**312**	P	**Pn**	**19 14

GRZ	Great Barrier	18.65	197	P	P	19 49 47.6	+1.1
WCZ	Waipu Caves	18.69	200	P	P	19 49 49.3	+2.4
MXZ	Matakaoa Point	19.30	189	P	P	19 49 51.9	-0.5
MXZ	Matakaoa Point	19.30	189	P	P	19 49 52.1	-0.3
HAZ	Te Kaha	19.57	190	P	P	19 49 54.0	-0.9
PUZ	Puketiti	19.80	189	P	P	19 49 56.1	-1.0
TOZ	Tahuroa Road	20.03	195		P	19 49 59.0	-0.1
TOZ	Tahuroa Road	20.03	195	P	P	19 49 59.8	+0.8
MWZ	Matawai	20.18	190	P	P	19 49 58.3	-2.2
URZ	Urewera	20.18	191	P	P	19 49 57.3	-3.2
	29nm,0.3s,baz=353,slow=1.8,SNR=51						
URZ				S	S	19 53 08.6	-4.0
	8.4nm,0.9s,baz=306,slow=19,SNR=1.8						
URZ	Urewera	20.18	191	P	P	19 49 59.0	-1.4
URZ	Urewera	20.18	191	P	P	19 49 57.2	-3.2
TLZ	Tolley Road	20.59	195	P	P	19 50 05.6	+1.4
BKZ	Black Stump Fm	21.18	192	P	P	19 50 06.7	-2.9
BKZ	Black Stump Fm	21.18	192	P	P	19 50 06.9	-2.7
PXZ	Pawanui	21.95	191	P	P	19 50 14.5	-1.8
TSZ	Takapari Road	22.15	193	P	P	19 50 17.0	-1.2
DVHZ	Dannevirke	22.34	192	P	P	19 50 18.0	-1.8
ANWZ	Angora Road	22.43	191	P	P	19 50 19.4	-1.3
BFZ	Birch Farm	22.69	192	P	P	19 50 20.5	-2.5
MRZ	Mangatainoka R	22.80	193	P	P	19 50 21.9	-2.1
HOWZ	Holdsworth Sta	23.05	193	P	P	19 50 25.2	-0.9
DUWZ	D'Urville Isla	23.33	196	P	P	19 50 27.2	-1.5
TRWZ	Traveller	23.49	192	P	P	19 50 29.9	-0.2
SNZO	South Karori	23.62	194	P	P	19 50 29.7	-1.5
TCW	Tory Channel	23.63	195	P	P	19 50 29.9	-1.4
BHW	Baring Head	23.68	194	P	P	19 50 30.2	-1.5
QRZ	Quartz Range	23.74	198	P	P	19 50 32.2	-0.1
PLWZ	Palliser	23.75	193	P	P	19 50 30.9	-1.5
NNZ	Nelson	23.86	196	P	P	19 50 31.7	-1.6
NNZ	Nelson	23.86	196	P	P	19 50 32.0	-1.4
THZ	Tophouse	24.50	197		P	19 50 37.6	-1.5
THZ	Tophouse	24.50	197	P	P	19 50 37.9	-1.1
DSZ	Denniston Nort	24.80	199	P	P	19 50 41.1	-0.6
DSZ	Denniston Nort	24.80	199	P	P	19 50 41.0	-0.8
KHZ	Kahutara	24.95	195	P	P	19 50 41.4	-1.5
GVZ	Greta Valley S	25.59	196	P	P	19 50 46.8	-1.9
GVZ	Greta Valley S	25.59	196	P	P	19 50 47.1	-1.5
WVZ	Waitaha Valley	26.34	199	P	P	19 50 54.6	-0.6
MQZ	McQueen's Vall	26.38	196	P	P	19 50 53.9	-1.6
FOZ	Fox Glacier	27.04	200	P	P	19 51 01.0	-0.3
JCZ	Jackson Bay	27.86	201	P	P	19 51 08.6	-0.1
WKZ	Wanaka	28.45	200	P	P	19 51 12.7	-1.0
EIDS	Eidsvold	29.54	251	P	P	19 51 22.5	-0.9
EIDS				IAmb	IAmb	19 51 24.1	
	comp=Z,22nm,0.7s						
EIDS	Eidsvold	29.54	251	P	P	19 51 23.5	+0.1
DCZ	Deep Cove	29.64	202	P	P	19 51 24.1	+0.1
DCZ				IAmb	IAmb	19 51 26.8	
	comp=Z,26nm,0.8s						
WHZ	Wether Hill Ro	29.75	200		P	19 51 24.8	-0.2
ARMA	Armidale	30.08	241	P	P	19 51 28.8	+0.6
ARMA				IAmb	IAmb	19 51 30.0	
	comp=Z,13nm,0.7s						
CAN	Canberra	33.75	234	P	P	19 51 59.8	+0.6
CAN				IAmb	IAmb	19 52 00.9	
	comp=Z,18nm,0.9s						
CAN	Canberra	33.75	234	P	P	19 52 00.1	+0.9
PATS	Pohnpei	34.41	315	P	P	19 52 05.0	+0.1
PMG	Port Moresby	35.04	280		P	19 52 10.1	-0.1
PMG	Port Moresby	35.04	280	P	P	19 52 11.1	+0.9
PMG	Port Moresby	35.04	280	P	P	19 52 11.0	+0.9
PMG	Port Moresby	35.04	280	P	P	19 52 10.6	+0.5
CMSA	Cobar Meteorol	35.30	241	P	P	19 52 12.8	+0.7
QLP	Quilpie	35.79	250	P	P	19 52 16.2	-0.1
MTSU	Mount Surprise	35.83	264	P	P	19 52 16.6	-0.2
TOO	Toolangi	37.19	232		P	19 52 28.3	+0.6
COEN	Coen	37.60	271		P	19 52 31.2	0.0
COEN				IAmb	IAmb	19 52 32.5	
	comp=Z,32nm,0.8s						
COEN	Coen	37.60	271	P	P	19 52 31.8	+0.5
MANU	Manus Island	37.76	292	P	P	19 52 32.3	-0.3
MANU				IAmb	IAmb	19 52 34.1	
	comp=Z,29nm,1.0s						
BRAT	Ballarat	38.35	232	P	P	19 52 38.3	+1.2
STKA	Stephens Creek	38.79	242	P	P	19 52 40.8	+0.1
STKA	Stephens Creek	38.79	242	P	P	19 52 41.7	+1.1
	comp=Z,21nm,0.8s,baz=90,slow=5.8,SNR=31						
	comp=Z,21nm,0.8s						
STKA	Stephens Creek	38.79	242	P	P	19 52 41.8	+1.1
INKA	Innaminka	38.99	249	P	P	19 52 43.4	+1.0
QIS	Mount Isa	40.03	260	P	P	19 52 50.5	-0.4
LCRK	Leigh Creek	41.45	245	P	P	19 53 02.7	+0.7
OOD	Oodnadatta	43.46	249	P	P	19 53 18.9	+1.1
BBOO	Buckleboo	43.56	242	P	P	19 53 18.7	+0.2
HATHI	Halema'uma'u T	43.73	32	P	P	19 53 19.5	-0.5
GENI	Genyem	43.99	286	P	P	19 53 23.2	+1.1
WR8	Warramunga Arr	44.86	260	P	P	19 53 27.9	-0.8
WR8				IAmb	IAmb	19 53 29.1	
	comp=Z,24nm,1.2s						
WB0	Warramunga Arr	44.98	260	IAmb	IAmb	19 53 29.9	
	comp=Z,30nm,0.6s						
WRAB	Tennant Creek	45.00	260	P	P	19 53 29.0	-0.8
WRAB				IAmb	IAmb	19 53 30.0	
	comp=Z,23nm,0.6s						
WRA	Warramunga Arr	45.01	260	P	P	19 53 29.1	-0.7
	comp=Z,17nm,0.5s,baz=98,slow=6.6,SNR=442						
WRA				ScP	ScP	19 58 00.2	+1.6
	comp=Z,0.5nm,0.9s,baz=98,slow=5.6,SNR=2.2						
WRA				S	S	19 59 26.8	-1.7
	comp=Z,1.6nm,1.1s,baz=99,slow=14,SNR=4.9						
	comp=Z,17nm,0.5s						
AS01	Alice Springs	45.06	255	P	P	19 53 30.3	0.0
AS31	Alice Springs	45.11	255	P	P	19 53 30.6	+0.1
ASAR	Alice Springs	45.11	255	P	P	19 53 30.8	+0.1
	comp=Z,81nm,0.5s,baz=88,slow=9.0,SNR=1414						
ASAR				ScP	ScP	19 58 01.2	+2.1
	comp=Z,0.7nm,0.8s,baz=97,slow=4.1,SNR=3.4						
ASAR				S	S	19 59 29.0	-0.8
	comp=Z,4.6nm,1.0s,baz=94,slow=14,SNR=17						
GUMO	Guam	48.61	308	P	P	19 53 57.2	+0.2
MTN	Manton Dam	49.27	269	P	P	19 54 01.5	-0.4
MTN				IAmb	IAmb	19 54 02.1	
	comp=Z,26nm,0.9s						
MTN	Manton Dam	49.27	269	P	P	19 54 02.0	+0.1
WRKA	Warakurna	50.13	253	P	P	19 54 08.5	+0.3
FORT	Forrest	50.21	245	P	P	19 54 08.2	-0.3
FORT				IAmb	IAmb	19 54 16.0	
	comp=Z,57nm,1.2s						
KNRA	Kununurra	50.92	265		P	19 54 13.5	-0.4
KNRA				IAmb	IAmb	19 54 14.6	
	comp=Z,20nm,0.7s						
FAKI	Fak Fak	51.17	281	P	P	19 54 15.2	-0.6
FAKI				IAmb	IAmb	19 54 55.7	
	comp=Z,79nm,1.5s						
FITZ	Fitzroy Crossi	53.42	261	P	P	19 54 31.9	+0.1
DRV	Dumont d'Urvil	55.28	199	P	P	19 54 45.0	+1.0
SOEI	Soe	56.56	270	P	P	19 54 55.1	+1.2
SOEI				IAmb	IAmb	19 55 00.7	
	comp=Z,37nm,0.7s						
SOEI	Soe	56.56	270	P	P	19 54 54.4	+0.4
SANI	Sanana	57.32	280	P	P	19 54 58.9	-0.1
PSA00	Pilbara Seismi	58.24	256	P	P	19 55 04.8	-0.3
MBWA	Marble Bar	58.41	256	P	P	19 55 05.8	-0.4
MBWA				IAmb	IAmb	19 56 46.8	
	comp=Z,37nm,1.4s						
MBWA	Marble Bar	58.41	256	P	P	19 55 06.1	-0.1
MMRI	Maumere	58.79	271	P	P	19 55 08.7	-0.3
MMRI				IAmb	IAmb	19 55 09.1	
	comp=Z,18nm,0.6s						
NWAO	Narrogin (SRO)	59.37	242	P	P	19 55 13.5	+0.9
NWAO				IAmb	IAmb	19 57 10.2	
	comp=Z,102nm,1.6s						
SBA	Scott Base	59.88	184	P	P	19 55 17.9	+2.7
SBA	Scott Base	59.88	184	P	P	19 55 18.1	+3.0
VNDA	Vanda	59.92	185	P	P	19 55 17.5	+2.1
VNDA	Vanda	59.92	185	P	P	19 55 17.6	+2.2
	comp=Z,3.0nm,0.6s,baz=358,slow=8.1,SNR=22						
	comp=Z,3.0nm,0.6s						
VNDA	Vanda	59.92	185	P	P	19 55 17.6	+2.2
VNDA				pP	pP	19 57 00.5	-3.7
LUWI	Luwuk	60.68	279	P	P	19 55 22.1	+0.6
MORW	Morawa	60.70	247	P	P	19 55 21.1	-0.4
MORW				IAmb	IAmb	19 56 59.9	
	comp=Z,96nm,1.9s						
GIRL	Giralia	63.20	253	P	P	19 55 39.2	+1.5
TOLI2	Tolitoli	63.30	281	P	P	19 55 39.0	+0.5
CCD	Concordia, Ant	64.44	194	P	P	19 55 46.3	+1.1
CCD				PcP	PcP	19 56 14.5	+0.8
CCD				pP	pP	19 57 31.6	-4.9
CASY	Casey	65.82	205	P	P	19 55 54.1	+0.6
CASY				IAmb	IAmb	19 58 09.2	
	comp=Z,37nm,1.6s						
JAGI	Jajag, Banyuwa	66.51	269	P	P	19 55 57.5	-1.3
JAGI				IAmb	IAmb	19 55 58.5	
	comp=Z,18nm,0.7s						
MJAR	Matsushiro Arr	68.66	323	P	P	19 56 11.0	-0.4
	comp=Z,1.9nm,0.7s,baz=162,slow=5.9,SNR=8.4						
	comp=Z,1.9nm,0.7s						
MAJO	Matsushiro	68.66	323	P	P	19 56 11.0	-0.4
MAJO				IAmb	IAmb	19 56 52.7	
	comp=Z,48nm,1.8s						
MJB9	Matsu-Tunnel	68.66	323	P	P	19 56 12.2	+0.8
MJB9				IAmb	IAmb	19 56 54.1	
	comp=Z,43nm,1.7s						
KKM	Kota Kinabalu	69.35	284	P	P	19 56 15.9	-0.2
UGM	Wanagama	70.11	268	P	P	19 56 20.3	-0.3
QSPA	South Pole Qui	71.58	180	P	P	19 56 30.0	+1.7
QSPA				IAmb	IAmb	19 56 31.0	
	comp=Z,20nm,0.8s						
QSPA	South Pole Qui	71.58	180	P	P	19 56 30.1	+1.8
	comp=Z,15nm,0.5s,baz=230,slow=0.8,SNR=151						
	comp=Z,15nm,0.5s						
QSPA	South Pole Qui	71.58	180	P	P	19 56 30.0	+1.7
SSLB	Suanglung	72.96	303	P	P	19 56 36.1	-0.9
TPUB	Ta-pu	72.98	302	P	P	19 56 36.1	-1.0
KSM	Kuching	73.24	277		P	19 56 38.9	+0.1
PEA0B	Petropavlovsk-	74.36	345	P	P	19 56 43.9	-0.2
PEA0B				IAmb	IAmb	19 56 59.3	
	comp=Z,56nm,1.6s						
PETK	Petropavlovsk-	74.36	345	P	P	19 56 44.7	+0.5
PETK	Petropavlovsk-	74.36	345	P	P	19 56 44.1	0.0
	comp=Z,2.0nm,0.6s,baz=112,slow=8.5,SNR=8.3						
	comp=Z,2.0nm,0.6s						
NJ2	Nanjing	78.68	309	eP	P	19 57 10.5	+2.2
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MDJ	Mudanjiang	78.93	325	P	P	19 57 11.3	+1.9
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NVAR	Mina Array Bea	79.50	44	P	P	19 57 12.5	-0.3
	comp=Z,1.2nm,0.7s,baz=220,slow=6.8,SNR=4.9						
	comp=Z,1.2nm,0.7s						
PRN	Pahroc Range	81.12	46	P	P	19 57 21.6	+0.4
BELA	Belgrano 2	81.54	173		P	19 57 23.2	+0.7
U15A	North Rim	82.54	48	P	P	19 57 29.4	+0.7
GYA	Guiyang	85.74	300	⇓P	P	19 57 46.3	+1.9
GYA				pmax	pmax		
	comp=Z,19nm,1.1s						
TX31	Lajitas Ar. Si	85.89	57	P	P	19 57 45.8	+0.9
TXAR	Lajitas Array	85.89	57	P	P	19 57 47.2	+2.2
	comp=Z,2.2nm,0.8s,baz=232,slow=6.2,SNR=13						
	comp=Z,2.2nm,0.8s						
ALPN	Alpine	86.33	56		P	19 57 48.1	+1.0
ALPN				IAmb	IAmb	20 00 26.1	
	comp=Z,10nm,0.3s						
ILAR	Eielson Array	86.33	13	P	P	19 57 45.8	-0.4
	comp=Z,0.5nm,0.4s,baz=220,slow=5.4,SNR=9.2						
	comp=Z,0.5nm,0.4s						
YHL	Hebgen Lake	87.40	41		P	19 57 53.1	+1.1
PDAR	Pinedale Array	87.43	43	P	P	19 57 52.2	+0.1
	comp=Z,0.8nm,0.8s,baz=222,slow=2.0,SNR=8.0						
	comp=Z,0.8nm,0.8s						
HHC	Hu-ho-hao-te	88.02	314	eP	P	19 57 55.5	+0.8
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,4.6s						
ELIB	Princess Elisa	88.65	186	dP	P	19 57 58.0	+0.8
	comp=Z,14nm,0.7s						
CMAR	Chiang Mai Arr	89.53	290	P	P	19 58 02.5	+0.4
	comp=Z,1.0nm,0.9s,baz=110,slow=2.1,SNR=8.0						
	comp=Z,1.0nm,0.9s						
TROLL	Troll, Antarti	89.74	180	⇑P	P	19 58 02.9	+0.7
	comp=Z,219nm,0.4s						
PZH	PanZhiHua	89.86	298	P	P	19 58 05.5	+1.9
PZH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
SNAA	Sanae	90.01	178	⇑P	P	19 58 04.0	+0.5
	comp=Z,64nm,0.6s						
SNAA	Sanae	90.01	178	P	P	19 58 03.8	+0.4
SNAA				IAmb	IAmb	20 01 07.7	
	comp=Z,33nm,2.0s						
SNAA	Sanae	90.01	178	P	P	19 58 04.0	+0.5
	comp=Z,2.3nm,0.6s,baz=210,slow=9.2,SNR=8.1						
	comp=Z,2.3nm,0.6s						
VNA3	Neumayer Olymp	90.14	176	⇓P	P	19 58 04.6	+0.7
	comp=Z,17nm,0.6s						
H31M	Peel River	90.21	16	P	P	19 58 04.0	-0.1
H31M				IAmb	IAmb	20 00 41.6	
	comp=Z,19nm,2.0s						
VNA2	Neumayer--Watz	90.58	177	⇑P	P	19 58 06.8	+0.8
	comp=Z,12nm,0.6s,baz=185,slow=5.0						
PLCA	Paso Flores	90.58	133	P	P	19 58 07.5	+0.8
	comp=Z,1.0nm,0.6s,baz=212,slow=5.9,SNR=3.2						
	comp=Z,1.0nm,0.6s						
G30M	tAoh Zrai Nji	90.63	15		P	19 58 06.0	-0.1
VNA1	Neumayer--Stat	90.81	177	⇑P	P	19 58 07.9	+0.9
	comp=Z,9.5nm,0.8s						
G31M	Satah River	91.08	16	P	P	19 58 07.9	-0.1
C27K	Jago River	91.16	11	P	P	19 58 08.9	+0.4
YKA	Yellowknife Ar	94.65	25	P	P	19 58 23.9	-0.7
	comp=Z,0.3nm,0.7s,baz=246,slow=4.3,SNR=5.6						
	comp=Z,0.3nm,0.7s						
BVAR	Borovoye Array	117.60	321	PKP	PKPdf	20 03 46.1	0.0
	comp=Z,0.2nm,0.3s,baz=90,slow=3.1,SNR=3.0						
EKA	Eskdalemuir Ar	143.00	5	PKP	PKPdf	20 04 31.5	-2.1
	comp=Z,0.4nm,0.5s,baz=302,slow=2.9,SNR=5.4						
CLL	Collm	146.13	348	PKPbc	PKPbc	20 04 40.6	-0.6
MMAI	Mount Meron Ar	146.86	302	PKPbc	PKiKP	20 04 45.2	-0.6
	comp=Z,0.7nm,0.4s,baz=77,slow=3.7,SNR=5.7						
MEM	Membach	147.80	355	dPKPdf	PKPdf	20 04 42.5	+0.6
GERES	GERESS Array B	148.29	345	PKPbc	PKiKP	20 04 48.2	-0.1
	comp=Z,0.7nm,0.6s,baz=18,slow=4.8,SNR=7.5						
PRED	Cave del Predi	150.55	344	PKPdf	PKPdf	20 04 45.3	-1.3
PRED					PKPab	20 05 01.7	-0.1

VIE ***30*** *19:46:52.7±1.0, 51°.41N×16°.23E, h0km, mb2.4/7, ml2.7/8, Error ellipse: s-maj=7.1km s-min=5.7km az=44.0 65 km NW of Wroclaw Suspected Mining induced.*
IPEC ***30*** *19:46:52.7±0.2, 51°.44N×16°.33E, h1km, ML2.4/4, Error ellipse: s-maj=1.6km s-min=1.2km az=58.0*
DNK ***30*** *19:46:53.3±1.2, 51°.57N×16°.27E, h0km±68km, ML2.1*
IDC ***30*** *19:46:53.8±0.9, 51°.35N×16°.10E, h0km, mbtmp3.0/6, ML2.4/5, Error ellipse: s-maj=16.8km s-min=9.2km az=105.0*
PRU ***30*** *19:46:55.1, 51°.36N×16°.27E, h0km*
UPP ***30*** *19:46:56.3±3.1, 51°.68N×15°.95E, h0km, ML2.2*
ISC 30 19:46:51.6±0.7, 51°.50N±0°.03×16°.23E±0°.02, h0km, n60, σ1§09/107, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	176	ePg	Pg	19 47 04.5	+0.3
KSP				eSg	Sg	19 47 12.2	-0.5
CHVC	Chvalec	0.92	187	ePG	Pg	19 47 09.5	+0.3
CHVC				eSG	Sg	19 47 21.1	0.0
OSTC	Ostas	0.94	180	ePG	Pg	19 47 10.2	+0.5
OSTC				eSG	Sg	19 47 21.7	-0.2
UPC	Upice	1.00	188	ePG	Pg	19 47 10.9	+0.1
UPC				eSG	Sg	19 47 23.8	0.0
	comp=Z,137nm,0.5s						
DPC	Dobruska-Polom	1.15	177	ePG	Pg	19 47 13.6	-0.1
DPC				eSG	Sg	19 47 28.3	-0.3
	comp=Z,44nm,0.5s						
PIVO	Bartosovice	1.33	171	ePg	Pg	19 47 17.0	-0.1
PIVO	baz=354						
				eSg	Sg	19 47 32.6	-1.7
	baz=354						
PVCC	Panska Ves	1.43	228	ePG	Pg	19 47 19.6	+0.7
PVCC				eSG	Sn	19 47 38.8	+0.6
	comp=Z,167nm,0.3s						
KRLC	Kraliky	1.47	166	ePG	Pn	19 47 19.2	-0.2
KRLC				eSG	Sg	19 47 37.9	-0.9
	comp=Z,32nm,0.3s						
BRG	Berggiesshubel	1.57	247	Pn	Pn	19 47 20.8	+0.2
BRG				Pg	Pg	19 47 22.4	+0.8
BRG				Sg	Sg	19 47 43.1	+1.2
BRG				Amp		19 47 44.5	
	comp=Z,39nm,0.3s						
PRA	Prague	1.83	219	ePN	Pn	19 47 24.2	0.0
PRA				ePG	Pb	19 47 26.4	+0.5
GOPC	GO Pecny, Ondr	1.83	210	ePG	Pb	19 47 25.9	-0.1
STEB	Steborice	1.85	147	ePG	Pb	19 47 25.7	-0.6
STEB				eSG	Sn	19 47 48.1	-0.6
PRU	Pruhonice	1.85	216	ePG	Pb	19 47 26.4	+0.1
PRU				eSG	Sb	19 47 50.4	+0.4
	comp=Z,24nm,0.4s						
MORC	Moravsky Berou	1.92	154	ePn	Pn	19 47 25.3	-0.2
	baz=336						
MORC				eSg	Sn	19 47 50.2	-0.2
	comp=Z,29nm,0.5s,baz=336						
CLL	Collm	2.03	266	ePn	Pn	19 47 28.0	+1.0
CLL				ePg	Pg	19 47 31.0	+0.6
CLL				ex	x	19 47 46.0	
CLL				eSg	Sg	19 47 58.0	+1.3
	comp=Z,24nm,0.4s						
VRAC	Vranov	2.21	174	Pn	Pn	19 47 29.4	-0.1
	comp=Z,2.9nm,0.3s,baz=345,slow=13,SNR=15						
VRAC				Lg	Lg	19 47 57.3	
	comp=Z,1.0nm,0.3s,baz=70,slow=20,SNR=3.7						
	comp=Z,7.3nm,0.4s						
VRAC	Vranov	2.21	174	ePn	Pn	19 47 29.5	+0.1
	baz=356						
VRAC				eSg	Sb	19 47 59.8	-0.4
	comp=Z,20nm,0.5s,baz=356						
VRAC	Vranov	2.21	174	ePN	Pn	19 47 29.6	+0.1
VRAC				eSG	Sb	19 47 59.9	-0.3
TREC	Trest	2.26	192	eSG	Sb	19 48 02.5	+0.8
KRUC	Moravsky	2.44	177	ePn	Pn	19 47 32.9	+0.2
	baz=359						
KRUC	Moravsky	2.44	177	ePg	Pb	19 47 36.3	-0.1
	baz=359						
KRUC				eSg	Sb	19 48 07.2	+0.2
	comp=Z,21nm,0.7s,baz=359						
OJC	Ojcow	2.60	118	ePg	Pg	19 47 42.7	+1.3
OJC				eSg	Sg	19 48 15.7	+0.5
NKC	Novy Kostel	2.71	244	ePN	Pn	19 47 37.1	+0.7
NKC				ePG	Pg	19 47 43.9	+0.4
JAVC	Velka Javorina	2.80	160	ePn	Pn	19 47 37.7	0.0
	baz=342						
KHC	Kasperske Hory	2.92	217	ePN	Pn	19 47 40.0	+0.8
KHC				ePG	Pb	19 47 45.7	+1.3
KHC				eSN	Sn	19 48 13.8	-1.2
KHC				eSG	Sg	19 48 23.8	-1.4
	comp=Z,14nm,0.4s						
CKRC	Cesky Krumlov	2.95	205	ePN	Pn	19 47 40.3	+0.6
CKRC				ePG	Pb	19 47 46.3	+1.2
CKRC				eSG	Sb	19 48 23.6	+1.9
	comp=Z,14nm,0.4s						
GERES	GERESS Array B	3.11	212	Pn	Pn	19 47 43.0	+1.0
	comp=Z,0.1nm,0.3s,baz=35,slow=14,SNR=12						
GERES				Lg	Lg	19 48 24.5	
	comp=Z,0.6nm,0.3s,baz=33,slow=28,SNR=7.9						
	comp=Z,0.8nm,0.4s						
LANS	Liptovska Anna	3.14	137	ePN	Pn	19 47 42.8	+0.5
LANS				ePG	Pg	19 47 53.5	+1.8
LANS				eSG	Sg	19 48 29.6	-2.8
MODS	Modra-Piesok	3.20	167	ePG	Pg	19 47 53.1	+0.2
MODS				eSG	Sg	19 48 34.3	-0.1
NIE	Niedzica	3.33	127	ePg	Pg	19 47 55.2	-0.3
NIE				eSg	Sg	19 48 38.7	0.0
VYHS	Vyhne	3.45	150	ePG	Pg	19 47 58.3	+0.7
VYHS				eSG	Sg	19 48 44.6	+2.3
CONA	Conrad Observa	3.58	184	ePn	Pn	19 47 47.7	-0.7
	comp=Z,0.4nm,0.2s						
CONA				eSg	Sg	19 48 45.5	-1.2
	comp=Z,6.3nm,0.3s						
BSD	Bornholm Skovb	3.70	348	e	Pn	19 47 48.1	-1.9
	baz=168,slow=11						
BSD				i P	Pb	19 47 50.6	-7.2
BSD				i S	Sn	19 48 33.1	-1.2
BSD				IAML		19 48 37.0	
	comp=Z,2.0nm,0.3s						
RONA	Rosalia, Austr	3.81	179	ePn	Pn	19 47 51.5	+0.1
	comp=Z,1.1nm,0.3s						
RONA				eSg	Sg	19 48 52.6	-1.2
	comp=Z,6.5nm,0.5s						
STHS	Stebnicka Huta	3.83	121	ePN	Pn	19 47 53.6	+1.9
STHS				ePG	Pg	19 48 07.3	+2.4
STHS				eSG	Sg	19 48 57.8	+3.4
MOA	Molln	3.87	200	i Pn	Pn	19 47 52.0	-0.3
	comp=Z,0.6nm,0.2s						
MOA				eSg	Sg	19 48 56.8	+1.0
	comp=Z,8.7nm,0.5s						
BIOA	Bad Ischl, Aus	4.17	205	ePn	Pn	19 47 56.7	+0.3
	comp=Z,1.5nm,0.2s						
BIOA				Sg	Sg	19 49 04.9	-0.5
	comp=Z,2.4nm,0.3s						
ARSA	Arzberg	4.28	186	i Pn	Pn	19 47 58.2	+0.2
	comp=Z,0.4nm,0.3s						
ARSA				Sg	Sg	19 49 09.8	+0.9
	comp=Z,1.0nm,0.3s						
LUNU	Lund	4.46	339	i P	Pn	19 47 59.5	-0.9
LUNU				S	Sn	19 48 52.2	-0.7
KOLS	Kolonicke sedl	4.66	121	ePN	Pn	19 48 04.0	+0.9
KOLS				ePG	Pg	19 48 25.5	+4.7
LESA	Schwarzleotal	4.69	211	ePn	Pn	19 48 03.8	+0.2
	comp=Z,1.0nm,0.3s						
LESA				Sg	Sg	19 49 24.3	+2.2
	comp=Z,2.4nm,0.4s						
KBA	Koelnbreinsper	4.81	204	ePn	Pn	19 48 05.3	-0.1
	comp=Z,1.0nm,0.2s

DSZ	**Denniston Nort**	**0.63**	**224**	P	Pg	19 48 55.1	+0.1
DSZ				S	Sg	19 49 03.5	+0.3
NNZ	**Nelson**	**0.75**	**84**	P	Pg	19 48 57.3	0.0
NNZ				S	Sg	19 49 07.8	+0.8
KHLK	**Kaihoka Lakes**	**0.76**	**13**	P	Pg	19 48 57.9	+0.4
KHLK				S	Sg	19 49 08.1	+0.8
TUWZ	**Tuamarina**	**1.18**	**97**	P	Pn	19 49 06.0	0.0
TUWZ				S	Sn	19 49 22.6	+0.2
BSWZ	**Blackbirch Sta**	**1.19**	**111**	P	Pb	19 49 06.0	+0.1
DUWZ	**D'Urville Isla**	**1.26**	**67**	P	Pg	19 49 06.4	-0.6
DUWZ				S	Sn	19 49 24.3	-0.2
KHZ	**Kahutara**	**1.41**	**143**	P	Pg	19 49 10.5	+0.5
TCW	**Tory Channel**	**1.42**	**87**	P	Pg	19 49 10.2	0.0
TCW				S	Sg	19 49 30.0	+1.3
GVZ	**Greta Valley S**	**1.74**	**164**	P	Pg	19 49 16.0	-0.2
GVZ				S	Sg	19 49 39.7	+1.0
KIW	**Kapiti Island**	**1.95**	**78**	P	Pb	19 49 18.7	-0.2
TRVZ	**Turoa**	**3.13**	**51**	P	Pn	19 49 34.1	+1.0

*ATH **30** 19:54:40.1, 35.°46N×27.°41E, h18km±7km, ML2.6/2, Manual Solution by E.Daskalaki First location: 2019/04/30 19:56:30, This location: 2019/05/02 12:55:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 33 km; Longitude uncertainty: 35 km*
*ISK **30** 19:54:41.1, 35.°74N×27.°18E, h8km, ML2.5/12*
*AFAD **30** 19:54:43.5, 35.°80N×27.°29E, h17km±1km, ML2.1*
ISC 30 19:54:40.9±0.9, 35.°74N±0.°04×27.°24E±0.°04, h15km±8km, n25, σ1°05/40, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.20**	**199**	Pg	**Pg**	**19 54 45.4**	**-0.3**
KARP				Sg	**Sg**	**19 54 49.1**	**+0.3**
KARP	**Karpathos**	**0.20**	**199**	P	**Pg**	**19 54 45.3**	**-0.3**
KARP				S	**Sg**	**19 54 49.5**	**+0.7**
ARG	**Arkhangelos**	**0.86**	**56**	Pg	**Pn**	**19 54 58.5**	**+0.1**
ARG				Sg	**Sn**	**19 55 11.7**	**+1.0**
ARG	**Arkhangelos**	**0.86**	**56**	P	**Pn**	**19 54 58.6**	**+0.2**
ARG				S	**Sn**	**19 55 10.7**	**-0.1**
YAZI	**Mula-Dat§a-**	**0.95**	**10**	P	**Pn**	**19 55 00.4**	**+0.7**
YAZI				S	**Sn**	**19 55 13.4**	**+0.3**
YAZI				*i* AML	AML	19 55 16.0	
	comp=N,50nm,0.6s						
DAT	**Datca**	**1.02**	**15**	Pg	**Pg**	**19 55 01.3**	**+0.6**
DAT				Sg	**Sn**	**19 55 16.3**	**+1.4**
ZKR	**Zakros**	**1.04**	**234**	P	**Pb**	**19 55 00.1**	**-0.5**
TURN	**Turunc**	**1.31**	**38**	P	**Pg**	**19 55 05.9**	**-0.3**
TURN				S	**Sg**	**19 55 24.0**	**+0.7**
TURN				*i* AML	AML	19 55 28.0	
	comp=N,82nm,0.5s						
TURN				*i* AML	AML	19 55 28.0	
	comp=E,51nm,0.6s						
BODT	**Bodrum**	**1.32**	**2**	Pn	**Pg**	**19 55 06.5**	**+0.2**
BODT				Sn	**Sg**	**19 55 24.9**	**+1.3**
BDRM	**Kayabasi**	**1.33**	**7**	P	**Pg**	**19 55 07.7**	**+1.1**
BDRM				S	**Sn**	**19 55 21.9**	**-0.5**
DALY	**Dalyan (Mula)**	**1.57**	**46**	Pn	**Pg**	**19 55 10.5**	**-0.5**
MLSB	**Milas**	**1.61**	**15**	Pn	**Pb**	**19 55 10.8**	**+0.5**
YER	**Yerkesik**	**1.63**	**31**	Pn	**Pb**	**19 55 10.9**	**+0.3**
FETY	**Fethiye**	**1.74**	**59**	Pn	**Pg**	**19 55 13.0**	**-1.3**
FETY	**Fethiye**	**1.74**	**59**	P	**Pg**	**19 55 14.8**	**+0.5**
FETY				S	**Sg**	**19 55 39.5**	**+2.6**
SABU	**Mula-Dalaman**	**1.77**	**52**	P	**Pg**	**19 55 14.7**	**-0.1**
SABU				S	**Sg**	**19 55 38.3**	**+0.5**
SABU				*i* AML	AML	19 55 45.0	
	comp=E,34nm,0.8s						
SABU				*i* AML	AML	19 55 52.0	
	comp=N,42nm,1.0s						
IDI	**Anoyia**	**1.97**	**257**	P	**Pn**	**19 55 14.2**	**+0.5**
AYDN	**Tasoluk**	**1.98**	**15**	P	**Pg**	**19 55 18.8**	**-0.2**
AYDN				S	**Sg**	**19 55 43.0**	**-1.8**
AYDN				*i* AML	AML	19 55 51.0	
	comp=E,14nm,0.7s						
AYDN				*i* AML	AML	19 55 52.0	
	comp=N,17nm,0.6s						
CAME	**Cameli-Denizli**	**2.05**	**54**	Pn	**Pb**	**19 55 17.6**	**-0.3**
DNZT	**Denizli-Tavas-**	**2.10**	**43**	P	**Pg**	**19 55 20.1**	**-1.2**
DNZT				S	**Sg**	**19 55 47.8**	**-0.8**
DNZT				*i* AML	AML	19 55 49.0	
	comp=N,17nm,0.5s						
DNZT				*i* AML	AML	19 55 52.0	
	comp=E,12nm,0.4s						
TAVA	**DENIZLI_Tavas**	**2.19**	**38**	P	**Pb**	**19 55 20.4**	**+0.2**
TAVA				S	**Sb**	**19 55 48.4**	**+1.4**
TAVA				*i* AML	AML	19 55 53.0	
	comp=E,22nm,0.3s						
TAVA				*i* AML	AML	19 55 58.0	
	comp=N,18nm,0.8s						
ESEN	**Aydn-Nazilli**	**2.24**	**23**	P	**Pb**	**19 55 19.9**	**-1.1**
ESEN				S	**Sb**	**19 55 46.4**	**-2.1**
ESEN				*i* AML	AML	19 56 22.0	
	comp=E,10.0nm,1.9s						
AYDB	**Zeytinkoy-Aydi**	**2.26**	**13**	Pn	**Pb**	**19 55 20.1**	**-1.4**
APMY	**Acipayam-Deniz**	**2.40**	**43**	Pn	**Pb**	**19 55 22.5**	**-1.2**
ODEM	**Odemis-Izmir**	**2.62**	**15**	Pn	**Pb**	**19 55 25.2**	**-2.3**

TXNET 30 20:16:57.0, 31.°7N±0.°6×104.°4W±0.°7, h5km±2km, ML2.4/7, 3D, Error ellipse: s-maj=1.1km s-min=0.9km az=56.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.38**	**46**	⇓P	Pg	20 17 04.4	-0.1
TPB11				S	Sg	20 17 09.3	-0.2
PECS	**Pecos**	**0.51**	**125**	⇓P	Pg	20 17 06.9	+0.1
PECS				S	Sg	20 17 13.5	0.0
GDL2	**Guadalupe Moun**	**0.53**	**359**	P	Pg	20 17 07.6	+0.3
TPB12	**Southwest of T**	**0.57**	**143**	P	Pg	20 17 08.0	0.0
TPB12				S	Sg	20 17 15.4	+0.1
TPB07	**Mentone**	**0.59**	**98**	P	Pg	20 17 08.7	+0.3
TPB07				S	Sg	20 17 16.6	+0.5
TPB10	**Southeast of T**	**0.64**	**127**	P	Pg	20 17 09.4	+0.1
TPB10				S	Sg	20 17 18.2	+0.5
CLNB	**Carlsbad**	**0.72**	**34**	P	Pg	20 17 10.7	-0.1
CLNB				S	Sg	20 17 21.0	+0.7
TPB01	**Permian Basin**	**0.87**	**146**	P	Pg	20 17 12.8	-0.9
TPB01				S	Sg	20 17 24.1	-1.0
MNTX	**Cornudas Mount**	**0.88**	**272**	P	Pg	20 17 13.8	0.0
MNTX				S	Sg	20 17 25.6	+0.4
HTMS	**Hat Mesa**	**1.01**	**37**	S	Sg	20 17 29.8	+0.3
VHRN	**Van Horn**	**1.03**	**212**	P	Pg	20 17 16.3	-0.5
VHRN				S	Sb	20 17 31.4	+0.1
TPB05	**Hovey Rd**	**1.16**	**130**	P	Pg	20 17 18.3	-0.9
TPB05				S	Sg	20 17 33.5	-0.7
MNHN	**Monahans**	**1.40**	**103**	P	Pn	20 17 22.3	-0.9
MNHN				S	Sb	20 17 41.7	-0.2
CPRX	**Cap Rock**	**1.42**	**17**	P	Pn	20 17 23.6	0.0
ALPN	**Alpine**	**1.43**	**154**	⇓P	Pn	20 17 22.6	-1.2
ALPN				S	Sb	20 17 41.2	-1.5
ODSA	**Odessa**	**1.60**	**73**	S	Sb	20 17 47.5	-0.2
TMB01	**Midkiff**	**1.94**	**89**	S	Sb	20 17 57.5	+0.2
TMB02	**Rankin**	**2.04**	**103**	P	Pb	20 17 33.3	-1.2
TMB02				S	Sb	20 17 59.9	-0.3
TMB05	**Klondike**	**2.32**	**65**	P	Pb	20 17 39.2	-0.2
TMB05				S	Sb	20 18 07.9	-0.6
TX31	**Lajitas Ar. Si**	**2.40**	**166**	Pg	Pb	20 17 39.8	-1.0

*ECX **30** 20:31:22.5±0.5, 32.°10N×115.°13W, h7km±1km, MD2.9, ML3.3*
*MEX **30** 20:31:23.0±0.6, 32.°11N×115.°04W, h2km±5km, MD3.4*
*NEIC **30** 20:31:23.0±1.7, 32.°11N±0.°02×115.°06W±0.°02, h28km±10km, Error ellipse: s-maj=3.4km s-min=2.7km az=131.0*
*PAS **30** 20:31:24.2±2.2, 32.°11N±0.°01×115.°06W±0.°02, h19km±5km, ML3.3/44, ML3.0/34(NEIC), Error ellipse: s-maj=2.1km s-min=1.7km az=53.0*
ISC 30 20:31:23.2±0.9, 32.°09N±0.°02×115.°08W±0.°02, h18km±2km, n67, σ0°74/98, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITX	**Riito Sonora**	**0.12**	**53**	⇑*e*P	**Pg**	**20 31 27.8**	**+0.6**
RITX				*e*S	**Sg**	**20 31 31.2**	**+1.3**
RHX	**Rio Hardy**	**0.18**	**284**	⇑*i*P	**Pb**	**20 31 27.2**	**-0.1**
RHX				*e*S	**Sb**	**20 31 30.0**	**+0.2**
GUVIX	**Guadalupe Vict**	**0.21**	**0**		**Pg**	**20 31 28.9**	**+0.5**
GUVIX					**Sg**	**20 31 33.2**	**+1.3**
GUVIX	**Guadalupe Vict**	**0.21**	**0**	*e*P	**Pg**	**20 31 28.9**	**+0.5**
GUVIX				*e*S	**Sg**	**20 31 33.1**	**+1.3**
EDOMX	**El Doctor, EDO**	**0.31**	**115**	*e*P	**Pn**	**20 31 31.7**	**-1.1**
EDOMX				*e*S	**Sn**	**20 31 37.8**	**-1.1**
EDOMX				IAML		20 31 38.3	
	comp=N,4μm,0.2s						
MBIG	**Mexicali**	**0.33**	**342**	*e*P	**Pb**	**20 31 31.0**	**+0.4**
MBIG				*e*P	**Pn**	**20 31 31.6**	**-1.5**
MBIG				*i* S	**Sn**	**20 31 37.6**	**-1.8**
MBIG				*e*S	**Sb**	**20 31 38.2**	**+2.7**
MBIG	**Mexicali**	**0.33**	**342**	*e*P	**Pb**	**20 31 30.8**	**+0.2**
PESCX	**Ej. Pescaderos**	**0.35**	**16**		**Pb**	**20 31 31.1**	**+0.1**
PESCX					**Sb**	**20 31 37.2**	**+0.9**
CPBX	**Cerro Prieto**	**0.38**	**329**		**Pb**	**20 31 31.3**	**-0.2**
CPBX					**Sb**	**20 31 38.0**	**+1.0**
CPBX	**Cerro Prieto**	**0.38**	**329**	*e*P	**Pb**	**20 31 31.5**	**0.0**
CPBX				*e*S	**Sb**	**20 31 38.3**	**+1.3**
CPBX				IAML		20 31 41.2	
	comp=N,5μm,0.2s						
CPBX				⇓*e*		20 31 41.2	
CPBX				⇑*e*		20 31 46.1	
CPBX				IAML		20 31 46.1	
	comp=E,7μm,0.3s						
CTLX	**Tlaxcala, TLX**	**0.38**	**351**	*e*P	**Pb**	**20 31 31.4**	**-0.2**
CTLX				*e*S	**Sb**	**20 31 38.0**	**+0.8**
YUCAX	**Ej. Yucatɲ**	**0.51**	**358**	*e*P	**Pn**	**20 31 34.6**	**-1.0**
ALAMX	**Rancho Alamar**	**0.54**	**261**	⇑*e*P	**Pb**	**20 31 34.2**	**+0.1**
ALAMX				IAML		20 31 44.3	
	comp=N,2μm,0.3s						
ALAMX				⇓*e*		20 31 44.3	
ALAMX				⇓*e*		20 31 44.6	
ALAMX				IAML		20 31 44.6	
	comp=E,2μm,0.2s						
JARAX	**Ej. Heriberto**	**0.61**	**316**	*e*P	**Pg**	**20 31 35.4**	**-0.1**
JARAX				*e*S	**Sg**	**20 31 44.0**	**+0.2**
JARAX				*e*		20 31 45.3	
JARAX				IAML		20 31 45.3	
	comp=N,2μm,0.5s						
UABX	**UABC, Campus M**	**0.62**	**330**		**Pn**	**20 31 36.4**	**-0.7**
UABX					**Sn**	**20 31 46.2**	**-0.3**
UABX	**UABC, Campus M**	**0.62**	**330**	*e*P	**Pg**	**20 31 35.5**	**0.0**
5054	**Holtville Bond**	**0.64**	**340**		**Sn**	**20 31 46.5**	**-0.5**
EMSC	**East Mesa**	**0.65**	**7**		**Pn**	**20 31 36.5**	**-1.0**
EMSC					**Sn**	**20 31 46.3**	**-1.0**
EMSC	**East Mesa**	**0.65**	**7**	*e*P	**Pn**	**20 31 36.5**	**-1.0**
5053	**Calexico**	**0.67**	**329**		**Sn**	**20 31 47.4**	**-0.5**
ESJX	**Sierra Juarez**	**0.74**	**263**		**Pb**	**20 31 37.9**	**+0.2**
ESJX					**Sg**	**20 31 48.7**	**+0.8**
ESJX	**Sierra Juarez**	**0.74**	**263**	IAML		20 31 49.5	
	comp=N,782nm,0.2s						
ESJX				IAML		20 31 49.9	
	comp=E,1μm,0.2s						
COA	**Coachella**	**0.77**	**357**		**Pg**	**20 31 38.0**	**-0.4**
COA					**Sn**	**20 31 49.4**	**-0.9**
DREC	**Desert Rsrch C**	**0.78**	**336**		**Sn**	**20 31 51.2**	**+0.8**
SGL	**Mount Signal**	**0.78**	**315**		**Pg**	**20 31 38.2**	**-0.3**
SGL					**Sg**	**20 31 49.1**	**+0.2**
SJX	**San Joaquin**	**0.82**	**247**	*e*P	**Pb**	**20 31 37.9**	**-1.0**
RUN	**Ruthven**	**0.88**	**5**		**Pb**	**20 31 39.5**	**-0.5**
RUN					**Sb**	**20 31 51.0**	**-0.4**
IMPE	**Imperial**	**0.90**	**333**		**Sn**	**20 31 54.1**	**+0.6**
YUH	**Yuha Desert**	**0.91**	**308**	Pg	**Pb**	**20 31 39.8**	**-0.5**
YUH				Sg	**Sb**	**20 31 52.2**	**+0.1**
YUH				IAML		20 31 52.9	
	comp=E,310nm,0.3s						
YUH				IAML		20 31 53.7	
	comp=N,220nm,0.3s						
YUH2	**Yuha Desert**	**0.91**	**308**	*e*P	**Pb**	**20 31 39.9**	**-0.5**
VTX	**Valle De La Tr**	**0.92**	**221**		**Pg**	**20 31 41.5**	**+0.3**
VTX				IAML		20 31 55.9	
	comp=N,319nm,0.4s						
VTX				IAML		20 31 56.6	
	comp=E,499nm,0.2s						
VTX	**Valle De La Tr**	**0.92**	**221**		**Sg**	**20 31 53.7**	**+0.2**
COK2	**Cook Ranch 2**	**0.94**	**324**		**Pn**	**20 31 41.1**	**-0.3**
GLA	**Glamis**	**0.98**	**12**	Pg	**Pb**	**20 31 40.9**	**-0.8**
GLA				Sg	**Sb**	**20 31 53.4**	**-0.9**
GLA				IAML		20 31 56.6	
	comp=E,766nm,0.3s						
GLA				IAML		20 31 56.7	
	comp=N,519nm,0.3s						
RMX	**La Rumorosa**	**0.99**	**301**		**Pb**	**20 31 41.0**	**-0.9**
RMX					**Sb**	**20 31 53.3**	**-1.3**
IKP	**In-Ko-Pah, Jac**	**1.04**	**303**		**Pb**	**20 31 42.4**	**-0.2**
IKP					**Sb**	**20 31 55.9**	**-0.1**
SFX	**San Felipe**	**1.07**	**170**		**Pb**	**20 31 43.0**	**-0.2**
SFX					**Sg**	**20 31 58.8**	**+0.7**
SFX				IAML		20 32 00.4	
	comp=E,407nm,0.2s						
SFX				IAML		20 32 05.2	
	comp=N,292nm,0.9s						
SFX	**San Felipe**	**1.07**	**170**	*e*P	**Pg**	**20 31 43.6**	**-0.4**
SFX				*e*S	**Sg**	**20 31 58.7**	**+0.7**
CRR	**Carrizo Plain**	**1.09**	**317**		**Pn**	**20 31 43.2**	**-0.4**
CRR					**Sg**	**20 31 59.0**	**+0.2**
SPIG	**San Pedro Mart**	**1.09**	**198**	*e*P	**Pn**	**20 31 44.1**	**+0.1**
SPIG				*e*S	**Sg**	**20 31 59.2**	**+0.2**
113A	**Mohawk Valley,**	**1.30**	**58**		**Pb**	**20 31 46.3**	**-0.8**
113A					**Sn**	**20 32 02.1**	**-1.1**
CBX	**Cerro Bola**	**1.36**	**280**		**Pn**	**20 31 47.8**	**+0.3**
CBX					**Sb**	**20 32 05.8**	**+0.3**
CBX	**Cerro Bola**	**1.36**	**280**	*e*P	**Pn**	**20 31 47.8**	**+0.3**
CBX				*e*S	**Sb**	**20 32 05.7**	**+0.3**
CCX	**Cicese**	**1.37**	**261**		**Pb**	**20 31 48.0**	**-0.2**
CCX				IAML		20 32 09.0	
	comp=E,626nm,0.3s						
TKX	**Tecate**	**1.38**	**291**		**Pb**	**20 31 48.4**	**-0.1**
TKX					**Sb**	**20 32 06.3**	**+0.5**
TKX				IAML		20 32 07.8	
	comp=E,470nm,0.2s						
TJIG	**Tijuana**	**1.40**	**285**	*e*P	**Pb**	**20 31 48.6**	**-0.1**
TJIG				*e*S	**Sn**	**20 32 05.5**	**-0.2**
PPXB	**Puerto Peasco**	**1.44**	**121**	*e*P	**Pn**	**20 31 48.1**	**-0.3**
BLYC	**Blythe**	**1.72**	**16**		**Pn**	**20 31 51.5**	**-0.7**
TJX	**Tijuana**	**1.73**	**284**	Pn	**Pn**	**20 31 52.6**	**+0.3**
PFO	**Pinyon Flats O**	**1.91**	**323**		**Pn**	**20 31 54.4**	**-0.6**
ELS	**Elsinore Mount**	**2.51**	**309**		**Pn**	**20 32 02.5**	**-0.7**
ELS				IAML		20 32 41.8	
	comp=N,34nm,0.7s						
ELS				IAML		20 32 46.4	
	comp=E,39nm,0.3s						
Y14A	**Wickenburg**	**2.53**	**43**		**Pn**	**20 32 03.2**	**-0.2**
W13A	**Hualapai Mount**	**3.16**	**18**		**Pn**	**20 32 12.3**	**0.0**
GSC	**Goldstone, Bar**	**3.51**	**336**		**Pn**	**20 32 17.3**	**+0.4**
GSC				IAML		20 34 22.8	
	comp=E,39nm,0.2s						
GSC				IAML		20 34 28.8	
	comp=N,20nm,0.7s						
V12A	**Nelson**	**3.63**	**3**	Pn	**Pn**	**20 32 17.9**	**-0.7**
TUC	**Tucson**	**3.65**	**85**		**Pn**	**20 32 18.8**	**0.0**
TUC				IAML		20 34 00.8	
	comp=N,18nm,0.6s						
TUC				IAML		20 34 13.0	
	comp=N,21nm,2.2s						
X16A	**Lo Mia Camp, P**	**3.83**	**52**		**Pn**	**20 32 22.4**	**+1.0**
GWY	**Greenwater Val**	**4.29**	**343**	Pn	**Pn**	**20 32 27.0**	**-0.7**
SHPR	**Sheep Range**	**4.40**	**359**	Pn	**Pn**	**20 32 28.9**	**-0.3**
U15A	**North Rim**	**4.90**	**27**		**Pn**	**20 32 37.1**	**+0.9**
X18A	**Snowflake**	**4.93**	**59**	Pn	**Pn**	**20 32 38.2**	**+1.6**
KNB	**Kanab**	**5.25**	**20**		**Pn**	**20 32 40.4**	**-0.5**
PKCU	**Pink Cliffs**	**5.80**	**22**		**Pn**	**20 32 48.5**	**-0.2**
PSUT	**Pine Spring**	**6.50**	**8**	Pn	**Pn**	**20 32 57.4**	**-0.8**
NV11	**Mina Array Sit**	**6.81**	**339**	Pn	**Pn**	**20 33 01.9**	**-0.4**
CRNM	**Carthage**	**7.25**	**73**	Pn	**Pn**	**20 33 09.1**	**+0.7**
BNM	**Barren Site**	**7.38**	**72**	Pn	**Pn**	**20 33 10.2**	**0.0**

*ECX **30** 20:32:26.9±0.6, 32.°09N×115.°13W, h8km±2km, MD3.0, ML3.3*
*NEIC **30** 20:32:27.9±2.3, 32.°09N±0.°01×115.°07W±0.°02, h10km±2km, Error ellipse: s-maj=3.1km s-min=2.9km az=94.0*
*PAS **30** 20:32:28.8±1.9, 32.°12N±0.°01×115.°07W±0.°01, h19km±5km, ML3.3/40, ML3.1/30(NEIC), Error ellipse: s-maj=2.1km s-min=1.2km az=225.0*
*MEX **30** 20:32:29.3±1.1, 32.°08N×115.°10W, h9km±8km, MD3.1*
ISC 30 20:32:27.3±0.9, 32.°11N±0.°02×115.°08W±0.°02, h16km±7km, n58, σ0°86/89, 6C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITX	**Riito Sonora**	**0.11**	**59**	*e*P	**Pb**	**20 32 32.2**	**+1.1**
RITX				*e*S	**Sb**	**20 32 35.4**	**+1.8**
RITX				IAML		20 32 36.7	
	comp=N,15μm,0.2s						
RITX				⇑*e*		20 32 36.7	
RITX				IAML		20 32 36.9	
	comp=E,18μm,0.2s						
RITX				⇓*e*		20 32 36.9	
RHX	**Rio Hardy**	**0.18**	**279**	⇑*i*P	**Pg**	**20 32 31.8**	**0.0**
RHX				*e*S	**Sg**	**20 32 34.4**	**-0.3**
GUVIX	**Guadalupe Vict**	**0.20**	**0**		**Pb**	**20 32 33.4**	**+1.0**
GUVIX					**Sb**	**20 32 37.7**	**+1.7**
GUVIX	**Guadalupe Vict**	**0.20**	**0**	*e*P	**Pb**	**20 32 33.5**	**+1.0**
EDOMX	**El Doctor, EDO**	**0.32**	**117**	*e*P	**Pn**	**20 32 36.2**	**-1.0**
EDOMX				*e*S	**Sn**	**20 32 42.0**	**-1.4**
EDOMX				IAML		20 32 42.8	
	comp=N,3μm,0.1s						
MBIG	**Mexicali**	**0.32**	**341**	*i* P	**Pb**	**20 32 35.7**	**+1.1**
MBIG				*e*P	**Pn**	**20 32 36.0**	**-1.2**
MBIG				*i* S	**Sn**	**20 32 42.0**	**-1.5**
MBIG				*i* S	**Sb**	**20 32 42.5**	**+3.1**
MBIG	**Mexicali**	**0.32**	**341**	*e*P	**Pb**	**20 32 35.4**	**+0.8**
MBIG				*e*S	**Sn**	**20 32 41.6**	**-1.9**
PESCX	**Ej. Pescaderos**	**0.34**	**16**		**Pb**	**20 32 35.9**	**+1.0**
PESCX					**Sn**	**20 32 42.1**	**-1.9**
CPBX	**Cerro Prieto**	**0.37**	**328**		**Pb**	**20 32 36.0**	**+0.6**
CPBX	**Cerro Prieto**	**0.37**	**328**		**Sn**	**20 32 42.8**	**-1.9**
CPBX				IAML		20 32 45.2	
	comp=E,6μm,0.5s						
CPBX				IAML		20 32 45.2	
	comp=N,5μm,0.4s						
CPBX	**Cerro Prieto**	**0.37**	**328**	*e*P	**Pb**	**20 32 36.1**	**+0.6**
CPBX				*e*S	**Sb**	**20 32 42.7**	**+1.8**
CPBX				IAML		20 32 45.2	
	comp=E,6μm,0.3s						
CPBX				⇑*e*		20 32 45.3	
CPBX				IAML		20 32 45.3	
	comp=N,5μm,0.6s						
CTLX	**Tlaxcala, TLX**	**0.37**	**351**	*e*P	**Pb**	**20 32 35.9**	**+0.4**
CTLX				*e*S	**Sb**	**20 32 42.3**	**+1.3**
ALAMX	**Rancho Alamar**	**0.55**	**260**	⇑*e*P	**Pb**	**20 32 38.6**	**+0.2**
ALAMX				⇓*e*		20 32 49.1	
ALAMX				IAML		20 32 49.1	
	comp=N,1μm,0.3s						
JARAX	**Ej. Heriberto**	**0.61**	**315**	*e*P	**Pb**	**20 32 39.8**	**+0.3**
JARAX				IAML		20 32 53.9	
	comp=E,4μm,0.6s						
JARAX				⇑*e*		20 32 53.9	
JARAX				⇓*e*		20 32 55.0	
JARAX				IAML		20 32 55.0	
	comp=N,4μm,0.6s						
UABX	**UABC, Campus M**	**0.61**	**330**		**Pb**	**20 32 39.8**	**+0.2**
UABX					**Sn**	**20 32 50.6**	**-0.1**
5054	**Holtville Bond**	**0.62**	**339**		**Pn**	**20 32 40.9**	**-0.6**
5054					**Sn**	**20 32 50.7**	**-0.4**
EMSC	**East Mesa**	**0.64**	**7**		**Pn**	**20 32 41.0**	**-0.6**
EMSC					**Sn**	**20 32 51.0**	**-0.3**
EMSC	**East Mesa**	**0.64**	**7**	*e*P	**Pn**	**20 32 40.9**	**-0.8**
ESJX	**Sierra Juarez**	**0.75**	**262**		**Pb**	**20 32 42.4**	**+0.4**
ESJX					**Sb**	**20 32 53.1**	**+1.1**
ESJX	**Sierra Juarez**	**0.75**	**262**	IAML		20 32 53.9	
	comp=N,786nm,0.1s						
ESJX				IAML		20 32 54.9	
	comp=E,1μm,0.1s						
COA	**Coachella**	**0.76**	**357**		**Pb**	**20 32 42.5**	**+0.5**
COA					**Sn**	**20 32 53.9**	**-0.4**
DREC	**Desert Rsrch C**	**0.76**	**336**		**Pn**	**20 32 43.5**	**+0.1**
DREC					**Sn**	**20 32 55.8**	**+1.3**
SGL	**Mount Signal**	**0.77**	**315**		**Pb**	**20 32 42.8**	**+0.5**
SGL					**Sb**	**20 32 53.3**	**+0.8**
SJX	**San Joaquin**	**0.82**	**246**	⇑*e*P	**Pb**	**20 32 42.4**	**-0.8**
WESC	**Westside Schoo**	**0.85**	**320**		**Pn**	**20 32 44.6**	**0.0**
WESC					**Sn**	**20 32 56.6**	**-0.1**
RUN	**Ruthven**	**0.87**	**6**		**Pg**	**20 32 43.9**	**-0.3**
RUN					**Sg**	**20 32 55.7**	**+0.1**
YUH2	**Yuha Desert**	**0.90**	**307**	*e*P	**Pb**	**20 32 44.5**	**0.0**
YUH	**Yuha Desert**	**0.90**	**307**	Pg	**Pg**	**20 32 44.6**	**-0.1**
YUH				Sg	**Sg**	**20 32 56.3**	**-0.3**
COK2	**Cook Ranch 2**	**0.92**	**324**		**Pg**	**20 32 45.1**	**-0.2**
VTX	**Valle De La Tr**	**0.93**	**220**		**Pn**	**20 32 45.9**	**+0.1**
VTX				IAML		20 32 59.3	
	comp=E,385nm,0.5s						
VTX				IAML		20 33 00.2	
	comp=N,294nm,0.4s						
VTX	**Valle De La Tr**	**0.93**	**220**		**Sg**	**20 32 58.0**	**+0.3**
GLA	**Glamis**	**0.96**	**13**	Pg	**Pb**	**20 32 45.5**	**-0.2**
GLA				Sg	**Sg**	**20 32 58.5**	**-0.3**
GLA				IAML		20 33 00.1	
	comp=N,666nm,0.5s						
GLA				IAML		20 33 00.9	
	comp=E,468nm,0.3s						
RMX	**La Rumorosa**	**0.98**	**300**		**Sb**	**20 32 57.5**	**-1.3**
IKP	**In-Ko-Pah, Jac**	**1.03**	**302**		**Pn**	**20 32 47.2**	**+0.1**
IKP					**Sg**	**20 33 00.4**	**-0.4**
SFX	**San Felipe**	**1.08**	**170**		**Pg**	**20 32 48.6**	**+0.3**
SFX				IAML		20 33 04.6	
	comp=N,390nm,0.3s						
SFX				IAML		20 33 04.8	
	comp=E,435nm,0.4

s-maj=14.7km s-min=12.8km az=134.0
NEIC ***30*** *20:52:22.4, 15°.35N×46°.38W, h12km*
NEIC ***30*** *20:52:22.4, 15°.55N×46°.00W, h12km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17 Nm; Mrr=0.22; Mθθ=0.28; Mφφ=0.50; Mrθ=0.36; Mθφ=-1.20; Mφr=0.71; Fault plane solution: M0=1.50000×10^17 NP1: φs=282.23000°, δ=59.46000°, λ=-168.41000°. NP2: φs=186.28000°, δ=80.03000°, λ=-31.05000°. Principal axes: T 1.4593, Plg=14.0000°, Azm=238.0000°; N 0.0816, Plg=58.0000°, Azm=350.0000°; P -1.5410, Plg=29.0000°, Azm=140.0000°;*
BGR ***30*** *20:52:23.6, 14°.70N×45°.92W, h33km, mb5.1, Ms4.8, Hypocentre not reviewed by the ISC*
GCMT ***30*** *20:52:24.6±0.1, 15°.39N±0°.01×46°.35W±0°.01, h12km, MW5.4/146, Moment Tensor Solution. s119, c208; s146, c288; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr=0.16±.02; Mθθ=0.30±.02; Mφφ=0.46±.02; Mrθ=0.15±.04; Mθφ=-1.46±.01; Mφr=0.25±.04; Best double couple: M0=1.53900×10^17 NP1: φs=278.00000°, δ=79.00000°, λ=-174.00000°. NP2: φs=187.00000°, δ=84.00000°, λ=-11.00000°. Principal axes: T 1.5950, Plg=4.0000°, Azm=233.0000°; N -0.1110, Plg=78.0000°, Azm=340.0000°; P -1.4840, Plg=11.0000°, Azm=142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 20:52:22.1±0.6, 15°.34N±0°.05×46°.44W±0°.04, h11km±3km, h11km:pP-P, n1423, σ1°.41/960, mb5.4/492, MS4.9/365, 77C-34D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MDP	**Montagnes des**	**11.86**	**212**	Pn	**Pn**		**20 55 11.0**	**-0.4**
	96nm,0.3s,baz=21,slow=15,SNR=349							
MDP				Sn	Sn		20 57 12.5	-11
	5.2nm,0.3s,baz=47,slow=21,SNR=1.5							
MDP				LR	LR		20 58 58.9	
	comp=Z,6μm,19.7s,baz=39,slow=33							
BBGH	**Gun Hill**	**12.90**	**262**	Pn	**Pn**		**20 55 25.8**	**+0.2**
ILAM	**Ilet Lapin Mar**	**13.95**	**270**	Pn	**Pn**		**20 55 39.6**	**-0.3**
ILAM	**Ilet Lapin Mar**	**13.95**	**270**	*eP*	**P**		**20 55 47.0**	**-1.0**
MPOM	**Morne Pois Mar**	**13.96**	**268**		**Pn**		**20 55 37.9**	**-2.1**
SLAC	**Saint Lucia, A**	**14.06**	**266**	*eP*	**Pn**		**20 55 40.6**	**-0.9**
GDSD	**La Dsirade Is**	**14.11**	**276**		**Pn**		**20 55 40.6**	**-1.4**
SLBI	**Saint Lucia, B**	**14.12**	**267**	*eP*	**Pn**		**20 55 41.6**	**-0.6**
BIM	**Bigot**	**14.16**	**269**		**Pn**		**20 55 41.6**	**-1.2**
BIM	**Bigot**	**14.16**	**269**	*eP*	**Pn**		**20 55 43.0**	**+0.2**
FDF	**Fort de France**	**14.22**	**269**		**Pn**		**20 55 40.7**	**-2.9**
FDF	**Fort de France**	**14.22**	**269**	P	**Pn**		**20 55 40.7**	**-2.9**
SVN	**Savane Anatole**	**14.23**	**270**	*eP*	**Pn**		**20 55 46.9**	**+3.1**
DLPL	**La Plaine**	**14.28**	**272**	*eP*	**Pn**		**20 55 47.3**	**+2.9**
MAGL	**Barre de l'ile**	**14.30**	**274**	Pn	**Pn**		**20 55 42.5**	**-2.3**
DWS	**Wesley**	**14.34**	**273**	*eP*	Pn		20 55 40.1	-5.0
SSV	**Crater Summit**	**14.43**	**264**	*eP*	**Pn**		**20 55 47.8**	**+1.2**
DSLB	**Salisbury**	**14.44**	**272**	*eP*	**Pn**		**20 55 47.2**	**+0.5**
SVV	**Soufriere Volc**	**14.46**	**264**	*eP*	**Pn**		**20 55 48.5**	**+1.6**
SVOC	**Richmond Hill,**	**14.49**	**263**	*eP*	**Pn**		**20 55 47.4**	**+0.1**
SVB	**Belmont**	**14.50**	**264**	*eP*	**Pn**		**20 55 46.9**	**-0.5**
SVT	**Saint Vincent**	**14.51**	**263**	*eP*	**Pn**		**20 55 47.3**	**-0.3**
TPR	**Prospect**	**14.55**	**255**	*eP*	**Pn**		**20 55 48.7**	**+0.6**
CBE	**Ff, Capester**	**14.62**	**275**	Pn	**Pn**		**20 55 46.9**	**-2.3**
TDBA	**Terre de Bas,**	**14.64**	**274**	Pn	**Pn**		**20 55 47.6**	**-1.9**
TBG	**Guadaloupe-3**	**14.65**	**274**	*eP*	**Pn**		**20 55 49.6**	**0.0**
GDHS	**Morne Mazeau,**	**14.77**	**276**		**Pn**		**20 55 49.5**	**-1.7**
ANBD	**Bethesda, Anti**	**14.81**	**279**	*eP*	**Pn**		**20 55 53.5**	**+1.8**
GCMP	**Grenada, Carri**	**14.82**	**261**	*eP*	**Pn**		**20 55 51.0**	**-0.8**
TBH	**Brigand Hill**	**15.05**	**253**	*eP*	**Pn**		**20 55 57.1**	**+2.2**
GRGR	**Grenville**	**15.12**	**260**	P	**Pn**		**20 55 57.9**	**+2.1**
GRGR	**Grenville**	**15.12**	**260**	*eP*	**Pn**		**20 55 56.3**	**+0.5**
GRW	**Mount Saint Ca**	**15.12**	**260**	*eP*	**Pn**		**20 55 56.2**	**+0.3**
MBWH		**15.20**	**277**	*eP*	**Pn**		**20 55 57.3**	**+0.3**
MBFL	**Flemmings, Mon**	**15.22**	**277**	*eP*	**Pn**		**20 55 56.4**	**-0.8**
TRN	**Trinidad (W)**	**15.30**	**254**	*eP*	**Pn**		**20 55 58.1**	**-0.2**
PSGH	**Port of Spain**	**15.40**	**254**	*eP*	**Pn**		**20 55 59.6**	**+0.1**
PSKH	**Kent House, Po**	**15.40**	**254**	*eP*	**Pn**		**20 55 59.5**	**-0.1**
SMRT	**St. Maarten**	**16.16**	**282**		**Pn**		**20 56 09.8**	**+0.4**
SABA	**Saba**	**16.27**	**280**		**Pn**		**20 56 11.9**	**+1.1**
TMAB	**Tom-Au,PA,Br**	**17.67**	**185**	*eP*	**P**		**20 56 30.6**	**+1.3**
PCRV	**Puerto La Cruz**	**18.47**	**256**	*eP*	**P**		**20 56 36.2**	**-2.0**
HUMP	**Col San Antoni**	**18.79**	**281**		**P**		**20 56 39.6**	**-2.1**
MAL2	**Monte Alegre,**	**18.87**	**205**		**P**		**20 56 39.8**	**-2.9**
BOAV	**Boa Vista**	**18.93**	**229**		**P**		**20 56 40.8**	**-2.4**
BOAV	**Boa Vista**	**18.93**	**229**	*eP*	**Pn**		**20 56 43.6**	**-0.2**
PDPR	**Patillas Dam,**	**18.94**	**281**	P	**P**		**20 56 41.6**	**-1.7**
IGPR	**InterUniversit**	**19.02**	**281**		**P**		**20 56 41.8**	**-2.4**
GCPR	**Guaynabo City**	**19.03**	**282**	P	**P**		**20 56 43.9**	**-0.4**
SJG	**San Juan**	**19.07**	**281**	P	**P**		**20 56 44.2**	**-0.6**
SJG	**San Juan**	**19.07**	**281**	P	**Pn**		**20 56 46.6**	**+1.1**
	3.4nm,0.3s,baz=75,slow=7.0,SNR=14							
SJG				S	Sn		21 00 06.6	-13
	6.5nm,0.4s,baz=350,slow=22,SNR=1.4							
SJG				LR	LR		21 02 36.8	
	comp=Z,624nm,21.5s,baz=102,slow=32							
	56nm,0.7s							
SJG	**San Juan**	**19.07**	**281**	*eP*	P		20 56 35.2	-10
CELP	**Cerrillos**	**19.48**	**281**		**P**		**20 56 49.5**	**+0.3**
OBIP	**Obispado Ponce**	**19.50**	**281**		**P**		**20 56 49.7**	**+0.2**
UUPR	**Utuado, UPR, P**	**19.62**	**281**	P	**Pn**		**20 56 51.7**	**-0.6**
AOPR	**Arecibo Observ**	**19.67**	**282**	P	**P**		**20 56 51.4**	**+0.1**
AOPR	**Arecibo Observ**	**19.67**	**282**	*eP*	**P**		**20 56 49.5**	**-1.9**
CRPR	**Cabo Rojo, PR**	**19.97**	**281**	P	**P**		**20 56 54.1**	**-0.5**
PRSN	**Puerto Rico Se**	**20.02**	**281**	P	**P**		**20 56 54.9**	**-0.3**
NBCL	**Cascavel-CE**	**21.05**	**157**	*eP*	**P**		**20 57 06.9**	**+0.5**
PRPB	**Parauapebas**	**21.64**	**189**	*eP*	**P**		**20 57 13.7**	**+1.0**
ITTB	**Itaituba**	**21.64**	**206**	*eP*	**P**		**20 57 13.1**	**+0.4**
NBPB	**Pedra_Branca-C**	**21.84**	**161**	*eP*	**P**		**20 57 15.3**	**+0.5**
BAUV	**El Baul**	**22.04**	**256**		**P**		**20 57 16.3**	**-0.8**
BAUV				IAMs_20	IAMs_20		21 07 14.5	
	comp=Z,5μm,20.0s							
BAUV	**El Baul**	**22.04**	**256**	*eP*	**P**		**20 57 17.0**	**0.0**
SACV	**Santiago Islan**	**22.04**	**88**	P	**P**		**20 57 15.4**	**-1.7**
SACV				IAmb	IAmb		20 57 20.5	
	comp=Z,168nm,1.0s							
DR12	**Loma Pena Alta**	**22.19**	**282**	P	**P**		**20 57 17.1**	**-1.6**
MACA	**Manacapuru-AM**	**23.17**	**219**		**P**		**20 57 27.1**	**-1.8**
MACA				IAMs_20	IAMs_20		21 05 28.1	
	comp=Z,5μm,20.0s							
MACA	**Manacapuru-AM**	**23.17**	**219**	*eP*	**P**		**20 57 29.7**	**+0.8**
RCBR	**Riachuelo**	**23.48**	**153**	LR	LR		21 04 23.9	
	comp=Z,1μm,20.4s,baz=345,slow=31							
SC01	**Santiago de Io**	**23.52**	**283**		**P**		**20 57 33.0**	**+0.5**
SC01				IAmb	IAmb		20 57 43.5	
	comp=Z,173nm,1.1s							
BBSR	**BB Station**	**23.73**	**319**	P	**P**		**20 57 34.5**	**+0.1**
BBSR				IAmb	IAmb		20 57 46.3	
	comp=Z,126nm,1.5s							
NPGB	**Novo Progresso**	**23.93**	**202**	*eP*	**P**		**20 57 36.6**	**+0.1**
SDDR	**Presa de Saban**	**24.00**	**282**		**P**		**20 57 37.1**	**-0.1**
SDDR				IAmb	IAmb		20 57 59.6	
	comp=Z,129nm,1.4s							
SMTB	**Santa Maria do**	**24.07**	**183**	*eP*	**P**		**20 57 39.3**	**+1.6**
SDV	**Santo Domingo**	**24.49**	**258**		**P**		**20 57 41.7**	**-0.2**
SDV				IAmb	IAmb		20 57 59.4	
	comp=Z,75nm,0.9s							
SDV	**Santo Domingo**	**24.49**	**258**	*eP*	**P**		**20 57 42.9**	**+1.0**
TEFE	**Tefe**	**25.98**	**225**	*eP*	**P**		**20 57 57.0**	**+1.8**
NBAN	**Anadia - AL**	**26.81**	**157**	*eP*	**P**		**20 58 03.9**	**+1.2**
SMRC	**Santa Marta, M**	**27.35**	**265**		**P**		**20 58 07.2**	**-0.3**
SMRC				IAmb	IAmb		20 58 11.2	
	comp=Z,51nm,0.7s							
SNDB	**Serra Nova Dou**	**27.56**	**190**	*eP*	**P**		**20 58 11.3**	**+1.9**
SDBA	**SAO DESIDERIO**	**27.61**	**177**	*eP*	**P**		**20 58 10.0**	**+0.1**
NMDO	**Nuevo Mundo**	**27.62**	**285**	P	**P**		**20 58 10.2**	**+0.3**
NMDO				IAmb	IAmb		20 58 24.7	
	comp=Z,93nm,1.5s							
CLDB	**Colider**	**27.64**	**200**	*eP*	**P**		**20 58 11.3**	**+1.2**
RUSC	**La Rusia**	**27.78**	**253**		**P**		**20 58 11.2**	**-0.8**
MBO	**M'Bour**	**28.51**	**88**	P	**P**		**20 58 17.0**	**-0.8**
PDRB	**Porto dos Gac**	**28.65**	**201**	*eP*	**P**		**20 58 20.5**	**+1.4**
BBTS	**Babate**	**28.89**	**87**	LR	LR		21 06 49.0	
	comp=Z,2μm,20.3s,baz=147,slow=30							
SAML	**Samuel**	**29.29**	**216**	P	**P**		**20 58 24.7**	**0.0**
SAML				IAmb	IAmb		20 58 34.1	
	comp=Z,47nm,0.9s							
SAML				IAMs_20	IAMs_20		21 09 08.6	
	comp=Z,2μm,20.0s							
SAML	**Samuel**	**29.29**	**216**	P	**P**		**20 58 24.7**	**0.0**
SAML				pmax	pmax			
	comp=Z,47nm,1.0s							
SAML				MLR	MLR			
	comp=Z,2μm,20.0s							
ROSC	**El Rosal**	**29.32**	**252**	P	**P**		**20 58 25.4**	**-0.2**
ROSC				IAmb	IAmb		20 59 23.2	
	comp=Z,65nm,1.2s							
ROSC	**El Rosal**	**29.32**	**252**	P	**P**		**20 58 27.6**	**+2.0**
	comp=Z,5.8nm,0.3s,baz=75,slow=12,SNR=1.7							
ROSC				LR	LR		21 11 53.5	
	comp=Z,3μm,18.2s,baz=76,slow=40							
	comp=Z,5.8nm,0.3s							
TBTG	**Tabatinga, AM**	**30.27**	**232**	P	**P**		**20 58 33.1**	**-0.4**
TBTG				IAmb	IAmb		20 59 35.1	
	comp=Z,59nm,0.9s							
TBTG	**Tabatinga, AM**	**30.27**	**232**	*eP*	**P**		**20 58 34.5**	**+0.9**
JANB	**Januaria**	**30.28**	**176**	*eP*	**P**		**20 58 34.4**	**+0.8**
BDFB	**Brasilia**	**30.82**	**183**	P	**P**		**20 58 38.7**	**+0.2**
BDFB	**Brasilia**	**30.82**	**183**	P	**P**		**20 58 40.7**	**+2.2**
	comp=Z,17nm,1.0s,baz=14,slow=9.7,SNR=13							
BDFB				LR	LR		21 10 17.6	
	comp=Z,2μm,20.3s,baz=1.8,slow=35							
	comp=Z,17nm,1.0s							
CMC01	**Camacan, BA**	**31.26**	**167**	*eP*	**P**		**20 58 43.9**	**+1.7**
ARAG	**Araguaiana, MT**	**31.30**	**190**	*eP*	**P**		**20 58 43.7**	**+1.2**
PMOZ	**Porto Moniz, M**	**31.72**	**51**	P	**P**		**20 58 46.0**	**-0.2**
PMOZ	**Porto Moniz, M**	**31.72**	**51**	P	**P**		**20 58 45.0**	**-1.2**
FLOC	**Florencia**	**31.89**	**247**		**P**		**20 58 47.4**	**-0.5**
FLOC				IAmb	IAmb		20 59 43.6	
	comp=Z,61nm,1.2s							
SALV	**Santo Antonio**	**32.36**	**197**	*eP*	**P**		**20 58 53.4**	**+1.5**
GUA01	**Guaratinga, BA**	**32.39**	**168**	*eP*	**P**		**20 58 52.6**	**+0.5**
HAL	**Halifax**	**32.62**	**337**	P	**P**		**20 58 52.8**	**-1.0**
HAL				IAmb	IAmb		20 58 58.1	
	comp=Z,72nm,1.6s							
HAL	**Halifax**	**32.62**	**337**	P	**P**		**20 58 52.8**	**-1.0**
HAL				pmax	pmax			
	comp=Z,72nm,1.6s							
PTLB	**Pontes e Lacer**	**33.06**	**203**		**P**		**20 58 58.0**	**0.0**
PTLB				IAmb	IAmb		20 59 08.1	
	comp=Z,39nm,1.1s							
PTLB	**Pontes e Lacer**	**33.06**	**203**	*eP*	**P**		**20 58 59.4**	**+1.4**
IPMB	**Ipameri, GO**	**33.16**	**183**	*eP*	**P**		**20 58 59.1**	**+0.2**
DIAM	**Diamantina, MG**	**33.54**	**175**	*eP*	**P**		**20 59 03.2**	**+0.9**
060A	**Indiantown**	**33.59**	**296**	P	**P**		**20 59 03.0**	**+0.4**
PMNB	**Patos De Minas**	**33.67**	**180**	*eP*	**P**		**20 59 05.6**	**+2.2**
V61A	**Roper**	**33.75**	**313**	P	**P**		**20 59 03.8**	**-0.1**
V61A				IAMs_20	IAMs_20		21 09 31.6	
	comp=Z,2μm,19.0s							
L64A	**Middleborough**	**33.83**	**326**	P	**P**		**20 59 05.1**	**+0.6**
L64A				IAmb	IAmb		20 59 08.9	
	comp=Z,88nm,1.3s							
LMN	**Caledonia Moun**	**34.10**	**337**	P	**P**		**20 59 06.9**	**+0.1**
Y60A	**Bolivia**	**34.13**	**309**	P	**P**		**20 59 07.6**	**+0.4**
Y60A				IAmb	IAmb		20 59 11.0	
	comp=Z,46nm,0.9s							
R61A	**Willards**	**34.24**	**318**	P	**P**		**20 59 08.4**	**+0.3**
BCX	**Boston College**	**34.29**	**327**	P	**P**		**20 59 09.4**	**+1.0**
BCX				IAmb	IAmb		20 59 17.2	
	comp=Z,44nm,1.2s							
BCX				IAMs_20	IAMs_20		21 10 17.9	
	comp=Z,2μm,22.0s							
GGN	**Saint George**	**34.31**	**334**	P	**P**		**20 59 10.1**	**+1.5**
SIV	**San Ignacio**	**34.32**	**206**	LR	LR		21 12 53.0	
	comp=Z,3μm,18.8s,baz=50,slow=36							
WES	**Weston**	**34.40**	**327**	P	**P**		**20 59 10.1**	**+0.6**
WES	**Weston**	**34.40**	**327**	P	**P**		**20 59 10.1**	**+0.6**
WES				pmax	pmax			
	comp=Z,37nm,1.3s							
WES				MLR	MLR			
	comp=Z,2μm,22.0s							
UCCT	**U. Connecticut**	**34.49**	**325**	P	**P**		**20 59 11.2**	**+0.9**
UCCT				IAmb	IAmb		20 59 14.0	
	comp=Z,75nm,1.1s							
HRV	**Adam Dziewonsk**	**34.61**	**326**	P	**P**		**20 59 12.5**	**+1.2**
HRV	**Adam Dziewonsk**	**34.61**	**326**	P	**P**		**20 59 12.5**	**+1.2**
HRV				pmax	pmax			
	comp=Z,29nm,0.9s							
HRV				MLR	MLR			
	comp=Z,2μm,20.0s							
N62A	**Caumsett State**	**34.63**	**323**	P	**P**		**20 59 12.6**	**+1.1**
N62A				IAmb	IAmb		20 59 15.4	
	comp=Z,125nm,1.2s							
P61A	**Hammonton**	**34.66**	**320**	P	**P**		**20 59 12.7**	**+1.0**
P61A				IAMs_20	IAMs_20		21 09 24.7	
	comp=Z,2μm,22.0s							
CZSB	**Cruzeiro do Su**	**34.68**	**230**	P	**P**		**20 59 12.3**	**+0.1**
CZSB	**Cruzeiro do Su**	**34.68**	**230**	*eP*	**P**		**20 59 12.8**	**+0.6**
G65A	**Princeton**	**34.69**	**333**	P	**P**		**20 59 12.6**	**+0.8**
DWPF	**Disney Wildern**	**34.77**	**297**	P	**P**		**20 59 13.4**	**+0.6**
W59A	**Clinton**	**34.80**	**310**	P	**P**		**20 59 13.8**	**+0.8**
W59A				IAMs_20	IAMs_20		21 10 05.5	
	comp=Z,2μm,20.0s							
CPNY	**Central Park**	**34.84**	**322**	P	**P**		**20 59 13.7**	**+0.5**
CPNY				IAmb	IAmb		20 59 17.6	
	comp=Z,39nm,0.9s							
PAL	**Palisades**	**34.94**	**322**	P	**P**		**20 59 15.4**	**+1.3**
PAL	**Palisades**	**34.94**	**322**	P	**P**		**20 59 15.4**	**+1.3**
PAL				pmax	pmax			
	comp=Z,143nm,1.2s							
RIB01	**Linhares ES**	**34.95**	**170**	*eP*	**P**		**20 59 14.8**	**+0.4**
OTAV	**Otavalo**	**34.99**	**248**	P	**P**		**20 59 15.7**	**+0.3**
OTAV	**Otavalo**	**34.99**	**248**	*eP*	**P**		**20 59 15.7**	**+0.3**
OTAV	**Otavalo**	**34.99**	**248**	*eP*	**P**		**20 59 16.5**	**+1.1**
T59A	**Double "B" Far**	**35.01**	**314**		**P**		**20 59 15.7**	**+0.9**
T59A				IAMs_20	IAMs_20		21 09 49.1	
	comp=Z,2μm,21.0s							
ITRB	**Iturama**	**35.04**	**186**	*eP*	**P**		**20 59 16.6**	**+1.4**
KSCT	**Kent School, K**	**35.15**	**324**		**P**		**20 59 16.5**	**+0.6**
L61B	**Northampton**	**35.18**	**325**	P	**P**		**20 59 17.1**	**+0.9**
L61B				IAmb	IAmb		20 59 20.7	
	comp=Z,57nm,1.2s							
Y58A	**Scranton**	**35.19**	**308**	P	**P**		**20 59 17.6**	**+1.2**
X58A	**Rowland**	**35.20**	**309**	IAMs_20	IAMs_20		21 10 28.1	
	comp=Z,2μm,18.0s							
I63A	**Otisfield**	**35.21**	**329**	IAmb	IAmb		20 59 21.2	
	comp=Z,72nm,1.3s							
TRNY	**Table Rock, Ra**	**35.21**	**322**	P	**P**		**20 59 17.4**	**+0.9**
TRNY				IAmb	IAmb		20 59 21.3	
	comp=Z,90nm,1.1s							
BBSD	**Serra de San D**	**35.21**	**204**	*eP*	**P**		**20 59 17.8**	**+1.1**
NHSC	**New Hope**	**35.28**	**306**	IAMs_20	IAMs_20		21 10 00.0	
	comp=Z,2μm,22.0s							
WUPA	**West Chester U**	**35.32**	**320**		**P**		**20 59 17.2**	**-0.2**
ODNJ	**Ogdensburg**	**35.40**	**322**	P	**P**		**20 59 18.3**	**+0.2**
I62A	**Tamworth**	**35.46**	**328**	P	**P**		**20 59 19.3**	**+0.7**
SLOR	**San Lorenzo -**	**35.48**	**246**	P	**P**		**20 59 18.9**	**-0.7**
PKME	**Peaks-Kenny Pk**	**35.51**	**332**	P	**P**		**20 59 19.9**	**+1.0**
CBN	**Corbin Frederi**	**35.52**	**316**	P	**P**		**20 59 19.7**	**+0.6**
F64A	**Sherman**	**35.55**	**333**		**P**		**20 59 20.0**	**+0.7**
V58A	**Windy Hill, Pi**	**35.57**	**311**	P	**P**		**20 59 19.1**	**-0.5**
V58A				IAmb	IAmb		20 59 24.3	
	comp=Z,72nm,0.9s							
V58A				IAMs_20	IAMs_20		21 11 09.9	
	comp=Z,2μm,19.0s							
J61A	**Chester**	**35.72**	**327**		**P**		**20 59 21.2**	**+0.3**
J61A				IAmb	IAmb		20 59 25.8	
	comp=Z,72nm,1.2s							
R58B	**Mineral**	**35.73**	**315**	P	**P**		**20 59 20.8**	**-0.3**
BATG	**Bathurst New B**	**35.77**	**337**	P	**P**		**20 59 21.7**	**+0.5**
BATG				IAmb	IAmb		20 59 28.0	
	comp=Z,79nm,1.3s							
Y57A	**Sumter**	**35.79**	**308**	IAMs_20	IAMs_20		21 10 12.5	
	comp=Z,2μm,20.0s							
SDMD	**Soldier's Deli**	**35.81**	**318**	P	**P**		**20 59 21.4**	**-0.3**
MVL	**Millersville**	**35.83**	**319**	IAmb	IAmb		20 59 26.9	
	comp=Z,119nm,1.2s							
HNH	**Hanover**	**35.83**	**327**	P	**P**		**20 59 22.0**	**+0.3**
HNH				IAmb	IAmb		20 59 26.6	
	comp=Z,57nm,1.2s							
TRY	**Troy**	**35.91**	**325**	P	**P**		**20 59 21.8**	**-0.7**
TRY				IAMs_20	IAMs_20		21 10 14.8	
	comp=Z,2μm,21.0s							
W57A	**Gilead**	**35.94**	**310**	IAmb	IAmb		20 59 27.4	
	comp=Z,54nm,0.9s							
W57A				IAMs_20	IAMs_20		21 10 59.7	
	comp=Z,2μm,20.0s							
456A	**Hilliard**	**35.96**	**301**	P	**P**		**20 59 23.0**	**-0.1**
456A				IAmb	IAmb		20 59 27.9	
	comp=Z,92nm,1.1s							
BRU2	**Volcan**	**36.00**	**264**	IAmb	IAmb		20 59 41.9	
	comp=Z,96nm,1.0s							
BRU2	**Volcan**	**36.00**	**264**	*eP*	**P**		**20 59 26.8**	**+3.1**
656A	**Willston**	**36.02**	**299**	P	**P**		**20 59 23.9**	**+0.4**
656A				IAmb	IAmb		20 59 27.6	
	comp=Z,48nm,1.0s							
LBNH	**Lisbon**	**36.02**	**328**	P	**P**		**20 59 24.3**	**+0.9**
LBNH				IAMs_20	IAMs_20		21 10 39.6	
	comp=Z,2μm,20.0s							
LBNH	**Lisbon**	**36.02**	**328**	P	**P**		**20 59 24.3**	**+0.9**
LBNH				pmax	pmax			
	comp=Z,28nm,1.0s							
LBNH				MLR	MLR			
	comp=Z,2μm,20.0s							
G62A	**West of Eustis**	**36.05**	**331**	IAMs_20	IAMs_20		21 10 22.4	
	comp=Z,2μm,21.0s							
BIRD	**Birdtown, Kers**	**36.09**	**308**		**P**		**20 59 23.8**	**-0.3**
BIRD				IAmb	IAmb		20 59 28.9	
	comp=Z,71nm,1.0s							
ALCO	**Alturas Coton,**	**36.10**	**264**	*i* P	**P**		**20 59 26.1**	**+1.5**
T57A	**Hurt**	**36.22**	**313**		**P**		**20 59 25.7**	**+0.5**
T57A				IAMs_20	IAMs_20		21 10 58.0	
	comp=Z,2μm,18.0s							
RPRD	**Ribas do Rio P**	**36.31**	**192**	*eP*	**P**		**20 59 28.6**	**+2.5**
L59A	**Walton**	**36.34**	**323**	IAmb	IAmb		20 59 31.1	
	comp=Z,51nm,1.2s							
ACCN	**Adirondack Com**	**36.35**	**326**	P	**P**		**20 59 26.3**	**+0.1**
S57A	**Dark Hollow, R**	**36.37**	**314**	P	**P**		**20 59 27.3**	**+0.8**
S57A				IAMs_20	IAMs_20		21 10 40.0	
	comp=Z,2μm,22.0s							
KSPA	**Keystone Colle**	**36.38**	**322**	P	**P**		**20 59 27.9**	**+1.3**
KSPA				IAmb	IAmb		20 59 31.3	
	comp=Z,80nm,1.4s							
VT1	**Waterbury**	**36.51**	**328**	P	**P**		**20 59 28.0**	**+0.5**
VT1				IAMs_20	IAMs_20		21 10 21.4	
	comp=Z,2μm,22.0s							
N58A	**Sunbury**	**36.54**	**320**		**P**		**20 59 28.0**	**+0.1**
N58A				IAMs_20	IAMs_20		21 10 33.4	
	comp=Z,2μm,22.0s							
JSC	**Jenkinsville**	**36.55**	**307**	IAmb	IAmb		20 59 32.9	
	comp=Z,62nm,1.0s							
P57A	**Homestead Farm**	**36.61**	**317**	IAmb	IAmb		20 59 33.6	
	comp=Z,98nm,1.0s							
AQDB	**Aquidauana**	**36.74**	**195**	*eP*	**P**		**20 59 32.5**	**+2.8**
U56A	**King**	**36.74**	**311**	P	**P**		**20 59 30.4**	**+0.7**
U56A				IAmb	IAmb		20 59 34.8	
	comp=Z,90nm,1.1s							
CVTG	**V. Turrialba,**	**36.74**	**266**	*eP*	**P**		**20 59 32.8**	**+2.8**
VTLA	**Turrialba Volc**	**36.77**	**266**	*eP*	**P**		**20 59 30.0**	**-0.6**
VICA	**Volcano Irazu**	**36.84**	**266**	*eP*	**P**		**20 59 33.2**	**+1.9**
J59A	**Piesco**	**36.86**	**325**	IAMs_20	IAMs_20		21 10 42.8	
	comp=Z,2μm,22.0s							
BINY	**Binghamton**	**36.90**	**322**	P	**P**		**20 59 31.3**	**+0.3**
BINY				IAmb	IAmb		20 59 35.2	
	comp=Z,72nm,1.4s							
CVIMO	**Finca Echandi**	**36.93**	**266**	*eP*	**P**		**20 59 33.9**	**+2.1**
KMSC	**Kings Mountain**	**36.94**	**309**	IAmb	IAmb		20 59 36.1	
	comp=Z,55nm,1.0s							
KMSC				IAMs_20	IAMs_20		21 11 32.1	
	comp=Z,2μm,18.0s							
BDQN	**Bodoquena, MS**	**36.98**	**196**	*eP*	**P**		**20 59 34.0**	**+2.2**
PIEC	**Cerro El Cedra**	**37.03**	**266**	*eP*	**P**		**20 59 35.3**	**+2.6**
LCR2	**La Lucha 2**	**37.05**	**266**	IAmb	IAmb		20 59 43.6	
	comp=Z,64nm,0.7s							
LCR2	**La Lucha 2**	**37.05**	**266**	*eP*	**P**		**20 59 34.1**	**+1.3**
M57A	**Sunshine Farm,**	**37.08**	**320**	IAmb	IAmb		20 59

comp=Z,88nm,1.1s
H10N3 ASCENSION HYDR 39.15 124 T T 21 41 23.2
baz=306,slow=75,SNR=185
TZTN Tazewell 39.15 310 **P** **20 59 50.4 +0.4**
TZTN IAmb IAmb 20 59 55.1
comp=Z,99nm,1.0s
TZTN IAMs_20 IAMs_20 21 12 50.5
comp=Z,2μm,19.0s
N53A Lisbon 39.15 317 IAmb IAmb 20 59 55.0
comp=Z,90nm,1.0s
N53A IAMs_20 IAMs_20 21 12 17.5
comp=Z,2μm,22.0s
H10N2 ASCENSION HYDR 39.15 124 T T 21 41 23.5
baz=306,slow=75,SNR=140
H10N1 ASCENSION HYDR 39.17 124 T T 21 41 31.5
baz=306,slow=75,SNR=193
Q52A Bidwell 39.23 314 IAmb IAmb 20 59 55.3
comp=Z,136nm,1.0s
HERN Volcan Telica 39.25 271 IAmb IAmb 21 01 16.7
comp=Z,215nm,1.0s
ERPA Erie 39.29 320 IAmb IAmb 20 59 55.9
comp=Z,113nm,1.2s
ERPA IAMs_20 IAMs_20 21 12 21.2
comp=Z,2μm,22.0s
PET01 Itanhaem-SP 39.40 181 *e*P **P** **20 59 55.4 +3.3**
X51A Calhoun 39.43 306 IAmb IAmb 20 59 57.6
comp=Z,80nm,1.1s
P52A Corning 39.45 315 P **P** **20 59 53.0 +0.5**
P52A IAmb IAmb 20 59 57.0
comp=Z,121nm,0.9s
TGUH Tegucigalpa,Un 39.47 274 P **P** **20 59 52.5 -0.7**
TGUH IAmb IAmb 21 00 12.1
comp=Z,271nm,1.6s
O52A Adamsville 39.47 316 IAmb IAmb 20 59 57.5
comp=Z,79nm,1.0s
O52A IAMs_20 IAMs_20 21 12 28.6
comp=Z,2μm,22.0s
AVE Averroes 39.52 56 IAMs_20 IAMs_20 21 11 58.2
comp=Z,2μm,21.0s
S51A Beattyville 39.61 311 IAmb IAmb 20 59 58.7
comp=Z,166nm,1.0s
M52A Chesterland 39.86 318 IAmb IAmb 21 00 00.3
comp=Z,120nm,1.0s
M52A IAMs_20 IAMs_20 21 13 01.3
comp=Z,2μm,21.0s
MORF Marmelete 39.95 50 *e*P **P** **20 59 56.7 0.0**
MORF IAmb IAmb 21 00 02.2
comp=Z,229nm,2.2s
MORF *e*S **S** **21 06 02.8 +0.8**
MORF Marmelete 39.95 50 *e*P **P** **20 59 56.7 0.0**
MORF *e*S **S** **21 06 02.8 +0.8**
W50A Signal Mountai 40.00 307 IAmb IAmb 21 00 02.2
comp=Z,128nm,1.0s
P51A Williamsport 40.02 314 P **P** **20 59 57.1 -0.1**
P51A IAmb IAmb 21 00 01.8
comp=Z,97nm,0.9s
TEIG Tepich 40.05 283 **P** **20 59 58.0 +0.2**
TEIG IAmb IAmb 21 00 01.8
comp=Z,53nm,0.8s
LIS Lisbon 40.16 47 *e*P **P** **20 59 58.5 +0.1**
LIS IAmb IAmb 20 59 59.5
comp=Z,128nm,1.2s
LIS Lisbon 40.16 47 *e*P **P** **20 59 58.5 +0.1**
PTGB Pitanga 40.19 188 *e*P **P** **21 00 00.3 +1.5**
N51A Ashland 40.22 316 IAmb IAmb 21 00 03.5
comp=Z,138nm,1.2s
N51A IAMs_20 IAMs_20 21 13 01.8
comp=Z,2μm,22.0s
SADO Sadowa 40.28 323 LR LR 21 13 10.8
comp=Z,101nm,21.8s,baz=134,slow=31
T50A Nancy 40.28 310 IAmb IAmb 21 00 04.4
comp=Z,58nm,0.9s
T50A IAMs_20 IAMs_20 21 13 26.6
comp=Z,1μm,19.0s
ACSO Alum Creek Sta 40.30 315 IAmb IAmb 21 00 04.3
comp=Z,164nm,1.1s
ACSO IAMs_20 IAMs_20 21 12 54.1
comp=Z,2μm,21.0s
R50A Paris 40.40 312 IAmb IAmb 21 00 05.1
comp=Z,60nm,1.1s
R50A IAMs_20 IAMs_20 21 13 28.7
comp=Z,1μm,20.0s
Y49A Blount Mountai 40.44 304 IAMs_20 IAMs_20 21 13 21.7
comp=Z,1μm,20.0s
MESJ Messejana 40.47 49 *e*P **P** **21 00 01.0 0.0**
MESJ IAmb IAmb 21 00 03.8
comp=Z,123nm,2.0s
MESJ *e*S **S** **21 06 10.5 +0.7**
MESJ Messejana 40.47 49 *e*P **P** **21 00 01.0 0.0**
MESJ *e*S **S** **21 06 10.5 +0.7**
SWET Sewanee 40.48 307 IAmb IAmb 21 00 06.2
comp=Z,85nm,1.1s
PCVE Castro Verde 40.52 49 P **P** **20 59 58.9 -2.6**
NNA Nana 40.53 230 **P** **21 00 01.1 -0.6**
NNA Nana 40.53 230 LR LR 21 17 13.5
comp=Z,3μm,18.1s,baz=9.0,slow=37
NNA Nana 40.53 230 *e*P **P** **21 00 01.2 -0.6**
NNA pmax pmax
comp=Z,36nm,0.9s
U49A Red Boiling Sp 40.80 309 IAmb IAmb 21 00 08.5
comp=Z,64nm,1.0s
U49A IAMs_20 IAMs_20 21 13 44.4
comp=Z,2μm,20.0s
BUKO Buck Lake 40.83 324 IAmb IAmb 21 00 08.3
comp=Z,70nm,1.1s
M50A Fremont 40.89 317 IAmb IAmb 21 00 09.1
comp=Z,121nm,1.1s
M50A IAMs_20 IAMs_20 21 13 22.7
comp=Z,2μm,21.0s
EGRO El Granado 40.90 50 P **P** **21 00 06.8 +2.3**
EGRO S **S** **21 06 20.1 +4.0**
EVO Evora 40.90 48 P **P** **21 00 03.8 -0.7**
R49A Shelbyville 41.02 311 IAmb IAmb 21 00 10.4
comp=Z,100nm,0.9s
R49A IAMs_20 IAMs_20 21 13 49.0
comp=Z,1μm,20.0s
CLTN Cedars of Leba 41.08 308 IAmb IAmb 21 00 29.2
comp=Z,44nm,0.4s
X48A Hartselle 41.11 305 IAMs_20 IAMs_20 21 14 02.6
comp=Z,1μm,21.0s
O49A Covington 41.21 314 IAmb IAmb 21 00 11.4
comp=Z,121nm,1.0s
K50A Casco 41.30 319 IAMs_20 IAMs_20 21 14 05.3
comp=Z,2μm,20.0s
V48A Smith Brothers 41.34 307 IAmb IAmb 21 00 12.5
comp=Z,50nm,0.9s
ESQI Esquipulas 41.40 275 P **P** **21 00 09.2 +0.2**
ESQI IAmb IAmb 21 00 54.2
comp=Z,175nm,1.2s
IFR Ifrane 41.42 56 P **P** **21 00 08.8 -0.3**
IFR S **S** **21 06 25.6 +1.2**
N49A Columbus Grove 41.43 316 IAmb IAmb 21 00 13.3
comp=Z,157nm,1.0s
N49A IAMs_20 IAMs_20 21 13 39.0
comp=Z,2μm,21.0s
MTO3 Montecristo 41.44 274 P **P** **21 00 09.7 +0.2**
MTO3 IAmb IAmb 21 00 38.8
comp=Z,102nm,1.1s
CNIL Conil 41.55 52 P **P** **21 00 10.5 +0.6**
EMIN Mina Concepcio 41.58 50 P **P** **21 00 09.1 -1.0**
Z47A Carrollton 41.58 303 IAmb IAmb 21 00 15.3
comp=Z,105nm,1.2s
DBIC Dimbokro 41.66 97 **P** **21 00 08.9 -2.1**
DBIC IAmb IAmb 21 00 12.9
comp=Z,85nm,1.0s
DBIC Dimbokro 41.66 97 P **P** **21 00 09.7 -1.3**
comp=Z,61nm,0.9s,baz=283,slow=8.7,SNR=19
DBIC LR LR 21 14 18.3
comp=Z,716nm,20.2s,baz=270,slow=32
comp=Z,61nm,0.9s
DBIC Dimbokro 41.66 97 P **P** **21 00 11.8 +0.8**
MDT Midelt 41.66 58 LR LR 21 13 42.3
comp=Z,1μm,21.6s,baz=289,slow=31
P48A Milroy 41.66 313 IAmb IAmb 21 00 14.8
comp=Z,141nm,0.9s
PETF Flores 41.68 278 IAmb IAmb 21 00 15.5
comp=Z,98nm,0.8s
PB11 IPOC Station P 41.69 214 IAmb IAmb 21 00 19.1
comp=Z,64nm,0.9s
EBAD Badajoz 41.70 48 P **P** **21 00 09.2 -2.0**
EBAD S **S** **21 06 28.8 +0.7**
AAM Ann Arbor 41.73 318 IAMs_20 IAMs_20 21 13 46.7
comp=Z,2μm,22.0s
O48B Farmland 41.81 314 IAmb IAmb 21 00 16.1
comp=Z,98nm,1.1s
WCI Wyandotte Cave 41.81 311 **P** **21 00 12.5 +0.5**
WCI IAmb IAmb 21 00 16.9
comp=Z,71nm,0.8s
WCI Wyandotte Cave 41.81 311 IAMs_20 IAMs_20 21 14 23.9
comp=Z,2μm,20.0s
WCI Wyandotte Cave 41.81 311 P **P** **21 00 12.5 +0.5**
WCI pmax pmax
comp=Z,71nm,0.9s
WCI MLR MLR
comp=Z,2μm,20.0s
ESPR Espera 41.87 51 P **P** **21 00 11.9 -0.6**
ESPR S **S** **21 06 32.1 +1.6**
CEU Ceuta 41.92 53 P **P** **21 00 13.6 +0.7**
T47A Sharon Grove 41.97 309 IAmb IAmb 21 00 17.5
comp=Z,59nm,1.1s
T47A IAMs_20 IAMs_20 21 14 29.2
comp=Z,1μm,19.0s
I49A Point Hope 42.02 320 IAmb IAmb 21 00 23.0
comp=Z,61nm,0.8s
I49A IAMs_20 IAMs_20 21 14 05.4
comp=Z,2μm,21.0s
PLAL Pickwick Lake 42.08 306 IAmb IAmb 21 00 19.2
comp=Z,189nm,1.4s
PLAL IAMs_20 IAMs_20 21 14 01.2
comp=Z,1μm,22.0s
WVT Waverly 42.24 307 **P** **21 00 15.6 +0.1**
WVT IAmb IAmb 21 00 19.4
comp=Z,57nm,0.9s
WVT Waverly 42.24 307 P **P** **21 00 15.6 +0.1**
WVT pmax pmax
comp=Z,57nm,0.9s
WVT MLR MLR
comp=Z,1μm,20.0s
146A Union 42.25 302 IAmb IAmb 21 00 21.1
comp=Z,143nm,1.1s
346A Big Creek Wild 42.31 300 IAmb IAmb 21 00 21.6
comp=Z,134nm,1.2s
BLO Bloomington 42.33 312 IAmb IAmb 21 00 21.0
comp=Z,83nm,0.9s
TA02 Huaiquique 42.36 214 IAmb IAmb 21 00 23.8
comp=Z,62nm,1.0s
N47A Urbana 42.44 315 IAmb IAmb 21 00 21.4
comp=Z,152nm,1.0s
ECAB El Cabril 42.62 50 P **P** **21 00 18.2 -0.4**
ECAB S **S** **21 06 42.4 +0.8**
PB01 IPOC Station P 42.65 213 IAmb IAmb 21 00 26.7
comp=Z,84nm,1.1s
ITAB Concordia 42.68 187 *e*P **P** **21 00 19.9 +0.8**
USIN University of 42.72 310 IAmb IAmb 21 00 24.2
comp=Z,120nm,0.9s
CPUP Villa Florida 42.75 194 **P** **21 00 19.6 -0.1**
CPUP IAmb IAmb 21 00 28.8
comp=Z,58nm,1.1s
CPUP Villa Florida 42.75 194 P **P** **21 00 20.7 +1.0**
comp=Z,11nm,0.8s,baz=14,slow=8.8,SNR=18
CPUP LR LR 21 18 54.9
comp=Z,349nm,18.4s,baz=20,slow=37
comp=Z,11nm,0.8s
CPUP Villa Florida 42.75 194 *e*P **P** **21 00 20.9 +1.2**
J47A Sunmer 42.93 318 IAMs_20 IAMs_20 21 14 22.5
comp=Z,2μm,22.0s
Y45A Yeager Farm, C 42.94 303 IAmb IAmb 21 00 26.7
comp=Z,85nm,0.9s
Y45A IAMs_20 IAMs_20 21 14 41.1
comp=Z,2μm,22.0s
P46A Rosedale 42.99 312 IAmb IAmb 21 00 26.5
comp=Z,74nm,0.8s
OXF Oxford 43.00 304 IAmb IAmb 21 00 31.1
comp=Z,145nm,1.1s
T45A Paducah 43.14 308 IAMs_20 IAMs_20 21 15 14.2
comp=Z,1μm,19.0s
L46A Eue Claire 43.34 316 P **P** **21 00 24.4 +0.1**
L46A IAMs_20 IAMs_20 21 14 48.4
comp=Z,2μm,20.0s
GLMI Grayling 43.57 320 IAMs_20 IAMs_20 21 15 02.6
comp=Z,2μm,21.0s
S44A Carbondale 43.82 309 IAMs_20 IAMs_20 21 16 08.0
comp=Z,2μm,19.0s
CCIG Comitan 43.90 278 P **P** **21 00 29.6 +0.1**
PAB San Pablo 43.92 48 P **P** **21 00 28.5 -0.7**
PAB San Pablo 43.92 48 P **P** **21 00 28.5 -0.7**
PAB pmax pmax
comp=Z,15nm,1.1s
PAB MLR MLR
comp=Z,2μm,18.0s
CGM3 Cape Girardeau 44.00 308 IAmb IAmb 21 00 34.2
comp=Z,114nm,1.1s
Q44A Meyer Farm, Va 44.04 311 IAMs_20 IAMs_20 21 15 44.1
comp=Z,1μm,20.0s
I45A Fountain 44.21 319 IAMs_20 IAMs_20 21 15 34.4
comp=Z,1μm,20.0s
ESDC Sonseca Array 44.24 48 P **P** **21 00 31.1 -0.7**
ESDC IAmb IAmb 21 00 32.7
comp=Z,126nm,1.8s
ESDC Sonseca Array 44.24 48 P **P** **21 00 31.3 -0.5**
comp=Z,4.0nm,0.8s,baz=250,slow=8.3,SNR=18
ESDC PcP **PP** **21 02 14.9 0.0**
comp=Z,2.8nm,1.0s,baz=262,slow=4.6,SNR=4.4
ESDC LR LR 21 17 00.7
comp=Z,2μm,18.0s,baz=234,slow=34
comp=Z,4.0nm,0.8s
HQIL Hanson Quary C 44.30 315 IAMs_20 IAMs_20 21 15 59.0
comp=Z,1μm,20.0s
PBMO Poplar Bluff 44.43 307 IAmb IAmb 21 00 36.4
comp=Z,53nm,1.0s
L44A Lake County Fo 44.50 315 IAMs_20 IAMs_20 21 15 23.1
comp=Z,2μm,22.0s
PB05 IPOC Station P 44.52 212 IAmb IAmb 21 00 42.0
comp=Z,58nm,1.2s
CNLB Canela 44.60 185 *e*P **P** **21 00 35.3 +0.7**
P43A Skaggs, Pawnee 44.66 311 IAmb IAmb 21 00 44.9
comp=Z,141nm,1.4s
P43A IAMs_20 IAMs_20 21 16 03.5
comp=Z,2μm,21.0s
FVM French Village 44.79 309 **P** **21 00 36.3 +0.2**
FVM French Village 44.79 309 P **P** **21 00 36.3 +0.2**
FVM pmax pmax
comp=Z,123nm,1.0s
LCAR Lake Charles 44.79 306 IAmb IAmb 21 00 40.1
comp=Z,56nm,1.3s
HDIL Hopedale 44.83 313 IAMs_20 IAMs_20 21 17 43.8
comp=Z,1μm,19.0s
SLM Saint Louis 44.85 310 IAmb IAmb 21 00 40.4
comp=Z,107nm,1.1s
K43A Burlington 45.00 316 IAMs_20 IAMs_20 21 15 49.3
comp=Z,2μm,21.0s
T42A Van Buren 45.01 307 IAmb IAmb 21 00 41.4
comp=Z,56nm,1.1s
H43A Windswept, Lux 45.39 318 IAMs_20 IAMs_20 21 15 47.6
comp=Z,2μm,22.0s
CCM Cathedral Cave 45.43 309 **P** **21 00 41.1 0.0**
CCM IAmb IAmb 21 00 45.5
comp=Z,94nm,1.1s
CCM Cathedral Cave 45.43 309 IAMs_20 IAMs_20 21 15 51.7
comp=Z,1μm,21.0s
CCM Cathedral Cave 45.43 309 P **P** **21 00 41.1 0.0**
CCM pmax pmax
comp=Z,94nm,1.1s
CCM MLR MLR
comp=Z,1μm,21.0s
L42A Oliver, Polo 45.63 314 IAMs_20 IAMs_20 21 16 09.0
comp=Z,1μm,22.0s
X40A Basin Creek Fa 45.74 303 IAmb IAmb 21 00 48.1
comp=Z,114nm,1.4s
KUQ Kuujjuuaa 45.75 344 P **P** **21 00 43.9 +0.6**
KUQ IAmb IAmb 21 00 57.6
comp=Z,49nm,1.3s
ITQB Itaqui 45.82 192 P **P** **21 00 44.4 +0.2**
ITQB Itaqui 45.82 192 *e*P **P** **21 00 45.2 +1.0**
I42A Draeger Farm, 45.88 317 IAmb IAmb 21 00 49.1
comp=Z,54nm,0.9s
I42A IAMs_20 IAMs_20 21 16 56.6
comp=Z,2μm,20.0s
MGMO Mountain Grove 45.95 307 IAmb IAmb 21 00 49.2
comp=Z,57nm,1.1s
CPSB Cacapava Do Su 45.98 188 *e*P **P** **21 00 46.5 +1.0**
N41A Harden Midland 45.99 312 IAMs_20 IAMs_20 21 16 52.7
comp=Z,1μm,20.0s
GO02 Mina Guanaco 46.15 210 IAmb IAmb 21 00 55.3
comp=Z,28nm,1.0s
F42A Maple Grove Fa 46.20 320 IAmb IAmb 21 00 51.6
comp=Z,105nm,1.4s
F42A IAMs_20 IAMs_20 21 17 04.1
comp=Z,2μm,21.0s
R40A Maddies Statio 46.27 309 IAMs_20 IAMs_20 21 16 19.0
comp=Z,1μm,22.0s
JFWS Jewell Farm 46.38 315 IAMs_20 IAMs_20 21 17 03.8
comp=Z,1μm,20.0s
P40A Paris 46.47 310 P **P** **21 00 49.9 +0.5**
P40A IAMs_20 IAMs_20 21 17 10.4
comp=Z,2μm,20.0s
TORD Torodi Ar. Bea 46.64 86 P **P** **21 00 49.4 -1.6**
TORD IAmb IAmb 21 00 53.3
comp=Z,60nm,1.3s
TORD Torodi Ar. Bea 46.64 86 P **P** **21 00 50.1 -1.0**
comp=Z,123nm,0.3s,baz=290,slow=8.6,SNR=1.6
TORD LR LR 21 18 22.9
comp=Z,890nm,19.0s,baz=268,slow=34
S39A Bolivar 46.90 308 IAMs_20 IAMs_20 21 17 53.5
comp=Z,1μm,18.0s
COWI Conover 46.98 320 IAMs_20 IAMs_20 21 16 56.7
comp=Z,2μm,21.0s
I40A Norwalk 47.00 316 IAMs_20 IAMs_20 21 17 00.4
comp=Z,2μm,21.0s
Z38A Mt. Pleasant 47.25 301 IAMs_20 IAMs_20 21 17 20.2
comp=Z,2μm,22.0s
G40A Rib Lake 47.29 318 IAMs_20 IAMs_20 21 17 30.0
comp=Z,1μm,21.0s
PLTB Pedras Altas 47.34 188 *e*P **P** **21 00 56.7 +0.6**
TBOT Tacuaremb 47.63 191 *e*P **P** **21 00 59.7 +1.3**
N38A Joes South For 47.73 312 IAMs_20 IAMs_20 21 17 56.6
comp=Z,1μm,20.0s
RLO Rose Lookout 47.86 305 IAmb IAmb 21 01 03.2
comp=Z,31nm,0.9s
SCIA State Center 48.07 313 IAMs_20 IAMs_20 21 17 56.6
comp=Z,1μm,22.0s
TBO Thunder Bay 48.32 323 **P** **21 01 03.9 +0.2**
IWEX Carrickbyrne, 48.47 32 P **P** **21 01 04.2 -0.5**
E38A The Farm, Brul 48.71 319 IAmb IAmb 21 01 10.6
comp=Z,46nm,1.0s
E38A IAMs_20 IAMs_20 21 18 32.4
comp=Z,1μm,20.0s
I37A Lemond, Waseca 48.91 316 IAMs_20 IAMs_20 21 18 21.0
comp=Z,2μm,21.0s
NUUK Nuuk 48.92 357 *i* P **P** **21 01 09.3 +1.3**
NUUK IAmb IAmb 21 01 29.8
comp=Z,78nm,1.3s
CEST Esterri de Car 48.95 46 IAmb IAmb 21 01 13.7
comp=Z,93nm,1.5s
SPMN Marine on St. 48.96 317 IAMs_20 IAMs_20 21 18 53.2
comp=Z,1μm,19.0s
435B Jarrell 49.09 298 IAmb IAmb 21 01 13.8
comp=Z,86nm,1.3s
Z35A Perchaven, San 49.14 301 IAMs_20 IAMs_20 21 18 51.1
comp=Z,1μm,22.0s
DSB Dublin 49.16 31 IAMs_20 IAMs_20 21 16 04.9
comp=Z,1μm,22.0s
DSB Dublin 49.16 31 P **P** **21 01 09.4 -0.6**
T35A Sooner Cattle 49.19 306 IAmb IAmb 21 01 14.2
comp=Z,96nm,1.5s
EYMN Ely 49.24 321 **P** **21 01 10.2 -0.5**
EYMN IAmb IAmb 21 01 14.5
comp=Z,63nm,1.4s
TAM Tamanrasset 49.47 73 IAmb IAmb 21 01 18.8
comp=Z,96nm,1.4s
ILTH Belurgan, Co L 49.63 30 P **P** **21 01 12.5 -1.1**
IDGL Inch Island, C 49.70 28 P **P** **21 01 13.9 -0.2**
KSU1 Kansas State U 49.76 308 IAMs_20 IAMs_20 21 19 50.3
comp=Z,969nm,18.0s
HBVL Hebbronville 49.76 293 IAmb IAmb 21 01 25.5
comp=Z,72nm,0.9s
X34A Smith Ranch, M 49.81 302 **P** **21 01 15.6 +0.2**
X34A IAmb IAmb 21 01 18.8
comp=Z,59nm,1.0s
TLIG Tlapa 49.91 280 IAmb IAmb 21 01 31.1
comp=Z,55nm,1.4s
PLPT Palo Pinto 49.95 300 P **P** **21 01 16.4 0.0**
PLPT IAmb IAmb 21 01 20.4
comp=Z,103nm,1.2s
WTFS Witchita Falls 50.20 301 IAmb IAmb 21 01 21.6
comp=Z,50nm,1.0s
KAN01 Argonia South 50.21 306 IAmb IAmb 21 01 21.9
comp=Z,89nm,1.0s
MCH1 Michaelchurch 50.23 34 *e*P **P** **21 01 17.5 -0.6**
MCH1 IAmb IAmb 21 01 21.5
comp=Z,8.0nm,0.8s
MCH1 IAMs_20 IAMs_20 21 15 58.7
comp=Z,2μm,26.8s
WME Myndd Eilian 50.28 31 *e*P **P** **21 01 18.6 +0.1**
LLW Llanuwychllyn 50.32 32 *e*P **P** **21 01 18.3 -0.5**
LLW IAmb IAmb 21 01 20.5
comp=Z,4.7nm,1.1s
L34A Svendsen Farm, 50.33 312 **P** **21 01 19.1 -0.1**
KAN14 Manchester OK 50.34 305 P **P** **21 01 19.2 0.0**
KAN14 PcP **PcP** **21 02 36.3 -1.7**
BRDY Brady 50.35 298 IAmb IAmb 21 01 23.0
comp=Z,84nm,1.1s
MAHO Mahon 50.36 51 IAMs_20 IAMs_20 21 20 46.9
comp=Z,872nm,18.0s
ISOG Isortoq, Green 50.41 4 *i* P **P** **21 01 18.0 -1.3**
ISOG IAmb IAmb 21 01 34.6
comp=Z,60nm,1.2s
HNDO Hondo 50.44 296 IAmb IAmb 21 01 35.9
comp=Z,64nm,1.2s
CO01 Juntas del Tor 50.50 207 **P** **21 01 19.7 -1.0**
CO01 IAmb IAmb 21 01 29.5
comp=Z,42nm,1.1s
HLM1 Long Mynd 50.55 33 *e*P **P** **21 01 20.3 -0.3**
HLM1 IAmb IAmb 21 01 22.2
comp=Z,12nm,0.9s
ANGG Ammassalik, Gr 50.58 5 *i* P **P** **21 01 18.6 -2.0**
ANGG IAmb IAmb 21 01 21.8
comp=Z,95nm,1.5s
FOEL Foel Wylfa 50.58 33 *e*P **P** **21 01 20.3 -0.5**
FOEL IAmb IAmb 21 01 22.6
comp=Z,22nm,0.9s
FOEL IAMs_20 IAMs_20 21 16 50.6
comp=Z,3μm,23.3s
WMOK Wichita Mounta 50.61 302 IAMs_20 IAMs_20 21 19 43.9
comp=Z,1μm,20.0s
WMOK Wichita Mounta 50.61 302 IAmb IAmb 21 01 24.2
comp=Z,37nm,1.0s
FRB Frobisher Bay 50.73 348 LR LR 21 20 44.1
comp=Z,726nm,20.0s,baz=144,slow=34
OK038 West end E0370 50.86 305 IAmb IAmb 21 01 26.6
comp=Z,76nm,1.0s
JCT Junction City 50.97 297 **P** **21 01 24.1 -0.1**
JCT IAmb IAmb 21 01 40.0
comp=Z,42nm,1.1s
JCT Junction City 50.97 297 P **P** **21 01 24.1 -0.1**
JCT pmax pmax
comp=Z,42nm,1.1s
JCT MLR MLR
comp=Z,500nm,20.0s
ECSD EROS Data Cent 51.02 314 IAmb IAmb 21 01 27.7
comp=Z,45nm,0.9s
ABTX Abilene, Hawle 51.04 300 IAmb IAmb 21 01 28.3
comp=Z,54nm,1.0s
CFA Coronel Fontan 51.15 204 LR LR 21 24 31.2
comp=Z,977nm,19.2s,baz=350,slow=38
R32A Long Quarter, 51.21 307 IAMs_20 IAMs_20 21 20 05.8
comp=Z,1μm,19.0s
ELIS Ellis County 51.33 304 IAmb IAmb 21 01 36.6
comp=Z,102nm,1.3s
CWF Charnwood Fore 51.50 33 *e*P **P** **21 01 27.2 -0.5**
CWF IAmb IAmb 21 01 28.8
comp=Z,9.6nm,0.9s
CO03 El Pedregal 51.50 207 IAmb IAmb 21 01 36.1
comp=Z,49nm,1.1s
CLF Chambon-Foret 51.52 40 IAmb IAmb 21 01 29.4
comp=Z,50nm,1.2s
KESW Keswick, Cumbr 51.52 31 *e*P **P** **21 01 27.5 -0.3**
KESW IAmb IAmb 21 01 29.7
comp=Z,21nm,0.9s
LBWR Ladybower, Pea 51.60 33 *e*P **P** **21 01 28.4 -0.1**
LBWR IAmb IAmb 21 01 30.4
comp=Z,37nm,1.0s
LBWR IAMs_20 IAMs_20 21 18 14.8
comp=Z,2μm,21.4s
SFJD Kangerlussuaq 51.69 358 **P** **21 01 28.3 -0.6**
SFJD Kangerlussuaq 51.69 358 LR LR 21 19 33.1
comp=Z,641nm,19.5s,baz=177,slow=32
SFJD Kangerlussuaq 51.69 358 P **P** **21 01 28.3 -0.6**
SFJD pmax pmax
comp=Z,37nm,1.3s
SFJD Kangerlussuaq 51.69 358 *i* P **P** **21 01 27.6 -1.2**
SFJD IAmb IAmb 21 01 29.9
comp=Z,155nm,2.4s
SMWD Samnorwood 51.85 303 IAmb IAmb 21 01 33.7
comp=Z,48nm,1.0s
EKA Eskdalemuir Ar 51.90 30 P **P** **21 01 30.0 -0.6**
comp=Z,17nm,1.2s,baz=240,slow=6.6,SNR=12
comp=Z,17nm,1.2s
HPK Haverah Park 51.94 32 *e*P **P** **21 01 30.5 -0.4**
HPK IAmb IAmb 21 01 32.7
comp=Z,16nm,1.0s

HPK IAms_20 IAms_20 21 18 25.0
comp=Z,2µm,20.1s
SSB Saint Sauveur 52.05 44 P P 21 01 31.1 -0.9
SSB Saint Sauveur 52.05 44 IAms_20 IAms_20 21 18 51.4
comp=Z,1µm,22.0s
SSB Saint Sauveur 52.05 44 P **P 21 01 31.1 -0.9**
SSB pmax pmax
comp=Z,28nm,1.3s
SSB MLR MLR
comp=Z,1µm,22.0s
AGMN Agassiz Nation 52.06 320 IAmb IAmb 21 01 35.5
comp=Z,53nm,1.0s
AGMN IAms_20 IAms_20 21 20 04.1
comp=Z,1µm,21.0s
CBKS Cedar Bluff 52.07 307 IAms_20 IAms_20 21 20 42.7
comp=Z,1µm,20.0s
SN07 Snyder 07 52.13 300 IAmb IAmb 21 01 36.7
comp=Z,130nm,2.0s
OZNA Ozona 52.14 297 IAmb IAmb 21 01 36.4
comp=Z,46nm,1.1s
EDMD Edmundbyers 52.21 31 *e*P **P 21 01 31.8 -1.2**
EDMD IAmb IAmb 21 01 34.1
comp=Z,6.0nm,1.0s
EDMD IAms_20 IAms_20 21 21 10.2
comp=Z,1µm,14.3s
DKNS Dickens 52.22 301 IAmb IAmb 21 01 36.6
comp=Z,66nm,1.1s
BORG Borgarnes 52.25 13 LR LR 21 18 38.0
comp=Z,643nm,18.2s,baz=217,slow=30
POST Post 52.64 300 IAmb IAmb 21 01 39.7
comp=Z,52nm,1.1s
ULM Lac du Bonnet 52.81 322 P **P 21 01 37.7 +0.1**
comp=Z,70nm,0.9s,baz=107,slow=7.3,SNR=42
ULM LR LR 21 20 35.2
comp=Z,1µm,21.8s,baz=112,slow=32
comp=Z,70nm,0.9s
K30B Basset 52.84 312 **P 21 01 37.5 -0.5**
K30B IAmb IAmb 21 01 43.7
comp=Z,97nm,1.1s
K30B IAms_20 IAms_20 21 20 58.8
comp=Z,1µm,22.0s
SUSD Miller 52.84 315 IAms_20 IAms_20 21 26 09.8
comp=Z,866nm,19.0s
SAND Sanderson 52.93 296 IAmb IAmb 21 01 42.3
comp=Z,40nm,1.0s
AMTX Amarillo 52.99 302 IAmb IAmb 21 01 42.8
comp=Z,95nm,1.0s
AMTX IAms_20 IAms_20 21 21 00.1
comp=Z,1µm,22.0s
ZAIG Zacatecas 53.30 287 IAmb IAmb 21 01 47.1
comp=Z,38nm,1.0s
BNI Bardonecchia 53.42 45 **P 21 01 41.8 -0.5**
BNI Bardonecchia 53.42 45 P **P 21 01 41.8 -0.5**
BNI pmax pmax
comp=Z,27nm,1.1s
BNI MLR MLR
comp=Z,2µm,18.0s
ODSA Odessa 53.44 299 IAmb IAmb 21 01 45.0
comp=Z,37nm,1.2s
KEST Kesra 53.54 57 IAmb IAmb 21 01 44.5
comp=Z,62nm,1.1s
KEST Kesra 53.54 57 P **P 21 01 43.3 0.0**
comp=Z,46nm,1.0s,baz=246,slow=3.6,SNR=38
KEST LR LR 21 21 53.7
comp=Z,2µm,21.6s,baz=249,slow=33
comp=Z,46nm,1.0s
MNHN Monahans 53.56 298 IAmb IAmb 21 01 58.9
comp=Z,91nm,1.8s
DOU Dourbes 53.71 38 *d*P **P 21 01 43.9 -0.2**
comp=Z,6.5nm,1.0s
MSTX Muleshoe 53.79 301 IAms_20 IAms_20 21 21 49.2
comp=Z,1µm,20.0s
UCC Uccle 53.83 38 **P 21 01 43.6 -1.4**
UCC Uccle 53.83 38 *d*P **P 21 01 44.9 -0.1**
comp=Z,14nm,1.0s
UCC Uccle 53.83 38 P **P 21 01 43.6 -1.4**
UCC pmax pmax
comp=Z,26nm,1.1s
BMRD Maredsous 53.89 38 *d*P **P 21 01 45.2 -0.2**
ICESG Greenland Ices 53.89 3 *i* P **P 21 01 44.6 -1.0**
ICESG IAmb IAmb 21 01 53.4
comp=Z,26nm,0.9s
RTBA Rita Blanca 54.04 304 P **P 21 01 47.2 +0.2**
RTBA IAmb IAmb 21 01 50.6
comp=Z,56nm,1.1s
BGES Gesves 54.11 38 *d*P **P 21 01 46.7 -0.4**
comp=Z,9.8nm,1.0s
VSL Villasalto 54.13 52 IAmb IAmb 21 01 48.4
comp=Z,34nm,1.2s
MT09 Talagante 54.16 205 IAmb IAmb 21 01 56.0
comp=Z,72nm,1.1s
BO04 La Punta 54.19 205 IAmb IAmb 21 01 56.4
comp=Z,46nm,1.1s
OGNE Ogallala 54.22 310 IAms_20 IAms_20 21 21 53.5
comp=Z,1µm,19.0s
TXAR Lajitas Array 54.25 295 P **P 21 01 48.8 +0.2**
TXAR Lajitas Array 54.25 295 P **P 21 01 49.6 +1.0**
comp=Z,16nm,0.9s,baz=101,slow=6.5,SNR=56
TXAR LR LR 21 25 29.2
comp=Z,180nm,19.8s,baz=80,slow=37
comp=Z,16nm,0.9s
BCLA Clavier 54.25 38 *d*P **P 21 01 48.0 -0.1**
comp=Z,8.4nm,1.2s
ALPN Alpine 54.27 297 IAmb IAmb 21 01 52.5
comp=Z,40nm,1.1s
MDND Maddock 54.27 318 IAms_20 IAms_20 21 21 42.6
comp=Z,2µm,21.0s
KSCO Kaye Shedlock' 54.33 307 IAmb IAmb 21 01 53.5
comp=Z,97nm,1.5s
KSCO IAms_20 IAms_20 21 22 03.3
comp=Z,969nm,20.0s
MT01 Popeta 54.34 205 IAmb IAmb 21 01 57.1
comp=Z,33nm,0.9s
BSTI Sart Tilman 54.47 38 *d*P **P 21 01 49.9 +0.2**
WLF Walferdange 54.50 39 **P 21 01 48.7 -1.3**
WLF IAms_20 IAms_20 21 21 06.3
comp=Z,1µm,19.0s
WLF Walferdange 54.50 39 P **P 21 01 48.4 -1.6**
WLF Walferdange 54.50 39 *d*P **P 21 01 49.0 -0.9**
comp=Z,10nm,1.1s
WLF Walferdange 54.50 39 P **P 21 01 48.7 -1.3**
WLF pmax pmax
comp=Z,26nm,1.2s
WLF MLR MLR
comp=Z,1µm,19.0s
WLF Walferdange 54.50 39 *e*P 21 01 49.5
comp=Z,29nm,1.2s,baz=254,slow=7.0
WLF *e*S 21 09 35.8
baz=251,slow=14
BHOU Houvegnez 54.65 39 *d*P **P 21 01 51.3 +0.3**
BO01 Tunca 54.73 205 IAmb IAmb 21 02 00.2
comp=Z,41nm,1.0s
MEM Membach 54.74 38 *d*P **P 21 01 51.9 +0.2**
comp=Z,16nm,1.2s
BTNL Ternell 54.80 38 *d*P **P 21 01 52.4 +0.2**
comp=Z,10nm,1.3s
BTNL *d*PcP **PcP 21 02 54.5 +0.1**
BO02 Sierra Bellavi 54.96 204 P **P 21 01 53.5 +0.1**
BO02 IAmb IAmb 21 02 02.4
comp=Z,25nm,0.8s
MSSA Maissana 55.20 46 IAmb IAmb 21 01 56.0
comp=Z,42nm,1.0s
BFO Black Forest 55.45 41 P **P 21 01 55.2 -1.6**
BFO Black Forest 55.45 41 P **P 21 01 55.2 -1.6**
BFO pmax pmax
comp=Z,27nm,1.1s
BFO Black Forest 55.45 41 *e*P 21 01 56.4
comp=Z,20nm,0.9s,baz=254,slow=7.0
BFO *e*S 21 09 45.2
baz=251,slow=14
T25A Trinidad 55.46 305 IAmb IAmb 21 02 02.0
comp=Z,55nm,1.2s
TUE Stuetta 55.60 44 **P 21 01 56.6 -1.6**
TUE IAms_20 IAms_20 21 24 22.5
comp=Z,1µm,19.0s
TUE Stuetta 55.60 44 P 21 01 57.3
comp=Z,69nm,1.1s
BUG Bochum--Univer 55.77 38 *e*S 21 09 47.5
baz=251,slow=14
MNTX Cornudas Mount 55.82 298 IAmb IAmb 21 02 03.1
comp=Z,52nm,1.1s
CASP Castiglione de 55.84 48 IAmb IAmb 21 02 03.1
comp=Z,48nm,1.3s
BRIGG Briggsdale 55.87 309 P **P 21 02 01.1 +0.9**
BRIGG IAms_20 IAms_20 21 22 52.0
comp=Z,1µm,21.0s
HPIG 56.00 292 P **P 21 02 02.0 +0.6**
HPIG IAmb IAmb 21 02 05.8
comp=Z,46nm,1.0s
DAVOX Davos/Dischmat 56.04 44 LR LR 21 23 43.7
comp=Z,2µm,19.0s,baz=250,slow=34
TNS Taunus Mts 56.09 39 *e*P 21 02 01.0
comp=Z,22nm,1.2s,baz=254,slow=7.0
TNS *e*S 21 09 59.3
baz=251,slow=14
STU Stuttgart 56.12 41 IAmb IAmb 21 02 05.3
comp=Z,29nm,1.0s
STU Stuttgart 56.12 41 *e*P 21 02 01.1
comp=Z,86nm,1.1s,baz=254,slow=7.0
STU *e*S 21 09 45.2
baz=251,slow=14
DAVA Damuels 56.16 43 *i* P **P 21 02 02.1 -0.1**
comp=Z,19nm,1.0s,SNR=13
ZCCA Zocca 56.23 47 IAmb IAmb 21 02 08.6
comp=Z,58nm,1.0s
OSSC Osservatorio P 56.25 48 IAmb IAmb 21 02 03.9
comp=Z,56nm,1.0s
FUORN Ofenpass-Fuorn 56.25 44 IAms_20 IAms_20 21 24 49.7
comp=Z,1µm,18.0s
IBBN Ibbenburen 56.35 37 *e*P 21 02 03.1
comp=Z,26nm,1.1s,baz=254,slow=7.0
IBBN *e*S 21 09 59.3
baz=251,slow=14
KASTN Kahler Asten 56.38 38 *e*P 21 02 03.3
comp=Z,12nm,1.2s,baz=254,slow=7.0
KASTN *e*S 21 10 06.4
baz=251,slow=14
SDCO Great Sand Dun 56.39 305 P **P 21 02 05.0 +0.8**
SDCO IAmb IAmb 21 02 08.7
comp=Z,45nm,0.9s
SDCO IAms_20 IAms_20 21 22 38.0
comp=Z,892nm,21.0s
UBR Ueberruh 56.42 43 *e*P 21 02 03.9
comp=Z,20nm,0.9s,baz=254,slow=7.0
UBR *e*S 21 09 57.0
baz=251,slow=14
FETA Feichten 56.66 43 *e*P **P 21 02 05.6 -0.1**
comp=Z,25nm,1.2s,SNR=20
ISCO Idaho Springs 56.73 308 IAms_20 IAms_20 21 23 42.0
comp=Z,1µm,20.0s
BI02 San Fabin de 56.79 204 IAmb IAmb 21 02 15.7
comp=Z,52nm,1.1s
RETA Reutte 56.80 43 *i* P **P 21 02 06.8 +0.2**
comp=Z,17nm,1.0s,SNR=8.5
ANMO Albuquerque 56.90 302 IAms_20 IAms_20 21 23 36.7
comp=Z,1µm,21.0s
ANMO Albuquerque 56.90 302⇑ *e*P **P 21 02 09.3 +1.6**
ANMO pmax pmax
comp=Z,21nm,2.5s
TEOL Teolo 56.92 46 IAmb IAmb 21 02 07.5
comp=Z,57nm,0.9s
MOTA Moosalm 56.99 43 *i* P **P 21 02 07.6 -0.4**
comp=Z,32nm,0.9s
SQTA Sankt Quirin 57.03 43 *e*P **P 21 02 07.9 -0.4**
comp=Z,44nm,1.2s,SNR=30
CTI Castel Tesino 57.06 45 IAmb IAmb 21 02 11.5
comp=Z,104nm,1.5s
HLG Helgoland 57.08 35 *e*S 21 10 08.7
baz=251,slow=14
SCO Scoresbysund 57.13 10 *i* P **P 21 02 07.8 -0.7**
SCO IAmb IAmb 21 02 12.8
comp=Z,31nm,1.6s
UBBA Unterbreizbach 57.21 39 *e*P 21 02 09.4
comp=Z,33nm,1.7s,baz=254,slow=7.0
UBBA *e*S 21 10 11.1
baz=251,slow=14
Y22D IRIS PASSCAL I 57.23 301 IAms_20 IAms_20 21 23 48.4
comp=Z,1µm,22.0s
WATA Walderalm 57.30 43 *i* P **P 21 02 09.9 -0.3**
comp=Z,26nm,1.3s,SNR=12
FUR Furstenfeldbru 57.30 42 *e*P 21 02 10.2
comp=Z,40nm,0.9s,baz=254,slow=7.0
FUR *e*S 21 10 15.3
baz=251,slow=14
WTTA Wattenberg 57.32 43 *i* P **P 21 02 10.1 -0.3**
comp=Z,19nm,1.0s,SNR=10
GTTG Gottingen 57.41 38 *e*P 21 02 10.6
comp=Z,27nm,1.2s,baz=254,slow=7.0
GTTG *e*S 21 10 13.4
baz=251,slow=14
SUMG Summit 57.41 3 **P 21 02 10.2 -0.7**
SUMG IAmb IAmb 21 02 19.7
comp=Z,28nm,0.8s
SUMG Summit 57.41 3 P **P 21 02 10.2 -0.7**
SUMG pmax pmax
comp=Z,28nm,0.8s
SUMG Summit 57.41 3 *i* P **P 21 02 10.3 -0.6**
SUMG IAmb IAmb 21 02 19.4
comp=Z,33nm,0.9s
RETH Rethem/Aller, 57.42 37 *e*P 21 02 11.0
comp=Z,79nm,1.2s,baz=254,slow=7.0
RETH *e*S 21 10 22.9
baz=251,slow=14
S22A 4UR Ranch, Cre 57.44 305 IAmb IAmb 21 02 16.7
comp=Z,34nm,1.0s
S22A IAms_20 IAms_20 21 24 58.0
comp=Z,885nm,20.0s
AQU L'Aquila 57.61 49 P 21 02 11.3
comp=Z,417nmcomp=Z,32nm,1.1s
CAMP Campotosto 57.64 49 IAmb IAmb 21 02 24.8
comp=Z,33nm,1.0s
GRFO Grafenberg 57.65 41 P **P 21 02 11.5 -1.0**
GRFO IAms_20 IAms_20 21 28 44.6
comp=Z,788nm,18.0s
GRFO Grafenberg 57.65 41 P **P 21 02 11.5 -1.0**
GRFO pmax pmax
comp=Z,33nm,1.4s
GRFO MLR MLR
comp=Z,800nm,18.0s
GRA1 Grafenberg Arr 57.65 41 IAms_20 IAms_20 21 28 45.6
comp=Z,770nm,18.0s
GRF Grafenberg Arr 57.65 41 *e*P 21 02 12.0
comp=Z,21nm,1.2s,baz=254,slow=7.0
GRF *e*S 21 10 20.5
baz=251,slow=14
GRF *e*L 21 21 15.6
comp=Z,632nm,21.9s
GUMA Gualdo di Mace 57.67 49 IAmb IAmb 21 02 34.1
comp=Z,46nm,1.3s
UPNV Upernavik 57.71 357 *i* P **P 21 02 13.3 +0.8**
UPNV IAmb IAmb 21 02 33.2
comp=Z,9.4nm,0.9s
CLZ Clausthal 57.74 38 *e*P 21 02 12.7
comp=Z,17nm,1.2s,baz=254,slow=7.0
CLZ *e*S 21 10 22.9
baz=251,slow=14
WDD Wied Dalam 57.74 57 IAms_20 IAms_20 21 25 58.6
comp=Z,1µm,20.0s
NRDL Niedersach Rie 57.78 37 *e*P 21 02 13.0
comp=Z,23nm,1.1s,baz=254,slow=7.0
NRDL *e*S 21 10 27.6
baz=251,slow=14
VAE Valguarnera 57.78 55 LR LR 21 25 18.3
comp=Z,2µm,19.6s,baz=323,slow=34
ABTA Abfaltersbach 57.79 44 *e*P **P 21 02 13.0 -0.6**
comp=Z,17nm,0.9s,SNR=14
STAL STALIGIAL 57.82 45 IAmb IAmb 21 02 24.1
comp=Z,32nm,1.1s
K22A Casper 57.82 311 IAms_20 IAms_20 21 23 57.8
comp=Z,1µm,20.0s
FFC Flin Flon 57.93 326 P **P 21 02 13.9 -0.5**
FFC IAmb IAmb 21 02 18.1
comp=Z,82nm,1.4s
FFC Flin Flon 57.93 326 *e*P **P 21 02 13.9 -0.5**
ASSE Asse, Remlinge 58.00 38 *e*P 21 02 14.9
comp=Z,35nm,1.3s,baz=254,slow=7.0
ASSE *e*S 21 10 20.5
baz=251,slow=14
LESA Schwarzleotal 58.05 43 *e*P **P 21 02 14.6 -0.8**
comp=Z,22nm,1.5s,SNR=22
MOX Moxa 58.15 40 *e*P 21 02 15.7
comp=Z,15nm,1.1s,baz=254,slow=7.0
MOX *e*S 21 10 27.6
baz=251,slow=14
MOX *e*L 21 23 07.1
comp=Z,833nm,20.0s
RJOB Jochberg 58.19 43 *e*P 21 02 15.6
comp=Z,17nm,0.9s,baz=254,slow=7.0
RJOB *e*S 21 10 25.2
baz=251,slow=14
MANZ Manzenberg 58.28 40 *e*P 21 02 16.2
comp=Z,3.4nm,1.4s,baz=254,slow=7.0
MANZ *e*S 21 10 27.6
baz=251,slow=14
PAOL Paolisi 58.29 51 IAmb IAmb 21 02 20.4
comp=Z,57nm,1.5s
ROTZ Rotzenmuhle 58.29 41 *e*P 21 02 16.4
comp=Z,3.0nm,1.1s,baz=254,slow=7.0
ROTZ *e*S 21 10 25.2
baz=251,slow=14
BSEG Bad Segeberg 58.35 36 *e*P 21 02 17.1
comp=Z,33nm,1.1s,baz=254,slow=7.0
BSEG *e*S 21 10 32.3
baz=251,slow=14
SABO M.te Sabotino 58.37 45 IAmb IAmb 21 02 18.8
comp=Z,32nm,1.2s
FLTG Flechtingen 58.39 38 *e*P 21 02 17.1
comp=Z,23nm,1.1s,baz=254,slow=7.0
FLTG *e*S 21 10 27.6
baz=251,slow=14
NEUB Neuenburg 58.40 39 *e*S 21 10 28.1
baz=251,slow=14
KBA Koelnbreinsper 58.42 44 *e*P **P 21 02 17.4 -0.7**
comp=Z,20nm,1.0s,SNR=17
PRED Cave del Predi 58.44 45 P **P 21 02 16.8 -1.4**
PRED IAmb IAmb 21 02 18.9
comp=Z,58nm,1.0s
PLN Plauen 58.44 40 *e*P 21 02 17.6
comp=Z,7.6nm,1.2s,baz=254,slow=7.0
PLN *e*S 21 10 27.3
baz=251,slow=14
CADS Cadrg 58.51 45 *i* P **P 21 02 18.1 -0.6**
MYKA Terra Mystica 58.53 44 *i* P **P 21 02 18.4 -0.4**
comp=Z,26nm,0.8s,SNR=15
NKC Novy Kostel 58.56 40 *e*P **P 21 02 19.1 +0.3**
NKC *e*S **S 21 10 26.7 +4.0**
NKC AMS AMS 21 26 00.0
comp=Z,1µm,16.0s
NKC Novy Kostel 58.56 40 *e*P **P 21 02 19.1 +0.3**
NKC *e*S **S 21 10 26.7 +4.0**
NKC MLR MLR
comp=Z,1µm,16.0s
WET Wettzell 58.56 41 *e*P 21 02 18.2
comp=Z,12nm,1.0s,baz=254,slow=7.0
WET *e*S 21 10 29.6
baz=251,slow=14
SKDS Skadanscina 58.58 46⇑ *i*P **P 21 02 18.6 -0.5**
TANN Tannenbergstha 58.61 40 *e*P 21 02 18.9
comp=Z,41nm,1.6s,baz=254,slow=7.0
TANN *e*S 21 10 29.0
baz=251,slow=14
GORT1 Trebel 58.62 37 *e*P 21 02 18.9
comp=Z,29nm,1.2s,baz=254,slow=7.0
GORT1 *e*S 21 10 26.2
baz=251,slow=14
MVCO Mesa Verde 58.71 304 IAmb IAmb 21 02 31.0
comp=Z,62nm,1.3s
BIOA Bad Ischl, Aus 58.74 43 *i* P **P 21 02 19.2 -1.0**
comp=Z,17nm,1.5s,SNR=14
O20A White River Ci 58.78 308 IAms_20 IAms_20 21 23 58.1
comp=Z,907nm,20.0s
PV07 Paradox Valley 58.93 306 IAmb IAmb 21 02 35.2
comp=Z,22nm,1.0s
KHC Kasperske Hory 59.01 42 *e*P **P 21 02 21.7 -0.3**
KHC *e*S **S 21 10 26.8 -1.8**
KHC AMS AMS 21 29 00.0
comp=Z,1µm,18.0s
KHC Kasperske Hory 59.01 42 *e*P **P 21 02 21.7 -0.3**
KHC *e*S **S 21 10 26.8 -1.8**
KHC MLR MLR
comp=Z,1µm,18.0s
KHC Kasperske Hory 59.01 42 P 21 02 21.0
comp=Z,21nm,1.2s
KHC pP 21 02 24.5
comp=Z,21nm,1.2s
CEL Celeste 59.02 54 IAmb IAmb 21 02 23.8
comp=Z,69nm,1.8s
CEL IAms_20 IAms_20 21 26 43.3
comp=Z,1µm,20.0s
LJU Ljubljana 59.02 45 *i* P **P 21 02 22.1 0.0**
LJU *e*S **S 21 10 30.7 +1.9**
GEC2 GERESS Array S 59.02 42 *e*P 21 02 21.2
comp=Z,22nm,1.3s,baz=254,slow=7.0
GEC2 *e*S 21 10 33.5
baz=251,slow=14
GERES GERESS Array B 59.02 42 P **P 21 02 20.4 -1.8**
GERES GERESS Array B 59.02 42 P **P 21 02 21.4 -0.9**
comp=Z,5.1nm,0.9s,baz=251,slow=6.9,SNR=31
GERES LR LR 21 27 05.3
comp=Z,841nm,18.4s,baz=246,slow=35
comp=Z,5.1nm,0.9s
PV12 Saucer Basin, 59.04 306 IAmb IAmb 21 02 29.6
comp=Z,55nm,1.2s
PV22 Blue Mesa, Par 59.05 306 IAmb IAmb 21 02 27.1
comp=Z,29nm,0.9s
PV03 Paradox Valley 59.07 306 IAmb IAmb 21 02 27.7
comp=Z,53nm,1.1s
PV11 David Mesa, Pa 59.09 306 IAmb IAmb 21 02 28.0
comp=Z,70nm,1.3s
CUC Castrocucco 59.11 52 IAmb IAmb 21 02 27.6
comp=Z,43nm,1.2s
OBKA Obir 59.12 45⇑ *i*P **P 21 02 22.4 -0.5**
OBKA Obir 59.12 45 *e*P **P 21 02 22.5 -0.4**
comp=Z,25nm,0.8s,SNR=14
PV04 Paradox Valley 59.13 306 IAmb IAmb 21 02 32.6
comp=Z,40nm,1.1s
319A Douglas 59.14 298 IAmb IAmb 21 02 27.8
comp=Z,42nm,1.0s
CLL Collm 59.17 39 P **P 21 02 22.2 -0.8**
CLL IAmb IAmb 21 02 24.0
comp=Z,26nm,1.0s
CLL IAms_20 IAms_20 21 23 55.7
comp=Z,969nm,19.0s
CLL Collm 59.17 39⇑ *i*P **P 21 02 22.6 -0.4**
CLL *e*S **S 21 10 37.0 +6.5**
CLL pmax pmax
comp=Z,28nm,1.1s
CLL MLR MLR
comp=Z,900nm,20.4s
CLL Collm 59.17 39 P 21 02 21.8
comp=Z,30nm,1.0s
CLL Collm 59.17 39 *e*P 21 02 22.9
comp=Z,24nm,1.0s,baz=254,slow=7.0
CLL *e*S 21 10 37.1
baz=251,slow=14
PV20 West Nyswonger 59.17 306 P **P 21 02 24.0 +0.4**
PV19 Morning Glory 59.18 306 IAmb IAmb 21 02 28.5
comp=Z,63nm,1.1s
PV21 Cone Mtn., Par 59.19 306 IAmb IAmb 21 02 35.8
comp=Z,32nm,1.1s
PV23 Carpenter Ridg 59.21 306 IAmb IAmb 21 02 51.8
comp=Z,42nm,0.9s
BLKN Baker Lake 59.38 337 IAmb IAmb 21 02 27.7
comp=Z,32nm,1.1s
CKRC Cesky Krumlov 59.41 42 *e*P **P 21 02 24.0 -0.8**
CKRC *e*S **S 21 10 34.4 +0.6**
CKRC AMS AMS 21 27 20.0
comp=Z,2µm,18.0s
CKRC Cesky Krumlov 59.41 42 *e*P **P 21 02 24.0 -0.8**
CKRC *e*S **S 21 10 34.4 +0.6**
CKRC MLR MLR
comp=Z,2µm,18.0s
BOJS Bojanci 59.43 46⇑ *i*P **P 21 02 24.7 -0.2**
BOJS Bojanci 59.43 46 *e*P **P 21 02 24.8 -0.1**
BOJS *e*S **S 21 10 38.3 +4.2**
ZVC Zvikov 59.47 41 *e*P **P 21 02 24.6 -0.6**
ZVC AMS AMS 21 29 00.0
comp=Z,900nm,15.6s
SOKA Soboth 59.48 45 *i* P **P 21 02 24.2 -1.2**
comp=Z,10nm,1.2s,SNR=8.2
CRES Cresnjevec Ost 59.62 46⇑ *i*P **P 21 02 25.9 -0.4**
BRG Berggiesshubel 59.64 40 *i* P **P 21 02 26.2 -0.1**
BRG Amp 21 02 27.5
comp=Z,12nm,1.2s
BRG Berggiesshubel 59.64 40 S **S 21 10 43.0 +6.4**
BRG Berggiesshubel 59.64 40 SS SS 21 14 37.0 +5.0
BRG Berggiesshubel 59.64 40 *e*P 21 02 26.1
comp=Z,12nm,1.2s,baz=254,slow=7.0
BRG *e*S 21 10 41.3
baz=251,slow=14
X18A Snowflake 59.76 301 IAmb IAmb 21 02 32.4
comp=Z,34nm,0.9s
PRA Prague 59.76 41 AMS AMS 21 25 50.0
comp=Z,700nm,16.5s
TIP Timpagrande 59.77 53 IAms_20 IAms_20 21 27 37.1
comp=Z,895nm,21.0s
PRU Pruhonice 59.81 41 *e*S **S 21 10 38.0 -0.9**
PRU AMS AMS 21 26 00.0
comp=Z,800nm,17.2s
ARSA Arzberg 59.91 44 P **P 21 02 26.6 -1.7**
ARSA Arzberg 59.91 44 *e*P **P 21 02 27.5 -0.8**
comp=Z,17nm,0.9s,SNR=12

RUE Ruedersdorf 59.93 38 *eP* 21 02 28.4
comp=Z,50nm,1.2s,baz=254,slow=7.0
RUE *eS* 21 10 44.2
baz=251,slow=14
GOPC GO Pecny, Ondr 59.95 41 AMS AMS 21 29 40.0
comp=Z,800nm,17.8s
KONO Kongsberg 59.99 29 P **P** **21 02 27.4 -1.2**
KONO Kongsberg 59.99 29 *deP* **P** **21 02 28.6 +0.1**
KONO pmax pmax
comp=Z,15nm,1.3s
BW06 Boulder Array 60.05 311 IAMs_20 IAMs_20 21 24 46.7
comp=Z,1µm,22.0s
PDAR Pinedale Array 60.05 311 P **P** **21 02 29.1 -0.5**
PDAR Pinedale Array 60.05 311 P **P** **21 02 29.6 0.0**
comp=Z,60nm,1.1s,baz=105,slow=6.5,SNR=110
PDAR LR LR 21 25 44.1
comp=Z,524nm,21.6s,baz=96,slow=33
comp=Z,60nm,1.1s
PLCA Paso Flores 60.11 201 P **P** **21 02 30.1 +0.4**
PLCA IAmb IAmb 21 02 39.9
comp=Z,100nm,1.9s
PLCA Paso Flores 60.11 201 P **P** **21 02 31.2 +1.5**
comp=Z,4.2nm,0.8s,baz=21,slow=10.0,SNR=6.6
PLCA LR LR 21 31 04.4
comp=Z,1µm,18.3s,baz=18,slow=39
comp=Z,4.2nm,0.8s
PLCA Paso Flores 60.11 201 *eP* **P** **21 02 30.6 +0.9**
JMIC Jan Mayen 60.15 13 LR LR 21 21 36.4
comp=Z,740nm,20.4s,baz=224,slow=29
RLMT Red Lodge 60.15 313 IAmb IAmb 21 02 34.5
comp=Z,62nm,1.1s
A050A Klekovaca 60.17 47⇑ *iP* **P** **21 02 29.9 -0.3**
POIN Pond Inlet 60.20 350 P **P** **21 02 30.4 +0.6**
POIN IAmb IAmb 21 02 48.4
comp=Z,24nm,1.1s
CONA Conrad Observa 60.25 43 *eP* **P** **21 02 29.8 -1.0**
comp=Z,16nm,0.9s,SNR=18
TREC Trest 60.27 42 *eP* **P** **21 02 30.4 -0.3**
TREC AMS AMS 21 26 30.0
comp=Z,2µm,18.9s
TREC Trest 60.27 42 *eP* **P** **21 02 30.4 -0.3**
TREC MLR MLR
comp=Z,2µm,18.9s
LPIG La Paz 60.32 289 LR LR 21 28 10.7
comp=Z,183nm,21.3s,baz=79,slow=36
TUC Tucson 60.42 299 P **P** **21 02 33.4 +1.3**
TUC IAmb IAmb 21 02 36.7
comp=Z,45nm,1.0s
TUC Tucson 60.42 299 P **P** **21 02 33.4 +1.3**
TUC pmax pmax
comp=Z,45nm,1.0s
RONA Rosalia, Austr 60.50 44 *iP* **P** **21 02 32.0 -0.4**
comp=Z,29nm,1.0s,SNR=12
A051A Mrakovica 60.51 47⇑ *iP* **P** **21 02 32.0 -0.5**
HSIG 60.62 295 IAmb IAmb 21 02 37.2
comp=Z,26nm,1.0s
YNE Yellowstone No 60.66 313 IAmb IAmb 21 02 37.6
comp=Z,47nm,1.0s
BLY Banja Luka 60.67 47⇑ *iP* **P** **21 02 32.8 -0.7**
BSUT Blindstream Ca 60.73 308 IAmb IAmb 21 02 38.8
comp=Z,35nm,1.0s
DBG Daneborg 60.75 8 *iP* **P** **21 02 33.2 -0.4**
DBG IAmb IAmb 21 02 49.8
comp=Z,27nm,1.3s
KRUC Moravsky 60.81 42 *eP* **P** **21 02 33.7 -0.7**
STON Ston 60.82 49 *eP* **P** **21 02 34.7 +0.2**
UPC Upice 60.84 40 *eP* **P** **21 02 34.4 -0.2**
UPC AMS AMS 21 30 30.0
comp=Z,1µm,17.0s
UPC Upice 60.84 40 *eP* **P** **21 02 34.4 -0.2**
UPC MLR MLR
comp=Z,1µm,17.0s
CHVC Chvalec 60.88 40 *eP* **P** **21 02 34.8 -0.1**
CHVC AMS AMS 21 27 40.0
comp=Z,1µm,18.2s
CHVC Chvalec 60.88 40 *eP* **P** **21 02 34.8 -0.1**
CHVC MLR MLR
comp=Z,1µm,18.2s
Q16A Castle Valley 60.93 306 IAmb IAmb 21 02 40.1
comp=Z,32nm,0.9s
WUAZ Wupatki 60.95 302 P **P** **21 02 37.1 +1.3**
WUAZ IAmb IAmb 21 02 40.4
comp=Z,36nm,0.9s
OSTC Ostas 60.98 40 *eP* **P** **21 02 35.6 +0.1**
OSTC AMS AMS 21 28 10.0
comp=Z,1µm,14.6s
OSTC Ostas 60.98 40 *eP* **P** **21 02 35.6 +0.1**
OSTC MLR MLR
comp=Z,1µm,14.6s
VRAC Vranov 60.98 42 LR LR 21 28 00.5
comp=Z,1µm,18.1s,baz=249,slow=35
VRAC Vranov 60.98 42 *eP* **P** **21 02 35.0 -0.5**
VRAC Vranov 60.98 42⇑ P **P** **21 02 35.2 -0.4**
VRAC Vranov 60.98 42 P **P** **21 02 35.6 +0.1**
H17A Grant Village 60.98 312 IAmb IAmb 21 03 01.6
comp=Z,33nm,1.0s
X16A Lo Mia Camp, P 60.98 301 IAmb IAmb 21 02 40.7
comp=Z,26nm,1.0s
TMUT Trail Mountain 60.98 307 IAmb IAmb 21 02 43.6
comp=Z,37nm,1.1s
DPC Dobruska-Polom 61.00 41 *eP* **P** **21 02 35.5 -0.2**
DPC *eS* **S** **21 10 54.0 -0.3**
DPC AMS AMS 21 30 30.0
comp=Z,1µm,15.8s
DPC Dobruska-Polom 61.00 41 *eP* **P** **21 02 35.5 -0.2**
DPC *eS* **S** **21 10 54.0 -0.3**
DPC MLR MLR
comp=Z,1µm,15.8s
SNOW Snow King Moun 61.00 311 IAmb IAmb 21 02 40.1
comp=Z,40nm,0.8s
SNOW IAMs_20 IAMs_20 21 26 00.9
comp=Z,1µm,20.0s
DPC Dobruska-Polom 61.01 41 P 21 02 35.2
comp=Z,19nm,1.2s
MOOW Moose Ponds 61.03 312 IAmb IAmb 21 02 40.0
comp=Z,42nm,1.1s
KSP Ksiaz 61.08 40 *eP* **P** **21 02 33.9 -2.3**
KSP Ksiaz 61.08 40 P 21 02 35.0
comp=Z,11nm,1.9s
YNR Norris Junctio 61.09 313 P **P** **21 02 37.4 +0.7**
YNR IAmb IAmb 21 02 45.9
comp=Z,45nm,1.2s
YFT Old Faithful 61.17 313 IAmb IAmb 21 02 42.5
comp=Z,50nm,1.0s
AHID Auburn Hatcher 61.18 311 IAmb IAmb 21 02 43.0
comp=Z,37nm,0.9s
FXWY Fox Creek 61.22 312 IAmb IAmb 21 02 41.3
comp=Z,47nm,0.9s
KRLC Kraliky 61.24 41 *eP* **P** **21 02 37.3 -0.1**
KRLC AMS AMS 21 29 30.0
comp=Z,1µm,16.6s
KRLC Kraliky 61.24 41 *eP* **P** **21 02 37.3 -0.1**
KRLC MLR MLR
comp=Z,1µm,16.6s
MPLH Magyarpolny 61.25 44 P 21 02 37.0
comp=Z,1µmcomp=Z,131nm,1.1s
BSD Bornholm Skovb 61.26 35 *iP* **P** **21 02 34.7 -2.6**
BSD IAmb IAmb 21 02 38.9
comp=Z,25nm,1.2s
NB2 NORSAR Subarra 61.26 28 P **P** **21 02 36.9 -0.3**
comp=Z,35nm,1.7s,baz=248,slow=6.9
NB2 NORSAR Subarra 61.26 28 P **P** **21 02 36.9 -0.3**
baz=248,slow=6.9
NOA NORSAR Array B 61.26 28 P **P** **21 02 37.0 -0.3**
comp=Z,7.0nm,1.1s,baz=249,slow=6.8,SNR=8.2
NOA LR LR 21 24 47.4
comp=Z,593nm,18.7s,baz=245,slow=32
comp=Z,7.0nm,1.1s
NOA NORSAR Array B 61.26 28 P **P** **21 02 37.0 -0.3**
MODS Modra-Piesok 61.27 43 *eP* **P** **21 02 37.2 -0.3**
MODS pmax pmax
comp=Z,57nm,1.2s
MODS Modra-Piesok 61.27 43 *eP* **P** **21 02 37.2 -0.3**
TREB Trebinje 61.28 49⇑ *iP* **P** **21 02 35.6 -2.1**
MPU Maple Canyon 61.36 307 IAmb IAmb 21 02 43.0
comp=Z,40nm,1.1s
SMOL Smolenice 61.39 43 *eP* **P** **21 02 38.1 -0.2**
SMOL pmax pmax
comp=Z,7.0nm,1.1s
NC303 NORSAR Array S 61.40 28 P **P** **21 02 38.0 -0.1**
BRY Bratogost 61.44 49 *eP* **P** **21 02 38.3 -0.6**
BRY Bratogost 61.44 49⇑ *iP* **P** **21 02 38.7 -0.2**
JAVC Velka Javorina 61.60 42 *eP* **P** **21 02 37.5 -2.3**
BUM Brajici-Budva 61.64 50⇑ *iP* **P** **21 02 40.4 +0.2**
MORC Moravsky Berou 61.67 41 IAmb IAmb 21 02 44.0
comp=Z,27nm,1.3s
MORC Moravsky Berou 61.67 41 *eP* **P** **21 02 39.8 -0.5**
MORC Moravsky Berou 61.67 41⇓ P **P** **21 02 40.5 +0.3**
MORC Moravsky Berou 61.67 41 P **P** **21 02 40.5 +0.3**
CEME Cevo 61.68 50⇑ *iP* **P** **21 02 40.2 -0.3**
MTPU Mount Pierson 61.68 305 IAmb IAmb 21 02 45.5
comp=Z,49nm,1.1s
MVU Marysvale 61.73 306 IAmb IAmb 21 02 46.1
comp=Z,47nm,1.0s
NKME Niksic 61.73 49⇑ *iP* **P** **21 02 40.7 -0.1**
UPM Unac-Piva 61.73 49 *eP* **P** **21 02 41.2 +0.2**
UPM Unac-Piva 61.73 49⇑ *iP* **P** **21 02 40.7 -0.3**
MAUC Maruska 61.79 42 *eP* **P** **21 02 41.5 +0.5**
STEB Steborice 61.85 41 *eP* **P** **21 02 38.5 -2.9**
DRME Dracevica, Mon 61.85 50 *eP* **P** **21 02 40.4 -1.1**
DRME Dracevica, Mon 61.85 50⇑ *iP* **P** **21 02 40.7 -0.8**
HAPS Han Pijesak,Bl 61.85 48⇑ *iP* **P** **21 02 41.9 +0.2**
SRO Srobarova 61.87 44 *eP* **P** **21 02 41.0 -0.5**
SRO pmax pmax
comp=Z,25nm,1.1s
SRO Srobarova 61.87 44 *eP* **P** **21 02 41.0 -0.5**
MORH Mrgy, Hungar 61.87 46⇑ P **P** **21 02 41.4 -0.2**
MORH Mrgy, Hungar 61.87 46 P 21 02 41.2
comp=Z,296nmcomp=Z,20nm,1.2s
ULC Ulcinj 61.88 50⇑ *iP* **P** **21 02 41.4 -0.4**
TCRU Three Creeks R 61.91 306 IAmb IAmb 21 02 49.9
comp=Z,26nm,0.9s
PDG Podgorica 61.92 50 P **P** **21 02 41.4 -0.6**
PDG IAmb IAmb 21 02 43.6
comp=Z,38nm,0.8s
PDG IAMs_20 IAMs_20 21 29 09.0
comp=Z,805nm,19.0s
PDG Podgorica 61.92 50⇑ *iP* **P** **21 02 42.3 +0.4**
PDG Podgorica 61.92 50⇑ P **P** **21 02 42.4 +0.4**
PDG Podgorica 61.92 50⇑ *iP* **P** **21 02 42.5 +0.5**
OKC Ostrava-Krasne 62.07 41 *eS* **S** **21 11 12.0 +4.3**
OKC AMS AMS 21 29 30.0
comp=Z,1µm,17.1s
HFS Hagfors 62.09 29 P **P** **21 02 42.4 -0.4**
comp=Z,23nm,1.0s,baz=232,slow=4.9,SNR=25
HFS LR LR 21 24 33.0
comp=Z,510nm,21.2s,baz=250,slow=31
comp=Z,23nm,1.0s
RUDO Rudo 62.11 49⇑ *iP* **P** **21 02 41.8 -1.5**
KOME Kolasin 62.15 49⇑ *iP* **P** **21 02 44.2 +0.6**
BBLS Lazi&#263i 62.16 48⇑ *iP* **P** **21 02 43.4 -0.3**
KNB Kanab 62.16 304 IAmb IAmb 21 02 48.3
comp=Z,19nm,0.9s
NEEM North Greenlan 62.16 359 *iP* **P** **21 02 43.2 -0.3**
NEEM IAmb IAmb 21 02 59.1
comp=Z,103nm,1.7s
LL01 San Ignacio de 62.22 202 P **P** **21 02 44.8 +1.1**
LL01 IAmb IAmb 21 02 52.8
comp=Z,23nm,1.2s
DUG Dugway, Tooele 62.27 308 IAmb IAmb 21 02 54.7
comp=Z,56nm,1.2s
TIR Tirane 62.30 51 P **P** **21 02 44.6 0.0**
TIR IAmb IAmb 21 02 52.5
comp=Z,41nm,1.0s
TIR Tirane 62.30 51⇑ P **P** **21 02 44.5 0.0**
TIR Tirane 62.30 51 P **P** **21 02 44.6 0.0**
TIR Tirane 62.30 51 P 21 02 44.1
comp=Z,46nm,1.1s
TEKS Tekeris 62.31 48⇑ *iP* **P** **21 02 43.8 -0.8**
VYHS Vyhne 62.31 43 *eP* **P** **21 02 43.9 -0.6**
VYHS pmax pmax
comp=Z,21nm,1.3s
VYHS Vyhne 62.31 43 *eP* **P** **21 02 43.9 -0.6**
HVU Hansel Valley 62.34 309 IAmb IAmb 21 02 53.7
comp=Z,43nm,1.0s
IVA Berane 62.42 49⇑ *iP* **P** **21 02 44.0 -1.5**
LCMT Little Creek M 62.49 304 IAmb IAmb 21 02 49.8
comp=Z,20nm,1.0s
SJES Sjenica 62.51 49⇑ *iP* **P** **21 02 46.4 +0.3**
FRGS Fruska Gora 62.57 47⇑ *iP* **P** **21 02 45.3 -1.0**
LANS Liptovska Anna 62.81 42 *eP* **P** **21 02 48.9 +1.0**
LANS pmax pmax
comp=Z,5.0nm,1.1s
LANS Liptovska Anna 62.81 42 *eP* **P** **21 02 48.8 +0.9**
PSZ Piszkesteto 62.93 44 P **P** **21 02 48.0 -0.8**
PSZ IAMs_20 IAMs_20 21 26 49.5
comp=Z,1µm,20.0s
PSZ Piszkesteto 62.93 44⇑ P **P** **21 02 48.7 -0.1**
PSZ Piszkesteto 62.93 44 P **P** **21 02 48.7 -0.1**
OHR Ohrid 62.98 51 *iP* **P** **21 02 53.3 +4.1**
W13A Hualapai Mount 63.00 302 IAmb IAmb 21 02 55.0
comp=Z,29nm,1.0s
DAG Danmarks Havn 63.10 7 *iP* **P** **21 02 49.0 -0.3**
DAG IAmb IAmb 21 03 11.3
comp=Z,40nm,1.5s
OJC Ojcow 63.18 41 *eP* **P** **21 02 50.2 -0.1**
OJC Ojcow 63.18 41 P 21 02 50.1
comp=Z,483nmcomp=Z,21nm,1.2s
NIE Niedzica 63.39 42 *eP* **P** **21 02 52.8 +1.1**
NIE Niedzica 63.39 42 P 21 02 51.6
comp=Z,13nm,1.3s
KECS Kecovo 63.40 43 *eP* **P** **21 02 52.2 +0.5**
KECS pmax pmax
comp=Z,27nm,1.2s
KECS Kecovo 63.40 43 *eP* **P** **21 02 52.2 +0.5**
SPR3 Spring Creek 3 63.40 306 P **P** **21 02 53.8 +1.5**
BLYC Blythe 63.55 300 IAmb IAmb 21 02 58.0
comp=Z,26nm,1.0s
MSO Missoula 63.60 315 IAmb IAmb 21 02 56.9
comp=Z,19nm,0.9s
V12A Nelson 63.78 303 IAmb IAmb 21 02 59.6
comp=Z,37nm,0.9s
BOVS Bovan 63.80 49⇑ P **P** **21 02 54.8 +0.4**
BZS Buzias 63.88 46⇑ P **P** **21 02 55.4 +0.4**
BZS Buzias 63.88 46 P **P** **21 02 55.4 +0.4**
MDVR Moldovita 63.88 47⇑ P **P** **21 02 55.4 +0.3**
PRN Pahroc Range 63.94 304 IAmb IAmb 21 03 01.3
comp=Z,46nm,1.1s
SIRR Siria 63.96 46⇑ P **P** **21 02 55.8 +0.2**
STHS Stebnicka Huta 64.00 42 *eP* **P** **21 02 58.3 +2.5**
STHS Stebnicka Huta 64.00 42 *eP* **P** **21 02 58.3 +2.5**
AGG Agios Georgios 64.09 54 IAmb IAmb 21 02 57.9
comp=Z,70nm,1.6s
ELK Elko 64.14 308 LR LR 21 28 39.2
comp=Z,1µm,21.6s,baz=100,slow=34
SURR Surduc 64.24 46⇑ P **P** **21 02 57.7 +0.3**
VAY Valandovo 64.33 51⇑ *iP* **P** **21 02 58.3 +0.3**
R11B Troy Canyon, C 64.37 305 P **P** **21 02 59.5 +0.9**
HERR Herculane 64.39 47⇑ P **P** **21 02 58.6 +0.2**
UZHM Uzhgorod 64.60 43 P 21 02 59.3
KOLS Kolonicke sedl 64.62 43 *eP* **P** **21 03 00.2 +0.4**
KOLS pmax pmax
comp=Z,13nm,0.8s
KOLS Kolonicke sedl 64.62 43 *eP* **P** **21 03 00.2 +0.4**
HOLU Holmets 64.66 43 P 21 02 59.6
GZR Gura Zlata 64.67 47⇑ P **P** **21 03 00.5 +0.2**
GZR Gura Zlata 64.67 47 P **P** **21 03 00.5 +0.2**
PUNG Punghina 64.72 48⇑ P **P** **21 03 00.8 +0.3**
DRGR 64.73 45⇑ P **P** **21 03 00.7 +0.1**
DRGR 64.73 45 P **P** **21 03 00.7 +0.1**
YUH Yuha Desert 64.75 299 IAmb IAmb 21 03 06.1
comp=Z,26nm,1.1s
KKB Krupnik 64.76 51 *iP* **P** **21 03 01.4 +0.5**
DEV Deva 64.80 46⇑ P **P** **21 03 01.2 +0.2**
DEV Deva 64.80 46 P **P** **21 03 01.6 +0.6**
BERU Beregovo 64.80 44 P 21 03 00.6
ESJX Sierra Juarez 64.81 298 IAmb IAmb 21 03 06.7
comp=Z,32nm,1.3s
MUKU Mukachevo 64.85 43 P 21 03 00.9
VTS Vitosha 64.87 50 *iP* **P** **21 03 01.8 +0.1**
PLID Pearl Lake 64.89 313 IAmb IAmb 21 03 05.4
comp=Z,35nm,0.9s
PLID IAMs_20 IAMs_20 21 30 48.8
comp=Z,687nm,20.0s
TPNV Topopah Spring 64.90 304 IAmb IAmb 21 03 06.9
comp=Z,37nm,1.1s
RES Resolute Bay 64.94 347 LR LR 21 27 55.4
comp=Z,913nm,21.4s,baz=125,slow=33
MARR Marisel-Cluj 65.00 45⇑ P **P** **21 03 02.6 +0.1**
PLNA Plana 65.00 50 P **P** **21 03 04.0 +1.4**
VALD Valchedram 65.06 49 *eP* **P** **21 03 03.0 +0.3**
BRIU Brid 65.06 44 P 21 03 02.3
KORU Korolevo 65.12 44 P 21 03 02.7
PFO Pinyon Flats O 65.16 300 P **P** **21 03 04.1 +0.3**
PFO IAmb IAmb 21 03 08.2
comp=Z,24nm,1.1s
PFO Pinyon Flats O 65.16 300 LR LR 21 29 00.6
comp=Z,394nm,21.8s,baz=68,slow=34
PFO Pinyon Flats O 65.16 300⇓ *eP* **P** **21 03 04.5 +0.7**
PFO pmax pmax
comp=Z,35nm,1.0s
WCT Wildcat Mounta 65.20 304 IAmb IAmb 21 03 09.2
comp=Z,50nm,1.0s
MMB Musomishta 65.22 51 *iP* **P** **21 03 04.4 +0.5**
MPEP Malo Peshtene 65.26 49 P **P** **21 03 03.5 -0.6**
BMR Baia Mare 65.33 44⇑ P **P** **21 03 04.0 -0.4**
BMR Baia Mare 65.33 44 P **P** **21 03 04.0 -0.4**
CJR Cluj-Napoca 65.33 45⇓ P **P** **21 03 04.7 +0.1**
CJR Cluj-Napoca 65.33 45 P **P** **21 03 04.6 +0.1**
TKX Tecate 65.33 299 IAmb IAmb 21 03 10.4
comp=Z,26nm,0.9s
GSC Goldstone, Bar 65.39 302 IAmb IAmb 21 03 10.0
comp=Z,45nm,0.9s
CBX Cerro Bola 65.40 299 IAmb IAmb 21 03 10.2
comp=Z,38nm,1.0s
MEZ Mezhgor'ye 65.40 43 P 21 03 05.1
SUW Suwalki 65.76 37 *eP* **P** **21 03 06.7 -0.4**
SUW Suwalki 65.76 37 P **P** **21 03 05.5 -1.6**
SUW Suwalki 65.76 37 P **P** **21 03 05.5 -1.6**
SUW MLR MLR
comp=Z,1µm,20.0s
VLAD Vladila 65.77 48⇑ P **P** **21 03 07.0 -0.3**
MZP Montezuma Peak 65.79 305 IAmb IAmb 21 03 12.6
comp=Z,25nm,1.0s
RAKU Rahkiv 65.80 44 P 21 03 06.1
NEW Newport 65.86 316 LR LR 21 30 21.1
comp=Z,1µm,19.3s,baz=96,slow=35
ARCR ARCALIA 65.87 45⇑ P **P** **21 03 07.7 -0.3**
ELS Elsinore Mount 65.97 300 IAmb IAmb 21 03 13.6
comp=Z,21nm,1.0s
STNU Starunia 66.07 43 P 21 03 08.5
IDI Anoyia 66.18 58 P **P** **21 03 09.7 -0.5**
IDI Anoyia 66.18 58 LR LR 21 30 20.6
comp=Z,873nm,21.4s,baz=277,slow=34
HUMR Humele 66.20 48⇑ P **P** **21 03 10.2 +0.1**
DSP Deep Springs 66.27 304 IAmb IAmb 21 03 16.1
comp=Z,30nm,1.0s
VOIR 66.28 47⇑ P **P** **21 03 10.3 -0.4**
VOIR 66.28 47 P **P** **21 03 10.3 -0.4**
VOIR 66.28 47 P 21 03 10.1
comp=Z,7.0nm,1.8s
CCAC Calif City Air 66.38 302 IAmb IAmb 21 03 16.6
comp=Z,37nm,0.8s
YKAW1 Yellowknife Wh 66.39 332 IAmb IAmb 21 03 14.5
comp=Z,14nm,0.9s
PABE Paberze 66.41 36 P **P** **21 03 10.1 -1.0**
PABE IAmb IAmb 21 03 11.3
comp=Z,21nm,0.9s
KSV Kosov 66.42 44 P 21 03 10.7
YKA Yellowknife Ar 66.45 332 P **P** **21 03 11.3 0.0**
comp=Z,11nm,0.9s,baz=106,slow=7.2,SNR=87
YKA LR LR 21 29 20.4
comp=Z,842nm,20.3s,baz=82,slow=33
comp=Z,11nm,0.9s
ZIMR 66.45 49⇑ P **P** **21 03 12.4 +0.7**
ZIMR 66.45 49 P **P** **21 03 12.4 +0.7**
E09A Wood Farm, Sta 66.46 314 IAmb IAmb 21 03 15.3
comp=Z,34nm,0.9s
YKAW3 Yellowknife Wh 66.47 332 IAmb IAmb 21 03 15.6
comp=Z,12nm,0.8s
BURAR Bucovina Array 66.48 44⇑ P **P** **21 03 12.4 +0.3**
BURAR Bucovina Array 66.48 44 P **P** **21 03 12.3 +0.3**
NVAR Mina Array Bea 66.50 306 P **P** **21 03 12.8 +0.3**
NVAR Mina Array Bea 66.50 306 P **P** **21 03 14.2 +1.7**
comp=Z,7.0nm,0.8s,baz=90,slow=6.8,SNR=16
NVAR LR LR 21 30 50.7
comp=Z,398nm,19.7s,baz=98,slow=35
comp=Z,7.0nm,0.8s
DOPR Dopca 66.53 46⇓ P **P** **21 03 12.0 -0.3**
LNOR Lincton Mounta 66.53 314 IAmb IAmb 21 03 21.5
comp=Z,30nm,1.3s
RDO Rodhopi 66.56 52 IAmb IAmb 21 03 17.2
comp=Z,54nm,1.3s
PASC Pasadena Art C 66.57 301 IAmb IAmb 21 03 17.1
comp=Z,31nm,0.8s
J08A Circle Bar Ran 66.61 311 IAmb IAmb 21 03 17.0
comp=Z,38nm,1.0s
LHV Little Huntoon 66.67 305 IAmb IAmb 21 03 18.1
comp=Z,30nm,1.0s
WVOR Wild Horse Val 66.72 310 IAmb IAmb 21 03 29.7
comp=Z,24nm,1.2s
WVOR IAMs_20 IAMs_20 21 29 49.3
comp=Z,903nm,20.0s
OZUR 66.81 46⇓ P **P** **21 03 14.0 -0.1**
SZH Strazhitsa 66.89 49 *iP* **P** **21 03 14.3 -0.3**
MLR Muntele Rosu 66.91 47 IAMs_20 IAMs_20 21 28 48.7
comp=Z,678nm,21.0s
MLR Muntele Rosu 66.91 47 LR LR 21 28 50.1
comp=Z,647nm,21.6s,baz=270,slow=33
MLR Muntele Rosu 66.91 47⇓ P **P** **21 03 15.1 +0.3**
MLR Muntele Rosu 66.91 47 P **P** **21 03 15.0 +0.3**
MLR Muntele Rosu 66.91 47 P 21 03 14.2
comp=Z,706nmcomp=Z,51nm,1.4s
G08A Pilot Rock 66.99 313 IAmb IAmb 21 03 18.6
comp=Z,20nm,1.0s
D08A Wollman Farm, 67.02 315 IAmb IAmb 21 03 19.0
comp=Z,29nm,0.9s
RNPP1 Kostyukhnivka 67.07 40 P 21 03 15.0
E08A Dider Farm, El 67.09 314 IAmb IAmb 21 03 18.8
comp=Z,22nm,0.9s
COVR Voineasa-Covas 67.10 46⇑ P **P** **21 03 16.6 +0.7**
RNPP8 Varash 67.12 40 P 21 03 15.4
RNPP5 Staryi Chortor 67.13 41 P 21 03 15.4
RNPP9 Sopachiv 67.15 40 P 21 03 15.0
EUNU Eureka 67.20 353 P **P** **21 03 16.2 +0.2**
EUNU IAmb IAmb 21 03 20.9
comp=Z,22nm,0.9s
ONER Baraj Valea Uz 67.24 46⇓ P **P** **21 03 16.8 +0.1**
JMB Yambol 67.30 50 *iP* **P** **21 03 17.6 +0.4**
PLOR3 Plostina Array 67.41 46 P 21 03 17.2
comp=Z,15nm,1.2s
PLOR Plostina 67.41 46⇑ P **P** **21 03 17.1 -0.7**
PLOR Plostina 67.41 46 P **P** **21 03 17.1 -0.7**
HAWA Hanford 67.42 314 IAmb IAmb 21 03 21.8
comp=Z,84nm,1.8s
HAWA IAMs_20 IAMs_20 21 30 36.6
comp=Z,795nm,19.0s
PLOR5 Plostina Array 67.42 46 P 21 03 17.2
comp=Z,18nm,1.3s
VRI Vrincioaia 67.46 46⇑ P **P** **21 03 18.4 +0.2**
VRI Vrincioaia 67.46 46 P **P** **21 03 18.4 +0.2**
VRI Vrincioaia 67.46 46 P 21 03 17.5
comp=Z,20nm,1.3s
NOR Nord 67.47 5 *iP* **P** **21 03 17.0 -0.5**
NOR IAmb IAmb 21 03 32.9
comp=Z,41nm,1.4s
BCW Bitter Crk WRg 67.54 302 IAmb IAmb 21 03 29.7
comp=Z,55nm,1.1s
E07A Sunnyside 67.64 314 IAmb IAmb 21 03 23.3
comp=Z,35nm,0.9s
ODBI Odobesti 67.69 47⇑ P **P** **21 03 19.3 -0.3**
ODBI Odobesti 67.69 47 P 21 03 18.7
comp=Z,15nm,0.7s
GHRR 67.94 46⇑ P **P** **21 03 20.2 -0.9**
MXC Moxie City 67.94 314 P **P** **21 03 21.8 +0.6**
KARP Karpathos 68.02 58 IAMs_20 IAMs_20 21 28 44.7
comp=Z,599nm,19.0s
KARP Karpathos 68.02 58 P 21 03 21.2
comp=Z,95nm,1.5s
ICOR Ion Corvin 68.22 48⇓ P **P** **21 03 23.1 +0.2**
MI28 Mi28,Pidlybu 68.24 41 P 21 03 21.8
VSU Vasula 68.26 33 *cP* **P** **21 03 20.9 -1.9**
VSU pmax pmax
comp=Z,43nm,1.3s
LUBAR Lubar, Ukraine 68.26 42 P 21 03 22.2
FINES FINESS Array B 68.30 30 P **P** **21 03 21.4 -1.6**
FINES FINESS Array B 68.30 30 P **P** **21 03 22.8 -0.2**
comp=Z,8.4nm,0.9s,baz=270,slow=3.8,SNR=18
FINES LR LR 21 29 33.9
comp=Z,303nm,18.0s,baz=256,slow=33
comp=Z,8.4nm,0.9s
FIA1 FINESS Array S 68.30 30 IAmb IAmb 21 03 23.7
comp=Z,48nm,1.1s
HARR Harsova 68.31 48⇑ P **P** **21 03 22.6 -0.8**
HARR Harsova 68.31 48 P **P** **21 03 22.6 -0.8**
BAND Balkesir-Ban 68.53 52⇓ P **P** **21 03 24.8 -0.2**
MNK Minsk 68.56 37 *iP* **P** **21 03 24.3 -0.5**
MNK *i* 21 03 48.8
MNK *i* 21 05 56.7
MNK *i* S **S** **21 12 24.0 -3.1**
MNK *i* 21 13 07.5
MNK *i* SS **SS** **21 16 52.1 +1.2**
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax

comp=N,34nm,0.9s
MNK pmax pmax
AFDM Forest Hills D 68.57 306 IAmb IAmb 21 03 29.0
comp=Z,43nm,1.4s
SORM Soroca 68.61 44 ⇑P **P 21 03 23.6 -1.7**
SORM Soroca 68.61 44 P **P 21 03 23.6 -1.7**
SORM Soroca 68.61 44 P 21 03 23.6
comp=Z,32nm,1.1s
J05D Fort Rock, OR 68.62 311 IAmb IAmb 21 03 30.5
comp=Z,53nm,1.0s
CTYL Yalikoy Yolu 68.63 51 P 21 03 24.3
comp=Z,20nm,1.4s
MFTR Murfatlar 68.66 48 ⇑P **P 21 03 25.9 +0.2**
BBGB Big Mountain B 68.76 304 P **P 21 03 26.1 -0.5**
HOOD Mount Hood Mea 68.89 313 IAmb IAmb 21 03 33.9
comp=Z,33nm,1.0s
MILM Milestii Mici 68.92 45 ⇑*i*P **P 21 03 25.6 -1.6**
comp=Z,100nm,1.5s
MILM *e*L L 21 24 56.0
MILM LRM MLR 21 28 45.0
comp=Z,700nm,20.0s
MILM Milestii Mici 68.92 45 ⇑P **P 21 03 26.0 -1.2**
MILM Milestii Mici 68.92 45 P **P 21 03 26.0 -1.2**
ORV Oroville 68.95 307 IAmb IAmb 21 03 37.3
comp=Z,39nm,1.4s
ORV IAMs_20 IAMs_20 21 29 52.5
comp=Z,783nm,21.0s
LLLB Lillooet 69.07 319 IAmb IAmb 21 03 31.6
comp=Z,28nm,1.0s
AK20 Malin Array Si 69.08 41 P 21 03 27.4
AK19 Malin Array Si 69.08 41 P 21 03 27.1
AK21 Malin Array Si 69.11 41 P 21 03 27.2
AK17 Malin Array Si 69.11 41 P 21 03 27.3
AK13 Malin Array Si 69.11 41 P 21 03 27.3
AK18 Malin Array Si 69.12 41 P 21 03 27.3
KIEV Kiev 69.21 41 P **P 21 03 27.7 -1.2**
KIEV IAmb IAmb 21 03 31.6
comp=Z,29nm,1.4s
KIEV Kiev 69.21 41 IAMs_20 IAMs_20 21 30 32.6
comp=Z,735nm,20.0s
KIEV Kiev 69.21 41 ⇑P **P 21 03 28.1 -0.8**
KIEV Kiev 69.21 41 P **P 21 03 28.1 -0.8**
KIEV Kiev 69.21 41 P 21 03 28.0
comp=Z,58nm,1.2s
AKASG Malin Array Be 69.22 41 P **P 21 03 27.9 -1.0**
comp=Z,5.4nm,0.7s,baz=269,slow=5.0,SNR=24
AKASG LR LR 21 30 44.7
comp=Z,688nm,20.2s,baz=266,slow=33
comp=Z,5.4nm,0.7s
AKASG Malin Array Be 69.22 41 P **P 21 03 28.0 -1.0**
AKBB Malin Array Si 69.22 41 IAmb IAmb 21 03 31.6
comp=Z,36nm,1.5s
AKBB Malin Array Si 69.22 41*c e*P **P 21 03 27.9 -1.1**
AKBB Malin Array Si 69.22 41 P 21 03 28.0
H04A Detroit Lake 69.28 312 IAmb IAmb 21 03 32.9
comp=Z,68nm,1.3s
ARCES ARCESS Array B 69.44 21 P **P 21 03 29.1 -0.9**
comp=Z,4.9nm,0.9s,baz=258,slow=5.9,SNR=11
ARCES LR LR 21 27 24.3
comp=Z,919nm,21.9s,baz=258,slow=30
comp=Z,4.9nm,0.9s
SPITS Spitsbergen Ar 69.62 11 LR LR 21 26 12.7
comp=Z,608nm,21.8s,baz=196,slow=29
H04D Lebanon 69.68 312 IAmb IAmb 21 03 37.8
comp=Z,50nm,1.0s
BBOR Butler Butte 69.69 310 P **P 21 03 31.4 -1.0**
BBOR IAmb IAmb 21 03 35.4
comp=Z,19nm,0.8s
YBH Yreka Blue Hor 69.77 309 LR LR 21 33 28.5
comp=Z,693nm,19.3s,baz=94,slow=35
BUCK Buck Mountain 69.87 312 IAmb IAmb 21 03 37.0
comp=Z,53nm,1.1s
O02D Mt. Diablo Mer 69.91 308 IAmb IAmb 21 03 36.1
comp=Z,27nm,1.2s
O02D IAMs_20 IAMs_20 21 32 02.8
comp=Z,928nm,20.0s
COR Corvallis 70.08 312 P **P 21 03 35.7 +1.2**
COR Corvallis 70.08 312 IAMs_20 IAMs_20 21 29 14.2
comp=Z,623nm,21.0s
COR Corvallis 70.08 312 P **P 21 03 35.7 +1.2**
COR pmax pmax
comp=Z,87nm,1.1s
COR MLR MLR
comp=Z,600nm,21.0s
PGC Sidney 70.08 317 IAmb IAmb 21 03 37.5
comp=Z,43nm,0.9s
DBO Dodson Butte 70.10 311 IAmb IAmb 21 03 38.1
comp=Z,22nm,1.0s
I03D Drain, OR 70.15 311 IAmb IAmb 21 03 52.2
comp=Z,56nm,1.2s
WISH Wishkah 70.33 315 IAmb IAmb 21 03 39.6
comp=Z,57nm,1.2s
BORA Eskisehir 70.35 53 IAmb IAmb 21 03 40.4
comp=Z,51nm,1.4s
NLWA Neilton Lookou 70.39 315 IAmb IAmb 21 03 40.5
comp=Z,50nm,1.1s
L02F Cave Junction 70.39 310 IAmb IAmb 21 03 40.1
comp=Z,26nm,0.9s
I02E Swisshome, OR 70.49 312 P **P 21 03 38.4 +1.5**
CLRS Cowichan Lake 70.53 317 IAmb IAmb 21 03 41.2
comp=Z,26nm,0.9s
WRGLY Wrigley 70.57 332 IAmb IAmb 21 03 52.0
comp=Z,72nm,1.3s
WRGLY Wrigley 70.57 332 P **P 21 03 37.4 +0.3**
baz=94,SNR=11
J01E Myrtle Point 70.60 311 P **P 21 03 38.7 +1.1**
KOTAN Kotaneelee Air 70.66 329 P **P 21 03 38.4 +0.7**
baz=93,SNR=14
TOAD Toad River Com 71.21 327 P **P 21 03 41.7 +0.6**
baz=91,SNR=34
CBB Campbell River 71.31 318 IAmb IAmb 21 03 45.5
comp=Z,36nm,1.0s
C36M Paulatuk 71.39 339 IAMs_20 IAMs_20 21 31 14.7
comp=Z,754nm,22.0s
C36M Paulatuk 71.39 339 P **P 21 03 42.4 +0.5**
baz=96,SNR=5.2
LIRD Liard River Hi 71.67 328 P **P 21 03 44.7 +0.9**
baz=91,SNR=9.0
TSUM Tsumeb 71.74 117 P **P 21 03 44.1 -1.0**
TSUM Tsumeb 71.74 117 LR LR 21 28 05.8
comp=Z,1µm,21.8s,baz=292,slow=30
A36M Sachs Harbour 72.05 341 IAmb IAmb 21 03 50.2
comp=Z,27nm,0.8s
A36M Sachs Harbour 72.05 341 P **P 21 03 46.2 +0.4**
baz=96,SNR=45
APA Apatity 72.06 23 ⇓*i*P **P 21 03 44.0 -2.0**
APA pmax pmax
comp=Z,9.0nm,1.1s
ANTO Ankara 72.15 53 P **P 21 03 46.2 -1.0**
ANTO IAmb IAmb 21 03 51.9
comp=Z,78nm,1.7s
ANTO Ankara 72.15 53 P **P 21 03 46.2 -1.0**
ANTO pmax pmax
comp=Z,79nm,1.7s
ANTO MLR MLR
comp=Z,400nm,21.0s
USHA Ushuaia 72.35 193 LR LR 21 39 33.1
comp=Z,747nm,18.9s,baz=32,slow=39
SIM Simferopol' 72.69 47 *e*P **P 21 03 50.8 +0.5**
SIM *e* 21 04 08.0
SIM pmax pmax
comp=Z,13nm,1.3s
SIM MLR MLR
comp=Z,400nm,18.2s
ILGA Ilgaz 72.74 51 IAmb IAmb 21 03 53.2
comp=Z,72nm,1.3s
TGTN Hyland Airport 72.75 330 P **P 21 03 51.1 +0.7**
baz=90
BR106 Keskin Array S 72.80 53 P 21 03 50.8
comp=Z,114nmcomp=Z,15nm,1.1s
BR105 Keskin Array S 72.80 53 P 21 03 50.8
comp=Z,141nmcomp=Z,16nm,1.1s
BR131 Keskin Array S 72.81 53 IAmb IAmb 21 03 54.5
comp=Z,55nm,1.6s
BR131 Keskin Array S 72.81 53*c i*P **P 21 03 50.7 -0.6**
BRTR Keskin Array B 72.81 53 P **P 21 03 49.8 -1.5**
BRTR Keskin Array B 72.81 53 P **P 21 03 50.9 -0.4**
comp=Z,19nm,1.1s,baz=270,slow=3.7,SNR=32
comp=Z,19nm,1.1s
BRTR Keskin Array B 72.81 53 P **P 21 03 49.8 -1.5**
BR104 Keskin Array S 72.81 53 P 21 03 50.9
comp=Z,147nmcomp=Z,17nm,1.3s
BZK Bozkurt 72.87 50 IAmb IAmb 21 03 51.7
comp=Z,57nm,1.2s
BBB Bella Bella 72.95 320 LR LR 21 33 38.8
comp=Z,737nm,20.4s,baz=83,slow=34
WTLY Watson Lake, Y 73.03 329 P **P 21 03 52.9 +0.9**
baz=89
HOLB Holberg 73.05 319 IAmb IAmb 21 03 56.7
comp=Z,31nm,0.8s
KIRS Kirsehir-Merke 73.09 53 ⇑P **P 21 03 52.7 -0.1**
CSS Mathiatis 73.10 58 IAmb IAmb 21 03 56.0
comp=Z,43nm,1.6s
CSS Mathiatis 73.10 58 P 21 03 52.4
comp=Z,14nm,0.9s
OBN Obninsk 73.58 36 P **P 21 03 54.5 -0.8**
OBN Obninsk 73.58 36 LR LR 21 33 41.7
comp=Z,580nm,18.3s,baz=203,slow=34
OBN Obninsk 73.58 36 ⇑P **P 21 03 54.7 -0.5**
OBN Obninsk 73.58 36*c i*P **P 21 03 55.1 -0.2**
OBN *i* *PP **pP 21 03 57.2 -0.2**
OBN *e**SP **sP 21 03 59.8 +1.6**
OBN *e* 21 04 11.3
OBN *i* S **S 21 13 19.8 -5.5**
OBN pmax pmax
comp=Z,33nm,1.1s
OBN MLR MLR
comp=Z,572nm,17.0s
OBN Obninsk 73.58 36 P 21 03 54.9
comp=Z,43nm,1.2s
DLBC Dease Lake 73.72 327 LR LR 21 33 44.9
comp=Z,1µm,20.9s,baz=92,slow=34
DLBC Dease Lake 73.72 327 P **P 21 03 57.8 +1.6**
baz=87,SNR=16
U35K Hyder 73.86 324 IAMs_20 IAMs_20 21 33 09.5
comp=Z,584nm,21.0s
T35M Bob Quinn 73.92 325 IAmb IAmb 21 04 08.9
comp=Z,76nm,1.9s
T35M Bob Quinn 73.92 325 P **P 21 03 58.9 +1.6**
baz=86,SNR=7.6
MMPY Sheldon Lake, 74.13 331 P **P 21 03 59.4 +0.9**
baz=87,SNR=9.2
MOS Moscow 74.14 36 *e*P **P 21 03 57.6 -1.0**
MOS *e* 21 04 13.3
MOS *e*S **SKiKP 21 13 27.2 +0.6**
MOS pmax pmax
comp=Z,39nm,0.8s
MOS pmax pmax
comp=Z,200nm,2.0s
MOS MLR MLR
comp=Z,900nm,19.0s
R33M Jennings River 74.16 328 IAMs_20 IAMs_20 21 33 37.3
comp=Z,622nm,20.0s
R33M Jennings River 74.16 328 P **P 21 03 59.6 +0.9**
baz=87
S34M Telegraph Cree 74.33 326 P **P 21 04 01.0 +1.4**
baz=86
KLMR Klimovskoe 74.78 30 *e*P **P 21 03 58.9 -3.3**
KLMR *e**PP **pP 21 04 01.9 -2.4**
KLMR *e* 21 06 48.4
KLMR S **S 21 13 35.2 -3.4**
KLMR pmax pmax
comp=Z,12nm,1.5s
INK Inuvik 74.79 337 LR LR 21 34 22.8
comp=Z,796nm,20.6s,baz=68,slow=34
INK Inuvik 74.79 337 P **P 21 04 02.6 +0.5**
baz=87,SNR=70
V35K Ketchikan 74.80 324 IAMs_20 IAMs_20 21 39 32.5
comp=Z,597nm,19.0s
V35K Ketchikan 74.80 324 P **P 21 04 03.3 +1.0**
baz=85
Q32M Nakina River 74.85 328 IAMs_20 IAMs_20 21 33 59.7
comp=Z,730nm,20.0s
Q32M Nakina River 74.85 328 P **P 21 04 03.8 +0.9**
baz=85
F31M Tsiigehtchic 74.92 336 IAmb IAmb 21 04 07.3
comp=Z,30nm,1.1s
F31M Tsiigehtchic 74.92 336 P **P 21 04 03.3 +0.5**
baz=86,SNR=18
P33M Teslin, Yukon 75.03 329 IAmb IAmb 21 04 08.1
comp=Z,28nm,0.8s
P33M Teslin, Yukon 75.03 329 P **P 21 04 04.5 +0.7**
baz=85,SNR=40
ANN Anapa 75.05 47 *e*P **P 21 04 05.7 +1.6**
ANN *e**PP **pwP 21 04 09.5 -1.9**
ANN *e*S **S 21 13 45.1 +2.9**
ANN pmax pmax
comp=Z,9.0nm,0.7s
ANN MLR MLR
comp=Z,473nm,16.0s
MMAI Mount Meron Ar 75.08 59 P **P 21 04 05.1 +0.5**
comp=Z,8.2nm,0.8s,baz=289,slow=5.2,SNR=21
MMAI LR LR 21 40 29.7
comp=Z,294nm,18.1s,baz=284,slow=39
comp=Z,8.2nm,0.8s
N32M Quiet Lake 75.08 330 P **P 21 04 04.7 +0.7**
baz=85
WRAK Wrangell Islan 75.11 325 IAMs_20 IAMs_20 21 34 49.7
comp=Z,691nm,21.0s
WRAK Wrangell Islan 75.11 325 P **P 21 04 04.7 +0.5**
baz=85
FARO Faro, Yukon 75.12 331 P **P 21 04 05.3 +1.0**
baz=85
G31M Satah River 75.16 336 P **P 21 04 04.4 +0.1**
G31M IAmb IAmb 21 04 08.2
comp=Z,26nm,0.9s
G31M Satah River 75.16 336 P **P 21 04 04.8 +0.6**
baz=86,SNR=32
LPSR Galich'ya Gora 75.18 39 *e*P **P 21 04 03.6 -1.0**
LPSR pmax pmax
comp=Z,25nm,1.1s
H31M Peel River 75.28 335 P **P 21 04 05.8 +0.8**
baz=85
VORR Voronezh 75.45 40 *e*P **P 21 04 05.4 -0.8**
VORR pmax pmax
comp=Z,28nm,1.0s
VSR Storozhevoye 75.47 40 *e*P **P 21 04 03.4 -3.0**
VSR pmax pmax
comp=Z,50nm,1.3s
GHAJ Ghor Haditha 75.48 61 IAmb IAmb 21 04 11.0
comp=Z,62nm,1.4s
GHAJ IAMs_20 IAMs_20 21 37 13.4
comp=Z,604nm,20.0s
KOOLE Kule 75.50 119 *i*P **P 21 04 07.5 +0.4**
P32M Atlin 75.54 328 P **P 21 04 07.5 +0.8**
baz=84
U33K Whale Pass 75.57 325 IAMs_20 IAMs_20 21 38 27.9
comp=Z,696nm,19.0s
U33K Whale Pass 75.57 325 P **P 21 04 07.9 +1.0**
baz=84
VORD Divnogorie 75.58 41 *e*P **P 21 04 04.9 -2.1**
VORD pmax pmax
comp=Z,10.0nm,1.1s
M31M Drury Creek, Y 75.61 331 IAMs_20 IAMs_20 21 35 23.7
comp=Z,739nm,19.0s
M31M Drury Creek, Y 75.61 331 P **P 21 04 07.8 +0.8**
baz=84,SNR=16
F30M Barrier River 75.69 337 IAmb IAmb 21 04 22.4
comp=Z,37nm,0.9s
F30M Barrier River 75.69 337 P **P 21 04 08.0 +0.6**
baz=85,SNR=34
GRTLG Ghanzi 75.72 117 *i*P **P 21 04 08.5 0.0**
GAZ Gaziantep 75.92 55 IAmb IAmb 21 04 13.3
comp=Z,61nm,1.6s
G30M tAoh Zrail Nji 75.92 336 P **P 21 04 09.4 +0.7**
baz=84
WHY Whitehorse 76.01 330 P **P 21 04 10.0 +0.5**
baz=84
R32K Eaglecrest 76.09 327 P **P 21 04 10.6 +0.8**
baz=83
I30M Mount Dempster 76.18 334 IAMs_20 IAMs_20 21 35 57.5
comp=Z,633nm,19.0s
I30M Mount Dempster 76.18 334 P **P 21 04 10.6 +0.2**
baz=83
EPYK Eagle Plains 76.19 335 IAMs_20 IAMs_20 21 33 55.7
comp=Z,826nm,21.0s
EPYK Eagle Plains 76.19 335 P **P 21 04 10.7 +0.5**
baz=83,SNR=8.8
S32K Killisnoo 76.22 326 IAMs_20 IAMs_20 21 34 50.8
comp=Z,824nm,20.0s
S32K Killisnoo 76.22 326 P **P 21 04 11.6 +1.1**
baz=83
BESE Bessie Mountai 76.23 327 P **P 21 04 10.2 -0.5**
BESE IAMs_20 IAMs_20 21 34 41.2
comp=Z,828nm,21.0s
N31M Braeburn, Yuko 76.35 330 IAmb IAmb 21 04 16.1
comp=Z,28nm,0.9s
N31M Braeburn, Yuko 76.35 330 P **P 21 04 12.3 +1.1**
baz=83,SNR=18
SKAG Skagway 76.37 328 P **P 21 04 12.5 +1.2**
baz=83,SNR=12
E29M Blow River 76.40 338 IAMs_20 IAMs_20 21 35 03.2
comp=Z,841nm,21.0s
E29M Blow River 76.40 338 P **P 21 04 12.2 +0.8**
baz=83,SNR=30
ASF Jabal al Asfar 76.45 60 LR LR 21 38 55.8
comp=Z,406nm,20.5s,baz=295,slow=37
D28M Stokes Point 76.58 339 P **P 21 04 13.3 +1.0**
baz=82,SNR=37
O30N Mendenhall 76.58 330 IAmb IAmb 21 04 22.0
comp=Z,20nm,0.7s
O30N IAMs_20 IAMs_20 21 35 04.4
comp=Z,748nm,20.0s
O30N Mendenhall 76.58 330 P **P 21 04 14.1 +1.5**
baz=83,SNR=24
G29M Pine Creek 76.64 336 IAmb IAmb 21 04 17.6
comp=Z,27nm,1.1s
G29M Pine Creek 76.64 336 P **P 21 04 13.3 +0.5**
baz=82,SNR=18
SIT Sitka 76.67 326 P **P 21 04 14.2 +1.1**
baz=82
M30M Minto, Yukon 76.68 332 P **P 21 04 13.8 +0.7**
baz=82
K29M Barlow Dome 76.84 333 P **P 21 04 14.9 +0.8**
baz=82,SNR=11
SOC Sochi 76.85 48 *e*P **P 21 04 12.5 -1.8**
SOC *e* 21 07 09.5
SOC *e*PPP PPP 21 08 55.5
SOC *e*S **S 21 14 00.0 -2.1**
SOC *e*SS **SS 21 18 53.1 -4.9**
SOC *e*SSS SSS 21 22 21.1
SOC pmax pmax
comp=Z,22nm,1.0s
SOC MLR MLR
comp=Z,284nm,18.0s
H29M Whitestone 76.87 335 IAMs_20 IAMs_20 21 34 27.7
comp=Z,750nm,22.0s
H29M Whitestone 76.87 335 P **P 21 04 14.8 +0.7**
baz=82
I29M Ogilvie Camp, 76.96 335 IAMs_20 IAMs_20 21 36 28.2
comp=Z,791nm,20.0s
I29M Ogilvie Camp, 76.96 335 P **P 21 04 15.6 +1.0**
baz=82,SNR=17
E28M Babbage River 76.97 338 IAMs_20 IAMs_20 21 35 14.2
comp=Z,569nm,22.0s
E28M Babbage River 76.97 338 P **P 21 04 14.9 +0.4**
baz=81,SNR=34
N30M Aishikik Lake 76.97 330 P **P 21 04 16.0 +1.2**
baz=82
S31K Pelican 77.03 327 P **P 21 04 16.4 +1.3**
baz=82
ERBR Yeremizino-Bor 77.06 46 *e*P **P 21 04 15.7 +0.1**
ERBR *e*S **S 21 14 07.2 +2.8**
ERBR pmax pmax
comp=Z,31nm,0.9s
ERBR MLR MLR
comp=Z,404nm,18.0s
VRH Novokhopyorsk 77.07 40 *e*P **P 21 04 14.7 -0.7**
VRH pmax pmax
comp=Z,35nm,1.3s
VSLR Vesyoloye 77.09 48*de*P **P 21 04 16.2 +0.4**
VSLR pmax pmax
comp=Z,53nm,1.1s
P30M Million Dollar 77.10 329 P **P 21 04 17.6 +2.0**
baz=82
KGCAE Kacgae 77.15 118 IAmb IAmb 21 04 19.6
comp=Z,48nm,1.2s
KGCAE Kacgae 77.15 118 *i*P **P 21 04 16.8 +0.3**
L29M L29M 77.22 332 P **P 21 04 17.0 +0.9**
baz=81,SNR=21
HYT Haines Junctio 77.26 330 P **P 21 04 16.6 0.0**
HYT Haines Junctio 77.26 330 P **P 21 04 18.1 +1.6**
baz=81,SNR=12
D27M Malcolm River 77.38 339 IAmb IAmb 21 04 28.5
comp=Z,23nm,1.0s
D27M IAMs_20 IAMs_20 21 36 19.0
comp=Z,652nm,21.0s
D27M Malcolm River 77.38 339 P **P 21 04 18.5 +1.5**
baz=80,SNR=16
LABN Labinsk 77.40 47 *e*P **P 21 04 19.4 +1.9**
LABN *e*S **S 21 14 11.3 +3.2**
LABN pmax pmax
comp=Z,15nm,0.6s
LABN MLR MLR
comp=Z,489nm,18.0s
M29M Somme Creek 77.47 332 IAMs_20 IAMs_20 21 36 58.7
comp=Z,793nm,20.0s
M29M Somme Creek 77.47 332 P **P 21 04 18.7 +1.1**
baz=81,SNR=20
P29M Windy Craggy 77.56 329 IAMs_20 IAMs_20 21 36 24.3
comp=Z,764nm,20.0s
P29M Windy Craggy 77.56 329 P **P 21 04 19.4 +1.3**
baz=81
DAWY Dawson 77.62 333 P **P 21 04 19.0 +0.6**
baz=80,SNR=8.8
I28M Miner Creek 77.62 335 P **P 21 04 18.7 +0.3**
baz=80,SNR=9.7
YUK6 Outpost Mounta 77.66 330 P **P 21 04 20.1 +1.2**
baz=81,SNR=9.9
YUK4 Talbot Arm 77.73 330 P **P 21 04 20.0 +0.8**
baz=81,SNR=8.2
E27K Coleen River 77.79 338 IAmb IAmb 21 04 23.9
comp=Z,38nm,0.9s
E27K IAMs_20 IAMs_20 21 35 57.0
comp=Z,584nm,20.0s
E27K Coleen River 77.79 338 P **P 21 04 20.2 +1.0**
baz=79,SNR=58
O29M Mount Kennedy 77.87 329 IAMs_20 IAMs_20 21 37 21.4
comp=Z,660nm,19.0s
O29M Mount Kennedy 77.87 329 P **P 21 04 21.4 +1.4**
baz=80
G27K Doyon Strip 78.07 336 P **P 21 04 21.6 +0.8**
baz=79,SNR=17
H27K Steamboat Moun 78.13 336 IAMs_20 IAMs_20 21 35 51.0
comp=Z,765nm,22.0s
H27K Steamboat Moun 78.13 336 P **P 21 04 22.0 +0.9**
baz=79,SNR=17
C27K Jago River 78.26 339 IAmb IAmb 21 04 27.1
comp=Z,41nm,0.9s
C27K Jago River 78.26 339 P **P 21 04 22.9 +1.2**
baz=78,SNR=52
YUK8 Steele Glacier 78.27 331 P **P 21 04 23.0 +0.7**
baz=80
I27K Kandik River 78.28 335 P **P 21 04 23.3 +1.3**
baz=79,SNR=18
PNL Peninsula 78.39 329 P **P 21 04 23.8 +1.1**
baz=80
BCPM Bancas Point 78.45 329 IAMs_20 IAMs_20 21 39 01.8
comp=Z,652nm,18.0s
YUK3 Moose Creek 78.51 331 P **P 21 04 24.6 +1.0**
baz=79,SNR=23
O28M Mount Upton 78.57 330 P **P 21 04 25.4 +1.3**
baz=79,SNR=16
BVCY Beaver Creek 78.57 332 P **P 21 04 25.0 +1.3**
baz=79,SNR=17
C26K Camden Bay 78.60 340 P **P 21 04 25.4 +1.8**
baz=77,SNR=19
PHPEN Phepeng 78.71 120 P **P 21 04 24.4 -0.8**
PINM Pinnacle 78.73 329 P **P 21 04 26.3 +1.7**
baz=79
PCA Pinnacle 78.73 329 IAMs_20 IAMs_20 21 39 29.1
comp=Z,712nm,19.0s
K27K Chicken 78.79 333 IAMs_20 IAMs_20 21 36 47.6
comp=Z,739nm,20.0s
K27K Chicken 78.79 333 P **P 21 04 26.1 +1.3**
baz=78
F26K Sheenjek River 78.83 337 IAMs_20 IAMs_20 21 36 36.6
comp=Z,613nm,20.0s
F26K Sheenjek River 78.83 337 P **P 21 04 26.7 +1.7**
baz=77,SNR=32
BCAR Beaver Creek A 78.86 332 P **P 21 04 25.7 +0.4**
G26K Porcupine Rive 78.86 337 IAmb IAmb 21 04 29.9
comp=Z,46nm,0.8s
G26K Porcupine Rive 78.86 337 P **P 21 04 26.6 +1.5**
baz=77,SNR=73
L27K Beaver Creek, 78.88 332 P **P 21 04 26.7 +1.4**
baz=78
KIV Kislovodsk 78.91 47 P **P 21 04 24.8 -1.2**
KIV IAmb IAmb 21 04 29.8
comp=Z,42nm,1.4s
KIV Kislovodsk 78.91 47 ⇑P **P 21 04 25.5 -0.5**
KIV Kislovodsk 78.91 47 *e*P **P 21 04 26.1 +0.2**
KIV *e*S **S 21 14 24.8 +0.3**
KIV *e*SS **SS 21 19 25.8 -3.4**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,224nm,19.0s
KIV Kislovodsk 78.91 47 P 21 04 25.4
comp=Z,17nm,1.2s

KVAR	**Kislovodsk Arr**	78.91 47	LR	LR	21 40 04.1	
	comp=Z,243nm,18.9s,baz=233,slow=36					
SHA1	**Shidzhatmaz**	78.92 48*ce*	P	**P**	**21 04 26.5 +0.3**	
GOF	**Gofitskoye**	78.95 46*ce*	P	**P**	**21 04 25.8 -0.3**	
I26K	**Coal Creek Min**	78.97 335	IAms_20	IAms_20	21 37 38.4	
	comp=Z,690nm,19.0s					
I26K	**Coal Creek Min**	78.97 335	P	**P**	**21 04 26.5 +0.7**	
	baz=77					
M27K	**Edge Creek, AK**	79.05 332	IAms_20	IAms_20	21 36 23.5	
	comp=Z,714nm,20.0s					
M27K	**Edge Creek, AK**	79.05 332	P	**P**	**21 04 27.7 +1.3**	
	baz=78					
KBZ	**Khabaz**	79.10 48	P	**P**	**21 04 27.5 +0.7**	
	comp=Z,5.6nm,1.0s,baz=285,slow=3.0,SNR=8.5					
KBZ			LR	LR	21 40 34.5	
	comp=Z,131nm,18.4s,baz=295,slow=37					
	comp=Z,5.6nm,1.0s					
D25K	**Kavik River**	79.24 339	IAmb	IAmb	21 04 32.4	
	comp=Z,55nm,0.8s					
D25K	**Kavik River**	79.24 339	P	**P**	**21 04 28.6 +1.4**	
	baz=75,SNR=85					
SKOMA	**Sekoma**	79.24 119 *i*	P	**P**	**21 04 27.9 -0.2**	
E25K	**Arctic Village**	79.26 338	IAms_20	IAms_20	21 36 53.7	
	comp=Z,605nm,22.0s					
E25K	**Arctic Village**	79.26 338	P	**P**	**21 04 28.5 +1.2**	
	baz=76,SNR=21					
J26L	**Joseph Creek**	79.32 334	P	**P**	**21 04 28.7 +0.8**	
	baz=77					
F25K	**Christian Rive**	79.41 337	IAmb	IAmb	21 04 34.5	
	comp=Z,32nm,1.1s					
F25K			IAms_20	IAms_20	21 36 46.9	
	comp=Z,792nm,22.0s					
F25K	**Christian Rive**	79.41 337	P	**P**	**21 04 29.7 +1.5**	
	baz=76,SNR=43					
FYU	**Fort Yukon**	79.51 336	P	**P**	**21 04 29.7 +1.0**	
MESA	**MESA**	79.55 330	P	**P**	**21 04 29.7 +0.4**	
	baz=78					
M26K	**Nabesna, AK**	79.55 332	IAms_20	IAms_20	21 36 48.7	
	comp=Z,655nm,21.0s					
M26K	**Nabesna, AK**	79.55 332	P	**P**	**21 04 30.2 +1.2**	
	baz=77					
L26K	**Log Cabin Wild**	79.56 333	P	**P**	**21 04 30.2 +1.1**	
	baz=77					
KHWEE	**KHWEE**	79.59 116	IAmb	IAmb	21 04 39.3	
	comp=Z,59nm,1.1s					
KHWEE	**KHWEE**	79.59 116 *i*	P	**P**	**21 04 30.4 +0.3**	
SCRK	**Sand Creek**	79.62 334	P	**P**	**21 04 30.3 +0.8**	
	baz=76,SNR=12					
LSZ	**Lusaka**	79.75 109	P	**P**	**21 04 31.4 +0.4**	
LSZ	**Lusaka**	79.75 109	LR	LR	21 34 20.4	
	comp=Z,366nm,21.0s,baz=302,slow=32					
LSZ	**Lusaka**	79.75 109	P	**P**	**21 04 31.4 +0.4**	
LSZ			pmax	pmax		
	comp=Z,23nm,1.1s					
G25K	**Bearman Lake**	79.80 337	P	**P**	**21 04 31.6 +1.4**	
	baz=75,SNR=23					
KARS	**Kars**	79.83 51	IAmb	IAmb	21 04 32.9	
	comp=Z,109nm,1.3s					
PRP	**Porcupine Dome**	79.89 335	IAmb	IAmb	21 04 35.9	
	comp=Z,37nm,0.9s					
PRP			IAms_20	IAms_20	21 36 55.5	
	comp=Z,547nm,21.0s					
PRP	**Porcupine Dome**	79.89 335	P	**P**	**21 04 32.0 +1.1**	
	baz=75,SNR=46					
SUR	**Sutherland**	79.89 128	LR	LR	21 32 05.7	
	comp=Z,1µm,21.3s,baz=296,slow=30					
C24K	**Franklin Bluff**	79.92 340	IAms_20	IAms_20	21 37 35.2	
	comp=Z,722nm,21.0s					
C24K	**Franklin Bluff**	79.92 340	P	**P**	**21 04 32.2 +1.4**	
	baz=73					
SNH	**Sunshine Point**	79.98 330	IAmb	IAmb	21 04 37.3	
	comp=Z,39nm,1.0s					
VRDI	**Verde Repeater**	80.03 331	P	**P**	**21 04 32.3 +0.4**	
VRDI			IAms_20	IAms_20	21 38 33.4	
	comp=Z,718nm,19.0s					
RIDG	**Independent Ri**	80.05 333	IAms_20	IAms_20	21 37 45.9	
	comp=Z,585nm,20.0s					
RIDG	**Independent Ri**	80.05 333	P	**P**	**21 04 32.5 +0.7**	
	baz=76,SNR=14					
J25K	**Salcha River,**	80.05 334	IAms_20	IAms_20	21 38 34.9	
	comp=Z,644nm,20.0s					
J25K	**Salcha River,**	80.05 334	P	**P**	**21 04 32.3 +0.6**	
	baz=75					
KIRV	**Kirov**	80.07 32	LR	LR	21 37 14.8	
	comp=Z,789nm,18.3s,baz=285,slow=34					
KIRV	**Kirov**	80.07 32*c*	*i* P	**P**	**21 04 31.1 -0.7**	
D24K	**Happy Valley**	80.13 339	IAms_20	IAms_20	21 37 11.7	
	comp=Z,674nm,21.0s					
D24K	**Happy Valley**	80.13 339	P	**P**	**21 04 33.7 +1.8**	
	baz=73,SNR=13					
GLB	**Gilahina Butte**	80.15 331	IAms_20	IAms_20	21 36 31.5	
	comp=Z,592nm,21.0s					
BGLC	**Bering Glacier**	80.21 330	P	**P**	**21 04 34.2 +1.7**	
	baz=76					
F24K	**Squaw Lake**	80.27 338	IAms_20	IAms_20	21 38 35.4	
	comp=Z,689nm,20.0s					
F24K	**Squaw Lake**	80.27 338	P	**P**	**21 04 34.4 +1.6**	
	baz=74,SNR=19					
E24K	**Your Creek**	80.32 338	IAmb	IAmb	21 04 49.6	
	comp=Z,38nm,1.2s					
E24K			IAms_20	IAms_20	21 37 49.9	
	comp=Z,624nm,21.0s					
E24K	**Your Creek**	80.32 338	P	**P**	**21 04 34.7 +1.6**	
	baz=73,SNR=38					
G24K	**Hadweenzic Riv**	80.34 337	P	**P**	**21 04 34.7 +1.5**	
	baz=74,SNR=24					
K24K	**Donnelly Dome**	80.44 334	IAms_20	IAms_20	21 38 30.0	
	comp=Z,690nm,20.0s					
K24K	**Donnelly Dome**	80.44 334	P	**P**	**21 04 34.7 +0.9**	
	baz=75					
BELG	**Belogornoye**	80.45 38	LR	LR	21 38 28.2	
	comp=Z,1µm,18.3s,baz=277,slow=34					
BELG	**Belogornoye**	80.45 38*c*	*i* P	**P**	**21 04 33.3 -0.7**	
BELG			pmax	pmax		
	comp=Z,7.0nm,1.1s					
N25K	**Chitina, Valde**	80.47 331	P	**P**	**21 04 34.4 +0.3**	
N25K			IAms_20	IAms_20	21 37 22.1	
	comp=Z,527nm,21.0s					
N25K	**Chitina, Valde**	80.47 331	P	**P**	**21 04 35.1 +1.0**	
	baz=76,SNR=14					
PAX	**Paxson**	80.52 333	IAms_20	IAms_20	21 36 55.3	
	comp=Z,621nm,21.0s					
PAX	**Paxson**	80.52 333	P	**P**	**21 04 35.2 +0.9**	
	baz=75,SNR=17					
C23K	**Itkillik River**	80.52 340	IAmb	IAmb	21 04 50.6	
	comp=Z,75nm,1.6s					
C23K	**Itkillik River**	80.52 340	P	**P**	**21 04 35.4 +1.3**	
	baz=71,SNR=18					
HARP	**HAARP**	80.53 332	P	**P**	**21 04 35.3 +1.0**	
	baz=75,SNR=6.8					
TOLK	**Toolik Lake Re**	80.54 339	IAms_20	IAms_20	21 40 55.6	
	comp=Z,469nm,20.0s					
TOLK	**Toolik Lake Re**	80.54 339	P	**P**	**21 04 35.9 +1.7**	
	baz=72,SNR=12					
BMRM	**Bremner River**	80.64 331	P	**P**	**21 04 35.9 +1.0**	
	baz=75,SNR=10					
IL31		80.64 335	IAmb	IAmb	21 04 39.4	
	comp=Z,58nm,0.9s					
ILAR	**Eielson Array**	80.64 335	P	**P**	**21 04 35.8 +1.0**	
ILAR	**Eielson Array**	80.64 335	P	**P**	**21 04 35.6 +0.8**	
	comp=Z,38nm,0.9s,baz=73,slow=4.7,SNR=192					
ILAR			LR	LR	21 40 22.1	
	comp=Z,319nm,18.1s,baz=66,slow=36					
	comp=Z,38nm,0.9s					
ILAR	**Eielson Array**	80.64 335	P	**P**	**21 04 35.8 +1.0**	
E23K	**Chandalar**	80.73 338	IAms_20	IAms_20	21 38 44.7	
	comp=Z,610nm,21.0s					
E23K	**Chandalar**	80.73 338	P	**P**	**21 04 36.7 +1.3**	
	baz=72,SNR=27					
H24K	**Noodor Dome**	80.74 336	P	**P**	**21 04 36.8 +1.4**	
	baz=73,SNR=23					
HDA	**Harding Lake**	80.77 334	IAms_20	IAms_20	21 38 45.8	
	comp=Z,696nm,20.0s					
HDA	**Harding Lake**	80.77 334	P	**P**	**21 04 37.1 +1.6**	
	baz=74					
POKR	**Poker Plat Res**	80.77 335	IAms_20	IAms_20	21 43 32.8	
	comp=Z,440nm,19.0s					
POKR	**Poker Plat Res**	80.77 335	P	**P**	**21 04 37.1 +1.6**	
	baz=74					
KAIM	**Kayak Island**	80.81 330	P	**P**	**21 04 37.3 +1.5**	
	baz=75					
RAGM	**Ragged Mountai**	80.82 330	IAmb	IAmb	21 04 41.5	
	comp=Z,35nm,1.0s					
D23K	**Nanushuk River**	80.82 339	IAms_20	IAms_20	21 37 33.0	
	comp=Z,748nm,22.0s					
D23K	**Nanushuk River**	80.82 339	P	**P**	**21 04 37.4 +1.7**	
	baz=71,SNR=13					
LBTB	**Lobatse**	80.83 119	LR	LR	21 33 32.6	
	comp=Z,719nm,21.8s,baz=286,slow=31					
COLA	**College**	81.01 335	P	**P**	**21 04 37.1 +0.3**	
COLA			IAmb	IAmb	21 04 41.4	
	comp=Z,46nm,0.8s					
COLA	**College**	81.01 335	IAms_20	IAms_20	21 40 15.2	
	comp=Z,484nm,20.0s					
COLA	**College**	81.01 335*ce*	P	**P**	**21 04 37.7 +1.0**	
COLA			pmax	pmax		
	comp=Z,51nm,0.9s					
COLA	**College**	81.01 335	P	**P**	**21 04 38.3 +1.6**	
	baz=73					
CCB	**Clear Creek Bu**	81.06 335	IAmb	IAmb	21 04 41.5	
	comp=Z,29nm,0.9s					
M24K	**Tolsona, Glenn**	81.06 332	P	**P**	**21 04 38.8 +1.5**	
	baz=74					
KLU	**Klutina**	81.11 331	IAmb	IAmb	21 04 42.2	
	comp=Z,26nm,1.0s					
KLU			IAms_20	IAms_20	21 37 53.1	
	comp=Z,616nm,20.0s					
KLU	**Klutina**	81.11 331	P	**P**	**21 04 38.5 +0.9**	
	baz=74,SNR=20					
DIV	**Divide**	81.14 331	IAms_20	IAms_20	21 37 10.9	
	comp=Z,776nm,22.0s					
GNI	**Garni**	81.17 51	P	**P**	**21 04 38.6 +0.3**	
GNI			IAmb	IAmb	21 04 43.3	
	comp=Z,53nm,1.4s					
GNI	**Garni**	81.17 51	LR	LR	21 38 05.0	
	comp=Z,153nm,21.6s,baz=297,slow=34					
GNI	**Garni**	81.17 51	P	**P**	**21 04 38.7 +0.3**	
GNI			pmax	pmax		
	comp=Z,53nm,1.5s					
GNI			MLR	MLR		
	comp=Z,300nm,22.0s					
GNI	**Garni**	81.17 51	P		21 04 37.9	
	comp=Z,25nm,1.4s					
COLD	**Coldfoot**	81.21 338	P	**P**	**21 04 39.2 +1.4**	
	baz=71,SNR=19					
LODK	**Lodwar**	81.21 89	IAmb	IAmb	21 04 50.0	
	comp=Z,40nm,1.2s					
LODK			IAms_20	IAms_20	21 39 24.2	
	comp=Z,564nm,20.0s					
WRH	**Wood River Hil**	81.22 335	IAmb	IAmb	21 04 42.4	
	comp=Z,33nm,0.9s					
WRH			IAms_20	IAms_20	21 40 54.9	
	comp=Z,463nm,18.0s					
B22K	**Teshekpuk Lake**	81.25 341	IAmb	IAmb	21 04 44.1	
	comp=Z,32nm,1.1s					
B22K			IAms_20	IAms_20	21 40 14.4	
	comp=Z,518nm,19.0s					
B22K	**Teshekpuk Lake**	81.25 341	P	**P**	**21 04 39.1 +1.1**	
	baz=69,SNR=32					
EYAK	**Cordova Ski Ar**	81.29 330	P	**P**	**21 04 40.0 +1.7**	
	baz=74					
G23K	**Bananza Creek**	81.31 337	IAms_20	IAms_20	21 36 43.9	
	comp=Z,712nm,22.0s					
G23K	**Bananza Creek**	81.31 337	P	**P**	**21 04 39.9 +1.5**	
	baz=72,SNR=26					
H23K	**Yukon River**	81.40 336	P	**P**	**21 04 39.8 +0.9**	
H23K			IAmb	IAmb	21 04 55.1	
	comp=Z,33nm,1.1s					
H23K	**Yukon River**	81.40 336	P	**P**	**21 04 40.5 +1.6**	
	baz=72,SNR=21					
A22K	**Sinclair Lake**	81.49 342	P	**P**	**21 04 41.2 +2.0**	
	baz=68,SNR=26					
E22K	**Anaktuvuk Pass**	81.49 339	IAmb	IAmb	21 04 51.5	
	comp=Z,28nm,1.1s					
E22K			IAms_20	IAms_20	21 40 02.7	
	comp=Z,597nm,21.0s					
E22K	**Anaktuvuk Pass**	81.49 339	P	**P**	**21 04 40.7 +1.3**	
	baz=70,SNR=18					
D22K	**Ayikyak River**	81.53 339	P	**P**	**21 04 41.2 +1.7**	
	baz=69					
I23K	**Minto, Yukon-K**	81.54 335	IAmb	IAmb	21 04 44.0	
	comp=Z,23nm,0.8s					
I23K			IAms_20	IAms_20	21 41 02.1	
	comp=Z,525nm,18.0s					
I23K	**Minto, Yukon-K**	81.54 335	P	**P**	**21 04 41.0 +1.4**	
	baz=72,SNR=26					
FID	**Port Fidalgo**	81.58 331	IAmb	IAmb	21 04 44.7	
	comp=Z,36nm,0.9s					
NEA2	**Nenana**	81.59 335	IAms_20	IAms_20	21 40 31.5	
	comp=Z,429nm,20.0s					
NEA2	**Nenana**	81.59 335	P	**P**	**21 04 40.7 +0.8**	
	baz=72,SNR=21					
SCM	**Sheep Creek Mo**	81.66 332	IAmb	IAmb	21 04 44.9	
	comp=Z,31nm,1.0s					
SCM			IAms_20	IAms_20	21 39 23.6	
	comp=Z,726nm,20.0s					
SCM	**Sheep Creek Mo**	81.66 332	P	**P**	**21 04 41.4 +1.0**	
	baz=73,SNR=6.0					
HIN	**Hinchinbrook I**	81.69 330	IAmb	IAmb	21 04 44.2	
	comp=Z,50nm,1.0s					
G22K	**Bettles**	81.79 337	P	**P**	**21 04 41.9 +1.0**	
	baz=70,SNR=19					
MCK	**McKinley**	81.80 334	P	**P**	**21 04 41.2 +0.2**	
MCK	**McKinley**	81.80 334	P	**P**	**21 04 41.2 +0.2**	
MCK			pmax	pmax		
	comp=Z,21nm,1.0s					
MCK			MLR	MLR		
	comp=Z,900nm,20.0s					
MCK	**McKinley**	81.80 334	P	**P**	**21 04 41.9 +0.8**	
	baz=72,SNR=14					
GLI	**Glacier Island**	81.83 331	IAmb	IAmb	21 04 45.6	
	comp=Z,21nm,0.9s					
GLI	**Glacier Island**	81.83 331	P	**P**	**21 04 42.3 +1.1**	
	baz=73					
F22K	**John River**	81.83 338	P	**P**	**21 04 41.9 +0.8**	
	baz=70,SNR=18					
A21K	**Barrow**	81.85 342	P	**P**	**21 04 42.6 +1.5**	
	baz=66					
M23K	**Glacier View**	81.86 332	P	**P**	**21 04 42.9 +1.5**	
	baz=73,SNR=8.0					
RND	**Reindeer**	81.87 334	IAmb	IAmb	21 04 52.8	
	comp=Z,55nm,1.6s					
BWN	**Browne**	81.89 334	IAmb	IAmb	21 04 59.3	
	comp=Z,57nm,1.1s					
BWN			IAms_20	IAms_20	21 39 57.5	
	comp=Z,636nm,20.0s					
BOSA	**Boshof**	81.89 123	P	**P**	**21 04 41.6 -0.7**	
	comp=Z,9.1nm,0.9s,baz=313,slow=3.3,SNR=11					
BOSA			LR	LR	21 33 39.3	
	comp=Z,621nm,21.2s,baz=289,slow=30					
	comp=Z,9.1nm,0.9s					
B21K	**Ikpikpuk River**	81.90 340	IAms_20	IAms_20	21 39 54.5	
	comp=Z,600nm,20.0s					
B21K	**Ikpikpuk River**	81.90 340	P	**P**	**21 04 43.2 +1.8**	
	baz=68,SNR=13					
H22K	**Ishtalitna Cre**	82.09 336	P	**P**	**21 04 44.2 +1.7**	
	baz=70,SNR=19					
SML	**Sawmill**	82.13 332	IAms_20	IAms_20	21 39 48.8	
	comp=Z,704nm,21.0s					
SML	**Sawmill**	82.13 332	P	**P**	**21 04 44.1 +1.3**	
	baz=72					
E21K	**Killik River**	82.13 339	IAms_20	IAms_20	21 38 01.6	
	comp=Z,541nm,22.0s					
E21K	**Killik River**	82.13 339	P	**P**	**21 04 43.8 +1.1**	
	baz=68					
C21K	**Knifeblade Rid**	82.13 340	P	**P**	**21 04 43.8 +1.1**	
	baz=68,SNR=13					
P23K	**Montague Islan**	82.23 330	P	**P**	**21 04 44.6 +1.2**	
	baz=73					
KNK	**Knik Glacier**	82.30 332	IAmb	IAmb	21 04 49.2	
	comp=Z,25nm,1.0s					
KNK			IAms_20	IAms_20	21 39 58.5	
	comp=Z,725nm,20.0s					
KNK	**Knik Glacier**	82.30 332	P	**P**	**21 04 45.0 +1.3**	
	baz=72,SNR=11					
GHO	**Glory Hole Cre**	82.40 332	IAmb	IAmb	21 04 49.1	
	comp=Z,21nm,0.8s					
GHO			IAms_20	IAms_20	21 34 13.2	
	comp=Z,496nm,20.0s					
F21K	**Alatna River**	82.41 338	P	**P**	**21 04 45.2 +1.0**	
	baz=68					
PWL	**Port Wells**	82.42 331	IAmb	IAmb	21 04 49.0	
	comp=Z,23nm,1.0s					
PWL	**Port Wells**	82.42 331	P	**P**	**21 04 45.6 +1.3**	
	baz=72,SNR=8.0					
TRF	**Thorofare Moun**	82.47 334	IAmb	IAmb	21 04 53.9	
	comp=Z,31nm,0.9s					
TRF			IAms_20	IAms_20	21 40 10.7	
	comp=Z,674nm,20.0s					
TRF	**Thorofare Moun**	82.47 334	P	**P**	**21 04 45.9 +1.2**	
	baz=71,SNR=17					
BPAW	**Bear Paw Mtn.**	82.54 335	P	**P**	**21 04 45.1 +0.2**	
BPAW			IAms_20	IAms_20	21 41 44.7	
	comp=Z,434nm,18.0s					
BPAW	**Bear Paw Mtn.**	82.54 335	P	**P**	**21 04 45.7 +0.8**	
	baz=70,SNR=21					
MAK	**Makhachkala**	82.54 48	*e*P	P	21 04 37.7 -7.6	
MAK			pmax	pmax		
	comp=Z,197nm,1.3s					
MAK			MLR	MLR		
	comp=Z,395nm,18.0s					
PMR	**Palmer**	82.55 332	IAmb	IAmb	21 04 56.3	
	comp=Z,45nm,1.6s					
PMR	**Palmer**	82.55 332	P	**P**	**21 04 46.4 +1.4**	
	baz=72					
B20K	**Meade River**	82.56 341	IAmb	IAmb	21 04 57.9	
	comp=Z,35nm,1.1s					
B20K			IAms_20	IAms_20	21 41 42.9	
	comp=Z,619nm,19.0s					
B20K	**Meade River**	82.56 341	P	**P**	**21 04 46.1 +1.3**	
	baz=65,SNR=30					
G21K	**Allakaket**	82.68 337	IAms_20	IAms_20	21 38 59.2	
	comp=Z,480nm,20.0s					
G21K	**Allakaket**	82.68 337	P	**P**	**21 04 47.2 +1.6**	
	baz=68					
KTH	**Kantishna Hill**	82.70 334	IAms_20	IAms_20	21 40 26.9	
	comp=Z,485nm,20.0s					
H21K	**Melozitna Rive**	82.72 336	IAms_20	IAms_20	21 39 07.5	
	comp=Z,719nm,21.0s					
H21K	**Melozitna Rive**	82.72 336	P	**P**	**21 04 47.3 +1.5**	
	baz=69,SNR=18					
CUT	**Chulitna**	82.80 333	IAms_20	IAms_20	21 39 11.5	
	comp=Z,654nm,21.0s					
CUT	**Chulitna**	82.80 333	P	**P**	**21 04 47.6 +1.4**	
	baz=71					
D20K	**Etivluk River**	82.92 340	IAms_20	IAms_20	21 39 30.4	
	comp=Z,750nm,22.0s					
D20K	**Etivluk River**	82.92 340	P	**P**	**21 04 47.8 +1.1**	
	baz=66					
M22K	**Willow**	82.95 332	IAms_20	IAms_20	21 40 11.6	
	comp=Z,570nm,19.0s					
M22K	**Willow**	82.95 332	P	**P**	**21 04 48.4 +1.5**	
	baz=71,SNR=9.9					
E20K	**Nigu River**	82.96 339	P	**P**	**21 04 48.3 +1.2**	
	baz=66					
RC01	**Rabbit Creek A**	82.99 332	P	**P**	**21 04 49.0 +1.7**	
	baz=71					
AKT	**Akhty**	83.07 49	*e*P	**P**	**21 04 44.5 -3.7**	
AKT			*e*		21 07 57.3	
AKT			pmax	pmax		
	comp=Z,11nm,1.2s					
AKT			MLR	MLR		
	comp=Z,532nm,20.0s					
CHUM	**Lake Minchumin**	83.17 335	P	**P**	**21 04 49.5 +1.4**	
	baz=69,SNR=14					
SEW	**Seward**	83.18 331	P	**P**	**21 04 49.3 +1.1**	
	baz=71					
CAST	**Castle Rocks**	83.23 334	IAms_20	IAms_20	21 44 10.0	
	comp=Z,417nm,19.0s					
CAST	**Castle Rocks**	83.23 334	P	**P**	**21 04 49.3 +0.8**	
	baz=69,SNR=7.1					
F20K	**Avaraart Lake**	83.28 338	P	**P**	**21 04 50.1 +1.5**	
	baz=66,SNR=11					
SUA	**Susitna One**	83.33 332	IAmb	IAmb	21 04 54.1	
	comp=Z,21nm,0.9s					
SUA			IAms_20	IAms_20	21 40 17.6	
	comp=Z,438nm,19.0s					
SUA	**Susitna One**	83.33 332	P	**P**	**21 04 50.6 +1.4**	
	baz=70,SNR=8.3					
SLKM	**Skilak Lake**	83.41 331	IAmb	IAmb	21 04 55.0	
	comp=Z,40nm,1.0s					
SLKM			IAms_20	IAms_20	21 37 55.7	
	comp=Z,745nm,22.0s					
PPLA	**Purkeypile**	83.47 334	IAmb	IAmb	21 05 01.1	
	comp=Z,56nm,1.2s					
PPLA	**Purkeypile**	83.47 334	P	**P**	**21 04 51.2 +1.4**	
	baz=69,SNR=7.2					
SKT	**Skwentna**	83.50 333	IAmb	IAmb	21 04 54.6	
	comp=Z,27nm,1.1s					
SKT			IAms_20	IAms_20	21 39 33.1	
	comp=Z,446nm,20.0s					
SKT	**Skwentna**	83.50 333	P	**P**	**21 04 51.5 +1.6**	
	baz=70,SNR=12					
D19K	**Kuna River**	83.51 340	IAms_20	IAms_20	21 40 00.1	
	comp=Z,522nm,21.0s					
D19K	**Kuna River**	83.51 340	P	**P**	**21 04 51.3 +1.5**	
	baz=64					
H20K	**Anotleneega Mo**	83.59 337	P	**P**	**21 04 51.7 +1.4**	
	baz=67,SNR=13					
E19K	**Redstone River**	83.65 339	P	**P**	**21 04 52.5 +2.0**	
	baz=65					
A19K	**Wainwright**	83.67 342	P	**P**	**21 04 53.3 +2.7**	
	baz=62					
I20K	**Naaghedeneel**	83.70 336	IAms_20	IAms_20	21 39 59.3	
	comp=Z,560nm,20.0s					
I20K	**Naaghedeneel**	83.70 336	P	**P**	**21 04 51.9 +1.1**	
	baz=67,SNR=8.6					
CAPN	**Captain Cook N**	83.75 331	P	**P**	**21 04 52.4 +1.3**	
	baz=70					
J20K	**Nowinta River**	83.81 335	IAms_20	IAms_20	21 39 19.1	
	comp=Z,551nm,21.0s					
J20K	**Nowinta River**	83.81 335	P	**P**	**21 04 52.9 +1.5**	
	baz=68					
BRSE	**Bradley Lake S**	83.91 330	P	**P**	**21 04 53.6 +1.5**	
	baz=70					
BRLK	**Bradley Lake**	83.97 330	IAmb	IAmb	21 04 56.8	
	comp=Z,26nm,0.9s					
SPCR	**Spurr Chakacha**	84.08 332	P	**P**	**21 04 54.4 +1.4**	
	baz=69,SNR=6.2					
K20K	**Telida**	84.09 334	IAms_20	IAms_20	21 43 01.6	
	comp=Z,515nm,20.0s					
K20K	**Telida**	84.09 334	P	**P**	**21 04 53.9 +1.0**	
	baz=68,SNR=8.9					
F19K	**Shaleruckik Mo**	84.11 338	IAms_20	IAms_20	21 41 11.0	
	comp=Z,515nm,20.0s					
F19K	**Shaleruckik Mo**	84.11 338	P	**P**	**21 04 54.0 +1.1**	
	baz=64					
G19K	**Purcell Mounta**	84.15 338	IAms_20	IAms_20	21 39 45.2	
	comp=Z,594nm,22.0s					
G19K	**Purcell Mounta**	84.15 338	P	**P**	**21 04 54.3 +1.1**	
	baz=65					
H19K	**Roundabout Mou**	84.17 337	IAms_20	IAms_20	21 38 56.7	
	comp=Z,708nm,22.0s					
H19K	**Roundabout Mou**	84.17 337	P	**P**	**21 04 55.0 +1.8**	
	baz=66					
KMBO	**Kilima Mbogo**	84.22 93	P	**P**	**21 04 55.2 +0.4**	
KMBO			IAmb	IAmb	21 05 00.4	
	comp=Z,28nm,1.3s					
KMBO	**Kilima Mbogo**	84.22 93	P	**P**	**21 04 55.2 +0.4**	
KMBO			pmax	pmax		
	comp=Z,28nm,1.3s					
KMBO			MLR	MLR		
	comp=Z,700nm,20.0s					
M20K	**Styx River**	84.24 333	IAms_20	IAms_20	21 39 06.7	
	comp=Z,583nm,20.0s					
M20K	**Styx River**	84.24 333	P	**P**	**21 04 54.6 +0.8**	
	baz=68					
B18K	**Kokolik River**	84.30 341	P	**P**	**21 04 55.6 +1.8**	
	baz=61,SNR=23					
L20K	**Farewell, AK**	84.34 334	P	**P**	**21 04 55.6 +1.4**	
	baz=68,SNR=9.2					
C18K	**Utukok River**	84.45 340	P	**P**	**21 04 55.9 +1.2**	
	baz=62,SNR=13					
J19K	**Poorman**	84.47 335	IAms_20	IAms_20	21 39 03.7	
	comp=Z,622nm,22.0s					
J19K	**Poorman**	84.47 335	P	**P**	**21 04 56.0 +1.2**	
	baz=66,SNR=10					
GCSA	**Galena City Sc**	84.66 336	P	**P**	**21 04 57.6 +1.9**	
	baz=65					
M19K	**Big River Lodg**	84.79 333	IAmb	IAmb	21 05 01.2	
	comp=Z,25nm,0.9s					
M19K	**Big River Lodg**	84.79 333	P	**P**	**21 04 57.6 +1.1**	
	baz=67,SNR=12					
E18K	**Tukpahlearik C**	84.83 339	IAms_20	IAms_20	21 40 53.1	
	comp=Z,538nm,20.0s					
E18K	**Tukpahlearik C**	84.83 339	P	**P**	**21 04 57.7 +1.1**	
	baz=62					
G18K	**Tagagawik**	84.84 338	IAms_20

comp=Z,544nm,21.0s
J18K Innoko River 85.14 335 P **P 21 04 59.3 +1.1**
baz=65,SNR=8.1
N19K Bonanza Creek 85.25 332 IAms_20 IAms_20 21 40 22.5
comp=Z,423nm,20.0s
N19K Bonanza Creek 85.25 332 P **P 21 05 00.4 +1.5**
baz=67
RDOG Red Dog Mine 85.30 340 IAmb IAmb 21 05 14.7
comp=Z,74nm,1.7s
RDOG Red Dog Mine 85.30 340 P **P 21 05 00.1 +1.2**
baz=60,SNR=6.8
KIBK Kibwezi 85.30 94 IAmb IAmb 21 05 05.6
comp=Z,36nm,1.4s
KIBK IAms_20 IAms_20 21 42 21.9
comp=Z,473nm,20.0s
ARTI Arti 85.34 33 P **P 21 04 58.7 -0.7**
ARTI IAmb IAmb 21 05 03.7
comp=Z,23nm,1.1s
ARTI Arti 85.34 33 LR LR 21 38 51.5
comp=Z,1μm,22.0s,baz=288,slow=33
ARTI Arti 85.34 33*c iP* **P 21 04 59.4 +0.1**
ARTI S **SKSac 21 15 24.1 -0.3**
ARTI SS **SS 21 21 10.2 +6.2**
ARTI pmax pmax
comp=Z,33nm,1.3s
E17K Hotham Inlet 85.41 339 P **P 21 05 00.8 +1.4**
baz=61
O19K Port Alsworth 85.42 332 P **P 21 05 01.1 +1.5**
baz=67
KDAK Kodiak Island 85.51 329 P **P 21 05 01.4 +1.3**
KDAK IAmb IAmb 21 05 04.4
comp=Z,51nm,1.1s
KDAK Kodiak Island 85.51 329 LR LR 21 41 45.7
comp=Z,788nm,20.1s,baz=267,slow=35
KDAK Kodiak Island 85.51 329 P **P 21 05 01.4 +1.3**
KDAK pmax pmax
comp=Z,51nm,1.2s
KDAK Kodiak Island 85.51 329 P **P 21 05 02.0 +1.9**
baz=68
F17K Baldwin Pennin 85.52 339 IAms_20 IAms_20 21 39 14.3
comp=Z,532nm,21.0s
F17K Baldwin Pennin 85.52 339 P **P 21 05 01.7 +1.7**
baz=61
D17K Noatak River 85.53 340 P **P 21 05 02.0 +1.9**
baz=60
M18K Stony River 85.58 333 P **P 21 05 02.1 +1.7**
baz=66
Q19K Cape Douglas, 85.59 330 IAms_20 IAms_20 21 41 26.6
comp=Z,626nm,21.0s
Q19K Cape Douglas, 85.59 330 P **P 21 05 02.0 +1.4**
baz=68
L18K Granite Mounta 85.65 334 IAms_20 IAms_20 21 41 12.9
comp=Z,617nm,19.0s
L18K Granite Mounta 85.65 334 P **P 21 05 02.4 +1.6**
baz=65
RAYN Ar Rayn 85.74 67 P **P 21 05 00.5 -1.6**
RAYN Ar Rayn 85.74 67 P **P 21 05 02.0 -0.1**
H17K Granite Mounta 85.74 337 IAms_20 IAms_20 21 40 54.2
comp=Z,524nm,21.0s
H17K Granite Mounta 85.74 337 P **P 21 05 02.7 +1.5**
baz=62
G17K Kiwalik Mounta 85.75 338 P **P 21 05 02.8 +1.6**
baz=62
N18K Kilae Creek 85.94 332 IAms_20 IAms_20 21 42 37.6
comp=Z,423nm,20.0s
N18K Kilae Creek 85.94 332 P **P 21 05 03.8 +1.5**
baz=66
C16K Lisburne Hills 85.96 341 IAmb IAmb 21 05 14.6
comp=Z,46nm,1.6s
C16K IAms_20 IAms_20 21 46 33.8
comp=Z,423nm,19.0s
C16K Lisburne Hills 85.96 341 P **P 21 05 03.6 +1.4**
baz=58
O18K Koktuh Hills 85.97 331 IAmb IAmb 21 05 06.9
comp=Z,37nm,1.1s
O18K Koktuh Hills 85.97 331 P **P 21 05 04.0 +1.6**
baz=66
OHAK Old Harbor 86.07 329 P **P 21 05 04.9 +2.0**
baz=68
K17K Iditarod 86.11 335 IAms_20 IAms_20 21 43 55.0
comp=Z,563nm,18.0s
K17K Iditarod 86.11 335 P **P 21 05 04.5 +1.5**
baz=64
J17K VABM Dome 86.12 335 P **P 21 05 04.9 +1.8**
baz=63
P18K Big Mountain, 86.16 331 P **P 21 05 05.3 +1.9**
baz=66
M17K Holitna River 86.32 333 P **P 21 05 06.2 +2.1**
baz=64
ATD Arta Tunnel 86.33 79 LR LR 21 42 06.3
comp=Z,26nm,20.7s,baz=286,slow=35
SVE Sverdlovsk 86.34 32 *eP* **P 21 05 03.9 -0.4**
SVE *eS* **SKSac 21 15 31.3 +0.7**
SVE pmax pmax
comp=Z,31nm,1.2s
SVE MLR MLR
comp=Z,788nm,18.0s
Q18K Katmai Hardscr 86.36 330 P **P 21 05 05.9 +1.5**
baz=66
L17K Donlin 86.37 334 P **P 21 05 06.3 +2.0**
baz=64
G16K Koyuk River 86.43 338 IAmb IAmb 21 05 22.6
comp=Z,49nm,1.6s
G16K IAms_20 IAms_20 21 41 26.3
comp=Z,633nm,22.0s
G16K Koyuk River 86.43 338 P **P 21 05 06.5 +1.9**
baz=60
R18K Karluk 86.52 329 P **P 21 05 07.6 +2.6**
baz=67
I17K Unalakleet 86.54 336 IAms_20 IAms_20 21 39 57.2
comp=Z,692nm,22.0s
I17K Unalakleet 86.54 336 P **P 21 05 07.1 +2.0**
baz=62
N17K Nushagak Hills 86.59 332 IAms_20 IAms_20 21 42 35.7
comp=Z,664nm,20.0s
N17K Nushagak Hills 86.59 332 P **P 21 05 07.5 +2.1**
baz=65
H16K Elim 86.76 337 P **P 21 05 08.2 +2.0**
baz=60
SII Sitkinak Islan 86.78 328 P **P 21 05 08.8 +2.4**
baz=67
J16K Anvik River 86.78 336 IAms_20 IAms_20 21 41 30.8
comp=Z,644nm,20.0s
J16K Anvik River 86.78 336 P **P 21 05 08.4 +2.1**
baz=62
P17K Kvichak River 86.81 331 P **P 21 05 08.8 +2.3**
baz=65
O17K Koliganek Bris 86.87 332 P **P 21 05 08.7 +2.0**
baz=65
Q17K Contact Creek 86.94 330 P **P 21 05 09.1 +1.8**
baz=66
L16K Owhat River 87.06 334 P **P 21 05 09.7 +2.1**
baz=63
F15K North Star Dit 87.09 339 IAmb IAmb 21 05 20.0
comp=Z,38nm,1.4s
F15K IAms_20 IAms_20 21 43 02.8
comp=Z,607nm,19.0s
F15K North Star Dit 87.09 339 P **P 21 05 09.9 +2.1**
baz=58
Q16K King Salmon 87.13 331 P **P 21 05 10.1 +2.0**
baz=65
M16K Timber Creek 87.15 333 P **P 21 05 10.0 +1.8**
baz=63
AKTO Aktyubinsk 87.25 38 LR LR 21 43 00.7
comp=Z,867nm,18.0s,baz=301,slow=35
G15K Niukluk 87.25 338 P **P 21 05 10.8 +2.3**
baz=59
N16K Nishlik Lake 87.31 333 P **P 21 05 11.3 +2.3**
baz=63
O16K Kokwok River B 87.40 332 P **P 21 05 11.3 +2.0**
baz=64
P16K Nushagak River 87.60 331 P **P 21 05 11.9 +1.6**
baz=64
K15K Wolf Creek Mou 87.64 335 P **P 21 05 12.6 +2.1**
baz=61
F14K Arctic Creek 87.81 339 P **P 21 05 13.4 +2.2**
baz=57
ANM Nome 87.96 338 IAms_20 IAms_20 21 42 11.8
comp=Z,595nm,22.0s
N15K Kwethluk River 88.04 333 P **P 21 05 14.7 +2.2**
baz=62
R16K Pilot Point 88.05 330 P **P 21 05 14.8 +2.4**
baz=64
M15K Kasigluk River 88.05 333 P **P 21 05 14.9 +2.4**
baz=62
J14K Nanvaranak Lak 88.22 336 P **P 21 05 15.3 +2.1**
baz=59
TNA Tin City 88.31 339 IAms_20 IAms_20 21 42 55.0
comp=Z,608nm,21.0s
TNA Tin City 88.31 339 P **P 21 05 16.0 +2.4**
baz=55
O15K Ungalikthiuk R 88.38 332 P **P 21 05 16.8 +2.7**
baz=62
M14K Bethel 88.57 334 IAmb IAmb 21 05 20.8
comp=Z,42nm,1.1s
M14K Bethel 88.57 334 P **P 21 05 17.4 +2.5**
baz=60
L14K Kuka Creek 88.58 334 P **P 21 05 17.3 +2.4**
baz=60
AB31 Akbulak array 88.84 39 IAmb IAmb 21 05 20.9
comp=Z,18nm,1.1s
ABKAR Akbulak array 88.84 39 P **P 21 05 15.7 -0.8**
ABKAR Akbulak array 88.84 39 IAmb IAmb 21 05 20.9
comp=Z,18nm,1.1s
N14K Kuskokwak Cree 88.86 333 P **P 21 05 18.9 +2.7**
baz=61
O14K Tigyukauivet M 89.00 332 P **P 21 05 19.4 +2.5**
baz=61
K13K Kusilvak Mount 89.09 335 IAms_20 IAms_20 21 46 48.6
comp=Z,530nm,20.0s
K13K Kusilvak Mount 89.09 335 P **P 21 05 19.7 +2.4**
baz=58
M13K Dall Lake 89.33 334 P **P 21 05 21.0 +2.6**
baz=59
NRIK Noril'sk 89.54 15 *deP* **P 21 05 19.4 +0.1**
comp=Z,0.9nm,0.3s,baz=276,slow=10.0,SNR=4.5
NRIK LR LR 21 42 41.5
comp=Z,312nm,19.6s,baz=312,slow=34
comp=Z,0.9nm,0.3s
NRIK Noril'sk 89.54 15 *deP* **P 21 05 20.3 +1.0**
NRIK pmax pmax
comp=Z,4.0nm,1.1s
S14K Fog Glacier 89.59 329 P **P 21 05 22.6 +2.6**
baz=62
VNA1 Neumayer--Stat 89.72 168 ⇓P **P 21 05 21.9 +2.0**
comp=Z,13nm,0.8s
VNA3 Neumayer Olymp 89.93 169 ⇓P **P 21 05 21.4 +0.5**
comp=Z,15nm,1.0s
VNA2 Neumayer--Watz 90.11 168 ⇓P **P 21 05 22.2 +0.4**
comp=Z,2.3nm,0.6s,baz=326,slow=4.5
CHNA Chernabura Isl 90.28 328 P **P 21 05 25.3 +2.3**
baz=62
M11K Mekoryuk 90.55 334 P **P 21 05 26.4 +2.3**
baz=57
SNAA Sanae 91.63 167 ⇓P **P 21 05 29.6 +0.7**
comp=Z,46nm,0.6s
SNAA Sanae 91.63 167 P **P 21 05 28.5 -0.4**
SNAA IAmb IAmb 21 05 38.1
comp=Z,11nm,0.9s
SNAA Sanae 91.63 167 P **P 21 05 29.6 +0.7**
comp=Z,2.0nm,0.5s,baz=301,slow=8.7,SNR=9.4
SNAA LR LR 21 39 37.3
comp=Z,606nm,20.0s,baz=331,slow=31
comp=Z,2.0nm,0.5s
SNAA Sanae 91.63 167 ⇓*eP* **P 21 05 30.0 +1.1**
SNAA pmax pmax
comp=Z,6.0nm,1.1s
BRVK Borovoye 93.00 33 P **P 21 05 34.5 -1.2**
BRVK Borovoye 93.00 33 ⇑*eP* **P 21 05 35.3 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
TROLL Troll, Antarti 93.04 166 ⇓P **P 21 05 37.5 +2.0**
comp=Z,66nm,0.6s
BVAR Borovoye Array 93.07 33 P **P 21 05 35.6 -0.4**
comp=Z,1.7nm,0.7s,baz=186,slow=1.3,SNR=7.3
BVAR LR LR 21 44 19.7
comp=Z,869nm,21.6s,baz=303,slow=34
comp=Z,1.7nm,0.7s
TIXI Tiksi 93.16 1 P **P 21 05 34.6 -1.4**
TIXI Tiksi 93.16 1 ⇓*eP* **P 21 05 35.8 -0.3**
TIXI pmax pmax
comp=Z,10.0nm,0.9s
BILL Bilibino 93.54 348 IAms_20 IAms_20 21 47 26.3
comp=Z,468nm,20.0s
RKT Rikitea 94.58 247 *e*LR LR 21 36 03.7
comp=Z,2μm,28.2s
TAOE Nuku Hiva Isla 95.84 262 *e*LR LR 21 36 48.0
comp=Z,406nm,38.6s
KURK Kurchatov 98.59 32 ⇓*eP* **P 21 06 00.4 -0.8**
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURBB Kurchatov Arra 98.60 32 P **P 21 06 00.1 -1.1**
comp=Z,0.7nm,0.3s,baz=308,slow=5.0,SNR=4.1
KURBB LR LR 21 47 46.8
comp=Z,518nm,21.3s,baz=230,slow=34
comp=Z,0.7nm,0.3s
SYO Syowa Base 102.78 158 ⇓*ep*Pdiff pPdif 21 06 22.8 +1.2
PPT2 Papeete2 106.74 256 *e*SS SS 21 26 10.8 +0.9
comp=Z,255nm,27.8s
PPT2 Papeete2 106.74 256 *e*LR LR 21 41 42.6
comp=Z,479nm,28.5s
PPT2 *e*LR LR 21 41 51.5
comp=Z,292nm,32.0s
TBI Tubuai 107.66 250 *e*S **Sdif 21 18 33.1 -14**
comp=Z,793nm,23.8s
TBI *e*SS **SS 21 26 17.1 -4.9**
comp=Z,2μm,28.5s
TBI Tubuai 107.66 250 *e*LR LR 21 42 07.0
comp=Z,998nm,27.0s
TBI *e*LR LR 21 42 17.0
comp=Z,2μm,36.0s
WMQ Urumqi 107.75 33 Pdif **Pdif 21 06 42.8 +0.5**
WMQ LR LR
comp=Z,530nm,20.9s
WMQ LR LR
comp=Z,660nm,20.9s
WMQ LR LR
comp=Z,580nm,23.1s
HIA Hailar 114.52 10 IAms_20 IAms_20 22 06 53.7
comp=Z,346nm,18.0s
KLR Kul'dur 115.70 1 ⇓*eP*KIKP **PKPdf 21 11 09.9 +5.2**
KLR pmax pmax
comp=Z,8.0nm,2.5s
VNDA Vanda 116.19 187 PKP **PKiKP 21 11 04.3 -0.5**
comp=Z,1.2nm,0.7s,baz=253,slow=3.5,SNR=6.7
YSS Yuzhno-Sakhali 117.44 353 IAms_20 IAms_20 22 01 00.7
comp=Z,282nm,18.0s
LSA Lhasa 119.36 42 IAms_20 IAms_20 22 02 59.0
comp=Z,312nm,21.0s
BTO Baotou 120.20 21 *e*PKP **PKPdf 21 11 08.5 -5.3**
BTO SS SS 21 29 02.0 -2.5
BTO LR LR
comp=Z,770nm,9.6s
BTO LR LR
comp=Z,380nm,10.3s
BTO LR LR
comp=Z,980nm,20.5s
MDJ Mudanjiang 120.22 3 IAms_20 IAms_20 22 08 41.3
comp=Z,322nm,20.0s
MDJ Mudanjiang 120.22 3 PKP **PKPdf 21 11 12.5 -1.1**
CD2 Chengdu 125.82 32 PKP **PKPdf 21 11 23.0 -1.8**
TIA Tai'an 126.42 17 PKP **PKPdf 21 11 25.3 -0.5**
KSRS Korea Array 127.22 6 PKP **PKiKP 21 11 27.7 0.0**
comp=Z,0.5nm,0.5s,baz=319,slow=0.8,SNR=4.9
TNCH TengChong 127.30 41 PKP **PKiKP 21 11 30.3 +1.8**
TNCH PP **PP 21 13 33.0 +6.5**
TNCH AMB AMB
comp=Z,180nm,6.2s
TNCH LR LR
comp=Z,250nm,19.2s
TNCH LR LR
comp=Z,250nm,16.2s
TNCH LR LR
comp=Z,560nm,19.3s
PZH PanZhiHua 128.17 37 PKP **PKPdf 21 11 28.8 -0.7**
PZH PP **PP 21 13 31.3 -0.7**
PZH AMB AMB
comp=Z,270nm,8.1s
PZH LR LR
comp=Z,320nm,22.2s
PZH LR LR
comp=Z,380nm,21.6s
PZH LR LR
comp=Z,460nm,19.8s
MJAR Matsushiro Arr 128.21 355 PKP **PKPdf 21 11 28.4 -0.8**
comp=Z,5.5nm,0.9s,baz=39,slow=2.9,SNR=7.7
ENH Enshi 129.07 27 **PKPdf 21 11 29.6 -1.4**
WHN Wuhan 130.78 22 PKP **PKiKP 21 11 36.8 +1.8**
WHN LR LR
comp=Z,2μm,24.4s
NJ2 Nanjing 130.81 17 *e*PKP **PKPdf 21 11 34.0 -0.2**
CMAR Chiang Mai Arr 132.14 47 **PKPdf 21 11 35.7 -1.3**
CMAR Chiang Mai Arr 132.14 47 PKP **PKPdf 21 11 37.0 -0.1**
comp=Z,2.8nm,0.9s,baz=299,slow=3.2,SNR=9.9
CMAR Chiang Mai Arr 132.14 47 PKIKP **PKPdf 21 11 37.0 -0.1**
QIZ Qiongzhong 138.63 35 PKP **PKPdf 21 11 47.5 -1.6**
QIZ SS SS 21 32 53.0 +0.4
QIZ LR LR
comp=Z,260nm,15.7s
QIZ LR LR
comp=Z,230nm,21.6s
QIZ LR LR
comp=Z,260nm,25.0s
PSI Prapat 141.28 65 PKHKP PKPpre 21 11 46.3
RPSI Rantau Prapat 141.33 65 PKPpre PKPpre 21 11 46.2
MYKOM Kota Tinggi 146.04 62 **PKPdf 21 11 59.9 -2.5**
DZM Mont Dzumac 148.19 253 *e*SS SS 21 34 40.8 -4.9
comp=Z,162nm,29.4s
DZM Mont Dzumac 148.19 253 *e*LR LR 22 00 56.3
comp=Z,226nm,25.3s
DZM Mont Dzumac 148.19 253 PKPbc **PKPbc 21 12 09.6 +0.4**
comp=Z,12nm,0.7s,baz=72,slow=12,SNR=5.3
KSM Kuching 151.58 56 **PKPdf 21 12 08.4 -3.0**
KSM PKPbc **sPKPdf 21 12 15.7 +1.2**
SBUM Sibu 152.46 52 **PKPdf 21 12 09.9 -2.8**
MYLDM Lahad Datu 154.74 37 **PKPdf 21 12 14.0 -2.0**
ASAR Alice Springs 171.71 182 PKP **PKPdf 21 12 31.8 0.0**
comp=Z,1.2nm,0.9s,baz=219,slow=1.6,SNR=5.5
WRA Warramunga Arr 175.36 189 PKP **PKPdf 21 12 32.8 -0.4**
comp=Z,5.3nm,1.2s,baz=194,slow=0.5,SNR=8.8

NEIC ***30*** *20:53:56.9±1.7,29°.38N±0°.06×140°.9E±0°.1,h51km±7km, mb4.5/39, Error ellipse: s-maj=14.8km s-min=7.4km az=71.0*
IDC ***30*** *20:53:58.2±1.9,29°.34N×141°.04E,h70km±18km,mb3.6/17, mbtmp3.9/20, Error ellipse: s-maj=27.5km s-min=12.3km az=79.0*
ISC 30 20:53:57.7±0.5**,29°.35N**±0°.05×**140°.98E**±0°.09**,h67**km**,n78,**
σ1°**43/81,mb4.3/35,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.49**	**154**		**Pn**	**20 54 36.3**	**+0.3**
JCJ				Sn	**Sn**	**20 55 03.1**	**-2.1**
JCJ	**Chichijima**	**2.49**	**154**	P	**Pn**	**20 54 35.6**	**-0.4**
80nm,0.5s,baz=1.4,slow=22,SNR=96							
JCJ				S	**Sn**	**20 54 59.0**	**-6.2**
158nm,0.4s,baz=285,slow=23,SNR=8.5							
JHJ2	**Mitsune**	**3.88**	**345**	Pn	**Pn**	**20 54 51.2**	**-3.7**
JHJ2				Sn	**Sn**	**20 55 36.2**	**-2.9**
JHJ	**Hachijo jima 2**	**3.89**	**345**	P	**Pn**	**20 54 56.1**	**+1.1**
163nm,1.0s,baz=129,slow=18,SNR=1.8							
JHJ				S	**Sn**	**20 55 34.8**	**-4.7**
110nm,0.4s,baz=225,slow=23,SNR=6.7							
JMN	**Monobe**	**7.46**	**308**	Pn	**Pn**	**20 55 42.1**	**-1.9**
MJAR	**Matsushiro Arr**	**7.54**	**343**	P	**Pn**	**20 55 46.1**	**+1.2**
1.0nm,0.4s,baz=161,slow=12,SNR=12							
MAJO	**Matsushiro**	**7.54**	**343**	Pn	**Pn**	**20 55 43.7**	**-1.2**
MJB9	**Matsu-Tunnel**	**7.54**	**343**	Pn	**Pn**	**20 55 45.4**	**+0.4**
JMM	**Marumori**	**8.49**	**359**	Pn	**Pn**	**20 55 54.4**	**-3.5**
YULB	**Yu-li**	**18.60**	**256**	P	**P**	**20 58 08.8**	**-0.9**
YULB				IAmb	IAmb	20 58 15.4	
comp=Z,33nm,1.5s							
KLR	**Kul'dur**	**21.07**	**343**	P	**P**	**20 58 36.9**	**+0.7**
comp=Z,2.3nm,0.6s,baz=162,slow=6.7,SNR=12							
comp=Z,2.3nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**25.40**	**106**	T	T	21 26 19.7	
baz=296,slow=74							
H11N1	**WAKE ISLAND Hy**	**25.40**	**106**	T	T	21 26 49.1	
baz=296							
H11N3	**WAKE ISLAND Hy**	**25.42**	**106**	T	T	21 26 38.0	
baz=296,slow=74							
H11S3	**WAKE ISLAND Hy**	**25.81**	**109**	T	T	21 27 23.2	
baz=294							
H11S1	**WAKE ISLAND Hy**	**25.82**	**109**	T	T	21 27 25.3	
baz=294							
H11S2	**WAKE ISLAND Hy**	**25.83**	**109**	T	T	21 27 28.9	
baz=294							
SONM	**Songino Array**	**32.37**	**314**	P	**P**	**21 00 21.6**	**+0.7**
comp=Z,0.3nm,0.5s,baz=116,slow=7.8,SNR=2.4							
comp=Z,0.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**39.74**	**264**	P	**P**	**21 01 25.6**	**+1.6**
comp=Z,0.5nm,0.6s,baz=59,slow=5.6,SNR=8.3							
comp=Z,0.5nm,0.6s							
TIXI	**Tiksi**	**42.87**	**354**	P	**P**	**21 01 49.1**	**+0.2**
MTN	**Manton Dam**	**43.01**	**194**	P	**P**	**21 01 50.9**	**+0.1**
MTN				IAmb	IAmb	21 01 57.4	
comp=Z,23nm,1.4s							
KULM	**Kulim**	**44.97**	**246**	P	**P**	**21 02 06.1**	**-0.5**
KULM				IAmb	IAmb	21 02 22.6	
comp=Z,11nm,1.3s							
ZALV	**Zalesovo Beam**	**47.10**	**318**	P	**P**	**21 02 22.2**	**-0.5**
comp=Z,0.4nm,0.4s,baz=102,slow=5.8,SNR=1.7							
ZALV				PcP	**PcP**	**21 03 53.2**	**-0.4**
comp=Z,0.4nm,0.3s,baz=46,slow=4.3,SNR=3.6							
comp=Z,0.4nm,0.4s							
MKAR	**Makanchi Array**	**48.23**	**308**	P	**P**	**21 02 30.7**	**-1.0**
MKAR				PcP	**PcP**	**21 03 58.6**	**+0.7**
MKAR	**Makanchi Array**	**48.23**	**308**	P	**P**	**21 02 31.1**	**-0.7**
comp=Z,0.2nm,0.3s,baz=82,slow=10,SNR=7.1							
MKAR				PcP	**PcP**	**21 03 58.7**	**+0.7**
comp=Z,0.4nm,0.7s,baz=80,slow=5.6,SNR=4.4							
comp=Z,0.2nm,0.3s							
WB0	**Warramunga Arr**	**49.24**	**188**	P	**P**	**21 02 39.6**	**0.0**
WB0				IAmb	IAmb	21 02 43.8	
comp=Z,3.5nm,0.9s							
WR8	**Warramunga Arr**	**49.42**	**188**	P	**P**	**21 02 40.6**	**-0.4**
WR8				IAmb	IAmb	21 02 43.6	
comp=Z,7.2nm,1.1s							
WR8				PcP	**PcP**	**21 04 03.5**	**+1.1**
WRA	**Warramunga Arr**	**49.42**	**188**	P	**P**	**21 02 40.4**	**-0.6**
comp=Z,0.6nm,0.4s,baz=5.3,slow=7.6,SNR=14							
comp=Z,0.6nm,0.4s							
FITZ	**Fitzroy Crossi**	**49.44**	**199**	P	**P**	**21 02 40.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**49.44**	**199**	P	**P**	**21 02 41.7**	**+0.6**
comp=Z,1.5nm,0.7s,baz=18,slow=9.6,SNR=2.2							
comp=Z,1.5nm,0.7s							
GSI	**Gunungsitoli**	**49.82**	**244**	P	**P**	**21 02 43.5**	**-0.7**
GSI				IAmb	IAmb	21 02 47.2	
comp=Z,9.1nm,1.0s							
M16K	**Timber Creek**	**50.35**	**33**	P	**P**	**21 02 48.3**	**+0.7**
M16K				IAmb	IAmb	21 02 57.4	
comp=Z,12nm,1.4s							
KURBB	**Kurchatov Arra**	**50.72**	**313**	P	**P**	**21 02 50.2**	**-0.3**
comp=Z,0.4nm,0.3s,baz=91,slow=7.6,SNR=2.1							
comp=Z,0.4nm,0.3s							
C18K	**Utukok River**	**51.39**	**23**	P	**P**	**21 02 55.6**	**+0.3**
G18K	**Tagagawik**	**51.54**	**27**	P	**P**	**21 02 57.9**	**+1.4**
F19K	**Shaleruckik Mo**	**52.12**	**26**	P	**P**	**21 03 01.6**	**+0.8**
H19K	**Roundabout Mou**	**52.35**	**28**	P	**P**	**21 03 03.9**	**+1.4**
E19K	**Redstone River**	**52.48**	**25**	P	**P**	**21 03 04.5**	**+1.0**
E19K				IAmb	IAmb	21 03 05.5	
comp=Z,1.9nm,0.7s							
BOOM	**Boomskoye usch**	**53.08**	**303**	P	**P**	**21 03 08.0**	**-0.4**
ASAR	**Alice Springs**	**53.15**	**188**	P	**P**	**21 03 09.0**	**+0.1**
ASAR	**Alice Springs**	**53.15**	**188**	P	**P**	**21 03 08.9**	**+0.1**
comp=Z,0.3nm,0.5s,baz=5.2,slow=5.3,SNR=9.4							
comp=Z,0.3nm,0.5s							
CUT	**Chulitna**	**54.63**	**32**	P	**P**	**21 03 21.1**	**+2.0**
BVAR	**Borovoye Array**	**55.67**	**316**	P	**P**	**21 03 26.9**	**0.0**
comp=Z,1.2nm,0.4s,baz=98,slow=7.4,SNR=16							
BVAR				PcP	**PcP**	**21 04 26.2**	**+0.6**
comp=Z,0.7nm,0.5s,baz=86,slow=2.8,SNR=4.4							
comp=Z,1.2nm,0.4s							
D24K	**Happy Valley**	**55.86**	**24**	P	**P**	**21 03 29.6**	**+1.7**
D24K				IAmb	IAmb	21 03 30.3	
comp=Z,3.8nm,0.6s							
F24K	**Squaw Lake**	**56.03**	**26**	P	**P**	**21 03 31.0**	**+1.7**
IL31		**56.26**	**29**	P	**P**	**21 03 32.7**	**+1.9**
ILAR	**Eielson Array**	**56.26**	**29**	P	**P**	**21 03 31.3**	**+0.4**
comp=Z,0.3nm,0.6s,baz=266,slow=5.7,SNR=4.8							
comp=Z,0.3nm,0.6s							
KKAR	**Karatay Array**	**56.92**	**305**	P	**P**	**21 03 35.0**	**-0.9**
KKAR	**Karatay Array**	**56.92**	**305**	P	**P**	**21 03 35.2**	**-0.7**
KKAR				IAmb	IAmb	21 03 54.1	
comp=Z,3.5nm,1.1s							
BMAR	**Burnt Mountain**	**57.30**	**26**	P	**P**	**21 03 40.5**	**+2.2**
M29M	**Somme Creek**	**60.11**	**32**	P	**P**	**21 03 59.2**	**+1.2**
L29M	**L29M**	**60.19**	**31**	P	**P**	**21 04 00.3**	**+1.9**
K29M	**Barlow Dome**	**60.37**	**30**		**P**	**21 04 01.6**	**+1.8**
EPYK	**Eagle Plains**	**60.43**	**27**	P	**P**	**21 04 01.4**	**+1.4**
G30M	**tAoh Zraii Nji**	**60.57**	**27**	P	**P**	**21 04 01.2**	**+0.3**
ARTI	**Arti**	**62.10**	**321**	P	**P**	**21 04 12.0**	**+0.6**
ARTI				IAmb	IAmb	21 04 14.4	
comp=Z,3.5nm,0.8s							
AB31	**Akbulak array**	**62.77**	**313**	P	**P**	**21 04 15.6**	**-0.4**
AB31				IAmb	IAmb	21 04 16.2	
comp=Z,1.6nm,0.5s							
ABKAR	**Akbulak array**	**62.77**	**313**	P	**P**	**21 04 15.6**	**-0.4**

ABKAR IAmb IAmb 21 04 16.2
comp=Z,1.6nm,0.5s
EUNU Eureka 67.82 8 P **P 21 04 48.8 +0.6**
EUNU IAmb IAmb 21 04 52.1
comp=Z,10nm,1.2s
ARCES ARCESS Array B 71.07 340 P **P 21 05 08.4 +0.1**
ARCES IAmb IAmb 21 05 09.7
comp=Z,15nm,1.2s
ARCES ARCESS Array B 71.07 340 P **P 21 05 08.6 +0.3**
comp=Z,4.6nm,0.9s,baz=66,slow=12,SNR=4.5
comp=Z,4.6nm,0.9s
FIA1 FINESS Array S 75.46 333 P **P 21 05 34.4 +0.2**
FINES FINESS Array B 75.46 333 P **P 21 05 34.3 +0.1**
FINES FINESS Array B 75.46 333 P **P 21 05 34.8 +0.6**
comp=Z,1.4nm,0.4s,baz=64,slow=4.5,SNR=12
comp=Z,1.4nm,0.4s
NNZ Nelson 76.35 155 P **P 21 05 39.9 +0.5**
WAKR Walker 79.15 52 P **P 21 05 55.8 +0.1**
WAKR IAmb IAmb 21 06 12.0
comp=Z,6.2nm,0.9s
PABE Paberze 79.89 329 P **P 21 05 59.7 +0.7**
PABE IAmb IAmb 21 06 00.6
comp=Z,9.2nm,0.8s
AKASG Malin Array Be 80.17 323 P **P 21 06 01.0 +0.3**
comp=Z,1.1nm,0.4s,baz=51,slow=5.5,SNR=8.1
comp=Z,1.1nm,0.4s
AKBB Malin Array Si 80.17 323 P **P 21 06 00.3 -0.3**
AKBB IAmb IAmb 21 06 04.0
comp=Z,3.3nm,0.8s
KIEV Kiev 80.19 323 P **P 21 06 00.3 -0.4**
KIEV IAmb IAmb 21 06 04.0
comp=Z,3.0nm,0.8s
HFS Hagfors 80.94 336 P **P 21 06 04.5 0.0**
comp=Z,1.6nm,0.5s,baz=91,slow=5.9,SNR=13
comp=Z,1.6nm,0.5s
NB2 NORSAR Subarra 81.13 338 P **P 21 06 05.7 0.0**
comp=Z,1.7nm,0.8s,baz=45,slow=5.3
NOA NORSAR Array B 81.13 338 P **P 21 06 05.6 0.0**
comp=Z,0.6nm,0.6s,baz=43,slow=5.4,SNR=5.4
comp=Z,0.6nm,0.6s
RAYN Ar Rayn 83.28 293 P **P 21 06 17.9 +0.3**
RAYN IAmb IAmb 21 06 30.1
comp=Z,4.1nm,1.2s
BRTR Keskin Array B 83.70 312 P **P 21 06 20.2 +0.7**
BRTR Keskin Array B 83.70 312 P **P 21 06 20.4 +0.8**
comp=Z,1.7nm,0.6s,baz=110,slow=4.6,SNR=4.3
comp=Z,1.7nm,0.6s
BUR08 Bucovina Ar. S 84.11 322 P **P 21 06 22.3 +0.8**
QSPA South Pole Qui 119.12 180 PKP **PKPdf 21 12 38.1 -0.1**
comp=Z,1.6nm,1.1s,baz=178,slow=1.8,SNR=6.2

---

*BJI **30** 21:00:58.0, 9.°29S±.149.°08E, h10km, mB5.1/14, mb4.8/52, Ms5.0/13, Ms7 4.8/7*
*IDC **30** 21:00:59.1±0.6, 9.°37S±.148.°68E, h0km, mb4.3/16, mbtmp4.4/16, MS3.4/12, Error ellipse: s-maj=15.5km s-min=13.8km az=155.0*
*NEIC **30** 21:01:00.7±1.4, 9.°59S±0.°09±.148.°62E±0.°06, h10km±1km, mb4.9/62, Error ellipse: s-maj=15.2km s-min=10.2km az=169.0*
*DJA **30** 21:01:01.9±3.0, 9.°S±6.°±.14.°9E±1.°0, h14km±17km, M4.5/12, mb4.5/12, mB5.9/2, MLv4.5/2, Mw(mB)5.4/2*
ISC 30 21:01:03.2±0.5, **9.48S**±0.°06±**148.49E**±0.°06, **h22**km, **n307**, σ1**9**/**00**/302, **mb4.9**/56, **MS3.6**/14, **1C-4D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.31**	**273**		**Pn**	**21 01 26.6**	**+0.5**
PMG				Sn	**Sb**	**21 01 46.0**	**+2.5**
PMG	**Port Moresby**	**1.31**	**273**	Pg	**Pn**	**21 01 26.8**	**+0.6**
	207nm,0.3s,baz=103,slow=8.6,SNR=201						
PMG				Lg	Lg	21 01 46.9	
	350nm,0.3s,baz=234,slow=19,SNR=17						
PMG				LR	LR	21 02 03.3	
	comp=Z,874nm,21.0s,baz=288,slow=43						
PMG	**Port Moresby**	**1.31**	**273**	P	**Pb**	**21 01 28.2**	**+1.1**
RABL	**Rabaul**	**6.39**	**35**		**Pn**	**21 02 34.4**	**-1.7**
COEN	**Coen**	**6.85**	**229**		**Pn**	**21 02 40.0**	**-2.3**
GENI	**Genyem**	**10.73**	**309**	P	Pn	21 03 43.4	+7.7
	48nm,0.8s						
HNR	**Honiara**	**11.30**	**91**	LR	LR	21 06 58.5	
	comp=Z,46nm,18.8s,baz=212,slow=32						
QIS	**Mount Isa**	**13.96**	**217**	P	**Pn**	**21 04 21.1**	**+1.3**
EIDS	**Eidsvold**	**16.00**	**171**		**Pn**	**21 04 46.7**	**-0.2**
KDU	**Kakadu**	**16.04**	**257**	P	**P**	**21 04 50.4**	**-0.4**
WRAB	**Tennant Creek**	**17.16**	**231**		**Pn**	**21 05 00.7**	**-1.0**
WRA	**Warramunga Arr**	**17.18**	**231**		**Pn**	**21 05 01.6**	**-0.3**
WRA	**Warramunga Arr**	**17.18**	**231**	P	**Pn**	**21 04 59.3**	**-2.6**
	10nm,1.1s,baz=53,slow=12,SNR=18						
WRA				S	Sn	21 07 58.5	-14
	1.4nm,0.8s,baz=48,slow=22,SNR=6.8						
WRA				LR	LR	21 11 52.6	
	comp=Z,62nm,18.9s,baz=342,slow=38						
MTN	**Manton Dam**	**17.35**	**257**		**Pn**	**21 05 04.7**	**+0.6**
FAKI	**Fak Fak**	**17.40**	**291**		**Pn**	**21 05 05.5**	**+0.7**
QLP	**Quilpie**	**17.48**	**193**	P	**P**	**21 05 10.7**	**+4.0**
AS31	**Alice Springs**	**19.83**	**223**		**P**	**21 05 31.9**	**-0.8**
ASAR	**Alice Springs**	**19.83**	**223**		**P**	**21 05 30.5**	**-2.1**
ASAR	**Alice Springs**	**19.83**	**223**	P	**Pn**	**21 05 34.1**	**-0.2**
	9.9nm,0.9s,baz=58,slow=10,SNR=48						
ASAR				S	**S**	**21 09 07.3**	**-7.9**
	1.2nm,0.8s,baz=44,slow=24,SNR=4.4						
ASAR				LR	LR	21 13 29.5	
	comp=Z,91nm,18.3s,baz=53,slow=37						
	9.9nm,0.9s						
KNRA	**Kununurra**	**20.20**	**250**		**P**	**21 05 37.0**	**+0.3**
KNRA				IAmb	IAmb	21 05 43.7	
	comp=Z,57nm,1.2s						
OOD	**Oodnadatta**	**21.85**	**212**	P	**P**	**21 05 58.7**	**+4.3**
STKA	**Stephens Creek**	**23.19**	**195**	P	**P**	**21 06 09.4**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=357,slow=10,SNR=4.2						
STKA				LR	LR	21 14 11.8	
	comp=Z,132nm,21.2s,baz=24,slow=34						
	comp=Z,2.7nm,0.8s						
GUMO	**Guam**	**23.20**	**351**	LR	LR	21 13 38.7	
	comp=Z,114nm,21.4s,baz=151,slow=33						
FITZ	**Fitzroy Crossi**	**23.76**	**246**		**P**	**21 06 14.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**23.76**	**246**	P	**P**	**21 06 14.7**	**+0.4**
	comp=Z,6.2nm,0.6s,baz=67,slow=7.4,SNR=19						
	comp=Z,6.2nm,0.6s						
MMRI	**Maumere**	**25.93**	**270**		**P**	**21 06 33.5**	**-0.7**
MMRI	**Maumere**	**25.93**	**270**	P	**P**	**21 06 34.4**	**+0.2**
	comp=Z,55nm,1.2s						
LUWI	**Luwuk**	**26.92**	**287**	P	**P**	**21 06 42.4**	**-0.7**
LUWI				IAmb	IAmb	21 07 04.1	
	comp=Z,31nm,0.9s						
KAPI	**Kappang**	**28.84**	**277**	P	**P**	**21 06 59.7**	**-0.5**
KAPI				IAmb	IAmb	21 07 01.6	
	comp=Z,18nm,1.3s						
MSVF	**Nonsavu**	**29.85**	**109**	LR	LR	21 18 01.3	
	comp=Z,166nm,18.0s,baz=183,slow=34						
JCJ	**Chichijima**	**36.87**	**351**	LR	LR	21 21 48.2	
	comp=Z,34nm,19.8s,baz=154,slow=34						
NWAO	**Narrogin (SRO)**	**37.08**	**226**	LR	LR	21 22 46.2	
	comp=Z,144nm,18.9s,baz=264,slow=35						
SBUM	**Sibu**	**38.03**	**286**	P	**P**	**21 08 19.9**	**-0.3**
JOW	**Kunigami**	**41.08**	**332**	LR	LR	21 22 12.7	
	comp=Z,73nm,20.9s,baz=284,slow=31						
NACB	**Ninganchiao**	**42.53**	**322**	P	**P**	**21 08 57.6**	**+0.3**
YHNB	**Yeheng**	**43.03**	**323**	P	**P**	**21 09 01.6**	**+0.2**
TATO	**Taipei**	**43.19**	**323**	P	**P**	**21 09 03.1**	**+0.5**
JNU	**Nakatsue**	**45.56**	**339**	LR	LR	21 28 11.4	
	comp=Z,25nm,19.4s,baz=135,slow=36						
JGF	**Kuroka**	**46.05**	**347**	P	**P**	**21 09 24.7**	**-0.7**
MJAR	**Matsushiro Arr**	**46.78**	**349**	P	**P**	**21 09 30.3**	**-0.8**
	comp=Z,7.6nm,0.8s,baz=168,slow=7.8,SNR=17						
MJAR				LR	LR	21 27 03.0	
	comp=Z,22nm,18.6s,baz=157,slow=34						
	comp=Z,7.6nm,0.8s						
MAJO	**Matsushiro**	**46.79**	**349**		**P**	**21 09 30.7**	**-0.4**
MAJO				IAmb	IAmb	21 09 31.8	
	comp=Z,20nm,1.1s						
MJB9	**Matsu-Tunnel**	**46.79**	**349**	P	**P**	**21 09 31.4**	**+0.2**
MJB9				IAmb	IAmb	21 09 33.2	
	comp=Z,21nm,1.1s						
JSD	**Sado**	**48.22**	**349**	P	**P**	**21 09 42.0**	**-0.2**
KULM	**Kulim**	**49.88**	**285**	P	**P**	**21 09 55.5**	**+0.1**
KULM				IAmb	IAmb	21 09 56.8	
	comp=Z,9.1nm,0.9s						
NJ2	**Nanjing**	**50.08**	**327**	*e*P	**P**	**21 09 57.8**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KSRS	**Korea Array**	**50.51**	**339**	P	**P**	**21 09 59.8**	**+0.1**
	comp=Z,7.7nm,0.7s,baz=156,slow=8.6,SNR=42						
KSRS				LR	LR	21 29 35.4	
	comp=Z,31nm,21.7s,baz=355,slow=34						
	comp=Z,7.7nm,0.7s						
KSAR	**Wonju Array Be**	**50.51**	**339**	P	**P**	**21 09 59.6**	**-0.1**
RPSI	**Rantau Prapat**	**50.84**	**281**	P	**P**	**21 10 01.5**	**-1.2**
GYA	**Guiyang**	**54.09**	**312**	⇓P	**P**	**21 10 31.5**	**+4.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TIA	**Tai'an**	**54.20**	**329**	P	**P**	**21 10 26.8**	**-0.4**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ENH	**Enshi**	**54.47**	**318**	P	**P**	**21 10 29.2**	**-0.1**
USRK	**Ussuriysk Ar.**	**55.48**	**346**	P	**P**	**21 10 36.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**55.48**	**346**	P	**P**	**21 10 35.8**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=169,slow=7.9,SNR=6.2						
	comp=Z,1.9nm,0.5s						
LYN	**LuoYang**	**55.51**	**324**	P	**P**	**21 10 37.5**	**+0.8**
LYN				pmax	pmax		
	comp=Z,35nm,0.9s						
CM31	**Chiang Mai Arr**	**56.21**	**300**	P	**P**	**21 10 42.8**	**+0.8**
CM31				IAmb	IAmb	21 10 47.8	
	comp=Z,13nm,1.0s						
CMAR	**Chiang Mai Arr**	**56.21**	**300**	P	**P**	**21 10 42.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**56.21**	**300**	P	**P**	**21 10 43.0**	**+1.0**
	comp=Z,5.7nm,1.0s,baz=126,slow=5.4,SNR=34						
	comp=Z,5.7nm,1.0s						
KMI	**Kunming**	**56.29**	**309**	⇓P	**P**	**21 10 44.5**	**+1.7**
KMI				pmax	pmax		
	comp=Z,16nm,1.2s						
HNS	**HongShan**	**56.35**	**328**	⇓P	**P**	**21 10 42.8**	**+0.1**
HNS				pmax	pmax		
	comp=Z,11nm,0.7s						
MDJ	**Mudanjiang**	**56.49**	**344**	P	**P**	**21 10 43.5**	**0.0**
MDJ				IAmb	IAmb	21 10 44.7	
	comp=Z,7.3nm,0.8s						
MDJ	**Mudanjiang**	**56.49**	**344**	P	**P**	**21 10 44.0**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,11nm,1.0s						
XAN	**Xi'an**	**57.29**	**321**	P	**P**	**21 10 49.8**	**+0.3**
XAN				pP	pP	21 10 53.3	-3.3
XAN				pmax	pmax		
	comp=Z,35nm,1.0s						
BJT	**Baijiatuau**	**57.62**	**331**	P	**P**	**21 10 51.3**	**-0.3**
PZH	**PanZhiHua**	**57.78**	**310**	P	**P**	**21 10 56.5**	**+3.3**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
BNX	**BinXian**	**58.14**	**343**	⇓P	**P**	**21 10 55.8**	**+0.7**
BNX				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TNCH	**TengChong**	**59.55**	**306**	P	**P**	**21 11 06.5**	**+0.9**
TNCH				pP	pP	21 11 08.5	-4.2
TNCH				sP	sP	21 11 12.0	-3.5
TNCH				S	**S**	**21 19 12.3**	**-2.4**
TNCH				SS	**SS**	**21 23 10.0**	**-0.5**
TNCH				pmax	pmax		
	comp=Z,13nm,1.1s						
TNCH				pmax	pmax		
	comp=Z,180nm,4.1s						
TNCH				LR	LR		
	comp=Z,220nm,6.7s						
TNCH				LR	LR		
	comp=Z,200nm,6.1s						
TNCH				LR	LR		
	comp=Z,160nm,8.6s						
HHC	**Hu-ho-hao-te**	**60.55**	**328**	*e*P	**P**	**21 11 14.8**	**+2.7**
HHC	**Hu-ho-hao-te**	**60.55**	**328**	*e*P	**P**	**21 11 09.3**	**-2.8**
HHC				LR	LR		
	comp=Z,290nm,18.5s						
HHC				LR	LR		
	comp=Z,450nm,19.3s						
HHC				LR	LR		
	comp=Z,580nm,20.2s						
LZH	**Lanzhou**	**61.80**	**320**	*e*P	**P**	**21 11 22.5**	**+1.8**
LZH				sP	sP	21 11 30.5	-0.2
HEH	**HeiHe**	**62.26**	**345**	*e*P	**P**	**21 11 21.3**	**-2.0**
HEH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HIA	**Hailar**	**63.71**	**339**	P	**P**	**21 11 32.1**	**-0.9**
HIA				IAmb	IAmb	21 11 43.0	
	comp=Z,6.8nm,0.7s						
SHL	**Shillong**	**65.15**	**304**		**P**	**21 11 43.0**	**-0.2**
GTA	**Gaotai**	**66.34**	**321**	P	**P**	**21 11 52.0**	**+1.5**
GTA				sP	sP	21 12 00.0	-0.6
GTA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
GTA				LR	LR		
	comp=Z,360nm,19.5s						
GTA				LR	LR		
	comp=Z,250nm,19.1s						
GTA				LR	LR		
	comp=Z,430nm,23.1s						
LSA	**Lhasa**	**67.51**	**308**	P	**P**	**21 11 58.8**	**+0.3**
LSA				IAmb	IAmb	21 12 00.5	
	comp=Z,6.6nm,0.7s						
ULN	**Ulaanbaatar**	**67.85**	**331**	P	**P**	**21 11 59.9**	**0.0**
ULN				IAmb	IAmb	21 12 01.5	
	comp=Z,18nm,1.6s						
SONM	**Songino Array**	**68.14**	**331**	P	**P**	**21 12 01.3**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=145,slow=6.2,SNR=13						
	comp=Z,2.1nm,0.9s						
VNDA	**Vanda**	**68.38**	**177**	P	**P**	**21 12 03.0**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=333,slow=6.8,SNR=5.9						
	comp=Z,1.3nm,0.9s						
EVN	**Everest**	**70.26**	**304**	P	**P**	**21 12 16.0**	**+0.1**
EVN				IAmb	IAmb	21 12 22.9	
	comp=Z,17nm,1.3s						
YAK	**Yakutsk**	**72.78**	**351**	P	**P**	**21 12 28.6**	**-0.9**
YAK				IAmb	IAmb	21 12 29.5	
	comp=Z,8.4nm,0.7s						
WMQ	**Urumqi**	**76.38**	**319**	*e*P	**P**	**21 12 51.8**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				LR	LR		
	comp=Z,580nm,22.3s						
WMQ				LR	LR		
	comp=Z,650nm,16.7s						
WMQ				LR	LR		
	comp=Z,560nm,24.1s						
M13K	**Dall Lake**	**79.37**	**22**	P	**P**	**21 13 07.8**	**+0.7**
	baz=228						
O14K	**Tigyukauivet M**	**79.41**	**24**	P	**P**	**21 13 07.4**	**+0.1**
	baz=230						
K13K	**Kusilvak Mount**	**79.92**	**21**	P	**P**	**21 13 11.2**	**+1.2**
	baz=227						
O15K	**Ungalikthiuk R**	**79.94**	**24**	P	**P**	**21 13 10.9**	**+0.6**
	baz=232						
M14K	**Bethel**	**80.11**	**22**	P	**P**	**21 13 11.9**	**+0.8**
M14K				IAmb	IAmb	21 13 12.8	
	comp=Z,14nm,0.8s						
M14K	**Bethel**	**80.11**	**22**	P	**P**	**21 13 11.5**	**+0.5**
	baz=229						
L14K	**Kuka Creek**	**80.23**	**22**	P	**P**	**21 13 12.2**	**+0.5**
	baz=229						
N15K	**Kwethluk River**	**80.45**	**23**	P	**P**	**21 13 14.0**	**+1.0**
	baz=231						
QSPA	**South Pole Qui**	**80.51**	**180**		**P**	**21 13 13.8**	**+0.4**
QSPA				IAmb	IAmb	21 13 17.3	
	comp=Z,10nm,1.1s						
QSPA	**South Pole Qui**	**80.51**	**180**	P	**P**	**21 13 13.9**	**+0.4**
	comp=Z,4.7nm,0.9s,baz=313,slow=1.7,SNR=13						
	comp=Z,4.7nm,0.9s						
M15K	**Kasigluk River**	**80.55**	**23**	P	**P**	**21 13 13.7**	**+0.2**
	baz=231						
J14K	**Nanvaranak Lak**	**80.86**	**20**	P	**P**	**21 13 16.3**	**+1.3**
	baz=228						
L15K	**Ungalak Mounta**	**80.88**	**22**	P	**P**	**21 13 15.9**	**+0.6**
	baz=230						
O16K	**Kokwok River B**	**80.90**	**24**	P	**P**	**21 13 15.8**	**+0.5**
	baz=233						
WUS	**Wushi**	**81.02**	**314**		**P**	**21 13 16.6**	**-0.1**
WUS				IAmb	IAmb	21 13 21.5	
	comp=Z,9.6nm,1.1s						
Q17K	**Contact Creek**	**81.05**	**26**	P	**P**	**21 13 16.6**	**+0.2**
	baz=235						
MK31	**Makanchi Array**	**81.10**	**320**	P	**P**	**21 13 16.2**	**-0.6**
MKAR	**Makanchi Array**	**81.10**	**320**		**P**	**21 13 16.3**	**-0.5**
MKAR	**Makanchi Array**	**81.10**	**320**	P	**P**	**21 13 16.7**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=100,slow=6.2,SNR=14						
MKAR				LR	LR	21 51 13.1	
	comp=Z,384nm,19.2s,baz=302,slow=37						
	comp=Z,2.1nm,0.7s						
N16K	**Nishlik Lake**	**81.16**	**24**	P	**P**	**21 13 17.0**	**+0.2**
	baz=232						
K15K	**Wolf Creek Mou**	**81.26**	**21**		**P**	**21 13 18.1**	**+0.8**
K15K	**Wolf Creek Mou**	**81.26**	**21**	P	**P**	**21 13 17.7**	**+0.4**
	baz=230						
MAKZ	**Makanchi**	**81.30**	**320**		**P**	**21 13 17.4**	**-0.5**
P17K	**Kvichak River**	**81.35**	**25**	P	**P**	**21 13 17.4**	**-0.4**
	baz=235						
O17K	**Koliganek Bris**	**81.41**	**25**	P	**P**	**21 13 18.0**	**-0.1**
	baz=234						
M16K	**Timber Creek**	**81.42**	**23**	P	**P**	**21 13 19.0**	**+0.9**
	baz=232						
ANM	**Nome**	**81.51**	**18**	P	**P**	**21 13 18.8**	**+0.3**
	baz=226						
OHAK	**Old Harbor**	**81.64**	**28**	P	**P**	**21 13 19.8**	**+0.4**
	baz=238						
L16K	**Owhat River**	**81.65**	**22**	P	**P**	**21 13 20.2**	**+0.9**
	baz=232						
Q18K	**Katmai Hardscr**	**81.65**	**26**	P	**P**	**21 13 19.6**	**0.0**
	baz=236						
N17K	**Nushagak Hills**	**81.82**	**24**	P	**P**	**21 13 20.6**	**+0.4**
	baz=234						
F14K	**Arctic Creek**	**81.86**	**17**	P	**P**	**21 13 20.2**	**-0.2**
	baz=225						
P18K	**Big Mountain,**	**81.97**	**25**	P	**P**	**21 13 21.5**	**+0.4**
	baz=236						
TIXI	**Tiksi**	**82.00**	**354**	P	**P**	**21 13 21.0**	**+0.1**
G15K	**Niukluk**	**82.22**	**18**	P	**P**	**21 13 22.8**	**+0.5**
	baz=227						
J16K	**Anvik River**	**82.23**	**21**	P	**P**	**21 13 23.0**	**+0.7**
	baz=230						
M17K	**Holitna River**	**82.24**	**23**	P	**P**	**21 13 23.1**	**+0.6**
M17K	**Holitna River**	**82.24**	**23**	P	**P**	**21 13 23.0**	**+0.5**
	baz=234						
O18K	**Koktuh Hills**	**82.24**	**25**	P	**P**	**21 13 23.0**	**+0.5**
	baz=236						
KDAK	**Kodiak Island**	**82.26**	**28**	P	**P**	**21 13 23.9**	**+1.2**
	baz=238						
L17K	**Donlin**	**82.35**	**22**	P	**P**	**21 13 23.6**	**+0.6**
	baz=233						
N18K	**Kilae Creek**	**82.43**	**24**	P	**P**	**21 13 24.1**	**+0.6**
	baz=235						
F15K	**North Star Dit**	**82.52**	**18**	P	**P**	**21 13 24.3**	**+0.4**
	baz=226						
H16K	**Elim**	**82.56**	**19**	P	**P**	**21 13 24.4**	**+0.4**
	baz=229						
I17K	**Unalakleet**	**82.58**	**20**	P	**P**	**21 13 25.0**	**+0.9**
	baz=230						
K17K	**Iditarod**	**82.70**	**22**	P	**P**	**21 13 25.2**	**+0.3**
K17K				IAmb	IAmb	21 13 29.9	
	comp=Z,14nm,1.0s						
K17K	**Iditarod**	**82.70**	**22**	P	**P**	**21 13 25.6**	**+0.8**
	baz=233						
ZAA0	**Zalesovo Array**	**82.72**	**328**		**P**	**21 13 24.1**	**-1.1**
ZAA0				IAmb	IAmb	21 13 25.0	
	comp=Z,18nm,1.9s						
ZALV	**Zalesovo Beam**	**82.72**	**328**		**P**	**21 13 24.1**	**-1.0**
ZALV	**Zalesovo Beam**	**82.72**	**328**	P	**P**	**21 13 23.8**	**-1.3**
	comp=Z,2.8nm,0.7s,baz=127,slow=3.6,SNR=9.9						
	comp=Z,2.8nm,0.7s						
J17K	**VABM Dome**	**82.84**	**21**	P	**P**	**21 13 25.9**	**+0.4**
	baz=232						
M18K	**Stony River**	**82.92**	**24**	P	**P**	**21 13 26.7**	**+0.7**
	baz=235						
P19K	**Oil Pt**	**82.97**	**26**	P	**P**	**21 13 27.2**	**+0.9**
	baz=238						
L18K	**Granite Mounta**	**83.01**	**23**	P	**P**	**21 13 26.6**	**+0.1**
	baz=234						
G16K	**Koyuk River**	**83.02**	**19**	P	**P**	**21 13 26.5**	**+0.1**
	baz=229						
N19K	**Bonanza Creek**	**83.08**	**24**	P	**P**	**21 13 27.8**	**+0.9**
	baz=236						
NIL	**Nilore**	**83.14**	**306**	P	**P**	**21 13 26.9**	**-0.9**
H17K	**Granite Mounta**	**83.51**	**20**	P	**P**	**21 13 29.5**	**+0.5**
	baz=231						
G17K	**Kiwalik Mounta**	**83.63**	**19**	P	**P**	**21 13 30.0**	**+0.4**
	baz=230						
HOM	**Homer**	**83.66**	**26**	P	**P**	**21 13 30.3**	**+0.5**
	baz=239						
L19K	**White Mountain**	**83.69**	**23**		**P**	**21 13 30.4**	**+0.3**
L19K	**White Mountain**	**83.69**	**23**	P	**P**	**21 13 30.5**	**+0.5**
	baz=236						
M19K	**Big River Lodg**	**83.72**	**24**	P	**P**	**21 13 30.6**	**+0.4**
	baz=236						
J18K	**Innoko River**	**83.73**	**22**	P	**P**	**21 13 30.5**	**+0.3**
	baz=234						
F17K	**Baldwin Pennin**	**84.05**	**18**	P	**P**	**21 13 31.8**	**+0.1**
	baz=230						
C16K	**Lisburne Hills**	**84.11**	**16**	P	**P**	**21 13 32.4**	**+0.4**
	baz=226						
M20K	**Styx River**	**84.20**	**24**	P	**P**	**21 13 32.4**	**-0.3**
	baz=237						
L20K	**Farewell, AK**	**84.23**	**23**	P	**P**	**21 13 32.7**	**-0.1**
	baz=237						
E17K	**Hotham Inlet**	**84.29**	**17**	P	**P**	**21 13 33.1**	**+0.2**
	baz=229						
D17K	**Noatak River**	**84.34**	**17**	P	**P**	**21 13 33.5**	**+0.3**
	baz=228						
J19K	**Poorman**	**84.43**	**22**	P	**P**	**21 13 34.0**	**+0.3**
	baz=235						
G18K	**Tagagawik**	**84.52**	**19**		**P**	**21 13 34.1**	**-0.1**
G18K				IAmb	IAmb	21 13 38.4	
	comp=Z,6.4nm,0.8s						
G18K	**Tagagawik**	**84.52**	**19**	P	**P**	**21 13 34.0**	**-0.1**
	baz=232						
RDOG	**Red Dog Mine**	**84.63**	**16**	P	**P**	**21 13 34.7**	**+0.1**
	baz=228						
F18K	**Selawik**	**84.64**	**18**	P	**P**	**21 13 34.1**	**-0.5**
	baz=231						
K20K	**Telida**	**84.64**	**22**	P	**P**	**21 13 34.3**	**-0.5**
	baz=236						
AAK	**Ala-Archa**	**84.82**	**315**		**P**	**21 13 36.1**	**-0.3**
AAK	**Ala-Archa**	**84.82**	**315**	LR	LR	21 54 39.5	
	comp=Z,434nm,18.5s,baz=316,slow=38						
SEW	**Seward**	**84.84**	**26**	P	**P**	**21 13 35.9**	**+0.1**
	baz=241						
KURK	**Kurchatov**	**84.86**	**323**		**P**	**21 13 35.7**	**-0.4**
KURK				IAmb	IAmb	21 13 40.4	
	comp=Z,14nm,1.3s						
E18K	**Tukpahlearik C**	**84.88**	**18**	P	**P**	**21 13 36.0**	**+0.1**
	baz=230						
KURBB	**Kurchatov Arra**	**84.88**	**323**	P	**P**	**21 13 35.1**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=109,slow=4.0,SNR=9.4						
	comp=Z,2.0nm,0.9s						
SKT	**Skwentna**	**84.90**	**24**	P	**P**	**21 13 36.2**	**+0.1**
	baz=233						
SUA	**Susitna One**	**84.96**	**25**	P	**P**	**21 13 35.7**	**-0.9**
	baz=240						
H19K	**Roundabout Mou**	**85.03**	**20**	P	**P**	**21 13 36.4**	**-0.3**
	baz=234						
J20K	**Nowinta River**	**85.07**	**22**	P	**P**	**21 13 36.9**	**0.0**
	baz=236						
G19K	**Purcell Mounta**	**85.18**	**19**	P	**P**	**21 13 37.4**	**0.0**
	baz=234						
I20K	**Naaghedeneel**	**85.30**	**21**	P	**P**	**21 13 38.3**	**+0.3**
	baz=236						
F19K	**Shaleruckik M

D19K IAmb IAmb 21 13 47.1
comp=Z,7.9nm,1.1s
D19K Kuna River 86.28 17 P **P 21 13 42.9 0.0**
baz=232
H21K Melozitna Rive 86.36 21 P **P 21 13 43.2 -0.1**
baz=238
M23K Glacier View 86.38 25 P **P 21 13 43.5 0.0**
baz=242
A19K Wainwright 86.55 15 P **P 21 13 44.6 +0.5**
baz=230
SCM Sheep Creek Mo 86.57 25 P **P 21 13 44.5 0.0**
baz=243
G21K Allakaket 86.58 20 P **P 21 13 44.2 -0.1**
baz=237
EYAK Cordova Ski Ar 86.68 27 P **P 21 13 44.9 -0.1**
baz=244
RND Reindeer 86.68 24 **P 21 13 44.2 -0.8**
E20K Nigu River 86.71 18 P **P 21 13 45.1 +0.1**
baz=234
MCK McKinley 86.81 23 P **P 21 13 45.0 -0.5**
baz=241,SNR=8.0
D20K Etivluk River 86.86 17 P **P 21 13 45.4 -0.3**
baz=234
F21K Alatna River 86.98 19 P **P 21 13 45.6 -0.7**
baz=237
H22K Ishtalitna Cre 86.98 21 P **P 21 13 46.3 -0.1**
baz=239
KLU Klutina 87.02 26 P **P 21 13 46.3 -0.4**
baz=244
NEA2 Nenana 87.17 23 P **P 21 13 46.7 -0.6**
baz=241
M24K Tolsona, Glenn 87.18 25 P **P 21 13 46.7 -0.8**
baz=244
I23K Minto, Yukon-K 87.33 22 P **P 21 13 47.8 -0.2**
baz=241
BMRM Bremner River 87.37 27 P **P 21 13 48.2 -0.1**
baz=245
B20K Meade River 87.47 16 P **P 21 13 48.3 -0.3**
baz=233
G22K Bettles 87.47 20 P **P 21 13 48.3 -0.4**
baz=239,SNR=6.2
E21K Killik River 87.50 18 P **P 21 13 48.4 -0.4**
baz=236
F22K John River 87.56 19 P **P 21 13 49.2 +0.1**
baz=238
H23K Yukon River 87.60 21 P **P 21 13 49.7 +0.3**
baz=240
N25K Chitina, Valde 87.64 26 P **P 21 13 49.4 -0.3**
baz=245
C21K Knifeblade Rid 87.65 17 P **P 21 13 50.1 +0.5**
baz=236
CCB Clear Creek Bu 87.68 23 **P 21 13 48.3 -1.4**
CCB IAmb IAmb 21 13 53.4
comp=Z,17nm,1.4s
HARP HAARP 87.73 25 P **P 21 13 49.6 -0.5**
baz=245
SIMJ Simiganj 87.75 310 P **P 21 13 50.2 -0.6**
SIMJ IAmb IAmb 21 13 55.2
comp=Z,3.7nm,0.9s
KKAR Karatay Array 87.76 314 P **P 21 13 50.0 -0.7**
PAX Paxson 87.85 25 P **P 21 13 50.3 -0.4**
baz=244
SYO Syowa Base 87.85 200⇑ *e*pP **P 21 13 54.0 +3.5**
G23K Bananza Creek 87.87 20 P **P 21 13 50.4 -0.3**
baz=240
HDA Harding Lake 87.90 23 P **P 21 13 51.0 +0.2**
baz=243
GLB Gilahina Butte 87.91 26 **P 21 13 50.9 -0.1**
GLB IAmb IAmb 21 13 55.7
comp=Z,10.0nm,1.1s
B21K Ikpikpuk River 87.97 17 P **P 21 13 51.0 +0.1**
baz=236
E22K Anaktuvuk Pass 88.01 19 P **P 21 13 51.5 +0.2**
baz=238
POKR Poker Plat Res 88.04 22 P **P 21 13 51.4 -0.1**
baz=242
COLD Coldfoot 88.07 20 P **P 21 13 51.5 0.0**
baz=240
ILAR Eielson Array 88.09 23 **P 21 13 50.2 -1.5**
ILAR Eielson Array 88.09 23 P **P 21 13 49.8 -1.9**
comp=Z,3.8nm,0.8s,baz=255,slow=5.0,SNR=32
comp=Z,3.8nm,0.8s
K24K Donnelly Dome 88.09 24 P **P 21 13 51.7 -0.1**
baz=244
D22K Ayikyak River 88.13 18 P **P 21 13 51.9 +0.1**
baz=238
H24K Noodor Dome 88.21 22 P **P 21 13 51.6 -0.7**
baz=242
RIDG Independent Ri 88.44 24 P **P 21 13 52.9 -0.5**
baz=245,SNR=5.5
J25K Salcha River, 88.60 23 P **P 21 13 53.4 -0.8**
baz=244
A22K Sinclair Lake 88.65 16 P **P 21 13 53.8 -0.3**
baz=235,SNR=13
M26K Nabesna, AK 88.65 26 P **P 21 13 54.5 0.0**
baz=246
E23K Chandalar 88.68 19 P **P 21 13 54.1 -0.4**
baz=240
B22K Teshekpuk Lake 88.71 17 P **P 21 13 54.3 -0.2**
baz=237,SNR=6.4
L26K Log Cabin Wild 88.75 25 P **P 21 13 54.8 -0.1**
baz=246
G24K Hadweenzic Riv 88.76 21 P **P 21 13 54.9 +0.1**
baz=242,SNR=5.8
D23K Nanushuk River 88.80 18 **P 21 13 55.3 +0.3**
D23K Nanushuk River 88.80 18 P **P 21 13 55.2 +0.2**
baz=239,SNR=12
SCRK Sand Creek 88.88 24 **P 21 13 55.0 -0.6**
SCRK IAmb IAmb 21 17 15.9
comp=Z,13nm,1.8s
SCRK Sand Creek 88.88 24 P **P 21 13 55.5 -0.1**
baz=246
PRP Porcupine Dome 88.94 22 P **P 21 13 55.9 0.0**
baz=244
TOLK Toolik Lake Re 88.98 19 P **P 21 13 55.9 +0.1**
TOLK IAmb IAmb 21 14 00.7
comp=Z,4.6nm,0.9s
TOLK Toolik Lake Re 88.98 19 P **P 21 13 56.1 +0.2**
baz=240
F24K Squaw Lake 89.00 20 P **P 21 13 55.7 -0.2**
baz=242,SNR=6.7
PINM Pinnacle 89.01 28 P **P 21 13 56.1 -0.2**
baz=249
NRIK Noril'sk 89.02 342 P **P 21 13 54.7 -1.3**
NRIK IAmb IAmb 21 14 00.0
comp=Z,8.1nm,1.3s
NRIK Noril'sk 89.02 342 P **P 21 13 54.4 -1.6**
comp=Z,3.8nm,0.8s,baz=114,slow=5.6,SNR=5.3
comp=Z,3.8nm,0.8s
E24K Your Creek 89.06 20 P **P 21 13 56.0 -0.3**
baz=241
M27K Edge Creek, AK 89.12 26 P **P 21 13 57.0 +0.2**
baz=248
C23K Itkillik River 89.26 18 P **P 21 13 57.5 +0.5**
baz=239,SNR=6.2
J26L Joseph Creek 89.26 24 P **P 21 13 57.5 +0.2**
baz=246
G25K Bearman Lake 89.27 21 P **P 21 13 57.6 +0.5**
baz=244
O28M Mount Upton 89.28 28 P **P 21 13 58.3 +0.6**
baz=249
L27K Beaver Creek, 89.41 25 P **P 21 13 58.5 +0.5**
baz=248
BCAR Beaver Creek A 89.43 25 **P 21 13 58.0 0.0**
D24K Happy Valley 89.47 19 P **P 21 13 58.5 +0.5**
baz=241,SNR=6.2
YUK3 Moose Creek 89.52 27 P **P 21 13 59.3 +0.5**
baz=249
BVCY Beaver Creek 89.58 26 P **P 21 13 59.4 +0.6**
baz=248
YUK8 Steele Glacier 89.66 27 P **P 21 14 00.2 +0.7**
baz=249
K27K Chicken 89.67 24 P **P 21 13 60.0 +0.8**
baz=247
I26K Coal Creek Min 89.75 23 P **P 21 13 59.2 -0.2**
baz=246
C24K Franklin Bluff 89.78 18 P **P 21 14 00.4 +0.9**
baz=241
F25K Christian Rive 89.80 20 P **P 21 14 00.5 +0.7**
baz=244
O29M Mount Kennedy 89.87 28 P **P 21 14 00.9 +0.6**
baz=250
E25K Arctic Village 90.05 20 P **P 21 14 01.8 +0.9**
baz=244
BMAR Burnt Mountain 90.10 21 P **P 21 14 01.4 +0.3**
G26K Porcupine Rive 90.18 21 P **P 21 14 02.0 +0.6**
baz=246,SNR=9.4
YUK6 Outpost Mounta 90.18 28 P **P 21 14 02.7 +0.8**
baz=251
YUK4 Talbot Arm 90.19 27 P **P 21 14 02.7 +0.9**
baz=250
D25K Kavik River 90.32 19 P **P 21 14 02.6 +0.5**
baz=243
F26K Sheenjek River 90.36 21 P **P 21 14 03.0 +0.7**
baz=245,SNR=5.5
BVAR Borovoye Array 90.43 324 P **P 21 14 01.4 -1.6**
comp=Z,0.9nm,0.7s,baz=90,slow=11,SNR=4.6
comp=Z,0.9nm,0.7s
I27K Kandik River 90.46 23 P **P 21 14 03.1 +0.3**
baz=248
HYT Haines Junctio 90.54 28 P **P 21 14 03.4 0.0**
HYT IAmb IAmb 21 14 08.8
comp=Z,7.6nm,1.1s
HYT Haines Junctio 90.54 28 P **P 21 14 04.2 +0.8**
baz=251
M29M Somme Creek 90.63 26 P **P 21 14 04.8 +1.0**
baz=250
H27K Steamboat Moun 90.73 22 P **P 21 14 04.6 +0.5**
baz=248
DAWY Dawson 90.79 25 P **P 21 14 05.1 +0.7**
baz=250
G27K Doyon Strip 90.90 22 P **P 21 14 05.3 +0.5**
baz=248
N30M Aishikik Lake 90.93 28 P **P 21 14 05.3 +0.1**
baz=252
L29M L29M 91.00 26 P **P 21 14 05.9 +0.5**
baz=251
C26K Camden Bay 91.04 18 P **P 21 14 05.7 +0.3**
baz=245
I28M Miner Creek 91.05 23 P **P 21 14 06.3 +0.7**
baz=249
R32K Eaglecrest 91.24 31 P **P 21 14 07.6 +1.1**
baz=254
C27K Jago River 91.30 19 P **P 21 14 07.3 +0.6**
baz=246
U33K Whale Pass 91.39 33 P **P 21 14 08.6 +1.4**
baz=255
E27K Coleen River 91.44 21 P **P 21 14 08.0 +0.6**
baz=248
K29M Barlow Dome 91.49 25 P **P 21 14 08.6 +0.8**
baz=251
N31M Braeburn, Yuko 91.54 28 P **P 21 14 08.8 +0.9**
baz=253
I29M Ogilvie Camp, 91.66 24 P **P 21 14 08.7 +0.3**
baz=251
WHY Whitehorse 91.72 29 P **P 21 14 08.8 -0.1**
baz=254
E28M Babbage River 92.30 20 P **P 21 14 11.8 +0.5**
baz=250
M31M Drury Creek, Y 92.37 27 P **P 21 14 12.1 +0.3**
baz=254
I30M Mount Sempster 92.39 24 P **P 21 14 11.6 -0.3**
baz=252
Q32M Nakina River 92.55 31 P **P 21 14 13.3 +0.4**
baz=256
P33M Teslin, Yukon 92.59 29 P **P 21 14 12.5 -0.3**
baz=255
EPYK Eagle Plains 92.60 23 P **P 21 14 12.1 -0.6**
baz=252
N32M Quiet Lake 92.70 28 P **P 21 14 13.2 -0.1**
baz=255
G30M tAoh Zraii Nji 92.97 22 P **P 21 14 14.1 -0.4**
baz=253
T35M Bob Quinn 93.14 33 P **P 21 14 16.0 +0.5**
baz=257
R33M Jennings River 93.30 30 P **P 21 14 16.5 +0.2**
baz=257
F30M Barrier River 93.32 22 P **P 21 14 16.3 +0.3**
baz=253
H31M Peel River 93.37 24 P **P 21 14 15.6 -0.7**
baz=254
G31M Satah River 93.70 23 P **P 21 14 17.5 -0.2**
baz=254
INK Inuvik 94.33 21 P **P 21 14 19.4 -1.2**
baz=255
EKA Eskdalemuir Ar 129.07 340 PKP **PKPdf 21 20 08.5 -0.8**
comp=Z,0.7nm,0.7s,baz=34,slow=2.0,SNR=3.9
BDFB Brasilia 150.17 147 PKPbc **PKPbc 21 20 53.7 +0.1**
comp=Z,8.3nm,0.8s,baz=194,slow=4.3,SNR=7.9

*IDC **30** 21:10:53.3±2.0, 20.°40S×178.°32W, h573km±21km, mb3.1/8, mbtmp4.0/9, Error ellipse: s-maj=24.6km s-min=18.8km az=81.0*
ISC 30 21:10:54.2±1.0, 20.°4S±0.°2×178.°4W±0.°2, h587km, n13, σ1§05/13, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.28**	**307**	P	**P**	**21 12 19.5**	**-1.3**
	23nm,0.4s,baz=142,slow=21,SNR=17						
ASAR	**Alice Springs**	**44.22**	**257**	P	**P**	**21 18 12.9**	**+0.2**
	2.1nm,0.5s,baz=96,slow=7.7,SNR=32						
ASAR				PcP	**PcP**	**21 19 44.0**	**-0.2**
	0.6nm,0.9s,baz=33,slow=5.4,SNR=2.6						
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**44.28**	**262**	P	**P**	**21 18 12.8**	**-0.5**
	0.9nm,0.3s,baz=96,slow=7.7,SNR=75						
	0.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.71**	**262**	P	**P**	**21 19 15.6**	**+0.1**
	1.2nm,0.7s,baz=90,slow=5.1,SNR=1.9						
	1.2nm,0.7s						
VNDA	**Vanda**	**58.03**	**185**	P	**P**	**21 19 51.1**	**-0.3**
	0.3nm,0.4s,baz=6.1,slow=5.7,SNR=5.8						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**69.72**	**180**	P	**P**	**21 21 06.0**	**+0.2**
	2.3nm,0.7s,baz=57,slow=0.9,SNR=23						
	2.3nm,0.7s						
PETK	**Petropavlovsk-**	**76.04**	**345**	P	**P**	**21 21 42.7**	**+0.8**
	1.7nm,0.6s,baz=130,slow=9.0,SNR=3.8						
	1.7nm,0.6s						
ILAR	**Eielson Array**	**88.25**	**13**	P	**P**	**21 22 43.0**	**-0.3**
	0.3nm,0.5s,baz=199,slow=4.2,SNR=4.2						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	**21 22 53.1**	**+1.8**
	0.5nm,0.7s,baz=114,slow=4.1,SNR=5.7						
	0.5nm,0.7s						
HFS	**Hagfors**	**139.34**	**351**	PKhKP	PKPpre	21 29 06.6	
	0.3nm,0.4s,baz=69,slow=7.9,SNR=4.4						
AKASG	**Malin Array Be**	**142.72**	**331**	PKP	**PKPdf**	**21 29 19.1**	**-2.1**
	1.5nm,0.4s,baz=43,slow=4.2,SNR=6.4						
MMAI	**Mount Meron Ar**	**147.45**	**300**	PKPbc	**PKPbc**	**21 29 33.9**	**+0.5**
	1.0nm,0.5s,baz=68,slow=3.9,SNR=6.0						
GERES	**GERESS Array B**	**149.97**	**344**	PKPbc	**PKiKP**	**21 29 40.2**	**+0.5**
	0.2nm,0.5s,baz=298,slow=4.2,SNR=2.2						

*IDC **30** 21:26:12.8±1.6, 9.°54N×126.°34E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=185.2km s-min=22.2km az=70.0*
ISC 30 21:26:18.1±1.5, 9.°5N±0.°4×12.°6E±.°, h35km, n7, σ0§57/7, mb3.5/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.32**	**165**	P	**P**	**21 32 26.4**	**-0.1**
	0.3nm,0.7s,baz=348,slow=9.2,SNR=2.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**33.80**	**167**	P	**P**	**21 32 56.8**	**-0.1**
	0.2nm,0.5s,baz=342,slow=8.8,SNR=2.0						
	0.2nm,0.5s						
SONM	**Songino Array**	**41.74**	**340**	P	**P**	**21 34 03.3**	**-0.6**
	0.4nm,0.5s,baz=152,slow=9.8,SNR=3.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**52.63**	**323**	P	**P**	**21 35 28.4**	**-0.4**
	0.4nm,0.7s,baz=117,slow=7.9,SNR=4.9						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**56.70**	**326**	P	**P**	**21 35 58.8**	**+0.7**
	0.3nm,0.6s,baz=123,slow=6.6,SNR=1.5						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**84.91**	**340**	P	**P**	**21 38 49.6**	**+0.4**
	2.9nm,0.8s,baz=76,slow=5.3,SNR=4.4						
	2.9nm,0.8s						
FINES	**FINESS Array B**	**86.56**	**332**	P	**P**	**21 38 57.8**	**+0.3**
	1.2nm,0.8s,baz=57,slow=5.9,SNR=4.0						
	1.2nm,0.8s						

IDC 30 21:32:32.5±2.1, 11.°95N×126.°46E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=198.9km s-min=30.8km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**36.14**	**168**	P	P	21 39 36.7	0.0
	0.3nm,0.7s,baz=346,slow=9.1,SNR=1.5						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**50.82**	**322**	P	P	21 41 35.0	+0.1
	1.5nm,0.7s,baz=121,slow=7.8,SNR=16						
	1.5nm,0.7s						
ARCES	**ARCESS Array B**	**82.69**	**340**	P	P	21 44 58.4	+0.6
	3.7nm,1.0s,baz=75,slow=3.4,SNR=1.6						
	3.7nm,1.0s						
FINES	**FINESS Array B**	**84.51**	**332**	P	P	21 45 06.6	-0.6
	1.0nm,0.7s,baz=65,slow=4.7,SNR=7.0						
	1.0nm,0.7s						

IDC 30 21:42:26.2±8.2, 6.°35S×142.°31E, h96km±46km, mb3.2/1, mbtmp3.6/4, Error ellipse: s-maj=160.3km s-min=21.4km az=88.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.13**	**337**	P	Pn	21 43 26.4	-0.7
	4.9nm,0.6s,baz=159,slow=17,SNR=1.2						
JAY				S	Sn	21 44 15.4	+1.0
	6.1nm,0.7s,baz=150,slow=20,SNR=1.4						
WRA	**Warramunga Arr**	**15.58**	**209**	P	Pn	21 45 59.1	-1.4
	0.5nm,0.5s,baz=30,slow=11,SNR=5.8						
WRA				S	Sn	21 48 42.0	-11
	0.4nm,0.9s,baz=82,slow=12,SNR=1.8						
ASAR	**Alice Springs**	**19.03**	**204**	P	P	21 46 41.5	+0.7
	2.9nm,0.6s,baz=31,slow=11,SNR=39						
MKAR	**Makanchi Array**	**74.84**	**322**	P	P	21 53 56.2	-0.1
	0.5nm,0.9s,baz=110,slow=4.0,SNR=2.5						
	0.5nm,0.9s						

*KRNET **30** 22:10:31.9±0.1, 41.°33N×69.°02E, mb2.5*
*SOME **30** 22:10:31.8, 41.°40N×68.°92E, h0km*
*ISU **30** 22:10:32, 41.°36N×69.°05E, h9km*
ISC 30 22:10:28.9±1.7, 41.°40N±0.°03×68.°96E±0.°08, h11km±9km, n12, σ1§81/24, 12C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NZBK	**Nazarbek**	**0.21**	**145**	P	**Pg**	**22 10 34.9**	**+1.5**
NZBK				S	**Sg**	**22 10 36.9**	**+0.5**
TGS	**TashGRES**	**0.43**	**86**	P	**Pb**	**22 10 37.6**	**-0.8**
TGS				S	**Sg**	**22 10 41.4**	**-1.5**
CHMG	**Chimgan**	**0.81**	**79**	P	**Pn**	**22 10 47.7**	**+1.3**
CHMG				S	**Sn**	**22 10 59.0**	**+0.6**
TRKS	**Terek-Say**	**1.65**	**85**	⇓*i*P	**Pg**	**22 11 01.4**	**+0.9**
TRKS				⇓*i*S	**Sg**	**22 11 23.3**	**+1.4**
BRLS	**Borolday**	**1.76**	**22**	*e*P	**Pb**	**22 11 00.2**	**-1.0**
	0.8nm,0.2s						
BRLS				*e*S	**Sn**	**22 11 20.6**	**-1.1**
	13nm,0.4s						
BTK	**Batken**	**1.95**	**133**	⇑*i*P	**Pg**	**22 11 05.4**	**-0.8**
BTK				⇑*i*S	**Sg**	**22 11 29.8**	**-1.7**
KK31	**Karatay Array**	**2.06**	**34**	⇑Pn	**Pg**	**22 11 09.3**	**+0.9**
	0.7nm,0.3s,baz=217,slow=17,SNR=9.7						
KK31				⇑Sn	**Sg**	**22 11 36.1**	**+1.0**
	0.8nm,0.2s,baz=214,slow=25,SNR=11						
KKAR	**Karatay Array**	**2.06**	**34**	⇑*i*P	**Pg**	**22 11 08.2**	**-0.2**
KKAR				⇑*i*S	**Sg**	**22 11 35.0**	**-0.1**
MNAS	**Manas**	**2.86**	**66**	⇑*e*P	**Pb**	**22 11 19.1**	**-1.0**
MNAS				⇑*i*S	**Sb**	**22 11 53.6**	**-1.6**
DRK	**Karamyk**	**2.90**	**130**	⇓*e*P	**Pb**	**22 11 18.7**	**-2.0**
DRK				⇓*e*S	**Sn**	**22 11 52.5**	**+2.3**
OHH	**Osh**	**3.03**	**105**	⇑*e*P	**Pb**	**22 11 20.6**	**-2.3**
OHH				⇑*e*S	**Sn**	**22 11 55.9**	**+2.7**
AML	**Almayashu**	**3.62**	**77**	⇑*i*P	**Pb**	**22 11 29.5**	**-3.6**
AML				⇑*i*S	**Sn**	**22 12 11.1**	**+2.9**

*IDC **30** 22:11:48.7±9.6, 4.°15N×95.°64E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=497.1km s-min=29.7km az=57.0*
*DJA **30** 22:12:08.6±0.6, 5.°N±3.°×9.°6E±.°, h123km±5km, M3.7/11, mb4.3/1, MLv3.5/11*
ISC 30 22:12:07.1±1.0, 4.°71N±0.°07×96.°4E±0.°1, h150km, n13, σ1§03/14, mb3.1/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.44**	**176**	P	**Pn**	**22 12 27.5**	**-0.8**
MLSI				S	**Sn**	**22 12 42.1**	**-2.2**
LHMI	**Lhok Sumawe**	**0.77**	**48**	P	**Pn**	**22 12 29.6**	**-0.5**
LHMI				S	**Sn**	**22 12 46.4**	**-1.2**
BSI	**Banda Aceh**	**1.33**	**306**	P	**Pn**	**22 12 35.0**	**0.0**
TSI	**Tuntungan**	**2.49**	**119**	P	**Pn**	**22 12 47.8**	**-0.4**
GSI	**Gunungsitoli**	**3.59**	**160**	P	**Pn**	**22 13 02.0**	**-0.1**
GSI				S	**Sn**	**22 13 43.7**	**-1.1**
MNSI	**Mandailing Nat**	**5.04**	**140**	P	**Pn**	**22 13 21.8**	**+0.7**
PBSI	**Pulau Batu**	**5.10**	**158**	P	**Pn**	**22 13 22.4**	**+0.5**
PBSI				S	**Sn**	**22 14 19.8**	**-0.5**
MKAR	**Makanchi Array**	**43.66**	**346**	P	**P**	**22 19 58.0**	**+1.1**
	0.1nm,0.3s,baz=159,slow=9.0,SNR=4.3						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**44.64**	**125**	P	**P**	**22 20 06.0**	**+0.9**
	0.4nm,0.8s,baz=309,slow=9.0,SNR=6.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**46.20**	**129**	P	**P**	**22 20 17.2**	**-0.2**
	0.5nm,0.4s,baz=300,slow=8.0,SNR=8.4						
	0.5nm,0.4s						
H04N2	**CROZET ISLANDS**	**64.23**	**213**	T	T	23 31 11.1	
	baz=35,slow=75						
H04N1	**CROZET ISLANDS**	**64.24**	**213**	T	T	23 31 12.1	
	baz=35,slow=75						
H04N3	**CROZET ISLANDS**	**64.25**	**213**	T	T	23 31 17.2	
	baz=35,slow=75						

*IDC **30** 22:14:19.2±1.5, 49.°02N×150.°85E, h289km±15km, mb3.1/10, mbtmp3.7/13, Error ellipse: s-maj=20.9km s-min=11.6km az=147.0*
ISC 30 22:14:20.4±0.9, 49.°0N±0.°2×150.°9E±0.°1, h308km, n13, σ1§34/15, mb3.2/9, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.91**	**44**	P	**Pn**	**22 15 47.5**	**-1.2**
	1.8nm,0.7s,baz=177,slow=6.7,SNR=5.7						
PETK				S	**S**	**22 16 57.0**	**-3.0**
	0.7nm,0.6s,baz=114,slow=16,SNR=1.2						
ASAJ	**Asahikawa**	**7.55**	**232**	P	**Pn**	**22 16 07.2**	**-1.3**
	8.4nm,0.8s,baz=63,slow=15,SNR=5.4						
KLR	**Kul'dur**	**12.55**	**278**	P	**Pn**	**22 17 08.9**	**-0.4**
	2.0nm,0.8s,baz=94,slow=11,SNR=5.5						
KSRS	**Korea Array**	**20.27**	**244**	P	**P**	**22 18 33.2**	**-0.2**
	0.8nm,0.5s,baz=48,slow=10,SNR=4.7						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**35.73**	**40**	P	**P**	**22 20 50.6**	**+0.6**
	0.5nm,0.7s,baz=265,slow=8.6,SNR=6.1						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**40.09**	**303**	P	**P**	**22 21 27.6**	**+1.3**
	0.5nm,0.4s,baz=60,slow=8.8,SNR=3.9						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**44.60**	**294**	P	**P**	**22 22 02.6**	**0.0**
	0.7nm,0.6s,baz=62,slow=8.0,SNR=8.2						
MKAR				PcP	**PcP**	**22 23 38.5**	**-0.9**
	0.2nm,0.4s,baz=62,slow=4.8,SNR=5.3						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**44.98**	**301**	P	**P**	**22 22 05.6**	**+0.2**
	1.6nm,0.6s,baz=69,slow=8.3,SNR=11						
	1.6nm,0.6s						
YKA	**Yellowknife Ar**	**49.98**	**37**	P	**P**	**22 22 45.5**	**+2.1**
	0.2nm,0.8s,baz=305,slow=7.5,SNR=5.9						
	0.2nm,0.8s						
FINES	**FINESS Array B**	**61.33**	**333**	P	**P**	**22 24 03.7**	**+0.2**
	1.5nm,0.4s,baz=34,slow=7.8,SNR=21						
	1.5nm,0.4s						
HFS	**Hagfors**	**65.78**	**338**	P	**P**	**22 24 32.7**	**+0.2**
	0.9nm,0.4s,baz=53,slow=5.7,SNR=9.8						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**73.95**	**196**	P	**P**	**22 25 22.4**	**0.0**
	0.3nm,0.3s,baz=9.7,slow=5.0,SNR=5.3						
	0.3nm,0.3s						
TXAR	**Lajitas Array**	**77.64**	**60**	P	**P**	**22 25 44.7**	**+1.4**
	0.3nm,0.6s,baz=197,slow=3.9,SNR=3.5						
	0.3nm,0.6s						

*IDC **30** 22:17:13.9±1.3, 37.°64N×20.°44E, h0km, mb3.5/7, mbtmp3.3/15, ML3.1/4, MS3.1/4, Error ellipse: s-maj=21.5km s-min=16.2km az=173.0*
*BEO **30** 22:17:14.2±0.8, 37.°45N×20.°3E, h0km, ML3.6/6*
*ATH **30** 22:17:16.7, 37.°60N×20.°64E, h12km±3km, ML3.7/26, Manual Solution by A.Fokaefs First location: 2019/04/30 22:18:10, This location: 2019/05/02 08:51:09 ML*

Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km
THE ***30*** *22:17:17.3,37.°62N×20.°67E,h8km,ML3.6/9, Error ellipse: s-maj=1.0km s-min=0.4km az=49.0*
PDG ***30*** *22:17:18.6±0.7,37.°68N×20.°66E,h5km±1km,ML3.6/11, Error ellipse: s-maj=1.6km s-min=1.3km az=90.0*
ISC 30 22:17:15.5±1.1,37.°57N±0.°03×20.°58E±0.°03,h11km±7km, n136,σ1§45/176,mb3.5/7,MS3.4/3,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.25**	**56**	P	**Pg**	**22 17 20.8**	**0.0**
LTHK				S	**Sg**	**22 17 23.0**	**-1.2**
LTHK	**Lithakia**	**0.25**	**56**	P	**Pg**	**22 17 20.7**	**0.0**
LTHK				S	**Sg**	**22 17 23.1**	**-1.1**
ORTH	**Orthonies,Zaky**	**0.30**	**19**	P	**Pg**	**22 17 22.3**	**+0.7**
ORTH				S	**Sg**	**22 17 25.9**	**+0.2**
KYPS	**Kipseli, Zakin**	**0.32**	**38**	P	**Pg**	**22 17 22.6**	**+0.6**
KYPS				S	**Sg**	**22 17 26.4**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.55**	**1**	P	**Pg**	**22 17 27.1**	**+0.9**
PSDA				S	**Sb**	**22 17 34.4**	**-0.6**
PSDA	**Pessada-Kefalo**	**0.55**	**1**	P	**Pg**	**22 17 26.9**	**+0.7**
PSDA				S	**Sb**	**22 17 34.3**	**-0.6**
CLEM	**Kyllini,Ilia,G**	**0.55**	**54**	P	**Pg**	**22 17 26.0**	**-0.2**
CLEM				S	**Sg**	**22 17 33.4**	**-0.1**
VLS	**Valsamata**	**0.61**	**1**	P	**Pg**	**22 17 28.0**	**+0.6**
VLS				S	**Sb**	**22 17 36.4**	**-0.4**
	11μm,0.3s						
VLS	**Valsamata**	**0.61**	**1**	P	**Pg**	**22 17 27.6**	**+0.2**
VLS				S	**Sg**	**22 17 36.1**	**+0.7**
SMHA	**Samh**	**0.69**	**5**	P	**Pg**	**22 17 28.0**	**-0.8**
SMHA				S	**Sg**	**22 17 37.5**	**-0.4**
DMLN	**Damoulianata-K**	**0.69**	**347**	P	**Pb**	**22 17 30.1**	**+0.5**
DMLN				S	**Sb**	**22 17 39.6**	**+0.5**
	8μm,0.2s						
DMLN	**Damoulianata-K**	**0.69**	**347**	P	**Pg**	**22 17 29.6**	**+0.7**
DMLN				S	**Sg**	**22 17 38.5**	**+0.5**
YRMI	**Loutra Irminis**	**0.81**	**49**	P	**Pg**	**22 17 30.6**	**-0.7**
YRMI				S	**Sg**	**22 17 40.6**	**-1.3**
ZARO	**Zacharo**	**0.86**	**95**	P	**Pg**	**22 17 32.6**	**+0.5**
RLS	**Riolos of Patr**	**0.86**	**55**	P	**Pg**	**22 17 31.8**	**-0.3**
RLS				S	**Sg**	**22 17 43.0**	**-0.3**
	4μm,0.4s						
RLS	**Riolos of Patr**	**0.86**	**55**	P	**Pg**	**22 17 31.6**	**-0.5**
RLS				S	**Sb**	**22 17 43.4**	**-0.6**
FSK	**Fiskardo**	**0.89**	**359**	P	**Pg**	**22 17 32.9**	**+0.2**
FSK				S	**Sb**	**22 17 45.5**	**+0.6**
	4μm,0.4s						
FSK	**Fiskardo**	**0.89**	**359**	P	**Pg**	**22 17 32.6**	**-0.1**
FSK				S	**Sb**	**22 17 45.5**	**+0.6**
AXS	**Araxos**	**0.89**	**45**	P	**Pg**	**22 17 32.0**	**-0.7**
AXS				S	**Sg**	**22 17 43.9**	**-0.5**
AMT	**Artemida-Makis**	**0.90**	**92**	P	**Pg**	**22 17 33.1**	**+0.2**
AMT				S	**Sb**	**22 17 45.0**	**-0.3**
DRO	**Drossia**	**0.98**	**67**	P	**Pg**	**22 17 33.9**	**-0.5**
DRO				S	**Sb**	**22 17 47.2**	**-0.2**
	5μm,0.4s						
DRO	**Drossia**	**0.98**	**67**	P	**Pg**	**22 17 33.9**	**-0.5**
DRO				S	**Sb**	**22 17 47.0**	**-0.4**
EVGI	**Lefkada island**	**1.05**	**3**	P	**Pg**	**22 17 35.7**	**-0.1**
EVGI				S	**Sb**	**22 17 50.9**	**+1.3**
	4μm,0.2s						
EVGI	**Lefkada island**	**1.05**	**3**	P	**Pg**	**22 17 35.2**	**-0.6**
EVGI				S	**Sb**	**22 17 50.1**	**+0.5**
DRAG	**Dragano-Lefkad**	**1.11**	**360**	P	**Pg**	**22 17 36.8**	**-0.2**
PATG	**Patra B**	**1.13**	**53**	P	**Pb**	**22 17 37.5**	**+0.5**
ITM	**Ithomi**	**1.14**	**109**	P	**Pg**	**22 17 37.7**	**+0.2**
ITM				S	**Sb**	**22 17 53.8**	**+1.6**
	2μm,0.5s						
ITM	**Ithomi**	**1.14**	**109**	P	**Pg**	**22 17 37.5**	**0.0**
NYDR	**Nydri-Lefkada**	**1.15**	**5**	P	**Pg**	**22 17 37.1**	**-0.5**
NYDR				S	**Sn**	**22 17 53.5**	**+0.3**
	2μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.15**	**5**	P	**Pg**	**22 17 36.8**	**-0.9**
MTHA	**Methoni**	**1.17**	**129**	P	**Pg**	**22 17 38.4**	**+0.4**
UPR	**University Cam**	**1.20**	**53**	P	**Pg**	**22 17 37.9**	**-0.6**
LKD2	**Lefkada island**	**1.22**	**3**	P	**Pg**	**22 17 38.6**	**-0.4**
LKD2				S	**Sn**	**22 17 56.3**	**+1.2**
	3μm,0.7s						
LKD2	**Lefkada island**	**1.22**	**3**	P	**Pg**	**22 17 38.6**	**-0.4**
TSLK	**Tsoukalades, L**	**1.26**	**3**	P	**Pg**	**22 17 39.4**	**-0.3**
TSLK				S	**Sn**	**22 17 57.7**	**+1.7**
TSLK	**Tsoukalades, L**	**1.26**	**3**	P	**Pg**	**22 17 39.0**	**-0.7**
PVO	**Paravola**	**1.29**	**35**	P	**Pg**	**22 17 39.2**	**-1.0**
KLV	**Kalavryta, Ach**	**1.33**	**69**	P	**Pg**	**22 17 39.8**	**-1.4**
EFP	**Efpalio**	**1.36**	**50**	P	**Pn**	**22 17 40.2**	**-0.2**
SERG	**Sergoula**	**1.44**	**54**	P	**Pn**	**22 17 41.5**	**-0.2**
GUR	**Goura**	**1.45**	**75**	P	**Pn**	**22 17 41.7**	**-0.1**
VLX	**Vlachokerasia**	**1.45**	**97**	P	**Pn**	**22 17 42.2**	**+0.5**
ANX	**Ano Chora**	**1.48**	**46**	P	**Pn**	**22 17 42.4**	**+0.2**
KALE	**Kalithea**	**1.48**	**56**	P	**Pn**	**22 17 42.0**	**-0.2**
EVR	**Evrytania**	**1.66**	**35**	P	**Pn**	**22 17 45.7**	**+1.0**
TETR	**Tetrakomo, Epi**	**1.86**	**17**	P	**Pn**	**22 17 48.7**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.89**	**40**	P	**Pb**	**22 17 49.8**	**-0.3**
IGT	**Igoumenitsa**	**1.97**	**355**	*e*Pg	**Pn**	**22 17 50.8**	**+1.9**
IGT				*e*Sg	**Sg**	**22 18 20.5**	**+1.6**
IGT	**Igoumenitsa**	**1.97**	**355**	P	**Pn**	**22 17 50.4**	**+1.5**
AGG	**Agios Georgios**	**2.00**	**43**	P	**Pn**	**22 17 50.7**	**+1.4**
AXAR	**Agios Charalam**	**2.03**	**53**	P	**Pn**	**22 17 51.0**	**+1.3**
JAN	**Janina**	**2.10**	**6**	P	**Pn**	**22 17 52.6**	**+2.0**
OHR	**Ohrid**	**3.54**	**3**	*e*Pn	**Pb**	**22 18 15.8**	**-2.5**
OHR				*e*Sn	**Sn**	**22 18 55.3**	**+2.8**
OHR	**Ohrid**	**3.54**	**3**	*e*Pn	**Pn**	**22 18 12.4**	**+1.9**
TIR	**Tirane**	**3.81**	**352**	*e*Pn	**Pn**	**22 18 15.4**	**+1.2**
VAY	**Valandovo**	**4.05**	**22**	*e*Pn	**Pn**	**22 18 21.9**	**+4.4**
VAY				*e*Sn	**Sn**	**22 19 03.9**	**-1.0**
VAY	**Valandovo**	**4.05**	**22**	*e*Pn	**Pn**	**22 18 19.9**	**+2.4**
IDI	**Anoyia**	**4.16**	**122**	Pn	**Pn**	**22 18 20.9**	**+1.9**
	2.4nm,0.7s,baz=300,slow=9.8,SNR=14						
IDI				Sn	**Sn**	**22 19 07.1**	**-0.4**
	7.3nm,0.3s,baz=84,slow=23,SNR=13						
SRS	**Serrai**	**4.25**	**32**	*e*Pn	**Pn**	**22 18 22.3**	**+2.1**
ULC	**Ulcinj**	**4.51**	**347**	*e*Pn	**Pn**	**22 18 26.2**	**+2.4**
ULC				*i* Sn	**Sn**	**22 19 16.4**	**+0.2**
DRME	**Dracevica, Mon**	**4.74**	**347**	*e*Pn	**Pn**	**22 18 28.1**	**+1.2**
DRME	**Dracevica, Mon**	**4.74**	**347**	*e*Pn	**Pn**	**22 18 28.4**	**+1.5**
DRME				*i* Sn	**Sn**	**22 19 21.8**	**0.0**
VAE	**Valguarnera**	**4.90**	**271**	Pn	**Pn**	**22 18 27.4**	**-1.7**
	2.9nm,0.6s,baz=12,slow=20,SNR=1.4						
VAE				Sn	**Sn**	**22 19 25.2**	**-0.7**
	1.6nm,0.3s,baz=27,slow=18,SNR=1.6						
BUM	**Brajici-Budva**	**4.90**	**345**	*e*Pn	**Pn**	**22 18 31.7**	**+2.5**
BUM				*i* Sn	**Sn**	**22 19 25.9**	**0.0**
PDG	**Podgorica**	**4.96**	**349**	*e*Pn	**Pn**	**22 18 29.6**	**-0.3**
PDG	**Podgorica**	**4.96**	**349**	*e*Pn	**Pn**	**22 18 31.0**	**+1.1**
PDG	**Podgorica**	**4.96**	**349**	*e*Pn	**Pn**	**22 18 32.2**	**+2.3**
PDG				*i* Sn	**Sn**	**22 19 26.8**	**-0.5**
HCY	**Herceg Novi**	**5.13**	**343**	*e*Pn	**Pn**	**22 18 31.2**	**-1.1**
HCY	**Herceg Novi**	**5.13**	**343**	*e*Pn	**Pn**	**22 18 34.9**	**+2.6**
HCY				*i* Sn	**Sn**	**22 19 31.4**	**-0.1**
CEME	**Cevo**	**5.13**	**346**	*e*Pn	**Pn**	**22 18 34.6**	**+2.2**
CEME				*i* Sn	**Sn**	**22 19 30.9**	**-0.7**
BOSS	**Bosilegrad**	**5.13**	**16**	*e*Pn	**Pn**	**22 18 32.9**	**+0.5**
IVA	**Berane**	**5.32**	**355**	*e*Pn	**Pn**	**22 18 37.3**	**+2.3**
IVA				*i* Sn	**Sn**	**22 19 35.7**	**-0.7**
BARS	**Barje**	**5.33**	**10**	*e*Pn	**Pn**	**22 18 36.0**	**+1.0**
KOME	**Kolasin**	**5.34**	**352**	*e*Pn	**Pn**	**22 18 37.6**	**+2.4**
KOME				*i* Sn	**Sn**	**22 19 36.2**	**-0.6**
NKME	**Niksic**	**5.34**	**347**	*e*Pn	**Pn**	**22 18 37.7**	**+2.5**
NKME				*i* Sn	**Sn**	**22 19 36.4**	**-0.3**
TREB	**Trebinje**	**5.42**	**342**	*e*Pn	**Pn**	**22 18 34.2**	**-2.0**
VTS	**Vitosha**	**5.44**	**21**	*e*Pn	**Pn**	**22 18 37.7**	**+1.0**
BRY	**Bratogost**	**5.55**	**344**	*e*Pn	**Pn**	**22 18 36.9**	**-1.3**
BRY	**Bratogost**	**5.55**	**344**	*e*Pn	**Pn**	**22 18 40.7**	**+2.5**
BRY				*i* Sn	**Sn**	**22 19 41.2**	**-0.9**
SELS	**Selova**	**5.66**	**4**	*e*Pn	**Pn**	**22 18 39.0**	**-0.6**
SJES	**Sjenica**	**5.71**	**356**	*e*Pn	**Pn**	**22 18 42.8**	**+2.5**
SJES	**Sjenica**	**5.71**	**356**	*e*Pn	**Pn**	**22 18 41.9**	**+1.6**
STON	**Ston**	**5.74**	**338**	*e*Pn	**Pn**	**22 18 40.2**	**-0.4**
STON	**Ston**	**5.74**	**338**	*e*Pn	**Pn**	**22 18 40.8**	**+0.2**
UPM	**Unac-Piva**	**5.77**	**348**	*e*Pn	**Pn**	**22 18 42.6**	**+1.3**
UPM	**Unac-Piva**	**5.77**	**348**	*e*Pn	**Pn**	**22 18 43.6**	**+2.3**
UPM				*i* Sn	**Sn**	**22 19 46.5**	**-1.1**
ZAPS	**Zavoj**	**5.91**	**15**	*e*Pn	**Pn**	**22 18 45.1**	**+2.0**
IVAS	**Ivanjica**	**6.01**	**357**	*e*Pn	**Pn**	**22 18 45.0**	**+0.6**
GRUS	**Gruza**	**6.32**	**1**	*e*Pn	**Pn**	**22 18 48.6**	**0.0**
BBLS	**Lazi&#263i**	**6.36**	**352**	*e*Pn	Pn	22 18 38.1	-11
BBLS	**Lazi&#263i**	**6.36**	**352**	*e*Pn	**Pn**	**22 18 48.0**	**-1.2**
ZAGS	**Zajecar**	**6.37**	**11**	*e*Pn	**Pn**	**22 18 51.6**	**+2.4**
DIVS	**Divibare**	**6.54**	**356**	*e*Pn	**Pn**	**22 18 52.5**	**+0.8**
HAPS	**Han Pijesak,BI**	**6.63**	**350**	*e*Pn	**Pn**	**22 18 52.7**	**-0.2**
HAPS	**Han Pijesak,BI**	**6.63**	**350**	*e*Pn	**Pn**	**22 18 53.3**	**+0.4**
TEKS	**Tekeris**	**7.02**	**354**	*e*Pn	**Pn**	**22 18 56.1**	**-2.1**
TEKS	**Tekeris**	**7.02**	**354**	*e*Pn	**Pn**	**22 18 57.9**	**-0.3**
A050A	**Klekovaca**	**7.55**	**337**	*e*Pn	**Pn**	**22 19 06.5**	**+0.9**
FRGS	**Fruska Gora**	**7.61**	**356**	*e*Pn	**Pn**	**22 19 07.4**	**+1.1**
BLY	**Banja Luka**	**7.62**	**341**	*e*Pn	**Pn**	**22 19 07.1**	**+0.7**
BLY	**Banja Luka**	**7.62**	**341**	*e*Pn	**Pn**	**22 19 06.8**	**+0.4**
A051A	**Mrakovica**	**7.93**	**341**	*e*Pn	**Pn**	**22 19 09.7**	**-1.1**
BOJS	**Bojanci**	**8.88**	**335**	*e*Pn	**Pn**	**22 19 24.3**	**+0.6**
BOJS	**Bojanci**	**8.88**	**335**	*e*Pn	**Pn**	**22 19 22.4**	**-1.3**
MLR	**Muntele Rosu**	**8.88**	**25**	Pn	**Pn**	**22 19 23.4**	**-0.5**
	2.0nm,1.1s,baz=228,slow=12						
MLR				Sn	**Sn**	**22 21 04.8**	**+0.9**
	baz=151,slow=19						
MLR	**Muntele Rosu**	**8.88**	**25**	*e*Pn	**Pn**	**22 19 25.8**	**+1.9**
CRES	**Cresnjevec Ost**	**9.09**	**337**	*e*Pn	**Pn**	**22 19 26.4**	**-0.3**
KEST	**Kesra**	**9.21**	**262**	Pn	**Pn**	**22 19 27.0**	**-1.3**
	0.2nm,0.3s,baz=66,slow=13,SNR=4.1						
KEST				Sn	**Sn**	**22 21 09.8**	**-2.2**
	0.1nm,0.3s,baz=22,slow=19,SNR=1.5						
	1.8nm,1.0s						
SKDS	**Skadanscina**	**9.36**	**330**	*e*Pn	**Pn**	**22 19 27.9**	**-2.5**
SKDS	**Skadanscina**	**9.36**	**330**	*e*Pn	**Pn**	**22 19 28.5**	**-1.9**
SOKA	**Soboth**	**9.99**	**337**	*i* Pn	**Pn**	**22 19 42.1**	**+3.1**
	1.2nm,0.3s						
OBKA	**Obir**	**9.99**	**335**	*e*Pn	**Pn**	**22 19 37.9**	**-1.2**
OBKA	**Obir**	**9.99**	**335**	*i* Pn	**Pn**	**22 19 42.6**	**+3.5**
	0.5nm,0.3s						
KBA	**Koelnbreinsper**	**10.90**	**333**	*i* Pn	**Pn**	**22 19 55.2**	**+3.6**
	0.4nm,0.3s						
CONA	**Conrad Observa**	**10.92**	**343**	*e*Pn	**Pn**	**22 19 54.5**	**+2.8**
	0.7nm,0.4s						
ABTA	**Abfaltersbach**	**10.95**	**329**	*i* Pn	**Pn**	**22 19 55.9**	**+3.8**
	0.8nm,0.5s						
MOA	**Molln**	**11.27**	**338**	*i* Pn	**Pn**	**22 19 58.7**	**+2.2**
	0.9nm,0.3s						
LESA	**Schwarzleotal**	**11.44**	**332**	*i* Pn	**Pn**	**22 20 00.3**	**+1.5**
	1.8nm,0.4s						
SQTA	**Sankt Quirin**	**11.87**	**327**	*e*Pn	**Pn**	**22 20 09.1**	**+4.4**
	0.9nm,0.5s						
FETA	**Feichten**	**11.92**	**326**	*i* Pn	**Pn**	**22 20 09.9**	**+4.3**
	0.2nm,0.3s						
MOTA	**Moosalm**	**12.01**	**327**	*e*Pn	**Pn**	**22 20 10.3**	**+3.6**
	0.4nm,0.3s						
VRAC	**Vranov**	**12.09**	**347**	LR	LR	22 26 12.4	
	comp=Z,32nm,18.6s,baz=176,slow=45						
DAVOX	**Davos/Dischmat**	**12.14**	**323**	Sn	Sn	22 22 13.8	-10
	0.1nm,0.3s,baz=331,slow=19,SNR=1.6						
GERES	**GERESS Array B**	**12.33**	**338**	Pn	**Pn**	**22 20 09.8**	**-1.2**
	baz=151,slow=13,SNR=4.2						
GERES				Sn	Sn	22 22 15.6	-13
	baz=159,slow=30,SNR=2.2						
	0.5nm,0.8s						
MMAI	**Mount Meron Ar**	**12.93**	**106**	Pn	**Pn**	**22 20 19.7**	**+0.3**
	0.3nm,0.3s,baz=291,slow=12,SNR=1.3						
	0.1nm,0.3s						
AKASG	**Malin Array Be**	**14.51**	**22**	Pn	**Pn**	**22 20 40.6**	**-0.1**
	0.2nm,0.4s,baz=210,slow=8.5,SNR=5.0						
ESDC	**Sonseca Array**	**19.28**	**284**	P	**P**	**22 21 39.9**	**-0.4**
	baz=79,slow=10.0,SNR=2.7						
	0.4nm,0.9s						
HFS	**Hagfors**	**23.01**	**351**	P	**P**	**22 22 19.2**	**-1.0**
	0.5nm,0.5s,baz=166,slow=13,SNR=11						
	0.5nm,0.5s						
EKA	**Eskdalemuir Ar**	**23.95**	**325**	P	**P**	**22 22 28.3**	**-1.2**
	0.2nm,0.3s,baz=138,slow=8.6,SNR=4.7						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**24.15**	**6**	P	**P**	**22 22 30.1**	**-1.2**
	1.0nm,0.8s,baz=157,slow=10,SNR=6.1						
	1.0nm,0.8s						
NOA	**NORSAR Array B**	**24.23**	**349**	LR	LR	22 32 54.3	
	comp=Z,14nm,18.7s,baz=95,slow=39						
ARCES	**ARCESS Array B**	**32.14**	**3**	P	**P**	**22 23 43.6**	**+1.0**
	3.0nm,1.0s,baz=187,slow=9.5,SNR=1.8						
	3.0nm,1.0s						
KURBB	**Kurchatov Arra**	**42.56**	**53**	P	**P**	**22 25 11.6**	**+0.4**
	0.5nm,0.6s,baz=276,slow=8.5,SNR=4.2						
KURBB				LR	LR	22 48 26.2	
	comp=Z,42nm,18.0s,baz=171,slow=44						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**45.59**	**58**	P	**P**	**22 25 35.8**	**+0.3**
	0.4nm,0.6s,baz=278,slow=6.9,SNR=5.4						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**46.07**	**48**	P	**P**	**22 25 39.2**	**0.0**
	0.5nm,0.4s,baz=280,slow=8.6,SNR=1.8						
	0.5nm,0.4s						
MA2	**Magadan**	**74.83**	**24**	LR	LR	23 05 39.9	
	comp=Z,42nm,18.3s,baz=120,slow=39						

WEL ***30*** *22:34:54.7,43.°14S×170.°87E,h4km,ML3.6,Mw3.4, Moment Tensor Solution. s5 Moment tensor: Scale 10^{14} Nm; M_{rr}-0.60; $M_{\theta\theta}$1.36; $M_{\phi\phi}$-0.76; $M_{r\theta}$0.14; $M_{\theta\phi}$-1.43; $M_{\phi r}$-0.12; Fault plane solution: $M_0$1.78000×10^{14} NP1: ϕ_s162.00000°,δ89.00000°,λ5.00000°. NP2:ϕ_s72.00000°, δ85.00000°,λ179.00000°. Principal axes: T 2.0880, Plg4.0000°, Azm27.0000°; N -1.4800, Plg85.0000°, Azm173.0000°; P -0.6090, Plg3.0000°, Azm297.0000°; Stations used: WVZ RPZ INZ LTZ JCZ STRIKE-SLIP FAULTING*
WEL 30 22:34:54.7±0.3,43°S±3°×17°1E±°,h5km,M3.5/9,ML3.8/9, MLv3.5/9 Error ellipse: s-maj=3.4km s-min=2.3km az=6.4,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.12**	**307**	P	Pg	22 34 57.9	+0.7
WVZ				S	Sg	22 34 60.0	+1.1
WVAS	**Waitaha Valley**	**0.12**	**308**	P	Pg	22 34 57.9	+0.7
WVAS				S	Sg	22 35 00.3	+1.4
HAFS	**Harihari Fire**	**0.23**	**270**	P	Pg	22 34 59.1	-0.1
HAFS				S	Sg	22 35 03.0	+0.8
KOKS	**Kokatahi**	**0.32**	**37**	P	Pg	22 34 59.5	-1.4
KOKS				S	Sg	22 35 04.8	-0.3
WHFS	**Whataroa Fire**	**0.39**	**253**	S	Sb	22 35 09.0	-1.4
GCSZ	**Gaunt Creek Bo**	**0.43**	**247**	P	Pg	22 35 03.3	+0.3
GCSZ				S	Sb	22 35 10.3	-1.3
RPZ	**Rata Peaks**	**0.58**	**167**	P	Pg	22 35 05.7	-0.1
RPZ				S	Sg	22 35 13.0	-0.4
INZ	**Inchbonnie**	**0.60**	**45**	P	Pg	22 35 05.2	-0.9
INZ				S	Sg	22 35 14.6	+0.7
MHCZ	**Mount Hutt**	**0.64**	**127**	P	Pg	22 35 06.6	-0.3
ARCZ	**Arundel**	**0.83**	**165**	P	Pg	22 35 10.2	-0.4
FOZ	**Fox Glacier**	**0.86**	**243**	P	Pg	22 35 11.2	0.0
FOZ				S	Sb	22 35 23.8	0.0
OXZ	**Oxford**	**0.87**	**102**	P	Pg	22 35 11.1	-0.3
OXZ				S	Sb	22 35 24.5	+0.2
WACZ	**Wakanui South**	**1.06**	**139**	P	Pg	22 35 14.9	-0.1
WACZ				S	Sb	22 35 30.0	+0.3
LTZ	**Lake Taylor**	**1.09**	**71**	P	Pg	22 35 15.2	-0.4
LTZ				S	Sb	22 35 30.6	0.0
TMZ	**Timaru**	**1.24**	**175**	P	Pg	22 35 17.7	-0.7
TMZ				S	Sn	22 35 35.5	-0.3
AMCZ	**Amberley**	**1.30**	**92**	P	Pn	22 35 19.0	-0.5
AMCZ				S	Sb	22 35 36.9	+0.2
LBZ	**Lake Benmore**	**1.33**	**202**	P	Pn	22 35 18.9	-1.1
MQZ	**McQueen's Vall**	**1.41**	**114**	P	Pn	22 35 20.0	-1.1
DSZ	**Denniston Nort**	**1.56**	**27**	P	Pn	22 35 22.2	-1.0
DSZ				S	Sg	22 35 44.8	-0.1
GVZ	**Greta Valley S**	**1.60**	**84**	P	Pn	22 35 22.6	-0.9
GVZ				S	Sn	22 35 43.4	-1.2
AKCZ	**Akaroa Harbour**	**1.65**	**117**	P	Pn	22 35 23.2	-1.1
OKCZ	**Okains Bay**	**1.69**	**111**	P	Pn	22 35 24.3	-0.6
OKCZ				S	Sn	22 35 46.8	-0.2
JCZ	**Jackson Bay**	**1.77**	**238**	P	Pn	22 35 25.7	-0.4
ODZ	**Otahua Downs**	**1.90**	**185**	P	Pn	22 35 27.3	-0.4
THZ	**Tophouse**	**2.05**	**48**	P	Pn	22 35 29.6	-0.2
KHZ	**Kahutara**	**2.10**	**70**	P	Pn	22 35 29.8	-0.6
WKZ	**Wanaka**	**2.15**	**218**	P	Pn	22 35 30.8	-0.4
MRNZ	**Matariki Terra**	**2.24**	**39**	P	Pn	22 35 32.6	+0.2
EAZ	**Earnscleugh**	**2.37**	**208**	P	Pn	22 35 33.9	-0.3
MSZ	**Milford Sound**	**2.62**	**233**	P	Pb	22 35 41.0	-1.0
TKNZ	**Takaka Hill**	**2.62**	**37**	P	Pn	22 35 38.1	+0.4
QRZ	**Quartz Range**	**2.63**	**29**	P	Pn	22 35 37.2	-0.6
BSWZ	**Blackbirch Sta**	**2.65**	**58**	P	Pn	22 35 38.4	+0.4
NNZ	**Nelson**	**2.68**	**45**	P	Pn	22 35 39.4	+0.9
HHSZ	**Highcliff Hill**	**2.74**	**184**	P	Pb	22 35 45.1	+0.9
CMWZ	**Cape Campbell**	**2.84**	**62**	P	Pb	22 35 44.3	-1.6
TUWZ	**Tuamarina**	**2.85**	**54**	P	Pn	22 35 42.0	+1.2
TUZ	**Tuapeka**	**2.94**	**197**	P	Pn	22 35 41.7	-0.4
TCW	**Tory Channel**	**3.19**	**54**	P	Pn	22 35 47.2	+1.8
DUWZ	**D'Urville Isla**	**3.27**	**45**	P	Pn	22 35 47.1	+0.6

IDC ***30*** *22:42:33.5±2.5,20.°35S×177.°71W,h523km±23km,mb3.4/7, mbtmp4.3/8, Error ellipse: s-maj=28.0km s-min=21.6km az=108.0*
NEIC ***30*** *22:42:34.3±1.0,20.°8S±0.°1×177.°8W±0.°2,h510km±10km, mb4.1/14, Error ellipse: s-maj=28.9km s-min=10.1km az=45.0*
ISC 30 22:42:34.3±0.8,20.°4S±0.°1×177.°8W±0.°1,h534km,n36, σ0§61/36,mb4.1/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.71**	**303**	P	**P**	**22 44 00.5**	**-0.5**
MSVF	**Nonsavu**	**4.71**	**303**	P	**P**	**22 44 00.1**	**-0.8**
	22nm,0.4s,baz=152,slow=9.8,SNR=41						
DZM	**Mont Dzumac**	**14.78**	**261**	P	**P**	**22 45 40.6**	**-1.3**
EIDS	**Eidsvold**	**29.05**	**254**	P	**P**	**22 47 51.6**	**0.0**
EIDS				IAmb	IAmb	22 48 18.5	
	comp=Z,6.4nm,1.1s						
ARMA	**Armidale**	**29.29**	**244**	P	**P**	**22 47 53.3**	**-0.4**
ARMA				IAmb	IAmb	22 48 21.4	
	comp=Z,7.8nm,1.1s						
STKA	**Stephens Creek**	**38.01**	**244**	P	**P**	**22 49 06.9**	**0.0**
STKA	**Stephens Creek**	**38.01**	**244**	P	**P**	**22 49 07.2**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=84,slow=10,SNR=4.2						
	comp=Z,1.7nm,0.5s						
BBOO	**Buckleboo**	**42.77**	**243**	P	**P**	**22 49 44.6**	**-0.3**
BBOO				IAmb	IAmb	22 49 51.4	
	comp=Z,13nm,1.1s						
WR8	**Warramunga Arr**	**44.64**	**262**		**P**	**22 49 59.6**	**-0.1**
WR8				IAmb	IAmb	22 50 01.2	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**44.72**	**257**	P	**P**	**22 50 00.6**	**+0.4**
AS31				IAmb	IAmb	22 50 01.4	
	comp=Z,2.4nm,0.7s						
ASAR	**Alice Springs**	**44.72**	**257**	P	**P**	**22 49 60.0**	**-0.3**
ASAR	**Alice Springs**	**44.72**	**257**	P	**P**	**22 50 00.7**	**+0.4**
	comp=Z,9.6nm,0.8s,baz=96,slow=7.8,SNR=71						
ASAR				PcP	**PcP**	**22 51 31.8**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=102,slow=3.0,SNR=3.2						
	comp=Z,9.6nm,0.8s						
WB0	**Warramunga Arr**	**44.77**	**262**		**P**	**22 50 01.1**	**+0.4**
WRA	**Warramunga Arr**	**44.80**	**262**		**P**	**22 50 00.8**	**0.0**
WRA	**Warramunga Arr**	**44.80**	**262**	P	**P**	**22 50 00.9**	**+0.1**
	comp=Z,4.7nm,0.4s,baz=97,slow=7.7,SNR=131						
	comp=Z,4.7nm,0.4s						
MTN	**Manton Dam**	**49.34**	**270**	P	**P**	**22 50 35.4**	**+0.3**
KNRA	**Kununurra**	**50.85**	**266**	P	**P**	**22 50 46.5**	**+0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLOZ	**Alcaldia de Sa**	**0.08**	**111**	*e*P	**Pg**	**23 25 34.9**	**-0.8**
SLOZ				*e*S	**Sb**	**23 25 38.9**	**+1.1**
SLOZ	**Alcaldia de Sa**	**0.08**	**111**	P	**Pg**	**23 25 34.9**	**-0.8**
LOAL	**Lomas de Alarc**	**0.09**	**127**	*e*P	**Pb**	**23 25 35.2**	**-0.6**
LOAL				*e*S	**Sb**	**23 25 38.9**	**+0.9**
LOAL	**Lomas de Alarc**	**0.09**	**127**	P	**Pb**	**23 25 35.2**	**-0.6**
NUBE	**Las Nubes**	**0.17**	**154**	*i* P	**Pg**	**23 25 36.1**	**-0.8**
NUBE				*e*S	**Sg**	**23 25 39.7**	**0.0**
NUBE	**Las Nubes**	**0.17**	**154**	*e*P	**Pg**	**23 25 36.0**	**-0.8**
NUBE				*i* S	**Sb**	**23 25 40.0**	**-0.7**
NUBE	**Las Nubes**	**0.17**	**154**	P	**Pg**	**23 25 35.9**	**-0.9**
SNJE	**San Jose**	**0.30**	**127**	*i* P	**Pb**	**23 25 39.3**	**-0.5**
SBLS	**San Blas**	**0.31**	**133**	*e*P	**Pg**	**23 25 39.0**	**-0.2**
SBLS				*e*P	**Pb**	**23 25 39.1**	**-0.7**
CEVE	**Cerro Verde**	**0.32**	**135**	*e*P	**Pb**	**23 25 39.3**	**-0.7**
CEVE	**Cerro Verde**	**0.32**	**135**	P	**Pb**	**23 25 39.4**	**-0.6**
JAYA	**Jayaque - finc**	**0.56**	**135**	*e*P	**Pg**	**23 25 43.3**	**-0.4**
JAYA	**Jayaque - finc**	**0.56**	**135**	*e*P	**Pg**	**23 25 43.2**	**-0.4**
JAYA	**Jayaque - finc**	**0.56**	**135**	P	**Pg**	**23 25 43.1**	**-0.5**
MTO3	**Montecristo**	**0.59**	**54**	*e*P	**Pb**	**23 25 44.1**	**-0.6**
MTO3				*e*S	**Sb**	**23 25 53.7**	**+0.8**
MTO3	**Montecristo**	**0.59**	**54**	*i* P	**Pb**	**23 25 44.1**	**-0.6**
MTO3	**Montecristo**	**0.59**	**54**	P	**Pb**	**23 25 44.0**	**-0.6**
PMON	**Piamonte**	**0.63**	**123**	P	**Pb**	**23 25 45.5**	**+0.3**
FG16	**Alotenango, Sa**	**0.67**	**289**	*e*P	**Pn**	**23 25 49.5**	**+1.9**
ESQI	**Esquipulas**	**0.71**	**45**	S	**Sn**	**23 25 57.2**	**-1.5**
ESQI	**Esquipulas**	**0.71**	**45**	P	**Pg**	**23 25 45.3**	**-1.1**
FG8	**Yepocapa, Chim**	**0.71**	**287**	*e*P	**Pn**	**23 25 50.1**	**+2.0**
LOMA	**Loma Larga**	**0.78**	**121**	P	**Pn**	**23 25 48.2**	**-0.9**
LLGN	**La Laguna**	**0.89**	**83**	S	**Sn**	**23 26 03.7**	**+0.5**
ESSG	**Sabana Grande**	**1.00**	**289**	*i* P	**Pg**	**23 25 48.2**	**-3.7**
SCLA	**Alcaldia de Sa**	**1.15**	**108**	*e*P	**Pg**	**23 25 54.8**	**+0.1**
STG0	**El Palmar, Qui**	**1.49**	**285**	*i* P	**Pg**	**23 26 01.7**	**+0.5**
STG5	**El Palmar, Qui**	**1.49**	**284**	*i* P	**Pg**	**23 26 01.6**	**+0.5**
MARCA	**Marcala la Paz**	**1.77**	**86**	*i* P	**Pg**	**23 26 06.6**	**0.0**
MARCA				*i* S	**Sg**	**23 26 30.6**	**+1.0**

RSNC 30 23:33:37.0±0.4, 3°S±4°×7°6W±°, h0^km, M3.4, mb4.0, mB5.3, mBc6.3, Mjma3.9, ML4.4, ML3.1, MLh3.9, MLv4.0, Ms(BB)3.7, Mw(mB)4.7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIAT	**Ana Tenorio**	**2.59**	**309**	P	Pb	23 34 22.9	-1.7
COHC	**Cochancay**	**3.02**	**273**	P	Pn	23 34 27.0	+0.9
COHC				S	Sn	23 35 02.4	-0.5
PTLC	**Puerto Leguiza**	**3.13**	**27**	P	Pn	23 34 26.5	-1.2
PTLC				S	Sn	23 34 56.5	-9.4
BONI	**La Bonita**	**3.32**	**337**	P	Pn	23 34 32.6	+2.1
OTAV	**Otavalo**	**3.60**	**322**	P	Pn	23 34 37.8	+3.2
GCUF	**Volcan Galeras**	**3.99**	**344**	P	Pn	23 34 43.7	+3.8
FLOC	**Florencia**	**4.22**	**8**	P	Pn	23 34 44.3	+1.6
PPLP	**Puerto Lpez**	**4.66**	**283**	P	Pn	23 34 46.5	-2.2
PPLP				S	Sn	23 35 37.4	-6.2
GARC	**Garzon, Huila**	**4.84**	**9**	P	Pn	23 34 53.0	+1.6
CZSB	**Cruzeiro do Su**	**6.17**	**145**	P	Pn	23 35 08.5	-1.0
	0.3nm10nm,0.7s						
PRAC	**Prado**	**6.45**	**12**	P	Pn	23 35 15.2	+1.9
	0.1nm8.5nm,0.7s						
TBTG	**Tabatinga, AM**	**6.51**	**104**	P	Pn	23 35 13.2	-0.9
ORTC	**Ortega, Tolima**	**6.57**	**9**	P	Pn	23 35 16.9	+1.9

*BJI **30** 23:44:06.8, 2°60S×153°52E, h10^km, mB5.1/11, mb4.8/22, Ms4.5/4, Ms7 4.3/3*
*NEIC **30** 23:44:09.7±1.7, 2°64S±0°05×153°27E±0°08, h10^km±1^km, mb4.9/70, Error ellipse: s-maj=13.2km s-min=9.3km az=89.0*
*GCMT **30** 23:44:13.7±0.3, 2°58S±0°02×153°20E±0°02, h26^km±1^km, MW4.9/85, Moment Tensor Solution. s24,c25; s85,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.05±.18; $M_{\theta\theta}$-2.50±.12; $M_{\phi\phi}$2.55±.13; $M_{r\theta}$-0.29±.26; $M_{\theta\phi}$1.13±.12; $M_{\phi r}$0.00±.27; Best double couple: $M_0$2.78200×10^{16} NP1:ϕ_s147.00000°, δ85.00000°, λ-177.00000°. NP2: ϕ_s57.00000°, δ87.00000°, λ-5.00000°. Principal axes: T 2.7930, Plg1.0000°, Azm102.0000°; N -0.0210, Plg84.0000°, Azm203.0000°; P -2.7710, Plg6.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **30** 23:44:13.7±1.0, 3°S±7°×15°3E±°, h61^km±8^km, M4.8/20, mb5.0/20, mB5.2/6, Mw(mB)4.6/6*
*IDC **30** 23:44:13.2±2.6, 2°77S×153°28E, h46^km±26^km, mb4.2/12, mbtmp4.6/14, ML2.4/1, MS3.7/34, Error ellipse: s-maj=18.2km s-min=15.1km az=87.0*
ISC 30 23:44:12.9±0.4, 2°68S±0°05×153°27E±0°06, h35^km, n330, σ1$\hat{2}$0/284, mb4.8/76, MS3.7/33, 1C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.86**	**216**		**Pn**	**23 44 42.1**	**-0.3**
PMG	**Port Moresby**	**9.03**	**222**	P	**Pn**	**23 46 21.7**	**+0.7**
	2.0nm,0.3s,baz=52,slow=5.6,SNR=11						
PMG				S	**Sn**	**23 47 60.0**	**-1.5**
	7.6nm,0.4s,baz=53,slow=20,SNR=1.2						
	45nm,0.8s						
PMG	**Port Moresby**	**9.03**	**222**	P	**Pn**	**23 46 25.4**	**+4.5**
HNR	**Honiara**	**9.44**	**136**	Pn	**Pn**	**23 46 27.7**	**+1.2**
HNR	**Honiara**	**9.44**	**136**	P	**Pn**	**23 46 26.4**	**-0.1**
	388nm,0.6s,baz=222,slow=3.1,SNR=18						
HNR				S	**Sn**	**23 48 11.3**	**-0.1**
	438nm,0.5s,baz=342,slow=20,SNR=12						
HNR				LR	LR	23 50 27.8	
	comp=Z,837nm,19.3s,baz=17,slow=40						
HNR	**Honiara**	**9.44**	**136**	P	**Pn**	**23 46 28.7**	**+2.2**
PATS	**Pohnpei**	**10.71**	**28**	Pn	**Pn**	**23 46 41.0**	**-2.9**
PATS	**Pohnpei**	**10.71**	**28**	P	**Pn**	**23 46 41.4**	**-2.6**
	comp=Z,300nm,0.9s						
PATS	**Pohnpei**	**10.71**	**28**	P	**Pn**	**23 46 41.5**	**-2.4**
SMPI	**Sarmi**	**14.57**	**272**	P	**Pn**	**23 47 36.4**	**-0.3**
	comp=Z,2μmcomp=Z,124nm,1.3s						
COEN	**Coen**	**15.00**	**221**	Pn	**Pn**	**23 47 41.1**	**-1.4**
COEN				IAmb	IAmb	23 47 44.8	
	comp=Z,34nm,1.1s						
COEN	**Coen**	**15.00**	**221**	P	**Pn**	**23 47 43.8**	**+1.3**
	comp=Z,29nm,1.5s						
COEN	**Coen**	**15.00**	**221**	P	**Pn**	**23 47 43.8**	**+1.3**
MTSU	**Mount Surprise**	**17.69**	**209**	P	**Pn**	**23 48 18.1**	**+1.4**
	comp=Z,23nm,0.9s						
MTSU	**Mount Surprise**	**17.69**	**209**	P	**Pn**	**23 48 18.3**	**+1.5**
RK1H	**Rockhampton Ha**	**20.76**	**187**	P	**P**	**23 48 52.6**	**+1.7**
FAKI	**Fak Fak**	**21.00**	**269**	P	**P**	**23 48 52.5**	**-1.1**
FAKI	**Fak Fak**	**21.00**	**269**	P	**P**	**23 48 53.7**	**+0.1**
FAKI	**Fak Fak**	**21.00**	**269**	P	**P**	**23 48 54.5**	**+0.9**
	comp=Z,2μmcomp=Z,172nm,1.1s						
GD1S	**Gladstone Soft**	**21.14**	**185**	P	**P**	**23 48 56.8**	**+1.9**
SWI	**Sorong**	**22.07**	**274**	P	**P**	**23 49 05.6**	**+0.5**
	comp=Z,1μmcomp=Z,105nm,0.9s						
QIS	**Mount Isa**	**22.21**	**216**	P	**P**	**23 49 05.4**	**-1.2**
	comp=Z,17nm,1.2s						
QIS	**Mount Isa**	**22.21**	**216**	P	**P**	**23 49 05.6**	**-1.0**
EIDS	**Eidsvold**	**22.66**	**185**	P	**P**	**23 49 11.4**	**+0.2**
EIDS				IAmb	IAmb	23 49 12.7	
	comp=Z,46nm,0.8s						
EIDS	**Eidsvold**	**22.66**	**185**	P	**P**	**23 49 11.7**	**+0.4**
	comp=Z,71nm,0.9s						
EIDS	**Eidsvold**	**22.66**	**185**	P	**P**	**23 49 11.8**	**+0.5**
KDU	**Kakadu**	**22.86**	**243**	P	**P**	**23 49 11.6**	**-1.9**
	comp=Z,38nm,1.1s						
KDU	**Kakadu**	**22.86**	**243**	P	**P**	**23 49 12.2**	**-1.3**
DZM	**Mont Dzumac**	**23.14**	**147**	P	**P**	**23 49 16.4**	**+0.1**
DZM				IAmb	IAmb	23 49 32.3	
	comp=Z,42nm,1.1s						
DZM	**Mont Dzumac**	**23.14**	**147**	*e*LR	LR	23 54 53.9	
	comp=Z,297nm,24.6s						
DZM	**Mont Dzumac**	**23.14**	**147**	P	**P**	**23 49 13.2**	**-3.2**
	comp=Z,4.9nm,0.6s,baz=315,slow=12,SNR=6.3						
DZM				LR	LR	23 56 59.9	
	comp=Z,267nm,19.0s,baz=348,slow=33						
	comp=Z,4.9nm,0.6s						
MTN	**Manton Dam**	**24.12**	**244**	P	**P**	**23 49 25.3**	**-0.5**
	comp=Z,20nm,1.1s						
WB0	**Warramunga Arr**	**25.07**	**226**	P	**P**	**23 49 33.2**	**-1.2**
WB0				IAmb	IAmb	23 49 34.4	
	comp=Z,38nm,1.3s						
WR0	**Warramunga Arr**	**25.09**	**225**	P	**P**	**23 49 33.6**	**-0.9**
WB9	**Warramunga Arr**	**25.09**	**226**	P	**P**	**23 49 33.6**	**-1.0**
WR8	**Warramunga Arr**	**25.12**	**225**	P	**P**	**23 49 33.8**	**-1.0**
WR8				IAmb	IAmb	23 49 34.7	
	comp=Z,28nm,1.1s						
WRAB	**Tennant Creek**	**25.21**	**226**	P	**P**	**23 49 34.7**	**-1.0**
WRAB				IAmb	IAmb	23 49 35.4	
	comp=Z,19nm,0.6s						
WRA	**Warramunga Arr**	**25.22**	**226**	P	**P**	**23 49 33.5**	**-2.2**
WRA	**Warramunga Arr**	**25.22**	**226**	P	**P**	**23 49 34.0**	**-1.7**
	comp=Z,17nm,0.6s,baz=50,slow=9.7,SNR=128						
	comp=Z,17nm,0.6s						
QLP	**Quilpie**	**25.30**	**199**	P	**P**	**23 49 36.1**	**-0.2**
	comp=Z,90nm,0.9s						
QLP	**Quilpie**	**25.30**	**199**	P	**P**	**23 49 36.7**	**+0.4**
NLAI	**Namlea**	**26.14**	**268**	P	**P**	**23 49 43.9**	**-0.2**
	comp=Z,52nm,1.4s						
SANI	**Sanana**	**27.27**	**271**	P	**P**	**23 49 53.8**	**-0.5**
SANI	**Sanana**	**27.27**	**271**	P	**P**	**23 49 52.6**	**-1.7**
	comp=Z,14nm,0.6s						
KNRA	**Kununurra**	**27.38**	**240**	P	**P**	**23 49 54.7**	**-0.5**
KNRA				IAmb	IAmb	23 50 16.1	
	comp=Z,15nm,0.9s						
KNRA	**Kununurra**	**27.38**	**240**	P	**P**	**23 49 54.3**	**-0.9**
	comp=Z,19nm,1.3s						
ARMA	**Armidale**	**27.63**	**183**	P	**P**	**23 49 57.8**	**+0.3**
ARMA				IAmb	IAmb	23 50 12.6	
	comp=Z,32nm,1.2s						
ARMA	**Armidale**	**27.63**	**183**	P	**P**	**23 49 57.4**	**0.0**
	comp=Z,26nm,0.8s						
ARMA	**Armidale**	**27.63**	**183**	P	**P**	**23 49 58.3**	**+0.8**
INKA	**Innaminka**	**27.65**	**204**	P	**P**	**23 49 57.0**	**-0.5**
AS17	**Alice Springs**	**27.98**	**220**	P	**P**	**23 49 59.7**	**-0.9**
	comp=Z,14nm,0.9s						
AS06	**Alice Springs**	**27.98**	**220**	P	**P**	**23 49 59.6**	**-1.1**
	comp=Z,13nm,1.3s						
AS01	**Alice Springs**	**28.01**	**220**	P	**P**	**23 50 00.5**	**-0.4**
AS31	**Alice Springs**	**28.04**	**220**	P	**P**	**23 50 00.4**	**-0.8**
ASAR	**Alice Springs**	**28.04**	**220**	P	**P**	**23 50 00.1**	**-1.1**
ASAR	**Alice Springs**	**28.04**	**220**	P	**P**	**23 49 59.3**	**-1.9**
	comp=Z,8.7nm,0.9s,baz=54,slow=8.4,SNR=54						
ASAR				LR	LR	00 01 07.5	
	comp=Z,203nm,19.8s,baz=80,slow=36						
	comp=Z,8.7nm,0.9s						
MSVF	**Nonsavu**	**28.54**	**123**	LR	LR	00 00 13.5	
	comp=Z,196nm,21.0s,baz=333,slow=34						
DAV	**Davao City (W)**	**29.29**	**289**	LR	LR	00 01 29.7	
	comp=Z,120nm,18.1s,baz=20,slow=35						
CMSA	**Cobar Meteorol**	**29.58**	**193**	P	**P**	**23 50 14.4**	**-0.3**
	comp=Z,28nm,0.8s						
CMSA	**Cobar Meteorol**	**29.58**	**193**	P	**P**	**23 50 14.5**	**-0.2**
SOEI	**Soe**	**29.66**	**255**	P	**P**	**23 50 15.9**	**+0.2**
	comp=Z,32nm,0.8s						
OOD	**Oodnadatta**	**30.10**	**212**	P	**P**	**23 50 18.8**	**-0.5**
STKA	**Stephens Creek**	**31.05**	**199**	P	**P**	**23 50 26.1**	**-1.6**
STKA	**Stephens Creek**	**31.05**	**199**	P	**P**	**23 50 26.4**	**-1.3**
	comp=Z,81nm,0.7s						
STKA	**Stephens Creek**	**31.05**	**199**	P	**P**	**23 50 26.1**	**-1.6**
	comp=Z,10.0nm,0.7s,baz=11,slow=9.7,SNR=20						
STKA				LR	LR	00 04 33.5	
	comp=Z,125nm,18.5s,baz=20,slow=39						
	comp=Z,10.0nm,0.7s						
STKA	**Stephens Creek**	**31.05**	**199**	P	**P**	**23 50 26.8**	**-0.9**
LCRK	**Leigh Creek**	**31.08**	**206**	P	**P**	**23 50 27.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**31.12**	**239**	P	**P**	**23 50 26.7**	**-1.8**
FITZ	**Fitzroy Crossi**	**31.12**	**239**	P	**P**	**23 50 27.6**	**-0.9**
	comp=Z,3.2nm,2.6s						
EDFI	**Ende, Flores**	**31.98**	**258**	P	**P**	**23 50 33.5**	**-2.7**
	comp=Z,17nm,0.9s						
CNB	**Canberra Magne**	**32.67**	**186**	P	**P**	**23 50 41.6**	**-0.4**
	comp=Z,32nm,1.5s						
CAN	**Canberra**	**32.72**	**186**	P	**P**	**23 50 41.3**	**-1.0**
CAN	**Canberra**	**32.72**	**186**	P	**P**	**23 50 43.0**	**+0.7**
	comp=Z,23nm,1.6s						
WRKA	**Warakurna**	**32.76**	**225**	P	**P**	**23 50 40.9**	**-2.0**
	comp=Z,19nm,0.9s						
WRKA	**Warakurna**	**32.76**	**225**	P	**P**	**23 50 40.9**	**-2.0**
BSSI	**Bau Bau, Buton**	**32.86**	**263**	P	**P**	**23 50 41.8**	**-2.0**
	comp=Z,24nm,1.7s						
BNSI	**Bone**	**33.14**	**266**	P	**P**	**23 50 43.9**	**-2.4**
	comp=Z,17nm,1.4s						
HTT	**Hallett**	**33.41**	**202**	P	**P**	**23 50 47.7**	**-0.8**
	comp=Z,15nm,0.8s						
HTT	**Hallett**	**33.41**	**202**	P	**P**	**23 50 48.1**	**-0.3**
KAPI	**Kappang**	**33.52**	**265**	P	**P**	**23 50 48.3**	**-1.3**
KAPI				IAmb	IAmb	23 50 50.3	
	comp=Z,28nm,1.4s						
BBOO	**Buckleboo**	**34.05**	**206**	P	**P**	**23 50 52.5**	**-1.5**
BBOO	**Buckleboo**	**34.05**	**206**	P	**P**	**23 50 52.4**	**-1.5**
	comp=Z,39nm,2.4s						
WBSI	**Waikabubak, Su**	**34.36**	**257**	P	**P**	**23 50 55.2**	**-1.8**
ARPS	**Mount Arapiles**	**35.52**	**196**	P	**P**	**23 51 06.4**	**-0.2**
	comp=Z,64nm,0.7s						
ARPS	**Mount Arapiles**	**35.52**	**196**	P	**P**	**23 51 07.2**	**+0.6**
MYLDM	**Lahad Datu**	**35.60**	**283**	P	**P**	**23 51 07.3**	**-0.3**
BRAT	**Ballarat**	**35.75**	**193**	P	**P**	**23 51 09.7**	**+1.2**
FORT	**Forrest**	**36.73**	**218**	P	**P**	**23 51 15.4**	**-1.6**
FORT	**Forrest**	**36.73**	**218**	P	**P**	**23 51 15.7**	**-1.4**
	comp=Z,88nm,1.0s						
MGBR	**Mount Gambier**	**36.77**	**197**	P	**P**	**23 51 17.2**	**-0.1**
TAU	**Tasmania Unive**	**40.41**	**187**	P	**P**	**23 51 48.7**	**+1.0**
NACB	**Ninganchiao**	**40.76**	**313**	P	**P**	**23 51 50.5**	**-0.4**
NACB				IAmb	IAmb	23 52 02.7	
	comp=Z,38nm,1.1s						
SBUM	**Sibu**	**41.35**	**277**	P	**P**	**23 51 55.4**	**-0.6**
JNU	**Nakatsue**	**41.43**	**331**	LR	LR	00 08 03.2	
	comp=Z,120nm,18.3s,baz=120,slow=34						
MJAR	**Matsushiro Arr**	**41.47**	**342**	LR	LR	00 05 58.9	
	comp=Z,108nm,20.0s,baz=167,slow=31						
KSM	**Kuching**	**43.15**	**275**	P	**P**	**23 52 10.2**	**-0.4**
KSM				IAmb	IAmb	23 52 26.6	
	comp=Z,19nm,1.0s						
NWAO	**Narrogin (SRO)**	**45.21**	**224**	LR	LR	00 10 50.8	
	comp=Z,113nm,21.2s,baz=86,slow=35						
LEM	**Lembang**	**45.67**	**263**	LR	LR	00 13 51.6	
	comp=Z,107nm,18.3s,baz=355,slow=39						
KSRS	**Korea Array**	**46.35**	**332**	P	**P**	**23 52 34.5**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=138,slow=7.5,SNR=7.1						
	comp=Z,1.5nm,0.8s						
QIZ	**Qiongzhong**	**47.84**	**299**	P	**P**	**23 52 47.5**	**-0.2**
QIZ				S	**S**	**23 59 44.5**	**+1.9**
QIZ				LR	LR		
	comp=Z,210nm,8.8s						
QIZ				LR	LR		
	comp=Z,500nm,9.1s						
QIZ				LR	LR		
	comp=Z,270nm,8.8s						
USRK	**Ussuriysk Ar.**	**50.42**	**340**	P	**P**	**23 53 06.2**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=147,slow=6.6,SNR=5.6						
	comp=Z,1.8nm,0.7s						
KULM	**Kulim**	**53.16**	**279**	P	**P**	**23 53 27.3**	**-0.6**
KULM				IAmb	IAmb	23 53 47.0	
	comp=Z,13nm,1.2s						
BNX	**BinXian**	**53.39**	**338**	⇑P	**P**	**23 53 28.5**	**-0.6**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.4s						
HNS	**HongShan**	**53.56**	**322**	⇓P	**P**	**23 53 33.5**	**+3.0**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
XAN	**Xi'an**	**55.44**	**315**	P	**P**	**23 53 45.5**	**+1.2**
XAN				pmax	pmax		
	comp=Z,15nm,1.4s						
PEA0B	**Petropavlovsk-**	**55.71**	**3**	P	**P**	**23 53 45.9**	**+0.1**
PETK	**Petropavlovsk-**	**55.71**	**3**	P	**P**	**23 53 45.5**	**-0.3**
	comp=Z,5.8nm,0.7s,baz=162,slow=5.9,SNR=16						
	comp=Z,5.8nm,0.7s						
HEH	**HeiHe**	**57.22**	**341**	*e*P	**P**	**23 53 55.8**	**-0.8**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CM31	**Chiang Mai Arr**	**57.43**	**294**	P	**P**	**23 53 59.3**	**+0.6**
CM31				IAmb	IAmb	23 54 00.7	
	comp=Z,10nm,0.8s						
CMAR	**Chiang Mai Arr**	**57.43**	**294**	P	**P**	**23 53 58.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**57.43**	**294**	P	**P**	**23 53 59.1**	**+0.4**
	comp=Z,5.7nm,0.8s,baz=110,slow=5.4,SNR=32						
CMAR				LR	LR	00 18 14.0	
	comp=Z,36nm,19.1s,baz=125,slow=36						
	comp=Z,5.7nm,0.8s						
PZH	**PanZhiHua**	**57.57**	**304**	P	**P**	**23 54 02.8**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.8s						
HHC	**Hu-ho-hao-te**	**57.62**	**323**	*e*P	**P**	**23 54 02.0**	**+2.2**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,77nm,4.8s						
CD2	**Chengdu**	**57.74**	**309**	*e*P	**P**	**23 54 00.5**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SHEM	**Shemya Is, Ala**	**57.93**	**15**	LR	LR	00 13 22.1	
	comp=Z,67nm,20.0s,baz=293,slow=30						
PPT	**Papeete**	**57.94**	**109**	LR	LR	00 15 38.3	
	comp=Z,100nm,19.5s,baz=306,slow=33						
PPT2	**Papeete2**	**57.94**	**109**	*e*LR	LR	00 10 55.7	
	comp=Z,154nm,27.8s						
PPT2				*e*LR	LR	00 11 01.2	
	comp=Z,109nm,21.8s						
TBI	**Tubuai**	**59.02**	**116**	*e*LR	LR	00 11 30.0	
	comp=Z,540nm,30.5s						
LZH	**Lanzhou**	**60.06**	**315**	*e*P	P	23 54 21.8	+4.9
LZH				pP	pP	23 54 28.3	+1.5
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
MA2	**Magadan**	**62.10**	**359**	P	**P**	**23 54 29.9**	**-0.1**
MA2	**Magadan**	**62.10**	**359**	LR	LR	00 19 11.5	
	comp=Z,32nm,20.1s,baz=94,slow=34						
SONM	**Songino Array**	**64.80**	**327**	LR	LR	00 24 20.2	
	comp=Z,48nm,18.1s,baz=122,slow=37						
SEY	**Seymchan**	**65.44**	**360**	LR	LR	00 19 17.3	
	comp=Z,27nm,20.8s,baz=24,slow=32						
TAOE	**Nuku Hiva Isla**	**66.45**	**98**	*e*LR	LR	00 14 49.2	
	comp=Z,122nm,22.6s						
YAK	**Yakutsk**	**67.01**	**348**	LR	LR	00 20 58.0	
	comp=Z,36nm,21.8s,baz=193,slow=33						
EVN	**Everest**	**70.65**	**301**	P	**P**	**23 55 26.2**	**0.0**
EVN				IAmb	IAmb	23 55 39.1	
	comp=Z,14nm,1.2s						
M13K	**Dall Lake**	**71.34**	**21**	P	**P**	**23 55 30.2**	**+1.4**
	baz=226						
N14K	**Kuskokwak Cree**	**71.62**	**22**	P	**P**	**23 55 32.2**	**+1.7**
	baz=228						
O15K	**Ungalikthiuk R**	**71.84**	**23**	P	**P**	**23 55 32.4**	**+0.4**
M14K	**Bethel**	**72.07**	**21**	P	**P**	**23 55 34.8**	**+1.5**
	baz=228						
RKT	**Rikitea**	**72.18**	**113**	*e*LR	LR	00 17 40.3	
	comp=Z,2μm,40.2s						
L14K	**Kuka Creek**	**72.22**	**21**	P	**P**	**23 55 35.3**	**+1.2**
	baz=227						
M15K	**Kasigluk River**	**72.50**	**22**	P	**P**	**23 55 36.7**	**+0.8**
	baz=229						
SII	**Sitkinak Islan**	**72.68**	**27**	P	**P**	**23 55 38.5**	**+1.4**
	baz=236						
L15K	**Ungalak Mounta**	**72.87**	**21**	P	**P**	**23 55 39.8**	**+1.7**
	baz=228						
N16K	**Nishlik Lake**	**73.08**	**23**	P	**P**	**23 55 41.1**	**+1.7**
	baz=231						
R18K	**Karluk**	**73.13**	**26**	P	**P**	**23 55 41.3**	**+1.7**
	baz=236						
K15K	**Wolf Creek Mou**	**73.27**	**20**	P	**P**	**23 55 42.0**	**+1.6**
	baz=228						
M16K	**Timber Creek**	**73.36**	**22**	P	**P**	**23 55 42.5**	**+1.5**
	baz=230						
Q18K	**Katmai Hardscr**	**73.50**	**25**	P	**P**	**23 55 42.3**	**+0.3**
	baz=235						
L16K	**Owhat River**	**73.61**	**21**	P	**P**	**23 55 43.6**	**+1.1**
	baz=230						
F14K	**Arctic Creek**	**74.02**	**16**	P	**P**	**23 55 46.3**	**+1.6**
	baz=222						
Q19K	**Cape Douglas,**	**74.25**	**26**	P	**P**	**23 55 46.7**	**+0.4**
	baz=236						
WMQ	**Urumqi**	**74.52**	**317**	*e*P	**P**	**23 55 50.5**	**+2.3**
Q20K	**Shuyak Island**	**74.62**	**26**	P	**P**	**23 55 48.9**	**+0.6**
	baz=237						
I17K	**Unalakleet**	**74.62**	**19**	P	**P**	**23 55 49.1**	**+0.9**
	baz=228						
H16K	**Elim**	**74.63**	**18**	P	**P**	**23 55 49.4**	**+1.0**
	baz=226						
F15K	**North Star Dit**	**74.67**	**17**	P	**P**	**23 55 49.7**	**+1.2**
	baz=224						
K17K	**Iditarod**	**74.68**	**21**	P	**P**	**23 55 49.9**	**+1.2**
	baz=231						
P19K	**Oil Pt**	**74.83**	**25**	P	**P**	**23 55 50.6**	**+1.0**
	baz=236						
J17K	**VABM Dome**	**74.84**	**20**	P	**P**	**23 55 50.9**	**+1.3**
	baz=230						
VNDA	**Vanda**	**74.92**	**178**	P	**P**	**23 55 50.0**	**+0.1**
VNDA	**Vanda**	**74.92**	**178**	P	**P**	**23 55 49.3**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=343,slow=7.3,SNR=22						
	comp=Z,3.8nm,0.8s						
L18K	**Granite Mounta**	**74.96**	**22**	P	**P**	**23 55 51.8**	**+1.6**
	baz=232						

BPAW	Bear Paw Mtn.	78.16	22	P	P	23 56 09.3	+0.9
	baz=238						
F20K	Avaraart Lake	78.24	18	IAmb	IAmb	23 56 26.7	
	comp=Z,11nm,1.1s						
F20K	Avaraart Lake	78.24	18	P	P	23 56 10.1	+1.4
	baz=232,SNR=6.1						
H21K	Melozitna Rive	78.37	20	P	P	23 56 10.8	+1.3
	baz=236						
D19K	Kuna River	78.44	16	IAmb	IAmb	23 56 11.7	
	comp=Z,8.6nm,0.8s						
D19K	Kuna River	78.44	16	P	P	23 56 11.1	+1.2
	baz=230						
EYAK	Cordova Ski Ar	78.52	26	P	P	23 56 10.9	+0.5
	baz=243						
RND	Reindeer	78.60	23	IAmb	IAmb	23 56 27.3	
	comp=Z,14nm,1.3s						
G21K	Allakaket	78.63	19	IAmb	IAmb	23 56 12.9	
	comp=Z,7.8nm,1.0s						
G21K	Allakaket	78.63	19	P	P	23 56 11.7	+0.7
	baz=235						
MCK	McKinley	78.74	23	P	P	23 56 10.7	-0.9
MCK				IAmb	IAmb	23 56 36.2	
	comp=Z,9.8nm,1.1s						
MCK	McKinley	78.74	23	P	P	23 56 12.4	+0.8
	baz=240						
MLY	Manley	78.75	21	P	P	23 56 12.0	+0.3
	baz=238						
A19K	Wainwright	78.80	14	P	P	23 56 13.1	+1.3
	baz=227						
E20K	Nigu River	78.85	17	P	P	23 56 13.7	+1.5
	baz=232						
H22K	Ishtalitna Cre	78.99	20	P	P	23 56 14.0	+1.0
	baz=237						
D20K	Etivluk River	79.01	17	IAmb	IAmb	23 56 31.1	
	comp=Z,27nm,1.4s						
D20K	Etivluk River	79.01	17	P	P	23 56 14.1	+1.1
	baz=231						
F21K	Alatna River	79.05	19	P	P	23 56 13.8	+0.6
	baz=235						
MKAR	Makanchi Array	79.05	319	LR	LR	00 30 52.7	
	comp=Z,22nm,19.4s,baz=70,slow=35						
NEA2	Nenana	79.13	22	P	P	23 56 13.7	0.0
	baz=239						
I23K	Minto, Yukon-K	79.31	21	P	P	23 56 15.5	+0.8
	baz=239						
N25K	Chitina, Valde	79.49	25	P	P	23 56 16.8	+0.9
	baz=244						
G22K	Bettles	79.52	19	P	P	23 56 17.3	+1.6
	baz=236						
H23K	Yukon River	79.59	21	P	P	23 56 17.5	+1.3
	baz=239						
HARP	HAARP	79.61	25	P	P	23 56 17.4	+1.0
	baz=243						
E21K	Killik River	79.61	17	IAmb	IAmb	23 56 18.3	
	comp=Z,12nm,0.7s						
E21K	Killik River	79.61	17	P	P	23 56 17.5	+1.2
	baz=234,SNR=6.5						
F22K	John River	79.63	19	P	P	23 56 18.0	+1.6
	baz=236						
ZALV	Zalesovo Beam	79.67	326	LR	LR	00 30 48.8	
	comp=Z,36nm,20.6s,baz=52,slow=35						
B20K	Meade River	79.68	15	IAmb	IAmb	23 56 26.0	
	comp=Z,7.5nm,0.8s						
B20K	Meade River	79.68	15	P	P	23 56 17.5	+1.0
	baz=231,SNR=5.4						
PAX	Paxson	79.74	24	P	P	23 56 17.4	+0.3
	baz=243						
C21K	Knifeblade Rid	79.80	17	P	P	23 56 18.5	+1.2
	baz=233						
G23K	Bananza Creek	79.90	20	P	P	23 56 18.5	+0.6
	baz=238						
POKR	Poker Plat Res	80.00	22	IAmb	IAmb	23 56 19.9	
	comp=Z,7.4nm,0.8s						
K24K	Donnelly Dome	80.00	23	P	P	23 56 19.8	+1.3
	baz=242						
ILAR	Eielson Array	80.03	22	LR	LR	00 27 03.2	
	comp=Z,50nm,21.6s,baz=248,slow=32						
E22K	Anaktuvuk Pass	80.09	18	P	P	23 56 20.2	+1.2
	baz=236,SNR=5.8						
B21K	Ikpikpuk River	80.13	16	P	P	23 56 19.7	+0.7
	baz=233,SNR=5.5						
H24K	Noodor Dome	80.19	21	P	P	23 56 20.6	+1.1
	baz=240						
D22K	Ayikyak River	80.25	17	P	P	23 56 21.2	+1.4
	baz=235,SNR=7.9						
J25K	Salcha River,	80.53	23	IAmb	IAmb	23 56 38.1	
	comp=Z,10nm,1.0s						
J25K	Salcha River,	80.53	23	P	P	23 56 21.6	+0.2
	baz=243,SNR=8.7						
A21K	Barrow	80.65	15	P	P	23 56 22.9	+1.1
	baz=231						
E23K	Chandalar	80.75	19	P	P	23 56 23.6	+1.1
	baz=238						
G24K	Hadweenzic Riv	80.76	20	P	P	23 56 23.6	+1.1
	baz=240,SNR=5.8						
SCRK	Sand Creek	80.79	23	P	P	23 56 23.4	+0.5
	baz=244						
A22K	Sinclair Lake	80.87	15	P	P	23 56 24.0	+1.0
	baz=233,SNR=7.9						
B22K	Teshekpuk Lake	80.89	16	P	P	23 56 23.8	+0.7
	baz=234						
D23K	Nanushuk River	80.90	18	P	P	23 56 24.8	+1.6
	baz=237,SNR=12						
M27K	Edge Creek, AK	80.97	25	IAmb	IAmb	23 56 50.0	
	comp=Z,11nm,1.1s						
M27K	Edge Creek, AK	80.97	25	P	P	23 56 24.7	+0.8
	baz=246						
F24K	Squaw Lake	81.03	19	IAmb	IAmb	23 56 26.3	
	comp=Z,9.0nm,0.8s						
F24K	Squaw Lake	81.03	19	P	P	23 56 25.1	+1.1
	baz=240,SNR=9.1						
TOLK	Toolik Lake Re	81.07	18	P	P	23 56 24.7	+0.6
TOLK				IAmb	IAmb	23 56 41.7	
	comp=Z,16nm,1.4s						
TOLK	Toolik Lake Re	81.07	18	P	P	23 56 25.1	+1.0
	baz=238						
E24K	Your Creek	81.12	19	IAmb	IAmb	23 56 41.8	
	comp=Z,12nm,1.4s						
E24K	Your Creek	81.12	19	P	P	23 56 25.4	+1.0
	baz=239						
J26L	Joseph Creek	81.18	23	P	P	23 56 25.9	+1.1
	baz=244						
G25K	Bearman Lake	81.27	20	P	P	23 56 26.4	+1.3
	baz=242						
L27K	Beaver Creek,	81.28	25	P	P	23 56 26.2	+0.8
	baz=246						
YUK3	Moose Creek	81.36	26	P	P	23 56 26.8	+0.7
	baz=248						
C23K	Itkillik River	81.40	17	P	P	23 56 26.7	+0.9
	baz=237,SNR=6.6						
BVCY	Beaver Creek	81.43	25	P	P	23 56 26.8	+0.6
	baz=247						
YUK8	Steele Glacier	81.48	27	P	P	23 56 27.3	+0.5
	baz=248						
D24K	Happy Valley	81.57	18	IAmb	IAmb	23 56 44.7	
	comp=Z,15nm,1.2s						
D24K	Happy Valley	81.57	18	P	P	23 56 27.8	+1.1
	baz=239,SNR=6.2						
K27K	Chicken	81.57	24	P	P	23 56 27.8	+0.9
	baz=246						
O29M	Mount Kennedy	81.67	28	P	P	23 56 27.9	+0.3
	baz=250						
I26K	Coal Creek Min	81.69	22	P	P	23 56 28.3	+0.9
	baz=245						
F25K	Christian Rive	81.82	20	P	P	23 56 29.6	+1.5
	baz=242						
P29M	Windy Craggy	81.84	29	P	P	23 56 29.4	+1.0
	baz=250						
C24K	Franklin Bluff	81.90	17	P	P	23 56 29.6	+1.2
	baz=239						
YUK4	Talbot Arm	82.01	27	P	P	23 56 30.6	+1.1
	baz=249						
E25K	Arctic Village	82.09	19	P	P	23 56 31.1	+1.6
	baz=242						
BMAR	Burnt Mountain	82.11	20	P	P	23 56 29.6	0.0
G26K	Porcupine Rive	82.17	21	P	P	23 56 30.8	+0.9
G26K	Porcupine Rive	82.17	21	P	P	23 56 31.6	+1.7
	baz=244						
SIT	Sitka	82.23	32	P	P	23 56 31.8	+1.4
	baz=253						
HYT	Haines Junctio	82.35	28	P	P	23 56 30.2	-1.0
HYT				IAmb	IAmb	23 56 33.4	
	comp=Z,7.0nm,0.8s						
HYT	Haines Junctio	82.35	28	P	P	23 56 32.2	+1.0
	baz=250,SNR=6.1						
P30M	Million Dollar	82.37	28	P	P	23 56 31.9	+0.7
	baz=251						
F26K	Sheenjek River	82.38	20	P	P	23 56 32.1	+1.0
	baz=243						
I27K	Kandik River	82.39	22	P	P	23 56 32.4	+1.2
	baz=246						
D25K	Kavik River	82.41	18	P	P	23 56 32.5	+1.3
	baz=241						
KURBB	Kurchatov Arra	82.44	322	LR	LR	00 31 45.9	
	comp=Z,40nm,20.5s,baz=176,slow=35						
M29M	Somme Creek	82.48	26	P	P	23 56 32.8	+1.0
	baz=249						
H27K	Steamboat Moun	82.68	22	P	P	23 56 34.0	+1.3
	baz=246						
L29M	L29M	82.86	25	P	P	23 56 34.6	+0.9
	baz=250						
G27K	Doyon Strip	82.87	21	P	P	23 56 34.2	+0.6
	baz=246						
I28M	Miner Creek	82.98	23	P	P	23 56 34.3	0.0
	baz=248						
R32K	Eaglecrest	83.00	30	P	P	23 56 35.1	+0.6
	baz=253						
U33K	Whale Pass	83.14	33	P	P	23 56 36.0	+0.8
	baz=255						
C26K	Camden Bay	83.14	18	P	P	23 56 36.9	+1.9
	baz=242,SNR=7.3						
M30M	Minto, Yukon	83.25	26	P	P	23 56 37.1	+1.3
	baz=251						
N31M	Braeburn, Yuko	83.36	27	P	P	23 56 37.6	+1.3
	baz=252						
K29M	Barlow Dome	83.37	25	P	P	23 56 37.7	+1.3
	baz=250						
C27K	Jago River	83.38	18	P	P	23 56 37.3	+1.1
	baz=244						
E27K	Coleen River	83.46	20	P	P	23 56 37.9	+1.3
	baz=246						
P32M	Atlin	83.77	29	P	P	23 56 39.1	+0.7
	baz=254						
H29M	Whitestone	83.86	22	P	P	23 56 39.4	+0.6
	baz=249						
D27M	Malcolm River	84.10	19	P	P	23 56 40.9	+1.0
	baz=246						
NRIK	Noril'sk	84.12	341	LR	LR	00 35 05.1	
	comp=Z,21nm,19.0s,baz=121,slow=36						
M31M	Drury Creek, Y	84.20	27	P	P	23 56 41.5	+1.0
	baz=253						
G29M	Pine Creek	84.24	22	P	P	23 56 41.4	+0.7
	baz=249						
Q32M	Nakina River	84.32	30	P	P	23 56 42.0	+0.6
	baz=255						
E28M	Babbage River	84.33	20	P	P	23 56 42.3	+1.2
	baz=248						
P33M	Teslin, Yukon	84.38	29	P	P	23 56 42.8	+1.2
	baz=255						
N32M	Quiet Lake	84.50	28	P	P	23 56 43.2	+1.1
	baz=254						
EPYK	Eagle Plains	84.54	22	P	P	23 56 43.5	+1.2
	baz=251						
S34M	Telegraph Cree	84.64	31	P	P	23 56 43.6	+0.8
	baz=256						
D28M	Stokes Point	84.86	19	P	P	23 56 44.5	+0.9
	baz=248						
T35M	Bob Quinn	84.89	32	P	P	23 56 44.9	+0.7
	baz=257						
BBB	Bella Bella	85.14	37	LR	LR	00 30 19.3	
	comp=Z,43nm,18.1s,baz=238,slow=32						
F30M	Barrier River	85.29	21	P	P	23 56 46.1	+0.2
	baz=251						
DLBC	Dease Lake	85.33	31	P	P	23 56 46.4	0.0
	baz=257						
G31M	Satah River	85.64	22	P	P	23 56 48.7	+1.1
	baz=253						
QSPA	South Pole Qui	87.27	180	P	P	23 56 55.4	-0.5
QSPA	South Pole Qui	87.27	180	P	P	23 56 54.1	-1.7
	comp=Z,15nm,1.0s,baz=347,slow=3.6,SNR=22						
	comp=Z,15nm,1.0s						
YBH	Yreka Blue Hor	87.30	48	LR	LR	00 29 38.1	
	comp=Z,89nm,21.0s,baz=254,slow=31						
BVAR	Borovoye Array	87.84	323	LR	LR	00 38 22.6	
	comp=Z,25nm,18.4s,baz=91,slow=37						
A36M	Sachs Harbour	89.89	18	P	P	23 57 07.9	0.0
	baz=261						
PFO	Pinyon Flats O	91.69	57	LR	LR	00 31 58.5	
	comp=Z,69nm,19.8s,baz=199,slow=31						
NEW	Newport	91.72	42	LR	LR	00 34 09.3	
	comp=Z,35nm,18.3s,baz=214,slow=33						
YKA	Yellowknife Ar	93.34	28	P	P	23 57 23.5	-0.6
	comp=Z,0.7nm,0.8s,baz=267,slow=4.5,SNR=8.7						
YKA				LR	LR	00 41 18.4	
	comp=Z,28nm,18.1s,baz=285,slow=37						
	comp=Z,0.7nm,0.8s						
ARTI	Arti	94.93	326	LR	LR	00 39 09.6	
	comp=Z,24nm,20.9s,baz=116,slow=35						
AKTO	Aktyubinsk	95.41	320	LR	LR	00 38 11.0	
	comp=Z,22nm,21.9s,baz=42,slow=34						
LPIG	La Paz	96.95	66	LR	LR	00 36 11.5	
	comp=Z,78nm,18.7s,baz=219,slow=32						
PDAR	Pinedale Array	97.08	47	P	P	23 57 41.5	-0.5
	comp=Z,0.2nm,0.6s,baz=276,slow=6.0,SNR=2.4						
PDAR				LR	LR	00 38 58.0	
	comp=Z,28nm,18.0s,baz=257,slow=34						
	comp=Z,0.2nm,0.6s						
KIRV	Kirov	99.49	329	LR	LR	00 42 13.4	
	comp=Z,38nm,21.2s,baz=73,slow=35						
ANMO	Albuquerque	99.95	55	LR	LR	00 36 28.7	
	comp=Z,38nm,21.5s,baz=142,slow=31						
CLL	Collm	121.22	332	*i* Pdif	Pdif	23 59 27.0	-1.9
	comp=Z,8.0nm,1.4s						
CLL				*e*PKPdf	PKPdf	00 03 02.0	-0.3
CLL				*e*PP	PP	00 04 33.0	+0.7
BOAV	Boa Vista	146.24	90	PKPbc	PKPdf	00 03 50.6	+0.8
TORD	Torodi Ar. Bea	150.03	292	PKPbc	PKPbc	00 04 00.3	-0.6

BJI ***30*** *23:46:22.5, 50°.59N×90°.97E, h11km, mB4.5/12, mb4.3/31, Ms4.4/21, Ms7 4.1/19*

NNC ***30*** *23:46:22.5±1.8, 50°.48N×91°.13E, h0km, mb4.8, mpv4.7, Error ellipse: s-maj=17.5km s-min=10.6km az=90.0*

IDC ***30*** *23:46:22.8±0.6, 50°.41N×91°.14E, h0km, mb3.9/19, mbtmp4.0/26, ML3.6/7, MS3.5/29, Error ellipse: s-maj=12.7km s-min=7.9km az=10.0*

MOS ***30*** *23:46:23.4±1.3, 50°.38N×90°.99E, h11km, mb4.6/24, Error ellipse: s-maj=6.3km s-min=5.6km az=110.5*

NEIC ***30*** *23:46:25.3±1.5, 50°.49N±0°.08×91°.0E±0°.1, h10km±1km, mb4.4/61, Error ellipse: s-maj=13.9km s-min=11.9km az=186.0*

ASRS ***30*** *23:46:26.9±0.2, 51°N±1°×9°1E±°, h8km, MLh5.2/16, Error ellipse: s-maj=3.0km s-min=2.0km az=146.9, confirmed*

ISC 30 23:46:24.7±0.5, **50°.47N**±0°.02×**90°.97E**±0°.02, **h9**km±3km, **h9**km:**pP-P**, **n308**, σ1°**69**/349, **mb4.3**/77, **MS3.8**/35, **45C-19D**, **Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TEL	Teeli	0.74	319	⇓Pg		Pn	23 46 41.5	+0.2
TEL					Sg	Sn	23 46 52.7	-0.1
TEL	Teeli	0.74	319	PG		Pn	23 46 41.6	+0.2
TEL							23 46 52.6	
CUR	Chagan-Uzun	1.72	259	⇑Pg		Pb	23 46 57.0	+0.5
CUR					Sg	Sg	23 47 20.6	+0.6
CUR	Chagan-Uzun	1.72	259	PN		Pb	23 46 56.8	+0.2
CUR							23 47 20.8	
AKAR	Aktash	2.15	267	Pn		Pb	23 47 04.0	+0.1
AKAR				Pg		Pg	23 47 05.6	-0.3
AKAR				Sg		Sg	23 47 33.5	-0.3
AKAR	Aktash	2.15	267	PN		Pg	23 47 05.3	-0.6
AKAR							23 47 34.3	
CHBI	Chibit, Altay	2.23	267	Pn		Pb	23 47 05.1	0.0
CHBI				Pg		Pg	23 47 07.4	+0.1
CHBI				Sg		Sg	23 47 36.1	0.0
DJO	Djoy, Khakassi	2.32	4	Pg		Pg	23 47 08.4	-0.7
DJO				Sg		Sg	23 47 39.5	+0.3
DJO	Djoy, Khakassi	2.32	4	PN		Pb	23 47 06.5	-0.2
DJO							23 47 09.0	
DJO							23 47 39.6	
CERR	Cheremushki	2.40	6	Pg		Pg	23 47 09.7	-1.0
CERR				Sg		Sg	23 47 41.1	-0.7
CERR	Cheremushki	2.40	6	PN		Pb	23 47 07.6	-0.5
CERR							23 47 09.7	
CERR							23 47 41.6	
DGZ	Jazzator, Alta	2.41	253	Pg		Pb	23 47 09.8	+1.5
DGZ				Sg		Sg	23 47 41.1	-0.9
DGZ	Jazzator, Alta	2.41	253	PN		Pb	23 47 07.3	-1.0
DGZ							23 47 41.4	
YALR	Yailyu, Altay	2.48	303	Pg		Pg	23 47 12.7	+0.4
YALR				Sg		Sg	23 47 44.2	-0.3
YALR	Yailyu, Altay	2.48	303	PN		Pg	23 47 12.2	-0.1
YALR							23 47 45.4	
KZLR	Kyzyl	2.52	59	Pg		Pb	23 47 10.3	+0.2
KZLR				Sg		Sb	23 47 43.2	+2.0
ARDR	Aradan	2.61	35	Pg		Pb	23 47 13.2	+1.5
ARDR				Sg		Sb	23 47 46.0	+2.1
ARTR	Artybash	2.68	301	Pg		Pg	23 47 15.6	-0.4
ARTR				Sg		Sg	23 47 49.8	-0.8
ARTR	Artybash	2.68	301	PN		Pg	23 47 16.3	+0.3
ARTR							23 47 50.6	
VEH	Verkhnyaya Baz	2.82	352	Pn		Pb	23 47 13.5	-1.7
VEH				Pg		Pg	23 47 17.6	-1.0
VEH				Sg		Sg	23 47 57.2	+2.1
VEH	Verkhnyaya Baz	2.82	352	PN		Pb	23 47 13.0	-2.2
VEH							23 47 17.3	
VEH							23 47 57.2	
TASR	Tashtagol	3.00	321	Pn		Pb	23 47 16.9	-1.3
TASR				Pg		Pg	23 47 22.4	+0.4
TASR				Sg		Sg	23 48 00.1	-0.7
TASR	Tashtagol	3.00	321	PN		Pg	23 47 20.7	-1.3
TASR							23 47 22.3	
TASR							23 48 00.0	
ELDR	Elanda	3.18	285	Pn		Pb	23 47 19.5	-1.9
ELDR				Pg		Pg	23 47 24.3	-1.4
ELDR				Sg		Sg	23 48 05.4	-1.4
ELDR	Elanda	3.18	285	PN		Pg	23 47 24.2	-1.4
ELDR							23 48 05.9	
LUZB	Luzhba, Kemero	3.44	339	Pn		Pn	23 47 21.8	+3.3
LUZB				Pg		Pb	23 47 28.1	+2.3
LUZB				Sg		Sg	23 48 13.6	-1.5
KIYZ	Kiyzas, Kuzbas	3.67	329	Pn		Pn	23 47 24.1	+2.5
KIYZ				Pg		Pg	23 47 32.8	-2.2
KIYZ				Sg		Sg	23 48 21.1	-1.5
KALT2	Kaltan 2	3.70	324	Pn		Pn	23 47 25.1	+3.1
KALT2				Pg		Pg	23 47 33.5	-2.1
KALT2				Sg		Sg	23 48 22.7	-0.8
KALT3	Kaltan 3	3.75	326	Pn		Pn	23 47 26.2	+3.6
KALT3				Pg		Pg	23 47 34.7	-1.7
KALT3				Sg		Sg	23 48 24.1	-0.9
UKR	Ust'-Kan	3.97	279	Pg		Pg	23 47 38.2	-2.5
UKR				Sg		Sg	23 48 30.5	-1.5
UKR	Ust'-Kan	3.97	279	PN		Pb	23 47 36.3	+1.5
UKR							23 47 37.9	
ELT	Eltsovka	4.05	315	Pn		Pn	23 47 29.4	+2.6
ELT				Pg		Pb	23 47 39.1	+3.0
ELT				Sg		Sg	23 48 31.6	-3.1
ELT	Eltsovka	4.05	315	PN		Pn	23 47 29.2	+2.4
ELT							23 47 39.0	
ELT							23 48 31.6	
ERU	Erunakovo, Kuz	4.28	330	Pn		Pb	23 47 35.1	-5.1
ERU				Pg		Pg	23 47 43.7	-3.0
ERU				Sg		Sg	23 48 41.9	-0.2
BJR1	Bachatsky 1, K	4.83	323	Pg		Pg	23 47 54.1	-3.1
BJR1				Sg		Sg	23 48 57.8	-2.0
MINR	Mina	4.85	23	Pn		Pb	23 47 43.9	-5.9
MINR				Pg		Pg	23 47 55.6	-2.0
MINR				Sg		Sg	23 49 00.6	+0.2
SALR	Pechorkino, Sa	5.10	323	Pn		Pn	23 47 44.7	+3.5
SALR				Pg		Pg	23 47 59.4	-2.9
SALR				Sg		Sg	23 49 03.8	-4.5
ZAA0	Zalesovo Array	5.14	315			Pn	23 47 42.9	+1.1
ZAA0	Zalesovo Array	5.14	315	⇑Pn		Pn	23 47 43.3	+1.5
	2.8nm,0.7s							
ZAA0				⇑Pg		Pb	23 47 58.8	+4.1
	13nm,0.6s							
ZAA0				⇑Lg		Lg	23 49 05.3	
	346nm,1.0s							
ZALV	Zalesovo Beam	5.14	315			Pn	23 47 42.6	+0.8
ZALV	Zalesovo Beam	5.14	315	Pn		Pn	23 47 43.0	+1.2
	2.0nm,0.3s,baz=129,slow=12,SNR=21							
ZALV				Pg		Pb	23 47 58.3	+3.6
	7.8nm,0.3s,baz=130,slow=14,SNR=23							
ZALV				Lg		Lg	23 49 03.4	
	30nm,0.3s,baz=127,slow=26,SNR=12							
ZALV				LR		LR	23 49 59.5	
	comp=Z,273nm,18.4s,baz=197,slow=41							
	6.0nm,0.2s							
BRCR	Berchikul'	5.42	344	Pn		Pn	23 47 50.0	+4.4
BRCR				Pg		Pb	23 48 02.6	+3.1
BRCR				Sg		Sg	23 49 16.1	-2.4
KEM	Kemerovo	5.70	331	Pg		Pb	23 48 07.5	+3.2
KEM				Sg		Sg	23 49 24.0	-3.7
GZL	Zheleznogorsk	6.00	14	Sg		Sg	23 49 35.4	-1.9
SHTK	Zheleznogorsk-	6.08	14	Pn		Pn	23 47 59.4	+4.7
SHTK				Pg		Pg	23 48 16.4	-4.7
SHTK				Sg		Sg	23 49 36.3	-3.4
NVS	Novosibirsk	6.42	316	Pn		Pn	23 48 01.1	+1.7
NVS				Pg		Pg	23 48 23.4	-4.2
NVS				Sg		Sg	23 49 48.6	-2.2
NVSII	Novosibirsk	6.42	316	Sg		Sg	23 49 47.5	-3.2
MOY	Mondy	6.43	75	*e*PN		Pn	23 48 03.0	+3.4
MOY				*e*			23 49 39.6	
MK31	Makanchi Array	6.83	241	Pn		Pn	23 48 07.2	+2.2
MK31	Makanchi Array	6.83	241	⇓Pn		Pn	23 48 06.6	+1.6
	26nm,0.5s,baz=76,slow=11,SNR=291							
MK31				⇑Pg		Pb	23 48 29.6	+6.1
	134nm,0.7s,baz=58,slow=15,SNR=12							
MK31				⇑Lg		Lg	23 49 59.9	
	241nm,0.6s,baz=55,slow=32,SNR=5.2							
MK31	Makanchi Array	6.83	241	PN		Pn	23 48 07.2	+2.2
MKAR	Makanchi Array	6.83	241	Pn		Pn	23 48 06.5	+1.5
	2.5nm,0.3s,baz=52,slow=15,SNR=116							
MKAR				Lg		Lg	23 49 58.8	
	42nm,0.3s,baz=54,slow=30,SNR=7.6							
MKAR				LR		LR	23 50 39.1	
	comp=Z,176nm,21.5s,baz=18,slow=37							
	5.5nm,0.3s							
MKAR	Makanchi Array	6.83	241	*e*PN		Pn	23 48 06.9	+1.9
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.3s							
MAKZ	Makanchi	7.00	242			Pn	23 48 08.8	+1.5
MAKZ	Makanchi	7.00	242	⇑Pn		Pn	23 48 08.5	+1.2
	comp=Z,43nm,1.1s							
MAKZ				⇑Pg		Pg	23 48 33.4	-5.1
	comp=Z,209nm,1.1s							
MAKZ				⇓Lg		Lg	23 50 07.0	
	comp=Z,537nm,0.9s							
MAKZ	Makanchi	7.00	242	PN		Pn	23 48 08.8	+1.5
WMQ	Urumqi	7.02	200	Pn		Pn	23 48 09.0	+1.4
WMQ				Sn		Sn	23 49 29.3	+1.8
ZAK	Zakamensk	7.87	86	*e*P		Pn	23 48 29.1	+10
ZAK				pmax		pmax		
	comp=Z,133nm,0.9s							
KURK	Kurchatov	7.87	277	Pn		Pn	23 48 20.2	+1.0
KURK	Kurchatov	7.87	277	⇓Pn		Pn	23 48 20.2	+1.0
	comp=Z,46nm,0.7s							
KURK				⇑Pg		Pg	23 48 49.2	-6.0
	comp=Z,107nm,0.9s							
KURK				⇑Lg		Lg	23 50 35.2	
	comp=Z,939nm,0.9s							
KURK	Kurchatov	7.87	277	P		Pn	23 48 21.3	+2.1
KURK							23 49 49.8	
KURBB	Kurchatov Arra	7.93	276	Pn		Pn	23 48 21.3	+1.3
	comp=Z,0.7nm

comp=Z,10nm,0.6s
OTUK ⇊Lg Lg 23 52 57.4
comp=Z,206nm,1.1s
WUS Wushi 12.36 226 Pn 23 49 21.2 +0.3
KDJ Kajisay 12.65 234 Pn **Pn 23 49 28.4 +3.5**
KDJ Kajisay 12.65 234 P **Pn 23 49 28.4 +3.5**
GTA Gaotai 12.70 147 *e*P **Pn 23 49 24.8 -0.7**
GTA sP 23 49 31.3
GTA pmax pmax
comp=Z,3.0nm,1.4s
GTA LR LR
comp=Z,420nm,10.0s
GTA LR LR
comp=Z,1μm,7.6s
GTA LR LR
comp=Z,320nm,11.2s
TKM2 Tokmak 2 12.96 240 ⇊Pn **Pn 23 49 28.6 -0.6**
comp=Z,7.0nm,0.6s
TKM2 ⇑Lg Lg 23 53 15.3
comp=Z,131nm,1.1s
BVA0 Borovoye Array 13.00 289 Pn **Pn 23 49 29.1 -0.4**
comp=Z,14nm,0.8s,baz=78,slow=13,SNR=25
BVA0 ⇊Sn **Sn 23 51 57.8 +3.6**
comp=Z,34nm,0.8s,baz=97,slow=23,SNR=3.8
BVA0 ⇊Lg Lg 23 53 20.8
comp=Z,92nm,1.1s
BVAR Borovoye Array 13.00 289 Pn **Pn 23 49 29.0 -0.5**
comp=Z,0.1nm,0.3s,baz=75,slow=13,SNR=14
BVAR Sn **Sn 23 51 48.9 -5.2**
comp=Z,0.2nm,0.3s,baz=92,slow=22,SNR=3.5
BVAR Lg Lg 23 53 12.9
baz=104,slow=24
BVAR LR LR 23 54 52.5
comp=Z,290nm,19.2s,baz=91,slow=39
comp=Z,2.3nm,0.5s
BOOM Boomskoye usch 13.06 238 Pn **Pn 23 49 31.0 +0.5**
BOOM Boomskoye usch 13.06 238 P **Pn 23 49 31.0 +0.5**
BRVK Borovoye 13.07 289 Pn **Pn 23 49 29.9 -0.4**
BRVK Borovoye 13.07 289 ⇑Pn **Pn 23 49 29.2 -1.2**
comp=Z,15nm,0.7s
BRVK ⇊Sn **Sn 23 51 59.1 +3.5**
comp=Z,59nm,0.9s
BRVK ⇊Lg Lg 23 53 20.5
comp=Z,189nm,1.3s
BRVK Borovoye 13.07 289 P **Pn 23 49 29.9 -0.4**
AAK Ala-Archa 13.76 242 Pn **Pn 23 49 41.5 +1.5**
AAK Ala-Archa 13.76 242 Pn **Pn 23 49 39.2 -0.8**
comp=Z,0.4nm,0.3s,baz=76,slow=10,SNR=7.4
AAK Sn **Sn 23 52 10.5 -2.5**
comp=Z,0.4nm,0.3s,baz=198,slow=20,SNR=1.7
AAK Lg Lg 23 53 37.7
comp=Z,0.6nm,0.3s,baz=345,slow=23,SNR=3.5
AAK LR LR 23 55 42.0
comp=Z,41nm,21.0s,baz=40,slow=40
comp=Z,1.5nm,0.6s
AAK Ala-Archa 13.76 242 ⇊Pn **Pn 23 49 40.2 +0.2**
comp=Z,9.1nm,0.9s
KSH Kashi 15.22 230 P **P 23 50 08.8 +4.0**
KSH pP sP 23 50 13.0 +3.5
KSH pmax pmax
comp=Z,6.0nm,1.1s
BOD Bodaibo 15.31 52 *e*P **P 23 50 07.2 +1.6**
BOD pmax pmax
comp=Z,17nm,1.2s
KK31 Karatay Array 15.80 250 Pn **Pn 23 50 05.7 -1.6**
KK31 IAmb IAmb 23 50 16.3
comp=Z,19nm,0.9s
KK31 Karatay Array 15.80 250 ⇑Pn **Pn 23 50 05.5 -1.8**
comp=Z,17nm,0.8s,baz=50,slow=14,SNR=55
KK31 ⇑Lg Lg 23 54 47.4
comp=Z,54nm,0.9s,baz=46,slow=28,SNR=3.6
KK31 Karatay Array 15.80 250 P **Pn 23 50 05.7 -1.6**
KK31 pmax pmax
comp=Z,19nm,0.9s
KKAR Karatay Array 15.80 250 Pn **Pn 23 50 05.5 -1.8**
KKAR Karatay Array 15.80 250 Pn **Pn 23 50 05.1 -2.2**
KKAR IAmb IAmb 23 50 16.3
comp=Z,20nm,0.9s
KKAR Karatay Array 15.80 250 P **Pn 23 50 05.1 -2.2**
KKAR pmax pmax
comp=Z,20nm,0.9s
LZH Lanzhou 17.12 142 *e*P **Pn 23 50 25.3 +1.0**
LZH sP sP 23 50 32.8 +2.2
LZH pmax pmax
comp=Z,33nm,1.2s
LZH LR LR
comp=Z,980nm,10.0s
LZH LR LR
comp=Z,640nm,10.3s
DRK Karamyk 17.40 238 P 23 50 29.4 +0.1
DRK Karamyk 17.40 238 P **P 23 50 29.4 +0.1**
DRK pmax pmax
comp=Z,14nm,0.8s
BTK Batken 17.54 241 Pn **Pn 23 50 28.7 -0.7**
BTK Batken 17.54 241 P **Pn 23 50 28.7 -0.7**
BTK pmax pmax
comp=Z,9.0nm,1.0s
XLT XiLinHaoTe 18.24 101 *e*P **Pn 23 50 38.0 0.0**
XLT pmax pmax
comp=Z,10.0nm,1.0s
XLT pmax pmax
comp=Z,100nm,3.9s
XLT LR LR
comp=Z,550nm,7.1s
XLT LR LR
comp=Z,630nm,7.8s
HIA Hailar 18.54 83 P **P 23 50 39.9 -1.5**
HIA Hailar 18.54 83 *ce*P **Pn 23 50 42.3 +0.7**
HIA pmax pmax
comp=Z,14nm,0.9s
GAR Garm 18.55 240 P **P 23 50 42.0 +0.2**
GAR IAmb IAmb 23 51 00.0
comp=Z,41nm,1.1s
SVE Sverdlovsk 18.96 301 *e*P **Pn 23 50 46.8 +0.2**
SVE pmax pmax
comp=Z,42nm,1.2s
SVE MLR MLR
comp=Z,461nm,14.0s
NRIK Noril'sk 19.00 356 P **P 23 50 46.6 +0.3**
NRIK IAmb IAmb 23 50 57.1
comp=Z,15nm,0.7s
NRIK Noril'sk 19.00 356 P **P 23 50 46.2 -0.1**
comp=Z,0.9nm,0.3s,baz=168,slow=10,SNR=20
NRIK LR LR 23 58 45.6
comp=Z,112nm,19.1s,baz=176,slow=39
comp=Z,10nm,0.8s
NRIK Noril'sk 19.00 356 *ce*P **Pn 23 50 47.6 +0.6**
NRIK pmax pmax
comp=Z,1.0nm,0.3s
NRIK pmax pmax
comp=Z,11nm,0.8s
SIMJ Simiganj 19.52 241 P **P 23 50 52.1 -0.3**
AB31 Akbulak array 19.97 279 P **Pn 23 50 58.5 -0.2**
AB31 Akbulak array 19.97 279 Pn **Pn 23 50 58.6 -0.2**
comp=Z,8.0nm,0.8s,baz=75,slow=11,SNR=52
AB31 ⇊Lg Lg 23 57 00.1
comp=Z,22nm,1.1s,baz=88,slow=29,SNR=4.5
ABKAR Akbulak array 19.97 279 P **Pn 23 50 58.0 -0.7**
ARTI Arti 20.16 300 P **P 23 50 60.0 +0.9**
ARTI Arti 20.16 300 P Pn 23 51 00.1 -0.9
comp=Z,6.0nm,0.6s,baz=100,slow=5.5,SNR=11
ARTI S Sn 23 54 49.8 +2.0
comp=Z,2.9nm,0.6s,baz=189,slow=13,SNR=1.4
ARTI LR LR 23 59 45.2
comp=Z,192nm,20.1s,baz=94,slow=40
comp=Z,6.0nm,0.6s
BJT Baijiatuau 20.49 111 P **P 23 51 03.0 +0.2**
BJT Baijiatuau 20.49 111 P **P 23 51 03.0 +0.2**
BJT pmax pmax
comp=Z,32nm,1.0s
LSA Lhasa 20.75 180 P **P 23 51 06.7 +0.6**
LSA IAmb IAmb 23 51 15.4
comp=Z,14nm,0.8s
LSA Lhasa 20.75 180 P **P 23 51 04.3 -1.8**
LSA pmax pmax
comp=Z,2.0nm,0.4s
LSA Lhasa 20.75 180 P **P 23 51 06.7 +0.6**
LSA pmax pmax
comp=Z,14nm,0.8s
AKTO Aktyubinsk 20.89 283 P **P 23 51 07.6 +0.5**
comp=Z,6.0nm,0.7s,baz=84,slow=9.4,SNR=12
AKTO S Sn 23 55 03.7 -1.7
comp=Z,1.6nm,0.7s,baz=340,slow=15,SNR=1.3
AKTO Lg Lg 23 57 29.6
comp=Z,0.1nm,0.3s,baz=163,slow=19,SNR=2.3
AKTO LR LR 23 59 45.5

comp=Z,130nm,19.0s,baz=154,slow=38
comp=Z,6.0nm,0.7s
AKTO Aktyubinsk 20.89 283 ⇑Pn **P 23 51 07.2 +0.1**
comp=Z,9.3nm,0.8s
AKTO ⇑Lg Lg 23 57 30.6
comp=Z,22nm,1.4s
XAN Xi'an 21.03 135 P **P 23 51 08.0 -0.7**
XAN S **S 23 55 02.0 -0.9**
XAN pmax pmax
comp=Z,26nm,1.0s
XAN LR LR
comp=Z,920nm,13.7s
XAN LR LR
comp=Z,1μm,14.3s
XAN LR LR
comp=Z,760nm,13.4s
NIL Nilore 21.25 224 P **P 23 51 11.4 +0.3**
NIL IAmb IAmb 23 51 26.4
comp=Z,14nm,0.8s
NIL Nilore 21.25 224 P **P 23 51 11.4 +0.3**
NIL pmax pmax
comp=Z,14nm,0.9s
HNS HongShan 21.40 119 ⇊P **P 23 51 14.5 +1.9**
HNS S Sn 23 55 14.5 -3.2
HNS pmax pmax
comp=Z,28nm,1.0s
HNS LR LR
comp=Z,500nm,11.7s
HNS LR LR
comp=Z,480nm,11.0s
HNS LR LR
comp=Z,300nm,9.6s
KBL Kabul 22.56 233 P **P 23 51 25.4 +0.1**
KBL Kabul 22.56 233 P **P 23 51 25.4 +0.1**
KBL pmax pmax
comp=Z,6.0nm,0.8s
EVN Everest 22.71 190 P **P 23 51 28.8 +1.4**
EVN IAmb IAmb 23 51 36.9
comp=Z,15nm,0.8s
TIA Tai'an 23.61 117 P **P 23 51 36.5 +0.7**
TIA pmax pmax
comp=Z,15nm,1.0s
YAK Yakutsk 24.02 46 LR LR 00 00 34.9
comp=Z,122nm,18.5s,baz=254,slow=36
YAK Yakutsk 24.02 46 *e*P **P 23 51 38.0 -1.5**
YAK *e**PP **pP 23 51 44.4 +1.5**
YAK *e*PPP PPP 23 52 14.6
YAK *e* 23 55 17.2
YAK *e*S **S 23 55 54.8 -1.4**
YAK pmax pmax
comp=Z,5.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.3s
YAK pmax pmax
comp=Z,110nm,4.8s
YAK pmax pmax
comp=N,83nm,4.5s
YAK pmax pmax
comp=E,87nm,4.2s
YAK smax smax
comp=E,91nm,4.4s
YAK smax smax
comp=N,63nm,4.3s
YAK MLR MLR
comp=Z,118nm,21.0s
YAK MLR MLR
comp=N,19nm,13.0s
YAK MLR MLR
comp=E,36nm,23.0s
KIRV Kirov 25.08 305 LR LR 00 03 00.9
comp=E,164nm,19.0s,baz=95,slow=40
KIRV Kirov 25.08 305 *de*P **P 23 51 49.5 +0.3**
TNCH TengChong 26.06 164 *e*P **P 23 51 58.3 -0.3**
TNCH pP sP 23 52 04.3 +0.8
TNCH sP pP 23 52 06.8 +4.8
TNCH pmax pmax
comp=E,110nm,3.6s
KLR Kul'dur 26.09 77 LR LR 00 02 48.4
comp=E,176nm,18.5s,baz=292,slow=38
KLR Kul'dur 26.09 77 *e*P **P 23 52 00.4 +1.9**
KLR pmax pmax
comp=Z,3.0nm,1.0s
BELG Belogornoye 26.80 291 LR LR 00 03 16.5
comp=Z,80nm,19.2s,baz=69,slow=38
BELG Belogornoye 26.80 291 *ce*P **P 23 52 05.3 +0.5**
BELG pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 27.21 25 P **P 23 52 08.4 +0.1**
TIXI IAmb IAmb 23 52 27.1
comp=Z,6.0nm,0.8s
TIXI Tiksi 27.21 25 LR LR 00 02 22.3
comp=Z,56nm,18.9s,baz=242,slow=35
TIXI Tiksi 27.21 25 ⇑*e*P **P 23 52 08.6 +0.3**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
USA0B Ussuriysk Arra 28.21 87 ⇑*e*P **P 23 52 17.1 -0.5**
USRK Ussuriysk Ar. 28.21 87 P **P 23 52 17.2 -0.4**
comp=Z,0.7nm,0.5s,baz=302,slow=8.3,SNR=2.6
comp=Z,0.7nm,0.5s
KSRS Korea Array 29.29 102 P **P 23 52 26.1 -1.0**
comp=Z,1.3nm,0.9s,baz=297,slow=8.2,SNR=6.0
comp=Z,1.3nm,0.9s
KSRS Korea Array 29.29 102 *e*P **P 23 52 26.6 -0.5**
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KLMR Klimovskoe 30.04 310 *e*P P 23 52 38.4 +4.8
KLMR pmax pmax
comp=Z,13nm,1.0s
MAK Makhachkala 30.37 273 *e*P **P 23 52 33.0 -3.7**
MAK *e*S **S 23 57 33.2 -3.8**
MAK pmax pmax
comp=Z,135nm,1.2s
MAK MLR MLR
comp=Z,183nm,15.0s
VRH Novokhopyorsk 30.65 291 *e*P **P 23 52 39.2 +0.2**
VRH pmax pmax
comp=Z,14nm,0.8s
AKT Akhty 30.98 270 *e*P **P 23 52 43.5 +1.2**
AKT *e* 23 53 44.6
AKT pmax pmax
comp=Z,7.0nm,0.9s
LPSR Galich'ya Gora 31.87 294 *e*P **P 23 52 49.8 0.0**
LPSR pmax pmax
comp=Z,8.0nm,0.9s
VORR Voronezh 31.99 293 *e*P **P 23 52 50.6 -0.3**
VORR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 32.16 292 *e*P **P 23 52 50.6 -1.8**
VSR pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 32.51 300 *ce*P **P 23 52 56.0 +0.6**
OBN *i* *PP **pP 23 52 57.5 -1.4**
OBN *i* *SP **sP 23 52 59.9 -0.4**
OBN 23 54 04.0
OBN 23 55 41.0
OBN pmax pmax
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 32.57 166 P **P 23 52 55.8 -0.4**
comp=Z,0.3nm,0.3s,baz=357,slow=7.5,SNR=10
CMAR LR LR 00 07 07.4
comp=Z,48nm,20.9s,baz=10.0,slow=38
comp=Z,0.3nm,0.3s
KBZ Khabaz 32.93 277 P **P 23 53 00.4 +1.3**
comp=Z,0.7nm,0.7s,baz=17,slow=6.3,SNR=6.1
KBZ LR LR 00 07 56.2
comp=Z,81nm,18.4s,baz=40,slow=39
comp=Z,0.7nm,0.7s
KIV Kislovodsk 32.95 278 *e*P **P 23 53 00.8 +1.3**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,39nm,15.0s
GNI Garni 33.61 270 LR LR 00 08 15.7
comp=Z,48nm,18.7s,baz=57,slow=39
GNI Garni 33.61 270 ⇑*e*P **P 23 53 09.1 +3.7**
GNI pmax pmax
comp=Z,5.0nm,1.0s
ASAJ Asahikawa 34.98 80 LR LR 00 08 54.6
comp=Z,85nm,18.5s,baz=216,slow=39
ARCES ARCESS Array B 35.57 327 LR LR 00 08 21.2
comp=Z,76nm,18.2s,baz=78,slow=37
GURO Guroymak-BITLI 36.24 270 P **P 23 53 30.6 +2.5**
FIA1 FINESS Array S 36.40 313 P **P 23 53 29.2 +0.2**
FINES FINESS Array B 36.40 313 P **P 23 53 29.6 +0.6**

comp=Z,3.3nm,0.7s,baz=81,slow=9.5,SNR=15
FINES LR LR 00 09 46.0
comp=Z,65nm,19.2s,baz=84,slow=38
comp=Z,3.3nm,0.7s
FINES FINESS Array B 36.40 313 *e*P **P 23 53 30.0 +1.0**
FINES pmax pmax
comp=Z,3.0nm,0.6s
KEF Keuruu 36.80 314 *e*P **P 23 53 32.4 0.0**
VSU Vasula 36.84 308 *ce*P **P 23 53 32.6 -0.1**
VSU pmax pmax
comp=Z,9.0nm,0.9s
VSU Vasula 36.84 308 *e*P **P 23 53 32.9 +0.1**
MNK Minsk 37.49 301 *i* P **P 23 53 39.3 +1.0**
comp=E,7.0nm,0.9s
MNK *i* P **P 23 53 39.3 +1.0**
comp=N,6.0nm,0.9s
MNK *i* P **P 23 53 39.3 +1.0**
comp=Z,12nm,0.9s,baz=69
MNK *i* PP **PP 23 54 58.4 -5.2**
MNK *i* PPP PPP 23 55 21.3
MNK *i* S **S 23 59 27.3 +0.5**
MNK *i* SS **SS 00 02 08.7 -2.0**
MNK *i* SSS SSS 00 02 38.8
MNK *i* LQ LQ 00 06 17.8
MNK *i* LR LR 00 09 16.9
MNK *i* LRM MLR 00 09 46.7
comp=E,18nm,10.3s
MNK *i* LRM MLR 00 09 56.1
comp=N,58nm,12.8s
MNK *i* LRM MLR 00 10 00.9
comp=Z,98nm,13.4s
MNK Minsk 37.49 301 *i* P **P 23 53 39.3 +1.0**
MNK *i* 23 55 56.3
MNK *i* S **S 23 59 27.3 +0.5**
MNK *i* SSS SSS 00 02 38.7
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK MLR MLR
comp=E,18nm,10.0s
MNK MLR MLR
comp=N,58nm,13.0s
MNK MLR MLR
comp=Z,98nm,13.0s
VAF Ylistaro 37.59 316 *e*P **P 23 53 40.6 +1.5**
NACGM Naroch 37.94 302 *e*P **P 23 53 43.1 +1.0**
comp=Z,5.0nm,0.9s,baz=69
AKASG Malin Array Be 38.19 295 P **P 23 53 44.2 -0.1**
comp=Z,0.8nm,0.4s,baz=58,slow=8.6,SNR=8.1
AKASG LR LR 00 10 17.5
comp=Z,145nm,19.5s,baz=62,slow=37
comp=Z,0.8nm,0.4s
AKBB Malin Array Si 38.19 295 P **P 23 53 44.7 +0.4**
AKBB IAmb IAmb 23 53 52.5
comp=Z,5.3nm,0.7s
AKBB Malin Array Si 38.19 295 ⇑*e*P **P 23 53 44.7 +0.4**
KIEV Kiev 38.20 295 P **P 23 53 44.6 +0.2**
KIEV IAmb IAmb 23 53 52.5
comp=Z,4.8nm,0.7s
KIEV Kiev 38.20 295 ⇑P **P 23 53 49.0 +4.7**
KIEV Kiev 38.20 295 ⇑P **P 23 53 49.0 +4.7**
PABE Paberze 39.23 304 P **P 23 53 53.1 +0.2**
PABE Paberze 39.23 304 *e*P **P 23 53 53.3 +0.4**
BILL Bilibino 39.31 35 ⇑*e*P **P 23 53 54.6 +1.1**
BILL pmax pmax
comp=Z,13nm,2.5s
SORM Soroca 39.83 292 ⇊P **P 23 53 58.4 +0.4**
PEA0B Petropavlovsk- 40.01 59 *ce*P **P 23 54 00.0 +0.5**
MILM Milestii Mici 40.13 290 ⇑P **P 23 54 01.9 +1.3**
MILM Milestii Mici 40.13 290 ⇑P P 23 54 05.3 +4.8
BR131 Keskin Array S 40.92 278 ⇑*e*P **P 23 54 08.2 +0.9**
BRTR Keskin Array B 40.92 278 P **P 23 54 08.0 +0.7**
BRTR Keskin Array B 40.92 278 P **P 23 54 07.2 -0.2**
comp=Z,1.2nm,0.8s,baz=73,slow=6.9,SNR=4.1
comp=Z,1.2nm,0.8s
BRTR Keskin Array B 40.92 278 *i* P **P 23 54 09.3 +2.0**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
KIRS Kirsehir-Merke 41.08 277 ⇑P P 23 54 15.0 +6.4
GIRR Girov 41.49 291 ⇑P **P 23 54 13.2 +1.4**
TESR Tescani 41.62 290 ⇑P P 23 54 17.8 +4.9
BUR08 Bucovina Ar. S 41.93 293 P **P 23 54 16.6 +1.1**
BUR08 IAmb IAmb 23 54 24.6
comp=Z,4.2nm,0.7s
BURAR Bucovina Array 41.93 293 P **P 23 54 15.6 0.0**
BURAR Bucovina Array 41.93 293 ⇑P **P 23 54 17.1 +1.6**
BURAR Bucovina Array 41.93 293 ⇑P **P 23 54 19.6 +4.1**
MLR Muntele Rosu 42.56 289 ⇊P **P 23 54 21.4 +0.6**
HFS Hagfors 42.58 314 P **P 23 54 20.6 +0.1**
comp=Z,7.0nm,0.6s,baz=76,slow=7.8,SNR=39
HFS LR LR 00 13 19.1
comp=Z,104nm,18.6s,baz=68,slow=38
comp=Z,7.0nm,0.6s
DOPR Dopca 42.65 290 ⇑P **P 23 54 25.6 +4.3**
KOLS Kolonicke sedl 43.00 296 *e*P P 23 54 34.0 +10
NC405 NORSAR Array S 43.09 316 P **P 23 54 25.3 +0.6**
BLEU Blekinge 43.12 308 *i* P **P 23 54 25.3 +0.3**
NB2 NORSAR Subarra 43.34 316 P **P 23 54 26.9 +0.2**
comp=Z,2.6nm,0.6s,baz=64,slow=7.9
NOA NORSAR Array B 43.34 316 P **P 23 54 26.9 +0.2**
comp=Z,1.6nm,0.6s,baz=64,slow=7.6,SNR=16
NOA LR LR 00 13 03.9
comp=Z,102nm,18.0s,baz=70,slow=37
comp=Z,1.6nm,0.6s
NOA NORSAR Array B 43.34 316 *e*P **P 23 54 27.3 +0.6**
NOA pmax pmax
comp=Z,2.0nm,0.6s
MARR Marisel-Cluj 43.64 292 ⇑P **P 23 54 31.1 +1.7**
MMAI Mount Meron Ar 43.89 268 P **P 23 54 32.1 +0.6**
comp=Z,0.3nm,0.3s,baz=56,slow=11,SNR=4.2
comp=Z,0.3nm,0.3s
NIE Niedzica 43.89 297 *e*P **P 23 54 33.5 +2.2**
DEL Delary 44.02 309 *i* P **P 23 54 32.8 +0.6**
BSD Bornholm Skovb 44.11 307 *i* P **P 23 54 33.3 +0.4**
STRU Stroemstad 44.20 313 *i* P **P 23 54 34.4 +0.9**
RAYN Ar Rayn 44.23 250 P **P 23 54 34.9 +0.6**
RAYN IAmb IAmb 23 54 43.1
comp=Z,3.4nm,0.8s
RAYN Ar Rayn 44.23 250 ⇑P **P 23 54 35.7 +1.4**
STEB Steborice 45.06 299 *e*P **P 23 54 42.2 +1.6**
VYHS Vyhne 45.19 297 *e*P **P 23 54 43.5 +1.8**
VYHS Vyhne 45.19 297 *e*P **P 23 54 43.5 +1.8**
KSP Ksiaz 45.42 301 *e*P **P 23 54 45.0 +1.6**
KRLC Kraliky 45.54 300 *e*P **P 23 54 45.7 +1.3**
KRLC AMS AMS 00 14 30.0
comp=Z,200nm,21.5s
KRLC Kraliky 45.54 300 *e*P **P 23 54 45.7 +1.3**
KRLC MLR MLR
comp=Z,200nm,21.5s
DPC Dobruska-Polom 45.65 300 *e*P **P 23 54 47.1 +1.8**
DPC AMS AMS 00 14 10.0
comp=Z,100nm,16.7s
DPC Dobruska-Polom 45.65 300 *e*P **P 23 54 47.1 +1.8**
DPC MLR MLR
comp=Z,100nm,16.7s
HOMB Homborsund 45.79 313 *i* P **P 23 54 47.0 +0.8**
VRAC Vranov 46.04 299 LR LR 00 15 16.7
comp=Z,124nm,18.9s,baz=60,slow=38
VRAC Vranov 46.04 299 *e*P **P 23 54 50.0 +1.7**
VRAC Vranov 46.04 299 ⇑P **P 23 54 49.4 +1.0**
VRAC Vranov 46.04 299 ⇑P **P 23 54 49.4 +1.0**
JMIC Jan Mayen 46.19 333 LR LR 00 16 50.5
comp=Z,39nm,18.9s,baz=70,slow=40
KRUC Moravsky 46.28 299 *e*P **P 23 54 51.4 +1.2**
MORH Mrgy, Hungar 46.51 294 ⇑P **P 23 54 53.1 +1.1**
PVCC Panska Ves 46.52 301 *e*P **P 23 54 54.2 +2.1**
PVCC Panska Ves 46.52 301 *e*P **P 23 54 54.2 +2.1**
TREC Trest 46.66 299 AMS AMS 00 15 20.0
comp=Z,200nm,15.8s
BRG Berggiesshubel 46.69 302 *e*P **P 23 54 54.1 +0.7**
BRG Amp 23 54 55.6
comp=Z,1.6nm,0.7s
PRU Pruhonice 46.82 301 AMS AMS 00 15 30.0
comp=Z,200nm,13.7s
CLL Collm 46.97 303 P **P 23 54 56.4 +0.8**
CLL Collm 46.97 303 *i* P **P 23 54 56.2 +0.6**
CLL *i* 23 55 01.3
CLL pmax pmax
comp=Z,6.0nm,0.6s
CLL Collm 46.97 303 *i* P **P 23 54 56.2 +0.6**
comp=Z,6.0nm,0.6s
CLL *i* sP **sP 23 55 01.3 +0.7**

CLL				*i* x	x	23 55 05.7	
CLL				*e*SS	SS	00 05 19.0	+6.1
CONA	**Conrad Observa**	**47.18**	**298**	*e*P	**P**	**23 54 57.7**	**+0.3**
	comp=Z,0.5nm,0.5s						
ZVC	**Zvikov**	**47.30**	**300**	*e*P	**P**	**23 55 00.1**	**+1.8**
ZVC				AMS	AMS	00 15 50.0	
	comp=Z,200nm,9.6s						
CKRC	**Cesky Krumlov**	**47.57**	**299**	*e*P	**P**	**23 55 01.9**	**+1.5**
CKRC				AMS	AMS	00 15 50.0	
	comp=Z,100nm,17.9s						
CKRC	**Cesky Krumlov**	**47.57**	**299**	*e*P	**P**	**23 55 01.9**	**+1.5**
CKRC				MLR	MLR		
	comp=Z,100nm,17.9s						
ARSA	**Arzberg**	**47.74**	**297**	*e*P	**P**	**23 54 58.6**	**-3.2**
	comp=Z,2.3nm,0.9s						
KHC	**Kasperske Hory**	**47.81**	**300**	*e*P	P	23 55 09.4	+7.2
KHC				AMS	AMS	00 16 00.0	
	comp=Z,200nm,15.0s						
KHC	**Kasperske Hory**	**47.81**	**300**	*e*P	P	23 55 09.4	+7.2
KHC				MLR	MLR		
	comp=Z,200nm,15.0s						
NKC	**Novy Kostel**	**47.84**	**302**	AMS	AMS	00 16 10.0	
	comp=Z,200nm,19.7s						
GERES	**GERESS Array B**	**47.90**	**300**	P	**P**	**23 55 03.3**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=65,slow=5.8,SNR=5.8						
GERES				LR	LR	00 16 34.0	
	comp=Z,140nm,18.3s,baz=64,slow=38						
	comp=Z,0.5nm,0.7s						
GERES	**GERESS Array B**	**47.90**	**300**	*e*P	**P**	**23 55 04.2**	**+1.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MOA	**Molln**	**48.12**	**298**	*e*pP	**P**	**23 55 06.5**	**+1.8**
	comp=Z,2.8nm,1.2s						
SOKA	**Soboth**	**48.34**	**297**	*e*pP	**P**	**23 55 07.5**	**+1.1**
	comp=Z,0.9nm,0.7s						
OBKA	**Obir**	**48.71**	**297**	*e*P	**P**	**23 55 09.2**	**-0.1**
	comp=Z,4.0nm,1.2s						
KBA	**Koelnbreinsper**	**49.07**	**298**	*e*pP	**P**	**23 55 12.8**	**+0.7**
	comp=Z,2.2nm,0.7s						
LESA	**Schwarzleotal**	**49.25**	**299**	*e*pP	**P**	**23 55 14.3**	**+0.9**
	comp=Z,1.5nm,0.5s						
EUNU	**Eureka**	**49.72**	**359**	P	**P**	**23 55 17.3**	**+0.8**
EUNU				IAmb	IAmb	23 55 34.7	
	comp=Z,6.9nm,1.1s						
ABTA	**Abfaltersbach**	**49.73**	**298**	*e*P	**P**	**23 55 14.2**	**-2.9**
	comp=Z,3.8nm,1.6s						
WATA	**Walderalm**	**49.92**	**299**	*e*P	**P**	**23 55 17.7**	**-0.8**
	comp=Z,1.6nm,0.2s						
SCO	**Scoresbysund**	**50.15**	**336**	P	**P**	**23 55 21.6**	**+1.8**
SCO				IAmb	IAmb	23 55 23.2	
	comp=Z,9.1nm,1.3s						
SCO	**Scoresbysund**	**50.15**	**336**	P	**P**	**23 55 21.6**	**+1.8**
SCO				pmax	pmax		
	comp=Z,9.0nm,1.3s						
B20K	**Meade River**	**50.18**	**25**	P	**P**	**23 55 20.7**	**+0.7**
B20K				IAmb	IAmb	23 55 30.9	
	comp=Z,4.3nm,0.8s						
MOTA	**Moosalm**	**50.18**	**299**	*i* P	**P**	**23 55 19.7**	**-0.9**
	comp=Z,4.5nm,1.4s						
SQTA	**Sankt Quirin**	**50.19**	**299**	*e*P	**P**	**23 55 19.3**	**-1.3**
	comp=Z,1.3nm,0.7s						
FETA	**Feichten**	**50.57**	**299**	*e*P	**P**	**23 55 20.1**	**-3.4**
	comp=Z,2.3nm,1.1s						
DAVA	**Damuels**	**50.89**	**300**	*e*pP	**P**	**23 55 27.3**	**+1.4**
	comp=Z,2.7nm,0.6s						
B22K	**Teshekpuk Lake**	**50.93**	**23**	P	**P**	**23 55 26.4**	**+0.7**
B22K				IAmb	IAmb	23 55 36.4	
	comp=Z,3.5nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**51.07**	**299**	P	**P**	**23 55 26.3**	**-1.1**
FUORN				IAmb	IAmb	23 55 33.6	
	comp=Z,9.0nm,1.4s						
B21K	**Ikpikpuk River**	**51.10**	**24**	P	**P**	**23 55 26.9**	**-0.1**
B21K				IAmb	IAmb	23 55 41.4	
	comp=Z,5.3nm,1.2s						
DAVOX	**Davos/Dischmat**	**51.19**	**299**	LR	LR	00 18 50.6	
	comp=Z,111nm,19.6s,baz=68,slow=38						
C23K	**Itkillik River**	**51.97**	**23**	P	**P**	**23 55 32.9**	**-0.6**
D22K	**Ayikyak River**	**52.11**	**24**	P	**P**	**23 55 35.3**	**+0.7**
D23K	**Nanushuk River**	**52.57**	**24**	P	**P**	**23 55 37.9**	**-0.1**
D23K				IAmb	IAmb	23 55 50.1	
	comp=Z,5.1nm,1.4s						
EKA	**Eskdalemuir Ar**	**52.77**	**314**	P	**P**	**23 55 39.6**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=61,slow=7.0,SNR=16						
	comp=Z,1.3nm,0.6s						
D25K	**Kavik River**	**53.38**	**22**	P	**P**	**23 55 44.3**	**+0.3**
E23K	**Chandalar**	**53.50**	**24**	P	**P**	**23 55 44.9**	**0.0**
COLD	**Coldfoot**	**53.94**	**25**	P	**P**	**23 55 47.8**	**-0.3**
COLD				IAmb	IAmb	23 55 58.9	
	comp=Z,2.4nm,0.8s						
J18K	**Innoko River**	**54.67**	**31**	P	**P**	**23 55 54.3**	**+0.9**
F25K	**Christian Rive**	**54.86**	**23**	P	**P**	**23 55 54.7**	**-0.1**
J20K	**Nowinta River**	**54.99**	**29**	P	**P**	**23 55 56.9**	**+1.1**
A36M	**Sachs Harbour**	**55.21**	**13**	P	**P**	**23 55 57.1**	**0.0**
A36M				IAmb	IAmb	23 55 58.3	
	comp=Z,2.7nm,0.9s						
BMAR	**Burnt Mountain**	**55.25**	**23**	P	**P**	**23 55 58.5**	**+0.9**
E28M	**Babbage River**	**55.50**	**20**	P	**P**	**23 55 59.6**	**+0.2**
E28M				IAmb	IAmb	23 56 14.2	
	comp=Z,5.9nm,1.5s						
G26K	**Porcupine Rive**	**55.82**	**23**	P	**P**	**23 56 01.4**	**-0.2**
G26K				IAmb	IAmb	23 56 14.1	
	comp=Z,2.7nm,0.8s						
E29M	**Blow River**	**56.03**	**20**	P	**P**	**23 56 04.2**	**+1.1**
E29M				IAmb	IAmb	23 56 14.4	
	comp=Z,3.8nm,0.8s						
PPLA	**Purkeypile**	**56.52**	**29**	P	**P**	**23 56 07.8**	**+0.8**
WRH	**Wood River Hil**	**56.57**	**26**	P	**P**	**23 56 07.4**	**+0.3**
WRH				IAmb	IAmb	23 56 15.3	
	comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**56.68**	**26**	P	**P**	**23 56 08.2**	**+0.3**
ILAR	**Eielson Array**	**56.68**	**26**	P	**P**	**23 56 07.5**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=317,slow=4.2,SNR=9.2						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**56.68**	**26**	P	**P**	**23 56 08.2**	**+0.3**
F30M	**Barrier River**	**57.12**	**19**	P	**P**	**23 56 11.4**	**+0.5**
F30M				IAmb	IAmb	23 56 19.3	
	comp=Z,5.1nm,1.1s						
G29M	**Pine Creek**	**57.22**	**21**	P	**P**	**23 56 12.4**	**+0.8**
G29M				IAmb	IAmb	23 56 26.3	
	comp=Z,3.9nm,1.0s						
H29M	**Whitestone**	**57.70**	**21**	P	**P**	**23 56 14.9**	**-0.1**
G31M	**Satah River**	**58.03**	**19**	P	**P**	**23 56 17.2**	**-0.1**
RIDG	**Independent Ri**	**58.05**	**26**	P	**P**	**23 56 16.9**	**-0.7**
SCM	**Sheep Creek Mo**	**58.82**	**28**	P	**P**	**23 56 22.7**	**-0.3**
SCM	**Sheep Creek Mo**	**58.82**	**28**	P	**P**	**23 56 22.7**	**-0.3**
SCM				pmax	pmax		
	comp=Z,17nm,1.2s						
H31M	**Peel River**	**58.96**	**20**	P	**P**	**23 56 23.1**	**-0.8**
H31M				IAmb	IAmb	23 56 31.1	
	comp=Z,5.0nm,1.4s						
I30M	**Mount Dempster**	**59.00**	**21**	P	**P**	**23 56 23.7**	**-0.5**
I30M				IAmb	IAmb	23 56 39.5	
	comp=Z,3.4nm,0.9s						
SFJD	**Kangerlussuaq**	**59.30**	**344**	LR	LR	00 25 08.6	
	comp=Z,31nm,19.1s,baz=18,slow=39						
BCAR	**Beaver Creek A**	**59.42**	**25**	P	**P**	**23 56 25.7**	**-1.4**
ESDC	**Sonseca Array**	**63.47**	**301**	P	**P**	**23 56 55.0**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=43,slow=6.8,SNR=16						
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**65.57**	**13**	P	**P**	**23 57 08.0**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=342,slow=6.8,SNR=4.2						
	comp=Z,0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**79.53**	**278**	P	**P**	**23 58 31.4**	**-0.5**
WRA	**Warramunga Arr**	**79.85**	**139**	P	**P**	**23 58 32.6**	**-0.9**
WRA	**Warramunga Arr**	**79.85**	**139**	P	**P**	**23 58 31.6**	**-1.8**
	comp=Z,1.4nm,0.6s,baz=342,slow=5.9,SNR=12						
	comp=Z,1.4nm,0.6s						
WRA	**Warramunga Arr**	**79.85**	**139**	P	**P**	**23 58 32.6**	**-0.9**
WR8	**Warramunga Arr**	**79.93**	**139**	P	**P**	**23 58 32.2**	**-1.7**
WR8				IAmb	IAmb	23 58 44.3	
	comp=Z,5.2nm,1.0s						
ASAR	**Alice Springs**	**83.00**	**141**	P	**P**	**23 58 48.5**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=335,slow=5.3,SNR=17						
	comp=Z,1.1nm,0.6s						
QLP	**Quilpie**	**90.00**	**134**	P	**P**	**23 59 20.5**	**-3.8**
TKL	**Tuckaleechee C**	**94.12**	**356**	LR	LR	00 46 19.7	
	comp=Z,28nm,18.1s,baz=320,slow=38						
QSPA	**South Pole Qui**	**140.24**	**180**	PKPpre	PKPpre	00 05 43.2	
ITAB	**Concordia**	**143.62**	**296**	PKPpre	PKPpre	00 05 55.4	
PB16	**IPOC Station P**	**144.35**	**327**	PKPdf	**PKPab**	**00 05 59.8**	**-0.2**
PB11	**IPOC Station P**	**145.72**	**326**	PKPdf	**PKPdf**	**00 06 03.5**	**-0.3**
CPUP	**Villa Florida**	**145.82**	**303**	PKPbc	**PKPdf**	**00 06 03.1**	**-0.5**
	comp=Z,4.4nm,1.0s,baz=316,slow=1.8,SNR=7.3						

*IDC **30** 23:55:07.3±0.8, 9°.46S×148°.67E, h0km, mb4.2/11, mbtmp4.2/14, ML3.6/3, MS3.3/6, Error ellipse: s-maj=21.2km s-min=17.0km az=109.0*

*NEIC **30** 23:55:09.6±1.3, 9°.67S±0°.08×148°.57E±0°.06, h10km±1km, mb4.9/27, Error ellipse: s-maj=16.4km s-min=6.7km az=32.0*

ISC 30 23:55:10.8±0.6, 9°.63S±0°.07×148°.55E±0°.07, h22km, n60, σ1§64/59, mb4.7/24, MS3.3/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.39**	**279**		**Pn**	**23 55 35.0**	**+0.1**
PMG				Sn	**Sb**	**23 55 54.1**	**+0.7**
PMG	**Port Moresby**	**1.39**	**279**	Pn	**Pn**	**23 55 35.4**	**+0.5**
	166nm,0.3s,baz=82,slow=8.1,SNR=92						
PMG				Sn	**Sb**	**23 55 56.4**	**+2.9**
	109nm,0.3s,baz=102,slow=22,SNR=6.4						
PMG	**Port Moresby**	**1.39**	**279**	P	**Pn**	**23 55 35.6**	**+0.7**
COEN	**Coen**	**6.79**	**230**	Pn	**Pn**	**23 56 48.6**	**-0.6**
JAY	**Jayapura**	**10.53**	**312**	Pn	**Pn**	**23 57 40.7**	**+0.2**
	0.2nm,0.3s,baz=102,slow=20,SNR=1.7						
JAY				LR	LR	00 02 21.0	
	comp=Z,112nm,20.0s,baz=17,slow=41						
	3.9nm,0.7s						
QIS	**Mount Isa**	**13.87**	**217**	P	**P**	**23 58 33.1**	**-1.2**
EIDS	**Eidsvold**	**15.83**	**172**	P	**P**	**23 58 55.2**	**-0.9**
KDU	**Kakadu**	**16.06**	**258**	P	**P**	**23 58 58.4**	**-0.3**
WB0	**Warramunga Arr**	**16.99**	**232**	P	**Pn**	**23 59 08.5**	**+1.3**
WR8	**Warramunga Arr**	**17.01**	**231**	P	**Pn**	**23 59 08.7**	**+1.2**
WRAB	**Tennant Creek**	**17.11**	**232**	P	**Pn**	**23 59 08.4**	**-0.4**
WRA	**Warramunga Arr**	**17.13**	**232**	P	**Pn**	**23 59 09.6**	**+0.6**
WRA	**Warramunga Arr**	**17.13**	**232**	P	**Pn**	**23 59 09.8**	**+0.8**
	0.2nm,0.3s,baz=53,slow=13,SNR=20						
WRA				S	**Sn**	**00 02 11.5**	**-7.5**
	1.5nm,0.7s,baz=47,slow=21,SNR=5.0						
	8.5nm,1.0s						
INKA	**Innaminka**	**19.46**	**201**	P	**Pn**	**23 59 42.4**	**+5.0**
AS31	**Alice Springs**	**19.76**	**223**	P	**P**	**23 59 39.8**	**+0.3**
ASAR	**Alice Springs**	**19.76**	**223**	P	**P**	**23 59 39.5**	**0.0**
ASAR	**Alice Springs**	**19.76**	**223**	P	**Pn**	**23 59 42.2**	**+1.1**
	0.4nm,0.3s,baz=57,slow=10.0,SNR=24						
	5.7nm,0.9s						
KNRA	**Kununurra**	**20.21**	**251**	P	**P**	**23 59 45.6**	**+1.2**
KNRA				IAmb	IAmb	23 59 52.2	
	comp=Z,70nm,1.4s						
DZM	**Mont Dzumac**	**21.16**	**128**	LR	LR	00 07 02.0	
	comp=Z,127nm,18.8s,baz=358,slow=34						
STKA	**Stephens Creek**	**23.05**	**195**	P	**P**	**00 00 15.7**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=5.7,slow=10,SNR=3.6						
	comp=Z,2.0nm,0.7s						
GUMO	**Guam**	**23.36**	**351**	LR	LR	00 08 46.1	
	comp=Z,40nm,20.8s,baz=114,slow=35						
FITZ	**Fitzroy Crossi**	**23.76**	**247**	P	**P**	**00 00 22.4**	**+0.6**
MMRI	**Maumere**	**26.00**	**270**	P	**P**	**00 00 40.9**	**-1.5**
JCJ	**Chichijima**	**37.03**	**351**	LR	LR	00 14 52.2	
	comp=Z,104nm,20.9s,baz=104,slow=32						
TPUB	**Ta-pu**	**42.63**	**321**	P	**P**	**00 03 05.2**	**-0.7**
NACB	**Ninganchiao**	**42.69**	**322**	P	**P**	**00 03 06.2**	**0.0**
JNU	**Nakatsue**	**45.73**	**339**	LR	LR	00 19 28.9	
	comp=Z,46nm,21.9s,baz=134,slow=32						
MJAR	**Matsushiro Arr**	**46.95**	**349**	P	**P**	**00 03 38.0**	**-2.1**
	comp=Z,4.3nm,0.8s,baz=171,slow=8.7,SNR=9.1						
	comp=Z,4.3nm,0.8s						
MAJO	**Matsushiro**	**46.95**	**349**	P	**P**	**00 03 39.3**	**-0.7**
MAJO				IAmb	IAmb	00 03 40.4	
	comp=Z,12nm,0.9s						
MJB9	**Matsu-Tunnel**	**46.95**	**349**	P	**P**	**00 03 39.8**	**-0.3**
KSRS	**Korea Array**	**50.67**	**339**	P	**P**	**00 04 07.8**	**-0.7**
	comp=Z,5.4nm,1.0s,baz=159,slow=8.8,SNR=17						
KSRS				LR	LR	00 22 21.7	
	comp=Z,29nm,22.0s,baz=170,slow=32						
	comp=Z,5.4nm,1.0s						
KSAR	**Wonju Array Be**	**50.68**	**339**	P	**P**	**00 04 08.8**	**+0.2**
USRK	**Ussuriysk Ar.**	**55.65**	**346**	P	**P**	**00 04 44.9**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=133,slow=8.1,SNR=4.7						
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**56.34**	**300**	P	**P**	**00 04 51.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**56.34**	**300**	P	**P**	**00 04 51.5**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=125,slow=5.6,SNR=19						
	comp=Z,4.3nm,0.9s						
CHTO	**Chiang Mai**	**56.50**	**300**	P	**P**	**00 04 51.7**	**0.0**
CHTO				IAmb	IAmb	00 04 56.9	
	comp=Z,8.7nm,1.1s						
PETK	**Petropavlovsk-**	**62.98**	**6**	P	**P**	**00 05 36.0**	**+0.3**
PETK	**Petropavlovsk-**	**62.98**	**6**	P	**P**	**00 05 35.5**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=173,slow=5.2,SNR=8.9						
	comp=Z,1.9nm,0.6s						
QSPA	**South Pole Qui**	**80.36**	**180**	P	**P**	**00 07 21.1**	**+0.8**
QSPA				IAmb	IAmb	00 07 25.3	
	comp=Z,14nm,1.5s						
QSPA	**South Pole Qui**	**80.36**	**180**	P	**P**	**00 07 22.4**	**+2.1**
	comp=Z,3.3nm,0.9s,baz=342,slow=1.9,SNR=6.8						
	comp=Z,3.3nm,0.9s						
MKAR	**Makanchi Array**	**81.26**	**320**	P	**P**	**00 07 23.5**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=112,slow=6.4,SNR=2.0						
	comp=Z,1.2nm,0.8s						
K15K	**Wolf Creek Mou**	**81.39**	**21**	P	**P**	**00 07 26.5**	**+1.0**
K15K				IAmb	IAmb	00 07 31.5	
	comp=Z,21nm,1.2s						
M16K	**Timber Creek**	**81.54**	**23**	P	**P**	**00 07 27.8**	**+1.4**
M16K				IAmb	IAmb	00 07 32.4	
	comp=Z,15nm,1.1s						
L16K	**Owhat River**	**81.77**	**22**	P	**P**	**00 07 28.8**	**+1.2**
L16K				IAmb	IAmb	00 07 32.6	
	comp=Z,9.7nm,1.0s						
M17K	**Holitna River**	**82.35**	**23**	P	**P**	**00 07 32.2**	**+1.5**
M17K				IAmb	IAmb	00 07 36.4	
	comp=Z,14nm,1.1s						
ZALV	**Zalesovo Beam**	**82.89**	**328**	P	**P**	**00 07 32.4**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=120,slow=4.5,SNR=2.1						
	comp=Z,1.2nm,0.6s						
L18K	**Granite Mounta**	**83.13**	**23**	P	**P**	**00 07 35.5**	**+0.8**
L18K				IAmb	IAmb	00 07 40.2	
	comp=Z,12nm,1.0s						
L19K	**White Mountain**	**83.81**	**23**	P	**P**	**00 07 38.6**	**+0.3**
J18K	**Innoko River**	**83.85**	**22**	P	**P**	**00 07 40.5**	**+2.1**
J18K				IAmb	IAmb	00 07 43.0	
	comp=Z,4.1nm,0.9s						
M20K	**Styx River**	**84.32**	**24**	P	**P**	**00 07 37.9**	**-3.1**
M20K				IAmb	IAmb	00 07 45.8	
	comp=Z,14nm,1.3s						
G18K	**Tagagawik**	**84.65**	**19**	P	**P**	**00 07 42.4**	**-0.1**
G18K				IAmb	IAmb	00 07 46.9	
	comp=Z,6.5nm,0.9s						
KURBB	**Kurchatov Arra**	**85.04**	**323**	P	**P**	**00 07 43.8**	**-0.9**
	comp=Z,2.1nm,1.0s,baz=111,slow=4.1,SNR=2.8						
	comp=Z,2.1nm,1.0s						
PWL	**Port Wells**	**85.80**	**26**	P	**P**	**00 07 48.4**	**+0.1**
ILAR	**Eielson Array**	**88.21**	**23**	P	**P**	**00 07 58.4**	**-1.5**
ILAR	**Eielson Array**	**88.21**	**23**	P	**P**	**00 07 58.2**	**-1.7**
	comp=Z,2.7nm,0.8s,baz=138,slow=12,SNR=17						
	comp=Z,2.7nm,0.8s						
D22K	**Ayikyak River**	**88.26**	**18**	P	**P**	**00 08 00.9**	**+0.8**
D22K				IAmb	IAmb	00 08 05.3	
	comp=Z,6.0nm,1.1s						
M27K	**Edge Creek, AK**	**89.23**	**26**	P	**P**	**00 08 05.6**	**+0.7**
M27K				IAmb	IAmb	00 08 10.5	
	comp=Z,9.6nm,1.1s						
K29M	**Barlow Dome**	**91.61**	**25**	P	**P**	**00 08 16.0**	**0.0**
K29M				IAmb	IAmb	00 08 21.3	
	comp=Z,4.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**147.34**	**279**	PKPbc	**PKPbc**	**00 14 54.0**	**+0.2**
BDFB	**Brasilia**	**150.00**	**147**	PKPbc	**PKiKP**	**00 15 00.9**	**-0.8**
	comp=Z,3.9nm,0.8s,baz=134,slow=6.5,SNR=5.2						

*IDC **30** 23:57:49.4±0.7, 50°.48N×91°.18E, h0km, mb3.8/13, mbtmp3.8/20, ML3.3/7, MS3.1/9, Error ellipse: s-maj=12.2km s-min=8.9km az=1.0*

*MOS **30** 23:57:50.1±1.7, 50°.20N×91°.19E, h11km, mb4.7/6, Error ellipse: s-maj=7.3km s-min=6.3km az=97.2*

*NEIC **30** 23:57:51.9±1.4, 50°.37N±0°.09×91°.16E±0°.08, h10km±1km, mb4.4/47, Error ellipse: s-maj=15.3km s-min=7.9km az=200.0*

*ASRS **30** 23:57:53.5±0.2, 51°.N±1°.×90°.9E±0°.9, h5km, MLh4.7/24, Error ellipse: s-maj=2.8km s-min=1.8km az=154.1, confirmed*

ISC 30 23:57:51.2±1.1, 50°.46N±0°.03×91°.04E±0°.02, h9km±7km, n151, σ1§54/201, mb4.3/34, MS2.9/3, 2C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL	**Teeli**	**0.78**	**317**	⇑Pg	**Pn**	**23 58 08.7**	**+0.2**
TEL				Sg	**Sn**	**23 58 20.0**	**-0.3**
TEL	**Teeli**	**0.78**	**317**	PG	**Pn**	**23 58 08.6**	**+0.2**
TEL						23 58 19.8	
CUR	**Chagan-Uzun**	**1.76**	**259**	⇑Pg	**Pb**	**23 58 24.3**	**+0.5**
CUR				Sg	**Sb**	**23 58 47.7**	**+1.6**
CUR	**Chagan-Uzun**	**1.76**	**259**	PN	**Pb**	**23 58 24.3**	**+0.5**
CUR						23 58 47.9	
ULGR	**Ulagan, Altay**	**1.97**	**276**	⇓Pg	**Pb**	**23 58 28.1**	**+0.7**
ULGR				Sg	**Sg**	**23 58 54.5**	**0.0**
ULGR	**Ulagan, Altay**	**1.97**	**276**	PN	**Pb**	**23 58 27.2**	**-0.1**
ULGR						23 58 55.7	
AKAR	**Aktash**	**2.19**	**268**	Pn	**Pb**	**23 58 31.0**	**-0.1**
AKAR				Pg	**Pg**	**23 58 32.9**	**-0.3**
AKAR				Sg	**Sg**	**23 59 01.8**	**+0.2**
AKAR	**Aktash**	**2.19**	**268**	PN	**Pb**	**23 58 31.2**	**+0.1**
AKAR						23 58 32.8	
AKAR						23 59 01.4	
CHBI	**Chibit, Altay**	**2.27**	**268**	Pn	**Pb**	**23 58 32.2**	**-0.1**
CHBI				Pg	**Pg**	**23 58 34.4**	**-0.3**
CHBI				Sg	**Sb**	**23 59 03.4**	**+2.8**
CHBI	**Chibit, Altay**	**2.27**	**268**	PN	**Pb**	**23 58 32.3**	**-0.1**
CHBI						23 58 34.2	
CHBI						23 59 04.0	
DJO	**Djoy, Khakassi**	**2.33**	**3**	Pn	**Pb**	**23 58 33.8**	**+0.4**
DJO				Pg	**Pg**	**23 58 35.9**	**0.0**
DJO				Sg	**Sg**	**23 59 06.7**	**+0.6**
DJO	**Djoy, Khakassi**	**2.33**	**3**	PN	**Pg**	**23 58 35.7**	**-0.2**
DJO						23 59 06.9	
CERR	**Cheremushki**	**2.41**	**5**	Pg	**Pg**	**23 58 36.9**	**-0.5**
CERR				Sg	**Sg**	**23 59 09.0**	**+0.3**
CERR	**Cheremushki**	**2.41**	**5**	PN	**Pb**	**23 58 35.0**	**+0.2**
CERR						23 59 09.7	
DGZ	**Jazzator, Alta**	**2.44**	**253**	Pn	**Pb**	**23 58 34.5**	**-1.0**
DGZ				Pg	**Pg**	**23 58 37.3**	**-0.8**
DGZ				Sg	**Sb**	**23 59 08.3**	**+2.6**
DGZ	**Jazzator, Alta**	**2.44**	**253**	PN	**Pb**	**23 58 37.1**	**+1.7**
DGZ						23 59 09.1	
KZLR	**Kyzyl**	**2.49**	**59**	Pn	**Pb**	**23 58 35.5**	**-0.6**
KZLR				Pg	**Pg**	**23 58 39.5**	**+0.6**
KZLR				Sg	**Sg**	**23 59 09.9**	**-1.2**
KZLR	**Kyzyl**	**2.49**	**59**	PN	**Pb**	**23 58 36.7**	**+0.6**
KZLR						23 59 08.8	
YALR	**Yailyu, Altay**	**2.53**	**303**	Pn	**Pb**	**23 58 37.8**	**+1.0**
YALR				Pg	**Pg**	**23 58 40.8**	**+1.1**
YALR				Sg	**Sg**	**23 59 12.6**	**+0.1**
YALR	**Yailyu, Altay**	**2.53**	**303**	PN	**Pb**	**23 58 36.3**	**-0.5**
YALR						23 58 40.4	
YALR						23 59 13.1	
ARDR	**Aradan**	**2.60**	**34**	Pg	**Pg**	**23 58 40.4**	**-0.5**
ARDR				Sg	**Sg**	**23 59 13.4**	**-1.2**
ARDR	**Aradan**	**2.60**	**34**	PN	**Pb**	**23 58 37.2**	**-0.8**
ARDR						23 58 40.4	
ARDR						23 59 14.2	
ARTR	**Artybash**	**2.72**	**301**	Pn	**Pb**	**23 58 39.8**	**-0.3**
ARTR				Pg	**Pg**	**23 58 43.5**	**+0.1**
ARTR				Sg	**Sb**	**23 59 17.0**	**+3.4**
ARTR	**Artybash**	**2.72**	**301**	PN	**Pb**	**23 58 40.4**	**+0.3**
ARTR						23 58 43.2	
ARTR						23 59 18.3	
VEH	**Verkhnyaya Baz**	**2.84**	**351**	Pn	**Pb**	**23 58 43.2**	**+1.2**
VEH				Pg	**Pg**	**23 58 45.7**	**+0.2**
VEH				Sg	**Sg**	**23 59 22.0**	**-0.3**
VEH	**Verkhnyaya Baz**	**2.84**	**351**	PN	**Pb**	**23 58 42.2**	**+0.1**
VEH						23 58 45.6	
VEH						23 59 22.0	
TASR	**Tashtagol**	**3.03**	**321**	Pg	**Pg**	**23 58 49.6**	**+0.3**
TASR				Sg	**Sg**	**23 59 29.1**	**+0.6**
TASR	**Tashtagol**	**3.03**	**321**	PN	**Pg**	**23 58 49.6**	**+0.3**
TASR						23 59 27.9	
ELDR	**Elanda**	**3.23**	**286**	P	**Pb**	**23 58 46.5**	**-2.3**
ELDR				Pg	**Pg**	**23 58 52.1**	**-0.9**
ELDR				Sg	**Sg**	**23 59 33.6**	**-1.3**
ELDR	**Elanda**	**3.23**	**286**	PN	**Pb**	**23 58 47.2**	**-1.5**
ELDR						23 58 50.6	
ELDR						23 59 33.8	
LUZB	**Luzhba, Kemero**	**3.47**	**338**	Pn	**Pb**	**23 58 49.4**	**-3.4**
LUZB				Pg	**Pg**	**23 58 56.3**	**-1.3**
LUZB				Sg	**Sg**	**23 59 40.8**	**-1.8**
LUZB	**Luzhba, Kemero**	**3.47**	**338**	PN	**Pb**	**23 58 52.6**

comp=E,0.3nm,0.3s,baz=91,slow=15,SNR=21
KURBB Sn **Sn** **00 01 16.7 -0.8**
comp=E,0.5nm,0.3s,baz=78,slow=18,SNR=1.7
KURBB Lg Lg 00 02 03.5
comp=E,0.8nm,0.3s,baz=86,slow=30,SNR=5.5
KURBB LR LR 00 02 39.1
comp=E,90nm,19.1s,baz=166,slow=36
comp=E,1.2nm,0.4s
SONM Songino Array 10.40 99 Pn **Pn** **00 00 20.4 -0.2**
SONM Songino Array 10.40 99 Pn **Pn** **00 00 19.5 -1.1**
comp=E,0.2nm,0.3s,baz=291,slow=15,SNR=4.0
SONM Pg 00 00 54.9
comp=E,0.2nm,0.3s,baz=286,slow=18,SNR=2.1
SONM Sn **Sn** **00 02 15.8 -1.5**
comp=E,0.4nm,0.3s,baz=291,slow=21,SNR=1.8
SONM Lg Lg 00 03 15.8
comp=E,2.1nm,0.3s,baz=275,slow=28,SNR=8.0
SONM LR LR 00 04 55.1
comp=E,54nm,18.9s,baz=262,slow=41
comp=E,1.2nm,0.8s
BVAR Borovoye Array 13.05 289 Pn **Pn** **00 00 55.3 -1.4**
comp=E,0.1nm,0.3s,baz=88,slow=14,SNR=6.2
BVAR Sn **Sn** **00 03 16.1 -5.7**
comp=E,0.1nm,0.3s,baz=106,slow=21,SNR=2.3
BVAR LR LR 00 06 05.0
comp=E,66nm,18.0s,baz=77,slow=38
comp=E,0.6nm,0.3s
BRVK Borovoye 13.11 289 Pn **Pn** **00 00 55.8 -1.7**
BRVK Borovoye 13.11 289 P **Pn** **00 00 55.8 -1.7**
AAK Ala-Archa 13.79 242 Pn **Pn** **00 01 03.3 -3.7**
AAK Ala-Archa 13.79 242 Pn **Pn** **00 01 08.1 +1.1**
comp=E,0.2nm,0.3s,baz=51,slow=13,SNR=2.4
AAK Lg Lg 00 05 08.0
comp=E,0.2nm,0.3s,baz=149,slow=23,SNR=6.5
comp=E,2.1nm,0.7s
KK31 Karatay Array 15.84 250 Pn **Pn** **00 01 32.7 -1.6**
KK31 Karatay Array 15.84 250 P **Pn** **00 01 32.7 -1.6**
KK31 pmax pmax
comp=Z,9.0nm,1.0s
KKAR Karatay Array 15.84 250 Pn **Pn** **00 01 32.6 -1.7**
KKAR Karatay Array 15.84 250 P **Pn** **00 01 32.6 -1.7**
GAR Garm 18.59 240 P **Pn** **00 02 09.3 +0.5**
GAR IAmb IAmb 00 02 14.7
comp=Z,22nm,1.0s
NRIK Noril'sk 19.02 356 P **Pn** **00 02 14.8 +1.1**
NRIK IAmb IAmb 00 02 21.1
comp=Z,8.5nm,0.6s
NRIK Noril'sk 19.02 356 P **Pn** **00 02 13.8 0.0**
comp=Z,0.7nm,0.3s,baz=177,slow=9.7,SNR=5.9
NRIK LR LR 00 09 49.2
comp=Z,200nm,19.0s,baz=180,slow=38
comp=Z,4.6nm,0.6s
NRIK Noril'sk 19.02 356 P **Pn** **00 02 14.8 +1.1**
NRIK pmax pmax
comp=Z,9.0nm,0.6s
SIMJ Simiganj 19.55 241 P **P** **00 02 19.4 +0.1**
AB31 Akbulak array 20.02 279 P **P** **00 02 25.1 +1.0**
ABKAR Akbulak array 20.02 279 P **P** **00 02 24.9 +0.9**
ABKAR Akbulak array 20.02 279 P **P** **00 02 24.5 +0.4**
ABKAR IAmb IAmb 00 02 32.9
comp=Z,5.7nm,1.2s
ARTI Arti 20.21 300 P **P** **00 02 26.5 +0.4**
comp=Z,1.3nm,0.5s,baz=96,slow=6.9,SNR=6.8
ARTI S **S** **00 06 12.8 +0.1**
comp=Z,1.4nm,0.7s,baz=165,slow=20,SNR=1.9
comp=Z,1.3nm,0.5s
AKTO Aktyubinsk 20.94 283 P **P** **00 02 34.4 +0.3**
comp=Z,2.2nm,0.6s,baz=108,slow=8.3,SNR=4.9
AKTO LR LR 00 11 29.9
comp=Z,51nm,21.6s,baz=131,slow=39
comp=Z,2.2nm,0.6s
NIL Nilore 21.27 225 P **P** **00 02 37.9 0.0**
NIL IAmb IAmb 00 02 41.4
comp=Z,23nm,1.4s
NIL Nilore 21.27 225 P **P** **00 02 37.9 0.0**
NIL pmax pmax
comp=Z,23nm,1.4s
KBL Kabul 22.59 234 P **P** **00 02 51.4 -0.7**
KBL IAmb IAmb 00 02 59.0
comp=Z,11nm,1.2s
KBL Kabul 22.59 234 P **P** **00 02 51.4 -0.7**
KBL pmax pmax
comp=Z,11nm,1.3s
KLR Kul'dur 26.05 77 LR LR 00 12 44.5
comp=Z,57nm,18.3s,baz=227,slow=34
TIXI Tiksi 27.21 25 LR LR 00 16 19.7
comp=Z,17nm,19.1s,baz=200,slow=41
CMAR Chiang Mai Arr 32.55 166 P **P** **00 04 22.7 +0.1**
comp=Z,0.2nm,0.3s,baz=4.7,slow=9.8,SNR=7.5
comp=Z,0.2nm,0.3s
FIA1 FINESS Array S 36.44 313 P **P** **00 04 57.2 +1.3**
FINES FINESS Array B 36.45 313 P **P** **00 04 57.1 +1.2**
FINES FINESS Array B 36.45 313 P **P** **00 04 54.7 -1.2**
comp=Z,1.3nm,0.5s,baz=74,slow=8.4,SNR=11
comp=Z,1.3nm,0.5s
FINES FINESS Array B 36.45 313 P **P** **00 04 57.1 +1.2**
AKASG Malin Array Be 38.23 295 P **P** **00 05 09.3 -1.9**
comp=Z,0.4nm,0.3s,baz=58,slow=9.2,SNR=6.9
comp=Z,0.4nm,0.3s
PETK Petropavlovsk- 39.98 59 P **P** **00 05 25.0 -0.8**
PETK Petropavlovsk- 39.98 59 P **P** **00 05 25.0 -0.8**
BRTR Keskin Array B 40.96 278 P **P** **00 05 33.9 -0.4**
comp=Z,0.9nm,0.8s,baz=99,slow=4.5,SNR=5.3
comp=Z,0.9nm,0.8s
BUR08 Bucovina Ar. S 41.97 293 P **P** **00 05 44.0 +1.5**
BURAR Bucovina Array 41.98 293 P **P** **00 05 42.9 +0.5**
HFS Hagfors 42.62 314 P **P** **00 05 47.5 +0.1**
comp=Z,4.8nm,0.6s,baz=76,slow=6.7,SNR=26
comp=Z,4.8nm,0.6s
NC405 NORSAR Array S 43.13 316 P **P** **00 05 52.4 +0.9**
NC405 IAmb IAmb 00 05 53.3
comp=Z,5.1nm,0.8s
NB2 NORSAR Subarra 43.38 316 P **P** **00 05 54.2 +0.6**
comp=Z,1.3nm,0.5s,baz=64,slow=7.9
NOA NORSAR Array B 43.38 316 P **P** **00 05 53.9 +0.2**
comp=Z,0.9nm,0.5s,baz=64,slow=7.6,SNR=8.9
comp=Z,0.9nm,0.5s
CLL Collm 47.01 303 P **P** **00 06 23.7 +1.2**
CLL Collm 47.01 303 P **P** **00 06 23.7 +1.2**
CLL pmax pmax
comp=Z,4.0nm,0.5s
EUNU Eureka 49.74 359 P **P** **00 06 44.3 +1.1**
EUNU IAmb IAmb 00 06 52.8
comp=Z,2.8nm,0.9s
B20K Meade River 50.17 25 P **P** **00 06 47.1 +0.6**
B20K IAmb IAmb 00 06 58.0
comp=Z,6.7nm,1.4s
SCO Scoresbysund 50.18 336 P **P** **00 06 48.7 +2.2**
SCO Scoresbysund 50.18 336 P **P** **00 06 48.7 +2.2**
SCO pmax pmax
comp=Z,10.0nm,1.3s
B22K Teshekpuk Lake 50.92 23 P **P** **00 06 52.8 +0.7**
B22K IAmb IAmb 00 07 07.5
comp=Z,3.8nm,1.2s
B21K Ikpikpuk River 51.10 24 P **P** **00 06 54.2 +0.7**
B21K IAmb IAmb 00 07 09.3
comp=Z,8.1nm,1.5s
C23K Itkillik River 51.97 23 P **P** **00 07 00.3 +0.3**
C23K IAmb IAmb 00 07 37.0
comp=Z,6.1nm,1.5s
D22K Ayikyak River 52.11 24 P **P** **00 07 00.6 -0.5**
G18K Tagagawik 52.40 29 P **P** **00 07 04.4 +1.0**
D23K Nanushuk River 52.57 24 P **P** **00 07 05.6 +1.0**
EKA Eskdalemuir Ar 52.81 314 P **P** **00 07 05.9 -0.6**
comp=Z,0.6nm,0.5s,baz=66,slow=8.0,SNR=8.8
comp=Z,0.6nm,0.5s
F21K Alatna River 53.04 26 P **P** **00 07 08.9 +0.9**
D25K Kavik River 53.37 22 P **P** **00 07 11.1 +0.6**
E23K Chandalar 53.49 24 P **P** **00 07 11.4 -0.1**
E23K IAmb IAmb 00 07 32.3
comp=Z,3.2nm,1.2s
J18K Innoko River 54.66 31 P **P** **00 07 20.8 +0.9**
F26K Sheenjek River 55.15 22 P **P** **00 07 24.4 +1.0**
BMAR Burnt Mountain 55.24 23 P **P** **00 07 24.1 -0.1**
E28M Babbage River 55.50 20 P **P** **00 07 26.3 +0.4**
E28M IAmb IAmb 00 07 47.7
comp=Z,5.5nm,1.5s
E29M Blow River 56.03 20 P **P** **00 07 31.0 +1.3**
E29M IAmb IAmb 00 07 31.9
comp=Z,3.9nm,0.8s
CAST Castle Rocks 56.16 29 P **P** **00 07 31.7 +0.9**
PRP Porcupine Dome 56.47 25 P **P** **00 07 34.6 +1.4**
PRP IAmb IAmb 00 07 50.9
comp=Z,6.1nm,1.5s
PPLA Purkeypile 56.51 29 P **P** **00 07 35.1 +1.7**
ILAR Eielson Array 56.68 26 P **P** **00 07 33.2 -1.1**
comp=Z,0.6nm,0.6s,baz=310,slow=4.2,SNR=8.3
comp=Z,0.6nm,0.6s
INK Inuvik 57.00 18 P **P** **00 07 37.9 +1.3**
INK IAmb IAmb 00 07 38.4
comp=Z,2.1nm,0.7s
INK Inuvik 57.00 18 P **P** **00 07 37.9 +1.3**
INK pmax pmax
comp=Z,2.0nm,0.7s
SKT Skwentna 57.40 30 P **P** **00 07 41.1 +1.6**
SKT IAmb IAmb 00 07 41.7
comp=Z,6.9nm,1.4s
H29M Whitestone 57.70 21 P **P** **00 07 42.5 +0.9**
H29M IAmb IAmb 00 08 01.2
comp=Z,4.3nm,1.4s
C36M Paulatuk 57.76 14 P **P** **00 07 42.1 +0.2**
C36M IAmb IAmb 00 07 42.6
comp=Z,1.7nm,0.7s
G31M Satah River 58.02 19 P **P** **00 07 43.8 0.0**
G31M IAmb IAmb 00 07 45.2
comp=Z,2.5nm,0.7s
SUA Susitna One 58.03 30 P **P** **00 07 45.4 +1.3**
SUA IAmb IAmb 00 07 46.4
comp=Z,3.6nm,0.8s
RIDG Independent Ri 58.04 26 P **P** **00 07 43.4 -0.7**
SML Sawmill 58.52 29 P **P** **00 07 48.0 +0.5**
KNK Knik Glacier 58.79 29 P **P** **00 07 50.4 +1.1**
SCM Sheep Creek Mo 58.81 28 P **P** **00 07 50.5 +1.0**
SCM Sheep Creek Mo 58.81 28 P **P** **00 07 50.5 +1.0**
SCM pmax pmax
comp=Z,16nm,1.1s
I30M Mount Dempster 58.99 21 P **P** **00 07 50.7 -0.1**
I30M IAmb IAmb 00 07 52.0
comp=Z,3.3nm,0.9s
HYT Haines Junctio 62.41 24 P **P** **00 08 15.3 +1.1**
ESDC Sonseca Array 63.51 301 P **P** **00 08 21.4 -0.4**
comp=Z,0.6nm,0.6s,baz=47,slow=6.7,SNR=8.8
comp=Z,0.6nm,0.6s
FITZ Fitzroy Crossi 74.75 146 P **P** **00 09 30.2 -1.2**
WRA Warramunga Arr 79.81 139 P **P** **00 09 58.7 -1.1**
comp=Z,1.6nm,0.9s,baz=343,slow=5.9,SNR=7.3
comp=Z,1.6nm,0.9s
WR8 Warramunga Arr 79.89 139 P **P** **00 09 58.9 -1.4**
WR8 IAmb IAmb 00 10 00.1
comp=Z,5.3nm,1.0s
ASAR Alice Springs 82.96 141 P **P** **00 10 15.6 -0.9**
comp=Z,0.6nm,0.7s,baz=340,slow=5.6,SNR=5.2
comp=Z,0.6nm,0.7s
QSPA South Pole Qui 140.23 180 PKPdf **PKPdf** **00 17 17.1 -1.9**
QSPA South Pole Qui 140.23 180 PKP **PKPdf** **00 17 17.5 -1.6**
comp=Z,1.2nm,1.0s,baz=218,slow=1.0,SNR=5.0
ITAB Concordia 143.67 296 PKPpre PKPpre 00 17 22.9
CPUP Villa Florida 145.86 303 PKPdf **PKPdf** **00 17 29.6 -0.5**
CPUP Villa Florida 145.86 303 PKPbc **PKPdf** **00 17 29.8 -0.4**
comp=Z,2.1nm,0.8s,baz=339,slow=3.5,SNR=4.9

ISC Computed Locations for April 2019

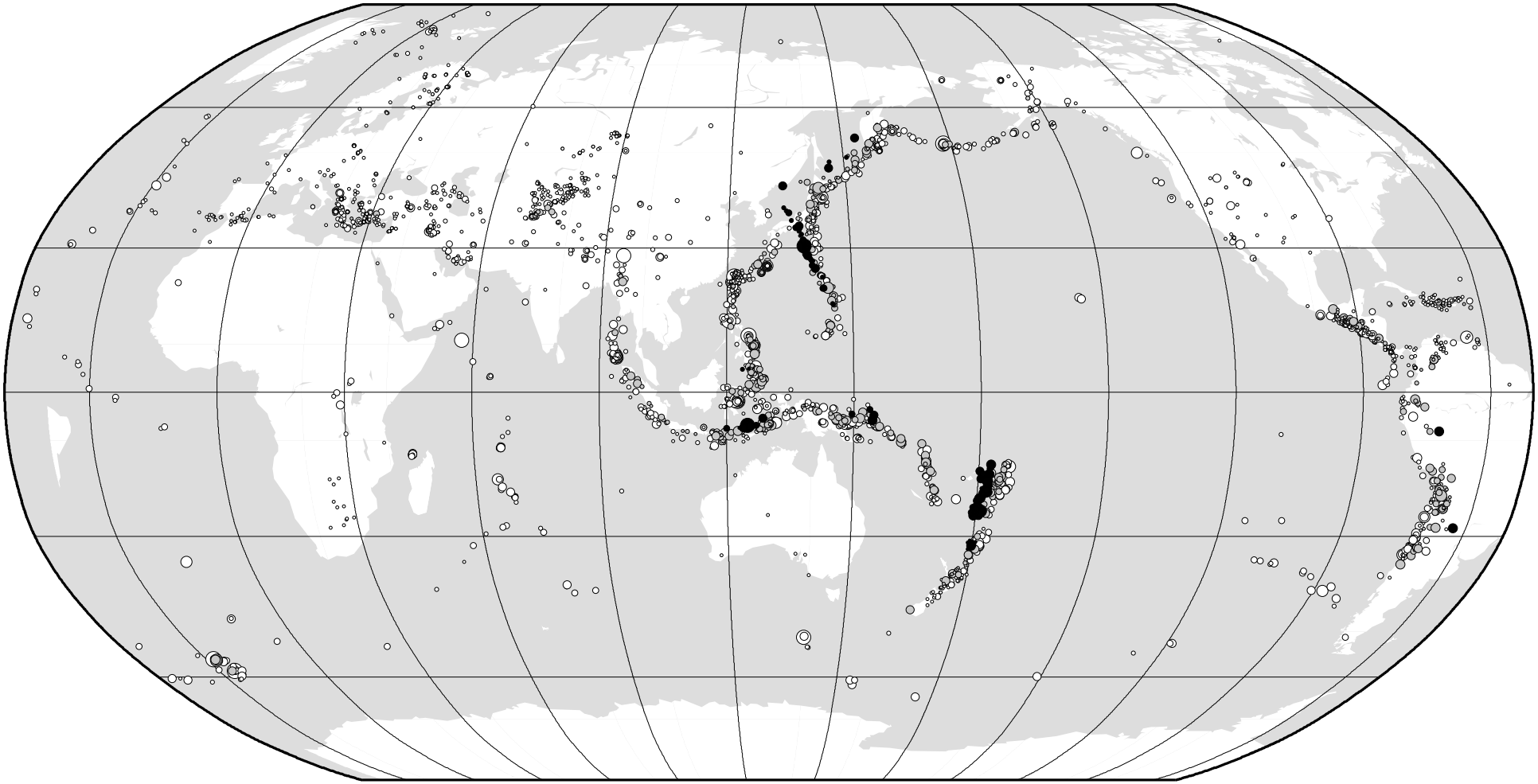

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

3424 Events